Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°70S×179°55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°76S×179°70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:41.7±1.4,**22°1S**±0°2×**179°3W**±0°2,**h600**km,**n22,**
σ1§55/24,**mb4.4**/9,**1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*SOME **01** 00:04:04.3, 42°.33N×82°.85E, h5km*
*NNC **01** 00:04:25.1±3.6, 43°.28N×82°.40E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=37.1km s-min=10.6km az=142.0*
ISC 01 00:04:19.5±2.6, 43°.0N±0°.1×82°.6E±0°.1, h10km, n9, σ2°67/16, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.32**	**280**	⇑Pn	**Pb**	**00 05 02.3**	**+0.9**
	1.5nm,0.3s						
PDGK				⇑Sn	**Sb**	**00 05 30.1**	**0.0**
	14nm,0.5s						
SHLS	**Shalkode**	**2.32**	**276**	*e*P	Pn	00 04 47.6	-10
	8.3nm,0.2s						
SHLS				*e*S	**Sn**	**00 05 20.5**	**-5.9**
	51nm,0.4s						
DJR	**Jarkent**	**2.46**	**305**	*e*P	**Pn**	**00 04 59.0**	**-0.8**
	1.1nm,0.1s						
DJR				*e*S	**Sg**	**00 05 40.3**	**+1.7**
	9.7nm,0.4s						
UZB	**Uzynbulak**	**2.64**	**275**	*e*P	Pn	00 04 58.8	-3.5
	2.9nm,0.2s						
UZB				*e*S	**Sb**	**00 05 40.0**	**+0.5**
	13nm,0.2s						
KPKS	**Kokpek**	**2.92**	**281**	*e*P	**Pn**	**00 05 04.3**	**-1.7**
	1.6nm,0.1s						
KPKS				*e*S	**Sb**	**00 05 49.3**	**+1.9**
	12nm,0.3s						
ZHN	**Zhinishke**	**3.07**	**275**	*e*P	**Pn**	**00 05 06.9**	**-1.2**
	2.2nm,0.1s						
ZHN				*e*S	**Sb**	**00 05 54.0**	**+2.1**
	13nm,0.2s						
MK31	**Makanchi Array**	**3.83**	**357**	⇑Pn	**Pn**	**00 05 20.0**	**+1.4**
	0.2nm,0.2s,baz=172,slow=15,SNR=15						
MK31				⇑Pg	**Pg**	**00 05 31.6**	**-1.3**
	1.8nm,0.6s,baz=175,slow=16,SNR=7.6						
MK31				Lg	Lg	00 06 14.8	
	4.4nm,0.5s,baz=161,slow=27,SNR=4.7						
MAKZ	**Makanchi**	**3.87**	**353**	⇓Pn	**Pn**	**00 05 20.2**	**+1.2**
	5.1nm,1.5s						
MAKZ				⇓Pg	**Pg**	**00 05 32.0**	**-1.5**
	1.9nm,0.7s						
MAKZ				⇓Lg	Lg	00 06 16.4	
	3.0nm,0.6s						
TNSS	**Tian-Shan**	**4.16**	**273**	*e*P	**Pn**	**00 05 26.7**	**+3.3**
	0.7nm,0.1s						
TNSS				*e*S	**Sb**	**00 06 28.1**	**+4.7**
	0.5nm,0.2s						

*UCR **01** 00:08:46.3±1.1, 10°.93N×86°.39W, h0km±62km, MW3.8*
*CATAC **01** 00:08:50.8±0.6, 11°.N±5°.×8°.6W±°, h82km±7km, M3.2/16, MLv3.2/16, Error ellipse: s-maj=16.9km s-min=5.5km az=51.1, confirmed*
ISC 01 00:08:46.8±1.3, 10°.93N±0°.05×86°.39W±0°.07, h10km, n40, σ0°63/43, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.76**	**79**	*e*P	**Pb**	**00 09 01.9**	**-0.1**
ELI1	**Hacienda Flor**	**0.87**	**109**	*e*P	**Pn**	**00 09 04.1**	**-0.9**
NADN	**Granada**	**0.88**	**23**	P	**Pn**	**00 09 04.5**	**-0.8**
NADN	**Granada**	**0.88**	**23**	*e*P	**Pn**	**00 09 04.4**	**-0.9**
CARN	**Rivas**	**0.88**	**73**	P	**Pn**	**00 09 05.4**	**+0.1**
CARN				S	**Sn**	**00 09 19.7**	**+1.5**
JAPN	**AI SSO del Vol**	**0.91**	**50**	P	**Pn**	**00 09 05.7**	**+0.1**
MORN	**AI O del Volca**	**0.95**	**50**	P	**Pn**	**00 09 06.0**	**-0.1**
CONN	**Concepcion**	**0.97**	**50**	P	**Pb**	**00 09 05.6**	**-0.1**
VRLE	**La Escondida,**	**1.01**	**98**	*e*P	**Pn**	**00 09 06.8**	**-0.3**
GPS3	**Bodega del ICE**	**1.02**	**100**	*e*P	**Pn**	**00 09 07.5**	**+0.4**
VORI	**VORI**	**1.03**	**96**	*e*P	**Pn**	**00 09 06.7**	**-0.7**
GPS2	**Hotel Rincn d**	**1.03**	**100**	*e*P	**Pn**	**00 09 06.7**	**-0.6**
NANN	**Nandasmo**	**1.03**	**14**	P	**Pn**	**00 09 08.5**	**+1.1**
NANN	**Nandasmo**	**1.03**	**14**	S	**Sn**	**00 09 23.7**	**+1.7**
PLVR	**Palo Verde**	**1.17**	**120**	*e*P	**Pb**	**00 09 08.3**	**-0.9**
UNAN	**Cigeo UNAN**	**1.18**	**5**	P	**Pg**	**00 09 09.7**	**+0.2**
COLC	**Colonia**	**1.19**	**103**	*e*P	**Pb**	**00 09 09.0**	**-0.4**
HORNC	**Hornillas**	**1.21**	**100**	*e*P	**Pg**	**00 09 09.6**	**-0.4**
TISN	**Laguna Tiscapa**	**1.21**	**5**	P	**Pg**	**00 09 09.9**	**-0.1**
MGAN	**Managua**	**1.22**	**6**	P	**Pg**	**00 09 10.2**	**0.0**
R4DEC	**Barrio San Lui**	**1.22**	**6**	P	**Pg**	**00 09 09.6**	**-0.5**
CUI	**Cuipilapa**	**1.23**	**103**	*e*P	**Pg**	**00 09 10.0**	**-0.5**
SAPS	**Ciudad Sandino**	**1.23**	**359**	P	**Pg**	**00 09 10.5**	**+0.1**
COPN	**Copaltepe**	**1.26**	**351**	P	**Pg**	**00 09 10.5**	**-0.5**
COPN	**Copaltepe**	**1.26**	**351**	*e*P	**Pn**	**00 09 10.1**	**-0.4**
INDI	**Punta indio, G**	**1.37**	**141**	P	**Pg**	**00 09 14.0**	**+0.9**
TENO	**El Achiote**	**1.40**	**99**	*e*P	**Pn**	**00 09 11.8**	**-0.7**
MOMN	**Momotombo**	**1.48**	**354**	P	**Pb**	**00 09 13.5**	**-0.9**
VERA	**Finca Concepci**	**1.49**	**93**	*e*P	**Pg**	**00 09 14.9**	**-0.5**
JTS	**Las Juntas de**	**1.54**	**114**	*e*P	**Pn**	**00 09 14.4**	**0.0**
MACN	**El Madrono**	**1.55**	**349**	P	**Pn**	**00 09 14.5**	**0.0**
MACN				S	**Sb**	**00 09 35.4**	**0.0**
ACON	**Acoyapa**	**1.57**	**49**	P	**Pn**	**00 09 14.4**	**-0.3**
ACON	**Acoyapa**	**1.57**	**49**	*e*P	**Pn**	**00 09 14.3**	**-0.5**
CNGA	**AI SSO del Vol**	**1.58**	**349**	P	**Pn**	**00 09 15.1**	**+0.1**
CNGA				S	**Sb**	**00 09 35.9**	**-0.4**
BOAB	**BOACO BROADBAN**	**1.66**	**25**	P	**Pn**	**00 09 15.9**	**-0.2**
ARE1	**Arenal 1**	**1.70**	**106**	*e*P	**Pb**	**00 09 18.4**	**+0.2**
VARE2	**V. Arenal**	**1.70**	**106**	*e*P	**Pb**	**00 09 18.4**	**+0.1**
CEDE	**Laguna Cedeo**	**1.71**	**105**	*e*P	**Pb**	**00 09 18.0**	**-0.4**
SOCE	**Pocosol**	**1.82**	**107**	P	**Pn**	**00 09 17.5**	**-0.7**
SOCE	**Pocosol**	**1.82**	**107**	*e*P	**Pb**	**00 09 20.1**	**-0.1**

*UCR **01** 00:12:38.8±2.2, 27°.85S×61°.98W, h5km±999km, MW5.0*
*SJA **01** 00:13:22.1±0.7, 28°.34S×63°.20W, h597km±6km, ML5.4, MW5.3*
*RSNC **01** 00:13:23.3±3.8, 28°S±32°×6°1W±2°3, h548km±19km, M4.8, mB5.4, mb5.1, Mw(mB)4.8*
*MOS **01** 00:13:27.4±0.9, 28°.23S×63°.25W, h568km, mb5.2/37, Error ellipse: s-maj=10.0km s-min=6.2km az=96.9*
*NEIC **01** 00:13:28, 28°.25S×63°.23W, h590km*
*NEIC **01** 00:13:28, 28°.25S×63°.23W, h561km*
*NEIC **01** 00:13:28, 28°.15S×63°.35W, h590km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.85; $M_{\theta\theta}$0.26; $M_{\phi\phi}$1.59; $M_{r\theta}$-0.45; $M_{\theta\phi}$-0.53; $M_{\phi r}$1.04; Fault plane solution: M_o2.14000×10^{17} NP1: ϕ_s342.89000°, δ29.02000°, λ-86.40000°. NP2: ϕ_s158.77000°, δ61.04000°, λ-91.99000°. Principal axes: T 2.1018, Plg16.0000°, Azm250.0000°; N 0.0770, Plg2.0000°, Azm160.0000°; P -2.1787, Plg74.0000°, Azm64.0000°;*
*IDC **01** 00:13:28.5±0.3, 28°.20S×63°.17W, h572km±3km, mb4.6/29, mbtmp5.5/34 Error ellipse: s-maj=8.9km s-min=6.4km az=58.0*
*VAO **01** 00:13:28.0±0.3, 28°.25S×63°.28W, h572km±3km, mb5.9*
*NEIC **01** 00:13:29.2±1.9, 28°.25S±0°.07×63°.29W±0°.09, h578km±4km, mb5.3/613, Mwb5.5/10, Mww5.5/43, Error ellipse: s-maj=11.7km s-min=10.5km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.82; $M_{\theta\theta}$0.35; $M_{\phi\phi}$1.47; $M_{r\theta}$-0.44; $M_{\theta\phi}$-0.57; $M_{\phi r}$1.35; Fault plane solution: M_o2.27000×10^{17} NP1: ϕ_s160.13000°, δ64.40000°, λ-87.75000°. NP2: ϕ_s334.93000°, δ25.69000°, λ-94.69000°. Principal axes: T 2.2089, Plg19.0000°, Azm248.0000°; N 0.1149, Plg2.0000°, Azm339.0000°; P -2.3237, Plg71.0000°, Azm75.0000°;*
*GCMT **01** 00:13:30.2±0.2, 28°.18S±0°.01×63°.12W±0°.02, h586km±1km, MW5.5/130, Moment Tensor Solution. s130, c211; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.96±.03; $M_{\theta\theta}$0.49±.05; $M_{\phi\phi}$1.47±.06; $M_{r\theta}$-0.24±.05; $M_{\theta\phi}$-0.68±.05; $M_{\phi r}$1.03±.05; Best double couple: M_o2.16400×10^{17} NP1: ϕ_s327.00000°, δ31.00000°, λ-100.00000°. NP2: ϕ_s159.00000°, δ60.00000°, λ-84.00000°. Principal axes: T 2.0810, Plg14.0000°, Azm245.0000°; N 0.1670, Plg5.0000°, Azm336.0000°; P -2.2470, Plg75.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 01 00:13:28.2±0.3, 28°24S±0°.03×63°29W±0°.04, h573km±2km, h574km: pP-P, n1121, σ1°20/1131, mb5.3/355, 16C-43D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**2.22**	**264**	*i* P	**P**	**00 14 39.3**	**-1.7**
CYA				*i* S	**S**	**00 15 37.1**	**-3.3**
CYA				IAML		00 15 40.7	
	comp=Z,324nm,0.8s						
FSA	**Cafayete**	**3.20**	**311**	*i* P	**P**	**00 14 46.2**	**-0.4**
TCA	**Tanti**	**3.29**	**200**⇓	*e*P	**P**	**00 14 45.7**	**-1.1**
TCA	**Tanti**	**3.29**	**200**	*i* P	**P**	**00 14 45.8**	**-1.1**
TCA				*i* S	**S**	**00 15 46.9**	**-4.3**
TCA				IAML		00 15 49.8	
	comp=Z,312nm,2.2s						
ACLC	**CERRO LA CRUZ**	**3.42**	**249**	*i* P	**P**	**00 14 46.9**	**-1.0**
ACLC				*i* S	**S**	**00 15 49.8**	**-3.2**
ACLC				IAML		00 15 51.4	
	comp=Z,2μm,0.6s						
APLL	**PUNTA DE LOS L**	**3.55**	**232**	*i* P	**P**	**00 14 47.3**	**-1.3**
APLL				*i* S	**S**	**00 15 50.7**	**-3.5**
APLL				IAML		00 15 51.7	
	comp=Z,240nm,1.4s						
SLA	**San Lorenzo**	**4.03**	**330**⇓	*i* P	**P**	**00 14 52.3**	**0.0**
SLA	**San Lorenzo**	**4.03**	**330**	*i* P	**P**	**00 14 52.4**	**+0.1**
SLA				IAML		00 16 08.3	
	comp=Z,434nm,0.9s						
ACHE	**Chepes**	**4.13**	**224**	*i* P	**P**	**00 14 52.0**	**-0.8**
AZAP	**Zapla**	**4.31**	**338**	*i* P	**P**	**00 14 54.4**	**0.0**
AZAP				IAML		00 16 07.5	
	comp=Z,420nm,1.7s						
VCA	**Vinchina**	**4.35**	**262**⇓	*i* P	**P**	**00 14 54.7**	**+0.2**
VCA				*e*S	**S**	**00 16 01.6**	**-3.3**
VCA	**Vinchina**	**4.35**	**262**	*i* P	**P**	**00 14 54.7**	**+0.2**
VCA				*i* S	**S**	**00 16 02.9**	**-2.0**
VCA				IAML		00 16 07.4	
	comp=Z,7μm,0.9s						
AVFE	**Valle Fertil**	**4.36**	**235**	*i* P	**P**	**00 14 54.1**	**-0.3**
AVFE				*i* S	**S**	**00 16 02.4**	**-2.4**
AVFE				IAML		00 16 05.8	
	comp=Z,2μm,1.6s						
ALOL	**LOMAS DE OLMED**	**4.45**	**352**	*i* P	**P**	**00 14 56.1**	**+0.8**
AGUA	**GUANDACOL**	**4.73**	**254**	*i* P	**P**	**00 14 57.6**	**+0.3**
AGUA				*i* S	**S**	**00 16 07.9**	**-2.2**
AGUA				IAML		00 16 11.3	
	comp=Z,9μm,1.0s						
SALTA		**4.85**	**325**⇓	*i* P	**P**	**00 14 58.5**	**-0.4**
SALTA				*e*S	S	00 15 58.3	-14
AC02	**Maricunga**	**5.37**	**284**		**P**	**00 15 03.8**	**+0.7**
AC02				S	**S**	**00 16 20.7**	**+0.2**
AC02	**Maricunga**	**5.37**	**284**	*i* P	**P**	**00 15 04.1**	**+1.0**
AC02				*i* S	**S**	**00 16 20.1**	**-0.5**
AC02				IAML		00 16 24.3	
	comp=Z,241nm,1.4s						
CFA	**Coronel Fontan**	**5.45**	**231**	P	**P**	**00 15 03.0**	**-0.1**
	comp=Z,1μm,0.7s,baz=218,slow=15,SNR=932						
CFA				S	**S**	**00 16 19.1**	**-1.7**
	comp=Z,284nm,0.3s,baz=286,slow=18,SNR=20						
CFA				ScP	**ScP**	**00 23 31.6**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=278,slow=6.8,SNR=2.7						
CPUP	**Villa Florida**	**5.64**	**72**	P	**P**	**00 15 05.3**	**+0.5**
CPUP				S	**S**	**00 16 25.0**	**+1.3**
CPUP	**Villa Florida**	**5.64**	**72**	P	**P**	**00 15 05.4**	**+0.5**
	comp=Z,422nm,0.4s,baz=252,slow=8.6,SNR=987						
CPUP				S	**S**	**00 16 21.5**	**-2.2**
	comp=Z,118nm,0.9s,baz=170,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**5.64**	**72**	P	**P**	**00 15 05.3**	**+0.5**
CPUP				S	**S**	**00 16 25.0**	**+1.3**
CPUP	**Villa Florida**	**5.64**	**72**	*e*P	**P**	**00 15 05.2**	**+0.5**
ZON	**Zonda**	**5.72**	**234**		**P**	**00 15 05.4**	**-0.1**
ZON				S	**S**	**00 16 24.3**	**-0.8**
ZON	**Zonda**	**5.72**	**234**	P	**P**	**00 15 05.4**	**-0.1**
ZON				S	**S**	**00 16 24.3**	**-0.8**
PAPY	**Pozo Azul**	**6.15**	**49**	*e*P	**P**	**00 15 10.8**	**+1.5**
CO01	**Juntas del Tor**	**6.20**	**252**	P	**P**	**00 15 11.1**	**+1.2**
YJA	**Yavi**	**6.37**	**341**⇓	*i* P	**P**	**00 15 12.5**	**+0.6**
GO02	**Mina Guanaco**	**6.42**	**297**	P	**P**	**00 15 12.6**	**+0.5**
GO02				S	**S**	**00 16 36.9**	**-0.1**
LCO	**Las Campanas**	**6.56**	**262**	P	**P**	**00 15 12.5**	**-0.8**
LCO	**Las Campanas**	**6.56**	**262**	P	**P**	**00 15 12.5**	**-0.8**
AC01	**Pan de Azucar**	**6.83**	**286**	P	**P**	**00 15 15.3**	**-0.3**
GO04	**Tololo Observa**	**6.84**	**252**	P	**P**	**00 15 15.3**	**-0.5**
AC04	**Llanos de Chal**	**6.87**	**268**	P	**P**	**00 15 15.2**	**-0.6**
AF01	**San Pedro de A**	**6.87**	**319**	P	**P**	**00 15 16.3**	**-0.1**
CO03	**El Pedregal**	**6.95**	**246**	P	**P**	**00 15 16.0**	**-0.6**
SJPY	**San Joaquin**	**7.20**	**65**	*e*P	**P**	**00 15 19.9**	**+0.9**
TBOT	**Tacuaremb**	**7.24**	**120**	*e*P	**P**	**00 15 19.9**	**+0.6**
TBOT				*e*S	**S**	**00 16 50.9**	**+0.6**
PB14	**IPOC Station P**	**7.32**	**298**		**P**	**00 15 19.5**	**-1.1**
PB14	**IPOC Station P**	**7.32**	**298**	P	**P**	**00 15 16.9**	**-3.6**
PB14				S	**S**	**00 16 47.9**	**-4.6**
CO06	**Fray Jorge**	**7.67**	**250**	P	**P**	**00 15 22.1**	**-1.3**
VA03	**San Esteban**	**7.71**	**232**	P	**P**	**00 15 23.7**	**-0.2**
MT08	**Bocatoma Ro**	**7.76**	**226**	P	**P**	**00 15 24.6**	**+0.1**
PEL	**Peldehue**	**8.02**	**231**	P	**P**	**00 15 26.0**	**-0.8**
PEL	**Peldehue**	**8.02**	**231**	P	**P**	**00 15 26.0**	**-0.8**
MT16	**CCHEN**	**8.08**	**228**	P	**P**	**00 15 27.0**	**-0.4**
MT03	**Universidad Ad**	**8.12**	**228**	P	**P**	**00 15 27.6**	**-0.2**
MT13	**San Alfonso**	**8.13**	**226**	P	**P**	**00 15 27.6**	**-0.4**
VA06	**Catapilco**	**8.14**	**236**	P	**P**	**00 15 26.8**	**-1.2**
LMEL	**Las Melosas**	**8.14**	**225**	P	**P**	**00 15 27.6**	**-0.5**
MT05	**Renca**	**8.21**	**229**	P	**P**	**00 15 27.7**	**-0.9**
MURT	**Porto Murtinho**	**8.34**	**39**	*e*P	**P**	**00 15 30.3**	**+0.2**
PB09	**IPOC Station P**	**8.38**	**319**		**P**	**00 15 30.2**	**-0.5**
MT02	**Curacav**	**8.40**	**232**	P	**P**	**00 15 29.1**	**-1.3**
BO04	**La Punta**	**8.49**	**226**	P	**P**	**00 15 30.7**	**-0.7**
PB03	**IPOC Station P**	**8.50**	**315**		**P**	**00 15 31.6**	**-0.2**
MT09	**Talagante**	**8.60**	**228**	P	**P**	**00 15 31.7**	**-0.9**
VA01	**Torpederas**	**8.63**	**234**	P	**P**	**00 15 31.3**	**-1.4**
MT01	**Popeta**	**8.83**	**229**	P	**P**	**00 15 33.3**	**-1.3**
CPSB	**Cacapava Do Su**	**8.86**	**106**	*e*P	**P**	**00 15 34.4**	**-0.7**
CPSB				*e*S	**S**	**00 17 17.8**	**-1.4**
VA05	**Santo Domingo**	**8.95**	**231**	P	**P**	**00 15 35.0**	**-0.9**
BO01	**Tunca**	**9.05**	**225**	P	**P**	**00 15 36.0**	**-0.9**
PLTB	**Pedras Altas**	**9.10**	**115**		**P**	**00 15 37.0**	**-0.4**
PLTB	**Pedras Altas**	**9.10**	**115**	*e*P	**P**	**00 15 36.9**	**-0.5**
PB01	**IPOC Station P**	**9.12**	**320**	P	**P**	**00 15 37.5**	**-0.3**
BO02	**Sierra Bellavi**	**9.13**	**223**	P	**P**	**00 15 37.2**	**-0.6**
PB08	**IPOC Station P**	**9.68**	**325**	P	**P**	**00 15 43.9**	**+0.2**
PB08	**IPOC Station P**	**9.68**	**325**	P	**P**	**00 15 40.8**	**-3.0**
PB08				S	**S**	**00 17 31.5**	**-3.4**
BDQN	**Bodoquena, MS**	**9.78**	**39**	*e*P	**P**	**00 15 44.7**	**+0.3**
BDQN				*e*S	**S**	**00 17 37.6**	**+1.4**
TRQA	**Tornquist**	**9.85**	**174**	P	**P**	**00 15 43.4**	**-1.4**
TRQA	**Tornquist**	**9.85**	**174**⇓	*e*P	**P**	**00 15 43.0**	**-1.8**
TRQA	**Tornquist**	**9.85**	**174**	P	**P**	**00 15 43.4**	**-1.4**
TA01	**Diego Aracena**	**9.89**	**319**	P	**P**	**00 15 45.2**	**-0.3**
ITAB	**Concordia**	**9.94**	**87**		**P**	**00 15 45.3**	**-0.6**
ITAB	**Concordia**	**9.94**	**87**	*e*P	**P**	**00 15 45.2**	**-0.6**
TA02	**Huaiquique**	**10.09**	**320**	P	**P**	**00 15 47.2**	**-0.3**
TA02	**Huaiquique**	**10.09**	**320**	*e*P	**P**	**00 15 47.4**	**-0.2**
ML02	**Panimavida**	**10.19**	**221**	P	**P**	**00 15 47.5**	**-0.7**
PB11	**IPOC Station P**	**10.25**	**324**	P	**P**	**00 15 48.9**	**-0.4**
AQDB	**Aquidauana**	**10.37**	**43**		**P**	**00 15 50.1**	**-0.2**
AQDB	**Aquidauana**	**10.37**	**43**	*e*P	**P**	**00 15 50.4**	**0.0**
PTGB	**Pitanga**	**10.65**	**73**	*e*P	**P**	**00 15 52.8**	**-0.5**
BI02	**San Fabin de**	**10.76**	**217**	P	**P**	**00 15 53.4**	**-0.8**
BI02	**San Fabin de**	**10.76**	**217**⇑	*e*P	**P**	**00 15 53.2**	**-1.0**
CNLB	**Canela**	**10.96**	**99**	*e*P	**P**	**00 15 55.5**	**-0.8**
PB12	**IPOC Station P**	**11.55**	**325**	P	**P**	**00 16 01.7**	**-0.8**
RPRD	**Ribas do Rio P**	**11.66**	**51**	*e*P	**P**	**00 16 03.2**	**-0.3**
AP01	**Chacalluta**	**11.77**	**325**	P	**P**	**00 16 04.6**	**+0.1**
BI05	**Punta Hualpn**	**11.90**	**222**	P	**P**	**00 16 04.0**	**-1.6**
BI05	**Punta Hualpn**	**11.90**	**222**⇑	*e*P	**P**	**00 16 04.1**	**-1.5**
LDASE	**Londrina, Braz**	**11.98**	**69**	*e*P	**P**	**00 16 05.7**	**-1.1**
PB18	**Visviri**	**12.04**	**330**	P	**P**	**00 16 07.9**	**0.0**
SIV	**San Ignacio**	**12.37**	**10**	P	**P**	**00 16 10.5**	**-0.3**
	comp=Z,115nm,0.6s,baz=191,slow=8.3,SNR=319						
SIV				S	**S**	**00 18 23.0**	**-1.5**
	comp=Z,23nm,0.7s,baz=45,slow=22,SNR=4.9						
TER01	**Tubaro-SC**	**12.47**	**95**	*e*P	**P**	**00 16 10.9**	**-0.8**
MAJ01	**Sao Joao Batis**	**12.67**	**90**	*e*P	**P**	**00 16 12.3**	**-1.4**
LPAZ	**La Paz**	**12.71**	**338**	P	**P**	**00 16 14.7**	**-0.2**
LPAZ	**La Paz**	**12.71**	**338**	P	**P**	**00 16 14.6**	**-0.4**
	comp=Z,106nm,0.5s,baz=126,slow=5.3,SNR=332						
LPAZ				S	**S**	**00 18 30.0**	**-2.0**
	comp=Z,33nm,0.5s,baz=313,slow=22,SNR=3.9						
LPAZ				ScP	**ScP**	**00 23 41.8**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=137,slow=3.6,SNR=2.8						
LPAZ				ScS	**ScS**	**00 27 17.5**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=233,slow=21,SNR=3.6						
LPAZ	**La Paz**	**12.71**	**338**	*e*P	**P**	**00 16 14.3**	**-0.7**
LPAZ	**La Paz**	**12.71**	**338**	P	**P**	**00 16 14.6**	**-0.4**
	comp=Z,2μmcomp=Z,163nm,0.6s						
GO06	**Curarrehue**	**13.19**	**209**⇑	*e*P	**P**	**00 16 17.1**	**-1.8**
GO06				IAmb	IAmb	00 16 19.2	
	comp=Z,2μm,1.3s						
FRTB	**Fartura**	**13.29**	**72**	*e*P	**P**	**00 16 19.4**	**-0.8**
PTLB	**Pontes e Lacer**	**13.30**	**18**	P	**P**	**00 16 19.8**	**-0.6**
PTLB	**Pontes e Lacer**	**13.30**	**18**	*e*P	**P**	**00 16 19.7**	**-0.6**
C2SB	**Chapadao do Su**	**13.44**	**48**	*e*P	**P**	**00 16 21.6**	**-0.2**
BI04	**Isla Mocha**	**13.45**	**218**	*e*P	**P**	**00 16 19.9**	**-1.6**
BI04				IAmb	IAmb	00 16 21.6	
	comp=Z,701nm,0.9s						
LC02	**Puerto Saavedr**	**13.46**	**216**	P	**P**	**00 16 20.3**	**-1.4**
LR03	**Panguipulli**	**13.61**	**211**	P	**P**	**00 16 20.8**	**-2.4**
PLCA	**Paso Flores**	**13.81**	**204**	P	**P**	**00 16 23.2**	**-2.2**
	comp=Z,144nm,0.5s,baz=22,slow=11,SNR=624						
PLCA				PcP	**PcP**	**00 21 02.5**	**+0.4**
	comp=Z,25nm,0.9s,baz=113,slow=2.6,SNR=4.1						
PLCA				ScP	**ScP**	**00 23 41.6**	**-0.3**
	comp=Z,15nm,0.7s,baz=14,slow=1.5,SNR=11						
PLCA				PKiKP	**PKiKP**	**00 28 57.4**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=182,slow=10.0,SNR=3.5						
PLCA	**Paso Flores**	**13.81**	**204**	*e*P	**P**	**00 16 23.1**	**-2.2**
LR05	**Currie**	**13.95**	**209**	P	**P**	**00 16 24.5**	**-2.1**
LR05	**Currie**	**13.95**	**209**⇑	*e*P	**P**	**00 16 24.8**	**-1.9**
SALV	**Santo Antonio**	**14.15**	**31**	*e*P	**P**	**00 16 27.9**	**-1.1**
LR04	**Corral**	**14.31**	**213**	P	**P**	**00 16 27.9**	**-2.3**
VA04	**Juan Fernndez**	**14.38**	**244**	P	**P**	**00 16 29.6**	**-1.4**
ITRB	**Iturama**	**14.55**	**57**	*e*P	**P**	**00 16 32.1**	**-0.8**
LL04	**Puerto Octay**	**14.69**	**208**	P	**P**	**00 16 31.9**	**-2.0**
LL03	**Petrohue**	**14.88**	**208**	P	**P**	**00 16 33.2**	**-2.5**
SPB	**Sao Paulo**	**15.00**	**76**	P	**P**	**00 16 36.2**	**-1.0**
SPB	**Sao Paulo**	**15.00**	**76**	*e*P	**P**	**00 16 36.5**	**-0.7**
BB19B	**Bebedouro**	**15.20**	**65**	*e*P	**P**	**00 16 38.5**	**-1.1**
VILB	**Vilhena**	**15.48**	**11**	P	**P**	**00 16 41.2**	**-0.9**
VILB	**Vilhena**	**15.48**	**11**	*e*P	**P**	**00 16 40.4**	**-1.7**
LL05	**Los Muermos**	**15.55**	**210**	P	**P**	**00 16 39.7**	**-2.6**
VAO	**Valinhos**	**15.62**	**74**	P	**P**	**00 16 42.1**	**-1.3**
VAO	**Valinhos**	**15.62**	**74**	*e*P	**P**	**00 16 42.6**	**-0.7**
LL01	**San Ignacio de**	**15.93**	**205**	P	**P**	**00 16 43.5**	**-2.4**
LL06	**Loncomilla**	**16.28**	**208**	P	**P**	**00 16 47.0**	**-2.2**
ARAG	**Araguaiana, MT**	**16.39**	**43**	*e*P	**P**	**00 16 49.8**	**-0.7**
LL02	**Futaleuf**	**16.44**	**203**	P	**P**	**00 16 49.3**	**-1.3**
PARB	**Paraibuna**	**16.64**	**77**	*e*P	**P**	**00 16 52.9**	**+0.1**
LL07	**Hotel Espejo d**	**16.73**	**207**	P	**P**	**00 16 51.0**	**-2.2**
IPMB	**Ipameri, GO**	**17.21**	**57**	*e*P	**P**	**00 16 58.2**	**+0.3**
PDRB	**Porto dos Gac**	**17.65**	**22**	*e*P	**P**	**00 17 01.6**	**-0.4**
AY01	**Puyuhuapi**	**17.80**	**202**	P	**P**	**00 17 01.6**	**-1.3**
PMNB	**Patos De Minas**	**18.22**	**62**	*e*P	**P**	**00 17 07.5**	**+0.3**
MAN01	**Angra dos Reis**	**18.23**	**77**	*e*P	**P**	**00 17 07.4**	**+0.1**
COYC	**Coyhaique**	**18.65**	**200**	P	**P**	**00 17 10.9**	**+0.2**
CLDB	**Colider**	**18.66**	**24**	*e*P	**P**	**00 17 11.2**	**0.0**
BDFB	**Brasilia**	**18.90**	**52**	P	**P**	**00 17 13.0**	**-0.4**
BDFB	**Brasilia**	**18.90**	**52**	P	**P**	**00 17 13.3**	**-0.1**
	comp=Z,349nm,0.4s,baz=230,slow=7.0,SNR=216						
BDFB				S	**S**	**00 20 14.8**	**-1.4**
	comp=Z,64nm,1.1s,baz=20,slow=18,SNR=2.3						
BDFB	**Brasilia**	**18.90**	**52**	P	**P**	**00 17 13.0**	**-0.4**
SNDB	**Serra Nova Dou**	**19.69**	**37**	*e*P	**P**	**00 17 19.1**	**-1.5**
DUB01	**Friburgo-RJ**	**19.89**	**77**	*e*P	**P**	**00 17 24.2**	**+1.9**
AY03	**Cochrane**	**20.32**	**198**	P	**P**	**00 17 25.1**	**-0.7**
DIAM

comp=Z,2µcomp=Z,221nm,1.1s
GR1C Gorgona, Isla 34.20 333 P **P 00 19 29.4 +2.2**
RCBR Riachuelo 34.22 54 P **P 00 19 27.1 -0.3**
RCBR IAmb IAmb 00 21 09.0
comp=Z,97nm,1.0s
RCBR Riachuelo 34.22 54 P **P 00 19 27.1 -0.3**
RCBR pmax pmax
comp=Z,97nm,1.0s
RCBR Riachuelo 34.22 54 *e*P **P 00 19 26.8 -0.6**
RCBR Riachuelo 34.22 54 P **P 00 19 27.6 +0.2**
RCBR pP **pP 00 21 04.3 +1.5**
RCBR PcP **PcP 00 21 47.5 +0.1**
YOTC Yotoco, Valle 34.42 337 P **P 00 19 27.3 -1.8**
comp=Z,342nmcomp=Z,19nm,0.8s
ROSC El Rosal 34.57 340 P **P 00 19 30.7 0.0**
ROSC El Rosal 34.57 340 P **P 00 19 31.1 +0.4**
comp=Z,17nm,0.3s,baz=134,slow=7.4,SNR=11
ROSC PcP **PcP 00 21 49.2 +0.4**
comp=Z,30nm,0.8s,baz=152,slow=13,SNR=5.9
comp=Z,17nm,0.3s
ROSC El Rosal 34.57 340 P **P 00 19 30.7 0.0**
ROSC pmax pmax
comp=Z,47nm,1.1s
ROSC El Rosal 34.57 340 P **P 00 19 30.8 +0.2**
comp=Z,874nmcomp=Z,40nm,1.1s
MPGF Montagnes des 34.71 19 P **P 00 19 30.6 -0.8**
MPGF PcP **PcP 00 21 49.1 +0.5**
MALC Bahia Malaga 34.80 335 P **P 00 19 33.1 +0.9**
RUSC La Rusia 35.23 343 P **P 00 19 35.4 -0.8**
RUSC La Rusia 35.23 343 P **P 00 19 34.9 -1.3**
comp=Z,2µcomp=Z,150nm,1.5s
GUY2C Guyana, Caldas 35.25 339 P **P 00 19 35.4 -1.0**
comp=Z,622nmcomp=Z,60nm,1.0s
PLMC San Jos del P 35.26 337 P **P 00 19 34.7 -1.3**
comp=Z,1µcomp=Z,117nm,1.0s
SPBC San Pablo de B 35.27 341 P **P 00 19 35.4 -0.7**
comp=Z,43nm,1.1s
ESPZ Base Esperanza 35.40 175 P **P 00 19 36.3 -0.1**
NORC Norcasia 35.42 340 P **P 00 19 34.8 -2.5**
comp=Z,23nm,0.8s
TAMC Tame, Arauca 35.44 345 P **P 00 19 34.8 -2.7**
comp=Z,µcomp=Z,58nm,0.7s
CBOC Ciudad Bolivar 36.06 338 P **P 00 19 41.7 -1.1**
comp=Z,2µcomp=Z,167nm,1.0s
PTBC PUERTO BERRIO, 36.22 341 P **P 00 19 40.3 -3.6**
PAMC Pamplona, Colo 36.52 344 P **P 00 19 45.1 -1.8**
PMSA Palmer Station 36.55 181 P **P 00 19 46.5 +0.7**
PMSA Palmer Station 36.55 181 *e*P **P 00 19 45.9 +0.1**
DBBC Dabeiba 37.21 338 P **P 00 19 51.6 -0.5**
ZARC Zaragoza, Cauc 37.24 341 P **P 00 19 49.4 -2.9**
BAUV El Baul 37.25 352 P **P 00 19 50.7 -1.6**
BAUV IAmb IAmb 00 19 53.3
comp=Z,167nm,1.4s
SDV Santo Domingo 37.59 348 P **P 00 19 53.8 -1.5**
SDV IAmb IAmb 00 19 55.9
comp=Z,78nm,1.0s
SDV Santo Domingo 37.59 348 *e*P **P 00 19 53.8 -1.5**
SDV Santo Domingo 37.59 348 P **P 00 19 53.6 -1.7**
comp=Z,1µcomp=Z,82nm,1.0s
PAYG Puerto Ayora 37.67 312 P **P 00 19 56.1 +0.4**
PTAC Punta Ardita, 37.87 336 P **P 00 19 57.8 +0.4**
comp=Z,58nm,1.1s
ARGC Ariguani, Magd 39.33 343 P **P 00 20 06.5 -2.6**
comp=Z,4µcomp=Z,437nm,0.9s
AZU Azuero 39.40 333 P **P 00 20 12.4 +2.7**
comp=Z,1µcomp=Z,66nm,0.9s
SJCC San Jacinto, C 39.62 341 P **P 00 20 09.9 -1.6**
comp=Z,93nm,1.3s
GMAL Guarumal, Vera 39.77 331 *e*P **P 00 20 14.4 +1.7**
GMAL Guarumal, Vera 39.77 331 P **P 00 20 16.2 +3.5**
comp=Z,64nm,1.3s
SMAI San Martin Ant 39.98 182 P **P 00 20 13.9 +0.4**
SMAI IAmb IAmb 00 20 15.4
comp=Z,41nm,0.7s
CRJC Cerrejon, Guaj 40.12 345 P **P 00 20 11.7 -3.8**
GRGR Grenville 40.17 2 P **P 00 20 15.0 -0.8**
BCIP Isla Barro Col 40.49 334 P **P 00 20 19.2 +0.9**
BCIP Isla Barro Col 40.49 334 P **P 00 20 19.2 +0.9**
BCIP pmax pmax
comp=Z,373nm,1.6s
BCIP Isla Barro Col 40.49 334 P **P 00 20 20.4 +2.1**
comp=Z,2µcomp=Z,159nm,1.5s
SMRC Santa Marta, M 40.58 343 P **P 00 20 17.0 -2.0**
URIC Uribia, Colomb 40.59 347 P **P 00 20 15.5 -3.7**
PIRO Carate, Puerto 41.26 329 *e*P **P 00 20 27.1 +2.6**
BBGH Gun Hill 41.30 6 P **P 00 20 24.9 +0.2**
ALCO Alturas Coton, 41.52 330 *e*P **P 00 20 29.2 +2.4**
FIMO Fila Mora 41.79 329 *e*P **P 00 20 32.1 +3.3**
BIM Bigot 42.56 3 P **P 00 20 33.6 -1.1**
BIM IAmb IAmb 00 20 34.5
comp=Z,133nm,0.9s
PICV PH. Pirrs 42.73 329 *e*P **P 00 20 38.9 +2.8**
ABE2 San Pablo 42.74 329 *e*P **P 00 20 39.2 +2.8**
LCR2 La Lucha 2 42.75 329 *e*P **P 00 20 38.8 +2.4**
FDF Fort de France 42.77 3 P **P 00 20 35.5 -0.9**
FDF IAmb IAmb 00 20 39.8
comp=Z,137nm,1.0s
FDF Fort de France 42.77 3 P **P 00 20 35.5 -0.9**
FDF pmax pmax
comp=Z,137nm,1.0s
FDF Fort de France 42.77 3 P **P 00 20 35.7 -0.6**
FDF PcP **PcP 00 22 14.6 +0.2**
VERB Verbena 42.79 330 *e*P **P 00 20 40.1 +3.4**
ILAM Ilet Lapin Mar 42.83 3 P **P 00 20 35.6 -1.1**
VTCV VTCV, Calle Va 42.84 330 *e*P **P 00 20 39.4 +2.3**
CVTV Tajo 42.87 330 *e*P **P 00 20 40.4 +3.0**
SVN Savane Anatole 42.88 3 P **P 00 20 35.6 -1.6**
VICA Volcano Irazu 42.89 329 *e*P **P 00 20 41.2 +3.4**
CVIMO Finca Echandi 42.97 329 *e*P **P 00 20 41.2 +3.0**
HDC Heredia 43.03 329 P **P 00 20 39.6 +1.2**
HDC Heredia 43.03 329 *e*P **P 00 20 41.6 +3.1**
SOCE Pocosol 43.59 329 P **P 00 20 43.5 +0.8**
SOCE IAmb IAmb 00 20 46.8
comp=Z,89nm,0.8s
JTS Las Juntas de 43.66 328 P **P 00 20 44.0 +0.7**
JTS IAmb IAmb 00 20 47.0
comp=Z,84nm,0.8s
JTS Las Juntas de 43.66 328 P **P 00 20 44.0 +0.7**
comp=Z,76nm,0.8s,baz=142,slow=3.9,SNR=43
JTS PcP **PcP 00 22 18.2 +0.7**
comp=Z,11nm,0.6s,baz=48,slow=1.7,SNR=4.5
comp=Z,76nm,0.8s
JTS Las Juntas de 43.66 328 P **P 00 20 45.5 +2.1**
JTS PcP **PcP 00 22 18.5 +0.9**
TDBA Terre de Bas, 43.86 2 P **P 00 20 46.0 +1.2**
TDBA IAmb IAmb 00 21 59.2
comp=Z,176nm,1.4s
MAGL Barre de l'ile 43.97 3 P **P 00 20 44.9 -0.7**
CBE Ff, Capester 44.08 2 P **P 00 20 45.9 -0.5**
GDHS Morne Mazeau, 44.28 2 P **P 00 20 47.0 -1.0**
GDHS IAmb IAmb 00 22 22.1
comp=Z,87nm,0.9s
GDSD La Dsirade Is 44.34 3 P **P 00 20 46.8 -1.7**
ABD La Joyeuse, An 44.49 2 P **P 00 20 47.9 -1.6**
BLUN Bluefields 44.66 331 P **P 00 20 52.5 +1.6**
comp=Z,132nm,1.0s
ESPN Las Esperanzas 45.05 330 P **P 00 20 53.3 -0.6**
ESPN IAmb IAmb 00 20 56.4
comp=Z,127nm,1.3s
ESPN Las Esperanzas 45.05 330 P **P 00 20 55.3 +1.4**
comp=Z,867nmcomp=Z,89nm,1.2s
ACON Acoyapa 45.24 329 P **P 00 20 54.5 -0.8**
ACON IAmb IAmb 00 20 57.9
comp=Z,101nm,1.0s
ACON Acoyapa 45.24 329 P **P 00 20 56.9 +1.5**
comp=Z,1µcomp=Z,108nm,1.1s
ANWB Willy Bob 45.66 2 P **P 00 20 56.1 -2.4**
ANWB IAmb IAmb 00 22 42.7
comp=Z,81nm,0.9s
BOAB BOACO BROADBAND 46.89 329 P **P 00 21 00.0 -0.3**
BOAB BOACO BROADBAND 46.89 329 P **P 00 21 00.3 0.0**
IGPR InterUniversit 46.02 356 P **P 00 20 59.7 -1.4**
SMRT St. Maarten 46.02 0 P **P 00 20 59.5 -1.7**
PDPR Patillas Dam, 46.06 356 P **P 00 21 00.2 -1.3**
PDPR IAmb IAmb 00 21 02.1
comp=Z,162nm,1.8s
CRPR Cabo Rojo, PR 46.12 355 P **P 00 21 00.6 -1.4**
CRPR IAmb IAmb 00 21 08.9
comp=Z,281nm,1.9s
OBIP Obispado Ponce 46.12 356 P **P 00 21 00.1 -1.9**
OBIP IAmb IAmb 00 21 02.5
comp=Z,238nm,1.6s
CELP Cerrillos 46.16 356 P **P 00 21 00.9 -1.3**
CELP IAmb IAmb 00 21 03.1
comp=Z,88nm,1.0s
SJG San Juan 46.16 356 P **P 00 21 01.0 -1.3**
SJG IAmb IAmb 00 21 02.1
comp=Z,207nm,1.9s
SJG San Juan 46.16 356 P **P 00 21 01.0 -1.3**
SJG pmax pmax
comp=Z,207nm,1.9s
HUMP Col San Antoni 46.18 357 P **P 00 21 01.9 -0.5**
UUPR Utuado, UPR, P 46.34 355 P **P 00 21 02.8 -0.9**
GCPR Guaynabo City 46.36 356 P **P 00 21 02.6 -1.2**
AOPR Arecibo Observ 46.44 355 P **P 00 21 03.3 -1.0**
AOPR IAmb IAmb 00 21 04.6
comp=Z,85nm,1.2s
AGPR Aguadilla, PR 46.58 355 P **P 00 21 03.7 -1.7**
PCDR Punta Cana, DR 46.74 353 P **P 00 21 05.7 -1.0**
DR12 Loma Pena Alta 47.12 352 P **P 00 21 07.4 -2.2**
DR12 IAmb IAmb 00 21 09.8
comp=Z,158nm,1.6s
PAPH Port-au-Prince 47.30 348 P **P 00 21 11.3 +0.4**
SDDR Presa de Saban 47.58 350 P **P 00 21 13.7 +0.7**
TGUH Tegucigalpa,Un 48.04 328 P **P 00 21 17.1 +0.5**
TGUH IAmb IAmb 00 21 18.4
comp=Z,150nm,1.1s
MTDJ Mount Denham 48.21 342 P **P 00 21 17.8 0.0**
GTBY Guantanamo Bay 49.23 345 P **P 00 21 24.6 -0.5**
GTBY IAmb IAmb 00 21 27.0
comp=Z,117nm,0.8s
GTBY Guantanamo Bay 49.23 345 *e*P **P 00 21 23.2 -2.0**
MASC Masc 49.28 346 *e*P **P 00 21 25.0 -0.5**
MTO3 Montecristo 49.34 326 P **P 00 21 26.1 -0.2**
MTO3 IAmb IAmb 00 21 28.3
comp=Z,86nm,0.8s
QMBU Quimbuelo 49.43 346 *e*P **P 00 21 23.6 -3.1**
RCC Rio Carpintero 49.43 345 *e*P **P 00 21 24.6 -2.0**
ESQI Esquipulas 49.47 326 P **P 00 21 27.1 0.0**
ESQI IAmb IAmb 00 21 29.6
comp=Z,113nm,0.9s
MARVS Santiago de Cu 49.49 344 *e*P **P 00 21 26.4 -0.6**
CHIV Chivirico 49.59 344 P **P 00 21 27.1 -0.6**
CHIV IAmb IAmb 00 22 41.6
comp=Z,49nm,1.1s
CHIV Chivirico 49.59 344 ⇓*e*P **P 00 21 28.1 +0.3**
NMDO Nuevo Mundo 49.82 346 P **P 00 21 29.8 +0.3**
NMDO IAmb IAmb 00 21 32.0
comp=Z,64nm,0.9s
NMDO Nuevo Mundo 49.82 346 *e*P **P 00 21 29.7 +0.3**
LMGC Las Mercedes 49.82 343 *e*P **P 00 21 29.7 +0.2**
MOAC Moa 49.91 346 *e*P **P 00 21 29.1 -1.0**
PINC Pinares de May 49.93 345 *e*P **P 00 21 31.1 +0.9**
GRTK Grand Turk 50.04 350 P **P 00 21 31.4 +0.4**
GRTK IAmb IAmb 00 21 33.9
comp=Z,115nm,1.1s
ASCN Ascension 50.30 76 P **P 00 21 32.8 -0.5**
ASCN IAmb IAmb 00 21 34.8
comp=Z,139nm,0.9s
HLGC Holguin 50.38 344 *e*P **P 00 21 34.8 +1.2**
APG El Apazote 50.41 325 P **P 00 21 34.1 0.0**
comp=Z,6.4nm,0.8s,baz=163,slow=9.8,SNR=60
BELA Belgrano 2 51.41 173 P **P 00 21 40.6 +0.4**
BELA IAmb IAmb 00 21 42.0
comp=Z,88nm,0.6s
PETF Flores 51.74 327 P **P 00 21 43.8 +0.3**
PETF IAmb IAmb 00 23 19.1
comp=Z,75nm,0.5s
VNA3 Neumayer Olymp 52.07 161 P **P 00 21 45.2 +0.1**
VNA3 Neumayer Olymp 52.07 161 ⇓P **P 00 21 45.2 +0.1**
comp=Z,83nm,0.7s
VNA3 ⇓PcP **PcP 00 22 48.4 +1.1**
VNA3 ⇑pP **pP 00 23 34.3 +2.0**
VNA1 Neumayer--Stat 52.24 160 P **P 00 21 46.7 +0.5**
VNA1 Neumayer--Stat 52.24 160 ⇓P **P 00 21 46.7 +0.5**
comp=Z,121nm,0.8s
VNA1 ⇓PcP **PcP 00 22 48.8 +1.0**
VNA1 ⇓pP **pP 00 23 35.3 +1.8**
CCIG Comitan 52.34 324 P **P 00 21 48.3 +0.4**
VNA2 Neumayer--Watz 52.61 160 P **P 00 21 49.1 +0.2**
baz=288,slow=9.1
VNA2 S **S 00 28 34.7 +1.2**
baz=64,slow=33
VNA2 Neumayer--Watz 52.61 160 ⇓P **P 00 21 49.1 +0.2**
comp=Z,149nm,0.7s,baz=288,slow=9.1
VNA2 ⇑pP **pP 00 23 38.9 +2.4**
baz=262,slow=20
VNA2 ⇑S **S 00 28 34.7 +1.2**
baz=64,slow=33
TEIG Tepich 53.90 331 P **P 00 21 58.1 -0.6**
TEIG IAmb IAmb 00 22 00.5
comp=Z,295nm,1.2s
TEIG Tepich 53.90 331 P **P 00 21 59.1 +0.4**
comp=Z,0.2nm,0.4s,baz=341,slow=23,SNR=28
TEIG Tepich 53.90 331 P **P 00 21 58.5 -0.3**
TEIG PcP **PcP 00 22 55.5 +0.5**
TEIG Tepich 53.90 331 P **P 00 22 00.0 +1.2**
SOR Soroa 54.19 337 P **P 00 22 00.7 0.0**
SOR IAmb IAmb 00 22 03.2
comp=Z,138nm,1.0s
SOR Soroa 54.19 337 P **P 00 22 00.7 0.0**
SOR pmax pmax
comp=Z,138nm,1.0s
SNAA Sanae 54.25 160 P **P 00 22 00.4 -0.3**
SNAA Sanae 54.25 160 P **P 00 22 00.3 -0.3**
SNAA Sanae 54.25 160 ⇓P **P 00 22 00.4 -0.3**
comp=Z,1µm,0.7s
SNAA ⇓PcP **PcP 00 22 55.7 -0.1**
SNAA ⇓pP **pP 00 23 50.1 +1.0**
SNAA ⇑ScP **ScP 00 26 00.5 +1.2**
SNAA ⇓S **S 00 28 55.3 +0.2**
SNAA Sanae 54.25 160 P **P 00 22 00.5 -0.1**
comp=Z,56nm,0.8s,baz=287,slow=6.0,SNR=53
SNAA PcP **PcP 00 22 55.7 -0.1**
comp=Z,32nm,0.9s,baz=294,slow=3.1,SNR=6.8
SNAA ScP **ScP 00 25 58.8 -0.5**
comp=Z,5.7nm,0.9s,baz=301,slow=3.4,SNR=3.5
comp=Z,56nm,0.8s
SNAA Sanae 54.25 160 *d i*P **P 00 22 00.4 -0.3**
SNAA pmax pmax
comp=Z,54nm,0.8s
CMIG Matias Romero 54.46 322 P **P 00 22 03.1 +0.3**
comp=Z,30nm,0.9s,baz=128,slow=4.5,SNR=48
comp=Z,30nm,0.9s
TROLL Troll, Antarti 55.96 160 P **P 00 22 12.9 +0.3**
TROLL Troll, Antarti 55.96 160 ⇓P **P 00 22 12.9 +0.3**
comp=Z,3µm,0.5s
TROLL ⇓PcP **PcP 00 23 03.3 +0.8**
TROLL ⇓ScP **ScP 00 26 07.7 +0.8**
061Z Ochoppi 56.40 341 P **P 00 22 16.5 +0.5**
TLIG Tlapa 56.91 319 P **P 00 22 20.6 +0.7**
DWPF Disney Wildern 58.67 341 P **P 00 22 31.5 +0.1**
DWPF Disney Wildern 58.67 341 P **P 00 22 31.6 +0.2**
DWPF PcP **PcP 00 23 13.8 +0.2**
DWPF pP **pP 00 24 23.8 +1.1**
NVL N'lazarevskaya 58.72 158 ⇓*i*P **P 00 22 30.8 -0.3**
NVL *e* 00 23 11.4
NVL *e**PP **pP 00 24 23.8 +1.6**
NVL *e*S **S 00 29 48.0 -4.3**
NVL pmax pmax
comp=Z,59nm,0.8s
PTCN Pitcairn Islan 59.10 256 P **P 00 22 34.5 0.0**
PTCN IAmb IAmb 00 22 57.3
comp=Z,357nm,1.5s
MOIG Morelia 60.10 318 P **P 00 22 43.1 +1.7**
MOIG IAmb IAmb 00 22 44.8
comp=Z,98nm,0.9s
BBSR BB Station 60.30 359 P **P 00 22 41.5 -0.6**
BBSR IAmb IAmb 00 22 44.0
comp=Z,248nm,1.6s
JRQG Juriquilla Cam 60.47 319 P **P 00 22 45.5 +1.6**
QSPA South Pole Qui 61.98 180 P **P 00 22 52.9 -0.1**
QSPA IAmb IAmb 00 22 54.9
comp=Z,98nm,0.7s
QSPA South Pole Qui 61.98 180 P **P 00 22 53.4 +0.6**
comp=Z,118nm,0.8s,baz=185,slow=0.7,SNR=220
QSPA S **S 00 30 34.3 +1.1**
comp=Z,8.5nm,1.0s,baz=55,slow=18,SNR=11
QSPA PKPPKP **P'P'df 00 51 48.6 -5.3**
comp=Z,10nm,1.0s,baz=336,slow=2.3,SNR=7.3
comp=Z,118nm,0.8s
QSPA South Pole Qui 61.98 180 P **P 00 22 53.5 +0.6**
ELIB Princess Elisa 62.39 159 *d*P **P 00 22 55.6 +0.2**
comp=Z,71nm,0.7s
ELIB *d*PcP **PcP 00 23 29.0 +0.6**
ELIB *d*pP **pP 00 24 48.4 -0.1**
CSU Charleston Sou 62.94 344 P **P 00 23 00.9 +1.6**
NHSC New Hope 63.09 344 P **P 00 23 01.0 +0.8**
BRAL Brewton 63.27 337 P **P 00 23 01.7 +0.3**
ZAIG Zacatecas 63.31 319 P **P 00 23 02.3 0.0**
Y60A Bolivia 63.50 346 P **P 00 23 02.8 -0.1**
Y58A Scranton 63.73 345 P **P 00 23 04.5 +0.2**
Y57A Sumter 64.01 344 P **P 00 23 06.2 +0.1**
Y57A IAmb IAmb 00 23 08.8
comp=Z,155nm,1.0s
GOGA Godfrey 64.24 341 P **P 00 23 06.9 -0.6**
GOGA Godfrey 64.24 341 P **P 00 23 06.9 -0.6**
GOGA pmax pmax
comp=Z,49nm,1.0s
X58A Rowland 64.28 345 P **P 00 23 08.0 +0.3**
JSC Jenkinsville 64.47 344 P **P 00 23 09.5 +0.5**
JSC IAmb IAmb 00 23 11.7
comp=Z,129nm,0.9s
JSC Jenkinsville 64.47 344 P **P 00 23 09.5 +0.5**
JSC pmax pmax
comp=Z,129nm,0.9s
BIRD Birdtown, Kers 64.62 344 P **P 00 23 10.2 +0.2**
BIRD IAmb IAmb 00 23 12.7
comp=Z,148nm,1.0s
HBVL Hebbronville 64.63 325 P **P 00 23 11.5 +1.3**
HBVL IAmb IAmb 00 23 13.4
comp=Z,123nm,1.1s
KVTX Kingsville 64.64 326 P **P 00 23 10.9 +0.6**
W59A Clinton 64.67 346 P **P 00 23 11.1 +0.8**
W59A IAmb IAmb 00 23 13.0
comp=Z,126nm,1.1s
V61A Roper 64.91 348 P **P 00 23 11.8 0.0**
V61A IAmb IAmb 00 23 14.6
comp=Z,171nm,1.1s
LRAL Lakeview Retre 64.97 338 P **P 00 23 12.1 -0.1**
LRAL IAmb IAmb 00 23 14.1
comp=Z,85nm,0.9s
W57A Gilead 65.00 345 P **P 00 23 12.8 +0.5**
PAULI Pauline 65.12 343 P **P 00 23 13.8 +0.6**
PAULI IAmb IAmb 00 23 15.8
comp=Z,157nm,1.1s
KMSC Kings Mountain 65.31 344 P **P 00 23 14.8 +0.5**
KMSC IAmb IAmb 00 23 16.9
comp=Z,154nm,0.9s
V58A Windy Hill, Pi 65.42 346 P **P 00 23 15.0 +0.1**
V58A IAmb IAmb 00 23 17.4
comp=Z,71nm,0.9s
VBMS Vicksburg 65.47 335 P **P 00 23 16.1 +0.8**
VBMS IAmb IAmb 00 23 17.8
comp=Z,119nm,0.9s
BG3 Lake Jocassee 65.58 342 IAmb IAmb 00 23 18.4
comp=Z,120nm,1.1s
HKT Hockley 65.69 329 P **P 00 23 17.9 +1.2**
HKT IAmb IAmb 00 23 20.0
comp=Z,138nm,1.3s
HKT Hockley 65.69 329 *d i*P **P 00 23 18.4 +1.7**
HKT pmax pmax
comp=Z,133nm,1.4s
HKT Hockley 65.69 329 P **P 00 23 18.5 +1.8**
MLDN Muldoon 66.12 328 P **P 00 23 19.9 +0.5**
DBIC Dimbokro 66.14 68 P **P 00 23 19.8 -0.2**
DBIC IAmb IAmb 00 23 20.5
comp=Z,89nm,0.8s
DBIC Dimbokro 66.14 68 P **P 00 23 19.6 -0.2**
comp=Z,90nm,0.6s,baz=201,slow=3.8,SNR=208
DBIC S **S 00 31 24.1 -0.4**
comp=Z,2.8nm,0.7s,baz=96,slow=22,SNR=10
comp=Z,90nm,0.6s
DBIC Dimbokro 66.14 68 P **P 00 23 19.8 -0.2**
DBIC pmax pmax
comp=Z,89nm,0.8s
DBIC Dimbokro 66.14 68 P **P 00 23 19.6 -0.3**
V53A Saluda 66.18 343 IAmb IAmb 00 23 22.1
comp=Z,128nm,0.9s
HNVL Huntsville, TX 66.22 330 P **P 00 23 21.4 +1.4**
HNVL IAmb IAmb 00 23 23.5
comp=Z,148nm,1.1s
U56A King 66.23 345 P **P 00 23 20.3 +0.3**
U56A IAmb IAmb 00 23 23.1
comp=Z,113nm,0.9s
T59A Double "B" Far 66.24 348 P **P 00 23 20.3 +0.3**
TKL Tuckaleechee C 66.43 342 IAmb IAmb 00 23 23.0
comp=Z,102nm,1.0s
TKL Tuckaleechee C 66.43 342 P **P 00 23 20.8 -0.4**
comp=Z,70nm,0.9s,baz=168,slow=6.7,SNR=30
comp=Z,70nm,0.9s
NATX Nacogdoches 66.73 331 P **P 00 23 24.0 +0.8**
U54A Nelsons Funny 66.74 344 P **P 00 23 23.1 -0.1**
RCRC Randolf Colleg 67.03 346 P **P 00 23 25.4 +0.5**
BLA Blacksburg 67.07 345 IAmb IAmb 00 23 28.2
comp=Z,208nm,1.5s
435B Jarrell 67.20 328 IAmb IAmb 00 23 28.9
comp=Z,128nm,0.9s
TZTN Tazewell 67.20 342 IAmb IAmb 00 23 27.9
comp=Z,129nm,1.4s
R58B Mineral 67.26 348 P **P 00 23 27.0 +0.7**
R58B IAmb IAmb 00 23 29.5
comp=Z,84nm,1.0s
Z41A Richland Creek 67.27 333 P **P 00 23 27.3 +0.8**
Z41A IAmb IAmb 00 23 30.3
comp=Z,126nm,0.9s
S57A Dark Hollow, R 67.28 347 P **P 00 23 26.7 +0.3**
S57A IAmb IAmb 00 23 29.4
comp=Z,68nm,0.9s
V48A Smith Brothers 67.40 339 IAmb IAmb 00 23 28.8
comp=Z,88nm,0.8s
CBN Corbin Frederi 67.40 348 P **P 00 23 27.8 +0.6**
CBN IAmb IAmb 00 23 30.2
comp=Z,63nm,0.8s
237A Washetta, Mont 67.43 330 P **P 00 23 27.9 +0.4**
CCAR Cane Creek 67.45 335 P **P 00 23 28.4 +0.9**
DRIO Del Rio 67.54 325 P **P 00 23 28.8 +0.5**
DRIO IAmb IAmb 00 23 30.5
comp=Z,102nm,0.8s
CLTN Cedars of Leba 67.57 340 IAmb IAmb 00 23 29.9
comp=Z,61nm,0.9s
WLAR White Oak Lake 67.77 333 P **P 00 23 30.2 +0.7**
S54A Dingess, Beckl 67.83 345 P **P 00 23 30.1 +0.2**
MET Memphis--Engin 67.86 337 P **P 00 23 30.9 +0.9**
R55A Marlinton 68.03 346 P **P 00 23 31.9 +0.8**
R55A IAmb IAmb 00 23 34.5
comp=Z,136nm,0.9s
WVT Waverly 68.08 339 P **P 00 23 30.3 -1.0**
WVT IAmb IAmb 00 23 32.6
comp=Z,121nm,0.9s
WVT Waverly 68.08 339 P **P 00 23 30.3 -1.0**
WVT pmax pmax
comp=Z,121nm,1.0s
WVT Waverly 68.08 339 P **P 00 23 30.2 -1.0**
WVT pP **pP 00 25 28.2 +0.6**
TREL Terrell 68.18 331 P **P 00 23 32.8 +0.8**
TREL IAmb IAmb 00 23 34.9
comp=Z,66nm,0.8s
BRDY Brady 68.28 327 IAmb IAmb 00 23 35.1
comp=Z,151nm,1.0s
HPIG 68.30 320 IAmb IAmb 00 23 35.9
comp=Z,70nm,0.9s
HALT Halls 68.37 337 P **P 00 23 33.4 +0.3**
FW14 Alvarado 68.38 329 P **P 00 23 33.9 +0.7**
FW14 IAmb IAmb 00 23 35.8
comp=Z,121nm,1.0s
SYO Syowa Base 68.39 158 ⇓*e*P **P 00 23 30.6 -2.2**
SYO Syowa Base 68.39 158 ⇓*i*pP pP 00 25 27.0 -1.8
P61A Hammonton 68.41 350 P **P 00 23 33.6 +0.4**
P61A IAmb IAmb 00 23 36.9
comp=Z,178nm,1.3s
UALR University of 68.43 335 P **P 00 23 33.5 +0.1**
UALR IAmb IAmb 00 23 35.6
comp=Z,106nm,0.9s
FW13 Cleburne 68.45 329 IAmb IAmb 00 23 36.0
comp=Z,101nm,0.9s
SLBS Sierra La Lagu 68.46 314 P **P 00 23 35.1 +1.1**
SDMD Soldier's Deli 68.48 349 P **P 00 23 34.6 +0.9**
HBAR Harrisburg 68.51 336 P **P 00 23 33.7 -0.2**
Q56A Snyder Ridge, 68.56 347 P **P 00 23 34.9 +0.7**
Q56A IAmb IAmb 00 23 37.0
comp=Z,59nm,0.9s
UTMT University of 68.61 338 P **P 00 23 34.1 -0.3**
GLAT Glass 68.68 338 P **P 00 23 35.0 0.0**
MIAR Mount Ida 68.71 333 IAmb IAmb 00 23 37.6
comp=Z,107nm,1.2s
SAND Sanderson 68.74 324 P **P 00 23 37.0 +1.4**
P57A Homestead Farm 68.76 348 P **P 00 23 36.4 +1.1**
WHAR Wooly Hollow 68.87 335 IAmb IAmb 00 23 38.4
comp=Z,94nm,1.0s
FW07 Weatherford 68.90 329 IAmb IAmb 00 23 38.7
comp=Z,95nm,0.9s
PVMO Portageville 68.95 337 P **P 00 23 37.7 +1.2**

MVL	**Millersville**	**68.97 349**	P	**P**	**00 23 37.4 +0.8**
MVL			IAmb	IAmb	00 23 39.7
	comp=Z,62nm,0.9s				
LPIG	**La Paz**	**68.99 314**	P	**P**	**00 23 37.9 +0.8**
	comp=Z,22nm,0.2s,baz=41,slow=3.7,SNR=5.9				
	comp=Z,22nm,0.2s				
OZNA	**Ozona**	**69.02 326**	IAmb	IAmb	00 23 39.3
	comp=Z,92nm,0.8s				
FW06	**Azle**	**69.03 330**	IAmb	IAmb	00 23 39.7
	comp=Z,119nm,0.9s				
TXAR	**Lajitas Array**	**69.06 323**	P	**P**	**00 23 37.7 +0.2**
TXAR	**Lajitas Array**	**69.06 323**	P	**P**	**00 23 37.9 +0.4**
	comp=Z,11nm,0.5s,baz=149,slow=7.4,SNR=70				
	comp=Z,11nm,0.5s				
SSFO	**Shawnee State**	**69.14 343**	P	**P**	**00 23 37.5 -0.2**
SSFO			IAmb	IAmb	00 23 39.6
	comp=Z,69nm,1.1s				
LCAR	**Lake Charles**	**69.15 336**	IAmb	IAmb	00 23 39.8
	comp=Z,97nm,0.9s				
PARMO	**Parma**	**69.19 337**	P	**P**	**00 23 38.1 +0.1**
MCWV	**Mont Chateau**	**69.29 346**	P	**P**	**00 23 38.7 +0.1**
MCWV			IAmb	IAmb	00 23 41.5
	comp=Z,91nm,0.8s				
FCAR	**Ozark Folk Cen**	**69.34 335**	IAmb	IAmb	00 23 40.8
	comp=Z,145nm,1.1s				
BRNJ	**Basking Ridge**	**69.37 351**	P	**P**	**00 23 39.5 +0.5**
BRNJ			IAmb	IAmb	00 23 42.1
	comp=Z,72nm,0.8s				
CPNY	**Central Park**	**69.39 351**	P	**P**	**00 23 39.6 +0.5**
LUPA	**Lehigh Univers**	**69.41 350**	P	**P**	**00 23 39.9 +0.7**
ACRG	**Accra**	**69.42 71**	P	**P**	**00 23 39.1 -0.8**
ACRG			IAmb	IAmb	00 23 40.3
	comp=Z,57nm,0.8s				
P53A	**Whipple**	**69.46 345**	P	**P**	**00 23 40.0 +0.4**
P53A			IAmb	IAmb	00 23 42.2
	comp=Z,119nm,0.9s				
WCI	**Wyandotte Cave**	**69.54 341**	P	**P**	**00 23 39.2 -0.9**
WCI			IAmb	IAmb	00 23 41.5
	comp=Z,84nm,0.8s				
WCI	**Wyandotte Cave**	**69.54 341**	P	**P**	**00 23 39.2 -0.9**
WCI			pmax	pmax	
	comp=Z,84nm,0.9s				
WCI	**Wyandotte Cave**	**69.54 341**	P	**P**	**00 23 38.9 -1.2**
PAL	**Palisades**	**69.60 351**	P	**P**	**00 23 40.8 +0.5**
PAL	**Palisades**	**69.60 351**	P	**P**	**00 23 40.8 +0.5**
PAL			pmax	pmax	
	comp=Z,67nm,1.3s				
WSPT	**Westport, CT**	**69.69 352**	P	**P**	**00 23 41.5 +0.6**
USIN	**University of**	**69.71 340**	IAmb	IAmb	00 23 42.0
	comp=Z,93nm,0.9s				
CGM3	**Cape Girardeau**	**69.74 338**	P	**P**	**00 23 40.3 -0.9**
CGM3			IAmb	IAmb	00 23 42.5
	comp=Z,79nm,1.1s				
ODNJ	**Ogdensburg**	**69.77 351**	P	**P**	**00 23 41.5 +0.2**
P52A	**Corning**	**69.77 345**	IAmb	IAmb	00 23 43.4
	comp=Z,132nm,0.9s				
TRNY	**Table Rock, Ra**	**69.78 351**	P	**P**	**00 23 41.9 +0.5**
M65A	**Busby, Falmout**	**69.79 354**	P	**P**	**00 23 40.9 -0.5**
M65A			IAmb	IAmb	00 23 44.1
	comp=Z,68nm,1.0s				
SGCY	**Sterling City**	**69.82 326**	P	**P**	**00 23 42.2 +0.3**
SGCY			IAmb	IAmb	00 23 44.5
	comp=Z,100nm,0.9s				
N58A	**Sunbury**	**69.85 349**	P	**P**	**00 23 42.7 +0.8**
N58A			IAmb	IAmb	00 23 45.0
	comp=Z,90nm,1.0s				
SSPA	**Standing Stone**	**69.86 348**	P	**P**	**00 23 42.6 +0.7**
SIUC	**Southern Illin**	**69.97 338**	IAmb	IAmb	00 23 43.9
	comp=Z,113nm,1.1s				
WTFS	**Witchita Falls**	**70.10 329**	IAmb	IAmb	00 23 45.9
	comp=Z,149nm,1.0s				
O53A	**New Philadelph**	**70.15 345**	IAmb	IAmb	00 23 46.0
	comp=Z,84nm,1.1s				
O52A	**Adamsville**	**70.17 345**	IAmb	IAmb	00 23 45.8
	comp=Z,78nm,0.8s				
UCCT	**U. Connecticut**	**70.17 353**	P	**P**	**00 23 44.2 +0.5**
L64A	**Middleborough**	**70.18 354**	P	**P**	**00 23 44.2 +0.5**
KSCT	**Kent School, K**	**70.25 352**	IAmb	IAmb	00 23 46.9
	comp=Z,126nm,0.9s				
P49A	**Miami Univ. Ec**	**70.33 343**	IAmb	IAmb	00 23 46.2
	comp=Z,82nm,0.9s				
HHAR	**Hobbs**	**70.37 334**	IAmb	IAmb	00 23 47.3
	comp=Z,102nm,1.0s				
KSPA	**Keystone Colle**	**70.40 350**	IAmb	IAmb	00 23 48.2
	comp=Z,90nm,1.1s				
BLO	**Bloomington**	**70.48 341**	IAmb	IAmb	00 23 46.7
	comp=Z,79nm,0.8s				
SN05	**Snyder 5**	**70.49 327**	IAmb	IAmb	00 23 48.0
	comp=Z,71nm,0.8s				
MGMO	**Mountain Grove**	**70.52 336**	IAmb	IAmb	00 23 48.1
	comp=Z,152nm,1.1s				
X34A	**Smith Ranch, M**	**70.53 330**	IAmb	IAmb	00 23 48.5
	comp=Z,90nm,0.8s				
ACSO	**Alum Creek Sta**	**70.54 344**	IAmb	IAmb	00 23 47.8
	comp=Z,92nm,0.9s				
OLIL	**Olney**	**70.55 340**	IAmb	IAmb	00 23 47.1
	comp=Z,164nm,1.2s				
W35A	**Tecumseh**	**70.58 331**	IAmb	IAmb	00 23 47.9
	comp=Z,58nm,0.8s				
BCX	**Boston College**	**70.60 354**	P	**P**	**00 23 46.0 -0.2**
FVM	**French Village**	**70.62 338**	IAmb	IAmb	00 23 48.0
	comp=Z,94nm,0.8s				
WES	**Weston**	**70.67 354**	P	**P**	**00 23 47.7 +1.1**
WES	**Weston**	**70.67 354**	P	**P**	**00 23 47.7 +1.1**
WES			pmax	pmax	
	comp=Z,40nm,1.1s				
SN07	**Snyder 07**	**70.67 327**	IAmb	IAmb	00 23 48.9
	comp=Z,54nm,0.8s				
PECS	**Pecos**	**70.77 324**	IAmb	IAmb	00 23 50.6
	comp=Z,143nm,1.4s				
HRV	**Adam Dziewonsk**	**70.81 354**	P	**P**	**00 23 48.6 +1.2**
HRV	**Adam Dziewonsk**	**70.81 354**	P	**P**	**00 23 48.6 +1.2**
HRV			pmax	pmax	
	comp=Z,65nm,1.2s				
L61B	**Northampton**	**70.87 353**	P	**P**	**00 23 48.3 +0.5**
SUR	**Sutherland**	**70.88 117**	P	**P**	**00 23 48.9 +0.4**
SUR			IAmb	IAmb	00 23 50.4
	comp=Z,86nm,1.1s				
SUR	**Sutherland**	**70.88 117**	P	**P**	**00 23 48.9 +0.4**
FNO	**Franklin**	**70.89 331**	IAmb	IAmb	00 23 50.6
	comp=Z,118nm,0.8s				
VHRN	**Van Horn**	**70.90 323**	IAmb	IAmb	00 23 50.8
	comp=Z,57nm,0.8s				
CCM	**Cathedral Cave**	**70.96 337**	P	**P**	**00 23 47.9 -0.6**
CCM			IAmb	IAmb	00 23 50.1
	comp=Z,84nm,0.9s				
CCM	**Cathedral Cave**	**70.96 337**	P	**P**	**00 23 47.9 -0.6**
CCM			pmax	pmax	
	comp=Z,84nm,0.9s				
CCM	**Cathedral Cave**	**70.96 337**	P	**P**	**00 23 47.8 -0.6**
CCM			PcP	**PcP**	**00 24 05.0 +0.4**
K62A	**Royalston**	**71.04 353**	P	**P**	**00 23 50.1 +1.3**
N51A	**Ashland**	**71.05 345**	IAmb	IAmb	00 23 50.9
	comp=Z,97nm,0.9s				
WMOK	**Wichita Mounta**	**71.06 330**	P	**P**	**00 23 49.1 0.0**
WMOK	**Wichita Mounta**	**71.06 330**		**P**	**00 23 49.7 +0.5**
WMOK	**Wichita Mounta**	**71.06 330**	P	**P**	**00 23 49.2 0.0**
WMOK			pmax	pmax	
	comp=Z,59nm,1.1s				
BINY	**Binghamton**	**71.06 350**	P	**P**	**00 23 49.4 +0.4**
BINY			IAmb	IAmb	00 23 52.1
	comp=Z,107nm,1.2s				
VNDA	**Vanda**	**71.09 189**	P	**P**	**00 23 49.4 +0.7**
VNDA	**Vanda**	**71.09 189**	P	**P**	**00 23 49.9 +1.2**
	comp=Z,32nm,0.9s,baz=143,slow=5.3,SNR=23				
	comp=Z,32nm,0.9s				
VNDA	**Vanda**	**71.09 189**	P	**P**	**00 23 49.4 +0.7**
VNDA			pmax	pmax	
	comp=Z,33nm,0.9s				
VNDA	**Vanda**	**71.09 189**	P	**P**	**00 23 50.1 +1.4**
O48B	**Farmland**	**71.12 342**	IAmb	IAmb	00 23 50.9
	comp=Z,158nm,1.0s				
DKNS	**Dickens**	**71.16 327**	P	**P**	**00 23 50.6 +0.7**
ADOK	**Arcadia Dam**	**71.22 331**	P	**P**	**00 23 50.8 +0.7**
L56A	**Greenwood**	**71.26 349**	IAmb	IAmb	00 23 53.0
	comp=Z,142nm,1.1s				
TRY	**Troy**	**71.27 352**	IAmb	IAmb	00 23 53.6
	comp=Z,99nm,1.1s				
OK029	**Liberty Lake**	**71.38 331**	IAmb	IAmb	00 23 53.3
	comp=Z,131nm,1.0s				
M52A	**Chesterland**	**71.42 346**	IAmb	IAmb	00 23 53.4
	comp=Z,84nm,0.9s				
CLNB	**Carlsbad**	**71.49 324**	P	**P**	**00 23 52.6 +0.8**
CLN7	**Carlsbad 7**	**71.57 325**	P	**P**	**00 23 52.5 +0.3**
M50A	**Fremont**	**71.67 344**	IAmb	IAmb	00 23 54.4
	comp=Z,95nm,0.9s				
WVNY	**West Valley, N**	**71.70 348**	IAmb	IAmb	00 23 55.6
	comp=Z,125nm,1.0s				
J61A	**Chester**	**71.74 353**	P	**P**	**00 23 53.7 +0.8**
J61A			IAmb	IAmb	00 23 56.6
	comp=Z,102nm,1.2s				
SFIN	**Lafayette**	**71.77 341**	IAmb	IAmb	00 23 54.2
	comp=Z,94nm,1.0s				
N47A	**Urbana**	**71.85 342**	pP	pP	00 25 52.3 +0.8
MACI	**Morro de la Ar**	**71.86 43**	P	**P**	**00 23 53.0 -1.1**
MACI			IAmb	IAmb	00 23 55.4
	comp=Z,64nm,0.8s				
ACCN	**Adirondack Com**	**71.91 352**	P	**P**	**00 23 54.6 +0.8**
SMWD	**Samnorwood**	**72.03 329**	P	**P**	**00 23 55.3 +0.5**
SMWD			IAmb	IAmb	00 23 57.3
	comp=Z,140nm,1.1s				
HNH	**Hanover**	**72.07 353**	P	**P**	**00 23 56.3 +1.5**
CPRX	**Cap Rock**	**72.09 325**	P	**P**	**00 23 56.0 +0.6**
J59A	**Piesco**	**72.10 351**	P	**P**	**00 23 55.2 +0.2**
J59A			IAmb	IAmb	00 23 58.1
	comp=Z,133nm,1.0s				
I62A	**Tamworth**	**72.14 354**	P	**P**	**00 23 56.1 +0.9**
I62A			IAmb	IAmb	00 23 58.8
	comp=Z,58nm,0.9s				
I63A	**Otisfield**	**72.25 354**	IAmb	IAmb	00 23 59.6
	comp=Z,154nm,1.0s				
J57A	**Williamstown**	**72.25 350**	IAmb	IAmb	00 23 58.5
	comp=Z,71nm,1.0s				
EOSO	**Osorio**	**72.31 43**	P	**P**	**00 23 56.8 +0.2**
EPT	**El Paso**	**72.48 322**	IAmb	IAmb	00 24 00.0
	comp=Z,76nm,1.0s				
AMTX	**Amarillo**	**72.51 328**	IAmb	IAmb	00 24 00.0
	comp=Z,78nm,0.9s				
HAL	**Halifax**	**72.53 360**	IAmb	IAmb	00 24 00.7
	comp=Z,57nm,0.9s				
NCB	**Newcomb**	**72.56 352**	IAmb	IAmb	00 24 00.6
	comp=Z,63nm,0.8s				
LBNH	**Lisbon**	**72.56 354**	IAmb	IAmb	00 24 01.1
	comp=Z,82nm,0.9s				
KAN14	**Manchester OK**	**72.58 331**	P	**P**	**00 23 57.9 +0.1**
AAM	**Ann Arbor**	**72.67 344**	P	**P**	**00 23 59.0 +0.8**
AAM			IAmb	IAmb	00 24 00.1
	comp=Z,244nm,1.8s				
AAM	**Ann Arbor**	**72.67 344**	P	**P**	**00 23 59.0 +0.8**
AAM			pmax	pmax	
	comp=Z,245nm,1.8s				
WVL	**Waterville**	**72.69 355**	P	**P**	**00 23 59.5 +1.2**
WVL			IAmb	IAmb	00 24 01.7
	comp=Z,87nm,1.0s				
NOKA	**Waynoka**	**72.72 331**	P	**P**	**00 23 59.9 +1.1**
NOKA			IAmb	IAmb	00 24 01.6
	comp=Z,90nm,1.0s				
H62A	**Milan**	**72.82 354**	IAmb	IAmb	00 24 02.7
	comp=Z,202nm,1.7s				
PECO	**Prince Edward**	**72.92 350**	IAmb	IAmb	00 24 02.3
	comp=Z,118nm,1.1s				
HSIG		**72.95 317**	IAmb	IAmb	00 24 03.1
	comp=Z,83nm,0.9s				
M44A	**Midewin, Midew**	**72.97 341**	IAmb	IAmb	00 24 01.5
	comp=Z,72nm,1.1s				
L46A	**Eue Claire**	**73.06 342**	IAmb	IAmb	00 24 01.8
	comp=Z,141nm,1.0s				
GGN	**Saint George**	**73.08 357**	IAmb	IAmb	00 24 03.9
	comp=Z,94nm,1.1s				
G65A	**Princeton**	**73.19 357**	P	**P**	**00 24 01.9 +0.7**
G65A			IAmb	IAmb	00 24 04.7
	comp=Z,76nm,1.1s				
N41A	**Harden Midland**	**73.22 338**	IAmb	IAmb	00 24 03.0
	comp=Z,118nm,1.0s				
LONY	**Lake Ozonia**	**73.24 352**	IAmb	IAmb	00 24 04.7
	comp=Z,109nm,1.1s				
GBN	**Guysborough**	**73.32 1**	P	**P**	**00 24 02.9 +1.0**
FRNY	**Flat Rock**	**73.33 352**	IAmb	IAmb	00 24 05.0
	comp=Z,84nm,0.9s				
PKME	**Peaks-Kenny Pk**	**73.36 356**	IAmb	IAmb	00 24 05.4
	comp=Z,87nm,0.9s				
TSUM	**Tsumeb**	**73.37 103**	P	**P**	**00 24 02.3 -0.8**
TSUM			IAmb	IAmb	00 24 05.3
	comp=Z,59nm,0.9s				
TSUM	**Tsumeb**	**73.37 103**	*i* P	**P**	**00 24 03.1 0.0**
G62A	**West of Eustis**	**73.41 355**	IAmb	IAmb	00 24 05.9
	comp=Z,84nm,1.1s				
DELO	**Deloro Mine**	**73.58 349**	IAmb	IAmb	00 24 06.1
	comp=Z,68nm,1.1s				
L44A	**Lake County Fo**	**73.67 341**	IAmb	IAmb	00 24 05.6
	comp=Z,125nm,0.9s				
319A	**Douglas**	**73.72 320**	P	**P**	**00 24 05.8 +1.2**
LMN	**Caledonia Moun**	**73.76 359**	IAmb	IAmb	00 24 07.3
	comp=Z,93nm,1.0s				
121A	**Cookes Peak, D**	**73.76 322**	P	**P**	**00 24 05.4 +0.4**
121A			IAmb	IAmb	00 24 08.5
	comp=Z,73nm,1.0s				
J47A	**Sunmer**	**73.83 344**	IAmb	IAmb	00 24 06.7
	comp=Z,76nm,0.9s				
F64A	**Sherman**	**73.90 356**	IAmb	IAmb	00 24 08.6
	comp=Z,82nm,1.1s				
MNTQ	**Montreal, Queb**	**73.99 352**	IAmb	IAmb	00 24 08.7
	comp=Z,123nm,0.9s				
L42A	**Oliver, Polo**	**74.02 340**	IAmb	IAmb	00 24 07.6
	comp=Z,112nm,1.0s				
KOOLE	**Kule**	**74.03 108**	*i* P	**P**	**00 24 06.7 -0.1**
SADO	**Sadowa**	**74.09 348**	IAmb	IAmb	00 24 08.5
	comp=Z,96nm,1.1s				
SADO	**Sadowa**	**74.09 348**	P	**P**	**00 24 06.2 0.0**
	comp=Z,49nm,0.7s,baz=190,slow=5.1,SNR=40				
	comp=Z,49nm,0.7s				
N38A	**Joes South For**	**74.09 337**	IAmb	IAmb	00 24 08.0
	comp=Z,69nm,0.8s				
RTBA	**Rita Blanca**	**74.28 328**	P	**P**	**00 24 08.0 +0.3**
CRNM	**Carthage**	**74.29 324**	P	**P**	**00 24 09.2 +1.3**
TAOE	**Nuku Hiva Isla**	**74.32 268**	P	**P**	**00 24 09.3 +0.9**
BNM	**Barren Site**	**74.39 324**	P	**P**	**00 24 09.6 +1.1**
SOE	**Somerset East**	**74.45 119**	P	**P**	**00 24 08.6 -0.3**
SOE			IAmb	IAmb	00 24 10.7
	comp=Z,85nm,0.9s				
DUN6	**Lazy B Ranch**	**74.49 321**	P	**P**	**00 24 10.4 +1.4**
SBM	**South Baldy**	**74.54 323**	P	**P**	**00 24 11.5 +1.9**
LENM	**Lemitar**	**74.58 324**	P	**P**	**00 24 10.4 +0.9**
E62A	**Clayton Lake**	**74.72 356**	IAmb	IAmb	00 24 13.1
	comp=Z,70nm,0.8s				
GRHM	**Grahamstown, E**	**74.85 120**	IAmb	IAmb	00 24 13.2
	comp=Z,148nm,0.9s				
PMOZ	**Porto Moniz, M**	**74.86 39**	P	**P**	**00 24 10.3 -0.7**
PMOZ	**Porto Moniz, M**	**74.86 39**	*eP*	**P**	**00 24 09.4 -1.6**
PMOZ			*i* Amb		00 24 14.4
	comp=Z,116nm,1.6s				
ANMO	**Albuquerque**	**74.92 324**	P	**P**	**00 24 11.7 +0.3**
ANMO	**Albuquerque**	**74.92 324**	*d iP*	**P**	**00 24 12.3 +0.9**
ANMO			pmax	pmax	
	comp=Z,31nm,1.0s				
I45A	**Fountain**	**74.94 343**	P	**P**	**00 24 10.6 -0.4**
PMAR	**Madeira**	**74.94 39**	*eP*	**P**	**00 24 10.4 -1.2**
PMAR			*i* Amb		00 24 16.3
	comp=Z,98nm,1.3s				
SCIA	**State Center**	**75.08 337**	IAmb	IAmb	00 24 13.8
	comp=Z,79nm,0.9s				
TORD	**Torodi Ar. Bea**	**75.11 66**	P	**P**	**00 24 12.9 +0.2**
	comp=Z,48nm,0.3s,baz=234,slow=5.5,SNR=4.7				
	comp=Z,48nm,0.3s				
D62A	**Allapoint, All**	**75.15 356**	P	**P**	**00 24 12.7 +0.5**
D62A			IAmb	IAmb	00 24 15.3
	comp=Z,89nm,0.9s				
BATG	**Bathurst New B**	**75.21 358**	P	**P**	**00 24 13.3 +0.9**
PHPEN	**Phepeng**	**75.23 111**	*i* P	**P**	**00 24 13.5 +0.1**
TUC	**Tucson**	**75.26 320**	P	**P**	**00 24 14.4 +1.1**
TUC	**Tucson**	**75.26 320**	P	**P**	**00 24 14.4 +1.1**
TUC			pmax	pmax	
	comp=Z,62nm,1.2s				
I42A	**Draeger Farm,**	**75.53 341**	IAmb	IAmb	00 24 16.4
	comp=Z,104nm,0.9s				
GRTLG	**Ghanzi**	**75.57 107**	*i* P	**P**	**00 24 15.1 -0.3**
T25A	**Trinidad**	**75.63 327**	IAmb	IAmb	00 24 18.9
	comp=Z,108nm,0.9s				
H43A	**Windswept, Lux**	**75.75 342**	IAmb	IAmb	00 24 17.5
	comp=Z,87nm,0.9s				
BOSA	**Boshof**	**75.88 115**	IAmb	IAmb	00 24 18.5
	comp=Z,95nm,0.9s				
BOSA	**Boshof**	**75.88 115**	P	**P**	**00 24 16.7 -0.3**
	comp=Z,98nm,0.9s,baz=259,slow=3.5,SNR=125				
BOSA			pP	**pP**	**00 26 16.0 -0.4**
	comp=Z,12nm,0.8s,baz=284,slow=4.1,SNR=5.1				
	comp=Z,98nm,0.9s				
BOSA	**Boshof**	**75.88 115**	*i* P	**P**	**00 24 16.6 -0.3**
LDAQ	**Lac Daran**	**76.19 355**	IAmb	IAmb	00 24 20.7
	comp=Z,114nm,1.5s				
QNGWA	**Qangwa**	**76.31 105**	*i* P	**P**	**00 24 19.1 -0.4**
MAW	**Mawson**	**76.39 161**	P	**P**	**00 24 19.1 +0.3**
	comp=Z,53nm,1.0s,baz=211,slow=7.1,SNR=5.4				
	comp=Z,53nm,1.0s				
X18A	**Snowflake**	**76.45 322**	P	**P**	**00 24 21.2 +1.3**
SKOMA	**Sekoma**	**76.52 111**	*i* P	**P**	**00 24 20.2 -0.3**
SDCO	**Great Sand Dun**	**76.64 327**	IAmb	IAmb	00 24 24.4
	comp=Z,121nm,1.4s				
MAKGR	**Makgori**	**76.68 112**	*i* P	**P**	**00 24 21.3 -0.2**
SFX	**San Felipe**	**76.75 316**	P	**P**	**00 24 22.4 +1.0**
SFX			IAmb	IAmb	00 24 24.1
	comp=Z,62nm,0.8s				
I37A	**Lemond, Waseca**	**77.02 338**	pP	pP	00 26 23.6 +0.9
X16A	**Lo Mia Camp, P**	**77.19 321**	P	**P**	**00 24 24.9 +1.0**
X16A			IAmb	IAmb	00 24 27.6
	comp=Z,121nm,1.1s				
113A	**Mohawk Valley,**	**77.32 318**	P	**P**	**00 24 25.5 +1.1**
DRLN	**Deer Lake**	**77.32 4**	IAmb	IAmb	00 24 26.9
	comp=Z,111nm,0.8s				
Q24A	**Divide**	**77.44 328**	P	**P**	**00 24 26.1 +0.8**
Q24A			IAmb	IAmb	00 24 28.7
	comp=Z,117nm,1.0s				
ICQ	**Pointe Anglais**	**77.50 357**	P	**P**	**00 24 25.5 +0.6**
VTX	**Valle De La Tr**	**77.56 316**	P	**P**	**00 24 26.5 +0.7**
VTX			IAmb	IAmb	00 24 29.1
	comp=Z,83nm,1.1s				
KDWAN	**Kaudwane**	**77.60 110**	*i* P	**P**	**00 24 26.3 -0.1**
COWI	**Conover**	**77.62 342**	IAmb	IAmb	00 24 28.3
	comp=Z,116nm,1.1s				
OGNE	**Ogallala**	**77.65 331**	IAmb	IAmb	00 24 29.2
	comp=Z,110nm,1.0s				
LBTB	**Lobatse**	**77.67 112**	IAmb	IAmb	00 24 28.0
	comp=Z,98nm,0.8s				
LBTB	**Lobatse**	**77.67 112**	*i* P	**P**	**00 24 26.9 +0.1**
ECSD	**EROS Data Cent**	**77.87 336**	IAmb	IAmb	00 24 29.2
	comp=Z,112nm,1.0s				
SPMN	**Marine on St.**	**77.91 339**	pP	pP	00 26 28.9 +1.0
WUAZ	**Wupatki**	**77.96 322**	IAmb	IAmb	00 24 31.7
	comp=Z,99nm,1.1s				
CPBX	**Cerro Prieto**	**77.99 317**	P	**P**	**00 24 28.8 +0.8**
CPBX			IAmb	IAmb	00 24 31.5
	comp=Z,177nm,1.2s				
VAH	**Vaihoa**	**78.06 259**	*eP*	**P**	**00 24 27.8 -1.0**
	comp=Z,44nm,1.0s				
ESJX	**Sierra Juarez**	**78.09 316**	P	**P**	**00 24 30.1 +1.2**
K30B	**Basset**	**78.09 333**	IAmb	IAmb	00 24 31.6
	comp=Z,282nm,1.5s				
GLA	**Glamis**	**78.15 318**	P	**P**	**00 24 30.1 +1.1**
GLA	**Glamis**	**78.15 318**	P	**P**	**00 24 30.1 +1.1**
GLA			pmax	pmax	
	comp=Z,48nm,1.1s				
ISCO	**Idaho Springs**	**78.32 328**	P	**P**	**00 24 31.2 +1.1**
ISCO			IAmb	IAmb	00 24 33.4
	comp=Z,89nm,1.1s				
ISCO	**Idaho Springs**	**78.32 328**	P	**P**	**00 24 31.2 +1.1**
ISCO			pmax	pmax	
	comp=Z,89nm,1.1s				
TVO	**Taravao**	**78.34 256**	*eP*	**P**	**00 24 30.5 +0.1**
	comp=Z,22nm,1.0s				
BRIGG	**Briggsdale**	**78.35 329**	P	**P**	**00 24 31.3 +1.3**
BRIGG			IAmb	IAmb	00 24 33.1
	comp=Z,77nm,1.0s				
PMOR	**Pomariorio Ree**	**78.39 259**	*eP*	P	00 24 22.1 -8.5
	comp=Z,38nm,0.8s				
PV01	**Paradox Valley**	**78.46 325**	P	**P**	**00 24 31.9 +1.1**
PV01			IAmb	IAmb	00 24 34.4
	comp=Z,124nm,1.4s				
BLYC	**Blythe**	**78.47 318**	P	**P**	**00 24 32.0 +1.4**
BLYC			IAmb	IAmb	00 24 34.0
	comp=Z,71nm,0.9s				
PV15	**Paradox Valley**	**78.57 325**	P	**P**	**00 24 32.8 +1.4**
PV15			IAmb	IAmb	00 24 35.1
	comp=Z,147nm,1.1s				
LPHEP	**Lephephe**	**78.60 110**	*i* P	**P**	**00 24 31.8 0.0**
PV02	**Paradox Valley**	**78.60 325**	P	**P**	**00 24 32.2 +0.7**
PV02			IAmb	IAmb	00 24 34.9
	comp=Z,197nm,1.4s				
PV13	**Radium Mtn., P**	**78.61 325**	P	**P**	**00 24 32.1 +0.6**
PV13			IAmb	IAmb	00 24 34.8
	comp=Z,81nm,1.0s				
PAE	**Paea**	**78.67 256**	*eP*	P	00 24 26.1 -6.0
	comp=Z,18nm,1.1s				
PV05	**Paradox Valley**	**78.69 325**	P	**P**	**00 24 32.6 +0.7**
PV03	**Paradox Valley**	**78.69 325**	P	**P**	**00 24 32.3 +0.3**
PPTF	**Pamatai, Papee**	**78.69 256**	P	**P**	**00 24 32.6 +0.3**
PPT2	**Papeete2**	**78.70 256**	*eP*	**P**	**00 24 30.0 -2.4**
	comp=Z,47nm,1.1s				
PPT2			*eS*	**S**	**00 33 40.4 -3.4**
	comp=Z,194nm,25.8s				
PPT2			*es*S	**sS**	**00 37 19.6 +0.8**
	comp=Z,464nm,27.2s				
PPT	**Papeete**	**78.71 256**	P	**P**	**00 24 34.0 +1.7**
	comp=Z,21nm,0.4s,baz=51,slow=4.9,SNR=5.7				
	comp=Z,21nm,0.4s				
PV18	**Skein Mesa, Pa**	**78.72 325**	P	**P**	**00 24 33.3 +1.2**
PV18			IAmb	IAmb	00 24 35.3
	comp=Z,89nm,1.0s				
PV12	**Saucer Basin,**	**78.72 325**	P	**P**	**00 24 31.9 -0.2**
PV07	**Paradox Valley**	**78.73 325**	P	**P**	**00 24 33.3 +1.2**
PV07			IAmb	IAmb	00 24 35.6
	comp=Z,86nm,1.0s				
PV11	**David Mesa, Pa**	**78.74 325**	P	**P**	**00 24 32.8 +0.6**
PV11			IAmb	IAmb	00 24 35.5
	comp=Z,100nm,1.4s				
CBX	**Cerro Bola**	**78.74 316**	P	**P**	**00 24 33.0 +0.8**
PV17	**East Wray Mesa**	**78.77 325**	P	**P**	**00 24 33.2 +0.9**
E38A	**The Farm, Brul**	**78.77 341**	P	**P**	**00 24 31.6 -0.3**
E38A			IAmb	IAmb	00 24 33.9
	comp=Z,80nm,0.8s				
PV16	**Nyswonger Mesa**	**78.77 325**	P	**P**	**00 24 33.0 +0.6**
PV19	**Morning Glory**	**78.80 325**	P	**P**	**00 24 33.6 +1.0**
PV20	**West Nyswonger**	**78.82 325**	P	**P**	**00 24 33.4 +0.8**
PV20			IAmb	IAmb	00 24 35.8
	comp=Z,123nm,1.3s				
PV04	**Paradox Valley**	**78.83 325**	P	**P**	**00 24 33.4 +0.8**
PV14	**Lion Creek, Pa**	**78.87 325**	P	**P**	**00 24 32.5 -0.4**
PV14			IAmb	IAmb	00 24 35.2
	comp=Z,85nm,1.2s				
KHWEE	**KHWEE**	**78.87 109**	*i* P	**P**	**00 24 33.2 0.0**
PHDHD	**Phuduhudu**	**78.87 107**	*i* P	**P**	**00 24 32.9 -0.4**
PV22	**Blue Mesa, Par**	**78.88 325**	P	**P**	**00 24 33.7 +0.8**

AVE Averroes 80.95 45 IAmb IAmb 00 24 45.7
comp=Z,53nm,0.8s
AVE Averroes 80.95 45 P **P** **00 24 43.5 -0.1**
K22A Casper 81.00 329 P **P** **00 24 45.3 +1.4**
K22A IAmb IAmb 00 24 47.0
comp=Z,166nm,1.5s
RSSD Black Hills 81.09 332 P **P** **00 24 44.8 +0.4**
RSSD Black Hills 81.09 332 P **P** **00 24 44.8 +0.4**
RSSD pmax pmax
comp=Z,42nm,1.0s
SNCC San Nicolas Is 81.14 315 P **P** **00 24 45.3 +0.8**
SNCC IAmb IAmb 00 24 47.4
comp=Z,108nm,1.1s
PRN Pahroc Range 81.37 321 P **P** **00 24 47.2 +1.4**
PRN IAmb IAmb 00 24 49.6
comp=Z,88nm,1.0s
BSUT Blindstream Ca 81.39 325 IAmb IAmb 00 24 49.5
comp=Z,75nm,0.9s
GWY Greenwater Val 81.43 319 P **P** **00 24 47.3 +1.1**
CCAC Calif City Air 81.51 317 IAmb IAmb 00 24 49.5
comp=Z,108nm,0.9s
PSUT Pine Spring 81.52 322 P **P** **00 24 47.6 +0.9**
PSUT IAmb IAmb 00 24 50.0
comp=Z,60nm,1.0s
AGMN Agassiz Nation 81.60 339 IAmb IAmb 00 24 48.9
comp=Z,64nm,0.9s
JLU Jordanelle 81.78 325 IAmb IAmb 00 24 51.1
comp=Z,78nm,1.1s
E28A Huff 81.80 335 P **P** **00 24 48.2 +0.6**
S11A Rachel 81.93 321 P **P** **00 24 50.4 +1.7**
S11A IAmb IAmb 00 24 52.4
comp=Z,101nm,1.1s
ISA Isabella, Lake 82.13 318 P **P** **00 24 50.7 +1.0**
ISA Isabella, Lake 82.13 318 P **P** **00 24 50.7 +1.0**
ISA pmax pmax
comp=Z,55nm,1.0s
TCUT Toone Canyon 82.15 325 IAmb IAmb 00 24 53.0
comp=Z,97nm,1.0s
BCW Bitter Crk WRg 82.20 316 P **P** **00 24 51.0 +0.9**
BCW IAmb IAmb 00 24 53.4
comp=Z,59nm,0.9s
BLWY Bulawayo 82.32 109 *i* P **P** **00 24 51.6 +0.4**
R11B Troy Canyon, C 82.33 321 P **P** **00 24 51.9 +1.1**
MUSN Musina, Limpop 82.38 111 *i* P **P** **00 24 52.3 +1.0**
BW06 Boulder Array 82.49 328 P **P** **00 24 51.4 -0.2**
PDAR Pinedale Array 82.49 328 P **P** **00 24 51.4 -0.1**
PDAR Pinedale Array 82.49 328 P **P** **00 24 51.6 +0.1**
comp=Z,19nm,0.7s,baz=135,slow=8.0,SNR=99
PDAR pP **pP** **00 26 53.8 -0.4**
comp=Z,1.9nm,0.9s,baz=140,slow=5.8,SNR=2.6
PDAR PKKPbc **PKKPbc** **00 43 13.2 -0.8**
comp=Z,1.2nm,0.8s,baz=229,slow=0.9,SNR=7.4
PDAR PKPPKP **P'P'df** **00 51 09.6 -6.5**
comp=Z,1.2nm,1.1s,baz=319,slow=4.4,SNR=4.5
comp=Z,19nm,0.7s
GMN Gold Mountain 82.54 319 P **P** **00 24 52.6 +0.7**
PFVI Vila Bisbo 82.71 41 *eP* **P** **00 24 52.7 +0.3**
SCHQ Schefferville 82.79 358 IAmb IAmb 00 24 54.7
comp=Z,112nm,1.1s
SCHQ Schefferville 82.79 358 P **P** **00 24 52.4 0.0**
comp=Z,61nm,0.9s,baz=184,slow=3.6,SNR=34
comp=Z,61nm,0.9s
BGU Big Grassy Mou 82.83 324 IAmb IAmb 00 24 56.1
comp=Z,68nm,1.1s
MORF Marmelete 82.93 41 *eP* **P** **00 24 54.0 +0.4**
MORF IAmb IAmb 00 24 54.4
comp=Z,53nm,1.3s
MORF Marmelete 82.93 41 *eP* **P** **00 24 54.0 +0.4**
MORF *i* Amb 00 25 14.7
comp=Z,61nm,1.4s
MORF Marmelete 82.93 41 *eP* **P** **00 24 54.0 +0.4**
DSP Deep Springs 83.00 319 P **P** **00 24 54.9 +1.1**
PTEO Sao Teotonio 83.06 41 *eP* **P** **00 24 55.4 +1.3**
PTEO *i* Amb 00 24 57.8
comp=Z,148nm,1.3s
MOPA Mopani 83.07 113 *i* P **P** **00 24 55.3 +0.6**
AHID Auburn Hatcher 83.23 327 IAmb IAmb 00 24 58.0
comp=Z,160nm,1.4s
PBDV Barranco-do-Ve 83.31 41 *eP* **P** **00 24 56.1 +0.6**
PBDV *i* Amb 00 24 58.6
comp=Z,124nm,1.2s
ULM Lac du Bonnet 83.32 340 IAmb IAmb 00 24 57.3
comp=Z,87nm,0.9s
ULM Lac du Bonnet 83.32 340 P **P** **00 24 55.1 -0.1**
comp=Z,65nm,0.9s,baz=150,slow=6.0,SNR=55
ULM pP **pP** **00 26 58.0 +0.2**
comp=Z,11nm,1.0s,baz=134,slow=6.5,SNR=3.8
ULM PKKPbc **PKKPbc** **00 43 11.2 -1.0**
comp=Z,6.1nm,0.9s,baz=332,slow=3.3,SNR=10
comp=Z,65nm,0.9s
ULM Lac du Bonnet 83.32 340*d* *i* P **P** **00 24 54.8 -0.4**
ULM *i* *PP **pP** **00 26 56.8 -1.1**
HVU Hansel Valley 83.33 325 IAmb IAmb 00 24 58.3
comp=Z,75nm,1.0s
PCVE Castro Verde 83.51 41 *eP* **P** **00 24 56.9 +0.5**
PCVE *i* Amb 00 24 58.8
comp=Z,60nm,1.0s
PCVE Castro Verde 83.51 41 P **P** **00 24 56.5 +0.1**
TAM Tamanrasset 83.52 60 P **P** **00 24 56.9 -0.1**
TAM IAmb IAmb 00 24 59.6
comp=Z,56nm,1.1s
TAM Tamanrasset 83.52 60 P **P** **00 24 56.9 -0.1**
TAM pmax pmax
comp=Z,56nm,1.1s
PVAQ Vaqueiros 83.54 41 P **P** **00 24 56.6 +0.1**
PVAQ IAmb IAmb 00 24 59.4
comp=Z,71nm,1.2s
PVAQ Vaqueiros 83.54 41 *eP* **P** **00 24 57.1 +0.6**
PVAQ *i* Amb 00 24 58.9
comp=Z,99nm,1.2s
PVAQ Vaqueiros 83.54 41 P **P** **00 24 56.2 -0.3**
MESJ Messejana 83.55 41 P **P** **00 24 56.8 +0.2**
MESJ IAmb IAmb 00 24 58.9
comp=Z,124nm,1.4s
MESJ Messejana 83.55 41 *eP* **P** **00 24 57.1 +0.5**
MESJ IAmb IAmb 00 24 59.1
comp=Z,121nm,1.4s
MESJ Messejana 83.55 41 *eP* **P** **00 24 57.1 +0.5**
MESJ *i* Amb 00 24 59.0
comp=Z,84nm,1.1s
MESJ Messejana 83.55 41 *eP* **P** **00 24 57.1 +0.5**
Q09A Carvers 83.56 321 P **P** **00 24 58.1 +1.3**
Q09A IAmb IAmb 00 25 00.1
comp=Z,118nm,0.9s
SNOW Snow King Moun 83.59 327 P **P** **00 24 58.3 +1.3**
SNOW IAmb IAmb 00 24 60.0
comp=Z,101nm,1.4s
LOHW Long Hollow 83.63 328 P **P** **00 24 57.8 +0.6**
LOHW IAmb IAmb 00 25 00.1
comp=Z,212nm,1.7s
TPAW Teton Pass 83.71 327 IAmb IAmb 00 24 59.6
comp=Z,65nm,1.2s
EGRO El Granado 83.77 41 P **P** **00 24 57.4 -0.3**
MOOW Moose Ponds 83.80 328 P **P** **00 24 57.8 -0.3**
MOOW IAmb IAmb 00 25 00.8
comp=Z,61nm,1.2s
ELK Elko 83.85 323 IAmb IAmb 00 25 01.2
comp=Z,75nm,0.8s
ELK Elko 83.85 323 P **P** **00 24 59.0 +0.6**
comp=Z,67nm,0.8s,baz=144,slow=2.9,SNR=171
comp=Z,67nm,0.8s
PBEJ Beja 83.88 41 *eP* **P** **00 24 58.7 +0.4**
PBEJ *i* Amb 00 25 01.1
comp=Z,60nm,1.4s
PMPB Monarch Peak 83.90 317 P **P** **00 24 60.0 +1.5**
PMPB IAmb IAmb 00 25 01.9
comp=Z,71nm,1.0s
LHV Little Huntoon 83.91 319 P **P** **00 24 58.9 +0.5**
NVAR Mina Array Bea 83.92 320 P **P** **00 24 59.3 +0.6**
NVAR Mina Array Bea 83.92 320 P **P** **00 24 59.8 +1.0**
comp=Z,20nm,0.8s,baz=140,slow=4.8,SNR=64
comp=Z,20nm,0.8s
ECEU Ceuta 83.93 44 P **P** **00 24 59.1 +0.5**
CEU Ceuta 83.93 44 P **P** **00 24 59.4 +0.9**
LAO LASA Array 84.08 332 IAmb IAmb 00 25 01.4
comp=Z,70nm,1.1s
PVLZ Pen de Vlez 84.12 45 P **P** **00 24 59.4 -0.1**
EVO Evora 84.14 40 *eP* **P** **00 24 59.6 +0.1**
EVO *i* Amb 00 25 01.5
comp=Z,51nm,1.3s
EVO Evora 84.14 40 P **P** **00 24 59.5 +0.1**
RYN Ryan 84.18 320 P **P** **00 25 00.5 +0.6**
ALJ Aljibe 84.18 43 P **P** **00 25 00.8 +1.0**
LSZ Lusaka 84.19 104 P **P** **00 25 01.0 +0.5**
LSZ IAmb IAmb 00 25 03.6
comp=Z,106nm,0.9s
LSZ Lusaka 84.19 104 P **P** **00 25 01.0 +0.5**
LSZ pmax pmax
comp=Z,106nm,0.9s
LSZ Lusaka 84.19 104 *i* P **P** **00 25 02.5 +2.0**
H17A Grant Village 84.21 328 P **P** **00 25 01.7 +1.7**
BBGB Big Mountain B 84.28 317 P **P** **00 25 02.2 +1.9**
YMP Mirror Lake Pl 84.28 328 P **P** **00 25 01.8 +1.3**
ESPR Espera 84.28 43 P **P** **00 25 00.9 +0.7**
PSBE So Bento 84.37 39 *eP* **P** **00 25 01.0 +0.3**
PSBE *i* Amb 00 25 03.1
comp=Z,138nm,1.2s
YFT Old Faithful 84.38 328 P **P** **00 25 02.7 +1.8**
YFT IAmb IAmb 00 25 08.2
comp=Z,52nm,1.0s
PMTG Montargil 84.39 40 *eP* **P** **00 25 01.1 +0.4**
PMTG *i* Amb 00 25 02.9
comp=Z,145nm,1.1s
EMIN Mina Concepcio 84.40 42 P **P** **00 25 00.2 -0.6**
YNE Yellowstone No 84.42 329 IAmb IAmb 00 25 03.6
comp=Z,85nm,1.3s
PBAR Barrancos 84.46 41 *eP* **P** **00 25 01.2 +0.2**
PBAR *i* Amb 00 25 03.8
comp=Z,61nm,1.4s
PBAR Barrancos 84.46 41 P **P** **00 25 01.2 +0.2**
YNR Norris Junctio 84.50 328 P **P** **00 25 01.9 +0.4**
YNM Yellowstone No 84.52 328 P **P** **00 25 03.7 +2.1**
YNM IAmb IAmb 00 25 06.1
comp=Z,60nm,1.3s
LIJA Lijar 84.58 43 P **P** **00 25 02.6 +0.8**
PESTR Estremoz 84.61 40 P **P** **00 25 01.7 -0.1**
PESTR IAmb IAmb 00 25 03.2
comp=Z,144nm,1.5s
PESTR Estremoz 84.61 40 *eP* **P** **00 25 01.9 +0.1**
PESTR *i* Amb 00 25 04.1
comp=Z,91nm,1.3s
WAKR Walker 84.62 319 P **P** **00 25 03.4 +1.3**
WAKR IAmb IAmb 00 25 05.8
comp=Z,80nm,0.9s
YHH Holmes Hill 84.64 328 P **P** **00 25 02.7 +0.5**
SAO San Andreas Ge 84.65 317 P **P** **00 25 02.7 +0.7**
SAO San Andreas Ge 84.65 317 P **P** **00 25 02.7 +0.7**
SAO pmax pmax
comp=Z,32nm,1.0s
YHB Horse Butte 84.77 328 IAmb IAmb 00 25 06.0
comp=Z,69nm,1.2s
YHL Hebgen Lake 84.84 328 P **P** **00 25 04.4 +1.2**
YHL IAmb IAmb 00 25 06.6
comp=Z,122nm,1.5s
PCAS Casmilo, Conde 84.91 39 *eP* **P** **00 25 03.5 +0.3**
PCAS *i* Amb 00 25 06.1
comp=Z,114nm,1.4s
WMELI Melilla 85.06 46 P **P** **00 25 04.2 +0.2**
COI Coimbra 85.06 39 P **P** **00 25 04.3 +0.3**
COI IAmb IAmb 00 25 06.7
comp=Z,138nm,1.2s
COI Coimbra 85.06 39 *eP* **P** **00 25 04.6 +0.7**
COI *i* Amb 00 25 06.9
comp=Z,130nm,1.3s
COI Coimbra 85.06 39 P **P** **00 25 04.3 +0.3**
COI pmax pmax
comp=Z,138nm,1.3s
EMAL Malaga-Limoner 85.08 44 P **P** **00 25 04.8 +0.7**
PMRV Marv??o 85.11 40 *eP* **P** **00 25 04.0 -0.2**
PMRV *i* Amb 00 25 05.9
comp=Z,60nm,1.2s
PNTR Pine Nut 85.11 319 P **P** **00 25 05.7 +1.2**
CHAS Isla Isabel II 85.30 46 P **P** **00 25 05.6 +0.4**
PCBR Castelo Branco 85.34 40 *eP* **P** **00 25 05.2 -0.1**
PCBR *i* Amb 00 25 07.6
comp=Z,86nm,1.3s
PAHR Pah Rah Range 85.41 320 P **P** **00 25 07.2 +1.3**
PAHR IAmb IAmb 00 25 09.2
comp=Z,112nm,1.1s
CASY Casey 85.66 177 P **P** **00 25 07.7 +1.2**
CASY IAmb IAmb 00 25 09.4
comp=Z,62nm,1.0s
MTE Manteigas 85.68 39 IAmb IAmb 00 25 09.2
comp=Z,90nm,1.1s
MTE Manteigas 85.68 39 *eP* **P** **00 25 06.9 -0.1**
MTE *i* Amb 00 25 09.5
comp=Z,96nm,1.2s
PVIS Viseu 85.70 39 *eP* **P** **00 25 06.6 -0.5**
AFDM Forest Hills D 85.81 319 IAmb IAmb 00 25 10.2
comp=Z,49nm,0.9s
MFID Camas Ranch 86.06 325 IAmb IAmb 00 25 11.9
comp=Z,65nm,1.1s
PVRL Vila Real 86.18 39 *eP* **P** **00 25 09.4 0.0**
PVRL *i* Amb 00 25 12.0
comp=Z,82nm,1.2s
POLO Lamas de Olo 86.21 38 *eP* **P** **00 25 09.3 -0.2**
POLO *i* Amb 00 25 12.3
comp=Z,27nm,1.2s
PCAB Cabril 86.31 38 *eP* **P** **00 25 09.9 0.0**
PCAB *i* Amb 00 25 13.8
comp=Z,52nm,1.8s
PGAV Gavieira, Arco 86.35 38 *eP* **P** **00 25 10.0 -0.2**
PGAV *i* Amb 00 25 15.3
comp=Z,50nm,1.6s
MCCM Marconi Confer 86.41 317 P **P** **00 25 11.5 +1.1**
MCCM IAmb IAmb 00 25 13.3
comp=Z,64nm,0.9s
MVO Moncorvo 86.49 39 *eP* **P** **00 25 11.0 +0.2**
MVO *i* Amb 00 25 12.1
comp=Z,57nm,1.6s
EGMT Eagleton 86.61 331 IAmb IAmb 00 25 13.5
comp=Z,97nm,1.1s
GDXM Geysers 86.79 318 P **P** **00 25 13.7 +1.4**
WVOR Wild Horse Val 86.85 322 P **P** **00 25 13.4 +0.8**
WVOR IAmb IAmb 00 25 15.6
comp=Z,56nm,1.4s
WVOR Wild Horse Val 86.85 322 P **P** **00 25 13.4 +0.8**
WVOR pmax pmax
comp=Z,56nm,1.4s
PAB San Pablo 86.94 42 P **P** **00 25 13.2 +0.2**
PAB San Pablo 86.94 42 P **P** **00 25 13.2 +0.2**
PAB pmax pmax
comp=Z,46nm,1.7s
PBRG Braganca 87.08 39 *eP* **P** **00 25 13.6 +0.1**
PBRG *i* Amb 00 25 16.2
comp=Z,21nm,2.1s
ESDC Sonseca Array 87.25 42 P **P** **00 25 14.4 0.0**
ESDC IAmb IAmb 00 25 16.5
comp=Z,50nm,1.1s
ESDC **pP** **00 27 19.9 +1.4**
ESDC Sonseca Array 87.25 42 P **P** **00 25 14.6 +0.2**
comp=Z,10nm,0.7s,baz=240,slow=4.1,SNR=98
ESDC pP **pP** **00 27 18.7 +0.2**
comp=Z,3.3nm,1.0s,baz=232,slow=5.0,SNR=5.4
comp=Z,10nm,0.7s
ESBB Sonseca Array 87.25 42 P **P** **00 25 13.8 -0.6**
MSO Missoula 87.60 328 IAmb IAmb 00 25 19.1
comp=Z,70nm,1.5s
O02D Mt. Diablo Mer 87.67 319 P **P** **00 25 17.1 +0.7**
O02D IAmb IAmb 00 25 19.1
comp=Z,47nm,1.1s
CART Cartagena 87.71 45 P **P** **00 25 16.1 -0.5**
CART IAmb IAmb 00 25 17.4
comp=Z,28nm,0.9s
CART Cartagena 87.71 45 P **P** **00 25 16.7 +0.2**
KCPM Cahto Peak 87.82 318 P **P** **00 25 18.7 +1.5**
KMRM Mail Ridge 88.24 318 P **P** **00 25 20.1 +1.1**
YBH Yreka Blue Hor 88.64 320 IAmb IAmb 00 25 22.7
comp=Z,29nm,0.8s
YBH Yreka Blue Hor 88.64 320 P **P** **00 25 21.0 +0.1**
comp=Z,24nm,0.8s,baz=108,slow=3.8,SNR=41
comp=Z,24nm,0.8s
KHMM Horse Mountain 88.67 319 P **P** **00 25 22.1 +0.9**
K04D Chiloquin, OR 88.68 321 P **P** **00 25 21.7 +0.6**
JCC Jacoby Creek, 88.81 319 P **P** **00 25 21.9 +0.3**
J05D Fort Rock, OR 88.83 322 IAmb IAmb 00 25 24.8
comp=Z,86nm,1.4s
PINE Pine Mountain 89.01 322 P **P** **00 25 23.5 +0.8**
PINE IAmb IAmb 00 25 26.0
comp=Z,49nm,0.9s
KRPM Rodgers 89.02 319 P **P** **00 25 24.1 +1.4**
FFC Flin Flon 89.08 339 P **P** **00 25 23.0 +0.5**
FFC IAmb IAmb 00 25 25.0
comp=Z,28nm,1.1s
FFC Flin Flon 89.08 339 P **P** **00 25 23.0 +0.5**
FFC pmax pmax
comp=Z,28nm,1.1s
J04A Umpqua Nationa 89.29 321 P **P** **00 25 24.2 +0.2**
L02F Cave Junction 89.38 320 P **P** **00 25 24.9 +0.7**
E09A Wood Farm, Sta 89.41 326 P **P** **00 25 25.3 +1.1**
I05D Terrebonne, OR 89.59 322 P **P** **00 25 25.9 +0.7**
I05D IAmb IAmb 00 25 28.2
comp=Z,37nm,0.8s
G06A Carlson Farm, 89.81 323 P **P** **00 25 27.2 +1.0**
G06A IAmb IAmb 00 25 29.3
comp=Z,32nm,1.0s
E08A Dider Farm, El 89.85 325 P **P** **00 25 27.1 +0.8**
F07A Phinny Hill Vi 89.89 324 P **P** **00 25 27.3 +0.8**
HAWA Hanford 90.03 325 P **P** **00 25 27.9 +0.8**
HAWA IAmb IAmb 00 25 29.7
comp=Z,27nm,0.9s
NEW Newport 90.13 327 P **P** **00 25 28.0 +0.4**
comp=Z,7.1nm,0.8s,baz=136,slow=4.6,SNR=13
comp=Z,7.1nm,0.8s
NEW Newport 90.13 327 P **P** **00 25 28.0 +0.4**
NRS Narsarsuaq 90.26 9 P **P** **00 25 28.0 +0.2**
NRS Narsarsuaq 90.26 9 P **P** **00 25 28.0 +0.2**
NRS pmax pmax
comp=Z,320nm,2.0s
I03D Drain, OR 90.27 321 P **P** **00 25 29.2 +1.0**
I03D IAmb IAmb 00 25 31.0
comp=Z,62nm,1.2s
H04A Detroit Lake 90.27 322 IAmb IAmb 00 25 30.3
comp=Z,36nm,0.9s
E07A Sunnyside 90.30 325 P **P** **00 25 29.4 +1.0**
BUCK Buck Mountain 90.39 322 P **P** **00 25 29.3 +0.4**
HOOD Mount Hood Mea 90.41 323 P **P** **00 25 30.1 +1.0**
HOOD IAmb IAmb 00 25 31.7
comp=Z,48nm,1.0s
H04D Lebanon 90.47 322 P **P** **00 25 30.4 +1.2**
H04D IAmb IAmb 00 25 32.2
comp=Z,23nm,0.9s
MXC Moxie City 90.54 325 P **P** **00 25 30.3 +0.8**
I02E Swisshome, OR 90.81 321 P **P** **00 25 31.7 +0.9**
COR Corvallis 90.82 322 P **P** **00 25 31.9 +1.1**
COR Corvallis 90.82 322 P **P** **00 25 31.9 +1.1**
COR pmax pmax
comp=Z,74nm,0.9s
LTY Liberty 91.19 325 IAmb IAmb 00 25 34.5
comp=Z,21nm,1.1s
B08A Colville Reser 91.27 326 P **P** **00 25 32.9 +0.1**
D05A Enumclaw 91.81 324 P **P** **00 25 35.5 +0.2**
D05A IAmb IAmb 00 25 37.9
comp=Z,40nm,1.0s
CEST Esterri de Car 92.15 42 P **P** **00 25 37.7 +0.5**
CEST IAmb IAmb 00 25 40.3
comp=Z,78nm,1.7s
MAHO Mahon 92.39 45 P **P** **00 25 38.8 +0.7**
MAHO Mahon 92.39 45 P **P** **00 25 38.7 +0.7**
KEST Kesra 93.41 51 P **P** **00 25 42.5 -0.5**
comp=Z,5.6nm,0.9s,baz=210,slow=4.7,SNR=7.5
comp=Z,5.6nm,0.9s
PGC Sidney 93.51 325 P **P** **00 25 44.0 +1.0**
PGC IAmb IAmb 00 25 45.4
comp=Z,35nm,1.2s
LLLB Lillooet 94.01 327 IAmb IAmb 00 25 46.8
comp=Z,13nm,0.9s
CBB Campbell River 95.36 325 IAmb IAmb 00 25 53.6
comp=Z,15nm,1.0s
VIVF Saint-Julien-I 95.48 41 *eP* **P** **00 25 52.2 +0.1**
SSB Saint Sauveur 95.64 41 P **P** **00 25 53.1 +0.3**
SSB IAmb IAmb 00 25 55.6
comp=Z,22nm,0.9s
SSB Saint Sauveur 95.64 41 P **P** **00 25 53.2 +0.3**
SSB pmax pmax
comp=Z,22nm,0.9s
AVF Avril sur Loir 95.84 39 *eP* **P** **00 25 53.1 -0.5**
ORIF Oris-en-Rattie 96.22 42 *eP* **P** **00 25 56.0 +0.4**
LPL La Plagne 97.06 42 *eP* **P** **00 25 59.9 +0.5**
LPG La Plagne 97.06 42 *eP* **P** **00 26 00.0 +0.5**
EKA Eskdalemuir Ar 97.78 30 P Pdif 00 26 01.4 -0.7
comp=Z,3.6nm,0.6s,baz=229,slow=1.4,SNR=23
EKA pP pP 00 28 07.0 -0.8
comp=Z,1.7nm,0.9s,baz=243,slow=6.5,SNR=4.0
EKA PKiKP **PKiKP** **00 30 33.2 +1.2**
comp=Z,0.3nm,0.6s,baz=248,slow=0.8,SNR=4.3
EKA PKKPbc **PKKPbc** **00 42 34.7 -1.1**
comp=Z,1.4nm,0.8s,baz=57,slow=3.1,SNR=6.4
comp=Z,3.6nm,0.6s
BAIF Baives 98.18 37 *eP* **P** **00 26 05.2 +1.2**
DOU Dourbes 98.41 37 *d*Pdif Pdif 00 26 04.9 -0.1
comp=Z,7.3nm,1.2s
GIVF Givet 98.53 37 *eP* Pdif 00 26 05.2 -0.4
BMRD Maredsous 98.61 37 *d*Pdif Pdif 00 26 05.3 -0.7
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 98.75 96 P Pdif 00 26 06.5 -1.4
comp=Z,0.4nm,0.6s,baz=72,slow=19,SNR=1.7
comp=Z,0.4nm,0.6s
RCHB Rochefort 98.78 37 *d*Pdif Pdif 00 26 06.6 -0.1
comp=Z,7.2nm,1.1s
BGES Gesves 98.83 37 *d*Pdif Pdif 00 26 06.8 -0.1
comp=Z,6.8nm,1.2s
WLF Walferdange 99.00 38 *d*Pdif Pdif 00 26 07.4 -0.3
comp=Z,19nm,1.0s
YKA Yellowknife Ar 99.26 338 P **Pdif** **00 26 08.4 -0.1**
comp=Z,5.1nm,0.7s,baz=136,slow=4.4,SNR=73
YKA pP **pP** **00 28 14.4 0.0**
comp=Z,1.3nm,0.9s,baz=135,slow=4.5,SNR=4.6
YKA PP **PP** **00 30 19.2 -2.2**
comp=Z,1.0nm,0.8s,baz=141,slow=7.1,SNR=5.2
YKA PKiKP **PKiKP** **00 30 35.5 +1.0**
comp=Z,0.7nm,0.6s,baz=155,slow=1.9,SNR=3.8
YKA PKKPbc **PKKPbc** **00 42 29.3 -2.5**
comp=Z,1.2nm,0.9s,baz=310,slow=2.9,SNR=11
YKA PKPPKP **P'P'df** **00 50 42.2 -1.6**
comp=Z,0.3nm,0.9s,baz=305,slow=2.0,SNR=3.9
comp=Z,5.1nm,0.7s
DAVA Damuels 99.84 41 *i* Pdif **Pdif** **00 26 10.7 -1.0**
comp=Z,9.4nm,1.6s
FETA Feichten 100.20 42 *i* Pdif **Pdif** **00 26 12.4 -0.9**
comp=Z,7.9nm,1.2s
FETA *e*PKiKP **PKiKP** **00 30 40.6 +3.7**
comp=Z,4.9nm,1.2s
FETA *e*PKKP **PKKPbc** **00 42 29.6 +0.7**
comp=Z,3.2nm,0.8s
RETA Reutte 100.46 42 *i* Pdif **Pdif** **00 26 15.1 +0.7**
comp=Z,6.9nm,1.3s
RETA *i* PKiKP PKiKP 00 30 46.5 +9.2
comp=Z,6.0nm,1.2s
RETA *e*PKKP **PKKPbc** **00 42 26.9 -1.2**
comp=Z,4.0nm,1.0s
MOTA Moosalm 100.59 42 *i* Pdif **Pdif** **00 26 15.3 +0.3**
comp=Z,9.8nm,1.3s
MOTA *i* PKiKP PKiKP 00 30 47.5 +10
comp=Z,3.5nm,0.9s
MOTA *i* PKKP **PKKPbc** **00 42 28.0 +0.2**
comp=Z,4.3nm,0.7s
SQTA Sankt Quirin 100.59 42 *e*Pdif **Pdif** **00 26 15.7 +0.7**
comp=Z,11nm,1.0s
SQTA *i* PKKP **PKKPbc** **00 42 27.9 +0.2**
comp=Z,3.5nm,0.7s
WATA Walderalm 100.86 42 *e*Pdif **Pdif** **00 26 17.4 +1.2**
comp=Z,11nm,1.5s
WTTA Wattenberg 100.86 42 *i* Pdif **Pdif** **00 26 16.4 +0.1**
comp=Z,6.6nm,1.2s
WTTA *e*PKKP **PKKPbc** **00 42 27.6 +0.5**
comp=Z,1.6nm,0.5s
ABTA Abfaltersbach 101.13 43 *i* Pdif **Pdif** **00 26 17.9 +0.6**
comp=Z,5.9nm,1.1s
ABTA *i* PKKP **PKKPbc** **00 42 25.0 -1.2**
comp=Z,5.3nm,1.5s
LESA Schwarzleotal 101.56 42 *i* Pdif **Pdif** **00 26 20.1 +0.8**
comp=Z,7.5nm,1.6s
LESA *e*PKiKP **PKiKP** **00 30 39.1 -0.2**
comp=Z,2.0nm,0.7s
LESA *e*PKKP **PKKPbc** **00 42 24.7 -0.3**
comp=Z,2.3nm,0.6s
MYKA Terra Mystica 101.75 43 *i* Pdif **Pdif** **00 26 22.8 +2.7**
comp=Z,2.4nm,0.6s
KBA Koelnbreinsper 101.79 43 *i* Pdif **Pdif** **00 26 23.5 +3.2**
comp=Z,3.9nm,1.0s
KBA *i* PKiKP **PKiKP** **00 30 38.2 -1.6**
comp=Z,5.8nm,1.8s
KBA *e*PKKP **PKKPbc** **00 42 26.0 +1.6**
comp=Z,4.3nm,1.2s
OBKA Obir 102.24 44 *i* Pdif **Pdif** **00 26 25.9 +3.6**
comp=Z,4.9nm,1.3s
OBKA *e*PP **PP** **00 30 43.7 -0.4**
comp=Z,4.1nm,0.9s
BIOA Bad Ischl, Aus 102.25 42 *e*PP **PP** **00 30 46.1 +2.0**
comp=Z,4.5nm,1.0s
MOA Molln 102.70 42 *i* Pdif **Pdif** **00 26 26.2 +2.0**
comp=Z,6.1nm,1.4s
MOA *e*PKKP **PKKPbc** **00 42 25.5 +3.9**
comp=Z,3.8nm,1.4s
GERES GERESS Array B 102.84 41 PKiKP **PKiKP** **00 30 41.5 -0.1**
comp=Z,1.5nm,0.7s,baz=238,slow=1.8,SNR=6.2

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GERES                                  PKKPbc  PKKPbc  00 42 20.9 -0.4
     comp=Z,1.5nm,0.8s,baz=31,slow=3.6,SNR=5.9
ARSA Arzberg        103.18 43 ePKiKP   PKiKP   00 30 44.4 +2.2
     comp=Z,2.4nm,0.7s
ARSA                                   ePKKP   PKKPbc  00 42 23.2 +3.0
     comp=Z,3.2nm,0.8s
CLL  Collm          103.61 39 i P      Pdif    00 26 29.7 +1.6
CLL                                    pmax    pmax
     comp=Z,6.0nm,1.1s
CONA Conrad Observa 103.69 43 ePdiff   Pdif    00 26 32.8 +4.1
     comp=Z,3.2nm,1.0s
CONA                                   i PKiKP PKiKP   00 30 43.9 +0.8
     comp=Z,2.6nm,0.9s
CONA                                   ePKKP   PKKPdf  00 42 29.0 +1.9
     comp=Z,0.6nm,0.4s
MODS Modra-Piesok   104.74 43 ePKP     PKiKP   00 30 46.1 +1.1
VYHS Vyhne          105.73 43 ePKP     PKiKP   00 30 47.1 +0.3
NOA  NORSAR Array B 107.25 29 PKiKP    PKiKP   00 30 49.8 +0.5
     comp=Z,1.6nm,1.1s,baz=242,slow=2.2,SNR=3.3
HFS  Hagfors        107.94 31 PKiKP    PKiKP   00 30 49.5 -1.0
     comp=Z,3.6nm,1.0s,baz=234,slow=1.7,SNR=5.2
MMAI Mount Meron Ar 111.55 63 PKiKP    PKiKP   00 30 58.9 +0.6
     comp=Z,4.0nm,0.7s,baz=253,slow=2.1,SNR=6.0
BR131 Keskin Array S 112.44 56d iPKIKP PKiKP   00 30 59.3 -0.6
BRTR Keskin Array B 112.44 56 PKiKP    PKiKP   00 30 59.6 -0.2
     comp=Z,3.5nm,0.8s,baz=240,slow=1.6,SNR=14
ILAR Eielson Array  112.53 333 PKiKP   PKiKP   00 30 59.2 +0.2
     comp=Z,3.7nm,1.0s,baz=110,slow=2.1,SNR=5.4
ILAR                                   PP      PP      00 31 57.3 -0.1
     comp=Z,5.9nm,1.1s,baz=111,slow=5.3,SNR=7.2
ILAR                                   PKKPbc  PKKPbc  00 41 48.9 -2.6
     comp=Z,1.1nm,0.7s,baz=291,slow=3.5,SNR=9.5
KIEV Kiev           112.81 44 i PKPdf  PKiKP   00 30 59.0 -1.0
     SNR=7.5
AKASG Malin Array Be 112.83 44 PKiKP   PKiKP   00 30 58.9 -1.1
     comp=Z,3.6nm,0.6s,baz=265,slow=2.6,SNR=21
AKBB Malin Array Si 112.83 44⇓iPKIKP   PKiKP   00 30 58.9 -1.1
AKBB                                   pmax    pmax
     comp=Z,15nm,0.9s
COLA College        112.95 333 i PKIKP PKiKP   00 31 00.7 +0.9
COLA                                   pmax    pmax
     comp=Z,6.0nm,0.9s
MNK  Minsk          113.14 39 i PKIKP  PKiKP   00 31 00.2 -0.3
MNK                                    i                   00 32 01.2
MNK                                    i PPP   PPP         00 34 30.2
MNK                                    i PS    PS          00 40 49.2 -58
MNK                                    i                   00 41 56.6
MNK                                    i SS    SS          00 47 04.2 +0.4
MNK                                    pmax    pmax
     comp=E,14nm,1.0s
MNK                                    pmax    pmax
     comp=Z,31nm,0.9s
MNK                                    pmax    pmax
     comp=N,19nm,1.0s
FINES FINESS Array B 114.09 32 PKiKP   PKiKP   00 31 02.1 0.0
     comp=N,5.9nm,1.0s,baz=233,slow=1.7,SNR=8.2
FINES                                  PKKPbc  PKKPbc  00 41 44.5 -1.7
     comp=N,6.5nm,1.0s,baz=111,slow=3.6,SNR=7.1
FINES                                  PKKPab  PKKPab  00 41 52.6 +0.6
     comp=N,1.7nm,0.6s,baz=93,slow=7.6,SNR=5.3
FINES FINESS Array B 114.09 32c iPKIKP PKiKP   00 31 03.4 +1.3
FINES                                  pmax    pmax
     comp=Z,6.0nm,1.0s
SPITS Spitsbergen Ar 115.34 13 PKP     PKPdf   00 31 04.2 0.0
     comp=Z,7.8nm,0.8s,baz=252,slow=1.9,SNR=6.3
SPITS                                  PKKPbc  PKKPbc  00 41 41.0 -1.3
     comp=Z,12nm,0.9s,baz=110,slow=7.3,SNR=11
SPITS                                  PKKPab  PKKPab  00 41 46.6 +0.4
     comp=Z,1.1nm,0.5s,baz=109,slow=3.9,SNR=5.2
STKA Stephens Creek 115.69 203 PKP     PKPdf   00 31 06.6 +0.2
     comp=Z,3.0nm,0.6s,baz=115,slow=14,SNR=7.2
STKA                                   PKKPbc  PKKPbc  00 41 42.8 +1.7
     comp=Z,2.0nm,0.6s,baz=334,slow=2.7,SNR=3.2
ARCES ARCESS Array B 115.73 23 PKP     PKPdf   00 31 04.7 -0.5
     comp=Z,6.3nm,1.0s,baz=258,slow=1.6,SNR=11
ARCES                                  PKKPbc  PKKPbc  00 41 40.4 -0.4
     comp=Z,4.1nm,0.5s,baz=88,slow=3.7,SNR=31
ARCES                                  PKKPab  PKKPab  00 41 46.2 +1.6
     comp=Z,9.2nm,1.0s,baz=69,slow=5.8,SNR=7.5
RAYN Ar Rayn        116.60 76 PKPdf    PKiKP   00 31 08.7 +0.5
RAYN Ar Rayn        116.60 76 PKIKP    PKiKP   00 31 08.7 +0.5
RAYN Ar Rayn        116.60 76 PKiKP    PKPdf   00 31 08.4 +0.2
OBN  Obninsk        118.17 40          PKPdf   00 31 10.0 -0.2
OBN  Obninsk        118.17 40c iPKIKP  PKPdf   00 31 09.8 -0.4
OBN                                    PS      PS          00 32 40.0
OBN                                    i SS    SS          00 37 25.0
OBN                                    PS      PS          00 42 24.0 -7.9
OBN                                    i SS    SS          00 48 10.3 +1.7
OBN                                    i SSS   SSS         00 52 42.1
OBN                                    pmax    pmax
     comp=Z,36nm,0.8s
MOS  Moscow         118.86 39 i PKIKP  PKPdf   00 31 11.1 -0.4
MOS                                    pmax    pmax
     comp=Z,37nm,0.7s
VSR  Storozhevoye   119.06 45 ePKIKP   PKPdf   00 31 09.6 -2.4
VSR                                    pmax    pmax
     comp=Z,20nm,1.0s
LPSR Galich'ya Gora 119.14 43 ePKIKP   PKPdf   00 31 11.0 -1.1
LPSR                                   pmax    pmax
     comp=Z,60nm,1.0s
VORR Voronezh       119.16 44 ePKIKP   PKPdf   00 31 11.0 -1.2
VORR                                   pmax    pmax
     comp=Z,30nm,1.0s
SHA1 Shidzhatmaz    120.00 54⇑iPKIKP   PKPdf   00 31 13.5 -0.9
KIV  Kislovodsk     120.06 53 PKPdf    PKPdf   00 31 14.4 +0.1
KIV  Kislovodsk     120.06 53 i PKIKP  PKPdf   00 31 14.2 -0.1
KIV                                    pmax    pmax
     comp=Z,39nm,1.1s
KIV  Kislovodsk     120.06 53 i PKIKP  PKPdf   00 31 14.5 +0.1
     SNR=14
KIV  Kislovodsk     120.06 53 PKP      PKPdf   00 31 14.7 +0.4
KBZ  Khabaz         120.17 54 PKP      PKPdf   00 31 14.1 -0.2
     comp=Z,26nm,1.1s,baz=221,slow=3.8,SNR=25
KBZ                                    pPKP    pPKPdf  00 33 28.2 +0.6
     comp=Z,4.6nm,0.9s,baz=69,slow=2.9,SNR=3.9
KBZ  Khabaz         120.17 54 i PKIKP  PKPdf   00 31 14.2 -0.2
KBZ                                    pmax    pmax
     comp=Z,22nm,0.9s
KLMR Klimovskoe     120.41 34 ePKIKP   PKPdf   00 31 12.9 -1.4
KLMR                                   pmax    pmax
     comp=Z,89nm,1.2s
VRH  Novokhopyorsk  120.64 45 ePKIKP   PKPdf   00 31 13.0 -2.1
VRH                                    pmax    pmax
     comp=Z,30nm,1.0s
GNI  Garni          120.78 58 PKPdf    PKiKP   00 31 16.5 +0.4
GNI  Garni          120.78 58 i PKIKP  PKPdf   00 31 14.8 -1.1
GNI                                    pmax    pmax
     comp=Z,19nm,0.9s
GNI  Garni          120.78 58 PKIKP    PKiKP   00 31 16.4 +0.4
GNI  Garni          120.78 58 PKP      PKiKP   00 31 16.7 +0.6
MZR  Muzera         123.30 80 PKiKP    PKPdf   00 31 21.2 +0.1
BELG Belogornoye    124.40 44 PKKPbc   PKKPbc  00 41 09.1 +0.3
     comp=Z,12nm,0.6s,baz=306,slow=4.2,SNR=9.2
BELG Belogornoye    124.40 44 i PKIKP  PKPdf   00 31 21.4 -0.8
BELG                                   pmax    pmax
     comp=Z,17nm,0.8s
KIRV Kirov          125.41 36c iPKIKP  PKPdf   00 31 23.7 -0.2
ALNE Al Ain         125.61 79 i PKiKP  PKPdf   00 31 25.6 +0.1
     SNR=9.1
FAQ  Al Faqa, Dubai 125.69 79 i PKiKP  PKPdf   00 31 25.5 -0.1
     SNR=8.3
ASAR Alice Springs  125.80 200         PKPdf   00 31 25.1 -1.0
ASAR Alice Springs  125.80 200 PKhKP   PKPpre   00 31 06.7
     comp=Z,0.4nm,0.5s,baz=146,slow=0.9,SNR=4.6
ASAR                                   PKP     PKPdf   00 31 25.2 -0.8
     comp=Z,36nm,0.7s,baz=153,slow=2.6,SNR=123
ASAR                                   pPKP    pPKPdf  00 33 37.6 -1.6
     comp=Z,1.9nm,0.9s,baz=140,slow=3.2,SNR=4.4
ASAR                                   SKP     SKP     00 34 08.0
     comp=Z,3.8nm,0.8s,baz=147,slow=2.0,SNR=4.3
ASAR                                   SKKP    SKKP    00 44 29.7
     comp=Z,0.1nm,0.3s,baz=227,slow=39,SNR=0.9
NAZ  Nazwa, Dubai   125.83 78 PKPdf    PKPdf   00 31 24.7 -1.1
ASHO Ashiyiah       126.08 79 PKPdf    PKPdf   00 31 25.5 -0.9
HATD Hatta, Dubai   126.18 79 PKiKP    PKPdf   00 31 26.3 -0.3
UOSS Minazif        126.28 79 PKPdf    PKPdf   00 31 26.0 -0.8
SOHO SOHO           126.32 80 i PKPdf  PKPdf   00 31 26.2 -0.6
     SNR=24
SHME Shamm          126.56 77 i PKiKP  PKPdf   00 31 26.9 -0.3
     SNR=8.6
WRA  Warramunga Arr 129.15 202         PKPpre   00 31 24.8
WRA  Warramunga Arr 129.15 202 PKhKP   PKPpre   00 31 16.6
     comp=Z,0.2nm,0.3s,baz=118,slow=2.3,SNR=4.7
WRA                                    PKP     PKPdf   00 31 32.0 -0.5
     comp=Z,22nm,0.5s,baz=170,slow=1.6,SNR=110
WRA                                    pPKP    pPKPdf  00 33 44.1 -1.6
     comp=Z,2.9nm,0.8s,baz=172,slow=1.6,SNR=7.2
WRA                                    SKP             00 34 13.6
     comp=Z,3.0nm,0.7s,baz=160,slow=2.1,SNR=2.3
WRA                                    SKKP            00 44 18.0
     comp=Z,4.2nm,1.2s,baz=342,slow=5.5,SNR=5.2
WRA  Warramunga Arr 129.15 202 PKIKP   PKPdf   00 31 32.0 -0.5
WRAB Tennant Creek  129.16 202         PKPdf   00 31 31.7 -0.8
WRAB Tennant Creek  129.16 202d iPKIKP PKPdf   00 31 31.9 -0.6
ARTI Arti           130.46 38 PKPdf    PKPdf   00 31 33.3 -0.4
ARTI Arti           130.46 38 i PKIKP  PKiKP   00 31 34.6 0.0
ARTI                                   SS      SS      00 33 57.1
ARTI                                   SS      SS      00 50 40.6 -0.4
BILL Bilibino       130.65 338         PKPpre  00 31 28.2
BILL Bilibino       130.65 338d iPKIKP PKPdf   00 31 34.0 +0.3
BILL                                   pmax    pmax
     comp=Z,37nm,1.0s
MBWA Marble Bar     130.80 184         PKPdf   00 31 35.5 0.0
SVE  Sverdlovsk     131.60 38 ePKIKP   PKPdf   00 31 36.6 +0.8
SVE                                    pmax    pmax
     comp=Z,37nm,1.5s
ABKAR Akbulak array 132.25 48          PKPpre  00 31 22.2
NRIK Noril'sk       135.53 14 PKhKP    PKPpre  00 31 31.6
     comp=Z,1.6nm,0.8s,baz=20,slow=2.2,SNR=5.0
NRIK                                   PKP     PKPdf   00 31 43.0 +0.2
     comp=Z,4.8nm,0.7s,baz=14,slow=2.6,SNR=10
NRIK                                   SKKPbc  SKKPbc  00 43 24.5 -2.4
     comp=Z,1.5nm,0.7s,baz=115,slow=5.0,SNR=4.3
NRIK Noril'sk       135.53 14c iPKIKP  PKPdf   00 31 43.3 +0.5
TIXI Tiksi          136.03 354         PKPpre  00 31 32.2
TIXI Tiksi          136.03 354 SKPbc   SKPbc   00 34 21.7 -0.5
     comp=Z,1.7nm,0.3s,baz=92,slow=0.7,SNR=4.5
TIXI                                   SKKPbc  SKKPbc  00 43 20.8 -4.2
     comp=Z,2.7nm,0.2s,baz=164,slow=1.1,SNR=5.9
TIXI Tiksi          136.03 354 i PKIKP PKPdf   00 31 43.0 -0.7
TIXI                                   pmax    pmax
     comp=Z,18nm,0.9s
BRVK Borovoye       137.94 41          PKPpre  00 31 38.6
BRVK Borovoye       137.94 41 PKHKP    PKPpre  00 31 38.6
BVAR Borovoye Array 138.01 41 PKhKP    PKPpre  00 31 39.0
     comp=Z,2.4nm,0.5s,baz=313,slow=3.2,SNR=15
BVAR                                   PKP     PKPdf   00 31 48.8 +0.8
     comp=Z,26nm,0.7s,baz=287,slow=2.5,SNR=44
BVAR                                   pPKP    pPKPdf  00 34 01.3 0.0
     comp=Z,4.2nm,0.8s,baz=318,slow=2.0,SNR=5.5
BVAR                                   SKPbc   SKPbc   00 34 28.1 -0.4
     comp=Z,2.3nm,0.5s,baz=290,slow=2.4,SNR=6.3
BVAR                                   SKKPbc  SKKPbc  00 43 14.3 -2.4
     comp=Z,0.7nm,0.4s,baz=162,slow=8.2,SNR=8.4
SEY  Seymchan       138.29 336 PKhKP   PKPpre  00 31 38.2
     comp=Z,5.3nm,0.7s,baz=94,slow=5.6,SNR=7.9
SEY                                    PKP     PKPdf   00 31 49.1 +1.0
     comp=Z,44nm,0.9s,baz=85,slow=2.4,SNR=33
SEY                                    pPKP    pPKPdf  00 34 01.2 -0.3
     comp=Z,7.6nm,0.8s,baz=36,slow=1.6,SNR=5.8
SEY                                    SKPbc   SKPbc   00 34 28.8 -0.2
     comp=Z,4.0nm,0.5s,baz=124,slow=4.2,SNR=4.8
KBL  Kabul          139.13 69          PKPpre  00 31 44.8
KBL  Kabul          139.13 69 PKHKP    PKPpre  00 31 44.8
KBU  Kabul Universi 139.20 69 PKP      PKPdf   00 31 46.1 -4.9
CHM  Chimkent       139.56 57 ePKIKP   PKPdf   00 31 51.7 +0.6
CHM  Chimkent       139.56 57 ePKP     PKPdf   00 31 51.7 +0.6
BRLS Borolday       139.67 56 ePKIKP   PKPdf   00 31 50.9 -0.4
BRLS Borolday       139.67 56 ePKP     PKPdf   00 31 51.0 -0.4
PALK Pallekele      140.11 115 PKPdf   PKPdf   00 31 53.8 +0.8
PALK Pallekele      140.11 115 PKIKP   PKPdf   00 31 53.8 +0.8
KKAR Karatay Array  140.16 56          PKPpre  00 31 45.3
KKAR Karatay Array  140.16 56 PKHKP    PKPpre  00 31 45.3
BRZS Berezniki      140.26 45 ePKIKP   PKPdf   00 31 52.2 +0.1
BRZS                                   e                   00 34 58.5
BRZS Berezniki      140.26 45 ePKP     PKPdf   00 31 52.3 +0.1
BRZS                                   ePP     PP      00 34 58.5 +0.2
DZA  Taraz          140.78 56 ePKIKP   PKPdf   00 31 53.6 +0.3
DZA  Taraz          140.78 56 ePKP     PKPdf   00 31 53.6 +0.3
PETK Petropavlovsk- 140.99 321         PKPpre  00 31 49.2
PETK Petropavlovsk- 140.99 321 PKhKP   PKPpre  00 31 47.9
     comp=Z,8.0nm,0.7s,baz=84,slow=5.2,SNR=9.2
PETK                                   PKP     PKPdf   00 31 54.3 +1.0
     comp=Z,16nm,0.8s,baz=78,slow=1.9,SNR=13
PETK                                   SKPbc   SKPbc   00 34 36.0 -0.5
     comp=Z,4.6nm,0.8s,baz=58,slow=3.1,SNR=3.6
MA2  Magadan        141.01 333         PKPpre  00 31 48.4
MA2  Magadan        141.01 333 PKhKP   PKPpre  00 31 47.9
     comp=Z,11nm,0.7s,baz=88,slow=2.9,SNR=15
MA2                                    PKP     PKPdf   00 31 53.4 +0.3
     comp=Z,4.3nm,0.3s,baz=70,slow=5.6,SNR=9.1
MA2                                    PP      PP      00 35 02.7 +0.5
     comp=Z,2.3nm,0.3s,baz=51,slow=6.6,SNR=4.8
NIL  Nilore         142.55 71 PKPdf    PKPdf   00 31 53.9 -2.8
NIL  Nilore         142.55 71 PKHKP    PKPpre  00 31 53.9
EKS2 Erkin-Say      142.59 56 P        PKPdf   00 31 54.4 -2.3
     SNR=94
AML  Almayashu      142.60 57 P        PKPdf   00 31 54.7 -2.3
     SNR=68
USP  Ospenovka      143.02 55 P        PKPdf   00 31 55.7 -1.6
     SNR=5.4
AAK  Ala-Archa      143.12 56 PKPdf    PKPdf   00 31 56.2 -1.4
AAK  Ala-Archa      143.12 56 P        PKPdf   00 31 56.2 -1.4
     SNR=277
AAK  Ala-Archa      143.12 56 PKIKP    PKPdf   00 31 56.2 -1.4
AAK  Ala-Archa      143.12 56 i PKPdf  PKPdf   00 31 56.3 -1.4
     SNR=356
UCH  Uchtor         143.19 56 P        PKPbc   00 31 57.3 +0.7
     SNR=17
CHMS Chumysh        143.25 55 P        PKPbc   00 31 56.3 +0.1
     SNR=113
HYB  Hyderabad      143.36 99 ePKPab   PKPab   00 31 56.6 -0.4
KBK  Karagaybulak   143.45 56 P        PKPbc   00 31 57.5 +0.5
     SNR=475
KURBB Kurchatov Arra 143.58 42 PKP     PKPbc   00 31 57.3 +0.4
     comp=Z,179nm,0.8s,baz=296,slow=3.7,SNR=1035
KURBB                                  pPKP    pPKPdf  00 34 10.5 -1.0
     comp=Z,4.4nm,0.9s,baz=301,slow=3.1,SNR=3.6
KURBB                                  SKKPbc  SKKPbc  00 42 51.2 -3.3
     comp=Z,2.4nm,0.8s,baz=111,slow=3.9,SNR=11
KURK Kurchatov      143.59 41 PKPdf    PKPbc   00 31 57.4 +0.5
KURK Kurchatov      143.59 41 PKIKP    PKPbc   00 31 57.3 +0.5
TKM2 Tokmak 2       143.87 55 P        PKPab   00 31 58.8 +0.3
     SNR=15
ULHL Ulahol         144.46 56 P        PKPab   00 32 01.0 +0.2
     SNR=180
KSH  Kashi          144.63 61 PKP      PKPdf   00 32 00.3 0.0
KSH                                    pPKP    pPKPdf  00 34 15.4 +1.5
CHKK Chushkaly      144.68 53 ePKIKP   PKPdf   00 32 00.1 0.0
CHKK Chushkaly      144.68 53 ePKP     PKPdf   00 32 00.1 0.0
TNSS Tian-Shan      144.82 54 ePKIKP   PKPdf   00 32 00.4 -0.5
TNSS Tian-Shan      144.82 54 ePKP     PKPdf   00 32 00.4 -0.5
YAK  Yakutsk        145.13 349 PKPbc   PKPbc   00 32 01.3 +0.1
     comp=Z,304nm,0.7s,baz=18,slow=0.6,SNR=58
YAK                                    PP      PP      00 35 26.2 0.0
     comp=Z,18nm,0.4s,baz=21,slow=5.8,SNR=4.3
YAK  Yakutsk        145.13 349 ePKIKP  PKPdf   00 32 01.0 +0.8
YAK                                    e                   00 34 12.6
YAK                                    e                   00 35 27.8
YAK                                    eSS     SS      00 53 34.3 +3.6
YAK                                    pmax    pmax
     comp=Z,159nm,1.1s
YAK                                    pmax    pmax
     comp=N,61nm,1.5s
YAK                                    pmax    pmax
     comp=E,35nm,1.4s
YAK                                    pmax    pmax
     comp=Z,156nm,5.1s
YAK                                    pmax    pmax
     comp=N,122nm,5.2s
YAK                                    pmax    pmax
     comp=E,196nm,5.3s
ZALV Zalesovo Beam  145.34 33 PKPbc    PKPdf   00 32 01.3 +0.5
     comp=E,222nm,0.8s,baz=291,slow=2.9,SNR=263
ZALV                                   pPKPbc  pPKPbc  00 34 11.5 -1.6
     comp=E,25nm,0.9s,baz=312,slow=4.9,SNR=5.3
ZALV                                   SKKPbc  SKKPbc  00 42 39.3 -8.3
     comp=E,3.5nm,0.8s,baz=132,slow=3.9,SNR=7.6
TDK  Taldyqorghan   145.38 51 ePKIKP   PKPdf   00 32 01.5 +0.3
TDK  Taldyqorghan   145.38 51 ePKP     PKPdf   00 32 01.6 +0.3
FAKI Fak Fak        145.60 208 PKPab   PKPbc   00 32 04.3 +0.2
ZHN  Zhinishke      145.86 54 ePKIKP   PKPdf   00 32 02.3 0.0
ZHN  Zhinishke      145.86 54 ePKP     PKPdf   00 32 02.3 0.0
SATY Saty           145.86 54 ePKIKP   PKPdf   00 32 02.5 +0.2
SATY Saty           145.86 54 ePKP     PKPdf   00 32 02.5 +0.2
KPKS Kokpek         145.97 53 ePKIKP   PKPdf   00 32 02.6 +0.2
KPKS Kokpek         145.97 53 ePKP     PKPdf   00 32 02.6 +0.2
UZB  Uzynbulak      146.28 54 ePKIKP   PKPdf   00 32 03.2 +0.2
UZB  Uzynbulak      146.28 54 ePKP     PKPdf   00 32 03.3 +0.2
SHLS Shalkode       146.59 54 ePKIKP   PKPdf   00 32 04.0 +0.5
SHLS Shalkode       146.59 54 ePKP     PKPdf   00 32 04.0 +0.5
KAPI Kappang        146.81 186         PKPdf   00 32 06.4 +1.8
KAPI Kappang        146.81 186 PKIKP   PKPdf   00 32 06.4 +1.8
MAKZ Makanchi       147.16 46          PKPdf   00 32 03.9 -0.3
MAKZ Makanchi       147.16 46 PKIKP    PKPdf   00 32 03.9 -0.3
MKAR Makanchi Array 147.36 46 PKPdf    PKPdf   00 32 04.6 0.0
MKAR Makanchi Array 147.36 46 PKPbc    PKPdf   00 32 06.3 +1.7
     comp=E,78nm,0.6s,baz=297,slow=1.5,SNR=104
MKAR                                   pPKPbc  pPKPab  00 34 19.6 -0.3
     comp=E,18nm,0.7s,baz=292,slow=3.4,SNR=12
MKAR                                   PP      PP      00 35 40.0 -0.1
     comp=E,1.6nm,0.6s,baz=298,slow=5.5,SNR=1.9
BKNI Bangkinang     148.44 149 PKP     PKPdf   00 32 05.7 -1.6
ZSN  Zaisan         148.69 44 ePKHKP   PKPpre  00 32 06.7
ZSN  Zaisan         148.69 44 ePKP     PKPdf   00 32 06.8 +0.1
TYV  Tymovskoe      150.10 326 ePKIKP  PKiKP   00 32 15.5 +0.5
TYV                                    pmax    pmax
     comp=Z,300nm,2.0s
TYV                                    pmax    pmax
     comp=Z,136nm,1.0s
BOD  Bodaibo        150.38 3 ePKIKP    PKPdf   00 32 08.7 -0.2
BOD                                    pmax    pmax
     comp=Z,201nm,1.1s
WMQ  Urumqi         152.04 48 ePKPbc   PKPdf   00 32 12.9 +0.9
WMQ                                    PKPab   PKPab   00 32 33.2 +1.6
YSS  Yuzhno-Sakhali 152.37 320         PKPdf   PKPdf   00 32 14.0 +1.8
YSS                                    PKPbc   PKPbc   00 32 20.1 +0.5
YSS  Yuzhno-Sakhali 152.37 320 i PKIKP PKPdf   00 32 12.7 +0.5
YSS                                    e                   00 32 33.6
YSS                                    eSS     SS      00 55 00.0 +8.2
YSS                                    pmax    pmax
     comp=Z,30nm,1.0s
YSS                                    pmax    pmax
     comp=Z,100nm,5.2s
ZEA  Zeya           153.38 346 ePKIKP  PKPdf   00 32 14.1 +0.6
ZEA                                    pmax    pmax
     comp=N,10.0nm,0.7s
ZEA                                    pmax    pmax
     comp=Z,40nm,1.1s
MOY  Mondy          153.80 22 ePKIKP   PKPdf   00 32 16.0 +1.7
MOY                                    e                   00 32 39.2
MOY                                    pmax    pmax
     comp=Z,30nm,3.4s
ASAJ Asahikawa      153.93 314 PKP     PKPdf   00 32 14.8 +0.2
     comp=Z,15nm,0.9s,baz=234,slow=10,SNR=6.3
ASAJ                                   PKPbc   PKPbc   00 32 23.1 0.0
     comp=Z,28nm,0.8s,baz=281,slow=7.3,SNR=11
ASAJ                                   PKPab   PKPab   00 32 40.0 +0.5
     comp=Z,31nm,0.8s,baz=32,slow=3.8,SNR=8.3
SBUM Sibu           154.00 170 PKPab   PKPab   00 32 41.3 +0.9
ZAK  Zakamensk      155.65 21 ePKIKP   PKPdf   00 32 16.9 +0.1
ZAK                                    pmax    pmax
     comp=Z,7.0nm,1.2s
KLR  Kul'dur        156.07 335 PKP     PKPdf   00 32 17.4 +0.1
     comp=Z,22nm,1.1s,baz=24,slow=2.4,SNR=35
KLR                                    PKPab   PKPab   00 32 48.4 -0.1
     comp=Z,16nm,1.0s,baz=51,slow=4.1,SNR=9.3
KLR                                    pPKP    pPKPdf  00 34 31.0 -0.4
     comp=Z,5.3nm,0.9s,baz=353,slow=3.6,SNR=5.6
KLR                                    PP      PP      00 36 28.6 +0.3
     comp=Z,4.6nm,1.1s,baz=22,slow=4.9,SNR=5.7
CIT  Chita          156.13 5 ePKIKP    PKPdf   00 32 18.3 +0.9
CIT                                    pmax    pmax
     comp=Z,88nm,1.8s
HEH  HeiHe          156.56 343 PKP     PKPdf   00 32 14.3 -3.6
LSA  Lhasa          157.60 80 PKPdf    PKPdf   00 32 21.5 +1.0
SONM Songino Array  158.86 20 PKPdf    PKPdf   00 32 21.4 +0.5
SONM                                   PKPab   PKPab   00 33 01.4 +0.6
SONM Songino Array  158.86 20 PKP      PKPdf   00 32 21.8 +0.8
     comp=Z,37nm,1.1s,baz=349,slow=1.0,SNR=99
SONM                                   PKPab   PKPab   00 33 00.3 -0.5
     comp=Z,18nm,1.1s,baz=316,slow=3.4,SNR=12
SONM                                   pPKP    pPKPdf  00 34 34.4 -0.8
     comp=Z,4.1nm,0.9s,baz=0.0,slow=0.8,SNR=6.2
ULN  Ulaanbaatar    159.02 18 PKPdf    PKPdf   00 32 21.7 +0.6
ULN                                    PKPab   PKPab   00 33 02.5 +1.0
ULN  Ulaanbaatar    159.02 18 PKIKP    PKPdf   00 32 21.7 +0.6
ULN                                    PKPab           00 33 02.5
JSD  Sado           159.52 304 PKPdf   PKPdf   00 32 22.5 +0.7
GOMU GeErMu         159.88 61 PKP      PKPdf   00 32 23.5 +0.7
GOMU                                   SS      SS      00 56 12.7 -0.8
USRK Ussuriysk Ar.  159.92 326 PKPdf   PKPdf   00 32 21.8 -0.2
USRK                                   PKPab   PKPab   00 33 06.8 +1.4
USRK Ussuriysk Ar.  159.92 326 PKP     PKPdf   00 32 21.7 -0.4
     comp=Z,4.7nm,0.9s,baz=74,slow=1.5,SNR=9.8
USRK                                   PKPab   PKPab   00 33 06.1 +0.7
     comp=Z,6.4nm,0.7s,baz=31,slow=2.5,SNR=7.7
USRK Ussuriysk Ar.  159.92 326 PKIKP   PKPdf   00 32 21.8 -0.2
USRK                                   PKPab           00 33 06.8
MJAR Matsushiro Arr 160.08 300 PKP     PKPdf   00 32 22.3 -0.2
     comp=Z,1.9nm,0.5s,baz=90,slow=1.4,SNR=9.8
MJAR                                   PKPab   PKPab   00 33 07.7 +1.2
     comp=Z,20nm,1.0s,baz=89,slow=1.9,SNR=14
MAJO Matsushiro     160.08 300 PKPdf   PKPdf   00 32 23.7 +1.2
MAJO                                   PKPab   PKPab   00 33 07.8 +1.3
MAJO Matsushiro     160.08 300 PKIKP   PKPdf   00 32 23.7 +1.2
MAJO                                   PKPab           00 33 07.8
BNX  BinXian        160.59 337 ⇑P      PKPdf   00 32 14.2 -8.5
BNX                                    pmax    pmax
     comp=Z,3.0nm,1.3s
CMAR Chiang Mai Arr 161.02 117 PKPdf   PKPdf   00 32 23.8 -0.2
CMAR                                   PKPab   PKPab   00 33 10.6 -0.5
CMAR Chiang Mai Arr 161.02 117 PKP     PKPdf   00 32 23.9 -0.2
     comp=Z,3.9nm,0.3s,baz=217,slow=0.9,SNR=8.2
CMAR                                   PKPab   PKPab   00 33 11.0 0.0
     comp=Z,9.7nm,0.8s,baz=245,slow=4.4,SNR=16
CMAR                                   pPKPab  pPKPab  00 35 16.8 -0.3
     comp=Z,1.1nm,0.3s,baz=243,slow=4.1,SNR=2.6
CMAR                                   PP      PP      00 36 56.3 +0.3
     comp=Z,2.9nm,1.0s,baz=272,slow=5.5,SNR=6.4
CHTO Chiang Mai     161.22 116 PKPdf   PKPdf   00 32 24.5 +0.3
CHTO                                   PKPab   PKPab   00 33 11.8 -0.1
CHTO Chiang Mai     161.22 116 PKP2    PKPab   00 33 11.8 -0.1
CHTO                                   PKPab           01 32 24.5
GTA  Gaotai         162.11 47 ePKP     PKPdf   00 32 25.0 +0.3
GTA                                    PKPab   PKPab   00 33 15.7 +0.3
GTA                                    pPKP    pPKPdf  00 34 40.2 +1.1
GTA                                    SKKS            00 42 51.9
CN2  Changchun      162.96 338 PKP     PKPdf   00 32 21.8 -3.4
CN2                                    AMB     AMB
     comp=Z,100nm,6.5s
TNCH TengChong      163.42 97 PKP      PKPdf   00 32 25.0 -1.5
TNCH                                   PKPab   PKPab   00 33 22.2 +0.4
TNCH                                   pPKP    pPKPdf  00 34 37.3 -3.6
TNCH                                   PP      PP      00 37 09.5 +0.2
TNCH                                   AMB     AMB
     comp=Z,200nm,5.2s
XLT  XiLinHaoTe     164.37 2 ePKP      PKPdf   00 32 27.1 +0.5
XLT                                    PKPab   PKPab   00 33 25.6 +0.6
XLT                                    sPKP            00 35 32.8
XLT                                    PP      PP      00 37 09.8 -2.3
XLT                                    AMB     AMB
     comp=Z,200nm,8.2s
BTO  Baotou         166.50 22 ePKP     PKPdf   00 32 28.4 -0.1
BTO                                    PKPab   PKPab   00 33 34.0 -0.6
BTO                                    pPKP    pPKPdf  00 34 45.2 +2.1
PZH  PanZhiHua      166.59 94 PKP      PKPdf   00 32 28.8 -0.2
PZH                                    PKPab   PKPab   00 33 35.5 -0.1
PZH                                    PP      PP      00 37 26.2 +0.8
PZH                                    AMB     AMB
     comp=Z,150nm,6.1s
LZH  Lanzhou        166.59 51 ePKP     PKPdf   00 32 30.4 +1.6
HHC  Hu-ho-hao-te   166.73 17 ePKP     PKPdf   00 32 29.8 +1.2
KSRS Korea Array    166.85 317 PKP     PKPdf   00 32 29.1 +0.5
     comp=Z,6.9nm,0.9s,baz=53,slow=1.0,SNR=24
KSRS                                   PKPab   PKPab   00 33 36.6 +0.5
     comp=Z,8.5nm,0.8s,baz=54,slow=4.3,SNR=16
KSRS                                   PP      PP      00 37 26.8 +1.3
     comp=Z,2.0nm,1.0s,baz=23,slow=5.1,SNR=4.8
KSAR Wonju Array Be 166.88 317         PKPdf   00 32 28.7 0.0
KSAR                                   PKPab   PKPab   00 33 37.1 +0.8
KSAR Wonju Array Be 166.88 317 PKIKP   PKPdf   00 32 28.7 0.0
KSAR                                   PKPab           00 33 37.1
KMI  Kunming        167.13 101 ⇓PKP    PKPdf   00 32 29.4 -0.2
BJI  Beijing        168.22 2 PKP       PKPdf   00 32 30.3 +0.8
BJI                                    PKS     PKSdf   00 36 01.5 -0.5
BJI                                    PP      PP      00 37 30.8 -0.6
BJI                                    AMB     AMB
     comp=Z,100nm,5.0s
CD2  Chengdu        168.42 74 PKP      PKPdf   00 32 30.9 +0.9
DL2  Dalian         168.60 340 PKP     PKPdf   00 32 31.0 +1.2
DL2                                    PKPab   PKPab   00 33 43.7 -0.1
DL2                                    pPKP    pPKPdf  00 34 43.5 -1.0
DL2                                    sPKP2           00 36 46.8
DL2                                    PP      PP      00 37 33.1 -0.5
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DL2				AMB	AMB		
	comp=Z,170nm,4.7s						
QIZ	**Qiongzhong**	**168.88**	**144**	PKP	**PKPdf**	**00 32 30.5**	**-0.1**
QIZ				pPKP	**pPKPdf**	**00 34 46.7**	**+1.5**
TIY	**Taiyuan**	**169.90**	**20**	*e*PKP	**PKPdf**	**00 32 30.4**	**-0.4**
HNS	**HongShan**	**170.72**	**10**	⫿PKP	**PKPdf**	**00 32 31.7**	**+0.6**
HNS				PKPab	**PKPab**	**00 33 53.8**	**+0.7**
HNS				PP	**PP**	**00 37 44.3**	**+0.5**
GYA	**Guiyang**	**170.89**	**99**	PKP	**PKPdf**	**00 32 33.0**	**+1.3**
GYA				PKPab	**PKPab**	**00 33 54.3**	**-0.4**
GYA				PP	**PP**	**00 37 48.8**	**+2.0**
GYA				SS	SS	00 58 05.6	+1.3
GYA				AMB	AMB		
	comp=Z,240nm,6.3s						
XAN	**Xi'an**	**171.18**	**47**	⫿PKP	**PKPdf**	**00 32 31.6**	**+0.1**
TIA	**Tai'an**	**172.05**	**358**	PKP	**PKPdf**	**00 32 30.2**	**-1.6**
TIA				AMB	AMB		
	comp=Z,250nm,4.9s						
LYN	**LuoYang**	**172.74**	**29**	PKP	**PKPdf**	**00 32 30.5**	**-1.6**
LYN				PKPab	**PKPab**	**00 34 02.7**	**+0.4**
LYN				PP	**PP**	**00 37 59.8**	**+5.6**
LYN				AMB	AMB		
	comp=Z,130nm,6.9s						
NJ2	**Nanjing**	**175.78**	**334**	*e*PKP	**PKPdf**	**00 32 34.5**	**+1.3**
CNSH	**ChangSha**	**176.66**	**90**	PKP	**PKPdf**	**00 32 34.1**	**+0.6**
WHN	**Wuhan**	**176.92**	**41**	PKP	**PKPdf**	**00 32 33.6**	**+0.1**

*IDC **01** 00:15:22.5±2.2, 35°.68N×97°.83W, h0km, mbtmp3.0/3, ML3.8/2, Error ellipse: s-maj=27.2km s-min=13.5km az=110.0*
*NEIC **01** 00:15:23.4±0.6, 35°.73N±0°.01×97°.57W±0°.01, h5km±1km, mb_Lg3.1/94, ML3.3/54, Error ellipse: s-maj=2.9km s-min=2.6km az=259.0*
ISC 01 00:15:22.5±0.8, 35°.75N±0°.02×97°.63W±0°.03, h4km, n81, σ1§50/52, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.15**	**70**	Pg	**Pg**	**00 15 26.4**	**+1.0**
OK029				Sg	**Sg**	**00 15 28.4**	**+1.0**
OK029				IAML		00 15 28.7	
	12μm,0.4s						
OK029				IAML		00 15 28.7	
	12μm,0.3s						
ADOK	**Arcadia Dam**	**0.23**	**114**		**Pg**	**00 15 27.6**	**+0.7**
ADOK				Sg	**Sg**	**00 15 30.5**	**+0.6**
OK009	**Oakdale Elemen**	**0.23**	**135**		**Pg**	**00 15 27.8**	**+0.9**
OKCSW	**OKLAHOMA CITY**	**0.37**	**156**		**Pg**	**00 15 30.6**	**+1.0**
OKCSW				Sg	**Sg**	**00 15 35.9**	**+1.4**
OKCSW				IAML		00 15 38.7	
	comp=N,5μm,0.4s						
FNO	**Franklin**	**0.52**	**159**		**Pg**	**00 15 33.4**	**+0.9**
FNO				IAML		00 15 51.0	
	comp=N,2μm,0.5s						
OK031	**S. Brethren Rd**	**0.67**	**72**		**Pg**	**00 15 35.7**	**+0.4**
OK052	**Battle Ridge R**	**0.71**	**69**		**Pg**	**00 15 36.5**	**+0.4**
CROK	**Carrier**	**0.81**	**339**		**Pg**	**00 15 39.6**	**+1.6**
W35A	**Tecumseh**	**0.85**	**134**		**Pg**	**00 15 38.9**	**+0.1**
W35A				IAML		00 15 52.8	
	comp=E,1μm,0.4s						
W35A				IAML		00 15 58.2	
	comp=N,860nm,0.3s						
QUOK	**Quay**	**0.86**	**60**		**Pg**	**00 15 39.1**	**+0.3**
QUOK				IAML		00 15 57.6	
	comp=N,1μm,0.2s						
QUOK				IAML		00 15 59.3	
	comp=E,1μm,0.2s						
CSTR	**Hydro, Custer**	**0.87**	**264**		**Pn**	**00 15 41.2**	**-0.4**
DEOK	**Depew**	**0.92**	**84**		**Pg**	**00 15 39.8**	**-0.3**
DEOK				IAML		00 15 59.0	
	comp=E,818nm,0.3s						
DEOK				IAML		00 15 59.7	
	comp=N,769nm,0.2s						
OK051	**E0350 and S346**	**0.99**	**40**		**Pg**	**00 15 41.8**	**+0.4**
OK051				IAML		00 15 57.6	
	comp=N,1μm,0.2s						
OK051				IAML		00 15 58.0	
	comp=N,1μm,0.2s						
BLOK	**Blackwell**	**1.07**	**18**		**Pg**	**00 15 43.5**	**+0.6**
GC02	**Grant County #**	**1.12**	**350**		**Pg**	**00 15 44.9**	**+1.0**
X34A	**Smith Ranch, M**	**1.15**	**189**		**Pn**	**00 15 45.6**	**+0.2**
X34A				IAML		00 16 03.4	
	comp=N,802nm,0.3s						
X34A				IAML		00 16 03.5	
	comp=E,675nm,0.2s						
OK038	**West end E0370**	**1.16**	**309**		**Pn**	**00 15 45.9**	**+0.4**
KAN14	**Manchester OK**	**1.24**	**347**		**Pg**	**00 15 46.8**	**+0.6**
KAN13	**South Haven SW**	**1.27**	**5**		**Pn**	**00 15 47.4**	**+0.4**
NOKA	**Waynoka**	**1.38**	**310**		**Pg**	**00 15 49.5**	**+0.5**
WMOK	**Wichita Mounta**	**1.38**	**224**		**Pb**	**00 15 49.1**	**+0.2**
KAN01	**Argonia South**	**1.41**	**356**		**Pn**	**00 15 50.0**	**+1.0**
ELIS	**Ellis County**	**1.49**	**283**	Pg	**Pg**	**00 15 52.1**	**+1.0**
KAN08	**Anthony NE Sta**	**1.50**	**349**		**Pn**	**00 15 51.2**	**+0.9**
KAN08				IAmb_Lg		00 16 12.9	
	comp=Z,102nm,0.8s						
KAN12	**Harper NE Stat**	**1.58**	**349**		**Pn**	**00 15 52.8**	**+1.5**
WTFS	**Witchita Falls**	**2.09**	**200**		**Pb**	**00 16 00.3**	**-0.7**
WTFS				IAmb_Lg		00 16 34.1	
	comp=Z,62nm,0.8s						
SMWD	**Samnorwood**	**2.23**	**254**		**Pb**	**00 16 02.7**	**-0.7**
SMWD				IAmb_Lg		00 16 40.9	
	comp=Z,72nm,0.8s						
Z35A	**Perchaven, San**	**2.43**	**173**		**Pn**	**00 16 04.4**	**+1.5**
U38A	**Gravette**	**2.71**	**74**		**Pn**	**00 16 10.0**	**+3.1**
FW03	**Perrin-Whitt E**	**2.72**	**188**		**Pn**	**00 16 09.1**	**+2.1**
FW03				IAmb_Lg		00 16 53.3	
	comp=Z,53nm,0.8s						
FW06	**Azle**	**2.77**	**179**		**Pn**	**00 16 09.5**	**+1.9**
PLPT	**Palo Pinto**	**2.98**	**191**	Pn	**Pb**	**00 16 13.6**	**-2.5**
HHAR	**Hobbs**	**3.04**	**79**	Pn	**Pn**	**00 16 12.0**	**+0.7**
FW07	**Weatherford**	**3.04**	**183**		**Pn**	**00 16 13.2**	**+1.8**
APMT	**Aspermont**	**3.17**	**221**		**Pn**	**00 16 15.1**	**+1.9**
TREL	**Terrell**	**3.27**	**157**		**Pn**	**00 16 15.5**	**+1.1**
TREL				IAmb_Lg		00 17 12.7	
	comp=Z,72nm,1.0s						
Z38A	**Mt. Pleasant**	**3.30**	**138**		**Pn**	**00 16 15.7**	**+0.7**
DKNS	**Dickens**	**3.42**	**234**		**Pg**	**00 16 28.5**	**+0.5**
DKNS				IAmb_Lg		00 17 22.9	
	comp=Z,40nm,0.8s						
AMTX	**Amarillo**	**3.43**	**257**	Pn	**Pb**	**00 16 20.0**	**-3.7**
KSU1	**Kansas State U**	**3.45**	**13**		**Pn**	**00 16 18.2**	**+1.3**
KSU1				IAmb_Lg		00 17 15.2	
	comp=Z,60nm,0.8s						
CBKS	**Cedar Bluff**	**3.50**	**332**		**Pn**	**00 16 19.7**	**+2.0**
CBKS				IAmb_Lg		00 17 22.7	
	comp=Z,52nm,0.7s						
MIAR	**Mount Ida**	**3.53**	**109**	Pn	**Pn**	**00 16 19.3**	**+1.3**
S39A	**Bolivar**	**3.96**	**59**	Pn	**Pn**	**00 16 25.3**	**+1.3**
S39A				IAmb_Lg		00 17 27.4	
	comp=Z,42nm,1.0s						
237A	**Washetta, Mont**	**4.03**	**157**		**Pn**	**00 16 25.4**	**+0.5**
237A				IAmb_Lg		00 17 37.8	
	comp=Z,44nm,0.9s						
POST	**Post**	**4.17**	**231**	IAmb_Lg		00 17 48.1	
	comp=Z,53nm,0.9s						
RTBA	**Rita Blanca**	**4.20**	**281**	IAmb_Lg		00 17 49.2	
	comp=Z,30nm,0.8s						
WLAR	**White Oak Lake**	**4.25**	**118**	IAmb_Lg		00 17 36.2	
	comp=Z,32nm,0.9s						
UALR	**University of**	**4.43**	**101**	IAmb_Lg		00 17 46.3	
	comp=Z,29nm,0.8s						
MGMO	**Mountain Grove**	**4.54**	**70**	IAmb_Lg		00 17 44.0	
	comp=Z,42nm,0.8s						
Z41A	**Richland Creek**	**4.69**	**121**	IAmb_Lg		00 18 02.8	
	comp=Z,30nm,0.9s						
SGCY	**Sterling City**	**4.80**	**218**		**Pn**	**00 16 35.2**	**-0.5**
CCAR	**Cane Creek**	**5.15**	**109**	IAmb_Lg		00 18 10.3	
	comp=Z,44nm,1.1s						
ODSA	**Odessa**	**5.46**	**230**	IAmb_Lg		00 18 27.3	
	comp=Z,35nm,1.2s						
JCT	**Junction City**	**5.56**	**200**	IAmb_Lg		00 18 31.3	
	comp=Z,36nm,0.8s						
CCM	**Cathedral Cave**	**5.61**	**64**	IAmb_Lg		00 18 25.2	
	comp=Z,28nm,0.9s						
OZNA	**Ozona**	**5.63**	**212**	IAmb_Lg		00 18 31.9	
	comp=Z,30nm,0.7s						
T25A	**Trinidad**	**5.64**	**286**	IAmb_Lg		00 18 35.0	
	comp=Z,28nm,0.8s						
P40A	**Paris**	**5.82**	**48**	IAmb_Lg		00 18 33.5	
	comp=Z,26nm,0.7s						
PBMO	**Poplar Bluff**	**5.90**	**78**	IAmb_Lg		00 18 34.5	
	comp=Z,35nm,0.7s						
MNHN	**Monahans**	**6.14**	**226**	IAmb_Lg		00 18 42.2	
	comp=Z,20nm,0.8s						
SLM	**Saint Louis**	**6.56**	**62**	IAmb_Lg		00 18 50.6	
	comp=Z,33nm,0.9s						
DRIO	**Del Rio**	**6.79**	**203**	IAmb_Lg		00 18 59.4	
	comp=Z,19nm,0.8s						
PECS	**Pecos**	**6.79**	**232**	IAmb_Lg		00 19 19.4	
	comp=Z,16nm,0.7s						
Q24A	**Divide**	**6.80**	**300**	IAmb_Lg		00 19 02.0	
	comp=Z,31nm,0.9s						
SAND	**Sanderson**	**6.90**	**214**	IAmb_Lg		00 19 12.1	
	comp=Z,22nm,0.9s						
S44A	**Carbondale**	**7.00**	**71**	IAmb_Lg		00 19 09.1	
	comp=Z,24nm,0.9s						
K30B	**Basset**	**7.09**	**348**	IAmb_Lg		00 19 22.1	
	comp=Z,30nm,0.8s						
BRIGG	**Briggsdale**	**7.15**	**314**	IAmb_Lg		00 19 15.5	
	comp=Z,22nm,0.8s						
ANMO	**Albuquerque**	**7.26**	**266**	Pg	**Pb**	**00 17 31.9**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=53,slow=10,SNR=7.7						
ANMO				Lg	Lg	00 19 08.7	
	comp=Z,1.0nm,0.3s,baz=202,slow=17,SNR=6.4						
N41A	**Harden Midland**	**7.27**	**45**	IAmb_Lg		00 19 12.7	
	comp=Z,25nm,0.8s						
833A	**Chaparral WMA,**	**7.55**	**192**	IAmb_Lg		00 19 36.3	
	comp=Z,16nm,0.8s						
VHRN	**Van Horn**	**7.90**	**233**	IAmb_Lg		00 19 45.8	
	comp=Z,20nm,1.2s						
L40A	**Anamosa**	**8.04**	**36**	IAmb_Lg		00 19 39.3	
	comp=Z,20nm,0.8s						
TXAR	**Lajitas Array**	**8.18**	**220**	Pn	**Pn**	**00 17 18.7**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=40,slow=14,SNR=2.5						
TXAR				Lg	Lg	00 19 30.1	
	comp=Z,0.5nm,0.3s,baz=38,slow=30,SNR=4.2						
	comp=Z,0.1nm,0.5s						
N23A	**Red Feather La**	**8.31**	**311**	IAmb_Lg		00 19 59.0	
	comp=Z,20nm,0.8s						
I37A	**Lemond, Waseca**	**8.87**	**20**	IAmb_Lg		00 20 14.6	
	comp=Z,19nm,1.0s						
JFWS	**Jewell Farm**	**9.16**	**36**	IAmb_Lg		00 20 21.3	
	comp=Z,18nm,0.8s						
K43A	**Burlington**	**10.01**	**43**	IAmb_Lg		00 20 52.2	
	comp=Z,17nm,0.8s						
TKL	**Tuckaleechee C**	**11.26**	**86**	Lg	Lg	00 21 07.4	
	comp=Z,0.5nm,0.3s,baz=321,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**11.60**	**311**	Pn	**Pn**	**00 18 10.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=4.2						
PDAR				Lg	Lg	00 21 20.2	
	comp=Z,0.1nm,0.3s,baz=122,slow=29,SNR=1.7						
	comp=Z,0.3nm,0.4s						
ULM	**Lac du Bonnet**	**14.55**	**4**	Pn	**Pn**	**00 18 45.6**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=193,slow=20,SNR=1.1						
ULM				Sn	Sn	00 21 18.4	-12
	baz=322,slow=20,SNR=1.3						
ULM				Lg	Lg	00 22 55.0	
	baz=327,slow=14,SNR=1.3						

*IDC **01** 00:21:53.6±2.3, 14°.54N×93°.74W, h0km, mb4.0/5, mbtmp4.0/6, ML2.7/3, Error ellipse: s-maj=45.8km s-min=22.5km az=15.0*
*GCG **01** 00:22:09.8±13.0, 15°.04N±92°.35W, h97km±132km, MD4.9, ML3.7, MW3.8*
ISC 01 00:21:57.5±1.1, 14°.36N±0°.08×93°.85W±0°.07, h35km, n23, σ1§29/31, mb4.2/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.62**	**70**	*i* P	**Pn**	**00 22 22.0**	**-1.6**
THIG		**1.62**	**70**	*e*P	**Pn**	**00 22 22.5**	**-1.1**
THIG				*i* S	**Sn**	**00 22 42.0**	**-1.3**
THIG		**1.62**	**70**	*e*P		00 22 22.5	
THIG				*i* S		00 22 42.0	
SOKI	**Kika Raxquin**	**2.41**	**79**	*e*P	**Pn**	**00 22 34.5**	**-0.3**
SOKI	**Kika Raxquin**	**2.41**	**79**	*e*P	**Pn**	**00 22 35.5**	**+0.8**
SOKI	**Kika Raxquin**	**2.41**	**79**	*e*P		00 22 35.5	
STG8	**El Palmar, Qui**	**2.42**	**88**	*e*S		00 22 30.0	
STG8				*e*S		00 23 00.1	
STG0	**El Palmar, Qui**	**2.43**	**88**	*e*P		00 22 30.2	
STG0				*i* P		00 22 30.2	
STG0				*e*S		00 22 59.7	
TGIG		**2.50**	**16**	*e*P	**Pn**	**00 22 35.4**	**-0.4**
TGIG				*e*S	**Sn**	**00 23 05.6**	**+0.5**
TGIG		**2.50**	**16**	*e*P	**Pn**	**00 22 35.4**	**-0.4**
TGIG				*e*S	**Sn**	**00 23 05.8**	**+0.7**
TGIG		**2.50**	**16**	*e*P		00 22 35.4	
TGIG				*e*S		00 23 05.8	
CCIG	**Comitan**	**2.52**	**41**	*e*P	**Pn**	**00 22 36.2**	**+0.1**
CCIG	**Comitan**	**2.52**	**41**	*e*P	**Pn**	**00 22 36.7**	**+0.5**
CCIG				*e*S	**Sn**	**00 23 07.6**	**+1.8**
CCIG				IAML		00 23 13.7	
	comp=N,1μm,0.5s						
CCIG	**Comitan**	**2.52**	**41**	*e*P		00 22 36.7	
CCIG				*e*S		00 23 07.6	
CCIG				IAML		00 23 13.7	
	comp=N,1μm,0.5s						
QUIS	**Sacapulas**	**2.82**	**71**	*e*P	**Pn**	**00 22 41.4**	**+1.2**
CMIG	**Matias Romero**	**2.89**	**340**	Pn	**Pn**	**00 22 40.1**	**-1.0**
	comp=N,7.0nm,0.3s,baz=150,slow=11,SNR=29						
CMIG				Sn	**Sn**	**00 23 13.1**	**-1.6**
	comp=N,18nm,0.3s,baz=137,slow=13,SNR=5.7						
	comp=N,20nm,0.3s						
ESSG	**Sabana Grande**	**2.92**	**89**	*e*P	**Pn**	**00 22 41.4**	**-0.2**
APG	**El Apazote**	**3.33**	**79**	Pn	**Pn**	**00 22 46.7**	**-0.7**
	comp=N,0.9nm,0.3s,baz=199,slow=14,SNR=17						
APG				Sn	**Sn**	**00 23 25.6**	**-0.3**
	comp=N,0.9nm,0.3s,baz=109,slow=12,SNR=4.1						
APG	**El Apazote**	**3.33**	**79**	*e*P	**Pn**	**00 22 47.0**	**-0.4**
APG	**El Apazote**	**3.33**	**79**	*e*P	**Pn**	**00 22 44.2**	**-3.2**
APG				*e*S	**Pn**	**00 22 48.6**	**+1.2**
APG	**El Apazote**	**3.33**	**79**	*e*P		00 22 44.2	
APG				*e*S		00 22 48.6	
JAYA	**Jayaque - finc**	**4.33**	**99**	*e*P	**Pn**	**00 23 00.2**	**-0.8**
JAYA	**Jayaque - finc**	**4.33**	**99**	*e*P	**Pn**	**00 23 00.2**	**-0.8**
JAYA	**Jayaque - finc**	**4.33**	**99**	*e*P		00 23 00.2	
PETF	**Flores**	**4.60**	**56**	*e*S	**Sn**	**00 23 58.4**	**+1.7**
PETF	**Flores**	**4.60**	**56**	*e*S		00 23 58.4	
TEIG	**Tepich**	**7.89**	**42**	Pn	**Pn**	**00 23 47.7**	**-2.1**
	baz=59,slow=24,SNR=2.5						
TEIG				Sn	**Sn**	**00 25 15.3**	**-2.6**
	baz=338,slow=24						
NVAR	**Mina Array Bea**	**32.28**	**322**	P	**P**	**00 28 24.6**	**+1.3**
	comp=N,3.1nm,0.9s,baz=130,slow=8.9,SNR=4.5						
	comp=N,3.1nm,0.9s						
YKA	**Yellowknife Ar**	**50.28**	**348**	P	**P**	**00 30 49.9**	**-0.2**
	comp=N,1.5nm,0.8s,baz=159,slow=7.5,SNR=7.3						
	comp=N,1.5nm,0.8s						
ILAR	**Eielson Array**	**61.81**	**337**	P	**P**	**00 32 13.2**	**+0.6**
	comp=N,1.9nm,1.0s,baz=153,slow=4.7,SNR=2.3						
	comp=N,1.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**78.72**	**36**	P	**P**	**00 33 55.1**	**-1.1**
	comp=N,0.6nm,0.8s,baz=277,slow=7.2,SNR=1.7						
	comp=N,0.6nm,0.8s						
NOA	**NORSAR Array B**	**84.68**	**28**	P	**P**	**00 34 28.6**	**+1.0**
	comp=N,1.5nm,0.9s,baz=298,slow=5.1,SNR=4.0						
	comp=N,1.5nm,0.9s						

*IDC **01** 00:22:22.7±66.0, 15°.77S×166°.05E, h0km, mb4.1/3, mbtmp4.1/3, MS3.9/1, Error ellipse: s-maj=1105.0km s-min=114.3km az=67.0*
*NOU **01** 00:22:25.5, 15°.54S×167°.90E, h105km, MLv4.5/11, Vanuatu Islands*
ISC 01 00:22:24.4±1.7, 15°.6S±0°.1×167°.9E±0°.2, h150km, n13, σ1§59/13, mb4.0/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.15**	**172**	P	**Pn**	**00 23 00.1**	**-1.2**
DVP	**Devils Point**	**2.15**	**172**	S	**Sn**	**00 23 28.2**	**-1.5**
DVP	**Devils Point**	**2.15**	**172**	P	**Pn**	**00 23 00.1**	**-1.2**
DVP	**Devils Point**	**2.15**	**172**	S	**Sn**	**00 23 28.2**	**-1.5**
LUES	**Luesalemba Tem**	**5.25**	**339**	P	**Pn**	**00 23 42.5**	**+1.3**
LUES	**Luesalemba Tem**	**5.25**	**339**	P	**Pn**	**00 23 42.5**	**+1.3**
KOUNC	**Koumac, New Ca**	**6.00**	**214**	P	**Pn**	**00 23 52.5**	**+1.5**
KOUNC	**Koumac, New Ca**	**6.00**	**214**	P	**Pn**	**00 23 52.5**	**+1.5**
OUENC	**Ouen Island, N**	**6.86**	**188**	P	**Pn**	**00 24 04.6**	**+2.0**
OUENC	**Ouen Island, N**	**6.86**	**188**	P	**Pn**	**00 24 04.6**	**+2.0**
STKA	**Stephens Creek**	**28.89**	**231**	P	**P**	**00 28 10.0**	**+0.9**
	1.2nm,0.4s,baz=46,slow=7.7,SNR=3.7						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**32.18**	**257**	P	**P**	**00 28 37.4**	**-0.9**
	0.7nm,0.4s,baz=89,slow=9.1,SNR=7.0						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**32.91**	**250**	P	**P**	**00 28 44.0**	**-0.7**
	2.2nm,0.7s,baz=76,slow=9.1,SNR=23						
	2.2nm,0.7s						

*NEIC **01** 00:28:51.2±0.8, 59°.66N±0°.01×155°.54W±0°.03, h10km±1km, Error ellipse: s-maj=3.1km s-min=2.8km az=314.0*
AEIC 01 00:28:51.2±1.2, 59°.65N±0°.02×155°.56W±0°.03, h5km±5km, ML2.9, ML3.0/92(NEIC), Error ellipse: s-maj=2.6km s-min=2.1km az=173.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O18K	**Koktuh Hills**	**0.27**	**41**		Pg	00 28 57.0	+0.6
O18K				IAML		00 28 57.4	
	comp=N,2μm,0.8s						
O18K					Sg	00 29 00.8	+0.8
O18K				IAML		00 29 01.2	
	comp=E,3μm,0.3s						
P18K	**Big Mountain,**	**0.31**	**147**		Pg	00 28 57.5	+0.3
P18K					Sg	00 29 01.3	+0.1
P17K	**Kvichak River**	**0.64**	**225**		Pg	00 29 03.8	+0.3
P17K					Sg	00 29 12.9	+1.1
O17K	**Koliganek Bris**	**0.79**	**280**		Pg	00 29 06.2	-0.1
O17K					Sg	00 29 16.8	+0.3
O19K	**Port Alsworth**	**0.83**	**48**		Pg	00 29 06.5	-0.5
O19K					Sg	00 29 17.5	-0.2
N18K	**Kilae Creek**	**1.04**	**351**		Pg	00 29 10.9	-0.3
N18K					Sg	00 29 24.5	-0.2
N18K				IAML		00 29 27.6	
	comp=E,314nm,0.7s						
N18K				IAML		00 29 27.7	
	comp=N,318nm,0.4s						
AUCH	**Augustine Cone**	**1.12**	**104**		Sb	00 29 27.8	-0.1
AUL	**Augustine Lava**	**1.12**	**103**		Pg	00 29 12.6	+0.1
Q16K	**King Salmon**	**1.13**	**211**		Pg	00 29 11.9	-0.9
Q16K					Sg	00 29 27.2	-0.2
P19K	**Oil Pt**	**1.18**	**89**		Pg	00 29 13.6	-0.2
P19K				Sn	Sb	00 29 29.5	-0.2
N17K	**Nushagak Hills**	**1.20**	**318**		Pg	00 29 13.9	-0.2
N17K				IAML		00 29 31.8	
	comp=N,227nm,0.4s						
Q19K	**Cape Douglas,**	**1.22**	**126**		Pg	00 29 13.8	-0.7
Q19K				IAML		00 29 36.9	
	comp=N,396nm,0.7s						
Q19K				IAML		00 29 37.9	
	comp=E,464nm,0.9s						
ILSW	**Iliamna Southw**	**1.27**	**74**		Pg	00 29 13.9	-1.5
ILSW				IAML		00 29 34.2	
	comp=E,337nm,0.7s						
KAHG	**Katmai Hook Gl**	**1.27**	**155**		Pg	00 29 15.2	-0.3
N19K	**Bonanza Creek**	**1.28**	**24**		Pg	00 29 15.0	-0.7
N19K	**Bonanza Creek**	**1.28**	**24**	IAML		00 29 34.6	
	comp=E,411nm,0.3s						
N19K				IAML		00 29 36.1	
	comp=N,422nm,0.2s						
O16K	**Kokwok River B**	**1.29**	**268**		Pn	00 29 15.1	-0.8
P16K	**Nushagak River**	**1.39**	**245**		Pn	00 29 17.1	-0.2
ACHA	**Angle Creek He**	**1.45**	**175**		Pn	00 29 17.6	-0.5
ACHA				IAML		00 29 41.0	
	comp=E,170nm,0.6s						
ACHA				IAML		00 29 41.3	
	comp=N,137nm,0.5s						
ANCK	**Angle Creek**	**1.46**	**179**		Pn	00 29 17.9	-0.3
RDWB	**Redoubt West**	**1.60**	**57**		Pn	00 29 19.6	-0.6
RDWB					Sn	00 29 41.2	-0.2
SYI	**Shuyak Island**	**1.94**	**121**	Pn	Pn	00 29 23.1	-1.7
M17K	**Holitna River**	**1.99**	**333**		Pn	00 29 25.4	0.0
HOM	**Homer**	**1.99**	**88**	Pn	Pn	00 29 23.4	-2.0
R18K	**Karluk**	**2.17**	**164**		Pn	00 29 27.2	-0.7
R18K	**Karluk**	**2.17**	**164**	IAML		00 30 00.4	
	comp=N,96nm,0.5s						
M16K	**Timber Creek**	**2.18**	**311**		Pb	00 29 31.1	+0.1
M16K				IAML		00 29 59.7	
	comp=E,81nm,0.5s						
SPU	**Mount Spurr**	**2.32**	**47**		Pn	00 29 29.0	-1.1
M19K	**Big River Lodg**	**2.33**	**14**		Pn	00 29 29.8	-0.4
M19K				IAML		00 30 08.4	
	comp=N,98nm,0.3s						
BRLK	**Bradley Lake**	**2.37**	**85**	Pn	Pn	00 29 29.6	-1.1
BRLK				IAML		00 30 03.6	
	comp=E,62nm,0.3s						
BRLK				IAML		00 30 08.2	
	comp=N,63nm,0.6s						
KDAK	**Kodiak Island**	**2.43**	**139**	Pn	Pn	00 29 32.2	+0.7
M20K	**Styx River**	**2.54**	**27**	IAML		00 30 15.8	
	comp=E,70nm,0.5s						
STLK	**Strandline Lak**	**2.61**	**43**		Pn	00 29 33.5	-0.5
L18K	**Granite Mounta**	**2.63**	**348**	IAML		00 30 15.4	
	comp=E,62nm,0.7s						
L18K				IAML		00 30 16.2	
	comp=N,99nm,0.7s						
OHAK	**Old Harbor**	**2.71**	**153**	Pn	Pn	00 29 34.8	-0.6
SLKM	**Skilak Lake**	**2.81**	**70**		Pn	00 29 35.6	-1.1
SLKM				IAML		00 30 18.5	
	comp=N,73nm,0.9s						
L16K	**Owhat River**	**2.82**	**319**	Pn	Pn	00 29 36.4	-0.5
L16K				IAML		00 30 21.4	
	comp=E,51nm,0.4s						
L16K				IAML		00 30 21.6	
	comp=N,42nm,0.4s						
L17K	**Donlin**	**2.83**	**333**		Pn	00 29 36.8	-0.1
FIS	**Fire Island**	**3.04**	**58**	IAML		00 30 30.4	
	comp=E,68nm,1.2s						
SKT	**Skwentna**	**3.06**	**38**		Pn	00 29 39.6	-0.5
SEW	**Seward**	**3.11**	**79**	P

SEA 01 00:29:23.5±1.1, 45°.00N±0°.02×123°.85W±0°.04, h45km±3km, ML2.6/7, ML2.6/42(NEIC), Error ellipse: s-maj=4.6km s-min=2.2km az=113.0, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEBO	Mount Hebo	0.23	17		Pn	00 29 32.0	+0.4
HEBO					Sn	00 29 38.4	+1.1
NEWO	Newport DOGAMI	0.40	201		Sn	00 29 41.4	+1.4
MONO	Monmouth DOGAM	0.45	108		Pn	00 29 34.5	+0.7
MONO					Sn	00 29 43.1	+2.0
G03D	McMinnville, O	0.47	62		Pn	00 29 34.3	+0.3
G03D					Sn	00 29 42.5	+1.1
MPOR	Mary's Peak	0.54	157		Pn	00 29 35.2	+0.2
MPOR					Sn	00 29 44.6	+1.4
COR	Corvallis	0.57	137		Pn	00 29 35.5	+0.3
COR	Corvallis	0.57	137	Sn	Sn	00 29 44.8	+1.2
COR				IAML		00 29 45.4	
	406nm,0.5s						
COR				IAML		00 29 45.4	
	259nm,0.4s						
I02E	Swisshome, OR	0.89	180	Pn	Pn	00 29 39.5	-0.1
I02E				Sn	Sn	00 29 51.9	+0.6
H04D	Lebanon	0.92	121		Pn	00 29 40.8	+0.8
H04D				IAML		00 29 55.2	
	comp=N,164nm,0.4s						
H04D				IAML		00 29 56.8	
	comp=E,229nm,0.4s						
F03A	Seaside	0.95	12	Pn	Pn	00 29 40.4	-0.1
BUCK	Buck Mountain	1.01	142	Pn	Pn	00 29 41.2	-0.1
H04A	Detroit Lake	1.22	104		Pn	00 29 44.7	+0.6
F04D	Rainier, OR	1.23	28	Pn	Pn	00 29 44.4	+0.2
F04D				IAML		00 30 03.0	
	comp=E,189nm,0.5s						
F04D				IAML		00 30 07.4	
	comp=N,161nm,0.4s						
I03D	Drain, OR	1.35	164	Pn	Pn	00 29 45.2	-0.6
RADR	Rader Ridge	1.42	1	Pn	Pn	00 29 47.4	+0.5
RADR				IAML		00 30 15.3	
	comp=N,74nm,2.8s						
RADR				IAML		00 30 33.5	
	comp=E,63nm,2.5s						
HOOD	Mount Hood Mea	1.59	77	Pn	Pn	00 29 49.6	+0.4
HOOD				IAML		00 30 11.0	
	comp=N,100nm,0.4s						
HOOD				IAML		00 30 11.1	
	comp=E,108nm,0.4s						
J01E	Myrtle Point	1.84	182	Pn	Pn	00 29 52.0	-0.5
J01E				IAML		00 30 18.5	
	comp=N,40nm,2.2s						
J01E				IAML		00 30 36.8	
	comp=E,40nm,2.4s						
I05D	Terrebonne, OR	1.91	109	Pn	Pn	00 29 53.3	-0.3
I05D				IAML		00 30 24.9	
	comp=E,40nm,0.7s						
I05D				IAML		00 30 36.5	
	comp=N,41nm,4.8s						
WISH	Wishkah	2.12	1	Pn	Pn	00 29 56.3	0.0
WISH				IAML		00 30 20.0	
	comp=N,60nm,4.2s						
WISH				IAML		00 31 01.9	
	comp=E,64nm,4.0s						
J04A	Umpqua Nationa	2.16	144	Pn	Pn	00 29 56.0	-1.1
G06A	Carlson Farm,	2.29	83	Pn	Pn	00 29 59.0	+0.3
K02D	Willamette Mer	2.31	177	Pn	Pn	00 30 00.3	+1.3
NLWA	Neilton Lookou	2.39	360	Pn	Pn	00 29 59.7	-0.5
NLWA				IAML		00 30 32.6	
	comp=E,27nm,5.0s						
PINE	Pine Mountain	2.41	119	Pn	Pn	00 30 00.0	-0.5
J05D	Fort Rock, OR	2.54	131	Pn	Pn	00 30 02.0	-0.4
GNW	Green Mountain	2.66	15	Pn	Pn	00 30 04.0	+0.2
GNW				Sn	Sn	00 30 34.0	-0.9
F07A	Phinny Hill Vi	2.90	71	Pn	Pn	00 30 06.2	-0.9
MXC	Moxie City	2.95	56	Pn	Pn	00 30 07.1	-0.7

*CATAC **01** 00:32:26.7±0.5, 14°.N±3°.×9°.1W±°., h27km±4km, M3.7/13, MLv3.7/13, Error ellipse: s-maj=8.1km s-min=3.9km az=39.3, confirmed*
*GCG **01** 00:32:26.9±2.0, 13°.99N×91°.41W, h39km±77km, MD4.2*
*SNET **01** 00:32:28.7±0.6, 14°.18N×91°.29W, h35km±150km, ML3.7*

ISC 01 00:32:27.7±1.5, 14°.00N±0°.06×91°.41W±0°.05, h28km±12km, n50, σ1°.36/67, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.43	9	eP		00 32 40.9	
STG0				eS		00 32 51.0	
STG8	El Palmar, Qui	0.46	7	eP		00 32 41.3	
STG8				i S		00 32 52.2	
RTAL	Retalhuleu	0.59	332	i P	Pb	00 32 39.5	-0.1
RTAL				eS	Sb	00 32 47.8	+0.1
RTAL	Retalhuleu	0.59	332	P	Pb	00 32 39.4	-0.3
RTAL				S	Sn	00 32 49.2	+0.1
RTAL	Retalhuleu	0.59	332	P	Pb	00 32 39.5	-0.1
ESSG	Sabana Grande	0.68	56	eP	Pb	00 32 40.6	-0.6
ESSG				eS	Sb	00 32 51.2	+0.9
ESSG	Sabana Grande	0.68	56	eP		00 32 40.6	
ESSG				eS		00 32 51.2	
SOKI	Kika Raxquin	0.82	1	eP	Pb	00 32 42.8	-0.9
SOKI				i S	Sb	00 32 54.8	+0.2
SOKI	Kika Raxquin	0.82	1	eP		00 32 42.8	
SOKI				i S		00 32 54.8	
THIG		1.23	318	eP	Pn	00 32 47.9	-1.2
THIG				i S	Sn	00 33 03.7	-1.0
THIG		1.23	318	eP		00 32 47.9	
THIG				i S		00 33 03.7	
HUEH	Huehuetenango	1.32	356	P	Pn	00 32 49.9	-0.7
HUEH	Huehuetenango	1.32	356	S	Sn	00 33 09.0	+1.7
QUIS	Sacapulas	1.32	13	i P	Pn	00 32 50.7	+0.1
QUIS				i S	Sn	00 33 08.9	+1.5
QUIS	Sacapulas	1.32	13	i P		00 32 50.7	
QUIS				i S		00 33 08.9	
APG	El Apazote	1.36	42	eP	Pn	00 32 50.3	-0.8
APG				eS	Sn	00 33 09.7	+1.4
APG	El Apazote	1.36	42	eP		00 32 50.3	
APG				eS		00 33 09.7	
SLOZ	Alcaldia de Sa	1.58	89	eP	Pn	00 32 53.0	-1.0
SLOZ				eS	Sn	00 33 11.4	-2.2
SLOZ	Alcaldia de Sa	1.58	89	P	Pn	00 32 53.6	-0.3
SLOZ	Alcaldia de Sa	1.58	89	S	Sn	00 33 13.6	0.0
SLOZ	Alcaldia de Sa	1.58	89	P	Pn	00 32 55.0	+1.0
LOAL	Lomas de Alarc	1.58	90	eP	Pn	00 32 52.8	-1.2
LOAL				eS	Sn	00 33 11.8	-1.9
LOAL	Lomas de Alarc	1.58	90	P	Pn	00 32 54.1	+0.1
LOAL	Lomas de Alarc	1.58	90	S	Sn	00 33 13.6	0.0
LOAL	Lomas de Alarc	1.58	90	P	Pn	00 32 54.1	+0.1
NUBE	Las Nubes	1.59	93	i P	Pn	00 32 53.2	-1.0
NUBE				eS	Sn	00 33 12.0	-1.9
NUBE	Las Nubes	1.59	93	P	Pn	00 32 53.3	-0.8
NUBE	Las Nubes	1.59	93	P	Pn	00 32 53.2	-1.0
NUBE	Las Nubes	1.59	93	i P	Pn	00 32 53.1	-1.0
NUBE				e	Sn	00 33 12.0	-1.9
NUBE				i S	Sn	00 33 12.0	-1.9
NUBE				eS	Sn	00 33 12.0	-1.9
NUBE	Las Nubes	1.59	93	i P		00 32 53.1	
NUBE				e		00 33 12.0	
NUBE				i S		00 33 12.0	
NUBE				eS		00 33 12.0	
CEVE	Cerro Verde	1.74	95	eP	Pn	00 32 56.0	-0.4
CEVE				eS	Sn	00 33 17.4	-0.5
CEVE				IAML		00 33 22.6	
	comp=Z,1μm,0.6s						
CEVE	Cerro Verde	1.74	95	P	Pn	00 32 56.0	-0.4
CEVE	Cerro Verde	1.74	95	P	Pn	00 32 56.0	-0.4
SNJE	San Jose	1.76	94	eP	Pn	00 32 56.3	-0.2
SNJE				eS	Sn	00 33 17.8	-0.4
JAYA	Jayaque - finc	1.94	100	eP	Pn	00 32 58.0	-1.0
JAYA				eS	Sn	00 33 20.7	-1.8
JAYA	Jayaque - finc	1.94	100	P	Pn	00 32 58.2	-0.7
JAYA	Jayaque - finc	1.94	100	P	Pn	00 32 58.1	-0.9
JAYA	Jayaque - finc	1.94	100	eP	Pn	00 32 57.9	-1.0
JAYA	Jayaque - finc	1.94	100	eP		00 32 57.9	
MTO3	Montecristo	2.03	78	i P	Pn	00 32 59.0	-1.3
MTO3	Montecristo	2.03	78	P	Pn	00 32 58.9	-1.4
MTO3	Montecristo	2.03	78	S	Sn	00 33 24.2	-0.7
MTO3	Montecristo	2.03	78	P	Pn	00 32 59.0	-1.3
MTO3	Montecristo	2.03	78	eP	Pn	00 32 59.0	-1.3
MTO3	Montecristo	2.03	78	eP		00 32 59.0	
PMON	Piamonte	2.06	98	eP	Pn	00 32 59.9	-0.7
PMON				eS	Sn	00 33 24.4	-1.0
PMON	Piamonte	2.06	98	P	Pn	00 33 00.0	-0.5
PMON	Piamonte	2.06	98	S	Sn	00 33 26.3	+0.9
PMON	Piamonte	2.06	98	P	Pn	00 33 00.1	-0.5
LOMA	Loma Larga	2.21	99	P	Pb	00 33 09.4	+2.3
LFRS	El Faro	2.31	99	eP	Pn	00 33 03.6	-0.5
COEG	Centro de Oper	2.49	98	eP	Pn	00 33 05.5	-0.9
COEG				IAML		00 33 46.7	
	comp=Z,224nm,0.4s						
COEG	Centro de Oper	2.49	98	P	Pn	00 33 07.1	+0.6
COEG	Centro de Oper	2.49	98	S	Sn	00 33 37.6	+1.6
COEG	Centro de Oper	2.49	98	P	Pb	00 33 10.1	-1.8
SCLA	Alcaldia de Sa	2.62	96	P	Pn	00 33 10.8	+2.5
PACA	Pacayal	3.05	100	P	Pb	00 33 19.6	-1.8
LCND	La Caada	3.49	101	P	Pn	00 33 20.1	-0.1
COPN	Copaltepe	5.03	110	P	Pn	00 33 45.5	+4.1
RCPN	Sur Rio San Ju	5.19	95	P	Pn	00 33 48.0	+4.3

*IDC **01** 00:32:43.9±3.8, 56°.36S×147°.96E, h0km, mb4.0/4, mbtmp4.0/4, MS3.8/6, Error ellipse: s-maj=222.9km s-min=26.8km az=82.0*

ISC 01 00:32:45.3±3.5, 56°.4S±0°.3×14°8E±°, h10km, n17, σ0°.32/6, mb4.0/4, MS3.6/6, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	21.80	172	LR	LR	00 45 01.9	
	comp=Z,364nm,20.5s,baz=340,slow=34						
STKA	Stephens Creek	24.89	347	LR	LR	00 45 50.1	
	comp=Z,117nm,20.3s,baz=204,slow=32						
H01W1	Cape Leeuwin H	31.43	299	T	T	01 11 56.5	
	baz=143,slow=76,SNR=32						
H01W2	Cape Leeuwin H	31.43	299	T	T	01 11 56.8	
	baz=143,slow=76,SNR=29						
H01W3	Cape Leeuwin H	31.44	299	T	T	01 11 58.6	
	baz=143,slow=76,SNR=27						
NWAO	Narrogin (SRO)	31.58	305	LR	LR	00 48 51.3	
	comp=Z,144nm,20.7s,baz=56,slow=31						
ASAR	Alice Springs	34.25	337	P	P	00 39 31.5	+0.2
	1.1nm,0.7s,baz=171,slow=8.4,SNR=7.4						
ASAR				LR	LR	00 51 40.1	
	comp=Z,106nm,19.1s,baz=164,slow=33						
	1.1nm,0.7s						
WRA	Warramunga Arr	37.77	339	P	P	00 40 01.3	-0.1
	1.8nm,0.6s,baz=165,slow=7.6,SNR=10						
	1.8nm,0.6s						
MAW	Mawson	38.20	218	LR	LR	00 53 56.8	
	comp=Z,108nm,20.7s,baz=146,slow=33						
FITZ	Fitzroy Crossi	41.74	327	P	P	00 40 34.2	-0.2
	2.5nm,0.9s,baz=153,slow=22,SNR=2.5						
FITZ				LR	LR	00 56 48.7	
	comp=Z,230nm,19.1s,baz=173,slow=35						
	2.5nm,0.9s						
SNAA	Sanae	50.61	192	P	P	00 41 43.7	0.0
	2.8nm,1.0s,baz=220,slow=1.1,SNR=4.1						
	2.8nm,1.0s						
H08S2	Diego Garcia H	75.62	278	T	T	02 07 00.1	
	baz=147,slow=76,SNR=16						
H08S1	Diego Carcia H	75.63	278	T	T	02 06 59.7	
	baz=147,slow=76,SNR=6.3						
H08S3	Diego Garcia H	75.64	278	T	T	02 07 02.8	
	baz=147,slow=76,SNR=24						
TXAR	Lajitas Array	123.94	87	PKhKP	PKPpre	00 51 39.9	
	3.0nm,1.1s,baz=212,slow=1.7,SNR=9.5						
FINES	FINESS Array B	150.44	304	PKPbc	PKPbc	00 52 35.2	-0.3
	5.2nm,0.8s,baz=112,slow=2.8,SNR=5.9						
GERES	GERESS Array B	151.67	274	PKPbc	PKiKP	00 52 39.7	+0.3
	0.2nm,0.4s,baz=126,slow=2.6,SNR=4.1						

*NEIC **01** 00:39:34.7±1.7, 36°.93N±0°.06×71°.47E±0°.08, h190km±7km, mb4.0/4, Error ellipse: s-maj=9.6km s-min=7.7km az=128.0*
*NNC **01** 00:39:37.3±8.0, 37°.44N×71°.23E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=62.9km s-min=51.4km az=167.0*
*IDC **01** 00:39:38.8±8.2, 37°.20N×71°.58E, h189km±53km, mb3.4/6, mbtmp3.9/9, Error ellipse: s-maj=75.9km s-min=25.7km az=7.0*

ISC 01 00:39:33.3±0.6, 36°.92N±0°.04×71°.64E±0°.05, h150km, n56, σ2°.16/69, mb3.9/7, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.33	334		Pn	00 40 14.9	+2.4
GAR				Sn	Sn	00 40 44.6	+1.9
DRK	Karamyk	2.56	3		Pn	00 40 19.4	+4.0
CHGR	Chuyangaron	2.62	312	Pn	Pn	00 40 17.9	+1.8
CHGR				Sn	Sn	00 40 49.9	+0.9
KBL	Kabul	3.18	222		Pn	00 40 25.2	+2.0
KBL				Sn	Sn	00 41 02.5	+0.7
BTK	Batken	3.20	349	Pn	Pn	00 40 26.0	+2.7
BTK				Sn	Sn	00 41 04.9	+2.9
NIL	Nilore	3.52	158		Pn	00 40 31.9	+4.5
KSH	Kashi	4.28	51	Pn	Pn	00 40 37.2	-0.2
KSH				Sn	Sn	00 41 22.9	-4.3
KSH				smax	smax		
	comp=N,110nm,0.4s						
KSH				smax	smax		
	comp=E,72nm,0.4s						
ARSB	Arslanbob	4.52	13		Pn	00 40 42.7	+2.2
JMU	Jammu	4.97	146	eS	Sn	00 41 44.6	+1.2
JMU				IAML		00 41 49.1	
	comp=E,69nm,0.3s						
JMU				IAML		00 41 55.8	
	comp=E,82nm,0.3s						
AML	Almayashu	5.44	16	P	Pn	00 40 55.5	+2.6
	SNR=143						
UCH	Uchtor	5.75	22	P	Sn	00 42 03.3	+1.0
	SNR=13						
EKS2	Erkin-Say	5.96	15	P	Pn	00 41 02.4	+2.8
	SNR=42						
DHRM	DHARAMSHALA	6.04	139	eP	Pn	00 41 04.0	+3.3
DHRM				eS	Sn	00 42 10.4	+1.3
DHRM				IAML		00 42 12.7	
	comp=E,193nm,0.2s						
DHRM				IAML		00 42 13.6	
	comp=N,205nm,0.3s						
AAK	Ala-Archa	6.12	20	Pn	Pn	00 41 03.8	+2.1
AAK	Ala-Archa	6.12	20	P	Pn	00 41 04.8	+3.1
	comp=N,7.2nm,0.3s,baz=194,slow=8.9,SNR=55						
AAK				S	Sn	00 42 12.0	+1.2
	comp=N,4.8nm,0.4s,baz=215,slow=10,SNR=12						
AAK	Ala-Archa	6.12	20	P	Pn	00 41 04.6	+3.0
	SNR=17						
AAK	Ala-Archa	6.12	20	P	Pn	00 41 04.0	+2.4
	comp=N,3.5nm,0.3s						
AAK				S	Sn	00 42 11.4	+0.6
	comp=N,16nm,0.7s						
KK31	Karatay Array	6.24	352	Pn	Pn	00 41 04.8	+1.7
KK31	Karatay Array	6.24	352	P	Pn	00 41 04.7	+1.6
	comp=N,6.0nm,0.2s,baz=169,slow=10,SNR=77						
KK31				⇓S	Sn	00 42 10.7	-2.7
	comp=N,12nm,0.3s,baz=109,slow=66,SNR=5.3						
KKAR	Karatay Array	6.24	352	Pn	Pn	00 41 04.4	+1.3
KKAR	Karatay Array	6.24	352		Pn	00 41 04.3	+1.2
KKAR				Sn	Sn	00 42 11.7	-1.7
KBK	Karagaybulak	6.27	23	P	Pn	00 41 08.8	+5.2
	SNR=5.5						
FRU1	Bishkek	6.32	20	Pn	Pn	00 41 06.4	+2.2
BOOM	Boomskoye usch	6.47	29		Pn	00 41 09.0	+2.6
BOOM					Sn	00 42 20.3	+1.0
CHMS	Chumysh	6.52	20	P	Pn	00 41 09.7	+2.8
	SNR=9.2						
USP	Ospenovka	6.71	18	P	Pn	00 41 11.3	+1.9
	SNR=6.1						
TKM2	Tokmak 2	6.72	26	P	Pn	00 41 12.6	+2.8
	SNR=8.3						
KDJ	Kajisay	6.74	38	Pn	Pn	00 41 11.9	+1.9
BHK	Bhakra	6.76	143	ex	x	00 41 53.2	
BHK				eS	Sn	00 42 27.2	+0.9
BHK				IAML		00 42 30.8	
	comp=E,48nm,0.2s						
TARG	Taragay, Kyrgy	6.77	43	Pn	Pn	00 41 12.9	+2.3
WUS	Wushi	7.28	52	Pn	Pn	00 41 19.1	+2.0
SMLA	Simla	7.37	140	eP	Pn	00 41 20.4	+2.1
SMLA				eS	Sn	00 42 39.0	-1.7
SMLA				IAML		00 42 42.2	
	comp=E,77nm,0.4s						
SMLA				IAML		00 42 42.3	
	comp=N,76nm,0.3s						
HRA	Herat	8.06	255	Pn	Pn	00 41 25.9	-1.8
JOSI	Joshimath	9.15	132	eP	Pn	00 41 41.5	-0.7
JOSI				eS	Sn	00 43 23.8	0.0
JOSI				IAML		00 43 25.1	
	comp=E,18nm,0.3s						
JOSI				IAML		00 43 25.5	
	comp=N,22nm,0.3s						
KUDL	Kundal	9.66	154	ex	x	00 42 45.6	
KUDL				eS	Sn	00 43 28.6	-7.2
KUDL				IAML		00 43 33.6	
	comp=E,9.0nm,0.5s						
MAKZ	Makanchi	12.52	35		Pn	00 42 27.7	+1.6
MK31	Makanchi Array	12.65	35		Pn	00 42 29.2	+1.3
MKAR	Makanchi Array	12.65	35		Pn	00 42 29.4	+1.5
MKAR	Makanchi Array	12.65	35	P	Pn	00 42 29.1	+1.2
	comp=E,0.4nm,0.7s,baz=229,slow=14,SNR=14						
KURK	Kurchatov	14.67	18	Pn	Pn	00 42 52.0	-1.4
AB31	Akbulak array	14.98	329	P	Pn	00 42 58.5	+1.3
	comp=E,1.5nm,0.7s,baz=153,slow=10,SNR=34						
AB31				⇓S	Sn	00 45 40.5	-3.0
	comp=E,1.5nm,0.7s,baz=158,slow=24,SNR=3.3						
ABKAR	Akbulak array	14.98	329		Pn	00 42 56.6	-0.7
ABKAR	Akbulak array	14.98	329	P	Pn	00 42 57.6	+0.3
BRVK	Borovoye	16.17	357	P	Pn	00 43 12.1	+0.2
AKTO	Aktyubinsk	16.68	328	P	P	00 43 18.5	+0.6
	comp=E,3.8nm,0.4s,baz=125,slow=3.9,SNR=5.8						
UOSS	Minazif	17.80	232	Pn	P	00 43 29.7	-0.7
ZAA0	Zalesovo Array	19.32	24	P	P	00 43 46.3	-0.4
ZAA0				IAmb	IAmb	00 43 48.0	
	comp=Z,6.2nm,1.0s						
ZALV	Zalesovo Beam	19.32	24	P	P	00 43 46.1	-0.6
ARTI	Arti	21.42	340	P	P	00 44 08.4	-0.8
ARTI				IAmb	IAmb	00 44 26.4	
	comp=Z,6.2nm,1.2s						
SONM	Songino Array	27.67	56	P	P	00 45 08.6	+1.4
	comp=Z,0.4nm,0.5s,baz=255,slow=8.9,SNR=1.7						
	comp=Z,0.4nm,0.5s						
FINES	FINESS Array B	37.43	326	P	P	00 46 31.2	-0.3
	comp=Z,3.1nm,0.9s,baz=108,slow=8.8,SNR=4.2						
	comp=Z,3.1nm,0.9s						
ARCES	ARCESS Array B	40.96	337	P	P	00 47 01.0	+0.2
	comp=Z,15nm,1.2s,baz=116,slow=8.2,SNR=8.8						
	comp=Z,15nm,1.2s						
HFS	Hagfors	43.06	322	P	P	00 47 17.3	-0.6
	comp=Z,0.9nm,0.3s,baz=97,slow=8.0,SNR=12						
	comp=Z,0.9nm,0.3s						
NB2	NORSAR Subarra	44.36	323	P	P	00 47 27.3	-1.1
	comp=Z,1.9nm,0.8s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.36	323	P	P	00 47 27.2	-1.1
	comp=Z,0.5nm,0.5s,baz=107,slow=7.2,SNR=4.2						
	comp=Z,0.5nm,0.5s						
YKA	Yellowknife Ar	80.80	3	P	P	00 51 29.1	-0.7
	comp=Z,0.3nm,0.6s,baz=347,slow=5.2,SNR=7.3						
	comp=Z,0.3nm,0.6s						

CATAC 01 00:41:26.7±0.2, 13°.N±1°.×8°.7W±°., h7km±1km, M2.9/19, MLv2.9/19, Error ellipse: s-maj=3.4km s-min=1.8km az=40.5, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.20	185	P	Pg	00 41 31.9	+1.2
CRIN	San Cristobal	0.20	185	P	Pg	00 41 32.1	+1.4
CRIN	San Cristobal	0.20	185	S	Sg	00 41 35.6	+2.2
CRIN	San Cristobal	0.20	185	P	Pg	00 41 32.1	+1.4
PKGN	Cerro Pekin	0.23	167	P	Pg	00 41 32.0	+0.7
PKGN				S	Sg	00 41 36.0	+1.5
POLN	Al Sur del Vol	0.33	139	P	Pg	00 41 33.0	-0.1
POLN	Al Sur del Vol	0.33	139	P	Pg	00 41 32.9	-0.2
POLN				S	Sg	00 41 38.0	+0.6
POLN	Al Sur del Vol	0.33	139	P	Pb	00 41 36.0	+1.1
HERN	Volcan Telica	0.35	146	P	Pg	00 41 34.2	+0.7
HERN	Volcan Telica	0.35	146	P	Pg	00 41 34.4	+0.8
HERN	Volcan Telica	0.35	146	S	Sg	00 41 39.5	+1.3
HERN	Volcan Telica	0.35	146	P	Pb	00 41 35.0	-0.3
QUEN	Al S del Volca	0.35	150	P	Pb	00 41 34.7	-0.6
QUEN	Al S del Volca	0.35	150	P	Pn	00 41 38.1	-0.2
QUEN	Al S del Volca	0.35	150	P	Pb	00 41 34.7	-0.7
TELN	Telica	0.35	146	P	Pg	00 41 34.4	+0.8
TELN	Telica	0.35	146	P	Pg	00 41 34.4	+0.7
TELN				S	Sg	00 41 39.3	+1.1
TELN	Telica	0.35	146	P	Pb	00 41 35.7	+0.3
TEL3	Telica 3	0.37	151	P	Pn	00 41 38.0	-0.6
TEL3	Telica 3	0.37	151	P	Pg	00 41 34.1	+0.1
TEL3	Telica 3	0.37	151	P	Pn	00 41 38.2	-0.4
ILCN	San Idelfonso	0.45	135	P	Pn	00 41 42.1	+2.3
ILCN	San Idelfonso	0.45	135	P	Pn	00 41 42.3	+2.6
ILCN	San Idelfonso	0.45	135	P	Pg	00 41 35.8	+0.3
ILCN				S	Sg	00 41 42.4	+0.9
PACN	Al O del Volca	0.46	150	P	Pn	00 41 44.5	+4.7
PACN	Al O del Volca	0.46	150	S	Sb	00 41 44.2	0.0
ROCN	Rota Cerro Neg	0.47	143	P	Pg	00 41 32.4	-3.4
POTN	Potosi Cosigui	0.47	282	P	Pg	00 41 36.4	+0.5
POTN	Potosi Cosigui	0.47	282	P	Pg	00 41 36.1	+0.2
POTN				S	Sb	00 41 43.4	-1.3
POTN	Potosi Cosigui	0.47	282	P	Pb	00 41 37.2	-0.3
CNGN	Cerro Negro	0.51	141	P	Pn	00 41 44.0	+3.4
CNGN	Cerro Negro	0.51	141	P	Pb	00 41 37.4	-0.7
CNGN	Cerro Negro	0.51	141	S	Sb	00 41 44.6	-1.2
CNGA	Al SSO del Vol	0.51	141	P	Pb	00 41 37.5	-0.7
CNGA				S	Sg	00 41 44.5	+1.1
CNGA	Al SSO del Vol	0.51	141	P	Pn	00 41 40.1	-0.5
CNGA	Al SSO del Vol	0.51	141	P	Pb	00 41 37.5	-0.6
CSGN	Cosiguina Volc	0.52	279	P	Pg	00 41 37.2	+0.4
CSGN	Cosiguina Volc	0.52	279	P	Pg	00 41 37.1	+0.3
CSGN				S	Sb	00 41 44.9	-1.2
CSGN	Cosiguina Volc	0.52	279	P	Pb	00 41 38.4	+0.1
MACN	El Madrono	0.55	141	P	Pg	00 41 37.8	+0.4
MACN				S	Sb	00 41 46.3	-0.7
CHOHN	Orocuina	0.59	348	P	Pg	00 41 38.7	+0.6
CHOHN	Orocuina	0.59	348	S	Sb	00 41 47.4	-0.8
CHOHN	Orocuina	0.59	348	P	Pb	00 41 38.9	-0.6
LIMN	Finca el Limon	0.67	76	P	Pg	00 41 39.9	+0.3
LIMN	Finca el Limon	0.67	76	P	Pg	00 41 40.0	+0.4
LIMN	Finca el

JIJ	Ishigaki jima	0.84	78	P	Pn	00 59 06.5	-0.2
JIJ				S	Sn	00 59 17.8	-0.5
JISG	Ishigakijimahi	1.05	68	*e*P	Pn	00 59 09.5	+0.1
JISG				S	Sn	00 59 23.1	-0.1

TAP 01 00:58:55.6,24.77N×122.16E,h98km,ML2.8,3C,C,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.22 290**		*e*P	Pn	00 59 10.0	+0.4
TWB1	**Santiao Chiao**	**0.29 326**		P	Pn	00 59 10.1	+0.2
TWC	**Suao**	**0.33 241**		P	Pn	00 59 10.3	+0.3
TWC				S	Sn	00 59 20.4	-0.5
EOS2	**EOS2**	**0.35 170**		*e*P	Pn	00 59 11.6	+1.6
TIPB	**Shuangxi**	**0.37 303**		P	Pn	00 59 10.4	+0.1
TIPB				S	Sn	00 59 21.0	-0.3
SXI1	**Grass Mountain**	**0.42 321**		*e*P	Pn	00 59 10.6	-0.1
SXI1				*e*S	Sn	00 59 22.6	+0.6
NDS	**Dongshan**	**0.43 252**		*e*P	Pn	00 59 11.1	+0.5
TWE	**Neicheng**	**0.45 264**		*e*P	Pn	00 59 11.0	+0.2
NWF	**Wu-fen Shan**	**0.46 311**		*e*P	Pn	00 59 10.6	-0.3
WFSB	**Wu-fen Shan**	**0.46 311**		*e*P	Pn	00 59 10.7	-0.2
WFSB				*e*S	Sn	00 59 21.9	-0.3
EWUT	**Wuta**	**0.48 228**		*e*P	Pn	00 59 11.5	+0.6
EWUT				*e*S	Sn	00 59 23.2	+0.7
EOS3	**EOS3**	**0.50 164**		*e*P	Pn	00 59 12.2	+1.2
ENA	**Nanau**	**0.51 229**		*e*P	Pn	00 59 11.4	+0.2
ENA				*e*S	Sn	00 59 23.9	+1.0
FUSB	**Fushanzhiwuyua**	**0.52 269**		*e*P	Pn	00 59 11.6	+0.1
ENTT	**Nioudou**	**0.56 257**		P	Pn	00 59 12.4	+0.8
ENTT				*e*S	Sn	00 59 24.7	+1.1
TWA	**Mucha**	**0.57 292**		*e*P	Pn	00 59 12.3	+0.7
EAHA	**Aohua**	**0.58 222**		*e*P	Pn	00 59 11.9	+0.1
NWLT	**Wulai**	**0.60 271**		*e*P	Pn	00 59 12.0	0.0
NWLT				*e*S	Sn	00 59 24.4	+0.2
LATG	**Datong**	**0.62 248**		P	Pn	00 59 13.2	+0.9
LATG				*e*S	Sn	00 59 25.6	+0.9
TATO	**Taipei**	**0.65 289**		*e*P	Pn	00 59 12.2	-0.1
YM01	**YM01**	**0.66 305**		*e*P	Pn	00 59 12.1	-0.3
EOS4	**EOS4**	**0.66 168**		*e*P	Pn	00 59 12.8	+0.8
EOS4				*e*S	Sn	00 59 25.9	+1.6
ZUZH	**Zhuzihu**	**0.69 305**		*e*P	Pn	00 59 12.2	-0.5
TWY	**Chenhua**	**0.72 315**		*e*P	Pn	00 59 12.5	-0.5
YHNB	**Yeheng**	**0.72 262**		⇑P	Pn	00 59 13.4	+0.3
YHNB				*e*S	Sn	00 59 26.1	-0.2
NSK	**Sanguang**	**0.74 263**		⇑P	Pn	00 59 13.4	+0.2
NSK				*e*S	Sn	00 59 26.1	-0.4
TWS1	**Kuangyinshan**	**0.75 296**		*e*P	Pn	00 59 12.8	-0.5
TWS1				*e*S	Sn	00 59 26.8	+0.3
NACB	**Ninganchiao**	**0.79 221**		P	Pn	00 59 13.6	0.0
NACB				S	Sn	00 59 27.2	0.0
NNSH	**Datong**	**0.79 245**		*e*P	Pn	00 59 14.6	+0.8
NNS	**Nan Shan**	**0.79 246**		*e*P	Pn	00 59 14.6	+0.7
ETLH	**Xiulin Townshi**	**0.84 228**		*e*P	Pn	00 59 14.5	+0.3
ETLH				*e*S	Sn	00 59 28.3	+0.1
TWD	**Chiawan**	**0.86 217**		*e*P	Pn	00 59 14.4	+0.1
KSHI	**Guanxi Townshi**	**0.90 271**		*e*P	Pn	00 59 15.3	+0.6
KSHI				S	Sn	00 59 30.1	+1.0
FUSS	**Fushou**	**0.99 238**		*e*P	Pn	00 59 16.8	+0.8
ETM	**Tongmen**	**1.01 218**		*e*P	Pn	00 59 15.8	-0.2
LXIB	**Xiulin Townshi**	**1.01 223**		⇑*i*P	Pn	00 59 16.0	-0.1
LXIB				S	Sn	00 59 31.6	0.0
WHF	**Hehuan Shan**	**1.03 233**		*e*P	Pn	00 59 17.5	+0.9
TWT	**Tachien**	**1.04 241**		*e*P	Pn	00 59 17.5	+1.1
TDCB	**Techi**	**1.05 241**		*e*P	Pn	00 59 17.8	+1.2
LIOB	**Emei**	**1.05 264**		*e*P	Pn	00 59 16.7	+0.3
LIOB				*e*S	Sn	00 59 32.1	-0.1
SBCB	**Hsinchu**	**1.07 271**		*e*P	Pn	00 59 16.9	+0.3
HSN	**Hsinchu**	**1.09 272**		*e*P	Pn	00 59 16.3	-0.5
SHUL	**Shoufeng**	**1.12 209**		*e*P	Pn	00 59 16.5	-0.7
ESL	**Shilin**	**1.16 215**		*e*P	Pn	00 59 17.9	+0.3
OWD	**Renai**	**1.21 228**		*e*P	Pn	00 59 18.6	+0.1
WHP	**Taichung City**	**1.21 246**		*e*P	Pn	00 59 19.2	+0.9
WHP				*e*S	Sn	00 59 35.8	+0.3
WUSB	**Renai**	**1.23 231**		P	Pn	00 59 10.5	+0.9
WUSB				S	Sn	00 59 36.5	+0.6
WARBT	**Fenglin Townsh**	**1.27 214**		*e*P	Pn	00 59 18.1	-0.8
WARBT				*e*S	Sn	00 59 34.6	-1.9
VWDT	**VWDT**	**1.38 223**		*e*P	Pn	00 59 20.9	+0.7
VWDT				*e*S	Sn	00 59 39.4	+0.6
HGSD	**Ruisui**	**1.44 208**		*e*P	Pn	00 59 20.5	-0.5
HGSD				*e*S	Sn	00 59 38.5	-1.7
SMLT	**Sun Moon Lake**	**1.45 233**		*e*P	Pn	00 59 21.5	+0.2
TYC	**Yuchr**	**1.47 234**		*e*P	Pn	00 59 22.1	+0.8
SSLB	**Suanglung**	**1.47 229**		*e*P	Pn	00 59 22.6	+1.1
SSLB				*e*S	Sn	00 59 42.7	+1.6
YULB	**Yu-li**	**1.58 210**		P	Pn	00 59 20.8	-2.0
YULB				*e*S	Sn	00 59 42.2	-1.2
WHYT	**Xinyi Township**	**1.60 229**		*e*P	Pn	00 59 24.6	+1.5
WHYT				*e*S	Sn	00 59 46.2	+2.2
TWF1	**Yuli**	**1.62 210**		*e*P	Pn	00 59 24.1	+0.8
FULB	**Fuli**	**1.75 207**		*e*P	Pn	00 59 25.7	+0.7
WTP	**Ta-pu**	**2.08 223**		*e*P	Pn	00 59 30.9	+1.8

*BJI **01** 01:00:35.9, 4.51N×125.53E, h190km, mB4.8/35, mb4.8/73*
*MAN **01** 01:00:41.2, 4.96N×125.46E, h179km, mb5.7, ML4.8, MS5.2*
*NEIC **01** 01:00:41.7, 5.02N×125.38E, h180km*
*GCMT **01** 01:00:41.7±0.3, 5.14N±0.02×125.40E±0.02, h186km±2km, MW5.3/108, Moment Tensor Solution. s50,c67; s108,c156; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.46±.03; $M_{\theta\theta}$0.36±.03; $M_{\phi\phi}$0.09±.03; $M_{r\theta}$0.13±.02; $M_{\theta\phi}$-0.41±.02; $M_{\phi r}$-0.77±.02; Best double couple: $M_0$0.97700×10^{17} NP1:ϕ_s98.00000°, δ29.00000°, λ-148.00000°. NP2:ϕ_s339.00000°, δ75.00000°, λ-64.00000°. Principal axes: T 0.9360, Plg26.0000°, Azm49.0000°; N 0.0820, Plg25.0000°, Azm152.0000°; P -1.0180, Plg53.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 01:00:41.4±2.9, 5.00N±0.06×125.36E±0.08, h179km±5km, mb5.0/219, Mww5.2/29 Error ellipse: s-maj=12.4km s-min=9.2km az=79.0*
*NEIC **01** 01:00:41.7, 4.92N×125.00E, h180km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.56; $M_{\theta\theta}$2.22; $M_{\phi\phi}$1.34; $M_{r\theta}$1.95; $M_{\theta\phi}$-3.56; $M_{\phi r}$-5.11; Fault plane solution: $M_0$7.20000×10^{16} NP1: ϕ_s102.38000°, δ27.33000°, λ-139.38000°. NP2: ϕ_s335.07000°, δ72.61000°, λ-68.58000°. Principal axes: T 7.6123, Plg25.0000°, Azm49.0000°; N -0.8229, Plg20.0000°, Azm148.0000°; P -6.7894, Plg57.0000°, Azm273.0000°;*
*DJA **01** 01:00:42.3±0.2, 5.1N±2.1×12.5E±.1, h186km±2km, M5.1/100, mb5.5/100, mB5.6/82, MLv6.0/16, Mw(mB)5.1/82, MwMwp5.0/13, Mwp5.2/13*
*IDC **01** 01:00:42.8±0.6, 5.05N×125.21E, h197km±4km, mb4.5/33, mbtmp5.0/36, MS4.0/4, Error ellipse: s-maj=11.0km s-min=6.2km az=80.0*
*MOS **01** 01:00:43.2±0.9, 5.05N×125.20E, h222km, mb4.8/47, Error ellipse: s-maj=9.3km s-min=5.0km az=112.4*
ISC 01 01:00:42.5±0.3, 5.02N±0.03×125.31E±0.04, h197km±2km, h198km; pP-P, n923, σ1s36/973, mb5.0/247, 27C-11D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.35 171**		P	**Pn**	**01 01 12.8**	**-1.9**
DAV	**Davao City (W)**	**2.05 7**			**Pn**	**01 01 21.6**	**+0.3**
DAV	**Davao City (W)**	**2.05 7**		P	**Pn**	**01 01 21.9**	**+0.5**
	326nm,0.3s,baz=139,slow=3.3,SNR=9.7						
DAV				S	**Sn**	**01 01 52.4**	**+0.6**
	2μm,0.4s,baz=334,slow=23,SNR=11						
DAV				LR	LR	01 02 04.8	
	comp=Z,3μm,19.9s,baz=52,slow=40						
DAV	**Davao City (W)**	**2.05 7**		P	**Pn**	**01 01 22.5**	**+1.1**
DAV	**Davao City (W)**	**2.05 7**		P	**Pn**	**01 01 20.0**	**-1.4**
KMSI	**Cibinong**	**4.62 197**		P	**Pn**	**01 01 51.8**	**-0.2**
TNTI	**Ternate**	**4.70 154**		Pn	**Pn**	**01 01 50.7**	**-2.4**
TNTI	**Ternate**	**4.70 154**		P	**Pn**	**01 01 50.8**	**-2.2**
TNTI	**Ternate**	**4.70 154**		S	**Sn**	**01 02 44.3**	**-4.3**
TNTI	**Ternate**	**4.70 154**		P	**Pn**	**01 01 50.5**	**-2.5**
MRSI	**Marisa**	**5.63 217**		P	**Pn**	**01 02 05.6**	**+0.6**
	9.8nm5μm26μm3μm,1.1s						
TOLI2	**Tolitoli**	**5.96 229**		Pn	**Pn**	**01 02 09.4**	**+0.1**
TOLI2	**Tolitoli**	**5.96 229**		P	**Pn**	**01 02 09.1**	**-0.2**
TOLI2	**Tolitoli**	**5.96 229**		S	**Sn**	**01 03 17.5**	**-0.4**
LBMI	**Labuha**	**6.04 159**		P	**Pn**	**01 02 09.2**	**-1.1**
	14μm995nm,0.7s						
LUWI	**Luwuk**	**6.54 203**			**Pn**	**01 02 17.7**	**+0.9**
LUWI	**Luwuk**	**6.54 203**		P	**Pn**	**01 02 18.6**	**+1.8**
LUWI	**Luwuk**	**6.54 203**		S	**Sn**	**01 03 34.2**	**+2.7**
LUWI	**Luwuk**	**6.54 203**		P	**Pn**	**01 02 17.9**	**+1.1**
	11nm15μm1μm,0.9s						
MYLDM	**Lahad Datu**	**6.79 272**		Pn	**Pn**	**01 02 23.2**	**+3.2**
MYLDM	**Lahad Datu**	**6.79 272**		P	**Pn**	**01 02 22.9**	**+2.9**
APSI	**Ampana**	**6.94 212**		P	**Pn**	**01 02 23.4**	**+1.4**
	7.5nm19μm3μm,1.2s						
SANI	**Sanana**	**7.06 174**		P	**Pn**	**01 02 19.5**	**-4.1**
	21μm2μm,1.0s						
PCI	**Palu**	**8.04 223**		P	**Pn**	**01 02 36.8**	**+0.5**
	4μm7μm412nm,1.3s						
SWI	**Sorong**	**8.34 134**		P	**Pn**	**01 02 38.8**	**-1.4**
NLAI	**Namlea**	**8.40 168**		P	**Pn**	**01 02 38.3**	**-2.8**
	889nm,0.6s						
MSAI	**Masohi**	**9.07 156**		P	**Pn**	**01 02 48.1**	**-1.6**
	11μm712nm,0.7s						
KKM	**Kota Kinabalu**	**9.11 277**		Pn	**Pn**	**01 02 50.2**	**-0.2**
KKM	**Kota Kinabalu**	**9.11 277**		P	**Pn**	**01 02 51.0**	**+0.6**
AAI	**Ambon**	**9.12 162**		P	**Pn**	**01 02 48.3**	**-2.1**
KDI	**Kendari**	**9.32 197**		P	**Pn**	**01 02 50.9**	**-2.1**
	2μm126nm,0.6s						
TTSI	**Tana Toraja**	**9.71 215**		P	**Pn**	**01 03 00.3**	**+2.1**
	12μm929nm,1.4s						
SMKI	**Samarinda**	**9.75 236**		P	**Pn**	**01 02 59.3**	**+0.7**
TGY	**Tagaytay City**	**10.00 335**		LR	LR	01 07 04.3	
	comp=Z,372nm,21.3s,baz=351,slow=38						
BKB	**Balikpapan**	**10.47 234**		Pn	**Pn**	**01 03 10.6**	**+2.6**
BKB	**Balikpapan**	**10.47 234**		P	**Pn**	**01 03 08.3**	**+0.3**
BKB	**Balikpapan**	**10.47 234**		P	**Pn**	**01 03 10.6**	**+2.6**
	8μm750nm,1.2s						
FAKI	**Fak Fak**	**10.50 139**		Pn	**Pn**	**01 03 07.5**	**-0.9**
FAKI	**Fak Fak**	**10.50 139**		P	**Pn**	**01 03 08.0**	**-0.4**
FAKI	**Fak Fak**	**10.50 139**		P	**Pn**	**01 03 07.7**	**-0.7**
SPSI	**Sidrap Palu**	**10.51 212**		P	**Pn**	**01 03 09.5**	**+1.1**
	3μm166nm,0.9s						
BNDI	**Bandanaira**	**10.54 154**		P	**Pn**	**01 03 09.2**	**+0.4**
BNDI	**Bandanaira**	**10.54 154**		P	**Pn**	**01 03 08.0**	**-0.8**
	383nm,1.3s						
BBSI	**Bau Bau**	**10.79 195**		P	**Pn**	**01 03 11.0**	**-1.2**
	127nm,0.7s						
RKPI	**Ransiki, Papua**	**10.98 126**		P	**Pn**	**01 03 13.4**	**-1.2**
	289nm,1.0s						
KAPI	**Kappang**	**11.41 209**		Pn	**Pn**	**01 03 21.1**	**+1.0**
KAPI	**Kappang**	**11.41 209**		P	**Pn**	**01 03 21.2**	**+1.2**
	155nm,0.8s,baz=25,slow=9.9,SNR=52						
KAPI	**Kappang**	**11.41 209**		P	**Pn**	**01 03 21.8**	**+1.7**
KAPI	**Kappang**	**11.41 209**	*c*	*i*P	**Pn**	**01 03 21.1**	**+1.0**
KAPI				pmax	pmax		
	comp=Z,164nm,0.8s						
KMPI	**Kaimana, Papua**	**12.03 136**		P	**Pn**	**01 03 27.3**	**-0.7**
	comp=Z,2μmcomp=Z,261nm,1.0s						
BSSI	**Bau Bau, Buton**	**12.09 204**		P	**Pn**	**01 03 28.3**	**-0.4**
	comp=Z,89nm,0.5s						
BAKI	**Biak**	**12.43 120**		P	**Pn**	**01 03 34.3**	**+1.3**
	comp=Z,3μmcomp=Z,309nm,1.1s						
SBUM	**Sibu**	**13.31 259**			**P**	**01 03 46.7**	**-0.3**
SBUM	**Sibu**	**13.31 259**		P	**P**	**01 03 46.9**	**-0.1**
SZP	**Santa**	**13.33 339**		P	**P**	**01 03 45.8**	**-1.3**
MMRI	**Maumere**	**13.91 193**			**Pn**	**01 03 51.7**	**+0.1**
MMRI	**Maumere**	**13.91 193**		P	**Pn**	**01 03 51.9**	**+0.3**
MMRI	**Maumere**	**13.91 193**		S	**Sn**	**01 06 28.9**	**+1.8**
MMRI	**Maumere**	**13.91 193**		P	**Pn**	**01 03 51.4**	**-0.2**
	comp=Z,400nm,0.7s						
STKI	**Sintang**	**14.67 251**		P	**P**	**01 04 03.8**	**+1.8**
	comp=Z,14μmcomp=Z,498nm,1.2s						
SOEI	**Soe**	**14.72 184**		P	**P**	**01 04 03.4**	**+0.7**
SOEI	**Soe**	**14.72 184**		P	**P**	**01 04 03.5**	**+0.7**
SOEI	**Soe**	**14.72 184**		P	**P**	**01 04 02.8**	**+0.1**
	comp=Z,4μmcomp=Z,327nm,1.0s						
SMPI	**Sarmi**	**15.09 117**		P	**P**	**01 04 07.0**	**+0.3**
KSM	**Kuching**	**15.39 257**			**P**	**01 04 12.4**	**+2.4**
KSM	**Kuching**	**15.39 257**		P	**P**	**01 04 13.1**	**+3.1**
WSI	**Waingapu**	**15.43 199**		P	**P**	**01 04 10.8**	**+0.4**
	comp=Z,175nm,0.5s						
PLAI	**Plampang**	**15.68 209**		P	**Pn**	**01 04 14.9**	**+1.7**
PLAI	**Plampang**	**15.68 209**		P	**Pn**	**01 04 15.1**	**+1.9**
	comp=Z,2μmcomp=Z,289nm,0.8s						
WBSI	**Waikabubak, Su**	**15.72 202**		P	**Pn**	**01 04 14.5**	**+0.8**
	comp=Z,2μmcomp=Z,166nm,0.8s						
BASI	**Baing, Sumba**	**15.86 197**		P	**P**	**01 04 15.2**	**0.0**
TWSI	**Taliwang, Sumb**	**16.05 212**		P	**Pn**	**01 04 18.8**	**+1.1**
	comp=Z,148nm,0.7s						
SRBI	**Singaraja**	**16.46 218**		P	**Pn**	**01 04 22.4**	**-0.3**
	comp=Z,2μmcomp=Z,177nm,0.8s						
KMMI	**Kalianget**	**16.49 223**		P	**Pn**	**01 04 24.4**	**+1.4**
	comp=Z,2μmcomp=Z,208nm,0.7s						
GENI	**Genyem**	**16.66 117**		P	**Pn**	**01 04 25.1**	**+0.1**
GENI	**Genyem**	**16.66 117**		P	**Pn**	**01 04 26.5**	**+1.5**
	comp=Z,10μmcomp=Z,1μm,0.9s						
JAY	**Jayapura**	**17.11 116**		P	**Pn**	**01 04 30.5**	**+0.1**
	comp=Z,395nm,0.8s,baz=282,slow=5.7,SNR=23						
JAY				S	**S**	**01 07 38.4**	**+1.2**
	comp=Z,92nm,1.3s,baz=138,slow=23,SNR=11						
JAY	**Jayapura**	**17.11 116**		P	**Pn**	**01 04 30.1**	**-0.3**
	comp=Z,3μmcomp=Z,410nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.42 220**		P	**P**	**01 04 32.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**17.42 220**		P	**Pn**	**01 04 33.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**17.42 220**		P	**P**	**01 04 32.6**	**+0.2**
	comp=Z,2μmcomp=Z,271nm,0.7s						
GRJI	**Gresik**	**17.45 227**		P	**Pn**	**01 04 35.8**	**+1.4**
	comp=Z,4μmcomp=Z,476nm,1.0s						
GMJI	**Gumukmas**	**17.74 222**		P	**Pn**	**01 04 38.7**	**+1.0**
TBJI	**Tambak Boyo**	**17.86 229**		P	**Pn**	**01 04 41.1**	**+1.9**
	comp=Z,4μmcomp=Z,473nm,1.0s						
DLV	**Lat**	**18.00 294**			**Pn**	**01 04 41.2**	**+0.2**
DLV	**Lat**	**18.00 294**		P	**Pn**	**01 04 41.5**	**+0.5**
TWGBT	**Beinan**	**18.16 347**		P	**P**	**01 04 38.3**	**-2.0**
TWG	**Pinlang**	**18.16 347**		P	**P**	**01 04 38.1**	**-2.2**
DRS	**Darwin Rock St**	**18.21 162**		P	**Pn**	**01 04 42.4**	**-0.8**
NGJI	**Ngawi**	**18.51 228**		P	**Pn**	**01 04 46.3**	**-0.5**
	comp=Z,3μmcomp=Z,406nm,1.0s						
YULB	**Yu-li**	**18.67 348**		P	**P**	**01 04 43.0**	**-2.9**
YULB	**Yu-li**	**18.67 348**		P	**P**	**01 04 43.3**	**-2.6**
MTN	**Manton Dam**	**18.67 162**		P	**P**	**01 04 46.5**	**+0.5**
MTN	**Manton Dam**	**18.67 162**		P	**P**	**01 04 46.7**	**+0.8**
	comp=Z,178nm,0.5s						
MTN	**Manton Dam**	**18.67 162**		P	**P**	**01 04 46.3**	**+0.4**
TPUB	**Ta-pu**	**18.72 346**		P	**P**	**01 04 44.6**	**-1.9**
TPUB	**Ta-pu**	**18.72 346**		P	**P**	**01 04 44.5**	**-1.9**
TABU	**Tabubil**	**18.89 123**		P	**P**	**01 04 49.5**	**+1.0**
KDU	**Kakadu**	**18.98 158**		P	**P**	**01 04 49.4**	**+0.2**
	comp=Z,520nm,0.8s						
KDU	**Kakadu**	**18.98 158**		P	**P**	**01 04 49.6**	**+0.3**
SMRI	**Semarang**	**19.08 231**		P	**Pn**	**01 04 53.6**	**0.0**
SMRI	**Semarang**	**19.08 231**		P	**Pn**	**01 04 53.6**	**0.0**
SMRI	**Semarang**	**19.08 231**		P	**Pn**	**01 04 53.3**	**-0.3**
	comp=Z,5μmcomp=Z,213nm,0.7s						
SSLB	**Suanglung**	**19.12 348**		P	**P**	**01 04 49.7**	**-1.1**
SSLB	**Suanglung**	**19.12 348**		P	**P**	**01 04 49.5**	**-1.3**
TPI	**Tanjungpandan**	**19.26 247**		P	**Pn**	**01 04 54.5**	**-1.2**
	comp=Z,2μmcomp=Z,5μmcomp=Z,625nm,0.9s						
PCJI	**Pacitan**	**19.27 227**		P	**P**	**01 04 54.0**	**+1.6**
	comp=Z,2μmcomp=Z,149nm,1.1s						
UGM	**Wanagama**	**19.57 229**		P	**Pn**	**01 04 57.7**	**-1.7**
UGM	**Wanagama**	**19.57 229**		P	**Pn**	**01 04 57.7**	**-1.7**
	comp=Z,2μmcomp=Z,222nm,0.9s						
YOGI	**Yogyakarta**	**19.68 230**		P	**Pn**	**01 04 59.0**	**-1.7**
	comp=Z,2μmcomp=Z,306nm,0.8s						
PPBI	**Pangkal Pinang**	**20.44 250**		P	**P**	**01 05 06.9**	**+1.9**
QIZ	**Qiongzhong**	**20.53 314**		P	**P**	**01 05 06.5**	**+0.6**
QIZ				sP	**sP**	**01 05 59.0**	**-3.3**
QIZ				S	**S**	**01 08 45.9**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,36nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,480nm,3.5s						
QIZ				LR	LR		
	comp=Z,960nm,13.6s						
QIZ				LR	LR		
	comp=Z,540nm,13.3s						
QIZ				LR	LR		
	comp=Z,280nm,13.9s						
QIZ	**Qiongzhong**	**20.53 314**		P	**P**	**01 05 05.9**	**0.0**
KNRA	**Kununurra**	**20.85 171**		P	**P**	**01 05 08.9**	**-0.3**
KNRA	**Kununurra**	**20.85 171**		P	**P**	**01 05 09.0**	**-0.3**
	comp=Z,451nm,0.7s						
GUMO	**Guam**	**21.08 65**		P	**P**	**01 05 12.1**	**+0.4**
	comp=Z,96nm,0.3s,baz=236,slow=3.2,SNR=5.1						
	comp=Z,96nm,0.3s						
CMJI	**Cimerak**	**21.09 233**		P	**P**	**01 05 12.3**	**+0.4**
	comp=Z,4μmcomp=Z,219nm,1.0s						
TPRI	**Tanjung Pinang**	**21.15 260**		P	**P**	**01 05 15.5**	**+3.0**
	comp=Z,8μmcomp=Z,724nm,1.1s						
LEM	**Lembang**	**21.23 236**		P	**P**	**01 05 16.1**	**+2.6**
	comp=Z,363nm,0.9s,baz=51,slow=8.5,SNR=50						
LEM	**Lembang**	**21.23 236**		P	**P**	**01 05 15.9**	**+2.5**
	comp=Z,5μmcomp=Z,445nm,1.1s						
BBJI	**Bungbulang**	**21.55 235**		P	**P**	**01 05 16.1**	**-0.6**
MYKOM	**Kota Tinggi**	**21.66 262**		P	**P**	**01 05 19.3**	**+1.5**
JOW	**Kunigami**	**21.87 7**		P	**P**	**01 05 18.9**	**-0.8**
JOW	**Kunigami**	**21.87 7**		P	**P**	**01 05 19.6**	**-0.2**
	comp=Z,49nm,0.9s,baz=142,slow=19,SNR=7.0						
JOW				LR	LR	01 14 00.8	
	comp=Z,134nm,21.2s,baz=67,slow=36						
	comp=Z,49nm,0.9s						
JOW	**Kunigami**	**21.87 7**		P	**P**	**01 05 20.2**	**+0.5**
CNJI	**Cibinong**	**21.89 236**		P	**P**	**01 05 20.0**	**-0.1**
	comp=Z,2μmcomp=Z,115nm,0.9s						
PMBI	**Palembang**	**21.99 249**		P	**P**	**01 05 23.3**	**+2.3**
PMBI	**Palembang**	**21.99 249**		P	**P**	**01 05 23.7**	**+2.7**
PMBI	**Palembang**	**21.99 249**		P	**P**	**01 05 24.0**	**+3.0**
UBPT	**Khong Chiam**	**22.01 299**		P	**P**	**01 05 21.9**	**+0.7**
UBPT	**Khong Chiam**	**22.01 299**		P	**P**	**01 05 21.3**	**+0.1**
SBJI	**Serang**	**22.12 240**		P	**P**	**01 05 25.0**	**+2.7**
	comp=Z,9μmcomp=Z,770nm,1.4s						
SKJI	**Sukabumi**	**22.21 238**		P	**P**	**01 05 25.0**	**+1.9**
	comp=Z,7μmcomp=Z,392nm,1.0s						
CGJI	**Cibinong**	**22.74 240**		P	**P**	**01 05 27.7**	**-0.3**
	comp=Z,2μmcomp=Z,240nm,1.0s						
MDSI	**Maura Dua**	**23.13 246**		P	**P**	**01 05 32.7**	**+1.3**
	comp=Z,3μmcomp=Z,361nm,0.9s						
MNAI	**Manna**	**24.20 248**		P	**P**	**01 05 43.7**	**+2.5**
MNAI	**Manna**	**24.20 248**		P	**P**	**01 05 43.7**	**+2.5**
IPM	**Ipoh**	**24.21 270**		P	**P**	**01 05 42.2**	**+0.9**
IPM	**Ipoh**	**24.21 270**		P	**P**	**01 05 42.4**	**+1.0**
KSI	**Kapahiang**	**24.28 250**		P	**P**	**01 05 45.4**	**+3.4**
KULM	**Kulim**	**24.56 272**		P	**P**	**01 05 45.5**	**+0.9**
KULM	**Kulim**	**24.56 272**		P	**P**	**01 05 45.7**	**+1.2**
BKNI	**Bangkinang**	**24.68 260**		P	**P**	**01 05 47.6**	**+2.0**
BKNI	**Bangkinang**	**24.68 260**		P	**P**	**01 05 47.7**	**+2.1**
NONG	**Nongkai**	**25.25 303**		P	**P**	**01 05 51.5**	**+0.8**
NAYO	**Nakonayok**	**25.36 293**		P	**P**	**01 05 53.0**	**+1.3**
PPI	**Padang Panjang**	**25.47 258**		P	**P**	**01 05 54.1**	**+1.3**
	comp=Z,4μmcomp=Z,417nm,0.8s						
SRIT	**Nakonsritamara**	**25.77 279**		P	**P**	**01 05 57.0**	**+1.6**
CNSH	**ChangSha**	**25.86 334**		P	P	01 05 46.7	-9.4
CNSH				S	S	01 09 56.2	-15
CNSH				pmax	pmax		
	comp=Z,16nm,1.9s						
CNSH				LR	LR		
	comp=N,400nm,8.0s						
CNSH				LR	LR		
	comp=E,480nm,9.2s						
CNSH				LR	LR		
	comp=Z,330nm,19.6s						
COEN	**Coen**	**25.88 137**		P	**P**	**01 05 56.8**	**+0.4**
COEN				IAmb	IAmb	01 06 10.6	
	comp=Z,20nm,0.8s						
COEN	**Coen**	**25.88 137**		P	**P**	**01 05 57.3**	**+0.9**
WB0	**Warramunga Arr**	**26.21 160**		IAmb	IAmb	01 06 39.3	
	comp=Z,41nm,0.7s						
SLVN	**Son La**	**26.34 310**		P	**P**	**01 06 01.8**	**+1.2**
WRAB	**Tennant Creek**	**26.35 161**		P	**P**	**01 06 00.1**	**-0.4**

comp=Z,5.6nm,0.6s,baz=342,slow=13,SNR=4.9
ASAR ScP **ScP** **01 12 53.3 +0.3**
comp=Z,16nm,0.8s,baz=347,slow=2.7,SNR=8.9
comp=Z,16nm,0.6s
BSI Banda Aceh 29.89 272 P **P** **01 06 31.8 -0.3**
comp=Z,2μmcomp=Z,138nm,1.2s
WRKA Warakurna 30.02 175 P **P** **01 06 33.2 +0.1**
PZH PanZhiHua 31.04 316 P **P** **01 06 42.2 +0.1**
PZH sP **sP** **01 07 43.8 -1.5**
PZH S **S** **01 11 31.9 -0.8**
PZH sS **sS** **01 12 44.1 +1.5**
PZH ScP **ScP** **01 12 56.7 -0.7**
PZH SS **SnSn** **01 13 42.5 +3.0**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,130nm,3.6s
PZH LR LR
comp=Z,380nm,16.9s
PZH LR LR
comp=Z,290nm,19.2s
PZH LR LR
comp=Z,250nm,16.7s
CMBY CAMPBELL BAY 31.27 275 *e*P **P** **01 06 43.6 -0.6**
CMBY IAmb IAmb 01 06 46.4
comp=Z,31nm,0.7s
LYN LuoYang 31.70 340 P **P** **01 06 47.9 +0.2**
LYN S **S** **01 11 39.5 -3.1**
LYN sS ScP 01 12 58.6 -0.7
LYN pmax pmax
comp=Z,21nm,0.6s
LYN pmax pmax
comp=Z,150nm,5.0s
INU Inuyama 32.05 18 IAmb IAmb 01 06 52.4
comp=Z,56nm,1.0s
INU Inuyama 32.05 18 P **P** **01 06 50.6 -0.2**
INU Inuyama 32.05 18 P **P** **01 06 50.8 0.0**
MEEK Meekatharra 32.14 191 P **P** **01 06 51.0 -0.6**
comp=Z,157nm,0.8s
MEEK Meekatharra 32.14 191 P **P** **01 06 50.8 -0.8**
KSAR Wonju Array Be 32.35 4 P **P** **01 06 53.8 +0.5**
KSAR Wonju Array Be 32.35 4 P **P** **01 06 53.8 +0.5**
KSRS Korea Array 32.37 4 P **P** **01 06 54.0 +0.6**
comp=Z,10nm,0.9s,baz=183,slow=10,SNR=29
KSRS PcP **PcP** **01 09 37.2 +0.9**
comp=Z,3.1nm,0.7s,baz=185,slow=2.4,SNR=11
KSRS ScP **ScP** **01 13 01.8 +0.3**
comp=Z,3.0nm,0.8s,baz=182,slow=2.8,SNR=11
comp=Z,10nm,0.9s
JGF Kuroka 32.39 19 IAmb IAmb 01 06 55.6
comp=Z,35nm,1.2s
TNCH TengChong 32.51 310 P **P** **01 06 55.5 +0.4**
TNCH S **S** **01 11 57.6 +1.9**
TNCH sS ScP 01 13 03.7 +1.2
TNCH pmax pmax
comp=Z,140nm,5.0s
XAN Xi'an 32.64 334 ⇑P **P** **01 06 55.8 -0.1**
XAN S **S** **01 11 52.0 -5.2**
XAN pmax pmax
comp=Z,70nm,1.1s
XAN pmax pmax
comp=Z,120nm,6.5s
XAN LR LR
comp=Z,540nm,15.1s
XAN LR LR
comp=Z,590nm,13.2s
XAN LR LR
comp=Z,520nm,14.4s
XAN Xi'an 32.64 334 P **P** **01 06 55.5 -0.4**
XAN ScP **ScP** **01 13 01.6 -1.0**
CD2 Chengdu 32.77 324 P **P** **01 06 57.3 +0.1**
CD2 sP sP 01 07 56.6 -4.2
CD2 S **S** **01 12 02.4 +3.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,240nm,4.2s
CD2 LR LR
comp=Z,580nm,15.2s
CD2 LR LR
comp=Z,460nm,17.2s
DGPR DIGLIPUR 32.95 286 *e*P **P** **01 06 57.6 -1.2**
DGPR IAmb IAmb 01 07 05.9
comp=Z,33nm,0.9s
MJAR Matsushiro Arr 33.53 19 P **P** **01 07 02.8 -0.8**
comp=Z,16nm,0.9s,baz=196,slow=8.9,SNR=18
MJAR S **S** **01 12 12.1 +1.2**
comp=Z,5.7nm,1.1s,baz=178,slow=9.5,SNR=4.6
MJAR ScP **ScP** **01 13 05.9 +0.3**
comp=Z,9.0nm,1.0s,baz=209,slow=3.8,SNR=11
comp=Z,16nm,0.9s
MAJO Matsushiro 33.53 19 P **P** **01 07 02.5 -1.0**
MAJO IAmb IAmb 01 07 03.7
comp=Z,25nm,1.0s
MAJO Matsushiro 33.53 19 P **P** **01 07 02.0 -1.6**
MAJO Matsushiro 33.53 19 *c i*P **P** **01 07 02.2 -1.4**
MAJO pmax pmax
comp=Z,30nm,1.1s
MAJO Matsushiro 33.53 19 P **P** **01 07 02.0 -1.6**
MJB9 Matsu-Tunnel 33.53 19 IAmb IAmb 01 07 05.0
comp=Z,25nm,1.0s
HNS HongShan 33.65 345 ⇑P **P** **01 07 04.3 -0.3**
HNS S **S** **01 12 09.2 -3.4**
HNS pmax pmax
comp=Z,7.0nm,1.0s
HNS LR LR
comp=Z,270nm,13.6s
HNS LR LR
comp=Z,190nm,12.4s
HNS LR LR
comp=Z,350nm,12.8s
DL2 Dalian 33.89 355 *e*P **P** **01 07 06.4 -0.2**
DL2 PcP **PcP** **01 09 41.1 +0.5**
DL2 S **S** **01 12 16.3 0.0**
DL2 ScP **ScP** **01 13 06.2 -0.6**
DL2 ScS **ScS** **01 17 08.6 -0.3**
DL2 pmax pmax
comp=Z,28nm,0.7s
OOD Oodnadatta 34.13 163 P **P** **01 07 09.0 +0.2**
JSD Sado 34.91 18 P **P** **01 07 14.6 -0.8**
MORW Morawa 35.05 194 P **P** **01 07 16.5 -0.2**
comp=Z,141nm,0.9s
MORW Morawa 35.05 194 P **P** **01 07 16.4 -0.3**
JMM Marumori 35.61 21 P **P** **01 07 21.7 +0.3**
FORT Forrest 35.70 176 P **P** **01 07 22.4 +0.2**
comp=Z,132nm,0.8s
FORT Forrest 35.70 176 P **P** **01 07 22.3 +0.2**
INKA Innaminka 35.82 156 P **P** **01 07 24.0 +0.7**
BJI Beijing 35.82 348 P **P** **01 07 24.0 +0.9**
BJI PcP **PcP** **01 09 47.5 +1.3**
BJI S **S** **01 12 50.7 +4.9**
BJI ScP **ScP** **01 13 13.8 +0.1**
BJI ScS **ScS** **01 17 18.9 -0.4**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,70nm,17.1s
BJI LR LR
comp=Z,110nm,15.3s
BJI LR LR
comp=Z,110nm,20.2s
IMP Imphal 35.98 306 *e*P **P** **01 07 23.9 -0.9**
KMBL Kambalda 36.34 185 P **P** **01 07 27.6 0.0**
comp=Z,229nm,1.1s
KMBL Kambalda 36.34 185 P **P** **01 07 27.3 -0.3**
QLP Quilpie 36.37 151 P **P** **01 07 27.6 -0.4**
comp=Z,48nm,0.8s
QLP Quilpie 36.37 151 P **P** **01 07 28.1 +0.1**
BLDU Ballidu 36.38 193 P **P** **01 07 27.6 -0.4**
comp=Z,179nm,0.7s
BLDU Ballidu 36.38 193 P **P** **01 07 27.8 -0.2**
AZL Aizawl 36.51 304 *e*P **P** **01 07 29.3 -0.1**
AZL IAmb IAmb 01 07 35.5
comp=Z,33nm,0.8s
LZH Lanzhou 36.68 330 *e*P **P** **01 07 31.5 +0.8**
LZH pP pP 01 08 11.7 -0.5
LZH sP sP 01 08 29.1 -6.0
LZH S **S** **01 12 55.4 -4.0**
LZH SS **SS** **01 15 43.1 -5.7**
LZH pmax pmax
comp=Z,69nm,1.1s
LZH LR LR
comp=Z,870nm,14.4s
LZH LR LR
comp=Z,620nm,15.5s
LZH LR LR
comp=Z,290nm,17.2s
TATA Tatamba Isabel 36.89 111 P **P** **01 07 33.1 +0.6**
KLBR Kellerberrin 37.12 191 P **P** **01 07 34.1 -0.1**
comp=Z,370nm,0.8s
KLBR Kellerberrin 37.12 191 P **P** **01 07 34.1 -0.1**
SAVO Savo Central 37.16 112 P **P** **01 07 35.2 +0.3**
LCRK Leigh Creek 37.37 161 P **P** **01 07 37.0 +0.6**
HHC Hu-ho-hao-te 37.74 343 *e*P **P** **01 07 41.2 +1.7**
HHC S **S** **01 13 11.6 -3.6**
HHC SS **SS** **01 16 07.5 -2.3**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,49nm,4.4s
MUN Mundaring 37.80 193 P **P** **01 07 39.9 0.0**
comp=Z,202nm,1.1s
MUN Mundaring 37.80 193 P **P** **01 07 39.8 -0.2**
ALEG Aligegeo Malai 37.84 111 P **P** **01 07 40.0 -0.6**
SHL Shillong 37.98 306 P **P** **01 07 41.3 -0.5**
SNR=29
SHL Shillong 37.98 306 *e*P **P** **01 07 41.8 0.0**
SHL IAmb IAmb 01 07 44.9
comp=Z,47nm,0.7s
BTO Baotou 38.00 341 *e*P **P** **01 07 44.8 +3.2**
BTO S **S** **01 13 25.2 +6.2**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,180nm,4.2s
BTO LR LR
comp=Z,350nm,9.7s
BTO LR LR
comp=Z,260nm,5.9s
BTO LR LR
comp=Z,290nm,14.3s
NWAO Narrogin (SRO) 38.51 191 P **P** **01 07 46.2 +0.3**
NWAO Narrogin (SRO) 38.51 191 P **P** **01 07 46.2 +0.3**
NWAO Narrogin (SRO) 38.51 191 P **P** **01 07 46.4 +0.5**
NWAO Narrogin (SRO) 38.51 191 P **P** **01 07 46.1 +0.3**
NWAO Narrogin (SRO) 38.51 191 P **P** **01 07 46.2 +0.3**
NWAO pmax pmax
comp=Z,197nm,1.1s
NWAO Narrogin (SRO) 38.51 191 P **P** **01 07 46.1 +0.3**
CN2 Changchun 38.62 0 *e*P **P** **01 07 50.2 +3.6**
CN2 *e*S **S** **01 13 28.7 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,5.5s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,100nm,11.0s
TAWA Tawang 38.94 309 *e*P **P** **01 07 50.7 +0.7**
TAWA IAmb IAmb 01 08 01.5
comp=Z,35nm,1.1s
BBOO Buckleboo 38.99 166 P **P** **01 07 50.1 +0.2**
comp=Z,117nm,0.5s
BBOO Buckleboo 38.99 166 P **P** **01 07 50.0 +0.2**
USRK Ussuriysk Ar. 39.46 8 P **P** **01 07 54.3 +0.8**
comp=Z,14nm,0.7s,baz=198,slow=8.5,SNR=24
USRK ScP **ScP** **01 13 27.7 +0.3**
comp=Z,4.8nm,0.9s,baz=172,slow=5.2,SNR=7.3
comp=Z,14nm,0.7s
XLT XiLinHaoTe 39.56 350 *e*P **P** **01 07 52.9 -1.7**
XLT pP pP 01 08 38.5 +2.0
XLT sP sP 01 08 58.4 -0.6
XLT PP **PP** **01 09 30.0 +0.2**
XLT PcP **PcP** **01 09 57.9 0.0**
XLT S **S** **01 13 36.1 -6.2**
XLT sS sS 01 14 58.6 +4.6
XLT ScS **ScS** **01 17 39.5 -1.4**
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,130nm,5.0s
MDJ Mudanjiang 39.61 5 IAmb IAmb 01 07 57.2
comp=Z,42nm,1.0s
MDJ Mudanjiang 39.61 5 P **P** **01 07 55.6 +0.7**
MDJ S **S** **01 13 43.8 +1.0**
MDJ ScS **ScS** **01 17 41.3 +0.4**
MDJ pmax pmax
comp=Z,49nm,1.0s
MDJ Mudanjiang 39.61 5 P **P** **01 07 55.4 +0.6**
MDJ Mudanjiang 39.61 5 P **P** **01 07 55.5 +0.7**
STKA Stephens Creek 39.84 158 P **P** **01 07 58.1 +1.2**
comp=Z,94nm,1.0s,baz=339,slow=8.3,SNR=13
STKA ScP **ScP** **01 13 29.2 0.0**
comp=Z,2.7nm,0.7s,baz=346,slow=6.6,SNR=3.0
comp=Z,94nm,1.0s
ERM Erimo 40.12 21 *c e*P **P** **01 07 57.9 -1.1**
ERM pmax pmax
comp=Z,34nm,1.1s
AUALB St Joseph's Co 40.42 189 P **P** **01 08 02.6 +1.1**
LSA Lhasa 40.53 311 IAmb IAmb 01 08 09.2
comp=Z,18nm,0.6s
LSA Lhasa 40.53 311 P **P** **01 08 04.3 +1.1**
BNX BinXian 40.60 2 ⇑P **P** **01 08 02.9 0.0**
BNX S **S** **01 13 53.6 -3.8**
BNX pmax pmax
comp=Z,11nm,1.1s
TEY Ternei 41.06 12 ⇑*e*P **P** **01 08 07.4 +0.7**
TEY *e* 01 14 00.4
TEY pmax pmax
comp=Z,40nm,1.0s
TEY pmax pmax
comp=N,20nm,1.0s
GTA Gaotai 41.27 330 *e*P **P** **01 08 09.8 +1.1**
GTA PcP **PcP** **01 10 03.2 -0.4**
GTA ScP **ScP** **01 13 34.4 -0.5**
GTA S **S** **01 14 09.6 +1.7**
GTA sS sS 01 15 21.7 +1.8
GTA SS **SS** **01 17 21.2 +1.5**
GTA ScS **ScS** **01 17 48.6 -2.8**
GTA pmax pmax
comp=N,17nm,0.8s
GTA LR LR
comp=N,340nm,17.5s
GTA LR LR
comp=N,340nm,17.5s
GTA LR LR
comp=N,220nm,16.4s
ASAJ Asahikawa 41.80 19 P **P** **01 08 14.1 +1.4**
comp=N,26nm,0.8s,baz=232,slow=13,SNR=14
comp=N,26nm,0.8s
ASAJ Asahikawa 41.80 19 P **P** **01 08 13.7 +1.0**
ASAJ pmax pmax
comp=Z,48nm,1.0s
GOMU GeErMu 41.80 322 P **P** **01 08 14.4 +1.1**
GOMU S **S** **01 14 18.2 +2.0**
GOMU pmax pmax
comp=Z,19nm,1.1s
GOMU LR LR
comp=Z,170nm,14.5s
GOMU LR LR
comp=Z,300nm,14.6s
GOMU LR LR
comp=Z,240nm,15.1s
JKA Kamikawa-asahi 41.80 19 P **P** **01 08 13.7 +0.9**
JKA IAmb IAmb 01 08 14.9
comp=Z,48nm,1.0s
BOK Bokaro 42.29 300 *e*P **P** **01 08 18.3 +1.3**
BOK IAmb IAmb 01 08 21.3
comp=Z,34nm,0.9s
VIS Vishakhapatnam 42.93 291 *e*P **P** **01 08 23.4 +1.1**
RAGD RAYAGADA 43.15 293 *e*P **P** **01 08 25.2 +1.2**
RAGD IAmb IAmb 01 08 26.5
comp=Z,40nm,1.0s
LUES Luesalemba Tem 43.32 111 P **P** **01 08 25.9 +0.5**
JHSG JHARSUGUGA 43.51 296 *e*P **P** **01 08 27.5 +0.7**
HIA Hailar 44.34 355 P **P** **01 08 33.6 +0.6**
KLR Kul'dur 44.39 6 P **P** **01 08 33.6 +0.3**
comp=Z,11nm,0.8s,baz=226,slow=4.3,SNR=41
KLR ScP **ScP** **01 13 47.0 0.0**
comp=Z,3.2nm,0.7s,baz=206,slow=3.4,SNR=6.9
comp=Z,11nm,0.8s
KLR Kul'dur 44.39 6 *c i*P **P** **01 08 33.3 -0.1**
KLR pmax pmax
comp=Z,18nm,0.9s
PALK Pallekele 44.40 275 P **P** **01 08 33.9 -0.1**
PALK IAmb IAmb 01 08 37.2
comp=Z,59nm,1.3s
PALK Pallekele 44.40 275 *d i*P **P** **01 08 34.4 +0.3**
PALK pmax pmax
comp=Z,72nm,1.4s
PALK Pallekele 44.40 275 P **P** **01 08 34.5 +0.5**
PALK PcP **PcP** **01 10 14.8 +0.3**
YSS Yuzhno-Sakhali 44.40 17 P **P** **01 08 33.6 +0.1**
YSS Yuzhno-Sakhali 44.40 17 *e*P **P** **01 08 34.0 +0.5**
YSS *e*S **S** **01 14 54.9 +1.9**
YSS *e*SS **ScS** **01 18 09.0 -1.3**
YSS pmax pmax
comp=Z,20nm,1.2s
HEH HeiHe 45.11 2 *e*P **P** **01 08 39.0 0.0**
HEH PcP **PcP** **01 10 16.3 +0.2**
HEH ScP **ScP** **01 13 49.4 -0.6**
HEH S **S** **01 15 00.1 -2.9**
HEH ScS **ScS** **01 18 12.2 -2.5**
HEH pmax pmax
comp=Z,31nm,0.8s
ULN Ulaanbaatar 45.47 343 P **P** **01 08 41.9 -0.2**
ULN Ulaanbaatar 45.47 343 P **P** **01 08 40.8 -1.2**
ULN Ulaanbaatar 45.47 343 *d i*P **P** **01 08 41.7 -0.4**
ULN pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 45.63 342 P **P** **01 08 43.0 -0.4**
SONM Songino Array 45.63 342 P **P** **01 08 43.5 +0.1**
comp=Z,3.5nm,0.7s,baz=157,slow=8.9,SNR=13
SONM PcP **PcP** **01 10 18.2 0.0**
comp=Z,4.6nm,0.8s,baz=167,slow=3.8,SNR=7.6
SONM ScP **ScP** **01 13 51.5 -0.9**
comp=Z,6.3nm,0.8s,baz=161,slow=4.9,SNR=16
comp=Z,3.5nm,0.7s
CAN Canberra 45.90 153 P **P** **01 08 47.7 +2.2**
CAN ScP **ScP** **01 13 55.2 +1.6**
KOUNC Koumac, New Ca 45.94 125 P **P** **01 08 47.7 +1.7**
SANVU Saraoutou 46.20 117 P **P** **01 08 49.4 +1.3**
SANVU PcP **PcP** **01 10 22.2 +1.6**
GRNR Gornyy 46.53 10 ⇑*i*P **P** **01 08 51.2 +1.0**
GRNR pmax pmax
comp=Z,20nm,0.9s
SALM Salem 47.03 281 *e*P **P** **01 08 56.6 +2.1**
SALM IAmb IAmb 01 08 58.3
comp=Z,40nm,0.9s
HYB Hyderabad 47.35 289 *e*P **P** **01 08 57.2 +0.1**
HYB IVmB_BB 01 08 57.9
comp=Z,443nm,1.9s
HYB *e*PP **PP** **01 10 52.7 +2.5**
HYB *e*S **S** **01 15 37.8 +1.6**
HYB *e*sS **sS** **01 16 45.7 -4.0**
KOD Kodaikanal 47.67 279 *e*P **P** **01 08 59.7 -0.2**
KOD IAmb IAmb 01 09 02.8
comp=Z,38nm,0.8s
TYV Tymovskoe 47.94 15 *e*P **P** **01 09 02.0 +1.0**
TYV pmax pmax
comp=Z,8.0nm,1.3s
TYV pmax pmax
comp=Z,200nm,5.0s
TRD Trivandrum 48.12 277 *e*P **P** **01 09 04.5 +1.5**
ZEA Zeya 48.59 2 *e*P **P** **01 09 06.1 +0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
YATNC Mamie plateau, 48.79 125 P **P** **01 09 08.6 +0.6**
LGTI Lohaghat 48.98 305 *e*P **P** **01 09 09.5 +0.1**
AKL Akola 49.38 293 *e*P **P** **01 09 12.7 +0.2**
AKL IAmb IAmb 01 09 15.9
comp=Z,42nm,0.9s
BHPL Bhopal 49.56 296 *e*P **P** **01 09 13.5 -0.4**
BHPL IAmb IAmb 01 09 15.9
comp=Z,40nm,0.8s
NRDN NARMADA NAGAR 49.67 296 *e*P **P** **01 09 18.7 +4.0**
NRDN IAmb IAmb 01 09 20.9
comp=Z,37nm,1.2s
JOSI Joshimath 49.94 306 *e*P **P** **01 09 16.4 -0.5**
JOSI IAmb IAmb 01 09 18.6
comp=Z,40nm,0.6s
GUNA GUNA 49.99 298 *e*P **P** **01 09 16.7 -0.5**
GUNA IAmb IAmb 01 09 19.1
comp=Z,43nm,0.6s
MOY Mondy 50.70 341 *e*P **P** **01 09 22.1 +0.1**
MOY pmax pmax
comp=Z,18nm,2.1s
WMQ Urumqi 50.86 325 *e*P **P** **01 09 24.5 +1.1**
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,640nm,14.1s
WMQ LR LR
comp=Z,170nm,15.7s
WMQ Urumqi 50.86 325 P **P** **01 09 24.2 +0.9**
NDI New Delhi 51.23 303 *e*P **P** **01 09 26.0 -0.3**
GOA Goa 51.60 286 *e*P **P** **01 09 29.6 +0.5**
KUDL Kundal 51.68 302 *e*P **P** **01 09 28.2 -1.4**
KUDL IAmb IAmb 01 09 31.0
comp=Z,35nm,0.9s
POO Poona 51.95 290 *e*P **P** **01 09 32.8 +1.0**
SMLA Simla 52.06 306 *e*P **P** **01 09 32.1 -0.2**
SMLA IAmb IAmb 01 09 36.7
comp=Z,40nm,0.7s
DHRM DHARAMSHALA 53.14 307 *e*P **P** **01 09 39.7 -0.9**
DHRM IAmb IAmb 01 09 50.6
comp=Z,25nm,0.9s
ZSN Zaisan 54.66 327 *e*P **P** **01 09 49.8 -1.2**
ZSN pmax pmax
comp=Z,16nm,1.1s
ZSN Zaisan 54.66 327 *e*P **P** **01 09 49.8 -1.2**
comp=Z,16nm,1.1s
WUS Wushi 54.66 318 IAmb IAmb 01 09 52.8
comp=Z,32nm,1.2s
PETK Petropavlovsk- 54.79 23 P **P** **01 09 52.9 +1.1**
PETK Petropavlovsk- 54.79 23 P **P** **01 09 52.6 +0.8**
comp=Z,13nm,0.8s,baz=208,slow=7.7,SNR=13
comp=Z,13nm,0.8s
SHLS Shalkode 55.45 320 *e*P **P** **01 09 53.5 -3.4**
SHLS pmax pmax
comp=Z,13nm,0.8s
SHLS Shalkode 55.45 320 *e*P **P** **01 09 53.5 -3.4**
comp=Z,13nm,0.8s
MK31 Makanchi Array 55.69 325 IAmb IAmb 01 09 59.3
comp=Z,34nm,1.1s
MK31 Makanchi Array 55.69 325 *c e*P **P** **01 09 57.7 -0.8**
MKAR Makanchi Array 55.69 325 P **P** **01 09 57.6 -0.8**
MKAR Makanchi Array 55.69 325 P **P** **01 09 58.8 +0.4**
comp=Z,23nm,0.7s,baz=118,slow=6.7,SNR=213
MKAR PcP **PcP** **01 10 54.5 -0.9**
comp=Z,6.3nm,0.5s,baz=118,slow=4.0,SNR=6.6
MKAR ScP **ScP** **01 14 33.4 -2.2**
comp=Z,5.0nm,0.7s,baz=128,slow=4.5,SNR=8.6
MKAR S **S** **01 17 29.1 -0.2**
comp=Z,3.4nm,1.1s,baz=128,slow=11,SNR=10
comp=Z,23nm,0.7s
MKAR Makanchi Array 55.69 325 *c e*P **P** **01 09 57.7 -0.8**
MKAR pmax pmax
comp=Z,23nm,0.7s
UZB Uzynbulak 55.73 320 *e*P **P** **01 09 57.4 -1.5**
UZB pmax pmax
comp=Z,11nm,0.8s
UZB Uzynbulak 55.73 320 *e*P **P** **01 09 57.5 -1.5**
comp=Z,11nm,0.8s
TARG Taragay, Kyrgy 55.85 318 IAmb IAmb 01 10 11.3
comp=Z,21nm,1.1s
MAKZ Makanchi 55.88 325 P **P** **01 09 59.3 -0.5**
MAKZ IAmb IAmb 01 10 01.1
comp=Z,33nm,0.8s
MAKZ Makanchi 55.88 325 P **P** **01 09 59.3 -0.5**
MAKZ pmax pmax
comp=Z,33nm,0.9s
MAKZ Makanchi 55.88 325 P **P** **01 09 59.0 -0.7**
MAKZ ScP **ScP** **01 14 33.6 -2.8**
NIL Nilore 56.02 308 P **P** **01 10 01.2 +0.2**
NIL IAmb IAmb 01 10 02.5
comp=Z,48nm,1.1s
NIL Nilore 56.02 308 P **P** **01 10 01.8 +0.7**
NIL Nilore 56.02 308 P **P** **01 10 01.2 +0.2**
NIL pmax pmax
comp=Z,48nm,1.1s
SATY Saty 56.08 320 *e*P **P** **01 09 59.9 -1.5**
SATY pmax pmax
comp=Z,15nm,0.8s
SATY Saty 56.08 320 *e*P **P** **01 09 60.0 -1.5**
comp=Z,15nm,0.8s
KPKS Kokpek 56.10 320 *e*P **P** **01 09 59.8 -1.7**
KPKS pmax pmax
comp=Z,15nm,1.0s
KPKS Kokpek 56.10 320 *e*P **P** **01 09 59.9 -1.7**

comp=Z,15nm,1.0s
ZHN Zhinishke 56.11 320 *e*P **P 01 09 59.3 -2.3**
ZHN Zhinishke 56.11 320 *e*P **P 01 09 59.4 -2.3**
KSH Kashi 56.13 315 P **P 01 10 03.8 +2.0**
KSH pmax pmax
comp=Z,23nm,1.2s
KDJ Kajisay 56.45 318 IAmb IAmb 01 10 05.5
comp=Z,43nm,1.1s
BHUJ Bhuj 56.56 294 *e*P **P 01 10 06.3 +1.3**
BHUJ IAmb IAmb 01 10 07.3
comp=Z,30nm,1.0s
MSVF Nonsavu 56.73 115 P **P 01 10 05.7 -0.6**
YAK Yakutsk 56.97 2 P **P 01 10 07.2 +0.1**
YAK Yakutsk 56.97 2 *e*P **P 01 10 08.3 +1.2**
YAK *e**PP **pP 01 10 53.5 +1.5**
YAK *e* 01 11 01.3
YAK *e* 01 12 17.0
YAK *e*PPP PPP 01 13 35.8
YAK *e*S **S 01 17 46.4 +0.9**
YAK *e* 01 19 32.6
YAK *e*SS **SS 01 21 39.4 +2.2**
YAK pmax pmax
comp=Z,34nm,0.6s
YAK pmax pmax
comp=N,7.0nm,0.7s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,84nm,2.8s
YAK pmax pmax
comp=N,61nm,3.0s
YAK pmax pmax
comp=E,22nm,2.8s
YAK smax smax
comp=N,69nm,2.3s
YAK smax smax
comp=E,109nm,3.0s
YAK Yakutsk 56.97 2 P **P 01 10 07.5 +0.4**
TNSS Tian-Shan 57.01 319 *e*P **P 01 10 06.8 -1.5**
TNSS Tian-Shan 57.01 319 *e*P **P 01 10 06.9 -1.5**
TDK Taldyqorghan 57.03 322 *e*P **P 01 10 06.8 -1.1**
TDK pmax pmax
comp=Z,12nm,0.6s
TDK Taldyqorghan 57.03 322 *e*P **P 01 10 06.8 -1.1**
comp=Z,12nm,0.6s
ULHL Ulahol 57.12 318 P **P 01 10 09.4 +0.5**
SNR=13
CHKK Chushkaly 57.37 320 *e*P **P 01 10 09.0 -1.3**
CHKK Chushkaly 57.37 320 *e*P **P 01 10 09.1 -1.3**
MA2 Magadan 57.81 15 P **P 01 10 14.2 +1.1**
MA2 IAmb IAmb 01 10 15.7
comp=Z,21nm,0.9s
MA2 Magadan 57.81 15 P **P 01 10 14.3 +1.2**
MA2 Magadan 57.81 15*c i*P **P 01 10 13.9 +0.8**
MA2 pmax pmax
comp=Z,60nm,2.2s
MA2 Magadan 57.81 15 P **P 01 10 14.5 +1.4**
comp=Z,26nm,0.9s
TKM2 Tokmak 2 57.85 319 P **P 01 10 13.9 0.0**
SNR=23
KBK Karagaybulak 58.16 318 P **P 01 10 16.8 +0.7**
SNR=19
UCH Uchtor 58.27 317 P **P 01 10 18.1 +0.9**
SNR=6.5
CHMS Chumysh 58.44 318 P **P 01 10 17.4 -0.4**
SNR=9.8
AAK Ala-Archa 58.46 318 P **P 01 10 18.0 -0.1**
AAK IAmb IAmb 01 10 21.6
comp=Z,21nm,1.2s
AAK Ala-Archa 58.46 318*c i*P **P 01 10 18.8 +0.7**
AAK pmax pmax
comp=Z,29nm,1.7s
SGDS Sogindy 58.71 319 *e*P **P 01 10 18.1 -1.6**
SGDS Sogindy 58.71 319 *e*P **P 01 10 18.2 -1.6**
USP Ospenovka 58.72 319 P **P 01 10 19.5 -0.2**
SNR=43
AML Almayashu 58.78 317 P **P 01 10 21.1 +0.4**
SNR=46
ZALV Zalesovo Beam 58.80 333 P **P 01 10 17.6 -2.4**
ZALV Zalesovo Beam 58.80 333 P **P 01 10 18.6 -1.3**
comp=Z,4.7nm,0.5s,baz=118,slow=6.8,SNR=28
ZALV S **S 01 18 06.6 -2.9**
comp=Z,1.6nm,0.8s,baz=123,slow=11,SNR=4.9
ZALV PKP2bc 01 40 01.1
comp=Z,2.5nm,1.0s,baz=300,slow=3.2,SNR=6.0
comp=Z,4.7nm,0.5s
ZALV Zalesovo Beam 58.80 333 *i*P **P 01 10 18.7 -1.3**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
EKS2 Erkin-Say 58.95 318 P **P 01 10 22.0 +0.6**
SNR=36
ARSB Arslanbob 58.95 316 IAmb IAmb 01 10 22.7
comp=Z,39nm,1.1s
KBL Kabul 59.62 307 P **P 01 10 25.3 -1.0**
KBL Kabul 59.62 307 P **P 01 10 26.6 +0.3**
SNR=15
KBL P **P 01 10 26.6 +0.3**
SNR=15
KBL Kabul 59.62 307 P **P 01 10 25.3 -1.0**
KBL pmax pmax
comp=Z,32nm,0.7s
BTLS Baital 59.78 320 *e*P **P 01 10 25.6 -1.3**
BTLS Baital 59.78 320 *e*P **P 01 10 25.6 -1.3**
KURBB Kurchatov Arra 59.89 328 P **P 01 10 27.1 -0.4**
comp=Z,29nm,0.9s,baz=124,slow=6.4,SNR=147
KURBB S **S 01 18 17.4 -6.2**
comp=Z,1.2nm,0.9s,baz=125,slow=13,SNR=4.1
comp=Z,29nm,0.9s
KURK Kurchatov 59.90 328 P **P 01 10 26.6 -1.0**
KURK Kurchatov 59.90 328 P **P 01 10 26.9 -0.7**
KURK P **P 01 10 26.9 -0.7**
KURK Kurchatov 59.90 328*d i*P **P 01 10 26.5 -1.0**
KURK pmax pmax
comp=Z,74nm,1.3s
KURK Kurchatov 59.90 328 P **P 01 10 26.8 -0.7**
BTK Batken 60.01 314 IAmb IAmb 01 10 29.9
comp=Z,40nm,1.1s
DZA Taraz 60.69 317 *e*P **P 01 10 31.9 -1.3**
DZA pmax pmax
comp=Z,17nm,0.9s
DZA Taraz 60.69 317 *e*P **P 01 10 31.9 -1.3**
comp=Z,17nm,0.9s
SIMJ Simiganj 60.87 312 P **P 01 10 33.7 -0.9**
SIMJ IAmb IAmb 01 10 35.4
comp=Z,34nm,1.2s
SIMJ Simiganj 60.87 312 P **P 01 10 33.9 -0.7**
SIMJ PcP **PcP 01 11 16.9 +0.6**
SEY Seymchan 61.11 14⇓*i*P **P 01 10 37.2 +1.7**
SEY pmax pmax
comp=Z,27nm,1.7s
KK31 Karatay Array 61.33 317 P **P 01 10 36.8 -0.6**
KK31 IAmb IAmb 01 10 38.7
comp=Z,40nm,1.0s
KK31 Karatay Array 61.33 317 P **P 01 10 36.8 -0.6**
KK31 pmax pmax
comp=Z,40nm,1.0s
KKAR Karatay Array 61.33 317 P **P 01 10 36.2 -1.2**
KKAR Karatay Array 61.33 317 IAmb IAmb 01 10 38.6
comp=Z,28nm,1.1s
KKAR Karatay Array 61.33 317 P **P 01 10 36.2 -1.2**
BRLS Borolday 61.76 317 *e*P **P 01 10 38.8 -1.5**
BRLS pmax pmax
comp=Z,16nm,1.1s
BRLS Borolday 61.76 317 *e*P **P 01 10 38.9 -1.5**
comp=Z,16nm,1.1s
BRZS Berezniki 62.82 325 *e*P **P 01 10 46.2 -1.0**
BRZS pmax pmax
comp=Z,12nm,1.0s
BRZS Berezniki 62.82 325 *e*P **P 01 10 46.3 -1.0**
comp=Z,12nm,1.0s
LBZ Lake Benmore 63.54 146 P **P 01 10 52.9 +0.9**
THZ Tophouse 63.58 142 P **P 01 10 53.5 +1.1**
RPZ Rata Peaks 63.63 145 P **P 01 10 53.4 +0.8**
comp=Z,19nm,0.8s,baz=242,slow=4.1,SNR=5.6
comp=Z,19nm,0.8s
URZ Urewera 64.45 137 P **P 01 10 58.7 +0.7**
comp=Z,8.4nm,0.4s,baz=191,slow=6.8,SNR=9.2
comp=Z,8.4nm,0.4s
BKZ Black Stump Fm 64.48 138 P **P 01 10 59.5 +1.1**
HRA Herat 65.03 306 IAmb IAmb 01 11 02.8
comp=Z,42nm,1.6s
BVAR Borovoye Array 65.47 327 P **P 01 11 03.7 -0.7**
comp=Z,26nm,0.8s,baz=120,slow=8.8,SNR=96
BVAR S **S 01 19 27.7 -5.4**
comp=Z,1.1nm,0.9s,baz=116,slow=9.8,SNR=5.1
comp=Z,26nm,0.8s

BRVK Borovoye 65.54 327 P **P 01 11 04.4 -0.4**
BRVK Borovoye 65.54 327 P **P 01 11 04.2 -0.7**
BRVK Borovoye 65.54 327*ce*P **P 01 11 03.8 -1.0**
BRVK pmax pmax
comp=Z,55nm,1.0s
BRVK Borovoye 65.54 327 P **P 01 11 04.0 -0.8**
BRVK PcP **PcP 01 11 32.8 -2.1**
JLN Jalan Bani Buh 65.81 292 P **P 01 11 06.3 -0.8**
JLN P **P 01 11 06.3 -0.8**
WBK Wadi Bani Khal 66.26 292 P **P 01 11 10.0 0.0**
TIXI Tiksi 66.58 1 P **P 01 11 10.6 -0.4**
TIXI IAmb IAmb 01 11 12.0
comp=Z,25nm,1.0s
TIXI Tiksi 66.58 1⇑*i*P **P 01 11 10.2 -0.8**
TIXI pmax pmax
comp=Z,33nm,1.1s
WSAR Wadi Sarin 66.62 293 P **P 01 11 12.3 +0.1**
JMDO Jabal Madar 67.04 292 P **P 01 11 14.4 -0.5**
JMDO P **P 01 11 14.4 -0.5**
MHTO MHTO 67.07 291 P **P 01 11 14.6 -0.5**
MHTO P **P 01 11 14.6 -0.5**
BIDO Bidbid 67.10 293 P **P 01 11 15.4 0.0**
SNR=5.1
SMDO Samad 67.14 293 P **P 01 11 15.5 -0.1**
SMDO P **P 01 11 15.5 -0.1**
DQM DQM 67.42 289 P **P 01 11 18.1 +0.8**
HOQ Hoqain 67.85 293 P **P 01 11 20.0 -0.1**
HOQ P **P 01 11 20.0 -0.1**
ARQ Araqi 68.56 293 P **P 01 11 23.3 -1.1**
ARQ P **P 01 11 23.3 -1.1**
SOHO SOHO 68.60 294 P **P 01 11 25.5 +0.8**
SOHO P **P 01 11 25.5 +0.8**
BILL Bilibino 68.68 15*d i*P **P 01 11 24.5 +0.2**
BILL pmax pmax
comp=Z,10.0nm,1.4s
NRIK Noril'sk 68.85 347 P **P 01 11 24.8 -0.4**
comp=Z,12nm,0.7s,baz=129,slow=6.0,SNR=30
NRIK S **S 01 20 09.2 -3.5**
comp=Z,0.7nm,0.3s,baz=348,slow=20,SNR=13
comp=Z,12nm,0.7s
NRIK Noril'sk 68.85 347*ce*P **P 01 11 24.0 -1.3**
NRIK pmax pmax
comp=Z,20nm,0.9s
HATD Hatta, Dubai 69.02 295 P **P 01 11 27.3 0.0**
MASF Masafi 69.03 295 P **P 01 11 27.5 +0.1**
ASHO Ashiyiah 69.08 294 P **P 01 11 26.4 -1.2**
SHME Shamm 69.10 296 P **P 01 11 26.9 -0.8**
ALNE Al Ain 69.31 294 P **P 01 11 28.6 -0.4**
ALNE P **P 01 11 28.6 -0.4**
NAZ Nazwa, Dubai 69.46 295 P **P 01 11 29.8 -0.1**
FAQ Al Faqa, Dubai 69.50 294 P **P 01 11 30.8 +0.6**
FAQ P **P 01 11 30.8 +0.6**
ASUD Al Ashush, Dub 69.73 294 P **P 01 11 32.6 +1.0**
ASUD P **P 01 11 32.6 +1.0**
UMZA Um Al Zommool 69.77 292 P **P 01 11 31.3 -0.6**
UMZA P **P 01 11 31.3 -0.6**
DMTO DMTO 69.79 287 P **P 01 11 31.8 -0.3**
ABKAR Akbulak array 70.26 321 P **P 01 11 32.9 -1.4**
ABKAR Akbulak array 70.26 321 P **P 01 11 32.9 -1.4**
ABKAR IAmb IAmb 01 11 35.2
comp=Z,28nm,0.9s
MSEY Mahe Island 70.41 263 P **P 01 11 35.4 -0.6**
RBK Rabkut 70.50 287 P **P 01 11 35.9 -0.5**
RBK P **P 01 11 35.9 -0.5**
RBK P **P 01 11 36.0 -0.5**
RBK P **P 01 11 36.0 -0.5**
DOK Doka 70.59 288 P **P 01 11 35.8 -1.1**
SNR=5.2
DOK P **P 01 11 35.8 -1.1**
SNR=5.2
MZWR Madinat Zayed 71.00 293 P **P 01 11 37.3 -2.0**
MZWR P **P 01 11 37.3 -2.0**
MZR Muzera 71.34 292 P **P 01 11 41.4 +0.1**
SNR=5.4
MZR P **P 01 11 41.4 +0.1**
SNR=5.4
ABTO Aybut 71.36 287 P **P 01 11 40.8 -0.8**
SNR=5.7
GHWR Ruwais 71.93 293 P **P 01 11 44.0 -0.9**
GHWR P **P 01 11 44.0 -0.9**
CASY Casey 71.93 186 P **P 01 11 43.7 -0.2**
CASY PcP **PcP 01 12 01.6 +0.1**
JRN Qarnain Island 72.00 294 P **P 01 11 44.6 -0.6**
SPIA Saint Paul Isl 72.12 31 P **P 01 11 44.8 -0.4**
baz=251
SVE Sverdlovsk 72.12 329 *e*P **P 01 11 44.4 -0.9**
SVE *e*S **S 01 20 49.0 -2.1**
SVE pmax pmax
comp=Z,46nm,0.9s
P08K Saint George I 72.30 32 P **P 01 11 46.0 -0.3**
baz=252
SLWR Sila 73.02 294 P **P 01 11 50.6 -0.7**
UNV Unalaska Valle 73.17 35 P **P 01 11 51.6 0.0**
baz=255
ARTI Arti 73.18 328 P **P 01 11 50.0 -1.5**
ARTI IAmb IAmb 01 11 51.6
comp=Z,21nm,0.9s
ARTI Arti 73.18 328*d i*P **P 01 11 50.3 -1.2**
ARTI 01 12 08.1
ARTI 01 14 32.8
ARTI S **S 01 21 05.2 +2.1**
ARTI SS **SS 01 25 48.5 -0.2**
ARTI pmax pmax
comp=Z,21nm,0.9s
TRNA Turayna 73.48 294 P **P 01 11 53.5 -0.4**
SHMA Al-Shehemyia 73.75 295 P **P 01 11 55.6 +0.1**
GAMB Gambell 73.80 24 P **P 01 11 54.7 -0.2**
baz=248
SMRA Abu-Samra 73.83 294 P **P 01 11 55.5 -0.5**
M11K Mekoryuk 75.11 29 P **P 01 12 02.2 -0.4**
baz=254
FALS False Pass 75.17 35 P **P 01 12 02.6 -0.5**
baz=257
TNA Tin City 75.96 23 P **P 01 12 07.2 -0.2**
baz=251
S12K Black Hills 76.11 34 P **P 01 12 07.5 -1.0**
baz=258
K13K Kusilvak Mount 76.26 27 P **P 01 12 09.4 +0.3**
baz=254
LKRN Lenkeran, Azer 76.37 308 P **P 01 12 11.0 +0.8**
M13K Dall Lake 76.48 29 P **P 01 12 11.0 +0.6**
baz=256
F14K Arctic Creek 76.56 24 P **P 01 12 11.0 +0.2**
baz=252
ANM Nome 76.68 25 P **P 01 12 11.2 -0.2**
baz=253
KBD Kabd 76.76 299 P **P 01 12 11.8 -0.9**
SDPT Sand Point 76.92 34 P **P 01 12 12.9 0.0**
baz=260
J14K Nanvaranak Lak 76.97 27 P **P 01 12 13.4 +0.3**
baz=255
L14K Kuka Creek 77.02 28 P **P 01 12 13.0 -0.4**
baz=256
SBV Sambava 77.04 255 P **P 01 12 14.1 -0.3**
N14K Kuskokwak Cree 77.18 30 P **P 01 12 14.4 +0.1**
baz=258
M14K Bethel 77.23 29 P **P 01 12 14.7 +0.1**
baz=257
O14K Tigyukauivet M 77.25 30 P **P 01 12 14.6 -0.1**
baz=258
F15K North Star Dit 77.30 23 P **P 01 12 14.6 -0.2**
baz=254
CHNA Chernabura Isl 77.34 35 P **P 01 12 14.5 -0.7**
baz=261
G15K Niukluk 77.35 24 P **P 01 12 15.5 +0.3**
baz=254
AKT Akhty 77.39 311 *e*P **P 01 12 16.3 +0.3**
AKT *e* 01 12 25.8
AKT pmax pmax
comp=Z,32nm,1.0s
S14K Fog Glacier 77.60 33 P **P 01 12 16.8 -0.1**
baz=260
L15K Ungalak Mounta 77.66 28 P **P 01 12 17.2 +0.2**
baz=257
SEKA Sheki 77.77 311 P **P 01 12 18.3 +0.2**
K15K Wolf Creek Mou 77.77 27 P **P 01 12 17.3 -0.2**
baz=257
C16K Lisburne Hills 77.78 21 P **P 01 12 17.2 -0.3**
baz=252
MNGR Mingechevir, A 77.82 310 P **P 01 12 19.0 +0.7**
M15K Kasigluk River 77.83 29 P **P 01 12 17.9 0.0**
baz=258
O15K Ungalikthiuk R 77.96 31 P **P 01 12 18.5 -0.2**
baz=259

H16K Elim 78.00 25 P **P 01 12 18.6 -0.1**
baz=256
N15K Kwethluk River 78.02 30 P **P 01 12 18.8 -0.2**
baz=259
G16K Koyuk River 78.14 24 P **P 01 12 19.1 -0.3**
baz=256
CHGN Chignik 78.23 34 P **P 01 12 19.8 -0.4**
baz=261
KIRV Kirov 78.39 329*c i*P **P 01 12 19.8 -1.2**
J16K Anvik River 78.40 26 P **P 01 12 21.1 +0.1**
baz=258
D17K Noatak River 78.44 22 P **P 01 12 21.0 -0.1**
baz=255
I17K Unalakleet 78.49 26 P **P 01 12 21.5 +0.1**
baz=258
BELG Belogornoye 78.53 322 *i*P **P 01 12 20.2 -1.7**
BELG pmax pmax
comp=Z,12nm,0.9s
RDOG Red Dog Mine 78.60 21 IAmb IAmb 01 12 37.9
comp=Z,75nm,2.0s
RDOG Red Dog Mine 78.60 21 P **P 01 12 22.0 0.0**
baz=255
L16K Owhat River 78.60 28 IAmb IAmb 01 13 09.9
comp=Z,101nm,1.9s
L16K Owhat River 78.60 28 P **P 01 12 22.3 +0.2**
baz=259
C17K DeLong Mountai 78.61 21 P **P 01 12 22.3 +0.2**
baz=254
RAYN Ar Rayn 78.68 293 P **P 01 12 22.2 -1.1**
RAYN Ar Rayn 78.68 293 P **P 01 12 22.3 -1.1**
RAYN pmax pmax
comp=Z,79nm,1.0s
M16K Timber Creek 78.72 29 P **P 01 12 22.9 0.0**
baz=260
E17K Hotham Inlet 78.75 22 P **P 01 12 23.1 +0.2**
baz=256
F17K Baldwin Pennin 78.83 23 P **P 01 12 23.8 +0.6**
baz=257
G17K Kiwalik Mounta 78.85 24 P **P 01 12 23.7 +0.3**
baz=257
P16K Nushagak River 78.87 31 P **P 01 12 23.2 -0.4**
baz=261
R16K Pilot Point 78.87 32 P **P 01 12 23.4 -0.2**
baz=262
O16K Kokwok River B 78.91 30 P **P 01 12 24.0 +0.1**
baz=261
H17K Granite Mounta 79.04 25 P **P 01 12 25.1 +0.6**
baz=258
J17K VABM Dome 79.10 26 IAmb IAmb 01 14 24.5
comp=Z,87nm,2.0s
J17K VABM Dome 79.10 26 P **P 01 12 25.0 +0.2**
baz=259
L17K Donlin 79.23 28 P **P 01 12 25.7 +0.2**
baz=260
E18K Tukpahlearik C 79.30 22 IAmb IAmb 01 12 28.7
comp=Z,34nm,1.5s
E18K Tukpahlearik C 79.30 22 P **P 01 12 26.0 +0.2**
baz=257
B18K Kokolik River 79.32 20 P **P 01 12 27.0 +1.1**
baz=256
K17K Iditarod 79.32 27 IAmb IAmb 01 12 29.3
comp=Z,87nm,1.6s
K17K Iditarod 79.32 27 P **P 01 12 26.9 +0.9**
baz=260
C18K Utukok River 79.36 21 P **P 01 12 27.6 +1.4**
baz=256
O17K Koliganek Bris 79.44 30 P **P 01 12 27.8 +1.2**
baz=262
F18K Selawik 79.48 23 P **P 01 12 28.2 +1.4**
baz=258
N17K Nushagak Hills 79.50 29 P **P 01 12 28.3 +1.3**
baz=262
Q16K King Salmon 79.51 31 P **P 01 12 27.8 +0.7**
baz=262
M17K Holitna River 79.51 29 P **P 01 12 28.1 +1.1**
baz=261
GNI Garni 79.57 310 P **P 01 12 28.2 +0.1**
GNI Garni 79.57 310⇑*i*P **P 01 12 26.8 -1.3**
GNI pmax pmax
comp=Z,30nm,1.8s
GNI Garni 79.57 310 P **P 01 12 28.6 +0.5**
comp=Z,13nm,0.9s
P17K Kvichak River 79.69 31 P **P 01 12 28.4 +0.4**
baz=262
CHIR Chirikof Islan 79.72 34 P **P 01 12 28.6 +0.4**
baz=264
H18K Honhosa River 79.72 25 P **P 01 12 29.2 +1.0**
baz=260
G18K Tagagawik 79.74 24 IAmb IAmb 01 12 53.5
comp=Z,55nm,2.0s
G18K Tagagawik 79.74 24 P **P 01 12 29.2 +0.9**
baz=259
A19K Wainwright 79.78 19 P **P 01 12 29.1 +0.8**
baz=256
L18K Granite Mounta 79.98 28 IAmb IAmb 01 13 25.2
comp=Z,69nm,1.9s
L18K Granite Mounta 79.98 28 P **P 01 12 29.9 +0.3**
baz=262
N18K Kilae Creek 80.16 29 P **P 01 12 30.3 -0.3**
baz=263
J18K Innoko River 80.16 26 P **P 01 12 31.5 +0.9**
baz=261
F19K Shaleruckik Mo 80.26 23 P **P 01 12 31.6 +0.6**
baz=260
GCSA Galena City Sc 80.28 25 P **P 01 12 31.2 +0.2**
baz=261
M18K Stony River 80.29 29 P **P 01 12 31.7 +0.5**
baz=262
P18K Big Mountain, 80.33 31 P **P 01 12 32.1 +0.6**
baz=263
OPO Ambohidratompo 80.39 250 LR LR 01 47 38.8
comp=Z,784nm,18.1s,baz=356,slow=35
O18K Koktuh Hills 80.39 30 IAmb IAmb 01 12 35.5
comp=Z,21nm,1.0s
O18K Koktuh Hills 80.39 30 P **P 01 12 31.8 -0.1**
baz=263
TTA Tatalina 80.39 27 P **P 01 12 32.1 +0.2**
baz=262
G19K Purcell Mounta 80.42 24 IAmb IAmb 01 12 35.4
comp=Z,47nm,1.6s
G19K Purcell Mounta 80.42 24 P **P 01 12 32.2 +0.4**
baz=261
ABPO Ambohimpanom 80.42 250 P **P 01 12 32.4 -0.6**
ABPO Ambohimpanom 80.42 250 P **P 01 12 32.4 -0.6**
ABPO pmax pmax
comp=Z,202nm,1.5s
D19K Kuna River 80.44 21 IAmb IAmb 01 12 35.2
comp=Z,47nm,1.4s
D19K Kuna River 80.44 21 P **P 01 12 32.5 +0.6**
baz=259
R18K Karluk 80.54 33 P **P 01 12 32.9 +0.3**
baz=264
E19K Redstone River 80.58 22 IAmb IAmb 01 12 38.1
comp=Z,20nm,0.9s
E19K Redstone River 80.58 22 P **P 01 12 33.2 +0.5**
baz=260
H19K Roundabout Mou 80.58 24 IAmb IAmb 01 12 35.8
comp=Z,82nm,1.6s
H19K Roundabout Mou 80.58 24 P **P 01 12 33.3 +0.6**
baz=261
SII Sitkinak Islan 80.59 34 P **P 01 12 33.4 +0.4**
baz=265
J19K Poorman 80.71 26 P **P 01 12 34.3 +0.9**
baz=262
L19K White Mountain 80.83 28 IAmb IAmb 01 12 37.9
comp=Z,23nm,1.1s
L19K White Mountain 80.83 28 P **P 01 12 34.8 +0.7**
baz=263
N19K Bonanza Creek 80.86 29 IAmb IAmb 01 12 37.0
comp=Z,56nm,1.6s
N19K Bonanza Creek 80.86 29 P **P 01 12 34.5 +0.1**
baz=264,SNR=6.3
O19K Port Alsworth 80.87 30 P **P 01 12 34.7 +0.4**
baz=264
D20K Etivluk River 81.02 21 P **P 01 12 35.8 +0.8**
baz=261
M19K Big River Lodg 81.02 28 IAmb IAmb 01 12 42.8
comp=Z,36nm,1.4s
M19K Big River Lodg 81.02 28 P **P 01 12 36.4 +1.2**
baz=264
B20K Meade River 81.04 20 IAmb IAmb 01 12 38.0
comp=Z,31nm,1.5s
B20K Meade River 81.04 20 P **P 01 12 36.0 +0.9**
baz=260
KBZ Khabaz 81.07 313 P **P 01 12 36.6 +0.9**
comp=Z,3.2nm,0.8s,baz=264,slow=2.8,SNR=5.7
comp=Z,3.2nm,0.8s
KBZ Khabaz 81.07 313 *e*P **P 01 12 34.1 -1.6**

KBZ pmax pmax
comp=Z,5.0nm,1.1s
F20K Avaraart Lake 81.09 23 P **P 01 12 36.3 +1.0**
baz=262
Q19K Cape Douglas, 81.09 31 P **P 01 12 36.1 +0.5**
baz=265
E20K Nigu River 81.10 22 P **P 01 12 36.6 +1.1**
baz=261
OHAK Old Harbor 81.14 33 P **P 01 12 36.5 +0.7**
baz=265
H20K Anotleneega Mo 81.22 25 P **P 01 12 37.0 +0.9**
baz=263
KIV Kislovodsk 81.23 314 P **P 01 12 38.0 +1.3**
KIV Kislovodsk 81.23 314 ⇑P **P 01 12 38.0 +1.3**
KIV Kislovodsk 81.23 314 *e*P **P 01 12 35.6 -1.1**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,65nm,19.0s
KIV Kislovodsk 81.23 314 P **P 01 12 38.2 +1.5**
comp=Z,13nm,1.1s
VOI Vohitsoka 81.26 247 P **P 01 12 36.1 -1.2**
I20K Naaghedeneel 81.31 25 P **P 01 12 37.7 +1.1**
baz=263
L20K Farewell, AK 81.32 28 P **P 01 12 37.9 +1.2**
baz=264
K20K Telida 81.32 27 IAmb IAmb 01 12 40.7
comp=Z,46nm,1.6s
K20K Telida 81.32 27 P **P 01 12 38.0 +1.3**
baz=264
J20K Nowinta River 81.38 26 IAmb IAmb 01 12 41.1
comp=Z,48nm,1.6s
J20K Nowinta River 81.38 26 P **P 01 12 38.0 +1.1**
baz=264
KDAK Kodiak Island 81.56 32 P **P 01 12 38.7 +0.7**
baz=266
FOMA Nahampoana Res 81.59 244 IAmb IAmb 01 12 39.9
comp=Z,39nm,0.8s
M20K Styx River 81.61 28 IAmb IAmb 01 12 45.2
comp=Z,64nm,1.6s
M20K Styx River 81.61 28 P **P 01 12 39.4 +1.0**
baz=265
GURO Guroymak-BITLI 81.64 308 IAmb IAmb 01 12 41.1
comp=Z,35nm,1.2s
ATD Arta Tunnel 81.64 281 P **P 01 12 40.8 +1.3**
SNR=5.7
O20K Slope Mountain 81.71 30 P **P 01 12 40.0 +1.1**
baz=266
Q20K Shuyak Island 81.72 32 P **P 01 12 39.9 +1.1**
baz=266
C21K Knifeblade Rid 81.74 21 P **P 01 12 39.9 +1.2**
baz=262
B21K Ikpikpuk River 81.86 20 P **P 01 12 40.3 +1.0**
baz=262
G21K Allakaket 81.90 24 P **P 01 12 40.9 +1.2**
baz=264
A22K Sinclair Lake 81.93 19 P **P 01 12 40.9 +1.3**
baz=262
E21K Killik River 81.94 22 P **P 01 12 40.5 +0.7**
baz=263
F21K Alatna River 81.98 23 P **P 01 12 40.4 +0.3**
baz=264
SPCR Spurr Chakacha 82.00 29 P **P 01 12 40.8 +0.4**
baz=266
SPU Mount Spurr 82.07 29 IAmb IAmb 01 12 43.2
comp=Z,26nm,1.2s
VRH Novokhopyorsk 82.09 321 *e*P **P 01 12 37.8 -3.1**
VRH pmax pmax
comp=Z,30nm,0.8s
H21K Melozitna Rive 82.10 24 IAmb IAmb 01 13 30.4
comp=Z,52nm,1.8s
H21K Melozitna Rive 82.10 24 P **P 01 12 41.6 +0.8**
baz=265
PPLA Purkeypile 82.13 27 IAmb IAmb 01 12 43.8
comp=Z,55nm,1.8s
PPLA Purkeypile 82.13 27 P **P 01 12 41.0 -0.1**
baz=266
CHUM Lake Minchumin 82.15 26 P **P 01 12 42.1 +1.2**
baz=265
HOM Homer 82.17 31 P **P 01 12 42.0 +0.8**
baz=266
CAST Castle Rocks 82.22 27 P **P 01 12 42.4 +1.0**
baz=266,SNR=9.1
B22K Teshekpuk Lake 82.35 20 P **P 01 12 43.4 +1.5**
baz=263
SKT Skwentna 82.37 28 IAmb IAmb 01 12 44.4
comp=Z,36nm,1.4s
SKT Skwentna 82.37 28 P **P 01 12 43.0 +0.8**
baz=266,SNR=7.5
I21K Tanana 82.40 25 IAmb IAmb 01 12 45.4
comp=Z,27nm,1.1s
I21K Tanana 82.40 25 P **P 01 12 43.1 +0.9**
baz=265,SNR=8.4
D22K Ayikyak River 82.46 21 IAmb IAmb 01 12 45.8
comp=Z,37nm,1.7s
D22K Ayikyak River 82.46 21 P **P 01 12 43.5 +1.0**
baz=264
CAPN Captain Cook N 82.48 29 P **P 01 12 43.8 +1.1**
baz=267
BRLK Bradley Lake 82.56 30 IAmb IAmb 01 12 47.4
comp=Z,65nm,1.5s
BRSE Bradley Lake S 82.63 31 P **P 01 12 44.2 +0.6**
baz=267,SNR=7.6
H22K Ishtalitna Cre 82.70 24 P **P 01 12 45.3 +1.4**
baz=266,SNR=8.5
E22K Anaktuvuk Pass 82.71 22 IAmb IAmb 01 12 47.5
comp=Z,34nm,1.4s
E22K Anaktuvuk Pass 82.71 22 P **P 01 12 44.7 +0.8**
baz=265,SNR=13
KTH Kantishna Hill 82.75 27 IAmb IAmb 01 12 47.9
comp=Z,46nm,1.6s
BPAW Bear Paw Mtn. 82.75 26 IAmb IAmb 01 12 46.8
comp=Z,45nm,1.4s
BPAW Bear Paw Mtn. 82.75 26 P **P 01 12 45.1 +1.0**
baz=266,SNR=11
SLKM Skilak Lake 82.93 30 IAmb IAmb 01 12 47.4
comp=Z,55nm,1.1s
CUT Chulitna 82.99 28 P **P 01 12 45.7 +0.4**
baz=267
TRF Thorofare Moun 83.03 27 IAmb IAmb 01 13 34.5
comp=Z,56nm,1.6s
TRF Thorofare Moun 83.03 27 P **P 01 12 45.9 +0.1**
baz=267,SNR=6.0
M22K Willow 83.03 28 P **P 01 12 45.9 +0.3**
baz=268
O22K Cooper Landing 83.17 30 P **P 01 12 47.0 +0.7**
baz=268
D23K Nanushuk River 83.18 21 IAmb IAmb 01 12 50.3
comp=Z,35nm,1.3s
D23K Nanushuk River 83.18 21 P **P 01 12 47.3 +1.0**
baz=266
RC01 Rabbit Creek A 83.19 29 P **P 01 12 46.8 +0.4**
baz=268,SNR=11
COLD Coldfoot 83.26 23 P **P 01 12 48.0 +1.3**
baz=267,SNR=14
C23K Itkillik River 83.27 20 IAmb IAmb 01 12 49.5
comp=Z,58nm,1.4s
C23K Itkillik River 83.27 20 P **P 01 12 47.5 +0.8**
baz=266
SEW Seward 83.30 30 P **P 01 12 47.2 +0.3**
baz=268,SNR=9.1
G23K Bananza Creek 83.30 23 IAmb IAmb 01 12 50.2
comp=Z,37nm,1.4s
G23K Bananza Creek 83.30 23 P **P 01 12 48.0 +1.0**
baz=267
PMR Palmer 83.49 29 P **P 01 12 48.6 +0.7**
baz=268,SNR=5.3
I23K Minto, Yukon-K 83.50 25 IAmb IAmb 01 12 51.5
comp=Z,72nm,1.5s
I23K Minto, Yukon-K 83.50 25 P **P 01 12 48.4 +0.5**
baz=268,SNR=16
E23K Chandalar 83.52 22 IAmb IAmb 01 13 04.2
comp=Z,22nm,0.8s
E23K Chandalar 83.52 22 P **P 01 12 48.6 +0.5**
baz=267
TOLK Toolik Lake Re 83.57 22 IAmb IAmb 01 12 51.3
comp=Z,40nm,1.5s
TOLK Toolik Lake Re 83.57 22 P **P 01 12 49.3 +1.1**
baz=267,SNR=14
KLMR Klimovskoe 83.59 331 *e*P **P 01 12 46.3 -2.1**
KLMR pmax pmax
comp=Z,43nm,0.7s
NEA2 Nenana 83.61 26 P **P 01 12 49.3 +0.8**
baz=268
VORD Divnogorie 83.62 321 *e*P **P 01 12 46.8 -2.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 83.64 27 IAmb IAmb 01 12 50.4
comp=Z,64nm,1.5s
MCK McKinley 83.64 27 P **P 01 12 49.2 +0.5**
baz=268,SNR=12
RND Reindeer 83.67 27 IAmb IAmb 01 12 50.5
comp=Z,57nm,1.7s
VORR Voronezh 83.67 321 *e*P **P 01 12 46.9 -2.1**
VORR pmax pmax
comp=Z,40nm,0.8s
VSR Storozhevoye 83.70 321 *e*P **P 01 12 46.6 -2.6**
VSR pmax pmax
comp=Z,20nm,0.4s
KNK Knik Glacier 83.81 29 IAmb IAmb 01 12 52.6
comp=Z,34nm,1.1s
KNK Knik Glacier 83.81 29 P **P 01 12 50.1 +0.4**
baz=269,SNR=9.6
LPSR Galich'ya Gora 83.84 322 *e*P **P 01 12 47.7 -2.2**
LPSR pmax pmax
comp=Z,30nm,0.8s
D24K Happy Valley 83.86 21 P **P 01 12 50.7 +1.0**
baz=268
PWL Port Wells 83.86 29 P **P 01 12 50.7 +0.8**
baz=269,SNR=13
SML Sawmill 83.88 28 IAmb IAmb 01 12 52.7
comp=Z,25nm,1.1s
SML Sawmill 83.88 28 P **P 01 12 50.6 +0.6**
baz=269,SNR=7.7
C24K Franklin Bluff 83.92 20 P **P 01 12 51.0 +1.1**
baz=268
E24K Your Creek 83.95 22 P **P 01 12 50.7 +0.4**
baz=268,SNR=6.7
WRH Wood River Hil 84.03 26 IAmb IAmb 01 12 52.9
comp=Z,25nm,1.3s
H24K Noodor Dome 84.14 24 IAmb IAmb 01 12 56.0
comp=Z,47nm,1.6s
H24K Noodor Dome 84.14 24 P **P 01 12 52.0 +0.7**
baz=269
CCB Clear Creek Bu 84.16 26 P **P 01 12 51.1 -0.1**
CCB IAmb IAmb 01 12 53.2
comp=Z,30nm,1.4s
F24K Squaw Lake 84.16 23 P **P 01 12 52.4 +1.1**
baz=269
M23K Glacier View 84.17 28 P **P 01 12 52.1 +0.7**
baz=270
G24K Hadweenzic Riv 84.31 24 IAmb IAmb 01 12 55.0
comp=Z,27nm,1.4s
G24K Hadweenzic Riv 84.31 24 P **P 01 12 52.7 +0.7**
baz=269
POKR Poker Plat Res 84.32 25 P **P 01 12 53.0 +0.9**
baz=270
P23K Montague Islan 84.32 30 P **P 01 12 52.4 +0.2**
baz=270
SCM Sheep Creek Mo 84.36 28 P **P 01 12 53.1 +0.7**
baz=270
GLI Glacier Island 84.47 29 IAmb IAmb 01 12 55.7
comp=Z,16nm,0.7s
GLI Glacier Island 84.47 29 P **P 01 12 53.7 +0.8**
baz=270
HDA Harding Lake 84.52 26 P **P 01 12 53.8 +0.6**
baz=270
ILAR Eielson Array 84.55 25 P **P 01 12 53.0 -0.2**
comp=Z,2.3nm,0.6s,baz=252,slow=4.6,SNR=48
ILAR SKKPbc SKKPbc 01 34 33.9 +10
comp=Z,3.5nm,1.1s,baz=64,slow=2.1,SNR=7.4
comp=Z,2.3nm,0.6s
MOS Moscow 84.58 325 *e*P **P 01 12 52.0 -1.5**
MOS *e* 01 16 11.8
MOS pmax pmax
comp=Z,44nm,0.8s
D25K Kavik River 84.74 21 P **P 01 12 55.1 +0.9**
baz=270,SNR=7.2
FID Port Fidalgo 84.78 30 IAmb IAmb 01 12 57.5
comp=Z,86nm,1.9s
G25K Bearman Lake 84.86 23 P **P 01 12 56.0 +1.3**
baz=271
VNDA Vanda 84.88 173 P **P 01 12 55.3 +0.7**
comp=Z,11nm,0.9s,baz=303,slow=5.9,SNR=3.7
comp=Z,11nm,0.9s
M24K Tolsona, Glenn 84.90 28 IAmb IAmb 01 12 58.5
comp=Z,37nm,1.4s
M24K Tolsona, Glenn 84.90 28 P **P 01 12 55.3 +0.2**
baz=271
H25L Birch Creek 84.98 24 P **P 01 12 56.0 +0.7**
baz=271,SNR=6.9
F25K Christian Rive 85.03 23 P **P 01 12 56.4 +0.7**
baz=271
KLU Klutina 85.03 29 P **P 01 12 56.1 +0.3**
baz=271
E25K Arctic Village 85.04 22 IAmb IAmb 01 16 14.1
comp=Z,20nm,0.8s
E25K Arctic Village 85.04 22 P **P 01 12 56.0 +0.3**
baz=271,SNR=6.8
K24K Donnelly Dome 85.05 26 P **P 01 12 55.9 +0.1**
baz=271
DIV Divide 85.11 29 IAmb IAmb 01 13 47.0
comp=Z,24nm,1.1s
PRP Porcupine Dome 85.12 25 P **P 01 12 56.8 +0.6**
baz=271
EYAK Cordova Ski Ar 85.14 30 P **P 01 12 56.0 -0.2**
baz=272
OBN Obninsk 85.19 325 P **P 01 12 54.6 -2.0**
OBN IAmb IAmb 01 12 57.2
comp=Z,28nm,0.7s
OBN Obninsk 85.19 325 *c*e*P **P 01 12 55.5 -1.1**
OBN *e*S **SKSac 01 23 07.6 +5.1**
OBN *e**SS **sS 01 24 32.6 -1.8**
OBN pmax pmax
comp=Z,25nm,0.8s
J25K Salcha River, 85.20 26 P **P 01 12 57.1 +0.5**
baz=272
PAX Paxson 85.20 27 P **P 01 12 56.9 +0.2**
baz=272
FYU Fort Yukon 85.21 24 IAmb IAmb 01 13 48.5
comp=Z,65nm,1.8s
C26K Camden Bay 85.24 20 P **P 01 12 57.3 +0.8**
baz=272
HARP HAARP 85.37 28 P **P 01 12 57.7 +0.3**
baz=272
BMAR Burnt Mountain 85.44 23 P **P 01 12 59.4 +1.8**
RIDG Independent Ri 85.46 27 IAmb IAmb 01 13 53.6
comp=Z,40nm,1.6s
RIDG Independent Ri 85.46 27 P **P 01 12 57.8 0.0**
baz=272
GAZ Gaziantep 85.48 307 IAmb IAmb 01 12 59.4
comp=Z,34nm,1.3s
F26K Sheenjek River 85.59 23 P **P 01 12 59.1 +0.6**
baz=272
N25K Chitina, Valde 85.66 29 P **P 01 12 59.4 +0.4**
baz=272
C27K Jago River 85.67 21 P **P 01 12 59.2 +0.5**
baz=273
BMRM Bremner River 85.69 29 P **P 01 12 59.6 +0.6**
baz=272
G26K Porcupine Rive 85.77 23 P **P 01 12 59.7 +0.5**
baz=273
KAIM Kayak Island 85.83 30 P **P 01 12 59.5 -0.2**
baz=273
SCRK Sand Creek 85.83 26 P **P 01 13 00.1 +0.3**
baz=273
TOKA Tokat 85.89 310 IAmb IAmb 01 13 31.4
comp=Z,35nm,1.5s
J26L Joseph Creek 85.99 26 P **P 01 13 00.5 0.0**
baz=273
I26K Coal Creek Min 86.11 25 P **P 01 13 01.5 +0.5**
baz=273
L26K Log Cabin Wild 86.17 27 P **P 01 13 02.0 +0.6**
baz=273
M26K Nabesna, AK 86.37 28 P **P 01 13 02.7 +0.4**
baz=274
BGLC Bering Glacier 86.38 30 P **P 01 13 02.6 +0.3**
baz=274
E27K Coleen River 86.53 22 IAmb IAmb 01 16 16.4
comp=Z,22nm,0.7s
E27K Coleen River 86.53 22 P **P 01 13 03.6 +0.6**
baz=275
G27K Doyon Strip 86.62 23 P **P 01 13 04.0 +0.6**
baz=275
D27M Malcolm River 86.66 21 P **P 01 13 04.7 +1.0**
baz=275
K27K Chicken 86.67 26 P **P 01 13 04.7 +1.0**
baz=274
H27K Steamboat Moun 86.72 24 P **P 01 13 04.1 +0.1**
baz=275
I27K Kandik River 86.73 25 P **P 01 13 04.5 +0.4**
baz=275
L27K Beaver Creek, 86.86 27 P **P 01 13 04.7 0.0**
baz=275
M27K Edge Creek, AK 86.89 28 P **P 01 13 04.9 -0.1**
baz=275
MESA MESA 87.04 30 P **P 01 13 05.9 +0.1**
baz=275
MMAI Mount Meron Ar 87.22 303 P **P 01 13 07.4 +0.3**
comp=Z,17nm,1.1s,baz=85,slow=4.9,SNR=3.6
comp=Z,17nm,1.1s
F28M Old Crow 87.23 22 P **P 01 13 06.5 +0.2**
baz=276
E28M Babbage River 87.24 21 P **P 01 13 06.8 +0.4**
baz=277
D28M Stokes Point 87.44 21 P **P 01 13 07.3 0.0**
baz=277
I28M Miner Creek 87.45 25 P **P 01 13 07.4 -0.1**
baz=276
KIBK Kibwezi 87.48 267 IAmb IAmb 01 13 10.9
comp=Z,25nm,1.1s
KIBK Kibwezi 87.48 267 P **P 01 13 09.0 +0.2**
SNR=9.6
DAWY Dawson 87.84 26 P **P 01 13 09.0 -0.3**
baz=277
O28M Mount Upton 87.85 29 P **P 01 13 09.1 -0.7**
baz=276
E29M Blow River 87.87 22 IAmb IAmb 01 16 36.1
comp=Z,13nm,0.5s
E29M Blow River 87.87 22 P **P 01 13 09.4 +0.1**
baz=278
H29M Whitestone 87.99 24 IAmb IAmb 01 13 35.0
comp=Z,58nm,2.0s
H29M Whitestone 87.99 24 P **P 01 13 10.0 0.0**
baz=278
YUK8 Steele Glacier 88.00 29 P **P 01 13 10.6 +0.1**
baz=277
G29M Pine Creek 88.03 23 P **P 01 13 10.5 +0.3**
baz=278
BR131 Keskin Array S 88.11 310 P **P 01 13 10.3 -1.0**
BR131 P **P 01 13 10.3 -1.0**
BRTR Keskin Array B 88.11 310 P **P 01 13 09.4 -1.8**
comp=Z,2.4nm,0.6s,baz=85,slow=5.1,SNR=24
comp=Z,2.4nm,0.6s
BR106 Keskin Array S 88.13 310 P **P 01 13 11.5 +0.2**
comp=Z,4.0nm,1.0s
BR105 Keskin Array S 88.13 310 P **P 01 13 11.0 -0.4**
comp=Z,3.9nm,1.4s
I29M Ogilvie Camp, 88.13 25 IAmb IAmb 01 14 41.1
comp=Z,26nm,1.8s
I29M Ogilvie Camp, 88.13 25 P **P 01 13 11.4 +0.8**
baz=276
KMBO Kilima Mbogo 88.17 269 P **P 01 13 12.0 -0.1**
KMBO IAmb IAmb 01 13 14.4
comp=Z,19nm,1.1s
KMBO Kilima Mbogo 88.17 269 P **P 01 13 12.1 -0.1**
comp=Z,8.6nm,1.0s,baz=55,slow=6.4,SNR=22
comp=Z,8.6nm,1.0s
KMBO Kilima Mbogo 88.17 269 P **P 01 13 12.0 -0.1**
KMBO P **P 01 13 12.0 -0.1**
J29N Klondike Camp 88.30 26 P **P 01 13 12.9 +1.4**
baz=278
M29M Somme Creek 88.47 28 IAmb IAmb 01 13 15.1
comp=Z,23nm,1.7s
M29M Somme Creek 88.47 28 P **P 01 13 13.0 +0.6**
baz=278
L29M L29M 88.53 27 P **P 01 13 13.6 +1.0**
baz=278
YUK4 Talbot Arm 88.53 29 P **P 01 13 13.5 +0.7**
baz=278
EPYK Eagle Plains 88.63 24 P **P 01 13 13.5 +0.5**
baz=279
K29M Barlow Dome 88.69 26 P **P 01 13 13.3 -0.1**
baz=279
O29M Mount Kennedy 88.70 30 P **P 01 13 13.4 -0.2**
baz=278
YUK6 Outpost Mounta 88.72 29 P **P 01 13 13.2 -0.5**
baz=278
G30M tAoh Zraii Nji 88.72 23 IAmb IAmb 01 13 17.0
comp=Z,27nm,1.9s
G30M tAoh Zraii Nji 88.72 23 P **P 01 13 13.6 +0.2**
baz=280
ARCES ARCESS Array B 88.75 340 P **P 01 13 12.7 -0.7**
comp=Z,15nm,1.0s,baz=62,slow=3.1,SNR=8.0
ARCES PKiKP **PKiKP 01 18 11.9 -0.2**
comp=Z,1.1nm,0.5s,baz=5.7,slow=1.2,SNR=5.8
ARCES PKKP **PKKPdf 01 30 49.6 +0.1**
comp=Z,7.0nm,1.1s,baz=243,slow=3.5,SNR=5.5
comp=Z,15nm,1.0s
F30M Barrier River 88.78 22 P **P 01 13 14.2 +0.6**
baz=280
SPITS Spitsbergen Ar 88.94 349 P **P 01 13 13.7 -0.6**
comp=Z,4.3nm,0.5s,baz=77,slow=4.6,SNR=16
comp=Z,4.3nm,0.5s
I30M Mount Dempster 88.96 25 P **P 01 13 14.6 -0.1**
baz=280
J30M Hart River 89.08 25 P **P 01 13 15.3 0.0**
baz=280
HYT Haines Junctio 89.15 29 P **P 01 13 16.1 +0.4**
baz=279
M30M Minto, Yukon 89.21 27 P **P 01 13 15.8 0.0**
baz=279
N30M Aishikik Lake 89.25 28 P **P 01 13 16.2 +0.1**
baz=279
INK Inuvik 89.48 21 P **P 01 13 17.9 +1.1**
baz=282
KBS Kingsbay 89.49 350 *i* P **P 01 13 20.2 +3.5**
G31M Satah River 89.49 23 IAmb IAmb 01 14 07.4
comp=Z,18nm,1.4s
G31M Satah River 89.49 23 P **P 01 13 17.2 +0.3**
baz=282
P30M Million Dollar 89.53 30 P **P 01 13 17.5 +0.1**
baz=279
F31M Tsiigehtchic 89.58 22 IAmb IAmb 01 13 18.5
comp=Z,25nm,1.6s
F31M Tsiigehtchic 89.58 22 P **P 01 13 17.4 +0.1**
baz=282
LODK Lodwar 89.66 273 P **P 01 13 19.0 +0.1**
H31M Peel River 89.68 24 P **P 01 13 17.7 -0.2**
baz=281
O30N Mendenhall 89.84 29 P **P 01 13 18.8 0.0**
baz=280
N31M Braeburn, Yuko 89.87 28 IAmb IAmb 01 15 39.0
comp=Z,31nm,1.8s
N31M Braeburn, Yuko 89.87 28 P **P 01 13 19.2 +0.3**
baz=280
PLBC Pleasant Camp 89.93 30 P **P 01 13 19.2 +0.1**
baz=280
AKASG Malin Array Be 90.00 321 P **P 01 13 17.3 -2.3**
comp=Z,3.3nm,0.7s,baz=69,slow=4.7,SNR=12
AKASG Malin Array Be 90.00 321 *i* P **P 01 13 17.2 -2.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 90.03 332 P **P 01 13 18.1 -1.5**
comp=Z,5.8nm,0.5s,baz=76,slow=4.5,SNR=43
FINES PKiKP **PKiKP 01 18 14.8 +0.4**
comp=Z,4.4nm,1.0s,baz=95,slow=3.9,SNR=4.8
comp=Z,5.8nm,0.5s
VSU Vasula 90.23 329 ‖ *i*P **P 01 13 18.9 -1.6**
VSU pmax pmax
comp=Z,55nm,1.9s
MNK Minsk 90.25 325 *e*P **P 01 13 20.0 -0.8**
S31K Pelican 90.26 32 P **P 01 13 20.6 -0.1**
baz=280
M31M Drury Creek, Y 90.38 27 P **P 01 13 21.6 +0.4**
baz=281
WHY Whitehorse 90.45 29 IAmb IAmb 01 13 24.7
comp=Z,26nm,1.6s
WHY Whitehorse 90.45 29 P **P 01 13 21.8 +0.1**
baz=281
SKAG Skagway 90.45 30 P **P 01 13 21.9 +0.3**
baz=281
FARO Faro, Yukon 90.85 27 IAmb IAmb 01 13 26.2
comp=Z,18nm,1.4s
FARO Faro, Yukon 90.85 27 P **P 01 13 23.7 +0.3**
baz=282
BESE Bessie Mountai 90.86 31 IAmb IAmb 01 13 26.9
comp=Z,38nm,1.8s
SIT Sitka 90.90 33 P **P 01 13 23.8 +0.1**
baz=280
R32K Eaglecrest 91.09 31 P **P 01 13 24.7 +0.1**
baz=281
A36M Sachs Harbour 91.17 17 P **P 01 13 25.3 +0.7**
baz=290
N32M Quiet Lake 91.21 28 IAmb IAmb 01 13 28.0
comp=Z,27nm,1.4s
N32M Quiet Lake 91.21 28 P **P 01 13 25.2 +0.1**
baz=282
S32K Killisnoo 91.22 32 P **P 01 13 25.2 0.0**
baz=281
P32M Atlin 91.24 30 P **P 01 13 25.5 +0.2**
baz=282
P33M Teslin, Yukon 91.54 29 P **P 01 13 27.0 +0.2**
baz=283

NOR	Nord	91.68	355	*i* P		P	01 13 25.1	-1.8
MMPY	Sheldon Lake,	91.71	27	IAmb		IAmb	01 13 36.4	
	comp=Z,24nm,1.8s							
MMPY	Sheldon Lake,	91.71	27	P		P	01 13 27.9	+0.4
	baz=284							
Q32M	Nakina River	92.10	30	P		P	01 13 29.0	-0.5
	baz=283							
U33K	Whale Pass	92.28	33	P		P	01 13 29.6	-0.5
	baz=282							
TESR	Tescani	92.33	317	⇓P		P	01 13 29.5	-1.1
CRAG	Craig	92.42	34	P		P	01 13 30.3	-0.4
	baz=282							
C36M	Paulatuk	92.47	19	P		P	01 13 30.8	+0.1
	baz=291							
WRAK	Wrangell Islan	92.64	33	P		P	01 13 31.8	+0.1
	baz=283							
R33M	Jennings River	92.64	30	IAmb		IAmb	01 13 34.7	
	comp=Z,18nm,1.6s							
R33M	Jennings River	92.64	30	P		P	01 13 32.1	+0.2
	baz=284							
S34M	Telegraph Cree	92.93	31	P		P	01 13 33.3	+0.3
	baz=284							
MLR	Muntele Rosu	92.99	316	⇑P		P	01 13 36.5	+2.7
BURAR	Bucovina Array	93.10	318	P		P	01 13 33.0	-1.3
BURAR	Bucovina Array	93.10	318	⇑P		P	01 13 30.2	-4.0
BUR08	Bucovina Ar. S	93.11	318	IAmb		IAmb	01 13 38.7	
	comp=Z,20nm,1.8s							
SYO	Syowa Base	93.12	201	⇑*i*P		P	01 13 34.5	+0.9
SYO	Syowa Base	93.12	201	⇑*i*PcP		PcP	01 13 35.3	+1.2
V35K	Ketchikan	93.29	34	P		P	01 13 34.9	+0.1
	baz=284							
TGTN	Hyland Airport	93.36	27	P		P	01 13 35.4	+0.3
	baz=287							
DLBC	Dease Lake	93.36	31	P		P	01 13 35.4	+0.3
	baz=285							
T35M	Bob Quinn	93.62	32	P		P	01 13 36.5	+0.2
	baz=285							
MARR	Marisel-Cluj	94.69	318	⇓P		P	01 13 34.6	-6.9
QSPA	South Pole Qui	94.92	180	P		P	01 13 42.4	+0.2
	comp=Z,15nm,1.1s,baz=328,slow=7.2,SNR=3.2							
QSPA				PKKPbc		PKKPdf	01 30 37.9	-1.9
	comp=Z,1.6nm,0.7s,baz=304,slow=0.9,SNR=5.9							
	comp=Z,15nm,1.1s							
DRGR		94.94	318	⇑P		P	01 13 41.1	-1.6
TOAD	Toad River Com	95.63	30	P		P	01 13 45.8	+0.3
	baz=289							
KOTAN	Kotaneelee Air	95.76	28	P		P	01 13 46.2	+0.2
	baz=290							
DAG	Danmarks Havn	95.79	352	*i* P		P	01 13 43.0	-2.8
BZS	Buzias	95.94	317	⇓P		P	01 13 44.8	-2.3
HFS	Hagfors	96.22	332	P		P	01 13 47.3	-0.7
	comp=Z,1.6nm,0.5s,baz=120,slow=6.0,SNR=10.0							
	comp=Z,1.6nm,0.5s							
NB2	NORSAR Subarra	97.00	333	P		P	01 13 49.3	-2.3
	comp=Z,9.8nm,1.0s,baz=67,slow=4.6							
NB2	NORSAR Subarra	97.00	333	P		P	01 13 49.3	-2.3
	baz=67,slow=4.6							
NOA	NORSAR Array B	97.00	333	P		P	01 13 49.3	-2.3
	comp=Z,3.7nm,0.8s,baz=66,slow=4.6,SNR=15							
NEEM	North Greenlan	97.62	359	*i* P		P	01 13 54.1	-0.4
LSZ	Lusaka	98.16	255	P		P	01 13 56.4	-1.5
LSZ				IAmb		IAmb	01 13 58.3	
	comp=Z,6.1nm,0.8s							
LSZ	Lusaka	98.16	255	P		P	01 13 56.4	-1.5
LSZ	Lusaka	98.16	255	P		P	01 13 56.4	-1.5
LSZ				pmax		pmax		
	comp=Z,6.0nm,0.8s							
YKA	Yellowknife Ar	98.91	24	P		Pdif	01 14 00.3	+0.2
	comp=Z,0.4nm,0.8s,baz=296,slow=4.7,SNR=6.6							
YKA				PKKPbc		PKKPbc	01 30 25.3	-3.6
	comp=Z,2.2nm,0.8s,baz=130,slow=2.3,SNR=18							
YKA				SKKPbc		SKKPbc	01 33 42.4	-7.8
	comp=Z,0.7nm,1.1s,baz=112,slow=2.9,SNR=3.7							
	comp=Z,0.4nm,0.8s							
CLL	Collm	99.77	324	*e*P		Pdif	01 14 04.0	-0.1
CLL	Collm	99.77	324	*e*Pdif		Pdif	01 14 04.0	-0.1
GERES	GERESS Array B	100.20	321	P		Pdif	01 14 05.2	-1.1
	comp=Z,0.3nm,0.3s,baz=75,slow=4.6,SNR=3.2							
KULLO	Kullorsuaq	100.51	1	*i* P		Pdif	01 14 02.6	-4.4
SNAA	Sanae	106.09	195	PKiKP		PKiKP	01 18 42.4	-0.3
	comp=Z,5.2nm,1.1s,baz=179,slow=0.6,SNR=3.7							
EKA	Eskdalemuir Ar	106.42	332	PKiKP		PKiKP	01 18 44.0	+0.4
	comp=Z,0.2nm,0.4s,baz=24,slow=3.4,SNR=4.9							
NVAR	Mina Array Bea	107.09	47	PKiKP		PKiKP	01 18 46.8	+1.1
	comp=Z,1.1nm,0.7s,baz=243,slow=2.9,SNR=4.1							
NVAR				PKKPbc		PKKPbc	01 30 03.9	-0.4
	comp=Z,2.7nm,0.7s,baz=127,slow=4.6,SNR=13							
NVAR				PKKPab		PKKPab	01 30 18.6	-1.1
	comp=Z,2.6nm,0.7s,baz=143,slow=5.0,SNR=7.8							
PDAR	Pinedale Array	111.30	40	PKiKP		PKiKP	01 18 54.5	+0.9
	comp=Z,0.3nm,0.6s,baz=249,slow=1.9,SNR=4.3							
PDAR				PKKPbc		PKKPbc	01 29 48.1	-2.9
	comp=Z,2.6nm,0.8s,baz=121,slow=4.3,SNR=20							
PDAR				PKKPab		PKKPab	01 29 58.5	-2.5
	comp=Z,5.1nm,0.8s,baz=122,slow=6.2,SNR=28							
ULM	Lac du Bonnet	114.49	28	PKP		PKiKP	01 18 59.5	+0.3
	comp=Z,1.1nm,0.5s,baz=167,slow=0.8,SNR=4.0							
ULM				PKKPbc		PKKPbc	01 29 40.4	0.0
	comp=Z,1.9nm,0.4s,baz=91,slow=3.9,SNR=6.1							
TAM	Tamanrasset	115.04	298			PKPdf	01 19 02.8	+1.6
TAM	Tamanrasset	115.04	298	PKIKP		PKPdf	01 19 02.8	+1.6
ESDC	Sonseca Array	115.56	319	PKP		PKPdf	01 19 01.3	-0.2
	comp=Z,0.2nm,0.6s,baz=90,slow=1.4,SNR=4.3							
ESDC				SKP			01 22 18.6	
	comp=Z,3.6nm,1.1s,baz=41,slow=0.9,SNR=8.8							
S22A	4UR Ranch, Cre	115.57	44	P		PKPdf	01 19 01.7	-0.3
	baz=299							
Q24A	Divide	116.10	42	P		PKPdf	01 19 02.2	-0.8
	baz=301							
ANMO	Albuquerque	117.18	47	PKP		PKiKP	01 19 05.5	+0.4
	comp=Z,0.9nm,0.7s,baz=336,slow=5.1,SNR=4.7							
121A	Cookes Peak, D	117.31	49	P		PKPdf	01 19 04.8	-0.5
	baz=296							
T25A	Trinidad	117.54	43	P		PKPdf	01 19 05.1	-0.6
	baz=301							
RTBA	Rita Blanca	119.05	43			PKiKP	01 19 10.5	+2.0
SCHQ	Schefferville	119.51	8	PKP		PKPdf	01 19 08.2	-0.5
	comp=Z,3.4nm,0.6s,baz=210,slow=13,SNR=8.2							
TORD	Torodi Ar. Bea	121.17	289	PKP		PKPdf	01 19 12.9	-0.1
	comp=Z,50nm,0.4s,baz=80,slow=2.5,SNR=2.8							
ALPN	Alpine	121.44	50			PKiKP	01 19 14.6	+1.1
TXAR	Lajitas Array	121.91	51	PKP		PKiKP	01 19 14.9	+0.7
	comp=Z,1.7nm,0.7s,baz=297,slow=1.6,SNR=15							
TXAR				SKP			01 22 32.2	
	comp=Z,1.1nm,0.7s,baz=204,slow=1.3,SNR=5.3							
TXAR				PKKPbc		PKKPbc	01 29 12.5	-0.7
	comp=Z,1.9nm,0.7s,baz=122,slow=6.3,SNR=20							
TXAR	Lajitas Array	121.91	51	PKIKP		PKiKP	01 19 15.0	+0.7
JCT	Junction City	124.26	48			PKiKP	01 19 19.3	+0.4
JCT	Junction City	124.26	48	PKIKP		PKiKP	01 19 19.3	+0.4
ACRG	Accra	124.58	280			PKPdf	01 19 18.6	-1.0
833A	Chaparral WMA,	125.67	50	P		PKPdf	01 19 21.0	-0.3
	baz=300							
435B	Jarrell	125.72	46	P		PKPdf	01 19 21.3	0.0
	baz=303							
SADO	Sadowa	125.80	21	PKP		PKPdf	01 19 20.8	-0.3
	comp=Z,3.5nm,0.6s,baz=355,slow=6.4,SNR=6.9							
MIAR	Mount Ida	126.22	40			PKiKP	01 19 23.7	+1.1
MIAR	Mount Ida	126.22	40	PKIKP		PKiKP	01 19 23.7	+1.1
J59A	Piesco	128.52	18			PKiKP	01 19 26.9	0.0
DBIC	Dimbokro	128.92	283	PKP		PKPdf	01 19 27.8	0.0
	comp=Z,26nm,0.9s,baz=77,slow=2.0,SNR=16							
SSPA	Standing Stone	129.82	23			PKPdf	01 19 28.7	-0.1
L61B	Northampton	130.00	17	P		PKiKP	01 19 29.5	-0.4
	baz=336							
TKL	Tuckaleechee C	131.18	32	PKP		PKiKP	01 19 33.0	+0.5
	comp=Z,3.3nm,0.6s,baz=186,slow=0.8,SNR=5.3							
TKL				SKPbc		SKPbc	01 22 37.9	-0.1
	comp=Z,18nm,0.8s,baz=295,slow=2.2,SNR=11							
TKL	Tuckaleechee C	131.18	32	PKIKP		PKiKP	01 19 33.0	+0.5
M65A	Busby, Falmout	131.40	16	P		PKPdf	01 19 32.0	+0.2
	baz=339							
PLCA	Paso Flores	141.70	160	PKP		PKPdf	01 19 50.7	-0.2
	comp=Z,8.9nm,1.1s,baz=306,slow=1.7,SNR=5.7							
PLCA				SKPbc		SKPbc	01 23 09.9	+0.2
	comp=Z,5.5nm,0.8s,baz=221,slow=3.7,SNR=9.3							
TRQA	Tornquist	146.46	170			PKPbc	01 20 00.7	-0.2
TRQA	Tornquist	146.46	170	PKP2		PKPbc	01 20 00.7	-0.2
CFA	Coronel Fontan	150.66	156	PKP		PKPdf	01 20 06.2	0.0
	comp=Z,17nm,0.6s,baz=231,slow=2.9,SNR=8.5							
CFA				PKPbc		PKiKP	01 20 12.2	-0.4
	comp=Z,17nm,0.6s,baz=210,slow=2.2,SNR=32							
PLTB	Pedras Altas	153.38	182	*e*P		PKPdf	01 20 11.8	+1.5
ATAH	Atahualpa	156.34	96	PKP		PKPdf	01 20 15.8	+0.5
	comp=Z,6.7nm,1.1s,baz=166,slow=8.6,SNR=6.4							
ROSC	El Rosal	158.08	64	PKP		PKPdf	01 20 17.7	+0.3
	comp=Z,5.8nm,0.4s,baz=174,slow=21,SNR=4.8							
CPUP	Villa Florida	158.66	173	PKP		PKPdf	01 20 17.5	+0.2
	comp=Z,8.0nm,1.1s,baz=122,slow=1.3,SNR=5.4							
CPUP				PKPab		PKPab	01 20 54.5	+1.1
	comp=Z,6.0nm,0.8s,baz=182,slow=3.7,SNR=6.9							
CPUP				PP		PP	01 24 32.8	-0.2
	comp=Z,2.2nm,0.9s,baz=326,slow=4.8,SNR=2.9							
SDV	Santo Domingo	158.94	49	*e*P		PKPdf	01 20 19.1	+0.9
VAO	Valinhos	160.63	202	*e*P		PKPdf	01 20 21.5	+1.7
NBAN	Anadia - AL	161.17	255	*e*P		PKPdf	01 20 20.7	+0.2
LDASE	Londrina, Braz	161.42	190	*e*P		PKPdf	01 20 22.1	+1.5
CMC01	Camacan, BA	161.90	234	*e*P		PKPdf	01 20 22.6	+1.5
CZSB	Cruzeiro do Su	161.90	99	*e*P		PKPdf	01 20 22.3	+1.0
NBLA	Lagarto - SE	162.25	249	*e*P		PKPdf	01 20 22.6	+1.1
LPAZ	La Paz	162.70	131	PKP		PKPdf	01 20 23.7	+1.0
	comp=Z,16nm,1.3s,baz=270,slow=0.4,SNR=14							
LPAZ				PKPab		pPKPdf	01 21 13.4	+0.3
	comp=Z,3.3nm,0.8s,baz=208,slow=2.7,SNR=2.9							
LPAZ	La Paz	162.70	131	*e*P		PKPdf	01 20 23.8	+1.1
DIAM	Diamantina, MG	162.97	218	*e*P		PKPdf	01 20 24.0	+1.7
MURT	Porto Murtinho	163.22	171	*e*P		PKPdf	01 20 23.6	+1.4
BDQN	Bodoquena, MS	164.54	173	*e*P		PKPdf	01 20 24.0	+0.5
RPRD	Ribas do Rio P	164.61	183	*e*P		PKPdf	01 20 24.8	+1.2
JANB	Januaria	165.73	225	*e*P		PKPdf	01 20 25.4	+0.7
SIV	San Ignacio	167.43	151	PKP		PKPdf	01 20 26.5	+0.6
	comp=Z,7.2nm,1.0s,baz=229,slow=1.2,SNR=16							
SIV				PKPab		PKPab	01 21 33.5	+1.3
	comp=Z,8.9nm,1.1s,baz=214,slow=5.8,SNR=10							
SIV				PP		PP	01 25 22.0	+2.3
	comp=Z,2.0nm,0.9s,baz=205,slow=7.5,SNR=4.6							
BDFB	Brasilia	167.58	211	PKP		PKPdf	01 20 26.2	0.0
	comp=Z,7.8nm,0.9s,baz=162,slow=3.0,SNR=8.2							
BDFB				PKPab		PKPab	01 21 33.3	+0.4
	comp=Z,16nm,0.7s,baz=143,slow=3.5,SNR=20							
BDFB				PP		PP	01 25 21.4	+0.7
	comp=Z,1.1nm,0.5s,baz=312,slow=7.2,SNR=3.5							
PTLB	Pontes e Lacer	168.76	157	*e*P		PKPdf	01 20 28.0	+1.2
SALV	Santo Antonio	169.15	175	*e*P		PKPdf	01 20 28.4	+1.3
TEFE	Tefe	169.97	82	*e*P		PKPdf	01 20 28.6	+0.9
VILB	Vilhena	170.43	146	*e*P		PKPdf	01 20 29.2	+1.3
BOAV	Boa Vista	170.60	38	*e*P		PKPdf	01 20 29.4	+1.3
SMTB	Santa Maria do	171.99	241	*e*P		PKPdf	01 20 28.8	+0.1
SNDB	Serra Nova Dou	172.32	206	*e*P		PKPdf	01 20 29.6	+0.8
TMAB	Tom-Au,PA,Br	172.91	292	*e*P		PKPdf	01 20 30.0	+0.9
ITTB	Itaituba	178.77	58	*e*P		PKPdf	01 20 30.8	+0.2

IDC ***01*** *01:02:10.6±0.4, 53°.34S×159°.56E, h0km, mb5.2/18, mbtmp5.2/20, ML4.6/2, MS5.1/39, Error ellipse: s-maj=16.7km s-min=12.5km az=68.0*

MOS ***01*** *01:02:11.9±0.9, 53°.27S×159°.56E, h18km, mb5.5/23, MS5.2/5, Error ellipse: s-maj=26.8km s-min=9.7km az=103.9*

IPGP ***01*** *01:02:12.0, 53°.41S×159°.54E, h6km, Mw5.9, Fault plane solution: NP1:φs307.00000°, δ73.00000°, λ4.00000°. NP2:φs216.00000°, δ86.00000°, λ163.00000°.*

NEIC ***01*** *01:02:12.3, 53°.31S×159°.00E, h30km, Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10^17Nm; Mrr=0.44; Mθθ7.94; Mφφ=-7.50; Mrθ=0.26; Mθφ2.45; Mφr=0.11; Fault plane solution: Mo8.11000×10^17 NP1: φs306.22000°, δ88.36000°, λ0.92000°. NP2:φs216.20000°, δ89.08000°, λ178.36000°. Principal axes: T 8.3273, Plg2.0000°, Azm171.0000°; N -0.4443, Plg88.0000°, Azm7.0000°; P -7.8830, Plg1.0000°, Azm261.0000°;*

NEIC ***01*** *01:02:12.3±2.3, 53°.42S±0°.06×159°.6E±0°.2, h10km±1km, mb5.7/96, Ms_20 5.5/316, Mwb5.8/19, Mww5.9/21 Error ellipse: s-maj=16.6km s-min=9.7km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.34; Mθθ4.84; Mφφ=-4.50; Mrθ=1.44; Mθφ1.33; Mφr1.76; Fault plane solution: Mo5.37000×10^17 NP1: φs125.84000°, δ84.14000°, λ-24.51000°. NP2: φs218.51000°, δ65.63000°, λ-173.57000°. Principal axes: T 5.2893, Plg13.0000°, Azm175.0000°; N 0.1550, Plg65.0000°, Azm293.0000°; P -5.4444, Plg21.0000°, Azm80.0000°;*

NEIC ***01*** *01:02:12.3, 53°.41S×159°.58E, h30km*

BJI ***01*** *01:02:12.2, 53°.16S×160°.18E, h13km, mB5.9/22, mb5.4/43, Ms5.4/56, Ms7 5.1/58*

NEIC ***01*** *01:02:12.4, 53°.39S×159°.63E, h10km*

GCMT ***01*** *01:02:15.3±0.1, 53°.32S×159°.29E, h19km, MW5.8/164, Moment Tensor Solution. s156,c310; s164,c342; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr=0.68±.05; Mθθ6.50±.06; Mφφ=-5.82±.05; Mrθ=1.34±.11; Mθφ1.78±.04; Mφr0.45±.11; Best double couple: Mo6.55400×10^17 NP1:φs217.00000°, δ79.00000°, λ178.00000°. NP2:φs307.00000°, δ88.00000°, λ11.00000°. Principal axes: T 6.9620, Plg9.0000°, Azm172.0000°; N -0.8130, Plg78.0000°, Azm316.0000°; P -6.1470, Plg7.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 01:02:12.7±0.4, 53°.46S±0°.03×159°.73E±0°.04, h11km±2km, h11km:pP-P, n956, σ2s11/838, mb5.6/128, MS5.5/207, 66C-39D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	1.13	203		Pb	01 02 30.5	-3.9
MCQ	Macquarie Isla	1.13	203	P	Pb	01 02 30.5	-3.9
MCQ	Macquarie Isla	1.13	203	P	Sg	01 02 45.1	-4.1
MCQ	Macquarie Isla	1.13	203	P	Pb	01 02 30.5	-3.9
MCQ	Macquarie Isla	1.13	203	P	Pb	01 02 30.6	-3.7
APZ	The Paps	8.49	42	P	Pn	01 04 11.7	-4.0
APZ				S	Sn	01 05 41.1	-10
PYZ	Puysegur Point	8.57	34	Pn	Pn	01 04 13.9	-2.8
PYZ	Puysegur Point	8.57	34	P	Pn	01 04 14.6	-2.1
SYZ	Scrubby Hill	9.20	45	P	Pn	01 04 22.7	-2.6
SYZ	Scrubby Hill	9.20	45	S	Sn	01 06 03.0	-5.8
SYZ	Scrubby Hill	9.20	45	P	Pn	01 04 21.9	-3.4
WHZ	Wether Hill Ro	9.26	38	Pn	Pn	01 04 22.7	-3.4
WHZ	Wether Hill Ro	9.26	38	P	Pn	01 04 22.5	-3.6
DCZ	Deep Cove	9.35	34		Pn	01 04 24.1	-3.1
DCZ	Deep Cove	9.35	34	P	Pn	01 04 25.4	-1.9
MLZ	Mavora Lakes	9.77	37	Pn	Pn	01 04 30.3	-2.9
MLZ	Mavora Lakes	9.77	37	P	Pn	01 04 30.2	-2.9
TUZ	Tuapeka	9.87	44	P	Pn	01 04 31.6	-2.9
MSZ	Milford Sound	10.30	35	P	Pn	01 04 40.0	-0.4
EAZ	Earnscleugh	10.33	41	P	Pn	01 04 37.7	-3.1
HHSZ	Highcliff Hill	10.34	47	P	Pn	01 04 39.8	-1.2
WKZ	Wanaka	10.56	39		Pn	01 04 41.6	-2.4
WKZ	Wanaka	10.56	39	P	Pn	01 04 41.4	-2.5
ODZ	Otahua Downs	11.03	45		Pn	01 04 46.9	-3.4
ODZ	Otahua Downs	11.03	45	P	Pn	01 04 47.9	-2.4
ODZ	Otahua Downs	11.03	45	P	Pn	01 04 46.1	-4.2
JCZ	Jackson Bay	11.12	36	P	Pn	01 04 51.6	-0.2
JCZ	Jackson Bay	11.12	36	P	Pn	01 04 50.4	-1.4
LBZ	Lake Benmore	11.38	41	Pn	Pn	01 04 51.1	-4.1
LBZ	Lake Benmore	11.38	41	P	Pn	01 04 50.4	-4.8
TMZ	Timaru	11.71	44	P	Pn	01 04 56.4	-3.4
FOZ	Fox Glacier	11.96	38		Pn	01 05 02.7	-0.4
FOZ	Fox Glacier	11.96	38	P	Pn	01 05 00.6	-2.5
ARCZ	Arundel	12.14	43	P	Pn	01 05 03.6	-2.0
RPZ	Rata Peaks	12.29	42		Pn	01 05 04.8	-2.8
RPZ	Rata Peaks	12.29	42	Pn	Pn	01 05 05.9	-1.6
	4.0nm,0.3s,baz=204,slow=4.4,SNR=13						
RPZ				Sn	Sn	01 07 25.8	+1.4
	2.5nm,0.3s,baz=26,slow=22,SNR=1.6						
RPZ				LR	LR	01 08 45.8	
	comp=Z,15μm,21.3s,baz=201,slow=32						
	42nm,0.6s						
RPZ	Rata Peaks	12.29	42	P	Pn	01 05 08.0	+0.4
RPZ	Rata Peaks	12.29	42	S	Sn	01 07 19.0	-5.4
RPZ	Rata Peaks	12.29	42	P	Pn	01 05 05.3	-2.2
WACZ	Wakanui South	12.42	45	P	Pn	01 05 05.3	-4.1
MHCZ	Mount Hutt	12.64	43	P	Pn	01 05 09.2	-3.3
RACZ	Rakaia	12.72	45	P	Pn	01 05 10.6	-2.9
AKCZ	Akaroa Harbour	12.94	47	P	Pn	01 05 14.8	-1.7
MQZ	McQueen's Vall	12.96	46		Pn	01 05 14.6	-2.1
MQZ	McQueen's Vall	12.96	46	P	Pn	01 05 14.4	-2.3
OXZ	Oxford	13.01	44		Pn	01 05 14.4	-3.0
OXZ	Oxford	13.01	44	P	Pn	01 05 14.9	-2.5
OKCZ	Okains Bay	13.12	47	P	Pn	01 05 17.9	-1.1
INZ	Inchbonnie	13.27	41		Pn	01 05 21.0	0.0
AUTAR	Taroona High S	13.35	317	P	Pn	01 05 21.4	-0.7
AUTAR	Taroona High S	13.35	317	S	Sn	01 07 42.9	-7.6
AMCZ	Amberley	13.39	45		Pn	01 05 22.4	-0.2
AMCZ	Amberley	13.39	45	P	Pn	01 05 24.0	+1.4
TAU	Tasmania Unive	13.39	317		Pn	01 05 15.8	-6.8
TAU	Tasmania Unive	13.39	317	P	Pn	01 05 15.8	-6.9
LTZ	Lake Taylor	13.55	43		Pn	01 05 21.6	-3.3
LTZ	Lake Taylor	13.55	43	P	Pn	01 05 21.7	-3.2
GVZ	Greta Valley S	13.72	45		Pn	01 05 26.2	-0.9
GVZ	Greta Valley S	13.72	45	P	Pn	01 05 27.5	+0.4
MOO	Moorlands	13.84	318	P	Pn	01 05 24.5	-4.2
	comp=Z,0.0nmcomp=Z,211nm,0.9s						
MOO	Moorlands	13.84	318	P	Pn	01 05 24.1	-4.6
DSZ	Denniston Nort	14.25	39		Pn	01 05 31.8	-2.6
DSZ	Denniston Nort	14.25	39	P	Pn	01 05 31.8	-2.6
KHZ	Kahutara	14.38	45		Pn	01 05 34.1	-2.1
KHZ	Kahutara	14.38	45	P	Pn	01 05 35.5	-0.7
THZ	Tophouse	14.66	42	Pn	Pn	01 05 37.0	-3.1
THZ	Tophouse	14.66	42	P	Pn	01 05 37.9	-2.2
CORO	Coronation Par	14.70	320	P	Pn	01 05 39.0	-1.4
MRNZ	Matariki Terra	14.91	41	P	Pn	01 05 41.9	-1.5
BSWZ	Blackbirch Sta	15.10	45	P	Pn	01 05 47.0	+1.1
QRZ	Quartz Range	15.32	40	P	Pn	01 05 46.3	-2.5
QRZ	Quartz Range	15.32	40	P	Pn	01 05 46.4	-2.3
TCW	Tory Channel	15.69	44	P	P	01 05 56.1	-1.6
BHW	Baring Head	15.78	46	IAmb	IAmb	01 06 01.0	
	comp=Z,981nm,1.9s						
SNZO	South Karori	15.79	46	P	Pn	01 05 55.4	+0.5
SNZO	South Karori	15.79	46	P	Pn	01 05 54.6	-0.3
PLWZ	Palliser	15.82	47	P	Pn	01 05 55.9	+0.6
DUWZ	D'Urville Isla	15.89	43	P	P	01 05 58.1	-1.8
MSWZ	Moikau Station	15.94	47	P	Pn	01 05 57.0	+0.2
PAWZ	Paruwai Farm	16.04	47	P	Pn	01 05 57.7	-0.6
TRWZ	Traveller	16.15	48	P	Pn	01 05 59.0	-0.5
KIW	Kapiti Island	16.25	45	P	P	01 06 02.3	-1.6
MTW	Mount Morrison	16.26	47	P	Pn	01 06 01.9	+1.0
OGWZ	Otaki Gorge	16.39	46	P	Pn	01 06 03.4	+0.7
HOWZ	Holdsworth Sta	16.48	47	P	Pn	01 06 03.9	+0.1
MRZ	Mangatainoka R	16.70	46	P	Pn	01 06 07.0	+0.4
BFZ	Birch Farm	16.97	48	P	P	01 06 10.9	-1.0
BFZ	Birch Farm	16.97	48	P	Pn	01 06 10.0	0.0
KHEZ	Kahui Hut	17.21	40	P	Pn	01 06 11.9	-1.2
KHEZ	Kahui Hut	17.21	40	P	P	01 06 16.5	+1.8
DVHZ	Dannevirke	17.25	47	P	P	01 06 15.2	+0.2
NEZ	North Egmont	17.26	40	P	P	01 06 18.3	+3.1
PNHZ	Pukenui	17.58	46	P	P	01 06 19.8	+1.0
VRZ	Vera Road	17.65	42	P	P	01 06 23.3	+3.9
AUSSC	Sale College,	17.67	325	P	Pn	01 06 18.1	-0.6
PKVZ	Pokaka	17.75	43	P	P	01 06 25.0	+4.4
KRHZ	Kereru	17.88	46	P	P	01 06 24.5	+2.5
NGZ	Ngauruhoe	17.95	44	P	P	01 06 27.9	+5.0
SNVZ	South Ngauruho	17.95	44	P	P	01 06 25.3	+2.4
KAHZ	Kahuranaki	17.98	47	P	P	01 06 24.6	+1.5
MILA	Mila	17.98	332	P	Pn	01 06 20.5	-2.1
	comp=Z,67nm,1.8s						
NNVZ	North Ngauruho	17.99	44	P	P	01 06 26.4	+3.0
WTVZ	West Tongariro	17.99	43	P	P	01 06 28.3	+5.0
ETVZ	East Tongariro	18.03	44	P	P	01 06 28.4	+4.7
TMVZ	Te Maari	18.04	44	P	P	01 06 26.1	+2.2
KWHZ	Kaweka Forest	18.09	46	P	P	01 06

comp=Z,2μm,27.8s
DZM eLQ LQ 01 15 31.9
comp=Z,3μm,24.6s
DZM eLR LR 01 16 53.0
comp=Z,11μm,23.1s
DZM Mont Dzumac 31.76 12 LR LR 01 18 38.8
comp=Z,6μm,21.6s,baz=193,slow=31
DZM Mont Dzumac 31.76 12 P **P 01 08 37.2 +0.3**
FORT Forrest 32.21 302 P **P 01 08 41.2 +0.4**
comp=Z,98nm,1.1s
ASAR Alice Springs 35.57 317 P **P 01 09 07.8 -2.3**
comp=Z,28nm,0.7s,baz=154,slow=8.1,SNR=26
ASAR PcP **PcP 01 11 38.5 -0.4**
comp=Z,15nm,1.1s,baz=143,slow=3.2,SNR=2.9
comp=Z,28nm,0.7s
QIS Mount Isa 36.30 327 P **P 01 09 14.0 -2.3**
comp=Z,53nm,1.3s
QIS Mount Isa 36.30 327 P **P 01 09 14.9 -1.4**
NWAO Narrogin (SRO) 36.45 287 LR LR 01 21 33.8
comp=Z,2μm,18.1s,baz=102,slow=32
QSPA South Pole Qui 36.65 180 P **P 01 09 20.2 +1.1**
QSPA South Pole Qui 36.65 180 P **P 01 09 20.2 +1.1**
comp=Z,205nm,0.9s,baz=4.3,slow=2.9,SNR=262
QSPA PP **PP 01 10 36.0 -6.2**
comp=Z,43nm,1.1s,baz=296,slow=2.5,SNR=3.7
QSPA LR LR 01 22 08.7
comp=Z,6μm,20.2s,baz=24,slow=33
comp=Z,205nm,0.9s
H01W1 Cape Leeuwin H 36.82 282 P **P 01 09 18.2 -2.1**
baz=39,slow=76,SNR=6.5
H01W1 T T 01 48 01.5
baz=134,slow=75,SNR=4185
H01W2 Cape Leeuwin H 36.83 282 P **P 01 09 18.3 -2.1**
baz=39,slow=76,SNR=6.9
H01W2 T T 01 48 02.1
baz=134,slow=75,SNR=3877
H01W3 Cape Leeuwin H 36.84 282 P **P 01 09 18.4 -2.1**
baz=39,slow=76,SNR=4.3
H01W3 T T 01 48 02.8
baz=134,slow=75,SNR=3803
WRKA Warakurna 36.86 308 P **P 01 09 20.3 -0.8**
comp=Z,96nm,1.4s
KLBR Kellerberrin 37.14 289 P **P 01 09 21.2 -2.2**
comp=Z,142nm,0.8s
MUN Mundaring 37.73 287 P **P 01 09 26.3 -2.1**
comp=Z,161nm,1.9s
MSVF Nonsavu 38.41 29 IAMs_20 IAMs_20 01 23 53.4
comp=Z,5μm,18.0s
MSVF Nonsavu 38.41 29 LR LR 01 24 03.8
comp=Z,4μm,18.1s,baz=198,slow=34
MSVF Nonsavu 38.41 29 *i*P **P 01 09 32.9 -1.3**
MSVF pmax pmax
comp=Z,14nm,1.0s
BLDU Ballidu 38.46 289 P **P 01 09 33.0 -1.6**
comp=Z,83nm,2.0s
BLDU Ballidu 38.46 289 P **P 01 09 36.7 +2.1**
WR0 Warramunga Arr 38.65 320 P **P 01 09 32.7 -3.5**
WRA Warramunga Arr 38.74 320 P **P 01 09 33.9 -3.1**
WRA Warramunga Arr 38.74 320 P **P 01 09 33.9 -3.1**
comp=Z,36nm,0.9s,baz=152,slow=7.6,SNR=25
WRA PcP **PcP 01 11 47.5 -1.1**
comp=Z,22nm,1.0s,baz=152,slow=2.4,SNR=5.5
WRA LR LR 01 23 15.4
comp=Z,3μm,21.9s,baz=166,slow=33
comp=Z,36nm,0.9s
WRA Warramunga Arr 38.74 320 *e*P **P 01 09 33.8 -3.2**
WRA pmax pmax
comp=Z,54nm,0.9s
WRAB Tennant Creek 38.75 320 *c i*P **P 01 09 33.7 -3.3**
WRAB pmax pmax
comp=Z,73nm,1.4s
MORW Morawa 40.01 290 **P 01 09 45.8 -1.7**
MORW IAmb IAmb 01 09 50.5
comp=Z,126nm,1.1s
DGTI Dogotuki 40.26 31 P **P 01 09 50.1 +0.5**
COEN Coen 41.54 335 P **P 01 09 58.3 -1.9**
COEN IAmb IAmb 01 10 03.7
comp=Z,162nm,1.2s
COEN IAMs_20 IAMs_20 01 25 03.8
comp=Z,6μm,20.0s
COEN Coen 41.54 335 P **P 01 09 58.4 -1.8**
comp=Z,123nm,1.1s
COEN Coen 41.54 335 P **P 01 09 58.5 -1.7**
HNR Honiara 43.91 0 IAMs_20 IAMs_20 01 24 17.3
comp=Z,5μm,21.0s
HNR Honiara 43.91 0 LR LR 01 24 39.1
comp=Z,5μm,21.3s,baz=190,slow=31
HNR Honiara 43.91 0 P **P 01 10 20.8 +1.4**
FITZ Fitzroy Crossi 44.07 310 P **P 01 10 18.8 -1.9**
comp=Z,19nm,1.3s
FITZ Fitzroy Crossi 44.07 310 LR LR 01 25 29.7
comp=Z,1μm,21.5s,baz=153,slow=32
FITZ Fitzroy Crossi 44.07 310 P **P 01 10 22.8 +2.1**
SAVO Savo Central 44.19 0 P **P 01 10 22.0 +0.3**
MBWA Marble Bar 44.34 301 P **P 01 10 19.9 -3.0**
MBWA IAmb IAmb 01 10 25.8
comp=Z,241nm,1.6s
MBWA Marble Bar 44.34 301 P **P 01 10 20.0 -2.8**
comp=Z,98nm,1.1s
MBWA Marble Bar 44.34 301 P **P 01 10 23.3 +0.4**
MAW Mawson 44.52 213 LR LR 01 27 45.6
comp=Z,5μm,18.2s,baz=114,slow=34
RAR Rarotonga 44.55 60 P **P 01 10 24.9 +0.4**
RAR Rarotonga 44.55 60 LR LR 01 27 59.9
comp=Z,2μm,19.0s,baz=214,slow=35
RAR Rarotonga 44.55 60 P **P 01 10 25.0 +0.4**
RAR Rarotonga 44.55 60 P **P 01 10 24.9 +0.4**
RAR pmax pmax
comp=Z,56nm,1.0s
ALEG Aligegeo Malai 44.59 1 P **P 01 10 26.4 +1.6**
KNRA Kununurra 44.84 315 P **P 01 10 24.7 -2.1**
comp=Z,111nm,1.0s
TATA Tatamba Isabel 44.95 0 P **P 01 10 28.9 +1.2**
PMG Port Moresby 45.09 342 IAMs_20 IAMs_20 01 27 07.3
comp=Z,4μm,20.0s
PMG Port Moresby 45.09 342 LR LR 01 27 27.4
comp=Z,4μm,18.6s,baz=171,slow=34
KDU Kakadu 46.08 322 P **P 01 10 34.5 -2.2**
comp=Z,70nm,1.0s
MTN Manton Dam 46.45 320 P **P 01 10 36.7 -2.9**
comp=Z,69nm,1.0s
MTN Manton Dam 46.45 320 P **P 01 10 41.1 +1.5**
DRS Darwin Rock St 46.91 320 P **P 01 10 41.6 -1.6**
TBI Tubuai 48.46 72 *e*P **P 01 10 53.9 -1.3**
comp=Z,187nm,1.2s
TBI Tubuai 48.46 72 *e*PP **PP 01 12 46.1 -1.7**
comp=Z,667nm,31.5s
TBI *e*S **S 01 17 54.8 -1.1**
comp=Z,12μm,28.8s
TBI *e*SS **SS 01 21 26.7 +1.2**
comp=Z,3μm,26.8s
TBI *e*LQ LQ 01 22 39.8
comp=Z,15μm,27.0s
TBI *e*LR LR 01 24 31.7
comp=Z,39μm,31.8s
TBI *e*LR LR 01 24 35.0
comp=Z,8μm,30.8s
BELA Belgrano 2 48.62 176 P **P 01 10 56.5 +0.7**
SYO Syowa Base 50.24 204 ‖ *i*P **P 01 11 07.0 -1.2**
SYO Syowa Base 50.24 204 ‖ *e*pP pP 01 11 09.8 -0.5
SYO Syowa Base 50.24 204 ‖ *i*sP sP 01 11 10.6 -0.5
SYO Syowa Base 50.24 204 ⇑ *i*PcP **PcP 01 12 24.2 -2.8**
TABU Tabubil 50.38 336 P **P 01 11 10.7 +0.8**
SAUI Saumlaki 50.85 323 IAMs_20 IAMs_20 01 32 54.2
comp=Z,7μm,22.0s
ELIB Princess Elisa 51.20 196 *d*P **P 01 11 14.7 -0.9**
comp=Z,112nm,1.2s
SOEI Soe 52.05 314 IAMs_20 IAMs_20 01 32 44.0
comp=Z,4μm,18.0s
SOEI Soe 52.05 314 P **P 01 11 24.8 +2.2**
MANU Manus Island 52.26 344 P **P 01 11 23.3 -0.7**
MANU IAmb IAmb 01 11 29.6
comp=Z,224nm,1.6s
PAE Paea 52.92 68 *e*P **P 01 11 27.3 -1.6**
comp=Z,29nm,1.1s
PAE Paea 52.92 68 *e*LR LR 01 26 44.8
comp=Z,973nm,23.3s
PPT2 Papeete2 52.98 68 *e*P **P 01 11 29.3 -0.2**
comp=Z,59nm,1.1s
PPT2 Papeete2 52.98 68 *e*PP **PP 01 13 23.1 -6.0**
comp=Z,154nm,29.5s
PPT2 *e*S **S 01 18 59.3 +0.3**
comp=Z,3μm,29.2s
PPT2 *e*SS **SS 01 22 40.9 +3.0**
comp=Z,548nm,25.8s
PPT2 *e*LQ LQ 01 24 29.3
comp=Z,2μm,25.2s
PPT2 *e*LR LR 01 26 42.8
comp=Z,6μm,24.2s
PPT2 *e*LR LR 01 26 43.2
comp=Z,5μm,30.5s
PPT Papeete 53.00 68 P **P 01 11 29.3 -0.2**
comp=Z,15nm,0.3s,baz=226,slow=5.6,SNR=5.2
PPT LR LR 01 30 22.7
comp=Z,2μm,19.6s,baz=223,slow=32
comp=Z,15nm,0.3s
TVO Taravao 53.01 68 *e*P **P 01 11 29.7 +0.1**
comp=Z,67nm,1.3s
TVO Taravao 53.01 68 *e*LR LR 01 26 44.4
comp=Z,1μm,23.5s
JAY Jayapura 53.16 336 P **P 01 11 27.8 -2.8**
comp=Z,14nm,0.8s,baz=200,slow=3.7,SNR=6.7
JAY LR LR 01 32 42.1
comp=Z,2μm,19.4s,baz=170,slow=35
comp=Z,14nm,0.8s
JAY Jayapura 53.16 336 P **P 01 11 34.7 +4.0**
comp=Z,2μmcomp=Z,65nm,1.4s
GENI Genyem 53.21 335 P **P 01 11 30.8 -0.2**
GENI Genyem 53.21 335 P P 01 11 36.9 +5.9
TROLL Troll, Antarti 53.80 189 ⇑P **P 01 11 34.7 -0.2**
comp=Z,4μm,0.9s
SMAI San Martin Ant 53.85 160 P **P 01 11 36.6 +1.5**
MMRI Maumere 53.94 312 P **P 01 11 34.9 -1.5**
MMRI IAmb IAmb 01 11 41.7
comp=Z,112nm,1.2s
MMRI Maumere 53.94 312 P **P 01 11 39.1 +2.7**
MMRI Maumere 53.94 312 P **P 01 11 40.4 +4.0**
comp=Z,4μmcomp=Z,79nm,1.1s
NVL N'lazarevskaya 53.96 193 *e*P **P 01 11 32.8 -3.0**
NVL pmax pmax
comp=Z,373nm,1.2s
SMPI Sarmi 54.16 334 P **P 01 11 37.3 -0.7**
comp=Z,3μmcomp=Z,162nm,1.3s
SNAA Sanae 54.56 187 P **P 01 11 40.1 -0.3**
SNAA Sanae 54.56 187 ⇑P **P 01 11 40.0 -0.3**
comp=Z,3μm,1.1s
SNAA Sanae 54.56 187 P **P 01 11 40.0 -0.3**
comp=Z,262nm,1.2s,baz=172,slow=7.3,SNR=137
SNAA LR LR 01 34 30.0
comp=Z,7μm,19.1s,baz=174,slow=36
comp=Z,262nm,1.2s
SNAA Sanae 54.56 187 *c i*P **P 01 11 39.9 -0.4**
SNAA pmax pmax
comp=Z,477nm,1.3s
FAKI Fak Fak 55.23 326 P **P 01 11 43.2 -2.5**
FAKI IAmb IAmb 01 11 52.6
comp=Z,214nm,1.7s
FAKI IAMs_20 IAMs_20 01 33 28.4
comp=Z,3μm,20.0s
FAKI Fak Fak 55.23 326 P **P 01 11 47.6 +1.9**
FAKI Fak Fak 55.23 326 P **P 01 11 48.3 +2.6**
comp=Z,2μmcomp=Z,66nm,0.8s
VNA3 Neumayer Olymp 55.37 184 ⇑P **P 01 11 45.6 -0.5**
comp=Z,143nm,0.8s
VNA2 Neumayer--Watz 55.57 185 ⇑P **P 01 11 47.3 -0.3**
comp=Z,97nm,0.8s,baz=171,slow=5.8
BAKI Biak 55.65 331 P **P 01 11 52.9 +4.1**
comp=Z,3μmcomp=Z,139nm,1.5s
VNA1 Neumayer--Stat 55.89 185 ⇑P **P 01 11 49.9 +0.1**
comp=Z,446nm,1.1s
VAH Vaihoa 55.97 68 *e*P **P 01 11 49.4 -1.7**
comp=Z,110nm,1.4s
VAH Vaihoa 55.97 68 *e*LR LR 01 28 10.2
comp=Z,6μm,24.6s
PMOR Pomariorio Ree 56.02 67 *e*P **P 01 11 51.2 -0.2**
comp=Z,179nm,1.4s
PMOR Pomariorio Ree 56.02 67 *e*LR LR 01 28 08.0
comp=Z,6μm,24.3s
BBSI Bau Bau 56.60 314 P **P 01 11 58.5 +2.9**
comp=Z,4μmcomp=Z,113nm,1.2s
NLAI Namlea 56.79 320 P **P 01 11 56.0 -0.9**
BSSI Bau Bau, Buton 56.93 311 P **P 01 11 58.1 +0.2**
comp=Z,2μmcomp=Z,182nm,1.1s
PMSA Palmer Station 57.37 159 LR LR 01 31 30.0
comp=Z,1μm,21.2s,baz=208,slow=31
PMSA Palmer Station 57.37 159 *e*P **P 01 12 02.8 +2.4**
SWI Sorong 57.48 326 P **P 01 12 02.7 +0.9**
comp=Z,2μmcomp=Z,81nm,0.9s
SRBI Singaraja 57.71 305 P **P 01 12 06.5 +3.0**
comp=Z,2μmcomp=Z,170nm,1.1s
JAGI Jajag, Banyuwa 57.91 303 P **P 01 12 08.3 +3.4**
KDI Kendari 57.95 315 P **P 01 12 04.5 -0.6**
comp=Z,3μmcomp=Z,85nm,1.2s
KAPI Kappang 58.26 311 P **P 01 12 06.8 -0.5**
KAPI IAmb IAmb 01 13 27.8
comp=Z,175nm,1.9s
KAPI Kappang 58.26 311 P **P 01 12 06.1 -1.2**
comp=Z,11nm,0.5s,baz=178,slow=6.4,SNR=4.1
comp=Z,11nm,0.5s
KAPI Kappang 58.26 311 P **P 01 12 09.8 +2.5**
KAPI Kappang 58.26 311 *i* P **P 01 12 05.9 -1.4**
KAPI pmax pmax
comp=Z,38nm,1.1s
SANI Sanana 58.31 319 P **P 01 12 06.6 -1.1**
SANI Sanana 58.31 319 P **P 01 12 06.5 -1.1**
comp=Z,1μmcomp=Z,109nm,1.1s
GMJI Gumukmas 58.43 303 P **P 01 12 11.3 +2.8**
comp=Z,48nm,1.1s
SPSI Sidrap Palu 59.19 312 P **P 01 12 13.8 +0.1**
comp=Z,1μmcomp=Z,62nm,1.4s
KMMI Kalianget 59.22 304 P **P 01 12 17.8 +3.8**
comp=Z,127nm,1.4s
PCJI Pacitan 59.65 301 P **P 01 12 20.8 +3.9**
comp=Z,117nm,1.2s
TTSI Tana Toraja 59.98 312 P **P 01 12 20.3 +1.1**
comp=Z,71nm,1.4s
GRJI Gresik 60.08 303 P **P 01 12 24.1 +4.2**
UGM Wanagama 60.23 300 P **P 01 12 24.1 +3.1**
LUWI Luwuk 60.52 316 P **P 01 12 25.5 +2.6**
LUWI Luwuk 60.52 316 P **P 01 12 26.4 +3.5**
comp=Z,2μmcomp=Z,123nm,1.2s
BBJI Bungbulang 62.11 298 P **P 01 12 36.6 +2.8**
MRSI Marisa 62.23 316 P **P 01 12 36.3 +1.8**
comp=Z,46nm,1.3s
LEM Lembang 62.66 298 P **P 01 12 37.9 +0.3**
comp=Z,203nm,1.1s,baz=161,slow=8.9,SNR=6.2
LEM LR LR 01 35 39.9
comp=Z,1μm,22.0s,baz=138,slow=32
comp=Z,203nm,1.1s
H04S2 CROZET ISLANDS 62.79 227 T T 02 21 47.4
baz=243,slow=74,SNR=30
H04S1 CROZET ISLANDS 62.79 227 T T 02 21 47.4
baz=141,slow=74,SNR=26
H04S3 CROZET ISLANDS 62.80 227 T T 02 21 47.5
SNR=505
CRZF Crozet Islands 63.13 228 IAMs_20 IAMs_20 01 35 22.0
comp=Z,3μm,19.0s
TOLI2 Tolitoli 63.29 315 P **P 01 12 39.2 -2.3**
TOLI2 IAmb IAmb 01 12 53.7
comp=Z,103nm,1.2s
TOLI2 Tolitoli 63.29 315 P **P 01 12 43.5 +2.0**
CGJI Cibinong 63.86 296 P **P 01 12 47.6 +2.3**
comp=Z,2μmcomp=Z,133nm,1.4s
MG03 Isla Dawson 65.23 150 P **P 01 12 54.0 +0.1**
GO10 Punta Arenas 65.66 149 P **P 01 12 57.7 +1.1**
MDSI Maura Dua 66.45 296 P **P 01 13 03.4 +1.2**
comp=Z,1μmcomp=Z,82nm,1.5s
MG05 Puerto Natales 66.47 148 P **P 01 13 02.3 +0.5**
STKI Sintang 66.60 306 P **P 01 13 03.6 +0.5**
comp=Z,49nm,1.0s
DAV Davao City (W) 66.85 323 LR LR 01 44 08.4
comp=Z,431nm,19.7s,baz=143,slow=38
MYLDM Lahad Datu 67.92 315 P **P 01 13 14.4 +3.0**
GUMO Guam 67.99 344 LR LR 01 42 19.3
comp=Z,734nm,18.1s,baz=180,slow=36
SBUM Sibu 68.32 308 P **P 01 13 12.3 -1.6**
SBUM Sibu 68.32 308 P **P 01 13 16.6 +2.7**
KKM Kota Kinabalu 69.67 313 P **P 01 13 25.4 +2.9**
PPSI Pulau Pagai 70.15 293 P P 01 13 31.3 +5.9
TPRI Tanjung Pinang 70.83 300 P **P 01 13 33.1 +3.6**
HOPE Hope Point 71.78 170 P **P 01 13 35.7 +1.0**
HOPE Hope Point 71.78 170 *e*P **P 01 13 35.7 +1.0**
PPI Padang Panjang 71.86 295 P **P 01 13 36.5 +0.8**
comp=Z,2μmcomp=Z,136nm,1.3s
COYC Coyhaique 71.89 144 IAmb IAmb 01 13 38.3
comp=Z,129nm,1.9s
MYKOM Kota Tinggi 71.92 299 P **P 01 13 40.1 +4.1**
MNSI Mandailing Nat 73.35 295 P **P 01 13 47.4 +2.8**
comp=Z,85nm,1.4s
PBSI Pulau Batu 73.35 294 P P 01 13 50.1 +5.5
comp=Z,3μmcomp=Z,157nm,1.2s
LL06 Loncomilla 74.25 142 IAmb IAmb 01 14 03.1
comp=Z,176nm,1.6s
GSI Gunungsitoli 74.87 294 P **P 01 13 56.9 +3.5**
GSI Gunungsitoli 74.87 294 P **P 01 13 57.1 +3.7**
comp=Z,187nm,1.4s
TGY Tagaytay City 75.04 321 LR LR 01 48 08.4
comp=Z,334nm,19.2s,baz=132,slow=37
RPSI Rantau Prapat 75.29 296 IAmb IAmb 01 13 59.4
comp=Z,70nm,1.2s
PSI Prapat 75.38 296 P **P 01 13 58.6 +2.0**
LL03 Petrohue 75.63 142 IAmb IAmb 01 14 22.1
comp=Z,94nm,1.1s
IPM Ipoh 75.67 298 P **P 01 14 00.8 +2.7**
SNSI Sinabang, Aceh 76.47 293 P **P 01 14 06.9 +4.3**
KULM Kulim 76.55 299 IAmb IAmb 01 14 07.3
comp=Z,150nm,1.4s
KULM Kulim 76.55 299 P **P 01 14 05.9 +2.8**
LR05 Currie 76.58 142 IAmb IAmb 01 14 26.7
comp=Z,91nm,1.2s
PLCA Paso Flores 76.66 143 P **P 01 14 03.8 +0.2**
comp=Z,7.5nm,1.0s,baz=213,slow=6.7,SNR=8.3
PLCA LR LR 01 40 25.5
comp=Z,953nm,20.9s,baz=208,slow=30
comp=Z,7.5nm,1.0s
PLCA Paso Flores 76.66 143 *e*P **P 01 14 05.0 +1.5**
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 76.66 143 *e*P **P 01 14 05.0 +1.5**
MLSI Meulaboh, Aceh 77.97 294 P **P 01 14 13.9 +2.9**
DLV Lat 78.38 309 P **P 01 14 15.7 +2.3**
LHMI Lhok Sumawe 78.48 295 P **P 01 14 17.7 +3.9**
LHMI Lhok Sumawe 78.48 295 P **P 01 14 17.6 +3.8**
comp=Z,2μmcomp=Z,128nm,1.1s
H03S2 Juan Fernandez 79.32 134 T T 02 42 31.8
baz=215,slow=74,SNR=2269
H03S1 Juan Fernandez 79.32 134 T T 02 42 33.1
baz=205,slow=74,SNR=2059
H03S3 Juan Fernandez 79.33 134 T T 02 42 28.2
SNR=6.5
BSI Banda Aceh 79.60 294 P P 01 14 25.5 +5.5
comp=Z,894nmcomp=Z,51nm,1.5s
H03N3 Juan Fernandez 79.64 133 T T 02 42 55.1
baz=217,slow=76,SNR=1083
H03N2 Juan Fernandez 79.65 133 T T 02 42 53.8
baz=217,slow=76,SNR=1217
H03N1 Juan Fernandez 79.66 133 T T 02 42 54.0
baz=217,slow=76,SNR=1115
SRIT Nakonsritamara 79.89 299 P **P 01 14 24.8 +3.3**
ML02 Panimavida 80.72 140 IAmb IAmb 01 14 54.2
comp=Z,140nm,1.6s
JCJ Chichijima 81.66 344 LR LR 01 47 55.8
comp=Z,209nm,20.6s,baz=166,slow=34
BO02 Sierra Bellavi 81.81 140 IAmb IAmb 01 14 45.9
comp=Z,80nm,0.9s
TRQA Tornquist 81.97 148 P **P 01 14 32.0 -0.5**
TRQA IAmb IAmb 01 14 39.1
comp=Z,57nm,1.0s
TRQA Tornquist 81.97 148 P **P 01 14 32.0 -0.5**
TRQA pmax pmax
comp=Z,57nm,1.0s
BO01 Tunca 82.05 140 P **P 01 14 33.0 0.0**
BO01 IAmb IAmb 01 14 49.3
comp=Z,60nm,1.4s
H08S2 Diego Garcia H 82.27 268 T T 02 44 52.3
baz=143,slow=76,SNR=191
H08S1 Diego Garcia H 82.28 268 T T 02 44 51.9
baz=143,slow=76,SNR=91
H08S3 Diego Garcia H 82.29 268 T T 02 44 53.8
baz=143,slow=76,SNR=628
MT01 Popeta 82.45 139 IAmb IAmb 01 14 48.7
comp=Z,57nm,1.1s
MT09 Talagante 82.63 139 IAmb IAmb 01 14 52.4
comp=Z,44nm,1.2s
UBPT Khong Chiam 82.70 308 P **P 01 14 39.1 +2.8**
FOMA Nahampoana Res 82.72 238 IAMs_20 IAMs_20 01 44 09.9
comp=Z,2μm,20.0s
LMEL Las Melosas 82.87 140 IAmb IAmb 01 14 54.5
comp=Z,48nm,0.8s
MT02 Curacav 83.03 139 IAmb IAmb 01 14 59.4
comp=Z,52nm,1.2s
VA01 Torpederas 83.04 139 IAmb IAmb 01 14 44.7
comp=Z,54nm,1.0s
MT05 Renca 83.07 139 IAmb IAmb 01 14 55.0
comp=Z,62nm,1.0s
MT08 Bocatoma Ro 83.30 140 IAmb IAmb 01 14 54.8
comp=Z,35nm,0.9s
PEL Peldehue 83.31 139 IAmb IAmb 01 14 52.8
comp=Z,50nm,1.1s
VA06 Catapilco 83.58 139 IAmb IAmb 01 14 48.0
comp=Z,35nm,1.0s
VA03 San Esteban 83.70 139 IAmb IAmb 01 14 53.8
comp=Z,67nm,1.3s
NAYO Nakonayok 83.88 304 P **P 01 14 46.3 +3.9**
QIZ Qiongzhong 83.99 313 IAmb IAmb 01 14 48.0
comp=Z,69nm,1.3s
QIZ Qiongzhong 83.99 313 P **P 01 14 43.2 +0.2**
QIZ S **S 01 25 09.9 +3.0**
QIZ pmax pmax
comp=Z,39nm,1.4s
QIZ pmax pmax
comp=Z,300nm,5.3s
QIZ LR LR
comp=Z,770nm,20.6s
QIZ LR LR
comp=Z,2μm,20.6s
QIZ LR LR
comp=Z,730nm,22.0s
QIZ Qiongzhong 83.99 313 P **P 01 14 45.8 +2.8**
JOW Kunigami 84.50 332 P **P 01 14 44.2 -1.1**
comp=Z,17nm,0.8s,baz=42,slow=1.9,SNR=4.5
JOW LR LR 01 52 19.4
comp=Z,614nm,18.7s,baz=151,slow=36
comp=Z,17nm,0.8s
GRHM Grahamstown, E 84.61 218 IAMs_20 IAMs_20 01 47 53.9
comp=Z,2μm,20.0s
SRDT SRDT 85.01 302 P **P 01 14 51.6 +3.4**
CO03 El Pedregal 85.34 138 IAmb IAmb 01 15 03.7
comp=Z,33nm,1.1s
VOI Vohitsoka 85.36 239 P **P 01 14 48.6 -1.6**
QZH Quanzhou 85.83 323 P **P 01 14 55.6 +3.5**
QZH S **S 01 25 31.6 +6.7**
QZH SS **SS 01 31 02.2 -0.6**
QZH LR LR
comp=Z,760nm,18.4s
QZH LR LR
comp=Z,1μm,24.1s
QZH LR LR
comp=Z,570nm,15.5s
NONG Nongkai 86.20 307 P **P 01 14 54.2 +0.1**
CO01 Juntas del Tor 86.34 138 IAmb IAmb 01 15 02.3
comp=Z,48nm,1.2s
SUR Sutherland 87.37 214 P **P 01 14 59.6 -0.4**
SUR Sutherland 87.37 214 LR LR 01 48 53.3
comp=Z,926nm,20.9s,baz=154,slow=32
ABPO Ambohimpanom 87.53 241 P **P 01 15 01.2 +0.3**
ABPO Ambohimpanom 87.53 241 IAMs_20 IAMs_20 01 47 09.3
comp=Z,2μm,19.0s
ABPO Ambohimpanom 87.53 241 P **P 01 15 01.2 +0.3**
ABPO pmax pmax
comp=Z,202nm,1.5s
POGA Pongola 87.79 225 IAmb IAmb 01 15 07.7
comp=Z,96nm,1.4s
JHJ Hachijo jima 2 87.95 343 LR LR 01 51 45.1
comp=Z,617nm,20.6s,baz=278,slow=34
CMAR Chiang Mai Arr 88.58 304 P **P 01 15 04.7 -0.9**
CMAR Chiang Mai Arr 88.58 304 P **P 01 15 05.0 -0.6**
comp=Z,7.3nm,0.9s,baz=171,slow=3.7,SNR=25
CMAR LR LR 01 52 55.3
comp=Z,306nm,20.9s,baz=140,slow=34
comp=Z,7.3nm,0.9s
CMAR Chiang Mai Arr 88.58 304 *e*P **P 01 15 05.0 -0.6**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
SLVN Son La 88.67 310 IAmb IAmb 01 15 11.1
comp=Z,63nm,1.5s
SLVN Son La 88.67 310 P **P 01 15 06.9 +0.9**
CHTO Chiang Mai 88.88 304 P **P 01 15 05.8 -1.1**
CHTO Chiang Mai 88.88 304 P **P 01 15 05.9 -1.1**
CHTO pmax pmax
comp=Z,90nm,1.3s
BOSA Boshof 89.22 219 P **P 01 15 07.7 -1.1**
BOSA IAmb IAmb 01 15 14.0
comp=Z,58nm,1.3s
BOSA Boshof 89.22 219 P **P 01 15 08.1 -0.7**
comp=Z,21nm,0.9s,baz=168,slow=5.5,SNR=15
BOSA LR LR 01 49 42.8
comp=Z,1μm,18.6s,baz=159,slow=32
comp=Z,21nm,0.9s
BOSA Boshof 89.22 219 P **P 01 15 07.7 -1.1**
BOSA pmax pmax

comp=Z,58nm,1.3s
PALK Pallekele 89.31 283 P **P 01 15 09.5 +0.3**
PALK Pallekele 89.31 283 LR LR 01 46 35.8
comp=Z,1μm,21.6s,baz=141,slow=30
PALK Pallekele 89.31 283 *c i*P **P 01 15 08.3 -0.9**
GULI GuiLin 89.32 317 P **P 01 15 13.0 +4.2**
GULI S **S 01 26 04.1 +5.8**
GULI pmax pmax
comp=Z,30nm,1.6s
GULI LR LR
comp=Z,400nm,22.9s
GULI LR LR
comp=Z,700nm,22.6s
GULI LR LR
comp=Z,770nm,21.9s
AC02 Maricunga 89.52 138 IAmb IAmb 01 15 18.1
comp=Z,50nm,1.5s
TBOT Tacuaremb 89.72 150 *e*P **P 01 15 11.2 +0.3**
JNU Nakatsue 89.80 336 P **P 01 15 11.4 +0.5**
JNU Nakatsue 89.80 336 LR LR 01 52 30.6
comp=Z,938nm,21.3s,baz=170,slow=34
JNU Nakatsue 89.80 336 P **P 01 15 14.0 +3.1**
PLTB Pedras Altas 90.32 152 IAmb IAmb 01 15 21.5
comp=Z,60nm,1.0s
PLTB Pedras Altas 90.32 152 *e*P **P 01 15 13.6 -0.2**
SSE Sheshan 90.62 328 P **P 01 15 15.2 +0.5**
SSE S **S 01 26 12.7 +2.6**
SSE pmax pmax
comp=Z,23nm,0.7s
SSE pmax pmax
comp=Z,240nm,3.6s
SSE LR LR
comp=Z,270nm,22.8s
SSE LR LR
comp=Z,430nm,23.2s
GO02 Mina Guanaco 90.82 137 IAmb IAmb 01 15 35.8
comp=Z,25nm,0.9s
MJAR Matsushiro Arr 91.56 343 P **P 01 15 17.7 -1.3**
comp=Z,3.7nm,0.8s,baz=175,slow=5.7,SNR=11
MJAR LR LR 01 53 39.6
comp=Z,414nm,20.5s,baz=170,slow=34
comp=Z,3.7nm,0.8s
MAJO Matsushiro 91.56 343 P **P 01 15 22.4 +3.4**
MAJO Matsushiro 91.56 343 *e*P **P 01 15 22.0 +3.0**
MAJO pmax pmax
comp=Z,44nm,1.2s
CPSB Cacapava Do Su 91.65 152 *e*P **P 01 15 20.3 +0.4**
GYA Guiyang 91.90 314 P **P 01 15 24.1 +3.1**
GYA SKS **SKSac 01 25 52.5 -1.2**
GYA S **S 01 26 21.4 -0.8**
GYA pmax pmax
comp=Z,26nm,1.8s
GYA LR LR
comp=Z,510nm,17.2s
GYA LR LR
comp=Z,410nm,16.3s
GYA LR LR
comp=Z,830nm,22.0s
MAKGR Makgori 91.92 220 *i* P **P 01 15 21.0 -0.4**
NJ2 Nanjing 92.26 326 ⇑P **P 01 15 25.3 +3.0**
NJ2 S **S 01 26 27.7 +2.8**
NJ2 SS **SS 01 32 38.0 +1.9**
NJ2 pmax pmax
comp=Z,27nm,1.2s
NJ2 pmax pmax
comp=Z,700nm,7.7s
NJ2 LR LR
comp=Z,340nm,22.3s
NJ2 LR LR
comp=Z,410nm,19.4s
NJ2 LR LR
comp=Z,510nm,18.9s
LBTB Lobatse 92.33 221 IAmb IAmb 01 15 29.7
comp=Z,32nm,1.4s
LBTB Lobatse 92.33 221 LR LR 01 50 02.3
comp=Z,1μm,21.5s,baz=156,slow=31
WHN Wuhan 92.46 322 P **P 01 15 24.8 +1.5**
WHN pP **sP 01 15 27.8 +1.5**
WHN PP **PP 01 19 05.4 +0.5**
WHN S **S 01 26 31.8 +5.0**
WHN sS **sS 01 26 36.6 +6.2**
WHN pmax pmax
comp=Z,44nm,0.6s
WHN LR LR
comp=Z,1μm,19.3s
KMI Kunming 92.47 310 ⇑P **P 01 15 24.5 +0.7**
KMI S **S 01 26 29.1 +1.4**
KMI pmax pmax
comp=Z,20nm,1.3s
KMI pmax pmax
comp=Z,230nm,6.6s
KMI LR LR
comp=Z,440nm,21.9s
KMI LR LR
comp=Z,430nm,18.4s
KMI LR LR
comp=Z,790nm,21.4s
PHPEN Phepeng 92.96 218 *i* P **P 01 15 25.6 -0.6**
JSD Sado 93.01 343 P **P 01 15 29.0 +3.4**
CNLB Canela 93.39 154 *e*P **P 01 15 29.4 +1.4**
SKOMA Sekoma 93.42 220 *i* P **P 01 15 27.6 -0.7**
LPHEP Lephephe 93.71 222 *i* P **P 01 15 29.3 -0.4**
TJN Taejon 93.77 334 IAMs_20 IAMs_20 01 56 46.8
comp=Z,2μm,21.0s
PZH PanZhiHua 94.11 310 P **P 01 15 29.8 -1.4**
PZH SKS **SKSac 01 26 06.8 +0.8**
PZH S **S 01 26 42.3 +0.4**
PZH SS **SS 01 33 03.4 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH LR LR
comp=Z,440nm,20.0s
PZH LR LR
comp=Z,680nm,21.0s
PZH LR LR
comp=Z,560nm,21.1s
KDWAN Kaudwane 94.17 221 *i* P **P 01 15 31.6 -0.2**
CPUP Villa Florida 94.28 147 P **P 01 15 33.0 +0.9**
comp=Z,5.8nm,1.0s,baz=206,slow=5.3,SNR=6.8
CPUP LR LR 01 52 30.1
comp=Z,704nm,20.3s,baz=196,slow=32
comp=Z,5.8nm,1.0s
CPUP Villa Florida 94.28 147 *e*P **P 01 15 32.6 +0.5**
TNCH TengChong 94.36 307 P **P 01 15 28.2 -4.3**
TNCH TengChong 94.36 307 S **S 01 26 37.2 -7.0**
TNCH TengChong 94.36 307 SS SS 01 33 03.4 -3.3
TNCH pmax pmax
comp=Z,120nm,4.2s
TNCH LR LR
comp=N,390nm,15.2s
TNCH LR LR
comp=E,520nm,17.6s
TNCH LR LR
comp=Z,690nm,17.5s
KSAR Wonju Array Be 94.64 335 P **P 01 15 31.6 -1.6**
KSAR Wonju Array Be 94.64 335 P **P 01 15 31.6 -1.6**
KSRS Korea Array 94.65 335 P **P 01 15 32.8 -0.4**
comp=Z,1.3nm,0.7s,baz=160,slow=5.2,SNR=7.9
KSRS PP **PP 01 19 18.5 -3.5**
comp=Z,0.4nm,0.3s,baz=167,slow=7.4,SNR=4.4
KSRS LR LR 01 57 06.8
comp=Z,515nm,19.2s,baz=160,slow=35
comp=Z,1.3nm,0.7s
MSEY Mahe Island 94.69 256 IAMs_20 IAMs_20 01 49 50.5
comp=Z,2μm,20.0s
BROLN Tlhalogang 95.14 224 *i* P **P 01 15 35.6 -0.7**
KHWEE KHWEE 95.15 222 *i* P **P 01 15 35.6 -0.7**
PB08 IPOC Station P 95.45 135 IAmb IAmb 01 15 40.5
comp=Z,11nm,0.5s
ERM Erimo 96.17 348 IAMs_20 IAMs_20 01 52 12.5
comp=Z,1μm,21.0s
ERM Erimo 96.17 348 *i* P **P 01 15 38.4 -1.6**
ERM pmax pmax
comp=Z,13nm,1.0s
KOOLE Kule 96.19 217 *i* P **P 01 15 38.0 -3.0**
TIA Tai'an 96.64 327 P **P 01 15 44.8 +2.5**
TIA SS SS 01 33 38.0 -0.5
TIA pmax pmax
comp=Z,14nm,1.5s
TIA LR LR
comp=Z,220nm,12.4s
TIA LR LR
comp=Z,660nm,25.0s
TIA LR LR
comp=Z,530nm,21.0s
LYN LuoYang 96.75 322 P **P 01 15 45.4 +2.5**
LYN S **S 01 27 08.9 +4.8**
LYN pmax pmax
comp=Z,17nm,0.6s
LYN LR LR
comp=Z,400nm,17.2s
LYN LR LR
comp=Z,520nm,17.5s
LYN LR LR
comp=Z,810nm,17.9s
CD2 Chengdu 97.02 314 P Pdif 01 15 44.5 +0.1
CD2 pmax pmax
comp=Z,10.0nm,1.1s
GRTLG Ghanzi 97.31 218 *i* P **P 01 15 43.8 -2.4**
XAN Xi'an 97.64 320 ⇑P Pdif 01 15 48.9 +1.9
XAN pP pwP 01 15 57.0 +2.5
XAN S **S 01 27 11.1 -0.8**
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,280nm,5.3s
XAN LR LR
comp=Z,850nm,23.4s
XAN LR LR
comp=Z,1μm,22.2s
XAN LR LR
comp=Z,1μm,22.0s
WIN Windhoek 97.67 214 IAmb IAmb 01 15 53.1
comp=Z,28nm,1.1s
WIN IAMs_20 IAMs_20 01 55 58.1
comp=Z,2μm,19.0s
DL2 Dalian 97.72 331 P Pdif 01 15 48.6 +1.4
DL2 SKS **SKSac 01 26 24.7 +0.7**
DL2 SS **SS 01 33 56.2 +2.6**
DL2 pmax pmax
comp=Z,19nm,0.8s
DL2 LR LR
comp=Z,740nm,19.1s
DL2 LR LR
comp=Z,290nm,19.9s
DL2 LR LR
comp=Z,1μm,22.7s
JKA Kamikawa-asahi 98.31 348 IAMs_20 IAMs_20 01 54 01.2
comp=Z,1μm,22.0s
ASAJ Asahikawa 98.31 348 LR LR 01 54 34.9
comp=Z,770nm,21.9s,baz=154,slow=32
HNS HongShan 98.52 325 ⇑P Pdif 01 15 53.9 +3.1
HNS PP **PP 01 19 56.9 +5.0**
HNS SKS **SKSac 01 26 29.1 +0.9**
HNS S **ScS 01 27 22.9 +3.7**
HNS SS **SS 01 34 08.4 +3.4**
HNS pmax pmax
comp=Z,10.0nm,1.1s
HNS LR LR
comp=Z,450nm,19.2s
HNS LR LR
comp=Z,570nm,21.2s
HNS LR LR
comp=Z,680nm,20.0s
NNA Nana 99.03 124 LR LR 01 49 27.0
comp=Z,501nm,22.0s,baz=212,slow=29
LPAZ La Paz 99.31 134 P **Pdif 01 15 56.0 +0.2**
comp=Z,0.5nm,0.5s,baz=140,slow=2.7,SNR=3.6
LPAZ LR LR 01 49 56.8
comp=Z,255nm,20.7s,baz=189,slow=29
comp=Z,0.5nm,0.5s
TIY Taiyuan 99.59 324 *e*P **Pdif 01 15 58.9 +3.2**
TIY S **S 01 27 29.2 +0.9**
TIY SS **SS 01 34 24.1 +3.9**
TIY pmax pmax
comp=Z,5.0nm,0.5s
TIY LR LR
comp=Z,330nm,16.5s
TIY LR LR
comp=Z,350nm,18.6s
TIY LR LR
comp=Z,430nm,23.4s
USRK Ussuriysk Ar. 100.15 340 PP **PP 01 20 03.4 -0.8**
comp=Z,2.0nm,0.8s,baz=147,slow=6.2,SNR=4.2
BJI Beijing 100.43 327 P **Pdif 01 15 57.7 -1.5**
BJI SKS **SKSac 01 26 36.1 -1.4**
BJI SS **SS 01 34 31.6 +0.1**
BJI LR LR
comp=Z,210nm,19.2s
BJI LR LR
comp=Z,170nm,18.6s
BJI LR LR
comp=Z,340nm,19.7s
YSS Yuzhno-Sakhali 101.08 348 *e*P **Pdif 01 16 09.5 +7.6**
YSS *e* 01 20 09.2
YSS *e* 01 26 43.5
YSS *e*PS **PS 01 29 02.2 -10**
YSS *e*SS SS 01 34 34.0 -6.4
YSS pmax pmax
comp=Z,10.0nm,0.7s
CN2 Changchun 101.25 335 *e*P **Pdif 01 16 04.7 +1.9**
CN2 pP pwP 01 16 10.5 +0.1
CN2 PP **PP 01 20 11.3 -1.3**
CN2 *e*S **Sdif 01 27 45.6 +3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,500nm,23.1s
LZH Lanzhou 101.44 317 *e*P **Pdif 01 16 06.7 +2.6**
LZH pP pwP 01 16 12.4 +0.6
LZH S **Sdif 01 27 43.7 -0.3**
LZH SS **SS 01 34 40.0 -6.2**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,560nm,17.9s
LZH LR LR
comp=Z,720nm,19.9s
LZH LR LR
comp=Z,880nm,19.6s
HHC Hu-ho-hao-te 102.69 325 *e*P **Pdif 01 16 11.3 +1.9**
HHC S **Sdif 01 27 53.1 -1.0**
HHC SS **SS 01 34 59.8 -3.5**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.6s
HHC LR LR
comp=Z,310nm,16.0s
HHC LR LR
comp=Z,330nm,17.6s
HHC LR LR
comp=Z,570nm,17.6s
BTO Baotou 103.02 323 *e*P **Pdif 01 16 10.5 -0.4**
BTO PP **PP 01 20 24.4 -1.7**
BTO S **Sdif 01 27 57.1 +0.3**
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,170nm,6.3s
BTO LR LR
comp=Z,610nm,17.9s
BTO LR LR
comp=Z,580nm,16.2s
BTO LR LR
comp=Z,260nm,11.0s
GTA Gaotai 105.94 316 Pdif **Pdif 01 16 27.4 +3.4**
GTA SS SS 01 35 52.2 +4.3
GTA LR LR
comp=Z,410nm,20.4s
GTA LR LR
comp=Z,650nm,21.8s
GTA LR LR
comp=Z,440nm,21.4s
KIBK Kibwezi 106.34 242 IAMs_20 IAMs_20 01 57 15.5
comp=Z,1μm,20.0s
HEH HeiHe 106.87 339 Pdif **Pdif 01 16 27.2 -0.4**
HEH PP **PP 01 20 52.2 -2.1**
HEH AMB AMB
comp=Z,300nm,7.3s
HEH LR LR
comp=Z,470nm,20.1s
HEH LR LR
comp=Z,380nm,19.6s
HEH LR LR
comp=Z,920nm,19.4s
SLBS Sierra La Lagu 108.86 76 IAMs_20 IAMs_20 01 56 01.0
comp=Z,1μm,19.0s
SONM Songino Array 110.60 325 PP **PP 01 21 20.2 -1.5**
comp=Z,2.3nm,1.1s,baz=144,slow=5.7,SNR=5.7
SONM PKKPbc **PKKPbc 01 31 43.8 +0.4**
comp=Z,0.1nm,0.3s,baz=343,slow=4.5,SNR=1.6
TLIG Tlapa 110.86 89 IAMs_20 IAMs_20 01 56 19.0
comp=Z,1μm,20.0s
MOIG Morelia 110.93 85 IAMs_20 IAMs_20 01 59 43.6
comp=Z,1μm,20.0s
VTX Valle De La Tr 111.49 66 IAMs_20 IAMs_20 02 05 43.3
comp=Z,1μm,18.0s
MBAR Mbarara 111.58 237 IAMs_20 IAMs_20 02 01 15.8
comp=Z,1μm,19.0s
TJX Tijuana 111.66 65 IAMs_20 IAMs_20 01 57 30.7
comp=Z,1μm,18.0s
UNM Universidad Na 111.86 87 IAMs_20 IAMs_20 01 57 22.5
comp=Z,1μm,20.0s
ESJX Sierra Juarez 111.87 66 IAMs_20 IAMs_20 01 58 50.4
comp=Z,1μm,19.0s
ELS Elsinore Mount 112.33 63 IAMs_20 IAMs_20 01 59 50.5
comp=Z,1μm,20.0s
HSIG 112.37 71 IAMs_20 IAMs_20 01 57 22.9
comp=Z,1μm,21.0s
YUH Yuha Desert 112.38 65 IAMs_20 IAMs_20 01 59 24.7
comp=Z,2μm,20.0s
ZAIG Zacatecas 112.48 82 IAMs_20 IAMs_20 02 00 46.0
comp=Z,1μm,19.0s
LODK Lodwar 112.61 243 IAMs_20 IAMs_20 01 58 12.2
comp=Z,1μm,22.0s
MA2 Magadan 112.92 355 IAMs_20 IAMs_20 02 01 53.6
comp=Z,932nm,22.0s
GLA Glamis 113.28 66 IAMs_20 IAMs_20 02 04 17.7
comp=Z,1μm,18.0s
113A Mohawk Valley, 113.64 67 IAMs_20 IAMs_20 02 07 01.4
comp=Z,1μm,18.0s
HPIG 113.83 77 IAMs_20 IAMs_20 02 02 45.6
comp=Z,1μm,18.0s
ZAK Zakamensk 113.84 324 *e*PKIKP **PKiKP 01 20 50.3 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
GSC Goldstone, Bar 113.92 63 IAMs_20 IAMs_20 02 04 27.5
comp=Z,1μm,18.0s
HERN Volcan Telica 113.96 101 IAMs_20 IAMs_20 02 05 00.8
comp=Z,519nm,19.0s
BLYC Blythe 113.97 65 IAMs_20 IAMs_20 02 05 55.0
comp=Z,1μm,18.0s
BOAB BOACO BROADBAN 114.51 103 IAMs_20 IAMs_20 02 02 02.5
comp=Z,1μm,19.0s
GWY Greenwater Val 114.66 62 IAMs_20 IAMs_20 02 06 26.1
comp=Z,1μm,18.0s
WMQ Urumqi 114.81 311 *e*PKP **PKiKP 01 20 52.8 +0.1**
WMQ LR LR
comp=Z,880nm,21.3s
WMQ LR LR
comp=Z,540nm,22.1s
Y14A Wickenburg 114.94 66 IAMs_20 IAMs_20 02 04 32.8
comp=Z,1μm,18.0s
TUC Tucson 114.95 69 IAMs_20 IAMs_20 01 58 24.0
comp=Z,2μm,22.0s
WAKR Walker 114.97 59 IAMs_20 IAMs_20 02 06 38.3
comp=Z,1μm,18.0s
319A Douglas 115.09 71 IAMs_20 IAMs_20 01 58 45.9
comp=Z,1μm,21.0s
W13A Hualapai Mount 115.33 65 IAMs_20 IAMs_20 01 59 24.9
comp=Z,1μm,20.0s
PNTR Pine Nut 115.33 58 IAMs_20 IAMs_20 02 01 20.8
comp=Z,1μm,20.0s
TPNV Topopah Spring 115.46 62 IAMs_20 IAMs_20 02 05 55.0
comp=Z,1μm,19.0s
NVAR Mina Array Bea 115.50 60 PKP **PKiKP 01 20 54.6 +0.2**
comp=Z,1.5nm,0.7s,baz=264,slow=9.1,SNR=5.1
NVAR PKKPbc **PKKPbc 01 31 26.1 -0.5**
comp=Z,1.2nm,0.6s,baz=59,slow=3.2,SNR=5.8
RYN Ryan 115.54 59 IAMs_20 IAMs_20 02 09 42.2
comp=Z,1μm,18.0s
SHPR Sheep Range 115.70 63 IAMs_20 IAMs_20 02 05 43.8
comp=Z,811nm,18.0s
MOY Mondy 115.71 324 *e*PKIKP **PKiKP 01 20 57.5 +3.3**
MOY pmax pmax
comp=Z,13nm,2.1s
PAHR Pah Rah Range 115.91 58 IAMs_20 IAMs_20 02 01 18.1
comp=Z,1μm,19.0s
X16A Lo Mia Camp, P 116.16 67 IAMs_20 IAMs_20 02 10 53.0
comp=Z,1μm,18.0s
Q09A Carvers 116.38 60 IAMs_20 IAMs_20 02 07 42.6
comp=Z,1μm,21.0s
TXAR Lajitas Array 116.79 76 PKKPbc PKKPbc 01 31 23.1 +1.4
comp=Z,3.9nm,1.1s,baz=64,slow=2.9,SNR=13
EPT El Paso 116.96 72 IAMs_20 IAMs_20 02 02 49.5
comp=Z,1μm,20.0s
WUAZ Wupatki 117.01 66 IAMs_20 IAMs_20 02 06 06.5
comp=Z,1μm,20.0s
X18A Snowflake 117.07 68 IAMs_20 IAMs_20 02 08 27.0
comp=Z,1μm,18.0s
U15A North Rim 117.19 65 IAMs_20 IAMs_20 02 02 15.1
comp=Z,950nm,20.0s
KSH Kashi 117.24 300 PKP **PKiKP 01 21 01.2 +3.6**
KSH LR LR
comp=Z,560nm,19.9s
KSH LR LR
comp=Z,450nm,19.9s
KSH LR LR
comp=Z,480nm,19.4s
KNB Kanab 117.33 64 IAMs_20 IAMs_20 02 02 00.0
comp=Z,1μm,19.0s
MNTX Cornudas Mount 117.55 73 IAMs_20 IAMs_20 02 02 50.7
comp=Z,1μm,19.0s
PSUT Pine Spring 117.90 62 IAMs_20 IAMs_20 02 07 14.9
comp=Z,1μm,19.0s
PKCU Pink Cliffs 117.92 64 IAMs_20 IAMs_20 02 01 18.6
comp=Z,1μm,20.0s
SHLS Shalkode 118.19 305 *e*PKIKP **PKPdf 01 20 59.1 -0.1**
SHLS Shalkode 118.19 305 *e*PKP **PKPdf 01 20 59.2 -0.1**
SATY Saty 118.63 304 *e*PKIKP **PKiKP 01 21 00.6 +0.4**
SATY Saty 118.63 304 *e*PKP **PKiKP 01 21 00.6 +0.4**
KPKS Kokpek 118.80 305 *e*PKIKP **PKiKP 01 21 00.7 +0.3**
KPKS Kokpek 118.80 305 *e*PKP **PKiKP 01 21 00.8 +0.3**
ELK Elko 118.80 60 IAMs_20 IAMs_20 02 09 01.7
comp=Z,1μm,18.0s
ELK Elko 118.80 60 PKP **PKPdf 01 20 59.7 -1.0**
comp=Z,1.1nm,0.8s,baz=260,slow=9.3,SNR=4.7
ZSN Zaisan 118.86 312 *e*PKIKP **PKiKP 01 21 01.4 +1.1**
ZSN Zaisan 118.86 312 *e*PKP **PKiKP 01 21 01.4 +1.1**
F04D Rainier, OR 118.93 51 IAMs_20 IAMs_20 02 06 03.5
comp=Z,1μm,18.0s
ANMO Albuquerque 119.32 70 IAMs_20 IAMs_20 02 03 06.4
comp=Z,2μm,21.0s
ANMO Albuquerque 119.32 70 IAMs_20 IAMs_20 02 03 06.4
comp=Z,2μm,21.0s
TNSS Tian-Shan 119.34 303 *e*PKIKP **PKiKP 01 21 02.1 +0.2**
TNSS Tian-Shan 119.34 303 *e*PKP **PKiKP 01 21 02.1 +0.2**
MK31 Makanchi Array 119.54 310 *i* PKIKP **PKiKP 01 21 01.8 +0.1**
MKAR Makanchi Array 119.54 310 PKPdf **PKPdf 01 21 00.9 -0.7**
MKAR Makanchi Array 119.54 310 PKP **PKPdf 01 21 00.3 -1.3**
comp=Z,4.5nm,0.9s,baz=127,slow=2.0,SNR=14
MKAR PKKPbc **PKKPab 01 31 13.9 +1.4**
comp=Z,0.3nm,0.8s,baz=338,slow=2.3,SNR=1.9
MKAR PKPPKP **P'P'df 01 39 47.7 -5.2**
comp=Z,1.0nm,1.0s,baz=222,slow=1.6,SNR=5.3
MKAR Makanchi Array 119.54 310 *e*PKIKP **PKiKP 01 21 04.0 +2.3**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
Q16A Castle Valley 119.61 64 IAMs_20 IAMs_20 02 04 24.3
comp=Z,1μm,19.0s
MAKZ Makanchi 119.70 309 **PKPdf 01 21 00.8 -1.1**
MAKZ Makanchi 119.70 309 PKIKP **PKPdf 01 21 00.8 -1.1**
MVCO Mesa Verde 119.83 67 IAMs_20 IAMs_20 02 10 30.0
comp=Z,974nm,18.0s
JCT Junction City 119.89 78 IAMs_20 IAMs_20 02 04 17.1
comp=Z,933nm,18.0s
TDK Taldyqorghan 120.06 306 *e*PKIKP **PKiKP 01 21 03.6 +0.9**
TDK Taldyqorghan 120.06 306 *e*PKP **PKiKP 01 21 03.6 +0.9**
BGU Big Grassy Mou 120.08 61 IAMs_20 IAMs_20 02 04 48.5
comp=Z,1μm,19.0s
SRU San Rafael Swe 120.10 64 IAMs_20 IAMs_20 02 03 42.2
comp=Z,998nm,20.0s
MPU Maple Canyon 120.16 63 IAMs_20 IAMs_20 02 08 57.7
comp=Z,1μm,18.0s
AAK Ala-Archa 120.29 302 *i* PKIKP **PKiKP 01 21 04.9 +1.4**
P18A Preston Nutter 120.62 64 IAMs_20 IAMs_20 02 08 08.0
comp=Z,1μm,19.0s
PGC Sidney 120.63 49 IAMs_20 IAMs_20 02 06 51.4
comp=Z,1μm,19.0s
HAWA Hanford 120.79 53 PKPdf **PKiKP 01 21 04.0 -0.1**
SGDS Sogindy 120.81 302 *e*PKIKP **PKiKP 01 21 04.6 +0.3**
SGDS *e* 01 22 31.4

SGDS **Sogindy** 120.81 302 *e*PKP **PKiKP** 01 21 04.6 +0.3
SGDS *e*PP **PP** 01 22 31.5 -2.0
HVU **Hansel Valley** 120.83 60 IAMs_20 IAMs_20 02 08 59.4
comp=Z,1μm,19.0s
LTY **Liberty** 120.89 51 IAMs_20 IAMs_20 02 07 30.3
comp=Z,1μm,21.0s
BSUT **Blindstream Ca** 121.00 63 IAMs_20 IAMs_20 02 09 00.9
comp=Z,1μm,18.0s
BILL **Bilibino** 121.28 3 IAMs_20 IAMs_20 02 08 47.9
comp=Z,1μm,21.0s
HWUT **Hardware Ranch** 121.34 61 IAMs_20 IAMs_20 02 08 41.9
comp=Z,1μm,20.0s
D08A **Wollman Farm,** 121.56 52 PKPdf **PKiKP** 01 21 05.6 0.0
PLID **Pearl Lake** 121.56 56 PKPdf **PKPdf** 01 21 05.7 -0.1
PLID IAMs_20 IAMs_20 02 06 35.2
comp=Z,1μm,19.0s
F10A **Beach Ranch, E** 121.60 54 IAMs_20 IAMs_20 02 10 02.3
comp=Z,1μm,21.0s
RDMU **Red Mountain** 121.66 63 IAMs_20 IAMs_20 02 03 33.4
comp=Z,2μm,21.0s
HKT **Hockley** 121.84 82 IAMs_20 IAMs_20 02 07 58.0
comp=Z,1μm,20.0s
SDCO **Great Sand Dun** 121.87 68 IAMs_20 IAMs_20 02 11 32.3
comp=Z,1μm,18.0s
HMT **Hamilton** 121.94 29 IAMs_20 IAMs_20 02 14 08.8
comp=Z,1μm,19.0s
CUT **Chulitna** 122.03 25 IAMs_20 IAMs_20 02 08 60.0
comp=Z,1μm,19.0s
O20A **White River Ci** 122.06 65 IAMs_20 IAMs_20 02 10 44.2
comp=Z,950nm,18.0s
DZA **Taraz** 122.09 300 *e*PKIKP **PKiKP** 01 21 07.4 +0.6
DZA **Taraz** 122.09 300 *e*PKP **PKiKP** 01 21 07.5 +0.6
SIT **Sitka** 122.21 36 IAMs_20 IAMs_20 02 08 46.3
comp=Z,1μm,19.0s
BTLS **Baital** 122.23 303 *e*PKIKP **PKiKP** 01 21 07.5 +0.5
BTLS **Baital** 122.23 303 *e*PKP **PKiKP** 01 21 07.5 +0.5
AHID **Auburn Hatcher** 122.40 61 IAMs_20 IAMs_20 02 11 45.0
comp=Z,1μm,18.0s
KKAR **Karatay Array** 122.67 300 PKPdf **PKPdf** 01 21 06.5 -1.2
KKAR **Karatay Array** 122.67 300 PKIKP **PKPdf** 01 21 06.6 -1.2
FW03 **Perrin-Whitt E** 122.76 77 IAMs_20 IAMs_20 02 03 36.1
comp=Z,1μm,21.0s
FW14 **Alvarado** 122.81 79 IAMs_20 IAMs_20 02 10 47.5
comp=Z,752nm,19.0s
RAYN **Ar Rayn** 122.91 266 PKPdf **PKiKP** 01 21 09.1 0.0
RAYN **Ar Rayn** 122.91 266 IAMs_20 IAMs_20 02 04 26.4
comp=Z,1μm,21.0s
RAYN **Ar Rayn** 122.91 266 PKIKP **PKiKP** 01 21 09.1 0.0
BRLS **Borolday** 122.97 299 *e*PKIKP **PKiKP** 01 21 08.7 +0.2
BRLS *e* 01 22 45.6
BRLS **Borolday** 122.97 299 *e*PKP **PKiKP** 01 21 08.8 +0.2
BRLS *e*PP **PP** 01 22 45.6 -2.5
FW06 **Azle** 123.01 78 IAMs_20 IAMs_20 02 03 03.7
comp=Z,1μm,22.0s
BW06 **Boulder Array** 123.21 62 IAMs_20 IAMs_20 02 04 29.1
comp=Z,1μm,19.0s
PDAR **Pinedale Array** 123.21 62 PKP **PKPdf** 01 21 07.7 -1.4
comp=Z,1.2nm,0.8s,baz=217,slow=1.8,SNR=4.3
LOHW **Long Hollow** 123.26 60 IAMs_20 IAMs_20 02 12 12.6
comp=Z,1μm,18.0s
NEW **Newport** 123.28 53 PKP **PKPdf** 01 21 08.2 -0.6
comp=Z,6.1nm,0.8s,baz=226,slow=2.3,SNR=4.5
MOOW **Moose Ponds** 123.28 60 IAMs_20 IAMs_20 02 11 55.2
comp=Z,1μm,18.0s
WMOK **Wichita Mounta** 123.56 76 IAMs_20 IAMs_20 02 06 28.1
comp=Z,964nm,19.0s
ZALV **Zalesovo Beam** 123.68 317 PKPdf **PKPdf** 01 21 09.0 -0.3
ZALV **Zalesovo Beam** 123.68 317 PKP **PKPdf** 01 21 08.2 -1.0
comp=Z,1.8nm,0.7s,baz=129,slow=2.6,SNR=7.1
ZALV PKKPbc **PKKPbc** 01 30 55.9 -0.5
comp=Z,0.3nm,0.3s,baz=286,slow=5.2,SNR=2.0
ZALV PKPPKP **P'P'df** 01 39 48.7 +4.4
comp=Z,0.4nm,0.5s,baz=238,slow=47,SNR=2.6
ZALV **Zalesovo Beam** 123.68 317 *e*PKIKP **PKiKP** 01 21 11.7 +2.2
ZALV pmax pmax
comp=Z,2.0nm,0.7s
KURBB **Kurchatov Arra** 124.03 311 PKP **PKPdf** 01 21 09.2 -0.8
comp=Z,6.1nm,0.9s,baz=123,slow=1.6,SNR=19
KURBB PP **PP** 01 22 56.0 +0.9
comp=Z,2.2nm,1.1s,baz=136,slow=7.0,SNR=4.4
KURBB PKKPbc **PKKPbc** 01 30 55.8 +0.9
comp=Z,0.4nm,0.2s,baz=267,slow=3.7,SNR=1.1
KURBB PKPPKP **P'P'df** 01 39 42.2 -1.9
comp=Z,1.3nm,0.2s,baz=269,slow=3.6,SNR=7.7
KURK **Kurchatov** 124.06 311 PKPdf **PKPdf** 01 21 09.7 -0.4
KURK **Kurchatov** 124.06 311 ⇓*i*PKIKP **PKPdf** 01 21 09.5 -0.6
KURK pmax pmax
comp=Z,16nm,1.1s
YMP **Mirror Lake Pl** 124.27 60 IAMs_20 IAMs_20 02 12 47.4
comp=Z,1μm,19.0s
WRH **Wood River Hil** 124.30 24 PKPdf **PKPdf** 01 21 09.7 -0.4
I23K **Minto, Yukon-K** 124.55 23 IAMs_20 IAMs_20 02 20 16.4
comp=Z,997nm,18.0s
P32M **Atlin** 124.69 35 IAMs_20 IAMs_20 02 05 41.7
comp=Z,1μm,19.0s
FNO **Franklin** 124.72 76 IAMs_20 IAMs_20 02 06 09.0
comp=Z,1μm,20.0s
K22A **Casper** 124.74 64 IAMs_20 IAMs_20 02 06 16.1
comp=Z,1μm,19.0s
F20K **Avaraart Lake** 124.77 20 IAMs_20 IAMs_20 02 08 18.0
comp=Z,1μm,21.0s
E19K **Redstone River** 124.83 19 IAMs_20 IAMs_20 02 09 07.0
comp=Z,1μm,19.0s
BCAR **Beaver Creek A** 124.84 28 PKPdf **PKPdf** 01 21 10.9 -0.4
ILAR **Eielson Array** 124.84 25 PKPdf **PKPdf** 01 21 09.7 -1.5
ILAR **Eielson Array** 124.84 25 PKP **PKPdf** 01 21 10.7 -0.5
comp=Z,2.3nm,1.1s,baz=202,slow=1.9,SNR=6.7
ILAR PKKPab **PKKPab** 01 30 49.1 +0.3
comp=Z,5.5nm,1.1s,baz=16,slow=3.4,SNR=11
W35A **Tecumseh** 124.95 77 IAMs_20 IAMs_20 02 10 42.2
comp=Z,1μm,19.0s
N30M **Aishikik Lake** 125.00 32 IAMs_20 IAMs_20 02 07 51.7
comp=Z,1μm,21.0s
OK029 **Liberty Lake** 125.07 76 IAMs_20 IAMs_20 02 06 10.2
comp=Z,1μm,21.0s
P33M **Teslin, Yukon** 125.45 34 IAMs_20 IAMs_20 02 04 38.9
comp=Z,1μm,20.0s
OK052 **Battle Ridge R** 125.58 76 IAMs_20 IAMs_20 02 06 24.9
comp=Z,1μm,20.0s
CHIV **Chivirico** 125.84 106 IAMs_20 IAMs_20 02 09 16.6
comp=Z,568nm,19.0s
CBKS **Cedar Bluff** 125.86 71 IAMs_20 IAMs_20 02 07 26.8
comp=Z,1μm,20.0s
M30M **Minto, Yukon** 125.93 31 IAMs_20 IAMs_20 02 07 43.4
comp=Z,1μm,21.0s
OGNE **Ogallala** 126.03 68 IAMs_20 IAMs_20 02 08 02.2
comp=Z,1μm,18.0s
WLAR **White Oak Lake** 126.13 81 IAMs_20 IAMs_20 02 10 13.3
comp=Z,1μm,19.0s
BRZS **Berezniki** 126.32 307 *e*PKIKP **PKiKP** 01 21 15.3 +0.4
BRZS **Berezniki** 126.32 307 *e*PKP **PKiKP** 01 21 15.3 +0.4
TIXI **Tiksi** 126.71 348 PKPdf **PKPdf** 01 21 14.4 -0.1
TIXI **Tiksi** 126.71 348 IAMs_20 IAMs_20 02 16 26.6
comp=Z,739nm,21.0s
TIXI **Tiksi** 126.71 348 *i*PKIKP **PKiKP** 01 21 15.8 +0.8
TIXI *i* 01 21 17.5
TIXI pmax pmax
comp=Z,21nm,1.1s
FARO **Faro, Yukon** 126.76 33 IAMs_20 IAMs_20 02 10 42.7
comp=Z,1μm,20.0s
X40A **Basin Creek Fa** 126.85 80 IAMs_20 IAMs_20 02 10 34.0
comp=Z,983nm,20.0s
MAYO **Mayo, Yukon** 126.97 30 IAMs_20 IAMs_20 02 08 46.2
comp=Z,1μm,21.0s
RSSD **Black Hills** 127.07 64 PKPdf **PKPdf** 01 21 15.8 -0.6
RSSD **Black Hills** 127.07 64 PKIKP **PKPdf** 01 21 15.8 -0.6
WHAR **Wooly Hollow** 127.73 80 PKPdf **PKPdf** 01 21 17.1 -0.6
BGNE **Belgrade** 128.50 70 IAMs_20 IAMs_20 02 07 14.6
comp=Z,1μm,22.0s
K30B **Basset** 128.53 68 IAMs_20 IAMs_20 02 18 10.1
comp=Z,852nm,18.0s
LCAR **Lake Charles** 128.94 80 **PKPdf** 01 21 18.3 -1.6
BVAR **Borovoye Array** 129.39 309 PKP **PKiKP** 01 21 21.2 +0.2
comp=Z,11nm,1.0s,baz=123,slow=3.4,SNR=13
BVAR PKKP **PKKPdf** 01 31 28.5 +3.5
comp=Z,0.5nm,0.7s,baz=319,slow=4.2,SNR=3.5
BRVK **Borovoye** 129.47 309 PKPdf **PKiKP** 01 21 21.8 +0.7
BRVK **Borovoye** 129.47 309 *i*PKIKP **PKiKP** 01 21 21.0 -0.1
ACRG **Accra** 129.59 206 IAMs_20 IAMs_20 02 16 35.8
comp=Z,918nm,19.0s
T42A **Van Buren** 129.63 79 IAMs_20 IAMs_20 02 10 35.5
comp=Z,1μm,21.0s
SUSD **Miller** 130.04 67 IAMs_20 IAMs_20 02 13 59.1
comp=Z,1μm,19.0s
CCM **Cathedral Cave** 130.23 78 IAMs_20 IAMs_20 02 11 09.5
comp=Z,1μm,19.0s

CGM3 **Cape Girardeau** 130.65 80 IAMs_20 IAMs_20 02 13 13.6
comp=Z,969nm,20.0s
FVM **French Village** 130.66 78 IAMs_20 IAMs_20 02 10 46.8
comp=Z,1μm,20.0s
N38A **Joes South For** 130.89 74 IAMs_20 IAMs_20 02 11 41.9
comp=Z,1μm,20.0s
DBIC **Dimbokro** 131.69 201 PKP **PKPdf** 01 21 26.0 +0.1
comp=Z,24nm,1.1s,baz=71,slow=2.7,SNR=5.3
ABKAR **Akbulak array** 132.23 299 PKPdf **PKiKP** 01 21 27.8 +1.0
F33A **5 Mile Ranch,** 132.38 67 IAMs_20 IAMs_20 02 19 56.2
comp=Z,969nm,18.0s
CPCT **Cooper Cave** 132.44 85 PKPdf **PKPdf** 01 21 23.6 -3.0
TKL **Tuckaleechee C** 133.03 86 PKP **PKPdf** 01 21 26.5 -1.3
comp=Z,2.7nm,0.7s,baz=300,slow=3.8,SNR=4.2
NRIK **Noril'sk** 133.19 332 PKP **PKPdf** 01 21 26.8 -0.2
comp=Z,7.2nm,0.8s,baz=117,slow=3.2,SNR=11
NRIK **Noril'sk** 133.19 332 *e*PKIKP **PKiKP** 01 21 29.6 +1.5
NRIK pmax pmax
comp=Z,7.0nm,0.8s
YKA **Yellowknife Ar** 133.54 40 PKhKP PKPpre 01 21 18.0
comp=Z,0.4nm,0.8s,baz=177,slow=2.3,SNR=4.9
YKA PKP **PKPdf** 01 21 27.2 -0.5
comp=Z,1.3nm,0.8s,baz=223,slow=3.1,SNR=10
YKA PP **PP** 01 23 52.9 -4.3
comp=Z,1.2nm,1.0s,baz=235,slow=6.6,SNR=4.3
SPMN **Marine on St.** 133.94 69 IAMs_20 IAMs_20 02 15 35.4
comp=Z,1μm,19.0s
JFWS **Jewell Farm** 133.96 74 IAMs_20 IAMs_20 02 12 13.1
comp=Z,1μm,20.0s
AKT **Akhty** 134.20 284 *e*PKIKP **PKPdf** 01 21 29.8 -0.1
AKT *e* 01 24 00.9
AKT *e*PPP PPP 01 26 55.2
AKT *e* 01 28 41.3
AKT pmax pmax
comp=Z,19nm,1.0s
BIRD **Birdtown, Kers** 134.32 89 IAMs_20 IAMs_20 02 20 23.7
comp=Z,705nm,18.0s
GNI **Garni** 135.11 280 PKP **PKPdf** 01 21 31.1 -0.6
comp=Z,11nm,1.1s,baz=170,slow=6.2,SNR=6.0
GNI **Garni** 135.11 280 *i*PKIKP **PKiKP** 01 21 34.0 +0.8
Y60A **Bolivia** 135.22 92 IAMs_20 IAMs_20 02 19 49.5
comp=Z,647nm,19.0s
ULM **Lac du Bonnet** 135.23 62 PKP **PKPdf** 01 21 31.3 0.0
comp=Z,5.6nm,0.9s,baz=246,slow=4.1,SNR=4.7
O48B **Farmland** 135.25 80 IAMs_20 IAMs_20 02 13 50.2
comp=Z,1μm,20.0s
MAK **Makhachkala** 135.26 285 *i*P **Pdif** 01 18 29.6 -4.4
MAK *i* 01 21 28.9
MAK *e* 01 24 03.6
MAK *e*SS SS 01 41 56.9 -6.8
MAK pmax pmax
comp=Z,62nm,1.3s
TORD **Torodi Ar. Bea** 136.16 212 PKP **PKPdf** 01 21 34.8 +0.6
comp=Z,74nm,0.3s,baz=160,slow=1.1,SNR=2.2
KBZ **Khabaz** 138.40 283 PKhKP PKPpre 01 21 28.3
comp=Z,1.9nm,0.9s,baz=290,slow=2.9,SNR=3.6
KBZ PKP **PKPdf** 01 21 37.1 -0.3
comp=Z,6.4nm,0.9s,baz=178,slow=1.1,SNR=7.1
KBZ **Khabaz** 138.40 283 *i*PKIKP **PKPdf** 01 21 38.2 +0.8
KBZ *i* 01 21 40.1
KVAR **Kislovodsk Arr** 138.65 283 *e*PKP **PKPdf** 01 21 37.5 -0.5
comp=Z,2.2nm,0.9s,baz=49,slow=9.3,SNR=1.5
KIV **Kislovodsk** 138.66 283 ⇓P **PKiKP** 01 21 41.5 +1.3
KIV **Kislovodsk** 138.66 283 *i*PKIKP **PKPdf** 01 21 38.3 +0.3
KIV *e* 01 24 25.5
KIV *e*SS SS 01 42 36.9 -7.4
KIV *e*SSS SSS 01 47 45.9
KIV pmax pmax
comp=Z,21nm,1.0s
SOC **Sochi** 140.17 281 *e*PKIKP **PKPdf** 01 21 39.7 -1.0
SOC *e* 01 24 36.1
SOC *e*PPP PPP 01 27 43.6
SOC *e*SS SS 01 42 56.0 -6.0
SOC *e*SSS SSS 01 48 09.2
BELG **Belogornoye** 140.47 297 *i*PKIKP **PKPdf** 01 21 41.8 +0.9
BELG *i* 01 21 44.5
BELG pmax pmax
comp=Z,7.0nm,1.1s
KIRS **Kirsehir-Merke** 140.89 271 ⇑P **PKiKP** 01 21 46.5 +1.6
BBTS **Babate** 141.18 186 PKP **PKPdf** 01 21 42.8 -0.5
comp=Z,36nm,1.1s,baz=124,slow=5.1,SNR=3.6
BRTR **Keskin Array B** 141.43 272 PKP **PKPdf** 01 21 42.1 -1.2
comp=Z,2.4nm,0.9s,baz=139,slow=3.9,SNR=7.0
BRTR PP **PP** 01 24 46.8 -0.1
comp=Z,4.5nm,1.2s,baz=129,slow=6.5,SNR=3.9
SADO **Sadowa** 141.51 78 PKhKP PKPpre 01 21 35.3
comp=Z,3.9nm,0.7s,baz=257,slow=1.5,SNR=4.4
SADO PKP **PKPdf** 01 21 42.5 -0.5
comp=Z,5.9nm,0.8s,baz=289,slow=1.0,SNR=6.4
K57A **Scipio Center** 141.88 83 IAMs_20 IAMs_20 02 18 04.8
comp=Z,1μm,20.0s
CPNY **Central Park** 142.23 87 IAMs_20 IAMs_20 02 26 54.1
comp=Z,913nm,18.0s
VRH **Novokhopyorsk** 143.10 292 *e*PKIKP PKPbc 01 21 43.9 +1.3
VRH pmax pmax
comp=Z,20nm,1.2s
TAM **Tamanrasset** 143.66 223 IAMs_20 IAMs_20 02 21 54.3
comp=Z,861nm,20.0s
IDI **Anoyia** 143.70 258 PKP PKPbc 01 21 45.9 +1.0
comp=Z,22nm,1.1s,baz=331,slow=3.3,SNR=3.2
SIM **Simferopol'** 144.25 279 *e*PKIKP **PKiKP** 01 21 50.0 -1.5
SIM pmax pmax
comp=Z,100nm,1.2s
VORD **Divnogorie** 144.34 291 *e*PKIKP **PKPab** 01 21 45.2 -0.7
VORD pmax pmax
comp=Z,20nm,1.1s
VSR **Storozhevoye** 144.53 291 *e*PKIKP **PKPab** 01 21 45.6 -1.0
VSR pmax pmax
comp=Z,30nm,1.2s
VORR **Voronezh** 144.71 292 PKIKP PKPbc 01 21 47.5 +0.1
VORR pmax pmax
comp=Z,81nm,1.6s
ISK **Istanbul-Kandi** 145.00 270 P **PKPdf** 01 21 51.1 +1.8
TRQ **Mont Tremblant** 145.00 79 PKPbc 01 21 47.1 -1.5
BAND **Balkesir-Ban** 145.14 268 ⇓P **PKPdf** 01 21 50.6 +1.0
LPSR **Galich'ya Gora** 145.28 293 *e*PKIKP **PKPbc** 01 21 47.4 -1.8
LPSR pmax pmax
comp=Z,100nm,1.1s
LBNH **Lisbon** 145.48 84 **PKPdf** 01 21 48.4 -1.6
LBNH **Lisbon** 145.48 84 PKIKP **PKPdf** 01 21 48.4 -1.6
SIGR **SIGRI** 145.75 264 P **PKiKP** 01 21 53.5 -1.2
EZN **Ezine** 145.87 266 P **PKPdf** 01 21 43.5 -7.3
KRND **KRANIDI** 146.15 259 P **PKiKP** 01 21 55.1 -0.5
VILL **Villia** 146.58 261 P **PKiKP** 01 21 56.5 -0.1
ALN **Alexandroupoli** 146.70 267 P **PKiKP** 01 21 56.3 -0.3
EDRB **Edirne** 146.86 269 P **PKiKP** 01 21 56.9 -0.1
AOS **Alonnisos** 146.90 263 P **PKiKP** 01 21 57.6 +0.5
GUR **Goura** 147.00 259 P **PKPab** 01 21 56.9 +0.4
MFTR **Murfatlar** 147.21 274 ⇑P **PKiKP** 01 21 59.3 +1.8
MOS **Moscow** 147.22 298 *i*PKP2 **PKPbc** 01 21 53.8 -1.1
MOS pmax pmax
comp=Z,200nm,1.5s
PRD **Provadia** 147.24 271 P **PKPbc** 01 21 56.0 +0.6
JURR **Jurilovca** 147.26 275 ⇓P **PKiKP** 01 21 59.5 +1.9
THAS **Thassos island** 147.31 265 P **PKiKP** 01 21 58.5 +0.6
AXAR **Agios Charalam** 147.36 261 P **PKiKP** 01 21 58.0 -0.1
TIRR **Tirgusor** 147.37 274 ⇑P **PKPbc** 01 21 56.6 +0.9
JMB **Yambol** 147.37 270 P **PKPab** 01 21 57.0 -0.7
NEF **NEVSHA** 147.38 271 P **PKPab** 01 21 57.0 -0.7
DRO **Drossia** 147.38 259 P **PKiKP** 01 21 59.2 +1.0
KALE **Kalithea** 147.42 260 P **PKPbc** 01 21 56.9 +0.8
XOR **Xorichti** 147.44 262 P **PKPbc** 01 21 56.3 +0.2
PAIG **Paliouri** 147.51 263 P **PKPab** 01 21 58.0 -0.3
TLCR 147.53 276 ⇑P **PKPab** 01 21 58.5 +0.2
OBN **Obninsk** 147.56 296 **PKPbc** 01 21 55.7 -0.1
OBN **Obninsk** 147.56 296 ⇑P **PKiKP** 01 21 57.2 -0.7
OBN **Obninsk** 147.56 296 *d*PKP2 **PKPab** 01 21 58.0 0.0
OBN 01 25 28.0
OBN *i* 01 28 51.9
OBN pmax pmax
comp=Z,376nm,1.2s
OBN MLR MLR
comp=Z,451nm,20.0s
EFP **Efpalio** 147.58 260 P **PKPab** 01 21 58.7 0.0
OUR **Ouranopolis** 147.58 264 P **PKPab** 01 21 58.5 -0.1
TPGR **Topolog** 147.59 275 ⇑P **PKPab** 01 21 58.7 +0.2
PURM **Purcari** 147.61 278 ⇓P **PKiKP** 01 21 57.6 -0.7
KAVA **Kavala** 147.68 266 P **PKPab** 01 21 58.9 -0.1
ANX **Ano Chora** 147.68 260 P **PKPab** 01 22 00.0 +0.8
LTHK **Lithakia** 147.73 258 P **PKPab** 01 21 59.9 +0.6
AXS **Araxos** 147.74 259 P **PKPab** 01 21 59.3 0.0
HARR **Harsova** 147.79 274 ⇓P **PKiKP** 01 21 58.3 -0.4
KLMR **Klimovskoe** 147.80 307 *e*PKP2 **PKPdf** 01 21 53.7 +0.3
KLMR pmax pmax

comp=Z,395nm,1.5s
MAKR **Makrakomi, Fth** 147.84 261 P **PKPbc** 01 21 57.2 0.0
LDAQ **Lac Daran** 147.84 79 **PKPbc** 01 21 55.7 -1.3
KOKK **Kokkinochori,** 147.87 265 P **PKiKP** 01 21 59.3 +0.2
CFR **Carcaliu** 147.93 275 ⇑P **PKiKP** 01 21 58.2 -0.8
RTZL **Ratzakli, Kefa** 148.01 258 P **PKiKP** 01 21 59.3 -0.1
AMRR **Amara** 148.10 274 ⇑P **PKPab** 01 22 02.1 +1.6
AMRR **Amara** 148.10 274 ⇑PKP2 **PKPab** 01 22 02.1 +1.6
PSDA **Pessada-Kefalo** 148.15 258 P **PKiKP** 01 22 00.0 +0.3
TYRN **Tyrnavos** 148.23 262 P **PKiKP** 01 22 00.4 +0.6
SOH **Sokhos** 148.26 264 P **PKiKP** 01 22 00.3 +0.3
SCHLR **Schela** 148.27 275 ⇓P **PKPab** 01 22 02.7 +1.5
HORT **Hortiatis** 148.27 264 P **PKiKP** 01 22 00.2 +0.2
SCTR **Scanteiesti** 148.28 276 ⇑P **PKPab** 01 22 03.2 +1.9
SRS **Serrai** 148.30 265 P **PKPab** 01 22 00.8 -0.7
VLDR **Vladesti** 148.32 276 ⇑P **PKPab** 01 22 01.9 +0.5
LIT **Litokhoron** 148.32 263 P **PKPab** 01 22 01.5 -0.1
LEHL **Lehliu** 148.33 273 ⇑P **PKPab** 01 22 02.6 +1.1
IZVR **Izvoarele** 148.34 275 ⇓P **PKiKP** 01 22 00.2 +0.3
DMLN **Damoulianata-K** 148.36 258 P **PKPab** 01 22 02.5 +0.7
THE **Thessaloniki** 148.37 264 P **PKPab** 01 22 01.2 -0.6
FSK **Fiskardo** 148.39 258 P **PKiKP** 01 22 00.3 +0.1
MILM **Milestii Mici** 148.44 278 *i*PKP **PKPbc** 01 21 58.8 +0.4
comp=Z,390nm,1.4s
MILM **Milestii Mici** 148.44 278 ⇓P **PKiKP** 01 21 59.8 -0.2
MILM **Milestii Mici** 148.44 278 *i*PKP2 **PKPbc** 01 21 59.0 +0.6
MILM pmax pmax
comp=Z,390nm,1.4s
EVGI **Lefkada island** 148.44 259 P **PKPab** 01 22 01.7 -0.4
MMB **Musomishta** 148.47 266 P **PKPbc** 01 21 57.0 -1.8
KIS **Kishinev** 148.47 278 *e*PKP **PKPbc** 01 21 59.0 +0.5
KIS **Kishinev** 148.47 278 PM 01 22 02.0
comp=Z,160nm,1.4s
KIS **Kishinev** 148.47 278 ⇓P **PKPab** 01 22 02.3 +0.3
KIS **Kishinev** 148.47 278 *e*PKP2 **PKPbc** 01 21 59.0 +0.5
KIS pmax pmax
comp=Z,160nm,1.4s
NYDR **Nydri-Lefkada** 148.48 259 P **PKPab** 01 22 01.8 -0.4
F64A **Sherman** 148.49 84 **PKPbc** 01 21 58.6 0.0
LKD2 **Lefkada island** 148.56 259 P **PKiKP** 01 22 00.6 0.0
TSLK **Tsoukalades, L** 148.58 259 P **PKPab** 01 22 02.2 -0.5
G65A **Princeton** 148.60 86 **PKPbc** 01 21 58.2 -0.8
KNT **Kendrikon** 148.74 265 P **PKPbc** 01 21 59.6 +0.1
GHRR 148.83 276 ⇓P **PKiKP** 01 22 00.5 -0.4
ISR **Istrita** 148.85 274 ⇓P **PKiKP** 01 22 01.7 +0.7
ISR **Istrita** 148.85 274 ⇓PKP2 **PKiKP** 01 22 01.7 +0.7
ODBI **Odobesti** 148.88 275 ⇓P **PKPab** 01 22 04.9 +1.2
PANC **Panciu** 148.89 275 ⇑P **PKPab** 01 22 04.0 +0.3
GRG **Griva** 148.91 264 P **PKPbc** 01 21 59.3 -0.6
KKB **Krupnik** 149.02 266 P **PKPbc** 01 21 58.4 -1.8
VAY **Valandovo** 149.03 264 *i*P **PKPbc** 01 21 58.9 -1.3
VRI **Vrincioaia** 149.13 275 ⇓P **PKPab** 01 22 04.6 -0.1
VRI **Vrincioaia** 149.13 275 ⇓PKP2 **PKPab** 01 22 04.6 -0.1
NEHR **Nehoiu** 149.16 274 ⇑P **PKiKP** 01 22 01.6 0.0
PLOR **Plostina** 149.17 275 ⇑P **PKiKP** 01 22 01.2 -0.5
PLOR **Plostina** 149.17 275 ⇑PKP2 **PKiKP** 01 22 01.2 -0.5
PLNA **Plana** 149.22 267 P **PKPbc** 01 21 59.0 -1.8
IGT **Igoumenitsa** 149.23 260 P **PKPbc** 01 22 00.6 -0.2
IASR **Iasi** 149.30 278 ⇑P **PKiKP** 01 22 02.6 +0.8
SORM **Soroca** 149.31 280 ⇑P **PKPdf** 01 21 56.5 +0.3
LFKM **Lefkimmi** 149.34 259 P **PKPab** 01 22 05.6 -0.1
NEST **Nestorio** 149.37 262 P **PKPab** 01 22 04.3 -1.7
MLR **Muntele Rosu** 149.40 274 PKPbc **PKPbc** 01 21 59.9 -1.3
comp=Z,117nm,1.2s,baz=239,slow=2.4,SNR=10
MLR PP **PP** 01 25 34.2 -0.1
comp=Z,13nm,1.1s,baz=36,slow=3.1,SNR=3.1
MLR **Muntele Rosu** 149.40 274 ⇑P **PKiKP** 01 22 02.1 -0.1
VTS **Vitosha** 149.42 267 P **PKPdf** 01 21 59.0 +2.1
COVR **Voineasa-Covas** 149.43 275 ⇓P **PKiKP** 01 22 01.9 -0.3
HUMR **Humele** 149.46 272 ⇑P **PKiKP** 01 22 02.1 -0.1
LSK **Leskovik** 149.47 261 P **PKiKP** 01 22 03.7 +1.2
VLAD **Vladila** 149.51 270 ⇑P **PKPab** 01 22 05.8 -0.5
TESR **Tescani** 149.51 276 ⇑P **PKPbc** 01 22 01.6 +0.4
ONER **Baraj Valea Uz** 149.57 276 ⇑P **PKPab** 01 22 05.8 -0.7
SRN **Sarande** 149.65 260 P **PKiKP** 01 22 04.7 +1.9
KBN **Korca** 149.66 262 P **PKiKP** 01 22 04.4 +1.5
OZUR 149.81 275 ⇑P **PKiKP** 01 22 04.9 +1.9
VOIR 149.91 273 ⇑P **PKPab** 01 22 05.6 -2.4
VOIR 149.91 273 ⇑PKP2 **PKPab** 01 22 05.6 -2.4
AKASG **Malin Array Be** 149.95 285 **PKPdf** 01 21 59.5 +2.3
AKASG **Malin Array Be** 149.95 285 PKPbc **PKPbc** 01 22 00.5 -1.6
comp=Z,34nm,0.8s,baz=119,slow=2.9,SNR=26
AKASG **Malin Array Be** 149.95 285 PKHKP PKPpre 01 21 59.5
KIEV **Kiev** 149.96 285 **PKPbc** 01 21 59.8 -2.3
KIEV **Kiev** 149.96 285 ⇑P **PKPbc** 01 22 01.7 -0.4
KIEV **Kiev** 149.96 285 PKHKP PKPpre 01 21 59.8
OHR **Ohrid** 149.96 263 *i*P **PKPbc** 01 22 02.8 +0.3
DOPR **Dopca** 149.98 274 ⇓P **PKPab** 01 22 06.3 -2.0
WDD **Wied Dalam** 150.02 248 IAMs_20 IAMs_20 02 21 40.6
comp=Z,1μm,21.0s
ARR **Arges** 150.12 273 ⇓P **PKPbc** 01 22 02.7 -0.1
TNR **Turnu Rosu** 150.49 273 ⇑P **PKPab** 01 22 09.4 -0.9
PHP **Peshkopia** 150.52 263 P **PKiKP** 01 22 06.7 +2.1
PUNG **Punghina** 150.54 270 ⇓P **PKPab** 01 22 08.5 -2.0
TIR **Tirane** 150.66 262 P **PKiKP** 01 22 06.8 +2.0
TIR **Tirane** 150.66 262 ⇑P **PKPab** 01 22 08.0 -3.1
TIR **Tirane** 150.66 262 ⇑PKIKP **PKPab** 01 22 08.0 -3.1
LOT **Lotru** 150.68 272 ⇑P **PKPbc** 01 22 03.8 -0.4
BURAR **Bucovina Array** 150.91 277 **PKPbc** 01 22 02.9 -1.8
BURAR **Bucovina Array** 150.91 277 ⇓P **PKPbc** 01 22 03.8 -0.9
BURAR **Bucovina Array** 150.91 277 ⇓PKIKP **PKPbc** 01 22 03.8 -0.9
BOVS **Bovan** 150.92 267 ⇓P **PKPbc** 01 22 02.8 -1.9
CEL **Celeste** 150.96 253 IAMs_20 IAMs_20 02 32 39.6
comp=Z,567nm,19.0s
TIP **Timpagrande** 151.09 255 ⇑P **PKiKP** 01 22 09.2 +3.4
ARCR **ARCALIA** 151.17 276 ⇑P **PKPbc** 01 22 04.4 -0.8
HERR **Herculane** 151.18 270 ⇓P **PKiKP** 01 22 05.5 -0.2
GZR **Gura Zlata** 151.24 271 ⇑P **PKiKP** 01 22 06.1 +0.1
GZR **Gura Zlata** 151.24 271 ⇑PKIKP **PKiKP** 01 22 06.1 +0.1
VAE **Valguarnera** 151.26 250 PKPbc **PKPbc** 01 22 04.9 -0.9
comp=Z,57nm,1.0s,baz=69,slow=5.0,SNR=11
VAE PKPab **PKPab** 01 22 11.4 -2.4
comp=Z,65nm,1.2s,baz=294,slow=16,SNR=6.7
DEV **Deva** 151.42 272 ⇓P **PKiKP** 01 22 06.3 +0.1
CJR **Cluj-Napoca** 151.43 274 ⇑P **PKiKP** 01 22 09.2 +2.9
CJR **Cluj-Napoca** 151.43 274 ⇑PKIKP **PKiKP** 01 22 09.2 +2.9
CBBR **Cluj-Babes-Bol** 151.49 274 ⇑P **PKiKP** 01 22 07.8 +1.5
MDVR **Moldovita** 151.55 269 ⇑P **PKiKP** 01 22 07.4 +0.8
PDG **Podgorica** 151.68 263 ⇑P **PKiKP** 01 22 08.6 +1.8
MARR **Marisel-Cluj** 151.70 274 ⇑P **PKiKP** 01 22 07.6 +0.7
NOR **Nord** 151.71 359 *i*P **PKiKP** 01 22 05.8 0.0
SURR **Surduc** 151.82 272 ⇑P **PKPbc** 01 22 04.7 -2.0
BMR **Baia Mare** 151.96 276 ⇑P **PKiKP** 01 22 10.9 +3.6
BMR **Baia Mare** 151.96 276 ⇑PKIKP **PKiKP** 01 22 10.9 +3.6
DRGR 152.00 274 ⇑P **PKPbc** 01 22 04.1 -3.1
DRGR 152.00 274 ⇑PKIKP **PKPbc** 01 22 04.1 -3.1
MESR **Meseseni** 152.03 275 ⇓P **PKiKP** 01 22 09.0 +1.5
SPITS **Spitsbergen Ar** 152.04 345 PKPbc **PKiKP** 01 22 08.4 +1.8
comp=Z,59nm,0.9s,baz=59,slow=2.4,SNR=13
BZS **Buzias** 152.05 271 ⇑P **PKiKP** 01 22 08.3 +0.7
BZS **Buzias** 152.05 271 ⇑PKIKP **PKiKP** 01 22 08.3 +0.7
MATE **Matera** 152.08 258 ⇑P **PKiKP** 01 22 11.6 +3.9
MNK **Minsk** 152.10 292 *i*PKIKP **PKiKP** 01 22 08.1 +0.8
MNK *i* 01 25 47.2
MNK *i*SS SS 01 45 14.9 -2.4
MNK pmax pmax
comp=E,25nm,1.0s
MNK pmax pmax
comp=N,36nm,1.0s
MNK pmax pmax
comp=Z,114nm,1.0s
SIRR **Siria** 152.36 272 ⇑P **PKiKP** 01 22 08.8 +0.6
KEST **Kesra** 152.74 241 PKPbc **PKPbc** 01 22 07.8 -1.4
comp=Z,7.6nm,0.9s,baz=104,slow=10.0,SNR=5.4
HSPB **Hornsund (broa** 152.94 343 *e*PKPbc **PKiKP** 01 22 08.8 +0.3
SCHQ **Schefferville** 153.08

SUW	**Suwalki**	**154.59**	**289**	*e*PKPdf	**PKPdf**	**01 22 06.8**	**+2.9**
SUW				*e*PKPbc	**sPKPbc**	**01 22 16.1**	**+0.6**
SUW				*e*PKPab	**sPKPab**	**01 22 30.4**	**+0.2**
NIE	**Niedzica**	**154.64**	**277**	*e*PKPbc	**PKiKP**	**01 22 17.8**	**+5.0**
NIE				*e*PKPab	**sPKPab**	**01 22 30.7**	**0.0**
LANS	**Liptovska Anna**	**155.02**	**276**	*e*PKP	PKPab	01 22 19.2	-10
LANS				*e*		01 22 32.5	
VYHS	**Vyhne**	**155.11**	**274**	*e*PKIKP	**PKPdf**	**01 22 07.2**	**+2.3**
VYHS				*e*		01 22 18.1	
VYHS	**Vyhne**	**155.11**	**274**	*e*PKP	**PKPdf**	**01 22 07.2**	**+2.3**
VYHS				*e*		01 22 18.1	
VYHS				*e*		01 22 32.8	
SRO	**Srobarova**	**155.12**	**273**	*e*PKP2	**PKPab**	**01 22 33.2**	**+3.5**
SRO	**Srobarova**	**155.12**	**273**	*e*PKP	**PKPab**	**01 22 33.2**	**+3.5**
OJC	**Ojcow**	**155.26**	**279**	*e*PKPab	**PKPab**	**01 22 33.0**	**+2.7**
BEL	**Belsk**	**155.28**	**283**	*e*PKPdf	**PKPdf**	**01 22 06.9**	**+1.9**
BEL				*e*PKPab	**pPKPab**	**01 22 31.3**	**-1.1**
VSL	**Villasalto**	**155.49**	**247**	IAMs_20	IAMs_20	02 38 53.2	
	comp=Z,749nm,18.0s						
GUMA	**Gualdo di Mace**	**155.55**	**259**	IAMs_20	IAMs_20	02 39 19.0	
	comp=Z,552nm,18.0s						
MODS	**Modra-Piesok**	**155.99**	**273**	*e*PKIKP	**PKPdf**	**01 22 08.1**	**+2.0**
MODS				*e*		01 22 18.9	
MODS	**Modra-Piesok**	**155.99**	**273**	*e*PKP	**PKPdf**	**01 22 08.1**	**+2.0**
MODS				*e*		01 22 18.9	
MODS				*e*		01 22 36.4	
MAUC	**Maruska**	**156.09**	**276**	*e*PKPAB	**PKPab**	**01 22 34.0**	**+0.1**
OKC	**Ostrava-Krasne**	**156.09**	**277**	AMS	AMS	02 46 40.0	
	comp=Z,600nm,24.2s						
PDKS	**Podkum**	**156.24**	**266**	*i* PKPdf	**PKPdf**	**01 22 09.1**	**+2.5**
PDKS				*e*PP	**PP**	**01 26 12.7**	**-0.2**
RONA	**Rosalia, Austr**	**156.27**	**271**	*e*pPKP	**PKPab**	**01 22 37.6**	**+2.8**
	comp=Z,62nm,1.3s,SNR=7.2						
RONA				*e*PP	**PP**	**01 26 12.4**	**-0.7**
	comp=Z,13nm,1.6s						
STEB	**Steborice**	**156.35**	**277**	*e*PKPAB	PKPdf	01 22 20.0	+13
MORC	**Moravsky Berou**	**156.43**	**276**	*e*PKP	**PKPdf**	**01 22 05.5**	**-1.2**
MORC				*e*PP	**PP**	**01 26 13.7**	**-0.3**
MORC	**Moravsky Berou**	**156.43**	**276**	⇑P	PKPdf	01 22 20.8	+14
PERS	**Pernice**	**156.46**	**268**	*e*PKPdf	**PKPdf**	**01 22 08.9**	**+2.0**
PERS				*e*PKPab	**pPKPab**	**01 22 37.5**	**-0.3**
ARSA	**Arzberg**	**156.52**	**269**	*e*PKP	**PKPab**	**01 22 35.2**	**-0.6**
	comp=Z,86nm,1.3s,SNR=6.9						
ARSA				*e*PP	**PP**	**01 26 14.2**	**-0.2**
	comp=Z,3.3nm,0.7s						
SOKA	**Soboth**	**156.53**	**268**	*i* pPKP	**PKPab**	**01 22 38.0**	**+2.0**
	comp=Z,39nm,1.4s						
SOKA				*e*PP	**PP**	**01 26 14.6**	**0.0**
	comp=Z,11nm,1.4s						
CONA	**Conrad Observa**	**156.63**	**271**	*i* pPKP	**PKPab**	**01 22 38.7**	**+2.3**
	comp=Z,31nm,1.3s						
CONA				*e*PP	**PP**	**01 26 14.4**	**-0.8**
	comp=Z,20nm,1.6s						
OBKA	**Obir**	**156.74**	**267**	*e*pPKP	**PKPab**	**01 22 39.9**	**+3.1**
	comp=Z,16nm,1.2s						
VRAC	**Vranov**	**156.80**	**275**	PKP	**PKPdf**	**01 22 06.6**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=250,slow=18,SNR=1.9						
VRAC				PKPab	**PKPab**	**01 22 35.4**	**-1.5**
	comp=Z,12nm,1.2s,baz=119,slow=4.6,SNR=7.7						
VRAC				PP	**PP**	**01 26 14.5**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=155,slow=4.9,SNR=5.0						
VRAC	**Vranov**	**156.80**	**275**	*e*PKP	**PKPdf**	**01 22 06.5**	**-0.6**
VRAC				*e*PP	**PP**	**01 26 15.3**	**-0.7**
KRUC	**Moravsky**	**156.81**	**274**	*e*PKP	**PKPdf**	**01 22 06.3**	**-0.8**
KRUC				*e*PP	**PP**	**01 26 15.3**	**-0.8**
KRLC	**Kraliky**	**156.99**	**277**	AMS	AMS	02 53 00.0	
	comp=Z,400nm,14.7s						
OSSC	**Osservatorio P**	**157.05**	**257**	IAMs_20	IAMs_20	02 42 31.6	
	comp=Z,833nm,20.0s						
CADS	**Cadrg**	**157.08**	**265**	*e*PKPdf	**PKPdf**	**01 22 09.9**	**+2.3**
CADS				*i* PKPab	**sPKPab**	**01 22 40.6**	**-0.7**
MYKA	**Terra Mystica**	**157.34**	**266**	*i* pPKP	**PKPab**	**01 22 41.1**	**+1.6**
	comp=Z,41nm,1.2s						
DPC	**Dobruska-Polom**	**157.37**	**277**	*e*PKPAB	**PKPab**	**01 22 39.0**	**-0.4**
DPC				AMS	AMS	02 51 50.0	
	comp=Z,500nm,22.0s						
DPC	**Dobruska-Polom**	**157.37**	**277**	*e*PKP2	**PKPab**	**01 22 39.0**	**-0.4**
DPC				MLR	MLR		
	comp=Z,500nm,22.0s						
TREC	**Trest**	**157.45**	**274**	*e*PKPAB	**PKPab**	**01 22 41.2**	**+1.4**
TREC				AMS	AMS	02 52 30.0	
	comp=Z,600nm,20.7s						
TREC	**Trest**	**157.45**	**274**	*e*PKP2	**PKPab**	**01 22 41.2**	**+1.4**
TREC				MLR	MLR		
	comp=Z,600nm,20.7s						
OSTC	**Ostas**	**157.51**	**277**	*e*PKPAB	**PKPab**	**01 22 43.2**	**+3.2**
OSTC	**Ostas**	**157.51**	**277**	*e*PKP2	**PKPab**	**01 22 43.2**	**+3.2**
MOA	**Molln**	**157.55**	**270**	*e*pPKP	**PKPab**	**01 22 41.6**	**+1.4**
	comp=Z,25nm,1.1s,SNR=5.4						
MOA				*e*PP	**PP**	**01 26 17.0**	**-3.2**
	comp=Z,15nm,2.0s						
KSP	**Ksiaz**	**157.57**	**278**	*e*PKPdf	**PKPdf**	**01 22 10.8**	**+2.7**
KSP				*e*PKPab	**sPKPab**	**01 22 42.5**	**-0.7**
UPC	**Upice**	**157.62**	**277**	AMS	AMS	02 50 40.0	
	comp=Z,700nm,20.7s						
KBA	**Koelnbreinsper**	**157.74**	**267**	*i* pPKP	**PKPab**	**01 22 43.4**	**+2.1**
	comp=Z,25nm,1.2s,SNR=5.4						
KBA				*e*PP	**PP**	**01 26 18.3**	**-3.1**
	comp=Z,9.6nm,1.7s						
BIOA	**Bad Ischl, Aus**	**157.85**	**269**	*i* pPKP	**PKPab**	**01 22 43.5**	**+1.9**
	comp=Z,37nm,1.2s,SNR=6.4						
BIOA				*e*PP	**PP**	**01 26 21.6**	**-0.3**
	comp=Z,12nm,1.1s						
ABTA	**Abfaltersbach**	**158.07**	**266**	*e*pPKP	**PKPab**	**01 22 45.0**	**+2.4**
	comp=Z,42nm,1.2s,SNR=6.5						
ABTA				*e*PP	**PP**	**01 26 22.6**	**-0.5**
	comp=Z,11nm,1.8s						
CTI	**Castel Tesino**	**158.23**	**263**	PKPdf	**PKPdf**	**01 22 10.2**	**+2.8**
CTI	**Castel Tesino**	**158.23**	**263**	PKIKP	**PKPdf**	**01 22 10.2**	**+2.8**
ZVC	**Zvikov**	**158.28**	**273**	*e*PKPAB	**PKPab**	**01 22 42.5**	**-0.9**
PRU	**Pruhonice**	**158.29**	**275**	AMS	AMS	02 51 30.0	
	comp=Z,500nm,16.2s						
LESA	**Schwarzleotal**	**158.30**	**267**	*e*PKP	**PKPab**	**01 22 44.7**	**+1.1**
	comp=Z,28nm,1.2s						
LESA				*i* PP	**PP**	**01 26 24.3**	**-0.1**
	comp=Z,12nm,1.7s						
GERES	**GERESS Array B**	**158.33**	**272**	PKPab	**PKPab**	**01 22 43.5**	**-0.2**
GERES	**GERESS Array B**	**158.33**	**272**	PKP	**PKPdf**	**01 22 08.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=111,slow=1.7,SNR=2.1						
GERES				PKPab	**PKPab**	**01 22 42.1**	**-1.6**
	comp=Z,16nm,1.0s,baz=123,slow=4.9,SNR=16						
GERES				PP	**PP**	**01 26 21.7**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=117,slow=6.1,SNR=3.6						
PRA	**Prague**	**158.39**	**275**	AMS	AMS	02 42 40.0	
	comp=Z,600nm,20.4s						
MAHO	**Mahon**	**158.52**	**241**	IAMs_20	IAMs_20	02 35 04.4	
	comp=Z,885nm,19.0s						
KHC	**Kasperske Hory**	**158.53**	**272**	*e*PKPDF	**PKPdf**	**01 22 12.0**	**+2.7**
KHC				*e*PKPAB	**PKPab**	**01 22 42.2**	**-2.3**
KHC				AMS	AMS	02 44 20.0	
	comp=Z,700nm,22.0s						
KHC	**Kasperske Hory**	**158.53**	**272**	*e*PKIKP	**PKPdf**	**01 22 12.0**	**+2.7**
KHC				*e*		01 22 42.2	
KHC				MLR	MLR		
	comp=Z,700nm,22.0s						
WTTA	**Wattenberg**	**158.85**	**266**	*i* pPKP	**PKPab**	**01 22 48.1**	**+2.0**
	comp=Z,86nm,1.4s,SNR=7.7						
WTTA				*e*PP	**PP**	**01 26 27.6**	**+0.1**
	comp=Z,7.5nm,1.2s						
WATA	**Walderalm**	**158.92**	**266**	*i* pPKP	**PKPab**	**01 22 48.7**	**+2.4**
	comp=Z,58nm,1.2s,SNR=7.8						
WATA				*i* PP	**PP**	**01 26 27.4**	**-0.4**
	comp=Z,12nm,1.8s						
SQTA	**Sankt Quirin**	**159.08**	**265**	*e*pPKP	**PKPab**	**01 22 49.7**	**+2.7**
	comp=Z,62nm,1.4s,SNR=6.3						
SQTA				*i* PP	**PP**	**01 26 27.4**	**-1.3**
	comp=Z,7.7nm,1.3s						
HSKC	**Hora Svate Kat**	**159.18**	**276**	AMS	AMS	02 43 30.0	
	comp=Z,700nm,20.5s						
MOTA	**Moosalm**	**159.20**	**266**	*i* pPKP	**PKPab**	**01 22 49.9**	**+2.3**
	comp=Z,59nm,1.3s						
MOTA				*e*PP	**PP**	**01 26 23.7**	**-5.7**
	comp=Z,6.9nm,1.3s						
CART	**Cartagena**	**159.27**	**228**	IAMs_20	IAMs_20	02 39 26.0	
	comp=Z,715nm,18.0s						
FETA	**Feichten**	**159.27**	**264**	*i* pPKP	**PKPab**	**01 22 50.1**	**+2.2**
	comp=Z,67nm,1.2s,SNR=6.5						
FETA				*e*PP	**PP**	**01 26 29.3**	**-0.4**
	comp=Z,11nm,1.7s						
RETA	**Reutte**	**159.47**	**266**	*i* pPKP	**PKPab**	**01 22 50.8**	**+2.1**
	comp=Z,72nm,1.3s,SNR=12						
RETA				*e*PP	**PP**	**01 26 30.8**	**+0.1**
	comp=Z,9.6nm,1.4s						
DAVOX	**Davos/Dischmat**	**159.65**	**263**	PKPab	**PKPab**	**01 22 47.7**	**-1.9**
	comp=Z,35nm,1.0s,baz=127,slow=10,SNR=15						
CLL	**Collm**	**159.68**	**277**	*e*PKIKP	**PKPdf**	**01 22 12.0**	**+1.5**
CLL				*e*		01 22 49.0	
CLL				*e*		01 26 31.0	
CLL				pmax	pmax		
	comp=Z,45nm,2.2s						
CLL				MLR	MLR		
	comp=Z,700nm,19.8s						
TUE	**Stuetta**	**159.81**	**262**	PKPab	**PKPab**	**01 22 50.5**	**+0.2**
TUE				IAMs_20	IAMs_20	02 45 38.7	
	comp=Z,868nm,21.0s						
DAVA	**Damuels**	**159.90**	**264**	*i* pPKP	**PKPab**	**01 22 52.8**	**+2.2**
	comp=Z,92nm,1.3s,SNR=9.5						
DAVA				*e*PP	**PP**	**01 26 32.7**	**-0.5**
	comp=Z,8.2nm,1.3s						
HFS	**Hagfors**	**160.41**	**303**	PKPab	**PKPab**	**01 22 50.9**	**-1.4**
	comp=Z,23nm,0.9s,baz=103,slow=3.2,SNR=16						
BFO	**Black Forest**	**161.32**	**266**		**PKPab**	**01 22 57.2**	**+0.6**
BFO	**Black Forest**	**161.32**	**266**	PKP2	**PKPab**	**01 22 57.2**	**+0.6**
NB2	**NORSAR Subarra**	**161.51**	**307**	PKP	**PKPab**	**01 22 57.9**	**+0.8**
	comp=Z,41nm,1.7s,baz=74,slow=4.4						
NB2	**NORSAR Subarra**	**161.51**	**307**	PKP	**PKPab**	**01 22 57.9**	**+0.8**
	baz=74,slow=4.4						
NOA	**NORSAR Array B**	**161.51**	**307**	PKP	**PKPdf**	**01 22 11.6**	**-0.7**
	comp=Z,3.5nm,1.1s,baz=90,slow=1.2,SNR=3.3						
NOA				PKPab	**PKPab**	**01 22 55.3**	**-1.8**
	comp=Z,7.1nm,1.1s,baz=76,slow=4.4,SNR=7.3						
PBDV	**Barranco-do-Ve**	**161.65**	**213**	*e*PKPdf	**PKPdf**	**01 22 08.7**	**-4.6**
PBDV				*e*PKPab	**sPKPab**	**01 23 02.7**	**+1.4**
PVAQ	**Vaqueiros**	**161.73**	**214**	*e*PKPab	**PKPab**	**01 22 59.1**	**+0.5**
PVAQ				*e*LR	LR	02 19 05.2	
PVAQ				*i* AMs_20		02 35 25.1	
	comp=Z,678nm,18.0s						
PCVE	**Castro Verde**	**162.04**	**213**	*e*PKPdf	**PKPdf**	**01 22 12.9**	**-0.7**
PCVE				*e*PKPab	**PKPab**	**01 23 00.1**	**+0.1**
PBAR	**Barrancos**	**162.19**	**216**	*e*PKPdf	**PKPdf**	**01 22 18.2**	**+4.5**
PBAR				*e*PKPab	**PKPab**	**01 23 00.3**	**-0.3**
ESDC	**Sonseca Array**	**162.29**	**225**		**PKPdf**	**01 22 18.0**	**+4.2**
ESDC	**Sonseca Array**	**162.29**	**225**	PKP	**PKPdf**	**01 22 11.9**	**-1.9**
	comp=Z,2.9nm,1.1s,baz=140,slow=1.4,SNR=4.6						
ESDC				PKPab	**PKPab**	**01 23 00.4**	**-0.7**
	comp=Z,13nm,1.1s,baz=156,slow=3.1,SNR=12						
ESDC				PP	**PP**	**01 26 45.1**	**-0.2**
	comp=Z,1.7nm,1.2s,baz=131,slow=1.9,SNR=1.1						
ESBB	**Sonseca Array**	**162.29**	**225**		**PKPdf**	**01 22 17.9**	**+4.1**
MESJ	**Messejana**	**162.29**	**213**	*e*PKPdf	**PKPdf**	**01 22 19.0**	**+5.2**
MESJ				*e*PKPab	**PKPab**	**01 23 01.8**	**+0.8**
PAB	**San Pablo**	**162.34**	**224**		**PKPdf**	**01 22 17.8**	**+3.9**
PAB	**San Pablo**	**162.34**	**224**	PKIKP	**PKPdf**	**01 22 17.8**	**+3.9**
PBEJ	**Beja**	**162.34**	**214**	*e*PKPdf	**PKPdf**	**01 22 18.5**	**+4.7**
PBEJ				*e*PKPab	**PKPab**	**01 23 01.1**	**-0.1**
EVO	**Evora**	**162.85**	**214**	*e*PKPdf	**PKPdf**	**01 22 18.9**	**+4.5**
EVO				*e*PKPab	**PKPab**	**01 23 04.2**	**+0.7**
PESTR	**Estremoz**	**163.00**	**216**	*e*PKPdf	**PKPdf**	**01 22 14.1**	**-0.4**
PESTR				*e*PKPab	**sPKPab**	**01 23 07.5**	**+0.4**
WLF	**Walferdange**	**163.18**	**268**	*d*PKP	**PKPab**	**01 23 07.9**	**+3.2**
PMTG	**Montargil**	**163.41**	**215**	*e*PKPdf	**PKPdf**	**01 22 16.9**	**+2.0**
PMTG				*e*PKPab	**PKPab**	**01 23 05.9**	**+0.1**
PMRV	**Marv??o**	**163.43**	**217**	*e*PKPdf	**PKPdf**	**01 22 17.3**	**+2.4**
PMRV				*e*PKPab	**PKPab**	**01 23 06.0**	**0.0**
PMRV				*e*SS	SS	01 47 25.2	+7.8
PMRV				*e*LR	LR	02 22 58.0	
PMRV				*i* AMs_20		02 35 59.4	
	comp=Z,1μm,18.0s						
BHOU	**Houvegnez**	**163.53**	**270**	*d*PKPdf	**PKPdf**	**01 22 17.4**	**+2.8**
BHOU				*d*PKP	**pPKPab**	**01 23 07.4**	**-1.1**
PCBR	**Castelo Branco**	**163.83**	**218**	*e*PKPdf	**PKPdf**	**01 22 19.3**	**+4.1**
PCBR				*e*PKPab	**PKPab**	**01 23 07.9**	**+0.2**
RCHB	**Rochefort**	**163.92**	**268**	*d*PKP	**PKPab**	**01 23 08.1**	**+0.2**
BCLA	**Clavier**	**163.97**	**269**	*d*PKP	**PKPab**	**01 23 08.6**	**+0.4**
BGES	**Gesves**	**164.09**	**269**	*d*PKP	**PKPab**	**01 23 10.9**	**+2.2**
BMRD	**Maredsous**	**164.25**	**269**	*d*PKP	**PKPab**	**01 23 09.1**	**-0.3**
DOU	**Dourbes**	**164.28**	**268**	*d*PKP	**PKPab**	**01 23 09.1**	**-0.4**
MTE	**Manteigas**	**164.34**	**219**	*e*PKPdf	**PKPdf**	**01 22 15.7**	**0.0**
MTE				*e*PKPab	**sPKPab**	**01 23 13.6**	**+0.5**
MTE				*e*SS	SS	01 47 37.8	+11
MTE				*e*LQ	LQ	02 11 23.8	
MTE				*e*LR	LR	02 22 00.6	
MTE				*i* AMs_20		02 43 53.9	
	comp=Z,882nm,18.0s						
PCAS	**Casmilo, Conde**	**164.38**	**216**	*e*PKPdf	**PKPdf**	**01 22 20.0**	**+4.3**
PCAS				*e*PKPab	**PKPab**	**01 23 10.2**	**0.0**
COI	**Coimbra**	**164.49**	**216**	*e*PKPab	**PKPab**	**01 23 14.4**	**+3.8**
PVIS	**Viseu**	**164.75**	**218**	*e*PKPdf	**PKPdf**	**01 22 17.9**	**+1.8**
PVIS				*e*PKPab	**PKPab**	**01 23 11.3**	**-0.5**
MVO	**Moncorvo**	**164.80**	**221**	*e*PKPab	**PKPab**	**01 23 11.3**	**-0.8**
MVO				*e*SS	SS	01 47 38.1	+6.4
MVO				*e*LQ	LQ	02 09 48.8	
MVO				*e*LR	LR	02 23 39.7	
MVO				*i* AMs_20		02 34 31.8	
	comp=Z,959nm,20.0s						
PVRL	**Vila Real**	**165.16**	**220**	*e*PKPab	**PKPab**	**01 23 17.8**	**+4.2**
PBRG	**Braganca**	**165.23**	**223**	*e*PKPab	**PKPab**	**01 23 14.1**	**+0.2**
POLO	**Lamas de Olo**	**165.28**	**220**	*e*PKPdf	**PKPdf**	**01 22 18.4**	**+1.8**
POLO				*e*PKPab	**PKPab**	**01 23 14.7**	**+0.5**
PCAB	**Cabril**	**165.66**	**220**	*e*PKPab	**PKPab**	**01 23 13.2**	**-2.6**
PGAV	**Gavieira, Arco**	**165.97**	**220**	*e*LQ	LQ	02 11 10.1	
PGAV				*e*LR	LR	02 25 24.9	
PGAV				*i* AMs_20		02 36 00.2	
	comp=Z,828nm,18.0s						
EKA	**Eskdalemuir Ar**	**169.85**	**287**	PKPab	**PKPab**	**01 23 32.7**	**-1.3**
	comp=Z,11nm,1.1s,baz=96,slow=5.9,SNR=14						

ISC 01 01:15:59.5±1.4, 27°.79N±0°.06×111°.81W±0°.04, h10km±12km, n7, σ1§03/12, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.84**	**82⇑**	*e*P	**Pg**	**01 16 15.3**	**-0.3**
GUYB				*e*S	**Sg**	**01 16 26.6**	**+0.1**
GUYB				IAML		01 16 27.4	
	comp=E,517nm,0.7s						
GUYB				*e*		01 16 27.4	
GUYB				IAML		01 16 31.6	
	comp=N,412nm,0.7s						
GUYB				⇑*e*		01 16 31.6	
BKIRB	**Bahia Kino**	**1.08**	**351**	*e*P	**Pn**	**01 16 21.5**	**+0.9**
BKIRB				*e*S	**Sb**	**01 16 35.6**	**+1.2**
SFQB	**San Francisqui**	**1.12**	**304**	*e*P	**Pg**	**01 16 21.0**	**0.0**
SFQB				*e*S	**Sg**	**01 16 35.0**	**-0.5**
HSIG		**1.44**	**31**	*e*P	**Pn**	**01 16 24.8**	**-0.9**
HSIG				*e*S	**Sn**	**01 16 43.0**	**-1.7**
HSIG				⇓*e*		01 16 46.1	
HSIG				IAML		01 16 46.1	
	comp=E,335nm,0.3s						
HSIG				IAML		01 16 47.7	
	comp=N,131nm,0.3s						
HSIG				⇓*e*		01 16 47.7	
CDOB	**Cd. Obregon**	**1.53**	**104**	*e*P	**Pn**	**01 16 28.0**	**+1.2**
NOVRB	**El Novillo Son**	**2.23**	**58**	*e*P	**Pg**	**01 16 42.1**	**-0.1**
NOVRB				*e*S	**Sb**	**01 17 08.5**	**+1.0**
UAGRB	**Rancho Ultima**	**2.27**	**167**	*e*P	**Pn**	**01 16 36.7**	**-0.3**

IDC 01 01:38:03.9±2.4, 8°.53N×123°.41E, h0km, mb3.7/3, mbtmp3.7/3, MS4.4/3, Error ellipse: s-maj=237.8km s-min=26.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.27**	**159**	P	P	01 44 17.1	+0.2
	0.7nm,0.7s,baz=339,slow=9.4,SNR=5.8						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**33.61**	**162**	P	P	01 44 46.0	-0.2
	0.8nm,0.5s,baz=337,slow=6.9,SNR=15						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**51.75**	**325**	P	P	01 47 13.2	-0.1
	0.5nm,0.8s,baz=113,slow=5.7,SNR=6.3						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**54.84**	**333**	LR	LR	02 12 12.8	
	comp=Z,310nm,21.1s,baz=154,slow=37						
KURBB	**Kurchatov Arra**	**55.94**	**327**	LR	LR	02 13 46.0	
	comp=Z,340nm,21.4s,baz=187,slow=38						
NOA	**NORSAR Array B**	**93.04**	**333**	LR	LR	02 38 36.3	
	comp=Z,152nm,19.2s,baz=90,slow=39						

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*GCG **01** 02:01:26.6±1.2, 13°.59N×88°.55W, h207km±11km, MD4.6, ML3.3, MW3.6*
*SNET **01** 02:01:27.9±0.8, 13°.55N×88°.54W, h194km±3km, ML4.3*
*IDC **01** 02:01:27.7±1.1, 13°.93N×88°.27W, h190km±15km, mb3.4/9, mbtmp4.0/14, Error ellipse: s-maj=43.4km s-min=12.2km az=37.0*

*NEIC **01** 02:01:28.6±1.7, 13°.7N±0°.1×88°.49W±0°.09, h201km±9km, mb4.5/42, Error ellipse: s-maj=18.3km s-min=8.8km az=213.0*
*CATAC **01** 02:01:29.2±0.3, 14°N±3°×8°9W±°, h185km±2km, M3.6/39, MLv3.6/39, Error ellipse: s-maj=6.7km s-min=2.4km az=24.4, confirmed*

ISC 01 02:01:27.5±0.6, 13°.63N±0°.05×88°.50W±0°.04, h202km±5km, n271, σ1§29/277, mb4.4/28, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQSS	**Presa 15 de Se**	**0.06**	**266**	P	**Pn**	**02 01 53.9**	**0.0**
PQSS	**Presa 15 de Se**	**0.06**	**266**	S	**S**	**02 02 14.3**	**-0.1**
PQSS	**Presa 15 de Se**	**0.06**	**266**	P	**Pn**	**02 01 54.0**	**+0.1**
TECA	**Tecapa**	**0.13**	**181**	*e*P	**Pn**	**02 01 54.4**	**+0.1**
TECA				*e*P		02 01 54.6	
TECA				*e*S	**S**	**02 02 14.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.23**	**288**	*e*P	**Pn**	**02 01 54.4**	**+0.3**
SCLA				*e*S	**S**	**02 02 15.7**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.23**	**288**	P	**Pn**	**02 01 54.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.23**	**288**	P	**Pn**	**02 01 54.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.23**	**288**	S	**S**	**02 02 11.7**	**-3.2**
SCLA	**Alcaldia de Sa**	**0.23**	**288**	P	**Pn**	**02 01 54.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.23**	**288**	P	**Pn**	**02 01 54.7**	**+0.5**
PACA	**Pacayal**	**0.23**	**133**	*e*P	**Pn**	**02 01 54.6**	**+0.3**
PACA				IAML		02 02 19.6	
	comp=Z,3μm,0.3s						
PACA	**Pacayal**	**0.23**	**133**	P	**Pn**	**02 01 54.5**	**+0.3**
PACA	**Pacayal**	**0.23**	**133**	P	**Pn**	**02 01 54.6**	**+0.3**
PACA	**Pacayal**	**0.23**	**133**	S	**S**	**02 02 12.8**	**-2.4**
PACA	**Pacayal**	**0.23**	**133**	P	**Pn**	**02 01 54.8**	**+0.5**
PACA	**Pacayal**	**0.23**	**133**	P	**Pn**	**02 01 54.9**	**+0.6**
UESV	**Universidad de**	**0.28**	**272**	*e*P	**Pn**	**02 01 54.2**	**0.0**
UESV	**Universidad de**	**0.28**	**272**	P	**Pn**	**02 01 54.3**	**0.0**
UESV	**Universidad de**	**0.28**	**272**	P	**Pn**	**02 01 54.2**	**0.0**
UESV	**Universidad de**	**0.28**	**272**	S	**S**	**02 02 12.9**	**-2.1**
UESV	**Universidad de**	**0.28**	**272**	P	**Pn**	**02 01 54.5**	**+0.2**
RANC	**El Ranchito**	**0.28**	**133**	P	**Pn**	**02 01 54.5**	**+0.1**
RANC	**El Ranchito**	**0.28**	**133**	P	**Pn**	**02 01 54.5**	**+0.1**
RANC	**El Ranchito**	**0.28**	**133**	P	**Pn**	**02 01 55.0**	**+0.6**
RANC	**El Ranchito**	**0.28**	**133**	P	**Pn**	**02 01 54.5**	**+0.1**
LCY	**Lacayo**	**0.28**	**135**	*e*P	**Pn**	**02 01 54.3**	**-0.1**
TECO	**Alcaldia de Te**	**0.29**	**252**	*i* P	**Pn**	**02 01 54.1**	**-0.1**
TECO	**Alcaldia de Te**	**0.29**	**252**	P	**Pn**	**02 01 54.1**	**-0.1**
TECO	**Alcaldia de Te**	**0.29**	**252**	P	**Pn**	**02 01 54.1**	**-0.1**
TECO	**Alcaldia de Te**	**0.29**	**252**	S	**S**	**02 02 14.8**	**-0.3**
TECO	**Alcaldia de Te**	**0.29**	**252**	P	**Pn**	**02 01 54.4**	**+0.1**
TECO	**Alcaldia de Te**	**0.29**	**252**	P	**Pn**	**02 01 54.2**	**-0.1**
VSM	**San Miguel**	**0.30**	**132**	*e*P	**Pn**	**02 01 54.8**	**+0.2**
ALJI	**Alcalda de J**	**0.31**	**193**	P	**Pn**	**02 01 54.2**	**-0.1**
ALJI	**Alcalda de J**	**0.31**	**193**	P	**Pn**	**02 01 54.0**	**-0.3**
ALJI	**Alcalda de J**	**0.31**	**193**	S	**S**	**02 02 15.1**	**-0.1**
ALJI	**Alcalda de J**	**0.31**	**193**	P	**Pn**	**02 01 54.5**	**+0.2**
ALJI	**Alcalda de J**	**0.31**	**193**	P	**Pn**	**02 01 54.0**	**-0.3**
BLLM	**Bellamira**	**0.32**	**126**	*e*P	**Pn**	**02 01 54.2**	**-0.1**
CAHU	**Cacacuatique**	**0.32**	**63**	*e*P	**

comp=Z,49nm,0.6s
POTN Potosi Cosigui 1.15 123 P **Pn 02 02 01.9 +3.3**
POTN Potosi Cosigui 1.15 123 P **Pn 02 01 57.1 -1.5**
COMHN El Horno 1.22 48 P **Pn 02 01 59.1 -0.2**
COMHN El Horno 1.22 48 S **S 02 02 23.0 -0.8**
COMHN El Horno 1.22 48 P **Pn 02 01 59.0 -0.4**
ESQI Esquipulas 1.23 319 **Pn 02 02 00.2 +0.9**
ESQI Esquipulas 1.23 319 *i* P **Pn 02 02 00.2 +0.9**
ESQI *eS* **S 02 02 24.6 +0.9**
ESQI Esquipulas 1.23 319 P **Pn 02 02 00.3 +0.9**
ESQI Esquipulas 1.23 319 P **Pn 02 02 00.2 +0.9**
ESQI Esquipulas 1.23 319 S **S 02 02 25.3 +1.5**
ESQI Esquipulas 1.23 319 P **Pn 02 02 00.5 +1.2**
TGUH Tegucigalpa,Un 1.27 70 Pn **Pn 02 01 59.7 +0.2**
TGUH Tegucigalpa,Un 1.27 70 P **Pn 02 01 59.9 +0.4**
TGUH S **S 02 02 24.0 -0.1**
TGUH Tegucigalpa,Un 1.27 70 P **Pn 02 01 59.8 +0.2**
NUBE Las Nubes 1.27 283 *eP* **Pn 02 01 59.5 -0.1**
NUBE Las Nubes 1.27 283 P **Pn 02 01 59.6 -0.1**
NUBE Las Nubes 1.27 283 P **Pn 02 01 59.7 0.0**
NUBE Las Nubes 1.27 283 S **S 02 02 26.8 +2.5**
NUBE Las Nubes 1.27 283 P **Pn 02 01 59.9 +0.2**
NUBE Las Nubes 1.27 283 *eP* **Pn 02 01 59.4 -0.3**
NUBE Las Nubes 1.27 283 *eP* 02 01 59.4
LOAL Lomas de Alarc 1.30 287 P **Pn 02 02 00.1 +0.4**
LOAL Lomas de Alarc 1.30 287 P **Pn 02 02 00.1 +0.4**
LOAL Lomas de Alarc 1.30 287 P **Pn 02 02 00.6 +0.9**
SLOZ Alcaldia de Sa 1.31 288 *eP* **Pn 02 01 60.0 +0.2**
SLOZ Alcaldia de Sa 1.31 288 P **Pn 02 01 60.0 +0.2**
SLOZ Alcaldia de Sa 1.31 288 P **Pn 02 01 59.8 0.0**
SLOZ Alcaldia de Sa 1.31 288 S **S 02 02 24.1 -0.4**
CHOHN Orocuina 1.31 96 P **Pn 02 01 60.0 0.0**
CHOHN Orocuina 1.31 96 S **S 02 02 24.9 +0.2**
CHOHN Orocuina 1.31 96 P **Pn 02 02 00.1 +0.2**
CHOHN Orocuina 1.31 96 P **Pn 02 02 00.0 +0.1**
CHOHN Orocuina 1.31 96 S **S 02 02 24.6 -0.1**
JUAM Asuncion Mita 1.36 301 *i* P **Pn 02 02 00.7 +0.4**
JUAM IAML 02 02 54.7
comp=Z,366nm,0.1s
JUAM Asuncion Mita 1.36 301 *i* P 02 02 00.7
JUAM IAML 02 02 54.7
comp=Z,366nm,0.1s
FAME Alcaldia de Sa 1.49 278 P **Pn 02 02 00.8 -0.4**
FAME Alcaldia de Sa 1.49 278 S **S 02 02 27.2 +0.1**
YUSH Yuscaran 1.64 78 P **Pn 02 02 02.8 0.0**
YUSH Yuscaran 1.64 78 P **Pn 02 02 03.0 +0.2**
CRIN San Cristobal 1.69 123 **Pn 02 02 03.8 +0.6**
CRIN San Cristobal 1.69 123 P **Pn 02 02 04.9 +1.7**
CRIN San Cristobal 1.69 123 P **Pn 02 02 04.8 +1.7**
CRIN San Cristobal 1.69 123 S **S 02 02 31.5 +1.1**
CRIN San Cristobal 1.69 123 P **Pn 02 02 06.7 +3.5**
CRIN San Cristobal 1.69 123 P **Pn 02 02 07.0 +3.9**
CRIN San Cristobal 1.69 123 S **S 02 02 34.0 +3.6**
PKGN Cerro Pekin 1.76 123 P **Pn 02 02 04.2 +0.4**
PKGN S **S 02 02 32.3 +0.8**
PKGN Cerro Pekin 1.76 123 P **Pn 02 02 04.2 +0.3**
PKGN S **S 02 02 33.2 +1.6**
QUEN Al S del Volca 1.91 122 P **Pn 02 02 08.0 +2.7**
POLN Al Sur del Vol 1.91 120 P **Pn 02 02 05.6 +0.3**
POLN S **S 02 02 34.8 +0.6**
HERN Volcan Telica 1.92 122 P **Pn 02 02 01.2 -4.3**
TELN Telica 1.92 122 P Pn 02 02 00.1 -5.3
TEL3 Telica 3 1.92 123 P **S 02 02 26.6 -7.8**
ROCN Rota Cerro Neg 2.04 123 P **Pn 02 02 10.9 +4.3**
ILCN San Idelfonso 2.04 121 P **Pn 02 02 06.9 +0.3**
ILCN S **S 02 02 38.4 +1.9**
ILCN San Idelfonso 2.04 121 P **Pn 02 02 06.6 0.0**
CNGN Cerro Negro 2.08 122 P Pn 02 02 14.2 +7.1
CNGN Cerro Negro 2.08 122 P Pn 02 02 14.5 +7.4
CNGN Cerro Negro 2.08 122 S **S 02 02 37.0 -0.3**
CNGA Al SSO del Vol 2.08 123 P **Pn 02 02 09.6 +2.5**
CNGA S **S 02 02 37.9 +0.6**
CNGA Al SSO del Vol 2.08 123 P **Pn 02 02 09.5 +2.4**
MACN El Madrono 2.12 123 P **Pn 02 02 08.9 +1.4**
MACN S **S 02 02 39.5 +1.5**
LIMN Finca el Limon 2.15 105 P **Pn 02 02 08.1 +0.3**
LIMN Finca el Limon 2.15 105 P **Pn 02 02 08.2 +0.3**
LIMN Finca el Limon 2.15 105 S **S 02 02 40.8 +2.2**
LIMN Finca el Limon 2.15 105 P **Pn 02 02 08.3 +0.5**
NISHN Nisperales Com 2.22 16 P **Pn 02 02 09.3 +0.8**
NISHN Nisperales Com 2.22 16 *i* P **Pn 02 02 09.2 +0.7**
NISHN Nisperales Com 2.22 16 *i* P 02 02 09.2
RCFN Al S de San Ju 2.23 92 P **Pn 02 02 08.6 -0.1**
RCFN S **S 02 02 38.6 -1.5**
RCVN Varillal2 2.24 91 P **Pn 02 02 08.8 0.0**
RCVN Varillal2 2.24 91 P **Pn 02 02 09.0 +0.1**
RCVN Varillal2 2.24 91 P **Pn 02 02 08.8 0.0**
MOMN Momotombo 2.26 122 P **Pn 02 02 10.0 +1.0**
MOMN Momotombo 2.26 122 P **Pn 02 02 10.0 +1.0**
MOMN S **S 02 02 40.6 -0.1**
MOMN Momotombo 2.26 122 P **Pn 02 02 11.5 +2.5**
RCPN Sur Rio San Ju 2.34 92 P **Pn 02 02 10.0 +0.1**
RCPN Sur Rio San Ju 2.34 92 P **Pn 02 02 10.2 +0.3**
RCPN Sur Rio San Ju 2.34 92 P **Pn 02 02 09.8 -0.1**
APG El Apazote 2.34 306 P **Pn 02 02 10.9 +0.9**
comp=Z,5.4nm,0.4s,baz=136,slow=10,SNR=74
APG S **S 02 02 42.6 0.0**
comp=Z,1.1nm,0.6s,baz=103,slow=14,SNR=8.3
APG El Apazote 2.34 306 *i* P **Pn 02 02 11.2 +1.1**
APG *i* S **S 02 02 44.4 +1.8**
APG El Apazote 2.34 306 *i* P 02 02 11.2
APG *i* S 02 02 44.4
COPN Copaltepe 2.35 128 P **Pn 02 02 10.5 +0.6**
COPN Copaltepe 2.35 128 P **Pn 02 02 11.1 +1.2**
ESSG Sabana Grande 2.38 289 *i* P **Pn 02 02 10.4 +0.1**
comp=Z,210nm,1.3s
ESSG IAML 02 02 52.2
comp=Z,210nm,1.3s
ESSG Sabana Grande 2.38 289 *i* P 02 02 10.4
comp=Z,210nm,1.3s
ESSG IAML 02 02 52.2
comp=Z,210nm,1.3s
SAPS Ciudad Sandino 2.50 125 P **Pn 02 02 13.0 +1.4**
SAPS Ciudad Sandino 2.50 125 P **Pn 02 02 12.9 +1.4**
SAPS Ciudad Sandino 2.50 125 S **S 02 02 47.0 +1.6**
TISN Laguna Tiscapa 2.63 124 P **Pn 02 02 16.3 +3.3**
UNAN Cigeo UNAN 2.65 124 P **Pn 02 02 15.6 +2.4**
UNAN Cigeo UNAN 2.65 124 P **Pn 02 02 14.9 +1.8**
UNAN S **S 02 02 47.9 -0.3**
MAS3 Al N del Volca 2.77 125 P **Pn 02 02 17.3 +2.7**
MAS3 Al N del Volca 2.77 125 P **Pn 02 02 09.3 +1.4**
MAS3 S **S 02 02 51.1 +0.3**
NANN Nandasmo 2.86 126 P **Pn 02 02 18.2 +2.5**
STG0 El Palmar, Qui 2.87 286 *i* P 02 02 19.8
STG8 El Palmar, Qui 2.88 287 *i* P 02 02 19.8
BOAB BOACO BROADBAN 3.00 113 **Pn 02 02 17.5 +0.3**
BOAB BOACO BROADBAN 3.00 113 P **Pn 02 02 17.7 +0.4**
ESPN Las Esperanzas 4.34 109 **Pn 02 02 34.2 +0.7**
CCIG Comitan 4.39 307 **Pn 02 02 33.9 -0.6**
INDI Punta indio, G 4.75 142 P **Pn 02 02 39.7 +0.9**
INDI Punta indio, G 4.75 142 P **Pn 02 02 40.3 +1.4**
JTS Las Juntas de 4.80 133 Pn **Pn 02 02 40.1 +0.6**
JTS Las Juntas de 4.80 133 P **Pn 02 02 40.5 +1.0**
comp=Z,62nm,0.3s,baz=305,slow=22,SNR=58
JTS S **S 02 03 29.6 -6.1**
comp=Z,26nm,0.3s,baz=295,slow=20,SNR=5.8
SOCE Pocosol 4.98 130 **Pn 02 02 43.6 +1.8**
SOCE Pocosol 4.98 130 P **Pn 02 02 43.6 +1.8**
CMIG Matias Romero 7.05 300 P **Pn 02 03 08.6 +0.1**
comp=Z,2.7nm,0.2s,baz=148,slow=13,SNR=7.2
CMIG S **S 02 04 20.7 -7.8**
comp=Z,6.7nm,0.7s,baz=198,slow=20,SNR=8.6
ROSC El Rosal 16.49 121 P **Pn 02 05 09.4 +1.3**
comp=Z,5.4nm,0.4s,baz=243,slow=14,SNR=2.2
SDV Santo Domingo 18.14 103 **P 02 05 24.7 -0.4**
SDV Santo Domingo 18.14 103 P **P 02 05 24.1 -1.0**
comp=Z,4.7nm,0.3s,baz=306,slow=3.9,SNR=8.6
GOGA Godfrey 20.22 12 P **P 02 05 48.2 +1.2**
GOGA IAmb IAmb 02 05 50.4
comp=Z,9.8nm,0.6s
TXAR Lajitas Array 21.02 320 P **P 02 05 56.7 +1.0**
TXAR Lajitas Array 21.02 320 P **P 02 05 56.9 +1.1**
comp=Z,2.1nm,0.5s,baz=139,slow=9.6,SNR=46
comp=Z,2.1nm,0.5s
TX31 Lajitas Ar. Si 21.02 320 P **P 02 05 56.7 +1.0**
MIAR Mount Ida 21.33 348 P **P 02 05 59.5 +0.8**
MIAR IAmb IAmb 02 06 02.0
comp=Z,16nm,1.3s
JSC Jenkinsville 21.59 16 IAmb IAmb 02 06 03.8
comp=Z,11nm,0.7s
WHAR Wooly Hollow 21.84 352 P **P 02 06 04.9 +1.0**
WHAR IAmb IAmb 02 06 05.5
comp=Z,12nm,0.8s
MNHN Monahans 21.97 326 P **P 02 06 06.0 +0.7**
MNHN IAmb IAmb 02 06 07.8
comp=Z,11nm,0.8s
TKL Tuckaleechee C 22.34 10 P **P 02 06 09.6 +0.9**
TKL IAmb IAmb 02 06 10.9
comp=Z,11nm,0.9s
KMSC Kings Mountain 22.38 16 IAmb IAmb 02 06 11.4
comp=Z,12nm,1.1s
FCAR Ozark Folk Cen 22.41 352 P **P 02 06 09.3 +0.1**
LCAR Lake Charles 22.47 354 P **P 02 06 09.9 +0.1**
X34A Smith Ranch, M 22.53 340 P **P 02 06 12.0 +1.7**
V53A Saluda 22.54 12 IAmb IAmb 02 06 13.7
comp=Z,12nm,0.8s
WMOK Wichita Mounta 22.98 338 P **P 02 06 15.1 +0.6**
FNO Franklin 22.98 341 P **P 02 06 15.5 +1.0**
FNO IAmb IAmb 02 06 16.1
comp=Z,25nm,0.6s
V55A Taylorsville 23.08 15 IAmb IAmb 02 06 18.4
comp=Z,9.0nm,0.6s
HHAR Hobbs 23.08 349 IAmb IAmb 02 06 18.3
comp=Z,7.5nm,0.6s
OK031 S. Brethren Rd 23.46 343 IAmb IAmb 02 06 19.3
comp=Z,9.1nm,0.7s
OK052 Battle Ridge R 23.49 343 IAmb IAmb 02 06 20.0
comp=Z,37nm,1.4s
MGMO Mountain Grove 23.67 352 IAmb IAmb 02 06 22.6
comp=Z,9.1nm,1.1s
SMWD Samnorwood 23.87 336 P **P 02 06 23.4 +0.8**
SMWD IAmb IAmb 02 06 24.4
comp=Z,12nm,0.7s
OK051 E0350 and S346 23.98 343 IAmb IAmb 02 06 26.4
comp=Z,12nm,1.0s
CCM Cathedral Cave 24.45 355 P **P 02 06 27.1 -0.6**
CCM IAmb IAmb 02 06 28.6
comp=Z,6.0nm,0.7s
KAN17 Caldwell West 24.75 342 IAmb IAmb 02 06 33.0
comp=Z,9.5nm,0.7s
SPMN Marine on St. 31.70 354 IAmb IAmb 02 07 32.7
comp=Z,6.2nm,0.7s
COWI Conover 32.37 359 IAmb IAmb 02 07 37.6
comp=Z,7.1nm,0.6s
PDAR Pinedale Array 34.26 332 P **P 02 07 55.5 +0.9**
comp=Z,0.4nm,0.6s,baz=127,slow=10,SNR=6.1
comp=Z,0.4nm,0.6s
AGMN Agassiz Nation 35.10 351 IAmb IAmb 02 08 02.4
comp=Z,5.1nm,0.8s
ULM Lac du Bonnet 37.01 352 P **P 02 08 16.4 -1.3**
comp=Z,4.0nm,0.5s,baz=159,slow=8.8,SNR=10
comp=Z,4.0nm,0.5s
DGMT Dagmar 37.09 343 IAmb IAmb 02 08 20.0
comp=Z,10nm,0.6s
FFC Flin Flon 42.34 348 P **P 02 09 01.9 +0.5**
SCHQ Schefferville 44.46 18 P **P 02 09 17.3 -1.1**
comp=Z,3.0nm,0.6s,baz=226,slow=5.6,SNR=7.5
comp=Z,3.0nm,0.6s
FCC Fort Churchill 45.24 356 P **P 02 09 24.4 -0.1**
YKA Yellowknife Ar 52.22 345 P **P 02 10 17.1 -0.3**
comp=Z,1.3nm,0.7s,baz=141,slow=8.1,SNR=23
comp=Z,1.3nm,0.7s
INK Inuvik 61.78 343 P **P 02 11 24.3 -0.1**
comp=Z,0.8nm,0.6s,baz=140,slow=5.7,SNR=5.2
comp=Z,0.8nm,0.6s
ILAR Eielson Array 64.54 336 P **P 02 11 42.3 -0.3**
comp=Z,0.4nm,0.8s,baz=163,slow=4.2,SNR=7.3
comp=Z,0.4nm,0.8s
EKA Eskdalemuir Ar 76.28 36 P **P 02 12 52.1 -1.7**
comp=Z,0.7nm,0.6s,baz=267,slow=6.7,SNR=6.3
comp=Z,0.7nm,0.6s
ESDC Sonseca Array 77.27 52 P **P 02 12 59.3 -0.5**
comp=Z,0.3nm,0.6s,baz=292,slow=5.5,SNR=7.9
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 138.59 255 PKhKP PKPpre 02 20 22.1
comp=Z,0.5nm,0.9s,baz=91,slow=3.0,SNR=1.9
WRA PKP **PKPdf 02 20 31.0 +0.9**
comp=Z,0.8nm,0.4s,baz=90,slow=2.5,SNR=14
ASAR Alice Springs 138.74 250 PKhKP PKPpre 02 20 21.7
comp=Z,0.3nm,0.6s,baz=88,slow=3.1,SNR=2.1
ASAR PKP **PKPdf 02 20 31.2 +1.0**
comp=Z,0.5nm,0.6s,baz=88,slow=1.7,SNR=4.7

*IDC **01** 02:02:16.5±1.7,36°.63S×177°.51E,h179km±13km,mb3.8/6, mbtmp4.3/6,Error ellipse: s-maj=27.1km s-min=19.1km az=23.0*
*NOU **01** 02:02:20.6,37°.20S×177°.22E,h203km,MLv3.9/18,Off E. Coast of N. Island, N.Z.*
*WEL **01** 02:02:22.1±0.8,37°S±6°×17°7E±°,h183km±7km,M3.5/40, MLv3.5/40,Error ellipse: s-maj=9.0km s-min=5.3km az=47.7,confirmed*
ISC 01 02:02:19.2±0.8,37.12S±0.05×177.29E±0.05,h217km±5km, n142,σ1°34/148,mb3.8/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.41**	**191**	P	**Pn**	**02 02 47.8**	**-0.1**
HAZ	**Te Kaha**	**0.75**	**148**	P	**Pn**	**02 02 49.0**	**-0.2**
HAZ				S	**S**	**02 03 10.2**	**-2.5**
WHRZ	**Whale Island**	**0.78**	**199**	P	**Pn**	**02 02 49.9**	**+0.5**
MYRZ	**Mayor Island**	**0.85**	**259**	P	**Pn**	**02 02 49.7**	**-0.1**
RUGZ	**Raukumara Rang**	**0.90**	**160**	P	**Pn**	**02 02 49.8**	**-0.4**
RUGZ				S	**S**	**02 03 11.4**	**-3.1**
MXZ	**Matakaoa Point**	**0.92**	**119**	P	**Pn**	**02 02 49.9**	**-0.3**
MXZ	**Matakaoa Point**	**0.92**	**119**	P	**Pn**	**02 02 50.1**	**-0.1**
MXZ				S	**S**	**02 03 12.4**	**-1.9**
OPRZ	**Ohinepanea**	**0.93**	**219**	P	**Pn**	**02 02 50.4**	**+0.2**
PKGZ	**Pakihiroa**	**0.98**	**140**	P	**Pn**	**02 02 51.3**	**+0.7**
PKGZ				S	**S**	**02 03 13.5**	**-1.5**
MARZ	**Manawahe**	**0.99**	**209**	P	**Pn**	**02 02 51.2**	**+0.6**
TGRZ	**Tauranga**	**1.02**	**233**	P	**Pn**	**02 02 51.4**	**+0.6**
WMGZ	**Waiomatatini S**	**1.14**	**128**	P	**Pn**	**02 02 52.2**	**+0.7**
URZ	**Urewera**	**1.15**	**187**	P	**Pn**	**02 02 51.7**	**+0.2**
	145nm,0.3s,baz=340,slow=4.0,SNR=536						
URZ				S	**S**	**02 03 15.5**	**-1.4**
	184nm,0.3s,baz=288,slow=20,SNR=9.8						
URZ	**Urewera**	**1.15**	**187**	P	**Pn**	**02 02 51.6**	**0.0**
URZ	**Urewera**	**1.15**	**187**	P	**S**	**02 03 15.4**	**-1.5**
URZ	**Urewera**	**1.15**	**187**	P	**Pn**	**02 02 51.8**	**+0.2**
URZ				S	**S**	**02 03 15.3**	**-1.7**
TWGZ	**Tauwhareparae**	**1.19**	**153**	P	**Pn**	**02 02 53.2**	**+1.2**
MKRZ	**Makatiti**	**1.21**	**212**	P	**Pn**	**02 02 53.5**	**+1.3**
KARZ	**Kaharoa**	**1.22**	**222**	P	**Pn**	**02 02 53.1**	**+0.9**
PUZ	**Puketiti**	**1.22**	**141**	P	**Pn**	**02 02 52.9**	**+0.7**
MWZ	**Matawai**	**1.23**	**171**	P	**Pn**	**02 02 52.9**	**+0.6**
MWZ				S	**S**	**02 03 17.5**	**-0.6**
TARZ	**Mount Tarawera**	**1.27**	**209**	P	**Pn**	**02 02 53.8**	**+1.2**
KMRZ	**Kaimai**	**1.29**	**236**	P	**Pn**	**02 02 53.6**	**+0.9**
KUZ	**Kuaotunu**	**1.31**	**286**	P	**Pn**	**02 02 52.0**	**-0.8**
KUZ	**Kuaotunu**	**1.31**	**286**	P	**Pn**	**02 02 52.2**	**-0.6**
HLRZ	**Highlands Stat**	**1.35**	**213**	P	**Pn**	**02 02 54.4**	**+1.2**
RRRZ	**Republican Roa**	**1.36**	**207**	P	**Pn**	**02 02 54.4**	**+1.1**
TKGZ	**Te Karaka**	**1.39**	**162**	P	**Pn**	**02 02 54.4**	**+1.0**
MUGZ	**Murupara**	**1.42**	**197**	P	**Pn**	**02 02 54.2**	**+0.6**
MUGZ				S	**S**	**02 03 18.9**	**-1.7**
HSRZ	**Hossack Road**	**1.45**	**215**	P	**Pn**	**02 02 55.6**	**+1.7**
HRRZ	**Handcock Road**	**1.50**	**212**	P	**Pn**	**02 02 55.6**	**+1.2**
RTZ	**Ruatahuna**	**1.51**	**189**	P	**Pn**	**02 02 54.9**	**+0.4**
GRRZ	**Galatos Road**	**1.54**	**217**	P	**Pn**	**02 02 56.1**	**+1.4**
CNGZ	**Carnagh Statio**	**1.54**	**152**	P	**Pn**	**02 02 56.3**	**+1.6**
TOZ	**Tahuroa Road**	**1.55**	**246**	P	**Pn**	**02 02 55.8**	**+1.1**
ALRZ	**Allen Road**	**1.62**	**207**	P	**Pn**	**02 02 56.5**	**+1.1**
RIGZ	**Rimuhau**	**1.63**	**167**	P	**Pn**	**02 02 56.7**	**+1.2**
WPRZ	**Whakapapatarin**	**1.66**	**212**	P	**Pn**	**02 02 57.0**	**+1.3**
SNGZ	**Shannon Statio**	**1.66**	**179**	P	**Pn**	**02 02 56.7**	**+1.0**
MKAZ	**Moumakai**	**1.70**	**270**	P	**Pn**	**02 02 56.3**	**+0.2**
GRZ	**Great Barrier**	**1.71**	**300**	P	**Pn**	**02 02 55.3**	**-0.9**
WIAZ	**Waiheke Island**	**1.76**	**280**	P	**Pn**	**02 02 56.8**	**+0.2**
MTHZ	**Maungataniwha**	**1.77**	**191**	P	**Pn**	**02 02 57.4**	**+0.7**
RAHZ	**Arahi**	**1.80**	**185**	P	**Pn**	**02 02 58.3**	**+1.2**
TLZ	**Tolley Road**	**1.84**	**228**	P	**Pn**	**02 02 58.9**	**+1.5**
MRHZ	**Matea Rd**	**1.84**	**202**	P	**Pn**	**02 02 58.2**	**+0.7**
PRGZ	**Paritu Road**	**1.86**	**166**	P	**Pn**	**02 02 58.5**	**+0.9**
ETAZ	**East Tamaki Re**	**1.90**	**274**	P	**Pn**	**02 02 58.7**	**+0.8**
KNZ	**Kokohu**	**1.92**	**171**	P	**Pn**	**02 02 59.1**	**+1.0**
MBAZ	**Motutapu North**	**1.95**	**280**	P	**Pn**	**02 02 58.9**	**+0.5**
WHHZ	**Waihua**	**1.95**	**181**	P	**Pn**	**02 02 59.9**	**+1.4**
WATZ	**Wairara**	**2.01**	**217**	P	**Pn**	**02 03 00.3**	**+1.3**
NMHZ	**Naumai**	**2.01**	**191**	P	**Pn**	**02 03 00.5**	**+1.4**
ABAZ	**Army Bay**	**2.04**	**284**	P	**Pn**	**02 02 59.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.09**	**167**	P	**Pn**	**02 03 01.0**	**+1.2**
AWAZ	**Awhitu Peninsu**	**2.12**	**271**	P	**Pn**	**02 03 00.8**	**+0.7**
RATZ	**Rangitukua**	**2.12**	**214**	P	**Pn**	**02 03 01.4**	**+1.3**
BKZ	**Black Stump Fm**	**2.14**	**197**	P	**Pn**	**02 03 00.6**	**+0.3**
BKZ	**Black Stump Fm**	**2.14**	**197**	P	**S**	**02 03 31.5**	**-0.9**
BKZ	**Black Stump Fm**	**2.14**	**197**	P	**Pn**	**02 03 00.8**	**+0.5**
ARHZ	**Aropaoanui**	**2.15**	**186**	P	**Pn**	**02 03 01.7**	**+1.3**
RITZ	**Rihia Road**	**2.17**	**211**	P	**Pn**	**02 03 02.0**	**+1.3**
WTAZ	**Waiatarua**	**2.18**	**274**	P	**Pn**	**02 03 01.4**	**+0.7**
KATZ	**Kakaramea**	**2.24**	**214**	P	**Pn**	**02 03 03.2**	**+1.7**
NTVZ	**North Tongarir**	**2.35**	**212**	P	**Pn**	**02 03 03.9**	**+1.3**
TMVZ	**Te Maari**	**2.35**	**212**	P	**Pn**	**02 03 03.6**	**+1.0**
KRVZ	**Karewarewa**	**2.36**	**213**	P	**Pn**	**02 03 03.6**	**+0.9**
ETVZ	**East Tongariro**	**2.37**	**211**	P	**Pn**	**02 03 03.8**	**+1.0**
MCHZ	**McNeill Hill**	**2.37**	**191**	P	**Pn**	**02 03 03.9**	**+1.3**
HIZ	**Hauiti**	**2.38**	**233**	P	**Pn**	**02 03 04.7**	**+1.9**
HIZ	**Hauiti**	**2.38**	**233**	P	**Pn**	**02 03 04.7**	**+1.9**
KWHZ	**Kaweka Forest**	**2.40**	**196**	P	**Pn**	**02 03 03.8**	**+0.8**
WTVZ	**West Tongariro**	**2.40**	**213**	P	**Pn**	**02 03 04.0**	**+0.9**
NNVZ	**North Ngauruho**	**2.40**	**213**	P	**Pn**	**02 03 04.1**	**+0.9**
TWVZ	**Taurewa**	**2.43**	**216**	P	**Pn**	**02 03 04.5**	**+1.1**
SNVZ	**South Ngauruho**	**2.44**	**212**	P	**Pn**	**02 03 04.6**	**+1.0**
NGZ	**Ngauruhoe**	**2.44**	**212**	P	**Pn**	**02 03 04.7**	**+1.1**
FWVZ	**Far West T-bar**	**2.53**	**212**	P	**Pn**	**02 03 05.6**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.54**	**184**	P	**Pn**	**02 03 05.5**	**+1.0**
MAVZ	**Matarangi**	**2.54**	**212**	P	**Pn**	**02 03 05.7**	**+0.9**
TRVZ	**Turoa**	**2.57**	**212**	P	**Pn**	**02 03 05.9**	**+0.8**
WNVZ	**Wahianoa**	**2.57**	**211**	P	**Pn**	**02 03 05.7**	**+0.6**
KRHZ	**Kereru**	**2.62**	**196**	P	**Pn**	**02 03 05.8**	**+0.4**
WCZ	**Waipu Caves**	**2.65**	**296**	P	**Pn**	**02 03 05.1**	**-0.6**
PKVZ	**Pokaka**	**2.65**	**215**	P	**Pn**	**02 03 06.7**	**+0.9**
KAHZ	**Kahuranaki**	**2.69**	**187**	P	**Pn**	**02 03 07.1**	**+0.9**
VRZ	**Vera Road**	**2.83**	**224**	P	**Pn**	**02 03 09.2**	**+1.6**
PNHZ	**Pukenui**	**2.92**	**197**	P	**Pn**	**02 03 08.8**	**+0.1**
PXZ	**Pawanui**	**2.92**	**186**	P	**Pn**	**02 03 09.2**	**+0.5**
WPHZ	**Waipukurau**	**3.01**	**192**	P	**Pn**	**02 03 10.1**	**+0.3**
TSZ	**Takapari Road**	**3.11**	**199**	P	**Pn**	**02 03 11.0**	**0.0**
PRHZ	**Porangahau**	**3.18**	**189**	P	**Pn**	**02 03 12.1**	**+0.3**
DREZ	**Durham Road**	**3.19**	**229**	P	**Pn**	**02 03 10.6**	**-1.3**
LREZ	**Lake Rotokare**	**3.26**	**223**	P	Pn	02 03 17.6	+5.0
DVHZ	**Dannevirke**	**3.29**	**195**	P	**Pn**	**02 03 12.8**	**-0.3**
NEZ	**North Egmont**	**3.31**	**229**	P	**Pn**	**02 03 15.6**	**+2.3**
PKE	**Pukeiti**	**3.33**	**230**	P	**Pn**	**02 03 15.9**	**+2.4**
KHEZ	**Kahui Hut**	**3.37**	**229**	P	**Pn**	**02 03 15.8**	**+1.8**
KHEZ	**Kahui Hut**	**3.37**	**229**	P	**Pn**	**02 03 16.2**	**+2.1**
ANWZ	**Angora Road**	**3.39**	**191**	P	**Pn**	**02 03 14.7**	**+0.5**
POWZ	**Post Office Ro**	**3.48**	**200**	P	**Pn**	**02 03 15.2**	**0.0**
OUZ	**Omahuta**	**3.54**	**301**	P	**Pn**	**02 03 15.6**	**-0.4**
OUZ	**Omahuta**	**3.54**	**301**	P	**Pn**	**02 03 15.5**	**-0.5**
PRWZ	**Pori Road**	**3.58**	**196**	P	**Pn**	**02 03 17.1**	**+0.7**
BFZ	**Birch Farm**	**3.65**	**193**	P	**Pn**	**02 03 17.2**	**0.0**
BFZ	**Birch Farm**	**3.65**	**193**	S	**S**	**02 04 02.0**	**-0.8**
BFZ	**Birch Farm**	**3.65**	**193**	P	**Pn**	**02 03 17.1**	**-0.1**
MRZ	**Mangatainoka R**	**3.78**	**200**	P	**Pn**	**02 03 18.2**	**-0.6**
TIWZ	**Tintock**	**3.81**	**196**	P	**Pn**	**02 03 19.1**	**-0.2**
CPWZ	**Castlepoint**	**3.88**	**192**	P	**Pn**	**02 03 20.7**	**+0.7**
HOWZ	**Holdsworth Sta**	**4.02**	**200**	P	**Pn**	**02 03 20.8**	**-0.9**
OGWZ	**Otaki Gorge**	**4.04**	**203**	P	**Pn**	**02 03 21.3**	**-0.7**
TMWZ	**Te Maipa**	**4.13**	**195**	P	**Pn**	**02 03 22.4**	**-0.7**
KIW	**Kapiti Island**	**4.17**	**206**	P	**Pn**	**02 03 22.6**	**-1.0**
MTW	**Mount Morrison**	**4.26**	**198**	P	**Pn**	**02 03 23.7**	**-1.1**
CAW	**Cannon Point**	**4.34**	**203**	P	**Pn**	**02 03 24.6**	**-1.1**
TRWZ	**Traveller**	**4.45**	**196**	P	**Pn**	**02 03 26.4**	**-0.6**
PAWZ	**Paruwai Farm**	**4.49**	**198**	P	**Pn**	**02 03 26.3**	**-1.3**
DUWZ	**D'Urville Isla**	**4.52**	**214**	P	**Pn**	**02 03 27.0**	**-0.9**
MSWZ	**Moikau Station**	**4.57**	**200**	P	**Pn**	**02 03 27.6**	**-1.0**
WEL	**Wellington**	**4.59**	**204**	P	**Pn**	**02 03 27.8**	**-1.0**
SNZO	**South Karori**	**4.64**	**205**	P	**Pn**	**02 03 28.5**	**-0.9**
SNZO	**South Karori**	**4.64**	**205**	S	**S**	**02 04 22.8**	**-1.9**
BHW	**Baring Head**	**4.67**	**203**	P	**Pn**	**02 03 28.7**	**-1.1**
TCW	**Tory Channel**	**4.71**	**209**	P	**Pn**	**02 03 28.8**	**-1.4**
PLWZ	**Palliser**	**4.71**	**199**	P	**Pn**	**02 03 29.1**	**-1.3**
TUWZ	**Tuamarina**	**5.02**	**210**	P	**Pn**	**02 03 33.7**	**-0.5**
NNZ	**Nelson**	**5.09**	**215**	P	**Pn**	**02 03 35.2**	**+0.2**
CMWZ	**Cape Campbell**	**5.20**	**206**	P	**Pn**	**02 03 35.3**	**-1.1**
QRZ	**Quartz Range**	**5.24**	**224**	P	**Pn**	**02 03 38.3**	**+1.4**
QRZ	**Quartz Range**	**5.24**	**224**	S	**S**	**02 04 36.7**	**-1.6**
KHZ	**Kahutara**	**6.03**	**207**	P	**Pn**	**02 03 46.0**	**-0.9**
KHZ	**Kahutara**	**6.03**	**207**	S	**S**	**02 04 53.3**	**-3.1**
RPZ	**Rata Peaks**	**8.12**	**214**	P	**Pn**	**02 04 11.2**	**-2.7**
	8.5nm,0.9s,baz=338,slow=17,SNR=2.0						
RPZ				S	**S**	**02 05 38.3**	**-7.4**
	23nm,1.1s,baz=120,slow=21,SNR=7.3						
PPT	**Papeete**	**35.04**	**65**	P	**P**	**02 08 49.0**	**-2.5**
	6.6nm,0.3s,baz=252,slow=20,SNR=1.7						
	6.6nm,0.3s						
ASAR	**Alice Springs**	**39.42**	**277**	P	**P**	**02 09 30.1**	**+1.8**
	2.1nm,0.6s,baz=120,slow=8.1,SNR=20						
	2.1nm,0.6s						
**W

PANCS	Alcalda de	1.16	73	S		Sb	02 11 24.9	-2.5
ESSG	Sabana Grande	1.20	336	eP		Pn	02 11 12.7	-0.6
ESSG	Sabana Grande	1.20	336	eP			02 11 12.7	
JUAM	Asuncion Mita	1.21	30	eP		Pb	02 11 14.0	+0.3
JUAM				i S		Sn	02 11 29.8	+0.7
JUAM	Asuncion Mita	1.21	30	eP			02 11 14.0	
JUAM				i S			02 11 29.8	
UDBS	Universidad Do	1.21	69	P		Pb	02 11 13.9	0.0
LFRS	El Faro	1.27	74	eP		Pb	02 11 15.0	+0.1
PAVA	Las Pavas	1.41	72	eP		Pb	02 11 16.9	-0.3
PAVA	Las Pavas	1.41	72	P		Pb	02 11 17.2	-0.1
PAVA	Las Pavas	1.41	72	S		Sn	02 11 32.8	-1.5
COEG	Centro de Oper	1.44	76	eP		Pb	02 11 17.4	-0.3
COEG				eS		Sb	02 11 35.9	+0.2
COEG	Centro de Oper	1.44	76	P		Pb	02 11 17.4	-0.3
COEG	Centro de Oper	1.44	76	P		Pn	02 11 16.6	0.0
COEG	Centro de Oper	1.44	76	S		Sn	02 11 33.7	-1.2
MTO3	Montecristo	1.45	40	i P			02 11 17.4	
MTO3	Montecristo	1.45	40	eP		Pb	02 11 17.4	-0.5
MTO3	Montecristo	1.45	40	P		Pb	02 11 17.5	-0.5
MTO3	Montecristo	1.45	40	P		Pb	02 11 17.6	-0.4
MTO3	Montecristo	1.45	40	P		Pb	02 11 17.6	-0.4
MTO3	Montecristo	1.45	40	i P		Pb	02 11 17.4	-0.5
STG8	El Palmar, Qui	1.53	319	eP			02 11 23.4	
ESQI	Esquipulas	1.59	37	P		Pb	02 11 21.6	+1.3
ESQI	Esquipulas	1.59	37	P		Pb	02 11 19.5	-0.8
LLGN	La Laguna	1.60	57	eS		Sb	02 11 40.8	+0.6
LLGN	La Laguna	1.60	57	P		Pb	02 11 20.7	+0.2
SCLA	Alcaldia de Sa	1.60	75	eP		Pn	02 11 19.2	+0.5
SCLA				eS		Sb	02 11 41.1	+0.7
APG	El Apazote	1.72	355	i P		Pb	02 11 22.1	-0.4
APG	El Apazote	1.72	355	i P			02 11 22.1	
SOKI	Kika Raxquin	1.86	326	i S		Sn	02 11 46.7	+1.0
SOKI	Kika Raxquin	1.86	326	i S			02 11 46.7	
CNCH	Conchagua	2.42	90	eP		Pn	02 11 30.7	+0.6

*UPP **01** 02:16:10.9±0.0, 67°.84N×20°.21E, h0km, ML2.5, Confirmed Induced event*
*HEL **01** 02:16:11.8±0.2, 67°.84N×20°.23E, h0km, ML1.7, Suspected explosion*
*IDC **01** 02:16:12.2±1.0, 67°.81N×20°.87E, h0km, mbtmp3.2/5, ML2.2/5, Error ellipse: s-maj=16.0km s-min=7.3km az=113.0*
ISC 01 02:16:11.1±0.8, 67°.84N±0°.02×20°.26E±0°.03, h0km, n34, σ0.91/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	15	P	Pg	02 16 13.4	+0.1
KUA				S	Sg	02 16 15.1	+0.3
RATU	Laukkuluspa	0.25	266	P	Pg	02 16 15.6	-0.3
RATU				S	Sg	02 16 18.9	-0.3
KOVU	Salmi	0.39	355	P	Pg	02 16 18.2	-0.2
KOVU				S	Sg	02 16 23.3	-0.1
LANU	Lannavaara	0.69	72	P	Pg	02 16 24.2	-0.1
LANU				S	Sg	02 16 33.7	+0.6
LANU	Lannavaara	0.69	72	PG	Pg	02 16 24.5	+0.2
LANU				SG	Sg	02 16 33.3	+0.1
DUNU	Dundret	0.73	170	P	Pg	02 16 24.7	-0.4
DUNU				S	Sg	02 16 34.7	+0.1
MASU	Masugnsbyn	0.77	119	P	Pg	02 16 25.8	0.0
MASU				S	Sg	02 16 36.5	+0.7
KIF	Kilpisjarvi	1.19	10	eP	Pb	02 16 34.6	+0.2
KIF	Kilpisjarvi baz=192	1.19	10	PB	Pb	02 16 34.6	+0.2
KIF				MSG		02 16 48.9	
	comp=Z,7.1nm,0.2s						
KIF				SG	Sg	02 16 49.3	+0.2
PAJU	Pajala	1.37	125	P	Pg	02 16 36.4	-1.0
PAJU				S	Sg	02 16 55.1	-0.1
PAJU	Pajala baz=304	1.37	125	PG	Pg	02 16 36.4	-1.0
PAJU				SG	Sg	02 16 54.9	-0.3
HEF	Hetta	1.40	64	eP	Pg	02 16 37.1	-0.7
HEF	Hetta baz=247	1.40	64	PG	Pg	02 16 37.1	-0.7
HEF				MSG		02 16 54.0	
	comp=Z,5.9nm,0.2s						
HEF				SB	Sg	02 16 55.0	-0.9
ERTU	Ertsjaerv	1.50	149	P	Pn	02 16 38.4	-0.8
ERTU				S	Sb	02 16 59.3	0.0
ERTU	Ertsjaerv	1.50	149	PG	Pn	02 16 38.4	-0.8
ERTU				SG	Sb	02 16 59.2	0.0
KLF	Kolari baz=299	1.55	111	PG	Pn	02 16 40.1	+0.2
KLF				MSG		02 16 58.5	
	comp=Z,4.6nm,0.2s						
KLF				SN	Sg	02 17 01.2	+0.4
KTK1	Kautokeino	1.61	42	PG	Pn	02 16 40.8	+0.1
KTK1				SN	Sn	02 17 02.2	0.0
TRO	Tromso	1.86	346	PG	Pn	02 16 44.8	+0.7
TRO				SG	Sn	02 17 08.6	+0.3
KALU	Kalix baz=328	2.34	147	PN	Pn	02 16 51.6	+0.9
KALU				SB	Sb	02 17 23.0	-0.4
TOF	Tornio baz=316	2.38	136	PN	Pn	02 16 52.8	+1.5
TOF				MSG		02 17 22.5	
	comp=Z,4.4nm,0.2s						
TOF				SG	Sb	02 17 25.0	+0.2
RNF	Rovaniemi	2.56	116	PB	Pb	02 16 55.9	-1.9
RNF				SG	Sb	02 17 29.1	-0.7
ARA0	ARCESS Array S	2.56	46	PB	Pn	02 16 55.9	+2.1
ARA0				SB	Sb	02 17 28.3	-1.6
ARCES	ARCESS Array B comp=Z,0.8nm,0.3s,baz=225,slow=15,SNR=22	2.56	46	Pn	Pn	02 16 54.3	+0.5
ARCES				Lg	Lg	02 17 27.4	
	comp=Z,1.5nm,0.3s,baz=226,slow=31,SNR=15 comp=Z,1.5nm,0.3s						
RAJF	Raja-Jooseppi	3.08	74	PB	Pb	02 17 04.3	-2.3
RAJF				SG	Sb	02 17 43.7	-1.0
KEV	Kevo	3.12	49	SN	Sn	02 17 40.2	+1.0
KEV				MSG		02 17 43.5	
	comp=Z,3.2nm,0.2s						
RANF	Ranua	3.16	122	SG	Sb	02 17 48.1	+1.1
OUL	Oulu	3.57	138	PG	Pb	02 17 16.4	+1.3
OUL				SB	Sb	02 17 58.6	-0.3
OLKF	Oulanka, Finla	3.89	109	PG	Pb	02 17 22.8	+2.4
MSF	Maaselka	3.97	115	PN	Pn	02 17 14.6	+1.5
KU6	Riekki	4.21	111	PN	Pn	02 17 17.6	+1.2
FINES	FINESS Array B comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=1.5	6.89	156	Pn	Pn	02 17 53.3	+0.2
FINES				Sn	Sn	02 19 10.8	-1.3
	comp=Z,0.2nm,0.3s,baz=339,slow=19,SNR=2.5						
FINES				Lg	Lg	02 19 42.2	
	comp=Z,0.3nm,0.3s,baz=345,slow=30,SNR=4.7 comp=Z,1.8nm,0.9s						
NOA	NORSAR Array B baz=24,slow=12,SNR=1.9	7.86	214	Pn	Pn	02 18 07.1	+0.6
NOA				Lg	Lg	02 20 16.5	
	baz=37,slow=18,SNR=4.4 comp=Z,0.4nm,0.9s						
HFS	Hagfors comp=Z,0.2nm,0.3s,baz=17,slow=15,SNR=1.4	8.25	203	Pn	Pn	02 18 10.7	-1.2
HFS				Lg	Lg	02 20 27.8	
	comp=Z,0.1nm,0.3s,baz=43,slow=26,SNR=1.0 comp=Z,1.6nm,0.8s						
SPITS	Spitsbergen Ar baz=171,slow=10 comp=Z,4.4nm,0.8s	10.45	356	Pn	Pn	02 18 42.1	+0.2

CATAC 01 02:21:06.6±4.1, 11°N±13°×8°7W±2°4, h74km±43km, M2.9/6, MLv2.9/6, Error ellipse: s-maj=54.7km s-min=19.7km az=66.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	Masachapa	0.77	49	P	Pn	02 21 23.6	+0.9
MSHP	Masachapa	0.77	49	P	Pn	02 21 20.2	-2.5
COPN	Copaltepe	1.00	32	P	Pn	02 21 24.4	-1.1
COPN	Copaltepe	1.00	32	P	Pn	02 21 23.7	-1.8
COPN	Copaltepe	1.00	32	P	Pn	02 21 23.3	-2.2
SAPS	Ciudad Sandino	1.10	40	P	Pn	02 21 27.4	+0.8
SAPS	Ciudad Sandino	1.10	40	P	Pn	02 21 25.1	-1.6
SAPS	Ciudad Sandino	1.10	40	P	Pn	02 21 25.0	-1.6
SABN	Sabanita	1.14	56	P	Pn	02 21 28.5	+1.4
NANN	Nandasmo	1.17	58	P	Pn	02 21 27.1	-0.3
NANN	Nandasmo	1.17	58	P	Pn	02 21 26.7	-0.8
NANN	Nandasmo	1.17	58	P	Pn	02 21 26.4	-1.1
MAS3	Al N del Volca	1.17	53	P	Pn	02 21 26.8	-0.7
MOMN	Momotombo	1.23	28	P	Pn	02 21 28.5	+0.2
MOMN	Momotombo	1.23	28	P	Pn	02 21 26.1	-2.2
PLRN	Geotermica Pol	1.30	16	P	Pn	02 21 27.7	-1.6
PLRN				S	Sn	02 21 42.0	-4.2
JAPN	Al SSO del Vol	1.44	82	P	Pn	02 21 30.3	-0.7
CARN	Rivas	1.59	95	P	Pn	02 21 33.3	+0.4
CSGN	Cosiguina Volc	1.70	346	P	Pn	02 21 37.4	+3.0
BOAB	BOACO BROADBAN	.82	52	P	Pn	02 21 34.2	-1.8
LIMN	Finca el Limon	1.89	23	P	Pn	02 21 35.3	-1.7
CNCH	Conchagua	2.06	341	P	Pn	02 21 38.1	-1.2

*IDC **01** 02:56:16.3±0.9, 55°.60S×26°.34W, h0km, mb4.4/5, mbtmp4.3/5, MS4.0/5, Error ellipse: s-maj=35.0km s-min=25.8km az=32.0*
*NEIC **01** 02:56:18.2±2.6, 55°.6S±0°.1×26°.5W±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=21.2km s-min=14.6km az=161.0*
ISC 01 02:56:21.7±0.6, 55°.6S±0°.1×26°.6W±0°.1, h38km, n38, σ1.9 06/29, mb4.5/11, MS4.0/4, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.88	279	Pn	Pn	02 57 45.0	-1.3
VNA1	Neumayer--Stat comp=Z,0.3nm,0.2s	17.06	159	⇓P	P	03 00 17.6	-0.8
VNA3	Neumayer Olymp comp=Z,0.4nm,0.3s	17.28	162	⇓P	P	03 00 20.0	-0.7
VNA2	Neumayer--Watz comp=Z,0.4nm,0.3s,baz=326,slow=14	17.45	159	⇓P	P	03 00 22.3	-0.4
SNAA	Sanae	18.99	157	P	P	03 00 39.5	-0.2
SNAA	Sanae comp=Z,4.9nm,0.2s	18.99	157	⇓P	Pn	03 00 43.0	+2.4
PMSA	Palmer Station comp=Z,188nm,18.1s,baz=76,slow=36	20.45	228	LR	LR	03 08 34.1	
BELA	Belgrano 2	22.53	184	P	P	03 01 16.6	-1.1
BELA				IAmb	IAmb	03 01 27.8	
	comp=Z,12nm,1.0s						
TRQA	Tornquist	29.50	292	P	P	03 02 23.2	+1.2
TRQA				IAmb	IAmb	03 02 30.9	
	comp=Z,12nm,1.4s						
AY01	Puyuhuapi	31.10	272	P	P	03 02 34.6	-1.5
AY01				IAmb	IAmb	03 03 08.8	
	comp=Z,12nm,1.4s						
QSPA	South Pole Qui	34.63	180	P	P	03 03 07.3	+0.4
QSPA				IAmb	IAmb	03 03 20.0	
	comp=Z,5.7nm,0.7s						
CPUP	Villa Florida comp=Z,1.0nm,0.2s,baz=150,slow=8.3,SNR=5.0 comp=Z,1.0nm,0.2s	36.81	310	P	P	03 03 25.2	-0.5
ZON	Zonda	38.01	292	P	P	03 03 36.2	+0.2
ZON				IAmb	IAmb	03 03 36.8	
	comp=Z,6.1nm,0.6s						
CO01	Juntas del Tor	39.99	292	P	P	03 03 54.3	+1.5
AC02	Maricunga	42.02	295	P	P	03 04 11.5	+1.8
AC02				IAmb	IAmb	03 04 24.6	
	comp=Z,14nm,1.2s						
BOSA	Boshof	45.51	76	P	P	03 04 36.1	-1.3
BOSA	Boshof comp=Z,2.2nm,0.8s,baz=192,slow=6.1,SNR=3.8 comp=Z,2.2nm,0.8s	45.51	76	P	P	03 04 35.9	-1.5
PB01	IPOC Station P	47.01	300	P	P	03 04 50.3	+1.1
VNDA	Vanda comp=Z,3.5nm,0.7s,baz=164,slow=5.5,SNR=2.6 comp=Z,3.5nm,0.7s	47.02	182	P	P	03 04 48.4	-0.1
PTLB	Pontes e Lacer	47.24	315	P	P	03 04 51.5	+0.6
H10S2	ASCENSION HYDR baz=189	47.49	16	T	T	03 56 08.2	
H10S3	ASCENSION HYDR baz=31	47.49	16	T	T	03 56 10.4	
H10N1	ASCENSION HYDR baz=189	48.61	16	T	T	03 57 35.6	
H10N3	ASCENSION HYDR baz=189	48.61	16	T	T	03 57 32.5	
H10N2	ASCENSION HYDR baz=189	48.62	16	T	T	03 57 37.8	
LPAZ	La Paz comp=Z,4.6nm,0.6s,baz=183,slow=4.6,SNR=25 comp=Z,4.6nm,0.6s	50.43	304	P	P	03 05 17.1	+1.0
DBIC	Dimbokro comp=Z,170nm,18.2s,baz=168,slow=30	64.63	24	LR	LR	03 28 29.5	
TORD	Torodi Ar. Bea	72.50	29	P	P	03 07 44.5	+0.2
TORD	Torodi Ar. Bea comp=Z,23nm,0.3s,baz=203,slow=5.4,SNR=1.1	72.50	29	P	P	03 07 43.7	-0.6
PCRV	Puerto La Cruz comp=Z,93nm,21.0s,slow=36	72.85	321	LR	LR	03 39 45.8	
ASAR	Alice Springs comp=Z,0.7nm,0.7s,baz=181,slow=3.6,SNR=4.6 comp=Z,0.7nm,0.7s	99.28	162	P	Pdif	03 09 59.3	-0.4
EIL	Elat comp=Z,53nm,18.8s,baz=248,slow=33	99.79	51	LR	LR	03 51 35.1	
BVAR	Borovoye Array comp=Z,0.2nm,0.3s,baz=240,slow=2.8,SNR=1.8	134.24	57	PKP	PKiKP	03 15 35.6	+0.2
YKA	Yellowknife Ar comp=Z,0.4nm,0.9s,baz=135,slow=2.2,SNR=6.4	136.10	318	PKP	PKPdf	03 15 37.9	+0.7
ZALV	Zalesovo Beam comp=Z,0.3nm,0.4s,baz=236,slow=1.8,SNR=1.2	141.85	63	PKP	PKiKP	03 15 52.3	+1.5
NRIK	Noril'sk comp=Z,1.0nm,0.4s,baz=207,slow=2.3,SNR=1.8	148.45	38	PKPbc	PKiKP	03 16 04.0	+0.1
ILAR	Eielson Array comp=Z,3.5nm,0.8s,baz=124,slow=1.8,SNR=31	150.10	312	PKPbc	PKiKP	03 16 07.5	-0.1
SONM	Songino Array comp=Z,0.4nm,0.5s,baz=224,slow=4.0,SNR=2.1	150.34	85	PKPbc	PKPbc	03 16 07.6	-0.4

IDC 01 03:04:37.7±1.9, 7°.57S×124°.15E, h0km, mb3.0/1, mbtmp3.1/4, ML3.3/3, MS3.0/1, Error ellipse: s-maj=114.6km s-min=28.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.1nm,0.3s,baz=358,slow=11,SNR=9.0	10.57	172	Pn	Pn	03 07 11.3	+0.7
FITZ				Sn	Sn	03 08 58.4	-11
	0.4nm,0.3s,baz=3.8,slow=15,SNR=7.9 1.0nm,0.7s						
WRA	Warramunga Arr 0.2nm,0.3s,baz=315,slow=13,SNR=6.7	15.78	142	Pn	Pn	03 08 23.4	+2.0
WRA				Sn	Sn	03 11 08.9	-8.3
	0.1nm,0.3s,baz=320,slow=24,SNR=7.8 0.2nm,0.4s						
ASAR	Alice Springs 0.1nm,0.3s,baz=322,slow=12,SNR=5.2 0.3nm,0.7s	18.55	151	P	P	03 08 54.8	-1.4
KSRS	Korea Array comp=Z,20nm,21.7s,baz=315,slow=36	44.92	4	LR	LR	03 31 31.9	
MKAR	Makanchi Array 0.1nm,0.5s,baz=137,slow=7.2,SNR=1.4 0.1nm,0.5s	65.65	330	P	P	03 15 23.7	-0.1

*UCR **01** 03:21:49.1±0.8, 10°.85N×86°.48W, h19km±4km, MW4.8*
*CATAC **01** 03:21:51.0±0.4, 11°N±2°×8°6W±°, h25km±4km, M4.6/57, MLv4.6/57, Error ellipse: s-maj=3.9km s-min=2.7km az=35.3, confirmed*
*NEIC **01** 03:21:52.6±2.1, 11°.01N±0°.05×86°.34W±0°.04, h35km±2km, mb4.5/136, Error ellipse: s-maj=8.3km s-min=7.1km az=196.0*
*SNET **01** 03:21:54.3±1.2, 11°.00N×86°.61W, h55km±548km, ML4.4*
*IDC **01** 03:21:54.5±1.1, 11°.48N×85°.94W, h58km±13km, mb3.9/9, mbtmp4.1/10, MS3.8/16, Error ellipse: s-maj=36.6km s-min=8.7km az=48.0*
ISC 01 03:21:48.9±1.4, 10°.86N±0°.03×86°.45W±0°.03, h17km±9km, n359, σ1.9 41/319, mb4.5/71, MS3.8/13, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	Rivas	0.84	45	P	Pg	03 22 05.3	0.0
ARIN	Rivas	0.84	45	P	Pg	03 22 05.6	+0.3
ARIN	Rivas	0.84	45	P	Pg	03 22 05.5	+0.1
ARIN	Rivas	0.84	45	S	Sb	03 22 17.4	+1.3
ELI1	Hacienda Flor	0.90	104	eP	Pg	03 22 07.3	+0.8
ALIBA	Liberia Airpor	0.92	107	eP	Pg	03 22 07.6	+0.7
ALIBA				eS	Sn	03 22 21.6	+1.6
CARN	Rivas	0.96	70	P	Pg	03 22 07.3	-0.3
CARN	Rivas	0.96	70	P	Pg	03 22 07.6	-0.1
CARN	Rivas	0.96	70	P	Pg	03 22 07.6	-0.1
CARN				S	Sn	03 22 22.6	+1.6
DELF	Filadelfia	0.97	115	eP	Pg	03 22 07.6	-0.1
MSHP	Masachapa	0.97	355	P	Pb	03 22 09.0	+1.8
MSHP	Masachapa	0.97	355	P	Pn	03 22 09.3	+1.5
MSHP	Masachapa	0.97	355	P	Pn	03 22 09.6	+1.9
MSHP				S	Sn	03 22 22.7	+1.6
JAPN	Al SSO del Vol	1.00	49	P	Pg	03 22 08.6	+0.2
JAPN	Al SSO del Vol	1.00	49	P	Pg	03 22 08.7	+0.2
JAPN	Al SSO del Vol	1.00	49	P	Pg	03 22 08.5	+0.2
MORN	Al O del Volca	1.04	49	P	Pg	03 22 09.1	0.0
VRLE	La Escondida,	1.06	94	eP	Pg	03 22 09.0	-0.6
CONN	Concepcion	1.07	49	P	Pg	03 22 08.2	-1.5
CONN	Concepcion	1.07	49	P	Pg	03 22 08.4	-1.2
CONN	Concepcion	1.07	49	P	Pg	03 22 08.5	-1.2
CONN				S	Sb	03 22 24.3	+1.6
VORI	VORI	1.08	92	eP	Pg	03 22 09.2	-0.7
NANN	Nandasmo	1.12	17	P	Pb	03 22 11.2	+1.3
NANN	Nandasmo	1.12	17	P	Pn	03 22 11.4	+1.5
NANN	Nandasmo	1.12	17	P	Pn	03 22 11.5	+1.7
NANN	Nandasmo	1.12	17	S	Sn	03 22 26.6	+1.7
SABN	Sabanita	1.13	14	P	Pb	03 22 09.4	-0.6
SABN	Sabanita	1.13	14	P	Pb	03 22 09.6	-0.4
SABN	Sabanita	1.13	14	P	Pb	03 22 10.0	0.0
CRUN	El Crucero	1.13	7	P	Pg	03 22 08.9	-1.9
CRUN	El Crucero	1.13	7	P	Pg	03 22 09.1	-1.7
CRUN	El Crucero	1.13	7	P	Pg	03 22 08.9	-1.9
MASN	Masaya	1.16	14	P	Pb	03 22 10.7	+0.2
MASN	Masaya	1.16	14	P	Pb	03 22 11.4	+0.9
MASN	Masaya	1.16	14	P	Pb	03 22 10.7	+0.2
MAS3	Al N del Volca	1.19	13	P	Pb	03 22 11.1	0.0
MAS3	Al N del Volca	1.19	13	P	Pb	03 22 11.3	+0.3
MAS3	Al N del Volca	1.19	13	P	Pb	03 22 11.4	+0.3
BAGA	Bagaces	1.21	106	eP	Pb	03 22 12.0	+0.6
NICO	Nicoya	1.22	126	eP	Pn	03 22 10.8	-0.3
COLC	Colonia	1.24	99	eP	Pn	03 22 12.0	+0.5
COLC				eS	Sb	03 22 28.5	+1.0
MAFN	Magfor	1.25	9	P	Pn	03 22 12.5	+1.0
MAFN	Magfor	1.25	9	P	Pn	03 22 12.4	+0.8
HORNC	Hornillas	1.25	97	eP	Pn	03 22 12.2	+0.4
UNAN	Cigeo UNAN	1.26	8	P	Pn	03 22 12.4	+0.7
UNAN	Cigeo UNAN	1.26	8	P	Pn	03 22 12.5	+0.8
UNAN	Cigeo UNAN	1.26	8	P	Pn	03 22 12.8	+1.1
ENAN	Enatrel Managu	1.26	8	P	Pn	03 22 12.3	+0.5
ENAN	Enatrel Managu	1.26	8	P	Pn	03 22 12.8	+1.1
ENAN	Enatrel Managu	1.26	8	P	Pn	03 22 12.7	+0.9
USIM	UNAN	1.26	8		Pn	03 22 12.6	+0.8
USIM				Sn	Sb	03 22 27.3	-0.9
USIM	UNAN	1.26	8	P	Pn	03 22 12.6	+0.8
USIM	UNAN	1.26	8	P	Pn	03 22 12.9	+1.1
USIM	UNAN	1.26	8	P	Pn	03 22 12.5	+0.8
ABCN	Banco Central	1.26	6	P	Pn	03 22 13.2	+1.4
ABCN	Banco Central	1.26	6	P	Pn	03 22 13.3	+1.6
ABCN	Banco Central	1.26	6	P	Pn	03 22 12.9	+1.1
CUI	Cuipilapa	1.28	99	eP	Pn	03 22 12.7	+0.6
CUI				eS	Sb	03 22 29.8	+1.2
TISN	Laguna Tiscapa	1.29	8	P	Pn	03 22 13.1	+0.9
TISN	Laguna Tiscapa	1.29	8	P	Pn	03 22 12.8	+0.7
MGAN	Managua	1.29	9	P	Pn	03 22 13.5	+1.2
MGAN	Managua	1.29	9	P	Pn	03 22 13.1	+0.9
MGAN	Managua	1.29	9	S	Sb	03 22 30.3	+1.1
R4DEC	Barrio San Lui	1.30	9	P	Pn	03 22 13.0	+0.8
R4DEC	Barrio San Lui	1.30	9	P	Pn	03 22 13.2	+0.9
R4DEC	Barrio San Lui	1.30	9	P	Pn	03 22 12.2	-0.1
R4DEC	Barrio San Lui	1.30	9	S	Sb	03 22 29.7	+0.5
ALLN	Telcor Managua	1.30	7	P	Pn	03 22 13.1	+0.8
ALLN	Telcor Managua	1.30	7	P	Pn	03 22 13.6	+1.3
ALLN	Telcor Managua	1.30	7	P	Pn	03 22 13.1	+0.8
ALLN	Telcor Managua	1.30	7	S	Sb	03 22 30.1	+0.8
SAPS	Ciudad Sandino	1.30	2	P	Pn	03 22 13.0	+0.6
SAPS	Ciudad Sandino	1.30	2	P	Pn	03 22 13.2	+0.9
SAPS	Ciudad Sandino	1.30	2	P	Pn	03 22 13.2	+0.9
SAPS	Ciudad Sandino	1.30	2	S	Sb	03 22 30.9	+1.5
AERN	Aeropuerto Man	1.31	12	P	Pn	03 22 12.7	+0.4
AERN	Aeropuerto Man	1.31	12	P	Pn	03 22 13.0	+0.7
AERN	Aeropuerto Man	1.31	12	P	Pn	03 22 12.8	+0.4
AERN	Aeropuerto Man	1.31	12	S	Sb	03 22 29.8	+0.3
COPN	Copaltepe	1.32	354	P	Pn	03 22 13.1	+0.5
COPN	Copaltepe	1.32	354	P	Pn	03 22 13.3	+0.7
COPN	Copaltepe	1.32	354	P	Pn	03 22 13.6	+1.0
COPN	Copaltepe	1.32	354	eP	Pn	03 22 12.9	+0.3
APQ2	Apoyeque	1.33	5	P	Pn	03 22 13.4	+0.6
APQ2	Apoyeque	1.33	5	P	Pn	03 22 13.6	+0.8
APQ2				S	Sb	03 22 30.8	+0.4
INDI	Punta indio, G	1.35	137	P	Pn	03 22 12.8	-0.2
INDI	Punta indio, G	1.35	137	P	Pn	03 22 13.0	-0.1
INDI	Punta indio, G	1.35	137	P	Pn	03 22 12.9	-0.1
INDI	Punta indio, G	1.35	137	S	Sb	03 22 29.1	-1.8
AMTN	Mateare	1.37	1	P	Pn	03 22 14.6	+1.4
AMTN	Mateare	1.37	1	P	Pn	03 22 14.4	+1.2
AMTN	Mateare	1.37	1	S	Sb	03 22 30.6	-0.7
APYN	Apoyeque	1.37	4	P	Pn	03 22 14.3	+1.0
APYN	Apoyeque	1.37	4	P	Pn	03 22 15.2	+1.9
APYN	Apoyeque	1.37	4	P	Pn	03 22 14.6	+1.3
APYN				S	Sb	03 22 31.6	+0.2
BC86	Nagarote	1.40	355	P	Pn	03 22 14.3	+0.5
BC86	Nagarote	1.40	355	P	Pn	03 22 15.1	+1.4
BC86	Nagarote	1.40	355	P	Pn	03 22 14.2	+0.5
BC86	Nagarote	1.40	355	S	Sb	03 22 32.4	+0.2
SBEN	San Benito	1.49	15	P	Pn	03 22 15.5	+0.6
SBEN	San Benito	1.49	15	P	Pn	03 22 15.9	+1.0
SBEN	San Benito	1.49	15	P	Pn	03 22 15.4	+0.5
SBEN	San Benito	1.49	15	S	Sn	03 22 35.1	+1.2
BC84	Volcan Momotom	1.53	357	P	Pn	03 22 15.6	+0.1
BC84	Volcan Momotom	1.53	357	S	Sn	03 22 35.1	+0.2
LEVN	Ruinas Leon Vi	1.54	354	P	Pn	03 22 16.0	+0.4

TELN	Telica	1.77	348	P	Pn	03 22 20.8 +1.9
TELN	Telica	1.77	348	P	Pn	03 22 19.7 +0.7
TELN				S	Sn	03 22 42.0 +0.8
HERN	Volcan Telica	1.78	348		Pn	03 22 19.2 +0.2
HERN	Volcan Telica	1.78	348	P	Pn	03 22 19.5 +0.6
HERN	Volcan Telica	1.78	348	P	Pn	03 22 20.5 +1.5
HERN	Volcan Telica	1.78	348	P	Pn	03 22 20.1 +1.1
HERN	Volcan Telica	1.78	348	S	Sn	03 22 43.5 +2.2
VACR	Volcan Arenal	1.78	102	eP	Pn	03 22 19.6 +0.7
POLN	Al Sur del Vol	1.81	349	P	Pn	03 22 20.5 +1.1
POLN	Al Sur del Vol	1.81	349	P	Pn	03 22 21.2 +1.8
POLN	Al Sur del Vol	1.81	349	P	Pn	03 22 20.5 +1.1
POLN				S	Sn	03 22 42.0 -0.1
SOCE	Pocosol	1.86	105		Pn	03 22 21.1 +1.1
SOCE	Pocosol	1.86	105	P	Pn	03 22 22.2 +2.2
SOCE	Pocosol	1.86	105	P	Pn	03 22 22.7 +2.7
PKGN	Cerro Pekin	1.87	344	P	Pn	03 22 21.5 +1.3
PKGN				S	Sn	03 22 45.6 +2.1
CRIN	San Cristobal	1.92	342		Pn	03 22 21.4 +0.4
CRIN	San Cristobal	1.92	342	P	Pn	03 22 21.9 +1.0
CRIN	San Cristobal	1.92	342	P	Pn	03 22 22.8 +1.9
CRIN	San Cristobal	1.92	342	P	Pn	03 22 22.5 +1.6
CRIN	San Cristobal	1.92	342	eP	Pn	03 22 21.3 +0.4
COVE	Coope Vega, Sa	2.01	94	P	Pn	03 22 23.9 +1.8
COVE	Coope Vega, Sa	2.01	94	P	Pn	03 22 23.0 +0.9
LIMN	Finca el Limon	2.19	2	P	Pn	03 22 25.1 +0.4
LIMN				P	Pn	03 22 25.3 +0.6
LIMN	Finca el Limon	2.19	2	P	Pn	03 22 25.2 +0.6
POTN	Potosi Cosigui	2.37	334	P	Pn	03 22 27.9 +1.0
POTN	Potosi Cosigui	2.37	334	P	Pn	03 22 26.8 -0.1
CSGN	Cosiguina Volc	2.37	333	P	Pn	03 22 28.2 +1.1
CSGN	Cosiguina Volc	2.37	333	P	Pn	03 22 28.0 +0.9
HDC	Heredia	2.45	110		Pb	03 22 32.0 +3.8
HDC	Heredia	2.45	110	P	Pb	03 22 33.0 +0.4
ESPN	Las Esperanzas	2.49	58		Pn	03 22 29.5 +0.9
ESPN	Las Esperanzas	2.49	58	P	Pn	03 22 29.5 +0.9
ESPN	Las Esperanzas	2.49	58	P	Pn	03 22 29.1 +0.5
ESPN	Las Esperanzas	2.49	58	S	Sn	03 22 58.1 -0.5
ESPN	Las Esperanzas	2.49	58	eP	Pn	03 22 29.0 +0.3
RCFN	Al S de San Ju	2.67	5	P	Pg	03 22 40.5 +0.4
RCPN	Sur Rio San Ju	2.67	7	P	Pn	03 22 32.9 +1.6
RCPN	Sur Rio San Ju	2.67	7	P	Pn	03 22 33.1 +1.8
RCPN	Sur Rio San Ju	2.67	7	P	Pn	03 22 32.9 +1.6
TRT2	Tortugero	2.68	96	P	Pn	03 22 34.6 +3.3
TRT2				P	Pb	03 22 35.2 -1.3
TRT2	Tortugero	2.68	96	P	Pn	03 22 33.5 +2.2
CHOHN	Orocuina	2.70	345	P	Pn	03 22 32.8 +1.2
RCVN	Varilla!2	2.72	5	P	Pn	03 22 33.1 +1.1
RCVN	Varilla!2	2.72	5	P	Pn	03 22 33.3 +1.4
RCVN	Varilla!2	2.72	5	P	Pn	03 22 33.4 +1.4
CNCH	Conchagua	2.76	331	eP	Pn	03 22 33.5 +1.0
CNCH	Conchagua	2.76	331	P	Pn	03 22 25.7 -6.8
CNCH	Conchagua	2.76	331	P	Pn	03 22 33.8 +1.3
LCND	La Caada	2.81	330	eP	Pn	03 22 33.9 +0.8
LCND				eS	Sn	03 23 06.2 -0.5
LCND	La Caada	2.81	330	P	Pn	03 22 34.0 +0.9
BLUN	Bluefields	2.86	66	P	Pn	03 22 34.7 +1.0
BLUN	Bluefields	2.86	66	P	Pn	03 22 34.3 +0.6
BLUN				S	Sn	03 23 09.0 +1.3
BLLM	Bellamira	3.11	326	eP	Pn	03 22 38.5 +1.3
RANC	El Ranchito	3.13	325	eP	Pn	03 22 39.0 +1.4
PACA	Pacayal	3.18	325	eP	Pn	03 22 40.2 +2.0
PACA	Pacayal	3.18	325	P	Pn	03 22 40.0 +1.7
PACA	Pacayal	3.18	325	P	Pn	03 22 40.0 +1.7
ALJI	Alcalda de J	3.21	320	P	Pg	03 22 52.5 +1.9
ALJI	Alcalda de J	3.21	320	P	Pn	03 22 41.1 +2.5
TGUH	Tegucigalpa,Un	3.28	346	Pn	Pn	03 22 40.8 +1.2
TGUH	Tegucigalpa,Un	3.28	346	P	Pn	03 22 41.2 +1.6
TGUH	Tegucigalpa,Un	3.28	346	P	Pn	03 22 41.4 +1.7
TECA	Tecapa	3.30	323	eP	Pn	03 22 41.4 +1.4
TECO	Alcaldia de Te	3.51	320	eP	Pn	03 22 43.1 +0.5
TECO	Alcaldia de Te	3.51	320	P	Pn	03 22 45.1 +2.4
TECO	Alcaldia de Te	3.51	320	P	Sn	03 23 22.3 -1.5
TECO	Alcaldia de Te	3.51	320	P	Pn	03 22 43.7 +1.0
UESV	Universidad de	3.58	321	eS	Sn	03 23 24.8 -1.0
SCLA	Alcaldia de Sa	3.60	322	eP	Pn	03 22 45.7 +1.7
SCLA	Alcaldia de Sa	3.60	322	P	Pn	03 22 45.9 +1.9
SCLA	Alcaldia de Sa	3.60	322	P	Sn	03 23 26.4 +0.3
SCLA	Alcaldia de Sa	3.60	322	P	Pn	03 22 46.1 +2.1
COEG	Centro de Oper	3.63	319	eP	Pn	03 22 46.4 +1.9
COEG	Centro de Oper	3.63	319	P	Pb	03 22 55.1 +2.4
COEG	Centro de Oper	3.63	319	P	Sn	03 23 26.0 -1.0
COEG	Centro de Oper	3.63	319	P	Pn	03 22 46.9 +2.5
PAVA	Las Pavas	3.74	320	eP	Pn	03 22 48.3 +2.3
PAVA	Las Pavas	3.74	320	P	Pg	03 22 59.5 -1.1
PAVA				P	Pb	03 22 52.8 +5.3
PAVA	Las Pavas	3.74	320	P	Sn	03 23 29.6 0.0
PAVA	Las Pavas	3.74	320	P	Pn	03 22 47.6 +1.7
LFRS	El Faro	3.75	317	eP	Pn	03 22 48.0 +1.8
PANCS	Alcalda de	3.82	316	P	Pn	03 22 47.4 +0.3
LOMA	Loma Larga	3.84	316	eP	Pn	03 22 49.4 +2.0
LOMA	Loma Larga	3.84	316	P	Sn	03 23 31.1 -1.1
LOMA	Loma Larga	3.84	316	P	Pb	03 22 58.7 +2.4
LOMA				P	Pg	03 22 59.5 -3.1
BOQS	Boqueron	3.98	316	eS	Sn	03 23 35.9 +0.1
PMON	Piamonte	3.99	316	P	Pb	03 22 59.5 +0.7
PMON				P	Pg	03 23 00.6 -4.7
JAYA	Jayaque - finc	4.04	314	eP	Pn	03 22 51.7 +1.6
JAYA	Jayaque - finc	4.04	314	P	Sn	03 23 34.9 -2.3
JAYA	Jayaque - finc	4.04	314	P	Pn	03 22 51.6 +1.4
CEVE	Cerro Verde comp=Z,469nm,0.3s	4.28	314	IAML		03 24 02.8
UNIC	Universidad Ca	4.34	316	P	Sn	03 23 39.0 -5.3
BILN	Bilwi Airport	4.37	43	P	Pb	03 23 09.5 +4.3
NUBE	Las Nubes	4.44	313	eP	Pn	03 22 56.7 +1.0
NUBE				eS	Sn	03 23 44.6 -2.5
NUBE	Las Nubes	4.44	313	P	Pn	03 22 57.7 +2.0
MTO3	Montecristo	4.52	321		Pn	03 22 58.7 +1.9
MTO3	Montecristo	4.52	321	eP	Pn	03 22 58.8 +1.9
APG	El Apazote comp=Z,0.4nm,0.6s,baz=119,slow=11,SNR=5.7	5.68	317	P	Pn	03 23 16.0 +3.2
APG				S	Sn	03 24 19.6 +1.8
	comp=Z,1.2nm,0.6s,baz=81,slow=19,SNR=4.2					
CMIG	Matias Romero comp=Z,3.9nm,0.4s,baz=129,slow=12,SNR=16	10.27	308	P	Pn	03 24 17.7 +2.2
CMIG				S	Sn	03 26 18.7 +8.4
	comp=Z,3.4nm,0.8s,baz=38,slow=19,SNR=2.0					
CMIG				LR	LR	03 28 48.3
	comp=Z,457nm,21.6s,baz=136,slow=40					
TLIG	Tlapa	13.50	301	Pn	Pn	03 25 02.7 +2.7
SDV	Santo Domingo comp=Z,156nm,18.6s,baz=317,slow=43	15.70	96	LR	LR	03 32 47.5
HKT	Hockley	20.91	337	P	P	03 26 31.6 +1.1
HKT				IAmb	IAmb	03 26 43.4
	comp=Z,32nm,1.1s					
SJG	San Juan comp=Z,169nm,22.0s,baz=253,slow=33	20.92	68	LR	LR	03 33 11.0
833A	Chaparral WMA, comp=Z,22nm,1.1s	21.20	327	IAmb	IAmb	03 26 35.2
LRAL	Lakeview Retre	22.08	359	P	P	03 26 42.5 -0.6
HNDO	Hondo	22.10	329	P	P	03 26 42.9 -0.6
435B	Jarrell comp=Z,22nm,0.8s	22.36	334	IAmb	IAmb	03 26 58.2
DRIO	Del Rio	22.72	326	P	P	03 26 49.8 -0.2
DRIO				IAmb	IAmb	03 27 01.4
	comp=Z,14nm,1.1s					
Z41A	Richland Creek comp=Z,26nm,1.0s	23.05	346	IAmb	IAmb	03 26 53.5
JCT	Junction City	23.14	330	P	P	03 26 53.3 -1.1
BRDY	Brady	23.42	332	P	P	03 26 56.6 -0.7
BRDY				IAmb	IAmb	03 26 58.0
	comp=Z,12nm,0.7s					
WLAR	White Oak Lake comp=Z,23nm,1.0s	23.53	346	IAmb	IAmb	03 26 58.5
FW13	Cleburne comp=Z,16nm,0.7s	23.67	336	IAmb	IAmb	03 27 00.7
JSC	Jenkinsville comp=Z,12nm,0.8s	23.79	11	IAmb	IAmb	03 27 00.5
OZNA	Ozona comp=Z,10nm,0.8s	24.17	328	IAmb	IAmb	03 27 04.8
BG3	Lake Jocassee comp=Z,10nm,1.0s	24.24	7	IAmb	IAmb	03 27 15.7
SWET	Sewanee comp=Z,24nm,1.4s	24.25	1	IAmb	IAmb	03 27 28.5
FW06	Azle comp=Z,14nm,0.6s	24.27	337	IAmb	IAmb	03 27 07.3
TX31	Lajitas Ar. Si comp=Z,8.9nm,0.8s	24.42	321	P	P	03 27 07.0 +0.2
TX31				IAmb	IAmb	03 27 08.7
TXAR	Lajitas Array comp=Z,8.1nm,0.7s,baz=138,slow=9.5,SNR=106 comp=Z,8.1nm,0.7s	24.42	321	P	P	03 27 07.0 +0.1
PLPT	Palo Pinto comp=Z,17nm,0.9s	24.43	335	IAmb	IAmb	03 27 07.0
MIAR	Mount Ida comp=Z,14nm,0.8s	24.46	346	IAmb	IAmb	03 27 07.5
FW03	Perrin-Whitt E comp=Z,14nm,0.8s	24.52	336	IAmb	IAmb	03 27 07.3
CPCT	Cooper Cave	24.54	4	P	P	03 27 08.3 +0.6
CPCT				IAmb	IAmb	03 27 08.7
	comp=Z,14nm,1.0s					
V48A	Smith Brothers comp=Z,12nm,1.0s	24.77	359	IAmb	IAmb	03 27 10.0
TKL	Tuckaleechee C	24.81	5	P	P	03 27 09.1 -1.0
TKL				IAmb	IAmb	03 27 11.1
	comp=Z,29nm,1.4s					
TKL	Tuckaleechee C comp=Z,160nm,19.6s,baz=200,slow=37	24.81	5	LR	LR	03 36 55.5
WHAR	Wooly Hollow comp=Z,17nm,0.8s	24.89	349	IAmb	IAmb	03 27 09.9
SGCY	Sterling City comp=Z,11nm,0.6s	24.96	329	IAmb	IAmb	03 27 12.2
MNHN	Monahans comp=Z,16nm,0.8s	25.37	326	IAmb	IAmb	03 27 17.5
FCAR	Ozark Folk Cen comp=Z,8.9nm,0.9s	25.45	349	IAmb	IAmb	03 27 14.6
ODSA	Odessa comp=Z,19nm,1.0s	25.86	327	IAmb	IAmb	03 27 29.3
U54A	Nelsons Funny comp=Z,17nm,0.8s	25.89	9	IAmb	IAmb	03 27 32.5
PBMO	Poplar Bluff comp=Z,12nm,1.1s	26.06	353	IAmb	IAmb	03 27 20.8
POST	Post comp=Z,12nm,0.9s	26.08	330	IAmb	IAmb	03 27 30.2
HHAR	Hobbs comp=Z,7.1nm,0.8s	26.20	346	IAmb	IAmb	03 27 21.5
T42A	Van Buren comp=Z,11nm,1.1s	26.39	352	IAmb	IAmb	03 27 23.0
OK031	S. Brethren Rd	26.70	341	IAmb	IAmb	03 27 25.5
MGMO	Mountain Grove comp=Z,6.1nm,0.7s	26.70	350	IAmb	IAmb	03 27 26.9
SIUC	Southern Illin comp=Z,15nm,0.9s	26.86	355	IAmb	IAmb	03 27 28.2
SMWD	Samnorwood comp=Z,11nm,0.7s	27.21	335	IAmb	IAmb	03 27 35.2
WCI	Wyandotte Cave	27.25	0	P	P	03 27 31.1 -1.2
WCI				IAmb	IAmb	03 27 31.4
	comp=Z,16nm,0.9s					
CCM	Cathedral Cave	27.42	352	P	P	03 27 31.9 -1.9
CCM				IAmb	IAmb	03 27 32.3
	comp=Z,8.5nm,1.0s					
OLIL	Olney comp=Z,13nm,0.8s	27.80	357	IAmb	IAmb	03 27 36.8
O48B	Farmland comp=Z,11nm,1.0s	29.30	2	IAmb	IAmb	03 27 49.1
ACSO	Alum Creek Sta comp=Z,8.1nm,0.8s	29.41	5	IAmb	IAmb	03 27 50.2
N49A	Columbus Grove comp=Z,12nm,1.0s	30.01	3	IAmb	IAmb	03 28 05.5
ANMO	Albuquerque	30.12	326	P	P	03 27 58.3 +0.2
ANMO	Albuquerque comp=Z,35nm,20.4s,baz=274,slow=42	30.12	326	LR	LR	03 42 51.8
X18A	Snowflake comp=Z,7.0nm,1.2s	31.86	321	IAmb	IAmb	03 28 25.1
LPAZ	La Paz comp=Z,151nm,18.7s,baz=336,slow=37	32.50	146	LR	LR	03 42 12.6
MVCO	Mesa Verde comp=Z,7.4nm,1.1s	32.90	327	IAmb	IAmb	03 28 32.7
WUAZ	Wupatki comp=Z,6.6nm,1.0s	33.39	321	IAmb	IAmb	03 28 39.1
PV13	Radium Mtn., P comp=Z,5.7nm,0.8s	33.77	327	IAmb	IAmb	03 28 46.0
ECSD	EROS Data Cent comp=Z,5.4nm,1.0s	33.92	347	IAmb	IAmb	03 28 28.8
MDP	Montagnes des comp=Z,205nm,18.2s,baz=214,slow=39	33.94	97	LR	LR	03 43 31.4
SADO	Sadowa comp=Z,202nm,21.3s,baz=235,slow=36	34.37	9	LR	LR	03 41 58.9
G40A	Rib Lake comp=Z,5.1nm,1.0s	34.44	355	IAmb	IAmb	03 28 33.4
SRU	San Rafael Swe comp=Z,7.7nm,0.9s	35.38	327	IAmb	IAmb	03 28 54.5
P18A	Preston Nutter comp=Z,6.0nm,1.0s	35.60	328	IAmb	IAmb	03 28 56.1
E38A	The Farm, Brul comp=Z,6.6nm,0.9s	35.89	354	IAmb	IAmb	03 28 46.4
BSUT	Blindstream Ca comp=Z,5.7nm,1.0s	36.54	328	IAmb	IAmb	03 29 04.1
MPU	Maple Canyon comp=Z,6.9nm,1.2s	36.62	327	IAmb	IAmb	03 29 04.8
SPR3	Spring Creek 3	37.45	323	P	P	03 29 01.7 -0.1
PDAR	Pinedale Array comp=Z,1.9nm,0.7s,baz=127,slow=9.9,SNR=22	37.63	332	P	P	03 29 01.9 -1.4
PDAR				PcP	PcP	03 31 19.1 -1.5
	comp=Z,0.6nm,0.7s,baz=144,slow=3.5,SNR=5.3 comp=Z,1.9nm,0.7s					
HWUT	Hardware Ranch	37.74	329	P	P	03 29 03.4 -0.7
HWUT				IAmb	IAmb	03 29 14.2
	comp=Z,11nm,1.1s					
AGMN	Agassiz Nation comp=Z,6.3nm,0.7s	38.15	350	IAmb	IAmb	03 29 05.0
SNOW	Snow King Moun comp=Z,9.3nm,0.9s	38.73	331	IAmb	IAmb	03 29 13.3
ELK	Elko	39.12	325	P	P	03 29 15.2 -0.6
NV11	Mina Array Sit	39.45	319	P	P	03 29 20.2 +1.7
LAO	LASA Array comp=Z,6.9nm,0.9s	39.46	338	IAmb	IAmb	03 29 17.4
NVAR	Mina Array Bea	39.54	319	P	P	03 29 20.4 +1.0
NVAR	Mina Array Bea comp=Z,2.7nm,0.6s,baz=136,slow=7.5,SNR=23	39.54	319	P	P	03 29 20.5 +1.2
NVAR				PcP	PcP	03 31 27.4 +0.7
	comp=Z,0.4nm,0.2s,baz=104,slow=3.1,SNR=8.6 comp=Z,2.7nm,0.6s					
LHV	Little Huntoon	39.57	319	P	P	03 29 21.6 +2.3
ULM	Lac du Bonnet comp=Z,6.6nm,0.8s	40.04	351	IAmb	IAmb	03 29 20.1
ULM	Lac du Bonnet comp=Z,6.3nm,0.8s,baz=165,slow=8.8,SNR=15 comp=Z,6.3nm,0.8s	40.04	351	P	P	03 29 19.0 -4.0
HLID	Hailey	40.60	328	P	P	03 29 27.4 -0.7
BOZ	Bozeman (W)	40.76	333	P	P	03 29 28.2 -1.1
WVOR	Wild Horse Val	42.16	324	P	P	03 29 40.9 +0.2
PINE	Pine Mountain comp=Z,8.6nm,1.0s	44.33	324	IAmb	IAmb	03 29 59.0
BDFB	Brasilia comp=Z,1.0nm,0.5s,baz=333,slow=6.8,SNR=1.7 comp=Z,1.0nm,0.5s	46.27	124	P	P	03 30 13.1 -0.9
SCHQ	Schefferville comp=Z,1.8nm,0.7s,baz=250,slow=4.6,SNR=3.8	46.53	16	P	P	03 30 11.2 -4.2
SCHQ				LR	LR	03 50 14.3
	comp=Z,108nm,19.0s,baz=132,slow=37 comp=Z,1.8nm,0.7s					
CPUP	Vila Florida comp=Z,68nm,19.1s,baz=3.5,slow=36	46.56	143	LR	LR	03 50 07.7
PLCA	Paso Flores comp=Z,1.1nm,0.8s,baz=300,slow=11,SNR=3.0 comp=Z,1.1nm,0.8s	53.40	165	P	P	03 31 11.4 +3.7
YKA	Yellowknife Ar comp=Z,1.6nm,0.8s,baz=146,slow=7.1,SNR=27	55.40	345	P	P	03 31 18.6 -3.3
YKA				PcP	PcP	03 32 20.5 -1.6
	comp=Z,0.3nm,0.6s,baz=154,slow=4.0,SNR=3.8					
YKA				LR	LR	03 55 47.4
	comp=Z,88nm,18.2s,baz=284,slow=37 comp=Z,1.6nm,0.8s					
SFJD	Kangerlussuaq comp=Z,195nm,19.5s,baz=244,slow=36	60.98	15	LR	LR	03 57 42.3
M29M	Somme Creek comp=Z,4.9nm,0.9s	63.46	336	IAmb	IAmb	03 32 17.1
I30M	Mount Dempster comp=Z,2.5nm,0.8s	64.14	339	IAmb	IAmb	03 32 21.1
L27K	Beaver Creek, comp=Z,3.3nm,0.8s	65.11	336	IAmb	IAmb	03 32 28.0
J26L	Joseph Creek comp=Z,5.3nm,1.2s	66.45	337	IAmb	IAmb	03 32 36.2
F28M	Old Crow comp=Z,2.6nm,0.8s	66.60	340	P	P	03 32 36.3 -1.7
F28M				IAmb	IAmb	03 32 38.5
I26K	Coal Creek Min comp=Z,3.9nm,0.7s	66.65	338	IAmb	IAmb	03 32 37.4
IL31		67.86	336	P	P	03 32 44.0 -2.0
IL31				IAmb	IAmb	03 32 45.7
	comp=Z,2.8nm,0.7s					
ILAR	Eielson Array	67.86	336	P	P	03 32 44.3 -1.7
ILAR	Eielson Array comp=Z,1.3nm,0.6s,baz=129,slow=4.1,SNR=40 comp=Z,1.3nm,0.6s	67.86	336	P	P	03 32 43.9 -2.2
RND	Reindeer	68.17	335	P	P	03 32 46.8 -1.3
MDT	Midelt comp=Z,94nm,19.2s,baz=288,slow=33	77.39	59	LR	LR	04 04 19.9
SPITS	Spitsbergen Ar comp=Z,107nm,18.8s,baz=246,slow=36	82.06	12	LR	LR	04 10 08.5
AKASG	Malin Array Be	97.25	35	LR	LR	04 13 55.8
	comp=Z,43nm,19.8s,baz=249,slow=32					
KSRS	Korea Array comp=Z,1.1nm,0.7s,baz=27,slow=2.6,SNR=5.4	122.14	328	PKP	PKPdf	03 40 42.2 -1.0
HHC	Hu-ho-hao-te	125.92	343	eP	PKPdf	03 40 50.2 -0.3
ASAR	Alice Springs comp=Z,0.4nm,0.7s,baz=117,slow=2.0,SNR=4.4	139.56	246	PKP	PKPdf	03 41 16.1 -0.4
WRA	Warramunga Arr comp=Z,0.8nm,1.0s,baz=93,slow=1.8,SNR=2.3	139.75	252	PKP	PKPdf	03 41 17.2 +0.3
PZH	PanZhiHua	142.02	348	PKP	PKPdf	03 41 20.0 -1.0
CMAR	Chiang Mai Arr comp=Z,0.9nm,0.3s,baz=305,slow=2.2,SNR=8.3	150.39	350	PKPbc	PKPdf	03 41 37.6 +2.4

IDC 01 03:22:38.8±2.3, 2°40'S×153°34'E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=180.2km s-min=31.7km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.9s,baz=52,slow=9.3,SNR=5.7 0.5nm,0.9s	25.47	225	P	P	03 28 09.5	+0.7
ASAR	Alice Springs 0.3nm,0.3s,baz=44,slow=9.0,SNR=9.0 0.3nm,0.3s	28.30	220	P	P	03 28 33.8	-0.6
ILAR	Eielson Array 0.2nm,0.7s,baz=245,slow=5.2,SNR=1.9 0.2nm,0.7s	79.74	22	P	P	03 34 48.5	0.0

*AEIC **01** 03:38:20.1±1.1, 56°45'N±0°10'×148°7'W±0°1, h12km±8km, Error ellipse: s-maj=14.3km s-min=8.4km az=168.0*

NEIC 01 03:38:13.6±1.6, 56°33'N±0°09'×148°6'W±0°1, h10km±2km, ML3.6/38, ML3.3(AEIC), Error ellipse: s-maj=15.1km s-min=9.2km az=164.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.62	305		Pn	03 38 56.1	+0.2
KDAK	Kodiak Island	2.62	305		Sn	03 39 24.4	-3.2
OHAK	Old Harbor	2.73	291	Pn	Pn	03 38 57.3	-0.1
OHAK	Old Harbor	2.73	291		Sn	03 39 26.9	-3.5
SYI	Shuyak Island	3.07	320		Pn	03 39 02.6	+0.5
SII	Sitkinak Islan	3.11	277		Pn	03 39 03.0	+0.3
SII					Sn	03 39 36.8	-3.0
SII	Sitkinak Islan comp=E,39nm,1.5s	3.11	277	IAML		03 39 51.3	
Q23K	Middleton Isla	3.33	20		Pn	03 39 05.4	-0.3
Q23K					Sn	03 39 41.1	-4.1
Q23K	Middleton Isla comp=N,116nm,1.2s	3.33	20	IAML		03 40 37.9	
Q23K				IAML		03 40 45.2	
	comp=E,121nm,1.5s						
R18K	Karluk	3.44	294		Pn	03 39 07.7	+0.6
R18K	Karluk comp=N,32nm,0.5s	3.44	294	IAML		03 39 54.5	
R18K				IAML		03 40 03.8	
	comp=E,40nm,0.4s						
BRSE	Bradley Lake S	3.60	343		Pn	03 39 09.1	-0.4
BRSE					Sn	03 39 47.8	-4.3
BRLK	Bradley Lake	3.65	342		Pn	03 39 10.0	-0.2
P23K	Montague Islan	3.73	9		Pn	03 39 10.9	-0.3
P23K					Sn	03 39 50.9	-4.3
SEW	Seward	3.81	354		Pn	03 39 11.8	-0.5
KAHG	Katmai Hook Gl	3.88	306		Pn	03 39 14.2	+1.0
HIN	Hinchinbrook I	4.23	14		Sn	03 40 03.1	-4.2
HIN	Hinchinbrook I comp=E,104nm,0.3s	4.23	14	IAML		03 42 06.8	
HIN				IAML		03 42 08.5	
	comp=N,86nm,0.6s						
KAIM	Kayak Island	4.23	30		Pn	03 39 18.3	+0.2
SLKM	Skilak Lake	4.28	349		Sn	03 40 05.1	-3.5
SLKM	Skilak Lake comp=E,37nm,0.3s	4.28	349	IAML		03 42 07.1	
SLKM				IAML		03 42 09.3	
	comp=N,29nm,0.5s						
EYAK	Cordova Ski Ar	4.49	18		Pn	03 39 21.9	+0.3
SUCK	Suckling Hills	4.54	32		Pn	03 39 22.7	+0.4
SUCK				IAML		03 42 18.4	
	comp=N,100nm,0.5s						
PWL	Port Wells	4.54	2		Pn	03 39 22.2	-0.2
PWL	Port Wells comp=N,68nm,0.4s	4.54	2	IAML		03 42 24.6	
PWL				IAML		03 42 24.9	
	comp=E,51nm,0.6s						
RAGM	Ragged Mountai	4.56	25		Pn	03 39 23.1	+0.4
FID	Port Fidalgo	4.57	13		Pn	03 39 22.3	-0.5
FID	Port Fidalgo comp=E,70nm,0.4s	4.57	13	IAML		03 42 15.2	
FID				IAML		03 42 20.8	
	comp=N,100nm,0.5s						
HMT	Hamilton	4.62	28		Pn	03 39 24.0	+0.6
GLI	Glacier Island	4.63	9		Pn	03 39 23.4	-0.1
GLI	Glacier Island comp=E,68nm,0.5s	4.63	9	IAML		03 42 25.2	
GLI				IAML		03 42 29.1	
	comp=N,49nm,0.4s						
RED	Redoubt Volcan	4.65	334		Pn	03 39 23.5	-0.4
RDT	Redoubt	4.70	336		Pn	03 39 24.4	-0.2
GOAT	Goat Mountain	4.72	24		Pn	03 39 25.2	+0.3
SNH	Sunshine Point	4.92	36		Pn	03 39 27.9	+0.3
SNH	Sunshine Point comp=N,56nm,0.4s	4.92	36	IAML		03 42 22.1	
SNH				IAML		03 42 30.5	
	comp=E,63nm,0.5s						
P17K	Kvichak River	5.08	308		Pn	03 39 30.0	+0.3
BMRM	Bremner River	5.10	23		Pn	03 39 30.5	+0.5
MESA	MESA	5.22	40		Pn	03 39 32.6	+0.9
MESA	MESA comp=E,46nm,0.8s	5.22	40	IAML		03 42 53.3	
KLU	Klutina	5.36	14		Pn	03 39 34.3	+0.6
KLU				IAML		03 42 31.5	
	comp=E,54nm,0.3s						
GHO	Glory Hole Cre	5.46	358

CHIR	Chirikof Islan	3.91	264			Pn	03 41 39.7 +0.5
KJL	Kejulik	4.08	297			Pn	03 41 41.9 +0.4
O22K	Cooper Landing	4.12	353			Pn	03 41 41.3 -0.8
SLKM	Skilak Lake	4.19	350			Pn	03 41 43.2 +0.1
KAIM	Kayak Island	4.20	31	Pn		Pn	03 41 43.0 -0.2
O20K	Slope Mountain	4.23	332			Pn	03 41 43.9 +0.2
ILSW	Iliamna Southw	4.29	329			Pn	03 41 45.2 +0.7
PWL	Port Wells	4.47	2			Pn	03 41 47.0 +0.1
FID	Port Fidalgo	4.51	14			Pn	03 41 46.9 -0.6
RED	Redoubt Volcan	4.56	334			Pn	03 41 48.0 -0.1
GLI	Glacier Island	4.57	10			Pn	03 41 48.0 -0.2
GLI						Pg	03 42 08.7 +2.2
P18K	Big Mountain,	4.59	313			Pn	03 41 48.6 0.0
GOAT	Goat Mountain	4.68	25			Pn	03 41 49.7 -0.2
SNH	Sunshine Point	4.89	37			Pn	03 41 52.4 -0.4
DIV	Divide	4.98	17			Pn	03 41 53.7 -0.3
P17K	Kvichak River	4.99	307			Pn	03 41 54.3 +0.3
CHGN	Chignik	5.39	273			Pn	03 42 00.8 +1.2
SML	Sawmill	5.42	2			Pn	03 41 60.0 0.0
RKAV	Rock Avalanche	5.50	42			Pn	03 42 00.9 -0.3
VRDI	Verde Repeater	5.56	27			Pn	03 42 01.7 -0.3
WACK	Wrangell Chich	6.04	20			Pn	03 42 08.2 -0.4
O28M	Mount Upton	6.25	42			Pn	03 42 11.2 -0.4
M18K	Stony River	6.29	327			Pn	03 42 11.9 +0.1
S31K	Pelican	6.96	72			Pn	03 42 19.1 -2.0
BESE	Bessie Mountai	7.78	68			Pb	03 42 51.9 -2.2
S32K	Killisnoo	7.81	76			Pn	03 42 30.8 -1.9
R32K	Eaglecrest	7.91	70			Pb	03 42 53.8 -2.4
ILAR	Eielson Array	8.44	5	Pn		Pn	03 42 42.3 +0.9
	0.1nm,0.3s,baz=194,slow=12,SNR=2.4						
	0.2nm,0.4s						
DLBC	Dease Lake	10.28	71	Pn		Pn	03 43 07.7 +1.0
	0.4nm,0.3s,baz=270,slow=5.1,SNR=1.8						
DLBC				LR		LR	03 46 34.8
	comp=Z,116nm,21.9s,baz=273,slow=35						
	0.9nm,0.4s						
INK	Inuvik	13.80	24	Pn		Pn	03 43 55.5 +0.9
	baz=217,slow=6.8,SNR=2.1						
	0.7nm,0.9s						
YKA	Yellowknife Ar	18.21	56	P		P	03 44 54.0 +2.0
	baz=265,slow=10,SNR=1.4						
	0.1nm,0.3s						
NVAR	Mina Array Bea	26.99	119	P		P	03 46 23.1 +1.9
	0.3nm,0.6s,baz=322,slow=8.8,SNR=1.8						
	0.3nm,0.6s						

*IDC **01** 03:40:59.5±0.7, 56°.36N×148°.59W, h0km, mb3.9/20, mbtmp3.9/26, ML3.7/6, MS3.6/41, Error ellipse: s-maj=19.7km s-min=11.4km az=34.0*
*NEIC **01** 03:41:01.5±2.5, 56°.45N±0°.05×148°.9W±0°.1, h10km±1km, mb4.2/35, ML4.1/68, ML4.0(AEIC), Error ellipse: s-maj=11.8km s-min=4.8km az=304.0*
*AEIC **01** 03:41:04.3±2.6, 56°.37N±0°.08×148°.6W±0°.1, h12km±5km, Error ellipse: s-maj=12.7km s-min=8.6km az=156.0*

ISC 01 03:41:00.6±0.5, 56°.43N±0°.06×148°.56W±0°.04, h10km, n180, σ1§60/139, mb4.1/30, MS3.7/13, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.58	303		Pn	03 41 41.1	-1.2
KDAK	Kodiak Island	2.58	303		Sn	03 42 09.4	-4.3
KDAK	Kodiak Island	2.58	303	Pn	Pn	03 41 41.0	-1.3
	22nm,0.3s,baz=78,slow=9.3,SNR=30						
KDAK				Sn	Sn	03 42 09.7	-4.0
	23nm,0.3s,baz=143,slow=20,SNR=11						
	53nm,0.3s						
OHAK	Old Harbor	2.72	289		Sn	03 42 12.5	-4.6
OHAK	Old Harbor	2.72	289	Pn	Pn	03 41 42.4	-1.8
SYI	Shuyak Island	3.01	318		Sn	03 42 22.4	-1.9
SYI	Shuyak Island	3.01	318		Pn	03 41 47.4	-0.8
SII	Sitkinak Islan	3.12	275		Sn	03 42 23.1	-4.1
SII	Sitkinak Islan	3.12	275		Pn	03 41 48.8	-1.0
SII				IAML		03 42 34.1	
	comp=E,385nm,0.7s						
SII				IAML		03 42 35.5	
	comp=N,396nm,0.7s						
Q23K	Middleton Isla	3.23	20		Sn	03 42 26.5	-3.2
Q23K	Middleton Isla	3.23	20		Pn	03 41 50.5	-0.7
Q23K				IAML		03 42 27.4	
	comp=E,600nm,1.1s						
Q23K				IAML		03 42 28.4	
	comp=N,364nm,0.4s						
R18K	Karluk	3.42	292		Pn	03 41 52.5	-1.3
R18K	Karluk	3.42	292	IAML		03 42 41.0	
	comp=E,613nm,0.4s						
R18K				IAML		03 42 41.4	
	comp=N,497nm,0.4s						
BRSE	Bradley Lake S	3.52	342		Pn	03 41 54.6	-0.6
BRLK	Bradley Lake	3.56	341	Pn	Pn	03 41 55.5	-0.4
BRLK				IAML		03 42 40.9	
	comp=E,291nm,0.6s						
HOM	Homer	3.63	334		Pn	03 41 57.2	+0.5
HOM				IAML		03 42 45.1	
	comp=E,625nm,0.7s						
P23K	Montague Islan	3.63	9		Pn	03 41 56.1	-0.7
P23K					Sn	03 42 36.3	-3.2
Q19K	Cape Douglas,	3.70	315		Pn	03 41 58.1	+0.3
Q19K				IAML		03 42 51.9	
	comp=N,521nm,0.8s						
Q19K				IAML		03 42 58.8	
	comp=E,589nm,0.8s						
SEW	Seward	3.71	353	Pn	Pn	03 41 57.3	-0.6
KAHG	Katmai Hook Gl	3.84	305		Pn	03 41 59.9	+0.2
AUL	Augustine Lava	3.94	321		Pn	03 42 00.9	-0.1
CHIR	Chirikof Islan	4.00	264		Sn	03 42 43.0	-5.7
CHIR	Chirikof Islan	4.00	264	Pn	Pn	03 42 00.4	-1.4
CHIR				IAML		03 42 47.0	
	comp=N,194nm,1.2s						
P19K	Oil Pt	4.07	324		Sn	03 42 48.5	-2.1
P19K	Oil Pt	4.07	324	Pn	Pn	03 42 03.9	+1.0
P19K				IAML		03 42 55.4	
	comp=E,445nm,0.4s						
ACHA	Angle Creek He	4.08	299		Pn	03 42 03.7	+0.7
HIN	Hinchinbrook I	4.12	14		Sn	03 42 48.7	-3.1
HIN	Hinchinbrook I	4.12	14	Pn	Pn	03 42 03.5	-0.1
HIN				IAML		03 42 49.6	
	comp=N,844nm,0.5s						
HIN				IAML		03 42 50.9	
	comp=E,470nm,0.6s						
KAIM	Kayak Island	4.13	30	Pn	Pn	03 42 03.6	-0.1
KAIM				IAML		03 42 53.4	
	comp=N,418nm,0.6s						
KAIM				IAML		03 42 54.7	
	comp=E,552nm,0.7s						
KVTA	Katmai Vly 10	4.13	301		Pn	03 42 04.4	+0.7
ANCK	Angle Creek	4.16	298		Pn	03 42 04.2	+0.2
SLKM	Skilak Lake	4.18	349	Pn	Pn	03 42 04.2	-0.2
SLKM				IAML		03 42 51.4	
	comp=N,232nm,0.6s						
SLKM				IAML		03 42 58.9	
	comp=E,248nm,0.5s						
O20K	Slope Mountain	4.24	331		Pn	03 42 04.8	-0.5
ILS	Iliamna Low So	4.26	328		Pn	03 42 05.2	-0.4
ILSW	Iliamna Southw	4.31	328	Pn	Pn	03 42 06.1	-0.1
ILSW				IAML		03 42 58.4	
	comp=N,173nm,0.5s						
ILSW				IAML		03 43 02.2	
	comp=E,204nm,0.6s						
EYAK	Cordova Ski Ar	4.38	18	Pn	Pn	03 42 07.0	-0.1
SUCK	Suckling Hills	4.44	33	Pn	Pn	03 42 08.2	+0.3
SUCK				IAML		03 43 14.7	
	comp=E,297nm,0.7s						
PWL	Port Wells	4.44	1	Pn	Pn	03 42 07.5	-0.5
PWL				IAML		03 42 58.1	
	comp=N,182nm,0.4s						
PWL				IAML		03 43 04.6	
	comp=E,222nm,0.8s						
RAGM	Ragged Mountai	4.46	26	Pn	Pn	03 42 08.6	+0.3
RAGM				IAML		03 43 06.6	
	comp=E,1μm,0.6s						
RAGM				IAML		03 43 21.0	
	comp=N,2μm,0.7s						
FID	Port Fidalgo	4.47	13		Pn	03 42 07.6	-0.7
FID	Port Fidalgo	4.47	13	IAML		03 42 58.1	
	comp=N,218nm,0.4s						
FID				IAML		03 43 03.2	
	comp=E,233nm,0.5s						
NICHA	Nichawak Mount	4.52	30		Pn	03 42 09.3	+0.3
HMT	Hamilton	4.52	28	Pn	Pn	03 42 09.4	+0.4
BGLC	Bering Glacier	4.63	35		Pn	03 42 10.3	-0.1
P18K	Big Mountain,	4.63	313		Pn	03 42 09.5	-1.1
RC01	Rabbit Creek A	4.71	353	IAML		03 43 07.0	
	comp=E,234nm,0.4s						
RC01				IAML		03 43 08.0	
	comp=N,185nm,0.5s						
SNH	Sunshine Point	4.82	36	IAML		03 43 08.4	
	comp=N,194nm,0.3s						
SNH				IAML		03 43 40.6	
	comp=E,192nm,1.3s						
Q16K	King Salmon	4.91	301		Pn	03 42 13.9	-0.4
DIV	Divide	4.93	16		Pn	03 42 14.2	-0.5
KNK	Knik Glacier	5.00	1	IAML		03 43 20.3	
	comp=N,91nm,0.6s						
KNK				IAML		03 43 22.3	
	comp=E,120nm,0.5s						
SPU	Mount Spurr	5.10	341	IAML		03 43 25.4	
	comp=N,82nm,0.6s						
MESA	MESA	5.12	40		Pn	03 42 17.5	0.0
MESA	MESA	5.12	40	IAML		03 43 26.4	
	comp=E,185nm,0.7s						
PMR	Palmer	5.18	357		Pn	03 42 17.9	-0.2
PMR	Palmer	5.18	357	IAML		03 43 19.7	
	comp=N,124nm,0.6s						
PMR				IAML		03 43 25.8	
	comp=E,100nm,0.6s						
GHO	Glory Hole Cre	5.36	358		Pn	03 42 20.8	+0.2
N19K	Bonanza Creek	5.37	327		Pn	03 42 20.7	-0.1
ANPB	Aniakchak Plen	5.38	278		Pn	03 42 20.1	-0.8
SML	Sawmill	5.39	1	IAML		03 43 24.6	
	comp=E,135nm,0.6s						
M23K	Glacier View	5.39	4		Pn	03 42 21.4	+0.4
SCM	Sheep Creek Mo	5.46	6		Pn	03 42 22.2	+0.3
KIAG	Kiagna River	5.54	33		Pn	03 42 23.0	-0.2
BALM	Baldy	5.64	32		Pn	03 42 24.3	-0.1
P16K	Nushagak River	5.69	301		Pn	03 42 24.5	-0.5
N18K	Kilae Creek	5.73	321		Pn	03 42 24.6	-1.1
VNSG	Veniaminof 6	5.87	271		Pn	03 42 27.1	-0.5
WACK	Wrangell Chich	5.98	20		Pn	03 42 29.4	+0.2
O28M	Mount Upton	6.17	42		Pn	03 42 31.8	-0.1
HARP	HAARP	6.23	15		Pn	03 42 33.1	+0.6
M19K	Big River Lodg	6.25	334		Pn	03 42 31.8	-0.9
CNBA	Chernabura Isl	6.45	260		Pn	03 42 34.0	-1.6
O29M	Mount Kennedy	6.53	49		Pn	03 42 36.9	+0.2
L19K	White Mountain	6.60	333		Pn	03 42 37.2	-0.4
YUK8	Steele Glacier	6.67	39		Pn	03 42 39.4	+0.7
M17K	Holitna River	6.78	321		Pn	03 42 39.1	-0.9
SDPT	Sand Point	6.79	266		Pn	03 42 38.6	-1.6
RND	Reindeer	7.00	359		Pn	03 42 43.5	+0.4
TRF	Thorofare Moun	7.09	354		Pn	03 42 44.6	+0.1
R31K	City Hall, Gus	7.20	69		Pn	03 42 45.1	-0.6
CAST	Castle Rocks	7.23	347		Pn	03 42 46.5	+0.3
HYT	Haines Junctio	7.26	48		Pn	03 42 46.9	+0.2
RIDG	Independent Ri	7.56	13		Pn	03 42 51.1	+0.3
DOT	Dot Lake	7.58	15		Pn	03 42 50.7	-0.3
S12K	Black Hills	7.59	270		Pn	03 42 50.1	-1.1
SKAG	Skagway	7.67	61		Pn	03 42 51.8	-0.3
N14K	Kuskokwak Cree	7.77	302		Pn	03 42 52.6	-0.9
BPAW	Bear Paw Mtn.	7.79	352		Pn	03 42 53.8	-0.1
O30N	Mendenhall	7.83	51		Pn	03 42 54.3	-0.1
JIS	Juneau Island	7.89	71		Pn	03 42 54.3	-0.9
SCRK	Sand Creek	7.90	15		Pn	03 42 55.0	-0.5
M29M	Somme Creek	7.92	36		Pn	03 42 55.9	+0.2
K17K	Iditarod	8.00	326		Pn	03 42 55.8	-0.9
J16K	Innoko River	8.15	333		Pn	03 42 58.1	-0.6
J20K	Nowinta River	8.25	343		Pn	03 42 59.5	-0.6
N31M	Braeburn, Yuko	8.32	47		Pn	03 43 01.2	+0.1
J25K	Salcha River,	8.36	9		Pn	03 43 01.3	-0.4
IL31		8.41	5		Pn	03 43 01.8	-0.5
ILAR	Eielson Array	8.41	5	Pn	Pn	03 43 02.1	-0.2
	comp=E,1.1nm,0.3s,baz=184,slow=13,SNR=19						
ILAR				Sn	Sn	03 44 32.1	-5.1
	comp=E,2.0nm,0.3s,baz=191,slow=22,SNR=8.3						
	comp=E,2.3nm,0.4s						
J26L	Joseph Creek	8.46	15		Pn	03 43 03.2	+0.1
M30M	Minto, Yukon	8.58	39		Pn	03 43 04.8	+0.1
ISLZ	Isanotski Laza	8.75	265		Pn	03 43 06.0	-1.1
I23K	Minto, Yukon-K	8.76	358		Pn	03 43 06.6	-0.5
ISNN	Isanotski Nort	8.76	266		Pn	03 43 06.1	-1.1
DAWY	Dawson	8.90	27		Pn	03 43 09.2	0.0
K29M	Barlow Dome	9.24	32		Pn	03 43 13.9	+0.1
S34M	Telegraph Cree	9.58	74		Pn	03 43 17.2	-1.2
FARO	Faro, Yukon	9.69	47		Pn	03 43 21.3	+1.4
R33M	Jennings River	9.81	65		Pn	03 43 22.1	+0.4
I28M	Miner Creek	9.96	21		Pn	03 43 24.8	+1.2
DLBC	Dease Lake	10.19	71	Pn	Pn	03 43 27.0	+0.2
	comp=E,2.0nm,0.3s,baz=276,slow=8.0,SNR=25						
DLBC				Sn	Sn	03 45 15.5	-5.5
	comp=E,0.7nm,0.3s,baz=349,slow=27,SNR=1.6						
	comp=E,4.2nm,0.3s						
G24K	Hadweenzic Riv	10.32	2		Pn	03 43 29.6	+1.1
G23K	Bananza Creek	10.34	357	Pn	Pn	03 43 31.6	+2.9
I30M	Mount Dempster	10.61	29	Pn	Pn	03 43 35.3	+2.7
F21K	Alatna River	11.07	350		Pn	03 43 40.0	+1.2
E23K	Chandalar	11.68	358		Pn	03 43 52.0	+4.8
E21K	Killik River	12.30	351	Pn	Pn	03 43 57.2	+1.6
BBB	Bella Bella	12.66	101	Pn	Pn	03 43 59.0	-1.4
	comp=E,0.1nm,0.3s,baz=21,slow=19,SNR=1.2						
BBB				Sn	Sn	03 46 14.7	-6.6
	comp=E,0.1nm,0.3s,baz=17,slow=15,SNR=1.6						
	comp=E,11nm,1.2s						
INK	Inuvik	13.74	24	Pn	Pn	03 44 17.2	+2.1
	comp=E,0.2nm,0.3s,baz=212,slow=11,SNR=8.7						
	comp=E,2.1nm,0.7s						
WRGLY	Wrigley	14.27	51	P	P	03 44 28.5	-1.1
YKA	Yellowknife Ar	18.12	56	P	P	03 45 12.8	+0.5
	comp=E,0.1nm,0.3s,baz=264,slow=12,SNR=6.8						
	comp=E,1.1nm,0.8s						
A36M	Sachs Harbour	18.39	23	IAmb	IAmb	03 45 34.7	
	comp=Z,13nm,0.8s						
E07A	Sunnyside	20.27	107	P	Pn	03 45 38.7	+0.6
E07A				IAmb	IAmb	03 45 42.8	
	comp=Z,13nm,1.1s						
C09A	Chrisman Ranch	20.36	102	IAmb	IAmb	03 45 43.2	
	comp=Z,16nm,1.4s						
D08A	Wollman Farm,	20.46	105		Pn	03 45 41.8	+1.6
F07A	Phinny Hill Vi	20.67	109	IAmb	IAmb	03 45 55.8	
	comp=Z,8.4nm,0.9s						
NEW	Newport	20.72	100		Pn	03 45 44.8	+1.6
NEW	Newport	20.72	100	P	P	03 45 41.1	+0.2
	comp=Z,0.6nm,0.5s,baz=295,slow=12,SNR=4.9						
	comp=Z,0.6nm,0.5s						
E08A	Dider Farm, El	20.74	106	IAmb	IAmb	03 46 03.9	
	comp=Z,19nm,1.4s						
E09A	Wood Farm, Sta	21.22	105	IAmb	IAmb	03 45 53.2	
	comp=Z,12nm,1.2s						
F10A	Beach Ranch, E	22.05	105	IAmb	IAmb	03 46 16.2	
	comp=Z,12nm,1.3s						
YBH	Yreka Blue Hor	22.24	120	P	P	03 45 59.3	+1.9
	comp=Z,1.2nm,0.7s,baz=339,slow=3.6,SNR=4.5						
	comp=Z,1.2nm,0.7s						
BMO	Blue Mountains	22.74	107	IAmb	IAmb	03 46 07.3	
	comp=Z,9.2nm,1.4s						
WVOR	Wild Horse Val	23.73	113	IAmb	IAmb	03 46 16.8	
	comp=Z,8.0nm,1.1s						
DLMT	Dillon	24.95	101	IAmb	IAmb	03 46 34.6	
	comp=Z,9.3nm,1.4s						
HLID	Hailey	25.15	106	IAmb	IAmb	03 46 31.2	
	comp=Z,6.4nm,1.4s						
ELK	Elko	26.71	112	P	P	03 46 40.8	+0.8
	comp=Z,1.4nm,0.9s,baz=302,slow=10,SNR=5.5						
ELK				LR	LR	03 54 40.5	
	comp=Z,136nm,20.6s,baz=298,slow=31						
	comp=Z,1.4nm,0.9s						
NVAR	Mina Array Bea	26.93	119	P	P	03 46 42.7	+0.7
	comp=Z,1.5nm,0.9s,baz=304,slow=8.5,SNR=8.0						
	comp=Z,1.5nm,0.9s						
PDAR	Pinedale Array	28.30	102	P	P	03 46 55.0	+0.7
	comp=Z,0.6nm,0.9s,baz=276,slow=5.5,SNR=5.0						
	comp=Z,0.6nm,0.9s						
R11B	Troy Canyon, C	28.33	116	IAmb	IAmb	03 46 58.8	
	comp=Z,5.0nm,1.2s						
PETK	Petropavlovsk-	30.52	287	P	P	03 47 14.0	+0.4
	comp=Z,2.6nm,0.9s,baz=67,slow=14,SNR=5.7						
	comp=Z,2.6nm,0.9s						
V12A	Nelson	30.75	118	IAmb	IAmb	03 47 21.0	
	comp=Z,4.0nm,1.0s						
BLYC	Blythe	32.50	120	P	P	03 47 33.9	+2.7
Y14A	Wickenburg	33.09	118	IAmb	IAmb	03 47 41.0	
	comp=Z,3.5nm,1.0s						
X16A	Lo Mia Camp, P	33.48	115	IAmb	IAmb	03 47 44.4	
	comp=Z,3.0nm,1.0s						
X18A	Snowflake	34.15	113	IAmb	IAmb	03 47 49.9	
	comp=Z,3.4nm,1.0s						
YAK	Yakutsk	39.57	313	LR	LR	04 05 02.0	
	comp=Z,81nm,20.3s,baz=106,slow=36						
WMOK	Wichita Mounta	39.91	101	P	P	03 48 36.7	+2.2
TXAR	Lajitas Array	41.50	112	P	P	03 48 47.1	-0.7
	comp=Z,0.5nm,0.6s,baz=330,slow=7.2,SNR=7.8						
	comp=Z,0.5nm,0.6s						
H11N2	WAKE ISLAND Hy 49.31 241			T	T	04 43 30.4	
	baz=30,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy 49.31 241			T	T	04 43 30.0	
	baz=30,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy 49.32 241			T	T	04 43 25.0	
	baz=30,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy 50.45 240			T	T	04 44 53.1	
	baz=29,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy 50.46 240			T	T	04 44 55.5	
	baz=29,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy 50.47 240			T	T	04 44 59.8	
	baz=29,slow=76,SNR=24						
ARCES	ARCESS Array B	54.26	3	P	P	03 50 26.3	+0.3
	comp=Z,5.5nm,0.9s,baz=342,slow=6.9,SNR=5.3						
	comp=Z,5.5nm,0.9s						
SONM	Songino Array	58.85	311	P	P	03 51 00.8	+1.7
	comp=Z,1.9nm,0.8s,baz=37,slow=6.7,SNR=14						
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	61.65	327	P	P	03 51 19.0	+1.0
	comp=Z,1.9nm,0.6s,baz=33,slow=6.2,SNR=8.0						
	comp=Z,1.9nm,0.6s						
FINES	FINESS Array B	62.39	3	P	P	03 51 23.8	+1.0
	comp=Z,1.7nm,0.8s,baz=345,slow=4.5,SNR=4.4						
	comp=Z,1.7nm,0.8s						
EKA	Eskdalemuir Ar	65.09	21	P	P	03 51 41.6	+0.8
	comp=Z,0.2nm,0.4s,baz=340,slow=7.0,SNR=4.3						
	comp=Z,0.2nm,0.4s						
ARTI	Arti	65.44	344	LR	LR	04 21 31.6	
	comp=Z,81nm,21.4s,baz=303,slow=37						
BVAR	Borovoye Array	66.31	336	P	P	03 51 49.5	+0.8
	comp=Z,0.9nm,0.5s,baz=39,slow=7.6,SNR=6.7						
	comp=Z,0.9nm,0.5s						
KURBB	Kurchatov Arra	66.42	329	P	P	03 51 49.8	+0.4
	comp=Z,0.6nm,0.6s,baz=30,slow=6.6,SNR=6.3						
	comp=Z,0.6nm,0.6s						
JTS	Las Juntas de	67.01	107	LR	LR	04 23 22.7	
	comp=Z,36nm,19.4s,baz=349,slow=38						
MKAR	Makanchi Array	68.70	325	P	P	03 52 04.4	+0.5
	comp=Z,0.5nm,0.7s,baz=42,slow=6.9,SNR=7.8						
	comp=Z,0.5nm,0.7s						
AKTO	Aktyubinsk	71.24	342	LR	LR	04 28 07.5	
	comp=Z,47nm,18.2s,baz=105,slow=40						
AKASG	Malin Array Be	73.22	1	P	P	03 52 31.6	+0.4
	comp=Z,0.7nm,0.5s,baz=356,slow=5.2,SNR=4.5						
	comp=Z,0.7nm,0.5s						
PPT	Papeete	73.72	181	LR	LR	04 18 08.4	
	comp=Z,81nm,18.2s,baz=318,slow=30						
PPT2	Papeete2	73.74	181	eLR	LR	04 15 10.3	
	comp=Z,113nm,24.5s						
PPT2	Papeete2	73.74	181	eLR	LR	04 15 06.7	
	comp=Z,81nm,23.0s						
VRAC	Vranov	73.91	10	LR	LR	04 29 28.7	
	comp=Z,39nm,18.2s,baz=329,slow=39						
AAK	Ala-Archa	74.83	329	LR	LR	04 29 18.3	
	comp=Z,45nm,21.0s,baz=15,slow=39						
SDV	Santo Domingo	75.97	95	LR	LR	04 26 28.4	
	comp=Z,50nm,20.6s,baz=66,slow=36						
RAR	Rarotonga	77.92	191	LR	LR	04 24 04.0	
	comp=Z,36nm,18.3s,baz=188,slow=33						
ESDC	Sonseca Array	79.67	27	P	P	03 53 09.4	+1.4
	comp=Z,0.6nm,0.9s,baz=339,slow=5.3,SNR=4.3						
ESDC				LR	LR	04 27 54.6	
	comp=Z,29nm,21.9s,baz=306,slow=35						
	comp=Z,0.6nm,0.9s						
KBZ	Khabaz	79.74	352	P	P	03 53 09.8	+1.6
	comp=Z,1.6nm,1.0s,baz=18,slow=9.6,SNR=1.3						
	comp=Z,1.6nm,1.0s						
BRTR	Keskin Array B	84.19	358	P	P	03 53 33.3	+1.3
	comp=Z,1.0nm,0.7s,baz=12,slow=4.8,SNR=3.0						
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	86.57	299	P	P	03 53 43.4	-0.5
	comp=Z,1.0nm,0.3s,baz=18,slow=3.7,SNR=1.4						
CMAR				LR	LR	04 37 08.1	
	comp=Z,39nm,18.4s,baz=35,slow=39						
	comp=Z,1.0nm,0.3s						
LPAZ	La Paz	98.22	107	LR	LR	04 41 53.1	
	comp=Z,36nm,19.3s,baz=46,slow=37						
QSPA	South Pole Qui	146.22	180	PKPbc	PKPdf	04 00 39.7	+1.2
	comp=Z,1.4nm,0.8s,baz=348,slow=0.8,SNR=5.2						
BOSA	Boshof	151.85	12	PKPbc	PKPbc	04 00 55.6	+0.3
	comp=Z,1.5nm,0.7s,baz=353,slow=5.0,SNR=5.0						

IDC 01 03:52:43.1±1.5, 53°.16N×85°.37E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=14.6km s-min=9.3km az=99.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.86	338	I	I	03 58 30.0	
	baz=155,slow=324,SNR=3.5						
ZALV	Zalesovo Beam	0.86	338	Pg	Pg	03 52 59.9	+0.3
	0.6nm,0.3s,baz=159,slow=19,SNR=2.9						
ZALV				Lg	Lg	03 53 10.9	
	1.2nm,0.3s,baz=159,slow=29,SNR=6.5						
ZALV				Rg	Rg	03 53 18.3	
	2.7nm,0.4s,baz=175,slow=22,SNR=4.5						
KURBB	Kurchatov Arra	4.94	242	Pn	Pn	03 54 00.1	+1.6
	0.1nm,0.3s,

comp=Z,8μm,0.8s
WDLM Western Deep L 0.35 235 *e*P **Pg 04 56 50.4 -0.8**
WDLM *e*S **Sg 04 56 55.6 -0.2**
WDLM IAML 04 57 02.4
comp=Z,1μm,0.6s
PRYS Parys 0.78 206 *e*P **Pg 04 56 58.6 -0.7**
PRYS *e*S **Sg 04 57 09.2 -0.3**
PRYS IAML 04 57 17.6
comp=Z,2μm,0.7s
SNKL Senekal, Frees 2.04 179 *e*P **Pn 04 57 19.6 -0.2**
SNKL *e*S **Sn 04 57 46.2 +0.3**
SNKL IAML 04 57 50.2
comp=Z,2μm,0.7s
CRLN Carolina, Mapu 2.06 84 *e*P **Pn 04 57 19.7 -0.2**
CRLN *e*S **Sn 04 57 45.9 -0.3**
CRLN IAML 04 57 49.0
comp=Z,642nm,0.4s
LBTB Lobatse 2.28 301 Pb 04 57 25.1 -1.2
LBTB Lobatse 2.28 301 Pn **Pb 04 57 25.0 -1.2**
comp=Z,100nm,0.3s,baz=126,slow=14,SNR=522
LBTB Sn **Sb 04 57 55.6 +0.7**
comp=Z,152nm,0.3s,baz=198,slow=20,SNR=53
LBTB Rg Rg 04 58 07.7
comp=Z,1μm,1.0s,baz=180,slow=19,SNR=6.5
comp=Z,259nm,0.4s
LBTB Lobatse 2.28 301 *e*P **Pn 04 57 23.6 +0.7**
LBTB *e*S **Sn 04 57 52.6 +0.9**
LBTB IAML 04 57 57.7
comp=Z,799nm,0.5s
LBTB Lobatse 2.28 301 *i*P **Pb 04 57 25.3 -0.9**
LBTB *i*S **Sb 04 57 56.0 +1.1**
LEPH Lephalale, Lim 2.35 1 *e*P **Pn 04 57 24.3 +0.4**
LEPH *e*S **Sn 04 57 54.1 +0.7**
LEPH IAML 04 57 59.7
comp=Z,470nm,0.4s
SWZ Schweizer 2.36 246 *e*P **Pn 04 57 24.8 +0.8**
SWZ *e*S **Sn 04 57 54.4 +0.7**
SWZ IAML 04 57 59.5
comp=Z,691nm,0.6s
MAKGR Makgori 2.68 278 *i*P **Pn 04 57 29.7 +1.3**
MAKGR *i*S **Sn 04 58 04.5 +3.0**
BOSA Boshof 3.25 222 Pn 04 57 36.5 +0.3
BOSA Boshof 3.25 222 Pn **Pn 04 57 36.4 +0.1**
comp=Z,26nm,0.3s,baz=41,slow=12,SNR=641
BOSA Pg **Pb 04 57 43.5 +0.8**
comp=Z,44nm,0.3s,baz=47,slow=15,SNR=36
BOSA Sn **Sn 04 58 13.4 -2.1**
comp=Z,27nm,0.3s,baz=342,slow=20,SNR=6.3
BOSA Lg Lg 04 58 25.1
comp=Z,36nm,0.3s,baz=319,slow=18,SNR=16
BOSA Rg Rg 04 58 44.1
comp=Z,93nm,0.8s,baz=6.7,slow=18,SNR=1.1
comp=Z,70nm,0.3s
BOSA Boshof 3.25 222 *e*P **Pn 04 57 36.7 +0.4**
BOSA *e*S **Sn 04 58 15.1 -0.5**
BOSA IAML 04 58 30.8
comp=Z,214nm,0.5s
BOSA Boshof 3.25 222 *i*P **Pn 04 57 36.6 +0.3**
BOSA *i*S **Sn 04 58 14.9 -0.7**
LPHEP Lephephe 3.32 329 *i*P **Pn 04 57 39.3 +2.0**
LPHEP *i*S **Sn 04 58 19.8 +2.4**
HOED Hoedspruit, Li 3.40 59 *e*P **Pn 04 57 38.1 -0.2**
HOED *e*S **Sn 04 58 18.7 -0.5**
HOED IAML 04 58 36.7
comp=Z,458nm,0.5s
POGA Pongola 3.71 108 Pn 04 57 42.8 +0.3
POGA Pongola 3.71 108 *e*P **Pn 04 57 43.2 +0.6**
POGA *e*S **Sn 04 58 25.8 -1.0**
POGA IAML 04 58 43.9
comp=Z,584nm,0.7s
SKOMA Sekoma 3.85 295 *i*P **Pn 04 57 45.6 +1.1**
SKOMA *i*S **Sn 04 58 32.3 +2.1**
SKOMA IAML 04 58 47.1
comp=E,2μm,0.2s
KDWAN Kaudwane 3.98 315 *i*P **Pn 04 57 48.1 +1.8**
KDWAN *i*S **Sn 04 58 35.1 +1.5**
KDWAN IAML 04 58 52.4
comp=N,762nm,0.9s
PMBG Pietermaritzbu 4.09 144 *e*P **Pn 04 57 47.9 +0.1**
PMBG *e*S **Sn 04 58 34.0 -2.2**
PMBG IAML 04 58 52.5
comp=Z,394nm,0.6s
TEMBE Tembe Elephant 4.27 102 *e*P **Pn 04 57 50.1 0.0**
TEMBE *e*S **Sn 04 58 38.7 -1.8**
TEMBE IAML 04 59 07.6
comp=Z,562nm,0.9s
MOPA Mopani 4.27 52 *i*P **Pn 04 57 45.7 -4.6**
MUSN Musina, Limpop 4.37 27 *e*P **Pn 04 57 51.7 +0.1**
MUSN *e*S **Sn 04 58 41.7 -1.3**
MUSN IAML 04 59 03.3
comp=Z,314nm,0.4s
MUSN Musina, Limpop 4.37 27 *i*P **Pn 04 57 49.3 -2.3**
MUSN *i*S **Sn 04 58 36.9 -6.2**
PHPEN Phepeng 4.47 279 *i*P **Pn 04 57 54.2 +1.2**
HVD Gariep Dam 4.79 204 *e*P **Pn 04 57 57.2 -0.3**
HVD *e*S **Sn 04 58 51.0 -2.6**
BROLN Tlhalogang 5.11 356 *i*P **Pn 04 58 03.1 +1.2**
BROLN *i*S **Sn 04 59 00.3 -1.2**
BROLN IAML 04 59 22.7
comp=E,310nm,0.9s
BLWY Bulawayo 6.11 8 *i*P **Pn 04 58 14.4 -1.1**
BLWY *i*S **Sn 04 59 20.1 -6.0**
ALKP Alkanpan, Nort 6.11 231 *e*P **Pn 04 58 15.8 +0.3**
ALKP *e*S **Sn 04 59 23.7 -2.3**
ALKP IAML 05 00 04.1
comp=Z,145nm,0.6s
KEIM Keimoes 6.51 246 *e*P **Pn 04 58 21.2 +0.2**
KEIM *e*S **Sn 04 59 33.5 -2.3**
KEIM IAML 05 00 16.6
comp=Z,64nm,0.8s
BFON Badsfontein, M 6.59 212 *e*P **Pn 04 58 22.2 0.0**
BFON *e*S **Sn 04 59 34.9 -3.1**
BFON IAML 05 00 18.1
comp=Z,79nm,0.8s
GRAF Camdeboo Natio 6.67 204 *e*P **Pn 04 58 23.2 -0.1**
GRAF *e*S **Sn 04 59 36.5 -3.3**
GRAF IAML 05 00 03.6
comp=Z,32nm,0.4s
PHDHD Phuduhudu 6.69 333 *i*P **Pn 04 58 23.3 -0.2**
PHDHD IAML 05 00 30.8
comp=E,508nm,0.6s
SOE Somerset East 6.74 196 Pn 04 58 24.4 +0.2
BRAK Brakfontein 6.98 216 *e*P **Pn 04 58 27.5 0.0**
BRAK *e*S **Sn 04 59 44.1 -3.3**
BRAK IAML 05 00 34.7
comp=Z,70nm,0.5s
AUGR Augrabies 7.00 249 *e*P **Pn 04 58 28.0 +0.3**
AUGR *e*S **Sn 04 59 44.8 -2.9**
AUGR IAML 05 00 29.1
comp=Z,87nm,0.7s
GRHM Grahamstown, E 7.13 189 Pn 04 58 29.1 -0.5
GRHM Grahamstown, E 7.13 189 *e*P **Pn 04 58 30.0 +0.5**
GRHM *e*S **Sn 04 59 47.1 -4.0**
GRHM IAML 05 00 33.8
comp=Z,39nm,0.8s
KOOLE Kule 7.59 293 *i*P **Pn 04 58 35.7 -0.2**
KOOLE *i*S **Sn 04 59 59.6 -2.9**
KOOLE IAML 05 01 04.3
comp=N,156nm,0.9s
GRTLG Ghanzi 7.69 308 *i*P **Pn 04 58 37.8 +0.5**
GRTLG *i*S **Sn 05 00 01.7 -3.4**
GRTLG IAML 05 00 47.6
comp=N,188nm,0.8s
GRAN Grantham 7.77 217 *e*P **Pn 04 58 38.6 +0.2**
GRAN *e*S **Sn 05 00 02.6 -4.3**
GRAN IAML 05 00 43.2
comp=Z,32nm,0.4s
FRAZ Fraserburg 7.94 223 *e*P **Pn 04 58 41.3 +0.5**
FRAZ *e*S **Sn 05 00 07.0 -4.1**
FRAZ IAML 05 00 58.7
comp=Z,48nm,0.6s
KROM Kromhout 8.34 198 *e*P **Pn 04 58 45.9 -0.2**
KROM *e*S **Sn 05 00 16.3 -4.5**
KROM IAML 05 00 18.5
comp=Z,89nm,0.5s
SUR Sutherland 8.62 223 Pn 04 58 50.2 +0.2
SUR Sutherland 8.62 223 Pn **Pn 04 58 50.1 0.0**
comp=Z,7.2nm,0.3s,baz=52,slow=14,SNR=99
SUR Sn **Sn 05 00 22.9 -5.0**
comp=Z,6.3nm,0.3s,baz=19,slow=18,SNR=5.7
SUR Lg Lg 05 01 10.3
comp=Z,5.6nm,0.3s,baz=131,slow=19,SNR=7.3
comp=Z,47nm,0.6s
KSANE Kasane 8.72 344 *i*P **Pn 04 58 50.0 -1.4**

CVNA Calvinia 8.74 231 *e*P **Pn 04 58 52.6 +0.9**
CVNA *e*S **Sn 05 00 26.3 -4.6**
CVNA IAML 05 00 44.6
comp=Z,22nm,0.4s
QNGWA Qangwa 9.00 316 *i*P **Pn 04 58 55.7 +0.3**
QNGWA IAML 05 01 30.2
comp=E,74nm,1.0s
KOMG Komaggas 9.74 246 *e*P **Pn 04 59 05.6 +0.2**
KOMG *e*S **Sn 05 00 50.8 -4.5**
KOMG IAML 05 01 40.5
comp=Z,14nm,0.4s
CER Ceres 10.22 224 *e*P **Pn 04 59 13.0 +1.1**
CER *e*S **Sn 05 01 02.1 -4.9**
AUSN Aus 10.30 265 *e*P **Pn 04 59 14.2 +1.0**
AUSN *e*S **Sn 05 01 04.7 -4.6**
WIN Windhoek 10.36 288 Pn 04 59 14.6 +0.6
ELIM Elim 10.83 218 *e*P **Pn 04 59 20.9 +0.7**
ELIM *e*S **Sn 05 01 16.4 -5.5**
ELIM IAML 05 01 26.8
comp=Z,8.0nm,0.5s
LSZ Lusaka 10.90 2 Pn 04 59 20.2 -1.1
LSZ Lusaka 10.90 2 Pn **Pn 04 59 20.7 -0.7**
comp=Z,7.8nm,0.3s,baz=188,slow=13,SNR=23
LSZ Sn **Sn 05 01 17.4 -6.6**
comp=Z,1.8nm,0.3s,baz=107,slow=12,SNR=15
LSZ Lg Lg 05 02 22.4
comp=Z,2.5nm,0.3s,baz=258,slow=20,SNR=4.8
LSZ Lusaka 10.90 2 *i*P **Pn 04 59 18.3 -3.0**
LSZ *i*S Sn 05 01 10.9 -13
TSUM Tsumeb 11.69 305 Pn 04 59 31.8 -0.4
TSUM Tsumeb 11.69 305 Pn **Pn 04 59 31.5 -0.7**
comp=Z,14nm,0.5s,baz=132,slow=11,SNR=18
TSUM Sn **Sn 05 01 36.2 -7.1**
comp=Z,1.3nm,0.3s,baz=156,slow=11,SNR=3.6
TSUM Lg Lg 05 02 49.0
comp=Z,1.2nm,0.3s,baz=222,slow=23,SNR=6.7
TSUM Tsumeb 11.69 305 *i*P **Pn 04 59 31.7 -0.5**
OPO Ambohidratompo 19.51 71 P **P 05 01 10.9 -2.0**
comp=Z,1.4nm,0.4s,baz=263,slow=18,SNR=1.8
SYO Syowa Base 43.39 174⇑*e*pP **P 05 04 51.9 +4.3**
DBIC Dimbokro 45.50 311 P **P 05 05 05.5 +0.4**
DBIC IAmb IAmb 05 06 31.9
comp=Z,19nm,1.4s
DBIC Dimbokro 45.50 311 P **P 05 05 05.4 +0.2**
comp=Z,1.5nm,0.4s,baz=147,slow=5.6,SNR=4.6
comp=Z,1.5nm,0.4s
ELIB Princess Elisa 45.83 182 *d*P **P 05 05 08.6 +1.3**
comp=Z,5.2nm,1.1s
TORD Torodi Ar. Bea 46.62 324 P **P 05 05 14.4 +0.4**
TORD IAmb IAmb 05 05 15.1
comp=Z,5.8nm,0.8s
TORD Torodi Ar. Bea 46.62 324 P **P 05 05 14.2 +0.1**
comp=Z,43nm,0.3s,baz=137,slow=6.9,SNR=1.3
SNAA Sanae 48.58 192 P **P 05 05 29.8 +1.1**
SNAA Sanae 48.58 192 P **P 05 05 29.5 +0.8**
comp=Z,9.4nm,0.9s,baz=50,slow=8.0,SNR=18
comp=Z,9.4nm,0.9s
UOSS Minazif 57.82 31 P **P 05 06 35.6 -1.6**
BELA Belgrano 2 58.83 193 P **P 05 06 43.5 -0.1**
BELA IAmb IAmb 05 06 44.8
comp=Z,13nm,1.3s
MMAI Mount Meron Ar 59.36 7 P **P 05 06 49.9 +2.1**
comp=Z,1.7nm,0.5s,baz=202,slow=7.3,SNR=1.8
comp=Z,1.7nm,0.5s
QSPA South Pole Qui 63.96 180 P **P 05 07 19.2 +0.6**
QSPA IAmb IAmb 05 07 20.1
comp=Z,9.2nm,1.0s
QSPA South Pole Qui 63.96 180 P **P 05 07 18.8 +0.2**
comp=Z,8.8nm,1.0s,baz=236,slow=4.9,SNR=19
comp=Z,8.8nm,1.0s
BRTR Keskin Array B 65.84 5 P **P 05 07 32.2 +1.2**
comp=Z,1.1nm,0.9s,baz=217,slow=7.9,SNR=2.9
comp=Z,1.1nm,0.9s
PUK Puka 68.31 354 P **P 05 07 49.7 +3.0**
PUK IAmb IAmb 05 07 50.8
comp=Z,6.4nm,0.8s
ESBB Sonseca Array 71.92 335 P **P 05 08 09.1 +0.2**
ESBB IAmb IAmb 05 09 45.8
comp=Z,9.9nm,1.4s
ESDC Sonseca Array 71.92 335 P **P 05 08 10.0 +1.1**
ESDC Sonseca Array 71.92 335 P **P 05 08 10.0 +1.1**
comp=Z,1.4nm,0.4s,baz=154,slow=5.8,SNR=28
comp=Z,1.4nm,0.4s
VNDA Vanda 72.97 171 P **P 05 08 15.3 +0.7**
comp=Z,5.3nm,1.0s,baz=270,slow=6.1,SNR=2.4
comp=Z,5.3nm,1.0s
OBKA Obir 73.37 351 *e*P **P 05 08 18.6 +1.2**
comp=Z,7.0nm,1.6s
SOKA Soboth 73.47 351 *i*P **P 05 08 19.8 +1.9**
comp=Z,5.5nm,0.8s
ABTA Abfaltersbach 73.92 349 *e*P **P 05 08 23.2 +2.6**
comp=Z,2.1nm,0.8s
ARSA Arzberg 73.96 351 *e*P **P 05 08 24.2 +3.5**
comp=Z,2.4nm,1.1s
KBA Koelnbreinsper 74.11 350 *e*P **P 05 08 24.0 +2.2**
comp=Z,0.6nm,0.4s
FETA Feichten 74.51 348 *e*P **P 05 08 26.0 +1.9**
comp=Z,3.4nm,0.9s
LESA Schwarzleotal 74.55 349 *i*P **P 05 08 26.0 +1.7**
comp=Z,3.5nm,0.7s
WTTA Wattenberg 74.58 349 *e*P **P 05 08 26.3 +1.7**
comp=Z,1.8nm,0.5s
CONA Conrad Observa 74.58 352 *i*P **P 05 08 26.8 +2.4**
comp=Z,7.2nm,1.0s
SQTA Sankt Quirin 74.61 348 *e*P **P 05 08 25.9 +1.3**
comp=Z,2.2nm,0.8s
WATA Walderalm 74.66 349 *e*P **P 05 08 27.5 +2.5**
comp=Z,3.0nm,0.7s
MOA Molln 74.72 351 *i*P **P 05 08 27.4 +2.2**
comp=Z,4.7nm,0.8s
CPUP Villa Florida 74.75 248 P **P 05 08 25.2 -0.7**
comp=Z,1.6nm,0.8s,baz=141,slow=6.5,SNR=3.5
comp=Z,1.6nm,0.8s
MOTA Moosalm 74.75 348 *e*P **P 05 08 27.2 +1.7**
comp=Z,7.4nm,1.2s
DAVA Damuels 74.92 348 *e*P **P 05 08 29.8 +3.3**
comp=Z,4.7nm,1.0s
RETA Reutte 74.95 348 *e*P **P 05 08 28.1 +1.5**
comp=Z,7.6nm,1.3s
GERES GERESS Array B 75.78 350 P **P 05 08 32.9 +1.6**
comp=Z,1.3nm,0.7s,baz=144,slow=2.5,SNR=5.6
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 76.59 1 P **P 05 08 35.8 +0.1**
comp=Z,0.8nm,0.5s,baz=186,slow=5.3,SNR=7.1
comp=Z,0.8nm,0.5s
CLL Collm 78.28 351 *e*P **P 05 08 46.0 +0.8**
BCLA Clavier 78.86 346 *d*P **P 05 08 49.3 +0.9**
comp=Z,7.9nm,1.1s
BGES Gesves 78.87 345 *d*P **P 05 08 50.7 +2.2**
comp=Z,9.0nm,0.9s
KSH Kashi 79.38 36 P **P 05 08 50.2 -1.5**
KSH pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 79.41 30 P **P 05 08 53.4 +1.7**
KKAR Karatay Array 79.41 30 P 05 08 53.1 +1.5
CMAR Chiang Mai Arr 82.15 65 P **P 05 09 07.9 +1.0**
comp=Z,1.5nm,0.2s,baz=256,slow=5.8,SNR=8.9
comp=Z,1.5nm,0.2s
EKA Eskdalemuir Ar 85.43 343 P **P 05 09 24.1 +1.3**
comp=Z,0.5nm,0.5s,baz=155,slow=5.1,SNR=8.2
comp=Z,0.5nm,0.5s
HFS Hagfors 86.81 353 P **P 05 09 28.7 -0.7**
comp=Z,2.3nm,0.9s,baz=212,slow=5.1,SNR=1.8
comp=Z,2.3nm,0.9s
BVAR Borovoye Array 87.20 24 P **P 05 09 32.3 +0.7**
comp=Z,2.7nm,1.0s,baz=193,slow=5.9,SNR=7.6
comp=Z,2.7nm,1.0s
FINES FINESS Array B 87.36 359 P **P 05 09 33.0 +0.9**
comp=Z,3.0nm,0.8s,baz=142,slow=4.9,SNR=10
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 87.78 34 P **P 05 09 35.2 +0.6**
MKAR Makanchi Array 87.78 34 P **P 05 09 35.0 +0.4**
comp=Z,1.9nm,0.8s,baz=231,slow=5.1,SNR=15
comp=Z,1.9nm,0.8s
LPAZ La Paz 88.04 253 P **P 05 09 37.7 +0.4**
comp=Z,1.3nm,0.6s,baz=68,slow=5.9,SNR=6.9
comp=Z,1.3nm,0.6s
KURBB Kurchatov Arra 88.69 30 P **P 05 09 39.3 +0.6**
comp=Z,1.2nm,0.9s,baz=232,slow=4.8,SNR=9.6
comp=Z,1.2nm,0.9s
ASAR Alice Springs 93.08 118 P **P 05 10 00.6 +0.5**
comp=Z,0.6nm,0.6s,baz=239,slow=4.9,SNR=4.0
comp=Z,0.6nm,0.6s
STKA Stephens Creek 94.47 129 P **P 05 10 07.1 +0.9**
comp=Z,1.7nm,0.6s,baz=311,slow=4.2,SNR=4.8
comp=Z,1.7nm,0.6s
XLT XiLinHaoTe 106.55 49 *e*Pdif **Pdif 05 11 01.4 +1.4**
YKA Yellowknife Ar 136.01 336 PKhKP PKPpre 05 16 03.0
comp=Z,0.7nm,0.9s,baz=44,slow=1.9,SNR=5.8
TXAR Lajitas Array 137.14 286 PKhKP PKPpre 05 16 01.0
comp=Z,0.1nm,0.5s,baz=82,slow=2.3,SNR=2.0
TXAR PKP **PKiKP 05 16 10.8 -0.5**
comp=Z,0.1nm,0.5s,baz=94,slow=3.2,SNR=1.8
ILAR Eielson Array 141.29 356 PKhKP PKPpre 05 16 11.2
comp=Z,0.3nm,0.6s,baz=347,slow=3.9,SNR=12
PDAR Pinedale Array 141.58 307 PKP **PKPdf 05 16 16.7 -0.6**
comp=Z,0.3nm,0.5s,baz=112,slow=3.3,SNR=4.0
HYT Haines Junctio 143.97 348 PKPdf 05 16 21.6 +0.8
SKT Skwentna 144.25 359 PKPbc 05 16 20.1 +0.8
GLB Gilahina Butte 144.33 353 PKPdf 05 16 21.0 -0.3
Q32M Nakina River 144.42 342 PKPdf **PKPdf 05 16 22.2 +0.5**
VRDI Verde Repeater 144.50 353 PKPdf 05 16 21.9 +0.1
O29M Mount Kennedy 144.66 348 PKPdf 05 16 21.9 -0.1
HLID Hailey 144.83 309 PKPdf 05 16 23.5 +0.6
SPU Mount Spurr 145.05 360 PKPdf 05 16 23.1 +0.6
NVAR Mina Array Bea 149.01 302 PKPbc **PKiKP 05 16 36.2 +0.7**
comp=Z,1.8nm,0.8s,baz=100,slow=2.0,SNR=11

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*NNC **01** 05:05:53.3±0.2, 43°.00N×74°.90E, h0km, mb3.1, mpv2.8,*
Error ellipse: s-maj=3.2km s-min=1.2km az=140.0,
Suspected Mining explosion.
*SOME **01** 05:05:53.7, 43°.05N×74°.88E, h10km*
*KNET **01** 05:05:53.6±0.3, 43°.04N×74°.90E, h9km±3km, ml1.3, Error*
ellipse: s-maj=2.0km s-min=1.5km az=18.0
ISC 01 05:05:52.9±0.8, 42°.98N±0°.03×74°.95E±0°.02, h0km, n26,
σ0.64/48, 10C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.15**	**278**	⇑P	**Pg**	**05 05 56.4**	**+0.6**
	20nm,0.1s,SNR=119						
CHMS				⇑S	**Sg**	**05 05 58.7**	**+0.9**
	48nm,0.2s						
KBK	**Karagaybulak**	**0.32**	**181**	⇑P	**Pb**	**05 06 01.8**	**+0.1**
	18nm,0.1s,SNR=9.3						
KBK				⇑S	**Sb**	**05 06 07.9**	**+0.4**
	22nm,0.2s						
USP	**Ospenovka**	**0.44**	**311**	⇑P	**Pg**	**05 06 01.3**	**-0.1**
	6.5nm,0.1s,SNR=38						
USP				⇓S	**Sg**	**05 06 06.9**	**-0.2**
	13nm,0.1s						
TKM2	**Tokmak 2**	**0.47**	**97**	⇑P	**Pb**	**05 06 03.6**	**-0.7**
	1.7nm,0.1s,SNR=5.6						
TKM2				⇑S	**Sb**	**05 06 11.6**	**-0.4**
	7.7nm,0.1s						
AAK	**Ala-Archa**	**0.48**	**225**	⇑P	**Pb**	**05 06 03.7**	**-0.6**
	1.4nm,0.1s,SNR=11						
AAK				⇓S	**Sb**	**05 06 11.3**	**-0.7**
	7.4nm,0.2s						
AAK	**Ala-Archa**	**0.48**	**225**	P	**Pg**	**05 06 02.3**	**+0.2**
	1.3nm,0.4s						
AAK				S	**Sg**	**05 06 09.4**	**+1.1**
	3.4nm,0.3s						
SGDS	**Sogindy**	**0.53**	**334**	P	**Pg**	**05 06 02.8**	**-0.3**
	2.0nm,0.1s						
SGDS				S	**Sg**	**05 06 09.5**	**-0.4**
	22nm,0.3s						
DGS	**Degeres**	**0.66**	**66**	P	**Pb**	**05 06 07.3**	**0.0**
	3.0nm,0.2s						
DGS				S	**Sb**	**05 06 17.2**	**+0.1**
	14nm,0.5s						
KST	**Kastek**	**0.74**	**85**	P	**Pb**	**05 06 08.9**	**+0.1**
	1.6nm,0.2s						
KST				S	**Sb**	**05 06 19.7**	**+0.1**
	10nm,0.7s						
KST	**Kastek**	**0.74**	**85**	*e*P	**Pb**	**05 06 08.9**	**+0.1**
	1.6nm,0.2s						
KST				*e*S	**Sb**	**05 06 19.7**	**+0.1**
	10nm,0.7s						
KRBS	**Karabastau**	**0.89**	**36**	P	**Pg**	**05 06 10.3**	**+0.4**
	1.5nm,0.1s						
KRBS				S	**Sg**	**05 06 22.3**	**+0.7**
	2.8nm,0.2s						
EKS2	**Erkin-Say**	**0.92**	**250**	⇑P	**Pb**	**05 06 11.4**	**-0.5**
	1.5nm,0.1s,SNR=11						
EKS2				⇑S	**Sb**	**05 06 24.0**	**-0.7**
	1.3nm,0.2s						
MRKS	**Merke**	**1.29**	**260**	P	**Pb**	**05 06 17.9**	**-0.3**
	1.3nm,0.1s						
MRKS				S	**Sb**	**05 06 35.4**	**0.0**
	16nm,0.3s						
MRKS	**Merke**	**1.29**	**260**	*e*P	**Pb**	**05 06 17.9**	**-0.3**
	1.3nm,0.1s						
MRKS				*e*S	**Sb**	**05 06 35.4**	**0.0**
	16nm,0.3s						
KTBS	**Karatobe**	**1.46**	**59**	P	**Pb**	**05 06 20.9**	**-0.1**
	2.1nm,0.2s						
KTBS				S	**Sn**	**05 06 40.4**	**0.0**
	9.7nm,0.6s						
KNDC	**Almaty**	**1.49**	**80**	⇓P	**Pb**	**05 06 21.9**	**+0.3**
	12nm,0.3s						
KNDC				⇓S	**Sn**	**05 06 41.7**	**+0.4**
	18nm,0.4s						
KOTS	**Kotyrbulak**	**1.60**	**80**	*e*P	**Pg**	**05 06 23.5**	**-0.1**
	1.5nm,0.2s						
KOTS				*e*S	**Sg**	**05 06 44.8**	**+0.4**
	6.9nm,0.4s						
CHKK	**Chushkaly**	**1.72**	**59**	P	**Pg**	**05 06 26.2**	**+0.3**
	1.1nm,0.1s						
CHKK				S	**Sg**	**05 06 49.5**	**+1.3**
	8.9nm,0.3s						
CHKK	**Chushkaly**	**1.72**	**59**	*e*P	**Pg**	**05 06 26.2**	**+0.3**
	1.1nm,0.1s						
CHKK				*e*S	**Sg**	**05 06 49.5**	**+1.3**
	8.9nm,0.3s						
BTLS	**Baital**	**2.17**	**343**	Pg	**Pb**	**05 06 32.6**	**-0.4**
	1.3nm,0.2s						
BTLS				Lg	Lg	05 07 00.6	
	6.8nm,0.4s						
BTLS	**Baital**	**2.17**	**343**	*e*P	**Pb**	**05 06 32.6**	**-0.4**
	1.3nm,0.2s						
BTLS				*e*S	**Sb**	**05 07 00.6**	**+0.2**
	6.8nm,0.4s						
ARXS	**Arharly**	**2.42**	**58**	Pg	**Pb**	**05 06 37.2**	**-0.3**
	1.4nm,0.2s						
ARXS				Lg	Lg	05 07 08.8	
	5.8nm,0.4s						
SATY	**Saty**	**2.53**	**87**	Pg	**Pg**	**05 06 40.6**	**-0.8**
	4.0nm,0.2s						
SATY				Lg	Lg	05 07 14.5	
	10nm,0.5s						
SATY	**Saty**	**2.53**	**87**	*e*P	**Pb**	**05 06 38.0**	**-1.3**
	1.4nm,0.2s						
SATY				*e*S	**Sb**	**05 07 09.7**	**-1.4**
	1.6nm,0.1s						
KPKS	**Kokpek**	**2.77**	**79**	Pg	**Pb**	**05 06 43.9**	**+0.5**
	2.1nm,0.5s						
KPKS				Lg	Lg	05 07 20.3	
	9.8nm,0.7s						
KPKS	**Kokpek**	**2.77**	**79**	*e*P	**Pb**	**05 06 43.9**	**+0.5**
	2.1nm,0.5s						
KPKS				*e*S	**Sg**	**05 07 20.3**	**-1.6**
	9.8nm,0.7s						

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*GCG **01** 05:06:23.0±1.3, 15°.29N×93°.12W, h81km±18km, MD4.2*
*MEX **01** 05:06:24.5±0.6, 15°.19N×93°.08W, h91km±7km, MD4.0*
ISC 01 05:06:22.2±1.8, 15°.25N±0°.07×93°.10W±0°.06, h97km±14km,
n16, σ1.69/28, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.46**	**346**	*e*P	**Pn**	**05 06 38.4**	**+1.0**
PCIG				*i*S	**Sn**	**05 06 48.9**	**+0.2**
PATR	**El Naranjo**	**0.85**	**99**	*e*P	**Pn**	**05 06 41.0**	**0.0**
PATR				*e*S	**Sn**	**05 06 53.9**	**-1.3**
THIG		**0.88**	**113**	*i*P	**Pn**	**05 06 41.5**	**+0.5**
THIG				*i*S	**Sn**	**05 06 54.0**	**-1.2**
THIG		**0.88**	**113**	*i*S	**Sn**	**05 06 55.7**	**+0.5**
THIG		**0.88**	**113**	*i*S		05 06 55.7	
PAVE	**Pavencul**	**0.89**	**94**	*e*P	**Pn**	**05 06 41.8**	**+0.4**
PAVE				*e*S	**Sn**	**05 06 55.3**	**-0.7**
CHUJ	**Union Juarez**	**0.97**	**99**	*e*P	**Pn**	**05 06 42.0**	**-0.3**
CHUJ				*e*S	**Sn**	**05 06 57.0**	**-0.4**
SMCA	**Catarina**	**1.06**	**112**	*i*P	**Pn**	**05 06 43.4**	**+0.3**
SMCA				*i*S	**Sn**	**05 06 58.3**	**-0.6**
SMCA	**Catarina**	**1.06**	**112**	*i*P		05 06 43.4	
SMCA				*i*S		05 06 58.3	
CCIG	**Comitan**	**1.38**	**42**	*e*P	**Pn**	**05 06 48.4**	**+1.4**
CCIG				*i*S	**Sn**	**05 07 04.9**	**-0.8**
CCIG	**Comitan**	**1.38**	**42**	*e*P	**Pn**	**05 06 48.4**	**+1.4**
CCIG				*i*S	**Sn**	**05 07 06.7**	**+0.9**
CCIG	**Comitan**	**1.38**	**42**	*e*P		05 06 48.4	

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CCIG                                  i S                    05 07 06.7
TGIG                  1.52 359        eP        Pn           05 06 48.8 +0.2
TGIG                                  eS        Sn           05 07 06.8 -1.7
TGIG                  1.52 359        eP        Pn           05 06 48.6  0.0
TGIG                                  i S       Sn           05 07 07.5 -1.1
TGIG                  1.52 359        eP                     05 06 48.6
TGIG                                  i S                    05 07 07.5
STG8  El Palmar, Qui  1.87 115        eP                     05 06 49.9
STG0  El Palmar, Qui  1.89 116        i P                    05 06 50.4
UXUV  UXUV            2.29 334        eP        Pn           05 07 00.9 +2.5
UXUV                                  i S       Sn           05 07 21.4 -4.7
CMIG  Matias Romero   2.51 317        eP        Pn           05 07 03.5 +2.2
CMIG                                  i S       Sn           05 07 31.3  0.0
PETF  Flores          3.52  62        eP        Pn           05 07 15.7 +0.8
PETF  Flores          3.52  62        eP                     05 07 15.7
NEUV  Arroyo Zacate   3.56 314        eP        Pn           05 07 17.6 +2.1
TOIG  Toxpalan        4.74 307        eP        Pn           05 07 36.8 +5.4
TOIG                                  i S       Sn           05 08 21.4 -3.8
```

*SNET **01** 05:17:28.5±0.8, 13°.10N×86°.95W, h15km±5km, ML2.5*
CATAC 01 05:17:28.2±0.2, 13°N±1°×8°7W±°, h4km±1km, M2.8/14, MLv2.8/14, Error ellipse: s-maj=3.1km s-min=2.2km az=50.1, confirmed, Near coast of Nicaragua

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
CRIN  San Cristobal   0.20 186  P         Pg            05 17 33.5 +1.3
CRIN  San Cristobal   0.20 186  S         Sg            05 17 36.9 +2.0
CRIN  San Cristobal   0.20 186  P         Pg            05 17 33.5 +1.2
PKGN  Cerro Pekin     0.24 168  P         Pg            05 17 33.4 +0.6
PKGN                            S         Sg            05 17 37.4 +1.4
POLN  Al Sur del Vol  0.33 140  P         Pg            05 17 35.4 +0.8
POLN                            S         Sg            05 17 40.2 +1.3
POLN  Al Sur del Vol  0.33 140  P         Pg            05 17 35.5 +0.9
HERN  Volcan Telica   0.35 147  P         Pg            05 17 36.0 +0.9
HERN  Volcan Telica   0.35 147  S         Sg            05 17 40.5 +0.8
TEL3  Telica 3        0.37 151  P         Pn            05 17 46.4 +6.0
PLRN  Geotermica Pol  0.41 141  P         Pg            05 17 36.1  0.0
PLRN                            S         Sg            05 17 41.3 -0.1
ILCN  San Idelfonso   0.46 135  P         Pg            05 17 37.0  0.0
ILCN                            S         Sg            05 17 43.1 +0.2
ILCN  San Idelfonso   0.46 135  P         Pn            05 17 43.7 +2.2
ROCN  Rota Cerro Neg  0.47 144  P         Pb            05 17 38.4 -0.7
POTN  Potosi Cosiguir 0.48 282  P         Pg            05 17 38.0 +0.6
CNGN  Cerro Negro     0.51 141  P         Pg            05 17 38.4 +0.3
CSGN  Cosiguina Volc  0.52 278  P         Pg            05 17 38.4 +0.1
CSGN                            S         Sg            05 17 45.7 +0.6
CSGN  Cosiguina Volc  0.52 278  P         Pg            05 17 38.8 +0.5
MACN  El Madrono      0.55 141  P         Pg            05 17 39.4 +0.5
CHOHN Orocuina        0.59 348  P         Pg            05 17 39.9 +0.3
CHOHN Orocuina        0.59 348  S         Sb            05 17 49.4 -0.5
LIMN  Finca el Limon  0.67  76  P         Pg            05 17 41.7 +0.7
LIMN  Finca el Limon  0.67  76  P         Pg            05 17 41.4 +0.4
LIMN                            P         Pb            05 17 41.6 -0.9
COPN  Copaltepe       0.83 149  P         Pg            05 17 44.2 -0.1
CNCH  Conchagua       0.87 295  eP        Pg            05 17 44.5 -0.5
CNCH                            eS        Sb            05 17 57.6 -0.4
CNCH  Conchagua       0.87 295  P         Pg            05 17 44.2 -0.7
CNCH  Conchagua       0.87 295  P         Pg            05 17 44.7 -0.3
LCND  La Caada        0.93 296  eP        Pg            05 17 45.6 -0.5
LCND                            eS        Sg            05 17 58.6 +0.4
LCND                            IAML                    05 18 02.3
      comp=Z,140nm,0.2s
LCND  La Caada        0.93 296  P         Pg            05 17 45.2 -1.0
LCND  La Caada        0.93 296  P         Pg            05 17 45.7 -0.5
RCFN  Al S de San Ju  1.01  52  P         Pg            05 17 47.5 -0.2
RCFN                            S         Sg            05 18 01.1 +0.3
RCFN  Al S de San Ju  1.01  52  P         Pg            05 17 47.4 -0.3
RCVN  Varillal2       1.06  50  P         Pg            05 17 48.0 -0.5
RCVN  Varillal2       1.06  50  S         Sg            05 18 02.4  0.0
RCVN  Varillal2       1.06  50  P         Pg            05 17 48.1 -0.5
RCVN                            P         Pb            05 17 48.2 -1.0
YUSH  Yuscaran        1.06  10  P         Pg            05 17 48.4 -0.2
YUSH  Yuscaran        1.06  10  S         Sb            05 18 03.3 -0.2
RCPN  Sur Rio San Ju  1.10  56  P         Pg            05 17 49.1 -0.3
RCPN                            P         Pb            05 17 49.7 -0.2
TGUH  Tegucigalpa,Un  1.17 348  P         Pg            05 17 50.6 -0.1
TGUH                            S         Sg            05 18 06.3 +0.3
TGUH  Tegucigalpa,Un  1.17 348  P         Pg            05 17 50.6 -0.2
PACA  Pacayal         1.38 294  eP        Pn            05 17 53.6 -0.8
PACA                            eS        Sg            05 18 12.1 -0.6
BOAB  BOACO BROADBAN  1.40 109  P         Pn            05 17 52.8 -1.8
TECA  Tecapa          1.55 292  eP        Pn            05 17 55.7 -1.1
TECA                            eS        Sb            05 18 17.6 -0.1
INTHN La Esperanza I  1.75 323  P         Pn            05 17 59.4 -0.2
INTHN La Esperanza I  1.75 323  S         Sb            05 18 23.4 -0.1
```

*NEIC **01** 05:20:58.2±2.2, 56°.3N±0°.1×148°.6W±0°.1, h22km±10km, ML3.3/54, ML3.1(AEIC), Error ellipse: s-maj=16.0km s-min=8.1km az=169.0*
*IDC **01** 05:20:59.2±3.0, 56°.37N×148°.92W, h0km, mb4.2/1, mbtmp3.4/6, ML3.0/4, MS3.1/7, Error ellipse: s-maj=42.8km s-min=24.5km az=11.0*
*AEIC **01** 05:21:00.1±2.2, 56°.35N±0°.06×148°.61W±0°.10, h4km±7km, Error ellipse: s-maj=8.5km s-min=7.8km az=197.0*
ISC 01 05:20:59.4±1.6, 56°.5N±0°.1×148°.71W±0°.06, h10km, n92, σ1§47/87, MS3.0/5, Gulf of Alaska

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
KDAK  Kodiak Island   2.47 303  Pn        Pn           05 21 37.6 -2.0
KDAK  Kodiak Island   2.47 303  Pn        Pn           05 21 38.2 -1.4
      1.9nm,0.3s,baz=121,slow=6.6,SNR=53
KDAK                            Sn        Sn           05 22 07.9 -1.9
      3.1nm,0.3s,baz=162,slow=20,SNR=12
KDAK                            LR        LR           05 22 32.7
      comp=Z,56nm,21.0s,baz=297,slow=38
      5.1nm,0.3s
OHAK  Old Harbor      2.62 288  Pn        Pn           05 21 39.6 -2.0
OHAK  Old Harbor      2.62 288            Sn           05 22 11.1 -2.3
SYI   Shuyak Island   2.90 318  Pn        Pn           05 21 44.2 -1.3
Q23K  Middleton Isla  3.19  22  Pn        Pn           05 21 48.4 -1.1
Q23K                            IAML                   05 22 52.8
      comp=E,101nm,1.5s
Q23K                            IAML                   05 22 54.2
      comp=N,90nm,1.5s
Q23K  Middleton Isla  3.19  22            Sn           05 22 25.6 -2.0
R18K  Karluk          3.31 291            Pn           05 21 49.9 -1.4
R18K                                      Sn           05 22 29.2 -1.4
R18K  Karluk          3.31 291  IAML                   05 22 38.5
      comp=N,73nm,0.5s
R18K                            IAML                   05 22 41.3
      comp=E,71nm,0.5s
BRSE  Bradley Lake S  3.42 342            Pn           05 21 51.5 -1.2
BRLK  Bradley Lake    3.47 341  Pn        Pn           05 21 51.9 -1.5
BRLK                            IAML                   05 22 36.5
      comp=E,62nm,0.1s
BRLK                            IAML                   05 22 46.5
      comp=N,32nm,0.5s
HOM   Homer           3.53 335  Pn        Pn           05 21 53.0 -1.2
P23K  Montague Islan  3.57  11            Pn           05 21 53.2 -1.6
P23K                                      Sn           05 22 34.8 -2.2
Q19K  Cape Douglas,   3.59 315  Pn        Pn           05 21 54.7 -0.5
SEW   Seward          3.63 354  Pn        Pn           05 21 54.0 -1.6
P19K  Oil Pt          3.97 325  Pn        Pn           05 22 00.2  0.0
P19K                            IAML                   05 22 56.3
      comp=E,39nm,0.5s
P19K                            IAML                   05 22 56.3
      comp=N,45nm,0.6s
ACHA  Angle Creek He  3.97 298            Pn           05 22 00.9 +0.6
HIN   Hinchinbrook I  4.07  16            Pn           05 22 00.9 -0.8
HIN                             IAML                   05 22 48.6
      comp=E,45nm,0.8s
SLKM  Skilak Lake     4.09 349  Pn        Pn           05 22 01.4 -0.6
SLKM                            IAML                   05 22 53.6
      comp=E,28nm,1.3s
SLKM                            IAML                   05 23 01.6
      comp=N,31nm,1.3s
KAIM  Kayak Island    4.12  32            Pn           05 22 00.9 -1.4
KAIM                            IAML                   05 23 05.4
      comp=E,48nm,1.1s
ILSW  Iliamna Southw  4.20 328            Pn           05 22 03.2 -0.3
ILSW                            IAML                   05 23 07.4
      comp=E,38nm,0.6s
ILSW                            IAML                   05 23 08.5
      comp=N,29nm,0.6s
EYAK  Cordova Ski Ar  4.34  20            Pn           05 22 04.7 -0.6
PWL   Port Wells      4.37   2  Pn        Pn           05 22 06.5 +0.7
PWL                             IAML                   05 22 57.4
      comp=N,20nm,0.8s
PWL                             IAML                   05 23 03.5
      comp=E,23nm,1.0s
SUCK  Suckling Hills  4.42  34            Pn           05 22 05.7 -0.8
SUCK                            IAML                   05 23 03.6
      comp=N,29nm,0.4s
SUCK                            IAML                   05 23 03.7
      comp=E,28nm,1.3s
RAGM  Ragged Mountai  4.43  27            Pn           05 22 05.8 -0.8
GLI   Glacier Island  4.47  10  Pn        Pn           05 22 06.4 -0.7
GLI                             IAML                   05 22 58.1
      comp=E,24nm,1.2s
GLI                             IAML                   05 23 06.6
      comp=N,24nm,1.1s
HMT   Hamilton        4.50  29            Pn           05 22 06.2 -1.3
NICHA Nichawak Mount  4.50  32            Pn           05 22 05.4 -2.1
P18K  Big Mountain,   4.52 313  Pn        Pn           05 22 06.7 -1.1
FIS   Fire Island     4.72 351  Pn        Pn           05 22 10.6 +0.1
FIS                             IAML                   05 23 21.3
      comp=E,28nm,0.9s
O18K  Koktuh Hills    4.81 317  Pn        Pn           05 22 11.7 -0.1
SNH   Sunshine Point  4.81  38  Pn        Pn           05 22 10.8 -1.0
SNH                             IAML                   05 22 50.2
      comp=N,16nm,1.5s
SNH                             IAML                   05 23 58.9
      comp=E,17nm,1.4s
DIV   Divide          4.88  17  Pn        Pn           05 22 13.3 +0.5
P17K  Kvichak River   4.93 306            Pn           05 22 11.4 -2.0
BMRM  Bremner River   4.96  24            Pn           05 22 13.7 -0.2
SPU   Mount Spurr     5.00 341  Pn        Pn           05 22 14.3 -0.1
SPU                             IAML                   05 23 18.8
      comp=E,7.3nm,1.1s
PMR   Palmer          5.11 358  Pn        Pn           05 22 16.4 +0.5
PMR                             IAML                   05 23 30.5
      comp=E,6.9nm,1.0s
PMR                             IAML                   05 23 32.7
      comp=N,8.9nm,1.4s
KLU   Klutina         5.21  15  Pn        Pn           05 22 16.9 -0.4
KLU                             IAML                   05 23 16.2
      comp=N,16nm,0.3s
KLU                             IAML                   05 23 23.0
      comp=E,18nm,1.2s
STLK  Strandline Lak  5.26 343            Pn           05 22 18.6 +0.6
GHO   Glory Hole Cre  5.29 359            Pn           05 22 17.9 -0.5
SCM   Sheep Creek Mo  5.39   7  Pn        Pn           05 22 19.5 -0.3
RKAV  Rock Avalanche  5.43  42            Pn           05 22 18.7 -1.7
VRDI  Verde Repeater  5.47  28            Pn           05 22 20.3 -0.7
KIAG  Kiagna River    5.53  34            Pn           05 22 19.5 -2.4
N25K  Chitina, Valde  5.54  21            Pn           05 22 21.0 -0.8
GLB   Gilahina Butte  5.56  25  Pn        Pn           05 22 21.3 -0.9
BALM  Baldy           5.62  33            Pn           05 22 21.7 -1.3
N18K  Kilae Creek     5.62 321  Pn        Pn           05 22 21.6 -1.4
M24K  Tolsona, Glenn  5.77  12            Pn           05 22 25.2 +0.2
O16K  Kokwok River B  5.87 306  Pn        Pn           05 22 25.5 -0.7
N17K  Nushagak Hills  6.00 316  Pn        Pn           05 22 27.4 -0.6
L19K  White Mountain  6.50 334  Pn        Pn           05 22 33.8 -1.2
O29M  Mount Kennedy   6.54  50            Pn           05 22 34.7 -1.0
M26K  Nabesna, AK     6.59  24  Pn        Pn           05 22 37.0 +0.8
YUK8  Steele Glacier  6.67  40            Pn           05 22 36.8 -0.6
PAX   Paxson          6.69  13  Pn        Pn           05 22 38.6 +0.9
S31K  Pelican         6.93  73            Pn           05 22 36.9 -4.0
M16K  Timber Creek    6.99 315  Pn        Pn           05 22 41.6 -0.1
L18K  Granite Mounta  7.03 328  Pn        Pn           05 22 42.4 +0.1
KTH   Kantishna Hill  7.16 352  Pn        Pn           05 22 45.0 +0.9
HYT   Haines Junctio  7.27  49  Pn        Pn           05 22 44.9 -0.7
YUK5  Granite Creek   7.29  46            Pn           05 22 45.3 -0.7
L27K  Beaver Creek,   7.43  25  Pn        Pn           05 22 48.0 +0.1
L16K  Owhat River     7.61 318  Pn        Pn           05 22 49.8 -0.3
BPAW  Bear Paw Mtn.   7.71 353  Pn        Pn           05 22 50.7 -0.8
BESE  Bessie Mountai  7.74  69            Pn           05 22 48.1 -3.9
N30M  Aishikik Lake   7.79  46            Pn           05 22 51.0 -1.6
O30N  Mendenhall      7.85  52  Pn        Pn           05 22 52.5 -1.0
M29M  Somme Creek     7.91  37            Pn           05 22 53.8 -0.6
J20K  Nowinta River   8.15 343  Pn        Pn           05 22 58.2 +0.5
J19K  Poorman         8.26 338  Pn        Pn           05 22 59.9 +0.9
N31M  Braeburn, Yuko  8.33  48            Pn           05 22 59.5 -0.6
WHY   Whitehorse      8.33  54            Pn           05 22 59.8 -0.5
ILAR  Eielson Array   8.35   5  Pn        Pn           05 23 00.8 +0.6
      comp=E,0.1nm,0.3s,baz=194,slow=14,SNR=4.5
ILAR                            Sn        Sn           05 24 31.7 -2.7
      comp=E,0.1nm,0.3s,baz=188,slow=20,SNR=5.9
      comp=E,0.2nm,0.4s
J26L  Joseph Creek    8.41  15  Pn        Pn           05 23 02.0 +0.7
P32M  Atlin           8.53  63            Pn           05 22 59.1 -3.7
DAWY  Dawson          8.88  27  Pn        Pn           05 23 08.7 +1.1
K29M  Barlow Dome     9.22  32  Pn        Pn           05 23 11.9 -0.4
M31M  Drury Creek, Y  9.27  46            Pn           05 23 12.7 -0.2
H21K  Melozitna Rive  9.39 350  Pn        Pn           05 23 14.6  0.0
DLBC  Dease Lake     10.24  71  Pn        Pn           05 23 29.8 +3.5
      comp=E,0.1nm,0.3s,baz=250,slow=15,SNR=1.6
      comp=E,0.5nm,0.4s
INK   Inuvik         13.71  24  Pn        Pn           05 24 17.1 +3.6
      baz=212,slow=15,SNR=3.2
      comp=E,0.7nm,0.8s
YKA   Yellowknife Ar 18.15  57  P         P            05 25 12.4 +0.9
      comp=E,0.6nm,0.9s,baz=265,slow=11,SNR=5.6
YKA                             LR        LR           05 31 49.3
      comp=E,74nm,18.8s,baz=294,slow=35
NEW   Newport        20.81 100  LR        LR           05 32 06.1
      comp=E,45nm,18.9s,baz=70,slow=32
YBH   Yreka Blue Hor 22.35 120  LR        LR           05 32 15.7
      comp=E,62nm,19.2s,baz=36,slow=30
MA2   Magadan        31.22 301  LR        LR           05 41 11.2
      comp=E,33nm,18.6s,baz=74,slow=39
NRIK  Noril'sk       48.03 337  LR        LR           05 53 14.4
      comp=E,24nm,18.5s,baz=340,slow=40
H11S1 WAKE ISLAND Hy 50.41 240  T         T            06 25 07.2
      baz=29
H11S2 WAKE ISLAND Hy 50.42 240  T         T            06 24 59.0
      baz=29
H11S3 WAKE ISLAND Hy 50.43 240  T         T            06 25 16.0
      baz=29
FINES FINESS Array B 62.32   3  P         P            05 31 24.0 +2.8
      comp=E,2.2nm,0.7s,baz=17,slow=5.8,SNR=9.7
      comp=E,2.2nm,0.7s
GUMO  Guam           65.80 258  LR        LR           05 56 23.1
      comp=E,31nm,20.9s,baz=102,slow=32
```

*GCG **01** 05:21:34.9±0.4, 14°.91N×92°.16W, h75km±5km, MD3.5*
MEX 01 05:21:35.6±0.7, 14°.65N×92°.29W, h78km±8km, MD3.5, Near coast of Chiapas

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
THIG                  0.26   5  i S       Sn           05 21 54.2 -1.9
THIG                  0.26   5  eS        Sn           05 21 54.0 -2.1
THIG                  0.26   5  eS                     05 21 54.0
SMCA  Catarina        0.29  45  i P       Pn           05 21 45.9 -1.7
SMCA                            eS        Sn           05 21 54.5 -2.0
SMCA  Catarina        0.29  45  i P                    05 21 45.9
SMCA                            eS                     05 21 54.5
PATR  El Naranjo      0.47   6  eP        Pn           05 21 47.3 -1.9
PATR                            eS        Sn           05 21 56.9 -2.2
CHUJ  Union Juarez    0.48  21  eP        Pn           05 21 48.4 -0.9
CHUJ                            i S       Sn           05 21 57.8 -1.5
PAVE  Pavencul        0.55  11  eP        Pn           05 21 48.4 -1.6
PAVE                            eS        Sn           05 21 59.0 -1.5
STG8  El Palmar, Qui  0.93 102  i P                    05 21 49.7
STG8                            eS                     05 22 01.2
STG0  El Palmar, Qui  0.94 103  eP                     05 21 49.7
STG0                            i S                    05 22 01.5
PCIG                  1.38 320  eP        Pn           05 21 58.2 -1.1
PCIG                            i S       Sn           05 22 15.4 -1.8
```

IDC 01 05:25:55.5±7.8, 19°.30S×179°.18W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=340.2km s-min=42.2km az=145.0, Fiji Islands region

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
WRA   Warramunga Arr 43.68 261  P         P            05 34 02.5  0.0
      0.2nm,0.3s,baz=96,slow=7.6,SNR=8.6
      0.2nm,0.3s
ASAR  Alice Springs  43.72 256  P         P            05 34 02.6 -0.3
      0.3nm,0.5s,baz=98,slow=8.0,SNR=5.3
      0.3nm,0.5s
ILAR  Eielson Array  87.40  13  P         P            05 38 44.2  0.0
      0.4nm,1.0s,baz=213,slow=6.5,SNR=2.8
      0.4nm,1.0s
```

*TIR **01** 05:26:16.2, 40°.80N×20°.44E, h0km, Md2.6/3, Ml2.2/5*
*SKO **01** 05:26:16.7, 40°.78N×20°.47E, h8km, ML2.0*
*ATH **01** 05:26:16.2, 40°.91N×20°.49E, h5km±4km, ML1.9/4, Manual Solution by S.Koutrakis First location: 2019/03/01 05:27:44, This location: 2019/03/01 10:47:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 5 km*
ISC 01 05:26:16.6±1.1, 40°.85N±0°.03×20°.48E±0°.03, h17km±9km, n17, σ1§07/30, 1C-4D, Greece-Albania border region

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
KBN   Korca          0.32 133⇑  i Pg      Pg           05 26 23.1 -0.4
KBN                             Sg        Sg           05 26 28.2  0.0
KBN                             AML       AML          05 26 29.3
      3.3nm,0.3s
KBN                             AMd                    05 26 51.3
OHR   Ohrid          0.36  42⇓  i Pg      Pb           05 26 24.5 -0.1
OHR                             i Sg      Sb           05 26 30.8 +0.8
OHR                             eLg       Lg           05 26 31.1
      comp=E,118nm,0.7s
OHR                             eLg       Lg           05 26 31.3
      comp=N,96nm,0.3s
NEST  Nestorio       0.61 135⇓  i Pg      Pb           05 26 28.1 -0.8
NEST                            Sg        Sn           05 26 38.6 -1.6
NEST                            AML       AML          05 26 40.6
      comp=N,0.3nm,0.4s
NEST  Nestorio       0.61 135   P         Pb           05 26 28.2 -0.7
NEST                            S         Sg           05 26 37.4 +0.5
TIR   Tirane         0.68 317   P         Pn           05 26 30.8 -0.7
TIR                             S         Sn           05 26 41.8  0.0
TIR   Tirane         0.68 317   P         Pb           05 26 29.0 -1.1
LSK   Leskovik       0.70 172⇓  i Pg      Pb           05 26 29.9 -0.5
LSK                             Sg        Sg           05 26 40.3 +0.6
LSK                             AML       AML          05 26 42.0
      comp=N,1.0nm,0.6s
LSK                             AMd                    05 27 10.8
PHP   Peshkopia      0.84 358⇓  i Pg      Pn           05 26 33.9 +0.2
PHP                             Sg        Sn           05 26 47.6 +1.9
PHP                             AML       AML          05 26 53.8
      comp=N,0.2nm,0.6s
PHP                             AMd                    05 27 13.7
KZN   Kozani         1.12 118   P         Pg           05 26 39.0 +0.7
KZN                             S         Sg           05 26 54.2 +1.2
IGT   Igoumenitsa    1.32 185   Pn        Pg           05 26 41.4 -0.6
IGT                             Sn        Sg           05 27 00.7 +1.5
IGT                             AML       AML          05 27 07.5
      comp=N,0.2nm,0.5s
IGT   Igoumenitsa    1.32 185   P         Pg           05 26 42.5 +0.5
IGT                             S         Sg           05 27 01.7 +2.5
GRG   Griva          1.46  85  i Pg      Pg           05 26 44.0 -0.7
GRG                             i Sg      Sg           05 27 03.7 -0.1
LIT   Litokhoron     1.71 115  i Pg      Pb           05 26 46.6 -0.9
LIT                             i Sg      Sb           05 27 09.1 +0.4
SCTE  Santa Cesarea  1.72 244   P         Pb           05 26 46.6 -1.0
KNT   Kendrikon      1.86  79  i Pn      Pb           05 26 48.6 -1.5
KNT   Kendrikon      1.86  79  P         Pn           05 26 48.3 +0.6
LKD2  Lefkada island 2.06 176   P         Pg           05 26 55.0 -1.1
LKD2                            S         Sg           05 27 24.1 +1.3
```

*IDC **01** 05:35:15.4±2.0, 4°.81N×125°.85E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=118.1km s-min=25.0km az=69.0*
*DJA **01** 05:35:15.9±0.9, 5°N±7°×126°6E±°, h10km, M4.0/7, mB5.0/2, mb4.0/3, MLv4.0/7, Mw(mB)4.3/2*
ISC 01 05:35:16.8±1.5, 4°.8N±0°.1×125°.9E±0°.2, h10km, n9, σ0§37/7, mb3.6/4, Talaud Islands

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
SGSI  Sangihe        1.19 198   P         Pb           05 35 39.5 +0.1
SGSI                            S         Sb           05 35 54.9 +0.1
MRSI  Marisa         5.85 223   P         Pn           05 36 43.6  0.0
FITZ  Fitzroy Crossi 22.78 181  P         P            05 40 19.4 -0.2
      5.8nm,0.6s,baz=0.4,slow=8.5,SNR=25
      5.8nm,0.6s
WRA   Warramunga Arr 25.97 162  P         P            05 40 50.5 +0.7
      1.3nm,0.7s,baz=341,slow=10,SNR=9.8
      1.3nm,0.7s
ASAR  Alice Springs  29.38 165  P         P            05 41 20.1 -0.2
      0.3nm,0.5s,baz=338,slow=6.9,SNR=4.8
      0.3nm,0.5s
H11N1 WAKE ISLAND Hy 42.56  66  T         T            06 28 43.4
      baz=255,slow=75,SNR=24
H11N2 WAKE ISLAND Hy 42.57  66  T         T            06 28 44.0
      baz=255,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 42.58  66  T         T            06 28 44.7
      baz=255,slow=75,SNR=17
MKAR  Makanchi Array 56.19 325  P         P            05 44 57.0  0.0
      0.2nm,0.4s,baz=121,slow=7.2,SNR=5.3
      0.2nm,0.4s
```

*GCG **01** 05:35:37.2±3.4, 16°.22N×96°.08W, h50km±999km, MD4.6*
*IDC **01** 05:35:45.2±1.6, 16°.40N×95°.12W, h0km, mb3.4/4, mbtmp3.4/5, ML2.7/3, MS3.3/2, Error ellipse: s-maj=17.1km s-min=13.6km az=106.0*
*MEX **01** 05:35:48.6±1.3, 16°.38N×95°.13W, h49km±24km, MD4.2*
ISC 01 05:35:44.0±1.2, 16°.39N±0°.03×95°.12W±0°.02, h2km±9km, n54, σ1§75/93, mb3.3/4, Oaxaca

```
Code  Station Name    Δ°   AZ°   Phase ID                Time     Res
                                Op        ISC           h m s    ISC
NILT  Santiago Nilte 0.52  70  eP        Pg           05 35 54.7 +0.8
NILT                            i S       Sb           05 36 02.2 -1.5
CMIG  Matias Romero  0.74  18  Pg        Pb           05 35 59.4 -0.2
      151nm,0.3s,baz=203,slow=10,SNR=647
CMIG                            Lg        Lg           05 36 08.9
      1µm,0.3s,baz=202,slow=15,SNR=98
CMIG  Matias Romero  0.74  18  eP        Pb           05 35 59.4 -0.2
CMIG                            eS        Sb           05 36 08.8 -1.3
HUIG  Huatulco       1.13 237  i P       Pg           05 36 05.7  0.0
HUIG                            eS        Sg           05 36 20.2 -0.2
HUIG  Huatulco       1.13 237  i P       Pg           05 36 05.7  0.0
HUIG                            i S       Sg           05 36 20.8 +0.4
HUIG  Huatulco       1.13 237  i P                    05 36 05.7
HUIG                            i S                    05 36 20.8
CARR  Arriaga        1.17  97  eP        Pg           05 36 06.1 -0.4
CARR                            eS        Sg           05 36 21.5 -0.1
UXUV  UXUV           1.32  45  eP        Pg           05 36 09.6 +0.3
UXUV                            eS        Sn           05 36 27.1 -0.5
NEUV  Arroyo Zacate  1.47 334  eP        Pb           05 36 11.6 -0.5
NEUV                            i S       Sb           05 36 31.0 -0.3
PANG  Puerto Angel   1.48 241  eP        Pn           05 36 11.6 -0.1
PANG                            eS        Sn           05 36 30.6 -1.0
OXBJ  Oaxaca         1.68 294  i P       Pb           05 36 15.5 -0.3
OXBJ                            eS        Sb           05 36 36.8 -0.6
VHO   Vista Hermosa  1.69 294  eP        Pb           05 36 16.0 +0.1
VHO                             eS        Sb           05 36 37.6 -0.1
TUIG  Tuzandepetl    1.77  22  i P       Pb           05 36 16.8 -0.4
TUIG                            i S       Sg           05 36 40.3 -0.7
PCIG                 1.95 110  eP        Pn           05 36 17.6 -0.6
PCIG                            eS        Sn           05 36 41.7 -1.5
TGIG                 1.96  78  eP        Pb           05 36 20.6 +0.1
TGIG                            eS        Sg           05 36 46.2 -0.8
TGIG                 1.96  78  eP        Pb           05 36 20.2 -0.3
TGIG                            eS        Sg           05 36 46.1 -0.8
TGIG                 1.96  78  eP                     05 36 20.2
TGIG                            eS                     05 36 46.1
PEIG  Puerto Escondi 1.98 259  eP        Pn           05 36 17.9 -0.7
PEIG                            i S       Sb           05 36 45.7 -0.3
PMUV  Sontecomapan   2.15   0  eP        Pn           05 36 20.5 -0.4
PMUV                            i S       Sn           05 36 48.3 +0.1
YOIG  Yosondua       2.37 282  eP        Pb           05 36 26.1 -1.5
YOIG                            eS        Sb           05 36 56.8 -0.6
TOIG  Toxpalan       2.52 313  eP        Pb           05 36 28.2 -1.8
TOIG                            i S       Sb           05 36 59.8 -1.7
TXIG  Tlaxiaco       2.68 289  eP        Pb           05 36 30.9 -1.9
TXIG                            eS        Sb           05 37 05.2 -1.1
CCIG  Comitan        2.87  92  eP        Pb           05 36 33.4 -2.7
CCIG                            i S       Sb           05 37 10.8 -0.9
CCIG  Comitan        2.87  92  eP        Pb           05 36 34.7 -1.4
CCIG  Comitan        2.87  92  eP                     05 36 34.7
PNIG  Pinotepa       2.88 271  eP        Pn           05 36 31.1 +0.1
PNIG                            eS        Sn           05 37 05.2 -1.1
HLIG  Huajuapan de L 2.94 300  eP        Pb           05 36 34.6 -2.7
HLIG                            i S       Sb           05 37 14.4 +0.6
TPIG  Tehuac#an      2.94 314  eP        Pn           05 36 34.4 +2.4
TPIG                            eS        Sb           05 37 10.5 -3.4
PATR  El Naranjo     3.06 114  eP        Pn           05 36 32.0 -1.5
```

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
PATR				eS		Sn	05 37 09.2	-1.7
PAVE	**Pavencul**	**3.07**	**112**	eP		Pn	05 36 34.2	+0.4
PAVE				i S		Sn	05 37 09.9	-1.4
FTIG	**Fresnillo de T**	**3.25**	**298**	eP		Pn	05 36 39.1	+2.9
FTIG				i S		Sn	05 37 17.3	+1.8
JAUV	**Jalcomulco**	**3.37**	**332**	eP		Pn	05 36 36.6	-1.1
JAUV				eS		Sn	05 37 08.4	-10
TLIG	**Tlapa**	**3.50**	**290**	eP		Pb	05 36 43.2	-3.5
TLIG				eS		Sn	05 37 24.6	+3.0
HUEH	**Huehuetenango**	**3.64**	**106**	eP		Pg	05 36 57.7	+3.8
HUEH				i S		Sb	05 37 31.1	-2.9
CRIG	**Cruz Grande**	**3.86**	**276**	eP		Pn	05 36 42.8	-1.6
CRIG				i S		Sn	05 37 32.8	+2.4
STG8	**El Palmar, Qui**	**4.12**	**117**	eP			05 36 44.1	
STG0	**El Palmar, Qui**	**4.13**	**118**	eP			05 36 44.4	
STG0				eS			05 37 27.8	
PBCV	**Popocatepetl**	**4.17**	**309**	eP		Pn	05 36 49.7	+0.6
PBCV				eS		Sn	05 37 36.7	-1.8
PBCV				i S			05 37 50.1	
PBPN	**Popocatepetl**	**4.26**	**309**	eP		Pn	05 36 48.9	-1.5
PBPN				eP			05 36 49.1	
PBPN				i S		Sn	05 37 38.8	-2.2
PBXN	**Popocatepetl**	**4.26**	**308**	eP		Pn	05 36 49.5	-0.8
PBXN				eP			05 36 51.0	
PBXN				i S		Sn	05 37 39.2	-1.8
PBXN				eS			05 37 39.3	
PPM	**Popocatepetl**	**4.27**	**309**	eP		Pn	05 36 50.9	+0.3
PPM				i S		Sn	05 37 39.7	-1.6
DAIG	**Los Arroyos**	**4.38**	**279**	eP		Pn	05 36 54.3	+2.7
DAIG				i S		Sn	05 37 46.0	+2.6
CXUV	**Coxquihui**	**4.38**	**328**	eP		Pn	05 36 51.9	-0.5
CXUV				eS		Sn	05 37 37.9	-6.7
YAIG	**Yautepec**	**4.50**	**304**	eP		Pn	05 36 53.6	+0.3
YAIG				i S		Sn	05 37 45.4	-0.9
PLIG	**Platanillo**	**4.63**	**296**	eP		Pn	05 36 58.2	+3.0
PLIG				i S		Sn	05 37 51.1	+1.5
MPVM	**San Francisco**	**4.64**	**308**	eP		Pb	05 37 01.4	-5.0
MPVM				eS		Sn	05 37 50.0	-0.1
APG	**El Apazote**	**4.69**	**106**	Pn		Pn	05 36 57.2	+1.1
0.2nm,0.3s,baz=235,slow=16,SNR=6.8								
APG				Sn		Sn	05 37 51.4	+0.1
1.2nm,0.3s,baz=94,slow=14,SNR=11								
APG				Lg		Lg	05 38 12.8	
0.7nm,0.3s,baz=223,slow=19,SNR=6.6								
APG	**El Apazote**	**4.69**	**106**	eP		Pn	05 36 58.0	+1.9
APG	**El Apazote**	**4.69**	**106**	eP			05 36 58.0	
MZVM		**4.80**	**306**	eP		Pn	05 37 02.7	+5.3
MZVM				eS		Sn	05 37 54.0	+0.4
AOVM	**Tlapan**	**4.92**	**306**	eP		Pn	05 37 01.4	+1.9
AOVM				eS		Sn	05 37 58.1	+0.9
PETF	**Flores**	**5.07**	**83**	eP		Pn	05 37 04.8	+3.8
PETF				i S		Sn	05 37 58.6	-1.5
TEIG	**Tepich**	**7.54**	**59**	Pn		Pn	05 37 37.4	+2.4
baz=253,slow=20,SNR=19								
TEIG				Sn		Sn	05 38 58.5	-2.7
baz=244,slow=24,SNR=9.4								
JTS	**Las Juntas de**	**11.60**	**120**	LR		LR	05 42 36.6	
comp=Z,52nm,18.4s,baz=314,slow=35								
TXAR	**Lajitas Array**	**15.09**	**330**	Pn		P	05 39 22.4	-1.6
baz=151,slow=12,SNR=3.5								
0.4nm,0.7s								
PDAR	**Pinedale Array**	**29.05**	**338**	P		P	05 41 47.2	+1.3
0.1nm,0.3s,baz=158,slow=6.2,SNR=2.1								
0.1nm,0.3s								
NVAR	**Mina Array Bea**	**29.94**	**322**	P		P	05 41 55.2	+1.4
0.3nm,0.6s,baz=122,slow=7.3,SNR=2.8								
0.3nm,0.6s								
ULM	**Lac du Bonnet**	**33.78**	**359**	P		P	05 42 28.6	+1.3
0.9nm,0.5s,baz=172,slow=8.3,SNR=3.4								
0.9nm,0.5s								
YKA	**Yellowknife Ar**	**48.05**	**348**	P		P	05 44 26.2	+1.6
0.2nm,0.7s,baz=156,slow=7.3,SNR=3.2								
0.2nm,0.7s								
KDAK	**Kodiak Island**	**59.11**	**328**	LR		LR	06 09 35.0	
comp=Z,70nm,19.0s,baz=246,slow=34								

*IDC **01** 05:38:54.9±1.2, 7.40S×127.74E, h0km, mb3.8/4, mbtmp4.1/7, ML4.3/3, MS3.1/2, Error ellipse: s-maj=88.9km s-min=20.0km az=69.0*
*DJA **01** 05:39:06.4±1.4, 8.S±4.×12.8E±., h18km±12km, M4.5/10, mB5.3/2, mb4.5/6, MLv4.5/10, Mw(mB)4.8/2*
*NEIC **01** 05:39:07.5±2.4, 7.85S±0.09×127.7E±0.1, h102km±9km, mb4.3/11, Error ellipse: s-maj=15.3km s-min=12.4km az=128.0*
ISC 01 05:39:07.2±0.6, 7.91S±0.06×127.62E±0.05, h100km, n50, σ2.9 27/55, mb4.3/11, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.79**	**241**	Pn		**Pn**	**05 40 05.8**	**+2.2**
SOEI	**Soe**	**3.79**	**241**	P		**Pn**	**05 40 06.2**	**+2.6**
SOEI	**Soe**	**3.79**	**241**	S		**Sn**	**05 40 49.8**	**+2.5**
SOEI	**Soe**	**3.79**	**241**	P		**Pn**	**05 40 05.8**	**+2.2**
SOEI				S		**Sn**	**05 40 48.9**	**+1.6**
BNDI	**Bandanaira**	**4.06**	**34**	P		**Pn**	**05 40 06.7**	**-0.5**
DRS	**Darwin Rock St**	**5.53**	**145**	P		**Pn**	**05 40 30.1**	**+3.0**
DRS	**Darwin Rock St**	**5.53**	**145**	S		**Sn**	**05 41 30.9**	**+1.5**
KDU	**Kakadu**	**6.73**	**135**	P		**Pn**	**05 40 45.4**	**+2.0**
KDU	**Kakadu**	**6.73**	**135**	S		**Sn**	**05 42 00.3**	**+1.7**
FAKI	**Fak Fak**	**6.77**	**43**	Pn		**Pn**	**05 40 42.3**	**-1.7**
FAKI	**Fak Fak**	**6.77**	**43**	P		**Pn**	**05 40 44.6**	**+0.6**
0.1nm18nm,0.7s								
BASI	**Baing, Sumba**	**7.33**	**251**	P		**Pn**	**05 40 53.2**	**+1.7**
0.4nm64nm,1.0s								
BASI				S		**Sn**	**05 42 08.4**	**-4.7**
0.4nm64nm,1.0s								
WSI	**Waingapu**	**7.45**	**256**	P		**Pn**	**05 40 53.4**	**+0.2**
KNRA	**Kununurra**	**7.80**	**172**			**Pn**	**05 40 59.2**	**+1.3**
SWI	**Sorong**	**7.88**	**28**	P		**Pn**	**05 40 58.8**	**-0.4**
0.1nm27nm,0.8s								
WBSI	**Waikabubak, Su**	**8.31**	**257**	P		**Pn**	**05 41 05.1**	**+0.1**
PLAI	**Plampang**	**9.78**	**264**	P		**Pn**	**05 41 25.3**	**+0.3**
PLAI	**Plampang**	**9.78**	**264**	P		**Pn**	**05 41 24.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.31**	**191**	Pn		**Pn**	**05 41 31.5**	**-0.6**
3.4nm,0.3s,baz=26,slow=11,SNR=48								
FITZ				Sn		**Sn**	**05 43 21.1**	**-4.6**
3.9nm,0.3s,baz=109,slow=19,SNR=9.6								
9.5nm,0.4s								
WB0	**Warramunga Arr**	**13.49**	**152**	Pn		**Pn**	**05 42 13.2**	**-1.3**
WRA	**Warramunga Arr**	**13.62**	**152**	Pn		**Pn**	**05 42 14.8**	**-1.4**
1.3nm,0.3s,baz=326,slow=14,SNR=21								
WRA				Sn		**Sn**	**05 44 39.8**	**-6.4**
1.3nm,0.3s,baz=332,slow=22,SNR=10								
3.1nm,0.5s								
MBWA	**Marble Bar**	**15.22**	**209**	P		**P**	**05 42 39.4**	**0.0**
PSA00	**Pilbara Seismi**	**15.52**	**208**	Pn		**Pn**	**05 42 40.6**	**+0.2**
PSA00				IAmb		IAmb	05 42 45.5	
comp=Z,29nm,1.5s								
PSA00	**Pilbara Seismi**	**15.52**	**208**	P		**Pn**	**05 42 42.2**	**+1.7**
COEN	**Coen**	**16.40**	**113**			**Pn**	**05 42 50.9**	**-0.7**
COEN				IAmb		IAmb	05 43 31.7	
comp=Z,15nm,1.1s								
AS31	**Alice Springs**	**16.78**	**160**	P		**Pn**	**05 42 56.5**	**+0.3**
ASAR	**Alice Springs**	**16.78**	**160**	P		**P**	**05 42 58.1**	**+1.3**
comp=Z,0.6nm,0.3s,baz=343,slow=13,SNR=22								
ASAR				S		**Sn**	**05 45 56.5**	**-6.2**
comp=Z,2.0nm,0.9s,baz=340,slow=21,SNR=6.4								
comp=Z,3.9nm,0.4s								
AS01	**Alice Springs**	**16.80**	**160**	P		**P**	**05 42 58.5**	**+1.6**
UGM	**Wanagama**	**16.94**	**269**	P		**P**	**05 43 00.1**	**+1.5**
WRKA	**Warakurna**	**17.04**	**178**	P		**P**	**05 43 02.3**	**+2.7**
QIS	**Mount Isa**	**17.10**	**139**	P		**P**	**05 43 03.3**	**+3.0**
MEEK	**Meekatharra**	**20.50**	**204**	P		**P**	**05 43 39.7**	**+2.4**
OOD	**Oodnadatta**	**21.20**	**160**	P		**P**	**05 43 48.1**	**+3.3**
FORT	**Forrest**	**22.75**	**179**	P		**P**	**05 44 01.5**	**+0.4**
FORT	**Forrest**	**22.75**	**179**	P		**P**	**05 44 04.2**	**+3.1**
MORW	**Morawa**	**23.70**	**206**	P		**P**	**05 44 11.1**	**+1.1**
MORW				IAmb		IAmb	05 44 29.6	
comp=Z,20nm,1.3s								
BBOO	**Buckleboo**	**25.98**	**164**	P		**P**	**05 44 31.8**	**+1.1**
BBOO				IAmb		IAmb	05 45 07.9	
comp=Z,16nm,1.2s								
STKA	**Stephens Creek**	**27.16**	**153**	P		**P**	**05 44 41.8**	**+0.6**
STKA				IAmb		IAmb	05 45 21.5	
comp=Z,16nm,1.1s								
STKA	**Stephens Creek**	**27.16**	**153**	P		**P**	**05 44 43.4**	**+2.1**
comp=Z,0.3nm,0.3s,baz=333,slow=11,SNR=3.7								
comp=Z,0.3nm,0.3s								
USA0B	**Ussuriysk Arra**	**52.02**	**4**	P		**P**	**05 48 05.9**	**-0.5**
USA0B				IAmb		IAmb	05 48 50.1	
comp=Z,4.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**52.02**	**4**	P		**P**	**05 48 06.1**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**67.72**	**328**	P		**P**	**05 49 52.2**	**-1.7**
MKAR	**Makanchi Array**	**67.72**	**328**	P		**P**	**05 49 51.9**	**-2.0**
MKAR	**Makanchi Array**	**67.72**	**328**	P		**P**	**05 49 52.0**	**-1.9**
comp=Z,0.5nm,0.4s,baz=119,slow=7.6,SNR=11								
comp=Z,0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**71.38**	**335**	P		**P**	**05 50 13.8**	**-2.4**
comp=Z,0.4nm,0.4s,baz=132,slow=5.0,SNR=2.5								
comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**72.08**	**330**	P		**P**	**05 50 18.6**	**-1.9**
comp=Z,0.7nm,0.7s,baz=136,slow=5.1,SNR=10								
comp=Z,0.7nm,0.7s								
QSPA	**South Pole Qui**	**82.07**	**180**	P		**P**	**05 51 16.8**	**+0.4**
QSPA				IAmb		IAmb	05 51 51.5	
comp=Z,3.9nm,1.5s								
VNA2	**Neumayer--Watz**	**95.81**	**194**	⇑P		**P**	**05 52 24.0**	**+2.1**
comp=Z,0.6nm,0.2s,baz=325,slow=15								
VNA3	**Neumayer Olymp**	**96.09**	**193**	⇑P		**P**	**05 52 23.8**	**+0.6**
comp=Z,0.6nm,0.2s								
VNA1	**Neumayer--Stat**	**96.21**	**193**	⇑P		**P**	**05 52 21.9**	**-1.8**
comp=Z,0.3nm,0.2s								

*IDC **01** 05:41:39.8±0.8, 8.51N×122.79E, h0km, mb3.9/10, mbtmp3.9/11, ML5.1/1, MS3.2/10, Error ellipse: s-maj=42.3km s-min=15.1km az=56.0*
ISC 01 05:41:45.0±0.7, 8.5N±0.2×122.8E±0.1, h35km, n18, σ1.9 25/12, mb3.8/10, MS3.3/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.11**	**116**	Pn		**Pn**	**05 42 31.0**	**-0.6**
228nm,0.3s,baz=130,slow=19,SNR=5.4								
DAV				Sn		**Sn**	**05 43 08.2**	**+0.6**
baz=176,slow=24								
DAV				LR		LR	05 44 06.6	
comp=Z,290nm,19.0s,baz=237,slow=47								
583nm,0.4s								
TGY	**Tagaytay City**	**5.90**	**343**	LR		LR	05 45 40.7	
comp=Z,314nm,21.1s,baz=115,slow=41								
JOW	**Kunigami**	**19.02**	**15**	LR		LR	05 52 23.4	
comp=Z,50nm,20.8s,baz=253,slow=34								
CMAR	**Chiang Mai Arr**	**25.18**	**296**	P		**P**	**05 47 08.6**	**+1.1**
0.6nm,0.3s,baz=120,slow=8.6,SNR=4.9								
CMAR				LR		LR	05 57 27.1	
comp=Z,64nm,18.7s,baz=115,slow=38								
0.6nm,0.3s								
JNU	**Nakatsue**	**25.68**	**16**	LR		LR	05 57 36.2	
comp=Z,32nm,19.1s,baz=188,slow=37								
FITZ	**Fitzroy Crossi**	**26.53**	**174**	P		**P**	**05 47 18.7**	**-0.9**
5.1nm,1.0s,baz=1.0,slow=10,SNR=2.7								
5.1nm,1.0s								
KSRS	**Korea Array**	**29.26**	**8**	LR		LR	05 58 40.3	
comp=Z,26nm,22.0s,baz=205,slow=35								
WRA	**Warramunga Arr**	**30.43**	**158**	P		**P**	**05 47 55.5**	**+1.1**
0.6nm,0.6s,baz=330,slow=10.0,SNR=1.3								
0.6nm,0.6s								
ASAR	**Alice Springs**	**33.72**	**161**	P		**P**	**05 48 23.8**	**+0.5**
0.8nm,0.6s,baz=339,slow=9.4,SNR=2.7								
0.8nm,0.6s								
SONM	**Songino Array**	**41.64**	**343**	P		**P**	**05 49 30.7**	**+0.7**
0.3nm,0.6s,baz=152,slow=6.5,SNR=2.3								
0.3nm,0.6s								
STKA	**Stephens Creek**	**43.95**	**157**	P		**P**	**05 49 48.6**	**-0.3**
1.8nm,0.7s,baz=326,slow=11,SNR=4.5								
1.8nm,0.7s								
MKAR	**Makanchi Array**	**51.46**	**325**	P		**P**	**05 50 45.2**	**-1.8**
0.8nm,0.8s,baz=134,slow=8.3,SNR=5.8								
MKAR				LR		LR	06 13 38.1	
comp=Z,39nm,19.1s,baz=353,slow=37								
0.8nm,0.8s								
YAK	**Yakutsk**	**53.72**	**4**	LR		LR	06 14 22.9	
comp=Z,31nm,18.8s,baz=260,slow=37								
KURBB	**Kurchatov Arra**	**55.67**	**327**	P		**P**	**05 51 15.4**	**-2.2**
0.6nm,0.7s,baz=127,slow=6.0,SNR=5.6								
0.6nm,0.7s								
NRIK	**Noril'sk**	**64.96**	**347**	LR		LR	06 22 00.7	
comp=Z,44nm,20.1s,baz=106,slow=37								
BRTR	**Keskin Array B**	**84.00**	**309**	P		**P**	**05 54 13.1**	**+0.8**
0.9nm,0.9s,baz=79,slow=3.1,SNR=2.5								
0.9nm,0.9s								
ARCES	**ARCESS Array B**	**84.68**	**339**	P		**P**	**05 54 15.8**	**+0.8**
4.1nm,0.8s,baz=74,slow=5.4,SNR=2.2								
4.1nm,0.8s								
NOA	**NORSAR Array B**	**92.83**	**333**	LR		LR	06 41 24.7	
comp=Z,9.7nm,18.1s,baz=335,slow=39								

*IDC **01** 05:44:24.0±1.1, 19.88N×72.79E, h0km, mb3.8/10, mbtmp3.8/12, ML3.6/2, MS3.2/8, Error ellipse: s-maj=33.2km s-min=18.6km az=52.0*
*NDI **01** 05:44:26.5±2.7, 19.88N×72.90E, h10km, ML4.1, MW3.9, mb4.0(NEIC)*
*NEIC **01** 05:44:26.4±2.3, 20.2N±0.1×72.9E±0.1, h10km±1km, mb4.0/19, Error ellipse: s-maj=25.0km s-min=9.0km az=231.0*
ISC 01 05:44:25.0±0.5, 20.00N±0.04×73.01E±0.05, h10km, n70, σ2.9 16/79, mb4.0/18, MS3.2/6, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.11**	**190⇑**	eP		**Pb**	**05 44 45.9**	**-0.5**
BOM				eS		**Sb**	**05 45 00.6**	**-0.4**
BOM				IAML			05 45 04.8	
comp=E,5μm,0.1s								
BOM				IAML			05 45 19.4	
comp=E,2μm,0.2s								
POO	**Poona**	**1.66**	**151**	eP		**Pb**	**05 44 56.3**	**+0.5**
POO				eS		**Sg**	**05 45 18.3**	**-0.2**
POO				IAML			05 45 21.9	
comp=E,6μm,0.3s								
POO				IAML			05 45 22.7	
comp=E,8μm,0.1s								
BHV	**Bhavnagar**	**1.92**	**335**	eP		**Pn**	**05 44 58.1**	**+0.3**
BHV				eS		**Sb**	**05 45 24.3**	**+0.1**
BHV				IAML			05 45 27.7	
comp=Z,2μm,0.4s								
BHV				IAML			05 45 41.1	
comp=Z,2μm,0.3s								
KAD	**Karad**	**2.90**	**157**	eP		**Pn**	**05 45 12.2**	**+0.9**
KAD				eS		**Sn**	**05 45 46.2**	**0.0**
LATR	**Latur**	**3.70**	**115**	eP		**Pn**	**05 45 23.8**	**+1.5**
LATR				eS		**Sn**	**05 46 06.5**	**+0.5**
AKL	**Akola**	**3.82**	**79**	eP		**Pn**	**05 45 27.6**	**+3.6**
AKL				eS		**Sn**	**05 46 12.3**	**+3.4**
AKL				IAML			05 46 24.4	
comp=N,889nm,0.2s								
AKL				IAML			05 46 25.1	
comp=E,557nm,0.3s								
BHUJ	**Bhuj**	**4.50**	**317**	IAML			05 46 49.6	
comp=N,587nm,0.8s								
BHUJ				IAML			05 46 56.9	
comp=E,492nm,0.6s								
GOA	**Goa**	**4.55**	**170**	eP		**Pn**	**05 45 33.3**	**-0.6**
GOA				IAML			05 46 49.5	
comp=E,2μm,0.5s								
GOA				IAML			05 46 51.4	
comp=N,2μm,0.3s								
NRDN	**NARMADA NAGAR**	**4.72**	**54**	IAML			05 46 35.7	
comp=E,308nm,0.5s								
NRDN				IAML			05 46 36.9	
comp=N,518nm,0.4s								
BHPL	**Bhopal**	**5.22**	**51**	eP		**Pn**	**05 45 45.6**	**+2.4**
BHPL				eS		**Sn**	**05 46 44.8**	**+1.3**
BHPL				IAML			05 46 56.0	
comp=E,105nm,0.5s								
BHPL				IAML			05 46 57.5	
comp=E,124nm,0.4s								
NGP	**Nagpur**	**5.77**	**78**	eP		**Pn**	**05 45 53.6**	**+2.8**
NGP				eS		**Sn**	**05 46 57.0**	**-0.1**
HYB	**Hyderabad**	**5.85**	**115**	eP		**Pn**	**05 45 52.4**	**+0.5**
GUNA	**GUNA**	**6.12**	**40**	ex		**Pn**	**05 45 53.6**	**-1.8**
GUNA				eS		**Sn**	**05 47 05.3**	**-0.3**
AJM	**Ajmer**	**6.62**	**13**	eP		**Pn**	**05 46 04.7**	**+2.2**
AJM				eS		**Sn**	**05 47 18.5**	**+0.5**
JHNI	**Jhansi**	**7.46**	**42**	eP		**Pn**	**05 46 17.9**	**+4.0**
KUDL	**Kundal**	**8.71**	**21**	eP		**Pn**	**05 46 34.9**	**+3.8**
KUDL				eS		**Sn**	**05 48 08.7**	**-0.6**
BLSP	**Bilaspur**	**8.78**	**74**	eP		**Pn**	**05 46 33.6**	**+1.6**
BLSP				eS		**Sn**	**05 48 07.9**	**-3.2**
SONA	**Sohna**	**9.01**	**24**	eP		**Pn**	**05 46 37.6**	**+2.4**
ALBI	**Allahabad**	**9.69**	**55**	eP		**Pn**	**05 46 45.9**	**+1.4**
ALBI				eS		**Sn**	**05 48 30.4**	**-3.1**
RAGD	**RAYAGADA**	**9.87**	**93**	eP		**Pn**	**05 46 48.6**	**+1.5**
RAGD				eS		**Sn**	**05 48 34.1**	**-4.0**
VIS	**Vishakhapatnam**	**10.03**	**101**	eP		**Pn**	**05 46 50.0**	**+0.8**
VIS				eS		**Sn**	**05 48 36.3**	**-5.5**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
VIS				IAML			05 48 43.7	
comp=E,30nm,0.8s								
VIS				IAML			05 48 55.2	
comp=N,60nm,0.6s								
SMLA	**Simla**	**11.70**	**18**	eP		**Pn**	**05 47 14.0**	**+2.0**
SMLA				eS		**Sn**	**05 49 20.2**	**-2.4**
SMLA				IAML			05 49 23.9	
comp=E,77nm,0.5s								
SMLA				IAML			05 49 28.0	
comp=N,53nm,1.0s								
JOSI	**Joshimath**	**12.06**	**28**	eP		**Pn**	**05 47 20.3**	**+3.1**
JOSI				eS		**Sn**	**05 49 27.6**	**-4.3**
BOK	**Bokaro**	**12.53**	**70**	IAML			05 51 03.1	
comp=N,74nm,0.8s								
THN	**Thein Dam**	**12.62**	**11**	eP		**Pn**	**05 47 27.8**	**+3.2**
THN				ex		x	05 49 44.0	
NIL	**Nilore**	**13.60**	**1**	Pn		**Pn**	**05 47 34.9**	**-3.1**
WSAR	**Wadi Sarin**	**13.76**	**286**	Pn		**Pn**	**05 47 38.6**	**-1.6**
comp=N,0.1nm,0.3s,baz=110,slow=3.9,SNR=1.9								
WSAR				Sn		Sn	05 50 03.5	-10
comp=N,0.2nm,0.3s,baz=193,slow=23,SNR=0.8								
WSAR				LR		LR	05 52 18.6	
comp=N,48nm,21.8s,baz=184,slow=35								
comp=N,10nm,1.1s								
HNLY	**HANLEY**	**13.80**	**22**	eP		**Pn**	**05 47 42.0**	**+0.8**
HNLY				eS		**Sn**	**05 50 08.1**	**-6.7**
PALK	**Pallekele**	**14.69**	**148**	Pn		**Pn**	**05 47 52.7**	**-0.3**
comp=N,0.7nm,0.3s,baz=16,slow=14,SNR=1.7								
PALK				Sn		Sn	05 50 24.0	-12
comp=N,1.1nm,0.3s,baz=78,slow=11,SNR=5.0								
PALK				Lg		Lg	05 52 01.9	
comp=N,1.4nm,0.3s,baz=239,slow=10,SNR=3.8								
PALK				LR		LR	05 53 29.7	
comp=N,67nm,20.8s,baz=322,slow=37								
comp=N,1.7nm,0.3s								
KBL	**Kabul**	**14.90**	**347**	Pn		**Pn**	**05 47 54.9**	**-1.1**
UOSS	**Minazif**	**16.29**	**291**	Pn		**Pn**	**05 48 12.6**	**-1.4**
SHL	**Shillong**	**18.25**	**69**	P		**P**	**05 48 40.2**	**+1.3**
SHL				IAmb		IAmb	05 48 44.7	
comp=Z,13nm,1.1s								
CHGR	**Chuyangaron**	**18.89**	**351**	P		**P**	**05 48 43.8**	**-2.0**
CHGR				IAmb		IAmb	05 49 22.6	
comp=Z,18nm,1.3s								
GAR	**Garm**	**19.08**	**354**	P		**P**	**05 48 44.6**	**-3.2**
GAR				IAmb		IAmb	05 48 59.2	
comp=Z,17nm,1.1s								
KSH	**Kashi**	**19.62**	**7**	P		**P**	**05 48 52.1**	**-1.6**
KSH				sP		sP	05 48 58.7	+0.8
KSH				pmax		pmax		
comp=Z,4.0nm,1.0s								
BTK	**Batken**	**20.08**	**355**	P		**P**	**05 48 55.8**	**-3.0**
TARG	**Taragay, Kyrgy**	**22.04**	**10**	P		**P**	**05 49 18.9**	**-1.3**
TARG				IAmb		IAmb	05 49 43.9	
comp=Z,4.9nm,0.8s								
KDJ	**Kajisay**	**22.34**	**8**	P		**P**	**05 49 22.2**	**-1.0**
KDJ				IAmb		IAmb	05 49 28.2	
comp=Z,5.5nm,1.2s								
AAK	**Ala-Archa**	**22.60**	**3**	P		**P**	**05 49 23.9**	**-2.1**
AAK	**Ala-Archa**	**22.60**	**3**	LR		LR	05 59 01.4	
comp=Z,29nm,18.6s,baz=308,slow=39								
KK31	**Karatay Array**	**23.13**	**355**			**P**	**05 49 30.4**	**-0.9**
KK31				IAmb		IAmb	05 49 46.5	
comp=Z,5.2nm,1.1s								
KKAR	**Karatay Array**	**23.13**	**355**			**P**	**05 49 31.3**	**0.0**
KKAR	**Karatay Array**	**23.13**	**355**	P		**P**	**05 49 29.5**	**-1.8**
KKAR				IAmb		IAmb	05 49 46.5	
comp=Z,3.3nm,1.1s								
CHTO	**Chiang Mai**	**24.48**	**88**	P		**P**	**05 49 46.1**	**+1.6**
CHTO				IAmb		IAmb	05 49 49.9	
comp=Z,2.6nm,0.7s								
CM31	**Chiang Mai Arr**	**24.53**	**89**	P		**P**	**05 49 45.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**24.53**	**89**	P		**P**	**05 49 45.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**24.53**	**89**	P		**P**	**05 49 47.4**	**+2.4**
comp=Z,3.0nm,0.7s,baz=281,slow=10,SNR=25								
comp=Z,3.0nm,0.7s								
WMQ	**Urumqi**	**26.74**	**24**	eP		**P**	**05 50 06.0**	**+1.2**
WMQ				pmax		pmax		
comp=Z,11nm,0.7s								
MKAR	**Makanchi Array**	**27.78**	**14**	P		**P**	**05 50 17.1**	**+3.0**
comp=Z,0.3nm,0.6s,baz=180,slow=8.0,SNR=2.7								
comp=Z,0.3nm,0.6s								
PSI	**Prapat**	**30.53**	**121**	LR		LR	06 02 26.4	
comp=Z,63nm,18

GHO	**Glory Hole Cre**	**0.68**	**53**		Pn	05 54 04.3	-1.3
GHO				IAML		05 54 16.7	
comp=N,2µm,0.2s							
GHO	**Glory Hole Cre**	**0.68**	**53**		Sn	05 54 15.1	0.0
KNK	**Knik Glacier**	**0.77**	**86**		Pn	05 54 05.9	-0.9
KNK	**Knik Glacier**	**0.77**	**86**		Sn	05 54 17.6	+0.3
CAPN	**Captain Cook N**	**0.80**	**222**		Pn	05 54 07.5	+0.3
CAPN				IAML		05 54 22.0	
comp=N,2µm,0.8s							
STLK	**Strandline Lak**	**0.86**	**280**		Pn	05 54 06.8	-1.3
STLK				IAML		05 54 22.4	
comp=E,813nm,0.2s							
STLK	**Strandline Lak**	**0.86**	**280**		Sn	05 54 18.9	-0.7
SLKM	**Skilak Lake**	**0.87**	**185**		Pn	05 54 06.8	-1.4
SLKM				IAML		05 54 21.6	
comp=N,1µm,0.3s							
O22K	**Cooper Landing**	**0.90**	**169**		Pn	05 54 07.9	-0.7
O22K				IAML		05 54 29.1	
comp=E,1µm,0.5s							
SKT	**Skwentna**	**0.93**	**312**		Pn	05 54 07.2	-1.8
SKT	**Skwentna**	**0.93**	**312**		Sn	05 54 20.1	-1.1
SML	**Sawmill**	**0.94**	**61**		Pn	05 54 07.8	-1.4
SML				IAML		05 54 23.5	
comp=N,684nm,0.4s							
SML				IAML		05 54 23.5	
comp=E,950nm,0.7s							
SML	**Sawmill**	**0.94**	**61**		Sn	05 54 21.6	+0.2
SPCG	**Spurr Capps Gl**	**0.95**	**266**		Pn	05 54 08.3	-1.1
PWL	**Port Wells**	**0.98**	**121**		Pn	05 54 08.9	-0.7
SPU	**Mount Spurr**	**0.98**	**260**		Pn	05 54 08.2	-1.5
SPU				IAML		05 54 22.1	
comp=N,544nm,0.3s							
SPU	**Mount Spurr**	**0.98**	**260**		Sn	05 54 21.8	-0.7
SPCN	**Chakachatna No**	**1.04**	**263**		Pn	05 54 09.6	-0.9
CUT	**Chulitna**	**1.05**	**355**		Pn	05 54 09.1	-1.4
CUT				IAML		05 54 25.7	
comp=N,819nm,0.5s							
CUT				IAML		05 54 27.4	
comp=E,957nm,0.4s							
SPCR	**Spurr Chakacha**	**1.05**	**262**		Pn	05 54 09.6	-1.1
SPCR	**Spurr Chakacha**	**1.05**	**262**		Pn	05 54 09.6	-1.2
SPCR					Sn	05 54 23.8	-0.4
CKL	**Chakachamna La**	**1.11**	**262**		Pn	05 54 10.4	-1.2
SPBG	**Spurr Blockage**	**1.12**	**265**		Pn	05 54 10.6	-1.1
M23K	**Glacier View**	**1.20**	**68**		Pn	05 54 12.0	-0.6
M23K					Sn	05 54 28.5	+0.8
SPWE	**Spurr West**	**1.21**	**267**		Pn	05 54 11.9	-1.0
SEW	**Seward**	**1.30**	**167**		Pn	05 54 13.1	-0.9
SCM	**Sheep Creek Mo**	**1.39**	**69**	Pn	Pn	05 54 14.9	-0.4
SCM				IAML		05 54 35.3	
comp=E,514nm,0.5s							
SCM				IAML		05 54 35.5	
comp=N,585nm,0.7s							
RDT	**Redoubt**	**1.40**	**236**		Pn	05 54 14.3	-1.1
RDT					Sn	05 54 32.9	+0.3
GLI	**Glacier Island**	**1.52**	**108**		Pn	05 54 15.8	-1.2
GLI				IAML		05 54 38.4	
comp=N,580nm,0.3s							
RDJH	**Redoubt Jeurge**	**1.55**	**241**		Pn	05 54 16.8	-0.8
M20K	**Styx River**	**1.56**	**291**		Pn	05 54 17.2	-0.4
M20K					Sn	05 54 37.1	+0.4
M20K	**Styx River**	**1.56**	**291**	IAML		05 54 39.2	
comp=N,174nm,1.1s							
M20K				IAML		05 54 39.8	
comp=E,270nm,0.6s							
NCT	**North Crescent**	**1.62**	**241**		Pn	05 54 17.8	-0.7
RDWB	**Redoubt West**	**1.62**	**238**		Pn	05 54 17.8	-0.8
RED	**Redoubt Volcan**	**1.63**	**236**		Pn	05 54 17.9	-0.8
BRLK	**Bradley Lake**	**1.66**	**195**		Pn	05 54 18.2	-0.8
BRLK				IAML		05 54 44.0	
comp=E,410nm,0.5s							
BRSE	**Bradley Lake S**	**1.67**	**192**		Pn	05 54 18.2	-0.9
O20K	**Slope Mountain**	**1.80**	**225**		Pn	05 54 21.0	0.0
PPLA	**Purkeypile**	**1.83**	**328**		Pn	05 54 20.9	-0.6
FID	**Port Fidalgo**	**1.85**	**108**		Pn	05 54 20.4	-1.2
FID	**Port Fidalgo**	**1.85**	**108**	IAML		05 54 45.2	
comp=E,296nm,0.5s							
FID				IAML		05 54 45.4	
comp=N,299nm,0.5s							
HOM	**Homer**	**1.89**	**205**		Pn	05 54 21.9	-0.2
P23K	**Montague Islan**	**1.90**	**135**		Pn	05 54 20.7	-1.5
M24K	**Tolsona, Glenn**	**1.99**	**66**		Pn	05 54 23.3	-0.3
M24K				IAML		05 54 59.5	
comp=N,236nm,0.5s							
KLU	**Klutina**	**1.99**	**85**		Pn	05 54 22.7	-0.9
KLU				IAML		05 54 56.5	
comp=E,133nm,0.4s							
KLU				IAML		05 54 58.5	
comp=N,167nm,0.3s							
HIN	**Hinchinbrook I**	**1.99**	**118**		Pn	05 54 22.6	-1.0
HIN				IAML		05 54 57.3	
comp=E,373nm,0.8s							
ILW	**Iliamna West**	**2.00**	**230**		Pn	05 54 23.4	-0.4
ILS	**Iliamna Low So**	**2.05**	**228**		Pn	05 54 24.2	-0.2
ILSW	**Iliamna Southw**	**2.06**	**229**		Pn	05 54 24.0	-0.6
ILSW				IAML		05 54 56.3	
comp=E,138nm,0.6s							
DIV	**Divide**	**2.09**	**95**		Pn	05 54 23.8	-1.1
TRF	**Thorofare Moun**	**2.09**	**357**		Pn	05 54 24.8	-0.3
TRF				IAML		05 55 03.7	
comp=N,129nm,0.6s							
RND	**Reindeer**	**2.12**	**15**		Pn	05 54 25.1	-0.3
RND				IAML		05 55 01.9	
comp=N,97nm,0.7s							
RND				IAML		05 55 02.6	
comp=E,141nm,1.1s							
L20K	**Farewell, AK**	**2.12**	**303**		Pn	05 54 24.4	-0.9
M19K	**Big River Lodg**	**2.14**	**286**		Pn	05 54 24.7	-0.8
N19K	**Bonanza Creek**	**2.22**	**257**		Pn	05 54 25.9	-0.8
N19K				IAML		05 54 57.6	
comp=N,88nm,0.5s							
KTH	**Kantishna Hill**	**2.23**	**350**		Pn	05 54 26.5	-0.4
KTH				IAML		05 55 09.0	
comp=N,94nm,0.7s							
EYAK	**Cordova Ski Ar**	**2.26**	**109**		Pn	05 54 25.8	-1.3
CAST	**Castle Rocks**	**2.27**	**336**		Pn	05 54 26.7	-0.6
P19K	**Oil Pt**	**2.33**	**224**		Pn	05 54 28.4	+0.2
O19K	**Port Alsworth**	**2.40**	**243**		Pn	05 54 28.3	-0.8
O19K				IAML		05 55 03.1	
comp=E,242nm,0.4s							
L19K	**White Mountain**	**2.42**	**292**		Pn	05 54 28.9	-0.5
MCK	**McKinley**	**2.43**	**12**		Pn	05 54 29.6	+0.1
HARP	**HAARP**	**2.54**	**64**		Pn	05 54 31.1	0.0
N25K	**Chitina, Valde**	**2.63**	**82**		Pn	05 54 31.1	-1.3
N25K				IAML		05 55 11.1	
comp=E,70nm,0.6s							
N25K				IAML		05 55 13.8	
comp=N,86nm,0.5s							
BMRM	**Bremner River**	**2.67**	**96**		Pn	05 54 31.5	-1.4
PAX	**Paxson**	**2.69**	**51**		Pn	05 54 33.4	+0.2
GOAT	**Goat Mountain**	**2.72**	**105**		Pn	05 54 32.3	-1.3
CHUM	**Lake Minchumin**	**2.73**	**339**		Pn	05 54 33.4	-0.2
K20K	**Telida**	**2.73**	**319**		Pn	05 54 33.0	-0.8
K20K				IAML		05 55 29.4	
comp=E,55nm,0.8s							
M18K	**Stony River**	**2.77**	**275**		Pn	05 54 33.4	-0.8
BPAW	**Bear Paw Mtn.**	**2.78**	**352**		Pn	05 54 33.5	-0.8
WACK	**Wrangell Chich**	**2.80**	**75**		Pn	05 54 34.6	-0.2
RAGM	**Ragged Mountai**	**2.81**	**108**		Pn	05 54 33.4	-1.4
N18K	**Kilae Creek**	**2.92**	**259**		Pn	05 54 35.3	-1.0
N18K	**Kilae Creek**	**2.92**	**259**	IAML		05 55 09.9	
comp=N,62nm,0.8s							
O18K	**Koktuh Hills**	**2.96**	**241**		Pn	05 54 35.6	-1.2
O18K				IAML		05 55 19.6	
comp=E,54nm,1.3s							
O18K				IAML		05 55 39.0	
comp=N,85nm,1.2s							
SYI	**Shuyak Island**	**3.00**	**204**		Pn	05 54 36.7	-0.7
SYI				IAML		05 55 23.0	
comp=E,86nm,0.7s							
SYI				IAML		05 55 23.1	
comp=N,62nm,0.6s							
GLB	**Gilahina Butte**	**3.01**	**86**		Pn	05 54 36.5	-1.0
GLB				IAML		05 55 23.7	
comp=N,79nm,0.6s							
HMT	**Hamilton**	**3.02**	**107**		Pn	05 54 35.8	-1.9
Q19K	**Cape Douglas,**	**3.03**	**218**		Pn	05 54 37.2	-0.6
K24K	**Donnelly Dome**	**3.15**	**37**		Pn	05 54 41.1	+1.7
VRDI	**Verde Repeater**	**3.19**	**90**		Pn	05 54 38.3	-1.8
VRDI				IAML		05 55 34.3	
comp=N,56nm,1.4s							
TTA	**Tatalina**	**3.20**	**302**		Pn	05 54 39.4	-0.8
P18K	**Big Mountain,**	**3.24**	**235**		Pn	05 54 39.4	-1.4
WRH	**Wood River Hil**	**3.24**	**15**		Pn	05 54 40.1	-0.5
WRH				IAML		05 55 33.3	
comp=N,37nm,1.2s							
WRH				IAML		05 55 35.0	
comp=E,49nm,0.6s							
L18K	**Granite Mounta**	**3.26**	**288**		Pn	05 54 40.0	-1.0
L18K				IAML		05 55 45.9	
comp=N,42nm,1.0s							
HDA	**Harding Lake**	**3.37**	**24**		Pn	05 54 42.1	-0.3
HDA				IAML		05 55 30.8	
comp=E,54nm,0.3s							
HDA				IAML		05 55 41.1	
comp=N,91nm,0.6s							
J20K	**Nowinta River**	**3.39**	**328**		Pn	05 54 41.9	-0.8
J20K	**Nowinta River**	**3.39**	**328**	IAML		05 55 39.2	
comp=N,34nm,0.6s							
J20K				IAML		05 55 47.0	
comp=E,33nm,0.8s							
RIDG	**Independent Ri**	**3.39**	**43**		Pn	05 54 43.6	+0.8
CCB	**Clear Creek Bu**	**3.45**	**16**		Pn	05 54 43.0	-0.5
CCB				IAML		05 55 39.4	
comp=E,40nm,0.9s							
M17K	**Holitna River**	**3.55**	**274**		Pn	05 54 44.0	-0.9
M17K				IAML		05 55 52.6	
comp=N,67nm,0.8s							
M17K				IAML		05 55 56.0	
comp=E,59nm,0.9s							
L26K	**Log Cabin Wild**	**3.56**	**59**		Pn	05 54 44.6	-0.4
L26K				IAML		05 55 43.3	
comp=E,87nm,0.5s							
L26K				IAML		05 55 52.0	
comp=N,66nm,0.4s							
N17K	**Nushagak Hills**	**3.58**	**260**		Pn	05 54 44.5	-0.8
N17K	**Nushagak Hills**	**3.58**	**260**	IAML		05 55 26.6	
comp=E,56nm,0.5s							
N17K				IAML		05 55 45.9	
comp=N,28nm,0.8s							
COLA	**College**	**3.66**	**15**		Pn	05 54 46.4	0.0
COLA				IAML		05 55 34.3	
comp=N,88nm,0.5s							
KAHG	**Katmai Hook Gl**	**3.66**	**220**		Pn	05 54 46.4	-0.2
J19K	**Poorman**	**3.68**	**318**		Pn	05 54 45.8	-0.8
J19K	**Poorman**	**3.68**	**318**	IAML		05 55 56.1	
comp=N,31nm,0.6s							
IL31		**3.71**	**22**		Pn	05 54 46.7	-0.4
ILAR	**Eielson Array**	**3.71**	**22**		Pn	05 54 48.0	+1.0
J18K	**Innoko River**	**3.74**	**307**		Pn	05 54 47.0	-0.6
BALM	**Baldy**	**3.75**	**92**		Pn	05 54 46.5	-1.2
KIAG	**Kiagna River**	**3.76**	**93**		Pn	05 54 46.6	-1.4
I23K	**Minto, Yukon-K**	**3.81**	**4**		Pn	05 54 47.9	-0.5
I23K				IAML		05 55 54.9	
comp=E,26nm,1.3s							
I23K				IAML		05 55 58.3	
comp=N,41nm,0.9s							
KDAK	**Kodiak Island**	**3.82**	**201**	Pn	Pn	05 54 47.3	-1.3
KDAK				IAML		05 55 54.2	
comp=N,43nm,0.8s							
KDAK				IAML		05 55 55.3	
comp=N,50nm,1.2s							
O17K	**Koliganek Bris**	**3.82**	**248**		Pn	05 54 48.2	-0.4
SCRK	**Sand Creek**	**3.83**	**44**		Pn	05 54 48.7	-0.2
SCRK				IAML		05 55 50.9	
comp=N,34nm,0.6s							
SCRK				IAML		05 55 52.1	
comp=E,38nm,0.6s							
P17K	**Kvichak River**	**3.85**	**238**		Pn	05 54 48.4	-0.6
I21K	**Tanana**	**3.92**	**348**		Pn	05 54 49.4	-0.6
I21K				IAML		05 56 19.3	
comp=N,22nm,1.4s							
POKR	**Poker Plat Res**	**3.95**	**16**		Pn	05 54 49.1	-1.2
POKR				IAML		05 55 55.6	
comp=N,24nm,0.6s							
POKR				IAML		05 56 01.6	
comp=E,25nm,1.0s							
I20K	**Naaghedeneel**	**3.98**	**332**		Pn	05 54 50.7	-0.2
L17K	**Donlin**	**3.99**	**285**		Pn	05 54 49.9	-1.0
M27K	**Edge Creek, AK**	**4.00**	**72**		Pn	05 54 51.0	-0.2
K17K	**Iditarod**	**4.11**	**293**		Pn	05 54 51.9	-0.7
K17K	**Iditarod**	**4.11**	**293**	IAML		05 56 08.9	
comp=N,28nm,0.9s							
K17K				IAML		05 56 11.4	
comp=E,38nm,1.2s							
L27K	**Beaver Creek,**	**4.21**	**63**		Pn	05 54 53.3	-0.7
BCAR	**Beaver Creek A**	**4.23**	**63**		Pn	05 54 53.6	-0.7
M16K	**Timber Creek**	**4.32**	**269**		Pn	05 54 54.3	-1.2
O16K	**Kokwok River B**	**4.36**	**249**		Pn	05 54 55.3	-0.6
O16K	**Kokwok River B**	**4.36**	**249**	IAML		05 56 05.3	
comp=N,21nm,1.0s							
O16K				IAML		05 56 08.2	
comp=E,15nm,1.5s							
OHAK	**Old Harbor**	**4.47**	**203**		Pn	05 54 55.6	-1.9
OHAK				IAML		05 56 06.5	
comp=E,16nm,0.9s							
OHAK				IAML		05 56 08.4	
comp=N,22nm,1.0s							
H21K	**Melozitna Rive**	**4.48**	**345**		Pn	05 54 56.9	-0.8
L16K	**Owhat River**	**4.52**	**278**		Pn	05 54 57.3	-0.9
H22K	**Ishtalitna Cre**	**4.58**	**353**		Pn	05 54 59.0	-0.1
P16K	**Nushagak River**	**4.60**	**243**		Pn	05 54 59.0	-0.3
J17K	**VABM Dome**	**4.67**	**300**		Pn	05 54 59.2	-1.0
J17K	**VABM Dome**	**4.67**	**300**	IAML		05 56 35.1	
comp=E,12nm,0.9s							
O28M	**Mount Upton**	**4.83**	**93**		Pn	05 55 02.4	-0.3
I26K	**Coal Creek Min**	**5.03**	**35**		Pn	05 55 05.0	-0.1
I26K	**Coal Creek Min**	**5.03**	**35**	IAML		05 56 27.2	
comp=N,27nm,1.2s							
H19K	**Roundabout Mou**	**5.06**	**328**		Pn	05 55 05.0	-0.7
M15K	**Kasigluk River**	**5.21**	**267**		Pn	05 55 06.8	-0.9
J16K	**Anvik River**	**5.28**	**296**		Pn	05 55 07.7	-0.9
J16K	**Anvik River**	**5.28**	**296**	IAML		05 56 56.8	
comp=E,7.8nm,0.8s							
O15K	**Ungalikthiuk R**	**5.33**	**250**		Pn	05 55 09.1	-0.3
G21K	**Allakaket**	**5.39**	**345**		Pn	05 55 09.9	-0.2
G21K	**Allakaket**	**5.39**	**345**	IAML		05 56 51.3	
comp=N,10nm,1.2s							
G21K				IAML		05 56 57.1	
comp=E,8.1nm,1.2s							
L15K	**Ungalak Mounta**	**5.48**	**278**		Pn	05 55 10.4	-1.0
K15K	**Wolf Creek Mou**	**5.51**	**285**		Pn	05 55 11.1	-0.8
DAWY	**Dawson**	**5.60**	**56**		Pn	05 55 12.3	-0.8
FYU	**Fort Yukon**	**5.63**	**20**		Pn	05 55 11.3	-2.1
O29M	**Mount Kennedy**	**5.72**	**96**		Pn	05 55 13.9	-0.8
M14K	**Bethel**	**5.81**	**269**		Pn	05 55 15.2	-0.7
G18K	**Tagagawik**	**5.94**	**324**		Pn	05 55 17.2	-0.5
O14K	**Tigyukauivet M**	**5.96**	**254**		Pn	05 55 17.5	-0.4
L14K	**Kuka Creek**	**6.07**	**275**		Pn	05 55 19.2	-0.2
F20K	**Avaraart Lake**	**6.21**	**339**		Pn	05 55 21.5	+0.1
N30M	**Aishikik Lake**	**6.23**	**83**		Pn	05 55 20.0	-1.7
K29M	**Barlow Dome**	**6.30**	**61**		Pn	05 55 22.8	+0.1
J14K	**Nanvaranak Lak**	**6.49**	**288**		Pn	05 55 24.7	-0.5
M13K	**Dall Lake**	**6.56**	**267**		Pn	05 55 25.6	-0.5
E19K	**Redstone River**	**6.85**	**336**	Pn	Pn	05 55 30.9	+0.8
J30M	**Hart River**	**7.03**	**57**		Pn	05 55 33.0	+0.3
E25K	**Arctic Village**	**7.05**	**14**	Pn	Pn	05 55 32.7	-0.2

*IDC **01** 05:58:33.0±2.9, 53°.68N×88°.00E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=23.6km s-min=15.5km az=61.0*

ASRS 01 05:58:31.0±1.2, 53°.60N×87°.95E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	I	I	06 12 20.0	
baz=91,slow=349,SNR=0.9							
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pg	Pg	05 59 07.8	+0.5
0.8nm,0.3s,baz=93,slow=18,SNR=15							
ZALV				Lg	Lg	05 59 34.3	
4.2nm,0.3s,baz=97,slow=27,SNR=32							
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	06 00 12.1	+4.0
0.1nm,0.3s,baz=60,slow=14,SNR=7.0							
KURBB				Sn	Sn	06 01 24.7	+1.5
baz=61,slow=27,SNR=1.1							
KURBB				Lg	Lg	06 01 57.7	
0.1nm,0.3s,baz=56,slow=34,SNR=6.8							
0.6nm,0.5s							
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	06 00 28.8	+4.2
0.1nm,0.3s,baz=31,slow=12,SNR=5.7							
MKAR				Sn	Sn	06 01 56.5	+3.8
0.1nm,0.3s,baz=30,slow=27,SNR=3.5							
MKAR				Lg	Lg	06 02 38.0	
0.2nm,0.3s,baz=27,slow=30,SNR=5.8							
0.1nm,0.3s							

*CATAC **01** 06:25:33.6±1.1, 13°.N±5°.5×9°.0W±°, h16km±8km, M2.8/6, MLv2.8/6, Error ellipse: s-maj=11.5km s-min=10.8km az=118.5, confirmed*

*SNET **01** 06:25:33.8±1.4, 13°.11N×90°.11W, h27km±6km, ML2.6*

*GCG **01** 06:25:34.3±0.9, 13°.23N×90°.12W, h4km±30km, MD3.9*

ISC 01 06:25:34.0±2.8, 13°.1N±0°.1×90°.1W±0°.1, h21km±5km, n39, σ0°66/45, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.83**	**47**	*e*P	**Pb**	**06 25 49.3**	**-0.4**
JAYA				*e*S	**Sn**	**06 26 01.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.83**	**47**	P	**Pb**	**06 25 49.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.83**	**47**	S	**Sb**	**06 26 01.0**	**+0.5**
JAYA	**Jayaque - finc**	**0.83**	**47**	P	**Pb**	**06 25 49.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.83**	**47**	P	**Pb**	**06 25 49.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.83**	**47**	*i* P	**Pb**	**06 25 49.3**	**-0.4**
JAYA				*e*S	**Sb**	**06 26 01.0**	**+0.5**
JAYA	**Jayaque - finc**	**0.83**	**47**	*i* P		06 25 49.3	
JAYA				*e*S		06 26 01.0	
CEVE	**Cerro Verde**	**0.85**	**30**	*e*P	**Pb**	**06 25 49.8**	**-0.6**
CEVE				*e*S	**Sn**	**06 26 03.1**	**0.0**
CEVE				IAML		06 26 05.3	
comp=Z,234nm,0.2s							
CEVE	**Cerro Verde**	**0.85**	**30**	P	**Pb**	**06 25 50.1**	**-0.2**
CEVE	**Cerro Verde**	**0.85**	**30**	S	**Sn**	**06 26 02.6**	**-0.4**
CEVE	**Cerro Verde**	**0.85**	**30**	P	**Pn**	**06 25 51.9**	**+0.8**
CEVE	**Cerro Verde**	**0.85**	**30**	P	**Pb**	**06 25 50.0**	**-0.4**
NUBE	**Las Nubes**	**0.86**	**19**	*e*P	**Pb**	**06 25 49.8**	**-0.5**
NUBE				*e*S	**Sb**	**06 26 01.3**	**-0.2**
NUBE	**Las Nubes**	**0.86**	**19**	P	**Pb**	**06 25 49.9**	**-0.5**
NUBE	**Las Nubes**	**0.86**	**19**	S	**Sb**	**06 26 00.9**	**-0.6**
NUBE	**Las Nubes**	**0.86**	**19**	P	**Pb**	**06 25 50.1**	**-0.3**
NUBE	**Las Nubes**	**0.86**	**19**	P	**Pb**	**06 25 49.8**	**-0.5**
NUBE	**Las Nubes**	**0.86**	**19**	*e*P	**Pb**	**06 25 49.8**	**-0.5**
NUBE	**Las Nubes**	**0.86**	**19**	*e*P		06 25 49.8	
PMON	**Piamonte**	**0.96**	**49**	*e*P	**Pb**	**06 25 51.2**	**-0.9**
PMON	**Piamonte**	**0.96**	**49**	P	**Pb**	**06 25 51.7**	**-0.4**
PMON	**Piamonte**	**0.96**	**49**	S	**Sb**	**06 26 04.9**	**+0.5**
PMON	**Piamonte**	**0.96**	**49**	P	**Pn**	**06 25 53.4**	**+1.0**
PMON	**Piamonte**	**0.96**	**49**	P	**Pb**	**06 25 51.7**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.98**	**16**	P	**Pb**	**06 25 51.8**	**-0.5**
SLOZ	**Alcaldia de Sa**	**0.98**	**16**	P	**Pn**	**06 25 54.8**	**+2.3**
PAVA	**Las Pavas**	**1.26**	**60**	*e*P	**Pn**	**06 25 55.8**	**-0.8**
PAVA	**Las Pavas**	**1.26**	**60**	P	**Pn**	**06 25 56.1**	**-0.5**
PAVA	**Las Pavas**	**1.26**	**60**	P	**Pb**	**06 25 58.5**	**+1.3**
PAVA	**Las Pavas**	**1.26**	**60**	P	**Pn**	**06 25 56.4**	**-0.2**
COEG	**Centro de Oper**	**1.27**	**65**	*e*P	**Pn**	**06 25 55.9**	**-0.7**
COEG				*e*S	**Sb**	**06 26 14.5**	**+1.2**
COEG				IAML		06 26 16.3	
comp=Z,87nm,0.3s							
COEG	**Centro de Oper**	**1.27**	**65**	P	**Pn**	**06 25 55.8**	**-0.8**
COEG	**Centro de Oper**	**1.27**	**65**	P	**Pn**	**06 25 55.9**	**-0.7**
MTO3	**Montecristo**	**1.48**	**28**	*e*P	**Pn**	**06 25 59.3**	**-0.3**
MTO3				*e*S	**Sn**	**06 26 18.4**	**0.0**
MTO3	**Montecristo**	**1.48**	**28**	P	**Pn**	**06 25 59.6**	**0.0**
MTO3	**Montecristo**	**1.48**	**28**	P	**Pn**	**06 25 59.7**	**+0.1**
MTO3	**Montecristo**	**1.48**	**28**	P	**Pn**	**06 25 59.4**	**-0.1**
MTO3	**Montecristo**	**1.48**	**28**	*e*P	**Pn**	**06 25 59.3**	**-0.3**
MTO3	**Montecristo**	**1.48**	**28**	*e*P		06 25 59.3	
ESQI	**Esquipulas**	**1.63**	**26**	*e*P	**Pn**	**06 26 01.9**	**+0.3**
PACA	**Pacayal**	**1.74**	**77**	*e*P	**Pn**	**06 26 03.4**	**+0.3**
APG	**El Apazote**	**1.95**	**349**	*e*P	**Pn**	**06 26 06.3**	**+0.2**
APG	**El Apazote**	**1.95**	**349**	*e*P		06 26 06.3	

WEL 01 06:41:55.1±1.1, 35°S±21°×18°0E±2°7, h264km±17km, M4.0/9, ML4.1/10, MLv4.0/9, Error ellipse: s-maj=42.8km s-min=13.1km az=125.9, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.84**	**206**	P	Pn	06 42 46.4	-0.2
MXZ				S	S	06 43 26.7	-1.0
WMGZ	**Waiomatatini S**	**3.04**	**203**	P	Pn	06 42 48.7	0.0
WMGZ				S	S	06 43 33.0	+1.7
PKGZ	**Pakihiroa**	**3.19**	**207**	P	Pn	06 42 51.7	+1.3
PKGZ				S	S	06 43 35.8	+1.4
HAZ	**Te Kaha**	**3.22**	**211**	P	Pn	06 42 49.7	-0.8
HAZ				S	S	06 43 36.0	+1.2
PUZ	**Puketiti**	**3.32**	**203**	P	Pn	06 42 51.3	-0.5
PUZ				S	S	06 43 37.6	+0.7
RUGZ	**Raukumara Rang**	**3.44**	**211**	P	Pn	06 42 52.3	-0.8
RUGZ				S	S	06 43 39.1	-0.4
TWGZ	**Tauwhareparae**	**3.51**	**205**	P	Pn	06 42 55.5	+1.6
TWGZ				S	S	06 43 42.7	+2.1
CNGZ	**Carnagh Statio**	**3.71**	**201**	P	Pn	06 42 56.4	+0.3
CNGZ				S	S	06 43 39.3	-5.4
TKGZ	**Te Karaka**	**3.79**	**205**	P	Pn	06 42 58.0	+1.1
TKGZ				S	S	06 43 48.6	+2.3
MWZ	**Matawai**	**3.81**	**209**	P	Pn	06 42 56.8	-0.5
MWZ				S	S	06 43 47.5	+0.6
URZ	**Urewera**	**3.93**	**214**	P	Pn

0.1nm,0.3s,baz=300,slow=26,SNR=1.6
0.5nm,0.6s
ASAR Alice Springs 19.21 136 P P 06 49 40.1 -0.4
0.1nm,0.3s,baz=313,slow=11,SNR=6.6
ASAR S Sn 06 53 06.2 -11
0.4nm,0.7s,baz=308,slow=24,SNR=3.4
0.3nm,0.7s
MKAR Makanchi Array 65.70 333 P P 06 55 59.4 -1.5
0.3nm,0.5s,baz=148,slow=7.1,SNR=4.3
0.3nm,0.5s
KURBB Kurchatov Arra 70.21 334 P P 06 56 27.2 -1.9
0.2nm,0.5s,baz=128,slow=6.0,SNR=2.2
0.2nm,0.5s

IDC 01 07:04:26.6±2.1, 0°.93N×125°.34E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=205.8km s-min=27.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**157**	P	P	07 09 28.4	0.0
	0.3nm,0.3s,baz=336,slow=10,SNR=5.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**25.82**	**162**	P	P	07 09 59.7	-0.1
	0.1nm,0.5s,baz=346,slow=9.9,SNR=1.8						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**59.09**	**327**	P	P	07 14 28.9	0.0
	0.1nm,0.4s,baz=129,slow=6.1,SNR=4.2						
	0.1nm,0.4s						

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*DSN **01** 07:16:27.6±1.6, 27°.67N×51°.86E, h10km, ML3.2/7, Error ellipse: s-maj=23.1km s-min=9.0km az=179.0*
*TEH **01** 07:16:28.5, 27°.92N×51°.85E, h19km±24km*
*IDC **01** 07:17:04.9±8.7, 31°.95N×48°.64E, h0km, mb4.0/5, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=163.3km s-min=36.4km az=2.0*
*NAO **01** 07:17:30.7, 34°.08N×47°.13E, h33km, mb3.8*
ISC 01 07:16:25.9±1.1, 27°.69N±0°.09×51°.70E±0°.09, h10km, n32, σ1°.15/31, mb3.8/6, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.78**	**330**	Pg	**Pb**	**07 16 41.9**	**+0.4**
AHBU	**AHRAM**	**1.22**	**343**	Pg	**Pb**	**07 16 48.6**	**-0.6**
LMD1	**Lamerd**	**1.35**	**105**	Pg	**Pg**	**07 16 52.9**	**+1.1**
QIR1	**Qir**	**1.43**	**56**	Pg	**Pn**	**07 16 51.0**	**-1.0**
JHRM	**Jahrom**	**1.85**	**63**	Pg	**Pn**	**07 16 58.2**	**+0.4**
KAZ2	**Kazeron-Fars-I**	**1.92**	**359**	Pg	**Pn**	**07 16 58.8**	**+0.1**
SHI	**Shiraz**	**2.08**	**20**	Pn	**Pn**	**07 17 00.1**	**-0.9**
KLNJ	**Kolanjah**	**3.31**	**358**	Pn	**Pn**	**07 17 17.8**	**-0.3**
IRAM	**Ramesheh**	**4.15**	**8**	Pn	**Pn**	**07 17 28.8**	**-0.8**
SHME	**Shamm**	**4.29**	**111**	P	**Pn**	**07 17 30.2**	**-1.1**
NAZ	**Nazwa, Dubai**	**4.46**	**126**	P	**Pn**	**07 17 34.4**	**+0.8**
IMEH	**Mehriz**	**4.48**	**34**	Pn	**Pn**	**07 17 34.4**	**+0.3**
MSFE	**Esma-Masafi**	**4.62**	**119**	P	**Pn**	**07 17 35.8**	**0.0**
MDH	**Madha**	**4.76**	**119**	P	**Pn**	**07 17 38.2**	**+0.5**
UOSS	**Minazif**	**4.88**	**123**	P	**Pn**	**07 17 39.1**	**-0.3**
HATD	**Hatta, Dubai**	**4.90**	**125**	P	**Pn**	**07 17 39.9**	**+0.3**
ASHO	**Ashiyiah**	**4.93**	**126**	P	**Pn**	**07 17 40.6**	**+0.5**
ASHO				S	**Sn**	**07 18 34.8**	**-2.5**
MZR	**Muzera**	**4.94**	**161**	P	**Pn**	**07 17 42.1**	**+1.9**
IBAF	**Bafgh**	**5.14**	**40**	Pn	**Pn**	**07 17 42.8**	**-0.4**
IZEF	**Zefreh**	**5.22**	**6**	Pn	**Pn**	**07 17 44.2**	**0.0**
IKLH	**Kolahrood**	**5.61**	**359**	Pn	**Pn**	**07 17 48.9**	**-0.7**
KBAM	**BAM**	**6.12**	**75**	Pn	**Pn**	**07 17 57.4**	**+0.8**
KRSH	**Karshahi**	**6.27**	**3**	Pn	**Pn**	**07 17 58.1**	**-0.6**
RAYN	**Ar Rayn**	**6.96**	**235**	P	**Pn**	**07 18 09.4**	**+1.4**
HSAM	**Samen**	**7.02**	**339**	Pn	**Pn**	**07 18 08.9**	**-0.2**
AKTO	**Aktyubinsk**	**23.22**	**10**	P	**P**	**07 21 36.1**	**+3.1**
	0.1nm,0.3s,baz=188,slow=9.9,SNR=3.7						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**30.65**	**34**	P	P	07 23 05.2	+25
	0.3nm,0.4s,baz=234,slow=8.7,SNR=2.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**35.73**	**34**	P	P	07 23 49.3	+25
	1.0nm,0.6s,baz=243,slow=6.9,SNR=2.2						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**37.85**	**340**	P	**P**	**07 23 40.9**	**-1.7**
	3.8nm,0.9s,baz=145,slow=11,SNR=5.7						
	3.8nm,0.9s						
HFS	**Hagfors**	**41.42**	**332**	P	**P**	**07 24 11.4**	**-0.9**
	2.0nm,0.3s,baz=125,slow=7.8,SNR=20						
	2.0nm,0.3s						
NB2	**NORSAR Subarra**	**42.94**	**332**	P	**P**	**07 24 23.6**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=123,slow=9.3						
NOA	**NORSAR Array B**	**42.94**	**332**	P	**P**	**07 24 23.4**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=128,slow=9.0,SNR=4.9						
	comp=Z,0.5nm,0.4s						

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*IDC **01** 07:18:35.2±0.7, 6°.20S×143°.01E, h0km, mb4.4/16, mbtmp4.4/20, ML4.2/2, MS3.3/5, Error ellipse: s-maj=23.1km s-min=13.7km az=93.0*
*NEIC **01** 07:18:40.7±1.6, 6°.30S±0°.07×142°.73E±0°.09, h35km±2km, mb4.7/36, Error ellipse: s-maj=15.1km s-min=11.7km az=79.0*
*DJA **01** 07:18:41.5±0.5, 6°.S±3°×14°.2E±°, h10km, M5.0/10, mb4.6/10, mB5.7/1, MLv5.2/6, Mw(mB)5.3/1, MwMwp4.8/1, Mwp5.1/1*
ISC 01 07:18:36.8±0.4, 6°.35S±0°.04×142°.81E±0°.05, h10km, n95, σ2°.07/96, mb4.7/35, MS3.0/4, 1C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.91**	**304**	P	**Pb**	**07 19 11.6**	**-0.1**
MMPI	**Merauke**	**3.20**	**229**	P	**Pg**	**07 19 39.9**	**+1.8**
MMPI				S	**Sg**	**07 20 24.1**	**+4.5**
JAY	**Jayapura**	**4.35**	**331**	Pn	**Pn**	**07 19 43.8**	**+0.9**
	11nm,0.3s,baz=188,slow=8.0,SNR=23						
JAY				Sn	**Sn**	**07 20 29.4**	**-4.3**
	5.5nm,0.3s,baz=20,slow=14,SNR=1.4						
	26nm,0.3s						
JAY	**Jayapura**	**4.35**	**331**	P	**Pn**	**07 19 43.9**	**+0.9**
GENI	**Genyem**	**4.57**	**325**	P	**Pn**	**07 19 48.8**	**+2.8**
GENI	**Genyem**	**4.57**	**325**	P	**Pn**	**07 19 47.3**	**+1.3**
GENI				S	**Sn**	**07 20 41.2**	**+2.1**
PMG	**Port Moresby**	**5.27**	**125**	Pn	**Pn**	**07 19 55.8**	**+0.1**
	21nm,0.6s,baz=265,slow=4.6,SNR=6.2						
PMG				Sn	**Sn**	**07 20 51.2**	**-5.3**
	3.3nm,0.3s,baz=279,slow=4.9,SNR=4.3						
SMPI	**Sarmi**	**5.95**	**316**	P	**Pn**	**07 20 07.3**	**+2.3**
	0.5nm5μm7μm98nm,1.4s						
MANU	**Manus Island**	**6.24**	**47**		**Pn**	**07 20 11.3**	**+2.3**
COEN	**Coen**	**7.57**	**177**	Pn	**Pn**	**07 20 29.6**	**+2.3**
COEN	**Coen**	**7.57**	**177**	P	Pn	07 20 36.6	+9.3
FAKI	**Fak Fak**	**11.06**	**287**	Pn	**Pn**	**07 21 12.0**	**-3.2**
FAKI	**Fak Fak**	**11.06**	**287**	P	**Pn**	**07 21 15.5**	**+0.3**
FAKI	**Fak Fak**	**11.06**	**287**	S	**Sn**	**07 23 13.5**	**-5.6**
FAKI	**Fak Fak**	**11.06**	**287**	P	**Pn**	**07 21 14.8**	**-0.4**
	27nm,0.8s						
MTN	**Manton Dam**	**13.20**	**240**	Pn	**Pn**	**07 21 44.2**	**-0.2**
QIS	**Mount Isa**	**14.46**	**192**	P	**P**	**07 22 08.0**	**-0.6**
WB0	**Warramunga Arr**	**15.65**	**211**		**Pn**	**07 22 18.9**	**+1.4**
WRA	**Warramunga Arr**	**15.82**	**211**		**Pn**	**07 22 19.5**	**-0.3**
WRA	**Warramunga Arr**	**15.82**	**211**	Pn	**Pn**	**07 22 20.6**	**+0.8**
	1.0nm,0.3s,baz=32,slow=12,SNR=20						
WRA				Sn	**Sn**	**07 25 10.3**	**-5.1**
	1.0nm,0.3s,baz=17,slow=19,SNR=4.6						
WRA				Lg	Lg	07 27 04.5	
	0.6nm,0.3s,baz=30,slow=32,SNR=4.8						
	2.9nm,0.4s						
KNRA	**Kununurra**	**16.60**	**235**	Pn	**Pn**	**07 22 30.1**	**+0.2**
KNRA				IAmb	IAmb	07 22 42.9	
	comp=Z,36nm,0.7s						
TATA	**Tatamba Isabel**	**16.98**	**98**	P	P	07 22 47.4	+11
SOEI	**Soe**	**18.67**	**258**		**P**	**07 22 53.9**	**-1.4**
SOEI				IAmb	IAmb	07 23 36.3	
	comp=Z,41nm,0.8s						
SOEI	**Soe**	**18.67**	**258**	P	**Pn**	**07 22 57.3**	**+1.7**
	comp=Z,45nm,0.7s						
AS01	**Alice Springs**	**19.21**	**205**	P	**Pn**	**07 23 04.4**	**+2.4**
AS31	**Alice Springs**	**19.23**	**206**	Pn	**Pn**	**07 23 03.6**	**+1.3**
AS31				IAmb	IAmb	07 23 12.0	
	comp=Z,17nm,0.7s						
ASAR	**Alice Springs**	**19.23**	**206**	P	**Pn**	**07 23 04.8**	**+2.5**
	comp=Z,36nm,0.7s,baz=33,slow=9.6,SNR=330						
ASAR				S	**Sn**	**07 26 33.9**	**-4.1**
	comp=Z,3.6nm,0.7s,baz=18,slow=28,SNR=6.4						
ASAR				Lg	Lg	07 28 55.7	
	comp=Z,0.2nm,0.3s,baz=21,slow=29,SNR=4.8						
ASAR				LR	LR	07 31 11.7	
	comp=Z,167nm,21.5s,baz=43,slow=39						
FITZ	**Fitzroy Crossi**	**20.42**	**234**		Pn	07 23 16.1	-0.3
FITZ	**Fitzroy Crossi**	**20.42**	**234**	P	Pn	07 23 16.7	+0.3
	comp=Z,12nm,0.5s,baz=49,slow=11,SNR=86						
FITZ				S	**S**	**07 26 53.3**	**-10**
	comp=Z,6.5nm,0.5s,baz=82,slow=14,SNR=4.1						
FITZ				Lg	Lg	07 29 26.6	
	baz=143,slow=7.2						
FITZ				LR	LR	07 31 07.1	
	comp=Z,92nm,18.5s,baz=42,slow=36						
	comp=Z,12nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.42**	**234**	P	**P**	**07 23 15.7**	**+1.4**
EIDS	**Eidsvold**	**20.50**	**158**	P	**P**	**07 23 17.0**	**+1.9**
INKA	**Innaminka**	**21.37**	**185**	P	**P**	**07 23 28.8**	**+4.4**
OOD	**Oodnadatta**	**22.38**	**197**	P	**P**	**07 23 38.8**	**+3.5**
KAPI	**Kappang**	**22.98**	**272**	P	**P**	**07 23 43.6**	**+1.8**
	comp=Z,7.6nm,0.3s,baz=76,slow=17,SNR=1.6						
KAPI				LR	LR	07 35 06.1	
	comp=Z,26nm,19.1s,baz=112,slow=43						
	comp=Z,7.6nm,0.3s						
WRKA	**Warakurna**	**23.21**	**215**	P	**P**	**07 23 46.1**	**+2.0**
PLAI	**Plampang**	**24.93**	**263**	P	**P**	**07 23 59.9**	**-0.6**
STKA	**Stephens Creek**	**25.43**	**182**	P	**P**	**07 24 05.5**	**+0.7**
STKA				IAmb	IAmb	07 24 08.1	
	comp=Z,27nm,0.9s						
STKA	**Stephens Creek**	**25.43**	**182**	P	**P**	**07 24 05.9**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=342,slow=8.9,SNR=12						
STKA				LR	LR	07 36 05.0	
	comp=Z,31nm,19.1s,baz=209,slow=41						
	comp=Z,4.3nm,0.7s						
MYLDM	**Lahad Datu**	**26.83**	**295**	P	**P**	**07 24 18.7**	**+1.0**
MYLDM				IAmb	IAmb	07 24 51.9	
	comp=Z,31nm,1.3s						
BBOO	**Buckleboo**	**27.07**	**193**	P	**P**	**07 24 19.2**	**-0.4**
BBOO				IAmb	IAmb	07 24 43.6	
	comp=Z,26nm,1.5s						
NWAO	**Narrogin (SRO)**	**35.57**	**219**	LR	LR	07 39 54.9	
	comp=Z,71nm,19.0s,baz=77,slow=36						
NJ2	**Nanjing**	**44.49**	**331**	*e*P	**P**	**07 26 49.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
TUWZ	**Tuamarina**	**44.59**	**146**	P	**P**	**07 26 51.4**	**+2.2**
BSWZ	**Blackbirch Sta**	**44.75**	**147**	P	**P**	**07 26 52.1**	**+1.6**
GVZ	**Greta Valley S**	**45.17**	**149**	P	**P**	**07 26 55.8**	**+2.0**
KSRS	**Korea Array**	**45.74**	**343**	P	**P**	**07 26 58.1**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=164,slow=8.9,SNR=13						
	comp=Z,2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.79**	**301**	P	**P**	**07 27 30.7**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=132,slow=6.4,SNR=6.2						
	comp=Z,1.0nm,0.4s						
PZH	**PanZhiHua**	**51.48**	**311**	P	**P**	**07 27 44.5**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,6.1s						
BNX	**BinXian**	**53.65**	**347**	⇑P	**P**	**07 27 58.0**	**-0.5**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**55.03**	**331**	*e*P	**P**	**07 28 09.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
XLT	**XiLinHaoTe**	**55.54**	**337**	*e*P	**P**	**07 28 10.7**	**-1.7**
XLT				pP	sP	07 28 23.0	+5.8
XLT				sP	pP	07 28 29.2	+13
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,100nm,5.4s						
LZH	**Lanzhou**	**55.83**	**322**	pmax	pmax		
	comp=Z,12nm,1.1s						
SHL	**Shillong**	**58.75**	**305**	P	**P**	**07 28 35.0**	**-0.6**
SHL				IAmb	IAmb	07 28 42.1	
	comp=Z,10nm,1.2s						
PETK	**Petropavlovsk-**	**60.56**	**10**	P	**P**	**07 28 46.7**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=193,slow=7.3,SNR=2.2						
	comp=Z,2.1nm,0.7s						
ULN	**Ulaanbaatar**	**62.49**	**334**	P	**P**	**07 29 00.6**	**0.0**
SONM	**Songino Array**	**62.76**	**333**	P	**P**	**07 29 02.3**	**-0.1**
SONM	**Songino Array**	**62.76**	**333**	P	**P**	**07 29 02.7**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=158,slow=4.8,SNR=4.8						
	comp=Z,0.7nm,0.5s						
SEY	**Seymchan**	**69.47**	**5**	P	**P**	**07 29 44.5**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=127,slow=2.7,SNR=5.2						
	comp=Z,0.6nm,0.4s						
WMQ	**Urumqi**	**70.39**	**321**	*e*P	**P**	**07 29 48.8**	**-2.4**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
MK31	**Makanchi Array**	**75.15**	**322**	P	**P**	**07 30 19.2**	**-0.2**
MKAR	**Makanchi Array**	**75.15**	**322**	P	**P**	**07 30 19.2**	**-0.2**
MKAR	**Makanchi Array**	**75.15**	**322**	P	**P**	**07 30 19.7**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=105,slow=7.4,SNR=19						
	comp=Z,3.4nm,0.8s						
MAKZ	**Makanchi**	**75.35**	**322**	P	**P**	**07 30 20.6**	**0.0**
MAKZ				IAmb	IAmb	07 30 21.7	
	comp=Z,7.6nm,1.1s						
KSH	**Kashi**	**76.54**	**313**	P	**P**	**07 30 29.2**	**+1.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**77.12**	**329**	P	**P**	**07 30 29.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=113,slow=5.3,SNR=7.7						
	comp=Z,1.2nm,0.5s						
KURK	**Kurchatov**	**79.03**	**324**	P	**P**	**07 30 40.6**	**-0.4**
KURBB	**Kurchatov Arra**	**79.04**	**324**	P	**P**	**07 30 40.7**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=116,slow=4.7,SNR=16						
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**07 31 05.4**	**0.0**
QSPA				IAmb	IAmb	07 31 06.4	
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**07 31 06.1**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=309,slow=1.2,SNR=18						
	comp=Z,4.2nm,0.8s						
NRIK	**Noril'sk**	**84.35**	**343**	P	**P**	**07 31 08.2**	**-0.6**
NRIK				IAmb	IAmb	07 31 09.3	
	comp=Z,6.6nm,1.0s						
NRIK	**Noril'sk**	**84.35**	**343**	P	**P**	**07 31 08.7**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=110,slow=4.7,SNR=8.1						
	comp=Z,5.2nm,0.9s						
BVAR	**Borovoye Array**	**84.62**	**325**	P	**P**	**07 31 10.7**	**+0.2**
	comp=Z,20nm,0.8s,baz=112,slow=6.3,SNR=50						
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**84.69**	**325**	P	**P**	**07 31 10.7**	**-0.1**
RND	**Reindeer**	**86.15**	**25**	P	**P**	**07 31 16.4**	**-1.7**
DIV	**Divide**	**86.69**	**27**	P	**P**	**07 31 20.4**	**-0.4**
E22K	**Anaktuvuk Pass**	**86.94**	**20**	P	**P**	**07 31 21.6**	**-0.2**
E22K				IAmb	IAmb	07 31 27.6	
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**07 31 22.2**	**-2.0**
	comp=Z,3.7nm,0.7s,baz=256,slow=4.9,SNR=34						
	comp=Z,3.7nm,0.7s						
TOLK	**Toolik Lake Re**	**87.91**	**20**	P	**P**	**07 31 26.2**	**-0.2**
TOLK				IAmb	IAmb	07 31 36.6	
	comp=Z,3.7nm,0.9s						
C23K	**Itkillik River**	**88.05**	**19**	P	**P**	**07 31 27.3**	**+0.3**
F24K	**Squaw Lake**	**88.07**	**21**	P	**P**	**07 31 27.5**	**+0.3**
DOT	**Dot Lake**	**88.25**	**25**	P	**P**	**07 31 27.4**	**-0.7**
C24K	**Franklin Bluff**	**88.62**	**19**	P	**P**	**07 31 29.5**	**-0.1**
SYO	**Syowa Base**	**88.82**	**201**	⇓*e*P	**P**	**07 31 30.4**	**-0.3**
M27K	**Edge Creek, AK**	**88.83**	**27**	P	**P**	**07 31 30.8**	**-0.2**
F26K	**Sheenjek River**	**89.48**	**21**	P	**P**	**07 31 33.6**	**-0.3**
F26K				IAmb	IAmb	07 31 35.5	
	comp=Z,5.3nm,0.9s						
O29M	**Mount Kennedy**	**89.86**	**29**	P	**P**	**07 31 35.4**	**-0.5**
O29M				IAmb	IAmb	07 31 36.7	
	comp=Z,4.5nm,1.1s						
ABKAR	**Akbulak array**	**90.12**	**319**	P	**P**	**07 31 36.1**	**-1.1**
DAWY	**Dawson**	**90.36**	**25**	P	**P**	**07 31 37.8**	**-0.2**
DAWY				IAmb	IAmb	07 31 38.8	
	comp=Z,3.4nm,0.9s						
M29M	**Somme Creek**	**90.39**	**27**	P	**P**	**07 31 38.1**	**-0.2**
M29M				IAmb	IAmb	07 31 39.1	
	comp=Z,2.0nm,0.7s						
HYT	**Haines Junctio**	**90.49**	**29**	P	**P**	**07 31 38.6**	**-0.2**
HYT				IAmb	IAmb	07 31 41.4	
	comp=Z,2.8nm,0.9s						
K29M	**Barlow Dome**	**91.11**	**26**	P	**P**	**07 31 41.4**	**-0.3**
K29M				IAmb	IAmb	07 31 46.7	
	comp=Z,3.8nm,0.9s						
M30M	**Minto, Yukon**	**91.18**	**27**	P	**P**	**07 31 41.3**	**-0.6**
ARTI	**Arti**	**92.15**	**326**	P	**P**	**07 31 44.7**	**-1.8**
	comp=Z,1.8nm,0.4s,baz=116,slow=4.5,SNR=5.0						
	comp=Z,1.8nm,0.4s						
YKA	**Yellowknife Ar**	**101.41**	**28**	P	**Pdif**	**07 32 26.9**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=276,slow=5.4,SNR=4.3						
DBIC	**Dimbokro**	**147.88**	**272**	PKPbc	**PKPbc**	**07 38 24.1**	**+0.8**
	comp=Z,9.0nm,0.9s,baz=115,slow=4.3,SNR=4.6						

TEH 01 07:19:07.3, 27°.95N×51°.84E, h18km±70km, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.65**	**309**	Pg	Pg	07 19 19.7	-0.5
AHBU	**AHRAM**	**1.03**	**332**	Pg	Pg	07 19 27.4	+0.2
QIR1	**Qir**	**1.18**	**64**	Pg	Pb	07 19 29.3	0.0
LMD1	**Lamerd**	**1.32**	**117**	Pg	Pg	07 19 32.3	-0.6
IMEH	**Mehriz**	**4.19**	**34**	Pn	Pn	07 20 12.9	+2.3
IZEF	**Zefreh**	**4.94**	**5**	Pn	Pn	07 20 22.3	+1.3

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*TEH **01** 07:20:07.1, 27°.87N×51°.84E, h8km±67km*
*IDC **01** 07:20:58.0±16.0, 33°.41N×47°.87E, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=277.2km s-min=68.6km az=163.0*
ISC 01 07:20:05.7±1.9, 27°.7N±0°.1×51°.7E±0°.1, h10km, n12, σ1°.71/12, mb3.6/5, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.76**	**328**	Pg	**Pg**	**07 20 20.9**	**+0.5**
AHBU	**AHRAM**	**1.20**	**342**	Pg	**Pb**	**07 20 28.1**	**-0.5**
AHBU				Sg	**Sn**	**07 20 44.8**	**-0.2**
LMD1	**Lamerd**	**1.34**	**106**	Pg	**Pg**	**07 20 32.2**	**+0.7**
QIR1	**Qir**	**1.40**	**57**	Pg	**Pb**	**07 20 30.4**	**-1.5**
KAZ2	**Kazeron-Fars-I**	**1.89**	**359**	Pg	**Pb**	**07 20 39.5**	**-0.9**
SHI	**Shiraz**	**2.04**	**20**	Pn	**Pb**	**07 20 42.1**	**-0.9**
IMEH	**Mehriz**	**4.45**	**34**	Pn	**Pn**	**07 21 14.1**	**+0.6**
AKTO	**Aktyubinsk**	**23.19**	**10**	P	**P**	**07 25 16.2**	**+3.6**
	0.1nm,0.3s,baz=194,slow=12,SNR=3.6						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**28.61**	**329**	P	P	07 25 53.8	-8.2
	0.6nm,0.6s,baz=137,slow=10,SNR=1.4						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**37.83**	**340**	P	**P**	**07 27 20.8**	**-1.4**
	3.3nm,0.8s,baz=152,slow=8.6,SNR=5.1						
	3.3nm,0.8s						
HFS	**Hagfors**	**41.40**	**332**	P	**P**	**07 27 50.7**	**-1.2**
	2.0nm,0.4s,baz=121,slow=10,SNR=9.5						
	2.0nm,0.4s						
NOA	**NORSAR Array B**	**42.92**	**332**	P	**P**	**07 28 02.4**	**-2.0**
	0.5nm,0.5s,baz=120,slow=8.0,SNR=2.1						
	0.5nm,0.5s						

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*IDC **01** 07:26:14.9±8.6, 1°.81N×124°.23E, h328km±98km, mb3.3/6, mbtmp4.1/7, Error ellipse: s-maj=45.4km s-min=19.8km az=80.0*
ISC 01 07:26:14.3±1.0, 1°.8N±0°.2×124°.2E±0°.4, h323km, n7, σ0°.57/8, mb3.4/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.84**	**176**	P	**P**	**07 30 22.6**	**+0.2**
	24nm,1.2s,baz=342,slow=6.4,SNR=0.6						
WRA	**Warramunga Arr**	**23.80**	**156**	P	**P**	**07 30 58.4**	**-0.7**
	1.7nm,0.6s,baz=336,slow=10.0,SNR=4.7						
	1.7nm,0.6s						
STKA	**Stephens Creek**	**37.35**	**155**	P	**P**	**07 32 57.2**	**+0.3**
	5.4nm,1.0s,baz=321,slow=10,SNR=4.7						
	5.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**42.76**	**8**	P	**P**	**07 33 41.2**	**+0.5**
	0.8nm,0.4s,baz=190,slow=6.5,SNR=5.8						
	0.8nm,0.4s						
KLR	**Kul'dur**	**47.67**	**7**	P	**P**	**07 34 18.8**	**-0.3**
	0.8nm,0.4s,baz=214,slow=11,SNR=3.7						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**57.73**	**327**	P	**P**	**07 35 31.7**	**-0.5**
	0.4nm,0.3s,baz=123,slow=8.2,SNR=9.8						
MKAR				PcP	**PcP**	**07 36 20.8**	**-0.3**
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.1						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**62.02**	**329**	P	**P**	**07 36 01.6**	**+0.6**
	0.8nm,0.6s,baz=134,slow=6.7,SNR=9.5						
	0.8nm,0.6s						

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*RHSSO **01** 07:27:29.4±0.3, 43°.21N×17°.82E, h6km±2km, ML2.5/12*
*BEO **01** 07:27:29.3±0.5, 43°.21N×17°.75E, h8km±6km, ML2.3/9*
*PDG **01** 07:27:31.1±0.6, 43°.02N×17°.98E, h13km±1km, ML2.4/13, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*
ISC 01 07:27:29.0±1.0, 43°.19N±0°.02×17°.83E±0°.02, h8km±9km, n46, σ0°.90/86, 11C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.33**	**196**	⇑*i*Pg	**Pg**	**07 27 35.6**	**+0.1**
STON				*e*Sg	**Sg**	**07 27 41.4**	**+1.5**
STON	**Ston**	**0.33**	**196**	*i* Pg	**Pg**	**07 27 35.5**	**0.0**
STON				Sg	**Sg**	**07 27 41.

PVY	Plav	1.68	110	i Pg	Pn	07 27 59.4	+0.6
PVY				i Sg	Sg	07 28 24.3	+1.4
MORI	Morici	1.68	294	ePn	Pn	07 27 58.8	+0.1
DIVS	Divibare	1.81	59	ePg	Pb	07 28 02.5	0.0
DIVS				eSg	Sg	07 28 28.1	+0.8
TEKS	Tekeris	1.83	42	ePn	Pn	07 28 01.5	+0.7
TEKS				eSn	Sn	07 28 25.0	+0.8
TEKS	Tekeris	1.83	42	ePg	Pb	07 28 03.1	+0.3
TEKS				eSg	Sg	07 28 28.4	+0.5
A051A	Mrakovica	1.94	340	i Pn	Pn	07 28 02.2	-0.1
A051A				eSn	Sn	07 28 27.3	+0.4

ASRS ***01*** *07:46:07.0±0.8, 54°.45N×86°.21E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 07:45:15.0±1.8, 54°.67N×83°.88E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=16.0km s-min=10.0km az=11.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	142	I	I	07 50 48.2	
	baz=320,slow=327,SNR=2.1						
ZALV	Zalesovo Beam	0.91	142	Pg	Pg	07 45 31.3	-1.1
	2.4nm,0.3s,baz=324,slow=18,SNR=18						
ZALV				Lg	Lg	07 45 46.1	
	7.7nm,0.3s,baz=321,slow=29,SNR=17						
KURBB	Kurchatov Arra	5.20	221	Pn	Pn	07 46 34.0	0.0
	baz=40,slow=13,SNR=2.2						
KURBB				Pg	Pb	07 46 47.1	+0.4
	0.1nm,0.3s,baz=37,slow=16,SNR=5.9						
KURBB				Lg	Lg	07 47 59.7	
	0.1nm,0.3s,baz=42,slow=32,SNR=5.1						
	0.2nm,0.4s						
MKAR	Makanchi Array	7.95	188	Pn	Pn	07 47 11.6	-0.2
	0.1nm,0.3s,baz=13,slow=12,SNR=5.0						
MKAR				Lg	Lg	07 49 29.1	
	0.1nm,0.3s,baz=11,slow=26,SNR=2.4						
	0.1nm,0.4s						
BVAR	Borovoye Array	8.15	264	Pn	Pn	07 47 13.0	-1.4
	baz=73,slow=16,SNR=2.4						
	0.6nm,0.4s						

TEH 01 08:00:15.4, 27°.86N×51°.80E, h15km±17km, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.69	316	Pg	Pg	08 00 29.0	+0.1
AHBU	AHRAM	1.09	336	Pg	Pb	08 00 36.0	-0.1
QIR1	Qir	1.26	60	Pg	Pb	08 00 39.2	+0.3
LMD1	Lamerd	1.32	113	Pg	Pb	08 00 40.1	+0.3
KAZ2	Kazeron-Fars-I	1.75	356	Pg	Pb	08 00 47.1	-0.2

OMAN 01 08:01:26.8±0.2, 27°.52N×63°.67E, h35km, mb4.0/3, Error ellipse: s-maj=4.2km s-min=1.7km az=287.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	Negor - Chabah	3.13	227	P	Pn	08 02 15.6	+2.0
	SNR=7.2						
NGCH				S	Sn	08 02 50.6	+0.8
JASK	Jask - Hormozg	5.45	254	P	Pn	08 02 46.9	+1.4
JASK				S	Sn	08 03 49.7	+2.7
WSAR	Wadi Sarin	6.24	228	P	Pn	08 02 55.7	-0.7
WSAR				S	Sn	08 04 06.6	0.0
WBK	Wadi Bani Khal	6.49	222	P	Pn	08 02 59.0	-0.8
	SNR=12						
WBK				S	Sn	08 04 13.5	+0.9
JLN	Jalan Bani Buh	6.60	217	P	Pn	08 03 01.1	-0.2
JLN				S	Sn	08 04 16.9	+1.5
BANOM	Banah	6.78	258	P	Pn	08 03 03.9	+0.1
BANOM				S	Sn	08 04 21.2	+1.3
SHME	Shamm	6.89	259	P	Pn	08 03 06.2	+1.0
SHME				S	Sn	08 04 24.1	+1.6
HOQ	Hoqain	6.95	237	P	Pn	08 03 06.3	+0.1
MDH	Madha	6.97	253	P	Pn	08 03 06.2	-0.2
	SNR=11						
MDH				S	Sn	08 04 25.3	+0.8
MASF	Masafi	7.07	254	P	Pn	08 03 07.4	-0.3
UOSS	Minazif	7.18	251	P	Pn	08 03 08.6	-0.7
UOSS				S	Sn	08 04 28.6	-1.0
JMDO	Jabal Madar	7.20	226	P	Pn	08 03 10.5	+1.0
SOHO	SOHO	7.26	244	P	Pn	08 03 09.4	-0.9
SOHO				S	Sn	08 04 32.2	+0.6
HATD	Hatta, Dubai	7.29	250	P	Pn	08 03 10.2	-0.5
HATD				S	Sn	08 04 32.6	+0.3
ASHO	Ashiyiah	7.40	249	P	Pn	08 03 12.6	+0.2
BSY	Bisya	7.55	232	P	Pn	08 03 14.7	+0.3
ARQ	Araqi	7.69	239	P	Pn	08 03 18.1	+1.8

SFS ***01*** *08:06:50.5, 36°.49N×9°.66W, h44km, ML2.7/8, ML2.8/8, MLv2.8/8*
INMG ***01*** *08:06:51.9±1.2, 36°.57N×9°.57W, h19km±4km, ML2.0, Error ellipse: s-maj=5.1km s-min=4.0km az=47.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
MDD ***01*** *08:06:51.1±1.2, 36°.54N×9°.64W, h50km, mb_Lg2.5/7, Error ellipse: s-maj=9.3km s-min=7.6km az=38.0*
IGIL ***01*** *08:06:51.9, 36°.57N×9°.57W, h19km, ML2.0*
CNRM ***01*** *08:07:15.6, 34°.93N×8°.99W, h152km*

ISC 01 08:06:53.4±2.2, 36°.80N±0°.05×9°.40W±0°.06, h17km±12km, n50, σ1§29/74, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.57	54	eP	Pn	08 07 06.9	+0.2
PFVI				eS	Sn	08 07 17.9	+2.2
PFVI				i AML	AML	08 07 19.0	
PFVI				i AML	AML	08 07 19.0	
PFVI				i AML	AML	08 07 20.0	
MORF	Marmelete	0.78	50	eP	Pn	08 07 09.9	+0.2
MORF				eS	Sn	08 07 22.9	+1.9
MORF				IAML		08 07 26.1	
	comp=E,52nm,0.4s						
MORF	Marmelete	0.78	50	eP	Pn	08 07 10.0	+0.2
MORF				eS	Sn	08 07 23.4	+2.4
MORF				i AML	AML	08 07 24.4	
MORF				i AML	AML	08 07 24.6	
MORF				i AML	AML	08 07 26.1	
PTEO	Sao Teotonio	0.92	36	eP	Pn	08 07 12.1	+0.6
PTEO				eS	Sn	08 07 26.9	+2.5
PTEO				i AML	AML	08 07 27.4	
PTEO				i AML	AML	08 07 27.5	
PTEO				i AML	AML	08 07 27.5	
PBDV	Barranco-do-Ve	1.26	69	eP	Pn	08 07 16.0	-0.2
PBDV				eS	Sg	08 07 33.8	-0.3
PBDV				i AML	AML	08 07 34.5	
PBDV				i AML	AML	08 07 35.4	
PBDV				i AML	AML	08 07 35.5	
PCVE	Castro Verde	1.37	52	eP	Pb	08 07 18.4	-0.2
PCVE				eS	Sg	08 07 38.2	+0.5
PCVE				i AML	AML	08 07 38.8	
PCVE				i AML	AML	08 07 39.3	
PCVE				i AML	AML	08 07 39.3	
MESJ	Messejana	1.40	42	eP	Pn	08 07 18.4	+0.2
MESJ				eS	Sb	08 07 37.9	+1.1
MESJ				IAML		08 07 40.6	
	comp=N,9.3nm,0.1s						
MESJ	Messejana	1.40	42	eP	Pn	08 07 18.5	+0.3
MESJ				eS	Sg	08 07 38.8	+0.1
MESJ				i AML	AML	08 07 40.6	
MESJ				i AML	AML	08 07 40.6	
MESJ				i AML	AML	08 07 41.5	
PVAQ	Vaqueiros	1.47	65	eP	Pn	08 07 19.0	-0.2
PVAQ				eS	Sb	08 07 39.1	+0.3
PVAQ				i AML	AML	08 07 39.7	
PVAQ				i AML	AML	08 07 40.0	
PVAQ				i AML	AML	08 07 40.2	
PVAQ	Vaqueiros	1.47	65	P	Pn	08 07 18.9	-0.3
EGRO	El Granado	1.70	64	P	Pn	08 07 22.0	-0.3
EGRO				S	Sb	08 07 44.8	-0.5
EGRO	El Granado	1.70	64	P	Pn	08 07 22.0	-0.3
EGRO				S	Sb	08 07 44.7	-0.6
EGRO				i Vmb_Lg		08 07 46.0	
PBEJ	Beja	1.73	44	eS	Sb	08 07 46.5	+0.3
PBEJ				i AML	AML	08 07 47.5	
PBEJ				i AML	AML	08 07 47.6	
PBEJ				i AML	AML	08 07 47.8	
EVO	Evora	2.05	32	eS	Sn	08 07 53.8	+1.5
EVO				i AML	AML	08 07 54.7	
EVO				i AML	AML	08 07 54.8	
EVO				i AML	AML	08 07 55.2	
EVO	Evora	2.05	32	S	Sn	08 07 53.5	+1.2
PMAFR	Mafra	2.15	2	eP	Pn	08 07 27.7	-0.9
PMAFR				eS	Sn	08 07 56.2	+1.3
PMAFR				i AML	AML	08 07 57.2	
PMAFR				i AML	AML	08 07 57.5	
PMAFR				i AML	AML	08 07 58.2	
PMAFR	Mafra	2.15	2	P	Pn	08 07 27.4	-1.1
PMAFR				S	Sn	08 07 55.5	+0.6
PBAR	Barrancos	2.33	53	eP	Pn	08 07 31.3	+0.4
PBAR				eS	Sn	08 08 00.3	+1.2
PBAR				i AML	AML	08 08 01.3	
PBAR				i AML	AML	08 08 01.7	
PBAR				i AML	AML	08 08 03.5	
PBAR	Barrancos	2.33	53	P	Pn	08 07 30.8	-0.2
PBAR				S	Sn	08 07 59.9	+0.7
EMIN	Mina Concepcio	2.38	65	P	Pn	08 07 30.2	-1.5
EMIN				S	Sn	08 07 59.6	-0.8
EMIN	Mina Concepcio	2.38	65	P	Pn	08 07 30.5	-1.1
EMIN				S	Sn	08 07 59.5	-0.9
EMIN				i Vmb_Lg		08 08 02.7	
PMTG	Montargil	2.45	22	eP	Pn	08 07 32.7	+0.1
PMTG				eS	Sn	08 08 03.2	+1.0
PMTG				i AML	AML	08 08 04.9	
PMTG				i AML	AML	08 08 05.2	
PMTG				i AML	AML	08 08 05.7	
PESTR	Estremoz	2.51	34	eP	Pn	08 07 33.8	+0.3
PESTR				eS	Sn	08 08 05.2	+1.4
PESTR				i AML	AML	08 08 06.2	
PESTR				i AML	AML	08 08 06.6	
PESTR				i AML	AML	08 08 08.0	
PESTR	Estremoz	2.51	34	P	Pn	08 07 32.8	-0.7
PESTR				S	Sn	08 08 04.7	+0.9
EBAD	Badajoz	2.72	43	P	Pn	08 07 36.0	-0.3
EBAD				S	Sn	08 08 10.1	+1.3
EBAD	Badajoz	2.72	43	P	Pn	08 07 36.5	+0.2
EBAD				S	Sn	08 08 09.0	+0.2
EBAD				i Vmb_Lg		08 08 12.2	
PSBE	So Bento	2.75	10	eP	Pn	08 07 36.5	-0.4
PSBE				eS	Sn	08 08 10.7	+1.0
PMRV	Marv??o	3.06	30	eP	Pn	08 07 41.0	-0.1
PMRV				eS	Sn	08 08 17.5	+0.1
PMRV				i AML	AML	08 08 19.3	
PMRV				i AML	AML	08 08 20.6	
PMRV				i AML	AML	08 08 20.6	
PCAS	Casmilo, Conde	3.33	12	eS	Sn	08 08 23.8	0.0
PCAS				i AML	AML	08 08 26.0	
PCBR	Castelo Branco	3.39	26	eS	Sn	08 08 25.4	0.0
ECAB	El Cabril	3.42	67	P	Pn	08 07 45.1	-0.8
ECAB				S	Sn	08 08 25.0	-1.1
ECAB	El Cabril	3.42	67	P	Pn	08 07 44.8	-1.1
ECAB				S	Sn	08 08 24.9	-1.2
ECAB				i Vmb_Lg		08 08 27.5	
ZHG	ZHG	4.04	145	P	Pn	08 07 56.4	+1.9
ZHG	ZHG	4.04	145	S	Sn	08 08 28.3	-13
EADA	Adamuz	4.07	69	P	Pn	08 07 54.0	-1.0
EADA				S	Sn	08 08 39.8	-2.4
EADA				i Vmb_Lg		08 08 43.5	
PVIS	Viseu	4.08	16	eS	Sn	08 08 42.5	0.0
EPLA	Plasencia	4.17	38	S	Sn	08 08 44.7	-0.1
EPLA				i Vmb_Lg		08 08 46.5	
MVO	Moncorvo	4.73	22	eS	Sn	08 08 58.4	-0.2
POLO	Lamas de Olo	4.74	15	eP	Pn	08 08 03.8	-0.4
POLO				eS	Sn	08 08 57.7	-1.0
POLO				i AML	AML	08 08 58.5	
POLO				i AML	AML	08 08 59.6	
POLO				i AML	AML	08 09 00.6	
PAB	San Pablo	4.83	54	S	Sn	08 08 58.5	-2.6
PAB				i Vmb_Lg		08 09 00.7	
ELOB	Lobios	5.17	11	S	Sn	08 09 06.4	-2.9
PGAV	Gavieira, Arco	5.23	9	eP	Pn	08 08 10.5	-0.5
PGAV				eS	Sn	08 09 09.8	-1.2
MD31	MD31	5.47	134	P	Pn	08 08 17.1	+2.8
MD31	MD31	5.47	134	S	Sn	08 09 05.0	-12
MDT	Midelt	5.60	134	P	Pn	08 08 18.3	+2.3
MDT	Midelt	5.60	134	S	Sn	08 09 08.4	-12
OUZM	OUZ	6.27	159	P	Pn	08 08 22.5	-2.8
OUZM	OUZ	6.27	159	S	Sn	08 09 15.2	-21
TTIG	Tnine Tigouga,	6.29	172	P	Pn	08 08 21.5	-4.0
TTIG	Tnine Tigouga,	6.29	172	S	Sn	08 09 12.5	-24

IDC ***01*** *08:13:23.8±3.8, 29°.65S×178°.70W, h0km, mb4.1/4, mbtmp4.1/5, ML3.8/1, MS2.8/2, Error ellipse: s-maj=85.5km s-min=31.2km az=45.0*

ISC 01 08:13:26.0±2.6, 29°.9S±0°.2×178°.7W±0°.3, h10km, n24, σ1§64/22, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.92	50	P	Pn	08 13 45.7	+0.8
WMGZ	Waiomatatini S	8.29	196	P	Pn	08 15 25.5	-0.8
HAZ	Te Kaha	8.40	199	P	Pn	08 15 25.1	-2.6
OUZ	Omahuta	8.40	228	P	Pn	08 15 26.8	-1.1
PKGZ	Pakihiroa	8.42	198	P	Pn	08 15 29.0	+0.9
PUZ	Puketiti	8.57	196	P	Pn	08 15 30.0	-0.1
RUGZ	Raukumara Rang	8.62	199	P	Pn	08 15 31.4	+0.5
TWGZ	Tauwhareparae	8.74	197	P	Pn	08 15 31.5	-1.0
CNGZ	Carnagh Statio	8.97	196	P	Pn	08 15 36.0	+0.4
MWZ	Matawai	9.01	199	P	Pn	08 15 35.7	-0.5
MWZ				S	Sn	08 18 09.3	+52
URZ	Urewera	9.06	201	Pn	Pn	08 15 36.8	-0.1
	1.0nm,0.3s,baz=31,slow=4.0,SNR=8.4						
URZ				LR	LR	08 18 41.3	
	comp=Z,100nm,19.8s,baz=108,slow=34						
	4.7nm,0.5s						
URZ	Urewera	9.06	201	P	Pn	08 15 37.0	+0.1
URZ				S	Sn	08 18 07.0	+48
PRGZ	Paritu Road	9.47	196	P	Pn	08 15 42.8	+0.4
PRGZ				S	Sn	08 18 20.4	+51
SNGZ	Shannon Statio	9.48	199	P	Pn	08 15 42.6	0.0
NMHZ	Naumai	9.93	201	P	Pn	08 15 48.8	0.0
BKZ	Black Stump Fm	10.09	202	P	Pn	08 15 47.0	-4.0
HIZ	Hauiti	10.14	210	P	Pn	08 15 55.6	+4.0
OTVZ	Oturere	10.37	205	P	Pn	08 15 54.4	-0.5
KAHZ	Kahuranaki	10.55	199	P	Pn	08 15 55.3	-2.0
RAR	Rarotonga	19.13	68	LR	LR	08 23 57.2	
	comp=Z,18nm,19.1s,baz=236,slow=33						
STKA	Stephens Creek	33.99	256	P	P	08 20 11.1	+1.1
	1.6nm,0.7s,baz=102,slow=11,SNR=5.6						
	1.6nm,0.7s						
ASAR	Alice Springs	42.51	267	P	P	08 21 21.0	-0.9
	0.7nm,0.5s,baz=101,slow=7.3,SNR=12						
	0.7nm,0.5s						
WRA	Warramunga Arr	43.45	272	P	P	08 21 28.3	-1.2
	1.4nm,0.6s,baz=110,slow=7.8,SNR=8.5						
	1.4nm,0.6s						
QSPA	South Pole Qui	60.25	180	P	P	08 23 35.2	+0.9
	6.3nm,1.0s,baz=30,slow=1.2,SNR=18						
	6.3nm,1.0s						

UPA ***01*** *08:18:45.1±0.9, 6°.76N×82°.60W, h16km±17km, MW4.3*
UCR ***01*** *08:19:04.3±1.2, 8°.18N×83°.12W, h25km±12km, MW3.8*

ISC 01 08:18:41.1±2.4, 6°.7N±0°.1×82°.72W±0°.06, h10km, n42, σ1§47/56, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMO3	Limones	1.42	354	eP	Pn	08 19 07.7	+0.7
PTPM	Petroterminale	1.52	354	eP	Pn	08 19 09.5	+1.1
PTPM				eS	Sn	08 19 24.8	-3.5
DVD	David	1.76	9	eP	Pn	08 19 11.9	+0.1
DVD				eS	Sn	08 19 33.8	-0.5
LOMA3	Las Lomas, Chi	1.77	11	eP	Pn	08 19 12.9	+1.1
GMAL	Guarumal, Vera	1.83	54	eP	Pn	08 19 13.2	+0.6
GMAL				eS	Sn	08 19 33.9	-1.9
GMAL	Guarumal, Vera	1.83	54	eP	Sn	08 19 34.6	-1.2
GUAL3	Gualaca, Chiri	1.89	13	ePn	Pn	08 19 14.4	+1.0
PTAR3	Potrerillos Ar	2.01	6	eP	Pn	08 19 16.1	+0.9
MESA3	La Mesa, Verag	2.11	46	eP	Pn	08 19 17.4	+1.0
MESA3				eS	Sn	08 19 41.7	-1.0
STIA3	Santiago, Vera	2.23	51	eP	Pn	08 19 19.3	+1.1
CHGR2	Aguacate	2.31	14	eP	Pn	08 19 21.6	+2.3
CALO3	Calobre, Verag	2.48	49	eP	Pn	08 19 22.6	+1.1
CALO3				eS	Sn	08 19 51.0	-0.9
EDPE	Pejibaye, P	2.60	341	eP	Pn	08 19 23.1	-0.2
CRIS3	El Cristo, Coc	2.61	53	eP	Pn	08 19 24.5	+1.2
CRIS3				eS	Sn	08 19 54.1	-1.0
CHIT3	Chitre	2.61	61	eP	Pn	08 19 24.7	+1.4
CHIT3				eS	Sn	08 19 53.9	-1.3
DRK0	Durika	2.62	349	eP	Pn	08 19 23.5	-0.2
ACHO3	Achotines, Los	2.63	74	eP	Pn	08 19 24.8	+1.2
ACHO3				eS	Sn	08 19 54.6	-1.1
AZU	Azuero	2.67	65	eP	Pn	08 19 25.5	+1.3
AZU				eS	Sn	08 19 54.9	-1.6
CNI2	El Empalme, Bo	2.74	5	eP	Pn	08 19 27.4	+2.3
CNI2				eS	Sn	08 19 59.0	+0.7
PCRI3	Pocri, Los San	2.76	69	eP	Pn	08 19 26.1	+0.7
PEDA3	Pedasi	2.80	72	eP	Pn	08 19 26.7	+0.7
BRIBI	Bribri	2.93	357	eP	Pn	08 19 30.2	+2.5
PNME	Penonome	2.97	53	eP	Pn	08 19 30.8	+2.4
PNME				eS	Sn	08 20 01.7	-2.4
LLNJ	Naranjito	3.09	334	eP	Pn	08 19 29.9	-0.1
RAZU	San Marcos de	3.23	337	eP	Pn	08 19 33.0	+1.0
PISJ	San Jernim	3.25	335	eP	Pn	08 19 32.8	+0.5
PISJ				eS	Sn	08 20 09.9	-1.1
PICV	PH. Pirrs	3.27	334	eP	Pn	08 19 32.7	+0.2
ABE2	San Pablo	3.28	336	eP	Pn	08 19 33.4	+0.6
LCR2	La Lucha 2	3.30	337	eP	Pn	08 19 33.5	+0.4
VERB	Verbena	3.38	343	eP	Pn	08 19 35.8	+1.6
ACOS	Acosta	3.41	335	eP	Pn	08 19 34.9	+0.4
VTCV	VTCV, Calle Va	3.43	343	eP	Pn	08 19 36.6	+1.8
SANTA	Santa Ana	3.54	336	eP	Pn	08 19 37.2	+0.9
HDC	Heredia	3.58	337	eP	Pn	08 19 38.3	+1.5
BCIP	Isla Barro Col	3.77	49	eP	Pn	08 19 41.1	+1.7
BCIP				eS	Sn	08 20 22.1	-1.9
ARRA3	Arraijan, Pana	3.79	53	eP	Pn	08 19 40.4	+0.8
UPA	Univ. de Panam	3.90	54	eP	Pn	08 19 43.3	+2.2
UPA				eS	Sn	08 20 24.9	-2.0
JTS	Las Juntas de	4.21	329	eP	Pn	08 19 45.8	+0.3
VACR	Volcan Arenal	4.24	333	eP	Pn	08 19 47.8	+2.0
ARE1	Arenal 1	4.25	332	eP	Pn	08 19 48.3	+2.4
VARE2	V. Arenal	4.25	332	eP	Pn	08 19 48.5	+2.5
ACON	Acoyapa	5.79	335	eP	Pn	08 20 08.0	+1.0

IDC ***01*** *08:26:13.5±3.1, 48°.23N×153°.82E, h101km±29km, mb3.1/7, mbtmp3.6/11, MS2.4/2, Error ellipse: s-maj=37.9km s-min=15.6km az=134.0*

ISC 01 08:26:09.9±0.8, 48°.1N±0°.1×154°.2E±0°.1, h64km, n22, σ1§60/13, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.53	23	P	Pn	08 27 31.1	+1.5
	4.2nm,0.7s,baz=171,slow=12,SNR=9.5						
ASAJ	Asahikawa	8.96	248	P	Pn	08 28 19.5	+3.0
	15nm,0.8s,baz=71,slow=16,SNR=10.0						
MA2	Magadan	11.71	351	P	Pn	08 28 54.1	+0.1
	1.2nm,0.4s,baz=143,slow=19,SNR=4.0						
MA2				LR	LR	08 33 26.1	
	comp=Z,18nm,21.4s,baz=174,slow=38						
SHEM	Shemya Is, Ala	13.53	62	P	Pn	08 29 17.6	-1.1
	28nm,0.5s,baz=105,slow=4.7,SNR=1.9						
SHEM				LR	LR	08 34 41.5	
	comp=Z,17nm,19.8s,baz=340,slow=37						
KLR	Kul'dur	14.87	283	P	P	08 29 39.6	-0.9
	0.7nm,0.5s,baz=58,slow=11,SNR=4.0						
SEY	Seymchan	14.95	357	P	Pn	08 29 38.4	+1.2
	0.3nm,0.3s,baz=114,slow=12,SNR=4.8						
KSRS	Korea Array	21.89	251	P	P	08 30 56.5	-1.0
	0.6nm,0.4s,baz=51,slow=10,SNR=5.1						
	0.6nm,0.4s						
H11N2	WAKE ISLAND Hy	30.08	156	T	T	09 04 15.0	
	baz=342,slow=76,SNR=38						
H11N1	WAKE ISLAND Hy	30.09	156	T	T	09 04 20.8	
	baz=342,slow=76,SNR=73						
H11N3	WAKE ISLAND Hy	30.09	156	T	T	09 04 32.2	
	baz=342,slow=76,SNR=53						
H11S1	WAKE ISLAND Hy	31.19	157	T	T	09 05 22.8	
	baz=344,slow=76,SNR=256						
H11S3	WAKE ISLAND Hy	31.20	157	T	T	09 05 21.6	
	baz=344,slow=76,SNR=221						
H11S2	WAKE ISLAND Hy	31.21	157	T	T	09 05 22.2	
	baz=344,slow=76,SNR=194						
ILAR	Eielson Array	35.08	40	P	P	08 32 56.5	+0.1
	0.5nm,1.0s,baz=279,slow=6.2,SNR=4.7						
	0.5nm,1.0s						
MKAR	Makanchi Array	46.99	297	P	P	08 34 31.4	-3.0
	0.4nm,0.9s,baz=46,slow=8.3,SNR=2.7						
	0.4nm,0.9s						
YKA	Yellowknife Ar	49.45	38	P	P	08 34 53.5	+0.4
	0.4nm,0.8s,baz=298,slow=8.1,SNR=4.5						
	0.4nm,0.8s						
WRA	Warramunga Arr	69.98	200	P	P	08 37 13.8	-0.7
	0.5nm,0.7s,baz=5.5,slow=11,SNR=2.1						
	0.5nm,0.7s						
ASAR	Alice Springs	73.68	199	P	P	08 37 36.8	+0.2
	0.4nm,0.6s,baz=14,slow=5.6,SNR=5.5						
	0.4nm,0.6s						
TXAR	Lajitas Array	76.23	62	P	P	08 37 52.0	+0.4
	0.5nm,0.7s,baz=313,slow=5.2,SNR=5.2						
	0.5nm,0.7s						
H03N2	Juan Fernandez	138.03	90	T	T	11 18 53.7	
	baz=309,slow=77,SNR=12						
H03N1	Juan Fernandez	138.04	90	T	T	11 18 55.6	
	baz=309,slow=77,SNR=13						
H03N3	Juan Fernandez	138.04	90	T	T	11 18 58.2	
	baz=309,slow=77,SNR=11						

CATAC ***01*** *08:38:39.7±0.5, 12°.N±2°.×8°.8W±°., h12km±3km, M3.6/36, MLv3.6/36, Error ellipse: s-maj=5.4km s-min=2.6km az=28.9, confirmed*
SNET ***01*** *08:38:39.2±0.3, 12°.02N×87°.80W, h17km±6km, ML4.1*

ISC 01 08:38:38.5±1.4, 12°.09N±0°.04×87°.71W±0°.03, h4km±11km, n130, σ0§63/150, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.89	47	P	Pn	08 38 57.5	-0.3
CRIN	San Cristobal	0.89	47	P	Pn	08 38 57.6	-0.3
CRIN	San Cristobal	0.89	47	S	Sg	08 39 07.5	+0.4
CRIN	San Cristobal	0.89	47	P	Pn	08 38 58.1	+0.2
CSGN	Cosiguina Volc	0.89	10	P	Pn	08 38 57.3	-0.6
CSGN	Cosiguina Volc	0.89	10	P	Pn	08 38 57.4	-0.6
CSGN				S	Sn	08 39 10.6	-0.8
CSGN	Cosiguina Volc	0.89	10	P	Pn	08 38 57.6	-0.4
PKGN	Cerro Pekin	0.92	51	P	P

COPN	Copaltepe	1.10	85	P	Pb	08 38 59.8	-0.3
COPN				P	Pb	08 39 00.0	-0.1
COPN	Copaltepe	1.10	85	P	Pb	08 39 00.0	-0.1
COPN	Copaltepe	1.10	85	P	Pb	08 38 60.0	-0.1
ILCN	San Idelfonso	1.10	64	P	Pg	08 38 59.6	0.0
ILCN	San Idelfonso	1.10	64	P	Pg	08 38 59.7	0.0
ILCN				S	Sb	08 39 15.6	+0.7
ILCN	San Idelfonso	1.10	64	P	Pb	08 39 00.2	0.0
LEVN	Ruinas Leon Vi	1.11	74	P	Pb	08 39 00.6	+0.2
LEVN	Ruinas Leon Vi	1.11	74	P	Pn	08 39 01.2	+0.2
LEVN	Ruinas Leon Vi	1.11	74	P	Pn	08 39 01.4	+0.5
MSHP	Masachapa	1.18	103	P	Pn	08 39 01.7	-0.2
MSHP	Masachapa	1.18	103	P	Pn	08 39 01.7	-0.2
CNCH	Conchagua	1.18	354	eS	Sn	08 39 19.1	+0.4
CNCH				IAML		08 39 22.7	
comp=Z,3μm,0.3s							
CNCH	Conchagua	1.18	354	P	Pb	08 39 01.4	-0.2
CNCH	Conchagua	1.18	354	P	Pb	08 39 01.5	-0.2
CNCH	Conchagua	1.18	354	S	Sb	08 39 17.8	+0.4
CNCH	Conchagua	1.18	354	P	Pn	08 39 01.9	-0.1
MOMN	Momotombo	1.19	75	P	Pb	08 39 01.6	-0.1
MOMN	Momotombo	1.19	75	P	Pb	08 39 01.5	-0.1
MOMN				S	Sg	08 39 15.3	-1.5
MOMN	Momotombo	1.19	75	P	Pb	08 39 02.3	+0.3
LCND	La Caada	1.22	352	eP	Pg	08 39 01.7	-0.2
LCND	La Caada	1.22	352	P	Pg	08 39 01.8	-0.1
LCND	La Caada	1.22	352	P	Pn	08 39 02.3	-0.2
LCND	La Caada	1.22	352	P	Pn	08 39 02.4	0.0
APQ2	Apoyeque	1.36	85	P	Pn	08 39 03.1	-1.2
APQ2				S	Sg	08 39 21.4	-0.9
APQ2	Apoyeque	1.36	85	P	Pg	08 39 04.9	+0.3
UNAN	Cigeo UNAN	1.41	89	P	Pn	08 39 04.9	-0.2
UNAN	Cigeo UNAN	1.41	89	P	Pg	08 39 06.0	+0.4
UNAN	Cigeo UNAN	1.41	89	P	Pn	08 39 04.6	-0.4
UNAN				S	Sg	08 39 23.9	0.0
TISN	Laguna Tiscapa	1.41	88	P	Pn	08 39 05.0	-0.1
TISN				P	Pb	08 39 05.3	-0.2
TISN	Laguna Tiscapa	1.41	88	P	Pb	08 39 05.3	-0.2
TISN	Laguna Tiscapa	1.41	88	P	Pn	08 39 05.0	-0.1
ENAN	Enatrel Managu	1.42	89	P	Pb	08 39 05.5	-0.1
R4DEC	Barrio San Lui	1.43	88	P	Pn	08 39 05.3	0.0
R4DEC	Barrio San Lui	1.43	88	P	Pg	08 39 06.1	+0.1
R4DEC	Barrio San Lui	1.43	88	P	Pb	08 39 04.8	-0.5
RANC	El Ranchito	1.45	337	P	Pb	08 39 06.0	-0.1
CHOHN	Orocuina	1.48	21	P	Pn	08 39 06.2	+0.1
CHOHN	Orocuina	1.48	21	P	Pn	08 39 05.8	-0.3
ALJI	Alcalda de J	1.48	326	P	Pn	08 39 05.2	-0.8
ALJI	Alcalda de J	1.48	326	P	Pn	08 39 05.4	-0.7
ALJI	Alcalda de J	1.48	326	P	Pn	08 39 05.8	-0.2
PACA	Pacayal	1.49	337	eP	Pn	08 39 05.9	-0.4
PACA				eS	Sg	08 39 26.6	+0.1
PACA	Pacayal	1.49	337	P	Pn	08 39 06.0	-0.4
PACA	Pacayal	1.49	337	P	Pn	08 39 06.2	-0.1
PACA	Pacayal	1.49	337	P	Pb	08 39 06.7	-0.2
MAS3	Al N del Volca	1.50	92	P	Pn	08 39 05.8	-0.6
MAS3	Al N del Volca	1.50	92	P	Pn	08 39 05.7	-0.6
MAS3				S	Sg	08 39 27.1	+0.2
MAS3	Al N del Volca	1.50	92	P	Pb	08 39 06.8	-0.3
NANN	Nandasmo	1.56	95	P	Pn	08 39 07.4	+0.2
NANN	Nandasmo	1.56	95	P	Pn	08 39 07.3	+0.2
NANN	Nandasmo	1.56	95	P	Pg	08 39 09.0	+0.4
LIMN	Finca el Limon	1.63	54	P	Pn	08 39 07.5	-0.6
LIMN				P	Pn	08 39 07.7	-0.4
LIMN	Finca el Limon	1.63	54	P	Pn	08 39 07.7	-0.4
LIMN	Finca el Limon	1.63	54	P	Pn	08 39 07.5	-0.6
PQSS	Presa 15 de Se	1.73	332	P	Pg	08 39 13.8	+2.0
PQSS	Presa 15 de Se	1.73	332	P	Pn	08 39 09.5	0.0
TECO	Alcaldia de Te	1.77	324	P	Pn	08 39 10.6	+0.5
TECO	Alcaldia de Te	1.77	324	P	Pn	08 39 09.2	-0.9
UESV	Universidad de	1.86	326	P	Pn	08 39 10.7	-0.6
UESV	Universidad de	1.86	326	P	Pn	08 39 11.7	+0.5
UESV	Universidad de	1.86	326	P	Pn	08 39 10.1	-1.2
SCLA	Alcaldia de Sa	1.88	328	P	Pn	08 39 11.2	-0.3
SCLA	Alcaldia de Sa	1.88	328	P	Pn	08 39 11.7	+0.1
SCLA	Alcaldia de Sa	1.88	328	P	Pn	08 39 11.9	+0.4
COEG	Centro de Oper	1.90	323	eP	Pn	08 39 10.9	-0.9
COEG	Centro de Oper	1.90	323	P	Pn	08 39 11.2	-0.6
COEG	Centro de Oper	1.90	323	P	Pb	08 39 12.9	-0.9
COEG	Centro de Oper	1.90	323	P	Pn	08 39 11.2	-0.6
TGUH	Tegucigalpa,Un	2.00	12	P	Pn	08 39 13.4	+0.2
TGUH				P	Pb	08 39 13.8	-1.8
TGUH	Tegucigalpa,Un	2.00	12	P	Pn	08 39 13.6	+0.3
PAVA	Las Pavas	2.00	324	eP	Pn	08 39 12.6	-0.7
PAVA	Las Pavas	2.00	324	P	Pn	08 39 14.3	0.0
PAVA	Las Pavas	2.00	324	P	Pb	08 39 15.4	-0.3
PAVA	Las Pavas	2.00	324	P	Pn	08 39 13.5	+0.2
BOAB	BOACO BROADBAN	2.03	80	P	Pn	08 39 13.2	-0.4
BOAB	BOACO BROADBAN	2.03	80	P	Pn	08 39 14.3	+0.7
BOAB	BOACO BROADBAN	2.03	80	P	Pn	08 39 13.1	-0.5
JAPN	Al SSO del Vol	2.07	106	P	Pg	08 39 20.1	+1.9
JAPN	Al SSO del Vol	2.07	106	P	Pn	08 39 13.3	-0.8
RCVN	Varillal2	2.10	45	P	Pn	08 39 14.8	+0.2
RCVN				P	Pn	08 39 15.0	+0.4
RCVN	Varillal2	2.10	45	P	Pn	08 39 15.0	+0.4
RCVN	Varillal2	2.10	45	P	Pn	08 39 14.8	+0.2
CONN	Concepcion	2.11	104	P	Pb	08 39 16.4	-0.9
CONN	Concepcion	2.11	104	P	Pb	08 39 16.1	-1.3
RCPN	Sur Rio San Ju	2.13	48	P	Pn	08 39 15.2	+0.2
RCPN	Sur Rio San Ju	2.13	48	P	Pn	08 39 15.8	+0.8
RCPN	Sur Rio San Ju	2.13	48	P	Pn	08 39 15.0	0.0
PMON	Piamonte	2.24	316	P	Pg	08 39 28.0	+6.5
NUBE	Las Nubes	2.70	312	P	Pn	08 39 22.5	-0.4
MTO3	Montecristo	2.80	325	P	Pn	08 39 24.4	0.0
INDI	Punta indio, G	3.10	135	P	Pn	08 39 28.7	+0.4

IDC 01 08:46:59.2s±289.0, 9°56S×115°72W, h0km, Error ellipse: s-maj=332.9km s-min=113.5km az=166.0, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I21FR	MARQUESAS ISLA	24.13	270	I	I	11 14 00.0	
baz=96,slow=314,SNR=1.5							
I20EC	Galapagos	26.75	72	I	I	11 30 30.0	
baz=253,slow=321,SNR=2.0							
I24FR	TAHITI-TARAVAO	33.58	252	I	I	12 13 10.0	
baz=82,slow=315,SNR=1.5							

ASRS 01 08:50:09.0±0.8, 53°66N×88°01E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*MOS **01** 08:50:39.0±1.2, 14°60S×70°01W, h242km, mb6.9/35, MS6.5/5, Error ellipse: s-maj=8.1km s-min=5.3km az=99.5*
*GUC **01** 08:50:41.1±0.4, 14°70S×70°39W, h260km, MS7.0*
*IPGP **01** 08:50:41.0, 14°68S×70°13W, h280km, Mw7.0, Fault plane solution: NP1:ϕ102.00000°, δ12.00000°, λ-98.00000°. NP2:ϕ289.00000°, δ78.00000°, λ-88.00000°.*
*BJI **01** 08:50:41.2, 14°55S×70°10W, h260km, mB6.7/46*
*NEIC **01** 08:50:42.2, 14°73S×70°16W, h263km*
*VAO **01** 08:50:42.0±0.3, 14°75S×70°18W, h274km±3km, mb6.9*
*NEIC **01** 08:50:42.4, 14°73S×70°18W, h260km*
*NEIC **01** 08:50:42.6±2.3, 14°71S±0°06×70°16W±0°08, h267km±1km, mb6.9/267, Mwb7.1/84, Mww7.0/87, Error ellipse: s-maj=12.6km s-min=10.6km az=261.0, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr-1.71; Mθθ2.77; Mϕϕ-1.05; Mrθ3.47; Mϕθ-2.23; Mϕr-0.88; Fault plane solution: Mo4.86000×10^19 NP1:ϕ147.01000°, δ24.56000°, λ-43.68000°. NP2:ϕ277.99000°, δ73.32000°, λ-108.29000°. Principal axes: T 5.5222, Plg26.0000°, Azm22.0000°; N -1.8689, Plg17.0000°, Azm283.0000°; P -3.6533, Plg58.0000°, Azm163.0000°;*
*IDC **01** 08:50:42.3±0.4, 14°50S×69°85W, h259km±3km, mb5.6/26, mbtmp6.2/32 Error ellipse: s-maj=7.8km s-min=5.7km az=52.0*
*NEIC **01** 08:50:42.4, 14°83S×70°00W, h260km, Moment Tensor Solution. Duration: 16s9 Moment tensor: Scale 10^19Nm; Mrr-1.33; Mθθ2.37; Mϕϕ-1.04; Mrθ3.51; Mϕθ-1.88; Mϕr-1.02; Fault plane solution: Mo4.33000×10^19 NP1: ϕ143.02000°, δ19.48000°, λ-50.09000°. NP2: ϕ281.44000°, δ75.18000°, λ-102.79000°. Principal axes: T 5.2151, Plg29.0000°, Azm22.0000°; N -1.7637, Plg12.0000°, Azm285.0000°; P -3.4514, Plg58.0000°, Azm174.0000°;*
*OSUNB **01** 08:50:44.3±0.2, 14°70S×69°95W, h288km±1km, mb6.6/70 Error ellipse: s-maj=1.2km s-min=1.4km az=0.0*
*GCMT **01** 08:50:48.6±0.1, 14°78S×70°14W, h274km, MW7.0/181, Moment Tensor Solution. s179,c487; s181,c897; Duration: 7s9 Moment tensor: Scale 10^19Nm; Mrr-1.26±.01; Mθθ2.47±.01; Mϕϕ-1.22±.01; Mrθ3.48±.01; Mϕθ-1.86±.01; Mϕr-0.95±.01; Best double couple: Mo4.29100×10^19 NP1:ϕ144.00000°, δ20.00000°, λ-47.00000°. NP2:ϕ279.00000°, δ75.00000°, λ-104.00000°. Principal axes: T 5.2260, Plg29.0000°, Azm21.0000°; N -1.8800, Plg14.0000°, Azm283.0000°; P -3.3560, Plg57.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 01 08:50:42.6±0.2, 14°68S±0°02×70°06W±0°03, h265km±1km, h266km:pP-P, n2401, σ2°20/3129, mb6.7/251, 237C-93D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	2.17	135	P	Pn	08 51 25.0	-3.4
baz=324,slow=16,SNR=0.6							
I08BO				I	I	09 02 20.0	
0.1nm,1.5s,baz=305,slow=330,SNR=0.9							
LPAZ	La Paz	2.45	131	Pn	Pn	08 51 32.1	+1.0
LPAZ	La Paz	2.45	131	P	Pn	08 51 31.8	+0.7
76μm,0.6s,baz=316,slow=7.4							
LPAZ				S	S	08 52 07.0	-2.5
16μm,0.6s,baz=178,slow=20,SNR=0.7							
LPAZ				ScS	ScS	09 05 22.6	+2.0
137nm,1.1s,baz=41,slow=24,SNR=1.9							
LPAZ	La Paz	2.45	131	⇑P	Pn	08 51 32.1	+1.0
LPAZ	La Paz	2.45	131	P	Pn	08 51 32.6	+1.5
LPAZ				S	S	08 52 10.6	+1.0
LPAZ	La Paz	2.45	131	eP	Pn	08 51 32.5	+1.3
PB18	Visviri	2.94	169	Pn	Pn	08 51 36.6	+0.6
PB18	Visviri	2.94	169	⇑P	Pn	08 51 36.9	+0.9
AP01	Chacalluta	3.68	184		Pn	08 51 41.0	-2.4
AP01	Chacalluta	3.68	184	⇑P	Pn	08 51 41.2	-2.2
AP01				i S	S	08 52 26.8	-5.1
PB12	IPOC Station P	3.92	184	Pn	Pn	08 51 43.4	-2.8
PB12	IPOC Station P	3.92	184	⇑P	Pn	08 51 43.7	-2.5
PB12				i S	S	08 52 31.0	-6.0
PX02	IPOC Station P	4.26	182	⇓eP	Pn	08 51 46.6	-3.6
PX02				i S	S	08 52 37.5	-6.6
PB11	IPOC Station P	5.07	176	Pn	Pn	08 51 57.1	-2.7
PB11	IPOC Station P	5.07	176	⇑P	Pn	08 51 57.3	-2.5
PB11				i S	S	08 52 56.5	-5.1
PB08	IPOC Station P	5.50	171	Pn	Pn	08 52 03.3	-1.9
PB08	IPOC Station P	5.50	171	P	Pn	08 52 00.6	-4.7
TA02	Huaiquique	5.56	181		Pn	08 52 02.5	-3.1
TA01	Diego Aracena	5.85	181		Pn	08 52 05.5	-3.7
PB01	IPOC Station P	6.35	175		Pn	08 52 12.4	-3.0
PB09	IPOC Station P	7.12	174	Pn	Pn	08 52 22.9	-2.2
NNA	Nana	7.13	291	Pn	Pn	08 52 23.3	-1.9
NNA	Nana	7.13	291	P	Pn	08 52 24.7	-0.5
11μm,0.6s,baz=134,slow=9.4,SNR=293							
NNA				S	S	08 53 46.2	-1.5
3μm,0.6s,baz=107,slow=16,SNR=1.5							
NNA				ScP	ScP	09 01 53.4	+3.6
170nm,0.7s,baz=293,slow=2.5,SNR=4.5							
NNA	Nana	7.13	291	deP	Pn	08 52 23.7	-1.4
NNA	Nana	7.13	291	⇓P	Pn	08 52 23.7	-1.4
PB03	IPOC Station P	7.33	178	Pn	Pn	08 52 24.4	-3.3
CZSB	Cruzeiro do Su	7.38	339	Pn	Pn	08 52 25.1	-3.2
CZSB	Cruzeiro do Su	7.38	339	P	Pn	08 52 25.3	-3.0
CZSB				S	S	08 53 49.3	-4.2
CZSB	Cruzeiro do Su	7.38	339	eP	Pn	08 52 25.4	-3.0
AF01	San Pedro de A	8.41	168		Pn	08 52 39.9	-1.5
SIV	San Ignacio	8.77	100	P	Pn	08 52 44.5	-1.2
4μm,1.0s,baz=281,slow=9.7,SNR=5222							
SIV				P3KPbc		09 29 35.7	
21nm,0.9s,baz=147,slow=3.0,SNR=12							
VILB	Vilhena	9.73	81	Pn	Pn	08 52 58.3	+0.6
VILB	Vilhena	9.73	81	P	Pn	08 52 58.8	+1.1
VILB	Vilhena	9.73	81	eP	Pn	08 52 58.6	+0.9
PB14	IPOC Station P	9.90	182	Pn	Pn	08 52 57.2	-2.8
PB14	IPOC Station P	9.90	182	P	Pn	08 52 54.8	-5.2
TBTG	Tabatinga, AM	10.43	1	Pn	Pn	08 53 04.0	-2.5
TBTG	Tabatinga, AM	10.43	1	P	Pn	08 53 04.0	-2.5
TBTG	Tabatinga, AM	10.43	1	eP	Pn	08 53 04.3	-2.2
GO02	Mina Guanaco	10.44	178	Pn	Pn	08 53 04.7	-2.1
GO02	Mina Guanaco	10.44	178	⇑P	Pn	08 53 04.7	-2.1
PTLB	Pontes e Lacer	10.58	96	Pn	Pn	08 53 08.1	-0.1
PTLB	Pontes e Lacer	10.58	96	P	Pn	08 53 08.6	+0.3
PTLB	Pontes e Lacer	10.58	96	eP	Pn	08 53 08.6	+0.3
ATAH	Atahualpa	11.10	312	P	Pn	08 53 14.8	-0.4
884nm,0.7s,baz=130,slow=9.7,SNR=302							
ATAH				S	S	08 55 16.2	-3.6
1μm,0.9s,baz=114,slow=14,SNR=1.2							
ATAH				ScP	ScP	09 01 56.1	+1.4
231nm,0.9s,baz=0.0,slow=4.0,SNR=4.0							
ATAH				ScS	ScS	09 05 33.7	+2.9
73nm,1.0s,baz=277,slow=18,SNR=6.9							
ATAH				P3KPbc		09 29 22.6	
15nm,0.8s,baz=18,slow=6.4,SNR=4.7							
AC01	Pan de Azucar	11.42	182	Pn	Pn	08 53 16.9	-1.7
AC02	Maricunga	12.12	176	Pn	Pn	08 53 27.7	-0.1
TEFE	Tefe	12.32	26	P	P	08 53 31.4	-0.7
TEFE	Tefe	12.32	26	eP	Pn	08 53 30.9	+0.9
PDRB	Porto dos Gac	13.33	78	P	P	08 53 43.1	-0.1
PDRB				S	S	08 56 06.9	-3.3
PDRB	Porto dos Gac	13.33	78	eP	P	08 53 42.9	-0.3
AC04	Llanos de Chal	13.49	184	Pn	Pn	08 53 41.5	-2.6
MURT	Porto Murtinho	13.71	122	P	Pn	08 53 46.9	+0.1
MURT				S	S	08 56 11.7	-6.9
MURT	Porto Murtinho	13.71	122	eP	Pn	08 53 46.6	-0.1
SALV	Santo Antonio	13.91	97	P	P	08 53 50.4	+0.8
SALV				S	S	08 56 21.0	-2.2
SALV	Santo Antonio	13.91	97	eP	P	08 53 50.2	+0.6
BDQN	Bodoquena, MS	13.92	116	P	P	08 53 50.2	+0.6
BDQN				S	S	08 56 23.7	+0.3
BDQN	Bodoquena, MS	13.92	116	eP	P	08 53 49.9	+0.2
LCO	Las Campanas	14.27	182		Pn	08 53 52.4	-1.4
LCO	Las Campanas	14.27	182	IVMs_BB	IVMs_BB	08 56 45.5	
comp=Z,1474μm,7.5s							
LCO	Las Campanas	14.27	182	P	Pn	08 53 52.4	-1.4
LCO	Las Campanas	14.27	182	⇑P	Pn	08 53 52.3	-1.4
CLDB	Colider	14.41	76	P	Pn	08 53 57.1	+1.7
CLDB				S	S	08 56 32.5	-2.1
CLDB	Colider	14.41	76	eP	Pn	08 53 56.7	+1.4
PAPY	Pozo Azul	14.55	132	eP	Pn	08 53 56.8	-0.1
MACA	Manacapuru-AM	14.71	40		Pn	08 53 59.5	+0.5
MACA	Manacapuru-AM	14.71	40	P	Pn	08 54 00.1	+1.1
MACA				S	S	08 56 41.5	+0.4
MACA	Manacapuru-AM	14.71	40	eP	Pn	08 53 59.9	+0.9
AQDB	Aquidauana	14.85	115		P	08 54 00.1	+0.2
AQDB	Aquidauana	14.85	115	P	Pn	08 54 00.7	+0.3
AQDB				S	S	08 56 43.7	-0.1
AQDB	Aquidauana	14.85	115	eP	Pn	08 54 00.6	+0.1
COHC	Cochancay	15.16	322		Pn	08 54 04.4	+0.2
CO01	Juntas del Tor	15.22	180	P	P	08 54 03.9	-0.3
GO04	Tololo Observa	15.43	182	P	P	08 54 05.1	-1.4
GO04	Tololo Observa	15.43	182	IVMs_BB	IVMs_BB	08 57 09.8	
comp=Z,251μm,11.6s							
GO04	Tololo Observa	15.43	182	⇑P	P	08 54 05.9	-0.6
CO06	Fray Jorge	15.98	185	P	P	08 54 11.1	-1.2
CO03	El Pedregal	16.09	182	P	P	08 54 12.6	-1.0
SLOR	San Lorenzo -	16.18	328	P	P	08 54 15.2	+0.1
NPGB	Novo Progresso	16.30	64	P	Pn	08 54 17.4	-0.3
NPGB				S	S	08 57 12.4	-0.8
NPGB	Novo Progresso	16.30	64	eP	Pn	08 54 17.1	-0.6
CPUP	Villa Florida	16.61	136	P	P	08 54 18.5	-0.7
CPUP	Villa Florida	16.61	136	P	P	08 54 19.1	-0.1
comp=Z,2μm,0.7s,baz=314,slow=11,SNR=1561							
CPUP				S	S	08 57 15.0	-4.1
comp=Z,325nm,0.9s,baz=193,slow=18,SNR=1.1							
CPUP				ScP	ScP	09 02 05.7	+2.4
comp=Z,221nm,0.6s,baz=331,slow=1.8,SNR=9.9							
CPUP				P3KPbc		09 29 06.1	
comp=Z,2.8nm,0.6s,baz=112,slow=2.2,SNR=4.1							
CPUP	Villa Florida	16.61	136	P	P	08 54 19.1	-0.1
CPUP				S	S	08 57 13.5	-5.6
CPUP	Villa Florida	16.61	136	eP	P	08 54 19.1	-0.1
RPRD	Ribas do Rio P	16.62	113	P	Pn	08 54 20.9	-0.5
RPRD				S	S	08 57 17.1	-2.5
RPRD	Ribas do Rio P	16.62	113	eP	Pn	08 54 20.6	-0.8
I41PY	VILLA FLORIDA	16.63	136	P	P	08 54 20.0	+0.6
baz=314,slow=12,SNR=5.0							
SJPY	San Joaquin	16.65	130	eP	P	08 54 19.9	+0.3
ZON	Zonda	16.83	176	P	P	08 54 21.5	-0.1
ZON	Zonda	16.83	176	P	P	08 54 21.5	-0.1
ZON	Zonda	16.83	176	⇑P	P	08 54 21.9	+0.3
CFA	Coronel Fontan	16.93	175	P	P	08 54 22.8	+0.1
comp=Z,665nm,0.5s,baz=351,slow=10.0,SNR=1162							
CFA				S	S	08 57 22.1	-3.4
comp=Z,90nm,0.4s,baz=20,slow=9.5,SNR=1.1							
CFA				ScP	ScP	09 02 05.6	+1.7
comp=Z,78nm,0.8s,baz=109,slow=0.7,SNR=4.1							
CFA				ScS	ScS	09 05 46.4	+2.7
comp=Z,25nm,1.0s,baz=65,slow=7.4,SNR=8.0							
CFA				P3KPbc		09 29 05.2	
comp=Z,1.5nm,0.4s,baz=190,slow=3.7,SNR=4.5							
C2SB	Chapadao do Su	16.98	106	eP	Pn	08 54 24.6	-1.1
OTAV	Otavalo	16.99	330	P	P	08 54 24.5	+0.5
OTAV	Otavalo	16.99	330	P	P	08 54 24.5	+0.5
OTAV	Otavalo	16.99	330	⇑P	Pn	08 54 25.3	-0.9
OTAV	Otavalo	16.99	330	P	Pn	08 54 26.0	-0.3
OTAV				S	S	08 57 29.5	+1.7
OTAV	Otavalo	16.99	330	eP	Pn	08 54 25.4	-0.9
FLOC	Florencia	17.08	341	P	P	08 54 21.9	-2.7
ITTB	Itaituba	17.44	55	P	Pn	08 54 29.9	-1.1
ITTB				S	S	08 57 35.4	-0.5
ITTB	Itaituba	17.44	55	eP	P	08 54 29.6	+1.2
ARAG	Araguaiana, MT	17.64	96	P	P	08 54 30.7	+0.1
ARAG				S	S	08 57 38.7	-1.2
ARAG	Araguaiana, MT	17.64	96	eP	P	08 54 30.3	-0.3
VA06	Catapilco	17.83	183	P	P	08 54 30.7	-1.7
VA03	San Esteban	18.01	181	P	P	08 54 33.6	-0.8
VA01	Torpederas	18.32	184	P	P	08 54 36.1	-1.4
PEL	Peldehue	18.39	182	P	P	08 54 37.4	-1.1
PEL	Peldehue	18.39	182	IVMs_BB	IVMs_BB	08 58 12.4	
comp=Z,305μm,4.5s							
PEL	Peldehue	18.39	182	P	P	08 54 37.4	-1.1
PEL	Peldehue	18.39	182	⇑P	P	08 54 38.1	-0.3
SNDB	Serra Nova Dou	18.46	84	P	P	08 54 40.7	+1.3
SNDB				S	S	08 57 55.0	-1.0
SNDB	Serra Nova Dou	18.46	84	eP	P	08 54 40.3	+0.9
MT02	Curacav	18.52	183	P	P	08 54 38.1	-1.7
MT05	Renca	18.64	182	P	P	08 54 40.4	-0.8
MT16	CCHEN	18.67	181	P	P	08 54 40.6	-0.9
MT08	Bocatoma Ro	18.68	180	P	P	08 54 41.8	0.0
MT03	Universidad Ad	18.73	181	P	P	08 54 41.2	-1.0
MT15	Las Vizcachas	18.84	181	⇑eP	P	08 54 43.1	-0.2
VA05	Santo Domingo	18.94	184	P	P	08 54 42.9	-1.4
MT13	San Alfonso	18.98	181	P	P	08 54 44.7	-0.2
MT09	Talagante	19.03	182	P	P	08 54 44.5	-0.9
LMEL	Las Melosas	19.08	180	P	P	08 54 45.6	-0.5
LMEL	Las Melosas	19.08	180	IVMs_BB	IVMs_BB	08 58 30.1	
comp=Z,158μm,4.7s							
MT01	Popeta	19.13	183	P	P	08 54 45.3	-1.0
BO04	La Punta	19.23	181	P	P	08 54 46.7	-0.8
BOAV	Boa Vista	19.42	30	P	P	08 54 50.6	+1.0
BOAV	Boa Vista	19.42	30	P	P	08 54 51.3	+1.7
BOAV				S	S	08 58 18.6	+3.8
BOAV	Boa Vista	19.42	30	eP	P	08 54 51.0	+1.4
ITRB	Iturama	19.46	108	P	P	08 54 49.8	-0.3
ITRB				S	S	08 58 13.2	-2.5
ITRB	Iturama	19.46	108	eP	P	08 54 49.8	-0.3
PTGB	Pitanga	19.64	123	P	P	08 54 51.0	-1.0
PTGB				S	S	08 58 15.9	-3.3
PTGB	Pitanga	19.64	123	eP	P	08 54 51.0	-1.0
BO01	Tunca	19.65	183	P	P	08 54 50.7	-1.1
BO01	Tunca	19.65	183	IVMs_BB	IVMs_BB	08 58 26.6	
comp=Z,106μm,4.8s							
ROSC	El Rosal	19.85	347	P	P	08 54 52.9	-1.7
ROSC	El Rosal	19.85	347	P	P	08 54 52.8	-1.8
comp=Z,236nm,0.6s,baz=174,slow=5.5,SNR=53							
ROSC				S	S	08 58 25.3	+1.6
comp=Z,728nm,0.9s,baz=184,slow=19,SNR=2.2							
LDASE	Londrina, Braz	19.87	119	eP	P	08 54 53.0	-1.4
BO02	Sierra Bellavi	20.03	182	P	P	08 54 55.1	-0.9
BO02	Sierra Bellavi	20.03	182	⇑P	P	08 54 55.6	-0.4
MAL2	Monte Alegre,	20.10	53	P	P	08 54 57.5	+0.6
MAL2	Monte Alegre,	20.10	53	P	P	08 54 57.8	+0.9
MAL2				S	S	08 58 28.6	+0.9
H03N1	Ju

TRQA	Tornquist	24.36 164	P	P	08 55 34.8	-1.9
TRQA	Tornquist	24.36 164	P	P	08 55 35.7	-1.0
TRQA			S	S	08 59 36.5	+0.3
PAYG	Puerto Ayora	24.36 303	P	P	08 55 37.8	+0.8
UPD2	Meteti	24.39 341	⇑iP	P	08 55 36.8	-0.4
UPD2	Meteti	24.39 341	⇑iP	P	08 55 36.8	-0.4
AZU	Azuero	24.52 335	⇑iP	P	08 55 39.3	+0.9
AZU	Azuero	24.52 335	eS	pP	08 56 32.7	+5.7
AZU	Azuero	24.52 335	⇑iP	P	08 55 39.3	+0.9
AZU	Azuero	24.52 335	eP	P	08 55 40.0	+1.6
SDBA	SAO DESIDERIO	24.55 88	P	P	08 55 38.1	-0.7
SDBA			S	S	08 59 35.0	-4.9
SDBA	SAO DESIDERIO	24.55 88	eP	P	08 55 38.4	-0.4
PARB	Paraibuna	24.62 114	P	P	08 55 38.4	-1.0
PARB			S	S	08 59 38.4	-4.4
PARB	Paraibuna	24.62 114	eP	P	08 55 38.6	-0.8
CHIT3	Chitre	24.73 335	eP	P	08 55 42.6	+2.3
CHIT3	Chitre	24.73 335	eP	P	08 55 42.3	+2.0
JQT1	Jequitai-MG	24.83 99	P	P	08 55 40.1	-1.2
JANB	Januaria	24.88 94	P	P	08 55 40.9	-0.9
JANB			S	S	08 59 38.9	-6.2
JANB	Januaria	24.88 94	eP	P	08 55 40.6	-1.1
TMAB	Tom-Au,PA,Br	24.89 63	P	P	08 55 44.0	+2.2
TMAB			S	S	08 59 43.1	-1.9
TMAB	Tom-Au,PA,Br	24.89 63	eP	P	08 55 44.0	+2.2
GMAL	Guarumal, Vera	24.90 333	⇑iP	P	08 55 43.3	+1.4
GMAL	Guarumal, Vera	24.90 333	eS	pP	08 56 36.6	+5.6
GMAL	Guarumal, Vera	24.90 333	⇑iP	P	08 55 43.7	+1.9
GMAL	Guarumal, Vera	24.90 333	⇑iP	P	08 55 43.5	+1.7
LR03	Panguipulli	24.94 184	P	P	08 55 40.0	-1.9
LR03			IAmb	IAmb	08 55 47.1	
	comp=Z,6μm,1.1s					
CRIS3	El Cristo, Coc	25.08 335	eP	P	08 55 51.1	+7.7
PNME	Penonome	25.17 336	⇑iP	P	08 55 45.1	+0.8
MC01	Montes Claros	25.22 98	P	P	08 55 43.4	-1.4
MC01			S	S	08 59 45.4	-5.0
CALO3	Calobre, Verag	25.23 334	eP	P	08 55 48.3	+3.5
MC08	Montes Claros	25.25 98	P	P	08 55 43.8	-1.3
MC08			S	S	08 59 45.8	-5.1
LR04	Corral	25.28 186	P	P	08 55 43.7	-1.2
PCRV	Puerto La Cruz	25.28 13	eP	P	08 55 45.4	+0.2
CNTA3	Canitas, Panam	25.31 339	eP	P	08 55 45.1	-0.4
CNTA3	Canitas, Panam	25.31 339	eS	pP	08 56 37.2	+1.7
CNTA3	Canitas, Panam	25.31 339	eP	P	08 55 52.1	+6.6
CNTA3	Canitas, Panam	25.31 339	eP	P	08 55 45.7	+0.2
UPA	Univ. de Panam	25.32 338	⇑iP	P	08 55 45.9	+0.4
UPA	Univ. de Panam	25.32 338	⇑iP	P	08 55 44.5	-1.1
CHOR3	La Chorrera	25.33 337	eP	P	08 55 47.2	+1.5
CHOR3	La Chorrera	25.33 337	eS	pP	08 56 34.3	-1.4
CHOR3	La Chorrera	25.33 337	eP	P	08 55 47.2	+1.5
CHOR3	La Chorrera	25.33 337	eP	P	08 55 46.5	+0.8
CHPO	Chepo, Panama	25.34 339	eS	pP	08 56 33.0	-2.9
CHPO	Chepo, Panama	25.34 339	eP	P	08 55 52.1	+6.4
CHPO	Chepo, Panama	25.34 339	eP	P	08 55 46.2	+0.4
ARRA3	Arraijan, Pana	25.35 337	eP	P	08 55 49.3	+3.5
LR05	Currie	25.51 183	P	P	08 55 45.4	-1.6
LR05			IAmb	IAmb	08 55 52.5	
	comp=Z,6μm,1.0s					
DIAM	Diamantina, MG	25.54 102	P	P	08 55 47.0	-0.7
DIAM			S	S	08 59 51.4	-4.3
DIAM	Diamantina, MG	25.54 102	eP	P	08 55 47.1	-0.7
BCIP	Isla Barro Col	25.60 337	P	P	08 55 47.7	-0.4
BCIP			IAmb	IAmb	08 56 46.8	
	comp=Z,3μm,1.2s					
BCIP	Isla Barro Col	25.60 337	P	P	08 55 47.7	-0.4
BCIP			pmax	pmax		
	comp=Z,3μm,1.2s					
BCIP	Isla Barro Col	25.60 337	⇑P	P	08 55 48.5	+0.4
BCIP	Isla Barro Col	25.60 337	⇑iP	P	08 55 48.2	+0.1
BCIP	Isla Barro Col	25.60 337	⇑iP	P	08 55 48.6	+0.5
LIMO3	Limones	25.96 330	eP	P	08 55 54.2	+2.9
LIMO3	Limones	25.96 330	eP	P	08 55 53.4	+2.2
LIMO3	Limones	25.96 330	eP	P	08 55 54.4	+3.1
PLCA	Paso Flores	25.96 181	P	P	08 55 49.9	-1.2
PLCA			IAmb	IAmb	08 55 56.6	
	comp=Z,8μm,1.4s					
PLCA	Paso Flores	25.96 181	P	P	08 55 50.6	-0.5
	comp=Z,637nm,0.6s,baz=356,slow=10,SNR=845					
PLCA			PcP	PcP	08 59 15.1	+3.0
	comp=Z,923nm,1.0s,baz=357,slow=5.4,SNR=6.6					
PLCA			ScP	ScP	09 02 27.7	+1.4
	comp=Z,275nm,0.9s,baz=8.5,slow=3.6,SNR=11					
PLCA			PKiKP	PKiKP	09 06 55.8	+4.3
	comp=Z,70nm,1.1s,baz=182,slow=0.6,SNR=3.2					
PLCA			P3KPbc		09 28 30.6	
	comp=Z,3.0nm,1.0s,baz=227,slow=2.2,SNR=5.4					
PLCA	Paso Flores	25.96 181	P	P	08 55 49.9	-1.2
PLCA			pmax	pmax		
	comp=Z,8μm,1.4s					
PLCA	Paso Flores	25.96 181	⇑P	P	08 55 50.1	-1.0
PLCA	Paso Flores	25.96 181	P	P	08 55 50.3	-0.8
PLCA	Paso Flores	25.96 181	eP	P	08 55 50.0	-1.0
MAN01	Angra dos Reis	25.98 112	P	P	08 55 50.9	-0.7
MAN01	Angra dos Reis	25.98 112	eP	P	08 55 51.2	-0.4
LOMA3	Las Lomas, Chi	26.02 331	eP	P	08 55 54.0	+2.1
DVD	David	26.05 331	eP	P	08 55 54.3	+2.2
DVD	David	26.05 331	eS	pP	08 56 44.5	+1.1
DVD	David	26.05 331	eP	P	08 55 55.3	+3.2
DVD	David	26.05 331	eP	P	08 55 53.5	+1.4
PTPM	Petroterminale	26.05 330	⇑iP	P	08 55 53.5	+1.4
GUAL3	Gualaca, Chiri	26.06 331	eP	P	08 55 55.7	+3.4
MPGF	Montagnes des	26.17 43	⇑P	P	08 55 54.8	+1.6
LL04	Puerto Octay	26.21 184	P	P	08 55 51.5	-1.8
LL04			IAmb	IAmb	08 55 58.2	
	comp=Z,3μm,1.1s					
VAS01	Vassouras-RJ	26.32 111	P	P	08 55 53.8	-0.8
VAS01			S	S	09 00 05.2	-2.4
CHGR2	Aguacate	26.35 332	eP	P	08 55 57.2	+2.3
CHGR2	Aguacate	26.35 332	eS	pP	08 56 42.2	-4.1
CHGR2	Aguacate	26.35 332	eP	P	08 55 58.2	+3.4
CHGR2	Aguacate	26.35 332	eP	P	08 55 55.9	+1.0
LNBQ3	Los Naranjos,	26.36 331	eP	P	08 55 58.7	+3.6
CDITO	Canoas	26.37 330	P	P	08 55 56.7	+1.7
CDITO	Canoas	26.37 330	P	P	08 55 59.1	+4.1
CDITO	Canoas	26.37 330	P	P	08 55 59.1	+4.1
CDITO	Canoas	26.37 330	P	P	08 55 58.2	+3.2
LL03	Petrohue	26.44 184	P	P	08 55 53.5	-1.8
LL03			IAmb	IAmb	08 56 00.4	
	comp=Z,4μm,0.8s					
BC3P	Paso Ancho	26.46 331	eP	P	08 55 58.8	+2.8
PTJ1	Puerto Jimnez	26.55 330	eP	P	08 55 58.5	+1.9
JIME	Puerto Jimenez	26.56 329	eP	P	08 55 58.0	+1.4
EDAD	Golfito	26.58 330	eP	P	08 55 58.3	+1.4
TRN	Trinidad (W)	26.59 19	eP	P	08 55 57.1	+0.2
HATO	Hato, Curacao	26.71 2	P	P	08 55 56.5	-1.5
LL05	Los Muermos	26.79 186	P	P	08 55 56.8	-1.7
LL05			IAmb	IAmb	08 56 03.6	
	comp=Z,4μm,1.1s					
SIM2	UHE Simplicio	26.82 110	P	P	08 55 58.3	-0.8
CNI2	El Empalme, Bo	26.93 332	eP	P	08 56 03.5	+3.6
FIMO	Fila Mora	26.96 330	eP	P	08 56 02.3	+1.9
DRK0	Durika	27.15 330	eP	P	08 56 02.5	+0.4
OCHAL	Ojochal	27.20 329	P	P	08 56 05.3	+3.0
OCHAL	Ojochal	27.20 329	P	P	08 56 04.9	+2.5
OCHAL	Ojochal	27.20 329	P	P	08 56 05.4	+3.0
OCHAL	Ojochal	27.20 329	P	P	08 56 04.9	+2.5
OCHAL	Ojochal	27.20 329	P	P	08 56 04.9	+2.5
DUB01	Friburgo-RJ	27.25 110	P	P	08 56 02.5	-0.4
DUB01			S	S	09 00 18.1	-4.2
DUB01	Friburgo-RJ	27.25 110	eP	P	08 56 02.2	-0.7
TPR	Prospect	27.30 20	eP	P	08 56 04.5	+1.3
TOSP	Speyside	27.48 21	eP	P	08 56 05.8	+1.0
LL06	Loncomilla	27.61 186	P	P	08 56 04.4	-1.2
LL06			IAmb	IAmb	08 56 10.7	
	comp=Z,4μm,0.9s					
LL01	San Ignacio de	27.67 184	P	P	08 56 04.5	-1.7
LL01			IAmb	IAmb	08 56 11.0	
	comp=Z,2μm,1.1s					
LL01	San Ignacio de	27.67 184	⇑P	P	08 56 04.7	-1.5
CAR01	Carai MG	27.70 99	P	P	08 56 06.0	-0.9
CAR01			S	S	09 00 23.8	-5.6
LLNJ	Naranjito	27.75 329	eP	P	08 56 08.6	+1.4
GRFF	Grenada Fort F	27.81 18	eP	P	08 56 06.7	-1.1
CAM01	Campos-RJ	27.86 109	P	P	08 56 07.4	-0.8
CAM01	Campos-RJ	27.86 109	eP	P	08 56 07.0	-1.2
GRGR	Grenville	27.91 18	P	P	08 56 08.3	-0.4
GRGR	Grenville	27.91 18	eP	P	08 56 08.3	-0.4
GRGR	Grenville	27.91 18	⇑P	P	08 56 08.0	-0.7
SJMB	Sao Joao De Ma	27.93 102	P	P	08 56 07.2	-1.6
SJMB			S	S	09 00 26.6	-6.3
SJMB	Sao Joao De Ma	27.93 102	eP	P	08 56 07.5	-1.3
LCR2	La Lucha 2	27.93 330	eP	P	08 56 09.3	+0.2
REPA	Paraso	27.94 330	eP	P	08 56 10.0	+0.9
VERB	Verbena	27.95 330	eP	P	08 56 10.9	+1.7
GRHS	Sauteurs	28.00 18	eP	P	08 56 10.0	+0.5
VTR0	Volcan Turrial	28.05 330	eP	P	08 56 12.1	+1.8
VICA	Volcano Irazu	28.06 330	eP	P	08 56 11.6	+1.1
TRIO	Tres Rios	28.07 330	eP	P	08 56 11.2	+1.0
AMPA	Desamparados	28.09 330	eP	P	08 56 11.9	+1.5
SJS3	Mercedes San J	28.12 330	eP	P	08 56 12.4	+1.7
CORON	Coronado	28.13 330	eP	P	08 56 12.9	+2.1
ROSB	Rosrio	28.13 68	S	S	09 00 35.3	-0.9
CVTG	V. Turrialba,	28.17 330	eP	P	08 56 12.5	+1.4
DOMI	Santo Domingo	28.18 330	eP	P	08 56 13.4	+2.2
SANTA	Santa Ana	28.18 329	eP	P	08 56 12.5	+1.3
LL07	Hotel Espejo d	28.21 185	P	P	08 56 09.2	-1.8
HDC	Heredia	28.21 330	P	P	08 56 12.2	+0.8
HDC			IAmb	IAmb	08 56 21.3	
	comp=Z,4μm,0.9s					
HDC	Heredia	28.21 330	eP	P	08 56 10.1	-1.4
HDC	Heredia	28.21 330	P	P	08 56 14.7	+3.3
HDC	Heredia	28.21 330	eP	P	08 56 12.0	+0.6
BSFB	Barra de Sao F	28.26 102	eP	P	08 56 10.4	-1.4
GCMP	Grenada, Carri	28.32 18	eP	P	08 56 12.2	0.0
TCS1	Tacares	28.33 329	eP	P	08 56 14.2	+1.6
CBL1	Cabuya	28.35 327	eP	P	08 56 14.3	+1.8
LL02	Futaleuf	28.45 183	P	P	08 56 11.4	-1.7
LL02			IAmb	IAmb	08 56 18.1	
	comp=Z,3μm,1.1s					
SRA1	San Ramn	28.46 329	eP	P	08 56 15.3	+1.7
ARZA	Esparza	28.47 329	eP	P	08 56 15.5	+1.8
TRT2	Tortugero	28.51 331	P	P	08 56 16.8	+2.9
TRT2	Tortugero	28.51 331	P	P	08 56 15.9	+2.0
TRT2	Tortugero	28.51 331	P	P	08 56 16.8	+2.9
TRT2	Tortugero	28.51 331	P	P	08 56 15.9	+2.0
TRT2	Tortugero	28.51 331	P	P	08 56 16.9	+3.0
ALF01	Guarapari-ES	28.54 106	P	P	08 56 13.2	-1.0
ALF01			S	S	09 00 38.5	-3.9
ALF01	Guarapari-ES	28.54 106	eP	P	08 56 13.8	-0.5
ITAL	Pital	28.67 330	eP	P	08 56 16.5	+1.1
RIB01	Linhares ES	28.72 103	P	P	08 56 14.1	-1.8
RIB01			S	S	09 00 40.3	-4.9
RIB01	Linhares ES	28.72 103	eP	P	08 56 14.7	-1.2
NYURE	Nandayure	28.78 328	eP	P	08 56 17.7	+1.4
SOCE	Pocosol	28.78 329	P	P	08 56 17.6	+1.1
SOCE	Pocosol	28.78 329	P	P	08 56 19.6	+3.1
SOCE	Pocosol	28.78 329	P	P	08 56 19.4	+2.9
SOCE	Pocosol	28.78 329	P	P	08 56 19.8	+3.4
SOCE	Pocosol	28.78 329	P	P	08 56 19.4	+2.9
SOCE	Pocosol	28.78 329	P	P	08 56 20.0	+3.6
SOCE	Pocosol	28.78 329	eP	P	08 56 17.9	+1.4
INDI	Punta indio, G	28.80 327	P	P	08 56 18.8	+2.3
INDI	Punta indio, G	28.80 327	P	P	08 56 18.4	+1.8
INDI	Punta indio, G	28.80 327	P	P	08 56 18.8	+2.3
INDI	Punta indio, G	28.80 327	P	P	08 56 18.4	+1.8
INDI	Punta indio, G	28.80 327	P	P	08 56 19.1	+2.6
JTS	Las Juntas de	28.87 328	P	P	08 56 18.2	+1.0
JTS			IAmb	IAmb	08 56 26.6	
	comp=Z,3μm,0.9s					
JTS	Las Juntas de	28.87 328	P	P	08 56 18.2	+1.0
JTS			pmax	pmax		
	comp=Z,3μm,1.0s					
JTS	Las Juntas de	28.87 328	⇑P	P	08 56 19.0	+1.8
JTS	Las Juntas de	28.87 328	eP	P	08 56 19.3	+2.1
JTS	Las Juntas de	28.87 328	⇑iP	P	08 56 18.8	+1.6
JTS	Las Juntas de	28.87 328	eP	P	08 56 18.8	+1.6
CMARA	Lajas Hojancha	28.89 327	eP	P	08 56 18.9	+1.6
NAN01	Guarapari, ES	28.89 100	P	P	08 56 16.4	-1.0
NAN01			S	S	09 00 43.1	-4.9
ARE1	Arenal 1	28.90 329	eP	P	08 56 19.4	+1.9
COVE	Coope Vega, Sa	28.97 330	P	P	08 56 20.4	+2.4
COVE	Coope Vega, Sa	28.97 330	P	P	08 56 20.9	+2.9
COVE	Coope Vega, Sa	28.97 330	P	P	08 56 21.4	+3.4
COVE	Coope Vega, Sa	28.97 330	P	P	08 56 20.9	+2.9
COVE	Coope Vega, Sa	28.97 330	P	P	08 56 20.3	+2.3
SVOC	Richmond Hill,	29.01 18	eP	P	08 56 18.4	+0.1
SVT	Saint Vincent	29.02 18	eP	P	08 56 17.1	-1.3
CNAS	Canas	29.06 328	eP	P	08 56 20.4	+1.5
SVB	Belmont	29.11 18	eP	P	08 56 18.5	-0.8
GUA01	Guaratinga, BA	29.18 98	P	P	08 56 19.1	-0.8
GUA01			S	S	09 00 47.1	-5.5
GUA01	Guaratinga, BA	29.18 98	eP	P	08 56 19.3	-0.7
COLC	Colonia	29.32 328	eP	P	08 56 22.8	+1.6
CMC01	Camacan, BA	29.49 95	P	P	08 56 21.8	-0.9
CMC01	Camacan, BA	29.49 95	eP	P	08 56 21.8	-0.9
BBGH	Gun Hill	29.54 21	P	P	08 56 23.6	+0.6
BBGH	Gun Hill	29.54 21	⇑P	P	08 56 25.5	+2.5
SLDE	Delcer	29.67 18	eP	P	08 56 25.8	+1.6
AY01	Puyuhuapi	29.72 184	P	P	08 56 22.7	-1.6
AY01			IAmb	IAmb	08 56 29.1	
	comp=Z,5μm,1.2s					
BLUN	Bluefields	29.80 332	P	P	08 56 27.0	+1.8
BLUN	Bluefields	29.80 332	P	P	08 56 27.4	+2.1
BLUN	Bluefields	29.80 332	P	P	08 56 27.4	+2.1
BLUN	Bluefields	29.80 332	P	P	08 56 28.6	+3.3
SLAC	Saint Lucia, A	29.81 18	eP	P	08 56 25.0	-0.4
SLBI	Saint Lucia, B	29.90 18	eP	P	08 56 25.4	-0.8
CARN	Rivas	29.93 328	P	P	08 56 29.5	+3.0
CARN	Rivas	29.93 328	P	P	08 56 28.8	+2.4
CARN	Rivas	29.93 328	P	P	08 56 28.8	+2.4
CARN	Rivas	29.93 328	P	P	08 56 28.9	+2.4
NBPS	Pedro II - PI	29.97 73	P	P	08 56 27.3	+0.3
NBPS			S	S	09 01 03.1	-2.0
PRVC	Isla de Provid	30.04 338	⇑iP	P	08 56 27.6	+0.2
PRVC	Isla de Provid	30.04 338	P	P	08 56 28.0	+0.5
PRVC	Isla de Provid	30.04 338	P	P	08 56 27.9	+0.5
PRVC	Isla de Provid	30.04 338	P	P	08 56 27.9	+0.5
PRVC	Isla de Provid	30.04 338	P	P	08 56 29.1	+1.7
ESPN	Las Esperanzas	30.20 331	P	P	08 56 29.4	+0.6
ESPN	Las Esperanzas	30.20 331	P	P	08 56 30.4	+1.6
ESPN	Las Esperanzas	30.20 331	P	P	08 56 34.7	+5.9
ESPN	Las Esperanzas	30.20 331	P	P	08 56 34.7	+5.9
ESPN	Las Esperanzas	30.20 331	P	P	08 56 30.4	+1.6
ABR01	Abrolhos, BA	30.25 101	P	P	08 56 27.3	-2.1
ABR01			S	S	09 01 03.5	-5.7
ABR01	Abrolhos, BA	30.25 101	eP	P	08 56 27.9	-1.5
JAPN	AI SSO del Vol	30.29 328	P	P	08 56 31.1	+1.5
JAPN	AI SSO del Vol	30.29 328	P	P	08 56 33.4	+3.8
JAPN	AI SSO del Vol	30.29 328	P	P	08 56 33.4	+3.8
JAPN	AI SSO del Vol	30.29 328	P	P	08 56 31.3	+1.7
MORN	AI O del Volca	30.30 329	P	P	08 56 31.5	+1.8
CONN	Concepcion	30.30 329	P	P	08 56 30.0	+0.3
CONN	Concepcion	30.30 329	P	P	08 56 30.4	+0.7
CONN	Concepcion	30.30 329	P	P	08 56 30.4	+0.7
CONN	Concepcion	30.30 329	P	P	08 56 30.7	+1.0
H05S1	Guadeloupe/Mar	30.33 18	P	P	08 56 29.4	-0.5
BIM	Bigot	30.34 17	P	P	08 56 29.3	-0.8
BIM	Bigot	30.34 17	eP	P	08 56 28.8	-1.3
ACON	Acoyapa	30.42 330	P	P	08 56 30.8	0.0
ACON			IAmb	IAmb	08 56 39.5	
	comp=Z,4μm,1.5s					
ACON	Acoyapa	30.42 330	P	P	08 56 32.7	+1.9
ACON	Acoyapa	30.42 330	P	P	08 56 32.9	+2.1
ACON	Acoyapa	30.42 330	P	P	08 56 32.9	+2.1
ACON	Acoyapa	30.42 330	P	P	08 56 32.7	+1.9
SVN	Savane Anatole	30.62 17	P	P	08 56 30.9	-1.7
SVN	Savane Anatole	30.62 17	eP	P	08 56 30.8	-1.8
ILAM	Ilet Lapin Mar	30.65 18	P	P	08 56 31.4	-1.3
ILAM	Ilet Lapin Mar	30.65 18	eP	P	08 56 30.3	-2.4
ILAM	Ilet Lapin Mar	30.65 18	eP	P	08 56 31.4	-1.3
NADN	Granada	30.66 328	P	P	08 56 34.2	+1.3
COYC	Coyhaique	30.84 183	P	P	08 56 32.6	-1.5
COYC	Coyhaique	30.84 183	⇑P	P	08 56 33.0	-1.1
COYC	Coyhaique	30.84 183	P	P	08 56 33.5	-0.6
COYC			PcP	PcP	08 59 28.4	+4.3
COYC			ScP	ScP	09 02 41.9	+0.5
NANN	Nandasmo	30.87 328	P	P	08 56 37.3	+2.5
NANN	Nandasmo	30.87 328	P	P	08 56 37.3	+2.5
NANN	Nandasmo	30.87 328	P	P	08 56 37.3	+2.5
NANN	Nandasmo	30.87 328	P	P	08 56 38.1	+3.4
NANN	Nandasmo	30.87 328	P	P	08 56 37.1	+2.3
SABN	Sabanita	30.91 328	P	P	08 56 37.3	+2.2
SABN	Sabanita	30.91 328	P	P	08 56 37.4	+2.3
SABN	Sabanita	30.91 328	P	P	08 56 37.4	+2.3
SABN	Sabanita	30.91 328	P	P	08 56 38.0	+2.9
MASN	Masaya	30.93 328	P	P	08 56 39.0	+3.8
MAS3	AI N del Volca	30.97 328	P	P	08 56 36.9	+1.2
MAS3	AI N del Volca	30.97 328	P	P	08 56 38.3	+2.7
MAS3	AI N del Volca	30.97 328	P	P	08 56 38.3	+2.7
MAS3	AI N del Volca	30.97 328	P	P	08 56 37.5	+1.9
MSHP	Masachapa	30.99 327	P	P	08 56 37.7	+1.9
CRUN	El Crucero	31.00 328	P	P	08 56 30.9	-5.1
CRUN	El Crucero	31.00 328	P	P	08 56 32.7	-3.3
CRUN	El Crucero	31.00 328	P	P	08 56 32.7	-3.3
CRUN	El Crucero	31.00 328	P	P	08 56 31.7	-4.3
MDN	Morne-Daniel	31.02 16	eP	P	08 56 33.5	-2.5
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 36.1	-0.4
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 36.9	+0.4
BOAB	BOACO BROADBAN	31.08 329	⇑P	P	08 56 36.9	+0.4
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 38.3	+1.8
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 37.7	+1.2
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 37.7	+1.2
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 38.5	+2.0
BOAB	BOACO BROADBAN	31.08 329	P	P	08 56 39.3	+2.8
UNAN	Cigeo UNAN	31.09 328	P	P	08 56 38.2	+1.5
UNAN	Cigeo UNAN	31.09 328	P	P	08 56 37.7	+1.0
UNAN	Cigeo UNAN	31.09 328	P	P	08 56 37.7	+1.0
UNAN	Cigeo UNAN	31.09 328	P	P	08 56 37.9	+1.2
MGAN	Managua	31.11 328	P	P	08 56 39.8	+3.0
R4DEC	Barrio San Lui	31.11 328	P	P	08 56 38.3	+1.4
R4DEC	Barrio San Lui	31.11 328	P	P	08 56 38.4	+1.6
R4DEC	Barrio San Lui	31.11 328	P	P	08 56 38.4	+1.6
R4DEC	Barrio San Lui	31.11 328	P	P	08 56 38.7	+1.8
TISN	Laguna Tiscapa	31.12 328	P	P	08 56 38.1	+1.2
TISN	Laguna Tiscapa	31.12 328	P	P	08 56 38.4	+1.5
TISN	Laguna Tiscapa	31.12 328	P	P	08 56 38.4	+1.5
TISN	Laguna Tiscapa	31.12 328	P	P	08 56 38.5	+1.6
ABCN	Banco Central	31.12 328	P	P	08 56 39.6	+2.7
DSLB	Salisbury	31.12 16	eP	P	08 56 34.8	-2.1
ALLN	Telcor Managua	31.13 328	P	P	08 56 39.4	+2.4
APQ2	Apoyeque	31.19 328	P	P	08 56 39.5	+1.9
APQ2	Apoyeque	31.19 328	P	P	08 56 39.5	+1.9
AMTN	Mateare	31.28 328	P	P	08 56 40.4	+2.1
SBBR	Sobral	31.30 73	P	P	08 56 38.1	-0.5
SBBR			S	S	09 01 21.3	-4.4
NBPB	Pedra_Branca-C	31.31 76	P	P	08 56 39.4	+0.7
NBPB			S	S	09 01 24.5	-1.3
NBPB	Pedra_Branca-C	31.31 76	eP	P	08 56 39.0	+0.3
COPN	Copaltepe	31.32 328	P	P	08 56 40.5	+1.9
COPN	Copaltepe	31.32 328	P	P	08 56 40.1	+1.4
COPN	Copaltepe	31.32 328	P	P	08 56 40.1	+1.4
COPN	Copaltepe	31.32 328	P	P	08 56 41.0	+2.4
BILN	Bilwi Airport	31.44 335	P	P	08 56 40.9	+1.2
BILN	Bilwi Airport	31.44 335	P	P	08 56 40.8	+1.1
BILN	Bilwi Airport	31.44 335	P	P	08 56 41.6	+1.9
BILN	Bilwi Airport	31.44 335	P	P	08 56 40.8	+1.1
BILN	Bilwi Airport	31.44 335	P	P	08 56 42.0	+2.4
TDBA	Terre de Bas,	31.46 16	P	P	08 56 37.7	-2.1
TBG	Guadaloupe-3	31.46 16	eP	P	08 56 37.6	-2.2
MOMN	Momotombo	31.48 328	P	P	08 56 41.5	+1.4
MOMN	Momotombo	31.48 328	P	P	08 56 42.3	+2.1
MOMN	Momotombo	31.48 328	P	P	08 56 42.3	+2.1
MOMN	Momotombo	31.48 328	P	P	08 56 41.4	+1.3
LEVN	Ruinas Leon Vi	31.51 328	P	P	08 56 42.1	+1.7
LEVN	Ruinas Leon Vi	31.51 328	P	P	08 56 42.0	+1.7
LEVN	Ruinas Leon Vi	31.51 328	P	P	08 56 42.0	+1.7
NBMA	Muriti-CE	31.54 80	P	P	08 56 40.7	0.0
NBMA			S	S	09 01 26.6	-2.8
MIRN	Miramar	31.60 328	P	P	08 56 41.9	+0.8
MACN	El Madrono	31.60 328	P	P	08 56 42.3	+1.2
CNGA	AI SSO del Vol	31.64 328	P	P	08 56 42.1	+0.7
CNGN	Cerro Negro	31.64 328	P	P	08 56 41.6	+0.1
CNGN	Cerro Negro	31.64 328	P	P	08 56 43.1	+1.6
CNGN	Cerro Negro	31.64 328	P	P	08 56 48.4	+6.8
CNGN	Cerro Negro	31.64 328	P	P	08 56 48.4	+6.8
CNGN	Cerro Negro	31.64 328	P	P	08 56 42.7	+1.2
CNGN	Cerro Negro	31.64 328	P	P	08 56 43.0	+1.6
CNGN	Cerro Negro	31.64 328	P	P	08 56 49.0	+7.5
MAGL	Barre de l'Ile	31.65 16	P	P	08 56 40.2	-1.2
MAGL			IAmb	IAmb	08 56 46.9	

SJG	San Juan	32.81	7	eP	P	08 56 47.7	-3.8
SJG	San Juan	32.81	7	⇑P	P	08 56 49.9	-1.7
SJG	San Juan	32.81	7	P	P	08 56 50.4	-1.2
SJG				sP	sP	08 58 20.0	+5.2
SJG				PcP	PcP	08 59 31.3	+1.4
PRSN	Puerto Rico Se	32.82	5	P	P	08 56 50.7	-0.9
HUMP	Col San Antoni	32.88	7	P	P	08 56 51.2	-0.9
CNCH	Conchagua	32.88	327	P	P	08 56 53.4	+1.0
CNCH	Conchagua	32.88	327	P	P	08 56 52.8	+0.4
CNCH	Conchagua	32.88	327	P	P	08 56 52.8	+0.4
CNCH	Conchagua	32.88	327	P	P	08 56 53.8	+1.4
CNCH	Conchagua	32.88	327	P	P	08 56 53.2	+0.8
UUPR	Utuado, UPR, P	32.89	6	P	P	08 56 51.4	-0.8
SDD	Santo Domingo	32.93	0	P	P	08 56 51.9	-0.7
SDD				IAmb	IAmb	08 56 58.8	
	comp=Z,4μm,1.4s						
LCND	La Caada	32.94	327	P	P	08 56 53.4	+0.7
LCND	La Caada	32.94	327	P	P	08 56 53.1	+0.4
LCND	La Caada	32.94	327	P	P	08 56 53.1	+0.4
LCND	La Caada	32.94	327	P	P	08 56 54.2	+1.5
LCND	La Caada	32.94	327	P	P	08 56 53.8	+1.0
YUSH	Yuscaran	32.95	329	P	P	08 56 54.8	+1.9
YUSH	Yuscaran	32.95	329	P	P	08 56 54.0	+1.1
NBCL	Cascavel-CE	32.96	75	P	P	08 56 53.5	+0.5
NBCL				S	S	09 01 49.8	-1.6
AOPR	Arecibo Observ	32.98	6	P	P	08 56 52.3	-0.7
AOPR	Arecibo Observ	32.98	6	eP	P	08 56 48.9	-4.1
GCPR	Guaynabo City	33.02	7	P	P	08 56 51.7	-1.6
GCPR				IAmb	IAmb	08 56 59.7	
	comp=Z,3μm,1.0s						
PAPH	Port-au-Prince	33.07	356	eP	P	08 56 52.8	-1.0
EMPR	Esperanza - Ma	33.13	6	P	P	08 56 53.6	-0.7
HOJ	Hope	33.14	348	i P	P	08 56 52.9	-1.5
ANWB	Willy Bob	33.16	15	eP	P	08 56 49.5	-5.1
ANWB	Willy Bob	33.16	15	⇑P	P	08 56 51.7	-2.9
STH	Stony Hill	33.23	348	⇑i P	P	08 56 53.5	-1.7
SMRT	St. Maarten	33.25	12	P	P	08 56 53.9	-1.5
TGUH	Tegucigalpa,Un	33.25	328	P	P	08 56 55.8	+0.2
TGUH	Tegucigalpa,Un	33.25	328	P	P	08 56 57.3	+1.7
TGUH	Tegucigalpa,Un	33.25	328	P	P	08 56 57.0	+1.4
TGUH	Tegucigalpa,Un	33.25	328	P	P	08 56 57.2	+1.7
TGUH	Tegucigalpa,Un	33.25	328	P	P	08 56 57.0	+1.4
RANC	El Ranchito	33.26	326	P	P	08 56 57.3	+1.7
RANC	El Ranchito	33.26	326	P	P	08 56 56.8	+1.2
RANC	El Ranchito	33.26	326	P	P	08 56 57.4	+1.7
RANC	El Ranchito	33.26	326	P	P	08 56 56.8	+1.2
DR12	Loma Pena Alta	33.27	1	P	P	08 56 54.6	-1.0
PACA	Pacayal	33.31	326	P	P	08 56 58.5	+2.5
PACA	Pacayal	33.31	326	P	P	08 56 57.4	+1.4
PACA	Pacayal	33.31	326	P	P	08 56 57.4	+1.4
PACA	Pacayal	33.31	326	P	P	08 56 58.9	+2.8
PACA	Pacayal	33.31	326	P	P	08 56 58.0	+2.0
ALJI	Alcalda de J	33.32	326	P	P	08 56 57.8	+1.8
ALJI	Alcalda de J	33.32	326	P	P	08 56 57.5	+1.4
ALJI	Alcalda de J	33.32	326	P	P	08 56 57.5	+1.4
ALJI	Alcalda de J	33.32	326	P	P	08 56 58.6	+2.5
ALJI	Alcalda de J	33.32	326	P	P	08 56 58.5	+2.5
NBAN	Anadia - AL	33.37	85	P	P	08 56 55.8	-0.8
NBAN				S	S	09 01 52.6	-5.2
NBAN	Anadia - AL	33.37	85	eP	P	08 56 55.7	-0.8
SDDR	Presa de Saban	33.48	358	P	P	08 56 56.8	-0.6
SDDR				IAmb	IAmb	08 57 20.6	
	comp=Z,3μm,1.5s						
SDDR	Presa de Saban	33.48	358	eP	P	08 56 55.7	-1.7
SDDR	Presa de Saban	33.48	358	⇑P	P	08 56 55.5	-1.8
MTDJ	Mount Denham	33.52	347	P	P	08 56 56.9	-0.9
MTDJ	Mount Denham	33.52	347	eP	P	08 56 54.5	-3.3
MTDJ	Mount Denham	33.52	347	⇑P	P	08 56 56.3	-1.5
PQSS	Presa 15 de Se	33.56	326	P	P	08 56 59.6	+1.5
PQSS	Presa 15 de Se	33.56	326	P	P	08 56 59.3	+1.2
PQSS	Presa 15 de Se	33.56	326	P	P	08 56 59.3	+1.2
PQSS	Presa 15 de Se	33.56	326	P	P	08 56 59.8	+1.7
PQSS	Presa 15 de Se	33.56	326	P	P	08 57 00.1	+2.0
NBPA	Parau_RN	33.57	78	P	P	08 56 58.2	-0.1
NBPA				S	S	09 01 57.9	-2.9
TECO	Alcaldia de Te	33.61	326	P	P	08 57 00.2	+1.7
TECO	Alcaldia de Te	33.61	326	P	P	08 56 59.9	+1.3
TECO	Alcaldia de Te	33.61	326	P	P	08 56 59.9	+1.3
TECO	Alcaldia de Te	33.61	326	P	P	08 57 00.4	+1.9
TECO	Alcaldia de Te	33.61	326	P	P	08 57 01.1	+2.6
UESV	Universidad de	33.70	326	P	P	08 57 00.8	+1.5
UESV	Universidad de	33.70	326	P	P	08 57 02.9	+3.7
UESV	Universidad de	33.70	326	P	P	08 57 02.9	+3.7
UESV	Universidad de	33.70	326	P	P	08 57 00.8	+1.5
UESV	Universidad de	33.70	326	P	P	08 57 03.6	+4.3
SCLA	Alcaldia de Sa	33.72	326	P	P	08 57 01.9	+2.4
SCLA	Alcaldia de Sa	33.72	326	P	P	08 57 00.8	+1.3
SCLA	Alcaldia de Sa	33.72	326	P	P	08 57 00.8	+1.3
SCLA	Alcaldia de Sa	33.72	326	P	P	08 57 01.2	+1.7
SCLA	Alcaldia de Sa	33.72	326	P	P	08 57 01.1	+1.7
COEG	Centro de Oper	33.73	326	P	P	08 57 01.4	+1.8
COEG	Centro de Oper	33.73	326	P	P	08 57 00.9	+1.3
COEG	Centro de Oper	33.73	326	P	P	08 57 00.9	+1.3
COEG	Centro de Oper	33.73	326	P	P	08 57 01.3	+1.7
COEG	Centro de Oper	33.73	326	P	P	08 57 01.6	+2.0
PAVA	Las Pavas	33.84	326	P	P	08 57 02.4	+1.8
PAVA	Las Pavas	33.84	326	P	P	08 57 02.5	+1.8
PAVA	Las Pavas	33.84	326	P	P	08 57 02.5	+1.8
PAVA	Las Pavas	33.84	326	P	P	08 57 02.9	+2.3
PAVA	Las Pavas	33.84	326	P	P	08 57 03.8	+3.1
LALI	Alcalda de L	33.87	325	P	P	08 57 03.6	+2.9
LALI	Alcalda de L	33.87	325	P	P	08 57 05.4	+4.7
LALI	Alcalda de L	33.87	325	P	P	08 57 05.4	+4.7
LALI	Alcalda de L	33.87	325	P	P	08 57 05.0	+4.3
LALI	Alcalda de L	33.87	325	P	P	08 57 07.2	+6.5
PANCS	Alcalda de	33.89	325	P	P	08 57 03.6	+2.7
PANCS	Alcalda de	33.89	325	P	P	08 57 07.0	+6.0
PANCS	Alcalda de	33.89	325	P	P	08 57 07.0	+6.0
SC01	Santiago de lo	33.90	359	P	P	08 57 00.3	-0.6
LOMA	Loma Larga	33.91	325	P	P	08 57 03.0	+1.7
LOMA	Loma Larga	33.91	325	P	P	08 57 02.9	+1.6
LOMA	Loma Larga	33.91	325	P	P	08 57 02.9	+1.6
LOMA	Loma Larga	33.91	325	P	P	08 57 03.8	+2.5
LOMA	Loma Larga	33.91	325	P	P	08 57 04.0	+2.8
NBCA	Caruaru-PE	33.95	83	P	P	08 57 01.3	-0.2
NBCA				S	S	09 02 03.3	-3.4
NBCA	Caruaru-PE	33.95	83	eP	P	08 57 01.4	-0.2
UTEC	Universidad Te	33.98	325	P	P	08 57 03.6	+1.9
ITCA	Escuela Especi	33.99	325	P	P	08 57 03.3	+1.4
UEES	Universidad Ev	34.01	325	P	P	08 57 04.0	+2.0
UEES	Universidad Ev	34.01	325	P	P	08 57 04.4	+2.4
UEES	Universidad Ev	34.01	325	P	P	08 57 04.4	+2.4
UEES	Universidad Ev	34.01	325	P	P	08 57 04.6	+2.5
UEES	Universidad Ev	34.01	325	P	P	08 57 05.8	+3.8
PMON	Piamonte	34.05	325	P	P	08 57 04.5	+2.1
PMON	Piamonte	34.05	325	P	P	08 57 04.9	+2.5
PMON	Piamonte	34.05	325	P	P	08 57 04.9	+2.5
PMON	Piamonte	34.05	325	P	P	08 57 05.3	+2.9
PMON	Piamonte	34.05	325	P	P	08 57 05.9	+3.5
JAYA	Jayaque - finc	34.08	325	P	P	08 57 04.8	+2.1
JAYA	Jayaque - finc	34.08	325	P	P	08 57 04.2	+1.6
JAYA	Jayaque - finc	34.08	325	P	P	08 57 04.2	+1.6
JAYA	Jayaque - finc	34.08	325	P	P	08 57 05.2	+2.5
JAYA	Jayaque - finc	34.08	325	P	P	08 57 04.7	+2.0
LLGN	La Laguna	34.22	326	P	P	08 57 05.2	+1.4
LLGN	La Laguna	34.22	326	P	P	08 57 05.5	+1.7
LLGN	La Laguna	34.22	326	P	P	08 57 05.5	+1.7
LLGN	La Laguna	34.22	326	P	P	08 57 05.5	+1.7
LLGN	La Laguna	34.22	326	P	P	08 57 06.6	+2.8
CEVE	Cerro Verde	34.31	325	P	P	08 57 06.3	+1.5
CEVE	Cerro Verde	34.31	325	P	P	08 57 06.8	+2.0
CEVE	Cerro Verde	34.31	325	P	P	08 57 06.8	+2.0
UNIC	Universidad Ca	34.40	325	P	P	08 57 06.9	+1.6
UNIC	Universidad Ca	34.40	325	P	P	08 57 13.2	+7.9
UNIC	Universidad Ca	34.40	325	P	P	08 57 13.2	+7.9
NUBE	Las Nubes	34.46	325	P	P	08 57 07.8	+1.8
NUBE	Las Nubes	34.46	325	P	P	08 57 07.3	+1.3
NUBE	Las Nubes	34.46	325	P	P	08 57 07.3	+1.3
NUBE	Las Nubes	34.46	325	P	P	08 57 08.0	+2.0
NUBE	Las Nubes	34.46	325	P	P	08 57 08.5	+2.6
LOAL	Lomas de Alarc	34.54	325	P	P	08 57 08.5	+2.0
LOAL	Lomas de Alarc	34.54	325	P	P	08 57 15.4	+8.9
LOAL	Lomas de Alarc	34.54	325	P	P	08 57 15.4	+8.9
SLOZ	Alcaldia de Sa	34.56	325	P	P	08 57 08.8	+2.0
SLOZ	Alcaldia de Sa	34.56	325	P	P	08 57 08.4	+1.7
SLOZ	Alcaldia de Sa	34.56	325	P	P	08 57 08.4	+1.7
SLOZ	Alcaldia de Sa	34.56	325	P	P	08 57 08.8	+2.0
MTO3	Montecristo	34.63	326	P	P	08 57 08.0	+0.5
MTO3				IAmb	IAmb	08 57 15.9	
	comp=Z,5μm,0.9s						
MTO3	Montecristo	34.63	326	P	P	08 57 09.1	+1.6
MTO3	Montecristo	34.63	326	P	P	08 57 08.4	+0.9
MTO3	Montecristo	34.63	326	P	P	08 57 08.4	+0.9
MTO3	Montecristo	34.63	326	P	P	08 57 08.9	+1.4
MTO3	Montecristo	34.63	326	P	P	08 57 08.7	+1.1
RCBR	Riachuelo	34.70	79	P	P	08 57 08.0	0.0
RCBR	Riachuelo	34.70	79	P	P	08 57 08.0	0.0
RCBR				pmax	pmax		
	comp=Z,873nm,1.0s						
RCBR	Riachuelo	34.70	79	⇓P	P	08 57 08.5	+0.5
RCBR	Riachuelo	34.70	79	P	P	08 57 08.4	+0.5
RCBR				S	S	09 02 16.6	-1.5
RCBR	Riachuelo	34.70	79	eP	P	08 57 08.6	+0.6
RCBR	Riachuelo	34.70	79	P	P	08 57 08.5	+0.5
RCBR				pP	pP	08 58 06.0	+5.0
RCBR				sP	PP	08 58 38.8	+6.0
GTBY	Guantanamo Bay	34.75	352	P	P	08 57 07.3	-0.9
GTBY	Guantanamo Bay	34.75	352	eP	P	08 57 05.9	-2.3
GTBY	Guantanamo Bay	34.75	352	⇑P	P	08 57 06.4	-1.8
GTBY	Guantanamo Bay	34.75	352	i P	P	08 57 06.2	-2.0
ESQI	Esquipulas	34.76	326	P	P	08 57 09.3	+0.9
ESQI				IAmb	IAmb	08 57 17.2	
	comp=Z,5μm,0.9s						
ESQI	Esquipulas	34.76	326	P	P	08 57 10.1	+1.7
ESQI	Esquipulas	34.76	326	P	P	08 57 09.7	+1.3
ESQI	Esquipulas	34.76	326	P	P	08 57 10.8	+2.4
ESQI	Esquipulas	34.76	326	P	P	08 57 09.7	+1.3
MASC	Masc	34.88	353	eP	P	08 57 07.0	-2.3
RCC	Rio Carpintero	34.90	351	eP	P	08 57 06.2	-3.2
MARVS	Santiago de Cu	34.94	350	eP	P	08 57 06.5	-3.4
QMBU	Quimbuelo	34.98	352	eP	P	08 57 03.8	-6.4
CHIV	Chivirico	35.01	350	P	P	08 57 08.0	-2.4
CHIV				IAmb	IAmb	08 57 21.1	
	comp=Z,436nm,0.8s						
CHIV	Chivirico	35.01	350	eP	P	08 57 07.5	-2.8
NBPV	Pedro Velho	35.11	80	P	P	08 57 11.5	+0.1
NBPV				S	S	09 02 22.5	-1.9
PILO	Pilon	35.13	348	eP	P	08 57 08.6	-2.8
LMGC	Las Mercedes	35.20	349	eP	P	08 57 08.9	-3.0
IZABA	Izabal, Puerto	35.33	328	P	P	08 57 15.4	+2.2
IZABA	Izabal, Puerto	35.33	328	P	P	08 57 19.8	+6.6
IZABA	Izabal, Puerto	35.33	328	P	P	08 57 19.8	+6.6
NMDO	Nuevo Mundo	35.35	352	eP	P	08 57 06.5	-6.9
PINC	Pinares de May	35.40	351	eP	P	08 57 09.1	-4.6
HLGC	Holguin	35.84	350	eP	P	08 57 14.4	-3.0
GRTK	Grand Turk	35.98	358	P	P	08 57 17.6	-1.0
GRTK	Grand Turk	35.98	358	eP	P	08 57 15.9	-2.7
GRTK	Grand Turk	35.98	358	⇑P	P	08 57 17.3	-1.3
RTAL	Retalhuleu	36.06	323	P	P	08 57 19.6	+0.2
RTAL				IAmb	IAmb	08 57 28.7	
	comp=Z,4μm,1.5s						
HUEH	Huehuetenango	36.58	324	P	P	08 57 24.5	+0.5
HUEH				IAmb	IAmb	08 57 32.5	
	comp=Z,4μm,1.0s						
HUEH	Huehuetenango	36.58	324	P	P	08 57 25.7	+1.7
HUEH	Huehuetenango	36.58	324	P	P	08 57 27.4	+3.4
HUEH	Huehuetenango	36.58	324	P	P	08 57 27.4	+3.4
MG05	Puerto Natales	36.95	183	P	P	08 57 26.1	-0.3
MG05				IAmb	IAmb	08 57 32.7	
	comp=Z,6μm,1.1s						
CCIG	Comitan	37.71	324	⇑P	P	08 57 33.6	+0.2
CCIG	Comitan	37.71	324	P	P	08 57 34.4	+0.9
CCIG	Comitan	37.71	324	P	P	08 57 33.9	+0.4
CCIG	Comitan	37.71	324	P	P	08 57 34.2	+0.8
CCIG	Comitan	37.71	324	P	P	08 57 33.9	+0.4
CCIG				P	P	08 57 34.2	+0.8
MG02	Cerro Sombrero	38.01	179	P	P	08 57 35.1	-0.1
MG02	Cerro Sombrero	38.01	179	⇑P	P	08 57 34.3	-0.9
MG04	Isla Riesco	38.10	181	P	P	08 57 36.4	+0.4
EFI	East Falkland	38.14	168	P	P	08 57 35.8	-0.6
EFI	East Falkland	38.14	168	i P	P	08 57 35.3	-1.0
EFI				pmax	pmax		
	comp=Z,7μm,1.0s						
EFI	East Falkland	38.14	168	⇑P	P	08 57 36.1	-0.3
RPN	Rapa Nui	38.56	245	P	P	08 57 40.3	0.0
RPN				IAmb	IAmb	08 57 48.6	
	comp=Z,7μm,1.1s						
RPN	Rapa Nui	38.56	245	P	P	08 57 40.3	0.0
RPN				pmax	pmax		
	comp=Z,7μm,1.2s						
RPN	Rapa Nui	38.56	245	⇓P	P	08 57 41.0	+0.7
RPN	Rapa Nui	38.56	245	P	P	08 57 40.6	+0.3
RPN				pP	pP	08 58 38.7	+3.4
RPN				PcP	PcP	08 59 52.0	+4.9
VA02	Isla de Pascua	38.66	245	⇓P	P	08 57 41.6	+0.5
TEIG	Tepich	39.04	332	⇑P	P	08 57 43.2	-1.0
SOR	Soroa	39.34	341	P	P	08 57 46.2	-0.5
SOR				IAmb	IAmb	08 57 53.6	
	comp=Z,6μm,1.1s						
SOR	Soroa	39.34	341	eP	P	08 57 45.2	-1.5
SOR	Soroa	39.34	341	P	P	08 57 46.2	-0.5
SOR				pmax	pmax		
	comp=Z,6μm,1.1s						
I02AR	USHUAIA INFRAS	39.87	178	P	P	08 57 55.0	+4.4
	baz=30,slow=11,SNR=4.5						
CMIG	Matias Romero	39.96	321	P4KPbc		09 36 02.9	
	comp=Z,1.1nm,0.4s,baz=331,slow=15,SNR=4.7						
061Z	Ochoppi	41.66	345	P	P	08 58 05.3	-0.2
TLIG	Tlapa	42.63	318	⇑P	P	08 58 15.0	+1.4
TLIG	Tlapa	42.63	318	P	P	08 58 15.0	+1.4
TLIG	Tlapa	42.63	318	P	P	08 58 15.0	+1.4
TLIG	Tlapa	42.63	318	P	P	08 58 15.9	+2.2
TLIG	Tlapa	42.63	318	P	P	08 58 15.0	+1.4
TLIG				P	P	08 58 15.9	+2.2
DWPF	Disney Wildern	43.94	345	P	P	08 58 23.1	-0.6
DWPF				IAmb	IAmb	08 58 29.9	
	comp=Z,8μm,0.8s						
DWPF	Disney Wildern	43.94	345	⇑P	P	08 58 22.6	-1.2
UNM	Universidad Na	44.32	319	P	P	08 58 27.4	+0.2
UNM				IAmb	IAmb	08 58 37.0	
	comp=Z,14μm,1.9s						
UNM	Universidad Na	44.32	319	P	P	08 58 27.4	+0.2
UNM				pmax	pmax		
	comp=Z,14μm,1.9s						
UNM	Universidad Na	44.32	319	⇑P	P	08 58 29.4	+2.2
MOIG	Morelia	45.87	317	P	P	08 58 39.8	+0.5
MOIG	Morelia	45.87	317	⇑P	P	08 58 40.8	+1.5
MOIG	Morelia	45.87	317	P	P	08 58 40.8	+1.5
MOIG	Morelia	45.87	317	P	P	08 58 40.9	+1.5
MOIG	Morelia	45.87	317	P	P	08 58 40.9	+1.5
JRQG	Juriquilla Cam	46.13	319	P	P	08 58 42.2	+0.9
BBSR	BB Station	47.07	6	P	P	08 58 47.1	-0.9
BBSR				IAmb	IAmb	08 58 54.0	
	comp=Z,4μm,1.1s						
BBSR	BB Station	47.07	6	⇑P	P	08 58 46.8	-1.3
BBSR	BB Station	47.07	6	P	P	08 58 46.9	-1.1
BBSR				ScP	ScP	09 03 43.7	+0.1
HOPE	Hope Point	47.40	154	P	P	08 58 51.2	+0.9
HOPE				IAmb	IAmb	08 58 57.6	
	comp=Z,8μm,1.1s						
HOPE	Hope Point	47.40	154	P	P	08 58 51.2	+0.9
HOPE				pmax	pmax		
	comp=Z,8μm,1.1s						
HOPE	Hope Point	47.40	154	⇑P	P	08 58 51.4	+1.0
HOPE	Hope Point	47.40	154	P	P	08 58 51.5	+1.2
HOPE				ScP	ScP	09 03 45.3	+0.5
CSU	Charleston Sou	48.36	349	P	P	08 58 57.5	-0.4
BRAL	Brewton	48.42	340	⇑P	P	08 58 57.5	-0.9
NHSC	New Hope	48.49	349	⇑P	P	08 58 57.8	-1.1
ZAIG	Zacatecas	48.98	319	⇑P	P	08 59 04.1	+1.0
ZAIG	Zacatecas	48.98	319	P	P	08 59 05.1	+1.9
ZAIG	Zacatecas	48.98	319	P	P	08 59 04.6	+1.4
ZAIG	Zacatecas	48.98	319	P	P	08 59 04.9	+1.7
ZAIG	Zacatecas	48.98	319	P	P	08 59 04.6	+1.4
Y58A	Scranton	49.18	349	P	P	08 59 03.7	-0.4
Y57A	Sumter	49.42	349	P	P	08 59 05.1	-0.8
GOGA	Godfrey	49.51	345	P	P	08 59 05.6	-1.0
GOGA	Godfrey	49.51	345	P	P	08 59 05.6	-1.0
GOGA				pmax	pmax		
	comp=Z,3μm,1.1s						
GOGA	Godfrey	49.51	345	⇓P	P	08 59 04.8	-1.9
JSC	Jenkinsville	49.85	348	P	P	08 59 08.4	-0.7
JSC	Jenkinsville	49.85	348	P	P	08 59 08.4	-0.7
JSC				pmax	pmax		
	comp=Z,4μm,1.4s						
KVTX	Kingsville	49.91	327	⇑P	P	08 59 10.9	+1.2
LRAL	Lakeview Retre	50.13	341	⇑P	P	08 59 09.2	-2.1
PMSA	Palmer Station	50.21	177	P	P	08 59 11.9	+0.5
PMSA				IAmb	IAmb	08 59 18.6	
	comp=Z,5μm,1.1s						
PMSA	Palmer Station	50.21	177	⇑P	P	08 59 11.3	-0.1
PMSA	Palmer Station	50.21	177	eP	P	08 59 10.0	-1.4
PMSA	Palmer Station	50.21	177	P	P	08 59 12.4	+1.0
PMSA				pP	pP	09 00 12.2	+2.7
PMSA				PcP	PcP	09 00 32.5	+6.1
PMSA				ScP	ScP	09 03 58.5	+2.0
W59A	Clinton	50.21	351	P	P	08 59 10.5	-1.3
PAULI	Pauline	50.48	347	P	P	08 59 13.3	-0.6
PAULI				IAmb	IAmb	08 59 20.0	
	comp=Z,8μm,1.5s						
VBMS	Vicksburg	50.59	337	⇑P	P	08 59 13.3	-1.4
HKT	Hockley	50.86	331	i P	P	08 59 15.2	-1.5
HKT				pmax	pmax		
	comp=Z,3μm,1.5s						
HKT	Hockley	50.86	331	⇑P	P	08 59 16.8	+0.1
MLDN	Muldoon	51.31	330	P	P	08 59 21.0	+0.9
MLDN				IAmb	IAmb	08 59 28.1	
	comp=Z,7μm,1.1s						
833A	Chaparral WMA,	51.33	326	P	P	08 59 19.9	-0.4
833A				IAmb	IAmb	08 59 27.9	
	comp=Z,5μm,0.8s						
833A	Chaparral WMA,	51.33	326	P	P	08 59 20.7	+0.4
	baz=143						
833A				S	S	09 06 18.6	-0.1
	baz=143						
TKL	Tuckaleechee C	51.72	346	P	P	08 59 21.9	-1.2
TKL				IAmb	IAmb	08 59 28.5	
	comp=Z,3μm,0.8s						
TKL	Tuckaleechee C	51.72	346	P4KPbc		09 36 46.3	
	comp=Z,12nm,0.9s,baz=200,slow=7.3,SNR=4.1						
TKL	Tuckaleechee C	51.72	346	P	P	08 59 21.9	-1.2
TKL				pmax	pmax		
	comp=Z,3μm,0.9s						
NATX	Nacogdoches	51.86	333	⇑P	P	08 59 24.4	+0.2
U54A	Nelsons Funny	52.12	348	P	P	08 59 25.1	-0.9
U54A				IAmb	IAmb	08 59 32.1	
	comp=Z,7μm,1.0s						
435B	Jarrell	52.39	330	P	P	08 59 27.7	-0.4
	baz=146						
435B				S	S	09 06 32.3	-0.7
	baz=146						
TZTN	Tazewell	52.52	346	⇓P	P	08 59 26.9	-2.1
BLA	Blacksburg	52.53	350	⇓P	P	08 59 27.8	-1.2
CBN	Corbin Frederi	53.05	353	⇑P	P	08 59 31.1	-1.6
JCT	Junction City	53.25	328	⇑P	P	08 59 34.0	-0.4
WVT	Waverly	53.26	342	⇑P	P	08 59 31.2	-3.1
WVT	Waverly	53.26	342	P	P	08 59 31.7	-2.6
WVT				ScP	ScP	09 04 10.3	+0.1
MIAR	Mount Ida	53.82	336	⇓P	P	08 59 36.8	-1.6
HPIG		53.92	320	⇑P	P	08 59 39.2	-0.3
HPIG		53.92	320	P	P	08 59 40.2	+0.7
HPIG		53.92	320	P	P	08 59 40.5	+1.0
HPIG		53.92	320	P	P	08 59 41.2	+1.7
HPIG		53.92	320	P	P	08 59 40.5	+1.0
PLPT	Palo Pinto	54.41	331	P	P	08 59 42.7	+0.1
PLPT				IAmb	IAmb	08 59 50.8	
	comp=Z,3μm,1.0s						
H10S3	ASCENSION HYDR	54.41	91	P	P	08 59 42.6	-0.2
	baz=189,slow=74,SNR=30						
H10S2	ASCENSION HYDR	54.43	91	P	P	08 59 42.8	-0.1
	baz=31,slow=74,SNR=40						
FCAR	Ozark Folk Cen	54.46	338	P	P	08 59 41.3	-1.7
FCAR				IAmb	IAmb	08 59 48.0	
	comp=Z,2μm,0.7s						
TXAR	Lajitas Array	54.48	324	P	P	08 59 43.0	-0.3
TXAR	Lajitas Array	54.48	324	P	P	08 59 42.8	-0.6
	comp=Z,300nm,0.7s,baz=143,slow=8.2,SNR=530						
TXAR				ScP	ScP	09 04 18.2	+2.3
	comp=Z,41nm,0.6s,baz=132,slow=3.6,SNR=6.9						
TXAR				S	S	09 07 00.4	-1.0
	comp=Z,4.1nm,0.7s,baz=318,slow=35,SNR=1.0						
TXAR				PKPPKP	P'P'df	09 29 49.4	-3.9
	comp=Z,4.1nm,0.8s,baz=344,slow=2.6,SNR=4.1						
TXAR				PKP2ab		09 30 29.6	
	comp=Z,29nm,1.1s,baz=324,slow=3.8,SNR=5.2						
TXAR				P4KPbc		09 36

N51A IAmb IAmb 09 00 02.4
comp=Z,4μm,0.8s
BINY Binghamton 56.86 355 ⇓P **P 08 59 58.5 -1.3**
L61B Northampton 56.90 358 P **P 08 59 58.8 -1.3**
baz=177
L61B S **S 09 07 28.7 -3.9**
baz=177
HRV Adam Dziewonsk 56.92 359 P **P 08 59 59.6 -0.7**
HRV IAmb IAmb 09 00 06.4
comp=Z,4μm,1.1s
HRV Adam Dziewonsk 56.92 359 P **P 08 59 59.6 -0.7**
HRV pmax pmax
comp=Z,4μm,1.1s
HRV Adam Dziewonsk 56.92 359 ⇑P **P 08 59 59.1 -1.1**
HRV Adam Dziewonsk 56.92 359 P **P 08 59 59.5 -0.7**
HRV pP **pP 09 01 02.3 +3.7**
PTCN Pitcairn Islan 57.01 250 P **P 09 00 00.5 -0.9**
PTCN IAmb IAmb 09 00 09.3
comp=Z,3μm,1.0s
PTCN Pitcairn Islan 57.01 250 ⇓P **P 09 00 02.4 +1.1**
PTCN Pitcairn Islan 57.01 250 P **P 09 00 02.3 +1.0**
PTCN pP **pP 09 01 04.0 +3.0**
GDL2 Guadalupe Moun 57.03 325 P **P 09 00 01.8 +0.4**
MNTX Cornudas Mount 57.23 324 ⇑P **P 09 00 01.3 -1.3**
ERPA Erie 57.25 351 P **P 09 00 01.9 -0.6**
CPRX Cap Rock 57.40 326 P **P 09 00 03.5 -0.5**
AMTX Amarillo 57.72 329 ⇑P **P 09 00 04.8 -1.3**
HDIL Hopedale 57.79 343 P **P 09 00 03.9 -2.4**
HDIL Hopedale 57.79 343 ⇑P **P 09 00 03.2 -3.1**
AAM Ann Arbor 58.07 348 ⇑P **P 09 00 05.5 -2.7**
LBNH Lisbon 58.66 358 ⇑P **P 09 00 11.5 -0.8**
HSIG 58.72 318 P **P 09 00 14.4 +1.3**
HSIG 58.72 318 P **P 09 00 14.0 +1.0**
VT1 Waterbury 58.78 358 P **P 09 00 12.2 -0.9**
L44A Lake County Fo 58.92 345 P **P 09 00 12.0 -2.1**
L44A IAmb IAmb 09 00 19.1
comp=Z,3μm,1.1s
L44A Lake County Fo 58.92 345 P **P 09 00 11.5 -2.6**
baz=160,SNR=169
L44A S S 09 07 49.6 -9.1
baz=160
KSU1 Kansas State U 58.98 336 ⇑P **P 09 00 13.0 -1.6**
LONY Lake Ozonia 59.16 356 ⇑P **P 09 00 14.3 -1.4**
121A Cookes Peak, D 59.22 323 P **P 09 00 17.5 +0.9**
baz=137
121A S **S 09 08 05.6 +2.3**
baz=137
L42A Oliver, Polo 59.23 343 P **P 09 00 14.0 -2.2**
L42A IAmb IAmb 09 00 20.9
comp=Z,4μm,1.4s
N38A Joes South For 59.23 340 P **P 09 00 14.7 -1.6**
N38A IAmb IAmb 09 00 21.2
comp=Z,2μm,0.8s
DELO Deloro Mine 59.32 354 P **P 09 00 15.6 -1.1**
DELO IAmb IAmb 09 00 21.8
comp=Z,2μm,0.6s
RTBA Rita Blanca 59.48 330 P **P 09 00 18.2 +0.1**
WBO Williamsburg 59.59 356 P **P 09 00 17.6 -0.9**
WBO IAmb IAmb 09 00 24.4
comp=Z,3μm,1.1s
G62A West of Eustis 59.62 360 P **P 09 00 18.8 0.0**
G65A Princeton 59.64 2 P **P 09 00 18.7 -0.2**
CRNM Carthage 59.66 325 P **P 09 00 19.8 +0.3**
PKME Peaks-Kenny Pk 59.66 1 ⇑P **P 09 00 18.0 -1.1**
SADO Sadowa 59.74 353 P **P 09 00 18.2 -1.4**
SADO IAmb IAmb 09 00 25.0
comp=Z,3μm,1.1s
SADO Sadowa 59.74 353 ScS **ScS 09 09 42.0 -0.9**
comp=Z,41nm,1.0s,baz=344,slow=19,SNR=7.9
SADO P4KPbc 09 37 20.9
comp=Z,7.6nm,0.9s,baz=191,slow=1.9,SNR=5.5
SADO Sadowa 59.74 353 ⇑P **P 09 00 17.3 -2.3**
Y22D IRIS PASSCAL I 59.85 325 P **P 09 00 21.5 +0.7**
baz=138
Y22D S **S 09 08 12.4 +1.1**
baz=138
SBM South Baldy 59.92 325 P **P 09 00 22.5 +0.9**
MBO M'Bour 59.95 64 P **P 09 00 21.4 -0.2**
MBO IAmb IAmb 09 00 28.4
comp=Z,4μm,1.1s
MBO M'Bour 59.95 64 P **P 09 00 22.2 +0.6**
MBO pP **pP 09 01 24.6 +3.6**
MNTQ Montreal, Queb 59.98 357 P **P 09 00 20.8 -0.5**
CBKS Cedar Bluff 60.02 333 P **P 09 00 21.6 -0.2**
CBKS Cedar Bluff 60.02 333 P **P 09 00 21.6 -0.2**
CBKS pmax pmax
comp=Z,6μm,0.9s
CBKS Cedar Bluff 60.02 333 ⇑P **P 09 00 21.0 -0.8**
N35A Tabor 60.14 338 P **P 09 00 20.8 -1.6**
N35A IAmb IAmb 09 01 12.0
comp=Z,3μm,0.9s
SCIA State Center 60.23 340 ⇑P **P 09 00 19.8 -3.2**
JFWS Jewell Farm 60.24 343 ⇑P **P 09 00 20.5 -2.5**
ANMO Albuquerque 60.25 326*c iP* **P 09 00 21.7 -1.8**
ANMO pmax pmax
comp=Z,931nm,1.0s
ANMO Albuquerque 60.25 326 ⇑P **P 09 00 23.2 -0.4**
TUC Tucson 60.85 321 P **P 09 00 28.1 +0.6**
TUC Tucson 60.85 321 P **P 09 00 28.1 +0.6**
TUC pmax pmax
comp=Z,951nm,1.0s
TUC Tucson 60.85 321 ⇑P **P 09 00 26.9 -0.7**
TUC Tucson 60.85 321 P **P 09 00 27.7 +0.1**
TUC ScP **ScP 09 04 46.4 +2.4**
T25A Trinidad 60.85 329 P **P 09 00 27.9 +0.3**
baz=142,SNR=604
T25A S **S 09 08 24.4 +0.3**
baz=142
H43A Windswept, Lux 61.04 346 P **P 09 00 26.6 -1.8**
H43A IAmb IAmb 09 00 33.3
comp=Z,2μm,0.9s
I40A Norwalk 61.24 343 P **P 09 00 28.2 -1.5**
I40A IAmb IAmb 09 00 34.4
comp=Z,1μm,0.6s
L34A Svendsen Farm, 61.37 338 P **P 09 00 29.3 -1.4**
D62A Allapoint, All 61.48 1 P **P 09 00 31.1 -0.2**
BGNE Belgrade 61.56 336 P **P 09 00 31.1 -0.9**
SHEL Horse Pasture 61.81 100 P **P 09 00 34.4 +0.1**
SHEL Horse Pasture 61.81 100 P **P 09 00 34.4 +0.1**
SHEL pmax pmax
comp=Z,465nm,0.8s
SHEL Horse Pasture 61.81 100 ⇑P **P 09 00 34.8 +0.5**
SHEL Horse Pasture 61.81 100 P **P 09 00 34.5 +0.2**
SDCO Great Sand Dun 61.87 329 P **P 09 00 35.1 +0.7**
SDCO IAmb IAmb 09 00 42.2
comp=Z,5μm,1.1s
SDCO Great Sand Dun 61.87 329 ⇑P **P 09 00 34.3 -0.2**
PIX Pinacate 62.03 318 P **P 09 00 35.6 +0.4**
PIX Pinacate 62.03 318 P **P 09 00 36.5 +1.2**
PIX Pinacate 62.03 318 P **P 09 00 35.6 +0.4**
S22A 4UR Ranch, Cre 62.55 328 P **P 09 00 39.3 +0.3**
baz=139,SNR=1000
S22A S **S 09 08 46.2 +0.7**
baz=139
SFX San Felipe 62.59 317 P **P 09 00 40.4 +1.4**
SFX San Felipe 62.59 317 P **P 09 00 39.8 +0.8**
SFX San Felipe 62.59 317 P **P 09 00 39.8 +0.8**
Q24A Divide 62.64 330 P **P 09 00 39.7 +0.2**
baz=141,SNR=654
Q24A S **S 09 08 46.5 -0.1**
baz=141
OGNE Ogallala 62.78 333 ⇑P **P 09 00 39.7 -0.5**
COWI Conover 62.90 345 ⇓P **P 09 00 38.5 -2.2**
ECSD EROS Data Cent 63.00 339 ⇑P **P 09 00 39.4 -2.0**
MVCO Mesa Verde 63.03 326 ⇑P **P 09 00 41.9 -0.2**
WUAZ Wupatki 63.43 323 ⇑P **P 09 00 45.1 +0.5**
VTX Valle De La Tr 63.44 317 P **P 09 00 46.4 +1.7**
VTX Valle De La Tr 63.44 317 P **P 09 00 46.5 +1.9**
VTX Valle De La Tr 63.44 317 P **P 09 00 46.4 +1.7**
BRIGG Briggsdale 63.52 331 P **P 09 00 46.0 +0.9**
BRIGG IAmb IAmb 09 00 53.0
comp=Z,3μm,1.1s
ISCO Idaho Springs 63.52 330 ⇑P **P 09 00 45.0 -0.2**
GUVIX Guadalupe Vict 63.55 318 P **P 09 00 47.3 +2.0**
GUVIX Guadalupe Vict 63.55 318 P **P 09 00 46.8 +1.6**
GUVIX Guadalupe Vict 63.55 318 P **P 09 00 47.3 +2.0**
CPBX Cerro Prieto 63.78 318 P **P 09 00 48.6 +1.9**
CPBX Cerro Prieto 63.78 318 P **P 09 00 48.6 +1.9**
CPBX Cerro Prieto 63.78 318 P **P 09 00 48.6 +1.9**
CPBX Cerro Prieto 63.78 318 P **P 09 00 48.6 +1.9**
CPBX P **P 09 00 48.6 +1.9**
PV15 Paradox Valley 63.86 327 P **P 09 00 48.7 +1.2**
GLA Glamis 63.88 319 P **P 09 00 48.5 +1.0**
GLA pmax pmax
comp=Z,1μm,1.5s
ESJX Sierra Juarez 63.93 317 P **P 09 00 49.2 +1.2**
ESJX Sierra Juarez 63.93 317 P **P 09 00 49.7 +1.7**
ESJX Sierra Juarez 63.93 317 P **P 09 00 49.2 +1.2**
UABX UABC, Campus M 64.00 318 P **P 09 00 51.7 +3.6**
UABX UABC, Campus M 64.00 318 P **P 09 00 51.3 +3.2**
UABX UABC, Campus M 64.00 318 P **P 09 00 51.7 +3.6**
PV11 David Mesa, Pa 64.03 327 P **P 09 00 49.3 +0.8**
PV11 IAmb IAmb 09 00 58.9
comp=Z,4μm,1.3s
SUSD Miller 64.46 337 P **P 09 00 50.3 -0.7**
N23A Red Feather La 64.53 331 P **P 09 00 51.6 -0.1**
baz=141,SNR=1000
N23A S **S 09 09 09.0 -0.6**
baz=141
CBX Cerro Bola 64.60 317 P **P 09 00 53.1 +0.9**
CBX IAmb IAmb 09 01 01.1
comp=Z,2μm,1.3s
CBX Cerro Bola 64.60 317 P **P 09 00 54.1 +1.9**
CBX Cerro Bola 64.60 317 P **P 09 00 53.7 +1.4**
CBX Cerro Bola 64.60 317 P **P 09 00 53.7 +1.4**
DRLN Deer Lake 64.62 9 P **P 09 00 50.9 -0.9**
DRLN Deer Lake 64.62 9 ⇑P **P 09 00 50.5 -1.3**
H07S1 FLORES T-PHASE 64.85 32 P **P 09 00 55.7 +2.1**
SNR=65
TJX Tijuana 64.98 317 P **P 09 00 57.0 +2.5**
TJX Tijuana 64.98 317 P **P 09 00 56.2 +1.7**
TJX Tijuana 64.98 317 P **P 09 00 57.0 +2.5**
EYMN Ely 65.22 344 P **P 09 00 54.4 -1.3**
EYMN IAmb IAmb 09 01 01.0
comp=Z,3μm,0.9s
EYMN Ely 65.22 344 ⇑P **P 09 00 53.5 -2.2**
PFO Pinyon Flats O 65.28 318 P **P 09 00 57.1 +0.5**
PFO Pinyon Flats O 65.28 318 S **S 09 09 19.4 +0.6**
comp=Z,5.2nm,0.8s,baz=263,slow=21,SNR=7.7
PFO ScS **ScS 09 10 28.6 +2.8**
comp=Z,9.3nm,1.0s,baz=328,slow=20,SNR=8.1
PFO Pinyon Flats O 65.28 318*c iP* **P 09 00 54.8 -1.8**
PFO pmax pmax
comp=Z,1μm,1.1s
PFO Pinyon Flats O 65.28 318 P **P 09 00 57.4 +0.8**
PFO PcP **PcP 09 01 29.4 +2.8**
SRU San Rafael Swe 65.51 326 P **P 09 00 58.6 +0.6**
SRU IAmb IAmb 09 01 05.6
comp=Z,5μm,1.6s
SRU San Rafael Swe 65.51 326 P **P 09 00 58.6 +0.6**
SRU pmax pmax
comp=Z,5μm,1.6s
LCMT Little Creek M 65.55 323 P **P 09 00 59.3 +1.0**
LCMT IAmb IAmb 09 01 06.8
comp=Z,2μm,1.2s
PFCBR Castelo Branco 65.56 35 *eP* **P 09 01 02.3 +4.2**
PFCBR *i* Amb 09 01 05.4
comp=Z,1μm,1.4s
CALA Caldeira 65.61 35 *eP* **P 09 01 01.0 +2.5**
CALA *i* Amb 09 01 06.6
comp=Z,3μm,1.4s
CALA *ep*P **pP 09 02 03.2 +4.5**
CALA eLQ LQ 09 09 27.7
CALA eLQ LQ 09 09 29.7
HOR Horta 65.61 35 *eP* **P 09 01 01.0 +2.6**
HOR *i* Amb 09 01 05.7
comp=Z,3μm,1.2s
HOR *ep*P **pP 09 02 03.5 +4.9**
PCED Cedros 65.65 35 *eP* **P 09 01 03.2 +4.6**
PCED *i* Amb 09 01 06.8
comp=Z,4μm,1.5s
PCED *ep*P **pP 09 02 03.8 +4.9**
PCAN Candelaria 65.65 35 *eP* **P 09 01 03.1 +4.5**
PCAN *i* Amb 09 01 05.7
comp=Z,3μm,1.3s
PCAN *ep*P **pP 09 02 03.8 +4.7**
PICO Pico 65.71 35 *eP* P 09 01 04.1 +5.0
PICO *i* Amb 09 01 06.7
comp=Z,4μm,1.4s
PICO *ep*P pP 09 02 03.8 +4.2
PICO eLQ LQ 09 09 26.4
PICO eLQ LQ 09 09 28.6
PPNO Prainha do Nor 65.78 35 *eP* P 09 01 04.5 +4.9
PPNO *i* Amb 09 01 07.7
comp=Z,3μm,1.5s
PPNO *ep*P pP 09 02 05.3 +5.4
PID Ribeirinha 65.84 35 *eP* **P 09 01 03.2 +3.3**
PID *i* Amb 09 01 08.1
comp=Z,4μm,1.6s
PID *ep*P **pP 09 02 04.3 +4.0**
ELS Elsinore Mount 65.93 318 P **P 09 01 01.6 +1.0**
ROSA Rosais 65.96 35 *eP* **P 09 01 03.7 +3.0**
ROSA *i* Amb 09 01 08.9
comp=Z,4μm,1.3s
ROSA *ep*P **pP 09 02 04.8 +3.7**
ROSA eLQ LQ 09 09 29.2
ROSA eLQ LQ 09 09 32.5
ROSA Rosais 65.96 35 ⇓P **P 09 01 04.2 +3.5**
MSU Marysvale 65.99 325 P **P 09 01 01.9 +0.8**
MSU Marysvale 65.99 325 P **P 09 01 01.9 +0.8**
PMAN Manadas 65.99 35 *eP* **P 09 01 03.6 +2.8**
PMAN *i* Amb 09 01 09.1
comp=Z,5μm,1.4s
PMAN *ep*P **pP 09 02 05.1 +3.8**
PMAN eLQ LQ 09 09 34.4
TMUT Trail Mountain 66.01 326 P **P 09 01 01.8 +0.5**
TMUT IAmb IAmb 09 01 09.4
comp=Z,3μm,1.7s
K22A Casper 66.16 331 P **P 09 01 02.4 +0.4**
K22A IAmb IAmb 09 01 09.5
comp=Z,2μm,1.0s
TCRU Three Creeks R 66.20 325 P **P 09 01 03.2 +0.7**
TCRU IAmb IAmb 09 01 10.8
comp=Z,1μm,1.0s
RSSD Black Hills 66.22 334 ⇑P **P 09 01 02.1 -0.4**
SRBC Serra Branca 66.30 35 *eP* **P 09 01 04.4 +1.6**
SRBC *i* Amb 09 01 10.1
comp=Z,12μm,1.6s
SRBC *ep*P **pP 09 02 07.4 +4.2**
PGRA Graciosa 66.33 35 *eP* P 09 01 17.9 +15
PGRA *i* Amb 09 01 23.1
comp=Z,7μm,1.5s
PGRA *ep*P sP 09 02 19.5 -13
PGRA eLQ LQ 09 09 31.9
PGRA eLQ LQ 09 09 46.2
ADH Angra Heroismo 66.48 35 *eP* **P 09 01 06.4 +2.5**
ADH *i* Amb 09 01 12.9
comp=Z,4μm,1.4s
ADH *ep*P **pP 09 02 10.1 +5.6**
PSBA Serra de Santa 66.51 35 *eP* **P 09 01 06.8 +2.7**
PSBA *i* Amb 09 01 12.1
comp=Z,6μm,1.4s
PSBA *ep*P **pP 09 02 08.7 +4.1**
PSBA eLQ LQ 09 09 34.5
PSMA Santa Maria 66.57 38 *ep*P pP 09 02 06.9 +2.0
PSCM Serra do Cume 66.58 36 *eP* **P 09 01 07.0 +2.4**
PSCM *i* Amb 09 01 12.6
comp=Z,3μm,1.4s
PSCM *ep*P **pP 09 02 08.5 +3.4**
PAGU Agualva, Azore 66.59 35 *eP* **P 09 01 07.5 +2.9**
PAGU *i* Amb 09 01 12.8
comp=Z,4μm,1.4s
PAGU *ep*P **pP 09 02 08.2 +3.1**
PAGU eLQ LQ 09 09 31.1
PAGU eLQ LQ 09 09 34.1
PSMN Pico do Norte, 66.61 38 *eP* **P 09 01 08.8 +4.0**
PSMN *i* Amb 09 01 12.8
comp=Z,2μm,1.8s
PSMN *ep*P **pP 09 02 07.7 +2.5**
PSMN eLQ LQ 09 09 31.1
PSMN eLQ LQ 09 09 33.0
PDA Ponta Delgada 66.76 37 *eP* **P 09 01 01.6 -4.1**
PDA *i* Amb 09 01 09.7
comp=Z,5μm,1.5s
PDA *ep*P **pP 09 02 05.1 -1.1**
AGMN Agassiz Nation 66.78 342 ⇑P **P 09 01 03.8 -1.8**
CMLA Cha da Macela 66.85 37 P **P 09 01 06.6 +0.3**
CMLA Cha da Macela 66.85 37 *eP* **P 09 01 06.7 +0.3**
CMLA *i* Amb 09 01 14.1
comp=Z,3μm,1.4s
CMLA *ep*P **pP 09 02 09.8 +3.0**
CMLA eLQ LQ 09 09 29.4
CMLA eLQ LQ 09 09 35.2
CMLA Cha da Macela 66.85 37 P **P 09 01 06.6 +0.3**
CMLA pmax pmax
comp=Z,12μm,1.9s
VNA3 Neumayer Olymp 66.86 162 ⇓P **P 09 01 06.4 +0.6**
comp=Z,3μm,0.8s
VNA3 ⇑pP **pP 09 02 09.1 +1.8**
VNA3 ⇓PP **PP 09 03 35.1 -1.6**
VNA3 ⇑S **S 09 09 39.5 +3.1**
VNA3 ⇑SKSac **SKKSac 09 10 36.4 +0.2**
VNA3 ⇓P'P'df **P'P'df 09 29 31.2 -6.9**
VNA3 Neumayer Olymp 66.86 162 ⇓sS sS 09 11 29.9 +5.3
PRN Pahroc Range 66.88 322 P **P 09 01 07.4 +0.7**
PRN Pahroc Range 66.88 322 ⇑P **P 09 01 07.6 +0.9**
PGRON Lagoa das Cont 66.94 37 *eP* P 09 01 12.1 +5.2
PGRON *i* Amb 09 01 15.8
comp=Z,5μm,1.3s
PGRON *ep*P pP 09 02 11.1 +3.7
PSUT Pine Spring 66.95 324 P **P 09 01 07.4 +0.3**
PSUT IAmb IAmb 09 01 17.6
comp=Z,1μm,0.9s
VNA1 Neumayer--Stat 67.05 161 ⇓P **P 09 01 08.0 +1.0**
comp=Z,1μm,1.1s
GWY Greenwater Val 67.06 320 P **P 09 01 08.3 +0.5**
GWY IAmb IAmb 09 01 16.0
comp=Z,2μm,1.2s
BART Pico Bartolome 67.07 37 *eP* **P 09 01 10.2 +2.5**
BART *ep*P **pP 09 02 10.6 +2.3**
SNCC San Nicolas Is 67.07 316 P **P 09 01 07.3 -0.5**
JLU Jordanelle 67.08 327 P **P 09 01 07.8 -0.2**
MACI Morro de la Ar 67.13 50 P **P 09 01 09.3 +0.9**
MACI IAmb IAmb 09 01 16.0
comp=Z,4μm,1.5s
TPNV Topopah Spring 67.30 321 ⇑P **P 09 01 10.3 +1.0**
VNA2 Neumayer--Watz 67.42 162 ⇓P **P 09 01 10.0 +0.7**
comp=Z,12μm,1.3s,baz=276,slow=7.3
VNA2 ⇑pP **pP 09 02 12.9 +1.9**
baz=195,slow=4.8
VNA2 ⇑S **S 09 09 45.9 +2.8**
baz=246,slow=25
VNA2 ⇑SKSac **ScS 09 10 41.2 +0.1**
baz=244,slow=33
VNA2 ⇓P'P'df **P'P'df 09 29 30.3 -6.8**
baz=105,slow=2.4
VNA2 Neumayer--Watz 67.42 162 ⇓sS sS 09 11 34.1 +2.9
baz=304,slow=36
S11A Rachel 67.45 322 P **P 09 01 11.1 +0.9**
DUG Dugway, Tooele 67.52 326 P **P 09 01 11.7 +1.1**
DUG IAmb IAmb 09 01 18.9
comp=Z,4μm,1.2s
DUG Dugway, Tooele 67.52 326 P **P 09 01 11.7 +1.1**
DUG pmax pmax
comp=Z,4μm,1.2s
DUG Dugway, Tooele 67.52 326 ⇑P **P 09 01 10.9 +0.3**
SPR3 Spring Creek 3 67.54 324 P **P 09 01 11.7 +0.7**
SPR3 IAmb IAmb 09 01 18.9
comp=Z,2μm,1.3s
PD31 Pinedale Array 67.70 330 P **P 09 01 11.4 -0.4**
PD31 IAmb IAmb 09 01 18.9
comp=Z,3μm,1.3s
PDAR Pinedale Array 67.70 330 P **P 09 01 11.9 +0.1**
PDAR Pinedale Array 67.70 330 P **P 09 01 10.9 -0.9**
comp=Z,59nm,0.4s,baz=120,slow=9.1,SNR=366
PDAR S **S 09 09 49.1 +1.6**
comp=Z,19nm,1.1s,baz=74,slow=5.2,SNR=5.7
PDAR PKP2bc 09 29 35.6
comp=Z,48nm,1.1s,baz=331,slow=2.7,SNR=22
PDAR P4KPbc 09 37 58.2
comp=Z,3.5nm,0.8s,baz=149,slow=5.3,SNR=15
comp=Z,59nm,0.4s
EOSO Osorio 67.75 51 P **P 09 01 11.7 -0.5**
HWUT Hardware Ranch 67.86 328 ⇑P **P 09 01 12.2 -0.5**
ISA Isabella, Lake 67.86 319 P **P 09 01 13.6 +0.9**
ISA IAmb IAmb 09 01 21.4
comp=Z,2μm,1.3s
ISA Isabella, Lake 67.86 319 P **P 09 01 13.6 +0.9**
ISA pmax pmax
comp=Z,2μm,1.3s
BCW Bitter Crk WRg 68.02 318 P **P 09 01 14.8 +1.0**
BCW IAmb IAmb 09 01 22.6
comp=Z,2μm,1.3s
DBIC Dimbokro 68.03 76 P **P 09 01 12.7 -1.4**
DBIC IAmb IAmb 09 02 19.2
comp=Z,3μm,1.7s
DBIC Dimbokro 68.03 76 P **P 09 01 12.6 -1.6**
comp=Z,279nm,0.8s,baz=241,slow=6.1,SNR=184
DBIC pP **pP 09 02 13.1 -2.3**
comp=Z,346nm,0.9s,baz=241,slow=6.7,SNR=2.4
DBIC S **S 09 09 46.0 -6.1**
comp=Z,43nm,0.8s,baz=328,slow=23,SNR=9.1
comp=Z,279nm,0.8s
DBIC Dimbokro 68.03 76 P **P 09 01 12.0 -2.2**
DBIC S **S 09 09 45.3 -6.8**
DBIC Dimbokro 68.03 76 P **P 09 01 12.7 -1.4**
DBIC pP **pP 09 02 17.2 +1.9**
AHID Auburn Hatcher 68.46 329 ⇑P **P 09 01 15.9 -0.6**
ULM Lac du Bonnet 68.52 343 P **P 09 01 15.4 -1.0**
ULM Lac du Bonnet 68.52 343 P **P 09 01 14.3 -2.1**
comp=Z,529nm,0.3s,baz=155,slow=5.9,SNR=26
ULM S **S 09 09 51.3 -5.2**
comp=Z,57nm,0.9s,baz=278,slow=19,SNR=3.0
ULM PKP2bc 09 29 27.6
comp=Z,74nm,1.1s,baz=342,slow=4.5,SNR=15
ULM P4KPbc 09 37 59.0
comp=Z,11nm,1.0s,baz=120,slow=2.8,SNR=5.9
comp=Z,529nm,0.3s
ULM Lac du Bonnet 68.52 343*c iP* **P 09 01 14.8 -1.6**
ULM Lac du Bonnet 68.52 343 ⇑P **P 09 01 14.3 -2.1**
I10CA LAC DU BONNET 68.52 342 P **P 09 01 20.0 +3.6**
baz=140,slow=5.5,SNR=0.1
SNAA Sanae 69.05 162 P **P 09 01 20.0 +0.5**
SNAA Sanae 69.05 162 ⇓P **P 09 01 20.1 +0.5**
comp=Z,56μm,0.7s
SNAA ⇓pP **pP 09 02 24.0 +2.6**
SNAA ⇑PP **PP 09 03 52.6 -3.1**
SNAA ⇑S **S 09 10 05.7 +3.2**
SNAA ⇑SKSac **ScS 09 10 54.0 -0.1**
SNAA ⇑P'P'df **P'P'df 09 29 27.5 -6.8**
SNAA Sanae 69.05 162 ⇓sS sS 09 11 55.7 +4.6
SNAA Sanae 69.05 162 P **P 09 01 19.7 +0.1**
comp=Z,516nm,0.6s,baz=274,slow=6.7,SNR=1205
SNAA pP **pP 09 02 20.8 -0.7**
comp=Z,1μm,1.2s,baz=311,slow=5.8,SNR=0.8
SNAA S **S 09 10 03.1 +0.6**
comp=Z,13nm,1.0s,baz=180,slow=6.1,SNR=1.3
SNAA PKP2bc 09 29 29.6
comp=Z,50nm,1.0s,baz=110,slow=2.8,SNR=5.2
SNAA P4KPbc 09 38 04.1
comp=Z,13nm,1.1s,baz=295,slow=1.1,SNR=9.6
comp=Z,516nm,0.6s
SNAA Sanae 69.05 162*de*P **P 09 01 20.0 +0.5**
SNAA pmax pmax
comp=Z,7μm,1.3s
SNAA Sanae 69.05 162 ⇓P **P 09 01 19.6 +0.1**
PMOZ Porto Moniz, M 69.14 46 *eP* **P 09 01 21.1 +0.4**
PMOZ *i* Amb 09 01 28.9
comp=Z,1μm,1.6s
PMOZ *ep*P **pP 09 02 25.0 +3.3**
PMOZ *es*S **S 09 10 05.4 +0.7**
PMOZ Porto Moniz, M 69.14 46 P **P 09 01 20.7 0.0**
PMOZ Porto Moniz, M 69.14 46 ⇑P **P 09 01 21.1 +0.4**
LAO LASA Array 69.20 334 P **P 09 01 21.5 +0.7**
LAO LASA Array 69.20 334 ⇑P **P 09 01 20.3 -0.5**
ELK Elko 69.24 325 S **S 09 10 05.4 -0.4**
comp=Z,11nm,1.1s,baz=12,slow=17,SNR=1.9
ELK ScS **SKKSac 09 10 55.9 +0.3**
comp=Z,14nm,1.2s,baz=46,slow=23,SNR=6.6
ELK Elko 69.24 325 ⇑P **P 09 01 21.3 0.0**
FUL Funchal 69.25 46 *eP* P 09 01 26.8 +5.5
FUL *i* Amb 09 01 28.8
comp=Z,1μm,1.9s
FUL *ep*P pP 09 02 24.6 +2.3
PMAR Madeira 69.28 46 *eP* **P 09 01 21.7 0.0**
PMAR *i* Amb 09 01 31.0
comp=Z,1μm,1.4s
PMAR *ep*P **pP 09 02 25.3 +2.5**
PMAR *es*P **sP 09 02 50.2 -1.1**
PMAR *e*PP **PP 09 03 58.3 -0.6**
SCHQ Schefferville 69.29 2 P **P 09 01 19.8 -1.3**
comp=Z,368nm,0.8s,baz=186,slow=5.2,SNR=171
SCHQ S **S 09 10 03.8 -1.6**
comp=Z,83nm,1.2s,baz=290,slow=17,SNR=1.7
SCHQ PKP2ab 09 29 30.2
comp=Z,85nm,1.1s,baz=350,slow=5.3,SNR=12
comp=Z,368nm,0.8s
SCHQ Schefferville 69.29 2 ⇑P **P 09 01 19.4 -1.7**
NVAR Mina Array Bea 69.50 321 P **P 09 01 23.4 +0.5**
comp=Z,237nm,0.7s,baz=133,slow=6.5,SNR=328

NVAR S **S** **09 10 10.9 +2.0**
comp=Z,6.1nm,1.0s,baz=150,slow=6.1,SNR=0.9
NVAR PKKP **PKKPdf** **09 21 11.7 -1.8**
comp=Z,2.9nm,0.6s,baz=268,slow=3.4,SNR=3.9
NVAR PKP2bc 09 29 30.9
comp=Z,97nm,1.0s,baz=303,slow=3.3,SNR=16
NVAR P4KPbc 09 38 06.6
comp=Z,0.8nm,0.7s,baz=91,slow=3.8,SNR=4.6
comp=Z,237nm,0.7s
YMR **Madison River** **69.79 330** P **P** **09 01 26.0 +1.4**
YMR IAmb IAmb 09 01 33.1
comp=Z,4μm,1.0s
DGMT **Dagmar** **69.81 337** ⇑P **P** **09 01 24.2 -0.2**
YHH **Holmes Hill** **69.83 330** P **P** **09 01 26.2 +1.3**
PMPST **Porto Santo, M** **69.88 46** *e*P **P** **09 01 25.8 +0.7**
PMPST *i* Amb 09 01 33.4
comp=Z,3μm,1.5s
PMPST *e*pP **pP** **09 02 29.3 +3.0**
PMPST *e*PP **PP** **09 04 07.5 +3.6**
WAKR **Walker** **70.23 321** P **P** **09 01 28.2 +0.8**
WAKR IAmb IAmb 09 01 36.4
comp=Z,3μm,1.4s
HLID **Hailey** **70.73 327** ⇑P **P** **09 01 30.6 +0.3**
TROLL **Troll, Antarti** **70.77 162** ⇓P **P** **09 01 30.5 +0.5**
comp=Z,12μm,0.4s
TROLL ⇓pP **pP** **09 02 33.8 +1.6**
TROLL ⇑sP **sP** **09 03 04.0 +2.9**
TROLL ⇓PP **PP** **09 04 11.0 +0.6**
TROLL ⇑S **S** **09 10 26.1 +3.7**
TROLL ⇑SKSac **ScS** **09 11 07.6 -0.2**
TROLL **Troll, Antarti** **70.77 162** ⇓sS sS 09 12 14.8 +3.0
BOZ **Bozeman (W)** **70.79 330** ⇑P **P** **09 01 30.3 -0.3**
DLMT **Dillon** **71.09 330** P **P** **09 01 33.5 +1.2**
DLMT IAmb IAmb 09 01 40.2
comp=Z,2μm,1.3s
EGMT **Eagleton** **71.75 333** ⇑P **P** **09 01 35.5 -0.6**
MCCM **Marconi Confer** **72.17 319** ⇑P **P** **09 01 39.6 +0.9**
WVOR **Wild Horse Val** **72.26 324** P **P** **09 01 39.0 -0.4**
WVOR **Wild Horse Val** **72.26 324** P **P** **09 01 39.0 -0.4**
WVOR pmax pmax
comp=Z,1μm,1.5s
WVOR **Wild Horse Val** **72.26 324** ⇑P **P** **09 01 39.4 +0.1**
MSO **Missoula** **72.79 330** P **P** **09 01 42.7 +0.3**
MSO IAmb IAmb 09 01 50.5
comp=Z,3μm,1.2s
MSO **Missoula** **72.79 330** ⇑P **P** **09 01 42.4 0.0**
BMO **Blue Mountains** **73.13 327** ⇑P **P** **09 01 44.2 -0.1**
NVL **N'lazarevskaya** **73.57 160** *d i*P **P** **09 01 47.6 +1.2**
NVL *e*S **S** **09 10 59.2 +5.4**
NVL pmax pmax
comp=Z,6μm,1.1s
YBH **Yreka Blue Hor** **74.19 322** S **S** **09 11 01.2 -0.6**
comp=Z,31nm,1.2s,baz=89,slow=20,SNR=9.2
G08A **Pilot Rock** **74.30 326** P **P** **09 01 51.9 +0.8**
KHMM **Horse Mountain** **74.30 321** P **P** **09 01 51.9 +0.6**
KHMM IAmb IAmb 09 01 59.9
comp=Z,3μm,1.2s
VAH **Vaihoa** **74.52 258** *e*P **P** **09 01 53.7 +0.8**
comp=Z,5μm,1.3s
VAH *e*pP **pP** **09 02 58.1 +2.3**
comp=Z,1μm,1.2s
VAH *e*S **S** **09 11 04.3 -2.0**
comp=Z,13μm,26.0s
VAH **Vaihoa** **74.52 258** *e*LR LR 09 25 09.5
comp=Z,24μm,22.5s
TBI **Tubuai** **74.76 249** *e*P **P** **09 01 55.4 +1.3**
comp=Z,2μm,1.1s
TBI *e*S **S** **09 11 06.2 -2.6**
comp=Z,47μm,28.2s
TBI *es*S **sS** **09 12 51.5 -6.7**
comp=Z,469μm,29.5s
TBI *e*LQ LQ 09 22 02.4
comp=Z,365μm,29.2s
TBI *e*LR LR 09 25 19.4
comp=Z,79μm,29.2s
TBI *e*LR LR 09 25 20.7
comp=Z,20μm,26.5s
PMOR **Pomariorio Ree** **74.82 258** *e*P **P** **09 01 54.9 +0.3**
comp=Z,5μm,1.3s
PMOR *e*pP **pP** **09 02 57.1 -0.5**
comp=Z,1μm,1.3s
PMOR *e*S **S** **09 11 07.9 -1.7**
comp=Z,11μm,24.3s
PMOR **Pomariorio Ree** **74.82 258** *e*LR LR 09 25 17.7
comp=Z,21μm,21.2s
E08A **Dider Farm, El** **75.14 327** P **P** **09 01 55.8 +0.1**
HAWA **Hanford** **75.32 327** ⇑P **P** **09 01 57.1 +0.4**
NEW **Newport** **75.34 330** S **S** **09 11 15.1 +0.9**
comp=Z,18nm,1.0s,baz=180,slow=23,SNR=2.5
NEW **Newport** **75.34 330** ⇑P **P** **09 01 56.4 -0.5**
TIO **Tiouine** **75.44 52** P **P** **09 01 59.0 +1.0**
QSPA **South Pole Qui** **75.47 180** P **P** **09 01 57.6 +0.1**
QSPA **South Pole Qui** **75.47 180** P **P** **09 01 57.9 +0.3**
comp=Z,559nm,0.7s,baz=162,slow=1.5,SNR=961
QSPA PP **PP** **09 04 53.4 +3.2**
comp=Z,284nm,1.0s,baz=153,slow=4.5,SNR=3.8
QSPA S **S** **09 11 18.4 +3.1**
comp=Z,12nm,1.0s,baz=30,slow=19,SNR=1.1
QSPA PKKP **PKKPdf** **09 21 01.9 -0.9**
comp=Z,25nm,1.1s,baz=311,slow=3.0,SNR=4.6
QSPA PKKPbc **PKKPbc** **09 21 13.0 -5.4**
comp=Z,12nm,0.8s,baz=287,slow=3.4,SNR=3.7
QSPA PKPPKP **P'P'df** **09 29 16.9 -6.5**
comp=Z,100nm,1.2s,baz=222,slow=2.3,SNR=9.2
comp=Z,559nm,0.7s
QSPA **South Pole Qui** **75.47 180** ⇑P **P** **09 01 57.9 +0.3**
TVO **Taravao** **75.56 255** *e*P **P** **09 02 00.5 +1.6**
comp=Z,1μm,1.4s
TVO *e*S **S** **09 11 15.8 -2.0**
comp=Z,3μm,23.7s
J01E **Myrtle Point** **75.77 322** P **P** **09 02 00.5 +1.2**
PAE **Paea** **75.89 255** *e*P **P** **09 02 01.9 +1.3**
comp=Z,1μm,1.3s
PAE *e*pP **pP** **09 03 05.8 +2.0**
comp=Z,184nm,1.3s
PAE *e*S **S** **09 11 19.6 -1.7**
comp=Z,2μm,22.6s
PAE **Paea** **75.89 255** *e*LR LR 09 25 52.1
comp=Z,2μm,24.0s
PPTF **Pamatai, Papee** **75.89 255** ⇑P **P** **09 02 02.9 +2.1**
H04D **Lebanon** **75.90 324** P **P** **09 02 00.6 +0.5**
PPT2 **Papeete2** **75.90 255** *e*P **P** **09 02 01.2 +0.4**
comp=Z,3μm,1.5s
PPT2 *e*pP **pP** **09 03 04.6 +0.6**
comp=Z,456nm,1.5s
PPT2 *e*S **S** **09 11 18.2 -3.4**
comp=Z,67μm,27.8s
PPT2 *es*S **sS** **09 13 05.4 -6.6**
comp=Z,161μm,26.2s
PPT2 *e*LQ LQ 09 22 29.7
comp=Z,94μm,25.2s
PPT2 *e*LR LR 09 25 46.2
comp=Z,13μm,28.5s
PPT2 *e*LR LR 09 25 51.2
comp=Z,17μm,25.5s
PPT **Papeete** **75.91 255** P **P** **09 02 02.7 +1.9**
comp=Z,197nm,0.8s,baz=51,slow=9.2,SNR=18
comp=Z,197nm,0.8s
TORD **Torodi Ar. Bea** **76.22 72** P **P** **09 02 01.1 -1.4**
TORD **Torodi Ar. Bea** **76.22 72** P **P** **09 02 01.3 -1.2**
comp=Z,158nm,0.5s,baz=265,slow=4.7,SNR=776
TORD pP **pP** **09 03 02.6 -2.5**
comp=Z,464nm,1.0s,baz=266,slow=5.0,SNR=1.7
TORD S **S** **09 11 18.9 -5.9**
comp=Z,70nm,1.1s,baz=268,slow=12,SNR=9.3
comp=Z,158nm,0.5s
COR **Corvallis** **76.26 324** ⇑P **P** **09 02 03.4 +1.3**
I02E **Swisshome, OR** **76.28 323** P **P** **09 02 03.4 +1.2**
I02E IAmb IAmb 09 02 11.0
comp=Z,3μm,1.4s
AVE **Averroes** **76.42 50** P **P** **09 02 03.4 +0.1**
AVE IAmb IAmb 09 03 11.6
comp=Z,2μm,1.1s
AVE **Averroes** **76.42 50** P **P** **09 02 04.3 +1.0**
AVE **Averroes** **76.42 50** ⇑P **P** **09 02 04.2 +0.9**
HEBO **Mount Hebo** **76.89 324** P **P** **09 02 06.3 +0.6**
HEBO IAmb IAmb 09 02 14.6
comp=Z,4μm,1.3s
F04D **Rainier, OR** **77.00 325** P **P** **09 02 06.9 +0.7**
F04D IAmb IAmb 09 02 14.2
comp=Z,3μm,1.2s
ELIB **Princess Elisa** **77.21 161** *d*P **P** **09 02 07.8 +0.7**
comp=Z,2μm,0.8s
ELIB *d*pP **pP** **09 03 12.6 +2.1**
PFVI **Vila Bisbo** **77.24 46** P **P** **09 02 08.3 +0.6**
PFVI **Vila Bisbo** **77.24 46** *e*P **P** **09 02 08.8 +1.1**

PFVI *i* Amb 09 02 14.3
comp=Z,1μm,1.1s
PFVI *e*pP **pP** **09 03 12.7 +2.4**
MORF **Marmelete** **77.45 46** *e*P **P** **09 02 09.6 +0.7**
MORF IAmb IAmb 09 02 16.3
comp=Z,954nm,1.0s
MORF *e*pP **pP** **09 03 12.9 +1.3**
MORF *e*S **S** **09 11 38.4 +1.0**
MORF **Marmelete** **77.45 46** ⇑*e*P **P** **09 02 09.9 +0.9**
MORF *i* Amb 09 02 15.4
comp=Z,1μm,1.3s
MORF *e*pP **pP** **09 03 14.0 +2.4**
MORF **Marmelete** **77.45 46** *e*P **P** **09 02 09.6 +0.7**
MORF *e*S **S** **09 11 38.4 +1.0**
PTEO **Sao Teotonio** **77.52 46** ⇑*e*P **P** **09 02 10.2 +1.0**
PTEO *i* Amb 09 02 16.9
comp=Z,3μm,1.4s
PTEO *e*pP **pP** **09 03 16.3 +4.4**
GNW **Green Mountain** **77.81 327** P **P** **09 02 10.9 +0.3**
LIS **Lisbon** **77.81 44** *e*P **P** **09 02 11.7 +0.9**
LIS IAmb IAmb 09 02 16.9
comp=Z,483nm,1.1s
LIS *e*pP **pP** **09 03 15.3 +1.8**
LIS *e*S **S** **09 11 41.9 +0.8**
LIS **Lisbon** **77.81 44** *e*P **P** **09 02 11.7 +0.9**
LIS *i* Amb 09 02 22.6
comp=Z,904nm,1.4s
LIS *e*pP **pP** **09 03 17.1 +3.6**
LIS **Lisbon** **77.81 44** *e*P **P** **09 02 11.7 +0.9**
LIS *e*S **S** **09 11 41.9 +0.8**
PBDV **Barranco-do-Ve** **77.92 46** ⇑*e*P **P** **09 02 12.6 +1.0**
PBDV *e*pP **pP** **09 03 17.0 +2.7**
PBDV *i* Amb 09 03 20.8
comp=Z,1μm,1.4s
MESJ **Messejana** **78.01 46** *e*P **P** **09 02 12.7 +0.8**
MESJ IAmb IAmb 09 02 18.9
comp=Z,482nm,0.8s
MESJ *e*pP **pP** **09 03 15.6 +0.9**
MESJ *e*S **S** **09 11 44.2 +0.9**
MESJ **Messejana** **78.01 46** *e*P **P** **09 02 12.9 +0.9**
MESJ *i* Amb 09 02 18.3
comp=Z,969nm,1.3s
MESJ *e*pP **pP** **09 03 17.3 +2.6**
MESJ *e*PP PP 09 05 23.0 +11
MESJ **Messejana** **78.01 46** *e*P **P** **09 02 12.7 +0.8**
MESJ *e*S **S** **09 11 44.2 +0.9**
PCVE **Castro Verde** **78.03 46** *e*P **P** **09 02 13.0 +0.9**
PCVE *i* Amb 09 02 20.8
comp=Z,1μm,1.9s
PCVE *e*pP **pP** **09 03 17.4 +2.6**
PCVE *e*tx tx 09 06 11.2
PCVE **Castro Verde** **78.03 46** P **P** **09 02 13.2 +1.1**
NRS **Narsarsuaq** **78.10 12** P **P** **09 02 11.0 -0.9**
NRS IAmb IAmb 09 02 17.2
comp=Z,3μm,1.7s
NRS **Narsarsuaq** **78.10 12** P **P** **09 02 11.0 -0.9**
NRS pmax pmax
comp=Z,3μm,1.7s
NRS **Narsarsuaq** **78.10 12** *i* P **P** **09 02 10.0 -1.9**
NRS IAmb IAmb 09 02 17.4
comp=Z,1μm,1.3s
PVAQ **Vaqueiros** **78.15 46** ⇑*e*P **P** **09 02 13.4 +0.7**
PVAQ *i* Amb 09 02 22.5
comp=Z,746nm,2.0s
PVAQ *e*pP **pP** **09 03 18.3 +2.8**
PVAQ **Vaqueiros** **78.15 46** P **P** **09 02 13.6 +0.9**
PBEJ **Beja** **78.34 45** ⇑*e*P **P** **09 02 14.5 +0.7**
PBEJ *i* Amb 09 02 20.9
comp=Z,909nm,1.7s
PBEJ *e*pP **pP** **09 03 20.4 +3.8**
PBEJ *e*PP **PP** **09 05 21.3 +6.2**
PBEJ *e*tx tx 09 06 12.3
EGRO **El Granado** **78.37 46** P **P** **09 02 14.8 +0.9**
PSBE **So Bento** **78.44 44** ⇑*e*P **P** **09 02 14.9 +0.5**
PSBE *i* Amb 09 02 22.1
comp=Z,864nm,1.6s
PSBE *e*pP **pP** **09 03 19.6 +2.5**
EVO **Evora** **78.49 45** ⇑*e*P **P** **09 02 15.0 +0.5**
EVO *i* Amb 09 02 22.3
comp=Z,781nm,1.4s
EVO *e*pP **pP** **09 03 19.8 +2.4**
EVO *e*PP PP 09 05 25.7 +9.4
EVO *e*tx tx 09 06 13.2
EVO **Evora** **78.49 45** P **P** **09 02 15.0 +0.5**
PMTG **Montargil** **78.61 44** ⇑*e*P **P** **09 02 15.7 +0.5**
PMTG *i* Amb 09 02 23.6
comp=Z,1μm,1.4s
PMTG *e*pP **pP** **09 03 20.1 +2.1**
PMTG *e*PP **PP** **09 05 14.2 -3.1**
PMTG *e*tx tx 09 06 15.2
ARNO **Arenosillo** **78.69 47** P **P** **09 02 16.0 +0.3**
SFS **San Fernando** **78.77 48** P **P** **09 02 17.1 +1.0**
PCAS **Casmilo, Conde** **78.91 43** ⇑*e*P **P** **09 02 17.4 +0.5**
PCAS *i* Amb 09 02 23.6
comp=Z,580nm,1.5s
PCAS *e*pP **pP** **09 03 21.1 +1.4**
PCAS *e*tx tx 09 06 19.3
PESTR **Estremoz** **78.94 45** P **P** **09 02 16.5 -0.5**
PESTR **Estremoz** **78.94 45** ⇑*e*P **P** **09 02 17.6 +0.6**
PESTR *i* Amb 09 02 23.9
comp=Z,1μm,1.3s
PESTR *e*pP **pP** **09 03 22.4 +2.5**
PESTR **Estremoz** **78.94 45** P **P** **09 02 17.6 +0.6**
PBAR **Barrancos** **78.99 46** ⇑*e*P **P** **09 02 17.9 +0.6**
PBAR *i* Amb 09 02 24.9
comp=Z,821nm,1.3s
PBAR *e*pP **pP** **09 03 22.4 +2.2**
PBAR *e*PP **PP** **09 05 26.3 +5.8**
PBAR *e*tx tx 09 06 15.1
PBAR **Barrancos** **78.99 46** P **P** **09 02 17.9 +0.6**
COI **Coimbra** **79.05 43** *e*P **P** **09 02 18.1 +0.5**
COI *i* Amb 09 02 25.1
comp=Z,2μm,1.5s
COI *e*pP **pP** **09 03 23.6 +3.2**
EMIN **Mina Concepcio** **79.05 46** P **P** **09 02 18.4 +0.8**
CEU **Ceuta** **79.11 48** P **P** **09 02 18.9 +1.0**
ALJ **Aljibe** **79.20 48** P **P** **09 02 20.1 +1.6**
EBAD **Badajoz** **79.28 45** P **P** **09 02 19.5 +0.6**
PMRV **Marv??o** **79.35 44** ⇑*e*P **P** **09 02 19.0 -0.3**
PMRV *i* Amb 09 02 25.2
comp=Z,346nm,1.4s
PMRV *e*pP **pP** **09 03 23.7 +1.6**
PMRV *e*PP PP 09 05 33.3 +10
PMRV *e*S **S** **09 11 58.0 +0.6**
PMRV *e*SS **SS** **09 17 16.0 +4.6**
PCBR **Castelo Branco** **79.49 44** *e*P **P** **09 02 19.7 -0.2**
PCBR *i* Amb 09 02 26.0
comp=Z,544nm,1.2s
PCBR *e*pP **pP** **09 03 24.5 +1.6**
PCBR *e*tx tx 09 06 22.5
LIJA **Lijar** **79.55 47** P **P** **09 02 20.5 +0.1**
PVLZ **Pen de Vlez** **79.57 49** P **P** **09 02 20.5 +0.1**
PVIS **Viseu** **79.64 43** *e*P **P** **09 02 20.3 -0.5**
PVIS *e*pP **pP** **09 03 25.6 +1.8**
MTE **Manteigas** **79.72 44** P **P** **09 02 21.0 -0.3**
MTE **Manteigas** **79.72 44** ⇑*e*P **P** **09 02 21.1 -0.1**
MTE *i* Amb 09 02 27.4
comp=Z,918nm,1.3s
MTE *e*pP **pP** **09 03 23.7 -0.5**
MTE *e*S **S** **09 12 02.6 +1.2**
MTE *e*SS **SS** **09 17 16.7 -0.2**
MTE **Manteigas** **79.72 44** *e*P **P** **09 02 22.0 +0.8**
NUUK **Nuuk** **79.87 8** *i* P **P** **09 02 20.5 -0.9**
NUUK IAmb IAmb 09 02 27.8
comp=Z,2μm,1.3s
PGAV **Gavieira, Arco** **80.02 42** ⇑*e*P **P** **09 02 22.4 -0.4**
PGAV *i* Amb 09 02 30.8
comp=Z,773nm,1.8s
PGAV *e*pP **pP** **09 03 27.6 +1.7**
PGAV *e*S **S** **09 12 06.1 +1.6**
PGAV *e*SS **SS** **09 17 21.9 +0.6**
POLO **Lamas de Olo** **80.03 43** ⇑*e*P **P** **09 02 22.7 -0.2**
POLO *i* Amb 09 02 31.0
comp=Z,202nm,2.6s
POLO *e*pP **pP** **09 03 28.0 +2.0**
PVRL **Vila Real** **80.03 43** *e*P **P** **09 02 23.2 +0.3**
PVRL *i* Amb 09 02 29.2
comp=Z,595nm,1.6s
PVRL *e*pP **pP** **09 03 29.7 +3.8**
PCAB **Cabril** **80.05 42** ⇑*e*P **P** **09 02 22.9 -0.1**
PCAB *i* Amb 09 02 29.8
comp=Z,866nm,1.8s

PCAB *e*pP **pP** **09 03 29.0 +3.0**
PCAB *e*tx tx 09 06 26.8
ECAB **El Cabril** **80.07 46** P **P** **09 02 23.2 +0.1**
EMAL **Malaga-Limoner** **80.18 48** P **P** **09 02 24.7 +1.0**
MVO **Moncorvo** **80.43 43** ⇑*e*P **P** **09 02 25.3 +0.2**
MVO *i* Amb 09 02 31.4
comp=Z,683nm,1.6s
MVO *e*pP **pP** **09 03 29.9 +1.7**
MVO *e*S **S** **09 12 10.7 +1.9**
MVO *e*SS **SS** **09 17 31.9 +4.3**
EGOR **Sierra Gorda,** **80.56 48** P **P** **09 02 26.6 +0.7**
WMELI **Melilla** **80.62 50** P **P** **09 02 26.0 -0.1**
CBB **Campbell River** **80.64 327** P **P** **09 02 26.7 +0.9**
CBB IAmb IAmb 09 02 34.0
comp=Z,2μm,1.0s
ELGU **Los Guajares,** **80.80 48** P **P** **09 02 26.8 -0.4**
EALB **Alboran** **80.83 49** P **P** **09 02 26.7 -0.5**
PBRG **Braganca** **80.93 43** *e*P **P** **09 02 27.5 -0.2**
PBRG *i* Amb 09 02 35.1
comp=Z,1μm,1.5s
PBRG *e*pP **pP** **09 03 33.5 +2.7**
CHAS **Isla Isabel II** **80.95 50** P **P** **09 02 27.6 -0.2**
EQTA **Presa de Quent** **81.08 48** P **P** **09 02 28.8 +0.2**
OBBL **Beni Bahdel** **81.44 51** P **P** **09 02 34.5 +4.0**
OLHC **Oulhaca** **81.73 50** P P 09 02 53.0 +21
ESDC **Sonseca Array** **81.81 45** P **P** **09 02 32.3 0.0**
ESDC **Sonseca Array** **81.81 45** P **P** **09 02 32.5 +0.2**
comp=Z,165nm,1.0s,baz=253,slow=4.9,SNR=390
ESDC pP **pP** **09 03 34.2 -1.5**
comp=Z,44nm,0.9s,baz=244,slow=4.5,SNR=0.8
ESDC S **S** **09 12 22.9 -0.1**
comp=Z,6.0nm,1.1s,baz=232,slow=4.6,SNR=5.4
ESDC PKKPbc **PKKPbc** **09 21 07.2 +3.7**
comp=Z,14nm,0.9s,baz=27,slow=2.2,SNR=15
ESDC PKPPKP **P'P'df** **09 29 04.0 -3.2**
comp=Z,5.8nm,0.9s,baz=45,slow=2.6,SNR=6.4
comp=Z,165nm,1.0s
I55US **WINDLESS BIGHT** **82.22 191** P P 09 02 40.0 +6.3
baz=103,slow=6.8,SNR=8.0
SBA **Scott Base** **82.30 190** P **P** **09 02 35.1 +1.0**
SBA IAmb IAmb 09 02 42.2
comp=Z,4μm,1.2s
SBA **Scott Base** **82.30 190** P **P** **09 02 35.1 +1.0**
SBA pmax pmax
comp=Z,4μm,1.2s
HOLB **Holberg** **82.44 327** P **P** **09 02 35.9 +0.6**
HOLB IAmb IAmb 09 02 43.2
comp=Z,4μm,1.3s
USTO **Oran** **82.58 50** P P 09 02 43.5 +7.3
UCM **Universidad Co** **82.58 45** P **P** **09 02 36.8 +0.6**
SFJD **Kangerlussuaq** **82.70 8** *i* P **P** **09 02 33.6 -2.6**
SFJD IAmb IAmb 09 02 41.6
comp=Z,798nm,1.1s
ODJA **Bouhanifia** **82.71 51** P **P** **09 02 41.4 +4.3**
TAM **Tamanrasset** **82.80 64** P **P** **09 02 37.3 -0.6**
TAM **Tamanrasset** **82.80 64** P **P** **09 02 37.3 -0.6**
TAM pmax pmax
comp=Z,320nm,0.6s
OFRG **Douar Fergoug** **82.93 51** P **P** **09 02 41.9 +3.8**
CART **Cartagena** **83.00 48** P **P** **09 02 36.3 -2.1**
SUR **Sutherland** **83.00 122** P **P** **09 02 38.7 -0.2**
SUR IAmb IAmb 09 02 46.2
comp=Z,3μm,1.4s
SUR **Sutherland** **83.00 122** P **P** **09 02 40.4 +1.5**
TSUM **Tsumeb** **83.11 108** PKPPKP 09 29 08.4
comp=Z,6.7nm,0.9s,baz=40,slow=3.6,SNR=4.9
TSUM **Tsumeb** **83.11 108** *i* P **P** **09 02 39.9 +0.3**
SYO **Syowa Base** **83.24 160** ⇓*i*P **P** **09 02 39.0 -0.1**
SYO **Syowa Base** **83.24 160** ⇓*i*PcP **PcP** **09 02 41.0 -1.9**
BBB **Bella Bella** **83.29 328** PKKPbc PKKPbc 09 20 58.1 -2.6
comp=Z,54nm,1.1s,baz=294,slow=4.0,SNR=9.5
BBB PKPPKP **P'P'df** **09 29 04.9 +0.6**
comp=Z,17nm,1.2s,baz=339,slow=2.8,SNR=3.1
VNDA **Vanda** **83.34 190** P **P** **09 02 40.8 +1.3**
comp=Z,426nm,1.0s,baz=132,slow=5.8,SNR=57
VNDA S **S** **09 12 36.2 -1.0**
comp=Z,11nm,1.2s,baz=276,slow=21,SNR=6.0
VNDA PKKP **PKKPdf** **09 20 46.4 -3.3**
comp=Z,16nm,1.2s,baz=336,slow=4.8,SNR=3.0
VNDA PKKPbc **PKKPbc** **09 20 55.5 -4.8**
comp=Z,6.6nm,0.8s,baz=193,slow=1.1,SNR=1.7
comp=Z,426nm,1.0s
ISOG **Isortoq, Green** **83.34 12** *i* P **P** **09 02 38.2 -1.2**
ISOG IAmb IAmb 09 02 44.9
comp=Z,1μm,1.1s
ESMB **Sidi M'hamed B** **83.36 51** P **P** **09 02 41.6 +1.3**
OJGS **Djebel Guires** **83.46 51** P P 09 02 48.4 +7.5
ANGG **Ammassalik, Gr** **83.69 13** *i* P **P** **09 02 40.0 -1.2**
ANGG IAmb IAmb 09 02 47.1
comp=Z,4μm,1.8s
EKMS **Oued Kramis** **83.69 50** P P 09 02 46.8 +4.8
EADEB **Ain Deheb** **83.82 52** P P 09 02 48.0 +5.2
VAL **Valentia** **84.06 33** P **P** **09 02 42.9 -0.5**
VAL **Valentia** **84.06 33** P **P** **09 02 41.6 -1.8**
EBNR **Beni Rached** **84.35 50** P P 09 02 50.4 +5.1
EBGR **Bougara** **84.37 51** P **P** **09 02 48.6 +3.1**
EZEK **Zmalet El Emir** **84.39 52** P **P** **09 02 48.4 +2.8**
YKA **Yellowknife Ar** **84.43 341** P **P** **09 02 44.0 -1.0**
comp=Z,640nm,0.8s,baz=140,slow=5.2,SNR=2024
YKA S **SKSac** **09 12 39.7 -2.9**
comp=Z,29nm,1.1s,baz=132,slow=6.4,SNR=7.2
YKA PKKP **PKKPdf** **09 20 48.2 -1.8**
comp=Z,1.5nm,0.7s,baz=265,slow=2.1,SNR=5.5
YKA PKKPbc **PKKPbc** **09 20 59.1 +0.5**
comp=Z,3.8nm,0.4s,baz=241,slow=5.3,SNR=16
YKA PKPPKP **P'P'df** **09 28 59.1 -3.0**
comp=Z,2.3nm,0.8s,baz=304,slow=2.3,SNR=8.8
comp=Z,640nm,0.8s
RAR **Rarotonga** **84.54 250** P **P** **09 02 47.4 +0.8**
comp=Z,128nm,0.7s,baz=248,slow=2.5,SNR=40
RAR PKPPKP **P'P'df** **09 29 01.7 -2.3**
comp=Z,4.2nm,0.5s,baz=37,slow=5.1,SNR=3.1
comp=Z,128nm,0.7s
RAR **Rarotonga** **84.54 250** P **P** **09 02 45.4 -1.2**
RAR **Rarotonga** **84.54 250** ⇓P **P** **09 02 47.4 +0.8**
KOOLE **Kule** **84.61 112** *i* P **P** **09 02 47.4 +0.2**
EARB **Arib** **84.70 51** P **P** **09 02 50.6 +3.5**
ILULI **Ilulissat** **84.75 7** P **P** **09 02 45.3 -1.2**
ILULI **Ilulissat** **84.75 7** P **P** **09 02 45.3 -1.2**
ILULI pmax pmax
comp=Z,972nm,1.0s
ILULI **Ilulissat** **84.75 7** *i* P **P** **09 02 44.4 -2.0**
ILULI IAmb IAmb 09 02 52.0
comp=Z,985nm,1.0s
ADJF **Tadmit** **84.75 53** P P 09 02 53.9 +6.4
AFDJ **Sidi Ladjel** **84.80 52** P P 09 02 53.0 +5.4
ABRIN **Birine** **85.29 51** P **P** **09 02 51.9 +1.8**
IGLA **Glengowla, Co** **85.31 32** *e*P **P** **09 02 48.8 -0.7**
IGLA IAmb IAmb 09 02 55.7
comp=Z,574nm,1.0s
IGLA **Glengowla, Co** **85.31 32** P **P** **09 02 48.7 -0.8**
EMHD **Djebel Mahouad** **85.38 51** P P 09 02 56.3 +5.8
ACHR **Chrea** **85.40 51** P **P** **09 02 51.6 +0.9**
ABA **Alger-Bouzarea** **85.66 50** P **P** **09 02 52.8 +1.0**
ADJB **Djebel Djouab** **85.72 51** P **P** **09 02 53.9 +1.7**
MOBC **Moresby Island** **85.79 328** P **P** **09 02 52.4 +0.4**
MOBC IAmb IAmb 09 02 59.9
comp=Z,3μm,1.4s
TOAD **Toad River Com** **85.86 335** P **P** **09 02 52.0 -0.2**
baz=127
AKED **El Kharrouba** **85.89 51** P P 09 02 57.9 +5.0
CCA1 **Carnmenellis** **85.89 36** *e*P **P** **09 02 51.3 -1.2**
CCA1 *e* 09 12 39.9
GRTLG **Ghanzi** **85.92 111** *i* P **P** **09 02 53.3 -0.3**
AFRS **Ain Fares** **85.98 53** P **P** **09 02 56.0 +2.5**
AKET **Djebel Ketaf** **86.02 51** P **P** **09 02 56.9 +3.2**
UMMG **Uummannaq** **86.05 6** *i* P **P** **09 02 50.2 -2.6**
UMMG IAmb IAmb 09 02 59.8
comp=Z,498nm,0.9s
DIB **Dawson Inlet,** **86.08 328** P **P** **09 02 53.8 +0.5**
DIB IAmb IAmb 09 03 01.1
comp=Z,2μm,1.0s
IWEX **Carrickbyrne,** **86.11 33** *e*P **P** **09 02 52.4 -1.2**
IWEX IAmb IAmb 09 03 01.3
comp=Z,256nm,1.0s
IWEX **Carrickbyrne,** **86.11 33** P **P** **09 02 50.4 -3.2**
KOTAN **Kotaneelee Air** **86.17 336** P **P** **09 02 54.2 +0.5**
baz=128
CTRE **Tremp** **86.18 45** *e*P **P** **09 02 53.8 -0.5**
CTRE *e*pP **pP** **09 04 01.8 +3.4**
CTRE *es*P **sP** **09 04 21.5 -5.0**
CTRE *e*PP **PP** **09 06 23.8 +4.6**
CTRE *e*S **SKSac** **09 12 57.4 +2.5**
CTRE *e*ScS **ScS** **09 13 13.5 -0.3**

CTRE *e*PS **PS** **09 14 51.3 +9.3**
CTRE *e*SS **SS** **09 19 01.5 +9.2**
ATAF Djebel Tarf 86.26 52 P P 09 03 00.5 +5.7
ICESG Greenland Ices 86.30 10 *i* P **P** **09 02 53.3 -1.3**
ICESG IAmb IAmb 09 03 00.7
comp=Z,3μm,1.2s
U35K Hyder 86.30 331 P **P** **09 02 54.4 +0.1**
U35K baz=123,SNR=117 S **S** **09 13 06.3 -0.3**
baz=123
QNGWA Qangwa 86.33 109 *i* P **P** **09 02 54.8 -0.8**
PHPEN Phepeng 86.37 115 *i* P **P** **09 02 56.0 +0.3**
ATKB Taksebt 86.43 51 P P 09 03 01.3 +5.8
KGCAE Kacgae 86.45 113 *i* P **P** **09 02 55.6 -0.5**
CDCN Doucen 86.45 53 P P 09 03 00.5 +4.9
CORG Organya 86.51 45 *e*P **P** **09 02 55.2 -0.7**
CORG *e*pP **pP** **09 03 59.6 -0.5**
CORG *e*sP **sP** **09 04 25.9 -2.2**
CORG *e*PP **PP** **09 06 21.1 -0.7**
CORG *e*S **SKSac** **09 12 59.7 +3.0**
CORG *e*ScS **ScS** **09 13 17.5 +1.1**
CORG *e*PS **PnS** **09 14 51.0 +5.4**
CORG *e*SS SS 09 19 11.8 +15
CEST Esterri de Car 86.61 44 P **P** **09 02 56.4 0.0**
CEST Esterri de Car 86.61 44 *e*P **P** **09 02 56.3 -0.1**
CEST *e*pP **pP** **09 04 00.3 -0.3**
CEST *e*sP **sP** **09 04 29.9 +1.3**
CEST *e*PP **PP** **09 06 27.3 +4.6**
CEST *e*S **S** **09 13 06.2 -4.3**
CEST *e*ScS **ScS** **09 13 18.9 +1.4**
CEST *e*PS PS 09 14 43.9 -3.0
CEST *e*SS **SS** **09 19 03.0 +4.4**
XAUDM Khaudum 86.72 108 *i* P **P** **09 02 57.8 +0.3**
V35K Ketchikan 86.75 330 P **P** **09 02 56.7 +0.1**
baz=122,SNR=229
V35K S **S** **09 13 13.2 +2.3**
baz=122
DSB Dublin 86.76 33 P **P** **09 02 55.5 -1.2**
DSB IAmb IAmb 09 04 09.7
comp=Z,2μm,2.2s
DSB Dublin 86.76 33 P **P** **09 02 55.3 -1.4**
DSB Dublin 86.76 33 P **P** **09 02 55.6 -1.1**
NUUG Nuugaatsiaq 86.77 5 *i* P **P** **09 02 55.1 -1.2**
NUUG IAmb IAmb 09 03 01.6
comp=Z,1μm,1.8s
T35M Bob Quinn 86.98 332 P **P** **09 02 58.2 +0.5**
T35M IAmb IAmb 09 03 05.7
comp=Z,3μm,1.1s
T35M Bob Quinn 86.98 332 P **P** **09 02 58.6 +0.9**
baz=123
T35M S **S** **09 13 14.3 +1.1**
baz=123
RSBS Rosebush, Pemb 87.00 34 *e*P **P** **09 02 56.5 -1.3**
RSBS IAmb IAmb 09 03 02.5
comp=Z,364nm,1.0s
CAZD Ain Tagrout 87.03 52 P P 09 03 04.2 +5.7
IDGL Inch Island, C 87.10 31 *e*P **P** **09 02 56.8 -1.4**
IDGL IAmb IAmb 09 03 03.5
comp=Z,458nm,1.0s
IDGL Inch Island, C 87.10 31 P **P** **09 02 57.9 -0.4**
CKTS El Kantara 87.11 53 P **P** **09 03 03.3 +4.4**
ILTH Belurgan, Co L 87.17 32 *e*P **P** **09 02 57.3 -1.3**
ILTH Belurgan, Co L 87.17 32 P **P** **09 02 57.3 -1.3**
SET Setif 87.22 52 P **P** **09 03 01.0 +1.6**
CKHR Kef el Ahmar 87.25 52 P P 09 03 06.4 +6.8
GMARE Gumare 87.26 109 *i* P **P** **09 03 00.5 +0.4**
GRHM Grahamstown, E 87.32 124 P **P** **09 02 59.6 -0.5**
GRHM IAmb IAmb 09 04 10.7
comp=Z,2μm,1.9s
BORG Borgarnes 87.35 19 P **P** **09 03 00.3 +1.1**
BORG IAmb IAmb 09 03 07.3
comp=Z,3μm,1.5s
BORG Borgarnes 87.35 19 P **P** **09 02 59.8 +0.7**
comp=Z,541nm,1.0s,baz=222,slow=3.5,SNR=31
BORG pP **pP** **09 04 00.8 -2.5**
comp=Z,431nm,1.1s,baz=244,slow=3.3,SNR=0.6
comp=Z,541nm,1.0s
BORG Borgarnes 87.35 19 P **P** **09 03 00.3 +1.1**
BORG pmax pmax
comp=Z,3μm,1.5s
CBEU Beuda 87.45 45 *e*P **P** **09 02 59.1 -1.2**
CBEU *e*pP **pP** **09 04 04.0 -0.7**
CBEU *e*PP **PP** **09 06 35.0 +5.6**
CBEU *e*S **S** **09 13 12.1 -6.3**
CBEU *e*ScS **ScS** **09 13 26.7 +2.4**
CBEU *e*PS **PnS** **09 14 57.4 +0.7**
CBEU *e*SS **SS** **09 19 19.0 +8.3**
CJSR Ain Djasser 87.52 52 P **P** **09 03 05.1 +4.2**
SKOMA Sekoma 87.56 115 *i* P **P** **09 03 01.0 -0.4**
CRAG Craig 87.56 329 P **P** **09 03 01.0 +0.6**
baz=120,SNR=77
CRAG S **S** **09 13 20.7 +2.1**
baz=120
BOSA Boshof 87.64 119 P **P** **09 03 01.4 -0.3**
comp=Z,183nm,0.8s,baz=258,slow=4.0,SNR=159
BOSA pP **pP** **09 04 05.0 -1.9**
comp=Z,261nm,1.0s,baz=251,slow=5.5,SNR=1.5
BOSA S **SKSac** **09 13 04.0 -0.6**
comp=Z,16nm,1.1s,baz=21,slow=21,SNR=6.0
BOSA PKKPbc **PKKPbc** **09 20 50.0 +1.4**
comp=Z,46nm,0.8s,baz=36,slow=0.5,SNR=19
BOSA PKPPKP 09 28 54.5
comp=Z,7.1nm,1.0s,baz=139,slow=6.2,SNR=3.7
comp=Z,183nm,0.8s
BOSA Boshof 87.64 119 *i* P **P** **09 03 00.9 -0.9**
WRAK Wrangell Islan 87.67 331 P **P** **09 03 01.1 +0.2**
baz=121,SNR=231
WRAK S **S** **09 13 20.6 +1.0**
baz=121
DLBC Dease Lake 87.68 333 PKKPbc PKKPbc 09 20 50.9 +0.3
comp=Z,39nm,1.0s,baz=208,slow=3.2,SNR=12
DLBC PKPPKP 09 28 58.8
comp=Z,24nm,1.2s,baz=281,slow=3.5,SNR=5.6
DLBC Dease Lake 87.68 333 P **P** **09 03 01.5 +0.5**
baz=123
DLBC S **S** **09 13 22.0 +2.1**
baz=123
MAHO Mahon 87.69 48 P **P** **09 03 00.3 -1.1**
DFRA Djebel Bou Aff 87.70 51 P **P** **09 03 04.9 +3.2**
UPNV Upernavik 87.75 4 *i* P **P** **09 02 59.3 -1.7**
UPNV IAmb IAmb 09 03 06.3
comp=Z,720nm,1.2s
CLGH Cloghs, Cushen 87.80 31 *e*P **P** **09 03 00.3 -1.2**
CLGH IAmb IAmb 09 03 06.6
comp=Z,417nm,1.2s
CLGH *e* 09 12 58.6
CPAL Palau Saverder 87.81 45 *e*P **P** **09 03 01.5 -0.4**
CPAL *e*pP **pP** **09 04 09.0 +2.7**
CPAL *e*PP **PP** **09 06 33.5 +1.4**
CPAL *e*S **SKSac** **09 13 08.1 +3.7**
CPAL *e*ScS **ScS** **09 13 29.1 +2.1**
CPAL *e*PS **PnS** **09 15 07.8 +7.2**
CPAL *e*SS **SS** **09 19 19.5 +3.8**
WPS Cemaes, Angles 87.82 33 *e*P **P** **09 02 60.0 -1.7**
WPS IAmb IAmb 09 03 06.3
comp=Z,458nm,1.5s
WLF1 Llynfaes 87.82 33 *e*P **P** **09 02 59.8 -1.8**
WLF1 IAmb IAmb 09 03 06.5
comp=Z,572nm,1.0s
WLF1 *e* 09 13 06.9
YLL Llanberis 87.87 33 *e*P **P** **09 03 01.2 -0.7**
U33K Whale Pass 87.89 330 P **P** **09 03 02.4 +0.5**
baz=120,SNR=443
U33K S **S** **09 13 22.6 +0.9**
baz=120
S34M Telegraph Cree 87.89 332 P **P** **09 03 02.5 +0.6**
baz=122,SNR=814
S34M S **S** **09 13 23.0 +1.3**
baz=122
WRGLY Wrigley 87.89 339 P **P** **09 03 01.9 +0.1**
baz=129,SNR=408
WRGLY S **S** **09 13 21.0 -0.4**
baz=129
COAT Oued Athmania 87.91 52 P P 09 03 07.7 +5.0
WME Myndd Eilian 87.92 33 *e*P **P** **09 03 00.8 -1.3**
CTEI Djebel Teioual 87.94 52 P **P** **09 03 04.8 +1.9**
MCH1 Michaelchurch 87.98 35 *e*P **P** **09 03 00.8 -1.6**
MCH1 IAmb IAmb 09 03 07.6
comp=Z,742nm,1.6s
MCH1 *e* 09 13 06.4
MAKGR Makgori 87.98 116 *i* P **P** **09 03 03.5 +0.1**
LLW Llanuwychllyn 88.01 34 *e*P **P** **09 03 00.9 -1.7**
MONM Monmouth 88.02 35 *e*P **P** **09 03 01.2 -1.5**
CASM Ain Smara 88.07 52 P P 09 03 08.4 +5.0

WTLY Watson Lake, Y 88.08 335 P **P** **09 03 03.3 +0.5**
baz=124
WTLY S **S** **09 13 23.2 -0.3**
baz=124
WIM Isle of Man 88.08 32 *e*P **P** **09 03 02.5 -0.5**
T33K Petersburg 88.16 331 P **P** **09 03 03.8 +0.6**
baz=121,SNR=89
T33K S **S** **09 13 26.3 +2.1**
baz=121
IOMK Kirk Michael 88.19 32 *e*P **P** **09 03 02.2 -1.2**
CSGS Sigus 88.20 52 P **P** **09 03 07.4 +3.4**
CBBAR Babar 88.24 53 P P 09 03 09.7 +5.4
FOEL Foel Wylfa 88.28 34 *e*P **P** **09 03 02.6 -1.3**
FOEL IAmb IAmb 09 03 08.6
comp=Z,393nm,1.1s
HLM1 Long Mynd 88.28 34 *e*P **P** **09 03 02.4 -1.5**
HLM1 IAmb IAmb 09 03 09.1
comp=Z,488nm,1.1s
STRD Stroud 88.34 35 *e*P **P** **09 03 03.4 -0.8**
STRD IAmb IAmb 09 03 09.3
comp=Z,396nm,1.0s
GAL1 Galloway 88.41 32 *e*P **P** **09 03 03.1 -1.3**
GAL1 IAmb IAmb 09 03 09.2
comp=Z,203nm,0.7s
GAL1 *e* 09 13 09.7
KDWAN Kaudwane 88.50 114 *i* P **P** **09 03 05.8 -0.1**
CBST Bordj Sabath 88.58 52 P P 09 03 10.8 +5.0
R33M Jennings River 88.61 333 P **P** **09 03 05.1 -0.4**
R33M IAmb IAmb 09 03 13.4
comp=Z,2μm,1.1s
R33M Jennings River 88.61 333 P **P** **09 03 06.2 +0.8**
baz=122
R33M S **S** **09 13 29.4 +0.7**
baz=122
TGTN Hyland Airport 88.67 336 P **P** **09 03 06.4 +0.8**
baz=125
TGTN S **S** **09 13 29.0 0.0**
baz=125
LAWE Loch Awe, Argy 88.73 30 *e*P **P** **09 03 04.5 -1.4**
LAWE IAmb IAmb 09 03 10.7
comp=Z,437nm,1.1s
LAWE *e* 09 13 08.0
NEWG New Galloway 88.77 32 *e*P **P** **09 03 04.6 -1.5**
NEWG IAmb IAmb 09 03 11.0
comp=Z,198nm,0.9s
CRHA Rehia 88.79 53 P **P** **09 03 09.0 +2.2**
LBTB Lobatse 88.89 115 PKPPKP 09 28 55.3
comp=Z,9.3nm,1.0s,baz=27,slow=2.3,SNR=4.3
LBTB Lobatse 88.89 115 *i* P **P** **09 03 06.8 -0.9**
STNC Stoke 88.90 34 *e*P **P** **09 03 05.6 -1.2**
STNC IAmb IAmb 09 03 12.5
comp=Z,794nm,1.1s
Q32M Nakina River 88.95 333 P **P** **09 03 07.8 +0.7**
baz=121
Q32M S **S** **09 13 33.0 +1.0**
baz=121
PGBU Glenifferbraes 88.97 31 *e*P **P** **09 03 05.5 -1.5**
PGBU IAmb IAmb 09 03 11.9
comp=Z,529nm,1.1s
LEWI Lewis, Hebride 88.97 28 *e*P **P** **09 03 06.2 -0.8**
LEWI IAmb IAmb 09 03 12.5
comp=Z,563nm,0.9s
KESW Keswick, Cumbr 89.10 32 *e*P **P** **09 03 06.6 -1.1**
KESW IAmb IAmb 09 03 12.8
comp=Z,429nm,0.8s
KPL Plockton 89.14 29 *e*P **P** **09 03 06.2 -1.6**
KPL IAmb IAmb 09 03 12.5
comp=Z,374nm,0.8s
PHDHD Phuduhudu 89.22 111 *i* P **P** **09 03 09.5 +0.3**
CWF Charnwood Fore 89.24 35 *e*P **P** **09 03 07.2 -1.2**
CWF IAmb IAmb 09 03 13.1
comp=Z,350nm,1.1s
S32K Killisnoo 89.25 331 P **P** **09 03 08.7 +0.5**
baz=119,SNR=221
S32K S **S** **09 13 34.7 +0.4**
baz=119
LBWR Ladybower, Pea 89.30 34 *e*P **P** **09 03 07.7 -1.0**
LBWR IAmb IAmb 09 03 14.3
comp=Z,457nm,1.0s
ESK Eskdalemuir 89.38 32 *e*P **P** **09 03 07.0 -1.9**
SIT Sitka 89.41 330 P **P** **09 03 09.5 +0.4**
baz=119,SNR=66
SIT S **S** **09 13 36.1 +0.3**
baz=119
EKA Eskdalemuir Ar 89.41 32 P **P** **09 03 07.7 -1.4**
comp=Z,13nm,0.6s,baz=240,slow=4.8,SNR=32
EKA pP **pP** **09 04 11.2 -2.5**
comp=Z,14nm,0.8s,baz=226,slow=5.8,SNR=1.0
EKA S **SKSac** **09 13 09.9 -3.4**
comp=Z,2.0nm,0.4s,baz=221,slow=23,SNR=4.7
EKA PKKPbc **PKKPbc** **09 20 45.6 -0.4**
comp=Z,36nm,0.9s,baz=61,slow=3.6,SNR=16
EKA PKPPKP **P'P'df** **09 28 53.5 +0.6**
comp=Z,13nm,0.8s,baz=32,slow=5.0,SNR=14
comp=Z,13nm,0.6s
KULLO Kullorsuaq 89.44 3 *i* P **P** **09 03 07.7 -1.1**
KULLO IAmb IAmb 09 03 15.6
comp=Z,2μm,1.2s
INVG Invergeldie, C 89.48 31 *e*P **P** **09 03 07.9 -1.5**
SUMG Summit 89.53 9 *i* P **P** **09 03 09.0 -0.8**
SUMG IAmb IAmb 09 03 16.8
comp=Z,2μm,1.1s
LPHEP Lephephe 89.56 114 *i* P **P** **09 03 10.6 -0.2**
KHWEE KHWEE 89.58 112 *i* P **P** **09 03 10.8 -0.1**
HPK Haverah Park 89.60 33 *e*P **P** **09 03 08.9 -1.1**
HPK IAmb IAmb 09 03 15.1
comp=Z,406nm,1.0s
R32K Eaglecrest 89.62 332 P **P** **09 03 11.1 +1.1**
baz=119,SNR=132
R32K S **S** **09 13 38.5 +0.7**
baz=119
LINV Loch Inver, As 89.74 29 *e*P **P** **09 03 09.3 -1.3**
LINV IAmb IAmb 09 03 15.5
comp=Z,359nm,0.9s
EDMD Edmundbyers 89.80 32 *e*P **P** **09 03 09.6 -1.3**
EDMD IAmb IAmb 09 03 15.9
comp=Z,498nm,1.1s
EDMD *e* 09 13 18.9
P33M Teslin, Yukon 89.83 334 P **P** **09 03 11.6 +0.5**
baz=121,SNR=672
P33M S **S** **09 13 38.8 -1.0**
baz=121
P32M Atlin 89.91 333 P **P** **09 03 11.9 +0.5**
baz=120,SNR=450
P32M S **S** **09 13 40.5 0.0**
baz=120
ELSH Elham, Standar 89.95 37 *e*P **P** **09 03 10.9 -0.8**
ELSH *e* 09 13 33.8
LMK Market Rasen 90.08 34 *e*P **P** **09 03 11.5 -0.8**
KEST Kesra 90.09 53 P **P** **09 03 12.3 -0.6**
comp=Z,28nm,1.0s,baz=292,slow=5.2,SNR=14
KEST pP **pP** **09 04 15.7 -1.8**
comp=Z,114nm,0.9s,baz=155,slow=5.0,SNR=1.1
KEST S **SKSac** **09 13 17.6 -0.9**
comp=Z,18nm,1.1s,baz=0.8,slow=17,SNR=2.2
KEST PKKPbc **PKKPbc** **09 20 44.4 +1.0**
comp=Z,29nm,0.8s,baz=56,slow=3.0,SNR=7.0
KEST PKPPKP **P'P'df** **09 28 50.0 -2.0**
comp=Z,22nm,1.1s,baz=282,slow=2.9,SNR=5.0
comp=Z,28nm,1.0s
KEST Kesra 90.09 53 P **P** **09 03 12.5 -0.4**
SNR=13
KEST S **SKSac** **09 13 24.3 +5.9**
R31K City Hall, Gus 90.25 331 P **P** **09 03 13.2 +0.3**
baz=118,SNR=103
R31K S **S** **09 13 43.8 +0.3**
baz=118
S31K Pelican 90.27 331 P **P** **09 03 13.6 +0.6**
S31K IAmb IAmb 09 03 21.0
comp=Z,3μm,1.4s
S31K Pelican 90.27 331 P **P** **09 03 13.8 +0.8**
baz=118,SNR=231
S31K S **S** **09 13 44.5 +0.9**
baz=118
WACR West Acre 90.30 35 *e*P **P** **09 03 11.4 -1.9**
WACR IAmb IAmb 09 03 18.4
comp=Z,650nm,1.0s
MCD Coleburn Disti 90.39 30 *e*P **P** **09 03 12.6 -1.1**
MCD IAmb IAmb 09 03 18.4
comp=Z,1μm,1.5s
KSANE Kasane 90.42 108 *i* P **P** **09 03 15.2 +0.4**
N32M Quiet Lake 90.42 334 P **P** **09 03 14.2 +0.4**
baz=120
N32M S **S** **09 13 44.3 -0.9**
baz=120
DRUM Mains of Drumt 90.46 30 *e*P **P** **09 03 12.4 -1.6**

RES Resolute Bay 90.54 354 PKKPbc PKKPbc 09 20 41.7 -2.2
comp=Z,81nm,0.8s,baz=43,slow=2.5,SNR=26
RES PKPPKP **P'P'df** **09 28 52.2 +1.6**
comp=Z,5.7nm,0.8s,baz=299,slow=2.6,SNR=4.3
SKAG Skagway 90.56 332 P **P** **09 03 15.1 +0.7**
baz=119,SNR=185
SKAG S **S** **09 13 47.9 +1.7**
baz=119
WHY Whitehorse 90.94 334 P **P** **09 03 16.2 -0.1**
baz=119,SNR=170
WHY S **S** **09 13 48.7 -1.3**
baz=119
PLBC Pleasant Camp 91.03 332 P **P** **09 03 17.1 +0.5**
baz=118,SNR=31
PLBC S **S** **09 13 50.4 -0.1**
baz=118
TULEG Thule 91.04 0 *i* P **P** **09 03 15.8 -0.5**
TULEG IAmb IAmb 09 03 22.6
comp=Z,591nm,1.2s
FARO Faro, Yukon 91.08 335 P **P** **09 03 17.2 +0.4**
baz=120,SNR=355
FARO S **S** **09 13 50.0 -1.0**
baz=120
MAW Mawson 91.14 164 P **P** **09 03 18.6 +1.6**
comp=Z,2μm,1.1s,baz=229,slow=6.2,SNR=22
SCO Scoresbysund 91.15 14 *i* P **P** **09 03 17.0 +0.2**
SCO IAmb IAmb 09 03 23.9
comp=Z,976nm,1.5s
VSL Villasalto 91.28 50 P **P** **09 03 17.2 -1.0**
M31M Drury Creek, Y 91.49 335 P **P** **09 03 18.9 +0.2**
baz=119,SNR=223
M31M S **S** **09 13 52.2 -2.4**
baz=119
BROLN Tlhalogang 91.50 112 *i* P **P** **09 03 19.6 -0.2**
CTZ Chatham Island 91.51 224 P **P** **09 03 20.3 +1.0**
O30N Mendenhall 91.52 333 P **P** **09 03 19.3 +0.5**
baz=118,SNR=238
O30N S **S** **09 13 53.4 -1.6**
baz=118
DOU Dourbes 91.59 38 *d*P **P** **09 03 17.9 -1.4**
comp=Z,105nm,1.1s
DOU *d*pP **pP** **09 04 24.4 +0.6**
DOU *d*PP **PP** **09 07 04.9 +3.1**
DOU *d*PKiKP PKiKP 09 07 59.6 -10
P30M Million Dollar 91.60 333 P **P** **09 03 19.7 +0.4**
baz=117
P30M S **S** **09 13 55.1 -0.7**
baz=117
UCC Uccle 91.70 38 P **P** **09 03 19.1 -0.7**
UCC Uccle 91.70 38 *d*P **P** **09 03 18.3 -1.5**
UCC *d*pP **pP** **09 04 25.9 +1.5**
UCC *d*PKiKP PKiKP 09 08 00.4 -9.0
UCC Uccle 91.70 38 P **P** **09 03 19.1 -0.7**
UCC pmax pmax
comp=Z,439nm,1.5s
N31M Braeburn, Yuko 91.72 334 P **P** **09 03 20.0 +0.2**
baz=118,SNR=146
N31M S **S** **09 13 56.0 -0.8**
baz=118
BMRD Maredsous 91.77 38 *d*P **P** **09 03 19.1 -1.1**
C36M Paulatuk 91.93 343 P **P** **09 03 18.7 -1.8**
baz=128,SNR=61
C36M S **S** **09 13 51.3 -6.9**
baz=128
BGES Gesves 91.99 38 *d*P **P** **09 03 20.2 -1.0**
BGES *d*pP **pP** **09 04 25.9 +0.1**
BGES *d*PKiKP **PKiKP** **09 08 03.5 -6.5**
RCHB Rochefort 91.99 38 *d*P **P** **09 03 19.9 -1.3**
comp=Z,109nm,1.1s
RCHB *d*pP **pP** **09 04 27.7 +2.0**
RCHB *d*PKiKP **PKiKP** **09 08 02.6 -7.3**
BCLA Clavier 92.13 38 *d*P **P** **09 03 20.6 -1.3**
comp=Z,59nm,1.1s
BCLA *d*pP **pP** **09 04 25.9 -0.5**
HYT Haines Junctio 92.16 333 P **P** **09 03 22.6 +0.7**
baz=117,SNR=113
HYT S **S** **09 14 01.1 +0.2**
baz=117
N30M Aishikik Lake 92.27 334 P **P** **09 03 22.8 +0.4**
baz=117
N30M S **S** **09 14 01.9 +0.2**
baz=117
WLF Walferdange 92.38 39 P **P** **09 03 21.6 -1.5**
WLF Walferdange 92.38 39 *d*P **P** **09 03 22.4 -0.6**
WLF *d*pP **pP** **09 04 30.3 +2.8**
O29M Mount Kennedy 92.41 332 P **P** **09 03 23.4 +0.3**
baz=116
O29M S **S** **09 14 01.5 -1.6**
baz=116
BEBN Eben Emael 92.48 38 *d*P **P** **09 03 22.7 -0.8**
BEBN *d*pP **pP** **09 04 29.5 +1.5**
LRW Lerwick 92.50 28 *e*P **P** **09 03 22.8 -0.5**
BHOU Houvegnez 92.53 38 *d*P **P** **09 03 22.7 -1.0**
comp=Z,96nm,1.2s
YUK6 Outpost Mounta 92.59 333 P **P** **09 03 24.4 +0.4**
baz=116,SNR=172
YUK6 S **S** **09 14 03.4 -1.5**
baz=116
NEEM North Greenlan 92.61 4 *i* P **P** **09 03 22.8 -1.1**
NEEM IAmb IAmb 09 03 31.2
comp=Z,2μm,1.0s
MEM Membach 92.62 38 *d*P **P** **09 03 23.1 -1.0**
MEM *d*pP **pP** **09 04 30.1 +1.5**
M30M Minto, Yukon 92.65 335 P **P** **09 03 23.8 -0.3**
baz=117,SNR=348
M30M S **S** **09 13 59.6 -5.4**
baz=117
BTNL Ternell 92.68 38 *d*PP **PP** **09 07 09.1 -1.3**
BTNL *d*PKiKP **PKiKP** **09 08 08.6 -2.5**
MAYO Mayo, Yukon 92.76 336 P **P** **09 03 24.2 -0.3**
MAYO IAmb IAmb 09 03 31.6
comp=Z,590nm,0.8s
MAYO Mayo, Yukon 92.76 336 P **P** **09 03 24.5 0.0**
baz=118,SNR=70
MAYO S **S** **09 14 01.8 -4.0**
baz=118
YUK4 Talbot Arm 92.89 333 P **P** **09 03 25.6 +0.2**
baz=116,SNR=207
YUK4 S **S** **09 14 04.4 -3.1**
baz=116
BLWY Bulawayo 92.91 112 *i* P **P** **09 03 26.8 +0.4**
H31M Peel River 93.23 338 P **P** **09 03 26.4 -0.2**
baz=119
H31M S **S** **09 14 06.0 -3.9**
baz=119
M29M Somme Creek 93.29 334 P **P** **09 03 26.6 -0.4**
M29M IAmb IAmb 09 03 34.4
comp=Z,878nm,1.1s
M29M Somme Creek 93.29 334 P **P** **09 03 27.4 +0.3**
baz=116
M29M S **S** **09 14 07.6 -3.1**
baz=116
O28M Mount Upton 93.33 332 P **P** **09 03 27.5 -0.1**
baz=114
O28M S **S** **09 14 07.1 -4.4**
baz=114
YUK8 Steele Glacier 93.35 333 P **P** **09 03 27.2 -0.3**
baz=115,SNR=112
YUK8 S **S** **09 14 08.2 -3.4**
baz=115
TUE Stuetta 93.39 43 P **P** **09 03 26.8 -1.2**
comp=Z,12μmcomp=Z,697nm,1.5s
J30M Hart River 93.39 337 P **P** **09 03 27.6 +0.1**
J30M IAmb IAmb 09 03 34.8
comp=Z,1μm,1.6s
J30M Hart River 93.39 337 P **P** **09 03 27.4 -0.1**
baz=118
J30M S **S** **09 14 06.7 -4.8**
baz=118
KIP Kipapa 93.40 291 *i* P **P** **09 03 27.0 -1.4**
MUSN Musina, Limpop 93.41 114 *i* P **P** **09 03 28.9 +0.4**
L29M L29M 93.44 335 P **P** **09 03 27.7 +0.1**
baz=116,SNR=603
L29M S **S** **09 14 07.6 -4.3**
baz=116
K29M Barlow Dome 93.52 336 P **P** **09 03 27.4 -0.7**
K29M Barlow Dome 93.52 336 P **P** **09 03 27.7 -0.4**
baz=116
K29M S **S** **09 14 07.3 -5.4**
baz=116
I30M Mount Dempster 93.70 337 P **P** **09 03 28.7 -0.3**
baz=118,SNR=810
I30M S **S** **09 14 09.2 -5.1**
baz=118
G31M Satah River 93.76 339 P **P** **09 03 28.6 -0.3**
baz=119,SNR=246

G31M S **S** **09 14 09.1 -5.2**
baz=119
DAVOX Davos/Dischmat 93.83 43 P **P** **09 03 29.2 -0.8**
comp=Z,56nm,0.8s,baz=271,slow=4.7,SNR=42
DAVOX pP **pP** **09 04 32.6 -2.1**
comp=Z,22nm,0.8s,baz=292,slow=4.0,SNR=0.6
DAVOX PP **PP** **09 07 18.6 -1.0**
comp=Z,224nm,1.2s,baz=248,slow=8.1,SNR=6.8
DAVOX S **SKSac** **09 13 39.5 +0.5**
comp=Z,9.9nm,0.9s,baz=212,slow=17,SNR=3.3
comp=Z,56nm,0.8s
F31M Tsiigehtchic 93.83 340 P **P** **09 03 28.9 -0.4**
baz=120,SNR=256
F31M S **S** **09 14 10.1 -4.8**
baz=120
A36M Sachs Harbour 93.87 345 P **P** **09 03 29.0 -0.4**
A36M IAmb IAmb 09 03 35.6
comp=Z,772nm,0.8s
A36M Sachs Harbour 93.87 345 P **P** **09 03 28.6 -0.8**
baz=127,SNR=541
A36M S **S** **09 14 11.7 -3.4**
baz=127
MESA MESA 93.89 332 P **P** **09 03 29.1 -0.9**
baz=113
MESA S **S** **09 14 12.7 -3.6**
baz=113
LSZ Lusaka 93.90 107 P **P** **09 03 30.9 -0.1**
LSZ Lusaka 93.90 107 PKPPKP 09 28 44.6
comp=Z,10nm,0.9s,baz=72,slow=2.5,SNR=7.3
LSZ Lusaka 93.90 107 P **P** **09 03 32.4 +1.4**
LSZ S **SKSac** **09 13 45.7 +5.1**
LSZ Lusaka 93.90 107 P **P** **09 03 30.9 -0.1**
LSZ Lusaka 93.90 107 *i* P **P** **09 03 33.1 +2.1**
DAVA Damuels 93.98 42 *i* P **P** **09 03 29.9 -0.7**
comp=Z,321nm,1.8s,SNR=54
DAVA *e*pP **pP** **09 04 38.2 +2.8**
comp=Z,239nm,1.4s
DAVA *e*PP **PP** **09 07 22.6 +1.9**
comp=Z,262nm,1.7s
DAVA *i* PKKP **PKKPdf** **09 20 29.9 -2.9**
comp=Z,76nm,0.8s,SNR=7.8
DAVA *e*P'P' 09 28 40.8
comp=Z,72nm,1.4s
STU Stuttgart 93.98 41 *e*P **P** **09 03 30.6 +0.1**
FUORN Ofenpass-Fuorn 94.03 43 P **P** **09 03 29.4 -1.6**
J29N Klondike Camp 94.06 336 P **P** **09 03 30.3 -0.3**
baz=116,SNR=69
J29N S **S** **09 14 12.8 -4.5**
baz=116
DBG Daneborg 94.16 12 *i* P **P** **09 03 30.4 -0.2**
DBG IAmb IAmb 09 03 36.2
comp=Z,89nm,1.1s
INK Inuvik 94.19 341 PKKPbc PKKPbc 09 20 33.0 -1.2
comp=Z,109nm,0.9s,baz=344,slow=3.9,SNR=11
INK Inuvik 94.19 341 P **P** **09 03 30.6 -0.3**
baz=120,SNR=462
INK S **S** **09 14 13.8 -4.2**
baz=120
SNH Sunshine Point 94.30 331 P **P** **09 03 32.2 +0.5**
SNH IAmb IAmb 09 03 39.3
comp=Z,2μm,1.4s
DAWY Dawson 94.36 336 P **P** **09 03 31.3 -0.6**
baz=115,SNR=160
DAWY S **S** **09 14 15.5 -4.3**
baz=115
MOPA Mopani 94.39 116 *i* P **P** **09 03 33.1 +0.1**
FETA Feichten 94.46 43 *e*P **P** **09 03 31.9 -0.9**
comp=Z,156nm,1.4s,SNR=43
FETA *i* pP **pP** **09 04 39.9 +2.3**
comp=Z,249nm,1.7s
FETA *i* PP **PP** **09 07 23.7 -0.8**
comp=Z,274nm,1.4s
FETA *i* PKKP **PKKPdf** **09 20 28.5 -3.4**
comp=Z,15nm,0.8s
FETA *e*P'P' 09 28 41.3
comp=Z,25nm,1.4s
G30M tAoh Zrai Nji 94.46 339 P **P** **09 03 31.6 -0.6**
G30M tAoh Zrai Nji 94.46 339 P **P** **09 03 30.9 -1.3**
baz=118,SNR=127
G30M S **S** **09 14 14.3 -6.3**
baz=118
BGLC Bering Glacier 94.48 331 P **P** **09 03 32.7 +0.3**
baz=112
BGLC S **S** **09 14 17.4 -3.5**
baz=112
I29M Ogilvie Camp, 94.49 337 P **P** **09 03 31.9 -0.5**
I29M IAmb IAmb 09 03 39.0
comp=Z,581nm,0.9s
I29M Ogilvie Camp, 94.49 337 P **P** **09 03 31.9 -0.5**
baz=116,SNR=682
I29M S **S** **09 14 14.1 -6.8**
baz=116
VAE Valguarnera 94.50 53 P **P** **09 03 32.8 -0.3**
comp=Z,6.3nm,0.3s,baz=216,slow=17,SNR=3.9
comp=Z,6.3nm,0.3s
F30M Barrier River 94.60 339 P **P** **09 03 32.4 -0.5**
baz=118
F30M S **S** **09 14 15.6 -6.1**
baz=118
RETA Reutte 94.61 42 *i* P **P** **09 03 32.2 -1.3**
comp=Z,249nm,1.2s,SNR=48
RETA *e*pP **pP** **09 04 40.9 +2.7**
comp=Z,251nm,1.5s
RETA *e*PP **PP** **09 07 24.5 -1.1**
comp=Z,264nm,1.6s
RETA *i* PKKP **PKKPdf** **09 20 27.8 -3.7**
comp=Z,12nm,0.6s
RETA *i* P'P' 09 28 41.0
comp=Z,23nm,1.9s
TEOL Teolo 94.61 44 P **P** **09 03 31.9 -1.6**
M27K Edge Creek, AK 94.70 334 P **P** **09 03 32.8 -0.8**
baz=113
M27K S **S** **09 14 18.4 -4.7**
baz=113
MOTA Moosalm 94.79 42 *i* P **P** **09 03 33.4 -1.0**
comp=Z,358nm,1.5s
MOTA *i* pP **pP** **09 04 41.1 +2.0**
comp=Z,362nm,1.6s
MOTA *e*PP **PP** **09 07 26.3 -0.7**
comp=Z,422nm,1.5s
MOTA *i* PKKP **PKKPdf** **09 20 27.8 -3.5**
comp=Z,54nm,0.6s
MOTA *i* P'P' 09 28 40.2
comp=Z,36nm,1.3s
SQTA Sankt Quirin 94.83 43 *e*P **P** **09 03 33.6 -0.9**
comp=Z,380nm,1.3s,SNR=80
SQTA *e*pP **pP** **09 04 41.1 +1.9**
comp=Z,228nm,1.2s
SQTA *e*PP **PP** **09 07 23.7 -3.6**
comp=Z,335nm,1.4s
SQTA *i* PKKP **PKKPdf** **09 20 28.2 -3.0**
comp=Z,48nm,0.5s,SNR=5.7
SQTA *e*P'P' 09 28 38.7
comp=Z,36nm,1.5s
H29M Whitestone 94.89 338 P **P** **09 03 33.5 -0.6**
baz=116
H29M S **S** **09 14 18.6 -5.7**
baz=116
JMI Jan Mayen 94.89 17 *e*P **P** **09 03 32.2 -1.9**
JMI IVmB_BB 09 03 34.7
comp=Z,9μm,3.5s
JMI *e*pP **pP** **09 04 37.1 -2.0**
JMI *e*PP **PP** **09 07 26.6 -0.4**
JMI *e*SKSac **SKSac** **09 13 46.0 +2.8**
JMI *e*SS **SS** **09 20 54.4 -1.5**
JMI IVMs_BB IVMs_BB 09 39 21.4
comp=Z,11μm,4.5s
BCAR Beaver Creek A 94.94 334 P **P** **09 03 34.5 -0.1**
KAIM Kayak Island 94.95 331 P **P** **09 03 34.2 -0.4**
KAIM IAmb IAmb 09 03 41.8
comp=Z,498nm,0.8s
KAIM Kayak Island 94.95 331 P **P** **09 03 33.3 -1.3**
baz=111
KAIM S **S** **09 14 21.2 -3.8**
baz=111
L27K Beaver Creek, 94.95 334 P **P** **09 03 34.1 -0.4**
baz=113,SNR=217
L27K S **S** **09 14 19.5 -5.5**
baz=113
JMIC Jan Mayen 94.98 17 *e*P **P** **09 03 35.9 +1.4**
JMIC IVmB_BB 09 03 40.7
comp=Z,6μm,2.3s
JMIC *e*pP **pP** **09 04 38.9 -0.6**
JMIC *e*PP **PP** **09 07 24.8 -3.0**
JMIC *e*SKSac **SKSac** **09 13 45.5 +1.8**
JMIC *e*SS **SS** **09 21 00.6 +3.4**
JMIC IVMs_BB IVMs_BB 09 30 34.9
comp=Z,7μm,6.6s
JNW Jan Mayen West 95.03 17 *e*P **P** **09 03 35.2 +0.5**
JNW IVmB_BB 09 03 42.1
comp=Z,10μm,6.4s
JNW *e*pP **pP** **09 04 37.2 -2.5**
JNW *e*PP **PP** **09 07 28.4 +0.3**
JNW *e*SKSac **SKSac** **09 13 46.5 +2.6**
JNW *e*SS **SS** **09 20 59.3 +1.5**
JNW IVMs_BB IVMs_BB 09 33 15.7
comp=Z,12μm,6.5s
JNE Jan Mayen East 95.04 17 *e*P **P** **09 03 35.2 +0.5**
JNE IVmBBB 09 03 40.4
comp=Z,5μm,2.1s
JNE *e*pP **pP** **09 04 40.4 +0.6**
JNE *e*PP **PP** **09 07 26.7 -1.5**
JNE *e*SKSac **SKSac** **09 13 45.7 +1.7**
JNE IVMs_BB IVMs_BB 09 31 31.4
comp=Z,7μm,5.2s
G29M Pine Creek 95.06 338 P **P** **09 03 34.1 -0.9**
G29M IAmb IAmb 09 03 41.5
comp=Z,704nm,0.8s
G29M Pine Creek 95.06 338 P **P** **09 03 34.3 -0.6**
baz=116
G29M S **S** **09 14 18.7 -7.1**
baz=116
WATA Walderalm 95.10 42 *i* P **P** **09 03 34.8 -0.9**
comp=Z,310nm,1.5s,SNR=64
WATA *i* pP **pP** **09 04 43.2 +2.7**
comp=Z,456nm,1.4s,SNR=9.7
WATA *e*PP **PP** **09 07 25.1 -4.3**
comp=Z,294nm,1.4s
WATA *i* PKKP **PKKPdf** **09 20 27.4 -3.4**
comp=Z,20nm,0.9s
WATA *e*P'P' 09 28 36.6
comp=Z,24nm,1.2s
WTTA Wattenberg 95.12 43 *i* P **P** **09 03 35.1 -0.8**
comp=Z,632nm,1.8s,SNR=117
WTTA *e*pP **pP** **09 04 43.4 +2.7**
comp=Z,576nm,1.5s
WTTA *e*PP **PP** **09 07 25.0 -4.7**
comp=Z,311nm,1.9s
WTTA *i* PKKP **PKKPdf** **09 20 27.3 -3.5**
comp=Z,23nm,0.7s
WTTA *i* P'P' 09 28 36.4
comp=Z,33nm,1.1s
KMY Karmoy 95.15 30 *e*P **P** **09 03 36.0 +0.6**
KMY *e*pP **pP** **09 04 39.5 -0.9**
KMY *e*PP **PP** **09 07 26.6 -2.6**
KMY *e*SKSac **SKSac** **09 13 45.5 +0.5**
KMY *e*SP **SP** **09 15 48.9 +3.3**
KMY *e*SS **SS** **09 21 03.8 +3.8**
I28M Miner Creek 95.15 337 P **P** **09 03 34.4 -1.1**
baz=114
I28M S **S** **09 14 20.4 -6.3**
baz=114
M26K Nabesna, AK 95.20 333 P **P** **09 03 34.8 -1.0**
baz=112
M26K S **S** **09 14 21.7 -5.6**
baz=112
BMRM Bremner River 95.40 332 P **P** **09 03 36.3 -0.4**
BMRM Bremner River 95.40 332 P **P** **09 03 35.7 -1.0**
baz=110,SNR=63
BMRM S **S** **09 14 21.9 -7.1**
baz=110
K27K Chicken 95.43 335 P **P** **09 03 36.7 +0.1**
baz=112,SNR=278
K27K S **S** **09 14 24.1 -4.9**
baz=112
GRFO Grafenberg 95.52 40 P **P** **09 03 36.9 -0.5**
GRFO Grafenberg 95.52 40 P **P** **09 03 36.9 -0.5**
GRFO pmax pmax
comp=Z,216nm,1.1s
SUE Sulen 95.55 28 *e*P **P** **09 03 37.9 +0.6**
SUE IVmB_BB 09 03 44.0
comp=Z,2μm,5.6s
SUE *e*pP **pP** **09 04 40.0 -1.9**
SUE *e*PP **PP** **09 07 32.2 -0.1**
SUE *e*SKSac **SKSac** **09 13 43.9 -3.2**
SUE *e*SP **SP** **09 15 48.2 -1.8**
SUE *e*SS **SS** **09 21 07.2 +1.5**
SUE IVMs_BB IVMs_BB 09 41 12.8
comp=Z,6μm,22.2s
ABTA Abfaltersbach 95.56 43 *e*P **P** **09 03 36.9 -0.9**
comp=Z,230nm,1.1s,SNR=74
ABTA *e*pP **pP** **09 04 44.6 +2.1**
comp=Z,302nm,1.3s
ABTA *e*PP **PP** **09 07 34.1 +1.2**
comp=Z,168nm,1.4s
ABTA *i* PKKP **PKKPbc** **09 20 25.4 -4.3**
comp=Z,21nm,0.9s
ABTA *i* P'P' 09 28 35.7
comp=Z,22nm,1.3s
ASK Askoy 95.56 29 *e*P **P** **09 03 37.7 +0.4**
ASK IVmB_BB 09 03 42.9
comp=Z,2μm,2.2s
ASK *e*pP **pP** **09 04 40.9 -1.4**
ASK *e*PP **PP** **09 07 31.6 -0.8**
ASK *e*SKSac **SKSac** **09 13 46.4 -0.7**
ASK *e*SP **SP** **09 15 51.0 +0.9**
ASK *e*SS **SS** **09 21 10.5 +4.7**
ASK IVMs_BB IVMs_BB 09 37 20.2
comp=Z,7μm,21.8s
L26K Log Cabin Wild 95.58 334 P **P** **09 03 36.7 -0.8**
baz=112,SNR=40
L26K S **S** **09 14 24.7 -5.7**
baz=112
BER Bergen 95.59 29 *e*P **P** **09 03 38.0 +0.6**
BER IVmB_BB 09 03 43.1
comp=Z,1μm,2.3s
BER *e*pP **pP** **09 04 40.0 -2.4**
BER *e*PP **PP** **09 07 32.0 -0.6**
BER *e*SKSac **SKSac** **09 13 47.4 +0.2**
BER *e*SP **SP** **09 15 50.0 -0.4**
BER *e*SS **SS** **09 21 11.3 +5.1**
BER IVMs_BB IVMs_BB 09 37 22.6
comp=Z,6μm,15.9s
N25K Chitina, Valde 95.62 332 P **P** **09 03 37.5 -0.2**
baz=110,SNR=54
N25K S **S** **09 14 22.8 -8.1**
baz=110
E29M Blow River 95.67 340 P **P** **09 03 36.7 -1.0**
baz=116,SNR=324
E29M S **S** **09 14 24.5 -6.4**
baz=116
Q23K Middleton Isla 95.70 330 P **P** **09 03 35.9 -2.0**
baz=109
Q23K S **S** **09 14 25.2 -6.2**
baz=109
EYAK Cordova Ski Ar 95.78 331 P **P** **09 03 37.3 -1.0**
baz=110,SNR=56
EYAK S S 09 14 22.9 -9.2
baz=110
BLS5 Blasjo 95.80 30 *e*P **P** **09 03 40.5 +2.0**
BLS5 IVmB_BB 09 03 44.4
comp=Z,1μm,2.2s
BLS5 *e*pP **pP** **09 04 44.9 +1.4**
BLS5 *e*PP **PP** **09 07 33.9 -0.4**
BLS5 *e*SKSac **SKSac** **09 13 49.5 +1.0**
BLS5 *e*SP **SP** **09 15 55.0 +2.1**
BLS5 *e*SS **SS** **09 21 13.8 +4.5**
BLS5 IVMs_BB IVMs_BB 09 41 33.4
comp=Z,8μm,21.5s
SNART Snartemo 95.83 31 *e*P **P** **09 03 38.9 +0.4**
SNART IVmBBB 09 03 45.0
comp=Z,3μm,1.8s
SNART *e*pP **pP** **09 04 41.4 -2.1**
SNART *e*PP **PP** **09 07 34.3 -0.2**
SNART *e*SKSac **SKSac** **09 13 47.3 -1.3**
SNART *e*SP **SP** **09 15 50.6 -2.5**
SNART Snartemo 95.83 31 *i* P **P** **09 03 36.0 -2.6**
CEL Celeste 95.83 52 P **P** **09 03 37.4 -1.8**
LESA Schwarzleotal 95.84 43 *e*P **P** **09 03 38.0 -1.0**
comp=Z,65nm,0.7s,SNR=47
LESA *e*pP **pP** **09 04 46.0 +2.2**
comp=Z,282nm,1.7s
LESA *i* PP **PP** **09 07 37.9 +2.8**
comp=Z,555nm,1.4s
LESA *i* PKKP **PKKPbc** **09 20 26.0 -3.0**
comp=Z,20nm,0.6s
LESA *i* P'P' 09 28 36.3
comp=Z,19nm,1.3s
I27K Kandik River 95.85 337 P **P** **09 03 36.9 -1.7**
baz=113,SNR=133
I27K S **S** **09 14 26.3 -6.4**
baz=113
FOO Floro 95.87 28 *e*P **P** **09 03 39.9 +1.3**
FOO IVmB_BB 09 03 47.5
comp=Z,2μm,7.2s
FOO *e*pP **pP** **09 04 42.2 -1.2**
FOO *e*PP **PP** **09 07 32.8 -1.9**
FOO *e*SKSac **SKSac** **09 13 47.3 -1.3**
FOO *e*S **ScS** **09 14 33.4 +0.2**
FOO *e*SP **SP** **09 15 53.9 +0.5**
FOO *e*SS **SS** **09 21 10.3 +0.3**
FOO *e*SS SS 09 21 13.0 +3.0
FOO IVMs_BB IVMs_BB 09 35 24.9
comp=Z,5μm,12.7s
F28M Old Crow 96.01 339 P **P** **09 03 38.3 -1.0**
F28M IAmb IAmb 09 03 45.6
comp=Z,420nm,0.9s
F28M Old Crow 96.01 339 P **P** **09 03 38.1 -1.1**
baz=114,SNR=222
F28M S **S** **09 14 26.7 -7.2**
baz=114
ODD1 Odda 96.04 30 *e*P **P** **09 03 41.5 +1.9**
ODD1 IVmB_BB 09 03 46.7
comp=Z,1μm,6.6s
ODD1 *e*pP **pP** **09 04 43.7 -1.0**
ODD1 *e*PP **PP** **09 07 35.2 -1.0**
ODD1 *e*SKSac **SKSac** **09 13 48.3 -1.5**
ODD1 *e*SP **SP** **09 15 53.6 -1.8**
ODD1 *e*SS **SS** **09 21 16.8 +4.0**
ODD1 IVMs_BB IVMs_BB 09 41 39.8
comp=Z,7μm,21.7s
H27K Steamboat Moun 96.06 337 P **P** **09 03 38.7 -0.9**
baz=113
H27K S **S** **09 14 28.3 -6.2**
baz=113
SABO M.te Sabotino 96.08 44 P **P** **09 03 39.3 -0.8**
SABO IAmb IAmb 09 04 53.3
comp=Z,3μm,2.6s
DAG Danmarks Havn 96.09 10 *i* P **P** **09 03 37.9 -1.5**
DAG IAmb IAmb 09 03 45.6
comp=Z,117nm,1.3s
DOT Dot Lake 96.11 334 P **P** **09 03 39.1 -0.7**
HARP HAARP 96.14 333 P **P** **09 03 39.3 -0.6**
baz=110,SNR=40
HARP S **S** **09 14 27.9 -7.3**
baz=110
KLU Klutina 96.18 332 P **P** **09 03 39.7 -0.6**
baz=109,SNR=215
KLU S **S** **09 14 28.1 -7.7**
baz=109
FID Port Fidalgo 96.19 331 P **P** **09 03 39.4 -0.8**
FID IAmb IAmb 09 03 46.4
comp=Z,423nm,1.0s
SCRK Sand Creek 96.19 335 P **P** **09 03 39.4 -0.9**
baz=111,SNR=258
SCRK S **S** **09 14 29.9 -6.0**
baz=111
KBA Koelnbreinsper 96.19 43 *e*P **P** **09 03 39.4 -1.4**
comp=Z,63nm,1.2s,SNR=20
KBA *e*pP **pP** **09 04 47.8 +2.3**
comp=Z,128nm,1.4s
KBA *e*PP **PP** **09 07 38.5 +0.6**
comp=Z,442nm,1.4s
KBA *i* PKKP **PKKPbc** **09 20 25.8 -2.4**
comp=Z,24nm,0.8s
KBA *i* P'P' 09 28 35.9
comp=Z,17nm,1.5s
J26L Joseph Creek 96.21 335 P **P** **09 03 39.5 -0.8**
baz=111
J26L S **S** **09 14 30.6 -5.3**
baz=111
SSRD Sdr. Stenderup 96.23 34 *i* P **P** **09 03 41.3 +0.9**
SSRD IAmb IAmb 09 03 46.1
comp=Z,292nm,0.9s
CADS Cadrg 96.24 44 *i* Pdiff **P** **09 03 39.7 -1.2**
CADS *i* 09 03 45.3
CADS *e*pP **pP** **09 04 47.5 +1.9**
CADS *e*sP **sP** **09 05 14.2 +0.7**
CADS *e*PP **PP** **09 07 37.1 -1.0**
CADS *e*pPP 09 08 37.8
CADS *e*SKSac **SKSac** **09 13 50.3 -1.1**
CADS *e*S **ScS** **09 14 39.1 +1.9**
CADS *e*SP **SP** **09 15 59.2 +0.9**
CADS *e*PS PS 09 16 35.2 +2.8
CADS *i* 09 20 31.2
CADS *i* 09 21 04.0
CADS *e*SS **SS** **09 21 13.4 -2.8**
CADS *e* 09 23 45.9
CADS *i* P'P'df P'P'df 09 28 34.2 -6.0
CADS *e* 09 28 47.8
HYA Hoyanger 96.24 28 *e*P **P** **09 03 41.0 +0.6**
HYA IVmB_BB 09 03 49.0
comp=Z,2μm,2.6s
HYA *e*pP **pP** **09 04 44.2 -1.2**
HYA *e*PP **PP** **09 07 37.3 -0.3**
HYA *e*SKSac **SKSac** **09 13 48.6 -2.0**
HYA *e*SP **SP** **09 15 56.4 -1.2**
HYA *e*SS **SS** **09 21 19.3 +4.0**
HYA IVMs_BB IVMs_BB 09 41 32.2
comp=Z,6μm,24.1s
MUD Monsted U'grnd 96.26 33 *i* P **P** **09 03 40.8 +0.3**
MUD IAmb IAmb 09 03 46.9
comp=Z,349nm,1.0s
MYKA Terra Mystica 96.28 44 *i* P **P** **09 03 40.5 -0.5**
comp=Z,100nm,1.1s,SNR=36
MYKA *i* pP **pP** **09 04 48.5 +2.7**
comp=Z,168nm,1.4s,SNR=7.4
MYKA *i* PP **PP** **09 07 38.9 +0.5**
comp=Z,566nm,1.4s
MYKA *i* PKKP **PKKPbc** **09 20 25.0 -2.8**
comp=Z,12nm,0.7s
MYKA *i* P'P' 09 28 35.9
comp=Z,14nm,1.2s
E28M Babbage River 96.31 340 P **P** **09 03 39.4 -1.2**
baz=114,SNR=139
E28M S **S** **09 14 29.0 -7.4**
baz=114
G27K Doyon Strip 96.33 338 P **P** **09 03 39.7 -1.1**
G27K Doyon Strip 96.33 338 P **P** **09 03 39.3 -1.4**
baz=113
G27K S **S** **09 14 29.8 -6.9**
baz=113
I26K Coal Creek Min 96.34 336 P **P** **09 03 39.7 -1.1**
baz=111
I26K S **S** **09 14 29.8 -6.9**
baz=111
D28M Stokes Point 96.34 341 P **P** **09 03 39.9 -0.8**
baz=115
D28M S **S** **09 14 29.9 -6.7**
baz=115
P23K Montague Islan 96.39 330 P **P** **09 03 40.0 -1.1**
baz=108,SNR=34
NKC Novy Kostel 96.43 40 *e*PDIFF **P** **09 03 41.3 -0.3**
NKC *e*pP **pP** **09 04 48.2 +1.8**
NKC *e*SKS **SKSac** **09 13 53.8 +1.6**
NKC Novy Kostel 96.43 40 *e*P **P** **09 03 41.3 -0.3**
NKC *e* 09 13 53.8
HOMB Homborsund 96.45 31 *e*P **P** **09 03 42.2 +0.8**
HOMB IVmB_BB 09 03 47.2
comp=Z,1μm,1.9s
HOMB *e*pP **pP** **09 04 48.4 +2.0**
HOMB *e*PP **PP** **09 07 40.3 +1.0**
HOMB *e*SKSac **SKSac** **09 13 52.6 +0.7**
HOMB *e*SP **SP** **09 16 00.2 +0.3**
HOMB *e*SS **SS** **09 21 21.2 +2.8**
HOMB IVMs_BB IVMs_BB 09 32 33.0
comp=Z,9μm,23.2s
HOMB Homborsund 96.45 31 *i* P **P** **09 03 41.1 -0.3**
GOET G??ttrup 96.46 33 *i* P **P** **09 03 43.0 +1.6**
GOET IAmb IAmb 09 03 47.3
comp=Z,189nm,0.8s
RIDG Independent Ri 96.47 334 P **P** **09 03 40.6 -0.9**
baz=110,SNR=80
RIDG S **S** **09 14 30.7 -7.3**
baz=110
PAX Paxson 96.47 334 P **P** **09 03 40.9 -0.7**
PAX Paxson 96.47 334 P **P** **09 03 40.9 -0.7**
PAX pmax pmax
comp=Z,283nm,0.9s
PAX Paxson 96.47 334 P **P** **09 03 40.6 -1.0**
baz=110,SNR=171
PAX S **S** **09 14 29.7 -8.5**
baz=110
M24K Tolsona, Glenn 96.49 333 P **P** **09 03 41.1 -0.5**
baz=109,SNR=81
GLI Glacier Island 96.52 331 P **P** **09 03 40.6 -1.0**
GLI IAmb IAmb 09 03 47.6
comp=Z,512nm,1.0s

GLI	**Glacier Island**	**96.52**	**331**	P	**P**	**09 03 40.4**	**-1.2**
	baz=108,SNR=92						
GLI				S	S	09 14 29.2	-9.3
	baz=108						
BIOA	**Bad Ischl, Aus**	**96.54**	**43**	*i* P	**P**	**09 03 40.9**	**-1.2**
	comp=Z,201nm,1.3s,SNR=31						
BIOA				*e*pP	**pP**	**09 04 49.0**	**+2.1**
	comp=Z,169nm,1.7s						
BIOA				*e*PP	PP	09 07 48.8	+8.4
	comp=Z,241nm,1.2s						
BIOA				*i* PKKP	**PKKPbc**	**09 20 25.6**	**-1.5**
	comp=Z,36nm,1.4s						
BIOA				*i* P'P'		09 28 34.5	
	comp=Z,19nm,1.4s						
TIP	**Timpagrande**	**96.70**	**51**	⇑P	**P**	**09 03 42.3**	**-0.8**
TIP	**Timpagrande**	**96.70**	**51**	⇑P	**PKKPbc**	**09 20 28.3**	**+2.0**
TIP	**Timpagrande**	**96.70**	**51**	P	**P**	**09 03 41.8**	**-1.3**
	comp=Z,789nmcomp=Z,27nm,1.2s						
LJU	**Ljubljana**	**96.73**	**44**	*i* Pdiff	**P**	**09 03 41.6**	**-1.4**
LJU				*i*		09 03 47.6	
LJU				*i* pP	**pP**	**09 04 49.9**	**+2.1**
LJU				*e*PP	**PP**	**09 07 42.0**	**+0.2**
LJU				*e*pPP		09 08 40.2	
LJU				*e*		09 09 09.2	
LJU				*i* SKSac	**SKSac**	**09 13 53.4**	**-0.6**
LJU				*e*S	**ScS**	**09 14 41.9**	**+0.8**
LJU				*i* SP	SP	09 16 05.5	+1.9
LJU				*e*		09 17 32.0	
LJU				*i* PKKPbc	**PKKPbc**	**09 20 24.6**	**-1.9**
LJU				*i*		09 20 30.3	
LJU				*e*		09 21 01.7	
LJU				*i* P'P'df	P'P'df	09 28 31.4	-7.9
LJU				*e*		09 28 42.0	
E27K	**Coleen River**	**96.84**	**339**	P	**P**	**09 03 42.5**	**-0.5**
	baz=112,SNR=229						
E27K				S	**S**	**09 14 33.1**	**-7.9**
	baz=112						
OBKA	**Obir**	**96.85**	**44**	*e*P	**P**	**09 03 43.0**	**-0.6**
	comp=Z,79nm,1.0s,SNR=12						
OBKA				*e*pP	**pP**	**09 04 50.4**	**+1.9**
	comp=Z,117nm,1.3s,SNR=9.1						
OBKA				*e*PP	**PP**	**09 07 43.0**	**+0.1**
	comp=Z,592nm,1.5s						
OBKA				*i* PKKP	**PKKPbc**	**09 20 24.0**	**-2.2**
	comp=Z,40nm,1.1s						
OBKA				*i* P'P'		09 28 37.7	
	comp=Z,24nm,1.2s						
KHC	**Kasperske Hory**	**96.86**	**41**	*e*PDIFF	**P**	**09 03 41.2**	**-2.4**
KHC				*e*pP	**pP**	**09 04 49.1**	**+0.7**
KHC				*e*x	x	09 07 18.7	
KHC				*e*PP	**PP**	**09 07 45.0**	**+2.2**
KHC				*e*SKS	**SKSac**	**09 13 54.5**	**0.0**
KHC				*e*PKKP	**PKKPbc**	**09 20 24.4**	**-1.9**
KHC				*e*PKPPKP	**P'P'df**	**09 28 37.6**	**-1.4**
KHC				AMS	AMS	09 42 40.0	
	comp=Z,14μm,18.8s						
KHC	**Kasperske Hory**	**96.86**	**41**	*e*P	**P**	**09 03 41.2**	**-2.4**
KHC				*e*		09 07 45.0	
KHC				*e*		09 13 54.5	
KHC				MLR	MLR		
	comp=Z,14μm,18.8s						
KHC	**Kasperske Hory**	**96.86**	**41**	P	**P**	**09 03 42.5**	**-1.1**
	comp=Z,2μmcomp=Z,66nm,1.6s						
GEC2	**GERESS Array S**	**96.87**	**41**	P	**P**	**09 03 42.3**	**-1.4**
GERES	**GERESS Array B**	**96.87**	**41**	P	**P**	**09 03 42.2**	**-1.5**
GERES	**GERESS Array B**	**96.87**	**41**	P	**P**	**09 03 42.7**	**-1.0**
	comp=Z,20nm,0.9s,baz=242,slow=2.9,SNR=22						
GERES				pP	**pP**	**09 04 46.6**	**-1.9**
	comp=Z,36nm,1.1s,baz=208,slow=6.1,SNR=1.3						
GERES				PP	**PP**	**09 07 39.8**	**-3.2**
	comp=Z,32nm,1.0s,baz=243,slow=9.8,SNR=6.3						
GERES				PKKPbc	**PKKPdf**	**09 20 27.2**	**-0.3**
	comp=Z,6.3nm,0.5s,baz=98,slow=2.1,SNR=14						
GERES				PKPPKP		09 28 36.5	
	comp=Z,7.3nm,1.1s,baz=76,slow=4.8,SNR=7.7						
	comp=Z,20nm,0.9s						
K24K	**Donnelly Dome**	**96.88**	**334**	P	**P**	**09 03 43.0**	**-0.3**
	baz=109,SNR=51						
K24K				S	**S**	**09 14 32.6**	**-9.0**
	baz=109						
SCM	**Sheep Creek Mo**	**96.92**	**332**	P	**P**	**09 03 43.0**	**-0.5**
	baz=108,SNR=53						
SCM				S	**S**	**09 14 34.1**	**-8.0**
	baz=108						
AKN	**Aaknes**	**96.93**	**27**	*e*P	**P**	**09 03 44.1**	**+0.6**
AKN				IVmBBB		09 03 50.5	
	comp=Z,2μm,2.2s						
AKN				*e*pP	**pP**	**09 04 47.1**	**-1.5**
AKN				*e*PP	**PP**	**09 07 42.3**	**-0.7**
AKN				*e*SKSac	**SKSac**	**09 13 53.7**	**-0.6**
AKN				*e*SP	**SP**	**09 16 04.6**	**-0.4**
AKN				*e*SS	**SS**	**09 21 23.6**	**-1.5**
AKN				IVMs_BB	IVMs_BB	09 39 37.6	
	comp=Z,6μm,24.4s						
J25K	**Salcha River,**	**96.98**	**335**	P	**P**	**09 03 43.0**	**-0.8**
	baz=110						
J25K				S	**S**	**09 14 35.7**	**-6.7**
	baz=110						
MOA	**Molln**	**96.99**	**42**	*e*P	**P**	**09 03 43.2**	**-1.0**
	comp=Z,128nm,1.1s,SNR=16						
MOA				*e*pP	**pP**	**09 04 51.3**	**+2.4**
	comp=Z,196nm,1.5s,SNR=6.1						
MOA				*e*PP	**PP**	**09 07 45.4**	**+1.6**
	comp=Z,161nm,1.2s						
MOA				*i* PKKP	**PKKPbc**	**09 20 23.5**	**-2.3**
	comp=Z,19nm,0.7s						
MATE	**Matera**	**97.00**	**50**	⇑P	**PKKPbc**	**09 20 28.4**	**+3.0**
MATE	**Matera**	**97.00**	**50**	*e*P	**P**	**09 03 47.4**	**+3.1**
D27M	**Malcolm River**	**97.03**	**340**	P	**P**	**09 03 43.5**	**-0.4**
	baz=113						
D27M				S	**S**	**09 14 35.7**	**-7.0**
	baz=113						
CLL	**Collm**	**97.05**	**39**	*i* P	**P**	**09 03 43.7**	**-0.6**
CLL				*e*		09 07 39.0	
CLL				*e*		09 13 56.0	
CLL				*e*S	**S**	**09 14 50.0**	**+6.6**
CLL				pmax	pmax		
	comp=Z,142nm,1.3s						
CLL	**Collm**	**97.05**	**39**	P	**P**	**09 03 43.2**	**-1.1**
	comp=Z,2μmcomp=Z,87nm,1.4s						
CLL	**Collm**	**97.05**	**39**	*i* Pdif	**P**	**09 03 43.7**	**-0.6**
	comp=Z,142nm,1.3s						
CLL				*i* pP	**pP**	**09 04 51.1**	**+1.6**
	comp=Z,457nm,1.8s						
CLL				*e*sP	**sP**	**09 05 20.0**	**+2.6**
CLL				*i* x	x	09 06 09.1	
CLL				*e*x	x	09 07 24.0	
CLL				*e*PP	**PP**	**09 07 39.0**	**-5.1**
	comp=Z,273nm,1.5s						
CLL				*e*pPP		09 08 42.0	
CLL				*e*PPP	PPP	09 09 50.0	
CLL				*e*PPPP		09 11 30.0	
CLL				*e*SKSac	**SKSac**	**09 13 56.0**	**+0.7**
CLL				*e*Sdif	Sdif	09 14 50.0	+6.5
CLL				*e*x	x	09 15 13.0	
CLL				*e*x	x	09 15 41.0	
CLL				*e*SP	**SP**	**09 16 10.0**	**+3.3**
CLL				*e*x	x	09 16 18.0	
CLL				*e*PS	**PS**	**09 16 49.0**	**+8.2**
CLL				*e*PPS	PPS	09 17 35.0	
CLL				*e*x	x	09 18 12.0	
CLL				*e*PKKPbc	**PKKPbc**	**09 20 23.0**	**-2.8**
CLL				*i* PKKPmax		09 20 29.3	
	comp=Z,18nm,0.7s						
CLL				*e*x	x	09 20 36.0	
CLL				*e*x	x	09 21 00.0	
CLL				*e*SS	**SS**	**09 21 25.0**	**-2.2**
CLL				*e*pPKKPbc		09 21 28.0	
CLL				*e*x	x	09 21 45.0	
CLL				*e*sSS		09 23 18.0	
CLL				*e*x	x	09 23 39.0	
CLL				*e*x	x	09 23 47.0	
CLL				*e*SSS	SSS	09 25 18.0	
CLL				*e*x	x	09 28 28.0	
CLL				*e*PKPPKPdf	**P'P'df**	**09 28 37.0**	**-1.6**
	comp=Z,28nm,1.2s						
CLL				*e*SKPPKPdf		09 31 41.0	
CLL				*e*x	x	09 31 55.0	
	comp=Z,71nm,1.7s						
CLL				*e*x	x	09 35 09.0	
SKAR	**Skarslia**	**97.08**	**29**	*e*P	Pdif	09 03 46.2	+1.9
SKAR				IVmB_BB		09 03 53.0	
	comp=Z,1μm,2.5s						
SKAR				*e*pP	pP	09 04 48.0	-1.3
SKAR				*e*PP	**PP**	**09 07 42.9**	**-1.3**
SKAR				*e*SKSac	**SKSac**	**09 13 53.9**	**-1.3**
SKAR				*e*SP	**SP**	**09 16 08.0**	**+1.3**
SKAR				*e*SS	**SS**	**09 21 30.4**	**+3.1**
SKAR				IVMs_BB	IVMs_BB	09 32 16.4	
	comp=Z,6μm,49.6s						
PWL	**Port Wells**	**97.09**	**331**	P	**P**	**09 03 43.1**	**-1.3**
PWL	**Port Wells**	**97.09**	**331**	P	**P**	**09 03 43.0**	**-1.3**
	baz=107,SNR=84						
PWL				S	S	09 14 33.1	-10
	baz=107						
M23K	**Glacier View**	**97.09**	**332**	P	**P**	**09 03 43.0**	**-1.3**
	baz=108,SNR=101						
M23K				S	**S**	**09 14 37.6**	**-5.8**
	baz=108						
HSKC	**Hora Svate Kat**	**97.14**	**40**	*e*PDIFF	**P**	**09 03 43.3**	**-1.4**
HSKC				*e*pP	**pP**	**09 04 50.9**	**+1.3**
HSKC				*e*SKS	**SKSac**	**09 13 57.2**	**+1.3**
G26K	**Porcupine Rive**	**97.17**	**338**	P	**P**	**09 03 43.9**	**-0.5**
	baz=111						
G26K				S	**S**	**09 14 39.0**	**-4.8**
	baz=111						
SOKA	**Soboth**	**97.22**	**44**	*e*PcP	Pdif	09 03 45.7	+0.4
	comp=Z,40nm,1.2s,SNR=7.5						
SOKA				*e*pP	pP	09 04 52.2	+2.1
	comp=Z,56nm,1.4s						
SOKA				*e*PP	**PP**	**09 07 38.1**	**-7.5**
	comp=Z,108nm,1.1s						
SOKA				*i* PKKP	**PKKPbc**	**09 20 23.8**	**-1.4**
	comp=Z,80nm,1.5s,SNR=7.6						
SOKA				*i* P'P'		09 28 34.5	
	comp=Z,16nm,1.3s						
MOL	**Molde**	**97.30**	**27**	*e*P	Pdif	09 03 47.1	+1.9
MOL				IVmB_BB		09 03 52.0	
	comp=Z,1μm,2.5s						
MOL				*e*pP	pP	09 04 49.7	-0.4
MOL				*e*PP	**PP**	**09 07 45.2**	**-0.5**
MOL				*e*SKSac	**SKSac**	**09 13 56.2**	**+0.2**
MOL				*e*SP	SP	09 16 09.8	+0.9
MOL				*e*SS	**SS**	**09 21 29.7**	**-0.4**
MOL				IVMs_BB	IVMs_BB	09 39 59.6	
	comp=Z,7μm,28.3s						
KNK	**Knik Glacier**	**97.31**	**332**	P	**P**	**09 03 44.5**	**-0.8**
KNK	**Knik Glacier**	**97.31**	**332**	P	**P**	**09 03 44.2**	**-1.1**
	baz=107,SNR=69						
KNK				S	**S**	**09 14 39.5**	**-5.7**
	baz=107						
ZVC	**Zvikov**	**97.33**	**41**	*e*PDIFF	**P**	**09 03 43.9**	**-1.7**
ZVC				*e*pP	**pP**	**09 04 51.4**	**+0.9**
ZVC				*e*SKS	**SKSac**	**09 13 54.4**	**-2.4**
PUZ	**Puketiti**	**97.33**	**228**	P	Pdif	09 03 46.1	+0.1
KNZ	**Kokohu**	**97.34**	**227**	P	Pdif	09 03 46.5	+0.5
PRP	**Porcupine Dome**	**97.34**	**336**	P	**P**	**09 03 45.2**	**-0.3**
PRP	**Porcupine Dome**	**97.34**	**336**	P	**P**	**09 03 44.8**	**-0.7**
	baz=109,SNR=54						
PRP				S	**S**	**09 14 40.7**	**-4.9**
	baz=109						
SML	**Sawmill**	**97.37**	**332**	P	**P**	**09 03 45.1**	**-0.4**
SML				IAmb	IAmb	09 03 51.8	
	comp=Z,729nm,1.0s						
SML	**Sawmill**	**97.37**	**332**	P	**P**	**09 03 44.8**	**-0.8**
	baz=107,SNR=131						
SML				S	**S**	**09 14 39.5**	**-6.3**
	baz=107						
KONO	**Kongsberg**	**97.40**	**30**	P	Pdif	09 03 46.3	+0.6
KONO	**Kongsberg**	**97.40**	**30**	*e*P	Pdif	09 03 46.4	+0.7
KONO				IVmB_BB		09 03 52.6	
	comp=Z,2μm,16.0s						
KONO				*e*pP	pP	09 04 48.8	-1.9
KONO				*e*PP	**PP**	**09 07 45.9**	**-0.6**
KONO				*e*SKSac	**SKSac**	**09 13 55.4**	**-1.3**
KONO				*e*SP	**SP**	**09 16 11.1**	**+1.0**
KONO				*e*SS	**SS**	**09 21 32.5**	**+0.8**
KONO				IVMs_BB	IVMs_BB	09 42 30.4	
	comp=Z,7μm,21.9s						
KONO	**Kongsberg**	**97.40**	**30***c*	*i* P	**P**	**09 03 44.8**	**-0.8**
KONO				pmax	pmax		
	comp=Z,109nm,1.6s						
SEW	**Seward**	**97.40**	**330**	P	**P**	**09 03 44.6**	**-1.0**
	baz=106,SNR=54						
SEW				S	**S**	**09 14 39.6**	**-6.3**
	baz=106						
PXZ	**Pawanui**	**97.47**	**225**	P	Pdif	09 03 48.3	+1.8
MXZ	**Matakaoa Point**	**97.51**	**228**	P	Pdif	09 03 50.8	+4.0
AFI	**Afiamalu**	**97.51**	**254**	P	Pdif	09 03 52.3	+4.9
BRG	**Berggiesshubel**	**97.52**	**39‖**	*e*Pif		09 03 45.9	
BRG				Amp		09 03 47.8	
	comp=Z,19nm,1.2s						
BRG	**Berggiesshubel**	**97.52**	**39**	Amp		09 03 54.3	
	comp=Z,129nm,1.2s						
BRG	**Berggiesshubel**	**97.52**	**39**	Amp		09 04 59.4	
	comp=Z,272nm,1.5s						
BRG	**Berggiesshubel**	**97.52**	**39**	Amp		09 07 53.1	
	comp=Z,211nm,1.5s						
BRG				PP	**PP**	**09 07 47.6**	**-0.1**
BRG	**Berggiesshubel**	**97.52**	**39**	⇑SKS	**SKSac**	**09 13 59.0**	**+1.3**
BRG	**Berggiesshubel**	**97.52**	**39**	S	**S**	**09 14 56.0**	**+8.6**
BRG	**Berggiesshubel**	**97.52**	**39**	SP	SP	09 16 12.0	+0.2
BRG	**Berggiesshubel**	**97.52**	**39**	SS	SS	09 21 29.0	-4.8
BRG	**Berggiesshubel**	**97.52**	**39**	P	Pdif	09 03 51.0	+4.6
BRG	**Berggiesshubel**	**97.52**	**39**	pP	pP	09 04 53.7	+2.4
RICC	**Richard**	**97.53**	**40**	*e*PDIFF	Pdif	09 03 46.6	+0.1
RICC				*e*SKS	**SKSac**	**09 13 57.9**	**+0.1**
F26K	**Sheenjek River**	**97.56**	**338**	Pdiff	Pdif	09 03 46.3	0.0
	baz=110						
F26K				S	**S**	**09 14 43.1**	**-4.1**
	baz=110						
HDA	**Harding Lake**	**97.56**	**335**	P	**P**	**09 03 45.1**	**-1.2**
HDA	**Harding Lake**	**97.56**	**335**	Pdiff	**P**	**09 03 45.4**	**-0.9**
	baz=108						
HDA				S	**S**	**09 14 40.0**	**-7.2**
	baz=108						
FYU	**Fort Yukon**	**97.58**	**337**	P	**P**	**09 03 46.1**	**-0.1**
FYU				IAmb	IAmb	09 03 53.5	
	comp=Z,788nm,1.2s						
BFZ	**Birch Farm**	**97.60**	**225**	P	Pdif	09 03 51.2	+4.0
PRA	**Prague**	**97.63**	**40**	*e*PDIFF	**P**	**09 03 44.8**	**-2.1**
PRA				*e*pP	**pP**	**09 04 53.0**	**+1.2**
PRA	**Prague**	**97.63**	**40**	*e*P	**P**	**09 03 44.8**	**-2.1**
O22K	**Cooper Landing**	**97.64**	**331**	Pdiff	**P**	**09 03 45.9**	**-0.8**
	baz=106						
O22K				S	**S**	**09 14 40.3**	**-7.6**
	baz=106						
ILAR	**Eielson Array**	**97.65**	**335**	P	**P**	**09 03 45.5**	**-1.2**
	comp=Z,20nm,0.9s,baz=136,slow=3.1,SNR=133						
ILAR				PP	**PP**	**09 07 46.0**	**-2.4**
	comp=Z,86nm,1.0s,baz=112,slow=7.8,SNR=9.0						
ILAR				S	**SKSac**	**09 13 57.1**	**-0.7**
	comp=Z,16nm,1.1s,baz=114,slow=1.1,SNR=6.3						
ILAR				PKKPbc	**PKKPbc**	**09 20 22.6**	**-2.1**
	comp=Z,5.9nm,0.6s,baz=276,slow=3.0,SNR=5.4						
ILAR				PKPPKP	**P'P'df**	**09 28 36.9**	**-0.5**
	comp=Z,5.7nm,1.1s,baz=291,slow=3.5,SNR=6.5						
	comp=Z,20nm,0.9s						
PMR	**Palmer**	**97.67**	**332**	Pdiff	**P**	**09 03 45.8**	**-1.0**
	baz=107						
PMR				S	S	09 14 38.4	-10
	baz=107						
ARSA	**Arzberg**	**97.68**	**43**	*e*Pdiff	**P**	**09 03 46.1**	**-1.1**
	comp=Z,42nm,0.9s,SNR=12						
ARSA				*e*pP	**pP**	**09 04 53.0**	**+0.9**
	comp=Z,83nm,1.4s						
ARSA				*i* PP	**PP**	**09 07 47.5**	**-1.6**
	comp=Z,97nm,1.3s						
ARSA				*i* PKKP	**PKKPbc**	**09 20 23.5**	**-0.5**
	comp=Z,19nm,0.7s						
ARSA				*e*P'P'		09 28 33.7	
	comp=Z,24nm,1.4s						
PRU	**Pruhonice**	**97.68**	**40**	*e*PDIFF	**P**	**09 03 44.1**	**-3.0**
PRU				*e*pP	**pP**	**09 04 53.7**	**+1.7**
PRU				*e*x	x	09 07 24.9	
PRU				*e*SKS	**SKSac**	**09 13 58.7**	**+0.1**
PRU	**Pruhonice**	**97.68**	**40**	*e*P	**P**	**09 03 44.1**	**-3.0**
PRU				*e*		09 13 58.7	
H25L	**Birch Creek**	**97.70**	**337**	Pdiff	Pdif	09 03 47.0	+0.1
	baz=109						
MWZ	**Matawai**	**97.74**	**227**	P	Pdif	09 03 50.8	+3.0
MWZ				PKiKP	**PKiKP**	**09 08 24.3**	**+3.8**
A050A	**Klekovaca**	**97.74**	**46**	*e*P	**P**	**09 03 46.8**	**-0.9**
RUE	**Ruedersdorf**	**97.80**	**38**	*e*P	Pdif	09 03 47.7	+0.1
HAZ	**Te Kaha**	**97.80**	**228**	P	Pdif	09 03 51.6	+3.5
HAZ				PKiKP	**PKiKP**	**09 08 23.7**	**+3.2**
RC01	**Rabbit Creek A**	**97.81**	**331**	Pdiff	**P**	**09 03 46.9**	**-0.6**
	baz=106						
RC01				S	**S**	**09 14 43.1**	**-6.3**
	baz=106						
GOPC	**GO Pecny, Ondr**	**97.81**	**41**	*e*PDIFF	**P**	**09 03 45.9**	**-1.9**
GOPC				*e*pP	**pP**	**09 04 53.2**	**+0.5**
GOPC				*e*SKS	**SKSac**	**09 14 03.4**	**+4.1**
GOPC	**GO Pecny, Ondr**	**97.81**	**41**	*e*P	**P**	**09 03 45.9**	**-1.9**
GOPC				*e*		09 14 03.4	
PVCC	**Panska Ves**	**97.82**	**40**	*e*PDIFF	**P**	**09 03 47.1**	**-0.7**
PVCC				*e*pP	**pP**	**09 04 53.7**	**+1.0**
PVCC				*e*SKS	**SKSac**	**09 14 00.7**	**+1.4**
PVCC	**Panska Ves**	**97.82**	**40**	*e*P	**P**	**09 03 47.1**	**-0.7**
PVCC				*e*		09 14 00.7	
DOMB	**Dombas**	**97.82**	**28**	*e*P	Pdif	09 03 49.4	+1.8
DOMB				IVmB_BB		09 03 57.8	
	comp=Z,1μm,1.9s						
DOMB				*e*pP	pP	09 04 52.4	-0.2
DOMB				*e*PP	**PP**	**09 07 50.4**	**+0.7**
DOMB				*e*SKSac	**SKSac**	**09 13 57.9**	**-1.0**
DOMB				*e*SP	**SP**	**09 16 15.7**	**+1.0**
DOMB				*e*SS	**SS**	**09 21 39.3**	**+1.7**
DOMB				IVMs_BB	IVMs_BB	09 32 57.0	
	comp=Z,8μm,23.0s						
BRSE	**Bradley Lake S**	**97.92**	**330**	Pdiff	**P**	**09 03 47.2**	**-0.9**
	baz=106						
BRSE				S	**S**	**09 14 43.6**	**-6.9**
	baz=106						
G25K	**Bearman Lake**	**97.97**	**337**	Pdiff	**P**	**09 03 48.0**	**-0.1**
	baz=109						
G25K				S	**S**	**09 14 47.6**	**-2.9**
	baz=109						
ONAU	**Onsala**	**97.97**	**33**	*i* P	**P**	**09 03 48.2**	**0.0**
POKR	**Poker Plat Res**	**97.97**	**335**	Pdiff	**P**	**09 03 47.5**	**-0.6**
	baz=108						
POKR				S	**S**	**09 14 44.2**	**-6.5**
	baz=108						
TJOU	**Tjoern**	**97.98**	**32**	*i* P	**P**	**09 03 48.1**	**-0.2**
KOGS	**Kog**	**97.98**	**44**	*i* Pdiff	**P**	**09 03 47.7**	**-0.9**
KOGS				*i* pP	**pP**	**09 04 55.8**	**+2.3**
KOGS				*e*sP	**sP**	**09 05 23.3**	**+2.0**
KOGS				*e*SKSac	**SKSac**	**09 14 00.2**	**0.0**
KOGS				*e*S	**ScS**	**09 14 54.2**	**+2.7**
KOGS				*i* PKKPbc	**PKKPbc**	**09 20 23.6**	**+0.6**
KOGS				*e*		09 23 42.1	
KOGS				*e*		09 31 51.5	
RTZ	**Ruatahuna**	**98.00**	**227**	P	Pdif	09 03 53.0	+3.9
STRU	**Stroemstad**	**98.01**	**31**	*i* P	**P**	**09 03 47.8**	**-0.6**
OSL	**Oslo**	**98.02**	**30**	*e*P	Pdif	09 03 49.2	+0.8
OSL				*e*pP	pP	09 04 51.3	-2.1
OSL				*e*PP	**PP**	**09 07 52.2**	**+0.9**
OSL				*e*SKSac	**SKSac**	**09 13 58.8**	**-1.0**
OSL				*e*SP	**SP**	**09 16 17.1**	**+0.3**
OSL				*e*SS	**SS**	**09 21 43.4**	**+3.0**
RGN	**Rugen**	**98.03**	**36**	P	**P**	**09 03 48.0**	**-0.6**
CONA	**Conrad Observa**	**98.05**	**43**	*i* Pdiff	**P**	**09 03 48.2**	**-0.8**
	comp=Z,134nm,1.5s,SNR=44						
CONA				*i* pP	**pP**	**09 04 56.7**	**+2.8**
	comp=Z,138nm,1.4s,SNR=8.4						
CONA				*e*PP	**PP**	**09 07 51.7**	**-0.3**
	comp=Z,156nm,1.5s						
CONA				*i* PKKP	**PKKPbc**	**09 20 22.7**	**-0.3**
	comp=Z,39nm,1.3s						
CONA				*i* P'P'		09 28 32.2	
	comp=Z,17nm,1.3s						
MRZ	**Mangatainoka R**	**98.06**	**224**	P	Pdif	09 03 51.2	+2.0
MRZ				PKiKP	**PKiKP**	**09 08 24.6**	**+3.7**
F25K	**Christian Rive**	**98.06**	**338**	P	**P**	**09 03 48.0**	**-0.5**
F25K	**Christian Rive**	**98.06**	**338**	Pdiff	**P**	**09 03 48.2**	**-0.4**
	baz=109						
F25K				S	**S**	**09 14 48.4**	**-3.1**
	baz=109						
URZ	**Urewera**	**98.06**	**227**	PKPPKP		09 28 36.1	
	comp=Z,14nm,1.0s,baz=315,slow=1.4,SNR=2.9						
URZ	**Urewera**	**98.06**	**227**	P	Pdif	09 03 51.2	+1.9
URZ				PKiKP	**PKiKP**	**09 08 24.6**	**+3.7**
COLA	**College**	**98.07**	**335***c*	*i* P	**P**	**09 03 47.5**	**-1.0**
COLA				pmax	pmax		
	comp=Z,800nm,1.2s						
COLA	**College**	**98.07**	**335**	Pdiff	**P**	**09 03 48.1**	**-0.4**
	baz=107						
COLA				S	**S**	**09 14 45.3**	**-6.1**
	baz=107						
TSZ	**Takapari Road**	**98.07**	**225**	P	Pdif	09 03 51.1	+1.8
C27K	**Jago River**	**98.08**	**340**	Pdiff	**P**	**09 03 48.4**	**-0.1**
	baz=110						
C27K				S	**S**	**09 14 47.1**	**-4.3**
	baz=110						
BKZ	**Black Stump Fm**	**98.10**	**226**	P	Pdif	09 03 51.3	+1.8
BKZ				PKiKP	**PKiKP**	**09 08 26.0**	**+5.0**
A051A	**Mrakovica**	**98.12**	**46**	*e*P	**P**	**09 03 48.1**	**-1.2**
M22K	**Willow**	**98.17**	**332**	Pdiff	**P**	**09 03 48.0**	**-1.0**
	baz=106						
M22K				S	**S**	**09 14 45.4**	**-7.0**
	baz=106						
SCTE	**Santa Cesarea**	**98.19**	**51**	P	**P**	**09 03 49.5**	**-0.2**
MCK	**McKinley**	**98.19**	**334**	Pdiff	**P**	**09 03 48.3**	**-0.9**
	baz=106						
MCK				S	**S**	**09 14 45.5**	**-7.1**
	baz=106						
E25K	**Arctic Village**	**98.21**	**338**	Pdiff	**P**	**09 03 48.6**	**-0.6**
	baz=109						
E25K				S	**S**	**09 14 47.6**	**-5.0**
	baz=109						
BJUU	**Bjuv**	**98.23**	**34**	*i* P	**P**	**09 03 49.0**	**-0.5**
RONA	**Rosalia, Austr**	**98.29**	**43**	*i* Pdiff	**P**	**09 03 49.5**	**-0.5**
	comp=Z,40nm,1.0s,SNR=7.1						
RONA				*e*pP	**pP**	**09 04 57.6**	**+2.7**
	comp=Z,106nm,1.5s,SNR=6.6						
RONA				*e*PP	**PP**	**09 07 57.6**	**+3.9**
	comp=Z,226nm,1.4s						
RONA				*i* PKKP	**PKKPbc**	**09 20 23.1**	**+0.8**
	comp=Z,32nm,1.6s						
RONA				*i* P'P'		09 28 32.9	
	comp=Z,17nm,1.6s						
FABU	**Falkenberg**	**98.29**	**33**	*i* P	Pdif	09 03 49.0	-0.7
WIZ	**White Island**	**98.33**	**228**	P	Pdif	09 03 51.3	+0.9
HOM	**Homer**	**98.34**	**329**	P	Pdif	09 03 49.7	-0.2
HOM				IAmb	IAmb	09 03 56.6	
	comp=Z,453nm,1.0s						
HOM	**Homer**	**98.34**	**329**	Pdiff	Pdif	09 03 49.4

comp=Z,6.8nm,0.9s,baz=254,slow=4.4,SNR=18
NOA pP pP 09 04 54.1 -1.7
NOR Nord 99.45 7 *i* P **Pdif 09 03 52.9 -1.5**
comp=Z,6.6nm,1.1s,baz=223,slow=6.0,SNR=1.6
NOA PP **PP 09 07 52.8 -2.4**
CAST Castle Rocks 99.47 333 Pdiff **Pdif 09 03 53.9 -1.0**
comp=Z,33nm,1.0s,baz=267,slow=7.3,SNR=5.3
NOA PKKPbc **PKKPbc 09 20 20.9 -1.3**
TIR Tirane 99.48 50 ⇑P **PKKPbc 09 20 23.5 +4.9**
comp=Z,23nm,0.8s,baz=258,slow=2.9,SNR=16
HFS Hagfors 99.52 30 P **Pdif 09 03 54.2 -0.9**
NOA PKPPKP **P'P'df 09 28 34.0 -1.8**
comp=Z,5.8nm,0.7s,baz=207,slow=3.0,SNR=15
comp=Z,37nm,1.0s,baz=78,slow=1.7,SNR=14
HFS PP **PP 09 08 00.0 -2.6**
comp=Z,6.8nm,0.9s
comp=Z,107nm,1.2s,baz=240,slow=4.6,SNR=4.1
C26K Camden Bay 98.57 340 Pdiff **P 09 03 51.0 +0.3**
HFS PKKPbc **PKKPbc 09 20 19.0 -0.4**
baz=109
comp=Z,28nm,0.6s,baz=108,slow=4.8,SNR=6.4
NB201 NORSAR Array S 98.58 29 P Pdif 09 03 50.7 -0.3
HFS PKPPKP **P'P'df 09 28 33.7 -0.1**
OHAK Old Harbor 98.59 327 P Pdif 09 03 50.5 -0.5
comp=Z,13nm,0.9s,baz=17,slow=1.5,SNR=9.2
OHAK IAmb IAmb 09 03 57.7
comp=Z,5.8nm,0.7s
comp=Z,445nm,1.2s
KOME Kolasin 99.52 48⇑ *i* P pP 09 05 02.7 +2.0
OHAK Old Harbor 98.59 327 Pdiff Pdif 09 03 50.3 -0.7
baz=104
PLE Pljevlja 99.52 48⇑ *i* P pP 09 05 03.2 +2.5
KHZ Kahutara 98.59 222 P **P 09 03 53.8 +2.3**
MORC Moravsky Berou 99.53 41 *e*PDIFF **Pdif 09 03 55.0 -0.5**
KHZ PKiKP **PKiKP 09 08 27.2 +5.5**
MORC *e*pP **pP 09 05 02.9 +2.5**
NC602 NORSAR Array S 98.62 29 P Pdif 09 03 50.5 -0.6
MORC *e*SKS **SKSac 09 14 04.5 -3.4**
NC602 NORSAR Array S 98.62 29 *e*P **P 09 03 52.7 +1.5**
MORC *e*PKKP **PKKPbc 09 20 19.4 +0.5**
NC602 IVmB_BB 09 04 06.1
MORC *e*PKPPKP **P'P'df 09 28 28.3 -5.7**
comp=Z,2μm,6.0s
MORC Moravsky Berou 99.53 41 ⇑P **Pdif 09 03 55.1 -0.3**
NC602 *e*pP **pP 09 04 57.7 +1.6**
RPZ Rata Peaks 99.53 220 PKiKP **PKiKP 09 08 24.2 +0.8**
NC602 *e*PP **PP 09 07 55.7 -0.1**
CHIR Chirikof Islan 99.54 325 Pdiff **Pdif 09 03 54.1 -1.1**
NC602 *e*SKSac **SKSac 09 14 00.9 -1.9**
baz=102
NC602 *e*SP **SP 09 16 23.6 +0.3**
HIZ Hauiti 99.54 226 P **Pdif 09 03 58.2 +2.4**
NC602 *e*SS **SS 09 21 55.6 +6.9**
MORH Mrgy, Hungar 99.56 45 ⇑P **PKKPbc 09 20 18.3 -0.3**
NC602 IVmS_BB IVmS_BB 09 43 19.1
M20K Styx River 99.59 332 Pdiff **Pdif 09 03 54.2 -1.3**
baz=103
comp=Z,7μm,19.1s
MAUC Maruska 99.63 42 *e*PDIFF **Pdif 09 03 56.4 +0.5**
KRUC Moravsky 98.65 42 *e*PDIFF Pdif 09 03 50.6 -0.9
MAUC *e*pP **pP 09 05 01.2 +0.3**
KRUC *e*pP pP 09 04 58.2 +1.8
MAUC *e*SKS **SKSac 09 14 10.3 +1.9**
E23K Chandalar 99.64 338 Pdiff **Pdif 09 03 55.0 -0.6**
KRUC *e*SKS **SKSac 09 14 02.1 -1.4**
baz=105
KRUC *e*PKKP **PKKPbc 09 20 22.5 +1.2**
COLD Coldfoot 99.64 337 Pdiff **Pdif 09 03 55.3 -0.3**
KRUC *e*PKPPKP **P'P'df 09 28 30.6 -5.0**
baz=105
GVZ Greta Valley S 98.65 221 P **P 09 03 52.0 +0.2**
D24K Happy Valley 99.65 339 Pdiff **Pdif 09 03 54.3 -1.2**
TRF Thorofare Moun 98.70 333 Pdiff Pdif 09 03 50.7 -0.9
baz=106
baz=105
HCY Herceg Novi 98.70 48 *e*P Pdif 09 03 51.5 -0.4
CHUM Lake Minchumin 99.68 334 Pdiff **Pdif 09 03 55.1 -0.7**
HCY Herceg Novi 98.70 48⇑ *i* P pP 09 04 59.3 +2.4
baz=104
UPC Upice 98.71 40 *e*PDIFF Pdif 09 03 50.9 -0.9
H04S2 CROZET ISLANDS 99.69 144 P **Pdif 09 03 56.6 +0.5**
UPC *e*pP pP 09 04 57.7 +1.0
baz=164,slow=78,SNR=3.5
UPC *e*SKS **SKSac 09 14 05.5 +1.7**
H04S3 CROZET ISLANDS 99.69 144 P **Pdif 09 03 57.3 +1.2**
UPC Upice 98.71 40 *e*P Pdif 09 03 50.9 -0.9
baz=164,slow=78,SNR=3.5
UPC *e* 09 14 05.5
APZ The Paps 99.70 216 P **Pdif 09 03 58.0 +1.6**
NGZ Ngauruhoe 98.72 226 P **P 09 03 56.4 +4.0**
H04S1 CROZET ISLANDS 99.71 144 P **Pdif 09 03 56.8 +0.7**
CHVC Chvalec 98.76 40 *e*pP pP 09 04 59.1 +2.2
baz=164,slow=78,SNR=4.1
I23K Minto, Yukon-K 98.76 335 P Pdif 09 03 50.5 -1.1
NEZ North Egmont 99.71 225 P **Pdif 09 03 59.7 +3.0**
I23K Minto, Yukon-K 98.76 335 Pdiff Pdif 09 03 51.0 -0.6
LBZ Lake Benmore 99.72 219 P **Pdif 09 03 58.7 +2.2**
baz=106
KUZ Kuaotunu 99.72 228 P **Pdif 09 03 58.0 +1.4**
DEL Delary 98.78 34 *i* P Pdif 09 03 50.0 -1.9
NSS Namsos 99.73 26 *e*P **Pdif 09 03 57.4 +1.5**
BRY Bratogost 98.83 48 *e*P Pdif 09 03 49.2 -3.4
NSS IVmB_BB 09 05 04.0
BRY Bratogost 98.83 48⇑ *i* P pP 09 04 59.6 +2.0
comp=Z,2μm,5.4s
VRAC Vranov 98.83 41 *e*PDIFF Pdif 09 03 52.1 -0.3
NSS *e*SKSac **SKSac 09 14 05.9 -2.2**
comp=Z,46nm,1.2s,baz=239,slow=7.0,SNR=14
NSS *e*SP **SP 09 16 34.6 -0.4**
VRAC pP pP 09 04 54.8 -2.4
NSS *e*SS **SS 09 22 05.1 +1.2**
comp=Z,14nm,1.0s,baz=241,slow=6.2,SNR=1.5
NSS IVmS_BB IVmS_BB 09 33 19.6
VRAC PP **PP 09 07 59.2 +1.5**
comp=Z,102nm,1.1s,baz=263,slow=8.3,SNR=4.4
comp=Z,46nm,1.2s
comp=Z,7μm,22.2s
VRAC Vranov 98.83 41 *e*PDIFF Pdif 09 03 51.7 -0.6
C24K Franklin Bluff 99.77 340 Pdiff **Pdif 09 03 55.9 -0.1**
VRAC *e*pP pP 09 04 58.9 +1.7
baz=106
VRAC *e*SKS **SKSac 09 14 02.4 -2.0**
H22K Ishtalitna Cre 99.77 336 Pdiff **Pdif 09 03 55.5 -0.7**
VRAC *e*PKKP **PKKPbc 09 20 20.9 +0.1**
baz=104
VRAC *e*PKPPKP **P'P'df 09 28 30.2 -5.1**
VRAC Vranov 98.83 41⇑P **P 09 03 52.6 +0.3**
TOLK Toolik Lake Re 99.78 339 Pdiff **Pdif 09 03 55.5 -0.6**
OSTC Ostas 98.85 40 *e*PDIFF **P 09 03 53.6 +1.2**
baz=105
OSTC *e*pP **pP 09 04 59.5 +2.1**
OSTC *e*SKS **SKSac 09 14 06.1 +1.6**
O19K Port Alsworth 99.78 330 Pdiff **Pdif 09 03 55.1 -1.1**
OSTC Ostas 98.85 40 *e*P **P 09 03 53.6 +1.2**
baz=102
OSTC *e* 09 14 06.1
INZ Inchbonnie 99.79 221 P **Pdif 09 03 56.7 -0.1**
F24K Squaw Lake 98.86 338 Pdiff Pdif 09 03 51.5 -0.6
INZ PKiKP **PKiKP 09 08 26.2 +2.3**
baz=107
EAZ Earnscleugh 99.80 218 P **Pdif 09 03 58.2 +1.3**
D25K Kavik River 98.87 340 Pdiff Pdif 09 03 51.8 -0.3
BLEU Blekinge 99.81 34 *i* P **Pdif 09 03 56.1 -0.3**
baz=108
I21K Tanana 99.84 335 Pdiff **Pdif 09 03 55.8 -0.7**
DPC Dobruska-Polom 98.87 40 *e*PDIFF **P 09 03 52.8 +0.2**
baz=104
DPC *e*pP **pP 09 04 58.7 +1.2**
OKC Ostrava-Krasne 99.92 41 *e*PDIFF **Pdif 09 03 57.3 +0.1**
DPC *e*SKS **SKSac 09 14 05.5 +0.8**
OKC *e*pP **pP 09 05 03.6 +1.5**
DPC *e*PKKP **PKKPdf 09 20 24.0 +0.1**
OKC *e*SKS **SKSac 09 14 11.7 +2.0**
DPC Dobruska-Polom 98.87 40 *e*P **P 09 03 52.8 +0.2**
OKC Ostrava-Krasne 99.92 41 *e*P **Pdif 09 03 57.3 +0.1**
DPC *e* 09 14 05.5
OKC *e* 09 14 11.7
SJES Sjenica 99.93 48 *e*P **Pdif 09 03 56.5 -1.0**
SKT Skwentna 98.87 332 Pdiff Pdif 09 03 51.3 -1.0
N19K Bonanza Creek 99.99 330 Pdiff **Pdif 09 03 56.5 -0.8**
baz=102
baz=104
RAC Raciborz 100.00 41 *e*PDIFF **Pdif 09 03 58.2 +0.7**
WAZ Wanganuí 98.88 225 P **P 09 03 55.5 +2.6**
RAC Raciborz 100.00 41⇑ *e*SKSp 09 14 09.8
SII Sitkinak Islan 98.91 326 Pdiff Pdif 09 03 51.6 -0.9
RAC AMS AMS 09 45 51.0
baz=103
comp=Z,16nm,19.7s
WACZ Wakanui South 98.92 220 P **P 09 03 55.4 +2.4**
RAC Raciborz 100.00 41 *e*P **Pdif 09 03 58.2 +0.7**
O20K Slope Mountain 98.93 330 Pdiff Pdif 09 03 51.8 -0.8
RAC *e* 09 14 09.8
baz=104
GKP Gorka Klasztor 100.02 38 *e*Pdif **Pdif 09 03 57.0 -0.5**
KSP Ksiaz 98.96 40 *e*Pdif Pdif 09 03 52.6 -0.3
GKP *e*P pP 09 05 03.2 +0.5
KSP *e*P pP 09 04 59.7 +1.9
GKP *e*PP **PP 09 08 06.3 -0.2**
KSP *e*PP **PP 09 07 58.0 -0.6**
GKP *e*PPP PPP 09 10 18.1
KSP *e*SKS **SKSac 09 14 04.6 -0.3**
GKP *e*SP SP 09 16 35.3 -3.3
KSP *e*pS pS 09 16 24.9 +1.4
GKP *e*L L 09 39 37.4
KSP *e*L L 09 40 16.0
comp=Z,23μm,22.4s
comp=Z,17μm,25.8s
GKP Gorka Klasztor 100.02 38 *e*P **Pdif 09 04 00.4 +3.0**
BUM Brajici-Budva 98.96 49⇑ *i* P pP 09 05 00.5 +2.4
QRZ Quartz Range 100.03 223 P **Pdif 09 03 57.4 -0.5**
N20K Mount Spurr 99.00 331 Pdiff Pdif 09 03 52.0 -0.9
QRZ PKiKP **PP 09 08 07.2 +0.8**
baz=104
QRZ SKS **SKSac 09 14 04.1 -6.9**
SPCR Spurr Chakacha 99.00 331 Pdiff Pdif 09 03 51.9 -1.0
DSZ Denniston Nort 100.05 222 P **Pdif 09 03 58.0 -0.1**
baz=104
DSZ PKiKP **PKiKP 09 08 26.2 +1.7**
CEME Cevo 99.03 48⇑ *i* P pP 09 05 00.4 +2.0
WVZ Waitaha Valley 100.06 221 P **Pdif 09 03 57.9 -0.1**
BSD Bornholm Skovb 99.06 35 *e*P **Pdif 09 03 56.1 +2.9**
WVZ PKiKP **PKiKP 09 08 27.4 +3.0**
BSD Bornholm Skovb 99.06 35 *i* P **Pdif 09 03 51.0 -2.1**
L20K Farewell, AK 100.06 332 Pdiff **Pdif 09 03 56.6 -0.9**
MODS Modra-Piesok 99.07 42⇑ *e*P **Pdif 09 03 52.6 -0.9**
baz=102
MODS *e* 09 08 02.0
P18K Big Mountain, 100.06 329 Pdiff **Pdif 09 03 56.5 -1.1**
MODS *e* 09 14 04.5
baz=102
MODS *e* 09 16 27.3
MODS *e*SS SS 09 21 54.5 -1.2
VYHS Vyhne 100.12 42⇑ *e*P **Pdif 09 03 57.9 -0.2**
ODZ Otahua Downs 99.10 219 P **Pdif 09 03 55.3 +1.6**
VYHS *e* 09 08 10.2
NKME Niksic 99.10 48⇑ *i* P pP 09 05 01.0 +2.3
VYHS *e* 09 14 13.6
KRLC Kraliky 99.11 41 *e*PDIFF **Pdif 09 03 54.6 +1.0**
VYHS *e*SS SS 09 22 02.8 -7.4
VYHS Vyhne 100.12 42 *e*PDIFF **Pdif 09 03 57.9 -0.2**
KRLC *e*pP **pP 09 05 00.4 +1.9**
VYHS Vyhne 100.12 42 *e*PP PKiKP 09 08 10.2 -14
KRLC *e*SKS **SKSac 09 14 08.2 +2.4**
VYHS Vyhne 100.12 42⇑ *e*SKSp 09 14 13.6
KRLC *e*PKPPKP **P'P'df 09 28 32.8 -2.0**
VYHS *e* 09 16 32.5
KRLC Kraliky 99.11 41 *e*P **Pdif 09 03 54.6 +1.0**
VYHS *e*SS SS 09 22 02.8 -7.4
KRLC *e* 09 14 08.2
O18K Koktuh Hills 100.14 329 Pdiff **Pdif 09 03 57.0 -1.0**
OXZ Oxford 99.11 221 P **Pdif 09 03 54.9 +1.0**
baz=102
OXZ PKiKP **PKiKP 09 08 24.3 +1.6**
M19K Big River Lodg 100.17 331 Pdiff **Pdif 09 03 57.1 -0.9**
DUWZ D'Urville Isla 99.11 224 P **Pdif 09 03 55.7 +1.8**
baz=102
DUWZ PKiKP **PKiKP 09 08 23.9 +1.1**
WKZ Wanaka 100.19 218 P **Pdif 09 03 59.9 +1.2**
P19K Oil Pt 99.12 329 Pdiff **Pdif 09 03 52.3 -1.1**
WKZ PKiKP **PKiKP 09 08 28.0 +3.4**
baz=103
D23K Nanushuk River 100.25 339 Pdiff **Pdif 09 03 58.3 +0.1**
TLZ Tolley Road 99.14 227 P **Pdif 09 03 55.4 +1.2**
baz=104
DRME Dracevica, Mon 99.15 49 *e*P **Pdif 09 03 53.7 -0.2**
H21K Melozitna Rive 100.29 335 Pdiff **Pdif 09 03 57.7 -0.7**
UPM Unac-Piva 99.15 48 *e*P **Pdif 09 03 55.7 +1.6**
baz=103
UPM Unac-Piva 99.15 48⇑ *i* P pP 09 05 01.6 +2.5
MBAR Mbarara 100.29 93 P **Pdif 09 04 01.5 +1.6**
BPAW Bear Paw Mtn. 99.17 334 Pdiff **Pdif 09 03 52.4 -1.1**
MBAR S **SKSac 09 14 20.3 +6.7**
baz=105
K20K Telida 100.33 333 Pdiff **Pdif 09 03 57.8 -0.9**
baz=102
Q19K Cape Douglas, 99.17 329 Pdiff **Pdif 09 03 53.0 -0.6**
MLZ Mavora Lakes 100.43 218 P **Pdif 09 04 01.7 +2.0**
baz=103
MLZ PKiKP **PKiKP 09 08 23.3 -1.8**
SYZ Scrubby Hill 99.20 217 P **Pdif 09 03 54.9 +0.8**
C23K Itkillik River 100.44 340 Pdiff **Pdif 09 03 58.6 -0.4**
TUZ Tuapeka 99.22 218 P **Pdif 09 03 55.0 +0.8**
baz=104
LTZ Lake Taylor 99.23 221 P **Pdif 09 03 55.1 +0.7**
L19K White Mountain 100.44 332 Pdiff **Pdif 09 03 58.5 -0.7**
LTZ PKiKP **PKiKP 09 08 28.5 +5.6**
baz=102
E24K Your Creek 99.24 338 Pdiff **Pdif 09 03 53.8 0.0**
F22K John River 100.45 337 Pdiff **Pdif 09 03 58.9 -0.3**
baz=106
baz=103
PDG Podgorica 99.25 49 *e*P **Pdif 09 03 54.7 +0.4**
E22K Anaktuvuk Pass 100.46 338 Pdiff **Pdif 09 03 58.8 -0.5**
PDG Podgorica 99.25 49⇓P **Pdif 09 03 58.0 +3.7**
baz=103
PDG Podgorica 99.25 49⇑P **PKKPbc 09 20 23.7 +4.4**
J20K Nowinta River 100.53 334 Pdiff **Pdif 09 03 59.2 -0.4**
PDG Podgorica 99.25 49⇑ *i* P pP 09 05 01.8 +2.5
baz=102
NNZ Nelson 99.27 223 P **Pdif 09 03 55.9 +1.3**
LEIR Leirfjorden 100.56 24 *e*Pdif **Pdif 09 03 59.5 0.0**
R18K Karluk 99.28 327 Pdiff **Pdif 09 03 53.5 -0.6**
LEIR IVmBBB 09 04 05.1
baz=103
comp=Z,730nm,1.4s
MHCZ Mount Hutt 99.30 220 P **Pdif 09 03 52.7 -2.0**
LEIR *e*PP **PP 09 08 10.4 +0.2**
THZ Tophouse 99.32 222 P **Pdif 09 03 56.2 +1.3**
LEIR *e*SKSac **SKSac 09 14 11.6 -0.5**
VRZ Vera Road 99.33 226 P **Pdif 09 03 57.5 +2.7**
LEIR *e*SP **SP 09 16 46.6 +2.9**
VRZ PKiKP **PKiKP 09 08 20.5 -2.7**
LEIR *e*SS **SS 09 22 16.3 +1.0**
ARCZ Arundel 99.33 220 P **Pdif 09 03 54.9 0.0**
LEIR IVmS_BB IVmS_BB 09 46 13.3
ARCZ PKiKP **PKiKP 09 08 20.4 -2.7**
comp=Z,5μm,22.1s
PPLA Purkeypile 99.39 333 Pdiff **Pdif 09 03 53.3 -1.4**
baz=104
STOK Stokkvaagen 100.56 24 *e*Pdif **Pdif 09 04 00.9 +1.4**
JAVC Velka Javorina 99.43 42 *e*PDIFF **Pdif 09 03 55.0 -0.1**
STOK IVmB_BB 09 04 12.9
JAVC *e*pP **pP 09 05 02.6 +2.6**
comp=Z,2μm,5.3s
JAVC *e*PKKP **PKKPdf 09 20 21.8 -1.0**
STOK *e*PP **PP 09 08 09.4 -0.9**
JAVC *e*PKPPKP **P'P'df 09 28 29.5 -4.7**
STOK *e*SKSac **SKSac 09 14 12.5 +0.4**
TOZ Tahuroa Road 99.44 227 P **Pdif 09 03 56.7 +1.3**
STOK *e*SP **SP 09 16 45.4 +1.7**
STOK *e*PS PS 09 17 19.5 +1.9
STOK *e*SS **SS 09 22 16.3 +0.9**
STOK IVmS_BB IVmS_BB 09 33 48.0
comp=Z,4μm,30.2s
P17K Kvichak River 100.63 328 Pdiff **Pdif 09 03 58.9 -1.2**
baz=101
KONS Konsvik 100.64 24 *e*P **Pdif 09 04 02.3 +2.4**
KONS *e*PP **PP 09 08 10.3 -0.6**
KONS *e*SKSac **SKSac 09 14 13.9 +1.4**
N18K Kilae Creek 100.64 330 Pdiff **Pdif 09 03 59.3 -0.9**
baz=101
LANS Liptovska Anna 100.64 42 *e*P **Pdif 09 04 01.7 +1.2**
LANS *e* 09 08 12.5
LANS Liptovska Anna 100.64 42 *e*PDIFF **Pdif 09 04 01.7 +1.2**
LANS *e*PP **PP 09 08 12.5 +1.0**
Q16K King Salmon 100.65 328 Pdiff **Pdif 09 03 59.2 -0.9**
baz=101
PSZ Piszkesteto 100.71 43⇓P **Pdif 09 04 01.2 +0.4**
PSZ Piszkesteto 100.71 43⇑P **PKKPbc 09 20 18.1 +2.6**
PSZ Piszkesteto 100.71 43⇓P **Pdif 09 04 01.2 +0.4**
PSZ Piszkesteto 100.71 43 *e*P **Pdif 09 04 04.2 +3.4**
JCZ Jackson Bay 100.74 219 P **Pdif 09 04 00.9 -0.3**
JCZ PKiKP **PKiKP 09 08 30.3 +4.6**
G21K Allakaket 100.75 336 Pdiff **Pdif 09 04 00.2 -0.2**
baz=102
M18K Stony River 100.76 331 Pdiff **Pdif 09 03 59.9 -0.7**
baz=101
I20K Naaghedeneel 100.80 334 Pdiff **Pdif 09 04 00.2 -0.4**
baz=101
PYZ Puysegur Point 100.82 216 P **Pdif 09 04 02.4 +1.0**
F21K Alatna River 100.89 337 Pdiff **Pdif 09 04 00.9 -0.2**
baz=102
MSZ Milford Sound 100.93 218 P **Pdif 09 04 02.4 +0.5**
R16K Pilot Point 100.93 327 Pdiff **Pdif 09 03 59.7 -1.7**
baz=100
D22K Ayikyak River 100.94 339 Pdiff **Pdif 09 04 00.9 -0.4**
baz=102
DCZ Deep Cove 100.94 217 P **Pdif 09 04 03.2 +1.3**
OJC Ojcow 101.04 41 *e*Pdif **Pdif 09 04 02.2 +0.1**
OJC *e*P **pPdif 09 05 00.9 -6.0**
OJC *e*PP **PP 09 08 13.7 -0.7**
OJC *e*PPP PPP 09 10 30.2
OJC *e*SKS **SKSac 09 14 13.3 -1.9**
OJC *e*SP SP 09 16 39.9 -10
OJC *e*L L 09 33 50.5
comp=Z,13μm,22.9s
O17K Koliganek Bris 101.07 329 Pdiff **Pdif 09 04 01.4 -0.6**
baz=100
MOR8 Moi Rana 101.10 24 *e*Pdif **Pdif 09 04 03.7 +1.6**
MOR8 IVmBBB 09 04 05.5
comp=Z,2μm,4.3s
MOR8 *e*PP **PP 09 08 14.4 +0.1**
MOR8 *e*SKSac **SKSac 09 14 15.4 +0.6**
MOR8 *e*SP SP 09 16 52.6 +3.2
MOR8 *e*PS PS 09 17 27.1 +3.8
MOR8 *e*SS **SS 09 22 20.0 -2.8**
MOR8 IVmS_BB IVmS_BB 09 46 42.5
comp=Z,5μm,20.1s
H20K Anotleneega Mo 101.10 335 Pdiff **Pdif 09 04 01.6 -0.5**
baz=101
TTA Tatalina 101.11 332 Pdiff **Pdif 09 04 01.5 -0.8**
baz=100
J19K Poorman 101.13 333 Pdiff **Pdif 09 04 01.7 -0.5**
baz=100
LOF Lofoten 101.14 22 *e*P **Pdif 09 04 03.6 +1.5**
LOF IVmBBB 09 04 32.5
comp=Z,2μm,3.1s
LOF *e*PP **PP 09 08 09.6 -4.9**
LOF *e*SKSac **SKSac 09 14 15.0 +0.2**
LOF *e*SP SP 09 16 52.4 +2.7
LOF *e*SS **SS 09 22 22.6 -0.6**
LOF IVmS_BB IVmS_BB 09 41 41.8
comp=Z,4μm,22.8s
CHGN Chignik 101.17 325 Pdiff **Pdif 09 04 01.4 -1.1**
baz=100
NIE Niedzica 101.23 42 *e*Pdif **Pdif 09 04 07.8 +4.8**
NIE *e*P pP 09 05 08.5 +0.5
NIE *e*PP **PP 09 08 16.1 +0.2**
NIE *e*SKS **SKSac 09 14 16.0 -0.1**
NIE *e*SP **SP 09 16 42.6 -9.1**
NIE *e*L L 09 33 19.2
comp=Z,7μm,27.7s
BOVS Bovan 101.23 48⇑P **Pdif 09 04 03.8 +0.6**
BOVS Bovan 101.23 48⇑P **PKKPbc 09 20 13.8 +0.1**
N17K Nushagak Hills 101.24 330 Pdiff **Pdif 09 04 02.1 -0.7**
baz=100
L18K Granite Mounta 101.30 332 Pdiff **Pdif 09 04 02.2 -0.7**
baz=100
E21K Killik River 101.31 338 Pdiff **Pdif 09 04 02.6 -0.4**
baz=101
P16K Nushagak River 101.39 328 Pdiff **Pdif 09 04 02.9 -0.5**
baz=100
MDVR Moldovita 101.43 47⇑P **Pdif 09 04 05.9 +1.8**
MDVR Moldovita 101.43 47⇑P **PKKPbc 09 20 15.0 +1.7**
B22K Teshekpuk Lake 101.49 340 Pdiff **Pdif 09 04 03.4 -0.2**
baz=101
BZS Buzias 101.49 46⇑P **Pdif 09 04 08.9 +4.6**
BZS Buzias 101.49 46⇑P **PKKPbc 09 20 11.0 -2.0**
BZS Buzias 101.49 46⇑P **Pdif 09 04 08.9 +4.6**
M17K Holitna River 101.51 331 Pdiff **Pdif 09 04 03.3 -0.7**
baz=100
J18K Innoko River 101.52 333 Pdiff **Pdif 09 04 03.2 -0.8**
baz=100
O16K Kokwok River B 101.54 329 Pdiff **Pdif 09 04 03.1 -1.0**
baz=99
CHNA Chernabura Isl 101.59 324 Pdiff **Pdif 09 04 04.0 -0.4**
baz=99
SIRR Siria 101.63 45⇑P **PKKPbc 09 20 17.3 +4.6**
FAUS Fauske 101.65 23 *e*P **Pdif 09 04 06.1 +1.7**
FAUS IVmB_BB 09 04 13.2
comp=Z,1μm,2.8s
FAUS *i* 09 05 12.3
FAUS *e*PP **PP 09 08 17.9 -0.5**
FAUS *e*SKSac **SKSac 09 14 18.2 +0.9**
FAUS *e*SP **SP 09 16 57.0 +1.8**
FAUS *e*SS **SS 09 22 34.1 +3.9**
FAUS IVmS_BB IVmS_BB 09 40 38.3
comp=Z,6μm,28.3s
F20K Avaraart Lake 101.71 336 Pdiff **Pdif 09 04 04.3 -0.4**
baz=100
STEI Steigen 101.73 23 *e*Pdif **Pdif 09 03 58.7 -6.0**
STEI IVmBBB 09 04 14.2
comp=Z,1μm,2.1s
STEI *e*PP **PP 09 08 15.1 -3.9**
STEI *e*SKSac **SKSac 09 14 16.1 -1.5**
STEI *e*SP SP 09 16 55.6 -0.3
STEI *e*SS **SS 09 22 36.1 +4.8**
STEI IVmS_BB IVmS_BB 09 42 10.9
comp=Z,6μm,21.7s
C21K Knifeblade Rid 101.73 339 Pdiff **Pdif 09 04 04.5 -0.3**
baz=100
H19K Roundabout Mou 101.75 335 Pdiff **Pdif 09 04 04.5 -0.3**
baz=100
B21K Ikpikpuk River 101.76 339 Pdiff **Pdif 09 04 04.9 +0.1**
baz=100
S14K Fog Glacier 101.79 325 Pdiff **Pdif 09 04 04.4 -1.0**
baz=99
GCSA Galena City Sc 101.80 334 Pdiff **Pdif 09 04 04.6 -0.5**
baz=99
SURR Surduc 101.87 46⇓P **Pdif 09 04 05.8 -0.2**
SURR Surduc 101.87 46⇑P **PKKPbc 09 20 16.4 +4.5**
BEL Belsk 101.91 39 *e*Pdif **Pdif 09 04 12.6 +6.6**
BEL *e*P pP 09 05 12.9 +1.7
BEL *e*PP **PP 09 08 19.0 -1.8**
BEL *e*SKS **SKSac 09 14 21.9 +2.7**
BEL *e*SP **SP 09 16 56.0 -2.7**
BEL *e*L L 09 41 54.0
comp=Z,71μm,22.7s
HERR Herculane 101.94 47⇓P **PKKPbc 09 20 16.2 +4.5**
L17K Donlin 102.03 331 Pdiff **Pdif 09 04 05.8 -0.4**
baz=99
E20K Nigu River 102.09 338 Pdiff **Pdif 09 04 06.4 -0.1**
baz=99
G19K Purcell Mounta 102.11 335 Pdiff **Pdif 09 04 06.7 +0.2**
baz=99
K17K Iditarod 102.11 332 Pdiff **Pdif 09 04 06.6 0.0**
baz=98
A22K Sinclair Lake 102.12 341 Pdiff **Pdif 09 04 06.4 0.0**
baz=100
SDPT Sand Point 102.17 324 Pdiff **Pdif 09 04 06.1 -0.9**
baz=98
M16K Timber Creek 102.18 330 Pdiff **Pdif 09 04 06.7 -0.2**
baz=98
R9F13 Warsaw-Wawer 102.18 39 *e*P **Pdif 09 04 04.8 -2.3**
R9F13 *e*PP **PP 09 08 21.6 -1.2**
R9F13 *e* 09 10 14.9
R9F13 *e*SKS **SKSac 09 14 23.1 +2.7**
R9F13 *e* 09 23 03.3
GZR Gura Zlata 102.27 46⇑P **Pdif 09 04 12.1 +4.3**
GZR Gura Zlata 102.27 46⇑P **PKKPbc 09 20 13.6 +2.7**
GZR Gura Zlata 102.27 46⇑P **Pdif 09 04 12.1 +4.3**
IDI Anoyia 102.31 57 P **Pdif 09 04 07.5 -0.7**

IDI Anoyia 102.31 57 P **Pdif 09 04 08.3 +0.1**
comp=Z,23nm,0.6s,baz=215,slow=8.8,SNR=14
IDI pP **pPdif 09 05 10.2 -3.1**
comp=Z,105nm,1.1s,baz=305,slow=6.8,SNR=1.4
IDI PP **PP 09 08 19.1 -5.3**
comp=Z,112nm,1.1s,baz=262,slow=7.3,SNR=4.2
IDI PKiKP **PKiKP 09 08 29.2 +0.5**
comp=Z,142nm,1.1s,baz=301,slow=3.3,SNR=2.8
IDI S **SKSac 09 14 20.6 -1.4**
comp=Z,34nm,1.1s,baz=222,slow=19,SNR=10
D20K Etivluk River 102.31 338 Pdiff **Pdif 09 04 07.1 -0.3**
baz=99
O15K Ungalikthiuk R 102.35 328 Pdiff **Pdif 09 04 07.0 -0.7**
baz=98
E19K Redstone River 102.36 337 Pdiff **Pdif 09 04 06.7 -0.9**
baz=98
DRGR 102.42 45 ⇑P **Pdif 09 04 11.6 +3.1**
DRGR 102.42 45 ⇓P **PKKPbc 09 20 12.0 +1.6**
DRGR 102.42 45 ⇑P **Pdif 09 04 11.6 +3.1**
KOLS Kolonicke sedl 102.43 42 *e*P **Pdif 09 04 09.6 +1.2**
KOLS *e* 09 08 27.8
KOLS Kolonicke sedl 102.43 42 *e*PDIFF **Pdif 09 04 09.5 +1.2**
KOLS Kolonicke sedl 102.43 42 *e*PP **PKiKP 09 08 27.8 -0.6**
HOLU Holmets 102.45 43 P **Pdif 09 04 07.1 -1.3**
SRE Strehaia 102.46 47 ⇓P **PKKPbc 09 20 15.3 +5.1**
F19K Shaleruckik Mo 102.48 336 Pdiff **Pdif 09 04 07.6 -0.5**
baz=98
H18K Honhosa River 102.49 334 Pdiff **Pdif 09 04 07.9 -0.3**
baz=98
L16K Owhat River 102.52 331 Pdiff **Pdif 09 04 08.6 +0.2**
baz=98
J17K VABM Dome 102.56 333 Pdiff **Pdif 09 04 08.2 -0.4**
baz=98
N15K Kwethluk River 102.62 329 Pdiff **Pdif 09 04 08.5 -0.4**
baz=98
MARR Marisel-Cluj 102.68 45 ⇓P **Pdif 09 04 09.3 -0.3**
MARR Marisel-Cluj 102.68 45 ⇓P **PKKPbc 09 20 11.8 +2.0**
B20K Meade River 102.69 339 Pdiff **Pdif 09 04 08.8 -0.2**
baz=98
A21K Barrow 102.69 341 Pdiff **Pdif 09 04 09.5 +0.6**
baz=98
G18K Tagagawik 102.70 335 Pdiff **Pdif 09 04 09.1 -0.1**
baz=97
KBS Kingsbay 102.77 11 *e*Pdif **Pdif 09 04 11.8 +2.5**
KBS IVmBBB 09 04 21.0
comp=Z,2μm,3.6s
KBS *e*PP **PP 09 08 25.1 -1.5**
KBS *e*SKSac **SKSac 09 14 22.8 +0.5**
KBS *e*SP SP 09 17 09.4 +2.8
KBS *e*SS **SS 09 22 48.7 +3.3**
KBS IVms_BB IVMs_BB 09 42 13.8
comp=Z,5μm,26.0s
KBS Kingsbay 102.77 11 *i* P **Pdif 09 04 07.8 -1.4**
D19K Kuna River 102.83 338 Pdiff **Pdif 09 04 10.0 +0.2**
baz=97
LOT Lotru 102.97 46 ⇓P **Pdif 09 04 05.7 -5.3**
LOT Lotru 102.97 46 ⇑P **PKKPbc 09 20 12.0 +3.2**
M15K Kasigluk River 102.97 330 Pdiff **Pdif 09 04 10.2 -0.2**
baz=97
CJR Cluj-Napoca 103.02 45 ⇓P **PKKPbc 09 20 13.7 +5.0**
O14K Tigyukauivet M 103.09 328 Pdiff **Pdif 09 04 10.4 -0.6**
baz=97
S12K Black Hills 103.11 324 Pdiff **Pdif 09 04 10.4 -0.8**
baz=97
H17K Granite Mounta 103.11 334 Pdiff **Pdif 09 04 11.1 +0.1**
baz=96
F18K Selawik 103.19 336 Pdiff **Pdif 09 04 11.9 +0.6**
baz=96
HSPB Hornsund (broa 103.21 13 *e*Pdif **Pdif 09 04 04.9 -6.3**
HSPB *e*SKS **SKSac 09 14 26.3 +2.0**
HSPB *e*SP **SP 09 17 08.6 -2.6**
HSPB *e*L L 09 35 42.1
comp=Z,14μm,26.6s
J16K Anvik River 103.23 332 Pdiff **Pdif 09 04 12.0 +0.4**
baz=96
TRO Tromso 103.29 21 *e*P **Pdif 09 04 12.9 +1.3**
TRO IVmB_BB 09 04 15.9
comp=Z,4μm,2.7s
TRO *e*PP **PP 09 08 30.8 +0.2**
TRO *e*SKSac **SKSac 09 14 24.8 0.0**
TRO *e*SP SP 09 17 13.2 +0.9
TRO *e*SS **SS 09 22 57.0 +4.2**
TRO IVms_BB IVMs_BB 09 41 22.8
comp=Z,5μm,26.3s
I17K Unalakleet 103.33 333 Pdiff **Pdif 09 04 12.7 +0.7**
baz=96
TNR Turnu Rosu 103.34 46 ⇑P **PKKPbc 09 20 08.4 +0.7**
N14K Kuskokwak Cree 103.38 329 Pdiff **Pdif 09 04 12.6 +0.4**
baz=96
L15K Ungalak Mounta 103.47 331 Pdiff **Pdif 09 04 12.9 +0.3**
baz=96
G17K Kiwalik Mounta 103.48 335 Pdiff **Pdif 09 04 13.2 +0.6**
baz=96
SPA0 Spitsbergen Ar 103.53 12 *e*Pdif **Pdif 09 04 14.9 +2.2**
SPA0 IVmB_BB 09 04 51.4
comp=Z,1μm,3.2s
SPA0 *e*PP **PKiKP 09 08 30.8 +1.2**
SPA0 *e*SKSac **SKSac 09 14 25.3 -0.6**
SPA0 *e*SP **SP 09 17 15.1 +0.5**
SPA0 *e*SS **SS 09 23 01.5 +5.7**
SPITS Spitsbergen Ar 103.53 12 Pdiff **Pdif 09 04 12.7 0.0**
comp=Z,22nm,1.0s,baz=159,slow=2.6,SNR=14
SPITS PKiKP **PKiKP 09 08 28.7 -0.9**
comp=Z,318nm,1.3s,baz=255,slow=2.8,SNR=5.4
SPITS S **SKSac 09 14 28.5 +2.6**
comp=Z,15nm,1.1s,baz=148,slow=12,SNR=2.0
SPITS PKKPbc **PKKPbc 09 20 07.4 -0.8**
comp=Z,40nm,0.6s,baz=106,slow=7.8,SNR=13
K15K Wolf Creek Mou 103.55 331 Pdiff **Pdif 09 04 13.4 +0.4**
baz=96
ARR Arges 103.56 46 ⇓P **Pdif 09 04 13.2 -0.3**
ARR Arges 103.56 46 ⇑P **PKKPbc 09 20 06.1 -0.9**
RAF Rauma 103.59 30 *e*P **Pdif 09 04 14.7 +1.5**
M14K Bethel 103.60 330 Pdiff **Pdif 09 04 13.7 +0.5**
baz=96
E18K Tukpahlearik C 103.64 337 Pdiff **Pdif 09 04 13.8 +0.5**
baz=95
FALS False Pass 103.79 324 Pdiff **Pdif 09 04 13.9 -0.3**
baz=96
BJO1 Bjornoya 103.79 16 *e*Pdif **Pdif 09 04 15.6 +1.8**
BJO1 *e*PP **PP 09 08 35.9 +1.7**
BJO1 *e*SKSac **SKSac 09 14 27.5 +0.5**
BJO1 *e*SP **SP 09 17 20.4 +3.1**
BJO1 *i* 09 19 05.7
BJO1 *e*SS **SS 09 23 02.3 +3.0**
JETT Jettan, Norway 103.80 21 *e*P **Pdif 09 04 16.4 +2.4**
JETT *e*PP **PP 09 08 33.5 -0.9**
JETT *e*SKSac **SKSac 09 14 27.6 +0.2**
F17K Baldwin Pennin 103.81 336 Pdiff **Pdif 09 04 14.4 +0.4**
baz=95
VOIR 103.86 46 ⇑P **Pdif 09 04 16.9 +2.0**
VOIR 103.86 46 ⇓P **PKKPbc 09 20 07.4 +1.2**
VOIR 103.86 46 ⇑P **Pdif 09 04 16.9 +2.0**
C18K Utukok River 103.97 338 Pdiff **Pdif 09 04 15.1 +0.3**
baz=94
L14K Kuka Creek 104.01 330 Pdiff **Pdif 09 04 15.1 +0.1**
baz=95
A19K Wainwright 104.04 339 Pdiff **Pdif 09 04 15.1 +0.1**
baz=94
H16K Elim 104.08 334 Pdiff **Pdif 09 04 15.4 +0.2**
baz=94
E17K Hotham Inlet 104.09 336 Pdiff **Pdif 09 04 15.1 -0.2**
baz=94
DOPR Dopca 104.16 46 ⇑P **PKKPbc 09 20 09.6 +4.4**
G16K Koyuk River 104.18 334 Pdiff **Pdif 09 04 16.0 +0.3**
baz=94
VAF Ylistaro 104.19 28 *e*P **Pdif 09 04 20.8 +5.0**
BURAR Bucovina Array 104.22 44 ⇓P **Pdif 09 04 19.5 +3.0**
BURAR Bucovina Array 104.22 44 ⇑P **PKKPbc 09 20 11.1 +5.9**
BURAR Bucovina Array 104.22 44 ⇓P **Pdif 09 04 19.5 +3.0**
PABE Paberze 104.23 36 *e*P **Pdif 09 04 21.1 +4.9**
B18K Kokolik River 104.24 339 Pdiff **Pdif 09 04 15.5 -0.4**
baz=94
M13K Dall Lake 104.26 329 Pdiff **Pdif 09 04 15.6 -0.6**
baz=95
MLR Muntele Rosu 104.49 46 Pdiff **Pdif 09 04 19.8 +2.1**
comp=Z,8.7nm,0.7s,baz=146,slow=13,SNR=5.0
MLR PKiKP **PKiKP 09 08 33.8 +1.4**
comp=Z,113nm,1.1s,baz=45,slow=1.4,SNR=4.4
MLR PP **PP 09 08 42.0 +1.7**
comp=Z,301nm,1.2s,baz=283,slow=6.2,SNR=6.0
MLR Muntele Rosu 104.49 46 ⇓P **Pdif 09 04 21.1 +3.4**
MLR Muntele Rosu 104.49 46 ⇑P **PKKPbc 09 20 04.1 -0.2**
MLR Muntele Rosu 104.49 46 ⇓P **Pdif 09 04 21.1 +3.4**
J14K Nanvaranak Lak 104.52 332 Pdiff **Pdif 09 04 17.2 0.0**
baz=94
RDOG Red Dog Mine 104.57 337 Pdiff **Pdif 09 04 17.3 -0.1**
baz=93
D17K Noatak River 104.61 337 Pdiff **Pdif 09 04 17.2 -0.4**
baz=93
SULR 104.62 47 ⇓P **PKKPbc 09 20 09.2 +5.5**
C17K DeLong Mountai 104.69 338 Pdiff **Pdif 09 04 16.8 -1.2**
baz=93
COVR Voineasa-Covas 104.71 46 ⇑P **PKKPbc 09 20 07.4 +3.8**
NEHR Nehoiu 104.73 46 ⇑P **PKKPbc 09 20 05.5 +2.0**
KTK1 Kautokeino 104.77 22 *e*P **Pdif 09 04 20.6 +2.2**
KTK1 IVmB_BB 09 04 42.5
comp=Z,3μm,3.8s
KTK1 *e*PP **PP 09 08 41.7 +0.2**
KTK1 *e*SKSac **SKSac 09 14 32.1 +0.3**
KTK1 *e*SKSdf **SKKSac 09 15 18.5 +0.5**
KTK1 *e*SP **SP 09 17 30.9 +3.1**
KTK1 *e*SS **SS 09 23 14.9 +1.9**
G15K Niukluk 104.86 334 Pdiff **Pdif 09 04 17.5 -1.3**
baz=93
ONER Baraj Valea Uz 104.89 45 ⇑P **PKKPbc 09 20 07.5 +4.5**
HAMF Hammerfest 104.98 20 *e*Pdif **Pdif 09 04 19.9 +0.7**
HAMF IVmB_BB 09 05 07.5
comp=Z,6μm,3.6s
HAMF *e*PP **PKiKP 09 08 37.4 +5.0**
HAMF *e*SKSac **SKSac 09 14 28.1 -4.5**
HAMF *e*SP SP 09 17 29.9 0.0
HAMF *e*SS **SKKPbc 09 23 19.1 -2.5**
K13K Kusilvak Mount 104.99 331 PKiKP **PKiKP 09 08 31.8 -0.8**
baz=93
PLOR Plostina 105.02 46 ⇑P **PKKPbc 09 20 06.5 +3.9**
VRI Vrincioaia 105.08 46 ⇓P **PKKPbc 09 20 04.0 +1.6**
TESR Tescani 105.08 45 ⇑P **PKKPbc 09 20 06.5 +4.1**
F15K North Star Dit 105.15 335 PKiKP **PKiKP 09 08 31.8 -1.1**
baz=92
KEF Keuruu 105.16 29 *e*P **Pdif 09 04 26.7 +6.6**
HOPEN Hopen 105.36 14 *e*Pdif **Pdif 09 04 22.8 +2.1**
HOPEN IVmB_BB 09 04 42.6
comp=Z,3μm,4.3s
HOPEN *e* 09 05 28.3
HOPEN *e*PP **PP 09 08 43.2 -2.5**
HOPEN *e*SKSac **SKSac 09 14 35.7 +1.6**
HOPEN *e*SP SP 09 17 35.2 +1.7
HOPEN *e*SS **SKKPbc 09 23 23.2 +2.4**
ANM Nome 105.42 334 PKiKP **PKiKP 09 08 32.3 -1.1**
baz=92
C16K Lisburne Hills 105.48 337 PKiKP **PKiKP 09 08 32.0 -1.4**
baz=91
IIGN Ignalina 105.50 36 *e*P **Pdif 09 04 28.4 +6.6**
UNV Unalaska Valle 105.50 322 PKiKP **PKiKP 09 08 31.9 -2.0**
baz=94
BAND Balkesir-Ban 105.51 52 ⇑P **PKKPbc 09 20 03.6 +2.8**
GHRR 105.56 46 ⇑P **PKKPbc 09 20 06.2 +5.3**
ARA0 ARCESS Array S 105.59 21 *e*Pdif **Pdif 09 04 22.2 +0.3**
ARA0 IVmBBB 09 04 29.2
comp=Z,2μm,3.0s
ARA0 *i* 09 05 29.7
ARA0 *e*PP **PP 09 08 45.7 -1.9**
ARA0 *e*SKSac **SKSac 09 14 34.7 -0.7**
ARA0 *e*SP SP 09 17 38.6 +2.4
ARA0 *e*SS **SS 09 23 25.9 +1.8**
ARCES ARCESS Array B 105.59 21 Pdiff **Pdif 09 04 23.4 +1.4**
comp=Z,25nm,0.9s,baz=266,slow=4.1,SNR=17
ARCES PP **PP 09 08 44.4 -3.1**
comp=Z,69nm,1.0s,baz=264,slow=5.3,SNR=6.0
ARCES PKKPbc **PKKPbc 09 19 59.2 -2.6**
comp=Z,38nm,0.8s,baz=85,slow=3.3,SNR=15
ARCES PKKS 09 23 57.3
comp=Z,31nm,1.1s,baz=44,slow=3.2,SNR=4.6
ARCES PKPPKP 09 28 23.9
comp=Z,41nm,0.9s,baz=42,slow=2.0,SNR=18
M11K Mekoryuk 105.67 329 PKiKP **PKiKP 09 08 32.3 -1.6**
baz=92
FINES FINESS Array B 105.70 30 Pdiff **Pdif 09 04 25.3 +2.8**
comp=Z,10nm,0.9s,baz=147,slow=3.3,SNR=7.4
FINES PKiKP **PKiKP 09 08 37.1 +3.1**
comp=Z,21nm,0.9s,baz=207,slow=1.6,SNR=7.1
FINES PP **PP 09 08 52.1 +3.6**
comp=Z,230nm,1.1s,baz=243,slow=1.6,SNR=16
FINES PKKPbc **PKKPbc 09 20 00.3 -0.8**
comp=Z,16nm,0.5s,baz=94,slow=4.2,SNR=15
FINES SKKPbc SKKPbc 09 23 19.8 +0.6
comp=Z,4.5nm,0.5s,baz=108,slow=4.5,SNR=4.0
FINES PKPPKP 09 28 22.3
comp=Z,33nm,0.9s,baz=95,slow=2.9,SNR=12
NACGM Naroch 105.80 37 *e*Pdif **Pdif 09 04 28.8 +5.7**
baz=267
HARR Harsova 105.81 47 ⇓P **PKKPbc 09 19 60.0 -0.1**
F14K Arctic Creek 105.84 334 PKiKP **PKiKP 09 08 33.1 -1.1**
baz=91
VSU Vasula 105.93 33 *e*P **Pdif 09 04 27.7 +4.1**
CFR Carcaliu 106.00 47 ⇑P **PKKPbc 09 19 59.5 -0.1**
MFTR Murfatlar 106.12 48 ⇓P **PKKPbc 09 20 02.8 +3.7**
TIRR Tirgusor 106.13 48 ⇑P **PKKPbc 09 20 03.9 +4.8**
TPGR Topolog 106.17 47 ⇓P **PKKPbc 09 20 02.8 +3.8**
MANR Mangalia 106.20 48 ⇑P **PKKPbc 09 20 02.0 +3.2**
SORM Soroca 106.37 44 ⇑P **PKKPbc 09 20 02.7 +4.2**
MNK Minsk 106.41 37 *i* P **Pdif 09 04 32.2 +6.3**
MNK *i* 09 08 55.5
MNK *i* PPP PPP 09 11 11.4
MNK *i* 09 14 33.8
MNK *i* PS PKKPbc 09 19 24.7 -34
MNK *i* SS SS 09 23 31.3 -4.6
MNK *i* SSS SSS 09 27 36.7
MNK pmax pmax
comp=E,24nm,1.0s
MNK pmax pmax
comp=Z,29nm,0.8s
MNK pmax pmax
comp=N,28nm,0.7s
MNK MLR MLR
comp=E,5μm,18.0s
MNK MLR MLR
comp=N,7μm,18.0s
MNK MLR MLR
comp=Z,14μm,19.0s
KMBO Kilima Mbogo 106.44 96 Pdiff **Pdif 09 04 32.1 +4.8**
comp=Z,9.1nm,1.0s,baz=292,slow=3.2,SNR=5.0
KMBO PKKP **PKKPdf 09 20 04.2 -4.7**
comp=Z,21nm,0.9s,baz=47,slow=6.0,SNR=18
TNA Tin City 106.51 335 PKiKP **PKiKP 09 08 34.4 -0.9**
baz=89
MILM Milestii Mici 106.60 45 ⇑ *i* P **Pdif 09 04 26.6 -0.3**
comp=Z,740nm,9.5s
MILM *i* pP **pPdif 09 05 31.0 -1.0**
MILM M M 09 05 38.0
comp=Z,2μm,14.9s
MILM Milestii Mici 106.60 45 *c i* P **Pdif 09 04 26.6 -0.3**
MILM *i* 09 08 54.0
MILM *i* 09 14 38.0
MILM *i* 09 15 27.0
MILM *i* 09 17 41.0
MILM *i* PS PS 09 18 24.0 +3.3
MILM *e*PPS PPS 09 19 25.0
MILM pmax pmax
comp=Z,740nm,9.5s
KIS Kishinev 106.61 45 *e*P **Pdif 09 04 31.0 +4.1**
KIS *i* pP **pPdif 09 05 32.5 +0.5**
KIS Kishinev 106.61 45 *e*P **Pdif 09 04 31.0 +4.1**
KIS *i* 09 08 54.0
KIS *i* 09 14 38.0
KIS *i* 09 15 25.0
KIS *i* 09 17 41.0
KIS *i* PS PS 09 18 24.0 +3.1
VADS Vadso 106.91 21 *e*Pdif **Pdif 09 04 30.1 +2.4**
VADS IVmB_BB 09 04 54.9
comp=Z,3μm,4.4s
VADS *i* 09 05 36.5
VADS *e*PP **PP 09 08 56.8 -0.3**
VADS *e*SKSac **SKSac 09 14 42.0 +0.9**
VADS *e*SP **SP 09 17 51.5 +1.9**
VADS *i* 09 19 34.6
VADS *e*SS **SS 09 23 43.5 +1.7**
VADS IVMs_BB IVMs_BB 09 47 20.9
comp=Z,3μm,4.0s
KIEV Kiev 107.07 41 ⇑P **PKKPbc 09 19 59.2 +2.8**
AKASG Malin Array Be 107.08 41 PP **PP 09 08 56.2 -2.7**
comp=Z,46nm,0.8s,baz=268,slow=6.3,SNR=7.3
AKASG PKKPbc **PKKPbc 09 19 55.7 -0.7**
comp=Z,12nm,0.5s,baz=77,slow=3.8,SNR=7.1
P08K Saint George I 107.34 325 PKiKP **PKiKP 09 08 35.5 -1.6**
baz=90
SPIA Saint Paul Isl 107.73 326 PKiKP **PKiKP 09 08 36.5 -1.3**
baz=90
JOF Joensuu 108.14 28 *e*P **Pdif 09 04 37.4 +4.0**
GAMB Gambell 108.21 333 PKiKP **PKiKP 09 08 37.6 -1.0**
baz=86
VOI Vohitsoka 108.21 119 P **PKiKP 09 08 40.0 -0.1**
APA Apatity 108.61 23 ⇓ *i* P **Pdif 09 04 38.8 +3.4**
APA *i* SSS SSS 09 28 08.0
APA pmax pmax
comp=Z,10.0nm,1.2s
BRTR Keskin Array B 109.70 53 Pdiff **Pdif 09 04 43.5 +2.4**
comp=Z,1.4nm,0.9s,baz=273,slow=5.3,SNR=3.5
BRTR PKiKP **PKiKP 09 08 42.1 -0.3**
comp=Z,24nm,0.9s,baz=198,slow=2.6,SNR=6.9
BRTR PP **PP 09 09 15.9 -2.6**
comp=Z,31nm,1.0s,baz=249,slow=5.6,SNR=5.0
BRTR PKKPbc **PKKPbc 09 19 48.1 +0.2**
comp=Z,16nm,0.9s,baz=138,slow=4.7,SNR=10
BRTR PKPPKP 09 28 13.7
comp=Z,9.2nm,1.2s,baz=259,slow=1.5,SNR=5.3
KIRS Kirsehir-Merke 109.88 53 ⇑P **PKKPbc 09 19 50.3 +3.1**
EIL Elat 110.01 63 PKiKP **PKiKP 09 08 43.2 +0.2**
comp=Z,19nm,0.8s,baz=246,slow=1.8,SNR=10
EIL PP **PP 09 09 20.4 -0.4**
comp=Z,93nm,1.2s,baz=198,slow=6.4,SNR=6.1
EIL SKP 09 11 54.9
comp=Z,19nm,0.8s,baz=144,slow=5.4,SNR=4.5
SIM Simferopol' 110.22 47 *e*P **Pdif 09 04 44.0 +0.9**
SIM *i* 09 08 43.2
SIM *e* 09 09 25.0
SIM *e* 09 14 57.4
SIM *e*SS SS 09 24 32.0 +4.4
SIM pmax pmax
comp=Z,220nm,12.0s
SIM pmax pmax
comp=Z,110nm,1.2s
SIM pmax pmax
comp=Z,600nm,2.0s
SIM pmax pmax
comp=E,3μm,11.0s
SIM smax smax
comp=N,3μm,12.0s
MMAI Mount Meron Ar 110.69 60 PKiKP **PKiKP 09 08 44.8 +0.4**
comp=N,12nm,0.4s,baz=90,slow=1.4,SNR=12
MMAI SKP 09 11 56.5
comp=N,7.0nm,0.5s,baz=38,slow=2.6,SNR=5.8
MMAI PKKPbc **PKKPbc 09 19 45.6 +1.3**
comp=N,22nm,0.6s,baz=81,slow=4.2,SNR=11
OBN Obninsk 111.42 36 PKiKP **PKiKP 09 08 46.4 +1.5**
comp=N,65nm,0.4s,baz=234,slow=3.4,SNR=6.5
OBN Obninsk 111.42 36 *c i* PKiKP **PKiKP 09 08 46.2 +1.3**
OBN *e* 09 09 28.2
OBN *i* 09 09 47.9
OBN *e*PPP PPP 09 11 53.3
OBN *i* 09 15 00.6
OBN *i* SP SP 09 18 32.8 -1.1
OBN *e*PPS PPS 09 20 19.9
OBN *i* SS **SS 09 24 42.8 -0.1**
OBN *e*SSS SSS 09 29 04.1
OBN pmax pmax
comp=Z,181nm,1.2s
OBN MLR MLR
comp=Z,13μm,18.0s
ASF Jabal al Asfar 111.89 61 PKiKP **PKiKP 09 08 47.3 +0.6**
comp=Z,109nm,1.1s,baz=185,slow=0.5,SNR=12
ASF SKP 09 11 57.6
comp=Z,20nm,0.8s,baz=213,slow=1.0,SNR=4.4
MOS Moscow 111.96 36 *i* PKiKP **PKiKP 09 08 48.4 +2.5**
MOS *e* 09 09 30.5
MOS *e* 09 09 50.4
MOS *e*PPP PPP 09 11 54.5
MOS *e* 09 15 00.2
MOS *e*SP SP 09 18 36.5 -2.3
MOS *e*SS **SS 09 24 46.2 -3.8**
MOS pmax pmax
comp=Z,144nm,1.2s
KLMR Klimovskoe 112.23 30 *e*P **Pdif 09 04 54.0 +2.4**
KLMR *i* 09 08 46.7
KLMR *e* 09 09 42.6
KLMR SP SP 09 18 35.1 -5.9
KLMR pmax pmax
comp=Z,34nm,1.7s
ANN Anapa 112.58 47 *i* PKiKP **PKiKP 09 08 41.5 -5.9**
ANN *e* 09 09 37.8
ANN *e* 09 15 02.6
ANN *e*SP SP 09 18 45.7 +0.6
ANN *e*PS PKKPbc 09 19 19.9 -19
ANN *e*SS **SS 09 24 53.6 -5.2**
ANN pmax pmax
comp=Z,259nm,1.1s
ANN MLR MLR
comp=N,7μm,18.0s
ANN MLR MLR
comp=Z,11μm,22.0s
ANN MLR MLR
comp=E,5μm,22.0s
LPSR Galich'ya Gora 113.06 39 *e*PKiKP **PKiKP 09 08 47.9 -0.2**
LPSR *e* 09 09 38.5
LPSR *e*SP SP 09 18 42.9 -6.1
LPSR pmax pmax
comp=Z,140nm,0.9s
VORR Voronezh 113.32 40 *e*PKiKP **PKiKP 09 08 47.9 -0.7**
VORR *e* 09 09 42.5
VORR *e*SP SP 09 18 50.5 -1.0
VORR pmax pmax
comp=Z,80nm,1.0s
VSR Storozhevoye 113.34 40 *e*PKiKP **PKiKP 09 08 46.0 -2.7**
VSR *e* 09 09 42.0
VSR *e*SP SP 09 18 47.6 -4.1
VSR pmax pmax
comp=Z,80nm,1.0s
VORD Divnogorie 113.45 41 *e*PKiKP **PKiKP 09 08 47.6 -1.3**
VORD *e* 09 09 43.2
VORD *e*SP SP 09 18 51.4 -1.3
VORD pmax pmax
comp=Z,60nm,1.1s
DZM Mont Dzumac 113.66 238 *e*SKSac **SKSac 09 15 07.1 -4.3**
comp=Z,7μm,29.8s
DZM *e*S SKKSac 09 15 59.8 -22
comp=Z,13μm,27.4s
DZM *e*SP SP 09 18 54.7 -1.4
comp=Z,28μm,26.8s
DZM *e*SS **SS 09 25 14.8 +1.3**
comp=Z,21μm,31.6s
DZM Mont Dzumac 113.66 238 *e*LQ LQ 09 38 22.5
comp=Z,61μm,34.6s
DZM *e*LR LR 09 43 15.8
comp=Z,19μm,28.6s
SOC Sochi 114.27 49 *i* P **Pdif 09 05 03.2 +2.1**
SOC *i* 09 08 50.3
SOC *e* 09 09 46.5
SOC *e*PPP PPP 09 12 16.7
SOC *e* 09 15 10.4
SOC *e*PS PS 09 18 56.9 -35
SOC *e*SSS SSS 09 29 44.2
KTUT Trabzon 114.39 51 ⇑P **PKKPbc 09 19 36.4 +4.2**
ATD Arta Tunnel 114.78 84 P **PKiKP 09 08 54.6 +2.0**
SNR=12
LABN Labinsk 114.93 47 *i* PKiKP **PKiKP 09 08 52.3 +0.3**
LABN *e* 09 09 56.3
LABN *e* 09 15 14.9
LABN *e*SP SP 09 19 05.5 -1.2
LABN *e*PS **PS 09 19 43.2 +4.9**
LABN *e*SS **SS 09 25 25.2 -4.5**
LABN pmax pmax
comp=Z,102nm,0.7s
VRH Novokhopyorsk 114.94 40 *e*PKiKP **PKiKP 09 08 50.9 -0.8**
VRH *e* 09 09 50.7
VRH *e*SP SP 09 19 01.9 -4.4
VRH *e*SS **SS 09 25 26.7 -2.7**
VRH pmax pmax
comp=Z,110nm,1.0s
BCA Borcka 115.78 51 ⇑P **PKKPbc 09 19 30.8 +3.2**
BILL Bilibino 115.80 340 *i* PKiKP **PKPdf 09 08 52.1 -0.9**
BILL *i* 09 09 58.9
BILL pmax pmax
comp=Z,55nm,0.7s
SHA1 Shidzhatmaz 116.38 48 *i* PKiKP **PKPdf 09 08 53.5 -1.6**
KIV Kislovodsk 116.39 48 P **PKiKP 09 08 55.3 +0.4**
KIV Kislovodsk 116.39 48 *e*P **Pdif 09 05 09.5 -1.2**
KIV *i* 09 08 54.5
KIV *e* 09 10 03.3
KIV *e* 09 15 20.2
KIV *e*PS **PKKPdf 09 19 51.5 +0.6**
KIV *e*SS SS 09 25 48.1 -0.9
KIV *e*SSS SSS 09 30 11.9

KIV pmax pmax
comp=Z,123nm,1.0s
KIV Kislovodsk 116.39 48 PKiKP **PKPdf 09 08 54.7 -0.2**
KVAR Kislovodsk Arr 116.39 48 PKiKP **PKPdf 09 08 54.8 -0.1**
comp=Z,8.9nm,0.5s,baz=274,slow=2.1,SNR=2.7
NEUR Neytrino 116.45 49 *i* PKIKP **PKPdf 09 08 52.1 -3.1**
GOF Gofitskoye 116.54 47 *ce*PKIKP **PKiKP 09 08 56.9 +1.8**
KBZ Khabaz 116.56 48 PKP **PKiKP 09 08 55.2 +0.1**
comp=Z,81nm,0.9s,baz=188,slow=0.6,SNR=25
KBZ PP **PP 09 10 05.3 -1.2**
comp=Z,64nm,0.9s,baz=274,slow=6.8,SNR=3.7
KBZ PKKPbc **PKKPab 09 19 27.0 -0.8**
comp=Z,32nm,0.9s,baz=114,slow=3.7,SNR=7.6
KBZ Khabaz 116.56 48 *c i* PKIKP **PKPdf 09 08 54.3 -0.8**
KIRV Kirov 117.64 31 PKP **PKiKP 09 08 57.8 +1.1**
comp=Z,93nm,0.7s,baz=313,slow=2.8,SNR=16
KIRV PP **PP 09 10 12.1 -1.3**
comp=Z,33nm,0.9s,baz=281,slow=6.2,SNR=4.1
KIRV Kirov 117.64 31 *i* PKIKP **PKPdf 09 08 55.9 -0.8**
GNI Garni 118.22 52 PKP **PKiKP 09 08 59.0 +0.2**
comp=Z,99nm,0.8s,baz=18,slow=2.8,SNR=15
GNI PP **PP 09 10 17.4 -1.1**
comp=Z,104nm,1.1s,baz=190,slow=9.2,SNR=7.0
GNI Garni 118.22 52 P **PKiKP 09 08 59.4 +0.7**
GNI Garni 118.22 52 *i* PKIKP **PKPdf 09 08 57.0 -1.7**
GNI Garni 118.22 52 PKiKP **PKPdf 09 08 58.2 -0.5**
BELG Belogornoye 118.33 38 PKP **PKPdf 09 08 58.0 -0.2**
comp=Z,150nm,0.8s,baz=314,slow=3.4,SNR=22
BELG PP **PP 09 10 17.4 -1.0**
comp=Z,416nm,1.2s,baz=102,slow=6.0,SNR=6.3
BELG Belogornoye 118.33 38 *i* PKIKP **PKPdf 09 08 57.2 -1.0**
NAX Nakhchivan 118.88 53 PKIKP **PKiKP 09 09 00.7 +0.8**
RAYN Ar Rayn 118.90 71 P **PKiKP 09 09 00.6 +0.2**
RAYN Ar Rayn 118.90 71 *i* PKiKP **PKPdf 09 09 00.2 -0.1**
SNR=5.8
MNGR Mingechevir, A 119.94 51 PKIKP **PKiKP 09 09 02.3 +0.5**
SEKA Sheki 119.98 51 PKIKP **PKPdf 09 09 01.7 -0.2**
MAK Makhachkala 119.98 49 *i* P **Pdif 09 05 25.9 -0.6**
MAK *i* 09 09 03.6
MAK *e* 09 10 06.1
MAK *e* 09 10 30.5
MAK *e* 09 15 31.8
MAK pmax pmax
comp=Z,283nm,1.3s
AKT Akhty 120.34 50 *i* PKIKP **PKPdf 09 09 00.6 -2.1**
AKT *e**PP **pPKPdf 09 10 05.4 -6.0**
AKT *e**SP **PP 09 10 31.6 -1.2**
AKT *e* 09 15 30.6
AKT *e* 09 15 47.0
AKT *e*SP SP 09 19 52.4 -3.4
AKT *e*PS **PS 09 20 22.8 -4.5**
AKT pmax pmax
comp=Z,234nm,1.1s
KBD Kabd 121.08 65 P **PKiKP 09 09 04.4 0.0**
LKRN Lenkeran, Azer 121.47 53 PKIKP **PKPdf 09 09 04.6 -0.1**
TIXI Tiksi 121.93 353 PKP **PKPdf 09 09 04.2 -0.4**
comp=Z,82nm,0.7s,baz=48,slow=3.4,SNR=25
TIXI Tiksi 121.93 353 *i* PKIKP **PKPdf 09 09 04.0 -0.6**
MSEY Mahe Island 122.70 105 P **PKiKP 09 09 08.8 +0.6**
MSEY Mahe Island 122.70 105 *i* PKiKP **PKiKP 09 09 08.4 +0.3**
SNR=21
ARTI Arti 122.95 31 PKP **PKPdf 09 09 07.1 +0.1**
comp=Z,107nm,0.8s,baz=279,slow=1.8,SNR=24
ARTI PP **PP 09 10 48.8 -0.8**
comp=Z,88nm,0.9s,baz=290,slow=6.9,SNR=5.6
ARTI PKKPbc **PKKPbc 09 19 03.3 +1.4**
comp=Z,87nm,0.7s,baz=133,slow=4.6,SNR=14
SEY Seymchan 123.42 338 *i* PKIKP **PKPdf 09 09 06.8 -0.9**
NRIK Noril'sk 123.58 9 PKP **PKPdf 09 09 07.8 -0.1**
comp=Z,73nm,1.0s,baz=27,slow=1.1,SNR=24
NRIK PP **PP 09 10 50.6 -2.6**
comp=Z,99nm,1.1s,baz=338,slow=7.2,SNR=6.2
NRIK PKKPbc **PKKPbc 09 18 58.6 -1.3**
comp=Z,321nm,1.1s,baz=147,slow=4.5,SNR=22
NRIK SKKPbc SKKPbc 09 22 23.6 -1.3
comp=Z,63nm,1.2s,baz=140,slow=6.7,SNR=4.0
NRIK SKKP 09 22 48.3
comp=Z,191nm,1.2s,baz=115,slow=4.9,SNR=4.9
NRIK Noril'sk 123.58 9 *i* PKIKP **PKPdf 09 09 07.2 -0.7**
SAKB Bahrain 123.58 68 P **PKPdf 09 09 08.3 -0.8**
SMRA Abu-Samra 123.81 70 P **PKPdf 09 09 09.3 -0.3**
SVE Sverdlovsk 123.87 30 *i* PKIKP **PKiKP 09 09 09.1 0.0**
SVE *e* 09 10 53.5
SVE *e* 09 15 42.8
SVE *e* 09 20 31.0
SVE *e* 09 21 50.9
SVE *e*SS SS 09 27 28.6 +5.5
SVE pmax pmax
comp=Z,139nm,1.0s
SHMA Al-Shehemyia 123.96 69 P **PKPdf 09 09 09.0 -0.9**
TRNA Turayna 124.17 70 P **PKPdf 09 09 10.0 -0.3**
SNR=5.3
SLWR Sila 124.58 71 P **PKPdf 09 09 10.8 -0.3**
STKA Stephens Creek 124.64 213 PKP **PKiKP 09 09 12.2 +0.7**
comp=Z,822nm,0.8s,baz=112,slow=2.6,SNR=44
STKA SKP 09 12 23.8
comp=Z,96nm,1.0s,baz=98,slow=3.1,SNR=4.0
STKA PKKPbc **PKKPbc 09 18 54.6 -0.3**
comp=Z,14nm,0.8s,baz=28,slow=4.7,SNR=7.5
STKA Stephens Creek 124.64 213 *i* PKIKP **PKPdf 09 09 09.1 -2.0**
AKTO Aktyubinsk 125.12 38 PKP **PKiKP 09 09 11.6 -0.2**
comp=Z,67nm,0.8s,baz=302,slow=1.7,SNR=34
AKTO PP **PP 09 11 04.2 -0.1**
comp=Z,32nm,0.9s,baz=308,slow=7.7,SNR=4.7
AKTO PKKPbc **PKKPbc 09 18 56.4 +3.2**
comp=Z,50nm,1.0s,baz=91,slow=3.5,SNR=9.7
AKTO PKKP **PKKPdf 09 19 34.3 +0.1**
comp=Z,16nm,0.6s,baz=126,slow=3.3,SNR=5.1
AKTO Aktyubinsk 125.12 38 PKIKP **PKPdf 09 09 11.3 -0.1**
H11N3 WAKE ISLAND Hyl 125.55 284 PKP **PKiKP 09 09 16.1 +2.8**
baz=209,slow=7.1,SNR=39
H11N2 WAKE ISLAND Hyl 125.57 284 PKP **PKiKP 09 09 16.5 +3.3**
baz=209,slow=7.1,SNR=14
H11N1 WAKE ISLAND Hyl 125.57 284 PKP **PKiKP 09 09 16.3 +3.0**
baz=209,slow=7.1,SNR=26
H11S2 WAKE ISLAND Hyl 125.65 282 PKP **PKiKP 09 09 15.0 +1.5**
baz=243,slow=9.1,SNR=8.8
ABTO Aybut 125.65 79 P **PKiKP 09 09 13.8 0.0**
SNR=14
H11S1 WAKE ISLAND Hyl 125.65 282 PKP **PKiKP 09 09 14.8 +1.3**
baz=243,slow=9.1,SNR=8.5
JRN Qarnain Island 125.66 70 P **PKiKP 09 09 15.5 +1.9**
H11S3 WAKE ISLAND Hyl 125.66 282 PKP **PKiKP 09 09 14.8 +1.3**
baz=243,slow=9.1,SNR=8.3
GHWR Ruwais 125.67 71 P **PKiKP 09 09 15.2 +1.5**
PET Petropavlovsk 125.91 326 *eP* **Pdif 09 05 56.6 +4.0**
PET *e* 09 09 13.1
PET *e* 09 11 18.0
PET *e* 09 15 53.4
PET *e*SS SS 09 27 54.3 +5.5
PET pmax pmax
comp=Z,8μm,16.3s
MA2 Magadan 126.12 336 PKP **PKPdf 09 09 13.1 +0.1**
comp=Z,108nm,0.7s,baz=57,slow=4.1,SNR=45
MA2 PP **PP 09 11 10.6 +0.1**
comp=Z,158nm,1.1s,baz=49,slow=8.4,SNR=10
MA2 PKKPbc **PKKPbc 09 18 48.2 -1.5**
comp=Z,51nm,1.0s,baz=200,slow=3.3,SNR=9.5
MA2 Magadan 126.12 336 *i* PKIKP **PKPdf 09 09 12.4 -0.6**
WHFO Wadi Hawf 126.16 78 P **PKPdf 09 09 14.3 -0.1**
SNR=8.0
MZR Muzera 126.19 72 P **PKiKP 09 09 14.7 -0.1**
SNR=12
MZR Muzera 126.19 72 *i* PKiKP **PKPdf 09 09 14.0 -0.2**
SNR=16
PEA0B Petropavlovsk- 126.38 326 *i* PKIKP **PKPdf 09 09 12.4 -1.3**
PETK Petropavlovsk- 126.38 326 PKP **PKPdf 09 09 13.9 +0.2**
comp=Z,234nm,0.9s,baz=78,slow=3.3,SNR=50
PETK SKPbc SKPbc 09 12 06.8
comp=Z,185nm,0.9s,baz=88,slow=5.9,SNR=10
PETK SKP 09 12 25.1
comp=Z,159nm,1.1s,baz=107,slow=5.0,SNR=3.7
PETK PKKPbc **PKKPbc 09 18 49.5 +0.9**
comp=Z,2.7nm,0.6s,baz=238,slow=4.6,SNR=8.2
PETK PKKP **PKKPdf 09 19 33.9 +2.1**
comp=Z,4.6nm,0.5s,baz=161,slow=0.6,SNR=8.4
PETK Petropavlovsk- 126.38 326 PKIKP **PKPdf 09 09 14.0 +0.2**
RBK Rabkut 126.53 79 P **PKPdf 09 09 15.0 -0.1**
DOK Doka 126.56 78 P **PKPdf 09 09 14.9 -0.2**
SNR=7.0
AB31 Akbulak array 126.72 39 *i* PKIKP **PKPdf 09 09 14.3 -0.2**
UMZA Um Al Zommool 127.74 73 P **PKiKP 09 09 17.9 +0.1**
ASUD Al Ashush, Dub 127.91 70 P **PKiKP 09 09 18.2 +0.1**
SNR=8.8
ASUD Al Ashush, Dub 127.91 70 *i* PKiKP **PKiKP 09 09 17.9 -0.2**
SNR=7.1
FAQ Al Faqa, Dubai 128.15 70 P **PKPdf 09 09 18.2 +0.3**
SNR=9.3
FAQ Al Faqa, Dubai 128.15 70 *i* PKiKP **PKPdf 09 09 18.3 +0.3**
SNR=6.0
UMQ Umm Al-Quwin 128.20 69 P **PKiKP 09 09 21.1 +2.5**
SNR=5.9
UMQ Umm Al-Quwin 128.20 69 *i* PKiKP **PKPdf 09 09 17.8 -0.2**
SNR=5.6
NAZ Nazwa, Dubai 128.21 70 P **PKiKP 09 09 18.5 -0.2**
SNR=7.0
NAZ Nazwa, Dubai 128.21 70 *i* PKiKP **PKPdf 09 09 18.4 +0.3**
SNR=9.9
ALNE Al Ain 128.29 71 P **PKiKP 09 09 18.7 -0.2**
SNR=13
ALNE Al Ain 128.29 71 *i* PKiKP **PKPdf 09 09 18.2 -0.1**
SNR=6.5
SKR Severo-Kuril's 128.36 324 *i* PKIKP **PKPdf 09 09 17.3 -0.2**
ASHO Ashiyiah 128.57 70 P **PKPdf 09 09 18.7 -0.2**
SNR=6.9
ASHO Ashiyiah 128.57 70 *i* PKiKP **PKPdf 09 09 18.6 -0.2**
SNR=6.4
SHME Shamm 128.62 68 P **PKiKP 09 09 19.2 -0.3**
SNR=5.8
SHME Shamm 128.62 68 *i* PKiKP **PKPdf 09 09 18.6 -0.2**
SNR=15
HATD Hatta, Dubai 128.64 70 P **PKPdf 09 09 18.9 0.0**
SNR=12
HATD Hatta, Dubai 128.64 70 *i* PKiKP **PKPdf 09 09 18.2 -0.7**
SNR=12
MASF Masafi 128.65 69 P **PKiKP 09 09 20.1 +0.5**
SNR=11
MSFE Esma-Masafi 128.65 69 *i* PKiKP **PKPdf 09 09 18.8 -0.1**
SNR=12
UOSS Minazif 128.70 70 P **PKPdf 09 09 18.6 -0.5**
UOSS Minazif 128.70 70 *i* PKiKP **PKPdf 09 09 17.8 -1.2**
SNR=11
BANOM Banah 128.77 68 P **PKPdf 09 09 19.3 +0.2**
BANOM Banah 128.77 68 *i* PKiKP **PKPdf 09 09 18.7 -0.5**
SNR=11
MDH Madha 128.78 69 P **PKiKP 09 09 20.2 +0.4**
ARQ Araqi 129.00 72 P **PKiKP 09 09 21.3 +1.0**
SNR=17
SOHO SOHO 129.01 71 P **PKiKP 09 09 20.1 -0.2**
SOHO SOHO 129.01 71 *i* PKiKP **PKPdf 09 09 19.1 -0.5**
SNR=40
BSY Bisya 129.62 73 P **PKPdf 09 09 20.8 -0.1**
SNR=23
DQM DQM 129.85 76 P **PKiKP 09 09 22.8 +0.7**
SNR=9.8
JASK Jask - Hormozg 130.18 68 P **PKiKP 09 09 23.2 +0.6**
MHTO MHTO 130.30 75 P **PKPdf 09 09 22.4 +0.3**
SNR=17
JMDO Jabal Madar 130.45 73 P **PKPdf 09 09 22.5 +0.1**
SNR=10
H01W2 Cape Leeuwin H 130.53 185 PKP **PKiKP 09 09 25.5 +2.6**
baz=155,slow=3.9,SNR=21
H01W1 Cape Leeuwin H 130.54 185 PKP **PKiKP 09 09 25.6 +2.7**
baz=155,slow=3.9,SNR=14
H01W3 Cape Leeuwin H 130.55 185 PKP **PKiKP 09 09 27.4 +4.5**
baz=155,slow=3.9,SNR=11
BRVK Borovoye 130.58 30 *i* PKIKP **PKPdf 09 09 22.0 +0.3**
BVA0 Borovoye Array 130.65 30 *i* PKIKP **PKPdf 09 09 21.8 -0.1**
BVAR Borovoye Array 130.65 30 PKhKP PKPpre 09 09 13.5
comp=Z,9.0nm,0.5s,baz=297,slow=2.0,SNR=7.3
BVAR PKP **PKiKP 09 09 22.4 -0.3**
comp=Z,123nm,1.0s,baz=297,slow=2.6,SNR=32
BVAR PP **PP 09 11 39.0 -1.1**
comp=Z,48nm,0.9s,baz=302,slow=2.7,SNR=4.0
BVAR SKPbc **SKPbc 09 12 19.5 -1.0**
comp=Z,50nm,0.4s,baz=292,slow=3.0,SNR=11
BVAR PKKP **PKKPdf 09 19 26.3 +2.7**
comp=Z,21nm,0.8s,baz=119,slow=3.4,SNR=4.8
BVAR SKKPbc **SKKPbc 09 22 01.9 +2.1**
comp=Z,10nm,0.7s,baz=140,slow=4.1,SNR=4.2
YAK Yakutsk 130.66 348 PKhKP PKPpre 09 09 13.1
comp=Z,44nm,0.5s,baz=231,slow=0.9,SNR=5.3
YAK PKP **PKPdf 09 09 20.7 -0.8**
comp=Z,248nm,0.5s,baz=331,slow=0.2,SNR=13
YAK PP **PP 09 11 38.9 -0.8**
comp=Z,96nm,0.8s,baz=31,slow=4.1,SNR=4.4
YAK SKPbc **SKPbc 09 12 20.2 0.0**
comp=Z,1μm,0.8s,baz=137,slow=0.4,SNR=27
YAK Yakutsk 130.66 348 *e*PKIKP **PKiKP 09 09 22.6 +0.1**
YAK *e* 09 11 40.8
YAK pmax pmax
comp=Z,494nm,0.9s
YAK pmax pmax
comp=N,86nm,1.2s
YAK pmax pmax
comp=E,95nm,1.1s
YAK pmax pmax
comp=Z,816nm,2.8s
YAK pmax pmax
comp=N,398nm,3.0s
YAK pmax pmax
comp=E,114nm,1.4s
WSAR Wadi Sarin 130.94 72 P **PKiKP 09 09 23.9 -0.4**
SNR=18
WBK Wadi Bani Khal 131.25 73 P **PKiKP 09 09 25.4 +0.5**
SNR=24
JLN Jalan Bani Buh 131.66 73 P **PKiKP 09 09 25.3 -0.4**
SNR=31
BRZS Berezniki 133.60 33 *e*PKIKP **PKPdf 09 09 25.4 -2.1**
BRZS *e* 09 11 57.3
BRZS Berezniki 133.60 33 *e*PKP **PKPdf 09 09 25.4 -2.1**
BRZS *e*PP **PP 09 11 57.4 -1.7**
BRZS *e*SKP 09 12 35.1
OTUK Ortayu 134.41 35 PKIKP **PKPdf 09 09 29.6 +0.5**
NKL Nikolayevsk 134.59 334 *i* PKIKP **PKPdf 09 09 29.6 +0.4**
NKL MLR MLR
comp=E,6μm,14.0s
NKL MLR MLR
comp=N,9μm,17.0s
NKL MLR MLR
comp=Z,22μm,21.0s
ASAR Alice Springs 135.26 212 PKhKP PKPpre 09 09 19.4
comp=Z,1.8nm,0.7s,baz=128,slow=5.2,SNR=6.9
ASAR PKP **PKiKP 09 09 33.6 +0.5**
comp=Z,677nm,0.8s,baz=135,slow=2.1,SNR=30
ASAR PP **PP 09 12 07.8 -1.6**
comp=Z,86nm,1.0s,baz=152,slow=6.7,SNR=6.1
ASAR SKPbc **SKPbc 09 12 36.9 -0.4**
comp=Z,140nm,0.9s,baz=145,slow=3.6,SNR=6.8
ASAR PKKP **PKKPdf 09 19 16.2 +2.3**
comp=Z,3.6nm,0.4s,baz=334,slow=2.3,SNR=5.7
ASAR SKKPbc **SKKPbc 09 21 41.9 +1.5**
comp=Z,20nm,1.0s,baz=338,slow=4.8,SNR=4.7
TYV Tymovskoe 135.31 331 *e*PKIKP **PKPdf 09 09 30.8 +0.2**
TYV pmax pmax
comp=Z,198nm,0.8s
TYV pmax pmax
comp=Z,2μm,3.8s
BRLS Borolday 135.56 42 *e*PKIKP **PKPdf 09 09 28.9 -2.5**
BRLS Borolday 135.56 42 *e*PKP **PKPdf 09 09 28.9 -2.5**
BRLS *e*SKP 09 12 38.5
KK31 Karatay Array 135.97 42 *i* PKIKP **PKPdf 09 09 31.8 -0.4**
PMG Port Moresby 136.02 239 PKhKP PKPpre 09 09 24.6
comp=Z,150nm,1.0s,baz=156,slow=0.7,SNR=7.1
PMG PKP **PKiKP 09 09 35.6 +0.8**
comp=Z,740nm,0.9s,baz=181,slow=1.3,SNR=13
PMG SKPbc **SKPbc 09 12 40.5 +0.8**
comp=Z,482nm,1.1s,baz=89,slow=0.5,SNR=12
KURK Kurchatov 136.05 28 PKIKP **PKPdf 09 09 32.6 +0.6**
KURBB Kurchatov Arra 136.08 29 PKhKP PKPpre 09 09 22.2
comp=Z,21nm,0.7s,baz=312,slow=3.0,SNR=20
KURBB PKP **PKPdf 09 09 32.6 +0.5**
comp=Z,74nm,0.7s,baz=314,slow=2.1,SNR=28
KURBB PP **PP 09 12 14.7 +0.3**
comp=Z,89nm,1.2s,baz=322,slow=6.0,SNR=9.0
KURBB SKPbc **SKPbc 09 12 39.6 +0.9**
comp=Z,130nm,0.7s,baz=310,slow=3.3,SNR=8.5
KURBB PKKP **PKKPdf 09 19 15.4 +2.5**
comp=Z,5.8nm,0.7s,baz=126,slow=1.9,SNR=5.8
KURBB SKKPbc **SKKPbc 09 21 37.8 -2.0**
comp=Z,49nm,1.1s,baz=120,slow=3.8,SNR=5.3
KURBB Kurchatov Arra 136.08 29 PKIKP **PKPdf 09 09 29.6 -2.5**
ZALV Zalesovo Beam 136.14 21 PKhKP PKPpre 09 09 20.0
comp=Z,15nm,0.5s,baz=318,slow=3.2,SNR=16
ZALV PKP **PKPdf 09 09 32.1 0.0**
comp=Z,569nm,0.8s,baz=262,slow=1.2,SNR=46
ZALV SKPbc **SKPbc 09 12 39.6 +0.8**
comp=Z,282nm,1.0s,baz=336,slow=3.0,SNR=9.5
ZALV SKKPbc **SKKPbc 09 21 37.9 -1.9**
comp=Z,29nm,0.8s,baz=112,slow=4.8,SNR=4.1
H08S1 Diego Garcia H 136.72 118 PKP **PKiKP 09 09 37.9 +2.0**
baz=322,slow=5.8,SNR=8.6
H08S2 Diego Garcia H 136.74 118 PKP **PKiKP 09 09 37.0 +1.1**
baz=322,slow=5.8,SNR=19
H08S3 Diego Garcia H 136.74 118 PKP **PKiKP 09 09 36.6 +0.7**
baz=322,slow=5.8,SNR=19
UGL Uglegorsk 136.78 329 *e*PKHKP PKPpre 09 09 20.8
UGL *e* 09 09 33.0
UGL *e* 09 12 25.2
UGL *e* 09 30 05.0
UGL pmax pmax
comp=Z,50nm,1.0s
DGAR Diego Garcia 136.82 118 *c i* PKIKP **PKPdf 09 09 35.0 +0.4**
DGAR pmax pmax
comp=Z,413nm,1.0s
BOD Bodaibo 136.83 357 *e*PKHKP PKPpre 09 09 20.1
BOD pmax pmax
comp=Z,275nm,1.1s
YUK Yuzh-Kuril'sk 137.71 321 *i* PKIKP **PKPdf 09 09 36.3 +1.0**
YUK *i* 09 22 19.2
YUK *i* SSS SSS 09 35 31.8
YUK pmax pmax
comp=Z,977nm,1.1s
YUK pmax pmax
comp=Z,853nm,2.1s
YSS Yuzhno-Sakhali 137.79 326 *i* PKHKP PKPpre 09 09 25.4
YSS *e* 09 09 36.0
YSS *e* 09 12 24.0
YSS *e* 09 24 18.5
YSS *e*SS SS 09 30 20.4 +7.7
YSS pmax pmax
comp=Z,60nm,0.6s
YSS pmax pmax
comp=Z,2μm,3.0s
YSS pmax pmax
comp=Z,520nm,0.8s
WRA Warramunga Arr 138.05 216 PKhKP PKPpre 09 09 31.3
comp=Z,59nm,0.6s,baz=144,slow=3.5,SNR=79
WRA PKP **PKPdf 09 09 37.8 +1.0**
comp=Z,1μm,0.7s,baz=142,slow=1.7,SNR=30
WRA SKPbc **SKPbc 09 12 45.0 -0.6**
comp=Z,392nm,0.9s,baz=140,slow=2.3,SNR=19
WRA PKKP **PKKPdf 09 19 10.6 +2.1**
comp=Z,5.0nm,0.9s,baz=327,slow=1.9,SNR=5.2
GRNR Gornyy 138.13 335 *e*PKHKP PKPpre 09 09 25.3
EKS2 Erkin-Say 138.28 41 P PKPpre 09 09 30.7
SNR=10.0
KBU Kabul Universi 138.32 54 PKP **PKPdf 09 09 33.3 -3.8**
SGDS Sogindy 138.39 39 *e*PKIKP **PKPdf 09 09 33.9 -2.8**
SGDS Sogindy 138.39 39 *e*PKP **PKPdf 09 09 33.9 -2.8**
USP Ospenovka 138.41 40 P **PKPdf 09 09 31.7 -5.0**
SNR=10
AML Almayashu 138.49 42 P **PKPdf 09 09 37.3 -0.1**
SNR=21
CHMS Chumysh 138.71 40 P **PKPdf 09 09 34.9 -2.4**
SNR=6.0
ZEA Zeya 138.72 344 *e*PKHKP PKPpre 09 09 26.6
ZEA *e* 09 12 31.4
ZEA pmax pmax
comp=E,50nm,0.6s
ZEA pmax pmax
comp=Z,170nm,1.0s
AAK Ala-Archa 138.74 40 SKKPbc SKKPbc 09 21 32.2 +2.7
comp=Z,59nm,1.2s,baz=144,slow=4.5,SNR=3.7
AAK Ala-Archa 138.74 40 P PKPpre 09 09 33.6
SNR=17
AAK Ala-Archa 138.74 40 *d i* PKHKP PKPpre 09 09 30.0
AAK *i* 09 09 37.5
AAK Ala-Archa 138.74 40 *i* PKPdf PKPpre 09 09 30.7
SNR=27
UCH Uchtor 138.97 41 P **PKiKP 09 09 39.6 -1.0**
SNR=21
KBK Karagaybulak 139.02 40 P PKPpre 09 09 30.9
SNR=13
TKM2 Tokmak 2 139.28 39 P PKPpre 09 09 30.0
SNR=11
ASAJ Asahikawa 139.60 323 PKhKP PKPpre 09 09 32.2
comp=Z,45nm,0.6s,baz=38,slow=4.5,SNR=14
ASAJ SKPbc **SKPbc 09 12 47.9 -1.2**
comp=Z,294nm,0.8s,baz=329,slow=2.8,SNR=11
TDK Taldyqorghan 139.70 35 *e*PKIKP **PKPdf 09 09 36.4 -2.6**
TDK *e* 09 12 35.0
TDK Taldyqorghan 139.70 35 *e*PKP **PKPdf 09 09 36.5 -2.6**
TDK *e*PP **PP 09 12 35.1 -2.1**
TNSS Tian-Shan 140.03 38 *e*PKIKP **PKPdf 09 09 37.2 -2.9**
TNSS Tian-Shan 140.03 38 *e*PKP **PKPdf 09 09 37.3 -2.9**
ULHL Ulahol 140.04 40 P PKPpre 09 09 32.4
SNR=19
MAKZ Makanchi 140.37 30 PKHKP PKPpre 09 09 32.8
MK31 Makanchi Array 140.53 30 *c i* PKHKP PKPpre 09 09 34.3
MKAR Makanchi Array 140.53 30 PKhKP PKPpre 09 09 33.9
comp=Z,14nm,0.4s,baz=319,slow=2.9,SNR=85
MKAR PKP **PKPdf 09 09 39.3 -1.2**
comp=Z,49nm,0.6s,baz=330,slow=2.8,SNR=40
MKAR SKPbc **SKPbc 09 12 52.1 +0.6**
comp=Z,105nm,0.7s,baz=331,slow=2.8,SNR=7.1
MKAR SKKPbc **SKKPbc 09 21 19.8 -2.8**
comp=Z,33nm,0.9s,baz=128,slow=6.5,SNR=11
KPKS Kokpek 140.80 37 *e*PKIKP **PKPdf 09 09 38.3 -2.8**
KPKS Kokpek 140.80 37 *e*PKP **PKPdf 09 09 38.4 -2.8**
ZHN Zhinishke 140.84 37 *e*PKIKP **PKPdf 09 09 38.2 -3.0**
ZHN Zhinishke 140.84 37 *e*PKP **PKPdf 09 09 38.2 -3.0**
SATY Saty 140.89 37 *e*PKIKP **PKPdf 09 09 38.4 -2.9**
SATY Saty 140.89 37 *e*PKP **PKPdf 09 09 38.5 -2.9**
BHUJ Bhuj 141.06 71 *eP* **PKPdf 09 09 41.0 -1.1**
BHUJ IAmb IAmb 09 09 56.3
comp=Z,278nm,1.0s
KLR Kul'dur 141.19 337 PKhKP PKPpre 09 09 36.1
comp=Z,85nm,0.9s,baz=14,slow=3.4,SNR=64
KLR SKPbc **SKPbc 09 12 53.3 +0.3**
comp=Z,258nm,1.1s,baz=34,slow=2.0,SNR=4.3
KLR PKKP **PKKPdf 09 19 06.0 +3.0**
comp=Z,13nm,1.1s,baz=153,slow=3.1,SNR=4.8
KLR SKKPbc **SKKPbc 09 21 21.2 +1.2**
comp=Z,43nm,1.2s,baz=237,slow=4.4,SNR=3.7
KLR Kul'dur 141.19 337 *i* PKHKP PKPpre 09 09 36.0
UZB Uzynbulak 141.19 37 *e*PKIKP **PKPdf 09 09 39.4 -2.5**
UZB *e* 09 12 48.4
UZB Uzynbulak 141.19 37 *e*PKP **PKPdf 09 09 39.4 -2.5**
UZB *e*SKP 09 12 48.5
KSH Kashi 141.30 44 PKP **PKPdf 09 09 37.8 -4.4**
KSH PP **PP 09 12 49.6 +2.2**
KSH SKKS 09 19 11.4
KSH SS **SS 09 30 51.8 -3.0**
KSH AMB AMB
comp=Z,10μm,12.3s
KSH LR LR
comp=Z,6μm,23.4s
KSH LR LR
comp=Z,10μm,21.3s
KSH LR LR
comp=Z,14μm,22.0s
PDGK Podgornoye 141.35 36 PKIKP **PKPdf 09 09 39.2 -3.0**
SHLS Shalkode 141.44 37 *e*PKIKP **PKPdf 09 09 39.8 -2.5**
SHLS Shalkode 141.44 37 *e*PKP **PKPdf 09 09 39.8 -2.5**
HEH HeiHe 141.79 342 PKP **PKPdf 09 09 37.1 -5.4**
HEH PP **PP 09 12 48.3 -0.9**
HEH AMB AMB
comp=Z,16μm,8.6s
JOT Ohata 142.13 321 P PKPpre 09 09 39.7
IRK Irkutsk 142.26 6 *e*PKHKP PKPpre 09 09 39.0
IRK pmax pmax
comp=Z,910nm,1.8s
TEY Ternei 142.26 329 *e* 09 12 54.4
TEY ⇓*e*PKIKP PKPpre 09 09 39.6
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=Z,30nm,1.0s
TEY pmax pmax
comp=N,10.0nm,1.1s
MOY Mondy 142.41 9 *e* 09 11 08.2
MOY *e*PKIKP PKPpre 09 09 39.8
MOY *e* 09 12 53.2
CIT Chita 142.64 356 *e* 09 10 37.1
CIT *e*PKIKP PKPpre 09 09 40.1
CIT *e* 09 11 07.7
CIT *e* 09 12 57.5
CIT pmax pmax
comp=Z,880nm,1.6s
HMDM Hanimaadhoo 143.08 98 P **PKPdf 09 09 47.2 +1.3**
SNR=5.9
MBWA Marble Bar 143.11 195 P PKPbc 09 09 43.8 +0.4
FITZ Fitzroy Crossi 143.94 206 PKPdf PKPab 09 09 44.8 -0.4
FITZ Fitzroy Crossi 143.94 206 PKP PKPbc 09 09 46.0 +0.2
comp=Z,1μm,0.9s,baz=178,slow=2.4,SNR=376
FITZ SKPbc **SKiKP 09 13 02.9 +1.3**

comp=Z,281nm,0.9s,baz=194,slow=4.1,SNR=5.3
FITZ SKKPbc **SKKPbc** **09 21 06.8 +0.2**
comp=Z,37nm,0.9s,baz=345,slow=4.3,SNR=5.1
ZAK Zakamensk 143.99 7 *e*PKIKP PKPab 09 09 44.5 -0.1
ZAK *e* 09 11 08.2
ZAK *e* 09 13 01.0
ZAK pmax pmax
comp=Z,924nm,1.1s
ZAK pmax pmax
comp=Z,328nm,2.0s
JMM Marumori 144.24 316 PKPdf **PKPab** **09 09 45.0 -0.9**
JYA Atsumi 144.56 318 P PKPbc 09 09 47.2 +0.1
HIA Hailar 144.59 349 **PKPab** **09 09 45.8 -1.1**
HIA Hailar 144.59 349 PKIKP **PKPab** **09 09 45.8 -1.1**
DHRM DHARAMSHALA 144.73 54 *e*P PKPbc 09 09 47.5 -0.7
JAY Jayapura 145.07 243 PKPbc **PKPab** **09 09 50.0 +0.2**
comp=Z,677nm,1.0s,baz=181,slow=6.0,SNR=44
JAY SKPbc **SKiKP** **09 13 06.1 +2.0**
comp=Z,467nm,1.1s,baz=206,slow=5.5,SNR=6.2
JAY Jayapura 145.07 243 PKP2 **PKPab** **09 09 50.0 +0.2**
USA0B Ussuriysk Arra 145.10 332 *i* PKIKP **PKPdf** **09 09 46.6 -1.9**
USRK Ussuriysk Ar. 145.10 332 PKPbc **PKPdf** **09 09 48.4 -0.1**
USRK Ussuriysk Ar. 145.10 332 PKPbc **PKPab** **09 09 49.5 +0.6**
comp=Z,2μm,0.9s,baz=29,slow=2.8,SNR=520
USRK SKPbc **SKiKP** **09 13 04.3 +1.1**
comp=Z,184nm,0.8s,baz=352,slow=1.2,SNR=6.5
GOA Goa 145.14 84 *e*P **PKPdf** **09 09 49.1 -0.3**
GOA IAmb IAmb 09 09 55.3
comp=Z,405nm,0.8s
POO Poona 145.24 79 *e*P **PKPdf** **09 09 49.2 -0.3**
POO IAmb IAmb 09 09 56.4
comp=Z,670nm,0.7s
WMQ Urumqi 145.30 29 PKPbc **PKPbc** **09 09 49.3 -0.1**
WMQ pPKP pPKPab 09 10 56.2 -0.3
WMQ SKKS 09 19 35.0
WMQ SS **SS** **09 31 39.7 +0.3**
WMQ AMB AMB
comp=Z,6μm,8.1s
WMQ LR LR
comp=Z,10μm,20.7s
WMQ LR LR
comp=Z,12μm,23.1s
WMQ LR LR
comp=Z,10μm,20.7s
BNX BinXian 145.72 338 ⇑PKPbc **PKPdf** **09 09 49.3 -0.2**
BNX PP **PP** **09 13 13.4 +0.6**
BNX AMB AMB
comp=Z,6μm,13.9s
MDJ Mudanjiang 145.81 335 **PKPdf** **09 09 49.7 0.0**
MDJ Mudanjiang 145.81 335 PKPbc **PKPbc** **09 09 50.3 -0.5**
MDJ SS SS 09 31 45.7 +0.8
MDJ AMB AMB
comp=Z,3μm,3.8s
JSD Sado 145.82 318 P **PKPbc** **09 09 50.5 -0.5**
SMLA Simla 145.83 56 *e*P **PKPbc** **09 09 50.7 -0.5**
SMLA IAmb IAmb 09 09 58.9
comp=Z,3μm,0.9s
VLA Vladivostok 145.98 331 *d i* PKP2 **PKPdf** **09 09 50.4 +0.4**
GUMO Guam 146.13 273 SKPbc **SKiKP** **09 13 08.2 +2.1**
comp=Z,334nm,0.8s,baz=220,slow=2.3,SNR=7.6
JRY Ryogami san 146.50 315 P **PKPdf** **09 09 51.9 +0.6**
MJAR Matsushiro Arr 146.69 316 PKPbc **PKPdf** **09 09 52.2 +0.7**
comp=Z,473nm,0.7s,baz=84,slow=1.5,SNR=190
MJAR pPKPbc **pPKPdf** **09 10 58.6 -1.8**
comp=Z,90nm,1.0s,baz=91,slow=1.5,SNR=0.5
MJAR SKPbc **SKiKP** **09 13 08.7 +1.9**
comp=Z,147nm,0.8s,baz=76,slow=1.7,SNR=6.4
MAJO Matsushiro 146.69 316 PKPbc **PKPdf** **09 09 52.5 +0.9**
MAJO Matsushiro 146.69 316 PKP2 **PKPdf** **09 09 52.5 +0.9**
MAT Matsushiro 146.69 316 P **PKPdf** **09 09 52.0 +0.5**
MSHR Mys Shultsa 146.74 331 *i* PKIKP **PKPdf** **09 09 51.3 0.0**
SONM Songino Array 146.81 4 PKPbc **PKPdf** **09 09 52.5 +0.9**
comp=Z,1μm,0.7s,baz=322,slow=0.8,SNR=281
SONM pPKPbc **pPKPdf** **09 10 57.2 -3.2**
comp=Z,46nm,0.7s,baz=337,slow=3.2,SNR=0.4
SONM SKPbc **SKiKP** **09 13 07.4 +0.6**
comp=Z,34nm,0.5s,baz=317,slow=1.4,SNR=2.3
DDI Dehra Dun 146.83 57 *e*P **PKPdf** **09 09 53.0 +1.0**
DDI IAmb IAmb 09 09 59.4
comp=Z,3μm,1.1s
TRD Trivandrum 147.14 97 *e*P **PKPdf** **09 09 53.8 +0.9**
TRD IAmb IAmb 09 10 02.0
comp=Z,1μm,0.8s
JHJ Hachijo jima 2 147.29 309 PKPbc **PKiKP** **09 09 56.7 -0.7**
comp=Z,2μm,0.8s,baz=179,slow=6.2,SNR=17
JHJ SKPbc **SKiKP** **09 13 13.5 +5.4**
comp=Z,413nm,0.8s,baz=135,slow=1.4,SNR=4.5
JCJ Chichijima 147.55 298 PKP **PKPdf** **09 09 51.1 -2.1**
comp=Z,1μm,0.6s,baz=245,slow=8.2,SNR=39
JCJ PKPbc **PKPbc** **09 09 55.9 -0.3**
comp=Z,4μm,0.8s,baz=254,slow=0.6,SNR=39
CN2 Changchun 148.10 339 PKPbc **PKPdf** **09 09 52.3 -1.3**
CN2 *e*pPKP pPKPdf 09 11 00.0 -2.5
CN2 SKKS 09 19 46.8
CN2 AMB AMB
comp=Z,4μm,11.6s
CN2 LR LR
comp=Z,11μm,23.0s
CN2 LR LR
comp=Z,6μm,23.0s
CN2 LR LR
comp=Z,11μm,23.6s
BHPL Bhopal 148.15 70 *e*P **PKPdf** **09 09 54.1 -0.2**
BHPL IAmb IAmb 09 10 05.3
comp=Z,383nm,0.7s
JWT Wachi 149.28 316 P **PKPdf** **09 09 56.8 +1.0**
HYB Hyderabad 149.73 81 *e*PKPdf **PKPdf** **09 09 56.9 -0.1**
PALK Pallekele 150.39 101 PKP **PKPdf** **09 09 58.1 -0.1**
comp=Z,171nm,1.2s,baz=269,slow=2.8,SNR=28
PALK PKPbc **PKPbc** **09 10 03.7 0.0**
comp=Z,474nm,1.2s,baz=259,slow=1.5,SNR=36
PALK Pallekele 150.39 101 P **PKPdf** **09 09 58.2 0.0**
XLT XiLinHaoTe 150.41 351 *i* PKPbc **PKPdf** **09 09 57.7 +0.3**
XLT PKPab **PKPab** **09 10 15.4 +5.1**
XLT PP **PP** **09 13 38.7 -1.2**
XLT SKKS 09 20 04.0
XLT SS **SS** **09 32 34.2 -1.6**
XLT AMB AMB
comp=Z,9μm,14.0s
SNY Shenyang 150.49 339 ⇑PKPbc **PKPdf** **09 09 57.4 0.0**
SNY PP **PP** **09 13 38.6 -1.8**
SNY SKKS 09 20 06.3
SNY SS **SS** **09 32 35.7 -1.1**
SNY LR LR
comp=Z,3μm,20.4s
SNY LR LR
comp=Z,2μm,17.9s
SNY LR LR
comp=Z,11μm,19.6s
HHU Hamhung 150.51 332 PKPbc **PKPdf** **09 09 57.4 -0.1**
MALK Mahakanadarawa 150.55 99 PKP **PKPdf** **09 09 57.7 -0.6**
JHS Saijyo 150.95 318 P **PKPdf** **09 09 59.0 +0.6**
JMN Monobe 151.21 315 P **PKPdf** **09 10 00.4 +1.6**
SUJ Sinuiju 151.65 336 PKPbc **PKPdf** **09 09 59.0 -0.3**
SUJ PP **PP** **09 13 48.5 +1.3**
SUJ AmB
comp=Z,23nm,0.6s
SUJ AMS AMS
comp=Z,2μm,9.9s
SOEI Soe 151.87 211 PKP **PKPdf** **09 10 03.0 +2.5**
PYAG Pyongyang 152.01 333 PKPbc **PKPdf** **09 09 60.0 +0.1**
PYAG PP **PP** **09 13 50.4 +1.1**
PYAG AmB
comp=Z,2.7nm,0.3s
PYAG AMS AMS
comp=Z,4μm,10.0s
KSRS Korea Array 152.26 328 PKP **PKPdf** **09 10 00.5 +0.2**
comp=Z,276nm,1.0s,baz=30,slow=0.9,SNR=218
KSRS PKPbc **PKiKP** **09 10 08.6 +1.1**
comp=Z,832nm,0.8s,baz=25,slow=2.1,SNR=43
HJU Haeju 152.86 332 PKPbc **PKPdf** **09 10 00.6 -0.5**
HJU PP **PP** **09 13 55.3 +1.2**
HJU AMS AMS
comp=Z,4μm,14.0s
JNU Nakatsue 153.57 318 PKP **PKPdf** **09 10 02.5 +0.1**
comp=Z,76nm,1.0s,baz=20,slow=3.4,SNR=18
JNU PKPbc **PKiKP** **09 10 11.6 +1.2**
comp=Z,220nm,0.9s,baz=360,slow=4.5,SNR=27
JNU Nakatsue 153.57 318 P **PKPdf** **09 10 02.1 -0.2**
JTU Tsushima 153.57 322 P **PKPdf** **09 10 03.2 +1.0**
DL2 Dalian 153.76 339 *e*Pdif 09 07 55.4
DL2 PKPbc **PKPdf** **09 10 01.4 -1.0**
DL2 PKPab **PKPab** **09 10 29.6 +5.2**
DL2 pPKP pPKPdf 09 11 11.4 -0.1
DL2 PP **PP** **09 13 59.5 +0.6**
DL2 SKKS 09 20 21.1
DL2 SS **SS** **09 33 14.1 +1.4**
DL2 AMB AMB
comp=Z,4μm,8.5s
GTA Gaotai 153.81 18 PKPbc **PKPdf** **09 10 03.1 +0.5**
GTA PP **PP** **09 13 58.1 -1.2**
GTA SKKS 09 20 21.6
GTA SS **SS** **09 33 13.6 +0.3**
GTA LR LR
comp=Z,5μm,24.4s
GTA LR LR
comp=Z,4μm,24.4s
GTA LR LR
comp=Z,11μm,23.6s
HHC Hu-ho-hao-te 153.89 357 *e*PKPbc **PKPdf** **09 10 04.0 +1.3**
HHC sPKP 09 11 37.0
HHC PP **PP** **09 14 00.8 +1.3**
HHC SKKS 09 20 20.0
HHC SS **SS** **09 33 13.8 0.0**
BJI Beijing 154.15 349 PKPbc **PKPdf** **09 10 03.4 +0.5**
BJI PP **PP** **09 14 06.0 +5.1**
BJI SKKS 09 20 23.2
BJI SS **SS** **09 33 12.2 -4.3**
BJI AMB AMB
comp=Z,3μm,12.4s
BJI LR LR
comp=Z,6μm,25.0s
BJI LR LR
comp=Z,3μm,20.0s
BJI LR LR
comp=Z,5μm,23.1s
BTO Baotou 154.17 360 *i* PKPbc **PKPdf** **09 10 03.6 +0.5**
BTO PP **PP** **09 14 00.8 -0.3**
BTO SS SS 09 33 14.8 -2.0
BTO LR LR
comp=Z,14μm,18.2s
BTO LR LR
comp=Z,23μm,19.2s
BTO LR LR
comp=Z,22μm,19.6s
BJT Baijiatuau 154.18 349 PKPdf **PKPdf** **09 10 02.6 -0.4**
BJT Baijiatuau 154.18 349 PKIKP **PKPdf** **09 10 02.6 -0.4**
VIS Vishakhapatnam 154.27 80 *e*P **PKPdf** **09 10 05.1 +1.4**
VIS IAmb IAmb 09 10 25.8
comp=Z,188nm,0.9s
GOMU GeErMu 154.66 30 PKPbc **PKPdf** **09 10 04.0 -0.2**
GOMU PP **PP** **09 14 03.4 -1.3**
GOMU SKKS 09 20 24.9
GOMU AMB AMB
comp=Z,9μm,7.7s
GOMU LR LR
comp=Z,6μm,19.2s
GOMU LR LR
comp=Z,9μm,19.0s
GOMU LR LR
comp=Z,13μm,19.6s
BOK Bokaro 155.58 65 *e*P **PKPdf** **09 10 05.5 +0.1**
BOK IAmb IAmb 09 10 23.8
comp=Z,434nm,1.3s
GTK Tadong 156.49 54 *e*P **PKPdf** **09 10 07.3 +0.7**
GTK IAmb IAmb 09 10 42.2
comp=Z,330nm,1.0s
TIY Taiyuan 156.96 355 PKP **PKPdf** **09 10 05.5 -1.3**
TIY PKPab **PKPab** **09 10 39.9 +1.7**
TIY pPKP **pPKPdf** **09 11 16.6 +0.6**
TIY PP **PP** **09 14 22.8 +6.3**
TIY SKKS 09 20 41.4
TIY SS **SS** **09 33 45.4 -1.3**
TIY AMB AMB
comp=Z,4μm,11.7s
HNS HongShan 156.98 350 ⇑PKP **PKPdf** **09 10 07.5 +0.8**
HNS PKPab **PKPab** **09 10 39.1 +0.9**
HNS SKKS 09 20 42.4
HNS AMB AMB
comp=Z,8μm,12.0s
HNS LR LR
comp=Z,9μm,22.9s
HNS LR LR
comp=Z,4μm,21.4s
HNS LR LR
comp=Z,11μm,22.4s
SANI Sanana 157.00 225 PKP **PKPdf** **09 10 07.8 +0.3**
LSA Lhasa 157.11 46 PKP **PKPdf** **09 10 08.7 +0.9**
LSA LR LR
comp=Z,10μm,19.0s
LSA LR LR
comp=Z,6μm,22.2s
LSA Lhasa 157.11 46 P **PKPdf** **09 10 08.0 +0.2**
LSA Lhasa 157.11 46 PKPdf **PKPdf** **09 10 08.7 +0.9**
TIA Tai'an 157.62 345 PKP **PKPdf** **09 10 08.1 +0.5**
TIA PP **PP** **09 14 18.6 -1.5**
TIA SS SS 09 33 49.6 -4.2
TIA AMB AMB
comp=Z,8μm,13.2s
TIA LR LR
comp=Z,9μm,20.0s
TIA LR LR
comp=Z,5μm,21.4s
TIA LR LR
comp=Z,20μm,22.6s
LZH Lanzhou 158.00 13 *e*PKP **PKPdf** **09 10 09.0 +0.7**
LZH PP **PP** **09 14 22.4 0.0**
LZH SKKS 09 20 47.6
LZH AMB AMB
comp=Z,8μm,12.7s
LZH LR LR
comp=Z,8μm,20.8s
LZH LR LR
comp=Z,8μm,20.4s
LZH LR LR
comp=Z,13μm,21.7s
KAPI Kappang 158.15 207 PKP **PKPdf** **09 10 11.6 +2.7**
comp=Z,482nm,1.0s,baz=210,slow=2.6,SNR=18
KAPI PKPab **PKPab** **09 10 45.4 +1.5**
comp=Z,3μm,1.2s,baz=196,slow=5.0,SNR=9.4
LEM Lembang 158.51 174 PKPab **PKPab** **09 10 52.2 +6.7**
comp=Z,3μm,0.9s,baz=148,slow=3.4,SNR=14
LEM PP **PP** **09 14 25.8 +0.9**
comp=Z,1μm,1.1s,baz=156,slow=10.0,SNR=10
TAWA Tawang 158.84 50 *e*P **PKPdf** **09 10 11.0 +1.2**
JOW Kunigami 159.06 308 PKP **PKPdf** **09 10 08.3 -1.3**
comp=Z,141nm,0.9s,baz=180,slow=6.6,SNR=8.5
JOW PKPab **PKPab** **09 10 48.4 +0.7**
comp=Z,76nm,0.6s,baz=27,slow=2.6,SNR=5.8
JOW Kunigami 159.06 308 P **PKPdf** **09 10 10.5 +0.9**
LUWI Luwuk 159.87 220 PKP **PKPdf** **09 10 11.9 +1.0**
SHL Shillong 159.91 55 P **PKPdf** **09 10 10.6 -0.3**
SNR=145
SHL Shillong 159.91 55 *e*P **PKPdf** **09 10 10.4 -0.5**
SHL IAmb IAmb 09 10 19.6
comp=Z,327nm,1.2s
TEZP TEZPUR 160.07 51 *e*P **PKPdf** **09 10 10.0 -0.8**
TEZP IAmb IAmb 09 10 22.6
comp=Z,200nm,0.9s
LYN LuoYang 160.09 354 ⇑PKP **PKPdf** **09 10 11.2 +0.7**
LYN PKPab **PKPab** **09 10 52.1 +0.4**
LYN PP **PP** **09 14 31.8 -1.5**
LYN SKKS 09 20 57.5
LYN SS **SS** **09 34 15.9 -3.7**
LYN AMB AMB
comp=Z,11μm,13.4s
ZIRO ZIRO 160.31 47 *e*P **PKPdf** **09 10 11.5 +0.2**
ITAN ITANAGAR 160.45 48 *e*P **PKPdf** **09 10 11.5 +0.4**
SSE Sheshan 160.68 330 PKP **PKPdf** **09 10 11.7 +0.4**
SSE PP **PP** **09 14 37.6 +0.5**
SSE SS SS 09 34 24.6 -2.2
SSE AMB AMB
comp=Z,4μm,11.8s
SSE LR LR
comp=Z,4μm,22.6s
SSE LR LR
comp=Z,3μm,23.7s
XAN Xi'an 160.71 3 PKP **PKPdf** **09 10 11.9 +0.6**
XAN PKPab **PKPab** **09 10 53.0 -1.5**
XAN pPKP pPKPdf 09 11 20.0 -0.5
XAN PP **PP** **09 14 37.2 +0.5**
XAN SKKS 09 21 01.1
XAN SS **SS** **09 34 29.6 +3.5**
XAN AMB AMB
comp=Z,13μm,13.7s
NJ2 Nanjing 160.89 336 ⇑PKP **PKPdf** **09 10 11.8 +0.3**
NJ2 PKPab **PKPab** **09 10 54.1 -1.2**
NJ2 pPKP **pPKPdf** **09 11 20.6 -0.2**
NJ2 PP **PP** **09 14 35.4 -2.6**
NJ2 SKKS 09 21 01.9
NJ2 SS **SS** **09 34 26.8 -1.8**
NJ2 AMB AMB
comp=Z,4μm,8.1s
BRDH Bariadhala 160.94 63 PKP **PKPdf** **09 10 12.4 +0.6**
comp=Z,269nm,0.8s,baz=76,slow=4.5,SNR=12
BRDH PKPab **PKPab** **09 10 58.9 +2.9**
comp=Z,141nm,0.3s,baz=111,slow=4.2,SNR=5.2
JORH JORHAT 161.07 48 *e*P **PKPdf** **09 10 11.3 -0.5**
AZL Aizawl 161.40 58 *e*P **PKPdf** **09 10 13.4 +1.0**
AZL IAmb IAmb 09 10 19.6
comp=Z,392nm,1.1s
KOHI KOHIMA 161.54 51 *e*P **PKPdf** **09 10 13.0 +0.4**
KOHI IAmb IAmb 09 10 24.0
comp=Z,584nm,1.2s
LKP Lekhapani 161.81 44 *e*P **PKPdf** **09 10 12.4 -0.2**
IMP Imphal 161.89 54 *e*P **PKPdf** **09 10 13.4 +0.6**
IMP IAmb IAmb 09 10 19.7
comp=Z,256nm,1.1s
CMBY CAMPBELL BAY 162.53 114 *e*P **PKPdf** **09 10 16.6 +2.9**
CMBY IAmb IAmb 09 10 24.4
comp=Z,685nm,1.2s
CD2 Chengdu 162.88 18 PKP **PKPdf** **09 10 14.2 +0.6**
CD2 PP **PP** **09 14 48.0 -0.5**
CD2 SKS **SKSdf** **09 16 51.9 -1.2**
CD2 SKKS **SKKSac** **09 21 09.5 -1.8**
CD2 AMB AMB
comp=Z,8μm,11.4s
CD2 LR LR
comp=Z,11μm,27.5s
CD2 LR LR
comp=Z,6μm,23.3s
DAV Davao City (W) 162.89 245 PP **PP** **09 14 53.9 +3.7**
comp=Z,130nm,0.4s,baz=22,slow=8.3,SNR=4.8
DAV Davao City (W) 162.89 245 P **PKPdf** **09 10 17.0 +2.9**
BKNI Bangkinang 163.24 148 PKP **PKPdf** **09 10 12.6 -1.8**
DGPR DIGLIPUR 163.42 93 *e*P **PKPdf** **09 10 14.2 -0.3**
DGPR IAmb IAmb 09 10 28.2
comp=Z,473nm,1.1s
WHN Wuhan 163.70 346 PKP **PKPdf** **09 10 14.8 +0.5**
WHN PKPab **PKPab** **09 11 06.3 -1.4**
WHN PP **PP** **09 14 52.0 -0.6**
WHN SKKS 09 21 15.8
WHN SS **SS** **09 34 53.3 -3.9**
PSI Prapat 163.95 136 PKP **PKPdf** **09 10 14.8 -0.4**
comp=Z,460nm,1.1s,baz=233,slow=3.5,SNR=25
PSI PKPab **PKPab** **09 11 10.3 +0.9**
comp=Z,268nm,0.9s,baz=124,slow=20,SNR=13
PSI PP **PP** **09 14 58.7 +3.7**
comp=Z,44nm,0.8s,baz=218,slow=8.9,SNR=6.3
TNCH TengChong 165.13 44 PKP **PKPdf** **09 10 16.6 +0.6**
TNCH PKPab **PKPab** **09 11 17.0 +2.5**
TNCH pPKP pPKPdf 09 11 26.0 +0.7
TNCH PP **PP** **09 15 05.4 +4.0**
TNCH SKKS 09 21 25.3
TNCH SS **SS** **09 35 15.8 +1.6**
TNCH AMB AMB
comp=Z,4μm,14.1s
TNCH LR LR
comp=Z,1μm,18.5s
TNCH LR LR
comp=Z,3μm,18.5s
TNCH LR LR
comp=Z,15μm,23.2s
PZH PanZhiHua 165.96 32 PKP **PKPdf** **09 10 16.3 -0.3**
PZH PKPab **PKPab** **09 11 19.3 +1.3**
PZH SKKS 09 21 24.9
PZH AMB AMB
comp=Z,8μm,12.0s
PZH LR LR
comp=Z,6μm,22.1s
PZH LR LR
comp=Z,4μm,23.0s
PZH LR LR
comp=Z,10μm,25.0s
CNSH ChangSha 166.28 349 PKP **PKPdf** **09 10 17.5 +0.9**
CNSH PP **PP** **09 15 04.8 -1.1**
CNSH SS SS 09 35 18.1 -5.2
CNSH LR LR
comp=Z,9μm,23.9s
CNSH LR LR
comp=Z,7μm,24.3s
CNSH LR LR
comp=Z,9μm,25.2s
QZH Quanzhou 166.95 323 PKP **PKPdf** **09 10 15.5 -1.7**
QZH PKPab **PKPab** **09 11 21.2 -1.1**
QZH PP **PP** **09 15 10.8 +0.6**
QZH SKKS 09 21 32.3
QZH SS **SS** **09 35 26.3 -5.2**
QZH LR LR
comp=Z,18μm,22.0s
QZH LR LR
comp=Z,19μm,21.6s
QZH LR LR
comp=Z,11μm,21.8s
KMI Kunming 167.60 32 ⇑PKP **PKPdf** **09 10 18.2 +0.2**
KMI pPKP pPKPdf 09 11 26.6 -0.7
KMI PP **PP** **09 15 14.0 +0.4**
KMI SKKS 09 21 30.2
KMI SS **SS** **09 35 38.8 +0.6**
KMI AMB AMB
comp=Z,7μm,14.8s
KMI LR LR
comp=Z,8μm,28.8s
KMI LR LR
comp=Z,5μm,33.0s
KMI LR LR
comp=Z,10μm,21.6s
GYA Guiyang 167.89 14 PKP **PKPdf** **09 10 18.1 +0.1**
GYA pPKP PKPab 09 11 21.8 -4.6
GYA PKPab **pPKPdf** **09 11 27.1 -0.3**
GYA PP **PP** **09 15 14.7 +0.4**
GYA SKKS 09 21 37.1
GYA AMB AMB
comp=Z,14μm,14.9s
CM31 Chiang Mai Arr 168.81 69 P **PKPdf** **09 10 19.1 +0.5**
SNR=156
CMAR Chiang Mai Arr 168.81 69 PKP **PKPdf** **09 10 18.5 -0.1**
comp=Z,35nm,0.7s,baz=275,slow=1.7,SNR=158
CMAR PKPab **PKPab** **09 11 30.6 -0.3**
comp=Z,82nm,0.9s,baz=282,slow=5.7,SNR=7.6
CMAR pPKPab **pPKPab** **09 12 33.1 -3.1**
comp=Z,193nm,1.1s,baz=279,slow=2.9,SNR=1.0
CMAR PP **PP** **09 15 17.2 -3.7**
comp=Z,60nm,1.1s,baz=303,slow=4.2,SNR=4.9
TGY Tagaytay City 169.33 268 PP **PP** **09 15 25.2 +1.3**
comp=Z,150nm,0.4s,baz=217,slow=5.1,SNR=5.5
GULI GuiLin 169.44 358 ⇓PKP **PKPdf** **09 10 21.2 +2.3**
GULI PP **PP** **09 15 21.6 -0.2**
GULI SKKS 09 21 45.3
GULI LR LR
comp=Z,15μm,17.3s
GULI LR LR
comp=Z,10μm,19.6s
GULI LR LR
comp=Z,19μm,24.0s
GZH Guangzhou 171.04 339 PKP **PKPdf** **09 10 18.9 -0.9**
GZH PP **PP** **09 15 26.9 -3.2**
GZH SKKS 09 21 47.3
GZH SS **SS** **09 36 02.1 -8.9**
GZH LR LR
comp=Z,13μm,27.9s
GZH LR LR
comp=Z,4μm,17.7s
QIZ Qiongzhong 175.68 1 PKP **PKPdf** **09 10 20.9 -0.8**
QIZ pPKP **pPKPdf** **09 11 30.8 -0.3**
QIZ PKPab **PKPab** **09 12 00.2 -0.7**
QIZ PP **PP** **09 15 52.1 -0.2**
QIZ SKKS 09 22 11.3
QIZ AMB AMB
comp=Z,9μm,12.1s

NOU ***01*** *08:52:38.7, 38.62S×175.91E, h186km, MLv3.5/18, North Island, New Zealand*
WEL ***01*** *08:52:41.1±0.8, 39.S±6.×17.6E±., h169km±5km, M2.6/24, ML2.2/13, MLv2.6/24, Error ellipse: s-maj=9.3km s-min=6.8km az=49.9, confirmed*
ISC 01 08:52:36.5±2.2, 38.50S±0.07×175.83E±0.06, h204km±12km, n49, σ1.937/67, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.01**	**334**	P	**Pn**	**08 53 04.4**	**+1.1**

WATZ	**Wairara**	**0.22 200**	P	**Pn**	**08 53 04.6 +1.2**
WPRZ	**Whakapapatarin**	**0.26 94**	P	**Pn**	**08 53 04.5 +1.0**
GRRZ	**Galatos Road**	**0.27 55**	P	**Pn**	**08 53 04.6 +1.1**
TLZ	**Tolley Road**	**0.29 307**	P	**Pn**	**08 53 04.7 +1.2**
TLZ			S	**S**	**08 53 24.1 -0.5**
RATZ	**Rangitukua**	**0.37 187**	P	**Pn**	**08 53 04.8 +1.1**
KATZ	**Kakaramea**	**0.48 193**	P	**Pn**	**08 53 05.4 +1.2**
MRHZ	**Matea Rd**	**0.57 126**	P	**Pn**	**08 53 05.3 +0.9**
MRHZ			S	**S**	**08 53 23.4 -2.8**
KARZ	**Kaharoa**	**0.58 34**	P	**Pn**	**08 53 05.3 +0.9**
NTVZ	**North Tongarir**	**0.61 191**	P	**Pn**	**08 53 06.0 +1.4**
TMVZ	**Te Maari**	**0.62 189**	P	**Pn**	**08 53 06.1 +1.4**
TMVZ			S	**S**	**08 53 25.9 -1.0**
ETVZ	**East Tongariro**	**0.64 188**	P	**Pn**	**08 53 06.0 +1.2**
TWVZ	**Taurewa**	**0.65 208**	P	**Pn**	**08 53 05.8 +1.0**
TWVZ			S	**S**	**08 53 25.8 -1.2**
SNVZ	**South Ngauruho**	**0.70 192**	P	**Pn**	**08 53 06.4 +1.3**
SNVZ			S	**S**	**08 53 26.2 -1.4**
COVZ	**Chateau Observ**	**0.73 198**	P	**Pn**	**08 53 06.5 +1.2**
MUGZ	**Murupara**	**0.74 88**	P	**Pn**	**08 53 06.2 +1.1**
MUGZ			S	**S**	**08 53 25.4 -1.9**
HIZ	**Hauiti**	**0.77 269**	P	**Pn**	**08 53 06.5 +1.2**
HIZ	**Hauiti**	**0.77 269**	S	**S**	**08 53 27.5 0.0**
FWVZ	**Far West T-bar**	**0.78 196**	P	**Pn**	**08 53 06.7 +1.1**
BKZ	**Black Stump Fm**	**0.84 142**	P	**Pn**	**08 53 07.0 +1.2**
BKZ	**Black Stump Fm**	**0.84 142**	P	**Pn**	**08 53 07.0 +1.2**
BKZ			S	**S**	**08 53 26.1 -2.4**
MTHZ	**Maungataniwha**	**0.86 114**	P	**Pn**	**08 53 07.1 +1.2**
MTHZ			S	**S**	**08 53 26.7 -1.9**
PKVZ	**Pokaka**	**0.87 206**	P	**Pn**	**08 53 07.2 +1.3**
PKVZ			S	**S**	**08 53 27.8 -1.1**
RTZ	**Ruatahuna**	**0.91 98**	P	**Pn**	**08 53 07.4 +1.2**
RTZ			S	**S**	**08 53 27.6 -1.5**
NMHZ	**Naumai**	**0.97 128**	P	**Pn**	**08 53 08.8 +2.2**
NMHZ			S	**S**	**08 53 29.5 -0.3**
KWHZ	**Kaweka Forest**	**1.03 154**	P	**Pn**	**08 53 08.5 +1.6**
KWHZ			S	**S**	**08 53 29.8 -0.8**
URZ	**Urewera**	**1.03 77**	P	**Pn**	**08 53 07.6 +0.7**
URZ	**Urewera**	**1.03 77**	S	**S**	**08 53 28.1 -2.2**
RAHZ	**Arahi**	**1.07 113**	P	**Pn**	**08 53 09.1 +2.0**
RAHZ			S	**S**	**08 53 30.0 -0.8**
MCHZ	**McNeill Hill**	**1.16 145**	P	**Pn**	**08 53 09.8 +2.1**
MCHZ			S	**S**	**08 53 32.2 +0.1**
ARHZ	**Aropaoanui**	**1.19 130**	P	**Pn**	**08 53 09.8 +1.8**
ARHZ			S	**S**	**08 53 31.9 -0.4**
KRHZ	**Kereru**	**1.22 160**	P	**Pn**	**08 53 09.7 +1.5**
KRHZ			S	**S**	**08 53 31.0 -1.9**
PNHZ	**Pukenui**	**1.44 169**	P	**Pn**	**08 53 11.4 +1.4**
PNHZ			S	**S**	**08 53 34.2 -1.8**
CKHZ	**Cape Kidnapper**	**1.51 140**	P	**Pn**	**08 53 12.7 +2.1**
CKHZ			S	**S**	**08 53 36.7 -0.2**
KHEZ	**Kahui Hut**	**1.62 240**	P	**Pn**	**08 53 13.5 +1.8**
KHEZ	**Kahui Hut**	**1.62 240**	S	**S**	**08 53 39.5 +0.7**
WPHZ	**Waipukurau**	**1.63 163**	P	**Pn**	**08 53 13.1 +1.4**
WPHZ			S	**S**	**08 53 37.3 -1.6**
DVHZ	**Dannevirke**	**1.81 172**	P	**Pn**	**08 53 14.8 +1.3**
PRHZ	**Porangahau**	**1.87 161**	P	**Pn**	**08 53 15.3 +1.3**
PRHZ			S	**S**	**08 53 42.0 -0.9**
MXZ	**Matakaoa Point**	**2.17 65**	P	**Pn**	**08 53 18.0 +1.0**
MXZ	**Matakaoa Point**	**2.17 65**	P	Sn	08 53 48.8
BFZ	**Birch Farm**	**2.20 172**	P	**Pn**	**08 53 18.4 +1.1**
BFZ	**Birch Farm**	**2.20 172**	S	**S**	**08 53 48.0 -0.9**
SNZO	**South Karori**	**2.94 197**	P	**Pn**	**08 53 25.9 +0.4**
SNZO	**South Karori**	**2.94 197**	P	Sn	08 54 01.1
QRZ	**Quartz Range**	**3.45 227**	P	**Pn**	**08 53 31.5 -0.1**
KHZ	**Kahutara**	**4.28 203**	P	**Pn**	**08 53 42.4 +0.6**
RPZ	**Rata Peaks**	**6.33 213**	P	**Pn**	**08 54 08.3 +0.3**
ODZ	**Otahua Downs**	**7.60 209**	P	**Pn**	**08 54 24.7 +0.3**

ASRS 01 09:00:05.0±0.7, 55°74N×86°02E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*STR **01** 09:02:16.9±0.6, 46°N±3°×°±°, h2km, MLv2.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=78.2, preliminary*
ROM 01 09:02:14.1±0.1, 45°67N±0°02×7°65E±0°01, h10km±1km, ML1.3/6, 2C-2D, Error ellipse: s-maj=1.8km s-min=1.1km az=177.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIRO	**Champorcher**	**0.09**	**220**	Pg	Pg	09 02 17.1	+0.2
CIRO	**Champorcher**	**0.09**	**220**	Sg	Sg	09 02 18.6	-0.2
CIRO	**Champorcher**	**0.09**	**220**	⇑P	Pg	09 02 17.2	+0.3
CIRO				S	Sg	09 02 18.6	-0.1
CIRO				AML	AML		
	comp=E,361μm,0.8s						
CIRO				AML	AML		
	comp=N,332μm,0.3s						
CIRO				AML	AML		
	comp=E,361μm,1.2s						
TRAV	**Traversella**	**0.17**	**155**	Pg	Pg	09 02 18.5	+0.7
TRAV	**Traversella**	**0.17**	**155**	Sg	Sg	09 02 21.1	+0.6
TRAV	**Traversella**	**0.17**	**155**	⇑P	Pb	09 02 18.6	-0.7
TRAV				S	Sg	09 02 21.2	+0.7
TRAV				AML	AML		
	comp=E,190μm,1.5s						
TRAV				AML	AML		
	comp=N,220μm,0.2s						
TRAV				AML	AML		
	comp=E,190μm,0.5s						
MRGE	**Morge**	**0.42**	**284**	⇓P	Pb	09 02 23.6	-0.2
MRGE				S	Sg	09 02 29.1	+1.0
MRGE				AML	AML		
	comp=E,35μm,1.4s						
MRGE				AML	AML		
	comp=N,32μm,0.6s						
MRGE				AML	AML		
	comp=E,35μm,0.6s						
MMK	**Mattmark**	**0.44**	**30**	P	Pg	09 02 23.4	+0.5
MMK				S	Sg	09 02 29.1	+0.3
DIX	**Grande Dixence**	**0.44**	**338**	Pg	Pg	09 02 23.1	+0.2
DIX	**Grande Dixence**	**0.44**	**338**	Sg	Sg	09 02 29.3	+0.5
DIX	**Grande Dixence**	**0.44**	**338**	⇓P	Pg	09 02 23.2	+0.3
DIX				S	Sg	09 02 29.5	+0.7
RSP	**Reno Superiore**	**0.58**	**207**	Pg	Pg	09 02 25.6	+0.2
RSP	**Reno Superiore**	**0.58**	**207**	Sg	Sg	09 02 33.8	+0.6
RSL	**Roselend**	**0.72**	**272**	Sg	Sb	09 02 39.4	+0.7
RRL	**Rocca Remolon**	**0.96**	**219**	Pn	Pn	09 02 34.8	+0.9
CREF	**Crivoux**	**1.33**	**213**	Sg	Sg	09 02 58.8	+1.8
OGAG	**Argentiere**	**1.44**	**213**	Pg	Pn	09 02 37.4	-3.0
OGAG				Sg	Sn	09 02 53.1	-6.4
ORIF	**Oris-en-Rattie**	**1.46**	**240**	Pg	Pg	09 02 45.7	+3.7
OG35	**Corcelles**	**1.50**	**285**	Pg	Pg	09 02 44.8	+2.0
OG35				Sg	Sg	09 03 04.8	+2.6
BRANT	**Les Verrieres**	**1.51**	**328**	Pn	Pg	09 02 44.7	+1.7
BRANT	**Les Verrieres**	**1.51**	**328**	Sn	Sg	09 03 05.8	+3.2
CHMF	**Charmoille**	**1.72**	**337**	Pn	Pg	09 02 47.3	+0.1
CHMF				Sn	Sg	09 03 10.9	+1.4

*SJA **01** 09:05:58.7±0.6, 23°09S×66°19W, h254km±5km, ML3.9, MW3.5*
ISC 01 09:06:01.6±1.3, 23°04S±0°05×66°36W±0°05, h222km, n25, σ1§43/41, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.16**	**42**	*e*P	**Pn**	**09 06 36.0**	**+0.6**
YJA				*e*S	**S**	**09 07 03.4**	**+2.0**
AZAP	**Zapla**	**1.67**	**135**	*e*P	**Pn**	**09 06 39.8**	**+0.7**
AZAP				IAML		09 07 34.9	
	comp=Z,301nm,2.6s						
AF01	**San Pedro de A**	**1.68**	**273**	*e*P	Pn	09 06 54.5	+15
AF01				IAML		09 08 01.6	
	comp=Z,340nm,2.5s						
SLA	**San Lorenzo**	**1.85**	**155**	*e*P	**Pn**	**09 06 38.3**	**-2.3**
SLA				IAML		09 07 18.7	
	comp=Z,200nm,3.0s						
ASTB	**Santa Barbara**	**1.97**	**118**	*e*P	Pn	09 06 50.9	+9.2
ALOL	**LOMAS DE OLMED**	**2.32**	**110**	*e*P	**Pn**	**09 06 45.1**	**0.0**
PB09	**IPOC Station P**	**2.94**	**294**	*e*P	**Pn**	**09 06 53.5**	**+1.5**
PB09				*i* S	**S**	**09 07 33.0**	**+1.8**
PB09	**IPOC Station P**	**2.94**	**294**	*e*P	**Pn**	**09 06 53.5**	**+1.5**
PB09				*e*S	**S**	**09 07 34.0**	**+2.8**
PB09				IAML		09 07 41.7	
	comp=Z,288nm,2.6s						
PB06	**IPOC Station P**	**2.98**	**276**	*e*P	**Pn**	**09 06 53.5**	**+1.0**
PB06				*i* S	**S**	**09 07 32.8**	**+0.8**
PB06				IAML		09 07 36.1	
	comp=N,108nm,0.2s						
PB06	**IPOC Station P**	**2.98**	**276**	*e*P	**Pn**	**09 06 53.6**	**+1.2**
PB06				*e*S	**S**	**09 07 33.9**	**+1.9**
PB06				IAML		09 07 41.7	
	comp=Z,152nm,3.5s						
FSA	**Cafayete**	**3.08**	**174**	*e*P	Pn	09 06 46.5	-7.0
PB03	**IPOC Station P**	**3.29**	**287**	*e*P	**Pn**	**09 06 56.6**	**+0.7**
PB03				*i* S	**S**	**09 07 38.2**	**-0.1**
PB03	**IPOC Station P**	**3.29**	**287**	*e*P	**Pn**	**09 06 55.9**	**-0.1**
PB03				*e*S	**S**	**09 07 38.3**	**-0.1**
PB03				IAML		09 07 41.1	
	comp=Z,103nm,1.2s						
PB01	**IPOC Station P**	**3.52**	**304**	*e*P	**Pn**	**09 06 58.9**	**+0.3**
PB01				*i* S	**S**	**09 07 42.7**	**-0.4**
PB01	**IPOC Station P**	**3.52**	**304**	*e*P	**Pn**	**09 06 58.9**	**+0.3**
PB01				*e*S	**S**	**09 07 43.3**	**+0.2**
PB01				IAML		09 07 48.6	
	comp=Z,134nm,3.4s						
GO02	**Mina Guanaco**	**3.63**	**234**	*e*P	**Pn**	**09 07 00.5**	**+0.4**
GO02				*e*S	**S**	**09 07 48.3**	**+2.4**
PB08	**IPOC Station P**	**3.88**	**317**	*e*P	**Pn**	**09 07 04.2**	**+1.0**
PB08				*i* S	**S**	**09 07 51.4**	**-0.2**
PB08	**IPOC Station P**	**3.88**	**317**	*e*P	**Pn**	**09 07 04.1**	**+0.9**
PB08				*e*S	**S**	**09 07 52.1**	**+0.6**
PB08				IAML		09 07 56.9	
	comp=Z,67nm,3.0s						
PB14	**IPOC Station P**	**4.03**	**246**	*e*P	**Pn**	**09 07 05.4**	**+0.6**
PB14				*i* S	**S**	**09 07 53.5**	**-1.0**
PB14	**IPOC Station P**	**4.03**	**246**	*e*P	**Pn**	**09 07 05.3**	**+0.4**
PB14				*e*S	**S**	**09 07 54.5**	**0.0**
PB14				IAML		09 07 57.9	
	comp=Z,98nm,1.5s						
TA01	**Diego Aracena**	**4.32**	**304**	*e*P	**Pn**	**09 07 07.5**	**-0.6**
TA01				*i* S	**S**	**09 07 57.8**	**-2.7**
TA01	**Diego Aracena**	**4.32**	**304**	*e*P	**Pn**	**09 07 07.8**	**-0.4**
TA01				*e*S	**S**	**09 07 58.0**	**-2.5**
TA01				IAML		09 08 39.4	
	comp=Z,104nm,3.4s						
PB11	**IPOC Station P**	**4.48**	**316**	*e*P	**Pn**	**09 07 09.6**	**-0.8**
PB11				*i* S	**S**	**09 08 01.1**	**-3.3**
PB11	**IPOC Station P**	**4.48**	**316**	*e*P	**Pn**	**09 07 09.3**	**-1.0**
PB11				*e*S	**S**	**09 08 02.4**	**-2.0**
PB11				IAML		09 08 15.9	
	comp=Z,77nm,2.9s						
AC01	**Pan de Azucar**	**4.95**	**230**	*e*P	**Pn**	**09 07 15.3**	**-0.6**
AC01				*e*S	**S**	**09 08 12.6**	**-2.0**
AC01				IAML		09 08 41.6	
	comp=Z,113nm,3.5s						

*GCG **01** 09:25:47.9±1.4, 16°98N×90°32W, h15km±32km, MD4.4, ML3.3*
*SNET **01** 09:25:51.2±1.3, 14°40N×93°32W, h35km±999km, ML3.4*
*CATAC **01** 09:25:53.4±0.7, 17°N±5°×9°1W±°, h0km, M3.9/13, MLv3.9/13, Error ellipse: s-maj=10.2km s-min=5.5km az=7.6, confirmed*
ISC 01 09:25:47.6±1.1, 16°99N±0°05×90°35W±0°04, h10km, n42, σ1§38/47, 2D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETF	**Flores**	**0.47**	**99**	*e*P	**Pg**	**09 25 56.7**	**0.0**
PETF				*e*S	**Sb**	**09 26 03.5**	**-1.4**
PETF	**Flores**	**0.47**	**99**	*e*P		09 25 56.7	
PETF				*e*S		09 26 03.5	
QUIS	**Sacapulas**	**1.84**	**203**	*e*P	**Pn**	**09 26 19.7**	**+0.3**
	comp=Z,343nm,0.1s						
QUIS				*i* S	**Sn**	**09 26 43.9**	**+1.1**
QUIS				IAML		09 26 52.4	
	comp=Z,343nm,0.1s						
QUIS	**Sacapulas**	**1.84**	**203**	*e*P		09 26 19.7	
	comp=Z,343nm,0.1s						
QUIS				*i* S		09 26 43.9	
QUIS				IAML		09 26 52.4	
	comp=Z,343nm,0.1s						
CCIG	**Comitan**	**1.86**	**248**	P	**Pb**	**09 26 22.3**	**+0.5**
CCIG	**Comitan**	**1.86**	**248**	S	**Sb**	**09 26 45.3**	**+0.2**
CCIG	**Comitan**	**1.86**	**248**	⇓*e*P	**Pn**	**09 26 19.7**	**0.0**
CCIG				*e*S	**Sn**	**09 26 44.2**	**+0.9**
CCIG	**Comitan**	**1.86**	**248**	⇓*e*P		09 26 19.7	
CCIG				*e*S		09 26 44.2	
APG	**El Apazote**	**1.98**	**183**	*e*P	**Pn**	**09 26 20.1**	**-1.3**
APG	**El Apazote**	**1.98**	**183**	*e*P		09 26 20.1	
HUEH	**Huehuetenango**	**2.00**	**214**	*e*P	**Pn**	**09 26 22.4**	**+0.7**
HUEH				*e*S	**Sb**	**09 26 48.5**	**-0.8**
HUEH	**Huehuetenango**	**2.00**	**214**	P	**Pn**	**09 26 22.9**	**+1.2**
HUEH	**Huehuetenango**	**2.00**	**214**	S	**Sb**	**09 26 48.6**	**-0.8**
HUEH	**Huehuetenango**	**2.00**	**214**	S	**Sb**	**09 26 49.7**	**+0.3**
HUEH	**Huehuetenango**	**2.00**	**214**	P	**Pn**	**09 26 22.6**	**+0.9**
HUEH	**Huehuetenango**	**2.00**	**214**	P	**Pn**	**09 26 22.9**	**+1.2**
HUEH	**Huehuetenango**	**2.00**	**214**	*e*P	**Pn**	**09 26 21.0**	**-0.7**
HUEH	**Huehuetenango**	**2.00**	**214**	*e*P		09 26 21.0	
IZABA	**Izabal, Puerto**	**2.10**	**126**	P	**Sg**	**09 26 55.1**	**-0.3**
SCIG	**Sabancuy**	**2.12**	**338**	*e*P	**Pn**	**09 26 22.8**	**-0.4**
SCIG				IAML		09 27 04.1	
	comp=Z,144nm,0.9s						
SCIG	**Sabancuy**	**2.12**	**338**	*e*P		09 26 22.8	
SCIG				IAML		09 27 04.1	
	comp=Z,144nm,0.9s						
SOKI	**Kika Raxquin**	**2.38**	**205**	*i* S	**Sb**	**09 27 01.5**	**+0.9**
SOKI	**Kika Raxquin**	**2.38**	**205**	*i* S		09 27 01.5	
ESQI	**Esquipulas**	**2.60**	**158**	P	**Pb**	**09 26 35.7**	**+1.3**
ESQI	**Esquipulas**	**2.60**	**158**	S	**Sg**	**09 27 11.1**	**-0.2**
STG8	**El Palmar, Qui**	**2.71**	**201**	*e*P		09 26 29.7	
MTO3	**Montecristo**	**2.75**	**160**	P	**Pb**	**09 26 38.2**	**+1.3**
SLOZ	**Alcaldia de Sa**	**3.00**	**169**	P	**Pb**	**09 26 43.1**	**+1.9**
SLOZ	**Alcaldia de Sa**	**3.00**	**169**	S	**Sg**	**09 27 21.6**	**-2.4**
LLGN	**La Laguna**	**3.12**	**154**	P	**Pg**	**09 26 47.4**	**0.0**
NUBE	**Las Nubes**	**3.12**	**170**	*e*P	**Pb**	**09 26 42.7**	**-0.6**
NUBE	**Las Nubes**	**3.12**	**170**	P	**Pg**	**09 26 45.6**	**-1.8**
NUBE	**Las Nubes**	**3.12**	**170**	P	**Pg**	**09 26 46.2**	**-1.3**
RTR	**El Retiro**	**3.15**	**168**	*e*P	**Pg**	**09 26 46.1**	**-2.0**
SNJE	**San Jose**	**3.19**	**167**	*e*P	**Pg**	**09 26 46.8**	**-2.0**
CEVE	**Cerro Verde**	**3.22**	**167**	*e*P	**Pb**	**09 26 45.9**	**+0.8**
CEVE				*e*S	**Sg**	**09 27 28.5**	**-2.7**
CEVE				IAML		09 27 43.0	
	comp=Z,76nm,0.4s						
CEVE	**Cerro Verde**	**3.22**	**167**	P	**Pb**	**09 26 47.0**	**+1.9**
PMON	**Piamonte**	**3.41**	**163**	S	**Sg**	**09 27 37.2**	**0.0**
PMON	**Piamonte**	**3.41**	**163**	P	**Pg**	**09 26 51.5**	**-1.5**
PMON	**Piamonte**	**3.41**	**163**	P	**Pg**	**09 26 55.2**	**+2.2**
UEES	**Universidad Ev**	**3.43**	**162**	P	**Pg**	**09 26 53.2**	**-0.1**
JAYA	**Jayaque - finc**	**3.43**	**165**	*e*P	**Pb**	**09 26 48.6**	**0.0**
JAYA	**Jayaque - finc**	**3.43**	**165**	P	**Pg**	**09 26 51.3**	**-2.1**
LOMA	**Loma Larga**	**3.52**	**161**	*e*P	**Pb**	**09 26 51.8**	**+1.8**
PAVA	**Las Pavas**	**3.53**	**157**	S	**Sb**	**09 27 35.7**	**+2.4**
PAVA	**Las Pavas**	**3.53**	**157**	P	**Pg**	**09 26 53.3**	**-2.0**
PAVA	**Las Pavas**	**3.53**	**157**	P	**Pg**	**09 26 54.2**	**-1.1**
SCLA	**Alcaldia de Sa**	**3.62**	**154**	S	**Sg**	**09 27 46.3**	**+2.2**
COEG	**Centro de Oper**	**3.64**	**157**	P	**Pb**	**09 26 50.6**	**-1.5**
COEG	**Centro de Oper**	**3.64**	**157**	P	**Pg**	**09 26 56.4**	**-0.9**

*IDC **01** 09:27:28.9±2.0, 20°87S×178°24W, h618km±24km, mb3.1/5, mbtmp4.1/7, Error ellipse: s-maj=34.2km s-min=21.1km az=135.0*
ISC 01 09:27:27.6±1.2, 21°0S±0°2×178°1W±0°2, h600km, n7, σ1§07/7, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**311**	P	**P**	**09 29 00.7**	**+1.3**
	15nm,0.8s,baz=148,slow=11,SNR=10						
URZ	**Urewera**	**17.74**	**192**	P	**P**	**09 31 01.7**	**+1.0**
	15nm,1.0s,baz=23,slow=0.6,SNR=9.3						
STKA	**Stephens Creek**	**37.51**	**245**	P	**P**	**09 33 51.9**	**-0.2**
	1.0nm,0.4s,baz=112,slow=6.4,SNR=2.9						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**44.32**	**257**	P	**P**	**09 34 45.5**	**-0.6**
	3.5nm,0.5s,baz=95,slow=7.8,SNR=15						
	3.5nm,0.5s						
WRA	**Warramunga Arr**	**44.45**	**263**	P	**P**	**09 34 45.9**	**-1.1**
	1.9nm,0.4s,baz=97,slow=7.6,SNR=6.6						
	1.9nm,0.4s						
NVAR	**Mina Array Bea**	**81.42**	**43**	P	**P**	**09 38 42.9**	**-0.5**
	0.3nm,0.5s,baz=194,slow=6.8,SNR=3.6						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**88.77**	**13**	P	**P**	**09 39 17.9**	**-0.1**
	0.4nm,0.7s,baz=217,slow=5.2,SNR=7.2						
	0.4nm,0.7s						

*DJA **01** 09:27:34.6±2.1, 8°N±18°×12°7E±°, h145km±9km, M5.3/18, mb5.0/18, mB6.0/2, MLv5.4/7, Mw(mB)5.6/2*
*NEIC **01** 09:27:43.5±2.3, 7°24N±0°07×126°98E±0°07, h35km±1km, mb4.9/144, Error ellipse: s-maj=13.7km s-min=10.9km az=218.0*
*IDC **01** 09:27:46.2±1.4, 7°24N×126°76E, h67km±12km, mb4.3/32, mbtmp4.6/34, Error ellipse: s-maj=17.3km s-min=9.3km az=78.0*
ISC 01 09:27:44.7±0.7, 7°17N±0°04×126°96E±0°06, h54km±5km, n459, σ1§29/437, mb4.8/106, 4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.37**	**266**		**Pn**	**09 28 07.8**	**+0.3**
DAV	**Davao City (W)**	**1.37**	**266**	P	**Pn**	**09 28 08.5**	**+1.0**
	5μm,0.3s,baz=12,slow=0.6,SNR=107						
DAV				S	**Sn**	**09 28 27.9**	**+3.3**
	5μm,0.4s,baz=85,slow=23,SNR=11						
SGSI	**Sangihe**	**3.75**	**202**	P	**Pn**	**09 28 42.7**	**+2.7**
TNTI	**Ternate**	**6.37**	**176**	Pn	**Pn**	**09 29 15.0**	**-1.0**
TNTI	**Ternate**	**6.37**	**176**	P	**Pn**	**09 29 17.9**	**+1.8**
	0.6nm163nm,1.3s						
KMSI	**Cibinong**	**7.20**	**204**	P	**Pn**	**09 29 30.4**	**+3.1**
I39PW	**PALAU INFRASON**	**7.54**	**87**	I	I	10 18 20.0	
	baz=270,slow=308,SNR=1.3						
MRSI	**Marisa**	**8.32**	**217**	P	**Pn**	**09 29 44.0**	**+1.2**
TOLI2	**Tolitoli**	**8.61**	**226**		**Pn**	**09 29 45.9**	**-0.8**
MYLDM	**Lahad Datu**	**8.64**	**257**		**Pn**	**09 29 46.3**	**-0.8**
SWI	**Sorong**	**9.06**	**152**	P	**Pn**	**09 29 50.7**	**-2.2**
	43nm,0.7s						
TGY	**Tagaytay City**	**9.08**	**320**	P	**Pn**	**09 29 53.6**	**+0.5**
	105nm,0.3s,baz=162,slow=9.6,SNR=1.3						
LUWI	**Luwuk**	**9.17**	**207**	Pn	**Pn**	**09 29 55.1**	**+0.8**
LUWI	**Luwuk**	**9.17**	**207**	P	**Pn**	**09 29 55.1**	**+0.8**
SANI	**Sanana**	**9.21**	**186**	P	Pn	09 29 52.1	-2.9
NLAI	**Namlea**	**10.35**	**179**	P	**Pn**	**09 30 09.0**	**-1.5**
	81nm,0.5s						
MSAI	**Masohi**	**10.63**	**169**	P	**Pn**	**09 30 12.6**	**-1.8**
	52nm,0.8s						
AAI	**Ambon**	**10.86**	**173**	P	Pn	09 30 14.9	-2.6
	42nm,0.7s						
FAKI	**Fak Fak**	**11.33**	**152**	Pn	**Pn**	**09 30 23.1**	**-0.9**
FAKI	**Fak Fak**	**11.33**	**152**	P	Pn	09 30 16.8	-7.2
KDI	**Kendari**	**11.88**	**202**	P	**Pn**	**09 30 30.3**	**-1.1**
TTSI	**Tana Toraja**	**12.40**	**215**	P	**Pn**	**09 30 38.9**	**+0.3**
SPSI	**Sidrap Palu**	**13.19**	**213**	P	**Pn**	**09 30 46.3**	**-3.0**
KAPI	**Kappang**	**14.08**	**211**		**Pn**	**09 31 00.9**	**-0.5**
KAPI	**Kappang**	**14.08**	**211**	P	**Pn**	**09 31 01.7**	**+0.3**
	16nm,0.9s,baz=34,slow=15,SNR=6.6						
BKSI	**Bulukumba**	**14.16**	**209**	P	**Pn**	**09 31 02.9**	**+0.4**
SBUM	**Sibu**	**15.41**	**253**	P	**P**	**09 31 23.5**	**+1.1**
SBUM				IAmb	IAmb	09 31 26.4	
	comp=Z,48nm,0.6s						
SAUI	**Saumlaki**	**15.67**	**164**		**Pn**	**09 31 22.1**	**0.0**
SAUI				IAmb	IAmb	09 31 25.0	
	comp=Z,113nm,0.9s						
MMRI	**Maumere**	**16.39**	**197**	Pn	**Pn**	**09 31 30.9**	**-0.4**
TWG	**Pinlang**	**16.56**	**341**		**Pn**	**09 31 32.6**	**-0.7**
SOEI	**Soe**	**17.03**	**189**		**P**	**09 31 42.6**	**+2.1**
KSM	**Kuching**	**17.53**	**252**		**Pn**	**09 31 46.1**	**+0.6**
YOJ	**Yonaguni jima**	**17.60**	**348**		**Pn**	**09 31 45.8**	**-0.4**
YOJ				IAmb	IAmb	09 31 47.3	
	comp=Z,80nm,1.1s						
DLV	**Lat**	**18.82**	**286**	P	**Pn**	**09 32 01.2**	**0.0**
DLV				IAmb	IAmb	09 32 04.2	
	comp=Z,52nm,0.9s						
JOW	**Kunigami**	**19.59**	**4**		**P**	**09 32 08.6**	**+0.2**
JOW				IAmb	IAmb	09 32 16.7	
	comp=Z,71nm,1.0s						
JOW	**Kunigami**	**19.59**	**4**	P	**P**	**09 32 09.2**	**+0.8**
	comp=Z,37nm,0.7s,baz=209,slow=8.4,SNR=12						
JAGI	**Jajag, Banyuwa**	**20.11**	**220**	P	**P**	**09 32 15.0**	**+0.8**
MTN	**Manton Dam**	**20.32**	**168**	P	**P**	**09 32 16.6**	**+0.2**
QIZ	**Qiongzhong**	**20.39**	**307**	P	**P**	**09 32 17.1**	**-0.1**
QIZ				S	Sn	09 36 08.5	-0.3
QIZ				pmax	pmax		
	comp=Z,18nm,0.8s						
UBPT	**Khong Chiam**	**22.55**	**293**	P	**P**	**09 32 40.5**	**+0.2**
KNRA	**Kununurra**	**22.77**	**176**	P	**P**	**09 32 43.0**	**+0.2**
KNRA				IAmb	IAmb	09 32 56.1	
	comp=Z,45nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.14**	**183**	P	**P**	**09 33 05.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**25.14**	**183**	P	**P**	**09 33 05.4**	**+0.5**
	comp=Z,9.2nm,0.6s,baz=6.7,slow=8.1,SNR=18						
	comp=Z,9.2nm,0.6s						
NJ2	**Nanjing**	**25.88**	**344**	*e*P	**P**	**09

comp=Z,12nm,0.5s
USA0B Ussuriysk Arra 37.14 6 P P 09 34 50.4 +0.2
USA0B IAmb IAmb 09 34 51.6
comp=Z,19nm,0.8s
USRK Ussuriysk Ar. 37.14 6 P P 09 34 50.6 +0.5
comp=Z,17nm,0.6s,baz=195,slow=7.5,SNR=29
comp=Z,17nm,0.6s
MDJ Mudanjiang 37.37 3 P P 09 34 52.5 +0.4
MDJ IAmb IAmb 09 34 53.5
comp=Z,16nm,0.8s
MDJ Mudanjiang 37.37 3 P P 09 34 52.3 +0.2
MDJ pmax pmax
comp=Z,24nm,0.8s
MDJ Mudanjiang 37.37 3 P P 09 34 52.2 +0.2
MDJ sP pP 09 35 06.9 +2.3
MORW Morawa 37.54 196 P P 09 34 53.9 +0.3
ERM Erimo 37.55 20 P P 09 34 54.2 +0.6
ERM IAmb IAmb 09 35 14.9
comp=Z,25nm,0.9s
FORT Forrest 37.75 178 P P 09 34 56.5 +1.0
XLT XiLinHaoTe 37.80 347 *e*P **P 09 34 56.4 +0.5**
XLT pP pP 09 35 06.1 -2.6
XLT PP **PnPn 09 36 24.5 -0.2**
XLT PcP **PcP 09 37 09.3 -2.3**
XLT pmax pmax
comp=Z,6.0nm,0.8s
JKA Kamikawa-asahi 39.26 18 P P 09 35 09.1 +1.2
H11S3 WAKE ISLAND Hy 40.24 70 T T 10 18 39.6
baz=258,slow=74
H11S1 WAKE ISLAND Hy 40.26 70 T T 10 18 48.9
baz=258,slow=74
H11S2 WAKE ISLAND Hy 40.26 70 T T 10 18 48.5
baz=258,slow=74
GTA Gaotai 40.31 327 *e*P **P 09 35 16.6 -0.4**
GTA PcP **PcP 09 37 20.7 +1.0**
GTA pmax pmax
comp=Z,3.0nm,0.8s
H11N1 WAKE ISLAND Hy 40.68 68 T T 10 19 30.8
baz=265,slow=74
H11N2 WAKE ISLAND Hy 40.69 68 T T 10 19 24.8
baz=265,slow=74
H11N3 WAKE ISLAND Hy 40.69 68 T T 10 19 35.1
baz=265,slow=74
BBOO Buckleboo 40.70 168 P P 09 35 20.1 +0.1
BBOO IAmb IAmb 09 35 27.8
comp=Z,43nm,1.4s
NWAO Narrogin (SRO) 40.94 193 P P 09 35 22.8 +0.8
NWAO Narrogin (SRO) 40.94 193 P P 09 35 23.2 +1.3
STKA Stephens Creek 41.27 161 P P 09 35 25.4 +0.7
STKA Stephens Creek 41.27 161 P P 09 35 25.6 +0.8
comp=Z,2.4nm,0.3s,baz=340,slow=10,SNR=5.9
comp=Z,2.4nm,0.3s
SONM Songino Array 44.14 340 P P 09 35 46.8 -1.2
comp=Z,0.7nm,0.4s,baz=162,slow=7.1,SNR=2.1
SONM PcP **PP 09 37 30.7 -1.0**
comp=Z,1.3nm,0.6s,baz=159,slow=3.1,SNR=3.6
comp=Z,0.7nm,0.4s
ARMA Armidale 44.24 149 P P 09 35 49.7 +0.7
ARMA IAmb IAmb 09 37 11.1
comp=Z,38nm,1.5s
WMQ Urumqi 50.08 323 *e*P **P 09 36 35.6 +1.3**
WMQ pmax pmax
comp=Z,16nm,0.6s
PEA0B Petropavlovsk- 52.18 23 P P 09 36 50.5 +0.7
PETK Petropavlovsk- 52.18 23 P P 09 36 51.7 +1.9
PETK Petropavlovsk- 52.18 23 P P 09 36 50.7 +0.9
comp=Z,6.3nm,0.6s,baz=196,slow=3.8,SNR=41
comp=Z,6.3nm,0.6s
PET Petropavlovsk 52.49 24 P P 09 36 54.5 +2.5
PET IAmb IAmb 09 36 54.9
comp=Z,19nm,0.8s
PET Petropavlovsk 52.49 24 P P 09 36 53.5 +1.4
WUS Wushi 54.20 316 P P 09 37 04.6 -0.5
FUNA Funafuti 54.36 106 P P 09 37 07.0 +0.6
YAK Yakutsk 54.78 2 P P 09 37 08.8 +0.2
MK31 Makanchi Array 54.90 324 P P 09 37 09.0 -0.8
MKAR Makanchi Array 54.90 324 P P 09 37 08.8 -1.0
MKAR Makanchi Array 54.90 324 P P 09 37 08.9 -0.9
comp=Z,5.2nm,0.6s,baz=113,slow=7.2,SNR=37
MKAR PcP **PcP 09 38 10.7 -0.7**
comp=Z,4.4nm,0.8s,baz=110,slow=5.8,SNR=4.6
MKAR ScP **ScP 09 42 05.2 -0.3**
comp=Z,1.1nm,0.9s,baz=151,slow=3.3,SNR=4.4
comp=Z,5.2nm,0.6s
MAKZ Makanchi 55.09 324 P P 09 37 10.2 -1.0
MAKZ Makanchi 55.09 324 P P 09 37 10.2 -1.0
MAKZ pP **pP 09 37 20.4 -4.7**
MA2 Magadan 55.33 14 P P 09 37 13.5 +0.8
MA2 Magadan 55.33 14 P P 09 37 13.8 +1.1
KSH Kashi 55.82 313 P P 09 37 17.6 +0.9
KSH sP pP 09 37 32.1 +1.6
KSH pmax pmax
comp=Z,4.0nm,1.1s
KDJ Kajisay 55.97 317 P P 09 37 17.5 -0.4
KDJ IAmb IAmb 09 37 18.5
comp=Z,8.9nm,0.7s
NIL Nilore 56.06 306 P P 09 37 17.9 -0.5
NIL Nilore 56.06 306 P P 09 37 17.7 -0.7
ULHL Ulahol 56.66 317 P P 09 37 22.2 -0.6
SNR=5.1
BOOM Boomskoye usch 56.96 317 P P 09 37 24.4 -0.4
TKM2 Tokmak 2 57.36 317 P P 09 37 27.0 -0.7
SNR=9.9
ZALV Zalesovo Beam 57.66 332 P P 09 37 26.9 -2.4
ZALV Zalesovo Beam 57.66 332 P P 09 37 27.1 -2.2
comp=Z,1.0nm,0.4s,baz=128,slow=5.3,SNR=4.0
comp=Z,1.0nm,0.4s
AAK Ala-Archa 58.00 316 P P 09 37 31.3 -0.9
AAK Ala-Archa 58.00 316 P P 09 37 30.8 -1.4
comp=Z,3.4nm,0.6s,baz=145,slow=7.7,SNR=9.2
comp=Z,3.4nm,0.6s
AAK Ala-Archa 58.00 316 P P 09 37 31.5 -0.7
USP Ospenovka 58.24 317 P P 09 37 32.8 -0.8
SNR=12
AML Almayashu 58.37 316 P P 09 37 34.6 -0.5
SNR=20
EKS2 Erkin-Say 58.51 316 P P 09 37 35.2 -0.5
SNR=14
ARSB Arslanbob 58.59 314 P P 09 37 35.7 -0.6
ARSB IAmb IAmb 09 37 36.2
comp=Z,6.8nm,0.6s
KURK Kurchatov 59.00 326 P P 09 37 37.5 -1.2
KURK IAmb IAmb 09 37 40.0
comp=Z,8.1nm,0.8s
KURK Kurchatov 59.00 326 P P 09 37 37.6 -1.2
KURBB Kurchatov Arra 59.00 326 P P 09 37 37.4 -1.3
comp=Z,6.0nm,0.8s,baz=126,slow=6.3,SNR=40
comp=Z,6.0nm,0.8s
KBL Kabul 59.66 306 P P 09 37 42.4 -1.5
KBL IAmb IAmb 09 37 43.0
comp=Z,4.8nm,0.6s
BTK Batken 59.74 312 P P 09 37 43.3 -0.9
BTK IAmb IAmb 09 38 11.9
comp=Z,5.3nm,0.8s
GAR Garm 59.81 311 P P 09 37 43.6 -1.1
CHGR Chuyangaron 60.58 310 P P 09 37 48.7 -1.3
SIMJ Simiganj 60.70 310 P P 09 37 49.8 -1.0
KK31 Karatay Array 60.91 316 P P 09 37 50.9 -1.2
KKAR Karatay Array 60.91 316 P P 09 37 50.7 -1.4
KKAR Karatay Array 60.91 316 P P 09 37 51.0 -1.1
KKAR IAmb IAmb 09 37 51.6
comp=Z,7.8nm,0.7s
TIXI Tiksi 64.42 1 P P 09 38 14.5 -0.3
TIXI IAmb IAmb 09 38 15.0
comp=Z,13nm,1.0s
TIXI Tiksi 64.42 1 P P 09 38 14.3 -0.5
BVAR Borovoye Array 64.59 326 P P 09 38 15.3 -1.0
comp=Z,2.4nm,0.7s,baz=120,slow=8.8,SNR=8.4
comp=Z,2.4nm,0.7s
BRVK Borovoye 64.66 326 P P 09 38 15.5 -1.3
BKZ Black Stump Fm 65.00 139 P P 09 38 20.5 +1.2
BILL Bilibino 66.19 15 P P 09 38 26.5 +0.1
BILL IAmb IAmb 09 38 28.9
comp=Z,6.7nm,0.8s
BILL Bilibino 66.19 15 P P 09 38 26.7 +0.4
BILL pP **pP 09 38 38.2 -1.2**
NRIK Noril'sk 67.16 346 P P 09 38 31.3 -1.3
comp=Z,0.8nm,0.3s,baz=74,slow=5.1,SNR=3.6
comp=Z,0.8nm,0.3s
SPIA Saint Paul Isl 69.44 31 P P 09 38 46.2 -0.8
baz=250
P08K Saint George I 69.62 32 P P 09 38 47.6 -0.4
baz=251
ABKAR Akbulak array 69.66 320 P P 09 38 47.4 -1.1
UNV Unalaska Valle 70.49 35 P P 09 38 52.6 -0.9
baz=263
UNV Unalaska Valle 70.49 35 P P 09 38 54.2 +0.7
baz=255
AKTO Aktyubinsk 71.13 321 P P 09 38 56.4 -1.1
comp=Z,4.8nm,0.6s,baz=86,slow=7.1,SNR=20
comp=Z,4.8nm,0.6s
GAMB Gambell 71.18 24 P P 09 38 57.4 0.0
baz=247
ARTI Arti 72.26 327 P P 09 39 02.4 -1.7
comp=Z,3.6nm,0.6s,baz=140,slow=7.8,SNR=5.2
comp=Z,3.6nm,0.6s
M11K Mekoryuk 72.45 29 P P 09 39 05.2 +0.1
baz=253
FALS False Pass 72.48 35 P P 09 39 05.7 +0.3
baz=257
TNA Tin City 73.35 23 P P 09 39 10.8 +0.4
baz=250
S12K Black Hills 73.42 34 P P 09 39 11.4 +0.3
baz=258
K13K Kusilvak Mount 73.61 27 P P 09 39 12.9 +0.9
baz=254
M13K Dall Lake 73.82 29 P P 09 39 14.0 +0.7
baz=256
F14K Arctic Creek 73.95 24 P P 09 39 15.0 +1.1
baz=252
ANM Nome 74.06 25 P P 09 39 15.2 +0.6
baz=253
SDPT Sand Point 74.24 34 P P 09 39 16.1 +0.4
baz=260
CASY Casey 74.24 187 P P 09 39 15.8 +0.2
J14K Nanvaranak Lak 74.33 27 P P 09 39 16.2 +0.1
baz=255
L14K Kuka Creek 74.37 28 P P 09 39 17.4 +1.0
baz=256
N14K Kuskokwak Cree 74.52 30 P P 09 39 17.7 +0.4
baz=257
M14K Bethel 74.57 29 P P 09 39 18.6 +1.0
baz=257
O14K Tigyukauivet M 74.58 30 P P 09 39 18.2 +0.5
baz=258
CHNA Chernabura Isl 74.65 35 P P 09 39 18.8 +0.6
baz=260
G15K Niukluk 74.73 24 P P 09 39 19.4 +0.9
baz=254
S14K Fog Glacier 74.92 34 P P 09 39 20.8 +0.9
baz=260
L15K Ungalak Mounta 75.00 28 P P 09 39 21.0 +0.8
baz=257
K15K Wolf Creek Mou 75.12 27 P P 09 39 21.1 +0.3
baz=257
M15K Kasigluk River 75.17 29 P P 09 39 22.1 +1.0
baz=258
C16K Lisburne Hills 75.21 21 P P 09 39 21.9 +0.8
baz=252
O15K Ungalikthiuk R 75.29 31 P P 09 39 22.4 +0.5
baz=259
N15K Kwethluk River 75.35 30 P P 09 39 22.7 +0.5
baz=259
H16K Elim 75.38 25 P P 09 39 22.9 +0.7
baz=256
G16K Koyuk River 75.52 24 P P 09 39 23.7 +0.7
baz=255
CHGN Chignik 75.55 34 P P 09 39 23.6 +0.3
baz=261
J16K Anvik River 75.76 26 P P 09 39 25.2 +0.7
baz=257
D17K Noatak River 75.85 22 P P 09 39 26.3 +1.4
baz=254
I17K Unalakleet 75.85 26 P P 09 39 25.7 +0.8
baz=257
L16K Owhat River 75.95 28 P P 09 39 26.9 +1.3
baz=259
RDOG Red Dog Mine 76.01 21 P P 09 39 27.2 +1.4
RDOG Red Dog Mine 76.01 21 P P 09 39 27.0 +1.2
baz=254
C17K DeLong Mountai 76.03 21 P P 09 39 27.1 +1.2
baz=254
M16K Timber Creek 76.06 29 P P 09 39 27.2 +1.0
baz=259
E17K Hotham Inlet 76.16 22 P P 09 39 28.2 +1.5
baz=255
R16K Pilot Point 76.19 32 P P 09 39 28.2 +1.2
baz=262
P16K Nushagak River 76.20 31 P P 09 39 27.6 +0.7
baz=261
F17K Baldwin Pennin 76.22 23 P P 09 39 28.4 +1.5
baz=256
G17K Kiwalik Mounta 76.24 24 P P 09 39 28.2 +1.1
baz=257
O16K Kokwok River B 76.24 30 P P 09 39 28.5 +1.3
baz=261
H17K Granite Mounta 76.41 25 P P 09 39 29.5 +1.4
baz=258
J17K VABM Dome 76.46 26 P P 09 39 30.0 +1.6
baz=259
L17K Donlin 76.58 28 P P 09 39 30.4 +1.3
baz=260
K17K Iditarod 76.68 27 P P 09 39 31.3 +1.6
baz=260
E18K Tukpahlearik C 76.70 22 P P 09 39 31.4 +1.7
E18K IAmb IAmb 09 39 32.6
comp=Z,13nm,0.7s
E18K Tukpahlearik C 76.70 22 P P 09 39 31.2 +1.5
baz=256
B18K Kokolik River 76.75 20 P P 09 39 31.5 +1.6
baz=255,SNR=6.4
O17K Koliganek Bris 76.77 30 P P 09 39 32.0 +1.8
baz=261
C18K Utukok River 76.78 21 P P 09 39 31.7 +1.4
C18K IAmb IAmb 09 39 32.6
comp=Z,9.4nm,0.8s
C18K Utukok River 76.78 21 P P 09 39 31.6 +1.4
baz=256
Q16K King Salmon 76.83 31 P P 09 39 31.6 +1.0
baz=262
N17K Nushagak Hills 76.84 30 P P 09 39 32.0 +1.4
baz=261
M17K Holitna River 76.85 29 P P 09 39 32.8 +2.1
baz=261
F18K Selawik 76.88 23 P P 09 39 31.9 +1.2
baz=258
H18K Honhosa River 77.10 25 P P 09 39 32.3 +0.2
baz=259
G18K Tagagawik 77.13 24 P P 09 39 32.7 +0.5
baz=259
A19K Wainwright 77.22 19 P P 09 39 33.7 +1.1
baz=255
L18K Granite Mounta 77.33 28 P P 09 39 34.3 +0.9
baz=261
KIRV Kirov 77.42 328 P P 09 39 32.8 -1.1
comp=Z,19nm,0.7s,baz=75,slow=2.2,SNR=6.7
comp=Z,19nm,0.7s
N18K Kilae Creek 77.49 29 P P 09 39 35.1 +0.8
baz=262
J18K Innoko River 77.52 27 P P 09 39 35.5 +1.1
baz=261
M18K Stony River 77.63 29 P P 09 39 36.3 +1.2
baz=262
GCSA Galena City Sc 77.65 25 P P 09 39 36.4 +1.4
baz=260
F19K Shaleruckik Mo 77.66 23 P P 09 39 35.0 -0.1
baz=259
P18K Big Mountain, 77.66 31 P P 09 39 35.9 +0.6
baz=263
O18K Koktuh Hills 77.72 30 P P 09 39 36.5 +0.9
baz=263
TTA Tatalina 77.75 27 P P 09 39 37.4 +1.6
baz=262
G19K Purcell Mounta 77.80 24 P P 09 39 37.2 +1.3
baz=260
BELG Belogornoye 77.84 322 P P 09 39 35.3 -1.0
comp=Z,24nm,0.8s,baz=135,slow=1.6,SNR=17
comp=Z,24nm,0.8s
D19K Kuna River 77.85 21 P P 09 39 37.5 +1.3
D19K IAmb IAmb 09 39 38.4
comp=Z,14nm,0.8s
D19K Kuna River 77.85 21 P P 09 39 37.7 +1.5
baz=258,SNR=9.7
R18K Karluk 77.86 33 P P 09 39 37.3 +0.9
baz=264
H19K Roundabout Mou 77.96 24 P P 09 39 38.4 +1.7
baz=261
E19K Redstone River 77.98 22 IAmb IAmb 09 39 41.1
comp=Z,12nm,0.9s
E19K Redstone River 77.98 22 P P 09 39 38.3 +1.4
baz=260
J19K Poorman 78.08 26 P P 09 39 38.7 +1.3
baz=262
L19K White Mountain 78.18 28 P P 09 39 39.5 +1.4
baz=263
N19K Bonanza Creek 78.19 29 P P 09 39 40.0 +1.7
baz=264
D20K Etivluk River 78.43 21 P P 09 39 40.8 +1.4
baz=260,SNR=7.0
OHAK Old Harbor 78.46 33 P P 09 39 40.4 +0.7
baz=265
B20K Meade River 78.48 20 P P 09 39 40.5 +1.0
B20K IAmb IAmb 09 39 41.9
comp=Z,8.3nm,0.7s
B20K Meade River 78.48 20 P P 09 39 41.0 +1.5
baz=259
F20K Avaraart Lake 78.49 23 P P 09 39 41.4 +1.7
baz=261
E20K Nigu River 78.51 22 P P 09 39 41.1 +1.3
baz=260
H20K Anotleneega Mo 78.60 25 P P 09 39 41.5 +1.2
baz=262
L20K Farewell, AK 78.67 28 P P 09 39 42.6 +1.8
baz=264
K20K Telida 78.68 27 P P 09 39 42.0 +1.2
baz=263
J20K Nowinta River 78.74 26 P P 09 39 42.3 +1.2
baz=263
KDAK Kodiak Island 78.88 33 P P 09 39 42.9 +0.9
baz=266
A21K Barrow 78.90 19 P P 09 39 42.9 +1.0
baz=259
M20K Styx River 78.95 28 P P 09 39 43.4 +1.0
baz=264
O20K Slope Mountain 79.04 30 P P 09 39 42.9 0.0
baz=265
C21K Knifeblade Rid 79.16 21 P P 09 39 44.3 +1.0
baz=262
B21K Ikpikpuk River 79.29 20 P P 09 39 45.4 +1.4
B21K IAmb IAmb 09 39 46.3
comp=Z,14nm,0.7s
B21K Ikpikpuk River 79.29 20 P P 09 39 45.3 +1.3
baz=262
G21K Allakaket 79.29 24 P P 09 39 45.2 +1.1
baz=263
N20K Mount Spurr 79.33 29 P P 09 39 45.4 +0.8
baz=265
E21K Killik River 79.35 22 P P 09 39 46.1 +1.7
RAYN Ar Rayn 79.36 293 P P 09 39 44.7 -0.8
RAYN IAmb IAmb 09 39 45.8
comp=Z,15nm,0.8s
A22K Sinclair Lake 79.37 19 P P 09 39 46.1 +1.7
baz=261
F21K Alatna River 79.38 23 P P 09 39 45.7 +1.0
baz=263
H21K Melozitna Rive 79.48 25 P P 09 39 46.2 +1.0
baz=264
PPLA Purkeypile 79.48 27 P P 09 39 46.8 +1.3
baz=265
HOM Homer 79.50 31 P P 09 39 45.9 +0.6
baz=266
CHUM Lake Minchumin 79.51 26 P P 09 39 46.7 +1.4
baz=265
CAST Castle Rocks 79.58 27 P P 09 39 46.7 +1.0
baz=265,SNR=5.2
SKT Skwentna 79.72 28 P P 09 39 47.2 +0.6
baz=266
I21K Tanana 79.77 25 P P 09 39 47.8 +1.1
baz=265
B22K Teshekpuk Lake 79.79 20 IAmb IAmb 09 39 48.8
comp=Z,14nm,0.7s
B22K Teshekpuk Lake 79.79 20 P P 09 39 47.9 +1.2
baz=263
D22K Ayikyak River 79.87 21 IAmb IAmb 09 39 50.3
comp=Z,25nm,1.8s
D22K Ayikyak River 79.87 21 P P 09 39 49.0 +1.8
baz=264
F22K John River 79.91 23 P P 09 39 49.1 +1.6
baz=264
BRSE Bradley Lake S 79.96 31 P P 09 39 49.1 +1.2
baz=267
H22K Ishtalitna Cre 80.08 24 P P 09 39 49.6 +1.1
baz=265
E22K Anaktuvuk Pass 80.11 22 P P 09 39 49.6 +1.0
baz=264
BPAW Bear Paw Mtn. 80.11 26 IAmb IAmb 09 39 50.9
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 80.11 26 P P 09 39 49.7 +1.1
baz=266,SNR=8.2
M22K Willow 80.37 29 P P 09 39 50.9 +0.9
baz=267
TRF Thorofare Moun 80.38 27 IAmb IAmb 09 39 53.0
comp=Z,9.5nm,0.9s
TRF Thorofare Moun 80.38 27 P P 09 39 51.3 +1.0
baz=267
RC01 Rabbit Creek A 80.52 29 P P 09 39 51.2 +0.3
baz=268
D23K Nanushuk River 80.60 21 P P 09 39 52.7 +1.5
baz=265,SNR=5.2
SEW Seward 80.63 30 P P 09 39 52.3 +0.9
baz=268
COLD Coldfoot 80.65 23 IAmb IAmb 09 39 55.8
comp=Z,7.3nm,0.8s
COLD Coldfoot 80.65 23 P P 09 39 52.6 +1.2
baz=266,SNR=7.4
G23K Bananza Creek 80.69 24 P P 09 39 52.8 +1.1
baz=266
C23K Itkillik River 80.69 20 IAmb IAmb 09 39 55.7
comp=Z,12nm,0.7s
C23K Itkillik River 80.69 20 P P 09 39 53.1 +1.5
baz=265,SNR=9.0
KBZ Khabaz 80.80 313 P P 09 39 51.2 -1.5
comp=Z,3.4nm,0.9s,baz=80,slow=3.1,SNR=4.4
comp=Z,3.4nm,0.9s
PMR Palmer 80.83 29 P P 09 39 53.1 +0.6
baz=268
I23K Minto, Yukon-K 80.88 25 IAmb IAmb 09 39 57.0
comp=Z,38nm,1.8s
I23K Minto, Yukon-K 80.88 25 P P 09 39 53.7 +1.0
baz=267
E23K Chandalar 80.93 22 IAmb IAmb 09 39 57.0
comp=Z,7.8nm,0.8s
E23K Chandalar 80.93 22 P P 09 39 54.5 +1.5
baz=267
NEA2 Nenana 80.97 26 P P 09 39 53.9 +0.6
baz=268
TOLK Toolik Lake Re 80.98 22 P P 09 39 54.9 +1.6
baz=266,SNR=7.1
MCK McKinley 81.00 27 IAmb IAmb 09 39 54.9
comp=Z,16nm,0.8s
MCK McKinley 81.00 27 P P 09 39 54.1 +0.7
baz=268,SNR=11
RND Reindeer 81.03 27 IAmb IAmb 09 39 56.1
comp=Z,7.7nm,0.8s
KNK Knik Glacier 81.15 29 P P 09 39 55.1 +0.9
baz=269
PWL Port Wells 81.20 30 P P 09 39 55.5 +1.0
baz=269
SML Sawmill 81.22 29 P P 09 39 56.0 +1.3
baz=269
D24K Happy Valley 81.28 21 IAmb IAmb 09 39 57.6
comp=Z,14nm,0.7s
D24K Happy Valley 81.28 21 P P 09 39 56.3 +1.5
baz=267
C24K Franklin Bluff 81.35 21 P P 09 39 56.5 +1.4
baz=267
E24K Your Creek 81.35 22 P P 09 39 56.2 +1.0
baz=268
WRH Wood River Hil 81.39 26 IAmb IAmb 09 39 58.3
comp=Z,9.0nm,0.8s
COLA College 81.51 25 P P 09 39 56.7 +0.7
COLA IAmb IAmb 09 39 58.7
comp=Z,9.8nm,0.8s
COLA College 81.51 25 P P 09 39 57.0 +1.0
baz=269
M23K Glacier View 81.51 29 P P 09 39 56.7 +0.5
baz=269
H24K Noodor Dome 81.52 24 IAmb IAmb 09 40 00.3
comp=Z,10nm,0.8s
H24K Noodor Dome 81.52 24 P P 09 39 57.2 +1.0
baz=268
CCB Clear Creek Bu 81.52 26 P P 09 39 56.6 +0.5
CCB IAmb IAmb 09 39 57.2
comp=Z,14nm,1.4s
F24K Squaw Lake 81.56 23 IAmb IAmb 09 40 00.4
comp=Z,33nm,1.8s
F24K Squaw Lake 81.56 23 P P 09 39 57.8 +1.4
baz=268,SNR=8.0
POKR Poker Plat Res 81.69 25 P P 09 39 58.8 +1.8
baz=269
SCM Sheep Creek Mo 81.70 29 P P 09 39 58.3 +1.1
baz=270

G24K	Hadweenzic Riv	81.70	24	P	P	09 39 58.3 +1.2
	baz=269,SNR=5.5					
HDA	Harding Lake	81.89	26	IAmb	IAmb	09 40 00.0
	comp=Z,11nm,0.8s					
HDA	Harding Lake	81.89	26	P	P	09 39 58.2 +0.1
	baz=270,SNR=11					
ILAR	Eielson Array	81.92	26	P	P	09 39 58.1 -0.1
	comp=Z,3.0nm,0.7s,baz=232,slow=6.3,SNR=31					
	comp=Z,3.0nm,0.7s					
D25K	Kavik River	82.16	21	IAmb	IAmb	09 40 01.6
	comp=Z,7.0nm,0.8s					
D25K	Kavik River	82.16	21	P	P	09 40 00.8 +1.3
	baz=269					
M24K	Tolsona, Glenn	82.24	28	P	P	09 40 01.9 +1.8
	baz=271					
G25K	Bearman Lake	82.25	24	P	P	09 40 01.5 +1.6
	baz=270					
H25L	Birch Creek	82.36	24	P	P	09 40 02.3 +1.9
	baz=270					
KLU	Klutina	82.37	29	P	P	09 40 01.9 +1.1
	baz=271					
K24K	Donnelly Dome	82.40	27	P	P	09 40 01.8 +1.0
	baz=271,SNR=6.4					
F25K	Christian Rive	82.42	23	P	P	09 40 02.6 +1.8
	baz=270					
E25K	Arctic Village	82.45	22	P	P	09 40 02.5 +1.5
	baz=270					
PRP	Porcupine Dome	82.49	25	P	P	09 40 01.6 +0.2
	baz=271					
PAX	Paxson	82.56	27	P	P	09 40 02.1 +0.5
	baz=271					
J25K	Salcha River,	82.57	26	IAmb	IAmb	09 40 03.1
	comp=Z,8.2nm,0.8s					
J25K	Salcha River,	82.57	26	P	P	09 40 01.9 +0.2
	baz=271,SNR=7.9					
C26K	Camden Bay	82.67	20	P	P	09 40 03.5 +1.6
	baz=271					
HARP	HAARP	82.71	28	P	P	09 40 03.6 +1.2
	baz=271					
RIDG	Independent Ri	82.82	27	IAmb	IAmb	09 40 04.8
	comp=Z,10nm,0.8s					
RIDG	Independent Ri	82.82	27	P	P	09 40 03.8 +0.8
	baz=272,SNR=6.4					
BMAR	Burnt Mountain	82.83	23	P	P	09 40 04.6 +1.6
F26K	Sheenjek River	83.00	23	P	P	09 40 05.3 +1.5
	baz=272					
N25K	Chitina, Valde	83.00	29	P	P	09 40 05.6 +1.6
	baz=272					
BMRM	Bremner River	83.02	29	P	P	09 40 05.4 +1.3
	baz=272					
C27K	Jago River	83.09	21	IAmb	IAmb	09 40 07.6
	comp=Z,9.8nm,0.7s					
C27K	Jago River	83.09	21	P	P	09 40 06.1 +1.8
	baz=272					
KAIM	Kayak Island	83.16	30	P	P	09 40 06.7 +2.0
	baz=272					
G26K	Porcupine Rive	83.16	23	P	P	09 40 06.4 +1.8
	baz=272					
SCRK	Sand Creek	83.19	26	P	P	09 40 05.8 +0.8
	baz=272					
J26L	Joseph Creek	83.35	26	IAmb	IAmb	09 40 08.1
	comp=Z,5.8nm,0.7s					
J26L	Joseph Creek	83.35	26	P	P	09 40 06.8 +1.0
	baz=273,SNR=7.2					
GLB	Gilahina Butte	83.39	29	IAmb	IAmb	09 40 14.8
	comp=Z,19nm,1.4s					
I26K	Coal Creek Min	83.49	25	P	P	09 40 07.7 +1.4
	baz=273					
L26K	Log Cabin Wild	83.52	27	P	P	09 40 08.0 +1.4
	baz=273					
BGLC	Bering Glacier	83.72	30	P	P	09 40 09.6 +2.0
	baz=273					
M26K	Nabesna, AK	83.72	28	P	P	09 40 08.7 +1.0
	baz=273					
E27K	Coleen River	83.93	22	IAmb	IAmb	09 40 11.4
	comp=Z,9.2nm,0.8s					
E27K	Coleen River	83.93	22	P	P	09 40 10.4 +1.8
	baz=274					
G27K	Doyon Strip	84.01	23	IAmb	IAmb	09 40 12.4
	comp=Z,6.2nm,0.8s					
G27K	Doyon Strip	84.01	23	P	P	09 40 11.0 +2.0
	baz=274					
K27K	Chicken	84.03	26	P	P	09 40 11.3 +2.2
	baz=274					
D27M	Malcolm River	84.08	21	P	P	09 40 11.2 +1.8
	baz=274					
H27K	Steamboat Moun	84.10	24	P	P	09 40 11.8 +2.2
	baz=274,SNR=10					
I27K	Kandik River	84.11	25	P	P	09 40 12.1 +2.5
	baz=274					
L27K	Beaver Creek,	84.21	27	IAmb	IAmb	09 40 13.1
	comp=Z,6.4nm,0.8s					
L27K	Beaver Creek,	84.21	27	P	P	09 40 12.1 +1.9
	baz=274					
BCAR	Beaver Creek A	84.23	27	P	P	09 40 12.3 +2.1
M27K	Edge Creek, AK	84.24	28	P	P	09 40 12.2 +1.8
	baz=274					
MESA	MESA	84.38	30	P	P	09 40 13.5 +2.3
MESA	MESA	84.38	30	P	P	09 40 12.9 +1.7
	baz=274					
F28M	Old Crow	84.63	23	P	P	09 40 14.2 +2.0
	baz=276					
E28M	Babbage River	84.66	22	P	P	09 40 14.0 +1.8
	baz=276					
I28M	Miner Creek	84.82	25	P	P	09 40 15.4 +2.2
I28M	Miner Creek	84.82	25	P	P	09 40 15.2 +1.9
	baz=276					
D28M	Stokes Point	84.86	21	P	P	09 40 14.8 +1.6
	baz=276					
O28M	Mount Upton	85.19	29	P	P	09 40 17.2 +1.8
	baz=276					
DAWY	Dawson	85.20	26	IAmb	IAmb	09 40 17.7
	comp=Z,6.3nm,0.8s					
DAWY	Dawson	85.20	26	P	P	09 40 16.8 +1.7
	baz=276					
E29M	Blow River	85.28	22	P	P	09 40 16.6 +1.2
	baz=277					
YUK8	Steele Glacier	85.34	29	P	P	09 40 18.0 +1.9
	baz=276					
H29M	Whitestone	85.38	24	P	P	09 40 17.5 +1.6
H29M				IAmb	IAmb	09 40 18.3
	comp=Z,10nm,0.8s					
H29M	Whitestone	85.38	24	P	P	09 40 17.9 +2.0
	baz=277					
G29M	Pine Creek	85.42	23	P	P	09 40 18.3 +2.2
	baz=277					
I29M	Ogilvie Camp,	85.51	25	P	P	09 40 18.0 +1.4
I29M				IAmb	IAmb	09 40 19.0
	comp=Z,9.9nm,0.8s					
I29M	Ogilvie Camp,	85.51	25	P	P	09 40 18.5 +1.9
	baz=277,SNR=8.2					
J29N	Klondike Camp	85.67	26	P	P	09 40 18.9 +1.5
	baz=277					
M29M	Somme Creek	85.81	28	P	P	09 40 20.4 +2.1
	baz=277					
YUK4	Talbot Arm	85.87	29	P	P	09 40 20.5 +1.8
	baz=277					
L29M	L29M	85.88	27	P	P	09 40 21.1 +2.6
L29M				IAmb	IAmb	09 40 21.7
	comp=Z,8.9nm,0.8s					
L29M	L29M	85.88	27	P	P	09 40 20.7 +2.2
	baz=278					
K29M	Barlow Dome	86.05	26	P	P	09 40 21.0 +1.5
	baz=278					
YUK6	Outpost Mounta	86.06	29	P	P	09 40 21.3 +1.6
	baz=278					
G30M	tAoh Zraii Nji	86.12	23	P	P	09 40 20.1 +0.5
G30M	tAoh Zraii Nji	86.12	23	P	P	09 40 20.3 +0.7
	baz=279					
F30M	Barrier River	86.18	22	P	P	09 40 20.8 +0.9
	baz=279					
I30M	Mount Dempster	86.33	25	P	P	09 40 22.4 +1.6
	baz=279					
J30M	Hart River	86.45	25	P	P	09 40 22.9 +1.5
	baz=279					
HYT	Haines Junctio	86.49	29	IAmb	IAmb	09 40 30.3
	comp=Z,4.3nm,0.8s					
HYT	Haines Junctio	86.49	29	P	P	09 40 22.8 +1.2
	baz=278					
M30M	Minto, Yukon	86.56	27	P	P	09 40 23.7 +1.9
	baz=279					
N30M	Aishikik Lake	86.60	29	P	P	09 40 23.9 +1.8
	baz=279					
VNDA	Vanda	86.79	173	P	P	09 40 22.5 0.0
	comp=Z,3.4nm,0.8s,baz=346,slow=4.2,SNR=1.6					
	comp=Z,3.4nm,0.8s					
MAYO	Mayo, Yukon	86.80	26	P	P	09 40 24.6 +1.7
	baz=280					
P30M	Million Dollar	86.86	30	P	P	09 40 25.5 +2.1
	baz=279					
G31M	Satah River	86.88	23	P	P	09 40 23.4 +0.2
G31M				IAmb	IAmb	09 40 24.8
	comp=Z,5.5nm,0.7s					
G31M	Satah River	86.88	23	P	P	09 40 24.0 +0.7
	baz=281					
INK	Inuvik	86.89	22	P	P	09 40 23.4 +0.1
INK				IAmb	IAmb	09 40 24.3
	comp=Z,4.4nm,0.7s					
INK	Inuvik	86.89	22	P	P	09 40 23.7 +0.4
	baz=281					
F31M	Tsiigehtchic	86.99	22	P	P	09 40 23.8 +0.1
	baz=281,SNR=8.3					
H31M	Peel River	87.07	24	P	P	09 40 24.8 +0.5
H31M	Peel River	87.07	24	P	P	09 40 25.4 +1.1
	baz=281					
SPITS	Spitsbergen Ar	87.17	349	P	P	09 40 23.8 -0.7
	comp=Z,6.2nm,0.9s,baz=102,slow=10,SNR=7.9					
	comp=Z,6.2nm,0.9s					
O30N	Mendenhall	87.18	29	P	P	09 40 26.4 +1.5
	baz=280					
N31M	Braeburn, Yuko	87.21	28	P	P	09 40 26.3 +1.3
	baz=280					
ARCES	ARCESS Array B	87.31	340	P	P	09 40 24.2 -1.2
	comp=Z,5.2nm,0.9s,baz=75,slow=6.1,SNR=6.4					
ARCES				PKiKP	PKiKP	09 45 28.6 -0.8
	comp=Z,1.8nm,0.8s,baz=159,slow=1.0,SNR=3.7					
	comp=Z,5.2nm,0.9s					
MMAI	Mount Meron Ar	87.44	303	P	P	09 40 25.9 -0.9
	comp=Z,3.5nm,0.6s,baz=88,slow=8.4,SNR=4.3					
	comp=Z,3.5nm,0.6s					
M31M	Drury Creek, Y	87.73	28	P	P	09 40 28.8 +1.3
	baz=281					
SKAG	Skagway	87.78	30	P	P	09 40 29.0 +1.2
	baz=280					
WHY	Whitehorse	87.79	29	IAmb	IAmb	09 42 48.3
	comp=Z,20nm,1.9s					
WHY	Whitehorse	87.79	29	P	P	09 40 29.3 +1.4
	baz=281					
BR131	Keskin Array S	88.01	310	P	P	09 40 28.4 -1.0
BRTR	Keskin Array B	88.01	310	P	P	09 40 28.6 -0.9
	comp=Z,1.5nm,0.7s,baz=115,slow=4.8,SNR=6.6					
	comp=Z,1.5nm,0.7s					
FARO	Faro, Yukon	88.20	28	P	P	09 40 30.8 +1.0
FARO				IAmb	IAmb	09 40 32.1
	comp=Z,6.7nm,0.9s					
FARO	Faro, Yukon	88.20	28	P	P	09 40 31.0 +1.2
	baz=282					
S32K	Killisnoo	88.54	32	P	P	09 40 32.9 +1.5
	baz=281					
N32M	Quiet Lake	88.55	29	P	P	09 40 32.1 +0.7
N32M				IAmb	IAmb	09 40 49.2
	comp=Z,6.8nm,0.8s					
N32M	Quiet Lake	88.55	29	P	P	09 40 32.9 +1.5
	baz=282					
P32M	Atlin	88.57	30	P	P	09 40 32.5 +0.9
	baz=282					
A36M	Sachs Harbour	88.65	17	P	P	09 40 31.8 +0.2
A36M				IAmb	IAmb	09 40 32.7
	comp=Z,5.7nm,0.8s					
A36M	Sachs Harbour	88.65	17	P	P	09 40 31.8 +0.2
	baz=289					
FINES	FINESS Array B	88.92	332	P	P	09 40 31.9 -1.2
	comp=Z,3.5nm,0.7s,baz=91,slow=4.6,SNR=8.1					
	comp=Z,3.5nm,0.7s					
Q32M	Nakina River	89.43	31	P	P	09 40 36.5 +0.7
	baz=283					
C36M	Paulatuk	89.91	20	P	P	09 40 37.4 -0.1
C36M				IAmb	IAmb	09 40 38.5
	comp=Z,10nm,0.8s					
C36M	Paulatuk	89.91	20	P	P	09 40 37.8 +0.3
	baz=290,SNR=6.8					
WRAK	Wrangell Islan	89.95	33	P	P	09 40 39.3 +1.3
	baz=283					
V35K	Ketchikan	90.60	34	P	P	09 40 41.4 +0.3
	baz=283					
BURAR	Bucovina Array	92.59	318	P	P	09 40 50.4 -0.2
BUR08	Bucovina Ar. S	92.60	318	P	P	09 40 50.0 -0.6
HFS	Hagfors	95.09	333	P	P	09 40 59.4 -2.3
	comp=Z,0.8nm,0.5s,baz=114,slow=3.6,SNR=4.1					
	comp=Z,0.8nm,0.5s					
SYO	Syowa Base	95.70	201	⇓/pP	pP	09 41 17.2 -1.1
NOA	NORSAR Array B	95.82	334	P	P	09 41 03.4 -1.6
	comp=Z,0.9nm,0.8s,baz=64,slow=4.6,SNR=3.7					
	comp=Z,0.9nm,0.8s					
YKA	Yellowknife Ar	96.29	24	P	P	09 41 07.1 0.0
	comp=Z,1.7nm,0.8s,baz=299,slow=4.7,SNR=17					
	comp=Z,1.7nm,0.8s					
QSPA	South Pole Qui	97.06	180	P	P	09 41 10.3 -0.3
	comp=Z,3.3nm,0.9s,baz=255,slow=1.5,SNR=2.1					
	comp=Z,3.3nm,0.9s					
B08A	Colville Reser	100.00	38	Pdif	Pdif	09 41 24.4 +0.3
PDAR	Pinedale Array	108.61	40	Pdiff	Pdif	09 42 01.5 -1.3
	comp=Z,2.4nm,1.2s,baz=150,slow=3.3,SNR=4.9					
PDAR				PKKP	PKKPab	09 57 31.0 -0.8
	comp=Z,0.6nm,0.8s,baz=111,slow=8.1,SNR=4.8					
VNA2	Neumayer--Watz	110.19	195	⇓P	PKiKP	09 46 06.4 -3.5
	comp=Z,0.6nm,0.2s,baz=307,slow=17					
VNA3	Neumayer Olymp	110.53	194	⇓P	PKiKP	09 46 02.5 -8.1
	comp=Z,1.5nm,0.2s					
VNA1	Neumayer--Stat	110.59	195	⇓P	PKiKP	09 46 01.5 -9.1
	comp=Z,3.0nm,0.2s					
T25A	Trinidad	114.86	43	P	PKPdf	09 46 21.3 +1.2
	baz=301					
TXAR	Lajitas Array	119.29	51	PKP	PKiKP	09 46 29.7 +0.9
	comp=Z,0.8nm,0.7s,baz=236,slow=0.6,SNR=9.1					
TORD	Torodi Ar. Bea	122.00	290	PKP	PKPdf	09 46 33.9 -0.3
	comp=Z,2.3nm,0.6s,baz=34,slow=2.8,SNR=11					
833A	Chaparral WMA,	123.04	50	P	PKiKP	09 46 37.2 +1.2
	baz=301					
L61B	Northampton	127.46	18	P	PKPdf	09 46 44.1 +0.2
	baz=335					
TKL	Tuckaleechee C	128.51	32	PKP	PKPdf	09 46 45.7 -0.4
	comp=Z,3.5nm,0.5s,baz=333,slow=4.5,SNR=5.3					
DBIC	Dimbokro	130.00	285	PKP	PKPdf	09 46 49.8 +0.3
	comp=Z,3.3nm,0.7s,baz=126,slow=1.9,SNR=4.4					
PLCA	Paso Flores	143.11	158	PKP	PKPbc	09 47 11.2 +1.2
	comp=Z,1.9nm,0.7s,baz=342,slow=1.2,SNR=7.9					
BI05	Punta Hualpn	145.30	151	PKPbc	PKPab	09 47 18.5 +1.7
TRQA	Tornquist	148.21	167	PKPbc	PKPbc	09 47 26.2 +1.1
SDV	Santo Domingo	156.30	48	PKP	PKPdf	09 47 35.1 +0.5
	comp=Z,1.3nm,0.3s,baz=301,slow=5.9,SNR=4.1					
CPUP	Villa Florida	160.52	168	PKPab	PKPab	09 48 22.1 +1.7
	comp=Z,0.8nm,0.4s,baz=162,slow=6.4,SNR=2.9					
LPAZ	La Paz	162.69	123	PKP	PKPdf	09 47 43.0 +0.5
	comp=Z,1.6nm,0.7s,baz=249,slow=1.7,SNR=7.2					
LPAZ				PKPab	PKPab	09 48 33.3 +2.3
	comp=Z,1.4nm,0.8s,baz=230,slow=2.2,SNR=4.3					
SIV	San Ignacio	168.23	139	PKP	PKPdf	09 47 46.1 -0.1
	comp=Z,0.7nm,0.5s,baz=148,slow=11,SNR=4.5					

ASRS 01 09:34:23.0±0.6, 54°.15N×86°.45E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

NOU 01 09:34:27.9, 20°.36S×169°.20E, h0km, MLv4.1/18, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.56	224	P	Pn	09 34 56.5	-0.4
MARNC	Mare, Loyalty	1.56	224	S	Sn	09 35 17.2	-0.7
YATNC	Mamie plateau,	2.74	231	P	Pn	09 35 14.2	+1.1
YATNC	Mamie plateau,	2.74	231	S	Sn	09 35 45.5	-1.5
PINNC	Pines Island,	2.77	216	P	Pn	09 35 13.9	+0.3
PINNC	Pines Island,	2.77	216	S	Sn	09 35 46.7	-1.1
DVP	Devils Point	2.79	340	S	Sn	09 35 47.7	-0.5
DVP	Devils Point	2.79	340	P	Pn	09 35 14.3	+0.5
OUENC	Ouen Island, N	3.00	227	P	Pn	09 35 17.5	+0.7
OUENC	Ouen Island, N	3.00	227	S	Sn	09 35 51.4	-2.1
DZM	Mont Dzumac	3.08	236	P	Pn	09 35 17.9	-0.1
DZM	Mont Dzumac	3.08	236	S	Sn	09 35 56.0	+0.4
ONTNC	Ouen Toro	3.21	232	P	Pn	09 35 20.4	+0.8
ONTNC	Ouen Toro	3.21	232	S	Sn	09 35 59.1	+0.5
KOUNC	Koumac, New Ca	4.61	267	P	Pn	09 35 40.9	+2.0
KOUNC	Koumac, New Ca	4.61	267	S	Sn	09 36 35.4	+2.2

*IDC **01** 09:35:08.8±2.9, 53°.79N×87°.14E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=28.9km s-min=17.0km az=63.0*

ASRS 01 09:35:07.0±0.5, 53°.68N×86°.84E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	283	I	I	09 44 40.0	
	baz=96,slow=337,SNR=8.5						
ZALV	Zalesovo Beam	1.23	283	Pg	Pn	09 35 33.7	+2.3
	1.0nm,0.3s,baz=100,slow=16,SNR=9.6						
ZALV				Lg	Lg	09 35 52.7	
	1.1nm,0.3s,baz=97,slow=25,SNR=5.7						
KURBB	Kurchatov Arra	5.96	242	Pn	Pn	09 36 42.2	+5.8
	0.1nm,0.3s,baz=60,slow=14,SNR=5.1						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.48	205	Pn	Pn	09 37 02.7	+5.3
	0.1nm,0.3s,baz=23,slow=13,SNR=7.0						
	0.3nm,0.6s						

*SNET **01** 09:44:50.6±0.8, 12°.98N×87°.71W, h98km±32km, ML3.3*

CATAC 01 09:44:50.1±0.2, 12°N±2°×8°8W±°, h39km±4km, M3.5/42, MLv3.5/42, Error ellipse: s-maj=4.3km s-min=1.5km az=29.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.57	27	S	Sn	09 45 10.9	+0.8
CSGN	Cosiguina Volc	0.57	27	P	Pn	09 45 02.6	+0.7
CSGN	Cosiguina Volc	0.57	27	P	Pn	09 45 02.1	+0.2
POTN	Potosi Cosigui	0.61	30	P	Pn	09 45 02.6	+0.2
POTN				S	Sn	09 45 12.5	+1.4
POTN	Potosi Cosigui	0.61	30	P	Pn	09 45 02.9	+0.5
POTN	Potosi Cosigui	0.61	30	P	Pn	09 45 02.7	+0.3
CRIN	San Cristobal	0.79	73	P	Pn	09 45 05.6	+0.8
CRIN	San Cristobal	0.79	73	S	Sn	09 45 18.3	+2.8
CRIN	San Cristobal	0.79	73	P	Pn	09 45 06.4	+1.5
CRIN	San Cristobal	0.79	73	P	Pn	09 45 05.8	+1.0
CNCH	Conchagua	0.80	359	eP	Pn	09 45 05.0	0.0
CNCH				eS	Sn	09 45 17.6	+1.7
CNCH	Conchagua	0.80	359	P	Pn	09 45 05.2	+0.2
CNCH	Conchagua	0.80	359	S	Sn	09 45 16.9	+1.0
CNCH	Conchagua	0.80	359	P	Pn	09 45 05.3	+0.2
CNCH	Conchagua	0.80	359	P	Pn	09 45 05.6	+0.5
LCND	La Caada	0.84	356	eP	Pn	09 45 05.4	0.0
LCND	La Caada	0.84	356	P	Pn	09 45 05.8	+0.4
LCND	La Caada	0.84	356	S	Sn	09 45 17.5	+0.9
LCND	La Caada	0.84	356	P	Pn	09 45 05.9	+0.5
LCND	La Caada	0.84	356	P	Pn	09 45 05.6	+0.2
PKGN	Cerro Pekin	0.85	76	P	Pn	09 45 06.1	+0.5
PKGN				S	Sn	09 45 18.4	+1.5
QUEN	Al S del Volca	0.96	83	P	Pn	09 45 07.4	+0.3
QUEN				S	Sn	09 45 20.8	+1.3
QUEN	Al S del Volca	0.96	83	P	Pn	09 45 08.2	+1.2
QUEN	Al S del Volca	0.96	83	P	Pn	09 45 07.5	+0.4
TELN	Telica	0.98	82	P	Pn	09 45 07.7	+0.3
TELN				S	Sn	09 45 21.6	+1.5
TELN	Telica	0.98	82	P	Pn	09 45 09.8	+2.4
HERN	Volcan Telica	0.98	82	P	Pn	09 45 07.7	+0.3
HERN	Volcan Telica	0.98	82	S	Sn	09 45 20.6	+0.5
HERN	Volcan Telica	0.98	82	P	Pn	09 45 08.2	+0.8
HERN	Volcan Telica	0.98	82	P	Pn	09 45 07.6	+0.2
POLN	Al Sur del Vol	1.00	80	P	Pn	09 45 07.9	+0.2
POLN				S	Sn	09 45 21.4	+0.7
PACN	Al O del Volca	1.01	88	P	Pn	09 45 08.1	+0.4
PACN				S	Sn	09 45 21.7	+1.0
PACN	Al O del Volca	1.01	88	P	Pn	09 45 08.5	+0.7
PACN	Al O del Volca	1.01	88	P	Pn	09 45 08.2	+0.4
BLLM	Bellamira	1.05	338	eP	Pn	09 45 08.2	-0.2
ROCN	Rota Cerro Neg	1.06	87	P	Pn	09 45 07.8	-0.6
ROCN				S	Sn	09 45 22.2	+0.2
ROCN	Rota Cerro Neg	1.06	87	P	Pn	09 45 08.2	-0.3
ROCN	Rota Cerro Neg	1.06	87	P	Pn	09 45 07.8	-0.6
RANC	El Ranchito	1.06	335	P	Pn	09 45 10.2	+1.6
RANC	El Ranchito	1.06	335	P	Pn	09 45 09.5	+0.9
RANC	El Ranchito	1.06	335	S	Sn	09 45 23.0	+0.8
RANC	El Ranchito	1.06	335	P	Pn	09 45 08.7	+0.1
MIRN	Miramar	1.09	91	P	Pn	09 45 08.9	+0.1
CNGN	Cerro Negro	1.10	88	P	Pn	09 45 09.4	+0.3
CNGN	Cerro Negro	1.10	88	S	Sn	09 45 23.4	+0.4
CNGN	Cerro Negro	1.10	88	P	Pn	09 45 12.1	+3.1
CNGN	Cerro Negro	1.10	88	P	Pn	09 45 09.3	+0.3
ILCN	San Idelfonso	1.10	84	P	Pn	09 45 08.9	-0.1
ILCN				S	Sn	09 45 23.2	+0.1
ILCN	San Idelfonso	1.10	84	P	Pn	09 45 09.8	+0.8
PACA	Pacayal	1.11	334	P	Pn	09 45 09.7	+0.5
PACA	Pacayal	1.11	334	P	Pn	09 45 09.6	+0.4
PACA	Pacayal	1.11	334	P	Pn	09 45 11.0	+1.8
ALJI	Alcalda de J	1.12	320	P	Pn	09 45 09.0	-0.3
ALJI	Alcalda de J	1.12	320	S	Sn	09 45 23.3	-0.2
ALJI	Alcalda de J	1.12	320	P	Pn	09 45 09.7	+0.5
ALJI	Alcalda de J	1.12	320	P	Pn	09 45 09.3	0.0
MACN	El Madrono	1.12	90	P	Pn	09 45 09.5	+0.2
MACN				S	Sn	09 45 23.7	+0.1
CHOHN	Orocuina	1.20	33	P	Pn	09 45 10.4	0.0
COPN	Copaltepe	1.24	103	P	Pn	09 45 11.2	+0.3
COPN				S	Sn	09 45 26.9	+0.5
COPN	Copaltepe	1.24	103	P	Pn	09 45 11.5	+0.6
COPN	Copaltepe	1.24	103	P	Pn	09 45 11.1	+0.2
BC86	Nagarote	1.25	99	P	Pn	09 45 11.0	0.0
BC86	Nagarote	1.25	99	S	Sn	09 45 26.8	+0.1
MOMN	Momotombo	1.26	93	P	Pn	09 45 12.2	+1.0
MOMN	Momotombo	1.26	93	P	Pn	09 45 11.0	-0.2
MOMN				S	Sn	09 45 26.4	-0.5
MOMN	Momotombo	1.26	93	P	Pn	09 45 11.4	+0.2
PQSS	Presa 15 de Se	1.35	328	P	Pn	09 45 13.0	+0.6
PQSS	Presa 15 de Se	1.35	328	S	Sn	09 45 29.7	+0.5
PQSS	Presa 15 de Se	1.35	328	P	Pn	09 45 13.7	+0.5
PQSS	Presa 15 de Se	1.35	328	P	Pn	09 45 13.4	+0.9
AMTN	Mateare	1.38	99	P	Pn	09 45 13.1	+0.3
AMTN	Mateare	1.38	99	S	Sn	09 45 30.5	+0.6
MSHP	Masachapa	1.41	117	P	Pn	09 45 13.2	-0.1
MSHP				S	Sn	09 45 27.9	-2.7
TECO	Alcaldia de Te	1.41	319	P	Pn	09 45 13.0	-0.3
TECO	Alcaldia de Te	1.41	319	S	Sn	09 45 29.7	-1.0
APYN	Apoyeque	1.46	99	P	Pn	09 45 14.8	+0.8
APQ2	Apoyeque	1.49	100	P	Pn	09 45 14.6	+0.3
APQ2				S	Sn	09 45 32.6	0.0
UESV	Universidad de	1.49	321	P	Pn	09 45 14.9	+0.5
UESV	Universidad de	1.49	321	S	Sn	09 45 32.6	-0.1
UESV	Universidad de	1.49	321	P	Pn	09 45 16.0	+1.6
SCLA	Alcaldia de Sa	1.51

RCFN	Al S de San Ju	1.90 56	P	Pn	09 45 20.6	+0.5
RCFN			S	Sn	09 45 43.4	+0.6
RCFN	Al S de San Ju	1.90 56	P	Pn	09 45 20.6	+0.6
PMON	Piamonte	1.91 311	P	Pn	09 45 21.0	+0.8
PMON	Piamonte	1.91 311	S	Sn	09 45 43.0	0.0
PMON	Piamonte	1.91 311	P	Pn	09 45 20.9	+0.7
RCVN	Varillal2	1.94 55	P	Pn	09 45 21.2	+0.5
RCVN	Varillal2	1.94 55	P	Pn	09 45 21.2	+0.5
RCVN	Varillal2	1.94 55	S	Sn	09 45 44.8	+0.9
JAYA	Jayaque - finc	1.97 307	*eP*	Pn	09 45 21.0	-0.1
JAYA	Jayaque - finc	1.97 307	P	Pn	09 45 21.6	+0.5
JAYA	Jayaque - finc	1.97 307	S	Sn	09 45 44.0	-0.8
JAYA	Jayaque - finc	1.97 307	P	Pn	09 45 21.4	+0.3
COMHN	El Horno	1.98 8	P	Pn	09 45 21.5	+0.2
COMHN	El Horno	1.98 8	S	Sn	09 45 45.3	+0.3
RCPN	Sur Rio San Ju	1.99 58	P	Pn	09 45 21.9	+0.6
RCPN	Sur Rio San Ju	1.99 58	P	Pn	09 45 21.9	+0.6
BOAB	BOACO BROADBAN	2.11 90	P	Pn	09 45 22.9	0.0
BOAB	BOACO BROADBAN	2.11 90	P	Pn	09 45 23.4	+0.5
CEVE	Cerro Verde	2.21 308	IAML		09 45 59.5	
	comp=Z,300nm,0.3s					
NUBE	Las Nubes	2.38 307	P	Pn	09 45 27.2	+0.5
NUBE	Las Nubes	2.38 307	P	Pn	09 45 27.1	+0.4
NUBE	Las Nubes	2.38 307	S	Sn	09 45 53.6	-1.1
MTO3	Montecristo	2.43 322	P	Pn	09 45 27.9	+0.4
MTO3	Montecristo	2.43 322	P	Pn	09 45 28.2	+0.7
INDI	Punta indio, G	3.45 138	P	Pn	09 45 41.8	+0.5

*FUNV **01** 10:09:33.3, 7°.87N×72°.27W, h24km, MW3.5*
*RSNC **01** 10:09:34.9±0.2, 8°N±1°×7°.2W±°, h0km, M2.4, ML2.2*
ISC 01 10:09:33.2±1.2, 7°.87N±0°.04×72°.09W±0°.03, h7km±10km, n18, σ1§50/32, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	0.23	270	*eP*	Pg	10 09 37.5	-0.3
CAPV				*eS*	Sg	10 09 41.0	+0.1
PAMC	Pamplona, Colo	0.80	229	P	Pg	10 09 47.8	-0.9
PAMC				S	Sg	10 09 58.5	-0.7
OCAC	Ocana	1.28	287	P	Pn	10 09 56.6	-1.1
OCAC				S	Sb	10 10 13.6	-0.9
SOCV	Socops	1.29	71	*eP*	Pn	10 09 57.6	-0.1
SOCV				*eS*	Sb	10 10 15.6	+0.9
TAMC	Tame, Arauca	1.45	168	P	Pn	10 10 01.0	+1.0
TAMC				S	Sg	10 10 21.0	+1.1
BARC	Barichara	1.67	221	P	Pn	10 10 03.5	+0.3
BARC				S	Sb	10 10 25.3	-0.5
SDV	Santo Domingo	1.76	55	P	Pn	10 10 05.6	+1.2
SDV				S	Sn	10 10 28.4	+1.3
BRJC	Barrancabermej	1.87	242	P	Pb	10 10 07.8	0.0
BRJC				S	Sg	10 10 32.4	-1.0
RUSC	La Rusia	2.20	207	P	Pn	10 10 11.7	+1.1
RUSC				S	Sb	10 10 41.8	+0.5
PTBC	PUERTO BERRIO,	2.70	241	P	Pn	10 10 17.8	+0.7
PTBC				S	Sn	10 10 51.2	+1.1
ZARC	Zaragoza, Cauc	2.77	262	P	Pn	10 10 19.8	+1.6
ZARC				S	Sb	10 10 54.5	-2.9
CRJC	Cerrejon, Guaj	3.23	346	P	Pn	10 10 26.1	+1.6
CHIC	Chingaza	3.61	207	P	Pn	10 10 30.8	+0.8
CHIC				S	Sn	10 11 14.6	+1.5
SJCC	San Jacinto, C	3.66	304	P	Pn	10 10 32.1	+1.6
URIC	Uribia, Colomb	3.81	1	P	Pb	10 10 43.0	+2.1
BAUV	El Baul	4.14	75	*eP*	Pn	10 10 36.0	-1.0
BAUV				*eS*	Sn	10 11 23.3	-2.4
GUY2C	Guyana, Caldas	4.18	231	P	Pn	10 10 37.3	-0.7
BENV	Beln	4.90	64	*eP*	Pn	10 10 46.9	-0.5
BENV				*eS*	Sn	10 11 40.3	-4.2

*IDC **01** 10:21:37.1±4.4, 7°.16S×129°.51E, h94km±44km, mb3.6/9, mbtmp4.1/12, Error ellipse: s-maj=42.7km s-min=19.9km az=68.0*
*NEIC **01** 10:21:42.6±1.1, 7°.18S±0°.07×129°.35E±0°.07, h144km±8km, mb4.4/14, Error ellipse: s-maj=10.7km s-min=9.3km az=139.0*
*DJA **01** 10:21:43.9±0.5, 7°S±4°×12°9E±°, h109km±19km, M4.4/10, mb4.4/5, MLv4.5/10*
ISC 01 10:21:42.0±0.5, 7°.23S±0°.05×129°.37E±0°.05, h139km, n69, σ1§64/73, mb3.9/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.06	111	Pn	Pn	10 22 19.3	+2.0
SAUI				Sn	Sn	10 22 43.4	-0.8
SAUI	Saumlaki	2.06	111	P	Pn	10 22 18.8	+1.6
SAUI	Saumlaki	2.06	111	P	Pn	10 22 19.4	+2.2
SAUI				S	Sn	10 22 44.1	-0.1
BNDI	Bandanaira	2.74	11	P	Pn	10 22 27.4	+1.7
FAKI	Fak Fak	5.15	34	Pn	Pn	10 22 57.5	0.0
FAKI				Sn	Sn	10 23 54.0	-2.1
FAKI	Fak Fak	5.15	34	P	Pn	10 22 57.4	0.0
FAKI	Fak Fak	5.15	34	P	Pn	10 22 57.3	-0.1
DRS	Darwin Rock St	5.39	164	P	Pn	10 23 01.5	+1.0
DRS	Darwin Rock St	5.39	164	S	Sn	10 23 59.6	-2.0
KMPI	Kaimana, Papua	5.59	51	P	Pn	10 23 05.6	+2.5
SOEI	Soe	5.63	243	Pn	Pn	10 23 05.3	+1.4
SOEI				Sn	Sn	10 24 07.0	-0.7
SOEI	Soe	5.63	243	P	Pn	10 23 05.3	+1.4
	0.4nm30nm,0.6s						
MTN	Manton Dam	5.84	163		Pn	10 23 07.2	+0.5
MTN	Manton Dam	5.84	163	P	Pn	10 23 06.8	+0.2
KDU	Kakadu	6.23	151	P	Pn	10 23 11.7	0.0
SWI	Sorong	6.60	17	P	Pn	10 23 19.2	+2.5
KNRA	Kununurra	8.42	184		Pn	10 23 40.0	-1.2
KAPI	Kappang	9.81	282	P	Pn	10 24 01.5	+1.7
FITZ	Fitzroy Crossi	11.40	198	Pn	Pn	10 24 18.0	-2.9
FITZ	Fitzroy Crossi	11.40	198	P	Pn	10 24 17.8	-3.1
	11nm,0.4s,baz=32,slow=12,SNR=100						
FITZ				S	Sn	10 26 13.9	-13
	7.0nm,0.3s,baz=45,slow=13,SNR=9.5						
PLAI	Plampang	11.59	261	P	Pn	10 24 24.4	+1.1
WB0	Warramunga Arr	13.39	159	Pn	Pn	10 24 44.0	-2.6
WRAB	Tennant Creek	13.52	160		Pn	10 24 46.0	-2.4
WRA	Warramunga Arr	13.53	160	Pn	Pn	10 24 44.8	-3.7
WRA	Warramunga Arr	13.53	160	P	Pn	10 24 44.0	-4.5
	6.4nm,0.7s,baz=308,slow=4.9,SNR=72						
WRA				S	Sn	10 27 02.1	-16
	17nm,0.7s,baz=333,slow=23,SNR=10						
WB2	Warramunga Arr	13.53	160	Pn	Pn	10 24 45.7	-2.9
WR0	Warramunga Arr	13.62	159		Pn	10 24 46.6	-3.0
JAGI	Jajag, Banyuwa	15.12	264	Pn	Pn	10 25 07.8	-0.8
JAGI				IAmb	IAmb	10 25 31.2	
	comp=Z,36nm,1.3s						
COEN	Coen	15.13	117	Pn	Pn	10 25 08.8	+0.1
COEN				IAmb	IAmb	10 25 15.4	
	comp=Z,14nm,1.1s						
COEN	Coen	15.13	117	P	P	10 25 09.8	-0.7
QIS	Mount Isa	16.55	144	P	P	10 25 27.9	+1.6
MBWA	Marble Bar	16.69	213	P	P	10 25 27.0	-0.8
MBWA				IAmb	IAmb	10 25 31.0	
	comp=Z,30nm,1.4s						
MBWA	Marble Bar	16.69	213	P	Pn	10 25 28.8	+0.9
AS31	Alice Springs	16.91	166	P	Pn	10 25 30.6	0.0
AS31				IAmb	IAmb	10 25 34.5	
	comp=Z,7.9nm,0.3s						
ASAR	Alice Springs	16.92	166	P	P	10 25 29.8	-0.5
	comp=Z,7.2nm,0.5s,baz=333,slow=9.5,SNR=136						
ASAR				S	Sn	10 28 27.3	-12
	comp=Z,3.4nm,0.7s,baz=330,slow=24,SNR=8.3						
PSA00	Pilbara Seismi	16.97	212	P	P	10 25 30.4	-0.4
PSA00	Pilbara Seismi	16.97	212	P	Pn	10 25 32.2	+1.0
WRKA	Warakurna	17.74	183	P	Pn	10 25 40.5	0.0
OOD	Oodnadatta	21.32	164	P	P	10 26 19.1	+1.2
INKA	Innaminka	23.08	154	P	P	10 26 37.1	+1.6
FORT	Forrest	23.46	183	P	P	10 26 37.5	-1.6
FORT	Forrest	23.46	183	P	P	10 26 40.4	+1.4
QLP	Quilpie	23.89	145	P	P	10 26 45.1	+2.1
LCRK	Leigh Creek	24.55	161	P	P	10 26 50.8	+1.9
BBOO	Buckleboo	26.20	167	P	P	10 27 03.6	-0.2
BBOO				IAmb	IAmb	10 27 14.8	
	comp=Z,19nm,1.5s						
BBOO	Buckleboo	26.20	167	P	P	10 27 05.1	+1.2
STKA	Stephens Creek	27.05	157	P	P	10 27 11.7	+0.2
	comp=Z,1.6nm,0.4s,baz=331,slow=10,SNR=3.8						
	comp=Z,1.6nm,0.4s						
STKA	Stephens Creek	27.05	157	P	P	10 27 12.9	+1.4
HTT	Hallett	27.54	163	P	P	10 27 17.2	+1.3
ARMA	Armidale	31.11	141	P	P	10 27 47.3	-0.3
ARMA				IAmb	IAmb	10 28 13.6	
	comp=Z,9.3nm,1.1s						

TPUB	Ta-pu	31.52	345	P	P	10 27 49.9	-1.2
CMAR	Chiang Mai Arr	39.40	311	P	P	10 28 59.2	+0.7
	comp=Z,1.3nm,0.8s,baz=138,slow=7.2,SNR=9.0						
	comp=Z,1.3nm,0.8s						
MJAR	Matsushiro Arr	44.32	10	P	P	10 29 36.9	-1.4
	comp=Z,1.0nm,0.7s,baz=173,slow=10.0,SNR=2.3						
	comp=Z,1.0nm,0.7s						
HHC	Hu-ho-hao-te	50.57	343	*eP*	P	10 30 30.0	+3.4
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,4μm,6.5s						
USA0B	Ussuriysk Arra	51.24	2	P	P	10 30 29.8	-1.6
USRK	Ussuriysk Ar.	51.24	2	P	P	10 30 30.6	-0.8
USRK	Ussuriysk Ar.	51.24	2	P	P	10 30 30.1	-1.3
	comp=Z,0.6nm,0.6s,baz=127,slow=9.3,SNR=2.7						
	comp=Z,0.6nm,0.6s						
XLT	XiLinHaoTe	52.29	348	*eP*	P	10 30 42.0	+2.7
XLT				pP	pwP	10 31 15.2	-0.1
XLT				sP	sP	10 31 29.0	+3.7
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	58.46	342	P	P	10 31 24.5	+1.0
	comp=Z,0.4nm,0.5s,baz=131,slow=8.9,SNR=2.3						
	comp=Z,0.4nm,0.5s						
MK31	Makanchi Array	68.07	327	P	P	10 32 26.2	-0.5
MKAR	Makanchi Array	68.07	327	P	P	10 32 26.6	-0.1
	comp=Z,0.5nm,0.3s,baz=116,slow=7.8,SNR=18						
	comp=Z,0.5nm,0.3s						
ZALV	Zalesovo Beam	71.51	334	P	P	10 32 47.2	-0.3
	comp=Z,0.5nm,0.4s,baz=132,slow=4.4,SNR=3.8						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	72.38	329	P	P	10 32 52.5	-0.2
	comp=Z,0.7nm,0.5s,baz=125,slow=5.0,SNR=12						
	comp=Z,0.7nm,0.5s						
KURK	Kurchatov	72.39	329	P	P	10 32 51.8	-1.0
QSPA	South Pole Qui	82.75	180	P	P	10 33 51.4	+1.1
QSPA				IAmb	IAmb	10 33 53.9	
	comp=Z,5.6nm,1.4s						
QSPA	South Pole Qui	82.75	180	P	P	10 33 50.4	+0.1
	comp=Z,1.3nm,1.1s,baz=270,slow=3.0,SNR=2.1						
	comp=Z,1.3nm,1.1s						
D19K	Kuna River	90.36	21	P	P	10 34 27.1	-0.1
D19K				IAmb	IAmb	10 34 27.4	
	comp=Z,5.1nm,1.4s						
SKT	Skwentna	91.24	28	P	P	10 34 31.2	-0.1
B22K	Teshekpuk Lake	92.48	19	P	P	10 34 37.3	+0.5

*TIR **01** 10:32:13.4, 40°.61N×20°.65E, h24km±1km, Md3.0/2, Ml3.0/6*
*PDG **01** 10:32:13.6±0.2, 40°.69N×20°.79E, h9km, ML2.8/12, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*THE **01** 10:32:13.7, 40°.68N×20°.76E, h1km±2km, ML2.7/9, Error ellipse: s-maj=2.7km s-min=0.8km az=318.0*
*ATH **01** 10:32:13.7, 40°.58N×20°.73E, h5km±2km, ML2.7/18, Manual Solution by A.Papageorgiou First location: 2019/03/01 10:33:16, This location: 2019/03/01 16:54:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*SKO **01** 10:32:14.5, 40°.71N×20°.68E, h14km, ML2.8*
*BEO **01** 10:32:15.1±0.4, 40°.72N×20°.82E, h5km±2km, ML2.5/8*
ISC 01 10:32:13.4±0.8, 40°.63N±0°.01×20°.77E±0°.02, h9km±4km, n86, σ1§10/151, 3C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.02	123	Pg	Pg	10 32 14.9	-0.2
KBN				Sg	Sg	10 32 17.0	+0.7
KBN				AML	AML	10 32 17.3	
	138nm,0.3s						
KBN	Korca	0.02	123	P	Pg	10 32 14.9	-0.2
KBN				S	Sg	10 32 16.9	+0.6
	30μm,0.3s						
NEST	Nestorio	0.30	135	P	Pg	10 32 19.8	+0.3
NEST				S	Sb	10 32 25.7	-0.5
	2μm,0.4s						
NEST	Nestorio	0.30	135	P	Pg	10 32 19.6	+0.1
NEST				S	Sg	10 32 24.0	+0.5
OHR	Ohrid	0.48	3	*eP*	Pg	10 32 22.3	-0.4
OHR				*i* Sg	Sg	10 32 28.9	-0.1
OHR				*e*Lg	Lg	10 32 30.5	
	comp=N,380nm,0.5s						
OHR				*e*Lg	Lg	10 32 31.0	
	comp=E,1μm,0.5s						
OHR	Ohrid	0.48	3	*eP*	Pg	10 32 21.6	-1.1
OHR				*e*Sg	Sg	10 32 29.1	+0.1
LSK	Leskovik	0.50	195	P	Pg	10 32 23.0	-0.1
LSK				Sg	Sg	10 32 30.4	+0.8
LSK				AML	AML	10 32 38.4	
	comp=E,4.5nm,0.5s						
LSK				AMd		10 33 19.6	
LSK	Leskovik	0.50	195	P	Pb	10 32 23.9	-0.5
LSK				S	Sb	10 32 31.5	-0.3
	comp=E,942nm,0.3s						
PENT	Pentalofos	0.52	147	P	Pg	10 32 23.3	-0.2
PENT				S	Sg	10 32 30.1	-0.2
KPRO	Kipourio	0.81	146	P	Pg	10 32 29.0	-0.1
KPRO				S	Sn	10 32 42.8	-0.6
	comp=E,465nm,0.3s						
KPRO	Kipourio	0.81	146	P	Pg	10 32 28.6	-0.5
KPRO				S	Sg	10 32 39.1	-0.6
KZN	Kozani	0.83	113	P	Pn	10 32 31.0	-0.3
KZN				S	Sn	10 32 42.2	-1.6
SRN	Sarande	0.95	218	Pg	Pg	10 32 31.0	-0.7
SRN				Sg	Sg	10 32 44.3	+0.2
SRN				AML	AML	10 32 53.4	
	comp=E,0.7nm,0.7s						
SRN				AMd		10 33 40.5	
SRN	Sarande	0.95	218	P	Pn	10 32 32.5	-0.4
SRN				S	Sn	10 32 46.8	+0.1
	comp=E,155nm,0.6s						
JAN	Janina	0.98	176	P	Pg	10 32 31.7	-0.5
JAN				S	Sg	10 32 43.1	-1.7
TIR	Tirane	0.99	317	P	Pg	10 32 31.4	-1.0
TIR				S	Sg	10 32 45.5	+0.2
TIR				AML	AML	10 32 52.1	
	comp=E,0.6nm,0.6s						
TIR	Tirane	0.99	317	*eP*	Pg	10 32 31.3	-1.0
TIR				*e*Sg	Sg	10 32 45.7	+0.4
TIR	Tirane	0.99	317	P	Pg	10 32 32.5	+0.1
IGT	Igoumenitsa	1.15	197	P	Pn	10 32 36.8	+1.1
IGT				S	Sn	10 32 52.8	+1.3
	comp=E,152nm,0.5s						
IGT	Igoumenitsa	1.15	197	*i* Pg	Pn	10 32 36.9	+1.2
IGT	Igoumenitsa	1.15	197	*e*Pg	Pn	10 32 37.1	+1.4
IGT				*e*Sg	Sn	10 32 55.5	+4.0
IGT	Igoumenitsa	1.15	197	P	Pb	10 32 35.1	-0.3
IGT				S	Sb	10 32 49.4	-1.0
KEK	Kerkira	1.18	219	P	Pb	10 32 35.0	-1.0
KEK				S	Sb	10 32 49.6	-1.8
VERN	Vergina	1.19	97	P	Pg	10 32 37.4	+1.2
VERN				S	Sn	10 32 53.4	+0.8
GRG	Griva	1.28	75	P	Pg	10 32 37.9	-0.1
GRG				S	Sn	10 32 55.8	+1.0
	comp=E,278nm,0.7s						
GRG	Griva	1.28	75	*e*Pg	Pg	10 32 38.1	+0.2
GRG				*e*Sg	Sn	10 32 57.5	+2.6
GRG	Griva	1.28	75	P	Pg	10 32 38.1	+0.2
GRG				S	Sn	10 32 56.8	+2.0
TETR	Tetrakomo, Epi	1.34	163	P	Pg	10 32 39.2	0.0
TETR				S	Sb	10 32 55.8	-0.3
LIT	Litokhoron	1.42	111	P	Pg	10 32 40.3	-0.3
LIT				S	Sg	10 33 00.6	+1.6
	comp=E,330nm,0.6s						
LIT	Litokhoron	1.42	111	*e*Pg	Pg	10 32 40.5	-0.1
LIT				*e*Sg	Sg	10 33 03.4	+4.4
LIT	Litokhoron	1.42	111	P	Pg	10 32 40.1	-0.5
LIT				S	Sg	10 33 00.2	+1.2
THL	Klokotos Trika	1.43	138	P	Pn	10 32 39.1	-0.4
THL				S	Sn	10 32 57.7	-0.8
TYRN	Tyrnavos	1.45	129	P	Pg	10 32 41.0	-0.2
TYRN				S	Sg	10 33 01.9	+1.9
	comp=E,182nm,0.6s						
TYRN	Tyrnavos	1.45	129	P	Pb	10 32 40.2	-0.3
TYRN				S	Sg	10 32 59.5	-0.6
VAY	Valandovo	1.53	63	*i* Pn	Pn	10 32 40.6	-0.2
VAY				*e*Sg	Sg	10 33 05.5	+3.0
VAY				*e*Lg	Lg	10 33 06.4	
	comp=N,90nm,0.7s						
VAY				*e*Lg	Lg	10 33 06.5	
	comp=E,127nm,0.8s						

VAY	Valandovo	1.53	63	*e*Pn	Pn	10 32 40.9	+0.1
VAY				*e*Sn	Sg	10 33 02.4	-0.1
PUK	Puka	1.56	335	Pn	Pb	10 32 42.4	0.0
PUK				Sn	Sg	10 33 04.4	+1.0
PUK				AML	AML	10 33 13.0	
	comp=E,0.9nm,0.8s						
KNT	Kendrikon	1.70	71	P	Pn	10 32 43.4	+0.2
KNT	Kendrikon	1.70	71	*i* Pn	Pn	10 32 43.4	+0.2
KNT				*i* Sn	Sg	10 33 07.1	-0.9
KNT	Kendrikon	1.70	71	P	Pn	10 32 43.3	+0.1
KNT				S	Sg	10 33 06.9	-1.1
ULC	Ulcinj	1.76	320	P	Pb	10 32 45.3	-0.5
ULC	Ulcinj	1.76	320	*i* Pn	Pn	10 32 44.5	+0.4
ULC	Ulcinj	1.76	320	⇑*i* Pn	Pn	10 32 44.9	+0.8
ULC				*i* Sn	Sg	10 33 09.7	-0.2
HORT	Hortiatis	1.77	90	P	Pn	10 32 44.5	+0.2
TSLK	Tsoukalades, L	1.81	183	P	Pn	10 32 45.0	+0.3
TSLK				S	Sn	10 33 07.8	0.0
BCI	Bajram Curri	1.81	343	P	Pb	10 32 46.4	-0.4
BCI				S	Sg	10 33 11.0	-0.6
BCI				AML	AML	10 33 16.8	
	comp=E,1.6nm,0.9s						
LKD2	Lefkada island	1.84	183	P	Pn	10 32 45.2	-0.1
LKD2				S	Sn	10 33 09.1	+0.4
SCTE	Santa Cesarea	1.85	253	P	Pn	10 32 45.2	0.0
SCTE				S	Sn	10 33 09.0	+0.3
MAKR	Makrakomi, Fth	1.93	147	P	Pn	10 32 47.2	+0.8
MAKR				S	Sb	10 33 11.4	-1.5
DRME	Dracevica, Mon	1.96	323	P	Pb	10 32 48.2	-1.0
DRME	Dracevica, Mon	1.96	323	⇓*i* Pn	Pn	10 32 47.7	+0.9
DRME				*i* Sn	Sb	10 33 14.3	+0.6
EVGI	Lefkada island	2.01	183	P	Pn	10 32 47.8	+0.3
EVGI				S	Sn	10 33 12.6	-0.2
PVY	Plav	2.05	343	P	Pb	10 32 49.9	-1.0
PVY	Plav	2.05	343	⇑*i* Pn	Pn	10 32 48.8	+0.6
PVY				*i* Sn	Sb	10 33 16.4	-0.2
PDG	Podgorica	2.12	328	*e*Pn	Pn	10 32 50.1	+1.0
PDG				*e*Sn	Sn	10 33 16.2	+0.6
PDG	Podgorica	2.12	328	*e*Pn	Pn	10 32 50.0	+1.0
PDG				*i* Sn	Sb	10 33 18.3	-0.2
KKB	Krupnik	2.15	55	*i* Pn	Pn	10 32 49.6	+0.1
KKB				*i* Sn	Sn	10 33 16.7	+0.4
FSK	Fiskardo	2.18	184	P	Pn	10 32 50.6	+0.9
BUM	Brajici-Budva	2.18	320	P	Pn	10 32 50.5	+0.6
BUM	Brajici-Budva	2.18	320	*e*Pn	Pn	10 32 50.8	+0.9
BUM				*i* Sn	Sb	10 33 19.9	-0.4
SRS	Serrai	2.19	76	*i* Pn	Pb	10 32 51.7	-1.5
SRS				*i* Sn	Sn	10 33 17.9	+0.6
ANX	Ano Chora	2.22	156	P	Pn	10 32 51.3	+0.8
ANX				S	Sn	10 33 18.8	+0.7
MESG	Mesagne	2.22	270	P	Pn	10 32 51.1	+0.7
BARS	Barje	2.32	19	⇓*i* Pn	Pn	10 32 51.8	0.0
BARS				*i* Sn	Sn	10 33 20.5	+0.1
BARS	Barje	2.32	19	*e*Pn	Pn	10 32 52.0	+0.2
BARS				*e*Sn	Sn	10 33 20.9	+0.5
BEY	Berane	2.33	344	P	Pb	10 32 54.0	-1.6
IVA	Berane	2.33	344	*e*Pn	Pn	10 32 52.6	+0.6
IVA				*i* Sn	Sb	10 33 23.0	-1.6
CEME	Cevo	2.36	325	P	Pn	10 32 53.0	+0.6
CEME	Cevo	2.36	325	*e*Pn	Pn	10 32 53.3	+0.9
CEME				*i* Sn	Sb	10 33 24.1	-1.4
KOME	Kolasin	2.41	337	P	Pb	10 32 55.4	-1.5
KOME	Kolasin	2.41	337	⇓*i* Pn	Pn	10 32 53.7	+0.7
KOME				*i* Sn	Sb	10 33 25.0	-1.7
MMB	Musomishta	2.43	67	*i* Pn	Pn	10 32 53.5	+0.2
MMB				*i* Sn	Sn	10 33 23.5	+0.3
HCY	Herceg Novi	2.49	317	*e*Pn	Pn	10 32 55.0	+0.9
HCY				*i* Sn	Sb	10 33 27.4	-1.7
NKME	Niksic	2.53	328	P	Pn	10 32 56.2	+1.5
NKME	Niksic	2.53	328	*e*Pn	Pn	10 32 55.6	+0.9
NKME				*i* Sn	Sn	10 33 28.1	+2.4
SELS	Selova	2.60	6	*e*Pn	Pn	10 32 56.9	+1.3
SELS				*e*Sn	Sn	10 33 28.2	+0.9
SJES	Sjenica	2.69	348	*e*Pn	Pn	10 32 58.9	+1.9
SJES				*e*Sn	Sn	10 33 31.2	+1.4
BRY	Bratogost	2.81	324	P	Pn	10 33 00.9	+2.2
BRY	Bratogost	2.81	324	*e*Pn	Pn	10 32 59.4	+0.7
BRY				*i* Sn	Sn	10 33 35.1	+2.3
NOCI	Noci	2.82	274	P	Pn	10 32 59.7	+1.1
NOCI				S	Sn	10 33 35.0	+2.3
UPM	Unac-Piva	2.92	332	P	Pn	10 33 02.0	+1.8
UPM	Unac-Piva	2.92	332	⇑*i* Pn	Pn	10 33 00.9	+0.7
UPM				*i* Sn	Sn	10 33 37.5	+2.0
ZAPS	Zavoj	2.98	27	*e*Pn	Pn	10 33 01.3	+0.4
BOVS	Bovan	3.08	13	*e*Pn	Pn	10 33 01.5	-0.7
BBLS	Lazi&#263i	3.39	343	*e*Pn	Pn	10 33 07.9	+1.4
DIVS	Divibare	3.51	351	*e*Pn	Pn	10 33 07.9	-0.3

*IDC **01** 10:40:01.5±1.0, 4°.33S×130°.51E, h0km, mb3.9/7, mbtmp3.9/10, ML3.8/3, MS4.7/1, Error ellipse: s-maj=54.0km s-min=12.5km az=76.0*
*DJA **01** 10:40:02.7±0.7, 4°S±5°×13°1E±°, h131km±14km, M4.0/11, mb4.2/1, MLv3.9/11*
ISC 01 10:40:03.3±0.7, 3°.98S±0°.06×131°.36E±0°.05, h29km, n31, σ3§24/33, mb4.0/7, Irian Jaya region

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

az=67.0

ISC 01 10:44:34.9±1.2, 7°19.3S±0°.09×129°.3E±0°.1, h150km, n12, σ2°50/13, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**112**	P	**Pn**	**10 45 12.4**	**+1.2**
FAKI	**Fak Fak**	**5.14**	**35**	P	Pn	10 45 43.0	-7.2
DRS	**Darwin Rock St**	**5.43**	**164**	P	**Pn**	**10 45 57.8**	**+3.7**
SOEI	**Soe**	**5.63**	**243**	P	Pn	10 46 04.6	+7.8
MTN	**Manton Dam**	**5.89**	**163**	P	**Pn**	**10 46 03.2**	**+3.0**
KDU	**Kakadu**	**6.28**	**151**	P	**Pn**	**10 46 06.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**11.43**	**198**	P	**Pn**	**10 47 14.4**	**+0.6**
	1.4nm,0.3s,baz=23,slow=13,SNR=11						
FITZ				S	**Sn**	**10 49 19.1**	**-1.1**
	3.0nm,0.3s,baz=87,slow=24,SNR=6.4						
WRA	**Warramunga Arr**	**13.58**	**160**	P	**Pn**	**10 47 41.0**	**-0.6**
	1.3nm,0.3s,baz=330,slow=13,SNR=15						
WRA				S	**Sn**	**10 50 07.3**	**-4.6**
	1.4nm,0.4s,baz=333,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**16.96**	**166**	P	**Pn**	**10 48 25.6**	**+2.2**
	2.4nm,0.6s,baz=340,slow=9.5,SNR=16						
ASAR				S	**S**	**10 51 31.3**	**-0.8**
	0.7nm,0.7s,baz=352,slow=27,SNR=3.9						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**10 55 16.8**	**-1.3**
	0.5nm,0.3s,baz=115,slow=7.8,SNR=12						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**72.33**	**329**	P	**P**	**10 55 41.8**	**-2.3**
	0.6nm,0.6s,baz=126,slow=5.5,SNR=4.6						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**82.79**	**180**	P	**P**	**10 56 42.4**	**+0.3**
	0.6nm,0.9s,baz=329,slow=5.9,SNR=1.2						
	0.6nm,0.9s						

*UCR **01** 10:51:47.0±0.8, 6°.55N×82°.80W, h25km, MW4.3*
*RSNC **01** 10:51:51.5±1.2, 7°N±3°×8°3W±°, h21km±11km, M3.3, mb4.6, mB5.6, ML3.3, Mw(mB)5.2*
*UPA **01** 10:51:51.8±1.2, 6°.86N×82°.65W, h29km±7km, MW3.9*

ISC 01 10:51:47.9±1.7, 6°.83N±0°.09×82°.70W±0°.06, h10km, n55, σ1°25/78, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**1.38**	**353**	*e*P	**Pn**	**10 52 12.7**	**-0.6**
DVD	**David**	**1.62**	**9**	*e*P	**Pn**	**10 52 16.6**	**0.0**
DVD				*e*S	**Sn**	**10 52 36.5**	**-1.0**
LOMA3	**Las Lomas, Chi**	**1.62**	**11**	*e*P	**Pb**	**10 52 17.8**	**-0.2**
LOMA3				*e*S	**Sn**	**10 52 36.3**	**-1.3**
GMAL	**Guarumal, Vera**	**1.73**	**57**	*e*P	**Pn**	**10 52 18.8**	**+0.7**
GMAL				*e*S	**Sn**	**10 52 39.4**	**-0.8**
GMAL	**Guarumal, Vera**	**1.73**	**57**	*e*P	**Pn**	**10 52 17.8**	**-0.3**
GMAL	**Guarumal, Vera**	**1.73**	**57**	P	**Pn**	**10 52 17.9**	**-0.2**
GMAL				S	**Sn**	**10 52 38.4**	**-1.8**
GUAL3	**Gualaca, Chiri**	**1.74**	**13**	*e*P	**Pb**	**10 52 19.5**	**-0.5**
PTAR3	**Potrerillos Ar**	**1.86**	**6**	*e*P	**Pb**	**10 52 22.0**	**-0.2**
PTAR3				*e*S	**Sn**	**10 52 41.8**	**-2.0**
LNBQ3	**Los Naranjos,**	**1.97**	**8**	*e*P	**Pn**	**10 52 21.7**	**+0.2**
LNBQ3				*e*S	**Sn**	**10 52 44.8**	**-1.5**
MESA3	**La Mesa, Verag**	**2.00**	**49**	*e*P	**Pn**	**10 52 23.0**	**+1.2**
MESA3				*e*S	**Sn**	**10 52 46.4**	**-0.4**
STIA3	**Santiago, Vera**	**2.13**	**54**	*e*P	**Pn**	**10 52 24.5**	**+0.9**
CHGR2	**Aguacate**	**2.17**	**15**	*e*P	**Pn**	**10 52 25.5**	**+1.4**
CHGR2				*e*S	**Sn**	**10 52 51.3**	**+0.2**
CALO3	**Calobre, Verag**	**2.37**	**51**	*e*P	**Pn**	**10 52 27.9**	**+1.0**
CALO3				*e*S	**Sn**	**10 52 55.2**	**-0.8**
EDPE	**Pejibaye, P**	**2.47**	**340**	*e*P	**Pn**	**10 52 28.4**	**+0.1**
DRK0	**Durika**	**2.48**	**348**	*e*P	**Pn**	**10 52 28.6**	**0.0**
CRIS3	**El Cristo, Coc**	**2.51**	**55**	*e*P	**Pn**	**10 52 30.1**	**+1.4**
CRIS3				*e*S	**Sn**	**10 52 58.6**	**-0.8**
CHIT3	**Chitre**	**2.53**	**64**	*e*P	**Pn**	**10 52 30.1**	**+1.1**
CHIT3				*e*S	**Sn**	**10 52 59.0**	**-0.9**
ACHO3	**Achotines, Los**	**2.58**	**77**	*e*P	**Pn**	**10 52 30.4**	**+0.7**
ACHO3				*e*S	**Sn**	**10 53 00.0**	**-1.1**
CNI2	**El Empalme, Bo**	**2.59**	**5**	*e*P	**Pn**	**10 52 31.8**	**+1.9**
CNI2				*e*S	**Sn**	**10 53 02.2**	**+0.8**
AZU	**Azuero**	**2.59**	**68**	*e*P	**Pn**	**10 52 31.0**	**+1.1**
AZU				*e*S	**Sn**	**10 53 00.3**	**-1.2**
AZU	**Azuero**	**2.59**	**68**	*e*P	**Pn**	**10 52 30.8**	**+0.8**
AZU	**Azuero**	**2.59**	**68**	P	**Pn**	**10 52 30.7**	**+0.8**
AZU				S	**Sn**	**10 52 59.7**	**-1.8**
PCRI3	**Pocri, Los San**	**2.69**	**72**	*e*P	**Pn**	**10 52 32.4**	**+1.0**
PCRI3				*e*S	**Sn**	**10 53 03.2**	**-0.9**
PEDA3	**Pedasi**	**2.75**	**75**	*e*P	**Pn**	**10 52 32.6**	**+0.5**
BRIBI	**Bribri**	**2.78**	**357**	*e*P	**Pn**	**10 52 35.4**	**+2.8**
PNME	**Penonome**	**2.87**	**55**	*e*P	**Pn**	**10 52 33.7**	**-0.1**
PNME				*e*S	**Sn**	**10 53 08.3**	**-0.1**
PISJ	**San Jernim**	**3.12**	**333**	*e*P	**Pn**	**10 52 37.9**	**+0.5**
PICV	**PH. Pirrs**	**3.15**	**332**	*e*P	**Pn**	**10 52 37.9**	**+0.2**
ABE2	**San Pablo**	**3.16**	**335**	*e*P	**Pn**	**10 52 38.6**	**+0.6**
LCR2	**La Lucha 2**	**3.17**	**336**	*e*P	**Pn**	**10 52 38.5**	**+0.4**
HDC	**Heredia**	**3.45**	**336**	*e*P	**Pn**	**10 52 42.6**	**+0.7**
CVTG	**V. Turrialba,**	**3.46**	**342**	*e*P	**Pn**	**10 52 43.5**	**+1.5**
VBV1	**V. Barva**	**3.54**	**337**	*e*P	**Pn**	**10 52 44.2**	**+0.8**
CHOR3	**La Chorrera**	**3.56**	**55**	*e*P	**Pn**	**10 52 45.9**	**+2.6**
CHOR3				*e*S	**Sn**	**10 53 23.5**	**-2.0**
BCIP	**Isla Barro Col**	**3.67**	**50**	*e*P	**Pn**	**10 52 46.5**	**+1.8**
BCIP				*e*S	**Sn**	**10 53 26.4**	**-1.7**
BCIP	**Isla Barro Col**	**3.67**	**50**	*e*P	**Pn**	**10 52 46.2**	**+1.5**
BCIP	**Isla Barro Col**	**3.67**	**50**	P	**Pn**	**10 52 46.7**	**+1.9**
BCIP				S	**Sn**	**10 53 29.0**	**+0.9**
UPA	**Univ. de Panam**	**3.80**	**56**	*e*P	**Pn**	**10 52 48.0**	**+1.5**
UPA				*e*S	**Sn**	**10 53 32.5**	**+1.2**
NYURE	**Nandayure**	**4.03**	**321**	*e*P	**Pn**	**10 52 50.1**	**+0.3**
JTS	**Las Juntas de**	**4.10**	**327**	*e*P	**Pn**	**10 52 51.9**	**+1.2**
JTS				*e*S	**Sn**	**10 53 38.6**	**-0.1**
JTS	**Las Juntas de**	**4.10**	**327**	*e*P	**Pn**	**10 52 50.8**	**0.0**
JTS	**Las Juntas de**	**4.10**	**327**	P	**Pn**	**10 52 50.6**	**-0.1**
JTS				S	**Sn**	**10 53 38.7**	**-0.1**
ARE1	**Arenal 1**	**4.12**	**331**	*e*P	**Pn**	**10 52 53.0**	**+2.0**
VARE2	**V. Arenal**	**4.12**	**331**	*e*P	**Pn**	**10 52 52.8**	**+1.7**
CNTA3	**Canitas, Panam**	**4.46**	**58**	*e*P	**Pn**	**10 52 56.8**	**+1.2**
VERA	**Finca Concepci**	**4.54**	**332**	*e*P	**Pn**	**10 52 58.0**	**+1.3**
ACON	**Acoyapa**	**5.66**	**335**	P	**Pn**	**10 53 13.0**	**+0.8**
	2μm117nm,0.8s						
SAIC	**Isla e San And**	**5.76**	**10**	P	**Pn**	**10 53 11.1**	**-2.4**
	80nm,0.9s						
GR1C	**Gorgona, Isla**	**5.90**	**130**	P	**Pn**	**10 53 13.4**	**-2.1**
MALC	**Bahia Malaga**	**6.03**	**117**	P	**Pn**	**10 53 17.6**	**+0.3**
DBBC	**Dabeiba**	**6.45**	**88**	P	**Pn**	**10 53 24.9**	**+1.8**
BBAC	**Balboa, Cauca**	**7.24**	**131**	P	**Pn**	**10 53 35.2**	**+1.2**
	20nm,0.8s						
POPC	**Popayan, Colom**	**7.36**	**125**	P	**Pn**	**10 53 36.4**	**+0.6**
	16nm,0.7s						
GUY2C	**Guyana, Caldas**	**7.47**	**102**	P	**Pn**	**10 53 37.9**	**+0.4**
	13nm,0.7s						
ORTC	**Ortega, Tolima**	**7.97**	**111**	P	**Pn**	**10 53 47.2**	**+3.2**

IDC 01 10:55:44.0±10.0, 54°.08N×159°.68E, h0km, Error ellipse: s-maj=89.2km s-min=33.8km az=51.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**1.53**	**231**	I	I	11 05 00.0	
	0.8nm,1.0s,baz=49,slow=331,SNR=7.4						
PETK	**Petropavlovsk-**	**1.53**	**231**	Pg	Pn	10 56 11.9	-0.7
	0.3nm,0.3s,baz=58,slow=18,SNR=8.1						
I45RU	**USSURIYSK INFR**	**20.52**	**253**	I	I	13 01 30.0	
	baz=49,slow=349,SNR=0.3						
I53US	**FAIRBANKS INFR**	**27.88**	**46**	I	I	13 46 30.9	
	baz=270,slow=330,SNR=2.9						
I56US	**NEWPORT INFRAS**	**49.63**	**61**	I	I	16 01 11.4	
	baz=311,slow=322						
I10CA	**LAC DU BONNET**	**58.29**	**47**	I	I	16 56 05.2	
	baz=307,slow=320,SNR=2.2						

*VAO **01** 11:55:12.0±0.8, 23°.63S×70°.52W, h10km, mb4.2*
*SJA **01** 11:55:39.9±0.8, 22°.26S×68°.53W, h130km±6km, ML4.0, MW3.9*
*NEIC **01** 11:55:42.9±1.4, 22°.27S±0°.05×68°.71W±0°.04, h117km±6km, mb4.3/15, Error ellipse: s-maj=7.9km s-min=4.9km az=214.0*
*IDC **01** 11:55:42.3±2.4, 22°.39S×68°.15W, h92km±22km, mb3.8/4, mbtmp4.0/8, Error ellipse: s-maj=43.8km s-min=18.4km az=110.0*
*GUC **01** 11:55:43.5±0.7, 22°.29S×68°.68W, h113km±3km, ML4.1*

ISC 01 11:55:41.8±0.6, 22°.28S±0°.03×68°.62W±0°.04, h117km±6km, n93, σ2°07/121, mb4.3/6, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.75**	**309**	Pn	**Pn**	**11 56 02.2**	**+0.7**
PB09				Sn	**Sn**	**11 56 16.9**	**+0.6**
PB09	**IPOC Station P**	**0.75**	**309**	↑*i*P	**Pn**	**11 56 02.5**	**+1.0**
PB09				*i* S	**Sn**	**11 56 16.9**	**+0.6**
PB09				IAML		11 56 17.8	
	comp=N,6μm,0.3s						
PB09	**IPOC Station P**	**0.75**	**309**	*e*P	**Pn**	**11 56 01.9**	**+0.4**
PB09				IAML		11 56 21.0	
	comp=Z,5μm,0.5s						
AF01	**San Pedro de A**	**0.79**	**149**	Pn	**Pn**	**11 56 03.2**	**+1.3**
AF01				Sn	**Sn**	**11 56 18.7**	**+1.6**
AF01	**San Pedro de A**	**0.79**	**149**	*e*P	**Pn**	**11 56 03.2**	**+1.3**
AF01				*e*S	**Sn**	**11 56 18.5**	**+1.4**
AF01				IAML		11 56 20.5	
	comp=E,6μm,0.3s						
AF01	**San Pedro de A**	**0.79**	**149**	*e*P	**Pn**	**11 56 01.6**	**-0.3**
AF01				*e*S	Sn	11 56 02.8	-14
AF01				IAML		11 56 25.4	
	comp=Z,2μm,0.4s						
PB06	**IPOC Station P**	**0.98**	**244**	↑*i*P	**Pn**	**11 56 04.3**	**+0.8**
PB06				*i* S	**Sn**	**11 56 20.3**	**+0.4**
PB06	**IPOC Station P**	**0.98**	**244**	*e*P	**Pn**	**11 56 04.3**	**+0.8**
PB06				*e*S	**Sn**	**11 56 22.3**	**+2.3**
PB06				IAML		11 56 24.9	
	comp=Z,1μm,0.4s						
PB03	**IPOC Station P**	**1.08**	**282**	Pn	**Pn**	**11 56 05.1**	**+0.6**
PB03				Sn	**Sn**	**11 56 21.8**	**+0.1**
PB03	**IPOC Station P**	**1.08**	**282**	↑*i*P	**Pn**	**11 56 05.2**	**+0.6**
PB03				*i* S	**Sn**	**11 56 21.6**	**0.0**
PB03				IAML		11 56 22.6	
	comp=N,9μm,0.2s						
PB03	**IPOC Station P**	**1.08**	**282**	*e*P	**Pn**	**11 56 04.9**	**+0.4**
PB03				*e*S	**Sn**	**11 56 22.0**	**+0.3**
PB03				IAML		11 56 22.4	
	comp=Z,7μm,0.5s						
PB01	**IPOC Station P**	**1.47**	**326**		**Pn**	**11 56 09.2**	**+0.4**
PB01				Sn	**Sn**	**11 56 29.1**	**-0.2**
PB01	**IPOC Station P**	**1.47**	**326**	↓*i*P	**Pn**	**11 56 09.5**	**+0.6**
PB01				*i* S	**Sn**	**11 56 29.2**	**-0.1**
PB01				IAML		11 56 30.9	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**1.47**	**326**	*e*P	**Pn**	**11 56 09.4**	**+0.6**
PB01				*e*S	**Sn**	**11 56 30.4**	**+1.1**
PB01				IAML		11 56 31.7	
	comp=Z,2μm,0.1s						
PB08	**IPOC Station P**	**2.18**	**347**		**Pn**	**11 56 19.2**	**+1.4**
PB08				Sn	**Sn**	**11 56 47.2**	**+1.9**
PB08	**IPOC Station P**	**2.18**	**347**	*e*P	**Pn**	**11 56 19.2**	**+1.4**
PB08				*i* S	**Sn**	**11 56 46.8**	**+1.5**
PB08	**IPOC Station P**	**2.18**	**347**	*e*P	**Pn**	**11 56 19.3**	**+1.4**
PB08				*e*S	**Sn**	**11 56 48.2**	**+2.9**
PB08				IAML		11 56 49.2	
	comp=Z,298nm,0.5s						
TA01	**Diego Aracena**	**2.24**	**319**		**Pn**	**11 56 17.9**	**-0.2**
TA01				Sn	**Sn**	**11 56 45.5**	**-0.5**
TA01	**Diego Aracena**	**2.24**	**319**	*e*P	**Pn**	**11 56 18.0**	**-0.2**
TA01				*i* S	**Sn**	**11 56 45.5**	**-0.5**
TA01				IAML		11 56 47.6	
	comp=N,1μm,0.4s						
TA01	**Diego Aracena**	**2.24**	**319**	*e*P	**Pn**	**11 56 18.0**	**-0.2**
TA01				*e*S	**Sn**	**11 56 39.6**	**-6.4**
TA01				IAML		11 56 48.8	
	comp=Z,632nm,0.3s						
TA02	**Huaiquique**	**2.44**	**324**		**Pn**	**11 56 20.6**	**-0.2**
TA02				Sn	**Sn**	**11 56 48.4**	**-2.3**
TA02	**Huaiquique**	**2.44**	**324**	*e*P	**Pn**	**11 56 20.6**	**-0.2**
TA02				*i* S	**Sn**	**11 56 50.1**	**-0.5**
TA02	**Huaiquique**	**2.44**	**324**	*e*P	**Pn**	**11 56 20.8**	**0.0**
TA02				IAML		11 56 57.1	
	comp=Z,557nm,0.3s						
PB11	**IPOC Station P**	**2.68**	**339**	Pn	**Pn**	**11 56 23.8**	**-0.3**
PB11				Sn	**Sn**	**11 56 56.1**	**-0.4**
PB11	**IPOC Station P**	**2.68**	**339**	*e*P	**Pn**	**11 56 24.0**	**0.0**
PB11				*i* S	**Sn**	**11 56 54.6**	**-1.9**
PB11				IAML		11 57 03.1	
	comp=N,763nm,0.7s						
PB11	**IPOC Station P**	**2.68**	**339**	*e*P	**Pn**	**11 56 23.5**	**-0.6**
PB11				*e*S	**Sn**	**11 56 56.9**	**+0.4**
PB11				IAML		11 56 60.0	
	comp=Z,591nm,0.4s						
PB14	**IPOC Station P**	**2.86**	**215**	Pn	**Pn**	**11 56 26.5**	**+0.1**
PB14	**IPOC Station P**	**2.86**	**215**	*e*P	**Pn**	**11 56 26.9**	**+0.5**
PB14	**IPOC Station P**	**2.86**	**215**	*e*P	**Pn**	**11 56 26.9**	**+0.4**
PB14				*e*S	**Sn**	**11 56 59.5**	**-1.3**
PB14				IAML		11 57 02.8	
	comp=Z,275nm,0.3s						
YJA	**Yavi**	**2.88**	**89**	*e*P	**Pn**	**11 56 30.4**	**+3.6**
YJA				*e*S	**Sn**	**11 57 01.8**	**+0.4**
GO02	**Mina Guanaco**	**3.01**	**197**	Pn	**Pn**	**11 56 29.0**	**+0.6**
GO02	**Mina Guanaco**	**3.01**	**197**	*e*P	**Pn**	**11 56 29.3**	**+0.9**
GO02				IAML		11 57 07.3	
	comp=E,592nm,0.3s						
GO02	**Mina Guanaco**	**3.01**	**197**	*e*P	**Pn**	**11 56 29.1**	**+0.6**
GO02				*e*S	**Sn**	**11 57 05.3**	**+1.0**
PB12	**IPOC Station P**	**3.98**	**336**	Pn	**Pn**	**11 56 39.7**	**-1.5**
PB12	**IPOC Station P**	**3.98**	**336**	*e*P	**Pn**	**11 56 39.6**	**-1.5**
PB12				*e*S	Sn	11 57 15.9	-11
PB12				IAML		11 57 33.4	
	comp=Z,104nm,0.5s						
AP01	**Chacalluta**	**4.21**	**337**	Pn	**Pn**	**11 56 44.6**	**+0.4**
AC01	**Pan de Azucar**	**4.26**	**205**	Pn	**Pn**	**11 56 43.9**	**-0.8**
AC01	**Pan de Azucar**	**4.26**	**205**	*e*P	**Pn**	**11 56 43.7**	**-1.0**
AC01				*i* S	**Sn**	**11 57 30.1**	**-3.5**
AC01	**Pan de Azucar**	**4.26**	**205**	*e*P	**Pn**	**11 56 43.7**	**-1.0**
AC01				*e*S	**Sn**	**11 57 30.9**	**-2.6**
AC01				IAML		11 57 32.0	
	comp=Z,134nm,0.2s						
AC02	**Maricunga**	**4.56**	**186**	Pn	**Pn**	**11 56 50.0**	**+0.7**
AC02	**Maricunga**	**4.56**	**186**	*e*P	**Pn**	**11 56 50.0**	**+0.7**
AC02				*e*S	**Sn**	**11 57 48.1**	**+6.5**
AC02				IAML		11 58 40.1	
	comp=Z,289nm,0.8s						
LPAZ	**La Paz**	**5.97**	**5**		**Pn**	**11 57 09.1**	**+0.6**
LPAZ	**La Paz**	**5.97**	**5**	P	**Pn**	**11 57 10.9**	**+2.4**
	comp=Z,5.8nm,0.4s,baz=179,slow=5,2,SNR=43						
LPAZ				S	Sn	11 58 03.3	-13
	comp=Z,4.6nm,0.6s,baz=182,slow=9.6,SNR=3.8						
LPAZ	**La Paz**	**5.97**	**5**	*e*P	Pn	11 57 03.1	-5.4
AC04	**Llanos de Chal**	**6.31**	**200**	Pn	**Pn**	**11 57 09.2**	**-3.2**
LCO	**Las Campanas**	**6.96**	**195**		**Pn**	**11 57 18.6**	**-2.9**
CO01	**Juntas del Tor**	**7.78**	**189**	Pn	**Pn**	**11 57 31.5**	**-1.1**
GO04	**Tololo Observa**	**8.10**	**194**	Pn	**Pn**	**11 57 33.5**	**-3.4**
CO03	**El Pedregal**	**8.73**	**192**	Pn	**Pn**	**11 57 42.4**	**-2.8**
CO06	**Fray Jorge**	**8.79**	**197**	Pn	Pn	11 57 41.1	-4.9
CFA	**Coronel Fontan**	**9.30**	**178**	P	**Pn**	**11 57 50.7**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=0.8,slow=14,SNR=7.3						
CFA				S	**Sn**	**11 59 28.1**	**-7.6**
	comp=Z,0.8nm,0.3s,baz=40,slow=23,SNR=1.7						
SIV	**San Ignacio**	**9.48**	**50**	P	**Pn**	**11 57 52.3**	**-3.2**
	comp=Z,1.8nm,0.4s,baz=242,slow=12,SNR=13						
SIV				S	**Sn**	**11 59 31.9**	**-8.4**
	comp=Z,2.2nm,0.4s,baz=263,slow=8.8,SNR=7.9						
MURT	**Porto Murtinho**	**10.23**	**89**	*e*P	**Pn**	**11 58 03.2**	**-2.3**
MT02	**Curacav**	**11.16**	**191**	Pn	**Pn**	**11 58 16.5**	**-1.5**
BDQN	**Bodoquena, MS**	**11.21**	**83**	*e*P	**Pn**	**11 58 17.8**	**-0.9**
PTLB	**Pontes e Lacer**	**11.25**	**55**	Pn	**Pn**	**11 58 17.2**	**-2.0**
BO01	**Tunca**	**12.26**	**190**	Pn	**Pn**	**11 58 31.0**	**-1.5**
BO02	**Sierra Bellavi**	**12.61**	**188**	Pn	**Pn**	**11 58 36.5**	**-0.7**
SALV	**Santo Antonio**	**13.76**	**65**	*e*P	**P**	**11 58 57.0**	**+0.4**
BI02	**San Fabin de**	**14.52**	**189**	Pn	**Pn**	**11 59 02.3**	**+0.5**
PTGB	**Pitanga**	**15.38**	**102**	*e*P	**Pn**	**11 59 09.3**	**-3.4**
ITAB	**Concordia**	**15.77**	**112**	P	**P**	**11 59 20.0**	**+1.1**
ITAB				IAmb	IAmb	11 59 37.1	
	comp=Z,22nm,1.5s						
LDASE	**Londrina, Braz**	**16.17**	**97**	*e*P	**Pn**	**11 59 20.5**	**-2.0**
TRQA	**Tornquist**	**16.73**	**162**	P	**P**	**11 59 31.2**	**+1.7**
ARAG	**Araguaiana, MT**	**17.18**	**71**	*e*P	**Pn**	**11 59 37.0**	**+2.2**
ITRB	**Iturama**	**17.24**	**85**	*e*P	**Pn**	**11 59 36.4**	**+0.9**
FRTB	**Fartura**	**17.60**	**97**	*e*P	**P**	**11 59 37.6**	**-1.6**
PLCA	**Paso Flores**	**18.47**	**185**	P	**Pn**	**11 59 51.0**	**+0.8**
PLCA	**Paso Flores**	**18.47**	**185**	P	**Pn**	**11 59 50.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=357,slow=11,SNR=4.0						
MAJ01	**Sao Joao Batis**	**18.50**	**110**	*e*P	**P**	**11 59 42.4**	**-6.6**
LL04	**Puerto Octay**	**18.85**	**189**	P	**P**	**11 59 53.4**	**+0.8**
LL04				IAmb	IAmb	11 59 56.8	
	comp=Z,5.6nm,0.6s						
IPMB	**Ipameri, GO**	**19.63**	**81**	*e*P	**P**	**12 00 00.8**	**-0.6**
NPGB	**Novo Progresso**	**19.82**	**42**	*e*P	**Pn**	**12 00 06.7**	**+0.6**
LL01	**San Ignacio de**	**20.30**	**188**	P	Pn	12 00 09.9	-1.4
LL01				IAmb	IAmb	12 00 10.6	
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**20.56**	**75**	P	**P**	**12 00 11.8**	**+0.3**
BDFB				IAmb	IAmb	12 00 36.6	
	comp=Z,10nm,1.3s						
BDFB	**Brasilia**	**20.56**	**75**	P	**P**	**12 00 10.1**	**-1.4**
	comp=Z,2.1nm,0.4s,baz=256,slow=12,SNR=4.3						
	comp=Z,2.1nm,0.4s						
AY01	**Puyuhuapi**	**22.34**	**188**	P	**P**	**12 00 30.5**	**+0.7**
AY01				IAmb	IAmb	12 00 53.1	
	comp=Z,25nm,1.4s						
JANB	**Januaria**	**24.10**	**77**	*e*P	**P**	**12 00 46.1**	**-0.8**
MAL2	**Monte Alegre,**	**24.55**	**37**	P	**P**	**12 00 51.5**	**+0.7**
MAL2				IAmb	IAmb	12 01 30.9	
	comp=Z,12nm,0.7s						
FLOC	**Florencia**	**24.69**	**343**	P	**P**	**12 00 51.1**	**-1.0**
FLOC				IAmb	IAmb	12 01 13.5	
	comp=Z,22nm,1.3s						
BOAV	**Boa Vista**	**25.77**	**19**	P	**P**	**12 01 02.9**	**+1.1**
BOAV	**Boa Vista**	**25.77**	**19**	*e*P	**P**	**12 01 01.1**	**-0.8**
ALF01	**Guarapari-ES**	**26.00**	**92**	*e*P	**P**	**12 01 01.0**	**-3.0**
MG03	**Isla Dawson**	**31.55**	**182**	P	**P**	**12 01 52.8**	**0.0**
RCBR	**Riachuelo**	**35.58**	**68**	P	**P**	**12 02 29.7**	**+1.4**
RCBR	**Riachuelo**	**35.58**	**68**	*e*P	**P**	**12 02 29.0**	**+0.7**
SNAA	**Sanae**	**61.46**	**161**	P	**P**	**12 05 47.8**	**+2.2**
SNAA				IAmb	IAmb	12 06 12.7	
	comp=Z,4.2nm,1.2s						
SNAA	**Sanae**	**61.46**	**161**	P	**P**	**12 05 47.3**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=291,slow=8.6,SNR=1.7						
	comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**12 06 30.8**	**+3.1**
QSPA				IAmb	IAmb	12 06 31.2	
	comp=Z,2.4nm,0.6s						
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**12 06 30.7**	**+3.0**
	comp=Z,1.7nm,0.5s,baz=169,slow=9.8,SNR=37						
	comp=Z,1.7nm,0.5s						
DBIC	**Dimbokro**	**68.70**	**73**	P	**P**	**12 06 34.4**	**+1.2**
DBIC	**Dimbokro**	**68.70**	**73**	P	**P**	**12 06 34.2**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=227,slow=5.2,SNR=4.2						
	comp=Z,3.1nm,0.7s						
MKAR	**Makanchi Array**	**146.10**	**37**	PKPbc	**PKPab**	**12 15 09.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=318,slow=3.0,SNR=7.7						

*MEX **01** 12:01:23.9±0.8, 14°.93N×92°.77W, h84km±15km, MD3.9*
*GCG **01** 12:01:24.7±0.6, 14°.99N×92°.36W, h80km±5km, MD4.2*

ISC 01 12:01:25.8±1.7, 14°.92N±0°.08×92°.49W±0°.06, h76km±11km, n15, σ1°78/30, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.22**	**92**	*i* P	**Pn**	**12 01 36.2**	**-1.0**
THIG				*i* S	**Sn**	**12 01 47.0**	**+1.6**
THIG		**0.22**	**92**	*e*P	**Pn**	**12 01 36.0**	**-1.1**
THIG				*i* S	**Sn**	**12 01 45.3**	**-0.2**
THIG		**0.22**	**92**	*e*P		12 01 36.0	
THIG				*i* S		12 01 45.3	
PATR	**El Naranjo**	**0.32**	**51**	*e*P	**Pn**	**12 01 37.4**	**-0.6**
PATR				*i* S	**Sn**	**12 01 47.2**	**+0.2**
SMCA	**Catarina**	**0.41**	**98**	*e*P	**Pn**	**12 01 37.5**	**-0.8**
SMCA				*i* S	**Sn**	**12 01 47.2**	**-0.4**
SMCA	**Catarina**	**0.41**	**98**	*e*P		12 01 37.5	
SMCA				*i* S		12 01 47.2	
CHUJ	**Union Juarez**	**0.41**	**64**	*e*P	**Pn**	**12 01 38.3

comp=Z,27nm,1.2s
WRAB Tennant Creek 22.30 228 P **P** **12 33 33.7 -0.4**
WRAB IAmb IAmb 12 33 51.1
comp=Z,40nm,1.5s
WB2 Warramunga Arr 22.30 228 P **P** **12 33 33.8 -0.3**
WB2 IAmb IAmb 12 33 50.5
comp=Z,31nm,1.2s
WRA Warramunga Arr 22.31 228 P **P** **12 33 33.9 -0.3**
WRA Warramunga Arr 22.31 228 P **P** **12 33 33.4 -0.8**
comp=Z,4.6nm,0.6s,baz=50,slow=10,SNR=41
WRA PcP **PcP** **12 37 26.9 -2.0**
comp=Z,2.3nm,1.0s,baz=41,slow=2.0,SNR=5.4
comp=Z,4.6nm,0.6s
KNRA Kununurra 24.83 244 P **P** **12 33 58.1 -0.6**
KNRA IAmb IAmb 12 34 34.5
comp=Z,15nm,1.2s
ARMA Armidale 24.86 180 P **P** **12 33 56.9 -2.0**
ARMA IAmb IAmb 12 34 11.3
comp=Z,25nm,1.5s
AS31 Alice Springs 25.04 222 P **P** **12 34 01.2 +0.6**
ASAR Alice Springs 25.04 222 P **P** **12 34 01.2 +0.6**
ASAR Alice Springs 25.04 222 P **P** **12 34 00.8 +0.3**
comp=Z,7.7nm,0.7s,baz=54,slow=8.6,SNR=62
comp=Z,7.7nm,0.7s
FITZ Fitzroy Crossi 28.51 242 P **P** **12 34 30.9 -0.8**
BBOO Buckleboo 30.96 206 P **P** **12 34 52.5 -0.8**
BBOO IAmb IAmb 12 35 10.8
comp=Z,19nm,1.4s
MBWA Marble Bar 34.82 240 P **P** **12 35 26.7 -0.5**
PSA00 Pilbara Seismi 34.88 240 P **P** **12 35 28.7 +1.0**
USRK Ussuriysk Ar. 52.53 342 P **P** **12 37 48.3 -0.8**
comp=Z,0.6nm,0.6s,baz=116,slow=16,SNR=1.5
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 57.27 296 P **P** **12 38 23.1 -0.7**
comp=Z,0.4nm,0.3s,baz=125,slow=5.4,SNR=4.1
comp=Z,0.4nm,0.3s
PEA0B Petropavlovsk- 58.52 4 P **P** **12 38 32.3 +0.3**
PETK Petropavlovsk- 58.52 4 P **P** **12 38 32.7 +0.7**
PETK Petropavlovsk- 58.52 4 P **P** **12 38 31.8 -0.3**
comp=Z,1.1nm,0.8s,baz=191,slow=7.4,SNR=1.8
comp=Z,1.1nm,0.8s
SONM Songino Array 66.34 328 P **P** **12 39 24.0 -0.5**
SONM IAmb IAmb 12 39 44.2
comp=Z,2.5nm,1.1s
SONM Songino Array 66.34 328 P **P** **12 39 23.2 -1.4**
comp=Z,1.0nm,0.5s,baz=146,slow=5.3,SNR=9.2
comp=Z,1.0nm,0.5s
K15K Wolf Creek Mou 76.32 20 P **P** **12 40 26.9 +2.5**
OHAK Old Harbor 76.54 27 P **P** **12 40 27.0 +1.4**
L16K Owhat River 76.68 22 P **P** **12 40 28.7 +2.4**
L18K Granite Mounta 78.02 22 P **P** **12 40 34.6 +0.7**
L18K IAmb IAmb 12 40 38.0
comp=Z,12nm,1.4s
N19K Bonanza Creek 78.05 24 P **P** **12 40 35.2 +1.1**
N19K IAmb IAmb 12 40 59.3
comp=Z,15nm,1.4s
L19K White Mountain 78.69 23 P **P** **12 40 38.3 +0.6**
L19K IAmb IAmb 12 41 07.3
comp=Z,8.1nm,1.4s
G18K Tagagawik 79.64 19 P **P** **12 40 42.8 +0.1**
G18K IAmb IAmb 12 40 43.0
comp=Z,10nm,1.4s
PPLA Purkeypile 80.12 23 P **P** **12 40 44.0 -1.5**
PPLA IAmb IAmb 12 41 15.9
comp=Z,12nm,1.3s
MK31 Makanchi Array 80.16 319 P **P** **12 40 45.7 -0.3**
MKAR Makanchi Array 80.16 319 P **P** **12 40 44.0 -2.0**
MKAR Makanchi Array 80.16 319 P **P** **12 40 44.0 -2.0**
comp=Z,0.2nm,0.4s,baz=104,slow=7.2,SNR=4.7
comp=Z,0.2nm,0.4s
E19K Redstone River 81.07 18 P **P** **12 40 50.5 +0.1**
E19K IAmb IAmb 12 40 53.1
comp=Z,2.2nm,0.8s
ZALV Zalesovo Beam 81.14 327 P **P** **12 40 47.2 -3.8**
comp=Z,0.8nm,0.5s,baz=117,slow=6.4,SNR=4.9
comp=Z,0.8nm,0.5s
F20K Avaraart Lake 81.28 18 P **P** **12 40 53.8 +2.3**
D19K Kuna River 81.47 17 P **P** **12 40 52.3 -0.1**
I23K Minto, Yukon-K 82.37 21 P **P** **12 40 56.5 -0.7**
ILAR Eielson Array 83.10 22 P **P** **12 40 59.9 -1.2**
comp=Z,0.5nm,0.5s,baz=253,slow=4.7,SNR=9.4
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 83.69 322 P **P** **12 41 01.5 -2.9**
comp=Z,0.3nm,0.5s,baz=105,slow=5.8,SNR=4.7
comp=Z,0.3nm,0.5s
QSPA South Pole Qui 84.54 180 P **P** **12 41 08.3 -0.2**
comp=Z,2.1nm,0.7s,baz=331,slow=1.0,SNR=15
comp=Z,2.1nm,0.7s

IDC 01 12:38:16.8±1.3, 7°.43N×127°.32E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/2, Error ellipse: s-maj=22.2km s-min=16.0km az=5.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.76**	**259**	Pg	Pb	12 38 50.2	+0.2
	139nm,0.3s,baz=86,slow=12,SNR=5.3						
DAV				Lg	Lg	12 39 11.9	
	45nm,0.3s,baz=85,slow=22,SNR=8.9						
JHJ	**Hachijo jima 2**	**28.06**	**23**	LR	LR	12 55 39.8	
	comp=Z,60nm,20.3s,baz=170,slow=37						
WRA	**Warramunga Arr**	**28.06**	**166**	P	P	12 44 10.2	+0.1
	0.4nm,0.9s,baz=347,slow=9.3,SNR=7.4						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**31.56**	**168**	P	P	12 44 41.5	+0.3
	0.2nm,0.6s,baz=342,slow=7.2,SNR=7.7						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**54.91**	**324**	P	P	12 47 49.6	+0.2
	0.2nm,0.4s,baz=120,slow=7.1,SNR=7.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**58.99**	**326**	P	P	12 48 16.9	-1.3
	1.5nm,0.2s,baz=131,slow=4.2,SNR=2.2						
	1.5nm,0.2s						
VNDA	**Vanda**	**87.00**	**173**	LR	LR	13 32 51.3	
	comp=Z,52nm,18.2s,baz=43,slow=38						

*IDC **01** 12:40:46.0±12.0, 7°.05S×155°.43E, h130km±87km, mb3.1/5, mbtmp3.6/6, Error ellipse: s-maj=128.3km s-min=34.6km az=102.0*
ISC 01 12:40:48.9±2.2, 7°.0S±0°.3×155°.2E±0°.3, h150km, n6, σ0°44/7, mb3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.33**	**253**	P	**Pn**	**12 42 46.5**	**-0.2**
	8.9nm,0.5s,baz=56,slow=3.6,SNR=2.6						
WRA	**Warramunga Arr**	**23.99**	**236**	P	**P**	**12 45 50.4**	**+0.5**
	0.5nm,0.8s,baz=62,slow=9.0,SNR=2.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**26.33**	**229**	P	**P**	**12 46 10.9**	**-0.1**
	0.1nm,0.3s,baz=62,slow=9.7,SNR=6.4						
ASAR				PcP	**PcP**	**12 49 33.1**	**-0.2**
	0.2nm,0.7s,baz=58,slow=3.3,SNR=2.1						
	0.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.85**	**246**	P	**P**	**12 46 51.4**	**+0.2**
	1.2nm,0.5s,baz=53,slow=9.0,SNR=2.1						
	1.2nm,0.5s						
SONM	**Songino Array**	**69.48**	**327**	P	**P**	**12 51 41.6**	**+0.4**
	0.4nm,0.8s,baz=117,slow=5.4,SNR=3.1						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**83.57**	**319**	P	**P**	**12 52 59.9**	**-0.4**
	0.2nm,0.5s,baz=90,slow=5.8,SNR=2.0						
	0.2nm,0.5s						

*AUST **01** 12:46:11.6±0.6, 34°.5±2°.×11°.8E±°, h5km±4km, mb4.4/1, ML2.6/6, Error ellipse: s-maj=5.4km s-min=4.9km az=116.2*
*CUPWA **01** 12:46:12.3±4.2, 33°.88S×118°.09E, h4km±59km, ML2.6, Region: WESTERN AUSTRALIA*
ISC 01 12:46:11.4±1.1, 33°.88S±0°.04×118°.22E±0°.05, h10km, n22, σ1°27/25, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUALB	**St Joseph's Co**	**1.15**	**193**	S	**Sb**	**12 46 48.0**	**-0.2**
AUALB	**St Joseph's Co**	**1.15**	**193**	S	**Sb**	**12 46 48.0**	**-0.2**
AUKUL	**Kulin High Sch**	**1.21**	**357**	P	**Pn**	**12 46 34.9**	**+0.5**
AUKUL	**Kulin High Sch**	**1.21**	**357**	P	**Pn**	**12 46 34.9**	**+0.5**
AUKUL				S	**Sb**	**12 46 50.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**1.26**	**319**	P	**Pn**	**12 46 34.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**1.26**	**319**	S	**Sb**	**12 46 50.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**1.26**	**319**	P	**Pn**	**12 46 34.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**1.26**	**319**	S	**Sb**	**12 46 50.8**	**-0.8**
PING	**Pingelly**	**1.72**	**323**	PG	**Pn**	**12 46 43.1**	**+1.8**
PING				SG	**Sb**	**12 47 04.8**	**+0.2**
PING	**Pingelly**	**1.72**	**323**	P	**Pn**	**12 46 43.1**	**+1.8**
AUHAR	**St Anne's Scho**	**2.10**	**291**	P	**Pb**	**12 46 49.2**	**-0.3**
AUHAR	**St Anne's Scho**	**2.10**	**291**	S	**Sb**	**12 47 15.9**	**+0.2**
KLBR	**Kellerberrin**	**2.32**	**350**	P	**Pn**	**12 46 51.6**	**+2.0**
KLBR	**Kellerberrin**	**2.32**	**350**	P	**Pn**	**12 46 51.6**	**+2.0**
AUBUS	**Georgiana Moll**	**2.38**	**275**	S	**Sb**	**12 47 23.1**	**-0.5**
MUN	**Mundaring**	**2.54**	**318**	P	**Pn**	**12 46 53.6**	**+1.0**
MUN	**Mundaring**	**2.54**	**318**	P	**Pn**	**12 46 53.6**	**+1.0**
MUN				S	**Sn**	**12 47 25.4**	**+1.7**
BLDU	**Ballidu**	**3.50**	**338**	S	**Sn**	**12 47 47.1**	**-0.3**
KMBL	**Kambalda**	**3.98**	**52**	S	**Sn**	**12 47 59.9**	**+0.7**
MORW	**Morawa**	**5.15**	**338**	S	**Sn**	**12 48 25.8**	**-2.2**
FORT	**Forrest**	**8.88**	**72**	P	**Pn**	**12 48 21.0**	**+1.3**
	comp=Z,0.1nmcomp=Z,32nm,1.7s						
FORT	**Forrest**	**8.88**	**72**	S	**Sn**	**12 49 57.2**	**-2.6**

*JMA **01** 12:46:30.8±0.2, 43°.2N±0°.5×145°.4E±0°.8, h101km±1km, MV2.5/39, NEMURO REGION*
*SKHL **01** 12:46:31.4±0.2, 43°.10N×145°.40E, h97km±2km, mb3.9/6, msha4.8/5*
ISC 01 12:46:31.2±1.9, 43°.14N±0°.08×145°.35E±0°.05, h98km±11km, n16, σ0°43/29, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.15**	**248**	*i* P	**Pn**	**12 46 45.3**	**+0.4**
JKHN				S	**Sn**	**12 46 55.9**	**+0.8**
NMR	**Nemuro--Hokkai**	**0.36**	**50**	*e* P	**Pn**	**12 46 45.7**	**0.0**
NMR				AMB	AMB	12 46 49.0	
	20nm,0.2s						
NMR				*e* S	**Sn**	**12 46 56.3**	**-0.3**
NMR				A	A	12 46 57.0	
	120nm,0.2s						
NMR				A	A	12 46 57.0	
	110nm,0.2s						
NEM2	**Nemuro 2**	**0.36**	**51**	*i* P	**Pn**	**12 46 45.7**	**-0.1**
NEM2				S	**Sn**	**12 46 56.5**	**-0.2**
AKK	**Akkeshi**	**0.39**	**252**	*i* P	**Pn**	**12 46 45.9**	**-0.1**
AKK				AMB	AMB	12 46 46.8	
	20nm,0.2s						
AKK				*e* S	**Sn**	**12 46 56.9**	**-0.1**
AKK				A	A	12 46 57.3	
	220nm,0.2s						
AKK				A	A	12 46 57.3	
	180nm,0.2s						
JAK	**Akkeshi**	**0.50**	**254**	*i* P	**Pn**	**12 46 46.8**	**+0.1**
JAK				*e* S	**Sn**	**12 46 58.5**	**+0.3**
JNK	**Nakash**	**0.64**	**314**	*i* P	**Pn**	**12 46 47.3**	**-0.5**
JNK				S	**Sn**	**12 46 59.9**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.69**	**338**	*i* P	**Pn**	**12 46 48.1**	**-0.1**
JNSB				S	**Sn**	**12 47 01.0**	**+0.1**
JRA	**Rausu**	**0.82**	**348**	*i* P	**Pn**	**12 46 49.4**	**0.0**
JRA				S	**Sn**	**12 47 03.6**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**0.97**	**22**	*e* P	**Pn**	**12 46 51.2**	**+0.2**
YUK				AMB	AMB	12 46 52.6	
	40nm,0.2s						
YUK				*i* S	**Sn**	**12 47 06.1**	**+0.1**
YUK				A	A	12 47 07.4	
	120nm,0.2s						
YUK				A	A	12 47 07.4	
	100nm,0.2s						
JOB	**Onbets**	**1.14**	**259**	*i* P	**Pn**	**12 46 53.1**	**+0.2**
JOB				S	**Sn**	**12 47 09.5**	**+0.2**
JAR	**Ashorobuto**	**1.17**	**278**	*i* P	**Pn**	**12 46 53.2**	**0.0**
JAR				S	**Sn**	**12 47 09.9**	**0.0**
SHO	**Shikotan**	**1.30**	**55**	*e* P	**Pn**	**12 46 54.5**	**-0.3**
SHO				AMB	AMB	12 46 54.6	
	30nm,0.5s						
SHO				*e* S	**Sn**	**12 47 11.5**	**-1.2**
SHO				A	A	12 47 18.0	
	50nm,0.4s						
SHO				A	A	12 47 18.0	
	20nm,0.4s						
JTKR	**Abashiri--Toko**	**1.34**	**309**	*i* P	**Pn**	**12 46 55.3**	**0.0**
JCH	**Churui**	**1.55**	**251**	*i* P	**Pn**	**12 46 57.9**	**0.0**
JCH				S	**Sn**	**12 47 17.5**	**-0.8**
JMP	**Maruseppu**	**1.69**	**302**	P	**Pn**	**12 46 59.6**	**-0.1**
KUR	**Kuril'sk**	**2.77**	**40**	*e* P	**Pn**	**12 47 14.6**	**+0.9**
KUR				AMB	AMB	12 47 16.3	
	20nm,0.4s						

UPA 01 12:59:47.1±1.3, 6°.91N×82°.67W, h29km±8km, MW4.3, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**1.30**	**351**	*e* P	Pn	13 00 07.8	-1.6
PTPM				*e* S	Sn	13 00 24.9	-0.9
DVD	**David**	**1.53**	**8**	*e* P	Pn	13 00 12.1	-0.5
DVD				*e* S	Sn	13 00 31.1	-0.5
LOMA3	**Las Lomas, Chi**	**1.54**	**10**	*e* P	Pn	13 00 12.4	-0.2
LOMA3				*e* S	Sn	13 00 30.5	-1.2
GUAL3	**Gualaca, Chiri**	**1.65**	**13**	*e* P	Pn	13 00 14.6	+0.3
GUAL3				*e* S	Sn	13 00 33.7	-0.8
GMAL	**Guarumal, Vera**	**1.66**	**59**	*e* P	Pn	13 00 13.5	-0.9
GMAL				*e* S	Sn	13 00 34.4	-0.4
PTAR3	**Potrerillos Ar**	**1.78**	**6**	*e* P	Pn	13 00 16.1	+0.1
PTAR3				*e* S	Sn	13 00 37.6	-0.2
BC3P	**Paso Ancho**	**1.89**	**2**	*e* P	Pn	13 00 17.1	-0.7
BC3P				*e* S	Sn	13 00 41.5	+0.7
MESA3	**La Mesa, Verag**	**1.92**	**50**	*e* P	Pn	13 00 18.4	+0.5
MESA3				*e* S	Sn	13 00 42.2	+1.0
STIA3	**Santiago, Vera**	**2.06**	**55**	*e* P	Pn	13 00 19.6	-0.3
CHGR2	**Aguacate**	**2.08**	**15**	*e* P	Pn	13 00 20.2	+0.1
CHGR2				*e* S	Sn	13 00 44.9	-0.2
CALO3	**Calobre, Verag**	**2.29**	**52**	*e* P	Pn	13 00 23.5	+0.4
CALO3				*e* S	Sn	13 00 50.3	-0.1
CHIT3	**Chitre**	**2.47**	**65**	⇓*e* P	Pn	13 00 25.1	-0.3
CHIT3				*e* S	Sn	13 00 54.1	-0.5
CNI2	**El Empalme, Bo**	**2.51**	**5**	*e* P	Pn	13 00 25.9	-0.1
CNI2				*e* S	Sn	13 00 55.5	-0.1
AZU	**Azuero**	**2.54**	**70**	⇑*e* P	Pn	13 00 26.2	-0.1
AZU				*e* S	Sn	13 00 55.1	-1.2
BCIP	**Isla Barro Col**	**3.59**	**51**	*e* P	Pn	13 00 41.3	+0.4
BCIP				*e* S	Sn	13 01 21.1	-1.3
JTS	**Las Juntas de**	**4.04**	**326**	*e* P	Pn	13 00 46.5	-0.6
JTS				*e* S	Sn	13 01 32.8	-0.9

*IDC **01** 13:05:32.0±0.9, 55°.38N×164°.43E, h0km, mb3.5/9, mbtmp3.6/11, ML3.4/2, MS3.6/1, Error ellipse: s-maj=37.6km s-min=15.6km az=150.0*
*KRSC **01** 13:05:33.5±1.0, 55°.01N×164°.67E, h40km±28km, Ml4.2*
ISC 01 13:05:35.4±0.7, 55°.15N±0°.06×164°.72E±0°.05, h27km, n49, σ1°31/51, mb3.5/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.72**	**85**	*e* P	**Pb**	**13 05 49.0**	**-0.4**
BKI				*e* S	**Sb**	**13 05 58.9**	**+0.1**
KBTR	**Krutoberegovo**	**1.51**	**315**	*e* P	**Pn**	**13 05 59.4**	**-1.3**
KBG	**Krutoberegovo**	**1.59**	**315**	*e* P	**Pn**	**13 06 00.5**	**-1.2**
SMKR	**Semkarok**	**2.33**	**309**	*e* P	**Pn**	**13 06 12.4**	**+0.4**
CIRR	**Tsirk**	**2.45**	**295**	*e* P	**Pn**	**13 06 14.6**	**+0.9**
TUMD	**Tumrok D**	**2.48**	**273**	*e* P	**Pn**	**13 06 14.7**	**+0.7**
TUMD				*e* S	**Sn**	**13 06 44.2**	**+0.9**
KLY	**Klyuchi**	**2.58**	**299**	*e* P	**Pn**	**13 06 14.7**	**-0.7**
KRSR	**Krestovskiy**	**2.58**	**296**	*e* P	**Pn**	**13 06 16.3**	**+0.7**
KIRR	**Kirishev**	**2.61**	**290**	*e* P	**Pn**	**13 06 17.5**	**+1.5**
KMNR	**Kamenistaya**	**2.62**	**285**	*e* P	**Pn**	**13 06 17.7**	**+1.6**
KPT	**Kopyto**	**2.68**	**290**	*e* P	**Pn**	**13 06 18.4**	**+1.5**
KOZ	**Kozyrevsk**	**2.90**	**290**	*e* P	**Pn**	**13 06 22.1**	**+2.4**
SRDR	**Sredinnyy**	**3.06**	**295**	*e* P	**Pn**	**13 06 23.8**	**+1.7**
KII	**Karymskiy**	**3.26**	**252**	*e* P	**Pn**	**13 06 26.1**	**+1.2**
SPN	**Mys Shipunski**	**3.44**	**235**	*e* P	**Pn**	**13 06 27.1**	**-0.1**
SPN				*e* S	**Sn**	**13 07 03.8**	**-3.3**
ESO	**Esso**	**3.51**	**285**	*e* P	**Pn**	**13 06 29.5**	**+1.3**
NLC	**Nalytchevo**	**3.73**	**240**	*e* P	**Pn**	**13 06 31.2**	**+0.1**
NLC				*e* S	**Sn**	**13 07 11.9**	**-2.2**
UGLR	**Uglovaya**	**3.97**	**243**	*e* P	**Pn**	**13 06 36.1**	**+1.5**
KRX	**Arik**	**3.99**	**246**	*e* P	**Pn**	**13 06 35.6**	**+0.8**
AVH	**Avacha**	**3.99**	**244**	*e* P	**Pn**	**13 06 35.9**	**+1.1**
AVH				*e* S	**Sn**	**13 07 20.6**	**0.0**
KOK	**Koryaka**	**4.03**	**245**	*e* P	**Pn**	**13 06 36.4**	**+1.0**
DALK	**Dalny**	**4.10**	**241**	*e* P	**Pn**	**13 06 37.0**	**+0.7**
DALK				*e* S	**Sn**	**13 07 20.8**	**-2.6**
PET	**Petropavlovsk**	**4.16**	**242**	*e* P	**Pn**	**13 06 37.8**	**+0.8**
PET				*e* S	**Sn**	**13 07 23.0**	**-1.7**
GNL	**Ganaly**	**4.22**	**253**	*e* P	**Pn**	**13 06 39.6**	**+1.6**
KRMR	**Karymshinskiy**	**4.53**	**242**	*e* P	**Pn**	**13 06 43.0**	**+0.8**
KRMR				*e* S	**Sn**	**13 07 33.9**	**0.0**
RUS	**Russkaya**	**4.58**	**236**	*e* P	**Pn**	**13 06 42.9**	**+0.1**
PETK	**Petropavlovsk-**	**4.61**	**247**	Pn	**Pn**	**13 06 43.9**	**+0.6**
	5.4nm,0.3s,baz=71,slow=17,SNR=122						
PETK				Sn	**Sn**	**13 07 36.6**	**+0.8**
	2.0nm,0.3s,baz=90,slow=20,SNR=2.4						
	8.8nm,0.4s						
GRL	**Gorelyy**	**4.72**	**239**	*e* P	**Pn**	**13 06 45.8**	**+1.0**
APC	**Apacha**	**4.98**	**247**	*e* P	**Pn**	**13 06 50.2**	**+1.8**
KDTR	**Khodutka, Kamc**	**5.19**	**233**	*e* P	**Pn**	**13 06 50.9**	**-0.3**
PAU	**Pauzhetka**	**6.01**	**235**	*e* P	**Pn**	**13 07 03.0**	**+0.5**
SKR	**Severo-Kuril's**	**6.86**	**233**	*e* P	**Pn**	**13 07 14.3**	**+0.2**
ASAJ	**Asahikawa**	**18.00**	**241**	P	**P**	**13 09 44.8**	**+1.0**
	0.3nm,0.3s,baz=48,slow=15,SNR=1.5						
	5.0nm,1.0s						
ILAR	**Eielson Array**	**25.42**	**48**	P	**P**	**13 11 00.6**	**+0.2**
	0.8nm,0.7s,baz=251,slow=8.3,SNR=16						
	0.8nm,0.7s						
MJAR	**Matsushiro Arr**	**25.96**	**235**	P	**P**	**13 11 06.5**	**+1.0**
	0.9nm,0.6s,baz=48,slow=7.5,SNR=2.1						
	0.9nm,0.6s						
KSRS	**Korea Array**	**30.50**	**250**	P	**P**	**13 11 45.3**	**-0.7**
	0.2nm,0.4s,baz=36,slow=11,SNR=1.5						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.40**	**176**	T	T	13 50 27.1	
	baz=358,slow=76,SNR=104						
H11N3	**WAKE ISLAND Hy**	**35.41**	**176**	T	T	13 50 22.0	
	baz=358,slow=76,SNR=67						
H11N1	**WAKE ISLAND Hy**	**35.42**	**176**	T	T	13 50 21.2	
	baz=358,slow=76,SNR=74						
NRIK	**Noril'sk**	**35.83**	**324**	LR	LR	13 29 35.2	
	comp=Z,81nm,19.6s,baz=77,slow=41						
SONM	**Songino Array**	**36.08**	**283**	P	**P**	**13 12 32.3**	**-2.4**
	0.2nm,0.5s,baz=50,slow=9.5,SNR=1.9						
	0.2nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**36.61**	**177**	T	T	13 52 21.0	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**36.62**	**177**	T	T	13 52 14.6	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**36.63**	**177**	T	T	13 52 09.2	
	baz=352						
YKA	**Yellowknife Ar**	**39.79**	**46**	P	**P**	**13 13 05.0**	**-0.5**
	0.2nm,0.5s,baz=295,slow=8.3,SNR=4.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**49.04**	**303**	P	**P**	**13 14 19.0**	**-0.6**
	0.9nm,0.5s,baz=55,slow=7.8,SNR=4.6						
	0.9nm,0.5s						
TXAR	**Lajitas Array**	**67.36**	**71**	P	**P**	**13 16 30.4**	**+2.3**
	0.2nm,0.4s,baz=311,slow=5.0,SNR=5.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**79.15**	**209**	P	**P**	**13 17 38.5**	**+1.0**
	0.8nm,0.9s,baz=97,slow=1.9,SNR=3.4						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**82.81**	**208**	P	**P**	**13 17 58.0**	**+1.1**
	0.3nm,0.7s,baz=11,slow=4.8,SNR=4.9						
	0.3nm,0.7s						

*CATAC **01** 13:08:04.6±0.7, 14°.N±5°.×9°.2W±°, h44km±7km, M3.4/9, MLv3.4/9, Error ellipse: s-maj=12.3km s-min=6.4km az=36.0, confirmed*
*GCG **01** 13:08:06.2±1.2, 14°.33N×91°.83W, h62km±8km, MD4.1*
ISC 01 13:08:06.8±1.9, 14°.3N±0°.1×91°.85W±0°.08, h61km±11km, n21, σ1°42/26, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.25**	**37**	P	**Pn**	**13 08 16.2**	**-0.5**
RTAL	**Retalhuleu**	**0.25**	**37**	S	**Sn**	**13 08 25.5**	**+1.7**
RTAL	**Retalhuleu**	**0.25**	**37**	P	**Pn**	**13 08 16.3**	**-0.4**
STG8	**El Palmar, Qui**	**0.50**	**75**	*i* P		13 08 18.3	
STG0	**El Palmar, Qui**	**0.50**	**78**	*i* P		13 08 18.1	
STG0				*e* S		13 08 27.6	
SMCA	**Catarina**	**0.57**	**338**	*i* P	**Pn**	**13 08 18.9**	**-0.8**
SMCA				*i* S	**Sn**	**13 08 28.7**	**-0.3**
SMCA	**Catarina**	**0.57**	**338**	*i* P		13 08 18.9	
SMCA				*i* S		13 08 28.7	
SOKI	**Kika Raxquin**	**0.66**	**41**	*e* P	**Pn**	**13 08 20.7**	**-0.3**
SOKI				*e* S	**Sn**	**13 08 32.8**	**+1.4**
SOKI	**Kika Raxquin**	**0.66**	**41**	*e* P		13 08 20.7	
SOKI				*e* S		13 08 32.8	
THIG		**0.70**	**325**	*e* P	**Pn**	**13 08 20.1**	**-1.1**
THIG				*i* S	**Sn**	**13 08 32.2**	**+0.5**
THIG		**0.70**	**325**	*e* P		13 08 20.1	
THIG				*i* S		13 08 32.2	
ESSG	**Sabana Grande**	**0.99**	**86**	*e* P	**Pn**	**13 08 24.1**	**-0.7**
ESSG				*e* S	**Sn**	**13 08 38.0**	**-0.2**
ESSG	**Sabana Grande**	**0.99**	**86**	*e* P		13 08 24.1	
ESSG				*e* S		13 08 38.0	
HUEH	**Huehuetenango**	**1.04**	**19**	P	**Pn**	**13 08 22.5**	**-3.2**
APG	**El Apazote**	**1.50**	**63**	*i* P	**Pn**	**13 08 31.9**	**+0.2**
APG	**El Apazote**	**1.50**	**63**	*i* P		13 08 31.9	
FAME	**Alcaldia de Sa**	**1.84**	**105**	P	**Pn**	**13 08 35.1**	**-1.1**
CCIG	**Comitan**	**1.97**	**352**	P	**Pn**	**13 08 39.2**	**+1.2**
CCIG	**Comitan**	**1.97**	**352**	*e* P	**Pn**	**13 08 39.0**	**+1.0**
CCIG	**Comitan**	**1.97**	**352**	*e* P		13 08 39.0	
SLOZ	**Alcaldia de Sa**	**2.03**	**98**	P	**Pn**	**13 08 38.1**	**-0.5**
NUBE	**Las Nubes**	**2.05**	**102**	P	**Pn**	**13 08 38.7**	**-0.4**
NUBE	**Las Nubes**	**2.05**	**102**	S	**Sn**	**13 09 02.8**	**-1.0**
NUBE	**Las Nubes**	**2.05**	**102**	P	**Pn**	**13 08 38.9**	**-0.3**
NUBE	**Las Nubes**	**2.05**	**102**	*e* P	**Pn**	**13 08 38.8**	**-0.3**
NUBE	**Las Nubes**	**2.05**	**102**	*e* P		13 08 38.8	
CEVE	**Cerro Verde**	**2.22**	**103**	S	**Sn**	**13 09 09.2**	**+1.3**
CEVE	**Cerro Verde**	**2.22**	**103**	P	**Pn**	**13 08 39.7**	**-1.7**
CEVE	**Cerro Verde**	**2.22**	**103**	P	**

BTLS Lg Lg 13 12 44.1
19nm,0.8s
MAKZ Makanchi 6.91 123 ⇑Sn **Sn 13 12 43.3 +1.0**
3.5nm,0.8s,baz=130,slow=28
MAKZ ⇓Lg Lg 13 13 16.3
20nm,0.9s,baz=130,slow=28
MK31 Makanchi Array 7.09 122 ⇑Pn **Pn 13 11 25.6 +0.2**
0.5nm,0.5s,baz=130,slow=28
MK31 ⇓Pg **Pb 13 11 45.8 +1.4**
0.8nm,0.5s,baz=130,slow=28
MK31 ⇓Lg Lg 13 13 22.5
24nm,0.9s,baz=130,slow=28
MKAR Makanchi Array 7.09 122 Pn **Pn 13 11 24.1 -1.3**
0.2nm,0.3s,baz=312,slow=14,SNR=12
MKAR Lg Lg 13 13 15.1
0.4nm,0.3s,baz=307,slow=20,SNR=7.9
0.2nm,0.3s
KRBS Karabastau 7.38 168 Pg **Pb 13 11 52.0 +2.6**
0.5nm,0.1s
KRBS Lg Lg 13 13 30.3
4.3nm,0.4s
I46RU ZALESOVO INFRA 7.51 62 I I 13 54 30.0
baz=249,slow=296,SNR=1.5
ZALV Zalesovo Beam 7.51 62 Pn **Pn 13 11 31.0 -0.1**
0.3nm,0.3s,baz=253,slow=13,SNR=5.7
ZALV Pg **Pb 13 11 54.0 +2.4**
baz=252,slow=14,SNR=3.5
ZALV Sn **Sn 13 12 53.6 -3.3**
0.3nm,0.3s,baz=252,slow=25,SNR=7.3
ZALV Lg Lg 13 13 38.0
0.1nm,0.3s,baz=252,slow=25,SNR=6.3
0.6nm,0.3s
SGDS Sogindy 7.52 174 Pg **Pb 13 11 55.1 +3.4**
3.1nm,0.7s
SGDS Lg Lg 13 13 34.7
18nm,0.8s
MTBS Maitube 8.05 165 Pg **Pb 13 12 04.5 +3.8**
2.2nm,0.2s
MTBS Lg Lg 13 13 51.3
15nm,0.5s
KST Kastek 8.06 167 Pg Pb 13 12 06.0 +5.1
1.5nm,0.3s
KST Lg Lg 13 13 52.5
32nm,1.1s
KK31 Karatay Array 8.10 196 Pn **Pn 13 11 40.9 +1.6**
0.5nm,0.3s,baz=130,slow=28,SNR=5.9
KK31 ⇑Sn **Sn 13 13 10.8 -0.8**
1.5nm,0.6s,baz=130,slow=28
KK31 ⇓Lg Lg 13 13 56.8
9.7nm,0.8s,baz=130,slow=28,SNR=5.9
AAK Ala-Archa 8.32 175 Pn **Pn 13 11 41.4 -1.0**
0.7nm,0.3s,baz=315,slow=1.4,SNR=6.2
AAK Sn **Sn 13 13 13.2 -4.0**
0.3nm,0.3s,baz=18,slow=3.2,SNR=5.2
AAK Lg Lg 13 14 01.7
0.3nm,0.3s,baz=49,slow=20,SNR=7.8
0.9nm,0.3s
PDGK Podgornoye 8.61 150 ⇓Sn **Sn 13 13 21.1 -3.0**
4.8nm,1.4s,baz=130,slow=28
PDGK ⇓Lg Lg 13 14 11.9
32nm,0.9s,baz=130,slow=28
AB31 Akbulak array 8.92 264 ⇑Pn **Pn 13 11 50.3 -0.1**
0.2nm,0.3s,baz=130,slow=28,SNR=14
AB31 Lg Lg 13 14 26.4
1.6nm,0.8s,baz=130,slow=28,SNR=4.2
AKTO Aktyubinsk 9.89 273 Pn **Pn 13 12 04.1 +0.4**
0.5nm,0.3s,baz=83,slow=9.5,SNR=9.3
AKTO Sn **Sn 13 13 53.1 -2.1**
baz=86,slow=19,SNR=1.8
AKTO Lg Lg 13 14 53.9
0.1nm,0.3s,baz=66,slow=13,SNR=1.8
1.8nm,0.4s
ARTI Arti 10.53 307 Pn **Pn 13 12 11.9 -0.5**
0.5nm,0.3s,baz=65,slow=15,SNR=2.1
ARTI Sn **Sn 13 14 13.3 +2.3**
0.2nm,0.3s,baz=147,slow=19,SNR=1.4
ARTI Lg Lg 13 15 13.5
0.2nm,0.3s,baz=102,slow=21,SNR=3.3
1.1nm,0.3s
SONM Songino Array 21.50 85 P **P 13 14 31.1 +0.4**
0.1nm,0.3s,baz=280,slow=8.6,SNR=2.6
0.1nm,0.3s
WSAR Wadi Sarin 29.98 208 LR LR 13 30 01.3
comp=Z,89nm,21.2s,baz=178,slow=41
ILAR Eielson Array 60.45 19 P **P 13 19 51.1 -0.1**
0.2nm,0.6s,baz=328,slow=4.6,SNR=6.2
0.2nm,0.6s
YKA Yellowknife Ar 66.74 4 P **P 13 20 32.9 +0.1**
0.1nm,0.7s,baz=343,slow=7.1,SNR=2.9
0.1nm,0.7s

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*IDC **01** 13:14:04.4±1.0, 13°.60N×125°.45E, h0km, mb3.7/8, mbtmp3.7/8, MS3.5/1, Error ellipse: s-maj=72.4km s-min=17.0km az=71.0*
ISC 01 13:14:07.9±1.2, 13°.6N±0°.2×125°.5E±0°.5, h24km, n9, σ0°44/8, mb3.8/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.84**	**5**	P	**P**	**13 19 19.4**	**+0.1**
	0.5nm,0.6s,baz=183,slow=12,SNR=5.4						
	0.5nm,0.6s						
PSI	**Prapat**	**28.39**	**250**	LR	LR	13 32 54.9	
	comp=Z,77nm,18.2s,baz=246,slow=40						
WRA	**Warramunga Arr**	**34.45**	**165**	P	**P**	**13 20 53.5**	**-0.5**
	0.3nm,0.5s,baz=331,slow=10,SNR=9.1						
	0.3nm,0.5s						
SONM	**Songino Array**	**37.66**	**339**	P	**P**	**13 21 21.4**	**+0.1**
	1.3nm,0.9s,baz=152,slow=9.9,SNR=6.4						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**37.94**	**167**	P	**P**	**13 21 24.3**	**+0.5**
	0.7nm,0.4s,baz=346,slow=7.5,SNR=17						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**48.96**	**321**	P	**P**	**13 22 52.1**	**-0.3**
	0.2nm,0.4s,baz=116,slow=7.9,SNR=7.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**51.37**	**330**	P	**P**	**13 23 10.0**	**-0.5**
	0.4nm,0.3s,baz=139,slow=9.6,SNR=2.5						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**52.94**	**324**	P	**P**	**13 23 22.4**	**+0.2**
	1.4nm,0.7s,baz=120,slow=7.8,SNR=14						
	1.4nm,0.7s						
BVAR	**Borovoye Array**	**58.53**	**324**	P	**P**	**13 24 02.5**	**+0.2**
	0.6nm,0.5s,baz=111,slow=6.5,SNR=3.5						
	0.6nm,0.5s						

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*IDC **01** 13:37:11.8±1.1, 38°.77N×26°.08E, h0km, mb3.5/9, mbtmp3.6/14, ML2.7/4, Error ellipse: s-maj=20.3km s-min=16.9km az=9.0*
*AFAD **01** 13:37:13.7, 38°.77N×25°.91E, h16km±3km, MW3.9*
*BEO **01** 13:37:13.2±2.7, 38°.60N×26°.65E, h81km±8km, ML3.6/7*
*ATH **01** 13:37:14.7, 38°.77N×26°.00E, h14km±1km, ML3.8/23, Manual Solution by A.Papageorgiou First location: 2019/03/01 13:38:18, This location: 2021/03/27 20:06:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*ISK **01** 13:37:14.1, 38°.78N×25°.92E, h12km, ML4.1/51*
*PDG **01** 13:37:15.7±0.5, 38°.79N×25°.95E, h18km±1km, ML4.1/6, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*THE **01** 13:37:15.9, 38°.75N×25°.95E, h20km±3km, ML3.8/6, Error ellipse: s-maj=3.1km s-min=0.8km az=53.0*
*NAO **01** 13:37:42.6, 41°.34N×25°.68E, h33km, mb3.0*
ISC 01 13:37:14.5±0.9, 38°.77N±0°.01×25°.95E±0°.01, h17km±6km, n225, σ1°32/304, mb3.4/9, 19C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG2	**Marmaro, Chios**	**0.26**	**152**	P	**Pb**	**13 37 20.1**	**-0.6**
EAG2				S	**Sg**	**13 37 23.5**	**-0.6**
KARB	**zmir-Karabur**	**0.38**	**107**	P	**Pg**	**13 37 21.8**	**-0.4**
KARB				S	**Sb**	**13 37 28.3**	**+0.1**
SIGR	**SIGRI**	**0.44**	**350**	Pg	**Pb**	**13 37 24.0**	**+0.1**
SIGR				Sg	**Sb**	**13 37 29.9**	**-0.3**
SIGR	**SIGRI**	**0.44**	**350**	P	**Pb**	**13 37 24.0**	**+0.1**
SIGR				S	**Sn**	**13 37 32.2**	**-1.5**
	25μm,0.3s						
SIGR	**SIGRI**	**0.44**	**350**	P	**Pb**	**13 37 23.8**	**-0.1**
SIGR				S	**Sb**	**13 37 29.9**	**-0.3**
CESE	**eme**	**0.52**	**148**	Pg	**Pb**	**13 37 24.9**	**-0.2**
PRK	**Paraskevi**	**0.53**	**28**	P	**Pg**	**13 37 24.7**	**-0.4**
PRK				S	**Sb**	**13 37 32.7**	**-0.1**
FOCM	**Foa**	**0.61**	**95**	Pg	**Pb**	**13 37 26.5**	**-0.2**
URLA	**Izmir**	**0.65**	**129**	P	**Pg**	**13 37 25.9**	**-1.4**
URLA				S	**Sn**	**13 37 38.2**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**0.69**	**141**	P	**Pn**	**13 37 28.4**	**-1.0**
ZEYE				S	**Sb**	**13 37 37.4**	**+0.2**
CAND	**Candarli**	**0.69**	**75**	Pg	**Pn**	**13 37 28.4**	**-1.0**
CAND				Sg	**Sn**	**13 37 38.6**	**-1.1**
GPNR	**Gulpinar-Canak**	**0.70**	**12**	Pg	**Pb**	**13 37 28.2**	**0.0**
GPNR				Sg	**Sn**	**13 37 38.6**	**-1.4**
KOCA	**Canakkale, Ayv**	**0.74**	**11**	P	**Pb**	**13 37 29.2**	**+0.2**
KOCA				S	**Sn**	**13 37 42.3**	**+1.2**
AYVA	**Ayvalik**	**0.78**	**47**	P	**Pb**	**13 37 28.4**	**-1.3**
AYVA				S	**Sn**	**13 37 41.5**	**-0.6**
DKL	**Dikili**	**0.80**	**68**	Pg	**Pn**	**13 37 30.4**	**-0.6**
DKL	**Dikili**	**0.80**	**68**	P	**Pg**	**13 37 29.6**	**-0.4**
DKL				S	**Sb**	**13 37 39.5**	**-0.9**
ZEDA	**zmir-Bergama**	**0.90**	**77**	P	**Pg**	**13 37 31.7**	**-0.2**
ZEDA				S	**Sg**	**13 37 44.0**	**+0.2**
BLCB	**Balcova**	**0.94**	**114**	Pg	**Pn**	**13 37 32.9**	**0.0**
BLCB				Sg	**Sn**	**13 37 46.8**	**+0.9**
DGB	**zmir**	**1.02**	**134**	P	**Pg**	**13 37 34.5**	**+0.2**
DGB				S	**Sn**	**13 37 49.2**	**+1.1**
GMLD	**Gumuldur**	**1.03**	**132**	Pg	**Pg**	**13 37 34.4**	**0.0**
GMLD				Sg	**Sn**	**13 37 48.9**	**+0.8**
EZNE	**Ezine-Canakkal**	**1.03**	**18**	Pg	**Pg**	**13 37 34.4**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.07**	**25**	P	**Pb**	**13 37 33.3**	**-1.3**
BAYC				S	**Sg**	**13 37 48.9**	**-0.4**
BOZC	**Bozcaada**	**1.07**	**4**	Pg	**Pg**	**13 37 34.9**	**-0.3**
BOZC	**Bozcaada**	**1.07**	**4**	P	**Pb**	**13 37 34.1**	**-0.4**
BOZC				S	**Sn**	**13 37 50.5**	**+1.3**
EFSA	**Agios Efstrati**	**1.07**	**316**	P	**Pg**	**13 37 35.7**	**+0.4**
EFSA				S	**Sn**	**13 37 49.9**	**+0.7**
EZN	**Ezine**	**1.09**	**15**	P	Pb	13 37 26.1	-8.8
EZN				S	**Sb**	**13 37 42.0**	**-6.8**
SKY	**Skiros Island**	**1.10**	**276**	P	**Pg**	**13 37 35.8**	**0.0**
SKY				S	**Sg**	**13 37 52.3**	**+2.1**
BUHA	**Balikesir, Bur**	**1.14**	**50**	P	**Pn**	**13 37 34.1**	**-1.5**
BUHA				S	**Sg**	**13 37 53.0**	**+1.7**
SMG	**Samos**	**1.27**	**147**	P	**Pb**	**13 37 37.9**	**-0.1**
SMG				S	**Sn**	**13 37 54.4**	**+0.3**
LIA	**Limnos Island**	**1.27**	**332**	P	**Pb**	**13 37 38.0**	**0.0**
LIA				S	**Sg**	**13 37 55.0**	**-0.6**
ECEA	**Canakkale, Ece**	**1.28**	**8**	P	**Pb**	**13 37 38.2**	**+0.1**
ECEA				S	**Sg**	**13 37 57.9**	**+2.0**
CNKL	**anakkale-Mer**	**1.33**	**14**	P	**Pn**	**13 37 37.4**	**-0.9**
CNKL				S	**Sb**	**13 37 56.3**	**+0.4**
TNSA	**Tinos**	**1.38**	**207**	P	**Pb**	**13 37 39.6**	**-0.2**
TNSA				S	**Sg**	**13 37 59.2**	**+0.1**
COMU	**Canakkale**	**1.38**	**17**	Pn	**Pb**	**13 37 39.8**	**-0.1**
GOAD	**anakkale-G¶**	**1.39**	**359**	P	**Pn**	**13 37 38.2**	**-0.9**
GOAD				S	**Sg**	**13 38 02.0**	**+2.7**
KARY	**Karystos**	**1.40**	**239**	P	**Pn**	**13 37 39.2**	**-0.1**
KARY				S	**Sn**	**13 37 56.8**	**-0.6**
	2μm,0.5s						
KARY	**Karystos**	**1.40**	**239**	P	**Pg**	**13 37 40.5**	**-1.0**
KARY				S	**Sg**	**13 37 59.6**	**-0.2**
GADA	**Gvkgeada**	**1.42**	**358**	Pn	**Pb**	**13 37 40.3**	**-0.2**
GOKC	**Gokceada-Canak**	**1.43**	**359**	Pn	**Pb**	**13 37 40.4**	**-0.2**
AKHS	**Akhisar**	**1.46**	**85**	P	**Pn**	**13 37 39.9**	**-0.2**
AKHS				S	**Sb**	**13 37 59.5**	**+0.1**
AKS	**Akhisar**	**1.46**	**85**	Pn	**Pb**	**13 37 41.2**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.46**	**265**	P	**Pb**	**13 37 41.3**	**+0.2**
KYMI				S	**Sg**	**13 38 01.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.47**	**136**	Pn	**Pb**	**13 37 41.4**	**0.0**
GCAM	**G?zelcaml?**	**1.47**	**136**	P	**Pg**	**13 37 42.3**	**-0.5**
GCAM				S	**Sg**	**13 38 02.8**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.50**	**66**	P	**Pn**	**13 37 39.9**	**-0.8**
STEP				S	**Sg**	**13 38 06.9**	**+4.0**
CANM	**Can-anakkale**	**1.50**	**34**	Pn	**Pb**	**13 37 41.6**	**-0.3**
YENI	**Yenice-Canakka**	**1.53**	**40**	Pn	**Pb**	**13 37 42.1**	**-0.3**
BALY	**Balya**	**1.61**	**53**	P	**Pn**	**13 37 42.2**	**-0.1**
BALY				S	**Sg**	**13 38 07.9**	**+1.4**
DDIM	**Aydin, Didim**	**1.66**	**142**	P	**Pg**	**13 37 48.0**	**+1.6**
GELI	**Tayfur-Gelibol**	**1.67**	**14**	Pn	**Pb**	**13 37 43.8**	**-1.0**
IZMR	**zmir-demi**	**1.69**	**111**	P	**Pg**	**13 37 47.4**	**+0.4**
IZMR				S	**Sg**	**13 38 10.1**	**+1.1**
LPK	**Lapseki**	**1.71**	**21**	Pn	**Pb**	**13 37 44.5**	**-1.0**
DIDI	**Didim-Aydin**	**1.73**	**144**	Pn	**Pb**	**13 37 45.1**	**-0.6**
SMTH	**Samothraki Isl**	**1.73**	**349**	P	**Pn**	**13 37 44.3**	**+0.5**
SMTH				S	**Sb**	**13 38 07.9**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**118**	Pn	**Pb**	**13 37 45.0**	**-0.9**
DION	**Dionisos Attik**	**1.73**	**247**	P	**Pb**	**13 37 44.7**	**-1.2**
DION				S	**Sn**	**13 38 05.5**	**-0.1**
	2μm,0.5s						
DION	**Dionisos Attik**	**1.73**	**247**	P	**Pn**	**13 37 44.4**	**+0.6**
DION				S	**Sg**	**13 38 08.6**	**-1.7**
APE	**Apeiranthos**	**1.73**	**191**	Pn	**Pn**	**13 37 44.0**	**+0.1**
APE	**Apeiranthos**	**1.73**	**191**	P	**Pb**	**13 37 44.6**	**-1.3**
APE				S	**Sn**	**13 38 04.8**	**-0.9**
	1μm,0.4s						
APE	**Apeiranthos**	**1.73**	**191**	⇑P	**Pn**	**13 37 44.1**	**+0.1**
APE				⇓S	**Sn**	**13 38 06.1**	**+0.4**
APE	**Apeiranthos**	**1.73**	**191**	P	**Pb**	**13 37 44.5**	**-1.3**
APE				S	**Sb**	**13 38 07.5**	**+0.1**
ODEM	**Odemis-Izmir**	**1.74**	**106**	Pn	**Pb**	**13 37 44.9**	**-1.0**
GORD	**Gordes-Manisa**	**1.74**	**85**	Pn	**Pb**	**13 37 45.3**	**-0.7**
PTL	**Penteli**	**1.79**	**247**	P	**Pn**	**13 37 45.4**	**+0.7**
PTL				S	**Sb**	**13 38 10.1**	**+0.9**
BKES	**Balkesir-Mer**	**1.81**	**57**	P	**Pn**	**13 37 45.6**	**+0.7**
ENZZ	**Sultanice-Enez**	**1.84**	**4**	Pn	**Pb**	**13 37 46.3**	**-1.3**
GONE	**Gonen-Balikesi**	**1.85**	**46**	Pn	**Pb**	**13 37 46.5**	**-1.3**
AYDN	**Tasoluk**	**1.88**	**126**	P	**Pg**	**13 37 49.7**	**-0.9**
AYDN				S	**Sg**	**13 38 15.9**	**+0.9**
ATHU	**Athens Univers**	**1.89**	**245**	P	**Pn**	**13 37 46.8**	**+0.8**
ATHU				S	**Sb**	**13 38 12.5**	**+0.7**
KRBG	**Karabiga-Canak**	**1.92**	**32**	Pn	**Pn**	**13 37 47.1**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**1.92**	**5**	P	**Pn**	**13 37 46.4**	**0.0**
CAVK				S	**Sg**	**13 38 16.8**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**1.92**	**5**	⇑P	**Pb**	**13 37 47.6**	**-1.4**
NOAC	**Athens-Thissio**	**1.93**	**246**	P	**Pn**	**13 37 47.4**	**+0.9**
NOAC				S	**Sb**	**13 38 13.3**	**+0.3**
ATH	**Athens Observa**	**1.93**	**246**	P	**Pn**	**13 37 47.2**	**+0.6**
ATH				S	**Sn**	**13 38 10.0**	**-0.4**
	1μm,0.6s						
ATH	**Athens Observa**	**1.93**	**246**	P	**Pn**	**13 37 47.4**	**+0.8**
ATH				S	**Sb**	**13 38 13.5**	**+0.4**
VLY	**Voula,Athens**	**1.93**	**242**	P	**Pn**	**13 37 47.2**	**+0.6**
VLY				S	**Sb**	**13 38 13.5**	**+0.5**
ERIK	**Erikli-Kesan**	**1.94**	**13**	Pn	**Pb**	**13 37 47.8**	**-1.6**
YKAV	**Yalikavak-Bodr**	**1.95**	**147**	Pn	**Pb**	**13 37 48.1**	**-1.5**
ENEZ	**Enez**	**1.97**	**4**	Pn	**Pn**	**13 37 48.0**	**+1.0**
ENEZ	**Enez**	**1.97**	**4**	P	**Pn**	**13 37 47.7**	**+0.7**
ENEZ				S	**Sn**	**13 38 12.3**	**+1.0**
	3μm,0.4s						
KIRA	**zmir-Kiraz**	**2.00**	**106**	P	**Pb**	**13 37 49.7**	**-0.8**
NAZL	**Nazilli-Aydin**	**2.01**	**113**	Pn	**Pb**	**13 37 49.0**	**-1.6**
BODT	**Bodrum**	**2.02**	**147**	Pn	**Pn**	**13 37 48.6**	**+0.8**
SUSR	**Susurluk-Balik**	**2.03**	**54**	Pn	**Pn**	**13 37 48.7**	**+0.7**
MANT	**Manisa**	**2.06**	**97**	P	**Pn**	**13 37 48.9**	**+0.4**
MANT				S	**Sg**	**13 38 21.7**	**+0.9**
MLSB	**Milas**	**2.06**	**135**	Pn	**Pb**	**13 37 49.9**	**-1.6**
THAS	**Thassos island**	**2.06**	**333**	P	**Pn**	**13 37 48.7**	**+0.3**
THAS	**Thassos island**	**2.06**	**333**	P	**Pn**	**13 37 48.6**	**+0.3**
THAS				S	**Sb**	**13 38 16.2**	**-0.6**
BDRM	**Kayabasi**	**2.07**	**145**	P	**Pb**	**13 37 52.2**	**+0.5**
ALEX	**Alexandroupoli**	**2.08**	**359**	P	**Pn**	**13 37 49.6**	**+1.0**
ALEX				S	**Sb**	**13 38 15.9**	**-1.4**
PAIG	**Paliouri**	**2.11**	**304**	Pn	**Pn**	**13 37 49.8**	**+0.8**
PAIG	**Paliouri**	**2.11**	**304**	P	**Pn**	**13 37 49.6**	**+0.6**
ESEN	**Aydn-Nazilli**	**2.12**	**117**	P	**Pg**	**13 37 54.9**	**-0.2**
ALN	**Alexandroupoli**	**2.12**	**2**	Pn	**Pn**	**13 37 50.1**	**+0.9**
ALN	**Alexandroupoli**	**2.12**	**2**	P	**Pn**	**13 37 49.5**	**+0.3**
DURS	**Dursunbey**	**2.13**	**66**	P	**Pn**	**13 37 48.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.13**	**26**	Pn	**Pn**	**13 37 50.6**	**+1.2**
SART	**Tekirdag**	**2.13**	**26**	P	**Pn**	**13 37 50.6**	**+1.2**
SART				S	**Sg**	**13 38 23.6**	**+0.5**
KULA	**Kula-Manisa**	**2.13**	**96**	Pn	**Pb**	**13 37 50.9**	**-1.9**
EDC	**Edincik**	**2.16**	**43**	Pn	**Pn**	**13 37 50.5**	**+0.8**
VILL	**Villia**	**2.16**	**254**	P	**Pn**	**13 37 50.5**	**+0.7**
DEMI	**Demirci**	**2.17**	**82**	P	**Pb**	**13 37 51.3**	**-2.0**
DEMI				S	**Sg**	**13 38 25.8**	**+1.4**
OUR	**Ouranopolis**	**2.18**	**316**	Pn	**Pn**	**13 37 50.9**	**+0.9**
OUR	**Ouranopolis**	**2.18**	**316**	P	**Pn**	**13 37 50.9**	**+0.9**
VIL2	**Platees**	**2.18**	**256**	P	**Pn**	**13 37 50.5**	**+0.5**
VIL2				S	**Sb**	**13 38 19.4**	**-0.9**
NEO	**Neokhori**	**2.19**	**285**	P	**Pn**	**13 37 51.2**	**+1.0**
NEO				S	**Sb**	**13 38 19.3**	**-1.3**
XOR	**Xorichti**	**2.23**	**286**	P	**Pn**	**13 37 51.2**	**+0.5**
XOR	**Xorichti**	**2.23**	**286**	P	**Pn**	**13 37 51.7**	**+1.0**
DST	**Dursunbey**	**2.23**	**67**	Pn	**Pn**	**13 37 52.2**	**+1.5**
ASTA	**Astypalaia**	**2.25**	**172**	P	**Pn**	**13 37 51.2**	**+0.4**
ASTA				S	**Sn**	**13 38 19.6**	**+1.4**
BAND	**Balkesir-Ban**	**2.29**	**46**	P	**Pn**	**13 37 51.3**	**-0.2**
BAND	**Balkesir-Ban**	**2.29**	**46**	⇑P	**Pn**	**13 37 52.2**	**+0.7**
XANC	**Avdira**	**2.33**	**341**	P	**Pn**	**13 37 52.6**	**+0.6**
CMBO	**Columbo, Santo**	**2.34**	**191**	P	**Pn**	**13 37 52.0**	**-0.2**
CMBO	**Columbo, Santo**	**2.34**	**191**	P	**Pn**	**13 37 52.7**	**+0.5**
KCTX	**Karacabey (Bur**	**2.38**	**51**	Pn	**Pn**	**13 37 53.7**	**+0.9**
SIMA	**Simav-Kutahya**	**2.38**	**82**	Pn	**Pb**	**13 37 54.7**	**-2.3**
RDO	**Rodhopi**	**2.39**	**352**	Pn	**Pn**	**13 37 53.9**	**+1.1**
RDO	**Rodhopi**	**2.39**	**352**	P	**Pn**	**13 37 54.0**	**+1.1**
USAK	**Uak-Merkez**	**2.40**	**90**	P	**Pb**	**13 37 55.5**	**-1.8**
THR3	**Thira Island,**	**2.40**	**191**	P	**Pn**	**13 37 52.8**	**-0.2**
YAZI	**Mula-Datşa-**	**2.40**	**150**	P	**Pn**	**13 37 53.0**	**-0.1**
UKOP	**Uzunkopru-Edir**	**2.41**	**12**	Pn	**Pn**	**13 37 54.4**	**+1.3**
DAT	**Datca**	**2.41**	**147**	P	**Pn**	**13 37 52.2**	**-1.1**
KAVA	**Kavala**	**2.48**	**334**	P	**Pn**	**13 37 54.8**	**+0.7**
KAVA	**Kavala**	**2.48**	**334**	P	**Pn**	**13 37 54.8**	**+0.7**
TKR	**Tekirdag**	**2.53**	**28**	Pn	**Pn**	**13 37 56.3**	**+1.6**
KOKK	**Kokkinochori,**	**2.54**	**324**	P	**Pn**	**13 37 55.7**	**+0.8**
SHAP	**Saphane-Kutahy**	**2.56**	**83**	Pn	**Pn**	**13 37 57.2**	**+1.9**
AXAR	**Agios Charalam**	**2.58**	**271**	P	**Pn**	**13 37 56.5**	**+1.1**
AXAR	**Agios Charalam**	**2.58**	**271**	P	**Pn**	**13 37 56.5**	**+1.1**
ORLT	**Orhaneli**	**2.61**	**60**	Pn	**Pn**	**13 37 57.9**	**+2.0**
KRND	**KRANIDI**	**2.61**	**239**	P	**Pn**	**13 37 56.5**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.67**	**118**	P	**Pb**	**13 37 59.5**	**-2.4**
DNIZ	**Denizli-Tavas-**	**2.69**	**114**	P	**Pb**	**13 37 59.5**	**-2.6**
EMET	**Ktahya-Emet**	**2.69**	**76**	P	**Pg**	**13 38 06.7**	**+0.7**
EMET				S	**Sg**	**13 38 39.7**	**-1.2**
YYLC	**Yaylacik**	**2.69**	**54**	P	**Pn**	**13 37 58.7**	**+1.7**
YYLC				S	**Sg**	**13 38 41.3**	**+0.4**
TURN	**Turunc**	**2.70**	**137**	P	**Pn**	**13 37 58.7**	**+1.7**
GDZ	**Gediz**	**2.77**	**82**	P	**Pb**	**13 38 04.5**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.77**	**54**	Pn	**Pn**	**13 37 59.8**	**+1.7**
PASA	**Karahalli, USA**	**2.80**	**98**	P	**Pn**	**13 37 58.7**	**+0.1**
ULDT	**Uludag**	**2.82**	**60**	P	**Pb**	**13 38 02.8**	**-1.6**
ULDT				S	**Sg**	**13 38 47.1**	**+2.1**
HORT	**Hortiatis**	**2.86**	**310**	Pn	**Pn**	**13 38 00.9**	**+1.5**
HORT	**Hortiatis**	**2.86**	**310**	P	**Pn**	**13 38 00.8**	**+1.4**
ARMT	**Armutlu**	**2.87**	**51**	Pn	**Pn**	**13 37 59.7**	**+0.2**
KDZ	**Kurdzhali**	**2.89**	**351**	Pn	**Pn**	**13 38 00.9**	**+1.1**
SRS	**Serrai**	**2.96**	**323**	P	**Pn**	**13 38 01.8**	**+1.0**
SRS	**Serrai**	**2.96**	**323**	*e*Pn	**Pn**	**13 38 01.8**	**+1.0**
SRS				*e*Sn	**Sn**	**13 38 35.3**	**-0.6**
KALE	**Kalithea**	**3.01**	**264**	P	**Pn**	**13 38 03.0**	**+1.5**
NVR	**Nevrokopi**	**3.03**	**329**	P	**Pn**	**13 38 03.1**	**+1.4**
TYRN	**Tyrnavos**	**3.04**	**289**	P	**Pn**	**13 38 03.3**	**+1.6**
INCE	**Denizli-Bozkur**	**3.04**	**109**	P	**Pn**	**13 38 04.5**	**+2.5**
DOMA	**Ktahya-Doman**	**3.07**	**70**	P	**Pb**	**13 38 10.2**	**+1.4**
DOMA				S	**Sg**	**13 38 54.5**	**+1.2**
KLV	**Kalavryta, Ach**	**3.08**	**257**	P	**Pn**	**13 38 03.3**	**+1.0**
SABU	**Mula-Dalaman**	**3.08**	**128**	P	**Pb**	**13 38 07.8**	**-1.1**
ARG	**Arkhangelos**	**3.08**	**145**	P	**Pn**	**13 38 03.4**	**+1.0**
VLI	**Veliai**	**3.15**	**230**	P	**Pn**	**13 38 04.1**	**+0.8**
VIZE	**Kirklareli, Vi**	**3.15**	**27**	P	**Pn**	**13 38 02.0**	**-1.4**
ANX	**Ano Chora**	**3.16**	**268**	P	**Pn**	**13 38 05.2**	**+1.6**
ANX	**Ano Chora**	**3.16**	**268**	P	**Pn**	**13 38 05.0**	**+1.4**
THL	**Klokotos Trika**	**3.16**	**286**	P	**Pn**	**13 38 05.0**	**+1.5**
IDI	**Anoyia**	**3.58**	**194**	Pn	**Pn**	**13 38 08.8**	**-0.6**
	6.2nm,0.3s,baz=19,slow=3.4,SNR=22						
	16nm,0.3s						
VAY	**Valandovo**	**3.64**	**315**	*i* Pn	**Pn**	**13 38 12.1**	**+2.1**
VAY				*e*Sn	**Sg**	**13 39 10.0**	**-1.2**
VAY	**Valandovo**	**3.64**	**315**	*e*Pn	**Pn**	**13 38 12.2**	**+2.2**
VAY				*e*Sn	**Sn**	**13 38 53.2**	**+0.7**
IGT	**Igoumenitsa**	**4.43**	**282**	*e*Pn	**Pn**	**13 38 24.6**	**+3.6**
IGT				*e*Sn	**Sn**	**13 39 13.3**	**+1.1**
OHR	**Ohrid**	**4.60**	**302**	*i* Pn	**Pn**	**13 38 27.2**	**+4.0**
OHR	**Ohrid**	**4.60**	**302**	*e*Pn	**Pn**	**13 38 26.9**	**+3.6**
BARS	**Barje**	**5.12**	**323**	*e*Pn	**Pn**	**13 38 32.1**	**+1.8**
BARS				*e*Sn	**Sn**	**13 39 27.1**	**-1.9**
ZAPS	**Zavoj**	**5.15**	**332**	*e*Pn	**Pn**	**13 38 32.9**	**+2.1**
MANR	**Mangalia**	**5.42

KURBB	Kurchatov Arra	38.43	54	P		P	13 44 33.4	-1.7
	comp=Z,0.1nm,0.3s,baz=280,slow=8.6,SNR=4.2							
	comp=Z,0.1nm,0.3s							
MKAR	Makanchi Array	41.33	60	P		P	13 44 59.3	0.0
	comp=Z,0.3nm,0.5s,baz=267,slow=8.6,SNR=4.1							
	comp=Z,0.3nm,0.5s							
ZALV	Zalesovo Beam	42.10	49	P		P	13 45 02.6	-2.8
	comp=Z,0.3nm,0.4s,baz=269,slow=7.2,SNR=1.3							
	comp=Z,0.3nm,0.4s							
YKA	Yellowknife Ar	74.21	342	P		P	13 48 50.6	+0.7
	comp=Z,0.1nm,0.4s,baz=11,slow=4.0,SNR=3.4							
	comp=Z,0.1nm,0.4s							
KSRS	Korea Array	75.60	53	P		P	13 48 58.7	+0.3
	comp=Z,0.5nm,0.7s,baz=310,slow=3.9,SNR=2.9							
	comp=Z,0.5nm,0.7s							

IDC 01 13:56:27.5±999.0, 57°.22N×33°.30E, h0km, Error ellipse: s-maj=950.2km s-min=57.1km az=101.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	DUBNA INFRASON	2.21	102	I	I	14 10 40.0	
	0.4nm,0.7s,baz=285,slow=283,SNR=3.3						
I31KZ	AKTYUBINSK INF	16.06	105	I	I	15 33 20.0	
	baz=305,slow=337,SNR=1.2						
I46RU	ZALESOVO INFRA	28.73	74	I	I	16 51 20.0	
	baz=297,slow=330,SNR=1.4						

*IDC **01** 13:56:27.4±1.5, 55°.35S×31°.89W, h0km, mb4.0/4, mbtmp4.0/4, MS3.7/1, Error ellipse: s-maj=88.4km s-min=22.8km az=61.0*

*NEIC **01** 13:56:30.2±1.6, 55°.3S±0°.1×31°.5W±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=30.7km s-min=2.9km az=47.0*

ISC 01 13:56:29.3±0.7, 55°.2S±0°.1×31°.5W±0°.1, h10km, n38, σ0§94/38, mb4.2/6, 4D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	3.04	286		Pn	13 57 18.8	+1.4
VNA3	Neumayer Olymp	18.62	158	⇓P	Pn	14 00 49.1	+2.2
	comp=Z,7.4nm,0.8s						
PMSA	Palmer Station	18.64	226	P	Pn	14 00 46.2	-0.8
PMSA				IAmb	IAmb	14 01 28.4	
	comp=Z,34nm,1.2s						
VNA2	Neumayer--Watz	18.91	156	⇓P	Pn	14 00 50.3	0.0
	comp=Z,3.3nm,0.9s,baz=342,slow=12						
SNAA	Sanae	20.51	154	P	P	14 01 05.7	-1.6
SNAA	Sanae	20.51	154	⇓P	P	14 01 07.7	+0.5
	comp=Z,116nm,0.8s						
SNAA	Sanae	20.51	154	P	P	14 01 07.5	+0.2
	comp=Z,4.1nm,0.8s,baz=316,slow=9.4,SNR=8.4						
	comp=Z,4.1nm,0.8s						
TROLL	Troll, Antarti	22.08	152	⇓P	P	14 01 25.1	+0.9
	comp=Z,127nm,0.7s						
MG02	Cerro Sombrero	22.12	261	P	P	14 01 24.1	-0.6
BELA	Belgrano 2	22.76	182	P	P	14 01 30.0	-1.3
BELA				IAmb	IAmb	14 01 46.1	
	comp=Z,13nm,1.5s						
GO10	Punta Arenas	23.01	259	P	P	14 01 35.2	+1.1
GO10				IAmb	IAmb	14 01 44.5	
	comp=Z,21nm,0.9s						
CPUP	Villa Florida	34.48	316	P	P	14 03 15.1	-2.1
	comp=Z,1.3nm,0.6s,baz=168,slow=7.1,SNR=3.2						
	comp=Z,1.3nm,0.6s						
QSPA	South Pole Qui	35.01	180	P	P	14 03 22.5	+0.8
QSPA				IAmb	IAmb	14 03 58.4	
	comp=Z,9.3nm,1.5s						
QSPA	South Pole Qui	35.01	180	P	P	14 03 19.9	-1.8
	comp=Z,2.2nm,1.1s,baz=198,slow=6.4,SNR=7.0						
	comp=Z,2.2nm,1.1s						
AC02	Maricunga	39.34	301	P	P	14 03 58.6	-0.6
AC01	Pan de Azucar	40.64	300	P	P	14 04 10.3	+1.0
GO02	Mina Guanaco	40.96	302	P	P	14 04 12.1	-0.3
GO02				IAmb	IAmb	14 04 13.8	
	comp=Z,3.8nm,0.8s						
LPAZ	La Paz	47.94	310	P	P	14 05 09.0	+0.4
	comp=Z,1.6nm,0.4s,baz=166,slow=4.2,SNR=7.3						
	comp=Z,1.6nm,0.4s						
CMAR	Chiang Mai Arr	127.64	114	PKP	PKiKP	14 15 35.0	-0.2
	comp=Z,0.3nm,0.4s,baz=213,slow=3.5,SNR=4.0						
H29M	Whitestone	144.75	318	PKPdf	PKPbc	14 16 03.9	+0.1
BCAR	Beaver Creek A	145.10	312	PKPbc	PKPdf	14 16 05.3	-0.2
I28M	Miner Creek	145.12	316	PKPbc	PKPdf	14 16 06.9	+1.3
BMRM	Bremner River	145.61	307	PKPdf	PKPab	14 16 07.3	+0.3
E28M	Babbage River	145.85	322	PKPdf	PKPab	14 16 07.8	+0.1
HIN	Hinchinbrook I	146.28	306	PKPdf	PKPab	14 16 09.4	-0.2
F26K	Sheenjek River	147.33	319	PKPbc	PKPbc	14 16 12.1	+0.5
ILAR	Eielson Array	147.76	313	PKPdf	PKPbc	14 16 12.2	-0.6
ILAR	Eielson Array	147.76	313	PKPbc	PKPdf	14 16 10.3	+0.4
	comp=Z,1.1nm,0.7s,baz=128,slow=1.6,SNR=8.6						
F25K	Christian Rive	147.87	319	PKPbc	PKPbc	14 16 13.6	+0.5
E25K	Arctic Village	147.94	320	PKPdf	PKPbc	14 16 12.7	-0.6
RND	Reindeer	148.26	311	PKPbc	PKiKP	14 16 15.2	-0.6
E24K	Your Creek	149.02	319	PKPbc	PKPbc	14 16 16.6	+0.6
M20K	Styx River	149.79	307	PKPbc	PKiKP	14 16 18.6	-0.5
C23K	Itkillik River	149.94	323	PKPbc	PKPbc	14 16 18.6	+0.4
H21K	Melozitna Rive	150.38	314	PKPbc	PKiKP	14 16 19.9	-0.2
D22K	Ayikyak River	150.63	321	PKPbc	PKiKP	14 16 20.6	+0.1
N15K	Kwethluk River	152.69	302	PKPdf	PKPdf	14 16 19.2	+1.5
N15K				PKPab	pPKPab	14 16 37.9	-0.1
G16K	Koyuk River	154.32	313	PKPdf	PKPdf	14 16 20.4	+0.5

*IDC **01** 14:06:06.2±1.2, 10°.15N×126°.08E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=70.2km s-min=20.2km az=64.0*

ISC 01 14:06:13.6±1.2, 10°.1N±0°.2×126°.1E±0°.4, h54km, n6, σ1§89/6, mb3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	27.52	291	P	P	14 11 56.7	+1.3
	0.2nm,0.3s,baz=95,slow=9.2,SNR=1.4						
	0.2nm,0.3s						
ASAR	Alice Springs	34.41	167	P	P	14 12 55.5	-0.5
	0.4nm,0.6s,baz=345,slow=7.3,SNR=9.6						
	0.4nm,0.6s						
STKA	Stephens Creek	44.30	161	P	P	14 14 18.6	+0.4
	2.8nm,0.8s,baz=315,slow=6.4,SNR=5.3						
	2.8nm,0.8s						
MKAR	Makanchi Array	52.04	323	P	P	14 15 16.1	-1.7
	0.8nm,0.9s,baz=115,slow=7.7,SNR=6.5						
	0.8nm,0.9s						
KURBB	Kurchatov Arra	56.10	326	P	P	14 15 45.5	-1.8
	0.2nm,0.2s,baz=126,slow=6.3,SNR=6.6						
	0.2nm,0.2s						
NRIK	Noril'sk	64.14	346	P	P	14 16 43.6	+1.6
	2.3nm,0.6s,baz=122,slow=5.8,SNR=4.2						
	2.3nm,0.6s						

*SJA **01** 14:31:33.0±0.7, 23°.84S×66°.76W, h223km±6km, ML3.6, MW3.6*

*GUC **01** 14:31:34.7±0.4, 23°.86S×66°.84W, h206km±6km, ML4.0*

*NEIC **01** 14:31:35.2±1.5, 23°.86S±0°.07×66°.9W±0°.1, h218km±9km, mb4.2/4, Error ellipse: s-maj=15.8km s-min=10.1km az=98.0*

ISC 01 14:31:34.6±0.7, 23°.85S±0°.04×66°.86W±0°.04, h211km±7km, n54, σ1§07/80, 7C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		0.61	128	⇓iP	Pn	14 32 03.5	-0.6
SALTA		0.61	128	eP	Pn	14 31 58.1	-5.8
SALTA				eP	Pn	14 32 03.4	-0.6
AF01	San Pedro de A	1.50	306	Pn	Pn	14 32 11.0	+1.4
AF01				Sn	S	14 32 36.2	-0.3
AF01	San Pedro de A	1.50	306	eP	Pn	14 32 11.0	+1.4
AF01	San Pedro de A	1.50	306	eP	Pn	14 32 11.1	+1.5
AF01				eS	S	14 32 34.5	-2.1
AF01				IAML		14 33 09.4	
	comp=Z,101nm,0.4s						
SLA	San Lorenzo	1.52	125	eP	Pn	14 32 09.3	-0.3
SLA				eS	S	14 32 38.2	+1.7
AZAP	Zapla	1.69	103	eP	Pn	14 32 10.1	-1.1
YJA	Yavi	2.08	37	eP	Pn	14 32 15.0	-0.3
YJA				eS	S	14 32 46.1	-0.3
FSA	Cafayete	2.39	161	eP	Pn	14 32 18.0	-0.2
ALOL	LOMAS DE OLMED	2.64	90	eP	Pn	14 32 30.9	+10
PB06	IPOC Station P	2.74	294	⇑iP	Pn	14 32 22.9	+0.9
PB06				i S	S	14 32 58.1	-0.5
PB06				IAML		14 33 00.1	
	comp=N,377nm,0.1s						
PB06	IPOC Station P	2.74	294	eP	Pn	14 32 22.9	+0.9
PB06				eS	S	14 32 58.9	+0.4
PB06				IAML		14 33 01.7	
	comp=Z,203nm,0.5s						
GO02	Mina Guanaco	2.81	242	Pn	Pn	14 32 23.5	+0.6
GO02				Sn	S	14 33 00.7	+0.4
GO02	Mina Guanaco	2.81	242	⇑iP	Pn	14 32 23.5	+0.6
GO02				i S	S	14 33 00.4	+0.2
GO02				IAML		14 33 01.6	
	comp=N,255nm,0.5s						
GO02	Mina Guanaco	2.81	242	eP	Pn	14 32 23.7	+0.8
GO02				eS	S	14 33 01.2	+0.9
PB09	IPOC Station P	3.00	312	Pn	Pn	14 32 25.7	+0.8
PB09				Sn	S	14 33 04.4	+0.4
PB09	IPOC Station P	3.00	312	⇑iP	Pn	14 32 26.1	+1.2
PB09				i S	S	14 33 03.9	-0.1
PB09				IAML		14 33 10.3	
	comp=N,111nm,0.4s						
PB09	IPOC Station P	3.00	312	eP	Pn	14 32 26.4	+1.4
PB09				eS	S	14 33 04.8	+0.8
PB09				IAML		14 33 07.8	
	comp=Z,110nm,0.4s						
PB03	IPOC Station P	3.21	303	Pn	Pn	14 32 27.6	+0.2
PB03				Sn	S	14 33 06.9	-1.5
PB03	IPOC Station P	3.21	303	⇑iP	Pn	14 32 27.9	+0.5
PB03				i S	S	14 33 06.9	-1.5
PB03	IPOC Station P	3.21	303	eP	Pn	14 32 28.0	+0.5
PB03				eS	S	14 33 07.6	-0.8
PB03				IAML		14 33 09.9	
	comp=Z,220nm,0.1s						
AHML	Horco Molle	3.23	155	eP	Pn	14 32 42.2	+15
PB14	IPOC Station P	3.32	256	Pn	Pn	14 32 29.2	+0.3
PB14				Sn	S	14 33 09.5	-1.5
PB14	IPOC Station P	3.32	256	⇑iP	Pn	14 32 29.2	+0.3
PB14				eS	S	14 33 09.0	-2.0
PB14	IPOC Station P	3.32	256	eP	Pn	14 32 29.3	+0.4
PB14				eS	S	14 33 11.4	+0.4
PB14				IAML		14 33 11.8	
	comp=Z,64nm,0.5s						
AC02	Maricunga	3.61	214	Pn	Pn	14 32 33.1	+0.5
AC02	Maricunga	3.61	214	⇑iP	Pn	14 32 33.1	+0.5
AC02				eS	S	14 33 16.6	-1.0
AC02	Maricunga	3.61	214	eP	Pn	14 32 33.2	+0.7
AC02				eS	S	14 33 17.4	-0.3
PB01	IPOC Station P	3.70	318		Pn	14 32 33.6	+0.3
PB01	IPOC Station P	3.70	318	i P	Pn	14 32 33.5	+0.3
PB01				i S	S	14 33 17.1	-1.8
PB01	IPOC Station P	3.70	318	eP	Pn	14 32 33.6	+0.3
PB01				eS	S	14 33 18.2	-0.6
PB01				IAML		14 33 21.1	
	comp=Z,91nm,0.3s						
AC01	Pan de Azucar	4.09	235	Pn	Pn	14 32 37.2	-0.7
AC01	Pan de Azucar	4.09	235	⇑iP	Pn	14 32 37.1	-0.7
AC01				eS	S	14 33 24.4	-2.9
AC01	Pan de Azucar	4.09	235	eP	Pn	14 32 37.3	-0.5
AC01				eS	S	14 33 26.0	-1.4
AC01				IAML		14 33 26.1	
	comp=Z,51nm,0.6s						
PB08	IPOC Station P	4.26	330		Pn	14 32 41.5	+1.1
PB08	IPOC Station P	4.26	330	eP	Pn	14 32 41.4	+1.1
PB08				eS	S	14 33 30.8	-1.0
PB08	IPOC Station P	4.26	330	eP	Pn	14 32 41.5	+1.1
PB08				eS	S	14 33 32.4	+0.7
PB08				IAML		14 33 35.7	
	comp=Z,46nm,0.5s						
TA01	Diego Aracena	4.49	316		Pn	14 32 43.0	+0.2
TA01	Diego Aracena	4.49	316	eP	Pn	14 32 41.6	-1.2
TA01	Diego Aracena	4.49	316	eP	Pn	14 32 42.5	-0.3
TA01				eS	S	14 33 33.6	-2.6
TA01				IAML		14 33 36.1	
	comp=Z,42nm,0.5s						
PB11	IPOC Station P	4.82	327	Pn	Pn	14 32 46.7	-0.5
PB11	IPOC Station P	4.82	327	eP	Pn	14 32 46.5	-0.7
PB11				eS	S	14 33 41.9	-2.3
PB11				IAML		14 33 45.9	
	comp=Z,59nm,0.4s						
AC04	Llanos de Chal	5.76	220	Pn	Pn	14 32 57.5	-1.4
PB12	IPOC Station P	6.13	328	Pn	Pn	14 33 02.7	-1.1
LCO	Las Campanas	6.19	213	Pn	Pn	14 33 03.2	-1.4
CO06	Fray Jorge	8.01	211	Pn	Pn	14 33 27.2	-0.7
BI02	San Fabin de	13.33	196	Pn	Pn	14 34 35.4	-0.4
ITAB	Concordia	13.72	107	Pn	Pn	14 34 41.1	+0.5
PLTB	Pedras Altas	14.13	127		P	14 34 46.8	-0.3
TRQA	Tornquist	14.77	165		P	14 34 54.5	+0.3
VAO	Valinhos	18.28	91	P	P	14 35 32.9	-0.1
BDFB	Brasilia	19.52	69	P	P	14 35 45.9	-0.4
BDFB				IAmb	IAmb	14 35 47.2	
	comp=Z,9.9nm,0.9s						
BOAV	Boa Vista	26.80	14	P	P	14 36 54.9	-0.6
BOAV				IAmb	IAmb	14 37 03.2	
	comp=Z,5.1nm,1.1s						
QSPA	South Pole Qui	66.36	180	P	P	14 42 03.0	+2.5

*NEIC **01** 14:38:32.8±1.6, 11°.98S±0°.10×167°.92E±0°.08, h319km±6km, mb4.8/180, Error ellipse: s-maj=14.4km s-min=11.8km az=165.0*

*IDC **01** 14:38:32.5±1.7, 12°.07S×167°.90E, h321km±15km, mb4.1/25, mbtmp4.7/25, Error ellipse: s-maj=14.6km s-min=10.4km az=104.0*

*BJI **01** 14:38:34.8, 11°.77S×168°.03E, h351km, mB4.7/15, mb4.7/52*

*NOU **01** 14:38:36.0, 11°.84S×167°.46E, h583km, mb4.7/14, Santa Cruz Islands*

ISC 01 14:38:35.6±0.3, 12°.01S±0°.04×167°.82E±0°.06, h350km, n579, σ0§90/555, mb4.7/135, 2C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HURO	Huro Makira	6.01	284	P	Pn	14 40 14.8	+8.2
NGOA	Tingoa Renbel	7.61	273	P	Pn	14 40 25.8	+0.6
ALEG	Aligegeo Malai	7.72	294	P	Pn	14 40 27.0	+0.5
HNR	Honiara	8.15	288	Pn	Pn	14 40 30.4	-1.2
HNR	Honiara	8.15	288	P	Pn	14 40 33.0	+1.4
	257nm,0.9s,baz=97,slow=0.2,SNR=17						
HNR	Honiara	8.15	288	P	Pn	14 40 33.0	+1.4
SAVO	Savo Central	8.37	289	P	Pn	14 40 35.4	+1.1
TATA	Tatamba Isabel	8.67	294	P	Pn	14 40 38.6	+0.8
KOUNC	Koumac, New Ca	9.15	201	P	P	14 40 44.9	-0.7
DZM	Mont Dzumac	10.09	187		Pn	14 40 54.9	+0.1
DZM	Mont Dzumac	10.09	187	P	P	14 40 55.6	-0.6
	43nm,0.8s,baz=17,slow=17,SNR=30						
DZM	Mont Dzumac	10.09	187	P	P	14 40 56.4	+0.2
ONTNC	Ouen Toro	10.32	187		Pn	14 40 57.9	+0.4
ONTNC	Ouen Toro	10.32	187	P	P	14 40 59.8	+1.1
OUENC	Ouen Island, N	10.39	185	P	P	14 41 00.3	+0.9
YSA	Yasawairara	10.54	117	P	P	14 41 02.9	+1.8
PINNC	Pines Island,	10.55	182		Pn	14 40 59.9	-0.3
PINNC	Pines Island,	10.55	182	P	P	14 41 02.2	+1.0
MSVF	Nonsavu	11.41	121		P	14 41 11.7	+0.9
MSVF	Nonsavu	11.41	121	P	P	14 41 12.1	+1.3
	56nm,0.9s,baz=287,slow=7.7,SNR=29						
MSVF	Nonsavu	11.41	121	P	P	14 41 13.0	+2.2
FUNA	Funafuti	11.71	74	Pn	Pn	14 41 08.5	-5.6
DGTI	Dogotuki	12.32	112	P	Pn	14 41 22.0	+0.8
TARA	Tarawa	14.21	21	P	P	14 41 39.1	-2.6
RABL	Rabaul	17.33	295	P	P	14 42 13.8	-1.8
PMG	Port Moresby	20.47	275	P	P	14 42 47.5	-0.6
	36nm,0.7s,baz=90,slow=6.6,SNR=11						
	36nm,0.7s						
EIDS	Eidsvold	20.66	228	P	P	14 42 50.0	+0.2
MANU	Manus Island	22.56	294	P	P	14 43 07.3	+0.2
ARMA	Armidale	23.68	217	P	P	14 43 17.9	+0.6
ARMA				IAmb	IAmb	14 43 21.6	
	comp=Z,63nm,1.2s						
COEN	Coen	24.09	263	P	P	14 43 21.0	0.0
COEN				IAmb	IAmb	14 43 23.3	
	comp=Z,27nm,0.8s						
TOZ	Tahuroa Road	26.52	166	P	P	14 43 43.1	+0.7
MXZ	Matakaoa Point	27.13	162	P	P	14 43 46.6	-1.1
MXZ				IAmb	IAmb	14 44 26.5	
	comp=Z,52nm,0.9s						
MXZ	Matakaoa Point	27.13	162	P	P	14 43 46.6	-1.1
HIZ	Hauiti	27.13	168	P	P	14 43 48.8	+1.1
HAZ	Te Kaha	27.15	163	P	P	14 43 47.3	-0.6
URZ	Urewera	27.43	164	P	P	14 43 49.3	-1.0
PUZ	Puketiti	27.58	162	P	P	14 43 49.8	-2.0
MWZ	Matawai	27.61	163	P	P	14 43 51.0	-1.1
VRZ	Vera Road	27.70	168	P	P	14 43 53.9	+1.1
RTZ	Ruatahuna	27.73	164	P	P	14 43 51.9	-1.3
BKZ	Black Stump Fm	28.12	166	P	P	14 43 55.8	-0.8
BKZ				IAmb	IAmb	14 43 59.9	
	comp=Z,46nm,1.4s						
BKZ	Black Stump Fm	28.12	166	P	P	14 43 55.6	-1.0
KNZ	Kokohu	28.29	164	P	P	14 43 56.3	-1.7
WAZ	Wanganui	28.35	168	P	P	14 43 58.1	-0.5
TSZ	Takapari Road	28.85	167	P	P	14 44 01.8	-1.1
OHWZ	Ohakea	28.86	168	P	P	14 44 03.0	0.0
QRZ	Quartz Range	29.00	173	P	P	14 44 05.4	+1.2
PXZ	Pawanui	29.03	166	P	P	14 44 04.1	-0.4
POWZ	Post Office Ro	29.13	167	P	P	14 44 03.8	-1.6
DUWZ	D'Urville Isla	29.18	170	P	P	14 44 06.3	+0.5
TKNZ	Takaka Hill	29.26	172	P	P	14 44 07.5	+0.9
PRWZ	Pori Road	29.33	167	P	P	14 44 06.1	-1.1
MRZ	Mangatainoka R	29.35	168	P	P	14 44 05.6	-1.7
KIW	Kapiti Island	29.41	169	P	P	14 44 06.9	-1.0
OGWZ	Otaki Gorge	29.42	169	P	P	14 44 06.0	-1.9
OGWZ				S	S	14 48 33.7	-1.9
NNZ	Nelson	29.50	171	P	P	14 44 09.5	+0.9
NNZ				S	S	14 48 38.7	+1.7
BFZ	Birch Farm	29.51	167	P	P	14 44 06.7	-2.0
BFZ				S	S	14 48 35.1	-2.0
TIWZ	Tintock	29.52	168	P	P	14 44 07.3	-1.6
HOWZ	Holdsworth Sta	29.56	168	P	P	14 44 07.7	-1.5
MRNZ	Matariki Terra	29.60	172	P	P	14 44 09.8	+0.3
TCW	Tory Channel	29.64	170	P	P	14 44 09.7	-0.2
SNZO	South Karori	29.81	170	P	P	14 44 10.3	-1.0
MTW	Mount Morrison	29.81	168	P	P	14 44 09.6	-1.8
DSZ	Denniston Nort	29.83	174	P	P	14 44 12.8	+1.2
DSZ	Denniston Nort	29.83	174	P	P	14 44 12.4	+0.9
TMWZ	Te Maipa	29.84	168	P	P	14 44 09.9	-1.8
BHW	Baring Head	29.93	169	P	P	14 44 10.2	-2.3
BHW				IAmb	IAmb	14 44 12.9	
	comp=Z,67nm,1.1s						
THZ	Tophouse	29.97	172	P	P	14 44 12.8	0.0
THZ				IAmb	IAmb	14 44 15.0	
	comp=Z,30nm,0.9s						
THZ	Tophouse	29.97	172	P	P	14 44 12.8	0.0
THZ				S	S	14 48 47.1	+2.7
MSWZ	Moikau Station	30.01	169	P	P	14 44 10.5	-2.6
TRWZ	Traveller	30.08	168	P	P	14 44 12.5	-1.2
PLWZ	Palliser	30.16	169	P	P	14 44 12.9	-1.6
PLWZ	Palliser	30.16	169	P	P	14 44 13.0	-1.4
KHZ	Kahutara	30.70	172	P	P	14 44 18.2	-0.9
KHZ				IAmb	IAmb	14 44 20.6	
	comp=Z,30nm,1.0s						
KHZ	Kahutara	30.70	172	P	P	14 44 17.9	-1.2
INZ	Inchbonnie	30.76	175	P	P	14 44 19.9	+0.2
INZ	Inchbonnie	30.76	175	P	P	14 44 20.1	+0.4
LTZ	Lake Taylor	30.90	174	P	P	14 44 20.3	-0.7
LTZ				IAmb	IAmb	14 44 22.8	
	comp=Z,45nm,0.8s						
LTZ	Lake Taylor	30.90	174	P	P	14 44 20.5	-0.4
WVZ	Waitaha Valley	31.05	176	P	P	14 44 22.8	+0.6
GVZ	Greta Valley S	31.18	173	P	P	14 44 22.0	-1.3
STKA	Stephens Creek	31.20	227	P	P	14 44 24.0	+0.3
STKA	Stephens Creek	31.20	227	P	P	14 44 23.4	-0.3
	comp=Z,26nm,0.6s,baz=59,slow=9.0,SNR=118						
STKA				ScP	ScP	14 50 18.9	+0.7
	comp=Z,2.3nm,0.8s,baz=6.4,slow=12,SNR=3.6						
	comp=Z,26nm,0.6s						
OXZ	Oxford	31.42	174	P	P	14 44 25.0	-0.3
OXZ				IAmb	IAmb	14 44 27.3	
	comp=Z,28nm,0.8s						
OXZ	Oxford	31.42	174	P	P	14 44 25.5	+0.1
FOZ	Fox Glacier	31.46	177	P	P	14 44 26.9	+1.2
RPZ	Rata Peaks	31.71	176	P	P	14 44 27.1	-0.8
RPZ				IAmb	IAmb	14 44 29.7	
	comp=Z,71nm,1.3s						
MQZ	McQueen's Vall	31.86	173	P	P	14 44 27.9	-1.2
JCZ	Jackson Bay	31.96	179	P	P	14 44 30.8	+0.6
LBZ	Lake Benmore	32.33	177	P	P	14 44 32.4	-0.9
TOO	Toolangi	32.37	214	P	P	14 44 34.3	+0.6
TOO				IAmb	IAmb	14 44 35.1	
	comp=Z,20nm,0.7s						
TMZ	Timaru	32.38	176	P	P	14 44 32.6	-1.1
WKZ	Wanaka	32.72	178	P	P	14 44 36.4	-0.2
WKZ	Wanaka	32.72	178	P	P	14 44 36.3	-0.4
WR0	Warramunga Arr	32.91	252	P	P	14 44 37.6	-1.0
ODZ	Otahua Downs	33.01	176	P	P	14 44 39.0	-0.1
ODZ				IAmb	IAmb	14 45 50.4	
	comp=Z,32nm,1.3s						
ODZ	Otahua Downs	33.01	176	P	P	14 44 38.3	-0.8
WB0	Warramunga Arr	33.02	252	P	P	14 44 38.4	-1.1
WRAB	Tennant Creek	33.08	252	P	P	14 44 38.8	-1.3
WB2	Warramunga Arr	33.08	252	P	P	14 44 39.0	-1.1
WRA	Warramunga Arr	33.09	252	P	P	14 44 38.5	-1.7
WRA	Warramunga Arr	33.09	252	P	P	14 44 38.7	-1.5
	comp=Z,4.1nm,0.6s,baz=84,slow=8.8,SNR=44						
WRA				PP	PP	14 46 03.2	-0.6
	comp=Z,2.3nm,0.5s,baz=86,slow=10,SNR=4.9						
WRA				ScP	ScP	14 50 27.7	+2.9
	comp=Z,0.8nm,0.7s,baz=81,slow=3.6,SNR=2.0						
	comp=Z,4.1nm,0.6s						
EAZ	Earnscleugh	33.13	178	P	P	14 44 39.6	-0.5
MLZ	Mavora Lakes	33.24	180	P	P	14 44 40.5	-0.7
WHZ	Wether Hill Ro	33.77	180	P	P	14 44 49.9	-0.7
TUZ	Tuapeka	33.87	178	P	P	14 44 46.5	+0.2

comp=Z,17nm,0.9s
TTSI Tana Toraja 48.35 277 P P 14 46 44.5 +0.9
PCI Palu 48.85 279 P P 14 46 48.2 +0.8
comp=Z,61nm,0.9s
PLAI Plampang 49.27 269 P P 14 46 49.8 -0.8
comp=Z,35nm,0.4s
JAGI Jajag, Banyuwa 52.87 268 P P 14 47 15.1 -2.0
KKM Kota Kinabalu 54.36 286 P P 14 47 27.5 -0.4
JOW Kunigami 54.46 316 P P 14 47 28.8 +0.5
JOW IAmb IAmb 14 47 30.1
comp=Z,24nm,0.7s
JOW Kunigami 54.46 316 P P 14 47 28.4 +0.2
comp=Z,23nm,0.6s,baz=140,slow=10,SNR=7.8
comp=Z,23nm,0.6s
JGF Kuroka 55.43 330 P P 14 47 35.1 +0.1
JMM Marumori 55.71 334 P P 14 47 37.0 +0.2
MJAR Matsushiro Arr 55.77 331 P P 14 47 36.8 -0.6
comp=Z,9.9nm,0.8s,baz=163,slow=8.1,SNR=21
comp=Z,9.9nm,0.8s
MAJO Matsushiro 55.77 331 P P 14 47 37.0 -0.4
MAJO IAmb IAmb 14 47 38.2
comp=Z,33nm,1.1s
MAJO Matsushiro 55.77 331 P P 14 47 36.8 -0.6
MJB9 Matsu-Tunnel 55.78 331 P P 14 47 38.4 +0.9
MJB9 IAmb IAmb 14 47 39.5
comp=Z,30nm,1.1s
JMN Monobe 55.79 326 P P 14 47 38.7 +1.1
JMN IAmb IAmb 14 47 39.5
comp=Z,26nm,0.8s
UGM Wanagama 56.50 268 P P 14 47 43.3 +0.3
UGM IAmb IAmb 14 47 46.9
comp=Z,101nm,1.5s
JNU Nakatsue 57.06 323 P P 14 47 46.7 +0.2
JNU Nakatsue 57.06 323 P P 14 47 46.2 -0.2
comp=Z,10nm,0.7s,baz=133,slow=3.7,SNR=14
comp=Z,10nm,0.7s
DRV Dumont d'Urvil 57.70 193 P P 14 47 50.5 +0.2
TPUB Ta-pu 58.00 307 P P 14 47 52.4 -0.7
TPUB IAmb IAmb 14 49 51.9
comp=Z,84nm,1.5s
SSLB Suanglung 58.01 308 P P 14 47 52.4 -0.8
SSLB IAmb IAmb 14 48 09.4
comp=Z,111nm,2.0s
YHNB Yeheng 58.16 309 P P 14 47 54.6 +0.3
YHNB IAmb IAmb 14 47 55.2
comp=Z,34nm,1.0s
ASAJ Asahikawa 60.39 339 P P 14 48 09.7 +0.8
comp=Z,9.1nm,0.8s,baz=170,slow=4.5,SNR=9.9
comp=Z,9.1nm,0.8s
KSRS Korea Array 61.83 325 P P 14 48 19.4 +0.8
comp=Z,5.8nm,0.8s,baz=136,slow=6.9,SNR=36
comp=Z,5.8nm,0.8s
KSAR Wonju Array Be 61.84 325 P P 14 48 18.9 +0.2
KS19 Wonju Array Si 61.89 325 P P 14 48 19.5 +0.4
KS19 IAmb IAmb 14 48 31.8
comp=Z,52nm,2.0s
YSS Yuzhno-Sakhali 62.84 341 P P 14 48 26.4 +1.3
YSS Yuzhno-Sakhali 62.84 341 P P 14 48 26.1 +1.0
NJ2 Nanjing 64.14 315 *e*P **P 14 48 35.4 +1.6**
NJ2 pmax pmax
comp=Z,12nm,1.1s
USA0B Ussuriysk Arra 64.73 332 P P 14 48 38.8 +1.5
USRK Ussuriysk Ar. 64.73 332 P P 14 48 38.1 +0.8
USRK Ussuriysk Ar. 64.73 332 P P 14 48 38.8 +1.4
comp=Z,5.5nm,0.5s,baz=149,slow=5.8,SNR=30
comp=Z,5.5nm,0.5s
PET Petropavlovsk 65.25 354 P P 14 48 40.9 +0.4
PEA0B Petropavlovsk- 65.43 353 P P 14 48 42.1 +0.4
PETK Petropavlovsk- 65.43 353 P P 14 48 42.0 +0.4
PETK Petropavlovsk- 65.43 353 P P 14 48 41.8 +0.1
comp=Z,6.4nm,0.6s,baz=140,slow=5.2,SNR=46
comp=Z,6.4nm,0.6s
VNDA Vanda 65.58 181 P P 14 48 43.2 +1.0
comp=Z,4.0nm,0.7s,baz=353,slow=6.4,SNR=6.2
comp=Z,4.0nm,0.7s
VNDA Vanda 65.58 181 P P 14 48 43.1 +0.8
MDJ Mudanjiang 66.16 331 P P 14 48 47.4 +0.9
MDJ IAmb IAmb 14 48 48.7
comp=Z,23nm,1.0s
MDJ Mudanjiang 66.16 331 P P 14 48 47.3 +0.9
MDJ PcP **PcP 14 49 12.0 -1.7**
MDJ S **S 14 57 13.3 +6.9**
MDJ pmax pmax
comp=Z,27nm,1.2s
MDJ Mudanjiang 66.16 331 P P 14 48 47.6 +1.2
DL2 Dalian 66.48 322 P P 14 48 49.1 +0.6
WHN Wuhan 66.55 311 P P 14 48 50.0 +0.8
WHN pmax pmax
comp=Z,36nm,0.7s
CN2 Changchun 67.62 328 *e*P **P 14 48 56.1 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CCD Concordia, Ant 67.66 191 P P 14 48 55.9 0.0
TIA Tai'an 67.69 317 P P 14 48 56.5 +0.3
TIA pmax pmax
comp=Z,9.0nm,0.8s
BNX BinXian 68.03 331 ⇓P **P 14 48 58.8 +0.7**
BNX pmax pmax
comp=Z,19nm,1.5s
KLR Kul'dur 68.76 336 P P 14 49 03.4 +0.9
comp=Z,5.3nm,0.8s,baz=134,slow=3.3,SNR=20
comp=Z,5.3nm,0.8s
UNV Unalaska Valle 69.14 16 P P 14 49 04.6 0.0
baz=207
HNS HongShan 69.96 317 ⇓P **P 14 49 11.4 +1.4**
HNS pmax pmax
comp=Z,16nm,1.2s
LYN LuoYang 69.98 314 P P 14 49 10.8 +0.6
LYN pmax pmax
comp=Z,36nm,0.9s
RPSI Rantau Prapat 69.99 277 P P 14 49 10.5 -0.2
ENH Enshi 70.08 308 P P 14 49 11.2 +0.2
ENH IAmb IAmb 14 49 12.1
comp=Z,14nm,0.7s
ENH Enshi 70.08 308 P P 14 49 11.2 +0.2
BJT Baijiatuau 70.50 320 P P 14 49 14.0 +0.7
BJI Beijing 70.51 320 P P 14 49 14.1 +0.8
BJI pmax pmax
comp=Z,4.0nm,0.9s
FALS False Pass 70.90 17 P P 14 49 16.2 +0.9
baz=210
P08K Saint George I 70.90 13 P P 14 49 16.3 +1.1
baz=203
SPIA Saint Paul Isl 71.28 12 P P 14 49 17.6 +0.1
baz=203
HEH HeiHe 71.35 334 *e*P **P 14 49 17.9 -0.2**
HEH pmax pmax
comp=Z,11nm,1.0s
S12K Black Hills 72.02 17 P P 14 49 22.1 +0.2
baz=211
CHNA Chernabura Isl 72.04 19 P P 14 49 22.0 0.0
baz=214
SDPT Sand Point 72.20 18 P P 14 49 23.6 +0.7
baz=213
MA2 Magadan 72.66 351 P P 14 49 24.6 -0.9
MA2 IAmb IAmb 14 49 26.4
comp=Z,23nm,1.5s
XLT XiLinHaoTe 72.84 324 ⇑*i*P **P 14 49 27.7 +0.6**
XLT PcP **PcP 14 49 43.0 +0.9**
XLT pP pwP 14 50 47.6 -0.7
XLT sP sP 14 51 23.6 +1.8
XLT PP **PP 14 52 17.6 +2.7**
XLT S **S 14 58 26.0 +2.0**
XLT SKS **SKSac 14 58 53.2 -5.1**
XLT pmax pmax
comp=Z,26nm,0.7s
XLT pmax pmax
comp=Z,140nm,5.4s
CHGN Chignik 73.64 19 P P 14 49 31.0 -0.3
baz=214
HHC Hu-ho-hao-te 73.88 319 *e*P **P 14 49 32.3 -0.9**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.6s
CHIR Chirikof Islan 74.16 20 P P 14 49 34.3 0.0
baz=217
HIA Hailar 74.22 330 P P 14 49 34.0 -0.9
CMAR Chiang Mai Arr 74.36 293 P P 14 49 37.8 +1.5
comp=Z,5.8nm,0.8s,baz=112,slow=4.3,SNR=39
comp=Z,5.8nm,0.8s
CHTO Chiang Mai 74.47 294 P P 14 49 37.9 +1.0
PZH PanZhiHua 74.71 302 P P 14 49 38.9 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,6.5s
CD2 Chengdu 74.80 307 P P 14 49 38.7 +0.1
CD2 pmax pmax
comp=Z,10.0nm,1.1s
R16K Pilot Point 74.94 18 P P 14 49 39.0 +0.3
baz=215
M11K Mekoryuk 75.08 13 P P 14 49 39.4 0.0
baz=206
SII Sitkinak Islan 75.24 21 P P 14 49 41.0 +0.5
baz=218
O14K Tigyukauivet M 75.29 16 P P 14 49 40.0 -0.7
baz=211
O15K Ungalikthiuk R 75.62 17 P P 14 49 42.6 +0.1
baz=213
N14K Kuskokwak Cree 75.76 15 P P 14 49 43.4 +0.1
baz=211
M13K Dall Lake 75.77 14 P P 14 49 43.3 0.0
baz=209
R18K Karluk 75.94 20 P P 14 49 43.9 -0.4
baz=218
P16K Nushagak River 76.02 17 P P 14 49 45.0 +0.3
baz=214
OHAK Old Harbor 76.07 21 P P 14 49 45.1 0.0
OHAK IAmb IAmb 14 49 46.1
comp=Z,37nm,1.4s
OHAK Old Harbor 76.07 21 P P 14 49 44.7 -0.3
baz=219
Q16K King Salmon 76.13 18 P P 14 49 45.1 -0.3
baz=216
ACHA Angle Creek He 76.17 19 P P 14 49 45.6 -0.1
N15K Kwethluk River 76.38 16 P P 14 49 46.9 0.0
baz=212
M14K Bethel 76.40 15 P P 14 49 46.9 +0.1
M14K Bethel 76.40 15 P P 14 49 47.5 +0.7
baz=210
P17K Kvichak River 76.62 18 P P 14 49 48.3 +0.3
baz=216
M15K Kasigluk River 76.67 15 P P 14 49 48.8 +0.4
baz=212
L14K Kuka Creek 76.74 14 P P 14 49 49.4 +0.7
baz=210
KDAK Kodiak Island 76.74 21 P P 14 49 48.6 -0.2
KDAK IAmb IAmb 14 49 49.8
comp=Z,31nm,1.2s
KDAK Kodiak Island 76.74 21 P P 14 49 49.2 +0.4
baz=220
K13K Kusilvak Mount 76.81 13 P P 14 49 49.9 +0.8
baz=208
O17K Koliganek Bris 76.89 17 P P 14 49 49.6 0.0
baz=215
LZH Lanzhou 76.91 312 *e*P **P 14 49 52.2 +1.7**
LZH sP sP 14 51 49.5 +3.4
LZH pmax pmax
comp=Z,33nm,1.1s
P18K Big Mountain, 77.14 18 P P 14 49 50.1 -1.0
P18K Big Mountain, 77.14 18 P P 14 49 50.8 -0.3
baz=217
GAMB Gambell 77.17 9 P P 14 49 51.5 +0.4
baz=200
Q19K Cape Douglas, 77.28 19 P P 14 49 51.4 -0.4
Q19K Cape Douglas, 77.28 19 P P 14 49 52.0 +0.1
baz=219
L15K Ungalak Mounta 77.32 14 P P 14 49 51.9 0.0
baz=211
M16K Timber Creek 77.41 16 P P 14 49 52.7 +0.3
baz=213
Q20K Shuyak Island 77.44 20 P P 14 49 53.0 +0.3
baz=220
N17K Nushagak Hills 77.48 17 P P 14 49 53.2 +0.4
baz=215
O18K Koktuh Hills 77.52 18 P P 14 49 53.2 +0.1
baz=217
J14K Nanvaranak Lak 77.77 13 P P 14 49 54.8 +0.4
J14K Nanvaranak Lak 77.77 13 P P 14 49 54.9 +0.6
baz=209
K15K Wolf Creek Mou 77.84 14 P P 14 49 55.3 +0.5
K15K Wolf Creek Mou 77.84 14 P P 14 49 54.8 +0.1
baz=211
L16K Owhat River 77.85 15 P P 14 49 54.3 -0.5
baz=213
P19K Oil Pt 77.98 19 P P 14 49 55.7 0.0
baz=219
N18K Kilae Creek 77.98 17 P P 14 49 55.7 +0.1
baz=216
QSPA South Pole Qui 78.00 180 P P 14 49 56.0 +0.1
QSPA IAmb IAmb 14 49 57.1
comp=Z,23nm,1.1s
QSPA South Pole Qui 78.00 180 P P 14 49 55.7 -0.2
comp=Z,13nm,1.0s,baz=7.8,slow=1.5,SNR=20
comp=Z,13nm,1.0s
O19K Port Alsworth 78.06 18 P P 14 49 56.1 +0.1
baz=218
M17K Holitna River 78.13 16 P P 14 49 56.6 +0.2
baz=215
HOM Homer 78.50 20 P P 14 49 57.9 -0.5
baz=220
O20K Slope Mountain 78.50 19 P P 14 49 58.1 -0.5
baz=219
L17K Donlin 78.51 16 P P 14 49 59.0 +0.6
baz=214
M18K Stony River 78.66 17 P P 14 50 00.0 +0.8
baz=216
BRLK Bradley Lake 78.83 20 P P 14 49 59.5 -0.8
BRSE Bradley Lake S 78.86 20 P P 14 50 00.9 +0.5
baz=221
J16K Anvik River 78.91 14 P P 14 50 01.3 +0.7
baz=211
K17K Iditarod 79.00 15 P P 14 50 01.5 +0.5
baz=214
ANM Nome 79.01 11 P P 14 50 02.2 +1.1
baz=207
L18K Granite Mounta 79.01 16 P P 14 50 01.5 +0.4
L18K Granite Mounta 79.01 16 P P 14 50 02.3 +1.1
baz=215
J17K VABM Dome 79.37 14 P P 14 50 03.2 +0.1
baz=213
M19K Big River Lodg 79.40 17 P P 14 50 03.9 +0.6
baz=218
L19K White Mountain 79.49 17 P P 14 50 04.3 +0.6
baz=217
N20K Mount Spurr 79.50 18 P P 14 50 03.7 -0.2
baz=220
SPCR Spurr Chakacha 79.50 18 P P 14 50 03.5 -0.4
baz=220
CAPN Captain Cook N 79.50 19 P P 14 50 03.6 -0.1
baz=221
SEW Seward 79.56 20 P P 14 50 04.4 +0.3
baz=222
YAK Yakutsk 79.60 343 P P 14 50 04.5 +0.3
SLKM Skilak Lake 79.61 20 P P 14 50 04.0 -0.4
SLKM IAmb IAmb 14 50 05.3
comp=Z,16nm,0.9s
F14K Arctic Creek 79.65 11 P P 14 50 05.0 +0.5
baz=206
G15K Niukluk 79.65 12 P P 14 50 05.4 +0.9
baz=208
H16K Elim 79.71 13 P P 14 50 05.8 +1.0
baz=210
M20K Styx River 79.75 18 P P 14 50 05.1 -0.2
M20K IAmb IAmb 14 51 58.9
comp=Z,8.7nm,0.6s
M20K Styx River 79.75 18 P P 14 50 06.0 +0.7
baz=219
O22K Cooper Landing 79.75 20 P P 14 50 05.7 +0.6
baz=222
TTA Tatalina 79.77 16 P P 14 50 05.7 +0.4
baz=216
BILL Bilibino 79.84 359 P P 14 50 05.5 0.0
L20K Farewell, AK 80.00 17 P P 14 50 07.1 +0.6
baz=218
J18K Innoko River 80.02 15 P P 14 50 06.7 +0.2
baz=215
Q23K Middleton Isla 80.17 22 P P 14 50 07.3 0.0
baz=225
F15K North Star Dit 80.17 11 P P 14 50 07.5 +0.3
baz=207
RC01 Rabbit Creek A 80.20 19 P P 14 50 07.2 -0.3
RC01 Rabbit Creek A 80.20 19 P P 14 50 07.3 -0.2
baz=222,SNR=8.2
ULN Ulaanbaatar 80.28 323 P P 14 50 09.1 +0.7
ULN IAmb IAmb 14 50 10.2
comp=Z,15nm,0.8s
SKT Skwentna 80.31 18 P P 14 50 08.2 +0.1
baz=220
G16K Koyuk River 80.35 12 P P 14 50 08.2 +0.1
baz=210
H17K Granite Mounta 80.48 13 P P 14 50 08.6 -0.3
baz=212
PWL Port Wells 80.50 20 P P 14 50 09.1 0.0
PWL Port Wells 80.50 20 P P 14 50 08.7 -0.4
baz=223,SNR=8.9
M22K Willow 80.57 19 P P 14 50 08.9 -0.5
baz=222
K20K Telida 80.64 16 P P 14 50 09.6 -0.2
baz=218
SONM Songino Array 80.65 323 P P 14 50 10.5 +0.2
SONM IAmb IAmb 14 50 12.1
comp=Z,15nm,1.4s
SONM Songino Array 80.65 323 P P 14 50 10.7 +0.4
comp=Z,2.9nm,0.5s,baz=136,slow=5.4,SNR=19
comp=Z,2.9nm,0.5s
J19K Poorman 80.74 15 P P 14 50 09.9 -0.4
baz=216
PMR Palmer 80.77 19 P P 14 50 10.1 -0.4
PMR IAmb IAmb 14 51 59.7
comp=Z,11nm,0.5s
PMR Palmer 80.77 19 P P 14 50 10.1 -0.4
baz=222,SNR=6.3
PPLA Purkeypile 80.82 17 P P 14 50 10.4 -0.5
baz=220
KNK Knik Glacier 80.86 20 P P 14 50 09.9 -1.1
baz=223,SNR=9.5
GLI Glacier Island 80.93 21 P P 14 50 11.1 -0.3
baz=224
GHO Glory Hole Cre 80.97 19 P P 14 50 11.4 -0.3
CUT Chulitna 81.02 18 P P 14 50 11.6 -0.2
baz=221
H18K Honhosa River 81.02 14 P P 14 50 11.3 -0.5
baz=213
GCSA Galena City Sc 81.04 15 P P 14 50 11.6 -0.2
baz=215
EYAK Cordova Ski Ar 81.17 21 P P 14 50 12.7 +0.1
baz=226
SML Sawmill 81.19 19 P P 14 50 12.5 -0.3
SML Sawmill 81.19 19 P P 14 50 12.3 -0.4
baz=223,SNR=7.1
GTA Gaotai 81.19 313 *e*P **P 14 50 14.7 +1.3**
GTA pmax pmax
comp=Z,11nm,0.9s
KAIM Kayak Island 81.22 22 P P 14 50 12.6 -0.3
baz=227
CAST Castle Rocks 81.25 17 IAmb IAmb 14 50 13.8
comp=Z,12nm,0.6s
CAST Castle Rocks 81.25 17 P P 14 50 11.9 -1.2
baz=220,SNR=19
J20K Nowinta River 81.28 16 IAmb IAmb 14 50 16.3
comp=Z,8.0nm,0.7s
J20K Nowinta River 81.28 16 P P 14 50 12.6 -0.5
baz=218
M23K Glacier View 81.38 20 P P 14 50 13.5 -0.2
baz=224,SNR=5.3
F17K Baldwin Pennin 81.49 12 P P 14 50 14.6 +0.5
F17K Baldwin Pennin 81.49 12 P P 14 50 13.9 -0.2
baz=210
SCM Sheep Creek Mo 81.54 20 P P 14 50 14.6 0.0
SCM Sheep Creek Mo 81.54 20 P P 14 50 14.2 -0.4
baz=224,SNR=8.6
CHUM Lake Minchumin 81.55 17 P P 14 50 13.8 -0.6
baz=219
DIV Divide 81.57 21 P P 14 50 14.6 -0.2
G18K Tagagawik 81.58 13 P P 14 50 15.0 +0.4
baz=213
I20K Naaghedeneel 81.68 15 P P 14 50 15.7 +0.5
baz=217
KTH Kantishna Hill 81.69 17 P P 14 50 14.6 -0.8
KTH IAmb IAmb 14 52 39.8
comp=Z,10nm,0.8s
KLU Klutina 81.77 20 IAmb IAmb 14 50 17.0
comp=Z,29nm,1.5s
KLU Klutina 81.77 20 P P 14 50 15.0 -0.9
baz=226,SNR=5.4
H19K Roundabout Mou 81.78 14 IAmb IAmb 14 50 16.5
comp=Z,22nm,1.5s
H19K Roundabout Mou 81.78 14 P P 14 50 15.2 -0.5
baz=215
TRF Thorofare Moun 81.80 18 P P 14 50 15.0 -1.0
TRF IAmb IAmb 14 50 17.2
comp=Z,9.9nm,0.6s
TRF Thorofare Moun 81.80 18 P P 14 50 15.3 -0.7
baz=221,SNR=8.2
BMRM Bremner River 81.86 21 P P 14 50 15.9 -0.4
baz=227
E17K Hotham Inlet 81.93 12 P P 14 50 16.8 +0.5
baz=210
F18K Selawik 81.95 13 P P 14 50 16.4 -0.1
baz=212
BPAW Bear Paw Mtn. 82.09 17 P P 14 50 17.1 -0.3
baz=221
M24K Tolsona, Glenn 82.11 20 P P 14 50 17.4 -0.1
baz=225,SNR=5.8
H20K Anotleneega Mo 82.14 15 P P 14 50 17.0 -0.6
baz=217
G19K Purcell Mounta 82.14 14 P P 14 50 17.2 -0.3
baz=215
D17K Noatak River 82.23 11 P P 14 50 17.9 0.0
baz=209
N25K Chitina, Valde 82.31 21 IAmb IAmb 14 50 19.8
comp=Z,12nm,0.8s
N25K Chitina, Valde 82.31 21 P P 14 50 17.9 -0.7
baz=227,SNR=9.1
MESA MESA 82.31 23 P P 14 50 18.1 -0.7
baz=229
MCK McKinley 82.42 18 IAmb IAmb 14 50 18.9
comp=Z,30nm,1.4s
MCK McKinley 82.42 18 P P 14 50 18.3 -0.7
baz=222,SNR=7.6
VRDI Verde Repeater 82.45 22 IAmb IAmb 14 50 20.3
comp=Z,33nm,1.6s
E18K Tukpahlearik C 82.46 12 IAmb IAmb 14 50 21.2
comp=Z,11nm,0.6s
E18K Tukpahlearik C 82.46 12 P P 14 50 19.0 -0.1
baz=211
GLB Gilahina Butte 82.47 21 P P 14 50 19.1 -0.3
GLB IAmb IAmb 14 50 20.3
comp=Z,12nm,1.0s
F19K Shaleruckik Mo 82.56 13 IAmb IAmb 14 50 21.7
comp=Z,12nm,1.1s
F19K Shaleruckik Mo 82.56 13 P P 14 50 19.6 0.0
baz=214
RDOG Red Dog Mine 82.57 11 P P 14 50 19.5 -0.3
baz=209
I21K Tanana 82.64 16 IAmb IAmb 14 50 21.7
comp=Z,11nm,0.7s
I21K Tanana 82.64 16 P P 14 50 19.3 -0.8
baz=220,SNR=9.5
HARP HAARP 82.66 20 P P 14 50 19.9 -0.5
baz=226
H21K Melozitna Rive 82.80 15 P P 14 50 20.3 -0.6
baz=219
C17K DeLong Mountai 82.90 10 P P 14 50 21.2 -0.2
baz=208
PAX Paxson 82.95 20 IAmb IAmb 14 50 23.6
comp=Z,27nm,1.9s
PAX Paxson 82.95 20 P P 14 50 21.5 -0.4
baz=226
NEA2 Nenana 83.01 17 P P 14 50 21.4 -0.6
baz=222
SIT Sitka 83.16 27 P P 14 50 22.3 -0.6
baz=236
E19K Redstone River 83.19 13 IAmb IAmb 14 50 25.7
comp=Z,14nm,0.8s
E19K Redstone River 83.19 13 P P 14 50 22.8 -0.1
baz=214
F20K Avaraart Lake 83.20 14 P P 14 50 23.3 +0.4
baz=216
S31K Pelican 83.27 26 P P 14 50 23.1 -0.3
baz=235
G21K Allakaket 83.30 15 P P 14 50 23.4 0.0
baz=218
CRAG Craig 83.31 29 P P 14 50 23.1 -0.5
baz=238
I23K Minto, Yukon-K 83.34 17 IAmb IAmb 14 50 25.3
comp=Z,37nm,1.6s
I23K Minto, Yukon-K 83.34 17 P P 14 50 23.0 -0.7
baz=222,SNR=5.2
H22K Ishtalitna Cre 83.36 16 P P 14 50 24.1 +0.3
baz=220
O28M Mount Upton 83.36 23 P P 14 50 23.0 -1.2
baz=231
M26K Nabesna, AK 83.40 21 P P 14 50 24.3 +0.1
baz=228
C18K Utukok River 83.41 11 P P 14 50 24.1 +0.1
C18K IAmb IAmb 14 50 25.4
comp=Z,9.3nm,0.7s
C18K Utukok River 83.41 11 P P 14 50 24.3 +0.3

baz=210
K24K **Donnelly Dome** 83.44 19 P P 14 50 24.2 0.0
baz=226,SNR=9.3
HDA **Harding Lake** 83.51 18 P P 14 50 24.2 -0.3
baz=224,SNR=22
MENT **Mentasta** 83.52 20 IAmb IAmb 14 50 26.0
comp=Z,18nm,1.4s
COLA **College** 83.58 17 P P 14 50 24.4 -0.4
baz=223
U33K **Whale Pass** 83.65 29 P P 14 50 25.1 -0.3
baz=238
RIDG **Independent Ri** 83.69 19 IAmb IAmb 14 50 26.6
comp=Z,33nm,1.3s
RIDG **Independent Ri** 83.69 19 P P 14 50 25.7 +0.2
baz=226,SNR=8.6
O29M **Mount Kennedy** 83.69 24 P P 14 50 25.7 0.0
baz=232
L26K **Log Cabin Wild** 83.70 20 P P 14 50 25.8 +0.3
baz=228,SNR=7.9
S32K **Killisnoo** 83.72 27 P P 14 50 25.4 -0.3
baz=236
M27K **Edge Creek, AK** 83.76 21 P P 14 50 25.8 -0.2
baz=229
IL31 83.79 18 P P 14 50 25.0 -0.9
ILAR **Eielson Array** 83.79 18 P P 14 50 25.2 -0.7
ILAR **Eielson Array** 83.79 18 P P 14 50 24.9 -1.0
comp=Z,11nm,0.7s,baz=245,slow=5.3,SNR=167
comp=Z,11nm,0.7s
YUK8 **Steele Glacier** 83.85 23 P P 14 50 26.2 -0.4
baz=231
F21K **Alatna River** 83.86 14 P P 14 50 26.1 -0.2
F21K IAmb IAmb 14 50 27.8
comp=Z,22nm,1.5s
F21K **Alatna River** 83.86 14 P P 14 50 26.5 +0.2
baz=218
D19K **Kuna River** 83.87 12 P P 14 50 26.9 +0.5
baz=213,SNR=7.2
POKR **Poker Plat Res** 83.88 17 P P 14 50 25.9 -0.5
POKR IAmb IAmb 14 50 26.6
comp=Z,34nm,1.3s
POKR **Poker Plat Res** 83.88 17 P P 14 50 25.6 -0.8
baz=224,SNR=7.0
DOT **Dot Lake** 83.89 20 IAmb IAmb 14 50 27.6
comp=Z,31nm,1.4s
B18K **Kokolik River** 83.92 10 P P 14 50 26.8 +0.3
baz=210
V35K **Ketchikan** 83.96 30 P P 14 50 27.2 +0.2
baz=239
E20K **Nigu River** 84.08 13 P P 14 50 27.1 -0.3
baz=215
PLBC **Pleasant Camp** 84.08 25 P P 14 50 27.5 0.0
baz=234
SCRK **Sand Creek** 84.14 19 IAmb IAmb 14 50 29.1
comp=Z,28nm,1.4s
SCRK **Sand Creek** 84.14 19 P P 14 50 28.0 +0.2
baz=227,SNR=16
J25K **Salcha River,** 84.14 18 P P 14 50 27.7 -0.1
baz=226
YUK6 **Outpost Mounta** 84.17 23 P P 14 50 28.2 -0.1
baz=232
WRAK **Wrangell Islan** 84.18 29 P P 14 50 27.9 -0.2
baz=238
R32K **Eaglecrest** 84.20 27 P P 14 50 28.5 +0.4
baz=236
P30M **Million Dollar** 84.23 24 P P 14 50 28.2 -0.1
baz=234
L27K **Beaver Creek,** 84.24 21 P P 14 50 27.5 -0.8
baz=229
BCAR **Beaver Creek A** 84.26 21 P P 14 50 28.4 0.0
H24K **Noodor Dome** 84.27 17 P P 14 50 28.0 -0.4
baz=223
YUK4 **Talbot Arm** 84.31 23 P P 14 50 28.9 0.0
baz=232
G23K **Bananza Creek** 84.33 16 IAmb IAmb 14 50 30.4
comp=Z,32nm,1.4s
G23K **Bananza Creek** 84.33 16 P P 14 50 28.5 -0.2
baz=221,SNR=16
D20K **Etivluk River** 84.37 12 P P 14 50 28.4 -0.4
baz=215,SNR=18
F22K **John River** 84.40 14 P P 14 50 28.8 -0.2
baz=219
HYT **Haines Junctio** 84.43 24 P P 14 50 28.6 -0.8
baz=233
SKAG **Skagway** 84.52 25 P P 14 50 29.2 -0.4
baz=235
J26L **Joseph Creek** 84.63 19 P P 14 50 30.5 +0.2
baz=228
COLD **Coldfoot** 84.68 15 IAmb IAmb 14 50 32.4
comp=Z,14nm,1.0s
COLD **Coldfoot** 84.68 15 P P 14 50 30.4 +0.1
baz=221,SNR=20
E21K **Killik River** 84.72 13 P P 14 50 31.0 +0.5
baz=217
J05D **Fort Rock, OR** 84.72 44 P P 14 50 31.7 +0.4
J05D IAmb IAmb 14 50 33.1
comp=Z,12nm,0.6s
PRP **Porcupine Dome** 84.72 18 P P 14 50 30.6 -0.2
baz=226
PAHR **Pah Rah Range** 84.74 48 P P 14 50 31.4 -0.1
A19K **Wainwright** 84.78 10 P P 14 50 30.7 0.0
baz=210,SNR=6.6
O30N **Mendenhall** 84.96 24 P P 14 50 31.2 -0.8
baz=235
N30M **Aishikik Lake** 84.97 23 P P 14 50 31.2 -0.8
baz=234
E22K **Anaktuvuk Pass** 84.98 14 IAmb IAmb 14 50 33.8
comp=Z,40nm,1.5s
E22K **Anaktuvuk Pass** 84.98 14 P P 14 50 30.8 -1.0
baz=220,SNR=15
DSP **Deep Springs** 85.00 50 IAmb IAmb 14 50 34.4
comp=Z,18nm,1.3s
G24K **Hadweenzic Riv** 85.01 16 P P 14 50 31.8 -0.2
baz=224,SNR=11
M29M **Somme Creek** 85.05 22 P P 14 50 31.8 -0.6
baz=232
NVAR **Mina Array Bea** 85.10 49 P P 14 50 33.6 +0.3
comp=Z,2.3nm,0.6s,baz=235,slow=7.9,SNR=14
comp=Z,2.3nm,0.6s
C21K **Knifeblade Rid** 85.11 13 P P 14 50 33.3 +0.9
baz=217
P32M **Atlin** 85.28 26 P P 14 50 33.4 -0.1
baz=237
I26K **Coal Creek Min** 85.30 19 P P 14 50 33.8 +0.3
baz=228
B20K **Meade River** 85.33 11 P P 14 50 33.8 +0.4
baz=214
D22K **Ayikyak River** 85.36 13 P P 14 50 33.6 -0.1
baz=219
WHY **Whitehorse** 85.39 25 P P 14 50 33.5 -0.6
baz=236
G25K **Bearman Lake** 85.44 17 P P 14 50 33.9 -0.2
baz=225
E23K **Chandalar** 85.45 15 P P 14 50 34.1 -0.2
baz=222
F24K **Squaw Lake** 85.50 16 IAmb IAmb 14 50 37.6
comp=Z,8.5nm,0.7s
F24K **Squaw Lake** 85.50 16 P P 14 50 34.5 +0.1
baz=223,SNR=14
N31M **Braeburn, Yuko** 85.50 24 P P 14 50 34.8 +0.3
baz=235
B21K **Ikpikpuk River** 85.52 12 P P 14 50 35.0 +0.6
baz=217
S34M **Telegraph Cree** 85.53 28 P P 14 50 34.3 -0.3
baz=239
Q32M **Nakina River** 85.56 27 P P 14 50 34.3 -0.8
baz=238
L29M **L29M** 85.58 22 P P 14 50 34.4 -0.5
baz=233
DAWY **Dawson** 85.73 21 P P 14 50 35.7 +0.1
baz=231
E24K **Your Creek** 85.75 15 P P 14 50 35.9 +0.3
baz=223
M30M **Minto, Yukon** 85.75 22 P P 14 50 35.5 -0.3
baz=234
D23K **Nanushuk River** 85.88 14 P P 14 50 36.0 -0.2
baz=220
TOLK **Toolik Lake Re** 85.90 14 P P 14 50 36.5 +0.2
TOLK IAmb IAmb 14 50 38.2
comp=Z,11nm,0.6s
TOLK **Toolik Lake Re** 85.90 14 P P 14 50 36.1 -0.3
baz=222,SNR=14
I27K **Kandik River** 85.98 19 P P 14 50 36.6 -0.2
baz=229
P33M **Teslin, Yukon** 85.99 26 P P 14 50 36.4 -0.7
baz=238
F25K **Christian Rive** 86.15 16 P P 14 50 37.2 -0.4
baz=225
I07A **Izee** 86.18 44 IAmb IAmb 14 50 39.2
comp=Z,19nm,1.5s
WVOR **Wild Horse Val** 86.20 45 IAmb IAmb 14 50 39.5
comp=Z,21nm,1.6s
G26K **Porcupine Rive** 86.23 17 P P 14 50 37.7 -0.2
baz=227
K29M **Barlow Dome** 86.24 21 P P 14 50 37.1 -1.1
baz=233
DLBC **Dease Lake** 86.30 28 P P 14 50 37.9 -0.6
baz=240
BMAR **Burnt Mountain** 86.33 17 P P 14 50 38.7 +0.3
B22K **Teshekpuk Lake** 86.35 12 IAmb IAmb 14 50 40.3
comp=Z,25nm,1.1s
B22K **Teshekpuk Lake** 86.35 12 P P 14 50 38.2 -0.1
baz=218
R33M **Jennings River** 86.36 27 P P 14 50 38.3 -0.5
baz=239
J29N **Klondike Camp** 86.37 21 P P 14 50 38.3 -0.4
baz=232
N32M **Quiet Lake** 86.39 25 P P 14 50 38.2 -0.7
baz=237
I28M **Miner Creek** 86.42 19 P P 14 50 38.8 -0.2
baz=231
H27K **Steamboat Moun** 86.42 18 P P 14 50 38.7 -0.2
baz=229
D24K **Happy Valley** 86.47 14 P P 14 50 39.3 +0.3
baz=222,SNR=23
E25K **Arctic Village** 86.55 16 P P 14 50 39.4 -0.1
baz=225,SNR=6.8
C23K **Itkillik River** 86.56 13 P P 14 50 39.7 +0.3
baz=220
A22K **Sinclair Lake** 86.57 11 P P 14 50 39.5 +0.1
baz=216
J08A **Circle Bar Ran** 86.63 45 IAmb IAmb 14 50 42.1
comp=Z,13nm,1.3s
F26K **Sheenjek River** 86.64 17 P P 14 50 40.4 +0.5
F26K **Sheenjek River** 86.64 17 P P 14 50 40.4 +0.5
baz=227
G27K **Doyon Strip** 86.76 18 P P 14 50 40.3 -0.2
G27K **Doyon Strip** 86.76 18 P P 14 50 40.3 -0.2
baz=229
FARO **Faro, Yukon** 86.87 24 P P 14 50 40.8 -0.4
baz=237
C24K **Franklin Bluff** 86.92 14 P P 14 50 41.5 +0.4
baz=222
G08A **Pilot Rock** 86.96 43 IAmb IAmb 14 50 42.7
comp=Z,12nm,1.3s
J30M **Hart River** 87.10 21 P P 14 50 41.6 -0.7
baz=234
D25K **Kavik River** 87.19 15 P P 14 50 42.5 0.0
baz=225
H29M **Whitestone** 87.40 19 P P 14 50 43.0 -0.6
baz=232
I30M **Mount Dempster** 87.46 20 P P 14 50 43.8 -0.2
baz=234
WTLY **Watson Lake, Y** 87.67 27 P P 14 50 44.3 -0.7
baz=241
E27K **Coleen River** 87.68 17 P P 14 50 44.7 -0.1
baz=229
F28M **Old Crow** 87.81 18 P P 14 50 44.9 -0.6
baz=231
BMO **Blue Mountains** 87.92 43 IAmb IAmb 14 50 47.1
comp=Z,13nm,1.4s
G29M **Pine Creek** 87.94 19 P P 14 50 46.6 +0.5
baz=232
C26K **Camden Bay** 87.97 15 P P 14 50 47.2 +1.1
baz=226
C27K **Jago River** 88.08 15 P P 14 50 46.9 +0.3
C27K IAmb IAmb 14 50 49.0
comp=Z,4.6nm,0.6s
C27K **Jago River** 88.08 15 P P 14 50 47.6 +1.0
baz=227
SPR3 **Spring Creek 3** 88.23 50 IAmb IAmb 14 50 49.9
comp=Z,28nm,1.7s
H31M **Peel River** 88.49 20 P P 14 50 49.3 +0.6
baz=236
E28M **Babbage River** 88.54 17 P P 14 50 49.3 +0.5
baz=231
D27M **Malcolm River** 88.55 16 P P 14 50 48.8 -0.2
baz=230
G30M **tAoh Zraii Nji** 88.55 19 P P 14 50 48.9 -0.1
baz=234
TOAD **Toad River Com** 88.71 29 P P 14 50 49.2 -0.6
baz=244
PLID **Pearl Lake** 88.87 43 P P 14 50 50.3 -0.9
E29M **Blow River** 88.88 18 P P 14 50 50.4 0.0
baz=233
F30M **Barrier River** 89.05 19 P P 14 50 51.7 +0.4
baz=235
U15A **North Rim** 89.06 53 IAmb IAmb 14 50 54.5
comp=Z,15nm,1.4s
G31M **Satah River** 89.14 20 P P 14 50 51.3 -0.3
baz=236
X16A **Lo Mia Camp, P** 89.20 55 P P 14 50 53.3 +0.3
D28M **Stokes Point** 89.22 17 P P 14 50 51.7 -0.2
baz=232
WUAZ **Wupatki** 89.54 54 IAmb IAmb 14 50 55.8
comp=Z,14nm,1.6s
MTPU **Mount Pierson** 89.58 51 IAmb IAmb 14 50 56.7
comp=Z,12nm,1.4s
F31M **Tsiigehtchic** 89.61 19 P P 14 50 53.3 -0.5
baz=236
KOTAN **Kotaneelee Air** 89.80 28 P P 14 50 53.6 -1.3
baz=245
319A **Douglas** 90.21 58 IAmb IAmb 14 50 59.7
comp=Z,15nm,1.1s
X18A **Snowflake** 90.42 55 P P 14 50 58.1 -0.5
X18A IAmb IAmb 14 52 37.8
comp=Z,4.1nm,0.5s
WMQ **Urumqi** 91.22 314 *e*P P 14 51 03.6 +1.7
WMQ pmax pmax
comp=Z,21nm,0.7s
SYO **Syowa Base** 91.45 196 *e*pP pP 14 52 17.6 -6.0
121A **Cooks Peak, D** 91.71 57 P P 14 51 03.3 -1.3
baz=257
PV23 **Carpenter Ridg** 92.10 51 IAmb IAmb 14 51 08.4
comp=Z,5.7nm,0.6s
PDAR **Pinedale Array** 92.71 47 P P 14 51 08.1 -1.0
comp=Z,0.2nm,0.4s,baz=184,slow=2.4,SNR=6.6
comp=Z,0.2nm,0.4s
RLMT **Red Lodge** 93.47 45 IAmb IAmb 14 51 18.7
comp=Z,11nm,0.8s
C36M **Paulatuk** 93.66 19 P P 14 51 11.7 -0.7
baz=245
A36M **Sachs Harbour** 94.43 17 IAmb IAmb 14 51 16.6
comp=Z,4.8nm,0.8s
A36M **Sachs Harbour** 94.43 17 P P 14 51 15.2 -0.7
baz=244
TXAR **Lajitas Array** 94.51 61 P P 14 51 17.1 -0.4
comp=Z,0.7nm,0.6s,baz=231,slow=4.8,SNR=9.2
comp=Z,0.7nm,0.6s
YKA **Yellowknife Ar** 94.89 27 P P 14 51 16.8 -1.5
comp=Z,1.1nm,0.5s,baz=259,slow=5.1,SNR=26
comp=Z,1.1nm,0.5s
ZALV **Zalesovo Beam** 95.53 324 P P 14 51 20.2 -1.1
comp=Z,0.4nm,0.4s,baz=102,slow=5.3,SNR=3.6
comp=Z,0.4nm,0.4s
MK31 **Makanchi Array** 95.61 317 P P 14 51 21.8 -0.2
MK31 IAmb IAmb 14 51 23.1
comp=Z,6.5nm,0.8s
MKAR **Makanchi Array** 95.61 317 P P 14 51 21.9 -0.1
comp=Z,6.4nm,0.6s,baz=84,slow=6.3,SNR=83
comp=Z,6.4nm,0.6s
MAKZ **Makanchi** 95.83 316 P P 14 51 22.4 -0.5
MAKZ IAmb IAmb 14 51 24.0
comp=Z,8.9nm,1.1s
NRIK **Noril'sk** 97.73 339 P P 14 51 29.6 -1.4
comp=Z,2.2nm,0.6s,baz=74,slow=6.8,SNR=5.0
comp=Z,2.2nm,0.6s
KURBB **Kurchatov Arra** 98.72 320 P Pdif 14 51 34.7 -1.0
comp=Z,0.1nm,0.2s,baz=96,slow=4.7,SNR=4.4
comp=Z,0.1nm,0.2s
ARCES **ARCESS Array B** 117.76 346 PKP **PKPdf** 14 56 39.4 -0.7
comp=Z,2.5nm,0.5s,baz=71,slow=1.6,SNR=30
SDV **Santo Domingo** 122.52 87 PKPdf **PKPdf** 14 56 50.0 -1.1
BATG **Bathurst New B** 122.96 41 PKPdf **PKPdf** 14 56 49.8 -0.9
FIA1 **FINESS Array S** 123.40 339 PKPdf **PKiKP** 14 56 51.4 0.0
FINES **FINESS Array B** 123.40 339 PKP **PKPdf** 14 56 50.4 -0.7
comp=Z,1.5nm,0.5s,baz=48,slow=3.0,SNR=16
BAUV **El Baul** 125.06 87 PKPdf **PKPdf** 14 56 54.6 -1.1
NC303 **NORSAR Array S** 127.94 346 PKPdf **PKPdf** 14 56 59.2 -0.7
NB2 **NORSAR Subarra** 128.14 346 PKPdf **PKPdf** 14 56 59.4 -0.9
comp=Z,2.3nm,0.8s,baz=29,slow=1.8
NOA **NORSAR Array B** 128.14 346 PKP **PKPdf** 14 57 00.3 0.0
comp=Z,0.4nm,0.5s,baz=31,slow=2.7,SNR=5.4
HFS **Hagfors** 128.28 344 PKP **PKPdf** 14 57 00.2 -0.3
comp=Z,0.7nm,0.6s,baz=131,slow=4.0,SNR=5.6
NC602 **NORSAR Array S** 128.33 345 PKPdf **PKPdf** 14 57 00.5 -0.1
AKASG **Malin Array Be** 128.77 327 PKP **PKPdf** 14 57 01.5 -0.2
comp=Z,0.7nm,0.5s,baz=49,slow=3.3,SNR=5.4
BRTR **Keskin Array B** 131.11 313 SKPbc **SKPab** 15 00 01.6 +2.9
comp=Z,1.4nm,0.7s,baz=90,slow=3.0,SNR=6.0
BURAR **Bucovina Array** 132.70 326 PKPdf **PKPdf** 14 57 10.0 +0.5
KOLS **Kolonicke sedl** 133.43 329 *e*PKP **PKiKP** 14 57 12.6 +0.7
EKA **Eskdalemuir Ar** 136.20 353 PKP **PKPdf** 14 57 15.9 +0.4
comp=Z,0.4nm,0.4s,baz=354,slow=1.7,SNR=4.1
RONA **Rosalia, Austr** 137.17 332 *i* PKiKP **PKiKP** 14 57 19.9 +0.3
comp=Z,3.6nm,0.8s
CONA **Conrad Observa** 137.20 332 *i* PKiKP **PKiKP** 14 57 20.1 +0.3
comp=Z,2.3nm,0.6s
GERES **GERESS Array B** 137.45 335 PKP **PKiKP** 14 57 19.6 -0.6
comp=Z,0.8nm,0.5s,baz=54,slow=6.8,SNR=4.1
GERES SKPbc **SKiKP** 15 00 21.1 -1.4
comp=Z,2.0nm,0.8s,baz=55,slow=5.1,SNR=6.0
MOA **Molln** 137.97 333 *i* PKiKP **PKiKP** 14 57 21.1 -0.1
comp=Z,1.6nm,0.5s
SOKA **Soboth** 138.51 332 *i* PKiKP **PKiKP** 14 57 22.4 -0.1
comp=Z,5.1nm,0.8s
LESA **Schwarzleotal** 138.99 334 *i* PKiKP **PKiKP** 14 57 23.1 -0.3
comp=Z,3.0nm,0.5s
WATA **Walderalm** 139.52 335 *i* PKiKP **PKiKP** 14 57 24.4 -0.2
comp=Z,3.5nm,0.5s
ABTA **Abfaltersbach** 139.59 334 *i* PKiKP **PKiKP** 14 57 24.0 -0.6
comp=Z,2.2nm,0.7s
MOTA **Moosalm** 139.71 335 *i* PKiKP **PKiKP** 14 57 24.7 -0.3
comp=Z,1.5nm,0.5s
RAFF **Raffo Rosso** 145.41 321 PKPbc **PKPdf** 14 57 32.6 -0.1
VSL **Villasalto** 146.62 329 PKPbc **PKPbc** 14 57 36.8 -0.1
CEST **Esterri de Car** 147.36 341 PKPbc **PKPbc** 14 57 39.1 +0.2
KEST **Kesra** 149.40 324 PKPbc **PKPbc** 14 57 44.1 -0.1
comp=Z,5.5nm,0.6s,baz=66,slow=2.6,SNR=6.6
POLO **Lamas de Olo** 150.50 353 *e*PKPbc **PKPbc** 14 57 46.6 -0.1
PVRL **Vila Real** 150.58 353 *e*PKPbc **PKPbc** 14 57 44.5 -2.3
MVO **Moncorvo** 150.61 352 *e*PKPbc **PKPbc** 14 57 47.0 +0.1
PTO **Porto** 150.81 354 *e*PKPbc **PKPbc** 14 57 46.9 -0.3
PVIS **Viseu** 151.16 353 *e*PKPbc **PKPbc** 14 57 48.0 -0.1
MTE **Manteigas** 151.43 353 PKPbc **PKPbc** 14 57 48.5 -0.3
MTE **Manteigas** 151.43 353 *e*PKPbc **PKPbc** 14 57 48.8 -0.1
ESDC **Sonseca Array** 151.50 347 PKPbc **PKPbc** 14 57 49.1 +0.1
ESDC **Sonseca Array** 151.50 347 PKPbc **PKPbc** 14 57 48.3 -0.7
comp=Z,2.0nm,0.7s,baz=16,slow=2.3,SNR=15
PAB **San Pablo** 151.71 347 PKPbc **PKiKP** 14 57 49.9 +0.1
PCAS **Casmilo, Conde** 151.88 354 *e*PKPbc **PKPbc** 14 57 49.1 -0.7
PCBR **Castelo Branco** 151.97 352 *e*PKPbc **PKPbc** 14 57 49.8 -0.2
PMRV **Marv??o** 152.36 352 *e*PKPbc **PKPbc** 14 57 50.5 -0.4
PMTG **Montargil** 152.82 353 *e*PKPbc **PKPbc** 14 57 51.3 -0.6
PBAR **Barrancos** 153.54 351 *e*PKPab **PKPab** 14 58 08.7 +1.3
PBEJ **Beja** 153.81 352 *e*PKPab **PKPab** 14 58 09.7 +1.3
TORD **Torodi Ar. Bea** 166.41 276 PKP **PKPdf** 14 57 59.6 -0.7
comp=Z,36nm,0.3s,baz=83,slow=1.4,SNR=1.3

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*IDC **01** 15:13:19.1±3.7,5°.22S×151°.38E,h164km±31km,mb3.3/8, mbtmp3.8/9,Error ellipse: s-maj=49.7km s-min=18.5km az=112.0*

ISC 01 15:13:17.3±1.2,5°.2S±0°.2×151°.5E±0°.3,h150km,n10, σ1°13/11,mb3.6/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	6.00	226	P	**Pn**	15 14 45.6	+1.6
33nm,0.4s,baz=50,slow=6.9,SNR=25							
PMG				S	**Sn**	15 15 51.7	-0.1
35nm,0.6s,baz=235,slow=23,SNR=8.3							
WRA	**Warramunga Arr**	22.21	227	P	**P**	15 18 01.1	-0.8
0.5nm,0.2s,baz=49,slow=10.0,SNR=24							
0.5nm,0.2s							
ASAR	**Alice Springs**	24.99	221	P	**P**	15 18 27.6	+0.3
1.0nm,0.3s,baz=53,slow=9.1,SNR=47							
1.0nm,0.3s							
STKA	**Stephens Creek**	28.11	198	P	**P**	15 18 55.5	+0.3
1.0nm,0.5s,baz=29,slow=13,SNR=3.8							
1.0nm,0.5s							
FITZ	**Fitzroy Crossi**	28.33	241	P	**P**	15 18 55.5	-1.8
1.9nm,0.8s,baz=68,slow=11,SNR=2.0							
1.9nm,0.8s							
PETK	**Petropavlovsk-**	58.33	4	P	**P**	15 22 56.6	+0.1
1.2nm,0.8s,baz=151,slow=6.1,SNR=12							
1.2nm,0.8s							
SONM	**Songino Array**	65.99	328	P	**P**	15 23 48.8	+1.1
0.5nm,0.9s,baz=142,slow=7.3,SNR=2.6							
0.5nm,0.9s							
MKAR	**Makanchi Array**	79.78	319	P	**P**	15 25 09.0	+0.1
0.2nm,0.7s,baz=92,slow=7.2,SNR=1.8							
0.2nm,0.7s							
ILAR	**Eielson Array**	83.02	22	P	**P**	15 25 25.6	0.0
0.2nm,0.6s,baz=242,slow=4.8,SNR=4.9							
0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	149.20	287	PKPbc	**PKiKP**	15 32 48.8	-1.6
50nm,0.5s,baz=84,slow=3.3,SNR=1.5							

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*SJA **01** 15:20:17.8±1.1,35°.22S×69°.89W,h176km±6km,ML3.4, MW3.5*
*IDC **01** 15:20:19.9±2.7,35°.37S×69°.22W,h150km±30km,mb3.6/4, mbtmp4.0/6,MS3.7/1,Error ellipse: s-maj=59.9km s-min=17.9km az=94.0*

ISC 01 15:20:19.3±0.8,35°.23S±0°.05×69°.89W±0°.07,h164km±7km, n26,σ0°84/36,mb4.0/5,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFA	**San Rafael**	1.25	69	*e*P	**Pn**	15 20 47.7	+0.1
RFA				*e*S	**Sn**	15 21 09.4	0.0
RFA				IAML		15 21 10.2	
comp=Z,132nm,0.7s							
BO01	**Tunca**	1.29	310	*e*P	**Pn**	15 20 47.5	-0.5
BO01				*e*S	**Sn**	15 21 10.0	0.0
BO01				IAML		15 21 11.3	
comp=Z,106nm,0.2s							
ML02	**Panimavida**	1.36	247	*e*P	**Pn**	15 20 48.6	+0.2
ML02				*e*S	**Sn**	15 21 11.5	+0.5
ML02				IAML		15 21 13.4	
comp=Z,689nm,0.6s							
MT13	**San Alfonso**	1.52	347	*e*S	**Sn**	15 21 14.8	+0.7
MT13				IAML		15 21 17.5	
comp=Z,242nm,0.3s							
MT01	**Popeta**	1.77	320	*e*P	**Pn**	15 20 52.3	-0.4
MT01				*e*S	**Sn**	15 21 17.7	-0.9
MT01				IAML		15 21 19.3	
comp=Z,136nm,0.2s							
MT08	**Bocatoma Ro**	1.79	356	*e*P	**Pn**	15 20 53.5	+0.3
MT08				IAML		15 21 26.1	
comp=Z,49nm,0.4s							
MT03	**Universidad Ad**	1.81	343	*e*P	**Pn**	15 20 53.7	+0.4
MT03				*e*S	**Sn**	15 21 19.8	+0.3
MT03				IAML		15 21 22.5	
comp=Z,253nm,0.2s							
MT05	**Renca**	1.96	339	*e*P	**Pn**	15 20 54.9	-0.1
MT05				*e*S	**Sn**	15 21 22.4	-0.1
MT05				IAML		15 21 26.0	
comp=Z,288nm,0.3s							
MT02	**Curacav**	2.22	332	*e*P	**Pn**	15 20 57.6	-0.3
MT02				*e*S	**Sn**	15 21 26.2	-1.5
MT02				IAML		15 21 30.4	
comp=Z,237nm,0.4s							
VA03	**San Esteban**	2.52	347	*e*P	**Pn**	15 21 01.9	+0.4
VA03				*e*S	**Sn**	15 21 33.4	-0.8
VA03				IAML		15 21 38.8	
comp=Z,321nm,0.3s							
VA01	**Torpederas**	2.64	326	*e*P	**Pn**	15 21 02.4	-0.4
VA01				*e*S	**Sn**	15 21 35.2	-1.3
VA01				IAML		15 21 37.7	
comp=Z,134nm,0.5s							
ACCO	**Cerro Coronel**	4.68	9	*e*P	**Pn**	15 21 28.9	-0.2
ACHE	**Chepes**	4.88	35	*e*P	**Pn**	15 21 30.4	-1.1
AVFE	**Valle Fertil**	5.00	25	*e*P	**Pn**	15 21 31.6	-1.4
AVFE				IAML		15 22 48.5	
comp=Z,37nm,0.2s							
AROD	**Rodeo**	5.06	4	*e*P	**Pn**	15 21 34.2	+0.1
ACDV	**Cuesta del Vie**	5.09	8	*e*P	**Pn**	15 21 34.1	-0.2
PLCA	**Paso Flores**	5.52	185	P	**Pn**	15 21 39.1	-0.6
comp=Z,4.9nm,0.4s,baz=354,slow=12,SNR=27							
PLCA				S	**Sn**	15 22 41.2	-1.6
comp=Z,1.3nm,0.7s,baz=322,slow=14,SNR=0.8							
LPAZ	**La Paz**	18.93	5	P	**Pn**	15 24 32.2	+1.4
comp=Z,3.0nm,0.7s,baz=183,slow=7.6,SNR=12							
SNAA	**Sanae**	49.77	158	P	**P**	15 28 55.0	+0.3
comp=Z,0.6nm,0.5s,baz=268,slow=2.0,SNR=6.6							
comp=Z,0.6nm,0.5s							
SJG	**San Juan**	53.17	4	LR	LR	15 52 45.3	
comp=Z,80nm,19.8s,baz=144,slow=36							
QSPA	**South Pole Qui**	55.01	180	P	**P**	15 29 34.7	+1.3
comp=Z,0.6nm,0.5s,baz=310,slow=1.9,SNR=6.7							

comp=Z,0.6nm,0.5s
DBIC Dimbokro 73.92 70 P **P 15 31 36.0 -0.6**
comp=Z,1.8nm,0.6s,baz=203,slow=12,SNR=1.6
comp=Z,1.8nm,0.6s
BOSA Boshof 77.93 116 P **P 15 31 59.0 -0.4**
comp=Z,2.7nm,0.7s,baz=221,slow=3.6,SNR=5.3
comp=Z,2.7nm,0.7s
TORD Torodi Ar. Bea 82.98 69 P **P 15 32 26.3 0.0**
comp=Z,51nm,0.4s,baz=224,slow=4.0,SNR=1.7
BVAR Borovoye Array 146.93 45 PKP **PKPdf 15 39 39.7 +0.1**
comp=Z,0.5nm,0.4s,baz=298,slow=3.1,SNR=3.4
BVAR PKPbc **PKPbc 15 39 43.0 +1.2**
comp=Z,0.5nm,0.4s,baz=290,slow=4.3,SNR=4.7
MKAR Makanchi Array 156.16 53 PKPab **PKPab 15 40 20.5 -1.9**
comp=Z,0.6nm,0.8s,baz=277,slow=4.2,SNR=5.6

*IDC **01** 15:20:46.4±1.8, 8°.52N×126°.46E, h84km±16km, mb3.7/18, mbtmp4.0/19, MS2.5/1, Error ellipse: s-maj=23.3km s-min=11.1km az=84.0*
ISC 01 15:20:43.2±0.6, 8°.59N±0°.08×126°.7E±0°.1, h53km, n28, σ1§35/26, mb4.0/18, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.86**	**216**	P	**Pn**	**15 21 14.7**	**+2.0**
	116nm,0.3s,baz=48,slow=1.9,SNR=1.2						
DAV				S	**Sn**	**15 21 35.3**	**+0.3**
	338nm,0.3s,baz=7.6,slow=14,SNR=5.9						
JOW	**Kunigami**	**18.21**	**5**	P	**Pn**	**15 24 54.0**	**+1.8**
	9.2nm,0.8s,baz=71,slow=17,SNR=1.8						
JNU	**Nakatsue**	**24.72**	**8**	LR	LR	15 37 48.1	
	comp=Z,9.7nm,18.4s,baz=144,slow=41						
FITZ	**Fitzroy Crossi**	**26.53**	**182**	P	**P**	**15 26 16.3**	**+0.2**
	0.8nm,0.3s,baz=2.8,slow=6.3,SNR=7.6						
	0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.66**	**293**	P	**P**	**15 26 35.2**	**0.0**
	1.2nm,1.0s,baz=111,slow=7.2,SNR=7.9						
	1.2nm,1.0s						
KSRS	**Korea Array**	**28.76**	**2**	P	**P**	**15 26 37.0**	**+1.2**
	1.2nm,0.7s,baz=182,slow=11,SNR=6.9						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**29.33**	**165**	P	**P**	**15 26 40.7**	**-0.5**
	0.6nm,0.8s,baz=346,slow=8.2,SNR=4.8						
WRA				PcP	**PcP**	**15 29 47.4**	**+0.7**
	0.3nm,0.5s,baz=340,slow=2.8,SNR=2.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**32.82**	**168**	P	**P**	**15 27 11.4**	**-0.4**
	0.3nm,0.4s,baz=342,slow=7.2,SNR=20						
ASAR				PcP	**PcP**	**15 29 56.4**	**+0.4**
	0.4nm,0.5s,baz=343,slow=2.7,SNR=8.0						
ASAR				ScP	**ScP**	**15 33 32.7**	**-3.1**
	0.3nm,0.9s,baz=346,slow=4.0,SNR=2.4						
	0.3nm,0.4s						
USRK	**Ussuriysk Ar.**	**35.78**	**7**	P	**P**	**15 27 39.2**	**+2.0**
	2.8nm,0.8s,baz=177,slow=8.1,SNR=4.5						
	2.8nm,0.8s						
H11S3	**WAKE ISLAND Hy 40.04**	**72**	T	T		16 11 24.8	
	baz=262,slow=75,SNR=108						
H11S1	**WAKE ISLAND Hy 40.05**	**71**	T	T		16 11 22.1	
	baz=262,slow=75,SNR=102						
H11S2	**WAKE ISLAND Hy 40.05**	**72**	T	T		16 11 21.0	
	baz=262,slow=75,SNR=119						
H11N1	**WAKE ISLAND Hy 40.43**	**70**	T	T		16 12 00.1	
	baz=265,slow=74,SNR=46						
H11N2	**WAKE ISLAND Hy 40.44**	**70**	T	T		16 12 05.9	
	baz=265,slow=74,SNR=31						
H11N3	**WAKE ISLAND Hy 40.45**	**70**	T	T		16 12 04.6	
	baz=265,slow=74,SNR=44						
STKA	**Stephens Creek**	**42.69**	**161**	P	**P**	**15 28 35.1**	**+0.1**
	1.1nm,0.8s,baz=354,slow=10,SNR=1.9						
	1.1nm,0.8s						
PETK	**Petropavlovsk-**	**51.00**	**24**	P	**P**	**15 29 41.6**	**+2.0**
	2.6nm,0.8s,baz=183,slow=3.0,SNR=8.3						
	2.6nm,0.8s						
MKAR	**Makanchi Array**	**53.61**	**323**	P	**P**	**15 29 58.3**	**-0.8**
	0.3nm,0.3s,baz=106,slow=8.8,SNR=7.4						
MKAR				PcP	**PcP**	**15 31 03.9**	**-1.2**
	0.4nm,0.7s,baz=115,slow=4.6,SNR=2.2						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**56.29**	**332**	P	**P**	**15 30 16.8**	**-1.5**
	0.5nm,0.3s,baz=131,slow=6.4,SNR=4.8						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**57.68**	**326**	P	**P**	**15 30 27.4**	**-0.8**
	0.9nm,0.2s,baz=122,slow=7.5,SNR=2.8						
	0.9nm,0.2s						
BVAR	**Borovoye Array**	**63.27**	**326**	P	**P**	**15 31 06.3**	**0.0**
	0.6nm,0.3s,baz=117,slow=6.2,SNR=6.9						
	0.6nm,0.3s						
NRIK	**Noril'sk**	**65.74**	**346**	P	**P**	**15 31 22.1**	**+0.1**
	1.2nm,0.5s,baz=140,slow=7.5,SNR=1.7						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**80.77**	**26**	P	**P**	**15 32 51.2**	**+0.4**
	0.4nm,0.8s,baz=245,slow=5.4,SNR=7.3						
	0.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**85.74**	**349**	P	**P**	**15 33 15.4**	**-0.8**
	11nm,1.0s,baz=90,slow=7.5,SNR=9.8						
	11nm,1.0s						
ARCES	**ARCESS Array B**	**85.90**	**340**	P	**P**	**15 33 15.5**	**-1.6**
	4.3nm,0.9s,baz=61,slow=5.1,SNR=5.2						
	4.3nm,0.9s						
FINES	**FINESS Array B**	**87.56**	**332**	P	**P**	**15 33 23.2**	**-2.0**
	1.6nm,0.9s,baz=83,slow=3.0,SNR=6.2						
	1.6nm,0.9s						
YKA	**Yellowknife Ar**	**95.12**	**24**	P	**P**	**15 33 59.2**	**-1.2**
	0.3nm,0.7s,baz=301,slow=4.3,SNR=3.8						
	0.3nm,0.7s						
PLCA	**Paso Flores**	**144.51**	**157**	PKP	**PKPab**	**15 40 12.1**	**-0.5**
	2.0nm,1.1s,baz=181,slow=4.3,SNR=1.5						

*IDC **01** 15:36:11.3±0.9, 38°.09S×49°.24E, h0km, mb3.9/6, mbtmp3.9/7, ML3.7/1, MS3.4/10, Error ellipse: s-maj=34.7km s-min=24.7km az=40.0*
ISC 01 15:36:12.8±0.8, 38°.1S±0°.2×49°.3E±0°.2, h10km, n28, σ0§62/10, mb3.9/6, MS3.4/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.31**	**168**	T	T	15 46 53.5	
	baz=346,slow=76,SNR=1927						
H04N2	**CROZET ISLANDS**	**8.32**	**168**	T	T	15 46 52.1	
	baz=346,slow=76,SNR=2166						
H04N3	**CROZET ISLANDS**	**8.33**	**168**	T	T	15 46 52.8	
	baz=346,slow=76,SNR=1581						
OPO	**Ambohidratompo**	**19.50**	**354**	P	**Pn**	**15 40 41.5**	**0.0**
	baz=197,slow=18,SNR=3.6						
	3.5nm,0.8s						
BOSA	**Boshof**	**22.09**	**288**	P	**P**	**15 41 08.7**	**+0.4**
	2.1nm,0.8s,baz=210,slow=12,SNR=2.7						
BOSA				LR	LR	15 49 12.0	
	comp=Z,63nm,18.3s,baz=192,slow=35						
	2.1nm,0.8s						
SUR	**Sutherland**	**23.86**	**275**	LR	LR	15 48 41.4	
	comp=Z,57nm,21.6s,baz=114,slow=31						
LBTB	**Lobatse**	**23.91**	**296**	LR	LR	15 49 57.7	
	comp=Z,54nm,20.3s,baz=152,slow=35						
LSZ	**Lusaka**	**29.34**	**315**	LR	LR	15 53 05.2	
	comp=Z,88nm,18.5s,baz=150,slow=34						
MAW	**Mawson**	**30.57**	**170**	LR	LR	15 52 03.3	
	comp=Z,122nm,20.7s,baz=318,slow=31						
TSUM	**Tsumeb**	**33.31**	**295**	LR	LR	15 54 38.7	
	comp=Z,48nm,19.0s,baz=149,slow=33						
H08S1	**Diego Carcia H**	**36.85**	**41**	T	T	16 22 18.1	
	baz=212,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**36.86**	**41**	T	T	16 22 17.8	
	baz=212,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**36.87**	**41**	T	T	16 22 12.9	
	baz=212,slow=75,SNR=32						
KMBO	**Kilima Mbogo**	**38.37**	**340**	LR	LR	15 58 15.6	
	comp=Z,50nm,18.8s,baz=79,slow=34						
H01W2	**Cape Leeuwin H**	**51.32**	**108**	T	T	16 40 22.4	
	baz=247,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**51.33**	**108**	T	T	16 40 22.9	
	baz=247,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**51.34**	**108**	T	T	16 40 23.7	
	baz=247,slow=75,SNR=16						
QSPA	**South Pole Qui**	**52.14**	**180**	P	**P**	**15 45 23.3**	**+0.2**
	1.3nm,1.0s,baz=283,slow=14,SNR=1.9						
	1.3nm,1.0s						
ASF	**Jabal al Asfar**	**70.81**	**349**	LR	LR	16 16 24.6	
	comp=Z,24nm,19.1s,baz=242,slow=34						
ASAR	**Alice Springs**	**71.80**	**106**	P	**P**	**15 47 36.8**	**+1.0**
	0.6nm,0.6s,baz=227,slow=5.9,SNR=16						
	0.6nm,0.6s						
MMAI	**Mount Meron Ar**	**71.87**	**348**	LR	LR	16 17 20.8	
	comp=Z,39nm,18.7s,baz=272,slow=34						
STKA	**Stephens Creek**	**72.84**	**117**	P	**P**	**15 47 41.4**	**-0.5**
	2.1nm,1.0s,baz=239,slow=5.9,SNR=3.4						
	2.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.05**	**49**	P	**P**	**15 47 43.6**	**+0.5**
	0.3nm,0.3s,baz=223,slow=5.8,SNR=5.5						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**74.24**	**103**	P	**P**	**15 47 50.0**	**-0.3**
	1.5nm,0.9s,baz=234,slow=5.2,SNR=6.8						
	1.5nm,0.9s						
MDT	**Midelt**	**86.50**	**317**	LR	LR	16 28 31.3	
	comp=Z,80nm,18.6s,baz=354,slow=36						
INK	**Inuvik**	**149.66**	**2**	PKPbc	**PKPbc**	**15 56 01.0**	**-0.5**
	2.5nm,0.8s,baz=54,slow=4.6,SNR=6.7						
YKA	**Yellowknife Ar**	**153.60**	**343**	PKPbc	**PKPbc**	**15 56 09.9**	**-0.8**
	0.2nm,0.6s,baz=31,slow=2.0,SNR=4.3						
TXAR	**Lajitas Array**	**155.91**	**257**	PKP	**PKPdf**	**15 56 07.3**	**-0.1**
	0.5nm,1.0s,baz=61,slow=0.6,SNR=2.5						

TXNET 01 15:41:28.8, 31°.6N±0°.8×104°.3W±0°.8, h5km±2km, ML1.7/4, Error ellipse: s-maj=1.4km s-min=1.1km az=44.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	15 41 35.6	-0.1
TPB11				S	Sg	15 41 40.1	-0.2
PECS	**Pecos**	**0.42**	**129**	P	Pg	15 41 37.4	+0.4
PECS				S	Sg	15 41 42.8	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	S	Sg	15 41 45.3	+0.5
TPB07	**Mentone**	**0.51**	**96**	S	Sg	15 41 45.5	+0.4
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	15 41 40.2	+0.4
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	15 41 47.5	+0.2
MNTX				S	Sg	15 42 00.3	+0.5
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	15 41 48.9	-0.1
VHRN				S	Sg	15 42 03.4	-0.4
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	15 42 03.2	-0.1
MNHN	**Monahans**	**1.31**	**103**	P	Pn	15 41 51.6	-2.3
MNHN				S	Sg	15 42 09.2	-1.7
ALPN	**Alpine**	**1.36**	**157**	P	Pn	15 41 53.5	-1.2
ALPN				S	Sg	15 42 11.2	-1.5
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	15 41 55.0	-0.5
ODSA	**Odessa**	**1.53**	**71**	P	Pn	15 41 55.9	-1.0
ODSA				S	Sn	15 42 16.6	-0.6
TMB04	**Seminole**	**1.79**	**56**	P	Pn	15 42 00.9	+0.3
TMB04				S	Sb	15 42 25.1	0.0
TMB02	**Rankin**	**1.95**	**102**	S	Sb	15 42 28.6	-0.8
TMB05	**Klondike**	**2.26**	**63**	P	Pn	15 42 08.3	+1.4
TMB05				S	Sb	15 42 37.8	-0.6
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	15 42 11.8	+0.1

*IDC **01** 16:17:55.0±1.7, 34°.92N×91°.14E, h0km, mb3.2/2, mbtmp3.1/6, ML2.6/3, MS3.1/1, Error ellipse: s-maj=66.9km s-min=24.2km az=61.0*
ISC 01 16:17:59.9±1.7, 35°.0N±0°.2×91°.1E±0°.2, h35km, n7, σ0§97/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.48**	**333**	Pn	**Pn**	**16 21 08.0**	**-0.6**
	0.1nm,0.3s,baz=145,slow=11,SNR=4.4						
	0.1nm,0.4s						
AAK	**Ala-Archa**	**14.97**	**305**	LR	LR	16 28 18.4	
	comp=Z,75nm,22.0s,baz=91,slow=41						
SONM	**Songino Array**	**17.16**	**37**	P	**Pn**	**16 21 57.2**	**+0.2**
	0.2nm,0.6s,baz=224,slow=12,SNR=1.6						
KURBB	**Kurchatov Arra**	**18.05**	**334**	P	**Pn**	**16 22 07.2**	**-0.7**
	baz=144,slow=11,SNR=4.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**19.42**	**349**	P	**Pn**	**16 22 23.8**	**-0.5**
	0.1nm,0.3s,baz=162,slow=10.0,SNR=2.1						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**23.19**	**327**	P	**P**	**16 23 04.7**	**+1.3**
	0.3nm,0.6s,baz=138,slow=11,SNR=2.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**71.12**	**139**	P	**P**	**16 29 14.7**	**-0.2**
	0.2nm,0.6s,baz=327,slow=6.1,SNR=6.5						
	0.2nm,0.6s						

*IDC **01** 16:25:32.4±1.1, 40°.84N×135°.76E, h382km±13km, mb2.8/9, mbtmp3.5/14, Error ellipse: s-maj=17.5km s-min=14.7km az=38.0*
*JMA **01** 16:25:34.9±0.5, 40°.7N±0°.9×13°6E±°, h404km, MV3.2/19, EASTERN SEA OF JAPAN*
ISC 01 16:25:32.9±0.7, 40°.78N±0°.08×135°.94E±0°.08, h400km, n28, σ1§54/29, mb3.0/9, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**3.10**	**92**	*eP*	**Pn**	**16 26 37.1**	**+0.3**
JOMM	**Oshimamatsumae**	**3.16**	**75**	*eP*	**Pn**	**16 26 37.8**	**+0.4**
JSH	**Shimam**	**3.59**	**57**	*eP*	**Pn**	**16 26 42.1**	**+1.0**
JRG	**Rokugo**	**3.85**	**109**	P	**Pn**	**16 26 44.0**	**+0.4**
JYK	**Kaneyama**	**3.87**	**117**	*eP*	**Pn**	**16 26 44.3**	**+0.5**
JOT	**Ohata**	**3.91**	**79**	*eP*	**Pn**	**16 26 44.1**	**+0.1**
JANG	**Nango**	**4.26**	**94**	*eP*	**Pn**	**16 26 47.4**	**-0.1**
JOM	**Ohasama**	**4.30**	**106**	P	**Pn**	**16 26 47.8**	**-0.1**
JMK	**Ichinoseki**	**4.45**	**112**	P	**Pn**	**16 26 49.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**4.50**	**321**	P	**Pn**	**16 26 47.3**	**-2.4**
	11nm,0.5s,baz=143,slow=9.5,SNR=83						
MJAR	**Matsushiro Arr**	**4.59**	**157**	P	**Pn**	**16 26 50.2**	**-0.6**
	3.0nm,0.9s,baz=336,slow=13,SNR=4.6						
JMM	**Marumori**	**4.75**	**126**	P	**Pn**	**16 26 52.0**	**-0.4**
JFK	**Kawauchi**	**5.13**	**130**	*eS*	**S**	**16 28 00.3**	**-3.9**
JNBK	**Urakawa-nobuka**	**5.33**	**71**	P	**Pn**	**16 26 58.8**	**+0.5**
JCH	**Churui**	**5.85**	**69**	P	**Pn**	**16 27 03.6**	**-0.2**
JCH				S	**S**	**16 28 13.9**	**-4.0**
JKK2	**Kamakawa 2**	**5.92**	**56**	P	**Pn**	**16 27 05.1**	**+0.5**
ASAJ	**Asahikawa**	**5.95**	**54**	P	**Pn**	**16 27 04.8**	**0.0**
	8.2nm,0.7s,baz=230,slow=13,SNR=28						
KSRS	**Korea Array**	**7.06**	**245**	P	**Pn**	**16 27 16.1**	**-1.1**
	1.3nm,0.7s,baz=62,slow=11,SNR=9.1						
KLR	**Kul'dur**	**8.96**	**342**	P	**Pn**	**16 27 36.2**	**-2.4**
	2.9nm,0.6s,baz=151,slow=9.5,SNR=13						
SONM	**Songino Array**	**22.20**	**298**	P	**P**	**16 29 57.4**	**0.0**
	1.1nm,0.7s,baz=96,slow=9.1,SNR=10						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**36.24**	**309**	P	**P**	**16 31 59.1**	**-0.5**
	0.3nm,0.3s,baz=99,slow=9.3,SNR=2.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**38.56**	**297**	P	**P**	**16 32 18.0**	**-1.0**
	0.8nm,0.8s,baz=86,slow=10.0,SNR=8.5						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**40.35**	**304**	P	**P**	**16 32 32.6**	**-0.9**
	0.6nm,0.5s,baz=82,slow=8.5,SNR=12						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**48.69**	**34**	P	**P**	**16 33 38.9**	**+0.7**
	0.3nm,0.6s,baz=279,slow=7.5,SNR=3.1						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**60.42**	**182**	P	**P**	**16 35 03.3**	**+1.4**
	0.3nm,0.6s,baz=0.1,slow=7.2,SNR=1.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**64.14**	**182**	P	**P**	**16 35 27.7**	**+1.5**
	0.3nm,1.0s,baz=2.4,slow=7.1,SNR=1.5						
	0.3nm,1.0s						
PDAR	**Pinedale Array**	**77.98**	**43**	P	**P**	**16 36 50.2**	**+1.7**
	0.2nm,0.7s,baz=300,slow=6.8,SNR=2.7						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**91.05**	**49**	P	**P**	**16 37 55.8**	**+2.4**
	0.1nm,0.6s,baz=293,slow=4.5,SNR=2.2						
	0.1nm,0.6s						

IDC 01 17:01:13.8±6.3, 16°.02S×176°.88W, h402km±29km, mb2.8/3, mbtmp3.7/4, Error ellipse: s-maj=189.4km s-min=32.2km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.15**	**250**	P	P	17 02 38.0	+0.7
	78nm,0.7s,baz=52,slow=10.0,SNR=69						
MSVF				S	S	17 03 45.7	0.0
	11nm,1.2s,baz=257,slow=19,SNR=1.1						
WRA	**Warramunga Arr**	**46.45**	**258**	P	P	17 09 02.7	-0.2
	0.3nm,0.7s,baz=96,slow=8.1,SNR=0.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**46.74**	**252**	P	P	17 09 05.0	0.0
	0.7nm,0.6s,baz=84,slow=8.5,SNR=28						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**83.73**	**12**	P	P	17 12 58.4	-0.2
	0.4nm,0.8s,baz=222,slow=5.9,SNR=7.3						
	0.4nm,0.8s						

*IDC **01** 17:01:33.3±0.8, 55°.67S×26°.13W, h0km, mb4.3/6, mbtmp4.2/7, ML3.8/1, MS3.8/5, Error ellipse: s-maj=30.8km s-min=19.6km az=67.0*
*NEIC **01** 17:01:35.4±2.3, 55°.8S±0°.2×26°.8W±0°.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=26.6km s-min=16.0km az=18.0*
ISC 01 17:01:38.0±0.5, 55°.75S±0°.10×26°.68W±0°.08, h38km, n61, σ1§14/55, mb4.5/9, MS4.0/4, 1C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.83**	**280**	Pn	**Pn**	**17 02 59.2**	**-2.5**
HOPE				Sn	**Sn**	**17 04 04.9**	**-2.3**
VNA1	**Neumayer--Stat**	**16.98**	**159**	⇓P	**P**	**17 05 33.1**	**-0.5**
	comp=Z,8.8nm,0.8s						
VNA3	**Neumayer Olymp**	**17.19**	**161**	⇓P	**P**	**17 05 35.2**	**-0.9**
	comp=Z,4.1nm,0.6s						
VNA2	**Neumayer--Watz**	**17.37**	**159**	⇓P	**P**	**17 05 37.3**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=301,slow=17						
SNAA	**Sanae**	**18.91**	**157**	P	**P**	**17 05 54.3**	**-0.7**
SNAA	**Sanae**	**18.91**	**157**	⇓P	**Pn**	**17 05 55.4**	**-0.5**
	comp=Z,61nm,0.6s						
SNAA	**Sanae**	**18.91**	**157**	P	**P**	**17 05 53.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=26,slow=13,SNR=10						
SNAA				LR	LR	17 11 40.4	
	comp=Z,125nm,20.0s,baz=304,slow=32						
	comp=Z,2.1nm,0.7s						
EFI	**East Falkland**	**18.92**	**269**	P	**P**	**17 05 55.0**	**-0.2**
EFI				IAmb	IAmb	17 06 25.2	
	comp=Z,68nm,1.2s						
TROLL	**Troll, Antarti**	**20.39**	**154**	⇓P	**P**	**17 06 10.0**	**-1.2**
	comp=Z,114nm,0.6s						
BELA	**Belgrano 2**	**22.40**	**184**	P	**P**	**17 06 31.9**	**-0.7**
MG02	**Cerro Sombrero**	**24.74**	**259**	P	**P**	**17 06 56.5**	**+1.1**
TRQA	**Tornquist**	**29.47**	**292**	P	**P**	**17 07 39.7**	**+1.6**
SYO	**Syowa Base**	**31.64**	**141⇑**	*eP*	**P**	**17 07 55.8**	**-1.0**
QSPA	**South Pole Qui**	**34.51**	**180**	P	**P**	**17 08 23.1**	**+1.0**
QSPA	**South Pole Qui**	**34.51**	**180**	P	**P**	**17 08 23.5**	**+1.4**
	comp=Z,8.0nm,0.6s,baz=207,slow=2.4,SNR=115						
QSPA				PcP	**PcP**	**17 10 56.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=221,slow=16,SNR=2.3						
	comp=Z,8.0nm,0.6s						
CPUP	**Villa Florida**	**36.83**	**310**	P	**P**	**17 08 44.0**	**+1.8**
	comp=Z,1.2nm,0.5s,baz=129,slow=11,SNR=3.7						
	comp=Z,1.2nm,0.5s						
CO01	**Juntas del Tor**	**39.97**	**292**	P	**P**	**17 09 10.1**	**+1.2**
LCO	**Las Campanas**	**41.05**	**292**	P	**P**	**17 09 18.1**	**+0.2**
LCO				IAmb	IAmb	17 09 40.6	
	comp=Z,21nm,1.4s						
AC01	**Pan de Azucar**	**43.31**	**295**	P	**P**	**17 09 35.5**	**-0.4**
AC01				IAmb	IAmb	17 10 00.7	
	comp=Z,12nm,1.1s						
GO02	**Mina Guanaco**	**43.61**	**297**	P	**P**	**17 09 38.1**	**-0.6**
GO02				IAmb	IAmb	17 09 42.5	
	comp=Z,7.6nm,1.0s						
BOSA	**Boshof**	**45.62**	**76**	P	**P**	**17 09 53.2**	**-1.3**
BOSA				IAmb	IAmb	17 10 04.9	
	comp=Z,14nm,1.5s						
BOSA	**Boshof**	**45.62**	**76**	P	**P**	**17 09 53.0**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=143,slow=20,SNR=2.3						
BOSA				LR	LR	17 25 34.9	
	comp=Z,169nm,19.0s,baz=200,slow=32						
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**46.89**	**183**	P	**P**	**17 10 05.0**	**+1.2**
VNDA	**Vanda**	**46.89**	**183**	P	**P**	**17 10 05.5**	**+1.7**
	comp=Z,2.8nm,0.6s,baz=207,slow=6.3,SNR=6.0						
	comp=Z,2.8nm,0.6s						
SIV	**San Ignacio**	**47.58**	**313**	LR	LR	17 30 11.7	
	comp=Z,114nm,18.7s,baz=124,slow=36						
H10S2	**ASCENSION HYDR**	**47.63**	**16**	T	T	18 01 20.8	
	baz=188						
H10S3	**ASCENSION HYDR**	**47.63**	**16**	T	T	18 01 27.4	
	baz=32						
H10N1	**ASCENSION HYDR**	**48.74**	**16**	T	T	18 02 42.9	
	baz=196						
H10N3	**ASCENSION HYDR**	**48.75**	**16**	T	T	18 02 43.8	
	baz=196						
H10N2	**ASCENSION HYDR**	**48.76**	**16**	T	T	18 02 48.0	
	baz=196						
LPAZ	**La Paz**	**50.44**	**304**	P	**P**	**17 10 30.9**	**-1.5**
LPAZ				IAmb	IAmb	17 10 36.1	
	comp=Z,4.8nm,0.9s						
LPAZ	**La Paz**	**50.44**	**304**	P	**P**	**17 10 35.0**	**+2.6**
	comp=Z,3.6nm,0.7s,baz=150,slow=5.6,SNR=16						
	comp=Z,3.6nm,0.7s						
LSZ	**Lusaka**	**58.00**	**69**	LR	LR	17 34 08.9	
	comp=Z,104nm,18.1s,baz=170,slow=34						
TORD	**Torodi Ar. Bea**	**72.65**	**29**	P	**P**	**17 13 00.9**	**-0.5**
	comp=Z,23nm,0.3s,baz=207,slow=6.8,SNR=1.2						
SDV	**Santo Domingo**	**74.00**	**314**	LR	LR	17 47 55.1	
	comp=Z,73nm,19.3s,baz=252,slow=38						
ASAR	**Alice Springs**	**99.19**	**162**	P	**Pdif**	**17 15 16.0**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=174,slow=3.7,SNR=6.7						
	comp=Z,0.3nm,0.9s						
WRA	**Warramunga Arr**	**102.91**	**162**	P	**Pdif**	**17 15 33.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=202,slow=3.9,SNR=1.1						
YKA	**Yellowknife Ar**	**136.13**	**318**	PKP	**PKiKP**	**17 20 54

SAUI	Saumlaki	3.25	150	P	Pn	18 38 15.1	+2.8
FAKI	Fak Fak	3.38	49	P	Pn	18 38 14.8	+0.9
FAKI	Fak Fak	3.38	49	P	Pn	18 38 14.7	+0.9
KMPI	Kaimana, Papua	4.27	70	P	Pn	18 38 26.3	+1.4
SWI	Sorong	4.53	20	P	Pn	18 38 28.1	-0.1
SANI	Sanana	4.79	310	P	Pn	18 38 33.0	+1.5
SANI	Sanana	4.79	310	P	Pn	18 38 31.9	+0.4
RKPI	Ransiki, Papua	5.76	51	P	Pn	18 38 44.7	+0.8
	41nm,1.2s						
DRS	Darwin Rock St	7.34	171	P	Pn	18 39 06.1	+1.7
BAKI	Biak	7.52	59	P	Pn	18 39 07.4	+0.7
	57nm,2.2s						
MTN	Manton Dam	7.79	169	P	Pn	18 39 10.1	-0.1
KDU	Kakadu	7.99	160	P	Pn	18 39 13.0	+0.2
FITZ	Fitzroy Crossi	13.47	197	P	P	18 40 24.6	-1.1
	1.7nm,0.5s,baz=28,slow=10,SNR=8.6						
FITZ				S	S	18 42 41.9	-11
	0.7nm,0.3s,baz=243,slow=16,SNR=5.9						
WRA	Warramunga Arr	15.40	163	P	P	18 40 47.1	+0.1
	0.5nm,0.4s,baz=335,slow=13,SNR=11						
WRA				S	S	18 43 31.3	-6.6
	0.7nm,0.5s,baz=328,slow=25,SNR=6.2						
QIS	Mount Isa	18.11	149	P	Pn	18 41 18.3	-0.8
ASAR	Alice Springs	18.86	168	P	Pn	18 41 26.6	-1.4
	4.0nm,0.5s,baz=349,slow=11,SNR=83						
ASAR				S	S	18 44 47.0	-1.9
	0.9nm,0.8s,baz=347,slow=18,SNR=5.5						
AS01	Alice Springs	18.87	168	P	Pn	18 41 26.5	-1.5
WRKA	Warakurna	19.83	184	P	P	18 41 36.1	+0.8
OOD	Oodnadatta	23.25	166	P	P	18 42 09.9	+0.7
MEEK	Meekatharra	23.85	205	P	P	18 42 14.9	+0.1
PINNC	Pines Island,	40.40	119	P	P	18 44 39.3	+0.8
	72nm,1.1s						
MKAR	Makanchi Array	66.50	327	P	P	18 47 48.0	0.0
	0.2nm,0.4s,baz=114,slow=8.0,SNR=9.0						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	70.77	328	P	P	18 48 13.8	-0.3
	0.4nm,0.5s,baz=128,slow=5.3,SNR=9.6						
	0.4nm,0.5s						

*IDC **01** 18:46:30.0±2.8, 46°.44N×93°.92E, h0km, mbtmp2.9/5, ML2.5/5, Error ellipse: s-maj=46.5km s-min=18.8km az=4.0*
*NNC **01** 18:46:35.2±3.5, 46°.77N×94°.06E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=38.7km s-min=32.8km az=5.0*
*ASRS **01** 18:46:47.2±0.5, 47°N±2°×9°4E±°, h5km, MLh4.1/14, Error ellipse: s-maj=5.4km s-min=4.3km az=160.8, confirmed*
ISC 01 18:46:32.9±1.5, 46°.21N±0°.09×94°.27E±0°.06, h10km, n26, σ2°85/44, 5C-5D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	Kyzyl	5.50	1	Pg	Pb	18 48 08.7	-0.4
KZLR				Sg	Sb	18 49 13.0	-2.2
TEL	Teeli	5.52	332	Pn	Pn	18 47 56.2	+1.0
TEL				Pg	Pb	18 48 07.5	-1.9
TEL				Sg	Sb	18 49 14.5	-1.2
CUR	Chagan-Uzun	5.55	317	Pn	Pn	18 47 56.2	+0.5
CUR				Sg	Sb	18 49 16.8	+0.1
DGZ	Jazzator, Alta	5.77	310	Pn	Pn	18 48 00.9	+2.2
DGZ				Pg	Pb	18 48 11.9	-1.8
DGZ				Sg	Sb	18 49 24.7	+1.7
AKAR	Aktash	6.05	315	Pn	Pn	18 48 04.1	+1.6
AKAR				Pg	Pb	18 48 16.7	-1.8
AKAR				Sg	Sb	18 49 30.8	-0.2
ULGR	Ulagan, Altay	6.10	319	Pn	Pn	18 48 06.2	+3.1
ULGR				Pg	Pb	18 48 20.0	+0.8
ULGR				Sg	Sb	18 49 32.7	+0.5
CHBI	Chibit, Altay	6.11	315	Pn	Pn	18 48 05.1	+1.8
CHBI				Pg	Pb	18 48 17.5	-1.9
CHBI				Sg	Sb	18 49 31.9	-0.6
TDJR	Todzha	6.31	10	Pg	Pb	18 48 24.6	+1.7
TDJR				Sg	Sb	18 49 44.1	+5.7
ARDR	Aradan	6.40	355	Pg	Pb	18 48 22.5	-1.9
ARDR				Sg	Sb	18 49 38.0	-3.0
DJO	Djoy, Khakassi	6.87	344	Pg	Pb	18 48 31.6	-0.7
DJO				Sg	Sb	18 49 52.1	-2.4
CERR	Cheremushki	6.91	345	Pg	Pb	18 48 31.2	-1.7
CERR				Sg	Sb	18 49 55.4	0.0
YALR	Yailyu, Altay	7.08	324	Pn	Pn	18 48 18.4	+1.8
YALR				Pg	Pb	18 48 37.2	+1.2
YALR				Sg	Sb	18 50 05.3	+4.8
ARTR	Artybash	7.24	323	Pn	Pn	18 48 19.7	+1.0
ARTR				Sg	Sb	18 50 09.2	+4.2
ELDR	Elanda	7.37	316	Pn	Pn	18 48 22.2	+1.7
ELDR				Sg	Sb	18 50 13.5	+4.6
VEH	Verkhnyaya Baz	7.50	342	Pg	Pb	18 48 44.6	+1.5
VEH				Sg	Sb	18 50 14.4	+1.7
UKR	Ust'-Kan	7.88	310	Sg	Sb	18 50 31.3	+8.0
MK31	Makanchi Array	8.29	278	⇓Pn	Pn	18 48 35.6	+2.5
	0.3nm,0.4s,baz=94,slow=16,SNR=6.4						
MK31				⇓Lg	Lg	18 50 49.7	
	7.0nm,0.6s,baz=79,slow=34,SNR=5.6						
MKAR	Makanchi Array	8.29	278	Pn	Pn	18 48 27.0	-6.1
	0.1nm,0.3s,baz=83,slow=9.9,SNR=1.9						
MKAR				Lg	Lg	18 50 41.6	
	1.6nm,0.3s,baz=84,slow=31,SNR=7.2						
	0.1nm,0.2s						
SONM	Songino Array	8.44	75	Pn	Pn	18 48 36.8	+1.5
	0.1nm,0.3s,baz=265,slow=14,SNR=2.1						
SONM				Pg	Pb	18 49 03.6	+4.4
	0.2nm,0.3s,baz=264,slow=14,SNR=4.3						
SONM				Lg	Lg	18 50 59.8	
	1.7nm,0.3s,baz=267,slow=25,SNR=2.9						
	0.1nm,0.3s						
MAKZ	Makanchi	8.50	278	⇓Pn	Pn	18 48 35.6	-0.5
	1.3nm,0.6s						
MAKZ				⇑Lg	Lg	18 50 58.7	
	10nm,0.8s						
ZALV	Zalesovo Beam	9.84	325	Pn	Pn	18 48 49.7	-4.6
	0.1nm,0.3s,baz=149,slow=15,SNR=1.3						
ZALV				Lg	Lg	18 51 31.2	
	0.2nm,0.3s,baz=139,slow=27,SNR=5.3						
	0.2nm,0.4s						
PDGK	Podgornoye	10.90	260	⇓Pn	Pn	18 49 12.2	+3.2
	2.5nm,0.6s						
PDGK				⇓Lg	Lg	18 52 19.8	
	8.7nm,0.8s						
KURK	Kurchatov	11.32	299	⇑Pn	Pn	18 49 12.1	-2.6
	1.9nm,0.9s						
KURK				⇑Lg	Lg	18 52 25.6	
	25nm,1.2s						
KURBB	Kurchatov Arra	11.35	299	Pn	Pn	18 49 09.0	-6.0
	baz=103,slow=14,SNR=7.6						
KURBB				Sn	Sn	18 51 06.0	-16
	baz=162,slow=27,SNR=1.6						
KURBB				Lg	Lg	18 52 19.5	
	0.1nm,0.3s,baz=102,slow=32,SNR=6.5						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	11.35	299	⇑Pn	Pn	18 49 12.9	-2.1
	1.3nm,0.6s						
KURBB				⇓Lg	Lg	18 52 25.6	
	23nm,0.9s						
BVAR	Borovoye Array	16.86	303	Pn	Pn	18 50 21.8	-7.1
	baz=105,slow=8.2,SNR=2.2						
	0.5nm,0.8s						

*RSNC **01** 18:47:01.9±0.0, 9°.N±4°×7°8W±°, h68km±15km, M2.7, ML2.6*
*UPA **01** 18:47:02.4±0.7, 9°.13N×78°.44W, h16km±3km, MW3.9*
ISC 01 18:47:00.7±1.3, 9°.27N±0°.07×78°.38W±0°.03, h28km±13km, n16, σ0°99/31, 1C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	Canitas, Panam	0.50	265	⇑iP	Pn	18 47 12.8	+0.8
CNTA3				eS	Sb	18 47 18.8	+0.7
CHPO	Chepo, Panama	0.73	262	eS	Sn	18 47 25.4	+0.1
UPD2	Meteti	0.80	153	eP	Pn	18 47 15.2	-1.0
UPD2				eS	Sb	18 47 26.2	-0.4
UPA	Univ. de Panam	1.17	256	eP	Pn	18 47 21.5	+0.2
UPA				eS	Sn	18 47 36.2	-0.1
CAPC	Capurgana	1.20	122	P	Pn	18 47 22.4	+0.8
CAPC				S	Sb	18 47 41.1	+3.2
ARRA3	Arraijan, Pana	1.29	257	eP	Pn	18 47 23.5	+0.6
ARRA3				eS	Sn	18 47 39.3	0.0
CHOR3	La Chorrera	1.41	255	eP	Pn	18 47 25.3	+0.7
CHOR3				eS	Sn	18 47 42.3	0.0
BCIP	Isla Barro Col	1.44	266	eP	Pn	18 47 25.0	+0.1
BCIP				eS	Sn	18 47 43.1	+0.2
BCIP	Isla Barro Col	1.44	266	P	Pn	18 47 25.0	+0.1
BCIP				S	Sn	18 47 41.2	-1.7
LCBC	Los crdobas,	2.03	101	⇓iP	Pb	18 47 35.9	-1.1
LCBC				eS	Sb	18 48 01.5	-0.3
LCBC	Los crdobas,	2.03	101	P	Pb	18 47 35.6	-1.4
LCBC				S	Sb	18 48 02.6	+0.8
APAC	Apartado, Choc	2.24	127	P	Pb	18 47 39.8	-0.7
APAC				S	Sb	18 48 08.2	+0.3
AZU	Azuero	2.38	232	eP	Pn	18 47 38.6	+0.8
AZU				eS	Sn	18 48 06.3	+0.2
AZU	Azuero	2.38	232	P	Pn	18 47 38.0	+0.2
AZU				S	Sn	18 48 05.6	-0.5
SJCC	San Jacinto, C	3.22	79	P	Pn	18 47 50.2	+0.7
SJCC				S	Sn	18 48 25.8	-1.2
ZARC	Zaragoza, Cauc	3.91	117	P	Pn	18 48 00.3	+1.4
ZARC				S	Sn	18 48 44.1	+0.2

*IDC **01** 18:55:22.2±1.3, 24°.24S×180°.00W, h505km±12km, mb3.4/8, mbtmp4.2/11, Error ellipse: s-maj=19.1km s-min=14.6km az=88.0*
ISC 01 18:55:22.7±0.6, 24°.33S±0°.06×179°.80E±0°.09, h500km, n31, σ1°55/45, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.76	346	P	P	18 57 07.2	+0.4
	2.8nm,0.3s,baz=85,slow=23,SNR=13						
MSVF				S	S	18 58 31.5	-0.3
	4.2nm,0.8s,baz=192,slow=22,SNR=1.4						
NIUE	Niue	10.89	63	P	P	18 57 54.8	+5.3
NIUE				S	S	18 59 51.6	+1.2
DZM	Mont Dzumac	12.49	278	P	P	18 58 08.8	+2.3
	8.9nm,0.7s,baz=90,slow=20						
HAZ	Te Kaha	13.49	187	P	P	18 58 18.8	+1.9
HAZ				S	S	19 00 40.0	-0.5
URZ	Urewera	14.07	189	P	P	18 58 22.9	-0.1
	3.7nm,0.3s,baz=330,slow=2.6,SNR=9.9						
URZ				S	S	19 00 49.8	-1.8
	9.3nm,0.5s,baz=147,slow=20,SNR=14						
URZ	Urewera	14.07	189	P	P	18 58 24.2	+1.2
URZ				S	S	19 00 51.6	0.0
MWZ	Matawai	14.09	187	P	P	18 58 26.0	+2.8
MWZ				S	S	19 00 53.7	+1.6
BKZ	Black Stump Fm	15.05	190	P	P	18 58 33.5	+0.2
BKZ				S	S	19 01 07.9	-2.6
TWVZ	Taurewa	15.15	193	P	P	18 58 36.7	+2.3
OTVZ	Oturere	15.20	192	P	P	18 58 37.1	+2.1
KWHZ	Kaweka Forest	15.32	190	P	P	18 58 37.8	+1.7
KWHZ				S	S	19 01 15.0	-0.6
WNVZ	Wahianoa	15.37	192	P	P	18 58 37.4	+0.7
KRHZ	Kereru	15.54	190	P	P	18 58 39.6	+1.3
KRHZ				S	S	19 01 17.1	-2.7
KAHZ	Kahuranaki	15.61	188	P	P	18 58 40.1	+1.0
KAHZ				S	S	19 01 20.3	-0.9
RPZ	Rata Peaks	20.62	198	P	P	18 59 26.2	-0.5
	5.9nm,0.5s,baz=49,slow=14,SNR=1.9						
	5.9nm,0.5s						
STKA	Stephens Creek	34.39	249	P	P	19 01 28.4	+0.9
	0.7nm,0.4s,baz=67,slow=7.7,SNR=2.6						
	0.7nm,0.4s						
ASAR	Alice Springs	41.78	261	P	P	19 02 28.8	+0.7
	0.8nm,0.6s,baz=91,slow=7.3,SNR=19						
ASAR				PcP	PcP	19 04 12.3	-0.5
	0.4nm,0.7s,baz=96,slow=7.2,SNR=2.2						
ASAR				ScP	ScP	19 07 15.8	+0.6
	0.4nm,0.8s,baz=98,slow=4.0,SNR=4.8						
ASAR				S	S	19 08 07.2	-1.8
	0.4nm,0.9s,baz=104,slow=13,SNR=2.7						
	0.8nm,0.6s						
WRA	Warramunga Arr	42.20	267	P	P	19 02 31.5	+0.2
	2.4nm,0.4s,baz=97,slow=8.4,SNR=65						
WRA				ScP	ScP	19 07 18.0	+1.1
	1.1nm,0.9s,baz=98,slow=3.4,SNR=4.2						
WRA				S	S	19 08 12.5	-2.5
	0.2nm,0.3s,baz=105,slow=16,SNR=6.4						
	2.4nm,0.4s						
VNDA	Vanda	53.94	185	P	P	19 03 58.4	+0.2
	4.5nm,1.0s,baz=255,slow=1.9,SNR=2.2						
	4.5nm,1.0s						
QSPA	South Pole Qui	65.75	180	P	P	19 05 18.0	+0.6
	5.4nm,0.6s,baz=216,slow=3.1,SNR=9.3						
	5.4nm,0.6s						
SNAA	Sanae	84.24	179	P	P	19 06 59.5	-1.2
	1.1nm,0.5s,baz=198,slow=11,SNR=8.3						
	1.1nm,0.5s						
TXAR	Lajitas Array	90.81	58	P	P	19 07 31.0	-1.5
	0.8nm,0.7s,baz=209,slow=6.9,SNR=9.4						
	0.8nm,0.7s						
MKAR	Makanchi Array	112.31	313	PKiKP	PKiKP	19 12 59.2	-1.9
	0.2nm,0.7s,baz=78,slow=2.1,SNR=2.3						
BVAR	Borovoye Array	120.64	319	PKP	PKPdf	19 13 15.4	-1.5
	0.4nm,0.3s,baz=124,slow=2.3,SNR=4.5						
ARCES	ARCESS Array B	132.27	348	PKP	PKPdf	19 13 37.2	-1.5
	1.8nm,0.7s,baz=39,slow=1.8,SNR=5.4						
FINES	FINESS Array B	138.79	341	PKP	PKPdf	19 13 49.9	-1.1
	1.2nm,0.9s,baz=22,slow=5.1,SNR=1.3						
FINES				SKPbc	SKPbc	19 16 35.8	-2.7
	1.1nm,0.6s,baz=64,slow=4.4,SNR=7.0						
HFS	Hagfors	142.93	348	PKhKP	PKPpre	19 13 53.9	
	1.0nm,0.4s,baz=48,slow=2.2,SNR=13						
BRTR	Keskin Array B	147.69	307	PKPbc	PKPdf	19 14 08.7	+1.3
	0.3nm,0.6s,baz=85,slow=3.0,SNR=1.4						
MMAI	Mount Meron Ar	147.71	294	PKPbc	PKPdf	19 14 09.6	+2.0
	2.3nm,0.6s,baz=83,slow=7.1,SNR=7.5						
EKA	Eskdalemuir Ar	148.96	3	PKPbc	PKPdf	19 14 10.6	+1.9
	1.1nm,0.7s,baz=338,slow=2.6,SNR=4.5						
TORD	Torodi Ar. Bea	168.73	189	PKPab	PKPab	19 15 45.5	-0.6
	64nm,0.7s,baz=176,slow=4.8,SNR=2.5						

CATAC 01 18:57:34.5±0.5, 11°N±3°×8°6W±°, h135km±4km, M3.1/22, MLv3.1/22, Error ellipse: s-maj=10.4km s-min=3.5km az=50.6, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAPN	AI SSO del Vol	0.30	71	P	Pn	18 57 54.8	+1.6
JAPN	AI SSO del Vol	0.30	71	P	Pn	18 57 55.0	+1.8
JAPN	AI SSO del Vol	0.30	71	P	Pn	18 57 55.2	+2.0
MORN	AI O del Volca	0.34	70	P	Pn	18 57 54.4	+1.1
CONN	Concepcion	0.37	68	P	Pn	18 57 53.8	+0.4
CONN				S	Sn	18 58 09.1	+1.4
CONN	Concepcion	0.37	68	P	Pn	18 57 53.8	+0.3
CONN	Concepcion	0.37	68	P	Pn	18 57 53.9	+0.5
CARN	Rivas	0.50	118	P	Pn	18 57 55.5	+1.5
CARN				S	Sn	18 58 10.4	+1.6
CARN	Rivas	0.50	118	P	Pn	18 57 55.6	+1.5
CARN	Rivas	0.50	118	P	Pn	18 57 55.9	+1.8
NANN	Nandasmo	0.53	344	P	Pn	18 57 56.3	+2.0
NANN	Nandasmo	0.53	344	S	Sn	18 58 11.6	+2.3
NANN	Nandasmo	0.53	344	P	Pn	18 57 56.3	+2.0
NANN	Nandasmo	0.53	344	P	Pn	18 57 56.4	+2.1
SABN	Sabanita	0.56	341	P	Pn	18 57 55.2	+0.8
SABN	Sabanita	0.56	341	P	Pn	18 57 55.0	+0.5
SABN	Sabanita	0.56	341	P	Pn	18 57 55.5	+1.1
MASN	Masaya	0.58	343	P	Pn	18 57 55.7	+1.1
MAS3	AI N del Volca	0.62	342	P	Pn	18 57 55.3	+0.5
ENAN	Enatrel Managu	0.74	338	P	Pn	18 57 56.0	+0.3
UNAN	Cigeo UNAN	0.74	337	P	Pn	18 57 55.1	-0.6
R4DEC	Barrio San Lui	0.77	339	P	Pn	18 57 56.4	+0.6
R4DEC	Barrio San Lui	0.77	339	S	Sn	18 58 13.6	+1.5
TISN	Laguna Tiscapa	0.77	338	P	Pn	18 57 55.9	+0.1
ALLN	Telcor Managua	0.78	338	P	Pn	18 57 57.0	+1.1
SAPS	Ciudad Sandino	0.85	330	P	Pn	18 57 56.2	-0.3
SAPS	Ciudad Sandino	0.85	330	S	Sn	18 58 14.5	+1.3
SAPS	Ciudad Sandino	0.85	330	P	Pn	18 57 56.9	+0.4
SAPS	Ciudad Sandino	0.85	330	P	Pn	18 57 57.7	+1.2
ACON	Acoyapa	0.95	55	P	Pn	18 57 57.9	+0.6
ACON	Acoyapa	0.95	55	S	Sn	18 58 16.8	+2.1
ACON	Acoyapa	0.95	55	P	Pn	18 57 57.7	+0.4
ACON	Acoyapa	0.95	55	P	Pn	18 57 58.1	+0.8
COPN	Copaltepe	0.96	321	P	Pn	18 57 57.4	-0.1
COPN	Copaltepe	0.96	321	P	Pn	18 57 57.2	-0.3
COPN	Copaltepe	0.96	321	P	Pn	18 57 57.6	+0.2
BOAB	BOACO BROADBAN	.06	16	P	Pn	18 57 58.5	+0.1
BOAB	BOACO BROADBAN	.06	16	S	Sn	18 58 17.5	+0.9
BOAB	BOACO BROADBAN	.06	16	P	Pn	18 57 58.3	0.0
BOAB	BOACO BROADBAN	.06	16	P	Pn	18 57 59.9	+1.6
MOMN	Momotombo	1.12	330	P	Pn	18 57 58.2	-0.8
MOMN				S	Sn	18 58 17.5	-0.1
MOMN	Momotombo	1.12	330	P	Pn	18 57 58.6	-0.4
MOMN	Momotombo	1.12	330	P	Pn	18 57 59.0	0.0
MIRN	Miramar	1.24	324	P	Pn	18 57 60.0	-0.2
MACN	El Madrono	1.24	326	P	Pn	18 57 59.9	-0.3
MACN				S	Sn	18 58 19.9	+0.1
CNGA	AI SSO del Vol	1.28	326	P	Pn	18 57 59.9	-0.6
CNGA				S	Sn	18 58 21.2	+0.8
CNGA	AI SSO del Vol	1.28	326	P	Pn	18 58 00.3	-0.3
CNGA	AI SSO del Vol	1.28	326	P	Pn	18 58 01.0	+0.4
CNGN	Cerro Negro	1.28	326	P	Pn	18 58 00.2	-0.4
CNGN	Cerro Negro	1.28	326	S	Sn	18 58 21.7	+1.2
CNGN	Cerro Negro	1.28	326	P	Pn	18 58 03.1	+2.5
CNGN	Cerro Negro	1.28	326	P	Pn	18 58 00.2	-0.4
ROCN	Rota Cerro Neg	1.32	325	P	Pn	18 57 59.0	-2.0
ROCN				S	Sn	18 58 21.5	+0.3
PACN	AI O del Volca	1.33	323	P	Pn	18 58 00.5	-0.6
PACN				S	Sn	18 58 23.5	+2.1
ILCN	San Idelfonso	1.35	328	P	Pn	18 58 00.2	-1.0
TELN	Telica	1.44	324	P	Pn	18 58 03.4	+1.1
TELN				S	Sn	18 58 25.6	+2.0
QUEN	AI S del Volca	1.44	323	P	Pn	18 58 00.7	-1.6
QUEN				S	Sn	18 58 24.5	+1.0
POLN	AI Sur del Vol	1.47	326	P	Pn	18 58 02.0	-0.5
POLN				S	Sn	18 58 25.3	+1.3
INDI	Punta indio, G	1.62	163	P	Pn	18 58 05.0	+0.8
INDI	Punta indio, G	1.62	163	S	Sn	18 58 28.2	+1.3
CRIN	San Cristobal	1.65	320	P	Pn	18 58 03.8	-0.8
CRIN	San Cristobal	1.65	320	S	Sn	18 58 28.9	+1.2
CRIN	San Cristobal	1.65	320	P	Pn	18 58 07.5	+2.9
LIMN	Finca el Limon	1.67	347	P	Pn	18 58 04.5	-0.4
LIMN	Finca el Limon	1.67	347	S	Sn	18 58 29.0	+0.8
SOCE	Pocosol	1.69	128	P	Pn	18 58 05.5	+0.4
SOCE	Pocosol	1.69	128	S	Sn	18 58 29.8	+1.4
SOCE	Pocosol	1.69	128	P	Pn	18 58 05.8	+0.7
ESPN	Las Esperanzas	1.81	65	P	Pn	18 58 05.7	-0.7
ESPN	Las Esperanzas	1.81	65	S	Sn	18 58 30.5	-0.2
RCPN	Sur Rio San Ju	2.09	357	P	Pn	18 58 10.1	+0.1
RCVN	Varillal2	2.15	354	P	Pn	18 58 10.1	-0.6
CSGN	Cosiguina Volc	2.19	315	P	Pn	18 58 10.1	-1.0
CSGN	Cosiguina Volc	2.19	315	P	Pn	18 58 11.1	0.0
BLUN	Bluefields	2.23	75	P	Pn	18 58 10.5	-1.0
CHOHN	Orocuina	2.35	331	P	Pn	18 58 12.3	-0.7
CHOHN	Orocuina	2.35	331	S	Sn	18 58 43.2	+0.5

*AEIC **01** 19:21:27.9±1.6, 56°.00N±0°.10×150°.0W±0°.1, h6km±7km, Error ellipse: s-maj=13.9km s-min=8.1km az=170.0*
NEIC 01 19:21:21±1.8, 55°.86N±0°.09×149°.9W±0°.1, h9km±8km, ML3.3/44, ML3.1(AEIC), Error ellipse: s-maj=13.9km s-min=9.0km az=167.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.33	307		Pn	19 21 59.1	-0.3
OHAK	Old Harbor	2.33	307		Sn	19 22 24.5	-3.5
KDAK	Kodiak Island	2.43	324		Pn	19 22 00.6	-0.3
KDAK	Kodiak Island	2.43	324		Sn	19 22 27.6	-3.0
SII	Sitkinak Islan	2.50	288		Sn	19 22 29.2	-3.2
R18K	Karluk	3.04	306		Pn	19 22 08.9	-0.3
R18K				IAML		19 23 46.1	
	comp=N,61nm,0.5s						
R18K				IAML		19 23 55.8	
	comp=E,58nm,0.5s						
SYI	Shuyak Island	3.07	335		Pn	19 22 09.9	+0.2
SYI					Sn	19 22 44.1	-2.4
CHIR	Chirikof Islan	3.23	272		Sn	19 22 48.1	-2.4
KAHG	Katmai Hook Gl	3.66	318		Pn	19 22 19.2	+1.4
Q19K	Cape Douglas,	3.69	328		Pn	19 22 18.3	+0.2
ACHA	Angle Creek He	3.79	311		Pn	19 22 19.5	-0.2
BRLK	Bradley Lake	3.95	353		Pn	19 22 21.3	-0.5
BRLK				IAML		19 24 08.2	
	comp=N,21nm,0.8s						
BRLK	Bradley Lake	3.95	353		Sn	19 23 05.3	-2.9
Q23K	Middleton Isla	4.05	27	Pn	Pn	19 22 23.1	0.0
PLK1	Peulik 1	4.17	301		Pn	19 22 26.6	+1.8
P19K	Oil Pt	4.20	336		Pn	19 22 25.3	+0.1
P19K				IAML		19 24 17.3	
	comp=N,75nm,0.5s						
P23K	Montague Islan	4.36	17		Pn	19 22 27.3	0.0
P23K					Sn	19 23 14.6	-3.5
ILS	Iliamna Low So	4.45	339		Sn	19 23 16.9	-3.5
ILSW	Iliamna Southw	4.48	339	Pn	Pn	19 22 28.8	-0.4
ILSW					Sn	19 23 21.7	+0.2
ILSW				IAML		19 24 22.3	
	comp=N,15nm,0.4s						
ILSW				IAML		19 24 23.0	
	comp=E,17nm,0.8s						
P18K	Big Mountain,	4.56	323		Pn	19 22 29.9	-0.2
SLKM	Skilak Lake	4.67	358	Pn	Pn	19 22 31.7	+0.1
SLKM					Sn	19 23 22.9	-2.9
SLKM				IAML		19 24 24.7	
	comp=E,39nm,0.2s						
SLKM				IAML		19 24 27.0	
	comp=N,33nm,0.2s						
P17K	Kvichak River	4.86	316		Pn	19 22 35.0	+0.8
HIN	Hinchinbrook I	4.89	20		Pn	19 22 34.0	-0.7
HIN				IAML		19 24 30.7	
	comp=N,42nm,0.9s						
HIN			

comp=N,69nm,0.6s
SII Sitkinak Islan 2.51 288 Sn 19 23 29.7 -3.0
R18K Karluk 3.05 306 Pn 19 23 09.4 +0.2
SYI Shuyak Island 3.08 335 Pn 19 23 10.2 +0.7
SYI Sn 19 23 45.0 -1.6
SYI Shuyak Island 3.08 335 IAML 19 23 47.0
comp=N,25nm,0.6s
SYI IAML 19 23 47.4
comp=E,37nm,0.5s
CHIR Chirikof Islan 3.25 272 Pn 19 23 12.0 +0.1
CHIR Sn 19 23 49.0 -1.8
CHIR Chirikof Islan 3.25 272 IAML 19 24 55.4
comp=E,71nm,2.5s
KAKN Katmai Knife C 3.74 313 Pn 19 23 20.1 +1.3
ACHA Angle Creek He 3.80 310 Pn Pn 19 23 20.2 +0.7
ACHA IAML 19 23 47.9
comp=N,15nm,3.9s
BRSE Bradley Lake S 3.92 353 Sn 19 24 04.0 -3.3
HOM Homer 3.92 347 Pn Pn 19 23 20.7 -0.5
BRLK Bradley Lake 3.95 352 Pn 19 23 22.1 +0.5
BRLK Bradley Lake 3.95 352 IAML 19 24 14.1
comp=E,21nm,1.4s
Q23K Middleton Isla 4.04 26 Pn 19 23 22.9 +0.1
SEW Seward 4.26 3 Sn 19 24 12.3 -3.4
P23K Montague Islan 4.35 17 Pn 19 23 28.0 +1.0
P23K Sn 19 24 14.3 -3.6
P18K Big Mountain, 4.56 323 Pn 19 23 29.8 -0.2
P18K IAML 19 25 26.8
comp=N,20nm,4.5s
P18K IAML 19 25 44.4
comp=E,17nm,4.2s
SPCR Spurr Chakacha 5.49 348 Pn 19 23 43.4 +0.6
BGLC Bering Glacier 5.52 37 Pn 19 23 43.6 +0.6
SNH Sunshine Point 5.71 38 Pn 19 23 46.2 +0.4
STLK Strandline Lak 5.75 351 Pn Pn 19 23 45.6 -0.7
BMRM Bremner River 5.81 26 Pn 19 23 48.4 +1.2
BARK Barkley Ridge 5.99 38 Pn 19 23 51.0 +1.3
O15K Ungaliktiuk R 6.31 306 Pn 19 23 55.1 +1.1
RKAV Rock Avalanche 6.34 42 Pn 19 23 55.7 +1.3
KIAG Kiagna River 6.42 35 Pn 19 23 56.9 +1.2
M18K Stony River 6.44 334 Pn 19 23 56.5 +0.8
BALM Baldy 6.51 34 Pn 19 23 58.1 +1.3
O28M Mount Upton 7.08 42 Pn 19 24 05.9 +1.2
S31K Pelican 7.75 69 Pn 19 24 14.3 +0.7
K20K Telida 7.81 346 Pn Pn 19 24 15.1 +0.5
M14K Bethel 8.03 313 Pn Pn 19 24 18.9 +1.5

IDC 01 19:28:21.6±3.1, 23°32N×144°67E, h117km±7km, mb3.6/5, mbtmp4.1/7, Error ellipse: s-maj=96.2km s-min=54.7km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**10.67**	**337**	P	Pn	19 30 50.8	-0.3
	116nm,0.5s,baz=112,slow=18,SNR=1.9						
MJAR	**Matsushiro Arr**	**14.31**	**339**	P	Pn	19 31 36.9	-1.9
	0.6nm,0.3s,baz=138,slow=9.7,SNR=9.9						
ZALV	**Zalesovo Beam**	**53.81**	**321**	P	P	19 37 32.0	-0.1
	0.4nm,0.5s,baz=116,slow=9.8,SNR=2.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**54.63**	**312**	P	P	19 37 37.6	-0.5
	0.2nm,0.4s,baz=88,slow=8.7,SNR=5.6						
MKAR				pP	pP	19 38 05.5	+1.7
	0.2nm,0.5s,baz=92,slow=7.2,SNR=1.9						
MKAR				PcP	PcP	19 38 38.2	-1.5
	0.2nm,0.4s,baz=82,slow=2.3,SNR=6.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**57.30**	**316**	P	P	19 37 57.4	+0.4
	1.0nm,0.5s,baz=92,slow=7.7,SNR=29						
KURBB				pP	pP	19 38 24.6	+1.7
	0.2nm,0.6s,baz=95,slow=7.4,SNR=2.4						
	1.0nm,0.5s						
BVAR	**Borovoye Array**	**62.35**	**319**	P	P	19 38 32.4	+0.8
	1.6nm,0.4s,baz=88,slow=6.9,SNR=22						
BVAR				pP	pP	19 38 59.3	+1.2
	0.5nm,0.5s,baz=84,slow=8.3,SNR=2.7						
	1.6nm,0.4s						
FINES	**FINESS Array B**	**82.31**	**335**	P	P	19 40 29.5	-0.4
	3.3nm,1.1s,baz=68,slow=5.9,SNR=4.7						
FINES				pP	pP	19 41 01.6	+3.8
	3.7nm,1.2s,baz=60,slow=4.9,SNR=1.3						
	3.3nm,1.1s						

IDC 01 19:30:15.0±12.0, 7°79S×127°47E, h152km±135km, mb2.8/1, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=92.2km s-min=53.9km az=32.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.40**	**190**	P	Pn	19 32 40.4	+0.2
	0.7nm,0.3s,baz=18,slow=16,SNR=21						
FITZ				S	Sn	19 34 35.5	+0.1
	1.4nm,0.3s,baz=273,slow=21,SNR=6.1						
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**13.79**	**152**	P	Pn	19 33 22.8	-1.5
	0.2nm,0.3s,baz=332,slow=12,SNR=11						
WRA				S	Sn	19 35 44.3	-13
	1.5nm,0.5s,baz=336,slow=23,SNR=11						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**16.95**	**159**	P	Pn	19 34 04.1	+0.8
	0.2nm,0.3s,baz=335,slow=10,SNR=21						
ASAR				S	S	19 37 04.2	-7.4
	0.8nm,0.6s,baz=325,slow=22,SNR=9.2						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**67.54**	**328**	P	P	19 40 54.9	0.0
	0.1nm,0.5s,baz=112,slow=7.2,SNR=2.1						
	0.1nm,0.5s						

JMA 01 19:30:52.2±0.4, 35°N±2°×13°7E±°, h306km±3km, MV2.7/30, MIKAWA BAY REGION, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSSY	**Shinshiroyabe**	**0.11**	**99**	P	Pn	19 31 31.1	+0.2
JAO	**Obara**	**0.35**	**345**	P	Pn	19 31 31.4	+0.2
JIE	**Ise**	**0.77**	**226**	eP	Pn	19 31 32.4	0.0
JYTA	**Yamagatataniai**	**0.84**	**322**	P	Pn	19 31 33.8	+1.3
JYN	**Shimob**	**1.11**	**59**	eP	Pn	19 31 34.0	+0.1
TTO1	**TONANKAI O.B.S**	**1.39**	**201**	eP	Pn	19 31 35.8	+0.7
JWY	**Kouya**	**1.63**	**245**	P	Pn	19 31 37.0	+0.1
JWY				eS	S	19 32 12.0	-0.6
JWT	**Wachi**	**1.65**	**283**	P	Pn	19 31 37.1	+0.2
JWT				eS	S	19 32 11.0	-1.6
JRY	**Ryogami san**	**1.65**	**49**	P	Pn	19 31 37.7	+0.7
JRY				eS	S	19 32 13.3	+0.7
MAT	**Matsushiro**	**1.75**	**23**	eP	Pn	19 31 37.8	+0.2
JTNC	**Tanabenakahech**	**1.83**	**233**	P	Pn	19 31 38.5	+0.1
JAG	**Ashikaga**	**2.26**	**48**	P	Pn	19 31 40.7	-0.9
JAG				eS	S	19 32 18.7	-2.2
JAI	**Aioi**	**2.67**	**246**	P	Pn	19 31 45.0	-0.3
JHS	**Saijyo**	**3.49**	**272**	eP	Pn	19 31 54.1	+0.7

IDC 01 19:33:55.6±4.8, 65°30S×179°86W, h0km, mb3.6/3, mbtmp3.8/4, ML3.8/1, MS3.6/9, Error ellipse: s-maj=155.6km s-min=27.8km az=69.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.47**	**197**	Pn	Pn	19 37 07.4	-0.2
	0.5nm,0.3s,baz=41,slow=17,SNR=10						
VNDA				LR	LR	19 40 48.7	
	comp=Z,168nm,19.5s,baz=356,slow=31						
	3.1nm,0.5s						
QSPA	**South Pole Qui**	**24.79**	**180**	P	P	19 39 18.9	0.0
	3.2nm,0.8s,baz=36,slow=9.0,SNR=7.3						
QSPA				LR	LR	19 47 54.5	
	comp=Z,157nm,19.1s,baz=43,slow=34						
	3.2nm,0.8s						
URZ	**Urewera**	**27.14**	**355**	LR	LR	19 49 19.3	
	comp=Z,84nm,18.4s,baz=280,slow=34						
MAW	**Mawson**	**40.15**	**212**	LR	LR	19 56 35.8	
	comp=Z,74nm,18.7s,baz=170,slow=34						
SNAA	**Sanae**	**43.28**	**179**	LR	LR	19 58 45.6	
	comp=Z,148nm,18.8s,baz=264,slow=34						
DZM	**Mont Dzumac**	**44.13**	**342**	LR	LR	19 57 57.1	
	comp=Z,47nm,21.6s,baz=204,slow=33						
RAR	**Rarotonga**	**46.00**	**26**	LR	LR	19 56 23.9	
	comp=Z,37nm,19.0s,baz=203,slow=29						
H01W1	**Cape Leeuwin H**	**48.91**	**275**	T	T	20 35 45.9	
	baz=149,slow=76,SNR=6.0						
H01W2	**Cape Leeuwin H**	**48.91**	**275**	T	T	20 35 46.5	
	baz=149,slow=76,SNR=5.2						
H01W3	**Cape Leeuwin H**	**48.92**	**275**	T	T	20 35 47.0	
	baz=149,slow=76,SNR=3.8						
ASAR	**Alice Springs**	**51.05**	**302**	P	P	19 42 59.5	+0.2
	0.4nm,0.6s,baz=157,slow=7.3,SNR=12						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**54.32**	**304**	P	P	19 43 23.1	-0.5
	0.4nm,0.7s,baz=157,slow=7.3,SNR=1.7						
	0.4nm,0.7s						
KRVT	**Keravat (AS076**	**64.07**	**328**	LR	LR	20 07 19.8	
	comp=Z,78nm,21.1s,baz=98,slow=31						
H03S2	**Juan Fernandez**	**64.11**	**115**	T	T	20 54 37.4	
	baz=206,slow=74,SNR=3.6						
H03S1	**Juan Fernandez**	**64.11**	**115**	T	T	20 54 40.8	
	baz=206,slow=74,SNR=3.8						
H03S3	**Juan Fernandez**	**64.13**	**115**	T	T	20 54 43.0	
	baz=206,slow=74,SNR=3.8						
SUR	**Sutherland**	**81.32**	**198**	LR	LR	20 18 27.4	
	comp=Z,25nm,21.3s,baz=208,slow=33						

*KRSC **01** 19:35:30.4±0.8, 54°73N×164°67E, h42km±27km, Ml3.6*
*IDC **01** 19:35:30.1±1.9, 54°95N×164°61E, h0km, mb3.4/3, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=72.7km s-min=26.8km az=165.0*
ISC 01 19:35:33.0±0.9, 54°81N±0°06×164°71E±0°06, h27km, n36, σ1§02/35, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.83**	**61**	eP	**Pb**	**19 35 47.9**	**-0.7**
BKI				eS	**Sb**	**19 35 59.2**	**-0.3**
KBTR	**Krutoberegovo**	**1.76**	**323**	eP	**Pn**	**19 35 59.5**	**-2.2**
TUMD	**Tumrok D**	**2.51**	**281**	eP	**Pn**	**19 36 11.6**	**-0.4**
SMKR	**Semkarok**	**2.55**	**315**	eP	**Pn**	**19 36 13.0**	**+0.4**
SMKR				eS	**Sn**	**19 36 43.9**	**+1.1**
CIRR	**Tsirk**	**2.60**	**302**	eP	**Pn**	**19 36 13.7**	**+0.3**
KMNR	**Kamenistaya**	**2.73**	**292**	eP	**Pn**	**19 36 15.5**	**+0.5**
KIRR	**Kirishev**	**2.74**	**296**	eP	**Pn**	**19 36 16.1**	**+0.9**
KRSR	**Krestovskiy**	**2.74**	**303**	eP	**Pn**	**19 36 15.2**	**-0.1**
KRSR				eS	**Sn**	**19 36 47.8**	**+0.2**
KLY	**Klyuchi**	**2.75**	**305**	eP	**Pn**	**19 36 13.9**	**-1.3**
KLY				eS	**Sn**	**19 36 44.6**	**-2.9**
KPT	**Kopyto**	**2.81**	**296**	eP	**Pn**	**19 36 16.9**	**+0.8**
KOZ	**Kozyrevsk**	**3.02**	**296**	eP	**Pn**	**19 36 19.9**	**+0.8**
SRDR	**Sredinnyy**	**3.21**	**300**	eP	**Pn**	**19 36 22.5**	**+0.9**
SPN	**Mys Shipunski**	**3.26**	**240**	eP	**Pn**	**19 36 21.0**	**-1.2**
NLC	**Nalytchevo**	**3.57**	**245**	eP	**Pn**	**19 36 26.2**	**-0.2**
ESO	**Esso**	**3.60**	**290**	eP	**Pn**	**19 36 26.9**	**-0.2**
UGLR	**Uglovaya**	**3.83**	**248**	eP	**Pn**	**19 36 30.6**	**+0.5**
AVH	**Avacha**	**3.85**	**249**	eP	**Pn**	**19 36 31.1**	**+0.7**
KRX	**Arik**	**3.85**	**250**	eP	**Pn**	**19 36 30.7**	**+0.1**
KOK	**Koryaka**	**3.89**	**249**	eP	**Pn**	**19 36 31.2**	**+0.2**
DALK	**Dalny**	**3.95**	**246**	eP	**Pn**	**19 36 31.0**	**-0.7**
GNL	**Ganaly**	**4.12**	**257**	eP	**Pn**	**19 36 35.1**	**+0.9**
KRMR	**Karymshinskiy**	**4.37**	**246**	eP	**Pn**	**19 36 37.8**	**+0.3**
RUS	**Russkaya**	**4.39**	**240**	eP	**Pn**	**19 36 37.2**	**-0.5**
PETK	**Petropavlovsk-**	**4.48**	**250**	Pn	**Pn**	**19 36 38.9**	**-0.1**
	1.2nm,0.3s,baz=67,slow=17,SNR=6.7						
PETK				Sn	**Sn**	**19 37 28.4**	**-1.8**
	baz=28,slow=28						
	1.9nm,0.3s						
GRL	**Gorelyy**	**4.55**	**243**	eP	**Pn**	**19 36 40.6**	**+0.5**
APC	**Apacha**	**4.85**	**250**	eP	**Pn**	**19 36 45.3**	**+1.2**
KDTR	**Khodutka, Kamc**	**4.99**	**236**	eP	**Pn**	**19 36 45.0**	**-1.0**
ILAR	**Eielson Array**	**25.65**	**48**	P	**P**	**19 41 00.2**	**+0.3**
	0.6nm,0.8s,baz=265,slow=9.0,SNR=8.6						
	0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.06**	**176**	T	T	20 20 24.6	
	baz=2.2,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**35.08**	**176**	T	T	20 20 28.4	
	baz=2.2,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.08**	**176**	T	T	20 20 17.5	
	baz=2.2,slow=76,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**36.27**	**177**	T	T	20 22 15.1	
	baz=6.4						
H11S3	**WAKE ISLAND Hy**	**36.28**	**177**	T	T	20 22 15.9	
	baz=6.4						
H11S2	**WAKE ISLAND Hy**	**36.29**	**177**	T	T	20 22 25.4	
	baz=6.4						
KURBB	**Kurchatov Arra**	**49.22**	**303**	P	**P**	**19 44 18.6**	**+0.2**
	0.2nm,0.6s,baz=54,slow=6.8,SNR=2.0						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**67.47**	**71**	P	**P**	**19 46 28.0**	**+1.7**
	0.4nm,0.6s,baz=294,slow=4.2,SNR=5.4						
	0.4nm,0.6s						

IDC 01 19:39:41.6±1.5, 55°50S×26°67W, h0km, mbtmp3.6/1, ML3.1/1, MS3.8/1, Error ellipse: s-maj=82.7km s-min=41.9km az=78.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.13**	**157**	P	P	19 44 06.2	+0.2
	0.1nm,0.3s,baz=309,slow=12,SNR=1.8						
	2.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.43**	**29**	P	P	19 51 09.7	+0.2
	62nm,0.4s,baz=209,slow=8.3,SNR=3.3						
ILAR	**Eielson Array**	**149.96**	**312**	PKPbc	PKPbc	19 59 31.9	-0.4
	0.7nm,0.7s,baz=129,slow=2.3,SNR=9.9						
SONM	**Songino Array**	**150.40**	**85**	PKPbc	PKPbc	19 59 33.5	-0.6
	0.8nm,0.7s,baz=216,slow=2.3,SNR=7.5						

*IDC **01** 19:47:54.5±0.6, 54°10N×170°49E, h0km, mb3.8/24, mbtmp3.8/28, ML4.3/3, MS3.0/12, Error ellipse: s-maj=17.3km s-min=11.5km az=6.0*
*KRSC **01** 19:47:56.5±1.8, 54°03N×170°10E, h40km±25km, Ml4.4*
*MOS **01** 19:47:57.6±0.9, 54°13N×170°28E, h35km, mb4.6/16, Error ellipse: s-maj=9.1km s-min=6.4km az=18.3*
*NEIC **01** 19:47:58.6±1.8, 54°11N±0°10×170°6E±0°1, h33km±4km, mb4.2/84, Error ellipse: s-maj=14.2km s-min=8.5km az=198.0*
ISC 01 19:47:58.8±0.5, 54°09N±0°07×170°47E±0°04, h35km, n212, σ1§47/202, mb4.2/68, MS3.0/10, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.57**	**121**	Pn	**Pn**	**19 48 37.4**	**-0.5**
	45nm,0.3s,baz=354,slow=1.0,SNR=26						
SHEM				Sn	**Sn**	**19 49 07.6**	**-0.3**
	57nm,0.3s,baz=188,slow=15,SNR=7.3						
SHEM				LR	LR	19 49 29.1	
	comp=Z,51nm,21.4s,baz=216,slow=37						
	93nm,0.3s						
BKI	**Bering**	**2.84**	**295**	P	**Pn**	**19 48 39.5**	**-2.0**
BKI				S	**Sn**	**19 49 11.1**	**-3.3**
BKI	**Bering**	**2.84**	**295**	eP	**Pn**	**19 48 39.6**	**-2.0**
BKI				eS	**Sn**	**19 49 11.2**	**-3.3**
KBTR	**Krutoberegovo**	**4.87**	**299**	P	**Pn**	**19 49 07.5**	**-1.9**
KBTR	**Krutoberegovo**	**4.87**	**299**	eP	**Pn**	**19 49 07.6**	**-1.9**
KBG	**Krutoberegovo**	**4.95**	**299**	eS	**Sn**	**19 50 03.6**	**-2.8**
TUMD	**Tumrok D**	**5.95**	**285**	P	**Pn**	**19 49 24.6**	**+0.3**
TUMD				S	**Sn**	**19 50 28.8**	**-2.4**
TUMD	**Tumrok D**	**5.95**	**285**	eP	**Pn**	**19 49 24.7**	**+0.3**
TUMD				eS	**Sn**	**19 50 28.8**	**-2.4**
KIRR	**Kirishev**	**6.11**	**292**	P	**Pn**	**19 49 26.9**	**+0.2**
KIRR	**Kirishev**	**6.11**	**292**	eP	**Pn**	**19 49 26.9**	**+0.2**
KMNR	**Kamenistaya**	**6.13**	**290**	P	**Pn**	**19 49 27.4**	**+0.6**
KMNR				S	**Sn**	**19 50 33.6**	**-2.1**
KMNR	**Kamenistaya**	**6.13**	**290**	eP	**Pn**	**19 49 27.4**	**+0.6**
KMNR				eS	**Sn**	**19 50 33.6**	**-2.1**
SPN	**Mys Shipunski**	**6.30**	**265**	P	**Pn**	**19 49 28.2**	**-0.9**
SPN	**Mys Shipunski**	**6.30**	**265**	eP	**Pn**	**19 49 28.2**	**-0.9**
KII	**Karymskiy**	**6.49**	**274**	P	**Pn**	**19 49 31.7**	**0.0**
KII	**Karymskiy**	**6.49**	**274**	eP	**Pn**	**19 49 31.7**	**0.0**
SRDR	**Sredinnyy**	**6.54**	**294**	P	**Pn**	**19 49 32.9**	**+0.4**
SRDR	**Sredinnyy**	**6.54**	**294**	eP	**Pn**	**19 49 33.0**	**+0.4**
NLC	**Nalytchevo**	**6.68**	**267**	P	**Pn**	**19 49 33.6**	**-0.7**
NLC	**Nalytchevo**	**6.68**	**267**	eP	**Pn**	**19 49 33.7**	**-0.7**
UGLR	**Uglovaya**	**6.98**	**267**	P	**Pn**	**19 49 38.4**	**-0.1**
UGLR	**Uglovaya**	**6.98**	**267**	eP	**Pn**	**19 49 38.5**	**-0.1**
ESO	**Esso**	**7.01**	**290**	P	**Pn**	**19 49 39.7**	**+0.8**
ESO	**Esso**	**7.01**	**290**	eP	**Pn**	**19 49 39.7**	**+0.8**
AVH	**Avacha**	**7.02**	**268**	P	**Pn**	**19 49 38.9**	**-0.1**
AVH	**Avacha**	**7.02**	**268**	eP	**Pn**	**19 49 39.0**	**-0.1**
KRX	**Arik**	**7.05**	**269**	P	**Pn**	**19 49 39.2**	**-0.3**
KRX	**Arik**	**7.05**	**269**	eP	**Pn**	**19 49 39.3**	**-0.3**
DALK	**Dalny**	**7.06**	**266**	P	**Pn**	**19 49 39.2**	**-0.3**
DALK	**Dalny**	**7.06**	**266**	eP	**Pn**	**19 49 39.2**	**-0.3**
KOK	**Koryaka**	**7.07**	**268**	P	**Pn**	**19 49 39.6**	**-0.2**
KOK	**Koryaka**	**7.07**	**268**	eP	**Pn**	**19 49 39.7**	**-0.2**
PET	**Petropavlovsk**	**7.12**	**266**		**Pn**	**19 49 39.8**	**-0.5**
PET	**Petropavlovsk**	**7.12**	**266**	eP	**Pn**	**19 49 40.1**	**-0.2**
PET				eS	**Sn**	**19 50 56.7**	**-3.2**
PET				pmax	pmax		
	comp=Z,35nm,0.6s						
PET				smax	smax		
	comp=N,76nm,0.6s						
PET				smax	smax		
	comp=E,79nm,0.4s						
PET	**Petropavlovsk**	**7.12**	**266**	eP	**Pn**	**19 49 39.8**	**-0.5**
RUS	**Russkaya**	**7.36**	**262**	P	**Pn**	**19 49 42.8**	**-0.8**
RUS	**Russkaya**	**7.36**	**262**	eP	**Pn**	**19 49 42.8**	**-0.8**
GNL	**Ganaly**	**7.41**	**272**	P	**Pn**	**19 49 45.3**	**+0.8**
GNL	**Ganaly**	**7.41**	**272**	eP	**Pn**	**19 49 45.3**	**+0.8**
KRMR	**Karymshinskiy**	**7.47**	**265**	P	**Pn**	**19 49 44.9**	**-0.3**
KRMR				S	**Sn**	**19 51 04.5**	**-4.1**
KRMR	**Karymshinskiy**	**7.47**	**265**	eP	**Pn**	**19 49 44.9**	**-0.3**
KRMR				eS	**Sn**	**19 51 04.6**	**-4.1**
GRL	**Gorelyy**	**7.58**	**263**	P	**Pn**	**19 49 47.0**	**+0.2**
GRL	**Gorelyy**	**7.58**	**263**	eP	**Pn**	**19 49 47.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**7.66**	**268**		**Pn**	**19 49 47.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**7.66**	**268**	P	**Pn**	**19 49 47.9**	**+0.1**
PETK	**Petropavlovsk-**	**7.66**	**268**		**Pn**	**19 49 47.3**	**-0.5**
PETK	**Petropavlovsk-**	**7.66**	**268**	Pn	**Pn**	**19 49 47.5**	**-0.3**
	comp=E,6.6nm,0.3s,baz=94,slow=19,SNR=47						
PETK				Sn	**Sn**	**19 51 10.5**	**-2.8**
	comp=E,2.4nm,0.3s,baz=89,slow=38,SNR=3.5						
PETK				LR	LR	19 52 54.8	
	comp=E,56nm,19.8s,baz=84,slow=39						
	comp=E,10nm,0.4s						
PETK	**Petropavlovsk-**	**7.66**	**268**	P	**Pn**	**19 49 47.3**	**-0.5**
KIWB	**Kanaga Island**	**7.81**	**102**	Pn	**Pn**	**19 49 46.4**	**-3.4**
KDTR	**Khodutka, Kamc**	**7.83**	**258**	P	**Pn**	**19 49 49.2**	**-0.8**
KDTR	**Khodutka, Kamc**	**7.83**	**258**	eP	**Pn**	**19 49 49.2**	**-0.8**
APC	**Apacha**	**8.02**	**267**	P	**Pn**	**19 49 53.0**	**+0.3**
APC				S	**Sn**	**19 51 20.2**	**-1.8**
APC	**Apacha**	**8.02**	**267**	eP	**Pn**	**19 49 53.1**	**+0.3**
APC				eS	**Sn**	**19 51 20.3**	**-1.8**
ADK	**Adak**	**8.06**	**101**	Pn	**Pn**	**19 49 51.0**	**-2.3**
ADK	**Adak**	**8.06**	**101**	P	**Pn**	**19 49 51.0**	**-2.3**
GSTR	**Great Sitkin T**	**8.36**	**98**	Pn	**Pn**	**19 49 54.2**	**-3.2**
PAU	**Pauzhetka**	**8.69**	**258**	P	**Pn**	**19 50 02.0**	**+0.2**
PAU	**Pauzhetka**	**8.69**	**258**	eP	**Pn**	**19 50 02.1**	**+0.2**
ATKA	**Atka Island**	**9.41**	**95**	Pn	**Pn**	**19 50 09.7**	**-2.0**
SKR	**Severo-Kuril's**	**9.41**	**255**	P	**Pn**	**19 50 11.1**	**-0.6**
SKR				S	**Sn**	**19 51 50.6**	**-5.6**
SKR	**Severo-Kuril's**	**9.41**	**255**	eP	**Pn**	**19 50 11.1**	**-0.6**
SKR				eS	**Sn**	**19 51 50.6**	**-5.6**
SPIA	**Saint Paul Isl**	**11.32**	**66**	Pn	**Pn**	**19 50 35.3**	**-2.5**
P08K	**Saint George I**	**11.64**	**69**	Pn	**Pn**	**19 50 39.4**	**-2.8**
MA2	**Magadan**	**12.08**	**305**	Pn	**Pn**	**19 50 50.3**	**+2.1**
	comp=E,0.3nm,0.3s,baz=105,slow=13,SNR=5.1						
	comp=E,0.7nm,0.2s						
SEY	**Seymchan**	**12.90**	**321**	Pn	**Pn**	**19 50 58.0**	**-1.4**
	comp=E,0.6nm,0.6s,baz=127,slow=12,SNR=5.2						
UNV	**Unalaska Valle**	**13.55**	**82**	Pn	**Pn**	**19 51 06.4**	**-1.9**
BILL	**Bilibino**	**14.13**	**354**	P	**P**	**19 51 21.5**	**-1.8**
K13K	**Kusilvak Mount**	**15.26**	**49**		**Pn**	**19 51 30.6**	**-0.7**
K13K				IAmb	IAmb	19 51 32.4	
	comp=Z,18nm,1.3s						
M13K	**Dall Lake**	**15.44**	**55**	Pn	**Pn**	**19 51 31.6**	**-2.1**
L14K	**Kuka Creek**	**15.98**	**52**		**Pn**	**19 51 39.9**	**-0.7**
L14K				IAmb	IAmb	19 51 55.3	
	comp=Z,22nm,1.3s						
M14K	**Bethel**	**16.19**	**55**	P	**P**	**19 51 43.9**	**-2.2**
M14K				IAmb	IAmb	19 51 58.3	
	comp=Z,20nm,1.0s						
K15K	**Wolf Creek Mou**	**16.77**	**50**	P	**P**	**19 51 52.3**	**-0.2**
K15K				IAmb	IAmb	19 52 05.4	
	comp=Z,44nm,1.4s						
J16K	**Anvik River**	**17.47**	**47**	P	**P**	**19 52 01.1**	**+0.8**
J16K				IAmb	IAmb	19 52 42.1	
	comp=Z,23nm,1.4s						
L16K	**Owhat River**	**17.56**	**52**	P	**P**	**19 52 02.8**	**+1.6**
J17K	**VABM Dome**	**18.16**	**47**	P	**P**	**19 52 06.5**	**-1.4**
L18K	**Granite Mounta**	**18.95**	**51**	P	**P**	**19 52 14.8**	**-1.8**
H18K	**Honhosa River**	**19.02**	**42**	P	**P**	**19 52 15.8**	**-1.6**
H18K				IAmb	IAmb	19 52 28.7	
	comp=Z,19nm,1.5s						
G18K	**Tagagawik**	**19.19**	**40**	P	**P**	**19 52 17.3**	**-1.9**
L19K	**White Mountain**	**19.80**	**52**	P	**P**	**19 52 24.9**	**-0.9**
J19K	**Poorman**	**19.81**	**47**	P	**Pn**	**19 52 25.5**	**-2.1**
F19K	**Shaleruckik Mo**	**19.89**	**38**	P	**Pn**	**19 52 26.3**	**-2.3**
H19K	**Roundabout Mou**	**19.91**	**42**	P	**Pn**	**19 52 27.0**	**-1.7**
K20K	**Telida**	**20.35**	**49**	P	**P**	**19 52 30.9**	**-0.8**
E19K	**Redstone River**	**20.35**	**36**	P	Pn	19 52 31.6	-2.4
E19K				IAmb	IAmb	19 52 43.1	
	comp=Z,7.8nm,0.8s						
J20K	**Nowinta River**	**20.48**	**46**	P	Pn	19 52 33.6	-1.9
J20K				IAmb	IAmb	19 52 43.9	
	comp=Z,8.9nm,0.9s						
OHAK	**Old Harbor**	**20.53**	**67**	P	**P**	**19 52 32.8**	**-1.0**
OHAK				IAmb	IAmb	19 52 59.0	
	comp=Z,8.9nm,0.9s					

D23K				IAmb	IAmb	19 53 12.4	
	comp=Z,8.6nm,0.8s						
CCB	**Clear Creek Bu**	**23.27**	**46**	IAmb	IAmb	19 53 15.8	
	comp=Z,6.4nm,1.0s						
TOLK	**Toolik Lake Re**	**23.46**	**36**	P	**P**	**19 53 04.4**	**-0.3**
C23K	**Itkillik River**	**23.53**	**33**	P	**P**	**19 53 05.4**	**+0.1**
C23K				IAmb	IAmb	19 53 20.0	
	comp=Z,9.3nm,1.0s						
IL31		**23.68**	**46**	P	**P**	**19 53 06.5**	**-0.2**
ILAR	**Eielson Array**	**23.68**	**46**	P	**P**	**19 53 06.4**	**-0.4**
ILAR	**Eielson Array**	**23.68**	**46**	P	**P**	**19 53 06.7**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=257,slow=8.3,SNR=23						
ILAR				LR	LR	20 01 47.1	
	comp=Z,47nm,18.9s,baz=252,slow=35						
	comp=Z,1.9nm,0.8s						
E24K	**Your Creek**	**23.68**	**38**	P	**P**	**19 53 05.6**	**-1.3**
D24K	**Happy Valley**	**23.88**	**35**	IAmb	IAmb	19 53 19.5	
	comp=Z,6.3nm,0.8s						
KLR	**Kul'dur**	**24.28**	**274**	LR	LR	20 02 19.5	
	comp=Z,41nm,20.6s,baz=46,slow=36						
FYU	**Fort Yukon**	**24.60**	**42**	IAmb	IAmb	19 53 25.1	
	comp=Z,8.1nm,0.8s						
F25K	**Christian Rive**	**24.62**	**40**	IAmb	IAmb	19 53 27.8	
	comp=Z,8.1nm,1.1s						
E25K	**Arctic Village**	**24.76**	**38**	IAmb	IAmb	19 53 28.5	
	comp=Z,5.4nm,1.0s						
D25K	**Kavik River**	**24.77**	**35**	P	**P**	**19 53 16.5**	**-0.3**
D25K				IAmb	IAmb	19 53 28.0	
	comp=Z,7.1nm,0.7s						
BMAR	**Burnt Mountain**	**24.99**	**40**	P	**P**	**19 53 18.3**	**-0.5**
TIXI	**Tiksi**	**25.04**	**330**	P	**P**	**19 53 19.3**	**+0.2**
TIXI				IAmb	IAmb	19 53 21.3	
	comp=Z,4.7nm,0.8s						
TIXI	**Tiksi**	**25.04**	**330**	P	**P**	**19 53 19.3**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
F26K	**Sheenjek River**	**25.20**	**40**	P	**P**	**19 53 20.6**	**-0.1**
F26K				IAmb	IAmb	19 53 33.1	
	comp=Z,6.8nm,1.0s						
C27K	**Jago River**	**25.75**	**35**	IAmb	IAmb	19 53 38.7	
	comp=Z,6.6nm,1.1s						
HEH	**HeiHe**	**26.37**	**279**	*e*P	**P**	**19 53 32.2**	**+0.8**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.73**	**264**	LR	LR	20 04 03.9	
	comp=Z,42nm,21.8s,baz=38,slow=36						
K29M	**Barlow Dome**	**27.74**	**49**	P	**P**	**19 53 43.4**	**-0.4**
K29M				IAmb	IAmb	19 53 53.9	
	comp=Z,5.4nm,0.9s						
G31M	**Satah River**	**28.96**	**42**	P	**P**	**19 53 54.6**	**+0.2**
G31M				IAmb	IAmb	19 54 04.1	
	comp=Z,5.1nm,0.6s						
M31M	**Drury Creek, Y**	**29.35**	**52**	P	**P**	**19 53 57.2**	**-0.8**
M31M				IAmb	IAmb	19 54 08.8	
	comp=Z,4.9nm,0.9s						
P33M	**Teslin, Yukon**	**30.51**	**55**		**P**	**19 54 09.0**	**+0.7**
P33M				IAmb	IAmb	19 54 18.5	
	comp=Z,2.7nm,0.8s						
MMPY	**Sheldon Lake,**	**30.71**	**50**	P	**P**	**19 54 08.2**	**-1.8**
MMPY				IAmb	IAmb	19 54 20.4	
	comp=Z,2.9nm,0.8s						
A36M	**Sachs Harbour**	**32.06**	**32**	P	**P**	**19 54 22.4**	**+0.7**
A36M				IAmb	IAmb	19 54 31.8	
	comp=Z,2.8nm,0.8s						
C36M	**Paulatuk**	**32.61**	**37**	P	**P**	**19 54 26.9**	**+0.4**
KSRS	**Korea Array**	**33.41**	**258**	P	**P**	**19 54 34.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=48,slow=9.4,SNR=6.6						
KSRS				LR	LR	20 09 27.6	
	comp=Z,14nm,19.4s,baz=25,slow=39						
	comp=Z,1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.41**	**186**	T	T	20 31 16.7	
	baz=3.6,slow=76,SNR=147						
H11N3	**WAKE ISLAND Hy**	**34.42**	**186**	T	T	20 31 17.7	
	baz=3.6,slow=76,SNR=205						
H11N1	**WAKE ISLAND Hy**	**34.43**	**186**	T	T	20 31 18.0	
	baz=3.6,slow=76,SNR=182						
H11S1	**WAKE ISLAND Hy**	**35.64**	**186**	T	T	20 32 49.0	
	baz=3.6,slow=76,SNR=172						
H11S3	**WAKE ISLAND Hy**	**35.65**	**186**	T	T	20 32 50.5	
	baz=3.6,slow=76,SNR=101						
H11S2	**WAKE ISLAND Hy**	**35.66**	**186**	T	T	20 32 54.4	
	baz=3.6,slow=76,SNR=151						
BBB	**Bella Bella**	**35.88**	**67**	LR	LR	20 07 30.9	
	comp=Z,22nm,19.6s,baz=323,slow=33						
XLT	**XiLinHaoTe**	**36.26**	**276**	*e*P	**P**	**19 54 57.0**	**-1.5**
XLT				pP	pP	19 55 07.1	-0.5
XLT				sP	pwP	19 55 14.8	+2.8
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,170nm,6.5s						
YKA	**Yellowknife Ar**	**38.11**	**47**	P	**P**	**19 55 13.4**	**-0.4**
YKA	**Yellowknife Ar**	**38.11**	**47**	P	**P**	**19 55 14.3**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=294,slow=8.3,SNR=5.7						
	comp=Z,0.7nm,1.0s						
EUNU	**Eureka**	**39.42**	**15**	P	**P**	**19 55 24.6**	**0.0**
SONM	**Songino Array**	**39.58**	**288**	P	**P**	**19 55 26.4**	**-0.1**
SONM	**Songino Array**	**39.58**	**288**	P	**P**	**19 55 28.2**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=60,slow=7.7,SNR=6.2						
SONM				LR	LR	20 11 59.5	
	comp=Z,42nm,18.8s,baz=2.0,slow=36						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**39.58**	**288**	P	**P**	**19 55 26.4**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**40.77**	**276**	*e*P	**P**	**19 55 36.1**	**-0.3**
SPITS	**Spitsbergen Ar**	**47.04**	**353**	P	**P**	**19 56 26.3**	**+0.2**
	comp=Z,6.4nm,1.0s,baz=65,slow=10,SNR=1.8						
	comp=Z,6.4nm,1.0s						
SPA2	**Spitsbergen Ar**	**47.04**	**353**	P	**P**	**19 56 27.3**	**+1.2**
MCCM	**Marconi Confer**	**47.07**	**81**	P	**P**	**19 56 26.8**	**0.0**
ZALV	**Zalesovo Beam**	**47.29**	**307**	P	**P**	**19 56 29.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=55,slow=7.8,SNR=1.3						
	comp=Z,0.2nm,0.3s						
YULB	**Yu-li**	**47.71**	**250**	P	**P**	**19 56 33.1**	**+1.1**
GTA	**Gaotai**	**48.53**	**283**	*e*P	**P**	**19 56 39.7**	**+1.4**
GTA				sP	pP	19 56 47.5	-0.2
FCC	**Fort Churchill**	**48.66**	**44**	P	**P**	**19 56 38.8**	**0.0**
FCC	**Fort Churchill**	**48.66**	**44**	P	**P**	**19 56 38.8**	**0.0**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NVAR	**Mina Array Bea**	**49.53**	**78**	P	**P**	**19 56 46.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=301,slow=11,SNR=3.6						
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**51.52**	**68**	P	**P**	**19 57 01.6**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=305,slow=5.2,SNR=6.2						
	comp=Z,0.6nm,0.8s						
KURK	**Kurchatov**	**52.28**	**307**		**P**	**19 57 05.4**	**-0.9**
KURK	**Kurchatov**	**52.28**	**307**	P	**P**	**19 57 05.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURBB	**Kurchatov Arra**	**52.39**	**307**	P	**P**	**19 57 06.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=50,slow=7.5,SNR=8.0						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**53.13**	**301**	P	**P**	**19 57 11.5**	**-1.1**
MK31	**Makanchi Array**	**53.13**	**301**	P	**P**	**19 57 11.5**	**-1.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**53.13**	**301**	P	**P**	**19 57 11.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=47,slow=6.5,SNR=5.0						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**53.13**	**301**	P	**P**	**19 57 12.0**	**-0.7**
ARCES	**ARCESS Array B**	**54.07**	**346**	P	**P**	**19 57 21.0**	**+1.8**
	comp=Z,5.4nm,1.0s,baz=39,slow=9.9,SNR=4.2						
	comp=Z,5.4nm,1.0s						
ARCES	**ARCESS Array B**	**54.07**	**346**	P	**P**	**19 57 21.0**	**+1.8**
BVAR	**Borovoye Array**	**54.42**	**313**	P	**P**	**19 57 22.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=50,slow=6.6,SNR=5.8						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**54.42**	**313**	P	**P**	**19 57 22.0**	**0.0**
BRVK	**Borovoye**	**54.45**	**313**		**P**	**19 57 22.1**	**-0.1**
BRVK				IAmb	IAmb	19 57 35.5	
	comp=Z,4.5nm,1.1s						
BRVK	**Borovoye**	**54.45**	**313**	P	**P**	**19 57 22.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PZH	**PanZhiHua**	**56.62**	**270**	P	**P**	**19 57 38.8**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,12μm,5.9s						
ARTI	**Arti**	**56.74**	**322**	LR	LR	20 24 05.4	
	comp=Z,44nm,18.4s,baz=254,slow=38						
KDJ	**Kajisay**	**59.00**	**300**	P	**P**	**19 57 53.5**	**-1.4**
KDJ	**Kajisay**	**59.00**	**300**	P	**P**	**19 57 53.5**	**-1.4**
KDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOOM	**Boomskoye usch**	**59.37**	**301**	P	**P**	**19 57 56.2**	**-1.2**
BOOM	**Boomskoye usch**	**59.37**	**301**	P	**P**	**19 57 56.2**	**-1.2**
BOOM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AAK	**Ala-Archa**	**59.99**	**302**		**P**	**19 58 02.0**	**+0.3**
AAK	**Ala-Archa**	**59.99**	**302**	P	**P**	**19 58 02.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LSA	**Lhasa**	**60.44**	**281**	P	**P**	**19 58 05.0**	**-0.2**
LSA	**Lhasa**	**60.44**	**281**	P	**P**	**19 58 05.0**	**-0.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**61.41**	**341**	P	**P**	**19 58 12.5**	**+1.7**
	comp=Z,2.0nm,0.9s,baz=3.8,slow=12,SNR=3.4						
	comp=Z,2.0nm,0.9s						
ARSB	**Arslanbob**	**61.72**	**302**	P	**P**	**19 58 13.9**	**+0.5**
ARSB	**Arslanbob**	**61.72**	**302**	P	**P**	**19 58 13.9**	**+0.5**
ARSB				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BTK	**Batken**	**63.75**	**302**	P	**P**	**19 58 27.2**	**+0.4**
BTK	**Batken**	**63.75**	**302**	P	**P**	**19 58 27.3**	**+0.4**
BTK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NB2	**NORSAR Subarra**	**64.03**	**349**	P	**P**	**19 58 28.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=13,slow=6.9						
NOA	**NORSAR Array B**	**64.03**	**349**	P	**P**	**19 58 28.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=168,slow=13,SNR=3.6						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**64.44**	**266**	P	**P**	**19 58 32.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=29,slow=7.0,SNR=7.4						
CMAR				LR	LR	20 28 16.7	
	comp=Z,12nm,21.0s,baz=300,slow=38						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**64.47**	**75**	P	**P**	**19 58 33.0**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=301,slow=4.3,SNR=20						
	comp=Z,1.2nm,0.5s						
TXAR	**Lajitas Array**	**64.47**	**75**	P	**P**	**19 58 33.0**	**+1.2**
HFS	**Hagfors**	**64.61**	**347**	P	**P**	**19 58 33.8**	**+1.7**
	comp=Z,4.1nm,1.0s,baz=46,slow=6.2,SNR=4.4						
	comp=Z,4.1nm,1.0s						
GAR	**Garm**	**64.81**	**302**		**P**	**19 58 33.8**	**-0.1**
NIL	**Nilore**	**67.42**	**296**	P	**P**	**19 58 50.4**	**-0.2**
NIL	**Nilore**	**67.42**	**296**	P	**P**	**19 58 50.4**	**-0.2**
NIL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	**Kabul**	**68.91**	**300**	P	**P**	**19 58 59.5**	**-0.7**
KBL	**Kabul**	**68.91**	**300**	P	**P**	**19 58 59.5**	**-0.7**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BURAR	**Bucovina Array**	**74.48**	**336**	P	**P**	**19 59 34.0**	**+0.7**
GERES	**GERESS Array B**	**75.58**	**344**	P	**P**	**19 59 39.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=23,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**79.45**	**328**	P	**P**	**20 00 02.9**	**+1.5**
	comp=Z,1.0nm,1.1s,baz=49,slow=9.8,SNR=1.7						
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**80.00**	**214**	P	**P**	**20 00 05.5**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=26,slow=5.5,SNR=2.5						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**83.61**	**213**	P	**P**	**20 00 24.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=22,slow=5.5,SNR=6.4						
	comp=Z,0.1nm,0.3s						
STKA	**Stephens Creek**	**89.19**	**204**	P	**P**	**20 00 51.7**	**+1.3**
	comp=Z,2.5nm,1.1s,baz=306,slow=5.9,SNR=3.6						
	comp=Z,2.5nm,1.1s						
BOSA	**Boshof**	**144.13**	**301**	PKP	**PKiKP**	**20 07 31.9**	**-2.1**
	comp=Z,1.6nm,0.9s,baz=138,slow=12,SNR=1.7						
BOSA	**Boshof**	**144.13**	**301**	PKIKP	**PKiKP**	**20 07 32.0**	**-2.1**

*IDC **01** 20:11:59.1±3.3, 43°.31N×105°.20W, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=72.2km s-min=10.4km az=154.0*
*NEIC **01** 20:12:01.0±2.3, 43°.63N±0°.03×105°.37W±0°.07, h0km±1km, ML3.2/44, Error ellipse: s-maj=9.3km s-min=3.8km az=300.0*

ISC 01 20:11:59.1±0.9, **43°.48N**±0°.04×**105°.36W**±0°.04, **h0**km, **n31**, σ**1**§**47**/32, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.15**	**56**	Pg	**Pg**	**20 12 21.1**	**0.0**
RSSD	**Black Hills**	**1.15**	**56**	Sg	**Sg**	**20 12 36.8**	**+0.8**
N23A	**Red Feather La**	**2.62**	**190**		**Pg**	**20 12 49.0**	**-0.3**
N23A					**Sg**	**20 13 26.2**	**+2.9**
N23A				IAML		20 13 34.9	
	comp=N,76nm,0.6s						
N23A				IAML		20 13 36.9	
	comp=E,74nm,0.9s						
PD31	**Pinedale Array**	**3.16**	**258**		**Pb**	**20 12 54.5**	**-1.7**
PDAR	**Pinedale Array**	**3.16**	**258**		**Pb**	**20 12 55.3**	**-0.9**
PDAR	**Pinedale Array**	**3.16**	**258**	Pn	**Pb**	**20 12 55.5**	**-0.6**
	comp=E,0.8nm,0.3s,baz=66,slow=16,SNR=3.1						
PDAR				Pg	**Pg**	**20 13 00.8**	**+1.2**
	comp=E,3.7nm,0.3s,baz=71,slow=16,SNR=20						
PDAR				Lg	Lg	20 13 40.2	
	comp=E,1.6nm,0.3s,baz=75,slow=17,SNR=4.0						
	comp=E,1.0nm,0.3s						
RLMT	**Red Lodge**	**3.25**	**302**		**Pn**	**20 12 53.5**	**+2.0**
LAO	**LASA Array**	**3.26**	**349**		**Pn**	**20 12 52.5**	**+1.0**
LAO				IAML		20 13 50.6	
	comp=E,85nm,0.9s						
OGNE	**Ogallala**	**3.54**	**135**		**Pn**	**20 12 53.8**	**-1.6**
YNE	**Yellowstone No**	**3.67**	**296**		**Pn**	**20 13 00.3**	**+3.0**
YNE				IAML		20 14 06.9	
	comp=N,41nm,0.7s						
YNE				IAML		20 14 10.1	
	comp=E,38nm,0.8s						
LKWY	**Lake**	**3.79**	**288**	Pn	**Pn**	**20 12 58.0**	**-1.0**
LKWY				IAML		20 14 08.6	
	comp=E,32nm,1.4s						
LKWY				IAML		20 15 03.9	
	comp=E,35nm,4.9s						
LOHW	**Long Hollow**	**3.82**	**274**		**Pn**	**20 12 57.8**	**-1.5**
H17A	**Grant Village**	**3.88**	**285**	Pn	**Pn**	**20 13 01.9**	**+1.7**
H17A				IAML		20 14 13.5	
	comp=E,21nm,0.9s						
MOOW	**Moose Ponds**	**3.92**	**276**		**Pn**	**20 13 01.6**	**+0.9**
O20A	**White River Ci**	**3.98**	**214**		**Pn**	**20 13 03.7**	**+2.2**
O20A				IAML		20 14 23.3	
	comp=E,36nm,1.0s						
TPAW	**Teton Pass**	**4.07**	**272**		**Pn**	**20 13 02.7**	**-0.1**
TPAW				IAML		20 14 28.2	
	comp=E,22nm,0.9s						
TPAW				IAML		20 14 35.6	
	comp=E,33nm,1.2s						
FXWY	**Fox Creek**	**4.12**	**274**		**Pn**	**20 13 03.8**	**+0.3**
K30B	**Basset**	**4.29**	**99**		**Pn**	**20 13 08.3**	**+2.7**
YHL	**Hebgen Lake**	**4.41**	**290**		**Pn**	**20 13 08.2**	**+0.7**
YHL				IAML		20 14 47.5	
	comp=E,28nm,1.0s						
YHL				IAML		20 14 48.1	
	comp=N,19nm,0.9s						
HWUT	**Hardware Ranch**	**4.96**	**250**		**Pn**	**20 13 13.7**	**-1.2**
HWUT				IAML		20 14 45.8	
	comp=N,16nm,4.2s						
BOZ	**Bozeman (W)**	**4.96**	**297**		**Pn**	**20 13 15.2**	**+0.3**
BOZ				IAML		20 14 48.6	
	comp=N,17nm,3.2s						
BOZ				IAML		20 16 25.6	
	comp=N,12nm,4.9s						
BSUT	**Blindstream Ca**	**4.99**	**236**		**Pn**	**20 13 13.9**	**-1.6**
BSUT				IAML		20 14 57.0	
	comp=N,11nm,3.3s						
BSUT				IAML		20 15 50.1	
	comp=E,16nm,4.6s						
TCUT	**Toone Canyon**	**5.07**	**244**		**Pn**	**20 13 15.0**	**-1.5**
PV07	**Paradox Valley**	**5.62**	**207**		**Pn**	**20 13 24.2**	**+0.1**
PV23	**Carpenter Ridg**	**5.74**	**210**		**Pn**	**20 13 26.1**	**+0.3**
SRU	**San Rafael Swe**	**5.85**	**223**		**Pn**	**20 13 26.8**	**-0.4**
PV13	**Radium Mtn., P**	**5.93**	**207**		**Pn**	**20 13 28.2**	**-0.2**
MDND	**Maddock**	**5.94**	**41**		**Pn**	**20 13 27.3**	**-0.9**
ECSD	**EROS Data Cent**	**6.35**	**85**		**Pn**	**20 13 34.9**	**+0.9**
I10CA	**LAC DU BONNET**	**9.27**	**40**	I	I	21 05 10.0	
	comp=E,0.2nm,1.5s,baz=224,slow=325,SNR=2.7						
ULM	**Lac du Bonnet**	**9.37**	**40**	Pn	**Pn**	**20 14 13.6**	**-1.7**
	comp=E,0.2nm,0.3s,baz=231,slow=13,SNR=2.0						
ULM				Lg	Lg	20 16 50.4	
	comp=E,0.2nm,0.3s,baz=252,slow=3.4,SNR=4.4						
	comp=E,0.8nm,0.4s						

*IDC **01** 20:22:10.0±0.9, 12°.78S×45°.57E, h0km, mb3.9/5, mbtmp3.9/5, MS4.2/1, Error ellipse: s-maj=32.6km s-min=27.7km az=8.0*

ISC 01 20:22:11.5±0.8, **12°.94S**±0°.06×**45°.68E**±0°.09, **h10**km, **n17**, σ**2**§**38**/26, **mb4.1**/6, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.17**	**98**	P	**Pn**	**20 23 18.9**	**+3.7**
SBV				S	**Sn**	**20 23 60.0**	**-4.1**
OPO	**Ambohidratompo**	**5.79**	**166**	P	**Pn**	**20 23 40.4**	**+2.8**
OPO				S	**Sn**	**20 24 43.1**	**-1.2**
FIRM	**Firavahana**	**5.84**	**169**	P	**Pn**	**20 23 41.2**	**+2.7**
FIRM				S	**Sn**	**20 24 44.3**	**-1.4**
ATG	**Ambohiby**	**5.93**	**175**	P	**Pn**	**20 23 41.8**	**+2.2**
ATG				S	**Sn**	**20 24 47.0**	**-0.7**
ABPO	**Ambohimpanom**	**6.23**	**166**	P	**Pn**	**20 23 46.0**	**+2.3**
ABPO				S	**Sn**	**20 24 52.8**	**-2.3**
MDSM	**Mandiavato**	**6.25**	**168**	P	**Pn**	**20 23 46.7**	**+2.7**
MDSM				S	**Sn**	**20 24 53.6**	**-2.1**
AVY	**Angavokely**	**6.28**	**162**	P	**Pn**	**20 23 46.7**	**+2.2**
AVY				S	**Sn**	**20 24 53.8**	**-2.6**
DGRM	**Ambatolahisoa**	**6.32**	**174**	P	**Pn**	**20 23 47.4**	**+2.3**
DGRM				S	**Sn**	**20 24 55.7**	**-1.8**
ABM	**Ambohimiarambe**	**6.99**	**167**	P	**Pn**	**20 23 56.8**	**+2.5**
ABM				S	**Sn**	**20 25 09.6**	**-4.4**
BOSA	**Boshof**	**24.59**	**227**	P	**P**	**20 27 31.9**	**-0.2**
	2.4nm,0.5s,baz=54,slow=9.0,SNR=15						
	2.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**50.72**	**299**	P	**P**	**20 31 10.9**	**-1.0**
	21nm,0.3s,baz=118,slow=5.6,SNR=1.2						
MKAR	**Makanchi Array**	**67.91**	**26**	P	**P**	**20 33 08.8**	**-1.6**
	0.3nm,0.8s,baz=211,slow=5.0,SNR=3.5						
	0.3nm,0.8s						
ESDC	**Sonseca Array**	**69.77**	**321**	P	**P**	**20 33 21.9**	**-0.2**
	0.9nm,0.9s,baz=127,slow=5.9,SNR=6.2						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**83.31**	**113**	P	**P**	**20 34 41.0**	**+1.7**
	0.9nm,0.8s,baz=262,slow=5.2,SNR=8.8						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**84.44**	**109**	P	**P**	**20 34 46.0**	**+0.9**
	1.5nm,0.9s,baz=266,slow=5.7,SNR=5.8						
	1.5nm,0.9s						
PDAR	**Pinedale Array**	**143.36**	**329**	PKP	**PKPdf**	**20 41 46.2**	**-0.6**
	0.3nm,0.7s,baz=85,slow=6.3,SNR=4.8						
TXAR	**Lajitas Array**	**147.22**	**305**	PKPbc	**PKPdf**	**20 41 54.2**	**+0.6**
	0.6nm,0.9s,baz=70,slow=3.5,SNR=4.7						

*IDC **01** 20:33:06.9±1.1, 55°.72S×26°.99W, h0km, mb4.2/1, mbtmp4.0/2, ML3.1/1, MS3.7/1, Error ellipse: s-maj=55.5km s-min=33.2km az=47.0*
*NEIC **01** 20:33:12.1±0.8, 55°.9S±0°.1×27°.3W±0°.2, h36km±7km, mb4.4/10, Error ellipse: s-maj=22.5km s-min=11.9km az=213.0*

ISC 01 20:33:12.8±0.7, **56°.0S**±0°.1×**27°.5W**±0°.1, **h35**km, **n30**, σ**2**§**01**/28, **mb4.4**/6, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.43**	**284**	Pn	**Pn**	**20 34 31.9**	**+0.8**
HOPE				Sn	**Sn**	**20 35 31.6**	**-0.8**
EFI	**East Falkland**	**18.47**	**271**	P	**P**	**20 37 24.9**	**-0.4**
SNAA	**Sanae**	**18.90**	**156**	P	**P**	**20 37 28.8**	**-1.1**
SNAA	**Sanae**	**18.90**	**156**	P	**P**	**20 37 29.8**	**-0.1**
	0.1nm,0.3s,baz=307,slow=10,SNR=2.3						
	3.3nm,1.2s						
BELA	**Belgrano 2**	**22.16**	**184**	P	**P**	**20 38 04.6**	**-0.6**
BELA				IAmb	IAmb	20 38 07.6	
	comp=Z,12nm,1.3s						
TRQA	**Tornquist**	**29.13**	**293**	P	**P**	**20 39 10.1**	**-0.1**
TRQA				IAmb	IAmb	20 39 48.1	
	comp=Z,11nm,1.3s						
QSPA	**South Pole Qui**	**34.30**	**180**	P	**P**	**20 39 54.7**	**-0.8**
QSPA				IAmb	IAmb	20 40 02.5	
	comp=Z,7.6nm,1.4s						
BI02	**San Fabin de**	**35.11**	**285**	P	**P**	**20 40 03.0**	**+0.4**
GO02	**Mina Guanaco**	**43.30**	**298**	P	**P**	**20 41 10.5**	**-0.8**
GO02				IAmb	IAmb	20 41 12.2	
	comp=Z,7.4nm,0.9s						
H10S2	**ASCENSION HYDR**	**47.95**	**17**	T	T	21 32 55.9	
	baz=189,slow=74						
H10S3	**ASCENSION HYDR**	**47.96**	**17**	T	T	21 32 50.8	
	baz=31,slow=74						
LPAZ	**La Paz**	**50.19**	**305**	P	**P**	**20 42 04.7**	**-0.9**
LPAZ				IAmb	IAmb	20 42 11.2	
	comp=Z,2.8nm,0.8s						
LPAZ	**La Paz**	**50.19**	**305**	P	**P**	**20 42 05.8**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=137,slow=6.9,SNR=9.7						
	comp=Z,2.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.05**	**30**	P	**P**	**20 44 36.6**	**-2.4**
TORD	**Torodi Ar. Bea**	**73.05**	**30**	P	**P**	**20 44 36.5**	**-2.4**
	comp=Z,42nm,0.3s,baz=200,slow=6.9,SNR=1.0						
A36M	**Sachs Harbour**	**144.04**	**328**		**PKPab**	**20 52 40.7**	**+0.4**

242nm,0.2s
THE Thessaloniki 0.83 224 P Pb 20 35 35.7 -0.1
THE S Sg 20 35 46.0 -1.0
PLG Polygyros 0.89 194 P Pb 20 35 36.7 0.0
RZN Rozhen 0.89 59 *i* P **Pb 20 35 36.8 0.0**
RZN *i* S Sb 20 35 48.1 -0.4
OUR Ouranopolis 0.92 168 Pg **Pg 20 35 37.8 +0.2**
OUR Sg Sn 20 35 50.5 -0.3
OUR Ouranopolis 0.92 168 P **Pg 20 35 37.6 0.0**
OUR S Sg 20 35 49.9 +0.2
622nm,0.3s
OUR Ouranopolis 0.92 168 P Pb 20 35 37.4 +0.2
OUR S Sb 20 35 48.7 -0.5
THAS Thassos island 0.98 130 P Pb 20 35 38.5 +0.2
THAS S Sb 20 35 50.9 0.0
360nm,0.2s
THAS Thassos island 0.98 130 P Pg 20 35 38.6 -0.1
THAS S Sb 20 35 50.6 -0.3
GRG Griva 1.04 255 P Pb 20 35 39.0 -0.4
GRG S Sb 20 35 53.2 +0.5
PLD Plovdiv 1.19 40 *i* P **Pn 20 35 41.7 0.0**
PAIG Paliouri 1.31 182 P Pn 20 35 43.3 0.0
PAIG S Sb 20 35 59.3 -1.1
60nm,0.3s
PGB Panagyurishte 1.32 14 *i* P **Pb 20 35 44.1 0.0**
PGB *i* S Sg 20 36 02.9 +0.4
RDO Rodhopi 1.37 93 Pn **Pn 20 35 44.3 +0.2**
RDO Sn Sb 20 36 03.0 +0.9
RDO Rodhopi 1.37 93 P Pn 20 35 44.0 -0.1
RDO S Sn 20 36 02.1 +0.3
VTS Vitosha 1.43 345 *i* P **Pn 20 35 45.7 +0.6**
VTS *i* S Sb 20 36 04.6 +0.5
SMTH Samothraki Isl 1.57 119 P Pn 20 35 46.4 -0.4
LIA Limnos Island 1.74 140 P Pn 20 35 49.3 +0.2
ALN Alexandroupoli 1.79 100 Pn **Pn 20 35 50.2 +0.4**
ALN Alexandroupoli 1.79 100 P Pn 20 35 50.0 +0.2
ENEZ Enez 1.90 104 Pn **Pn 20 35 52.8 +1.4**
GADA Gvkgeada 1.95 122 Pn **Pn 20 35 53.6 +1.5**
MPEP Malo Peshtene 2.12 0 *i* P **Pb 20 35 58.4 +0.7**
ERIK Erikli-Kesan 2.18 104 Pn **Pb 20 35 57.3 -1.5**
UKOP Uzunkopru-Edir 2.19 92 Pn **Pn 20 35 57.4 +1.9**
GELI Tayfur-Gelibol 2.25 111 Pn **Pn 20 35 57.9 +1.7**
EDRB Edirne 2.34 74 Pn **Pb 20 35 59.9 -1.7**

*IDC **01** 20:35:44.2±0.6, 55°.53S×26°.82W, h0km, mb4.4/8, mbtmp4.4/9, ML3.7/1, MS3.3/1, Error ellipse: s-maj=25.4km s-min=18.4km az=66.0*
*NEIC **01** 20:35:49.9±1.4, 55°.85±0°.1×27°.2W±0°.2, h38km±4km, mb4.6/24, Error ellipse: s-maj=16.6km s-min=13.2km az=199.0*
ISC 01 20:35:47.4±0.4, 55°.65S±0°.09×27°.05W±0°.09, h25km, n76, σ0s82/73, mb4.6/15, 3C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.61 280**		P	**Pn**	**20 37 08.4**	**-0.6**
HOPE				Sn	Sn	20 38 03.1	-9.4
VNA1	**Neumayer--Stat**	**17.14 159**		⇑P	**P**	**20 39 48.1**	**+1.8**
	comp=Z,0.2nm,0.2s						
VNA3	**Neumayer Olymp**	**17.35 161**		⇑P	**P**	**20 39 49.9**	**+1.3**
	comp=Z,0.3nm,0.4s						
EFI	**East Falkland**	**18.71 269**		P	**P**	**20 40 03.3**	**-0.4**
EFI				IAmb	IAmb	20 40 29.7	
	comp=Z,65nm,1.4s						
SNAA	**Sanae**	**19.08 157**		P	**P**	**20 40 07.3**	**-0.5**
SNAA	**Sanae**	**19.08 157**		⇑P	**Pn**	**20 40 09.1**	**+0.4**
	comp=Z,4.0nm,0.3s						
SNAA	**Sanae**	**19.08 157**		P	**P**	**20 40 07.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=301,slow=12,SNR=8.3						
SNAA				LR	LR	20 46 55.8	
	comp=Z,98nm,20.2s,baz=236,slow=35						
	comp=Z,2.4nm,0.8s						
PMSA	**Palmer Station**	**20.22 228**		P	Pn	20 40 23.7	+1.6
	comp=Z,11nm,0.7s,baz=155,slow=8.8,SNR=2.1						
	comp=Z,11nm,0.7s						
BELA	**Belgrano 2**	**22.48 184**		P	**P**	**20 40 43.6**	**-0.8**
MG02	**Cerro Sombrero**	**24.55 259**		P	**P**	**20 41 04.7**	**0.0**
MG05	**Puerto Natales**	**26.84 259**		P	**P**	**20 41 25.2**	**-0.3**
MG05				IAmb	IAmb	20 41 35.5	
	comp=Z,15nm,0.9s						
TRQA	**Tornquist**	**29.24 292**		P	**P**	**20 41 46.5**	**-0.5**
TRQA				IAmb	IAmb	20 41 48.0	
	comp=Z,15nm,1.4s						
PLTB	**Pedras Altas**	**30.29 311**		P	**P**	**20 41 57.9**	**+1.4**
PLTB				IAmb	IAmb	20 42 31.6	
	comp=Z,9.9nm,1.2s						
SYO	**Syowa Base**	**31.85 141**	⇓	*e*P	**P**	**20 42 06.0**	**-3.7**
SYO	**Syowa Base**	**31.85 141**	⇓	*e*pP	pP	20 42 17.1	+1.0
QSPA	**South Pole Qui**	**34.60 180**		P	**P**	**20 42 34.1**	**0.0**
QSPA				IAmb	IAmb	20 42 37.0	
	comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**34.60 180**		P	**P**	**20 42 35.3**	**+1.2**
	comp=Z,3.7nm,0.6s,baz=18,slow=5.6,SNR=11						
	comp=Z,3.7nm,0.6s						
CPUP	**Villa Florida**	**36.61 311**		P	**P**	**20 42 51.7**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=135,slow=7.3,SNR=3.8						
	comp=Z,0.7nm,0.4s						
MT09	**Talagante**	**37.26 287**		P	**P**	**20 42 55.9**	**-1.2**
CO01	**Juntas del Tor**	**39.73 292**		P	**P**	**20 43 18.0**	**0.0**
GO04	**Tololo Observa**	**39.95 291**		P	**P**	**20 43 19.9**	**+0.1**
GO04				IAmb	IAmb	20 43 27.0	
	comp=Z,19nm,1.4s						
MAW	**Mawson**	**40.43 144**		P	**P**	**20 43 24.5**	**+1.5**
	comp=Z,28nm,0.9s,baz=32,slow=5.7,SNR=1.6						
	comp=Z,28nm,0.9s						
AC01	**Pan de Azucar**	**43.08 295**		P	**P**	**20 43 45.3**	**+0.1**
GO02	**Mina Guanaco**	**43.38 297**			**P**	**20 43 47.2**	**-0.8**
GO02				IAmb	IAmb	20 43 49.5	
	comp=Z,13nm,0.9s						
BOSA	**Boshof**	**45.80 76**		P	**P**	**20 44 06.8**	**-0.2**
BOSA	**Boshof**	**45.80 76**		P	**P**	**20 44 06.3**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=223,slow=21,SNR=1.1						
	comp=Z,0.9nm,0.7s						
PB09	**IPOC Station P**	**46.02 300**		P	**P**	**20 44 09.5**	**+0.6**
PB09				IAmb	IAmb	20 44 17.1	
	comp=Z,16nm,1.3s						
VNDA	**Vanda**	**46.98 183**		P	**P**	**20 44 15.9**	**+0.3**
VNDA	**Vanda**	**46.98 183**		P	**P**	**20 44 16.8**	**+1.2**
	comp=Z,6.3nm,0.8s,baz=197,slow=3.5,SNR=5.3						
	comp=Z,6.3nm,0.8s						
PB08	**IPOC Station P**	**47.38 301**		P	**P**	**20 44 19.3**	**-0.5**
PB08				IAmb	IAmb	20 44 48.9	
	comp=Z,10nm,1.2s						
H10S2	**ASCENSION HYDR**	**47.59**	**17**	T	T	21 35 47.7	
	baz=190,slow=74,SNR=6.4						
H10S3	**ASCENSION HYDR**	**47.59**	**17**	T	T	21 35 48.0	
	baz=30,slow=74,SNR=5.2						
PB11	**IPOC Station P**	**47.95 301**		P	**P**	**20 44 24.0**	**+0.1**
LPAZ	**La Paz**	**50.21 305**			**P**	**20 44 42.1**	**+0.3**
LPAZ				IAmb	IAmb	20 44 43.6	
	comp=Z,5.4nm,0.8s						
LPAZ	**La Paz**	**50.21 305**		P	**P**	**20 44 42.8**	**+1.0**
	comp=Z,4.7nm,0.7s,baz=143,slow=4.8,SNR=17						
	comp=Z,4.7nm,0.7s						
BOAV	**Boa Vista**	**64.01 322**		P	**P**	**20 46 18.4**	**-0.2**
BOAV				IAmb	IAmb	20 46 19.4	
	comp=Z,7.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.67 29**		P	**P**	**20 47 13.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.67 29**		P	**P**	**20 47 12.8**	**+0.1**
	comp=Z,44nm,0.3s,baz=195,slow=6.8,SNR=2.1						
BAUV	**El Baul**	**72.81 317**		P	**P**	**20 47 14.0**	**+0.3**
DSZ	**Denniston Nort**	**81.66 194**		P	**P**	**20 48 02.1**	**-1.0**
ASAR	**Alice Springs**	**99.35 162**		P	**Pdif**	**20 49 27.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=192,slow=4.2,SNR=6.1						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**123.99**	**28**	PKP	**PKPdf**	**20 54 40.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=270,slow=2.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**125.13 110**		PKP	**PKiKP**	**20 54 46.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=238,slow=1.9,SNR=8.4						
BVAR	**Borovoye Array**	**134.50**	**57**	PKP	**PKPdf**	**20 55 02.8**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=180,slow=0.9,SNR=5.1						
YKA	**Yellowknife Ar**	**135.92 318**		PKP	**PKPdf**	**20 55 04.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=138,slow=2.2,SNR=8.6						
MKAR	**Makanchi Array**	**136.68**	**71**	PKP	**PKPdf**	**20 55 06.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=215,slow=2.0,SNR=1.8						
ZALV	**Zalesovo Beam**	**142.12**	**63**	PKP	**PKPdf**	**20 55 15.7**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=199,slow=4.0,SNR=3.6						
A36M	**Sachs Harbour**	**143.91 328**			**PKPdf**	**20 55 17.9**	**-0.7**
HYT	**Haines Junctio**	**144.61 308**			**PKPdf**	**20 55 20.4**	**0.0**
M30M	**Minto, Yukon**	**144.97 311**			PKPbc	20 55 20.5	+0.3
INK	**Inuvik**	**145.54 321**			**PKPab**	**20 55 22.3**	**+0.2**
I30M	**Mount Dempster**	**145.70 315**			**PKPbc**	**20 55 23.0**	**+0.3**
JOW	**Kunigami**	**146.11 138**		PKPbc	**PKPbc**	**20 55 25.3**	**+0.4**
	comp=Z,9.0nm,1.0s,baz=69,slow=26,SNR=1.3						
DAWY	**Dawson**	**146.58 312**			**PKPbc**	**20 55 25.2**	**0.0**
L27K	**Beaver Creek,**	**147.31 310**			**PKPbc**	**20 55 27.5**	**+0.3**
F28M	**Old Crow**	**147.69 319**			**PKPbc**	**20 55 28.4**	**+0.3**
I26K	**Coal Creek Min**	**148.47 314**			**PKPbc**	**20 55 30.3**	**+0.1**
C27K	**Jago River**	**149.40 322**			**PKPbc**	**20 55 33.2**	**+0.8**
SML	**Sawmill**	**149.85 306**		PKPbc	**PKPbc**	**20 55 34.1**	**+0.3**
E25K	**Arctic Village**	**149.90 319**			**PKiKP**	**20 55 34.5**	**-0.2**
ILAR	**Eielson Array**	**149.90 312**		PKPbc	**PKPbc**	**20 55 34.0**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=130,slow=1.8,SNR=41						
RND	**Reindeer**	**150.47 309**			**PKPbc**	**20 55 35.7**	**+0.4**
SONM	**Songino Array**	**150.62**	**86**	PKPbc	**PKiKP**	**20 55 37.2**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=225,slow=2.7,SNR=34						
KDAK	**Kodiak Island**	**150.71 297**		PKPbc	**PKPbc**	**20 55 35.4**	**-0.5**
F24K	**Squaw Lake**	**150.72 318**		PKPbc	**PKPbc**	**20 55 36.1**	**+0.4**
OHAK	**Old Harbor**	**150.87 296**		PKPbc	**PKPbc**	**20 55 36.6**	**+0.3**
D24K	**Happy Valley**	**151.17 321**			**PKPbc**	**20 55 36.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**151.53 310**			**PKPbc**	**20 55 37.6**	**-0.1**
CAST	**Castle Rocks**	**151.90 309**		PKPbc	**PKPbc**	**20 55 38.4**	**-0.2**
D22K	**Ayikyak River**	**152.56 320**			**PKiKP**	**20 55 40.7**	**+0.5**
F21K	**Alatna River**	**152.86 317**		PKPbc	**PKiKP**	**20 55 41.1**	**+0.3**
B21K	**Ikpikpuk River**	**153.21 322**		PKPbc	**PKiKP**	**20 55 41.8**	**+0.4**
L18K	**Granite Mounta**	**153.79 305**		PKPbc	**PKiKP**	**20 55 43.6**	**+0.8**
L18K				PKPab	**PKPab**	**20 55 54.6**	**-1.4**
J18K	**Innoko River**	**153.97 308**		PKPab	**PKPab**	**20 55 57.4**	**+0.7**
G19K	**Purcell Mounta**	**154.28 314**		PKPbc	**PKiKP**	**20 55 44.7**	**+1.0**
G19K				PKPab	**PKPab**	**20 55 56.1**	**-1.8**
M16K	**Timber Creek**	**154.68 302**		PKPab	**PKPab**	**20 56 00.3**	**+0.5**

*IDC **01** 20:41:07.6±1.1, 55°.56S×26°.82W, h0km, mb4.2/1, mbtmp3.8/2, ML3.5/1, Error ellipse: s-maj=54.6km s-min=32.3km az=49.0*
ISC 01 20:41:11.3±1.0, 55°.6S±0°.2×26°.8W±0°.3, h25km, n10, σ0s84/7, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.16 159**		⇑P	P	20 45 17.0	+6.7
	comp=Z,0.3nm,0.2s						
VNA3	**Neumayer Olymp**	**17.37 161**		⇑P	**P**	**20 45 14.0**	**+1.2**
	comp=Z,0.4nm,0.2s						
SNAA	**Sanae**	**19.09 157**		⇑P	**Pn**	**20 45 32.2**	**-0.5**
	comp=Z,2.2nm,0.3s						
SNAA	**Sanae**	**19.09 157**		P	**Pn**	**20 45 31.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=314,slow=18,SNR=6.0						
	comp=Z,0.8nm,0.6s						
H10S2	**ASCENSION HYDR**	**47.48**	**16**	T	T	21 41 14.9	
	baz=31,slow=74,SNR=4.7						
H10S3	**ASCENSION HYDR**	**47.48**	**16**	T	T	21 41 11.3	
	baz=189,slow=74,SNR=5.1						
LPAZ	**La Paz**	**50.29 304**		P	**P**	**20 50 06.3**	**0.0**
	comp=Z,2.8nm,0.8s,baz=169,slow=8.1,SNR=10.0						
	comp=Z,2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P	**P**	**20 52 36.1**	**+0.3**
	comp=Z,71nm,0.4s,baz=193,slow=7.0,SNR=2.0						
ILAR	**Eielson Array**	**149.96 312**		PKPbc	**PKPbc**	**21 00 57.6**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=120,slow=1.7,SNR=23						
SONM	**Songino Array**	**150.47**	**85**	PKPbc	**PKiKP**	**21 01 00.1**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=224,slow=3.1,SNR=10						

*CNRM **01** 20:47:37.0, 33°.25N×6°.41W, h40km, ML2.5*
*SFS **01** 20:47:37.9, 33°.32N×6°.44W, h51km, ML3.6/11, ML3.3/14, MLv3.1/14*
*MDD **01** 20:47:37.7±0.5, 33°.33N×6°.42W, h41km, Mb4.2/17, M_mb3.6/17, Error ellipse: s-maj=5.1km s-min=3.3km az=123.0*
*IGIL **01** 20:47:37.5, 33°.33N×6°.42W, h18km, ML2.1*
*INMG **01** 20:47:39.3±1.5, 33°.50N×6°.52W, h18km, ML2.4, Error ellipse: s-maj=7.0km s-min=3.7km az=123.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
ISC 01 20:47:35.6±0.8, 33°.51N±0°.03×6°.28W±0°.03, h10km, n76, σ2s02/106, 12C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.31 257**		P	**Pg**	**20 47 45.4**	**+3.7**
ZHG	**ZHG**	**0.31 257**		S	**Sg**	**20 47 51.0**	**+5.1**
AVE	**Averroes**	**0.97 257**		Pg	**Pg**	**20 47 53.0**	**-1.2**
AVE				Sn	**Sg**	**20 48 03.7**	**-3.2**
AVE	**Averroes**	**0.97 257**		P	Pg	20 47 52.4	-1.8
AVE	**Averroes**	**0.97 257**		S	**Sg**	**20 48 03.9**	**-2.9**
LCRM	**LCR**	**1.20 81**		P	**Pb**	**20 47 59.0**	**+0.5**
LCRM	**LCR**	**1.20 81**		S	**Sb**	**20 48 14.5**	**+0.3**
MD31	**MD31**	**1.43 116**		P	**Pn**	**20 48 01.2**	**-0.5**
MD31	**MD31**	**1.43 116**		S	**Sn**	**20 48 18.7**	**-1.9**
MDT	**Midelt**	**1.57 116**		P	**Pn**	**20 48 03.0**	**-0.6**
MDT	**Midelt**	**1.57 116**		S	**Sn**	**20 48 21.7**	**-2.3**
CHEFC	**Chefchaouen**	**1.77 26**		P	**Pg**	**20 48 09.7**	**+0.1**
CHEFC	**Chefchaouen**	**1.77 26**		S	**Sg**	**20 48 33.4**	**+0.8**
AKLM	**AKL**	**2.24 63**		P	**Pn**	**20 48 14.7**	**+1.9**
AKLM	**AKL**	**2.24 63**		S	**Sn**	**20 48 42.9**	**+2.3**
SMIR	**Smir Dam**	**2.29 19**		P	**Pb**	**20 48 16.3**	**-0.7**
SMIR	**Smir Dam**	**2.29 19**		S	**Sg**	**20 48 46.3**	**-2.8**
PALE	**Palemas**	**2.58 48**		P	**Pn**	**20 48 20.0**	**+2.6**
PALE	**Palemas**	**2.58 48**		S	**Sb**	**20 48 53.4**	**-0.3**
OUZM	**OUZ**	**2.63 189**		P	Pn	20 48 15.1	-3.1
TIO	**Tiouine**	**2.71 198**		Pn	Pn	20 48 14.8	-4.6
TIO				Sn	Sn	20 48 42.2	-10
TIO	**Tiouine**	**2.71 198**		P	Pn	20 48 14.6	-4.7
TIO	**Tiouine**	**2.71 198**		S	Sn	20 48 43.0	-9.3
TZRR	**Tazzarine**	**2.79 167**		P	Pn	20 48 16.5	-3.8
TZRR	**Tazzarine**	**2.79 167**		S	Sn	20 48 47.0	-7.1
EJIF	**Jimena Fronter**	**3.01 13**		Sn	**Sn**	**20 49 00.3**	**+1.0**
JBK	**JBK**	**3.20 74**		P	**Pn**	**20 48 26.3**	**+0.2**
EAH	**EAH**	**3.35 237**		P	Pn	20 48 24.0	-4.0
ESPR	**Espera**	**3.37**	**6**	⇑*i*Vmb_V		20 48 33.2	
	188nm,SNR=2.5						
ESPR				Sn	**Sn**	**20 49 08.5**	**+0.3**
TTIG	**Tnine Tigouga,**	**3.48 212**		P	Pn	20 48 23.0	-6.9
TTIG	**Tnine Tigouga,**	**3.48 212**		S	Sn	20 49 02.5	-8.7
PBDV	**Barranco-do-Ve**	**3.96 341**	⇑	*e*P	**Pn**	**20 48 37.9**	**+1.6**
PBDV				*e*S	**Sn**	**20 49 21.2**	**-1.6**
PBDV				*i* AML	AML	20 49 22.1	
PBDV				*i* AML	AML	20 49 24.9	
PBDV				*i* AML	AML	20 49 25.1	
ELGU	**Los Guajares,**	**3.99 32**		Sn	**Sn**	**20 49 24.3**	**+0.5**
ELGU				Pn	**Pn**	**20 48 39.3**	**+2.4**
ELGU	**Los Guajares,**	**3.99 32**		Pn	**Pn**	**20 48 38.3**	**+1.5**
ELGU				⇑*i*Vmb_V		20 48 40.9	
	201nm,SNR=0.8						
ELGU				Sn	**Sn**	**20 49 22.8**	**-1.0**
EGOR	**Sierra Gorda,**	**4.00 26**		Pn	**Pn**	**20 48 39.9**	**+2.8**
EGOR				⇑*i*Vmb_V		20 48 41.2	
	153nm,SNR=1.4						
EGOR				Sn	**Sn**	**20 49 24.1**	**0.0**
PVAQ	**Vaqueiros**	**4.05 344**		*e*P	**Pn**	**20 48 39.0**	**+1.3**
PVAQ				*e*S	**Sn**	**20 49 23.2**	**-2.0**
PVAQ				*i* AML	AML	20 49 29.6	
PVAQ	**Vaqueiros**	**4.05 344**		Pn	**Pn**	**20 48 39.0**	**+1.3**
EGRO	**El Granado**	**4.13 347**		Pn	**Pn**	**20 48 40.3**	**+1.6**
EGRO				Sn	**Sn**	**20 49 25.7**	**-1.3**
EGRO	**El Granado**	**4.13 347**		Pn	**Pn**	**20 48 40.2**	**+1.5**
EGRO				⇑*i*Vmb_V		20 48 42.7	
	552nm,SNR=6.6						
EGRO				Sn	**Sn**	**20 49 24.7**	**-2.3**
PFVI	**Vila Bisbo**	**4.17 331**		*e*P	**Pn**	**20 48 40.2**	**+1.0**
PFVI				*e*S	**Sn**	**20 49 25.1**	**-2.8**
PFVI	**Vila Bisbo**	**4.17 331**		Pn	**Pn**	**20 48 40.3**	**+1.0**
MORF	**Marmelete**	**4.25 334**		*e*P	**Pn**	**20 48 41.5**	**+1.1**
MORF	**Marmelete**	**4.25 334**		*e*P	**Pn**	**20 48 41.7**	**+1.4**
MORF				*e*S	**Sn**	**20 49 28.5**	**-1.5**
MORF				*i* AML	AML	20 49 30.2	
MORF				*i* AML	AML	20 49 30.7	
MORF				*i* AML	AML	20 49 31.6	
EMIN	**Mina Concepcio**	**4.26 356**		Pn	**Pn**	**20 48 42.1**	**+1.6**
EMIN				Sn	**Sn**	**20 49 28.6**	**-1.5**
EMIN	**Mina Concepcio**	**4.26 356**		Pn	**Pn**	**20 48 41.9**	**+1.4**
EMIN				⇑*i*Vmb_V		20 48 43.1	
	151nm,SNR=2.6						
EMIN				Sn	**Sn**	**20 49 28.5**	**-1.7**
PCVE	**Castro Verde**	**4.35 341**		*e*P	**Pn**	**20 48 43.5**	**+1.7**
PCVE				*e*S	**Sn**	**20 49 31.1**	**-1.4**
PCVE				*i* AML	AML	20 49 32.6	
PCVE				*i* AML	AML	20 49 33.0	
PCVE				*i* AML	AML	20 49 34.4	
PCVE	**Castro Verde**	**4.35 341**		Pn	**Pn**	**20 48 43.4**	**+1.7**
PCVE				Sn	**Sn**	**20 49 30.8**	**-1.7**
PTEO	**Sao Teotonio**	**4.49 334**		*e*P	**Pn**	**20 48 45.3**	**+1.6**
PTEO				*e*S	**Sn**	**20 49 34.3**	**-1.6**
PTEO				*i* AML	AML	20 49 35.9	
MESJ	**Messejana**	**4.59 340**		*e*P	**Pn**	**20 48 46.2**	**+1.1**
MESJ				*e*S	**Sn**	**20 49 36.5**	**-2.0**
MESJ				IAML		20 49 38.6	
	comp=N,3.3nm,0.1s						
MESJ	**Messejana**	**4.59 340**		*e*P	**Pn**	**20 48 46.7**	**+1.6**
MESJ				*e*S	**Sn**	**20 49 37.3**	**-1.2**
MESJ				*i* AML	AML	20 49 39.4	
MESJ				*i* AML	AML	20 49 39.7	
MESJ				*i* AML	AML	20 49 41.6	
EXCBR	**El Cabril**	**4.61 9**		Sn	**Sn**	**20 49 36.2**	**-2.7**
ECAB	**El Cabril**	**4.61 9**		Pn	**Pn**	**20 48 47.8**	**+2.5**
ECAB				Sn	**Sn**	**20 49 38.5**	**-0.4**
ECAB	**El Cabril**	**4.61 9**		Pn	**Pn**	**20 48 47.1**	**+1.8**
ECAB				⇑*i*Vmb_V		20 48 49.5	
	comp=N,45nm,SNR=0.9						
ECAB				Sn	**Sn**	**20 49 37.0**	**-1.9**
PBEJ	**Beja**	**4.68 345**		*e*P	**Pn**	**20 48 48.0**	**+1.7**
PBEJ				*e*S	**Sn**	**20 49 39.7**	**-1.0**
PBEJ				*i* AML	AML	20 49 41.8	
PBEJ				*i* AML	AML	20 49 41.8	
PBEJ				*i* AML	AML	20 49 43.2	
PBAR	**Barrancos**	**4.69 353**		*e*P	**Pn**	**20 48 48.2**	**+1.8**
PBAR				*e*S	**Sn**	**20 49 38.9**	**-2.1**
PBAR				*i* AML	AML	20 49 42.4	
PBAR				*i* AML	AML	20 49 43.8	
PBAR				*i* AML	AML	20 49 43.9	
PBAR	**Barrancos**	**4.69 353**		Pn	**Pn**	**20 48 48.1**	**+1.7**
PBAR				Sn	**Sn**	**20 49 38.5**	**-2.5**
EADA	**Adamuz**	**4.85 16**		Pn	**Pn**	**20 48 51.0**	**+2.4**
EADA				Sn	**Sn**	**20 49 43.6**	**-1.2**
EADA	**Adamuz**	**4.85 16**		Pn	**Pn**	**20 48 51.0**	**+2.4**
EADA				⇑*i*Vmb_V		20 48 52.7	
	comp=N,65nm,SNR=1.2						
EADA				Sn	**Sn**	**20 49 43.4**	**-1.4**
E0803	**Jimena (Jaen)**	**4.88 27**		Pn	**Pn**	**20 48 51.5**	**+2.4**
E0803				Sn	**Sn**	**20 49 45.4**	**-0.3**
EQES	**Quesada**	**5.01 31**		Pn	**Pn**	**20 48 51.9**	**+0.9**
EQES				⇑*i*Vmb_V		20 48 53.3	
	comp=N,53nm,SNR=1.0						
EQES				Sn	**Sn**	**20 49 49.1**	**0.0**
EVO	**Evora**	**5.20 345**		*e*P	**Pn**	**20 48 55.5**	**+2.0**
EVO				*e*S	**Sn**	**20 49 51.6**	**-1.9**
EVO	**Evora**	**5.20 345**		Pn	**Pn**	**20 48 54.8**	**+1.4**
EVO				Sn	**Sn**	**20 49 50.2**	**-3.2**
EBAD	**Badajoz**	**5.26 354**		Pn	**Pn**	**20 48 56.0**	**+1.7**
EBAD				Sn	**Sn**	**20 49 52.1**	**-2.9**
EBAD	**Badajoz**	**5.26 354**		Pn	**Pn**	**20 48 55.5**	**+1.2**
EBAD				⇑*i*Vmb_V		20 48 57.1	
	comp=N,307nm,SNR=4.6						
EBAD				Sn	**Sn**	**20 49 52.3**	**-2.7**
PESTR	**Estremoz**	**5.45 349**		*e*P	**Pn**	**20 48 58.8**	**+2.0**
PESTR				*e*S	**Sn**	**20 49 58.0**	**-1.5**
PSIM	**Granatula de C**	**5.68 20**		Pn	**Pn**	**20 49 01.7**	**+1.7**
PSIM				Sn	**Sn**	**20 50 03.2**	**-2.1**
PMTG	**Montargil**	**5.76 345**		*e*P	**Pn**	**20 49 02.6**	**+1.5**
PMTG				*e*S	**Sn**	**20 50 05.5**	**-1.8**
PMTG				*i* AML	AML	20 50 07.0	
PMTG				*i* AML	AML	20 50 11.1	
PMTG				*i* AML	AML	20 50 16.2	
PMAFR	**Mafra**	**5.95 337**		*e*P	**Pn**	**20 49 06.0**	**+2.3**
PMRV	**Marv??o**	**5.97 352**		*e*P	**Pn**	**20 49 06.0**	**+2.0**
PMRV				*e*S	**Sn**	**20 50 10.2**	**-2.3**
PMRV				*i* AML	AML	20 50 11.5	
PMRV				*i* AML	AML	20 50 11.8	
PMRV				*i* AML	AML	20 50 12.7	
PAB	**San Pablo**	**6.22 14**		Pn	**Pn**	**20 49 08.9**	**+1.4**
PAB				⇑*i*Vmb_V		20 49 09.9	
	comp=N,44nm,SNR=1.1						
PAB				Sn	**Sn**	**20 50 14.8**	**-3.8**
PSBE	**So Bento**	**6.32 342**		*e*P	**Pn**	**20 49 11.1**	**+2.3**
PCBR	**Castelo Branco**	**6.39 352**		*e*P	**Pn**	**20 49 11.6**	**+1.9**
PCBR				*e*S	**Sn**	**20 50 20.1**	**-2.6**
PCBR				*i* AML	AML	20 50 21.8	
PCBR				*i* AML	AML	20 50 21.9	
P

KKM Kota Kinabalu 11.72 202 Pn **Pn** **20 54 10.2 -1.5**
JOW Kunigami 12.06 34 Pn **Pn** **20 54 14.8 -1.1**
JOW Kunigami 12.06 34 P **Pn** **20 54 16.1 +0.2**
5.1nm,0.4s,baz=108,slow=25,SNR=6.8
JOW S Sn 20 56 18.1 -10
9.9nm,1.0s,baz=188,slow=15,SNR=2.0
JOW LR LR 20 58 40.1
comp=Z,43nm,20.5s,baz=74,slow=36
SGSI Sangihe 14.05 160 P **Pn** **20 54 43.8 +1.9**
162nm,1.5s
WHN Wuhan 14.68 338 P **Pn** **20 54 50.3 +0.6**
WHN S **Sn** **20 57 26.6 -5.2**
WHN pmax pmax
comp=Z,56nm,1.2s
UBPT Khong Chiam 14.71 266 **P** **20 54 52.4 -0.9**
UBPT Khong Chiam 14.71 266 P **P** **20 54 52.8 -0.6**
NJ2 Nanjing 15.09 354 *e*P **P** **20 54 57.8 +0.5**
NJ2 pmax pmax
comp=Z,17nm,0.7s
TOLI2 Tolitoli 15.78 180 P **Pn** **20 55 03.4 -0.3**
TOLI2 Tolitoli 15.78 180 P **Pn** **20 55 05.4 +1.7**
GYA Guiyang 16.06 308 ⇑P **P** **20 55 09.4 +1.0**
GYA pP pP 20 55 20.2 -8.1
GYA pmax pmax
comp=Z,26nm,1.6s
SLVN Son La 16.43 288 **Pn** **20 55 11.5 -0.2**
SLVN Son La 16.43 288 P **P** **20 55 13.2 +0.8**
MRSI Marisa 16.46 176 P **Pn** **20 55 12.4 +0.4**
66nm,0.9s
KMSI Cibinong 16.63 168 P **P** **20 55 17.9 +3.3**
SBUM Sibu 16.67 211 **Pn** **20 55 12.9 -1.7**
SBUM Sibu 16.67 211 P **P** **20 55 16.2 +1.1**
ENH Enshi 16.71 324 P **Pn** **20 55 14.2 -0.9**
ENH IAmb IAmb 20 55 26.6
comp=Z,23nm,0.9s
NONG Nongkai 16.76 276 P **P** **20 55 18.3 +2.3**
TNTI Ternate 17.41 157 P **P** **20 55 21.2 -2.0**
TNTI Ternate 17.41 157 P **P** **20 55 23.2 0.0**
TNTI Ternate 17.41 157 P **P** **20 55 22.3 -0.9**
comp=Z,32nm,1.1s
PCI Palu 17.80 183 P **Pn** **20 55 29.2 +0.8**
comp=Z,57nm,1.0s
APSI Ampana 17.82 177 P **Pn** **20 55 30.8 +2.3**
LUWI Luwuk 18.04 173 P **P** **20 55 28.5 -1.6**
LUWI Luwuk 18.04 173 P **P** **20 55 30.7 +0.6**
LUWI Luwuk 18.04 173 P **P** **20 55 30.0 -0.1**
comp=Z,1µmcomp=Z,127nm,1.0s
KSM Kuching 18.49 215 P **P** **20 55 34.7 -0.4**
KSM IAmb IAmb 20 55 39.9
comp=Z,30nm,0.7s
KSM Kuching 18.49 215 P **Pn** **20 55 36.8 +0.2**
JNU Nakatsue 18.51 28 P **P** **20 55 34.8 -0.3**
JNU IAmb IAmb 20 55 57.7
comp=Z,28nm,1.1s
JNU Nakatsue 18.51 28 P **Pn** **20 55 37.5 +0.8**
comp=Z,4.1nm,0.8s,baz=59,slow=9.9,SNR=2.0
KMI Kunming 18.58 299 ⇓P **Pn** **20 55 39.4 +1.6**
KMI pmax pmax
comp=Z,19nm,1.1s
KMI LR LR
comp=Z,120nm,9.0s
KMI LR LR
comp=Z,98nm,12.8s
LYN LuoYang 18.97 339 P **Pn** **20 55 42.8 +0.7**
LYN S **Sn** **20 59 15.9 +0.9**
LYN pmax pmax
comp=Z,39nm,0.9s
LYN pmax pmax
comp=Z,210nm,4.1s
STKI Sintang 19.11 209 P **P** **20 55 42.6 +0.8**
comp=Z,58nm,1.1s
TIA Tai'an 19.40 351 P **Pn** **20 55 46.4 -0.7**
TIA pmax pmax
comp=Z,17nm,0.9s
SANI Sanana 19.63 164 P **P** **20 55 45.0 -2.5**
SANI Sanana 19.63 164 P **P** **20 55 44.8 -2.7**
comp=Z,1µmcomp=Z,130nm,1.1s
TTSI Tana Toraja 19.93 183 P **P** **20 55 52.1 +1.4**
comp=Z,29nm,0.7s
PZH PanZhiHua 19.95 302 P **Pn** **20 55 53.6 -0.2**
PZH pmax pmax
comp=Z,50nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.1s
XAN Xi'an 19.99 330 P **Pn** **20 55 52.5 -1.6**
XAN pmax pmax
comp=Z,27nm,1.1s
TJN Taejon 20.20 16 P **P** **20 55 53.0 -0.4**
TJN IAmb IAmb 20 55 57.1
comp=Z,39nm,1.0s
CD2 Chengdu 20.73 315 P Pn 20 56 00.7 -2.0
CD2 pP pP 20 56 20.1 +0.4
CD2 pmax pmax
comp=Z,90nm,0.9s
CM31 Chiang Mai Arr 20.76 277 P **P** **20 56 00.3 +0.6**
CM31 IAmb IAmb 20 56 02.5
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 20.76 277 P **P** **20 56 00.6 +1.0**
CMAR Chiang Mai Arr 20.76 277 P Pn 20 56 01.2 -1.9
comp=Z,17nm,1.0s,baz=78,slow=10,SNR=93
CMAR ScP **ScP** **21 03 30.3 -0.6**
comp=Z,0.5nm,0.5s,baz=25,slow=1.9,SNR=4.2
comp=Z,17nm,1.0s
CHTO Chiang Mai 20.77 278 P **P** **20 55 60.0 +0.2**
CHTO IAmb IAmb 20 56 02.2
comp=Z,17nm,0.9s
SPSI Sidrap Palu 20.84 183 P **P** **20 56 02.9 +2.4**
comp=Z,23nm,0.9s
KDI Kendari 20.90 175 P **P** **20 55 55.4 -5.8**
comp=Z,18nm,0.9s
SRDT SRDT 20.92 266 P Pn 20 56 03.3 -1.8
HNS HongShan 21.00 347 ⇑P 20 56 04.1
HNS S **S** **20 59 52.6 +3.1**
HNS pmax pmax
comp=Z,16nm,1.1s
NLAI Namlea 21.08 162 P **P** **20 56 03.0 0.0**
comp=Z,1µmcomp=Z,96nm,0.8s
KSAR Wonju Array Be 21.34 16 P **P** **20 56 03.3 -2.4**
KSRS Korea Array 21.36 16 P **P** **20 56 05.5 -0.4**
comp=Z,2.1nm,0.7s,baz=200,slow=11,SNR=12
KSRS pP **pP** **20 56 26.9 -0.5**
comp=Z,1.8nm,0.7s,baz=198,slow=11,SNR=4.8
comp=Z,2.1nm,0.7s
MSAI Masohi 21.79 157 P **P** **20 56 09.7 -0.9**
comp=Z,68nm,0.9s
AAI Ambon 21.85 159 P **P** **20 56 11.9 +0.7**
comp=Z,54nm,1.1s
DL2 Dalian 21.85 2 P **P** **20 56 09.8 -1.2**
DL2 S **S** **21 00 06.1 +0.7**
DL2 pmax pmax
comp=Z,19nm,0.9s
DL2 pmax pmax
comp=Z,260nm,8.6s
DL2 LR LR
comp=Z,200nm,9.0s
DL2 LR LR
comp=Z,220nm,12.2s
DL2 LR LR
comp=Z,490nm,18.9s
KAPI Kappang 21.88 182 P **P** **20 56 10.1 -1.5**
KAPI IAmb IAmb 20 56 14.2
comp=Z,30nm,1.1s
KAPI Kappang 21.88 182 P **P** **20 56 11.1 -0.5**
comp=Z,21nm,1.0s,baz=17,slow=6.7,SNR=9.6
comp=Z,21nm,1.0s
KAPI Kappang 21.88 182 P **P** **20 56 11.2 -0.5**
TNCH TengChong 22.16 295 ⇓P **P** **20 56 15.9 +1.2**
TNCH pP pP 20 56 35.7 +0.2
TNCH sP sP 20 56 47.4 -1.9
TNCH S **S** **21 00 07.8 -3.7**
TNCH pmax pmax
comp=Z,52nm,1.1s
TNCH pmax pmax
comp=Z,82nm,3.9s
SRIT Nakonsritamara 22.17 251 P **P** **20 56 13.9 -0.7**
BKSI Bulukumba 22.18 181 P **P** **20 56 11.5 -3.2**
comp=Z,20nm,0.8s
BBSI Bau Bau 22.41 175 P **P** **20 56 16.4 -0.7**
comp=Z,29nm,0.7s
FAKI Fak Fak 22.84 149 P **P** **20 56 20.7 -0.7**
FAKI Fak Fak 22.84 149 P **P** **20 56 19.8 -1.6**
comp=Z,61nm,1.1s
IPM Ipoh 22.93 239 P **P** **20 56 20.9 -1.4**
IPM IAmb IAmb 20 56 24.1
comp=Z,43nm,1.5s

BSSI Bau Bau, Buton 22.99 180 P **P** **20 56 20.6 -2.1**
comp=Z,31nm,1.1s
BJT Baijiatuau 23.28 351 P **P** **20 56 25.3 +0.1**
BJI Beijing 23.30 351 P **P** **20 56 26.3 +0.9**
BJI pmax pmax
comp=Z,7.0nm,1.2s
INU Inuyama 23.37 35 P **P** **20 56 25.2 -1.0**
INU IAmb IAmb 20 57 06.2
comp=Z,36nm,1.5s
GUMO Guam 23.57 95 P **P** **20 56 27.6 -0.5**
comp=Z,60nm,0.9s,baz=134,slow=13,SNR=2.0
comp=Z,60nm,0.9s
JGF Kuroka 23.75 36 P **P** **20 56 28.8 -0.9**
JGF IAmb IAmb 20 56 58.1
comp=Z,40nm,1.5s
LZH Lanzhou 24.19 325 *e*P **P** **20 56 35.8 +2.0**
LZH pP pP 20 56 53.5 -3.6
LZH sP pwP 20 57 05.0 +4.4
LZH pmax pmax
comp=Z,69nm,1.1s
KMMI Kalianget 24.79 196 P **P** **20 56 39.0 -0.2**
comp=Z,79nm,1.1s
MJAR Matsushiro Arr 24.90 35 P **P** **20 56 40.5 +0.4**
comp=Z,0.8nm,0.5s,baz=226,slow=8.0,SNR=2.0
comp=Z,0.8nm,0.5s
HHC Hu-ho-hao-te 25.05 344 *e*P **P** **20 56 44.9 +3.5**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.0s
ABJI Asem Bagus 25.44 195 P **P** **20 56 45.9 +0.8**
comp=Z,32nm,1.0s
MMRI Maumere 25.51 176 P **P** **20 56 44.1 -1.6**
MMRI Maumere 25.51 176 P **P** **20 56 45.1 -0.6**
comp=Z,38nm,0.8s
RPSI Rantau Prapat 25.67 239 P **P** **20 56 46.2 -1.0**
PLAI Plampang 25.81 187 P **P** **20 56 48.9 +0.5**
PLAI Plampang 25.81 187 P **P** **20 56 48.2 -0.2**
comp=Z,501nmcomp=Z,38nm,1.4s
NGJI Ngawi 25.86 201 P **P** **20 56 49.8 +0.9**
comp=Z,42nm,0.9s
JSD Sado 26.04 33 P **P** **20 56 50.4 +0.2**
GMJI Gumukmas 26.10 196 P **P** **20 56 49.8 -1.2**
comp=Z,20nm,1.1s
JAGI Jajag, Banyuwa 26.11 195 P **P** **20 56 50.3 -0.8**
JAGI IAmb IAmb 20 56 58.9
comp=Z,11nm,0.9s
JAGI Jajag, Banyuwa 26.11 195 P **P** **20 56 50.4 -0.7**
WBSI Waikabubak, Su 26.49 183 P **P** **20 56 53.6 -1.0**
comp=Z,33nm,0.8s
UGM Wanagama 26.71 203 P **P** **20 56 54.6 -1.9**
UGM IAmb IAmb 20 57 15.7
comp=Z,26nm,1.1s
UGM Wanagama 26.71 203 P **P** **20 56 55.7 -0.8**
comp=Z,27nm,1.4s
SOEI Soe 26.81 172 P **P** **20 56 55.7 -1.9**
SOEI Soe 26.81 172 P **P** **20 56 58.4 +0.9**
SOEI Soe 26.81 172 P **P** **20 56 58.1 +0.6**
comp=Z,39nm,0.8s
LEM Lembang 26.96 210 P **P** **20 57 01.0 +2.0**
comp=Z,13nm,0.5s,baz=296,slow=21,SNR=4.7
comp=Z,13nm,0.5s
XLT XiLinHaoTe 27.11 353 *e*P **P** **20 57 00.3 +0.4**
XLT pP pP 20 57 26.1 +1.3
XLT sP sP 20 57 38.7 +0.5
XLT PP **PnPn** **20 57 47.8 -2.1**
XLT pmax pmax
comp=Z,5.0nm,1.4s
XLT pmax pmax
comp=Z,120nm,5.5s
GSI Gunungsitoli 27.57 238 P **P** **20 57 03.2 -1.1**
SHL Shillong 28.11 293 P **P** **20 57 08.0 -1.2**
SHL IAmb IAmb 20 57 10.5
comp=Z,14nm,0.9s
MDJ Mudanjiang 28.55 13 P **P** **20 57 13.0 +0.4**
MDJ pmax pmax
comp=Z,3.0nm,0.9s
USRK Ussuriysk Ar. 28.76 17 P **P** **20 57 14.2 -0.3**
comp=Z,2.3nm,0.8s,baz=210,slow=8.1,SNR=3.0
comp=Z,2.3nm,0.8s
GTA Gaotai 28.80 325 *e*P **P** **20 57 17.0 +1.9**
GTA pmax pmax
comp=Z,7.0nm,1.0s
BNX BinXian 29.21 10 ⇓P **P** **20 57 19.5 +1.0**
BNX pmax pmax
comp=Z,6.0nm,1.5s
LSA Lhasa 29.82 300 P **P** **20 57 24.4 -0.3**
LSA IAmb IAmb 20 57 27.1
comp=Z,8.1nm,0.7s
LSA Lhasa 29.82 300 P **P** **20 57 25.9 +1.2**
LSA pmax pmax
comp=Z,11nm,1.0s
GOMU GeErMu 29.86 315 P **P** **20 57 26.2 +1.4**
GOMU pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 32.76 343 P **P** **20 57 49.5 -0.4**
ULN IAmb IAmb 20 57 51.7
comp=Z,8.9nm,1.1s
SONM Songino Array 32.92 342 P **P** **20 57 52.0 +0.7**
comp=Z,3.2nm,0.5s,baz=161,slow=10.0,SNR=26
SONM PcP **PcP** **21 00 32.6 -0.5**
comp=Z,0.5nm,0.6s,baz=166,slow=4.2,SNR=3.4
comp=Z,3.2nm,0.5s
FITZ Fitzroy Crossi 35.21 172 LR LR 21 15 03.3
comp=Z,74nm,18.3s,baz=258,slow=40
WMQ Urumqi 38.61 321 *e*P **P** **20 58 41.8 +1.9**
WB0 Warramunga Arr 38.93 159 P **P** **20 58 40.2 -2.4**
WB0 IAmb IAmb 20 58 42.7
comp=Z,12nm,1.1s
WRAB Tennant Creek 39.07 159 P **P** **20 58 41.3 -2.5**
WRAB IAmb IAmb 20 58 43.6
comp=Z,10nm,1.0s
WRA Warramunga Arr 39.08 159 P **P** **20 58 41.2 -2.7**
WRA Warramunga Arr 39.08 159 P **P** **20 58 41.7 -2.2**
comp=Z,3.1nm,0.4s,baz=341,slow=9.0,SNR=34
WRA pP **pP** **20 59 08.0 -2.0**
comp=Z,5.5nm,1.0s,baz=339,slow=9.0,SNR=4.5
WRA PcP **PcP** **21 00 51.6 -0.1**
comp=Z,1.5nm,0.7s,baz=342,slow=3.0,SNR=4.0
comp=Z,3.1nm,0.4s
WB2 Warramunga Arr 39.08 159 P **P** **20 58 41.5 -2.4**
WB2 IAmb IAmb 20 58 44.1
comp=Z,7.6nm,0.7s
WR0 Warramunga Arr 39.16 159 P **P** **20 58 41.9 -2.6**
WR0 IAmb IAmb 20 59 12.2
comp=Z,6.7nm,0.8s
PALK Pallekele 40.19 261 P **P** **20 58 54.8 +1.6**
comp=Z,4.1nm,0.6s,baz=60,slow=7.3,SNR=4.7
comp=Z,4.1nm,0.6s
QIS Mount Isa 41.68 153 P **P** **20 59 04.2 -1.1**
AS31 Alice Springs 42.42 162 P **P** **20 59 10.0 -1.3**
ASAR Alice Springs 42.42 162 P **P** **20 59 09.9 -1.4**
comp=Z,5.3nm,0.3s,baz=340,slow=7.2,SNR=21.1
ASAR pP **pP** **20 59 36.0 -1.9**
comp=Z,2.6nm,0.7s,baz=340,slow=7.5,SNR=3.1
comp=Z,5.3nm,0.3s
AS01 Alice Springs 42.44 162 P **P** **20 59 09.6 -1.8**
MK31 Makanchi Array 43.42 322 P **P** **20 59 19.7 +0.5**
MK31 IAmb IAmb 20 59 21.0
comp=Z,6.0nm,0.9s
MK31 PcP **PcP** **21 01 05.1 -0.4**
MKAR Makanchi Array 43.42 322 P **P** **20 59 19.5 +0.4**
MKAR PcP **PcP** **21 01 04.7 -0.8**
MKAR Makanchi Array 43.42 322 P **P** **20 59 19.9 +0.8**
comp=Z,6.2nm,0.9s,baz=120,slow=8.9,SNR=54
MKAR pP **pP** **20 59 46.0 +1.0**
comp=Z,1.5nm,0.8s,baz=116,slow=8.6,SNR=3.1
MKAR PcP **PcP** **21 01 05.5 0.0**
comp=Z,2.0nm,0.7s,baz=98,slow=5.3,SNR=6.1
comp=Z,6.2nm,0.9s
MAKZ Makanchi 43.61 321 P **P** **20 59 20.8 +0.1**
MAKZ IAmb IAmb 20 59 22.6
comp=Z,9.0nm,1.2s
MAKZ PcP **PcP** **21 01 05.5 -0.7**
KDJ Kajisay 44.73 313 P **P** **20 59 28.7 -1.2**
KDJ IAmb IAmb 20 59 32.3
comp=Z,7.8nm,1.0s
KSH Kashi 44.76 309 P **P** **20 59 32.5 +2.5**
KSH pmax pmax
comp=Z,9.0nm,0.9s
ULHL Ulahol 45.43 313 P P 20 59 28.8 -6.6
SNR=14
NIL Nilore 45.56 301 P **P** **20 59 36.1 -0.3**
TKM2 Tokmak 2 46.10 314 P **P** **20 59 41.7 +1.0**
SNR=5.9
ZAA0 Zalesovo Array 46.16 331 P **P** **20 59 39.9 -0.8**

ZALV Zalesovo Beam 46.16 331 P **P** **20 59 39.9 -0.8**
ZALV Zalesovo Beam 46.16 331 P **P** **20 59 40.8 +0.1**
comp=Z,3.5nm,0.8s,baz=122,slow=7.2,SNR=16
ZALV PcP **PcP** **21 01 14.5 -0.2**
comp=Z,0.6nm,0.5s,baz=111,slow=4.3,SNR=2.0
comp=Z,3.5nm,0.8s
PETK Petropavlovsk- 46.18 30 P **P** **20 59 40.5 -0.4**
comp=Z,2.1nm,0.7s,baz=236,slow=7.6,SNR=2.7
PETK pP **pP** **21 00 07.5 -0.4**
comp=Z,2.8nm,1.0s,baz=239,slow=9.4,SNR=2.1
comp=Z,2.1nm,0.7s
KBK Karagaybulak 46.47 313 P **P** **20 59 44.7 +1.2**
SNR=9.3
CHMS Chumysh 46.71 314 P **P** **20 59 46.5 +1.3**
SNR=7.3
AAK Ala-Archa 46.78 313 P **P** **20 59 45.7 -0.2**
USP Ospenovka 46.98 314 P **P** **20 59 48.2 +0.9**
SNR=6.9
AML Almayashu 47.18 312 P **P** **20 59 50.9 +1.5**
SNR=18
EKS2 Erkin-Say 47.29 313 P **P** **20 59 51.5 +1.7**
SNR=11
ARSB Arslanbob 47.46 311 P **P** **20 59 50.8 -0.5**
ARSB IAmb IAmb 20 59 53.1
comp=Z,8.7nm,0.9s
KURK Kurchatov 47.48 325 P **P** **20 59 50.6 -0.5**
KURBB Kurchatov Arra 47.49 325 P **P** **20 59 51.7 +0.7**
comp=Z,12nm,0.8s,baz=122,slow=8.2,SNR=68
KURBB pP **pP** **21 00 18.5 +1.0**
comp=Z,2.5nm,0.6s,baz=120,slow=8.4,SNR=3.8
comp=Z,12nm,0.8s
INKA Innaminka 48.53 156 P **P** **20 59 59.3 0.0**
BTK Batken 48.73 309 P **P** **21 00 00.6 -0.4**
BTK IAmb IAmb 21 00 03.0
comp=Z,15nm,1.4s
GAR Garm 48.88 307 P **P** **21 00 02.1 -0.1**
QLP Quilpie 48.99 152 P **P** **21 00 01.8 -1.1**
KBL Kabul 49.14 301 P **P** **21 00 04.5 +0.1**
KK31 Karatay Array 49.71 312 P **P** **21 00 08.0 -0.3**
KK31 PcP **PcP** **21 01 26.8 -1.0**
KKAR Karatay Array 49.71 312 P **P** **21 00 08.3 0.0**
KKAR PcP **PcP** **21 01 26.9 -0.9**
KKAR Karatay Array 49.71 312 IAmb IAmb 21 00 09.8
comp=Z,9.2nm,0.9s
STKA Stephens Creek 52.57 158 P **P** **21 00 28.6 -1.0**
STKA Stephens Creek 52.57 158 P **P** **21 00 28.8 -0.9**
comp=Z,10nm,0.6s,baz=331,slow=5.7,SNR=16
comp=Z,10nm,0.6s
STKA Stephens Creek 52.57 158 P **P** **21 00 29.0 -0.6**
BVAR Borovoye Array 53.08 324 P **P** **21 00 33.6 +0.5**
comp=Z,1.0nm,0.4s,baz=108,slow=8.8,SNR=12
BVAR PcP **PcP** **21 01 40.1 0.0**
comp=Z,1.0nm,0.6s,baz=127,slow=3.8,SNR=2.6
comp=Z,1.0nm,0.4s
BRVK Borovoye 53.15 324 P **P** **21 00 33.5 -0.2**
BRVK IAmb IAmb 21 00 35.4
comp=Z,9.8nm,1.2s
CMSA Cobar Meteorol 53.90 153 P **P** **21 00 39.4 0.0**
HRA Herat 54.73 300 IAmb IAmb 21 00 47.2
comp=Z,13nm,1.4s
TIXI Tiksi 54.87 3 P **P** **21 00 45.1 -0.7**
TIXI IAmb IAmb 21 00 46.3
comp=Z,9.2nm,1.1s
NRIK Noril'sk 56.22 347 P **P** **21 00 54.9 -0.7**
NRIK Noril'sk 56.22 347 P **P** **21 00 56.0 +0.4**
comp=Z,8.1nm,0.8s,baz=138,slow=7.1,SNR=14
comp=Z,8.1nm,0.8s
ABKAR Akbulak array 58.27 318 P **P** **21 01 10.1 -0.3**
ABKAR Akbulak array 58.27 318 IAmb IAmb 21 01 11.4
comp=Z,8.0nm,0.7s
ARTI Arti 60.74 326 P **P** **21 01 26.3 -0.9**
SPIA Saint Paul Isl 64.55 34 P **P** **21 01 53.3 +0.9**
baz=262
GAMB Gambell 65.03 27 P **P** **21 01 57.1 +1.7**
baz=257
M11K Mekoryuk 67.04 31 P **P** **21 02 10.0 +1.7**
baz=264
F14K Arctic Creek 67.62 26 P **P** **21 02 13.8 +1.9**
baz=262
K13K Kusilvak Mount 67.94 29 P **P** **21 02 15.4 +1.4**
baz=265
F15K North Star Dit 68.34 25 P **P** **21 02 17.2 +0.7**
baz=263
C16K Lisburne Hills 68.41 23 P **P** **21 02 18.1 +1.3**
baz=262
M13K Dall Lake 68.45 31 P **P** **21 02 18.0 +0.8**
baz=266
G15K Niukluk 68.52 26 P **P** **21 02 18.6 +1.1**
baz=264
J14K Nanvaranak Lak 68.52 29 P **P** **21 02 19.0 +1.5**
baz=265
L14K Kuka Creek 68.83 30 P **P** **21 02 21.0 +1.5**
baz=267
M14K Bethel 69.15 31 P **P** **21 02 23.0 +1.5**
baz=268
D17K Noatak River 69.19 23 P **P** **21 02 23.0 +1.4**
baz=264
C17K DeLong Mountai 69.23 23 P **P** **21 02 22.8 +0.8**
baz=263
H16K Elim 69.25 27 P **P** **21 02 23.3 +1.3**
baz=266
N14K Kuskokwak Cree 69.26 32 P **P** **21 02 23.1 +0.9**
baz=268
G16K Koyuk River 69.26 26 P **P** **21 02 23.5 +1.3**
baz=265
RDOG Red Dog Mine 69.29 23 P **P** **21 02 23.7 +1.4**
baz=264
K15K Wolf Creek Mou 69.43 29 P **P** **21 02 24.8 +1.6**
baz=267
E17K Hotham Inlet 69.61 24 P **P** **21 02 25.8 +1.5**
baz=265
KBZ Khabaz 69.71 311 P **P** **21 02 25.3 +0.1**
comp=Z,11nm,0.9s,baz=101,slow=4.4,SNR=10
comp=Z,11nm,0.9s
F17K Baldwin Pennin 69.79 25 P **P** **21 02 27.1 +1.8**
baz=266
B18K Kokolik River 69.82 22 P **P** **21 02 27.4 +1.9**
baz=264
KIV Kislovodsk 69.84 311 P **P** **21 02 25.9 -0.4**
KIV Kislovodsk 69.84 311 ⇑P **P** **21 02 27.5 +1.2**
KIV Kislovodsk 69.84 311 P **P** **21 02 27.4 +1.2**
comp=Z,27nm,0.8s
G17K Kiwalik Mounta 69.98 26 P **P** **21 02 27.7 +1.1**
baz=267
C18K Utukok River 69.98 22 P **P** **21 02 27.4 +0.9**
baz=265
N15K Kwethluk River 70.06 31 P **P** **21 02 28.3 +1.1**
baz=269
E18K Tukpahlearik C 70.11 24 P **P** **21 02 28.5 +1.2**
baz=266
RAYN Ar Rayn 70.13 289 P **P** **21 02 27.2 -1.1**
RAYN IAmb IAmb 21 02 29.6
comp=Z,10nm,0.9s
A19K Wainwright 70.16 21 P **P** **21 02 28.7 +1.2**
baz=265
H17K Granite Mounta 70.26 26 P **P** **21 02 29.4 +1.1**
baz=268
L16K Owhat River 70.38 30 P **P** **21 02 30.4 +1.3**
baz=269
F18K Selawik 70.44 25 P **P** **21 02 29.8 +0.6**
baz=267
J17K VABM Dome 70.59 28 P **P** **21 02 31.2 +0.9**
baz=269
M16K Timber Creek 70.63 31 P **P** **21 02 31.7 +1.1**
baz=270
G18K Tagagawik 70.82 25 P **P** **21 02 32.2 +0.5**
baz=269
H18K Honhosa River 70.92 26 P **P** **21 02 33.1 +0.7**
baz=269
K17K Iditarod 70.94 29 P **P** **21 02 33.4 +1.0**
baz=270
L17K Donlin 70.94 29 P **P** **21 02 35.0 +2.5**
baz=270
O16K Kokwok River B 71.08 32 P **P** **21 02 35.2 +1.9**
baz=271
D19K Kuna River 71.10 23 IAmb IAmb 21 02 35.5
comp=Z,7.6nm,0.7s
D19K Kuna River 71.10 23 P **P** **21 02 35.1 +1.7**
baz=268
M17K Holitna River 71.36 30 P **P** **21 02 36.3 +1.3**
baz=271
E19K Redstone River 71.41 24 P **P** **21 02 36.5 +1.2**
baz=269
G19K Purcell Mounta 71.46 25 P **P** **21 02 36.5 +0.9**
baz=270
B20K Meade River 71.48 21 P **P** **21 02 36.9 +1.3**
B20K IAmb IAmb 21 02 38.1

comp=Z,7.9nm,0.8s
B20K **Meade River** 71.48 21 P P 21 02 37.4 +1.9
baz=269
N17K **Nushagak Hills** 71.50 31 P P 21 02 37.5 +1.7
baz=272
GCSA **Galena City Sc** 71.56 27 P P 21 02 37.4 +1.3
baz=271
O17K **Koliganek Bris** 71.58 32 P P 21 02 37.8 +1.5
baz=272
J18K **Innoko River** 71.65 28 P P 21 02 38.3 +1.6
baz=271
D20K **Etivluk River** 71.65 22 P P 21 02 37.9 +1.2
baz=270
L18K **Granite Mounta** 71.69 29 P P 21 02 38.5 +1.5
baz=272
H19K **Roundabout Mou** 71.73 26 IAmb IAmb 21 02 40.1
comp=Z,17nm,1.3s
H19K **Roundabout Mou** 71.73 26 P P 21 02 38.2 +1.1
baz=271
E20K **Nigu River** 71.81 23 P P 21 02 39.1 +1.4
baz=270
Q16K **King Salmon** 71.85 33 P P 21 02 39.7 +1.8
baz=273
P17K **Kvichak River** 71.94 32 P P 21 02 40.1 +1.6
baz=273
TTA **Tatalina** 71.98 29 P P 21 02 39.9 +1.1
baz=272
F20K **Avaraart Lake** 72.00 24 P P 21 02 39.9 +1.3
baz=271
J19K **Poorman** 72.12 27 P P 21 02 40.9 +1.4
baz=272
M18K **Stony River** 72.13 30 P P 21 02 41.1 +1.5
baz=273
N18K **Kilae Creek** 72.14 31 P P 21 02 40.9 +1.2
baz=273
A22K **Sinclair Lake** 72.22 20 P P 21 02 41.3 +1.3
baz=270
C21K **Knifeblade Rid** 72.31 22 P P 21 02 42.6 +2.0
baz=271
B21K **Ikpikpuk River** 72.36 21 P P 21 02 41.5 +0.7
B21K IAmb IAmb 21 02 43.4
comp=Z,9.8nm,1.1s
B21K **Ikpikpuk River** 72.36 21 P P 21 02 42.5 +1.7
baz=271
H20K **Anotleneega Mo** 72.38 26 P P 21 02 43.1 +2.0
baz=272
O18K **Koktuh Hills** 72.53 32 P P 21 02 43.7 +1.6
baz=274
P18K **Big Mountain,** 72.54 32 P P 21 02 43.1 +0.9
baz=274
L19K **White Mountain** 72.55 29 P P 21 02 43.8 +1.6
baz=273
I20K **Naaghedeneel** 72.58 27 P P 21 02 44.5 +2.3
baz=273
CHIR **Chirikof Islan** 72.60 36 P P 21 02 44.3 +1.8
baz=275
B22K **Teshekpuk Lake** 72.75 21 P P 21 02 44.6 +1.5
baz=272
J20K **Nowinta River** 72.76 27 P P 21 02 45.3 +2.0
baz=273
M19K **Big River Lodg** 72.79 30 P P 21 02 44.8 +1.2
baz=274
N19K **Bonanza Creek** 72.82 31 P P 21 02 45.1 +1.2
baz=274
K20K **Telida** 72.84 28 P P 21 02 45.0 +1.1
baz=274
F21K **Alatna River** 72.87 24 P P 21 02 45.5 +1.5
baz=273
G21K **Allakaket** 72.90 25 IAmb IAmb 21 02 46.6
comp=Z,8.9nm,1.0s
G21K **Allakaket** 72.90 25 P P 21 02 45.6 +1.5
baz=273
OBN **Obninsk** 72.90 323 P P 21 02 44.2 0.0
comp=Z,28nm,1.1s
O19K **Port Alsworth** 72.94 31 P P 21 02 45.9 +1.4
baz=274
L20K **Farewell, AK** 72.99 29 P P 21 02 46.7 +1.9
baz=274
D22K **Ayikyak River** 73.08 22 P P 21 02 46.7 +1.6
baz=273
H21K **Melozitna Rive** 73.23 26 IAmb IAmb 21 02 49.6
comp=Z,14nm,1.4s
H21K **Melozitna Rive** 73.23 26 P P 21 02 47.6 +1.5
baz=274
F22K **John River** 73.35 24 P P 21 02 48.2 +1.4
baz=274
M20K **Styx River** 73.39 30 P P 21 02 49.1 +1.9
baz=275
E22K **Anaktuvuk Pass** 73.45 23 IAmb IAmb 21 02 49.8
comp=Z,11nm,1.4s
E22K **Anaktuvuk Pass** 73.45 23 P P 21 02 49.1 +1.8
baz=274
CHUM **Lake Minchumin** 73.58 27 P P 21 02 49.6 +1.5
baz=275
I21K **Tanana** 73.62 26 IAmb IAmb 21 02 51.3
comp=Z,8.0nm,1.1s
I21K **Tanana** 73.62 26 P P 21 02 50.1 +1.8
baz=275
CAST **Castle Rocks** 73.73 28 P P 21 02 50.1 +1.0
CAST **Castle Rocks** 73.73 28 P P 21 02 50.7 +1.6
baz=275,SNR=20
PPLA **Purkeypile** 73.73 28 P P 21 02 50.4 +1.2
baz=275
C23K **Itkillik River** 73.75 21 IAmb IAmb 21 02 51.2
comp=Z,8.0nm,1.2s
C23K **Itkillik River** 73.75 21 P P 21 02 50.6 +1.6
baz=275
OHAK **Old Harbor** 73.75 34 P P 21 02 50.1 +0.9
baz=276
D23K **Nanushuk River** 73.80 22 IAmb IAmb 21 02 52.1
comp=Z,7.5nm,0.9s
D23K **Nanushuk River** 73.80 22 P P 21 02 51.3 +2.0
baz=275
O20K **Slope Mountain** 73.80 31 P P 21 02 50.3 +0.7
baz=276
H22K **Ishtalitna Cre** 73.80 25 P P 21 02 51.6 +2.1
baz=275
N20K **Mount Spurr** 73.89 30 P P 21 02 51.8 +1.7
baz=276
SPCR **Spurr Chakacha** 73.89 30 P P 21 02 51.4 +1.3
baz=276
KDAK **Kodiak Island** 74.07 34 P P 21 02 52.0 +1.0
baz=276
Q20K **Shuyak Island** 74.08 33 P P 21 02 52.9 +1.8
baz=276
SKT **Skwentna** 74.13 29 P P 21 02 52.3 +0.9
baz=276
COLD **Coldfoot** 74.14 24 IAmb IAmb 21 02 54.0
comp=Z,7.9nm,1.2s
COLD **Coldfoot** 74.14 24 P P 21 02 52.5 +1.1
baz=276
BPAW **Bear Paw Mtn.** 74.15 27 IAmb IAmb 21 02 54.0
comp=Z,12nm,0.9s
BPAW **Bear Paw Mtn.** 74.15 27 P P 21 02 52.8 +1.3
baz=276,SNR=10
TOLK **Toolik Lake Re** 74.23 22 P P 21 02 53.6 +1.7
baz=276
G23K **Bananza Creek** 74.27 24 P P 21 02 53.7 +1.6
G23K **Bananza Creek** 74.27 24 P P 21 02 53.6 +1.4
baz=276
E23K **Chandalar** 74.28 23 P P 21 02 54.0 +1.8
baz=276
C24K **Franklin Bluff** 74.42 21 P P 21 02 54.5 +1.6
baz=277
D24K **Happy Valley** 74.44 22 IAmb IAmb 21 02 55.5
comp=Z,7.4nm,1.1s
D24K **Happy Valley** 74.44 22 P P 21 02 54.3 +1.3
baz=277
CAPN **Captain Cook N** 74.45 31 P P 21 02 54.4 +1.2
baz=277
TRF **Thorofare Moun** 74.53 28 P P 21 02 55.5 +1.6
baz=277
CUT **Chulitna** 74.67 29 P P 21 02 55.0 +0.5
baz=277
E24K **Your Creek** 74.69 23 P P 21 02 56.2 +1.6
baz=277
I23K **Minto, Yukon-K** 74.72 26 IAmb IAmb 21 02 58.0
comp=Z,18nm,1.5s
I23K **Minto, Yukon-K** 74.72 26 P P 21 02 56.4 +1.7
baz=277,SNR=5.8
BRSE **Bradley Lake S** 74.78 32 P P 21 02 56.6 +1.4
baz=278
M22K **Willow** 74.82 30 P P 21 02 56.3 +1.0
baz=278
NEA2 **Nenana** 74.92 27 IAmb IAmb 21 02 58.4
comp=Z,8.5nm,0.6s
NEA2 **Nenana** 74.92 27 P P 21 02 57.2 +1.3
baz=278

F24K **Squaw Lake** 74.99 23 P P 21 02 57.9 +1.6
baz=278
MCK **McKinley** 75.09 27 P P 21 02 57.6 +0.6
MCK **McKinley** 75.09 27 P P 21 02 57.6 +0.6
baz=278,SNR=8.5
RC01 **Rabbit Creek A** 75.09 30 P P 21 02 57.6 +0.6
baz=278
RND **Reindeer** 75.17 28 P P 21 02 57.8 +0.3
O22K **Cooper Landing** 75.19 31 P P 21 02 58.0 +0.5
baz=278
H24K **Noodor Dome** 75.24 25 P P 21 02 59.3 +1.5
baz=278
G24K **Hadweenzic Riv** 75.27 24 P P 21 02 59.2 +1.3
baz=278
D25K **Kavik River** 75.28 22 IAmb IAmb 21 03 00.1
comp=Z,7.4nm,0.9s
D25K **Kavik River** 75.28 22 P P 21 02 59.0 +1.1
baz=279
PMR **Palmer** 75.31 30 IAmb IAmb 21 02 59.0
comp=Z,6.7nm,0.6s
PMR **Palmer** 75.31 30 P P 21 02 58.7 +0.6
baz=278
WRH **Wood River Hil** 75.35 27 P P 21 02 58.8 +0.5
WRH IAmb IAmb 21 03 00.8
comp=Z,5.1nm,0.8s
SEW **Seward** 75.38 31 P P 21 02 59.5 +0.9
baz=278
POKR **Poker Plat Res** 75.53 26 P P 21 03 00.3 +0.9
baz=279
SML **Sawmill** 75.65 29 P P 21 03 01.3 +1.1
baz=279
KNK **Knik Glacier** 75.66 30 P P 21 03 00.9 +0.7
baz=279
C26K **Camden Bay** 75.69 21 P P 21 03 01.8 +1.6
baz=280
E25K **Arctic Village** 75.77 23 P P 21 03 01.9 +1.2
baz=280
G25K **Bearman Lake** 75.80 24 P P 21 03 02.2 +1.4
baz=280
PWL **Port Wells** 75.80 30 P P 21 03 02.3 +1.3
baz=279,SNR=5.2
ILAR **Eielson Array** 75.82 26 P P 21 03 00.8 -0.2
comp=Z,0.9nm,0.6s,baz=260,slow=4.6,SNR=15
comp=Z,0.9nm,0.6s
F25K **Christian Rive** 75.83 23 P P 21 03 02.9 +1.8
baz=280
HDA **Harding Lake** 75.85 27 P P 21 03 00.8 -0.4
HDA IAmb IAmb 21 03 02.0
comp=Z,5.1nm,0.8s
HDA **Harding Lake** 75.85 27 P P 21 03 01.9 +0.7
baz=280
M23K **Glacier View** 75.94 29 P P 21 03 03.5 +1.7
baz=280
H25L **Birch Creek** 76.00 25 P P 21 03 03.8 +1.8
baz=280
ARCES **ARCESS Array B** 76.02 339 P P 21 03 02.6 +0.5
comp=Z,2.8nm,0.6s,baz=76,slow=7.0,SNR=13
comp=Z,2.8nm,0.6s
SCM **Sheep Creek Mo** 76.12 29 P P 21 03 04.0 +1.1
baz=280,SNR=5.6
C27K **Jago River** 76.15 21 P P 21 03 03.5 +0.7
C27K **Jago River** 76.15 21 P P 21 03 05.0 +2.2
baz=281
F26K **Sheenjek River** 76.38 23 P P 21 03 06.0 +1.8
baz=281
SPITS **Spitsbergen Ar** 76.38 348 P P 21 03 04.7 +0.6
comp=Z,17nm,0.9s,baz=78,slow=8.9,SNR=12
comp=Z,17nm,0.9s
GLI **Glacier Island** 76.40 30 P P 21 03 04.4 0.0
baz=280
P23K **Montague Islan** 76.41 31 P P 21 03 05.5 +1.1
baz=280
K24K **Donnelly Dome** 76.47 27 P P 21 03 05.6 +0.8
baz=281,SNR=7.1
J25K **Salcha River,** 76.49 26 P P 21 03 04.6 -0.3
baz=281
M24K **Tolsona, Glenn** 76.61 29 P P 21 03 07.3 +1.7
baz=281
G26K **Porcupine Rive** 76.67 24 P P 21 03 06.8 +1.0
baz=282
PAX **Paxson** 76.76 28 P P 21 03 07.8 +1.2
baz=281
KLU **Klutina** 76.84 29 P P 21 03 07.6 +0.7
KLU IAmb IAmb 21 03 09.0
comp=Z,10.0nm,1.1s
KLU **Klutina** 76.84 29 P P 21 03 08.6 +1.6
baz=281
RIDG **Independent Ri** 76.88 27 IAmb IAmb 21 03 08.7
comp=Z,9.0nm,0.8s
RIDG **Independent Ri** 76.88 27 P P 21 03 08.1 +0.9
baz=282,SNR=6.9
HARP **HAARP** 77.02 28 P P 21 03 09.4 +1.5
baz=282
KIRS **Kirsehir-Merke** 77.02 307 ⇓P P 21 03 08.0 -0.5
Q23K **Middleton Isla** 77.04 32 P P 21 03 09.7 +1.8
baz=281
EYAK **Cordova Ski Ar** 77.11 30 P P 21 03 09.9 +1.5
baz=282
BRTR **Keskin Array B** 77.12 308 P P 21 03 08.8 -0.2
comp=Z,1.2nm,0.6s,baz=133,slow=4.4,SNR=7.8
comp=Z,1.2nm,0.6s
BR104 **Keskin Array S** 77.12 308 P P 21 03 09.7 +0.7
comp=Z,2.9nm,1.0s
D27M **Malcolm River** 77.19 21 IAmb IAmb 21 03 11.3
comp=Z,7.6nm,1.2s
D27M **Malcolm River** 77.19 21 P P 21 03 10.3 +1.5
baz=284
SCRK **Sand Creek** 77.21 27 P P 21 03 09.3 +0.3
SCRK **Sand Creek** 77.21 27 P P 21 03 09.7 +0.6
baz=282
E27K **Coleen River** 77.21 22 IAmb IAmb 21 03 11.3
comp=Z,7.6nm,1.2s
E27K **Coleen River** 77.21 22 P P 21 03 09.7 +0.8
baz=284
DOT **Dot Lake** 77.24 27 IAmb IAmb 21 03 11.3
comp=Z,6.1nm,0.9s
I26K **Coal Creek Min** 77.27 25 IAmb IAmb 21 03 11.0
comp=Z,7.5nm,0.8s
I26K **Coal Creek Min** 77.27 25 P P 21 03 09.8 +0.7
baz=283
J26L **Joseph Creek** 77.27 26 P P 21 03 09.6 +0.2
baz=282
FINES **FINESS Array B** 77.42 331 P P 21 03 10.2 +0.1
comp=Z,8.5nm,0.9s,baz=67,slow=5.8,SNR=18
comp=Z,8.5nm,0.9s
N25K **Chitina, Valde** 77.44 29 IAmb IAmb 21 03 12.8
comp=Z,17nm,1.2s
N25K **Chitina, Valde** 77.44 29 P P 21 03 11.1 +0.8
baz=282
G27K **Doyon Strip** 77.52 24 P P 21 03 12.2 +1.6
baz=284
BMRM **Bremner River** 77.57 30 P P 21 03 13.0 +2.0
baz=282
L26K **Log Cabin Wild** 77.70 28 P P 21 03 12.9 +1.2
baz=283
H27K **Steamboat Moun** 77.71 24 P P 21 03 13.4 +1.7
baz=284
I27K **Kandik River** 77.82 25 P P 21 03 13.6 +1.3
baz=284
GLB **Gilahina Butte** 77.84 29 P P 21 03 12.5 -0.1
GLB IAmb IAmb 21 03 14.8
comp=Z,7.7nm,1.0s
E28M **Babbage River** 77.85 22 P P 21 03 14.2 +1.9
baz=285
KAIM **Kayak Island** 77.89 31 P P 21 03 14.7 +2.0
baz=283
AK09 **Malin Array Si** 77.94 319 P P 21 03 12.9 -0.3
AK08 **Malin Array Si** 77.95 319 P P 21 03 13.0 -0.2
AKASG **Malin Array Be** 77.96 319 P P 21 03 13.0 -0.3
comp=Z,2.8nm,0.3s,baz=66,slow=5.7,SNR=1.7
comp=Z,2.8nm,0.3s
AKBB **Malin Array Si** 77.96 319 P P 21 03 12.2 -1.1
AKBB **Malin Array Si** 77.96 319 P P 21 03 12.7 -0.6
AK10 **Malin Array Si** 77.96 319 P P 21 03 12.8 -0.5
KIEV **Kiev** 77.97 319 P P 21 03 12.3 -1.0
F28M **Old Crow** 77.99 23 IAmb IAmb 21 03 15.5
comp=Z,5.3nm,0.8s
F28M **Old Crow** 77.99 23 P P 21 03 14.7 +1.5
baz=285,SNR=7.8
M26K **Nabesna, AK** 78.00 28 IAmb IAmb 21 03 15.7
comp=Z,10nm,0.8s
M26K **Nabesna, AK** 78.00 28 P P 21 03 15.1 +1.7
baz=284
K27K **Chicken** 78.02 27 P P 21 03 14.7 +1.3
baz=284
BAL3X **Bal3x, Balta** 78.30 317 P P 21 03 14.5 -0.7
L27K **Beaver Creek,** 78.36 27 IAmb IAmb 21 03 18.3
comp=Z,7.0nm,0.8s

L27K **Beaver Creek,** 78.36 27 P P 21 03 17.5 +2.2
baz=284
BCAR **Beaver Creek A** 78.38 27 P P 21 03 15.4 0.0
E29M **Blow River** 78.49 22 P P 21 03 17.8 +1.9
baz=287
M27K **Edge Creek, AK** 78.51 28 IAmb IAmb 21 03 18.7
comp=Z,5.8nm,0.9s
M27K **Edge Creek, AK** 78.51 28 P P 21 03 18.2 +1.8
baz=284
I28M **Miner Creek** 78.54 25 P P 21 03 17.9 +1.6
baz=286
MI28 **Mi28,Pidlybu** 78.87 320 P P 21 03 18.2 -0.1
G29M **Pine Creek** 78.87 23 IAmb IAmb 21 03 20.2
comp=Z,8.7nm,0.9s
G29M **Pine Creek** 78.87 23 P P 21 03 19.9 +1.8
baz=287
H29M **Whitestone** 78.94 24 P P 21 03 20.0 +1.6
baz=287
LUBAR **Lubar, Ukraine** 79.04 319 P P 21 03 19.1 -0.2
SORM **Soroca** 79.07 317 ⇑P P 21 03 19.3 -0.2
SORM **Soroca** 79.07 317 P P 21 03 19.0 -0.4
comp=Z,17nm,1.1s
DAWY **Dawson** 79.14 26 P P 21 03 20.5 +0.9
DAWY **Dawson** 79.14 26 P P 21 03 20.6 +1.0
baz=286
F30M **Barrier River** 79.48 22 P P 21 03 22.8 +1.5
baz=289
JURR **Jurilovca** 79.49 314 ⇑P P 21 03 22.2 +0.4
J29N **Klondike Camp** 79.52 26 IAmb IAmb 21 03 24.1
comp=Z,5.1nm,0.8s
J29N **Klondike Camp** 79.52 26 P P 21 03 23.2 +1.5
baz=287
G30M **tAoh Zraii Nji** 79.53 23 P P 21 03 22.7 +1.0
baz=289
NDNU **Novodnistrovsk** 79.60 318 P P 21 03 21.8 -0.5
O28M **Mount Upton** 79.71 30 P P 21 03 24.6 +1.5
baz=286
YUK8 **Steele Glacier** 79.77 29 P P 21 03 24.2 +0.9
baz=286
VLDR **Vladesti** 79.78 315 ⇑P P 21 03 24.3 +1.0
TPGR **Topolog** 79.79 314 ⇑P P 21 03 24.1 +0.7
RNPP9 **Sopachiv** 79.84 321 P P 21 03 23.5 -0.1
RNPP8 **Varash** 79.88 321 P P 21 03 23.8 0.0
CFR **Carcaliu** 79.91 314 ⇑P P 21 03 24.5 +0.5
PABE **Paberze** 79.91 325 P P 21 03 23.3 -0.5
L29M **L29M** 79.97 27 P P 21 03 25.1 +1.0
L29M IAmb IAmb 21 03 27.3
comp=Z,8.7nm,0.8s
L29M **L29M** 79.97 27 P P 21 03 26.1 +2.0
baz=288
K29M **Barlow Dome** 80.00 26 P P 21 03 25.6 +1.2
baz=288
M29M **Somme Creek** 80.02 28 IAmb IAmb 21 03 27.7
comp=Z,8.4nm,0.9s
M29M **Somme Creek** 80.02 28 P P 21 03 26.2 +1.8
baz=287
I30M **Mount Dempster** 80.03 25 P P 21 03 25.8 +1.3
baz=289
INK **Inuvik** 80.05 21 P P 21 03 25.8 +1.5
baz=291
HARR **Harsova** 80.17 314 ⇑P P 21 03 25.7 +0.2
KMPD **K-Podol'skiy** 80.19 318 P P 21 03 25.0 -0.5
KMPD P P 21 03 25.0 -0.5
J30M **Hart River** 80.26 25 P P 21 03 27.1 +1.3
baz=289
YUK4 **Talbot Arm** 80.27 29 P P 21 03 27.2 +1.3
baz=288
G31M **Satah River** 80.27 23 P P 21 03 26.9 +1.3
baz=290
F31M **Tsiigehtchic** 80.28 22 P P 21 03 26.0 +0.4
F31M IAmb IAmb 21 03 26.9
comp=Z,5.9nm,0.8s
F31M **Tsiigehtchic** 80.28 22 P P 21 03 27.3 +1.7
baz=291
YUK6 **Outpost Mounta** 80.52 29 P P 21 03 28.5 +1.2
baz=288
TESR **Tescani** 80.59 316 ⇑P P 21 03 27.5 -0.1
TESR **Tescani** 80.59 316 P P 21 03 28.2 +0.5
comp=Z,22nm,1.6s
O29M **Mount Kennedy** 80.61 30 P P 21 03 29.3 +1.5
baz=288
H31M **Peel River** 80.64 24 P P 21 03 28.4 +0.8
baz=290
SPBR **Spulber** 80.71 315 ⇑P P 21 03 27.7 -0.7
M30M **Minto, Yukon** 80.71 27 IAmb IAmb 21 03 31.6
comp=Z,8.5nm,1.2s
M30M **Minto, Yukon** 80.71 27 P P 21 03 29.9 +1.8
baz=289
SUW **Suwalki** 80.75 324 eP P 21 03 28.7 +0.4
PLOR **Plostina** 80.75 315 ⇑P P 21 03 29.6 +0.9
N30M **Aishikik Lake** 80.94 28 IAmb IAmb 21 03 32.5
comp=Z,7.0nm,1.1s
N30M **Aishikik Lake** 80.94 28 P P 21 03 31.2 +1.9
baz=289
HYT **Haines Junctio** 80.96 29 P P 21 03 31.3 +1.8
baz=288
COVR **Voineasa-Covas** 81.06 315 ⇓P P 21 03 29.6 -0.7
NEHR **Nehoiu** 81.10 315 ⇑P P 21 03 31.3 +0.8
A36M **Sachs Harbour** 81.11 17 P P 21 03 30.6 +0.6
A36M IAmb IAmb 21 03 31.3
comp=Z,6.2nm,0.8s
A36M **Sachs Harbour** 81.11 17 P P 21 03 32.0 +2.1
baz=298
BURAR **Bucovina Array** 81.25 317 P P 21 03 31.2 -0.1
BURAR **Bucovina Array** 81.25 317 ⇑P P 21 03 31.4 +0.1
MLR **Muntele Rosu** 81.32 315 IAmb IAmb 21 03 33.4
comp=Z,6.2nm,0.9s
MLR **Muntele Rosu** 81.32 315 ⇑P P 21 03 32.3 +0.5
MLR **Muntele Rosu** 81.32 315 P P 21 03 32.5 +0.7
comp=Z,7.5nm,0.9s
P30M **Million Dollar** 81.44 30 P P 21 03 33.5 +1.5
baz=289
N31M **Braeburn, Yuko** 81.53 28 P P 21 03 34.5 +2.1
baz=290
O30N **Mendenhall** 81.63 29 P P 21 03 35.1 +2.1
baz=290
M31M **Drury Creek, Y** 81.89 27 P P 21 03 35.6 +1.3
baz=291
VOIR 81.94 315 ⇓P P 21 03 33.9 -1.1
WHY **Whitehorse** 82.22 29 P P 21 03 38.3 +2.1
baz=291
ARR **Arges** 82.25 315 ⇑P P 21 03 37.3 +0.7
FARO **Faro, Yukon** 82.34 27 P P 21 03 38.5 +1.8
baz=292
BRIU **Brid** 82.46 318 P P 21 03 38.4 +0.9
C36M **Paulatuk** 82.72 19 P P 21 03 38.9 +0.5
baz=299
KOLS **Kolonicke sedl** 82.76 319 eP P 21 03 39.5 +0.4
LOT **Lotru** 82.81 315 ⇑P P 21 03 40.0 +0.5
HOLU **Holmets** 82.81 318 P P 21 03 40.1 +0.8
MARR **Marisel-Cluj** 82.88 317 ⇑P P 21 03 40.0 +0.1
MMPY **Sheldon Lake,** 83.08 26 P P 21 03 42.2 +1.6
baz=294
DRGR 83.12 317 ⇑P P 21 03 41.3 +0.3
P32M **Atlin** 83.16 30 P P 21 03 42.8 +1.9
baz=292
DEV **Deva** 83.26 316 ⇑P P 21 03 40.3 -1.3
P33M **Teslin, Yukon** 83.34 29 P P 21 03 43.6 +1.7
baz=292
GZR **Gura Zlata** 83.49 315 ⇑P P 21 03 43.7 +0.8
HFS **Hagfors** 83.60 331 P P 21 03 42.6 -0.5
comp=Z,3.0nm,0.5s,baz=101,slow=4.8,SNR=20
HFS pP pP 21 04 14.2 +1.8
comp=Z,1.6nm,0.8s,baz=66,slow=1.7,SNR=1.5
comp=Z,3.0nm,0.5s
SURR **Surduc** 83.82 316 ⇑P P 21 03 44.1 -0.4
NIE **Niedzica** 83.84 320 eP P 21 03 46.1 +1.5
NIE **Niedzica** 83.84 320 P P 21 03 45.6 +1.0
comp=Z,4.1nm,1.1s
OJC **Ojcow** 83.89 321 eP P 21 03 45.7 +0.9
OJC **Ojcow** 83.89 321 IAmb IAmb 21 03 46.3
comp=Z,9.9nm,0.9s
OJC **Ojcow** 83.89 321 P P 21 03 45.4 +0.6
comp=Z,12nm,1.1s
HERR **Herculane** 83.89 315 ⇑P P 21 03 45.5 +0.6
KMBO **Kilima Mbogo** 84.04 267 P P 21 03 48.0 +1.4
comp=Z,0.6nm,0.2s,baz=113,slow=6.7,SNR=3.5
comp=Z,0.6nm,0.2s
NB2 **NORSAR Subarra** 84.35 333 P P 21 03 46.2 -0.8
comp=Z,24nm,1.4s,baz=66,slow=5.1
NB2 **NORSAR Subarra** 84.35 333 P P 21 03 46.2 -0.8
baz=66,slow=5.1
NOA **NORSAR Array B** 84.35 333 P P 21 03 46.5 -0.5
comp=Z,6.9nm,1.0s,baz=65,slow=4.9,SNR=13
NOA pP pP 21 04 15.5 -0.9
comp=Z,0.8nm,0.8s,baz=66,slow=4.6,SNR=1.8

comp=Z,6.9nm,1.0s
MDVR Moldovita 84.40 315 ⇑P P 21 03 47.2 -0.4
LANS Liptovska Anna 84.44 320 *eP* **P 21 03 49.4 +1.7**
R33M Jennings River 84.53 29 P **P 21 03 49.9 +1.9**
baz=294
TGTN Hyland Airport 84.82 27 P **P 21 03 51.4 +2.0**
baz=296
VYHS Vyhne 85.06 319 *eP* **P 21 03 51.7 +0.9**
S34M Telegraph Cree 85.06 31 P **P 21 03 52.6 +2.1**
baz=294
WTLY Watson Lake, Y 85.22 28 P **P 21 03 53.1 +1.8**
baz=296
LIT Litokhoron 85.31 310 IAmb IAmb 21 03 52.2
comp=Z,13nm,1.2s
MORC Moravsky Berou 85.41 321 P **P 21 03 52.3 -0.2**
MORC IAmb IAmb 21 03 54.2
comp=Z,6.2nm,1.1s
MORC Moravsky Berou 85.41 321 *eP* **P 21 03 52.9 +0.4**
MORC Moravsky Berou 85.41 321 ⇑P **P 21 03 53.3 +0.8**
SRO Srobarova 85.62 319 *eP* **P 21 03 54.3 +0.8**
JAVC Velka Javorina 85.65 320 *eP* **P 21 03 55.6 +1.8**
KSP Ksiaz 85.77 322 *eP* **P 21 03 53.5 -0.7**
KSP Ksiaz 85.77 322 P **P 21 03 54.8 +0.6**
comp=Z,14nm,1.1s
RES Resolute Bay 85.80 9 IAmb IAmb 21 03 55.5
comp=Z,5.3nm,0.9s
MORH Mrgy, Hungar 85.96 317 ⇑P **P 21 03 55.8 +0.6**
MORH Mrgy, Hungar 85.96 317 P **P 21 03 55.6 +0.4**
comp=Z,7.5nm,1.2s
WRGLY Wrigley 85.99 24 P **P 21 03 55.7 +0.7**
WRGLY Wrigley 85.99 24 P **P 21 03 56.7 +1.7**
baz=300
MODS Modra-Piesok 86.07 319 *eP* **P 21 03 57.1 +1.3**
VRAC Vranov 86.15 320 *eP* **P 21 03 57.0 +0.8**
MPLH Magyarpolny 86.34 318 P **P 21 03 57.5 +0.4**
KRUC Moravsky 86.36 320 *eP* **P 21 03 57.7 +0.5**
RONA Rosalia, Austr 86.93 319 *i* PcP **P 21 04 00.9 +0.8**
comp=Z,5.7nm,1.4s
CONA Conrad Observa 87.11 319 *i* PcP **P 21 04 01.7 +0.7**
comp=Z,5.8nm,1.2s
CLL Collm 87.50 323 *i* P **P 21 04 02.5 -0.1**
GERES GERESS Array B 88.08 321 P **P 21 04 05.0 -0.6**
comp=Z,0.4nm,0.5s,baz=88,slow=4.7,SNR=3.9
comp=Z,0.4nm,0.5s
MOA Molln 88.14 320 *e*PcP **PcP 21 04 07.0 -0.4**
comp=Z,6.7nm,1.3s
OBKA Obir 88.49 318 *e*PcP **PcP 21 04 08.9 -0.2**
comp=Z,2.1nm,1.1s
BIOA Bad Ischl, Aus 88.59 320 *i* PcP **P 21 04 08.3 +0.4**
comp=Z,4.2nm,1.1s
KBA Koelnbreinsper 89.02 319 *eP* **P 21 04 08.7 -1.5**
comp=Z,3.6nm,1.1s
LESA Schwarzleotal 89.29 320 *i* P **P 21 04 10.2 -1.1**
comp=Z,1.9nm,0.6s
ABTA Abfaltersbach 89.67 319 *i* P **P 21 04 12.5 -0.6**
comp=Z,3.6nm,0.8s
YKA Yellowknife Ar 89.76 22 P **P 21 04 13.5 +0.5**
comp=Z,1.4nm,0.7s,baz=310,slow=4.5,SNR=23
YKA pP **pP 21 04 42.9 0.0**
comp=Z,0.8nm,0.7s,baz=306,slow=4.5,SNR=5.4
comp=Z,1.4nm,0.7s
WTTA Wattenberg 90.00 320 *eP* **P 21 04 14.4 -0.3**
comp=Z,5.9nm,0.8s
WATA Walderalm 90.01 320 *i* PcP **P 21 04 14.7 0.0**
comp=Z,2.1nm,0.6s
SQTA Sankt Quirin 90.28 320 *i* PcP **P 21 04 16.1 +0.2**
comp=Z,5.5nm,0.8s
MOTA Moosalm 90.29 320 *i* P **P 21 04 15.8 -0.3**
comp=Z,6.3nm,1.0s
FETA Feichten 90.66 320 *e*PcP **P 21 04 18.2 +0.4**
comp=Z,6.8nm,1.1s
EKA Eskdalemuir Ar 93.79 332 P **P 21 04 30.6 -1.2**
comp=Z,1.0nm,0.8s,baz=60,slow=4.2,SNR=1.7
comp=Z,1.0nm,0.8s

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*MOS **01** 21:03:21.2±0.9, 36°.53N×141°.08E, h29km, mb4.7/44, Error ellipse: s-maj=7.5km s-min=4.5km az=96.3*
*BJI **01** 21:03:23.6, 36°.68N×141°.10E, h53km, mB4.7/11, mb4.6/34, Ms3.7/6, Ms7 3.6/7*
*NIED **01** 21:03:23.4, 36°.45N×141°.05E, h44km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.59; Mθθ-1.60; Mφφ-0.99; Mrθ3.77; Mθφ-2.32; Mφr0.28; Fault plane solution: M0 4.98000×10^15 NP1: φs201.00000°, δ29.00000°, λ38.00000°. NP2: φs77.00000°, δ73.00000°, λ114.00000°.*
*JMA **01** 21:03:23.4±0.1, 36°.5N±0°.3×141°.1E±0°.8, h44km±1km, MD4.4/38, MV4.4/38, E OFF IBARAKI PREF*
JMA Felt III J1 at E OFF IBARAKI PREF .
*IDC **01** 21:03:25.9±1.7, 36°.38N×141°.02E, h57km±16km, mb4.1/32, mbtmp4.3/35, MS3.6/41, Error ellipse: s-maj=12.5km s-min=8.8km az=73.0*
*NEIC **01** 21:03:25.6±1.7, 36°.53N±0°.06×141°.06E±0°.09, h43km±5km, mb4.7/165, Mwr4.4/27, Error ellipse: s-maj=11.5km s-min=7.6km az=110.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr1.83; Mθθ-1.65; Mφφ-0.18; Mrθ3.63; Mθφ-1.55; Mφr-0.02; Fault plane solution: M0 4.32000×10^15 NP1: φs85.45000°, δ76.43000°, λ109.60000°. NP2: φs208.83000°, δ23.69000°, λ35.73000°. Principal axes: T 4.2829, Plg54.0000°, Azm20.0000°; N 0.0711, Plg19.0000°, Azm261.0000°; P -4.3540, Plg29.0000°, Azm160.0000°;*
*NEIC **01** 21:03:25.7, 36°.54N×141°.07E, h42km*
ISC 01 21:03:23.2±0.5, 36°.48N±0°.03×140°.97E±0°.04, h30km±3km, n625, σ1°28/566, mb4.7/149, MS3.7/31, 12C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC	ISC
JHYU	**Hitachinakayam**	**0.34**	**245**	*i* P		**Pn**	**21 03 33.1**	**+1.0**	
JHYU				S		**Sn**	**21 03 39.7**	**+1.7**	
JHYU	**Hitachinakayam**	**0.34**	**245**	A		A	21 03 33.1		
comp=N,100nm,0.7s,comp=E,58nm,0.6s									
JHO	**Hitachi**	**0.35**	**292**	⇓*i*P		**Pn**	**21 03 33.2**	**+1.0**	
JHO				⇓S		**Sn**	**21 03 39.8**	**+1.6**	
JHO	**Hitachi**	**0.35**	**292**	A		A	21 03 33.2		
comp=N,107nm,0.3s,comp=E,79nm,0.5s									
JIHU	**Itakohorinouch**	**0.63**	**215**	P		**Pn**	**21 03 36.7**	**+0.6**	
JIHU				S		**Sn**	**21 03 46.5**	**+1.4**	
JIHU	**Itakohorinouch**	**0.63**	**215**	A		A	21 03 36.7		
comp=N,69nm,1.1s,comp=E,41nm,1.5s									
ONAJ	**Iwakimizuishiy**	**0.63**	**347**	⇓*i*P		**Pn**	**21 03 36.2**	**0.0**	
ONAJ	**Iwakimizuishiy**	**0.63**	**347**	A		A	21 03 36.2		
comp=N,15nm,0.4s,comp=E,16nm,0.3s									
JYT	**Yasato**	**0.68**	**248**	*i* P		**Pn**	**21 03 37.3**	**+0.6**	
JYT				S		**Sb**	**21 03 46.7**	**+1.1**	
JYT	**Yasato**	**0.68**	**248**	A		A	21 03 37.3		
comp=N,30nm,0.3s,comp=E,26nm,0.5s									
JFK	**Kawauchi**	**0.89**	**355**	⇓*i*P		**Pb**	**21 03 39.4**	**-0.6**	
JFK	**Kawauchi**	**0.89**	**355**	A		A	21 03 39.4		
comp=N,4.0nm,0.9s,comp=E,4.0nm,0.8s									
JSMT	**Sammunatsuo**	**0.94**	**207**	A		A	21 03 40.5		
comp=N,24nm,1.4s,comp=E,24nm,2.9s									
JSB	**Shiboa**	**0.97**	**300**	A		A	21 03 42.0		
comp=N,28nm,1.0s,comp=E,30nm,0.9s									
JOTO	**OTAMA OYAMA**	**1.19**	**335**	*i* P		**Pb**	**21 03 45.4**	**+0.3**	
JOTO	**OTAMA OYAMA**	**1.19**	**335**	A		A	21 03 45.4		
comp=N,42nm,0.5s,comp=E,34nm,1.2s									
JAG	**Ashikaga**	**1.22**	**268**	⇓*i*P		**Pb**	**21 03 45.4**	**-0.4**	
JAG	**Ashikaga**	**1.22**	**268**	A		A	21 03 45.4		
comp=N,7.0nm,1.0s,comp=E,4.0nm,0.5s									
JCN	**Nagara**	**1.23**	**211**	A		A	21 03 44.7		
comp=N,18nm,2.7s,comp=E,23nm,2.0s									
JMST	**Minamisoumatoc**	**1.24**	**357**	A		A	21 03 45.3		
comp=N,20nm,0.5s,comp=E,12nm,0.4s									
TOK	**Tokyo**	**1.26**	**231**	A		A	21 03 45.6		
comp=N,15nm,1.3s,comp=E,18nm,1.8s									
JFY	**Yanaizu**	**1.37**	**313**	A		A	21 03 47.7		
comp=N,4.0nm,5.1s,comp=E,5.0nm,1.8s									
JMM	**Marumori**	**1.39**	**354**			**Pn**	**21 03 46.6**	**0.0**	
JMM	**Marumori**	**1.39**	**354**	P		**Pn**	**21 03 46.7**	**+0.2**	
JMM	**Marumori**	**1.39**	**354**	⇓*i*P		**Pn**	**21 03 46.7**	**+0.2**	
JMM	**Marumori**	**1.39**	**354**	A		A	21 03 46.7		
comp=N,11nm,0.4s,comp=E,9.0nm,1.1s									
JKT	**Katashina**	**1.41**	**282**	⇓*i*P		**Pb**	**21 03 48.8**	**-0.2**	
JKT	**Katashina**	**1.41**	**282**	A		A	21 03 48.8		
comp=N,14nm,0.4s,comp=E,16nm,0.3s									
JYAR	**Yonezawaarcadi**	**1.57**	**335**	A		A	21 03 50.3		
comp=N,15nm,1.4s,comp=E,12nm,1.3s									
JYO	**Yokosk**	**1.64**	**221**	A		A	21 03 50.9		
comp=N,8.0nm,4.9s,comp=E,10.0nm,3.6s									
JSGW	**Sagamiharawaka**	**1.68**	**239**	A		A	21 03 51.6		
comp=N,5.0nm,1.3s,comp=E,3.0nm,1.1s									
TATJ	**Tateyama 2**	**1.69**	**212**	A		A	21 03 51.4		
comp=N,13nm,2.4s,comp=E,15nm,3.9s									
JRY	**Ryogami san**	**1.74**	**255**	A		A	21 03 52.7		
comp=N,4.0nm,0.9s,comp=E,4.0nm,1.2s									
JNS	**Sasagawa**	**1.88**	**316**	A		A	21 03 54.9		
comp=N,3.0nm,0.6s,comp=E,3.0nm,1.6s									
JYS	**Shiraataka**	**1.88**	**338**	A		A	21 03 54.8		
comp=N,8.0nm,1.4s,comp=E,8.0nm,1.4s									
JGK	**Kuni**	**1.88**	**273**	A		A	21 03 55.0		
comp=N,6.0nm,2.9s,comp=E,7.0nm,0.8s									
JOU	**Okura**	**1.90**	**353**	A		A	21 03 54.8		
comp=N,13nm,0.5s,comp=E,11nm,0.8s									
JOD2	**Odawara 2**	**1.95**	**232**	A		A	21 03 55.5		
comp=N,4.0nm,3.2s,comp=E,5.0nm,4.5s									
JIZZ	**Izumozaki**	**2.09**	**301**	A		A	21 03 58.1		
comp=N,11nm,1.5s,comp=E,12nm,2.1s									
JOFO	**Osakifurukawao**	**2.12**	**359**	A		A	21 03 57.8		
comp=N,19nm,2.5s,comp=E,20nm,0.8s									
JHTM	**Izuhatsuma**	**2.21**	**227**	A		A	21 03 59.0		
comp=N,9.0nm,4.4s,comp=E,7.0nm,4.4s									
MJAR	**Matsushiro Arr**	**2.23**	**272**	P		**Pn**	**21 04 00.3**	**+2.2**	
comp=E,69nm,0.4s,baz=98,slow=8.7,SNR=259									
MJAR				S		**Sb**	**21 04 28.8**	**-1.1**	
comp=E,146nm,0.5s,baz=182,slow=7.3,SNR=4.5									
MAJO	**Matsushiro**	**2.23**	**272**			**Pn**	**21 04 00.4**	**+2.3**	
MAJO	**Matsushiro**	**2.23**	**272**	P		**Pn**	**21 04 00.4**	**+2.3**	
MJB9	**Matsu-Tunnel**	**2.23**	**272**			**Pb**	**21 04 00.8**	**-2.0**	
JYA	**Atsumi**	**2.33**	**335**	A		A	21 04 01.3		
comp=N,5.0nm,1.0s,comp=E,9.0nm,0.6s									
JJN	**Nakama**	**2.34**	**286**	A		A	21 04 01.6		
comp=N,6.0nm,1.4s,comp=E,5.0nm,2.6s									
JYK	**Kaneyama**	**2.48**	**349**	A		A	21 04 03.2		
comp=N,4.0nm,2.8s,comp=E,3.0nm,5.5s									
OFUJ	**Ofunato**	**2.65**	**12**	A		A	21 04 05.2		
comp=N,4.0nm,0.7s,comp=E,4.0nm,3.2s									
SHZ3	**Shizuoka 3**	**2.65**	**239**	A		A	21 04 05.6		
comp=N,4.0nm,0.8s,comp=E,3.0nm,0.9s									
JSD	**Sado**	**2.66**	**306**			**Pn**	**21 04 06.0**	**+2.0**	
JSD	**Sado**	**2.66**	**306**	P		**Pn**	**21 04 06.1**	**+2.1**	
JRG	**Rokugo**	**2.92**	**355**	A		A	21 04 09.4		
comp=N,5.0nm,0.8s,comp=E,4.0nm,2.8s									
JOM	**Ohasama**	**3.00**	**5**	A		A	21 04 10.3		
comp=N,3.0nm,1.0s,comp=E,3.0nm,0.6s									
JGF	**Kuroka**	**3.06**	**254**	Pn		**Pn**	**21 04 13.0**	**+3.5**	
JGF	**Kuroka**	**3.06**	**254**	P		**Pn**	**21 04 13.5**	**+4.0**	
JGF	**Kuroka**	**3.06**	**254**	S		**Sb**	**21 04 53.3**	**-0.5**	
JYW	**Yuwa**	**3.11**	**349**	A		A	21 04 12.1		
comp=N,7.0nm,1.3s,comp=E,5.0nm,3.2s									
INU	**Inuyama**	**3.40**	**252**	Pn		**Pn**	**21 04 17.2**	**+3.0**	
INU	**Inuyama**	**3.40**	**252**	P		**Pn**	**21 04 18.2**	**+4.0**	
INU	**Inuyama**	**3.40**	**252**	S		**Sb**	**21 05 01.5**	**-2.2**	
JHJ	**Hachijo jima 2**	**3.50**	**197**	P		**Pn**	**21 04 16.8**	**+1.2**	
comp=E,144nm,0.3s,baz=342,slow=19,SNR=28									
JHJ				S		**Sn**	**21 04 55.3**	**-0.6**	
comp=E,228nm,0.2s,baz=95,slow=23,SNR=7.1									
JHJ				LR		LR	21 05 53.7		
comp=E,726nm,21.7s,baz=71,slow=43									
JHJ2	**Mitsune**	**3.50**	**196**	Pn		**Pn**	**21 04 17.2**	**+1.7**	
JHJ2	**Mitsune**	**3.50**	**196**	P		**Pn**	**21 04 17.1**	**+1.6**	
JHJ2	**Mitsune**	**3.50**	**196**	S		**Sn**	**21 04 56.4**	**+0.5**	
JKEN	**Kujiedanarisaw**	**3.76**	**9**	A		A	21 04 21.0		
comp=N,9.0nm,1.3s,comp=E,9.0nm,1.0s									
JTM	**Tenmabayashi**	**4.30**	**1**	Pn		**Pn**	**21 04 27.5**	**+1.0**	
JTM	**Tenmabayashi**	**4.30**	**1**	P		**Pn**	**21 04 28.4**	**+1.9**	
JTM	**Tenmabayashi**	**4.30**	**1**	S		**Sn**	**21 05 19.9**	**+4.3**	
ERM	**Erimo**	**5.78**	**16**	Pn		**Pn**	**21 04 46.3**	**-0.6**	
ERM	**Erimo**	**5.78**	**16**	P		**Pn**	**21 04 46.1**	**-0.8**	
ERM	**Erimo**	**5.78**	**16**	S		**Sn**	**21 05 53.3**	**+1.2**	
ERM	**Erimo**	**5.78**	**16**	*i* P		**Pn**	**21 04 46.2**	**-0.6**	
JEM	**Erimo**	**5.78**	**16**	P		**Pn**	**21 04 46.3**	**-0.6**	
JEM	**Erimo**	**5.78**	**16**	S		**Sn**	**21 05 53.6**	**+1.5**	
JMN	**Monobe**	**6.43**	**247**	Pn		**Pn**	**21 04 57.5**	**+1.6**	
JMN	**Monobe**	**6.43**	**247**	P		Pn	21 05 00.2	+4.3	
ASAJ	**Asahikawa**	**7.72**	**9**	P		**Pn**	**21 05 12.6**	**-1.0**	
comp=E,33nm,0.5s,baz=212,slow=15,SNR=28									
ASAJ				S		**Sn**	**21 06 39.5**	**-0.5**	
comp=E,42nm,0.8s,baz=57,slow=27,SNR=5.2									
JKA	**Kamikawa-asahi**	**7.72**	**9**	Pn		**Pn**	**21 05 12.5**	**-1.1**	
NMR	**Nemuro--Hokkai**	**7.79**	**27**	*e*P		**Pn**	**21 05 11.6**	**-2.8**	
NMR				*i* S		**Sn**	**21 06 33.8**	**-7.7**	
RUSJ	**Misakicho**	**8.28**	**22**	*e*P		**Pn**	**21 05 19.6**	**-1.6**	
RUSJ				*i* S		**Sn**	**21 06 49.0**	**-4.7**	
YUK	**Yuzh-Kuril'sk**	**8.42**	**25**	*e*P		**Pn**	**21 05 22.3**	**-0.7**	
YUK				*e*S		**Sn**	**21 06 51.3**	**-5.7**	
YUK				pmax		pmax			
comp=Z,108nm,0.1s									
YUK				pmax		pmax			
comp=N,168nm,0.3s									
YUK				pmax		pmax			
comp=E,85nm,0.2s									
JNU	**Nakatsue**	**8.95**	**251**	Pn		**Pn**	**21 05 33.3**	**+2.8**	
JNU	**Nakatsue**	**8.95**	**251**	LR		LR	21 09 31.7		
comp=E,206nm,18.5s,baz=62,slow=41									
JCJ	**Chichijima**	**9.42**	**173**	P		Pn	21 05 27.3	-10	
comp=E,49nm,0.3s,baz=87,slow=17,SNR=14									
JCJ				S		Sn	21 07 04.3	-17	
comp=E,30nm,0.4s,baz=290,slow=21,SNR=1.9									
JCJ	**Chichijima**	**9.42**	**173**	P		**Pn**	**21 05 34.3**	**-2.6**	
MSHR	**Mys Shultsa**	**9.72**	**312**	*i* P		**Pn**	**21 05 41.2**	**+0.3**	
USA0B	**Ussuriysk Arra**	**10.31**	**321**	Pn		**Pn**	**21 05 49.3**	**+0.3**	
USA0B	**Ussuriysk Arra**	**10.31**	**321**	P		**Pn**	**21 05 49.3**	**+0.3**	
USRK	**Ussuriysk Ar.**	**10.31**	**321**			**Pn**	**21 05 51.8**	**+2.8**	
USRK	**Ussuriysk Ar.**	**10.31**	**321**	P		Pn	21 05 54.0	+5.0	
comp=E,13nm,0.8s,baz=124,slow=13,SNR=14									
USRK				LR		LR	21 09 35.5		
comp=E,326nm,20.1s,baz=151,slow=36									
USRK	**Ussuriysk Ar.**	**10.31**	**321**	P		**Pn**	**21 05 51.8**	**+2.8**	
KSRS	**Korea Array**	**10.49**	**279**	P		Pn	21 05 57.2	+5.8	
comp=E,2.9nm,0.6s,baz=94,slow=14,SNR=17									
KSRS				S		**Sn**	**21 07 43.7**	**-4.2**	
comp=E,6.6nm,0.8s,baz=123,slow=40,SNR=1.5									
KSRS				LR		LR	21 09 45.4		
comp=E,197nm,19.8s,baz=90,slow=36									
YSS	**Yuzhno-Sakhali**	**10.55**	**7**	Pn		**Pn**	**21 05 49.9**	**-2.3**	
YSS	**Yuzhno-Sakhali**	**10.55**	**7**	*e*P		**Pn**	**21 05 51.6**	**-0.6**	
YSS				*e*S		**Sn**	**21 07 43.9**	**-5.3**	
YSS				pmax		pmax			
comp=Z,30nm,0.8s									
YSS				MLR		MLR			
comp=N,400nm,15.0s									
YSS				MLR		MLR			
comp=Z,300nm,15.0s									
JMZ	**Minamidaito 2**	**13.50**	**221**	P		**Pn**	**21 06 35.0**	**+2.2**	
CN2	**Changchun**	**13.93**	**306**	*e*P		**Pn**	**21 06 39.2**	**+0.7**	
CN2				*e*S		**Sn**	**21 09 14.0**	**+2.0**	
CN2				pmax		pmax			
comp=Z,10.0nm,0.6s									
CN2				pmax		pmax			
comp=Z,100nm,3.0s									
CN2				LR		LR			
comp=Z,100nm,12.0s									
CN2				LR		LR			
comp=Z,100nm,12.0s									
CN2				LR		LR			
comp=Z,200nm,10.0s									
KLR	**Kul'dur**	**14.41**	**335**	P		**Pn**	**21 06 44.2**	**-0.7**	
comp=Z,1.5nm,0.5s,baz=150,slow=8.8,SNR=11									
KLR	**Kul'dur**	**14.41**	**335**	*i* P		**Pn**	**21 06 44.5**	**-0.5**	
KLR				pmax		pmax			
comp=Z,5.0nm,1.0s									
TYV	**Tymovskoe**	**14.43**	**4**	*e*P		**Pn**	**21 06 43.2**	**-2.0**	
TYV				*e*S		**Sn**	**21 09 29.8**	**+5.8**	
TYV				pmax		pmax			
comp=Z,13nm,0.8s									
TYV				pmax		pmax			
comp=Z,200nm,4.9s									
TYV				smax		smax			
comp=N,400nm,7.9s									
TYV				smax		smax			
comp=E,300nm,7.9s									
JOW	**Kunigami**	**14.46**	**232**	Pn		**P**	**21 06 50.9**	**-1.3**	
JOW	**Kunigami**	**14.46**	**232**	LR		LR	21 12 01.0		
comp=E,114nm,21.8s,baz=80,slow=36									
DL2	**Dalian**	**15.50**	**285**	P		**P**	**21 07 05.0**	**+1.3**	
DL2				S		**Sn**	**21 09 57.1**	**+6.7**	
DL2				pmax		pmax			
comp=E,11nm,0.8s									
DL2				pmax		pmax			
comp=E,270nm,5.2s									
DL2				LR		LR			
comp=E,200nm,10.2s									
DL2				LR		LR			
comp=E,220nm,18.9s									
DL2				LR		LR			
comp=E,240nm,14.5s									
HEH	**HeiHe**	**16.89**	**329**	*e*P		**Pn**	**21 07 14.9**	**-2.3**	
HEH				pmax		pmax			
comp=E,2.0nm,0.6s									
TIA	**Tai'an**	**19.20**	**276**	P		**P**	**21 07 44.7**	**0.0**	
TIA				pmax		pmax			
comp=E,4.0nm,0.6s									
ZEA	**Zeya**	**19.72**	**335**	*e*P		**P**	**21 07 50.8**	**+0.6**	
ZEA				pmax		pmax			
comp=Z,20nm,0.8s									
PETK	**Petropavlovsk-**	**20.34**	**30**	P		**P**	**21 07 56.5**	**-0.4**	
comp=Z,9.4nm,1.0s,baz=193,slow=6.1,SNR=7.8									
PETK				LR		LR	21 15 27.9		
comp=Z,64nm,21.5s,baz=208,slow=35									
comp=Z,9.4nm,1.0s									
XLT	**XiLinHaoTe**	**20.36**	**299**	*e*P		**P**	**21 07 55.5**	**-1.8**	
XLT				pP		sP	21 08 05.6	-3.4	
XLT				PP		**PnPn**	**21 08 18.0**	**+3.4**	
XLT				S		**S**	**21 11 34.9**	**-9.0**	
XLT				pmax		pmax			
comp=Z,9.0nm,1.1s									
XLT				LR		LR			
comp=Z,220nm,17.4s									
XLT				LR		LR			
comp=Z,230nm,18.3s									
PET	**Petropavlovsk**	**20.67**	**31**	*i* P		**P**	**21 08 00.1**	**-0.3**	
PET				pmax		pmax			
comp=Z,14nm,1.1s									
HHC	**Hu-ho-hao-te**	**23.32**	**290**	*e*P		**P**	**21 08 30.2**	**+1.4**	
HHC				pmax		pmax			
comp=Z,10.0nm,0.5s									
HHC				pmax		pmax			
comp=Z,52nm,4.9s									
MA2	**Magadan**	**23.97**	**12**	P		**P**	**21 08 34.6**	**-0.1**	
MA2				IAmb		IAmb	21 08 47.1		
comp=Z,25nm,1.0s									
MA2	**Magadan**	**23.97**	**12**	*ce*P		**P**	**21 08 34.5**	**-0.2**	
MA2				pmax		pmax			
comp=Z,27nm,1.3s									
YAK	**Yakutsk**	**26.53**	**348**	P		**P**	**21 08 57.6**	**-0.3**	
YAK	**Yakutsk**	**26.53**	**348**	*e*P		**P**	**21 08 57.4**	**-0.5**	
YAK				*e*S		**S**	**21 13 30.3**	**+0.2**	
YAK				pmax		pmax			
comp=Z,25nm,0.8s									
YAK				pmax		pmax			
comp=N,23nm,1.0s									
YAK				pmax		pmax			
comp=E,12nm,1.3s									
YAK				smax		smax			
comp=N,94nm,4.8s									
YAK				smax		smax			
comp=E,45nm,4.1s									
HKPS	**Hong Kong Po S**	**27.22**	**246**	P		**P**	**21 09 04.6**	**+0.1**	
ULN	**Ulaanbaatar**	**27.38**	**305**	P		**P**	**21 09 07.0**	**+1.1**	
ULN	**Ulaanbaatar**	**27.38**	**305**	P		**P**	**21 09 07.0**	**+1.1**	
ULN				pmax		pmax			
comp=Z,5.0nm,0.8s									
SEY	**Seymchan**	**27.40**	**11**	*ce*P		**P**	**21 09 05.5**	**-0.2**	
SEY				pmax		pmax			
comp=Z,20nm,1.3s									
SONM	**Songino Array**	**27.80**	**305**	P		**P**	**21 09 09.8**	**+0.1**	
SONM	**Songino Array**	**27.80**	**305**	P		**P**	**21 09 09.7**	**0.0**	
comp=Z,4.1nm,0.9s,baz=106,slow=9.0,SNR=20									
SONM				LR		LR	21 20 32.6		
comp=Z,107nm,19.1s,baz=145,slow=37									
comp=Z,4.1nm,0.9s									
BOD	**Bodaibo**	**27.81**	**329**	*e*P		**P**	**21 09 09.3**	**-0.2**	
BOD				pmax		pmax			
comp=Z,19nm,0.8s									
H11N2	**WAKE ISLAND Hy**	**28.18**	**119**	T		T	21 38 33.7		
baz=312,slow=75,SNR=71									
H11N1	**WAKE ISLAND Hy**	**28.19**	**119**	T		T	21 38 42.5		
baz=312,slow=75,SNR=83									
H11N3	**WAKE ISLAND Hy**	**28.20**	**119**	T		T	21 38 38.2		
baz=312,slow=75,SNR=85									
SHEM	**Shemya Is, Ala**	**28.31**	**44**	LR		LR	21 20 23.3		
comp=Z,20nm,18.3s,baz=94,slow=36									
H11S1	**WAKE ISLAND Hy**	**28.87**	**121**	T		T	21 39 24.8		
baz=313,slow=74									
H11S3	**WAKE ISLAND Hy**	**28.87**	**121**	T		T	21 39 21.8		
baz=313									
H11S2	**WAKE ISLAND Hy**	**28.88**	**121**	T		T	21 39 26.0		
baz=313,slow=74									
ZAK	**Zakamensk**	**30.34**	**309**	*e*P		**P**	**21 09 31.9**	**-0.2**	
ZAK				pmax		pmax			
comp=Z,4.0nm,1.2s									
DAV	**Davao City (W)**	**32.48**	**209**	LR		LR	21 22 23.9		
comp=Z,52nm,21.2s,baz=326,slow=35									
BILL	**Bilibino**	**34.65**	**16**	*ce*P		**P**	**21 10 10.0**	**+0.4**	
BILL				pmax		pmax			
comp=Z,13nm,2.5s									
PZH	**PanZhiHua**	**34.69**	**265**	P		**P**	**21 10 10.0**	**-0.5**	
PZH				pmax		pmax			
comp=Z,10.0nm,0.6s									
PZH				pmax		pmax			
comp=Z,100nm,5.1s									
TIXI	**Tiksi**	**35.79**	**353**	P		**P**	**21 10 19.1**	**-0.2**	
TIXI				IAmb		IAmb	21 10 20.3		
comp=Z,7.1nm,1.1s									
TIXI	**Tiksi**	**35.79**	**

D17K	**Noatak River**	43.99	27	P	P	21 11 28.9 +1.5
	baz=254					
I17K	**Unalakleet**	44.10	33	P	P	21 11 30.0 +1.6
	baz=260					
MK31	**Makanchi Array**	44.11	303	*ce*P	P	21 11 29.6 +0.9
MKAR	**Makanchi Array**	44.11	303	P	P	21 11 29.0 +0.3
MKAR	**Makanchi Array**	44.11	303	P	P	21 11 29.0 +0.3
	comp=Z,2.4nm,0.6s,baz=83,slow=10,SNR=37					
MKAR				LR	LR	21 30 38.4
	comp=Z,88nm,20.2s,baz=86,slow=37					
	comp=Z,2.4nm,0.6s					
RDOG	**Red Dog Mine**	44.16	27	P	P	21 11 29.4 +0.6
RDOG	**Red Dog Mine**	44.16	27	P	P	21 11 30.0 +1.2
	baz=254					
C17K	**DeLong Mountai**	44.18	26	P	P	21 11 29.9 +1.0
	baz=253					
E17K	**Hotham Inlet**	44.30	28	P	P	21 11 30.9 +1.0
	baz=256					
MAKZ	**Makanchi**	44.32	303	P	P	21 11 30.6 +0.2
MAKZ	**Makanchi**	44.32	303	P	P	21 11 30.6 +0.2
MAKZ				pmax	pmax	
	comp=Z,4.0nm,0.9s					
L16K	**Owhat River**	44.35	36	P	P	21 11 30.6 +0.3
L16K	**Owhat River**	44.35	36	P	P	21 11 30.8 +0.5
	baz=264					
F17K	**Baldwin Pennin**	44.37	29	P	P	21 11 31.5 +1.0
	baz=257					
G17K	**Kiwalik Mounta**	44.42	30	P	P	21 11 31.4 +0.5
	baz=259					
M16K	**Timber Creek**	44.53	37	P	P	21 11 33.1 +1.2
	baz=265					
CHGN	**Chignik**	44.61	44	P	P	21 11 32.3 -0.1
	baz=270					
H17K	**Granite Mounta**	44.62	31	P	P	21 11 33.2 +0.7
	baz=260					
J17K	**VABM Dome**	44.74	34	IAmb	IAmb	21 11 35.5
	comp=Z,10nm,1.0s					
J17K	**VABM Dome**	44.74	34	P	P	21 11 34.8 +1.3
	baz=262					
E18K	**Tukpahlearik C**	44.84	28	P	P	21 11 35.4 +1.2
	baz=257					
O16K	**Kokwok River B**	44.86	39	P	P	21 11 35.4 +0.9
	baz=267					
P16K	**Nushagak River**	44.89	40	P	P	21 11 35.6 +0.9
	baz=268					
B18K	**Kokolik River**	44.91	25	P	P	21 11 36.0 +1.2
	baz=254					
C18K	**Utukok River**	44.93	26	IAmb	IAmb	21 11 48.3
	comp=Z,13nm,0.8s					
C18K	**Utukok River**	44.93	26	P	P	21 11 35.5 +0.6
	baz=255,SNR=8.1					
L17K	**Donlin**	44.95	35	P	P	21 11 36.4 +1.2
	baz=264					
K17K	**Iditarod**	45.01	35	P	P	21 11 36.5 +0.9
	baz=264					
F18K	**Selawik**	45.03	29	P	P	21 11 37.4 +1.7
	baz=258					
R16K	**Pilot Point**	45.07	42	P	P	21 11 37.5 +1.4
	baz=270					
M17K	**Holitna River**	45.30	37	IAmb	IAmb	21 11 53.0
	comp=Z,12nm,0.9s					
M17K	**Holitna River**	45.30	37	P	P	21 11 39.3 +1.4
	baz=266					
G18K	**Tagagawik**	45.30	30	P	P	21 11 38.6 +0.7
	baz=260					
H18K	**Honhosa River**	45.30	31	P	P	21 11 38.8 +0.9
	baz=261					
N17K	**Nushagak Hills**	45.36	38	P	P	21 11 39.4 +1.0
	baz=267					
O17K	**Koliganek Bris**	45.37	39	P	P	21 11 39.4 +0.9
	baz=268					
A19K	**Wainwright**	45.39	24	P	P	21 11 39.8 +1.3
	baz=254					
P17K	**Kvichak River**	45.69	40	P	P	21 11 42.4 +1.4
	baz=269					
L18K	**Granite Mounta**	45.71	35	P	P	21 11 42.1 +0.9
	baz=266					
J18K	**Innoko River**	45.80	34	P	P	21 11 42.6 +0.7
	baz=264					
KAPI	**Kappang**	45.81	210	P	P	21 11 41.4 -1.0
	comp=Z,3.7nm,0.4s,baz=5.5,slow=16,SNR=1.4					
	comp=Z,3.7nm,0.4s					
F19K	**Shaleruckik Mo**	45.81	29	P	P	21 11 42.2 +0.3
	baz=260					
GCSA	**Galena City Sc**	45.87	32	P	P	21 11 43.8 +1.5
	baz=263					
G19K	**Purcell Mounta**	45.97	30	IAmb	IAmb	21 11 44.3
	comp=Z,7.8nm,1.0s					
G19K	**Purcell Mounta**	45.97	30	P	P	21 11 44.0 +0.9
	baz=262					
D19K	**Kuna River**	45.99	27	P	P	21 11 44.1 +0.7
	baz=258					
KURK	**Kurchatov**	45.99	308	P	P	21 11 43.7 +0.1
KURK	**Kurchatov**	45.99	308	*ce*P	P	21 11 43.5 0.0
KURK				pmax	pmax	
	comp=Z,10.0nm,0.8s					
N18K	**Kilae Creek**	46.01	38	P	P	21 11 44.7 +1.1
	baz=268					
KURBB	**Kurchatov Arra**	46.06	308	P	P	21 11 44.2 +0.1
	comp=Z,9.3nm,0.6s,baz=83,slow=7.7,SNR=120					
KURBB				LR	LR	21 31 22.6
	comp=Z,85nm,19.4s,baz=169,slow=36					
	comp=Z,9.3nm,0.6s					
M18K	**Stony River**	46.07	36	P	P	21 11 45.2 +1.2
	baz=267					
TTA	**Tatalina**	46.08	34	P	P	21 11 44.8 +0.6
	baz=266					
E19K	**Redstone River**	46.12	28	P	P	21 11 44.9 +0.5
	baz=260					
H19K	**Roundabout Mou**	46.15	31	IAmb	IAmb	21 11 46.2
	comp=Z,11nm,0.8s					
H19K	**Roundabout Mou**	46.15	31	P	P	21 11 45.3 +0.8
	baz=263					
P18K	**Big Mountain,**	46.31	39	P	P	21 11 46.6 +0.6
P18K	**Big Mountain,**	46.31	39	P	P	21 11 46.9 +0.9
	baz=270,SNR=5.2					
O18K	**Koktuh Hills**	46.33	39	P	P	21 11 47.0 +0.9
O18K				IAmb	IAmb	21 11 50.1
	comp=Z,11nm,0.8s					
O18K	**Koktuh Hills**	46.33	39	P	P	21 11 47.3 +1.2
	baz=269					
J19K	**Poorman**	46.34	33	P	P	21 11 46.3 +0.2
	baz=265					
L19K	**White Mountain**	46.57	36	P	P	21 11 48.9 +1.0
	baz=267					
D20K	**Etivluk River**	46.58	26	P	P	21 11 48.6 +0.7
	baz=260					
B20K	**Meade River**	46.64	25	IAmb	IAmb	21 12 01.9
	comp=Z,14nm,0.9s					
B20K	**Meade River**	46.64	25	P	P	21 11 49.2 +0.9
	baz=258					
F20K	**Avaraart Lake**	46.64	29	P	P	21 11 49.4 +1.1
	baz=262					
E20K	**Nigu River**	46.65	27	P	P	21 11 48.6 0.0
	baz=260					
N19K	**Bonanza Creek**	46.70	37	P	P	21 11 50.1 +1.0
	baz=269					
O19K	**Port Alsworth**	46.78	38	P	P	21 11 50.5 +1.0
O19K				IAmb	IAmb	21 11 52.3
	comp=Z,8.9nm,0.6s					
O19K	**Port Alsworth**	46.78	38	P	P	21 11 50.6 +1.1
	baz=270					
H20K	**Anotleneega Mo**	46.79	31	P	P	21 11 50.5 +0.8
	baz=264					
SII	**Sitkinak Islan**	46.95	43	P	P	21 11 50.6 -0.4
K20K	**Telida**	46.98	34	P	P	21 11 52.4 +1.2
	baz=267					
J20K	**Nowinta River**	47.00	33	P	P	21 11 51.9 +0.6
	baz=266					
L20K	**Farewell, AK**	47.03	35	P	P	21 11 52.9 +1.4
	baz=268					
Q19K	**Cape Douglas,**	47.14	40	P	P	21 11 51.9 -0.5
Q19K	**Cape Douglas,**	47.14	40	P	P	21 11 52.9 +0.5
	baz=272					
C21K	**Knifeblade Rid**	47.30	26	P	P	21 11 54.3 +0.7
	baz=261					
P19K	**Oil Pt**	47.33	39	P	P	21 11 53.8 -0.1
P19K	**Oil Pt**	47.33	39	P	P	21 11 54.5 +0.6
	baz=271					
M20K	**Styx River**	47.37	36	P	P	21 11 55.3 +1.0
	baz=269					
OHAK	**Old Harbor**	47.40	42	P	P	21 11 54.4 -0.1
OHAK				IAmb	IAmb	21 11 54.7
	comp=Z,6.1nm,0.8s					
OHAK	**Old Harbor**	47.40	42	P	P	21 11 54.6 +0.2
	baz=273					
B21K	**Ikpikpuk River**	47.44	25	P	P	21 11 55.9 +1.3
	baz=261					
G21K	**Allakaket**	47.45	30	P	P	21 11 55.4 +0.7
	baz=265					
F21K	**Alatna River**	47.53	29	P	P	21 11 56.1 +0.7
	baz=264					
A22K	**Sinclair Lake**	47.56	24	P	P	21 11 56.4 +0.9
	baz=259					
O20K	**Slope Mountain**	47.63	38	P	P	21 11 56.8 +0.5
	baz=271					
H21K	**Melozitna Rive**	47.67	31	P	P	21 11 57.2 +0.7
	baz=266					
KDAK	**Kodiak Island**	47.75	42	P	P	21 11 56.8 -0.3
KDAK	**Kodiak Island**	47.75	42	P	P	21 11 56.8 -0.3
KDAK				pmax	pmax	
	comp=Z,18nm,0.7s					
KDAK	**Kodiak Island**	47.75	42	P	P	21 11 57.0 -0.1
	baz=274					
CHUM	**Lake Minchumin**	47.79	33	P	P	21 11 58.6 +1.3
	baz=268,SNR=5.9					
Q20K	**Shuyak Island**	47.80	40	P	P	21 11 58.0 +0.5
	baz=273					
SYI	**Shuyak Island**	47.80	40	P	P	21 11 57.1 -0.5
N20K	**Mount Spurr**	47.81	37	P	P	21 11 58.0 +0.3
	baz=271,SNR=11					
SPCR	**Spurr Chakacha**	47.81	37	P	P	21 11 58.4 +0.7
	baz=271,SNR=5.3					
PPLA	**Purkeypile**	47.82	35	P	P	21 11 59.2 +1.4
PPLA				IAmb	IAmb	21 11 60.0
	comp=Z,6.0nm,0.7s					
PPLA	**Purkeypile**	47.82	35	P	P	21 11 58.6 +0.7
	baz=269					
CAST	**Castle Rocks**	47.88	34	P	P	21 11 59.4 +1.3
CAST				IAmb	IAmb	21 12 00.4
	comp=Z,6.1nm,0.8s					
CAST	**Castle Rocks**	47.88	34	P	P	21 11 59.2 +1.0
	baz=269,SNR=7.8					
B22K	**Teshekpuk Lake**	47.96	25	P	P	21 11 59.6 +1.0
B22K				IAmb	IAmb	21 12 00.4
	comp=Z,7.2nm,0.6s					
B22K	**Teshekpuk Lake**	47.96	25	P	P	21 11 59.3 +0.7
	baz=261,SNR=9.0					
I21K	**Tanana**	47.98	32	P	P	21 11 59.8 +0.9
	baz=267					
D22K	**Ayikyak River**	48.02	27	P	P	21 12 00.4 +1.3
	baz=263					
F22K	**John River**	48.06	28	P	P	21 12 00.3 +0.8
	baz=265					
SKT	**Skwentna**	48.13	36	P	P	21 12 01.0 +0.9
SKT				IAmb	IAmb	21 12 17.4
	comp=Z,6.1nm,1.1s					
SKT	**Skwentna**	48.13	36	P	P	21 12 01.0 +0.9
	baz=271					
HOM	**Homer**	48.14	39	P	P	21 12 01.2 +1.1
	baz=272					
E22K	**Anaktuvuk Pass**	48.26	28	P	P	21 12 02.1 +1.0
	baz=265					
H22K	**Ishtalitna Cre**	48.27	31	P	P	21 12 01.8 +0.7
	baz=267					
BPAW	**Bear Paw Mtn.**	48.38	33	P	P	21 12 02.7 +0.7
BPAW	**Bear Paw Mtn.**	48.38	33	P	P	21 12 03.0 +1.0
	baz=269					
KTH	**Kantishna Hill**	48.40	34	P	P	21 12 03.4 +1.2
BRLK	**Bradley Lake**	48.51	39	P	P	21 12 02.8 -0.3
BRLK				IAmb	IAmb	21 12 07.7
	comp=Z,8.0nm,0.9s					
BRSE	**Bradley Lake S**	48.59	39	P	P	21 12 04.8 +1.2
	baz=273					
KDJ	**Kajisay**	48.67	297	P	P	21 12 05.6 +0.9
KDJ				IAmb	IAmb	21 12 06.2
	comp=Z,3.2nm,0.6s					
KDJ	**Kajisay**	48.67	297	P	P	21 12 05.6 +0.9
KDJ				pmax	pmax	
	comp=Z,3.0nm,0.6s					
TRF	**Thorofare Moun**	48.69	34	P	P	21 12 05.2 +0.6
TRF				IAmb	IAmb	21 12 06.8
	comp=Z,4.3nm,0.7s					
TRF	**Thorofare Moun**	48.69	34	P	P	21 12 05.3 +0.7
	baz=270					
CUT	**Chulitna**	48.71	35	P	P	21 12 05.0 +0.5
	baz=271					
D23K	**Nanushuk River**	48.74	27	P	P	21 12 06.0 +1.3
	baz=265					
M22K	**Willow**	48.80	36	P	P	21 12 06.2 +1.0
	baz=272					
COLD	**Coldfoot**	48.80	29	P	P	21 12 06.3 +1.1
COLD	**Coldfoot**	48.80	29	P	P	21 12 05.9 +0.7
	baz=267					
SLKM	**Skilak Lake**	48.81	38	P	P	21 12 05.4 0.0
SLKM				IAmb	IAmb	21 12 06.0
	comp=Z,11nm,1.2s					
C23K	**Itkillik River**	48.85	25	P	P	21 12 06.6 +1.1
	baz=264					
G23K	**Bananza Creek**	48.85	30	P	P	21 12 06.0 +0.4
	baz=268					
RC01	**Rabbit Creek A**	49.01	37	P	P	21 12 07.0 +0.1
RC01	**Rabbit Creek A**	49.01	37	P	P	21 12 07.8 +1.0
	baz=273,SNR=6.0					
HNR	**Honiara**	49.04	155	LR	LR	21 33 22.8
	comp=Z,28nm,18.9s,baz=328,slow=37					
E23K	**Chandalar**	49.07	28	IAmb	IAmb	21 12 21.4
	comp=Z,9.8nm,0.9s					
E23K	**Chandalar**	49.07	28	P	P	21 12 08.5 +1.1
	baz=267					
I23K	**Minto, Yukon-K**	49.09	32	P	P	21 12 08.3 +0.9
I23K	**Minto, Yukon-K**	49.09	32	P	P	21 12 07.8 +0.4
	baz=270					
TOLK	**Toolik Lake Re**	49.12	27	P	P	21 12 08.5 +0.8
TOLK				IAmb	IAmb	21 12 09.7
	comp=Z,5.4nm,1.0s					
TOLK	**Toolik Lake Re**	49.12	27	P	P	21 12 08.5 +0.8
	baz=266,SNR=5.3					
SEW	**Seward**	49.21	38	P	P	21 12 08.2 -0.2
SEW				IAmb	IAmb	21 12 08.8
	comp=Z,9.4nm,0.8s					
SEW	**Seward**	49.21	38	P	P	21 12 09.5 +1.1
	baz=274					
NEA2	**Nenana**	49.22	32	P	P	21 12 09.2 +0.8
	baz=270,SNR=5.6					
PMR	**Palmer**	49.28	36	P	P	21 12 08.3 -0.5
PMR				IAmb	IAmb	21 12 09.7
	comp=Z,7.3nm,0.8s					
PMR	**Palmer**	49.28	36	P	P	21 12 08.4 -0.5
PMR				pmax	pmax	
	comp=Z,7.0nm,0.8s					
PMR	**Palmer**	49.28	36	P	P	21 12 09.3 +0.4
	baz=273					
MCK	**McKinley**	49.29	34	P	P	21 12 08.8 -0.1
MCK				IAmb	IAmb	21 12 09.8
	comp=Z,7.3nm,1.0s					
MCK	**McKinley**	49.29	34	P	P	21 12 08.9 -0.1
MCK				pmax	pmax	
	comp=Z,7.0nm,1.0s					
MCK	**McKinley**	49.29	34	P	P	21 12 09.4 +0.4
	baz=271					
RND	**Reindeer**	49.33	34	P	P	21 12 09.0 -0.4
RND				IAmb	IAmb	21 12 10.1
	comp=Z,7.4nm,0.8s					
RND	**Reindeer**	49.33	34	P	P	21 12 09.0 -0.4
RND				pmax	pmax	
	comp=Z,7.0nm,0.8s					
GHO	**Glory Hole Cre**	49.37	36	P	P	21 12 09.9 +0.2
D24K	**Happy Valley**	49.42	26	P	P	21 12 11.2 +1.3
	baz=267					
E24K	**Your Creek**	49.50	28	P	P	21 12 11.7 +1.2
	baz=268					
C24K	**Franklin Bluff**	49.50	26	P	P	21 12 11.5 +1.0
	baz=266					
KNK	**Knik Glacier**	49.61	37	P	P	21 12 11.7 +0.2
KNK				IAmb	IAmb	21 12 14.7
	comp=Z,7.3nm,0.7s					
KNK	**Knik Glacier**	49.61	37	P	P	21 12 12.0 +0.6
	baz=274					
WRH	**Wood River Hil**	49.64	33	P	P	21 12 11.7 +0.1
WRH				IAmb	IAmb	21 12 13.3
	comp=Z,5.0nm,0.8s					
SML	**Sawmill**	49.65	36	P	P	21 12 12.1 +0.4
SML	**Sawmill**	49.65	36	P	P	21 12 12.5 +0.7
	baz=274,SNR=6.0					
H24K	**Noodor Dome**	49.71	31	IAmb	IAmb	21 12 14.1
	comp=Z,5.6nm,0.8s					
H24K	**Noodor Dome**	49.71	31	P	P	21 12 13.1 +1.0
	baz=270,SNR=9.5					
F24K	**Squaw Lake**	49.71	28	P	P	21 12 12.5 +0.4
	baz=269					
PWL	**Port Wells**	49.71	37	P	P	21 12 12.6 +0.4
PWL	**Port Wells**	49.71	37	P	P	21 12 12.7 +0.5
	baz=274					
CCB	**Clear Creek Bu**	49.76	32	P	P	21 12 13.0 +0.5
G24K	**Hadweenzic Riv**	49.87	30	P	P	21 12 14.3 +1.0
	baz=270					
POKR	**Poker Plat Res**	49.91	32	P	P	21 12 14.6 +1.0
POKR	**Poker Plat Res**	49.91	32	P	P	21 12 14.6 +1.0
	baz=271,SNR=11					
M23K	**Glacier View**	49.93	36	P	P	21 12 14.8 +0.9
	baz=274					
SCM	**Sheep Creek Mo**	50.12	36	P	P	21 12 15.7 +0.3
SCM				IAmb	IAmb	21 12 17.0
	comp=Z,11nm,0.9s					
SCM	**Sheep Creek Mo**	50.12	36	P	P	21 12 15.7 +0.3
SCM				pmax	pmax	
	comp=Z,11nm,0.9s					
SCM	**Sheep Creek Mo**	50.12	36	P	P	21 12 16.4 +1.1
	baz=274					
HDA	**Harding Lake**	50.14	33	P	P	21 12 15.2 -0.2
HDA				IAmb	IAmb	21 12 16.3
	comp=Z,12nm,0.9s					
HDA	**Harding Lake**	50.14	33	P	P	21 12 15.8 +0.4
	baz=272,SNR=7.8					
IL31		50.15	32	P	P	21 12 15.3 -0.1
IL31				IAmb	IAmb	21 12 16.5
	comp=Z,9.0nm,0.7s					
ILAR	**Eielson Array**	50.15	32	P	P	21 12 15.6 +0.1
ILAR	**Eielson Array**	50.15	32	P	P	21 12 15.4 0.0
	comp=Z,7.5nm,0.8s,baz=270,slow=6.3,SNR=88					
	comp=Z,7.5nm,0.8s					
COEN	**Coen**	50.21	177	P	P	21 12 15.1 -1.3
COEN				IAmb	IAmb	21 12 17.3
	comp=Z,11nm,1.1s					
P23K	**Montague Islan**	50.25	38	P	P	21 12 17.6 +1.3
	baz=276					
D25K	**Kavik River**	50.30	26	P	P	21 12 17.2 +0.6
	baz=269					
KSH	**Kashi**	50.31	294	P	P	21 12 21.7 +4.5
KSH				pmax	pmax	
	comp=Z,6.0nm,0.7s					
GLI	**Glacier Island**	50.31	37	P	P	21 12 16.6 -0.1
	baz=275					
G25K	**Bearman Lake**	50.41	29	P	P	21 12 18.6 +1.2
	baz=271					
AAK	**Ala-Archa**	50.44	299	P	P	21 12 18.8 +0.6
AAK	**Ala-Archa**	50.44	299	LR	LR	21 35 07.4
	comp=Z,118nm,18.2s,baz=66,slow=38					
AAK	**Ala-Archa**	50.44	299	*ce*P	P	21 12 18.9 +0.7
AAK				pmax	pmax	
	comp=Z,3.0nm,1.0s					
H25L	**Birch Creek**	50.54	30	P	P	21 12 20.0 +1.6
	baz=272					
F25K	**Christian Rive**	50.57	28	P	P	21 12 20.1 +1.3
	baz=271					
E25K	**Arctic Village**	50.59	28	P	P	21 12 19.7 +0.8
E25K				IAmb	IAmb	21 12 33.3
	comp=Z,6.1nm,1.1s					
E25K	**Arctic Village**	50.59	28	P	P	21 12 20.0 +1.2
	baz=271					
M24K	**Tolsona, Glenn**	50.64	36	P	P	21 12 19.7 +0.4
M24K				IAmb	IAmb	21 12 22.3
	comp=Z,7.7nm,0.8s					
M24K	**Tolsona, Glenn**	50.64	36	P	P	21 12 20.4 +1.1
	baz=275					
HIN	**Hinchinbrook I**	50.65	38	P	P	21 12 19.5 +0.1
BVAR	**Borovoye Array**	50.68	313	P	P	21 12 19.8 +0.2
	comp=Z,4.3nm,0.7s,baz=75,slow=6.3,SNR=14					
BVAR				PcP	PcP	21 13 36.1 -0.6
	comp=Z,1.3nm,0.7s,baz=90,slow=0.3,SNR=2.3					
BVAR				LR	LR	21 35 02.1
	comp=Z,62nm,19.3s,baz=48,slow=37					
	comp=Z,4.3nm,0.7s					
K24K	**Donnelly Dome**	50.69	33	P	P	21 12 20.3 +0.7
	baz=274					
PRP	**Porcupine Dome**	50.69	31	P	P	21 12 20.6 +0.8
	baz=273					
BRVK	**Borovoye**	50.74	313	P	P	21 12 20.4 +0.3
BRVK				IAmb	IAmb	21 12 21.7
	comp=Z,7.4nm,0.7s					
BRVK	**Borovoye**	50.74	313	*ce*P	P	21 12 21.4 +1.3
BRVK				pmax	pmax	
	comp=Z,4.0nm,0.8s					
FYU	**Fort Yukon**	50.76	30	P	P	21 12 19.7 -0.4
FYU				IAmb	IAmb	21 12 27.6
	comp=Z,5.4nm,0.9s					
J25K	**Salcha River,**	50.81	32	P	P	21 12 19.8 -0.7
	baz=274					
KLU	**Klutina**	50.82	36	P	P	21 12 21.1 +0.5
KLU				IAmb	IAmb	21 12 21.9
	comp=Z,8.1nm,0.7s					
KLU	**Klutina**	50.82	36	P	P	21 12 21.4 +0.8
	baz=276,SNR=5.7					
C26K	**Camden Bay**	50.82	25	P	P	21 12 21.8 +1.3
	baz=270					
Q23K	**Middleton Isla**	50.84	39	P	P	21 12 20.4 -0.4
Q23K	**Middleton Isla**	50.84	39	P	P	21 12 22.0 +1.3
	baz=277					
PAX	**Paxson**	50.89	34	P	P	21 12 21.1 0.0
PAX	**Paxson**	50.89	34	P	P	21 12 21.2 0.0
PAX				pmax	pmax	
	comp=Z,4.0nm,1.0s					
PAX	**Paxson**	50.89	34	P	P	21 12 22.4 +1.2
	baz=275					
DIV	**Divide**	50.93	37	P	P	21 12 22.1 +0.6
DIV				IAmb	IAmb	21 12 23.3
	comp=Z,10.0nm,0.8s					
BMAR	**Burnt Mountain**	50.98	29	P	P	21 12 22.8 +0.9
EYAK	**Cordova Ski Ar**	51.01	38	P	P	21 12 22.6 +0.6
EYAK	**Cordova Ski Ar**	51.01	38	P	P	21 12 23.5 +1.5
	baz=277					
HARP	**HAARP**	51.09	35	P	P	21 12 23.6 +1.0
	baz=276,SNR=5.4					
RIDG	**Independent Ri**	51.10	33	P	P	21 12 22.8 0.0
RIDG				IAmb	IAmb	21 12 23.5
	comp=Z,5.9nm,1.0s					
RIDG	**Independent Ri**	51.10	33	P	P	21 12 23.5 +0.8
	baz=275					
F26K	**Sheenjek River**	51.14	28	P	P	21 12 24.6 +1.6
	baz=272					
C27K	**Jago River**	51.24	26	IAmb	IAmb	21 12 25.8
	comp=Z,3.5nm,0.6s					
C27K	**Jago River**	51.24	26	P	P	21 12 24.8 +1.2
	baz=271					
G26K	**Porcupine Rive**	51.32	29	P	P	21 12 25.2 +1.0
	baz=273					
N25K	**Chitina, Valde**	51.44	36	P	P	21 12 25.9 +0.6
N25K	**Chitina, Valde**	51.44	36	P	P	21 12 26.3 +0.9
	baz=277					
DOT	**Dot Lake**	51.46	33	P	P	21 12 25.2 -0.2
DOT				IAmb	IAmb	21 12 26.4
	comp=Z,7.4nm,0.9s					
SCRK	**Sand Creek**	51.46	33	P	P	21 12 25.7 +0.2
SCRK				IAmb	IAmb	21 12 26.7
	comp=Z,10nm,0.9s					
SCRK	**Sand Creek**	51.46	33	P	P	21 12 25.7 +0.2
	baz=275,SNR=11					
BMRM	**Bremner River**	51.51	37	P	P	21 12 26.5 +0.6
BMRM	**Bremner River**	51.51	37	P	P	21 12 26.7 +0.8
	baz=277,SNR=5.8					
RAGM	**Ragged Mountai**	51.55	38	P	P	21 12 26.8 +0.6
J26L	**Joseph Creek**	51.59	32	P	P	21 12 26.5 0.0
	baz=275					
MENT	**Mentasta**	51.69	34	P	P	21 12 28.1 +1.0
MENT				IAmb	IAmb	21 12 31.4
	comp=Z,12nm,1.1s					
KAIM	**Kayak Island**	51.74	38	P	P	21 12 28.5 +1.0
KAIM	**Kayak Island**	51.74	38	P	P	21 12 27.7 +0.2
	baz=278					
HMT	**Hamilton**	51.77	38	P	P	21 12 28.1 +0.4
HMT				IAmb	IAmb	21 12 29.6
	comp=Z,6.3nm,0.8s					
GLB	**Gilahina Butte**	51.83	36	P	P	21 12 28.7 +0.5
L26K	**Log Cabin Wild**	51.85	34	P	P	21 12 29.3 +1.0
L26K	**Log Cabin Wild**	51.85	34	P	P	21 12 29.3 +1.0
	baz=277,SNR=12					
ARSB	**Arslanbob**	51.91	297	P	P	21 12 30.4 +1.1
ARSB				IAmb	IAmb	21 12 32.2
	comp=Z,6.4nm,0.7s					
ARSB	**Arslanbob**	51.91	297	P	P	21 12 30.4 +1.1
ARSB				pmax	pmax	
	comp=Z,6.0nm,0.7s					
VRDI	**Verde Repeater**	52.03	36	P	P	21 12 30.6 +0.8
VRDI				IAmb	IAmb	21 12 31.3
	comp=Z,6.0nm,0.8s					
SUCK	**Suckling Hills**	52.04	38

M26K Nabesna, AK 52.09 35 P P 21 12 31.1 +1.0
baz=278
G27K Doyon Strip 52.17 29 P P 21 12 31.2 +0.6
baz=275
D27M Malcolm River 52.23 26 P P 21 12 31.4 +0.3
baz=274
H27K Steamboat Moun 52.27 30 P P 21 12 33.3 +1.8
baz=276
K27K Chicken 52.29 33 P P 21 12 32.3 +0.7
baz=277
I27K Kandik River 52.30 31 P P 21 12 32.4 +0.7
baz=276
SNH Sunshine Point 52.49 38 P P 21 12 33.4 +0.2
L27K Beaver Creek, 52.53 34 P P 21 12 34.9 +1.5
baz=278
BCAR Beaver Creek A 52.55 34 P P 21 12 34.5 +1.0
UGM Wanagama 52.60 219 P P 21 12 33.8 -0.7
M27K Edge Creek, AK 52.61 35 P P 21 12 35.5 +1.3
baz=278
F28M Old Crow 52.78 28 P P 21 12 36.0 +0.9
F28M IAmb IAmb 21 12 37.7
comp=Z,7.4nm,1.1s
F28M Old Crow 52.78 28 P P 21 12 36.5 +1.3
baz=276,SNR=6.6
E28M Babbage River 52.80 27 P P 21 12 36.2 +1.0
baz=276
MESA MESA 52.93 38 P P 21 12 37.3 +0.7
MESA IAmb IAmb 21 12 38.3
comp=Z,7.4nm,0.6s
MESA MESA 52.93 38 P P 21 12 37.5 +1.0
baz=280
I28M Miner Creek 53.02 31 P P 21 12 38.3 +1.3
baz=278,SNR=23
KK31 Karatay Array 53.09 300 P P 21 12 37.4 -0.4
KK31 IAmb IAmb 21 12 39.8
comp=Z,9.4nm,1.1s
KK31 Karatay Array 53.09 300 P P 21 12 37.4 -0.4
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 53.09 300 P P 21 12 38.0 +0.2
KKAR Karatay Array 53.09 300 P P 21 12 38.0 +0.2
KKAR IAmb IAmb 21 12 39.8
comp=Z,6.0nm,1.1s
KKAR Karatay Array 53.09 300 P P 21 12 38.0 +0.2
KNRA Kununurra 53.14 195 P P 21 12 39.7 +1.4
GSI Gunungsitoli 53.21 239 P P 21 12 40.0 +1.1
DRK Karamyk 53.37 296 P P 21 12 41.5 +1.3
DRK IAmb IAmb 21 12 42.0
comp=Z,6.1nm,0.6s
DRK Karamyk 53.37 296 P P 21 12 41.5 +1.3
DRK pmax pmax
comp=Z,6.0nm,0.6s
E29M Blow River 53.42 27 IAmb IAmb 21 12 42.5
comp=Z,9.8nm,1.1s
E29M Blow River 53.42 27 P P 21 12 41.3 +1.5
baz=277,SNR=11
DAWY Dawson 53.46 33 P P 21 12 40.7 +0.4
DAWY Dawson 53.46 33 P P 21 12 41.1 +0.9
baz=279
H29M Whitestone 53.55 30 P P 21 12 41.9 +1.1
baz=279
G29M Pine Creek 53.58 29 P P 21 12 42.4 +1.3
baz=278
O28M Mount Upton 53.67 37 P P 21 12 43.2 +1.0
baz=281
I29M Ogilvie Camp, 53.70 31 P P 21 12 43.1 +1.1
baz=279
YUK8 Steele Glacier 53.78 36 P P 21 12 44.1 +1.2
baz=281
BTK Batken 53.88 297 P P 21 12 44.2 +0.5
BTK Batken 53.88 297 P P 21 12 44.2 +0.5
BTK pmax pmax
comp=Z,3.0nm,0.5s
M29M Somme Creek 54.16 34 P P 21 12 46.8 +1.3
baz=281
L29M L29M 54.18 34 P P 21 12 47.5 +2.0
baz=281,SNR=16
G30M tAoh Zraii Nji 54.27 29 IAmb IAmb 21 12 47.6
comp=Z,8.7nm,0.8s
G30M tAoh Zraii Nji 54.27 29 P P 21 12 47.3 +1.2
baz=280,SNR=13
YUK4 Talbot Arm 54.30 36 P P 21 12 47.5 +0.9
baz=282,SNR=7.8
K29M Barlow Dome 54.31 33 P P 21 12 47.9 +1.4
baz=281
F30M Barrier River 54.33 28 P P 21 12 48.0 +1.6
baz=280
YUK6 Outpost Mounta 54.52 36 P P 21 12 48.9 +0.7
baz=282
I30M Mount Dempster 54.53 31 P P 21 12 49.4 +1.2
baz=281,SNR=36
O29M Mount Kennedy 54.55 37 P P 21 12 49.7 +1.3
baz=283
GAR Garm 54.61 296 P P 21 12 49.5 +0.3
GAR IAmb IAmb 21 12 50.0
comp=Z,7.5nm,0.7s
J30M Hart River 54.67 32 P P 21 12 49.7 +0.5
baz=282
M30M Minto, Yukon 54.89 34 P P 21 12 52.1 +1.4
baz=282
HYT Haines Junctio 54.95 36 P P 21 12 52.1 +0.8
HYT IAmb IAmb 21 12 55.4
comp=Z,9.3nm,0.7s
HYT Haines Junctio 54.95 36 P P 21 12 52.3 +1.0
baz=283,SNR=7.9
G31M Satah River 55.03 29 P P 21 12 52.0 +0.5
G31M IAmb IAmb 21 12 53.1
comp=Z,7.7nm,0.8s
G31M Satah River 55.03 29 P P 21 12 52.3 +0.8
baz=282,SNR=9.3
INK Inuvik 55.04 27 P P 21 12 51.6 +0.1
INK IAmb IAmb 21 12 53.1
comp=Z,6.8nm,0.8s
INK Inuvik 55.04 27 P P 21 12 51.6 +0.1
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 55.04 27 P P 21 12 51.9 +0.3
baz=281,SNR=9.5
F31M Tsiigehtchic 55.13 28 P P 21 12 52.2 0.0
F31M IAmb IAmb 21 12 54.4
comp=Z,9.2nm,0.9s
F31M Tsiigehtchic 55.13 28 P P 21 12 52.7 +0.5
baz=282,SNR=6.3
H31M Peel River 55.24 30 P P 21 12 53.6 +0.5
baz=282
SVE Sverdlovsk 55.33 319 *e*P **P 21 12 54.5 +0.7**
SVE pmax pmax
comp=Z,17nm,1.1s
P30M Million Dollar 55.38 37 P P 21 12 55.6 +1.4
baz=284
CHGR Chuyangaron 55.58 296 P P 21 12 56.2 +0.1
CHGR Chuyangaron 55.58 296 P P 21 12 56.2 +0.1
CHGR pmax pmax
comp=Z,31nm,0.9s
N31M Braeburn, Yuko 55.61 35 P P 21 12 56.9 +1.0
baz=284,SNR=5.4
O30N Mendenhall 55.64 36 P P 21 12 57.2 +1.0
O30N Mendenhall 55.64 36 P P 21 12 57.1 +1.0
baz=284
PLBC Pleasant Camp 55.84 38 P P 21 12 58.8 +1.4
baz=285
M31M Drury Creek, Y 56.07 34 P P 21 13 00.3 +1.2
baz=285
FITZ Fitzroy Crossi 56.19 198 P P 21 13 00.2 -0.1
FITZ Fitzroy Crossi 56.19 198 P P 21 13 00.0 -0.3
comp=Z,2.5nm,0.7s,baz=1.2,slow=18,SNR=3.2
comp=Z,2.5nm,0.7s
WHY Whitehorse 56.24 36 P P 21 13 01.6 +1.1
WHY IAmb IAmb 21 13 02.9
comp=Z,6.1nm,0.8s
WHY Whitehorse 56.24 36 P P 21 13 01.3 +0.8
baz=285,SNR=8.0
WB0 Warramunga Arr 56.29 187 P P 21 13 00.2 -0.8
WB0 IAmb IAmb 21 13 00.8
comp=Z,6.5nm,0.8s
S31K Pelican 56.31 39 P P 21 13 01.4 +0.6
baz=286
WRAB Tennant Creek 56.46 187 P P 21 13 01.1 -1.1
WRAB IAmb IAmb 21 13 04.4
comp=Z,9.9nm,1.1s
WRAB Tennant Creek 56.46 187 *i* P **P 21 13 01.6 -0.7**
WRAB pmax pmax
comp=Z,8.0nm,1.1s
WR0 Warramunga Arr 56.46 187 IAmb IAmb 21 13 02.1
comp=Z,4.0nm,0.8s
WB2 Warramunga Arr 56.47 187 P P 21 13 01.6 -0.8
WB2 IAmb IAmb 21 13 02.1
comp=Z,5.2nm,0.8s
WRA Warramunga Arr 56.47 187 P P 21 13 01.6 -0.8
WRA Warramunga Arr 56.47 187 P P 21 13 01.2 -1.1
comp=Z,3.9nm,0.6s,baz=3.3,slow=7.4,SNR=38
WRA LR LR 21 38 19.8
comp=Z,36nm,18.7s,baz=359,slow=37
comp=Z,3.9nm,0.6s
WRA Warramunga Arr 56.47 187 P P 21 13 01.6 -0.8
WRA pmax pmax
comp=Z,1.0nm,1.2s
FARO Faro, Yukon 56.53 34 P P 21 13 03.8 +1.3
FARO Faro, Yukon 56.53 34 P P 21 13 03.4 +0.9
baz=286
ARTI Arti 56.64 319 P P 21 13 03.2 0.0
ARTI Arti 56.64 319 LR LR 21 39 15.6
comp=Z,60nm,18.6s,baz=66,slow=38
ARTI Arti 56.64 319 *c i* P **P 21 13 03.1 -0.2**
ARTI S **S 21 20 54.5 +1.2**
ARTI SS **SS 21 24 38.7 -1.9**
ARTI pmax pmax
comp=Z,14nm,0.6s
A36M Sachs Harbour 56.90 22 P P 21 13 05.7 +0.9
baz=286,SNR=9.5
N32M Quiet Lake 56.95 35 P P 21 13 06.4 +1.0
baz=286
R32K Eaglecrest 57.09 39 P P 21 13 07.4 +1.0
baz=287
P32M Atlin 57.10 37 IAmb IAmb 21 13 08.9
comp=Z,8.2nm,1.0s
P32M Atlin 57.10 37 P P 21 13 07.5 +1.0
baz=287,SNR=7.4
KBL Kabul 57.28 291 P P 21 13 08.1 -0.3
KBL Kabul 57.28 291 P P 21 13 08.1 -0.3
KBL pmax pmax
comp=Z,2.0nm,0.8s
P33M Teslin, Yukon 57.35 36 P P 21 13 09.6 +1.2
P33M IAmb IAmb 21 13 10.9
comp=Z,12nm,1.1s
P33M Teslin, Yukon 57.35 36 P P 21 13 08.8 +0.5
baz=287,SNR=8.6
MMPY Sheldon Lake, 57.35 33 P P 21 13 09.6 +1.3
MMPY Sheldon Lake, 57.35 33 P P 21 13 08.9 +0.6
baz=287,SNR=5.5
ABKAR Abkulak array 58.02 310 P P 21 13 12.9 -0.2
ABKAR Abkulak array 58.02 310 IAmb IAmb 21 13 14.0
comp=Z,9.3nm,1.1s
C36M Paulatuk 58.08 25 P P 21 13 13.6 +0.5
C36M Paulatuk 58.08 25 P P 21 13 13.6 +0.5
baz=289,SNR=8.0
U33K Whale Pass 58.49 41 P P 21 13 16.8 +0.6
U33K IAmb IAmb 21 13 32.8
comp=Z,4.7nm,1.0s
R33M Jennings River 58.49 37 P P 21 13 16.4 0.0
baz=289
CRAG Craig 58.71 42 P P 21 13 18.4 +0.7
baz=290
S34M Telegraph Cree 58.91 39 P P 21 13 20.2 +1.0
baz=290
TGTN Hyland Airport 59.04 34 P P 21 13 20.9 +0.8
baz=290
DLBC Dease Lake 59.28 38 P P 21 13 21.8 0.0
comp=Z,2.3nm,0.6s,baz=283,slow=5.1,SNR=4.3
comp=Z,2.3nm,0.6s
DLBC Dease Lake 59.28 38 P P 21 13 23.0 +1.2
baz=290
V35K Ketchikan 59.56 41 P P 21 13 24.3 +0.7
baz=291
T35M Bob Quinn 59.68 39 IAmb IAmb 21 13 27.0
comp=Z,3.6nm,0.8s
T35M Bob Quinn 59.68 39 P P 21 13 26.2 +1.6
baz=291
ASAR Alice Springs 60.20 187 P P 21 13 27.5 -0.9
comp=Z,2.6nm,0.8s,baz=7.5,slow=5.7,SNR=18
comp=Z,2.6nm,0.8s
KIRV Kirov 60.47 323 LR LR 21 40 58.4
comp=Z,73nm,18.5s,baz=41,slow=37
KIRV Kirov 60.47 323 *ce*P **P 21 13 29.9 +0.1**
WRGLY Wrigley 60.50 31 P P 21 13 31.6 +1.7
baz=293
SPITS Spitsbergen Ar 60.99 349 P P 21 13 34.3 +1.1
comp=Z,4.3nm,0.8s,baz=77,slow=8.0,SNR=6.7
comp=Z,4.3nm,0.8s
TOAD Toad River Com 61.45 36 P P 21 13 37.4 +0.9
baz=294,SNR=6.4
KOTAN Kotaneelee Air 61.48 35 P P 21 13 37.8 +1.1
baz=294
PALK Pallekele 61.90 258 LR LR 21 43 39.3
comp=Z,34nm,18.3s,baz=101,slow=39
RES Resolute Bay 63.22 14 P P 21 13 48.1 0.0
RES IAmb IAmb 21 13 49.0
comp=Z,4.4nm,0.9s
RES Resolute Bay 63.22 14 P P 21 13 48.1 0.0
RES pmax pmax
comp=Z,4.0nm,1.0s
BELG Belogornoye 63.96 317 *i* P **P 21 13 53.4 +0.1**
BELG pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 64.39 339 P P 21 13 55.9 0.0
comp=Z,3.6nm,0.7s,baz=55,slow=6.7,SNR=10
comp=Z,3.6nm,0.7s
YKA Yellowknife Ar 64.46 30 P P 21 13 56.4 -0.1
comp=Z,1.7nm,0.7s,baz=301,slow=6.8,SNR=16
YKA LR LR 21 43 57.4
comp=Z,35nm,19.5s,baz=20,slow=38
comp=Z,1.7nm,0.7s
STKA Stephens Creek 68.01 179 P P 21 14 18.4 -1.1
comp=Z,2.1nm,0.7s,baz=356,slow=7.9,SNR=3.9
comp=Z,2.1nm,0.7s
OBN Obninsk 68.32 323 LR LR 21 45 24.2
comp=Z,46nm,19.3s,baz=344,slow=37
OBN Obninsk 68.32 323 ‖ *e*P **P 21 14 21.3 0.0**
OBN *SP **sP 21 14 34.0 0.0**
OBN 21 14 45.0
OBN S S 21 23 12.0 -8.0
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,73nm,15.0s
FINES FINESS Array B 69.13 332 P P 21 14 26.0 -0.2
comp=Z,5.6nm,0.7s,baz=39,slow=7.3,SNR=12
FINES LR LR 21 50 11.7
comp=Z,61nm,18.6s,baz=264,slow=40
comp=Z,5.6nm,0.7s
FINES FINESS Array B 69.13 332 P P 21 14 26.0 -0.2
NEW Newport 70.77 44 P P 21 14 36.1 -0.5
comp=Z,2.0nm,0.8s,baz=332,slow=8.1,SNR=3.1
NEW LR LR 21 45 16.7
comp=Z,24nm,18.4s,baz=15,slow=36
comp=Z,2.0nm,0.8s
PINE Pine Mountain 70.97 49 P P 21 14 39.4 +1.4
PINE IAmb IAmb 21 14 40.2
comp=Z,10nm,1.1s
KBZ Khabaz 70.99 311 P P 21 14 38.3 +0.4
comp=Z,4.0nm,0.9s,baz=194,slow=12,SNR=3.7
comp=Z,4.0nm,0.9s
KIV Kislovodsk 71.00 311 *e*P **P 21 14 38.8 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,41nm,18.0s
SUMG Summit 71.23 360 P P 21 14 40.2 +0.8
SUMG Summit 71.23 360 P P 21 14 40.2 +0.8
GNI Garni 71.75 307 LR LR 21 47 34.7
comp=Z,28nm,20.2s,baz=238,slow=37
BMO Blue Mountains 72.56 47 P P 21 14 47.5 0.0
BMO Blue Mountains 72.56 47 P P 21 14 47.5 0.0
BMO pmax pmax
comp=Z,5.0nm,1.2s
BPMT Black Pine Rid 73.87 44 P P 21 14 54.8 -0.6
NC405 NORSAR Array S 74.34 337 P P 21 14 57.7 +0.2
FFC Flin Flon 74.36 32 P P 21 14 58.0 +0.2
FFC IAmb IAmb 21 14 58.7
comp=Z,9.9nm,0.9s
FFC Flin Flon 74.36 32 P P 21 14 58.0 +0.2
FFC pmax pmax
comp=Z,10.0nm,0.9s
NC303 NORSAR Array S 74.36 337 P P 21 14 58.0 +0.3
HFS Hagfors 74.44 336 P P 21 15 00.1 +2.0
comp=Z,1.3nm,0.5s,baz=48,slow=6.8,SNR=6.0
HFS LR LR 21 50 09.9
comp=Z,122nm,18.7s,baz=41,slow=38
comp=Z,1.3nm,0.5s
CMB Columbia Colle 74.48 54 P P 21 14 58.4 -0.4
CMB Columbia Colle 74.48 54 P P 21 14 58.4 -0.4
CMB pmax pmax
comp=Z,3.0nm,0.8s
AK03 Malin Array Si 74.50 322 P P 21 14 58.1 -0.5
NC204 NORSAR Array S 74.51 337 P P 21 14 58.7 +0.1
NC204 IAmb IAmb 21 14 59.5
comp=Z,9.2nm,0.8s
AKASG Malin Array Be 74.51 322 LR LR 21 50 14.7
comp=Z,96nm,18.5s,baz=89,slow=38
AKBB Malin Array Si 74.51 322 P P 21 14 58.1 -0.7
AKBB Malin Array Si 74.51 322 *ce*P **P 21 14 58.2 -0.5**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
NB201 NORSAR Array S 74.52 337 P P 21 14 58.8 +0.1
NB201 IAmb IAmb 21 15 00.7
comp=Z,11nm,1.0s
AK01 Malin Array Si 74.53 322 P P 21 14 58.1 -0.7
KIEV Kiev 74.53 322 P P 21 14 57.4 -1.4
KIEV Kiev 74.53 322 P P 21 14 57.4 -1.4
KIEV pmax pmax
comp=Z,4.0nm,0.8s
AK04 Malin Array Si 74.53 322 P P 21 14 58.1 -0.7
NB2 NORSAR Subarra 74.56 337 P P 21 14 58.9 0.0
comp=Z,1.8nm,0.8s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.56 337 P P 21 14 58.5 -0.4
NOA NORSAR Array B 74.56 337 P P 21 14 58.7 -0.1
comp=Z,2.3nm,0.7s,baz=39,slow=5.8,SNR=10
NOA LR LR 21 50 57.9
comp=Z,67nm,20.1s,baz=15,slow=38
comp=Z,2.3nm,0.7s
AK17 Malin Array Si 74.61 322 P P 21 14 59.0 -0.3
FCC Fort Churchill 74.65 26 P P 21 14 59.0 -0.3
FCC IAmb IAmb 21 14 60.0
comp=Z,9.2nm,1.1s
FCC Fort Churchill 74.65 26 P P 21 14 59.0 -0.3
FCC pmax pmax
comp=Z,9.0nm,1.1s
NC602 NORSAR Array S 74.69 337 P P 21 14 58.5 -1.1
NBO00 NORSAR Array S 74.70 337 P P 21 15 00.2 +0.6
DLMT Dillon 74.98 44 P P 21 15 02.2 +0.5
DLMT IAmb IAmb 21 15 03.2
comp=Z,7.7nm,0.7s
BOZ Bozeman (W) 75.38 44 P P 21 15 04.3 +0.2
BOZ Bozeman (W) 75.38 44 P P 21 15 04.3 +0.2
BOZ pmax pmax
comp=Z,5.0nm,0.9s
LHV Little Huntoon 75.58 53 P P 21 15 04.3 -0.7
LHV IAmb IAmb 21 15 21.1
comp=Z,8.3nm,1.2s
LHV **PcP 21 15 21.0 +3.1**
NVAR Mina Array Bea 75.60 53 P P 21 15 06.4 +0.8
comp=Z,2.5nm,0.7s,baz=298,slow=5.2,SNR=13
NVAR LR LR 21 46 51.1
comp=Z,39nm,18.1s,baz=356,slow=34
comp=Z,2.5nm,0.7s
LUBAR Lubar, Ukraine 75.74 322 P P 21 15 05.5 -0.3
ELK Elko 76.18 49 P P 21 15 09.4 +0.6
ELK Elko 76.18 49 P P 21 15 09.4 +0.6
comp=Z,1.4nm,0.6s,baz=319,slow=5.2,SNR=7.1
ELK LR LR 21 43 02.9
comp=Z,59nm,20.9s,baz=316,slow=31
comp=Z,1.4nm,0.6s
DSP Deep Springs 76.43 54 PcP 21 15 25.5 +3.9
SORM Soroca 76.59 321 P P 21 15 09.7 -1.0
comp=Z,7.5nm,2.3s
R11B Troy Canyon, C 77.38 52 P P 21 15 16.0 +0.4
TPNV Topopah Spring 77.79 53 P P 21 15 17.5 -0.4
TPNV IAmb IAmb 21 15 19.1
comp=Z,4.6nm,0.8s
TPNV Topopah Spring 77.79 53 P P 21 15 17.5 -0.4
GWY Greenwater Val 77.97 54 P P 21 15 19.1 +0.2
DUG Dugway, Tooele 77.98 49 P P 21 15 18.2 -0.6
DUG Dugway, Tooele 77.98 49 P P 21 15 18.3 -0.6
DUG pmax pmax
comp=Z,5.0nm,1.0s
PD31 Pinedale Array 78.31 45 P P 21 15 20.5 -0.2
PDAR Pinedale Array 78.31 45 P P 21 15 20.3 -0.4
PDAR Pinedale Array 78.31 45 P P 21 15 20.6 -0.1
comp=Z,1.5nm,0.6s,baz=220,slow=0.8,SNR=5.1
comp=Z,1.5nm,0.6s
BUR08 Bucovina Ar. S 78.51 322 P P 21 15 21.9 +0.4
BURAR Bucovina Array 78.52 322 P P 21 15 21.6 0.0
TESR Tescani 78.53 320 P P 21 15 22.0 +0.4
comp=Z,5.6nm,0.9s
BR131 Keskin Array S 78.95 311 pP 21 15 39.7 +6.1
BR131 Keskin Array S 78.95 311 *i* P **P 21 15 24.2 0.0**
BRTR Keskin Array B 78.95 311 P P 21 15 24.2 0.0
BRTR Keskin Array B 78.95 311 P P 21 15 23.9 -0.2
comp=Z,2.3nm,1.0s,baz=70,slow=4.7,SNR=5.7
comp=Z,2.3nm,1.0s
BRTR Keskin Array B 78.95 311 P P 21 15 24.0 -0.2
BR106 Keskin Array S 78.96 311 P P 21 15 23.6 -0.6
comp=Z,2.4nm,1.0s
BR105 Keskin Array S 78.97 311 P P 21 15 25.5 +1.2
MLR Muntele Rosu 79.57 320 LR LR 21 52 53.7
comp=Z,89nm,18.5s,baz=46,slow=37
ULM Lac du Bonnet 80.16 33 P P 21 15 29.1 -1.3
comp=Z,3.3nm,0.9s,baz=287,slow=6.9,SNR=4.5
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 81.34 329 *e*P **P 21 15 37.2 +0.5**
BRG Amp 21 15 39.5
comp=Z,3.5nm,1.0s
PV23 Carpenter Ridg 81.37 48 P P 21 15 37.1 -0.3
PV23 **sP 21 15 51.9 +1.6**
CLL Collm 81.39 330 *i* P **P 21 15 36.6 -0.3**
CLL *i* *PP **sP 21 15 48.5 -1.3**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 81.39 330 *i* P **P 21 15 36.6 -0.3**
comp=Z,5.0nm,1.0s
CLL *i* pP **sP 21 15 48.5 -1.3**
PV10 Paradox Valley 81.40 48 P P 21 15 37.1 -0.5
PV11 David Mesa, Pa 81.55 48 P P 21 15 38.9 +0.6
PV11 IAmb IAmb 21 15 53.5
comp=Z,9.2nm,0.8s
N23A Red Feather La 81.58 45 pP 21 15 52.9 +5.0
N23A Red Feather La 81.58 45 P P 21 15 38.9 +0.4
baz=312
MODS Modra-Piesok 81.77 326 *e*P **P 21 15 38.1 -0.9**
MODS Modra-Piesok 81.77 326 *e*P **P 21 15 38.1 -0.9**
ZVC Zvikov 82.33 328 *e*P P 21 15 59.0 +17
KHC Kasperske Hory 82.82 328 *e*P **P 21 15 44.5 -0.1**
KHC Kasperske Hory 82.82 328 *ce*P **P 21 15 45.4 +0.8**
KHC pmax pmax
comp=Z,9.0nm,1.3s
GERES GERESS Array B 82.99 328 P P 21 15 44.8 -0.7
comp=Z,0.7nm,0.5s,baz=26,slow=6.0,SNR=5.7
comp=Z,0.7nm,0.5s
S22A 4UR Ranch, Cre 83.14 48 P P 21 15 46.8 +0.1
baz=311
EYMN Ely 83.79 32 P P 21 15 48.3 -1.3
EYMN IAmb IAmb 21 15 49.8
comp=Z,7.0nm,1.1s
T25A Trinidad 84.97 47 P P 21 15 56.8 +0.8
baz=313
LIT Litokhoron 85.12 317 P P 21 15 55.7 -0.7
LIT IAmb IAmb 21 16 08.9
comp=Z,7.4nm,0.9s
LIT Litokhoron 85.12 317 P P 21 15 55.7 -0.7
LIT pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 85.21 50 pP 21 16 12.4 +5.8
SCHQ Schefferville 85.96 16 P P 21 16 00.1 -0.2
comp=Z,3.8nm,0.7s,baz=334,slow=4.6,SNR=6.1
comp=Z,3.8nm,0.7s
PECS Pecos 89.22 51 pP 21 16 28.9 +2.9
TXAR Lajitas Array 90.74 52 P P 21 16 23.2 -0.5
comp=Z,1.2nm,0.8s,baz=279,slow=3.3,SNR=12
comp=Z,1.2nm,0.8s
SFIN Lafayette 91.69 35 P P 21 16 26.0 -1.6
WCI Wyandotte Cave 93.78 35 P P 21 16 38.3 +0.9
WCI Wyandotte Cave 93.78 35 P P 21 16 38.3 +0.9
WCI pmax pmax
comp=Z,30nm,0.7s
TKL Tuckaleechee C 97.04 35 LR LR 22 04 26.9
comp=Z,39nm,18.7s,baz=32,slow=38
ESDC Sonseca Array 97.62 333 P P 21 16 52.8 -2.1
comp=Z,0.1nm,0.3s,baz=14,slow=4.9,SNR=2.1
ESDC LR LR 22 04 28.3
comp=Z,106nm,18.0s,baz=248,slow=38
comp=Z,0.1nm,0.3s
LPAZ La Paz 147.28 60 PKPbc PKPdf 21 23 04.3 +1.7
comp=Z,2.1nm,0.7s,baz=319,slow=1.5,SNR=9.2
H03N2 Juan Fernandez 147.32 97 T T 00 07 42.1
baz=291,slow=76,SNR=24
H03N3 Juan Fernandez 147.33 97 T T 00 07 47.8
baz=291,slow=76,SNR=26
H03N1 Juan Fernandez 147.33 97 T T 00 07 43.7
baz=291,slow=76,SNR=24

*AEIC **01** 21:08:01.3±1.0, 56.°0N±0.°1×150.°0W±0.°1, h5km±9km, Error ellipse: s-maj=18.2km s-min=10.0km az=159.0*
NEIC 01 21:07:57.3±1.1, 55.°98N±0.°09×150.°0W±0.°1, h10km±9km, ML2.7/36, ML2.6(AEIC), Error ellipse: s-maj=14.4km s-min=8.9km az=153.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**306**		Pn	21 08 34.0	-0.1
OHAK					Sn	21 08 59.4	-2.0
KDAK	**Kodiak Island**	**2.30**	**323**		Pn	21 08 35.4	+0.1
KDAK					Sn	21 09 02.9	-0.7
SII	**Sitkinak Islan**	**2.42**	**286**		Pn	21 08 36.2	-0.7
SII	**Sitkinak Islan**	**2.42**	**286**	IAML		21 09 07.7	
	comp=N,34nm,1.0s						
SII				IAML		21 09 32.9	
	comp=E,38nm,1.0s						
R18K	**Karluk**	**2.93**	**305**		Pn	21 08 44.0	+0.2
R18K					Sn	21 09 17.4	-1.7
R18K	**Karluk**	**2.93**	**305**	IAML		21 09 23.9	
	comp=N,12nm,1.0s						
R18K				IAML		21 09 31.0	
	comp=E,11nm,0.9s						
SYI	**Shuyak Island**	**2.94**	**335**		Pn	21 08 44.4	+0.3
SYI					Sn	21 09 19.0	-0.4
SYI	**Shuyak Island**	**2.94**	**335**	IAML		21 09 22.6	
	comp=N,9.0nm,1.2s						
Q19K	**Cape Douglas,**	**3.56**	**328**		Pn	21 08 53.5	+0.9
ACHA	**Angle Creek He**	**3.67**	**310**	Pn	Pn	21 08 54.0	-0.2
KJL	**Kejulik**	**3.69**	**306**		Pn	21 08 55.3	+0.8
BRSE	**Bradley Lake S**	**3.79**	**354**		Sn	21 09 38.3	-2.1
BRLK	**Bradley Lake**	**3.82**	**353**	Pn	Pn	21 08 55.8	-0.4
BRLK				IAML		21 10 32.1	
	comp=N,12nm,0.1s						
BRLK				IAML		21 10 32.2	
	comp=E,8.9nm,0.1s						
P19K	**Oil Pt**	**4.07**	**336**	Pn	Pn	21 08 60.0	+0.4
P19K				IAML		21 09 35.6	
	comp=N,15nm,1.1s						
P19K				IAML		21 09 36.2	
	comp=E,12nm,1.1s						
P23K	**Montague Islan**	**4.25**	**18**		Pn	21 09 01.8	-0.3
P23K					Sn	21 09 48.0	-3.7
P18K	**Big Mountain,**	**4.43**	**323**		Pn	21 09 04.7	+0.2
P18K	**Big Mountain,**	**4.43**	**323**	IAML		21 11 48.2	
	comp=E,3.6nm,1.1s						
P18K				IAML		21 12 00.4	
	comp=N,2.3nm,0.9s						
O18K	**Koktuh Hills**	**4.78**	**326**		Pn	21 09 09.8	+0.5
HIN	**Hinchinbrook I**	**4.79**	**21**		Pn	21 09 09.3	-0.3
HIN				IAML		21 11 47.6	
	comp=E,12nm,1.0s						
KAIM	**Kayak Island**	**4.94**	**35**		Pn	21 09 11.4	-0.1
PWL	**Port Wells**	**4.97**	**9**	Pn	Pn	21 09 12.5	+0.6
PWL				IAML		21 10 06.5	
	comp=N,4.0nm,1.2s						
PWL				IAML		21 12 14.1	
	comp=E,9.8nm,0.9s						
EYAK	**Cordova Ski Ar**	**5.09**	**24**	Pn	Pn	21 09 13.5	-0.1
RAGM	**Ragged Mountai**	**5.23**	**30**	Pn	Pn	21 09 15.3	-0.3
SUCK	**Suckling Hills**	**5.26**	**36**	Pn	Pn	21 09 15.9	-0.1
SUCK				IAML		21 12 21.7	
	comp=E,8.8nm,1.0s						
HMT	**Hamilton**	**5.31**	**32**	Pn	Pn	21 09 16.6	0.0
HMT				IAML		21 11 34.9	
	comp=N,8.8nm,1.1s						
NICHA	**Nichawak Mount**	**5.32**	**34**		Pn	21 09 17.0	+0.2
N19K	**Bonanza Creek**	**5.39**	**336**	Pn	Pn	21 09 17.9	+0.1
N19K				IAML		21 10 52.3	
	comp=E,1.5nm,1.2s						
N19K				IAML		21 12 55.6	
	comp=N,3.0nm,1.1s						
KNK	**Knik Glacier**	**5.50**	**8**	Pn	Pn	21 09 17.0	-2.3
O16K	**Kokwok River B**	**5.65**	**313**	Pn	Pn	21 09 21.5	+0.2
BMRM	**Bremner River**	**5.74**	**27**		Pn	21 09 22.8	+0.2
KLU	**Klutina**	**5.91**	**19**	Pn	Pn	21 09 24.0	-0.9
N17K	**Nushagak Hills**	**5.93**	**323**	Pn	Pn	21 09 24.7	-0.4
VRDI	**Verde Repeater**	**6.27**	**30**	Pn	Pn	21 09 28.7	-1.2
N25K	**Chitina, Valde**	**6.29**	**24**	Pn	Pn	21 09 30.6	+0.4
GLB	**Gilahina Butte**	**6.35**	**28**	Pn	Pn	21 09 31.4	+0.5
M17K	**Holitna River**	**6.68**	**328**	Pn	Pn	21 09 35.9	+0.6
N15K	**Kwethluk River**	**6.81**	**312**	Pn	Pn	21 09 38.5	+1.3
BPAW	**Bear Paw Mtn.**	**8.16**	**357**	Pn	Pn	21 09 55.9	+0.2

IDC 01 21:08:02.2±2.3, 6.°12S×129.°89E, h0km, mb3.6/1, mbtmp3.4/4, ML3.4/3, MS3.4/2, Error ellipse: s-maj=95.5km s-min=28.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.61**	**199**	Pn	Pn	21 11 04.2	+1.3
	0.2nm,0.3s,baz=25,slow=9.8,SNR=10						
FITZ				Sn	Sn	21 13 13.2	-11
	0.3nm,0.3s,baz=18,slow=9.8,SNR=8.5						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**14.41**	**163**	Pn	Pn	21 11 27.9	+0.4
	0.2nm,0.3s,baz=344,slow=13,SNR=10.0						
WRA				Sn	Sn	21 13 55.8	-12
	0.2nm,0.3s,baz=1.3,slow=7.7,SNR=1.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.87**	**168**	P	Pn	21 12 11.2	-1.2
	0.1nm,0.3s,baz=341,slow=12,SNR=5.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	21 18 59.7	0.0
	0.4nm,0.6s,baz=121,slow=7.7,SNR=5.5						
	0.4nm,0.6s						

*AEIC **01** 21:28:07.7±1.4, 55.°92N±0.°09×150.°05W±0.°08, h4km±8km, Error ellipse: s-maj=13.7km s-min=6.1km az=189.0*
NEIC 01 21:28:03.8±1.2, 55.°94N±0.°10×150.°0W±0.°1, h9km±8km, ML3.6/44, ML3.3(AEIC), Error ellipse: s-maj=14.0km s-min=8.6km az=169.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**306**		Pn	21 28 40.1	-0.9
OHAK	**Old Harbor**	**2.24**	**306**		Sn	21 29 06.0	-2.9
KDAK	**Kodiak Island**	**2.34**	**323**		Pn	21 28 42.0	-0.4
KDAK	**Kodiak Island**	**2.34**	**323**		Sn	21 29 08.9	-2.4
SII	**Sitkinak Islan**	**2.44**	**286**		Pn	21 28 42.8	-1.0
R18K	**Karluk**	**2.96**	**305**		Pn	21 28 50.6	-0.3
SYI	**Shuyak Island**	**2.98**	**335**		Pn	21 28 50.8	-0.5
CHIR	**Chirikof Islan**	**3.19**	**270**	Pn	Pn	21 28 53.3	-0.8
CHIR				IAML		21 30 04.9	
	comp=N,114nm,1.1s						
KAHG	**Katmai Hook Gl**	**3.57**	**318**		Pn	21 28 59.5	+0.1
Q19K	**Cape Douglas,**	**3.59**	**328**		Pn	21 29 00.2	+0.5
ACHA	**Angle Creek He**	**3.71**	**310**		Pn	21 29 01.2	-0.1
BRSE	**Bradley Lake S**	**3.83**	**354**		Pn	21 29 01.9	-1.0
BRLK	**Bradley Lake**	**3.87**	**353**		Pn	21 29 02.1	-1.3
Q23K	**Middleton Isla**	**4.00**	**28**	Pn	Pn	21 29 03.6	-1.6
P19K	**Oil Pt**	**4.11**	**336**		Pn	21 29 06.3	-0.5
SEW	**Seward**	**4.18**	**4**		Pn	21 29 07.2	-0.5
P23K	**Montague Islan**	**4.29**	**17**		Pn	21 29 08.5	-0.7
O20K	**Slope Mountain**	**4.39**	**342**		Pn	21 29 10.5	-0.1
ILSW	**Iliamna Southw**	**4.39**	**339**	Pn	Pn	21 29 10.3	-0.4
ILSW				IAML		21 30 38.8	
	comp=E,64nm,0.8s						
ILSW				IAML		21 30 46.1	
	comp=N,54nm,0.9s						
P18K	**Big Mountain,**	**4.47**	**323**		Pn	21 29 11.1	-0.6
CHGN	**Chignik**	**4.74**	**278**	Pn	Pn	21 29 15.3	-0.1
P17K	**Kvichak River**	**4.77**	**316**		Pn	21 29 15.8	0.0
O18K	**Koktuh Hills**	**4.82**	**327**		Pn	21 29 16.2	-0.3
HIN	**Hinchinbrook I**	**4.83**	**21**		Pn	21 29 16.0	-0.6
KAIM	**Kayak Island**	**4.97**	**34**		Pn	21 29 17.9	-0.6
PWL	**Port Wells**	**5.01**	**9**	Pn	Pn	21 29 18.7	-0.3
EYAK	**Cordova Ski Ar**	**5.13**	**24**	Pn	Pn	21 29 19.9	-0.8
RAGM	**Ragged Mountai**	**5.26**	**30**		Pn	21 29 22.1	-0.5
SUCK	**Suckling Hills**	**5.29**	**36**		Pn	21 29 22.6	-0.3
SUCK	**Suckling Hills**	**5.29**	**36**	IAML		21 30 56.1	
	comp=N,42nm,0.5s						
SUCK				IAML		21 31 00.3	
	comp=E,33nm,1.0s						
HMT	**Hamilton**	**5.34**	**32**	Pn	Pn	21 29 23.6	-0.1
NICHA	**Nichawak Mount**	**5.35**	**34**		Pn	21 29 23.4	-0.4
N19K	**Bonanza Creek**	**5.43**	**336**		Pn	21 29 25.0	0.0
DIV	**Divide**	**5.65**	**21**	Pn	Pn	21 29 26.7	-1.2
STLK	**Strandline Lak**	**5.66**	**351**		Pn	21 29 27.6	-0.4
N18K	**Kilae Creek**	**5.69**	**329**	Pn	Pn	21 29 27.8	-0.6
O16K	**Kokwok River B**	**5.69**	**313**	Pn	Pn	21 29 28.8	+0.5
SNH	**Sunshine Point**	**5.69**	**39**	Pn	Pn	21 29 28.1	-0.3
BMRM	**Bremner River**	**5.77**	**27**		Pn	21 29 28.5	-1.1
SML	**Sawmill**	**5.94**	**8**	Pn	Pn	21 29 32.0	+0.1
KLU	**Klutina**	**5.95**	**19**		Pn	21 29 32.0	-0.1
BARK	**Barkley Ridge**	**5.97**	**38**		Pn	21 29 31.9	-0.4
N17K	**Nushagak Hills**	**5.97**	**323**	Pn	Pn	21 29 31.8	-0.5
SDPT	**Sand Point**	**5.98**	**269**	Pn	Pn	21 29 32.4	0.0
MESA	**MESA**	**6.01**	**42**		Pn	21 29 32.9	-0.1
SCM	**Sheep Creek Mo**	**6.07**	**12**	Pn	Pn	21 29 34.8	+1.2
VRDI	**Verde Repeater**	**6.30**	**30**	Pn	Pn	21 29 36.0	-0.9
RKAV	**Rock Avalanche**	**6.32**	**43**		Pn	21 29 37.0	-0.2
N25K	**Chitina, Valde**	**6.33**	**24**	Pn	Pn	21 29 37.1	-0.2
M18K	**Stony River**	**6.34**	**334**		Pn	21 29 36.6	-0.8
GLB	**Gilahina Butte**	**6.38**	**28**		Pn	21 29 37.9	-0.1
KIAG	**Kiagna River**	**6.39**	**35**		Pn	21 29 38.0	-0.2
M19K	**Big River Lodg**	**6.40**	**341**	Pn	Pn	21 29 38.4	+0.2
BALM	**Baldy**	**6.48**	**35**		Pn	21 29 39.0	-0.3
M24K	**Tolsona, Glenn**	**6.48**	**16**	Pn	Pn	21 29 40.0	+0.7
CUT	**Chulitna**	**6.49**	**359**	Pn	Pn	21 29 38.6	-0.7
M17K	**Holitna River**	**6.72**	**328**		Pn	21 29 42.0	-0.5
L19K	**White Mountain**	**6.75**	**340**		Pn	21 29 42.5	-0.5
N15K	**Kwethluk River**	**6.84**	**312**	Pn	Pn	21 29 45.0	+0.8
O14K	**Tigyukauivet M**	**6.92**	**303**	Pn	Pn	21 29 45.0	-0.3
M16K	**Timber Creek**	**6.94**	**321**	Pn	Pn	21 29 45.6	0.0
O28M	**Mount Upton**	**7.06**	**43**		Pn	21 29 47.0	-0.4
PPLA	**Purkeypile**	**7.07**	**352**	Pn	Pn	21 29 47.7	+0.2
L18K	**Granite Mounta**	**7.18**	**334**	Pn	Pn	21 29 49.6	+0.8
M26K	**Nabesna, AK**	**7.40**	**26**	Pn	Pn	21 29 51.9	0.0
O29M	**Mount Kennedy**	**7.44**	**49**		Pn	21 29 52.4	-0.2
RND	**Reindeer**	**7.51**	**4**	Pn	Pn	21 29 53.6	+0.2
CAST	**Castle Rocks**	**7.58**	**353**	Pn	Pn	21 29 54.7	+0.3
L16K	**Owhat River**	**7.60**	**323**	Pn	Pn	21 29 53.8	-0.8
M27K	**Edge Creek, AK**	**7.66**	**30**	Pn	Pn	21 29 56.2	+0.7
K20K	**Telida**	**7.72**	**346**	Pn	Pn	21 29 55.8	-0.5
S31K	**Pelican**	**7.78**	**69**		Pn	21 29 54.8	-2.2
MCK	**McKinley**	**7.83**	**3**	Pn	Pn	21 29 57.4	-0.5
M14K	**Bethel**	**7.94**	**312**	Pn	Pn	21 29 59.3	+0.1
K17K	**Iditarod**	**8.01**	**331**	Pn	Pn	21 30 00.4	+0.1
HYT	**Haines Junctio**	**8.17**	**48**	Pn	Pn	21 30 02.6	+0.1
BPAW	**Bear Paw Mtn.**	**8.20**	**357**	Pn	Pn	21 30 02.8	-0.1
J18K	**Innoko River**	**8.28**	**338**	Pn	Pn	21 30 04.0	0.0
M13K	**Dall Lake**	**8.37**	**308**	Pn	Pn	21 30 05.4	+0.3
L14K	**Kuka Creek**	**8.55**	**314**	Pn	Pn	21 30 08.5	+0.8
N30M	**Aishikik Lake**	**8.68**	**45**	Pn	Pn	21 30 08.7	-0.8
K15K	**Wolf Creek Mou**	**8.71**	**322**	Pn	Pn	21 30 10.2	+0.5
O30N	**Mendenhall**	**8.74**	**51**	Pn	Pn	21 30 10.4	+0.1
M29M	**Somme Creek**	**8.78**	**37**	Pn	Pn	21 30 11.6	+0.6
CCB	**Clear Creek Bu**	**8.80**	**6**	Pn	Pn	21 30 11.0	0.0
IL31		**8.99**	**8**	Pn	Pn	21 30 13.9	+0.4
J25K	**Salcha River,**	**8.99**	**13**	Pn	Pn	21 30 14.3	+0.5
J26L	**Joseph Creek**	**9.15**	**18**	Pn	Pn	21 30 16.4	+0.4
N31M	**Braeburn, Yuko**	**9.23**	**47**	Pn	Pn	21 30 17.1	+0.2
WHY	**Whitehorse**	**9.23**	**53**	Pn	Pn	21 30 17.0	-0.1
I23K	**Minto, Yukon-K**	**9.24**	**2**	Pn	Pn	21 30 17.3	+0.2
L29M	**L29M**	**9.36**	**35**	Pn	Pn	21 30 18.8	+0.1
P32M	**Atlin**	**9.41**	**60**	Pn	Pn	21 30 19.0	-0.6

*NEIC **01** 21:28:36.4±1.6, 55.°79N±0.°08×149.°97W±0.°09, h10km±2km, ML3.7/50, ML3.4(AEIC), Error ellipse: s-maj=12.8km s-min=8.8km az=171.0*
*IDC **01** 21:28:39.1±3.0, 55.°96N×149.°94W, h0km, mb3.2/1, mbtmp3.3/4, ML2.9/3, MS3.1/5, Error ellipse: s-maj=39.2km s-min=31.6km az=180.0*
*AEIC **01** 21:28:41.3±1.9, 55.°88N±0.°07×149.°9W±0.°1, h5km±6km, Error ellipse: s-maj=10.3km s-min=8.3km az=152.0*
ISC 01 21:28:37.7±1.1, 55.°93N±0.°09×149.°99W±0.°06, h10km, n156, σ1§07/144, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**307**	Pn	**Pn**	**21 29 13.5**	**-1.2**
OHAK	**Old Harbor**	**2.24**	**307**		**Sn**	**21 29 40.0**	**-2.4**
OHAK	**Old Harbor**	**2.24**	**307**	IAML		21 29 49.3	
	comp=N,60nm,0.6s						
OHAK				IAML		21 29 54.3	
	comp=E,64nm,0.8s						
KDAK	**Kodiak Island**	**2.34**	**324**	Pn	**Pn**	**21 29 15.9**	**-0.2**
KDAK				IAML		21 29 44.4	
	comp=E,66nm,0.9s						
KDAK				IAML		21 29 45.4	
	comp=E,70nm,0.6s						
KDAK	**Kodiak Island**	**2.34**	**324**		**Sn**	**21 29 43.7**	**-1.2**
KDAK	**Kodiak Island**	**2.34**	**324**	Pn	**Pn**	**21 29 16.0**	**-0.1**
	comp=E,10nm,0.3s,baz=8.6,slow=4.8,SNR=16						
KDAK				Sn	**Sn**	**21 29 43.5**	**-1.4**
	comp=E,4.3nm,0.3s,baz=340,slow=24,SNR=9.4						
KDAK				LR	LR	21 30 20.3	
	comp=E,331nm,21.5s,baz=20,slow=43						
	comp=E,26nm,0.4s						
SII	**Sitkinak Islan**	**2.42**	**287**	Pn	**Pn**	**21 29 15.9**	**-1.5**
SII				IAML		21 29 59.9	
	comp=N,238nm,0.7s						
SII	**Sitkinak Islan**	**2.42**	**287**		**Sn**	**21 29 46.3**	**-0.8**
R18K	**Karluk**	**2.95**	**306**		**Pn**	**21 29 24.7**	**+0.1**
R18K	**Karluk**	**2.95**	**306**	IAML		21 30 07.9	
	comp=N,193nm,0.5s						
R18K				IAML		21 30 12.0	
	comp=E,136nm,0.4s						
SYI	**Shuyak Island**	**2.99**	**335**		**Pn**	**21 29 24.9**	**-0.1**
SYI	**Shuyak Island**	**2.99**	**335**		**Sn**	**21 30 00.1**	**-0.8**
SYI	**Shuyak Island**	**2.99**	**335**	IAML		21 30 07.4	
	comp=E,78nm,0.8s						
SYI				IAML		21 30 09.1	
	comp=N,91nm,0.8s						
CHIR	**Chirikof Islan**	**3.17**	**270**	Pn	Pn	21 29 25.2	-2.5
CHIR				IAML		21 30 14.0	
	comp=E,146nm,1.0s						
CHIR	**Chirikof Islan**	**3.17**	**270**		**Sn**	**21 30 02.9**	**-2.6**
KAHG	**Katmai Hook Gl**	**3.57**	**318**		**Pn**	**21 29 34.1**	**+1.0**
Q19K	**Cape Douglas,**	**3.60**	**328**	Pn	**Pn**	**21 29 34.8**	**+1.3**
ACHA	**Angle Creek He**	**3.70**	**310**		**Pn**	**21 29 36.5**	**+1.5**
KJL	**Kejulik**	**3.72**	**307**		**Pn**	**21 29 36.0**	**+0.8**
ANCK	**Angle Creek**	**3.77**	**309**		**Pn**	**21 29 37.6**	**+1.7**
BRSE	**Bradley Lake S**	**3.84**	**354**		**Pn**	**21 29 37.0**	**+0.1**
BRSE					**Sn**	**21 30 20.9**	**-1.2**
KAHC	**Katmai Hardscr**	**3.85**	**317**		**Pn**	**21 29 38.5**	**+1.4**
BRLK	**Bradley Lake**	**3.87**	**353**		**Pn**	**21 29 36.9**	**-0.4**
BRLK				IAML		21 30 29.5	
	comp=E,70nm,0.7s						
BRLK				IAML		21 30 29.6	
	comp=N,66nm,1.0s						
Q23K	**Middleton Isla**	**4.01**	**28**	Pn	**Pn**	**21 29 38.4**	**-0.8**
Q23K				IAML		21 30 50.4	
	comp=N,81nm,1.2s						
Q23K				IAML		21 31 06.2	
	comp=E,94nm,1.0s						
PLK1	**Peulik 1**	**4.09**	**300**		**Pn**	**21 29 40.1**	**-0.1**
P19K	**Oil Pt**	**4.12**	**336**		**Pn**	**21 29 40.6**	**+0.1**
P19K				IAML		21 30 31.5	
	comp=E,137nm,0.5s						
SEW	**Seward**	**4.20**	**4**	Pn	**Pn**	**21 29 42.2**	**+0.6**
P23K	**Montague Islan**	**4.30**	**18**		**Pn**	**21 29 42.6**	**-0.5**
O20K	**Slope Mountain**	**4.39**	**342**		**Pn**	**21 29 45.6**	**+1.2**
ILSW	**Iliamna Southw**	**4.40**	**339**		**Pn**	**21 29 44.9**	**+0.4**
P18K	**Big Mountain,**	**4.47**	**323**		**Pn**	**21 29 45.6**	**+0.2**
R16K	**Pilot Point**	**4.49**	**295**	Pn	**Pn**	**21 29 45.3**	**-0.3**
R16K				IAML		21 30 19.1	
	comp=N,70nm,1.1s						
R16K				IAML		21 31 02.7	
	comp=E,87nm,1.1s						
O22K	**Cooper Landing**	**4.57**	**2**		**Pn**	**21 29 47.7**	**+1.0**
SLKM	**Skilak Lake**	**4.59**	**359**		**Pn**	**21 29 47.8**	**+0.7**
SLKM				IAML		21 30 46.6	
	comp=N,54nm,0.4s						
SLKM				IAML		21 30 48.2	
	comp=E,71nm,0.9s						
CHGN	**Chignik**	**4.73**	**278**	Pn	**Pn**	**21 29 48.6**	**-0.4**
CHGN				IAML		21 30 49.0	
	comp=N,36nm,0.8s						
RED	**Redoubt Volcan**	**4.74**	**343**		**Pn**	**21 29 50.0**	**+0.8**
P17K	**Kvichak River**	**4.77**	**316**		**Pn**	**21 29 49.9**	**+0.3**
O18K	**Koktuh Hills**	**4.82**	**327**	Pn	**Pn**	**21 29 50.4**	**+0.1**
O18K				IAML		21 30 59.3	
	comp=N,40nm,0.8s						
O18K				IAML		21 31 00.5	
	comp=E,42nm,0.9s						
HIN	**Hinchinbrook I**	**4.84**	**21**	Pn	**Pn**	**21 29 50.3**	**-0.3**
HIN				IAML		21 30 50.6	
	comp=N,63nm,0.9s						
O19K	**Port Alsworth**	**4.85**	**334**		**Pn**	**21 29 50.7**	**+0.1**
KAIM	**Kayak Island**	**4.99**	**34**	Pn	**Pn**	**21 29 53.2**	**+0.7**
KAIM				IAML		21 31 03.1	
	comp=E,61nm,0.7s						
PWL	**Port Wells**	**5.02**	**9**		**Pn**	**21 29 54.1**	**+1.1**
PWL				IAML		21 30 50.1	
	comp=N,42nm,0.5s						
PWL				IAML		21 30 55.3	
	comp=E,53nm,0.5s						
EYAK	**Cordova Ski Ar**	**5.14**	**24**		**Pn**	**21 29 54.1**	**-0.5**
RC01	**Rabbit Creek A**	**5.18**	**1**	Pn	**Pn**	**21 29 54.8**	**-0.3**
RC01				IAML		21 31 01.1	
	comp=N,39nm,0.6s						
RC01				IAML		21 31 05.6	
	comp=E,34nm,0.7s						
GLI	**Glacier Island**	**5.19**	**16**		**Pn**	**21 29 55.4**	**+0.1**
GLI	**Glacier Island**	**5.19**	**16**	IAML		21 30 58.5	
	comp=N,37nm,0.6s						
GLI				IAML		21 31 00.6	
	comp=E,43nm,0.8s						
FIS	**Fire Island**	**5.23**	**359**	Pn	**Pn**	**21 29 56.4**	**+0.6**
RAGM	**Ragged Mountai**	**5.28**	**30**		**Pn**	**21 29 56.9**	**+0.4**
SUCK	**Suckling Hills**	**5.30**	**36**		**Pn**	**21 29 57.0**	**+0.1**
HMT	**Hamilton**	**5.36**	**32**		**Pn**	**21 29 57.7**	**+0.1**
NICHA	**Nichawak Mount**	**5.37**	**34**		**Pn**	**21 29 57.5**	**-0.3**
O17K	**Koliganek Bris**	**5.41**	**318**		**Pn**	**21 29 58.6**	**+0.4**
DIV	**Divide**	**5.66**	**21**		**Pn**	**21 30 02.4**	**+0.5**
O16K	**Kokwok River B**	**5.68**	**314**	Pn	**Pn**	**21 30 01.9**	**-0.1**
N18K	**Kilae Creek**	**5.69**	**329**		**Pn**	**21 30 02.8**	**+0.6**
SNH	**Sunshine Point**	**5.71**	**39**	Pn	**Pn**	**21 30 02.4**	**0.0**
BMRM	**Bremner River**	**5.79**	**27**	Pn	**Pn**	**21 30 04.0**	**+0.4**
GHO	**Glory Hole Cre**	**5.88**	**5**	Pn	**Pn**	**21 30 05.6**	**+0.7**
SML	**Sawmill**	**5.96**	**8**		**Pn**	**21 30 07.3**	**+1.4**
KLU	**Klutina**	**5.97**	**19**		**Pn**	**21 30 06.4**	**+0.4**
SDPT	**Sand Point**	**5.97**	**269**	Pn	Pn	21 30 02.6	-3.3
MESA	**MESA**	**6.03**	**42**	Pn	**Pn**	**21 30 07.5**	**+0.6**
SCM	**Sheep Creek Mo**	**6.08**	**12**	Pn	**Pn**	**21 30 09.4**	**+1.8**
SKT	**Skwentna**	**6.12**	**353**	Pn	**Pn**	**21 30 10.2**	**+2.2**
M20K	**Styx River**	**6.19**	**346**	Pn	**Pn**	**21 30 10.6**	**+1.5**
O15K	**Ungalikthiuk R**	**6.21**	**306**		**Pn**	**21 30 09.6**	**+0.3**
VRDI	**Verde Repeater**	**6.31**	**30**		**Pn**	**21 30 10.9**	**0.0**
RKAV	**Rock Avalanche**	**6.33**	**43**		**Pn**	**21 30 11.0**	**-0.2**
N25K	**Chitina, Valde**	**6.34**	**24**		**Pn**	**21 30 11.2**	**0.0**
M18K	**Stony River**	**6.35**	**334**		**Pn**	**21 30 11.4**	**+0.2**
GLB	**Gilahina Butte**	**6.39**	**28**	Pn	**Pn**	**21 30 12.0**	**+0.1**
M19K	**Big River Lodg**	**6.41**	**341**	Pn	**Pn**	**21 30 11.5**	**-0.6**
KIAG	**Kiagna River**	**6.41**	**36**		**Pn**	**21 30 12.4**	**+0.2**
CUT	**Chulitna**	**6.50**	**359**	Pn	**Pn**	**21 30 14.5**	**+1.3**
BALM	**Baldy**	**6.50**	**35**		**Pn**	**21 30 13.4**	**0.0**
M24K	**Tolsona, Glenn**	**6.50**	**16**	Pn	**Pn**	**21 30 14.5**	**+1.1**
M17K	**Holitna River**	**6.72**	**328**		**Pn**	**21 30 17.0**	**+0.7**
L19K	**White Mountain**	**6.75**	**340**		**Pn**	**21 30 17.0**	**+0.3**
S12K	**Black Hills**	**6.81**	**273**	Pn	**Pn**	**21 30 16.4**	**-1.1**
N15K	**Kwethluk River**	**6.84**	**313**	Pn	**Pn**	**21 30 19.2**	**+1.3**
O14K	**Tigyukauivet M**	**6.91**	**303**	Pn	**Pn**	**21 30 19.9**	**+0.9**
M16K	**Timber Creek**	**6.94**	**321**		**Pn**	**21 30 19.7**	**+0.5**
PPLA	**Purkeypile**	**7.08**	**352**	Pn	**Pn**	**21 30 20.7**	**-0.6**
O28M	**Mount Upton**	**7.08**	**43**		**Pn**	**21 30 20.9**	**-0.5**
L18K	**Granite Mounta**	**7.19**	**334**	Pn	**Pn**	**21 30 22.2**	**-0.5**
M26K	**Nabesna, AK**	**7.41**	**26**	Pn	**Pn**	**21 30 25.5**	**-0.4**
PAX	**Paxson**	**7.42**	**16**		**Pn**	**21 30 27.2**	**+1.1**
O29M	**Mount Kennedy**	**7.46**	**49**		**Pn**	**21 30 26.4**	**-0.2**
RND	**Reindeer**	**7.52**	**4**	Pn	**Pn**	**21 30 28.7**	**+1.4**
TRF	**Thorofare Moun**	**7.54**	**359**	Pn	**Pn**	**21 30 27.8**	**0.0**
L17K	**Donlin**	**7.55**	**329**		**Pn**	**21 30 26.8**	**-0.8**
CAST	**Castle Rocks**	**7.59**	**353**	Pn	**Pn**	**21 30 28.6**	**+0.4**
L16K	**Owhat River**	**7.60**	**324**		**Pn**	**21 30 28.6**	**+0.3**
TTA	**

TARG ⇑iS **Sb** **21 35 31.9 -1.7**
KDJ Kajisay 1.81 351 ⇑iP **Pn** **21 35 20.3 0.0**
KDJ ⇑iS **Sn** **21 35 43.6 -0.2**
ULHL Ulahol 2.15 333 P **Pn** **21 35 26.0 +1.0**
SNR=43
ULHL Ulahol 2.15 333 ⇓iP **Pn** **21 35 25.1 +0.1**
ULHL ⇓iS **Sn** **21 35 52.5 +0.4**
PRZ Przheval'sk 2.24 16 ⇓eP **Pn** **21 35 26.3 +0.2**
PRZ ⇓eS **Sn** **21 35 54.5 +0.3**
ANVS Anan'yevo 2.45 2 ⇑eP **Pn** **21 35 29.5 +0.5**
ANVS ⇑eS **Sn** **21 35 59.4 +0.1**
BOOM Boomskoye usch 2.47 331 ⇓iP **Pn** **21 35 29.7 +0.4**
BOOM ⇓iS **Sn** **21 36 00.2 +0.3**
TNSS Tian-Shan 2.74 351 Pg **Pb** **21 35 37.5 -0.5**
35nm,0.3s
TNSS Lg Lg 21 36 12.9
46nm,0.3s
TNSS Tian-Shan 2.74 351 eP **Pb** **21 35 37.5 -0.5**
35nm,0.3s
TNSS eS **Sb** **21 36 12.2 +0.3**
65nm,0.6s
SATY Saty 2.79 13 Pg **Pb** **21 35 39.1 +0.3**
22nm,0.6s
SATY Lg Lg 21 36 15.1
112nm,0.4s
ARLS Aral 2.88 303 ⇓eP **Pn** **21 35 36.1 +1.2**
ARLS ⇓iS **Sn** **21 36 11.2 +1.2**
SALK Salom-Alik 2.90 282 ⇑iP **Pn** **21 35 36.6 +1.5**
SALK ⇑iS **Sn** **21 36 12.1 +1.7**
ZHN Zhinishke 2.91 13 Pg **Pb** **21 35 40.9 +0.3**
8.0nm,0.3s
ZHN Lg Lg 21 36 18.3
120nm,0.3s
ZHN Zhinishke 2.91 13 eP **Pb** **21 35 40.9 +0.3**
8.0nm,0.3s
ZHN eS **Sb** **21 36 18.4 +1.9**
120nm,0.3s
AAA Alma-Ata 2.91 351 Pg **Pb** **21 35 41.4 +0.7**
39nm,0.4s
AAA Lg Lg 21 36 19.2
68nm,0.6s
AAA Alma-Ata 2.91 351 eP **Pb** **21 35 40.7 0.0**
30nm,0.4s
AAA eS **Sb** **21 36 17.7 +1.1**
68nm,0.6s
KNDC Almaty 2.91 351 ⇑Pg **Pb** **21 35 40.4 -0.3**
86nm,1.1s
KNDC ⇑Lg Lg 21 36 19.2
488nm,0.8s
KOTS Kotyrbulak 2.92 354 Pg **Pb** **21 35 41.2 +0.4**
22nm,0.3s
KOTS Lg Lg 21 36 18.6
182nm,0.7s
KOTS Kotyrbulak 2.92 354 eP **Pb** **21 35 41.2 +0.4**
22nm,0.3s
KOTS eS **Sb** **21 36 18.6 +1.8**
182nm,0.7s
MTBS Maitube 2.92 344 Pg **Pb** **21 35 40.2 -0.6**
12nm,0.3s
MTBS Lg Lg 21 36 17.3
99nm,0.5s
MTBS Maitube 2.92 344 eP **Pb** **21 35 40.2 -0.6**
12nm,0.3s
MTBS eS **Sb** **21 36 17.3 +0.5**
99nm,0.5s
KST Kastek 2.96 337 Pg **Pb** **21 35 41.0 -0.5**
18nm,0.3s
KST Lg Lg 21 36 19.0
102nm,0.4s
KST Kastek 2.96 337 eP **Pb** **21 35 41.0 -0.5**
18nm,0.3s
KST eS **Sb** **21 36 18.9 +1.0**
102nm,0.4s
TKM2 Tokmak 2 2.97 331 P **Pb** **21 35 39.8 -2.1**
SNR=20
TKM2 Tokmak 2 2.97 331 ⇓iP **Pn** **21 35 36.7 +0.5**
TKM2 ⇓iS **Sn** **21 36 12.2 -0.1**
UCH Uchtor 2.97 310 P **Pn** **21 35 39.0 +2.5**
SNR=8.1
UCH Uchtor 2.97 310 ⇓iP **Pn** **21 35 37.4 +0.9**
UCH ⇓iS **Sn** **21 36 13.5 +0.9**
UZB Uzynbulak 3.02 21 Pg **Pb** **21 35 43.3 +0.8**
7.8nm,0.4s
UZB Lg Lg 21 36 22.5
29nm,0.5s
UZB Uzynbulak 3.02 21 eP **Pb** **21 35 43.3 +0.8**
7.8nm,0.4s
UZB eS **Sg** **21 36 22.5 -2.7**
29nm,0.5s
KBK Karagaybulak 3.04 321 P **Pb** **21 35 42.4 -0.4**
SNR=65
KBK Karagaybulak 3.04 321 ⇑iP **Pn** **21 35 37.9 +0.8**
KBK ⇑iS **Sn** **21 36 14.3 +0.5**
SFK Sufi-Kurgan 3.12 265 ⇓iP **Pn** **21 35 39.7 +1.4**
SFK ⇓iS **Sn** **21 36 17.6 +1.6**
SHLS Shalkode 3.16 26 Pg **Pg** **21 35 49.1 +0.2**
11nm,0.5s
SHLS Lg Lg 21 36 32.4
64nm,0.5s
SHLS Shalkode 3.16 26 eP **Pg** **21 35 49.1 +0.2**
11nm,0.5s
SHLS eS **Sg** **21 36 32.5 +2.6**
64nm,0.5s
KURS Kuram 3.18 8 eP **Pg** **21 35 51.6 +2.3**
28nm,0.3s
KURS eS **Sg** **21 36 36.5 +5.9**
106nm,0.4s
DGS Degeres 3.19 336 Pg **Pb** **21 35 45.3 -0.3**
22nm,0.5s
DGS Lg Lg 21 36 26.0
139nm,0.5s
KPKS Kokpek 3.24 15 Pg **Pb** **21 35 47.2 +0.9**
8.7nm,0.6s
KPKS Lg Lg 21 36 28.9
61nm,0.4s
KPKS Kokpek 3.24 15 eP **Pb** **21 35 45.3 -1.1**
22nm,0.5s
KPKS eS **Sb** **21 36 26.0 -0.1**
139nm,0.5s
KPKS Kokpek 3.24 15 eP **Pb** **21 35 47.2 +0.9**
8.7nm,0.6s
KPKS eS **Sb** **21 36 28.9 +2.8**
61nm,0.4s
AAK Ala-Archa 3.25 316 Pn **Pn** **21 35 42.4 +2.3**
5.9nm,0.3s,baz=140,slow=14,SNR=64
AAK Pg **Pb** **21 35 45.6 -1.0**
12nm,0.3s,baz=142,slow=12,SNR=56
AAK Lg Lg 21 36 28.6
14nm,0.3s,baz=315,slow=20,SNR=18
14nm,0.3s
AAK Ala-Archa 3.25 316 P **Pn** **21 35 42.7 +2.6**
SNR=6.5
AAK Ala-Archa 3.25 316 ⇑Pn **Pn** **21 35 42.6 +2.5**
54nm,0.7s
AAK ⇓Lg Lg 21 36 28.4
172nm,1.0s
AAK Ala-Archa 3.25 316 ⇑iP **Pn** **21 35 41.1 +1.0**
AAK ⇑iS **Sn** **21 36 19.7 +0.5**
FRU1 Bishkek 3.31 319 ⇑eP **Pn** **21 35 41.8 +1.1**
FRU1 ⇑eS **Sn** **21 36 20.6 +0.2**
PDGK Podgornoye 3.32 25 ⇓Pn **Pn** **21 35 43.2 +2.3**
9.4nm,0.5s
PDGK ⇓Lg Lg 21 36 32.1
82nm,0.9s
CHMS Chumysh 3.39 323 P **Pn** **21 35 45.4 +3.5**
SNR=19
CHMS Chumysh 3.39 323 ⇑eP **Pn** **21 35 42.6 +0.8**
CHMS ⇑iS **Sn** **21 36 22.6 +0.2**
AML Almayashu 3.42 303 P **Pn** **21 35 45.2 +2.7**
SNR=14
AML Almayashu 3.42 303 ⇓iP **Pn** **21 35 43.8 +1.2**
AML ⇓iS **Sn** **21 36 24.6 +1.0**
KTBS Karatobe 3.44 349 Pg **Pb** **21 35 49.9 +0.2**
11nm,0.4s
KTBS Lg Lg 21 36 33.5
97nm,0.6s
CHKK Chushkaly 3.54 353 Pg **Pb** **21 35 51.6 +0.2**
28nm,0.3s
CHKK Lg Lg 21 36 36.5
106nm,0.4s
CHKK Chushkaly 3.54 353 eP **Pb** **21 35 51.6 +0.2**
28nm,0.3s
CHKK eS **Sb** **21 36 36.5 +1.8**
106nm,0.4s
ARSB Arslanbob 3.61 287 ⇑eP **Pn** **21 35 46.4 +1.5**
ARSB ⇑eS **Sn** **21 36 28.7 +0.8**
KRBS Karabastau 3.64 338 Pg **Pb** **21 35 53.3 +0.2**
11nm,0.6s
KRBS Lg Lg 21 36 39.8
36nm,0.4s
OHH Osh 3.65 274 ⇑eP **Pn** **21 35 47.1 +1.7**
OHH ⇑eS **Sn** **21 36 30.1 +1.3**
EKS2 Erkin-Say 3.67 311 P **Pn** **21 35 49.0 +3.3**
SNR=17
EKS2 Erkin-Say 3.67 311 ⇑iP **Pn** **21 35 46.8 +1.1**
EKS2 ⇑iS **Sn** **21 36 29.9 +0.5**
KUU Kurty 3.67 346 Pg **Pb** **21 35 53.9 +0.3**
8.8nm,0.5s
KUU Lg Lg 21 36 40.4
148nm,0.3s
KUU Kurty 3.67 346 eP **Pb** **21 35 53.9 +0.3**
8.8nm,0.5s
KUU eS **Sb** **21 36 40.4 +2.1**
148nm,0.3s
USP Ospenovka 3.71 323 P **Pb** **21 35 54.0 -0.3**
SNR=51
SGDS Sogindy 3.80 326 Pg **Pb** **21 35 55.9 0.0**
9.2nm,0.4s
SGDS Lg Lg 21 36 43.9
44nm,0.6s
BLB Baldybastay 3.82 10 Pg **Pb** **21 35 57.2 +0.9**
20nm,0.6s
BLB Lg Lg 21 36 45.9
43nm,0.6s
ARXS Arharly 3.88 3 Pg **Pb** **21 35 58.3 +1.1**
4.2nm,0.3s
ARXS Lg Lg 21 36 47.8
39nm,0.5s
MRKS Merke 4.04 308 Pg **Pb** **21 35 59.9 -0.2**
8.5nm,0.5s
MRKS Lg Lg 21 36 51.3
28nm,0.4s
MRKS Merke 4.04 308 eP **Pb** **21 35 59.9 -0.2**
8.5nm,0.5s
MRKS eS **Sb** **21 36 51.3 +2.1**
28nm,0.4s
KNOS Konyrlen 4.20 16 Pg **Pb** **21 36 05.4 +2.8**
2.8nm,0.3s
KNOS Lg Lg 21 37 00.2
10.0nm,0.1s
DJR Jarkent 4.32 22 Pg **Pb** **21 36 07.1 +2.3**
2.0nm,0.4s
DJR Lg Lg 21 37 02.9
16nm,0.4s
DJR Jarkent 4.32 22 eP **Pb** **21 36 07.1 +2.3**
2.0nm,0.4s
DJR eS **Sg** **21 37 02.9 -4.2**
16nm,0.4s
MNAS Manas 4.36 301 ⇑iP **Pn** **21 35 56.7 +1.4**
MNAS ⇑iS **Sn** **21 36 46.9 +0.3**
ARK Arkit 4.47 291 ⇑eP **Pn** **21 35 58.4 +1.6**
ARK ⇑eS **Sn** **21 36 49.8 +0.6**
DRK Karamyk 4.51 261 ⇑eP **Pn** **21 35 59.1 +1.7**
DRK ⇑eS **Sn** **21 36 51.2 +0.9**
TDK Taldyqorghan 4.71 7 Pg **Pb** **21 36 13.1 +1.9**
22nm,0.4s
TDK Lg Lg 21 37 13.6
47nm,0.6s
TDK Taldyqorghan 4.71 7 eP **Pb** **21 36 13.1 +1.9**
22nm,0.4s
TDK eS **Sb** **21 37 13.6 +5.5**
47nm,0.6s
TRKS Terek-Say 5.00 286 ⇑eP **Pn** **21 36 05.4 +1.3**
TRKS ⇑eS **Sn** **21 37 01.4 -0.9**
KAPS Kapalarasan 5.12 14 Pg **Pg** **21 36 22.4 -4.1**
3.7nm,0.2s
KAPS Lg Lg 21 37 30.0
7.4nm,0.3s
BTK Batken 5.17 269 ⇑eP **Pn** **21 36 08.2 +1.9**
BTK ⇑eS **Sn** **21 37 06.7 +0.4**
BTLS Baital 5.37 332 Pg **Pb** **21 36 24.1 +1.6**
9.5nm,0.9s
BTLS Lg Lg 21 37 32.1
16nm,0.5s
BTLS Baital 5.37 332 eP **Pb** **21 36 24.6 +2.1**
2.0nm,0.5s
BTLS eS **Sb** **21 37 33.2 +6.1**
16nm,0.5s
KK31 Karatay Array 5.95 300 Pg **Pb** **21 36 36.6 +4.1**
4.3nm,0.6s,baz=125,slow=18,SNR=18
KK31 ⇓Lg Lg 21 37 55.0
3.3nm,0.5s,baz=111,slow=26,SNR=6.8
BRLS Borolday 6.38 297 Pg Pb 21 36 45.4 +5.7
2.4nm,0.4s
BRLS Lg Lg 21 38 08.5
3.6nm,0.7s
BRLS Borolday 6.38 297 eP Pb 21 36 45.4 +5.7
2.4nm,0.4s
BRLS eS **Sg** **21 38 08.5 -4.4**
3.6nm,0.7s
MAKZ Makanchi 7.22 25 ⇑Pn **Pn** **21 36 38.4 +4.0**
0.8nm,0.8s
MK31 Makanchi Array 7.31 26 ⇓Pn **Pn** **21 36 37.5 +1.8**
0.4nm,0.5s,baz=197,slow=15,SNR=7.8
MKAR Makanchi Array 7.31 26 Pn **Pn** **21 36 37.4 +1.7**
0.1nm,0.3s,baz=209,slow=16,SNR=8.2
0.2nm,0.3s
KURBB Kurchatov Arra 10.31 3 Pn **Pn** **21 37 17.4 +0.7**
baz=185,slow=13,SNR=1.9
KURBB Lg Lg 21 40 09.6
baz=189,slow=30,SNR=2.2
0.1nm,0.3s
KURBB Kurchatov Arra 10.31 3 ⇓Lg Lg 21 40 14.1
4.7nm,0.6s
KURK Kurchatov 10.41 4 ⇑Lg Lg 21 40 16.1
5.7nm,1.0s
BVAR Borovoye Array 13.60 341 Pn **Pn** **21 37 58.6 -3.1**
baz=155,slow=11,SNR=2.7
BVAR Lg Lg 21 41 52.1
baz=157,slow=23,SNR=5.2
0.2nm,0.4s
ZALV Zalesovo Beam 14.47 17 Pn **Pn** **21 38 13.1 -0.5**
0.1nm,0.3s,baz=204,slow=13,SNR=1.4
0.3nm,0.7s
ARTI Arti 20.38 328 P **P** **21 39 23.1 -2.5**
1.1nm,0.6s,baz=120,slow=20,SNR=2.3
1.1nm,0.6s
SONM Songino Array 21.94 60 P **P** **21 39 40.8 -1.9**
0.2nm,0.6s,baz=264,slow=10.0,SNR=3.9
0.2nm,0.6s
TORD Torodi Ar. Bea 70.88 271 P **P** **21 46 04.9 -1.5**
38nm,0.3s,baz=46,slow=5.8,SNR=1.9

*NEIC **01** 22:09:36.8±1.7, 35°.175N±0°.006×97°.79W±0°.02, h5km±1km, mb_Lg2.0/7, ML2.2/41, ML2.4/20, Error ellipse: s-maj=2.9km s-min=2.5km az=306.0*

NEIC 01 22:09:37.6±1.6, 35°.19N±0°.01×97°.78W±0°.02, h6km±3km, Error ellipse: s-maj=2.1km s-min=1.5km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.32**	**78**		Pg	22 09 43.7	-0.2
OKCSW	**OKLAHOMA CITY**	**0.35**	**53**	Pg	Pg	22 09 44.6	+0.1
OKCSW				Sg	Sg	22 09 48.6	-0.6
OKCSW				IAML		22 09 50.5	
	comp=E,327nm,0.3s						
OKCSW				IAML		22 09 57.0	
	comp=N,201nm,0.6s						
BCOK	**Bluff Creek, N**	**0.49**	**17**		Pg	22 09 47.8	+0.8
BCOK					Sg	22 09 54.2	+0.8
X34A	**Smith Ranch, M**	**0.59**	**184**		Pg	22 09 49.2	+0.2
X34A					Sg	22 09 56.4	-0.2
OK029	**Liberty Lake**	**0.66**	**24**		Pg	22 09 50.1	-0.3
OK029				IAML		22 09 59.9	
	comp=N,106nm,0.4s						
OK029				IAML		22 10 02.9	
	comp=N,71nm,0.2s						
W35A	**Tecumseh**	**0.74**	**93**		Pg	22 09 51.7	-0.2
W35A					Sg	22 10 02.0	+0.4
WMOK	**Wichita Mounta**	**0.94**	**241**		Pg	22 09 54.4	-1.2
WMOK	**Wichita Mounta**	**0.94**	**241**	Pg	Pg	22 09 54.2	-1.4
WMOK				IAML		22 10 19.9	
	comp=N,12nm,0.9s						
WMOK				IAML		22 10 23.0	
	comp=N,11nm,1.7s						
OK031	**S. Brethren Rd**	**1.08**	**45**	Pg	Pg	22 09 57.3	-1.1
OK052	**Battle Ridge R**	**1.13**	**45**		Pg	22 09 57.9	-1.4
DEOK	**Depew**	**1.23**	**58**		Pg	22 09 59.9	-1.3
DEOK					Sg	22 10 17.1	-0.2
DEOK				IAML		22 10 21.9	
	comp=N,62nm,0.2s						
DEOK				IAML		22 10 23.6	
	comp=E,52nm,0.3s						
QUOK	**Quay**	**1.31**	**41**		Pn	22 10 01.9	-0.7
QUOK					Sn	22 10 20.2	-0.3
CROK	**Carrier**	**1.32**	**353**		Pn	22 10 01.8	-0.9
CROK					Sg	22 10 20.3	+0.1
OK038	**West end E0370**	**1.50**	**329**		Pn	22 10 04.6	-0.6
OK051	**E0350 and S346**	**1.52**	**30**		Pn	22 10 04.6	-0.8
WTFS	**Witchita Falls**	**1.53**	**202**		Pn	22 10 04.8	-0.7
ELIS	**Ellis County**	**1.59**	**304**		Pn	22 10 05.0	-1.4
BLOK	**Blackwell**	**1.63**	**16**		Pn	22 10 06.9	-0.1
GC02	**Grant County #**	**1.66**	**358**		Pn	22 10 06.5	-0.8
NOKA	**Waynoka**	**1.72**	**327**		Pn	22 10 07.5	-0.7
NOKA				IAmb_Lg		22 10 31.6	
	comp=Z,5.9nm,0.8s						
KAN14	**Manchester OK**	**1.77**	**355**		Pn	22 10 08.3	-0.6
KAN13	**South Haven SW**	**1.83**	**8**		Pn	22 10 09.7	0.0
KAN17	**Caldwell West**	**1.85**	**0**		Pn	22 10 09.8	-0.1
KAN09	**Caldwell North**	**1.95**	**4**		Pn	22 10 11.1	-0.2
KAN01	**Argonia South**	**1.96**	**1**		Pn	22 10 10.6	-0.8
T35A	**Sooner Cattle**	**2.01**	**30**	IAmb_Lg		22 10 43.8	
	comp=Z,11nm,0.9s						
KAN08	**Anthony NE Sta**	**2.04**	**356**	IAmb_Lg		22 10 41.3	
	comp=Z,6.3nm,0.7s						
PLPT	**Palo Pinto**	**2.41**	**191**	IAmb_Lg		22 10 55.3	
	comp=Z,3.9nm,0.7s						
N35A	**Tabor**	**5.91**	**16**	IAmb_Lg		22 12 53.0	
	comp=Z,11nm,0.8s						

IDC 01 22:16:25.6±2.5, 6°.95N×125°.21E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=232.9km s-min=24.4km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.19**	**162**	P	P	22 22 20.4	+0.3
	0.8nm,0.3s,baz=341,slow=9.1,SNR=12						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**31.59**	**165**	P	P	22 22 49.9	-0.4
	0.8nm,0.5s,baz=343,slow=8.8,SNR=15						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**54.07**	**325**	P	P	22 25 52.0	-0.1
	0.3nm,0.4s,baz=120,slow=7.9,SNR=12						
	0.3nm,0.4s						

*IDC **01** 22:38:22.3±0.9, 35°.33S×78°.69E, h0km, mb4.0/8, mbtmp4.0/8, MS3.9/25, Error ellipse: s-maj=29.2km s-min=26.6km az=16.0*

*GCMT **01** 22:38:28.0±0.4, 35°.23S±0°.03×78°.60E±0°.02, h22km±1km, MW4.8/69, Moment Tensor Solution. s15,c18; s69,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30±.24; $M_{\theta\theta}$-1.19±.13; $M_{\phi\phi}$2.49±.15; $M_{r\theta}$-0.15±.26; $M_{\theta\phi}$-0.20±.09; $M_{\phi r}$0.00±.18; Best double couple: $M_0$1.95600×10^{16} NP1:ϕ_s27.00000°, δ55.00000°, λ-44.00000°. NP2: ϕ_s146.00000°, δ55.00000°, λ-136.00000°. Principal axes: T 2.5010, Plg0.0000°, Azm267.0000°; N -1.0900, Plg36.0000°, Azm177.0000°; P -1.4110, Plg54.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 01 22:38:24.4±0.9, 35°.3S±0°.2×78°.7E±0°.2, h14km, n39, σ1§12/9, mb4.1/8, MS4.0/23, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**22.95**	**234**	T	T	23 07 20.5	
	baz=69,slow=75,SNR=2787						
H04N1	**CROZET ISLANDS**	**22.96**	**234**	T	T	23 07 20.1	
	baz=69,slow=75,SNR=2242						
H04N3	**CROZET ISLANDS**	**22.97**	**234**	T	T	23 07 18.2	
	baz=69,slow=75,SNR=2478						
H04S1	**CROZET ISLANDS**	**23.10**	**232**	T	T	23 07 34.5	
	baz=69,slow=76,SNR=17						
H04S3	**CROZET ISLANDS**	**23.12**	**232**	T	T	23 07 32.1	
	baz=69,slow=76,SNR=19						
H04S2	**CROZET ISLANDS**	**23.12**	**232**	T	T	23 07 31.4	
	baz=69,slow=76,SNR=16						
H08S2	**Diego Garcia H**	**28.14**	**347**	T	T	23 13 26.0	
	baz=170,slow=76,SNR=138						
H08S1	**Diego Garcia H**	**28.15**	**347**	T	T	23 13 20.9	
	baz=170,slow=76,SNR=110						
H08S3	**Diego Garcia H**	**28.16**	**347**	T	T	23 13 19.0	
	baz=170,slow=76,SNR=253						
H01W2	**Cape Leeuwin H**	**28.91**	**100**	T	T	23 14 40.9	
	baz=259,slow=74,SNR=86						
H01W3	**Cape Leeuwin H**	**28.91**	**100**	T	T	23 14 37.6	
	baz=259,slow=74,SNR=96						
H01W1	**Cape Leeuwin H**	**28.93**	**100**	T	T	23 14 43.7	
	baz=259,slow=74,SNR=102						
NWAO	**Narrogin (SRO)**	**31.87**	**97**	LR	LR	22 54 33.6	
	comp=Z,388nm,20.9s,baz=216,slow=30						
MAW	**Mawson**	**33.56**	**191**	LR	LR	22 55 47.3	
	comp=Z,207nm,19.0s,baz=30,slow=31						
PSI	**Prapat**	**42.42**	**31**	LR	LR	23 00 42.6	
	comp=Z,134nm,18.8s,baz=199,slow=32						
PALK	**Pallekele**	**42.43**	**3**	LR	LR	22 59 19.0	
	comp=Z,135nm,21.9s,baz=181,slow=30						
FITZ	**Fitzroy Crossi**	**44.88**	**80**	LR	LR	23 01 56.9	
	comp=Z,206nm,18.2s,baz=252,slow=32						
BOSA	**Boshof**	**45.36**	**263**	P	**P**	**22 46 41.7**	**-0.8**
	2.1nm,0.9s,baz=143,slow=6.6,SNR=3.9						
BOSA				LR	LR	23 01 32.8	
	comp=Z,227nm,20.6s,baz=150,slow=31						
	2.1nm,0.9s						
LBTB	**Lobatse**	**46.56**	**268**	LR	LR	23 02 18.8	
	comp=Z,142nm,21.0s,baz=105,slow=31						
SUR	**Sutherland**	**47.56**	**256**	LR	LR	23 02 26.4	
	comp=Z,218nm,21.2s,baz=162,slow=30						
KAPI	**Kappang**	**48.39**	**61**	LR	LR	23 05 32.0	
	comp=Z,61nm,19.4s,baz=240,slow=34						
ASAR	**Alice Springs**	**48.89**	**92**	P	**P**	**22 47 09.8**	**-0.3**
	1.1nm,1.0s,baz=250,slow=5.0,SNR=5.6						
ASAR				LR	LR	23 05 35.6	
	comp=Z,104nm,19.8s,baz=265,slow=33						
	1.1nm,1.0s						
LSZ	**Lusaka**	**49.25**	**281**	LR	LR	23 04 37.1	
	comp=Z,193nm,20.0s,baz=120,slow=32						
WRA	**Warramunga Arr**	**51.01**	**88**	P	**P**	**22 47 26.1**	**-0.1**
	5.3nm,1.2s,baz=242,slow=7.3,SNR=5.9						
	5.3nm,1.2s						
KMBO	**Kilima Mbogo**	**51.38**	**302**	LR	LR	23 06 07.6	
	comp=Z,56nm,18.7s,baz=74,slow=32						
STKA	**Stephens Creek**	**51.73**	**105**	LR	LR	23 05 43.2	
	comp=Z,163nm,21.0s,baz=212,slow=32						
VNDA	**Vanda**	**54.32**	**165**	LR	LR	23 08 30.0	
	comp=Z,138nm,20.6s,baz=241,slow=33						
QSPA	**South Pole Qui**	**54.81**	**180**	P	**P**	**22 47 54.1**	**+0.4**
	2.5nm,0.8s,baz=272,slow=6.0,SNR=7.1						
QSPA				LR	LR	23 09 08.4	
	comp=Z,274nm,20.3s,baz=258,slow=34						
	2.5nm,0.8s						
TSUM	**Tsumeb**	**55.83**	**270**	LR	LR	23 08 40.5	
	comp=Z,169nm,19.6s,baz=163,slow=33						
BRDH	**Bariadhala**	**58.99**	**14**	LR	LR	23 12 59.4	
	comp=Z,80nm,18.1s,baz=314,slow=35						
WSAR	**Wadi Sarin**	**61.28**	**339**	LR	LR	23 09 01.7	
	comp=Z,103nm,21.6s,baz=188,slow=30						
PMG	**Port Moresby**	**67.08**	**85**	LR	LR	23 17 13.6	
	comp=Z,242nm,19.2s,baz=253,slow=35						
HNR	**Honiara**	**77.51**	**93**	LR	LR	23 21 54.4	
	comp=Z,95nm,19.9s,baz=350,slow=34						
AAK	**Ala-Archa**	**77.70**	**357**	LR	LR	23 20 32.0	
	comp=Z,67nm,21.5s,baz=208,slow=33						
MKAR	**Makanchi Array**	**81.83**	**3**	P	**P**	**22 50 41.5**	**-1.2**
	0.5nm,0.8s,baz=188,slow=5.8,SNR=5.4						
MKAR				LR	LR	23 23 53.1	
	comp=Z,44nm,21.6s,baz=220,slow=33						
	0.5nm,0.8s						
BRTR	**Keskin Array B**	**85.47**	**327**	P	**P**	**22 51 02.7**	**+1.0**
	1.3nm,0.9s,baz=99,slow=6.4,SNR=6.5						
	1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**85.59**	**360**	P	**P**	**22 51 03.7**	**+1.9**
	1.2nm,0.9s,baz=191,slow=4.7,SNR=7.5						
	1.2nm,0.9s						
SONM	**Songino Array**	**86.44**	**18**	P	**P**	**22 51 05.5**	**-0.8**
	0.8nm,0.8s,baz=195,slow=6.6,SNR=4.9						
SONM				LR	LR	23 29 02.6	
	comp=Z,47nm,18.1s,baz=186,slow=35						
	0.8nm,0.8s						
YKA	**Yellowknife Ar**	**151.58**	**13**	PKPbc	**PKPbc**	**22 58 17.4**	**+0.1**
	0.5nm,0.8s,baz=344,slow=2.2,SNR=5.8						

*SJA **01** 22:43:18.6±0.8, 30°.39S×72°.27W, h5km±3km, ML5.2,*

MW4.7

NEIC ***01*** *22:43:25.4, 30.66S×71.00W, h30km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}3.82; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-4.21; $M_{r\theta}$0.15; $M_{\theta\phi}$0.04; $M_{\phi r}$-1.14; Fault plane solution: $M_0$4.18000×10^{16} NP1:ϕ_s1.76000°, δ37.10000°, λ93.50000°. NP2:ϕ_s177.38000°, δ52.98000°, λ87.36000°. Principal axes: T 3.9866, Plg82.0000°, Azm74.0000°; N 0.3828, Plg2.0000°, Azm179.0000°; P -4.3694, Plg8.0000°, Azm269.0000°;*

VAO ***01*** *22:43:25.1±1.5, 30.67S×71.69W, h20km±9km, mb5.3*

NEIC ***01*** *22:43:25.4, 30.56S×71.67W, h30km*

RSNC ***01*** *22:43:25.1±3.5, 31°S±10'×7°2W±1°0, h14km, M4.9, mB5.5, mb5.1, Mw(mB)5.2*

NEIC ***01*** *22:43:26.9±1.5, 30.59S±0.03×71.63W±0.05, h24km±2km, mb5.1/397, Mww5.0/11, Error ellipse: s-maj=6.5km s-min=4.4km az=102.0*

GUC ***01*** *22:43:26.2±0.9, 30.63S×71.70W, h34km±2km, ML5.3*

BJI ***01*** *22:43:26.3, 30.43S×72.26W, h31km, mB5.3/3, Ms5.1/1*

MOS ***01*** *22:43:26.1±1.1, 30.40S×71.43W, h28km, mb5.3/58, Error ellipse: s-maj=14.6km s-min=6.6km az=108.8*

IDC ***01*** *22:43:30.4±2.5, 30.61S×71.58W, h54km±21km, mb4.8/15, mbtmp5.0/20, ML4.7/5, MS4.2/40, Error ellipse: s-maj=19.6km s-min=11.9km az=76.0*

GCMT ***01*** *22:43:31.3±0.3, 30.65S±0.02×71.84W±0.02, h34km±1km, MW5.1/77, Moment Tensor Solution. s51,c62; s77,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.16±.23; $M_{\theta\theta}$0.16±.15; $M_{\phi\phi}$-5.32±.17; $M_{r\theta}$-0.16±.19; $M_{\theta\phi}$0.14±.09; $M_{\phi r}$-3.18±.20; Best double couple: $M_0$6.13300×10^{16} NP1:ϕ_s356.00000°, δ29.00000°, λ86.00000°. NP2: ϕ_s181.00000°, δ61.00000°, λ92.00000°. Principal axes: T 6.0560, Plg74.0000°, Azm97.0000°; N 0.1590, Plg2.0000°, Azm360.0000°; P -6.2110, Plg16.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 22:43:26.5±0.5, 30.58S±0.02×71.73W±0.03, h27km±3km, h27km:pP-P, n755, σ1§15/769, mb5.1/206, MS4.3/36, 29C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.13**	**138**		**Pn**	**22 43 32.6**	**-0.2**
CO06				Sg	**Sb**	**22 43 36.2**	**+1.1**
CO06	**Fray Jorge**	**0.13**	**138**	⇑*i*P	**Pn**	**22 43 32.9**	**+0.1**
CO06				*i* S	**Sb**	**22 43 36.3**	**+1.1**
CO06				IAML		22 43 37.5	
	comp=E,1098μm,0.5s						
GO04	**Tololo Observa**	**0.90**	**64**	Pn	**Pn**	**22 43 43.6**	**-0.1**
GO04				Sn	**Sb**	**22 43 55.6**	**+0.1**
GO04	**Tololo Observa**	**0.90**	**64**	⇓*i*P	**Pb**	**22 43 43.8**	**+0.1**
GO04				*i* S	**Sb**	**22 43 55.5**	**+0.1**
GO04				IAML		22 44 04.2	
	comp=N,144μm,0.5s						
GO04	**Tololo Observa**	**0.90**	**64**	*i* P	**Pb**	**22 43 44.0**	**+0.3**
CO03	**El Pedregal**	**0.94**	**106**	Pn	**Pn**	**22 43 43.7**	**-0.3**
CO03				Sn	**Sb**	**22 43 55.9**	**-0.4**
CO03	**El Pedregal**	**0.94**	**106**	⇓*i*P	**Pb**	**22 43 44.0**	**-0.2**
CO03				*i* S	**Sb**	**22 43 54.9**	**-1.3**
CO03				IAML		22 43 56.9	
	comp=N,75μm,0.4s						
CO03	**El Pedregal**	**0.94**	**106**	*i* P	**Pb**	**22 43 44.0**	**-0.2**
CO03				IAML		22 44 03.8	
	comp=Z,26μm,0.6s						
CO01	**Juntas del Tor**	**1.54**	**68**		**Pb**	**22 43 53.6**	**-0.9**
CO01				Sn	**Sn**	**22 44 10.0**	**-1.7**
CO01	**Juntas del Tor**	**1.54**	**68**	⇓*i*P	**Pb**	**22 43 53.8**	**-0.8**
CO01				*i* S	**Sn**	**22 44 08.6**	**-3.1**
CO01	**Juntas del Tor**	**1.54**	**68**	*i* P	**Pb**	**22 43 54.0**	**-0.6**
CO01				IAML		22 44 20.6	
	comp=Z,7μm,0.8s						
LCO	**Las Campanas**	**1.80**	**30**		**Pn**	**22 43 57.2**	**+1.1**
LCO				Sn	**Sn**	**22 44 18.5**	**+0.4**
AROD	**Rodeo**	**2.00**	**79**	*i* P	**Pb**	**22 44 02.3**	**0.0**
VA06	**Catapilco**	**2.01**	**169**	Pn	**Pn**	**22 43 59.2**	**+0.5**
VA06				Sn	**Sn**	**22 44 23.7**	**+0.7**
VA06	**Catapilco**	**2.01**	**169**	⇑*i*P	**Pn**	**22 43 59.4**	**+0.7**
VA06				*e*S	**Sb**	**22 44 24.9**	**-2.1**
VA06				IAML		22 44 37.6	
	comp=E,43μm,0.4s						
ACDV	**Cuesta del Vie**	**2.30**	**80**	*i* P	**Pb**	**22 44 07.4**	**+0.1**
ACDV				IAML		22 44 48.9	
	comp=Z,7μm,0.9s						
ACCO	**Cerro Coronel**	**2.30**	**91**	*i* P	**Pb**	**22 44 07.5**	**-0.1**
ACCO				*i* S	**Sb**	**22 44 41.9**	**+6.2**
VA03	**San Esteban**	**2.40**	**155**		**Pn**	**22 44 05.6**	**+1.4**
VA03	**San Esteban**	**2.40**	**155**	⇑*i*P	**Pn**	**22 44 05.8**	**+1.6**
VA03				*i* S	**Sb**	**22 44 35.2**	**-3.1**
VA03				IAML		22 44 43.0	
	comp=N,29μm,0.4s						
VA03	**San Esteban**	**2.40**	**155**	*i* P	**Pn**	**22 44 06.1**	**+1.9**
VA03				*i* S	**Sb**	**22 44 41.9**	**+3.6**
VA03				IAML		22 44 49.6	
	comp=Z,17μm,0.8s						
AC04	**Llanos de Chal**	**2.44**	**14**		**Pn**	**22 44 05.0**	**+0.5**
AC04	**Llanos de Chal**	**2.44**	**14**	⇑*i*P	**Pn**	**22 44 05.0**	**+0.5**
AC04				*i* S	**Sb**	**22 44 38.0**	**-1.2**
AC04				IAML		22 44 47.1	
	comp=E,10μm,0.8s						
AC04	**Llanos de Chal**	**2.44**	**14**	*i* P	**Pn**	**22 44 05.2**	**+0.7**
AC04				IAML		22 44 44.5	
	comp=Z,7μm,0.8s						
VA01	**Torpederas**	**2.44**	**178**		**Pn**	**22 44 04.3**	**-0.3**
VA01	**Torpederas**	**2.44**	**178**	*e*P	**Pn**	**22 44 04.4**	**-0.1**
VA01				IAML		22 44 45.8	
	comp=N,6μm,0.3s						
ROCH	**El Roble**	**2.46**	**166**	⇑*i*P	**Pn**	**22 44 06.2**	**+1.0**
ROCH				IAML		22 44 46.7	
	comp=N,15μm,0.5s						
PEL	**Peldehue**	**2.71**	**161**		**Pn**	**22 44 09.7**	**+1.4**
PEL	**Peldehue**	**2.71**	**161**	⇑*i*P	**Pn**	**22 44 09.8**	**+1.4**
PEL				*e*S	**Sn**	**22 44 42.7**	**+2.4**
PEL				IAML		22 44 55.5	
	comp=E,19μm,0.6s						
PEL	**Peldehue**	**2.71**	**161**	P	**Pn**	**22 44 09.7**	**+1.4**
MT02	**Curacav**	**2.72**	**169**		**Pn**	**22 44 08.8**	**+0.3**
MT02	**Curacav**	**2.72**	**169**	*i* P	**Pn**	**22 44 09.9**	**+1.5**
MT02				*i* S	**Sb**	**22 44 47.6**	**+0.2**
MT02				IAML		22 44 53.8	
	comp=Z,9μm,0.5s						
MT10	**Hacienda Santa**	**2.87**	**160**	⇑*i*P	**Pn**	**22 44 12.3**	**+1.6**
MT10				*i* S	**Sn**	**22 44 47.6**	**+3.1**
MT05	**Renca**	**2.93**	**163**	Pn	**Pn**	**22 44 12.7**	**+1.3**
MT05	**Renca**	**2.93**	**163**	*i* P	**Pn**	**22 44 13.0**	**+1.6**
MT05				*i* S	**Sb**	**22 44 53.9**	**+0.4**
MT05				IAML		22 45 04.5	
	comp=Z,10μm,0.9s						
MT14	**Cerro Calı̣n**	**2.99**	**160**	⇑*e*P	**Pn**	**22 44 13.8**	**+1.6**
MT16	**CCHEN**	**3.02**	**160**		**Pn**	**22 44 14.2**	**+1.6**
MT16	**CCHEN**	**3.02**	**160**	IAML		22 45 06.1	
	comp=E,10μm,0.6s						
VA05	**Santo Domingo**	**3.07**	**178**		**Pn**	**22 44 12.9**	**-0.4**
VA05	**Santo Domingo**	**3.07**	**178**	*i* P	**Pn**	**22 44 13.1**	**-0.2**
VA05				IAML		22 45 10.1	
	comp=N,14μm,0.4s						
MT03	**Universidad Ad**	**3.09**	**161**	Pn	**Pn**	**22 44 14.7**	**+1.1**
MT03	**Universidad Ad**	**3.09**	**161**	IAML		22 45 03.3	
	comp=E,17μm,0.6s						
MT03	**Universidad Ad**	**3.09**	**161**	*i* P	**Pn**	**22 44 16.3**	**+2.7**
MT03				*i* S	**Sb**	**22 44 58.3**	**+0.3**
MT03				IAML		22 45 07.3	
	comp=Z,11μm,0.8s						
MT04	**Ro Olivares**	**3.13**	**155**	*i* P	**Pn**	**22 44 17.4**	**+3.1**
MT04				*i* S	**Sb**	**22 45 00.4**	**+1.0**
MT04				IAML		22 45 11.2	
	comp=Z,7μm,0.7s						
CFA	**Coronel Fontan**	**3.17**	**110**	P	**Pn**	**22 44 17.8**	**+3.2**
	comp=Z,107nm,0.3s,baz=296,slow=14,SNR=302						
CFA				S	**Sn**	**22 44 54.1**	**+2.5**
	comp=Z,2μm,0.8s,baz=62,slow=17,SNR=9.9						
CFA				LR	LR	22 45 52.0	
	comp=Z,3μm,20.2s,baz=268,slow=47						
	comp=Z,451nm,0.3s						
ASAL	**Salagasta**	**3.19**	**130**	*i* P	**Pb**	**22 44 19.4**	**-3.1**
ASAL				IAML		22 45 16.9	
	comp=Z,2μm,2.2s						
MT08	**Bocatoma Ro**	**3.21**	**153**		**Pn**	**22 44 18.6**	**+3.2**
MT08	**Bocatoma Ro**	**3.21**	**153**	IAML		22 45 12.8	
	comp=N,12μm,0.5s						
MT08	**Bocatoma Ro**	**3.21**	**153**	*i* P	**Pn**	**22 44 18.8**	**+3.4**
MT08				*i* S	**Sb**	**22 45 02.5**	**+0.8**
MT08				IAML		22 45 11.6	
	comp=Z,8μm,0.9s						
MT09	**Talagante**	**3.25**	**169**		**Pn**	**22 44 16.8**	**+0.9**
MT09	**Talagante**	**3.25**	**169**	IAML		22 45 16.8	
	comp=N,8μm,0.7s						
ARCO	**CERRO ARCO**	**3.29**	**134**	*i* P	**Pb**	**22 44 20.8**	**-3.4**
ARCO				IAML		22 45 21.2	
	comp=Z,3μm,0.9s						
MT01	**Popeta**	**3.30**	**173**		**Pn**	**22 44 16.9**	**+0.4**
MT01	**Popeta**	**3.30**	**173**	IAML		22 45 16.3	
	comp=E,6μm,0.2s						
MT01	**Popeta**	**3.30**	**173**	*i* P	**Pn**	**22 44 17.3**	**+0.9**
MT01				*i* S	**Sb**	**22 45 01.7**	**-2.5**
MT01				IAML		22 45 19.5	
	comp=Z,5μm,0.7s						
MT13	**San Alfonso**	**3.39**	**159**		**Pn**	**22 44 19.3**	**+1.6**
MT13	**San Alfonso**	**3.39**	**159**	IAML		22 45 14.4	
	comp=E,8μm,0.5s						
MT13	**San Alfonso**	**3.39**	**159**	*i* P	**Pn**	**22 44 19.9**	**+2.2**
MT13				*i* S	**Sb**	**22 45 05.7**	**-1.0**
MT13				IAML		22 45 16.5	
	comp=Z,8μm,0.9s						
LMEL	**Las Melosas**	**3.51**	**159**		**Pn**	**22 44 21.4**	**+1.9**
LMEL	**Las Melosas**	**3.51**	**159**	*i* P	**Pn**	**22 44 21.9**	**+2.5**
LMEL				*i* S	**Sb**	**22 45 08.8**	**-1.4**
BO04	**La Punta**	**3.53**	**165**	Pn	**Pn**	**22 44 20.6**	**+1.0**
BO04	**La Punta**	**3.53**	**165**	⇑*i*P	**Pn**	**22 44 20.8**	**+1.1**
BO04				*i* S	**Sn**	**22 45 03.0**	**+2.4**
BO04				IAML		22 45 16.3	
	comp=E,7μm,0.3s						
VCA	**Vinchina**	**3.58**	**60**	*i* P	**Pb**	**22 44 25.8**	**-3.4**
VCA				IAML		22 45 26.2	
	comp=Z,7μm,1.2s						
BO01	**Tunca**	**3.84**	**172**	Pn	**Pn**	**22 44 24.0**	**+0.1**
AVIZ	**Vizcacheras**	**3.98**	**137**	*i* P	**Pn**	**22 44 30.0**	**+4.2**
BO02	**Sierra Bellavi**	**4.28**	**169**	Pn	**Pn**	**22 44 30.4**	**+0.4**
AC02	**Maricunga**	**4.38**	**32**	Pn	**Pn**	**22 44 33.1**	**+1.4**
AC02	**Maricunga**	**4.38**	**32**	*i* P	**Pn**	**22 44 33.5**	**+1.8**
AC02				IAML		22 45 45.7	
	comp=Z,3μm,0.8s						
AC01	**Pan de Azucar**	**4.53**	**13**	Pn	**Pn**	**22 44 32.1**	**-1.2**
AC01	**Pan de Azucar**	**4.53**	**13**	*i* P	**Pn**	**22 44 31.1**	**-2.2**
AC01				*i* S	**Sn**	**22 45 24.0**	**-1.1**
AC01				IAML		22 45 55.9	
	comp=Z,2μm,0.7s						
ML02	**Panimavida**	**5.18**	**177**	Pn	**Pn**	**22 44 42.0**	**-0.3**
GO02	**Mina Guanaco**	**5.72**	**20**	Pn	**Pn**	**22 44 48.8**	**-1.2**
PB14	**IPOC Station P**	**6.05**	**12**	Pn	**Pn**	**22 44 52.2**	**-2.3**
BI02	**San Fabin de**	**6.08**	**176**	Pn	**Pn**	**22 44 54.6**	**-0.1**
BI05	**Punta Hualpn**	**6.27**	**191**	Pn	**Pn**	**22 44 55.8**	**-1.4**
H03N1	**Juan Fernandez**	**6.73**	**243**	T	T	22 51 58.0	
	baz=72,slow=72						
H03N3	**Juan Fernandez**	**6.75**	**243**	T	T	22 51 56.6	
	baz=72,slow=72,SNR=5748						
H03N2	**Juan Fernandez**	**6.75**	**243**	T	T	22 51 59.5	
	baz=72,slow=72,SNR=7759						
VA04	**Juan Fernndez**	**6.75**	**241**	Pn	**Pn**	**22 45 02.3**	**-1.5**
LC02	**Puerto Saavedr**	**8.30**	**189**	Pn	**Pn**	**22 45 23.2**	**-1.9**
PB03	**IPOC Station P**	**8.68**	**12**	Pn	**Pn**	**22 45 27.8**	**-2.7**
PB09	**IPOC Station P**	**9.03**	**15**	Pn	**Pn**	**22 45 33.6**	**-1.7**
LR03	**Panguipulli**	**9.05**	**183**	Pn	**Pn**	**22 45 34.9**	**-0.4**
LR04	**Corral**	**9.38**	**188**	Pn	**Pn**	**22 45 39.0**	**-0.9**
LR05	**Currie**	**9.63**	**181**	Pn	**Pn**	**22 45 42.3**	**-1.0**
TA01	**Diego Aracena**	**10.07**	**8**	Pn	**Pn**	**22 45 48.5**	**-0.9**
PLCA	**Paso Flores**	**10.18**	**175**	Pn	**Pn**	**22 45 50.9**	**0.0**
PLCA	**Paso Flores**	**10.18**	**175**	P	**Pn**	**22 45 51.4**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=341,slow=11,SNR=55						
PLCA				LR	LR	22 50 14.1	
	comp=Z,1μm,19.4s,baz=352,slow=40						
	comp=Z,7.4nm,0.5s						
LL04	**Puerto Octay**	**10.32**	**183**	Pn	**Pn**	**22 45 52.2**	**-0.6**
LL03	**Petrohue**	**10.55**	**183**	Pn	**Pn**	**22 45 56.0**	**+0.1**
TRQA	**Tornquist**	**10.98**	**135**	Pn	**Pn**	**22 46 01.7**	**-0.2**
TRQA	**Tornquist**	**10.98**	**135**	P	**Pn**	**22 46 01.7**	**-0.2**
LL01	**San Ignacio de**	**11.79**	**182**		**Pn**	**22 46 10.6**	**-2.2**
PB12	**IPOC Station P**	**11.98**	**6**		**Pn**	**22 46 12.3**	**-3.4**
LL02	**Futaleuf**	**12.59**	**180**	Pn	**Pn**	**22 46 25.4**	**+1.6**
PB18	**Visviri**	**13.09**	**10**	Pn	**Pn**	**22 46 31.4**	**+0.1**
CPUP	**Villa Florida**	**13.36**	**75**	Pn	**Pn**	**22 46 30.3**	**-4.1**
CPUP	**Villa Florida**	**13.36**	**75**	P	**Pn**	**22 46 32.4**	**-2.0**
	comp=Z,12nm,0.8s,baz=257,slow=12,SNR=24						
CPUP				S	**Sn**	**22 48 56.7**	**-5.3**
	comp=Z,53nm,1.0s,baz=197,slow=6.9,SNR=1.3						
CPUP				LR	LR	22 52 03.6	
	comp=Z,2μm,21.4s,baz=254,slow=39						
CPUP	**Villa Florida**	**13.36**	**75**	P	**Pn**	**22 46 30.3**	**-4.1**
TBOT	**Tacuaremb**	**13.58**	**99**	*e*P	**Pn**	**22 46 36.0**	**-1.4**
TBOT				*e*S	**Sn**	**22 49 08.0**	**+0.6**
LPAZ	**La Paz**	**14.60**	**14**		**Pn**	**22 46 51.5**	**-0.5**
LPAZ	**La Paz**	**14.60**	**14**	P	**Pn**	**22 46 53.9**	**+2.0**
	comp=Z,1.8nm,0.3s,baz=181,slow=8.5,SNR=76						
LPAZ				S	**Sn**	**22 49 34.8**	**+1.4**
	comp=Z,6.9nm,0.9s,baz=39,slow=18,SNR=1.3						
	comp=Z,32nm,0.8s						
LPAZ	**La Paz**	**14.60**	**14**	*e*P	**Pn**	**22 46 52.4**	**+0.4**
SJPY	**San Joaquin**	**14.90**	**72**	*e*P	**Pn**	**22 46 55.6**	**+0.1**
COYC	**Coyhaique**	**14.97**	**181**		**Pn**	**22 46 57.2**	**+1.0**
PLTB	**Pedras Altas**	**15.57**	**99**	Pn	**Pn**	**22 47 02.1**	**-2.1**
CPSB	**Cacapava Do Su**	**15.78**	**94**	*e*P	**Pn**	**22 47 05.2**	**-1.7**
AY03	**Cochrane**	**16.66**	**182**	Pn	**Pn**	**22 47 16.7**	**-1.4**
BDQN	**Bodoquena, MS**	**16.86**	**57**	*e*P	**Pn**	**22 47 19.9**	**-0.8**
ITAB	**Concordia**	**17.48**	**84**	Pn	**Pn**	**22 47 26.0**	**-2.4**
ITAB				IAmb	IAmb	22 47 33.7	
	comp=Z,177nm,1.0s						
ITAB	**Concordia**	**17.48**	**84**	*e*P	**Pn**	**22 47 28.3**	**-0.2**
SIV	**San Ignacio**	**17.50**	**36**	P	**Pn**	**22 47 28.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=11,SNR=111						
SIV				LR	LR	22 55 30.9	
	comp=Z,2μm,21.3s,baz=240,slow=41						
	comp=Z,55nm,0.9s						
AQDB	**Aquidauana**	**17.61**	**59**	Pn	**Pn**	**22 47 28.2**	**-1.8**
PTLB	**Pontes e Lacer**	**18.98**	**40**	P	**P**	**22 47 45.7**	**-0.3**
PTLB				IAmb	IAmb	22 47 59.8	
	comp=Z,121nm,1.1s						
PTLB	**Pontes e Lacer**	**18.98**	**40**	*e*P	**P**	**22 47 46.0**	**0.0**
NNA	**Nana**	**19.10**	**345**		**P**	**22 47 47.0**	**-0.3**
NNA	**Nana**	**19.10**	**345**	P	**Pn**	**22 47 49.7**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=183,slow=13,SNR=4.1						
NNA				LR	LR	22 53 49.8	
	comp=Z,537nm,19.1s,baz=170,slow=32						
	comp=Z,4.1nm,0.3s						
NNA	**Nana**	**19.10**	**345**	*i* P	**P**	**22 47 45.3**	**-2.0**
NNA				pmax	pmax		
	comp=Z,25nm,0.9s						
RPRD	**Ribas do Rio P**	**19.11**	**62**	*e*P	**Pn**	**22 47 48.0**	**-0.4**
LDASE	**Londrina, Braz**	**19.70**	**74**	*e*P	**P**	**22 47 53.3**	**-0.6**
TER01	**Tubaro-SC**	**19.77**	**90**	*e*P	**P**	**22 47 54.7**	**+0.1**
MAJ01	**Sao Joao Batis**	**20.12**	**87**	*e*P	**P**	**22 47 57.0**	**-1.5**
VILB	**Vilhena**	**20.52**	**34**	P	**P**	**22 48 02.4**	**-0.5**
VILB				IAmb	IAmb	22 48 15.5	
	comp=Z,113nm,0.8s						
VILB	**Vilhena**	**20.52**	**34**	*e*P	**P**	**22 48 02.8**	**-0.1**
SALV	**Santo Antonio**	**20.71**	**49**	*e*P	**P**	**22 48 04.5**	**-0.4**
C2SB	**Chapadao do Su**	**20.78**	**60**	*e*P	**P**	**22 48 06.6**	**+1.0**
FRTB	**Fartura**	**21.01**	**75**	*e*P	**P**	**22 48 07.6**	**-0.5**
MG05	**Puerto Natales**	**21.09**	**181**	P	**P**	**22 48 10.0**	**+1.4**
MG05				IAmb	IAmb	22 48 22.2	
	comp=Z,138nm,1.1s						
ITRB	**Iturama**	**22.13**	**66**	*e*P	**P**	**22 48 19.2**	**-1.0**
MG02	**Cerro Sombrero**	**22.26**	**176**		**P**	**22 48 22.5**	**+1.3**
GO10	**Punta Arenas**	**22.57**	**179**	P	**P**	**22 48 26.8**	**+2.3**
GO10				IAmb	IAmb	22 48 44.1	
	comp=Z,81nm,0.9s						
SPB	**Sao Paulo**	**22.70**	**78**	P	**P**	**22 48 26.2**	**0.0**
SPB	**Sao Paulo**	**22.70**	**78**	*e*P	**P**	**22 48 25.0**	**-1.2**
CZSB	**Cruzeiro do Su**	**22.75**	**358**	P	**P**	**22 48 26.8**	**0.0**
CZSB	**Cruzeiro do Su**	**22.75**	**358**	*e*P	**P**	**22 48 28.1**	**+1.4**
MG03	**Isla Dawson**	**23.27**	**178**	P	**P**	**22 48 31.6**	**-0.2**
MG03				IAmb	IAmb	22 48 44.4	
	comp=Z,56nm,0.8s						
VAO	**Valinhos**	**23.33**	**77**	P	**P**	**22 48 32.5**	**-0.3**
VAO				IAmb	IAmb	22 48 46.1	
	comp=Z,80nm,0.9s						
VAO	**Valinhos**	**23.33**	**77**	*e*P	**P**	**22 48 31.2**	**-1.5**
EFI	**East Falkland**	**23.38**	**158**	P	**P**	**22 48 32.5**	**-0.4**
EFI	**East Falkland**	**23.38**	**158**	*ce*P	**P**	**22 48 32.9**	**0.0**
EFI				pmax	pmax		
	comp=Z,27nm,0.8s						
PDRB	**Porto dos Gac**	**23.45**	**40**	*e*P	**P**	**22 48 34.1**	**+0.3**
ARAG	**Araguaiana, MT**	**23.50**	**55**	*e*P	**P**	**22 48 32.4**	**-1.9**
ATAH	**Atahualpa**	**24.14**	**344**	LR	LR	22 57 13.5	
	comp=Z,322nm,18.9s,baz=174,slow=34						
PARB	**Paraibuna**	**24.33**	**79**	*e*P	**P**	**22 48 42.4**	**+0.1**
MG01	**Puerto William**	**24.52**	**174**	P	**P**	**22 48 44.1**	**+0.6**
MG01				IAmb	IAmb	22 49 03.9	
	comp=Z,51nm,0.7s						
IPMB	**Ipameri, GO**	**24.78**	**65**	*e*P	**P**	**22 48 45.0**	**-1.3**
TBTG	**Tabatinga, AM**	**26.31**	**4**	P	**P**	**22 49 00.5**	**+0.4**
TBTG	**Tabatinga, AM**	**26.31**	**4**	*e*P	**P**	**22 49 01.4**	**+1.3**
BDFB	**Brasilia**	**26.32**	**61**	P	**P**	**22 48 59.9**	**-0.5**
BDFB				IAmb	IAmb	22 49 00.8	
	comp=Z,54nm,0.8s						
BDFB	**Brasilia**	**26.32**	**61**	P	**P**	**22 48 59.9**	**-0.5**
	comp=Z,52nm,0.8s,baz=232,slow=8.9,SNR=86						
BDFB				LR	LR	23 00 28.2	
	comp=Z,2μm,18.3s,baz=235,slow=39						
	comp=Z,52nm,0.8s						
SNDB	**Serra Nova Dou**	**26.48**	**50**	*e*P	**P**	**22 49 01.2**	**-0.4**
TEFE	**Tefe**	**27.75**	**15**	*e*P	**P**	**22 49 13.4**	**+0.4**
NPGB	**Novo Progresso**	**28.00**	**37**	*e*P	**P**	**22 49 14.3**	**-1.0**
DIAM	**Diamantina, MG**	**28.24**	**71**	*e*P	**P**	**22 49 17.4**	**-0.2**
COHC	**Cochancay**	**28.85**	**344**	P	**P**	**22 49 23.8**	**+0.9**
MACA	**Manacapuru-AM**	**29.20**	**23**	P	**P**	**22 49 26.2**	**+0.3**
MACA				IAmb	IAmb	22 49 39.0	
	comp=Z,29nm,0.7s						
MACA	**Manacapuru-AM**	**29.20**	**23**	*e*P	**P**	**22 49 26.1**	**+0.1**
JANB	**Januaria**	**29.51**	**65**	*e*P	**P**	**22 49 28.1**	**-0.7**
ALF01	**Guarapari-ES**	**29.59**	**78**	*e*P	**P**	**22 49 29.1**	**-0.3**
SJMB	**Sao Joao De Ma**	**30.08**	**74**	*e*P	**P**	**22 49 33.0**	**-0.7**
ITTB	**Itaituba**	**30.12**	**33**	*e*P	**P**	**22 49 33.4**	**-0.8**
BSFB	**Barra de Sao F**	**30.30**	**75**	*e*P	**P**	**22 49 35.2**	**-0.5**
SLOR	**San Lorenzo -**	**30.37**	**347**	P	**P**	**22 49 36.9**	**0.0**
RIB01	**Linhares ES**	**30.45**	**76**	*e*P	**P**	**22 49 35.5**	**-1.5**
SDBA	**SAO DESIDERIO**	**30.69**	**60**	*e*P	**P**	**22 49 38.9**	**-0.4**
OTAV	**Otavalo**	**31.30**	**347**	P	**P**	**22 49 45.0**	**-0.1**
OTAV	**Otavalo**	**31.30**	**347**	P	**P**	**22 49 45.0**	**-0.1**
OTAV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OTAV	**Otavalo**	**31.30**	**347**	*e*P	**P**	**22 49 45.8**	**+0.8**
FLOC	**Florencia**	**32.20**	**353**	P	**P**	**22 49 52.6**	**+0.2**
FLOC				IAmb	IAmb	22 50 04.5	
	comp=Z,28nm,1.1s						
GUA01	**Guaratinga, BA**	**32.28**	**72**	*e*P	**P**	**22 49 52.6**	**-0.6**
MAL2	**Monte Alegre,**	**32.92**	**34**	P	**P**	**22 49 57.2**	**-1.5**
MAL2				IAmb	IAmb	22 50 10.9	
	comp=Z,27nm,0.7s						
CMC01	**Camacan, BA**	**33.16**	**70**	*e*P	**P**	**22 49 59.8**	**-1.1**
BOAV	**Boa Vista**	**34.49**	**20**	P	**P**	**22 50 12.0**	**-0.4**
BOAV	**Boa Vista**	**34.49**	**20**	*e*P	**P**	**22 50 12.5**	**+0.1**
PMSA	**Palmer Station**	**34.55**	**174**	P	**P**	**22 50 11.9**	**-0.5**
PMSA	**Palmer Station**	**34.55**	**174**	LR	LR	23 04 11.7	
	comp=Z,617nm,19.5s,baz=344,slow=36						
PAYG	**Puerto Ayora**	**34.57**	**326**	P	**P**	**22 50 14.5**	**+1.4**
ROSC	**El Rosal**	**35.30**	**356**	P	**P**	**22 50 20.2**	**+0.4**
ROSC				IAmb	IAmb	22 50 38.5	
	comp=Z,39nm,1.1s						
ROSC	**El Rosal**	**35.30**	**356**	P	**P**	**22 50 21.3**	**+1.5**
	comp=Z,13nm,0.6s,baz=137,slow=5.1,SNR=7.6						
	comp=Z,13nm,0.6s						
ROSC	**El Rosal**	**35.30**	**356**	P	**P**	**22 50 20.2**	**+0.4**
ROSC				pmax	pmax		
	comp=Z,39nm,1.1s						
TMAB	**Tom-Au,PA,Br**	**35.89**	**43**	*e*P	**P**	**22 50 25.3**	**+0.9**
RUSC	**La Rusia**	**36.29**	**358**	P	**P**	**22 50 29.0**	**+0.6**
NBLA	**Lagarto - SE**	**37.02**	**66**	*e*P	**P**	**22 50 32.6**	**-1.6**
**N

PAULI IAmb IAmb 22 54 24.6
comp=Z,14nm,0.9s
HPIG **65.75 327** P **P** **22 54 10.3 +1.0**
HPIG IAmb IAmb 22 54 12.1
comp=Z,11nm,1.0s
LPIG **La Paz** **65.76 321** LR LR 23 18 12.0
comp=Z,81nm,18.3s,baz=213,slow=32
BG3 **Lake Jocassee** **66.07 350** P **P** **22 54 11.1 +0.2**
BG3 IAmb IAmb 22 54 21.9
comp=Z,19nm,1.2s
FPAL **Fort Paine** **66.08 347** P **P** **22 54 10.8 -0.2**
237A **Washetta, Mont** **66.29 338** P **P** **22 54 13.7 +1.3**
JCT **Junction City** **66.33 334** P **P** **22 54 13.2 +0.5**
JCT IAmb IAmb 22 54 15.4
comp=Z,17nm,0.8s
JCT **Junction City** **66.33 334** P **P** **22 54 13.2 +0.5**
JCT pmax pmax
comp=Z,17nm,0.8s
V53A **Saluda** **66.72 350** P **P** **22 54 14.8 -0.2**
V53A IAmb IAmb 22 54 25.1
comp=Z,19nm,1.0s
BRDY **Brady** **66.75 335** P **P** **22 54 15.7 +0.3**
BRDY IAmb IAmb 22 54 17.8
comp=Z,14nm,1.0s
CPCT **Cooper Cave** **66.77 349** P **P** **22 54 15.6 +0.3**
CPCT IAmb IAmb 22 54 25.6
comp=Z,24nm,1.0s
SAND **Sanderson** **66.79 331** P **P** **22 54 16.9 +1.2**
SAND IAmb IAmb 22 54 18.6
comp=Z,14nm,0.9s
SWET **Sewanee** **66.80 347** P **P** **22 54 15.9 +0.3**
TKL **Tuckaleechee C** **66.85 349** P **P** **22 54 15.3 -0.6**
TKL IAmb IAmb 22 54 25.8
comp=Z,16nm,0.9s
TKL **Tuckaleechee C** **66.85 349** P **P** **22 54 15.3 -0.6**
TKL pmax pmax
comp=Z,16nm,1.0s
TX31 **Lajitas Ar. Si** **66.90 330** P **P** **22 54 15.9 -0.5**
TXAR **Lajitas Array** **66.90 330** P **P** **22 54 17.3 +0.9**
TXAR **Lajitas Array** **66.90 330** P **P** **22 54 18.2 +1.8**
comp=Z,4.0nm,0.8s,baz=149,slow=7.9,SNR=39
TXAR LR LR 23 19 08.5
comp=Z,128nm,19.1s,baz=148,slow=32
comp=Z,4.0nm,0.8s
TXAR **Lajitas Array** **66.90 330** P **P** **22 54 17.3 +0.9**
PLAL **Pickwick Lake** **67.00 345** P **P** **22 54 16.7 -0.1**
PLAL IAmb IAmb 22 54 26.8
comp=Z,26nm,1.2s
WLAR **White Oak Lake** **67.04 341** P **P** **22 54 18.0 +0.9**
WLAR IAmb IAmb 22 54 30.3
comp=Z,19nm,0.9s
OZNA **Ozona** **67.24 333** P **P** **22 54 19.2 +0.7**
OZNA IAmb IAmb 22 54 32.1
comp=Z,16nm,0.9s
U54A **Nelsons Funny** **67.42 351** P **P** **22 54 19.3 -0.3**
T59A **Double "B" Far** **67.42 355** P **P** **22 54 19.5 +0.1**
T59A IAmb IAmb 22 54 21.6
comp=Z,20nm,0.9s
V48A **Smith Brothers** **67.48 347** P **P** **22 54 20.0 +0.1**
CLTN **Cedars of Leba** **67.72 347** IAmb IAmb 22 54 31.6
comp=Z,13nm,1.1s
ALPN **Alpine** **67.79 330** P **P** **22 54 23.1 +1.0**
ALPN IAmb IAmb 22 54 34.4
comp=Z,17nm,1.5s
PLPT **Palo Pinto** **67.88 336** P **P** **22 54 23.8 +1.3**
PLPT IAmb IAmb 22 54 24.9
comp=Z,20nm,1.0s
FW03 **Perrin-Whitt E** **68.00 336** P **P** **22 54 23.6 +0.3**
FW03 IAmb IAmb 22 54 25.6
comp=Z,23nm,1.1s
U49A **Red Boiling Sp** **68.03 348** P **P** **22 54 23.6 +0.3**
U49A IAmb IAmb 22 54 33.3
comp=Z,13nm,1.1s
WVT **Waverly** **68.06 346** P **P** **22 54 23.5 0.0**
WVT **Waverly** **68.06 346** P **P** **22 54 23.5 0.0**
WVT pmax pmax
comp=Z,54nm,1.4s
SGCY **Sterling City** **68.12 333** P **P** **22 54 24.2 +0.1**
SGCY IAmb IAmb 22 54 26.6
comp=Z,11nm,0.9s
MNHN **Monahans** **68.26 332** P **P** **22 54 26.4 +1.4**
MNHN IAmb IAmb 22 54 38.5
comp=Z,12nm,0.8s
WHAR **Wooly Hollow** **68.32 342** P **P** **22 54 25.9 +0.7**
WHAR IAmb IAmb 22 54 36.8
comp=Z,15nm,1.1s
S57A **Dark Hollow, R** **68.32 354** P **P** **22 54 26.4 +1.2**
S57A IAmb IAmb 22 54 35.2
comp=Z,10nm,0.9s
GNAR **Gosnell** **68.39 344** P **P** **22 54 26.3 +0.8**
LNXT **Lenox** **68.39 345** P **P** **22 54 26.5 +0.9**
TBI **Tubuai** **68.41 255** *e*P **P** **22 54 24.6 -1.6**
comp=Z,194nm,29.2s
TBI *e*S **S** **23 03 26.7 +0.5**
comp=Z,489nm,25.8s
TBI **Tubuai** **68.41 255** *e*LR LR 23 15 04.7
comp=Z,939nm,24.0s
R58B **Mineral** **68.43 355** P **P** **22 54 26.0 +0.3**
R58B IAmb IAmb 22 54 28.3
comp=Z,14nm,0.8s
UTMT **University of** **68.48 345** P **P** **22 54 27.8 +1.6**
PEBM **Pemiscott Bayo** **68.49 344** P **P** **22 54 26.3 +0.1**
VHRN **Van Horn** **68.72 330** P **P** **22 54 29.0 +1.0**
PECS **Pecos** **68.75 331** P **P** **22 54 28.3 +0.2**
HICK **Hickman** **68.76 345** P **P** **22 54 28.3 +0.5**
WTFS **Witchita Falls** **68.80 336** P **P** **22 54 28.3 0.0**
WTFS IAmb IAmb 22 54 30.4
comp=Z,18nm,0.9s
FCAR **Ozark Folk Cen** **68.84 342** P **P** **22 54 29.3 +0.9**
ODSA **Odessa** **68.86 332** P **P** **22 54 29.5 +0.7**
SN05 **Snyder 5** **68.88 334** P **P** **22 54 30.2 +1.4**
SN05 IAmb IAmb 22 54 40.7
comp=Z,13nm,1.1s
SYO **Syowa Base** **68.95 159**‖ *e*P **P** **22 54 26.8 -2.0**
SYO **Syowa Base** **68.95 159**‖ *e*pP pP 22 54 33.1 -4.1
SYO **Syowa Base** **68.95 159**‖ *i*sP sP 22 54 37.9 -2.5
PARMO **Parma** **68.99 345** P **P** **22 54 29.9 +0.6**
APMT **Aspermont** **69.00 335** P **P** **22 54 30.1 +0.6**
APMT IAmb IAmb 22 54 31.9
comp=Z,16nm,0.9s
SN07 **Snyder 07** **69.07 334** P **P** **22 54 31.2 +1.2**
SN07 IAmb IAmb 22 54 33.2
comp=Z,11nm,1.0s
T45A **Paducah** **69.09 346** P **P** **22 54 30.9 +1.0**
PBMO **Poplar Bluff** **69.26 344** P **P** **22 54 30.5 -0.5**
PBMO IAmb IAmb 22 54 33.7
comp=Z,15nm,0.8s
POST **Post** **69.28 334** P **P** **22 54 33.1 +1.8**
X34A **Smith Ranch, M** **69.34 337** P **P** **22 54 33.4 +1.8**
BBTS **Babate** **69.57 58** LR LR 23 26 46.8
comp=Z,133nm,18.2s,baz=82,slow=37
CGM3 **Cape Girardeau** **69.58 345** P **P** **22 54 33.6 +0.7**
DKNS **Dickens** **69.60 334** P **P** **22 54 33.9 +0.6**
DKNS IAmb IAmb 22 54 47.9
comp=Z,8.8nm,0.8s
T42A **Van Buren** **69.66 344** P **P** **22 54 33.8 +0.3**
HHAR **Hobbs** **69.70 341** P **P** **22 54 34.2 +0.4**
WCI **Wyandotte Cave** **69.79 348** P **P** **22 54 33.6 -0.6**
WCI IAmb IAmb 22 54 44.0
comp=Z,13nm,0.9s
WCI **Wyandotte Cave** **69.79 348** P **P** **22 54 33.6 -0.6**
WCI pmax pmax
comp=Z,13nm,1.0s
WMOK **Wichita Mounta** **69.79 336** P **P** **22 54 34.5 +0.1**
WMOK **Wichita Mounta** **69.79 336** P **P** **22 54 34.5 +0.1**
WMOK pmax pmax
comp=Z,11nm,1.2s
SDMD **Soldier's Deli** **69.79 356** P **P** **22 54 34.5 +0.2**
SDMD IAmb IAmb 22 54 44.9
comp=Z,9.0nm,0.9s
USIN **University of** **69.80 347** P **P** **22 54 34.0 -0.3**
FNO **Franklin** **69.80 338** P **P** **22 54 34.5 +0.2**
FNO IAmb IAmb 22 54 48.0
comp=Z,15nm,0.8s
SIUC **Southern Illin** **69.88 345** P **P** **22 54 35.1 +0.3**
P57A **Homestead Farm** **69.95 355** P **P** **22 54 35.7 +0.5**
P57A IAmb IAmb 22 54 38.0
comp=Z,13nm,0.9s
DEOK **Depew** **70.05 339** P **P** **22 54 35.5 -0.4**
DEOK IAmb IAmb 22 54 37.7
comp=Z,20nm,0.9s
MGMO **Mountain Grove** **70.07 343** P **P** **22 54 36.1 0.0**
MGMO IAmb IAmb 22 54 46.6
comp=Z,20nm,1.1s

CPRX **Cap Rock** **70.19 332** P **P** **22 54 38.2 +1.2**
WUPA **West Chester U** **70.25 357** P **P** **22 54 38.1 +1.1**
OK031 **S. Brethren Rd** **70.26 339** P **P** **22 54 38.2 +1.0**
OK052 **Battle Ridge R** **70.29 339** P **P** **22 54 38.1 +0.7**
OK029 **Liberty Lake** **70.31 338** P **P** **22 54 38.7 +1.1**
MVL **Millersville** **70.35 356** P **P** **22 54 37.9 +0.3**
MVL IAmb IAmb 22 54 49.0
comp=Z,23nm,1.2s
FVM **French Village** **70.41 344** P **P** **22 54 38.1 0.0**
FVM IAmb IAmb 22 54 48.6
comp=Z,23nm,1.0s
FVM **French Village** **70.41 344** P **P** **22 54 38.1 0.0**
FVM pmax pmax
comp=Z,23nm,1.0s
QUOK **Quay** **70.42 339** P **P** **22 54 39.2 +1.0**
QUOK IAmb IAmb 22 54 40.1
comp=Z,17nm,1.0s
P51A **Williamsport** **70.50 351** P **P** **22 54 38.8 +0.3**
P51A IAmb IAmb 22 54 48.3
comp=Z,21nm,1.1s
P52A **Corning** **70.52 351** P **P** **22 54 38.4 -0.3**
P52A IAmb IAmb 22 54 48.6
comp=Z,20nm,1.1s
CSTR **Hydro, Custer** **70.58 337** P **P** **22 54 40.2 +1.0**
OLIL **Olney** **70.62 346** P **P** **22 54 39.0 -0.4**
OLIL IAmb IAmb 22 54 41.9
comp=Z,20nm,1.1s
SMWD **Samnorwood** **70.64 335** P **P** **22 54 40.5 +0.9**
CCM **Cathedral Cave** **70.67 344** P **P** **22 54 40.1 +0.5**
CCM **Cathedral Cave** **70.67 344** P **P** **22 54 40.1 +0.5**
CCM pmax pmax
comp=Z,26nm,1.0s
BLO **Bloomington** **70.75 348** P **P** **22 54 40.2 +0.1**
BLO IAmb IAmb 22 54 51.0
comp=Z,11nm,0.7s
BLO **Bloomington** **70.75 348** P **P** **22 54 40.2 +0.1**
BLO pmax pmax
comp=Z,11nm,0.7s
OK051 **E0350 and S346** **70.77 339** P **P** **22 54 40.9 +0.6**
AMTX **Amarillo** **70.96 334** P **P** **22 54 42.2 +0.6**
AMTX IAmb IAmb 22 54 57.2
comp=Z,12nm,0.9s
O53A **New Philadelph** **71.02 352** P **P** **22 54 43.4 +1.7**
PPT2 **Papeete2** **71.02 260** *e*S **S** **23 03 57.1 -0.1**
comp=Z,156nm,29.2s
PPT2 *e*SS **SS** **23 08 31.6 +1.2**
comp=Z,151nm,25.5s
PPT2 *e*LR LR 23 16 16.5
comp=Z,256nm,24.5s
PPT2 *e*LR LR 23 16 19.3
comp=Z,317nm,23.8s
PPT **Papeete** **71.03 260** LR LR 23 17 55.1
comp=Z,64nm,20.7s,baz=130,slow=29
BLOK **Blackwell** **71.12 339** P **P** **22 54 43.7 +1.3**
BLOK IAmb IAmb 22 54 44.6
comp=Z,18nm,1.0s
CROK **Carrier** **71.13 338** P **P** **22 54 42.9 +0.4**
CROK IAmb IAmb 22 54 44.9
comp=Z,19nm,0.9s
319A **Douglas** **71.18 327** P **P** **22 54 43.9 +0.8**
ELIS **Ellis County** **71.21 337** P **P** **22 54 42.2 -0.8**
ELIS IAmb IAmb 22 54 45.6
comp=Z,16nm,0.9s
ACSO **Alum Creek Sta** **71.22 351** P **P** **22 54 42.1 -0.8**
ACSO IAmb IAmb 22 54 55.9
comp=Z,15nm,0.8s
ODNJ **Ogdensburg** **71.35 358** P **P** **22 54 44.7 +1.0**
ODNJ IAmb IAmb 22 55 01.8
comp=Z,25nm,1.2s
OK038 **West end E0370** **71.36 337** P **P** **22 54 43.0 -0.9**
KAN13 **South Haven SW** **71.44 338** P **P** **22 54 45.7 +1.4**
KAN13 IAmb IAmb 22 54 46.5
comp=Z,27nm,1.0s
121A **Cookes Peak, D** **71.45 328** P **P** **22 54 46.0 +1.3**
KAN14 **Manchester OK** **71.54 338** P **P** **22 54 44.2 -0.8**
KAN14 IAmb IAmb 22 54 46.8
comp=Z,15nm,1.1s
KAN17 **Caldwell West** **71.55 338** P **P** **22 54 45.5 +0.5**
KAN17 IAmb IAmb 22 54 47.2
comp=Z,21nm,1.1s
NOKA **Waynoka** **71.56 337** P **P** **22 54 46.4 +1.3**
O48B **Farmland** **71.57 349** P **P** **22 54 44.8 -0.2**
O48B IAmb IAmb 22 54 54.7
comp=Z,12nm,0.9s
KAN09 **Caldwell North** **71.59 338** P **P** **22 54 45.6 +0.4**
KAN09 IAmb IAmb 22 54 48.0
comp=Z,19nm,0.9s
KAN01 **Argonia South** **71.65 338** P **P** **22 54 46.6 +1.0**
KAN01 IAmb IAmb 22 54 47.9
comp=Z,27nm,1.0s
KAN08 **Anthony NE Sta** **71.79 338** P **P** **22 54 47.0 +0.5**
DUN6 **Lazy B Ranch** **72.07 327** P **P** **22 54 49.6 +1.3**
N49A **Columbus Grove** **72.07 350** P **P** **22 54 48.1 +0.1**
N47A **Urbana** **72.27 349** P **P** **22 54 49.3 +0.1**
N47A IAmb IAmb 22 54 58.7
comp=Z,46nm,1.5s
M52A **Chesterland** **72.31 352** P **P** **22 54 48.4 -1.1**
M52A IAmb IAmb 22 54 59.6
comp=Z,16nm,0.9s
BNM **Barren Site** **72.31 330** P **P** **22 54 51.0 +1.1**
M50A **Fremont** **72.38 351** P **P** **22 54 50.7 +0.8**
M50A IAmb IAmb 22 54 51.2
comp=Z,16nm,0.8s
SBM **South Baldy** **72.41 330** P **P** **22 54 52.6 +1.9**
LENM **Lemitar** **72.48 330** P **P** **22 54 52.8 +2.0**
L56A **Greenwood** **72.55 355** P **P** **22 54 50.8 -0.1**
L56A IAmb IAmb 22 55 07.9
comp=Z,26nm,1.1s
BCX **Boston College** **72.56 0** P **P** **22 54 50.9 0.0**
WES **Weston** **72.60 0** P **P** **22 54 51.3 +0.2**
WES IAmb IAmb 22 54 53.0
comp=Z,22nm,1.2s
WES **Weston** **72.60 0** P **P** **22 54 51.3 +0.2**
WES pmax pmax
comp=Z,22nm,1.2s
TUC **Tucson** **72.67 326** P **P** **22 54 52.2 +0.3**
TUC **Tucson** **72.67 326** P **P** **22 54 52.2 +0.3**
TUC pmax pmax
comp=Z,4.0nm,1.1s
L61B **Northampton** **72.67 359** P **P** **22 54 52.6 +1.0**
L61B IAmb IAmb 22 55 09.1
comp=Z,17nm,0.9s
ERPA **Erie** **72.74 354** P **P** **22 54 51.6 -0.3**
ERPA IAmb IAmb 22 54 53.5
comp=Z,15nm,0.9s
WVNY **West Valley, N** **72.90 355** P **P** **22 54 53.5 +0.6**
WVNY IAmb IAmb 22 55 03.8
comp=Z,23nm,1.1s
ANMO **Albuquerque** **72.92 331** P **P** **22 54 54.5 +1.0**
ANMO **Albuquerque** **72.92 331** LR LR 23 22 37.1
comp=Z,178nm,20.3s,baz=328,slow=32
ANMO **Albuquerque** **72.92 331** *i* P **P** **22 54 52.9 -0.6**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
TRY **Troy** **72.97 359** P **P** **22 54 53.6 +0.3**
TRY IAmb IAmb 22 55 11.8
comp=Z,25nm,1.1s
KSU1 **Kansas State U** **73.09 340** P **P** **22 54 54.5 +0.3**
KSU1 IAmb IAmb 22 54 56.2
comp=Z,11nm,0.8s
N41A **Harden Midland** **73.11 345** P **P** **22 54 54.6 +0.4**
N41A IAmb IAmb 22 54 56.1
comp=Z,30nm,1.0s
MMNY **Mt. Morris Dam** **73.17 355** P **P** **22 54 54.0 -0.5**
MMNY IAmb IAmb 22 55 11.7
comp=Z,22nm,1.2s
M44A **Midewin, Midew** **73.18 347** P **P** **22 54 54.2 -0.4**
M44A IAmb IAmb 22 55 08.8
comp=Z,42nm,1.4s
AAM **Ann Arbor** **73.35 351** P **P** **22 54 56.1 +0.5**
AAM IAmb IAmb 22 55 05.6
comp=Z,19nm,1.1s
AAM **Ann Arbor** **73.35 351** P **P** **22 54 56.1 +0.5**
AAM pmax pmax
comp=Z,19nm,1.2s
PIX **Pinacate** **73.39 324** P **P** **22 54 56.2 +0.1**
L46A **Eue Claire** **73.47 349** P **P** **22 54 56.4 +0.1**
L46A IAmb IAmb 22 55 05.7
comp=Z,40nm,1.4s
J61A **Chester** **73.57 359** P **P** **22 54 57.5 +0.6**
J61A IAmb IAmb 22 55 15.3
comp=Z,27nm,1.2s
K50A **Casco** **73.68 352** P **P** **22 54 56.8 -0.7**
K50A IAmb IAmb 22 54 58.1
comp=Z,25nm,0.8s

J59A **Piesco** **73.73 358** P **P** **22 54 58.9 +1.1**
J59A IAmb IAmb 22 55 15.2
comp=Z,15nm,1.1s
J57A **Williamstown** **73.73 357** P **P** **22 54 59.0 +1.2**
N38A **Joes South For** **73.75 343** P **P** **22 54 58.6 +0.6**
CBKS **Cedar Bluff** **73.81 338** P **P** **22 54 59.7 +1.2**
CBKS **Cedar Bluff** **73.81 338** P **P** **22 54 59.7 +1.2**
CBKS pmax pmax
comp=Z,29nm,0.9s
DBIC **Dimbokro** **73.86 72** P **P** **22 54 59.0 -0.2**
DBIC **Dimbokro** **73.86 72** P **P** **22 54 59.3 +0.1**
comp=Z,51nm,0.8s,baz=221,slow=6.0,SNR=74
comp=Z,51nm,0.8s
DBIC **Dimbokro** **73.86 72** P **P** **22 54 59.0 -0.2**
DBIC pmax pmax
comp=Z,115nm,1.0s
L44A **Lake County Fo** **73.92 348** P **P** **22 54 58.6 -0.3**
L44A IAmb IAmb 22 55 17.3
comp=Z,18nm,0.9s
T25A **Trinidad** **73.99 333** P **P** **22 55 01.3 +1.5**
T25A IAmb IAmb 22 55 03.0
comp=Z,18nm,0.9s
L42A **Oliver, Polo** **74.09 346** P **P** **22 55 00.5 +0.6**
L42A IAmb IAmb 22 55 05.0
comp=Z,18nm,0.9s
X18A **Snowflake** **74.11 328** P **P** **22 55 02.2 +1.7**
I63A **Otisfield** **74.28 1** P **P** **22 55 01.3 +0.3**
I63A IAmb IAmb 22 55 04.3
comp=Z,28nm,1.1s
PECO **Prince Edward** **74.31 356** P **P** **22 55 01.1 0.0**
J47A **Sunmer** **74.43 350** P **P** **22 55 02.3 +0.4**
J47A IAmb IAmb 22 55 02.5
comp=Z,17nm,1.0s
N35A **Tabor** **74.45 341** P **P** **22 55 02.2 +0.1**
L40A **Anamosa** **74.48 345** P **P** **22 55 02.5 +0.3**
K43A **Burlington** **74.50 347** P **P** **22 55 02.9 +0.6**
K43A IAmb IAmb 22 55 18.7
comp=Z,28nm,1.2s
113A **Mohawk Valley,** **74.51 324** P **P** **22 55 03.2 +0.6**
X16A **Lo Mia Camp, P** **74.71 327** P **P** **22 55 05.2 +1.2**
X16A IAmb IAmb 22 55 07.8
comp=Z,12nm,0.9s
SCIA **State Center** **74.80 344** P **P** **22 55 03.1 -1.0**
SCIA IAmb IAmb 22 55 07.0
comp=Z,28nm,1.1s
LONY **Lake Ozonia** **74.88 358** P **P** **22 55 05.3 +0.8**
DELO **Deloro Mine** **74.93 356** P **P** **22 55 04.9 +0.1**
SDCO **Great Sand Dun** **74.94 333** P **P** **22 55 06.0 +0.6**
FRNY **Flat Rock** **75.07 359** P **P** **22 55 06.1 +0.5**
FRNY IAmb IAmb 22 55 22.5
comp=Z,14nm,1.1s
Y14A **Wickenburg** **75.07 325** P **P** **22 55 07.3 +1.4**
JFWS **Jewell Farm** **75.09 346** P **P** **22 55 05.7 0.0**
JFWS IAmb IAmb 22 55 07.5
comp=Z,14nm,0.9s
JFWS **Jewell Farm** **75.09 346** P **P** **22 55 05.7 0.0**
JFWS pmax pmax
comp=Z,14nm,0.9s
HAL **Halifax** **75.22 6** P **P** **22 55 06.5 +0.1**
HAL **Halifax** **75.22 6** P **P** **22 55 06.5 +0.1**
HAL pmax pmax
comp=Z,37nm,0.9s
WBO **Williamsburg** **75.29 357** P **P** **22 55 07.7 +0.9**
WBO IAmb IAmb 22 55 24.0
comp=Z,28nm,1.1s
SADO **Sadowa** **75.29 355** P **P** **22 55 07.4 +0.6**
SADO IAmb IAmb 22 55 17.3
comp=Z,15nm,1.1s
SADO **Sadowa** **75.29 355** LR LR 23 30 24.9
comp=Z,103nm,20.2s,baz=231,slow=37
G62A **West of Eustis** **75.44 1** P **P** **22 55 08.1 +0.4**
S22A **4UR Ranch, Cre** **75.47 332** P **P** **22 55 09.8 +1.3**
PKME **Peaks-Kenny Pk** **75.52 2** P **P** **22 55 08.2 +0.1**
PKME IAmb IAmb 22 55 10.8
comp=Z,16nm,1.1s
WUAZ **Wupatki** **75.58 327** P **P** **22 55 10.2 +1.2**
WUAZ IAmb IAmb 22 55 12.3
comp=Z,15nm,0.9s
BGNE **Belgrade** **75.67 340** P **P** **22 55 10.4 +1.3**
BLYC **Blythe** **75.68 324** P **P** **22 55 09.9 +0.6**
L34A **Svendsen Farm,** **75.68 341** P **P** **22 55 09.3 +0.2**
MVCO **Mesa Verde** **75.71 330** P **P** **22 55 09.8 +0.1**
MVCO IAmb IAmb 22 55 12.8
comp=Z,15nm,0.9s
I42A **Draeger Farm,** **75.76 347** P **P** **22 55 09.7 +0.2**
Q24A **Divide** **75.87 334** P **P** **22 55 12.2 +1.5**
Q24A IAmb IAmb 22 55 14.2
comp=Z,23nm,0.9s
I40A **Norwalk** **76.10 346** P **P** **22 55 11.3 -0.2**
I40A IAmb IAmb 22 55 13.1
comp=Z,12nm,0.9s
H43A **Windswept, Lux** **76.11 348** P **P** **22 55 12.0 +0.5**
F64A **Sherman** **76.14 2** P **P** **22 55 12.1 +0.4**
F64A IAmb IAmb 22 55 14.6
comp=Z,18nm,1.0s
SUR **Sutherland** **76.27 120** P **P** **22 55 13.3 +0.1**
SUR **Sutherland** **76.27 120** LR LR 23 26 48.1
comp=Z,175nm,18.1s,baz=232,slow=34
MAW **Mawson** **76.38 164** P **P** **22 55 13.6 +0.7**
comp=Z,38nm,2.5s
MAW **Mawson** **76.38 164** P **P** **22 55 13.1 +0.2**
comp=Z,45nm,0.8s,baz=232,slow=5.7,SNR=5.6
MAW LR LR 23 32 09.7
comp=Z,244nm,18.2s,baz=236,slow=38
comp=Z,45nm,0.8s
W13A **Hualapai Mount** **76.44 326** P **P** **22 55 14.9 +1.0**
TRQ **Mont Tremblant** **76.48 358** P **P** **22 55 14.1 +0.4**
TRQ IAmb IAmb 22 55 30.6
comp=Z,17nm,1.0s
OGNE **Ogallala** **76.49 337** P **P** **22 55 14.1 +0.2**
OGNE IAmb IAmb 22 55 25.5
comp=Z,15nm,1.0s
PFO **Pinyon Flats O** **76.56 323** P **P** **22 55 15.6 +1.1**
PFO **Pinyon Flats O** **76.56 323** LR LR 23 22 34.4
comp=Z,163nm,20.4s,baz=88,slow=31
PFO **Pinyon Flats O** **76.56 323** *i* P **P** **22 55 14.0 -0.5**
PFO pmax pmax
comp=Z,16nm,1.0s
PV13 **Radium Mtn., P** **76.65 331** P **P** **22 55 16.6 +1.6**
PV13 IAmb IAmb 22 55 18.0
comp=Z,16nm,0.9s
PV15 **Paradox Valley** **76.66 331** P **P** **22 55 16.1 +1.0**
U15A **North Rim** **76.75 327** P **P** **22 55 17.2 +1.5**
U15A IAmb IAmb 22 55 19.6
comp=Z,12nm,0.9s
PV11 **David Mesa, Pa** **76.79 331** P **P** **22 55 15.9 +0.1**
PV07 **Paradox Valley** **76.81 331** P **P** **22 55 17.3 +1.3**
I37A **Lemond, Waseca** **76.83 344** P **P** **22 55 16.4 +0.8**
I37A IAmb IAmb 22 55 17.4
comp=Z,20nm,0.7s
E62A **Clayton Lake** **76.86 2** P **P** **22 55 16.3 +0.5**
E62A IAmb IAmb 22 55 34.0
comp=Z,38nm,1.2s
PV10 **Paradox Valley** **76.93 331** P **P** **22 55 16.4 -0.3**
BRIGG **Briggsdale** **76.97 335** P **P** **22 55 16.9 +0.2**
BRIGG IAmb IAmb 22 55 19.2
comp=Z,38nm,1.3s
PV23 **Carpenter Ridg** **76.98 331** P **P** **22 55 18.2 +1.2**
PV23 IAmb IAmb 22 55 28.7
comp=Z,16nm,0.9s
ELS **Elsinore Mount** **77.09 322** P **P** **22 55 17.5 +0.1**
ACRG **Accra** **77.14 76** P **P** **22 55 17.6 -0.5**
K30B **Basset** **77.27 339** P **P** **22 55 19.4 +1.1**
G40A **Rib Lake** **77.33 347** P **P** **22 55 19.4 +0.9**
D62A **Allapoint, All** **77.34 2** P **P** **22 55 19.4 +1.0**
D62A IAmb IAmb 22 55 21.0
comp=Z,29nm,1.0s
ECSD **EROS Data Cent** **77.38 342** P **P** **22 55 19.3 +0.5**
V12A **Nelson** **77.41 325** P **P** **22 55 20.5 +1.3**
V12A IAmb IAmb 22 55 22.6
comp=Z,13nm,0.9s
F42A **Maple Grove Fa** **77.42 348** P **P** **22 55 19.6 +0.6**
E46A **Sault Ste Mari** **77.43 351** P **P** **22 55 19.3 +0.4**
E46A IAmb IAmb 22 55 29.1
comp=Z,20nm,1.1s
KNB **Kanab** **77.48 327** P **P** **22 55 21.4 +1.8**
KNB IAmb IAmb 22 55 23.1
comp=Z,19nm,0.9s
KNB **Kanab** **77.48 327** P **P** **22 55 21.5 +1.8**
KNB pmax pmax
comp=Z,19nm,0.9s
PKCU **Pink Cliffs** **77.59 328** P **P** **22 55 21.7 +1.2**
PKCU IAmb IAmb 22 55 34.3
comp=Z,15nm,1.1s

BATG Bathurst New B 77.66 4 P **P** **22 55 20.6 +0.4**
BATG IAmb IAmb 22 55 22.9
comp=Z,22nm,0.9s
LCMT Little Creek M 77.67 327 P **P** **22 55 21.8 +1.1**
SPMN Marine on St. 77.84 345 P **P** **22 55 21.6 +0.4**
SPMN IAmb IAmb 22 55 22.9
comp=Z,22nm,1.0s
N23A Red Feather La 77.84 334 P **P** **22 55 23.0 +1.3**
N23A IAmb IAmb 22 55 39.3
comp=Z,17nm,1.2s
RAR Rarotonga 77.90 252 LR LR 23 21 10.5
comp=Z,138nm,21.7s,baz=96,slow=29
WIN Windhoek 77.92 109 P **P** **22 55 21.9 -0.7**
WIN IAmb IAmb 22 55 24.3
comp=Z,30nm,1.0s
WIN Windhoek 77.92 109 P **P** **22 55 21.9 -0.7**
WIN pmax pmax
comp=Z,30nm,1.0s
COWI Conover 77.93 348 P **P** **22 55 22.3 +0.5**
MTPU Mount Pierson 78.02 328 P **P** **22 55 24.5 +1.6**
GSC Goldstone, Bar 78.06 324 P **P** **22 55 24.1 +1.3**
GSC Goldstone, Bar 78.06 324 P **P** **22 55 24.2 +1.3**
GSC pmax pmax
comp=Z,9.0nm,0.9s
O20A White River Ci 78.09 332 P **P** **22 55 24.2 +1.2**
O20A IAmb IAmb 22 55 35.6
comp=Z,34nm,1.2s
SRU San Rafael Swe 78.17 330 P **P** **22 55 24.6 +1.1**
SRU IAmb IAmb 22 55 26.5
comp=Z,15nm,0.8s
SRU San Rafael Swe 78.17 330 P **P** **22 55 24.6 +1.1**
SRU pmax pmax
comp=Z,15nm,0.8s
SHPR Sheep Range 78.18 326 P **P** **22 55 25.2 +1.6**
LDAQ Lac Daran 78.18 0 P **P** **22 55 23.6 +0.4**
LDAQ IAmb IAmb 22 55 40.4
comp=Z,16nm,1.0s
Q16A Castle Valley 78.29 330 P **P** **22 55 26.1 +1.9**
Q16A IAmb IAmb 22 55 38.0
comp=Z,19nm,0.9s
MSU Marysvale 78.40 329 P **P** **22 55 26.5 +1.6**
MSU Marysvale 78.40 329 P **P** **22 55 26.5 +1.6**
P18A Preston Nutter 78.48 331 P **P** **22 55 26.2 +0.9**
P18A IAmb IAmb 22 55 28.4
comp=Z,23nm,0.9s
VLDQ Val d'Or 78.50 356 P **P** **22 55 25.7 +0.9**
CCAC Calif City Air 78.56 323 P **P** **22 55 26.6 +1.0**
TMUT Trail Mountain 78.62 330 P **P** **22 55 27.4 +1.2**
GWY Greenwater Val 78.68 324 P **P** **22 55 27.6 +1.2**
PRN Pahroc Range 78.84 326 P **P** **22 55 28.2 +1.0**
PRN IAmb IAmb 22 55 31.2
comp=Z,20nm,0.9s
RDMU Red Mountain 78.99 332 P **P** **22 55 29.7 +1.6**
RDMU IAmb IAmb 22 55 30.6
comp=Z,22nm,0.8s
TPNV Topopah Spring 79.06 325 P **P** **22 55 29.7 +1.2**
TPNV IAmb IAmb 22 55 31.9
comp=Z,18nm,1.1s
TPNV Topopah Spring 79.06 325 P **P** **22 55 29.7 +1.2**
TPNV pmax pmax
comp=Z,18nm,1.1s
WCT Wildcat Mounta 79.13 325 P **P** **22 55 30.1 +1.4**
BCW Bitter Crk WRg 79.14 322 P **P** **22 55 29.6 +0.7**
BCW IAmb IAmb 22 55 32.3
comp=Z,17nm,1.0s
PSUT Pine Spring 79.18 328 P **P** **22 55 30.1 +0.9**
ISA Isabella, Lake 79.19 323 P **P** **22 55 30.9 +1.8**
ISA IAmb IAmb 22 55 33.3
comp=Z,12nm,0.9s
ISA Isabella, Lake 79.19 323 P **P** **22 55 30.9 +1.8**
ISA pmax pmax
comp=Z,13nm,0.9s
F33A 5 Mile Ranch, 79.26 343 P **P** **22 55 28.8 -0.3**
F33A IAmb IAmb 22 55 30.8
comp=Z,11nm,0.9s
S11A Rachel 79.37 326 P **P** **22 55 31.8 +1.7**
S11A IAmb IAmb 22 55 34.7
comp=Z,21nm,1.2s
MPU Maple Canyon 79.40 330 P **P** **22 55 31.1 +0.8**
MPU IAmb IAmb 22 55 33.4
comp=Z,13nm,0.9s
BSUT Blindstream Ca 79.46 331 P **P** **22 55 31.5 +0.7**
BSUT IAmb IAmb 22 55 33.7
comp=Z,19nm,1.0s
K22A Casper 79.58 335 P **P** **22 55 32.9 +1.7**
K22A IAmb IAmb 22 55 34.0
comp=Z,21nm,0.9s
SOE Somerset East 79.64 122 P **P** **22 55 32.2 +0.4**
SPR3 Spring Creek 3 79.78 328 P **P** **22 55 33.7 +1.2**
JLU Jordanelle 79.81 330 P **P** **22 55 33.8 +1.2**
JLU IAmb IAmb 22 55 35.1
comp=Z,14nm,0.8s
ICQ Pointe Anglais 79.84 3 P **P** **22 55 33.2 +1.1**
ICQ IAmb IAmb 22 55 34.2
comp=Z,25nm,1.0s
GMN Gold Mountain 79.84 325 P **P** **22 55 33.9 +1.2**
R11B Troy Canyon, C 79.85 326 P **P** **22 55 33.4 +0.7**
TSUM Tsumeb 79.91 106 P **P** **22 55 33.7 +0.1**
TSUM Tsumeb 79.91 106 LR LR 23 26 57.8
comp=Z,197nm,18.2s,baz=214,slow=33
GRHM Grahamstown, E 79.95 123 P **P** **22 55 33.9 +0.5**
RSSD Black Hills 79.99 337 P **P** **22 55 34.5 +1.1**
RSSD Black Hills 79.99 337 P **P** **22 55 34.5 +1.1**
RSSD pmax pmax
comp=Z,12nm,1.0s
DUG Dugway, Tooele 80.06 329 P **P** **22 55 35.5 +1.7**
DUG IAmb IAmb 22 55 36.7
comp=Z,13nm,0.9s
DUG Dugway, Tooele 80.06 329 P **P** **22 55 35.5 +1.7**
DUG pmax pmax
comp=Z,13nm,1.0s
EYMN Ely 80.16 347 P **P** **22 55 33.8 -0.1**
TCUT Toone Canyon 80.22 331 P **P** **22 55 35.3 +0.6**
TCUT IAmb IAmb 22 55 53.7
comp=Z,11nm,0.7s
KOOLE Kule 80.22 111 *i* P **P** **22 55 35.6 +0.4**
DSP Deep Springs 80.25 324 P **P** **22 55 35.9 +1.2**
HWUT Hardware Ranch 80.69 331 P **P** **22 55 37.5 +0.3**
HWUT IAmb IAmb 22 55 39.8
comp=Z,23nm,0.8s
BGU Big Grassy Mou 80.75 330 P **P** **22 55 38.2 +0.7**
PD31 Pinedale Array 80.84 333 P **P** **22 55 38.4 +0.4**
PDAR Pinedale Array 80.84 333 P **P** **22 55 38.8 +0.8**
PDAR Pinedale Array 80.84 333 P **P** **22 55 38.7 +0.7**
comp=Z,3.1nm,0.9s,baz=140,slow=6.3,SNR=19
PDAR LR LR 23 28 16.8
comp=Z,84nm,19.5s,baz=132,slow=33
comp=Z,3.1nm,0.9s
PMPB Monarch Peak 80.84 322 P **P** **22 55 39.0 +1.1**
PMPB IAmb IAmb 22 55 56.4
comp=Z,19nm,1.2s
Q09A Carvers 81.00 326 P **P** **22 55 39.3 +0.4**
E28A Huff 81.14 340 P **P** **22 55 39.9 +0.7**
NV11 Mina Array Sit 81.17 325 P **P** **22 55 40.5 +0.7**
LHV Little Huntoon 81.20 325 P **P** **22 55 40.9 +1.2**
LHV IAmb IAmb 22 55 43.2
comp=Z,15nm,1.0s
NVAR Mina Array Bea 81.24 325 P **P** **22 55 41.0 +0.8**
NVAR Mina Array Bea 81.24 325 P **P** **22 55 42.0 +1.8**
comp=Z,5.9nm,0.8s,baz=151,slow=6.4,SNR=18
comp=Z,5.9nm,0.8s
BBGB Big Mountain B 81.24 322 **P** **22 55 40.9 +0.8**
HVU Hansel Valley 81.34 330 P **P** **22 55 41.1 +0.5**
HVU IAmb IAmb 22 55 43.5
comp=Z,18nm,0.8s
HVU Hansel Valley 81.34 330 P **P** **22 55 41.1 +0.5**
HVU pmax pmax
comp=Z,18nm,0.8s
BOSA Boshof 81.44 118 P **P** **22 55 40.0 -1.6**
BOSA IAmb IAmb 22 55 56.1
comp=Z,20nm,0.8s
BOSA Boshof 81.44 118 P **P** **22 55 41.2 -0.4**
comp=Z,18nm,0.8s,baz=224,slow=6.3,SNR=40
BOSA LR LR 23 27 30.0
comp=Z,205nm,20.0s,baz=216,slow=32
comp=Z,18nm,0.8s
BOSA Boshof 81.44 118 P **P** **22 55 40.0 -1.6**
BOSA pmax pmax
comp=Z,20nm,0.8s
AGMN Agassiz Nation 81.44 344 P **P** **22 55 41.0 +0.2**
AGMN IAmb IAmb 22 55 42.3
comp=Z,19nm,0.8s
AHID Auburn Hatcher 81.46 332 P **P** **22 55 41.7 +0.4**
RYN Ryan 81.50 325 P **P** **22 55 41.8 +0.3**

ELK Elko 81.59 328 IAmb IAmb 22 55 44.9
comp=Z,15nm,0.9s
ELK Elko 81.59 328 LR LR 23 28 08.1
comp=Z,111nm,19.9s,baz=168,slow=33
WAKR Walker 81.86 324 P **P** **22 55 44.5 +1.0**
SNOW Snow King Moun 81.90 332 P **P** **22 55 44.0 +0.4**
SNOW IAmb IAmb 22 55 50.2
comp=Z,8.9nm,0.5s
LOHW Long Hollow 81.97 333 P **P** **22 55 44.6 +0.7**
MDND Maddock 81.99 341 P **P** **22 55 44.5 +0.9**
CMB Columbia Colle 81.99 323 P **P** **22 55 45.4 +1.4**
CMB Columbia Colle 81.99 323 P **P** **22 55 45.4 +1.4**
CMB pmax pmax
comp=Z,8.0nm,1.1s
TPAW Teton Pass 82.00 332 P **P** **22 55 44.6 +0.4**
MOOW Moose Ponds 82.14 333 P **P** **22 55 45.4 +0.6**
FXWY Fox Creek 82.16 332 P **P** **22 55 45.5 +0.5**
PNTR Pine Nut 82.39 324 P **P** **22 55 46.5 +0.2**
SKOMA Sekoma 82.46 114 *i* P **P** **22 55 47.3 +0.4**
MAKGR Makgori 82.49 115 *i* P **P** **22 55 47.5 +0.4**
H17A Grant Village 82.61 333 P **P** **22 55 47.6 +0.2**
LKWY Lake 82.68 333 P **P** **22 55 47.7 0.0**
LKWY Lake 82.68 333 P **P** **22 55 47.7 0.0**
LKWY pmax pmax
comp=Z,8.0nm,1.3s
QNGWA Qangwa 82.71 108 *i* P **P** **22 55 49.3 +0.9**
PAHR Pah Rah Range 82.76 325 P **P** **22 55 48.9 +0.8**
PAHR IAmb IAmb 22 55 51.2
comp=Z,18nm,1.0s
YFT Old Faithful 82.76 333 P **P** **22 55 48.6 +0.6**
TORD Torodi Ar. Bea 82.81 70 P **P** **22 55 48.1 -0.6**
TORD Torodi Ar. Bea 82.81 70 P **P** **22 55 48.4 -0.3**
comp=Z,47nm,0.4s,baz=257,slow=5.2,SNR=2.0
comp=Z,47nm,0.4s
YNE Yellowstone No 82.91 334 P **P** **22 55 48.5 -0.3**
AFDM Forest Hills D 82.98 323 P **P** **22 55 50.0 +0.9**
YMR Madison River 82.99 333 P **P** **22 55 51.0 +1.7**
YMR IAmb IAmb 22 56 09.2
comp=Z,12nm,0.8s
YHH Holmes Hill 83.05 333 P **P** **22 55 50.4 +0.8**
YHB Horse Butte 83.15 333 **P** **22 55 50.8 +0.7**
YHL Hebgen Lake 83.23 333 P **P** **22 55 50.8 +0.2**
YHL IAmb IAmb 22 56 02.5
comp=Z,14nm,1.4s
ULM Lac du Bonnet 83.27 345 P **P** **22 55 50.1 -0.2**
ULM Lac du Bonnet 83.27 345 P **P** **22 55 50.2 -0.1**
comp=Z,19nm,0.8s,baz=162,slow=4.0,SNR=41
comp=Z,19nm,0.8s
ULM Lac du Bonnet 83.27 345 *i* P **P** **22 55 50.1 -0.2**
MCCM Marconi Confer 83.38 322 P **P** **22 55 51.3 +0.2**
MCCM IAmb IAmb 22 55 55.4
comp=Z,16nm,0.8s
HLID Hailey 83.50 330 P **P** **22 55 52.6 +0.7**
HLID IAmb IAmb 22 55 55.1
comp=Z,10nm,0.8s
LBTB Lobatse 83.51 115 P **P** **22 55 51.5 -0.9**
LBTB Lobatse 83.51 115 LR LR 23 30 24.2
comp=Z,311nm,18.7s,baz=228,slow=34
LBTB Lobatse 83.51 115 P **P** **22 55 51.5 -0.9**
LBTB pmax pmax
comp=Z,31nm,0.8s
KDWAN Kaudwane 83.60 113 *i* P **P** **22 55 53.4 +0.4**
GDXM Geysers 83.83 322 P **P** **22 55 54.9 +1.4**
GDXM IAmb IAmb 22 56 11.5
comp=Z,11nm,1.2s
DGMT Dagmar 83.89 339 P **P** **22 55 54.1 +0.6**
MFID Camas Ranch 83.99 329 P **P** **22 55 55.4 +1.1**
BOZ Bozeman (W) 84.02 333 P **P** **22 55 54.2 -0.3**
BOZ Bozeman (W) 84.02 333 P **P** **22 55 54.2 -0.3**
BOZ pmax pmax
comp=Z,5.0nm,1.2s
WVOR Wild Horse Val 84.50 327 P **P** **22 55 58.1 +1.2**
WVOR Wild Horse Val 84.50 327 P **P** **22 55 58.1 +1.2**
WVOR pmax pmax
comp=Z,6.0nm,1.0s
LPHEP Lephephe 84.56 114 *i* P **P** **22 55 59.4 +1.6**
KHWEE KHWEE 84.95 112 *i* P **P** **22 56 00.8 +0.9**
J08A Circle Bar Ran 85.14 328 P **P** **22 56 01.0 +0.9**
SCHQ Schefferville 85.17 3 P **P** **22 56 00.1 +0.3**
SCHQ IAmb IAmb 22 56 02.5
comp=Z,17nm,1.1s
SCHQ Schefferville 85.17 3 P **P** **22 55 59.0 -0.8**
comp=Z,14nm,1.0s,baz=146,slow=5.9,SNR=7.4
SCHQ LR LR 23 37 58.3
comp=Z,84nm,18.3s,baz=79,slow=38
comp=Z,14nm,1.0s
EGMT Eagleton 85.36 335 P **P** **22 56 00.3 -0.7**
EGMT IAmb IAmb 22 56 12.3
comp=Z,13nm,1.2s
PLID Pearl Lake 85.40 330 P **P** **22 56 02.2 +0.7**
PLID IAmb IAmb 22 56 03.6
comp=Z,13nm,0.8s
LYMT Lyon Mountain 85.42 333 P **P** **22 56 02.9 +1.3**
BPMT Black Pine Rid 85.43 333 P **P** **22 56 02.0 +0.3**
GVZ Greta Valley S 85.76 222 P **P** **22 56 03.8 +0.4**
BMO Blue Mountains 85.78 329 P **P** **22 56 03.7 +0.5**
BMO Blue Mountains 85.78 329 P **P** **22 56 03.7 +0.5**
BMO pmax pmax
comp=Z,7.0nm,1.4s
YBH Yreka Blue Hor 85.94 324 P **P** **22 56 04.6 +0.5**
YBH Yreka Blue Hor 85.94 324 P **P** **22 56 04.6 +0.5**
YBH pmax pmax
comp=Z,5.0nm,0.9s
URZ Urewera 86.15 227 LR LR 23 25 10.6
comp=Z,167nm,21.1s,baz=250,slow=29
I07A Izee 86.17 328 P **P** **22 56 06.3 +1.1**
I07A IAmb IAmb 22 56 08.3
comp=Z,7.2nm,0.9s
LTZ Lake Taylor 86.31 222 P **P** **22 56 07.1 +0.9**
J05D Fort Rock, OR 86.38 326 P **P** **22 56 07.5 +1.2**
J05D IAmb IAmb 22 56 08.9
comp=Z,8.9nm,0.9s
RPZ Rata Peaks 86.41 220 P **P** **22 56 07.1 +0.5**
PINE Pine Mountain 86.62 327 P **P** **22 56 08.0 +0.5**
PINE IAmb IAmb 22 56 10.4
comp=Z,18nm,0.9s
F10A Beach Ranch, E 86.63 330 P **P** **22 56 08.6 +1.2**
G08A Pilot Rock 86.85 329 P **P** **22 56 08.7 +0.1**
BROLN Tlhalogang 86.89 113 *i* P **P** **22 56 10.4 +1.0**
I05D Terrebonne, OR 87.22 327 P **P** **22 56 11.2 +1.0**
H04A Detroit Lake 87.88 327 P **P** **22 56 13.9 +0.5**
H04A IAmb IAmb 22 56 15.7
comp=Z,13nm,0.9s
HAWA Hanford 87.96 329 P **P** **22 56 15.1 +1.4**
HAWA IAmb IAmb 22 56 16.0
comp=Z,11nm,1.1s
D08A Wollman Farm, 88.20 330 P **P** **22 56 15.5 +0.7**
NEW Newport 88.39 332 LR LR 23 33 40.5
comp=Z,136nm,18.3s,baz=134,slow=34
MXC Moxie City 88.44 329 P **P** **22 56 17.1 +1.1**
MXC IAmb IAmb 22 56 18.5
comp=Z,5.9nm,0.8s
FFC Flin Flon 88.86 343 P **P** **22 56 17.7 0.0**
FFC IAmb IAmb 22 56 18.9
comp=Z,7.7nm,0.9s
FFC Flin Flon 88.86 343 P **P** **22 56 17.7 0.0**
FFC pmax pmax
comp=Z,8.0nm,0.9s
LTY Liberty 89.12 329 P **P** **22 56 19.6 +0.3**
LTY IAmb IAmb 22 56 29.9
comp=Z,9.5nm,1.1s
LON Longmire 89.25 328 P **P** **22 56 20.5 +0.6**
LON Longmire 89.25 328 P **P** **22 56 20.5 +0.6**
LON pmax pmax
comp=Z,6.0nm,0.9s
MDT Midelt 89.47 51 LR LR 23 33 46.1
comp=Z,136nm,21.9s,baz=254,slow=34
D05A Enumclaw 89.66 328 P **P** **22 56 22.6 +1.0**
D05A IAmb IAmb 22 56 32.6
comp=Z,17nm,1.0s
LSZ Lusaka 90.62 108 P **P** **22 56 26.9 -0.3**
LSZ IAmb IAmb 22 56 43.8
comp=Z,12nm,0.9s
LSZ Lusaka 90.62 108 LR LR 23 34 04.1
comp=Z,145nm,18.4s,baz=226,slow=34
LSZ Lusaka 90.62 108 P **P** **22 56 26.9 -0.3**
LSZ pmax pmax
comp=Z,12nm,1.0s
FCC Fort Churchill 90.94 349 P **P** **22 56 27.9 +0.6**
FCC Fort Churchill 90.94 349 P **P** **22 56 27.9 +0.6**
FCC pmax pmax
comp=Z,19nm,0.9s
TAM Tamanrasset 91.11 64 P **P** **22 56 29.5 +0.3**
TAM IAmb IAmb 22 56 43.9

comp=Z,12nm,0.9s
TAM Tamanrasset 91.11 64 P **P** **22 56 29.5 +0.3**
TAM pmax pmax
comp=Z,12nm,0.9s
ESDC Sonseca Array 94.02 46 P **P** **22 56 41.9 -0.2**
ESDC IAmb IAmb 22 56 52.6
comp=Z,9.3nm,1.2s
ESDC Sonseca Array 94.02 46 P **P** **22 56 41.7 -0.4**
comp=Z,1.8nm,0.9s,baz=252,slow=4.0,SNR=12
ESDC LR LR 23 39 15.4
comp=Z,248nm,18.5s,baz=224,slow=36
comp=Z,1.8nm,0.9s
ESBB Sonseca Array 94.02 46 P **P** **22 56 42.7 +0.5**
ESBB IAmb IAmb 22 56 43.0
comp=Z,7.2nm,1.2s
FRB Frobisher Bay 94.04 1 LR LR 23 42 31.8
comp=Z,66nm,19.4s,baz=127,slow=38
BBB Bella Bella 96.02 329 LR LR 23 35 19.0
comp=Z,50nm,19.6s,baz=145,slow=32
MSVF Nonsavu 97.52 244 LR LR 23 29 50.6
comp=Z,84nm,20.6s,baz=134,slow=28
YKA Yellowknife Ar 98.91 341 P Pdif 22 57 03.8 +0.1
comp=Z,1.4nm,0.9s,baz=146,slow=4.5,SNR=14
YKA PKiKP **PKiKP** **23 01 35.4 +1.1**
comp=Z,0.1nm,0.3s,baz=157,slow=1.7,SNR=1.5
comp=Z,1.4nm,0.9s
DZM Mont Dzumac 103.46 234 *e*LR LR 23 31 22.4
comp=Z,268nm,23.4s
GERES GERESS Array B 109.55 44 PKiKP **PKiKP** **23 01 53.1 -1.3**
comp=Z,1.0nm,0.7s,baz=198,slow=0.4,SNR=5.0
CLL Collm 110.14 42 *e*PKiKP **PKiKP** **23 01 56.0 +0.7**
CLL AMS AMS 23 48 00.0
comp=Z,200nm,20.2s
ILAR Eielson Array 111.26 334 Pdiff **Pdif** **22 57 58.7 +0.1**
comp=Z,0.3nm,0.8s,baz=113,slow=6.0,SNR=4.9
ILAR PKiKP **PKiKP** **23 01 57.1 +0.1**
comp=Z,0.9nm,0.9s,baz=168,slow=1.4,SNR=8.3
VYHS Vyhne 112.56 46 *e*PKiKP **PKiKP** **23 02 00.2 +0.2**
VYHS Vyhne 112.56 46 *e*PKP **PKiKP** **23 02 00.2 +0.2**
KIEV Kiev 119.65 46 PKPdf **PKPdf** **23 02 12.8 -0.7**
KIEV Kiev 119.65 46 PKIKP **PKPdf** **23 02 12.8 -0.7**
AKASG Malin Array Be 119.66 46 **PKPdf** **23 02 13.1 -0.4**
AKASG Malin Array Be 119.66 46 PKP **PKPdf** **23 02 12.7 -0.8**
comp=Z,4.1nm,0.8s,baz=268,slow=2.7,SNR=16
AKASG Malin Array Be 119.66 46 *c i*PKIKP **PKPdf** **23 02 12.6 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 119.66 46 *c i*PKIKP **PKPdf** **23 02 13.2 -0.3**
MNK Minsk 119.68 41 *i* PKIKP **PKiKP** **23 02 14.0 +0.5**
MNK *i* 23 03 34.5
MNK *i* PPP PPP 23 06 05.8
MNK *i* SS SS 23 19 57.5 -2.2
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,10.0nm,1.0s
VSU Vasula 119.83 37 *c i*PKIKP **PKPdf** **23 02 13.0 -0.6**
VSU pmax pmax
comp=Z,21nm,1.7s
BRTR Keskin Array B 119.90 59 PKP **PKiKP** **23 02 14.8 +0.2**
comp=Z,1.4nm,0.8s,baz=201,slow=4.1,SNR=6.9
BRTR PP **PP** **23 03 37.4 -1.8**
comp=Z,0.8nm,0.9s,baz=258,slow=6.8,SNR=1.7
ASAR Alice Springs 120.72 207 PKP **PKPdf** **23 02 15.6 -1.0**
comp=Z,2.3nm,0.8s,baz=149,slow=1.8,SNR=19
ASAR PKKPbc **PKKPbc** **23 12 21.1 +0.3**
comp=Z,0.8nm,0.5s,baz=342,slow=4.4,SNR=4.9
WRA Warramunga Arr 123.86 210 PKP **PKPdf** **23 02 21.9 -0.7**
comp=Z,7.4nm,0.8s,baz=159,slow=1.6,SNR=57
WRA Warramunga Arr 123.86 210 PKIKP **PKPdf** **23 02 22.0 -0.7**
WRAB Tennant Creek 123.86 210 **PKPdf** **23 02 22.4 -0.3**
WRAB Tennant Creek 123.86 210 PKIKP **PKPdf** **23 02 22.4 -0.3**
OBN Obninsk 124.74 42 *c i*PKIKP **PKPdf** **23 02 22.6 -0.5**
OBN *e* 23 02 27.6
OBN *i* 23 02 32.8
OBN *e*PPS PPS 23 15 40.2
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,75nm,13.0s
LPSR Galich'ya Gora 125.93 45 *e*PKIKP **PKPdf** **23 02 25.0 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 125.95 47 *e*PKIKP **PKPdf** **23 02 23.9 -1.7**
VSR pmax pmax
comp=Z,9.0nm,1.0s
VORD Divnogorie 126.00 47 *e*PKIKP **PKPdf** **23 02 24.2 -1.5**
VORD pmax pmax
comp=Z,9.0nm,1.0s
H11S2 WAKE ISLAND Hyl 26.01 271 T T 01 21 14.3
baz=115,slow=75,SNR=287
VORR Voronezh 126.02 46 PKIKP **PKiKP** **23 02 26.1 0.0**
VORR pmax pmax
comp=Z,19nm,1.1s
H11S1 WAKE ISLAND Hyl 26.02 271 T T 01 21 10.9
baz=115,slow=75,SNR=360
H11S3 WAKE ISLAND Hyl 26.03 271 T T 01 21 06.4
baz=115,slow=75,SNR=304
H11N3 WAKE ISLAND Hyl 26.34 273 T T 01 21 31.9
baz=116,slow=75,SNR=77
H11N1 WAKE ISLAND Hyl 26.35 273 T T 01 21 35.9
baz=116,slow=75,SNR=37
H11N2 WAKE ISLAND Hyl 26.35 273 T T 01 21 41.2
baz=116,slow=75,SNR=120
KLMR Klimovskoe 126.47 35 *e*PKIKP **PKPdf** **23 02 24.2 -2.1**
KLMR pmax pmax
comp=Z,32nm,1.2s
KIV Kislovodsk 127.42 56 *i* PKIKP **PKPdf** **23 02 27.9 -0.9**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 127.53 56 *i* PKIKP **PKPdf** **23 02 28.1 -0.7**
VRH Novokhopyorsk 127.55 47 *e*PKIKP **PKPdf** **23 02 26.8 -1.8**
VRH pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 129.86 335 PKPdf **PKiKP** **23 02 33.9 +0.5**
BILL Bilibino 129.86 335 *c i*PKIKP **PKiKP** **23 02 33.9 +0.5**
BILL pmax pmax
comp=Z,9.0nm,0.8s
AKT Akhty 130.75 60 *e*PKHKP PKPpre 23 02 03.3
AKT pmax pmax
comp=E,10.0nm,0.3s
AKT pmax pmax
comp=N,6.0nm,0.3s
BELG Belogornoye 131.23 45 *i* PKIKP **PKPdf** **23 02 35.1 -0.5**
KIRV Kirov 131.67 37 *c i*PKIKP **PKiKP** **23 02 38.0 +0.8**
ARTI Arti 136.87 38 PKPdf **PKPdf** **23 02 46.6 +0.6**
ARTI Arti 136.87 38 *i* PKIKP **PKiKP** **23 02 47.3 -0.6**
ARTI 23 05 26.3
ARTI SS SS 23 23 27.4 -4.8
SEY Seymchan 137.17 332 *c i*PKIKP **PKiKP** **23 02 48.0 -0.3**
SEY pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 137.38 351 PKPpre 23 02 37.1
TIXI PKPdf **PKPdf** **23 02 46.6 0.0**
TIXI Tiksi 137.38 351 *i* PKIKP **PKPdf** **23 02 46.6 0.0**
PETK Petropavlovsk- 137.90 317 **PKiKP** **23 02 49.2 -0.9**
PETK Petropavlovsk- 137.90 317 PKP **PKPdf** **23 02 48.6 +0.5**
comp=Z,5.7nm,0.9s,baz=99,slow=4.7,SNR=9.1
SVE Sverdlovsk 137.93 37 *e*PKIKP **PKiKP** **23 02 49.3 -0.7**
SVE pmax pmax
comp=Z,13nm,1.1s
ABKAR Akbulak array 139.30 49 PKPpre 23 02 43.0
MA2 Magadan 139.40 328 PKPpre 23 02 43.8
MA2 PKPdf **PKPdf** **23 02 50.8 +0.2**
MA2 Magadan 139.40 328 *c i*PKIKP **PKiKP** **23 02 52.7 -0.2**
MA2 pmax pmax
comp=Z,11nm,1.3s
NRIK Noril'sk 139.42 11 PKP **PKPdf** **23 02 51.2 +0.9**
comp=Z,2.3nm,0.7s,baz=93,slow=3.0,SNR=4.1
SPSI Sidrap Palu 143.93 200 PKP PKPbc 23 02 58.0 +0.1
SPSI PKP **PKPdf** **23 02 58.9 -1.3**
BRVK Borovoye 144.48 40 PKPdf **PKPdf** **23 02 59.6 -0.3**
BRVK Borovoye 144.48 40 *i* PKIKP **PKPdf** **23 02 59.1 -0.8**
BVAR Borovoye Array 144.55 40 PKP **PKPdf** **23 02 59.8 -0.3**
comp=Z,26nm,0.8s,baz=292,slow=3.3,SNR=104
TTSI Tana Toraja 144.79 200 PKP **PKPab** **23 02 58.5 -2.0**
TTSI PKP **pPKPdf** **23 03 10.3 -0.4**
MDSI Maura Dua 144.91 173 PKP **PKPab** **23 03 00.0 -1.0**
MDSI PKP PKPbc 23 03 00.7 -0.3
YAK Yakutsk 145.58 342 PKPdf **PKPab** **23 03 02.6 +0.6**
YAK Yakutsk 145.58 342 *e*PKIKP **PKPbc** **23 03 01.7 0.0**
YAK *e* 23 03 10.9
YAK *e* 23 06 22.5

YAK				pmax	pmax		
	comp=Z,187nm,1.5s						
YAK				pmax	pmax		
	comp=N,19nm,1.5s						
YAK				pmax	pmax		
	comp=E,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,72nm,2.8s						
YAK				pmax	pmax		
	comp=N,23nm,2.3s						
YAK				pmax	pmax		
	comp=E,24nm,2.5s						
LUWI	**Luwuk**	**145.66**	**206**	PKP	PKiKP	23 03 15.5	+8.3
KBL	**Kabul**	**146.85**	**73**		**PKPdf**	**23 03 05.3**	**+0.5**
KBL	**Kabul**	**146.85**	**73**	PKP2	**PKPdf**	**23 03 05.3**	**+0.5**
TYV	**Tymovskoe**	**147.41**	**318**	*e*PKP2	**PKPbc**	**23 03 08.3**	**+0.9**
TYV				pmax	pmax		
	comp=Z,32nm,0.9s						
TYV				pmax	pmax		
	comp=Z,400nm,5.1s						
KKAR	**Karatay Array**	**147.57**	**57**		**PKPdf**	**23 03 06.2**	**+0.7**
KKAR	**Karatay Array**	**147.57**	**57**	PKIKP	**PKPdf**	**23 03 06.2**	**+0.7**
TOLI2	**Tolitoli**	**148.38**	**204**		**PKPbc**	**23 03 10.4**	**-0.8**
YSS	**Yuzhno-Sakhali**	**148.84**	**311**		**PKPbc**	**23 03 11.7**	**+0.4**
YSS	**Yuzhno-Sakhali**	**148.84**	**311**	*e*PKIKP	**PKPbc**	**23 03 10.2**	**-1.1**
YSS				*e*		23 03 21.5	
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
MNSI	**Mandailing Nat**	**149.25**	**163**	PKP	**PKPab**	**23 03 18.6**	**+0.8**
OHH	**Osh**	**149.65**	**61**	PKP2	**PKiKP**	**23 03 14.1**	**-0.7**
HYB	**Hyderabad**	**149.96**	**109**	*e*PKPbc	**PKPbc**	**23 03 14.2**	**-0.8**
EKS2	**Erkin-Say**	**150.01**	**57**	P	**PKiKP**	**23 03 15.6**	**+0.1**
	SNR=36						
AML	**Almayashu**	**150.06**	**58**	P	**PKiKP**	**23 03 15.8**	**-0.1**
	SNR=17						
KURBB	**Kurchatov Arra**	**150.14**	**39**	PKPbc	**PKiKP**	**23 03 15.2**	**-0.1**
	comp=Z,25nm,0.8s,baz=304,slow=3.2,SNR=110						
KURBB				PP	**PP**	**23 06 50.2**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=289,slow=7.9,SNR=1.8						
KURK	**Kurchatov**	**150.14**	**39**	PKPdf	**PKPdf**	**23 03 10.7**	**+1.4**
KURK	**Kurchatov**	**150.14**	**39**	PKHKP	PKPpre	23 03 10.7	
NIL	**Nilore**	**150.27**	**75**		**PKPbc**	**23 03 15.4**	**0.0**
NIL	**Nilore**	**150.27**	**75**	PKP2	**PKPbc**	**23 03 15.4**	**0.0**
USP	**Ospenovka**	**150.39**	**55**	P	**PKiKP**	**23 03 16.1**	**0.0**
	SNR=31						
AAK	**Ala-Archa**	**150.53**	**56**		**PKiKP**	**23 03 16.8**	**+0.2**
AAK	**Ala-Archa**	**150.53**	**56**	P	**PKiKP**	**23 03 16.9**	**+0.2**
	SNR=25						
AAK	**Ala-Archa**	**150.53**	**56**	PKIKP	**PKiKP**	**23 03 16.8**	**+0.2**
CHMS	**Chumysh**	**150.63**	**56**	P	**PKiKP**	**23 03 16.6**	**0.0**
	SNR=21						
KBK	**Karagaybulak**	**150.85**	**56**	P	**PKiKP**	**23 03 17.5**	**+0.2**
	SNR=17						
GRNR	**Gornyy**	**150.91**	**322**	⇓*i*PKIKP	**PKiKP**	**23 03 17.0**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,30nm,0.8s						
ZAA0	**Zalesovo Array**	**151.16**	**29**		**PKiKP**	**23 03 17.9**	**+0.6**
ZAA0				PKPab	**pPKPbc**	**23 03 27.3**	**+1.6**
ZALV	**Zalesovo Beam**	**151.16**	**29**	PKPdf	**PKPdf**	**23 03 11.2**	**+0.3**
ZALV				PKPbc	**PKiKP**	**23 03 17.6**	**+0.3**
ZALV				PKPab	**pPKPbc**	**23 03 27.4**	**+1.7**
ZALV	**Zalesovo Beam**	**151.16**	**29**	PKP	**PKPdf**	**23 03 11.2**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=288,slow=1.4,SNR=18						
ZALV				PKPbc	**PKiKP**	**23 03 17.4**	**+0.1**
	comp=Z,110nm,0.8s,baz=310,slow=3.1,SNR=170						
TKM2	**Tokmak 2**	**151.25**	**56**	P	**PKiKP**	**23 03 18.1**	**-0.1**
	SNR=20						
ULHL	**Ulahol**	**151.88**	**57**	P	**PKiKP**	**23 03 20.1**	**+0.6**
	SNR=14						
KSH	**Kashi**	**152.22**	**62**	PKPbc	**PKPdf**	**23 03 14.3**	**+1.2**
KSH				PP	**PP**	**23 07 01.2**	**-1.0**
BSI	**Banda Aceh**	**152.22**	**151**	PKP	**PKPab**	**23 03 30.2**	**+0.1**
BOD	**Bodaibo**	**152.48**	**353**	*e*PKIKP	**PKPbc**	**23 03 19.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,40nm,0.8s						
KDJ	**Kajisay**	**152.59**	**57**		**PKiKP**	**23 03 21.1**	**+0.2**
ZEA	**Zeya**	**153.08**	**335**	*e*PKIKP	**PKiKP**	**23 03 21.6**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
IPM	**Ipoh**	**153.16**	**164**		**PKPbc**	**23 03 21.4**	**-1.2**
MAKZ	**Makanchi**	**154.03**	**44**		**PKPdf**	**23 03 15.3**	**0.0**
MAKZ					**PKiKP**	**23 03 23.7**	**+0.2**
MAKZ				PKPab	**pPKPbc**	**23 03 33.0**	**+0.6**
MAKZ	**Makanchi**	**154.03**	**44**	PKIKP	**PKiKP**	**23 03 23.7**	**+0.2**
MAKZ						23 03 33.0	
MK31	**Makanchi Array**	**154.22**	**44***c*	*i*PKIKP	**PKPdf**	**23 03 15.9**	**+0.2**
MKAR	**Makanchi Array**	**154.22**	**44**	PKPdf	**PKPdf**	**23 03 15.3**	**-0.4**
MKAR					**PKiKP**	**23 03 23.7**	**-0.2**
MKAR				PKPab	**pPKPbc**	**23 03 33.4**	**+0.6**
MKAR	**Makanchi Array**	**154.22**	**44**	PKP	**PKPdf**	**23 03 15.4**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=323,slow=1.8,SNR=16						
MKAR				PKPbc	**PKiKP**	**23 03 23.8**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=312,slow=1.9,SNR=39						
MKAR				PP	**PP**	**23 07 14.9**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=291,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**154.22**	**44***c*	*i*PKIKP	**PKPdf**	**23 03 15.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**154.26**	**323***c*	*i*PKIKP	**PKPdf**	**23 03 16.1**	**+0.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**154.41**	**291**	PKP	**PKPdf**	**23 03 16.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=328,slow=0.6,SNR=5.8						
MJAR				PKPbc	**PKPbc**	**23 03 24.1**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=112,slow=0.4,SNR=7.1						
MJAR				PKPab	**PKPab**	**23 03 40.3**	**+1.4**
	comp=Z,7.7nm,0.8s,baz=108,slow=2.3,SNR=10						
HEH	**HeiHe**	**155.66**	**329**	*e*PKP	**PKPdf**	**23 03 16.8**	**-0.6**
MDJ	**Mudanjiang**	**158.13**	**316**	PKP	**PKPdf**	**23 03 21.0**	**+0.2**
MOY	**Mondy**	**158.25**	**12**	*e*PKIKP	**PKPdf**	**23 03 21.8**	**+0.9**
MOY				pmax	pmax		
	comp=Z,26nm,3.2s						
WMQ	**Urumqi**	**159.02**	**45**	*e*PKP	**PKPdf**	**23 03 23.6**	**+1.6**
ZAK	**Zakamensk**	**159.87**	**9**	*e*PKP2	**PKPab**	**23 04 02.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSRS	**Korea Array**	**162.34**	**298**	PKP	**PKPdf**	**23 03 25.1**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=39,slow=0.4,SNR=6.2						
SONM	**Songino Array**	**162.71**	**4**		**PKPab**	**23 04 15.6**	**+1.1**
SONM	**Songino Array**	**162.71**	**4**	PKP	**PKPdf**	**23 03 25.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=3.0,SNR=6.0						
SONM				PKPab	**PKPab**	**23 04 15.9**	**+1.4**
	comp=Z,7.5nm,0.9s,baz=314,slow=4.1,SNR=16						
SONM				PP	**PP**	**23 07 59.1**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=349,slow=5.9,SNR=2.4						
ULN	**Ulaanbaatar**	**162.71**	**3**	PKPab	**PKPab**	**23 04 16.3**	**+1.8**
ULN	**Ulaanbaatar**	**162.71**	**3**	PKP2	**PKPab**	**23 04 16.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**165.26**	**143**		**PKPab**	**23 04 24.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**165.26**	**143**	PKP	**PKPdf**	**23 03 27.4**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=277,slow=1.2,SNR=8.1						
CMAR				PKPab	**PKPab**	**23 04 26.3**	**0.0**
	comp=Z,4.5nm,0.8s,baz=230,slow=6.0,SNR=21						
XLT	**XiLinHaoTe**	**165.33**	**337**	*e*PKP	**PKPdf**	**23 03 28.6**	**+0.2**
XLT				sPKP		23 03 43.2	
XLT				PKPab	**pPKPab**	**23 04 30.6**	**-3.9**
XLT				PP	**PP**	**23 08 15.9**	**+3.5**
XLT				SKS	**SKSdf**	**23 10 24.8**	**-6.0**
XLT				AMB	AMB		
	comp=Z,53nm,6.2s						
CHTO	**Chiang Mai**	**165.56**	**142**	PKPab	**PKPab**	**23 04 27.1**	**-0.5**
CHTO	**Chiang Mai**	**165.56**	**142**	PKP2	**PKPab**	**23 04 27.1**	**-0.5**
GTA	**Gaotai**	**168.80**	**36**	*e*PKP	**PKPdf**	**23 03 31.4**	**+0.2**
GTA				pPKP	pPKPdf	23 03 40.7	+0.5
GTA				PKPab	**PKPab**	**23 04 41.8**	**+0.1**
GTA				PP	**PP**	**23 08 36.7**	**+6.0**
HHC	**Hu-ho-hao-te**	**169.41**	**346**	*e*PKP	**PKPdf**	**23 03 29.2**	**-2.3**
TIA	**Tai'an**	**170.71**	**310**	PKP	**PKPdf**	**23 03 32.7**	**+0.5**
TIA				PP	**PP**	**23 08 45.6**	**+5.0**
TIA				AMB	AMB		
	comp=Z,190nm,4.7s						
HNS	**HongShan**	**171.35**	**324**	⇓PKP	**PKPdf**	**23 03 33.4**	**+0.9**
PZH	**PanZhiHua**	**172.97**	**124**	PKP	**PKPdf**	**23 03 33.4**	**-0.3**
LZH	**Lanzhou**	**173.38**	**33**	*e*PKP	**PKPdf**	**23 03 34.6**	**+0.9**
LZH				pPKP	pPKPdf	23 03 44.1	+1.4
LZH				sPKP		23 03 50.2	

*NEIC **01** 22:49:36.6±1.3, 15°.3S±0°.1×177°.40W±0°.07, h405km±13km, mb4.2/13, Error ellipse: s-maj=21.6km s-min=5.6km az=201.0*
*IDC **01** 22:49:38.8±2.7, 15°.18S×177°.74W, h414km±28km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=92.6km s-min=24.1km az=150.0*

ISC 01 22:49:36.6±0.8, 15°.4S±0°.1×177°.46W±0°.10, h400km, n22, σ0s90/22, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**1.21**	**328**		**Pn**	**22 50 28.3**	**-0.3**
MSVF	**Nonsavu**	**4.92**	**240**	P	**Pn**	**22 50 59.3**	**+1.5**
	20nm,0.4s,baz=78,slow=14,SNR=46						
AFI	**Afiamalu**	**5.69**	**76**	Pn	**Pn**	**22 51 05.2**	**-0.8**
NIUE	**Niue**	**8.10**	**118**		**P**	**22 51 33.0**	**-0.1**
FOZ	**Fox Glacier**	**30.12**	**199**	P	**P**	**22 55 10.4**	**-0.8**
MLZ	**Mavora Lakes**	**32.30**	**199**	P	**P**	**22 55 29.4**	**-0.7**
TOO	**Toolangi**	**39.51**	**229**	P	**P**	**22 56 31.7**	**+1.0**
STKA	**Stephens Creek**	**40.69**	**239**	P	**P**	**22 56 40.0**	**-0.2**
STKA	**Stephens Creek**	**40.69**	**239**	P	**P**	**22 56 39.8**	**-0.5**
	1.6nm,0.5s,baz=78,slow=9.1,SNR=6.2						
BBOO	**Buckleboo**	**45.47**	**239**	P	**P**	**22 57 17.3**	**-0.7**
BBOO				IAmb	IAmb	22 57 59.8	
	comp=Z,35nm,1.4s						
WR0	**Warramunga Arr**	**45.85**	**257**	P	**P**	**22 57 21.1**	**0.0**
WR0				IAmb	IAmb	22 57 21.8	
	comp=Z,6.9nm,1.3s						
WB0	**Warramunga Arr**	**45.99**	**257**	P	**P**	**22 57 21.3**	**-1.0**
WB0				IAmb	IAmb	22 57 40.1	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**46.03**	**257**	P	**P**	**22 57 21.8**	**-0.7**
WB2				IAmb	IAmb	22 57 40.2	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**46.04**	**257**	P	**P**	**22 57 21.6**	**-1.0**
WRA	**Warramunga Arr**	**46.04**	**257**	P	**P**	**22 57 21.8**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=82,slow=6.7,SNR=35						
	comp=Z,0.7nm,0.4s						
AS31	**Alice Springs**	**46.40**	**252**	P	**P**	**22 57 25.2**	**-0.2**
AS31				IAmb	IAmb	22 57 25.6	
	comp=Z,8.3nm,0.5s						
ASAR	**Alice Springs**	**46.40**	**252**	P	**P**	**22 57 25.1**	**-0.3**
	comp=Z,28nm,0.6s,baz=84,slow=8.1,SNR=380						
KNRA	**Kununurra**	**51.70**	**262**	P	**P**	**22 58 04.5**	**-0.6**
KNRA				IAmb	IAmb	22 58 44.4	
	comp=Z,26nm,1.4s						
FORT	**Forrest**	**51.95**	**243**	P	**P**	**22 58 05.3**	**-1.4**
FORT				IAmb	IAmb	22 58 18.6	
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.38**	**259**	P	**P**	**22 58 25.1**	**+0.7**
ILAR	**Eielson Array**	**83.20**	**13**	P	**P**	**23 01 18.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=204,slow=5.1,SNR=3.0						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**83.86**	**57**	P	**P**	**23 01 24.9**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=212,slow=8.4,SNR=4.4						
	comp=Z,0.5nm,0.7s						

KEA 01 22:56:58.6, 40°.07N×118°.80E, h18km, ML3.0/3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SUJ	**Sinuiju**	**4.37**	**88**	Pg	Pb	22 58 15.1	+0.2
SUJ				Sg	Sb	22 59 11.4	+4.1
SUJ				AML	AML		
	comp=N,39nm,0.5s						
SUJ				AML	AML		
	comp=E,43nm,0.4s						
SUJ				AML	AML		
	comp=Z,15nm,0.2s						
PYS	**Pyongsong**	**5.51**	**96**	Pg	Pb	22 58 34.9	+0.6
PYS				Sg	Sb	22 59 46.0	+6.1
PYS				AML	AML		
	comp=N,32nm,0.3s						
PYS				AML	AML		
	comp=E,22nm,0.6s						
PYS				AML	AML		
	comp=Z,21nm,0.5s						
HJU	**Haeju**	**5.76**	**108**	Pg	Pb	22 58 38.6	0.0
HJU				Sg	Sb	22 59 52.9	+5.7
HJU				AML	AML		
	comp=N,20nm,0.8s						
HJU				AML	AML		
	comp=E,11nm,0.5s						
HJU				AML	AML		
	comp=Z,7.2nm,0.6s						
CN2	**Changchun**	**6.20**	**51**	Pn	Pn	22 58 33.2	+3.9
CN2				Pg	Pg	22 58 52.5	-4.8
CN2				Sn	Sb	22 59 55.3	-4.6
CN2				Sg	Sg	23 00 15.7	-1.9
CN2				smax	smax		
	comp=N,40nm,0.6s						
CN2				smax	smax		
	comp=E,20nm,0.6s						

*NEIC **01** 22:57:51.0±1.9, 23°.99S±0°.09×180°.0E±0°.1, h508km±5km, mb4.8/302, Error ellipse: s-maj=15.6km s-min=13.0km az=121.0*
*IDC **01** 22:57:51.9±0.4, 23°.97S×179°.94E, h520km±4km, mb3.9/18, mbtmp4.8/20, Error ellipse: s-maj=11.5km s-min=9.6km az=111.0*
*NOU **01** 22:57:51.2, 24°.00S×179°.68W, h537km, mb4.8/37, South of Fiji Islands*
*GCMT **01** 22:57:54.0±0.6, 24°.39S±0°.07×179°.82E±0°.06, h520km±3km, MW5.2/42, Moment Tensor Solution. s42,c50; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.58±.05; $M_{\theta\theta}$-0.34±.09; $M_{\phi\phi}$-0.23±.08; $M_{r\theta}$0.04±.08; $M_{\theta\phi}$-0.52±.08; $M_{\phi r}$-0.63±.09; Best double couple: $M_0$0.95600×10^{17} NP1:ϕ_s198.00000°, δ68.00000°, λ58.00000°. Principal axes: T 0.9830, Plg56.0000°, Azm67.0000°; N -0.0540, Plg29.0000°, Azm211.0000°; P -0.9290, Plg17.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 01 22:57:51.9±0.3, 24°.05S±0°.04×179°.96W±0°.04, h525km±3km, h526km:pP-P, n920, σ1s08/1009, mb4.8/172, 65C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.50**	**161**	P	**P**	**22 59 25.9**	**+1.3**
	368nm,0.2s,baz=79,slow=21,SNR=1.8						
RAO				S	**S**	**23 00 39.3**	**-1.1**
	316nm,0.3s,baz=109,slow=23,SNR=1.4						
GLKZ	**Green Lake**	**5.51**	**161**	P	**P**	**22 59 27.1**	**+2.4**
GLKZ				S	**S**	**23 00 39.3**	**-1.3**
LKBA	**Tubou, Lakemba**	**5.88**	**11**	P	**P**	**22 59 28.2**	**-0.2**
MSVF	**Nonsavu**	**6.55**	**343**	P	**P**	**22 59 33.5**	**-1.3**
MSVF	**Nonsavu**	**6.55**	**343**	P	**P**	**22 59 34.0**	**-0.8**
	118nm,0.5s,baz=174,slow=4.3,SNR=160						
MSVF				S	**S**	**23 00 57.1**	**-1.7**
	45nm,0.9s,baz=334,slow=22,SNR=1.3						
MSVF	**Nonsavu**	**6.55**	**343**	P	**P**	**22 59 34.0**	**-0.8**
TAVE	**Taveuni**	**7.30**	**0**	P	**P**	**22 59 42.3**	**+0.2**
YSA	**Yasawairara**	**7.67**	**342**	P	**P**	**22 59 45.5**	**-0.2**
DGTI	**Dogotuki**	**7.71**	**358**	P	**P**	**22 59 45.8**	**-0.4**
FUTU	**Fugatoga**	**9.84**	**11**	P	**P**	**23 00 06.7**	**-1.3**
NIUE	**Niue**	**10.56**	**64**	P	**P**	**23 00 14.9**	**-0.6**
NIUE	**Niue**	**10.56**	**64**	P	**P**	**23 00 17.5**	**+2.0**
NIUE				S	**S**	**23 02 15.1**	**+1.5**
MARNC	**Mare, Loyalty**	**11.37**	**281**	P	**P**	**23 00 24.9**	**+1.0**
PINNC	**Pines Island,**	**11.66**	**275**	P	**P**	**23 00 26.1**	**-0.7**
PINNC	**Pines Island,**	**11.66**	**275**	P	**P**	**23 00 29.2**	**+2.3**
OUENC	**Ouen Island, N**	**12.24**	**275**	P	**P**	**23 00 35.0**	**+2.0**
OUZ	**Omahuta**	**12.46**	**205**	P	**P**	**23 00 36.9**	**+1.8**
ONTNC	**Ouen Toro**	**12.61**	**275**	P	**P**	**23 00 35.3**	**-1.6**
DZM	**Mont Dzumac**	**12.67**	**276**	*e*P	**P**	**23 00 38.3**	**+0.7**
	90nm,0.9s						
DZM				*e*S	S	23 02 33.4	-21
	156nm,23.6s						
DZM	**Mont Dzumac**	**12.67**	**276**	P	**P**	**23 00 36.7**	**-0.9**
DZM	**Mont Dzumac**	**12.67**	**276**	P	**P**	**23 00 39.2**	**+1.6**
	29nm,0.7s,baz=78,slow=20,SNR=10.0						
DZM	**Mont Dzumac**	**12.67**	**276**	P	**P**	**23 00 39.6**	**+2.0**
AFI	**Afiamalu**	**12.71**	**39**	P	**P**	**23 00 34.0**	**-4.1**
AFI	**Afiamalu**	**12.71**	**39**	P	**P**	**23 00 34.5**	**-3.5**
WIAZ	**Waiheke Island**	**13.39**	**197**	P	**P**	**23 00 46.8**	**+2.1**
MBAZ	**Motutapu North**	**13.43**	**198**	P	**P**	**23 00 48.4**	**+3.2**
MXZ	**Matakaoa Point**	**13.55**	**186**	P	**P**	**23 00 46.9**	**+0.4**
MXZ	**Matakaoa Point**	**13.55**	**186**	P	**P**	**23 00 48.5**	**+2.1**
MKAZ	**Moumakai**	**13.67**	**197**	P	**P**	**23 00 49.7**	**+2.0**
AWAZ	**Awhitu Peninsu**	**13.78**	**198**	P	**P**	**23 00 50.7**	**+1.8**
WMGZ	**Waiomatatini S**	**13.80**	**185**	P	**P**	**23 00 51.4**	**+2.3**
HAZ	**Te Kaha**	**13.80**	**188**	P	**P**	**23 00 49.2**	**+0.2**
HAZ				S	**S**	**23 03 13.4**	**-1.7**
PKGZ	**Pakihiroa**	**13.88**	**186**	P	**P**	**23 00 52.9**	**+3.0**
RUGZ	**Raukumara Rang**	**14.02**	**188**	P	**P**	**23 00 52.8**	**+1.3**
TOZ	**Tahuroa Road**	**14.18**	**195**	P	**P**	**23 00 54.2**	**+1.2**
TOZ	**Tahuroa Road**	**14.18**	**195**	P	**P**	**23 00 56.9**	**+3.8**
TWGZ	**Tauwhareparae**	**14.20**	**187**	P	**P**	**23 00 53.5**	**+0.3**
TWGZ				S	**S**	**23 03 24.5**	**+1.7**
URZ	**Urewera**	**14.39**	**189**	P	**P**	**23 00 53.1**	**-2.1**
	16nm,0.3s,baz=33,slow=1.0,SNR=32						
URZ				S	**S**	**23 03 22.9**	**-3.4**
	55nm,0.9s,baz=204,slow=22,SNR=14						
URZ	**Urewera**	**14.39**	**189**	P	**P**	**23 00 54.3**	**-0.9**
URZ	**Urewera**	**14.39**	**189**	P	**P**	**23 00 54.3**	**-0.9**
URZ				S	**S**	**23 03 20.3**	**-6.0**
MWZ	**Matawai**	**14.40**	**188**	P	**P**	**23 00 55.5**	**+0.1**
MWZ				S	**S**	**23 03 23.3**	**-3.4**
TKGZ	**Te Karaka**	**14.47**	**187**	P	**P**	**23 00 56.4**	**+0.4**
TKGZ				S	**S**	**23 03 26.7**	**-1.2**
CNGZ	**Carnagh Statio**	**14.48**	**186**	P	**P**	**23 00 58.3**	**+2.2**
CNGZ				S	**S**	**23 03 31.1**	**+3.0**
HRRZ	**Handcock Road**	**14.65**	**192**	P	**P**	**23 00 59.3**	**+1.2**
RIGZ	**Rimuhau**	**14.74**	**187**	P	**P**	**23 00 59.5**	**+0.6**
RIGZ				S	**S**	**23 03 28.7**	**-4.5**
TLZ	**Tolley Road**	**14.75**	**194**	P	**P**	**23 01 02.6**	**+3.6**
RTZ	**Ruatahuna**	**14.76**	**189**	P	**P**	**23 00 58.8**	**-0.3**
RTZ	**Ruatahuna**	**14.76**	**189**	P	**P**	**23 00 59.0**	**-0.1**
MTHZ	**Maungataniwha**	**15.01**	**190**	P	**P**	**23 01 02.3**	**+0.5**
MTHZ				S	**S**	**23 03 34.0**	**-4.3**
RAHZ	**Arahi**	**15.04**	**189**	P	**P**	**23 01 00.9**	**-1.1**
RAHZ				S	**S**	**23 03 34.0**	**-4.7**
WATZ	**Wairara**	**15.07**	**193**	P	**P**	**23 01 04.4**	**+2.0**
HIZ	**Hauiti**	**15.08**	**196**	P	**P**	**23 01 02.8**	**+0.3**
HIZ	**Hauiti**	**15.08**	**196**	P	**P**	**23 01 02.7**	**+0.3**
HIZ	**Hauiti**	**15.08**	**196**	P	**P**	**23 01 06.7**	**+4.2**
RATZ	**Rangitukua**	**15.21**	**193**	P	**P**	**23 01 04.8**	**+0.9**
NMHZ	**Naumai**	**15.25**	**190**	P	**P**	**23 01 05.0**	**+0.7**
NMHZ				S	**S**	**23 03 37.8**	**-5.0**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**23 01 04.5**	**-1.0**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**23 01 03.8**	**-1.7**
BKZ				S	**S**	**23 03 41.5**	**-3.4**
NTVZ	**North Tongarir**	**15.46**	**193**	P	**P**	**23 01 07.2**	**+0.8**
TMVZ	**Te Maari**	**15.47**	**193**	P	**P**	**23 01 07.3**	**+0.8**
TWVZ	**Taurewa**	**15.48**	**194**	P	**P**	**23 01 06.5**	**-0.2**
WTVZ	**West Tongariro**	**15.49**	**193**	P	**P**	**23 01 06.8**	**0.0**
NNVZ	**North Ngauruho**	**15.50**	**193**	P	**P**	**23 01 08.0**	**+1.0**
NNVZ				S	**S**	**23 03 52.6**	**+5.1**
OTVZ	**Oturere**	**15.52**	**193**	P	**P**	**23 01 07.2**	**0.0**
SNVZ	**South Ngauruho**	**15.55**	**193**	P	**P**	**23 01 09.6**	**+2.1**
SNVZ				S	**S**	**23 03 44.4**	**-3.9**
MCHZ	**McNeill Hill**	**15.61**	**190**	P	**P**	**23 01 08.2**	**+0.2**
MCHZ				S	**S**	**23 03 46.9**	**-2.2**
TUVZ	**Tukino**	**15.62**	**193**	P	**P**	**23 01 08.0**	**-0.2**
FWVZ	**Far West T-bar**	**15.63**	**193**	P	**P**	**23 01 09.2**	**+0.8**
VRZ	**Vera Road**	**15.69**	**195**	P	**P**	**23 01 09.1**	**+0.5**
WNVZ	**Wahianoa**	**15.69**	**193**	P	**P**	**23 01 08.4**	**-0.6**
WNVZ				S	**S**	**23 03 50.7**	**-0.2**
MOVZ	**Moawhango**	**15.74**	**192**	P	**P**	**23 01 08.5**	**-0.8**
MOVZ				S	**S**	**23 03 48.9**	**-2.7**
KRHZ	**Kereru**	**15.86**	**190**	P	**P**	**23 01 09.6**	**-0.9**
KRHZ				S	**S**	**23 03 47.7**	**-5.8**
KAHZ	**Kahuranaki**	**15.93**	**189**	P	**P**	**23 01 11.4**	**+0.2**
PNHZ	**Pukenui**	**16.15**	**191**	P	**P**	**23 01 11.7**	**-1.8**
PXZ	**Pawanui**	**16.16**	**189**	P	**P**	**23 01 13.6**	**+0.1**
TSZ	**Takapari Road**	**16.33**	**191**	P	**P**	**23 01 14.9**	**-0.4**
BFZ	**Birch Farm**	**16.89**	**190**	P	**P**	**23 01 18.9**	**-1.7**
MRZ	**Mangatainoka R**	**16.98**	**192**	P	**P**	**23 01 19.9**	**-1.6**
MSWZ	**Moikau Station**	**17.78**	**192**	P	**P**	**23 01 27.0**	**-1.8**
TCW	**Tory Channel**	**17.78**	**194**	P	**P**	**23 01 28.8**	**-0.1**
SNZO	**South Karori**	**17.78**	**193**	P	**P**	**23 01 28.5**	**-0.3**
BHW	**Baring Head**	**17.84**	**193**	P	**P**	**23 01 29.1**	**-0.3**
QRZ	**Quartz Range**	**17.88**	**199**	P	**P**	**23 01 30.3**	**+0.6**
QRZ	**Quartz Range**	**17.88**	**199**	P	**P**	**23 01 30.1**	**+0.4**
PLWZ	**Palliser**	**17.93**	**192**	P	**P**	**23 01 29.2**	**-0.9**
TKNZ	**Takaka Hill**	**17.95**	**198**	P	**P**	**23 01 29.7**	**-0.7**
NNZ	**Nelson**	**18.01**	**196**	P	**P

WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**23 04 59.6**	**-1.0**
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**23 04 59.6**	**-1.0**
	comp=Z,24nm,0.7s,baz=96,slow=8.3,SNR=96						
WRA				ScP	**ScP**	**23 09 44.2**	**+1.8**
	comp=Z,10.0nm,0.9s,baz=100,slow=3.9,SNR=16						
WRA				S	**S**	**23 10 41.1**	**-3.3**
	comp=Z,11nm,1.2s,baz=102,slow=14,SNR=11						
	comp=Z,24nm,0.7s						
GENI	**Genyem**	**44.01**	**293**	P	**P**	**23 05 14.0**	**+1.0**
PTCN	**Pitcairn Islan**	**45.16**	**102**	P	**P**	**23 05 18.4**	**-3.4**
FORT	**Forrest**	**46.29**	**250**	P	**P**	**23 05 29.0**	**-1.3**
KDU	**Kakadu**	**46.34**	**275**	P	**P**	**23 05 30.0**	**-0.8**
WRKA	**Warakurna**	**46.84**	**258**	P	**P**	**23 05 34.1**	**-0.5**
MTN	**Manton Dam**	**47.50**	**274**	P	**P**	**23 05 38.9**	**-0.7**
KNRA	**Kununurra**	**48.72**	**270**	P	**P**	**23 05 48.3**	**-0.4**
KNRA				IAmb	IAmb	23 05 49.6	
	comp=Z,34nm,0.8s						
PUH	**Pauahi**	**49.44**	**31**	P	**P**	**23 05 54.2**	**+0.2**
KNHH	**Kane Nui o Ham**	**49.47**	**31**	P	**P**	**23 05 54.3**	**0.0**
STCH	**Steam Cracks**	**49.49**	**31**	P	**P**	**23 05 54.2**	**-0.2**
HMH	**Humu'ula Sheep**	**49.51**	**31**	P	**P**	**23 05 54.3**	**-0.5**
DHH	**Diamond Head**	**49.94**	**27**	P	**P**	**23 05 57.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**50.85**	**266**	P	**P**	**23 06 04.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.85**	**266**	P	**P**	**23 06 04.4**	**0.0**
SBA	**Scott Base**	**54.23**	**183**	P	**P**	**23 06 28.1**	**+0.4**
VNDA	**Vanda**	**54.24**	**185**	P	**P**	**23 06 29.2**	**+1.5**
VNDA				IAmb	IAmb	23 08 10.8	
	comp=Z,147nm,1.9s						
VNDA	**Vanda**	**54.24**	**185**	P	**P**	**23 06 29.4**	**+1.7**
	comp=Z,4.6nm,0.8s,baz=28,slow=6.6,SNR=2.5						
	comp=Z,4.6nm,0.8s						
SOEI	**Soe**	**54.89**	**275**	P	**P**	**23 06 33.3**	**-0.1**
SOEI				IAmb	IAmb	23 06 41.3	
	comp=Z,66nm,1.0s						
SOEI	**Soe**	**54.89**	**275**	P	**P**	**23 06 33.6**	**+0.2**
PSA00	**Pilbara Seismi**	**55.17**	**260**	P	**P**	**23 06 34.0**	**-1.1**
MBWA	**Marble Bar**	**55.38**	**260**	P	**P**	**23 06 35.4**	**-1.2**
MBWA	**Marble Bar**	**55.38**	**260**	P	**P**	**23 06 36.3**	**-0.3**
CCD	**Concordia, Ant**	**58.59**	**195**	P	**P**	**23 06 58.8**	**+0.6**
CCD				PcP	**PcP**	**23 07 41.1**	**-0.4**
PLAI	**Plampang**	**61.16**	**273**	P	**P**	**23 07 15.6**	**-0.2**
TOLI2	**Tolitoli**	**62.65**	**285**	P	**P**	**23 07 24.5**	**-1.0**
QSPA	**South Pole Qui**	**66.04**	**180**	P	**P**	**23 07 47.8**	**+1.5**
QSPA				IAmb	IAmb	23 07 48.9	
	comp=Z,32nm,0.8s						
QSPA	**South Pole Qui**	**66.04**	**180**	P	**P**	**23 07 48.0**	**+1.7**
	comp=Z,27nm,0.7s,baz=13,slow=1.0,SNR=137						
QSPA				pP	**pP**	**23 09 34.0**	**+1.3**
	comp=Z,2.9nm,1.1s,baz=41,slow=6.9,SNR=2.0						
	comp=Z,27nm,0.7s						
QSPA	**South Pole Qui**	**66.04**	**180**	P	**P**	**23 07 47.9**	**+1.7**
QSPA				PcP	**PcP**	**23 08 13.0**	**+1.2**
QSPA				pP	**pwP**	**23 09 36.4**	**-0.1**
MJAR	**Matsushiro Arr**	**72.04**	**326**	P	**P**	**23 08 22.4**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=149,slow=5.7,SNR=4.3						
	comp=Z,1.9nm,0.8s						
SMAI	**San Martin Ant**	**75.96**	**159**	P	**P**	**23 08 45.5**	**+1.2**
SMAI				IAmb	IAmb	23 08 47.2	
	comp=Z,29nm,0.9s						
ATKA	**Atka Island**	**76.09**	**4**	P	**P**	**23 08 44.6**	**-0.5**
BELA	**Belgrano 2**	**76.29**	**173**	P	**P**	**23 08 46.6**	**+0.5**
MAW	**Mawson**	**77.62**	**200**	P	**P**	**23 08 54.5**	**+1.0**
	comp=Z,42nm,1.1s,baz=225,slow=18,SNR=1.6						
	comp=Z,42nm,1.1s						
KSRS	**Korea Array**	**78.38**	**320**	P	**P**	**23 08 56.7**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=126,slow=4.5,SNR=6.3						
KSRS				pP	**pP**	**23 10 49.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=142,slow=4.6,SNR=1.3						
	comp=Z,1.3nm,0.7s						
UNV	**Unalaska Valle**	**78.44**	**8**	P	**P**	**23 08 57.7**	**-0.2**
	baz=193						
PETK	**Petropavlovsk-**	**79.25**	**347**	P	**P**	**23 09 02.4**	**+0.2**
PETK	**Petropavlovsk-**	**79.25**	**347**	P	**P**	**23 09 01.9**	**-0.3**
	comp=Z,13nm,1.0s,baz=103,slow=7.7,SNR=14						
	comp=Z,13nm,1.0s						
CHNA	**Chernabura Isl**	**80.48**	**12**	P	**P**	**23 09 09.1**	**+0.5**
	baz=199						
S12K	**Black Hills**	**80.88**	**10**	P	**P**	**23 09 11.0**	**+0.3**
	baz=197						
USRK	**Ussuriysk Ar.**	**80.91**	**327**	P	**P**	**23 09 11.6**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=158,slow=4.2,SNR=5.6						
	comp=Z,3.1nm,0.7s						
SAO	**San Andreas Ge**	**81.84**	**44**	P	**P**	**23 09 17.1**	**+1.0**
SAO				IAmb	IAmb	23 09 18.6	
	comp=Z,24nm,1.0s						
S14K	**Fog Glacier**	**81.87**	**11**	P	**P**	**23 09 16.3**	**+0.4**
	baz=199						
PMPB	**Monarch Peak**	**81.92**	**45**	P	**P**	**23 09 17.4**	**+0.9**
PMPB				IAmb	IAmb	23 09 19.2	
	comp=Z,46nm,1.3s						
BBGB	**Big Mountain B**	**81.98**	**44**	P	**P**	**23 09 17.9**	**+0.9**
BBGB				IAmb	IAmb	23 09 20.0	
	comp=Z,44nm,1.3s						
BCW	**Bitter Crk WRg**	**82.05**	**46**	P	**P**	**23 09 17.7**	**+0.3**
BCW				IAmb	IAmb	23 09 20.0	
	comp=Z,29nm,0.9s						
CHIR	**Chirikof Islan**	**82.21**	**14**	P	**P**	**23 09 18.0**	**+0.5**
	baz=202						
GDXM	**Geysers**	**82.28**	**41**	P	**P**	**23 09 20.2**	**+1.8**
KCPM	**Cahto Peak**	**82.36**	**40**	P	**P**	**23 09 19.6**	**+0.8**
KCPM				IAmb	IAmb	23 09 21.0	
	comp=Z,60nm,1.4s						
CBX	**Cerro Bola**	**82.40**	**50**	P	**P**	**23 09 20.0**	**+0.8**
CBX				IAmb	IAmb	23 09 21.7	
	comp=Z,52nm,1.4s						
VTX	**Valle De La Tr**	**82.50**	**51**	P	**P**	**23 09 20.4**	**+0.7**
VTX				IAmb	IAmb	23 09 22.9	
	comp=Z,29nm,0.7s						
KMPM	**Mount Pierce**	**82.52**	**40**	P	**P**	**23 09 20.5**	**+1.0**
ELS	**Elsinore Mount**	**82.63**	**48**	P	**P**	**23 09 21.6**	**+1.3**
ELS				IAmb	IAmb	23 09 22.6	
	comp=Z,45nm,1.6s						
KMRM	**Mail Ridge**	**82.63**	**40**	P	**P**	**23 09 21.3**	**+1.2**
KMRM				IAmb	IAmb	23 09 23.2	
	comp=Z,39nm,1.1s						
ESJX	**Sierra Juarez**	**82.73**	**50**	P	**P**	**23 09 21.9**	**+1.0**
ESJX				IAmb	IAmb	23 09 23.9	
	comp=Z,36nm,1.2s						
SLBS	**Sierra La Lagu**	**82.85**	**60**	P	**P**	**23 09 22.6**	**+1.0**
SLBS				IAmb	IAmb	23 09 24.3	
	comp=Z,28nm,1.1s						
SYO	**Syowa Base**	**82.88**	**193**	⇑*i*P	**P**	**23 09 20.7**	**-0.1**
SYO	**Syowa Base**	**82.88**	**193**	⇓*e*PcP	**PcP**	**23 09 23.8**	**-0.4**
ELIB	**Princess Elisa**	**82.92**	**187**	*d*P	**P**	**23 09 21.5**	**+0.2**
	comp=Z,8.3nm,1.1s						
SFX	**San Felipe**	**82.97**	**52**	P	**P**	**23 09 22.9**	**+0.9**
KHMM	**Horse Mountain**	**83.04**	**39**	P	**P**	**23 09 22.9**	**+0.6**
KHMM				IAmb	IAmb	23 09 25.2	
	comp=Z,37nm,1.2s						
ISA	**Isabella, Lake**	**83.10**	**46**	P	**P**	**23 09 24.0**	**+1.4**
ISA				IAmb	IAmb	23 09 24.9	
	comp=Z,25nm,0.9s						
CCAC	**Calif City Air**	**83.10**	**47**	P	**P**	**23 09 24.2**	**+1.6**
CCAC				IAmb	IAmb	23 12 17.6	
	comp=Z,17nm,0.6s						
YUH	**Yuha Desert**	**83.10**	**50**	P	**P**	**23 09 23.9**	**+1.4**
YUH				IAmb	IAmb	23 09 25.2	
	comp=Z,32nm,1.2s						
O02D	**Mt. Diablo Mer**	**83.15**	**40**	P	**P**	**23 09 24.3**	**+1.6**
O02D				IAmb	IAmb	23 09 25.9	
	comp=Z,52nm,1.1s						
SII	**Sitkinak Islan**	**83.20**	**14**	P	**P**	**23 09 23.3**	**+0.8**
	baz=204						
PFO	**Pinyon Flats O**	**83.27**	**49**	P	**P**	**23 09 24.6**	**+1.0**
CMB	**Columbia Colle**	**83.28**	**43**	P	**P**	**23 09 24.0**	**+0.6**
CMB				IAmb	IAmb	23 09 25.5	
	comp=Z,30nm,1.1s						
AFDM	**Forest Hills D**	**83.48**	**42**	P	**P**	**23 09 25.1**	**+0.7**
AFDM				IAmb	IAmb	23 09 26.4	
	comp=Z,26nm,1.1s						
GSC	**Goldstone, Bar**	**84.00**	**47**	P	**P**	**23 09 27.5**	**+0.5**
GSC				IAmb	IAmb	23 09 29.3	
	comp=Z,22nm,1.1s						
OHAK	**Old Harbor**	**84.01**	**14**	P	**P**	**23 09 26.8**	**+0.4**
OHAK	**Old Harbor**	**84.01**	**14**	P	**P**	**23 09 27.0**	**+0.6**
	baz=204						
CN2	**Changchun**	**84.03**	**324**	*e*P	**P**	**23 09 27.7**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
R18K	**Karluk**	**84.07**	**13**	P	**P**	**23 09 27.1**	**+0.4**
	baz=203						
GLA	**Glamis**	**84.09**	**50**	P	**P**	**23 09 29.0**	**+1.4**
GLA				IAmb	IAmb	23 09 30.6	
	comp=Z,38nm,1.0s						
WAKR	**Walker**	**84.16**	**43**	P	**P**	**23 09 29.3**	**+1.3**
WAKR				IAmb	IAmb	23 09 30.5	
	comp=Z,34nm,1.2s						
YBH	**Yreka Blue Hor**	**84.18**	**39**	P	**P**	**23 09 29.2**	**+1.4**
YBH				IAmb	IAmb	23 09 30.5	
	comp=Z,22nm,1.2s						
TROLL	**Troll, Antarti**	**84.19**	**181**	⇑P	**P**	**23 09 27.8**	**+0.3**
	comp=Z,1μm,0.7s						
PIX	**Pinacate**	**84.25**	**52**	P	**P**	**23 09 29.5**	**+1.2**
PIX				IAmb	IAmb	23 09 30.8	
	comp=Z,23nm,1.1s						
BNX	**BinXian**	**84.30**	**326**	⇓P	**P**	**23 09 28.3**	**+0.1**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HATC	**Hat Creek Radi**	**84.33**	**41**	P	**P**	**23 09 29.8**	**+1.2**
TIA	**Tai'an**	**84.36**	**314**	P	**P**	**23 09 30.2**	**+1.5**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
PNTR	**Pine Nut**	**84.41**	**43**	P	**P**	**23 09 30.0**	**+0.8**
PNTR				IAmb	IAmb	23 09 31.5	
	comp=Z,33nm,1.0s						
DSP	**Deep Springs**	**84.43**	**45**	P	**P**	**23 09 30.0**	**+1.0**
ACHA	**Angle Creek He**	**84.48**	**13**	P	**P**	**23 09 29.2**	**+0.3**
SNAA	**Sanae**	**84.52**	**179**	P	**P**	**23 09 28.5**	**-0.5**
SNAA	**Sanae**	**84.52**	**179**	⇑P	**P**	**23 09 28.9**	**-0.2**
	comp=Z,120nm,0.6s						
SNAA	**Sanae**	**84.52**	**179**	P	**P**	**23 09 28.9**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=206,slow=8.1,SNR=35						
	comp=Z,6.2nm,0.8s						
O15K	**Ungalikthiuk R**	**84.57**	**10**	P	**P**	**23 09 29.2**	**0.0**
	baz=198						
GWY	**Greenwater Val**	**84.59**	**47**	P	**P**	**23 09 30.7**	**+0.6**
LHV	**Little Huntoon**	**84.60**	**44**	P	**P**	**23 09 30.9**	**+1.1**
LHV				IAmb	IAmb	23 09 32.4	
	comp=Z,22nm,1.2s						
Q16K	**King Salmon**	**84.66**	**12**	P	**P**	**23 09 30.2**	**+0.6**
	baz=201,SNR=5.1						
KDAK	**Kodiak Island**	**84.68**	**14**	P	**P**	**23 09 30.5**	**+0.8**
KDAK				IAmb	IAmb	23 09 32.6	
	comp=Z,32nm,1.5s						
KDAK	**Kodiak Island**	**84.68**	**14**	P	**P**	**23 09 30.4**	**+0.7**
	baz=205						
113A	**Mohawk Valley,**	**84.69**	**51**	P	**P**	**23 09 31.2**	**+0.8**
113A				IAmb	IAmb	23 09 33.1	
	comp=Z,26nm,1.2s						
BLYC	**Blythe**	**84.69**	**50**	P	**P**	**23 09 30.7**	**+0.3**
BLYC				IAmb	IAmb	23 09 33.1	
	comp=Z,20nm,1.0s						
L04D	**Klamath Falls**	**84.72**	**39**	P	**P**	**23 09 31.4**	**+0.9**
L04D				IAmb	IAmb	23 09 32.9	
	comp=Z,30nm,1.1s						
VNA3	**Neumayer Olymp**	**84.73**	**177**	⇑P	**P**	**23 09 29.7**	**-0.3**
	comp=Z,17nm,1.1s						
P16K	**Nushagak River**	**84.74**	**11**	P	**P**	**23 09 30.3**	**+0.3**
	baz=200						
COYC	**Coyhaique**	**84.77**	**138**	P	**P**	**23 09 32.1**	**+1.4**
COYC				IAmb	IAmb	23 09 33.8	
	comp=Z,34nm,1.2s						
HSIG		**84.77**	**55**	P	**P**	**23 09 32.0**	**+1.2**
HSIG				IAmb	IAmb	23 09 33.3	
	comp=Z,24nm,0.9s						
RYN	**Ryan**	**84.81**	**44**	P	**P**	**23 09 32.1**	**+1.0**
RYN				IAmb	IAmb	23 09 33.3	
	comp=Z,31nm,1.7s						
NVAR	**Mina Array Bea**	**84.83**	**44**	P	**P**	**23 09 31.8**	**+0.5**
NVAR	**Mina Array Bea**	**84.83**	**44**	P	**P**	**23 09 32.2**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=223,slow=7.9,SNR=22						
NVAR				pP	**pP**	**23 11 25.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=231,slow=4.2,SNR=1.7						
	comp=Z,5.3nm,0.8s						
GMN	**Gold Mountain**	**84.85**	**45**	P	**P**	**23 09 32.2**	**+0.8**
M11K	**Mekoryuk**	**84.87**	**7**	P	**P**	**23 09 31.2**	**+0.6**
	baz=193						
NV11	**Mina Array Sit**	**84.93**	**44**	P	**P**	**23 09 32.6**	**+1.0**
Q18K	**Katmai Hardscr**	**84.95**	**13**	P	**P**	**23 09 30.8**	**-0.4**
	baz=203,SNR=9.1						
WCT	**Wildcat Mounta**	**84.97**	**46**	P	**P**	**23 09 31.7**	**-0.1**
N14K	**Kuskokwak Cree**	**85.00**	**9**	P	**P**	**23 09 32.0**	**+0.8**
	baz=197						
VNA2	**Neumayer--Watz**	**85.15**	**178**	⇑P	**P**	**23 09 32.3**	**+0.2**
	comp=Z,12nm,0.6s,baz=168,slow=6.7						
P17K	**Kvichak River**	**85.18**	**12**	P	**P**	**23 09 32.2**	**+0.1**
	baz=202,SNR=5.7						
O16K	**Kokwok River B**	**85.26**	**11**	P	**P**	**23 09 32.2**	**-0.2**
	baz=200						
VNA1	**Neumayer--Stat**	**85.38**	**177**	⇑P	**P**	**23 09 33.4**	**+0.3**
	comp=Z,16nm,1.0s						
N15K	**Kwethluk River**	**85.47**	**10**	P	**P**	**23 09 34.4**	**+0.8**
N15K	**Kwethluk River**	**85.47**	**10**	P	**P**	**23 09 34.1**	**+0.6**
	baz=198						
Q20K	**Shuyak Island**	**85.47**	**14**	P	**P**	**23 09 33.5**	**0.0**
	baz=205						
J04A	**Umpqua Nationa**	**85.47**	**38**	P	**P**	**23 09 35.1**	**+0.9**
Q19K	**Cape Douglas,**	**85.49**	**13**	P	**P**	**23 09 33.3**	**-0.4**
	baz=204						
V12A	**Nelson**	**85.56**	**48**	P	**P**	**23 09 35.9**	**+1.2**
BUCK	**Buck Mountain**	**85.59**	**37**	P	**P**	**23 09 35.4**	**+0.8**
P18K	**Big Mountain,**	**85.60**	**12**	P	**P**	**23 09 33.6**	**-0.6**
P18K	**Big Mountain,**	**85.60**	**12**	P	**P**	**23 09 33.9**	**-0.3**
	baz=203,SNR=6.4						
O17K	**Koliganek Bris**	**85.60**	**11**	P	**P**	**23 09 34.1**	**0.0**
	baz=201						
M14K	**Bethel**	**85.75**	**9**	P	**P**	**23 09 35.5**	**+0.6**
	baz=196						
SHPR	**Sheep Range**	**85.78**	**47**	P	**P**	**23 09 36.9**	**+1.1**
Y14A	**Wickenburg**	**85.85**	**50**	P	**P**	**23 09 37.3**	**+1.2**
W13A	**Hualapai Mount**	**85.87**	**49**	P	**P**	**23 09 37.3**	**+1.0**
M15K	**Kasigluk River**	**85.88**	**9**	P	**P**	**23 09 36.0**	**+0.5**
	baz=198						
J05D	**Fort Rock, OR**	**86.00**	**39**	P	**P**	**23 09 37.8**	**+1.1**
O18K	**Koktuh Hills**	**86.03**	**12**	P	**P**	**23 09 36.0**	**-0.3**
O18K	**Koktuh Hills**	**86.03**	**12**	P	**P**	**23 09 35.9**	**-0.3**
	baz=203,SNR=12						
S11A	**Rachel**	**86.03**	**46**	P	**P**	**23 09 37.0**	**0.0**
S11A				IAmb	IAmb	23 09 38.5	
	comp=Z,21nm,1.3s						
LL02	**Futaleuf**	**86.08**	**136**	P	**P**	**23 09 37.5**	**+0.4**
LL02				IAmb	IAmb	23 09 39.9	
	comp=Z,20nm,0.9s						
G03D	**McMinnville, O**	**86.09**	**36**	P	**P**	**23 09 36.9**	**+0.1**
L14K	**Kuka Creek**	**86.22**	**8**	P	**P**	**23 09 37.5**	**+0.4**
	baz=196						
P19K	**Oil Pt**	**86.24**	**13**	P	**P**	**23 09 36.6**	**-0.7**
P19K				IAmb	IAmb	23 09 37.7	
	comp=Z,23nm,0.8s						
P19K	**Oil Pt**	**86.24**	**13**	P	**P**	**23 09 37.2**	**-0.1**
	baz=204						
H04A	**Detroit Lake**	**86.34**	**37**	P	**P**	**23 09 39.1**	**+1.0**
PRN	**Pahroc Range**	**86.35**	**46**	P	**P**	**23 09 39.9**	**+1.4**
PRN				IAmb	IAmb	23 09 41.1	
	comp=Z,22nm,1.1s						
M16K	**Timber Creek**	**86.46**	**10**	P	**P**	**23 09 38.8**	**+0.5**
	baz=199						
PINE	**Pine Mountain**	**86.48**	**38**	P	**P**	**23 09 39.4**	**+0.3**
O19K	**Port Alsworth**	**86.52**	**13**	P	**P**	**23 09 37.8**	**-0.7**
O19K	**Port Alsworth**	**86.52**	**13**	P	**P**	**23 09 38.2**	**-0.3**
	baz=203,SNR=15						
R11B	**Troy Canyon, C**	**86.53**	**45**	P	**P**	**23 09 39.8**	**+0.4**
K13K	**Kusilvak Mount**	**86.56**	**7**	P	**P**	**23 09 39.5**	**+0.8**
	baz=194						
ILSW	**Iliamna Southw**	**86.56**	**13**	P	**P**	**23 09 38.2**	**-0.7**
TUC	**Tucson**	**86.58**	**52**	P	**P**	**23 09 40.7**	**+1.1**
TUC				IAmb	IAmb	23 09 42.9	
	comp=Z,25nm,0.9s						
HOM	**Homer**	**86.59**	**14**	P	**P**	**23 09 39.0**	**+0.2**
	baz=206						
I05D	**Terrebonne, OR**	**86.60**	**38**	P	**P**	**23 09 40.8**	**+1.4**
N18K	**Kilae Creek**	**86.67**	**12**	P	**P**	**23 09 39.0**	**-0.3**
	baz=202						
MA2	**Magadan**	**86.73**	**346**	P	**P**	**23 09 39.7**	**+0.2**
MA2				IAmb	IAmb	23 09 40.5	
	comp=Z,18nm,1.0s						
MA2	**Magadan**	**86.73**	**346**	P	**P**	**23 09 39.1**	**-0.4**
	comp=Z,19nm,2.0s						
MA2				pP	**pP**	**23 11 33.7**	**+0.1**
	comp=Z,19nm,2.0s						
O20K	**Slope Mountain**	**86.76**	**13**	P	**P**	**23 09 39.5**	**-0.2**
	baz=205,SNR=5.2						
LL04	**Puerto Octay**	**86.83**	**134**	P	**P**	**23 09 40.2**	**-0.4**
BRLK	**Bradley Lake**	**86.85**	**14**	P	**P**	**23 09 40.1**	**-0.1**
BRLK				IAmb	IAmb	23 09 41.2	
	comp=Z,24nm,1.1s						
BRSE	**Bradley Lake S**	**86.86**	**14**	P	**P**	**23 09 40.0**	**-0.2**
	baz=207						
WVOR	**Wild Horse Val**	**87.00**	**41**	P	**P**	**23 09 41.6**	**+0.2**
WVOR				IAmb	IAmb	23 09 43.8	
	comp=Z,38nm,1.3s						
L16K	**Owhat River**	**87.03**	**10**	P	**P**	**23 09 41.4**	**+0.5**
	baz=199						
N19K	**Bonanza Creek**	**87.06**	**12**	P	**P**	**23 09 41.0**	**-0.2**
N19K	**Bonanza Creek**	**87.06**	**12**	P	**P**	**23 09 41.0**	**-0.2**
	baz=203						
M17K	**Holitna River**	**87.07**	**11**	P	**P**	**23 09 41.1**	**0.0**
	baz=201						
X16A	**Lo Mia Camp, P**	**87.20**	**50**	P	**P**	**23 09 43.8**	**+1.2**
319A	**Douglas**	**87.21**	**54**	P	**P**	**23 09 44.8**	**+2.2**
DIB	**Dawson Inlet,**	**87.25**	**26**	P	**P**	**23 09 43.0**	**+1.0**
DIB				IAmb	IAmb	23 09 44.9	
	comp=Z,22nm,1.0s						
HOLB	**Holberg**	**87.29**	**30**	P	**P**	**23 09 43.5**	**+1.1**
K15K	**Wolf Creek Mou**	**87.30**	**9**	P	**P**	**23 09 42.8**	**+0.6**
K15K	**Wolf Creek Mou**	**87.30**	**9**	P	**P**	**23 09 42.7**	**+0.6**
	baz=197						
LCMT	**Little Creek M**	**87.34**	**47**	P	**P**	**23 09 43.7**	**+0.6**
HEH	**HeiHe**	**87.39**	**329**	*e*P	**P**	**23 09 42.7**	**-0.1**
HEH				sP	**sP**	**23 12 30.5**	**+0.7**
HEH				S	**S**	**23 19 40.9**	**+1.8**
HEH	**HeiHe**	**87.39**	**329**	sS	**sS**	**23 23 02.0**	**-1.7**
HEH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,200nm,5.2s						
LR05	**Currie**	**87.43**	**133**	P	**P**	**23 09 44.7**	**+1.2**
M18K	**Stony River**	**87.43**	**11**	P	**P**	**23 09 43.4**	**+0.7**
	baz=202						
J14K	**Nanvaranak Lak**	**87.48**	**7**	P	**P**	**23 09 43.7**	**+0.7**
	baz=195						
I07A	**Izee**	**87.48**	**39**	P	**P**	**23 09 44.6**	**+1.0**
SEW	**Seward**	**87.48**	**15**	P	**P**	**23 09 43.3**	**+0.3**
SEW				IAmb	IAmb	23 09 43.9	
	comp=Z,20nm,1.1s						
SEW	**Seward**	**87.48**	**15**	P	**P**	**23 09 43.9**	**+0.9**
	baz=208						
G06A	**Carlson Farm,**	**87.55**	**37**	P	**P**	**23 09 44.4**	**+0.6**
G06A				IAmb	IAmb	23 09 46.0	
	comp=Z,23nm,1.0s						
L17K	**Donlin**	**87.62**	**10**	P	**P**	**23 09 44.2**	**+0.5**
	baz=200						
KNB	**Kanab**	**87.63**	**48**	P	**P**	**23 09 45.9**	**+1.3**
KNB				IAmb	IAmb	23 09 47.2	
	comp=Z,32nm,1.3s						
J08A	**Circle Bar Ran**	**87.64**	**40**	P	**P**	**23 09 45.1**	**+0.7**
SLKM	**Skilak Lake**	**87.67**	**14**	P	**P**	**23 09 44.0**	**0.0**
U15A	**North Rim**	**87.67**	**48**	P	**P**	**23 09 45.8**	**+0.9**
U15A				IAmb	IAmb	23 09 47.6	
	comp=Z,26nm,1.1s						
CAPN	**Captain Cook N**	**87.70**	**14**	P	**P**	**23 09 44.6**	**+0.6**
	baz=206						
SPR3	**Spring Creek 3**	**87.71**	**45**	P	**P**	**23 09 45.2**	**+0.1**
O22K	**Cooper Landing**	**87.76**	**14**	P	**P**	**23 09 44.4**	**+0.1**
O22K	**Cooper Landing**	**87.76**	**14**	P	**P**	**23 09 44.4**	**+0.1**
	baz=207						
PSUT	**Pine Spring**	**87.76**	**46**	P	**P**	**23 09 45.0**	**-0.2**
GAMB	**Gambell**	**87.77**	**4**	P	**P**	**23 09 44.2**	**0.0**
	baz=188						
HPIG		**87.80**	**59**	P	**P**	**23 09 45.7**	**+0.1**
HPIG				IAmb	IAmb	23 09 47.8	
	comp=Z,15nm,0.9s						
WUAZ	**Wupatki**	**87.83**	**49**	P	**P**	**23 09 46.3**	**+0.8**
WUAZ				IAmb	IAmb	23 09 48.1	
	comp=Z,22nm,1.3s						
GNW	**Green Mountain**	**87.83**	**35**	P	**P**	**23 09 45.5**	**+0.5**
GNW				IAmb	IAmb	23 09 47.3	
	comp=Z,18nm,1.0s						
LON	**Longmire**	**87.85**	**36**	P	**P**	**23 09 45.6**	**+0.5**
N20K	**Mount Spurr**	**87.86**	**13**	P	**P**	**23 09 44.4**	**-0.5**
	baz=205,SNR=8.6						
SPCR	**Spurr Chakacha**	**87.86**	**13**	P	**P**	**23 09 44.5**	**-0.4**
	baz=205						
SPU	**Mount Spurr**	**87.88**	**13**	P	**P**	**23 09 44.2**	**-0.7**
P23K	**Montague Islan**	**87.88**	**16**	P	**P**	**23 09 45.3**	**+0.4**
	baz=210						
DUN6	**Lazy B Ranch**	**87.94**	**53**	P	**P**	**23 09 47.3**	**+1.3**
L18K	**Granite Mounta**	**87.96**	**11**	IAmb	IAmb	23 09 46.9	
	comp=Z,26nm,1.4s						
L18K	**Granite Mounta**	**87.96**	**11**	P	**P**	**23 09 45.9**	**+0.7**
	baz=201						
CLRS	**Cowichan Lake**	**87.98**	**33**	P	**P**	**23 09 46.1**	**+0.5**
CLRS				IAmb	IAmb	23 09 48.0	
	comp=Z,21nm,1.0s						
D05A	**Enumclaw**	**88.03**	**35**	P	**P**	**23 09 47.2**	**+1.3**
M19K	**Big River Lodg**	**88.08**	**12**

baz=209,SNR=6.9
PMR Palmer 88.88 14 P P 23 09 49.4 -0.1
PMR IAmb IAmb 23 09 50.4
comp=Z,14nm,0.9s
PMR Palmer 88.88 14 P P 23 09 49.7 +0.2
baz=208
121A Cookes Peak, D 88.88 54 P P 23 09 50.8 +0.3
121A IAmb IAmb 23 09 53.6
comp=Z,19nm,1.3s
121A Cookes Peak, D 88.88 54 P P 23 09 50.6 0.0
baz=240
RAGM Ragged Mountai 88.92 17 P P 23 09 50.1 +0.3
HMT Hamilton 88.98 17 P P 23 09 50.1 0.0
EFI East Falkland 89.07 148 P P 23 09 50.7 -0.2
SIT Sitka 89.08 23 P P 23 09 50.7 +0.2
baz=220
GHO Glory Hole Cre 89.08 14 P P 23 09 50.6 0.0
J18K Innoko River 89.12 10 P P 23 09 51.1 +0.5
J18K IAmb IAmb 23 09 51.9
comp=Z,18nm,1.1s
J18K Innoko River 89.12 10 P P 23 09 51.2 +0.5
baz=201
V35K Ketchikan 89.16 25 P P 23 09 52.1 +1.2
V35K Ketchikan 89.16 25 P P 23 09 52.1 +1.2
baz=223,SNR=7.8
U33K Whale Pass 89.16 24 P P 23 09 52.3 +1.3
U33K IAmb IAmb 23 09 53.4
comp=Z,21nm,0.9s
U33K Whale Pass 89.16 24 P P 23 09 52.0 +1.1
baz=222,SNR=8.0
E08A Dider Farm, El 89.19 37 P P 23 09 51.4 +0.1
E08A IAmb IAmb 23 09 53.5
comp=Z,24nm,1.1s
BMO Blue Mountains 89.20 39 P P 23 09 52.1 +0.5
BMO IAmb IAmb 23 09 53.5
comp=Z,36nm,1.8s
SNH Sunshine Point 89.23 18 P P 23 09 52.3 +1.0
MFID Camas Ranch 89.25 41 P P 23 09 52.7 +0.8
SML Sawmill 89.25 14 P P 23 09 52.2 +0.8
baz=209
DIV Divide 89.27 16 P P 23 09 51.6 +0.1
DIV IAmb IAmb 23 09 52.6
comp=Z,26nm,1.2s
DUG Dugway, Tooele 89.34 45 P P 23 09 52.8 +0.3
CUT Chulitna 89.36 13 P P 23 09 52.0 +0.3
CUT Chulitna 89.36 13 P P 23 09 51.6 -0.1
baz=207
M23K Glacier View 89.38 15 P P 23 09 52.1 +0.2
baz=209
PPLA Purkeypile 89.41 12 P P 23 09 52.5 +0.3
baz=205
BMRM Bremner River 89.43 16 P P 23 09 52.2 0.0
BMRM Bremner River 89.43 16 P P 23 09 52.5 +0.3
baz=212,SNR=7.4
EPT El Paso 89.46 55 P P 23 09 53.5 +0.3
H16K Elim 89.46 8 P P 23 09 52.6 +0.5
baz=196
S31K Pelican 89.47 22 P P 23 09 52.9 +0.6
baz=219
K20K Telida 89.48 11 P P 23 09 51.8 -0.5
K20K IAmb IAmb 23 09 53.4
comp=Z,14nm,1.1s
K20K Telida 89.48 11 P P 23 09 52.7 +0.4
baz=204
MESA MESA 89.48 18 P P 23 09 53.1 +0.5
MESA MESA 89.48 18 P P 23 09 53.1 +0.5
baz=214
TLIG Tlapa 89.49 71 P P 23 09 54.1 +0.5
TLIG IAmb IAmb 23 09 56.4
comp=Z,22nm,1.2s
SCM Sheep Creek Mo 89.50 15 P P 23 09 52.4 -0.2
SCM IAmb IAmb 23 09 54.2
comp=Z,22nm,1.0s
SCM Sheep Creek Mo 89.50 15 P P 23 09 53.2 +0.6
baz=210,SNR=7.8
KLU Klutina 89.55 16 P P 23 09 53.0 +0.3
KLU IAmb IAmb 23 09 54.0
comp=Z,20nm,1.5s
KLU Klutina 89.55 16 P P 23 09 53.1 +0.3
baz=211
BGU Big Grassy Mou 89.60 44 P P 23 09 53.6 0.0
D08A Wollman Farm, 89.60 37 P P 23 09 54.4 +1.1
D08A IAmb IAmb 23 09 55.5
comp=Z,13nm,0.9s
G15K Niukluk 89.60 7 P P 23 09 53.5 +0.7
baz=195
CMAR Chiang Mai Arr 89.61 290 P P 23 09 54.8 +0.8
CMAR Chiang Mai Arr 89.61 290 P P 23 09 55.6 +1.6
comp=Z,0.7nm,0.3s,baz=139,slow=3.2,SNR=7.4
CMAR PP **PP 23 13 35.1 -0.3**
comp=Z,1.5nm,0.3s,baz=111,slow=6.9,SNR=4.7
comp=Z,0.7nm,0.3s
S32K Killisnoo 89.66 23 P P 23 09 53.6 +0.4
S32K Killisnoo 89.66 23 P P 23 09 53.7 +0.5
baz=221
BI02 San Fabin de 89.69 130 P P 23 09 54.6 +0.3
BI02 IAmb IAmb 23 09 56.4
comp=Z,9.7nm,0.8s
E09A Wood Farm, Sta 89.70 37 P P 23 09 54.1 +0.4
E09A IAmb IAmb 23 09 55.6
comp=Z,17nm,1.1s
Q16A Castle Valley 89.74 47 P P 23 09 54.8 +0.4
J19K Poorman 89.80 10 P P 23 09 53.9 +0.1
J19K Poorman 89.80 10 P P 23 09 54.4 +0.6
baz=202
TNA Tin City 89.80 5 P P 23 09 53.4 -0.2
TNA Tin City 89.80 5 P P 23 09 54.0 +0.4
baz=191
F14K Arctic Creek 89.85 6 P P 23 09 54.3 +0.4
baz=192
F10A Beach Ranch, E 89.90 38 P P 23 09 54.5 -0.3
F10A IAmb IAmb 23 09 56.2
comp=Z,13nm,0.9s
CAST Castle Rocks 89.90 12 P P 23 09 52.8 -1.5
CAST IAmb IAmb 23 09 54.0
comp=Z,17nm,1.0s
CAST Castle Rocks 89.90 12 P P 23 09 53.8 -0.5
baz=205
TMUT Trail Mountain 89.92 46 P P 23 09 56.5 +1.2
VRDI Verde Repeater 89.95 17 P P 23 09 54.9 +0.1
N25K Chitina, Valde 89.97 16 P P 23 09 54.4 -0.3
N25K IAmb IAmb 23 09 56.2
comp=Z,17nm,1.3s
N25K Chitina, Valde 89.97 16 P P 23 09 54.4 -0.3
baz=212,SNR=6.2
MPU Maple Canyon 90.01 46 P P 23 09 55.9 +0.3
MPU IAmb IAmb 23 09 57.9
comp=Z,13nm,0.9s
M24K Tolsona, Glenn 90.02 15 P P 23 09 54.7 -0.2
baz=211
SBM South Baldy 90.03 53 P P 23 09 57.4 +1.3
GLB Gilahina Butte 90.03 16 P P 23 09 54.6 -0.4
GLB IAmb IAmb 23 09 56.3
comp=Z,11nm,1.2s
H17K Granite Mounta 90.04 8 P P 23 09 55.3 +0.4
baz=198
PLID Pearl Lake 90.10 40 P P 23 09 56.0 0.0
PLID IAmb IAmb 23 09 57.7
comp=Z,26nm,1.6s
VHRN Van Horn 90.14 56 P P 23 09 56.8 +0.4
VHRN IAmb IAmb 23 09 59.0
comp=Z,19nm,1.2s
B08A Colville Reser 90.16 36 P P 23 09 55.7 -0.2
B08A IAmb IAmb 23 09 58.0
comp=Z,22nm,1.6s
G16K Koyuk River 90.18 7 P P 23 09 55.8 +0.3
baz=196
HLID Hailey 90.18 41 P P 23 09 57.2 +0.9
HLID IAmb IAmb 23 09 58.7
comp=Z,14nm,1.1s
J20K Nowinta River 90.22 11 P P 23 09 56.0 +0.3
J20K Nowinta River 90.22 11 P P 23 09 55.5 -0.2
baz=204
HVU Hansel Valley 90.22 44 P P 23 09 57.0 +0.5
F15K North Star Dit 90.24 6 P P 23 09 54.9 -0.8
baz=194
LLLB Lillooet 90.25 33 P P 23 09 56.5 +0.3
LLLB IAmb IAmb 23 09 58.0
comp=Z,12nm,1.0s
KTH Kantishna Hill 90.25 13 P P 23 09 55.3 -0.7
KTH IAmb IAmb 23 09 56.4
comp=Z,9.9nm,0.9s
LENM Lemitar 90.27 52 P P 23 09 57.9 +1.0
SRU San Rafael Swe 90.27 47 P P 23 09 57.5 +0.7
CHUM Lake Minchumin 90.28 12 P P 23 09 55.6 -0.4
baz=205

TRF Thorofare Moun 90.29 13 P P 23 09 55.8 -0.4
TRF IAmb IAmb 23 09 56.5
comp=Z,13nm,0.9s
TRF Thorofare Moun 90.29 13 P P 23 09 56.2 -0.1
baz=207
CRNM Carthage 90.34 53 P P 23 09 58.1 +0.9
JLU Jordanelle 90.44 45 P P 23 09 58.3 +0.6
H18K Honhosa River 90.46 9 P P 23 09 56.5 -0.4
baz=200
O28M Mount Upton 90.47 18 P P 23 09 57.3 0.0
baz=216
TX31 Lajitas Ar. Si 90.48 58 P P 23 09 58.9 +1.0
TX31 IAmb IAmb 23 10 00.6
comp=Z,19nm,1.1s
TXAR Lajitas Array 90.48 58 P P 23 09 59.2 +1.3
TXAR Lajitas Array 90.48 58 P P 23 09 59.7 +1.8
comp=Z,7.4nm,0.8s,baz=212,slow=6.5,SNR=54
TXAR pP **pP 23 11 53.9 +0.7**
comp=Z,0.3nm,0.8s,baz=246,slow=3.6,SNR=2.5
TXAR PKKPbc **PKKPbc 23 27 23.3 +0.5**
comp=Z,0.3nm,0.6s,baz=37,slow=3.8,SNR=5.0
comp=Z,7.4nm,0.8s
G17K Kiwalik Mounta 90.49 8 P P 23 09 57.4 +0.5
baz=198
HARP HAARP 90.51 15 P P 23 09 58.3 +1.2
baz=212
BNM Barren Site 90.52 53 P P 23 09 59.1 +0.9
HHC Hu-ho-hao-te 90.55 315 *eP* **P 23 10 01.5 +3.6**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,74nm,5.1s
RND Reindeer 90.55 13 P P 23 09 56.8 -0.6
RND IAmb IAmb 23 09 58.0
comp=Z,18nm,1.0s
O29M Mount Kennedy 90.56 19 P P 23 09 58.0 +0.5
O29M IAmb IAmb 23 09 59.4
comp=Z,14nm,1.4s
O29M Mount Kennedy 90.56 19 P P 23 09 58.1 +0.5
baz=217
P18A Preston Nutter 90.72 46 P P 23 10 00.0 +0.9
P18A IAmb IAmb 23 10 01.1
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 90.73 12 P P 23 09 59.2 +1.0
baz=206
I20K Naaghedeneel 90.73 11 P P 23 09 58.5 +0.5
baz=203
TCUT Toone Canyon 90.74 45 P P 23 09 59.6 +0.6
PZH PanZhiHua 90.78 299 P P 23 09 57.9 -1.5
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,140nm,5.9s
MCK McKinley 90.82 13 P P 23 09 57.9 -0.7
MCK McKinley 90.82 13 P P 23 09 58.9 +0.4
baz=208
BSUT Blindstream Ca 90.86 45 P P 23 10 00.3 +0.6
T35M Bob Quinn 90.88 25 P P 23 09 59.5 +0.6
T35M Bob Quinn 90.88 25 P P 23 09 59.6 +0.6
baz=224
HWUT Hardware Ranch 90.89 44 P P 23 09 59.9 +0.3
HWUT IAmb IAmb 23 10 01.2
comp=Z,7.8nm,0.8s
PV10 Paradox Valley 90.90 48 P P 23 09 59.3 -0.5
PV10 IAmb IAmb 23 10 01.2
comp=Z,12nm,1.0s
P30M Million Dollar 90.92 20 P P 23 09 59.4 +0.3
baz=219
PAX Paxson 90.93 15 P P 23 09 59.3 +0.2
baz=211
PV13 Radium Mtn., P 90.94 48 P P 23 09 59.7 -0.2
PV23 Carpenter Ridg 90.95 48 P P 23 10 00.5 +0.4
PV23 IAmb IAmb 23 10 01.9
comp=Z,14nm,1.0s
PV11 David Mesa, Pa 90.97 48 P P 23 10 00.0 -0.1
PV11 IAmb IAmb 23 10 01.9
comp=Z,11nm,1.2s
ALPN Alpine 90.98 57 P P 23 10 00.4 +0.2
ALPN IAmb IAmb 23 10 02.4
comp=Z,16nm,1.2s
YUK8 Steele Glacier 91.01 18 P P 23 09 59.6 -0.2
baz=216,SNR=5.7
ANMO Albuquerque 91.02 52 P P 23 10 01.0 +0.6
ANMO IAmb IAmb 23 10 02.4
comp=Z,9.6nm,1.1s
M26K Nabesna, AK 91.05 16 P P 23 09 59.7 0.0
M26K Nabesna, AK 91.05 16 P P 23 10 00.1 +0.4
baz=213
H19K Roundabout Mou 91.10 10 P P 23 09 59.9 +0.2
H19K IAmb IAmb 23 10 01.1
comp=Z,15nm,1.2s
H19K Roundabout Mou 91.10 10 P P 23 10 00.4 +0.8
baz=201
G18K Tagagawik 91.12 9 P P 23 10 00.5 +0.7
baz=199
YUK6 Outpost Mounta 91.14 19 P P 23 10 00.9 +0.6
baz=217
PV07 Paradox Valley 91.19 48 P P 23 10 00.4 -0.7
S34M Telegraph Cree 91.23 24 P P 23 10 01.2 +0.7
S34M IAmb IAmb 23 10 02.8
comp=Z,11nm,1.0s
S34M Telegraph Cree 91.23 24 P P 23 10 01.3 +0.8
baz=224
PV15 Paradox Valley 91.26 48 P P 23 10 02.4 +0.9
HYT Haines Junctio 91.30 19 P P 23 10 01.1 +0.2
baz=218
M27K Edge Creek, AK 91.31 17 P P 23 10 01.3 +0.3
M27K IAmb IAmb 23 10 02.6
comp=Z,12nm,1.1s
M27K Edge Creek, AK 91.31 17 P P 23 10 01.2 +0.2
baz=214
H20K Anotleneega Mo 91.31 10 P P 23 10 01.4 +0.7
baz=203
F17K Baldwin Pennin 91.32 7 P P 23 10 00.6 -0.1
F17K IAmb IAmb 23 10 02.0
comp=Z,14nm,1.0s
F17K Baldwin Pennin 91.32 7 P P 23 10 01.6 +0.9
baz=197
YUK4 Talbot Arm 91.38 19 P P 23 10 02.2 +0.8
baz=217
L26K Log Cabin Wild 91.49 16 P P 23 10 02.0 +0.4
baz=213
I21K Tanana 91.52 11 P P 23 10 01.7 0.0
baz=205
P32M Atlin 91.56 22 P P 23 10 02.6 +0.6
P32M Atlin 91.56 22 P P 23 10 02.6 +0.6
baz=221
K24K Donnelly Dome 91.57 14 P P 23 10 02.4 +0.4
baz=211
G19K Purcell Mounta 91.58 9 P P 23 10 02.5 +0.6
baz=201
Q32M Nakina River 91.59 23 P P 23 10 02.3 -0.1
Q32M IAmb IAmb 23 12 14.8
comp=Z,7.0nm,0.8s
Q32M Nakina River 91.59 23 P P 23 10 02.8 +0.4
baz=223
WRH Wood River Hil 91.65 13 P P 23 10 00.9 -1.4
WRH IAmb IAmb 23 10 02.7
comp=Z,7.7nm,1.0s
RDMU Red Mountain 91.65 46 P P 23 10 02.9 -0.3
RDMU IAmb IAmb 23 10 04.9
comp=Z,10nm,0.8s
F18K Selawik 91.66 8 P P 23 10 02.8 +0.5
baz=198
O30N Mendenhall 91.69 20 P P 23 10 03.2 +0.6
O30N Mendenhall 91.69 20 P P 23 10 03.0 +0.3
baz=219
RIDG Independent Ri 91.73 15 P P 23 10 03.1 +0.3
RIDG IAmb IAmb 23 12 26.5
comp=Z,20nm,1.6s
RIDG Independent Ri 91.73 15 P P 23 10 03.1 +0.3
baz=212
AHID Auburn Hatcher 91.80 43 P P 23 10 04.4 +0.6
H21K Melozitna Rive 91.81 11 P P 23 10 02.9 -0.1
H21K Melozitna Rive 91.81 11 P P 23 10 03.0 0.0
baz=205
HDA Harding Lake 91.84 14 P P 23 10 02.5 -0.7
HDA Harding Lake 91.84 14 P P 23 10 03.1 0.0
baz=210
DOT Dot Lake 91.84 15 P P 23 10 03.2 -0.1
CCB Clear Creek Bu 91.86 13 P P 23 10 02.7 -0.5
E17K Hotham Inlet 91.87 7 P P 23 10 03.7 +0.5
baz=197
L27K Beaver Creek, 91.90 16 P P 23 10 03.5 -0.1
L27K Beaver Creek, 91.90 16 P P 23 10 04.1 +0.6
baz=214

BCAR Beaver Creek A 91.92 16 P P 23 10 04.1 +0.5
SAND Sanderson 91.96 58 P P 23 10 05.5 +0.8
SAND IAmb IAmb 23 10 06.3
comp=Z,9.1nm,0.9s
I23K Minto, Yukon-K 91.99 12 P P 23 10 03.9 0.0
baz=208
WHY Whitehorse 91.99 20 P P 23 10 04.7 +0.6
WHY Whitehorse 91.99 20 P P 23 10 04.5 +0.4
baz=220
DLBC Dease Lake 92.01 24 P P 23 10 04.8 +0.6
DLBC IAmb IAmb 23 10 05.7
comp=Z,9.6nm,1.3s
DLBC Dease Lake 92.01 24 P P 23 10 04.4 +0.1
baz=224
MNHN Monahans 92.09 57 P P 23 10 06.0 +0.8
MNHN IAmb IAmb 23 10 06.2
comp=Z,15nm,1.6s
S22A 4UR Ranch, Cre 92.11 49 P P 23 10 05.7 +0.2
S22A IAmb IAmb 23 10 07.7
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 92.11 49 P P 23 10 05.4 -0.1
baz=241
F19K Shaleruckik Mo 92.13 9 P P 23 10 04.3 -0.1
F19K IAmb IAmb 23 10 05.5
comp=Z,10nm,1.2s
F19K Shaleruckik Mo 92.13 9 P P 23 10 04.9 +0.5
baz=200
SCRK Sand Creek 92.14 15 P P 23 10 04.6 -0.1
SCRK Sand Creek 92.14 15 P P 23 10 05.2 +0.5
baz=212
IL31 92.16 14 P P 23 10 03.8 -0.8
IL31 IAmb IAmb 23 12 10.3
comp=Z,16nm,1.8s
ILAR Eielson Array 92.16 14 P P 23 10 04.0 -0.7
ILAR Eielson Array 92.16 14 P P 23 10 03.9 -0.8
comp=Z,1.5nm,0.8s,baz=230,slow=5.6,SNR=13
ILAR pP **pP 23 12 00.2 -0.2**
comp=Z,1.3nm,1.0s,baz=224,slow=2.5,SNR=5.7
comp=Z,1.5nm,0.8s
TPAW Teton Pass 92.27 43 P P 23 10 05.5 -0.6
TPAW IAmb IAmb 23 10 07.2
comp=Z,14nm,1.4s
H22K Ishtalitna Cre 92.28 11 P P 23 10 05.8 +0.6
baz=206
FXWY Fox Creek 92.30 43 P P 23 10 06.4 +0.3
M29M Somme Creek 92.31 18 P P 23 10 05.3 -0.2
M29M Somme Creek 92.31 18 P P 23 10 05.8 +0.3
baz=217
O20A White River Ci 92.31 47 P P 23 10 06.2 0.0
O20A IAmb IAmb 23 10 07.9
comp=Z,11nm,1.1s
P33M Teslin, Yukon 92.33 21 P P 23 10 05.7 +0.1
P33M Teslin, Yukon 92.33 21 P P 23 10 06.4 +0.8
baz=222
D17K Noatak River 92.33 6 P P 23 10 06.1 +0.7
baz=195
E18K Tukpahlearik C 92.33 7 P P 23 10 05.1 -0.2
E18K IAmb IAmb 23 10 06.6
comp=Z,13nm,1.1s
E18K Tukpahlearik C 92.33 7 P P 23 10 06.1 +0.7
baz=198
BPMT Black Pine Rid 92.33 39 P P 23 10 05.4 -0.8
N31M Braeburn, Yuko 92.34 20 P P 23 10 05.9 +0.3
N31M IAmb IAmb 23 10 07.1
comp=Z,9.4nm,1.1s
N31M Braeburn, Yuko 92.34 20 P P 23 10 06.4 +0.8
baz=220
POKR Poker Plat Res 92.35 13 P P 23 10 06.2 +0.7
baz=210
J25K Salcha River, 92.36 14 P P 23 10 05.7 0.0
J25K IAmb IAmb 23 10 30.7
comp=Z,14nm,1.7s
J25K Salcha River, 92.36 14 P P 23 10 05.9 +0.2
baz=211
R33M Jennings River 92.36 23 P P 23 10 06.7 +0.9
R33M IAmb IAmb 23 10 07.8
comp=Z,11nm,1.3s
R33M Jennings River 92.36 23 P P 23 10 06.2 +0.4
baz=224
BILL Bilibino 92.37 355 P P 23 10 05.6 0.0
BILL IAmb IAmb 23 10 06.9
comp=Z,6.5nm,0.9s
SNOW Snow King Moun 92.38 43 P P 23 10 07.3 +0.8
G21K Allakaket 92.48 10 P P 23 10 06.4 +0.3
G21K IAmb IAmb 23 10 07.3
comp=Z,12nm,1.4s
G21K Allakaket 92.48 10 P P 23 10 06.6 +0.5
baz=204
MOOW Moose Ponds 92.53 43 P P 23 10 04.9 -2.3
LOHW Long Hollow 92.55 43 P P 23 10 08.0 +0.7
F20K Avaraart Lake 92.62 9 P P 23 10 06.2 -0.5
F20K IAmb IAmb 23 10 08.0
comp=Z,15nm,1.5s
F20K Avaraart Lake 92.62 9 P P 23 10 07.4 +0.7
baz=202
K27K Chicken 92.64 16 P P 23 10 07.7 +0.8
baz=214
C16K Lisburne Hills 92.68 5 P P 23 10 07.9 +1.0
baz=193
J26L Joseph Creek 92.68 15 P P 23 10 07.5 +0.3
J26L IAmb IAmb 23 10 08.7
comp=Z,9.6nm,0.9s
J26L Joseph Creek 92.68 15 P P 23 10 07.8 +0.6
baz=213
RDOG Red Dog Mine 92.69 6 P P 23 10 07.8 +0.8
baz=196
PD31 Pinedale Array 92.77 44 P P 23 10 08.2 -0.1
PD31 IAmb IAmb 23 10 09.8
comp=Z,16nm,1.6s
PDAR Pinedale Array 92.77 44 P P 23 10 08.2 -0.1
PDAR Pinedale Array 92.77 44 P P 23 10 08.8 +0.4
comp=Z,2.9nm,0.8s,baz=219,slow=3.8,SNR=25
PDAR PP **PP 23 14 00.1 +0.2**
comp=Z,0.5nm,0.9s,baz=247,slow=5.1,SNR=4.9
comp=Z,2.9nm,0.8s
E19K Redstone River 92.79 9 P P 23 10 06.9 -0.6
E19K IAmb IAmb 23 10 08.8
comp=Z,8.5nm,1.0s
E19K Redstone River 92.79 9 P P 23 10 08.0 +0.5
baz=201
YHL Hebgen Lake 92.83 42 P P 23 10 09.3 +0.6
M30M Minto, Yukon 92.89 18 P P 23 10 08.1 0.0
M30M IAmb IAmb 23 10 09.2
comp=Z,12nm,1.4s
M30M Minto, Yukon 92.89 18 P P 23 10 08.5 +0.4
baz=219
DRIO Del Rio 92.90 59 P P 23 10 09.5 +0.6
L29M L29M 92.93 18 P P 23 10 08.5 +0.2
L29M IAmb IAmb 23 10 10.0
comp=Z,13nm,1.0s
L29M L29M 92.93 18 P P 23 10 09.5 +1.2
baz=218
N32M Quiet Lake 92.94 21 P P 23 10 09.6 +1.2
baz=222
BOZ Bozeman (W) 92.95 41 P P 23 10 08.7 -0.3
SDCO Great Sand Dun 93.03 50 P P 23 10 09.6 0.0
SDCO IAmb IAmb 23 10 11.3
comp=Z,7.4nm,1.1s
C17K DeLong Mountai 93.07 6 P P 23 10 09.5 +0.7
baz=195
PRP Porcupine Dome 93.10 14 P P 23 10 09.7 +0.5
baz=211
F21K Alatna River 93.13 10 P P 23 10 09.6 +0.5
baz=204
G23K Bananza Creek 93.25 11 P P 23 10 10.3 +0.6
baz=207
M31M Drury Creek, Y 93.32 20 P P 23 10 10.9 +0.8
baz=221
DAWY Dawson 93.36 17 P P 23 10 10.3 +0.1
DAWY IAmb IAmb 23 10 11.4
comp=Z,7.7nm,0.9s
DAWY Dawson 93.36 17 P P 23 10 10.6 +0.4
baz=217
833A Chaparral WMA, 93.39 61 P P 23 10 11.4 +0.2
baz=245
C18K Utukok River 93.44 7 P P 23 10 11.1 +0.6
baz=197
I26K Coal Creek Min 93.45 15 P P 23 10 10.4 -0.1
I26K Coal Creek Min 93.45 15 P P 23 10 11.0 +0.5
baz=213
T25A Trinidad 93.52 51 P P 23 10 11.2 -0.6
baz=242
F22K John River 93.60 10 P P 23 10 11.2 0.0
baz=205
YNE Yellowstone No 93.63 42 P P 23 10 12.5 +0.3
YNE IAmb IAmb 23 12 53.5

comp=Z,5.4nm,0.8s
D19K Kuna River 93.66 8 P **P** 23 10 11.4 -0.1
D19K IAmb IAmb 23 10 13.2
comp=Z,9.1nm,1.1s
D19K Kuna River 93.66 8 P **P** 23 10 11.8 +0.3
baz=200
K29M Barlow Dome 93.68 17 P **P** 23 10 11.9 +0.1
K29M IAmb IAmb 23 10 13.2
comp=Z,7.3nm,1.0s
K29M Barlow Dome 93.68 17 P **P** 23 10 12.4 +0.6
baz=218
E20K Nigu River 93.69 9 P **P** 23 10 12.2 +0.6
baz=202
G24K Hadweenzic Riv 93.73 12 P **P** 23 10 12.4 +0.5
baz=210
Q24A Divide 93.84 49 P **P** 23 10 13.9 +0.5
baz=242
J29N Klondike Camp 93.98 17 P **P** 23 10 13.3 +0.2
J29N IAmb IAmb 23 10 14.7
comp=Z,5.8nm,0.8s
J29N Klondike Camp 93.98 17 P **P** 23 10 14.1 +1.0
baz=218
HNDO Hondo 94.00 60 P **P** 23 10 14.4 +0.4
HNDO IAmb IAmb 23 10 16.1
comp=Z,11nm,1.1s
D20K Etivluk River 94.06 8 P **P** 23 10 13.9 +0.6
baz=201
G25K Bearman Lake 94.06 13 P **P** 23 10 13.9 +0.6
baz=211
I27K Kandik River 94.06 15 P **P** 23 10 13.7 +0.3
baz=215
B18K Kokolik River 94.07 6 P **P** 23 10 13.9 +0.6
baz=197
TOAD Toad River Com 94.11 25 P **P** 23 10 13.9 +0.2
baz=228
E22K Anaktuvuk Pass 94.23 10 P **P** 23 10 13.8 -0.3
E22K Anaktuvuk Pass 94.23 10 P **P** 23 10 14.1 0.0
baz=206
I28M Miner Creek 94.34 16 P **P** 23 10 14.5 -0.2
I28M Miner Creek 94.34 16 P **P** 23 10 14.5 -0.2
baz=216
F24K Squaw Lake 94.36 12 P **P** 23 10 14.7 -0.1
baz=209
E23K Chandalar 94.53 11 P **P** 23 10 15.9 +0.3
baz=208
J30M Hart River 94.58 17 P **P** 23 10 16.6 +0.7
baz=219
H27K Steamboat Moun 94.60 15 P **P** 23 10 16.4 +0.6
baz=215
MMPY Sheldon Lake, 94.61 20 P **P** 23 10 16.3 +0.3
baz=224
I29M Ogilvie Camp, 94.68 16 P **P** 23 10 15.6 -0.5
I29M IAmb IAmb 23 12 13.0
comp=Z,15nm,1.6s
I29M Ogilvie Camp, 94.68 16 P **P** 23 10 16.1 0.0
baz=218
G26K Porcupine Rive 94.70 13 P **P** 23 10 16.7 +0.5
baz=213
C21K Knifeblade Rid 94.72 9 P **P** 23 10 17.1 +0.8
baz=203
D22K Ayikyak River 94.77 10 P **P** 23 10 16.7 +0.2
baz=205
TGTN Hyland Airport 94.82 22 P **P** 23 10 18.2 +1.3
baz=226
F25K Christian Rive 94.86 13 P **P** 23 10 17.9 +0.9
baz=211
A19K Waimwright 94.95 6 P **P** 23 10 18.0 +0.8
baz=197
TOLK Toolik Lake Re 95.06 11 P **P** 23 10 17.9 0.0
baz=208
I30M Mount Dempster 95.07 17 P **P** 23 10 17.9 -0.2
I30M Mount Dempster 95.07 17 P **P** 23 10 18.4 +0.3
baz=219
D23K Nanushuk River 95.16 10 P **P** 23 10 18.7 +0.4
baz=207
B21K Ikpikpuk River 95.17 9 P **P** 23 10 18.8 +0.5
baz=203
B20K Meade River 95.20 8 P **P** 23 10 19.0 +0.6
baz=201
F26K Sheenjek River 95.25 13 P **P** 23 10 19.4 +0.7
baz=212
E25K Arctic Village 95.33 12 P **P** 23 10 19.8 +0.7
baz=211
H29M Whitestone 95.34 16 P **P** 23 10 18.8 -0.4
H29M IAmb IAmb 23 10 20.7
comp=Z,7.9nm,1.1s
C23K Itkillik River 95.95 10 P **P** 23 10 22.4 +0.6
baz=207
G29M Pine Creek 95.98 15 P **P** 23 10 22.8 +0.8
baz=218
B22K Teshekpuk Lake 96.00 9 P **P** 23 10 22.9 +0.9
baz=204
F28M Old Crow 96.11 14 P **P** 23 10 23.0 +0.4
baz=216
C24K Franklin Bluff 96.16 10 P **P** 23 10 23.4 +0.7
baz=208
E27K Coleen River 96.20 13 P **P** 23 10 23.3 +0.3
E27K Coleen River 96.20 13 P **P** 23 10 23.8 +0.8
baz=215
A22K Sinclair Lake 96.40 8 P **P** 23 10 24.1 +0.3
baz=203
G30M tAoh Zraii Nji 96.48 16 P **P** 23 10 23.7 -0.6
G30M tAoh Zraii Nji 96.48 16 P **P** 23 10 24.4 +0.1
baz=220
A21K Barrow 96.50 7 P **P** 23 10 24.7 +0.6
baz=201
G31M Satah River 96.93 17 P **P** 23 10 25.5 -0.7
G31M IAmb IAmb 23 10 27.1
comp=Z,8.3nm,1.1s
G31M Satah River 96.93 17 P **P** 23 10 26.2 0.0
baz=221
E28M Babbage River 96.98 14 P **P** 23 10 26.4 -0.1
E28M IAmb IAmb 23 10 27.7
comp=Z,3.6nm,0.8s
E28M Babbage River 96.98 14 P **P** 23 10 27.0 +0.5
baz=217
C26K Camden Bay 96.99 12 P **P** 23 10 27.1 +0.7
baz=212
F30M Barrier River 97.07 16 P Pdif 23 10 27.3 +0.4
baz=220
E29M Blow River 97.18 14 P **P** 23 10 27.8 +0.5
baz=218
D27M Malcolm River 97.20 13 P Pdif 23 10 27.6 +0.1
baz=216
SONM Songino Array 97.23 319 PP **PP** 23 14 37.3 +3.5
comp=Z,1.0nm,1.0s,baz=132,slow=6.8,SNR=4.0
SONM PKKPbc **PKKPbc** 23 27 05.6 -0.4
comp=Z,0.5nm,0.6s,baz=303,slow=2.2,SNR=4.7
F31M Tsiigehtchic 97.46 16 P Pdif 23 10 28.2 -0.3
F31M Tsiigehtchic 97.46 16 P Pdif 23 10 28.7 +0.2
baz=222
INK Inuvik 98.16 16 P Pdif 23 10 31.7 +0.1
baz=222
YKA Yellowknife Ar 100.48 25 P **Pdif** 23 10 42.0 -0.1
comp=Z,0.2nm,0.7s,baz=249,slow=5.1,SNR=4.1
YKA PP **PP** 23 14 54.8 -2.8
comp=Z,0.1nm,0.5s,baz=240,slow=8.0,SNR=4.4
ZALV Zalesovo Beam 112.08 321 Pdiff **Pdif** 23 11 31.8 -2.1
comp=Z,0.6nm,0.7s,baz=70,slow=4.7,SNR=2.5
ZALV PKiKP **PKiKP** 23 15 26.2 -0.9
comp=Z,1.1nm,0.4s,baz=181,slow=0.8,SNR=8.0
MKAR Makanchi Array 112.28 313 PKiKP **PKiKP** 23 15 27.0 -0.8
comp=Z,1.7nm,0.7s,baz=216,slow=1.6,SNR=20
MKAR PKKPbc **PKKPbc** 23 26 20.3 -0.3
comp=Z,0.3nm,0.6s,baz=306,slow=3.0,SNR=5.4
MKAR PKKPab **PKKPab** 23 26 29.7 +0.6
comp=Z,0.9nm,0.7s,baz=272,slow=4.5,SNR=8.4
NRIK Noril'sk 113.13 337 PKiKP **PKiKP** 23 15 27.9 -0.8
comp=Z,0.5nm,0.3s,baz=80,slow=5.1,SNR=3.6
KURK Kurchatov 115.33 316 PKPdf **PKPdf** 23 15 32.1 -1.3
KURBB Kurchatov Arra 115.37 316 PKP **PKPdf** 23 15 32.6 -0.9
comp=Z,3.2nm,0.7s,baz=104,slow=1.9,SNR=41
KURBB PP **PP** 23 16 43.4 -1.5
comp=Z,0.6nm,0.9s,baz=100,slow=5.7,SNR=4.6
AAK Ala-Archa 117.02 307 **PKPdf** 23 15 37.2 0.0
AAK Ala-Archa 117.02 307 PKP **PKPdf** 23 15 36.3 -0.9
comp=Z,0.5nm,0.5s,baz=155,slow=4.3,SNR=7.1
TULEG Thule 118.11 14 *i P* **PKiKP** 23 15 41.8 +3.6
L61B Northampton 118.26 53 P **PKPdf** 23 15 38.2 -1.2
baz=262
BDFB Brasilia 118.70 125 PKP **PKPdf** 23 15 39.7 -1.5
comp=Z,2.5nm,0.6s,baz=75,slow=2.0,SNR=4.5
KBL Kabul 119.94 297 PKPdf **PKiKP** 23 15 43.5 +0.2
KKAR Karatay Array 119.98 307 PKPdf **PKPdf** 23 15 42.1 -0.6
BVAR Borovoye Array 120.57 319 PKP **PKPdf** 23 15 43.0 -0.5
comp=Z,5.1nm,0.5s,baz=120,slow=0.7,SNR=28
BRVK Borovoye 120.64 319 **PKPdf** 23 15 43.5 -0.1

E62A Clayton Lake 120.91 49 PKPdf **PKPdf** 23 15 43.9 -0.4
NEEM North Greenlan 121.40 12 *i P* **PKPdf** 23 15 43.8 -1.1
KULLO Kullorsuaq 121.52 15 *i P* **PKPdf** 23 15 43.3 -1.4
BOSA Boshof 122.29 206 PKP **PKPdf** 23 15 47.5 -0.3
comp=Z,4.0nm,0.7s,baz=175,slow=2.8,SNR=7.6
BOSA PKKPbc **PKKPbc** 23 25 44.9 -1.3
comp=Z,1.4nm,0.8s,baz=316,slow=1.6,SNR=4.2
UPNV Upernavik 122.57 17 *i P* **PKPdf** 23 15 45.7 -1.1
NUUG Nuugaatsiaq 123.94 18 *i P* **PKPdf** 23 15 48.3 -1.1
UMMG Ummannaq 124.67 19 *i P* **PKPdf** 23 15 50.3 -0.5
KBS Kingsbay 124.78 357 *i P* **PKPdf** 23 15 48.8 -2.2
SPA0 Spitsbergen Ar 125.27 356 *e*PKPdf **PKPdf** 23 15 52.0 +0.1
SPITS Spitsbergen Ar 125.27 356 PKP **PKPdf** 23 15 51.4 -0.5
comp=Z,25nm,1.0s,baz=64,slow=1.9,SNR=10.0
DAG Danmarks Havn 126.42 5 *i P* **PKPdf** 23 15 52.5 -1.6
SFJD Kangerlussuaq 126.90 22 *i P* **PKPdf** 23 15 54.4 -0.8
SUMG Summit 127.01 14 *i P* **PKPdf** 23 15 54.0 -1.8
ARTI Arti 127.12 324 PKPdf **PKPdf** 23 15 55.9 0.0
ABKAR Abkulak array 127.33 315 PKPdf **PKPdf** 23 15 56.6 +0.1
DBG Daneborg 128.56 7 *i P* **PKPdf** 23 15 57.7 -0.5
ARA0 ARCESS Array S 132.04 348 *e*PKPdf **PKPdf** 23 16 04.6 -0.3
ARCES ARCESS Array B 132.04 348 PKP **PKPdf** 23 16 04.7 -0.3
comp=Z,4.1nm,0.6s,baz=22,slow=1.2,SNR=26
LSZ Lusaka 132.21 218 PKPdf **PKiKP** 23 16 08.8 +0.6
KTK1 Kautokeino 132.90 349 *e*PKPdf **PKPdf** 23 16 07.2 +0.6
TRO Tromso 133.03 351 *e*PKPdf **PKPdf** 23 16 07.2 +0.4
STEI Steigen 135.12 352 *e*PKPdf **PKPdf** 23 16 11.5 +0.8
KMBO Kilima Mbogo 136.06 241 PKP **PKPdf** 23 16 13.1 -1.3
comp=Z,1.6nm,1.0s,baz=180,slow=7.1,SNR=3.8
KMBO PP **PP** 23 19 00.6 -0.3
comp=Z,0.4nm,0.3s,baz=115,slow=9.6,SNR=3.3
LEIR Leirfjorden 137.12 352 *e*PKPdf **PKPdf** 23 16 14.8 +0.3
FINES FINESS Array B 138.59 341 PKhKP PKPpre 23 16 06.9
comp=Z,2.6nm,0.8s,baz=29,slow=4.4,SNR=7.3
FINES PKP **PKPdf** 23 16 15.5 -1.8
comp=Z,4.2nm,0.8s,baz=49,slow=2.8,SNR=9.4
FINES SKPbc **SKPbc** 23 19 02.5 0.0
comp=Z,3.5nm,0.9s,baz=39,slow=4.1,SNR=7.6
DOMB Dombas 141.53 353 *e*PKPdf **PKPdf** 23 16 17.8 -4.8
NB2 NORSAR Subarra 142.23 351 PKP **PKPdf** 23 16 19.8 -4.1
comp=Z,10nm,1.4s,baz=16,slow=3.2
NOA NORSAR Array B 142.23 351 PKhKP PKPpre 23 16 20.1
comp=Z,5.6nm,0.9s,baz=16,slow=4.7,SNR=17
FOO Floro 142.31 356 *e*PKPdf **PKPdf** 23 16 20.9 -3.0
NC602 NORSAR Array S 142.47 351 *e*PKPdf **PKPdf** 23 16 20.9 -3.4
HYA Hoyanger 142.66 355 *e*PKPdf **PKPdf** 23 16 21.2 -3.4
HFS Hagfors 142.69 349 PKhKP PKPpre 23 16 21.2
comp=Z,14nm,0.4s,baz=64,slow=3.4,SNR=121
SUE Sulen 142.87 356 *e*PKPdf **PKPdf** 23 16 22.3 -2.7
SKAR Skarslia 142.94 353 *e*PKPdf **PKPdf** 23 16 23.5 -1.7
OSL Oslo 143.36 351 *e*PKPbc PKPab 23 16 24.0 0.0
ASK Askoy 143.41 356 *e*PKPbc PKPab 23 16 24.0 -0.2
BER Bergen 143.50 356 *e*PKPbc PKPab 23 16 24.5 0.0
KONO Kongsberg 143.79 352 PKPab 23 16 25.3 -0.4
KONO Kongsberg 143.79 352 *e*PKPbc PKPab 23 16 25.4 -0.3
ODD1 Odda 143.86 354 *e*PKPbc PKPbc 23 16 25.3 -0.6
BLS5 Blasjo 144.36 354 *e*PKPbc PKPbc 23 16 27.4 -0.1
KMY Karmoy 144.67 355 *e*PKPbc **PKPdf** 23 16 28.2 0.0
TJOU Tjoern 145.04 349 *i P* **PKPdf** 23 16 27.9 -0.9
AK03 Malin Array Si 145.10 327 PKP **PKPdf** 23 16 27.9 -1.2
AKASG Malin Array Be 145.11 327 **PKPdf** 23 16 29.2 0.0
AKASG Malin Array Be 145.11 327 PKPbc **PKPdf** 23 16 29.4 +0.2
comp=Z,12nm,0.6s,baz=43,slow=4.1,SNR=58
AKASG pPKPbc **pPKPdf** 23 18 31.1 -1.1
comp=Z,1.4nm,0.6s,baz=39,slow=4.3,SNR=3.9
AKASG SKPbc **SKPbc** 23 19 19.5 +0.4
comp=Z,3.5nm,0.7s,baz=48,slow=2.3,SNR=7.7
AKBB Malin Array Si 145.11 327 PKP **PKPdf** 23 16 28.0 -1.2
KIEV Kiev 145.12 327 PKPdf **PKPdf** 23 16 29.6 +0.4
KIEV Kiev 145.12 327 ⇑P **PKPdf** 23 16 29.6 +0.4
KIEV Kiev 145.12 327 PKP **PKPdf** 23 16 28.7 -0.5
AK09 Malin Array Si 145.13 327 PKP **PKPdf** 23 16 28.0 -1.2
AK08 Malin Array Si 145.14 327 PKP **PKPdf** 23 16 28.0 -1.2
BORU Boraas 145.21 348 *i P* **PKPdf** 23 16 27.9 -1.2
HOMB Homborsund 145.27 352 *e*PKPdf **PKPdf** 23 16 29.6 +0.5
HOMB Homborsund 145.27 352 *i P* **PKPdf** 23 16 28.5 -0.7
SNART Snartemo 145.35 353 *e*PKPdf **PKPdf** 23 16 30.2 +0.8
SNART Snartemo 145.35 353 *i P* **PKPdf** 23 16 29.6 +0.2
SUW Suwalki 145.41 336 *e*PKP **PKPbc** 23 16 30.5 -0.3
ONAU Onsala 145.59 349 *i P* **PKPdf** 23 16 29.4 -0.4
MI28 Mi28,Pidlybu 145.72 329 PKP **PKPdf** 23 16 29.0 -1.2
BLEU Blekinge 145.77 344 *i P* **PKPdf** 23 16 30.1 0.0
FABU Falkenberg 145.81 348 *i P* **PKPdf** 23 16 30.3 +0.2
DEL Delary 146.07 346 *i P* **PKPdf** 23 16 31.0 +0.4
RNPP9 Sopachiv 146.22 331 PKP **PKPdf** 23 16 29.8 -1.2
LUBAR Lubar, Ukraine 146.33 327 PKP **PKPdf** 23 16 30.0 -1.3
RNPP5 Staryi Chortor 146.35 330 PKP **PKPdf** 23 16 30.0 -1.3
GOET G??ttrup 146.37 351 *i P* **PKPbc** 23 16 33.2 -0.2
MCD Coleburn Disti 146.41 3 *e*P **PKPbc** 23 16 32.8 -0.7
KPL Plockton 146.49 6 *e*P **PKPbc** 23 16 33.5 -0.2
BJUU Bjuv 146.62 347 *i P* **PKPdf** 23 16 32.6 +1.0
BZK Bozkurt 146.66 311 ⇑P **PKPbc** 23 16 35.1 +0.5
LUNU Lund 146.94 346 *i P* **PKPdf** 23 16 31.0 -1.1
MUD Monsted U'grnd 146.94 351 *i P* **PKPbc** 23 16 34.0 -0.9
BSD Bornholm Skovb 147.06 344 *i P* **PKPbc** 23 16 34.1 -1.2
DRUM Mains of Drumt 147.12 3 *e*P **PKPbc** 23 16 35.0 -0.4
SORM Soroca 147.14 324 ⇑P **PKPbc** 23 16 35.4 -0.3
PURM Purcari 147.21 321 ⇑P **PKPbc** 23 16 35.7 -0.3
PURM Purcari 147.21 321 PKP **PKPdf** 23 16 31.6 -1.2
INVG Invergeldie, C 147.51 4 *e*P **PKPbc** 23 16 36.2 -0.3
LAWE Loch Awe, Argy 147.57 6 *e*P **PKPbc** 23 16 36.1 -0.5
R9F13 Warsaw-Wawer 147.58 336 *e*PKPdf **PKPbc** 23 16 37.4 +0.6
MILM Milestii Mici 147.60 322 ⇑P **PKPbc** 23 16 36.4 -0.6
KIRS Kirsehir-Merke 147.67 306 ⇓P **PKPbc** 23 16 37.8 +0.2
BRTR Keskin Array B 147.69 307 **PKPdf** 23 16 33.4 -0.7
BRTR Keskin Array B 147.69 307 PKPbc **PKPbc** 23 16 37.6 -0.1
comp=Z,4.5nm,0.7s,baz=211,slow=3.6,SNR=16
BRTR pPKPbc **pPKPdf** 23 18 36.8 -0.5
comp=Z,0.8nm,0.8s,baz=131,slow=4.0,SNR=2.7
MMAI Mount Meron Ar 147.79 294 PKPbc **PKiKP** 23 16 39.3 -0.2
comp=Z,30nm,0.7s,baz=76,slow=7.0,SNR=78
MMAI pPKPbc **pPKPbc** 23 18 37.4 -1.6
comp=Z,2.3nm,0.8s,baz=94,slow=4.3,SNR=1.6
SSRD Sdr. Stenderup 147.81 350 *i P* **PKPbc** 23 16 37.0 -0.2
KMPD K-Podol'skiy 147.86 326 PKP **PKPdf** 23 16 33.0 -0.8
BEL Belsk 148.02 335 *e*PKP **PKiKP** 23 16 38.9 -0.4
GKP Gorka Klasztor 148.05 340 *e*PKP **PKPbc** 23 16 38.1 +0.2
EDI Edinburgh 148.07 3 *e*P **PKPbc** 23 16 37.6 -0.3
PGBU Glenifferbraes 148.10 5 *e*P **PKPbc** 23 16 37.7 -0.3
ANTO Ankara 148.26 308 **PKPdf** 23 16 35.6 +0.7
ANTO Ankara 148.26 308 ⇑P **PKPbc** 23 16 39.6 +0.6
ANTO Ankara 148.26 308 PKP **PKPdf** 23 16 35.0 +0.1
TLCR 148.56 319 ⇑P **PKPbc** 23 16 39.8 +0.4
EKA Eskdalemuir Ar 148.66 4 PKPbc **PKPbc** 23 16 39.0 -0.4
comp=Z,3.6nm,0.4s,baz=351,slow=2.9,SNR=37
EKA pPKPbc **pPKPbc** 23 18 41.1 +0.1
comp=Z,0.6nm,0.7s,baz=0.0,slow=3.3,SNR=1.9
VARL Varlezi 148.73 321 ⇑P **PKiKP** 23 16 40.6 -0.3
JURR Jurilovca 148.74 319 ⇑P **PKPbc** 23 16 39.3 -0.6
SCTR Scanteiesti 148.77 321 ⇑P **PKiKP** 23 16 40.7 -0.3
GHRR 148.89 322 ⇑P **PKiKP** 23 16 41.5 +0.3
CFR Carcaliu 148.96 320 ⇑P **PKPbc** 23 16 40.8 +0.3
TPGR Topolog 148.97 319 ⇓P **PKPbc** 23 16 41.0 +0.5
TESR Tescani 149.04 323 ⇑P **PKPbc** 23 16 40.9 +0.3
BURAR Bucovina Array 149.11 326 ⇑P **PKiKP** 23 16 42.0 +0.2
PANC Panciu 149.14 322 ⇑P **PKiKP** 23 16 41.6 -0.1
TIRR Tirgusor 149.19 318 ⇑P **PKPbc** 23 16 41.4 +0.4
EDMD Edmundbyers 149.22 2 *e*P **PKPbc** 23 16 40.0 -0.7
ONER Baraj Valea Uz 149.29 323 ⇓P **PKiKP** 23 16 42.7 +0.6
MFTR Murfatlar 149.33 318 ⇑P **PKiKP** 23 16 42.1 -0.1
HARR Harsova 149.35 319 ⇑P **PKPbc** 23 16 41.9 +0.5
TLBR Topalu 149.36 319 ⇑P **PKiKP** 23 16 42.1 -0.1
VRI Vrincioaia 149.38 322 ⇑P **PKPbc** 23 16 41.0 -0.5
KESW Keswick, Cumbr 149.41 4 *e*P **PKPbc** 23 16 40.9 -0.3
MANR Mangalia 149.41 317 ⇑P **PKPbc** 23 16 42.0 +0.4
PLOR Plostina 149.44 322 ⇑P **PKPbc** 23 16 41.5 -0.2
BISRR Bisoca 149.58 321 ⇑P **PKPbc** 23 16 42.6 +0.5
KOLS Kolonicke sedl 149.62 330 *e*PKP **PKiKP** 23 16 43.3 +0.6
KOLS *e* 23 16 49.8
KOLS *e* 23 18 48.8
OJC Ojcow 149.68 335 *e*PKP **PKPbc** 23 16 41.9 -0.2
COVR Voineasa-Covas 149.69 322 ⇑P **PKPbc** 23 16 42.0 -0.3
OZUR 149.77 323 ⇑P **PKPbc** 23 16 42.4 -0.1
NEHR Nehoiu 149.89 322 ⇑P **PKPbc** 23 16 42.8 +0.1
ISR Istrita 149.93 321 ⇓P **PKPbc** 23 16 43.2 +0.4
BMR Baia Mare 149.93 328 ⇑P **PKPbc** 23 16 42.3 -0.4
MLR Muntele Rosu 150.05 322 ⇑P **PKPbc** 23 16 43.0 -0.2
DOPR Dopca 150.07 323 ⇑P **PKiKP** 23 16 43.7 -0.1
NIE Niedzica 150.11 333 *e*PKP **PKiKP** 23 16 44.2 +0.5
KSP Ksiaz 150.44 339 *e*PKP **PKiKP** 23 16 44.6 +0.3
CBBR Cluj-Babes-Bol 150.52 326 ⇑P **PKPbc** 23 16 44.3 +0.2

CJR Cluj-Napoca 150.53 326 ⇑P **PKPbc** 23 16 44.5 +0.2
MESR Meseseni 150.56 327 ⇓P **PKiKP** 23 16 45.3 +0.6
VOIR 150.58 323 ⇑P **PKPbc** 23 16 44.2 -0.2
WLF1 Llynfaes 150.61 5 *e*P **PKPbc** 23 16 43.1 -1.0
LANS Liptovska Anna 150.66 334 *e*PKP **PKiKP** 23 16 45.8 +0.9
LANS *e* 23 18 51.9
STEB Steborice 150.68 336 ⇑*e*PKP **PKiKP** 23 16 44.9 +0.1
STEB *e*PKPAB **PKPab** 23 16 54.3 +0.6
STEB *e*pPKP **pPKPab** 23 18 50.2 -0.6
OSTC Ostas 150.71 339 ⇑*e*PKP **PKiKP** 23 16 45.3 +0.4
CHVC Chvalec 150.73 339 ⇑*e*PKP **PKiKP** 23 16 45.1 +0.1
MARR Marisel-Cluj 150.80 326 ⇑P **PKPbc** 23 16 45.2 +0.3
UPC Upice 150.81 339 ⇑*e*PKP **PKiKP** 23 16 45.2 +0.1
DPC Dobruska-Polom 150.85 338 ⇑*e*PKP **PKiKP** 23 16 45.5 +0.3
DPC *e*pPKP **pPKPab** 23 18 51.4 -0.1
ARR Arges 150.85 323 ⇑P **PKiKP** 23 16 45.8 +0.3
TNR Turnu Rosu 150.87 324 ⇑P **PKiKP** 23 16 46.0 +0.6
MORC Moravsky Berou 150.90 336 *e*PKP **PKPbc** 23 16 45.3 +0.3
MORC *e* 23 18 51.3
MORC Moravsky Berou 150.90 336 ⇑P **PKiKP** 23 16 45.5 +0.2
KRLC Kraliky 150.92 338 ⇑*e*PKP **PKPbc** 23 16 45.4 +0.4
KRLC *e*PKPAB **PKPab** 23 16 55.4 +0.6
KRLC *e*pPKP **pPKPab** 23 18 51.4 -0.4
DRGR 150.93 327 ⇓P **PKPbc** 23 16 43.5 +0.1
CLL Collm 151.00 343 *e*PKPdf **PKPdf** 23 16 38.0 -0.7
CLL ⇑*i*PKPbc **PKPbc** 23 16 45.4 +0.3
comp=Z,46nm,0.9s
CLL ⇓*i*PKPab **PKPab** 23 16 55.0 0.0
comp=Z,11nm,0.9s
CLL *ex* x 23 17 08.0
CLL *e*pPKPbc **pPKPbc** 23 18 46.0 -1.0
CLL *i* pPKPab **pPKPab** 23 18 50.6 -1.3
CLL *ex* x 23 18 57.0
FOEL Foel Wylfa 151.09 4 *e*P **PKPbc** 23 16 44.9 -0.3
MAUC Maruska 151.13 336 ⇑*e*PKP **PKiKP** 23 16 46.4 +0.6
MAUC *e*pPKP **pPKPab** 23 18 51.9 -0.8
BRG Berggiesshubel 151.13 342 ⇓*e*PKPf 23 16 39.8
BRG Amp 23 16 40.4
comp=Z,3.3nm,1.1s
BRG ⇑PKP **PKiKP** 23 16 45.9 +0.1
BRG Amp 23 16 46.4
comp=Z,23nm,0.6s
BRG PKPab **PKPab** 23 16 53.1 -2.5
BRG Amp 23 16 53.5
comp=Z,8.0nm,1.0s
BRG pPKP pPKPab 23 18 51.7 -0.8
BRG Amp 23 18 52.5
comp=Z,10nm,0.9s
HUMR Humele 151.17 321 ⇑P **PKPbc** 23 16 45.5 -0.2
PVCC Panska Ves 151.25 341 ⇑*e*PKP **PKiKP** 23 16 46.3 +0.3
PVCC *e*pPKP **pPKPab** 23 18 52.3 -0.6
PSZ Piszkesteto 151.43 331 ⇑P **PKPbc** 23 16 46.0 -0.3
VYHS Vyhne 151.43 333 *e*PKP **PKPbc** 23 16 46.4 +0.2
VYHS *e* 23 16 57.9
VYHS *e* 23 18 52.3
JAVC Velka Javorina 151.60 335 *e*PKP **PKiKP** 23 16 48.0 +1.1
JAVC *e* 23 18 54.1
VRAC Vranov 151.63 337 *e*PKP **PKPbc** 23 16 46.8 +0.2
VRAC *e* 23 16 58.6
VRAC *e* 23 18 53.0
PRU Pruhonice 151.74 340 ⇑*e*PKP **PKPbc** 23 16 47.1 +0.3
GZR Gura Zlata 151.84 325 ⇑P **PKPbc** 23 16 47.1 -0.1
KRUC Moravsky 151.91 337 *e*PKP **PKPbc** 23 16 47.3 +0.1
KRUC *e* 23 16 59.5
KRUC *e* 23 18 53.3
SURR Surduc 151.94 326 ⇑P **PKPbc** 23 16 47.4 +0.1
MCH1 Michaelchurch 152.00 4 *e*P **PKPbc** 23 16 46.7 -0.5
TREC Trest 152.03 338 ⇑*e*PKP **PKPbc** 23 16 47.8 +0.3
NKC Novy Kostel 152.13 343 ⇑*e*PKP **PKiKP** 23 16 48.1 +0.3
MODS Modra-Piesok 152.15 335 *e*PKP **PKiKP** 23 16 48.5 +0.6
MODS *e* 23 17 01.3
MONM Monmouth 152.16 4 *e*P **PKPbc** 23 16 47.2 -0.4
BZS Buzias 152.29 326 ⇑P **PKPdf** 23 16 40.9 +0.1
ZVC Zvikov 152.33 340 *e*pPKP pPKPdf 23 18 54.9 +11
HERR Herculane 152.37 324 ⇑P **PKPbc** 23 16 48.3 0.0
WOL Wolverton 152.76 2 *e*P **PKPbc** 23 16 48.4 -0.5
KHC Kasperske Hory 152.79 340 ⇑*e*PKP **PKiKP** 23 16 49.5 +0.2
KHC *e*PKPAB **PKPab** 23 17 03.1 +0.4
KHC *e*pPKP **pPKPab** 23 18 55.1 -4.3
MDVR Moldovita 152.81 325 ⇑P **PKPbc** 23 16 48.3 -1.1
GERES GERESS Array B 153.00 340 **PKPbc** 23 16 49.6 -0.1
GERES GERESS Array B 153.00 340 PKPbc **PKPbc** 23 16 49.4 -0.3
comp=Z,2.7nm,0.8s,baz=29,slow=3.0,SNR=11
GERES PKPab **PKPab** 23 17 03.5 -0.2
comp=Z,1.4nm,0.8s,baz=41,slow=4.3,SNR=4.0
GERES pPKPbc **pPKPbc** 23 18 51.9 0.0
comp=Z,1.6nm,0.8s,baz=33,slow=2.3,SNR=3.5
CONA Conrad Observa 153.05 336 *i* PKP **PKiKP** 23 16 50.1 +0.2
comp=Z,7.6nm,1.0s,SNR=5.3
CONA *e*PKP **PKPab** 23 17 04.8 +0.9
comp=Z,11nm,1.0s
CONA *e*pPKP **pPKPdf** 23 18 44.4 -1.0
comp=Z,4.4nm,1.4s
CONA *e*pPKiKP **pPKPab** 23 18 56.5 -4.2
comp=Z,5.7nm,1.1s
RONA Rosalia, Austr 153.08 335 *i* PKP **PKiKP** 23 16 50.2 +0.2
comp=Z,9.0nm,0.8s
RONA *i* PKP **PKPab** 23 17 04.8 +0.8
comp=Z,11nm,1.2s
RONA *e*pPKiKP **pPKPab** 23 18 56.1 -4.6
comp=Z,5.9nm,1.2s
MEM Membach 153.08 352 *d*PKPdf **PKPdf** 23 16 42.4 +0.6
MEM *d*PKP **PKPbc** 23 16 49.8 +0.1
MEM *d*PKPab **PKPab** 23 17 04.2 +0.4
MORH Mrgy, Hungar 153.28 330 ⇑P **PKPbc** 23 16 50.0 -0.2
BMRD Maredsous 153.53 353 *d*PKP **PKPbc** 23 16 50.7 +0.1
BMRD *d*PKPab **PKPab** 23 17 05.5 -0.2
BOVS Bovan 153.57 323 ⇑P **PKPbc** 23 16 49.3 -1.6
RCHB Rochefort 153.62 352 *d*PKPab **PKPab** 23 17 05.8 -0.3
MOA Molln 153.69 338 *i* PKP **PKPbc** 23 16 50.6 -0.5
comp=Z,3.3nm,0.9s
MOA *i* PKP **PKPab** 23 17 07.7 +1.1
comp=Z,3.1nm,0.9s
ARSA Arzberg 153.74 336 *i* PKP **PKPdf** 23 16 42.0 -0.9
comp=Z,3.4nm,0.9s
DOU Dourbes 153.75 353 *d*PKP **PKPbc** 23 16 50.5 -0.6
BIOA Bad Ischl, Aus 154.03 339 *e*PKP **PKPdf** 23 16 43.2 -0.1
comp=Z,2.8nm,1.0s
BIOA *e*PKP **PKPab** 23 17 09.3 +1.3
comp=Z,9.4nm,1.2s
SOKA Soboth 154.41 336 *i* PKP **PKPdf** 23 16 43.8 -0.1
comp=Z,6.5nm,1.3s
SOKA *i* PKP **PKPab** 23 17 09.5 -0.2
comp=Z,5.1nm,0.9s
SOKA *e*pPKP **pPKPab** 23 19 09.2 +2.9
comp=Z,6.5nm,1.1s
LESA Schwarzleotal 154.58 340 *i* PKP **PKPdf** 23 16 43.3 -0.8
comp=Z,5.9nm,1.1s
LESA *e*PKP **PKPbc** 23 16 53.6 +0.5
comp=Z,2.0nm,0.6s
LESA *e*PKP **PKPab** 23 17 11.6 +1.1
comp=Z,7.8nm,1.4s
KBA Koelnbreinsper 154.67 338 *i* PKP **PKPdf** 23 16 44.0 -0.4
comp=Z,5.6nm,1.5s
OBKA Obir 154.73 336 *e*PKP **PKPdf** 23 16 44.1 -0.3
comp=Z,3.0nm,1.4s
OBKA *e*PKP **PKPab** 23 17 10.4 -0.7
comp=Z,3.5nm,0.8s,SNR=4.2
OBKA *i* pPKiKP **pPKiKP** 23 18 58.4 +2.5
comp=Z,3.4nm,1.4s
BFO Black Forest 154.89 347 **PKPab** 23 17 12.1 +0.4
MYKA Terra Mystica 154.95 337 *e*PKP **PKPab** 23 17 11.9 -0.1
comp=Z,3.3nm,0.5s
WATA Walderalm 155.00 341 *e*PKP **PKPdf** 23 16 44.7 -0.1
comp=Z,4.9nm,1.1s
WATA *i* PKP **PKPab** 23 17 13.5 +1.2
comp=Z,3.6nm,0.8s
WTTA Wattenberg 155.04 341 *i* PKP **PKPdf** 23 16 44.1 -0.8
comp=Z,8.2nm,1.5s
WTTA *i* PKP **PKPab** 23 17 13.0 +0.4
comp=Z,4.5nm,0.6s
RETA Reutte 155.09 343 *e*PKP **PKPdf** 23 16 44.9 +0.1
comp=Z,5.6nm,1.5s
RETA *e*PKP **PKPab** 23 17 12.7 +0.1
comp=Z,4.7nm,0.7s
MOTA Moosalm 155.12 342 *e*PKP **PKPdf** 23 16 44.9 0.0
comp=Z,8.1nm,1.4s
MOTA *i* PKP **PKPab** 23 17 13.8 +0.9
comp=Z,13nm,1.4s
MOTA *i* pPKP **pPKPdf** 23 18 50.6 +2.2
comp=Z,4.3nm,1.3s
SQTA Sankt Quirin 155.21 342 *e*PKP **PKPdf** 23 16 43.2 -1.

comp=Z,8.2nm,1.2s
ABTA Abfaltersbach 155.23 339 *e*PKP **PKPdf 23 16 43.8 -1.2**
comp=Z,7.5nm,1.2s
ABTA *i* PKP **PKPab 23 17 13.4 +0.1**
comp=Z,5.7nm,1.2s
ABTA *ep*PKP **pPKPdf 23 18 51.3 +2.7**
comp=Z,7.7nm,1.4s
DAVA Damuels 155.51 344 *e*PKP **PKPdf 23 16 45.6 +0.2**
comp=Z,4.1nm,1.0s
DAVA *e*PKP **PKPab 23 17 14.3 -0.2**
comp=Z,8.8nm,0.9s
FETA Feichten 155.53 342 *e*PKP **PKPdf 23 16 44.9 -0.6**
comp=Z,6.8nm,1.1s
FETA *i* PKP **PKPab 23 17 15.5 +0.9**
comp=Z,5.6nm,1.2s
FETA *ep*PKP **pPKPdf 23 18 50.1 +1.1**
comp=Z,4.2nm,1.2s
PGAV Gavieira, Arco 160.84 19 *e*PKPdf **PKPdf 23 16 53.3 +1.4**
PCAB Cabril 161.15 19 *e*PKPdf **PKPdf 23 16 54.3 +2.1**
PBRG Braganca 161.41 16 *e*PKPdf **PKPdf 23 16 54.3 +1.8**
PBRG *e*PKPab **PKPab 23 17 40.9 +0.7**
POLO Lamas de Olo 161.52 19 *e*PKPdf **PKPdf 23 16 52.6 0.0**
MVO Moncorvo 161.93 17 *e*PKPdf **PKPdf 23 16 54.1 +1.0**
MVO *e*PKPab **PKPab 23 17 42.6 0.0**
PVIS Viseu 162.09 20 *e*PKPdf **PKPdf 23 16 53.4 +0.2**
PVIS *e*PKPab **PKPab 23 17 43.4 +0.2**
DBIC Dimbokro 162.09 164 PKP PKPdf 23 16 54.0 +0.1
comp=Z,6.6nm,1.0s,baz=145,slow=2.7,SNR=6.2
DBIC PKPab **PKPab 23 17 43.8 0.0**
comp=Z,5.6nm,1.0s,baz=146,slow=3.6,SNR=3.7
MTE Manteigas 162.49 20 *e*PKPdf **PKPdf 23 16 52.4 -1.2**
PCBR Castelo Branco 163.02 20 *e*PKPdf **PKPdf 23 16 54.9 +0.9**
ESDC Sonseca Array 164.06 11 PKPab 23 17 52.0 +0.2
ESDC Sonseca Array 164.06 11 PKP PKPdf 23 16 55.4 +0.3
comp=Z,0.3nm,0.6s,baz=346,slow=1.6,SNR=2.3
ESDC PKPab **PKPab 23 17 51.4 -0.5**
comp=Z,4.2nm,1.0s,baz=340,slow=4.2,SNR=20
PBEJ Beja 164.52 24 *e*PKPdf **PKPdf 23 16 56.3 +0.8**
MESJ Messejana 164.54 25 *e*PKPdf **PKPdf 23 16 56.8 +1.3**
PBAR Barrancos 164.68 22 *e*PKPdf **PKPdf 23 16 56.5 +0.9**
PCVE Castro Verde 164.79 25 *e*PKPdf **PKPdf 23 16 57.0 +1.3**
PVAQ Vaqueiros 165.12 25 *e*PKPdf **PKPdf 23 16 55.4 -0.6**
TORD Torodi Ar. Bea 169.05 189 PKPdf 23 16 59.2 -0.3
TORD PKPab **PKPab 23 18 14.7 +0.3**

TRN 01 23:01:52.6, 15°.31N×61°.05W, h144km, MD3.5, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDN	**Morne-Daniel**	**0.33**	**272**	*e*P	Pn	23 02 14.2	+1.6
MDN				*e*S	Sn	23 02 28.8	+1.1
DSLB	**Salisbury**	**0.38**	**290**	*e*P	Pn	23 02 14.5	+1.7
DSLB				*e*S	Sn	23 02 29.5	+1.4
ILAM	**Ilet Lapin Mar**	**0.56**	**162**	*e*P	Pn	23 02 15.2	+1.5
ILAM				*e*S	Sn	23 02 30.5	+0.9
BIM	**Bigot**	**0.78**	**181**	*e*P	Pn	23 02 16.6	+1.4
BIM				*e*S	Sn	23 02 33.2	+0.8
TBG	**Guadaloupe-3**	**0.79**	**314**	*e*P	Pn	23 02 16.4	+1.3
SLBI	**Saint Lucia, B**	**1.28**	**177**	*e*P	Pn	23 02 20.3	+0.8
SLBI				*e*S	Sn	23 02 39.9	-0.1
SLW	**Petit Monier**	**1.28**	**175**	*e*P	Pn	23 02 21.7	+2.1
SLW				*e*S	Sn	23 02 40.8	+0.7
SLAC	**Saint Lucia, A**	**1.41**	**174**	*e*P	Pn	23 02 21.9	+1.1
SLAC				*e*S	Sn	23 02 42.8	+0.4
MBFL	**Flemmings, Mon**	**1.82**	**322**	*e*P	Pn	23 02 26.5	+1.2
MBFL				*e*S	Sn	23 02 49.9	-0.5
ANBD	**Bethesda, Anti**	**1.86**	**339**	*e*P	Pn	23 02 26.9	+1.1
ANBD				*e*S	Sn	23 02 50.6	-0.7
SVB	**Belmont**	**2.03**	**185**	*e*P	Pn	23 02 28.8	+1.0
ANWB	**Willy Bob**	**2.45**	**343**	*e*P	Pn	23 02 33.5	+0.6
ANWB				*e*S	Sn	23 03 02.8	-1.2
SKI	**Saint Kitts**	**2.59**	**321**	*e*P	Pn	23 02 34.7	+0.1
SKI				*e*S	Sn	23 03 08.9	+2.0

SOME 01 23:01:53.9, 42°.40N×81°.00E, h5km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.36**	**304**	*e*P	Pn	23 02 14.7	-5.0
	1.6nm,0.3s						
SHLS				*e*S	Sg	23 02 29.8	-7.9
	3.4nm,0.3s						
UZB	**Uzynbulak**	**1.64**	**298**	*e*P	Pb	23 02 24.2	-0.4
	2.7nm,0.2s						
UZB				*e*S	Sg	23 02 46.1	-0.4
	2.2nm,0.2s						
KPKS	**Kokpek**	**2.01**	**303**	*e*P	Pb	23 02 31.3	+0.4
	2.3nm,0.3s						
KPKS				*e*S	Sg	23 02 58.5	+0.1
	5.8nm,0.3s						
DJR	**Jarkent**	**2.12**	**336**	*e*P	Pb	23 02 33.7	+0.8
	0.4nm,0.1s						
DJR				*e*S	Sg	23 03 02.3	+0.2
	2.1nm,0.3s						
KOTS	**Kotyrbulak**	**2.98**	**288**	*e*P	Pg	23 02 49.5	-1.4
	0.8nm,0.2s						
KOTS				*e*S	Sg	23 03 29.5	-0.1
	16nm,0.9s						
TNSS	**Tian-Shan**	**3.05**	**283**	*e*P	Pb	23 02 50.7	+1.7
	0.2nm,0.1s						
TNSS				*e*S	Sg	23 03 31.3	-0.7
	5.2nm,0.7s						

IDC 01 23:10:39.5±1.6, 32°.20S×178°.69W, h0km, mb3.6/3, mbtmp3.7/4, ML4.2/2, MS3.5/1, Error ellipse: s-maj=40.0km s-min=27.7km az=99.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.02**	**13**	Pn	Pn	23 11 28.4	-0.2
	160nm,0.3s,baz=221,slow=19,SNR=2.3						
URZ	**Urewera**	**6.95**	**208**	Pn	Pn	23 12 21.4	-1.3
	0.7nm,0.3s,baz=47,slow=19,SNR=10						
URZ				Sn	Sn	23 13 35.3	-7.1
	1.0nm,0.3s,baz=20,slow=23,SNR=5.6						
	4.8nm,0.5s						
ASAR	**Alice Springs**	**42.46**	**269**	P	P	23 18 36.6	+0.1
	0.2nm,0.3s,baz=100,slow=8.4,SNR=4.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.61**	**274**	P	P	23 18 45.7	-0.1
	0.5nm,0.3s,baz=112,slow=8.0,SNR=18						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**57.91**	**180**	P	P	23 20 33.4	+0.1
	0.8nm,0.9s,baz=352,slow=0.9,SNR=5.3						
	0.8nm,0.9s						
FINES	**FINESS Array B**	**146.62**	**339**	PKPbc	PKPdf	23 30 21.5	+0.8
	1.1nm,0.8s,baz=30,slow=3.4,SNR=5.6						

*IDC **01** 23:23:03.1±0.7, 0°.02S×125°.10E, h0km, mb3.9/11, mbtmp4.0/13, ML3.8/2, MS3.1/3, Error ellipse: s-maj=36.1km s-min=15.2km az=73.0*
*DJA **01** 23:23:08.9±0.2, 0°.S±2°.×12°.5E±°, h10km, M4.7/22, mb4.8/8, mB5.5/5, MLv4.5/22, Mw(mB)5.0/5*
*NEIC **01** 23:23:11.1±0.9, 0°.1S±0°.1×125°.13E±0°.09, h54km±11km, mb4.3/13, Error ellipse: s-maj=17.7km s-min=11.1km az=205.0*
ISC 01 23:23:10.4±0.5, 0°.13S±0°.05×125°.06E±0°.06, h53km, n54, σ1§29/57, mb4.2/20, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.29**	**303**	P	**Pn**	**23 23 31.1**	**-1.0**
SANI	**Sanana**	**2.12**	**154**	P	**Pn**	**23 23 41.6**	**-1.8**
LUWI	**Luwuk**	**2.46**	**248**	Pn	**Pn**	**23 23 50.3**	**+2.2**
LUWI	**Luwuk**	**2.46**	**248**	P	**Pn**	**23 23 50.3**	**+2.2**
LUWI				S	**Sn**	**23 24 19.6**	**+2.5**
TNTI	**Ternate**	**2.47**	**69**	P	**Pn**	**23 23 50.6**	**+2.3**
MRSI	**Marisa**	**3.18**	**281**	P	**Pn**	**23 23 55.9**	**-2.1**
APSI	**Ampana**	**3.50**	**257**	P	Pn	23 24 07.4	+5.0
NLAI	**Namlea**	**3.70**	**147**	P	**Pn**	**23 24 04.7**	**-0.4**
SGSI	**Sangihe**	**3.82**	**7**	P	**Pn**	**23 24 08.3**	**+1.5**
TOLI2	**Tolitoli**	**4.46**	**286**		**Pn**	**23 24 14.9**	**-0.6**
KDI	**Kendari**	**4.52**	**213**	P	**Pn**	**23 24 15.6**	**-0.7**
AAI	**Ambon**	**4.72**	**138**	P	**Pn**	**23 24 20.4**	**+1.3**
MSAI	**Masohi**	**5.01**	**130**	P	**Pn**	**23 24 25.2**	**+2.1**
PCI	**Palu**	**5.28**	**262**	P	**Pn**	**23 24 28.6**	**+1.8**
	12μ217nm,1.0s						
TTSI	**Tana Toraja**	**5.99**	**241**	P	**Pn**	**23 24 36.7**	**+0.2**
	0.6nm3μ84nm,0.6s						
BNDI	**Bandanaira**	**6.51**	**132**	P	**Pn**	**23 24 45.5**	**+1.8**
	130nm,0.7s						
SPSI	**Sidrap Palu**	**6.52**	**234**	P	**Pn**	**23 24 44.2**	**+0.4**
	0.3nm76nm,0.6s						
BKSI	**Bulukumba**	**7.13**	**224**	P	**Pn**	**23 24 51.6**	**-0.6**
	0.1nm19nm,0.6s						
DAV	**Davao City (W)**	**7.17**	**4**	LR	LR	23 28 04.1	
	comp=Z,155nm,19.2s,baz=234,slow=43						
KAPI	**Kappang**	**7.19**	**227**	Pn	**Pn**	**23 24 52.0**	**-1.0**
	5.9nm,0.3s,baz=59,slow=20,SNR=5.7						
KAPI				Sn	**Sn**	**23 26 10.7**	**-2.6**
	baz=215,slow=23						
KAPI				LR	LR	23 28 12.6	
	comp=Z,131nm,21.2s,baz=71,slow=42						
	16nm,0.2s						
BSSI	**Bau Bau, Buton**	**7.51**	**217**	P	**Pn**	**23 24 57.5**	**0.0**
	0.1nm37nm,0.7s						
FAKI	**Fak Fak**	**7.70**	**111**	Pn	**Pn**	**23 24 59.7**	**-0.2**
FAKI	**Fak Fak**	**7.70**	**111**	P	**Pn**	**23 24 59.0**	**-1.0**
KNRA	**Kununurra**	**15.87**	**167**	Pn	**Pn**	**23 26 50.3**	**-0.1**
KNRA				IAmb	IAmb	23 27 23.1	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.86**	**178**		**P**	**23 27 15.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.86**	**178**	P	**Pn**	**23 27 14.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=302,slow=12,SNR=1.8						
	comp=Z,1.7nm,0.7s						
LEM	**Lembang**	**18.63**	**249**	LR	LR	23 34 25.5	
	comp=Z,87nm,22.0s,baz=71,slow=36						
WB0	**Warramunga Arr**	**21.55**	**155**	P	**P**	**23 27 54.4**	**-1.1**
WRA	**Warramunga Arr**	**21.68**	**156**	P	**P**	**23 27 55.6**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=335,slow=11,SNR=8.0						
WRA				PcP	**PcP**	**23 31 58.3**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=331,slow=2.1,SNR=5.0						
	comp=Z,1.3nm,0.8s						
WB2	**Warramunga Arr**	**21.69**	**156**	P	**P**	**23 27 56.6**	**-0.4**
WB2				IAmb	IAmb	23 28 19.1	
	comp=Z,7.3nm,0.9s						
COEN	**Coen**	**22.59**	**128**	P	**P**	**23 28 07.3**	**+0.6**
COEN				IAmb	IAmb	23 28 09.0	
	comp=Z,17nm,1.1s						
TPUB	**Ta-pu**	**23.69**	**350**	P	**P**	**23 28 17.2**	**-0.3**
TPUB				IAmb	IAmb	23 28 28.6	
	comp=Z,35nm,1.2s						
ASAR	**Alice Springs**	**24.92**	**160**	P	**P**	**23 28 28.5**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=331,slow=6.6,SNR=9.5						
ASAR				PcP	**PcP**	**23 32 05.0**	**+1.5**
	comp=Z,1.2nm,0.4s,baz=350,slow=2.2,SNR=20						
	comp=Z,2.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.62**	**307**	P	**P**	**23 29 27.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=139,slow=11,SNR=4.5						
CMAR				PcP	**PcP**	**23 32 20.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=125,slow=3.3,SNR=4.4						
	comp=Z,0.6nm,0.3s						
KSRS	**Korea Array**	**37.49**	**4**	P	**P**	**23 30 18.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=181,slow=11,SNR=4.3						
	comp=Z,0.5nm,0.3s						
XLT	**XiLinHaoTe**	**44.57**	**351**	*e*P	P	23 31 22.8	+5.5
XLT				sP	pwP	23 31 32.8	-1.3
XLT				PcP	**PP**	**23 33 04.8**	**+2.6**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**50.46**	**344**	P	**P**	**23 32 02.4**	**-0.6**
	comp=Z,1.4nm,1.1s,baz=148,slow=9.5,SNR=4.9						
	comp=Z,1.4nm,1.1s						
PEA0B	**Petropavlovsk-**	**59.61**	**22**	P	**P**	**23 33 08.4**	**-0.4**
PETK	**Petropavlovsk-**	**59.61**	**22**	P	**P**	**23 33 08.2**	**-0.6**
MK31	**Makanchi Array**	**59.82**	**327**	P	**P**	**23 33 10.1**	**-0.3**
MKAR	**Makanchi Array**	**59.82**	**327**	P	**P**	**23 33 10.5**	**0.0**
MKAR	**Makanchi Array**	**59.82**	**327**	P	**P**	**23 33 09.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=124,slow=8.3,SNR=33						
MKAR				PcP	**PcP**	**23 33 57.5**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=108,slow=4.7,SNR=4.9						
	comp=Z,0.8nm,0.3s						
MAKZ	**Makanchi**	**60.00**	**327**	P	**P**	**23 33 12.5**	**+0.9**
MAKZ				IAmb	IAmb	23 33 15.3	
	comp=Z,1.1nm,0.6s						
KDJ	**Kajisay**	**60.18**	**321**	P	**P**	**23 33 13.3**	**+0.2**
KDJ				IAmb	IAmb	23 33 16.2	
	comp=Z,2.0nm,0.9s						
KBL	**Kabul**	**62.61**	**310**	P	**P**	**23 33 31.7**	**+1.9**
KBL				IAmb	IAmb	23 33 34.3	
	comp=Z,3.7nm,0.6s						
ZALV	**Zalesovo Beam**	**63.30**	**335**	P	**P**	**23 33 32.0**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=150,slow=6.1,SNR=2.8						
	comp=Z,0.4nm,0.4s						
GAR	**Garm**	**63.37**	**315**	P	**P**	**23 33 34.5**	**-0.1**
KURBB	**Kurchatov Arra**	**64.12**	**329**	P	**P**	**23 33 37.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=134,slow=6.9,SNR=27						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	**64.13**	**329**		**P**	**23 33 40.3**	**+1.1**
BVAR	**Borovoye Array**	**69.67**	**328**	P	**P**	**23 34 14.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=138,slow=7.7,SNR=5.7						
	comp=Z,0.4nm,0.3s						
NRIK	**Noril'sk**	**73.78**	**347**	P	**P**	**23 34 37.9**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=172,slow=6.6,SNR=4.6						
	comp=Z,1.5nm,0.5s						
KMBO	**Kilima Mbogo**	**87.81**	**269**	P	**P**	**23 35 56.0**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=70,slow=18,SNR=5.8						
	comp=Z,1.2nm,0.6s						
ARCES	**ARCESS Array B**	**93.47**	**340**	P	**P**	**23 36 18.4**	**-1.6**
	comp=Z,7.3nm,1.1s,baz=74,slow=4.3,SNR=1.6						
SPITS	**Spitsbergen Ar**	**93.92**	**349**	P	**P**	**23 36 22.3**	**+0.4**
	comp=Z,9.3nm,1.0s,baz=46,slow=6.2,SNR=5.1						

IDC 01 23:35:26.3±1.3, 55°.59S×27°.15W, h0km, mb3.7/1, mbtmp3.7/2, ML3.0/1, Error ellipse: s-maj=77.8km s-min=32.0km az=88.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.15**	**157**	P	P	23 39 50.7	-0.2
	baz=319,slow=14,SNR=2.6						
	2.9nm,1.1s						
QSPA	**South Pole Qui**	**34.66**	**180**	P	P	23 42 17.4	+0.2
	0.8nm,0.8s,baz=111,slow=22,SNR=2.1						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.64**	**29**	P	P	23 46 55.7	+0.2
	66nm,0.3s,baz=193,slow=4.5,SNR=2.4						
ILAR	**Eielson Array**	**149.83**	**312**	PKPbc	PKPbc	23 55 16.1	-0.6
	0.7nm,0.8s,baz=131,slow=2.1,SNR=8.0						
SONM	**Songino Array**	**150.67**	**86**	PKPbc	PKPbc	23 55 19.0	-0.4
	0.4nm,0.7s,baz=214,slow=1.1,SNR=4.1						

*IDC **01** 23:38:28.9±3.1, 43°.22N×105°.26W, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=66.0km s-min=11.1km az=155.0*
*NEIC **01** 23:38:29.0±0.3, 43°.52N±0°.06×105°.31W±0°.05, h0km±1km, ML2.4/8, Error ellipse: s-maj=11.1km s-min=3.8km az=148.0*
ISC 01 23:38:28.5±1.0, 43°.42N±0°.07×105°.36W±0°.06, h0km, n10, σ1§75/9, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.15**	**228**		**Pn**	**23 38 52.9**	**+0.9**
K22A				IAML		23 39 19.4	
	comp=E,64nm,0.9s						
K22A				IAML		23 39 19.8	
	comp=N,48nm,1.0s						
RSSD	**Black Hills**	**1.19**	**53**		**Pg**	**23 38 50.4**	**-0.9**
RSSD	**Black Hills**	**1.19**	**53**	Pn	**Pb**	**23 38 51.4**	**-0.7**
N23A	**Red Feather La**	**2.56**	**190**	Pn	**Pb**	**23 39 14.8**	**-0.7**
PD31	**Pinedale Array**	**3.14**	**259**		**Pn**	**23 39 22.1**	**+2.7**
PDAR	**Pinedale Array**	**3.14**	**259**	Pn	**Pb**	**23 39 23.7**	**-1.7**
PDAR	**Pinedale Array**	**3.14**	**259**	Pn	**Pb**	**23 39 23.5**	**-1.9**
	comp=N,0.8nm,0.3s,baz=78,slow=14,SNR=22						
PDAR				Lg	Lg	23 40 08.6	
	comp=N,0.6nm,0.3s,baz=64,slow=34,SNR=3.7						
	comp=N,0.8nm,0.3s						
RLMT	**Red Lodge**	**3.28**	**303**		**Pn**	**23 39 22.9**	**+1.6**
RLMT				IAML		23 39 50.3	
	comp=N,14nm,0.7s						
RLMT				IAML		23 40 29.0	
	comp=N,14nm,4.8s						
I10CA	**LAC DU BONNET**	**9.32**	**40**	I	I	00 31 30.0	
	baz=224,slow=330,SNR=1.1						
ULM	**Lac du Bonnet**	**9.43**	**40**	Pn	**Pn**	**23 40 45.5**	**+0.1**
	comp=N,0.2nm,0.3s,baz=232,slow=10,SNR=3.0						
ULM				Lg	Lg	23 43 20.4	
	comp=N,0.1nm,0.3s,baz=150,slow=18,SNR=1.5						
	comp=N,1.2nm,0.6s						

*HEL **01** 23:45:00.7±0.1, 67°.83N×20°.17E, h0km, ML1.8, Suspected explosion*
*UPP **01** 23:45:00.6±0.0, 67°.84N×20°.22E, h0km, ML2.4, Confirmed Induced event*
*IDC **01** 23:45:01.2±1.0, 67°.78N×20°.75E, h0km, mbtmp3.2/5, ML2.1/5, Error ellipse: s-maj=15.7km s-min=7.1km az=115.0*
ISC 01 23:45:00.6±0.8, 67°.83N±0°.02×20°.23E±0°.03, h0km, n38, σ1§21/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**18**	P	**Pg**	**23 45 03.1**	**+0.1**
KUA				S	**Sg**	**23 45 04.9**	**+0.1**
RATU	**Laukkuluspa**	**0.24**	**269**	P	**Pg**	**23 45 05.3**	**+0.1**
RATU				S	**Sg**	**23 45 08.6**	**+0.3**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**23 45 07.9**	**-0.2**
KOVU				S	**Sg**	**23 45 13.2**	**0.0**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 45 13.8**	**-0.1**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**23 45 13.9**	**0.0**
LANU				SG	**Sg**	**23 45 23.1**	**+0.1**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**23 45 14.4**	**0.0**
DUNU				S	**Sg**	**23 45 24.5**	**+0.7**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**23 45 15.4**	**0.0**
MASU				S	**Sg**	**23 45 25.9**	**+0.5**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**23 45 23.2**	**-0.2**
KIF	**Kilpisjarvi**	**1.20**	**10**	PG	**Pg**	**23 45 23.0**	**-0.4**
	baz=196						
KIF				MSG		23 45 38.3	
	comp=Z,8.6nm,0.2s						
KIF				SG	**Sg**	**23 45 39.0**	**0.0**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**23 45 26.1**	**-0.8**
PAJU				S	**Sg**	**23 45 44.8**	**0.0**
PAJU	**Pajala**	**1.38**	**125**	PG	**Pg**	**23 45 25.8**	**-1.1**
	baz=302						
PAJU				SG	**Sg**	**23 45 44.6**	**-0.1**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**23 45 25.8**	**-1.7**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**23 45 26.4**	**-1.0**
HEF				MSG		23 45 43.7	
	comp=Z,6.2nm,0.2s						
HEF				SB	**Sg**	**23 45 44.9**	**-0.9**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**23 45 28.1**	**-0.5**
ERTU				S	**Sg**	**23 45 48.9**	**+0.5**
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	**Pn**	**23 45 27.8**	**-0.8**
ERTU				SN	**Sg**	**23 45 48.8**	**+0.3**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**23 45 28.9**	**-0.5**
KLF				MSG		23 45 47.9	
	comp=Z,6.5nm,0.2s						
KLF				SN	**Sg**	**23 45 51.0**	**+0.6**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**23 45 30.1**	**-0.4**
KTK1				SN	**Sg**	**23 45 54.0**	**+1.3**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**23 45 34.2**	**+0.4**
TRO				SG	**Sn**	**23 45 58.0**	**-0.1**
KALU	**Kalix**	**2.33**	**147**	PB	**Pn**	**23 45 41.2**	**+1.1**
	baz=329						
KALU				SG	**Sb**	**23 46 12.4**	**-0.4**
TOF	**Tornio**	**2.39**	**136**	PB	**Pn**	**23 45 42.3**	**+1.5**
	baz=314						
TOF				MSG		23 46 11.7	
	comp=Z,4.9nm,0.2s						
TOF				SG	**Sb**	**23 46 15.1**	**+0.8**
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**23 45 45.0**	**+1.7**
RNF				SG	**Sb**	**23 46 18.8**	**-0.6**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**23 45 44.3**	**+0.8**
ARA0				SB	**Sb**	**23 46 17.9**	**-1.9**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 45 44.0**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=227,slow=14,SNR=78						
ARCES				Lg	Lg	23 46 17.7	
	comp=Z,1.6nm,0.3s,baz=228,slow=25,SNR=16						
	comp=Z,1.7nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN	**Pn**	**23 45 50.8**	**+0.3**
RAJF				SB	**Sb**	**23 46 33.6**	**-1.0**
KEV	**Kevo**	**3.13**	**49**	PN	**Pn**	**23 45 52.1**	**+1.0**
KEV				SN	**Sn**	**23 46 29.9**	**+0.8**
RANF	**Ranua**	**3.16**	**122**	PN	**Pn**	**23 45 52.7**	**+1.2**
	baz=310						
RANF				SG	**Sb**	**23 46 38.0**	**+1.4**
BURU	**Burvik**	**3.30**	**171**	PB	**Pn**	**23 45 55.6**	**+2.3**
BURU				SB	**Sb**	**23 46 37.4**	**-3.0**
VRF	**Varrio**	**3.56**	**87**	PB	**Pn**	**23 46 00.3**	**+3.3**
VRF				SG	**Sb**	**23 46 49.2**	**+1.1**
OUL	**Oulu**	**3.57**	**138**	PG	**Pb**	**23 46 05.5**	**+1.0**
OUL				SG	**Sb**	**23 46 49.5**	**+1.1**
KU2	**Taivalkoski**	**3.82**	**120**	PN	**Pn**	**23 46 01.9**	**+1.4**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**23 46 02.5**	**+0.9**
OLKF				SG	**Sg**	**23 47 04.0**	**-1.6**
MSF	**Maaselka**	**3.97**	**115**	PN	**Pn**	**23 46 04.0**	**+1.4**
KU6	**Riekki**	**4.21**	**111**	PN	**Pn**	**23 46 07.0**	**+1.0**
	baz=298						
KU1	**Kurvinen**	**4.35**	**117**	PN	**Pn**	**23 46 09.7**	**+1.9**
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**23 46 43.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=340,slow=13,SNR=1.2						
FINES				Sn	**Sn**	**23 47 57.1**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=342,slow=21,SNR=4.0						
FINES				Lg	Lg	23 48 32.0	
	comp=Z,0.3nm,0.3s,baz=338,slow=29,SNR=5.7						
	comp=Z,0.9nm,0.7s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 46 54.8**	**-1.1**
	baz=24,slow=12,SNR=1.6						
NOA				Lg	Lg	23 49 07.3	
	baz=133,slow=7.6,SNR=5.5						
	comp=Z,0.5nm,0.9s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**23 47 00.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=1.8						
	comp=Z,2.0nm,0.8s						
SPITS	**Sp

LUWI	**Luwuk**	6.69	22	P		**P**	23 53 27.8 +1.9
	0.5nm2μm166nm,1.2s						
GMJI	**Gumukmas**	6.88	262	P		**P**	23 53 27.9 +0.2
SANI	**Sanana**	7.70	47	P		**P**	23 53 37.3 +1.7
SANI	**Sanana**	7.70	47	P		**P**	23 53 36.9 +1.3
	0.4nm1μm149nm,1.1s						
NLAI	**Namlea**	7.87	59	P		**P**	23 53 39.3 +2.0
	2μm151nm,1.3s						
TOLI2	**Tolitoli**	8.38	3	P		**P**	23 53 43.5 +1.1
TOLI2	**Tolitoli**	8.38	3	P		**P**	23 53 43.5 +1.1
PCJI	**Pacitan**	9.10	264	P		**P**	23 53 49.5 -0.2
	1μm74nm,0.7s						
UGM	**Wanagama**	9.73	266	P		**P**	23 53 56.3 +0.2
UGM	**Wanagama**	9.73	266	P		**P**	23 53 57.6 +1.5
UGM	**Wanagama**	9.73	266	S		**S**	23 55 47.1 -0.1
UGM	**Wanagama**	9.73	266	P		**P**	23 53 56.8 +0.7
	36nm,0.6s						
SMRI	**Semarang**	9.81	271	P		**P**	23 53 56.3 -0.6
TNTI	**Ternate**	10.67	41	P		**P**	23 54 05.5 -0.2
CMJI	**Cimerak**	11.78	267	P		**P**	23 54 16.1 -1.0
	47nm,0.7s						
FITZ	**Fitzroy Crossi**	11.91	155	P		**P**	23 54 19.3 +0.9
FITZ	**Fitzroy Crossi**	11.91	155	P		**P**	23 54 19.7 +1.4
	41nm,0.6s,baz=346,slow=6.6,SNR=106						
FITZ				S		**S**	23 56 27.9 -0.2
	17nm,1.0s,baz=280,slow=17,SNR=9.8						
MTN	**Manton Dam**	11.98	118	P		**P**	23 54 19.4 +0.3
MTN	**Manton Dam**	11.98	118	P		**P**	23 54 20.0 +0.8
BBJI	**Bungbulang**	12.57	269	P		**P**	23 54 25.6 +0.2
SBUM	**Sibu**	12.63	320	P		**P**	23 54 27.2 +1.3
FAKI	**Fak Fak**	12.65	70	P		**P**	23 54 25.1 -1.1
FAKI	**Fak Fak**	12.65	70	P		**P**	23 54 25.1 -1.1
FAKI	**Fak Fak**	12.65	70	P		**P**	23 54 24.9 -1.3
	38nm,1.3s						
CNJI	**Cibinong**	13.09	269	P		**P**	23 54 30.4 -0.3
	53nm,0.7s						
KSM	**Kuching**	13.27	311	P		**P**	23 54 31.1 -1.4
TPI	**Tanjungpandan**	13.40	289	P		**P**	23 54 34.8 +0.8
	815nm62nm,0.9s						
MBWA	**Marble Bar**	13.78	182	P		**P**	23 54 38.9 +1.2
MBWA	**Marble Bar**	13.78	182	P		**P**	23 54 38.7 +1.0
KMPI	**Kaimana, Papua**	13.80	75	P		**P**	23 54 37.7 -0.4
KKM	**Kota Kinabalu**	13.89	343	P		**P**	23 54 39.4 +0.3
KKM	**Kota Kinabalu**	13.89	343	P		**P**	23 54 39.5 +0.5
PSA00	**Pilbara Seismi**	14.18	182	P		**P**	23 54 42.9 +1.1
PSA00	**Pilbara Seismi**	14.18	182	P		**P**	23 54 41.9 0.0
PSA00	**Pilbara Seismi**	14.18	182	P		**P**	23 54 42.7 +0.8
CGJI	**Cibinong**	14.54	272	P		**P**	23 54 43.7 -1.9
XMIS	**Christmas Isla**	14.83	257	P		**P**	23 54 48.4 -0.3
XMIS	**Christmas Isla**	14.83	257	P		**P**	23 54 48.7 0.0
MDSI	**Maura Dua**	16.30	279	P		**P**	23 55 02.9 -0.4
	22nm,0.8s						
GIRL	**Giralia**	16.33	200	P		**P**	23 55 05.1 +1.7
GIRL	**Giralia**	16.33	200	P		**P**	23 55 04.9 +1.5
MNAI	**Manna**	17.52	279	P		**P**	23 55 14.8 +0.4
MNAI	**Manna**	17.52	279	P		**P**	23 55 14.5 0.0
MNAI	**Manna**	17.52	279	P		**P**	23 55 14.0 -0.5
WB0	**Warramunga Arr**	18.43	134	P		**P**	23 55 23.8 +1.1
WB0				IAmb		IAmb	23 55 25.2
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	18.50	134	P		**P**	23 55 24.6 +1.2
WRA	**Warramunga Arr**	18.50	134	P		**P**	23 55 24.2 +0.8
	comp=Z,9.5nm,0.8s,baz=314,slow=11,SNR=52						
WRA				S		**S**	23 58 21.8 -2.6
	comp=Z,5.1nm,1.0s,baz=319,slow=15,SNR=4.8						
WRA				ScP		**ScP**	00 02 06.5 -2.2
	comp=Z,0.5nm,0.6s,baz=304,slow=2.8,SNR=2.0						
WRAB	**Tennant Creek**	18.51	134	P		**P**	23 55 24.7 +1.3
WRAB				IAmb		IAmb	23 55 26.6
	comp=Z,23nm,0.8s						
WB2	**Warramunga Arr**	18.51	134	P		**P**	23 55 24.6 +1.2
WB2				IAmb		IAmb	23 55 26.6
	comp=Z,24nm,0.8s						
WR0	**Warramunga Arr**	18.66	134	IAmb		IAmb	23 55 26.6
	comp=Z,10nm,0.7s						
WRKA	**Warakurna**	19.20	158	P		**P**	23 55 30.7 +1.0
MEEK	**Meekatharra**	19.29	185	P		**P**	23 55 30.8 +0.4
BKNI	**Bangkinang**	20.68	291	P		**P**	23 55 42.6 -0.6
AS31	**Alice Springs**	20.84	143	P		**P**	23 55 45.7 +1.1
ASAR	**Alice Springs**	20.84	143	P		**P**	23 55 46.4 +1.8
ASAR	**Alice Springs**	20.84	143	P		**P**	23 55 45.5 +1.0
	comp=Z,4.2nm,0.4s,baz=320,slow=8.8,SNR=78						
ASAR				S		**S**	23 59 00.2 -1.6
	comp=Z,3.9nm,0.7s,baz=338,slow=24,SNR=8.3						
ASAR				PcP		**PcP**	23 59 29.0 -0.1
	comp=Z,3.1nm,0.5s,baz=314,slow=1.4,SNR=13						
ASAR				ScP		**ScP**	00 02 12.5 -1.6
	comp=Z,1.4nm,0.6s,baz=324,slow=2.1,SNR=6.7						
	comp=Z,4.2nm,0.4s						
AS01	**Alice Springs**	20.87	143	P		**P**	23 55 45.8 +1.0
MORW	**Morawa**	22.01	190	P		**P**	23 55 55.3 +0.3
MORW				IAmb		IAmb	23 55 56.4
	comp=Z,14nm,0.8s						
MORW	**Morawa**	22.01	190	P		**P**	23 55 56.2 +1.2
QIS	**Mount Isa**	22.84	127	P		**P**	23 56 03.3 +0.7
KULM	**Kulim**	23.28	302	P		**P**	23 56 06.4 -0.1
KULM				IAmb		IAmb	23 56 29.5
	comp=Z,17nm,1.1s						
KULM	**Kulim**	23.28	302	P		**P**	23 56 06.8 +0.3
COEN	**Coen**	23.40	108	P		**P**	23 56 08.6 +1.0
COEN				IAmb		IAmb	23 56 14.2
	comp=Z,22nm,1.2s						
BLDU	**Ballidu**	23.43	188	P		**P**	23 56 07.9 +0.3
RPSI	**Rantau Prapat**	23.55	294	P		**P**	23 56 09.9 +0.9
KMBL	**Kambalda**	23.98	177	P		**P**	23 56 13.2 +0.7
GSI	**Gunungsitoli**	24.25	290	P		**P**	23 56 14.7 -0.5
GSI	**Gunungsitoli**	24.25	290	P		**P**	23 56 14.7 -0.5
KLBR	**Kellerberrin**	24.27	185	P		**P**	23 56 15.9 +0.8
FORT	**Forrest**	24.44	164	P		**P**	23 56 17.9 +1.3
FORT	**Forrest**	24.44	164	P		**P**	23 56 17.7 +1.1
MUN	**Mundaring**	24.84	188	P		**P**	23 56 21.3 +1.2
OOD	**Oodnadatta**	25.04	146	P		**P**	23 56 22.7 +0.8
NWAO	**Narrogin (SRO)**	25.65	186	P		**P**	23 56 28.0 +0.8
NWAO				IAmb		IAmb	23 56 28.8
	comp=Z,21nm,0.7s						
NWAO	**Narrogin (SRO)**	25.65	186	P		**P**	23 56 28.3 +1.1
LHMI	**Lhok Sumawe**	26.44	297	P		**P**	23 56 34.8 +0.3
UBPT	**Khong Chiam**	26.84	327	P		**P**	23 56 38.0 0.0
UBPT				IAmb		IAmb	23 56 40.1
	comp=Z,14nm,1.3s						
LCRK	**Leigh Creek**	28.48	146	P		**P**	23 56 53.3 +1.2
BBOO	**Buckleboo**	29.28	152	P		**P**	23 56 59.9 +0.8
BBOO				IAmb		IAmb	23 57 03.1
	comp=Z,38nm,1.3s						
BBOO	**Buckleboo**	29.28	152	P		**P**	23 56 59.6 +0.6
SRDT	**SRDT**	30.09	316	P		**P**	23 57 07.6 +1.4
HTT	**Hallett**	31.18	149	P		**P**	23 57 16.8 +1.4
STKA	**Stephens Creek**	31.47	144	P		**P**	23 57 19.6 +1.7
STKA	**Stephens Creek**	31.47	144	P		**P**	23 57 19.2 +1.3
	comp=Z,6.9nm,0.5s,baz=324,slow=8.4,SNR=22						
STKA				PcP		**sP**	23 59 53.8 +0.7
	comp=Z,2.0nm,0.5s,baz=351,slow=1.2,SNR=4.5						
STKA				S		**S**	00 01 45.0 -2.5
	comp=Z,1.8nm,0.5s,baz=100,slow=17,SNR=3.1						
	comp=Z,6.9nm,0.5s						
STKA	**Stephens Creek**	31.47	144	P		**P**	23 57 19.1 +1.2
YHNB	**Yeheng**	31.81	2	P		**P**	23 57 19.7 -1.2
SLVN	**Son La**	32.72	331	P		**P**	23 57 28.7 +0.1
CMAR	**Chiang Mai Arr**	33.18	321	P		**P**	23 57 32.2 -0.3
CMAR	**Chiang Mai Arr**	33.18	321	P		**P**	23 57 33.8 +1.2
	comp=Z,3.5nm,0.5s,baz=146,slow=6.5,SNR=24						
CMAR				PcP		**PcP**	23 59 59.8 +0.6
	comp=Z,2.1nm,0.3s,baz=139,slow=3.9,SNR=9.0						
CMAR				ScP		**ScP**	00 02 49.4 -2.2
	comp=Z,1.4nm,0.3s,baz=113,slow=3.9,SNR=5.0						
	comp=Z,3.5nm,0.5s						
CHTO	**Chiang Mai**	33.44	321	P		**P**	23 57 34.6 -0.2
CHTO				IAmb		IAmb	23 57 36.4
	comp=Z,8.3nm,0.7s						
ARPS	**Mount Arapiles**	35.27	149	P		**P**	23 57 51.7 +1.9
PZH	**PanZhiHua**	38.15	332	P		**P**	23 58 14.0 +0.3
PZH				pmax		pmax	
	comp=Z,10.0nm,0.6s						
PZH				pmax		pmax	
	comp=Z,120nm,6.1s						
NJ2	**Nanjing**	39.17	358	*e*P		**P**	23 58 22.4 +0.7
NJ2				pmax		pmax	
	comp=Z,12nm,0.5s						
PALK	**Pallekele**	42.09	289	P		**P**	23 58 44.8 -0.5
PALK				IAmb		IAmb	23 58 45.9
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	45.10	9	P		**P**	23 59 08.3 +0.1
	comp=Z,3.1nm,0.8s,baz=188,slow=8.2,SNR=16						
KSRS				PcP		**PcP**	00 00 37.3 +0.3
	comp=Z,0.4nm,0.4s,baz=202,slow=3.2,SNR=6.4						
	comp=Z,3.1nm,0.8s						
LSA	**Lhasa**	46.27	324	P		**P**	23 59 18.6 +0.7
LSA				pmax		pmax	
	comp=Z,23nm,0.7s						
MJAR	**Matsushiro Arr**	46.74	20	P		**P**	23 59 19.7 -1.1
	comp=Z,6.7nm,0.8s,baz=194,slow=7.5,SNR=13						
	comp=Z,6.7nm,0.8s						
BJI	**Beijing**	47.27	356	P		**P**	23 59 24.3 -0.3
BJI				pmax		pmax	
	comp=Z,3.0nm,0.6s						
HHC	**Hu-ho-hao-te**	48.60	351	*e*P		**P**	23 59 38.6 +3.9
HHC				pmax		pmax	
	comp=Z,10.0nm,0.6s						
HHC				pmax		pmax	
	comp=Z,99nm,6.6s						
GTA	**Gaotai**	50.22	339	*e*P		**P**	23 59 48.2 +1.5
GTA				pmax		pmax	
	comp=Z,6.0nm,0.7s						
XLT	**XiLinHaoTe**	51.12	356	*e*P		**P**	23 59 47.1 -6.0
XLT				pmax		pmax	
	comp=Z,3.0nm,0.6s						
USRK	**Ussuriysk Ar.**	52.35	11	P		**P**	00 00 01.2 -0.5
	comp=Z,4.0nm,0.6s,baz=171,slow=5.9,SNR=8.7						
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	56.27	349	P		**P**	00 00 29.7 +0.2
	comp=Z,2.7nm,0.5s,baz=166,slow=8.5,SNR=21						
SONM				PcP		**PcP**	00 01 18.8 -0.1
	comp=Z,0.8nm,0.5s,baz=167,slow=4.0,SNR=5.0						
SONM				ScP		**ScP**	00 04 23.7 -1.9
	comp=Z,0.4nm,0.7s,baz=172,slow=2.9,SNR=2.6						
	comp=Z,2.7nm,0.5s						
NIL	**Nilore**	60.41	315	P		**P**	00 00 56.4 -1.1
KSH	**Kashi**	62.06	322	P		**P**	00 01 08.5 +0.1
KSH				pmax		pmax	
	comp=Z,25nm,0.6s						
KDJ	**Kajisay**	63.01	325	P		**P**	00 01 14.4 0.0
MK31	**Makanchi Array**	63.58	332	P		**P**	00 01 17.6 -0.3
MK31				IAmb		IAmb	00 01 19.1
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	63.58	332	P		**P**	00 01 17.6 -0.3
MKAR	**Makanchi Array**	63.58	332	P		**P**	00 01 18.2 +0.4
	comp=Z,20nm,0.7s,baz=140,slow=7.5,SNR=224						
MKAR				PcP		**PcP**	00 01 48.4 0.0
	comp=Z,1.8nm,0.6s,baz=150,slow=4.0,SNR=2.1						
	comp=Z,20nm,0.7s						
MAKZ	**Makanchi**	63.74	332	P		**P**	00 01 18.6 -0.3
KBL	**Kabul**	63.84	314	P		**P**	00 01 19.1 -0.9
KBL				IAmb		IAmb	00 01 20.3
	comp=Z,22nm,0.8s						
BOOM	**Boomskoye usch**	63.94	325	P		**P**	00 01 20.1 -0.4
BOOM				IAmb		IAmb	00 01 21.6
	comp=Z,11nm,1.0s						
TKM2	**Tokmak 2**	64.41	325	P		**P**	00 01 23.6 +0.2
	SNR=6.3						
KBK	**Karagaybulak**	64.62	324	P		**P**	00 01 25.3 +0.6
	SNR=9.9						
AAK	**Ala-Archa**	64.87	324	P		**P**	00 01 26.9 +0.6
AAK				IAmb		IAmb	00 01 27.3
	comp=Z,7.9nm,0.6s						
AAK	**Ala-Archa**	64.87	324	P		**P**	00 01 26.9 +0.6
	SNR=14						
ARSB	**Arslanbob**	64.97	322	IAmb		IAmb	00 01 28.1
	comp=Z,28nm,1.0s						
AML	**Almayashu**	65.03	323	P		**P**	00 01 28.1 +0.5
	SNR=24						
USP	**Ospenovka**	65.25	325	P		**P**	00 01 28.6 +0.1
	SNR=12						
EKS2	**Erkin-Say**	65.30	324	P		**P**	00 01 29.2 +0.3
	SNR=15						
BTK	**Batken**	65.58	320	IAmb		IAmb	00 01 32.7
	comp=Z,11nm,1.1s						
CHGR	**Chuyangaron**	65.90	318	P		**P**	00 01 32.4 -0.3
KKAR	**Karatay Array**	67.50	323	P		**P**	00 01 41.8 -0.6
KKAR	**Karatay Array**	67.50	323	IAmb		IAmb	00 01 43.2
	comp=Z,2.8nm,0.7s						
ZAA0	**Zalesovo Array**	67.95	338	IAmb		IAmb	00 01 44.9
	comp=Z,16nm,0.8s						
ZALV	**Zalesovo Beam**	67.95	338	P		**P**	00 01 44.1 -0.8
	comp=Z,14nm,0.4s,baz=142,slow=5.1,SNR=72						
	comp=Z,14nm,0.4s						
PETK	**Petropavlovsk-**	68.02	23	P		**P**	00 01 45.2 -0.1
	comp=Z,1.3nm,0.6s,baz=211,slow=2.6,SNR=6.5						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	68.06	333	P		**P**	00 01 45.5 -0.1
	comp=Z,6.5nm,0.6s,baz=148,slow=5.3,SNR=99						
KURBB				PcP		**PcP**	00 02 06.9 -0.1
	comp=Z,1.8nm,0.6s,baz=133,slow=4.1,SNR=7.8						
	comp=Z,6.5nm,0.6s						
KURK	**Kurchatov**	68.09	333	P		**P**	00 01 45.7 -0.1
KURK				IAmb		IAmb	00 01 46.6
	comp=Z,18nm,0.9s						
VOI	**Vohitsoka**	72.06	249	P		**P**	00 02 09.5 -0.7
VOI				IAmb		IAmb	00 02 11.2
	comp=Z,13nm,0.7s						
VNDA	**Vanda**	73.44	171	P		**P**	00 02 16.8 -0.1
	comp=Z,3.5nm,0.6s,baz=323,slow=5.7,SNR=6.6						
	comp=Z,3.5nm,0.6s						
BVAR	**Borovoye Array**	73.45	331	P		**P**	00 02 16.9 -0.4
	comp=Z,5.6nm,0.6s,baz=124,slow=5.2,SNR=19						
	comp=Z,5.6nm,0.6s						
BRVK	**Borovoye**	73.52	331	P		**P**	00 02 17.3 -0.4
ABKAR	**Akbulak array**	76.96	324	*e*P		**P**	00 02 36.2 -0.7
ABKAR	**Akbulak array**	76.96	324	IAmb		IAmb	00 02 36.8
	comp=Z,5.1nm,0.6s						
TIXI	**Tiksi**	79.00	3	P		**P**	00 02 46.8 -0.6
RAYN	**Ar Rayn**	79.15	296	P		**P**	00 02 48.5 -0.9
RAYN				IAmb		IAmb	00 02 50.6
	comp=Z,17nm,0.8s						
NRIK	**Noril'sk**	79.76	349	P		**P**	00 02 50.9 -0.6
NRIK	**Noril'sk**	79.76	349	P		**P**	00 02 50.7 -0.8
	comp=Z,1.7nm,0.5s,baz=148,slow=9.1,SNR=4.1						
	comp=Z,1.7nm,0.5s						
SYO	**Syowa Base**	79.89	201	⦚*e*P		**P**	00 02 52.2 0.0
ARTI	**Arti**	81.12	330	P		**P**	00 02 57.5 -1.3
KIBK	**Kibwezi**	82.05	269	P		**P**	00 03 04.1 -0.6
QSPA	**South Pole Qui**	82.67	180	P		**P**	00 03 07.4 +0.6
	comp=Z,3.7nm,0.5s,baz=302,slow=0.8,SNR=46						
	comp=Z,3.7nm,0.5s						
KMBO	**Kilima Mbogo**	82.98	270	P		**P**	00 03 09.3 -0.2
KMBO	**Kilima Mbogo**	82.98	270	P		**P**	00 03 10.3 +0.7
	comp=Z,2.5nm,0.7s,baz=58,slow=6.2,SNR=9.0						
	comp=Z,2.5nm,0.7s						
GURO	**Guroymak-BITLI**	85.45	310	P		**P**	00 03 21.5 +0.5
GURO				IAmb		IAmb	00 03 23.4
	comp=Z,9.1nm,1.0s						
POGA	**Pongola**	85.46	243	P		**P**	00 03 21.9 +0.7
KBZ	**Khabaz**	86.02	315	P		**P**	00 03 23.1 -0.3
	comp=Z,3.6nm,0.8s,baz=90,slow=7.3,SNR=6.3						
	comp=Z,3.6nm,0.8s						
MMAI	**Mount Meron Ar**	89.70	303	P		**P**	00 03 41.7 +0.7
	comp=Z,1.7nm,0.5s,baz=102,slow=6.3,SNR=12						
	comp=Z,1.7nm,0.5s						
LSZ	**Lusaka**	90.14	255	P		**P**	00 03 43.2 -0.3
LSZ				IAmb		IAmb	00 03 44.6
	comp=Z,12nm,0.9s						
BOSA	**Boshof**	90.96	241	P		**P**	00 03 47.2 +0.2
	comp=Z,3.9nm,0.5s,baz=115,slow=3.7,SNR=25						
	comp=Z,3.9nm,0.5s						
BR131	**Keskin Array S**	92.08	310	P		**P**	00 03 49.3 -2.6
BR131				IAmb		IAmb	00 03 51.6
	comp=Z,5.2nm,1.1s						
BRTR	**Keskin Array B**	92.08	310	P		**P**	00 03 51.0 -0.9
	comp=Z,2.0nm,0.9s,baz=133,slow=5.4,SNR=9.8						
	comp=Z,2.0nm,0.9s						
SNAA	**Sanae**	92.96	195	P		**P**	00 03 55.8 +0.5
	comp=Z,3.3nm,0.4s,baz=198,slow=6.5,SNR=34						
	comp=Z,3.3nm,0.4s						
CAPN	**Captain Cook N**	95.60	30		pwP		00 06 11.2 +0.5
ILAR	**Eielson Array**	97.76	26	PKKPbc		PKKPbc	00 20 49.6 -2.6
	comp=Z,0.5nm,0.7s,baz=116,slow=1.7,SNR=5.0						
FINES	**FINESS Array B**	98.41	331	PKiKP		**PKiKP**	00 08 48.0 -0.3
	comp=Z,0.7nm,0.5s,baz=113,slow=2.5,SNR=4.1						
SPITS	**Spitsbergen Ar**	99.97	348	P		**Pdif**	00 04 24.6 -1.9
	comp=Z,9.9nm,1.0s,baz=117,slow=1.6,SNR=2.0						
YKA	**Yellowknife Ar**	112.13	24	PKiKP		**PKiKP**	00 09 13.0 -0.7
	comp=Z,0.4nm,0.4s,baz=293,slow=2.2,SNR=8.4						
EKA	**Eskdalemuir Ar**	114.61	328	PKP		PKPdf	00 09 18.3 -0.3
	comp=Z,0.3nm,0.3s,baz=43,slow=3.2,SNR=5.5						
NVAR	**Mina Array Bea**	118.94	50	PKP		**PKPdf**	00 09 27.8 0.0
	comp=Z,0.9nm,0.7s,baz=229,slow=0.5,SNR=4.7						
ESDC	**Sonseca Array**	120.78	312	PKP		**PKPdf**	00 09 30.6 -0.4
	comp=Z,0.5nm,0.9s,baz=249,slow=28,SNR=4.9						
PDAR	**Pinedale Array**	123.80	43	PKP		**PKPdf**	00 09 37.2 +0.2
	comp=Z,0.2nm,0.5s,baz=114,slow=3.4,SNR=5.2						
PDAR				PKKPbc		**PKKPab**	00 19 26.7 -0.3
	comp=Z,0.4nm,0.6s,baz=109,slow=3.3,SNR=5.4						
DBIC	**Dimbokro**	125.61	273	PKP		**PKPdf**	00 09 40.9 -0.1
	comp=Z,3.0nm,0.7s,baz=6.1,slow=0.3,SNR=6.1						
PLCA	**Paso Flores**	131.15	169	PKP		**PKPdf**	00 09 50.8 -0.2
	comp=Z,1.9nm,0.8s,baz=311,slow=3.1,SNR=4.4						
SCHQ	**Schefferville**	132.27	6	PKP		**PKPdf**	00 09 51.8 -0.7
	comp=Z,1.4nm,0.6s,baz=9.0,slow=2.4,SNR=5.7						
TXAR	**Lajitas Array**	133.22	56	PKhKP		PKPpre	00 09 43.9
	comp=Z,0.2nm,0.6s,baz=267,slow=2.1,SNR=3.5						
TXAR				PKP		sPdif	00 09 54.3 +3.5
	comp=Z,0.6nm,0.8s,baz=175,slow=1.7,SNR=6.3						
TXAR				SKPbc		**SKPbc**	00 12 30.3 -1.8
	comp=Z,0.9nm,0.9s,baz=263,slow=2.3,SNR=7.4						
CFA	**Coronel Fontan**	140.44	168	PKhKP		PKPpre	00 09 58.5
	comp=Z,0.7nm,0.5s,baz=338,slow=12,SNR=2.2						
CFA				SKPbc		**SKPbc**	00 12 51.0 -2.3
	comp=Z,1.5nm,0.7s,baz=135,slow=1.4,SNR=4.3						
CPUP	**Villa Florida**	146.48	184	PKPbc		**PKPdf**	00 10 19.7 +0.7
	comp=Z,5.5nm,0.6s,baz=150,slow=1.7,SNR=16						
BDFB	**Brasilia**	154.43	207	PKP		**PKPdf**	00 10 30.8 -0.7
	comp=Z,5.0nm,1.1s,baz=180,slow=5.3,SNR=5.3						
BDFB				PKPab		**PKPab**	00 10 57.6 +0.3
	comp=Z,1.0nm,0.4s,baz=190,slow=5.3,SNR=3.9						
LPAZ	**La Paz**	155.10	160	PKP		**PKPdf**	00 10 32.5 -0.6
	comp=Z,1.2nm,0.9s,baz=149,slow=1.8,SNR=4.2						
LPAZ				PKPab		**PKPab**	00 11 02.2 +1.4
	comp=Z,2.7nm,0.6s,baz=162,slow=4.3,SNR=8.0						
SIV	**San Ignacio**	156.80	177	PKP		**PKPdf**	00 10 33.7 -0.8
	comp=Z,1.0nm,0.8s,baz=116,slow=4.3,SNR=5.6						
SIV				PKPab		**PKPab**	00 11 07.8 +0.4
	comp=Z,2.7nm,0.8s,baz=183,slow=4.8,SNR=12						

BJI ***02*** *00:47:40.7,30.°97N×142.°20E,h7km,mB4.6/14,mb4.3/46, Ms4.1/16,Ms7 3.9/15*
IDC ***02*** *00:47:42.5±0.6,30.°82N×141.°92E,h0km,mb4.2/20, mbtmp4.1/26,ML3.5/6,MS3.6/19,Error ellipse: s-maj=18.8km s-min=15.2km az=59.0*
NEIC ***02*** *00:47:44.1±1.5,30.°86N±0.°04×142.°25E±0.°10,h12km±3km, mb4.8/60,Error ellipse: s-maj=12.2km s-min=6.1km az=79.0*
JMA ***02*** *00:47:44.5±0.2,30.°9N±0.°9×14°2E±°,h42km,MV4.3/36, NEAR TORISHIMA IS*
MOS ***02*** *00:47:44.8±1.1,30.°88N×141.°95E,h24km,mb4.8/37,Error ellipse: s-maj=13.0km s-min=5.5km az=117.0*
NIED ***02*** *00:47:44.5,30.°86N×142.°20E,h42km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.21; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$-2.82; $M_{r\theta}$-2.85; $M_{\theta\phi}$0.69; $M_{\phi r}$2.62; Fault plane solution: $M_0$4.92000×10^{15} NP1: ϕ_s179.00000°,δ23.00000°,λ125.00000°. NP2: ϕ_s322.00000°,δ71.00000°,λ76.00000°.*

ISC 02 00:47:45.4±0.4,30.86N±0.°04×142.°17E±0.°06,h24km,n205, σ1$60/207,**mb4.7**/80,**MS3.8**/15,**10C-1D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	3.01	319	Pn	**Pn**	00 48 31.0	-0.6
JHJ2	**Mitsune**	3.01	319	P	**Pn**	00 48 31.2	-0.4
JHJ2				S	**Sn**	00 49 05.5	-1.4
JHJ	**Hachijo jima 2**	3.04	319	Pn	**Pn**	00 48 31.3	-0.6
	14nm,0.3s,baz=311,slow=16,SNR=2.0						
JHJ				Sn	**Sn**	00 49 04.4	-3.1
	22nm,0.3s,baz=256,slow=23,SNR=1.6						
JHJ				LR	LR	00 49 36.6	
	comp=Z,658nm,18.9s,baz=117,slow=39						
	147nm,0.7s						
CBIJ	**Chichi jima**	3.75	180	P	**Pn**	00 48 41.6	-0.1
CBIJ				S	**Sn**	00 49 23.3	-1.8

NJ2 Nanjing 19.92 279 *e*P **Pn 00 52 17.3 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 19.98 340 P **P 00 52 16.6 +0.7**
comp=Z,0.3nm,0.3s,baz=152,slow=10,SNR=9.8
comp=Z,5.1nm,0.8s
KLR Kul'dur 19.98 340*ce*P **P 00 52 15.4 -0.5**
KLR pmax pmax
comp=Z,7.0nm,0.9s
TYV Tymovskoe 19.99 1 *e*P **Pn 00 52 19.7 +1.9**
TYV pmax pmax
comp=Z,7.0nm,0.7s
TYV pmax pmax
comp=Z,300nm,5.3s
YULB Yu-li 19.99 253 P **P 00 52 15.8 -0.5**
SSLB Suanglung 20.11 255 P **P 00 52 18.0 +0.5**
SSLB IAmb IAmb 00 52 18.9
comp=Z,57nm,1.0s
TPUB Ta-pu 20.58 254 P **P 00 52 23.2 +0.5**
HEH HeiHe 22.31 334 *e*P **P 00 52 40.1 -0.9**
HEH pmax pmax
comp=Z,7.0nm,0.9s
BJI Beijing 23.01 301 P **P 00 52 46.7 -1.8**
BJI S **S 00 56 51.5 -6.1**
BJI pmax pmax
comp=Z,8.0nm,1.3s
XLT XiLinHaoTe 24.36 310 *e*P **P 00 52 59.9 -1.7**
XLT sP sP 00 53 12.5 +3.6
XLT S **S 00 57 17.5 -2.2**
XLT pmax pmax
comp=Z,8.0nm,1.0s
PETK Petropavlovsk- 24.95 22 P **P 00 53 06.3 -0.4**
PETK Petropavlovsk- 24.95 22 P **P 00 53 08.4 +1.7**
comp=Z,1.2nm,0.7s,baz=238,slow=7.5,SNR=1.5
comp=Z,1.2nm,0.7s
PETK Petropavlovsk- 24.95 22 P **P 00 53 06.3 -0.4**
ZEA Zeya 25.29 339 *e*P **P 00 53 10.5 +0.7**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 26.62 300 *e*P **P 00 53 22.5 +0.4**
HHC pP pP 00 53 27.3 +0.3
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.1s
HHC LR LR
comp=Z,140nm,15.1s
HHC LR LR
comp=Z,200nm,12.6s
HHC LR LR
comp=Z,190nm,15.2s
PATS Pohnpei 28.28 144 P **P 00 53 35.1 -1.9**
ULN Ulaanbaatar 31.68 312 P **P 00 54 08.4 +1.3**
ULN IAmb IAmb 00 54 09.3
comp=Z,13nm,1.0s
ULN Ulaanbaatar 31.68 312 *i* P **P 00 54 07.8 +0.7**
ULN pmax pmax
comp=Z,23nm,1.5s
SONM Songino Array 32.09 312 P **P 00 54 11.9 +1.2**
SONM IAmb IAmb 00 54 12.7
comp=Z,10nm,1.1s
SONM Songino Array 32.09 312 P **P 00 54 11.7 +1.0**
comp=Z,4.8nm,0.8s,baz=112,slow=8.5,SNR=38
SONM LR LR 01 07 46.6
comp=Z,140nm,18.9s,baz=120,slow=38
comp=Z,4.8nm,0.8s
SONM Songino Array 32.09 312 P **P 00 54 11.9 +1.2**
SONM pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 32.23 349 *i* P **P 00 54 12.4 +0.9**
YAK pmax pmax
comp=Z,8.0nm,1.1s
SEY Seymchan 32.76 9*ce*P **P 00 54 16.8 +0.7**
SEY pmax pmax
comp=Z,5.0nm,1.9s
ZAK Zakamensk 34.86 315 *e*P **P 00 54 35.0 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.4s
GTA Gaotai 35.41 296 *e*P **P 00 54 38.8 -0.8**
GTA sP pwP 00 54 50.5 -3.7
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,120nm,14.5s
GTA LR LR
comp=Z,67nm,14.5s
GTA LR LR
comp=Z,180nm,14.5s
PZH PanZhiHua 35.60 273 P **P 00 54 43.3 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.5s
MOY Mondy 36.64 317 *e*P **P 00 54 50.3 +0.3**
MOY pmax pmax
comp=Z,15nm,1.8s
BILL Bilibino 39.81 14 *i* P **P 00 55 17.5 +1.2**
BILL pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 40.94 263 P **P 00 55 23.5 -2.8**
comp=Z,1.9nm,0.3s,baz=78,slow=8.2,SNR=1.7
CMAR LR LR 01 14 23.8
comp=Z,64nm,18.4s,baz=75,slow=39
comp=Z,1.9nm,0.3s
WMQ Urumqi 44.45 303 *e*P **P 00 55 55.9 +1.3**
WMQ pmax pmax
comp=Z,13nm,1.1s
ZAA0 Zalesovo Array 46.70 317 P **P 00 56 12.7 +0.6**
ZAA0 IAmb IAmb 00 56 13.5
comp=Z,8.3nm,1.2s
ZALV Zalesovo Beam 46.70 317 P **P 00 56 12.5 +0.4**
ZALV Zalesovo Beam 46.70 317 P **P 00 56 11.1 -1.0**
comp=Z,3.6nm,1.0s,baz=101,slow=7.7,SNR=17
ZALV PcP **PcP 00 57 44.9 -0.4**
comp=Z,1.4nm,0.7s,baz=123,slow=2.1,SNR=4.5
ZALV LR LR 01 16 42.0
comp=Z,101nm,18.3s,baz=88,slow=37
comp=Z,3.6nm,1.0s
ZALV Zalesovo Beam 46.70 317 P **P 00 56 12.5 +0.4**
M14K Bethel 47.04 34 P **P 00 56 17.0 +2.4**
M14K IAmb IAmb 00 56 30.8
comp=Z,14nm,1.4s
CNBA Chernabura Isl 47.30 42 P **P 00 56 16.6 -0.1**
F15K North Star Dit 47.33 27 P **P 00 56 16.5 -0.4**
F15K IAmb IAmb 00 56 32.5
comp=Z,9.0nm,1.2s
MK31 Makanchi Array 48.14 307 P **P 00 56 23.8 +0.3**
MK31 IAmb IAmb 00 56 24.7
comp=Z,8.1nm,0.8s
MK31 Makanchi Array 48.14 307*ce*P **P 00 56 23.2 -0.3**
MKAR Makanchi Array 48.14 307 P **P 00 56 23.6 +0.1**
comp=Z,6.6nm,0.7s,baz=91,slow=9.4,SNR=84
MKAR LR LR 01 17 47.7
comp=Z,95nm,18.4s,baz=82,slow=38
comp=Z,6.6nm,0.7s
MKAR Makanchi Array 48.14 307 *i* P **P 00 56 24.1 +0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 48.35 307 P **P 00 56 25.8 +0.7**
MAKZ Makanchi 48.35 307 P **P 00 56 25.8 +0.7**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
M16K Timber Creek 48.53 34 P **P 00 56 27.6 +1.4**
M16K IAmb IAmb 00 56 35.0
comp=Z,16nm,1.4s
NRIK Noril'sk 49.17 338 P **P 00 56 31.6 +0.7**
comp=Z,2.8nm,0.8s,baz=128,slow=4.8,SNR=8.1
comp=Z,2.8nm,0.8s
NRIK Noril'sk 49.17 338*ce*P **P 00 56 31.7 +0.7**
NRIK pmax pmax
comp=Z,11nm,1.4s
CHIR Chirikof Islan 49.64 41 P **P 00 56 37.5 +2.7**
P18K Big Mountain, 50.14 36 P **P 00 56 40.3 +1.7**
P18K IAmb IAmb 00 56 49.4
comp=Z,11nm,1.1s
O18K Koktuh Hills 50.20 36 P **P 00 56 42.5 +3.6**
O18K IAmb IAmb 00 56 44.9
comp=Z,16nm,1.2s
KURK Kurchatov 50.40 312 P **P 00 56 40.7 +0.1**
KURK IAmb IAmb 00 56 53.6
comp=Z,12nm,0.9s
KURK Kurchatov 50.40 312*ce*P **P 00 56 40.9 +0.3**
KURK pmax pmax
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 50.46 312 P **P 00 56 41.1 +0.1**
comp=Z,5.5nm,0.8s,baz=88,slow=7.4,SNR=79
comp=Z,5.5nm,0.8s
WB0 Warramunga Arr 50.88 189 P **P 00 56 44.9 +0.3**
WB0 IAmb IAmb 00 56 57.2
comp=Z,10nm,0.9s
WR0 Warramunga Arr 51.05 189 P **P 00 56 46.4 +0.6**
WRAB Tennant Creek 51.05 189 *i* P **P 00 56 46.3 +0.5**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WB2 Warramunga Arr 51.06 189 P **P 00 56 46.5 +0.6**
WB2 IAmb IAmb 00 56 47.6
comp=Z,20nm,1.4s
WRA Warramunga Arr 51.06 189 P **P 00 56 46.1 +0.2**
WRA Warramunga Arr 51.06 189 P **P 00 56 46.0 +0.2**
comp=Z,2.0nm,0.4s,baz=5.2,slow=7.5,SNR=43
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 51.06 189 P **P 00 56 46.1 +0.2**
WRA pmax pmax
comp=Z,1.0nm,1.0s
FITZ Fitzroy Crossi 51.20 200 P **P 00 56 47.3 +0.4**
KDAK Kodiak Island 51.40 38 P **P 00 56 48.8 +0.8**
KDAK Kodiak Island 51.40 38 LR LR 01 17 02.7
comp=Z,93nm,21.4s,baz=93,slow=34
KDAK Kodiak Island 51.40 38 P **P 00 56 48.8 +0.8**
KDAK pmax pmax
comp=Z,5.0nm,0.8s
CAST Castle Rocks 52.07 31 P **P 00 56 51.0 -2.0**
KDJ Kajisay 52.30 302 P **P 00 56 54.5 -0.8**
KDJ Kajisay 52.30 302 P **P 00 56 54.5 -0.8**
KDJ pmax pmax
comp=Z,3.0nm,1.1s
O22K Cooper Landing 52.97 35 P **P 00 57 00.9 +1.3**
BOOM Boomskoye usch 53.14 302 P **P 00 57 02.4 +0.9**
BOOM Boomskoye usch 53.14 302 P **P 00 57 02.4 +0.9**
BOOM pmax pmax
comp=Z,4.0nm,1.1s
KSH Kashi 53.71 299 P **P 00 57 09.4 +3.8**
KSH pP sP 00 57 14.7 +2.5
KSH pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 54.16 303*ce*P **P 00 57 09.9 +1.0**
AAK pmax pmax
comp=Z,4.0nm,1.7s
ASAR Alice Springs 54.79 189 P **P 00 57 14.1 +0.7**
comp=Z,1.2nm,0.6s,baz=7.0,slow=7.5,SNR=14
ASAR LR LR 01 20 21.4
comp=Z,66nm,19.3s,baz=44,slow=36
comp=Z,1.2nm,0.6s
BVAR Borovoye Array 55.31 316 P **P 00 57 17.6 +0.7**
comp=Z,3.4nm,0.7s,baz=93,slow=8.0,SNR=16
comp=Z,3.4nm,0.7s
BRVK Borovoye 55.37 316*ce*P **P 00 57 18.1 +0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
N25K Chitina, Valde 55.47 34 P **P 00 57 17.9 -0.1**
PSA00 Pilbara Seismi 56.36 205 P **P 00 57 25.0 +0.4**
DRK Karamyk 56.85 299 P **P 00 57 29.3 +0.8**
DRK Karamyk 56.85 299 P **P 00 57 29.3 +0.8**
DRK pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 56.93 304 P **P 00 57 28.7 +0.1**
KK31 IAmb IAmb 00 57 30.2
comp=Z,11nm,0.9s
KK31 Karatay Array 56.93 304 P **P 00 57 28.7 +0.1**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 56.93 304 P **P 00 57 29.0 +0.4**
KKAR IAmb IAmb 00 57 30.1
comp=Z,7.3nm,0.9s
KKAR Karatay Array 56.93 304 P **P 00 57 29.0 +0.4**
KKAR Karatay Array 56.93 304 P **P 00 57 29.0 +0.4**
RSD Rainshed 57.11 86 P **P 00 57 28.4 -1.9**
NIL Nilore 57.35 292 P **P 00 57 33.1 +1.3**
NIL Nilore 57.35 292 P **P 00 57 33.1 +1.3**
NIL pmax pmax
comp=Z,20nm,1.1s
GAR Garm 58.09 299 IAmb IAmb 00 57 38.4
comp=Z,13nm,1.1s
SKAG Skagway 60.26 36 P **P 00 57 50.7 -0.8**
SKAG IAmb IAmb 00 57 51.5
comp=Z,10nm,1.0s
SVE Sverdlovsk 60.27 321 *e*P **P 00 57 52.9 +1.3**
SVE pmax pmax
comp=Z,17nm,1.3s
KBL Kabul 60.39 295 P **P 00 57 52.7 -0.4**
KBL IAmb IAmb 00 58 06.1
comp=Z,5.3nm,0.9s
KBL Kabul 60.39 295 P **P 00 57 52.7 -0.4**
KBL pmax pmax
comp=Z,5.0nm,0.9s
ARTI Arti 61.58 321 P **P 00 58 01.0 +0.5**
ARTI IAmb IAmb 00 58 02.0
comp=Z,12nm,1.0s
ARTI Arti 61.58 321 P **P 00 58 01.0 +0.5**
ARTI pmax pmax
comp=Z,12nm,1.0s
A36M Sachs Harbour 61.77 21 P **P 00 58 02.3 +0.7**
A36M IAmb IAmb 00 58 06.1
comp=Z,4.9nm,0.9s
STKA Stephens Creek 62.39 181 LR LR 01 24 47.9
comp=Z,75nm,20.1s,baz=27,slow=36
ABKAR Akbulak array 62.50 313 P **P 00 58 07.2 +0.4**
ABKAR Akbulak array 62.50 313 P **P 00 58 06.8 -0.1**
ABKAR IAmb IAmb 00 58 19.8
comp=Z,7.9nm,0.8s
FORT Forrest 62.74 194 P **P 00 58 09.5 +1.0**
KIRV Kirov 65.60 325*ce*P **P 00 58 27.8 +0.8**
BELG Belogornoye 68.81 319 *i* P **P 00 58 48.6 +1.2**
BELG pmax pmax
comp=Z,4.0nm,1.3s
YKA Yellowknife Ar 68.86 29 P **P 00 58 48.7 +1.1**
comp=Z,1.3nm,1.0s,baz=291,slow=6.0,SNR=9.4
comp=Z,1.3nm,1.0s
YKA Yellowknife Ar 68.86 29 *i* P **P 00 58 51.2 +3.6**
YKA pmax pmax
comp=Z,1.0nm,1.0s
J01E Myrtle Point 72.24 50 P **P 00 59 07.4 -1.2**
VRH Novokhopyorsk 72.63 320 *e*P **P 00 59 09.5 -1.2**
VRH pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 73.48 322 *e*P P 00 59 28.8 +13
LPSR pmax pmax
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 73.68 51 LR LR 01 25 59.4
comp=Z,64nm,21.5s,baz=318,slow=31
VORR Voronezh 73.79 321 *e*P **P 00 59 18.6 +1.0**
VORR pmax pmax
comp=Z,8.0nm,0.7s
VSR Storozhevoye 74.03 320 *e*P **P 00 59 17.8 -1.2**
VSR pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 74.58 333 P **P 00 59 21.1 -1.0**
comp=Z,0.7nm,0.5s,baz=29,slow=5.5,SNR=7.0
comp=Z,0.7nm,0.5s
FINES FINESS Array B 74.58 333 *i* P **P 00 59 24.3 +2.2**
FINES pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 75.46 312 P **P 00 59 26.8 -0.6**
comp=Z,6.0nm,0.8s,baz=52,slow=2.1,SNR=8.9
comp=Z,6.0nm,0.8s
KBZ Khabaz 75.46 312*ce*P **P 00 59 29.2 +1.8**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 75.48 313 *e*P **P 00 59 28.6 +0.9**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 75.48 313 P **P 00 59 27.6 -0.1**
comp=Z,14nm,2.1s
RAR Rarotonga 76.06 125 LR LR 01 30 20.8
comp=Z,34nm,19.0s,baz=242,slow=34
NVAR Mina Array Bea 78.22 52 P **P 00 59 45.9 +2.5**
comp=Z,0.3nm,0.5s,baz=301,slow=4.8,SNR=3.7
NVAR LR LR 01 29 06.5
comp=Z,60nm,20.9s,baz=270,slow=32
comp=Z,0.3nm,0.5s
ELK Elko 79.08 49 LR LR 01 29 53.6
comp=Z,58nm,21.9s,baz=312,slow=32
AK03 Malin Array Si 79.58 323 P **P 00 59 50.3 0.0**
AKASG Malin Array Be 79.59 323 P **P 00 59 50.4 0.0**
comp=Z,2.7nm,0.7s,baz=50,slow=6.0,SNR=16
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 79.59 323 *i* P **P 00 59 51.0 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 79.59 323 P **P 00 59 50.9 +0.5**
AKBB IAmb IAmb 01 00 03.5
comp=Z,7.5nm,0.9s
AKBB Malin Array Si 79.59 323*ce*P **P 00 59 51.6 +1.2**
AKBB Malin Array Si 79.59 323 P **P 00 59 50.4 0.0**
AK01 Malin Array Si 79.60 323 P **P 00 59 50.4 -0.1**
KIEV Kiev 79.61 323 P **P 00 59 50.2 -0.2**
KIEV IAmb IAmb 01 00 03.5
comp=Z,7.2nm,0.9s
KIEV Kiev 79.61 323 P **P 00 59 50.2 -0.2**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
AK04 Malin Array Si 79.61 324 P **P 00 59 50.5 0.0**
AK09 Malin Array Si 79.61 323 P **P 00 59 50.5 0.0**
AK08 Malin Array Si 79.62 323 P **P 00 59 50.5 0.0**
AK02 Malin Array Si 79.63 323 P **P 00 59 50.6 0.0**
AK11 Malin Array Si 79.64 323 P **P 00 59 50.6 0.0**
HFS Hagfors 79.98 337 P **P 00 59 53.1 +0.8**
comp=Z,1.3nm,0.8s,baz=60,slow=8.5,SNR=1.2
comp=Z,1.3nm,0.8s
NB2 NORSAR Subarra 80.13 338 P **P 00 59 53.9 +0.7**
comp=Z,1.0nm,0.7s,baz=39,slow=5.6
NOA NORSAR Array B 80.13 338 P **P 00 59 53.5 +0.3**
comp=Z,0.7nm,0.7s,baz=41,slow=5.5,SNR=4.2
comp=Z,0.7nm,0.7s
SUW Suwalki 80.45 328 P **P 00 59 55.6 +0.6**
SUW Suwalki 80.45 328 P **P 00 59 55.6 +0.6**
SUW pmax pmax
comp=Z,24nm,1.1s
LUBAR Lubar, Ukraine 80.81 323 P **P 00 59 57.0 0.0**
RNPP9 Sopachiv 80.83 325 P **P 00 59 57.0 0.0**
PDAR Pinedale Array 81.56 45 P **P 01 00 02.9 +1.4**
comp=Z,0.6nm,0.8s,baz=298,slow=2.6,SNR=5.3
comp=Z,0.6nm,0.8s
RDMU Red Mountain 82.80 47 P **P 01 00 08.1 +0.1**
RDMU IAmb IAmb 01 00 22.1
comp=Z,13nm,1.5s
BR131 Keskin Array S 83.45 313 P **P 01 00 12.1 +0.9**
BR131 IAmb IAmb 01 00 13.3
comp=Z,11nm,1.3s
BR131 Keskin Array S 83.45 313 P **P 01 00 12.1 +0.9**
BR131 pmax pmax
comp=Z,11nm,1.3s
BRTR Keskin Array B 83.45 313 P **P 01 00 11.5 +0.3**
BRTR Keskin Array B 83.45 313 P **P 01 00 12.2 +0.9**
comp=Z,1.6nm,0.8s,baz=70,slow=5.4,SNR=8.6
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 83.45 313 *i* P **P 01 00 12.3 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BUR08 Bucovina Ar. S 83.56 323 P **P 01 00 12.4 +0.8**
BUR08 IAmb IAmb 01 00 15.6
comp=Z,6.5nm,1.2s
BURAR Bucovina Array 83.57 323 P **P 01 00 11.7 0.0**
RAYN Ar Rayn 83.63 293 P **P 01 00 12.9 +0.6**
RAYN Ar Rayn 83.63 293 P **P 01 00 12.9 +0.6**
RAYN pmax pmax
comp=Z,11nm,1.0s
PV23 Carpenter Ridg 84.36 48 P **P 01 00 15.2 -0.9**
PV10 Paradox Valley 84.39 48 P **P 01 00 17.0 +0.8**
OJC Ojcow 84.53 327 P **P 01 00 16.6 +0.2**
OJC IAmb IAmb 01 00 18.5
comp=Z,13nm,1.3s
OJC Ojcow 84.53 327 P **P 01 00 16.6 +0.2**
OJC pmax pmax
comp=Z,13nm,1.3s
PV13 Radium Mtn., P 84.65 48 P **P 01 00 17.1 -0.4**
PV13 IAmb IAmb 01 00 27.4
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 85.89 328 P **P 01 00 24.2 +1.0**
MORC IAmb IAmb 01 00 36.8
comp=Z,9.2nm,1.5s
MORC Moravsky Berou 85.89 328 P **P 01 00 24.2 +1.0**
MORC pmax pmax
comp=Z,9.0nm,1.5s
X18A Snowflake 85.99 52 P **P 01 00 23.6 -0.6**
VYHS Vyhne 86.18 326 *e*P **P 01 00 26.2 +1.6**
VYHS pmax pmax
comp=Z,58nm,2.9s
VYHS Vyhne 86.18 326 *e*P **P 01 00 26.2 +1.6**
CLL Collm 86.77 331 *i* P **P 01 00 28.4 +0.9**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 86.77 331 *i* P **P 01 00 28.4 +0.9**
comp=Z,8.0nm,1.3s
ANMO Albuquerque 88.08 50 LR LR 01 35 20.8
comp=Z,51nm,20.3s,baz=134,slow=32
LPIG La Paz 91.68 61 LR LR 01 37 37.9
comp=Z,27nm,19.9s,baz=258,slow=33
TXAR Lajitas Array 93.36 53 P **P 01 01 01.8 +2.9**
comp=Z,0.9nm,0.8s,baz=308,slow=3.2,SNR=11
comp=Z,0.9nm,0.8s
LPAZ La Paz 148.79 69 PKPbc **PKiKP 01 07 34.4 +0.7**
comp=Z,1.8nm,0.8s,baz=346,slow=5.1,SNR=8.1

NEIC ***02*** *00:55:06.2±1.0, 19°.95N±0°.03×155°.47W±0°.02, h37km±3km, Error ellipse: s-maj=3.9km s-min=2.6km az=184.0*
HVO 02 00:55:07.5±0.9, 19°.95N±0°.04×155°.48W±0°.05, h33km±7km, ML2.4/24, ML2.5/37(NEIC), Error ellipse: s-maj=7.3km s-min=5.9km az=55.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.19**	**194**		Pn	00 55 13.4	-0.2
POHA				Sg	Sb	00 55 17.8	-1.1
HPAH	**Hawaii Prepara**	**0.22**	**293**		Pn	00 55 13.5	-0.6
HPAH				Sg	Sn	00 55 17.9	+0.6
HPAH				IAML		00 55 18.6	
comp=E,377nm,0.1s							
HMH	**Humu'ula Sheep**	**0.34**	**180**		Pb	00 55 15.3	-0.7
HMH				Sg	Sb	00 55 21.1	-0.9
HMH				IAML		00 55 21.4	
comp=E,378nm,0.2s							
HMH				IAML		00 55 21.5	
comp=N,458nm,0.2s							
HUH	**Hualalai**	**0.42**	**232**		Pb	00 55 16.6	-0.6
HUH					Sb	00 55 21.8	-2.0
HUH				IAML		00 55 28.1	
comp=E,358nm,0.3s							
ALEP	**Alea Permanent**	**0.43**	**201**		Pb	00 55 16.4	-1.0
ALEP					Pn	00 55 22.7	+4.9
MLH	**Mauna Loa**	**0.46**	**169**		Pb	00 55 16.5	-1.2
MLH	**Mauna Loa**	**0.46**	**169**		Sb	00 55 22.5	-2.1
MLH				IAML		00 55 23.1	
comp=E,239nm,1.0s							
MLH				IAML		00 55 23.2	
comp=N,339nm,0.2s							
MHA	**Mahukona**	**0.46**	**301**	Pn	Pb	00 55 16.1	-1.5
MWH	**Mokuaweoweo**	**0.47**	**193**		Pb	00 55 16.7	-1.4
MWH					Pn	00 55 23.6	+5.2
RSD	**Rainshed**	**0.52**	**158**		Pb	00 55 17.2	-1.3
RSD					Sb	00 55 24.4	-1.6
UWE	**Uwekahuna**	**0.55**	**161**		Pb	00 55 17.4	-1.7
UWE	**Uwekahuna**	**0.55**	**161**	Sn	Sb	00 55 24.2	-2.8
UWE				IAML		00 55 25.0	
comp=N,351nm,0.5s							
UWE				IAML		00 55 27.7	
comp=E,433nm,0.3s							
UWB	**Uwekahuna Bluf**	**0.55**	**160**		Pb	00 55 17.3	-1.7
UWB					Sb	00 55 24.5	-2.4
SBLHI	**Steaming Bluff**	**0.55**	**159**		Pb	00 55 17.5	-1.5
SBLHI					Sb	00 55 24.4	-2.6
OBL	**Observatory Le**	**0.56**	**160**		Pb	00 55 17.4	-1.7
OBL					Pn	00 55 24.5	+5.3
HATHI	**Halema'uma'u T**	**0.56**	**158**	Pn	Pb	00 55 18.6	-0.5
WRMHI	**West Rim**	**0.56**	**162**		Pb	00 55 17.4	-1.8
WRMHI					Pn	00 55 24.5	+5.2
BYL	**Byron's Ledge**	**0.57**	**158**	Pn	Pb	00 55 19.2	-0.1
PUH	**Pauahi**	**0.62**	**156**	IAML		00 55 26.4	
comp=E,230nm,0.2s							
PUH				IAML		00 55 27.1	
comp=N,240nm,0.4s							
PUH	**Pauahi**	**0.62**	**156**		Pn	00 55 18.1	-2.0
PUH					Sb	00 55 25.9	-2.9
KNHH	**Kane Nui o Ham**	**0.64**	**152**		Pn	00 55 18.4	-1.9
STCH	**Steam Cracks**	**0.65**	**149**		Pn	00 55 18.5	-2.0
STCH					Sb	00 55 26.4	-3.2
STCH	**Steam Cracks**	**0.65**	**149**	IAML		00 55 26.8	
comp=E,570nm,0.1s							
STCH				IAML		00 55 26.9	
comp=N,648nm,0.1s							
NPOC	**North of Pu'u**	**0.65**	**147**		Pn	00 55 18.5	-2.0
JCUZ	**Jacuzzi**	**0.66**	**147**		Pb	00 55 26.8	+6.0
HLP	**Hilina Pali**	**0.67**	**166**		Pn	00 55 18.8	-1.9

HLP	Hilina Pali	0.67 166		Sb	00 55 27.1	-2.8
JOKA	Jonika Flow	0.68 138		Pn	00 55 18.9	-2.0
JOKA	Jonika Flow	0.68 138	IAML		00 55 27.6	
	comp=E,125nm,0.5s					
JOKA			IAML		00 55 46.0	
	comp=N,216nm,2.8s					
KHU	Kahuku	0.71 190		Pn	00 55 19.4	-2.0
KHU				Sb	00 55 28.1	-3.1
KHU	Kahuku	0.71 190	IAML		00 55 28.3	
	comp=E,231nm,0.3s					
KHU			IAML		00 55 29.7	
	comp=N,289nm,3.4s					
HTC	Hot Caves	0.71 174		Pn	00 55 19.4	-1.8

NEIC **02** *00:59:02.4±1.4, 18°.1S±0°.1×177°.8W±0°.2, h619km±9km, mb4.3/26, Error ellipse: s-maj=21.8km s-min=17.4km az=106.0*

IDC **02** *00:59:04.5±1.8, 18°.10S×178°.12W, h635km±21km, mb3.2/9, mbtmp4.1/10, Error ellipse: s-maj=26.4km s-min=16.9km az=136.0*

ISC 02 00:59:04.8±0.6, 18°.08S±0°.09×178°.1W±0°.1, h650km, n45, σ1§61/45, mb4.2/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.72 275		P	P	01 00 30.5	-1.9
MSVF	Nonsavu	3.72 275		P	P	01 00 30.1	-2.2
	14nm,0.5s,baz=140,slow=7.5,SNR=19						
FUTU	Fugatoga	3.75 359		P	P	01 00 29.0	-3.6
FUNA	Funafuti	9.86 344		P	P	01 01 21.4	-2.0
RAO	Raoul Island	11.13 179		P	P	01 01 36.1	+0.8
PINNC	Pines Island,	14.32 249		P	P	01 02 03.5	-1.4
TKNZ	Takaka Hill	24.15 197		P	P	01 03 31.2	-1.8
NNZ	Nelson	24.21 196		P	P	01 03 32.2	-1.3
THZ	Tophouse	24.84 196		P	P	01 03 38.0	-1.3
THZ				IAmb	IAmb	01 03 42.6	
	comp=Z,11nm,1.0s						
DSZ	Denniston Nort	25.14 198		P	P	01 03 40.3	-1.5
LTZ	Lake Taylor	25.96 196		P	P	01 03 48.8	-0.2
LTZ				IAmb	IAmb	01 03 48.9	
	comp=Z,9.1nm,0.8s						
INZ	Inchbonnie	26.14 198		P	P	01 03 48.1	-2.4
INZ				IAmb	IAmb	01 04 02.0	
	comp=Z,8.1nm,1.0s						
FOZ	Fox Glacier	27.37 199		P	P	01 03 59.5	-1.7
EIDS	Eidsvold	29.52 250		P	P	01 04 19.5	-0.5
EIDS				IAmb	IAmb	01 04 33.3	
	comp=Z,10.0nm,1.1s						
MLZ	Mavora Lakes	29.55 200		P	P	01 04 19.4	-0.6
MLZ				IAmb	IAmb	01 04 30.7	
	comp=Z,15nm,1.2s						
DCZ	Deep Cove	29.96 201		P	P	01 04 22.1	-1.4
DCZ				IAmb	IAmb	01 04 22.3	
	comp=Z,6.9nm,0.9s						
ARMA	Armidale	30.14 240		P	P	01 04 25.8	+0.4
ARMA				IAmb	IAmb	01 04 26.5	
	comp=Z,3.7nm,0.7s						
CAN	Canberra	33.87 233		P	P	01 04 57.0	+0.4
CAN				IAmb	IAmb	01 05 15.6	
	comp=Z,7.7nm,1.1s						
TOO	Toolangi	37.32 231		P	P	01 05 25.2	+0.3
COEN	Coen	37.44 271		P	P	01 05 27.2	+1.1
COEN				IAmb	IAmb	01 05 27.7	
	comp=Z,8.6nm,0.6s						
STKA	Stephens Creek	38.84 241		P	P	01 05 38.0	+0.9
STKA	Stephens Creek	38.84 241		P	P	01 05 37.7	+0.6
	comp=Z,2.8nm,0.6s,baz=74,slow=10,SNR=6.3						
	comp=Z,2.8nm,0.6s						
WRA	Warramunga Arr	44.93 260		P	P	01 06 24.8	+0.1
	comp=Z,1.7nm,0.3s,baz=96,slow=6.8,SNR=64						
WRA				PcP	PcP	01 07 52.1	+0.5
	comp=Z,0.2nm,0.3s,baz=93,slow=3.4,SNR=2.3						
	comp=Z,1.7nm,0.3s						
AS31	Alice Springs	45.06 254		P	P	01 06 26.1	+0.3
ASAR	Alice Springs	45.06 254		P	P	01 06 26.0	+0.2
	comp=Z,4.8nm,0.4s,baz=92,slow=7.7,SNR=80						
ASAR				PcP	PcP	01 07 52.5	+0.4
	comp=Z,0.5nm,0.5s,baz=102,slow=3.9,SNR=5.4						
	comp=Z,4.8nm,0.4s						
MTN	Manton Dam	49.12 268		P	P	01 06 56.2	+0.1
MTN				IAmb	IAmb	01 07 13.7	
	comp=Z,7.0nm,1.1s						
FORT	Forrest	50.24 245		P	P	01 07 03.6	-0.3
FORT				IAmb	IAmb	01 07 06.5	
	comp=Z,30nm,1.1s						
KNRA	Kununurra	50.80 264		P	P	01 07 08.4	+0.2
FITZ	Fitzroy Crossi	53.33 261		P	P	01 07 26.4	+0.2
MBWA	Marble Bar	58.35 256		P	P	01 08 00.7	+0.1
MBWA				IAmb	IAmb	01 08 01.9	
	comp=Z,7.5nm,0.9s						
VNDA	Vanda	60.31 185		P	P	01 08 12.6	+0.1
KAPI	Kappang	62.03 274		P	P	01 08 26.9	+2.1
UGM	Wanagama	69.97 268		P	P	01 09 14.2	+0.4
UGM				IAmb	IAmb	01 09 33.4	
	comp=Z,12nm,1.1s						
QSPA	South Pole Qui	71.98 180		P	P	01 09 25.3	+0.7
QSPA	South Pole Qui	71.98 180		P	P	01 09 25.2	+0.6
	comp=Z,1.6nm,0.5s,baz=29,slow=9.2,SNR=14						
	comp=Z,1.6nm,0.5s						
PETK	Petropavlovsk-	73.92 345		P	P	01 09 36.8	+1.1
	comp=Z,2.8nm,1.0s,baz=158,slow=5.3,SNR=2.4						
	comp=Z,2.8nm,1.0s						
GSC	Goldstone, Bar	78.65 47		P	P	01 09 57.4	-4.5
L18K	Granite Mounta	81.80 10			pP	01 12 27.1	-4.9
GHO	Glory Hole Cre	82.89 13			pP	01 12 30.8	-7.4
TXAR	Lajitas Array	85.81 57		P	P	01 10 40.3	+2.4
	comp=Z,0.8nm,0.8s,baz=223,slow=5.6,SNR=8.7						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	85.97 13		P	P	01 10 38.1	+0.3
	comp=Z,0.4nm,0.4s,baz=220,slow=5.1,SNR=11						
	comp=Z,0.4nm,0.4s						
RDOG	Red Dog Mine	86.60 6		P	P	01 10 45.1	+4.4
RDOG				IAmb	IAmb	01 11 02.0	
	comp=Z,5.8nm,0.6s						
PDAR	Pinedale Array	87.25 43		P	P	01 10 46.0	+1.4
	comp=Z,0.4nm,0.6s,baz=186,slow=2.8,SNR=4.3						
	comp=Z,0.4nm,0.6s						
YKA	Yellowknife Ar	94.34 25		P	P	01 11 17.2	+0.7
	comp=Z,0.2nm,0.6s,baz=235,slow=6.4,SNR=3.7						
	comp=Z,0.2nm,0.6s						
ITM	Ithomi	154.10 321			PKPdf	01 17 42.8	-1.6

IDC **02** *01:10:22.0±1.7, 9°.88N×126°.28E, h0km, mb3.9/7, mbtmp3.9/7, MS2.7/2, Error ellipse: s-maj=141.0km s-min=20.4km az=72.0*

ISC 02 01:10:27.5±1.6, 9°.9N±0°.3×126°.5E±0°.8, h42km, n12, σ1§03/7, mb4.0/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	26.11 26		LR	LR	01 26 36.8	
	comp=Z,20nm,19.5s,baz=86,slow=37						
KSRS	Korea Array	27.44 2		LR	LR	01 29 30.3	
	comp=Z,12nm,18.0s,baz=190,slow=42						
FITZ	Fitzroy Crossi	27.85 182		P	P	01 16 14.3	+1.0
	2.5nm,0.6s,baz=2.2,slow=9.4,SNR=6.9						
	2.5nm,0.6s						
WRA	Warramunga Arr	30.65 166		P	P	01 16 37.7	-0.5
	0.3nm,0.5s,baz=335,slow=9.8,SNR=2.0						
	0.3nm,0.5s						
ASAR	Alice Springs	34.15 168		P	P	01 17 08.2	-0.6
	0.2nm,0.5s,baz=349,slow=9.1,SNR=2.2						
	0.2nm,0.5s						
H11N1	WAKE ISLAND Hy	40.11 71		T	T	02 01 26.2	
	baz=266						
H11N2	WAKE ISLAND Hy	40.12 71		T	T	02 01 20.0	
	baz=266						
H11N3	WAKE ISLAND Hy	40.13 71		T	T	02 01 15.8	
	baz=266						
MKAR	Makanchi Array	52.47 323		P	P	01 19 35.7	-0.6
	0.3nm,0.7s,baz=134,slow=8.3,SNR=3.6						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	56.51 325		P	P	01 20 05.0	-0.5
	0.5nm,0.2s,baz=126,slow=6.3,SNR=1.2						
	0.5nm,0.2s						
ARCES	ARCESS Array B	84.61 340		P	P	01 22 57.7	+1.4
	5.9nm,1.1s,baz=74,slow=4.6,SNR=1.9						
	5.9nm,1.1s						
FINES	FINESS Array B	86.33 332		P	P	01 23 04.6	-0.3
	1.2nm,0.7s,baz=67,slow=6.1,SNR=3.7						
	1.2nm,0.7s						

IDC **02** *01:10:39.5±9.7, 6°.70S×127°.36E, h368km±113km, mb3.1/3, mbtmp3.9/6, Error ellipse: s-maj=108.7km s-min=30.9km az=50.0*

ISC 02 01:10:42.7±1.3, 6°.9S±0°.2×127°.2E±0°.3, h407km, n6, σ1§43/8, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.21 188		P	P	01 13 13.2	-0.2
	0.5nm,0.4s,baz=0.0,slow=10,SNR=1.3						
WRA	Warramunga Arr	14.65 153		P	P	01 13 51.7	+0.4
	1.5nm,0.3s,baz=332,slow=11,SNR=61						
WRA				S	S	01 16 24.8	-2.5
	0.6nm,0.6s,baz=333,slow=20,SNR=6.2						
ASAR	Alice Springs	17.83 160		P	P	01 14 26.0	+0.7
	1.4nm,0.3s,baz=343,slow=11,SNR=29						
ASAR				S	S	01 17 30.8	+1.5
	0.2nm,0.5s,baz=340,slow=26,SNR=2.1						
STKA	Stephens Creek	28.20 153		P	P	01 16 00.9	+0.7
	1.2nm,0.4s,baz=342,slow=9.9,SNR=5.8						
	1.2nm,0.4s						
MKAR	Makanchi Array	66.69 328		P	P	01 20 51.2	-0.4
	0.2nm,0.4s,baz=116,slow=7.7,SNR=6.8						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	71.04 330		P	P	01 21 17.6	-0.3
	0.4nm,0.3s,baz=137,slow=5.2,SNR=6.4						
	0.4nm,0.3s						

IDC **02** *01:17:37.3±1.0, 16°.97N×59°.75E, h0km, mb4.0/15, mbtmp4.0/16, ML3.7/1, MS3.7/38, Error ellipse: s-maj=23.2km s-min=17.1km az=141.0*

GCMT **02** *01:17:39.3±0.4, 16°.84N±0°.02×59°.84E±0°.02, h21km±2km, MW4.7/79, Moment Tensor Solution. s6,c7; s79,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.10; $M_{\theta\theta}$0.08±.08; $M_{\phi\phi}$-0.11±.08; $M_{r\theta}$-0.45±.14; $M_{r\phi}$1.35±.08; $M_{\theta\phi}$-0.19±.12; Best double couple: $M_0$1.43700×10^{16} NP1:ϕ_s273.00000°, δ83.00000°, λ18.00000°. Principal axes: T 1.4810, Plg18.0000°, Azm138.0000°; N -0.0880, Plg71.0000°, Azm295.0000°; P -1.3930, Plg7.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **02** *01:17:40.3±2.6, 17°.0N±0°.1×59°.8E±0°.1, h10km±1km, mb4.4/25 Error ellipse: s-maj=20.3km s-min=17.2km az=92.0*

OMAN **02** *01:17:43.1±0.3, 17°.12N×59°.71E, h35km, mb4.4/14, ml4.8/4, ms3.4/7, Error ellipse: s-maj=6.4km s-min=3.0km az=298.0*

DSN **02** *01:17:45.6±1.2, 17°.44N×59°.48E, h10km, ML3.6/5, Error ellipse: s-maj=36.1km s-min=11.1km az=70.0*

ISC 02 01:17:39.6±0.6, 17°.04N±0°.06×59°.73E±0°.06, h10km, n120, σ1§39/120, mb4.3/38, MS3.7/38, 1D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	DQM	3.55 324		P	Pn	01 18 34.9	+0.1
	SNR=20						
DQM				S	Sn	01 19 17.2	+0.4
MHTO	MHTO	4.26 337		P	Pn	01 18 44.0	-0.7
	SNR=16						
MHTO				S	Sn	01 19 33.4	-1.2
JLN	Jalan Bani Buh	5.09 357		P	Pn	01 18 55.3	-0.8
JLN				S	Sn	01 19 52.5	-2.4
RBK	Rabkut	5.30 276		P	Pn	01 18 59.8	+0.8
	SNR=35						
RBK				S	Sn	01 19 58.3	-1.9
JMDO	Jabal Madar	5.52 344		P	Pn	01 19 02.0	0.0
	SNR=8.9						
JMDO				S	Sn	01 20 06.5	+0.9
DOK	Doka	5.56 287		P	Pn	01 19 03.3	+0.8
	SNR=41						
DOK				S	Sn	01 20 06.2	-0.4
WBK	Wadi Bani Khal	5.59 353		P	Pn	01 19 02.3	-0.6
	SNR=55						
WBK				S	Sn	01 20 06.7	-0.5
BSY	Bisya	6.15 338		P	Pn	01 19 11.2	+0.5
BSY				⇓S	Sn	01 20 22.1	+0.9
ABTO	Aybut	6.16 274		P	Pn	01 19 11.0	+0.2
	SNR=34						
ABTO				S	Sn	01 20 19.5	-1.9
SMDO	Samad	6.19 345		P	Pn	01 19 11.1	-0.2
	SNR=113						
SMDO				S	Sn	01 20 21.4	-0.9
WSAR	Wadi Sarin	6.25 351		Pn	Pn	01 19 12.6	+0.6
	1.8nm,0.3s,baz=168,slow=16,SNR=24						
WSAR				Sn	Sn	01 20 20.9	-2.7
	8.0nm,0.3s,baz=34,slow=23,SNR=5.8						
WSAR				LR	LR	01 21 30.6	
	comp=Z,831nm,19.8s,baz=193,slow=37						
	8.3nm,0.4s						
WSAR	Wadi Sarin	6.25 351		P	Pn	01 19 11.7	-0.3
	SNR=22						
BIDO	Bidbid	6.62 347		P	Pn	01 19 18.0	+0.9
	SNR=19						
BIDO				S	Sn	01 20 32.8	+0.1
HOQ	Hoqain	6.89 341		P	Pn	01 19 20.6	-0.3
HOQ				S	Sn	01 20 37.1	-2.3
ARQ	Araqi	6.95 335		P	Pn	01 19 22.2	+0.5
	SNR=14						
ARQ				S	Sn	01 20 40.2	-0.6
UMZA	Um Al Zommool	7.09 323		P	Pn	01 19 23.3	-0.2
UMZA				P	Pn	01 19 23.3	-0.2
UMZA				S	Sn	01 20 41.9	-2.4
UMZA				S	Sn	01 20 41.9	-2.4
SOHO	SOHO	7.67 338		P	Pn	01 19 31.8	+0.4
SOHO				P	Pn	01 19 31.8	+0.4
SOHO				S	Sn	01 20 59.7	+1.3
SOHO				S	Sn	01 20 59.7	+1.3
SOHO	SOHO	7.67 338		P	Pn	01 19 31.3	-0.1
ALNE	Al Ain	7.91 333		P	Pn	01 19 34.8	0.0
ALNE				S	Sn	01 21 02.6	-1.9
ALNE	Al Ain	7.91 333		P	Pn	01 19 35.4	+0.6
ASHO	Ashiyiah	8.34 336		P	Pn	01 19 41.0	+0.2
ASHO				P	Pn	01 19 41.0	+0.2
ASHO				S	Sn	01 21 14.0	-1.1
ASHO				S	Sn	01 21 14.0	-1.1
ASHO	Ashiyiah	8.34 336		P	Pn	01 19 39.7	-1.0
ASHO				S	Sn	01 21 11.5	-3.7
HATD	Hatta, Dubai	8.44 337		P	Pn	01 19 42.7	+0.5
HATD				P	Pn	01 19 42.7	+0.5
HATD				S	Sn	01 21 17.0	-0.5
HATD				S	Sn	01 21 17.0	-0.5
HATD	Hatta, Dubai	8.44 337		P	Pn	01 19 42.3	+0.2
UOSS	Minazif	8.53 338		Pn	Pn	01 19 44.0	+0.7
UOSS	Minazif	8.53 338		P	Pn	01 19 44.6	+1.4
UOSS				S	Sn	01 21 16.8	-2.8
UOSS	Minazif	8.53 338		P	Pn	01 19 43.6	+0.3
FAQ	Al Faqa, Dubai	8.59 334		P	Pn	01 19 45.4	+1.3
FAQ				S	Sn	01 21 17.9	-3.2
ASUD	Al Ashush, Dub	8.60 332		P	Pn	01 19 45.1	+0.9
MZWR	Madinat Zayed	8.65 322		P	Pn	01 19 44.5	-0.4
TRNA	Turayna	11.04 315		P	Pn	01 20 19.0	+1.2
	SNR=11						
RAYN	Ar Rayn	14.82 298		Pn	Pn	01 21 06.9	-2.6
ATD	Arta Tunnel	17.25 254		P	P	01 21 43.9	+1.4
ATD				IAmb	IAmb	01 21 52.2	
	comp=Z,40nm,1.2s						
ATD	Arta Tunnel	17.25 254		LR	LR	01 26 37.7	
	comp=Z,22nm,20.9s,baz=66,slow=31						
KBL	Kabul	19.32 24		P	Pn	01 22 06.4	+0.1
NIL	Nilore	20.53 34		P	P	01 22 17.6	-0.6
PALK	Pallekele	22.66 113		LR	LR	01 30 05.4	
	comp=Z,189nm,18.4s,baz=290,slow=33						
SIMJ	Simiganj	23.02 19		P	P	01 22 44.9	-0.1
CHGR	Chuyangaron	23.06 19		P	P	01 22 47.5	+2.0
CHGR				IAmb	IAmb	01 23 01.0	
	comp=Z,10nm,0.7s						
DRK	Karamyk	24.71 23		P	P	01 23 02.3	+0.9
DRK				IAmb	IAmb	01 23 09.6	
	comp=Z,12nm,1.4s						
BTK	Batken	24.87 21		P	P	01 23 04.9	+2.3
BTK				IAmb	IAmb	01 23 07.7	
	comp=Z,18nm,1.3s						
ASF	Jabal al Asfar	25.57 310		LR	LR	01 34 38.7	
	comp=Z,245nm,18.6s,baz=276,slow=40						
EIL	Elat	25.93 303		LR	LR	01 33 02.6	
	comp=Z,102nm,20.4s,baz=112,slow=36						
GHAJ	Ghor Haditha	26.14 307		P	P	01 23 17.2	+3.1
MARD	Mardin	26.21 324		P	P	01 23 17.7	+2.9
GNI	Garni	26.45 334		P	P	01 23 19.7	+2.8
GURO	Guroymak-BITLI	26.45 328		P	P	01 23 20.8	+3.8
GURO				IAmb	IAmb	01 23 24.3	
	comp=Z,9.0nm,0.9s						
KSH	Kashi	26.48 29		P	P	01 23 13.4	-3.9
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARSB	Arslanbob	26.75 23		P	P	01 23 19.8	0.0
ARSB				IAmb	IAmb	01 23 41.6	
	comp=Z,13nm,1.5s						
MMAI	Mount Meron Ar	27.09 311		LR	LR	01 35 29.1	
	comp=Z,260nm,18.6s,baz=125,slow=40						
AAK	Ala-Archa	28.45 23		P	P	01 23 37.4	+2.4
AAK				IAmb	IAmb	01 23 46.1	
	comp=Z,6.3nm,1.3s						
AAK	Ala-Archa	28.45 23		LR	LR	01 37 34.7	
	comp=Z,91nm,19.3s,baz=218,slow=42						
KMBO	Kilima Mbogo	28.59 233		P	P	01 23 35.8	-0.7
	comp=Z,1.2nm,0.8s,baz=57,slow=12,SNR=4.4						
KMBO				LR	LR	01 35 15.1	
	comp=Z,152nm,18.4s,baz=6.5,slow=37						
	comp=Z,1.2nm,0.8s						
KIBK	Kibwezi	28.79 230		P	P	01 23 37.3	-0.8
KIBK				IAmb	IAmb	01 23 38.6	
	comp=Z,4.7nm,0.9s						
BOOM	Boomskoye usch	28.90 25		P	P	01 23 40.9	+2.0
KBZ	Khabaz	30.18 335		P	P	01 23 49.7	-0.4
	comp=Z,4.0nm,0.9s,baz=167,slow=9.3,SNR=5.1						
KBZ				LR	LR	01 35 38.2	
	comp=Z,51nm,21.8s,baz=138,slow=36						
	comp=Z,4.0nm,0.9s						
BRDH	Bariadhala	30.49 74		LR	LR	01 36 15.3	
	comp=Z,176nm,18.9s,baz=302,slow=37						
BR131	Keskin Array S	32.01 320		IAmb	IAmb	01 24 09.9	
	comp=Z,7.2nm,1.2s						
BRTR	Keskin Array B	32.01 320		P	P	01 24 07.4	+1.0
BRTR	Keskin Array B	32.01 320		P	P	01 24 07.8	+1.4
	comp=Z,2.3nm,0.9s,baz=135,slow=9.7,SNR=13						
	comp=Z,2.3nm,0.9s						
ABKAR	Akbulak array	32.13 0		P	P	01 24 07.9	+0.7
ABKAR	Akbulak array	32.13 0		P	P	01 24 07.6	+0.4
MAKZ	Makanchi	34.93 27		P	P	01 24 32.1	+0.5
MAKZ				IAmb	IAmb	01 24 35.5	
	comp=Z,6.6nm,1.2s						
MK31	Makanchi Array	35.05 27		P	P	01 24 32.1	-0.6
MKAR	Makanchi Array	35.05 27		P	P	01 24 32.0	-0.7
	comp=Z,2.4nm,0.8s,baz=212,slow=8.8,SNR=22						
	comp=Z,2.4nm,0.8s						
KURBB	Kurchatov Arra	36.74 20		P	P	01 24 47.2	+0.2
	comp=Z,1.7nm,0.7s,baz=216,slow=8.3,SNR=15						
KURBB				LR	LR	01 41 36.7	
	comp=Z,191nm,20.3s,baz=168,slow=39						
	comp=Z,1.7nm,0.7s						
BVAR	Borovoye Array	36.87 11		P	P	01 24 49.1	+1.0
	comp=Z,0.9nm,0.8s,baz=193,slow=5.9,SNR=6.3						
BVAR				LR	LR	01 42 47.1	
	comp=Z,123nm,19.2s,baz=196,slow=41						
	comp=Z,0.9nm,0.8s						
CMAR	Chiang Mai Arr	37.32 82		P	P	01 24 51.8	-0.7
	comp=Z,0.6nm,0.4s,baz=273,slow=9.7,SNR=5.9						
CMAR				LR	LR	01 41 56.3	
	comp=Z,35nm,18.5s,baz=275,slow=39						
	comp=Z,0.6nm,0.4s						
LIT	Litokhoron	39.55 313		P	P	01 25 11.0	0.0
LIT				IAmb	IAmb	01 25 11.4	
	comp=Z,5.6nm,0.6s						
MLR	Muntele Rosu	39.98 322		LR	LR	01 47 24.7	
	comp=Z,112nm,18.3s,baz=138,slow=45						
PZH	PanZhiHua	39.98 69		P	P	01 25 15.6	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,6.0s						
PSI	Prapat	41.00 106		LR	LR	01 40 12.0	
	comp=Z,90nm,20.4s,baz=272,slow=33						
AKASG	Malin Array Be	41.51 331		P	P	01 25 26.4	-0.5
	comp=Z,0.2nm,0.3s,baz=135,slow=7.3,SNR=8.2						
	comp=Z,0.2nm,0.3s						
BURAR	Bucovina Array	41.60 325		P	P	01 25 29.4	+1.4
ZALV	Zalesovo Beam	41.66 22		P	P	01 25 28.0	-0.1
ZALV	Zalesovo Beam	41.66 22		P	P	01 25 27.4	-0.8
	comp=Z,5.1nm,0.8s,baz=216,slow=8.9,SNR=18						
	comp=Z,5.1nm,0.8s						
KIRV	Kirov	42.18 352		LR	LR	01 47 10.8	
	comp=Z,115nm,18.1s,baz=185,slow=42						
KOLS	Kolonicke sedl	43.97 325		eP	P	01 25 49.3	+2.3
LSZ	Lusaka	44.72 226		LR	LR	01 43 44.3	
	comp=Z,83nm,18.4s,baz=72,slow=35						
KECS	Kecovo	44.74 323		eP	P	01 25 53.5	+0.4
LANS	Liptovska Anna	45.66 324		eP	P	01 26 02.5	+2.0
MODS	Modra-Piesok	46.55 322		eP	P	01 26 11.5	+3.9
VRAC	Vranov	47.38 323		LR	LR	01 49 49.9	
	comp=Z,54nm,18.2s,baz=130,slow=41						
ABTA	Abfaltersbach	48.83 318		eP	P	01 26 26.2	+0.9
	comp=Z,4.9nm,0.9s						
SONM	Songino Array	48.88 41		P	P	01 26 24.8	-1.0
	comp=Z,0.8nm,0.6s,baz=244,slow=8.2,SNR=5.6						
SONM				LR	LR	01 52 16.3	
	comp=Z,112nm,18.2s,baz=188,slow=42						
	comp=Z,0.8nm,0.6s						
GERES	GERESS Array B	48.90 321		LR	LR	01 50 04.1	
	comp=Z,45nm,18.1s,baz=87,slow=40						
LESA	Schwarzleotal	48.98 319		i P	P	01 26 25.7	-0.8
	comp=Z,3.2nm,0.8s						
KHC	Kasperske Hory	49.09 321		eP	P	01 26 27.5	+0.3
KHC				ex	x	01 26 39.4	
WTTA	Wattenberg	49.58 318		i P	P	01 26 30.7	-0.5
	comp=Z,3.3nm,0.9s						
WATA	Walderalm	49.64 318		i P	P	01 26 31.5	-0.1
	comp=Z,4.0nm,1.2s						
SQTA	Sankt Quirin	49.84 318		i P	P	01 26 33.2	+0.1
	comp=Z,3.3nm,0.9s						
MOTA	Moosalm	49.95 318		i P	P	01 26 33.8	-0.2
	comp=Z,4.8nm,1.0s						
FETA	Feichten	50.08 318		eP	P	01 26 35.2	+0.3
	comp=Z,3.0nm,1.0s						
CLL	Collm	50.33 324		i P	P	01 26 36.8	+0.2
	comp=Z,7.0nm,1.3s						
HHC	Hu-ho-hao-te	50.34 51		eP	P	01 26 37.3	+0.3
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
HHC				LR	LR		
	comp=N,190nm,16.8s						
HHC				LR	LR		
	comp=E,160nm,15.1s						
HHC				LR	LR		
	comp=Z,140nm,20.6s						
FINES	FINESS Array B	50.35 340		P	P	01 26 35.8	-0.8
	comp=Z,3.8nm,0.7s,baz=133,slow=9.4,SNR=13						
	comp=Z,3.8nm,0.7s						
DAVOX	Davos/Dischmat	50.55 317		LR	LR	01 50 21.7	
	comp=Z,62nm,18.8s,baz=97,slow=39						
DAVA	Damuels	50.71 318		i P	P	01 26 39.1	-0.7
	comp=Z,4.2nm,1.0s						
LBTB	Lobatse	53.42 219		LR	LR	01

comp=Z,10.0nm,0.8s
SUR Sutherland 61.67 217 LR LR 01 52 06.1
comp=Z,53nm,20.1s,baz=70,slow=34
KSRS Korea Array 62.66 56 LR LR 01 57 21.5
comp=Z,27nm,18.1s,baz=290,slow=38
KAPI Kappang 63.20 105 LR LR 01 53 26.6
comp=Z,22nm,21.6s,baz=285,slow=34
JOW Kunigami 63.67 68 LR LR 01 58 02.6
comp=Z,62nm,18.7s,baz=278,slow=38
JNU Nakatsue 65.30 61 LR LR 01 59 17.6
comp=Z,44nm,18.7s,baz=252,slow=38
KLR Kul'dur 65.57 43 LR LR 02 01 47.1
comp=Z,61nm,18.1s,baz=266,slow=40
USRK Ussuriysk Ar. 65.67 49 LR LR 01 59 54.6
comp=Z,44nm,19.4s,baz=297,slow=39
YAK Yakutsk 65.70 29 LR LR 01 58 44.5
comp=Z,59nm,21.9s,baz=282,slow=38
TIXI Tiksi 67.41 19 LR LR 02 03 37.2
comp=Z,84nm,18.1s,baz=189,slow=41
BORG Borgarnes 70.92 333 LR LR 02 01 10.2
comp=Z,70nm,19.5s,baz=71,slow=37
MJAR Matsushiro Arr 70.94 57 LR LR 02 02 33.2
comp=Z,26nm,19.0s,baz=303,slow=38
RES Resolute Bay 87.07 353 LR LR 02 15 36.4
comp=Z,43nm,18.0s,baz=20,slow=40

DJA 02 01:27:50.4±0.4, 0°S±3°×12°3E±°, h103km±7km, M4.1/11, mb4.0/4, MLv4.1/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.78**	**39**	P	Pn	01 28 09.3	+0.4
LUWI	**Luwuk**	**1.23**	**216**	P	Pn	01 28 14.5	+0.9
LUWI				S	Sn	01 28 31.6	+0.5
LUWI	**Luwuk**	**1.23**	**216**	P	Pn	01 28 14.1	+0.5
MRSI	**Marisa**	**1.63**	**288**	P	Pn	01 28 18.4	0.0
SANI	**Sanana**	**3.20**	**129**	P	Pn	01 28 37.6	-1.3
PCI	**Palu**	**3.75**	**257**	P	Pn	01 28 46.2	-0.1
KDI	**Kendari**	**3.99**	**193**	P	Pn	01 28 38.8	-11
NLAI	**Namlea**	**4.81**	**131**	P	Pn	01 29 01.2	+0.6
SPSI	**Sidrap Palu**	**5.39**	**224**	P	Pn	01 29 09.6	+1.2
	0.1nm17nm,0.6s						
FAKI	**Fak Fak**	**9.21**	**108**	P	Pn	01 29 59.4	-1.0

*IDC **02** 01:37:35.0±4.1, 7°39S×147°71E, h95km±23km, mb3.7/3, mbtmp4.0/5, Error ellipse: s-maj=58.0km s-min=25.7km az=133.0*

ISC 02 01:37:25.3±1.8, 6°8S±0°2×147°6E±0°2, h35km, n12, σ2§45/14, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.58**	**189**	P	**Pn**	**01 38 08.4**	**+3.8**
	241nm,0.5s,baz=11,slow=11,SNR=35						
PMG				S	**Sn**	**01 38 34.5**	**-0.2**
	40nm,0.3s,baz=343,slow=17,SNR=2.0						
TATA	**Tatamba Isabel**	**12.22**	**98**	P	**P**	**01 40 28.2**	**-0.8**
SAVO	**Savo Central**	**12.33**	**102**	P	**P**	**01 40 27.8**	**-2.5**
ALEG	**Aligegeo Malai**	**13.14**	**99**	P	**P**	**01 40 41.3**	**+2.1**
HURO	**Huro Makira**	**14.61**	**105**	P	**P**	**01 40 53.6**	**-2.0**
QIS	**Mount Isa**	**15.67**	**209**	P	**Pn**	**01 41 00.1**	**-3.5**
WRA	**Warramunga Arr**	**18.29**	**223**	P	**Pn**	**01 41 37.4**	**+0.9**
	0.8nm,0.4s,baz=52,slow=11,SNR=14						
ASAR	**Alice Springs**	**21.27**	**217**	P	**P**	**01 42 10.2**	**+1.3**
	1.9nm,0.4s,baz=54,slow=9.3,SNR=44						
ASAR				S	**S**	**01 45 59.0**	**-4.5**
	0.2nm,0.5s,baz=34,slow=24,SNR=2.2						
	1.9nm,0.4s						
OOD	**Oodnadatta**	**23.69**	**207**	P	**P**	**01 42 34.7**	**+0.7**
LCRK	**Leigh Creek**	**25.07**	**199**	P	**P**	**01 42 47.2**	**+0.6**
STKA	**Stephens Creek**	**25.52**	**192**	P	**P**	**01 42 50.5**	**-0.2**
	1.9nm,0.6s,baz=7.5,slow=11,SNR=4.7						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**83.13**	**180**	P	**P**	**01 49 47.5**	**0.0**
	1.2nm,0.7s,baz=11,slow=2.7,SNR=11						
	1.2nm,0.7s						

*IDC **02** 01:41:29.5±0.9, 7°85N×126°97E, h0km, mb3.7/6, mbtmp3.7/6, MS3.2/2, Error ellipse: s-maj=21.5km s-min=15.0km az=136.0*

ISC 02 01:41:36.0±0.9, 7°8N±0°1×126°8E±0°2, h46km, n11, σ0§84/9, mb3.5/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.44**	**241**	Pg	**Pn**	**01 42 00.1**	**+0.5**
	178nm,0.3s,baz=84,slow=5.1,SNR=5.4						
DAV				Lg	Lg	01 42 18.9	
	160nm,0.3s,baz=285,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**28.52**	**165**	P	**P**	**01 47 27.3**	**0.0**
	0.1nm,0.4s,baz=346,slow=10,SNR=6.7						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**32.00**	**168**	P	**P**	**01 47 57.3**	**-0.8**
	0.2nm,0.5s,baz=340,slow=6.9,SNR=5.6						
ASAR				PcP	**PcP**	**01 50 47.7**	**+0.3**
	0.2nm,0.5s,baz=347,slow=2.9,SNR=5.0						
ASAR				LR	LR	02 01 53.1	
	comp=Z,42nm,21.5s,baz=270,slow=38						
	0.2nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**40.56**	**69**	T	T	02 32 56.7	
	baz=259,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.57**	**69**	T	T	02 33 03.0	
	baz=259,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**40.58**	**69**	T	T	02 32 58.0	
	baz=259,slow=75,SNR=12						
STKA	**Stephens Creek**	**41.87**	**161**	LR	LR	02 13 17.9	
	comp=Z,30nm,18.6s,baz=209,slow=46						
MKAR	**Makanchi Array**	**54.35**	**324**	P	**P**	**01 50 57.6**	**-0.5**
	1.0nm,0.6s,baz=122,slow=8.3,SNR=12						
MKAR				PcP	**PcP**	**01 52 01.7**	**+0.1**
	0.2nm,0.5s,baz=103,slow=3.1,SNR=1.9						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**58.44**	**326**	P	**P**	**01 51 26.7**	**-0.4**
	0.3nm,0.4s,baz=124,slow=7.6,SNR=5.3						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**81.43**	**26**	P	**P**	**01 53 49.3**	**+1.4**
	0.2nm,0.5s,baz=252,slow=5.1,SNR=5.6						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**86.72**	**340**	P	**P**	**01 54 13.8**	**-0.9**
	3.1nm,0.9s,baz=77,slow=5.3,SNR=1.8						
	3.1nm,0.9s						

*SJA **02** 01:55:29.3±0.7, 33°12S×71°71W, h50km±4km, ML3.7, MW3.8*
*GUC **02** 01:55:30.6±0.8, 33°14S×71°67W, h54km±2km, ML3.8*
*NEIC **02** 01:55:30.4±0.8, 33°14S±0°02×71°77W±0°04, h35km±2km, mb4.1/2, Error ellipse: s-maj=5.8km s-min=3.0km az=65.0*

ISC 02 01:55:30.7±1.0, 33°14S±0°03×71°75W±0°04, h45km±6km, n83, σ1§42/129, 15C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.14**	**35**		**Pn**	**01 55 38.8**	**+0.8**
VA01					**Sn**	**01 55 44.5**	**+1.3**
VA01	**Torpederas**	**0.14**	**35**	⇓*iP*	**Pn**	**01 55 38.8**	**+0.8**
VA01				*i* S	**Sn**	**01 55 44.5**	**+1.3**
VA01	**Torpederas**	**0.14**	**35**	*eP*	**Pn**	**01 55 38.0**	**0.0**
VA01				*eS*	**Sn**	**01 55 38.7**	**-4.5**
VA01				IAML		01 55 45.0	
	comp=Z,6μm,0.2s						
MT02	**Curacav**	**0.52**	**104**		**Pn**	**01 55 41.4**	**-0.5**
MT02				Sn	**Sn**	**01 55 49.4**	**-0.6**
MT02	**Curacav**	**0.52**	**104**	⇑*iP*	**Pn**	**01 55 41.7**	**-0.3**
MT02				*i* S	**Sn**	**01 55 49.5**	**-0.4**
MT02				IAML		01 55 49.9	
	comp=N,7μm,0.2s						
MT02	**Curacav**	**0.52**	**104**	*eP*	**Pn**	**01 55 41.5**	**-0.5**
MT02				*eS*	**Sn**	**01 55 49.6**	**-0.4**
MT02				IAML		01 55 49.8	
	comp=Z,5μm,0.2s						
VA05	**Santo Domingo**	**0.53**	**168**		**Pn**	**01 55 42.0**	**0.0**
VA05				Sn	**Sn**	**01 55 50.3**	**+0.3**
VA05	**Santo Domingo**	**0.53**	**168**	⇓*iP*	**Pn**	**01 55 42.0**	**0.0**
VA05				*i* S	**Sn**	**01 55 50.5**	**+0.5**
VA05				IAML		01 55 51.2	
	comp=E,11μm,0.3s						
ROC1	**El Roble**	**0.63**	**75**	*eP*	**Pn**	**01 55 43.1**	**-0.5**
ROC1				*eS*	**Sn**	**01 55 52.7**	**-0.1**
ROCH	**El Roble**	**0.64**	**75**	⇑*iP*		01 55 43.2	
ROCH				⇑*iP*	**Pn**	**01 55 43.1**	**-0.5**
ROCH				*i* S	**Sn**	**01 55 52.4**	**-0.5**
ROCH				*i* S		01 55 52.5	
ROCH				IAML		01 55 54.4	
	comp=E,8μm,0.4s						
ROCH				IAML		01 55 56.5	
	comp=N,5μm,0.7s						
VA06	**Catapilco**	**0.69**	**33**	Pn	**Pn**	**01 55 43.5**	**-0.6**
VA06				Sn	**Sn**	**01 55 53.2**	**-0.5**
VA06	**Catapilco**	**0.69**	**33**	⇓*iP*	**Pn**	**01 55 43.8**	**-0.3**
VA06				*i* S	**Sn**	**01 55 53.2**	**-0.5**
VA06				IAML		01 55 54.4	
	comp=N,14μm,0.3s						
MT01	**Popeta**	**0.83**	**150**		**Pn**	**01 55 45.5**	**-0.6**
MT01				Sn	**Sn**	**01 55 56.3**	**-1.0**
MT01	**Popeta**	**0.83**	**150**	⇓*iP*	**Pn**	**01 55 45.4**	**-0.6**
MT01				*i* S	**Sn**	**01 55 56.1**	**-1.1**
MT01				IAML		01 55 57.8	
	comp=N,4μm,0.5s						
MT01	**Popeta**	**0.83**	**150**	*eP*	**Pn**	**01 55 45.5**	**-0.6**
MT01				*eS*	**Sn**	**01 55 56.8**	**-0.5**
MT01				IAML		01 55 56.9	
	comp=Z,3μm,0.1s						
MT05	**Renca**	**0.88**	**107**		**Pn**	**01 55 46.5**	**-0.2**
MT05				Sn	**Sn**	**01 55 58.8**	**+0.3**
MT05	**Renca**	**0.88**	**107**	⇑*iP*	**Pn**	**01 55 46.6**	**-0.2**
MT05				*i* S	**Sn**	**01 55 58.1**	**-0.3**
MT05				IAML		01 56 01.1	
	comp=E,7μm,0.3s						
MT05	**Renca**	**0.88**	**107**	*eP*	**Pn**	**01 55 46.5**	**-0.2**
MT05				*eS*	**Sn**	**01 55 59.4**	**+0.9**
MT05				IAML		01 56 00.2	
	comp=Z,1μm,0.2s						
PEL	**Peldehue**	**0.89**	**91**		**Pn**	**01 55 46.7**	**-0.2**
PEL	**Peldehue**	**0.89**	**91**	*eP*	**Pn**	**01 55 46.4**	**-0.5**
PEL				*i* S	**Sn**	**01 55 58.5**	**-0.2**
PEL				IAML		01 55 59.8	
	comp=E,8μm,0.3s						
PEL	**Peldehue**	**0.89**	**91**	*eP*	**Pn**	**01 55 46.4**	**-0.5**
PEL				*eS*	**Sn**	**01 55 59.5**	**+0.8**
MT09	**Talagante**	**0.90**	**135**		**Pn**	**01 55 46.6**	**-0.5**
MT09	**Talagante**	**0.90**	**135**	*eP*	**Pn**	**01 55 46.6**	**-0.5**
MT09				*i* S	**Sn**	**01 55 58.9**	**-0.1**
MT09				IAML		01 56 00.6	
	comp=E,6μm,0.4s						
MT10	**Hacienda Santa**	**1.02**	**98**	⇑*iP*	**Pn**	**01 55 48.5**	**-0.2**
MT10				*i* S	**Sn**	**01 56 02.4**	**+0.4**
MT10				IAML		01 56 04.2	
	comp=N,9μm,0.6s						
MT14	**Cerro Calı̣n**	**1.04**	**105**	⇑*iP*	**Pn**	**01 55 48.9**	**-0.1**
MT14				*i* S	**Sn**	**01 56 02.4**	**-0.1**
MT14				IAML		01 56 03.7	
	comp=N,4μm,0.6s						
MT16	**CCHEN**	**1.06**	**106**		**Pn**	**01 55 49.1**	**-0.1**
VA03	**San Esteban**	**1.07**	**70**	⇑*iP*	**Pn**	**01 55 48.7**	**-0.7**
VA03				*i* S	**Sn**	**01 56 01.7**	**-1.5**
VA03				IAML		01 56 04.1	
	comp=E,8μm,0.3s						
VA03	**San Esteban**	**1.07**	**70**	*eP*	Pn	01 55 43.1	-6.2
VA03				*eS*	**Sn**	**01 56 02.5**	**-0.6**
VA03				IAML		01 56 04.8	
	comp=Z,5μm,0.3s						
MT03	**Universidad Ad**	**1.09**	**109**		**Pn**	**01 55 49.4**	**-0.3**
MT03	**Universidad Ad**	**1.09**	**109**	⇑*iP*	**Pn**	**01 55 49.5**	**-0.1**
MT03				*i* S	**Sn**	**01 56 03.7**	**0.0**
MT03				IAML		01 56 05.5	
	comp=E,7μm,0.2s						
MT03	**Universidad Ad**	**1.09**	**109**	*eP*	**Pn**	**01 55 49.5**	**-0.1**
MT03				*eS*	**Sn**	**01 56 04.2**	**+0.5**
MT03				IAML		01 56 05.6	
	comp=Z,3μm,0.2s						
MT15	**Las Vizcachas**	**1.13**	**114**	⇑*iP*	**Pn**	**01 55 49.9**	**-0.3**
MT15				*i* S	**Sn**	**01 56 04.4**	**-0.2**
MT15				IAML		01 56 07.2	
	comp=E,23μm,0.1s						
FCH	**Farellones**	**1.23**	**99**	⇑*iP*	**Pn**	**01 55 51.5**	**-0.3**
FCH				*i* S	**Sn**	**01 56 06.5**	**-0.9**
FCH				IAML		01 56 09.1	
	comp=N,2μm,0.2s						
BO04	**La Punta**	**1.27**	**132**		**Pn**	**01 55 51.9**	**-0.2**
BO04	**La Punta**	**1.27**	**132**	⇑*iP*	**Pn**	**01 55 51.9**	**-0.2**
BO04				*i* S	**Sn**	**01 56 07.4**	**-0.6**
BO04				IAML		01 56 10.2	
	comp=N,4μm,0.6s						
MT13	**San Alfonso**	**1.36**	**117**		**Pn**	**01 55 53.2**	**-0.1**
MT13	**San Alfonso**	**1.36**	**117**	⇑*iP*	**Pn**	**01 55 53.2**	**-0.1**
MT13				*i* S	**Sn**	**01 56 10.2**	**-0.1**
MT13				IAML		01 56 10.9	
	comp=N,6μm,0.3s						
MT13	**San Alfonso**	**1.36**	**117**	*eP*	**Pn**	**01 55 53.3**	**-0.1**
MT13				*eS*	**Sn**	**01 56 11.0**	**+0.7**
MT13				IAML		01 56 11.1	
	comp=Z,2μm,0.2s						
BO01	**Tunca**	**1.37**	**156**		**Pn**	**01 55 53.0**	**-0.3**
BO01	**Tunca**	**1.37**	**156**	⇓*iP*	**Pn**	**01 55 53.0**	**-0.3**
BO01				*i* S	**Sn**	**01 56 09.8**	**-0.5**
BO01				IAML		01 56 11.2	
	comp=N,2μm,0.4s						
BO01	**Tunca**	**1.37**	**156**	*eP*	**Pn**	**01 55 53.1**	**-0.3**
BO01				*eS*	Sn	01 55 57.1	-13
BO01				IAML		01 56 10.7	
	comp=Z,1μm,0.6s						
BO03	**Pichilemu**	**1.37**	**188**	⇓*iP*	**Pn**	**01 55 52.8**	**-0.6**
BO03				*i* S	**Sn**	**01 56 08.1**	**-2.1**
BO03				IAML		01 56 10.3	
	comp=N,568nm,0.4s						
MT04	**Ro Olivares**	**1.37**	**102**	⇑*iP*	**Pn**	**01 55 53.3**	**-0.3**
MT04				*i* S	**Sn**	**01 56 10.5**	**-0.2**
MT04				IAML		01 56 13.4	
	comp=E,2μm,0.3s						
MT04	**Ro Olivares**	**1.37**	**102**	*eP*	**Pn**	**01 55 53.4**	**-0.3**
MT04				*eS*	**Sn**	**01 56 11.4**	**+0.7**
MT04				IAML		01 56 13.4	
	comp=Z,704nm,0.3s						
LMEL	**Las Melosas**	**1.47**	**119**		**Pn**	**01 55 55.0**	**+0.1**
LMEL	**Las Melosas**	**1.47**	**119**	⇑*iP*	**Pn**	**01 55 55.0**	**+0.1**
LMEL				*i* S	**Sn**	**01 56 12.9**	**-0.1**
LMEL				IAML		01 56 14.0	
	comp=N,3μm,0.3s						
LMEL	**Las Melosas**	**1.47**	**119**	*eP*	**Pn**	**01 55 55.0**	**+0.1**
LMEL				*eP*		01 55 55.1	
LMEL				*eS*	**Sn**	**01 56 13.6**	**+0.5**
MT08	**Bocatoma Ro**	**1.48**	**102**		**Pn**	**01 55 55.0**	**-0.1**
MT08	**Bocatoma Ro**	**1.48**	**102**	⇑*iP*	**Pn**	**01 55 55.0**	**-0.1**
MT08				*i* S	**Sn**	**01 56 13.7**	**+0.3**
MT08	**Bocatoma Ro**	**1.48**	**102**	*eP*	**Pn**	**01 55 55.1**	**-0.1**
MT08				*eS*	**Sn**	**01 56 15.5**	**+2.1**
MT08				IAML		01 56 17.1	
	comp=Z,399nm,0.6s						
BO02	**Sierra Bellavi**	**1.83**	**154**		**Pn**	**01 55 59.8**	**0.0**
BO02	**Sierra Bellavi**	**1.83**	**154**	*eP*	**Pn**	**01 55 59.6**	**-0.2**
BO02				*i* S	**Sn**	**01 56 21.3**	**-0.5**
BO02				IAML		01 56 23.3	
	comp=N,2μm,0.3s						
BO02	**Sierra Bellavi**	**1.83**	**154**	*eP*	**Pn**	**01 55 59.9**	**0.0**
BO02				*eS*	**Sn**	**01 56 22.9**	**+1.0**
BO02				IAML		01 56 23.5	
	comp=Z,2μm,0.1s						
ARCO	**CERRO ARCO**	**2.38**	**84**	*eP*	**Pn**	**01 56 09.6**	**+2.2**
ARCO				*eS*	Sn	01 56 26.2	-9.3
ARCO				IAML		01 56 26.6	
	comp=Z,318nm,0.5s						
AAGR	**Agrelo**	**2.45**	**90**	*eP*	**Pn**	**01 56 10.2**	**+2.0**
AAGR				*eP*		01 56 10.4	
AAGR				*eS*	**Sn**	**01 56 28.7**	**-8.3**
AAGR				IAML		01 56 31.4	
	comp=Z,175nm,0.4s						
CO06	**Fray Jorge**	**2.46**	**2**		**Pn**	**01 56 07.2**	**-1.1**
CO06	**Fray Jorge**	**2.46**	**2**	⇓*iP*	**Pn**	**01 56 07.4**	**-0.9**
CO06				*i* S	**Sn**	**01 56 34.4**	**-2.8**
CO06				IAML		01 56 36.1	
	comp=E,390nm,0.3s						
CO03	**El Pedregal**	**2.46**	**22**		**Pn**	**01 56 08.3**	**-0.1**
CO03	**El Pedregal**	**2.46**	**22**	*eP*	**Pn**	**01 56 08.4**	**-0.1**
CO03				*i* S	**Sn**	**01 56 36.5**	**-0.8**
CO03	**El Pedregal**	**2.46**	**22**	*eP*	**Pn**	**01 56 08.4**	**-0.1**
CO03				*eS*	**Sn**	**01 56 37.8**	**+0.4**
CO03				IAML		01 56 42.2	
	comp=Z,260nm,0.3s						
RTLS	**Leoncito**	**2.46**	**58**	*eP*	**Pn**	**01 56 10.4**	**+1.8**
RTLS				*eS*	Sn	01 56 26.4	-11
RTLS				IAML		01 56 45.0	
	comp=Z,537nm,0.8s						
ASAL	**Salagasta**	**2.51**	**78**	*eP*	**Pn**	**01 56 11.6**	**+2.5**
ASAL				*eS*	**Sn**	**01 56 38.8**	**+0.3**
ML02	**Panimavida**	**2.63**	**174**	*eP*	**Pn**	**01 56 10.9**	**+0.2**
ML02				*eS*	**Sn**	**01 56 43.0**	**+1.6**
ML02				IAML		01 56 45.3	
	comp=Z,222nm,0.2s						
AVIZ	**Vizcacheras**	**2.72**	**98**	*eP*	Pn	01 56 02.3	-10
GO04	**Tololo Observa**	**3.06**	**16**		**Pn**	**01 56 16.4**	**-0.5**
GO04	**Tololo Observa**	**3.06**	**16**	*eS*	**Sn**	**01 56 59.2**	**+6.8**
SJA	**San Juan**	**3.14**	**60**	*eP*	Pn	01 56 29.7	+12
DOCA	**Reserva Natura**	**3.14**	**47**	*eP*	**Pn**	**01 56 18.7**	**+0.6**
DOCA				*eS*	Sn	01 57 08.8	+14
DOCA				IAML		01 57 15.9	
	comp=Z,152nm,1.0s						
RFA	**San Rafael**	**3.17**	**122**	*eP*	**Pn**	**01 56 19.1**	**+0.9**
RFA				*eS*	**Sn**	**01 56 55.7**	**+0.8**
EDS3	**Malargue**	**3.26**	**144**	*eP*	**Pn**	**01 56 17.3**	**-2.2**
EDS3				*eS*	Sn	01 57 17.1	+20
RTLL	**Cerro Villicun**	**3.31**	**58**	*eS*	**Sn**	**01 56 55.2**	**-2.9**
ACCO	**Cerro Coronel**	**3.42**	**43**	*eP*	**Pn**	**01 56 23.6**	**+1.9**
CO01	**Juntas del Tor**	**3.45**	**25**		**Pn**	**01 56 22.6**	**+0.5**
BI02	**San Fabin de**	**3.54**	**174**		**Pn**	**01 56 23.2**	**0.0**
BI05	**Punta Hualpn**	**3.79**	**198**		**Pn**	**01 56 25.3**	**-1.3**
LCO	**Las Campanas**	**4.21**	**13**		**Pn**	**01 56 31.7**	**-0.9**
AC04	**Llanos de Chal**	**4.95**	**7**		**Pn**	**01 56 40.9**	**-1.7**
VA04	**Juan Fernndez**	**5.95**	**263**	Pn	**Pn**	**01 56 56.0**	**-0.2**
AC01	**Pan de Azucar**	**7.04**	**8**	Pn	**Pn**	**01 57 07.1**	**-4.1**
LL01	**San Ignacio de**	**9.24**	**183**	Pn	**Pn**	**01 57 38.8**	**-2.4**
TRQA	**Tornquist**	**9.34**	**124**	Pn	**Pn**	**01 57 41.7**	**-1.1**
QSPA	**South Pole Qui**	**57.10**	**180**	P	**P**	**02 05 11.4**	**-0.9**
QSPA				IAmb	IAmb	02 05 16.5	
	comp=Z,5.4nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**02 07 57.0**	**+1.9**
TORD				IAmb	IAmb	02 08 29.9	
	comp=Z,0.9nm,1.1s						

*MOS **02** 02:17:14.0±0.8, 6°87S×155°69E, h10km, mb5.4/43, MS4.9/6, Error ellipse: s-maj=9.9km s-min=5.9km az=114.8*
*BJI **02** 02:17:18.9, 6°78S×156°01E, h55km, mB5.4/52, mb4.9/73, Ms5.0/76, Ms7 4.8/76*
*IDC **02** 02:17:19.6±0.5, 6°97S×155°71E, h40km±3km, mb4.7/22, mbtmp4.9/23, ML4.7/1, MS4.8/51, Error ellipse: s-maj=14.2km s-min=10.9km az=78.0*
*NEIC **02** 02:17:19.2±2.3, 6°96S±0°08×155°78E±0°07, h32km±3km, mb5.5/280, Ms_20 5.4/281, Mww5.5/21, Error ellipse: s-maj=11.9km s-min=9.4km az=215.0*
*GCMT **02** 02:17:23.2±0.1, 7°22S±0°01×155°63E±0°01, h45km, MW5.5/145, Moment Tensor Solution. s145,c257; s143,c265; Duration: 1§4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.30±.03; $M_{\theta\theta}$-1.67±.02; $M_{\phi\phi}$-0.62±.03; $M_{r\theta}$0.02±.03; $M_{\theta\phi}$1.44±.02; $M_{\phi r}$-0.39±.03; Best double couple: $M_0$2.52400×10^{17} NP1:ϕ_s296.00000°, δ43.00000°, λ77.00000°. NP2:ϕ_s134.00000°, δ48.00000°, λ102.00000°. Principal axes: T 2.3580, Plg81.0000°, Azm108.0000°; N 0.3380, Plg9.0000°, Azm306.0000°; P -2.6900, Plg3.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 02:17:24.2±0.6, 7°S±4°×15°6E±°, h96km±8km, M5.5/37, mb5.7/37, mB6.0/29, MLv5.1/1, Mw(mB)5.6/29, MwMwp5.3/12, Mwp5.5/12*
*NEIC **02** 02:17:24, 6°98S×155°75E, h46km*
*NEIC **02** 02:17:24, 7°08S×155°75E, h46km, Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{17}Nm; M_{rr}2.25; $M_{\theta\theta}$-1.51; $M_{\phi\phi}$-0.75; $M_{r\theta}$0.09; $M_{\theta\phi}$1.23; $M_{\phi r}$-0.31; Fault plane solution: $M_0$2.36000×10^{17} NP1: ϕ_s301.20000°, δ42.11000°, λ82.20000°. NP2: ϕ_s131.66000°, δ48.37000°, λ96.99000°. Principal axes: T 2.2855, Plg84.0000°, Azm96.0000°; N 0.1460, Plg5.0000°, Azm307.0000°; P -2.4315, Plg3.0000°, Azm217.0000°;*

ISC 02 02:17:19.8±0.2, 6°95S±0°03×155°73E±0°04, h45km±1km, h45km:pP-P, n1132, σ1§40/1012, mb5.4/252, MS5.3/217, 16C-16D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATA	**Tatamba Isabel**	**4.28**	**110**	P	**Pn**	**02 18 25.3**	**+2.8**
RABL	**Rabaul**	**4.49**	**307**		Pn	02 18 34.5	+9.1
I40PG	**Keravat**	**4.54**	**305**	I	I	02 38 50.0	
	74nm,0.5s,baz=125,slow=312,SNR=1.1						
SAVO	**Savo Central**	**4.59**	**119**	P	**Pn**	**02 18 29.3**	**+2.4**
HNR	**Honiara**	**4.85**	**121**		**Pn**	**02 18 33.9**	**+3.6**
HNR	**Honiara**	**4.85**	**121**	P	**Pn**	**02 18 34.2**	**+3.9**
	819nm,0.8s,baz=288,slow=3.4,SNR=12						
HNR				S	**Sn**	**02 19 30.8**	**+5.6**
	3μm,0.8s,baz=207,slow=18,SNR=3.8						
HNR				LR	LR	02 20 30.6	
	comp=Z,26μm,18.0s,baz=326,slow=39						
HNR	**Honiara**	**4.85**	**121**	P	**Pn**	**02 18 33.2**	**+2.9**
HNR	**Honiara**	**4.85**	**121**	P	**Pn**	**02 18 33.9**	**+3.6**
ALEG	**Aligegeo Malai**	**5.23**	**110**	P	**Pn**	**02 18 37.4**	**+1.8**
NGOA	**Tingoa Renbel**	**6.26**	**137**	P	**Pn**	**02 18 51.5**	**+1.8**
HURO	**Huro Makira**	**7.03**	**120**	P	**Pn**	**02 19 03.1**	**+2.8**
PMG	**Port Moresby**	**8.83**	**253**	P	**Pn**	**02 19 27.8**	**+2.8**
	1μm,0.8s,baz=60,slow=9.4,SNR=70						
PMG				S	**Sn**	**02 21 05.3**	**+2.1**
	1μm,0.8s,baz=86,slow=23,SNR=11						
PMG				LR	LR	02 22 41.6	
	comp=Z,14μm,21.1s,baz=42,slow=37						
MANU	**Manus Island**	**9.66**	**300**		**Pn**	**02 19 40.0**	**+3.7**
PATS	**Pohnpei**	**13.93**	**11**	Pn	**Pn**	**02 20 36.3**	**+1.5**
PATS	**Pohnpei**	**13.93**	**11**	P	**Pn**	**02 20 35.8**	**+1.0**
	comp=Z,431nm,1.0s						
PATS	**Pohnpei**	**13.93**	**11**	P	**Pn**	**02 20 38.3**	**+3.5

ARMA	**Armidale**	**23.66 189**	P	**P**	**02 22 27.7**	**+0.2**
ARMA			IAmb	IAmb	02 22 47.0	
	comp=Z,279nm,1.6s					
ARMA	**Armidale**	**23.66 189**	P	**P**	**02 22 27.9**	**+0.4**
	comp=Z,0.0nmcomp=Z,129nm,1.9s					
FAKI	**Fak Fak**	**23.73 279**	P	**P**	**02 22 25.6**	**-2.6**
FAKI	**Fak Fak**	**23.73 279**	P	**P**	**02 22 28.6**	**+0.4**
	comp=Z,4µmcomp=Z,5µmcomp=Z,359nm,0.9s					
SAUI	**Saumlaki**	**24.25 266**	P	**P**	**02 22 32.2**	**-0.7**
SAUI	**Saumlaki**	**24.25 266**	P	**P**	**02 22 34.1**	**+1.2**
MSVF	**Nonsavu**	**24.26 118**	P	**P**	**02 22 33.3**	**+0.2**
MSVF	**Nonsavu**	**24.26 118**	LR	LR	02 31 16.6	
	comp=Z,3µm,19.9s,baz=309,slow=34					
MSVF	**Nonsavu**	**24.26 118**	P	**P**	**02 22 34.6**	**+1.5**
MSVF	**Nonsavu**	**24.26 118**	*i* P	**P**	**02 22 33.5**	**+0.4**
WR0	**Warramunga Arr**	**24.29 236**	P	**P**	**02 22 33.8**	**+0.5**
WB0	**Warramunga Arr**	**24.32 236**	P	**P**	**02 22 33.8**	**+0.3**
WRAB	**Tennant Creek**	**24.43 236**	P	**P**	**02 22 34.9**	**+0.3**
WRAB	**Tennant Creek**	**24.43 236**	*i* P	**P**	**02 22 34.9**	**+0.3**
WRAB			pmax	pmax		
	comp=Z,41nm,1.0s					
WB2	**Warramunga Arr**	**24.44 236**	P	**P**	**02 22 35.1**	**+0.5**
WRA	**Warramunga Arr**	**24.45 236**	P	**P**	**02 22 35.1**	**+0.4**
WRA	**Warramunga Arr**	**24.45 236**	P	**P**	**02 22 35.2**	**+0.5**
	comp=Z,19nm,0.6s,baz=59,slow=9.2,SNR=95					
WRA			PcP	**PcP**	**02 26 13.7**	**+0.8**
	comp=Z,2.4nm,0.4s,baz=62,slow=2.4,SNR=2.5					
WRA			pPcP		02 26 24.8	
	comp=Z,15nm,1.1s,baz=56,slow=2.1,SNR=7.3					
WRA			S	**S**	**02 26 49.3**	**-2.7**
	comp=Z,34nm,1.5s,baz=60,slow=15,SNR=4.9					
WRA			ScP	**ScP**	**02 29 49.2**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=55,slow=3.2,SNR=4.3					
WRA			LR	LR	02 32 13.0	
	comp=Z,5µm,18.6s,baz=80,slow=37					
WRA			PKiKP	**PKiKP**	**02 33 53.4**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=8.0,slow=3.4,SNR=4.8					
	comp=Z,19nm,0.6s					
MTN	**Manton Dam**	**24.92 254**	P	**P**	**02 22 40.0**	**+1.0**
MTN	**Manton Dam**	**24.92 254**	P	**P**	**02 22 39.7**	**+0.7**
	comp=Z,0.0nmcomp=Z,416nm,1.1s					
MTN	**Manton Dam**	**24.92 254**	P	**P**	**02 22 40.3**	**+1.3**
DRS	**Darwin Rock St**	**25.07 256**	P	**P**	**02 22 41.1**	**+0.7**
INKA	**Innaminka**	**25.09 213**	P	**P**	**02 22 41.1**	**+0.7**
SWI	**Sorong**	**25.14 283**	P	**P**	**02 22 41.1**	**+0.1**
I39PW	**PALAU INFRASON**	**25.56 304**	I	I	04 54 20.0	
	baz=123,slow=322,SNR=0.9					
BNDI	**Bandanaira**	**25.81 274**	P	**P**	**02 22 47.9**	**+0.8**
	comp=Z,8µmcomp=Z,274nm,0.9s					
CMSA	**Cobar Meteorol**	**26.20 200**	P	**P**	**02 22 50.2**	**-0.2**
	comp=Z,0.0nmcomp=Z,208nm,1.1s					
CMSA	**Cobar Meteorol**	**26.20 200**	P	**P**	**02 22 50.3**	**-0.2**
MGCD	**Mangrove Creek**	**26.48 189**	P	**P**	**02 22 54.1**	**+1.1**
	comp=Z,108nm,0.8s					
AS06	**Alice Springs**	**26.69 229**	P	**P**	**02 22 54.9**	**-0.2**
	comp=Z,52nm,0.9s					
AS01	**Alice Springs**	**26.72 229**	P	**P**	**02 22 55.5**	**+0.2**
AS19	**Alice Springs**	**26.73 229**	P	**P**	**02 22 55.1**	**-0.3**
	comp=Z,34nm,1.1s					
AS31	**Alice Springs**	**26.75 229**	P	**P**	**02 22 55.3**	**-0.3**
AS31	**Alice Springs**	**26.75 229**	P	**P**	**02 22 55.4**	**-0.2**
	comp=Z,17nm,1.1s					
ASAR	**Alice Springs**	**26.75 229**	P	**P**	**02 22 55.4**	**-0.3**
	comp=Z,7.3nm,0.6s,baz=62,slow=9.0,SNR=68					
ASAR			PcP	**PcP**	**02 26 18.3**	**+0.2**
	comp=Z,4.4nm,0.5s,baz=66,slow=2.9,SNR=5.3					
ASAR			pPcP		02 26 30.6	
	comp=Z,16nm,0.8s,baz=60,slow=2.6,SNR=8.4					
ASAR			ScP	**ScP**	**02 29 55.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=72,slow=2.2,SNR=1.4					
ASAR			LR	LR	02 33 22.8	
	comp=Z,4µm,18.2s,baz=102,slow=36					
ASAR			PKiKP	**PKiKP**	**02 33 55.0**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=60,slow=2.2,SNR=1.8					
	comp=Z,7.3nm,0.6s					
H11S3	**WAKE ISLAND Hy**	**27.49 23**	T	T	02 51 31.3	
	baz=202,slow=75,SNR=1856					
H11S2	**WAKE ISLAND Hy**	**27.50 23**	T	T	02 51 32.9	
	baz=202,slow=75,SNR=1812					
H11S1	**WAKE ISLAND Hy**	**27.51 23**	T	T	02 51 32.6	
	baz=202,slow=75,SNR=116					
AAI	**Ambon**	**27.61 275**	P	P	02 23 18.6	+15
KNRA	**Kununurra**	**27.80 249**	P	**P**	**02 23 05.7**	**+0.7**
KNRA			IAmb	IAmb	02 23 29.4	
	comp=Z,70nm,0.8s					
KNRA	**Kununurra**	**27.80 249**	P	**P**	**02 23 05.4**	**+0.4**
	comp=Z,0.0nmcomp=Z,95nm,0.9s					
YNG	**Young**	**28.05 193**	P	**P**	**02 23 06.8**	**-0.3**
	comp=Z,211nm,1.9s					
STKA	**Stephens Creek**	**28.09 206**	P	**P**	**02 23 06.7**	**-0.8**
	comp=Z,0.0nmcomp=Z,343nm,0.9s					
STKA	**Stephens Creek**	**28.09 206**	P	**P**	**02 23 07.1**	**-0.4**
	comp=Z,14nm,0.6s,baz=22,slow=8.8,SNR=20					
STKA			PcP	**PcP**	**02 26 21.0**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=27,slow=4.5,SNR=2.0					
STKA			ScP	**ScP**	**02 30 00.1**	**+1.4**
	comp=Z,6.0nm,1.0s,baz=90,slow=1.3,SNR=3.1					
STKA			LR	LR	02 34 19.2	
	comp=Z,6µm,19.2s,baz=27,slow=36					
	comp=Z,14nm,0.6s					
STKA	**Stephens Creek**	**28.09 206**	P	**P**	**02 23 07.2**	**-0.3**
STKA	**Stephens Creek**	**28.09 206**	*i* P	**P**	**02 23 07.6**	**+0.1**
OOD	**Oodnadatta**	**28.12 220**	P	**P**	**02 23 08.4**	**+0.7**
LCRK	**Leigh Creek**	**28.58 213**	P	**P**	**02 23 12.1**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**28.68 22**	T	T	02 53 08.1	
	baz=202,slow=76,SNR=179					
H11N3	**WAKE ISLAND Hy**	**28.69 22**	T	T	02 52 57.5	
	baz=202,slow=76,SNR=80					
H11N2	**WAKE ISLAND Hy**	**28.70 22**	T	T	02 53 06.6	
	baz=202,slow=76,SNR=32					
NLAI	**Namlea**	**28.75 276**	P	**P**	**02 23 15.2**	**+1.7**
	comp=Z,2µmcomp=Z,148nm,1.1s					
CNB	**Canberra Magne**	**28.83 191**	P	**P**	**02 23 14.6**	**+0.5**
	comp=Z,0.0nmcomp=Z,46nm,1.2s					
LBMI	**Labuha**	**28.84 281**	P	**P**	**02 23 17.4**	**+3.0**
CAN	**Canberra**	**28.91 191**	P	**P**	**02 23 15.0**	**+0.3**
CAN			IAMs_20	IAMs_20	02 34 09.3	
	comp=Z,6µm,19.0s					
CAN	**Canberra**	**28.91 191**	P	**P**	**02 23 15.1**	**+0.4**
	comp=Z,54nm,1.7s					
CAN	**Canberra**	**28.91 191**	P	**P**	**02 23 15.0**	**+0.3**
CAN			pmax	pmax		
	comp=Z,70nm,1.2s					
CAN			MLR	MLR		
	comp=Z,6µm,19.0s					
TNTI	**Ternate**	**29.32 284**	P	P	02 23 31.2	+13
SANI	**Sanana**	**30.04 278**	P	P	02 23 37.6	+13
MILA	**Mila**	**30.56 190**	P	**P**	**02 23 29.1**	**-0.2**
	comp=Z,14nm,1.1s					
HTT	**Hallett**	**30.62 208**	P	**P**	**02 23 30.2**	**+0.3**
	comp=Z,106nm,1.2s					
HTT	**Hallett**	**30.62 208**	P	**P**	**02 23 30.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**31.34 246**	P	**P**	**02 23 36.1**	**-0.3**
	comp=Z,46nm,0.8s					
FITZ	**Fitzroy Crossi**	**31.34 246**	P	**P**	**02 23 36.4**	**0.0**
	comp=Z,42nm,0.6s,baz=83,slow=7.7,SNR=120					
FITZ			LR	LR	02 36 12.5	
	comp=Z,4µm,21.0s,baz=74,slow=36					
	comp=Z,42nm,0.6s					
FITZ	**Fitzroy Crossi**	**31.34 246**	P	**P**	**02 23 36.8**	**+0.4**
BBOO	**Buckleboo**	**31.57 213**	IAmb	IAmb	02 24 19.3	
	comp=Z,189nm,1.9s					
BBOO	**Buckleboo**	**31.57 213**	P	**P**	**02 23 37.9**	**-0.3**
WRKA	**Warakurna**	**31.81 232**	P	**P**	**02 23 39.8**	**-0.7**
	comp=Z,103nm,0.9s					
WRKA	**Warakurna**	**31.81 232**	P	**P**	**02 23 40.4**	**-0.1**
ARPS	**Mount Arapiles**	**32.28 201**	P	**P**	**02 23 44.3**	**-0.1**
	comp=Z,121nm,1.1s					
ARPS	**Mount Arapiles**	**32.28 201**	P	**P**	**02 23 44.8**	**+0.4**
OUZ	**Omahuta**	**32.58 152**	P	**P**	**02 23 48.7**	**+1.7**
OUZ	**Omahuta**	**32.58 152**	P	**P**	**02 23 48.7**	**+1.7**
AFI	**Afiamalu**	**32.67 105**	P	**P**	**02 23 48.8**	**+0.7**
AFI	**Afiamalu**	**32.67 105**	P	**P**	**02 23 48.8**	**+0.7**
AFI			pmax	pmax		
	comp=Z,260nm,1.2s					
AFI	**Afiamalu**	**32.67 105**	P	**P**	**02 23 48.2**	**+0.1**
KDI	**Kendari**	**33.09 273**	P	**P**	**02 23 51.5**	**-0.3**
	comp=Z,2µmcomp=Z,52nm,1.5s					
DAV	**Davao City (W)**	**33.15 294**	LR	LR	02 37 25.4	
	comp=Z,925nm,19.7s,baz=99,slow=36					
MMRI	**Maumere**	**33.22 265**	P	**P**	**02 23 52.4**	**-0.6**
RAO	**Raoul Island**	**33.30 135**	LR	LR	02 34 52.1	
	comp=Z,786nm,20.8s,baz=176,slow=32					
KUZ	**Kuaotunu**	**34.82 151**	P	**P**	**02 24 09.0**	**+2.5**
FORT	**Forrest**	**35.13 224**	P	**P**	**02 24 08.9**	**-0.4**
	comp=Z,136nm,0.8s					
FORT	**Forrest**	**35.13 224**	P	**P**	**02 24 09.4**	**+0.1**
BKSI	**Bulukumba**	**35.44 271**	P	**P**	**02 24 11.6**	**-0.5**
	comp=Z,1µmcomp=Z,140nm,1.1s					
NIUE	**Niue**	**35.48 113**	P	**P**	**02 24 12.4**	**-0.1**
	comp=Z,259nm,2.5s					
TOZ	**Tahuroa Road**	**35.52 153**	P	**P**	**02 24 12.2**	**-0.2**
TOZ			IAmb	IAmb	02 24 15.1	
	comp=Z,110nm,1.3s					
TOZ	**Tahuroa Road**	**35.52 153**	P	**P**	**02 24 13.8**	**+1.3**
TOLI2	**Tolitoli**	**35.78 282**	P	**P**	**02 24 14.5**	**-0.6**
TOLI2			IAmb	IAmb	02 24 34.2	
	comp=Z,63nm,0.7s					
TOLI2	**Tolitoli**	**35.78 282**	P	**P**	**02 24 16.5**	**+1.4**
KAPI	**Kappang**	**35.83 271**	P	**P**	**02 24 16.1**	**+0.7**
KAPI	**Kappang**	**35.83 271**	*i* P	**P**	**02 24 15.8**	**+0.3**
KAPI			pmax	pmax		
	comp=Z,75nm,0.9s					
KAPI	**Kappang**	**35.83 271**	P	**P**	**02 24 16.2**	**+0.7**
KAPI			pP	**pP**	**02 24 27.3**	**0.0**
HIZ	**Hauiti**	**35.87 154**	P	**P**	**02 24 16.9**	**+1.4**
HIZ	**Hauiti**	**35.87 154**	P	P	02 24 20.3	+4.8
MOO	**Moorlands**	**36.15 191**	P	**P**	**02 24 18.4**	**+0.5**
	comp=Z,67nm,2.5s					
JCJ	**Chichijima**	**36.30 339**	LR	LR	02 37 38.1	
	comp=Z,373nm,21.7s,baz=140,slow=34					
TAU	**Tasmania Unive**	**36.58 190**	P	**P**	**02 24 23.1**	**+1.6**
TAU			IAmb	IAmb	02 24 44.0	
	comp=Z,70nm,0.9s					
TAU	**Tasmania Unive**	**36.58 190**	P	**P**	**02 24 22.7**	**+1.2**
TAU	**Tasmania Unive**	**36.58 190**	P	**P**	**02 24 23.1**	**+1.6**
TAU			pmax	pmax		
	comp=Z,70nm,0.9s					
TAU	**Tasmania Unive**	**36.58 190**	P	**P**	**02 24 24.1**	**+2.6**
TAU			pP	**pP**	**02 24 34.7**	**+1.4**
TAU			sP	**sP**	**02 24 39.9**	**+1.4**
HAZ	**Te Kaha**	**36.62 150**	P	**P**	**02 24 22.8**	**+0.8**
URZ	**Urewera**	**36.69 151**	LR	LR	02 38 44.7	
	comp=Z,2µm,18.1s,baz=50,slow=35					
URZ	**Urewera**	**36.69 151**	P	**P**	**02 24 23.9**	**+1.4**
URZ	**Urewera**	**36.69 151**	P	**P**	**02 24 23.3**	**+0.7**
MXZ	**Matakaoa Point**	**36.73 149**	P	**P**	**02 24 25.1**	**+2.2**
NGZ	**Ngauruhoe**	**36.74 154**	P	**P**	**02 24 27.2**	**+4.0**
OTVZ	**Oturere**	**36.76 154**	P	**P**	**02 24 23.6**	**+0.3**
SNVZ	**South Ngauruho**	**36.77 154**	P	**P**	**02 24 24.9**	**+1.5**
FWVZ	**Far West T-bar**	**36.79 154**	P	**P**	**02 24 25.0**	**+1.3**
PKGZ	**Pakihiroa**	**36.86 150**	P	**P**	**02 24 23.6**	**-0.4**
WNVZ	**Wahianoa**	**36.87 154**	P	**P**	**02 24 26.1**	**+1.9**
RTZ	**Ruatahuna**	**36.91 152**	IAmb	IAmb	02 24 43.4	
	comp=Z,99nm,0.9s					
RTZ	**Ruatahuna**	**36.91 152**	P	**P**	**02 24 25.0**	**+0.4**
QRZ	**Quartz Range**	**36.92 159**	IAmb	IAmb	02 24 27.1	
	comp=Z,122nm,1.1s					
QRZ	**Quartz Range**	**36.92 159**	P	**P**	**02 24 25.2**	**+0.8**
QRZ	**Quartz Range**	**36.92 159**	P	**P**	**02 24 25.2**	**+0.8**
QRZ			PcP	**PcP**	**02 26 45.4**	**+0.1**
MWZ	**Matawai**	**36.95 151**	P	**P**	**02 24 26.4**	**+1.6**
PUZ	**Puketiti**	**37.10 150**	P	**P**	**02 24 27.2**	**+1.1**
BKZ	**Black Stump Fm**	**37.13 153**	IAmb	IAmb	02 24 31.5	
	comp=Z,45nm,0.6s					
BKZ	**Black Stump Fm**	**37.13 153**	P	**P**	**02 24 26.6**	**+0.2**
BKZ	**Black Stump Fm**	**37.13 153**	P	**P**	**02 24 26.6**	**+0.2**
RAHZ	**Arahi**	**37.20 152**	P	**P**	**02 24 28.0**	**+1.0**
DSZ	**Denniston Nort**	**37.48 160**	IAmb	IAmb	02 24 31.4	
	comp=Z,135nm,1.3s					
DSZ	**Denniston Nort**	**37.48 160**	P	**P**	**02 24 31.0**	**+1.8**
DSZ			PcP	**PcP**	**02 26 46.9**	**-0.1**
MBWA	**Marble Bar**	**37.55 244**	P	**P**	**02 24 29.5**	**-0.6**
MBWA			IAmb	IAmb	02 24 50.2	
	comp=Z,94nm,0.9s					
MBWA	**Marble Bar**	**37.55 244**	P	**P**	**02 24 29.8**	**-0.3**
	comp=Z,114nm,0.9s					
MBWA	**Marble Bar**	**37.55 244**	P	**P**	**02 24 29.7**	**-0.4**
MBWA	**Marble Bar**	**37.55 244**	P	**P**	**02 24 29.8**	**-0.3**
NNZ	**Nelson**	**37.57 158**	IAmb	IAmb	02 25 13.3	
	comp=Z,86nm,1.2s					
NNZ	**Nelson**	**37.57 158**	P	**P**	**02 24 30.2**	**+0.2**
PSA00	**Pilbara Seismi**	**37.57 243**	P	**P**	**02 24 30.1**	**-0.2**
PSA00			IAmb	IAmb	02 24 43.3	
	comp=Z,78nm,1.1s					
PSA00	**Pilbara Seismi**	**37.57 243**	P	**P**	**02 24 30.0**	**-0.2**
	comp=Z,144nm,1.2s					
PSA00	**Pilbara Seismi**	**37.57 243**	P	**P**	**02 24 30.4**	**+0.1**
PSAC1	**Pilbara Seismi**	**37.59 244**	P	**P**	**02 24 30.2**	**-0.3**
	comp=Z,167nm,1.1s					
TSZ	**Takapari Road**	**37.63 154**	P	**P**	**02 24 31.4**	**+0.9**
PLAI	**Plampang**	**37.63 265**	P	**P**	**02 24 31.4**	**+0.5**
THZ	**Tophouse**	**37.88 159**	P	**P**	**02 24 32.9**	**+0.3**
THZ	**Tophouse**	**37.88 159**	P	**P**	**02 24 32.6**	**0.0**
MRZ	**Mangatainoka R**	**37.97 155**	IAmb	IAmb	02 24 55.2	
	comp=Z,50nm,0.9s					
MRZ	**Mangatainoka R**	**37.97 155**	P	**P**	**02 24 32.9**	**-0.4**
PXZ	**Pawanui**	**38.00 153**	P	**P**	**02 24 33.2**	**-0.4**
SNZO	**South Karori**	**38.16 157**	P	**P**	**02 24 35.5**	**+0.6**
INZ	**Inchbonnie**	**38.24 161**	IAmb	IAmb	02 24 38.6	
	comp=Z,79nm,0.9s					
INZ			IAMs_20	IAMs_20	02 39 52.9	
	comp=Z,4µm,18.0s					
BFZ	**Birch Farm**	**38.27 155**	P	**P**	**02 24 37.2**	**+1.4**
BFZ	**Birch Farm**	**38.27 155**	P	**P**	**02 24 35.8**	**0.0**
WVZ	**Waitaha Valley**	**38.33 162**	P	**P**	**02 24 35.8**	**-0.5**
WVZ			PcP	**PcP**	**02 26 48.5**	**-1.0**
FOZ	**Fox Glacier**	**38.48 163**	P	**P**	**02 24 38.4**	**+0.8**
FOZ			PcP	**PcP**	**02 26 50.6**	**+0.6**
LTZ	**Lake Taylor**	**38.56 160**	IAMs_20	IAMs_20	02 38 42.4	
	comp=Z,4µm,20.0s					
LTZ	**Lake Taylor**	**38.56 160**	P	**P**	**02 24 38.8**	**+0.5**
KHZ	**Kahutara**	**38.68 159**	P	**P**	**02 24 39.0**	**-0.3**
KHZ	**Kahutara**	**38.68 159**	P	**P**	**02 24 38.8**	**-0.4**
KHZ	**Kahutara**	**38.68 159**	P	**P**	**02 24 38.6**	**-0.6**
KHZ			PcP	**PcP**	**02 26 49.3**	**-1.3**
JCZ	**Jackson Bay**	**38.71 165**	P	**P**	**02 24 40.6**	**+1.0**
OXZ	**Oxford**	**38.97 161**	IAmb	IAmb	02 24 43.3	
	comp=Z,99nm,0.8s					
OXZ			IAMs_20	IAMs_20	02 39 49.2	
	comp=Z,4µm,18.0s					
OXZ	**Oxford**	**38.97 161**	P	**P**	**02 24 41.2**	**-0.5**
GVZ	**Greta Valley S**	**38.98 160**	P	**P**	**02 24 41.2**	**-0.6**
RPZ	**Rata Peaks**	**39.01 162**	IAmb	IAmb	02 24 44.3	
	comp=Z,106nm,1.0s					
RPZ	**Rata Peaks**	**39.01 162**	LR	LR	02 40 24.1	
	comp=Z,2µm,18.1s,baz=322,slow=36					
RPZ	**Rata Peaks**	**39.01 162**	P	**P**	**02 24 42.9**	**+0.8**
RPZ	**Rata Peaks**	**39.01 162**	P	**P**	**02 24 42.5**	**+0.5**
MYLDM	**Lahad Datu**	**39.06 287**	P	**P**	**02 24 44.9**	**+2.0**
LBZ	**Lake Benmore**	**39.37 164**	P	**P**	**02 24 45.2**	**+0.2**
WKZ	**Wanaka**	**39.47 165**	IAMs_20	IAMs_20	02 39 31.5	
	comp=Z,6µm,20.0s					
MQZ	**McQueen's Vall**	**39.51 161**	IAmb	IAmb	02 24 47.5	
	comp=Z,79nm,0.9s					
MQZ	**McQueen's Vall**	**39.51 161**	P	**P**	**02 24 46.0**	**-0.2**
TMZ	**Timaru**	**39.61 163**	P	**P**	**02 24 47.2**	**+0.2**
MLZ	**Mavora Lakes**	**39.76 166**	IAmb	IAmb	02 25 07.8	
	comp=Z,130nm,1.3s					
MLZ			IAMs_20	IAMs_20	02 38 45.1	
	comp=Z,5µm,20.0s					
MLZ	**Mavora Lakes**	**39.76 166**	P	**P**	**02 24 48.1**	**-0.2**
KMBL	**Kambalda**	**39.87 228**	P	**P**	**02 24 49.1**	**-0.3**
	comp=Z,79nm,1.0s					
KMBL	**Kambalda**	**39.87 228**	P	**P**	**02 24 50.1**	**+0.7**
EAZ	**Earnscleugh**	**39.92 165**	P	**P**	**02 24 49.3**	**-0.3**
ODZ	**Otahua Downs**	**40.11 164**	P	**P**	**02 24 50.5**	**-0.6**
ODZ			IAmb	IAmb	02 24 52.1	
	comp=Z,136nm,1.7s					
ODZ	**Otahua Downs**	**40.11 164**	P	**P**	**02 24 50.7**	**-0.5**
SRBI	**Singaraja**	**40.18 266**	P	**P**	**02 24 50.9**	**-1.3**
	comp=Z,1µmcomp=Z,71nm,0.9s					
WHZ	**Wether Hill Ro**	**40.21 167**	P	**P**	**02 24 51.6**	**-0.4**
MEEK	**Meekatharra**	**40.35 237**	P	**P**	**02 24 53.6**	**+0.1**
	comp=Z,89nm,1.2s					
MEEK	**Meekatharra**	**40.35 237**	P	**P**	**02 24 54.6**	**+1.1**
TGY	**Tagaytay City**	**40.37 301**	LR	LR	02 43 01.0	
	comp=Z,353nm,18.2s,baz=117,slow=38					
TUZ	**Tuapeka**	**40.68 165**	P	**P**	**02 24 55.4**	**-0.4**
SYZ	**Scrubby Hill**	**41.10 166**	P	**P**	**02 24 59.6**	**+0.3**
ABJI	**Asem Bagus**	**41.15 266**	P	P	02 25 15.2	+15
JAGI	**Jajag, Banyuwa**	**41.22 265**	P	**P**	**02 24 58.9**	**-1.9**
JAGI			IAmb	IAmb	02 25 23.7	
	comp=Z,129nm,0.9s					
JAGI	**Jajag, Banyuwa**	**41.22 265**	P	**P**	**02 24 58.4**	**-2.4**
	comp=Z,1µmcomp=Z,158nm,0.9s					
KKM	**Kota Kinabalu**	**41.49 287**	P	**P**	**02 25 03.5**	**+0.4**
KKM	**Kota Kinabalu**	**41.49 287**	P	**P**	**02 25 03.9**	**+0.8**
GMJI	**Gumukmas**	**41.92 265**	P	P	02 25 11.7	+5.2
JHJ	**Hachijo jima 2**	**42.63 340**	LR	LR	02 42 11.7	
	comp=Z,629nm,20.2s,baz=121,slow=35					
JOW	**Kunigami**	**42.84 323**	LR	LR	02 41 44.9	
	comp=Z,993nm,20.9s,baz=138,slow=34					
JOW	**Kunigami**	**42.84 323**	P	**P**	**02 25 17.3**	**+3.5**
GIRL	**Giralia**	**42.87 244**	P	**P**	**02 25 15.2**	**+1.1**
	comp=Z,456nm,1.2s					
GIRL	**Giralia**	**42.87 244**	P	**P**	**02 25 14.3**	**+0.2**
KLBR	**Kellerberrin**	**43.08 230**	P	**P**	**02 25 15.1**	**-0.6**
	comp=Z,226nm,0.8s					
KLBR	**Kellerberrin**	**43.08 230**	P	**P**	**02 25 16.2**	**+0.5**
MORW	**Morawa**	**43.38 234**	P	**P**	**02 25 18.0**	**-0.2**
MORW	**Morawa**	**43.38 234**	P	**P**	**02 25 17.8**	**-0.3**
	comp=Z,50nm,1.2s					
MORW	**Morawa**	**43.38 234**	P	**P**	**02 25 18.7**	**+0.5**
BLDU	**Ballidu**	**43.47 232**	P	**P**	**02 25 18.1**	**-0.7**
	comp=Z,38nm,1.8s					
BLDU	**Ballidu**	**43.47 232**	P	**P**	**02 25 19.6**	**+0.7**
MIDW	**Midway**	**43.55 35**	IAMs_20	IAMs_20	02 40 54.5	
	comp=Z,4µm,19.0s					
NWAO	**Narrogin (SRO)**	**44.07 229**	IAMs_20	IAMs_20	02 43 13.0	
	comp=Z,3µm,20.0s					
NWAO	**Narrogin (SRO)**	**44.07 229**	P	**P**	**02 25 22.5**	**-1.2**
	comp=Z,112nm,1.2s					
NWAO	**Narrogin (SRO)**	**44.07 229**	LR	LR	02 43 35.2	
	comp=Z,3µm,20.5s,baz=40,slow=36					
NWAO	**Narrogin (SRO)**	**44.07 229**	P	**P**	**02 25 24.2**	**+0.5**
PCJI	**Pacitan**	**44.17 265**	P	**P**	**02 25 23.4**	**-1.3**
	comp=Z,3µmcomp=Z,324nm,0.9s					
SBUM	**Sibu**	**44.42 281**	P	**P**	**02 25 27.7**	**+1.0**
MUN	**Mundaring**	**44.43 231**	P	**P**	**02 25 25.4**	**-1.2**
	comp=Z,60nm,0.9s					
MUN	**Mundaring**	**44.43 231**	P	**P**	**02 25 26.7**	**+0.1**
UGM	**Wanagama**	**44.82 266**	P	**P**	**02 25 31.2**	**+1.2**
UGM	**Wanagama**	**44.82 266**	P	**P**	**02 25 31.5**	**+1.5**
YULB	**Yu-li**	**45.18 313**	IAmb	IAmb	02 25 53.6	
	comp=Z,78nm,1.0s					
RAR	**Rarotonga**	**45.25 113**	P	**P**	**02 25 34.1**	**+0.8**
RAR			IAmb	IAmb	02 25 52.5	
	comp=Z,113nm,1.4s					
RAR	**Rarotonga**	**45.25 113**	LR	LR	02 41 22.7	
	comp=Z,643nm,19.2s,baz=271,slow=32					
RAR	**Rarotonga**	**45.25 113**	P	**P**	**02 25 35.0**	**+1.7**
RAR	**Rarotonga**	**45.25 113**	P	**P**	**02 25 34.1**	**+0.8**
RAR			pmax	pmax		
	comp=Z,113nm,1.5s					
RAR	**Rarotonga**	**45.25 113**	P	**P**	**02 25 34.2**	**+1.0**
NACB	**Ninganchiao**	**45.45 314**	P	**P**	**02 25 36.6**	**+1.9**
JMN	**Monobe**	**45.45 334**	P	**P**	**02 25 35.9**	**+1.3**
JMN			IAmb	IAmb	02 25 58.7	
	comp=Z,52nm,0.9s					
JMN	**Monobe**	**45.45 334**	P	**P**	**02 25 36.5**	**+1.8**
TPUB	**Ta-pu**	**45.62 312**	IAmb	IAmb	02 25 49.0	
	comp=Z,74nm,0.8s					
SSLB	**Suanglung**	**45.67 313**	P	**P**	**02 25 38.0**	**+1.5**
SSLB			IAmb	IAmb	02 25 56.6	
	comp=Z,63nm,0.9s					
SSLB	**Suanglung**	**45.67 313**	P	**P**	**02 25 38.2**	**+1.7**
KSM	**Kuching**	**46.09 279**	P	**P**	**02 25 40.2**	**+0.1**
MJAR	**Matsushiro Arr**	**46.28 340**	P	**P**	**02 25 40.8**	**-0.3**
	comp=Z,6.9nm,0.6s,baz=169,slow=8.9,SNR=17					
MJAR			PcP	**PcP**	**02 27 16.7**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=155,slow=5.3,SNR=1.2					
MJAR			pPcP		02 27 28.9	
	comp=Z,30nm,0.9s,baz=161,slow=3.5,SNR=12					
MJAR			LR	LR	02 46 13.7	
	comp=Z,192nm,18.0s,baz=168,slow=38					
	comp=Z,6.9nm,0.6s					
MAJO	**Matsushiro**	**46.28 340**	P	**P**	**02 25 41.0**	**0.0**
MAJO			IAmb	IAmb	02

PPTF	Pamatai, Papee	54.32 107	P	P	02 26 44.2 +1.8
PSTR	Posyet	54.33 337	*i* P	P	02 26 42.6 +0.7
VLA	Vladivostok	54.34 339	*i* P	P	02 26 42.6 +0.7
UBPT	Khong Chiam	54.48 294	P	P	02 26 45.3 +1.9
GULI	GuiLin	54.52 308	P	P	02 26 46.1 +2.5
GULI			LR	LR	
	comp=Z,400nm,22.8s				
GULI			LR	LR	
	comp=Z,490nm,25.5s				
GULI			LR	LR	
	comp=Z,800nm,22.2s				
YSS	Yuzhno-Sakhali	54.89 349	P	P	02 26 47.3 +1.5
YSS	Yuzhno-Sakhali	54.89 349	*e*P	P	02 26 47.4 +1.6
YSS			*e*S	S	02 34 18.8 -5.2
YSS			*e*SS	SS	02 38 13.6 +5.4
YSS			pmax	pmax	
	comp=Z,20nm,0.8s				
YSS	Yuzhno-Sakhali	54.89 349	P	P	02 26 47.4 +1.6
YSS			pP	pP	02 26 58.4 -0.1
YSS			sP	sP	02 27 03.5 -0.1
TBI	Tubuai	55.02 114	*e*P	P	02 26 46.7 -0.6
	comp=Z,1μm,29.0s				
TBI	Tubuai	55.02 114	*e*PP	PP	02 28 49.8 -1.0
	comp=Z,402nm,35.0s				
TBI			*e*S	S	02 34 23.2 -3.5
	comp=Z,2μm,28.5s				
TBI			*e*LQ	LQ	02 40 32.6
	comp=Z,7μm,39.5s				
TBI			*e*LR	LR	02 42 47.5
	comp=Z,15μm,29.2s				
TBI			*e*LR	LR	02 42 54.0
	comp=Z,4μm,31.0s				
USRK	Ussuriysk Ar.	55.24 339	P	P	02 26 49.0 +0.5
USRK	Ussuriysk Ar.	55.24 339	P	P	02 26 49.5 +1.1
	comp=Z,10nm,0.7s,baz=167,slow=7.6,SNR=19				
USRK			pP	pP	02 27 00.7 -0.4
	comp=Z,52nm,1.1s,baz=171,slow=3.6,SNR=20				
	comp=Z,10nm,0.7s				
DL2	Dalian	55.51 328	P	P	02 26 51.5 +1.0
DL2			pP	pP	02 27 02.1 -1.1
DL2			sP	sP	02 27 06.8 -1.5
DL2			S	S	02 34 27.8 -4.9
DL2			pmax	pmax	
	comp=Z,20nm,1.0s				
DL2			pmax	pmax	
	comp=Z,190nm,4.2s				
DL2			LR	LR	
	comp=Z,410nm,20.8s				
DL2			LR	LR	
	comp=Z,770nm,24.2s				
DL2			LR	LR	
	comp=Z,2μm,23.5s				
TIA	Tai'an	56.17 323	P	P	02 26 55.2 -0.1
TIA			pP	sP	02 27 11.1 -2.1
TIA			sP	pP	02 27 19.0 +11
TIA			PcP	PcP	02 27 54.1 +1.4
TIA			S	S	02 34 35.6 -6.0
TIA			pmax	pmax	
	comp=Z,12nm,1.3s				
TIA			pmax	pmax	
	comp=Z,280nm,4.8s				
TIA			LR	LR	
	comp=Z,410nm,20.4s				
TIA			LR	LR	
	comp=Z,380nm,20.3s				
TIA			LR	LR	
	comp=Z,830nm,18.9s				
KULM	Kulim	56.30 281	P	P	02 26 57.3 +0.7
MDJ	Mudanjiang	56.47 338	P	P	02 26 58.1 +0.9
MDJ			pP	sP	02 27 14.4 -0.7
MDJ			S	S	02 34 45.6 +0.4
MDJ			pmax	pmax	
	comp=Z,18nm,1.2s				
MDJ			pmax	pmax	
	comp=Z,250nm,3.6s				
MDJ			LR	LR	
	comp=Z,380nm,24.7s				
MDJ			LR	LR	
	comp=Z,320nm,23.4s				
MDJ			LR	LR	
	comp=Z,620nm,22.0s				
SNY	Shenyang	56.75 332	⇓P	P	02 26 57.6 -1.6
SNY			pmax	pmax	
	comp=Z,12nm,1.8s				
SNY			pmax	pmax	
	comp=Z,200nm,5.5s				
SNY			LR	LR	
	comp=Z,340nm,14.5s				
SNY			LR	LR	
	comp=Z,310nm,20.6s				
SNY			LR	LR	
	comp=Z,560nm,19.8s				
UGL	Uglegorsk	57.06 349	*e*P	P	02 27 14.1 +13
UGL			*e*		02 27 19.2
UGL			*e*S	S	02 35 20.2 +27
UGL			pmax	pmax	
	comp=Z,130nm,1.3s				
CN2	Changchun	57.46 334	*e*P	P	02 27 04.4 +0.1
CN2			*e*pP	sP	02 27 21.6 -0.6
CN2			*e*S	S	02 34 52.9 -5.4
CN2			pmax	pmax	
	comp=Z,10.0nm,1.3s				
CN2			pmax	pmax	
	comp=Z,100nm,4.0s				
CN2			LR	LR	
	comp=Z,900nm,25.0s				
CN2			LR	LR	
	comp=Z,700nm,25.0s				
CN2			LR	LR	
	comp=Z,400nm,19.0s				
PSI	Prapat	57.52 278	LR	LR	02 55 33.5
	comp=Z,460nm,20.0s,baz=132,slow=40				
NAYO	Nakonayok	57.96 292	P	P	02 27 10.0 +1.7
GYA	Guiyang	58.01 307	P	P	02 27 11.1 +2.5
GYA			pP	sP	02 27 25.7 -0.8
GYA			S	S	02 35 07.2 +0.8
GYA			pmax	pmax	
	comp=Z,20nm,0.9s				
GYA			LR	LR	
	comp=Z,330nm,20.9s				
GYA			LR	LR	
	comp=Z,670nm,21.8s				
GYA			LR	LR	
	comp=Z,1μm,22.2s				
LYN	LuoYang	58.07 318	⇓*i*P	P	02 27 08.9 +0.2
LYN			pP	pP	02 27 19.6 -1.9
LYN			sP	sP	02 27 25.1 -1.6
LYN			pmax	pmax	
	comp=Z,21nm,1.3s				
LYN			LR	LR	
	comp=Z,740nm,22.3s				
LYN			LR	LR	
	comp=Z,500nm,21.3s				
LYN			LR	LR	
	comp=Z,1μm,19.2s				
COCO	West Island	58.22 260	P	P	02 27 12.2 +2.1
BNX	BinXian	58.25 337	⇑P	P	02 27 10.0 +0.3
BNX			pP	pP	02 27 21.7 -0.8
BNX			S	S	02 35 09.3 +0.7
BNX			pmax	pmax	
	comp=Z,32nm,1.8s				
BNX			LR	LR	
	comp=Z,210nm,18.8s				
BNX			LR	LR	
	comp=Z,340nm,19.0s				
BNX			LR	LR	
	comp=Z,370nm,21.5s				
HNS	HongShan	58.41 322	⇑P	P	02 27 11.7 +0.7
HNS			pP	sP	02 27 27.1 -1.9
HNS			S	S	02 35 09.8 -1.2
HNS			pmax	pmax	
	comp=Z,25nm,1.7s				
HNS			pmax	pmax	
	comp=Z,310nm,7.4s				
HNS			LR	LR	
	comp=Z,150nm,17.3s				
HNS			LR	LR	
	comp=Z,570nm,23.9s				
HNS			LR	LR	
	comp=Z,750nm,22.7s				
GSI	Gunungsitoli	58.61 276	P	P	02 27 13.8 +0.9
TYV	Tymovskoe	58.68 350	*e*P	P	02 27 14.0 +1.4
TYV			pmax	pmax	
	comp=Z,200nm,3.9s				
TYV			pmax	pmax	
	comp=Z,95nm,0.9s				
BJI	Beijing	59.30 325	P	P	02 27 18.2 +1.1
BJI			pP	sP	02 27 34.6 -0.5
BJI			sP	pP	02 27 41.1 +11
BJI			S	S	02 35 22.2 -0.1
BJI			pmax	pmax	
	comp=Z,5.0nm,1.9s				
BJI			pmax	pmax	
	comp=Z,92nm,6.0s				
BJI			LR	LR	
	comp=Z,220nm,19.5s				
BJI			LR	LR	
	comp=Z,210nm,23.3s				
BJI			LR	LR	
	comp=Z,390nm,21.7s				
KLR	Kul'dur	59.74 342	LR	LR	02 52 07.4
	comp=Z,503nm,21.1s,baz=158,slow=35				
KLR			PKPPKP		02 56 47.4
	comp=Z,0.6nm,0.3s,baz=322,slow=3.4,SNR=4.4				
KLR	Kul'dur	59.74 342	*ce*P	P	02 27 21.2 +1.2
KLR			pmax	pmax	
	comp=Z,59nm,2.5s				
PET	Petropavlovsk	59.79 2	*e*P	P	02 27 21.2 +0.9
PET			*e*S	S	02 35 29.6 +1.4
PET			pmax	pmax	
	comp=Z,21nm,1.3s				
PET			pmax	pmax	
	comp=Z,400nm,5.0s				
PET			pmax	pmax	
	comp=Z,200nm,13.0s				
PET			MLR	MLR	
	comp=Z,500nm,16.0s				
PET	Petropavlovsk	59.79 2	P	P	02 27 21.7 +1.4
PET			pP	pP	02 27 33.2 +0.1
PEA0B	Petropavlovsk-	59.85 1	*i* P	P	02 27 21.4 +0.7
PETK	Petropavlovsk-	59.85 1	P	P	02 27 21.8 +1.1
	comp=Z,5.5nm,0.6s,baz=168,slow=7.3,SNR=10				
PETK			LR	LR	02 49 28.6
	comp=Z,864nm,21.7s,baz=178,slow=32				
	comp=Z,5.5nm,0.6s				
GRNR	Gornyy	59.86 346	⇓*i*P	P	02 27 21.3 +0.5
GRNR			pmax	pmax	
	comp=Z,10.0nm,1.1s				
SRDT	SRDT	60.01 291	P	P	02 27 24.0 +1.5
TIY	Taiyuan	60.01 321	*e*P	P	02 27 24.8 +2.6
TIY			S	S	02 35 29.2 -2.7
TIY			pmax	pmax	
	comp=Z,160nm,6.7s				
TIY			LR	LR	
	comp=Z,210nm,18.6s				
TIY			LR	LR	
	comp=Z,350nm,17.9s				
TIY			LR	LR	
	comp=Z,460nm,21.3s				
XAN	Xi'an	60.18 316	⇑P	P	02 27 23.3 -0.1
XAN			pP	pP	02 27 34.5 -1.7
XAN			S	S	02 35 29.2 -4.9
XAN			pmax	pmax	
	comp=Z,23nm,0.6s				
XAN			pmax	pmax	
	comp=Z,330nm,8.1s				
XAN			LR	LR	
	comp=Z,650nm,19.2s				
XAN			LR	LR	
	comp=Z,1μm,20.0s				
XAN			LR	LR	
	comp=Z,2μm,20.2s				
XAN	Xi'an	60.18 316	P	P	02 27 23.1 -0.4
XAN			pP	pP	02 27 34.6 -1.7
XAN			sP	sP	02 27 39.5 -1.9
KMI	Kunming	60.60 304	⇑P	P	02 27 27.7 +1.0
KMI			pP	pP	02 27 37.9 -1.5
KMI			S	S	02 35 38.3 -1.8
KMI			pmax	pmax	
	comp=Z,27nm,0.9s				
KMI			pmax	pmax	
	comp=Z,270nm,3.1s				
KMI			LR	LR	
	comp=Z,260nm,21.6s				
KMI			LR	LR	
	comp=Z,630nm,22.9s				
KMI			LR	LR	
	comp=Z,1μm,25.5s				
DRV	Dumont d'Urvil	60.60 187	P	P	02 27 25.7 +0.1
CMAR	Chiang Mai Arr	61.42 295	P	P	02 27 33.1 +1.0
CMAR	Chiang Mai Arr	61.42 295	P	P	02 27 33.5 +1.4
	comp=Z,20nm,0.6s,baz=125,slow=5.4,SNR=89				
CMAR			pP	pP	02 27 45.0 0.0
	comp=Z,140nm,1.0s,baz=114,slow=4.9,SNR=34				
CMAR			PKPPKP	P'P'df	02 56 44.5 -2.0
	comp=Z,0.9nm,0.3s,baz=251,slow=6.5,SNR=4.2				
	comp=Z,20nm,0.6s				
CMAR	Chiang Mai Arr	61.42 295	*i* P	P	02 27 33.5 +1.4
CMAR			pmax	pmax	
	comp=Z,23nm,0.6s				
SHEM	Shemya Is, Ala	61.47 13	LR	LR	02 50 13.2
	comp=Z,2μm,21.5s,baz=178,slow=32				
CHTO	Chiang Mai	61.54 296	P	P	02 27 33.6 +0.7
CHTO	Chiang Mai	61.54 296	P	P	02 27 33.6 +0.7
CHTO			pmax	pmax	
	comp=Z,293nm,1.2s				
PZH	PanZhiHua	61.99 305	P	P	02 27 26.7 -9.2
PZH			pP	pP	02 27 47.7 -1.0
PZH			S	S	02 35 54.4 -3.1
PZH	PanZhiHua	61.99 305	SS	SS	02 40 13.0 +12
PZH			pmax	pmax	
	comp=Z,40nm,0.9s				
PZH			pmax	pmax	
	comp=Z,230nm,3.9s				
PZH			LR	LR	
	comp=N,480nm,20.6s				
PZH			LR	LR	
	comp=E,490nm,21.6s				
PZH			LR	LR	
	comp=Z,850nm,25.0s				
XLT	XiLinHaoTe	62.00 329	*e*P	P	02 27 36.4 +0.8
XLT			pP	pP	02 27 47.2 -1.3
XLT			sP	sP	02 27 52.5 -1.1
XLT			PcP	PcP	02 28 16.4 +0.6
XLT			PcS	PcS	02 32 14.7 -4.2
XLT			S	S	02 35 58.6 +1.6
XLT			pmax	pmax	
	comp=Z,29nm,1.6s				
XLT			pmax	pmax	
	comp=Z,270nm,4.6s				
XLT			LR	LR	
	comp=Z,460nm,24.5s				
XLT			LR	LR	
	comp=Z,720nm,22.3s				
HEH	HeiHe	62.04 340	*e*P	P	02 27 36.1 +0.5
HEH			pP	pP	02 27 47.8 -0.7
HEH			S	S	02 35 55.2 -1.8
HEH			sS	sS	02 36 18.0 -0.8
HEH			pmax	pmax	
	comp=Z,21nm,0.7s				
HEH			pmax	pmax	
	comp=Z,240nm,4.9s				
HEH			LR	LR	
	comp=Z,340nm,19.5s				
HEH			LR	LR	
	comp=Z,410nm,19.3s				
HEH			LR	LR	
	comp=Z,850nm,22.9s				
CD2	Chengdu	62.34 310	P	P	02 27 38.9 +0.8
CD2			pP	sP	02 27 57.5 +1.4
CD2			S	S	02 36 01.8 +0.1
CD2			pmax	pmax	
	comp=Z,40nm,0.6s				
CD2			pmax	pmax	
	comp=Z,250nm,5.4s				
CD2			LR	LR	
	comp=Z,660nm,19.9s				
CD2			LR	LR	
	comp=Z,790nm,26.8s				
HHC	Hu-ho-hao-te	62.49 323	*e*P	P	02 27 41.2 +2.2
HHC			pP	pP	02 27 51.2 -0.7
HHC			sP	sP	02 27 55.9 -1.1
HHC			S	S	02 36 01.0 -2.3
HHC			sS	sS	02 36 29.6 +4.6
HHC			pmax	pmax	
	comp=Z,15nm,0.6s				
HHC			pmax	pmax	
	comp=Z,73nm,4.2s				
HHC			LR	LR	
	comp=Z,370nm,22.6s				
HHC			LR	LR	
	comp=Z,240nm,20.2s				
HHC			LR	LR	
	comp=Z,780nm,22.6s				
BTO	Baotou	63.26 322	*e*P	P	02 27 45.4 +1.3
BTO			pP	pP	02 27 57.3 +0.3
BTO			sP	sP	02 28 03.7 +1.5
BTO			S	S	02 36 10.2 -2.8
BTO			pmax	pmax	
	comp=Z,14nm,0.6s				
BTO			pmax	pmax	
	comp=Z,380nm,5.4s				
BTO			LR	LR	
	comp=Z,520nm,8.6s				
BTO			LR	LR	
	comp=Z,380nm,9.4s				
BTO			LR	LR	
	comp=Z,900nm,20.8s				
TNCH	TengChong	64.08 302	P	P	02 27 50.7 +0.8
TNCH			pP	pP	02 28 01.9 -0.9
TNCH			S	S	02 36 22.6 -1.3
TNCH			sS	sS	02 36 44.3 -1.0
TNCH			pmax	pmax	
	comp=Z,380nm,2.6s				
TNCH			LR	LR	
	comp=Z,460nm,21.3s				
HIA	Hailar	64.19 335	IAmb	IAmb	02 28 08.5
	comp=Z,41nm,0.9s				
HIA	Hailar	64.19 335	P	P	02 27 51.3 +1.3
HIA			pP	pP	02 28 02.7 -0.1
HIA			sP	sP	02 28 07.8 -0.2
ATKA	Atka Island	64.28 20	P	P	02 27 52.3 +1.9
LZH	Lanzhou	64.80 315	SS	SS	02 40 46.1 +1.6
LZH			pmax	pmax	
	comp=Z,110nm,1.3s				
LZH			pmax	pmax	
	comp=Z,330nm,4.9s				
LZH			LR	LR	
	comp=N,350nm,20.6s				
LZH			LR	LR	
	comp=E,500nm,18.9s				
LZH			LR	LR	
	comp=Z,940nm,20.6s				
ZEA	Zeya	65.06 342	*e*P	P	02 27 56.8 +1.3
ZEA			pmax	pmax	
	comp=N,200nm,1.7s				
ZEA			pmax	pmax	
	comp=Z,300nm,1.9s				
ZEA			pmax	pmax	
	comp=N,50nm,1.4s				
ZEA			pmax	pmax	
	comp=Z,90nm,1.2s				
MA2	Magadan	66.43 357	P	P	02 28 04.3 +0.1
MA2			IAmb	IAmb	02 28 18.9
	comp=Z,64nm,1.0s				
MA2	Magadan	66.43 357	*ce*P	P	02 28 04.9 +0.7
MA2			pmax	pmax	
	comp=Z,42nm,2.5s				
MA2	Magadan	66.43 357	P	P	02 28 05.1 +0.9
	comp=Z,1μmcomp=Z,88nm,2.0s				
MA2	Magadan	66.43 357	P	P	02 28 04.7 +0.5
MA2			pP	pP	02 28 16.4 -0.7
UNV	Unalaska Valle	68.39 23	P	P	02 28 17.9 +1.2
	baz=221				
CIT	Chita	68.89 334	*e*P	P	02 28 20.8 +0.8
CIT			*e*		02 28 47.0
CIT			pmax	pmax	
	comp=Z,178nm,2.0s				
GTA	Gaotai	69.21 317	*e*P	P	02 28 23.6 +1.3
GTA			pP	pP	02 28 34.8 -0.5
GTA			S	S	02 37 27.1 +1.8
GTA			SS	SS	02 41 58.0 +5.3
GTA			pmax	pmax	
	comp=Z,10.0nm,1.0s				
GTA			LR	LR	
	comp=Z,280nm,17.4s				
GTA			LR	LR	
	comp=Z,240nm,18.5s				
GTA			LR	LR	
	comp=Z,480nm,20.0s				
BRDH	Bariadhala	69.23 297	LR	LR	02 56 54.6
	comp=Z,332nm,21.8s,baz=152,slow=34				
ULN	Ulaanbaatar	69.36 327	P	P	02 28 24.1 +1.0
ULN	Ulaanbaatar	69.36 327	*i* P	P	02 28 23.5 +0.4
ULN			pmax	pmax	
	comp=Z,47nm,1.6s				
ULN	Ulaanbaatar	69.36 327	P	P	02 28 24.1 +1.0
ULN			pP	pP	02 28 35.3 -0.8
ULN			sP	sP	02 28 40.8 -0.4
P08K	Saint George I	69.44 20	P	P	02 28 24.6 +1.4
	baz=217				
SPIA	Saint Paul Isl	69.67 19	P	P	02 28 26.5 +1.9
	baz=216				
SONM	Songino Array	69.69 327	P	P	02 28 26.0 +0.9
SONM	Songino Array	69.69 327	P	P	02 28 26.1 +1.0
	comp=Z,11nm,0.7s,baz=143,slow=7.5,SNR=73				
SONM			pP	pP	02 28 37.1 -1.1
	comp=Z,56nm,0.9s,baz=145,slow=2.7,SNR=30				
SONM			PKPPKP	P'P'df	02 56 31.0 +0.4
	comp=Z,2.1nm,1.0s,baz=267,slow=2.2,SNR=12				
SONM			LR	LR	02 58 58.6
	comp=Z,389nm,20.9s,baz=140,slow=36				
	comp=Z,11nm,0.7s				
SONM	Songino Array	69.69 327	P	P	02 28 26.0 +0.9
SONM			pmax	pmax	
	comp=Z,85nm,1.0s				
SEY	Seymchan	69.72 358	*ce*P	P	02 28 25.9 +1.1
SEY			pmax	pmax	
	comp=Z,29nm,2.5s				
FALS	False Pass	70.36 24	P	P	02 28 30.2 +1.4
	baz=224				
CCD	Concordia, Ant	70.56 188	P	P	02 28 30.4 0.0
CCD			pP	pP	02 28 42.3 -0.8
VNDA	Vanda	70.61 179	P	P	02 28 31.3 +1.2
	comp=Z,11nm,0.9s,baz=345,slow=5.2,SNR=5.2				
VNDA			LR	LR	02 53 52.4
	comp=Z,921nm,21.1s,baz=8.5,slow=31				
	comp=Z,11nm,0.9s				
VNDA	Vanda	70.61 179	P	P	02 28 31.9 +1.8
VNDA			pP	pP	02 28 43.2 +0.3
VNDA			sP	sP	02 28 48.3 +0.4
GOMU	GeErMu	71.36 312	P	P	02 28 38.3 +2.5
GOMU			pmax	pmax	
	comp=Z,10.0nm,1.1s				
GOMU			pmax	pmax	
	comp=Z,190nm,4.4s				
GOMU			LR	LR	
	comp=Z,480nm,16.5s				
GOMU			LR	LR	
	comp=Z,860nm,16.5s				
GOMU			LR	LR	
	comp=Z,2μm,16.7s				
S12K	Black Hills	71.51 24	P	P	02 28 36.7 +0.9
	baz=225				
YAK	Yakutsk	71.67 347	LR	LR	02 57 58.8
	comp=Z,374nm,21.8s,baz=138,slow=34				
YAK	Yakutsk	71.67 347	*e*P	P	02 28 37.1 +0.5
YAK			*e**PP	sP	02 28 54.0 -0.8
YAK			*e*		02 31 16.6
YAK			*e*PPP	PPP	02 33 00.1
YAK			*e*S	S	02 37 50.3 -2.5
YAK			*e**SS	SKSac	02 38 26.5 -10
YAK			*e*		02 38 33.9
YAK			*e*SS	SS	02 42 28.0 -1.3
YAK			*e*SSS	SSS	02 45 47.5
YAK			pmax	pmax	
	comp=Z,21nm,1.5s				
YAK			pmax	pmax	
	comp=N,4.0nm,1.5s				
YAK			pmax	pmax	
	comp=E,8.0nm,1.6s				
YAK			pmax	pmax	
	comp=Z,257nm,5.1s				
YAK			pmax	pmax	
	comp=N,190nm,4.8s				
YAK			pmax	pmax	
	comp=E,96nm,4.3s				
YAK			smax	smax	
	comp=N,332nm,7.8s				
YAK			smax	smax	
	comp=E,158nm,6.1s				
LSA	Lhasa	71.85 304	P	P	02 28 39.7 +0.7
SDPT	Sand Point	71.90 25	P	P	02 28 39.5 +1.3
	baz=226				
CHNA	Chernabura Isl	71.92 25	P	P	02 28 39.0 +0.7
	baz=227				
ZAK	Zakamensk	72.84 328	*e*P	P	02 28 43.9 -0.2
ZAK			pmax	pmax	

	comp=Z,19nm,1.6s						
BOD	**Bodaibo**	**72.84**	**338**	*e*P	**P**	**02 28 43.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,91nm,1.4s						
S14K	**Fog Glacier**	**72.92**	**24**	P	**P**	**02 28 45.8**	**+1.4**
	baz=227						
CHGN	**Chignik**	**73.40**	**25**	P	**P**	**02 28 48.6**	**+1.5**
	baz=228						
IRK	**Irkutsk**	**73.41**	**330**	*e*P	**P**	**02 28 47.3**	**+0.1**
IRK				pmax	pmax		
	comp=Z,104nm,1.5s						
M11K	**Mekoryuk**	**73.51**	**19**	P	**P**	**02 28 49.6**	**+2.0**
	baz=220						
CHIR	**Chirikof Islan**	**74.28**	**26**	P	**P**	**02 28 53.8**	**+1.6**
	baz=231						
O14K	**Tigyukauivet M**	**74.34**	**21**	P	**P**	**02 28 54.2**	**+1.7**
	baz=225						
M13K	**Dall Lake**	**74.46**	**20**	P	**P**	**02 28 55.2**	**+2.1**
	baz=222						
R16K	**Pilot Point**	**74.59**	**24**	P	**P**	**02 28 56.5**	**+2.5**
	baz=228						
N14K	**Kuskokwak Cree**	**74.67**	**21**	P	**P**	**02 28 56.4**	**+2.1**
	baz=224						
GAMB	**Gambell**	**74.69**	**14**	P	**P**	**02 28 56.3**	**+1.9**
	baz=214						
MOY	**Mondy**	**74.76**	**328**	*e*P	**P**	**02 28 55.4**	**+0.1**
MOY				pmax	pmax		
	comp=Z,76nm,1.6s						
O15K	**Ungalikthiuk R**	**74.81**	**22**	P	**P**	**02 28 57.2**	**+2.0**
	baz=226						
M14K	**Bethel**	**75.17**	**20**	IAmb	IAmb	02 29 16.0	
	comp=Z,71nm,1.1s						
M14K	**Bethel**	**75.17**	**20**	P	**P**	**02 28 59.4**	**+2.2**
	baz=224						
K13K	**Kusilvak Mount**	**75.18**	**18**	IAMs_20	IAMs_20	02 57 10.4	
	comp=Z,2μm,22.0s						
K13K	**Kusilvak Mount**	**75.18**	**18**	P	**P**	**02 28 59.4**	**+2.1**
	baz=221						
BILL	**Bilibino**	**75.18**	**4**	P	**P**	**02 28 57.8**	**+0.6**
BILL	**Bilibino**	**75.18**	**4**	*ce*P	**P**	**02 28 57.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,23nm,0.7s						
L14K	**Kuka Creek**	**75.36**	**19**	IAmb	IAmb	02 29 18.4	
	comp=Z,34nm,1.0s						
L14K				IAMs_20	IAMs_20	03 00 26.4	
	comp=Z,1μm,20.0s						
L14K	**Kuka Creek**	**75.36**	**19**	P	**P**	**02 29 00.6**	**+2.3**
	baz=223						
SII	**Sitkinak Islan**	**75.37**	**26**	P	**P**	**02 29 01.7**	**+3.2**
SII	**Sitkinak Islan**	**75.37**	**26**	P	**P**	**02 29 00.3**	**+1.8**
	baz=232						
P16K	**Nushagak River**	**75.41**	**23**	P	**P**	**02 29 00.3**	**+1.6**
	baz=228						
N15K	**Kwethluk River**	**75.41**	**21**	P	**P**	**02 29 00.3**	**+1.6**
	baz=226						
M15K	**Kasigluk River**	**75.57**	**20**	P	**P**	**02 29 01.1**	**+1.6**
	baz=225						
Q16K	**King Salmon**	**75.69**	**23**	P	**P**	**02 29 01.9**	**+1.6**
	baz=229						
O16K	**Kokwok River B**	**75.75**	**22**	IAMs_20	IAMs_20	02 57 01.5	
	comp=Z,2μm,22.0s						
O16K	**Kokwok River B**	**75.75**	**22**	P	**P**	**02 29 01.8**	**+1.2**
	baz=228						
R18K	**Karluk**	**75.88**	**25**	P	**P**	**02 29 02.8**	**+1.4**
	baz=231						
L15K	**Ungalak Mounta**	**76.00**	**20**	P	**P**	**02 29 04.0**	**+2.0**
	baz=224						
N16K	**Nishlik Lake**	**76.10**	**21**	P	**P**	**02 29 04.5**	**+1.9**
	baz=227						
P17K	**Kvichak River**	**76.11**	**23**	P	**P**	**02 29 04.4**	**+1.7**
	baz=229						
J14K	**Nanvaranak Lak**	**76.13**	**18**	IAmb	IAmb	02 29 21.2	
	comp=Z,48nm,1.1s						
J14K				IAMs_20	IAMs_20	02 57 49.7	
	comp=Z,2μm,21.0s						
J14K	**Nanvaranak Lak**	**76.13**	**18**	P	**P**	**02 29 04.7**	**+2.0**
	baz=222						
PALK	**Pallekele**	**76.16**	**279**	P	**P**	**02 29 04.4**	**+0.4**
PALK	**Pallekele**	**76.16**	**279**	LR	LR	03 06 16.7	
	comp=Z,308nm,20.0s,baz=115,slow=39						
PALK	**Pallekele**	**76.16**	**279**	*i* P	**P**	**02 29 03.6**	**-0.4**
PALK				pmax	pmax		
	comp=Z,44nm,1.1s						
OHAK	**Old Harbor**	**76.16**	**26**	P	**P**	**02 29 04.0**	**+0.9**
	baz=232						
O17K	**Koliganek Bris**	**76.24**	**22**	P	**P**	**02 29 04.4**	**+1.0**
	baz=228						
Q18K	**Katmai Hardscr**	**76.33**	**24**	P	**P**	**02 29 04.5**	**+0.3**
	baz=231						
M16K	**Timber Creek**	**76.41**	**21**	IAmb	IAmb	02 29 25.0	
	comp=Z,72nm,1.1s						
M16K	**Timber Creek**	**76.41**	**21**	P	**P**	**02 29 05.3**	**+0.9**
	baz=226						
K15K	**Wolf Creek Mou**	**76.43**	**19**	IAmb	IAmb	02 29 23.8	
	comp=Z,62nm,1.1s						
K15K				IAMs_20	IAMs_20	02 57 47.7	
	comp=Z,2μm,22.0s						
K15K	**Wolf Creek Mou**	**76.43**	**19**	P	**P**	**02 29 05.6**	**+1.1**
	baz=224						
L16K	**Owhat River**	**76.70**	**20**	IAMs_20	IAMs_20	02 58 59.9	
	comp=Z,2μm,21.0s						
L16K	**Owhat River**	**76.70**	**20**	P	**P**	**02 29 07.5**	**+1.5**
	baz=226						
N17K	**Nushagak Hills**	**76.71**	**22**	IAmb	IAmb	02 29 29.9	
	comp=Z,40nm,1.2s						
N17K				IAMs_20	IAMs_20	02 57 32.0	
	comp=Z,2μm,22.0s						
N17K	**Nushagak Hills**	**76.71**	**22**	P	**P**	**02 29 07.9**	**+1.8**
	baz=228						
P18K	**Big Mountain,**	**76.72**	**23**	P	**P**	**02 29 07.8**	**+1.6**
	baz=230						
KDAK	**Kodiak Island**	**76.81**	**26**	LR	LR	03 00 15.5	
	comp=Z,401nm,19.2s,baz=71,slow=34						
KDAK	**Kodiak Island**	**76.81**	**26**	P	**P**	**02 29 08.1**	**+1.5**
	baz=233						
ANM	**Nome**	**76.98**	**16**	IAMs_20	IAMs_20	02 59 51.1	
	comp=Z,2μm,20.0s						
ANM	**Nome**	**76.98**	**16**	P	**P**	**02 29 09.3**	**+1.8**
	baz=220						
O18K	**Koktuh Hills**	**77.02**	**23**	P	**P**	**02 29 09.2**	**+1.4**
	baz=230						
Q19K	**Cape Douglas,**	**77.06**	**24**	IAmb	IAmb	02 29 32.5	
	comp=Z,30nm,0.8s						
Q19K				IAMs_20	IAMs_20	03 00 32.3	
	comp=Z,1μm,18.0s						
Q19K	**Cape Douglas,**	**77.06**	**24**	P	**P**	**02 29 09.2**	**+1.1**
	baz=232						
TNA	**Tin City**	**77.09**	**15**	P	**P**	**02 29 10.1**	**+2.0**
	baz=217						
M17K	**Holitna River**	**77.20**	**21**	P	**P**	**02 29 10.1**	**+1.2**
M17K				IAMs_20	IAMs_20	02 58 00.1	
	comp=Z,2μm,21.0s						
M17K	**Holitna River**	**77.20**	**21**	P	**P**	**02 29 11.4**	**+2.6**
	baz=228						
N18K	**Kilae Creek**	**77.29**	**22**	IAmb	IAmb	02 29 33.0	
	comp=Z,56nm,1.1s						
N18K				IAMs_20	IAMs_20	02 57 59.5	
	comp=Z,2μm,21.0s						
N18K	**Kilae Creek**	**77.29**	**22**	P	**P**	**02 29 11.0**	**+1.6**
	baz=229						
Q20K	**Shuyak Island**	**77.38**	**25**	P	**P**	**02 29 11.9**	**+2.1**
	baz=233						
L17K	**Donlin**	**77.40**	**20**	P	**P**	**02 29 12.1**	**+2.2**
	baz=227						
F14K	**Arctic Creek**	**77.43**	**15**	P	**P**	**02 29 12.3**	**+2.3**
	baz=219						
J16K	**Anvik River**	**77.44**	**19**	IAmb	IAmb	02 29 34.7	
	comp=Z,82nm,1.4s						
J16K				IAMs_20	IAMs_20	02 58 19.4	
	comp=Z,2μm,21.0s						
J16K	**Anvik River**	**77.44**	**19**	P	**P**	**02 29 12.1**	**+2.0**
	baz=224						
O19K	**Port Alsworth**	**77.58**	**23**	P	**P**	**02 29 13.1**	**+2.2**
	baz=231						
P19K	**Oil Pt**	**77.67**	**24**	IAmb	IAmb	02 29 29.4	
	comp=Z,34nm,0.7s						
P19K	**Oil Pt**	**77.67**	**24**	P	**P**	**02 29 13.6**	**+2.1**
	baz=232						
G15K	**Niukluk**	**77.68**	**16**	P	**P**	**02 29 13.8**	**+2.3**
	baz=221						
K17K	**Iditarod**	**77.80**	**20**	IAmb	IAmb	02 29 31.5	
	comp=Z,34nm,1.0s						
K17K				IAMs_20	IAMs_20	02 57 44.8	
	comp=Z,2μm,22.0s						
K17K	**Iditarod**	**77.80**	**20**	P	**P**	**02 29 14.4**	**+2.2**
	baz=227						
I17K	**Unalakleet**	**77.85**	**18**	IAMs_20	IAMs_20	02 59 03.0	
	comp=Z,2μm,21.0s						
I17K	**Unalakleet**	**77.85**	**18**	P	**P**	**02 29 14.7**	**+2.4**
	baz=224						
M18K	**Stony River**	**77.85**	**22**	P	**P**	**02 29 15.1**	**+2.7**
	baz=229						
N19K	**Bonanza Creek**	**77.91**	**23**	IAMs_20	IAMs_20	02 57 53.8	
	comp=Z,1μm,22.0s						
N19K	**Bonanza Creek**	**77.91**	**23**	P	**P**	**02 29 14.6**	**+1.7**
	baz=231						
H16K	**Elim**	**77.93**	**17**	P	**P**	**02 29 14.9**	**+2.1**
	baz=223						
J17K	**VABM Dome**	**78.01**	**19**	IAMs_20	IAMs_20	02 58 37.4	
	comp=Z,2μm,22.0s						
J17K	**VABM Dome**	**78.01**	**19**	P	**P**	**02 29 15.2**	**+1.9**
	baz=226						
L18K	**Granite Mounta**	**78.02**	**21**	IAmb	IAmb	02 29 33.5	
	comp=Z,46nm,1.1s						
L18K	**Granite Mounta**	**78.02**	**21**	P	**P**	**02 29 15.0**	**+1.6**
	baz=228						
F15K	**North Star Dit**	**78.06**	**16**	P	**P**	**02 29 14.2**	**+0.7**
F15K				IAMs_20	IAMs_20	03 00 14.6	
	comp=Z,2μm,20.0s						
F15K	**North Star Dit**	**78.06**	**16**	P	**P**	**02 29 15.6**	**+2.1**
	baz=220						
O20K	**Slope Mountain**	**78.18**	**24**	P	**P**	**02 29 16.3**	**+1.9**
	baz=233						
HOM	**Homer**	**78.32**	**24**	P	**P**	**02 29 16.7**	**+1.7**
	baz=234						
G16K	**Koyuk River**	**78.45**	**17**	IAmb	IAmb	02 29 33.5	
	comp=Z,29nm,0.9s						
G16K				IAMs_20	IAMs_20	02 59 23.0	
	comp=Z,2μm,21.0s						
G16K	**Koyuk River**	**78.45**	**17**	P	**P**	**02 29 17.4**	**+1.7**
	baz=222						
M19K	**Big River Lodg**	**78.64**	**22**	IAmb	IAmb	02 29 48.9	
	comp=Z,35nm,0.9s						
M19K				IAMs_20	IAMs_20	02 58 41.9	
	comp=Z,2μm,22.0s						
M19K	**Big River Lodg**	**78.64**	**22**	P	**P**	**02 29 18.3**	**+1.5**
	baz=231						
L19K	**White Mountain**	**78.64**	**21**	IAmb	IAmb	02 29 36.5	
	comp=Z,37nm,1.0s						
L19K				IAMs_20	IAMs_20	02 59 16.2	
	comp=Z,2μm,21.0s						
L19K	**White Mountain**	**78.64**	**21**	P	**P**	**02 29 18.4**	**+1.5**
	baz=230						
BRLK	**Bradley Lake**	**78.69**	**24**	IAMs_20	IAMs_20	03 00 50.1	
	comp=Z,1μm,20.0s						
TTA	**Tatalina**	**78.72**	**20**	P	**P**	**02 29 17.9**	**+0.5**
TTA	**Tatalina**	**78.72**	**20**	P	**P**	**02 29 17.9**	**+0.5**
TTA				pmax	pmax		
	comp=Z,25nm,1.1s						
TTA	**Tatalina**	**78.72**	**20**	P	**P**	**02 29 18.8**	**+1.5**
	baz=229						
BRSE	**Bradley Lake S**	**78.74**	**25**	P	**P**	**02 29 19.0**	**+1.6**
	baz=234						
H17K	**Granite Mounta**	**78.83**	**18**	IAmb	IAmb	02 29 33.1	
	comp=Z,114nm,1.8s						
H17K				IAMs_20	IAMs_20	02 59 44.2	
	comp=Z,2μm,21.0s						
H17K	**Granite Mounta**	**78.83**	**18**	P	**P**	**02 29 19.5**	**+1.6**
	baz=225						
J18K	**Innoko River**	**78.84**	**20**	IAMs_20	IAMs_20	02 58 39.3	
	comp=Z,2μm,22.0s						
J18K	**Innoko River**	**78.84**	**20**	P	**P**	**02 29 20.1**	**+2.2**
	baz=226						
G17K	**Kiwalik Mounta**	**79.02**	**17**	P	**P**	**02 29 20.5**	**+1.7**
	baz=224						
N20K	**Mount Spurr**	**79.02**	**23**	P	**P**	**02 29 20.9**	**+1.9**
	baz=233						
SPCR	**Spurr Chakacha**	**79.02**	**23**	P	**P**	**02 29 20.7**	**+1.7**
	baz=233						
SPU	**Mount Spurr**	**79.07**	**23**	P	**P**	**02 29 19.4**	**+0.2**
M20K	**Styx River**	**79.09**	**22**	IAMs_20	IAMs_20	02 59 18.9	
	comp=Z,2μm,22.0s						
M20K	**Styx River**	**79.09**	**22**	P	**P**	**02 29 21.2**	**+1.8**
	baz=232						
CAPN	**Captain Cook N**	**79.18**	**24**	P	**P**	**02 29 21.3**	**+1.5**
	baz=234						
L20K	**Farewell, AK**	**79.19**	**21**	P	**P**	**02 29 21.5**	**+1.7**
	baz=231						
WMQ	**Urumqi**	**79.29**	**317**	*e*P	**P**	**02 29 21.5**	**+0.6**
WMQ				PcP	**pP**	**02 29 32.3**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,33nm,1.1s						
WMQ				LR	LR		
	comp=Z,390nm,15.7s						
WMQ				LR	LR		
	comp=Z,780nm,16.9s						
WMQ				LR	LR		
	comp=Z,670nm,24.1s						
SLKM	**Skilak Lake**	**79.40**	**24**	IAmb	IAmb	02 29 51.0	
	comp=Z,33nm,1.0s						
H18K	**Honhosa River**	**79.46**	**18**	IAMs_20	IAMs_20	02 59 29.6	
	comp=Z,2μm,21.0s						
H18K	**Honhosa River**	**79.46**	**18**	P	**P**	**02 29 22.7**	**+1.4**
	baz=226						
SEW	**Seward**	**79.48**	**25**	P	**P**	**02 29 22.7**	**+1.3**
	baz=236						
F17K	**Baldwin Pennin**	**79.53**	**16**	IAmb	IAmb	02 29 42.2	
	comp=Z,68nm,1.4s						
F17K				IAMs_20	IAMs_20	03 01 28.5	
	comp=Z,1μm,20.0s						
F17K	**Baldwin Pennin**	**79.53**	**16**	P	**P**	**02 29 23.8**	**+2.2**
	baz=224						
J19K	**Poorman**	**79.55**	**20**	IAMs_20	IAMs_20	03 02 18.2	
	comp=Z,2μm,20.0s						
J19K	**Poorman**	**79.55**	**20**	P	**P**	**02 29 23.9**	**+2.1**
	baz=229						
O22K	**Cooper Landing**	**79.58**	**24**	P	**P**	**02 29 23.4**	**+1.5**
	baz=235						
GCSA	**Galena City Sc**	**79.64**	**19**	P	**P**	**02 29 23.8**	**+1.6**
	baz=228						
K20K	**Telida**	**79.67**	**21**	P	**P**	**02 29 24.0**	**+1.5**
	baz=231						
SKT	**Skwentna**	**79.75**	**22**	P	**P**	**02 29 23.8**	**+0.9**
	baz=233						
FIS	**Fire Island**	**79.77**	**24**	IAmb	IAmb	02 29 59.9	
	comp=Z,61nm,0.8s						
E17K	**Hotham Inlet**	**79.84**	**16**	P	**P**	**02 29 24.6**	**+1.4**
	baz=223						
C16K	**Lisburne Hills**	**79.86**	**14**		**P**	**02 29 23.8**	**+0.5**
C16K				IAmb	IAmb	02 29 37.5	
	comp=Z,67nm,1.4s						
C16K	**Lisburne Hills**	**79.86**	**14**	P	**P**	**02 29 24.6**	**+1.3**
	baz=219						
G18K	**Tagagawik**	**79.88**	**17**	IAMs_20	IAMs_20	02 59 33.9	
	comp=Z,2μm,22.0s						
G18K	**Tagagawik**	**79.88**	**17**	P	**P**	**02 29 25.1**	**+1.6**
	baz=226						
RC01	**Rabbit Creek A**	**79.93**	**24**	P	**P**	**02 29 24.9**	**+1.0**
	baz=235,SNR=7.0						
HYB	**Hyderabad**	**79.95**	**289**	*e*P	**P**	**02 29 24.3**	**-0.6**
HYB				*ep*P	**pP**	**02 29 35.5**	**-2.7**
HYB				IVmB_BB		02 29 36.4	
	comp=Z,1μm,1.1s						
D17K	**Noatak River**	**79.97**	**15**	P	**P**	**02 29 25.4**	**+1.4**
	baz=222						
PPLA	**Purkeypile**	**80.06**	**22**	P	**P**	**02 29 26.0**	**+1.3**
	baz=233						
F18K	**Selawik**	**80.09**	**17**	P	**P**	**02 29 25.4**	**+0.9**
	baz=225,SNR=6.9						
J20K	**Nowinta River**	**80.17**	**20**	IAMs_20	IAMs_20	03 01 28.4	
	comp=Z,2μm,20.0s						
J20K	**Nowinta River**	**80.17**	**20**	P	**P**	**02 29 26.1**	**+1.0**
	baz=231						
P23K	**Montague Islan**	**80.28**	**25**	P	**P**	**02 29 27.2**	**+1.4**
	baz=237						
RDOG	**Red Dog Mine**	**80.28**	**15**	IAmb	IAmb	02 29 40.8	
	comp=Z,54nm,1.0s						
RDOG				IAMs_20	IAMs_20	02 58 51.5	
	comp=Z,1μm,22.0s						
RDOG	**Red Dog Mine**	**80.28**	**15**	P	**P**	**02 29 27.4**	**+1.7**
	baz=222,SNR=11						
H19K	**Roundabout Mou**	**80.30**	**18**	IAmb	IAmb	02 29 56.4	
	comp=Z,40nm,1.0s						
H19K				IAMs_20	IAMs_20	03 00 19.0	
	comp=Z,2μm,21.0s						
H19K	**Roundabout Mou**	**80.30**	**18**	P	**P**	**02 29 27.4**	**+1.7**
	baz=228						
PWL	**Port Wells**	**80.36**	**24**	IAmb	IAmb	02 29 45.3	
	comp=Z,59nm,0.9s						
PWL	**Port Wells**	**80.36**	**24**	P	**P**	**02 29 27.3**	**+1.1**
	baz=236,SNR=12						
CAST	**Castle Rocks**	**80.41**	**21**	IAMs_20	IAMs_20	03 00 31.9	
	comp=Z,2μm,21.0s						
CAST	**Castle Rocks**	**80.41**	**21**	P	**P**	**02 29 27.2**	**+0.7**
	baz=233,SNR=18						
TIXI	**Tiksi**	**80.41**	**352**	P	**P**	**02 29 27.8**	**+1.6**
TIXI				IAmb	IAmb	02 29 39.5	
	comp=Z,51nm,1.4s						
TIXI	**Tiksi**	**80.41**	**352**	LR	LR	03 06 53.9	
	comp=Z,275nm,19.0s,baz=174,slow=37						
TIXI	**Tiksi**	**80.41**	**352**	*i* P	**P**	**02 29 27.2**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
E18K	**Tukpahlearik C**	**80.42**	**16**	P	**P**	**02 29 27.5**	**+1.1**
	baz=224						
I20K	**Naaghedeneel**	**80.45**	**19**	IAMs_20	IAMs_20	03 00 24.0	
	comp=Z,2μm,21.0s						
I20K	**Naaghedeneel**	**80.45**	**19**	P	**P**	**02 29 27.6**	**+1.0**
	baz=230						
CUT	**Chulitna**	**80.48**	**22**	IAmb	IAmb	02 29 55.9	
	comp=Z,57nm,1.2s						
CUT	**Chulitna**	**80.48**	**22**	P	**P**	**02 29 27.7**	**+0.9**
	baz=234						
G19K	**Purcell Mounta**	**80.52**	**18**	IAmb	IAmb	02 29 57.7	
	comp=Z,43nm,1.0s						
G19K				IAMs_20	IAMs_20	03 00 04.8	
	comp=Z,2μm,22.0s						
G19K	**Purcell Mounta**	**80.52**	**18**	P	**P**	**02 29 27.9**	**+1.0**
	baz=228						
C17K	**DeLong Mountai**	**80.53**	**14**	P	**P**	**02 29 28.1**	**+1.1**
	baz=221						
CHUM	**Lake Minchumin**	**80.62**	**21**	P	**P**	**02 29 28.2**	**+0.7**
	baz=232,SNR=6.8						
KNK	**Knik Glacier**	**80.62**	**24**	IAmb	IAmb	02 29 47.5	
	comp=Z,56nm,1.4s						
KNK	**Knik Glacier**	**80.62**	**24**	P	**P**	**02 29 28.6**	**+1.0**
	baz=236						
H20K	**Anotleneega Mo**	**80.77**	**19**	P	**P**	**02 29 29.3**	**+0.9**
	baz=230						
F19K	**Shaleruckik Mo**	**80.79**	**17**	IAMs_20	IAMs_20	03 00 44.9	
	comp=Z,2μm,22.0s						
F19K	**Shaleruckik Mo**	**80.79**	**17**	P	**P**	**02 29 29.0**	**+0.7**
	baz=227						
GLI	**Glacier Island**	**80.88**	**25**	IAmb	IAmb	02 29 48.7	
	comp=Z,37nm,1.0s						
GLI	**Glacier Island**	**80.88**	**25**	P	**P**	**02 29 29.2**	**+0.2**
	baz=238						
SML	**Sawmill**	**80.89**	**23**	IAmb	IAmb	02 29 49.5	
	comp=Z,45nm,0.9s						
SML	**Sawmill**	**80.89**	**23**	P	**P**	**02 29 29.8**	**+0.7**
	baz=236						
TRF	**Thorofare Moun**	**81.08**	**22**	P	**P**	**02 29 30.4**	**+0.2**
	baz=234,SNR=6.8						
M23K	**Glacier View**	**81.12**	**24**	P	**P**	**02 29 30.1**	**-0.2**
	baz=237						
C18K	**Utukok River**	**81.16**	**15**	IAmb	IAmb	02 29 44.3	
	comp=Z,130nm,1.8s						
C18K				IAMs_20	IAMs_20	03 01 35.5	
	comp=Z,1μm,21.0s						
C18K	**Utukok River**	**81.16**	**15**	P	**P**	**02 29 30.0**	**-0.3**
	baz=223						
BPAW	**Bear Paw Mtn.**	**81.22**	**21**	IAMs_20	IAMs_20	03 01 28.1	
	comp=Z,2μm,20.0s						
BPAW	**Bear Paw Mtn.**	**81.22**	**21**	P	**P**	**02 29 31.2**	**+0.5**
	baz=234						
EYAK	**Cordova Ski Ar**	**81.27**	**25**	P	**P**	**02 29 31.8**	**+0.8**
	baz=239						
SCM	**Sheep Creek Mo**	**81.30**	**24**	IAmb	IAmb	02 30 11.1	
	comp=Z,61nm,1.2s						
SCM	**Sheep Creek Mo**	**81.30**	**24**	P	**P**	**02 29 32.6**	**+1.3**
	baz=237						
E19K	**Redstone River**	**81.37**	**17**	IAMs_20	IAMs_20	03 00 53.2	
	comp=Z,1μm,22.0s						
E19K	**Redstone River**	**81.37**	**17**	P	**P**	**02 29 32.4**	**+1.0**
	baz=227						
I21K	**Tanana**	**81.52**	**20**	P	**P**	**02 29 33.5**	**+1.2**
	baz=232,SNR=7.2						
KAIM	**Kayak Island**	**81.53**	**26**	P	**P**	**02 29 32.5**	**+0.1**
	baz=240						
B18K	**Kokolik River**	**81.53**	**14**	P	**P**	**02 29 33.9**	**+1.6**
	baz=223						
F20K	**Avaraart Lake**	**81.53**	**17**	IAMs_20	IAMs_20	03 02 01.5	
	comp=Z,2μm,20.0s						
F20K	**Avaraart Lake**	**81.53**	**17**	P	**P**	**02 29 33.9**	**+1.6**
	baz=229						
H21K	**Melozitna Rive**	**81.55**	**19**	IAMs_20	IAMs_20	03 00 45.8	
	comp=Z,2μm,22.0s						
H21K	**Melozitna Rive**	**81.55**	**19**	P	**P**	**02 29 33.9**	**+1.5**
	baz=232						
RND	**Reindeer**	**81.59**	**22**	IAmb	IAmb	02 30 02.1	
	comp=Z,38nm,1.0s						
RND				IAMs_20	IAMs_20	03 00 36.9	
	comp=Z,2μm,22.0s						
KLU	**Klutina**	**81.69**	**24**	IAmb	IAmb	02 29 53.5	
	comp=Z,72nm,1.1s						
KLU	**Klutina**	**81.69**	**24**	P	**P**	**02 29 33.6**	**+0.3**
	baz=239						
MCK	**McKinley**	**81.74**	**22**	P	**P**	**02 29 32.7**	**-0.8**
MCK				IAmb	IAmb	02 29 51.6	
	comp=Z,61nm,1.0s						
MCK	**McKinley**	**81.74**	**22**	P	**P**	**02 29 32.7**	**-0.8**
MCK				pmax	pmax		
	comp=Z,61nm,1.0s						
MCK	**McKinley**	**81.74**	**22**	P	**P**	**02 29 34.2**	**+0.6**
	baz=236,SNR=19						
D19K	**Kuna River**	**81.84**	**16**	IAmb	IAmb	02 30 04.8	
	comp=Z,30nm,0.9s						
D19K				IAMs_20	IAMs_20	03 03 36.7	
	comp=Z,2μm,20.0s						
D19K	**Kuna River**	**81.84**	**16**	P	**P**	**02 29 35.0**	**+1.0**
	baz=226						
G21K	**Allakaket**	**81.86**	**18**	IAmb	IAmb	02 29 49.0	
	comp=Z,93nm,1.9s						
G21K				IAMs_20	IAMs_20	03 01 08.2	
	comp=Z,2μm,21.0s						
G21K	**Allakaket**	**81.86**	**18**	P	**P**	**02 29 35.6**	**+1.5**
	baz=231						
M24K	**Tolsona, Glenn**	**81.91**	**24**	IAmb	IAmb	02 29 54.2	
	comp=Z,76nm,1.1s						
M24K	**Tolsona, Glenn**	**81.91**	**24**	P	**P**	**02 29 35.6**	**+1.1**
	baz=238						
BMRM	**Bremner River**	**81.97**	**25**	P	**P**	**02 29 35.9**	**+1.1**
	baz=240						
BGLC	**Bering Glacier**	**82.12**	**26**	P	**P**	**02 29 37.1**	**+1.6**
	baz=241						
H22K	**Ishtalitna Cre**	**82.16**	**19**	P	**P**	**02 29 37.7**	**+2.0**
	baz=233						
NEA2	**Nenana**	**82.18**	**21**	IAmb	IAmb	02 30 04.9	
	comp=Z,38nm,1.2s						
NEA2				IAMs_20	IAMs_20	03 01 36.7	
	comp=Z,2μm,20.0s						
NEA2	**Nenana**	**82.18**	**21**	P	**P**	**02 29 36.6**	**+0.8**
	baz=235,SNR=9.8						
E20K	**Nigu River**	**82.21**	**16**	P	**P**	**02 29 36.8**	**+0.9**
	baz=229						
N25K	**Chitina, Valde**	**82.29**	**25**	P	**P**	**02 29 37.1**	**+0.6**
	baz=240						
F21K	**Alatna River**	**82.32**	**18**	IAMs_20	I

baz=236
HDA Harding Lake 82.84 22 P P 02 29 40.2 +1.0
baz=237,SNR=13
E21K Killik River 82.95 17 IAmb IAmb 02 29 56.8
comp=Z,52nm,1.1s
E21K IAMs_20 IAMs_20 03 02 15.9
comp=Z,1µm,21.0s
E21K Killik River 82.95 17 P P 02 29 40.0 +0.3
baz=230
K24K Donnelly Dome 82.96 22 P P 02 29 40.1 +0.2
baz=238
QSPA South Pole Qui 83.03 180 P P 02 29 40.6 +0.2
QSPA South Pole Qui 83.03 180 P P 02 29 40.5 +0.1
comp=Z,12nm,0.4s,baz=175,slow=1.4,SNR=260
QSPA PKiKP **PKiKP 02 34 58.0 -0.9**
comp=Z,1.5nm,0.8s,baz=52,slow=1.8,SNR=2.0
QSPA PKKPbc **PKKPbc 02 48 01.2 -4.4**
comp=Z,0.9nm,0.6s,baz=292,slow=1.5,SNR=7.0
comp=Z,12nm,0.4s
POKR Poker Plat Res 83.06 21 IAMs_20 IAMs_20 03 00 57.8
comp=Z,2µm,22.0s
POKR Poker Plat Res 83.06 21 P P 02 29 39.9 -0.4
baz=237
ILAR Eielson Array 83.06 21 P P 02 29 39.0 -1.4
ILAR Eielson Array 83.06 21 P P 02 29 39.5 -0.9
comp=Z,3.6nm,0.4s,baz=247,slow=5.4,SNR=92
ILAR PKKPbc **PKKPbc 02 48 00.8 -4.4**
comp=Z,0.3nm,0.5s,baz=0.4,slow=1.3,SNR=6.1
ILAR LR LR 03 01 53.5
comp=Z,2µm,21.8s,baz=232,slow=32
comp=Z,3.6nm,0.4s
G23K Bananza Creek 83.08 19 IAMs_20 IAMs_20 03 03 10.5
comp=Z,2µm,20.0s
G23K Bananza Creek 83.08 19 P P 02 29 40.7 +0.2
baz=234
B20K Meade River 83.13 15 IAmb IAmb 02 29 57.4
comp=Z,36nm,0.9s
B20K IAMs_20 IAMs_20 03 02 17.8
comp=Z,2µm,21.0s
B20K Meade River 83.13 15 P P 02 29 41.0 +0.4
baz=227
C21K Knifeblade Rid 83.19 16 P P 02 29 41.2 +0.3
baz=229
RIDG Independent Ri 83.28 23 IAmb IAmb 02 30 25.9
comp=Z,42nm,1.1s
RIDG Independent Ri 83.28 23 P P 02 29 41.6 +0.1
baz=239
H24K Noodor Dome 83.30 20 P P 02 29 42.0 +0.4
baz=236
COLD Coldfoot 83.33 19 P P 02 29 42.3 +0.6
baz=234
M26K Nabesna, AK 83.34 24 P P 02 29 42.5 +0.6
baz=241
E22K Anaktuvuk Pass 83.39 17 IAmb IAmb 02 30 17.7
comp=Z,39nm,1.3s
E22K IAMs_20 IAMs_20 03 02 30.4
comp=Z,1µm,20.0s
E22K Anaktuvuk Pass 83.39 17 P P 02 29 42.5 +0.5
baz=232,SNR=12
L26K Log Cabin Wild 83.51 24 P P 02 29 43.3 +0.6
baz=241
J25K Salcha River, 83.53 22 IAmb IAmb 02 30 12.7
comp=Z,76nm,1.4s
J25K Salcha River, 83.53 22 P P 02 29 42.7 -0.2
baz=239
DOT Dot Lake 83.53 23 IAmb IAmb 02 30 02.2
comp=Z,26nm,0.9s
B21K Ikpikpuk River 83.54 16 IAmb IAmb 02 29 59.7
comp=Z,38nm,1.0s
B21K IAMs_20 IAMs_20 03 04 13.4
comp=Z,2µm,20.0s
B21K Ikpikpuk River 83.54 16 P P 02 29 43.2 +0.6
baz=230,SNR=12
D22K Ayikyak River 83.59 17 IAmb IAmb 02 30 14.0
comp=Z,71nm,1.2s
D22K IAMs_20 IAMs_20 03 03 09.9
comp=Z,2µm,21.0s
D22K Ayikyak River 83.59 17 P P 02 29 43.6 +0.6
baz=231
SCRK Sand Creek 83.73 23 IAmb IAmb 02 30 13.5
comp=Z,36nm,1.4s
SCRK Sand Creek 83.73 23 P P 02 29 44.6 +0.6
baz=240,SNR=8.9
O28M Mount Upton 83.78 26 P P 02 29 44.9 +0.4
baz=244
M27K Edge Creek, AK 83.78 25 P P 02 29 44.9 +0.6
baz=242,SNR=12
MK31 Makanchi Array 83.85 319 P P 02 29 44.9 0.0
MK31 IAmb IAmb 02 29 57.6
comp=Z,40nm,1.1s
MK31 Makanchi Array 83.85 319 *ce*P **P 02 29 45.2 +0.3**
MKAR Makanchi Array 83.85 319 P P 02 29 44.9 0.0
comp=Z,12nm,0.7s,baz=98,slow=6.5,SNR=92
MKAR LR LR 03 07 33.4
comp=Z,255nm,20.6s,baz=102,slow=36
comp=Z,12nm,0.7s
G24K Hadweenzic Riv 83.91 20 IAmb IAmb 02 30 15.2
comp=Z,42nm,1.2s
G24K Hadweenzic Riv 83.91 20 P P 02 29 46.2 +1.5
baz=237
PRP Porcupine Dome 83.95 21 IAMs_20 IAMs_20 03 04 05.3
comp=Z,2µm,20.0s
PRP Porcupine Dome 83.95 21 P P 02 29 45.6 +0.5
baz=238
E23K Chandalar 84.00 18 IAmb IAmb 02 30 05.5
comp=Z,44nm,1.1s
E23K IAMs_20 IAMs_20 03 02 25.7
comp=Z,2µm,22.0s
E23K Chandalar 84.00 18 P P 02 29 46.5 +1.3
baz=234
MAKZ Makanchi 84.06 318 P P 02 29 46.4 +0.5
MAKZ Makanchi 84.06 318 P P 02 29 46.4 +0.5
MAKZ pmax pmax
comp=Z,63nm,1.0s
L27K Beaver Creek, 84.13 24 IAmb IAmb 02 30 16.7
comp=Z,30nm,1.1s
L27K Beaver Creek, 84.13 24 P P 02 29 46.7 +0.8
baz=242,SNR=6.6
J26L Joseph Creek 84.15 22 IAMs_20 IAMs_20 03 02 48.7
comp=Z,2µm,21.0s
J26L Joseph Creek 84.15 22 P P 02 29 46.6 +0.6
baz=240
BCAR Beaver Creek A 84.15 24 P P 02 29 46.0 0.0
A21K Barrow 84.16 14 P P 02 29 46.2 +0.4
baz=228
YUK8 Steele Glacier 84.19 26 P P 02 29 47.1 +0.6
baz=244,SNR=8.6
D23K Nanushuk River 84.22 17 IAMs_20 IAMs_20 03 05 11.5
comp=Z,1µm,20.0s
D23K Nanushuk River 84.22 17 P P 02 29 47.4 +1.1
baz=233
F24K Squaw Lake 84.23 19 IAmb IAmb 02 30 01.8
comp=Z,76nm,1.6s
F24K IAMs_20 IAMs_20 03 02 42.9
comp=Z,1µm,20.0s
F24K Squaw Lake 84.23 19 P P 02 29 47.6 +1.3
baz=236
H25L Birch Creek 84.24 20 P P 02 29 47.7 +1.4
baz=238
O29M Mount Kennedy 84.30 27 P P 02 29 47.8 +0.8
baz=245
B22K Teshekpuk Lake 84.31 15 IAmb IAmb 02 30 02.7
comp=Z,28nm,0.9s
B22K IAMs_20 IAMs_20 03 02 43.0
comp=Z,1µm,22.0s
B22K Teshekpuk Lake 84.31 15 P P 02 29 47.2 +0.5
baz=231
A22K Sinclair Lake 84.35 14 P P 02 29 47.1 +0.3
baz=229
TOLK Toolik Lake Re 84.35 17 IAmb IAmb 02 30 17.4
comp=Z,24nm,0.9s
TOLK IAMs_20 IAMs_20 03 02 28.0
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 84.35 17 P P 02 29 47.4 +0.5
baz=234,SNR=11
E24K Your Creek 84.36 18 IAMs_20 IAMs_20 03 01 53.2
comp=Z,2µm,22.0s
E24K Your Creek 84.36 18 P P 02 29 47.8 +0.8
baz=236
G25K Bearman Lake 84.41 20 P P 02 29 48.6 +1.4
baz=238
S31K Pelican 84.48 30 P P 02 29 47.9 +0.3
baz=248
K27K Chicken 84.49 23 IAmb IAmb 02 30 18.2
comp=Z,28nm,1.1s
K27K IAMs_20 IAMs_20 03 04 49.7
comp=Z,1µm,19.0s
K27K Chicken 84.49 23 P P 02 29 48.5 +0.9
baz=242
WUS Wushi 84.50 313 IAmb IAmb 02 30 18.2
comp=Z,40nm,1.0s
ZAA0 Zalesovo Array 84.55 326 IAmb IAmb 02 30 11.6
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 84.55 326 P P 02 29 47.2 -0.9
ZALV Zalesovo Beam 84.55 326 P P 02 29 47.9 -0.3
comp=Z,6.1nm,0.4s,baz=113,slow=5.2,SNR=29
ZALV LR LR 03 08 19.9
comp=Z,266nm,21.0s,baz=114,slow=36
comp=Z,6.1nm,0.4s
FYU Fort Yukon 84.60 20 IAmb IAmb 02 30 24.2
comp=Z,22nm,1.0s
FYU IAMs_20 IAMs_20 03 02 52.5
comp=Z,2µm,21.0s
YUK6 Outpost Mounta 84.67 27 P P 02 29 49.2 +0.3
baz=245
I26K Coal Creek Min 84.70 22 IAmb IAmb 02 30 09.3
comp=Z,32nm,1.5s
I26K Coal Creek Min 84.70 22 P P 02 29 48.8 +0.1
baz=241
YUK4 Talbot Arm 84.71 26 P P 02 29 49.4 +0.3
baz=245,SNR=7.9
MAW Mawson 84.72 203 LR LR 03 05 51.0
comp=Z,388nm,18.4s,baz=81,slow=34
C23K Itkillik River 84.76 16 IAMs_20 IAMs_20 03 03 59.8
comp=Z,2µm,21.0s
C23K Itkillik River 84.76 16 P P 02 29 49.6 +0.7
baz=233
SHLS Shalkode 84.81 314 *e*P **P 02 29 48.6 -1.3**
SHLS pmax pmax
comp=Z,19nm,1.4s
SHLS Shalkode 84.81 314 *e*P **P 02 29 48.7 -1.3**
comp=Z,19nm,1.4s
D24K Happy Valley 84.87 17 IAmb IAmb 02 30 06.2
comp=Z,37nm,1.1s
D24K IAMs_20 IAMs_20 03 03 29.7
comp=Z,2µm,22.0s
D24K Happy Valley 84.87 17 P P 02 29 50.7 +1.2
baz=235
P30M Million Dollar 84.97 28 P P 02 29 51.1 +0.9
baz=247
F25K Christian Rive 85.00 19 IAmb IAmb 02 30 07.3
comp=Z,24nm,1.1s
F25K Christian Rive 85.00 19 P P 02 29 51.1 +0.9
baz=238,SNR=9.0
HYT Haines Junctio 85.00 27 IAmb IAmb 02 30 09.8
comp=Z,30nm,1.0s
HYT Haines Junctio 85.00 27 P P 02 29 51.3 +0.8
baz=246,SNR=5.7
UZB Uzynbulak 85.12 314 *e*P **P 02 29 51.5 0.0**
UZB Uzynbulak 85.12 314 *e*P **P 02 29 51.6 0.0**
S32K Killisnoo 85.12 31 P P 02 29 51.9 +1.0
baz=249
CRAG Craig 85.19 33 P P 02 29 51.9 +0.6
baz=250
C24K Franklin Bluff 85.23 17 IAMs_20 IAMs_20 03 02 35.3
comp=Z,1µm,22.0s
C24K Franklin Bluff 85.23 17 P P 02 29 52.0 +0.7
baz=235,SNR=17
M29M Somme Creek 85.25 25 P P 02 29 52.4 +0.7
baz=245
BMAR Burnt Mountain 85.26 20 P P 02 29 52.2 +0.7
G26K Porcupine Rive 85.29 20 P P 02 29 52.9 +1.3
baz=240
E25K Arctic Village 85.30 19 IAMs_20 IAMs_20 03 03 28.1
comp=Z,2µm,21.0s
E25K Arctic Village 85.30 19 P P 02 29 52.7 +1.0
baz=238,SNR=5.3
U33K Whale Pass 85.40 32 IAmb IAmb 02 30 22.5
comp=Z,25nm,1.1s
U33K Whale Pass 85.40 32 P P 02 29 53.1 +0.7
baz=250
I27K Kandik River 85.41 22 P P 02 29 52.7 +0.4
baz=242
KPKS Kokpek 85.43 315 *e*P **P 02 29 53.2 +0.2**
KPKS pmax pmax
comp=Z,20nm,1.3s
KPKS Kokpek 85.43 315 *e*P **P 02 29 53.3 +0.2**
comp=Z,20nm,1.3s
R32K Eaglecrest 85.44 30 P P 02 29 53.6 +1.0
baz=249
N30M Aishikik Lake 85.44 26 P P 02 29 53.6 +1.0
baz=247
SKAG Skagway 85.48 29 P P 02 29 53.8 +1.2
baz=248
SATY Saty 85.53 314 *e*P **P 02 29 53.7 +0.2**
SATY pmax pmax
comp=Z,17nm,1.4s
SATY Saty 85.53 314 *e*P **P 02 29 53.8 +0.2**
comp=Z,17nm,1.4s
ZHN Zhinishke 85.54 314 *e*P **P 02 29 53.7 +0.2**
ZHN Zhinishke 85.54 314 *e*P **P 02 29 53.8 +0.2**
F26K Sheenjek River 85.54 19 IAmb IAmb 02 30 10.7
comp=Z,24nm,1.1s
F26K Sheenjek River 85.54 19 P P 02 29 54.6 +1.7
baz=240,SNR=8.1
DAWY Dawson 85.56 24 IAmb IAmb 02 30 24.1
comp=Z,55nm,1.5s
DAWY Dawson 85.56 24 P P 02 29 54.4 +1.3
baz=244,SNR=6.3
O30N Mendenhall 85.62 27 P P 02 29 54.4 +1.0
baz=248,SNR=6.1
TARG Taragay, Kyrgy 85.66 313 IAmb IAmb 02 30 24.6
comp=Z,26nm,1.1s
L29M L29M 85.67 25 IAmb IAmb 02 30 12.4
comp=Z,30nm,1.1s
L29M L29M 85.67 25 P P 02 29 54.7 +1.0
baz=246
D25K Kavik River 85.69 18 IAmb IAmb 02 30 10.4
comp=Z,28nm,0.9s
D25K IAMs_20 IAMs_20 03 03 43.4
comp=Z,1µm,21.0s
D25K Kavik River 85.69 18 P P 02 29 54.3 +0.7
baz=237
H27K Steamboat Moun 85.73 21 P P 02 29 55.1 +1.2
baz=242
WRAK Wrangell Islan 85.91 32 P P 02 29 55.9 +1.0
baz=251
V35K Ketchikan 85.95 33 P P 02 29 55.8 +0.7
baz=252
G27K Doyon Strip 85.96 21 IAmb IAmb 02 30 25.3
comp=Z,35nm,1.5s
G27K Doyon Strip 85.96 21 P P 02 29 55.6 +0.6
baz=242
I28M Miner Creek 85.96 22 IAMs_20 IAMs_20 03 03 56.5
comp=Z,2µm,21.0s
I28M Miner Creek 85.96 22 P P 02 29 55.9 +0.8
baz=244
TDK Taldyqorghan 86.00 316 *e*P **P 02 29 55.8 +0.2**
TDK pmax pmax
comp=Z,12nm,1.3s
TDK Taldyqorghan 86.00 316 *e*P **P 02 29 55.9 +0.2**
comp=Z,12nm,1.3s
M30M Minto, Yukon 86.01 25 P P 02 29 55.7 +0.3
baz=247,SNR=5.1
N31M Braeburn, Yuko 86.03 27 IAmb IAmb 02 30 16.7
comp=Z,53nm,1.1s
N31M Braeburn, Yuko 86.03 27 P P 02 29 56.8 +1.3
baz=248,SNR=7.3
WHY Whitehorse 86.13 28 P P 02 29 56.4 +0.3
baz=249
J29N Klondike Camp 86.19 23 IAmb IAmb 02 30 27.6
comp=Z,51nm,1.1s
J29N IAMs_20 IAMs_20 03 03 03.6
comp=Z,1µm,22.0s
J29N Klondike Camp 86.19 23 P P 02 29 56.7 +0.5
baz=245
KDJ Kajisay 86.20 313 IAmb IAmb 02 30 14.1
comp=Z,45nm,1.1s
K29M Barlow Dome 86.22 24 IAmb IAmb 02 30 15.0
comp=Z,46nm,1.0s
K29M Barlow Dome 86.22 24 P P 02 29 56.8 +0.4
baz=246
P32M Atlin 86.29 29 P P 02 29 57.2 +0.4
baz=250
C26K Camden Bay 86.44 17 P P 02 29 58.4 +1.2
baz=239
I29M Ogilvie Camp, 86.53 23 IAMs_20 IAMs_20 03 02 55.8
comp=Z,1µm,22.0s
I29M Ogilvie Camp, 86.53 23 P P 02 29 58.5 +0.6
baz=245
KSH Kashi 86.54 310 P P 02 30 00.5 +1.9
KSH pP pP 02 30 12.1 +0.1
KSH SKS **SKSac 02 40 17.2 -4.7**
KSH pmax pmax
comp=Z,20nm,2.3s
KSH pmax pmax
comp=Z,480nm,5.9s
KSH LR LR
comp=Z,190nm,20.6s
KSH LR LR
comp=Z,320nm,17.2s
KSH LR LR
comp=Z,480nm,21.3s
TNSS Tian-Shan 86.57 314 *e*P **P 02 29 58.6 -0.4**
TNSS Tian-Shan 86.57 314 *e*P **P 02 29 58.7 -0.4**
E27K Coleen River 86.62 19 IAMs_20 IAMs_20 03 05 30.1
comp=Z,2µm,20.0s
E27K Coleen River 86.62 19 P P 02 29 58.9 +0.6
baz=242
AAA Alma-Ata 86.63 314 *e*P **P 02 29 59.0 +0.1**
AAA Alma-Ata 86.63 314 *e*P **P 02 29 59.0 +0.1**
C27K Jago River 86.66 18 IAmb IAmb 02 30 15.2
comp=Z,42nm,0.9s
C27K IAMs_20 IAMs_20 03 04 02.8
comp=Z,2µm,21.0s
C27K Jago River 86.66 18 P P 02 29 59.6 +1.3
baz=240
Q32M Nakina River 86.78 30 P P 02 30 00.1 +0.7
baz=251
MAYO Mayo, Yukon 86.78 25 P P 02 30 00.0 +0.9
baz=248
H29M Whitestone 86.87 22 IAmb IAmb 02 30 39.7
comp=Z,26nm,1.1s
H29M Whitestone 86.87 22 P P 02 30 00.6 +1.2
baz=245
M31M Drury Creek, Y 86.91 26 P P 02 30 00.7 +1.0
baz=249
ULHL Ulahol 86.91 313 P P 02 30 01.2 +0.7
SNR=11
P33M Teslin, Yukon 86.93 28 P P 02 30 01.1 +1.2
baz=250
F28M Old Crow 86.94 20 IAmb IAmb 02 30 30.6
comp=Z,29nm,1.0s
F28M IAMs_20 IAMs_20 03 04 26.5
comp=Z,2µm,20.0s
F28M Old Crow 86.94 20 P P 02 30 01.3 +1.5
baz=244
J30M Hart River 86.99 24 IAMs_20 IAMs_20 03 05 12.7
comp=Z,1µm,19.0s
J30M Hart River 86.99 24 P P 02 30 01.2 +1.0
baz=247
S34M Telegraph Cree 87.01 31 IAmb IAmb 02 30 19.4
comp=Z,24nm,0.9s
S34M Telegraph Cree 87.01 31 P P 02 30 01.3 +1.0
baz=252,SNR=8.1
BBB Bella Bella 87.04 37 LR LR 03 02 29.3
comp=Z,2µm,20.5s,baz=266,slow=31
N32M Quiet Lake 87.12 27 IAmb IAmb 02 30 18.7
comp=Z,20nm,1.0s
N32M IAMs_20 IAMs_20 03 06 42.4
comp=Z,1µm,20.0s
N32M Quiet Lake 87.12 27 P P 02 30 01.8 +1.0
baz=250
BOOM Boomskoye usch 87.18 313 IAmb IAmb 02 30 18.2
comp=Z,47nm,1.2s
T35M Bob Quinn 87.19 32 IAMs_20 IAMs_20 03 03 05.2
comp=Z,1µm,20.0s
T35M Bob Quinn 87.19 32 P P 02 30 02.0 +0.8
baz=253
I30M Mount Dempster 87.22 23 IAmb IAmb 02 30 31.7
comp=Z,35nm,0.9s
I30M IAMs_20 IAMs_20 03 04 27.9
comp=Z,1µm,22.0s
I30M Mount Dempster 87.22 23 P P 02 30 02.2 +0.9
baz=247
KURK Kurchatov 87.25 322 P P 02 30 00.8 -0.8
KURK IAmb IAmb 02 30 02.9
comp=Z,39nm,1.4s
KURK Kurchatov 87.25 322 *ce*P **P 02 30 00.4 -1.2**
KURK pmax pmax
comp=Z,14nm,2.3s
KURBB Kurchatov Arra 87.28 322 P P 02 30 00.9 -0.8
comp=Z,3.0nm,0.6s,baz=95,slow=5.1,SNR=53
KURBB PKKPbc **PKKPbc 02 47 53.0 -1.5**
comp=Z,0.8nm,1.0s,baz=298,slow=3.0,SNR=5.0
KURBB PKPPKP **P'P'df 02 55 60.0 +0.7**
comp=Z,0.5nm,0.9s,baz=264,slow=2.7,SNR=5.2
comp=Z,3.0nm,0.6s
G29M Pine Creek 87.29 21 P P 02 30 02.6 +1.1
baz=245
D27M Malcolm River 87.32 19 IAmb IAmb 02 30 18.6
comp=Z,34nm,0.9s
D27M Malcolm River 87.32 19 P P 02 30 03.1 +1.4
baz=243
FARO Faro, Yukon 87.37 26 P P 02 30 03.2 +1.2
baz=250,SNR=5.1
E28M Babbage River 87.50 19 IAmb IAmb 02 30 33.3
comp=Z,44nm,1.1s
E28M IAMs_20 IAMs_20 03 04 42.1
comp=Z,2µm,22.0s
E28M Babbage River 87.50 19 P P 02 30 03.6 +1.1
baz=244
TKM2 Tokmak 2 87.51 314 P P 02 30 03.5 +0.1
SNR=7.3
MCCM Marconi Confer 87.52 51 IAMs_20 IAMs_20 03 02 00.7
comp=Z,1µm,19.0s
HOPS Hopland Field 87.53 50 IAMs_20 IAMs_20 03 02 02.0
comp=Z,2µm,22.0s
R33M Jennings River 87.55 29 IAmb IAmb 02 30 33.3
comp=Z,50nm,1.5s
R33M Jennings River 87.55 29 P P 02 30 04.6 +1.5
baz=252
NIL Nilore 87.59 304 P P 02 30 03.1 -0.6
NIL Nilore 87.59 304 P P 02 30 03.1 -0.6
NIL pmax pmax
comp=Z,48nm,0.9s
DLBC Dease Lake 87.73 30 IAmb IAmb 02 30 34.0
comp=Z,71nm,1.7s
DLBC Dease Lake 87.73 30 LR LR 03 02 21.7
comp=Z,702nm,21.2s,baz=256,slow=31
DLBC Dease Lake 87.73 30 P P 02 30 05.2 +1.3
baz=253
E29M Blow River 87.95 20 IAmb IAmb 02 30 54.8
comp=Z,24nm,1.1s
E29M IAMs_20 IAMs_20 03 03 50.1
comp=Z,1µm,22.0s
E29M Blow River 87.95 20 P P 02 30 04.9 +0.3
baz=246,SNR=20
O02D Mt. Diablo Mer 87.97 49 IAMs_20 IAMs_20 03 04 05.5
comp=Z,2µm,21.0s
G30M tAoh Zraii Nji 87.97 21 P P 02 30 04.6 -0.1
baz=247
D28M Stokes Point 88.07 19 P P 02 30 05.0 -0.1
baz=245
H31M Peel River 88.23 23 IAmb IAmb 02 30 35.8
comp=Z,29nm,0.9s
H31M Peel River 88.23 23 P P 02 30 05.4 -0.6
baz=249,SNR=11
AAK Ala-Archa 88.25 313 P P 02 30 06.8 0.0
AAK IAmb IAmb 02 30 22.2
comp=Z,16nm,0.9s
AAK Ala-Archa 88.25 313 LR LR 03 09 47.9
comp=Z,164nm,20.4s,baz=79,slow=36
AAK Ala-Archa 88.25 313 P P 02 30 07.0 +0.2
SNR=12
AAK Ala-Archa 88.25 313 *ce*P **P 02 30 07.1 +0.2**
AAK pmax pmax
comp=Z,22nm,2.1s
SGDS Sogindy 88.31 314 *e*P **P 02 30 06.6 -0.4**
SGDS Sogindy 88.31 314 *e*P **P 02 30 06.6 -0.4**
YBH Yreka Blue Hor 88.31 48 IAMs_20 IAMs_20 03 04 47.7
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 88.31 48 LR LR 03 05 26.8
comp=Z,1µm,19.1s,baz=271,slow=33
F30M Barrier River 88.37 21 P P 02 30 05.9 -0.7
baz=247
USP Ospenovka 88.37 314 P P 02 30 07.2 0.0
SNR=7.5
SAO San Andreas Ge 88.39 53 IAMs_20 IAMs_20 03 02 56.0
comp=Z,1µm,22.0s
MMPY Sheldon Lake, 88.42 26 P P 02 30 06.9 -0.1
baz=252
G31M Satah River 88.66 22 IAMs_20 IAMs_20 03 02 56.8
comp=Z,2µm,22.0s
G31M Satah River 88.66 22 P P 02 30 08.2 +0.3
baz=249,SNR=12
AML Almayashu 88.74 313 P P 02 30 10.5 +1.0
SNR=18
EKS2 Erkin-Say 88.78 313 P P 02 30 10.1 +0.8
SNR=7.8
WTLY Watson Lake, Y 88.81 29 IAmb IAmb 02 30 28.1
comp=Z,24nm,1.2s
WTLY Watson Lake, Y 88.81 29 P P 02 30 09.1 +0.2
baz=254

NRIK	Noril'sk	88.93	341	P		P		02 30 08.4	-0.8
	comp=Z,12nm,0.5s,baz=106,slow=3.9,SNR=31								
	comp=Z,12nm,0.5s								
NRIK	Noril'sk	88.93	341	*ce*P		P		02 30 07.6	-1.6
NRIK				pmax		pmax			
	comp=Z,15nm,1.0s								
BTLS	Baital	89.03	315	*e*P		P		02 30 10.0	-0.2
BTLS				pmax		pmax			
	comp=Z,11nm,1.3s								
BTLS	Baital	89.03	315	*e*P		P		02 30 10.1	-0.2
	comp=Z,11nm,1.3s								
F31M	Tsiigehtchic	89.03	21	P		P		02 30 09.8	+0.1
	baz=249,SNR=7.6								
INK	Inuvik	89.42	21	IAmb		IAmb		02 30 41.9	
	comp=Z,25nm,1.0s								
INK	Inuvik	89.42	21	LR		LR		03 06 04.0	
	comp=Z,2μm,21.9s,baz=200,slow=33								
INK	Inuvik	89.42	21	P		P		02 30 11.3	-0.1
	baz=250,SNR=13								
CMB	Columbia Colle	89.44	52	IAMs_20		IAMs_20		03 03 45.5	
	comp=Z,965nm,20.0s								
TGTN	Hyland Airport	89.45	28	P		P		02 30 12.1	+0.2
	baz=254								
DRK	Karamyk	89.71	310	IAmb		IAmb		02 30 40.4	
	comp=Z,41nm,1.4s								
BCW	Bitter Crk WRg	89.73	55	IAmb		IAmb		02 30 45.2	
	comp=Z,18nm,0.9s								
TOAD	Toad River Com	90.26	31	P		P		02 30 16.3	+0.6
	baz=257								
NVAR	Mina Array Bea	91.12	52	P		P		02 30 21.6	+1.2
NVAR	Mina Array Bea	91.12	52	P		P		02 30 22.2	+1.8
	comp=Z,1.0nm,0.7s,baz=255,slow=7.0,SNR=8.8								
NVAR				pP		pP		02 30 33.8	-0.1
	comp=Z,3.1nm,1.0s,baz=254,slow=5.5,SNR=8.0								
NVAR				PP		PP		02 33 59.8	+2.2
	comp=Z,0.3nm,0.7s,baz=249,slow=11,SNR=1.6								
NVAR				LR		LR		03 05 53.7	
	comp=Z,451nm,19.9s,baz=288,slow=32								
	comp=Z,1.0nm,0.7s								
KOTAN	Kotaneelee Air	91.12	30	P		P		02 30 19.7	+0.1
	baz=258								
KBL	Kabul	91.17	304	P		P		02 30 19.3	-1.5
KBL				IAmb		IAmb		02 30 32.2	
	comp=Z,20nm,1.1s								
KBL	Kabul	91.17	304	P		P		02 30 19.3	-1.5
KBL				pmax		pmax			
	comp=Z,20nm,1.1s								
KK31	Karatay Array	91.22	313	IAmb		IAmb		02 30 37.6	
	comp=Z,25nm,1.4s								
KKAR	Karatay Array	91.22	313	P		P		02 30 19.8	-0.7
KKAR	Karatay Array	91.22	313	P		P		02 30 19.8	-0.7
DSP	Deep Springs	91.23	53	IAmb		IAmb		02 30 51.5	
	comp=Z,29nm,1.7s								
HAWA	Hanford	91.36	44	IAMs_20		IAMs_20		03 02 38.0	
	comp=Z,2μm,22.0s								
WVOR	Wild Horse Val	91.42	48	IAMs_20		IAMs_20		03 07 45.9	
	comp=Z,1μm,19.0s								
BRLS	Borolday	91.70	313	*e*P		P		02 30 22.8	+0.1
BRLS				pmax		pmax			
	comp=Z,2.0nm,0.4s								
BRLS	Borolday	91.70	313	*e*P		P		02 30 22.9	+0.1
	comp=Z,1.9nm,0.4s								
SIMJ	Simiganj	91.74	309	P		P		02 30 22.9	-0.3
PFO	Pinyon Flats O	91.98	57	LR		LR		03 07 59.3	
	comp=Z,1μm,18.0s,baz=252,slow=33								
TPNV	Topopah Spring	92.55	53	IAMs_20		IAMs_20		03 05 28.9	
	comp=Z,1μm,20.0s								
SYO	Syowa Base	92.61	199‖	*e*P		P		02 30 27.6	+1.2
SYO	Syowa Base	92.61	199‖	*e*PcP		PcP		02 30 28.6	+1.6
SYO	Syowa Base	92.61	199‖	*ep*P		pP		02 30 37.1	-2.7
BMO	Blue Mountains	92.70	45	IAMs_20		IAMs_20		03 07 28.5	
	comp=Z,964nm,20.0s								
BVAR	Borovoye Array	92.70	323	P		P		02 30 26.3	-0.8
	comp=Z,11nm,0.6s,baz=104,slow=5.4,SNR=74								
	comp=Z,11nm,0.6s								
BRVK	Borovoye	92.77	323	P		P		02 30 25.9	-1.5
BRVK				IAmb		IAmb		02 30 43.9	
	comp=Z,16nm,1.0s								
BRVK	Borovoye	92.77	323	*ce*P		P		02 30 25.4	-2.0
BRVK				pmax		pmax			
	comp=Z,28nm,1.9s								
C36M	Paulatuk	93.00	20	IAmb		IAmb		02 30 58.1	
	comp=Z,27nm,0.9s								
C36M	Paulatuk	93.00	20	P		P		02 30 27.3	-0.8
	baz=258								
A36M	Sachs Harbour	93.17	18	IAmb		IAmb		02 30 42.9	
	comp=Z,17nm,0.9s								
A36M				IAMs_20		IAMs_20		03 10 53.1	
	comp=Z,932nm,21.0s								
A36M	Sachs Harbour	93.17	18	P		P		02 30 28.1	-0.7
	baz=257								
NEW	Newport	93.23	42	LR		LR		03 05 08.7	
	comp=Z,1μm,21.6s,baz=265,slow=31								
SHPR	Sheep Range	93.37	54	P		P		02 30 33.0	+2.2
PLID	Pearl Lake	93.64	45	IAMs_20		IAMs_20		03 03 59.6	
	comp=Z,1μm,21.0s								
ELK	Elko	93.75	50	P		P		02 30 32.5	0.0
ELK	Elko	93.75	50	LR		LR		03 05 49.6	
	comp=Z,894nm,21.7s,baz=264,slow=31								
ELK	Elko	93.75	50	P		P		02 30 32.6	0.0
ELK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
SPR3	Spring Creek 3	94.27	51	IAmb		IAmb		02 31 05.5	
	comp=Z,31nm,1.6s								
HLID	Hailey	94.63	47	IAMs_20		IAMs_20		03 07 47.7	
	comp=Z,1μm,20.0s								
BELA	Belgrano 2	95.11	178	P		P		02 30 37.1	-0.6
BELA				IAmb		IAmb		02 30 49.9	
	comp=Z,19nm,1.2s								
MSO	Missoula	95.24	44	IAMs_20		IAMs_20		03 06 36.6	
	comp=Z,2μm,20.0s								
ELIB	Princess Elisa	95.42	193	*d*P		P		02 30 38.2	-1.3
	comp=Z,9.4nm,1.2s								
DUG	Dugway, Tooele	95.54	50	IAMs_20		IAMs_20		03 06 03.0	
	comp=Z,1μm,21.0s								
YKA	Yellowknife Ar	95.95	28	P		P		02 30 41.5	-0.3
YKA	Yellowknife Ar	95.95	28	P		P		02 30 41.8	0.0
	comp=Z,1.8nm,0.6s,baz=266,slow=5.0,SNR=37								
YKA				PKKP		PKKPbc		02 47 29.3	-3.4
	comp=Z,0.5nm,0.7s,baz=89,slow=2.4,SNR=8.9								
	comp=Z,1.8nm,0.6s								
YKA	Yellowknife Ar	95.95	28	P		P		02 30 41.5	-0.3
DLMT	Dillon	96.06	45	IAMs_20		IAMs_20		03 05 51.6	
	comp=Z,1μm,22.0s								
WUAZ	Wupatki	96.34	55	IAMs_20		IAMs_20		03 08 58.4	
	comp=Z,970nm,18.0s								
LPIG	La Paz	96.40	67	LR		LR		03 06 47.4	
	comp=Z,1μm,20.5s,baz=274,slow=31								
TUC	Tucson	96.60	58	IAMs_20		IAMs_20		03 07 09.6	
	comp=Z,1μm,20.0s								
HRA	Herat	96.75	304	IAmb		IAmb		02 30 58.0	
	comp=Z,19nm,1.1s								
BOZ	Bozeman (W)	96.76	45	IAMs_20		IAMs_20		03 05 59.9	
	comp=Z,1μm,22.0s								
AHID	Auburn Hatcher	96.99	48	IAMs_20		IAMs_20		03 11 52.2	
	comp=Z,969nm,19.0s								
FXWY	Fox Creek	97.09	47	IAMs_20		IAMs_20		03 09 59.8	
	comp=Z,1μm,20.0s								
LOHW	Long Hollow	97.39	47	IAMs_20		IAMs_20		03 08 28.9	
	comp=Z,1μm,20.0s								
PDAR	Pinedale Array	98.12	48	P		Pdif		02 30 52.7	+0.3
	comp=Z,0.5nm,0.8s,baz=197,slow=1.5,SNR=5.0								
PDAR				PP		PP		02 34 57.1	+5.0
	comp=Z,0.4nm,0.9s,baz=254,slow=6.7,SNR=1.7								
PDAR				PKPPKP		P'P'df		02 55 42.2	+2.2
	comp=Z,0.4nm,0.8s,baz=90,slow=7.4,SNR=4.0								
PDAR				LR		LR		03 12 40.4	
	comp=Z,620nm,18.5s,baz=268,slow=34								
	comp=Z,0.5nm,0.8s								
RLMT	Red Lodge	98.40	45	IAMs_20		IAMs_20		03 12 46.5	
	comp=Z,1μm,19.0s								
ABKAR	Akbulak array	99.00	319	P		Pdif		02 30 54.1	-1.8
ABKAR	Akbulak array	99.00	319	P		Pdif		02 30 54.0	-1.9
SNAA	Sanae	100.28	187	P		Pdif		02 31 00.8	-0.4
	comp=Z,1.7nm,0.9s,baz=229,slow=17,SNR=9.4								
SNAA	Sanae	100.28	187	*i* P		Pdif		02 31 01.0	-0.2
SNAA				pmax		pmax			
	comp=Z,4.0nm,1.2s								
TXAR	Lajitas Array	102.59	62	PP		PP		02 35 29.1	+2.9
	comp=Z,0.8nm,1.1s,baz=296,slow=7.5,SNR=3.5								
TXAR				PKKPbc		PKKPbc		02 47 11.0	-1.9
	comp=Z,0.2nm,0.6s,baz=120,slow=5.1,SNR=4.9								
E28A	Huff	104.34	44	IAMs_20		IAMs_20		03 12 48.6	
	comp=Z,1μm,20.0s								
CBKS	Cedar Bluff	105.64	52	IAMs_20		IAMs_20		03 11 11.4	
	comp=Z,1μm,20.0s								
SPITS	Spitsbergen Ar	105.84	352	PKKPbc		PKKPbc		02 47 00.8	-3.7
	comp=Z,5.5nm,1.0s,baz=184,slow=6.7,SNR=4.3								
JCT	Junction City	105.95	60	IAMs_20		IAMs_20		03 10 27.1	
	comp=Z,962nm,21.0s								
UNM	Universidad Na	106.47	72	IAMs_20		IAMs_20		03 12 09.2	
	comp=Z,850nm,20.0s								
OK038	West end E0370	106.58	54	IAMs_20		IAMs_20		03 15 13.4	
	comp=Z,1μm,20.0s								
BGNE	Belgrade	106.65	49	IAMs_20		IAMs_20		03 14 46.9	
	comp=Z,957nm,20.0s								
F33A	5 Mile Ranch,	107.46	44	IAMs_20		IAMs_20		03 18 29.2	
	comp=Z,936nm,19.0s								
L34A	Svendsen Farm,	107.91	48	IAMs_20		IAMs_20		03 12 07.2	
	comp=Z,1μm,22.0s								
KSU1	Kansas State U	108.05	51	IAMs_20		IAMs_20		03 13 12.1	
	comp=Z,1μm,19.0s								
OK051	E0350 and S346	108.11	54	IAMs_20		IAMs_20		03 20 54.9	
	comp=Z,937nm,20.0s								
OK031	S. Brethren Rd	108.15	55	IAMs_20		IAMs_20		03 16 09.1	
	comp=Z,1μm,20.0s								
ARCES	ARCESS Array B	109.75	343	Pdiff		Pdif		02 31 42.2	-1.0
	comp=Z,6.6nm,1.0s,baz=56,slow=5.6,SNR=4.0								
ARCES				PKiKP		PKiKP		02 35 45.0	-0.5
	comp=Z,3.8nm,0.6s,baz=72,slow=1.6,SNR=36								
ARCES				PKKPbc		PKKPbc		02 46 47.8	-4.2
	comp=Z,4.2nm,0.9s,baz=304,slow=2.6,SNR=6.0								
SPMN	Marine on St.	109.98	44	IAMs_20		IAMs_20		03 15 34.9	
	comp=Z,719nm,18.0s								
KIV	Kislovodsk	111.33	314	*i* PKIKP		PKiKP		02 35 48.9	-0.4
KIV				*e*				02 36 29.0	
KIV				*e*PS		PS		02 46 00.7	-1.6
KIV				*e*SS		SS		02 52 03.9	+3.5
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,209nm,21.0s								
L42A	Oliver, Polo	112.84	47	IAMs_20		IAMs_20		03 19 40.6	
	comp=Z,1μm,20.0s								
STEI	Steigen	113.62	345	*e*PKPdf		PKiKP		02 35 52.3	-0.5
LOF	Lofoten	113.91	345	*e*PKPdf		PKiKP		02 35 52.9	-0.4
FAUS	Fauske	114.01	344	*e*PKPdf		PKPdf		02 35 53.0	-0.6
L44A	Lake County Fo	114.08	47	IAMs_20		IAMs_20		03 18 23.4	
	comp=Z,931nm,21.0s								
FINES	FINESS Array B	114.19	336	Pdiff		Pdif		02 32 02.6	-0.5
	comp=Z,1.7nm,0.8s,baz=98,slow=2.8,SNR=5.4								
FINES				PKP		PKPdf		02 35 53.5	-0.6
	comp=Z,3.0nm,0.3s,baz=84,slow=2.4,SNR=46								
FINES				PKKPbc		PKKPbc		02 46 34.1	-2.9
	comp=Z,2.9nm,1.0s,baz=251,slow=5.8,SNR=6.0								
MOR8	Moi Rana	115.12	344	*e*PKPdf		PKiKP		02 35 54.9	-0.9
KONS	Konsvik	115.24	344	*e*PKPdf		PKiKP		02 35 55.7	-0.2
STOK	Stokkvaagen	115.39	344	*e*PKPdf		PKiKP		02 35 55.6	-0.7
LEIR	Leirfjorden	115.53	344	*e*PKPdf		PKiKP		02 35 56.0	-0.6
PLCA	Paso Flores	116.31	142	PKP		PKPdf		02 35 58.3	-0.7
	comp=Z,1.0nm,0.4s,baz=205,slow=5.5,SNR=3.9								
PLCA				PKKPbc		PKKPbc		02 46 28.1	-1.1
	comp=Z,2.2nm,0.7s,baz=88,slow=2.6,SNR=5.3								
TEIG	Tepich	116.73	71	IAMs_20		IAMs_20		03 16 02.0	
	comp=Z,863nm,22.0s								
NSS	Namsos	117.04	343	*e*PKPdf		PKiKP		02 35 59.5	0.0
AKASG	Malin Array Be	117.93	325			PKiKP		02 36 01.7	0.0
AKASG	Malin Array Be	117.93	325			PKPdf		02 36 01.0	-0.6
	comp=Z,4.2nm,0.5s,baz=49,slow=2.7,SNR=29								
AKASG				PKKPbc		PKKPbc		02 46 23.2	-0.4
	comp=Z,0.2nm,0.4s,baz=259,slow=4.5,SNR=4.2								
AKBB	Malin Array Si	117.93	325	*c i* PKIKP		PKPdf		02 36 01.0	-0.6
KIEV	Kiev	117.94	325	PKPdf		PKPdf		02 36 00.1	-1.5
KIEV	Kiev	117.94	325	PKIKP		PKPdf		02 36 00.1	-1.5
KMBO	Kilima Mbogo	118.10	265	PKP		PKiKP		02 36 03.4	0.0
	comp=Z,1.3nm,0.6s,baz=62,slow=7.1,SNR=4.8								
KMBO				pP		pPKPdf		02 36 15.3	-1.9
	comp=Z,3.4nm,0.9s,baz=47,slow=5.6,SNR=6.7								
HERN	Volcan Telica	118.20	79			PKPdf		02 36 01.0	-2.3
BR131	Keskin Array S	118.90	312	PKPdf		PKPdf		02 36 02.4	-1.6
BR131	Keskin Array S	118.90	312	PKIKP		PKPdf		02 36 02.4	-1.6
BRTR	Keskin Array B	118.90	312	PKP		PKPdf		02 36 03.0	-1.1
	comp=Z,1.0nm,0.6s,baz=138,slow=5.6,SNR=7.7								
BRTR				PKKPbc		PKKPbc		02 46 19.9	-0.1
	comp=Z,0.6nm,0.7s,baz=223,slow=4.0,SNR=3.8								
BRTR	Keskin Array B	118.90	312	PKIKP		PKPdf		02 36 03.0	-1.1
MMAI	Mount Meron Ar	119.10	304	PKP		PKPdf		02 36 03.9	-0.6
	comp=Z,6.4nm,1.0s,baz=81,slow=10,SNR=5.9								
ANTO	Ankara	119.48	312			PKPdf		02 36 05.0	-0.1
ANTO	Ankara	119.48	312	PKIKP		PKPdf		02 36 05.0	-0.1
SUW	Suwalki	119.55	330	*e*PKP		PKPdf		02 36 04.5	-0.1
HFS	Hagfors	119.72	339	PKP		PKPdf		02 36 04.0	-0.7
	comp=Z,6.6nm,0.5s,baz=101,slow=3.0,SNR=34								
HFS				PKKPbc		PKKPab		02 46 15.1	-1.9
	comp=Z,1.0nm,0.6s,baz=268,slow=10,SNR=4.3								
DOMB	Dombas	119.79	343	*e*PKPdf		PKiKP		02 36 05.5	+0.5
MOL	Molde	119.81	344	*e*PKPdf		PKiKP		02 36 05.6	+0.6
NB2	NORSAR Subarra	119.89	341	PKPdf		PKPdf		02 36 04.2	-1.0
	comp=Z,3.8nm,0.6s,baz=41,slow=1.9								
NB2				PKKP		PKKPab		02 46 14.8	-1.5
	comp=Z,3.2nm,0.8s,baz=223,slow=3.8								
NB2	NORSAR Subarra	119.89	341	PKPdf		PKPdf		02 36 04.2	-1.0
	baz=41,slow=1.9								
NOA	NORSAR Array B	119.89	341	PKP		PKPdf		02 36 04.2	-1.0
	comp=Z,3.7nm,0.5s,baz=44,slow=1.9,SNR=32								
NOA				pPKP		pPKPdf		02 36 17.9	-1.2
	comp=Z,0.3nm,0.5s,baz=73,slow=1.8,SNR=4.0								
NOA				PKKPbc		PKKPab		02 46 14.6	-1.7
	comp=Z,1.6nm,0.6s,baz=44,slow=3.7,SNR=8.4								
NC602	NORSAR Array S	120.02	341	*e*PKPdf		PKPdf		02 36 04.8	-0.5
BOSA	Boshof	120.62	231			PKPdf		02 36 07.2	-0.5
BOSA	Boshof	120.62	231	PKP		PKPdf		02 36 06.8	-0.8
	comp=Z,3.9nm,0.6s,baz=134,slow=1.7,SNR=15								
TIRR	Tirgusor	120.99	318	IAMs_20		IAMs_20		03 35 03.9	
	comp=Z,656nm,19.0s								
SKAR	Skarslia	121.09	342	*e*PKPdf		PKiKP		02 36 07.8	+0.1
FOO	Floro	121.29	344	*e*PKPdf		PKiKP		02 36 07.9	+0.1
HYA	Hoyanger	121.33	343	*e*PKPdf		PKiKP		02 36 07.9	0.0
STRU	Stroemstad	121.40	339	*i* P		PKiKP		02 36 08.2	+0.1
SCHQ	Schefferville	121.40	27	PKP		PKPdf		02 36 07.9	-0.3
	comp=Z,3.1nm,0.9s,baz=219,slow=6.5,SNR=2.1								
KONO	Kongsberg	121.47	341	*e*PKPdf		PKPdf		02 36 07.8	-0.3
BLEU	Blekinge	121.54	335	*i* P		PKPdf		02 36 08.1	-0.3
BUR08	Bucovina Ar. S	121.65	323	PKPdf		PKiKP		02 36 09.3	+0.1
BURAR	Bucovina Array	121.66	323			PKiKP		02 36 10.0	+0.8
W57A	Gilead	121.80	53	IAMs_20		IAMs_20		03 23 14.4	
	comp=Z,1μm,20.0s								
BORU	Boraas	121.84	338	*i* P		PKPdf		02 36 08.8	-0.1
BEL	Belsk	121.96	329	*e*PKP		PKiKP		02 36 11.8	+2.3
TJOU	Tjoern	121.98	338	*i* P		PKiKP		02 36 09.5	+0.1
LBTB	Lobatse	122.01	235	PKPdf		PKPdf		02 36 09.7	-0.7
LBTB	Lobatse	122.01	235	PKIKP		PKPdf		02 36 09.7	-0.7
MLR	Muntele Rosu	122.16	320	PKPdf		PKPdf		02 36 06.5	-3.6
MLR				IAMs_20		IAMs_20		03 28 16.6	
	comp=Z,612nm,22.0s								
MLR	Muntele Rosu	122.16	320	PKIKP		PKPdf		02 36 06.5	-3.6
MLR				MLR		MLR			
	comp=Z,600nm,22.0s								
ASK	Askoy	122.17	343	*e*PKPdf		PKiKP		02 36 09.8	+0.1
BROLN	Tlhalogang	122.19	240	*i* P		PKPdf		02 36 10.9	+0.1
ODD1	Odda	122.21	342	*e*PKPdf		PKPdf		02 36 09.6	-0.1
BER	Bergen	122.21	343	*e*PKPdf		PKiKP		02 36 10.2	+0.5
DEL	Delary	122.23	336	*i* P		PKPdf		02 36 09.7	0.0
MAKGR	Makgori	122.29	234	*i* P		PKiKP		02 36 11.2	0.0
FABU	Falkenberg	122.31	337	*i* P		PKPdf		02 36 09.5	-0.4
ONAU	Onsala	122.33	338	*i* P		PKPdf		02 36 09.4	-0.4
LPHEP	Lephephe	122.51	237	*i* P		PKiKP		02 36 11.9	+0.3
BLS5	Blasjo	122.65	342	*e*PKPdf		PKPdf		02 36 10.5	0.0
BSD	Bornholm Skovb	122.72	334	*i* P		PKPdf		02 36 10.6	-0.1
KOLS	Kolonicke sedl	122.73	325	*e*PKIKP		PKiKP		02 36 11.9	+0.8
KOLS	Kolonicke sedl	122.73	325	*e*PKP		PKiKP		02 36 11.9	+0.8
KOLS				*e*				02 36 24.4	
BJUU	Bjuv	122.84	336	*i* P		PKPdf		02 36 10.9	+0.1
GKP	Gorka Klasztor	122.86	332	*e*PKP		PKPdf		02 36 11.0	-0.1
HOMB	Homborsund	122.90	340	*e*PKPdf		PKPdf		02 36 11.0	+0.1
HOMB	Homborsund	122.90	340	*i* P		PKPdf		02 36 11.0	+0.1
LUNU	Lund	122.98	336	*i* P		PKPdf		02 36 11.2	0.0
OVD	Ostervraa, Den	123.02	339	*i* P		PKiKP		02 36 11.9	+0.5
KMY	Karmoy	123.19	342	*e*PKPdf		PKiKP		02 36 11.7	0.0
SNART	Snartemo	123.28	341	*e*PKPdf		PKiKP		02 36 11.9	0.0
SNART	Snartemo	123.28	341	*i* P		PKiKP		02 36 11.9	0.0
OJC	Ojcow	123.39	328	*e*PKP		PKPdf		02 36 12.2	0.0
KHWEE	KHWEE	123.46	238	*i* P		PKPdf		02 36 13.3	+0.1
KDWAN	Kaudwane	123.50	236	*i* P		PKPdf		02 36 13.4	+0.1
LSZ	Lusaka	123.53	247	PKPdf		PKPdf		02 36 13.6	0.0
LSZ	Lusaka	123.53	247	IAMs_20		IAMs_20		03 25 51.8	
	comp=Z,655nm,20.0s								
LSZ	Lusaka	123.53	247	PKIKP		PKPdf		02 36 13.6	0.0
NIE	Niedzica	123.56	327	*e*PKP		PKiKP		02 36 13.4	+0.5
SKOMA	Sekoma	123.58	235	*i* P		PKPdf		02 36 13.6	-0.1
LANS	Liptovska Anna	124.17	327	*e*PKIKP		PKiKP		02 36 15.1	+1.1
LANS	Liptovska Anna	124.17	327	*e*PKP		PKiKP		02 36 15.1	+1.1
LANS				*e*				02 36 27.2	
STEB	Steborice	124.62	328	*e*PKP		PKPdf		02 36 13.9	-0.6
MORC	Moravsky Berou	124.83	328	*e*PKP		PKPdf		02 36 14.8	-0.2
MORC				*e*				02 36 27.1	
VYHS	Vyhne	124.88	326	*e*PKIKP		PKiKP		02 36 15.6	+0.2
VYHS	Vyhne	124.88	326	*e*PKP		PKiKP		02 36 15.6	+0.2
VYHS				*e*				02 36 27.2	
MAUC	Maruska	124.93	328	*e*PKP		PKiKP		02 36 16.1	+0.6
OSTC	Ostas	125.04	330	*e*PKP		PKiKP		02 36 16.1	+0.4
OSTC	Ostas	125.04	330	*e*PKIKP		PKiKP		02 36 16.1	+0.4
KRLC	Kraliky	125.05	329	*e*PKP		PKiKP		02 36 15.7	-0.1
KRLC				*ep*PKP		pPKPdf		02 36 28.4	-0.9
KRLC	Kraliky	125.05	329	*e*PKIKP		PKiKP		02 36 15.7	-0.1
CHVC	Chvalec	125.10	330	*e*PKP		PKiKP		02 36 15.8	0.0
CHVC	Chvalec	125.10	330	*e*PKIKP		PKiKP		02 36 15.8	0.0
DPC	Dobruska-Polom	125.12	329	*e*PKP		PKiKP		02 36 15.9	0.0
DPC				AMS		AMS		03 30 50.0	
	comp=Z,900nm,22.5s								
DPC	Dobruska-Polom	125.12	329	*e*PKIKP		PKiKP		02 36 15.9	0.0
DPC				MLR		MLR			
	comp=Z,900nm,22.5s								
UPC	Upice	125.17	330	*e*PKP		PKiKP		02 36 16.2	+0.3
UPC	Upice	125.17	330	*e*PKIKP		PKiKP		02 36 16.2	+0.3
JAVC	Velka Javorina	125.31	327	*e*PKP		PKiKP		02 36 16.9	+0.6
JAVC				*e*				02 36 29.1	
KSANE	Kasane	125.36	243	*i* P		PKiKP		02 36 17.8	+0.4
SRO	Srobarova	125.55	326	*e*PKIKP		PKiKP		02 36 18.1	+1.4
SRO	Srobarova	125.55	326	*e*PKP		PKiKP		02 36 18.1	+1.4
SRO				*e*				02 36 28.9	
VRAC	Vranov	125.61	328	*e*PKP		PKPdf		02 36 16.0	-0.5
VRAC				*e*				02 36 28.6	
MODS	Modra-Piesok	125.80	327	*e*PKIKP		PKiKP		02 36 17.2	-0.1
MODS	Modra-Piesok	125.80	327	*e*PKP		PKiKP		02 36 17.2	-0.1
MODS				*e*				02 36 29.7	
KRUC	Moravsky	125.86	328	*e*PKP		PKPdf		02 36 16.7	-0.2
KRUC				*e*				02 36 29.2	
PVCC	Panska Ves	125.88	330	*e*PKP		PKiKP		02 36 17.7	+0.4
PVCC	Panska Ves	125.88	330	*e*PKIKP		PKiKP		02 36 17.7	+0.4
BRG	Berggiesshubel	125.96

RETA *i* SKP 02 39 54.2
comp=Z,6.4nm,1.1s
RETA *i* SKKP 02 49 21.0
comp=Z,6.4nm,1.4s
BHOU Houvegnez 129.90 335 *d*PKP **PKiKP 02 36 26.1 +0.6**
BSTI Sart Tilman 129.91 336 *d*PKP **PKiKP 02 36 26.2 +0.8**
WIN Windhoek 130.00 233 IAMs_20 IAMs_20 03 46 09.6
comp=Z,857nm,21.0s
FETA Feichten 130.09 329 *i* PKP **PKPdf 02 36 24.3 -1.0**
comp=Z,7.2nm,1.2s
FETA *i* pPKP **pPKPdf 02 36 35.5 -3.6**
comp=Z,27nm,1.1s
FETA *i* SKP 02 39 50.7
comp=Z,23nm,1.3s
FETA *e*SKKP 02 49 24.7
comp=Z,6.1nm,1.2s
BCLA Clavier 130.14 336 *d*PKP **PKiKP 02 36 25.7 -0.2**
UCC Uccle 130.23 337 *d*PKP **PKiKP 02 36 26.3 +0.3**
DAVA Damuels 130.34 330 *i* PKiKP **PKPdf 02 36 25.9 +0.2**
comp=Z,5.2nm,0.6s
DAVA *i* pPKP **pPKPdf 02 36 37.9 -1.8**
comp=Z,25nm,1.8s
WLF Walferdange 130.36 334 *d*PKP **PKiKP 02 36 26.9 +0.6**
RCHB Rochefort 130.38 335 *d*PKP **PKiKP 02 36 26.5 +0.2**
BMRD Maredsous 130.45 336 *d*PKP **PKiKP 02 36 26.5 0.0**
DOU Dourbes 130.68 336 *d*PKP **PKiKP 02 36 26.5 -0.4**
LPAZ La Paz 130.84 118 PKP **PKPdf 02 36 27.4 -0.7**
comp=Z,1.8nm,0.6s,baz=316,slow=1.3,SNR=6.8
TSUM Tsumeb 131.27 237 **PKPdf 02 36 28.4 +0.1**
CUC Castrocucco 131.34 319 IAMs_20 IAMs_20 03 38 58.6
comp=Z,619nm,21.0s
CPUP Villa Florida 133.92 137 PKPdf **PKPdf 02 36 33.2 +0.2**
CPUP Villa Florida 133.92 137 PKP **PKPdf 02 36 32.3 -0.6**
comp=Z,0.8nm,0.4s,baz=276,slow=1.3,SNR=4.1
SDV Santo Domingo 134.06 84 PKPdf **PKPdf 02 36 33.9 +0.1**
SIV San Ignacio 137.02 122 PKhKP PKPpre 02 36 28.5
comp=Z,0.5nm,0.5s,baz=211,slow=5.1,SNR=2.8
SIV PKP **PKPdf 02 36 39.2 +0.2**
comp=Z,2.8nm,0.7s,baz=224,slow=3.8,SNR=8.4
SIV PP **PP 02 39 22.0 -0.7**
comp=Z,0.5nm,0.5s,baz=259,slow=5.2,SNR=4.0
KEST Kesra 137.95 318 PKhKP PKPpre 02 36 29.2
comp=Z,3.2nm,0.7s,baz=48,slow=0.5,SNR=2.0
KEST PKP **PKiKP 02 36 41.5 -0.7**
comp=Z,5.7nm,0.9s,baz=315,slow=4.3,SNR=5.3
SMRT St. Maarten 140.63 70 IAMs_20 IAMs_20 03 42 45.0
comp=Z,718nm,18.0s
PBRG Braganca 141.96 339 *e*PKP **PKiKP 02 36 50.1 -0.1**
PBRG *etx* tx 02 36 54.8
PGAV Gavieira, Arco 142.35 340 *e*PKP **PKiKP 02 36 49.7 -1.4**
PGAV *etx* tx 02 36 59.2
PCAB Cabril 142.50 340 *e*PKP **PKPdf 02 36 45.3 -2.9**
MVO Moncorvo 142.62 338 *e*PKP **PKPdf 02 36 45.7 -2.9**
MVO *etx* tx 02 36 57.4
ESDC Sonseca Array 142.66 334 PKhKP PKPpre 02 36 44.6
comp=Z,1.4nm,0.8s,baz=27,slow=2.1,SNR=10
ESDC PP **PP 02 39 59.4 +3.3**
comp=Z,3.5nm,1.0s,baz=32,slow=6.2,SNR=5.2
POLO Lamas de Olo 142.71 339 *e*PKP **PKPdf 02 36 45.4 -3.3**
POLO *etx* tx 02 36 57.9
PVRL Vila Real 142.77 339 *e*PKP **PKPdf 02 36 46.0 -2.8**
PVRL *etx* tx 02 36 58.0
PAB San Pablo 142.93 334 PKPdf **PKPdf 02 36 46.3 -2.8**
PAB San Pablo 142.93 334 PKiKP **PKPdf 02 36 46.3 -2.8**
PTO Porto 143.20 340 *e*PKP PKPab 02 36 45.8 +0.7
PTO *etx* tx 02 36 59.6
PVIS Viseu 143.33 339 *e*PKP PKPbc 02 36 47.0 +0.1
PVIS *etx* tx 02 36 59.8
MTE Manteigas 143.48 338 PKPdf PKPbc 02 36 48.2 +0.9
MTE Manteigas 143.48 338 *e*PKP PKPbc 02 36 48.6 +1.2
MTE *etx* tx 02 37 00.8
PCBR Castelo Branco 143.95 338 *e*PKP **PKPdf 02 36 50.1 -0.7**
PCBR *etx* tx 02 37 01.9
COI Coimbra 143.96 339 *e*PKP PKPbc 02 36 49.3 +0.6
COI *etx* tx 02 37 01.9
PCAS Casmilo, Conde 144.13 339 *e*PKP **PKPdf 02 36 50.3 -0.9**
PCAS *etx* tx 02 37 02.3
PMRV Marv??o 144.27 337 *e*PKP **PKPdf 02 36 51.2 -0.2**
PMRV *etx* tx 02 37 02.9
PSBE So Bento 144.71 339 *e*PKP **PKPdf 02 36 52.1 -0.1**
PSBE *etx* tx 02 37 04.7
PESTR Estremoz 144.84 337 *e*PKP **PKPdf 02 36 52.2 -0.2**
PESTR *etx* tx 02 37 04.5
PMTG Montargil 144.90 338 *e*PKP PKPbc 02 36 51.9 +0.2
PMTG *etx* tx 02 37 04.8
PBAR Barrancos 145.21 336 *e*PKP **PKPdf 02 36 53.4 +0.3**
PBAR *etx* tx 02 37 06.2
EVO Evora 145.29 337 *e*PKP **PKPdf 02 36 53.5 +0.3**
EVO *etx* tx 02 37 06.3
LIS Lisbon 145.55 339 *e*PKP **PKPab 02 36 54.4 +0.5**
PBEJ Beja 145.67 337 *e*PKP **PKPab 02 36 55.3 +0.8**
PBEJ *etx* tx 02 37 07.8
MESJ Messejana 145.97 337 *e*PKP **PKPbc 02 36 55.4 +0.3**
MESJ Messejana 145.97 337 *e*PKP **PKiKP 02 36 57.2 -1.4**
MESJ *etx* tx 02 37 09.0
PCVE Castro Verde 146.08 337 *e*PKP **PKPab 02 36 56.2 +0.2**
PCVE *etx* tx 02 37 09.0
PVAQ Vaqueiros 146.15 336 *e*PKP **PKPab 02 36 56.5 +0.2**
PVAQ *etx* tx 02 37 09.3
PBDV Barranco-do-Ve 146.37 336 *e*PKP **PKPab 02 36 57.5 +0.3**
PBDV *etx* tx 02 37 10.9
PTEO Sao Teotonio 146.42 337 *e*PKP **PKPdf 02 36 54.6 -0.6**
PTEO *etx* tx 02 37 10.6
MORF Marmelete 146.61 337 *e*PKP **PKPbc 02 36 56.5 -0.5**
MORF Marmelete 146.61 337 *e*PKP **PKPbc 02 36 57.2 +0.2**
MORF *etx* tx 02 37 10.7
PFVI Vila Bisbo 146.82 337 *e*PKP **PKPdf 02 36 55.0 -0.8**
PFVI *etx* tx 02 37 11.8
TAM Tamanrasset 147.28 302 **PKPdf 02 36 57.5 +0.3**
TAM IAMs_20 IAMs_20 03 56 40.7
comp=Z,705nm,19.0s
TAM Tamanrasset 147.28 302 PKiKP **PKPdf 02 36 57.5 +0.3**
BDFB Brasilia 147.49 134 **PKPdf 02 36 58.0 +0.4**
BDFB Brasilia 147.49 134 PKPbc **PKPbc 02 36 59.4 -0.8**
comp=Z,38nm,0.8s,baz=303,slow=2.5,SNR=28
BDFB pPKPbc **pPKPdf 02 37 12.0 +0.5**
comp=Z,150nm,1.0s,baz=215,slow=0.3,SNR=26
BDFB Brasilia 147.49 134 PKiKP **PKPdf 02 36 58.0 +0.4**
MAL2 Monte Alegre, 148.84 106 PKPab **PKPbc 02 37 04.2 +0.4**
MDP Montagnes des 151.73 92 PKPbc **PKiKP 02 37 12.7 +1.6**
comp=Z,22nm,1.2s,baz=247,slow=2.9,SNR=1.7
PMAR Madeira 153.46 346 *e*PKP **PKiKP 02 37 15.2 +0.9**
TORD Torodi Ar. Bea 153.72 286 PKPdf **PKPdf 02 37 06.2 -1.0**
TORD Torodi Ar. Bea 153.72 286 PKP **PKPdf 02 37 06.6 -0.6**
comp=Z,45nm,0.3s,baz=82,slow=2.3,SNR=1.4
TORD PKPbc **PKPbc 02 37 14.0 -1.0**
comp=Z,45nm,0.3s,baz=69,slow=2.4,SNR=1.2
DBIC Dimbokro 160.72 270 PKPab **PKPab 02 37 58.0 -0.2**
DBIC Dimbokro 160.72 270 PKP **PKPdf 02 37 15.8 -0.2**
comp=Z,4.4nm,1.0s,baz=46,slow=1.4,SNR=4.3
DBIC PKPab **PKPab 02 37 58.2 0.0**
comp=Z,8.8nm,0.5s,baz=92,slow=3.8,SNR=17
DBIC pPKPab **pPKPab 02 38 10.2 -1.5**
comp=Z,90nm,0.9s,baz=81,slow=4.4,SNR=23
RCBR Riachuelo 162.80 137 PKPab **PKPab 02 38 07.6 +0.5**
comp=Z,3.0nm,0.8s,baz=217,slow=15,SNR=4.2

NEIC ***02*** *02:54:27.5±1.2, 17°.5S±0°.1×178°.5W±0°.2, h591km±13km, mb4.5/17, Error ellipse: s-maj=24.0km s-min=12.1km az=63.0*
IDC ***02*** *02:54:28.8±2.1, 17°.43S×178°.90W, h579km±21km, mb2.9/6, mbtmp3.8/6, Error ellipse: s-maj=81.2km s-min=17.1km az=149.0*
ISC 02 02:54:28.5±0.6,**17°.54S**±0°.10×**178°.63W**±0°.10,**h600**km,
n30,σ1**983**/30,**mb4.4**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.18**	**266**	**P**	**P**	**02 55 46.6**	**-2.1**
MSVF	**Nonsavu**	**3.18**	**266**	P	**P**	**02 55 45.9**	**-2.9**
6.0nm,0.7s,baz=119,slow=7.5,SNR=4.5							
AFI	**Afiamalu**	**7.52**	**62**	P	**P**	**02 56 20.6**	**-2.8**
NIUE	**Niue**	**8.40**	**102**	P	**P**	**02 56 27.3**	**-4.3**
FUNA	**Funafuti**	**9.21**	**346**	P	**P**	**02 56 37.6**	**-1.9**
CTZ	**Chatham Island**	**26.17**	**177**	P	**P**	**02 59 16.1**	**-0.6**
WKZ	**Wanaka**	**29.12**	**198**	P	**P**	**02 59 46.5**	**+4.1**
ARMA	**Armidale**	**29.95**	**239**	P	**P**	**02 59 49.7**	**-0.3**
ARMA				IAmb	IAmb	03 00 15.3	
comp=Z,12nm,1.3s							
DCZ	**Deep Cove**	**30.27**	**200**	P	**P**	**02 59 51.4**	**-0.8**
DCZ				IAmb	IAmb	03 00 04.2	
comp=Z,34nm,1.3s							
COEN	**Coen**	**36.90**	**270**	P	**P**	**03 00 48.8**	**+0.6**
COEN				IAmb	IAmb	03 01 24.2	
comp=Z,10nm,1.1s							
TOO	**Toolangi**	**37.24**	**230**	P	**P**	**03 00 50.6**	**-0.1**
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**03 01 02.4**	**+0.4**
STKA				IAmb	IAmb	03 01 02.7	
comp=Z,19nm,0.7s							
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**03 01 01.9**	**-0.1**
comp=Z,3.3nm,0.5s,baz=80,slow=8.5,SNR=12							
comp=Z,3.3nm,0.5s							
BBOO	**Buckleboo**	**43.41**	**241**	P	**P**	**03 01 39.6**	**-0.1**
BBOO				IAmb	IAmb	03 01 40.7	
comp=Z,16nm,1.1s							
WB0	**Warramunga Arr**	**44.46**	**259**	P	**P**	**03 01 48.2**	**+0.2**
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**03 01 47.8**	**-0.5**
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**03 01 47.7**	**-0.6**
comp=Z,1.2nm,0.5s,baz=91,slow=6.8,SNR=25							
comp=Z,1.2nm,0.5s							
AS31	**Alice Springs**	**44.69**	**254**	P	**P**	**03 01 50.0**	**+0.2**
AS31				IAmb	IAmb	03 01 50.6	
comp=Z,4.7nm,0.7s							
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**03 01 50.0**	**+0.3**
comp=Z,16nm,0.5s,baz=89,slow=8.3,SNR=284							
FORT	**Forrest**	**49.98**	**244**	P	**P**	**03 02 28.4**	**-0.7**
KNRA	**Kununurra**	**50.32**	**264**	P	**P**	**03 02 32.3**	**+0.5**
KNRA				IAmb	IAmb	03 02 46.1	
comp=Z,24nm,1.5s							
JCJ	**Chichijima**	**58.43**	**319**	P	**P**	**03 03 27.5**	**-0.6**
TOLI2	**Tolitoli**	**62.44**	**281**	P	**P**	**03 03 54.9**	**+0.1**
TOLI2				IAmb	IAmb	03 04 26.3	
comp=Z,7.4nm,0.6s							
QSPA	**South Pole Qui**	**72.51**	**180**	P	**P**	**03 04 55.3**	**-0.1**
KSAR	**Wonju Array Be**	**74.31**	**318**	P	**P**	**03 05 06.5**	**+0.7**
KS19	**Wonju Array Si**	**74.35**	**318**	P	**P**	**03 05 05.3**	**-0.8**
KS19				IAmb	IAmb	03 05 06.7	
comp=Z,12nm,0.8s							
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**03 05 36.0**	**+2.7**
comp=Z,0.4nm,0.7s,baz=242,slow=4.1,SNR=2.6							
comp=Z,0.4nm,0.7s							
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**03 06 05.9**	**+2.0**
comp=Z,0.2nm,0.4s,baz=221,slow=5.3,SNR=8.9							
comp=Z,0.2nm,0.4s							
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**03 06 09.8**	**+3.0**
comp=Z,0.3nm,0.7s,baz=222,slow=3.4,SNR=4.2							
comp=Z,0.3nm,0.7s							
PDAR	**Pinedale Array**	**87.23**	**44**	P	**P**	**03 06 14.9**	**+2.4**
comp=Z,0.3nm,0.5s,baz=244,slow=3.5,SNR=3.5							
comp=Z,0.3nm,0.5s							

REN ***02*** *02:57:58.9±1.4, 37°.490N±0°.009×113°.86W±0°.03, h10km±7km, Error ellipse: s-maj=3.4km s-min=1.2km az=80.0*
NEIC ***02*** *02:57:59.0±2.0, 37°.512N±0°.009×113°.87W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.2km az=248.0*
UUSS 02 02:57:59.3±2.0,**37°.50N**±0°.01×**113°.85W**±0°.02,**h7**km±5km,
ML2.6/5,**ML2.7**/14(REN),**ML2.7**/42(NEIC),**Error ellipse: s-maj=2.3km s-min=1.7km az=217.0,Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.36**	**190**		Pg	02 58 05.0	-1.4
ARUT	**Antelope Range**	**0.43**	**49**		Pg	02 58 08.1	+0.4
ZNPU	**Zion National**	**0.59**	**104**		Pg	02 58 11.1	+0.3
ZNPU					Sg	02 58 19.4	+0.8
LCMT	**Little Creek M**	**0.69**	**135**		Pg	02 58 12.7	+0.1
LCMT				Sg	Sg	02 58 22.1	+0.6
LCMT				IAML		02 58 23.3	
comp=E,270nm,0.2s							
LCMT				IAML		02 58 25.8	
comp=N,226nm,0.2s							
DWU	**Dry Willow Pea**	**0.90**	**48**		Pg	02 58 17.0	+0.3
KNB	**Kanab**	**0.95**	**120**	Pg	Pg	02 58 17.6	0.0
PRN	**Pahroc Range**	**0.96**	**265**		Pg	02 58 17.8	+0.1
PRN				IAML		02 58 37.4	
comp=N,323nm,0.3s							
PRN				IAML		02 58 41.3	
comp=E,230nm,0.2s							
PSUT	**Pine Spring**	**1.03**	**360**		Pg	02 58 18.9	-0.2
PSUT	**Pine Spring**	**1.03**	**360**		Sg	02 58 32.5	0.0
PSUT	**Pine Spring**	**1.03**	**360**	IAML		02 58 33.0	
comp=E,204nm,0.6s							
PSUT				IAML		02 58 36.5	
comp=N,152nm,0.6s							
PKCU	**Pink Cliffs**	**1.23**	**92**	Pn	Pn	02 58 23.8	+0.6
PKCU				IAML		02 58 40.4	
comp=N,230nm,0.2s							
MTPU	**Mount Pierson**	**1.43**	**67**		Pg	02 58 26.8	+0.1
SHPR	**Sheep Range**	**1.45**	**227**		Pn	02 58 26.1	0.0
SHPR				IAML		02 58 46.7	
comp=N,64nm,0.3s							
SHPR	**Sheep Range**	**1.45**	**227**		Sb	02 58 44.5	-0.8
S11A	**Rachel**	**1.52**	**276**		Pn	02 58 26.9	-0.1
SPR3	**Spring Creek 3**	**1.54**	**346**		Pn	02 58 26.4	-1.1
TCRU	**Three Creeks R**	**1.56**	**45**		Pb	02 58 28.8	0.0
TCRU				IAML		02 58 57.8	
comp=N,55nm,0.9s							
R11B	**Troy Canyon, C**	**1.61**	**302**	Pg	Pn	02 58 28.7	+0.3
U15A	**North Rim**	**1.65**	**130**		Pb	02 58 30.2	0.0
MSU	**Marysvale**	**1.66**	**52**		Pb	02 58 30.4	0.0
Q12A	**Willow Creek R**	**1.72**	**334**		Pn	02 58 30.1	+0.3
CPY	**CP-1**	**1.85**	**253**		Pn	02 58 31.1	-0.5
V12A	**Nelson**	**1.95**	**205**	Pn	Pn	02 58 33.3	+0.4
V12A				IAML		02 59 01.1	
comp=E,60nm,0.6s							
V12A				IAML		02 59 02.0	
comp=N,46nm,0.6s							
TPNV	**Topopah Spring**	**1.99**	**255**	Pn	Pn	02 58 33.7	0.0
TPNV				IAML		02 59 07.0	
comp=N,54nm,0.5s							
TPNV				IAML		02 59 15.7	
comp=N,45nm,0.7s							
NSP	**Numbskull Pass**	**2.04**	**248**		Pn	02 58 34.0	-0.2
AMDNV	**Amargosa**	**2.21**	**242**		Pn	02 58 36.5	+0.1
WCU	**Fish Springs**	**2.25**	**9**		Pn	02 58 37.2	+0.1
WCT	**Wildcat Mounta**	**2.33**	**253**		Pn	02 58 38.4	+0.3
WUAZ	**Wupatki**	**2.81**	**134**		Pn	02 58 46.5	+1.6
WUAZ				IAML		02 59 26.8	
comp=N,43nm,0.4s							
GMRC	**Granite Mounta**	**3.08**	**209**		Pn	02 58 48.7	+0.2
DSP	**Deep Springs**	**3.28**	**269**		Pn	02 58 51.5	+0.4
ELK	**Elko**	**3.41**	**342**		Pn	02 58 53.2	0.0
NV11	**Mina Array Sit**	**3.53**	**287**		Pn	02 58 54.8	+0.1
NV11				IAML		02 59 52.9	
comp=E,12nm,0.6s							
NV11				IAML		02 59 54.1	
comp=N,12nm,0.6s							
NVAR	**Mina Array Bea**	**3.64**	**286**		Pn	02 58 56.6	+0.3
NV08	**Mina Array Sit**	**3.65**	**286**		Pn	02 58 57.0	+0.7
X16A	**Lo Mia Camp, P**	**3.65**	**147**		Pn	02 58 59.2	+2.9
NV09	**Mina Array Sit**	**3.67**	**286**		Pn	02 58 57.6	+1.0
RYN	**Ryan**	**3.86**	**288**		Pn	02 58 59.8	+0.5
X18A	**Snowflake**	**4.33**	**132**	IAML		03 00 18.8	
comp=N,12nm,0.9s							

NEIC ***02*** *03:00:59±0.4, 35°.73N±0°.01×97°.57W±0°.02, h5km±1km, ML2.2/12, ML1.8/38, Error ellipse: s-maj=2.6km s-min=2.5km az=228.0*
NEIC 02 03:00:59.1±0.4,**35°.733N**±0°.007×**97°.57W**±0°.01,**h6**km±2km,
Error ellipse: s-maj=1.6km s-min=1.1km az=81.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.08**	**204**		Pg	03 01 02.4	+1.3
OK029	**Liberty Lake**	**0.11**	**55**		Pg	03 01 02.0	+0.4
OK029				Sg	Sg	03 01 04.0	+0.8
OK029				IAML		03 01 04.2	
636nm,0.2s							
OK029				IAML		03 01 04.2	
548nm,0.3s							
ADOK	**Arcadia Dam**	**0.18**	**117**	Pg	Pg	03 01 03.2	+0.5
ADOK				Sg	Sg	03 01 06.0	+0.9
OK004	**Okla Sci Mus**	**0.22**	**160**		Pg	03 01 04.1	+0.5
OK004					Sg	03 01 07.5	+1.0
OKCSW	**OKLAHOMA CITY**	**0.34**	**162**	Pg	Pg	03 01 06.3	+0.5
OKCSW				IAML		03 01 14.2	
comp=N,199nm,0.3s							
FNO	**Franklin**	**0.49**	**164**		Pg	03 01 08.9	+0.2
FNO				IAML		03 01 19.0	
comp=N,70nm,0.4s							
FNO				IAML		03 01 21.4	
comp=E,52nm,0.3s							
OK031	**S. Brethren Rd**	**0.63**	**69**		Pg	03 01 11.4	+0.1
OK031					Sg	03 01 19.9	+0.4
OK052	**Battle Ridge R**	**0.67**	**67**		Pg	03 01 12.1	0.0
OK052					Sg	03 01 21.3	+0.4
W35A	**Tecumseh**	**0.81**	**135**		Pg	03 01 14.3	-0.4
W35A				IAML		03 01 28.2	
comp=N,30nm,0.3s							
W35A				IAML		03 01 28.3	
comp=E,38nm,0.5s							
QUOK	**Quay**	**0.82**	**58**		Pg	03 01 15.2	+0.2
QUOK					Sg	03 01 26.2	+0.6
QUOK				IAML		03 01 34.4	
comp=N,34nm,0.2s							
QUOK				IAML		03 01 39.1	
comp=E,40nm,0.2s							
CROK	**Carrier**	**0.84**	**337**		Pg	03 01 15.2	-0.1
DEOK	**Depew**	**0.88**	**83**	Pg	Pg	03 01 15.4	-0.6
DEOK					Sg	03 01 27.8	+0.4
DEOK				IAML		03 01 30.4	
comp=N,23nm,0.3s							
DEOK				IAML		03 01 36.4	
comp=E,27nm,0.1s							
GC02	**Grant County #**	**1.14**	**348**		Pg	03 01 20.4	-0.6
X34A	**Smith Ranch, M**	**1.15**	**191**	Pg	Pg	03 01 20.9	-0.3
X34A				IAML		03 01 42.1	
comp=N,30nm,2.2s							
X34A				IAML		03 01 45.4	
comp=E,22nm,0.3s							
OK038	**West end E0370**	**1.21**	**308**	Pg	Pg	03 01 21.4	-0.9
KAN14	**Manchester OK**	**1.26**	**345**	Pg	Pn	03 01 22.6	-0.7
KAN13	**South Haven SW**	**1.28**	**3**		Pn	03 01 22.4	-1.1
WMOK	**Wichita Mounta**	**1.41**	**225**		Pn	03 01 24.7	-0.5
WTFS	**Witchita Falls**	**2.10**	**201**	Pn	Pn	03 01 36.0	+1.3

IDC ***02*** *03:22:50.3±0.4, 41°.89N×146°.99E, h0km, mb5.5/31, mbtmp5.5/38, ML4.9/7, MS5.5/87, Error ellipse: s-maj=10.7km s-min=9.0km az=27.0*
BJI ***02*** *03:22:50.7, 42°.19N×146°.72E, h2km, mB5.8/72, mb5.4/88, Ms5.8/99, Ms7 5.7/98*
MOS ***02*** *03:22:51.6±0.8, 41°.89N×146°.85E, h17km, mb6.1/78, MS5.7/59, Error ellipse: s-maj=6.1km s-min=3.4km az=121.5*
MOS Felt (III-IV) at Yuzhno-Kuril'sk; (III) at Malokuril'skoye.
NEIC ***02*** *03:22:52.7, 41°.95N×146°.94E, h30km*
IPGP ***02*** *03:22:52.0, 41°.93N×146°.95E, h26km, Mw6.0, Fault plane solution: NP1:*ϕ_s*232.00000°,*δ*51.00000°,*λ*-138.00000°. NP2:*ϕ_s*112.00000°,*δ*58.00000°,*λ*-47.00000°.*
NEIC ***02*** *03:22:52.7, 41°.85N×147°.00E, h30km, Moment Tensor Solution. Duration: 4*τ_s*3 Moment tensor: Scale 10*^{17}*Nm; Mrr-5.88; Mθθ9.86; Mφφ-3.98; Mrθ-0.33; Mθφ0.66; Mφr5.03; Fault plane solution: M*$_0$*9.98000×10*^{17} *NP1:*ϕ_s*234.69000°,*δ*56.76000°,*λ*-139.83000°. NP2:*ϕ_s*119.86000°,*δ*57.35000°,*λ*-40.62000°. Principal axes: T 9.8919, Plg0.0000°, Azm177.0000°; N 0.1752, Plg40.0000°, Azm268.0000°; P -10.0671, Plg50.0000°, Azm87.0000°;*
ISC-PP ***02*** *03:22:54, 41°.95N×146°.89E, h22km, Mwppsm6.2, Moment Tensor Solution. s47 Moment tensor: Scale 10*^{18}*Nm; Mrr-0.53±.14; Mθθ0.02±.20; Mφφ0.48±.17; Mrθ-0.12±.17; Mθφ0.43±.18; Mφr0.22±.23; Fault plane solution: M*$_0$*2.24000×10*^{18} *NP1:*ϕ_s*41.90000°,*δ*32.10000°,*λ*307.50000°. NP2:*ϕ_s*179.70000°,*δ*65.10000°,*λ*-110.90000°.*
NEIC ***02*** *03:22:54.1±1.9, 41°.95N±0°.06×146°.89E±0°.09, h19km±2km, mb6.1/973, Ms_20 5.7/552, Mww5.9/27 Error ellipse: s-maj=10.4km s-min=8.5km az=128.0*
NIED ***02*** *03:22:55.6, 42°.01N×146°.86E, h51km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{18}*Nm; Mrr-0.69; Mθθ1.27; Mφφ-0.58; Mrθ-0.12; Mθφ0.14; Mφr0.32; Fault plane solution: M*$_0$*1.13000×10*^{18} *NP1:*ϕ_s*232.00000°,*δ*55.00000°,*λ*-143.00000°. NP2:*ϕ_s*118.00000°,*δ*60.00000°,*λ*-41.00000°.*
JMA ***02*** *03:22:55.6±0.2, 42°.0N±0°.6×14°.7E*$_s$*, h51km, MD6.2/34, MW6.0/34, FAR SE OFF HOKKAIDO*
JMA Felt IV J1 at FAR SE OFF HOKKAIDO .
SKHL ***02*** *03:22:55.2±0.2, 42°.00N×147°.10E, h46km±4km, mb6.5/16, mbv6.8/16, ms5.9/16, msh6.4/13*
GCMT ***02*** *03:22:57.8±0.1, 41°.98N×146°.86E, h35km, MW6.0/171, Moment Tensor Solution. s154,c337; s171,c583; Duration: 2*τ_s*5 Moment tensor: Scale 10*^{18}*Nm; Mrr-0.50±.01; Mθθ1.28±.01; Mφφ-0.77±.01; Mrθ-0.13±.01; Mθφ0.24±.01; Mφr0.57±.01; Best double couple: M*$_0$*1.28300×10*^{18} *NP1:*ϕ_s*225.00000°,*δ*62.00000°,*λ*-153.00000°. NP2:*ϕ_s*122.00000°,*δ*66.00000°,*λ*-30.00000°. Principal axes: T 1.3100, Plg2.0000°, Azm174.0000°; N -0.0480, Plg52.0000°, Azm267.0000°; P -1.2570, Plg38.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 02 03:22:53.6±0.3,**41°.99N**±0°.02×**146°.94E**±0°.02,**h19**km±1km,
h19km:**pP-P**,**n2329**,σ1**971**/2128,**mb6.0**/698,**MS5.7**/418,
78C-161D,**Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.64**	**328**	P	**Pn**	**03 23 22.0**	**+0.7**
NEM2				*e*S	**Sn**	**03 23 41.1**	**-0.8**
NEM2	**Nemuro 2**	**1.64**	**328**	A	A	03 23 22.0	
comp=N,481nm,3.8s,comp=E,493nm,4.4s							
NMR	**Nemuro--Hokkai**	**1.65**	**328**	↑*i*P	**Pn**	**03 23 22.0**	**+0.5**
NMR				*i* S	**Sn**	**03 23 41.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**1.65**	**328**	*e*P	**Pn**	**03 23 22.0**	**+0.5**
NMR				AMB	AMB	03 23 23.5	
comp=E,25μm,0.3s							
NMR				*i* S	**Sn**	**03 23 41.9**	**-0.2**
NMR				A	A	03 23 44.1	
comp=E,151μm,0.4s							
NMR				A	A	03 23 44.1	
comp=E,193μm,0.4s							
JKHN	**Kushirohamanak**	**1.71**	**310**	P	**Pn**	**03 23 23.1**	**+0.7**
JKHN				*e*S	**Sn**	**03 23 43.1**	**-0.6**
JKHN	**Kushirohamanak**	**1.71**	**310**	A	A	03 23 23.1	
comp=N,962nm,2.8s,comp=E,449nm,1.9s							
AKK	**Akkeshi**	**1.86**	**304**	*e*P	**Pn**	**03 23 25.1**	**+0.7**
AKK				AMB	AMB	03 23 27.0	
comp=E,20μm,0.5s							
AKK				*e*S	**Sn**	**03 23 46.7**	**-0.7**
AKK				A	A	03 23 49.7	
comp=E,231μm,0.5s							
AKK				A	A	03 23 49.7	
comp=E,253μm,0.5s							
JAK	**Akkeshi**	**1.94**	**302**	P	**Pn**	**03 23 26.4**	**+0.9**
JAK				*e*S	**Sn**	**03 23 48.7**	**-0.7**
**J

RUSJ	Misakicho	2.46 330	⇑ *i* P		Pn	03 23 33.6 +1.0
RUSJ			*i* S		Sn	03 24 02.7 +0.7
JOB	Onbets	2.47 293	⇓ *i* P		Pn	03 23 33.8 +1.0
JOB			⇓ *e* S		Sn	03 24 02.2 -0.3
JOB	Onbets	2.47 293	A		A	03 23 33.8
	comp=N,572nm,3.0s,comp=E,276nm,4.2s					
JAR	Ashorobuto	2.68 300	⇓ *i* P		Pn	03 23 36.3 +0.6
JAR			⇓ *e* S		Sn	03 24 07.0 -0.6
JAR	Ashorobuto	2.68 300	A		A	03 23 36.3
	comp=N,394nm,0.8s,comp=E,355nm,0.7s					
JTHR	Tokachihiroo	2.73 278	A		A	03 23 37.2
	comp=N,301nm,2.6s,comp=E,213nm,2.7s					
JCH	Churui	2.73 285	⇓ *i* P		Pn	03 23 37.4 +1.1
JCH			⇓ *e* S		Sn	03 24 08.3 -0.4
JCH	Churui	2.73 285	A		A	03 23 37.4
	comp=N,279nm,4.0s,comp=E,173nm,4.2s					
ERM	Erimo	2.82 272			Pn	03 23 38.6 +1.0
ERM	Erimo	2.82 272	P		Pn	03 23 39.5 +1.9
ERM	Erimo	2.82 272	*de* P		Pn	03 23 38.5 +1.0
JEM	Erimo	2.82 272	P		Pn	03 23 39.5 +1.9
JEM	Erimo	2.82 272	⇓ *i* P		Pn	03 23 39.2 +1.6
JEM	Erimo	2.82 272	A		A	03 23 39.2
	comp=N,245nm,4.1s,comp=E,119nm,3.2s					
JTKR	Abashiri--Toko	2.98 313	A		A	03 23 40.9
	comp=N,210nm,2.9s,comp=E,205nm,3.4s					
JNBK	Urakawa-nobuka	3.13 277	⇓ P		Pn	03 23 42.2 +0.4
JNBK	Urakawa-nobuka	3.13 277	A		A	03 23 42.2
	comp=N,190nm,3.1s,comp=E,179nm,3.0s					
JMP	Maruseppu	3.31 309	*i* P		Pn	03 23 45.9 +1.5
JMP	Maruseppu	3.31 309	A		A	03 23 45.9
	comp=N,190nm,4.4s,comp=E,215nm,2.3s					
KUR	Kuril'sk	3.32 11	*c i* P		Pn	03 23 44.8 +0.4
KUR			*i* S		Sn	03 24 22.1 -1.2
KUR			pmax	pmax		
	comp=Z,4μm,0.4s					
KUR			pmax	pmax		
	comp=N,4μm,0.2s					
KUR			pmax	pmax		
	comp=E,3μm,0.3s					
KUR			smax	smax		
	comp=N,15μm,0.4s					
KUR			smax	smax		
	comp=E,8μm,0.2s					
KUR	Kuril'sk	3.32 11	*e* P		Pn	03 23 44.6 +0.2
KUR			AMB	AMB		03 23 54.5
	comp=E,67μm,4.4s					
KUR			AMB	AMB		03 23 56.6
	comp=E,7μm,0.5s					
KUR			*e* S		Sn	03 24 21.7 -1.6
KUR			A	A		03 24 33.2
	comp=E,16μm,0.5s					
KUR			A	A		03 24 33.2
	comp=E,8μm,0.5s					
KUR			A	A		03 24 34.5
	comp=E,145μm,3.9s					
KUR			A	A		03 24 34.5
	comp=E,63μm,3.9s					
KUR			AMS	AMS		03 25 20.0
	comp=E,254μm,15.0s					
KUR			AMS	AMS		03 25 20.0
	comp=E,190μm,15.0s					
KUR			AMS	AMS		03 25 20.0
	comp=E,140μm,15.0s					
JSHD	Hidakashinhida	3.35 279	A	A		03 23 46.1
	comp=N,242nm,6.3s,comp=E,166nm,2.9s					
JFR	Furan	3.42 292	⇓ *i* P		Pn	03 23 46.6 +0.8
JFR	Furan	3.42 292	A		A	03 23 46.6
	comp=N,171nm,1.0s,comp=E,84nm,1.9s					
JBT2	Biratori 2	3.48 285	⇓ *i* P		Pn	03 23 46.6 -0.1
JBT2	Biratori 2	3.48 285	A		A	03 23 46.6
	comp=N,81nm,3.7s,comp=E,79nm,3.2s					
JKK2	Kamakawa 2	3.61 303	⇓ *i* P		Pn	03 23 50.1 +1.7
JKK2	Kamakawa 2	3.61 303	A		A	03 23 50.1
	comp=N,139nm,6.4s,comp=E,115nm,6.5s					
JIAM	Iburiatsuma	3.78 281	A		A	03 23 52.1
	comp=N,393nm,5.8s,comp=E,255nm,0.8s					
JIAM	Iburiatsuma	3.78 281	P		Pn	03 23 53.6 +2.9
JAB	Ashibetsu	3.79 295	A		A	03 23 52.3
	comp=N,308nm,4.1s,comp=E,246nm,2.5s					
JAB	Ashibetsu	3.79 295	⇓ P		Pn	03 23 53.0 +2.0
JKA	Kamikawa-asahi	3.83 305	Pn		Pn	03 23 53.8 +2.3
ASAJ	Asahikawa	3.83 305	Pn		Pn	03 23 53.6 +2.2
	comp=E,298nm,0.3s,baz=146,slow=12,SNR=846					
ASAJ			Sn		Sn	03 24 34.4 -1.5
	comp=E,813nm,0.3s,baz=242,slow=30,SNR=4.8					
ASAJ			LR		LR	03 25 38.4
	comp=E,109μm,21.1s,baz=130,slow=43 comp=E,2μm,0.5s					
ASAJ	Asahikawa	3.83 305	P		Pn	03 23 53.8 +2.3
ASAJ	Asahikawa	3.83 305	A		A	03 23 52.9
	comp=N,104nm,8.3s,comp=E,77nm,5.9s					
ASAJ	Asahikawa	3.83 305	P		Pn	03 23 53.6 +2.2
JEW	Eniwo	4.15 284	A		A	03 23 57.4
	comp=N,310nm,3.7s,comp=E,119nm,5.6s					
JEW	Eniwo	4.15 284	P		Pn	03 23 57.5 +1.6
JHR	Hokuryu	4.22 296	A		A	03 23 58.3
	comp=N,204nm,5.8s,comp=E,122nm,5.5s					
JHR	Hokuryu	4.22 296	P		Pn	03 23 58.7 +1.9
JAHD	Aomorihigashid	4.26 262	A		A	03 23 58.9
	comp=N,128nm,1.3s,comp=E,95nm,1.6s					
JISS	Ishikarishitsu	4.27 289	A		A	03 23 59.0
	comp=N,239nm,1.8s,comp=E,179nm,0.7s					
JISS	Ishikarishitsu	4.27 289	⇓ P		Pn	03 23 59.6 +2.0
JARK	Aomorirokkasho	4.30 259	A		A	03 23 59.5
	comp=N,55nm,2.3s,comp=E,50nm,0.5s					
JKEN	Kujiedanarisaw	4.33 248	A		A	03 24 00.1
	comp=N,97nm,1.1s,comp=E,73nm,1.9s					
JSE	Soyaes	4.34 315	A		A	03 24 00.1
	comp=N,99nm,3.6s,comp=E,93nm,4.1s					
JSE	Soyaes	4.34 315	P		Pn	03 23 59.7 +1.1
JTH	Tanohata	4.35 244	A		A	03 24 00.4
	comp=N,79nm,2.6s,comp=E,58nm,4.1s					
JANG	Nango	4.40 250	A		A	03 24 01.0
	comp=N,82nm,2.2s,comp=E,34nm,1.6s					
JANG	Nango	4.40 250	⇓ P		Pn	03 23 57.9 -1.4
JKB	Kayabe	4.41 271	A		A	03 24 01.0
	comp=N,70nm,1.4s,comp=E,63nm,2.6s					
JKB	Kayabe	4.41 271	⇓ P		Pn	03 23 59.7 +0.3
JNB	Noboribetsu	4.41 278	A		A	03 24 01.0
	comp=N,60nm,2.3s,comp=E,42nm,4.1s					
JNB	Noboribetsu	4.41 278	⇓ P		Pn	03 24 00.2 +0.8
JSS	Shosan	4.43 305	A		A	03 24 01.3
	comp=N,195nm,4.3s,comp=E,231nm,4.1s					
JSS	Shosan	4.43 305	P		Pn	03 24 02.7 +3.0
JOT	Ohata	4.45 264	A		A	03 24 01.7
	comp=N,45nm,3.8s,comp=E,47nm,2.5s					
JOT	Ohata	4.45 264	⇓ P		Pn	03 24 00.0 0.0
MIYJ	Miyakonagasawa	4.57 240	A		A	03 24 03.5
	comp=N,61nm,3.8s,comp=E,113nm,3.8s					
JTM	Tenmabayashi	4.58 257	Pn		Pn	03 24 01.1 -0.6
JTM	Tenmabayashi	4.58 257	P		Pn	03 24 01.8 +0.1
JTM	Tenmabayashi	4.58 257	A		A	03 24 03.4
	comp=N,105nm,2.4s,comp=E,63nm,2.2s					
JTM	Tenmabayashi	4.58 257	⇓ P		Pn	03 24 01.2 -0.6
JKZ	Kuzumaki	4.69 247	A		A	03 24 05.2
	comp=N,83nm,2.3s,comp=E,40nm,1.5s					
JYG	Yagishiri	4.71 303	A		A	03 24 05.2
	comp=N,118nm,4.6s,comp=E,62nm,5.0s					
JYM2	Yakumo 2	4.89 274	A		A	03 24 07.8
	comp=N,55nm,5.1s,comp=E,25nm,4.1s					
JYM2	Yakumo 2	4.89 274	⇓ P		Pn	03 24 06.5 +0.5
JSR	Shiriuchi	4.90 267	A		A	03 24 07.9
	comp=N,50nm,3.8s,comp=E,37nm,4.3s					
JSR	Shiriuchi	4.90 267	⇓ P		Pn	03 24 06.0 -0.1
JWK2	Keihoku	4.95 314	A		A	03 24 08.6
	comp=N,92nm,6.1s,comp=E,92nm,4.9s					
JWK2	Keihoku	4.95 314	P		Pn	03 24 09.4 +2.6
OFUJ	Ofunato	4.95 236	A		A	03 24 08.9
	comp=N,82nm,1.7s,comp=E,62nm,1.7s					
JSK	Shakotan	4.96 288	A		A	03 24 08.6
	comp=N,53nm,2.1s,comp=E,39nm,3.9s					
JOM	Ohasama	4.97 242	A		A	03 24 09.1
	comp=N,108nm,3.5s,comp=E,94nm,4.1s					
JOM	Ohasama	4.97 242	⇓ P		Pn	03 24 05.9 -1.2
JSI2	Shiura 2	4.99 261	A		A	03 24 09.2
	comp=N,38nm,1.5s,comp=E,50nm,1.0s					
JSZI	Iwateshizukuis	5.06 246	A		A	03 24 10.3
	comp=N,170nm,3.4s,comp=E,164nm,1.7s					
JAH	Hinai	5.09 251	A		A	03 24 10.7
	comp=N,100nm,3.4s,comp=E,76nm,1.1s					
JAH	Hinai	5.09 251	⇓ P		Pn	03 24 08.1 -0.7
JHHS	Hirosakihyakuz	5.13 257	A		A	03 24 11.2
	comp=N,134nm,3.2s,comp=E,103nm,3.7s					
JSH	Shimam	5.15 280	A		A	03 24 11.4
	comp=N,63nm,4.0s,comp=E,21nm,3.1s					
JSH	Shimam	5.15 280	⇓ P		Pn	03 24 10.9 +1.2
JRR	Rishiri	5.16 310	A		A	03 24 11.6
	comp=N,303nm,3.9s,comp=E,435nm,4.6s					
JOMM	Oshimamatsumae	5.21 267	A		A	03 24 12.1
	comp=N,25nm,4.2s,comp=E,21nm,3.1s					
JOMM	Oshimamatsumae	5.21 267	P		Pn	03 24 10.1 -0.2
JKMT	Kesennumamotoy	5.24 235	A		A	03 24 12.9
	comp=N,73nm,4.3s,comp=E,59nm,5.0s					
JHST	Hiyamasetana	5.26 277	A		A	03 24 12.9
	comp=N,57nm,2.3s,comp=E,42nm,3.2s					
JMK	Ichinoseki	5.31 237	A		A	03 24 13.9
	comp=N,70nm,3.8s,comp=E,70nm,3.7s					
JMK	Ichinoseki	5.31 237	P		Pn	03 24 10.4 -1.4
JNTW	Noshirotokiwa	5.40 254	A		A	03 24 14.9
	comp=N,209nm,3.8s,comp=E,167nm,2.6s					
JIW	Iwasaki	5.40 257	A		A	03 24 15.0
	comp=N,29nm,1.6s,comp=E,31nm,4.0s					
JRG	Rokugo	5.45 244	A		A	03 24 15.7
	comp=N,77nm,5.1s,comp=E,65nm,1.3s					
JRBN	Rebuntou	5.47 311	A		A	03 24 15.8
	comp=N,45nm,5.0s,comp=E,32nm,6.2s					
JRBN	Rebuntou	5.47 311	P		Pn	03 24 15.8 +1.8
JIO	Ouri	5.54 232	A		A	03 24 17.2
	comp=N,66nm,4.3s,comp=E,48nm,3.6s					
JOSM	Okushiri--Mats	5.56 274	⇓ P		Pn	03 24 15.4 +0.2
JIKH	Ishinomakikobu	5.57 231	A		A	03 24 17.6
	comp=N,49nm,3.0s,comp=E,74nm,3.1s					
JYW	Yuwa	5.66 247	A		A	03 24 18.7
	comp=N,162nm,3.9s,comp=E,114nm,1.6s					
JOFO	Osakifurukawao	5.71 236	A		A	03 24 19.6
	comp=N,268nm,2.2s,comp=E,318nm,2.3s					
YSS	Yuzhno-Sakhali	5.80 330	Pn		Pn	03 24 20.1 +1.6
YSS	Yuzhno-Sakhali	5.80 330	P		Pn	03 24 20.4 +1.9
YSS	Yuzhno-Sakhali	5.80 330	*oe* P		Pn	03 24 20.1 +1.6
YSS			*e* S		Sn	03 25 25.3 +0.8
YSS			pmax	pmax		
	comp=Z,14μm,7.5s					
YSS			smax	smax		
	comp=N,12μm,4.8s					
YSS			smax	smax		
	comp=E,11μm,5.0s					
YSS			MLR	MLR		
	comp=N,40μm,12.0s					
YSS			MLR	MLR		
	comp=E,47μm,12.0s					
YSS			MLR	MLR		
	comp=Z,56μm,12.0s					
YSS	Yuzhno-Sakhali	5.80 330	*e* P		Pn	03 24 20.1 +1.6
YSS			AMB	AMB		03 24 29.3
	comp=Z,8μm,7.5s					
YSS			AMB	AMB		03 24 29.3
	comp=Z,14μm,7.5s					
YSS			*e* S		Sn	03 25 23.9 -0.6
YSS			A	A		03 25 28.2
	comp=Z,1μm,0.8s					
YSS			A	A		03 25 28.2
	comp=Z,980nm,0.8s					
YSS			A	A		03 25 28.8
	comp=Z,12μm,4.8s					
YSS			A	A		03 25 28.8
	comp=Z,11μm,4.8s					
YSS			AMS	AMS		03 26 50.8
	comp=Z,43μm,12.0s					
YSS			AMS	AMS		03 26 50.8
	comp=Z,55μm,12.0s					
YSS			AMS	AMS		03 26 50.8
	comp=Z,62μm,12.0s					
JYK	Kaneyama	5.88 241	A		A	03 24 21.8
	comp=N,51nm,5.1s,comp=E,37nm,4.2s					
JYK	Kaneyama	5.88 241	P		Pn	03 24 18.3 -1.4
JOU	Okura	6.01 235	A		A	03 24 23.7
	comp=N,84nm,4.3s,comp=E,70nm,4.5s					
JYYZ	Yamagatayuza	6.11 243	A		A	03 24 25.0
	comp=N,147nm,3.6s,comp=E,104nm,2.7s					
JMM	Marumori	6.26 231	Pn		Pn	03 24 22.7 -2.2
JMM	Marumori	6.26 231	P		Pn	03 24 22.9 -2.0
JMM	Marumori	6.26 231	A		A	03 24 27.3
	comp=N,36nm,2.7s,comp=E,38nm,3.4s					
JTB	Tobi-shima	6.27 246	A		A	03 24 27.2
	comp=N,42nm,3.0s,comp=E,30nm,3.7s					
JOG3	Oga3	6.30 253	A		A	03 24 20.3
	comp=N,49nm,4.7s,comp=E,40nm,3.2s					
JMST	Minamisoumatoc	6.31 230	A		A	03 24 27.9
	comp=N,46nm,4.6s,comp=E,36nm,2.0s					
JYS	Shiratake	6.47 237	A		A	03 24 30.1
	comp=N,135nm,3.7s,comp=E,94nm,1.8s					
JYA	Atsumi	6.48 241	A		A	03 24 30.2
	comp=N,74nm,2.0s,comp=E,100nm,1.5s					
JFK	Kawauchi	6.57 227	A		A	03 24 31.6
	comp=N,38nm,3.4s,comp=E,32nm,5.4s					
JFK	Kawauchi	6.57 227	P		Pn	03 24 26.6 -2.5
JYAR	Yonezawaarcadi	6.62 234	A		A	03 24 32.2
	comp=N,152nm,1.3s,comp=E,83nm,1.1s					
JOTO	OTAMA OYAMA	6.74 231	A		A	03 24 33.9
	comp=N,58nm,0.9s,comp=E,42nm,1.1s					
ONAJ	Iwakimizuishiy	6.80 226	A		A	03 24 34.9
	comp=N,38nm,2.5s,comp=E,39nm,1.8s					
JAW	Awa shima	6.86 242	A		A	03 24 35.5
	comp=N,35nm,4.1s,comp=E,44nm,4.7s					
JSD	Sado	7.74 242	Pn		Pn	03 24 43.8 -1.4
JSD	Sado	7.74 242	P		Pn	03 24 44.3 -0.9
UGL	Uglegorsk	7.87 336	⇑ *i* P		Pn	03 24 49.1 +2.1
UGL			*e* S		Sn	03 26 21.8 +6.3
UGL			pmax	pmax		
	comp=Z,2μm,1.9s					
UGL			pmax	pmax		
	comp=Z,31μm,2.9s					
UGL			smax	smax		
	comp=N,8μm,3.7s					
UGL			smax	smax		
	comp=E,21μm,4.3s					
UGL			MLR	MLR		
	comp=N,48μm,13.0s					
UGL			MLR	MLR		
	comp=Z,21μm,13.0s					
UGL			MLR	MLR		
	comp=E,41μm,14.0s					
UGL	Uglegorsk	7.87 336	*i* P		Pn	03 24 49.0 +2.1
UGL			AMB	AMB		03 24 51.2
	comp=E,31μm,2.9s					
UGL			AMB	AMB		03 24 56.3
	comp=E,850nm,0.6s					
UGL			*e* S		Sn	03 26 14.3 -1.2
UGL			A	A		03 26 25.4
	comp=E,8μm,4.0s					
UGL			A	A		03 26 25.4
	comp=E,21μm,4.0s					
UGL			AMS	AMS		03 29 09.0
	comp=E,48μm,13.0s					
UGL			AMS	AMS		03 29 09.0
	comp=E,41μm,13.0s					
UGL			AMS	AMS		03 29 09.0
	comp=E,21μm,13.0s					
TEY	Ternei	8.11 296	⇑ *e* P		Pn	03 24 50.7 +0.5
TEY			pmax	pmax		
	comp=N,60nm,0.9s					
TEY			pmax	pmax		
	comp=E,170nm,0.9s					
TEY			pmax	pmax		
	comp=Z,170nm,0.9s					
TEY			MLR	MLR		
	comp=N,1μm,11.0s					
TEY			MLR	MLR		
	comp=Z,900nm,14.0s					
TEY	Ternei	8.11 296	*e* P		Pn	03 24 52.7 +2.5
TEY			AMB	AMB		03 24 53.4
	comp=Z,60nm,0.9s					
TEY			AMB	AMB		03 24 53.4
	comp=Z,170nm,0.9s					
TEY			AMB	AMB		03 24 53.4
	comp=Z,170nm,0.9s					
TEY			AMS	AMS		03 28 53.5
	comp=Z,1μm,16.0s					
TEY			AMS	AMS		03 28 53.5
	comp=Z,700nm,16.0s					
TEY			AMS	AMS		03 28 53.5
	comp=Z,900nm,16.0s					
MAJO	Matsushiro	8.68 234	Pn		Pn	03 24 57.0 -1.1
MAJO	Matsushiro	8.68 234	P		Pn	03 24 58.0 -0.1
MAJO	Matsushiro	8.68 234	*c i* P		Pn	03 24 57.8 -0.3
MJAR	Matsushiro Arr	8.68 234	Pn		Pn	03 24 57.6 -0.5
	comp=Z,3.1nm,0.3s,baz=33,slow=12,SNR=98					
MJAR			Sn		Sn	03 26 29.2 -6.2
	comp=Z,11nm,0.3s,baz=108,slow=24,SNR=5.6 comp=Z,175nm,0.8s					
MJB9	Matsu-Tunnel	8.68 234			Pn	03 24 58.8 +0.6
TYV	Tymovskoe	9.36 343	*e* P		Pn	03 25 09.5 +2.1
TYV			*e* S		Sn	03 26 53.5 +1.6
TYV			pmax	pmax		
	comp=Z,763nm,1.3s					
TYV			pmax	pmax		
	comp=Z,16μm,3.0s					
TYV			smax	smax		
	comp=N,152nm,1.1s					
TYV			smax	smax		
	comp=E,172nm,1.1s					
TYV			smax	smax		
	comp=N,6μm,4.0s					
TYV			smax	smax		
	comp=E,3μm,4.0s					
TYV	Tymovskoe	9.36 343	*e* P		Pn	03 25 09.4 +2.1
TYV			AMB	AMB		03 25 14.2
	comp=E,350nm,0.8s					
TYV			AMB	AMB		03 25 19.2
	comp=E,16μm,3.0s					
TYV			*e* S		Sn	03 26 49.7 -2.2
TYV			A	A		03 26 56.9
	comp=E,6μm,4.0s					
TYV			A	A		03 26 56.9
	comp=E,3μm,4.0s					
TYV			A	A		03 26 59.0
	comp=E,220nm,1.0s					
TYV			A	A		03 26 59.0
	comp=E,190nm,1.0s					
TYV			AMS	AMS		03 29 02.0
	comp=E,47μm,16.0s					
TYV			AMS	AMS		03 29 02.0
	comp=E,32μm,16.0s					
TYV			AMS	AMS		03 29 02.0
	comp=E,42μm,16.0s					
JGF	Kuroka	9.82 233			Pn	03 25 13.5 -0.3
JGF	Kuroka	9.82 233	P		Pn	03 25 13.9 +0.1
JSG	Sagara	10.02 226			Pn	03 25 16.2 -0.3
JSG	Sagara	10.02 226	P		Pn	03 25 17.7 +1.2
INU	Inuyama	10.20 233	Pn		Pn	03 25 18.4 -0.5
INU	Inuyama	10.20 233	P		Pn	03 25 18.9 0.0
JHJ2	Mitsune	10.50 215			Pn	03 25 19.3 -3.8
JHJ2	Mitsune	10.50 215	P		Pn	03 25 20.8 -2.3
JHJ	Hachijo jima 2	10.51 215	Pn		Pn	03 25 19.2 -4.0
	comp=E,204nm,0.3s,baz=289,slow=17,SNR=28					
JHJ			Sn		Sn	03 27 07.1 -13
	comp=E,1μm,0.3s,baz=51,slow=22,SNR=12					
JHJ			LR		LR	03 29 43.6
	comp=E,2μm,20.3s,baz=49,slow=40 comp=E,679nm,0.3s					
SKR	Severo-Kuril's	10.76 33	*e* P		Pn	03 25 24.9 -1.6
SKR			*e* S		Sn	03 27 22.5 -3.8
SKR			pmax	pmax		
	comp=Z,2μm,4.0s					
SKR			pmax	pmax		
	comp=Z,2μm,1.4s					
SKR			MLR	MLR		
	comp=E,35μm,14.0s					
SKR	Severo-Kuril's	10.76 33	*e* P		Pn	03 25 25.8 -0.7
SKR			AMB	AMB		03 25 26.5
	comp=E,2μm,4.0s					
SKR			AMB	AMB		03 25 36.3
	comp=E,2μm,0.6s					
SKR			AMS	AMS		03 29 02.0
	comp=E,54μm,20.0s					
SKR			AMS	AMS		03 29 02.0
	comp=E,35μm,20.0s					
SKR			AMS	AMS		03 29 02.0
	comp=E,30μm,20.0s					
USA0B	Ussuriysk Arra	11.16 286	*i* P		Pn	03 25 32.6 +0.6
USRK	Ussuriysk Ar.	11.16 286			Pn	03 25 31.9 0.0
USRK	Ussuriysk Ar.	11.16 286	Pn		Pn	03 25 32.2 +0.3
	comp=E,12nm,0.3s,baz=90,slow=14,SNR=136					
USRK			LR		LR	03 29 51.9
	comp=E,26μm,20.9s,baz=99,slow=38 comp=E,201nm,0.8s					
USRK	Ussuriysk Ar.	11.16 286	P		Pn	03 25 32.0 0.0
VLA	Vladivostok	11.17 281	*i* P		Pn	03 25 32.9 +0.8
VLA	Vladivostok	11.17 281	*i* P		Pn	03 25 32.9 +0.8
JWT	Wachi	11.23 237	P		Pn	03 25 33.0 0.0
GRNR	Gornyy	11.39 324	⇑ *i* P		Pn	03 25 36.9 +1.8
GRNR			*e* S		Sn	03 27 49.4 +7.6
GRNR			pmax	pmax		
	comp=E,100nm,1.2s					
GRNR			pmax	pmax		
	comp=N,80nm,1.0s					
GRNR			pmax	pmax		
	comp=Z,120nm,1.0s					
GRNR			smax	smax		
	comp=N,40nm,1.2s					
GRNR			MLR	MLR		
	comp=Z,15μm,14.0s					
GRNR	Gornyy	11.39 324	*i* P		Pn	03 25 36.9 +1.8
GRNR			AMB	AMB		03 25 38.2
	comp=Z,80nm,1.0s					
GRNR			AMB	AMB		03 25 38.2
	comp=Z,120nm,1.0s					
GRNR			AMS	AMS		03 30 30.0
	comp=Z,15μm,14.0s					
PAU	Pauzhetka	11.64 32	*e* P		Pn	03 25 36.9 -1.7
PAU			AMB	AMB		03 25 53.3
	comp=Z,690nm,0.6s					
PAU			AMB	AMB		03 25 59.0
	comp=Z,2μm,2.0s					
PAU			AMB	AMB		03 25 59.0
	comp=Z,2μm,2.0s					
PAU			AMB	AMB		03 25 59.0
	comp=Z,2μm,2.0s					
PAU			AMS	AMS		03 29 16.0
	comp=Z,62μm,18.0s					
PAU			AMS	AMS		03 29 16.0
	comp=Z,20μm,18.0s					
PAU			AMS	AMS		03 29 16.0
	comp=Z,26μm,18.0s					
MSHR	Mys Shultsa	11.71 278	*d i* P		Pn	03 25 39.5 0.0
MSHR			MLR	MLR		
	comp=Z,34μm,15.0s					
OKH	Okha	11.88 348	*c i* P		Pn	03 25 39.4 -2.4
OKH			*i* S		Sn	03 27 56.6 +2.9
OKH			pmax	pmax		
	comp=Z,9μm,7.3s					
OKH			smax	smax		
	comp=N,6μm,15.9s					
OKH	Okha	11.88 348	*e* P		Pn	03 25 41.3 -0.5
OKH			AMB	AMB		03 25 41.9
	comp=N,15μm,4.3s					
OKH			AMB	AMB		03 25 41.9
	comp=N,10μm,4.3s					
OKH			AMB	AMB		03 25 41.9
	comp=N,23μm,4.3s					
OKH			AMB	AMB		03 25 43.5
	comp=N,750nm,0.6s					
OKH			*i* S		Sn	03 27 50.0 -3.7
OKH			A	A		03 28 05.9
	comp=N,9μm,5.0s					
OKH			A	A		03 28 05.9
	comp=N,5μm,5.0s					
OKH			AMS	AMS		03 31 26.4
	comp=N,45μm,16.0s					
OKH			AMS	AMS		03 31 26.4
	comp=N,23μm,16.0s					
OKH			AMS	AMS		03 31 26.4
	comp=N,34μm,16.0s					
NKL	Nikolayevsk	11.94 341	*e* P		Pn	03 25 39.6 -3.0
NKL			*e* S		Sn	03 27 59.5 +4.4
NKL			pmax	pmax		
	comp=N,767nm,1.4s					
NKL			pmax	pmax		
	comp=E,1μm,1.4s					
NKL			pmax	pmax		
	comp=Z,4μm,1.4s					
NKL			smax	smax		
	comp=E,2μm,3.4s					
NKL			smax	smax		
	comp=N,3μm,4.5s					
NKL			MLR	MLR		
	comp=E,60μm,16.0s					
NKL			MLR	MLR		
	comp=N,86μm,18.0s					
NKL			MLR	MLR		
	comp=Z,93μm,17.0s					
NKL	Nikolayevsk	11.94 341	*e* P		Pn	03 25 43.4 +0.8
NKL			AMB	AMB		03 25 45.0
	comp=Z,12μm,3.4s					
NKL			AMB	AMB		03 25 45.0
	comp=Z,12μm,3.4s					
NKL			AMB	AMB		03 25 46.6
	comp=Z,310nm,0.6s					
NKL			*e* S		Sn	03 27 50.4 -4.7
NKL			A	A		03 28 07.0

	comp=Z,6μm,8.5s					
NKL				A	A	03 28 07.0
	comp=Z,5μm,8.5s					
NKL				AMS	AMS	03 30 54.9
	comp=Z,60μm,17.0s					
NKL				AMS	AMS	03 30 54.9
	comp=Z,86μm,17.0s					
NKL				AMS	AMS	03 30 54.9
	comp=Z,93μm,17.0s					
PSTR	**Posyet**	**11.97 279**	*i* P	**Pn**	**Pn**	**03 25 42.8 -0.2**
KLR	**Kul'dur**	**12.85 309**	Pn	**Pn**	**Pn**	**03 25 56.5 +1.3**
	comp=Z,4.5nm,0.3s,baz=120,slow=13,SNR=148					
KLR				PcP	**PcP**	**03 31 30.5 +1.0**
	comp=Z,14nm,0.7s,baz=117,slow=3.5,SNR=3.6					
KLR				LR	LR	03 31 33.8
	comp=Z,50μm,18.6s,baz=126,slow=40					
	comp=Z,63nm,0.6s					
KLR	**Kul'dur**	**12.85 309**	*i* P	**Pn**	**Pn**	**03 25 55.4 +0.3**
KLR				pmax	pmax	
	comp=Z,588nm,1.8s					
KLR				MLR	MLR	
	comp=Z,42μm,15.0s					
KLR	**Kul'dur**	**12.85 309**	*e*P	**Pn**	**Pn**	**03 25 55.4 +0.3**
KLR				AMS	AMS	03 31 48.4
	comp=Z,42μm,15.0s					
MDJ	**Mudanjiang**	**12.91 288**		**Pn**	**Pn**	**03 25 55.9 0.0**
MDJ	**Mudanjiang**	**12.91 288**	P	**Pn**	**Pn**	**03 25 55.9 0.0**
MDJ			sP	P	P	03 25 59.8 -6.7
MDJ			S	**Sn**	**Sn**	**03 28 17.2 -1.8**
MDJ			pmax	pmax		
	comp=Z,130nm,1.0s					
MDJ			pmax	pmax		
	comp=Z,2μm,8.4s					
MDJ			LR	LR		
	comp=Z,20μm,19.2s					
MDJ			LR	LR		
	comp=Z,19μm,17.9s					
MDJ			LR	LR		
	comp=Z,22μm,15.1s					
MDJ	**Mudanjiang**	**12.91 288**	P	**Pn**	**Pn**	**03 25 56.3 +0.4**
JMN	**Monobe**	**13.20 236**		**Pn**	**Pn**	**03 25 57.9 -2.1**
JMN	**Monobe**	**13.20 236**	P	**Pn**	**Pn**	**03 26 00.2 +0.3**
PEA0B	**Petropavlovsk-**	**13.27 29**		**Pn**	**Pn**	**03 25 58.4 -2.4**
PEA0B	**Petropavlovsk-**	**13.27 29**	*ce*P	**Pn**	**Pn**	**03 25 59.0 -1.8**
PETK	**Petropavlovsk-**	**13.27 29**		**Pn**	**Pn**	**03 25 57.7 -3.1**
PETK	**Petropavlovsk-**	**13.27 29**	Pn	**Pn**	**Pn**	**03 25 58.9 -2.0**
	comp=Z,7.6nm,0.3s,baz=200,slow=9.6,SNR=39					
PETK			LR	LR		03 30 50.1
	comp=Z,33μm,21.7s,baz=219,slow=36					
	comp=Z,56nm,0.6s					
I44RU	**PETROPAVLOVSK**	**13.28 29**	I	I		04 38 40.0
	baz=227,slow=327,SNR=1.3					
PET	**Petropavlovsk**	**13.57 32**		**Pn**	**Pn**	**03 26 02.3 -2.5**
PET	**Petropavlovsk**	**13.57 32**	P	**Pn**	**Pn**	**03 26 05.4 +0.6**
PET	**Petropavlovsk**	**13.57 32**	*e*P	**Pn**	**Pn**	**03 26 02.1 -2.7**
PET			pmax	pmax		
	comp=Z,213nm,1.5s					
PET			pmax	pmax		
	comp=Z,4μm,9.7s					
PET			pmax	pmax		
	comp=Z,6μm,9.3s					
PET			MLR	MLR		
	comp=Z,20μm,14.0s					
PET			MLR	MLR		
	comp=Z,22μm,14.0s					
PET	**Petropavlovsk**	**13.57 32**	*e*P	**Pn**	**Pn**	**03 26 03.3 -1.5**
PET			AMB	AMB		03 26 27.8
	comp=Z,6μm,8.8s					
PET			AMS	AMS		03 32 57.1
	comp=Z,22μm,14.0s					
EKMR	**Ekimchan**	**14.54 324**	*e*P	**Pn**	**Pn**	**03 26 17.2 -1.0**
EKMR			AMB	AMB		03 26 18.9
	comp=Z,2μm,5.0s					
EKMR			AMB	AMB		03 26 18.9
	comp=Z,2μm,5.0s					
EKMR			AMB	AMB		03 26 18.9
	comp=Z,2μm,5.0s					
EKMR			AMB	AMB		03 26 30.0
	comp=Z,60nm,0.7s					
EKMR			*e*S	**Sn**		**03 28 51.5 -7.2**
EKMR			A	A		03 29 14.7
	comp=Z,5μm,8.0s					
EKMR			A	A		03 29 14.7
	comp=Z,5μm,8.0s					
EKMR			AMS	AMS		03 33 36.0
	comp=Z,7μm,13.0s					
EKMR			AMS	AMS		03 33 36.0
	comp=Z,8μm,13.0s					
EKMR			AMS	AMS		03 33 36.0
	comp=Z,15μm,13.0s					
BNX	**BinXian**	**14.58 292**	⇑P	**Pn**	**Pn**	**03 26 17.9 -0.8**
BNX			S	**Sn**	**Sn**	**03 28 55.9 -3.8**
BNX			pmax	pmax		
	comp=Z,440nm,1.2s					
BNX			pmax	pmax		
	comp=Z,2μm,7.8s					
BNX			LR	LR		
	comp=Z,22μm,16.8s					
BNX			LR	LR		
	comp=Z,8μm,12.7s					
BNX			LR	LR		
	comp=Z,15μm,17.2s					
KSRS	**Korea Array**	**15.31 259**	Pn	**Pn**	**Pn**	**03 26 27.1 -1.5**
	comp=Z,0.6nm,0.3s,baz=70,slow=12,SNR=76					
KSRS			Sn	**Sn**	**Sn**	**03 29 20.2 +2.6**
	comp=Z,2.7nm,0.3s,baz=69,slow=23,SNR=6.4					
KSRS			PcP	**PcP**	**PcP**	**03 31 34.1 +1.2**
	comp=Z,5.9nm,0.8s,baz=119,slow=1.3,SNR=4.6					
KSRS			LR	LR		03 32 41.3
	comp=Z,23μm,18.0s,baz=70,slow=38					
	comp=Z,39nm,1.0s					
KSAR	**Wonju Array Be**	**15.35 259**	P	**Pn**	**Pn**	**03 26 26.5 -2.5**
KSAR	**Wonju Array Be**	**15.35 259**	P	**Pn**	**Pn**	**03 26 26.5 -2.5**
JCJ	**Chichijima**	**15.36 196**	Pn	Pn	Pn	03 26 16.2 -13
	comp=Z,83nm,0.3s,baz=96,slow=22,SNR=29					
JCJ			Sn	Sn	Sn	03 28 52.5 -26
	comp=Z,95nm,0.3s,baz=280,slow=22,SNR=6.1					
JCJ			LR	LR		03 30 13.3
	comp=Z,9μm,21.6s,baz=1.5,slow=29					
JNU	**Nakatsue**	**15.49 240**	Pn	**Pn**	**Pn**	**03 26 27.7 -3.3**
	comp=Z,1.3nm,0.3s,baz=256,slow=2.3,SNR=7.8					
JNU			LR	LR		03 32 26.6
	comp=Z,36μm,21.8s,baz=47,slow=37					
JNU	**Nakatsue**	**15.49 240**	P	**Pn**	**Pn**	**03 26 29.4 -1.6**
JTU	**Tsushima**	**15.65 247**	P	**Pn**	**Pn**	**03 26 34.0 +1.0**
HEH	**HeiHe**	**15.83 308**	*e*P	**Pn**	**Pn**	**03 26 32.1 -3.1**
HEH			sP	**P**	**P**	**03 26 36.1 -2.8**
HEH			S	**Sn**	**Sn**	**03 29 24.9 -5.2**
HEH			SS	**SnSn**	**SnSn**	**03 29 40.6 -2.2**
HEH			pmax	pmax		
	comp=Z,81nm,1.6s					
HEH			pmax	pmax		
	comp=Z,4μm,4.2s					
HEH			LR	LR		
	comp=Z,71μm,18.1s					
HEH			LR	LR		
	comp=Z,38μm,19.5s					
HEH			LR	LR		
	comp=Z,57μm,17.9s					
CN2	**Changchun**	**15.85 284**	*e*P	**Pn**	**Pn**	**03 26 34.0 -1.6**
CN2			*e*S	**Sn**	**Sn**	**03 29 29.3 -1.4**
CN2			pmax	pmax		
	comp=Z,30nm,1.0s					
CN2			pmax	pmax		
	comp=Z,1μm,6.0s					
CN2			LR	LR		
	comp=Z,19μm,17.0s					
CN2			LR	LR		
	comp=Z,37μm,17.0s					
CN2			LR	LR		
	comp=Z,38μm,16.6s					
TJN	**Taejon**	**16.17 256**	P	**Pn**	**Pn**	**03 26 38.0 -1.6**
TJN	**Taejon**	**16.17 256**	P	**Pn**	**Pn**	**03 26 39.0 -0.6**
TJN	**Taejon**	**16.17 256**	*d* P	**Pn**	**Pn**	**03 26 38.3 -1.3**
INCN	**Inchon**	**16.25 261**	P	**Pn**	**Pn**	**03 26 37.7 -3.0**
INCN	**Inchon**	**16.25 261**	P	**Pn**	**Pn**	**03 26 40.9 +0.2**
INCN	**Inchon**	**16.25 261**	P	**Pn**	**Pn**	**03 26 37.7 -3.0**
INCN			pmax	pmax		
	comp=Z,264nm,1.8s					
OCTB	**Oktyabr'skiy**	**16.52 318**	*e*P	**Pn**	**Pn**	**03 26 42.5 -1.5**
OCTB			AMB	AMB		03 26 43.6
	comp=Z,330nm,0.8s					
SNY	**Shenyang**	**17.39 277**	⇓P	**Pn**	**Pn**	**03 26 53.2 -1.8**
SNY			S	**Sn**	**Sn**	**03 30 03.6 -4.3**
SNY			pmax	pmax		
	comp=Z,160nm,1.2s					
SNY			pmax	pmax		
	comp=Z,970nm,3.7s					
SNY			LR	LR		
	comp=Z,11μm,13.1s					
SNY			LR	LR		
	comp=Z,14μm,19.0s					
SNY			LR	LR		
	comp=Z,18μm,18.8s					
BMKR	**Bomnak**	**17.45 323**	*e*P	**Pn**	**03 26 54.3 -1.4**
KBG	**Krutoberegovo**	**17.55 30**	*e*P	**Pn**	**03 26 53.1 -3.8**
KBG			AMB	AMB	03 27 01.4
	comp=Z,760nm,0.6s				
ZEA	**Zeya**	**17.61 319**	*e*P	**Pn**	**03 26 55.6 -2.1**
ZEA			pmax	pmax	
	comp=E,2μm,3.6s				
ZEA			pmax	pmax	
	comp=N,2μm,3.8s				
ZEA			pmax	pmax	
	comp=Z,3μm,3.4s				
ZEA			pmax	pmax	
	comp=E,240nm,0.9s				
ZEA			pmax	pmax	
	comp=N,260nm,0.7s				
ZEA			pmax	pmax	
	comp=Z,480nm,0.8s				
ZEA			MLR	MLR	
	comp=E,11μm,13.0s				
ZEA			MLR	MLR	
	comp=Z,11μm,14.0s				
ZEA	**Zeya**	**17.61 319**	*e*P	**Pn**	**03 26 55.6 -2.1**
ZEA			AMB	AMB	03 26 56.6
	comp=Z,2μm,3.0s				
ZEA			AMB	AMB	03 26 56.6
	comp=Z,2μm,3.0s				
ZEA			AMB	AMB	03 26 56.6
	comp=Z,3μm,3.0s				
ZEA			AMB	AMB	03 27 09.4
	comp=Z,260nm,0.8s				
ZEA			AMB	AMB	03 27 09.4
	comp=Z,240nm,0.8s				
ZEA			AMB	AMB	03 27 09.4
	comp=Z,480nm,0.8s				
ZEA			AMS	AMS	03 35 23.0
	comp=Z,11μm,14.0s				
ZEA			AMS	AMS	03 35 23.0
	comp=Z,11μm,14.0s				
MA2	**Magadan**	**17.77 6**	P	**Pn**	**03 26 56.7 -2.9**
MA2	**Magadan**	**17.77 6**	P	**Pn**	**03 26 56.6 -3.1**
	comp=Z,38nm,0.6s,baz=189,slow=12,SNR=58				
MA2			LR	LR	03 33 30.5
	comp=Z,18μm,20.7s,baz=190,slow=36				
MA2	**Magadan**	**17.77 6**	P	**Pn**	**03 26 58.0 -1.7**
MA2	**Magadan**	**17.77 6**	*ce*P	**Pn**	**03 26 56.7 -2.9**
MA2			pmax	pmax	
	comp=Z,412nm,2.5s				
MA2			MLR	MLR	
	comp=Z,13μm,17.0s				
DL2	**Dalian**	**19.49 269**	P	**P**	**03 27 19.2 -0.1**
DL2			pP	**sP**	**03 27 27.7 +2.9**
DL2			pmax	pmax	
	comp=Z,400nm,1.0s				
DL2			pmax	pmax	
	comp=Z,4μm,5.2s				
DL2			LR	LR	
	comp=Z,9μm,17.5s				
DL2			LR	LR	
	comp=Z,10μm,19.4s				
DL2			LR	LR	
	comp=Z,18μm,23.5s				
HIA	**Hailar**	**20.29 300**	P	**P**	**03 27 28.3 +0.2**
JMZ	**Minamidaito 2**	**20.68 224**	P	**P**	**03 27 33.0 +0.6**
JMZ	**Minamidaito 2**	**20.68 224**	P	Pn	03 27 34.1 -0.7
SHEM	**Shemya Is, Ala**	**21.18 50**	P	**P**	**03 27 38.5 +1.0**
	comp=Z,313nm,1.0s,baz=328,slow=0.6,SNR=9.6				
SHEM			S	**S**	**03 31 24.9 -7.2**
	comp=Z,277nm,0.9s,baz=326,slow=18,SNR=11				
SHEM			LR	LR	03 35 18.2
	comp=Z,7μm,21.9s,baz=254,slow=35				
	comp=Z,313nm,1.0s				
SEY	**Seymchan**	**21.23 7**	P	**P**	**03 27 35.2 -2.8**
	comp=Z,70nm,0.9s,baz=184,slow=8.7,SNR=72				
SEY			S	**S**	**03 31 27.5 -5.5**
	comp=Z,16nm,1.0s,baz=25,slow=22,SNR=6.5				
SEY			LR	LR	03 36 40.4
	comp=Z,16μm,18.6s,baz=184,slow=39				
SEY	**Seymchan**	**21.23 7**	*ce*P	**P**	**03 27 36.5 -1.5**
SEY			pmax	pmax	
	comp=Z,184nm,2.5s				
SEY			MLR	MLR	
	comp=Z,17μm,20.0s				
JOW	**Kunigami**	**21.51 231**	P	**P**	**03 27 41.2 -0.2**
JOW			IAmb	IAmb	03 27 56.7
	comp=Z,1μm,1.3s				
JOW	**Kunigami**	**21.51 231**	P	**P**	**03 27 41.4 0.0**
	comp=Z,195nm,0.8s,baz=39,slow=9.1,SNR=21				
JOW			LR	LR	03 36 15.6
	comp=Z,10μm,21.4s,baz=39,slow=38				
	comp=Z,195nm,0.8s				
JOW	**Kunigami**	**21.51 231**	P	**P**	**03 27 41.9 +0.6**
YAK	**Yakutsk**	**22.57 339**	P	**P**	**03 27 47.7 -4.7**
YAK			IAmb	IAmb	03 28 11.1
	comp=Z,422nm,0.6s				
YAK	**Yakutsk**	**22.57 339**	*e*P	**P**	**03 27 49.3 -3.1**
YAK			*e**PP	**pP**	**03 27 52.9 -3.0**
YAK			*e*PPP	PPP	03 28 17.7
YAK			*e*S	**S**	**03 31 49.6 -9.1**
YAK			*e**SS	**pS**	**03 31 58.2 -4.6**
YAK			*e*		03 39 12.7
YAK			pmax	pmax	
	comp=Z,79nm,0.9s				
YAK			pmax	pmax	
	comp=N,18nm,0.9s				
YAK			pmax	pmax	
	comp=E,8.0nm,1.0s				
YAK			pmax	pmax	
	comp=Z,1μm,2.0s				
YAK			pmax	pmax	
	comp=N,939nm,1.9s				
YAK			pmax	pmax	
	comp=E,680nm,2.0s				
YAK			smax	smax	
	comp=E,4μm,3.3s				
YAK			smax	smax	
	comp=N,3μm,2.3s				
YAK			MLR	MLR	
	comp=Z,10μm,24.0s				
YAK			MLR	MLR	
	comp=N,13μm,21.0s				
YAK			MLR	MLR	
	comp=E,13μm,19.0s				
XLT	**XiLinHaoTe**	**22.61 285**	*e*P	**P**	**03 27 52.9 -0.2**
XLT			sP	sP	03 27 59.9 +1.3
XLT			PcP	**PcP**	**03 31 50.5 +4.8**
XLT			S	**S**	**03 31 54.2 -5.7**
XLT			pmax	pmax	
	comp=E,160nm,1.0s				
XLT			pmax	pmax	
	comp=E,3μm,4.6s				
XLT			LR	LR	
	comp=E,13μm,21.0s				
XLT			LR	LR	
	comp=E,22μm,20.4s				
BJI	**Beijing**	**23.24 276**	P	**P**	**03 27 58.3 -1.2**
BJI			PP	**PnPn**	**03 28 28.1 +2.9**
BJI			S	**S**	**03 32 05.5 -5.1**
BJI			pmax	pmax	
	comp=E,67nm,0.9s				
BJI			pmax	pmax	
	comp=E,2μm,9.2s				
BJI			LR	LR	
	comp=E,6μm,14.4s				
BJI			LR	LR	
	comp=E,8μm,15.6s				
BJI			LR	LR	
	comp=E,11μm,15.7s				
BJT	**Baijiatuau**	**23.25 275**	IAMs_20	IAMs_20	03 36 53.0
	comp=Z,20μm,20.0s				
BJT	**Baijiatuau**	**23.25 275**	P	**P**	**03 27 59.8 +0.1**
SSE	**Sheshan**	**23.29 251**	P	**P**	**03 28 01.6 +1.5**
SSE			pP	**pP**	**03 28 02.6 -1.1**
SSE			S	**S**	**03 32 12.1 +0.6**
SSE			pmax	pmax	
	comp=Z,58nm,1.3s				
SSE			pmax	pmax	
	comp=Z,1.0nm,2.7s				
SSE			LR	LR	
	comp=Z,7μm,18.9s				
TIA	**Tai'an**	**23.77 266**	P	**P**	**03 28 04.0 -0.9**
TIA			S	**S**	**03 32 18.1 -1.3**
TIA			ScS	**ScS**	**03 39 09.5 -2.6**
TIA			pmax	pmax	
	comp=Z,250nm,1.0s				
TIA			pmax	pmax	
	comp=Z,5μm,8.3s				
TIA			LR	LR	
	comp=Z,9μm,17.2s				
TIA			LR	LR	
	comp=Z,10μm,13.8s				
TIA			LR	LR	
	comp=Z,17μm,23.6s				
NJ2	**Nanjing**	**24.42 255**	⇓P	**P**	**03 28 11.2 +0.3**
NJ2			S	**S**	**03 32 33.2 +3.4**
NJ2			pmax	pmax	
	comp=Z,170nm,1.3s				
NJ2			pmax	pmax	
	comp=Z,7μm,7.4s				
NJ2			LR	LR	
	comp=Z,14μm,18.5s				
NJ2			LR	LR	
	comp=Z,16μm,17.1s				
NJ2			LR	LR	
	comp=Z,23μm,17.1s				
CIT	**Chita**	**24.68 305**	*e*P	**P**	**03 28 11.0 -2.1**
CIT			*e*		03 28 21.8
CIT			*e*		03 28 49.2
CIT			*e*		03 29 02.2
CIT			*e*S	**S**	**03 32 34.4 +0.6**
CIT			*e*		03 33 41.4
CIT			pmax	pmax	
	comp=Z,2μm,1.4s				
JMJ	**Miyako jima 2**	**24.79 233**	P	**P**	**03 28 15.4 +1.2**
HNS	**HongShan**	**25.14 270**	⇓P	**P**	**03 28 17.3 0.0**
HNS			S	**S**	**03 32 43.7 +2.6**
HNS			pmax	pmax	
	comp=Z,140nm,1.2s				
HNS			pmax	pmax	
	comp=Z,6μm,8.4s				
HNS			LR	LR	
	comp=Z,5μm,17.8s				
HNS			LR	LR	
	comp=Z,12μm,16.0s				
HNS			LR	LR	
	comp=Z,17μm,16.7s				
BOD	**Bodaibo**	**26.12 319**	*e*P	**P**	**03 28 24.3 -1.8**
BOD			pmax	pmax	
	comp=Z,633nm,1.8s				
KIWB	**Kanaga Island**	**26.19 56**	P	**P**	**03 28 26.6 -0.2**
HHC	**Hu-ho-hao-te**	**26.44 280**	⇓*i* P	**P**	**03 28 32.7 +3.4**
HHC			pP	sP	03 28 38.5 +3.6
HHC			PP	**PnPn**	**03 29 14.5 +5.3**
HHC			S	**S**	**03 33 03.1 +1.1**
HHC			sS	sS	03 33 08.9 0.0
HHC			pmax	pmax	
	comp=Z,37nm,1.2s				
HHC			pmax	pmax	
	comp=Z,4μm,5.9s				
HHC			LR	LR	
	comp=Z,6μm,16.9s				
HHC			LR	LR	
	comp=Z,17μm,19.8s				
HHC			LR	LR	
	comp=Z,25μm,19.9s				
TIY	**Taiyuan**	**26.72 272**	*e*P	**P**	**03 28 34.4 +2.6**
TIY			PP	**PnPn**	**03 29 13.0 0.0**
TIY			SS		03 34 15.2
TIY			pmax	pmax	
	comp=Z,32nm,1.0s				
TIY			pmax	pmax	
	comp=Z,6μm,6.7s				
TIY			LR	LR	
	comp=Z,7μm,16.5s				
TIY			LR	LR	
	comp=Z,10μm,17.9s				
TIY			LR	LR	
	comp=Z,13μm,17.2s				
GSTR	**Great Sitkin T**	**26.90 55**	P	**P**	**03 28 33.3 +0.1**
TATO	**Taipei**	**27.02 239**	IAMs_20	IAMs_20	03 38 45.5
	comp=Z,14μm,20.0s				
TATO	**Taipei**	**27.02 239**	P	**P**	**03 28 35.2 +0.7**
YHNB	**Yeheng**	**27.31 239**	P	**P**	**03 28 38.3 +1.1**
NACB	**Ninganchiao**	**27.53 238**	IAMs_20	IAMs_20	03 40 44.0
	comp=Z,14μm,20.0s				
NACB	**Ninganchiao**	**27.53 238**	P	**P**	**03 28 40.4 +1.4**
BTO	**Baotou**	**27.64 280**	*e*P	**P**	**03 28 41.0 +1.0**
BTO			pP	**sP**	**03 28 45.6 -0.1**
BTO			sP	**pwP**	**03 28 48.7 -4.4**
BTO			PP	**PnPn**	**03 29 24.2 -1.3**
BTO			SS	SS	03 34 38.7 -39
BTO			pmax	pmax	
	comp=Z,19nm,0.9s				
BTO			pmax	pmax	
	comp=Z,3μm,3.9s				
BTO			LR	LR	
	comp=Z,31μm,15.4s				
BTO			LR	LR	
	comp=Z,34μm,20.0s				
BTO			LR	LR	
	comp=Z,53μm,18.8s				
H11N2	**WAKE ISLAND Hy**	**27.90 137**	T	T	03 57 15.8
	baz=325,slow=75				
H11N1	**WAKE ISLAND Hy**	**27.91 137**	T	T	03 57 16.8
	baz=325,slow=75				
H11N3	**WAKE ISLAND Hy**	**27.91 137**	T	T	03 57 20.1
	baz=325,slow=75				
LYN	**LuoYang**	**27.92 266**	⇑*i* P	**P**	**03 28 44.0 +1.5**
LYN			pP	sP	03 28 48.2 0.0
LYN			sP	pwP	03 28 50.8 -4.0
LYN			S	**S**	**03 33 30.0 +4.7**
LYN			pmax	pmax	
	comp=Z,84nm,1.9s				
LYN			LR	LR	
	comp=Z,7μm,18.2s				
LYN			LR	LR	
	comp=Z,14μm,21.6s				
LYN			LR	LR	
	comp=Z,22μm,18.6s				
ATKA	**Atka Island**	**28.05 55**	P	**P**	**03 28 43.4 -0.1**
ATKA			IAmb	IAmb	03 28 46.2
	comp=Z,457nm,1.0s				
ATKA	**Atka Island**	**28.05 55**	P	**P**	**03 28 43.7 +0.3**
BILL	**Bilibino**	**28.10 15**	P	**P**	**03 28 43.2 -0.5**
BILL			IAMs_20	IAMs_20	03 39 28.1
	comp=Z,18μm,21.0s				
BILL	**Bilibino**	**28.10 15**	*ce*P	**P**	**03 28 44.2 +0.5**
BILL			pmax	pmax	
	comp=Z,133nm,1.7s				
BILL			MLR	MLR	
	comp=Z,20μm,22.0s				
SSLB	**Suanglung**	**28.21 238**	IAMs_20	IAMs_20	03 41 16.1
	comp=Z,15μm,19.0s				
SSLB	**Suanglung**	**28.21 238**	P	**P**	**03 28 46.5 +1.3**
YULB	**Yu-li**	**28.28 237**	P	**P**	**03 28 46.5 +0.7**
GUMO	**Guam**	**28.35 184**	LR	LR	03 37 58.8
	comp=Z,7μm,21.8s,baz=43,slow=32				
WHN	**Wuhan**	**28.48 257**	P	**P**	**03 28 47.6 +0.1**
WHN			sP	**sP**	**03 28 54.1 +1.0**
WHN			S	**S**	**03 33 32.6 -1.5**
WHN			sS	**sS**	**03 33 45.0 +4.2**
WHN			pmax	pmax	
	comp=Z,800nm,1.9s				
WHN			pmax	pmax	
	comp=Z,7μm,8.1s				
WHN			LR	LR	
	comp=Z,27μm,14.9s				
WHN			LR	LR	
	comp=Z,32μm,15.9s				
WHN			LR	LR	
	comp=Z,33μm,21.3s				
ULN	**Ulaanbaatar**	**28.61 296**	P	**P**	**03 28 49.2 +0.6**
ULN	**Ulaanbaatar**	**28.61 296**	IAMs_20	IAMs_20	03 41 16.8
	comp=Z,13μm,18.0s				
ULN	**Ulaanbaatar**	**28.61 296**	*c i* P	**P**	**03 28 49.8 +1.1**
ULN			pmax	pmax	
	comp=Z,213nm,3.6s				
ULN	**Ulaanbaatar**	**28.61 296**	*e*P	**P**	**03 28 49.8 +1.1**
TPUB	**Ta-pu**	**28.77 238**	P	**P**	**03 28 50.1 0.0**
TPUB			IAMs_20	IAMs_20	03 40 30.8
	comp=Z,16μm,21.0s				
TPUB	**Ta-pu**	**28.77 238**	P	**P**	**03 28 50.9 +0.8**
H11S1	**WAKE ISLAND Hy**	**28.83 138**	T	T	03 58 35.7
	baz=329,slow=76				
H11S3	**WAKE ISLAND Hy**	**28.83 138**	T	T	03 58 30.9

	baz=329,slow=76					
TWGBT	**Beinan**	28.84	237	P	**P**	**03 28 51.9 +1.2**
TWG	**Pinlang**	28.84	237	IAMs_20	IAMs_20	03 40 31.6
	comp=Z,14μm,22.0s					
H11S2	**WAKE ISLAND Hy**	28.84	138	T	T	03 58 27.9
	baz=329,slow=76					
QZH	**Quanzhou**	28.94	243	P	P	03 28 58.0 +6.4
QZH				S	**S**	**03 33 40.7 -0.6**
QZH				pmax	pmax	
	comp=Z,150nm,1.5s					
QZH				pmax	pmax	
	comp=Z,2μm,14.8s					
QZH				LR	LR	
	comp=Z,12μm,18.2s					
QZH				LR	LR	
	comp=Z,13μm,17.9s					
QZH				LR	LR	
	comp=Z,8μm,18.9s					
SONM	**Songino Array**	29.05	296	P	**P**	**03 28 53.2 +0.6**
SONM	**Songino Array**	29.05	296	P	**P**	**03 28 53.5 +1.0**
	comp=Z,59nm,0.6s,baz=86,slow=9.0,SNR=70					
SONM				S	**S**	**03 33 48.6 +5.5**
	comp=Z,14nm,1.1s,baz=83,slow=13,SNR=2.9					
SONM				LR	LR	03 41 34.9
	comp=Z,7μm,21.6s,baz=90,slow=39					
SONM				P3KPbc		04 01 00.7
	comp=Z,1.1nm,1.1s,baz=223,slow=5.9,SNR=4.4					
	comp=Z,59nm,0.6s					
SONM	**Songino Array**	29.05	296	P	**P**	**03 28 53.2 +0.6**
SONM				pmax	pmax	
	comp=Z,2μm,1.2s					
KNMB	**Chin-men Tao**	29.40	243	P	**P**	**03 28 55.0 -0.6**
IRK	**Irkutsk**	30.39	305	*e*P	**P**	**03 29 05.3 +1.1**
IRK				*e*S	**S**	**03 34 00.7 -3.0**
IRK				pmax	pmax	
	comp=Z,572nm,1.7s					
IRK	**Irkutsk**	30.39	305	*e*P	**P**	**03 29 05.3 +1.1**
XAN	**Xi'an**	30.79	268	⇑P	**P**	**03 29 08.6 +0.6**
XAN				pP	sP	03 29 16.4 +2.7
XAN				S	**S**	**03 34 13.1 +2.7**
XAN				pmax	pmax	
	comp=Z,25nm,2.0s					
XAN				pmax	pmax	
	comp=Z,4μm,10.5s					
XAN				LR	LR	
	comp=Z,12μm,17.2s					
XAN				LR	LR	
	comp=Z,10μm,17.2s					
XAN				LR	LR	
	comp=Z,13μm,13.7s					
CNSH	**ChangSha**	30.83	254	P	**P**	**03 29 09.2 +0.9**
CNSH				S	**S**	**03 34 13.9 +2.9**
CNSH				LR	LR	
	comp=Z,11μm,15.5s					
CNSH				LR	LR	
	comp=Z,8μm,15.7s					
CNSH				LR	LR	
	comp=Z,16μm,16.6s					
ZAK	**Zakamensk**	30.99	301	*e*P	**P**	**03 29 10.4 +0.8**
ZAK				pmax	pmax	
	comp=Z,330nm,1.4s					
SPIA	**Saint Paul Isl**	31.04	46	P	**P**	**03 29 10.8 +1.0**
	baz=259					
TIXI	**Tiksi**	31.06	349	P	**P**	**03 29 08.5 -1.4**
TIXI	**Tiksi**	31.06	349	LR	LR	03 42 11.9
	comp=Z,9μm,20.3s,baz=156,slow=37					
TIXI	**Tiksi**	31.06	349	*c i*P	**P**	**03 29 06.4 -3.5**
TIXI				pmax	pmax	
	comp=Z,25nm,0.6s					
TIXI				MLR	MLR	
	comp=Z,9μm,19.0s					
P08K	**Saint George I**	31.32	47	P	**P**	**03 29 12.8 +0.5**
	baz=261					
MIDW	**Midway**	32.02	104	P	**P**	**03 29 19.6 +0.8**
MIDW				IAmb	IAmb	03 29 21.4
	comp=Z,540nm,1.3s					
MIDW	**Midway**	32.02	104	P	**P**	**03 29 19.7 +0.9**
ENH	**Enshi**	32.19	261	P	**P**	**03 29 21.3 +1.0**
GAMB	**Gambell**	32.26	33	P	**P**	**03 29 20.2 -0.3**
GAMB				IAmb	IAmb	03 29 30.6
	comp=Z,389nm,1.9s					
GAMB	**Gambell**	32.26	33	P	**P**	**03 29 20.5 +0.1**
	baz=247					
GAMB				S	**S**	**03 34 34.3 +1.8**
	baz=247					
MOY	**Mondy**	32.41	303	*e*P	**P**	**03 29 22.8 +0.7**
MOY				pmax	pmax	
	comp=Z,456nm,1.8s					
UNV	**Unalaska Valle**	32.79	53	P	**P**	**03 29 24.8 -0.5**
	baz=268					
SZP	**Santa**	33.24	231	P	**P**	**03 29 31.6 +2.1**
HKC	**Hong Kong Obse**	33.69	245	⇑P	P	03 29 41.0 +7.6
LZH	**Lanzhou**	33.72	274	*e*P	**P**	**03 29 34.9 +1.1**
LZH				pP	sP	03 29 42.0 +2.5
LZH				S	**S**	**03 34 56.7 +0.5**
LZH				pmax	pmax	
	comp=Z,68nm,1.1s					
LZH				pmax	pmax	
	comp=Z,3μm,7.5s					
LZH				LR	LR	
	comp=Z,11μm,15.5s					
LZH				LR	LR	
	comp=Z,9μm,14.8s					
LZH				LR	LR	
	comp=Z,14μm,15.8s					
GZH	**Guangzhou**	33.72	247	P	P	03 29 27.1 -6.6
GZH				S	S	03 34 47.0 -9.1
GZH				LR	LR	
	comp=Z,15μm,17.9s					
GZH				LR	LR	
	comp=Z,11μm,19.0s					
GZH				LR	LR	
	comp=Z,10μm,23.5s					
HKPS	**Hong Kong Po S**	33.73	245	P	**P**	**03 29 35.2 +1.4**
M11K	**Mekoryuk**	33.73	41	IAmb	IAmb	03 29 56.0
	comp=Z,209nm,1.2s					
M11K	**Mekoryuk**	33.73	41	P	**P**	**03 29 33.5 +0.1**
	baz=258,SNR=8.6					
TNA	**Tin City**	34.43	31	IAmb	IAmb	03 29 50.0
	comp=Z,272nm,1.0s					
TNA	**Tin City**	34.43	31	P	**P**	**03 29 40.9 +1.5**
	baz=249,SNR=46					
TNA				S	**S**	**03 35 07.8 +1.6**
	baz=249					
FALS	**False Pass**	34.62	51	P	**P**	**03 29 41.5 +0.3**
	baz=269					
K13K	**Kusilvak Mount**	34.79	38	IAmb	IAmb	03 29 53.8
	comp=Z,227nm,1.1s					
K13K	**Kusilvak Mount**	34.79	38	P	**P**	**03 29 43.8 +1.2**
	baz=258,SNR=44					
K13K				S	**S**	**03 35 12.3 +0.4**
	baz=258					
F14K	**Arctic Creek**	35.02	32	P	**P**	**03 29 46.4 +1.9**
	baz=251					
F14K				S	**S**	**03 35 17.9 +2.4**
	baz=251					
ANM	**Nome**	35.13	34	IAmb	IAmb	03 30 16.8
	comp=Z,282nm,1.3s					
ANM				IAMs_20	IAMs_20	03 46 09.4
	comp=Z,11μm,18.0s					
ANM	**Nome**	35.13	34	P	**P**	**03 29 47.1 +1.6**
	baz=253,SNR=22					
ANM				S	**S**	**03 35 18.1 +0.9**
	baz=253					
M13K	**Dall Lake**	35.13	41	IAmb	IAmb	03 29 49.3
	comp=Z,218nm,0.8s					
M13K	**Dall Lake**	35.13	41	P	**P**	**03 29 46.0 +0.5**
	baz=261,SNR=28					
S12K	**Black Hills**	35.41	49	P	**P**	**03 29 47.9 -0.1**
	baz=269,SNR=5.2					
J14K	**Nanvaranak Lak**	35.46	37	P	**P**	**03 29 49.1 +0.8**
	baz=258					
J14K				S	**S**	**03 35 21.9 -0.3**
	baz=258					
GTA	**Gaotai**	35.47	282	*e*P	**P**	**03 29 49.2 +0.3**
GTA				sP	sP	03 29 56.1 +1.5
GTA				S	**S**	**03 35 19.0 -4.2**
GTA				pmax	pmax	
	comp=Z,1μm,9.8s					
GTA				LR	LR	
	comp=Z,6μm,18.9s					
GTA				LR	LR	
	comp=Z,10μm,20.0s					
GTA				LR	LR	
	comp=Z,14μm,20.0s					
L14K	**Kuka Creek**	35.60	40	IAmb	IAmb	03 30 14.3
	comp=Z,190nm,1.1s					
L14K	**Kuka Creek**	35.60	40	P	**P**	**03 29 51.1 +1.5**
	baz=261					
L14K				S	**S**	**03 35 23.4 -0.9**
	baz=261					
F15K	**North Star Dit**	35.76	32	P	**P**	**03 29 52.5 +1.7**
	baz=253,SNR=42					
F15K				S	**S**	**03 35 29.0 +2.3**
	baz=253					
G15K	**Niukluk**	35.80	33	P	**P**	**03 29 52.9 +1.7**
	baz=254					
G15K				S	**S**	**03 35 29.7 +2.4**
	baz=254					
M14K	**Bethel**	35.86	41	IAmb	IAmb	03 29 54.8
	comp=Z,276nm,0.8s					
M14K	**Bethel**	35.86	41	P	**P**	**03 29 53.1 +1.4**
	baz=262,SNR=91					
M14K				S	**S**	**03 35 29.5 +1.2**
	baz=262					
N14K	**Kuskokwak Cree**	35.89	42	P	**P**	**03 29 53.4 +1.3**
	baz=264,SNR=37					
N14K				S	**S**	**03 35 29.0 +0.2**
	baz=264					
O14K	**Tigyukauivet M**	36.03	43	IAmb	IAmb	03 29 55.7
	comp=Z,180nm,0.9s					
O14K	**Tigyukauivet M**	36.03	43	P	**P**	**03 29 54.5 +1.2**
	baz=265,SNR=34					
O14K				S	**S**	**03 35 29.9 -1.2**
	baz=265					
CD2	**Chengdu**	36.11	266	P	**P**	**03 29 54.7 +0.4**
CD2				sP	pP	03 29 57.8 -0.4
CD2				S	**S**	**03 35 32.9 0.0**
CD2				sS	sS	03 35 38.6 -1.0
CD2				pmax	pmax	
	comp=Z,30nm,1.3s					
CD2				pmax	pmax	
	comp=Z,2μm,8.7s					
CD2				LR	LR	
	comp=Z,12μm,18.9s					
CD2				LR	LR	
	comp=Z,8μm,17.2s					
L15K	**Ungalak Mounta**	36.22	39	P	**P**	**03 29 56.0 +1.1**
	baz=261					
L15K				S	**S**	**03 35 32.9 -0.9**
	baz=261					
K15K	**Wolf Creek Mou**	36.30	38	P	**P**	**03 29 56.8 +1.3**
	baz=260,SNR=34					
K15K				S	**S**	**03 35 31.8 -3.2**
	baz=260					
SDPT	**Sand Point**	36.31	50	P	**P**	**03 29 55.9 +0.2**
	baz=271					
C16K	**Lisburne Hills**	36.36	28	IAmb	IAmb	03 30 08.3
	comp=Z,435nm,1.3s					
C16K				IAMs_20	IAMs_20	03 44 40.1
	comp=Z,12μm,21.0s					
C16K	**Lisburne Hills**	36.36	28	P	**P**	**03 29 57.0 +1.0**
	baz=248,SNR=38					
C16K				S	**S**	**03 35 36.3 +0.4**
	baz=248					
GYA	**Guiyang**	36.37	258	⇑P	**P**	**03 29 57.2 +0.6**
GYA				sP	sP	03 30 03.2 +1.1
GYA				S	**S**	**03 35 34.4 -2.6**
GYA				pmax	pmax	
	comp=Z,60nm,1.3s					
GYA				LR	LR	
	comp=Z,6μm,15.3s					
GYA				LR	LR	
	comp=Z,10μm,17.8s					
GYA				LR	LR	
	comp=Z,17μm,17.8s					
PATS	**Pohnpei**	36.43	161	IAMs_20	IAMs_20	03 41 35.9
	comp=Z,16μm,21.0s					
PATS	**Pohnpei**	36.43	161	P	**P**	**03 29 57.4 +0.4**
	comp=Z,272nm,1.4s					
H16K	**Elim**	36.46	34	P	**P**	**03 29 57.8 +1.0**
	baz=257,SNR=106					
H16K				S	**S**	**03 35 36.7 -0.7**
	baz=257					
M15K	**Kasigluk River**	36.47	41	P	**P**	**03 29 58.1 +1.1**
	baz=263,SNR=119					
M15K				S	**S**	**03 35 36.1 -1.6**
	baz=263					
G16K	**Koyuk River**	36.59	33	P	**P**	**03 29 58.9 +0.9**
	baz=255,SNR=19					
G16K				S	**S**	**03 35 41.0 +1.6**
	baz=255					
N15K	**Kwethluk River**	36.71	42	IAmb	IAmb	03 30 01.6
	comp=Z,202nm,0.9s					
N15K	**Kwethluk River**	36.71	42	P	**P**	**03 30 00.3 +1.2**
	baz=265					
N15K				S	**S**	**03 35 40.2 -1.2**
	baz=265					
O15K	**Ungalikthiuk R**	36.77	44	P	**P**	**03 30 00.5 +0.9**
	baz=266,SNR=34					
O15K				S	**S**	**03 35 39.6 -2.7**
	baz=266					
S14K	**Fog Glacier**	36.83	48	P	**P**	**03 29 59.0 -1.2**
	baz=270					
S14K				S	**S**	**03 35 40.4 -3.0**
	baz=270					
CHNA	**Chernabura Isl**	36.84	51	P	**P**	**03 30 01.3 +1.1**
CHNA	**Chernabura Isl**	36.84	51	P	**P**	**03 29 59.1 -1.1**
	baz=272,SNR=11					
CHNA				S	**S**	**03 35 38.1 -5.3**
	baz=272					
CNBA	**Chernabura Isl**	36.84	51	IAmb	IAmb	03 30 01.9
	comp=Z,219nm,1.0s					
J16K	**Anvik River**	36.89	37	P	**P**	**03 30 02.0 +1.5**
	baz=260,SNR=21					
J16K				S	**S**	**03 35 45.2 +1.2**
	baz=260					
I17K	**Unalakleet**	36.96	36	P	**P**	**03 30 02.4 +1.3**
	baz=259					
I17K				S	**S**	**03 35 44.4 -0.6**
	baz=259					
D17K	**Noatak River**	36.97	29	P	**P**	**03 30 02.6 +1.5**
	baz=252,SNR=119					
D17K				S	**S**	**03 35 44.9 -0.2**
	baz=252					
RDOG	**Red Dog Mine**	37.14	29	IAmb	IAmb	03 30 15.5
	comp=Z,806nm,1.6s					
RDOG				IAMs_20	IAMs_20	03 45 25.7
	comp=Z,9μm,21.0s					
RDOG	**Red Dog Mine**	37.14	29	P	**P**	**03 30 04.0 +1.3**
	baz=251,SNR=66					
RDOG				S	**S**	**03 35 47.4 -0.4**
	baz=251					
L16K	**Owhat River**	37.17	39	P	**P**	**03 30 04.0 +1.0**
	baz=263,SNR=66					
L16K				S	**S**	**03 35 49.0 +0.6**
	baz=263					
C17K	**DeLong Mountai**	37.19	28	P	**P**	**03 30 04.5 +1.4**
	baz=251,SNR=101					
C17K				S	**S**	**03 35 48.5 0.0**
	baz=251					
E17K	**Hotham Inlet**	37.25	30	P	**P**	**03 30 05.2 +1.7**
	baz=254					
E17K				S	**S**	**03 35 49.7 +0.3**
	baz=254					
F17K	**Baldwin Pennin**	37.30	31	IAmb	IAmb	03 30 15.0
	comp=Z,268nm,0.7s					
F17K	**Baldwin Pennin**	37.30	31	P	**P**	**03 30 05.6 +1.7**
	baz=255					
F17K				S	**S**	**03 35 50.1 0.0**
	baz=255					
G17K	**Kiwalik Mounta**	37.31	33	P	**P**	**03 30 05.7 +1.6**
	baz=257					
G17K				S	**S**	**03 35 50.2 -0.2**
	baz=257					
M16K	**Timber Creek**	37.35	41	IAmb	IAmb	03 30 06.9
	comp=Z,242nm,0.9s					
M16K	**Timber Creek**	37.35	41	P	**P**	**03 30 05.6 +1.1**
	baz=265,SNR=92					
M16K				S	**S**	**03 35 51.9 +0.8**
	baz=265					
N16K	**Nishlik Lake**	37.39	41	P	**P**	**03 30 06.3 +1.4**
	baz=266					
N16K				S	**S**	**03 35 51.6 -0.3**
	baz=266					
CHGN	**Chignik**	37.46	48	P	**P**	**03 30 03.7 -1.7**
	baz=271					
H17K	**Granite Mounta**	37.49	34	IAmb	IAmb	03 30 29.9
	comp=Z,298nm,1.4s					
H17K				IAMs_20	IAMs_20	03 47 41.8
	comp=Z,12μm,18.0s					
H17K	**Granite Mounta**	37.49	34	P	**P**	**03 30 06.9 +1.3**
	baz=259,SNR=48					
H17K				S	**S**	**03 35 55.2 +2.0**
	baz=259					
J17K	**VABM Dome**	37.58	37	P	**P**	**03 30 08.0 +1.6**
	baz=261,SNR=53					
J17K				S	**S**	**03 35 56.0 +1.4**
	baz=261					
O16K	**Kokwok River B**	37.68	43	P	**P**	**03 30 08.2 +0.9**
	baz=267,SNR=44					
O16K				S	**S**	**03 35 55.3 -0.7**
	baz=267					
P16K	**Nushagak River**	37.70	44	P	**P**	**03 30 08.4 +0.9**
	baz=268,SNR=58					
L17K	**Donlin**	37.78	39	P	**P**	**03 30 09.6 +1.5**
	baz=264,SNR=75					
L17K				S	**S**	**03 35 59.7 +2.1**
	baz=264					
E18K	**Tukpahlearik C**	37.80	30	P	**P**	**03 30 09.6 +1.4**
	baz=255,SNR=51					
E18K				S	**S**	**03 35 58.9 +1.1**
	baz=255					
K17K	**Iditarod**	37.84	38	IAmb	IAmb	03 30 20.4
	comp=Z,306nm,1.1s					
K17K	**Iditarod**	37.84	38	P	**P**	**03 30 10.1 +1.5**
	baz=263,SNR=103					
K17K				S	**S**	**03 36 01.3 +2.8**
	baz=263					
R16K	**Pilot Point**	37.90	46	P	**P**	**03 30 08.9 -0.2**
	baz=270					
R16K				S	**S**	**03 36 00.7 +1.2**
	baz=270					
C18K	**Utukok River**	37.93	28	IAMs_20	IAMs_20	03 45 28.5
	comp=Z,11μm,22.0s					
C18K	**Utukok River**	37.93	28	P	**P**	**03 30 10.7 +1.3**
	baz=252					
C18K				S	**S**	**03 35 57.6 -2.3**
	baz=252					
B18K	**Kokolik River**	37.95	27	P	**P**	**03 30 11.2 +1.7**
	baz=251,SNR=159					
B18K				S	**S**	**03 35 59.1 -0.9**
	baz=251					
F18K	**Selawik**	37.96	31	P	**P**	**03 30 10.9 +1.4**
	baz=257,SNR=64					
F18K				S	**S**	**03 36 02.3 +2.2**
	baz=257					
M17K	**Holitna River**	38.12	40	IAmb	IAmb	03 30 14.2
	comp=Z,388nm,0.8s					
M17K	**Holitna River**	38.12	40	P	**P**	**03 30 12.5 +1.5**
	baz=266,SNR=213					
M17K				S	**S**	**03 36 02.5 -0.2**
	baz=266					
N17K	**Nushagak Hills**	38.18	41	P	**P**	**03 30 12.9 +1.5**
	baz=267,SNR=83					
N17K				S	**S**	**03 36 04.1 +0.4**
	baz=267					
H18K	**Honhosa River**	38.18	34	IAmb	IAmb	03 30 22.3
	comp=Z,296nm,0.8s					
H18K	**Honhosa River**	38.18	34	P	**P**	**03 30 12.7 +1.2**
	baz=260,SNR=144					
H18K				S	**S**	**03 36 03.1 -0.5**
	baz=260					
O17K	**Koliganek Bris**	38.19	43	P	**P**	**03 30 12.7 +1.1**
	baz=268,SNR=106					
O17K				S	**S**	**03 36 03.1 -0.7**
	baz=268					
G18K	**Tagagawik**	38.20	33	IAmb	IAmb	03 30 35.6
	comp=Z,262nm,1.0s					
G18K	**Tagagawik**	38.20	33	P	**P**	**03 30 12.8 +1.2**
	baz=259,SNR=178					
G18K				S	**S**	**03 36 04.3 +0.4**
	baz=259					
Q16K	**King Salmon**	38.39	44	P	**P**	**03 30 14.2 +1.0**
	baz=270,SNR=57					
Q16K				S	**S**	**03 36 06.9 +0.1**
	baz=270					
A19K	**Wainwright**	38.47	26	P	**P**	**03 30 15.1 +1.4**
	baz=251					
A19K				S	**S**	**03 36 06.6 -1.1**
	baz=251					
P17K	**Kvichak River**	38.51	44	P	**P**	**03 30 14.9 +0.7**
	baz=269,SNR=59					
P17K				S	**S**	**03 36 06.9 -1.8**
	baz=269					
L18K	**Granite Mounta**	38.54	39	P	**P**	**03 30 16.1 +1.6**
	baz=265,SNR=84					
L18K				S	**S**	**03 36 10.6 +1.6**
	baz=265					
J18K	**Innoko River**	38.65	37	P	**P**	**03 30 16.3 +0.9**
	baz=264,SNR=44					
J18K				S	**S**	**03 36 09.4 -1.3**
	baz=264					
F19K	**Shaleruckik Mo**	38.74	31	P	**P**	**03 30 16.7 +0.6**
	baz=258,SNR=103					
F19K				S	**S**	**03 36 12.0 +0.1**
	baz=258					
GCSA	**Galena City Sc**	38.74	35	P	**P**	**03 30 16.2 +0.1**
	baz=262,SNR=7.1					
GCSA				S	**S**	**03 36 10.2 -1.7**
	baz=262					
N18K	**Kilae Creek**	38.83	41	IAmb	IAmb	03 30 19.9
	comp=Z,312nm,0.9s					
N18K	**Kilae Creek**	38.83	41	P	**P**	**03 30 18.4 +1.4**
	baz=268,SNR=195					
N18K				S	**S**	**03 36 14.4 +0.9**
	baz=268					
QIZ	**Qiongzhong**	38.87	245	P	**P**	**03 30 19.2 +1.4**
QIZ				sP	**sP**	**03 30 23.8 +0.5**
QIZ				PP	**PnPn**	**03 31 53.8 +4.6**
QIZ				S	**S**	**03 36 17.4 +2.5**
QIZ				pmax	pmax	
	comp=Z,48nm,1.7s					
QIZ				pmax	pmax	
	comp=Z,2μm,7.5s					
QIZ				LR	LR	
	comp=Z,7μm,22.0s					
QIZ				LR	LR	
	comp=Z,7μm,17.2s					
QIZ				LR	LR	
	comp=Z,6μm,19.6s					
G19K	**Purcell Mounta**	38.88	32	P	**P**	**03 30 18.1 +0.8**
	baz=260,SNR=106					
G19K				S	**S**	**03 36 14.2 +0.1**
	baz=260					
M18K	**Stony River**	38.89	40	P	**P**	**03 30 19.0 +1.5**
	baz=267,SNR=94					
M18K				S	**S**	**03 36 15.0 +0.5**
	baz=267					
TTA	**Tatalina**	38.91	38	P	**P**	**03 30 18.4 +0.7**
TTA	**Tatalina**	38.91	38	P	**P**	**03 30 19.1 +1.4**
TTA	**Tatalina**	38.91	38	P	**P**	**03 30 18.4 +0.7**
TTA				pmax	pmax	
	comp=Z,106nm,1.0s					
TTA	**Tatalina**	38.91	38	P	**P**	**03 30 18.6 +0.9**
	baz=265,SNR=56					
TTA				S	**S**	**03 36 14.8 0.0**
	baz=265					
D19K	**Kuna River**	38.98	29	IAmb	IAmb	03 30 31.0
	comp=Z,766nm,1.1s					
D19K				IAMs_20	IAMs_20	03 46 59.2
	comp=Z,9μm,21.0s					
D19K	**Kuna River**	38.98	29	P	**P**	**03 30 19.4 +1.3**
	baz=256,SNR=281					
D19K				S	**S**	**03 36 15.4 -0.2**
	baz=256					
H19K	**Roundabout Mou**	39.03	34	IAmb	IAmb	03 30 29.5
	comp=Z,646nm,1.0s					
H19K	**Roundabout Mou**	39.03	34	P	**P**	**03 30 19.7 +1.1**
	baz=261,SNR=352					
H19K				S	**S**	**03 36 16.9 +0.5**
	baz=261					
CHIR	**Chirikof Islan**	39.05	49	IAmb	IAmb	03 30 20.5
	comp=Z,290nm,0.8s					
CHIR	**Chirikof Islan**	39.05	49	P	**P**	**03 30 20.1 +1.3**
CHIR	**Chirikof Islan**	39.05	49	P	**P**	**03 30 18.7 -0.1**
	baz=274,SNR=10					
CHIR				S	**S**	**03 36 15.5 -1.3**
	baz=274					
E19K	**Redstone River**	39.07	30	IAmb	IAmb	03 30 27.0
	comp=Z,484nm,1.1s					
E19K	**Redstone River**	39.07	30	P	**P**	**03 30 20.3 +1.4**
	baz=258,SNR=287					
E19K				S	**S**	**03 36 17.9 +0.9**
	baz=258					
P18K	**Big Mountain,**	39.13	43	IAmb	IAmb	03 30 22.6
	comp=Z,243nm,0.8s					
P18K	**Big Mountain,**	39.13	43	P	**P**	**03 30 20.4 +0.9**
	baz=270,SNR=130					
P18K				S	**S**	**03 36 17.3 -0.9**
	baz=270					
O18K	**Koktuh Hills**	39.15	43	IAmb	IAmb	03 30 24.6
	comp=Z,278nm,0.9s					

O18K	**Koktuh Hills**	39.15	43	P	P	03 30 20.9	+1.2
	baz=269,SNR=227						
O18K				S	S	03 36 18.8	+0.5
	baz=269						
J19K	**Poorman**	39.19	36	P	P	03 30 20.7	+0.7
	baz=264,SNR=111						
J19K				S	S	03 36 18.5	-0.3
	baz=264						
Q18K	**Katmai Hardscr**	39.25	45	P	P	03 30 20.6	-0.1
	baz=271,SNR=76						
Q18K				S	S	03 36 17.9	-2.2
	baz=271						
L19K	**White Mountain**	39.39	39	IAMs_20	IAMs_20	03 45 53.8	
	comp=Z,8μm,21.0s						
L19K	**White Mountain**	39.39	39	P	P	03 30 22.9	+1.2
	baz=267,SNR=60						
L19K				S	S	03 36 22.3	+0.3
	baz=267						
N19K	**Bonanza Creek**	39.52	41	P	P	03 30 24.2	+1.4
	baz=269,SNR=133						
N19K				S	S	03 36 26.1	+2.1
	baz=269						
D20K	**Etivluk River**	39.57	29	P	P	03 30 24.3	+1.3
	baz=257,SNR=263						
D20K				S	S	03 36 24.1	-0.3
	baz=257						
F20K	**Avaraart Lake**	39.57	31	P	P	03 30 24.1	+1.0
	baz=260,SNR=118						
F20K				S	S	03 36 23.4	-1.0
	baz=260						
R18K	**Karluk**	39.59	46	P	P	03 30 22.1	-1.1
	baz=273,SNR=43						
R18K				S	S	03 36 19.3	-5.5
	baz=273						
DAV	**Davao City (W)**	39.59	215	LR	LR	03 45 14.3	
	comp=Z,4μm,21.3s,baz=28,slow=34						
O19K	**Port Alsworth**	39.59	42	P	P	03 30 24.4	+1.1
	baz=270,SNR=18						
O19K				S	S	03 36 25.7	+0.8
	baz=270						
M19K	**Big River Lodg**	39.60	39	P	P	03 30 24.8	+1.4
	baz=268,SNR=49						
M19K				S	S	03 36 25.0	0.0
	baz=268						
E20K	**Nigu River**	39.62	29	P	P	03 30 24.4	+0.8
	baz=258,SNR=270						
E20K				S	S	03 36 25.6	+0.3
	baz=258						
H20K	**Anotleneega Mo**	39.68	34	P	P	03 30 25.0	+1.0
	baz=263,SNR=111						
H20K				S	S	03 36 26.8	+0.6
	baz=263						
B20K	**Meade River**	39.69	26	P	P	03 30 25.3	+1.3
	baz=255,SNR=598						
B20K				S	S	03 36 24.8	-1.3
	baz=255						
I20K	**Naaghedeneel**	39.77	35	IAMs_20	IAMs_20	03 49 14.8	
	comp=Z,10μm,18.0s						
I20K	**Naaghedeneel**	39.77	35	P	P	03 30 26.1	+1.4
	baz=264,SNR=22						
I20K				S	S	03 36 28.6	+1.2
	baz=264						
SII	**Sitkinak Islan**	39.80	48	IAMs_20	IAMs_20	03 46 20.9	
	comp=Z,13μm,21.0s						
SII	**Sitkinak Islan**	39.80	48	P	P	03 30 25.3	+0.2
SII	**Sitkinak Islan**	39.80	48	P	P	03 30 24.6	-0.5
	baz=274,SNR=14						
SII				S	S	03 36 25.9	-2.2
	baz=274						
K20K	**Telida**	39.82	37	IAMs_20	IAMs_20	03 47 46.3	
	comp=Z,7μm,18.0s						
K20K	**Telida**	39.82	37	P	P	03 30 26.4	+1.1
	baz=266,SNR=64						
K20K				S	S	03 36 29.0	+0.6
	baz=266						
J20K	**Nowinta River**	39.85	36	IAMs_20	IAMs_20	03 48 22.0	
	comp=Z,8μm,19.0s						
J20K	**Nowinta River**	39.85	36	P	P	03 30 26.6	+1.1
	baz=265,SNR=100						
J20K				S	S	03 36 29.6	+0.9
	baz=265						
L20K	**Farewell, AK**	39.86	38	P	P	03 30 26.7	+1.1
	baz=267,SNR=66						
L20K				S	S	03 36 29.3	+0.3
	baz=267						
PZH	**PanZhiHua**	39.95	262	P	P	03 30 26.7	-0.2
PZH				PP	PnPn	03 32 03.5	+1.4
PZH				S	S	03 36 30.2	-1.1
PZH				pmax	pmax		
	comp=Z,200nm,1.2s						
PZH				pmax	pmax		
	comp=Z,2μm,8.4s						
PZH				LR	LR		
	comp=Z,4μm,15.7s						
PZH				LR	LR		
	comp=Z,4μm,14.7s						
PZH				LR	LR		
	comp=Z,3μm,16.1s						
Q19K	**Cape Douglas,**	39.95	44	IAmb	IAmb	03 30 28.2	
	comp=Z,376nm,0.8s						
Q19K	**Cape Douglas,**	39.95	44	P	P	03 30 26.2	-0.2
	baz=272,SNR=63						
Q19K				S	S	03 36 28.3	-2.2
	baz=272						
KMI	**Kunming**	40.01	259	⇓P	P	03 30 27.9	+0.4
KMI				sP	sP	03 30 34.0	+1.0
KMI				PP	PnPn	03 32 01.9	-1.1
KMI				S	S	03 36 29.1	-3.3
KMI				pmax	pmax		
	comp=Z,35nm,1.9s						
KMI				pmax	pmax		
	comp=Z,2μm,11.2s						
KMI				LR	LR		
	comp=Z,10μm,17.7s						
P19K	**Oil Pt**	40.15	43	P	P	03 30 28.4	+0.4
	baz=271,SNR=47						
P19K				S	S	03 36 33.4	+0.1
	baz=271						
M20K	**Styx River**	40.19	39	P	P	03 30 29.7	+1.3
	baz=269						
M20K				S	S	03 36 36.2	+2.1
	baz=269						
A21K	**Barrow**	40.21	25	P	P	03 30 29.3	+1.0
	baz=254,SNR=38						
A21K				S	S	03 36 32.3	-1.6
	baz=254						
OHAK	**Old Harbor**	40.24	47	P	P	03 30 28.7	0.0
OHAK	**Old Harbor**	40.24	47	P	P	03 30 28.1	-0.6
	baz=274,SNR=59						
OHAK				S	S	03 36 31.3	-3.3
	baz=274						
C21K	**Knifeblade Rid**	40.31	28	P	P	03 30 30.8	+1.7
	baz=259,SNR=134						
C21K				S	S	03 36 35.2	-0.3
	baz=259						
GOMU	**GeErMu**	40.35	280	P	P	03 30 30.6	+0.2
GOMU				pP	pP	03 30 33.6	-0.8
GOMU				sP	sP	03 30 37.1	+1.1
GOMU				PP	PnPn	03 32 07.5	+0.6
GOMU				S	S	03 36 41.9	+4.3
GOMU				pmax	pmax		
	comp=Z,43nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,2μm,6.8s						
GOMU				LR	LR		
	comp=Z,16μm,19.2s						
GOMU				LR	LR		
	comp=Z,18μm,19.9s						
GOMU				LR	LR		
	comp=Z,29μm,19.2s						
G21K	**Allakaket**	40.36	32	IAmb	IAmb	03 30 55.1	
	comp=Z,601nm,1.5s						
G21K	**Allakaket**	40.36	32	P	P	03 30 30.3	+0.6
	baz=263,SNR=154						
G21K				S	S	03 36 37.7	+1.3
	baz=263						
O20K	**Slope Mountain**	40.44	42	P	P	03 30 30.8	+0.3
	baz=271,SNR=120						
O20K				S	S	03 36 38.3	+0.5
	baz=271						
B21K	**Ikpikpuk River**	40.46	27	IAMs_20	IAMs_20	03 47 24.3	
	comp=Z,8μm,21.0s						
B21K	**Ikpikpuk River**	40.46	27	P	P	03 30 31.8	+1.4
	baz=258,SNR=442						
B21K				S	S	03 36 37.8	+0.1
	baz=258						
F21K	**Alatna River**	40.46	31	P	P	03 30 31.5	+1.0
	baz=262,SNR=103						
F21K				S	S	03 36 37.5	-0.4
	baz=262						
E21K	**Killik River**	40.46	29	IAMs_20	IAMs_20	03 47 35.4	
	comp=Z,7μm,20.0s						
E21K	**Killik River**	40.46	29	P	P	03 30 31.5	+0.9
	baz=260						
E21K				S	S	03 36 35.4	-2.5
	baz=260						
H21K	**Melozitna Rive**	40.55	34	P	P	03 30 32.1	+0.8
	baz=265,SNR=192						
H21K				S	S	03 36 38.2	-1.1
	baz=265						
KDAK	**Kodiak Island**	40.58	46	P	P	03 30 31.2	-0.3
KDAK				IAmb	IAmb	03 30 33.4	
	comp=Z,491nm,0.8s						
KDAK	**Kodiak Island**	40.58	46	LR	LR	03 48 12.7	
	comp=Z,4μm,21.8s,baz=97,slow=38						
KDAK	**Kodiak Island**	40.58	46*d*	*i*P	P	03 30 30.9	-0.6
KDAK				pmax	pmax		
	comp=Z,648nm,0.8s						
KDAK	**Kodiak Island**	40.58	46	P	P	03 30 30.8	-0.6
	baz=274						
KDAK				S	S	03 36 36.6	-3.1
	baz=274						
Q20K	**Shuyak Island**	40.62	44	P	P	03 30 31.5	-0.4
	baz=273,SNR=82						
Q20K				S	S	03 36 35.9	-4.4
	baz=273						
SYI	**Shuyak Island**	40.62	44	IAmb	IAmb	03 30 33.7	
	comp=Z,517nm,0.8s						
N20K	**Mount Spurr**	40.63	41	P	P	03 30 33.3	+1.2
	baz=270,SNR=163						
N20K				S	S	03 36 40.5	-0.1
	baz=270						
CHUM	**Lake Minchumin**	40.63	36	P	P	03 30 33.5	+1.6
	baz=267,SNR=90						
CHUM				S	S	03 36 42.0	+1.6
	baz=267						
A22K	**Sinclair Lake**	40.65	25	P	P	03 30 33.2	+1.3
	baz=256,SNR=397						
A22K				S	S	03 36 39.4	-1.0
	baz=256						
PPLA	**Purkeypile**	40.65	38	IAmb	IAmb	03 31 09.7	
	comp=Z,329nm,1.2s						
PPLA	**Purkeypile**	40.65	38	P	P	03 30 34.0	+1.7
	baz=268,SNR=61						
PPLA				S	S	03 36 39.4	-1.7
	baz=268						
CAST	**Castle Rocks**	40.72	37	IAMs_20	IAMs_20	03 48 13.9	
	comp=Z,8μm,19.0s						
CAST	**Castle Rocks**	40.72	37	P	P	03 30 34.1	+1.4
	baz=268,SNR=128						
CAST				S	S	03 36 42.0	+0.2
	baz=268						
NRIK	**Noril'sk**	40.73	332	P	P	03 30 32.5	-0.1
NRIK	**Noril'sk**	40.73	332	P	P	03 30 32.1	-0.5
	comp=Z,35nm,0.5s,baz=105,slow=8.3,SNR=61						
	comp=Z,35nm,0.5s						
NRIK	**Noril'sk**	40.73	332*ce*	P	P	03 30 32.2	-0.5
NRIK				pmax	pmax		
	comp=Z,56nm,1.0s						
NRIK				MLR	MLR		
	comp=Z,6μm,14.0s						
I21K	**Tanana**	40.86	34	P	P	03 30 35.0	+1.3
	baz=266,SNR=46						
I21K				S	S	03 36 44.9	+1.2
	baz=266						
SKT	**Skwentna**	40.95	39	P	P	03 30 35.1	+0.5
	baz=270,SNR=47						
SKT				S	S	03 36 44.2	-1.0
	baz=270						
HOM	**Homer**	40.95	43	P	P	03 30 34.6	0.0
	baz=273,SNR=31						
HOM				S	S	03 36 41.4	-3.9
	baz=273						
D22K	**Ayikyak River**	41.00	29	IAmb	IAmb	03 30 48.2	
	comp=Z,747nm,1.5s						
D22K				IAMs_20	IAMs_20	03 47 53.6	
	comp=Z,8μm,21.0s						
D22K	**Ayikyak River**	41.00	29	P	P	03 30 36.3	+1.4
	baz=261						
D22K				S	S	03 36 45.4	-0.5
	baz=261						
B22K	**Teshekpuk Lake**	41.01	26	IAMs_20	IAMs_20	03 47 41.8	
	comp=Z,7μm,19.0s						
B22K	**Teshekpuk Lake**	41.01	26	P	P	03 30 36.1	+1.2
	baz=259,SNR=203						
B22K				S	S	03 36 44.4	-1.4
	baz=259						
CAPN	**Captain Cook N**	41.15	41	IAmb	IAmb	03 30 40.5	
	comp=Z,254nm,0.7s						
CAPN				IAMs_20	IAMs_20	03 46 39.3	
	comp=Z,9μm,19.0s						
CAPN	**Captain Cook N**	41.15	41	P	P	03 30 37.2	+1.0
	baz=272,SNR=16						
CAPN				S	S	03 36 48.0	-0.2
	baz=272						
H22K	**Ishtalitna Cre**	41.16	33	P	P	03 30 37.7	+1.5
	baz=266,SNR=33						
H22K				S	S	03 36 49.5	+1.2
	baz=266						
E22K	**Anaktuvuk Pass**	41.21	30	IAmb	IAmb	03 30 44.6	
	comp=Z,548nm,1.4s						
E22K	**Anaktuvuk Pass**	41.21	30	P	P	03 30 38.0	+1.2
	baz=263,SNR=372						
E22K				S	S	03 36 48.5	-0.6
	baz=263						
BPAW	**Bear Paw Mtn.**	41.23	36	IAMs_20	IAMs_20	03 50 15.5	
	comp=Z,9μm,18.0s						
BPAW	**Bear Paw Mtn.**	41.23	36	P	P	03 30 37.9	+1.0
	baz=268,SNR=42						
BPAW				S	S	03 36 49.0	-0.4
	baz=268						
KTH	**Kantishna Hill**	41.24	37	IAmb	IAmb	03 30 49.5	
	comp=Z,399nm,1.3s						
KTH				IAMs_20	IAMs_20	03 48 37.8	
	comp=Z,7μm,18.0s						
BRSE	**Bradley Lake S**	41.40	43	P	P	03 30 37.7	-0.6
	baz=273,SNR=59						
BRSE				S	S	03 36 47.6	-4.5
	baz=273						
SLVN	**Son La**	41.49	254	P	P	03 30 39.8	+0.2
SLVN	**Son La**	41.49	254	P	P	03 30 40.6	+1.1
TRF	**Thorofare Moun**	41.53	37	P	P	03 30 39.8	+0.3
	baz=270,SNR=64						
TRF				S	S	03 36 53.5	-0.6
	baz=270						
CUT	**Chulitna**	41.54	39	IAmb	IAmb	03 31 00.7	
	comp=Z,471nm,1.5s						
CUT	**Chulitna**	41.54	39	P	P	03 30 39.5	+0.2
	baz=271,SNR=40						
CUT				S	S	03 36 52.2	-1.7
	baz=271						
FIS	**Fire Island**	41.59	41	IAmb	IAmb	03 30 42.6	
	comp=Z,538nm,0.9s						
M22K	**Willow**	41.62	40	P	P	03 30 39.8	-0.3
	baz=272						
M22K				S	S	03 36 52.9	-2.2
	baz=272						
D23K	**Nanushuk River**	41.73	29	IAmb	IAmb	03 30 48.9	
	comp=Z,299nm,1.2s						
D23K				IAMs_20	IAMs_20	03 48 16.9	
	comp=Z,10μm,20.0s						
D23K	**Nanushuk River**	41.73	29	P	P	03 30 42.5	+1.6
	baz=263,SNR=147						
D23K				S	S	03 36 56.6	0.0
	baz=263						
COLD	**Coldfoot**	41.73	31	P	P	03 30 42.0	+1.1
	baz=265,SNR=69						
COLD				S	S	03 36 58.0	+1.3
	baz=265						
G23K	**Bananza Creek**	41.76	32	P	P	03 30 42.2	+1.0
	baz=266						
G23K				S	S	03 36 56.5	-0.8
	baz=266						
RC01	**Rabbit Creek A**	41.83	41	IAmb	IAmb	03 30 43.6	
	comp=Z,223nm,0.8s						
RC01	**Rabbit Creek A**	41.83	41	P	P	03 30 41.9	+0.1
	baz=273,SNR=148						
RC01				S	S	03 36 54.9	-3.4
	baz=273						
C23K	**Itkillik River**	41.87	27	IAMs_20	IAMs_20	03 49 41.6	
	comp=Z,7μm,18.0s						
C23K	**Itkillik River**	41.87	27	P	P	03 30 43.5	+1.5
	baz=262,SNR=430						
C23K				S	S	03 36 59.1	+0.5
	baz=262						
O22K	**Cooper Landing**	41.87	42	P	P	03 30 42.0	-0.1
	baz=273,SNR=70						
O22K				S	S	03 36 56.6	-2.2
	baz=273						
ZAA0	**Zalesovo Array**	41.96	309	P	P	03 30 43.1	+0.1
ZAA0				IAmb	IAmb	03 30 56.4	
	comp=Z,582nm,1.6s						
ZALV	**Zalesovo Beam**	41.96	309	P	P	03 30 43.0	+0.1
ZALV	**Zalesovo Beam**	41.96	309	P	P	03 30 43.2	+0.3
	comp=Z,32nm,0.4s,baz=89,slow=7.9,SNR=100						
ZALV				PcP	PcP	03 32 38.6	+0.6
	comp=Z,41nm,0.6s,baz=56,slow=3.8,SNR=4.4						
ZALV				LR	LR	03 49 27.2	
	comp=Z,13μm,19.2s,baz=83,slow=38						
	comp=Z,32nm,0.4s						
ZALV	**Zalesovo Beam**	41.96	309	*i*P	P	03 30 43.2	+0.3
ZALV				pmax	pmax		
	comp=Z,31nm,0.4s						
I23K	**Minto, Yukon-K**	41.96	35	P	P	03 30 44.0	+1.2
	baz=268,SNR=50						
I23K				S	S	03 37 00.2	+0.1
	baz=268						
E23K	**Chandalar**	42.02	30	IAmb	IAmb	03 30 55.1	
	comp=Z,360nm,1.1s						
E23K				IAMs_20	IAMs_20	03 49 10.7	
	comp=Z,7μm,20.0s						
E23K	**Chandalar**	42.02	30	P	P	03 30 44.9	+1.5
	baz=265,SNR=317						
E23K				S	S	03 37 01.1	-0.1
	baz=265						
SEW	**Seward**	42.03	42	P	P	03 30 43.5	+0.1
	baz=274,SNR=37						
SEW				S	S	03 36 57.6	-3.6
	baz=274						
NEA2	**Nenana**	42.07	35	IAMs_20	IAMs_20	03 49 28.8	
	comp=Z,9μm,19.0s						
NEA2	**Nenana**	42.07	35	P	P	03 30 44.6	+0.8
	baz=269,SNR=68						
NEA2				S	S	03 37 00.8	-1.1
	baz=269						
TOLK	**Toolik Lake Re**	42.09	29	IAMs_20	IAMs_20	03 48 28.5	
	comp=Z,7μm,20.0s						
TOLK	**Toolik Lake Re**	42.09	29	P	P	03 30 45.1	+1.2
	baz=264,SNR=146						
TOLK				S	S	03 37 03.4	+1.3
	baz=264						
PMR	**Palmer**	42.10	40	P	P	03 30 44.5	+0.6
PMR	**Palmer**	42.10	40	P	P	03 30 43.8	-0.2
	baz=273,SNR=85						
PMR				S	S	03 36 58.9	-3.3
	baz=273						
MCK	**McKinley**	42.13	37	P	P	03 30 44.6	+0.3
	baz=270,SNR=121						
MCK				S	S	03 37 03.0	+0.2
	baz=270						
RND	**Reindeer**	42.17	37	IAMs_20	IAMs_20	03 47 45.3	
	comp=Z,6μm,20.0s						
D24K	**Happy Valley**	42.41	29	IAmb	IAmb	03 30 53.5	
	comp=Z,352nm,0.6s						
D24K				IAMs_20	IAMs_20	03 48 58.6	
	comp=Z,8μm,21.0s						
D24K	**Happy Valley**	42.41	29	P	P	03 30 47.5	+1.1
	baz=265						
D24K				S	S	03 37 05.7	-1.1
	baz=265						
KNK	**Knik Glacier**	42.43	40	IAmb	IAmb	03 31 09.3	
	comp=Z,645nm,1.6s						
KNK				IAMs_20	IAMs_20	03 47 54.1	
	comp=Z,8μm,22.0s						
KNK	**Knik Glacier**	42.43	40	P	P	03 30 47.1	+0.4
	baz=273,SNR=56						
KNK				S	S	03 37 04.0	-3.2
	baz=273						
E24K	**Your Creek**	42.45	30	IAmb	IAmb	03 30 56.5	
	comp=Z,288nm,1.1s						
E24K				IAMs_20	IAMs_20	03 49 23.9	
	comp=Z,8μm,20.0s						
E24K	**Your Creek**	42.45	30	P	P	03 30 48.3	+1.5
	baz=266,SNR=254						
E24K				S	S	03 37 05.9	-1.5
	baz=266						
SML	**Sawmill**	42.47	39	IAmb	IAmb	03 31 00.2	
	comp=Z,293nm,0.8s						
SML	**Sawmill**	42.47	39	P	P	03 30 47.6	+0.5
	baz=273,SNR=150						
SML				S	S	03 37 05.7	-2.1
	baz=273						
WRH	**Wood River Hil**	42.50	36	P	P	03 30 47.4	+0.2
WRH				IAMs_20	IAMs_20	03 49 42.0	
	comp=Z,10μm,20.0s						
C24K	**Franklin Bluff**	42.51	28	IAMs_20	IAMs_20	03 49 25.2	
	comp=Z,8μm,20.0s						
C24K	**Franklin Bluff**	42.51	28	P	P	03 30 48.3	+1.1
	baz=264						
C24K				S	S	03 37 07.5	-0.6
	baz=264						
PWL	**Port Wells**	42.53	41	IAmb	IAmb	03 30 50.1	
	comp=Z,220nm,0.9s						
PWL	**Port Wells**	42.53	41	P	P	03 30 47.5	0.0
	baz=274,SNR=140						
PWL				S	S	03 37 05.5	-3.1
	baz=274						
H24K	**Noodor Dome**	42.59	34	P	P	03 30 49.5	+1.4
	baz=269,SNR=53						
H24K				S	S	03 37 10.6	+1.0
	baz=269						
COLA	**College**	42.60	35	P	P	03 30 48.9	+0.9
COLA				IAmb	IAmb	03 31 01.1	
	comp=Z,251nm,1.1s						
COLA	**College**	42.60	35	P	P	03 30 48.8	+0.9
COLA	**College**	42.60	35*d*	*i*P	P	03 30 48.4	+0.4
COLA				pmax	pmax		
	comp=Z,120nm,1.2s						
COLA	**College**	42.60	35	P	P	03 30 48.7	+0.7
	baz=270						
COLA				S	S	03 37 08.1	-1.3
	baz=270						
CCB	**Clear Creek Bu**	42.62	35	IAMs_20	IAMs_20	03 49 54.2	
	comp=Z,8μm,19.0s						
WMQ	**Urumqi**	42.62	293	⇓P	P	03 30 49.9	+1.3
WMQ				S	S	03 37 10.5	-0.1
WMQ				pmax	pmax		
	comp=Z,45nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,430nm,3.7s						
WMQ				LR	LR		
	comp=Z,23μm,14.1s						
WMQ				LR	LR		
	comp=Z,8μm,13.3s						
WMQ				LR	LR		
	comp=Z,5μm,24.5s						
F24K	**Squaw Lake**	42.64	31	P	P	03 30 49.5	+1.1
	baz=267,SNR=92						
F24K				S	S	03 37 10.3	+0.1
	baz=267						
M23K	**Glacier View**	42.76	39	P	P	03 30 49.6	+0.2
	baz=274,SNR=79						
M23K				S	S	03 37 10.5	-1.5
	baz=274						
G24K	**Hadweenzic Riv**	42.77	32	IAmb	IAmb	03 31 16.2	
	comp=Z,319nm,1.1s						
G24K	**Hadweenzic Riv**	42.77	32	P	P	03 30 51.1	+1.7
	baz=268,SNR=171						
G24K				S	S	03 37 11.7	-0.4
	baz=268						
POKR	**Poker Plat Res**	42.77	35	IAmb	IAmb	03 31 03.5	
	comp=Z,272nm,0.8s						
POKR	**Poker Plat Res**	42.77	35	P	P	03 30 50.8	+1.3
	baz=270,SNR=69						
POKR				S	S	03 37 11.7	-0.5
	baz=270						
SCM	**Sheep Creek Mo**	42.94	39	IAmb	IAmb	03 30 53.6	
	comp=Z,300nm,0.9s						
SCM				IAMs_20	IAMs_20	03 50 29.7	
	comp=Z,6μm,19.0s						
SCM	**Sheep Creek Mo**	42.94	39	P	P	03 30 51.5	+0.6
	baz=274,SNR=148						
SCM				S	S	03 37 13.4	-1.5
	baz=274						
HDA	**Harding Lake**	42.99	36	IAMs_20	IAMs_20	03 49 57.1	
	comp=Z,10μm,19.0s						
HDA	**Harding Lake**	42.99	36	P	P	03 30 50.9	-0.3
	baz=272,SNR=139						
HDA				S	S	03 37 14.9	-0.5
	baz=272						
ILAR	**Eielson Array**	43.01	35	P	P	03 30 51.2	-0.1
	comp=Z,41nm,0.9s,baz=259,slow=6.3,SNR=277						
ILAR				LR	LR	03 50 08.8	
	comp=Z,5μm,20.2s,baz=277,slow=38						

	comp=Z,41nm,0.9s						
P23K	**Montague Islan**	**43.06**	**42**	P	**P**	**03 30 52.0**	**+0.2**
	baz=276,SNR=12						
P23K				S	**S**	**03 37 16.4**	**0.0**
	baz=276						
GLI	**Glacier Island**	**43.13**	**41**	P	**P**	**03 30 52.1**	**-0.3**
	baz=275						
GLI				S	**S**	**03 37 15.9**	**-1.5**
	baz=275						
TNCH	**TengChong**	**43.17**	**263**	P	**P**	**03 30 50.4**	**-3.0**
TNCH				pP	pP	03 30 53.9	-3.4
TNCH				S	**S**	**03 37 20.5**	**+1.3**
TNCH				sS	sS	03 37 32.2	+6.2
TNCH				ScS	**ScS**	**03 40 51.9**	**-1.2**
TNCH				pmax	pmax		
	comp=Z,170nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,1μm,4.0s						
TNCH				LR	LR		
	comp=Z,2μm,17.6s						
TNCH				LR	LR		
	comp=Z,5μm,16.6s						
TNCH				LR	LR		
	comp=Z,6μm,19.0s						
D25K	**Kavik River**	**43.30**	**28**	IAmb	IAmb	03 31 08.4	
	comp=Z,254nm,0.8s						
D25K	**Kavik River**	**43.30**	**28**	P	**P**	**03 30 54.8**	**+1.1**
	baz=267,SNR=275						
D25K				S	**S**	**03 37 19.4**	**-0.4**
	baz=267						
G25K	**Bearman Lake**	**43.32**	**32**	P	**P**	**03 30 55.3**	**+1.5**
	baz=270,SNR=69						
G25K				S	**S**	**03 37 21.0**	**+1.0**
	baz=270						
ZSN	**Zaisan**	**43.41**	**299**	*e*P	**P**	**03 30 54.9**	**+0.1**
ZSN				*e*S	**S**	**03 37 23.4**	**+1.5**
ZSN	**Zaisan**	**43.41**	**299**	*e*P	**P**	**03 30 54.9**	**+0.1**
ZSN				*e*S	**S**	**03 37 23.4**	**+1.5**
H25L	**Birch Creek**	**43.44**	**33**	P	**P**	**03 30 56.1**	**+1.3**
	baz=270,SNR=67						
H25L				S	**S**	**03 37 24.0**	**+2.3**
	baz=270						
M24K	**Tolsona, Glenn**	**43.47**	**39**	IAmb	IAmb	03 31 28.3	
	comp=Z,292nm,0.9s						
M24K	**Tolsona, Glenn**	**43.47**	**39**	P	**P**	**03 30 56.4**	**+1.2**
	baz=275,SNR=93						
M24K				S	**S**	**03 37 22.5**	**0.0**
	baz=275						
HIN	**Hinchinbrook I**	**43.47**	**41**	P	**P**	**03 30 55.6**	**+0.4**
F25K	**Christian Rive**	**43.51**	**31**	P	**P**	**03 30 57.2**	**+1.8**
	baz=269,SNR=103						
F25K				S	**S**	**03 37 24.6**	**+1.7**
	baz=269						
K24K	**Donnelly Dome**	**43.53**	**36**	P	**P**	**03 30 55.7**	**+0.1**
	baz=273,SNR=104						
K24K				S	**S**	**03 37 23.4**	**0.0**
	baz=273						
E25K	**Arctic Village**	**43.55**	**30**	IAMs_20	IAMs_20	03 51 29.8	
	comp=Z,6μm,18.0s						
E25K	**Arctic Village**	**43.55**	**30**	P	**P**	**03 30 57.1**	**+1.5**
	baz=269,SNR=95						
E25K				S	**S**	**03 37 24.2**	**+0.8**
	baz=269						
PRP	**Porcupine Dome**	**43.57**	**34**	P	**P**	**03 30 56.7**	**+0.7**
	baz=272,SNR=44						
PRP				S	**S**	**03 37 23.0**	**-1.1**
	baz=272						
KLU	**Klutina**	**43.64**	**40**	IAmb	IAmb	03 30 59.5	
	comp=Z,251nm,0.8s						
KLU	**Klutina**	**43.64**	**40**	P	**P**	**03 30 57.1**	**+0.5**
	baz=276,SNR=218						
KLU				S	**S**	**03 37 24.6**	**-0.5**
	baz=276						
Q23K	**Middleton Isla**	**43.66**	**43**	IAmb	IAmb	03 31 32.2	
	comp=Z,369nm,1.1s						
Q23K	**Middleton Isla**	**43.66**	**43**	P	**P**	**03 30 57.2**	**+0.6**
	baz=277						
Q23K				S	**S**	**03 37 27.2**	**+2.1**
	baz=277						
J25K	**Salcha River,**	**43.67**	**35**	IAMs_20	IAMs_20	03 50 27.0	
	comp=Z,8μm,20.0s						
J25K	**Salcha River,**	**43.67**	**35**	P	**P**	**03 30 55.9**	**-0.8**
	baz=273,SNR=47						
J25K				S	**S**	**03 37 23.1**	**-2.3**
	baz=273						
PAX	**Paxson**	**43.72**	**38**	P	**P**	**03 30 57.5**	**+0.2**
	baz=274,SNR=51						
PAX				S	**S**	**03 37 24.9**	**-1.4**
	baz=274						
DIV	**Divide**	**43.75**	**40**	IAmb	IAmb	03 30 59.6	
	comp=Z,243nm,1.0s						
EYAK	**Cordova Ski Ar**	**43.82**	**41**	P	**P**	**03 30 58.8**	**+0.8**
EYAK	**Cordova Ski Ar**	**43.82**	**41**	P	**P**	**03 30 59.5**	**+1.6**
EYAK	**Cordova Ski Ar**	**43.82**	**41**	P	**P**	**03 30 58.7**	**+0.8**
	baz=277,SNR=36						
EYAK				S	**S**	**03 37 29.2**	**+1.7**
	baz=277						
MANU	**Manus Island**	**43.83**	**179**	P	**P**	**03 30 56.5**	**-1.9**
C26K	**Camden Bay**	**43.84**	**28**	P	**P**	**03 30 59.8**	**+1.8**
	baz=268,SNR=18						
C26K				S	**S**	**03 37 28.3**	**+0.8**
	baz=268						
LKP	**Lekhapani**	**43.87**	**267**	*e*P	**P**	**03 30 59.4**	**+0.7**
HARP	**HAARP**	**43.91**	**38**	P	**P**	**03 30 59.7**	**+1.0**
	baz=275,SNR=86						
HARP				S	**S**	**03 37 20.1**	**-8.8**
	baz=275						
BMAR	**Burnt Mountain**	**43.92**	**31**	P	**P**	**03 31 00.4**	**+1.7**
RIDG	**Independent Ri**	**43.95**	**37**	IAMs_20	IAMs_20	03 50 49.3	
	comp=Z,8μm,20.0s						
RIDG	**Independent Ri**	**43.95**	**37**	P	**P**	**03 30 58.7**	**-0.3**
	baz=274,SNR=43						
RIDG				S	**S**	**03 37 26.5**	**-3.0**
	baz=274						
F26K	**Sheenjek River**	**44.08**	**31**	IAmb	IAmb	03 31 12.2	
	comp=Z,196nm,0.9s						
F26K	**Sheenjek River**	**44.08**	**31**	P	**P**	**03 31 01.9**	**+1.9**
	baz=270,SNR=226						
F26K				S	**S**	**03 37 34.7**	**+3.5**
	baz=270						
NONG	**Nongkai**	**44.16**	**251**	P	**P**	**03 31 02.1**	**+0.9**
G26K	**Porcupine Rive**	**44.23**	**32**	P	**P**	**03 31 03.0**	**+1.9**
	baz=272,SNR=84						
G26K				S	**S**	**03 37 35.0**	**+1.6**
	baz=272						
C27K	**Jago River**	**44.25**	**28**	IAMs_20	IAMs_20	03 51 10.5	
	comp=Z,11μm,19.0s						
C27K	**Jago River**	**44.25**	**28**	P	**P**	**03 31 02.8**	**+1.6**
	baz=269						
C27K				S	**S**	**03 37 32.7**	**-0.9**
	baz=269						
N25K	**Chitina, Valde**	**44.26**	**40**	P	**P**	**03 31 02.5**	**+1.0**
	baz=276,SNR=37						
N25K				S	**S**	**03 37 35.1**	**+1.1**
	baz=276						
SCRK	**Sand Creek**	**44.31**	**36**	P	**P**	**03 31 01.8**	**-0.2**
SCRK				IAMs_20	IAMs_20	03 50 57.9	
	comp=Z,6μm,20.0s						
SCRK	**Sand Creek**	**44.31**	**36**	P	**P**	**03 31 01.9**	**-0.1**
	baz=274,SNR=94						
SCRK				S	**S**	**03 37 33.2**	**-1.7**
	baz=274						
BMRM	**Bremner River**	**44.33**	**40**	IAmb	IAmb	03 31 05.1	
	comp=Z,304nm,0.8s						
BMRM	**Bremner River**	**44.33**	**40**	P	**P**	**03 31 03.1**	**+1.0**
	baz=277,SNR=125						
BMRM				S	**S**	**03 37 35.2**	**+0.2**
	baz=277						
RAGM	**Ragged Mountai**	**44.37**	**41**	IAmb	IAmb	03 31 07.4	
	comp=Z,230nm,0.9s						
RAGM				IAMs_20	IAMs_20	03 48 44.3	
	comp=Z,9μm,22.0s						
J26L	**Joseph Creek**	**44.45**	**35**	IAMs_20	IAMs_20	03 50 50.7	
	comp=Z,6μm,18.0s						
J26L	**Joseph Creek**	**44.45**	**35**	P	**P**	**03 31 03.0**	**-0.1**
	baz=274,SNR=52						
J26L				S	**S**	**03 37 34.3**	**-2.5**
	baz=274						
UBPT	**Khong Chiam**	**44.46**	**246**	IAMs_20	IAMs_20	03 49 44.7	
	comp=Z,7μm,22.0s						
UBPT	**Khong Chiam**	**44.46**	**246**	P	**P**	**03 31 05.0**	**+1.4**
DIBR	**DIBRUGARH**	**44.49**	**268**	*e*P	**P**	**03 31 03.1**	**-0.6**
MENT	**Mentasta**	**44.52**	**38**	P	**P**	**03 31 05.1**	**+1.5**
MYLDM	**Lahad Datu**	**44.54**	**223**	IAmb	IAmb	03 31 14.4	
	comp=Z,454nm,1.4s						
MYLDM	**Lahad Datu**	**44.54**	**223**	P	**P**	**03 31 06.2**	**+2.0**
KAIM	**Kayak Island**	**44.56**	**42**	IAmb	IAmb	03 31 06.6	
	comp=Z,284nm,1.0s						
KAIM	**Kayak Island**	**44.56**	**42**	P	**P**	**03 31 05.0**	**+1.2**
	baz=278,SNR=21						
KAIM				S	**S**	**03 37 41.8**	**+3.5**
	baz=278						
I26K	**Coal Creek Min**	**44.57**	**34**	P	**P**	**03 31 03.2**	**-0.7**
	baz=274						
I26K				S	**S**	**03 37 34.8**	**-3.5**
	baz=274						
HMT	**Hamilton**	**44.58**	**41**	IAmb	IAmb	03 31 07.3	
	comp=Z,162nm,0.9s						
HMT				IAMs_20	IAMs_20	03 52 37.9	
	comp=Z,7μm,18.0s						
JAY	**Jayapura**	**44.65**	**189**	LR	LR	03 48 03.8	
	comp=Z,2μm,20.0s,baz=14,slow=34						
GLB	**Gilahina Butte**	**44.65**	**40**	IAMs_20	IAMs_20	03 51 33.8	
	comp=Z,7μm,19.0s						
TNTI	**Ternate**	**44.66**	**208**	P	**P**	**03 31 03.4**	**-1.7**
TNTI				IAmb	IAmb	03 31 13.8	
	comp=Z,316nm,1.5s						
TNTI	**Ternate**	**44.66**	**208**	P	**P**	**03 31 06.0**	**+0.9**
TNTI	**Ternate**	**44.66**	**208**	P	**P**	**03 31 04.1**	**-1.0**
	comp=Z,3μmcomp=Z,129nm,1.4s						
L26K	**Log Cabin Wild**	**44.68**	**37**	IAmb	IAmb	03 31 08.0	
	comp=Z,184nm,0.8s						
L26K				IAMs_20	IAMs_20	03 52 36.8	
	comp=Z,9μm,18.0s						
L26K	**Log Cabin Wild**	**44.68**	**37**	P	**P**	**03 31 06.1**	**+1.2**
	baz=276,SNR=139						
L26K				S	**S**	**03 37 40.4**	**+0.3**
	baz=276						
GENI	**Genyem**	**44.79**	**190**	P	**P**	**03 31 07.0**	**+0.9**
VRDI	**Verde Repeater**	**44.85**	**40**	IAmb	IAmb	03 31 09.5	
	comp=Z,209nm,0.9s						
JOHN	**Johnston Islan**	**44.88**	**111**	IAMs_20	IAMs_20	03 45 39.0	
	comp=Z,7μm,19.0s						
DLV	**Lat**	**44.89**	**240**	P	**P**	**03 31 08.1**	**+0.9**
M26K	**Nabesna, AK**	**44.92**	**38**	IAmb	IAmb	03 31 10.4	
	comp=Z,260nm,0.9s						
M26K				IAMs_20	IAMs_20	03 51 08.9	
	comp=Z,6μm,20.0s						
M26K	**Nabesna, AK**	**44.92**	**38**	P	**P**	**03 31 08.2**	**+1.5**
	baz=277,SNR=369						
M26K				S	**S**	**03 37 45.6**	**+2.1**
	baz=277						
KKM	**Kota Kinabalu**	**45.00**	**226**	P	**P**	**03 31 08.8**	**+0.8**
E27K	**Coleen River**	**45.03**	**30**	IAmb	IAmb	03 31 37.2	
	comp=Z,196nm,1.1s						
E27K	**Coleen River**	**45.03**	**30**	P	**P**	**03 31 09.1**	**+1.6**
	baz=272,SNR=110						
E27K				S	**S**	**03 37 48.5**	**+3.4**
	baz=272						
G27K	**Doyon Strip**	**45.08**	**32**	P	**P**	**03 31 09.5**	**+1.5**
	baz=274,SNR=43						
G27K				S	**S**	**03 37 48.8**	**+3.1**
	baz=274						
BGLC	**Bering Glacier**	**45.09**	**42**	P	**P**	**03 31 09.8**	**+1.8**
	baz=279						
BGLC				S	**S**	**03 37 47.0**	**+1.1**
	baz=279						
K27K	**Chicken**	**45.14**	**36**	IAMs_20	IAMs_20	03 51 24.0	
	comp=Z,7μm,20.0s						
K27K	**Chicken**	**45.14**	**36**	P	**P**	**03 31 09.5**	**+1.0**
	baz=276						
K27K				S	**S**	**03 37 47.9**	**+1.2**
	baz=276						
H27K	**Steamboat Moun**	**45.17**	**33**	P	**P**	**03 31 10.5**	**+1.8**
	baz=274,SNR=147						
H27K				S	**S**	**03 37 50.5**	**+3.4**
	baz=274						
I27K	**Kandik River**	**45.19**	**34**	P	**P**	**03 31 09.2**	**+0.4**
	baz=275,SNR=30						
I27K				S	**S**	**03 37 48.7**	**+1.3**
	baz=275						
D27M	**Malcolm River**	**45.22**	**29**	IAMs_20	IAMs_20	03 50 40.2	
	comp=Z,9μm,20.0s						
D27M	**Malcolm River**	**45.22**	**29**	P	**P**	**03 31 10.8**	**+1.7**
	baz=272,SNR=80						
D27M				S	**S**	**03 37 49.0**	**+1.2**
	baz=272						
ZIRO	**ZIRO**	**45.25**	**269**	*e*P	**P**	**03 31 09.6**	**-0.3**
ZIRO				*e*S	**S**	**03 37 50.2**	**+0.8**
MK31	**Makanchi Array**	**45.29**	**299**	P	**P**	**03 31 10.6**	**+0.7**
MK31				IAmb	IAmb	03 31 32.8	
	comp=Z,265nm,1.0s						
MK31	**Makanchi Array**	**45.29**	**299**	*i* P	**P**	**03 31 10.0**	**+0.1**
MK31				pmax	pmax		
	comp=Z,181nm,0.6s						
MKAR	**Makanchi Array**	**45.29**	**299**	P	**P**	**03 31 10.6**	**+0.7**
	comp=Z,22nm,0.8s,baz=75,slow=9.3,SNR=145						
MKAR				S	**S**	**03 37 51.8**	**+2.6**
	comp=Z,6.2nm,0.8s,baz=75,slow=17,SNR=3.8						
MKAR				LR	LR	03 51 20.1	
	comp=Z,8μm,19.2s,baz=73,slow=38						
	comp=Z,22nm,0.8s						
SNH	**Sunshine Point**	**45.31**	**41**	IAmb	IAmb	03 31 12.8	
	comp=Z,304nm,1.0s						
L27K	**Beaver Creek,**	**45.37**	**37**	IAmb	IAmb	03 31 13.9	
	comp=Z,247nm,0.9s						
L27K				IAMs_20	IAMs_20	03 52 56.8	
	comp=Z,9μm,18.0s						
L27K	**Beaver Creek,**	**45.37**	**37**	P	**P**	**03 31 11.7**	**+1.4**
	baz=277,SNR=392						
L27K				S	**S**	**03 37 52.0**	**+2.0**
	baz=277						
JORH	**JORHAT**	**45.38**	**268**	*e*P	**P**	**03 31 10.7**	**0.0**
JORH				*e*S	**S**	**03 37 52.5**	**+1.6**
BCAR	**Beaver Creek A**	**45.39**	**37**	P	**P**	**03 31 11.7**	**+1.2**
M27K	**Edge Creek, AK**	**45.44**	**38**	IAmb	IAmb	03 31 34.0	
	comp=Z,212nm,1.1s						
M27K	**Edge Creek, AK**	**45.44**	**38**	P	**P**	**03 31 12.2**	**+1.2**
	baz=278,SNR=106						
M27K				S	**S**	**03 37 51.6**	**+0.4**
	baz=278						
MAKZ	**Makanchi**	**45.49**	**299**	P	**P**	**03 31 12.2**	**+0.7**
MAKZ				IAmb	IAmb	03 31 34.5	
	comp=Z,247nm,0.9s						
MAKZ				IAMs_20	IAMs_20	03 51 15.3	
	comp=Z,9μm,20.0s						
MAKZ	**Makanchi**	**45.49**	**299**	P	**P**	**03 31 12.2**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,247nm,0.9s						
MAKZ				MLR	MLR		
	comp=Z,9μm,20.0s						
F28M	**Old Crow**	**45.72**	**31**	IAmb	IAmb	03 31 43.0	
	comp=Z,198nm,1.0s						
F28M	**Old Crow**	**45.72**	**31**	P	**P**	**03 31 14.6**	**+1.6**
	baz=274,SNR=134						
F28M				S	**S**	**03 37 57.7**	**+2.8**
	baz=274						
MESA	**MESA**	**45.74**	**41**	IAmb	IAmb	03 31 16.4	
	comp=Z,195nm,0.8s						
MESA	**MESA**	**45.74**	**41**	P	**P**	**03 31 14.9**	**+1.4**
	baz=280,SNR=42						
MESA				S	**S**	**03 37 57.9**	**+2.0**
	baz=280						
E28M	**Babbage River**	**45.77**	**29**	P	**P**	**03 31 14.8**	**+1.5**
	baz=274,SNR=87						
E28M				S	**S**	**03 37 57.1**	**+1.5**
	baz=274						
I28M	**Miner Creek**	**45.90**	**34**	IAmb	IAmb	03 31 57.1	
	comp=Z,168nm,0.8s						
I28M	**Miner Creek**	**45.90**	**34**	P	**P**	**03 31 15.6**	**+1.0**
	baz=277,SNR=149						
I28M				S	**S**	**03 37 58.2**	**+0.4**
	baz=277						
D28M	**Stokes Point**	**46.01**	**28**	P	**P**	**03 31 16.6**	**+1.4**
	baz=274,SNR=15						
D28M				S	**S**	**03 37 59.5**	**+0.6**
	baz=274						
KOHI	**KOHIMA**	**46.05**	**267**	*e*P	**P**	**03 31 15.4**	**-0.9**
LSA	**Lhasa**	**46.11**	**273**	P	**P**	**03 31 18.7**	**+1.6**
LSA				LR	LR		
	comp=Z,10μm,18.0s						
LSA				LR	LR		
	comp=Z,5μm,17.7s						
LSA	**Lhasa**	**46.11**	**273**	P	**P**	**03 31 17.7**	**+0.6**
KMSI	**Cibinong**	**46.12**	**213**	P	**P**	**03 31 15.5**	**-1.2**
	comp=Z,241nm,0.8s						
RABL	**Rabaul**	**46.20**	**173**	P	**P**	**03 31 16.9**	**-0.4**
DAWY	**Dawson**	**46.31**	**36**	P	**P**	**03 31 18.5**	**+0.8**
	baz=278,SNR=23						
DAWY				S	**S**	**03 38 03.8**	**+0.2**
	baz=278						
E29M	**Blow River**	**46.39**	**30**	IAmb	IAmb	03 31 30.0	
	comp=Z,198nm,0.8s						
E29M	**Blow River**	**46.39**	**30**	P	**P**	**03 31 20.0**	**+1.8**
	baz=276,SNR=182						
E29M				S	**S**	**03 38 05.8**	**+1.3**
	baz=276						
KURK	**Kurchatov**	**46.41**	**305**	P	**P**	**03 31 19.1**	**+0.5**
KURK	**Kurchatov**	**46.41**	**305**	IAMs_20	IAMs_20	03 49 21.6	
	comp=Z,8μm,20.0s						
KURK	**Kurchatov**	**46.41**	**305**	*i* P	**P**	**03 31 18.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,437nm,1.7s						
KURK				MLR	MLR		
	comp=Z,8μm,15.0s						
KURK	**Kurchatov**	**46.41**	**305**	*e*P	**P**	**03 31 18.5**	**-0.1**
H29M	**Whitestone**	**46.45**	**33**	IAmb	IAmb	03 31 46.0	
	comp=Z,184nm,1.0s						
H29M	**Whitestone**	**46.45**	**33**	P	**P**	**03 31 20.2**	**+1.5**
	baz=277,SNR=55						
H29M				S	**S**	**03 38 07.7**	**+2.3**
	baz=277						
KURBB	**Kurchatov Arra**	**46.49**	**305**	P	**P**	**03 31 19.6**	**+0.4**
	comp=Z,60nm,0.6s,baz=73,slow=8.9,SNR=264						
KURBB				S	**S**	**03 38 07.7**	**+1.4**
	comp=Z,7.9nm,0.9s,baz=70,slow=14,SNR=4.8						
KURBB				LR	LR	03 50 01.1	
	comp=Z,6μm,20.9s,baz=63,slow=35						
	comp=Z,60nm,0.6s						
O28M	**Mount Upton**	**46.49**	**40**	P	**P**	**03 31 20.3**	**+0.8**
	baz=281,SNR=95						
O28M				S	**S**	**03 38 06.1**	**-0.6**
	baz=281						
G29M	**Pine Creek**	**46.50**	**32**	IAmb	IAmb	03 31 30.1	
	comp=Z,334nm,1.1s						
G29M	**Pine Creek**	**46.50**	**32**	P	**P**	**03 31 21.1**	**+1.9**
	baz=277,SNR=125						
G29M				S	**S**	**03 38 08.6**	**+2.4**
	baz=277						
TEZP	**TEZPUR**	**46.53**	**269**	*e*P	**P**	**03 31 22.0**	**+2.2**
TEZP				*e*S	**S**	**03 38 10.1**	**+2.6**
I29M	**Ogilvie Camp,**	**46.59**	**34**	IAmb	IAmb	03 31 31.7	
	comp=Z,240nm,0.9s						
I29M	**Ogilvie Camp,**	**46.59**	**34**	P	**P**	**03 31 20.8**	**+0.9**
	baz=278,SNR=93						
I29M				S	**S**	**03 38 07.8**	**+0.4**
	baz=278						
YUK8	**Steele Glacier**	**46.60**	**40**	P	**P**	**03 31 20.9**	**+0.6**
	baz=281,SNR=21						
YUK8				S	**S**	**03 38 09.4**	**+1.1**
	baz=281						
FAKI	**Fak Fak**	**46.64**	**200**	P	**P**	**03 31 19.0**	**-1.7**
FAKI				IAmb	IAmb	03 32 07.5	
	comp=Z,206nm,1.5s						
FAKI	**Fak Fak**	**46.64**	**200**	P	**P**	**03 31 19.6**	**-1.2**
CHTO	**Chiang Mai**	**46.67**	**255**	P	**P**	**03 31 21.1**	**+0.1**
CHTO	**Chiang Mai**	**46.67**	**255**	P	**P**	**03 31 21.2**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,157nm,1.3s						
CHTO				MLR	MLR		
	comp=Z,4μm,20.0s						
IMP	**Imphal**	**46.68**	**266**	*e*P	**P**	**03 31 20.8**	**-0.4**
IMP				*e*S	**S**	**03 38 13.9**	**+4.1**
TAWA	**Tawang**	**46.69**	**270**	*e*P	**P**	**03 31 21.1**	**-0.5**
TAWA				*e*S	**S**	**03 38 16.4**	**+5.9**
J29N	**Klondike Camp**	**46.76**	**35**	IAMs_20	IAMs_20	03 52 21.7	
	comp=Z,6μm,20.0s						
J29N	**Klondike Camp**	**46.76**	**35**	P	**P**	**03 31 22.2**	**+0.9**
	baz=279,SNR=13						
J29N				S	**S**	**03 38 10.6**	**+0.6**
	baz=279						
CMAR	**Chiang Mai Arr**	**46.90**	**255**	P	**P**	**03 31 23.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**46.90**	**255**	P	**P**	**03 31 23.5**	**+0.7**
	comp=Z,9.0nm,0.6s,baz=44,slow=7.6,SNR=33						
CMAR				PcP	**PcP**	**03 32 56.3**	**+0.9**
	comp=Z,11nm,0.8s,baz=12,slow=3.9,SNR=4.5						
CMAR				LR	LR	03 54 02.0	
	comp=Z,6μm,18.1s,baz=55,slow=40						
	comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**46.90**	**255**	*i* P	**P**	**03 31 23.5**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
M29M	**Somme Creek**	**46.99**	**38**	P	**P**	**03 31 24.6**	**+1.4**
	baz=281,SNR=55						
M29M				S	**S**	**03 38 15.8**	**+2.2**
	baz=281						
TOLI2	**Tolitoli**	**47.01**	**217**	P	**P**	**03 31 22.4**	**-1.3**
TOLI2	**Tolitoli**	**47.01**	**217**	P	**P**	**03 31 24.5**	**+0.9**
L29M	**L29M**	**47.02**	**37**	P	**P**	**03 31 25.1**	**+1.8**
	baz=280,SNR=104						
L29M				S	**S**	**03 38 15.0**	**+1.2**
	baz=280						
MRSI	**Marisa**	**47.06**	**215**	P	**P**	**03 31 22.7**	**-1.4**
YUK4	**Talbot Arm**	**47.12**	**39**	P	**P**	**03 31 25.5**	**+1.2**
	baz=282,SNR=73						
YUK4				S	**S**	**03 38 14.6**	**-0.9**
	baz=282						
K29M	**Barlow Dome**	**47.16**	**36**	IAmb	IAmb	03 31 27.2	
	comp=Z,141nm,1.0s						
K29M	**Barlow Dome**	**47.16**	**36**	P	**P**	**03 31 25.8**	**+1.3**
	baz=280,SNR=191						
K29M				S	**S**	**03 38 17.1**	**+1.2**
	baz=280						
G30M	**tAoh Zraii Nji**	**47.20**	**31**	IAmb	IAmb	03 31 38.6	
	comp=Z,257nm,0.9s						
G30M	**tAoh Zraii Nji**	**47.20**	**31**	P	**P**	**03 31 25.8**	**+1.2**
	baz=278,SNR=94						
G30M				S	**S**	**03 38 17.3**	**+1.2**
	baz=278						
F30M	**Barrier River**	**47.27**	**31**	P	**P**	**03 31 27.0**	**+1.8**
	baz=278,SNR=103						
F30M				S	**S**	**03 38 18.4**	**+1.3**
	baz=278						
TABU	**Tabubil**	**47.32**	**188**	P	**P**	**03 31 27.0**	**+0.9**
YUK6	**Outpost Mounta**	**47.34**	**40**	P	**P**	**03 31 27.3**	**+1.3**
	baz=282,SNR=42						
YUK6				S	**S**	**03 38 18.4**	**-0.3**
	baz=282						
O29M	**Mount Kennedy**	**47.37**	**41**	P	**P**	**03 31 27.5**	**+1.3**
	baz=282,SNR=58						
O29M				S	**S**	**03 38 20.6**	**+1.6**
	baz=282						
I30M	**Mount Dempster**	**47.41**	**34**	IAmb	IAmb	03 31 40.5	
	comp=Z,320nm,1.1s						
I30M				IAMs_20	IAMs_20	03 54 52.9	
	comp=Z,5μm,18.0s						
I30M	**Mount Dempster**	**47.41**	**34**	P	**P**	**03 31 27.5**	**+1.1**
	baz=280,SNR=256						
I30M				S	**S**	**03 38 20.4**	**+1.0**
	baz=280						
J30M	**Hart River**	**47.54**	**35**	P	**P**	**03 31 28.6**	**+1.2**
	baz=280,SNR=93						
J30M				S	**S**	**03 38 21.9**	**+0.6**
	baz=280						
M30M	**Minto, Yukon**	**47.73**	**37**	IAmb	IAmb	03 31 52.2	
	comp=Z,181nm,1.3s						
M30M	**Minto, Yukon**	**47.73**	**37**	P	**P**	**03 31 30.4**	**+1.5**
	baz=282,SNR=125						
M30M				S	**S**	**03 38 27.2**	**+3.3**
	baz=282						
SANI	**Sanana**	**47.77**	**209**	P	**P**	**03 31 26.4**	**-3.2**
SANI	**Sanana**	**47.77**	**209**	P	**P**	**03 31 30.5**	**+1.0**
SANI	**Sanana**	**47.77**	**209**	P	**P**	**03 31 27.5**	**-2.0**
	comp=Z,3μmcomp=Z,182nm,1.0s						
HYT	**Haines Junctio**	**47.77**	**40**	P	**P**	**03 31 31.4**	**+2.1**
	baz=283,SNR=790						
HYT				S	**S**	**03 38 27.0**	**+2.4**
	baz=283						
SHL	**Shillong**	**47.80**	**268**	I

INK	**Inuvik**	**48.01**	**29**	LR	LR	03 54 36.0	
	comp=Z,5µm,18.9s,baz=279,slow=40						
INK	**Inuvik**	**48.01**	**29**	P	**P**	**03 31 31.9**	**+1.0**
	baz=280,SNR=82						
INK				S	**S**	**03 38 27.9**	**+0.4**
	baz=280						
F31M	**Tsiigehtchic**	**48.08**	**31**	IAmb	IAmb	03 31 51.5	
	comp=Z,458nm,1.4s						
F31M	**Tsiigehtchic**	**48.08**	**31**	P	**P**	**03 31 32.5**	**+1.2**
	baz=280,SNR=124						
F31M				S	**S**	**03 38 27.9**	**-0.5**
	baz=280						
LUWI	**Luwuk**	**48.08**	**213**	IAmb	IAmb	03 32 21.4	
	comp=Z,126nm,0.9s						
LUWI	**Luwuk**	**48.08**	**213**	P	P	03 31 27.1	-4.9
LUWI	**Luwuk**	**48.08**	**213**	P	**P**	**03 31 32.7**	**+0.7**
LUWI	**Luwuk**	**48.08**	**213**	P	**P**	**03 31 28.4**	**-3.6**
	comp=Z,2µmcomp=Z,122nm,1.1s						
H31M	**Peel River**	**48.14**	**33**	IAmb	IAmb	03 31 42.7	
	comp=Z,192nm,0.7s						
H31M	**Peel River**	**48.14**	**33**	P	**P**	**03 31 33.1**	**+1.2**
	baz=281,SNR=165						
H31M				S	**S**	**03 38 29.4**	**-0.1**
	baz=281						
P30M	**Million Dollar**	**48.20**	**41**	P	**P**	**03 31 34.4**	**+1.9**
	baz=284						
P30M				S	**S**	**03 38 32.7**	**+2.1**
	baz=284						
AZL	**Aizawl**	**48.24**	**266**	*e*P	**P**	**03 31 33.7**	**+0.3**
PDGK	**Podgornoye**	**48.37**	**296**	P	**P**	**03 31 33.3**	**-0.9**
APSI	**Ampana**	**48.43**	**215**	P	**P**	**03 31 33.0**	**-1.7**
	comp=Z,3µmcomp=Z,325nm,1.3s						
N31M	**Braeburn, Yuko**	**48.44**	**39**	IAmb	IAmb	03 31 37.8	
	comp=Z,202nm,0.8s						
N31M	**Braeburn, Yuko**	**48.44**	**39**	P	**P**	**03 31 36.0**	**+1.8**
	baz=284,SNR=170						
N31M				S	**S**	**03 38 36.4**	**+2.6**
	baz=284						
TDK	**Taldyqorghan**	**48.45**	**298**	*e*P	**P**	**03 31 35.0**	**+0.4**
TDK				pmax	pmax		
	comp=Z,33nm,0.7s						
TDK				MLR	MLR		
	comp=Z,6µm,14.0s						
TDK	**Taldyqorghan**	**48.45**	**298**	*e*P	**P**	**03 31 35.0**	**+0.4**
	comp=Z,33nm,0.7s						
TDK				LR	LR	03 54 07.0	
	comp=Z,6µm,14.2s						
SHLS	**Shalkode**	**48.46**	**295**	*e*P	**P**	**03 31 32.6**	**-2.2**
SHLS				*e*S	**S**	**03 38 32.8**	**-2.0**
SHLS	**Shalkode**	**48.46**	**295**	*e*P	**P**	**03 31 32.6**	**-2.2**
SHLS				*e*S	**S**	**03 38 32.9**	**-1.9**
O30N	**Mendenhall**	**48.46**	**40**	IAmb	IAmb	03 31 38.0	
	comp=Z,116nm,1.0s						
O30N	**Mendenhall**	**48.46**	**40**	P	**P**	**03 31 35.9**	**+1.4**
	baz=284,SNR=126						
O30N				S	**S**	**03 38 36.6**	**+2.4**
	baz=284						
NLAI	**Namlea**	**48.49**	**207**	P	**P**	**03 31 32.2**	**-2.9**
	comp=Z,2µmcomp=Z,83nm,1.1s						
KEKH	**Kekaha**	**48.62**	**97**	P	**P**	**03 31 37.7**	**+1.6**
KEKH				IAmb	IAmb	03 31 38.4	
	comp=Z,171nm,0.8s						
PLBC	**Pleasant Camp**	**48.66**	**41**	P	**P**	**03 31 37.5**	**+1.5**
	baz=285,SNR=15						
UZB	**Uzynbulak**	**48.76**	**296**	*e*P	**P**	**03 31 37.3**	**+0.1**
UZB	**Uzynbulak**	**48.76**	**296**	*e*P	**P**	**03 31 37.3**	**+0.1**
BNDI	**Bandanaira**	**48.82**	**203**	P	**P**	**03 31 38.3**	**+0.7**
KPKS	**Kokpek**	**48.86**	**296**	*e*P	**P**	**03 31 38.3**	**+0.4**
KPKS				*e*S	**S**	**03 38 43.0**	**+2.7**
KPKS	**Kokpek**	**48.86**	**296**	*e*P	**P**	**03 31 38.3**	**+0.4**
KPKS				*e*S	**S**	**03 38 43.1**	**+2.7**
M31M	**Drury Creek, Y**	**48.90**	**38**	IAmb	IAmb	03 31 40.5	
	comp=Z,102nm,0.8s						
M31M	**Drury Creek, Y**	**48.90**	**38**	P	**P**	**03 31 39.2**	**+1.4**
	baz=284,SNR=154						
M31M				S	**S**	**03 38 42.4**	**+2.0**
	baz=284						
WHY	**Whitehorse**	**49.06**	**40**	IAmb	IAmb	03 31 42.8	
	comp=Z,116nm,0.9s						
WHY	**Whitehorse**	**49.06**	**40**	P	**P**	**03 31 40.8**	**+1.6**
	baz=285,SNR=142						
WHY				S	**S**	**03 38 46.0**	**+3.1**
	baz=285						
S31K	**Pelican**	**49.12**	**43**	IAMs_20	IAMs_20	03 55 14.0	
	comp=Z,6µm,19.0s						
S31K	**Pelican**	**49.12**	**43**	P	**P**	**03 31 41.0**	**+1.4**
	baz=286,SNR=24						
S31K				S	**S**	**03 38 43.6**	**+0.2**
	baz=286						
ARXS	**Arharly**	**49.13**	**297**	*e*P	**P**	**03 31 40.5**	**+0.5**
ZHN	**Zhinishke**	**49.14**	**296**	*e*P	**P**	**03 31 40.2**	**+0.1**
ZHN	**Zhinishke**	**49.14**	**296**	*e*P	**P**	**03 31 40.3**	**+0.1**
SKAG	**Skagway**	**49.16**	**41**	P	**P**	**03 31 41.3**	**+1.5**
SKAG	**Skagway**	**49.16**	**41**	P	**P**	**03 31 41.6**	**+1.8**
	baz=286,SNR=27						
SKAG				S	**S**	**03 38 46.3**	**+2.3**
	baz=286						
SATY	**Saty**	**49.20**	**296**	*e*P	**P**	**03 31 40.8**	**+0.2**
SATY				*e*S	**S**	**03 38 47.5**	**+2.2**
SATY	**Saty**	**49.20**	**296**	*e*P	**P**	**03 31 40.9**	**+0.2**
SATY				*e*S	**S**	**03 38 47.6**	**+2.2**
R31K	**City Hall, Gus**	**49.25**	**43**	P	**P**	**03 31 41.9**	**+1.4**
	baz=286,SNR=19						
R31K				S	**S**	**03 38 47.9**	**+2.7**
	baz=286						
GTK	**Tadong**	**49.27**	**272**	*e*P	**P**	**03 31 38.0**	**-3.4**
GTK				*e*S	**S**	**03 38 47.7**	**+1.0**
FARO	**Faro, Yukon**	**49.37**	**37**	P	**P**	**03 31 42.8**	**+1.3**
	baz=285,SNR=45						
FARO				S	**S**	**03 38 48.3**	**+1.4**
	baz=285						
WUS	**Wushi**	**49.41**	**293**	IAmb	IAmb	03 32 05.6	
	comp=Z,152nm,0.8s						
WUS	**Wushi**	**49.41**	**293**	IAMs_20	IAMs_20	03 51 28.5	
	comp=Z,9µm,22.0s						
SRDT	**SRDT**	**49.51**	**251**	P	**P**	**03 31 43.4**	**+0.4**
JPG	**JALPAIGURI**	**49.61**	**271**	*e*P	**P**	**03 31 44.7**	**+1.0**
BESE	**Bessie Mountai**	**49.65**	**42**	IAmb	IAmb	03 31 46.5	
	comp=Z,133nm,0.9s						
BRDH	**Bariadhala**	**49.65**	**265**	LR	LR	03 52 27.5	
	comp=Z,3µm,21.6s,baz=68,slow=36						
N32M	**Quiet Lake**	**49.78**	**39**	IAmb	IAmb	03 31 47.6	
	comp=Z,135nm,0.9s						
N32M	**Quiet Lake**	**49.78**	**39**	P	**P**	**03 31 45.5**	**+0.9**
	baz=286,SNR=137						
N32M				S	**S**	**03 38 54.8**	**+2.0**
	baz=286						
CHKK	**Chushkaly**	**49.83**	**297**	*e*P	**P**	**03 31 45.3**	**+0.1**
CHKK	**Chushkaly**	**49.83**	**297**	*e*P	**P**	**03 31 45.3**	**+0.1**
SIT	**Sitka**	**49.86**	**44**	IAmb	IAmb	03 31 47.7	
	comp=Z,196nm,1.3s						
SIT	**Sitka**	**49.86**	**44**	P	**P**	**03 31 47.0**	**+1.9**
SIT	**Sitka**	**49.86**	**44**	P	**P**	**03 31 46.9**	**+1.8**
	baz=288,SNR=25						
SIT				S	**S**	**03 38 56.8**	**+3.1**
	baz=288						
R32K	**Eaglecrest**	**49.91**	**43**	IAmb	IAmb	03 31 49.2	
	comp=Z,203nm,0.8s						
R32K				IAMs_20	IAMs_20	03 52 48.7	
	comp=Z,6µm,21.0s						
R32K	**Eaglecrest**	**49.91**	**43**	P	**P**	**03 31 47.4**	**+1.8**
	baz=287,SNR=35						
P32M	**Atlin**	**49.92**	**41**	IAMs_20	IAMs_20	03 50 17.1	
	comp=Z,5µm,22.0s						
P32M	**Atlin**	**49.92**	**41**	P	**P**	**03 31 47.0**	**+1.4**
	baz=287,SNR=98						
P32M				S	**S**	**03 38 56.8**	**+2.1**
	baz=287						
JIS	**Juneau Island**	**49.97**	**43**	P	**P**	**03 31 48.2**	**+2.2**
A36M	**Sachs Harbour**	**50.04**	**24**	IAmb	IAmb	03 31 57.3	
	comp=Z,180nm,0.9s						
A36M				IAMs_20	IAMs_20	03 56 14.7	
	comp=Z,5µm,21.0s						
A36M	**Sachs Harbour**	**50.04**	**24**	P	**P**	**03 31 47.8**	**+1.4**
	baz=284,SNR=80						
A36M				S	**S**	**03 38 57.3**	**+1.3**
	baz=284						
S32K	**Killisnoo**	**50.12**	**44**	IAMs_20	IAMs_20	03 53 31.3	
	comp=Z,6µm,20.0s						
S32K	**Killisnoo**	**50.12**	**44**	P	**P**	**03 31 48.7**	**+1.6**
	baz=288,SNR=58						
S32K				S	**S**	**03 38 55.9**	**-1.4**
	baz=288						
AAA	**Alma-Ata**	**50.14**	**296**	*e*P	**P**	**03 31 47.8**	**+0.2**
AAA				pmax	pmax		
	comp=Z,45nm,1.0s						
AAA	**Alma-Ata**	**50.14**	**296**	*e*P	**P**	**03 31 47.8**	**+0.2**
	comp=Z,45nm,1.0s						
AAA				LR	LR	03 54 05.2	
AAA	**Alma-Ata**	**50.14**	**296**	*e*P	**P**	**03 31 47.8**	**+0.2**
TARG	**Taragay, Kyrgy**	**50.16**	**294**	IAmb	IAmb	03 32 12.8	
	comp=Z,95nm,0.7s						
TARG				IAMs_20	IAMs_20	03 54 18.1	
	comp=Z,7µm,19.0s						
SBUM	**Sibu**	**50.17**	**228**	P	**P**	**03 31 49.1**	**+1.1**
P33M	**Teslin, Yukon**	**50.17**	**40**	IAmb	IAmb	03 31 51.3	
	comp=Z,234nm,0.9s						
P33M	**Teslin, Yukon**	**50.17**	**40**	P	**P**	**03 31 49.1**	**+1.5**
	baz=287,SNR=278						
P33M				S	**S**	**03 38 59.6**	**+1.4**
	baz=287						
TNSS	**Tian-Shan**	**50.19**	**296**	*e*P	**P**	**03 31 48.1**	**-0.3**
TNSS	**Tian-Shan**	**50.19**	**296**	*e*P	**P**	**03 31 48.1**	**-0.3**
MMPY	**Sheldon Lake,**	**50.20**	**37**	P	**P**	**03 31 49.3**	**+1.5**
	baz=286,SNR=90						
MMPY				S	**S**	**03 39 02.2**	**+3.7**
	baz=286						
KIP	**Kipapa**	**50.21**	**96**		**P**	**03 31 49.1**	**+0.8**
KIP	**Kipapa**	**50.21**	**96**	P	**P**	**03 31 49.9**	**+1.6**
KIP	**Kipapa**	**50.21**	**96**	P	**P**	**03 31 49.7**	**+1.4**
KIP	**Kipapa**	**50.21**	**96**	P	**P**	**03 31 49.1**	**+0.8**
KIP				pmax	pmax		
	comp=Z,543nm,0.9s						
BRZS	**Berezniki**	**50.24**	**306**	*e*P	**P**	**03 31 48.6**	**+0.4**
BRZS	**Berezniki**	**50.24**	**306**	*e*P	**P**	**03 31 48.6**	**+0.4**
BVA0	**Borovoye Array**	**50.52**	**310**	*i* P	**P**	**03 31 50.3**	**+0.1**
BVAR	**Borovoye Array**	**50.52**	**310**	P	**P**	**03 31 50.9**	**+0.7**
	comp=Z,25nm,0.5s,baz=81,slow=9.2,SNR=88						
BVAR				S	**S**	**03 39 05.0**	**+1.9**
	comp=Z,11nm,0.8s,baz=58,slow=14,SNR=5.9						
BVAR				LR	LR	03 55 12.1	
	comp=Z,13µm,18.0s,baz=71,slow=38						
	comp=Z,25nm,0.5s						
BRVK	**Borovoye**	**50.56**	**310**	P	**P**	**03 31 51.4**	**+0.8**
BRVK				IAmb	IAmb	03 32 15.8	
	comp=Z,147nm,0.8s						
BRVK	**Borovoye**	**50.56**	**310**	*ce*P	**P**	**03 31 51.6**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,248nm,2.5s						
BRVK				MLR	MLR		
	comp=Z,13µm,16.0s						
BRVK	**Borovoye**	**50.56**	**310**	*e*P	**P**	**03 31 51.6**	**+1.0**
KDI	**Kendari**	**50.79**	**212**	P	**P**	**03 31 52.2**	**-0.5**
	comp=Z,3µmcomp=Z,178nm,1.5s						
Q32M	**Nakina River**	**50.82**	**41**	P	**P**	**03 31 54.4**	**+1.7**
	baz=288						
Q32M				S	**S**	**03 39 11.2**	**+3.7**
	baz=288						
BKB	**Balikpapan**	**50.90**	**220**	P	**P**	**03 31 53.4**	**-0.1**
ULHL	**Ulahol**	**50.99**	**296**	P	**P**	**03 31 54.9**	**+0.7**
	SNR=24						
BOOM	**Boomskoye usch**	**51.09**	**296**	IAmb	IAmb	03 32 21.2	
	comp=Z,292nm,0.9s						
OTUK	**Ortayu**	**51.10**	**304**	P	**P**	**03 31 54.5**	**-0.2**
C36M	**Paulatuk**	**51.12**	**27**	P	**P**	**03 31 55.3**	**+0.9**
	baz=287,SNR=100						
C36M				S	**S**	**03 39 10.6**	**-0.3**
	baz=287						
PMG	**Port Moresby**	**51.14**	**180**	IAMs_20	IAMs_20	03 49 46.6	
	comp=Z,5µm,22.0s						
PMG	**Port Moresby**	**51.14**	**180**	LR	LR	03 50 20.7	
	comp=Z,4µm,21.2s,baz=12,slow=32						
TKM2	**Tokmak 2**	**51.14**	**297**	P	**P**	**03 31 56.4**	**+1.0**
	SNR=34						
T33K	**Petersburg**	**51.17**	**44**	P	**P**	**03 31 57.1**	**+2.1**
	baz=290						
T33K				S	**S**	**03 39 15.7**	**+3.8**
	baz=290						
BTLS	**Baital**	**51.28**	**300**	*e*P	**P**	**03 31 56.3**	**+0.2**
BTLS	**Baital**	**51.28**	**300**	*e*P	**P**	**03 31 56.4**	**+0.2**
R33M	**Jennings River**	**51.31**	**40**	IAMs_20	IAMs_20	03 52 45.9	
	comp=Z,6µm,20.0s						
R33M	**Jennings River**	**51.31**	**40**	P	**P**	**03 31 58.0**	**+1.8**
	baz=289,SNR=188						
R33M				S	**S**	**03 39 17.8**	**+3.5**
	baz=289						
U33K	**Whale Pass**	**51.31**	**45**	IAmb	IAmb	03 31 59.3	
	comp=Z,187nm,0.9s						
U33K	**Whale Pass**	**51.31**	**45**	P	**P**	**03 31 58.1**	**+1.9**
	baz=290,SNR=74						
U33K				S	**S**	**03 39 18.3**	**+4.3**
	baz=290						
TATA	**Tatamba Isabel**	**51.49**	**164**	P	**P**	**03 31 58.6**	**+0.7**
CRAG	**Craig**	**51.54**	**46**	P	**P**	**03 31 59.8**	**+2.0**
CRAG	**Craig**	**51.54**	**46**	P	**P**	**03 31 59.6**	**+1.7**
	baz=290,SNR=28						
CRAG				S	**S**	**03 39 19.9**	**+2.9**
	baz=290						
SGDS	**Sogindy**	**51.56**	**298**	*e*P	**P**	**03 31 58.7**	**+0.4**
SGDS	**Sogindy**	**51.56**	**298**	*e*P	**P**	**03 31 58.8**	**+0.4**
WRAK	**Wrangell Islan**	**51.62**	**44**	P	**P**	**03 32 00.0**	**+1.6**
	baz=290,SNR=51						
WRAK				S	**S**	**03 39 22.9**	**+4.7**
	baz=290						
CHMS	**Chumysh**	**51.67**	**297**	P	P	03 32 07.9	+8.8
	SNR=7.4						
KBK	**Karagaybulak**	**51.69**	**297**	P	**P**	**03 32 00.8**	**+1.4**
	SNR=28						
USP	**Ospenovka**	**51.72**	**297**	P	**P**	**03 32 00.1**	**+0.6**
	SNR=27						
S34M	**Telegraph Cree**	**51.73**	**42**	P	**P**	**03 32 01.1**	**+1.9**
	baz=290,SNR=111						
S34M				S	**S**	**03 39 22.3**	**+2.6**
	baz=290						
FRU1	**Bishkek**	**51.83**	**297**	IAMs_20	IAMs_20	03 54 26.3	
	comp=Z,6µm,18.0s						
TGTN	**Hyland Airport**	**51.87**	**37**	P	**P**	**03 32 01.7**	**+1.4**
	baz=289,SNR=73						
TGTN				S	**S**	**03 39 24.8**	**+3.0**
	baz=289						
SPSI	**Sidrap Palu**	**51.98**	**215**	P	**P**	**03 32 00.1**	**-1.5**
	comp=Z,1µmcomp=Z,48nm,0.9s						
AAK	**Ala-Archa**	**52.00**	**297**	P	**P**	**03 32 02.1**	**+0.5**
AAK	**Ala-Archa**	**52.00**	**297**	IAMs_20	IAMs_20	03 56 32.6	
	comp=Z,7µm,18.0s						
AAK	**Ala-Archa**	**52.00**	**297**	LR	LR	03 56 36.6	
	comp=Z,7µm,18.3s,baz=69,slow=39						
AAK	**Ala-Archa**	**52.00**	**297**	P	**P**	**03 32 02.0**	**+0.3**
	SNR=17						
AAK	**Ala-Archa**	**52.00**	**297**	*ce*P	**P**	**03 32 01.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,145nm,1.6s						
AAK				MLR	MLR		
	comp=Z,5µm,15.0s						
AAK	**Ala-Archa**	**52.00**	**297**	*i* P	**P**	**03 32 02.2**	**+0.5**
	SNR=24						
AAK	**Ala-Archa**	**52.00**	**297**	*e*P	**P**	**03 32 01.8**	**+0.1**
KSM	**Kuching**	**52.04**	**229**	IAmb	IAmb	03 32 10.3	
	comp=Z,233nm,1.4s						
KSM	**Kuching**	**52.04**	**229**	P	**P**	**03 32 02.7**	**+0.6**
ALEG	**Aligegeo Malai**	**52.04**	**163**	P	**P**	**03 32 03.1**	**+1.1**
DLBC	**Dease Lake**	**52.09**	**41**	LR	LR	03 54 34.1	
	comp=Z,2µm,21.4s,baz=296,slow=36						
DLBC	**Dease Lake**	**52.09**	**41**	P	**P**	**03 32 04.0**	**+1.9**
	baz=290,SNR=94						
DLBC				S	**S**	**03 39 28.8**	**+3.9**
	baz=290						
WTLY	**Watson Lake, Y**	**52.11**	**39**	P	**P**	**03 32 03.5**	**+1.4**
	baz=290,SNR=78						
WTLY				S	**S**	**03 39 27.0**	**+2.0**
	baz=290						
CAL	**Calcutta**	**52.19**	**267**	*e*P	**P**	**03 32 04.0**	**+0.9**
BBSI	**Bau Bau**	**52.21**	**211**	P	**P**	**03 32 03.7**	**+0.4**
	comp=Z,2µmcomp=Z,3µmcomp=Z,139nm,1.3s						
SAVO	**Savo Central**	**52.24**	**164**	P	**P**	**03 32 04.8**	**+1.3**
KSH	**Kashi**	**52.38**	**293**	P	**P**	**03 32 08.5**	**+4.0**
KSH				sP	pwP	03 32 15.0	-2.5
KSH				S	**S**	**03 39 34.1**	**+4.7**
KSH				ScS	**ScS**	**03 41 59.4**	**+5.9**
KSH				pmax	pmax		
	comp=Z,25nm,1.6s						
KSH				pmax	pmax		
	comp=Z,1µm,7.9s						
KSH				LR	LR		
	comp=Z,9µm,23.4s						
KSH				LR	LR		
	comp=Z,7µm,21.9s						
KSH				LR	LR		
	comp=Z,7µm,23.4s						
V35K	**Ketchikan**	**52.39**	**46**	P	**P**	**03 32 05.5**	**+1.3**
	baz=292,SNR=40						
V35K				S	**S**	**03 39 31.5**	**+2.7**
	baz=292						
EKS2	**Erkin-Say**	**52.46**	**297**	P	**P**	**03 32 05.6**	**+0.5**
	SNR=35						
T35M	**Bob Quinn**	**52.50**	**43**	IAmb	IAmb	03 32 08.7	
	comp=Z,243nm,0.8s						
T35M				IAMs_20	IAMs_20	03 54 21.3	
	comp=Z,6µm,21.0s						
T35M	**Bob Quinn**	**52.50**	**43**	P	**P**	**03 32 07.3**	**+2.3**
	baz=291,SNR=245						
T35M				S	**S**	**03 39 33.7**	**+3.4**
	baz=291						
HNR	**Honiara**	**52.54**	**164**	LR	LR	03 52 05.3	
	comp=Z,8µm,20.9s,baz=325,slow=34						
DIB	**Dawson Inlet,**	**52.72**	**48**	IAmb	IAmb	03 32 08.8	
	comp=Z,165nm,0.9s						
AML	**Almayashu**	**52.75**	**297**	P	**P**	**03 32 08.5**	**+0.9**
	SNR=34						
HPAH	**Hawaii Prepara**	**52.77**	**96**	IAmb	IAmb	03 32 11.3	
	comp=Z,558nm,1.5s						
HUH	**Hualalai**	**52.88**	**97**	IAmb	IAmb	03 32 11.0	
	comp=Z,222nm,0.8s						
KAPI	**Kappang**	**52.93**	**215**	P	**P**	**03 32 07.6**	**-1.0**
KAPI	**Kappang**	**52.93**	**215**	P	**P**	**03 32 09.4**	**+0.8**
KAPI	**Kappang**	**52.93**	**215**	*c i* P	**P**	**03 32 07.4**	**-1.2**
KAPI				pmax	pmax		
	comp=Z,45nm,1.0s						
U35K	**Hyder**	**53.01**	**44**	P	**P**	**03 32 10.3**	**+1.6**
	baz=292,SNR=11						
U35K				S	**S**	**03 39 42.3**	**+5.1**
	baz=292						
MOBC	**Moresby Island**	**53.02**	**48**	IAmb	IAmb	03 32 11.2	
	comp=Z,150nm,0.9s						
BKSI	**Bulukumba**	**53.05**	**214**	P	**P**	**03 32 08.2**	**-1.3**
	comp=Z,76nm,0.9s						
POHA	**Pohakuloa**	**53.06**	**96**		**P**	**03 32 10.8**	**+0.9**
POHA	**Pohakuloa**	**53.06**	**96**	IAMs_20	IAMs_20	03 49 03.8	
	comp=Z,7µm,20.0s						
POHA	**Pohakuloa**	**53.06**	**96**	P	**P**	**03 32 10.5**	**+0.6**
SRIT	**Nakonsritamara**	**53.23**	**245**	IAmb	IAmb	03 32 20.7	
	comp=Z,248nm,1.4s						
SRIT				IAMs_20	IAMs_20	03 59 16.1	
	comp=Z,5µm,18.0s						
SRIT	**Nakonsritamara**	**53.23**	**245**	P	**P**	**03 32 11.7**	**+0.8**
BOK	**Bokaro**	**53.28**	**270**	*e*P	**P**	**03 32 10.6**	**-0.6**
BOK				IAmb	IAmb	03 32 52.6	
	comp=Z,141nm,1.4s						
BOK				*e*S	**S**	**03 39 41.6**	**-0.2**
WRGLY	**Wrigley**	**53.38**	**34**	IAmb	IAmb	03 32 15.0	
	comp=Z,165nm,0.9s						
WRGLY	**Wrigley**	**53.38**	**34**	P	**P**	**03 32 12.8**	**+1.5**
	baz=292,SNR=68						
WRGLY				S	**S**	**03 39 41.6**	**-0.4**
	baz=292						
UWE	**Uwekahuna**	**53.45**	**96**	IAmb	IAmb	03 32 15.2	
	comp=Z,337nm,0.9s						
HATHI	**Halema'uma'u T**	**53.47**	**96**	IAmb	IAmb	03 32 15.3	
	comp=Z,256nm,1.0s						
BYL	**Byron's Ledge**	**53.48**	**96**	IAmb	IAmb	03 32 14.8	
	comp=Z,288nm,1.1s						
HNLY	**HANLEY**	**53.51**	**284**	*e*P	**P**	**03 32 15.1**	**+1.6**
HNLY				IAmb	IAmb	03 32 37.8	
	comp=Z,90nm,0.9s						
BSSI	**Bau Bau, Buton**	**53.64**	**213**	P	**P**	**03 32 12.7**	**-1.1**
	comp=Z,3µmcomp=Z,175nm,0.8s						
HG4B	**Hotspring**	**53.79**	**49**	IAmb	IAmb	03 32 17.3	
	comp=Z,224nm,1.0s						
GRNB	**Grenville Isla**	**53.85**	**47**	IAmb	IAmb	03 32 17.5	
	comp=Z,195nm,0.9s						
DZA	**Taraz**	**53.98**	**298**	*e*P	**P**	**03 32 16.2**	**+0.1**
DZA				pmax	pmax		
	comp=Z,26nm,0.7s						
DZA	**Taraz**	**53.98**	**298**	*e*P	**P**	**03 32 16.3**	**+0.1**
	comp=Z,26nm,0.7s						
KNTI	**KHUNTI**	**54.16**	**270**	*e*P	**P**	**03 32 16.1**	**-1.6**
KNTI				IAmb	IAmb	03 32 36.1	
	comp=Z,255nm,1.6s						
JOSI	**Joshimath**	**54.23**	**281**	*e*P	**P**	**03 32 16.5**	**-1.9**
JOSI				IAmb	IAmb	03 32 37.9	
	comp=Z,345nm,1.0s						
TOAD	**Toad River Com**	**54.27**	**40**	P	**P**	**03 32 19.4**	**+1.4**
	baz=293,SNR=104						
TOAD				S	**S**	**03 39 54.8**	**+0.4**
	baz=293						
KOTAN	**Kotaneelee Air**	**54.31**	**38**	P	**P**	**03 32 19.4**	**+1.1**
	baz=293,SNR=41						
KOTAN				S	**S**	**03 39 54.1**	**-0.7**
	baz=293						
LGTI	**Lohaghat**	**54.32**	**280**	*e*P	**P**	**03 32 20.2**	**+1.5**
SVE	**Sverdlovsk**	**54.33**	**318**	*de*P	**P**	**03 32 19.3**	**+0.9**
SVE				*e*S	**S**	**03 39 55.4**	**+0.3**
SVE				*e*SS	**SS**	**03 43 38.5**	**+1.8**
SVE				pmax	pmax		
	comp=Z,372nm,1.4s						
SVE				pmax	pmax		
	comp=Z,671nm,10.0s						
SVE				MLR	MLR		
	comp=Z,9µm,16.0s						
SVE	**Sverdlovsk**	**54.33**	**318**	*e*P	**P**	**03 32 19.3**	**+0.9**
KK31	**Karatay Array**	**54.41**	**299**	IAmb	IAmb	03 32 42.1	
	comp=Z,101nm,0.8s						
KK31	**Karatay Array**	**54.41**	**299**	*i* P	**P**	**03 32 19.0**	**-0.3**
KKAR	**Karatay Array**	**54.41**	**299**	P	**P**	**03 32 19.3**	**0.0**
KKAR	**Karatay Array**	**54.41**	**299**	P	**P**	**03 32 19.3**	**0.0**
KKAR	**Karatay Array**	**54.41**	**299**	P	**P**	**03 32 19.3**	**0.0**
KKAR				pmax	pmax		
	comp=Z,65nm,0.9s						
VAR	**Varanasi**	**54.56**	**274**	*e*P	**P**	**03 32 20.4**	**-0.2**
DGPR	**DIGLIPUR**	**54.71**	**255**	*e*P	**P**	**03 32 20.7**	**-1.0**
DGPR				IAmb	IAmb	03 32 29.8	
	comp=Z,310nm,1.3s						
DGPR				*e*S	**S**	**03 39 59.3**	**-1.9**
BRLS	**Borolday**	**54.89**	**299**	*e*P	**P**	**03 32 24.5**	**+1.8**
BRLS	**Borolday**	**54.89**	**299**	*e*P	**P**	**03 32 24.6**	**+1.8**
KULM	**Kulim**	**54.97**	**242**	P	**P**	**03 32 24.4**	**+0.8**
LUES	**Luesalemba Tem**	**55.21**	**157**	P	**P**	**03 32 26.5**	**+1.3**
MMRI	**Maumere**	**55.23**	**210**	P	**P**	**03

comp=Z,253nm,0.8s
HOPEN Hopen 56.27 346 *e*P **P** **03 32 33.2 +1.0**
HOPEN IVmB_BB 03 32 43.1
comp=Z,5μm,2.7s
HOPEN *e*S **S** **03 40 19.5 -1.1**
HOPEN *e*ScS **ScS** **03 42 22.5 +2.8**
HOPEN IVMs_BB IVMs_BB 03 59 39.4
comp=Z,3μm,17.3s
NOR Nord 56.36 357 *i* P **P** **03 32 33.1 +0.4**
MERT Meerut 56.42 281 *e*P **P** **03 32 33.0 -0.8**
BNDA BANDA 56.45 275 *e*P **P** **03 32 32.7 -1.5**
MTN Manton Dam 56.47 199 IAmb IAmb 03 32 42.0
comp=Z,313nm,1.1s
MTN Manton Dam 56.47 199 P **P** **03 32 33.0 -1.1**
comp=Z,0.0nmcomp=Z,323nm,1.3s
MTN Manton Dam 56.47 199 P **P** **03 32 33.3 -0.9**
JMU Jammu 56.48 286 *e*P **P** **03 32 35.0 +0.8**
SPA0 Spitsbergen Ar 56.49 349 *e*P **P** **03 32 34.1 +0.4**
SPA0 IVmB_BB 03 32 44.5
comp=Z,4μm,3.2s
SPA0 *e*PP **PP** **03 34 39.4 +0.4**
SPA0 *e*S **S** **03 40 22.5 -1.0**
SPA0 IVMs_BB IVMs_BB 04 00 40.5
comp=Z,2μm,15.4s
SPITS Spitsbergen Ar 56.49 349 P **P** **03 32 34.1 +0.4**
comp=Z,36nm,0.5s,baz=74,slow=8.8,SNR=93
SPITS LR LR 04 00 43.1
comp=Z,4μm,18.4s,baz=14,slow=40
comp=Z,36nm,0.5s
SPB2 Spitsbergen Ar 56.49 349 IAmb IAmb 03 32 54.8
comp=Z,143nm,0.9s
GAR Garm 56.49 295 IAmb IAmb 03 32 52.3
comp=Z,346nm,1.3s
KBS Kingsbay 56.50 351 P **P** **03 32 35.1 +1.4**
KBS IAmb IAmb 03 32 53.4
comp=Z,205nm,0.9s
KBS Kingsbay 56.50 351 *e*P **P** **03 32 34.1 +0.4**
KBS IVmB_BB 03 32 36.7
comp=Z,3μm,2.4s
KBS *e*S **S** **03 40 23.9 +0.3**
KBS *e*SS **SS** **03 44 15.9 +5.8**
KBS IVMs_BB IVMs_BB 03 58 08.0
comp=Z,1μm,17.0s
KBS Kingsbay 56.50 351 P **P** **03 32 35.1 +1.4**
KBS pmax pmax
comp=Z,205nm,1.0s
KBS Kingsbay 56.50 351 *i* P **P** **03 32 35.5 +1.7**
ASOR Ausora 56.51 280 *e*P **P** **03 32 34.6 0.0**
ASOR *e*S **S** **03 40 27.2 +2.2**
RES Resolute Bay 56.70 16 IAmb IAmb 03 32 57.6
comp=Z,211nm,0.7s
RES Resolute Bay 56.70 16 LR LR 03 58 34.9
comp=Z,4μm,21.3s,baz=311,slow=38
GNR GANAUR 56.86 281 *e*P **P** **03 32 36.5 -0.5**
NDI New Delhi 56.96 281 *e*P **P** **03 32 37.5 -0.2**
JMIU JAMIA UNIVERSI 56.97 280 *e*P P 03 32 31.1 -6.7
TPI Tanjungpandan 57.01 229 P **P** **03 32 37.3 -0.8**
comp=Z,2μmcomp=Z,137nm,1.4s
NPLP NPLP New Delhi 57.02 281 *e*P **P** **03 32 41.0 +2.8**
NPLP IAmb IAmb 03 32 56.1
comp=Z,146nm,0.9s
BLSP Bilaspur 57.05 271 *e*P **P** **03 32 38.1 -0.4**
BLSP IAmb IAmb 03 32 57.1
comp=Z,91nm,1.1s
NIL Nilore 57.16 288 P **P** **03 32 39.8 +0.6**
NIL Nilore 57.16 288 P **P** **03 32 39.8 +0.6**
NIL pmax pmax
comp=Z,594nm,1.4s
NIL MLR MLR
comp=Z,3μm,19.0s
PLAI Plampang 57.19 215 P **P** **03 32 40.1 +0.7**
PLAI Plampang 57.19 215 P P 03 32 33.3 -6.1
comp=Z,75nm,1.2s
WBSI Waikabubak, Su 57.25 213 P **P** **03 32 35.6 -4.3**
comp=Z,1μmcomp=Z,119nm,1.2s
SONA Sohna 57.30 280 *e*P **P** **03 32 38.9 -1.2**
BASI Baing, Sumba 57.31 211 P P 03 32 47.1 +6.9
RTK Rohtak 57.35 281 *e*P **P** **03 32 39.4 -1.1**
YKA Yellowknife Ar 57.36 33 P **P** **03 32 40.3 +0.2**
comp=Z,87nm,0.9s,baz=297,slow=6.7,SNR=442
YKA LR LR 03 59 58.8
comp=Z,2μm,19.9s,baz=307,slow=39
YKA PKPPKP P'P'df 04 02 23.1 -12
comp=Z,0.8nm,1.0s,baz=161,slow=2.4,SNR=3.7
comp=Z,87nm,0.9s
YKA Yellowknife Ar 57.36 33 *i* P **P** **03 32 40.2 +0.2**
YKA pmax pmax
comp=Z,86nm,0.9s
HSPB Hornsund (broa 57.48 348 *e*P **P** **03 32 41.4 +0.6**
HSPB *e*S **S** **03 40 32.4 -4.2**
HSPB *e*L L 04 00 21.2
comp=Z,6μm,19.5s
SIMJ Simiganj 57.54 295 P **P** **03 32 41.8 -0.1**
SIMJ IAmb IAmb 03 32 53.9
comp=Z,173nm,0.9s
SRBI Singaraja 57.67 218 P **P** **03 32 42.0 -0.8**
comp=Z,3μmcomp=Z,4μmcomp=Z,267nm,1.4s
JHNI Jhansi 57.79 277⇑ *e*P **P** **03 32 42.1 -1.5**
KUDL Kundal 57.79 280⇑ *e*P **P** **03 32 43.4 -0.2**
RAGD RAYAGADA 57.80 268 *e*P **P** **03 32 44.1 +0.3**
ABJI Asem Bagus 57.87 219 P P 03 32 51.5 +7.3
GRJI Gresik 57.95 222 P **P** **03 32 43.7 -1.1**
comp=Z,4μmcomp=Z,245nm,1.1s
PSI Prapat 57.96 241 LR LR 03 59 04.7
comp=Z,2μm,21.0s,baz=36,slow=38
PSI Prapat 57.96 241 P **P** **03 32 45.1 0.0**
AB31 Akbulak array 58.06 310 *i* P **P** **03 32 45.3 +0.1**
ABKAR Akbulak array 58.06 310 P **P** **03 32 45.7 +0.5**
ABKAR Akbulak array 58.06 310 IAmb IAmb 03 33 03.6
comp=Z,478nm,1.4s
CMBY CAMPBELL BAY 58.26 249 *e*P **P** **03 32 44.1 -2.9**
CMBY IAmb IAmb 03 33 01.9
comp=Z,269nm,1.2s
BSI Banda Aceh 58.40 246 P **P** **03 32 47.2 -0.8**
BKNI Bangkinang 58.49 237 P **P** **03 32 48.4 -0.2**
BKNI Bangkinang 58.49 237 P **P** **03 32 49.3 +0.7**
BKNI Bangkinang 58.49 237 P **P** **03 32 49.3 +0.7**
comp=Z,2μmcomp=Z,161nm,1.0s
JAGI Jajag, Banyuwa 58.50 219 P **P** **03 32 50.1 +1.5**
OZB Mount Ozzard 58.53 51 IAmb IAmb 03 32 50.3
comp=Z,141nm,0.9s
MLSI Meulaboh, Aceh 58.54 244 P **P** **03 32 48.4 -0.6**
comp=Z,159nm,1.9s
AKTO Aktyubinsk 58.58 311 LR LR 04 00 09.1
comp=Z,11μm,18.0s,baz=56,slow=38
AKTO Aktyubinsk 58.58 311 P **P** **03 32 48.7 -0.1**
GMJI Gumukmas 58.66 220 P P 03 32 54.7 +5.0
SRGN SRI GANGA NAGA 58.71 284 *e*P **P** **03 32 48.7 -1.3**
BJO1 Bjornoya 58.76 346 *e*P **P** **03 32 50.2 +0.5**
BJO1 IVmB_BB 03 33 02.4
comp=Z,5μm,4.3s
BJO1 *e*S **S** **03 40 53.1 -0.1**
BJO1 IVMs_BB IVMs_BB 04 01 11.8
comp=Z,4μm,19.8s
VIS Vishakhapatnam 58.84 266 *e*P **P** **03 32 51.6 +0.6**
NGJI Ngawi 58.85 222 P **P** **03 32 51.3 +0.3**
comp=Z,155nm,1.5s
KIRV Kirov 58.90 323 LR LR 03 59 33.7
comp=Z,8μm,19.6s,baz=55,slow=37
KIRV Kirov 58.90 323 *ce*P **P** **03 32 51.4 +0.6**
MNSI Mandailing Nat 59.06 239 P **P** **03 32 50.9 -1.6**
SMRI Semarang 59.09 223 IAmb IAmb 03 33 36.7
comp=Z,228nm,1.2s
SMRI Semarang 59.09 223 P **P** **03 32 54.3 +1.5**
SMRI Semarang 59.09 223 P **P** **03 32 52.1 -0.7**
comp=Z,137nm,1.1s
GUNA GUNA 59.15 277 *e*P **P** **03 32 52.3 -0.9**
GUNA IAmb IAmb 03 33 09.4
comp=Z,104nm,1.1s
LVZ Lovozero 59.34 336 P **P** **03 32 55.4 +1.5**
LVZ IAmb IAmb 03 33 19.7
comp=Z,79nm,0.7s
LVZ Lovozero 59.34 336 *i* P **P** **03 32 53.8 -0.1**
LVZ pmax pmax
comp=Z,134nm,1.4s
LVZ MLR MLR
comp=Z,4μm,17.0s
VADS Vadso 59.46 339 *e*P **P** **03 32 56.2 +1.6**
VADS IVmB_BB 03 33 07.7
comp=Z,4μm,4.7s
VADS *e*S **S** **03 41 03.7 +1.2**
VADS *e*SS **SS** **03 45 00.3 +3.6**
VADS IVMs_BB IVMs_BB 04 11 28.1
comp=Z,2μm,4.4s
PPI Padang Panjang 59.50 237 P **P** **03 32 55.0 -0.6**

C03A Quillayute Air 59.57 51 IAmb IAmb 03 32 58.5
comp=Z,252nm,1.0s
TULEG Thule 59.59 9 IAMs_20 IAMs_20 04 02 05.7
comp=Z,6μm,19.0s
TULEG Thule 59.59 9 *i* P **P** **03 32 54.4 -1.0**
KBU Kabul Universi 59.60 291 P **P** **03 32 54.1 -2.3**
KBL Kabul 59.66 291 P **P** **03 32 55.9 -0.9**
KBL IAmb IAmb 03 33 14.4
comp=Z,283nm,1.4s
KBL Kabul 59.66 291 P **P** **03 32 55.9 -0.9**
KBL pmax pmax
comp=Z,283nm,1.4s
PCJI Pacitan 59.70 222 P P 03 33 02.1 +5.2
LLLB Lilooet 59.74 48 IAmb IAmb 03 32 59.6
comp=Z,139nm,0.9s
KNRA Kununurra 59.78 200 IAmb IAmb 03 33 04.7
comp=Z,164nm,1.3s
KNRA Kununurra 59.78 200 P **P** **03 32 56.5 -0.8**
comp=Z,101nm,1.3s
UGM Wanagama 59.79 223 IAmb IAmb 03 33 04.5
comp=Z,274nm,1.3s
UGM Wanagama 59.79 223 P **P** **03 32 58.3 +0.7**
UGM Wanagama 59.79 223 P **P** **03 32 56.1 -1.5**
comp=Z,183nm,1.5s
YOGI Yogyakarta 59.82 223 P P 03 33 03.9 +6.1
MTSU Mount Surprise 59.86 183 P **P** **03 32 57.4 -0.5**
comp=Z,39nm,1.1s
MTSU Mount Surprise 59.86 183 P **P** **03 32 58.1 +0.2**
BHPL Bhopal 59.90 275 *e*P **P** **03 32 58.4 0.0**
BHPL IAmb IAmb 03 33 17.4
comp=Z,153nm,1.1s
BHPL *e*S **S** **03 41 09.6 +0.1**
APA Apatity 59.92 336⇓ *i*P **P** **03 32 57.4 -0.4**
APA *i* 03 35 15.0
APA *i* S **S** **03 41 06.0 -2.5**
APA *i* 03 42 43.0
APA pmax pmax
comp=Z,100nm,1.0s
NGP Nagpur 59.93 272 *e*P **P** **03 32 56.5 -2.1**
SNSI Sinabang, Aceh 59.97 243 P **P** **03 32 58.9 +0.1**
comp=Z,6μmcomp=Z,250nm,1.4s
GSI Gunungsitoli 59.97 241 IAMs_20 IAMs_20 03 59 57.6
comp=Z,4μm,20.0s
GSI Gunungsitoli 59.97 241 P **P** **03 33 00.0 +1.2**
GSI Gunungsitoli 59.97 241 P **P** **03 32 58.8 0.0**
comp=Z,172nm,1.7s
AJM Ajmer 60.08 280 *e*P **P** **03 32 58.8 -0.8**
AJM IAmb IAmb 03 33 16.9
comp=Z,165nm,1.3s
AJM *e*S **S** **03 41 09.9 -1.9**
BKNR BIKANER 60.21 282 *e*P **P** **03 32 59.8 -0.6**
BKNR IAmb IAmb 03 33 23.5
comp=Z,245nm,0.6s
NLWA Neilton Lookou 60.26 51 IAmb IAmb 03 33 03.9
comp=Z,233nm,0.9s
KEV Kevo 60.31 340 P **P** **03 33 01.4 +0.9**
KEV IAmb IAmb 03 33 19.4
comp=Z,125nm,1.0s
KEV IAMs_20 IAMs_20 04 02 30.8
comp=Z,4μm,20.0s
KEV Kevo 60.31 340 P **P** **03 33 01.4 +0.9**
KEV pmax pmax
comp=Z,125nm,1.0s
KEV MLR MLR
comp=Z,4μm,20.0s
NEEM North Greenlan 60.32 4 *i* P **P** **03 33 00.4 -0.4**
NEEM IAmb IAmb 03 33 04.8
comp=Z,86nm,0.7s
LEM Lembang 60.39 226 LR LR 03 59 25.6
comp=Z,1μm,20.8s,baz=5.0,slow=36
MDSI Maura Dua 60.40 231 P **P** **03 33 00.7 -1.0**
comp=Z,3μmcomp=Z,2μmcomp=Z,92nm,1.5s
NRDN NARMADA NAGAR 60.40 275 *e*P **P** **03 33 04.3 +2.5**
NRDN IAmb IAmb 03 33 26.1
comp=Z,188nm,1.0s
HAMF Hammerfest 60.53 341 *e*P **P** **03 33 03.7 +1.8**
HAMF IVmB_BB 03 33 24.3
comp=Z,3μm,5.5s
HAMF *e*S **S** **03 41 18.4 +2.2**
HAMF IVMs_BB IVMs_BB 04 05 03.5
comp=Z,3μm,4.4s
PBSI Pulau Batu 60.54 240 P **P** **03 33 07.3 +4.6**
comp=Z,3μmcomp=Z,176nm,1.7s
CMJI Cimerak 60.75 225 P P 03 33 11.8 +7.7
GNW Green Mountain 60.77 51 IAmb IAmb 03 33 05.7
comp=Z,128nm,1.3s
ARA0 ARCESS Array S 60.85 340 *e*P **P** **03 33 08.0 +3.8**
ARA0 IVmB_BB 03 33 17.3
comp=Z,3μm,3.8s
ARA0 *e*S **S** **03 41 20.2 -0.2**
ARA0 *e*SS **SS** **03 45 24.6 +6.1**
ARA0 IVMs_BB IVMs_BB 04 05 02.2
comp=Z,3μm,22.0s
ARCES ARCESS Array B 60.85 340 P **P** **03 33 04.9 +0.7**
comp=Z,17nm,0.5s,baz=41,slow=4.5,SNR=40
ARCES LR LR 04 04 59.2
comp=Z,4μm,18.4s,baz=16,slow=42
comp=Z,17nm,0.5s
BBJI Bungbulang 60.91 226 P **P** **03 33 06.5 +1.2**
TV1H Townsville Har 60.94 180 P **P** **03 33 07.0 +1.8**
SISI Saibi 61.00 238 P **P** **03 33 04.7 -1.1**
comp=Z,2μmcomp=Z,110nm,1.3s
DAG Danmarks Havn 61.17 356 *i* P **P** **03 33 04.4 -1.8**
DAG IAmb IAmb 03 33 08.3
comp=Z,42nm,1.2s
CGJI Cibinong 61.27 228 P **P** **03 33 02.9 -4.8**
comp=Z,51nm,1.0s
D05A Enumclaw 61.45 51 IAmb IAmb 03 33 11.4
comp=Z,247nm,1.0s
HEBO Mount Hebo 61.46 54 IAmb IAmb 03 33 11.5
comp=Z,204nm,1.0s
AKL Akola 61.72 273 *e*P **P** **03 33 09.8 -1.0**
AKL *e*S **S** **03 41 29.3 -3.4**
G03D McMinnville, O 61.75 53 IAmb IAmb 03 33 13.3
comp=Z,167nm,1.0s
LON Longmire 61.79 51 IAmb IAmb 03 33 23.8
comp=Z,132nm,1.1s
KTK1 Kautokeino 61.79 340 *e*P **P** **03 33 13.2 +2.6**
KTK1 IVmB_BB 03 33 21.9
comp=Z,2μm,4.8s
KTK1 *e*S **S** **03 41 32.3 0.0**
KTK1 *e*SS **SS** **03 45 39.1 +5.7**
KTK1 IVMs_BB IVMs_BB 04 05 39.1
comp=Z,3μm,19.1s
KLMR Klimovskoe 61.84 328 *e*P **P** **03 33 09.5 -1.5**
KLMR S **S** **03 41 32.1 -1.1**
KLMR pmax pmax
comp=Z,747nm,1.4s
KLMR MLR MLR
comp=Z,5μm,16.0s
I02E Swisshome, OR 61.99 55 IAmb IAmb 03 33 15.8
comp=Z,217nm,0.9s
COR Corvallis 62.06 54 P **P** **03 33 14.3 +1.6**
COR Corvallis 62.06 54 P **P** **03 33 14.3 +1.6**
COR pmax pmax
comp=Z,344nm,1.0s
JETT Jettan, Norway 62.09 341 *e*P **P** **03 33 14.9 +2.3**
JETT *e*S **S** **03 41 39.0 +2.7**
JETT IVMs_BB IVMs_BB 04 05 12.9
comp=Z,4μm,20.0s
LTY Liberty 62.18 50 IAmb IAmb 03 33 15.4
comp=Z,120nm,0.9s
B08A Colville Reser 62.34 49 IAmb IAmb 03 33 16.4
comp=Z,149nm,1.0s
TRO Tromso 62.38 342 *e*P **P** **03 33 15.2 +0.8**
TRO IVmB_BB 03 33 25.5
comp=Z,5μm,4.7s
TRO *e*S **S** **03 41 42.4 +2.7**
TRO IVMs_BB IVMs_BB 04 07 14.7
comp=Z,3μm,5.8s
H04D Lebanon 62.44 54 IAmb IAmb 03 33 18.8
comp=Z,110nm,0.9s
WB0 Warramunga Arr 62.53 193 P **P** **03 33 14.1 -1.8**
WB0 IAmb IAmb 03 33 22.6
comp=Z,208nm,0.9s
JASL Jaisalmer 62.56 283 *e*P **P** **03 33 14.1 -2.2**
HYB Hyderabad 62.58 269 *e*P **P** **03 33 16.0 -0.6**
HYB *ep*P **sP** **03 33 22.6 +0.1**
HYB IVmB_BB 03 33 25.1
comp=Z,1μm,8.9s
HYB *e*PP **PP** **03 35 33.9 -0.4**
HYB *e*S **S** **03 41 47.1 +3.3**
HYB *e*ScS **ScS** **03 43 02.1 -6.2**
HYB IVMs_BB IVMs_BB 04 02 28.0
comp=Z,828nm,20.8s

QIS Mount Isa 62.59 188 P **P** **03 33 16.5 +0.1**
KULLO Kullorsuaq 62.60 7 *i* P **P** **03 33 14.3 -1.5**
WR0 Warramunga Arr 62.69 193 IAmb IAmb 03 33 23.7
comp=Z,147nm,1.1s
WRAB Tennant Creek 62.70 193 *c i*P **P** **03 33 15.2 -1.9**
WRAB pmax pmax
comp=Z,55nm,0.9s
WB2 Warramunga Arr 62.70 193 P **P** **03 33 15.3 -1.8**
WB2 IAmb IAmb 03 33 24.4
comp=Z,208nm,0.9s
WRA Warramunga Arr 62.71 193 P **P** **03 33 15.4 -1.7**
comp=Z,62nm,0.7s,baz=15,slow=7.2,SNR=113
WRA S **S** **03 41 41.6 -3.2**
comp=Z,1.3nm,1.0s,baz=6.2,slow=10,SNR=4.6
WRA LR LR 03 59 05.1
comp=Z,912nm,21.9s,baz=6.5,slow=35
WRA PKPPKP **P'P'df** **04 02 20.1 +7.3**
comp=Z,4.3nm,0.8s,baz=183,slow=2.8,SNR=8.8
comp=Z,62nm,0.7s
WRA Warramunga Arr 62.71 193 *i* P **P** **03 33 15.3 -1.9**
WRA pmax pmax
comp=Z,63nm,0.7s
KBO Bosley Butte 62.78 57 IAmb IAmb 03 33 20.5
comp=Z,175nm,0.9s
K02D Willamette Mer 62.87 56 IAmb IAmb 03 33 21.1
comp=Z,146nm,0.9s
FITZ Fitzroy Crossi 62.94 203 P **P** **03 33 17.9 -0.9**
FITZ Fitzroy Crossi 62.94 203 P **P** **03 33 18.8 +0.1**
comp=Z,18nm,1.0s
FITZ Fitzroy Crossi 62.94 203 LR LR 04 03 29.1
comp=Z,621nm,18.9s,baz=32,slow=39
FITZ Fitzroy Crossi 62.94 203 P **P** **03 33 19.5 +0.8**
BELG Belogornoye 63.08 317 LR LR 04 01 57.8
comp=Z,6μm,19.5s,baz=55,slow=37
BELG Belogornoye 63.08 317 *d i*P **P** **03 33 20.0 +0.6**
BELG pmax pmax
comp=Z,35nm,0.9s
C09A Chrisman Ranch 63.24 49 IAmb IAmb 03 33 23.2
comp=Z,211nm,1.0s
L02F Cave Junction 63.24 56 IAmb IAmb 03 33 23.5
comp=Z,78nm,0.8s
D08A Wollman Farm, 63.29 50 IAmb IAmb 03 33 23.5
comp=Z,149nm,0.9s
G06A Carlson Farm, 63.30 52 IAmb IAmb 03 33 24.2
comp=Z,188nm,1.0s
HAWA Hanford 63.30 51 IAmb IAmb 03 33 23.2
comp=Z,161nm,1.0s
KRMB Red Mountain 63.36 57 IAmb IAmb 03 33 23.6
comp=Z,121nm,1.3s
KRPM Rodgers 63.49 58 IAmb IAmb 03 33 25.9
comp=Z,106nm,0.9s
E08A Dider Farm, El 63.52 50 IAmb IAmb 03 33 24.4
comp=Z,175nm,1.0s
JOF Joensuu 63.58 333 *e*P **P** **03 33 22.9 +0.4**
XMAS Kiritimati 63.62 113 P **P** **03 33 23.8 +0.3**
XMAS Kiritimati 63.62 113 P **P** **03 33 24.5 +1.1**
NEW Newport 63.62 48 IAmb IAmb 03 33 25.8
comp=Z,196nm,0.9s
NEW Newport 63.62 48 LR LR 04 02 54.3
comp=Z,1μm,19.1s,baz=318,slow=38
JCC Jacoby Creek, 63.67 58 IAmb IAmb 03 33 26.3
comp=Z,160nm,0.9s
DBG Daneborg 63.68 356 *i* P **P** **03 33 22.3 -0.6**
KHMM Horse Mountain 63.83 58 IAmb IAmb 03 33 28.0
comp=Z,204nm,0.8s
YBH Yreka Blue Hor 63.99 56 P **P** **03 33 27.0 +1.3**
YBH IAmb IAmb 03 33 28.4
comp=Z,134nm,0.9s
YBH Yreka Blue Hor 63.99 56 LR LR 03 57 08.3
comp=Z,1μm,21.8s,baz=308,slow=32
YBH Yreka Blue Hor 63.99 56 P **P** **03 33 27.0 +1.3**
YBH pmax pmax
comp=Z,134nm,0.9s
KMRM Mail Ridge 64.21 58 IAmb IAmb 03 33 30.7
comp=Z,142nm,0.8s
G08A Pilot Rock 64.25 51 IAmb IAmb 03 33 30.3
comp=Z,101nm,1.1s
UPNV Upernavik 64.41 7 *i* P **P** **03 33 27.3 -0.5**
STEI Steigen 64.56 342 *e*P **P** **03 33 30.8 +2.0**
STEI *e*S **S** **03 42 09.2 +2.3**
STEI IVMs_BB IVMs_BB 04 02 59.3
comp=Z,3μm,12.2s
FUTU Fugatoga 64.61 142 P **P** **03 33 30.8 +1.0**
FUTU IAmb IAmb 03 33 32.1
comp=Z,162nm,1.2s
I07A Izee 64.61 53 IAmb IAmb 03 33 32.8
comp=Z,119nm,1.0s
LOF Lofoten 64.79 342 *e*P **P** **03 33 33.6 +3.3**
LOF *e*S **S** **03 42 09.4 -0.2**
O02D Mt. Diablo Mer 64.81 58 IAmb IAmb 03 33 34.6
comp=Z,166nm,0.9s
FAUS Fauske 64.98 341 *e*P **P** **03 33 31.9 +0.3**
FAUS IVmB_BB 03 33 54.9
comp=Z,3μm,3.5s
FAUS *e*S **S** **03 42 13.4 +1.3**
FAUS IVMs_BB IVMs_BB 04 04 05.1
comp=Z,3μm,4.2s
HOPS Hopland Field 65.31 59 IAmb IAmb 03 33 36.3
comp=Z,130nm,0.9s
POO Poona 65.40 273 *e*P **P** **03 33 33.7 -1.5**
POO IAmb IAmb 03 33 53.4
comp=Z,1μm,2.3s
POO *e*S **S** **03 42 18.2 -0.5**
DGTI Dogotuki 65.42 145 P **P** **03 33 36.2 +1.1**
BMO Blue Mountains 65.46 51 IAmb IAmb 03 33 38.2
comp=Z,111nm,1.0s
GDXM Geysers 65.59 59 IAmb IAmb 03 33 39.6
comp=Z,130nm,0.9s
BHUJ Bhuj 65.64 280 *e*P **P** **03 33 35.3 -1.2**
BHUJ IAmb IAmb 03 33 55.7
comp=Z,112nm,0.9s
SUMG Summit 65.68 2 P **P** **03 33 37.7 +1.1**
SUMG Summit 65.68 2 P **P** **03 33 37.7 +1.1**
SUMG pmax pmax
comp=Z,203nm,0.8s
SUMG MLR MLR
comp=Z,9μm,22.0s
SUMG Summit 65.68 2 *i* P **P** **03 33 34.3 -2.3**
SUMG IAmb IAmb 03 33 42.8
comp=Z,103nm,0.6s
MOS Moscow 65.78 324 *e*P **P** **03 33 37.0 0.0**
MOS *e* 03 34 05.3
MOS *e* 03 36 03.0
MOS *e*S **S** **03 42 20.6 -1.7**
MOS *e*SS **SS** **03 46 42.5 +6.5**
MOS pmax pmax
comp=Z,500nm,2.0s
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=N,54nm,0.9s
MOS smax smax
comp=N,2800μm,3.4s
MOS smax smax
comp=E,2600μm,4.5s
MOS MLR MLR
comp=Z,6μm,18.0s
NUUG Nuugaatsiaq 65.88 7 *i* P **P** **03 33 37.7 +0.4**
KAD Karad 65.91 272 *e*P **P** **03 33 38.0 -0.4**
JMIC Jan Mayen 65.96 351 LR LR 04 03 05.4
comp=Z,924nm,20.4s,baz=30,slow=37
MSVF Nonsavu 66.01 147 P **P** **03 33 40.2 +1.3**
MSVF Nonsavu 66.01 147 LR LR 04 01 31.1
comp=Z,6μm,18.0s,baz=330,slow=35
MSVF Nonsavu 66.01 147 P **P** **03 33 41.2 +2.3**
MSVF Nonsavu 66.01 147 P **P** **03 33 40.2 +1.3**
MSVF pmax pmax
comp=Z,50nm,1.2s
PUL Pulkovo 66.06 330 *ce*P **P** **03 33 39.1 +0.4**
PUL pmax pmax
comp=Z,171nm,0.9s
PUL MLR MLR
comp=Z,7μm,17.0s
PUL Pulkovo 66.06 330 *e*P **P** **03 33 39.1 +0.4**
PLID Pearl Lake 66.08 50 IAmb IAmb 03 33 41.9
comp=Z,233nm,1.0s
PLID IAMs_20 IAMs_20 04 07 16.2
comp=Z,3μm,19.0s
MOR8 Moi Rana 66.15 341 *e*P **P** **03 33 42.5 +3.3**
KONS Konsvik 66.20 342 *e*P **P** **03 33 40.4 +0.9**
MSO Missoula 66.21 48 IAmb IAmb 03 33 41.7
comp=Z,217nm,0.9s
MSO IAMs_20 IAMs_20 04 03 34.6
comp=Z,3μm,20.0s
DZM Mont Dzumac 66.24 160 *e*P P 03 33 48.0 +7.7
comp=Z,212nm,1.4s

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DZM  Mont Dzumac      66.24 160 ePP      PP      03 36 06.5 -0.1
     comp=Z,286nm,25.6s
DZM                             eS       S       03 42 25.4 -3.2
     comp=Z,3µm,26.4s
DZM                             eSS      SS      03 46 42.3 -3.1
     comp=Z,4µm,27.9s
DZM                             eLQ      LQ      03 50 36.3
     comp=Z,10µm,29.9s
DZM                             eLR      LR      03 53 33.3
     comp=Z,6µm,23.8s
DZM  Mont Dzumac      66.24 160 IAms_20  IAms_20 04 01 40.7
     comp=Z,5µm,20.0s
KEF  Keuruu           66.25 334 eP       P       03 33 40.8 +0.9
STOK Stokkvaagen      66.36 341 eP       P       03 33 40.9 +0.3
STOK                            eS       S       03 42 28.5 -0.4
FINES FINESS Array B  66.38 333 P        P       03 33 40.9 +0.2
FINES FINESS Array B  66.38 333 P        P       03 33 41.0 +0.3
     comp=Z,52nm,0.7s,baz=44,slow=7.4,SNR=160
     comp=Z,52nm,0.7s
AS16 Alice Springs    66.39 193 P        P       03 33 40.0 -1.3
     comp=Z,58nm,1.1s
AS01 Alice Springs    66.42 193 P        P       03 33 41.2 -0.2
ASAR Alice Springs    66.42 193 P        P       03 33 40.2 -1.2
     comp=Z,28nm,0.7s,baz=12,slow=5.7,SNR=132
ASAR                            LR       LR      04 00 56.0
     comp=Z,2µm,21.9s,baz=12,slow=34
ASAR                            PKPPKP   P'P'df  04 02 13.1 +6.3
     comp=Z,1.8nm,0.9s,baz=154,slow=3.1,SNR=7.5
     comp=Z,28nm,0.7s
ONTNC Ouen Toro       66.47 160 IAms_20  IAms_20 04 01 37.8
     comp=Z,5µm,19.0s
LEIR Leirfjorden      66.52 341 eP       P       03 33 41.9 +0.3
LEIR                            eS       S       03 42 33.6 +2.8
LEIR                            IVMs_BB  IVMs_BB 04 06 48.5
     comp=Z,3µm,3.6s
OBN  Obninsk          66.65 324 P        P       03 33 42.6 +0.1
OBN  Obninsk          66.65 324 LR       LR      04 04 35.1
     comp=Z,8µm,18.7s,baz=52,slow=38
OBN  Obninsk          66.65 324 eP       P       03 33 42.6 +0.1
OBN  Obninsk          66.65 324 P        P       03 33 42.8 +0.3
     comp=Z,6µmcomp=Z,435nm,1.6s
AFDM Forest Hills D   66.67 58  IAmb     IAmb    03 33 45.7
     comp=Z,103nm,1.1s
VRH  Novokhopyorsk    66.74 319 eP       P       03 33 41.1 -2.1
VRH                             eS       S       03 42 27.6 -6.4
VRH                             pmax     pmax
     comp=Z,230nm,0.8s
VRH                             MLR      MLR
     comp=Z,7µm,16.0s
UMMG Uummannaq        66.81  7 i P      P       03 33 43.3  0.0
MALK Mahakanadarawa   66.92 260 P        P       03 33 42.2 -2.6
PINNC Pines Island,   67.02 159 IAms_20  IAms_20 04 02 58.3
     comp=Z,5µm,20.0s
EIDS Eidsvold         67.12 176 P        P       03 33 45.5 -0.3
     comp=Z,66nm,1.1s
EIDS Eidsvold         67.12 176 P        P       03 33 47.0 +1.2
MFID Camas Ranch      67.17 52  IAmb     IAmb    03 33 48.2
     comp=Z,97nm,0.9s
LPSR Galich'ya Gora   67.20 321 eP       P       03 33 44.2 -1.9
LPSR                            eS       S       03 42 33.3 -6.2
LPSR                            pmax     pmax
     comp=Z,230nm,0.8s
LPSR                            MLR      MLR
     comp=Z,7µm,17.0s
FFC  Flin Flon        67.21  36 P        P       03 33 46.4 +0.2
FFC  Flin Flon        67.21  36 P        P       03 33 46.4 +0.2
FFC                             pmax     pmax
     comp=Z,315nm,0.9s
GOA  Goa              67.31 271 eP       P       03 33 45.6 -1.7
GOA                             eS       S       03 42 40.3 -1.6
PNTR Pine Nut         67.45  57 IAmb     IAmb    03 33 50.5
     comp=Z,222nm,1.0s
PALK Pallekele        67.55 259 P        P       03 33 48.9 -0.1
PALK                            IAmb     IAmb    03 34 06.8
     comp=Z,153nm,1.5s
PALK Pallekele        67.55 259 IAms_20  IAms_20 04 07 27.5
     comp=Z,3µm,19.0s
PALK Pallekele        67.55 259 LR       LR      04 07 21.5
     comp=Z,2µm,18.1s,baz=40,slow=40
PALK Pallekele        67.55 259 P        P       03 33 48.9 -0.1
PALK                            pmax     pmax
     comp=Z,153nm,1.5s
PALK                            MLR      MLR
     comp=Z,3µm,19.0s
SCO  Scoresbysund     67.55 356 P        P       03 33 49.3 +1.3
SCO  Scoresbysund     67.55 356 P        P       03 33 49.3 +1.3
SCO                             pmax     pmax
     comp=Z,553nm,2.0s
SCO  Scoresbysund     67.55 356 i P      P       03 33 48.2 +0.2
SCO                             IAmb     IAmb    03 33 49.8
     comp=Z,26nm,0.8s
CMB  Columbia Colle   67.58  59 IAmb     IAmb    03 33 50.8
     comp=Z,122nm,0.9s
FCC  Fort Churchill   67.63  30 IAmb     IAmb    03 33 50.0
     comp=Z,212nm,0.9s
SAO  San Andreas Ge   67.65  60 P        P       03 33 49.3 +0.1
SAO  San Andreas Ge   67.65  60 P        P       03 33 49.3 +0.1
SAO                             pmax     pmax
     comp=Z,71nm,1.0s
VORR Voronezh         67.66 320 eP       P       03 33 47.8 -1.2
VORR                            eS       S       03 42 40.0 -5.1
VORR                            pmax     pmax
     comp=Z,140nm,0.6s
MBWA Marble Bar       67.68 207 P        P       03 33 50.0 +0.6
MBWA Marble Bar       67.68 207 P        P       03 33 49.5 +0.1
     comp=Z,45nm,1.0s
MBWA Marble Bar       67.68 207 P        P       03 33 51.2 +1.8
EGMT Eagleton         67.74  45 IAms_20  IAms_20 04 01 57.4
     comp=Z,3µm,20.0s
MEF  Metsahovi        67.84 333 eP       P       03 33 50.6 +0.6
DLMT Dillon           67.84  48 IAms_20  IAms_20 04 04 50.8
     comp=Z,3µm,20.0s
ARBE Arbavere         67.86 332 eP       P       03 33 49.7 -0.4
WAKR Walker           67.90  58 IAmb     IAmb    03 33 53.3
     comp=Z,105nm,0.9s
HLID Hailey           67.90  51 IAmb     IAmb    03 33 53.8
     comp=Z,108nm,0.9s
HLID                            IAms_20  IAms_20 04 07 00.5
     comp=Z,3µm,22.0s
PSAD1 Pilbara Seismi  67.92 207 P        P       03 33 50.6 -0.3
     comp=Z,45nm,1.1s
VSR  Storozhevoye     67.98 320 eP       P       03 33 48.6 -2.4
VSR                             eS       S       03 42 41.0 -7.9
VSR                             pmax     pmax
     comp=Z,130nm,0.4s
VSR                             MLR      MLR
     comp=Z,6µm,18.0s
KOD  Kodaikanal       67.98 264 eP       P       03 33 51.9  0.0
PSA00 Pilbara Seismi  68.03 207 P        P       03 33 52.2 +0.6
PSA00 Pilbara Seismi  68.03 207 P        P       03 33 53.3 +1.7
VORD Divnogorie       68.08 319 eP       P       03 33 50.5 -1.1
VORD                            eS       S       03 42 43.8 -6.2
VORD                            pmax     pmax
     comp=Z,110nm,0.6s
NSS  Namsos           68.09 341 eP       P       03 33 52.0 +0.4
NSS                             IVMs_BB  IVMs_BB 04 10 45.0
     comp=Z,4µm,4.0s
RAF  Rauma            68.10 335 eP       P       03 33 52.4 +0.8
QLP  Quilpie          68.27 183 P        P       03 33 52.1 -0.9
     comp=Z,144nm,1.2s
QLP  Quilpie          68.27 183 P        P       03 33 53.5 +0.5
VSU  Vasula           68.30 331 ceP      P       03 33 52.4 -0.5
VSU                             pmax     pmax
     comp=Z,144nm,1.0s
VSU                             MLR      MLR
     comp=Z,7µm,22.0s
VSU  Vasula           68.30 331 eP       P       03 33 52.9  0.0
ILULI Ilulissat       68.32  7 i P      P       03 33 52.2 -0.6
PMPB Monarch Peak     68.39  60 IAmb     IAmb    03 33 56.8
     comp=Z,124nm,0.9s
RYN  Ryan             68.40  57 IAmb     IAmb    03 33 57.0
     comp=Z,189nm,0.9s
NVAR Mina Array Bea   68.66  57 P        P       03 33 56.5 +0.6
NVAR Mina Array Bea   68.66  57 P        P       03 33 56.6 +0.7
     comp=Z,183nm,0.8s,baz=290,slow=6.6,SNR=260
NVAR                            LR       LR      03 57 15.1
     comp=Z,1µm,21.7s,baz=304,slow=30
NVAR                            PKP2bc           04 02 10.1
     comp=Z,0.5nm,0.7s,baz=144,slow=5.3,SNR=3.7
MAK  Makhachkala      68.73 309 eP       P       03 33 52.4 -3.5
MAK                             e                03 36 23.2
MAK                             ePPP     PPP     03 38 03.9
MAK                             eS       S       03 42 54.4 -3.6
MAK                             pmax     pmax
     comp=Z,300nm,1.5s
MAK                             MLR      MLR
     comp=Z,7µm,18.0s
NV11 Mina Array Sit   68.75  57 IAmb     IAmb    03 33 58.4
     comp=Z,127nm,0.9s
WRKA Warakurna        68.88 198 P        P       03 33 56.1 -0.8
     comp=Z,107nm,1.3s
WRKA Warakurna        68.88 198 P        P       03 33 56.7 -0.2
YHL  Hebgen Lake      68.94  48 IAmb     IAmb    03 34 00.4
     comp=Z,138nm,0.8s
ELK  Elko             69.13  54 IAmb     IAmb    03 34 02.9
     comp=Z,78nm,0.8s
ELK  Elko             69.13  54 LR       LR      04 03 10.0
     comp=Z,619nm,19.8s,baz=326,slow=35
ICESG Greenland Ices  69.14   3 i P      P       03 33 58.2 -0.2
MTSE Matsula          69.15 332 eP       P       03 33 59.2 +1.0
YMR  Madison River    69.18  48 IAmb     IAmb    03 34 01.1
     comp=Z,156nm,0.9s
YNM  Yellowstone No   69.29  48 IAmb     IAmb    03 34 03.3
     comp=Z,150nm,1.0s
YNR  Norris Junctio   69.31  48 IAmb     IAmb    03 34 02.5
     comp=Z,136nm,1.0s
TRD  Trivandrum       69.49 263 eP       P       03 33 59.5 -1.5
YNE  Yellowstone No   69.50  48 IAmb     IAmb    03 34 03.2
     comp=Z,162nm,0.8s
AKT  Akhty            69.51 308 eP       P       03 34 01.2 +0.3
AKT                             e                03 34 23.9
AKT                             e                03 36 35.1
AKT                             eS       S       03 43 06.5 -1.1
AKT                             pmax     pmax
     comp=Z,398nm,1.5s
AKT                             MLR      MLR
     comp=Z,11µm,19.0s
DSP  Deep Springs     69.51  58 IAmb     IAmb    03 34 03.7
     comp=Z,216nm,0.8s
LKWY Lake             69.56  48 IAmb     IAmb    03 34 05.6
     comp=Z,144nm,0.9s
YMP  Mirror Lake Pl   69.58  48 IAmb     IAmb    03 34 04.0
     comp=Z,136nm,0.9s
INKA Innaminka        69.61 186 P        P       03 34 02.8 +1.5
MZP  Montezuma Peak   69.67  57 IAmb     IAmb    03 34 05.0
     comp=Z,108nm,1.0s
FXWY Fox Creek        69.79  49 IAmb     IAmb    03 34 05.8
     comp=Z,176nm,0.8s
RLMT Red Lodge        69.83  47 IAmb     IAmb    03 34 07.5
     comp=Z,84nm,0.8s
RLMT                            IAMs_20  IAMs_20 04 05 19.3
     comp=Z,4µm,20.0s
MOOW Moose Ponds      69.88  49 IAmb     IAmb    03 34 05.8
     comp=Z,201nm,0.9s
MOOW                            IAMs_20  IAMs_20 04 06 08.7
     comp=Z,3µm,19.0s
GOF  Gofitskoye       69.93 313 ceP      P       03 34 09.6 +6.3
TPAW Teton Pass       69.93  49 IAMs_20  IAMs_20 04 06 02.9
     comp=Z,3µm,20.0s
HVU  Hansel Valley    69.95  52 IAmb     IAmb    03 34 06.7
     comp=Z,204nm,0.9s
SEKA Sheki            69.99 308 P        P       03 34 05.2 +1.4
LOHW Long Hollow      70.05  49 IAmb     IAmb    03 34 06.8
     comp=Z,100nm,0.9s
SNOW Snow King Moun   70.06  49 IAmb     IAmb    03 34 07.4
     comp=Z,179nm,0.8s
SNOW                            IAMs_20  IAMs_20 04 06 16.4
     comp=Z,3µm,20.0s
BCW  Bitter Crk WRg   70.06  61 IAmb     IAmb    03 34 07.7
     comp=Z,167nm,0.8s
KHAM Kharkiv          70.18 320 P        P       03 34 05.3 +0.5
OOD  Oodnadatta       70.20 191 P        P       03 34 06.6 +1.7
AHID Auburn Hatcher   70.30  50 IAmb     IAmb    03 34 08.6
     comp=Z,204nm,1.1s
AHID                            IAMs_20  IAMs_20 04 07 17.9
     comp=Z,3µm,19.0s
DGMT Dagmar           70.31  42 IAMs_20  IAMs_20 04 09 13.2
     comp=Z,3µm,20.0s
MNGR Mingechevir, A   70.33 307 P        P       03 34 07.4 +1.6
R11B Troy Canyon, C   70.40  56 IAmb     IAmb    03 34 08.8
     comp=Z,199nm,0.8s
LAO  LASA Array       70.44  44 IAMs_20  IAMs_20 04 05 06.9
     comp=Z,4µm,19.0s
SLIT Slitere, Latvi   70.50 332 eP       P       03 34 07.4 +0.9
SFJD Kangerlussuaq    70.52   7 P        P       03 34 07.5 +1.0
SFJD                            IAmb     IAmb    03 34 23.0
     comp=Z,115nm,1.1s
SFJD Kangerlussuaq    70.52   7 LR       LR      04 05 19.5
     comp=Z,5µm,22.0s,baz=342,slow=36
SFJD Kangerlussuaq    70.52   7 P        P       03 34 07.5 +1.0
SFJD                            pmax     pmax
     comp=Z,115nm,1.1s
SFJD Kangerlussuaq    70.52   7 i P      P       03 34 05.2 -1.3
SFJD                            IAmb     IAmb    03 34 08.0
     comp=Z,39nm,0.8s
NCK  Nalchik          70.62 311 d iP     P       03 34 08.1 +0.5
NCK                             pmax     pmax
     comp=Z,104nm,1.5s
WCT  Wildcat Mounta   70.71  58 IAmb     IAmb    03 34 11.1
     comp=Z,201nm,1.1s
MNK  Minsk            70.72 327 d iP     P       03 34 09.0 +1.0
IIGN Ignalina         70.76 329 eP       P       03 34 08.8 +0.7
SPR3 Spring Creek 3   70.76  55 IAmb     IAmb    03 34 12.2
     comp=Z,110nm,0.8s
HWUT Hardware Ranch   70.77  51 IAmb     IAmb    03 34 11.7
     comp=Z,209nm,1.0s
HWUT                            IAMs_20  IAMs_20 04 09 00.3
     comp=Z,3µm,20.0s
MOL  Molde            70.82 341 eP       P       03 34 08.4  0.0
MOL                             IVmB_BB          03 34 15.7
     comp=Z,3µm,2.6s
MOL                             eS       S       03 43 23.4 +1.4
MOL                             IVMs_BB  IVMs_BB 04 11 01.5
     comp=Z,3µm,3.8s
KIV  Kislovodsk       70.83 312 P        P       03 34 09.9 +1.0
KIV  Kislovodsk       70.83 312 ||P      P       03 34 09.8 +0.8
KIV  Kislovodsk       70.83 312 eP       P       03 34 09.6 +0.7
KIV                             e                03 36 46.6
KIV                             ePPP     PPP     03 38 24.1
KIV                             eS       S       03 43 24.6 +1.6
KIV                             eSS      SS      03 47 52.1 -2.5
KIV                             pmax     pmax
     comp=Z,60nm,3.3s
KIV                             pmax     pmax
     comp=Z,276nm,1.1s
KIV                             MLR      MLR
     comp=Z,8µm,17.0s
KIV  Kislovodsk       70.83 312 i P      P       03 34 09.8 +0.8
     SNR=31
KIV  Kislovodsk       70.83 312 eP       P       03 34 09.6 +0.7
KIV  Kislovodsk       70.83 312 P        P       03 34 10.6 +1.7
     comp=Z,4µmcomp=Z,339nm,0.7s
TPNV Topopah Spring   70.85  57 IAMs_20  IAMs_20 04 00 39.8
     comp=Z,3µm,20.0s
KBZ  Khabaz           70.86 312 P        P       03 34 10.1 +1.1
     comp=Z,57nm,0.8s,baz=53,slow=5.1,SNR=155
KBZ                             LR       LR      04 09 04.9
     comp=Z,5µm,19.1s,baz=32,slow=39
     comp=Z,57nm,0.8s
KBZ  Khabaz           70.86 312 ceP      P       03 34 09.6 +0.6
KBZ                             pmax     pmax
     comp=Z,55nm,0.8s
KBZ  Khabaz           70.86 312 eP       P       03 34 09.6 +0.6
GANJ Ganja            70.86 308 P        P       03 34 10.3 +1.2
DOMB Dombas           70.90 340 eP       P       03 34 08.2 -0.8
DOMB                            IVmB_BB          03 34 33.3
     comp=Z,3µm,3.5s
DOMB                            eS       S       03 43 24.2 +1.1
DOMB                            IVMs_BB  IVMs_BB 04 04 12.6
     comp=Z,3µm,4.6s
FRB  Frobisher Bay    70.92  16 LR       LR      04 05 59.7
     comp=Z,5µm,21.9s,baz=330,slow=36
SHA1 Shidzhatmaz      70.98 312 d iP     P       03 34 10.5 +0.4
AULRC Lightning Ridg  71.06 179 P        P       03 34 10.8 +0.6
VSVD Vaisvydziai      71.16 330 eP       P       03 34 11.4 +0.9
TCUT Toone Canyon     71.17  51 IAmb     IAmb    03 34 14.1
     comp=Z,197nm,0.8s
PD31 Pinedale Array   71.17  49 IAmb     IAmb    03 34 12.7
     comp=Z,151nm,0.9s
PDAR Pinedale Array   71.17  49 P        P       03 34 11.2  0.0
     comp=Z,88nm,0.7s,baz=280,slow=1.7,SNR=513
     comp=Z,88nm,0.7s
NB2  NORSAR Subarra   71.19 339 P        P       03 34 11.0 +0.2
     comp=Z,161nm,0.9s,baz=34,slow=6.2
NB2  NORSAR Subarra   71.19 339 P        P       03 34 11.0 +0.2
     baz=34,slow=6.2
NB2  NORSAR Subarra   71.19 339 P        P       03 34 07.1 -3.7
NOA  NORSAR Array B   71.19 339 P        P       03 34 11.0 +0.2
     comp=Z,74nm,0.8s,baz=35,slow=6.0,SNR=261
NOA                             LR       LR      04 10 49.4
     comp=Z,4µm,19.1s,baz=15,slow=40
     comp=Z,74nm,0.8s
HFS  Hagfors          71.26 337 P        P       03 34 11.2 +0.1
     comp=Z,77nm,0.7s,baz=64,slow=6.8,SNR=121
HFS                             LR       LR      04 11 32.5
     comp=Z,3µm,18.1s,baz=40,slow=41
     comp=Z,77nm,0.7s
NEUR Neytrino         71.27 312 i P      P       03 34 04.6 -7.1
NEUR                            pmax     pmax
     comp=Z,33nm,1.5s
AKN  Aaknes           71.29 341 eP       P       03 34 12.1 +0.8
AKN                             IVmB_BB          03 34 18.6
     comp=Z,4µm,3.0s
AKN                             eS       S       03 43 28.7 +1.2
AKN                             IVMs_BB  IVMs_BB 04 10 32.5
     comp=Z,2µm,3.4s
PRN  Pahroc Range     71.31  56 IAmb     IAmb    03 34 14.2
     comp=Z,140nm,0.9s
PASC Pasadena Art C   71.33  61 IAMs_20  IAMs_20 04 01 22.8
     comp=Z,4µm,20.0s
PSUT Pine Spring      71.34  55 IAmb     IAmb    03 34 21.9
     comp=Z,141nm,0.9s
NC602 NORSAR Array S  71.36 339 IAmb     IAmb    03 34 29.9
     comp=Z,229nm,1.4s
NC602 NORSAR Array S  71.36 339 eP       P       03 34 12.1 +0.3
NC602                           IVmB_BB          03 34 29.9
     comp=Z,2µm,4.3s
NC602                           eS       S       03 43 28.5 +0.1
NC602                           IVMs_BB  IVMs_BB 04 10 23.3
     comp=Z,3µm,20.9s
NAO01 NORSAR Array S  71.44 339 IAmb     IAmb    03 34 31.2
     comp=Z,360nm,1.4s
LABN Labinsk          71.45 314 eP       P       03 34 13.4 +0.8
LABN                            eS       S       03 43 28.9 -1.1
LABN                            pmax     pmax
     comp=Z,114nm,0.8s
LABN                            MLR      MLR
     comp=Z,13µm,19.0s
JLU  Jordanelle       71.47  52 IAmb     IAmb    03 34 15.1
     comp=Z,103nm,0.9s
PABE Paberze          71.50 330 eP       P       03 34 14.0 +1.3
GSC  Goldstone, Bar   71.52  59 IAmb     IAmb    03 34 15.7
     comp=Z,126nm,0.9s
SHPR Sheep Range      71.81  57 IAmb     IAmb    03 34 18.2
     comp=Z,133nm,0.9s
BSUT Blindstream Ca   71.92  52 IAmb     IAmb    03 34 18.9
     comp=Z,146nm,0.9s
GNI  Garni            72.10 308 P        P       03 34 18.5 +1.7
GNI                             IAmb     IAmb    03 35 02.6
     comp=Z,361nm,1.2s
GNI  Garni            72.10 308 LR       LR      04 09 03.0
     comp=Z,6µm,19.0s,baz=56,slow=38
GNI  Garni            72.10 308 d iP     P       03 34 17.8 +1.0
GNI                             pmax     pmax
     comp=Z,132nm,1.4s
GNI  Garni            72.10 308 P        P       03 34 18.3 +1.5
TCRU Three Creeks R   72.15  54 IAmb     IAmb    03 34 20.3
     comp=Z,172nm,0.9s
ARMA Armidale         72.17 176 IAMs_20  IAMs_20 04 01 51.8
     comp=Z,5µm,22.0s
ARMA Armidale         72.17 176 P        P       03 34 17.1 +0.1
     comp=Z,47nm,1.1s
ARMA Armidale         72.17 176 P        P       03 34 18.0 +1.0
FOO  Floro            72.25 342 eP       P       03 34 17.8 +0.8
FOO                             IVmB_BB          03 34 24.4
     comp=Z,2µm,3.5s
FOO                             eS       S       03 43 39.2 +0.7
FOO                             IVMs_BB  IVMs_BB 04 09 43.9
     comp=Z,1µm,3.9s
OSL  Oslo             72.25 339 eP       P       03 34 17.6 +0.6
OSL                             IVmB_BB          03 34 35.6
     comp=Z,3µm,1.7s
OSL                             eS       S       03 43 37.4 -1.2
OSL                             IVMs_BB  IVMs_BB 04 12 24.9
     comp=Z,2µm,4.7s
SKAR Skarslia         72.26 340 eP       P       03 34 17.8 +0.5
SKAR                            IVmB_BB          03 34 24.6
     comp=Z,3µm,2.8s
SKAR                            eS       S       03 43 38.0 -0.8
SKAR                            IVMs_BB  IVMs_BB 04 04 56.4
     comp=Z,2µm,4.2s
NAX  Nakhchivan       72.28 307 P        P       03 34 18.0 +0.2
HYA  Hoyanger         72.36 341 eP       P       03 34 18.5 +0.8
HYA                             IVmB_BB          03 34 18.9
     comp=Z,3µm,2.1s
HYA                             eS       S       03 43 43.2 +3.4
HYA                             IVMs_BB  IVMs_BB 04 11 16.5
     comp=Z,2µm,4.7s
TMUT Trail Mountain   72.45  53 IAmb     IAmb    03 34 21.8
     comp=Z,210nm,1.1s
LCRK Leigh Creek      72.52 188 P        P       03 34 19.6 +0.7
NIUE Niue             72.66 137 P        P       03 34 20.3 +0.4
     comp=Z,406nm,1.0s
NIUE Niue             72.66 137 P        P       03 34 21.0 +1.0
MTPU Mount Pierson    72.67  54 IAmb     IAmb    03 34 23.8
     comp=Z,188nm,0.8s
ANGG Ammassalik, Gr   72.68   2 ||iP     P       03 34 18.1 -1.3
LCMT Little Creek M   72.68  56 IAmb     IAmb    03 34 23.0
     comp=Z,215nm,0.8s
ISOG Isortoq, Green   72.70   3 i P      P       03 34 18.1 -1.5
Q16A Castle Valley    72.71  53 IAmb     IAmb    03 34 23.5
     comp=Z,179nm,0.9s
SUE  Sulen            72.79 342 eP       P       03 34 20.8 +0.6
SUE                             IVmB_BB          03 34 39.1
     comp=Z,3µm,4.7s
SUE                             eS       S       03 43 44.8  0.0
SUE                             eSS      SS      03 48 28.1 +4.6
SUE                             IVMs_BB  IVMs_BB 04 11 07.7
     comp=Z,2µm,4.8s
KONO Kongsberg        72.80 339 P        P       03 34 21.4 +1.0
KONO                            IAmb     IAmb    03 34 39.0
     comp=Z,218nm,1.4s
KONO Kongsberg        72.80 339 eP       P       03 34 20.6 +0.3
KONO                            IVmB_BB          03 34 35.7
     comp=Z,2µm,4.8s
KONO                            eS       S       03 43 46.5 +1.6
KONO                            IVMs_BB  IVMs_BB 04 08 08.5
     comp=Z,2µm,19.4s
KONO Kongsberg        72.80 339 P        P       03 34 21.4 +1.0
KONO                            pmax     pmax
     comp=Z,218nm,1.4s
KONO                            MLR      MLR
     comp=Z,6µm,18.0s
PFO  Pinyon Flats O   72.80  60 P        P       03 34 21.1  0.0
PFO                             IAmb     IAmb    03 34 23.4
     comp=Z,115nm,1.0s
PFO  Pinyon Flats O   72.80  60 LR       LR      04 01 13.7
     comp=Z,3µm,19.9s,baz=306,slow=32
PFO  Pinyon Flats O   72.80  60 d iP     P       03 34 20.9 -0.1
PFO                             pmax     pmax
     comp=Z,193nm,1.0s
AUPHS Peel High Scho  72.81 176 P        P       03 34 21.8 +1.1
STRU Stroemstad       72.89 338 i P      P       03 34 21.4 +0.6
AK03 Malin Array Si   72.89 324 P        P       03 34 20.9 -0.2
AK23 Malin Array Si   72.91 324 P        P       03 34 21.0 -0.2
AKASG Malin Array Be  72.91 324 P        P       03 34 21.1 -0.1
AKASG Malin Array Be  72.91 324 P        P       03 34 21.3 +0.1
     comp=Z,51nm,0.6s,baz=43,slow=5.9,SNR=439
AKASG                           S        SKiKP   03 43 52.1 -1.0
     comp=Z,5.6nm,1.0s,baz=40,slow=12,SNR=13
AKASG                           LR       LR      04 09 35.9
     comp=Z,6µm,18.5s,baz=50,slow=38
     comp=Z,51nm,0.6s
AKBB Malin Array Si   72.91 324 IAmb     IAmb    03 34 40.0
     comp=Z,361nm,1.1s
AKBB Malin Array Si   72.91 324 ceP      P       03 34 21.2  0.0
AKBB                            pmax     pmax
     comp=Z,135nm,0.8s
AKBB Malin Array Si   72.91 324 P        P       03 34 21.0 -0.2
AK04 Malin Array Si   72.92 324 P        P       03 34 21.1 -0.1
AK01 Malin Array Si   72.92 324 P        P       03 34 21.1 -0.2
KIEV Kiev             72.92 324 P        P       03 34 21.2 -0.1
KIEV                            IAmb     IAmb    03 34 40.0
     comp=Z,324nm,1.1s
KIEV Kiev             72.92 324 ||P      P       03 34 21.3 +0.1
KIEV Kiev             72.92 324 P        P       03 34 21.2 -0.1
KIEV                            pmax     pmax
     comp=Z,324nm,1.2s
KIEV                            MLR      MLR
     comp=Z,6µm,19.0s
KIEV Kiev             72.92 324 i P      P       03 34 21.3 +0.1
     SNR=14
KIEV Kiev             72.92 324 P        P       03 34 21.0 -0.2
     comp=Z,12µmcomp=Z,991nm,1.0s
SUW  Suwalki          72.93 329 eP       P       03 34 19.9 -1.4
SUW                             ePP      PP      03 37 02.1 -0.9
SUW                             eS       S       03 43 45.1 -1.5
SUW                             eL       L       04 09 29.9
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comp=Z,8µm,18.7s
SUW Suwalki 72.93 329 *e*P **P 03 34 21.7 +0.4**
AK22 Malin Array Si 72.94 324 P **P 03 34 21.1 -0.2**
KNB Kanab 72.94 55 IAmb IAmb 03 34 24.3
comp=Z,248nm,1.0s
AK21 Malin Array Si 72.94 324 P **P 03 34 21.2 -0.1**
K22A Casper 72.94 48 IAMs_20 IAMs_20 04 08 25.7
comp=Z,3µm,19.0s
AK08 Malin Array Si 72.95 324 P **P 03 34 21.2 -0.2**
AK09 Malin Array Si 72.95 324 P **P 03 34 21.2 -0.2**
AK02 Malin Array Si 72.95 324 P **P 03 34 21.2 -0.2**
PKCU Pink Cliffs 72.97 55 IAmb IAmb 03 34 25.6
comp=Z,270nm,1.5s
MDND Maddock 72.98 40 IAMs_20 IAMs_20 04 04 27.0
comp=Z,3µm,21.0s
ULM Lac du Bonnet 73.00 37 IAmb IAmb 03 34 22.7
comp=Z,133nm,0.8s
ULM Lac du Bonnet 73.00 37 P **P 03 34 21.2 -0.5**
comp=Z,131nm,0.9s,baz=313,slow=7.0,SNR=185
ULM LR LR 04 10 49.2
comp=Z,2µm,18.7s,baz=331,slow=39
comp=Z,131nm,0.9s
ULM Lac du Bonnet 73.00 37*d* iP **P 03 34 21.0 -0.8**
ANN Anapa 73.10 315 *e*P **P 03 34 22.1 -0.3**
ANN *e*S **S 03 43 47.1 -1.6**
ANN pmax pmax
comp=Z,142nm,1.6s
ANN MLR MLR
comp=Z,5µm,17.0s
TJX Tijuana 73.11 61 IAmb IAmb 03 34 24.7
comp=Z,249nm,0.9s
MEEK Meekatharra 73.13 206 P **P 03 34 22.0 -0.7**
comp=Z,30nm,0.9s
NUUK Nuuk 73.15 8 *i* P **P 03 34 22.1 -0.2**
CMSA Cobar Meteorol 73.17 181 P **P 03 34 22.4 -0.4**
comp=Z,45nm,1.2s
CMSA Cobar Meteorol 73.17 181 P **P 03 34 23.1 +0.4**
ASK Askoy 73.20 341 *e*P **P 03 34 23.5 +0.9**
ASK IVmB_BB 03 34 30.1
comp=Z,4µm,2.8s
ASK *e*S **S 03 43 50.3 +1.0**
ASK IVMs_BB IVMs_BB 04 07 10.8
comp=Z,2µm,4.2s
BORG Borgarnes 73.21 355 LR LR 04 06 42.7
comp=Z,591nm,19.2s,baz=5.1,slow=36
BER Bergen 73.25 341 *e*P **P 03 34 23.3 +0.4**
BER IVmB_BB 03 34 30.4
comp=Z,3µm,2.8s
BER *e*S **S 03 43 50.3 +0.3**
BER IVMs_BB IVMs_BB 04 06 43.8
comp=Z,1µm,8.8s
RSSD Black Hills 73.30 45 P **P 03 34 23.8 -0.1**
RSSD Black Hills 73.30 45 P **P 03 34 23.8 -0.1**
RSSD pmax pmax
comp=Z,340nm,0.8s
E28A Huff 73.34 42 IAmb IAmb 03 34 25.1
comp=Z,278nm,0.9s
E28A IAMs_20 IAMs_20 04 08 36.4
comp=Z,4µm,20.0s
ODD1 Odda 73.35 340 *e*P **P 03 34 24.3 +0.6**
ODD1 IVmB_BB 03 34 31.2
comp=Z,2µm,2.9s
ODD1 *e*S **S 03 43 52.2 +1.0**
ODD1 IVMs_BB IVMs_BB 04 03 35.7
comp=Z,1µm,4.4s
BORU Boraas 73.60 336 *i* P **P 03 34 24.9 -0.2**
TJOU Tjoern 73.60 337 *i* P **P 03 34 25.0 -0.1**
SHME Shamm 73.64 290 P **P 03 34 25.1 -0.8**
O20A White River Ci 73.64 51 IAmb IAmb 03 34 28.8
comp=Z,201nm,0.9s
WSAR Wadi Sarin 73.64 287 LR LR 04 12 49.1
comp=Z,3µm,18.8s,baz=68,slow=41
U15A North Rim 73.64 56 IAmb IAmb 03 34 28.5
comp=Z,186nm,0.9s
STKA Stephens Creek 73.66 185 IAmb IAmb 03 35 10.0
comp=Z,130nm,1.0s
STKA Stephens Creek 73.66 185 P **P 03 34 24.6 -1.1**
comp=Z,160nm,1.1s
STKA Stephens Creek 73.66 185 P **P 03 34 24.5 -1.1**
comp=Z,9.9nm,0.8s,baz=358,slow=8.5,SNR=12
STKA LR LR 04 05 01.2
comp=Z,2µm,21.5s,baz=8.7,slow=34
comp=Z,9.9nm,0.8s
STKA Stephens Creek 73.66 185 P **P 03 34 25.3 -0.3**
STKA Stephens Creek 73.66 185 *i* P **P 03 34 25.4 -0.2**
BLEU Blekinge 73.74 334 *i* P **P 03 34 25.6 -0.3**
BLS5 Blasjo 73.81 340 *e*P **P 03 34 27.2 +0.8**
BLS5 IVmB_BB 03 34 27.7
comp=Z,2µm,2.0s
BLS5 IVMs_BB IVMs_BB 04 12 19.0
comp=Z,2µm,13.5s
RNPP9 Sopachiv 73.81 326 P **P 03 34 26.8 +0.3**
AUDCS Dubbo College 73.87 179 P **P 03 34 28.5 +1.7**
RNPP8 Varash 73.89 326 P **P 03 34 26.9 0.0**
RNPP5 Staryi Chortor 73.95 326 P **P 03 34 27.3 0.0**
BLYC Blythe 73.96 59 IAmb IAmb 03 34 29.9
comp=Z,187nm,0.8s
ONAU Onsala 74.05 337 *i* P **P 03 34 27.3 -0.5**
LUBAR Lubar, Ukraine 74.12 324 P **P 03 34 28.5 +0.2**
FABU Falkenberg 74.14 336 *i* P **P 03 34 27.9 -0.4**
ESJX Sierra Juarez 74.15 61 IAmb IAmb 03 34 30.9
comp=Z,137nm,1.0s
DEL Delary 74.22 335 *i* P **P 03 34 27.9 -0.9**
HOMB Homborsund 74.28 339 *e*P **P 03 34 28.7 -0.3**
HOMB IVmB_BB 03 34 46.6
comp=Z,2µm,1.6s
HOMB *e*S **S 03 44 02.7 +1.1**
HOMB IVMs_BB IVMs_BB 04 12 08.0
comp=Z,2µm,18.4s
HOMB Homborsund 74.28 339 *i* P **P 03 34 29.6 +0.6**
UOSS Minazif 74.28 289 P **P 03 34 29.7 0.0**
UOSS IAmb IAmb 03 34 47.4
comp=Z,225nm,1.3s
UOSS Minazif 74.28 289 IAMs_20 IAMs_20 04 11 46.1
comp=Z,3µm,19.0s
UOSS Minazif 74.28 289 P **P 03 34 28.9 -0.9**
KMY Karmoy 74.30 341 *e*P **P 03 34 29.2 0.0**
KMY IVmB_BB 03 34 37.3
comp=Z,2µm,2.4s
KMY *e*S **S 03 44 05.8 +3.9**
KMY IVMs_BB IVMs_BB 04 08 39.2
comp=Z,1µm,5.2s
CPBX Cerro Prieto 74.31 61 IAmb IAmb 03 34 32.3
comp=Z,148nm,1.1s
HATD Hatta, Dubai 74.41 289 P **P 03 34 31.2 +0.8**
AGMN Agassiz Nation 74.42 38 IAmb IAmb 03 34 30.9
comp=Z,194nm,0.9s
AGMN IAMs_20 IAMs_20 04 08 52.1
comp=Z,4µm,20.0s
N23A Red Feather La 74.44 49 IAmb IAmb 03 34 33.7
comp=Z,290nm,1.0s
N23A Red Feather La 74.44 49 P **P 03 34 31.4 +0.6**
baz=312
N23A S **S 03 44 06.1 +1.5**
baz=312
FORT Forrest 74.47 197 IAmb IAmb 03 34 56.6
comp=Z,137nm,0.8s
FORT Forrest 74.47 197 P **P 03 34 31.6 +1.2**
PV07 Paradox Valley 74.52 52 IAmb IAmb 03 34 33.8
comp=Z,224nm,1.1s
ASHO Ashiyiah 74.55 289 P **P 03 34 31.5 +0.2**
SNART Snartemo 74.56 339 *e*P **P 03 34 30.9 +0.2**
SNART *e*S **S 03 44 05.4 +0.6**
SNART Snartemo 74.56 339 *i* P **P 03 34 31.3 +0.6**
SOHO SOHO 74.56 289 P **P 03 34 31.4 0.0**
NAZ Nazwa, Dubai 74.64 290 P **P 03 34 32.0 +0.2**
PV15 Paradox Valley 74.68 52 IAmb IAmb 03 34 36.3
comp=Z,137nm,0.8s
SIM Simferopol' 74.70 317 *e*P **P 03 34 31.5 -0.3**
SIM pmax pmax
comp=Z,113nm,0.8s
GURO Guroymak-BITLI 74.74 308 IAmb IAmb 03 34 51.9
comp=Z,216nm,1.2s
GURO IAMs_20 IAMs_20 04 10 44.3
comp=Z,5µm,20.0s
BAL3X Bal3x, Balta 74.75 322 P **P 03 34 31.6 -0.4**
WUAZ Wupatki 74.80 56 IAmb IAmb 03 34 35.9
comp=Z,203nm,1.0s
Y14A Wickenburg 74.80 58 IAmb IAmb 03 34 35.4
comp=Z,141nm,0.9s
BJUU Bjuv 74.82 335 *i* P **P 03 34 32.5 +0.2**
FAQ Al Faqa, Dubai 74.84 290 P **P 03 34 33.3 +0.4**
BSD Bornholm Skovb 75.01 334 *e*P **P 03 34 34.3 +1.0**
BSD Bornholm Skovb 75.01 334 *i* P **P 03 34 33.5 +0.2**
BSD IAmb IAmb 03 34 34.6
comp=Z,54nm,0.8s
LUNU Lund 75.05 335 *i* P **P 03 34 33.2 -0.4**
NE56 Odesa 75.05 320 P **P 03 34 33.0 -0.8**
R9F13 Warsaw-Wawer 75.10 329 *e*P **P 03 34 34.7 +0.8**
comp=Z,4.2nm,1.0s
R9F13 *e* 03 34 42.6
R9F13 *e* 03 34 52.0
R9F13 *e*PP **PP 03 37 23.7 +2.3**
R9F13 *e*S **S 03 44 11.6 +0.6**
R9F13 *e* 03 44 23.4
R9F13 *e*SS **SS 03 49 02.8 +3.8**
WHYH Whyalla 75.15 188 P **P 03 34 33.6 -0.6**
ALNE Al Ain 75.17 289 *i* P **P 03 34 35.0 +0.2**
SNR=9.8
SORM Soroca 75.18 323 ⇑P **P 03 34 34.3 -0.1**
SORM Soroca 75.18 323 ⇑P **P 03 34 34.3 -0.1**
SORM Soroca 75.18 323 P **P 03 34 34.0 -0.4**
comp=Z,3µmcomp=Z,270nm,1.3s
HORU Horodok 75.23 324 P **P 03 34 34.9 +0.1**
NDNU Novodnistrovsk 75.28 323 P **P 03 34 35.4 +0.3**
NDNU pP **sP 03 34 42.4 +1.6**
ISCO Idaho Springs 75.36 49 IAmb IAmb 03 34 38.2
comp=Z,157nm,0.9s
ISCO IAMs_20 IAMs_20 04 09 04.9
comp=Z,4µm,20.0s
HTT Hallett 75.41 187 P **P 03 34 37.0 +1.2**
MVCO Mesa Verde 75.42 53 IAmb IAmb 03 34 38.7
comp=Z,161nm,0.8s
X16A Lo Mia Camp, P 75.47 57 IAmb IAmb 03 34 39.8
comp=Z,184nm,0.9s
BEL Belsk 75.54 329 *e*P **P 03 34 37.1 +0.6**
BEL *e*PP **PP 03 37 18.4 -6.7**
BEL *e*S **S 03 44 15.0 -0.9**
BEL *e*L L 04 06 50.3
comp=Z,23µm,23.5s
BRIGG Briggsdale 75.56 48 IAmb IAmb 03 34 39.0
comp=Z,254nm,0.9s
BRIGG IAMs_20 IAMs_20 04 09 11.9
comp=Z,3µm,20.0s
PURM Purcari 75.65 321 ⇓P **P 03 34 37.4 +0.2**
PURM Purcari 75.65 321 P **P 03 34 36.8 -0.4**
comp=Z,2µmcomp=Z,167nm,1.0s
MUD Monsted U'grnd 75.65 337 *i* P **P 03 34 37.9 +0.9**
MUD *i* Pg **pP 03 34 38.8 -2.2**
KMPD K-Podol'skiy 75.70 324 P **P 03 34 37.0 -0.5**
KMPD P **P 03 34 37.0 -0.5**
GKP Gorka Klasztor 75.71 332 *e*P **P 03 34 37.5 +0.1**
GKP *e*PP **PP 03 37 27.5 +0.9**
GKP *e*S **S 03 44 26.6 +8.9**
GKP *e*L L 04 10 50.9
comp=Z,6µm,20.1s
GKP Gorka Klasztor 75.71 332 *e*P **P 03 34 37.9 +0.5**
KIS Kishinev 75.80 321 ⇓*i*P **P 03 34 38.0 -0.1**
comp=Z,240nm,2.9s
KIS Kishinev 75.80 321 *e*PcP P 03 34 44.0 +5.9
KIS *e*pP pwP 03 34 54.0 +2.8
KIS Kishinev 75.80 321 *e*PP PP 03 37 29.0 +1.5
KIS *e*S **S 03 44 17.0 -2.0**
comp=Z,900nm,10.0s
KIS Kishinev 75.80 321*d i*P P 03 34 48.0 +10
KIS *e**PP pwP 03 34 54.0 +2.8
KIS *e* 03 37 29.0
KIS *e*S **S 03 44 17.0 -2.0**
KIS *e*PS **PnS 03 44 54.0 -2.0**
KIS pmax pmax
comp=Z,240nm,2.9s
KIS smax smax
comp=N,900nm,10.0s
KIS MLR MLR
comp=Z,3µm,15.5s
MILM Milestii Mici 75.86 321 ⇓*i*P **P 03 34 38.0 -0.4**
comp=Z,340nm,1.6s
MILM Milestii Mici 75.86 321 ⇑*i*PcP **PcP 03 34 45.0 -5.9**
MILM *i* pP **pwP 03 34 55.0 +3.4**
MILM *i* S **S 03 44 17.0 -2.6**
comp=Z,2µm,8.0s
MILM *i* ScS SKSac 03 44 31.0 -17
MILM Milestii Mici 75.86 321*d i*P **P 03 34 38.0 -0.4**
MILM *i* 03 34 45.0
MILM *i* *PP **pwP 03 34 55.0 +3.4**
MILM *i* S **S 03 44 17.0 -2.6**
MILM *e*PS **PnS 03 44 57.0 +0.3**
MILM pmax pmax
comp=Z,340nm,1.6s
MILM smax smax
comp=N,2µm,8.0s
YNG Young 75.92 179 P **P 03 34 40.3 +1.6**
F33A 5 Mile Ranch, 76.01 40 IAmb IAmb 03 34 40.4
comp=Z,242nm,0.9s
F33A IAMs_20 IAMs_20 04 06 47.0
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 76.05 52 IAmb IAmb 03 34 42.4
comp=Z,160nm,0.9s
S22A 4UR Ranch, Cre 76.05 52 P **P 03 34 40.8 +0.8**
baz=313
S22A S **S 03 44 22.6 -0.1**
baz=313
Q24A Divide 76.19 50 IAmb IAmb 03 34 43.4
comp=Z,205nm,0.9s
Q24A Divide 76.19 50 P **P 03 34 41.0 +0.1**
baz=313
Q24A S **S 03 44 23.4 -0.9**
baz=313
MORW Morawa 76.24 208 P **P 03 34 42.2 +1.6**
IASR Iasi 76.24 322 ⇑P **P 03 34 40.7 +0.2**
MARD Mardin 76.30 308 IAmb IAmb 03 35 00.7
comp=Z,305nm,1.1s
SSRD Sdr. Stenderup 76.35 337 *i* P **P 03 34 42.3 +1.3**
DIKM Dikmen 76.42 314 ⇓P **P 03 34 42.8 +1.1**
DIKM Dikmen 76.42 314 P **P 03 34 42.3 +0.6**
comp=Z,2µmcomp=Z,102nm,0.8s
STNU Starunia 76.44 325 P **P 03 34 41.8 +0.1**
KSV Kosov 76.50 324 P **P 03 34 42.5 +0.4**
SHIU Shidnytsya 76.53 326 P **P 03 34 43.3 +1.0**
KMBL Kambalda 76.55 202 P **P 03 34 43.3 +1.0**
OGNE Ogallala 76.56 47 IAMs_20 IAMs_20 04 09 33.4
comp=Z,3µm,20.0s
EYMN Ely 76.65 36 IAmb IAmb 03 34 43.9
comp=Z,202nm,0.9s
EYMN Ely 76.65 36 IAMs_20 IAMs_20 04 09 38.9
comp=Z,3µm,20.0s
PRAR RASCA 76.71 323 ⇑P **P 03 34 43.3 0.0**
NRS Narsarsuaq 76.72 6 IAmb IAmb 03 34 55.5
comp=Z,501nm,1.9s
SDCO Great Sand Dun 76.82 51 IAMs_20 IAMs_20 04 08 20.6
comp=Z,3µm,20.0s
BZK Bozkurt 76.86 315 ⇓P **P 03 34 45.8 +1.6**
BZK Bozkurt 76.86 315 P **P 03 34 45.2 +1.0**
comp=Z,129nm,0.9s
BIR Birlad 76.89 322 ⇑P **P 03 34 46.6 +2.4**
CAN Canberra 76.96 178 IAMs_20 IAMs_20 04 14 01.4
comp=Z,3µm,18.0s
CAN Canberra 76.96 178 P **P 03 34 45.9 +1.3**
BURAR Bucovina Array 76.97 324 ⇑P **P 03 34 45.4 +0.6**
BURAR Bucovina Array 76.97 324 ⇑P **P 03 34 45.4 +0.6**
BIGH Upper Bighouse 76.98 345 *e*P **P 03 34 45.1 +0.6**
VLDR Vladesti 76.99 321 ⇓P **P 03 34 45.5 +0.6**
VARL Varlezi 77.06 321 ⇓P **P 03 34 46.5 +1.3**
RAKU Rahkiv 77.11 325 P **P 03 34 45.2 -0.3**
TLCR 77.14 320 ⇓P **P 03 34 46.4 +0.8**
TLCR 77.14 320 ⇓P **P 03 34 46.4 +0.8**
GHRR 77.15 322 ⇑P **P 03 34 47.1 +1.3**
GHRR 77.15 322 P **P 03 34 46.0 +0.3**
TESR Tescani 77.16 322 ⇑P **P 03 34 46.2 +0.3**
TESR Tescani 77.16 322 P **P 03 34 46.1 +0.3**
comp=Z,3µmcomp=Z,218nm,1.1s
SCTR Scanteiesti 77.16 321 ⇑P **P 03 34 46.8 +1.0**
TATR Tatarca 77.19 321 ⇓P **P 03 34 46.6 +0.7**
OJC Ojcow 77.20 328 *e*P **P 03 34 46.8 +0.8**
OJC *e*S **S 03 44 33.5 -0.7**
OJC *e*L L 04 10 33.3
comp=Z,6µm,20.6s
OJC Ojcow 77.20 328 IAmb IAmb 03 35 06.5
comp=Z,374nm,1.2s
OJC Ojcow 77.20 328 P **P 03 34 46.3 +0.3**
comp=Z,3µmcomp=Z,281nm,1.5s
KOLS Kolonicke sedl 77.21 326 *e*P **P 03 34 47.1 +1.0**
KOLS pmax pmax
comp=Z,54nm,1.0s
KOLS Kolonicke sedl 77.21 326 *e*P **P 03 34 47.1 +1.0**
KOLS *e*PP **PP 03 37 41.4 +2.1**
TUC Tucson 77.28 58 P **P 03 34 47.1 +0.3**
TUC Tucson 77.28 58 IAMs_20 IAMs_20 04 04 02.0
comp=Z,3µm,20.0s
TUC Tucson 77.28 58 P **P 03 34 47.1 +0.3**
TUC pmax pmax
comp=Z,95nm,1.0s
NEGRR Negrea 77.32 321 ⇓P **P 03 34 47.7 +1.0**
COSR Cosmesti PH 77.34 321 ⇑P **P 03 34 48.3 +1.5**
BRIU Brid 77.36 325 P **P 03 34 46.9 0.0**
IZVR Izvoarele 77.36 321 ⇓P **P 03 34 48.0 +1.1**
ECSD EROS Data Cent 77.38 42 IAmb IAmb 03 34 48.1
comp=Z,294nm,1.0s
ECSD EROS Data Cent 77.38 42 IAMs_20 IAMs_20 04 09 02.5
comp=Z,5µm,21.0s
SCHLR Schela 77.39 321 ⇓P **P 03 34 47.9 +0.8**
ONER Baraj Valea Uz 77.41 322 ⇑P **P 03 34 45.6 -1.6**
PANC Panciu 77.41 322 ⇓P **P 03 34 48.3 +1.1**
MUKU Mukachevo 77.41 326 P **P 03 34 47.4 +0.3**
MZR Muzera 77.44 290 *i* P **P 03 34 47.4 -0.3**
SNR=13
KORU Korolevo 77.45 325 P **P 03 34 48.6 +1.2**
CFR Carcaliu 77.46 321 ⇑P **P 03 34 47.7 +0.2**
CFR Carcaliu 77.46 321 ⇑P **P 03 34 47.7 +0.2**
HOLU Holmets 77.48 326 P **P 03 34 48.0 +0.5**
ODBI Odobesti 77.53 322 ⇓P **P 03 34 50.4 +2.5**
ODBI Odobesti 77.53 322 P **P 03 34 49.0 +1.1**
comp=Z,1µmcomp=Z,118nm,1.1s
RUE Ruedersdorf 77.56 333 *e*P **P 03 34 49.0 +1.1**
TPGR Topolog 77.57 320 ⇑P **P 03 34 48.8 +0.7**
TRSU Trosnyk 77.58 325 P **P 03 34 48.3 +0.2**
BERU Beregovo 77.60 326 P **P 03 34 49.2 +1.0**
VRI Vrincioaia 77.61 322 ⇓P **P 03 34 49.1 +0.7**
VRI Vrincioaia 77.61 322 ⇓P **P 03 34 49.1 +0.7**
VRI Vrincioaia 77.61 322 P **P 03 34 49.2 +0.9**
comp=Z,2µmcomp=Z,125nm,1.8s
NIE Niedzica 77.64 328 *e*P **P 03 34 49.4 +1.0**
NIE *e*PP **PP 03 37 42.3 -0.6**
NIE *e*S **S 03 44 39.7 +0.7**
NIE *e*L L 04 11 22.0
comp=Z,4µm,19.9s
NIE Niedzica 77.64 328 P **P 03 34 49.1 +0.6**
comp=Z,962nmcomp=Z,51nm,1.0s
E38A The Farm, Brul 77.64 37 IAmb IAmb 03 34 49.0
comp=Z,190nm,0.8s
E38A IAMs_20 IAMs_20 04 09 13.1
comp=Z,4µm,22.0s
PLOR5 Plostina Array 77.65 322 P **P 03 34 49.0 +0.4**
comp=Z,2µmcomp=Z,115nm,1.4s
PLOR Plostina 77.65 322 ⇑P **P 03 34 49.7 +1.1**
PLOR Plostina 77.65 322 ⇑P **P 03 34 49.7 +1.1**
PLOR3 Plostina Array 77.65 322 P **P 03 34 49.0 +0.4**
BMR Baia Mare 77.67 325 ⇓P **P 03 34 49.8 +1.2**
BMR Baia Mare 77.67 325 ⇓P **P 03 34 49.8 +1.2**
ARCR ARCALIA 77.75 324 ⇑P **P 03 34 50.5 +1.4**
GRER 77.86 321 ⇑P **P 03 34 51.8 +2.1**
COVR Voineasa-Covas 77.86 322 ⇓P **P 03 34 50.7 +0.9**
OZUR 77.86 322 ⇑P **P 03 34 51.4 +1.6**
TIRR Tirgusor 77.87 320 IAmb IAmb 03 35 08.5
comp=Z,159nm,1.3s
TIRR IAMs_20 IAMs_20 04 12 30.6
comp=Z,6µm,20.0s
TIRR Tirgusor 77.87 320 ⇑P **P 03 34 50.3 +0.6**
TIRR Tirgusor 77.87 320 ⇑P **P 03 34 50.3 +0.6**
T25A Trinidad 77.87 51 IAmb IAmb 03 34 52.0
comp=Z,222nm,0.9s
T25A Trinidad 77.87 51 P **P 03 34 50.7 +0.5**
baz=314
T25A S **S 03 44 42.4 0.0**
baz=314
RAO Raoul Island 77.95 149 LR LR 04 02 25.3
comp=Z,2µm,22.0s,baz=348,slow=30
KLBR Kellerberrin 77.99 205 P **P 03 34 51.0 +0.6**
AUSMG Snowy Mountain 78.05 179 P **P 03 34 52.6 +1.9**
MFTR Murfatlar 78.07 320 ⇓P **P 03 34 51.6 +0.8**
SPMN Marine on St. 78.11 39 IAmb IAmb 03 34 52.0
comp=Z,120nm,1.0s
SPMN IAMs_20 IAMs_20 04 12 36.7
comp=Z,3µm,20.0s
NEHR Nehoiu 78.14 322 ⇑P **P 03 34 52.4 +1.1**
OKC Ostrava-Krasne 78.14 329 *e*P **P 03 34 51.9 +0.7**
OKC AMS AMS 04 10 30.0
comp=Z,5µm,20.0s
OKC Ostrava-Krasne 78.14 329 *e*P **P 03 34 51.9 +0.7**
OKC MLR MLR
comp=Z,5µm,20.0s
DRUM Mains of Drumt 78.16 343 *e*P **P 03 34 51.0 -0.1**
DRUM IAmb IAmb 03 34 53.0
comp=Z,30nm,0.7s
ANMO Albuquerque 78.17 54 P **P 03 34 52.6 +0.7**
ANMO IAmb IAmb 03 34 54.1
comp=Z,114nm,1.0s
ANMO Albuquerque 78.17 54*d i*P **P 03 34 52.3 +0.4**
LANS Liptovska Anna 78.18 328 *e*P **P 03 34 53.2 +1.7**
LANS pmax pmax
comp=Z,47nm,1.0s
LANS Liptovska Anna 78.18 328 *e*P **P 03 34 53.1 +1.6**
LANS *e*PP **PP 03 37 47.6 +0.2**
STEB Steborice 78.21 329 *e*P **P 03 34 52.5 +0.9**
MLR Muntele Rosu 78.25 322 IAmb IAmb 03 35 11.8
comp=Z,345nm,1.5s
MLR Muntele Rosu 78.25 322 LR LR 04 12 12.2
comp=Z,7µm,19.8s,baz=51,slow=38
MLR Muntele Rosu 78.25 322 ⇑P **P 03 34 53.4 +1.3**
ISR Istrita 78.25 321 ⇑P **P 03 34 53.9 +1.9**
ISR Istrita 78.25 321 ⇑P **P 03 34 53.9 +1.9**
MANR Mangalia 78.26 319 ⇓P **P 03 34 52.6 +0.6**
AMRR Amara 78.27 321 ⇑P **P 03 34 53.2 +1.2**
AMRR Amara 78.27 321 ⇑P **P 03 34 53.2 +1.2**
OSTC Ostas 78.29 330 *e*P **P 03 34 52.9 +0.9**
OSTC *e*S **S 03 44 45.1 -0.9**
OSTC AMS AMS 04 12 00.0
comp=Z,6µm,18.2s
OSTC Ostas 78.29 330 *e*P **P 03 34 52.9 +0.9**
OSTC *e*S **S 03 44 45.1 -0.9**
OSTC MLR MLR
comp=Z,6µm,18.2s
BGNE Belgrade 78.29 44 IAMs_20 IAMs_20 04 09 39.6
comp=Z,4µm,22.0s
KECS Kecovo 78.30 327 *e*P **P 03 34 52.9 +0.8**
KECS pmax pmax
comp=Z,41nm,0.9s
KECS Kecovo 78.30 327 *e*P **P 03 34 52.9 +0.8**
MESR Meseseni 78.31 325 ⇓P **P 03 34 53.3 +1.1**
CHVC Chvalec 78.32 331 *e*P **P 03 34 53.0 +0.8**
CHVC AMS AMS 04 11 30.0
comp=Z,6µm,18.5s
CHVC Chvalec 78.32 331 *e*P **P 03 34 53.0 +0.8**
CHVC MLR MLR
comp=Z,6µm,18.5s
CBBR Cluj-Babes-Bol 78.35 324 ⇓P **P 03 34 54.1 +1.7**
CJR Cluj-Napoca 78.37 324 ⇑P **P 03 34 53.9 +1.3**
CJR Cluj-Napoca 78.37 324 ⇑P **P 03 34 53.9 +1.3**
KPL Plockton 78.40 345 *e*P **P 03 34 53.2 +0.7**
KPL IAmb IAmb 03 34 54.5
comp=Z,50nm,0.7s
UPC Upice 78.40 330 *e*P **P 03 34 53.5 +0.8**
UPC AMS AMS 04 11 40.0
comp=Z,6µm,20.1s
UPC Upice 78.40 330 *e*P **P 03 34 53.5 +0.8**
UPC MLR MLR
comp=Z,6µm,20.1s
DPC Dobruska-Polom 78.42 330 *e*P **P 03 34 53.6 +0.8**
DPC *e*S **S 03 44 43.5 -4.0**
DPC AMS AMS 04 13 40.0
comp=Z,6µm,16.6s
DPC Dobruska-Polom 78.42 330 *e*P **P 03 34 53.6 +0.8**
DPC *e*S **S 03 44 43.5 -4.0**
DPC MLR MLR
comp=Z,6µm,16.6s
MORC Moravsky Berou 78.42 329 *e*P **P 03 34 53.4 +0.6**
MORC *e*S **S 03 44 45.4 -2.2**
KRLC Kraliky 78.47 330 *e*P **P 03 34 53.7 +0.6**
KRLC *e*S **S 03 44 44.2 -3.9**
KRLC AMS AMS 04 17 20.0
comp=Z,6µm,18.2s
KRLC Kraliky 78.47 330 *e*P **P 03 34 53.7 +0.6**
KRLC *e*S **S 03 44 44.2 -3.9**
KRLC MLR MLR
comp=Z,6µm,18.2s
Y22D IRIS PASSCAL I 78.48 54 IAmb IAmb 03 35 00.6
comp=Z,224nm,1.2s
Y22D IAMs_20 IAMs_20 04 05 50.8
comp=Z,3µm,20.0s
Y22D IRIS PASSCAL I 78.48 54 P **P 03 34 54.6 +1.0**
baz=313
Y22D S **S 03 44 50.7 +1.7**
baz=313

ARPS Mount Arapiles 78.52 184 P P 03 34 54.7 +1.5
MARR Marisel-Cluj 78.61 324 ⇓P P 03 34 54.6 +0.6
MAUC Maruska 78.65 329 *eP* **P 03 34 55.2 +1.1**
MAUC *e*S **S 03 44 48.6 -1.4**
BR131 Keskin Array S 78.65 314 *d iP* **P 03 34 54.4 0.0**
BRTR Keskin Array B 78.65 314 P **P 03 34 54.7 +0.3**
comp=Z,13nm,0.6s,baz=82,slow=3.2,SNR=60
BRTR PP **PP 03 37 49.9 -1.9**
comp=Z,3.4nm,0.7s,baz=62,slow=6.7,SNR=2.2
BRTR PKKPbc **PKKPbc 03 53 48.2 +0.3**
comp=Z,1.2nm,0.9s,baz=178,slow=3.7,SNR=4.7
BRTR LR LR 04 14 52.3
comp=Z,5μm,19.3s,baz=49,slow=40
comp=Z,13nm,0.6s
BRTR Keskin Array B 78.65 314 P **P 03 34 54.6 +0.2**
DRGR 78.69 325 ⇓P **P 03 34 54.8 +0.4**
DRGR 78.69 325 ⇓P **P 03 34 54.8 +0.4**
VOIR 78.70 322 ⇓P **P 03 34 55.3 +0.8**
VOIR 78.70 322 ⇓P **P 03 34 55.3 +0.8**
I37A Lemond, Waseca 78.74 40 IAMs_20 IAMs_20 04 08 22.3
comp=Z,4μm,19.0s
L34A Svendsen Farm, 78.80 43 IAmb IAmb 03 34 55.7
comp=Z,229nm,0.8s
L34A IAMs_20 IAMs_20 04 15 04.9
comp=Z,3μm,19.0s
CLL Collm 78.81 333 ⇓*iP* **P 03 34 54.7 -0.1**
CLL *i* 03 37 53.7
CLL *e*S **S 03 44 45.0 -6.5**
CLL pmax pmax
comp=Z,78nm,0.7s
CLL MLR MLR
comp=Z,5μm,19.7s
CLL Collm 78.81 333 ⇓*iP* **P 03 34 54.7 -0.1**
comp=Z,78nm,0.7s
CLL *i* Pmax 03 35 01.3
CLL *i* pP **PcP 03 35 02.6 -1.0**
CLL *i* sP **pwP 03 35 05.2 -2.9**
CLL *i* pPcP 03 35 10.1
comp=Z,169nm,1.5s
CLL *i* x x 03 35 17.2
comp=Z,163nm,1.4s
CLL *i* PP **PP 03 37 53.7 +1.2**
comp=Z,129nm,1.8s
CLL *e*PPIp 03 37 57.0
CLL *e*S **S 03 44 52.0 +0.5**
CLL *e*SKSac **SKKSac 03 45 11.0 +0.7**
CLL *e*SP **SPn 03 45 31.0 -0.4**
CLL *e*PPS PPS 03 45 54.0
CLL *e*SS **SS 03 49 55.0 +0.1**
CLL AMS AMS 04 13 00.0
comp=Z,5μm,19.7s
BRG Berggiesshubel 78.84 332 ⇓*iP* **P 03 34 55.3 +0.2**
BRG Amp 03 34 56.2
comp=Z,27nm,0.9s
BRG Berggiesshubel 78.84 332 P P 03 35 04.5 +9.4
BRG Amp 03 35 05.1
comp=Z,15nm,0.8s
BRG Berggiesshubel 78.84 332 S **S 03 44 49.0 -2.9**
BRG Berggiesshubel 78.84 332 SS SS 03 49 54.0 -1.5
BORR Bors 78.86 325 ⇓P **P 03 34 56.6 +1.5**
TNR Turnu Rosu 78.89 323 ⇓P **P 03 34 56.6 +1.2**
TNR Turnu Rosu 78.89 323 ⇓P **P 03 34 56.6 +1.2**
PVCC Panska Ves 78.91 331 *e*P **P 03 34 56.2 +0.8**
PVCC *e*S **S 03 44 51.6 -1.0**
PVCC AMS AMS 04 12 00.0
comp=Z,6μm,17.6s
PVCC Panska Ves 78.91 331 *e*P **P 03 34 56.2 +0.8**
PVCC *e*S **S 03 44 51.6 -1.0**
PVCC MLR MLR
comp=Z,6μm,17.6s
KIRS Kirsehir-Merke 78.92 313 ⇓P **P 03 34 56.3 +0.5**
INVG Invergeldie, C 78.94 344 *e*P **P 03 34 56.0 +0.5**
INVG IAmb IAmb 03 34 57.6
comp=Z,18nm,0.6s
ARR Arges 78.94 323 ⇓P **P 03 34 57.5 +1.6**
VYHS Vyhne 78.95 328 *e*P **P 03 34 56.6 +0.9**
VYHS *e* 03 37 51.2
VYHS pmax pmax
comp=Z,315nm,2.2s
VYHS Vyhne 78.95 328 *e*P **P 03 34 56.6 +0.9**
VYHS *e* 03 35 14.2
VYHS *e*PP **PP 03 37 51.2 -2.7**
PSZ Piszkesteto 78.99 327 IAmb IAmb 03 35 16.1
comp=Z,496nm,1.9s
PSZ Piszkesteto 78.99 327 ⇓P **P 03 34 57.0 +1.0**
PSZ Piszkesteto 78.99 327 ⇓P **P 03 34 57.0 +1.0**
PSZ Piszkesteto 78.99 327 *e*P **P 03 34 56.9 +0.8**
ANTO Ankara 79.00 314 P **P 03 34 57.2 +0.9**
ANTO IAmb IAmb 03 35 21.8
comp=Z,135nm,0.8s
ANTO Ankara 79.00 314 IAMs_20 IAMs_20 04 11 16.9
comp=Z,5μm,22.0s
ANTO Ankara 79.00 314 ⇓P **P 03 34 57.1 +0.9**
ANTO Ankara 79.00 314 P **P 03 34 57.2 +0.9**
ANTO pmax pmax
comp=Z,135nm,0.8s
ANTO MLR MLR
comp=Z,5μm,22.0s
121A Cookes Peak, D 79.00 56 IAmb IAmb 03 34 58.9
comp=Z,169nm,0.9s
121A Cookes Peak, D 79.00 56 P **P 03 34 57.5 +1.0**
baz=313
121A S **S 03 44 55.0 +0.4**
baz=313
RICC Richard 79.06 332 *e*P **P 03 34 57.5 +1.2**
RICC AMS AMS 04 13 30.0
comp=Z,6μm,17.9s
COWI Conover 79.10 36 IAMs_20 IAMs_20 04 11 13.8
comp=Z,3μm,20.0s
JAVC Velka Javorina 79.12 329 *e*P **P 03 34 58.3 +1.6**
JAVC *e*S **S 03 44 56.4 +1.4**
VRAC Vranov 79.17 329 LR LR 04 14 52.7
comp=Z,6μm,18.0s,baz=36,slow=39
VRAC Vranov 79.17 329 *e*P **P 03 34 57.7 +0.8**
VRAC *e*S **S 03 44 54.3 -1.1**
VRAC Vranov 79.17 329 ⇓P **P 03 34 57.7 +0.8**
VRAC Vranov 79.17 329 ⇓P **P 03 34 57.7 +0.8**
SGRR Singureni 79.20 321 ⇓P **P 03 34 57.5 +0.4**
BRAT Ballarat 79.20 182 P **P 03 34 58.1 +1.2**
HSKC Hora Svate Kat 79.25 332 *e*P **P 03 34 58.0 +0.7**
HSKC *e*PP **PP 03 37 53.7 -2.6**
HSKC AMS AMS 04 16 10.0
comp=Z,5μm,14.8s
G40A Rib Lake 79.27 37 IAmb IAmb 03 34 58.3
comp=Z,120nm,0.9s
G40A IAMs_20 IAMs_20 04 12 26.3
comp=Z,3μm,20.0s
CBKS Cedar Bluff 79.31 47 IAMs_20 IAMs_20 04 14 57.3
comp=Z,3μm,18.0s
DEV Deva 79.31 324 ⇑P **P 03 34 58.6 +0.9**
DEV Deva 79.31 324 ⇑P **P 03 34 58.6 +0.9**
RTBA Rita Blanca 79.32 50 IAmb IAmb 03 34 59.5
comp=Z,247nm,1.0s
PRA Prague 79.34 331 *e*P **P 03 34 58.7 +0.9**
PRA *e*pP **PcP 03 35 06.6 +0.7**
PRA *e*S **S 03 44 56.0 -1.2**
PRA AMS AMS 04 12 20.0
comp=Z,7μm,19.0s
PRA Prague 79.34 331 *e*P **P 03 34 58.7 +0.9**
PRA *e* 03 35 06.6
PRA *e*S **S 03 44 56.0 -1.2**
PRA MLR MLR
comp=Z,7μm,19.0s
SCHQ Schefferville 79.34 19 P **P 03 34 57.8 +0.1**
comp=Z,78nm,0.8s,baz=352,slow=6.5,SNR=116
SCHQ PKKPbc **PKKPbc 03 53 44.3 -2.3**
comp=Z,2.5nm,0.7s,baz=132,slow=1.4,SNR=5.3
SCHQ LR LR 04 11 12.6
comp=Z,5μm,21.6s,baz=342,slow=36
comp=Z,78nm,0.8s
GOPC GO Pecny, Ondr 79.34 331 *e*P **P 03 34 58.9 +1.1**
GOPC AMS AMS 04 12 10.0
comp=Z,8μm,19.5s
GOPC GO Pecny, Ondr 79.34 331 *e*P **P 03 34 58.9 +1.1**
GOPC MLR MLR
comp=Z,8μm,19.5s
LAWE Loch Awe, Argy 79.36 345 *e*P **P 03 34 57.7 0.0**
LAWE IAmb IAmb 03 34 59.7
comp=Z,22nm,0.7s
PRU Pruhonice 79.37 331 *e*P **P 03 34 58.4 +0.5**
PRU *e*pP **PcP 03 35 06.9 +0.8**
PRU *e*S **S 03 44 55.5 -2.0**
PRU AMS AMS 04 12 20.0
comp=Z,7μm,18.8s
PRU Pruhonice 79.37 331 *e*P **P 03 34 58.4 +0.5**
PRU *e* 03 35 06.9
PRU *e*S **S 03 44 55.5 -2.0**
PRU MLR MLR
comp=Z,7μm,18.8s
NWAO Narrogin (SRO) 79.39 205 P **P 03 34 57.0 -1.1**
NWAO Narrogin (SRO) 79.39 205 LR LR 04 08 52.5
comp=Z,608nm,21.8s,baz=3.0,slow=35
NWAO Narrogin (SRO) 79.39 205 P **P 03 34 58.5 +0.4**
NWAO Narrogin (SRO) 79.39 205 P **P 03 34 57.0 -1.1**
NWAO pmax pmax
comp=Z,53nm,1.0s
KRUC Moravsky 79.44 329 *e*P **P 03 34 58.9 +0.5**
KRUC *e*S **S 03 44 57.9 -0.5**
SMOL Smolenice 79.49 329 *e*P **P 03 34 59.8 +1.1**
SMOL pmax pmax
comp=Z,35nm,1.0s
SIRR Siria 79.56 325 ⇓P **P 03 34 59.8 +0.8**
TREC Trest 79.59 330 *e*P **P 03 34 59.7 +0.5**
TREC AMS AMS 04 15 10.0
comp=Z,8μm,16.8s
TREC Trest 79.59 330 *e*P **P 03 34 59.7 +0.5**
TREC MLR MLR
comp=Z,8μm,16.8s
PGBU Glenifferbraes 79.60 344 *e*P **P 03 34 58.9 -0.2**
PGBU IAmb IAmb 03 35 01.0
comp=Z,112nm,0.7s
MODS Modra-Piesok 79.67 329 *e*P **P 03 35 01.1 +1.5**
MODS *e* 03 37 59.6
MODS pmax pmax
comp=Z,158nm,1.1s
MODS Modra-Piesok 79.67 329 *e*P **P 03 35 01.1 +1.5**
MODS *e* 03 35 18.6
MODS *e*PP **PP 03 37 59.6 -0.2**
SRO Srobarova 79.71 328 *e*P **P 03 35 01.1 +1.3**
SRO *e* 03 37 58.0
SRO pmax pmax
comp=Z,324nm,1.9s
SRO Srobarova 79.71 328 *e*P **P 03 35 01.1 +1.3**
SRO *e* 03 35 19.0
SRO *e*PP **PP 03 37 58.0 -2.1**
GZR Gura Zlata 79.75 324 ⇑P **P 03 35 00.4 +0.2**
GZR Gura Zlata 79.75 324 ⇑P **P 03 35 00.4 +0.2**
SURR Surduc 79.76 324 ⇓P **P 03 35 00.7 +0.5**
EKA Eskdalemuir Ar 79.77 343 P **P 03 35 00.5 +0.4**
comp=Z,26nm,0.6s,baz=25,slow=4.8,SNR=134
comp=Z,26nm,0.6s
ESK Eskdalemuir 79.79 343 P **P 03 35 00.4 +0.3**
ESK Eskdalemuir 79.79 343 *e*P **P 03 35 00.2 +0.1**
ESK IAmb IAmb 03 35 02.1
comp=Z,33nm,0.6s
ESK Eskdalemuir 79.79 343 P **P 03 35 00.4 +0.3**
ESK pmax pmax
comp=Z,65nm,1.0s
F42A Maple Grove Fa 79.80 36 IAMs_20 IAMs_20 04 11 55.4
comp=Z,3μm,19.0s
AUHPC Hawkesdale P12 79.83 184 P **P 03 35 01.2 +0.9**
GEXS Deakin Univers 79.84 182 P **P 03 35 02.3 +1.9**
RAR Rarotonga 79.86 131 P **P 03 35 01.7 +0.9**
RAR Rarotonga 79.86 131 LR LR 04 04 02.8
comp=Z,2μm,20.0s,baz=322,slow=31
RAR Rarotonga 79.86 131 P **P 03 35 01.5 +0.7**
RAR Rarotonga 79.86 131 P **P 03 35 01.7 +0.9**
RAR pmax pmax
comp=Z,75nm,0.9s
NKC Novy Kostel 79.90 332 *e*P **P 03 35 01.7 +0.8**
NKC *e*PP **PP 03 37 58.1 -3.6**
NKC *e*S **S 03 45 02.2 -1.0**
NKC AMS AMS 04 17 00.0
comp=Z,4μm,16.3s
NKC Novy Kostel 79.90 332 *e*P **P 03 35 01.7 +0.8**
NKC *e* 03 37 58.1
NKC *e*S **S 03 45 02.2 -1.0**
NKC MLR MLR
comp=Z,4μm,16.3s
SZH Strazhitsa 79.92 320 *i* P **P 03 35 01.8 +0.7**
ZVC Zvikov 79.95 331 *e*P **P 03 35 02.1 +1.0**
ZVC *e*S **S 03 44 59.9 -3.8**
ZVC AMS AMS 04 12 30.0
comp=Z,7μm,20.1s
EDMD Edmundbyers 79.97 342 *e*P **P 03 35 01.1 0.0**
N35A Tabor 79.98 43 IAMs_20 IAMs_20 04 12 38.3
comp=Z,4μm,19.0s
BZS Buzias 80.08 324 ⇓P **P 03 35 02.3 +0.4**
BZS Buzias 80.08 324 ⇓P **P 03 35 02.3 +0.4**
VLAD Vladila 80.10 322 ⇑P **P 03 35 02.3 +0.3**
I40A Norwalk 80.14 38 IAMs_20 IAMs_20 04 16 57.3
comp=Z,3μm,19.0s
NEWG New Galloway 80.20 344 *e*P **P 03 35 02.2 -0.1**
NEWG IAmb IAmb 03 35 05.1
comp=Z,26nm,0.8s
HERR Herculane 80.31 324 ⇓P **P 03 35 03.2 0.0**
SCIA State Center 80.42 41 IAmb IAmb 03 35 05.2
comp=Z,301nm,0.9s
SCIA IAMs_20 IAMs_20 04 12 30.7
comp=Z,3μm,21.0s
KHC Kasperske Hory 80.43 331 *e*P **P 03 35 04.1 +0.3**
KHC *e*pP **PcP 03 35 11.4 +0.6**
KHC *e*S **S 03 45 04.6 -4.2**
KHC AMS AMS 04 13 30.0
comp=Z,8μm,17.5s
KHC Kasperske Hory 80.43 331 *de*P **P 03 35 04.3 +0.5**
KHC pmax pmax
comp=Z,167nm,0.8s
KESW Keswick, Cumbr 80.45 343 *e*P **P 03 35 04.7 +1.0**
KESW IAmb IAmb 03 35 06.2
comp=Z,53nm,0.8s
BANR Banloc 80.48 325 ⇓P **P 03 35 05.3 +1.3**
GAL1 Galloway 80.53 344 *e*P **P 03 35 04.8 +0.7**
GAL1 IAmb IAmb 03 35 06.0
comp=Z,38nm,0.7s
CONA Conrad Observa 80.58 329 *i* pP **P 03 35 05.6 +0.9**
comp=Z,47nm,0.9s,SNR=32
RONA Rosalia, Austr 80.60 329 *i* pP **P 03 35 05.7 +1.0**
comp=Z,66nm,0.9s,SNR=47
CLGH Cloghs, Cushen 80.61 345 *e*P **P 03 35 04.5 -0.1**
GERES GERESS Array B 80.62 331 P **P 03 35 04.7 -0.2**
GERES GERESS Array B 80.62 331 P **P 03 35 05.4 +0.5**
comp=Z,12nm,0.7s,baz=31,slow=5.4,SNR=68
GERES PP **PP 03 38 06.6 -1.2**
comp=Z,8.7nm,0.9s,baz=24,slow=10,SNR=3.9
GERES PKKPbc **PKKPbc 03 53 43.7 0.0**
comp=Z,1.9nm,0.8s,baz=205,slow=2.8,SNR=9.6
GERES LR LR 04 13 39.9
comp=Z,8μm,20.7s,baz=36,slow=38
comp=Z,12nm,0.7s
GERES GERESS Array B 80.62 331 P **P 03 35 04.7 -0.2**
HPK Haverah Park 80.69 342 *e*P **P 03 35 05.5 +0.5**
HPK IAmb IAmb 03 35 07.3
comp=Z,94nm,0.7s
MDVR Moldovita 80.70 324 ⇑P **P 03 35 05.2 -0.2**
VALD Valchedram 80.78 322 *i* P **P 03 35 05.5 -0.2**
GRFO Grafenberg 80.78 333 P **P 03 35 06.1 +0.5**
GRFO IAmb IAmb 03 35 24.5
comp=Z,155nm,1.2s
GRFO Grafenberg 80.78 333 P **P 03 35 06.1 +0.5**
GRFO pmax pmax
comp=Z,155nm,1.2s
MORH Mrgy, Hungar 80.86 326 ⇓P **P 03 35 05.9 -0.2**
IDGL Inch Island, C 80.89 345 *e*P **P 03 35 05.8 -0.2**
IDGL Inch Island, C 80.89 345 P **P 03 35 06.0 0.0**
MPEP Malo Peshtene 80.90 322 *i* P **P 03 35 07.3 +0.9**
BEIL Beino 80.91 309 *e*P **P 03 35 07.1 +0.5**
I42A Draeger Farm, 80.92 37 IAmb IAmb 03 35 07.3
comp=Z,171nm,1.0s
I42A IAMs_20 IAMs_20 04 12 23.0
comp=Z,3μm,21.0s
E46A Sault Ste Mari 80.93 33 IAmb IAmb 03 35 07.2
comp=Z,246nm,1.4s
E46A IAMs_20 IAMs_20 04 13 08.3
comp=Z,2μm,20.0s
H43A Windswept, Lux 80.97 36 IAmb IAmb 03 35 08.6
comp=Z,184nm,0.8s
H43A IAMs_20 IAMs_20 04 17 05.4
comp=Z,3μm,19.0s
FKH Fakeheh 80.98 308 *e*P **P 03 35 07.7 +0.6**
AMTX Amarillo 81.03 51 IAMs_20 IAMs_20 04 14 14.9
comp=Z,2μm,20.0s
JFWS Jewell Farm 81.06 39 IAMs_20 IAMs_20 04 09 57.8
comp=Z,4μm,21.0s
BAND Balkesir-Ban 81.08 317 ⇑P **P 03 35 08.3 +0.9**
WIM Isle of Man 81.20 344 *e*P **P 03 35 07.1 -0.6**
FRGS Fruska Gora 81.22 325 ⇓*iP* **P 03 35 08.1 0.0**
HWQ Hawqa 81.23 309 *e*P P 03 35 13.5 +5.0
LBWR Ladybower, Pea 81.23 342 *e*P **P 03 35 08.5 +0.6**
LBWR IAmb IAmb 03 35 10.2
comp=Z,154nm,0.7s
MOA Molln 81.25 330 *i* P **P 03 35 08.6 +0.5**
comp=Z,67nm,1.8s,SNR=17
MOA *i* PP **PP 03 38 07.1 -5.8**
comp=Z,28nm,1.4s
N38A Joes South For 81.25 42 IAMs_20 IAMs_20 04 12 36.7
comp=Z,3μm,20.0s
L40A Anamosa 81.26 40 IAmb IAmb 03 35 09.8
comp=Z,246nm,0.9s
L40A IAMs_20 IAMs_20 04 12 29.0
comp=Z,3μm,22.0s
ARSA Arzberg 81.26 329 *i* P **P 03 35 08.8 +0.5**
comp=Z,23nm,0.8s,SNR=18
ARSA *e*PP **PP 03 38 06.9 -6.2**
comp=Z,21nm,1.5s
NOKA Waynoka 81.33 48 IAmb IAmb 03 35 10.1
comp=Z,317nm,1.0s
PGB Panagyurishte 81.35 321 *i* P **P 03 35 09.6 +0.8**
KDZ Kurdzhali 81.48 320 *i* P **P 03 35 10.2 +0.7**
OK038 West end E0370 81.55 48 IAMs_20 IAMs_20 04 16 23.4
comp=Z,4μm,18.0s
KAN05 Bluff City Nor 81.56 47 IAmb IAmb 03 35 11.1
comp=Z,289nm,1.0s
ZAHL Zahle 81.56 308 *e*P **P 03 35 10.5 +0.3**
BEBN Eben Emael 81.61 336 *d*P **P 03 35 10.1 +0.1**
comp=Z,106nm,0.9s
BOVS Bovan 81.61 323 ⇓P **P 03 35 09.3 -0.8**
BIOA Bad Ischl, Aus 81.61 330 *i* P **P 03 35 10.6 +0.5**
comp=Z,54nm,0.7s,SNR=35
KAN14 Manchester OK 81.63 47 IAmb IAmb 03 35 11.3
comp=Z,143nm,1.0s
KOGS Kog 81.64 328 *e*P **P 03 35 10.0 -0.2**
ILTH Belurgan, Co L 81.65 344 P **P 03 35 09.4 -0.7**
BTNL Ternell 81.66 336 *d*P **P 03 35 10.6 +0.3**
comp=Z,34nm,1.1s
BHL Bhannes 81.67 308 *e*P **P 03 35 10.3 -0.4**
KAN17 Caldwell West 81.67 47 IAmb IAmb 03 35 11.7
comp=Z,284nm,1.0s
MEM Membach 81.67 336 *d*P **P 03 35 10.3 +0.1**
comp=Z,54nm,1.0s
KAN09 Caldwell North 81.68 47 IAmb IAmb 03 35 11.7
comp=Z,179nm,0.9s
ALN Alexandroupoli 81.69 319 P **P 03 35 09.6 -1.0**
ISP Isparta 81.70 314 IAMs_20 IAMs_20 04 16 03.2
comp=Z,4μm,21.0s
ISP Isparta 81.70 314 *e*P **P 03 35 11.3 +0.5**
VTS Vitosha 81.71 322 *i* P **P 03 35 12.0 +1.2**
RZN Rozhen 81.72 320 *i* P **P 03 35 11.8 +0.9**
CWF Charnwood Fore 81.74 341 *e*P **P 03 35 11.1 +0.5**
RDO Rodhopi 81.75 319 IAmb IAmb 03 35 30.0
comp=Z,209nm,1.1s
ELMS Elmsett, Ipswi 81.76 340 *e*P **P 03 35 11.3 +0.6**
ELMS IAmb IAmb 03 35 12.6
comp=Z,156nm,0.6s
CAVK Edirne/Enez-Ca 81.79 319 ⇓P **P 03 35 11.7 +0.6**
WME Myndd Eilian 81.82 343 *e*P **P 03 35 11.2 +0.2**
BSTI Sart Tilman 81.83 336 *d*P **P 03 35 11.7 +0.6**
comp=Z,13nm,0.7s
TEKS Tekeris 81.83 325 ⇓*iP* **P 03 35 10.9 -0.4**
KAN13 South Haven SW 81.85 47 IAmb IAmb 03 35 12.6
comp=Z,182nm,0.9s
RCY Rachaya 81.85 308 *e*P **P 03 35 12.1 +0.4**
BHOU Houvegnez 81.90 336 *d*P **P 03 35 11.6 +0.1**
comp=Z,32nm,1.0s
SOKA Soboth 81.93 329 *i* P **P 03 35 12.1 +0.2**
comp=Z,80nm,0.8s,SNR=46
SOKA *e*PP **PP 03 38 15.1 -3.5**
comp=Z,58nm,1.4s
PERS Pernice 81.93 329 *i* P **P 03 35 12.0 +0.2**
VHRN Van Horn 81.93 56 IAmb IAmb 03 35 14.7
comp=Z,86nm,0.8s
WLF1 Llynfaes 81.94 343 *e*P **P 03 35 11.0 -0.6**
WLF1 IAmb IAmb 03 35 13.5
comp=Z,126nm,1.0s
I45A Fountain 81.99 36 IAmb IAmb 03 35 14.2
comp=Z,241nm,0.8s
I45A IAMs_20 IAMs_20 04 13 10.3
comp=Z,2μm,20.0s
UCC Uccle 81.99 337 *d*P **P 03 35 11.7 -0.2**
SHBL Chebaa 82.01 308 *e*P **P 03 35 13.0 +0.4**
L42A Oliver, Polo 82.04 39 IAmb IAmb 03 35 13.2
comp=Z,211nm,0.8s
FOEL Foel Wylfa 82.05 342 *e*P **P 03 35 12.8 +0.5**
FOEL IAmb IAmb 03 35 14.6
comp=Z,100nm,0.7s
BCLA Clavier 82.05 336 *d*P **P 03 35 12.2 -0.1**
comp=Z,35nm,0.9s
VLDQ Val d'Or 82.09 28 IAmb IAmb 03 35 12.4
comp=Z,156nm,1.0s
K43A Burlington 82.11 38 IAmb IAmb 03 35 13.3
comp=Z,220nm,0.9s
K43A IAMs_20 IAMs_20 04 13 11.5
comp=Z,4μm,20.0s
BGES Gesves 82.15 336 *d*P **P 03 35 12.8 0.0**
comp=Z,35nm,0.9s
ASF Jabal al Asfar 82.16 306 LR LR 04 16 11.5
comp=Z,3μm,18.2s,baz=58,slow=39
BLOK Blackwell 82.18 47 IAmb IAmb 03 35 14.5
comp=Z,248nm,0.9s
LESA Schwarzleotal 82.19 331 *i* P **P 03 35 13.7 +0.5**
comp=Z,66nm,0.8s,SNR=36
LESA *e*PP **PP 03 38 15.8 -4.9**
comp=Z,48nm,1.5s
LLW Llanuwychllyn 82.19 343 *e*P **P 03 35 13.8 +0.8**
PECS Pecos 82.21 55 IAmb IAmb 03 35 15.2
comp=Z,104nm,0.9s
KBA Koelnbreinsper 82.23 330 *i* P **P 03 35 13.7 +0.1**
comp=Z,52nm,0.7s,SNR=37
OBKA Obir 82.25 329 *i* P **P 03 35 13.4 -0.2**
comp=Z,31nm,0.8s,SNR=18
OBKA Obir 82.25 329 ⇓*iP* **P 03 35 13.2 -0.4**
STU Stuttgart 82.26 333 *e*P **P 03 35 14.3 +0.8**
MMB Musomishta 82.30 321 *i* P **P 03 35 14.3 +0.5**
RCHB Rochefort 82.31 336 *d*P **P 03 35 13.2 -0.4**
comp=Z,23nm,1.1s
BMRD Maredsous 82.31 337 *d*P **P 03 35 13.7 0.0**
comp=Z,39nm,0.9s
BMRD *d*PP **PP 03 38 23.6 +2.1**
HLM1 Long Mynd 82.32 342 *e*P **P 03 35 13.9 +0.2**
HLM1 IAmb IAmb 03 35 15.8
comp=Z,29nm,0.8s
KAVA Kavala 82.36 320 P **P 03 35 14.2 +0.1**
KKB Krupnik 82.36 321 *i* P **P 03 35 14.9 +0.8**
EZN Ezine 82.37 318 P P 03 35 04.8 -9.3
DSB Dublin 82.39 344 IAmb IAmb 03 35 32.8
comp=Z,122nm,1.0s
DSB Dublin 82.39 344 P **P 03 35 12.5 -1.5**
DSB Dublin 82.39 344 P **P 03 35 12.8 -1.2**
BBLS Lazi&#263i 82.43 325 ⇓*iP* **P 03 35 14.7 +0.2**
T35A Sooner Cattle 82.44 46 IAMs_20 IAMs_20 04 12 34.1
comp=Z,4μm,21.0s
MMAI Mount Meron Ar 82.45 308 P **P 03 35 16.2 +1.5**
comp=Z,53nm,0.6s,baz=34,slow=6.1,SNR=84
MMAI LR LR 04 16 03.5
comp=Z,4μm,18.1s,baz=30,slow=39
comp=Z,53nm,0.6s
HAPS Han Pijesak,Bl 82.45 325 ⇓*iP* **P 03 35 15.0 +0.3**
WLF Walferdange 82.46 336 P **P 03 35 14.5 0.0**
WLF Walferdange 82.46 336 *d*P **P 03 35 14.8 +0.4**
comp=Z,24nm,1.0s
PMOR Pomariorio Ree 82.46 118 *e*P **P 03 35 15.0 +0.2**
comp=Z,170nm,1.0s
PMOR Pomariorio Ree 82.46 118 *e*LR LR 04 01 05.9
comp=Z,12μm,22.5s
GIVF Givet 82.47 336 *e*P **P 03 35 14.1 -0.4**
N41A Harden Midland 82.48 40 IAmb IAmb 03 35 15.8
comp=Z,238nm,0.8s
MYKA Terra Mystica 82.50 330 *i* P **P 03 35 14.4 -0.4**
comp=Z,33nm,0.8s,SNR=15
DOU Dourbes 82.55 337 *d*P **P 03 35 14.8 -0.1**
A051A Mrakovica 82.55 327 ⇓*iP* **P 03 35 14.6 -0.5**
OK051 E0350 and S346 82.57 47 IAmb IAmb 03 35 17.4
comp=Z,206nm,0.9s
RAYN Ar Rayn 82.60 295 P **P 03 35 15.8 +0.1**
RAYN Ar Rayn 82.60 295 IAMs_20 IAMs_20 04 16 18.1
comp=Z,3μm,19.0s
RAYN Ar Rayn 82.60 295 P **P 03 35 15.8 +0.1**
RAYN pmax pmax
comp=Z,70nm,1.0s
RAYN MLR MLR
comp=Z,3μm,19.0s
RAYN Ar Rayn 82.60 295 *i* P **P 03 35 15.9 +0.2**
SNR=27
GORS Gorjuse 82.62 329 *e*P **P 03 35 14.6 -0.9**

RUDO	Rudo	82.65	325	eP	P	03 35 14.9	-0.7
LJU	Ljubljana	82.65	329	i P	P	03 35 15.0	-0.5
LJU				e		03 35 32.2	
BLY	Banja Luka	82.66	326	⇓iP	P	03 35 15.1	-0.5
WATA	Walderalm	82.66	331	i P	P	03 35 16.0	+0.2
	comp=Z,60nm,0.8s,SNR=26						
SJES	Sjenica	82.67	324	⇓iP	P	03 35 16.1	+0.3
BAIF	Baives	82.70	337	eP	P	03 35 15.4	-0.3
WTTA	Wattenberg	82.70	331	i P	P	03 35 16.5	+0.4
	comp=Z,67nm,0.7s,SNR=43						
WTTA				ePP	PP	03 38 21.2	-3.9
	comp=Z,36nm,1.5s						
SRS	Serrai	82.71	320	P	P	03 35 16.0	+0.1
L44A	Lake County Fo	82.72	38	IAmb	IAmb	03 35 16.8	
	comp=Z,213nm,0.9s						
L44A				IAMs_20	IAMs_20	04 13 29.6	
	comp=Z,4μm,21.0s						
L44A	Lake County Fo	82.72	38	P	P	03 35 15.5	-0.4
	baz=322						
KOKK	Kokkinochori,	82.75	320	P	P	03 35 15.7	-0.4
OK029	Liberty Lake	82.75	48	IAMs_20	IAMs_20	04 16 03.4	
	comp=Z,3μm,19.0s						
SN07	Snyder 07	82.76	52	IAmb	IAmb	03 35 17.9	
	comp=Z,111nm,0.8s						
GBAS	Gorenja Brezov	82.77	329	eP	P	03 35 15.5	-0.7
GBAS				e		03 35 32.5	
WMOK	Wichita Mounta	82.79	49	IAmb	IAmb	03 35 17.8	
	comp=Z,108nm,0.9s						
WMOK	Wichita Mounta	82.79	49	IAMs_20	IAMs_20	04 14 28.4	
	comp=Z,4μm,20.0s						
IGLA	Glengowla, Co	82.81	346	eP	P	03 35 15.5	-0.6
IGLA	Glengowla, Co	82.81	346	P	P	03 35 15.7	-0.4
VAH	Vaihoa	82.81	118	eP	P	03 35 16.7	+0.1
	comp=Z,105nm,1.1s						
VAH	Vaihoa	82.81	118	eLR	LR	04 01 16.3	
	comp=Z,12μm,22.6s						
ABTA	Abfaltersbach	82.82	330	i P	P	03 35 15.8	-0.7
	comp=Z,25nm,0.9s,SNR=14						
ABTA				ePP	PP	03 38 19.2	-6.7
	comp=Z,19nm,1.0s						
RETA	Reutte	82.82	332	i P	P	03 35 16.9	+0.4
	comp=Z,52nm,0.9s,SNR=24						
MOTA	Moosalm	82.82	331	i P	P	03 35 16.9	+0.3
	comp=Z,94nm,0.8s						
MCH1	Michaelchurch	82.83	342	eP	P	03 35 16.1	-0.3
MCH1				IAmb	IAmb	03 35 18.4	
	comp=Z,91nm,0.7s						
STRD	Stroud	82.83	341	eP	P	03 35 16.6	+0.2
STRD				IAmb	IAmb	03 35 18.1	
	comp=Z,2μm,1.9s						
PLE	Pljevlja	82.87	324	⇓iP	P	03 35 17.5	+0.6
QUOK	Quay	82.89	47	IAmb	IAmb	03 35 18.2	
	comp=Z,231nm,1.0s						
SQTA	Sankt Quirin	82.89	331	i P	P	03 35 17.3	+0.4
	comp=Z,61nm,0.8s,SNR=29						
MNHN	Monahans	82.90	54	IAmb	IAmb	03 35 20.3	
	comp=Z,148nm,1.0s						
SN05	Snyder 5	82.92	52	IAmb	IAmb	03 35 19.4	
	comp=Z,137nm,0.9s						
MONM	Monmouth	82.93	342	eP	P	03 35 16.4	-0.4
MONM				IAmb	IAmb	03 35 19.0	
	comp=Z,60nm,0.8s						
BFO	Black Forest	82.93	334	P	P	03 35 16.8	-0.2
BFO				IAmb	IAmb	03 35 18.5	
	comp=Z,257nm,2.0s						
BFO	Black Forest	82.93	334	P	P	03 35 16.8	-0.2
BFO				pmax	pmax		
	comp=Z,257nm,2.0s						
BFO				MLR	MLR		
	comp=Z,5μm,21.0s						
OK052	Battle Ridge R	82.97	47	IAMs_20	IAMs_20	04 11 53.0	
	comp=Z,2μm,20.0s						
OK031	S. Brethren Rd	82.98	47	IAMs_20	IAMs_20	04 12 53.3	
	comp=Z,2μm,21.0s						
SWN1	Swindon	82.99	341	eP	P	03 35 17.4	+0.2
SWN1				IAmb	IAmb	03 35 19.4	
	comp=Z,284nm,0.9s						
KNT	Kendrikon	83.00	321	P	P	03 35 17.5	0.0
IVA	Berane	83.02	324	⇓iP	P	03 35 17.9	+0.3
WOL	Wolverton	83.03	341	eP	P	03 35 17.3	-0.1
OLDB	Oldbury-Upon-S	83.03	341	eP	P	03 35 16.9	-0.5
OLDB				IAmb	IAmb	03 35 18.7	
	comp=Z,29nm,0.7s						
HQIL	Hanson Quary C	83.04	38	IAMs_20	IAMs_20	04 16 50.2	
	comp=Z,4μm,19.0s						
APMT	Aspermont	83.04	51	IAmb	IAmb	03 35 19.2	
	comp=Z,217nm,1.0s						
ALPN	Alpine	83.05	55	IAmb	IAmb	03 35 19.6	
	comp=Z,100nm,1.0s						
SOH	Sokhos	83.05	320	P	P	03 35 17.2	-0.6
LPIG	La Paz	83.09	64	LR	LR	04 05 04.6	
	comp=Z,835nm,21.4s,baz=321,slow=30						
A050A	Klekovaca	83.14	327	⇓iP	P	03 35 17.9	-0.3
UPM	Unac-Piva	83.18	325	eP	P	03 35 18.5	-0.1
UPM	Unac-Piva	83.18	325	⇓iP	P	03 35 18.1	-0.5
KOME	Kolasin	83.20	324	⇓iP	P	03 35 18.7	+0.1
PVY	Plav	83.21	324	⇓iP	P	03 35 18.6	-0.1
FETA	Feichten	83.23	332	i P	P	03 35 19.0	+0.3
	comp=Z,40nm,0.9s,SNR=24						
J47A	Sunmer	83.24	35	IAMs_20	IAMs_20	04 14 26.4	
	comp=Z,4μm,20.0s						
PPT	Papeete	83.25	121	P	P	03 35 19.4	+0.5
	comp=Z,107nm,1.0s,baz=288,slow=7.5,SNR=8.3						
PPT				LR	LR	04 04 58.7	
	comp=Z,3μm,20.9s,baz=308,slow=30						
	comp=Z,107nm,1.0s						
PPT2	Papeete2	83.26	121	ePKIKP	P	03 35 17.9	-1.1
	comp=Z,647nm,26.2s						
PPT2	Papeete2	83.26	121	eP	P	03 35 18.9	-0.1
	comp=Z,76nm,1.0s						
PPT2	Papeete2	83.26	121	ePP	PP	03 38 29.7	-1.3
	comp=Z,163nm,30.5s						
PPT2				eS	S	03 45 39.0	+0.3
	comp=Z,450nm,24.8s						
PPT2				eSS	SS	03 51 04.2	0.0
	comp=Z,206nm,20.2s						
PPT2				eLQ	LQ	03 57 38.8	
	comp=Z,7μm,31.2s						
PPT2				eLR	LR	04 01 19.7	
	comp=Z,7μm,22.8s						
PPT2				eLR	LR	04 01 20.6	
	comp=Z,6μm,23.0s						
RSBS	Rosebush, Pemb	83.26	343	eP	P	03 35 18.3	-0.3
RSBS				IAmb	IAmb	03 35 19.3	
	comp=Z,225nm,1.4s						
PPTF	Pamatai, Papee	83.27	121	IAmb	IAmb	03 35 22.2	
	comp=Z,108nm,1.0s						
PPTF	Pamatai, Papee	83.27	121	P	P	03 35 20.8	+1.7
M44A	Midewin, Midew	83.28	38	IAMs_20	IAMs_20	04 16 54.4	
	comp=Z,3μm,19.0s						
IWEX	Carrickbyrne,	83.30	344	P	P	03 35 19.6	+0.9
DAVA	Damuels	83.30	332	i P	P	03 35 19.4	+0.3
	comp=Z,54nm,0.8s,SNR=16						
DAVA				ePP	PP	03 38 23.4	-6.6
	comp=Z,17nm,1.0s						
PAE	Paea	83.31	121	ePKIKP	P	03 35 18.3	-0.9
	comp=Z,26nm,1.1s						
PAE	Paea	83.31	121	eLR	LR	04 01 20.5	
	comp=Z,1μm,23.1s						
HDIL	Hopedale	83.34	40	IAMs_20	IAMs_20	04 16 34.2	
	comp=Z,3μm,19.0s						
HORT	Hortiatis	83.35	320	P	P	03 35 18.6	-0.7
TOZ	Tahuroa Road	83.51	158	IAMs_20	IAMs_20	04 07 05.1	
	comp=Z,3μm,21.0s						
NKME	Niksic	83.51	324	⇓iP	P	03 35 19.7	-0.4
I49A	Point Hope	83.52	34	IAMs_20	IAMs_20	04 14 47.6	
	comp=Z,3μm,20.0s						
W35A	Tecumseh	83.55	48	IAmb	IAmb	03 35 21.8	
	comp=Z,191nm,0.9s						
GHAJ	Ghor Haditha	83.57	307	IAmb	IAmb	03 35 52.4	
	comp=Z,314nm,1.6s						
GHAJ				IAMs_20	IAMs_20	04 13 30.2	
	comp=Z,4μm,22.0s						
L46A	Eue Claire	83.58	37	IAMs_20	IAMs_20	04 14 15.4	
	comp=Z,3μm,21.0s						
BRY	Bratogost	83.58	325	eP	P	03 35 20.1	-0.5
BRY	Bratogost	83.58	325	⇓iP	P	03 35 19.7	-0.9
PAIG	Paliouri	83.59	320	P	P	03 35 20.2	-0.3
TVO	Taravao	83.61	121	ePKIKP	P	03 35 19.6	-1.2
	comp=Z,47nm,1.0s						
TVO	Taravao	83.61	121	eLR	LR	04 01 28.8	
	comp=Z,2μm,23.2s						
SLBS	Sierra La Lagu	83.62	64	P	P	03 35 21.7	+0.7
SLBS				IAmb	IAmb	03 35 23.3	
	comp=Z,90nm,0.9s						
PDG	Podgorica	83.65	324	⇓iP	P	03 35 20.4	-0.3
PDG	Podgorica	83.65	324	⇓iP	P	03 35 20.6	-0.1
WTFS	Witchita Falls	83.67	50	IAmb	IAmb	03 35 22.2	
	comp=Z,166nm,0.9s						
PUK	Puka	83.68	323	IAmb	IAmb	03 35 55.8	
	comp=Z,187nm,1.2s						
CEME	Cevo	83.71	324	⇓iP	P	03 35 20.7	-0.4
PHP	Peshkopia	83.72	323	P	P	03 35 20.6	-0.6
DAVOX	Davos/Dischmat	83.74	332	LR	LR	04 17 12.2	
	comp=Z,5μm,19.1s,baz=30,slow=39						
FUORN	Ofenpass-Fuorn	83.74	332	IAmb	IAmb	03 35 23.5	
	comp=Z,364nm,2.0s						
TX31	Lajitas Ar. Si	83.76	56	IAmb	IAmb	03 35 24.2	
	comp=Z,169nm,0.8s						
TXAR	Lajitas Array	83.76	56	P	P	03 35 21.8	+0.1
	comp=Z,172nm,0.8s,baz=295,slow=2.9,SNR=601						
TXAR				PP	PP	03 38 33.9	-0.4
	comp=Z,12nm,0.9s,baz=302,slow=5.7,SNR=4.0						
TXAR				PKKPbc	PKKPbc	03 53 38.0	+1.7
	comp=Z,0.8nm,0.7s,baz=140,slow=4.9,SNR=9.0						
TXAR				PKPPKP	P'P'df	04 01 44.2	-3.9
	comp=Z,0.6nm,1.0s,baz=108,slow=4.1,SNR=3.6						
TREB	Trebinje	83.81	325	eP	P	03 35 20.6	-1.0
DRME	Dracevica, Mon	83.88	324	⇓iP	P	03 35 21.8	-0.1
DRME	Dracevica, Mon	83.88	324	⇓iP	P	03 35 22.1	+0.2
BUM	Brajici-Budva	83.92	324	⇓iP	P	03 35 21.7	-0.5
STON	Ston	83.97	325	⇓iP	P	03 35 21.0	-1.3
HCY	Herceg Novi	83.97	324	eP	P	03 35 22.2	-0.2
HCY	Herceg Novi	83.97	324	⇓iP	P	03 35 21.5	-0.9
LIT	Litokhoron	84.03	321	IAmb	IAmb	03 35 40.5	
	comp=Z,187nm,1.1s						
LIT	Litokhoron	84.03	321	P	P	03 35 21.9	-0.9
ULC	Ulcinj	84.03	324	⇓iP	P	03 35 22.5	-0.3
HIZ	Hauiti	84.06	158	IAmb	IAmb	03 35 45.1	
	comp=Z,150nm,1.2s						
OZNA	Ozona	84.18	53	IAmb	IAmb	03 35 24.9	
	comp=Z,84nm,0.9s						
HPIG		84.19	59	IAmb	IAmb	03 35 25.6	
	comp=Z,180nm,0.9s						
TUE	Stuetta	84.19	332	IAmb	IAmb	03 35 45.0	
	comp=Z,70nm,0.9s						
TIR	Tirane	84.25	323	IAmb	IAmb	03 35 51.3	
	comp=Z,145nm,0.9s						
TIR	Tirane	84.25	323	P	P	03 35 23.7	-0.1
TIR	Tirane	84.25	323	⇓P	P	03 35 23.7	-0.1
TIR	Tirane	84.25	323	⇓P	P	03 35 23.7	-0.1
XOR	Xorichti	84.26	320	P	P	03 35 23.1	-0.9
SAND	Sanderson	84.27	55	IAmb	IAmb	03 35 25.6	
	comp=Z,128nm,1.0s						
LDAQ	Lac Daran	84.28	25	IAmb	IAmb	03 35 24.2	
	comp=Z,142nm,1.3s						
SADO	Sadowa	84.30	31	LR	LR	04 14 15.5	
	comp=Z,2μm,21.7s,baz=346,slow=37						
TEOL	Teolo	84.31	330	IAmb	IAmb	03 35 44.9	
	comp=Z,142nm,1.2s						
CCM	Cathedral Cave	84.33	42	P	P	03 35 23.9	-0.4
CCM	Cathedral Cave	84.33	42	P	P	03 35 23.9	-0.4
CCM				pmax	pmax		
	comp=Z,306nm,0.9s						
CCM				MLR	MLR		
	comp=Z,4μm,20.0s						
VAL	Valentia	84.38	346	P	P	03 35 25.2	+1.0
KBN	Korca	84.41	322	IAmb	IAmb	03 35 53.0	
	comp=Z,135nm,0.8s						
KBN	Korca	84.41	322	P	P	03 35 24.3	-0.5
NEST	Nestorio	84.45	322	P	P	03 35 24.4	-0.6
PLPT	Palo Pinto	84.45	50	IAmb	IAmb	03 35 26.4	
	comp=Z,169nm,0.9s						
URZ	Urewera	84.47	157	LR	LR	04 05 47.6	
	comp=Z,1μm,21.2s,baz=63,slow=30						
MGMO	Mountain Grove	84.50	44	IAmb	IAmb	03 35 25.9	
	comp=Z,181nm,1.0s						
SFIN	Lafayette	84.52	38	IAMs_20	IAMs_20	04 17 41.2	
	comp=Z,3μm,19.0s						
SBD	Saint Breward	84.55	342	eP	P	03 35 24.9	-0.3
TRQ	Mont Tremblant	84.72	28	IAmb	IAmb	03 35 26.9	
	comp=Z,128nm,1.0s						
N47A	Urbana	84.76	37	IAMs_20	IAMs_20	04 15 01.5	
	comp=Z,4μm,21.0s						
RTZ	Ruatahuna	84.76	157	IAmb	IAmb	03 35 27.5	
	comp=Z,105nm,1.0s						
FVM	French Village	84.79	42	IAmb	IAmb	03 35 27.8	
	comp=Z,128nm,0.8s						
FW07	Weatherford	84.84	50	IAmb	IAmb	03 35 28.5	
	comp=Z,163nm,1.2s						
APE	Apeiranthos	84.88	317	⇓P	P	03 35 26.4	-0.8
APE	Apeiranthos	84.88	317	⇓P	P	03 35 26.4	-0.8
LMQ	La Malbaie	84.94	24	IAmb	IAmb	03 35 28.1	
	comp=Z,95nm,0.8s						
CLF	Chambon-Foret	85.09	337	IAmb	IAmb	03 35 30.2	
	comp=Z,287nm,1.5s						
DELO	Deloro Mine	85.09	30	IAmb	IAmb	03 35 28.7	
	comp=Z,94nm,1.0s						
EIL	Elat	85.11	306	LR	LR	04 16 52.3	
	comp=Z,4μm,19.1s,baz=20,slow=38						
BKZ	Black Stump Fm	85.12	157	P	P	03 35 29.4	+1.4
BRDY	Brady	85.17	52	IAmb	IAmb	03 35 30.3	
	comp=Z,207nm,1.0s						
KARP	Karpathos	85.19	315	eP	P	03 35 29.1	+0.4
T42A	Van Buren	85.20	43	IAmb	IAmb	03 35 29.6	
	comp=Z,120nm,0.9s						
T42A				IAMs_20	IAMs_20	04 18 55.3	
	comp=Z,3μm,19.0s						
JSA	Saint Aubin	85.23	340	eP	P	03 35 29.1	+0.5
JCT	Junction City	85.28	53	IAmb	IAmb	03 35 33.3	
	comp=Z,99nm,0.9s						
JCT				IAMs_20	IAMs_20	04 15 55.8	
	comp=Z,3μm,21.0s						
PRMA	PARMA	85.32	331	IAmb	IAmb	03 35 48.1	
	comp=Z,242nm,1.2s						
N49A	Columbus Grove	85.40	36	IAmb	IAmb	03 35 30.8	
	comp=Z,181nm,0.9s						
N49A				IAMs_20	IAMs_20	04 19 58.5	
	comp=Z,3μm,20.0s						
ZCCA	Zocca	85.42	330	IAmb	IAmb	03 36 19.1	
	comp=Z,202nm,1.0s						
M50A	Fremont	85.50	35	IAmb	IAmb	03 35 31.1	
	comp=Z,109nm,0.9s						
O48B	Farmland	85.50	37	IAmb	IAmb	03 35 31.0	
	comp=Z,179nm,0.9s						
O48B				IAMs_20	IAMs_20	04 15 24.2	
	comp=Z,4μm,22.0s						
WBO	Williamsburg	85.53	29	IAmb	IAmb	03 35 30.6	
	comp=Z,76nm,0.9s						
FCAR	Ozark Folk Cen	85.54	44	IAMs_20	IAMs_20	04 13 52.7	
	comp=Z,3μm,22.0s						
DRIO	Del Rio	85.56	54	IAmb	IAmb	03 35 31.9	
	comp=Z,157nm,1.0s						
KEK	Kerkira	85.59	322	IAmb	IAmb	03 35 50.1	
	comp=Z,166nm,1.0s						
GUMA	Gualdo di Mace	85.61	328	IAmb	IAmb	03 36 19.0	
	comp=Z,156nm,1.1s						
QRZ	Quartz Range	85.63	161	IAMs_20	IAMs_20	04 12 18.1	
	comp=Z,3μm,20.0s						
MNTQ	Montreal, Queb	85.67	27	IAmb	IAmb	03 35 31.6	
	comp=Z,87nm,0.9s						
CGM3	Cape Girardeau	85.71	42	IAmb	IAmb	03 35 32.4	
	comp=Z,156nm,1.0s						
FDMO	Fiordimonte	85.73	328	IAmb	IAmb	03 35 50.3	
	comp=Z,155nm,1.0s						
D62A	Allapoint, All	85.74	24	IAmb	IAmb	03 35 31.6	
	comp=Z,103nm,1.3s						
BLO	Bloomington	85.74	39	IAmb	IAmb	03 35 32.6	
	comp=Z,96nm,0.8s						
TREL	Terrell	85.78	49	IAmb	IAmb	03 35 33.6	
	comp=Z,112nm,0.8s						
MIAR	Mount Ida	85.80	46	IAMs_20	IAMs_20	04 17 16.9	
	comp=Z,3μm,20.0s						
VLC	Villacollemand	85.81	330	P	P	03 35 31.4	-0.3
PECO	Prince Edward	85.82	30	IAmb	IAmb	03 35 32.2	
	comp=Z,77nm,0.8s						
AVF	Avril sur Loir	85.87	336	eP	P	03 35 32.0	+0.1
NRCA	Norcia	85.89	328	IAmb	IAmb	03 35 59.2	
	comp=Z,179nm,1.0s						
LCAR	Lake Charles	85.91	44	IAmb	IAmb	03 35 35.0	
	comp=Z,98nm,1.0s						
LPL	La Plagne	85.92	333	eP	P	03 35 32.7	+0.3
LPG	La Plagne	85.93	333	eP	P	03 35 32.8	+0.2
MSSA	Maissana	85.99	331	IAmb	IAmb	03 35 50.6	
	comp=Z,106nm,1.0s						
E62A	Clayton Lake	86.01	24	IAMs_20	IAMs_20	04 17 41.2	
	comp=Z,3μm,21.0s						
CAMP	Campotosto	86.02	328	IAmb	IAmb	03 36 00.2	
	comp=Z,123nm,1.0s						
OSSC	Osservatorio P	86.03	329	IAmb	IAmb	03 35 51.4	
	comp=Z,114nm,1.1s						
J55A	Hilton	86.08	31	IAmb	IAmb	03 35 33.7	
	comp=Z,113nm,0.9s						
J55A				IAMs_20	IAMs_20	04 17 59.4	
	comp=Z,4μm,20.0s						
M52A	Chesterland	86.10	34	IAMs_20	IAMs_20	04 20 53.2	
	comp=Z,3μm,20.0s						
LONY	Lake Ozonia	86.11	28	IAMs_20	IAMs_20	04 18 00.2	
	comp=Z,3μm,20.0s						
USIN	University of	86.16	40	IAmb	IAmb	03 35 34.9	
	comp=Z,210nm,1.0s						
N51A	Ashland	86.19	35	IAmb	IAmb	03 35 34.6	
	comp=Z,144nm,1.0s						
N51A				IAMs_20	IAMs_20	04 13 25.4	
	comp=Z,3μm,22.0s						
ERPA	Erie	86.19	33	IAmb	IAmb	03 35 34.9	
	comp=Z,155nm,0.9s						
ERPA				IAMs_20	IAMs_20	04 16 39.4	
	comp=Z,3μm,20.0s						
NNZ	Nelson	86.21	160	IAMs_20	IAMs_20	04 10 53.5	
	comp=Z,2μm,20.0s						
MATE	Matera	86.21	324	⇓P	P	03 35 33.1	-0.5
MATE	Matera	86.21	324	eP	P	03 35 31.7	-1.9
X40A	Basin Creek Fa	86.24	46	IAmb	IAmb	03 35 35.3	
	comp=Z,94nm,1.0s						
MRZ	Mangatainoka R	86.26	159	IAmb	IAmb	03 35 52.3	
	comp=Z,92nm,1.0s						
INTR	Introdacqua	86.26	327	IAmb	IAmb	03 36 01.4	
	comp=Z,111nm,1.0s						
UALR	University of	86.28	45	IAmb	IAmb	03 35 34.7	
	comp=Z,130nm,1.3s						
CESX	Cesi	86.29	328	IAmb	IAmb	03 35 53.2	
	comp=Z,104nm,1.3s						
ROSF	Rostrenen	86.29	341	eP	P	03 35 34.3	+0.4
BNI	Bardonecchia	86.35	333	IAmb	IAmb	03 36 00.3	
	comp=Z,106nm,1.1s						
435B	Jarrell	86.36	51	P	P	03 35 34.6	0.0
	baz=318						
435B				S	S	03 46 05.6	-3.8
	baz=318						
BATG	Bathurst New B	86.43	22	IAmb	IAmb	03 35 35.4	
	comp=Z,129nm,1.3s						
237A	Washetta, Mont	86.48	49	IAmb	IAmb	03 35 36.5	
	comp=Z,80nm,1.0s						
ACSO	Alum Creek Sta	86.49	36	IAmb	IAmb	03 35 36.3	
	comp=Z,187nm,0.9s						
ACSO				IAMs_20	IAMs_20	04 15 39.3	
	comp=Z,3μm,19.0s						
WVNY	West Valley, N	86.50	32	IAmb	IAmb	03 35 36.3	
	comp=Z,106nm,0.9s						
IDI	Anoyia	86.58	316	IAmb	IAmb	03 35 54.3	
	comp=Z,204nm,1.4s						
IDI	Anoyia	86.58	316	LR	LR	04 19 23.1	
	comp=Z,3μm,18.7s,baz=58,slow=39						
ITM	Ithomi	86.60	319	IAmb	IAmb	03 36 07.8	
	comp=Z,129nm,0.9s						
THZ	Tophouse	86.60	161	IAMs_20	IAMs_20	04 14 40.0	
	comp=Z,3μm,19.0s						
WCI	Wyandotte Cave	86.60	39	P	P	03 35 35.6	0.0
WCI	Wyandotte Cave	86.60	39	IAMs_20	IAMs_20	04 19 41.5	
	comp=Z,3μm,20.0s						
WCI	Wyandotte Cave	86.60	39	P	P	03 35 35.6	0.0
WCI				pmax	pmax		
	comp=Z,211nm,0.9s						
DRLN	Deer Lake	86.63	16	IAmb	IAmb	03 35 56.9	
	comp=Z,132nm,1.2s						
SNZO	South Karori	86.63	159	IAMs_20	IAMs_20	04 13 37.7	
	comp=Z,3μm,19.0s						
J57A	Williamstown	86.64	30	IAmb	IAmb	03 35 35.9	
	comp=Z,112nm,1.2s						
J57A				IAMs_20	IAMs_20	04 16 28.3	
	comp=Z,4μm,21.0s						
QUIF	Quistinic	86.66	340	eP	P	03 35 35.8	+0.1
ORIF	Oris-en-Rattie	86.73	333	eP	P	03 35 36.5	+0.2
BHW	Baring Head	86.77	159	IAMs_20	IAMs_20	04 08 15.4	
	comp=Z,2μm,20.0s						
SSB	Saint Sauveur	86.85	334	IAmb	IAmb	03 35 55.6	
	comp=Z,102nm,1.1s						
N53A	Lisbon	86.93	34	IAMs_20	IAMs_20	04 16 45.1	
	comp=Z,3μm,20.0s						
G62A	West of Eustis	86.95	26	IAmb	IAmb	03 35 39.0	
	comp=Z,214nm,1.4s						
G62A				IAMs_20	IAMs_20	04 18 05.4	
	comp=Z,3μm,19.0s						
VT1	Waterbury	87.00	27	IAmb	IAmb	03 35 38.1	
	comp=Z,135nm,1.3s						
K57A	Scipio Center	87.03	30	IAmb	IAmb	03 35 37.8	
	comp=Z,94nm,1.2s						
K57A				IAMs_20	IAMs_20	04 16 08.6	
	comp=Z,4μm,22.0s						
F64A	Sherman	87.05	24	IAmb	IAmb	03 35 38.9	
	comp=Z,189nm,1.7s						
F64A				IAMs_20	IAMs_20	04 16 15.0	
	comp=Z,4μm,22.0s						
O52A	Adamsville	87.08	35	IAmb	IAmb	03 35 39.1	
	comp=Z,164nm,1.0s						
O52A				IAMs_20	IAMs_20	04 20 24.0	
	comp=Z,3μm,20.0s						
833A	Chaparral WMA,	87.09	54	P	P	03 35 38.5	+0.3
	baz=317						
833A				S	S	03 46 14.5	-2.0
	baz=317						
L56A	Greenwood	87.14	31	IAmb	IAmb	03 35 38.7	
	comp=Z,152nm,1.3s						
L56A				IAMs_20	IAMs_20	04 18 01.5	
	comp=Z,3μm,20.0s						
INZ	Inchbonnie	87.17	162	IAmb	IAmb	03 36 09.2	
	comp=Z,126nm,1.4s						
VIVF	Saint-Julien-I	87.19	334	eP	P	03 35 38.7	+0.3
Z41A	Richland Creek	87.19	46	IAmb	IAmb	03 35 41.0	
	comp=Z,122nm,1.0s						
O53A	New Philadelph	87.24	35	IAmb	IAmb	03 35 39.9	
	comp=Z,162nm,0.9s						
PKME	Peaks-Kenny Pk	87.30	25	IAmb	IAmb	03 35 40.5	
	comp=Z,230nm,1.8s						
H62A	Milan	87.32	26	IAmb	IAmb	03 35 40.6	
	comp=Z,149nm,1.1s						
P52A	Corning	87.35	36	IAmb	IAmb	03 35 40.1	
	comp=Z,154nm,0.9s						
KHZ

comp=Z,138nm,1.1s
I62A Tamworth 87.88 27 IAmb IAmb 03 35 43.5
comp=Z,116nm,1.4s
I62A IAMs_20 IAMs_20 04 20 55.0
comp=Z,3µm,18.0s
G65A Princeton 87.88 24 IAmb IAmb 03 35 42.4
comp=Z,101nm,1.3s
JCZ Jackson Bay 87.89 164 P **P 03 35 42.8 +1.3**
J61A Chester 87.93 28 IAmb IAmb 03 35 42.9
comp=Z,89nm,1.2s
I63A Otisfield 87.97 26 IAMs_20 IAMs_20 04 16 24.5
comp=Z,2µm,21.0s
M57A Sunshine Farm, 87.99 32 IAMs_20 IAMs_20 04 19 01.0
comp=Z,3µm,21.0s
HKT Hockley 88.00 51 P **P 03 35 42.3 -0.1**
HKT IAMs_20 IAMs_20 04 18 08.0
comp=Z,3µm,20.0s
HKT Hockley 88.00 51 *d iP* **P 03 35 42.4 0.0**
HKT pmax pmax
comp=Z,134nm,2.8s
RPZ Rata Peaks 88.02 163 LR LR 04 11 41.7
comp=Z,4µm,19.8s,baz=332,slow=33
LMN Caledonia Moun 88.08 22 IAmb IAmb 03 35 43.9
comp=Z,65nm,0.8s
TRY Troy 88.08 29 IAmb IAmb 03 35 44.1
comp=Z,160nm,1.5s
TRY IAMs_20 IAMs_20 04 16 20.3
comp=Z,3µm,21.0s
SSPA Standing Stone 88.28 32 P **P 03 35 43.7 0.0**
SSPA Standing Stone 88.28 32 IAMs_20 IAMs_20 04 18 55.9
comp=Z,3µm,19.0s
CLTN Cedars of Leba 88.30 40 IAmb IAmb 03 35 45.2
comp=Z,90nm,0.9s
MCWV Mont Chateau 88.31 34 IAMs_20 IAMs_20 04 17 27.5
comp=Z,3µm,19.0s
PLAL Pickwick Lake 88.32 42 IAmb IAmb 03 35 45.4
comp=Z,92nm,0.8s
PLAL IAMs_20 IAMs_20 04 16 41.9
comp=Z,3µm,20.0s
KSPA Keystone Colle 88.32 31 IAmb IAmb 03 35 45.1
comp=Z,104nm,0.9s
V48A Smith Brothers 88.34 41 IAmb IAmb 03 35 45.1
comp=Z,127nm,0.8s
V48A IAMs_20 IAMs_20 04 15 26.4
comp=Z,4µm,22.0s
MQZ McQueen's Vall 88.38 162 IAMs_20 IAMs_20 04 10 08.0
comp=Z,3µm,22.0s
HBVL Hebbronville 88.45 54 IAmb IAmb 03 35 47.8
comp=Z,70nm,0.9s
Q54A Coxs Mills 88.45 35 IAMs_20 IAMs_20 04 22 51.3
comp=Z,3µm,19.0s
LBZ Lake Benmore 88.48 164 IAmb IAmb 03 35 47.4
comp=Z,92nm,0.8s
LBZ IAMs_20 IAMs_20 04 09 37.5
comp=Z,4µm,21.0s
CEL Celeste 88.53 324 IAmb IAmb 03 36 09.2
comp=Z,131nm,1.2s
KVTX Kingsville 88.56 54 IAmb IAmb 03 35 47.7
comp=Z,87nm,0.9s
KVTX IAMs_20 IAMs_20 04 21 20.7
comp=Z,2µm,19.0s
N58A Sunbury 88.57 32 IAMs_20 IAMs_20 04 21 43.5
comp=Z,3µm,18.0s
K62A Royalston 88.64 28 IAmb IAmb 03 35 47.1
comp=Z,113nm,1.1s
L61B Northampton 88.68 28 IAmb IAmb 03 35 46.8
comp=Z,75nm,1.2s
L61B Northampton 88.68 28 P **P 03 35 45.4 -0.1**
baz=332
L61B S **S 03 46 25.9 -5.3**
baz=332
DCZ Deep Cove 88.92 166 IAMs_20 IAMs_20 04 10 41.1
comp=Z,3µm,20.0s
MLZ Mavora Lakes 89.00 165 IAmb IAmb 03 35 57.2
comp=Z,84nm,1.3s
HRV Adam Dziewonsk 89.02 27 P **P 03 35 47.3 +0.2**
HRV IAmb IAmb 03 35 48.9
comp=Z,159nm,1.2s
HRV Adam Dziewonsk 89.02 27 IAMs_20 IAMs_20 04 19 00.1
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 89.02 27 P **P 03 35 47.3 +0.2**
HRV pmax pmax
comp=Z,159nm,1.3s
HRV MLR MLR
comp=Z,3µm,20.0s
Q56A Snyder Ridge, 89.10 34 IAMs_20 IAMs_20 04 18 00.5
comp=Z,3µm,20.0s
WES Weston 89.20 27 IAmb IAmb 03 35 49.6
comp=Z,178nm,1.1s
WES IAMs_20 IAMs_20 04 19 16.1
comp=Z,3µm,20.0s
P57A Homestead Farm 89.21 33 IAmb IAmb 03 35 49.4
comp=Z,89nm,1.1s
P57A IAMs_20 IAMs_20 04 21 02.4
comp=Z,3µm,21.0s
VBMS Vicksburg 89.22 46 IAmb IAmb 03 35 50.0
comp=Z,169nm,1.0s
VBMS IAMs_20 IAMs_20 04 16 25.8
comp=Z,3µm,20.0s
S54A Dingess, Beckl 89.23 36 IAmb IAmb 03 35 49.5
comp=Z,113nm,0.9s
TZTN Tazewell 89.25 38 IAmb IAmb 03 35 49.7
comp=Z,157nm,0.9s
BCX Boston College 89.30 27 IAmb IAmb 03 35 49.9
comp=Z,103nm,1.2s
BCX IAMs_20 IAMs_20 04 22 00.6
comp=Z,3µm,19.0s
R55A Marlinton 89.34 35 IAMs_20 IAMs_20 04 22 16.9
comp=Z,2µm,20.0s
GBN Guysborough 89.36 20 IAmb IAmb 03 35 50.0
comp=Z,140nm,1.2s
UCCT U. Connecticut 89.41 28 IAmb IAmb 03 35 50.5
comp=Z,151nm,0.9s
MVL Millersville 89.44 32 IAmb IAmb 03 35 49.8
comp=Z,131nm,1.3s
WHZ Wether Hill Ro 89.48 165 IAMs_20 IAMs_20 04 11 48.9
comp=Z,4µm,20.0s
PYZ Puysegur Point 89.51 166 IAmb IAmb 03 35 51.5
comp=Z,85nm,0.9s
WSPT Westport, CT 89.57 29 IAmb IAmb 03 35 50.7
comp=Z,163nm,1.2s
CPNY Central Park 89.67 30 IAmb IAmb 03 35 51.6
comp=Z,126nm,0.9s
CPCT Cooper Cave 89.68 40 IAmb IAmb 03 35 51.5
comp=Z,100nm,0.9s
L64A Middleborough 89.77 27 IAmb IAmb 03 35 52.2
comp=Z,180nm,1.1s
L64A IAMs_20 IAMs_20 04 19 22.0
comp=Z,3µm,20.0s
M63A Gales Ferry 89.82 28 IAmb IAmb 03 35 52.0
comp=Z,105nm,0.9s
VAE Valguarnera 89.83 324 LR LR 04 19 36.2
comp=Z,5µm,18.2s,baz=63,slow=38
TKL Tuckaleechee C 89.87 39 IAmb IAmb 03 35 52.4
comp=Z,144nm,0.9s
TKL Tuckaleechee C 89.87 39 LR LR 04 18 14.0
comp=Z,2µm,21.0s,baz=340,slow=37
EJON La Jonquera 89.92 334 P **P 03 35 51.3 0.0**
U54A Nelsons Funny 90.06 37 IAmb IAmb 03 35 53.4
comp=Z,116nm,0.9s
U54A IAMs_20 IAMs_20 04 15 59.9
comp=Z,3µm,21.0s
BLA Blacksburg 90.11 36 IAmb IAmb 03 35 53.7
comp=Z,155nm,1.1s
M65A Busby, Falmout 90.17 27 IAMs_20 IAMs_20 04 19 54.6
comp=Z,3µm,20.0s
M65A Busby, Falmout 90.17 27 P **P 03 35 51.7 -0.8**
baz=333
M65A S **S 03 46 40.5 -4.5**
baz=333
EPF Esparros 90.19 336 *eP* **P 03 35 52.1 -0.5**
VSL Villasalto 90.20 329 IAMs_20 IAMs_20 04 16 30.7
comp=Z,3µm,20.0s
S57A Dark Hollow, R 90.28 35 IAMs_20 IAMs_20 04 18 37.7
comp=Z,3µm,21.0s
CEST Esterri de Car 90.30 335 IAmb IAmb 03 36 12.7
comp=Z,113nm,1.0s
P61A Hammonton 90.32 31 IAMs_20 IAMs_20 04 21 14.8
comp=Z,3µm,21.0s
LRAL Lakeview Retre 90.41 43 IAMs_20 IAMs_20 04 22 22.1
comp=Z,3µm,19.0s
CBN Corbin Frederi 90.56 33 IAmb IAmb 03 35 55.7
comp=Z,71nm,0.8s
CBN IAMs_20 IAMs_20 04 19 06.2
comp=Z,3µm,19.0s
BG3 Lake Jocassee 90.81 39 IAmb IAmb 03 35 57.2
comp=Z,131nm,1.0s
V55A Taylorsville 90.89 37 IAmb IAmb 03 35 57.2
comp=Z,67nm,1.1s
V55A IAMs_20 IAMs_20 04 18 32.8
comp=Z,3µm,19.0s
WDD Wied Dalam 91.15 323 IAMs_20 IAMs_20 04 22 41.4
comp=Z,3µm,20.0s
KMSC Kings Mountain 91.42 38 IAmb IAmb 03 35 59.5
comp=Z,102nm,1.1s
KMSC IAMs_20 IAMs_20 04 18 59.0
comp=Z,3µm,19.0s
PAULI Pauline 91.47 38 IAmb IAmb 03 35 59.7
comp=Z,61nm,1.0s
T59A Double "B" Far 91.54 34 IAmb IAmb 03 36 00.3
comp=Z,66nm,1.1s
MAHO Mahon 91.74 332 IAMs_20 IAMs_20 04 14 27.1
comp=Z,3µm,21.0s
BRAL Brewton 91.86 44 IAmb IAmb 03 36 02.9
comp=Z,82nm,0.8s
BRAL IAMs_20 IAMs_20 04 17 45.8
comp=Z,2µm,22.0s
V58A Windy Hill, Pi 91.87 36 IAMs_20 IAMs_20 04 18 00.7
comp=Z,2µm,20.0s
W57A Gilead 92.02 37 IAmb IAmb 03 36 02.2
comp=Z,56nm,1.0s
W57A IAMs_20 IAMs_20 04 23 52.7
comp=Z,3µm,19.0s
MOIG Morelia 92.22 61 IAmb IAmb 03 36 04.5
comp=Z,84nm,1.0s
BIRD Birdtown, Kers 92.23 37 IAmb IAmb 03 36 02.7
comp=Z,70nm,1.2s
ETOS Mallorca 92.35 333 P **P 03 36 00.4 -2.3**
ATD Arta Tunnel 92.61 288 LR LR 04 23 49.3
comp=Z,139nm,19.0s,baz=29,slow=40
W59A Clinton 92.69 36 IAMs_20 IAMs_20 04 18 25.5
comp=Z,2µm,19.0s
X58A Rowland 92.81 37 IAmb IAmb 03 36 05.8
comp=Z,46nm,0.9s
X58A IAMs_20 IAMs_20 04 25 50.7
comp=Z,2µm,19.0s
V61A Roper 92.95 34 IAMs_20 IAMs_20 04 20 18.5
comp=Z,3µm,19.0s
Y58A Scranton 93.21 37 IAmb IAmb 03 36 08.5
comp=Z,78nm,0.8s
Y58A IAMs_20 IAMs_20 04 17 57.3
comp=Z,3µm,20.0s
PBRG Braganca 93.27 341 *eP* **P 03 36 06.2 -0.7**
PBRG *i* Amb 03 36 24.9
comp=Z,36nm,1.2s
PBRG *eP*P **PP 03 39 53.2 +3.5**
KEST Kesra 93.46 327 P **P 03 36 07.5 -0.5**
comp=Z,14nm,0.8s,baz=260,slow=19,SNR=9.9
KEST LR LR 04 22 36.8
comp=Z,3µm,19.0s,baz=37,slow=38
comp=Z,14nm,0.8s
PGAV Gavieira, Arco 93.48 342 *eP* **P 03 36 07.6 -0.4**
PGAV *i* Amb 03 36 13.8
comp=Z,46nm,1.8s
PGAV *eP*P PP 03 40 01.4 +10
PGAV *eS* **S 03 47 24.0 +8.7**
PGAV *eS*S **SS 03 53 39.3 +9.0**
PGAV *eL*Q LQ 04 15 18.4
PGAV *eL*R LR 04 17 51.9
PGAV *i* AMs_20 04 22 20.2
comp=Z,2µm,20.0s
PCAB Cabril 93.67 341 *eP* **P 03 36 08.2 -0.6**
PCAB *i* Amb 03 36 41.0
comp=Z,71nm,1.6s
PCAB *eP*P **PP 03 39 57.2 +4.5**
ECHE Chera 93.73 336 P **P 03 36 08.4 -0.7**
UNM Universidad Na 93.77 60 IAMs_20 IAMs_20 04 11 56.0
comp=Z,4µm,22.0s
Y60A Bolivia 93.77 36 IAMs_20 IAMs_20 04 17 48.1
comp=Z,3µm,21.0s
POLO Lamas de Olo 93.93 341 *eP* **P 03 36 09.8 -0.3**
POLO *i* Amb 03 36 27.5
comp=Z,41nm,1.2s
MVO Moncorvo 93.94 341 *eP* **P 03 36 09.7 -0.4**
MVO *i* Amb 03 36 27.5
comp=Z,53nm,1.3s
MVO *eS* **S 03 47 27.7 +8.5**
MVO *eS*S **SS 03 53 44.1 +7.3**
MVO *eL*Q LQ 04 12 40.3
MVO *eL*R LR 04 17 09.5
MVO *i* AMs_20 04 22 06.1
comp=Z,3µm,20.0s
PVRL Vila Real 94.01 341 *eP* **P 03 36 10.0 -0.3**
PVRL *i* Amb 03 36 27.7
comp=Z,63nm,1.2s
MSEY Mahe Island 94.18 268 IAMs_20 IAMs_20 04 18 33.1
comp=Z,3µm,21.0s
PTO Porto 94.35 342 *eP* **P 03 36 11.3 -0.5**
PTO *i* Amb 03 36 42.1
comp=Z,54nm,1.2s
ESBB Sonseca Array 94.53 338 IAmb IAmb 03 36 39.7
comp=Z,94nm,1.9s
ESDC Sonseca Array 94.53 338 P **P 03 36 12.2 -0.7**
ESDC Sonseca Array 94.53 338 P **P 03 36 12.1 -0.7**
comp=Z,7.0nm,0.7s,baz=14,slow=4.0,SNR=56
ESDC PP **PP 03 39 59.4 -0.1**
comp=Z,3.5nm,1.0s,baz=16,slow=7.7,SNR=4.2
ESDC LR LR 04 24 54.1
comp=Z,2µm,18.6s,baz=29,slow=39
comp=Z,7.0nm,0.7s
PVIS Viseu 94.58 341 *eP* **P 03 36 12.4 -0.6**
SET Setif 94.61 330 P **P 03 36 14.0 +0.8**
PAB San Pablo 94.76 338 P **P 03 36 13.1 -0.8**
PAB San Pablo 94.76 338 P **P 03 36 13.1 -0.8**
PAB pmax pmax
comp=Z,41nm,1.3s
MTE Manteigas 94.80 341 IAmb IAmb 03 36 31.4
comp=Z,62nm,1.2s
MTE Manteigas 94.80 341 *eP* **P 03 36 13.5 -0.5**
MTE *i* Amb 03 36 32.1
comp=Z,69nm,1.3s
MTE *eS* **S 03 47 32.3 +5.6**
MTE *eS*S **SS 03 53 55.5 +6.5**
MTE *eL*Q LQ 04 11 17.0
MTE *eL*R LR 04 17 14.8
MTE *i* AMs_20 04 24 07.7
comp=Z,4µm,18.0s
MTE Manteigas 94.80 341 *eP* **P 03 36 14.1 +0.1**
COI Coimbra 95.19 341 IAmb IAmb 03 36 33.5
comp=Z,62nm,1.1s
COI IAMs_20 IAMs_20 04 22 43.0
comp=Z,3µm,22.0s
COI Coimbra 95.19 341 *eP* **P 03 36 15.2 -0.5**
COI *i* Amb 03 36 33.1
comp=Z,85nm,1.3s
PCBR Castelo Branco 95.31 340 *eP* **P 03 36 15.9 -0.3**
PCBR *i* Amb 03 36 34.7
comp=Z,44nm,1.3s
PCBR *eP*P **PP 03 40 08.8 +3.3**
PCAS Casmilo, Conde 95.36 341 *eP* **P 03 36 15.7 -0.8**
PCAS *i* Amb 03 36 47.0
comp=Z,71nm,1.4s
PCAS *eP*P **PP 03 40 05.6 -0.2**
PMRV Marv??o 95.67 340 *eP* **P 03 36 17.4 -0.6**
PMRV *i* Amb 03 36 37.9
comp=Z,51nm,1.5s
PMRV *eP*P **PP 03 40 11.0 +2.7**
PMRV *eS* **S 03 47 40.2 +5.9**
PMRV *eS*S **SS 03 54 10.0 +8.6**
PMRV *eL*R LR 04 13 19.5
PMRV *i* AMs_20 04 26 30.6
comp=Z,3µm,20.0s
PSBE So Bento 95.94 341 *eP* **P 03 36 18.7 -0.5**
PSBE *i* Amb 03 36 49.9
comp=Z,73nm,1.4s
PMTG Montargil 96.22 341 *eP* **P 03 36 19.6 -0.8**
PMTG *i* Amb 03 36 39.4
comp=Z,30nm,1.4s
PESTR Estremoz 96.25 340 *eP* **P 03 36 19.9 -0.7**
PESTR *i* Amb 03 36 39.8
comp=Z,50nm,1.3s
EVO Evora 96.68 340 *eP* **P 03 36 22.4 -0.1**
EVO *i* Amb 03 36 40.5
comp=Z,36nm,1.3s
EVO *eP*P **PP 03 40 18.1 +2.1**
PBAR Barrancos 96.77 340 *eP* **P 03 36 22.6 -0.3**
PBAR *i* Amb 03 36 40.4
comp=Z,36nm,1.3s
PBAR *eP*P PP 03 40 26.4 +10
PBEJ Beja 97.12 340 *eP* **P 03 36 24.4 -0.1**
PBEJ *i* Amb 03 36 42.7
comp=Z,57nm,1.5s
PBEJ *eP*P **PP 03 40 23.1 +3.6**
DWPF Disney Wildern 97.19 42 P **P 03 36 24.7 -0.3**
DWPF IAmb IAmb 03 36 26.6
comp=Z,64nm,0.8s
DWPF Disney Wildern 97.19 42 IAMs_20 IAMs_20 04 23 48.8
comp=Z,3µm,21.0s
MESJ Messejana 97.39 340 *eP* **P 03 36 25.5 -0.2**
LIJA Lijar 97.52 338 P **P 03 36 25.8 -0.6**
PCVE Castro Verde 97.54 340 *eP* Pdif 03 36 26.4 0.0
PCVE *i* Amb 03 36 44.8
comp=Z,41nm,1.5s
PVAQ Vaqueiros 97.67 340 *eP* Pdif 03 36 27.1 +0.1
PVAQ *i* Amb 03 36 44.4
comp=Z,52nm,1.4s
PVAQ *e*PP **PP 03 40 17.4 -6.4**
PVAQ *e*LR LR 04 14 11.5
PVAQ *i* AMs_20 04 24 30.7
comp=Z,3µm,18.0s
PBDV Barranco-do-Ve 97.88 340 *e*PP **PP 03 40 28.1 +2.7**
MORF Marmelete 98.00 341 *e*PP **PP 03 40 29.9 +3.6**
CMIG Matias Romero 98.17 58 LR LR 04 18 19.2
comp=Z,1µm,19.9s,baz=322,slow=34
061Z Ochoppi 99.30 43 IAMs_20 IAMs_20 04 25 08.8
comp=Z,3µm,21.0s
AVE Averroes 101.46 338 IAMs_20 IAMs_20 04 27 58.3
comp=Z,3µm,21.0s
LODK Lodwar 103.54 287 IAMs_20 IAMs_20 04 31 37.5
comp=Z,2µm,18.0s
KMBO Kilima Mbogo 105.31 283 IAMs_20 IAMs_20 04 27 54.7
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 105.31 283 Pdiff **Pdif 03 37 01.5 -0.2**
comp=Z,0.5nm,0.4s,baz=88,slow=6.0,SNR=5.1
KMBO PP **PP 03 41 24.4 +1.3**
comp=Z,1.3nm,0.8s,baz=18,slow=8.2,SNR=3.8
KIBK Kibwezi 105.56 281 IAMs_20 IAMs_20 04 27 25.7
comp=Z,2µm,21.0s
GTBY Guantanamo Bay 107.16 41 IAMs_20 IAMs_20 04 25 55.0
comp=Z,3µm,21.0s
MTDJ Mount Denham 107.36 44 IAMs_20 IAMs_20 04 34 58.5
comp=Z,3µm,20.0s
BOAB BOACO BROADBAN 107.43 54 IAMs_20 IAMs_20 04 28 46.5
comp=Z,3µm,22.0s
GRTK Grand Turk 107.67 37 IAMs_20 IAMs_20 04 28 36.4
comp=Z,2µm,19.0s
ABPO Ambohimpanom 109.56 262 IAMs_20 IAMs_20 04 26 00.9
comp=Z,2µm,22.0s
MBAR Mbarara 109.64 288 IAMs_20 IAMs_20 04 32 35.1
comp=Z,2µm,20.0s
SDDR Presa de Saban 109.80 38 IAMs_20 IAMs_20 04 34 53.8
comp=Z,2µm,19.0s
VOI Vohitsoka 111.67 260 IAMs_20 IAMs_20 04 30 04.6
comp=Z,1µm,21.0s
SJG San Juan 112.84 34 IAMs_20 IAMs_20 04 31 45.2
comp=Z,1µm,20.0s
SMRT St. Maarten 114.14 31 IAMs_20 IAMs_20 04 32 23.5
comp=Z,2µm,22.0s
SEUS St. Eustatius 114.68 32 IAMs_20 IAMs_20 04 33 00.9
comp=Z,2µm,20.0s
ANWB Willy Bob 114.98 30 IAMs_20 IAMs_20 04 28 00.8
comp=Z,2µm,22.0s
GDHS Morne Mazeau, 116.26 31 IAMs_20 IAMs_20 04 31 40.4
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 116.49 322 **PKPdf 03 41 35.0 -1.5**
BIM Bigot 118.13 31 IAMs_20 IAMs_20 04 32 33.3
comp=Z,2µm,21.0s
MPOM Morne Pois Mar 118.28 31 IAMs_20 IAMs_20 04 32 35.1
comp=Z,1µm,19.0s
SDV Santo Domingo 118.79 43 **PKPdf 03 41 40.1 -1.1**
SDV IAMs_20 IAMs_20 04 37 41.3
comp=Z,2µm,21.0s
SDV Santo Domingo 118.79 43 *eP* **PKPdf 03 41 40.3 -0.9**
VNDA Vanda 119.59 176 PKP **PKPdf 03 41 40.5 0.0**
comp=Z,13nm,0.9s,baz=314,slow=4.4,SNR=7.0
GRGR Grenville 120.07 33 IAMs_20 IAMs_20 04 36 51.7
comp=Z,1µm,20.0s
ROSC El Rosal 120.17 49 PKP **PKPdf 03 41 44.0 -0.2**
comp=Z,18nm,0.8s,baz=326,slow=23,SNR=8.0
ROSC El Rosal 120.17 49 PKIKP **PKPdf 03 41 44.0 -0.2**
LSZ Lusaka 121.37 278 **PKPdf 03 41 46.0 0.0**
LSZ Lusaka 121.37 278 PKIKP **PKPdf 03 41 46.0 0.0**
OTAV Otavalo 121.39 57 **PKPdf 03 41 45.8 -0.8**
OTAV Otavalo 121.39 57 PKIKP **PKPdf 03 41 45.8 -0.8**
DBIC Dimbokro 125.15 325 **PKPdf 03 41 52.1 -1.1**
DBIC Dimbokro 125.15 325 PKP **PKPdf 03 41 52.7 -0.5**
comp=Z,10nm,0.7s,baz=43,slow=2.4,SNR=17
DBIC PP **PP 03 43 42.1 +0.6**
comp=Z,13nm,0.8s,baz=21,slow=5.6,SNR=4.3
DBIC Dimbokro 125.15 325 PKIKP **PKPdf 03 41 52.1 -1.1**
KSANE Kasane 125.21 278 *i* P **PKPdf 03 41 53.4 +0.1**
BROLN Tlhalogang 125.62 273 *i* P **PKPdf 03 41 53.7 -0.2**
POGA Pongola 125.96 264 IAMs_20 IAMs_20 04 33 00.2
comp=Z,1µm,21.0s
KHWEE KHWEE 127.53 273 *i* P **PKiKP 03 41 58.1 0.0**
LPHEP Lephephe 128.06 272 *i* P **PKPdf 03 41 58.6 +0.1**
KDWAN Kaudwane 128.96 272 *i* P **PKPdf 03 41 59.9 -0.4**
QNGWA Qangwa 129.23 279 *i* P **PKPdf 03 42 00.7 -0.2**
BOAV Boa Vista 129.29 37 **PKPdf 03 42 00.4 -0.8**
BOAV Boa Vista 129.29 37 *eP* **PKPdf 03 42 01.4 +0.3**
SKOMA Sekoma 130.16 272 *i* P **PKiKP 03 42 03.3 0.0**
MAKGR Makgori 130.25 270 *i* P **PKPdf 03 42 02.5 -0.2**
GRTLG Ghanzi 130.32 277 *i* P **PKPdf 03 42 03.2 +0.3**
CZSB Cruzeiro do Su 131.15 57 *eP* **PKPdf 03 42 03.9 -0.7**
BOSA Boshof 131.44 266 PKhKP PKPpre 03 42 00.3
comp=Z,3.1nm,1.0s,baz=23,slow=2.9,SNR=4.2
BOSA PKKP **PKKPdf 03 52 01.2 +0.1**
comp=Z,1.5nm,0.7s,baz=187,slow=0.8,SNR=5.0
NNA Nana 131.62 65 **PKPdf 03 42 04.7 -0.8**
NNA Nana 131.62 65 PKIKP **PKPdf 03 42 04.7 -0.8**
TSUM Tsumeb 131.66 282 IAMs_20 IAMs_20 04 44 21.9
comp=Z,2µm,21.0s
QSPA South Pole Qui 131.72 180 IAMs_20 IAMs_20 04 39 19.4
comp=Z,1µm,20.0s
QSPA South Pole Qui 131.72 180 PKhKP PKPpre 03 41 50.9
comp=Z,1.8nm,0.7s,baz=243,slow=1.5,SNR=8.7
QSPA PKP **PKPdf 03 42 03.2 -0.9**
comp=Z,24nm,0.9s,baz=332,slow=1.8,SNR=38
KOOLE Kule 132.06 276 *i* P **PKiKP 03 42 07.5 +0.3**
TEFE Tefe 132.42 45 *eP* **PKPdf 03 42 07.3 +0.3**
GRHM Grahamstown, E 132.96 260 IAMs_20 IAMs_20 04 52 18.7
comp=Z,1µm,20.0s
WIN Windhoek 134.09 279 IAMs_20 IAMs_20 04 52 47.6
comp=Z,2µm,20.0s
MACA Manacapuru-AM 134.11 40 *eP* **PKPdf 03 42 09.9 -0.3**
SYO Syowa Base 134.57 209 ‖ *e*PKPdf **PKiKP 03 42 10.8 +0.1**
SYO Syowa Base 134.57 209 ‖ *e*PKiKP **PKiKP 03 42 13.2 +2.5**
SYO Syowa Base 134.57 209 ‖ *ep*PKPdf pPKPdf 03 42 18.2 +4.5
SUR Sutherland 136.65 265 IAMs_20 IAMs_20 04 53 39.2
comp=Z,1µm,20.0s
ITTB Itaituba 137.42 35 *eP* **PKPdf 03 42 16.8 +0.4**
TMAB Tom-Au,PA,Br 138.31 23 *eP* **PKiKP 03 42 19.4 -0.7**
ELIB Princess Elisa 139.63 204 *d*PKP **PKPdf 03 42 11.3 -7.5**
NPGB Novo Progresso 139.99 36 *eP* **PKPdf 03 42 19.4 -1.7**
LPAZ La Paz 140.51 60 PKhKP PKPpre 03 42 15.3
comp=Z,14nm,0.8s,baz=360,slow=6.5,SNR=24
VILB Vilhena 142.68 47 *eP* **PKPdf 03 42 24.1 -1.8**
H03N2 Juan Fernandez 143.09 92 T T 06 22 03.3
baz=300,slow=77
H03N3 Juan Fernandez 143.10 92 T T 06 22 09.5
baz=300,slow=77
H03N1 Juan Fernandez 143.11 92 T T 06 22 10.5
baz=300,slow=77
CLDB Colider 143.16 39 *eP* **PKPdf 03 42 25.6 -1.1**
NBPB Pedra_Branca-C 143.25 11 *eP* PKPbc 03 42 23.7 -0.2
NVL N'lazarevskaya 143.50 203 *e*PKHKP PKPpre 03 42 19.5
NVL pmax pmax
comp=Z,24nm,0.9s
RCBR Riachuelo 143.91 5 PKPab 03 42 25.4 +0.2
RCBR Riachuelo 143.91 5 PKP PKPbc 03 42 26.0 +0.2
comp=Z,10nm,0.7s,baz=344,slow=4.9,SNR=20
RCBR Riachuelo 143.91 5 PKIKP PKPab 03 42 25.4 +0.2
RCBR Riachuelo 143.91 5 *eP* PKPbc 03 42 27.0 +1.1
BELA Belgrano 2 143.99 179 IAMs_20 IAMs_20 04 45 45.5
comp=Z,2µm,21.0s
SIV San Ignacio 144.64 51 PKP **PKPab 03 42 27.7 -0.2**
comp=Z,229nm,0.7s,baz=292,slow=2.7,SNR=544
TROLL Troll, Antarti 145.27 199 ‖ PKPdf **PKPbc 03 42 27.9 -0.7**
comp=Z,12µm,0.8s
PTLB Pontes e Lacer 145.31 48 **PKPbc 03 42 29.7 -0.4**
PTLB Pontes e Lacer 145.31 48 *eP* **PKPab 03 42 30.2 0.0**
SNDB Serra Nova Dou 146.13 33 *eP* **PKPdf 03 42 30.6 -1.3**
NBCA Caruaru-PE 146.28 5 *eP* **PKPbc 03 42 33.1 -0.2**
AC04 Llanos de Chal 146.28 78 *eP* **PKPbc 03 42 32.5 -0.4**
SNAA Sanae 146.72 197 **PKPdf 03 42 31.8 +0.6**
SNAA IAMs_20 IAMs_20 04 44 38.0
comp=Z,2µm,22.0s
SNAA Sanae 146.72 197 ‖ PKPdf **PKPdf 03 42 31.8 +0.6**
SNAA Sanae 146.72 197 PKPbc **PKPdf 03 42 31.8 +0.6**

comp=Z,93nm,0.8s,baz=167,slow=3.6,SNR=144
SNAA Sanae 146.72 197 *c i* PKP2 **PKPdf 03 42 31.7 +0.6**
SNAA pmax pmax
comp=Z,135nm,2.5s
AC02 Maricunga 146.90 74 IAMs_20 IAMs_20 04 42 38.0
comp=Z,2μm,21.0s
AC02 Maricunga 146.90 74⇑ *eP* **PKPbc 03 42 35.9 +0.6**
AC02 *eP* **PKPab 03 42 36.7 0.0**
AC02 *eP* **pPKPdf 03 42 38.2 +0.3**
LCO Las Campanas 147.00 79 PKPdf 03 42 33.2 0.0
LCO Las Campanas 147.00 79 *eP* **PKPab 03 42 36.3 -0.5**
LCO Las Campanas 147.00 79 PKIKP **PKPdf 03 42 33.2 0.0**
SALV Santo Antonio 147.52 44 *eP* **PKPdf 03 42 31.9 -2.2**
GO04 Tololo Observa 147.55 81 *eP* **PKPbc 03 42 36.7 -0.1**
NBAN Anadia - AL 147.69 6 *eP* **PKPdf 03 42 33.4 -1.1**
CO01 Juntas del Tor 147.97 80 *eP* **PKPdf 03 42 35.9 +1.1**
CO01 *eP* **PKPbc 03 42 36.3 -1.6**
CO03 El Pedregal 147.98 82 *eP* **PKPab 03 42 42.8 +2.4**
VNA2 Neumayer--Watz 148.25 196⇓PKPdf **PKPdf 03 42 33.9 +0.2**
comp=Z,129nm,0.6s,baz=144,slow=2.1
VNA3 Neumayer Olymp 148.43 194⇓PKPdf **PKPdf 03 42 32.7 -1.2**
comp=Z,79nm,0.7s
AROD Rodeo 148.52 80 *eP* **PKPbc 03 42 39.0 -0.4**
VNA1 Neumayer--Stat 148.64 196⇓PKPdf **PKPbc 03 42 37.3 -0.7**
comp=Z,101nm,0.9s
VCA Vinchina 148.66 76 *eP* **PKPbc 03 42 39.8 +0.1**
VCA *eP* **pPKPdf 03 42 40.1 -0.2**
VCA *eP* **pPKPdf 03 42 40.1 -0.2**
VCA *eP* **pPKPdf 03 42 40.1 -0.2**
SDBA SAO DESIDERIO 148.78 23 *eP* **PKPdf 03 42 36.5 +0.2**
ACDV Cuesta del Vie 148.78 80 *eP* **PKiKP 03 42 40.9 -0.4**
NBLA Lagarto - SE 148.85 9 *eP* **PKPdf 03 42 37.1 +0.7**
AGUA GUANDACOL 148.87 78 *eP* **PKPbc 03 42 40.1 +0.1**
VA03 San Esteban 149.02 85⇓*eP* **PKPbc 03 42 40.1 -0.2**
ACCO Cerro Coronel 149.04 80 *eP* **PKPdf 03 42 38.6 +2.0**
DOCA Reserva Natura 149.22 81 *eP* **PKPdf 03 42 37.5 +0.5**
DOCA *eP* **PKPdf 03 42 37.5 +0.5**
DOCA *eP* **PKPbc 03 42 40.5 -0.7**
ARAG Araguaiana, MT 149.23 37 *eP* **PKPdf 03 42 36.9 0.0**
RTLS Leoncito 149.49 82 *eP* **PKPbc 03 42 42.1 +0.3**
RTLL Cerro Villicun 149.86 81 *eP* **PKPbc 03 42 41.3 -1.1**
RTLL *eP* **PKPbc 03 42 41.3 -1.1**
RTLL *eP* **pPKPdf 03 42 42.1 0.0**
SJA San Juan 149.90 81 *eP* **PKPbc 03 42 42.1 -0.4**
ACLC CERRO LA CRUZ 149.96 76 *eP* **PKPbc 03 42 42.8 0.0**
ASAL Salagasta 150.22 83 *eP* **PKPbc 03 42 43.6 +0.3**
CYA Choya 150.23 74 *eP* **PKPbc 03 42 43.2 -0.2**
CYA ⇓*eP* **PKPbc 03 42 43.2 -0.2**
CYA *eP* **PKiKP 03 42 43.6 -0.6**
AVFE Valle Fertil 150.26 79 *eP* **PKPbc 03 42 42.4 -1.0**
ARCO CERRO ARCO 150.26 84 *eP* **PKPbc 03 42 43.6 +0.1**
AAGR Agrelo 150.45 84⇓*eP* **PKPbc 03 42 43.6 -0.3**
BDQN Bodoquena, MS 150.66 50 *eP* **PKPdf 03 42 38.7 -0.3**
BDFB Brasilia 150.75 31 PKPbc **PKPbc 03 42 45.0 0.0**
comp=Z,9.6nm,0.9s,baz=284,slow=1.3,SNR=14
APLL PUNTA DE LOS L 150.80 78⇑*eP* **PKPbc 03 42 43.2 -1.5**
ACHE Chepes 151.10 79 *eP* **PKPbc 03 42 44.4 -1.2**
PMSA Palmer Station 151.17 153 PKiKP 03 42 45.2 +0.4
PMSA Palmer Station 151.17 153 *eP* **PKPdf 03 42 37.9 -0.5**
AQDB Aquidauana 151.27 49 *eP* **PKPdf 03 42 39.4 -0.6**
C2SB Chapadao do Su 151.39 42 *eP* **PKPdf 03 42 40.8 +0.6**
JANB Januaria 151.46 23 *eP* **PKPdf 03 42 40.9 +0.4**
PLCA Paso Flores 151.97 100 PKP **PKPdf 03 42 39.9 -0.7**
comp=Z,11nm,0.8s,baz=307,slow=1.6,SNR=14
PLCA PKPbc **PKPbc 03 42 47.1 0.0**
comp=Z,69nm,0.7s,baz=277,slow=3.6,SNR=52
PLCA PP **PP 03 46 26.9 -2.0**
comp=Z,18nm,1.0s,baz=284,slow=7.6,SNR=4.8
PLCA Paso Flores 151.97 100 *eP* **PKPdf 03 42 42.9 +2.4**
RPRD Ribas do Rio P 152.37 45 *eP* **PKPdf 03 42 43.1 +1.5**
MRA San Martin 152.43 80 *eP* **PKiKP 03 42 48.9 +0.2**
PAPY Pozo Azul 152.52 57 *eP* **PKPdf 03 42 42.5 +0.8**
TCA Tanti 152.70 77⇓*eP* **PKPbc 03 42 48.6 -0.5**
TCA *eP* **PKiKP 03 42 49.7 +0.4**
IPMB Ipameri, GO 152.80 33 *eP* **PKPdf 03 42 42.7 +0.3**
CMC01 Camacan, BA 152.89 14 *eP* **PKPdf 03 42 43.4 +0.8**
ITRB Iturama 153.38 39 *eP* **PKPdf 03 42 44.2 +1.0**
PMNB Patos De Minas 154.00 30 *eP* **PKPdf 03 42 45.4 +1.2**
GUA01 Guaratinga, BA 154.03 15 *eP* **PKPdf 03 42 44.8 +0.6**
SJPY San Joaquin 154.50 56 *eP* **PKPdf 03 42 45.2 +0.5**
CPUP Villa Florida 154.68 60 PKP **PKPdf 03 42 44.1 -0.7**
comp=Z,10nm,0.9s,baz=302,slow=1.7,SNR=23
CPUP PKPbc **PKPbc 03 42 52.7 -0.6**
comp=Z,16nm,0.9s,baz=313,slow=2.5,SNR=19
CPUP Villa Florida 154.68 60 *eP* **PKPdf 03 42 43.5 -1.2**
DIAM Diamantina, MG 154.71 24 *eP* **PKPdf 03 42 44.0 -1.3**
BB19B Bebedouro 155.40 37 *eP* **PKPdf 03 42 46.0 0.0**
SJMB Sao Joao De Ma 155.78 19 *eP* **PKPdf 03 42 47.0 +0.5**
BSFB Barra de Sao F 155.99 18 *eP* **PKPdf 03 42 46.6 -0.2**
LDASE Londrina, Braz 156.12 45 *eP* **PKPdf 03 42 46.8 -0.1**
PTGB Pitanga 156.66 48 *eP* **PKPdf 03 42 48.2 +0.5**
FRTB Fartura 156.87 42 *eP* **PKPdf 03 42 48.2 +0.3**
TRQA Tornquist 157.56 90 PKPab 03 43 20.3 0.0
TRQA Tornquist 157.56 90 PKP2 **PKPab 03 43 20.3 0.0**
TRQA Tornquist 157.56 90 *eP* **PKPdf 03 42 50.2 +1.9**
VAO Valinhos 157.79 36 PKPab 03 43 21.9 +0.3
VAO Valinhos 157.79 36 *eP* **PKPdf 03 42 48.8 -0.3**
SPB Sao Paulo 158.09 38 PKPab 03 43 23.6 +0.8
ITAB Concordia 158.56 53 PKPab 03 43 24.3 -0.5
PARB Paraibuna 158.65 33 *eP* **PKPdf 03 42 50.6 +0.5**
MAN01 Angra dos Reis 158.87 29 *eP* **PKPdf 03 42 52.2 +1.9**
TBOT Tacuaremb 159.06 68 *eP* **PKPdf 03 42 49.4 -0.8**
CPSB Cacapava Do Su 159.95 61 *eP* **PKPdf 03 42 50.5 -0.8**
EFI East Falkland 160.43 128 PKPab 03 43 32.1 -0.2
EFI East Falkland 160.43 128 PKP2 **PKPab 03 43 32.1 -0.2**
PLTB Pedras Altas 160.70 65 *eP* **PKPdf 03 42 53.0 +0.9**

NEIC ***02*** *03:28:30.9±0.9, 19°.06N±0°.06×65°.00W±0°.08, h35km±2km, ML2.5/20, Md3.4/12(RSPR), Error ellipse: s-maj=14.0km s-min=8.1km az=64.0*
RSPR ***02*** *03:28:31.2, 19°.13N×65°.00W, h32km±22km, MD3.4/12*
ISC 02 03:28:27.0±2.1, 19°.1N±0°.1×65°.06W±0°.05, h3km±11km, n47, σ0°60/49, 8C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.19**	**219**		**Sn**	**03 29 07.0**	**-0.1**
HUMP	**Col San Antoni**	**1.19**	**219**		**Pn**	**03 28 51.1**	**+0.6**
HUMP	**Col San Antoni**	**1.19**	**219**	IAML		03 29 11.5	
HUMP	comp=N,108nm,0.2s			IAML		03 29 12.3	
	comp=E,95nm,0.2s						
HUMP	**Col San Antoni**	**1.19**	**219**⇑	*eP*	**Pn**	**03 28 51.2**	**+0.7**
HUMP	**Col San Antoni**	**1.19**	**219**	*eS*	**Sn**	**03 29 07.0**	**-0.1**
GCPR	**Guaynabo City**	**1.23**	**232**		**Pn**	**03 28 51.6**	**+0.5**
GCPR					**Sg**	**03 29 06.3**	**-0.2**
GCPR	**Guaynabo City**	**1.23**	**232**⇑	*eP*	**Pn**	**03 28 51.6**	**+0.5**
GCPR	**Guaynabo City**	**1.23**	**232**	*eS*	**Sg**	**03 29 06.3**	**-0.2**
PDPR	**Patillas Dam,**	**1.39**	**221**	Pn	**Pg**	**03 28 53.9**	**+0.2**
PDPR	**Patillas Dam,**	**1.39**	**221**⇓	*eP*	**Pg**	**03 28 54.1**	**+0.5**
PDPR	**Patillas Dam,**	**1.39**	**221**	*eS*	**Sb**	**03 29 11.7**	**+0.1**
SJG	**San Juan**	**1.40**	**228**		**Pg**	**03 28 54.5**	**+0.5**
SJG	**San Juan**	**1.40**	**228**	IAML		03 29 17.3	
SJG	comp=E,49nm,0.3s			IAML		03 29 20.3	
	comp=E,45nm,0.3s						
SJG	**San Juan**	**1.40**	**228**⇑	*eP*	**Pg**	**03 28 54.5**	**+0.5**
SJG	**San Juan**	**1.40**	**228**	*eS*	**Sb**	**03 29 12.1**	**0.0**
ECPR	**Experimental S**	**1.44**	**239**⇑	*eP*	**Pg**	**03 28 54.7**	**0.0**
ECPR	**Experimental S**	**1.44**	**239**	*eS*	**Sb**	**03 29 13.5**	**+0.2**
IGPR	**InterUniversit**	**1.48**	**222**		**Pg**	**03 28 55.5**	**+0.1**
IGPR					**Sb**	**03 29 14.7**	**+0.3**
IGPR	**InterUniversit**	**1.48**	**222**	IAML		03 29 22.4	
	comp=N,95nm,0.2s						
IGPR	**InterUniversit**	**1.48**	**222**⇓	*eP*	**Pg**	**03 28 55.5**	**+0.1**
IGPR	**InterUniversit**	**1.48**	**222**	*eS*	**Sb**	**03 29 14.7**	**+0.3**
CELP	**Cerrillos**	**1.75**	**236**	IAML		03 29 24.4	
	comp=N,29nm,0.5s						
CELP	**Cerrillos**	**1.75**	**236**		**Pb**	**03 28 59.2**	**-0.5**
CELP					**Sn**	**03 29 21.4**	**+0.4**
CELP	**Cerrillos**	**1.75**	**236**⇑	*eP*	**Pb**	**03 28 59.2**	**-0.5**
CELP	**Cerrillos**	**1.75**	**236**	*eS*	**Sn**	**03 29 21.4**	**+0.4**
AOPR	**Arecibo Observ**	**1.76**	**246**		**Pb**	**03 28 59.3**	**-0.7**
AOPR					**Sb**	**03 29 22.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.76**	**246**	*eP*	**Pn**	**03 28 58.7**	**+0.3**
AOPR	**Arecibo Observ**	**1.76**	**246**⇑	*eP*	**Pb**	**03 28 59.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.76**	**246**	*eS*	**Sb**	**03 29 22.3**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.77**	**243**		**Pn**	**03 28 59.0**	**+0.4**
UUPR					**Sn**	**03 29 21.3**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.77**	**243**⇑	*eP*	**Pn**	**03 28 59.0**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.77**	**243**	*eS*	**Sn**	**03 29 21.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.79**	**236**		**Pn**	**03 28 58.8**	**+0.1**
OBIP					**Sn**	**03 29 21.4**	**-0.6**
OBIP	**Obispado Ponce**	**1.79**	**236**	IAML		03 29 26.0	
	comp=N,31nm,0.3s						
OBIP				IAML		03 29 32.9	
	comp=E,35nm,1.0s						
OBIP	**Obispado Ponce**	**1.79**	**236**⇑	*eP*	**Pn**	**03 28 58.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.79**	**236**	*eS*	**Sn**	**03 29 21.4**	**-0.6**
AGPR	**Aguadilla, PR**	**2.03**	**253**		**Sn**	**03 29 27.9**	**-0.1**
AGPR	**Aguadilla, PR**	**2.03**	**253**	*eS*	**Sn**	**03 29 27.9**	**-0.1**
LSP	**Las Mesas**	**2.12**	**246**		**Pn**	**03 29 04.4**	**+1.0**
LSP	**Las Mesas**	**2.12**	**246**⇓	*eP*	**Pn**	**03 29 04.4**	**+1.0**
MLPR	**Magueyes Islan**	**2.18**	**240**⇓	*eP*	**Pb**	**03 29 05.6**	**-1.5**
MLPR	**Magueyes Islan**	**2.18**	**240**	*eS*	**Sn**	**03 29 31.2**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.21**	**242**		**Pn**	**03 29 06.0**	**+1.4**
CRPR					**Sn**	**03 29 32.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.21**	**242**	IAML		03 30 01.1	
	comp=E,46nm,2.8s						
CRPR				IAML		03 30 26.5	
	comp=N,41nm,2.1s						
CRPR	**Cabo Rojo, PR**	**2.21**	**242**⇓	*eP*	**Pn**	**03 29 06.0**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.21**	**242**	*eS*	**Sn**	**03 29 32.5**	**+0.1**
ANBD	**Bethesda, Anti**	**3.72**	**122**	*eP*	**Pn**	**03 29 26.4**	**+1.0**
ANBD				*eS*	**Sn**	**03 30 08.6**	**-1.1**

NEIC ***02*** *03:47:01.0±0.6, 35°.738N±0°.009×97°.57W±0°.01, h5km±1km, ML2.3/35, ML1.8/38, Error ellipse: s-maj=2.7km s-min=1.6km az=65.0*
NEIC 02 03:47:01.0±0.6, 35°.734N±0°.006×97°.56W±0°.01, h6km±2km, Error ellipse: s-maj=1.7km s-min=0.8km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.09**	**207**		Pg	03 47 04.5	+1.5
OK029	**Liberty Lake**	**0.11**	**54**	Sg	Sg	03 47 05.8	+0.9
ADOK	**Arcadia Dam**	**0.17**	**118**	Pg	Pg	03 47 04.8	+0.3
ADOK				Sg	Sg	03 47 07.8	+0.9
OK004	**Okla Sci Mus**	**0.22**	**162**		Pg	03 47 05.9	+0.5
OK004					Sg	03 47 09.5	+1.2
FNO	**Franklin**	**0.49**	**165**		Pg	03 47 10.8	+0.2
FNO				IAML		03 47 20.7	
	comp=E,63nm,0.5s						
FNO				IAML		03 47 20.8	
	comp=N,76nm,0.4s						
OK031	**S. Brethren Rd**	**0.62**	**69**		Pg	03 47 13.0	-0.1
OK031					Sg	03 47 21.9	+0.7
OK052	**Battle Ridge R**	**0.67**	**67**		Pg	03 47 14.0	+0.1
OK052					Sg	03 47 23.3	+0.7
OK052				IAML		03 47 34.3	
	comp=N,39nm,0.2s						
OK052				IAML		03 47 35.2	
	comp=N,38nm,0.2s						
W35A	**Tecumseh**	**0.81**	**136**		Pg	03 47 16.3	-0.2
W35A				IAML		03 47 27.7	
	comp=N,36nm,1.2s						
W35A				IAML		03 47 30.2	
	comp=E,46nm,0.5s						
CROK	**Carrier**	**0.84**	**336**		Pg	03 47 17.1	-0.1
DEOK	**Depew**	**0.87**	**83**	Pg	Pg	03 47 17.4	-0.4
DEOK					Sg	03 47 29.3	+0.2
DEOK				IAML		03 47 32.4	
	comp=N,28nm,0.5s						
DEOK				IAML		03 47 44.6	
	comp=E,29nm,0.1s						
CSTR	**Hydro, Custer**	**0.92**	**265**		Pg	03 47 18.6	-0.2
CSTR					Sb	03 47 31.6	-0.4
OK051	**E0350 and S346**	**0.97**	**37**		Pg	03 47 19.4	-0.2
GC02	**Grant County #**	**1.14**	**348**		Pg	03 47 22.4	-0.6
X34A	**Smith Ranch, M**	**1.15**	**191**		Pg	03 47 22.7	-0.4
X34A					Sn	03 47 39.7	-0.1
X34A				IAML		03 47 40.3	
	comp=N,20nm,0.5s						
X34A				IAML		03 47 49.7	
	comp=E,30nm,3.9s						
OK038	**West end E0370**	**1.21**	**308**		Pg	03 47 22.8	-1.5
KAN14	**Manchester OK**	**1.26**	**345**		Pn	03 47 24.5	-0.8
KAN09	**Caldwell North**	**1.40**	**358**		Pn	03 47 26.6	-0.5
WMOK	**Wichita Mounta**	**1.41**	**226**		Pn	03 47 26.9	-0.4
KAN01	**Argonia South**	**1.43**	**354**		Pn	03 47 27.6	+0.1
ELIS	**Ellis County**	**1.54**	**283**		Pn	03 47 28.4	-0.8
WTFS	**Witchita Falls**	**2.10**	**201**		Pn	03 47 36.9	+0.2

ATH ***02*** *03:54:56.7, 37°.67N×27°.02E, h13km±1km, ML3.6/17, Manual Solution by M.Charalampakis First location: 2019/03/02 03:56:07, This location: 2021/04/02 08:21:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISK ***02*** *03:54:56.1, 37°.65N×26°.94E, h15km, ML3.6/31*
THE ***02*** *03:54:57.3, 37°.69N×27°.01E, h9km±1km, ML3.7/6, Error ellipse: s-maj=2.2km s-min=0.9km az=251.0*
AFAD ***02*** *03:54:57.6, 37°.66N×26°.97E, h12km, MW3.8*
IDC ***02*** *03:55:01.8±4.3, 37°.33N×27°.22E, h45km±42km, mb3.5/4, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=40.6km s-min=24.8km az=137.0*
ISC 02 03:54:56.9±0.8, 37°.66N±0°.02×27°.00E±0°.02, h14km±5km, n172, σ0°96/201, mb3.8/5, 6C-6D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.14**	**291**	P	**Pg**	**03 55 00.4**	**-0.2**
SMG				S	**Sg**	**03 55 02.9**	**-0.1**
	535μm,0.2s						
SMG	**Samos**	**0.14**	**291**	P	**Pg**	**03 55 00.6**	**0.0**
SMG				S	**Sg**	**03 55 03.0**	**-0.1**
GCAM	**G?zelcaml?**	**0.19**	**78**	Pg	**Pb**	**03 55 02.1**	**-0.1**
GCAM				Sg	**Sb**	**03 55 05.7**	**0.0**
GCAM	**G?zelcaml?**	**0.19**	**78**	P	**Pb**	**03 55 02.0**	**-0.1**
GCAM				S	**Sb**	**03 55 05.3**	**-0.4**
DDIM	**Aydin, Didim**	**0.28**	**136**	P	**Pg**	**03 55 03.5**	**+0.7**
DDIM				S	**Sb**	**03 55 08.1**	**-0.1**
DIDI	**Didim-Aydin**	**0.34**	**146**	Pg	**Pg**	**03 55 04.0**	**+0.1**
DGB	**zmir**	**0.40**	**347**	P	**Pg**	**03 55 05.1**	**+0.1**
DGB				S	**Sg**	**03 55 10.7**	**+0.2**
GMLD	**Gumuldur**	**0.42**	**351**	Pg	**Pg**	**03 55 05.6**	**+0.2**
YKAV	**Yalikavak-Bodr**	**0.58**	**157**	Pg	**Pg**	**03 55 08.1**	**-0.2**
BODT	**Bodrum**	**0.65**	**157**	Pg	**Pg**	**03 55 09.4**	**-0.2**
BDRM	**Kayabasi**	**0.69**	**149**	P	**Pg**	**03 55 10.3**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.70**	**326**	P	**Pg**	**03 55 10.0**	**-0.6**
ZEYE				S	**Sg**	**03 55 19.9**	**+0.1**
AYDN	**Tasoluk**	**0.70**	**90**	P	**Pb**	**03 55 11.1**	**+0.2**
AYDN				S	**Sb**	**03 55 20.4**	**0.0**
KLNA	**Kalymnos**	**0.70**	**182**	P	**Pg**	**03 55 10.6**	**+0.1**
KLNA				S	**Sg**	**03 55 20.1**	**+0.3**
MLSB	**Milas**	**0.72**	**120**	Pg	**Pg**	**03 55 10.7**	**-0.2**
BLCB	**Balcova**	**0.72**	**3**	Pg	**Pg**	**03 55 11.0**	**-0.1**
BLCB				Sg	**Sb**	**03 55 21.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**68**	Pg	**Pg**	**03 55 11.9**	**+0.1**
URLA	**Izmir**	**0.77**	**336**	P	**Pg**	**03 55 11.5**	**-0.4**
URLA				S	**Sg**	**03 55 22.6**	**+0.6**
IZMR	**zmir-demi**	**0.89**	**57**	P	**Pg**	**03 55 14.1**	**-0.1**
IZMR				S	**Sg**	**03 55 24.7**	**-1.2**
DAT	**Datca**	**1.04**	**153**	Pg	**Pb**	**03 55 16.6**	**-0.1**
DAT	**Datca**	**1.04**	**153**	P	**Pb**	**03 55 16.6**	**-0.1**
YAZI	**Mula-Dat§a-**	**1.04**	**159**	P	**Pb**	**03 55 16.3**	**-0.5**
ODEM	**Odemis-Izmir**	**1.05**	**54**	Pn	**Pb**	**03 55 16.9**	**0.0**
NISR	**Nisiros**	**1.05**	**174**	P	**Pn**	**03 55 18.0**	**+0.8**
NISR				S	**Sn**	**03 55 32.7**	**+1.1**
	4μm,0.4s						
NAZL	**Nazilli-Aydin**	**1.07**	**73**	Pn	**Pg**	**03 55 17.6**	**0.0**
FOCM	**Foa**	**1.07**	**349**	Pg	**Pb**	**03 55 17.2**	**0.0**
FOCM				Sg	**Sn**	**03 55 32.6**	**+0.4**
ESEN	**Aydn-Nazilli**	**1.08**	**82**	P	**Pb**	**03 55 17.6**	**+0.3**
KARB	**zmir-Karabur**	**1.10**	**335**	P	**Pb**	**03 55 17.4**	**-0.4**
MULA	**Mugla, Merkez-**	**1.13**	**111**	P	**Pn**	**03 55 18.6**	**+0.3**
EAG2	**Marmaro, Chios**	**1.13**	**322**	P	**Pb**	**03 55 18.5**	**+0.3**
EAG2				S	**Sb**	**03 55 33.4**	**+0.7**
YER	**Yerkesik**	**1.15**	**117**	Pn	**Pb**	**03 55 18.9**	**+0.3**
AMGA	**Amorgos Island**	**1.21**	**227**	P	**Pn**	**03 55 19.5**	**+0.1**
AMGA				S	**Sn**	**03 55 36.4**	**+0.8**
ASTA	**Astypalaia**	**1.23**	**205**	P	**Pn**	**03 55 19.8**	**+0.2**
ASTA				S	**Sn**	**03 55 36.5**	**+0.5**
GOMA	**Golmarmara-Man**	**1.27**	**34**	Pn	**Pn**	**03 55 19.9**	**-0.4**
ZEDA	**zmir-Bergama**	**1.31**	**3**	P	**Pn**	**03 55 20.4**	**-0.3**
ZEDA				S	**Sg**	**03 55 39.1**	**0.0**
APE	**Apeiranthos**	**1.31**	**244**	Pn	**Pn**	**03 55 19.5**	**-1.3**
APE	**Apeiranthos**	**1.31**	**244**	P	**Pn**	**03 55 19.6**	**-1.3**
APE				S	**Sg**	**03 55 39.7**	**+0.5**
	2μm,0.5s						
APE	**Apeiranthos**	**1.31**	**244**⇑	P	**Pn**	**03 55 19.5**	**-1.3**
APE				⇓S	**Sb**	**03 55 35.8**	**-2.2**
APE	**Apeiranthos**	**1.31**	**244**	P	**Pn**	**03 55 19.8**	**-1.1**
IZMD	**zmir-Dikili-**	**1.32**	**358**	P	**Pn**	**03 55 20.9**	**-0.2**
TURN	**Turunc**	**1.33**	**131**	Pn	**Pn**	**03 55 21.0**	**0.0**
TURN	**Turunc**	**1.33**	**131**	P	**Pn**	**03 55 21.1**	**+0.1**
AKHS	**Akhisar**	**1.38**	**28**	P	**Pb**	**03 55 22.4**	**0.0**
AKS	**Akhisar**	**1.38**	**28**	Pn	**Pn**	**03 55 21.9**	**+0.2**
DKL	**Dikili**	**1.41**	**357**	Pn	**Pn**	**03 55 22.1**	**-0.1**
DKL	**Dikili**	**1.41**	**357**	P	**Pn**	**03 55 21.8**	**-0.4**
TNSA	**Tinos**	**1.46**	**266**	P	**Pn**	**03 55 22.9**	**+0.1**
MANT	**Manisa**	**1.48**	**56**	P	**Pn**	**03 55 23.3**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.53**	**97**	P	**Pn**	**03 55 24.4**	**+0.4**
GORD	**Gordes-Manisa**	**1.55**	**36**	Pn	**Pn**	**03 55 24.0**	**-0.2**
KULA	**Kula-Manisa**	**1.56**	**56**	Pn	**Pn**	**03 55 24.5**	**+0.1**
DALY	**Dalyan (Mula)**	**1.57**	**122**	Pn	**Pn**	**03 55 24.7**	**+0.4**
DNIZ	**Denizli-Tavas-**	**1.62**	**91**	P	**Pn**	**03 55 26.0**	**+0.8**
DNZT	**Denizli-Tavas-**	**1.66**	**103**	P	**Pb**	**03 55 27.0**	**-0.2**
AYVA	**Ayvalik**	**1.66**	**352**	P	**Pn**	**03 55 25.7**	**+0.1**
AYVA				S	**Sb**	**03 55 48.0**	**-0.1**
PRK	**Paraskevi**	**1.68**	**340**	P	**Pn**	**03 55 25.8**	**-0.1**
PRK				S	**Sn**	**03 55 47.7**	**+0.4**
	3μm,0.7s						
PRK	**Paraskevi**	**1.68**	**340**	P	**Pn**	**03 55 25.8**	**-0.1**
ARG	**Arkhangelos**	**1.70**	**148**	Pn	**Pn**	**03 55 26.2**	**0.0**
ARG	**Arkhangelos**	**1.70**	**148**	P	**Pn**	**03 55 25.9**	**-0.3**
ARG				S	**Sn**	**03 55 47.7**	**0.0**
	998nm,0.6s						
ARG	**Arkhangelos**	**1.70**	**148**	P	**Pn**	**03 55 25.8**	**-0.4**
CMBO	**Columbo, Santo**	**1.74**	**228**	P	**Pb**	**03 55 28.4**	**-0.2**
SABU	**Mula-Dalaman**	**1.78**	**117**	P	**Pn**	**03 55 28.4**	**+1.1**
SIGR	**SIGRI**	**1.79**	**330**	Pn	**Pn**	**03 55 27.1**	**-0.3**
SIGR	**SIGRI**	**1.79**	**330**	P	**Pn**	**03 55 26.9**	**-0.5**
SIGR				S	**Sn**	**03 55 49.0**	**-0.9**
	1μm,0.5s						
SIGR	**SIGRI**	**1.79**	**330**	P	**Pn**	**03 55 26.9**	**-0.5**
SAP3	**Santorini-Thir**	**1.80**	**228**	P	**Pb**	**03 55 29.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.81**	**18**	P	**Pn**	**03 55 27.6**	**0.0**
STEP				S	**Sb**	**03 55 52.6**	**+0.3**
APMY	**Acipayam-Deniz**	**1.84**	**95**	Pn	**Pn**	**03 55 29.1**	**+0.9**
BUHA	**Balikesir, Bur**	**1.84**	**2**	P	**Pn**	**03 55 28.3**	**+0.2**
BUHA				S	**Sb**	**03 55 54.3**	**+1.1**
USAK	**Uak-Merkez**	**1.91**	**56**	P	**Pn**	**03 55 29.4**	**+0.3**
CAEL	**Denizli, Camel**	**1.93**	**105**	P	**Pb**	**03 55 31.2**	**-0.7**
DEMI	**Demirci**	**1.93**	**44**	P	**Pn**	**03 55 29.3**	**-0.2**
FETY	**Fethiye**	**1.96**	**121**	Pn	**Pn**	**03 55 30.6**	**+0.9**
KOCA	**Canakkale, Ayv**	**1.96**	**340**	P	**Pn**	**03 55 29.5**	**-0.2**
CAME	**Cameli-Denizli**	**1.97**	**111**	Pn	**Pb**	**03 55 31.8**	**-0.9**
INCE	**Denizli-Bozkur**	**2.04**	**88**	P	**Pn**	**03 55 31.9**	**+1.0**
KARY	**Karystos**	**2.06**	**281**	P	**Pn**	**03 55 30.6**	**-0.5**
GOLH	**Golhisar**	**2.08**	**101**	P	**Pb**	**03 55 33.3**	**-1.2**
PASA	**Karahalli, USA**	**2.08**	**70**	P	**Pn**	**03 55 32.1**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**2.11**	**351**	P	**Pn**	**03 55 31.1**	**-0.7**
SIMA	**Simav-Kutahya**	**2.11**	**47**	Pn	**Pn**	**03 55 32.4**	**+0.5**
KARP	**Karpathos**	**2.11**	**176**	Pn	**Pn**	**03 55 31.3**	**-0.6**
KARP	**Karpathos**	**2.11**	**176**	P	**Pn**	**03 55 31.2**	**-0.6**
BALY	**Balya**	**2.13**	**13**	P	**Pb**	**03 55 34.9**	**-0.5**
IZZE	**Mula-Seydike**	**2.16**	**124**	P	**Pn**	**03 55 33.8**	**+1.3**
BKES	**Balkesir-Mer**	**2.19**	**19**	P	**Pn**	**03 55 33.4**	**+0.5**
KNIK	**Mula-Seydike**	**2.21**	**111**	P	**Pn**	**03 55 35.1**	**+1.8**
DURS	**Dursunbey**	**2.26**	**30**	P	**Pn**	**03 55 33.4**	**-0.5

0.7nm,0.5s,baz=270,slow=8.6,SNR=2.0
0.7nm,0.5s
SONM Songino Array 56.77 52 P P 04 04 41.7 +1.2
0.2nm,0.5s,baz=282,slow=7.2,SNR=1.6
0.2nm,0.5s

*NOU **02** 03:55:42.8, 40.″06S×176.″46E, h82km, MLv3.9/21, North Island, New Zealand*
*WEL **02** 03:55:45.5±0.4, 40.″5S±3.″×17.″6E±.″, h48km±4km, M3.7/25, ML4.0/25, MLv3.7/25, Error ellipse: s-maj=3.9km s-min=3.5km az=123.8, confirmed*
ISC 02 03:55:44.0±1.3, 39.″95S±0.″03×176.″32E±0.″03, h73km±6km, n160, σ0.9/89/185, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNHZ	**Pukenui**	**0.10**	**294**	P	**Pn**	03 55 54.6	-0.11
PNHZ				S	**Sn**	03 56 01.5	-1.0
WPHZ	**Waipukurau**	**0.14**	**140**	P	**Pn**	03 55 55.3	+0.5
WPHZ				S	**Sn**	03 56 02.5	-0.1
WPWS	**Waipawa Distri**	**0.20**	**87**	P	**Pn**	03 55 55.2	+0.3
WPWS				S	**Sn**	03 56 02.8	-0.2
TSZ	**Takapari Road**	**0.29**	**249**	P	**Pn**	03 55 55.7	+0.2
TSZ				S	**Sn**	03 56 03.0	-1.0
DVHS	**Dannevirke Hig**	**0.30**	**214**	P	**Pn**	03 55 54.9	-0.6
DVHS				S	**Sn**	03 56 02.8	-1.1
KRHZ	**Kereru**	**0.31**	**7**	P	**Pn**	03 55 55.4	-0.2
KRHZ				S	**Sn**	03 56 02.8	-1.4
DVHZ	**Dannevirke**	**0.36**	**199**	P	**Pn**	03 55 56.5	+0.5
DVHZ				S	**Sn**	03 56 04.4	-0.4
PRHZ	**Porangahau**	**0.40**	**142**	P	**Pn**	03 55 57.4	+1.2
PRHZ				S	**Sn**	03 56 06.3	+1.1
PGFS	**Porangahau Fir**	**0.41**	**147**	S	**Sn**	03 56 07.0	+1.6
PWZ	**Pawanui**	**0.42**	**100**	P	**Pn**	03 55 57.4	+1.0
PXZ	**Pawanui**	**0.42**	**101**	P	**Pn**	03 55 57.4	+1.0
PXZ				S	**Sn**	03 56 06.6	+1.1
MNGS	**Mangaweka Scho**	**0.43**	**290**	P	**Pn**	03 55 57.0	+0.5
MNGS				S	**Sn**	03 56 05.1	-0.6
WBFS	**Weber Fire Sta**	**0.45**	**181**	P	**Pn**	03 55 56.2	-0.4
WBFS				S	**Sn**	03 56 05.5	-0.4
KAHZ	**Kahuranaki**	**0.46**	**70**	P	**Pn**	03 55 57.7	+0.9
KAHZ				S	**Sn**	03 56 07.3	+1.1
THHS	**Taihape Hospit**	**0.49**	**304**	P	**Pn**	03 55 56.6	-0.4
ANWZ	**Angora Road**	**0.52**	**167**	P	**Pn**	03 55 58.7	+1.4
ANWZ				S	**Sn**	03 56 08.6	+1.5
KFHS	**Kaweka Forest**	**0.53**	**12**	P	**Pn**	03 55 56.0	-1.4
KFHS				S	**Sn**	03 56 05.1	-2.2
KWHZ	**Kaweka Forest**	**0.54**	**9**	P	**Pn**	03 55 57.5	0.0
KWHZ				S	**Sn**	03 56 06.5	-0.9
MCHZ	**McNeill Hill**	**0.59**	**30**	P	**Pn**	03 55 58.6	+0.7
MCHZ				S	**Sn**	03 56 09.1	+0.8
POWZ	**Post Office Ro**	**0.61**	**224**	P	**Pn**	03 55 58.9	+0.8
POWZ				S	**Sn**	03 56 08.9	+0.3
CKHZ	**Cape Kidnapper**	**0.66**	**63**	P	**Pn**	03 55 59.7	+1.0
CKHZ				S	**Sn**	03 56 10.9	+1.5
PRWZ	**Pori Road**	**0.66**	**204**	P	**Pn**	03 55 59.8	+1.1
MOVZ	**Moawhango**	**0.70**	**321**	P	**Pn**	03 55 59.6	+0.4
MOVZ				S	**Sn**	03 56 09.5	-1.0
BFZ	**Birch Farm**	**0.73**	**184**	P	**Pn**	03 56 00.3	+0.8
BFZ	**Birch Farm**	**0.73**	**184**	S	**Sn**	03 56 11.6	+0.7
BFZ	**Birch Farm**	**0.73**	**184**	P	**Pn**	03 56 00.5	+1.1
BKZ	**Black Stump Fm**	**0.80**	**10**	P	**Pn**	03 56 00.2	-0.1
BKZ	**Black Stump Fm**	**0.80**	**10**	P	**Pn**	03 56 00.4	+0.1
BKZ				S	**Sn**	03 56 11.7	-0.6
OHWZ	**Ohakea**	**0.81**	**252**	P	**Pn**	03 56 01.8	+1.4
OHWZ				S	**Sn**	03 56 14.2	+1.7
WNVZ	**Wahianoa**	**0.84**	**318**	P	**Pn**	03 56 01.6	+0.7
WNVZ				S	**Sn**	03 56 12.9	-0.5
TUVZ	**Tukino**	**0.86**	**323**	P	**Pn**	03 56 01.8	+0.7
TUVZ				S	**Sn**	03 56 13.3	-0.5
ARHZ	**Aropaoanui**	**0.87**	**37**	P	**Pn**	03 56 01.7	+0.7
MTVZ	**Mangateitei**	**0.87**	**311**	P	**Pn**	03 56 02.0	+0.9
MTVZ				S	**Sn**	03 56 13.8	0.0
WHVZ	**Whangaehu Hut**	**0.88**	**320**	P	**Pn**	03 56 02.0	+0.7
WHVZ				S	**Sn**	03 56 13.3	-1.0
TIWZ	**Tintock**	**0.89**	**202**	P	**Pn**	03 56 02.4	+1.1
TRVZ	**Turoa**	**0.89**	**317**	P	**Pn**	03 56 02.2	+0.7
MAVZ	**Matarangi**	**0.90**	**319**	P	**Pn**	03 56 02.4	+0.5
MRZ	**Mangatainoka R**	**0.90**	**218**	P	**Pn**	03 56 02.2	+0.7
FWVZ	**Far West T-bar**	**0.92**	**320**	P	**Pn**	03 56 02.4	+0.5
SNVZ	**South Ngauruho**	**0.93**	**325**	P	**Pn**	03 56 02.5	+0.6
NMHZ	**Naumai**	**0.94**	**24**	P	**Pn**	03 56 02.6	+0.7
OTVZ	**Oturere**	**0.94**	**327**	P	**Pn**	03 56 02.6	+0.5
ETVZ	**East Tongariro**	**0.94**	**330**	P	**Pn**	03 56 02.7	+0.6
NGZ	**Ngauruhoe**	**0.95**	**324**	P	**Pn**	03 56 02.8	+0.6
CPWZ	**Castlepoint**	**0.96**	**185**	P	**Pn**	03 56 03.9	+1.7
COVZ	**Chateau Observ**	**0.96**	**321**	P	**Pn**	03 56 02.9	+0.6
TMVZ	**Te Maari**	**0.96**	**330**	P	**Pn**	03 56 02.8	+0.5
NNVZ	**North Ngauruho**	**0.98**	**326**	P	**Pn**	03 56 03.2	+0.6
NTVZ	**North Tongarir**	**0.99**	**330**	P	**Pn**	03 56 03.1	+0.5
PKVZ	**Pokaka**	**1.00**	**311**	P	**Pn**	03 56 03.5	+0.7
KRVZ	**Karewarewa**	**1.01**	**328**	P	**Pn**	03 56 03.4	+0.5
WTVZ	**West Tongariro**	**1.01**	**326**	P	**Pn**	03 56 03.5	+0.6
RITZ	**Rihia Road**	**1.04**	**340**	P	**Pn**	03 56 03.8	+0.7
WAZ	**Wanganui**	**1.04**	**281**	P	**Pn**	03 56 05.0	+1.8
HATZ	**Hinemaiaia**	**1.08**	**351**	P	**Pn**	03 56 03.8	+0.2
KATZ	**Kakaramea**	**1.09**	**334**	P	**Pn**	03 56 04.4	+0.5
TWVZ	**Taurewa**	**1.11**	**322**	P	**Pn**	03 56 04.5	+0.3
MRHZ	**Matea Rd**	**1.12**	**4**	P	**Pn**	03 56 04.4	+0.2
HOWZ	**Holdsworth Sta**	**1.12**	**213**	P	**Pn**	03 56 04.7	+0.5
WHHZ	**Waihua**	**1.13**	**39**	P	**Pn**	03 56 04.9	+0.7
RATZ	**Rangitukua**	**1.17**	**339**	P	**Pn**	03 56 05.1	+0.3
MTHZ	**Maungataniwha**	**1.17**	**20**	P	**Pn**	03 56 05.1	+0.2
RAHZ	**Arahi**	**1.20**	**30**	P	**Pn**	03 56 05.5	+0.3
TMWZ	**Te Maipa**	**1.20**	**196**	P	**Pn**	03 56 05.9	+0.8
OGWZ	**Otaki Gorge**	**1.23**	**225**	P	**Pn**	03 56 06.0	+0.5
WHTZ	**Whakaora**	**1.32**	**348**	P	**Pn**	03 56 07.2	+0.5
WATZ	**Wairara**	**1.32**	**340**	P	**Pn**	03 56 07.0	+0.2
MTW	**Mount Morrison**	**1.35**	**207**	P	**Pn**	03 56 07.3	+0.2
ALRZ	**Allen Road**	**1.39**	**1**	P	**Pn**	03 56 07.5	-0.2
KNZ	**Kokohu**	**1.40**	**49**	P	**Pn**	03 56 07.9	+0.2
KIW	**Kapiti Island**	**1.41**	**229**	P	**Pn**	03 56 08.4	+0.6
SNGZ	**Shannon Statio**	**1.41**	**34**	P	**Pn**	03 56 08.2	+0.2
RTZ	**Ruatahuna**	**1.43**	**21**	P	**Pn**	03 56 08.3	+0.1
WPRZ	**Whakapapatarin**	**1.44**	**355**	P	**Pn**	03 56 08.3	0.0
PRRZ	**Plateau Road**	**1.46**	**2**	P	**Pn**	03 56 08.4	0.0
VRZ	**Vera Road**	**1.46**	**304**	P	**Pn**	03 56 09.4	+0.9
MHGZ	**Mahia Peninsul**	**1.47**	**57**	P	**Pn**	03 56 09.3	+0.7
CAW	**Cannon Point**	**1.50**	**219**	P	**Pn**	03 56 09.2	+0.2
KUTZ	**Kaahu Road**	**1.51**	**345**	P	**Pn**	03 56 09.4	+0.2
MUGZ	**Murupara**	**1.52**	**14**	P	**Pn**	03 56 09.0	-0.3
TRWZ	**Traveller**	**1.52**	**198**	P	**Pn**	03 56 09.7	+0.4
HRRZ	**Handcock Road**	**1.56**	**359**	P	**Pn**	03 56 10.1	+0.1
PAWZ	**Paruwai Farm**	**1.58**	**205**	P	**Pn**	03 56 10.1	0.0
PRGZ	**Paritu Road**	**1.59**	**50**	P	**Pn**	03 56 10.5	+0.2
GRRZ	**Galatos Road**	**1.61**	**354**	P	**Pn**	03 56 10.9	+0.3
RRRZ	**Republican Roa**	**1.62**	**5**	P	**Pn**	03 56 10.5	-0.2
HSRZ	**Hossack Road**	**1.64**	**358**	P	**Pn**	03 56 11.2	+0.2
MSWZ	**Moikau Station**	**1.67**	**209**	P	**Pn**	03 56 11.0	-0.3
RIGZ	**Rimuhau**	**1.68**	**42**	P	**Pn**	03 56 11.4	0.0
RAGZ	**Rawiri**	**1.69**	**31**	P	**Pn**	03 56 11.7	0.0
HLRZ	**Highlands Stat**	**1.70**	**1**	P	**Pn**	03 56 12.6	+0.9
TARZ	**Mount Tarawera**	**1.72**	**5**	P	**Pn**	03 56 12.2	+0.1
TLZ	**Tolley Road**	**1.73**	**339**	P	**Pn**	03 56 12.1	-0.1
PREZ	**Palmer Road**	**1.78**	**289**	P	**Pn**	03 56 15.0	+2.2
WEL	**Wellington**	**1.78**	**221**	P	**Pn**	03 56 12.7	0.0
UTU	**Utuhina**	**1.78**	**357**	P	**Pn**	03 56 13.1	+0.3
URZ	**Urewera**	**1.80**	**20**	P	**Pn**	03 56 12.3	-0.7
URZ	**Urewera**	**1.80**	**20**	S	**Sn**	03 56 37.0	+1.9
URZ	**Urewera**	**1.80**	**20**	P	**Pn**	03 56 12.4	-0.6
PLWZ	**Palliser**	**1.80**	**206**	P	**Pn**	03 56 12.7	-0.4
MKRZ	**Makatiti**	**1.82**	**4**	P	**Pn**	03 56 13.6	+0.3
BHW	**Baring Head**	**1.82**	**217**	P	**Pn**	03 56 13.0	-0.3
SNZO	**South Karori**	**1.83**	**222**	P	**Pn**	03 56 13.0	-0.4
SNZO	**South Karori**	**1.83**	**222**	S	**Sn**	03 56 35.6	-0.1
HIZ	**Hauiti**	**1.83**	**321**	P	**Pn**	03 56 14.0	+0.5
HIZ	**Hauiti**	**1.83**	**321**	P	**Pn**	03 56 13.9	+0.5
OMRZ	**Omania**	**1.85**	**1**	P	**Pn**	03 56 13.6	-0.1
NEZ	**North Egmont**	**1.85**	**291**	P	**Pn**	03 56 15.9	+2.2
NGRZ	**Ngongotaha**	**1.85**	**357**	P	**Pn**	03 56 14.0	+0.2
MWZ	**Matawai**	**1.87**	**31**	P	**Pn**	03 56 13.7	-0.3
KHEZ	**Kahui Hut**	**1.90**	**290**	P	**Pn**	03 56 16.5	+2.1
KHEZ	**Kahui Hut**	**1.90**	**290**	S	**Sn**	03 56 40.3	+2.8
KHEZ	**Kahui Hut**	**1.90**	**290**	P	**Pn**	03 56 16.9	+2.5
TKGZ	**Te Karaka**	**1.92**	**39**	P	**Pn**	03 56 14.5	-0.2
PKE	**Pukeiti**	**1.96**	**292**	P	**Pn**	03 56 17.0	+1.9
NMEZ	**Namu Road**	**1.96**	**285**	P	**Pn**	03 56 17.2	+2.1
MARZ	**Manawahe**	**1.99**	**8**	P	**Pn**	03 56 15.4	-0.2
TCW	**Tory Channel**	**2.00**	**230**	P	**Pn**	03 56 15.4	-0.2
NBEZ	**Newall Road No**	**2.01**	**289**	P	**Pn**	03 56 18.1	+2.2
DUWZ	**D'Urville Isla**	**2.02**	**244**	P	**Pn**	03 56 15.8	-0.1
CNGZ	**Carnagh Statio**	**2.08**	**46**	P	**Pn**	03 56 16.6	-0.1
OPRZ	**Ohinepanea**	**2.12**	**5**	P	**Pn**	03 56 16.6	-0.6
KMRZ	**Kaimai**	**2.13**	**352**	P	**Pn**	03 56 17.7	+0.2
WHRZ	**Whale Island**	**2.16**	**14**	P	**Pn**	03 56 17.8	0.0
TWGZ	**Tauwhareparae**	**2.20**	**37**	P	**Pn**	03 56 18.2	-0.2
TGRZ	**Tauranga**	**2.22**	**359**	P	**Pn**	03 56 18.7	0.0
RUGZ	**Raukumara Rang**	**2.25**	**29**	P	**Pn**	03 56 18.8	-0.4
TOZ	**Tahuroa Road**	**2.31**	**344**	P	**Pn**	03 56 20.2	+0.3
TUWZ	**Tuamarina**	**2.33**	**230**	P	**Pn**	03 56 19.6	-0.5
PUZ	**Puketiti**	**2.41**	**39**	P	**Pn**	03 56 20.5	-0.7
HAZ	**Te Kaha**	**2.48**	**28**	P	**Pn**	03 56 20.8	-1.3
PKGZ	**Pakihiroa**	**2.50**	**34**	P	**Pn**	03 56 21.9	-0.5
WIZ	**White Island**	**2.52**	**16**	P	**Pn**	03 56 21.8	-0.9
BSWZ	**Blackbirch Sta**	**2.56**	**226**	P	**Pn**	03 56 22.6	-0.6
NNZ	**Nelson**	**2.57**	**240**	P	**Pn**	03 56 23.0	-0.3
WMGZ	**Waiomatatini S**	**2.69**	**38**	P	**Pn**	03 56 24.3	-0.7
TKNZ	**Takaka Hill**	**2.78**	**246**	P	**Pn**	03 56 26.2	0.0
MXZ	**Matakaoa Point**	**2.85**	**34**	P	**Pn**	03 56 26.9	-0.2
MXZ	**Matakaoa Point**	**2.85**	**34**	S	**Sn**	03 57 00.2	-0.2
MXZ	**Matakaoa Point**	**2.85**	**34**	P	**Pn**	03 56 26.9	-0.2
MKAZ	**Moumakai**	**2.99**	**342**	P	**Pn**	03 56 29.5	+0.5
QRZ	**Quartz Range**	**3.02**	**252**	P	**Pn**	03 56 28.9	-0.6
QRZ	**Quartz Range**	**3.02**	**252**	P	**Pn**	03 56 29.0	-0.5
MRNZ	**Matariki Terra**	**3.07**	**241**	P	**Pn**	03 56 30.1	-0.1
THZ	**Tophouse**	**3.16**	**234**	P	**Pn**	03 56 30.4	-1.0
AWAZ	**Awhitu Peninsu**	**3.17**	**335**	P	**Pn**	03 56 32.6	+1.1
ETAZ	**East Tamaki Re**	**3.19**	**340**	P	**Pn**	03 56 32.3	+0.5
KHZ	**Kahutara**	**3.23**	**220**	P	**Pn**	03 56 30.9	-1.4
KHZ	**Kahutara**	**3.23**	**220**	S	**Sn**	03 57 07.7	-2.0
KHZ	**Kahutara**	**3.23**	**220**	P	**Pn**	03 56 30.9	-1.4
KUZ	**Kuaotunu**	**3.24**	**351**	P	**Pn**	03 56 32.8	+0.4
KUZ	**Kuaotunu**	**3.24**	**351**	P	**Pn**	03 56 32.9	+0.4
WIAZ	**Waiheke Island**	**3.29**	**343**	P	**Pn**	03 56 33.8	+0.6
GRZ	**Great Barrier**	**3.76**	**349**	P	**Pn**	03 56 39.9	+0.4
GVZ	**Greta Valley S**	**3.89**	**218**	P	**Pn**	03 56 39.6	-1.8
OUZ	**Omahuta**	**5.20**	**335**	P	**Pn**	03 57 00.4	+1.2
RPZ	**Rata Peaks**	**5.44**	**225**	P	**Pn**	03 57 01.9	-0.6
ODZ	**Otahua Downs**	**6.59**	**218**	P	**Pn**	03 57 16.9	-1.3
JCZ	**Jackson Bay**	**6.96**	**231**	P	**Pn**	03 57 21.2	-2.1
SYZ	**Scrubby Hill**	**8.41**	**216**	P	**Pn**	03 57 42.1	-0.8

*IDC **02** 03:59:08.1±7.0, 31.″36S×179.″37W, h186km±54km, mb3.7/4, mbtmp4.2/5, Error ellipse: s-maj=57.6km s-min=20.6km az=47.0*
ISC 02 03:59:09.9±1.3, 31.″6S±0.″1×179.″6W±0.″3, h200km, n8, σ1.9/49/9, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.23**	**201**	P	**Pn**	04 00 54.2	+1.1
URZ	6.5nm,0.8s,baz=106,slow=24,SNR=1.8			S	**Sn**	04 02 12.7	-2.3
ASAR	5.8nm,0.5s,baz=156,slow=22,SNR=8.7 **Alice Springs**	**41.72**	**269**	P	**P**	04 06 40.4	+0.8
WRA	1.4nm,0.5s,baz=105,slow=7.5,SNR=22 **Warramunga Arr**	**42.82**	**274**	P	**P**	04 06 49.0	+0.6
QSPA	2.2nm,0.4s,baz=111,slow=8.1,SNR=29 **South Pole Qui**	**58.56**	**180**	P	**P**	04 08 46.7	+1.3
SNAA	1.3nm,0.6s,baz=42,slow=0.7,SNR=16 **Sanae**	**77.04**	**179**	P	**P**	04 10 40.2	-0.2
FINES	3.3nm,1.0s,baz=180,slow=13,SNR=3.5 **FINESS Array B**	**145.74**	**338**	PKPbc	**PKPab**	04 18 23.5	-1.7
MMAI	1.6nm,0.8s,baz=29,slow=4.4,SNR=5.8 **Mount Meron Ar**	**150.48**	**282**	PKPbc	**PKiKP**	04 18 37.9	-0.8
AKASG	5.0nm,0.9s,baz=90,slow=3.3,SNR=5.2 **Malin Array Be**	**151.36**	**320**	PKPbc	**PKiKP**	04 18 39.1	-0.7

*IDC **02** 04:07:17.3±2.8, 1.″35N×127.″30E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=267.5km s-min=25.4km az=66.0*
*DJA **02** 04:07:25.5±0.9, 1.″N±5.″×12.″7E±.″, h29km±11km, M3.6/7, MLv3.6/7*
ISC 02 04:07:26.0±1.4, 1.″1N±0.″1×126.″9E±0.″1, h72km, n7, σ1.5/46/7, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.54**	**124**	P	**Pn**	04 07 38.2	-1.2
LBMI	**Labuha**	**1.81**	**161**	P	**Pn**	04 07 54.7	-0.4
KMSI	**Cibinong**	**2.98**	**260**	P	**Pn**	04 08 10.0	-0.9
NLAI	**Namlea**	**4.30**	**178**	P	**Pn**	04 08 28.2	-0.7
WRA	**Warramunga Arr**	**22.12**	**161**	P	**P**	04 12 15.0	-0.7
	0.6nm,0.6s,baz=341,slow=10,SNR=8.3 0.6nm,0.6s						
ASAR	**Alice Springs**	**25.52**	**165**	P	**P**	04 12 50.2	+2.2
	0.4nm,0.7s,baz=342,slow=11,SNR=5.1 0.4nm,0.7s						
MKAR	**Makanchi Array**	**59.83**	**326**	P	**P**	04 17 24.5	+0.5
	0.3nm,0.3s,baz=113,slow=8.6,SNR=7.8 0.3nm,0.3s						

*MOS **02** 04:34:37.4, 41.″75N×47.″99E, h7km, MPVA4.0*
*AZER **02** 04:34:38.4, 41.″66N×48.″09E, h25km, ml2.9*
*TIF **02** 04:34:38.9, 41.″74N×48.″04E, h16km±1km*
*DRS **02** 04:34:39.2, 41.″75N×48.″00E, h6km*
ISC 02 04:34:38.0±0.9, 41.″79N±0.″02×48.″19E±0.″03, h14km±7km, n49, σ1.9/66/98, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.19**	**194**	*e*Pg	**Pg**	04 34 43.4	+1.0
KSMR	3μm,0.1s			*e*Sg	**Sg**	04 34 46.2	+0.9
DRN	55μm,0.3s **Derbent**	**0.27**	**23**	*e*Pg	**Pn**	04 34 46.8	-0.7
DRN	365nm,0.3s			*e*Sg	**Sb**	04 34 53.0	+4.0
QSAR	7μm,0.2s **Qusar**	**0.28**	**169**	P	**Pb**	04 34 45.0	+0.2
QSAR				S	**Sb**	04 34 49.9	+0.6
AKT	**Akhty**	**0.46**	**229**	*e*Pg	**Pg**	04 34 46.6	-0.5
AKT	1μm,0.2s			*e*Sg	**Sg**	04 34 52.3	-1.1
QUBA	4μm,0.2s **Quba, Azerbaij**	**0.49**	**152**	P	**Pb**	04 34 48.8	+0.5
QUBA				S	**Sb**	04 34 56.5	+1.1
URKR	**Urkarakh**	**0.56**	**313**	*e*Pg	**Pb**	04 34 50.2	+0.5
URKR	201nm,0.3s			*e*Sg	**Sb**	04 34 58.3	+0.6
XNQ	5μm,0.2s **Khinaliq**	**0.61**	**184**	P	**Pb**	04 34 49.9	-0.8
XNQ				S	**Sg**	04 34 57.6	-0.6
SGKR	**Sergokala**	**0.78**	**330**	*e*Pg	**Pn**	04 34 54.4	-0.2
SGKR	130nm,0.3s			*e*Sg	**Sn**	04 35 06.1	-0.1
QBL	1μm,0.2s **Gabala**	**0.88**	**198**	P	**Pg**	04 34 54.2	-0.8
QBL				S	**Sg**	04 35 04.8	-1.7
KMKR	**Kumukh**	**0.88**	**293**	*e*Pg	**Pb**	04 34 54.8	-0.5
KMKR	66nm,0.2s			*e*Sg	**Sg**	04 35 06.5	-0.3
SIZA	1μm,0.2s **Siyzn**	**0.89**	**143**	P	**Pn**	04 34 55.8	-0.3
SIZA				S	**Sn**	04 35 09.1	+0.3
SEKA	**Sheki**	**0.94**	**233**	P	**Pg**	04 34 54.4	-1.8
SEKA				S	**Sg**	04 35 05.5	-3.0
IML	**Ismayilli**	**0.99**	**180**	P	**Pb**	04 34 56.6	-0.4
IML				S	**Sb**	04 35 09.9	-0.1
PQL	**Pirkuli**	**1.04**	**163**	P	**Pn**	04 34 58.0	-0.3
PQL				P	**Pn**	04 34 58.0	-0.3
PQL				S	**Sb**	04 35 12.3	+0.9
ATGJ	**Altiaghaj**	**1.08**	**148**	P	**Pn**	04 34 58.9	+0.1
ATGJ				S	**Sn**	04 35 15.0	+1.3
GNBR	**Gunib**	**1.09**	**304**	*e*Pg	**Pn**	04 34 59.2	+0.2
GNBR	57nm,0.4s			*e*Sg	**Sb**	04 35 13.3	+0.4
ZKTA	352nm,0.2s **Zakatala**	**1.18**	**263**	P	**Pg**	04 34 59.4	-1.4
ZKTA				S	**Sb**	04 35 16.2	+0.8
ARKR	**Arakani**	**1.21**	**313**	*e*Pg	**Pn**	04 35 01.2	+0.7
ARKR	28nm,0.3s			*e*Sg	**Sn**	04 35 17.6	+0.8
BUJR	167nm,0.3s **Buynaksk**	**1.31**	**323**	*e*Pg	**Pn**	04 35 03.0	+1.1
BUJR	34nm,0.2s			*e*Sg	**Sn**	04 35 20.4	+1.1
XNZR	419nm,0.5s **Khunzakh**	**1.34**	**305**	*e*Pg	**Pb**	04 35 03.0	0.0
XNZR	31nm,0.6s			*e*Sg	**Sn**	04 35 21.2	+1.1
GBS	127nm,0.2s **Qobustan**	**1.37**	**155**	P	**Pb**	04 35 05.4	+1.9
GBS				S	**Sn**	04 35 26.0	+5.2
UNCR	**Uncukul**	**1.39**	**312**	*e*Pg	**Pb**	04 35 04.2	+0.4
UNCR	27nm,0.2s			*e*Sg	**Sn**	04 35 23.1	+1.8
KRNR	190nm,0.4s **Karanay**	**1.41**	**318**	*e*Pg	**Pb**	04 35 04.8	+0.6
KRNR	18nm,0.5s			*e*Sg	**Sn**	04 35 23.5	+1.7
VSHL	90nm,0.3s **Vashlovani**	**1.46**	**248**	P	**Pg**	04 35 05.5	-0.5
VSHL				S	**Sn**	04 35 25.6	+2.8
LGD	**Lagodekhi**	**1.46**	**273**	P	**Pn**	04 35 03.8	-0.2
LGD				S	**Sg**	04 35 23.1	-1.8
DBC	**Dubki**	**1.59**	**321**	*e*Pg	**Pg**	04 35 07.7	-0.9
DBC	24nm,0.5s			*e*Sg	**Sg**	04 35 29.2	0.0
BTLR	177nm,0.6s **Botlikh**	**1.71**	**302**	*e*Pg	**Pb**	04 35 08.7	-0.4
BTLR	16nm,0.6s			*e*Sg	**Sn**	04 35 30.7	+1.6
DLMR	97nm,0.4s **Dylym**	**1.73**	**319**	*e*Pg	**Pb**	04 35 09.5	0.0
DLMR	82nm,0.4s			*e*Sg	**Sg**	04 35 32.3	-1.2
GANJ	412nm,0.4s **Ganja**	**1.81**	**232**	Pn	**Pn**	04 35 08.9	+0.1
GANJ				Sn	**Sn**	04 35 32.1	+0.5
AGDM	**Agdam**	**1.87**	**206**	Pn	**Pn**	04 35 10.0	+0.4
AGDM				Sn	**Sn**	04 35 34.7	+1.7
DVE	**Vedeno**	**1.93**	**308**	*e*Pg	**Pg**	04 35 14.3	-0.6
DVE				*e*Sg	**Sg**	04 35 39.7	-0.2
GDB	**GEDABAY**	**2.12**	**241**	Pn	**Pn**	04 35 13.2	0.0
GDB				Sn	**Sn**	04 35 39.7	+0.3
DGRG	**David-gareji**	**2.14**	**262**	P	**Pb**	04 35 15.2	-1.3
DGRG				S	**Sb**	04 35 43.4	+0.4
QZX	**Qazax, Azerbai**	**2.24**	**252**	Pn	**Pn**	04 35 14.9	+0.2
QZX				Sn	**Sn**	04 35 43.7	+1.5
GROC	**Groznyy**	**2.27**	**309**	*e*Pg	**Pb**	04 35 17.2	-1.5
GROC				*e*Sg	**Sb**	04 35 47.0	+0.4
CHRG	**Chargali**	**2.49**	**284**	P	**Pn**	04 35 20.6	+2.3
GLBA	**Clilabad**	**2.55**	**176**	Pn	**Pn**	04 35 19.1	+0.3
GLBA				Sn	**Sb**	04 35 54.8	+0.2
MTEO	**Meteo**	**2.86**	**289**	P	**Pg**	04 35 31.2	-1.6
MTEO				S	**Sg**	04 36 15.0	+5.2
YRD	**Yardimli**	**2.87**	**179**	Pn	**Pn**	04 35 23.1	-0.4
YRD				Sn	**Sn**	04 35 57.7	-0.1
LACR	**Lac**	**3.07**	**291**	*e*Pn	**Pn**	04 35 27.6	+1.4
LACR				*e*Sn	**Sn**	04 36 06.1	+3.3
GNI	**Garni**	**3.08**	**239**	*e*Pn	**Pn**	04 35 28.8	+2.4
GNI				*e*Sn	**Sn**	04 36 06.5	+3.4
SBZ	**Shahbuz**	**3.12**	**221**	Pn	**Pn**	04 35 27.6	+0.8
SBZ				Sn	**Sn**	04 36 08.7	+4.7
LRK	**Lerik**	**3.14**	**178**	Pn	**Pn**	04 35 27.3	+0.1
LRK				Sn	**Sn**	04 36 04.9	+0.3
ARNR	**Ardon**	**3.21**	**297**	*e*Pn	**Pb**	04 35 31.8	-2.9
ARNR				*e*Sn	**Sn**	04 36 07.8	+1.8
ORD	**Ordubad**	**3.31**

TPB11	**China Draw**	**0.34**	**35**	P	Pg	04 41 20.0	-0.1
TPB11				S	Sg	04 41 24.8	+0.1
PECS	**Pecos**	**0.44**	**129**	P	Pg	04 41 22.0	+0.1
PECS				S	Sg	04 41 27.8	+0.2
TPB12	**Southwest of T**	**0.51**	**149**	P	Pg	04 41 23.2	+0.1
TPB12				S	Sg	04 41 29.8	+0.1
TPB07	**Mentone**	**0.51**	**98**	S	Sg	04 41 30.5	+0.5
GDL2	**Guadalupe Moun**	**0.55**	**351**	P	Pg	04 41 24.7	+0.6
TPB10	**Southeast of T**	**0.57**	**130**	P	Pg	04 41 24.4	+0.1
TPB10				S	Sg	04 41 32.1	+0.4
PCOS	**Crockett Middl**	**0.69**	**110**	S	Sg	04 41 36.3	+0.7
CLNB	**Carlsbad**	**0.69**	**28**	P	Pg	04 41 26.6	-0.2
CLNB				S	Sg	04 41 36.3	+0.5
TPB01	**Permian Basin**	**0.82**	**149**	P	Pg	04 41 28.8	-0.3
MNTX	**Cornudas Mount**	**0.95**	**273**	P	Pg	04 41 31.9	+0.2
MNTX				S	Sg	04 41 44.6	+0.6
HTMS	**Hat Mesa**	**0.98**	**33**	P	Pg	04 41 32.1	-0.1
HTMS				S	Sg	04 41 45.5	+0.6
VHRN	**Van Horn**	**1.06**	**216**	P	Pg	04 41 33.5	-0.2
VHRN				S	Sg	04 41 48.0	+0.5
TPB05	**Hovey Rd**	**1.09**	**132**	P	Pg	04 41 33.6	-0.6
TPB05				S	Sg	04 41 47.9	-0.4
MNHN	**Monahans**	**1.32**	**103**	P	Pn	04 41 37.2	-1.5
MNHN				S	Sg	04 41 53.0	-2.8
ALPN	**Alpine**	**1.38**	**157**	P	Pn	04 41 38.2	-1.4
ALPN				S	Sg	04 41 55.9	-1.9
CPRX	**Cap Rock**	**1.42**	**14**	P	Pn	04 41 39.8	-0.3
ODSA	**Odessa**	**1.53**	**72**	S	Sn	04 42 01.1	-1.0
TMB04	**Seminole**	**1.79**	**57**	P	Pn	04 41 45.7	+0.5
TMB04				S	Sb	04 42 09.9	+0.1
TMB02	**Rankin**	**1.96**	**103**	P	Pn	04 41 48.3	+0.9
TMB02				S	Sb	04 42 13.5	-0.9
TX31	**Lajitas Ar. Si**	**2.37**	**167**	Pg	Pb	04 41 56.8	+0.2

*IPEC **02** 04:56:14.4±0.2, 51.°50N×16.°24E, h1km, ML2.5/5, Error ellipse: s-maj=1.9km s-min=1.1km az=39.0*
*IDC **02** 04:56:16.0±0.7, 51.°42N×16.°09E, h0km, mbtmp3.3/8, ML2.8/8, Error ellipse: s-maj=14.9km s-min=7.3km az=106.0*
*DNK **02** 04:56:16.0±2.5, 51.°47N×16.°28E, h15km±83km, ML2.1*
*VIE **02** 04:56:16.5±0.7, 51.°38N×16.°30E, h0km, mb2.7/13, ml2.8/14, ms3.9/1, Error ellipse: s-maj=8.0km s-min=4.7km az=62.0, Suspected Mining induced.*
*PRU **02** 04:56:17.6, 51.°37N×16.°26E, h0km*

ISC 02 04:56:13.4±0.7, 51.°51N±0.°03×16.°27E±0.°02, h0km, n61, σ1.9°62/112, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**179**	*e*Pg	**Pg**	**04 56 27.3**	**+1.2**
KSP				*e*Sg	**Sg**	**04 56 35.0**	**+0.3**
CHVC	**Chvalec**	**0.93**	**188**	*e*PG	**Pb**	**04 56 32.6**	**+0.2**
CHVC				*e*SG	**Sg**	**04 56 43.1**	**-0.1**
	86nm,0.4s						
OSTC	**Ostas**	**0.95**	**182**	*e*PG	**Pb**	**04 56 33.1**	**+0.3**
OSTC				*e*SG	**Sg**	**04 56 44.6**	**+0.7**
UPC	**Upice**	**1.01**	**189**	*e*PG	**Pg**	**04 56 33.8**	**+1.0**
UPC				*e*SG	**Sg**	**04 56 46.6**	**+0.7**
	comp=Z,198nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**178**	*e*PG	**Pg**	**04 56 36.3**	**+0.7**
DPC				*e*SG	**Sg**	**04 56 50.3**	**-0.3**
	comp=Z,63nm,0.5s						
PIVO	**Bartosovice**	**1.33**	**172**	*e*Pg	**Pg**	**04 56 39.4**	**+0.5**
	baz=352						
PIVO				*e*Sg	**Sg**	**04 56 56.0**	**-0.2**
	61nm,0.6s,baz=352						
PVCC	**Panska Ves**	**1.45**	**228**	*e*PG	**Pb**	**04 56 42.4**	**+1.1**
PVCC				*e*SG	**Sn**	**04 57 01.4**	**+0.8**
	comp=Z,218nm,0.2s						
KRLC	**Kraliky**	**1.47**	**167**	*e*PG	**Pn**	**04 56 42.0**	**+0.8**
KRLC				*e*SG	**Sg**	**04 56 59.5**	**-1.1**
	comp=Z,48nm,0.4s						
BRG	**Berggiesshubel**	**1.59**	**247**	Pn	**Pn**	**04 56 43.6**	**+0.7**
BRG				Pg	**Pg**	**04 56 45.7**	**+1.7**
BRG				Sg	**Sg**	**04 57 06.0**	**+1.4**
BRG				Amp		04 57 07.9	
	comp=Z,43nm,0.3s						
STEB	**Steborice**	**1.84**	**148**	*e*PG	**Pb**	**04 56 48.7**	**+0.7**
STEB				*e*SG	**Sb**	**04 57 11.4**	**-0.1**
GOPC	**GO Pecny, Ondr**	**1.85**	**211**	*e*PN	**Pn**	**04 56 47.3**	**+0.9**
GOPC				*e*PG	**Pb**	**04 56 48.7**	**+0.6**
PRU	**Pruhonice**	**1.87**	**216**	*e*PG	**Pb**	**04 56 49.0**	**+0.5**
PRU				*e*SG	**Sb**	**04 57 13.0**	**+0.6**
	comp=Z,34nm,0.4s						
MORC	**Moravsky Berou**	**1.91**	**154**	*e*Pn	**Pn**	**04 56 47.9**	**+0.6**
	baz=335						
MORC				*e*Sg	**Sb**	**04 57 14.2**	**+0.6**
	comp=Z,29nm,0.5s,baz=335						
HSKC	**Hora Svate Kat**	**2.00**	**244**	*e*PG	**Pb**	**04 56 51.8**	**+1.1**
HSKC				*e*SG	**Sb**	**04 57 17.3**	**+1.1**
	comp=Z,51nm,0.3s						
CLL	**Collm**	**2.05**	**266**	*i* Pn	**Pn**	**04 56 50.2**	**+1.0**
	comp=Z,5.0nm,0.7s						
CLL				*i* Pg	**Pg**	**04 56 53.6**	**+0.8**
CLL				*ex*	x	04 56 57.0	
CLL				*ex*	x	04 57 09.0	
CLL				*i* Sg	**Sg**	**04 57 21.7**	**+2.3**
	comp=Z,29nm,0.7s						
OKC	**Ostrava-Krasne**	**2.06**	**144**	*e*PG	**Pg**	**04 56 53.0**	**+0.2**
OKC				*e*SG	**Sb**	**04 57 18.3**	**+0.7**
	comp=Z,35nm,0.6s						
VRAC	**Vranov**	**2.21**	**174**	Pn	**Pn**	**04 56 52.4**	**+1.0**
	comp=Z,3.4nm,0.3s,baz=348,slow=13,SNR=12						
VRAC				Lg	Lg	04 57 22.1	
	comp=Z,2.4nm,0.3s,baz=107,slow=19,SNR=3.9						
	comp=Z,8.5nm,0.4s						
VRAC	**Vranov**	**2.21**	**174**	*e*Pn	**Pn**	**04 56 52.1**	**+0.7**
	baz=354						
VRAC				*e*Sg	**Sb**	**04 57 23.0**	**+0.9**
	comp=Z,22nm,0.5s,baz=354						
VRAC	**Vranov**	**2.21**	**174**	*e*PN	**Pn**	**04 56 52.2**	**+0.8**
VRAC				*e*SG	**Sb**	**04 57 23.1**	**+0.9**
KRUC	**Moravsky**	**2.45**	**178**	*e*Pn	**Pn**	**04 56 55.4**	**+0.8**
	baz=358						
KRUC				*e*Sg	**Sb**	**04 57 30.9**	**+1.9**
	comp=Z,29nm,0.8s,baz=358						
OJC	**Ojcow**	**2.58**	**119**	*e*Pg	**Pg**	**04 57 04.3**	**+1.5**
OJC				*e*Sg	**Sg**	**04 57 38.6**	**+2.2**
NKC	**Novy Kostel**	**2.73**	**244**	*e*PN	**Pn**	**04 57 00.0**	**+1.4**
NKC				*e*PG	**Pg**	**04 57 06.6**	**+0.8**
NKC				*e*SG	**Sg**	**04 57 42.2**	**+1.0**
	comp=Z,28nm,0.3s						
JAVC	**Velka Javorina**	**2.80**	**161**	*e*Pn	**Pn**	**04 57 00.3**	**+0.8**
	baz=341						
JAVC	**Velka Javorina**	**2.80**	**161**	*e*PN	**Pn**	**04 57 00.4**	**+0.9**
KHC	**Kasperske Hory**	**2.94**	**217**	*e*PN	**Pn**	**04 57 03.0**	**+1.6**
KHC				*e*PG	**Pb**	**04 57 08.7**	**+2.1**
KHC				*e*SN	**Sn**	**04 57 36.4**	**-0.9**
KHC				*e*SG	**Sg**	**04 57 46.4**	**-1.3**
	comp=Z,17nm,0.4s						
LANS	**Liptovska Anna**	**3.12**	**138**	*e*PN	**Pb**	**04 57 08.8**	**-1.1**
LANS				*e*PG	**Pg**	**04 57 16.1**	**+2.8**
LANS				*e*SG	**Sg**	**04 57 54.3**	**+0.5**
GERES	**GERESS Array B**	**3.13**	**213**	Pn	**Pn**	**04 57 05.2**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=33,slow=15,SNR=12						
GERES				Pg	**Pb**	**04 57 11.2**	**+1.2**
	comp=Z,5.7nm,0.3s,baz=33,slow=16,SNR=40						
GERES				Lg	Lg	04 57 50.2	
	comp=Z,6.0nm,0.3s,baz=32,slow=28,SNR=11						
	comp=Z,1.1nm,0.4s						
MODS	**Modra-Piesok**	**3.20**	**168**	*e*PG	**Pg**	**04 57 15.9**	**+1.1**
MODS				*e*SG	**Sg**	**04 57 57.4**	**+1.1**
NIE	**Niedzica**	**3.32**	**127**	*e*Pg	**Pg**	**04 57 19.7**	**+2.8**
NIE				*e*Sg	**Sg**	**04 58 00.7**	**+0.8**
VYHS	**Vyhne**	**3.44**	**150**	*e*PN	**Pg**	**04 57 18.1**	**-1.2**
VYHS				*e*PG	Pb	04 57 23.2	+8.0
VYHS				*e*SG	**Sg**	**04 58 05.2**	**+1.3**
VYHS				*e*	S	05 28 07.2	
CONA	**Conrad Observa**	**3.59**	**184**	*i* Pn	**Pn**	**04 57 12.0**	**+1.6**
	comp=Z,0.5nm,0.2s						
CONA				Sg	**Sg**	**04 58 06.8**	**-1.9**
	comp=Z,14nm,0.4s						
BSD	**Bornholm Skovb**	**3.70**	**348**	*e*	**Pn**	**04 57 11.1**	**-0.8**
	baz=158,slow=11						
BSD				*i* P	Pb	04 57 13.7	-6.0
BSD				*i* S	**Sn**	**04 57 55.3**	**-0.8**
BSD				IAML		04 57 59.8	
	comp=Z,2.4nm,0.3s						
RONA	**Rosalia, Austr**	**3.81**	**180**	*i* Pn	**Pn**	**04 57 15.2**	**+1.8**
	comp=Z,0.1nm,0.1s						
RONA				*e*Sg	**Sg**	**04 58 12.9**	**-2.9**
	comp=Z,7.8nm,0.5s						
MOA	**Molln**	**3.88**	**200**	*i* Pn	**Pn**	**04 57 15.6**	**+1.2**
	comp=Z,0.8nm,0.2s						
MOA				Sg	**Sg**	**04 58 16.3**	**-1.9**
	comp=Z,18nm,0.6s						
BIOA	**Bad Ischl, Aus**	**4.18**	**205**	*e*Sg	**Sg**	**04 58 26.9**	**-0.9**
	comp=Z,18nm,0.5s						
ARSA	**Arzberg**	**4.29**	**187**	*i* Pn	**Pn**	**04 57 21.9**	**+2.0**
	comp=Z,0.7nm,0.2s						
ARSA				*e*Sg	**Sg**	**04 58 29.6**	**-1.5**
	comp=Z,5.6nm,0.5s						
LUNU	**Lund**	**4.46**	**339**	*i* P	**Pn**	**04 57 23.0**	**+0.8**
LUNU				*e*S	**Sn**	**04 58 14.3**	**-0.5**
KOLS	**Kolonicke sedl**	**4.64**	**121**	*e*PN	**Pn**	**04 57 26.8**	**+2.1**
KOLS				*e*PG	**Pg**	**04 57 45.8**	**+3.6**
LESA	**Schwarzleotal**	**4.71**	**211**	*i* Pn	**Pn**	**04 57 27.7**	**+2.0**
	comp=Z,0.1nm,0.1s						
LESA				Sg	**Sg**	**04 58 44.5**	**-0.1**
	comp=Z,5.0nm,0.3s						
BLEU	**Blekinge**	**4.81**	**357**	*i* P	**Pn**	**04 57 29.1**	**+2.0**
BLEU				*e*S	**Sn**	**04 58 22.8**	**-0.7**
BLEU				IAML		04 58 30.7	
	comp=Z,0.8nm,0.3s						
KBA	**Koelnbreinsper**	**4.83**	**204**	*i* Pn	**Pn**	**04 57 28.3**	**+0.8**
	comp=Z,0.2nm,0.1s						
KBA				*e*Sg	**Sg**	**04 58 46.4**	**-2.0**
	comp=Z,4.5nm,0.3s						
BJUU	**Bjuv**	**4.96**	**338**	*i* P	**Pn**	**04 57 30.1**	**+1.0**
BJUU				*e*S	**Sn**	**04 58 25.4**	**-1.8**
OBKA	**Obir**	**5.13**	**193**	*e*Sg	**Sg**	**04 58 58.1**	**+0.1**
	comp=Z,3.3nm,0.4s						
DEL	**Delary**	**5.17**	**345**	*i* P	**Pn**	**04 57 33.4**	**+1.5**
DEL				IAML		04 58 33.9	
	comp=Z,1.5nm,0.3s						
MYKA	**Terra Mystica**	**5.18**	**200**	*e*Sg	**Sg**	**04 58 58.7**	**-0.9**
	comp=Z,1.6nm,0.3s						
WATA	**Walderalm**	**5.18**	**218**	*e*Sg	**Sg**	**04 58 58.4**	**-1.2**
	comp=Z,4.0nm,0.3s						
WTTA	**Wattenberg**	**5.21**	**217**	*e*Sg	**Sg**	**04 59 02.6**	**+1.8**
	comp=Z,3.0nm,0.3s						
ABTA	**Abfaltersbach**	**5.36**	**209**	*i* Pn	**Pn**	**04 57 36.7**	**+2.0**
	comp=Z,0.1nm,0.1s						
ABTA				*e*Sg	**Sg**	**04 59 04.7**	**-0.9**
	comp=Z,3.9nm,0.4s						
RETA	**Reutte**	**5.39**	**224**	*e*Sg	**Sg**	**04 59 04.8**	**-1.6**
	comp=Z,1.4nm,0.3s						
SQTA	**Sankt Quirin**	**5.41**	**220**	*i* Pn	**Pn**	**04 57 34.0**	**-1.5**
	comp=Z,0.6nm,0.2s						
SQTA				Sg	**Sg**	**04 59 07.8**	**+0.5**
	comp=Z,2.7nm,0.3s						
FABU	**Falkenberg**	**5.88**	**341**	*e*Pn	**Pn**	**04 57 43.0**	**+1.2**
FABU				*e*S	**Sn**	**04 58 48.9**	**-1.0**
DAVA	**Damuels**	**5.93**	**227**	*i* Pn	**Pn**	**04 57 42.4**	**-0.2**
	comp=Z,0.2nm,0.1s						
DAVA				*e*Sg	**Sg**	**04 59 24.9**	**+1.0**
	comp=Z,3.5nm,0.5s						
DAVOX	**Davos/Dischmat**	**6.32**	**224**	Pn	**Pn**	**04 57 47.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=45,slow=14,SNR=1.5						
DAVOX				Lg	Lg	04 59 27.7	
	comp=Z,0.3nm,0.3s,baz=11,slow=21,SNR=1.8						
	comp=Z,0.4nm,0.3s						
ONAU	**Onsala**	**6.42**	**338**	*e*P	**Pn**	**04 57 50.6**	**+1.5**
ONAU				*e*S	**Sn**	**04 58 57.1**	**-6.0**
BORU	**Boraas**	**6.47**	**343**	*e*P	**Pn**	**04 57 52.3**	**+2.5**
BORU				*e*S	**Sn**	**04 59 04.8**	**+0.6**
AKASG	**Malin Array Be**	**8.20**	**91**	Pn	**Pn**	**04 58 14.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=286,slow=12,SNR=3.4						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**04 58 22.2**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=4.9						
	comp=Z,1.1nm,0.5s						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**04 58 37.8**	**+0.2**
	baz=165,slow=12,SNR=1.9						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**04 58 56.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=8.8						
FINES				Sn	**Sn**	**05 00 55.4**	**-8.0**
	comp=Z,0.1nm,0.3s,baz=217,slow=21,SNR=2.2						
	comp=Z,3.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**12.20**	**296**	Pn	**Pn**	**04 59 06.6**	**-1.6**
	baz=101,slow=13						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**05 00 30.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=9.9						
	comp=Z,2.0nm,0.8s						

*GCG **02** 04:59:07.8±3.0, 16.°17N×95.°42W, h77km±117km, MD4.7*
*MEX **02** 04:59:10.9±0.6, 15.°90N×95.°19W, h24km±38km, MD4.3*

ISC 02 04:59:05.9±1.2, 15.°99N±0.°04×95.°17W±0.°02, h2km±11km, n37, σ1.9°55/69, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.78**	**43**	*e*P	**Pb**	**04 59 22.8**	**+0.5**
NILT				*e*S	**Sb**	**04 59 33.4**	**+0.1**
HUIG	**Huatulco**	**0.93**	**256**	*e*P	**Pg**	**04 59 24.7**	**+1.0**
HUIG				*e*S	**Sg**	**04 59 36.3**	**+0.5**
HUIG	**Huatulco**	**0.93**	**256**	*i* P	**Pg**	**04 59 23.5**	**-0.2**
HUIG				*i* S	**Sg**	**04 59 36.5**	**+0.8**
HUIG	**Huatulco**	**0.93**	**256**	*i* P		04 59 23.5	
HUIG				*i* S		04 59 36.5	
CMIG	**Matias Romero**	**1.13**	**14**	*e*P	**Pn**	**04 59 28.4**	**-0.4**
CMIG				*e*S	**Sb**	**04 59 42.9**	**-0.4**
CARR	**Arriaga**	**1.24**	**78**	*e*P	**Pg**	**04 59 29.1**	**-0.6**
CARR				*e*S	**Sg**	**04 59 44.9**	**-0.8**
PANG	**Puerto Angel**	**1.29**	**256**	*e*P	**Pb**	**04 59 31.4**	**+0.5**
PANG				*e*S	**Sg**	**04 59 47.8**	**+0.3**
UXUV	**UXUV**	**1.65**	**37**	*e*P	**Pb**	**04 59 37.2**	**+0.2**
UXUV				*e*S	**Sg**	**04 59 58.2**	**-0.7**
NEUV	**Arroyo Zacate**	**1.82**	**341**	*e*P	**Pn**	**04 59 38.4**	**+0.2**
NEUV				*e*S	**Sb**	**05 00 01.7**	**-1.4**
OXBJ	**Oaxaca**	**1.83**	**306**	*e*P	**Pb**	**04 59 39.4**	**-0.9**
OXBJ				*e*S	**Sn**	**05 00 02.1**	**-0.4**
VHO	**Vista Hermosa**	**1.84**	**306**	*e*P	**Pb**	**04 59 40.3**	**-0.2**
VHO				*e*S	**Sn**	**05 00 02.4**	**-0.4**
PEIG	**Puerto Escondi**	**1.90**	**271**	*e*P	**Pn**	**04 59 38.9**	**-0.4**
PEIG				*e*S	**Sn**	**05 00 03.1**	**-0.7**
TGIG		**2.12**	**68**	*e*P	**Pn**	**04 59 43.7**	**+1.3**
TGIG				*e*S	**Sn**	**05 00 09.7**	**+0.4**
TGIG		**2.12**	**68**	*e*P	**Pn**	**04 59 43.6**	**+1.2**
TGIG				*e*S	**Sb**	**05 00 11.3**	**-0.5**
TGIG		**2.12**	**68**	*e*P		04 59 43.6	
TGIG				*e*S		05 00 11.3	
TGBT	**Tuxtla Gutierr**	**2.15**	**68**	*e*P	**Pb**	**04 59 45.7**	**+0.2**
TGBT				*e*S	**Sn**	**05 00 11.3**	**+1.3**
TUIG	**Tuzandepetl**	**2.16**	**19**	*e*P	**Pn**	**04 59 43.6**	**+0.8**
TUIG				*e*S	**Sb**	**05 00 11.8**	**-1.0**
YOIG	**Yosondua**	**2.44**	**291**	*e*P	**Pb**	**04 59 48.9**	**-1.8**
YOIG				*e*S	**Sn**	**05 00 15.3**	**-2.2**
PMUV	**Sontecomapan**	**2.54**	**1**	*e*P	**Pn**	**04 59 47.2**	**-1.0**
PMUV				*e*S	**Sn**	**05 00 16.8**	**-3.1**
TOIG	**Toxpalan**	**2.77**	**319**	*e*P	**Pb**	**04 59 54.9**	**-1.4**
TOIG				*e*S	**Sn**	**05 00 23.9**	**-1.5**
TXIG	**Tlaxiaco**	**2.79**	**297**	*e*P	**Pb**	**04 59 55.0**	**-1.6**
TXIG				*e*S	**Sn**	**05 00 24.6**	**-1.6**
PNIG	**Pinotepa**	**2.87**	**278**	*e*P	**Pn**	**04 59 52.1**	**-0.6**
PNIG				*e*S	**Sn**	**05 00 25.6**	**-2.2**
CCIG	**Comitan**	**2.93**	**84**	*e*P	**Pn**	**04 59 54.8**	**+1.1**
CCIG				*e*S	**Sn**	**05 00 29.6**	**0.0**
CCIG	**Comitan**	**2.93**	**84**	*e*P	**Pn**	**04 59 54.4**	**+0.7**
CCIG	**Comitan**	**2.93**	**84**	*e*P		04 59 54.4	
PATR	**El Naranjo**	**2.96**	**107**	*e*P	**Pn**	**04 59 54.4**	**+0.3**
PATR				*e*S	**Sn**	**05 00 28.2**	**-2.2**
PAVE	**Pavencul**	**2.99**	**105**	*e*P	**Pn**	**04 59 55.2**	**+0.6**
PAVE				*e*S	**Sn**	**05 00 30.7**	**-0.5**
THIG		**3.00**	**111**	*e*P	**Pn**	**04 59 54.7**	**+0.2**
THIG				*e*S	**Sn**	**05 00 29.8**	**-1.3**
HLIG	**Huajuapan de L**	**3.11**	**306**	*e*P	**Pb**	**05 00 01.7**	**-0.4**
HLIG				*e*S	**Sn**	**05 00 34.6**	**+0.5**
TPIG	**Tehuac#an**	**3.20**	**319**	*e*P	**Pb**	**05 00 03.8**	**+0.2**
TPIG				*e*S	**Sb**	**05 00 41.2**	**-1.8**
FTIG	**Fresnillo de T**	**3.42**	**304**	*e*P	**Pn**	**05 00 02.6**	**+2.3**
FTIG				*e*S	**Sn**	**05 00 42.0**	**+0.6**
HUEH	**Huehuetenango**	**3.60**	**100**	*e*P	**Pn**	**05 00 06.2**	**+3.3**
HUEH				*e*S	**Sn**	**05 00 44.5**	**-1.6**
TLIG	**Tlapa**	**3.61**	**296**	*e*P	**Pn**	**05 00 06.4**	**+3.4**
TLIG				*e*S	**Sn**	**05 00 49.4**	**+3.1**
JAUV	**Jalcomulco**	**3.70**	**335**	*e*P	**Pn**	**05 00 04.2**	**+0.1**
JAUV				*e*S	**Sn**	**05 00 48.7**	**+0.3**
LVIG	**Laguna Verde**	**3.90**	**342**	*e*S	**Sn**	**05 00 56.4**	**+3.2**
STG8	**El Palmar, Qui**	**3.99**	**112**	*e*P		05 00 04.5	
STG0	**El Palmar, Qui**	**4.01**	**112⇑**	*e*P		05 00 04.8	
APG	**El Apazote**	**4.64**	**102**	*e*P	**Pn**	**05 00 19.8**	**+2.5**
APG	**El Apazote**	**4.64**	**102**	*e*P		05 00 19.8	
CXUV	**Coxquihui**	**4.75**	**331**	*e*P	**Pn**	**05 00 20.7**	**+2.0**
CXUV				*e*S	**Sn**	**05 01 19.3**	**+5.0**
PETF	**Flores**	**5.17**	**79**	*e*P	**Pn**	**05 00 25.7**	**+1.3**
PETF				*e*S	**Sn**	**05 01 22.4**	**-2.3**
PETF	**Flores**	**5.17**	**79**	*e*P	**Pn**	**05 00 26.0**	**+1.6**
PETF	**Flores**	**5.17**	**79**	*e*P		05 00 26.0	
CTUV	**Llano Grande**	**6.23**	**332**	*e*S	**Sn**	**05 01 51.5**	**+0.8**

IDC 02 05:10:43.6±1.8, 4.°21N×126.°16E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/1, Error ellipse: s-maj=131.9km s-min=21.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.17**	**181**	P	P	05 15 41.6	+0.2
	1.7nm,0.5s,baz=11,slow=10,SNR=2.3						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**25.31**	**162**	P	P	05 16 11.9	-0.3
	1.3nm,0.6s,baz=341,slow=9.3,SNR=14						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**28.72**	**165**	P	P	05 16 43.1	+0.3
	0.5nm,0.9s,baz=343,slow=8.5,SNR=6.7						
	0.5nm,0.9s						
JNU	**Nakatsue**	**29.10**	**8**	LR	LR	05 27 48.9	
	comp=Z,113nm,21.8s,baz=350,slow=35						
MKAR	**Makanchi Array**	**56.84**	**325**	P	P	05 20 30.0	-0.1
	0.2nm,0.6s,baz=134,slow=6.2,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**61.03**	**327**	P	P	05 20 58.9	-0.1
	0.1nm,0.3s,baz=131,slow=6.6,SNR=2.4						
	0.1nm,0.3s						

*JMA **02** 05:29:01.9±0.1, 24.°0N±0.°2×121.°6E±0.°6, h20km, MV3.0/13, TAIWAN REGION*
*ASIES **02** 05:29:01.8, 24.°06N×121.°51E, h21km, ML3.8, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.45; $M_{\theta\theta}$-0.91; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.96; $M_{\phi r}$-0.68; Fault plane solution: $M_0$1.73266×10^{21} NP1:ϕ_s70.19000°, δ41.39000°, λ121.39000°. NP2:ϕ_s211.07000°, δ55.64000°, λ65.34000°. Principal axes: T Plg68.3710°, Azm67.9080°; N Plg20.1440°, Azm225.5940°; P Plg7.5500°, Azm318.3800°;*
*TAP **02** 05:29:01.8, 24.°06N×121.°51E, h21km, ML3.8, B*

ISC 02 05:29:02.1±0.8, 24.°05N±0.°01×121.°56E±0.°02, h18km±2km, n142, σ0.°65/236, 15C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**46**	⇓*i*P	**Pg**	**05 29 06.0**	**+0.6**
TWD				S	**Sg**	**05 29 08.7**	**+1.1**
HWA	**Hwalien**	**0.08**	**147**	⇓*i*P	**Pg**	**05 29 06.6**	**+1.0**
HWA				*i* S	**Sg**	**05 29 10.2**	**+2.3**
ETM	**Tongmen**	**0.10**	**216**	⇑*i*P	**Pg**	**05 29 06.0**	**+0.2**
ETM				*i* S	**Sg**	**05 29 08.8**	**+0.6**
ETL	**Fush Village**	**0.13**	**28**	*e*P	**Pg**	**05 29 06.4**	**+0.2**
ETL				S	**Sg**	**05 29 09.4**	**+0.5**
LXIB	**Xiulin Townshi**	**0.13**	**260**	⇑*i*P	**Pg**	**05 29 06.1**	**-0.2**
LXIB				S	**Sg**	**05 29 09.4**	**+0.2**
NACB	**Ninganchiao**	**0.13**	**15**	P	**Pg**	**05 29 06.4**	**+0.2**
NACB	**Ninganchiao**	**0.13**	**15**	S	**Sg**	**05 29 09.4**	**+0.5**
NACB	**Ninganchiao**	**0.13**	**15**	⇑*i*P	**Pg**	**05 29 06.2**	**+0.1**
NACB				S	**Sg**	**05 29 09.3**	**+0.3**
ETLH	**Xiulin Townshi**	**0.17**	**337**	⇑P	**Pb**	**05 29 06.7**	**+0.6**
ETLH				*e*S	**Sg**	**05 29 09.8**	**-0.2**
ESL	**Shilin**	**0.26**	**206**	⇓*i*P	**Pg**	**05 29 07.6**	**-0.3**
ESL				*e*S	**Sb**	**05 29 11.9**	**-0.1**
SHUL	**Shoufeng**	**0.26**	**179**	⇓P	**Pg**	**05 29 08.4**	**+0.6**
SHUL				*e*S	**Sg**	**05 29 13.7**	**+1.8**
WHF	**Hehuan Shan**	**0.28**	**291**	⇑*i*P	**Pg**	**05 29 08.2**	**-0.5**
WHF				S	**Sg**	**05 29 12.4**	**-0.8**

KSHI				eS	Sb	05 29 27.7	-0.4
TCU	Taichung	0.81	277	eP	Pb	05 29 18.1	+0.5
TCU				eS	Sg	05 29 29.6	+0.9
WNT	Mingjian	0.81	258	eP	Pb	05 29 17.9	+0.2
WNT				eS	Sg	05 29 29.4	+0.5
NMLH	Miaoli	0.85	305	P	Pb	05 29 18.9	+0.6
NMLH				eS	Sb	05 29 29.7	+0.2
CHKH	Chenggong	0.86	190	eP	Pb	05 29 17.2	-1.3
EGS		0.87	23	eP	Pb	05 29 18.7	+0.1
ALS	Alishan	0.87	232	i P	Pb	05 29 18.7	-0.1
ALS				S	Sb	05 29 30.6	+0.4
FULB	Fuli	0.88	196	eP	Pb	05 29 17.7	-1.0
WDJ	Dajia District	0.89	290	eP	Pb	05 29 19.4	+0.4
SBCB	Hsinchu	0.91	325	eP	Pb	05 29 19.9	+0.6
SBCB				eS	Sg	05 29 32.2	+0.4
WCHH	Zhanghua	0.91	272	P	Pb	05 29 19.8	+0.5
WCHH				eS	Sg	05 29 32.2	+0.3
CHN5	Tsauling	0.92	241	P	Pb	05 29 20.2	+0.7
CHN5				i S	Sg	05 29 33.0	+0.8
WCH1	Changhua City	0.92	272	eP	Pb	05 29 19.0	-0.5
WCH1				eS	Sb	05 29 32.3	+0.8
HSN	Hsinchu	0.92	325	eP	Pg	05 29 20.4	+0.3
HSN				eS	Sb	05 29 32.0	+0.5
TATO	Taipei	0.93	356	P	Pb	05 29 19.8	+0.2
TATO	Taipei	0.93	356	S	Sg	05 29 32.8	+0.4
EHD	Haiduan	0.95	200	eP	Pb	05 29 19.6	-0.4
EHD				eS	Sb	05 29 32.1	-0.1
TIPB	Shuangxi	0.95	15	eP	Pb	05 29 19.6	-0.5
TIPB				S	Sb	05 29 32.3	-0.1
WGK	Gukeng	0.98	249	eP	Pg	05 29 21.7	+0.6
WGK				eS	Sg	05 29 34.6	+0.6
NCUH	Zhongli	0.98	340	eP	Pb	05 29 21.1	+0.6
NCUH				S	Sn	05 29 35.4	+1.0
ELDTW	Lidau	0.99	210	eP	Pb	05 29 20.0	-0.7
ELDTW				i S	Sb	05 29 33.0	-0.3
WDL	Douliou City	0.99	251	eP	Pn	05 29 21.5	+0.5
WDL				eS	Sg	05 29 34.7	+0.4
TAP	Taipei	0.99	357	eP	Pb	05 29 21.2	+0.5
TAP				eS	Sb	05 29 33.8	+0.3
WDLH	Douliu	1.00	249	eP	Pb	05 29 21.2	+0.4
WDLH				i S	Sg	05 29 35.0	+0.4
TWB1	Santiao Chiao	1.04	22	eP	Pb	05 29 21.2	-0.2
TWB1				eS	Sb	05 29 34.8	0.0
NWF	Wu-fen Shan	1.04	11	eP	Pb	05 29 21.8	+0.2
WFSB	Wu-fen Shan	1.04	11	eP	Pb	05 29 21.3	-0.3
WFSB				S	Sb	05 29 35.0	+0.2
TWS1	Kuangyinshan	1.06	353	eP	Pb	05 29 21.1	-0.8
TWS1				eS	Sn	05 29 36.5	+0.3
WCKO	Fanlu	1.06	235	eP	Pb	05 29 22.4	+0.5
WCKO				eS	Sg	05 29 37.2	+0.6
SXI1	Grass Mountain	1.08	15	eP	Pb	05 29 21.7	-0.6
SXI1				S	Sb	05 29 36.7	+0.5
WRL	Guolierlin Hig	1.09	263	P	Pb	05 29 22.5	+0.1
WRL				i S	Sn	05 29 37.3	+0.3
EDH	Donghe	1.09	192	eP	Pn	05 29 20.0	-2.5
EDH				S	Sb	05 29 35.7	-0.6
YM01	YM01	1.10	1	eP	Pb	05 29 22.1	-0.4
YM01				eS	Sb	05 29 36.1	-0.4
ZUZH	Zhuzihu	1.11	359	eP	Pn	05 29 22.9	+0.1
ZUZH				eS	Sb	05 29 36.4	-0.5
CHN2	Minshiung	1.11	243	eP	Pg	05 29 24.0	+0.3
NTST	Danshui	1.12	355	eP	Pn	05 29 23.1	+0.3
NTST				i S	Sn	05 29 38.6	+0.8
CHN4	Tsaushan	1.12	232	eP	Pb	05 29 23.7	+0.8
CHN4				eS	Sg	05 29 39.1	+0.6
WTK	Tuku	1.13	252	eP	Pb	05 29 23.4	+0.5
WTK				eS	Sg	05 29 39.0	+0.3
STYH	Taoyuan	1.13	220	eP	Pn	05 29 22.5	-0.4
STYH				eS	Sb	05 29 37.9	+0.6
TPUB	Ta-pu	1.13	229	P	Pb	05 29 23.6	+0.6
TPUB	Ta-pu	1.13	229	S	Sn	05 29 38.8	+0.8
TPUB	Ta-pu	1.13	229	eP	Pn	05 29 23.2	+0.2
ANP	Anpu	1.14	358	eP	Pn	05 29 23.1	0.0
YM08	YM08	1.14	2	eP	Pn	05 29 23.2	+0.1
CHY	Chiayi	1.17	243	eP	Pb	05 29 24.3	+0.6
CHY				eS	Sg	05 29 40.2	+0.1
WTP	Ta-pu	1.18	228	eP	Pn	05 29 24.1	+0.5
WTP				eS	Sg	05 29 40.4	+0.2
WTCT	Ta-ch'eng	1.18	261	eP	Pn	05 29 23.9	+0.3
WTCT				eS	Sn	05 29 40.1	+0.9
LONT	Longtian	1.20	199	eP	Pn	05 29 23.4	-0.5
TWY	Chenhua	1.23	2	eP	Pn	05 29 23.9	-0.3
TWK	Hsinying	1.25	232	eP	Pb	05 29 25.5	+0.4
TWK				eS	Sg	05 29 43.2	+0.6
SNST	Tainan City	1.27	230	eP	Pb	05 29 26.1	+0.6
SNST				i S	Sg	05 29 43.4	0.0
CHN1	Nanshi	1.27	228	eP	Pb	05 29 26.0	+0.5
CHN1				eS	Sg	05 29 43.6	+0.2
TWGBT	Beinan	1.30	200	P	Pg	05 29 27.6	+0.4
SGST	Jiashian	1.31	223	eP	Pn	05 29 25.5	0.0
SGST				eS	Sn	05 29 43.1	+0.6
WSL	Shuilin Townsh	1.32	247	i P	Pb	05 29 26.7	+0.4
WSL				eS	Sb	05 29 43.9	+0.9
JYNG	Yonagunijimaku	1.33	72	eP	Pn	05 29 25.5	-0.2
ICHU	Yijhu	1.35	240	eP	Pn	05 29 26.7	+0.7
ICHU				i S	Sg	05 29 46.0	0.0
LDUT	Ludao	1.37	183	eP	Pn	05 29 23.9	-2.3
YOJ	Yonaguni jima	1.39	72	eP	Pn	05 29 26.0	-0.5
YOJ	Yonaguni jima	1.39	72	P	Pn	05 29 26.7	+0.1
YOJ				eS	Sn	05 29 44.4	0.0
CHN8	Yiju	1.42	241	eP	Pb	05 29 28.2	+0.3
CHN8				eS	Sg	05 29 47.7	-0.2
SCST	Cishan	1.51	220	eP	Pb	05 29 30.1	+0.5
SCST				eS	Sg	05 29 50.5	-0.5
ECL	Taimali	1.54	201	eP	Pn	05 29 27.1	-1.6
ECL				eS	Sn	05 29 47.5	-0.7
TSMG	Majia	1.57	212	eP	Pn	05 29 30.2	+1.1
TSCK	Chigu Township	1.62	237	eP	Pn	05 29 30.4	+0.8
PCYT	Pengchaiyu	1.65	16	eP	Pn	05 29 29.5	-0.6
MASBT	Mashibuluo	1.66	211	eP	Pn	05 29 31.0	+0.7
EAST	Anshuo	1.78	202	eP	Pb	05 29 33.8	-0.3
SCZT	Fangliau	1.88	208	eP	Pn	05 29 34.1	+0.8
PHUB	P'eng-hu	1.89	254	eP	Pn	05 29 33.2	-0.2
PNG	Penghu	1.89	256	eP	Pn	05 29 33.0	-0.5
WDGT	Dungji	1.91	246	eP	Pn	05 29 33.9	+0.3
SLIU	Shizi	1.95	201	eP	Pn	05 29 35.9	+1.6
LAY	Lan-yu	2.00	180	eP	Pn	05 29 33.0	-1.9
IRIF	Iriomote-Funau	2.01	81	P	Pn	05 29 34.9	-0.1
IRIF				eS	Sn	05 29 59.6	-0.1
HATJ	Hateruma jima	2.06	89	eP	Pn	05 29 36.1	+0.4
HATJ				eS	Sn	05 30 00.8	-0.1
JKRS	Kuro-shima	2.25	85	eS	Sn	05 30 06.7	+1.1
JIJ	Ishigaki jima	2.38	82	P	Pn	05 29 39.8	-0.4
JIJ				eS	Sn	05 30 07.8	-1.1
JISG	Ishigakijimahi	2.57	77	P	Pn	05 29 42.4	-0.3
JISG				eS	Sn	05 30 13.0	-0.5

TAP ***02*** *05:40:09.5,23°.74N×122°.64E,h39km±1km,ML3.4,D*
JMA ***02*** *05:40:10.3±0.2,23°.8N±0°.9×122°.5E±0°.6,h24km,MV2.9/13, NW OFF ISHIGAKIJIMA IS*

ISC 02 05:40:08.8±1.2,23°.74N±0°.03×122°.53E±0°.02,h20km±5km, n78,σ1°94/111,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	EOS3	0.58	340	eP	Pn	05 40 21.6	-0.2
EOS2	EOS2	0.73	338	i P	Pn	05 40 24.5	+0.6
EOS2				S	Sn	05 40 36.0	+1.5
JYNG	Yonagunijimaku	0.81	28	P	Pg	05 40 24.6	0.0
JYNG				S	Sb	05 40 34.0	-0.6
YOJ	Yonaguni jima	0.84	31	eP	Pg	05 40 25.2	-0.1
YOJ				i S	Sb	05 40 35.3	-0.4
YOJ	Yonaguni jima	0.84	31	P	Pg	05 40 25.4	0.0
YOJ				eS	Sb	05 40 35.3	-0.4
SHUL	Shoufeng	0.89	273	eP	Pn	05 40 26.6	+0.4
SHUL				eS	Sn	05 40 38.8	+0.2
TWD	Chiawan	0.92	292	P	Pb	05 40 26.4	+0.3
TWD				eS	Sg	05 40 39.0	0.0
NACB	Ninganchiao	0.96	297	P	Pb	05 40 26.1	-0.7
NACB	Ninganchiao	0.96	297	S	Sb	05 40 31.3	-7.8
NACB	Ninganchiao	0.96	297	eP	Pb	05 40 26.9	+0.1
ETM	Tongmen	0.98	284	eP	Pb	05 40 27.1	0.0
EWUT	Wuta	0.99	316	i P	Pg	05 40 28.2	+0.2
EWUT				eS	Sn	05 40 42.2	+1.2
ENA	Nanau	1.00	314	eP	Pg	05 40 28.5	+0.2
HGSD	Ruisui	1.05	257	i P	Pb	05 40 28.4	+0.2
HGSD				eS	Sb	05 40 41.7	+0.2
WARBT	Fenglin Townsh	1.05	269	P	Pb	05 40 28.1	-0.3
WARBT				eS	Sb	05 40 41.9	+0.2
LXIB	Xiulin Townshi	1.06	286	eP	Pb	05 40 28.4	-0.2
ETLH	Xiulin Townshi	1.07	296	P	Pb	05 40 28.7	0.0
TWC	Suao	1.07	324	P	Pn	05 40 28.8	+0.1
TWC				eS	Sg	05 40 43.5	-0.2
ECBN	Changbin	1.08	247	eP	Pb	05 40 29.0	+0.2
ECBN				S	Sb	05 40 42.8	+0.4
EHY	Hungye	1.13	259	P	Pb	05 40 30.0	+0.2
EHY				eS	Sn	05 40 44.6	0.0
CHKH	Chenggong	1.18	243	eP	Pn	05 40 30.2	+0.1
CHKH				eS	Sb	05 40 44.2	-1.1
EYUL	Yuli	1.18	251	eP	Pb	05 40 30.9	+0.4
EYUL				eS	Sb	05 40 45.7	+0.3
YULB	Yu-li	1.19	253	P	Pb	05 40 30.9	+0.3
YULB	Yu-li	1.19	253	S	Sg	05 40 46.9	-0.4
YULB	Yu-li	1.19	253	eP	Pb	05 40 30.9	+0.3
YULB				eS	Sb	05 40 45.6	0.0
TWF1	Yuli	1.20	252	eP	Pb	05 40 30.9	+0.1
TWF1				eS	Sb	05 40 45.8	-0.1
HATJ	Hateruma jima	1.21	74	P	Pg	05 40 31.9	-0.3
HATJ				eS	Sg	05 40 48.0	0.0
LATG	Datong	1.22	311	P	Pb	05 40 31.4	+0.1
WHF	Hehuan Shan	1.23	290	eP	Pn	05 40 31.3	0.0
CHKT	Chengkung	1.25	240	eP	Pn	05 40 30.8	-0.3
CHKT				eS	Sb	05 40 45.8	-1.5
IRIF	Iriomote-Funau	1.25	61	eP	Pb	05 40 32.0	+0.4
FULB	Fuli	1.26	245	eP	Pn	05 40 31.6	+0.3
FULB				eS	Sb	05 40 47.2	-0.4
TWE	Neicheng	1.26	321	P	Pb	05 40 32.3	+0.4
ENTT	Nioudou	1.26	316	eP	Pb	05 40 32.0	+0.1
OWD	Renai	1.26	280	eP	Pb	05 40 31.9	-0.1
OWD				eS	Sb	05 40 47.5	-0.4
NNS	Nan Shan	1.27	304	eP	Pb	05 40 32.5	0.0
VWDT	VWDT	1.28	271	P	Pb	05 40 32.2	0.0
VWDT				eS	Sn	05 40 48.0	0.0
FUSS	Fushou	1.28	294	eP	Pb	05 40 32.4	-0.1
WUSB	Renai	1.32	281	eP	Pb	05 40 33.2	+0.2
WUSB				eS	Sb	05 40 49.9	+0.3
FUSB	Fushanzhiwuyua	1.34	320	P	Pb	05 40 33.4	+0.2
TWT	Tachien	1.34	293	eP	Pb	05 40 33.9	+0.4
EHD	Haiduan	1.35	245	eS	Sn	05 40 50.0	+0.1
TDCB	Techi	1.36	293	eP	Pn	05 40 33.2	+0.4
EDH	Donghe	1.36	236	eP	Pn	05 40 32.8	+0.1
EDH				eS	Sn	05 40 49.0	-1.2
TIPB	Shuangxi	1.39	332	eP	Pb	05 40 34.0	-0.2
NWLT	Wulai	1.40	318	eP	Pb	05 40 34.3	0.0
YHNB	Yeheng	1.41	312	P	Pb	05 40 34.5	0.0
YHNB	Yeheng	1.41	312	eP	Pb	05 40 34.1	-0.3
NSK	Sanguang	1.42	311	eP	Pb	05 40 34.5	-0.3
JKRS	Kuro-shima	1.44	69	eP	Pb	05 40 35.5	+0.6
LDUT	Ludao	1.44	223	eS	Sn	05 40 50.7	-1.4
SSLB	Suanglung	1.45	272	P	Pn	05 40 34.5	+0.6
SSLB	Suanglung	1.45	272	eP	Pn	05 40 34.1	+0.2
SXI1	Grass Mountain	1.48	336	eP	Pb	05 40 35.2	-0.5
ELDTW	Lidau	1.50	249	eP	Pn	05 40 35.0	+0.4
ELDTW				eS	Sn	05 40 52.7	-1.0
SMLT	Sun Moon Lake	1.50	276	eP	Pn	05 40 34.8	+0.1
WHYT	Xinyi Township	1.54	269	eP	Pb	05 40 36.6	-0.1
WHP	Taichung City	1.55	291	eP	Pg	05 40 37.9	-0.8
TATO	Taipei	1.56	323	P	Pb	05 40 37.7	+0.7
NFF	Wufeng Townshi	1.57	305	eP	Pb	05 40 37.4	+0.2
JIJ	Ishigaki jima	1.60	67	P	Pb	05 40 37.9	+0.2
ALS	Alishan	1.60	262	eP	Pb	05 40 38.1	+0.2
ALS				eS	Sb	05 40 58.3	+0.5
KSHI	Guanxi Townshi	1.61	310	eP	Pb	05 40 37.7	-0.2
LIOB	Emei	1.66	303	eP	Pb	05 40 39.3	+0.7
LIOB				eS	Sb	05 40 59.6	+0.5
YM01	YM01	1.66	328	eP	Pb	05 40 37.9	-0.7
NSTT	Nanjuang	1.66	303	eP	Pb	05 40 39.0	+0.4
NSTT				eS	Sb	05 40 59.5	+0.3
ZUZH	Zhuzihu	1.68	328	eP	Pb	05 40 38.7	-0.4
CHN5	Tsauling	1.71	266	eP	Pb	05 40 40.0	+0.5
CHN5				eS	Sb	05 41 00.7	+0.1
STYH	Taoyuan	1.71	251	eP	Pb	05 40 39.2	-0.3
STYH				eS	Sn	05 40 59.4	+0.7
WCKO	Fanlu	1.79	261	eP	Pn	05 40 39.8	+1.1
WCKO				eS	Sb	05 41 04.9	+1.8
TPUB	Ta-pu	1.80	256	P	Pb	05 40 41.6	+0.5
TPUB	Ta-pu	1.80	256	eP	Pb	05 40 41.1	-0.1
TPUB				eS	Sb	05 41 03.5	+0.2
CHN4	Tsaushan	1.82	258	eS	Sb	05 41 05.7	+1.8
WTP	Ta-pu	1.83	255	eP	Pb	05 40 41.2	-0.4
JISG	Ishigakijimahi	1.83	62	P	Pn	05 40 38.7	-0.4
JISG				S	Sn	05 41 01.6	-0.2
CHN1	Nanshi	1.92	254	eP	Pb	05 40 43.2	+0.1
CHN1				eS	Sb	05 41 02.5	+0.7
PCYT	Pengchaiyu	1.93	348	eP	Pn	05 40 41.8	+1.2
SNST	Tainan City	1.94	255	eS	Sb	05 41 08.4	+1.2

NEIC ***02*** *05:55:52.7±2.5,40°.202N×0°.007×124°.77W±0°.04, h10km±1km,Error ellipse: s-maj=5.7km s-min=3.0km az=268.0*
IDC ***02*** *05:55:54.1±1.7,40°.38N×124°.35W,h0km,mb3.1/3, mbtmp3.4/6,ML3.4/3,Error ellipse: s-maj=21.1km s-min=10.8km az=98.0*
NEIC ***02*** *05:55:56.9,40°.30N×124°.50W,h19km*
NCEDC ***02*** *05:55:56.6±2.2,40°.30N±0°.02×124°.53W±0°.05,h20km±2km, Mwr3.8/4,mb4.0/4(NEIC),ML3.3/80(NEIC),Error ellipse: s-maj=5.8km s-min=3.2km az=91.0*
NEIC ***02*** *05:55:56.9,40°.30N×124°.50W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.64; $M_{\theta\theta}$-1.26; $M_{\phi\phi}$0.62; $M_{r\theta}$0.29; $M_{\theta\phi}$-5.13; $M_{\phi r}$-3.11; Fault plane solution: $M_0$6.11000×10^{14} NP1:φs93.16000°, δ59.50000°,λ172.44000°. NP2:φs187.01000°,δ83.49000°, λ30.72000°. Principal axes: T 6.1626, Plg26.0000°, Azm54.0000°; N -0.1108, Plg59.0000°, Azm198.0000°; P -6.0518, Plg16.0000°, Azm316.0000°;*

ISC 02 05:55:56.1±1.1,40°.30N±0°.04×124°.55W±0°.07,h25km, n123,σ1°90/114,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.24	43		Pn	05 56 02.8	-1.3
KMPM	Mount Pierce	0.35	71		Pb	05 56 03.9	0.0
KMPM	Mount Pierce	0.35	71		Sn	05 56 10.0	-1.9
JCC	Jacoby Creek,	0.65	37		Pb	05 56 08.2	-0.6
JCC				IAML		05 56 28.2	
	comp=N,1μm,0.9s						
JCC				IAML		05 56 29.5	
	comp=E,2μm,1.2s						
KMRM	Mail Ridge	0.65	97		Pn	05 56 09.0	-0.8
KHMM	Horse Mountain	0.84	47		Pb	05 56 11.3	-0.9
KRPM	Rodgers	0.94	25		Pb	05 56 12.4	-1.4
KRPM				IAML		05 56 37.0	
	comp=N,1μm,0.9s						
KRPM				IAML		05 56 43.3	
	comp=E,1μm,0.9s						
KIPM	Iron Peak	0.96	121		Pb	05 56 13.1	-1.0
KCPM	Cahto Peak	0.96	129		Pn	05 56 12.8	-1.4
KHBM	Hayfork Bally	1.07	70		Pn	05 56 14.4	-1.4
KBNM	Bluenose Ridge	1.12	111		Pn	05 56 15.6	-0.7
DCMP	DeCamp, Califo	1.25	131		Pn	05 56 16.8	-1.2
DCMP					Sn	05 56 31.8	-2.3
DCMP	DeCamp, Califo	1.25	131	IAML		05 56 32.3	
	comp=N,729nm,0.2s						
DCMP				IAML		05 56 32.9	
	comp=E,498nm,0.2s						
WEAV	Weaverville	1.27	69		Pn	05 56 17.3	-1.1
LBPM	Beegum Peak	1.27	89		Pn	05 56 17.6	-0.8
KOMM	Orleans Mounta	1.28	40		Pn	05 56 17.4	-1.1
KRMB	Red Mountain	1.31	22		Pn	05 56 17.6	-1.3
KRMB	Red Mountain	1.31	22	IAML		05 56 33.9	
	comp=N,356nm,0.7s						
O02D	Mt. Diablo Mer	1.35	95		Pn	05 56 18.7	-0.8
O02D				IAML		05 56 44.7	
	comp=E,606nm,0.8s						
O02D				IAML		05 56 51.2	
	comp=N,957nm,0.9s						
GWRM	Wonder Ranch	1.46	138		Pn	05 56 19.8	-1.1
GROM	Round Mountain	1.49	104		Pn	05 56 21.0	-0.4
GVV	Valley View	1.53	110		Pn	05 56 21.2	-0.8
N02D	Trinity Center	1.55	64		Pn	05 56 21.4	-0.8
N02D	Trinity Center	1.55	64	IAML		05 56 53.4	
	comp=N,709nm,0.4s						
SIGP	Signal Peak, C	1.61	13		Pn	05 56 22.1	-0.8
LBKM	Bonanza King	1.63	61		Pn	05 56 22.6	-0.8
M02C	Callahan	1.68	49		Pn	05 56 23.2	-0.8
HOPS	Hopland Field	1.74	138		Pn	05 56 23.4	-1.2
HOPS				IAML		05 56 55.2	
	comp=N,230nm,1.1s						
LTCM	Tuscan Springs	1.86	92		Pn	05 56 26.0	-0.3
KBO	Bosley Butte	1.92	7		Pn	05 56 25.7	-1.6
KBO				IAML		05 56 48.5	
	comp=N,214nm,0.3s						
KBO				IAML		05 56 50.5	
	comp=E,252nm,1.1s						
LAMM	Antelope Mount	1.96	48		Pn	05 56 27.3	-0.6
L02F	Cave Junction	1.96	22		Pn	05 56 26.9	-0.9
L02F				IAML		05 56 54.7	
	comp=N,223nm,1.1s						
L02F				IAML		05 56 56.5	
	comp=E,211nm,0.6s						
LSHM	Sage Hen Hill	1.97	75		Pn	05 56 27.7	-0.3
LCSM	College of the	1.98	55		Pn	05 56 28.2	+0.2
GRTM	Round Top Moun	1.99	133		Pn	05 56 27.8	-0.4
YBH	Yreka Blue Hor	1.99	44		Pn	05 56 27.3	-1.0
YBH	Yreka Blue Hor	1.99	44	Pn	Pn	05 56 27.6	-0.7
	comp=E,18nm,0.3s,baz=252,slow=14,SNR=340						
YBH				Lg	Lg	05 56 51.2	
	comp=E,16nm,0.3s,baz=151,slow=19,SNR=7.3						
GHCM	House Creek	1.99	148		Pn	05 56 27.1	-1.1
GFC	Funks Creek	2.00	119		Pn	05 56 28.8	+0.6
LGBM	Gray Butte	2.07	59		Pn	05 56 29.7	+0.2
M03C	McCloud	2.08	61		Pn	05 56 29.5	0.0
M03C	McCloud	2.08	61	IAML		05 57 20.9	
	comp=N,364nm,1.6s						
M03C				IAML		05 57 28.1	
	comp=E,387nm,0.9s						
O03E	Paynes Creek	2.10	89		Pn	05 56 29.0	-0.7
O03E	Paynes Creek	2.10	89	IAML		05 56 56.4	
	comp=N,318nm,0.5s						
O03E				IAML		05 56 57.1	
	comp=E,359nm,0.3s						
LDBM	Digger Butte	2.12	86		Pn	05 56 29.1	-0.9
LMPM	Military Pass	2.16	56		Pn	05 56 31.5	+0.8
MNRC	McLaughlin Min	2.16	131		Pn	05 56 30.1	-0.4
MNRC	McLaughlin Min	2.16	131	IAML		05 57 36.4	
	comp=N,138nm,1.1s						
LHEM	Herd Peak	2.21	52		Pn	05 56 31.5	+0.2
NMTM	Middletown	2.21	132		Pn	05 56 30.8	-0.4
B040	Montague	2.22	46		Pn	05 56 31.2	-0.1
NHSM	Mount Saint He	2.22	137		Pn	05 56 30.7	-0.8
LBFM	Black Fox Moun	2.27	62		Pn	05 56 32.5	+0.3
LMEM	Manzanita Entr	2.29	83		Pn	05 56 32.0	-0.3
OSUM	Sutter Buttes	2.32	116		Pn	05 56 31.5	-1.1
LRDM	Redding Peak	2.36	85		Pn	05 56 33.5	+0.2
HATC	Hat Creek Radi	2.41	77		Pn	05 56 33.8	-0.2
LGMM	Garner Mountai	2.43	57		Pn	05 56 34.6	+0.3
OSTM	Stimpson Lane	2.46	111		Pn	05 56 33.7	-0.8
LTIM	Timbered Crate	2.48	68		Pn	05 56 34.9	-0.1
PAM	Palermo	2.48	109		Pn	05 56 34.2	-0.7
MCCM	Marconi Confer	2.52	148	Pn	Pn	05 56 34.2	-1.1
M04C	Macdoel	2.52	53		Pn	05 56 35.8	+0.2
CVS	Carmenet Viney	2.54	140		Pn	05 56 35.0	-0.7
L04D	Klamath Falls	2.55	41		Pn	05 56 36.2	+0.2
L04D				IAML		05 57 12.3	
	comp=E,196nm,0.7s						
L04D				IAML		05 57 12.4	
	comp=N,167nm,0.7s						
NOLM	Olema	2.64	148		Pn	05 56 36.0	-1.1
SFRE	Sierra Foothil	2.70	112		Pn	05 56 37.7	-0.1
FARB	Farallon Islan	2.87	155		Pn	05 56 39.7	-0.5
FARB	Farallon Islan	2.87	155	IAML		05 57 12.4	
	comp=E,161nm,0.5s						
FARB				IAML		05 57 16.6	
	comp=N,82nm,0.4s						
J01E	Myrtle Point	2.89	9		Pn	05 56 40.1	-0.4
J01E				IAML		05 57 49.0	
	comp=E,69nm,1.8s						
J01E				IAML		05 58 00.1	
	comp=N,73nm,1.5s						
BKS	Berkeley--Byer	3.02	143		Pn	05 56 41.9	-0.4
AFDM	Forest Hills D	3.08	115		Pn	05 56 43.0	-0.1
K04D	Chiloquin, OR	3.13	41		Pn	05 56 44.1	+0.2
SAC	San Andreas	3.19	148		Pn	05 56 43.5	-1.1
JCHM	Cahill Ridge	3.26	148		Pn	05 56 44.4	-1.2
J04A	Umpqua Nationa	3.45	31		Pn	05 56 49.3	+0.8
I03D	Drain, OR	3.51	14		Pn	05 56 49.7	+0.7
JPSM		3.55	150		Pn	05 56 50.0	+0.5
I02E	Swisshome, OR	3.84	8	Pn	Pn	05 56 55.1	+1.6
I02E				IAML		05 58 26.5	
	comp=N,42nm,2.7s						
I02E				IAML		05 58 44.4	
	comp=E,60nm,2.6s						
J05D	Fort Rock, OR	3.87	39		Pn	05 56 54.5	+0.4
J05D				IAML		05 58 15.4	
	comp=N,47nm,1.7s						
J05D				IAML		05 58 27.3	
	comp=E,50nm,1.7s						
CMB	Columbia Colle	3.95	124	

comp=Z,0.3nm,0.4s

*IDC **02** 05:56:21.7±2.7,27.°93N×51.°77E, h0km, mb3.9/7, mbtmp3.9/8, ML3.3/1, MS3.6/1, Error ellipse: s-maj=54.4km s-min=27.3km az=23.0*
*TEH **02** 05:56:23.7,27.°90N×51.°83E, h14km±19km*
ISC 02 05:56:22.5±1.1,27.°78N±0.°08×51.°76E±0.°06, h10km, n27, σ1§55/28, mb3.6/7, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.73	323	Pg	Pb	05 56 37.9	+0.6
AHBU	AHRAM	1.15	339	Pg	Pn	05 56 45.1	+0.4
LMD1	Lamerd	1.32	109	Pg	Pg	05 56 49.3	+1.4
QIR1	Qir	1.33	58	Pg	Pg	05 56 47.8	-0.2
JHRM	Jahrom	1.76	65	Pg	Pb	05 56 54.6	-0.3
KAZ2	Kazeron-Fars-I	1.83	357	Pg	Pb	05 56 55.6	-0.4
SHI	Shiraz	1.97	19	Pn	Pb	05 56 57.6	-0.9
KLNJ	Kolanjah	3.22	357	Pn	Pn	05 57 15.0	+1.6
IRAM	Ramesheh	4.05	7	Pn	Pn	05 57 26.3	+1.6
IMEH	Mehriz	4.37	34	Pn	Pn	05 57 31.4	+2.3
KHGB	Koh Gabri	4.87	57	Pn	Pn	05 57 37.3	+1.3
ICHK	Chekchek	5.00	27	Pn	Pn	05 57 39.5	+1.7
IBAF	Bafgh	5.04	40	Pn	Pn	05 57 39.9	+1.6
IZEF	Zefreh	5.12	5	Pn	Pn	05 57 40.5	+1.0
ZRDN	Zarand Kerman	5.24	52	Pn	Pn	05 57 42.7	+1.6
CHMN	Cheshme madani	5.48	66	Pn	Pn	05 57 46.4	+1.9
ANAR	Anarak	5.65	17	Pn	Pn	05 57 47.7	+1.1
KBAM	BAM	6.04	76	Pn	Pn	05 57 54.8	+2.8
WSAR	Wadi Sarin	7.68	125	Pn	Pn	05 58 15.9	+1.6
	0.4nm,0.3s,baz=285,slow=12,SNR=1.8						
WSAR				Sn	Sn	05 59 37.2	-4.3
	0.9nm,0.3s,baz=288,slow=20,SNR=4.5						
WSAR				LR	LR	06 01 34.9	
	comp=Z,390nm,19.1s,baz=254,slow=40						
	7.3nm,0.8s						
SNQR	Sonqor, Kerman	7.89	334	Pn	Pn	05 58 18.2	+0.7
BVAR	Borovoye Array	28.76	24	P	P	06 02 19.4	-0.7
	0.8nm,0.7s,baz=232,slow=7.1,SNR=4.5						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	30.54	34	P	P	06 02 36.0	+0.2
	0.8nm,0.9s,baz=233,slow=9.2,SNR=5.9						
	0.8nm,0.9s						
MKAR	Makanchi Array	30.54	43	P	P	06 02 35.6	-0.5
	0.6nm,0.7s,baz=227,slow=8.3,SNR=6.3						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	35.62	34	P	P	06 03 19.9	-0.3
	1.2nm,0.5s,baz=237,slow=7.9,SNR=6.1						
	1.2nm,0.5s						
FINES	FINESS Array B	37.79	340	P	P	06 03 38.2	-0.3
	5.9nm,1.0s,baz=145,slow=8.2,SNR=7.3						
	5.9nm,1.0s						
HFS	Hagfors	41.36	332	P	P	06 04 08.3	-0.1
	1.6nm,0.4s,baz=116,slow=10,SNR=14						
	1.6nm,0.4s						
NOA	NORSAR Array B	42.89	332	P	P	06 04 20.2	-0.7
	0.4nm,0.4s,baz=128,slow=9.1,SNR=3.9						
	0.4nm,0.4s						

*IDC **02** 05:56:45.7±1.2,27.°77N×51.°76E, h0km, mb4.1/18, mbtmp4.1/22, ML3.5/4, Error ellipse: s-maj=26.3km s-min=18.0km az=10.0*
ISC 02 05:56:46.8±0.7,27.°7N±0.°1×51.°71E±0.°10, h10km, n36, σ1§40/38, mb4.3/31, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	7.67	124	Pn	Pn	05 58 40.3	+1.6
	0.9nm,0.3s,baz=306,slow=11,SNR=4.1						
WSAR				Sn	Sn	06 00 02.4	-3.3
	0.5nm,0.3s,baz=210,slow=20,SNR=1.7						
	5.9nm,0.5s						
MMAI	Mount Meron Ar	15.03	295	Pn	Pn	06 00 20.2	+0.8
	0.2nm,0.3s,baz=98,slow=16,SNR=1.6						
MMAI				Sn	Sn	06 03 01.0	-5.1
	0.4nm,0.3s,baz=113,slow=27,SNR=2.5						
	1.8nm,0.7s						
KBZ	Khabaz	17.50	338	P	Pn	06 00 51.6	+0.7
	0.1nm,0.3s,baz=135,slow=5.7,SNR=6.4						
	6.8nm,1.0s						
BRTR	Keskin Array B	19.19	313	P	P	06 01 11.9	+1.1
	0.1nm,0.3s,baz=138,slow=13,SNR=12						
	3.2nm,0.9s						
AKTO	Aktyubinsk	23.21	10	P	P	06 01 54.5	+0.6
	0.7nm,0.3s,baz=216,slow=11,SNR=6.9						
	0.7nm,0.3s						
BELG	Belogornoye	24.86	354	P	P	06 02 08.9	-0.4
	22nm,0.8s,baz=153,slow=1.9,SNR=4.3						
	22nm,0.8s						
MLR	Muntele Rosu	27.08	318	P	P	06 02 30.7	+1.0
	3.1nm,0.9s,baz=144,slow=14,SNR=4.7						
	3.1nm,0.9s						
AKASG	Malin Array Be	28.62	329	P	P	06 02 43.0	-0.2
	1.3nm,0.7s,baz=137,slow=8.1,SNR=7.3						
	1.3nm,0.7s						
BVAR	Borovoye Array	28.85	24	P	P	06 02 44.7	-0.7
	1.7nm,0.9s,baz=213,slow=6.9,SNR=5.0						
	1.7nm,0.9s						
KURBB	Kurchatov Arra	30.63	34	P	P	06 03 00.8	-0.3
	1.4nm,0.9s,baz=236,slow=8.8,SNR=7.2						
	1.4nm,0.9s						
MKAR	Makanchi Array	30.64	43	P	P	06 03 00.6	-0.7
	1.1nm,0.8s,baz=242,slow=5.5,SNR=8.3						
	1.1nm,0.8s						
SOKA	Soboth	34.41	313	*i* P	P	06 03 36.6	+2.2
	3.4nm,1.3s						
VRAC	Vranov	34.48	318	P	P	06 03 34.1	-0.7
	1.8nm,0.4s,baz=125,slow=11,SNR=3.7						
	1.8nm,0.4s						
OBKA	Obir	34.67	313	*e*P	P	06 03 39.3	+2.7
	12nm,1.4s						
MOA	Molln	35.32	315	*i* P	P	06 03 43.5	+1.4
	5.8nm,1.0s						
BIOA	Bad Ischl, Aus	35.66	314	*e*P	P	06 03 45.7	+0.7
	8.2nm,1.2s						
ZALV	Zalesovo Beam	35.71	34	P	P	06 03 44.6	-0.7
	1.9nm,0.4s,baz=243,slow=8.4,SNR=10						
	1.9nm,0.4s						
ABTA	Abfaltersbach	36.07	312	*i* P	P	06 03 50.0	+1.3
	3.6nm,0.9s						
LESA	Schwarzleotal	36.18	314	*i* P	P	06 03 50.2	+0.6
	2.9nm,0.8s						
WTTA	Wattenberg	36.80	313	*i* P	P	06 03 55.9	+0.8
	12nm,1.1s						
WATA	Walderalm	36.86	313	*i* P	P	06 03 55.9	+0.4
	11nm,1.1s						
SQTA	Sankt Quirin	37.07	313	*e*P	P	06 03 57.5	+0.3
	6.8nm,0.9s						
MOTA	Moosalm	37.17	313	*e*P	P	06 03 59.0	+0.8
	7.5nm,0.9s						
FETA	Feichten	37.32	312	*e*P	P	06 04 00.2	+0.7
	7.9nm,1.0s						
RETA	Reutte	37.44	313	*e*P	P	06 04 01.1	+0.8
	6.5nm,1.2s						
FINES	FINESS Array B	37.85	340	P	P	06 04 03.3	-0.1
	1.3nm,0.3s,baz=140,slow=7.3,SNR=19						
	1.3nm,0.3s						
DAVA	Damuels	37.95	312	*i* P	P	06 04 05.1	+0.3
	8.6nm,0.7s						
HFS	Hagfors	41.41	332	P	P	06 04 33.3	+0.1
	4.3nm,0.3s,baz=120,slow=8.5,SNR=39						
	4.3nm,0.3s						
NB2	NORSAR Subarra	42.94	332	P	P	06 04 45.2	-0.5
	comp=Z,0.9nm,0.4s,baz=121,slow=8.6						
NOA	NORSAR Array B	42.94	332	P	P	06 04 45.4	-0.3
	comp=Z,2.6nm,0.8s,baz=128,slow=9.0,SNR=15						
	comp=Z,2.6nm,0.8s						
ARCES	ARCESS Array B	44.55	347	P	P	06 04 58.9	+0.4
	comp=Z,4.3nm,1.1s,baz=149,slow=7.5,SNR=7.6						
	comp=Z,4.3nm,1.1s						
EKA	Eskdalemuir Ar	47.85	321	P	P	06 05 23.4	-1.2
	comp=Z,0.3nm,0.4s,baz=102,slow=7.8,SNR=4.5						
	comp=Z,0.3nm,0.4s						
TORD	Torodi Ar. Bea	48.73	263	P	P	06 05 32.8	+0.8
	comp=Z,0.7nm,0.3s,baz=58,slow=8.1,SNR=0.6						
	comp=Z,0.7nm,0.3s						
SCHQ	Schefferville	82.41	329	P	P	06 09 09.7	+0.5
	comp=Z,2.5nm,0.8s,baz=49,slow=9.6,SNR=5.7						
	comp=Z,2.5nm,0.8s						
YKA	Yellowknife Ar	89.45	354	P	P	06 09 44.5	+0.8
	comp=Z,0.7nm,0.9s,baz=10,slow=4.7,SNR=4.6						
	comp=Z,0.7nm,0.9s						
ASAR	Alice Springs	94.26	114	P	P	06 10 06.5	-0.2
	comp=Z,0.1nm,0.4s,baz=303,slow=4.4,SNR=1.7						
	comp=Z,0.1nm,0.4s						

*IDC **02** 06:00:05.3±0.6, 46.°54N×27.°38W, h0km, mb4.0/21, mbtmp4.0/23, ML4.4/2, MS4.4/78, Error ellipse: s-maj=17.8km s-min=12.5km az=0.0*
*IGIL **02** 06:00:06.7, 46.°44N×27.°38W, h10km, Mb4.4*
*NEIC **02** 06:00:07.6±1.6, 46.°54N±0.°09×27.°4W±0.°1, h10km±1km, mb4.9/78, Error ellipse: s-maj=16.0km s-min=15.0km az=43.0*
*GCMT **02** 06:00:08.6±0.1, 46.°58N±0.°02×27.°30W±0.°01, h12km, MW5.2/141, Moment Tensor Solution. s64,c87; s141,c234; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.44±.12; $M_{\theta\theta}$-0.43±.14; $M_{\phi\phi}$6.87±.09; $M_{r\theta}$1.23±.40; $M_{\theta\phi}$0.67±.10; $M_{\phi r}$1.94±.32; Best double couple: $M_0$7.07600×10^{16} NP1:ϕ_s356.00000°, δ37.00000°, λ-105.00000°. NP2:ϕ_s194.00000°, δ54.00000°, λ-79.00000°. Principal axes: T 7.2400, Plg9.0000°, Azm276.0000°; N -0.3230, Plg9.0000°, Azm8.0000°; P -6.9130, Plg78.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
ISC 02 06:00:08.0±0.4, 46.°53N±0.°06×27.°31W±0.°05, h16km, n245, σ1§64/186, mb4.6/77, MS4.5/83, 1C-8D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGU	Agualva, Azore	7.76	179	*e*P	Pn	06 02 00.8	+0.6
PAGU				*i* Amb		06 02 01.9	
	148nm,0.5s						
PSCM	Serra do Cume	7.82	179	*e*P	Pn	06 02 01.4	+0.3
PSCM				*i* Amb		06 02 02.8	
	74nm,0.2s						
CMLA	Cha da Macela	8.86	171	Pn	Pn	06 02 14.0	-1.3
CMLA	Cha da Macela	8.86	171	*e*P	Pn	06 02 15.0	-0.3
CMLA				*i* Amb		06 02 17.2	
	148nm,1.4s						
PGRON	Lagoa das Cont	8.87	170	*e*P	Pn	06 02 15.2	-0.3
PGRON				*i* Amb		06 02 15.7	
	106nm,0.4s						
BART	Pico Bartolome	8.89	169	*e*P	Pn	06 02 14.5	-1.3
BART				*i* Amb		06 02 33.6	
	1.7nm,0.8s						
PSMA	Santa Maria	9.66	170	*e*P	Pn	06 02 24.3	-2.0
PSMA				*i* Amb		06 02 28.5	
	178nm,1.1s						
PSMN	Pico do Norte,	9.66	169	*e*P	Pn	06 02 25.8	-0.5
PSMN				*i* Amb		06 02 28.5	
	194nm,1.1s						
PGAV	Gavieira, Arco	14.38	102	*e*P	Pn	06 03 29.3	-1.6
PGAV				IAmb	IAmb	06 03 30.0	
	comp=Z,89nm,0.6s						
PGAV				*e*S	S	06 06 45.6	+16
PTO	Porto	14.53	105	*e*P	Pn	06 03 29.7	-3.1
PTO				IAmb	IAmb	06 03 42.3	
	comp=Z,56nm,1.9s						
PCAB	Cabril	14.66	102	*e*P	Pn	06 03 32.9	-1.7
PCAB				IAmb	IAmb	06 03 34.0	
	comp=Z,73nm,0.5s						
POLO	Lamas de Olo	14.96	103	*e*P	Pn	06 03 36.7	-2.1
POLO				IAmb	IAmb	06 03 48.6	
	comp=Z,22nm,1.5s						
DSB	Dublin	15.04	56	Pn	Pn	06 03 38.1	-1.6
DSB				IAmb	IAmb	06 03 42.6	
	comp=Z,51nm,1.4s						
PVRL	Vila Real	15.06	103	*e*P	Pn	06 03 38.1	-1.9
PVRL				IAmb	IAmb	06 03 57.3	
	comp=Z,37nm,1.4s						
COI	Coimbra	15.11	108		Pn	06 03 38.5	-2.2
COI				IAmb	IAmb	06 03 46.8	
	comp=Z,104nm,1.6s						
COI	Coimbra	15.11	108	*e*P	Pn	06 03 39.3	-1.4
COI				IAmb	IAmb	06 03 47.5	
	comp=Z,60nm,1.4s						
PCAS	Casmilo, Conde	15.13	109	*e*P	Pn	06 03 39.8	-1.2
PVIS	Viseu	15.20	105	*e*P	Pn	06 03 40.0	-1.9
PSBE	So Bento	15.23	111	*e*P	Pn	06 03 41.6	-0.7
PMAFR	Mafra	15.23	113	P	Pn	06 03 39.5	-2.8
PBRG	Braganca	15.49	100	*e*P	Pn	06 03 44.5	-1.1
PBRG				IAmb	IAmb	06 03 53.8	
	comp=Z,48nm,1.4s						
MVO	Moncorvo	15.57	103	*e*P	Pn	06 03 45.1	-1.6
MVO				IAmb	IAmb	06 04 01.7	
	comp=Z,34nm,2.2s						
MVO				*e*S	S	06 07 18.5	+24
MTE	Manteigas	15.59	106	Pn	Pn	06 03 45.1	-1.9
MTE	Manteigas	15.59	106	*e*P	Pn	06 03 44.9	-2.2
MTE				IAmb	IAmb	06 03 55.5	
	comp=Z,39nm,2.5s						
MTE				*e*S	S	06 06 52.9	-1.8
PMOZ	Porto Moniz, M	15.73	147	*e*P	Pn	06 03 47.4	-1.5
PMOZ				IAmb	IAmb	06 03 59.2	
	comp=Z,163nm,2.1s						
PMOZ				*e*S	Sn	06 06 40.7	-2.2
PMTG	Montargil	15.85	111	*e*P	Pn	06 03 48.0	-2.3
PMTG				IAmb	IAmb	06 03 49.8	
	comp=Z,56nm,1.5s						
PCBR	Castelo Branco	15.92	108	*e*P	Pn	06 03 50.8	-0.3
PCBR				IAmb	IAmb	06 04 11.4	
	comp=Z,26nm,1.4s						
PMAR	Madeira	15.92	146	*e*P	Pn	06 03 51.0	-0.4
PMAR				IAmb	IAmb	06 04 00.5	
	comp=Z,143nm,1.7s						
PMRV	Marv??o	16.19	109	*e*P	Pn	06 03 53.9	-0.8
PMRV				IAmb	IAmb	06 04 01.6	
	comp=Z,53nm,1.8s						
PMRV				*e*S	S	06 07 42.5	+36
EVO	Evora	16.29	112	*e*P	Pn	06 03 55.0	-1.0
EVO				IAmb	IAmb	06 04 02.3	
	comp=Z,43nm,1.8s						
EVO	Evora	16.29	112	P	Pn	06 03 54.1	-1.9
EVO				S	Sn	06 07 00.0	+3.8
PESTR	Estremoz	16.37	111	Pn	Pn	06 03 54.0	-3.0
PESTR	Estremoz	16.37	111	*e*P	Pn	06 03 55.7	-1.3
PESTR	Estremoz	16.37	111	P	Pn	06 03 53.8	-3.2
MESJ	Messejana	16.57	115		Pn	06 03 58.2	-1.4
MESJ	Messejana	16.57	115	*e*P	Pn	06 03 59.3	-0.2
MESJ				IAmb	IAmb	06 04 01.0	
	comp=Z,15nm,0.8s						
MESJ	Messejana	16.57	115	*e*P	Pn	06 03 59.3	-0.2
MESJ				IAmb	IAmb	06 04 05.2	
	comp=Z,47nm,1.4s						
MORF	Marmelete	16.63	117	Pn	Pn	06 03 59.5	-0.9
MORF				IAmb	IAmb	06 04 07.3	
	comp=Z,119nm,1.6s						
MORF	Marmelete	16.63	117	*e*P	Pn	06 04 00.0	-0.4
MORF				IAmb	IAmb	06 04 04.8	
	comp=Z,84nm,1.6s						
MORF	Marmelete	16.63	117	*e*P	Pn	06 04 02.9	+2.5
MORF				IAmb	IAmb	06 04 08.0	
	comp=Z,109nm,1.6s						
PBEJ	Beja	16.68	114	*e*P	Pn	06 03 59.8	-1.1
PBEJ				IAmb	IAmb	06 04 22.6	
	comp=Z,37nm,1.8s						
EBAD	Badajoz	16.80	110	P	Pn	06 04 00.5	-2.0
PCVE	Castro Verde	16.81	115	*e*P	Pn	06 04 03.0	+0.4
PCVE	Castro Verde	16.81	115	P	Pn	06 04 02.2	-0.4
PBAR	Barrancos	17.12	112	*e*P	Pn	06 04 05.2	-1.3
PBAR				IAmb	IAmb	06 04 07.8	
	comp=Z,35nm,1.8s						
PBAR	Barrancos	17.12	112	P	Pn	06 04 04.3	-2.2
PVAQ	Vaqueiros	17.15	115	Pn	Pn	06 04 06.0	-0.9
PVAQ	Vaqueiros	17.15	115	*e*P	Pn	06 04 06.6	-0.2
PVAQ				IAmb	IAmb	06 04 23.2	
	comp=Z,47nm,2.0s						
PVAQ	Vaqueiros	17.15	115	P	Pn	06 04 04.8	-2.1
EGRO	El Granado	17.22	114	P	Pn	06 04 06.1	-1.6
EKA	Eskdalemuir Ar	17.51	51	P	Pn	06 04 12.2	+0.9
	baz=244,slow=11						
	comp=Z,2.9nm,0.8s						
EMIN	Mina Concepcio	17.59	112	P	Pn	06 04 10.1	-2.2
PAB	San Pablo	18.14	104	P	Pn	06 04 18.9	-0.4
ECAB	El Cabril	18.22	110	P	Pn	06 04 18.2	-1.9
ESBB	Sonseca Array	18.34	104	P	Pn	06 04 22.5	+0.9
ESDC	Sonseca Array	18.34	104	P	Pn	06 04 21.8	+0.3
ESDC				IAmb	IAmb	06 04 24.1	
	comp=Z,170nm,2.0s						
ESDC	Sonseca Array	18.34	104	P	Pn	06 04 22.7	+1.1
	comp=Z,0.9nm,0.3s,baz=298,slow=12,SNR=67						
ESDC				LR	LR	06 09 59.1	
	comp=Z,2μm,19.3s,baz=289,slow=32						
	comp=Z,4.8nm,0.5s						
BORG	Borgarnes	18.56	8	LR	LR	06 09 20.7	
	comp=Z,1μm,21.2s,baz=195,slow=30						
ESPR	Espera	18.65	113	P	P	06 04 26.6	+1.6
AVE	Averroes	20.11	124	P	P	06 04 42.1	+1.1
AVE				IAmb	IAmb	06 04 44.6	
	comp=Z,57nm,1.0s						
CEST	Esterri de Car	20.68	91	P	P	06 04 48.1	+0.9
UCC	Uccle	21.26	67	P	P	06 04 54.7	+1.5
DOU	Dourbes	21.43	69	*d*P	P	06 04 55.8	+0.7
	comp=Z,9.1nm,1.4s						
BMRD	Maredsous	21.53	68	*d*P	P	06 04 56.8	+0.7
	comp=Z,9.3nm,1.1s						
BGES	Gesves	21.73	68	*d*P	P	06 04 58.3	0.0
	comp=Z,9.3nm,1.2s						
RCHB	Rochefort	21.83	68	*d*P	P	06 05 04.5	+5.1
	comp=Z,7.9nm,0.9s						
BCLA	Clavier	21.87	68	*d*P	P	06 05 05.9	+6.1
	comp=Z,8.7nm,1.0s						
BSTI	Sart Tilman	22.03	67	*d*P	P	06 05 06.8	+5.3
	comp=Z,2.8nm,1.3s						
MDT	Midelt	22.10	120	LR	LR	06 12 01.2	
	comp=Z,1μm,21.9s,baz=330,slow=32						
SSB	Saint Sauveur	22.13	82	P	P	06 05 03.5	+0.7
SSB				IAmb	IAmb	06 05 16.8	
	comp=Z,33nm,1.4s						
MEM	Membach	22.31	67	*d*P	P	06 05 05.6	+1.0
	comp=Z,9.4nm,1.1s						
BHOU	Houvegnez	22.32	68	*d*P	P	06 05 08.6	+3.9
	comp=Z,9.0nm,1.2s						
ECH	Echery	23.29	73	P	P	06 05 17.1	+2.1
ECH				IAmb	IAmb	06 05 30.8	
	comp=Z,28nm,1.4s						
SENIN	Lac Senin/Sane	23.74	78	P	P	06 05 21.5	+2.0
SFJD	Kangerlussuaq	23.88	337	LR	LR	06 12 36.1	
	comp=Z,2μm,21.3s,baz=142,slow=32						
STU	Stuttgart	24.55	71	P	P	06 05 27.6	+0.8
TUE	Stuetta	25.09	77	P	P	06 05 32.7	+0.7
DAVA	Damuels	25.27	75	*e*P	P	06 05 35.3	+1.8
	comp=Z,17nm,1.1s						
HAL	Halifax	25.32	279	P	P	06 05 34.0	+0.2
DAVOX	Davos/Dischmat	25.38	76	LR	LR	06 14 39.3	
	comp=Z,1μm,19.5s,baz=278,slow=34						
RETA	Reutte	25.81	74	*e*P	P	06 05 40.7	+2.4
	comp=Z,5.6nm,1.1s						
FETA	Feichten	25.89	75	*e*P	P	06 05 41.9	+2.7
	comp=Z,8.4nm,1.4s						
MOTA	Moosalm	26.07	74	*e*P	P	06 05 43.0	+2.3
	comp=Z,10.0nm,1.5s						
SCHQ	Schefferville	26.08	303	P	P	06 05 41.9	+1.3
	comp=Z,7.1nm,1.2s,baz=102,slow=9.2,SNR=4.2						
SCHQ				LR	LR	06 13 51.1	
	comp=Z,2μm,21.1s,baz=85,slow=32						
	comp=Z,7.1nm,1.2s						
JMIC	Jan Mayen	26.15	14	LR	LR	06 13 37.4	
	comp=Z,296nm,18.6s,baz=180,slow=31						
SQTA	Sankt Quirin	26.17	74	*i* pP	P	06 05 43.5	+1.9
	comp=Z,12nm,1.4s						
BATG	Bathurst New B	26.31	286	P	P	06 05 42.2	-0.5
BATG				IAmb	IAmb	06 05 54.0	
	comp=Z,29nm,1.3s						
WATA	Walderalm	26.39	74	*e*pP	P	06 05 46.1	+2.5
	comp=Z,5.9nm,1.1s						
WTTA	Wattenberg	26.44	74	*e*P	P	06 05 45.0	+0.8
	comp=Z,8.4nm,0.9s						
NOA	NORSAR Array B	26.52	43	LR	LR	06 15 16.5	
	comp=Z,347nm,18.5s,baz=250,slow=34						
CLL	Collm	26.67	65	*e*S	S	06 10 26.0	+5.7
CLL				AMS	AMS	06 15 00.0	
	comp=Z,900nm,18.3s						
CTI	Castel Tesino	26.75	77	P	P	06 05 48.0	+1.2
BRG	Berggiesshubel	27.31	66	*e*P	P	06 05 59.6	+7.9
BRG				Amp		06 06 05.6	
	comp=Z,4.0nm,1.1s						
KHC	Kasperske Hory	27.34	69	*e*P	P	06 05 53.1	+1.1
GERES	GERESS Array B	27.47	70	P	P	06 05 53.9	+0.6
	comp=Z,0.7nm,0.7s,baz=270,slow=13,SNR=3.7						
GERES				LR	LR	06 16 34.2	
	comp=Z,2μm,18.2s,baz=260,slow=36						
	comp=Z,0.7nm,0.7s						
HFS	Hagfors	27.50	45	LR	LR	06 16 17.1	
	comp=Z,270nm,18.0s,baz=244,slow=35						
FRB	Frobisher Bay	28.50	322	LR	LR	06 14 25.0	
	comp=Z,949nm,20.1s,baz=104,slow=30						
VRAC	Vranov	29.25	68	LR	LR	06 17 32.3	
	comp=Z,2μm,18.9s,baz=268,slow=36						
KEST	Kesra	29.40	98	LR	LR	06 16 51.1	
	comp=Z,2μm,19.4s,baz=339,slow=34						
J61A	Chester	31.85	281	P	P	06 06 32.1	+0.1
TRQ	Mont Tremblant	32.22	287	P	P	06 06 35.4	+0.1
TRQ				IAmb	IAmb	06 06 46.3	
	comp=Z,21nm,1.2s						
LONY	Lake Ozonia	32.76	284	P	P	06 06 39.5	-0.5
LONY				IAmb	IAmb	06 06 51.0	
	comp=Z,18nm,1.1s						
BBTS	Babate	33.03	161	LR	LR	06 17 38.3	
	comp=Z,364nm,18.7s,baz=239,slow=32						
J59A	Piesco	33.13	282	P	P	06 06 43.4	+0.1
NACGM	Naroch	34.47	56	*e*P	P	06 06 57.4	+2.7
	comp=Z,290nm,1.1s,baz=279						
ARCES	ARCESS Array B	34.52	30	P	P	06 06 54.1	-0.9
	comp=Z,3.7nm,0.8s,baz=251,slow=7.7,SNR=3.1						
ARCES				LR	LR	06 20 30.6	
	comp=Z,229nm,18.5s,baz=270,slow=36						
	comp=Z,3.7nm,0.8s						
K57A	Scipio Center	34.77	282	P	P	06 06 58.5	+1.0
MNK	Minsk	35.17	56	*i* P	P	06 06 58.6	-2.2
	comp=E,24nm,0.7s						
MNK				*i* P	P	06 06 58.6	-2.2
	comp=N,15nm,1.0s						
MNK				*i* P	P	06 06 58.6	-2.2
	comp=Z,15nm,0.8s,baz=280						
MNK				*i* PP	PnPn	06 08 15.3	-3.0
MNK				*i* PPP	PPP	06 08 28.2	
MNK				*i* S	S	06 12 31.6	-1.4
MNK				*i* SS	SnSn	06 14 48.4	-1.4
MNK				*i* LR	LR	06 19 39.5	
MNK				*i* LRM	MLR	06 20 23.2	
	comp=E,405nm,18.3s						
MNK				*i* LRM	MLR	06 21 35.0	
	comp=N,447nm,17.6s						
MNK				*i* LRM	MLR	06 21 36.2	
	comp=Z,499nm,16.7s						

WCI Wyandotte Cave 43.45 281 P **P 06 08 11.3 +1.3**
CPCT Cooper Cave 43.70 277 P **P 06 08 12.3 +0.2**
CPCT IAmb IAmb 06 08 19.4
comp=Z,30nm,1.5s
BRTR Keskin Array B 44.02 76 P **P 06 08 15.8 +0.9**
comp=Z,1.1nm,0.7s,baz=306,slow=6.2,SNR=5.1
BRTR LR LR 06 26 35.9
comp=Z,404nm,21.0s,baz=292,slow=36
comp=Z,1.1nm,0.7s
DBIC Dimbokro 44.17 147 P **P 06 08 16.4 +0.5**
DBIC IAmb IAmb 06 08 31.1
comp=Z,15nm,1.4s
DBIC Dimbokro 44.17 147 P **P 06 08 15.9 0.0**
comp=Z,4.2nm,0.8s,baz=326,slow=7.3,SNR=3.7
DBIC LR LR 06 25 27.7
comp=Z,913nm,18.6s,baz=330,slow=34
comp=Z,4.2nm,0.8s
ULM Lac du Bonnet 44.22 301 P **P 06 08 16.5 +0.4**
comp=Z,1.2nm,0.5s,baz=61,slow=9.7,SNR=3.6
ULM LR LR 06 24 50.4
comp=Z,886nm,19.3s,baz=72,slow=34
comp=Z,1.2nm,0.5s
HDIL Hopedale 44.30 286 P **P 06 08 17.4 +0.5**
HDIL IAmb IAmb 06 08 19.5
comp=Z,14nm,1.0s
SWET Sewanee 44.79 277 P **P 06 08 21.0 0.0**
SWET IAmb IAmb 06 08 23.8
comp=Z,22nm,1.3s
L40A Anamosa 44.85 289 P **P 06 08 21.9 +0.6**
V48A Smith Brothers 45.12 278 P **P 06 08 24.5 +1.1**
V48A IAmb IAmb 06 08 36.1
comp=Z,43nm,1.8s
KIRV Kirov 45.63 45 LR LR 06 27 16.6
comp=Z,420nm,19.4s,baz=290,slow=36
MDP Montagnes des 46.72 216 LR LR 06 23 12.7
comp=Z,361nm,19.5s,baz=348,slow=30
CCM Cathedral Cave 46.88 284 P **P 06 08 36.7 -0.6**
BELG Belogornoye 47.03 54 LR LR 06 29 05.6
comp=Z,647nm,18.1s,baz=288,slow=37
KBZ Khabaz 48.11 66 LR LR 06 30 02.6
comp=Z,394nm,19.3s,baz=294,slow=37
PCRV Puerto La Cruz 48.12 233 LR LR 06 26 06.3
comp=Z,254nm,20.4s,slow=32
MMAI Mount Meron Ar 48.84 83 LR LR 06 31 09.4
comp=Z,146nm,21.4s,baz=288,slow=38
YKA Yellowknife Ar 49.02 322 P **P 06 08 52.7 -0.8**
comp=Z,0.4nm,0.3s,baz=73,slow=6.7,SNR=22
YKA LR LR 06 27 02.5
comp=Z,424nm,18.1s,baz=52,slow=33
comp=Z,0.4nm,0.3s
ASF Jabal al Asfar 50.35 83 LR LR 06 31 24.1
comp=Z,168nm,21.3s,baz=251,slow=37
MIAR Mount Ida 50.38 281 P **P 06 09 04.3 0.0**
MIAR IAmb IAmb 06 09 07.1
comp=Z,18nm,1.1s
EIL Elat 50.51 87 LR LR 06 33 07.0
comp=Z,130nm,18.7s,baz=281,slow=39
ARTI Arti 50.95 46 P **P 06 09 08.1 -0.1**
comp=Z,2.5nm,0.7s,baz=305,slow=4.1,SNR=4.1
ARTI LR LR 06 30 31.6
comp=Z,297nm,18.2s,baz=258,slow=36
comp=Z,2.5nm,0.7s
GNI Garni 51.12 70 LR LR 06 33 51.7
comp=Z,244nm,18.1s,baz=314,slow=40
SDV Santo Domingo 52.60 239 LR LR 06 27 23.9
comp=Z,354nm,21.9s,baz=70,slow=31
RCBR Riachuelo 52.68 191 LR LR 06 26 01.0
comp=Z,83nm,21.0s,baz=44,slow=30
INK Inuvik 53.14 334 LR LR 06 30 22.6
comp=Z,713nm,19.8s,baz=46,slow=34
AKTO Aktyubinsk 53.69 52 P **P 06 09 29.3 +0.6**
comp=Z,2.0nm,0.8s,baz=310,slow=5.3,SNR=5.5
AKTO LR LR 06 32 56.9
comp=Z,316nm,19.4s,baz=286,slow=37
comp=Z,2.0nm,0.8s
FW13 Cleburne 54.27 281 P **P 06 09 33.0 -0.2**
K22A Casper 54.29 297 P **P 06 09 32.8 -0.6**
E29M Blow River 54.41 335 P **P 06 09 33.4 -0.3**
E29M IAmb IAmb 06 09 35.6
comp=Z,17nm,1.7s
E28M Babbage River 54.75 335 P **P 06 09 35.5 -0.6**
E28M IAmb IAmb 06 09 49.1
comp=Z,15nm,1.8s
H31M Peel River 54.85 331 P **P 06 09 36.6 -0.3**
C27K Jago River 55.24 338 P **P 06 09 39.5 -0.3**
H10N2 ASCENSION HYDR 55.31 164 T T 07 08 57.1
baz=348,slow=74,SNR=19
H10N3 ASCENSION HYDR 55.32 165 T T 07 09 12.0
baz=348,slow=74,SNR=14
H10N1 ASCENSION HYDR 55.33 164 T T 07 08 58.6
baz=348,slow=74,SNR=25
G29M Pine Creek 55.36 333 P **P 06 09 40.4 -0.2**
G29M IAmb IAmb 06 10 17.3
comp=Z,26nm,1.8s
ABKAR Akbulak array 55.38 53 P **P 06 09 41.0 0.0**
E27K Coleen River 55.61 336 P **P 06 09 42.2 -0.2**
PDAR Pinedale Array 56.08 298 P **P 06 09 45.1 -1.3**
comp=Z,1.0nm,0.7s,baz=29,slow=4.8,SNR=9.7
PDAR LR LR 06 32 04.4
comp=Z,561nm,21.1s,baz=46,slow=34
comp=Z,1.0nm,0.7s
BPMT Black Pine Rid 56.31 304 P **P 06 09 47.6 -0.4**
H10S3 ASCENSION HYDR 56.38 165 T T 07 10 20.9
baz=230,slow=74,SNR=24
H10S2 ASCENSION HYDR 56.38 165 T T 07 10 17.6
baz=350,slow=74,SNR=24
E25K Arctic Village 56.76 337 P **P 06 09 50.6 0.0**
E25K IAmb IAmb 06 10 08.6
comp=Z,17nm,1.8s
I28M Miner Creek 56.89 333 P **P 06 09 51.3 -0.4**
I28M IAmb IAmb 06 09 53.6
comp=Z,8.8nm,0.9s
NEW Newport 57.34 307 P **P 06 09 54.5 -0.5**
NEW IAmb IAmb 06 09 55.7
comp=Z,14nm,1.2s
NEW Newport 57.34 307 LR LR 06 31 48.5
comp=Z,556nm,21.2s,baz=56,slow=33
DLBC Dease Lake 57.63 323 P **P 06 09 57.0 0.0**
comp=Z,2.9nm,1.0s,baz=35,slow=11,SNR=4.3
DLBC LR LR 06 31 44.0
comp=Z,410nm,21.1s,baz=70,slow=33
comp=Z,2.9nm,1.0s
ROSC El Rosal 58.01 239 LR LR 06 31 07.6
comp=Z,470nm,21.4s,baz=28,slow=32
PV23 Carpenter Ridg 58.25 294 P **P 06 10 01.0 -0.8**
PV23 IAmb IAmb 06 10 03.2
comp=Z,12nm,1.0s
HVU Hansel Valley 58.60 299 P **P 06 10 03.8 -0.3**
HVU IAmb IAmb 06 10 04.8
comp=Z,13nm,1.5s
BVAR Borovoye Array 58.63 45 P **P 06 10 04.1 +0.2**
comp=Z,1.9nm,0.7s,baz=317,slow=6.1,SNR=11
BVAR LR LR 06 36 32.9
comp=Z,330nm,18.3s,baz=290,slow=37
comp=Z,1.9nm,0.7s
ANMO Albuquerque 58.71 289 LR LR 06 34 33.4
comp=Z,564nm,18.9s,baz=214,slow=35
SAND Sanderson 58.91 282 P **P 06 10 05.6 -0.7**
SAND IAmb IAmb 06 10 06.9
comp=Z,12nm,1.0s
ILAR Eielson Array 59.50 334 P **P 06 10 09.3 -0.5**
comp=Z,0.9nm,1.0s,baz=38,slow=8.4,SNR=7.6
ILAR LR LR 06 34 24.1
comp=Z,294nm,18.8s,baz=48,slow=35
comp=Z,0.9nm,1.0s
CCB Clear Creek Bu 59.86 335 P **P 06 10 12.8 +0.5**
CCB IAmb IAmb 06 10 35.6
comp=Z,10nm,1.6s
MSU Marysvale 60.19 296 P **P 06 10 15.7 +0.4**
TXAR Lajitas Array 60.34 282 P **P 06 10 16.2 0.0**
comp=Z,2.2nm,0.9s,baz=50,slow=7.0,SNR=21
TXAR LR LR 06 36 16.7
comp=Z,997nm,18.9s,baz=52,slow=36
comp=Z,2.2nm,0.9s
TX31 Lajitas Ar. Si 60.34 282 P **P 06 10 16.0 -0.2**
JTS Las Juntas de 60.52 253 LR LR 06 32 33.2
comp=Z,165nm,21.7s,baz=34,slow=32
BBB Bella Bella 60.64 316 LR LR 06 34 26.3
comp=Z,502nm,18.9s,baz=46,slow=34
ELK Elko 60.70 299 LR LR 06 35 12.6
comp=Z,656nm,18.2s,baz=64,slow=35
APG El Apazote 60.83 261 LR LR 06 31 53.4
comp=Z,21nm,20.5s,baz=96,slow=31
J08A Circle Bar Ran 61.01 304 P **P 06 10 20.7 +0.1**
J08A IAmb IAmb 06 10 22.0
comp=Z,12nm,1.2s
WVOR Wild Horse Val 61.67 303 P **P 06 10 25.6 +0.5**

CMIG Matias Romero 62.41 266 LR LR 06 34 22.9
comp=Z,608nm,21.6s,baz=46,slow=33
319A Douglas 62.79 288 P **P 06 10 33.1 +0.4**
319A IAmb IAmb 06 10 36.2
comp=Z,14nm,1.4s
NVAR Mina Array Bea 64.00 299 P **P 06 10 39.8 -1.1**
comp=Z,1.1nm,0.9s,baz=42,slow=6.9,SNR=8.1
NVAR LR LR 06 37 08.3
comp=Z,637nm,20.7s,baz=55,slow=35
comp=Z,1.1nm,0.9s
KURBB Kurchatov Arra 64.05 43 P **P 06 10 40.2 -0.4**
comp=Z,1.7nm,0.9s,baz=317,slow=6.7,SNR=11
KURBB LR LR 06 38 28.4
comp=Z,160nm,18.3s,baz=189,slow=36
comp=Z,1.7nm,0.9s
PNTR Pine Nut 64.35 300 P **P 06 10 43.6 +0.4**
GWY Greenwater Val 64.44 296 P **P 06 10 43.7 0.0**
YBH Yreka Blue Hor 64.46 304 LR LR 06 36 53.6
comp=Z,437nm,18.9s,baz=42,slow=34
ZALV Zalesovo Beam 64.55 37 LR LR 06 38 38.1
comp=Z,243nm,21.0s,baz=311,slow=36
BDFB Brasilia 64.63 202 P **P 06 10 45.5 +0.6**
comp=Z,1.0nm,0.5s,baz=18,slow=9.6,SNR=3.1
BDFB LR LR 06 34 19.1
comp=Z,455nm,20.5s,baz=0.3,slow=32
comp=Z,1.0nm,0.5s
KK31 Karatay Array 64.93 53 P **P 06 10 47.4 +0.8**
KK31 IAmb IAmb 06 11 06.2
comp=Z,9.7nm,1.6s
KKAR Karatay Array 64.93 53 P **P 06 10 46.7 +0.1**
GSC Goldstone, Bar 65.09 296 P **P 06 10 48.6 +0.8**
PFO Pinyon Flats O 65.97 294 LR LR 06 39 27.1
comp=Z,557nm,19.4s,baz=59,slow=36
KDAK Kodiak Island 66.59 332 LR LR 06 38 22.9
comp=Z,358nm,18.9s,baz=249,slow=34
AAK Ala-Archa 67.42 51 LR LR 06 41 40.5
comp=Z,361nm,18.0s,baz=315,slow=37
ATD Arta Tunnel 68.08 96 LR LR 06 42 35.2
comp=Z,7.9nm,18.9s,baz=342,slow=37
LPIG La Paz 68.24 282 LR LR 06 41 06.2
comp=Z,1μm,18.8s,baz=50,slow=36
BOOM Boomskoye usch 68.30 51 P **P 06 11 09.1 +0.8**
MK31 Makanchi Array 68.50 44 P **P 06 11 09.8 +0.5**
MKAR Makanchi Array 68.50 44 P **P 06 11 09.8 +0.5**
MKAR Makanchi Array 68.50 44 P **P 06 11 09.4 +0.1**
comp=Z,1.2nm,0.6s,baz=317,slow=6.5,SNR=19
MKAR LR LR 06 42 42.6
comp=Z,331nm,18.5s,baz=301,slow=37
comp=Z,1.2nm,0.6s
SIV San Ignacio 69.27 215 LR LR 06 36 50.3
comp=Z,312nm,21.7s,baz=106,slow=32
ATAH Atahualpa 70.05 235 LR LR 06 40 26.1
comp=Z,276nm,20.0s,baz=22,slow=35
KSH Kashi 70.38 53 P **P 06 11 23.1 +1.9**
KSH pmax pmax
comp=Z,8.0nm,1.1s
WSAR Wadi Sarin 70.81 76 LR LR 06 48 15.1
comp=Z,182nm,18.2s,baz=336,slow=41
LPAZ La Paz 72.53 221 P **P 06 11 34.9 +0.1**
LPAZ IAmb IAmb 06 11 36.1
comp=Z,19nm,2.0s
LPAZ La Paz 72.53 221 P **P 06 11 34.4 -0.4**
comp=Z,1.7nm,0.9s,baz=20,slow=6.6,SNR=4.8
LPAZ LR LR 06 39 08.1
comp=Z,190nm,21.7s,baz=15,slow=32
comp=Z,1.7nm,0.9s
NNA Nana 73.19 231 LR LR 06 39 56.4
comp=Z,144nm,21.6s,baz=16,slow=33
WMQ Urumqi 73.27 43 *eP* **P 06 11 41.0 +2.6**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,200nm,22.5s
KMBO Kilima Mbogo 73.60 110 LR LR 06 43 35.4
comp=Z,519nm,21.8s,baz=339,slow=35
TSUM Tsumeb 76.95 137 LR LR 06 43 59.4
comp=Z,268nm,20.2s,baz=331,slow=34
CPUP Villa Florida 77.44 207 LR LR 06 43 56.4
comp=Z,59nm,19.1s,baz=27,slow=34
SONM Songino Array 77.69 30 P **P 06 12 04.2 +0.5**
comp=Z,0.8nm,0.8s,baz=343,slow=4.5,SNR=5.9
comp=Z,0.8nm,0.8s
LSZ Lusaka 79.16 126 LR LR 06 46 51.2
comp=Z,382nm,19.4s,baz=326,slow=35
GTA Gaotai 82.27 39 *eP* **P 06 12 28.8 +0.2**
GTA pP pP 06 12 33.3 +0.3
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=N,170nm,19.6s
GTA LR LR
comp=E,140nm,20.0s
GTA LR LR
comp=Z,210nm,18.2s
BTO Baotou 85.27 31 *eP* **P 06 12 42.7 -1.3**
BTO PP **PP 06 15 55.1 -5.7**
BTO Baotou 85.27 31 S **SKSac 06 23 11.9 +3.6**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,220nm,6.5s
BTO LR LR
comp=N,280nm,5.9s
BTO LR LR
comp=E,300nm,14.6s
BTO LR LR
comp=Z,540nm,14.7s
BNX BinXian 85.46 17 ⇑P **P 06 12 44.1 -0.5**
BNX pmax pmax
comp=Z,5.0nm,2.1s
HHC Hu-ho-hao-te 85.60 30 *eP* **P 06 12 42.9 -2.7**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,170nm,5.1s
LBTB Lobatse 85.78 133 LR LR 06 49 21.4
comp=Z,302nm,21.3s,baz=320,slow=34
BOSA Boshof 88.61 136 LR LR 06 51 07.8
comp=Z,290nm,19.9s,baz=322,slow=34
SUR Sutherland 89.75 141 LR LR 06 52 34.3
comp=Z,137nm,18.2s,baz=326,slow=35
BRDH Bariadhala 91.80 54 LR LR 06 57 21.0
comp=Z,188nm,19.9s,baz=329,slow=37
PLCA Paso Flores 95.05 212 LR LR 06 54 44.3
comp=Z,104nm,20.5s,baz=26,slow=34
NJ2 Nanjing 96.03 28 *eP* **P 06 13 34.3 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PALK Pallekele 96.94 72 LR LR 07 00 37.5
comp=Z,84nm,21.3s,baz=338,slow=38
CMAR Chiang Mai Arr 99.20 51 LR LR 07 02 04.3
comp=Z,105nm,21.8s,baz=305,slow=38
PPT2 Papeete2 124.67 281 *eLR* LR 06 57 50.1
comp=Z,404nm,24.2s
PPT2 *eLR* LR 06 57 50.8
comp=Z,291nm,24.5s
TBI Tubuai 128.52 276 *eLR* LR 06 59 33.1
comp=Z,2μm,37.2s
TBI *eLR* LR 06 59 34.8
comp=Z,1μm,31.8s
QSPA South Pole Qui 136.41 180 PKP **PKPdf 06 19 27.7 0.0**
comp=Z,2.6nm,1.0s,baz=254,slow=1.8,SNR=6.3
WRA Warramunga Arr 149.52 36 PKPbc **PKPdf 06 19 55.4 +3.3**
comp=Z,1.7nm,1.0s,baz=333,slow=2.8,SNR=6.8
ASAR Alice Springs 152.63 40 PKPbc **PKPbc 06 20 02.5 -1.4**
comp=Z,1.8nm,0.9s,baz=334,slow=2.3,SNR=9.3
DZM Mont Dzumac 153.17 331 *eLR* LR 07 11 08.1
comp=Z,281nm,25.4s

TEH ***02*** *06:06:04.2, 40.°61N×45.°02E, h19km*
AFAD ***02*** *06:06:09.8, 38.°83N×43.°56E, h20km±2km, ML2.5*
ISK ***02*** *06:06:09.7, 38.°83N×43.°48E, h2km, ML2.8/18*
ISC 02 06:06:10.6±0.9, 38.°84N±0.°02×43.°54E±0.°02, h11km±7km, n33, σ0.°96/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**10**	P	**Pg**	**06 06 13.8**	**-0.5**
VMUR				S	**Sg**	**06 06 17.9**	**+0.9**
ERCV	**ERCIS-VAN**	**0.24**	**320**	Pg	**Pg**	**06 06 15.2**	**-0.6**
VANB	**Van**	**0.27**	**206**	Pg	**Pb**	**06 06 17.1**	**-0.4**
VANB				Sg	**Sb**	**06 06 22.8**	**+0.6**
TVAN	**Van**	**0.32**	**199**	P	**Pg**	**06 06 17.1**	**-0.2**
TVAN				S	**Sb**	**06 06 23.8**	**-0.1**
OZAP	**Van, Ozalp-Mer**	**0.40**	**116**	P	**Pg**	**06 06 17.8**	**-0.7**
OZAP				*i* AML	AML	06 06 31.0	
OZAP				*i* AML	AML	06 06 31.0	
comp=N,1μm,0.8s
comp=E,789nm,1.1s
ADCV BITLIS_Adilcev 0.64 268 P **Pg 06 06 22.8 -0.2**
ADCV S **Sb 06 06 33.9 +1.1**
ADCV *i* AML AML 06 06 36.0
comp=N,355nm,0.4s
ADCV *i* AML AML 06 06 38.0
comp=E,298nm,0.6s
GEVA Gevas 0.64 216 P **Pg 06 06 22.3 -0.9**
GEVA S **Sb 06 06 32.9 -0.2**
GEVA *i* AML AML 06 06 36.0
comp=E,172nm,0.4s
GEVA *i* AML AML 06 06 44.0
comp=N,190nm,0.5s
DYDN Diyadin 0.72 9 P **Pg 06 06 24.0 -0.6**
DYDN S **Sb 06 06 35.1 -0.1**
DYDN *i* AML AML 06 06 36.0
comp=E,318nm,0.3s
DYDN *i* AML AML 06 06 37.0
comp=N,259nm,0.4s
DORK Agr/Tutak/Do 0.81 313 P **Pg 06 06 25.2 -1.1**
DORK S **Sb 06 06 38.2 +0.4**
DORK *i* AML AML 06 06 46.0
comp=E,202nm,0.6s
DORK *i* AML AML 06 06 51.0
comp=N,178nm,0.5s
MLAZ Malazgirt-MUS 0.83 292 Pg **Pg 06 06 26.2 -0.5**
MLAZ Sg **Sb 06 06 37.6 -0.8**
AGRB Hanur-Agry 0.85 330 Pg **Pg 06 06 26.2 -0.9**
AGRB Sg **Sb 06 06 39.3 +0.2**
KOTA Agri, Merkez-K 1.00 345 P **Pg 06 06 29.1 -0.8**
KOTA S **Sg 06 06 42.6 -0.4**
KOTA *i* AML AML 06 06 46.0
comp=E,78nm,0.4s
KOTA *i* AML AML 06 06 47.0
comp=N,47nm,0.2s
MAKU Maku 1.03 59 Pg **Pg 06 06 28.4 -2.1**
MAKU Sg **Sn 06 06 46.2 +0.4**
IGDI IGDIR 1.11 22 P **Pb 06 06 31.6 -0.3**
IGDI *i* AML AML 06 06 52.0
comp=E,83nm,0.4s
IGDI *i* AML AML 06 06 54.0
comp=N,60nm,0.9s
BLIS Bitlis-Merkez 1.19 250 P **Pb 06 06 32.0 -1.3**
BLIS S **Sn 06 06 49.7 0.0**
BLIS *i* AML AML 06 06 51.0
comp=N,211nm,0.5s
BLIS *i* AML AML 06 06 51.0
comp=E,141nm,0.5s
GURO Guroymak-BITLI 1.21 257 Pn **Pn 06 06 32.1 -1.6**
GURO Sn **Sn 06 06 50.0 -0.1**
TASB TASBURUN-IGDIR 1.27 25 Pn **Pg 06 06 35.2 +0.2**
EATA Eleskirt 1.31 322 P **Pg 06 06 35.6 -0.2**
EATA S **Sg 06 06 55.5 +2.7**
EATA *i* AML AML 06 07 01.0
comp=N,73nm,0.3s
EATA *i* AML AML 06 07 03.0
comp=E,86nm,0.6s
CUKT Cukurca 1.59 178 Pn **Pb 06 06 39.5 -0.6**
GNI Garni 1.61 35 Pn **Pb 06 06 40.6 +0.1**
VRTB Varto-Mus 1.66 282 Pn **Pb 06 06 40.2 -1.0**
IMRD Marand 1.70 93 Pn **Pn 06 06 40.9 +0.6**
KOPR Koprukoy-ERZUR 1.74 312 Pn **Pb 06 06 41.5 -1.2**
KARS Kars 1.82 349 Pn **Pb 06 06 42.9 -1.2**
KARS Kars 1.82 349 Pg Pn 06 06 31.9 -10
SENK Senkaya-Erzuru 1.95 332 Pn **Pb 06 06 44.8 -1.5**
SVAN Silvan-Diyarba 1.96 250 Pn **Pn 06 06 44.6 +0.8**
BNGB Bingl 2.24 275 Pn **Pn 06 06 48.5 +0.8**
IAZR Azarshahr 2.24 120 Pn **Pg 06 06 53.2 -0.5**
YEDI Yedisu-Bingol 2.40 285 Pn **Pn 06 06 50.8 +0.7**
MAZI Mazidag 2.80 242 Pn **Pn 06 06 56.6 +1.1**
BAYT Aydıntepe-Bayb 3.05 302 Pn **Pn 06 07 00.3 +1.3**
PTK Pertek 3.24 272 Pn **Pn 06 07 02.7 +1.1**

IDC 02 06:08:46.4±1.4, 15.°04S×173.°45W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=45.9km s-min=35.7km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	06 57 58.6	
baz=148,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**38.64**	**329**	T	T	06 57 36.0	
baz=148,slow=76,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	06 57 40.2	
baz=148,slow=76,SNR=8.1							
H11N3	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	06 59 02.4	
baz=149,slow=76							
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	06 58 57.6	
baz=149,slow=76							
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	06 59 03.7	
baz=149,slow=76							
WRA	**Warramunga Arr**	**49.88**	**256**	P	P	06 17 42.3	+0.2
0.3nm,0.4s,baz=93,slow=7.2,SNR=6.7							
0.3nm,0.4s							
ASAR	**Alice Springs**	**50.18**	**252**	P	P	06 17 44.0	-0.4
0.5nm,0.3s,baz=92,slow=7.4,SNR=24							
0.5nm,0.3s							
QSPA	**South Pole Qui**	**75.00**	**180**	P	P	06 20 29.8	+0.2
2.8nm,0.8s,baz=18,slow=3.2,SNR=8.2							
2.8nm,0.8s							
ILAR	**Eielson Array**	**82.10**	**11**	P	P	06 21 08.4	0.0
0.3nm,0.7s,baz=211,slow=6.1,SNR=6.3							
0.3nm,0.7s							

IDC 02 06:12:40.9±1.4, 54.°60S×146.°64W, h0km, mb3.8/1, mbtmp3.8/1, Error ellipse: s-maj=176.8km s-min=48.3km az=174.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N3	**Juan Fernandez**	**50.90**	**95**	T	T	07 16 33.9	
baz=226,slow=72,SNR=15							
H03N2	**Juan Fernandez**	**50.90**	**95**	T	T	07 16 33.0	
baz=226,slow=72,SNR=14							
H03N1	**Juan Fernandez**	**50.91**	**95**	T	T	07 16 32.8	
baz=226,slow=72,SNR=15							
ASAR	**Alice Springs**	**65.03**	**264**	P	P	06 23 22.8	0.0
0.8nm,0.7s,baz=138,slow=6.2,SNR=10							
0.8nm,0.7s							
ILAR	**Eielson Array**	**119.04**	**360**	PKP	PKiKP	06 31 30.0	0.0
0.4nm,0.8s,baz=192,slow=2.4,SNR=4.2							
MKAR	**Makanchi Array**	**148.60**	**276**	PKPbc	PKPbc	06 32 28.2	-0.6
0.7nm,0.9s,baz=116,slow=3.4,SNR=5.5							
ESDC	**Sonseca Array**	**150.96**	**105**	PKPbc	PKPbc	06 32 34.6	-0.3
1.0nm,1.1s,baz=253,slow=4.9,SNR=4.2							
KURBB	**Kurchatov Arra**	**152.66**	**280**	PKPbc	PKPbc	06 32 37.9	-0.4
0.3nm,0.6s,baz=124,slow=1.9,SNR=4.2							

IDC 02 06:55:43.2±5.7, 19.°63N×145.°93E, h0km, mb3.7/4, mbtmp3.7/4, MS4.6/1, Error ellipse: s-maj=240.9km s-min=106.6km az=38.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.70**	**322**	P	P	07 00 56.9	+0.1
0.8nm,0.6s,baz=147,slow=9.1,SNR=5.3							
0.8nm,0.6s							
MKAR	**Makanchi Array**	**57.98**	**313**	P	P	07 05 38.1	+0.5
0.3nm,0.5s,baz=82,slow=8.7,SNR=5.4							
0.3nm,0.5s							
RAO	**Raoul Island**	**59.82**	**143**	LR	LR	07 26 34.5	
comp=Z,542nm,20.1s,baz=138,slow=31							
KURBB	**Kurchatov Arra**	**60.77**	**318**	P	P	07 05 56.3	-0.6
0.3nm,0.4s,baz=92,slow=7.4,SNR=7.4							
0.3nm,0.4s							
FINES	**FINESS Array B**	**86.13**	**335**	P	P	07 08 26.1	+0.1
2.8nm,0.9s,baz=62,slow=4.7,SNR=4.0							
2.8nm,0.9s							

NNC ***02*** *07:14:24.7±4.0, 48.°38N×77.°89E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=43.0km s-min=13.5km az=65.0, Suspected Mining explosion.*
IDC ***02*** *07:14:27.2±3.3, 48.°54N×77.°41E, h0km, mbtmp2.4/3, ML1.9/3, Error ellipse: s-maj=43.6km s-min=15.6km az=71.0*
ISC 02 07:14:26.1±4.3, 48.°6N±0.°2×78.°4E±0.°4, h0km, n8, σ0.°52/9, 4C-3D, Eastern Kazakhstan

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

```
KURBB Kurchatov Arra   2.07  2  Pn        Pg   07 15 05.5 -0.4
      0.2nm,0.3s,baz=201,slow=16,SNR=33
KURB                          Sn        Sg   07 15 33.0 +0.3
      0.2nm,0.3s,baz=201,slow=27,SNR=7.4
      0.7nm,0.2s
KURBB Kurchatov Arra   2.07  2 ⇑Pn        Pb   07 15 04.7 +0.1
      2.7nm,0.7s,baz=198,slow=16
KURBB                        ⇓Sn        Sg   07 15 33.2 +0.5
      8.4nm,0.7s
KURK  Kurchatov        2.17  3 ⇑Pn        Pb   07 15 06.5 +0.3
      2.2nm,0.8s
KURK                         ⇑Sn        Sg   07 15 35.3 -0.5
      4.4nm,0.7s
MAKZ  Makanchi         2.96 125 ⇓Pg       Pb   07 15 20.0 +0.3
      1.4nm,0.6s
MAKZ                         ⇓Lg        Lg   07 16 07.9
      2.5nm,1.1s
MK31  Makanchi Array   3.14 123  Pg       Pg   07 15 25.4 -0.8
      0.3nm,0.5s,baz=294,slow=11,SNR=4.0
MK31                         ⇑Lg        Lg   07 16 13.3
      1.2nm,0.7s,baz=308,slow=27,SNR=8.6
MKAR  Makanchi Array   3.14 123  Pn       Pg   07 15 26.5 +0.2
      0.1nm,0.3s,baz=300,slow=12,SNR=4.6
MKAR                         Lg         Lg   07 16 21.2
      0.2nm,0.3s,baz=307,slow=27,SNR=16
      0.2nm,0.4s
I46RU ZALESOVO INFRA   6.72  34  I        I    07 56 32.9
      baz=220,slow=318,SNR=1.4
ZALV  Zalesovo Beam    6.72  34  Pn       Pn   07 16 13.8 +7.8
      0.2nm,0.3s,baz=217,slow=14,SNR=1.8
      0.4nm,0.4s
```

IDC 02 07:38:56.2±4.5, 56°.71S×28°.04W, h0km, mb3.9/1, mbtmp3.9/1, Error ellipse: s-maj=639.0km s-min=50.7km az=28.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	50.38	307	P	P	07 47 55.5	-0.2
	1.3nm,0.8s,baz=168,slow=7.2,SNR=6.3						
	1.3nm,0.8s						
ILAR	Eielson Array	150.20	311	PKPbc	PKPbc	07 58 47.2	-0.2
	0.9nm,0.8s,baz=124,slow=2.7,SNR=12						
SONM	Songino Array	151.23	88	PKPbc	PKPbc	07 58 50.2	-0.4
	0.3nm,0.5s,baz=215,slow=1.8,SNR=5.3						

IDC 02 07:40:14.5±5.7, 20°.54S×177°.39E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=244.4km s-min=36.3km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	40.30	257	P	P	07 47 54.2	+0.4
	0.7nm,0.5s,baz=92,slow=8.2,SNR=13						
	0.7nm,0.5s						
WRA	Warramunga Arr	40.31	263	P	P	07 47 53.2	-0.7
	0.2nm,0.3s,baz=98,slow=8.8,SNR=9.9						
	0.2nm,0.3s						
ILAR	Eielson Array	89.37	14	P	P	07 53 12.4	0.0
	0.2nm,0.7s,baz=223,slow=4.4,SNR=8.0						
	0.2nm,0.7s						

IDC 02 07:46:26.7±1.5, 9°.84S×150°.25E, h0km, mb3.7/4, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=38.9km s-min=29.5km az=131.0

ISC 02 07:46:30.9±1.4, 9°.9S±0°.2×150°.2E±0°.1, h28km, n6, σ1.9 48/7, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.06	279	Pn	Pn	07 47 15.5	-2.0
	13nm,0.3s,baz=75,slow=11,SNR=6.7						
PMG				Sn	Sb	07 48 03.5	+1.9
	9.0nm,0.3s,baz=338,slow=5.1,SNR=3.1						
WRA	Warramunga Arr	18.31	235	P	Pn	07 50 42.5	-0.6
	0.1nm,0.3s,baz=58,slow=11,SNR=4.4						
	1.3nm,0.8s						
ASAR	Alice Springs	20.75	227	P	P	07 51 10.4	+0.7
	2.3nm,0.8s,baz=62,slow=10,SNR=32						
	2.3nm,0.8s						
STKA	Stephens Creek	23.30	199	P	P	07 51 36.5	-0.1
	3.1nm,1.0s,baz=355,slow=17,SNR=3.4						
	3.1nm,1.0s						
QSPA	South Pole Qui	80.11	180	P	P	07 58 38.7	+0.5
	1.2nm,0.8s,baz=337,slow=7.7,SNR=7.0						
	1.2nm,0.8s						
ILAR	Eielson Array	87.80	22	P	P	07 59 17.7	+0.5
	0.3nm,0.8s,baz=243,slow=4.0,SNR=4.9						
	0.3nm,0.8s						

SJA 02 07:57:37.3±0.8, 33°.74S×72°.72W, h12km±2km, ML3.9, MW4.2

IDC 02 07:57:39.8±0.8, 33°.78S×72°.55W, h0km, mb3.7/7, mbtmp3.7/11, ML3.8/4, MS3.9/17, Error ellipse: s-maj=21.1km s-min=15.7km az=112.0

NEIC 02 07:57:40.8±1.7, 33°.70S±0°.04×72°.54W±0°.07, h10km±1km, mb4.5/13, Error ellipse: s-maj=10.7km s-min=6.1km az=294.0

GUC 02 07:57:41.4±0.7, 33°.71S×72°.68W, h39km±1km, ML3.6

VAO 02 07:57:45.9±2.3, 33°.79S×72°.14W, h30km±22km, mb4.2

ISC 02 07:57:40.7±0.5, 33°.74S±0°.03×72°.57W±0°.04, h10km, n144, σ1.9 10/154, mb4.2/9, MS4.0/15, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	Santo Domingo	0.80	85		Pn	07 57 57.0	-1.0
VA05	Santo Domingo	0.80	85	eP	Pn	07 57 57.2	-0.7
VA05				i S	Sn	07 58 09.1	-0.8
BO03	Pichilemu	0.91	147	eP	Pn	07 57 59.1	-0.4
BO03				i S	Sn	07 58 11.8	-0.9
BO03				IAML		07 58 13.9	
	comp=E,2μm,0.4s						
VA01	Torpederas	1.05	47		Pg	07 57 59.5	-1.4
VA01	Torpederas	1.05	47	eP	Pb	07 58 00.1	-0.8
VA01				i S	Sn	07 58 15.0	-1.1
VA01	Torpederas	1.05	47	i P	Pg	07 57 59.4	-1.4
VA01				i S	Sn	07 58 15.1	-0.9
MT01	Popeta	1.10	97		Pn	07 58 01.1	-1.1
MT01	Popeta	1.10	97	eP	Pn	07 58 01.5	-0.8
MT01				i S	Sn	07 58 17.2	-0.3
MT01				IAML		07 58 23.8	
	comp=N,2μm,0.4s						
MT01	Popeta	1.10	97	i P	Pb	07 58 00.7	-1.1
MT01				i S	Sn	07 58 17.7	+0.2
MT01				IAML		07 58 29.7	
	comp=Z,2μm,0.9s						
MT02	Curacav	1.28	69		Pn	07 58 03.4	-1.3
MT02	Curacav	1.28	69	eP	Pn	07 58 03.8	-1.0
MT02				i S	Sg	07 58 22.0	-0.1
MT02	Curacav	1.28	69	i P	Pb	07 58 04.0	-1.0
MT02				i S	Sg	07 58 23.7	+1.6
MT02				IAML		07 58 27.6	
	comp=Z,2μm,1.3s						
MT09	Talagante	1.31	92		Pn	07 58 04.3	-1.0
MT09	Talagante	1.31	92	eP	Pb	07 58 04.4	-1.1
MT09				i S	Sg	07 58 23.8	+0.7
MT09				IAML		07 58 30.9	
	comp=N,2μm,0.7s						
GO05	Hualane	1.37	158	eP	Pb	07 58 05.3	-1.2
GO05				i S	Sg	07 58 23.6	-1.3
GO05				IAML		07 58 37.0	
	comp=E,1μm,0.6s						
BO01	Tunca	1.39	118		Pn	07 58 05.4	-0.8
BO01	Tunca	1.39	118	eP	Pb	07 58 05.5	-1.3
BO01				i S	Sg	07 58 25.0	-0.5
BO01	Tunca	1.39	118	i P	Pb	07 58 05.6	-1.3
BO01				i S	Sg	07 58 26.3	+0.8
ROCH	El Roble	1.51	60	eP	Pn	07 58 07.2	-0.9
ROCH				i S	Sb	07 58 28.0	-0.2
MT05	Renca	1.56	78		Pn	07 58 08.1	-0.5
MT05	Renca	1.56	78	eP	Pb	07 58 08.8	-1.0
MT05				i S	Sb	07 58 29.1	-0.5
MT05	Renca	1.56	78	i P	Pb	07 58 08.4	-1.4
MT05				i S	Sg	07 58 31.8	+0.8
MT05				IAML		07 58 41.3	
	comp=Z,1μm,1.6s						
VA06	Catapilco	1.58	43		Pn	07 58 07.3	-1.5
BO04	La Punta	1.65	99		Pn	07 58 09.2	-0.6
BO04	La Punta	1.65	99	eP	Pb	07 58 09.9	-1.3
BO04				i S	Sb	07 58 31.8	-0.3
BO04				IAML		07 59 03.7	
	comp=E,1μm,0.8s						
PEL	Peldehue	1.68	70		Pn	07 58 09.8	-0.4
PEL	Peldehue	1.68	70	eP	Pb	07 58 10.3	-1.5
PEL				i S	Sb	07 58 32.5	-0.5
PEL				IAML		07 58 47.9	
	comp=N,1μm,0.6s						
MT15	Las Vizcachas	1.72	86	eP	Pb	07 58 10.7	-1.8
MT15				i S	Sb	07 58 33.3	-0.9
MT15				IAML		07 58 44.4	
	comp=E,1μm,0.2s						
MT14	Cerro Calıjn	1.73	79	eP	Pb	07 58 11.3	-1.3
MT14				i S	Sb	07 58 33.7	-0.7
MT14				IAML		07 58 48.7	
	comp=N,1μm,0.5s						
MT03	Universidad Ad	1.73	83		Pn	07 58 10.8	-0.2
MT03	Universidad Ad	1.73	83	eP	Pb	07 58 10.9	-1.7
MT03				i S	Sb	07 58 33.6	-0.9
MT03				IAML		07 58 44.8	
	comp=E,1μm,0.4s						
MT03	Universidad Ad	1.73	83	i P	Pb	07 58 10.9	-1.7
MT03				i S	Sg	07 58 36.1	-0.3
MT03				IAML		07 59 16.2	
	comp=Z,1μm,1.0s						
MT16	CCHEN	1.73	80		Pb	07 58 10.9	-1.8
MT16	CCHEN	1.73	80	eP	Pb	07 58 11.1	-1.6
MT16				i S	Sb	07 58 33.3	-1.2
MT16				IAML		07 58 44.6	
	comp=E,703nm,0.5s						
MT10	Hacienda Santa	1.76	75	eP	Pb	07 58 11.6	-1.5
MT10				i S	Sb	07 58 34.5	-0.8
BO02	Sierra Bellavi	1.81	126		Pb	07 58 12.4	-1.7
BO02	Sierra Bellavi	1.81	126	eP	Pb	07 58 12.4	-1.7
BO02				i S	Sb	07 58 35.8	-1.1
BO02				IAML		07 58 48.8	
	comp=E,2μm,0.5s						
BO02	Sierra Bellavi	1.81	126	i P	Pb	07 58 12.1	-2.0
BO02				i S	Sg	07 58 38.1	-1.0
BO02				IAML		07 59 15.3	
	comp=Z,1μm,0.6s						
MT13	San Alfonso	1.90	91		Pn	07 58 13.0	-0.3
MT13	San Alfonso	1.90	91	eP	Pb	07 58 13.5	-2.1
MT13				i S	Sn	07 58 37.3	0.0
MT13				IAML		07 58 55.9	
	comp=E,819nm,0.4s						
MT13	San Alfonso	1.90	91	i P	Pn	07 58 13.4	+0.1
MT13				i S	Sg	07 58 41.0	-0.8
MT13				IAML		07 59 04.8	
	comp=Z,1μm,1.0s						
VA03	San Esteban	1.95	61		Pn	07 58 13.5	-0.5
VA03	San Esteban	1.95	61	eP	Pn	07 58 13.7	-0.3
VA03				i S	Sn	07 58 38.6	+0.1
VA03				IAML		07 58 54.9	
	comp=N,1μm,0.5s						
VA03	San Esteban	1.95	61	i P	Pn	07 58 13.9	0.0
VA03				IAML		07 58 56.1	
	comp=Z,1μm,0.8s						
LMEL	Las Melosas	1.97	94		Pn	07 58 14.2	-0.1
LMEL	Las Melosas	1.97	94	eP	Pb	07 58 14.5	-2.2
LMEL				i S	Sb	07 58 39.7	-1.7
LMEL				IAML		07 59 03.9	
	comp=N,727nm,0.2s						
LMEL	Las Melosas	1.97	94	i P	Pb	07 58 14.5	-2.2
LMEL				i S	Sb	07 58 42.0	+0.6
MT04	Ro Olivares	2.05	81	i P	Pn	07 58 15.8	+0.3
MT04				i S	Sg	07 58 45.2	-1.5
MT04				IAML		07 58 58.1	
	comp=Z,611nm,2.0s						
MT08	Bocatoma Ro	2.15	83		Pn	07 58 17.3	+0.5
MT08	Bocatoma Ro	2.15	83	i P	Pn	07 58 16.8	0.0
MT08				i S	Sb	07 58 46.9	+0.3
MT08				IAML		07 59 05.8	
	comp=Z,562nm,0.8s						
ML02	Panimavida	2.23	155	Pn	Pn	07 58 18.1	+0.3
ML02	Panimavida	2.23	155	i P	Pn	07 58 17.2	-0.6
ML02				i S	Sb	07 58 46.7	-2.1
ML02				IAML		07 59 22.4	
	comp=Z,1μm,1.2s						
BI05	Punta Hualpn	3.05	189	Pn	Pn	07 58 28.7	-0.3
BI05	Punta Hualpn	3.05	189	i P	Pn	07 58 27.5	-1.4
BI05				i S	Sn	07 59 05.9	+0.4
BI05				IAML		07 59 39.3	
	comp=Z,281nm,1.9s						
BI02	San Fabin de	3.11	160	Pn	Pn	07 58 30.6	+0.7
BI02	San Fabin de	3.11	160	i P	Pn	07 58 29.7	-0.1
BI02				i S	Sn	07 59 08.3	+1.2
BI02				IAML		07 59 41.1	
	comp=Z,359nm,1.3s						
CO06	Fray Jorge	3.15	15		Pn	07 58 28.5	-1.9
CO03	El Pedregal	3.30	29	Pn	Pn	07 58 31.8	-0.7
RFA	San Rafael	3.55	108	i P	Pn	07 58 36.6	+0.7
RFA				IAML		07 59 48.6	
	comp=Z,248nm,1.4s						
GO04	Tololo Observa	3.86	23	Pn	Pn	07 58 39.4	-1.0
DOCA	Reserva Natura	4.05	48	i P	Pn	07 58 44.3	+1.2
DOCA				IAML		08 00 10.9	
	comp=Z,211nm,1.9s						
CFA	Coronel Fontan	4.22	61	Pn	Pn	07 58 47.0	+1.8
	comp=Z,1.1nm,0.3s,baz=217,slow=9.7,SNR=12						
CFA				Lg	Lg	07 59 54.9	
	comp=Z,1.7nm,0.3s,baz=249,slow=9.2,SNR=3.5						
	comp=Z,2.4nm,0.2s						
CO01	Juntas del Tor	4.30	30	Pn	Pn	07 58 46.5	+0.1
CO01	Juntas del Tor	4.30	30	i P	Pn	07 58 47.0	+0.6
CO01				IAML		08 00 12.0	
	comp=Z,94nm,1.2s						
ACCO	Cerro Coronel	4.32	44	i P	Pn	07 58 48.5	+1.7
AROD	Rodeo	4.42	37	i P	Pn	07 58 49.8	+1.6
ACDV	Cuesta del Vie	4.61	40	i P	Pn	07 58 52.1	+1.6
ACDV				IAML		08 00 35.6	
	comp=Z,130nm,1.6s						
LCO	Las Campanas	4.97	19		Pn	07 58 53.9	-1.8
LC02	Puerto Saavedr	5.09	187		Pn	07 58 56.3	-0.7
H03S1	Juan Fernandez	5.28	267	T	T	08 04 22.7	
	baz=86,slow=73						
H03S3	Juan Fernandez	5.28	267	T	T	08 04 24.7	
	baz=86,slow=73						
H03S2	Juan Fernandez	5.30	267	T	T	08 04 19.4	
	baz=86,slow=73						
H03N1	Juan Fernandez	5.31	271	T	T	08 04 31.2	
	baz=98,slow=74						
AVFE	Valle Fertil	5.31	56	i P	Pn	07 59 01.7	+1.6
AVFE				IAML		08 00 37.6	
	comp=Z,92nm,0.8s						
H03N3	Juan Fernandez	5.32	271	T	T	08 04 30.6	
	baz=98,slow=74						
H03N2	Juan Fernandez	5.32	271	T	T	08 04 32.4	
	baz=98,slow=74						
AC04	Llanos de Chal	5.66	13	Pn	Pn	07 59 03.1	-1.8
LR03	Panguipulli	5.89	178		Pn	07 59 08.0	0.0
LR04	Corral	6.17	186		Pn	07 59 11.2	-0.7
LR05	Currie	6.50	176	Pn	Pn	07 59 17.1	+0.7
LL04	Puerto Octay	7.16	179		Pn	07 59 25.5	0.0
PLCA	Paso Flores	7.17	168		Pn	07 59 25.7	+0.1
PLCA	Paso Flores	7.17	168	Pn	Pn	07 59 25.5	-0.2
	comp=Z,0.7nm,0.3s,baz=337,slow=10,SNR=43						
PLCA				Lg	Lg	08 01 25.4	
	baz=233,slow=20						
PLCA				LR	LR	08 02 19.2	
	comp=Z,502nm,20.2s,baz=348,slow=39						
	comp=Z,2.0nm,0.4s						
PLCA	Paso Flores	7.17	168	eP	Pn	07 59 26.9	+1.2
AC02	Maricunga	7.49	24	Pn	Pn	07 59 29.6	-1.0
CPUP	Villa Florida	15.11	65	Pn	Pn	08 01 13.8	-0.5
	comp=Z,0.1nm,0.3s,baz=219,slow=13,SNR=1.5						
CPUP				Sn	Sn	08 04 03.2	+1.5
	baz=184,slow=14,SNR=1.9						
CPUP				Lg	Lg	08 05 40.6	
	comp=Z,0.1nm,0.3s,baz=320,slow=7.9,SNR=4.4						
CPUP				LR	LR	08 08 05.1	
	comp=Z,178nm,19.3s,baz=244,slow=41						
	comp=Z,0.4nm,0.4s						
PB12	IPOC Station P	15.19	8	Pn	Pn	08 01 14.4	-1.1
PB18	Visviri	16.32	11		Pn	08 01 29.8	-0.8
PB18				IAmb	IAmb	08 02 00.6	
	comp=Z,27nm,0.9s						
LPAZ	La Paz	17.83	14	P	P	08 01 49.3	-1.0
LPAZ	La Paz	17.83	14	P	P	08 01 50.2	-0.1
	comp=Z,0.2nm,0.3s,baz=187,slow=7.2,SNR=12						
	comp=Z,1.4nm,0.7s						
LPAZ	La Paz	17.83	14	eP	P	08 01 50.8	+0.5
MURT	Porto Murtinho	17.87	51	eP	P	08 01 49.6	-0.4
BDQN	Bodoquena, MS	19.29	51	eP	Pn	08 02 06.3	-0.5
AQDB	Aquidauana	19.96	53	eP	Pn	08 02 14.5	-0.3
PTGB	Pitanga	19.99	69	eP	P	08 02 13.1	-0.5
SIV	San Ignacio	20.49	33	P	Pn	08 02 19.2	-1.9
	comp=Z,1.5nm,0.8s,baz=200,slow=9.8,SNR=7.1						
SIV				LR	LR	08 11 43.4	
	comp=Z,679nm,18.7s,baz=168,slow=41						
	comp=Z,1.5nm,0.8s						
EFI	East Falkland	20.79	154	P	Pn	08 02 21.8	-2.4
EFI				IAmb	IAmb	08 03 03.2	
	comp=Z,49nm,1.3s						
RPRD	Ribas do Rio P	21.31	57	eP	P	08 02 27.5	-0.3
PTLB	Pontes e Lacer	21.88	37	P	P	08 02 33.1	-0.7
PTLB				IAmb	IAmb	08 02 51.1	
	comp=Z,14nm,1.2s						
PTLB	Pontes e Lacer	21.88	37	eP	P	08 02 33.4	-0.5
SALV	Santo Antonio	23.39	45	eP	P	08 02 48.6	-1.1
VILB	Vilhena	23.56	31	P	P	08 02 51.3	-0.2
VILB				IAmb	IAmb	08 03 21.5	
	comp=Z,13nm,0.8s						
VILB	Vilhena	23.56	31	eP	P	08 02 53.0	+1.6
ITRB	Iturama	24.19	60	eP	P	08 02 56.7	-0.8
CZSB	Cruzeiro do Su	25.88	360	P	P	08 03 12.5	-0.3
CZSB				IAmb	IAmb	08 03 39.8	
	comp=Z,22nm,1.0s						
CZSB	Cruzeiro do Su	25.88	360	eP	P	08 03 16.2	+3.4
PDRB	Porto dos Gac	26.36	37	eP	P	08 03 17.9	+0.8
IPMB	Ipameri, GO	26.85	60	eP	P	08 03 21.3	-0.4
ATAH	Atahualpa	27.02	347	LR	LR	08 12 38.3	
	comp=Z,158nm,20.8s,baz=179,slow=33						
BDFB	Brasilia	28.55	57	P	P	08 03 38.3	+1.4
	comp=Z,1.5nm,0.6s,baz=194,slow=14,SNR=3.0						
BDFB				LR	LR	08 15 11.3	
	comp=Z,276nm,18.0s,baz=189,slow=37						
	comp=Z,1.5nm,0.6s						
TBTG	Tabatinga, AM	29.50	5	P	P	08 03 46.0	+0.7
TBTG	Tabatinga, AM	29.50	5	eP	P	08 03 46.7	+1.5
NPGB	Novo Progresso	30.97	35	eP	P	08 03 58.7	+0.5
PMSA	Palmer Station	31.50	173	LR	LR	08 17 02.1	
	comp=Z,358nm,18.1s,baz=332,slow=37						
COHC	Cochancay	31.73	347	P	P	08 04 06.5	+1.6
OTAV	Otavalo	34.24	350	eP	P	08 04 31.1	+3.7
MAL2	Monte Alegre,	35.94	32	P	P	08 04 41.1	-0.4
MDP	Montagnes des	42.98	30	LR	LR	08 24 57.1	
	comp=Z,236nm,18.9s,baz=186,slow=38						
RCBR	Riachuelo	43.88	59	LR	LR	08 25 14.5	
	comp=Z,113nm,19.9s,baz=236,slow=38						
PCRV	Puerto La Cruz	44.32	11	LR	LR	08 27 28.1	
	comp=Z,222nm,19.3s,slow=40						
HDC	Heredia	44.86	344	P	P	08 05 55.5	0.0
SNAA	Sanae	51.99	158	P	P	08 06 49.8	0.0
SNAA				IAmb	IAmb	08 07 13.6	
	comp=Z,7.0nm,1.1s						
SNAA	Sanae	51.99	158	P	P	08 06 49.3	-0.5
	comp=Z,3.5nm,1.1s,baz=321,slow=9.4,SNR=3.2						
	comp=Z,3.5nm,1.1s						
CMIG	Matias Romero	54.84	334	LR	LR	08 26 42.8	
	comp=Z,53nm,18.2s,baz=128,slow=32						
QSPA	South Pole Qui	56.50	180	P	P	08 07 24.1	+1.3
QSPA				IAmb	IAmb	08 07 48.5	
	comp=Z,7.1nm,1.1s						
QSPA	South Pole Qui	56.50	180	P	P	08 07 24.0	+1.2
	comp=Z,2.6nm,0.9s,baz=130,slow=1.6,SNR=5.9						
	comp=Z,2.6nm,0.9s						
SYO	Syowa Base	66.27	159	eP	P	08 08 28.0	-0.6
TXAR	Lajitas Array	69.29	331	P	P	08 08 49.2	+0.9
	comp=Z,0.2nm,0.6s,baz=153,slow=7.0,SNR=7.5						
TXAR				LR	LR	08 34 50.6	
	comp=Z,53nm,18.0s,baz=125,slow=32						
	comp=Z,0.2nm,0.6s						
PPT2	Papeete2	69.84	262	eLR	LR	08 29 54.9	
	comp=Z,108nm,25.2s						
PPT	Papeete	69.85	262	LR	LR	08 32 47.1	
	comp=Z,51nm,18.0s,baz=101,slow=30						
MAW	Mawson	73.56	164	LR	LR	08 40 16.6	
	comp=Z,131nm,21.0s,baz=232,slow=35						
LBTB	Lobatse	82.81	115	LR	LR	08 45 50.6	
	comp=Z,45nm,18.1s,baz=213,slow=35						
PDAR	Pinedale Array	83.33	334	P	P	08 10 10.8	+2.9
	comp=Z,0.3nm,0.9s,baz=141,slow=7.5,SNR=3.5						
	comp=Z,0.3nm,0.9s						
NVAR	Mina Array Bea	83.42	326	P	P	08 10 08.5	+0.1
	comp=Z,0.2nm,0.5s,baz=146,slow=3.2,SNR=2.4						
	comp=Z,0.2nm,0.5s						
LSZ	Lusaka	90.30	109	LR	LR	08 49 17.1	
	comp=Z,82nm,18.8s,baz=194,slow=34						
MDT	Midelt	91.99	51	LR	LR	08 51 33.1	
	comp=Z,178nm,18.4s,baz=253,slow=35						
ESDC	Sonseca Array	96.71	46	LR	LR	08 55 09.1	
	comp=Z,107nm,18.1s,baz=239,slow=36						
DZM	Mont Dzumac	101.04	234	eLR	LR	08 44 27.9	
	comp=Z,102nm,27.9s						
H11S2	WAKE ISLAND Hyl	25.34	270	T	T	10 34 49.3	
	baz=118						
H11S1	WAKE ISLAND Hyl	25.35	270	T	T	10 34 48.9	
	baz=118						
H11S3	WAKE ISLAND Hyl	25.35	270	T	T	10 34 51.3	
	baz=118						
KURBB	Kurchatov Arra	152.98	43	PKPbc	PKiKP	08 17 38.4	+0.3
	comp=Z,2.7nm,0.9s,baz=299,slow=2.8,SNR=7.6						
ZALV	Zalesovo Beam	154.23	32	PKPbc	PKiKP	08 17 39.6	-0.9
	comp=Z,0.8nm,0.5s,baz=313,slow=3.6,SNR=3.9						
MKAR	Makanchi Array	156.92	48	PKPab	PKPab	08 18 06.5	+0.4
	comp=Z,0.9nm,0.9s,baz=326,slow=2.1,SNR=3.7						

IDC 02 07:58:08.1±0.8, 30°.30N×81°.19E, h0km, mb3.9/15, mbtmp4.0/17, ML4.0/3, MS3.4/1, Error ellipse: s-maj=24.7km s-min=14.5km az=48.0

ISC 02 07:58:13.4±0.8, 30°.4N±0°.1×81°.2E±0°.1, h35km, n19, σ0.9 93/20, mb3.8/14, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	13.32	338	Pn	Pn	08 01 19.4	-0.7
	0.4nm,0.3s,baz=162,slow=13,SNR=4.8						
AAK				Sn	Sn	08 03 45.3	-1.7
	0.1nm,0.3s,baz=8.8,slow=19,SNR=1.4						
	1.3nm,0.5s						
MKAR	Makanchi Array	16.36	3	Pn	Pn	08 01 58.9	-1.4
	0.2nm,0.3s,baz=189,slow=12,SNR=9.3						
CMAR	Chiang Mai Arr	20.02	122	P	P	08 02 41.5	-1.8
	0.7nm,0.3s,baz=315,slow=8.8,SNR=1.8						
	1.2nm,0.3s						
KURBB	Kurchatov Arra	20.27	355	P	P	08 02 46.5	+0.8
	6.1nm,0.9s,baz=179,slow=10,SNR=26						
	6.1nm,0.9s						
ZALV	Zalesovo Beam	23.64	5	P	P	08 03 21.4	+0.1
	0.7nm,0.5s,baz=187,slow=11,SNR=5.9						
	0.7nm,0.5s						
BVAR	Borovoye Array	23.92	344	P	P	08 03 24.6	+0.6
	0.7nm,0.5s,baz=169,slow=8.5,SNR=3.4						
	0.7nm,0.5s						
SONM	Songino Array	25.95	41	P	P	08 03 44.1	+1.4
	2.0nm,0.8s,baz=231,slow=10,SNR=15			

ILAR Eielson Array 77.98 19 P P 08 10 08.0 +0.3
comp=Z,0.3nm,0.8s,baz=316,slow=3.8,SNR=4.4
comp=Z,0.3nm,0.8s

MOS ***02*** *08:06:06.2±1.0,46°.14N×149°.88E,h172km,mb4.7/33, Error ellipse: s-maj=6.2km s-min=5.1km az=98.7*
MOS Felt (III) at Malokuril'skoye.
SKHL ***02*** *08:06:06.9±0.3,46°.00N×150°.00E,h160km±5km,mb5.5/6, msh5.3/2,msha6.1/4*
BJI ***02*** *08:06:06.1,46°.18N×149°.74E,h163km,mB4.7/17, mb5.0/56*
IDC ***02*** *08:06:08.9±1.3,46°.24N×149°.68E,h178km±11km, mb4.1/30,mbtmp4.6/40,Error ellipse: s-maj=9.5km s-min=7.8km az=131.0*
NEIC ***02*** *08:06:08.8±1.3,46°.18N±0°.04×149°.8E±0°.1,h174km±7km, mb4.6/65,Error ellipse: s-maj=11.3km s-min=5.8km az=83.0*
JMA ***02*** *08:06:09.5±0.6,45°.N±3°×15°0E±°,h162km,MV4.3/16, KURILE ISLANDS REGION*
NIED ***02*** *08:06:09.5,45°.41N×150°.01E,h162km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=4.09; $M_{\theta\theta}$3.24; $M_{\phi\phi}$0.85; $M_{r\theta}$1.66; $M_{\theta\phi}$2.58; $M_{r\phi}$1.36; Fault plane solution: $M_0$4.97000×10^{15} NP1:ϕ_s62.00000°, δ32.00000°,λ-83.00000°. NP2:ϕ_s234.00000°,δ58.00000°, λ-94.00000°.*

ISC 02 08:06:07.7±0.3,46°.02N±0°.04×149°.86E±0°.04,h174km, n630,σ1ŝ17/651,mb4.5/116,41C-21D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.61**	**241**	*d* iPN	**Pn**	**08 06 40.1**	**0.0**
KUR				*i* S	**Sn**	**08 07 05.4**	**+0.2**
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=N,489nm,0.3s						
KUR				pmax	pmax		
	comp=E,392nm,0.3s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
KUR				smax	smax		
	comp=N,6μm,0.3s						
KUR				smax	smax		
	comp=E,6μm,1.2s						
KUR				smax	smax		
	comp=N,3μm,1.0s						
KUR	**Kuril'sk**	**1.61**	**241**	*i* P	**Pn**	**08 06 40.6**	**+0.5**
KUR				AMB	AMB	08 06 40.7	
	comp=N,2μm,0.4s						
KUR				*e*S	**Sn**	**08 07 07.1**	**+1.9**
KUR				A	A	08 07 08.2	
	comp=N,2μm,1.0s						
KUR				A	A	08 07 08.2	
	comp=N,6μm,1.0s						
KUR				A	A	08 07 09.6	
	comp=N,6μm,0.5s						
KUR				A	A	08 07 09.6	
	comp=N,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.46**	**236**	*d* iPN	**Pn**	**08 07 01.9**	**+0.2**
YUK				*i* S	**Sn**	**08 07 43.6**	**-0.2**
YUK				pmax	pmax		
	comp=Z,597nm,0.3s						
YUK				pmax	pmax		
	comp=N,168nm,0.2s						
YUK				pmax	pmax		
	comp=E,288nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.46**	**236**	*i* P	**Pn**	**08 07 02.0**	**+0.2**
YUK				AMB	AMB	08 07 03.5	
	comp=E,170nm,0.2s						
YUK				AMB	AMB	08 07 03.5	
	comp=E,290nm,0.2s						
YUK				AMB	AMB	08 07 03.5	
	comp=E,600nm,0.2s						
YUK				*e*S	**Sn**	**08 07 44.8**	**+0.9**
YUK				A	A	08 07 47.1	
	comp=E,1μm,0.4s						
YUK				A	A	08 07 47.1	
	comp=E,2μm,0.4s						
RUSJ	**Misakicho**	**3.79**	**241**	*e*PN	**Pn**	**08 07 06.3**	**+0.5**
RUSJ				*i* S	**Sn**	**08 07 53.4**	**+2.1**
JRA	**Rausu**	**3.96**	**240**	P	**Pn**	**08 07 08.3**	**+0.3**
NEM2	**Nemuro 2**	**3.96**	**229**	P	**Pn**	**08 07 06.2**	**-1.9**
NEM2				S	**Sn**	**08 07 50.0**	**-5.2**
NMR	**Nemuro--Hokkai**	**3.96**	**229**	⇓*i*PN	**Pn**	**08 07 06.2**	**-1.9**
NMR				*i* S	**Sn**	**08 07 50.6**	**-4.7**
NMR	**Nemuro--Hokkai**	**3.96**	**229**	*i* P	**Pn**	**08 07 06.4**	**-1.7**
JNK	**Nakash**	**4.40**	**238**	*e*P	**Pn**	**08 07 13.6**	**-0.1**
JTKR	**Abashiri--Toko**	**4.69**	**246**	P	**Pn**	**08 07 18.1**	**+0.6**
JTKR				*e*S	**Sn**	**08 08 11.6**	**-0.5**
JAK	**Akkeshi**	**4.78**	**232**	P	**Pn**	**08 07 17.1**	**-1.5**
JAK				*e*S	**Sn**	**08 08 09.0**	**-5.0**
YSS	**Yuzhno-Sakhali**	**5.00**	**283**	Pn	**Pn**	**08 07 21.7**	**+0.4**
YSS	**Yuzhno-Sakhali**	**5.00**	**283**	P	**Pn**	**08 07 22.7**	**+1.4**
YSS	**Yuzhno-Sakhali**	**5.00**	**283**	*αe*PN	**Pn**	**08 07 22.7**	**+1.4**
YSS				pmax	pmax		
	comp=Z,90nm,0.8s						
YSS	**Yuzhno-Sakhali**	**5.00**	**283**	*e*P	**Pn**	**08 07 22.2**	**+0.9**
YSS				AMB	AMB	08 07 30.0	
	comp=Z,90nm,0.8s						
YSS				*e*S	**Sn**	**08 08 21.4**	**+2.3**
YSS				A	A	08 08 25.3	
	comp=Z,50nm,1.0s						
YSS				A	A	08 08 25.3	
	comp=Z,80nm,1.0s						
YSS				A	A	08 08 29.0	
	comp=Z,400nm,2.8s						
YSS				A	A	08 08 29.0	
	comp=Z,300nm,2.8s						
JAR	**Ashorobuto**	**5.13**	**240**	P	**Pn**	**08 07 23.8**	**+0.7**
JAR				*e*S	**Sn**	**08 08 21.0**	**-1.4**
JOB	**Onbets**	**5.32**	**236**	*e*P	**Pn**	**08 07 25.1**	**-0.5**
JOB				*e*S	**Sn**	**08 08 23.7**	**-3.1**
JKA	**Kamikawa-asahi**	**5.48**	**252**	Pn	**Pn**	**08 07 28.8**	**+1.1**
JKA	**Kamikawa-asahi**	**5.48**	**252**	*e*P	**Pn**	**08 07 29.0**	**+1.2**
ASAJ	**Asahikawa**	**5.49**	**252**	P	**Pn**	**08 07 28.9**	**+1.1**
	comp=Z,174nm,0.7s,baz=75,slow=13,SNR=174						
ASAJ				S	**Sn**	**08 08 32.0**	**+1.3**
	comp=Z,50nm,1.0s,baz=199,slow=27,SNR=11						
JKK2	**Kamakawa 2**	**5.49**	**249**	P	**Pn**	**08 07 29.0**	**+1.1**
JKK2				*e*S	**Sn**	**08 08 31.1**	**+0.3**
JWK2	**Keihoku**	**5.63**	**266**	P	**Pn**	**08 07 32.2**	**+2.6**
JCH	**Churui**	**5.77**	**236**	*e*P	**Pn**	**08 07 30.5**	**-1.1**
JCH				S	**Sn**	**08 08 31.9**	**-5.6**
JAB	**Ashibetsu**	**5.99**	**248**	*e*P	**Pn**	**08 07 36.1**	**+1.6**
UGL	**Uglegorsk**	**6.10**	**303**	*e*PN	**Pn**	**08 07 36.8**	**+1.1**
UGL				S	**Sn**	**08 08 45.8**	**+0.8**
UGL				pmax	pmax		
	comp=Z,104nm,0.7s						
UGL				smax	smax		
	comp=N,68nm,1.2s						
UGL				smax	smax		
	comp=E,61nm,0.7s						
UGL	**Uglegorsk**	**6.10**	**303**	*e*P	**Pn**	**08 07 36.6**	**+0.9**
UGL				AMB	AMB	08 07 37.1	
	comp=E,100nm,0.5s						
UGL				*e*S	**Sn**	**08 08 46.9**	**+1.9**
UGL				A	A	08 08 49.6	
	comp=E,120nm,0.6s						
UGL				A	A	08 08 49.6	
	comp=E,80nm,0.6s						
JRBN	**Rebuntou**	**6.19**	**268**	*e*P	**Pn**	**08 07 38.6**	**+1.6**
SKR	**Severo-Kuril's**	**6.25**	**40**	*e*PN	**Pn**	**08 07 36.9**	**-0.9**
SKR				*e*S	**Sn**	**08 08 44.8**	**-3.9**
SKR				pmax	pmax		
	comp=Z,84nm,0.7s						
SKR				smax	smax		
	comp=N,59nm,0.5s						
SKR				smax	smax		
	comp=E,80nm,0.4s						
SKR				MLR	MLR		
	comp=Z,400nm,10.0s						
SKR	**Severo-Kuril's**	**6.25**	**40**	*e*P	**Pn**	**08 07 37.4**	**-0.4**
SKR				AMB	AMB	08 07 38.7	
	comp=Z,80nm,0.5s						
SKR				*e*S	**Sn**	**08 08 48.1**	**-0.6**
SKR				A	A	08 08 53.8	
	comp=Z,50nm,0.3s						
SKR				A	A	08 08 53.8	
	comp=Z,80nm,0.3s						
JEM	**Erimo**	**6.28**	**233**	P	**Pn**	**08 07 38.7**	**+0.5**
JEM	**Erimo**	**6.28**	**233**	S	**Sn**	**08 08 46.6**	**-2.8**
ERM	**Erimo**	**6.28**	**233**	Pn	**Pn**	**08 07 38.9**	**+0.7**
ERM	**Erimo**	**6.28**	**233**	P	**Pn**	**08 07 38.4**	**+0.2**
ERM	**Erimo**	**6.28**	**233**	S	**Sn**	**08 08 46.5**	**-2.9**
ERM	**Erimo**	**6.28**	**233**	*ce*PN	**Pn**	**08 07 37.4**	**-0.8**
ERM				pmax	pmax		
	comp=Z,48nm,0.7s						
JNBK	**Urakawa-nobuka**	**6.33**	**236**	P	**Pn**	**08 07 36.9**	**-2.0**
TYV	**Tymovskoe**	**6.81**	**318**	*e*PN	**Pn**	**08 07 45.5**	**+0.4**
TYV				*e*S	**Sn**	**08 09 02.0**	**0.0**
TYV				pmax	pmax		
	comp=Z,23nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,3.1s						
TYV				smax	smax		
	comp=N,12nm,1.4s						
TYV				smax	smax		
	comp=E,14nm,1.4s						
TYV	**Tymovskoe**	**6.81**	**318**	*e*P	**Pn**	**08 07 45.6**	**+0.4**
TYV				AMB	AMB	08 07 45.9	
	comp=E,230nm,0.7s						
TYV				AMB	AMB	08 07 52.7	
	comp=E,200nm,3.1s						
TYV				*e*S	**Sn**	**08 09 02.4**	**+0.4**
TYV				A	A	08 09 03.6	
	comp=E,140nm,0.6s						
TYV				A	A	08 09 03.6	
	comp=E,120nm,0.6s						
JTM	**Tenmabayashi**	**8.27**	**234**	Pn	Pn	08 08 01.2	-3.2
PEA0B	**Petropavlovsk-**	**8.73**	**33**		**Pn**	**08 08 08.0**	**-2.3**
PEA0B	**Petropavlovsk-**	**8.73**	**33**	*ce*PN	**Pn**	**08 08 08.3**	**-2.1**
PETK	**Petropavlovsk-**	**8.73**	**33**	Pn	**Pn**	**08 08 08.6**	**-1.8**
PETK	**Petropavlovsk-**	**8.73**	**33**	P	**Pn**	**08 08 08.2**	**-2.2**
	comp=E,17nm,0.6s,baz=176,slow=8.8,SNR=36						
PETK	**Petropavlovsk-**	**8.73**	**33**	PN	**Pn**	**08 08 08.6**	**-1.8**
OKH	**Okha**	**8.76**	**332**	*e*P	**Pn**	**08 08 11.8**	**+1.0**
OKH				AMB	AMB	08 08 12.8	
	comp=E,20nm,0.7s						
PET	**Petropavlovsk**	**9.04**	**36**	Pn	**Pn**	**08 08 09.9**	**-4.5**
PET	**Petropavlovsk**	**9.04**	**36**	*e*PN	**Pn**	**08 08 16.8**	**+2.4**
PET				*e*S	**Sn**	**08 09 51.0**	**-4.1**
PET	**Petropavlovsk**	**9.04**	**36**	*e*P	**Pn**	**08 08 13.8**	**-0.7**
PET				AMB	AMB	08 08 22.5	
	comp=E,10.0nm,0.5s						
PET				*e*S	**Sn**	**08 09 53.8**	**-1.3**
NKL	**Nikolayevsk**	**9.29**	**323**	*e*P	**Pn**	**08 08 17.3**	**-0.5**
NKL				AMB	AMB	08 08 18.0	
	comp=E,10.0nm,0.7s						
TEY	**Ternei**	**9.36**	**269**	⇑*e*PN	**Pn**	**08 08 20.1**	**+1.3**
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
TEY	**Ternei**	**9.36**	**269**	*e*P	**Pn**	**08 08 20.1**	**+1.3**
TEY				AMB	AMB	08 08 20.7	
	comp=Z,20nm,1.0s						
GRNR	**Gornyy**	**10.12**	**303**	⇑*i*PN	**Pn**	**08 08 29.5**	**+0.8**
GRNR				pmax	pmax		
	comp=E,30nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,40nm,1.1s						
GRNR	**Gornyy**	**10.12**	**303**	*i* P	**Pn**	**08 08 29.5**	**+0.8**
GRNR				AMB	AMB	08 08 30.1	
	comp=Z,40nm,1.0s						
JMM	**Marumori**	**10.58**	**223**	Pn	**Pn**	**08 08 32.3**	**-2.5**
JMM	**Marumori**	**10.58**	**223**	P	**Pn**	**08 08 32.3**	**-2.5**
KLR	**Kul'dur**	**12.63**	**291**	P	**Pn**	**08 09 01.6**	**+0.4**
	comp=Z,20nm,0.8s,baz=100,slow=13,SNR=62						
KLR	**Kul'dur**	**12.63**	**291**	*ce*PN	**Pn**	**08 09 01.7**	**+0.6**
KLR				pmax	pmax		
	comp=Z,46nm,1.3s						
KLR	**Kul'dur**	**12.63**	**291**	*e*P	**Pn**	**08 09 01.7**	**+0.6**
USA0B	**Ussuriysk Arra**	**12.76**	**268**		**Pn**	**08 09 02.9**	**+0.1**
USA0B	**Ussuriysk Arra**	**12.76**	**268**	*i* PN	**Pn**	**08 09 02.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**12.76**	**268**	P	**Pn**	**08 09 02.3**	**-0.5**
	comp=Z,16nm,0.5s,baz=77,slow=12,SNR=49						
MAJO	**Matsushiro**	**12.89**	**227**	Pn	**Pn**	**08 09 05.6**	**+0.9**
MAJO	**Matsushiro**	**12.89**	**227**	*i* PN	**Pn**	**08 09 05.5**	**+0.9**
MJAR	**Matsushiro Arr**	**12.89**	**227**	P	**Pn**	**08 09 04.7**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=26,slow=13,SNR=6.4						
MJB9	**Matsu-Tunnel**	**12.89**	**227**	Pn	**Pn**	**08 09 05.4**	**+0.8**
EKMR	**Ekimchan**	**13.03**	**309**	*e*P	**Pn**	**08 09 06.6**	**+0.4**
EKMR				AMB	AMB	08 09 11.8	
	comp=Z,50nm,0.7s						
MA2	**Magadan**	**13.59**	**2**	Pn	**Pn**	**08 09 11.2**	**-1.9**
MA2	**Magadan**	**13.59**	**2**	P	**Pn**	**08 09 11.0**	**-2.1**
	comp=Z,5.3nm,0.8s,baz=173,slow=8.2,SNR=10						
MA2	**Magadan**	**13.59**	**2**	*ce*PN	**Pn**	**08 09 11.0**	**-2.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MA2	**Magadan**	**13.59**	**2**	P	**Pn**	**08 09 11.4**	**-1.7**
	comp=Z,9.6nm,0.7s						
MDJ	**Mudanjiang**	**14.33**	**272**		**Pn**	**08 09 22.5**	**0.0**
MDJ	**Mudanjiang**	**14.33**	**272**	P	**Pn**	**08 09 22.8**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,44nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.5s						
HEH	**HeiHe**	**15.55**	**294**	*e*P	**Pn**	**08 09 37.6**	**0.0**
HEH				pmax	pmax		
	comp=Z,64nm,0.9s						
BNX	**BinXian**	**15.64**	**277**	⇓P	**Pn**	**08 09 37.0**	**-1.6**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZEA	**Zeya**	**16.44**	**306**	*e*P	**Pn**	**08 09 48.5**	**+0.2**
ZEA				pmax	pmax		
	comp=N,40nm,0.9s						
ZEA				pmax	pmax		
	comp=E,30nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,60nm,1.0s						
ZEA	**Zeya**	**16.44**	**306**	*e*P	**Pn**	**08 09 48.5**	**+0.2**
ZEA				AMB	AMB	08 09 49.3	
	comp=Z,60nm,0.9s						
SEY	**Seymchan**	**17.01**	**4**	P	**P**	**08 09 53.6**	**-0.4**
	comp=Z,10nm,0.9s,baz=179,slow=8.4,SNR=38						
SEY	**Seymchan**	**17.01**	**4**	*i* P	**P**	**08 09 53.3**	**-0.7**
SEY				pmax	pmax		
	comp=Z,16nm,1.0s						
SEY	**Seymchan**	**17.01**	**4**	*e*P	**P**	**08 09 53.3**	**-0.7**
CN2	**Changchun**	**17.42**	**271**	*e*P	**P**	**08 09 55.8**	**-2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**18.43**	**250**	P	**P**	**08 10 12.0**	**+2.2**
	comp=Z,18nm,0.5s,baz=54,slow=11,SNR=40						
KS19	**Wonju Array Si**	**18.44**	**250**	P	**P**	**08 10 11.2**	**+1.3**
KS19				IAmb	IAmb	08 10 15.6	
	comp=Z,17nm,0.8s						
KSAR	**Wonju Array Be**	**18.46**	**250**	P	**P**	**08 10 11.2**	**+1.1**
KSAR	**Wonju Array Be**	**18.46**	**250**	P	**P**	**08 10 11.2**	**+1.1**
INCN	**Inchon**	**19.27**	**252**	P	**P**	**08 10 19.8**	**+0.9**
INCN				IAmb	IAmb	08 10 25.1	
	comp=Z,29nm,0.8s						
INCN	**Inchon**	**19.27**	**252**	P	**P**	**08 10 19.8**	**+0.9**
INCN				pmax	pmax		
	comp=Z,29nm,0.8s						
INCN	**Inchon**	**19.27**	**252**	*e*P	**P**	**08 10 19.8**	**+0.9**
JTU	**Tsushima**	**19.32**	**241**	P	**P**	**08 10 14.1**	**-5.4**
TJN	**Taejon**	**19.42**	**248**	P	**P**	**08 10 21.8**	**+1.3**
TJN	**Taejon**	**19.42**	**248**	*i* P	**P**	**08 10 20.3**	**-0.2**
TJN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
JNU	**Nakatsue**	**19.43**	**235**	P	**P**	**08 10 22.4**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=259,slow=5.5,SNR=5.7						
JNU	**Nakatsue**	**19.43**	**235**	P	**P**	**08 10 15.7**	**-5.1**
YAK	**Yakutsk**	**19.80**	**331**	P	**P**	**08 10 21.9**	**-2.4**
YAK	**Yakutsk**	**19.80**	**331**	P	**P**	**08 10 23.0**	**-1.2**
	comp=Z,79nm,0.6s,baz=340,slow=2.4,SNR=17						
YAK	**Yakutsk**	**19.80**	**331**	*e*P	**P**	**08 10 22.8**	**-1.5**
YAK				*e*S	**S**	**08 13 54.2**	**-3.2**
YAK				pmax	pmax		
	comp=Z,67nm,0.9s						
YAK				pmax	pmax		
	comp=N,18nm,1.1s						
YAK				pmax	pmax		
	comp=E,11nm,0.9s						
YAK				smax	smax		
	comp=E,45nm,2.0s						
YAK				smax	smax		
	comp=N,43nm,2.0s						
HIA	**Hailar**	**20.48**	**290**	*i* P	**P**	**08 10 31.8**	**0.0**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GSTR	**Great Sitkin T**	**22.99**	**62**	P	**P**	**08 10 57.1**	**+0.1**
BILL	**Bilibino**	**23.65**	**15**	*i* P	**P**	**08 11 02.4**	**-0.3**
BILL	**Bilibino**	**23.65**	**15**	*i* P	**P**	**08 11 02.4**	**-0.3**
XLT	**XiLinHaoTe**	**23.90**	**277**	*e*P	**P**	**08 11 04.6**	**-0.7**
XLT				pmax	pmax		
	comp=Z,81nm,0.7s						
ATKA	**Atka Island**	**24.14**	**62**	P	**P**	**08 11 09.2**	**+1.9**
BJI	**Beijing**	**25.21**	**268**	P	**P**	**08 11 17.8**	**+0.7**
BJI				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuau**	**25.23**	**268**	P	**P**	**08 11 19.5**	**+2.2**
BJT	**Baijiatuau**	**25.23**	**268**	P	**P**	**08 11 19.5**	**+2.2**
BJT				pmax	pmax		
	comp=Z,32nm,0.8s						
TIA	**Tai'an**	**26.38**	**260**	P	**P**	**08 11 29.8**	**+2.1**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SPIA	**Saint Paul Isl**	**26.78**	**51**	P	**P**	**08 11 31.4**	**+0.4**
	baz=263						
P08K	**Saint George I**	**27.10**	**52**	P	**P**	**08 11 34.6**	**+0.7**
	baz=265						
HNS	**HongShan**	**27.44**	**264**	⇑P	**P**	**08 11 38.4**	**+1.3**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TIXI	**Tiksi**	**27.57**	**346**	P	**P**	**08 11 35.2**	**-2.7**
TIXI				IAmb	IAmb	08 11 36.4	
	comp=Z,4.5nm,0.5s						
TIXI	**Tiksi**	**27.57**	**346**	*i* P	**P**	**08 11 35.0**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NJ2	**Nanjing**	**27.63**	**251**	*e*P	**P**	**08 11 39.7**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GAMB	**Gambell**	**27.74**	**36**	P	**P**	**08 11 40.5**	**+1.0**
	baz=249						
HHC	**Hu-ho-hao-te**	**28.09**	**273**	*e*P	**P**	**08 11 44.1**	**+1.0**
UNV	**Unalaska Valle**	**28.76**	**58**	P	**P**	**08 11 48.9**	**+0.2**
	baz=272						
ULN	**Ulaanbaatar**	**29.01**	**289**	P	**P**	**08 11 50.1**	**-1.1**
ULN	**Ulaanbaatar**	**29.01**	**289**	*i* P	**P**	**08 11 50.7**	**-0.5**
ULN				pmax	pmax		
	comp=Z,11nm,1.5s						
SONM	**Songino Array**	**29.45**	**290**	P	**P**	**08 11 54.8**	**-0.2**
SONM	**Songino Array**	**29.45**	**290**	P	**P**	**08 11 53.8**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=77,slow=8.5,SNR=20						
	comp=Z,2.6nm,0.6s						
SONM	**Songino Array**	**29.45**	**290**	P	**P**	**08 11 54.8**	**-0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**29.74**	**146**	T	T	08 43 17.1	
	baz=335,slow=76,SNR=1906						
H11N1	**WAKE ISLAND Hy**	**29.75**	**146**	T	T	08 43 18.0	
	baz=335,slow=76,SNR=1634						
H11N3	**WAKE ISLAND Hy**	**29.76**	**146**	T	T	08 43 18.3	
	baz=335,slow=76,SNR=1708						
TNA	**Tin City**	**29.89**	**34**	P	**P**	**08 11 58.5**	**0.0**
	baz=250						
K13K	**Kusilvak Mount**	**30.34**	**42**	P	**P**	**08 12 03.8**	**+1.3**
	baz=260						
F14K	**Arctic Creek**	**30.49**	**35**	P	**P**	**08 12 04.9**	**+1.1**
	baz=252						
ANM	**Nome**	**30.62**	**37**	P	**P**	**08 12 05.8**	**+0.9**
	baz=255						
M13K	**Dall Lake**	**30.74**	**45**	P	**P**	**08 12 06.4**	**+0.4**
	baz=264						
H11S1	**WAKE ISLAND Hy**	**30.78**	**148**	T	T	08 44 32.3	
	baz=336,slow=76,SNR=1218						
H11S3	**WAKE ISLAND Hy**	**30.79**	**148**	T	T	08 44 32.7	
	baz=336,slow=76,SNR=750						
H11S2	**WAKE ISLAND Hy**	**30.80**	**148**	T	T	08 44 34.1	
	baz=336,slow=76,SNR=2070						
J14K	**Nanvaranak Lak**	**31.00**	**40**	P	**P**	**08 12 08.9**	**+0.7**
	baz=260						
L14K	**Kuka Creek**	**31.18**	**43**	P	**P**	**08 12 10.7**	**+0.8**
	baz=263						
F15K	**North Star Dit**	**31.23**	**35**	P	**P**	**08 12 10.2**	**-0.1**
	baz=254						
S12K	**Black Hills**	**31.26**	**54**	P	**P**	**08 12 11.5**	**+0.8**
	baz=273						
G15K	**Niukluk**	**31.28**	**36**	P	**P**	**08 12 10.6**	**-0.2**
	baz=255						
M14K	**Bethel**	**31.46**	**45**	P	**P**	**08 12 13.2**	**+0.8**
	baz=264						
N14K	**Kuskokwak Cree**	**31.52**	**46**	P	**P**	**08 12 13.2**	**+0.3**
	baz=266						
O14K	**Tigyukauivet M**	**31.70**	**47**	P	**P**	**08 12 15.0**	**+0.6**
	baz=268						
L15K	**Ungalak Mounta**	**31.79**	**43**	P	**P**	**08 12 16.1**	**+0.9**
	baz=263						
C16K	**Lisburne Hills**	**31.81**	**30**	P	**P**	**08 12 15.4**	**+0.1**
	baz=249						
K15K	**Wolf Creek Mou**	**31.85**	**42**	P	**P**	**08 12 15.7**	**-0.1**
	baz=262						
H16K	**Elim**	**31.95**	**37**	P	**P**	**08 12 16.7**	**+0.1**
	baz=258						
G16K	**Koyuk River**	**32.07**	**36**	P	**P**	**08 12 17.4**	**-0.2**
	baz=257						
M15K	**Kasigluk River**	**32.08**	**45**	P	**P**	**08 12 17.4**	**-0.4**
	baz=266						
SDPT	**Sand Point**	**32.18**	**55**	P	**P**	**08 12 18.1**	**-0.6**
	baz=274						
N15K	**Kwethluk River**	**32.34**	**46**	P	**P**	**08 12 20.8**	**+0.7**
N15K				IAmb	IAmb	08 12 22.4	
	comp=Z,22nm,1.1s						
N15K	**Kwethluk River**	**32.34**	**46**	P	**P**	**08 12 19.2**	**-0.9**
	baz=267						
J16K	**Anvik River**	**32.41**	**40**	P	**P**	**08 12 20.0**	**-0.7**
	baz=262						
D17K	**Noatak River**	**32.42**	**31**	P	**P**	**08 12 19.1**	**-1.5**
	baz=252						
O15K	**Ungalikthiuk R**	**32.44**	**48**	P	**P**	**08 12 20.1**	**-0.8**
	baz=269						
I17K	**Unalakleet**	**32.47**	**39**	P	**P**	**08 12 20.8**	**-0.3**
	baz=261						
RDOG	**Red Dog Mine**	**32.59**	**31**	P	**P**	**08 12 22.0**	**-0.2**
	baz=252						
C17K	**DeLong Mountai**	**32.63**	**30**	P	**P**	**08 12 22.6**	**0.0**
	baz=251,SNR=5.1						
S14K	**Fog Glacier**	**32.64**	**53**	P	**P**	**08 12 22.6**	**-0.2**
	baz=274						
CHNA	**Chernabura Isl**	**32.73**	**56**	P	**P**	**08 12 23.3**	**-0.2**
	baz=276						
L16K	**Owhat River**	**32.75**	**43**	P	**P**	**08 12 23.7**	**+0.2**
	baz=265						
F17K	**Baldwin Pennin**	**32.76**	**34**	P	**P**	**08 12 23.7**	**+0.1**
F17K				IAmb	IAmb	08 12 25.7	
	comp=Z,17nm,0.8s						
F17K	**Baldwin Pennin**	**32.76**	**34**	P	**P**	**08 12 23.5**	**-0.1**
	baz=256,SNR=11						
M16K	**Timber Creek**	**32.95**	**44**	P	**P**	**08 12 25.2**	**-0.1**
	baz=267						
H17K	**Granite Mounta**	**32.98**	**37**	P	**P**

baz=260,SNR=18
M17K Holitna River 33.70 44 P P 08 12 32.2 +0.3
baz=268,SNR=7.7
N17K Nushagak Hills 33.79 45 P P 08 12 33.7 +1.1
N17K IAmb IAmb 08 12 35.1
comp=Z,12nm,1.2s
N17K Nushagak Hills 33.79 45 P P 08 12 33.0 +0.4
baz=269
O17K Koliganek Bris 33.84 47 P P 08 12 33.4 +0.4
baz=270,SNR=6.5
A19K Wainwright 33.91 27 P P 08 12 33.5 0.0
baz=251
Q16K King Salmon 34.08 49 P P 08 12 34.6 -0.5
baz=272
L18K Granite Mounta 34.10 42 P P 08 12 35.4 +0.2
baz=267
J18K Innoko River 34.17 40 P P 08 12 36.1 +0.2
J18K Innoko River 34.17 40 P P 08 12 35.8 -0.1
baz=265,SNR=5.1
P17K Kvichak River 34.18 48 P P 08 12 36.0 +0.1
baz=272
F19K Shaleruckik Mo 34.20 34 P P 08 12 36.1 0.0
baz=259,SNR=12
GCSA Galena City Sc 34.23 38 P P 08 12 36.7 +0.3
baz=263
G19K Purcell Mounta 34.35 35 P P 08 12 37.6 +0.2
baz=261,SNR=7.0
D19K Kuna River 34.43 31 P P 08 12 38.2 +0.2
baz=256,SNR=10
N18K Kilae Creek 34.44 45 P P 08 12 38.4 +0.2
baz=270
TTA Tatalina 34.45 41 P P 08 12 39.9 +1.5
TTA Tatalina 34.45 41 P P 08 12 38.4 +0.1
baz=267,SNR=5.8
M18K Stony River 34.48 44 P P 08 12 38.9 +0.4
baz=269
H19K Roundabout Mou 34.52 36 P P 08 12 38.8 +0.1
baz=262,SNR=31
E19K Redstone River 34.53 33 P P 08 12 38.2 -0.7
baz=259,SNR=21
J19K Poorman 34.70 39 P P 08 12 40.2 -0.2
baz=266,SNR=9.3
O18K Koktuh Hills 34.79 46 P P 08 12 42.4 +1.2
O18K IAmb IAmb 08 12 43.7
comp=Z,13nm,1.0s
O18K Koktuh Hills 34.79 46 P P 08 12 41.7 +0.5
baz=272,SNR=7.8
P18K Big Mountain, 34.79 47 P P 08 12 42.0 +0.7
P18K Big Mountain, 34.79 47 P P 08 12 42.0 +0.7
baz=272,SNR=12
CHIR Chirikof Islan 34.88 53 P P 08 12 42.9 +0.9
CHIR Chirikof Islan 34.88 53 P P 08 12 42.2 +0.2
baz=277
Q18K Katmai Hardscr 34.94 48 P P 08 12 42.8 +0.1
baz=274,SNR=7.5
L19K White Mountain 34.95 42 P P 08 12 42.9 +0.2
baz=269
D20K Etivluk River 35.01 31 P P 08 12 43.3 +0.3
baz=258,SNR=18
F20K Avaraart Lake 35.03 34 P P 08 12 43.4 +0.2
baz=261,SNR=5.6
E20K Nigu River 35.07 32 P P 08 12 43.7 +0.1
baz=259,SNR=16
N19K Bonanza Creek 35.13 45 P P 08 12 44.6 +0.4
baz=271
B20K Meade River 35.13 29 P P 08 12 44.4 +0.4
baz=255,SNR=32
H20K Anotleneega Mo 35.16 37 P P 08 12 43.6 -0.7
baz=264,SNR=18
M19K Big River Lodg 35.17 43 P P 08 12 44.1 -0.3
baz=270
O19K Port Alsworth 35.22 46 P P 08 12 45.0 +0.1
baz=272
I20K Naaghedeneel 35.26 38 P P 08 12 45.2 0.0
baz=265
R18K Karluk 35.32 50 P P 08 12 45.5 -0.3
baz=276
K20K Telida 35.35 40 P P 08 12 46.5 +0.5
baz=268
J20K Nowinta River 35.36 39 P P 08 12 46.4 +0.4
baz=267,SNR=13
L20K Farewell, AK 35.41 42 P P 08 12 46.7 +0.1
baz=269
SII Sitkinak Islan 35.58 52 P P 08 12 49.2 +1.2
SII Sitkinak Islan 35.58 52 P P 08 12 48.4 +0.4
baz=277
Q19K Cape Douglas, 35.63 48 P P 08 12 48.3 -0.2
baz=274
LZH Lanzhou 35.65 271 *e*P **P 08 12 51.0 +1.9**
LZH sP sP 08 13 47.6 +3.4
LZH pmax pmax
comp=Z,49nm,1.2s
A21K Barrow 35.66 26 P P 08 12 48.4 0.0
baz=254
C21K Knifeblade Rid 35.75 30 P P 08 12 49.4 0.0
baz=259,SNR=10
M20K Styx River 35.76 43 P P 08 12 49.3 -0.3
baz=271,SNR=7.1
P19K Oil Pt 35.80 47 P P 08 12 50.0 +0.1
P19K IAmb IAmb 08 12 51.9
comp=Z,8.8nm,0.6s
P19K Oil Pt 35.80 47 P P 08 12 50.1 +0.3
baz=274
G21K Allakaket 35.83 35 P P 08 12 50.5 +0.4
G21K IAmb IAmb 08 12 52.2
comp=Z,16nm,0.8s
G21K Allakaket 35.83 35 P P 08 12 50.8 +0.7
baz=264
B21K Ikpikpuk River 35.91 30 P P 08 12 50.3 -0.3
baz=258
E21K Killik River 35.91 32 P P 08 12 50.5 -0.2
baz=261
F21K Alatna River 35.92 34 P P 08 12 51.0 +0.1
baz=263
OHAK Old Harbor 35.99 51 P P 08 12 52.4 +1.0
OHAK Old Harbor 35.99 51 P P 08 12 51.1 -0.3
baz=277
H21K Melozitna Rive 36.04 36 P P 08 12 52.2 +0.4
baz=266,SNR=18
O20K Slope Mountain 36.08 46 P P 08 12 52.6 +0.3
baz=274,SNR=8.0
A22K Sinclair Lake 36.09 27 P P 08 12 52.6 +0.4
baz=256
CHUM Lake Minchumin 36.15 39 P P 08 12 53.1 +0.4
baz=269,SNR=5.4
PPLA Purkeypile 36.20 41 P P 08 12 53.8 +0.4
baz=270,SNR=6.9
N20K Mount Spurr 36.22 44 P P 08 12 53.7 +0.2
baz=272,SNR=11
SPCR Spurr Chakacha 36.22 44 P P 08 12 54.0 +0.5
baz=272
CAST Castle Rocks 36.25 40 P P 08 12 54.3 +0.6
baz=270,SNR=12
KDAK Kodiak Island 36.30 50 P P 08 12 54.1 0.0
KDAK IAmb IAmb 08 12 54.9
comp=Z,17nm,0.8s
KDAK Kodiak Island 36.30 50 *i*P **P 08 12 52.2 -1.9**
KDAK pmax pmax
comp=Z,23nm,0.8s
KDAK Kodiak Island 36.30 50 P P 08 12 54.4 +0.4
baz=277
Q20K Shuyak Island 36.31 48 P P 08 12 54.0 -0.1
baz=276,SNR=5.4
I21K Tanana 36.35 37 P P 08 12 54.9 +0.4
baz=267,SNR=11
B22K Teshekpuk Lake 36.45 28 P P 08 12 55.7 +0.5
baz=259,SNR=6.5
D22K Ayikyak River 36.45 31 P P 08 12 55.9 +0.6
D22K IAmb IAmb 08 12 56.8
comp=Z,6.8nm,0.6s
D22K Ayikyak River 36.45 31 P P 08 12 55.6 +0.3
baz=262,SNR=9.4
F22K John River 36.46 33 P P 08 12 55.7 +0.4
baz=264
SKT Skwentna 36.52 43 P P 08 12 56.4 +0.4
baz=272
HOM Homer 36.60 47 P P 08 12 57.3 +0.7
baz=275
H22K Ishtalitna Cre 36.64 36 P P 08 12 57.9 +0.9
baz=267,SNR=12
E22K Anaktuvuk Pass 36.67 32 P P 08 12 57.9 +0.8
baz=263
BPAW Bear Paw Mtn. 36.74 39 P P 08 12 58.5 +0.7
baz=270,SNR=6.7
CAPN Captain Cook N 36.76 45 P P 08 12 59.1 +1.2
baz=274
GTA Gaotai 36.85 278 *e*P **P 08 13 00.5 +1.3**
GTA pmax pmax
comp=Z,60nm,0.8s
BRLK Bradley Lake 36.97 46 P P 08 12 59.9 0.0
BRLK IAmb IAmb 08 13 02.7
comp=Z,11nm,0.8s
BRSE Bradley Lake S 37.05 46 P P 08 13 01.3 +0.9
baz=276,SNR=7.0
TRF Thorofare Moun 37.06 40 P P 08 13 01.8 +1.1
baz=271
CUT Chulitna 37.09 42 P P 08 13 01.2 +0.5
baz=272
D23K Nanushuk River 37.18 31 P P 08 13 02.4 +1.0
baz=263,SNR=6.0
COLD Coldfoot 37.20 34 P P 08 13 02.3 +0.7
baz=266,SNR=12
G23K Bananza Creek 37.23 35 P P 08 13 02.7 +0.8
baz=267
C23K Itkillik River 37.31 30 P P 08 13 03.0 +0.5
baz=262,SNR=11
RC01 Rabbit Creek A 37.43 44 P P 08 13 03.9 +0.3
baz=275,SNR=7.6
I23K Minto, Yukon-K 37.45 37 P P 08 13 04.3 +0.5
baz=270,SNR=8.3
E23K Chandalar 37.48 33 P P 08 13 04.9 +0.9
E23K IAmb IAmb 08 13 06.3
comp=Z,12nm,0.8s
E23K Chandalar 37.48 33 P P 08 13 04.6 +0.6
baz=266,SNR=16
O22K Cooper Landing 37.48 45 P P 08 13 04.5 +0.5
O22K Cooper Landing 37.48 45 P P 08 13 04.5 +0.5
baz=276
TOLK Toolik Lake Re 37.55 32 P P 08 13 05.1 +0.5
baz=265,SNR=9.5
NEA2 Nenana 37.58 38 P P 08 13 05.5 +0.7
baz=271,SNR=12
MCK McKinley 37.65 40 P P 08 13 05.4 -0.1
baz=272,SNR=6.8
SEW Seward 37.66 46 P P 08 13 05.9 +0.4
baz=276
PMR Palmer 37.68 43 P P 08 13 05.9 +0.3
baz=275
D24K Happy Valley 37.86 31 P P 08 13 07.4 +0.2
baz=265
E24K Your Creek 37.91 33 P P 08 13 08.0 +0.4
baz=267
C24K Franklin Bluff 37.96 30 P P 08 13 08.0 +0.1
baz=264
KNK Knik Glacier 38.02 43 P P 08 13 08.6 +0.1
baz=275,SNR=8.0
SML Sawmill 38.04 43 P P 08 13 09.1 +0.4
baz=275,SNR=11
H24K Noodor Dome 38.08 36 P P 08 13 10.0 +1.0
baz=270,SNR=9.9
COLA College 38.10 38 P P 08 13 10.3 +1.2
COLA College 38.10 38 *i*P **P 08 13 09.0 -0.1**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 38.10 38 P P 08 13 09.7 +0.6
baz=271
F24K Squaw Lake 38.10 33 P P 08 13 09.6 +0.4
baz=268,SNR=15
PWL Port Wells 38.13 44 P P 08 13 10.0 +0.5
baz=276,SNR=5.4
NRIK Noril'sk 38.23 329 P P 08 13 08.7 -1.5
comp=Z,2.9nm,0.5s,baz=94,slow=12,SNR=9.2
comp=Z,2.9nm,0.5s
NRIK Noril'sk 38.23 329 *ce*P **P 08 13 07.7 -2.5**
NRIK pmax pmax
comp=Z,13nm,1.5s
G24K Hadweenzic Riv 38.24 35 P P 08 13 11.2 +0.8
baz=269,SNR=17
POKR Poker Plat Res 38.27 37 P P 08 13 11.3 +0.7
baz=272,SNR=19
M23K Glacier View 38.33 43 P P 08 13 11.2 0.0
baz=275
HDA Harding Lake 38.50 39 P P 08 13 12.6 0.0
baz=273,SNR=15
ILAR Eielson Array 38.51 38 P P 08 13 12.8 +0.2
comp=Z,5.0nm,0.8s,baz=259,slow=6.8,SNR=58
ILAR PcP **PcP 08 15 20.6 -1.0**
comp=Z,0.6nm,0.6s,baz=266,slow=3.6,SNR=4.7
ILAR ScP **ScP 08 18 52.0 -0.9**
comp=Z,0.2nm,0.7s,baz=258,slow=3.6,SNR=1.5
comp=Z,5.0nm,0.8s
SCM Sheep Creek Mo 38.51 43 P P 08 13 12.9 +0.2
baz=276
CD2 Chengdu 38.57 263 P P 08 13 14.8 +1.3
CD2 pmax pmax
comp=Z,40nm,0.8s
P23K Montague Islan 38.69 46 P P 08 13 14.8 +0.7
baz=278
D25K Kavik River 38.75 31 P P 08 13 15.3 +0.7
baz=267
G25K Bearman Lake 38.79 35 P P 08 13 15.9 +1.1
baz=271
H25L Birch Creek 38.91 36 P P 08 13 16.6 +0.7
baz=272
F25K Christian Rive 38.97 33 P P 08 13 17.2 +0.8
baz=270,SNR=11
E25K Arctic Village 39.00 33 P P 08 13 17.3 +0.6
baz=269,SNR=12
M24K Tolsona, Glenn 39.03 42 P P 08 13 18.0 +1.0
baz=276
K24K Donnelly Dome 39.05 39 P P 08 13 17.3 +0.2
baz=275,SNR=7.3
PRP Porcupine Dome 39.06 37 P P 08 13 18.0 +0.7
baz=273,SNR=11
J25K Salcha River, 39.17 38 P P 08 13 18.4 +0.3
baz=274
KLU Klutina 39.22 43 P P 08 13 19.1 +0.5
baz=277,SNR=9.5
PAX Paxson 39.26 41 P P 08 13 19.9 +0.9
baz=276
EYAK Cordova Ski Ar 39.43 45 P P 08 13 22.1 +1.9
EYAK Cordova Ski Ar 39.43 45 P P 08 13 20.7 +0.5
baz=279
HARP HAARP 39.47 42 P P 08 13 21.3 +0.7
baz=277
RIDG Independent Ri 39.47 39 P P 08 13 21.0 +0.4
baz=275,SNR=6.4
F26K Sheenjek River 39.54 33 P P 08 13 21.6 +0.5
baz=271
G26K Porcupine Rive 39.70 34 P P 08 13 23.3 +0.9
baz=272,SNR=12
SCRK Sand Creek 39.83 39 P P 08 13 24.2 +0.5
baz=276,SNR=6.5
N25K Chitina, Valde 39.83 43 P P 08 13 24.6 +1.0
baz=278
BMRM Bremner River 39.92 44 P P 08 13 25.3 +0.9
baz=279,SNR=6.4
J26L Joseph Creek 39.96 38 P P 08 13 25.1 +0.4
baz=276
I26K Coal Creek Min 40.06 37 P P 08 13 26.5 +1.1
baz=275
MENT Mentasta 40.06 41 P P 08 13 27.3 +1.8
KAIM Kayak Island 40.18 45 P P 08 13 27.8 +1.3
baz=280
L26K Log Cabin Wild 40.22 40 P P 08 13 28.1 +1.3
baz=278,SNR=9.9
M26K Nabesna, AK 40.47 41 P P 08 13 29.9 +1.1
baz=279
E27K Coleen River 40.49 32 P P 08 13 30.4 +1.5
baz=273
G27K Doyon Strip 40.55 35 P P 08 13 31.1 +1.6
baz=274
H27K Steamboat Moun 40.65 35 P P 08 13 31.4 +1.1
baz=275,SNR=9.6
K27K Chicken 40.66 39 P P 08 13 31.1 +0.8
baz=277,SNR=21
D27M Malcolm River 40.67 31 P P 08 13 31.5 +1.1
baz=272
L27K Beaver Creek, 40.90 40 P P 08 13 33.4 +1.1
baz=279,SNR=24
BCAR Beaver Creek A 40.92 40 P P 08 13 33.8 +1.3
M27K Edge Creek, AK 40.99 41 P P 08 13 34.2 +1.0
baz=280,SNR=13
F28M Old Crow 41.18 33 P P 08 13 35.3 +0.8
baz=275,SNR=11
ZAA0 Zalesovo Array 41.20 306 P P 08 13 32.9 -2.0
ZALV Zalesovo Beam 41.20 306 P P 08 13 33.3 -1.6
ZALV Zalesovo Beam 41.20 306 P P 08 13 33.1 -1.8
comp=Z,2.9nm,0.4s,baz=61,slow=7.0,SNR=20
comp=Z,2.9nm,0.4s
E28M Babbage River 41.22 32 P P 08 13 35.7 +0.8
baz=274
MESA MESA 41.35 45 P P 08 13 36.9 +0.6
baz=282
I28M Miner Creek 41.39 36 P P 08 13 37.0 +0.6
baz=278,SNR=16
DAWY Dawson 41.82 39 P P 08 13 40.2 +0.3
baz=280
E29M Blow River 41.84 32 P P 08 13 41.0 +1.1
baz=276
GOMU GeErMu 41.87 277 P P 08 13 41.5 +0.5
GOMU pmax pmax
comp=Z,60nm,0.9s
H29M Whitestone 41.92 35 P P 08 13 41.4 +0.8
baz=278
G29M Pine Creek 41.97 34 P P 08 13 42.3 +1.3
G29M IAmb IAmb 08 13 44.0
comp=Z,13nm,0.8s
G29M Pine Creek 41.97 34 P P 08 13 42.2 +1.3
baz=278,SNR=13
I29M Ogilvie Camp, 42.07 36 P P 08 13 42.3 +0.5
baz=279,SNR=7.1
O28M Mount Upton 42.08 43 P P 08 13 43.0 +0.7
baz=283
YUK8 Steele Glacier 42.17 43 P P 08 13 43.7 +0.7
baz=282
J29N Klondike Camp 42.26 38 P P 08 13 44.3 +0.9
baz=280
M29M Somme Creek 42.53 41 P P 08 13 46.5 +0.7
baz=282,SNR=6.8
L29M L29M 42.55 40 P P 08 13 46.7 +0.9
baz=282,SNR=12
G30M tAoh Zrail Nji 42.66 34 P P 08 13 47.5 +0.9
baz=279,SNR=9.1
K29M Barlow Dome 42.67 39 P P 08 13 48.3 +1.5
baz=281,SNR=6.3
PZH PanZhiHua 42.67 260 P P 08 13 48.3 +1.0
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,160nm,5.1s
YUK4 Talbot Arm 42.69 42 P P 08 13 48.6 +1.5
baz=283
F30M Barrier River 42.73 33 P P 08 13 48.9 +1.8
baz=279
I30M Mount Dempster 42.90 36 P P 08 13 49.8 +1.2
baz=281,SNR=34
YUK6 Outpost Mounta 42.91 43 P P 08 13 50.4 +1.5
baz=284
O29M Mount Kennedy 42.97 44 P P 08 13 50.7 +1.4
baz=284
J30M Hart River 43.04 37 P P 08 13 51.2 +1.5
baz=282
WMQ Urumqi 43.08 290 *e*P **P 08 13 50.7 +0.4**
WMQ pmax pmax
comp=Z,25nm,0.7s
M30M Minto, Yukon 43.26 40 P P 08 13 53.6 +2.1
baz=283,SNR=7.2
HYT Haines Junctio 43.35 43 P P 08 13 53.7 +1.4
HYT IAmb IAmb 08 13 55.5
comp=Z,22nm,0.8s
HYT Haines Junctio 43.35 43 P P 08 13 54.3 +2.0
baz=284,SNR=24
N30M Aishikik Lake 43.39 42 P P 08 13 53.8 +1.2
baz=284
G31M Satah River 43.43 34 P P 08 13 53.7 +1.1
baz=281
MAYO Mayo, Yukon 43.43 39 P P 08 13 54.0 +1.2
baz=283
INK Inuvik 43.46 32 P P 08 13 54.2 +1.3
baz=280,SNR=11
F31M Tsiigehtchic 43.53 33 P P 08 13 54.3 +0.8
baz=281,SNR=11
H31M Peel River 43.61 35 P P 08 13 55.6 +1.3
baz=282
P30M Million Dollar 43.79 44 P P 08 13 57.1 +1.4
baz=286
N31M Braeburn, Yuko 43.99 42 P P 08 13 59.0 +1.7
baz=285,SNR=8.7
O30N Mendenhall 44.03 43 P P 08 13 59.5 +1.8
baz=286
M31M Drury Creek, Y 44.44 40 P P 08 14 01.9 +1.0
baz=286,SNR=9.8
WHY Whitehorse 44.64 43 P P 08 14 03.9 +1.4
baz=287
FARO Faro, Yukon 44.90 40 P P 08 14 05.7 +1.2
baz=286,SNR=13
MK31 Makanchi Array 45.26 297 P P 08 14 06.4 -1.2
MK31 Makanchi Array 45.26 297 *ce*P **P 08 14 07.1 -0.5**
MKAR Makanchi Array 45.26 297 P P 08 14 06.7 -0.9
MKAR Makanchi Array 45.26 297 P P 08 14 07.1 -0.5
comp=Z,11nm,0.8s,baz=70,slow=7.9,SNR=100
MKAR ScP **ScP 08 19 20.1 -0.1**
comp=Z,0.4nm,0.8s,baz=29,slow=3.3,SNR=2.0
comp=Z,11nm,0.8s
MKAR Makanchi Array 45.26 297 P P 08 14 06.7 -0.9
N32M Quiet Lake 45.33 42 P P 08 14 08.7 +0.8
baz=288
MAKZ Makanchi 45.45 297 P P 08 14 08.1 -0.9
MAKZ Makanchi 45.45 297 P P 08 14 08.1 -0.9
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
A36M Sachs Harbour 45.49 26 P P 08 14 10.1 +1.1
baz=283,SNR=7.1
P33M Teslin, Yukon 45.75 43 P P 08 14 12.4 +1.2
P33M Teslin, Yukon 45.75 43 P P 08 14 12.2 +1.0
baz=289,SNR=8.3
S32K Killisnoo 45.78 47 P P 08 14 13.1 +1.8
baz=290
KURK Kurchatov 45.88 303 P P 08 14 11.1 -1.2
KURK Kurchatov 45.88 303 *ce*P **P 08 14 11.4 -0.9**
KURK pmax pmax
comp=Z,26nm,0.8s
KURK Kurchatov 45.88 303 *e*P **P 08 14 11.4 -0.9**
KURBB Kurchatov Arra 45.97 303 P P 08 14 11.8 -1.2
comp=Z,16nm,0.6s,baz=72,slow=8.6,SNR=132
comp=Z,16nm,0.6s
Q32M Nakina River 46.42 44 P P 08 14 18.2 +1.5
baz=290
C36M Paulatuk 46.56 29 P P 08 14 18.2 +0.9
baz=287,SNR=8.5
R33M Jennings River 46.90 43 P P 08 14 21.6 +1.4
baz=291
U33K Whale Pass 47.01 48 P P 08 14 22.5 +1.5
baz=292
CRAG Craig 47.25 49 P P 08 14 24.7 +1.9
CRAG Craig 47.25 49 P P 08 14 24.5 +1.7
baz=293
WRAK Wrangell Islan 47.30 48 P P 08 14 24.4 +1.3
baz=292
S34M Telegraph Cree 47.35 45 P P 08 14 25.0 +1.3
baz=292
TGTN Hyland Airport 47.41 40 P P 08 14 25.0 +1.0
baz=291
WTLY Watson Lake, Y 47.67 42 P P 08 14 27.2 +1.1
baz=292
DLBC Dease Lake 47.70 44 P P 08 14 28.3 +1.9
baz=292
LSA Lhasa 48.05 271 P P 08 14 31.6 +1.7
LSA Lhasa 48.05 271 P P 08 14 31.6 +1.7
LSA pmax pmax
comp=Z,26nm,0.6s
LSA Lhasa 48.05 271 *e*P **P 08 14 31.6 +1.7**
UBPT Khong Chiam 48.06 245 P P 08 14 23.6 -5.9
V35K Ketchikan 48.10 49 P P 08 14 30.9 +1.5
baz=294
T35M Bob Quinn 48.15 46 P P 08 14 31.1 +1.3
baz=293,SNR=8.4
WRGLY Wrigley 48.87 37 P P 08 14 36.8 +1.7
baz=293
MYLDM Lahad Datu 48.94 223 P P 08 14 30.0 -6.2
BVAR Borovoye Array 49.57 309 P P 08 14 39.7 -0.9
comp=Z,7.4nm,0.6s,baz=60,slow=8.8,SNR=31
comp=Z,7.4nm,0.6s
BRVK Borovoye 49.61 309 *ce*P **P 08 14 40.1 -0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 49.61 309 *e*P **P 08 14 40.1 -0.8**
CHTO Chiang Mai 49.76 254 P P 08 14 43.7 +1.2
CHTO Chiang Mai 49.76 254 P P 08 14 43.7 +1.2
CHTO pmax pmax
comp=Z,6.0nm,0.8s
TOAD Toad River Com 49.84 43 P P 08 14 43.7 +1.1
baz=295
KOTAN Kotaneelee Air 49.85 41 P P 08 14 44.1 +1.5
baz=295
CMAR Chiang Mai Arr 50.01 254 P P 08 14 45.7 +1.3
comp=Z,1.7nm,0.3s,baz=44,slow=7.6,SNR=12
comp=Z,1.7nm,0.3s
SHL Shillong 50.09 267 P P 08 14 45.0 -0.1
SHL Shillong 50.09 267 P P 08 14 45.0 -0.1
TARG Taragay, Kyrgy 50.48 293 P P 08 14 48.2 +0.1
TARG IAmb IAmb 08 14 50.7

comp=Z,13nm,1.0s
TARG Taragay, Kyrgy 50.48 293 P P 08 14 48.3 +0.1
TARG pmax pmax
comp=Z,13nm,1.0s
ULHL Ulahol 51.22 294 P P 08 14 54.4 +1.0
SNR=6.1
TKM2 Tokmak 2 51.28 295 P P 08 14 54.5 +0.6
SNR=5.5
USP Ospenovka 51.79 296 P P 08 14 58.3 +0.8
SNR=11
AAK Ala-Archa 52.12 295 P P 08 15 00.4 +0.4
AAK IAmb IAmb 08 15 01.4
comp=Z,8.8nm,0.9s
AAK Ala-Archa 52.12 295 P P 08 15 00.7 +0.6
SNR=10
AAK Ala-Archa 52.12 295 *ce*P P 08 15 00.6 +0.6
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 52.12 295 *e*P P 08 15 00.6 +0.6
RES Resolute Bay 52.23 18 P P 08 15 00.0 -0.1
RES IAmb IAmb 08 15 03.1
comp=Z,7.3nm,0.7s
RES Resolute Bay 52.23 18 P P 08 15 00.0 -0.1
RES pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 52.56 296 P P 08 15 03.7 +0.5
SNR=11
SVE Sverdlovsk 52.82 316 *e*P P 08 15 03.5 -1.2
SVE pmax pmax
comp=Z,20nm,0.8s
SVE Sverdlovsk 52.82 316 *e*P P 08 15 03.5 -1.2
KSH Kashi 52.83 291 P P 08 15 09.8 +4.6
KSH pmax pmax
comp=Z,19nm,1.0s
YKA Yellowknife Ar 52.84 35 P P 08 15 05.6 +0.8
comp=Z,4.2nm,0.8s,baz=297,slow=7.1,SNR=41
YKA PcP **PcP 08 16 12.3 +0.8**
comp=Z,0.9nm,0.8s,baz=299,slow=4.8,SNR=5.4
comp=Z,4.2nm,0.8s
AML Almayashu 52.89 295 P P 08 15 06.5 +0.5
SNR=8.1
SPITS Spitsbergen Ar 52.91 349 P P 08 15 04.7 -0.5
comp=Z,7.6nm,0.8s,baz=61,slow=8.7,SNR=19
comp=Z,7.6nm,0.8s
ARSB Arslanbob 53.77 295 P P 08 15 12.7 +0.6
ARSB Arslanbob 53.77 295 P P 08 15 12.7 +0.6
ARSB pmax pmax
comp=Z,27nm,1.0s
ARTI Arti 54.12 317 P P 08 15 12.7 -1.5
comp=Z,11nm,0.5s,baz=68,slow=4.2,SNR=23
comp=Z,11nm,0.5s
KK31 Karatay Array 54.36 298 P P 08 15 16.1 0.0
KK31 IAmb IAmb 08 15 17.1
comp=Z,13nm,1.1s
KK31 Karatay Array 54.36 298 P P 08 15 16.1 0.0
KK31 pmax pmax
comp=Z,13nm,1.1s
KKAR Karatay Array 54.36 298 P P 08 15 15.7 -0.4
KKAR IAmb IAmb 08 15 17.0
comp=Z,8.0nm,1.1s
KKAR Karatay Array 54.36 298 P P 08 15 15.7 -0.4
KKAR pmax pmax
comp=Z,8.0nm,1.1s
DRK Karamyk 55.54 293 P P 08 15 25.1 +0.1
DRK Karamyk 55.54 293 P P 08 15 25.1 +0.1
DRK pmax pmax
comp=Z,21nm,0.8s
ABKAR Akbulak array 57.14 309 P P 08 15 35.3 -0.5
AKTO Aktyubinsk 57.51 311 P P 08 15 36.8 -1.6
comp=Z,3.0nm,0.5s,baz=73,slow=5.5,SNR=8.6
comp=Z,3.0nm,0.5s
CHGR Chuyangaron 57.70 294 P P 08 15 40.0 0.0
CHGR Chuyangaron 57.70 294 P P 08 15 40.0 0.0
CHGR pmax pmax
comp=Z,104nm,1.2s
ARCES ARCESS Array B 57.78 340 P P 08 15 38.5 -1.4
comp=Z,4.0nm,0.9s,baz=29,slow=7.0,SNR=10
comp=Z,4.0nm,0.9s
LTY Liberty 58.02 53 P P 08 15 42.5 +0.4
B08A Colville Reser 58.14 52 P P 08 15 43.4 +0.5
B08A IAmb IAmb 08 15 44.2
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 59.54 328 *e*P P 08 15 49.5 -2.7
KLMR pmax pmax
comp=Z,22nm,1.3s
PINE Pine Mountain 59.89 57 P P 08 15 56.4 +1.2
PINE IAmb IAmb 08 15 58.1
comp=Z,13nm,0.8s
KBL Kabul 60.22 290 P P 08 15 57.0 -0.6
KBL Kabul 60.22 290 P P 08 15 57.0 -0.6
KBL pmax pmax
comp=Z,20nm,0.7s
BELG Belogornoye 61.55 317 *i* P P 08 16 04.8 -1.1
BELG pmax pmax
comp=Z,4.0nm,0.9s
PLID Pearl Lake 61.92 53 P P 08 16 09.5 +0.6
LYMT Lyon Mountain 62.77 50 P P 08 16 15.7 +1.2
FINES FINESS Array B 63.71 334 P P 08 16 18.5 -1.6
comp=Z,8.5nm,0.7s,baz=38,slow=6.7,SNR=21
comp=Z,8.5nm,0.7s
OBN Obninsk 64.61 324 *e*P P 08 16 24.5 -1.5
NVAR Mina Array Bea 64.76 60 P P 08 16 28.8 +1.2
comp=Z,6.6nm,0.7s,baz=292,slow=7.3,SNR=54
comp=Z,6.6nm,0.7s
YNE Yellowstone No 65.25 50 P P 08 16 31.6 +0.9
YNE IAmb IAmb 08 16 32.9
comp=Z,5.1nm,0.8s
MZP Montezuma Peak 65.78 60 P P 08 16 35.0 +0.8
DGMT Dagmar 65.92 44 P P 08 16 35.1 +0.5
HWUT Hardware Ranch 66.63 54 P P 08 16 40.1 +0.6
HWUT IAmb IAmb 08 16 41.8
comp=Z,6.6nm,0.9s
S11A Rachel 66.80 59 P P 08 16 41.8 +1.2
DUG Dugway, Tooele 66.86 56 P P 08 16 41.9 +1.0
DUG IAmb IAmb 08 16 43.2
comp=Z,7.6nm,0.8s
DUG Dugway, Tooele 66.86 56 P P 08 16 41.9 +1.0
DUG pmax pmax
comp=Z,8.0nm,0.8s
PDAR Pinedale Array 66.98 52 P P 08 16 42.0 +0.3
PDAR Pinedale Array 66.98 52 P P 08 16 42.5 +0.8
comp=Z,4.8nm,0.6s,baz=280,slow=1.6,SNR=77
comp=Z,4.8nm,0.6s
WRA Warramunga Arr 67.15 196 P P 08 16 42.5 -0.1
WRA Warramunga Arr 67.15 196 P P 08 16 43.2 +0.6
comp=Z,3.2nm,0.6s,baz=11,slow=6.7,SNR=24
WRA PcP **PcP 08 17 10.8 +1.5**
comp=Z,1.3nm,0.5s,baz=19,slow=4.9,SNR=8.4
comp=Z,3.2nm,0.6s
WRA Warramunga Arr 67.15 196 P P 08 16 42.5 -0.1
WRA pmax pmax
comp=Z,1.0nm,1.2s
BSUT Blindstream Ca 67.80 54 P P 08 16 47.9 +0.8
NC405 NORSAR Array S 67.97 340 P P 08 16 46.9 -0.5
NB2 NORSAR Subarra 68.16 340 P P 08 16 47.5 -1.0
comp=Z,8.8nm,0.8s,baz=30,slow=6.5
NOA NORSAR Array B 68.16 340 P P 08 16 47.3 -1.2
comp=Z,7.4nm,0.6s,baz=30,slow=6.7,SNR=25
comp=Z,7.4nm,0.6s
HFS Hagfors 68.32 338 P P 08 16 48.1 -1.4
comp=Z,8.0nm,0.7s,baz=64,slow=5.1,SNR=20
comp=Z,8.0nm,0.7s
ELS Elsinore Mount 68.40 64 P P 08 16 51.4 +0.8
MNK Minsk 68.44 328 *i* P P 08 16 49.7 -0.6
MNK *i* 08 17 12.9
MNK *i* *PP **pP 08 17 32.4 +1.9**
MNK *i* *SP **sP 08 17 51.9 +3.1**
MNK *i* 08 19 23.1
MNK *i* PPP PPP 08 21 04.1
MNK *i* S **S 08 25 37.3 -0.2**
MNK *i* SS **SS 08 30 05.8 +2.3**
MNK pmax pmax
comp=E,22nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK pmax pmax
comp=N,22nm,1.0s
ULM Lac du Bonnet 68.52 39 P P 08 16 50.6 -0.3
comp=N,4.4nm,0.6s,baz=302,slow=7.2,SNR=11
comp=N,4.4nm,0.6s
AKT Akhty 68.70 308 *e*P P 08 16 52.5 +0.2
AKT pmax pmax
comp=Z,22nm,0.8s
P18A Preston Nutter 68.70 55 P P 08 16 53.5 +0.9
LCMT Little Creek M 68.72 59 P P 08 16 54.0 +1.5
LCMT IAmb IAmb 08 16 55.0
comp=Z,7.0nm,0.8s
KIV Kislovodsk 69.66 313 *e*P P 08 16 58.3 +0.1
KIV pmax pmax
comp=Z,19nm,1.1s
KIV Kislovodsk 69.66 313 *e*P P 08 16 58.3 +0.1
KBZ Khabaz 69.71 312 P P 08 16 58.5 +0.1
comp=Z,11nm,0.8s,baz=59,slow=6.7,SNR=17
comp=Z,11nm,0.8s
KBZ Khabaz 69.71 312 *ce*P P 08 16 58.8 +0.5
KBZ pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 69.71 312 *e*P P 08 16 58.8 +0.5
N23A Red Feather La 70.23 51 P P 08 17 03.1 +1.2
baz=314
AS31 Alice Springs 70.86 195 P P 08 17 07.0 +1.5
ASAR Alice Springs 70.86 195 P P 08 17 07.2 +1.8
comp=Z,4.1nm,0.8s,baz=8.4,slow=5.3,SNR=48
comp=Z,4.1nm,0.8s
AKASG Malin Array Be 70.86 325 P P 08 17 04.2 -1.0
comp=Z,7.6nm,0.5s,baz=37,slow=6.2,SNR=44
comp=Z,7.6nm,0.5s
AKBB Malin Array Si 70.86 325 *ce*P P 08 17 03.4 -1.8
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 70.86 325 P P 08 17 03.9 -1.3
KIEV Kiev 70.88 325 ⇑P P 08 17 04.3 -1.0
KIEV Kiev 70.88 325 ⇑P P 08 17 04.3 -1.0
KIEV Kiev 70.88 325 P P 08 17 03.9 -1.4
comp=Z,83nm,0.8s
AK21 Malin Array Si 70.88 325 P P 08 17 03.8 -1.5
AK08 Malin Array Si 70.91 325 P P 08 17 04.3 -1.1
AK11 Malin Array Si 70.91 325 P P 08 17 04.4 -1.0
MI28 Mi28,Pidlybu 71.31 326 P P 08 17 07.6 -0.3
S22A 4UR Ranch, Cre 71.94 54 P P 08 17 13.6 +1.4
baz=315
Q24A Divide 72.02 52 P P 08 17 13.9 +1.2
baz=315
LUBAR Lubar, Ukraine 72.06 325 P P 08 17 10.3 -2.1
ECSD EROS Data Cent 72.99 44 P P 08 17 18.1 +0.1
ECSD IAmb IAmb 08 17 18.8
comp=Z,6.8nm,0.8s
SORM Soroca 73.22 323 ⇑P P 08 17 18.9 -0.3
SORM Soroca 73.22 323 ⇑P P 08 17 18.9 -0.3
NDNU Novodnistrovsk 73.27 324 P P 08 17 19.0 -0.5
KMPD K-Podol'skiy 73.66 325 P P 08 17 20.1 -1.7
T25A Trinidad 73.72 53 P P 08 17 23.8 +1.1
baz=316
ANMO Albuquerque 74.12 56 *i* P P 08 17 24.6 -0.4
ANMO pmax pmax
comp=Z,2.0nm,0.8s
SCHQ Schefferville 74.82 21 P P 08 17 28.2 -0.3
comp=Z,2.7nm,0.8s,baz=351,slow=4.4,SNR=5.5
comp=Z,2.7nm,0.8s
BUR08 Bucovina Ar. S 74.90 325 P P 08 17 29.0 -0.2
BUR08 IAmb IAmb 08 17 30.3
comp=Z,7.3nm,0.6s
BURAR Bucovina Array 74.92 325 ⇑P P 08 17 29.6 +0.3
BURAR Bucovina Array 74.92 325 ⇑P P 08 17 29.6 +0.3
319A Douglas 74.97 60 P P 08 17 30.8 +0.9
KOLS Kolonicke sedl 74.99 327 *e*P P 08 17 29.8 +0.3
KOLS Kolonicke sedl 74.99 327 *e*P P 08 17 29.8 +0.3
121A Cookes Peak, D 75.05 59 P P 08 17 31.7 +1.3
baz=316
TESR Tescani 75.22 323 ⇑P P 08 17 30.8 -0.1
TESR Tescani 75.22 323 P P 08 17 30.3 -0.5
comp=Z,15nm,0.8s
NIE Niedzica 75.32 329 P P 08 17 31.3 -0.1
comp=Z,4.3nm,2.1s
CFR Carcaliu 75.64 322 ⇑P P 08 17 33.7 +0.4
CFR Carcaliu 75.64 322 ⇑P P 08 17 33.7 +0.4
VRI Vrincioaia 75.70 323 ⇑P P 08 17 34.2 +0.6
VRI Vrincioaia 75.70 323 ⇑P P 08 17 34.2 +0.6
PLOR Plostina 75.74 323 ⇑P P 08 17 35.1 +1.2
PLOR Plostina 75.74 323 ⇑P P 08 17 35.1 +1.2
TPGR Topolog 75.78 321 ⇑P P 08 17 34.7 +0.6
STEB Steborice 75.78 330 *e*P P 08 17 34.0 0.0
OZUR 75.91 324 ⇑P P 08 17 34.9 +0.1
DPC Dobruska-Polom 75.92 331 *e*P P 08 17 35.0 +0.2
DPC Dobruska-Polom 75.92 331 *e*P P 08 17 35.0 +0.2
DPC Dobruska-Polom 75.92 331 P P 08 17 34.8 0.0
MORC Moravsky Berou 75.99 330 *e*P P 08 17 35.3 0.0
MORC Moravsky Berou 75.99 330 ⇑P P 08 17 35.4 +0.1
MORC Moravsky Berou 75.99 330 ⇑P P 08 17 35.4 +0.1
KRLC Kraliky 76.00 331 *e*P P 08 17 35.3 0.0
KRLC Kraliky 76.00 331 *e*P P 08 17 35.3 0.0
CLL Collm 76.16 334 *i* P P 08 17 35.5 -0.6
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 76.16 334 P P 08 17 35.2 -0.9
comp=Z,8.5nm,0.5s
CLL Collm 76.16 334 *i* P P 08 17 35.5 -0.6
comp=Z,7.0nm,0.6s
BRG Berggiesshubel 76.24 333 *e*P P 08 17 36.1 -0.5
BRG Amp 08 17 38.2
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 76.33 323 ⇓P P 08 17 38.3 +0.9
MLR Muntele Rosu 76.33 323 ⇓P P 08 17 38.3 +0.9
MLR Muntele Rosu 76.33 323 P P 08 17 38.2 +0.9
comp=Z,9.3nm,0.8s
EKA Eskdalemuir Ar 76.47 345 P P 08 17 36.5 -1.2
comp=Z,1.0nm,0.4s,baz=17,slow=4.9,SNR=13
comp=Z,1.0nm,0.4s
MARR Marisel-Cluj 76.52 325 ⇑P P 08 17 38.3 -0.1
DRGR 76.58 326 ⇓P P 08 17 39.0 +0.3
DRGR 76.58 326 ⇓P P 08 17 39.0 +0.3
VYHS Vyhne 76.62 329 *e*P P 08 17 39.1 +0.3
VYHS Vyhne 76.62 329 *e*P P 08 17 39.1 +0.3
VRAC Vranov 76.72 331 *e*P P 08 17 39.5 +0.2
JAVC Velka Javorina 76.73 330 *e*P P 08 17 40.5 +1.1
VOIR 76.74 324 ⇑P P 08 17 40.7 +1.1
VOIR 76.74 324 ⇑P P 08 17 40.7 +1.1
VOIR 76.74 324 P P 08 17 40.1 +0.5
comp=Z,12nm,0.8s
PRU Pruhonice 76.82 332 *e*P P 08 17 39.5 -0.3
PRU Pruhonice 76.82 332 *e*P P 08 17 39.5 -0.3
ARR Arges 76.97 324 ⇓P P 08 17 42.3 +1.4
KRUC Moravsky 77.00 331 *e*P P 08 17 40.8 0.0
TREC Trest 77.10 331 *e*P P 08 17 41.5 0.0
TREC Trest 77.10 331 *e*P P 08 17 41.5 0.0
MODS Modra-Piesok 77.28 330 *e*P P 08 17 41.0 -1.5
MODS Modra-Piesok 77.28 330 *e*P P 08 17 41.0 -1.5
BR131 Keskin Array S 77.34 315 *i* P P 08 17 42.0 -1.1
BRTR Keskin Array B 77.34 315 P P 08 17 42.8 -0.4
comp=Z,2.9nm,0.8s,baz=65,slow=4.1,SNR=9.3
comp=Z,2.9nm,0.8s
BR106 Keskin Array S 77.34 315 P P 08 17 44.0 +0.9
comp=Z,4.2nm,0.7s
BR104 Keskin Array S 77.35 315 P P 08 17 44.1 +0.9
comp=Z,4.1nm,0.8s
ZVC Zvikov 77.41 332 *e*P P 08 17 42.5 -0.6
KIRS Kirsehir-Merke 77.66 314 ⇓P P 08 17 46.2 +1.4
GZR Gura Zlata 77.70 325 ⇓P P 08 17 44.8 -0.1
GZR Gura Zlata 77.70 325 ⇓P P 08 17 44.8 -0.1
KHC Kasperske Hory 77.87 332 *e*P P 08 17 46.0 +0.2
KHC Kasperske Hory 77.87 332 *ce*P P 08 17 45.5 -0.2
KHC pmax pmax
comp=Z,15nm,1.3s
KHC Kasperske Hory 77.87 332 P P 08 17 45.6 -0.2
comp=Z,8.2nm,0.7s
STKA Stephens Creek 77.90 187 P P 08 17 47.5 +1.7
comp=Z,4.2nm,1.0s,baz=9.8,slow=5.0,SNR=8.0
comp=Z,4.2nm,1.0s
STKA Stephens Creek 77.90 187 *i* P P 08 17 46.6 +0.8
BZS Buzias 77.98 326 ⇓P P 08 17 46.5 +0.1
BZS Buzias 77.98 326 ⇓P P 08 17 46.5 +0.1
GEC2 GERESS Array S 78.08 332 P P 08 17 46.9 -0.1
GERES GERESS Array B 78.08 332 P P 08 17 46.7 -0.3
GERES GERESS Array B 78.08 332 P P 08 17 46.3 -0.7
comp=Z,2.5nm,0.5s,baz=40,slow=6.2,SNR=14
comp=Z,2.5nm,0.5s
GERES GERESS Array B 78.08 332 P P 08 17 46.7 -0.3
CONA Conrad Observa 78.15 330 *i* P P 08 17 47.9 +0.5
comp=Z,4.7nm,0.6s,SNR=8.4
RONA Rosalia, Austr 78.20 330 *i* P P 08 17 48.1 +0.5
comp=Z,6.2nm,0.8s
HERR Herculane 78.27 325 ⇑P P 08 17 48.7 +0.7
MOA Molln 78.76 331 *i* P P 08 17 51.7 +1.0
comp=Z,5.5nm,1.4s
MEM Membach 78.79 337 *dP* P 08 17 50.2 -0.5
comp=Z,6.0nm,1.0s
BIOA Bad Ischl, Aus 79.11 332 *i* P P 08 17 53.7 +1.1
comp=Z,3.6nm,0.7s
BCLA Clavier 79.15 338 *dP* P 08 17 52.6 -0.1
comp=Z,4.3nm,0.7s
BMRD Maredsous 79.40 338 *dP* P 08 17 54.1 +0.1
RCHB Rochefort 79.41 338 *dP* P 08 17 55.5 +1.4
SOKA Soboth 79.52 330 *i* P P 08 17 55.1 +0.2
comp=Z,5.5nm,0.8s,SNR=5.2
BOVS Bovan 79.59 325 ⇑P P 08 17 54.4 -0.8
LESA Schwarzleotal 79.66 332 *e*P P 08 17 55.9 +0.3
comp=Z,6.1nm,0.8s
KBA Koelnbreinsper 79.74 331 *i* P P 08 17 56.6 +0.4
comp=Z,8.1nm,0.8s
TX31 Lajitas Ar. Si 79.80 58 P P 08 17 57.7 +1.1
TX31 IAmb IAmb 08 17 58.5
comp=Z,9.9nm,0.6s
TXAR Lajitas Array 79.80 58 P P 08 17 57.6 +1.0
comp=Z,7.4nm,0.5s,baz=294,slow=4.5,SNR=198
comp=Z,7.4nm,0.5s
OBKA Obir 79.83 330 *e*P P 08 17 57.2 +0.7
comp=Z,3.7nm,1.0s
WATA Walderalm 80.09 333 *i* P P 08 17 58.5 +0.5
comp=Z,4.4nm,0.4s
OZNA Ozona 80.11 56 P P 08 17 58.7 +0.4
OZNA IAmb IAmb 08 17 59.6
comp=Z,6.4nm,0.6s
WTTA Wattenberg 80.14 333 *i* P P 08 17 58.8 +0.6
comp=Z,6.8nm,0.4s,SNR=12
RETA Reutte 80.22 333 *i* P P 08 17 59.2 +0.6
comp=Z,3.5nm,0.7s
MOTA Moosalm 80.23 333 *i* P P 08 17 59.0 +0.3
comp=Z,6.8nm,0.8s
SQTA Sankt Quirin 80.31 333 *i* P P 08 17 59.6 +0.4
comp=Z,5.4nm,0.8s
DAVA Damuels 80.67 334 *i* P P 08 18 01.1 0.0
comp=Z,9.8nm,1.0s
PDG Podgorica 81.58 325 ⇑P P 08 18 04.8 -1.0
RAYN Ar Rayn 82.76 296 ⇑P P 08 18 14.7 +2.4
WVT Waverly 83.13 44 P P 08 18 14.3 +0.4
WVT IAmb IAmb 08 18 15.3
comp=Z,5.8nm,0.6s
WVT Waverly 83.13 44 P P 08 18 14.3 +0.4
WVT pmax pmax
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 91.52 340 P P 08 18 53.9 -0.5
comp=Z,0.2nm,0.4s,baz=9.0,slow=5.1,SNR=2.4
comp=Z,0.2nm,0.4s
QSPA South Pole Qui 135.76 180 PKP PKPdf 08 25 07.8 +1.6
comp=Z,1.9nm,0.5s,baz=37,slow=5.1,SNR=16
LPAZ La Paz 136.66 59 PKP PKPdf 08 25 10.3 +0.3
comp=Z,0.5nm,0.6s,baz=304,slow=3.6,SNR=5.3
H03N2 Juan Fernandez 141.01 89 T T 11 02 51.8
baz=305,slow=74
H03N3 Juan Fernandez 141.02 89 T T 11 02 53.1
baz=305,slow=74
H03N1 Juan Fernandez 141.02 89 T T 11 02 55.2
baz=305
ELIB Princess Elisa 144.17 205 *d*PKPdf PKPab 08 25 20.5 +0.9
BDFB Brasilia 146.21 32 PKPbc PKPdf 08 25 26.9 +0.4
comp=Z,4.2nm,0.5s,baz=315,slow=2.5,SNR=10
TROLL Troll, Antarti 149.78 199 ⇓PKPdf PKPbc 08 25 36.9 +1.2
comp=Z,521nm,0.7s
PLCA Paso Flores 150.39 94 PKPbc PKPbc 08 25 39.3 +1.3
comp=Z,11nm,0.7s,baz=283,slow=2.7,SNR=58
CPUP Villa Florida 150.77 57 PKPbc PKPbc 08 25 39.9 +0.7
comp=Z,4.4nm,0.8s,baz=336,slow=2.0,SNR=10
SNAA Sanae 151.20 198 ⇓PKPdf PKPbc 08 25 39.1 +0.2
comp=Z,101nm,0.6s
SNAA Sanae 151.20 198 PKPbc PKPbc 08 25 39.5 +0.6
comp=Z,4.1nm,0.6s,baz=183,slow=7.6,SNR=16

*IPEC **02** 08:26:57.3±0.2, 50°.15N×19°.11E, h1km, ML2.0/4, Error ellipse: s-maj=1.4km s-min=0.8km az=18.0*

PRU 02 08:26:58.3, 50°.21N×19°.04E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.49**	**89**	*e*Pg	Pg	08 27 06.1	-1.6
OJC				*e*Sg	Sg	08 27 12.3	-1.7
OKC	**Ostrava-Krasne**	**0.69**	**237**	*e*SG	Sg	08 27 20.9	+0.6
STEB	**Steborice**	**0.86**	**252**	*e*PG	Pg	08 27 14.7	-0.1
STEB				*e*SG	Sg	08 27 27.0	+1.0
MORC	**Moravsky Berou**	**1.06**	**246**	*e*Pg	Pg	08 27 18.1	-0.5
baz=69							
MORC				*e*Sg	Sg	08 27 31.3	-1.0
24nm,0.5s,baz=69							
LANS	**Liptovska Anna**	**1.10**	**165**	*e*PG	Pg	08 27 16.8	-2.5
LANS				*e*SG	Sg	08 27 30.1	-3.4
LANS				*e*LG	Lg	08 27 30.6	
NIE	**Niedzica**	**1.14**	**134**	*e*Pg	Pg	08 27 17.8	-2.3
NIE				*e*Sg	Sg	08 27 32.8	-2.0
KRLC	**Kraliky**	**1.46**	**266**	*e*PG	Pn	08 27 24.4	-1.6
KRLC				*e*SG	Sg	08 27 45.0	-0.1
KRLC	**Kraliky**	**1.46**	**266**	*e*	Pn	08 27 24.4	-1.6
KRLC	**Kraliky**	**1.46**	**266**	*e*		08 27 45.0	
JAVC	**Velka Javorina**	**1.62**	**214**	*e*Pn	Pn	08 27 27.0	-1.2
baz=36							
VYHS	**Vyhne**	**1.72**	**185**	*e*PN	Pn	08 27 26.8	-2.7
VYHS				*e*SN	Sn	08 27 47.8	-4.4
DPC	**Dobruska-Polom**	**1.75**	**276**	*e*PG	Pb	08 27 30.8	-0.5
DPC				*e*SG	Sg	08 27 54.3	-0.2
VRAC	**Vranov**	**1.82**	**241**	*e*Pn	Pn	08 27 30.1	-0.8
baz=62							
VRAC				*e*Sg	Sn	08 27 54.8	0.0
8.0nm,0.4s,baz=62							
KRUC	**Moravsky**	**2.07**	**237**	*e*Pn	Pn	08 27 33.5	-0.8
baz=58							
KRUC				*e*Sg	Sb	08 28 02.3	-0.6
9.8nm,0.5s,baz=58							
GOPC	**GO Pecny, Ondr**	**2.76**	**265**	*e*SG	Sb	08 28 23.9	+1.1
PRU	**Pruhonice**	**2.91**	**267**	*e*SG	Sb	08 28 28.8	+1.8
KHC	**Kasperske Hory**	**3.71**	**255**	*e*SG	Sg	08 28 55.5	-1.9
CLL	**Collm**	**3.99**	**288**	*e*Sg	Sg	08 29 11.0	+4.7

TRN 02 08:42:03.6, 17°.22N×62°.05W, h15km, MD3.6, North-west of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.32**	**123**	*e*P	Pn	08 42 13.0	-0.8
ANBD				*e*S	Sb	08 42 17.6	+1.5
MBFL	**Flemmings, Mon**	**0.50**	**198**	*e*P	Pn	08 42 16.4	+0.2
MBFL				*e*S	Sn	08 42 23.4	-1.2
ANWB	**Willy Bob**	**0.51**	**30**	*e*P	Pn	08 42 16.4	+0.1
ANWB				*e*S	Sn	08 42 23.9	-0.9
SKOC	**St. Kitts, UWI**	**0.66**	**276**	*e*P	Pn	08 42 19.4	+1.1
SKOC				*e*S	Sn	08 42 29.0	+0.5
SKI	**Saint Kitts**	**0.67**	**279**	*e*P	Pn	08 42 20.0	+1.5
TBG	**Guadaloupe-3**	**1.42**	**164**	*e*P	Pg	08 42 31.2	+0.3
DSLB	**Salisbury**	**1.88**	**161**	*e*P	Pb	08 42 37.4	-0.2
DSLB				*e*S	Sg	08 43 02.5	-1.5
MDN	**Morne-Daniel**	**2.00**	**161**	*e*P	Pb	08 42 38.7	-1.0

*ISK **02** 08:42:11.8, 36°.67N×35°.11E, h27km, ML2.7/25*
*AFAD **02** 08:42:12.8, 36°.64N×35°.08E, h7km±7km, ML2.2*
*GII **02** 08:42:14.5±0.0, 36°.409N±0°.004×34°.888E±0°.001, h10km, Mws2.5, confirmed*

ISC 02 08:42:12.8±1.0, 36°.65N±0°.03×35°.11E±0°.03, h29km±10km, n49, d0°69/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DED	**Mersin**	**0.40**	**321**	P	**Pb**	**08 42 21.9**	**+0.2**
DED				S	**Sb**	**08 42 28.2**	**+0.5**
DED				*i* AML	AML	08 42 29.0	
comp=N,369nm,0.5s							
DED				*i* AML	AML	08 42 29.0	
comp=E,576nm,0.3s							
KARA	**Karaisali**	**0.61**	**356**	Pg	**Pb**	**08 42 24.8**	**-0.3**
KARA				Sg	**Sb**	**08 42 33.2**	**-0.3**
CEYT	**Ceyhan**	**0.62**	**55**	Pg	**Pb**	**08 42 24.9**	**-0.4**
CEYT				Sg	**Sn**	**08 42 34.2**	**-0.5**
ASUZ	**Hatay-Arsuz**	**0.65**	**123**	P	**Pn**	**08 42 25.4**	**-0.6**
ASUZ				S	**Sn**	**08 42 36.9**	**+1.6**
ASUZ				*i* AML	AML	08 42 42.0	
comp=N,68nm,0.3s							
ASUZ				*i* AML	AML	08 42 42.0	
comp=E,50nm,0.2s							
GULE	**Gulek**	**0.69**	**337**	P	**Pb**	**08 42 26.5**	**+0.1**
GULE				S	**Sb**	**08 42 36.5**	**+0.7**
GULE				*i* AML	AML	08 42 37.0	
comp=N,255nm,0.2s							
GULE				*i* AML	AML	08 42 37.0	
comp=E,483nm,0.3s							
KIZK	**Mersin**	**0.80**	**258**	Pg	**Pb**	**08 42 27.5**	**-0.6**
KIZK				Sg	**Sb**	**08 42 38.8**	**+0.2**

KIZK	**Mersin**	**0.80 258**	P	**Pb**	**08 42 27.9**	**-0.3**
KIZK			S	**Sb**	**08 42 38.4**	**-0.2**
KIZK			*i* AML	AML	08 42 43.0	
	comp=N,83nm,0.4s					
KIZK			*i* AML	AML	08 42 43.0	
	comp=E,79nm,0.3s					
AKO	**Adana**	**0.85 18**	P	**Pb**	**08 42 28.5**	**-0.6**
AKO			*i* AML	AML	08 42 40.0	
	comp=N,63nm,0.5s					
AKO			*i* AML	AML	08 42 40.0	
	comp=E,45nm,0.5s					
AKO			S	**Sb**	**08 42 40.5**	**+0.2**
SILI	**Silifke-Mersin**	**1.00 254**	Pg	**Pn**	**08 42 30.3**	**-0.5**
KOZT	**Kozan**	**1.01 34**	Pg	**Pn**	**08 42 29.9**	**-1.1**
KOZT			Sg	**Sb**	**08 42 43.1**	**-1.5**
CMRD	**Camardi-Nigde**	**1.02 355**	Pg	**Pn**	**08 42 30.5**	**-0.7**
CMRD			Sg	**Sb**	**08 42 43.9**	**-1.1**
KERG	**Konya-Eregli**	**1.10 314**	P	**Pn**	**08 42 32.7**	**+0.3**
KERG			*i* AML	AML	08 42 47.0	
	comp=N,41nm,0.7s					
KERG			S	**Sn**	**08 42 47.3**	**+0.6**
KERG			*i* AML	AML	08 42 49.0	
	comp=E,86nm,0.3s					
HASA	**Hatay-Hassa-Ha**	**1.11 84**	P	**Pb**	**08 42 33.4**	**0.0**
HASA			S	**Sb**	**08 42 48.0**	**+0.5**
HASA			*i* AML	AML	08 42 49.0	
	comp=E,215nm,0.3s					
HASA			*i* AML	AML	08 42 51.0	
	comp=N,128nm,0.5s					
KEBE	**Keben-Mersin**	**1.15 260**	Pn	**Pn**	**08 42 33.2**	**+0.3**
KARG	**Kargicak-Mersi**	**1.22 249**	Pn	**Pn**	**08 42 33.6**	**-0.2**
IKL	**Isikli**	**1.22 251**	Pn	**Pn**	**08 42 33.6**	**-0.3**
TISA	**Tisan-Mersin**	**1.25 248**	Pn	**Pn**	**08 42 34.0**	**-0.3**
YESI	**Yesilovacik-Me**	**1.27 250**	Pn	**Pn**	**08 42 34.2**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.35 250**	P	**Pn**	**08 42 35.7**	**+0.1**
GULN			S	**Sn**	**08 42 51.8**	**-0.7**
GULN			*i* AML	AML	08 42 54.0	
	comp=N,30nm,0.3s					
GULN			*i* AML	AML	08 42 54.0	
	comp=E,36nm,0.4s					
AKKU	**Akkuyu-Mersin**	**1.35 249**	Pn	**Pn**	**08 42 35.4**	**-0.3**
EREN	**Erenkoy**	**1.35 215**	Pn	**Pn**	**08 42 35.6**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.36 262**	Pn	**Pn**	**08 42 35.4**	**-0.5**
AKK1	**Akkuyu-Mersin**	**1.36 249**	Pn	**Pn**	**08 42 35.5**	**-0.3**
NIDE	**Nigde/Merkez-G**	**1.38 349**	P	**Pn**	**08 42 37.4**	**+1.2**
NIDE			S	**Sn**	**08 42 55.4**	**+2.0**
NIDE			*i* AML	AML	08 42 56.0	
	comp=N,96nm,0.3s					
NIDE			*i* AML	AML	08 42 56.0	
	comp=E,192nm,0.2s					
OREN	**Orenkoy-Mersin**	**1.41 252**	Pn	**Pn**	**08 42 36.2**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**1.46 8**	P	**Pn**	**08 42 37.8**	**+0.6**
YAHY			*i* AML	AML	08 43 36.0	
	comp=N,14nm,2.0s					
YAHY			*i* AML	AML	08 43 36.0	
	comp=E,38nm,2.0s					
YORU	**Yoruktepe-Mers**	**1.46 251**	Pn	**Pn**	**08 42 36.9**	**-0.3**
BERE	**Bereket-Mersin**	**1.55 259**	Pn	**Pn**	**08 42 38.2**	**-0.4**
KMRS	**Kahramanmaras**	**1.67 59**	Pn	**Pn**	**08 42 39.9**	**-0.1**
GAZ	**Gaziantep**	**1.76 72**	Pn	**Pn**	**08 42 41.5**	**+0.1**
SARI	**SarD1z-Kayseri**	**2.04 30**	Pn	**Pn**	**08 42 45.2**	**-0.1**
HDMB	**Hadim**	**2.13 279**	Pn	**Pn**	**08 42 46.3**	**-0.3**
CSS	**Mathiatis**	**2.22 221**	Pn	**Pn**	**08 42 47.8**	**+0.1**
BNN	**Bunyan**	**2.27 15**	Pn	**Pn**	**08 42 48.5**	**0.0**
LEF	**Lefka**	**2.36 230**	Pn	**Pn**	**08 42 50.3**	**+0.7**
NATI	**Neve Ativ**	**3.42 171**	P	**Pn**	**08 43 05.2**	**+1.2**
NATI	**Neve Ativ**	**3.42 171**	S	**Sn**	**08 43 42.9**	**-0.7**
GEM	**Giv'at Ha'Em**	**3.46 172**	P	**Pn**	**08 43 05.6**	**+0.9**
GEM	**Giv'at Ha'Em**	**3.46 172**	S	**Sn**	**08 43 44.6**	**0.0**
HNTI	**Hanita**	**3.56 179**	P	**Pn**	**08 43 06.3**	**+0.3**
HNTI	**Hanita**	**3.56 179**	S	**Sn**	**08 43 46.2**	**-0.9**
MMA0B	**Mount Meron ar**	**3.63 176**	P	**Pn**	**08 43 07.6**	**+0.5**
MMA0B	**Mount Meron ar**	**3.63 176**	S	**Sn**	**08 43 48.2**	**-0.8**
KSHT	**Keshet**	**3.70 171**	P	**Pn**	**08 43 09.5**	**+1.4**
KSHT	**Keshet**	**3.70 171**	S	**Sn**	**08 43 51.1**	**+0.4**
MMLI	**Mount Malkishu**	**4.21 176**	P	**Pn**	**08 43 16.1**	**+1.1**
MMLI	**Mount Malkishu**	**4.21 176**	S	**Sn**	**08 44 02.6**	**-0.6**
HMDT	**Nahal Hemdat**	**4.40 175**	P	**Pn**	**08 43 18.1**	**+0.5**
HMDT	**Nahal Hemdat**	**4.40 175**	S	**Sn**	**08 44 07.9**	**+0.1**

IDC 02 08:48:31.4±2.0,9°83S×150°34E,h0km,mb3.6/3,
mbtmp3.5/5,ML2.3/2,Error ellipse: s-maj=38.8km
s-min=31.2km az=142.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.16**	**277**	Pn	Pn	08 49 21.4	-1.0
	3.3nm,0.3s,baz=101,slow=10,SNR=6.1						
PMG				Sn	Sn	08 50 03.1	+2.2
	3.0nm,0.3s,baz=126,slow=14,SNR=3.2						
	7.6nm,0.3s						
WRA	**Warramunga Arr**	**18.43**	**235**	P	P	08 52 48.5	0.0
	baz=60,slow=12,SNR=1.9						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**20.87**	**227**	P	P	08 53 15.0	-0.2
	1.5nm,0.8s,baz=67,slow=9.1,SNR=14						
	1.5nm,0.8s						
STKA	**Stephens Creek**	**23.39**	**199**	P	P	08 53 42.2	+0.3
	3.1nm,0.9s,baz=10,slow=12,SNR=3.7						
	3.1nm,0.9s						
ILAR	**Eielson Array**	**87.71**	**22**	P	P	09 01 21.8	+0.1
	0.3nm,0.9s,baz=231,slow=5.7,SNR=2.2						
	0.3nm,0.9s						

*AEIC **02** 08:50:30.1±1.3,53°50N±0°04×163°7W±0°1,h38km±10km,*
Error ellipse: s-maj=9.9km s-min=4.9km az=116.0
NEIC 02 08:50:28.4±1.4,53°33N±0°10×163°5W±0°1,h35km±18km,
ML3.1/12,ML2.9(AEIC),Error ellipse: s-maj=14.6km
s-min=7.7km az=159.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.32**	**331**		Pn	08 50 49.7	-0.8
ISLZ	**Isanotski Laza**	**1.41**	**354**		Pn	08 50 50.8	-0.8
SSLS	**Shishaldin Sou**	**1.42**	**348**		Pn	08 50 51.4	-0.4
SSLS					Sn	08 51 07.9	-1.4
WECS	**Westdahl Cape**	**1.43**	**328**		Pn	08 50 51.4	-0.6
WEBT	**Westdahl Beart**	**1.47**	**330**		Pn	08 50 52.0	-0.4
ISNN	**Isanotski Nort**	**1.52**	**353**		Pn	08 50 53.3	+0.2
ISNN					Sn	08 51 08.9	-2.7
FALS	**False Pass**	**1.53**	**1**		Pn	08 50 53.2	0.0
AKSA	**Akutan Strait**	**1.55**	**302**		Pn	08 50 53.0	-0.5
AHB	**Akutan Harbor**	**1.60**	**300**		Pn	08 50 54.0	-0.3
AKBBA	**Akutan Broad B**	**1.65**	**299**		Pn	08 50 54.6	-0.3
ZRO	**Akutan Zero**	**1.67**	**298**		Pn	08 50 54.9	-0.4
AKV	**Akutan Volcano**	**1.68**	**299**		Pn	08 50 55.1	-0.3
AKMO	**Akutan Morgan**	**1.69**	**298**		Pn	08 50 55.2	-0.3
AKGG	**Akutan Green G**	**1.73**	**301**		Pn	08 50 55.8	-0.2
LVA	**Lava Point**	**1.73**	**300**		Pn	08 50 55.8	-0.3
LVA	**Lava Point**	**1.73**	**300**	IAML		08 51 23.7	
	comp=E,184nm,0.9s						
AKRB	**Akutan Reef Bi**	**1.74**	**299**		Pn	08 50 55.8	-0.3
UNV	**Unalaska Valle**	**1.88**	**287**		Pn	08 50 57.6	-0.4
MTBL	**Makushin Table**	**2.01**	**290**		Pn	08 50 59.8	-0.2
MSW	**Makushin Switc**	**2.06**	**288**		Pn	08 51 00.5	0.0
MGOD	**Makushin Gods**	**2.08**	**284**		Pn	08 51 01.3	+0.5
MAPS	**Pakushin South**	**2.12**	**284**		Pn	08 51 01.9	+0.5
PS4A	**Pavlof South-4**	**2.23**	**24**		Pn	08 51 04.4	+1.5
S12K	**Black Hills**	**2.52**	**19**		Pn	08 51 08.4	+1.6
S12K				IAML		08 51 50.5	
	comp=N,82nm,0.7s						
S12K				IAML		08 52 01.2	
	comp=E,82nm,1.1s						
SDPT	**Sand Point**	**2.68**	**40**		Pn	08 51 10.2	+1.2
SDPT	**Sand Point**	**2.68**	**40**	IAML		08 52 05.1	
	comp=E,80nm,1.0s						
CNBA	**Chernabura Isl**	**2.73**	**55**	Pn	Pn	08 51 10.2	+0.5
OKTU	**Okmok Mt. Tuli**	**2.74**	**273**		Pn	08 51 10.8	+0.9
CHGN	**Chignik**	**4.17**	**42**	Pn	Pn	08 51 30.1	+0.6
CHGN				IAML		08 52 22.5	
	comp=E,29nm,0.8s						
CHGN				IAML		08 52 23.6	
	comp=N,21nm,1.1s						
CHIR	**Chirikof Islan**	**5.21**	**58**	Pn	Pn	08 51 43.3	-0.4
O14K	**Tigyukauivet M**	**6.06**	**11**	Pn	Pn	08 51 58.0	+2.5
ATKA	**Atka Island**	**6.61**	**264**	Pn	Pn	08 52 02.8	-0.1
O16K	**Kokwok River B**	**6.95**	**23**	Pn	Pn	08 52 10.6	+3.0
OHAK	**Old Harbor**	**7.00**	**52**	Pn	Pn	08 52 09.6	+1.2
M13K	**Dall Lake**	**7.10**	**0**	Pn	Pn	08 52 10.3	+0.6
N15K	**Kwethluk River**	**7.10**	**14**	Pn	Pn	08 52 12.2	+2.4
KDAK	**Kodiak Island**	**7.62**	**50**	Pn	Pn	08 52 16.4	-0.3
O18K	**Koktuh Hills**	**7.97**	**32**	Pn	Pn	08 52 24.1	+2.4
L14K	**Kuka Creek**	**8.04**	**3**	Pn	Pn	08 52 23.3	+0.7
M16K	**Timber Creek**	**8.09**	**16**	Pn	Pn	08 52 24.7	+1.4
L16K	**Owhat River**	**8.67**	**13**	Pn	Pn	08 52 31.6	+0.3
M17K	**Holitna River**	**8.72**	**19**	Pn	Pn	08 52 34.0	+2.1
K15K	**Wolf Creek Mou**	**9.05**	**6**	Pn	Pn	08 52 38.1	+1.7

*TEH **02** 09:13:00.7,31°60N×51°22E,h8km±68km*
*IDC **02** 09:13:03.8±22.0,31°91N×51°02E,h0km,mb3.6/5,*
mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=445.6km
s-min=32.4km az=1.0
ISC 02 09:13:02.3±0.8,31°62N±0°04×51°22E±0°06,h10km,n22,
σ1ᵩ88/22,mb3.5/5,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBRJ	**Brojen**	**0.29**	**7**	Pg	**Pg**	**09 13 07.6**	**-0.6**
ZNGN	**Zangian**	**0.58**	**328**	Pg	**Pg**	**09 13 12.8**	**-0.8**
KLNJ	**Kolanjah**	**0.69**	**152**	Pg	**Pg**	**09 13 14.0**	**-1.7**
IRAM	**Ramesheh**	**1.01**	**79**	Pg	**Pb**	**09 13 20.9**	**-1.1**
IPIR	**Pirpir**	**1.09**	**345**	Pg	**Pn**	**09 13 22.7**	**-1.2**
IZEF	**Zefreh**	**1.58**	**36**	Pg	**Pg**	**09 13 31.8**	**-0.8**
KAZ2	**Kazeron-Fars-I**	**2.04**	**169**	Pn	**Pb**	**09 13 38.4**	**-1.1**
QAMS	**Qamsar**	**2.11**	**4**	Pn	**Pb**	**09 13 40.3**	**-0.5**
ISFB	**Sefidab**	**2.85**	**17**	Pn	**Pb**	**09 13 50.9**	**-2.5**
IQOM	**Qom**	**3.21**	**358**	Pn	**Pb**	**09 13 55.5**	**-4.1**
HSAM	**Samen**	**3.39**	**320**	Pn	**Pn**	**09 13 56.7**	**+1.2**
IKFM	**Kafar-mosalman**	**3.42**	**305**	Pn	**Pn**	**09 13 57.7**	**+2.1**
QABG	**Abgarm-Qazvin**	**4.30**	**342**	Pn	**Pn**	**09 14 10.2**	**+2.3**
HGHA	**Hamedan- Ghaye**	**4.33**	**334**	Pn	**Pn**	**09 14 09.8**	**+1.5**
MZPU	**Pul - Mazandar**	**4.81**	**3**	Pn	**Pn**	**09 14 17.9**	**+2.9**
IDHR	**Dehrash**	**5.08**	**308**	Pn	**Pn**	**09 14 19.9**	**+1.2**
BRTR	**Keskin Array B**	**16.39**	**304**	Pn	**P**	**09 16 55.3**	**-0.1**
	0.1nm,0.3s,baz=132,slow=13,SNR=3.3						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**25.08**	**326**	P	**P**	**09 18 26.6**	**-0.3**
	0.5nm,0.5s,baz=132,slow=8.8,SNR=4.4						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**25.50**	**27**	P	**P**	**09 18 32.3**	**+1.7**
	0.2nm,0.3s,baz=243,slow=9.5,SNR=2.2						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**27.74**	**39**	P	**P**	**09 18 53.5**	**+2.6**
	0.4nm,0.6s,baz=241,slow=9.6,SNR=4.9						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**32.77**	**37**	P	**P**	**09 19 36.6**	**+1.4**
	0.5nm,0.4s,baz=237,slow=8.5,SNR=3.6						
	0.5nm,0.4s						
HFS	**Hagfors**	**37.78**	**330**	P	**P**	**09 20 18.3**	**0.0**
	1.2nm,0.5s,baz=163,slow=10,SNR=2.0						
	1.2nm,0.5s						

*JMA **02** 09:47:07.6±0.3,22°N±1°×122°3E±0°6,h21km,MV3.6/12,*
TAIWAN REGION
*TAP **02** 09:47:08.6,22°24N×122°16E,h44km,ML3.3,D*
ISC 02 09:47:07.0±1.1,22°25N±0°04×122°21E±0°04,h20km±9km,
n84,σ0ᵩ93/137,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.63**	**247**	*i* P	**Pn**	**09 47 20.5**	**-0.2**
LYUB				S	**Sn**	**09 47 28.7**	**-1.4**
LAY	**Lan-yu**	**0.64**	**251**	*i* P	**Pb**	**09 47 20.2**	**+0.6**
LAY				*e*S	**Sb**	**09 47 28.3**	**+0.1**
LDUT	**Ludao**	**0.80**	**302**	‖*i*P	**Pb**	**09 47 22.7**	**+0.4**
LDUT				S	**Sb**	**09 47 32.8**	**+0.1**
EDH	**Donghe**	**1.10**	**311**	P	**Pn**	**09 47 27.0**	**-0.3**
EDH				S	**Sb**	**09 47 40.7**	**-0.6**
CHKT	**Chengkung**	**1.15**	**318**	*i* P	**Pn**	**09 47 27.5**	**-0.5**
CHKT				*i* S	**Sb**	**09 47 41.6**	**-1.1**
TWGBT	**Beinan**	**1.19**	**299**	P	**Pb**	**09 47 29.0**	**+0.1**
TWGBT				*e*S	**Sb**	**09 47 43.3**	**-0.5**
LONT	**Longtian**	**1.19**	**304**	*e*P	**Pb**	**09 47 29.4**	**+0.5**
LONT				*e*S	**Sn**	**09 47 44.7**	**+0.5**
TWG	**Pinlang**	**1.19**	**299**	P	**Pb**	**09 47 29.1**	**+0.1**
TWG				S	**Sb**	**09 47 43.3**	**-0.7**
CHKH	**Chenggong**	**1.20**	**322**	P	**Pn**	**09 47 28.2**	**-0.5**
CHKH				S	**Sn**	**09 47 43.1**	**-1.3**
ECL	**Taimali**	**1.21**	**287**	P	**Pb**	**09 47 29.1**	**-0.1**
ECL				S	**Sb**	**09 47 44.5**	**+0.1**
TAW	**Tawu**	**1.22**	**275**	*e*P	**Pb**	**09 47 29.2**	**-0.2**
TAW				*e*S	**Sn**	**09 47 43.8**	**-1.0**
TAWH	**Dawu Township**	**1.22**	**275**	P	**Pn**	**09 47 29.0**	**0.0**
TAWH				*e*S	**Sn**	**09 47 44.0**	**-1.0**
ECS	**Chishang**	**1.24**	**313**	P	**Pn**	**09 47 29.5**	**+0.3**
ECS				S	**Sb**	**09 47 46.1**	**+0.7**
TSEB	**Hengchuen, Pin**	**1.26**	**254**	*e*S	**Sb**	**09 47 46.9**	**+1.1**
FULB	**Fuli**	**1.27**	**319**	P	**Pn**	**09 47 29.2**	**-0.4**
FULB				S	**Sn**	**09 47 44.9**	**-1.1**
ECBN	**Changbin**	**1.27**	**327**	S	**Sn**	**09 47 45.1**	**-1.0**
EHD	**Haiduan**	**1.29**	**314**	*i* P	**Pn**	**09 47 30.1**	**+0.2**
EHD				S	**Sn**	**09 47 46.2**	**-0.4**
SLIU	**Shizi**	**1.30**	**269**	P	**Pn**	**09 47 30.3**	**+0.2**
SLIU				S	**Sn**	**09 47 46.4**	**-0.5**
TWKBT	**Hengchun**	**1.33**	**257**	P	**Pb**	**09 47 30.9**	**-0.3**
TWKBT				*e*S	**Sn**	**09 47 47.1**	**-0.4**
TWK1	**Hengchun**	**1.33**	**257**	P	**Pb**	**09 47 31.0**	**-0.4**
TWK1				*e*S	**Sn**	**09 47 46.7**	**-0.9**
EYUL	**Yuli**	**1.37**	**323**	*e*P	**Pn**	**09 47 31.0**	**0.0**
HEN	**Hengchun**	**1.38**	**260**	P	**Pb**	**09 47 31.9**	**-0.3**
HEN				S	**Sn**	**09 47 48.6**	**-0.2**
TWF1	**Yuli**	**1.38**	**323**	*e*P	**Pn**	**09 47 30.9**	**-0.3**
YULB	**Yu-li**	**1.42**	**324**	*e*P	**Pn**	**09 47 31.8**	**+0.1**
YULB				*e*S	**Sn**	**09 47 49.9**	**+0.2**
HGSD	**Ruisui**	**1.43**	**330**	P	**Pn**	**09 47 31.7**	**-0.2**
HGSD				*e*S	**Sn**	**09 47 48.3**	**-1.9**
ELDTW	**Lidau**	**1.44**	**311**	*i* P	**Pn**	**09 47 31.9**	**-0.2**
ELDTW				*i* S	**Sn**	**09 47 49.3**	**-1.3**
SCZT	**Fangliau**	**1.47**	**275**	P	**Pb**	**09 47 33.1**	**-0.6**
EHY	**Hungye**	**1.50**	**327**	P	**Pn**	**09 47 33.1**	**+0.4**
EHY				*e*S	**Sn**	**09 47 51.4**	**-0.3**
MASBT	**Mashibuluo**	**1.50**	**284**	P	**Pb**	**09 47 33.7**	**-0.4**
TSMG	**Majia**	**1.51**	**288**	P	**Pb**	**09 47 33.8**	**-0.6**
SSD	**Sandimen**	**1.54**	**289**	*e*P	**Pb**	**09 47 34.7**	**-0.1**
EGFH	**Guangfu**	**1.59**	**333**	*e*S	**Sn**	**09 47 54.4**	**+0.4**
STYH	**Taoyuan**	**1.61**	**305**	P	**Pb**	**09 47 35.3**	**-0.8**
STYH				*e*S	**Sb**	**09 47 55.1**	**-0.8**
STYT	**Tauyuan**	**1.62**	**305**	P	**Pn**	**09 47 34.3**	**-0.2**
STYT				S	**Sn**	**09 47 54.0**	**-0.8**
SHUL	**Shoufeng**	**1.64**	**339**	*e*P	**Pn**	**09 47 35.0**	**+0.2**
SHUL				*e*S	**Sn**	**09 47 55.3**	**0.0**
WARBT	**Fenglin Townsh**	**1.65**	**333**	P	**Pn**	**09 47 34.9**	**+0.1**
WARBT				S	**Sn**	**09 47 54.9**	**-0.6**
SCST	**Cishan**	**1.71**	**292**	*e*P	**Pb**	**09 47 38.4**	**+0.7**
SGST	**Jiashian**	**1.71**	**299**	*e*P	**Pb**	**09 47 36.9**	**-1.0**
ESL	**Shilin**	**1.71**	**336**	*e*P	**Pn**	**09 47 36.1**	**+0.4**
ESL				S	**Sn**	**09 47 56.2**	**-0.9**
WTP	**Ta-pu**	**1.77**	**304**	P	**Pb**	**09 47 38.5**	**-0.4**
WTP				*e*S	**Sb**	**09 48 01.1**	**+0.3**
VWDT	**VWDT**	**1.79**	**327**	P	**Pn**	**09 47 37.5**	**+0.7**
TPUB	**Ta-pu**	**1.79**	**306**	P	**Pb**	**09 47 38.9**	**-0.3**
TPUB				*e*S	**Sb**	**09 48 01.4**	**+0.1**
ALS	**Alishan**	**1.80**	**315**	P	**Pb**	**09 47 38.6**	**-0.9**
ALS				*e*S	**Sb**	**09 48 01.0**	**-0.8**
CHN1	**Nanshi**	**1.81**	**301**	*e*P	**Pb**	**09 47 39.4**	**-0.1**
CHN1				*e*S	**Sb**	**09 48 03.1**	**+1.4**
CHN4	**Tsaushan**	**1.85**	**307**	P	**Pb**	**09 47 39.7**	**-0.4**
CHN4				S	**Sb**	**09 48 03.9**	**+1.0**
SNST	**Tainan City**	**1.85**	**302**	*e*P	**Pb**	**09 47 40.3**	**+0.2**
SNST				*e*S	**Sb**	**09 48 04.1**	**+1.2**
EOS4	**EOS4**	**1.87**	**3**	P	**Pn**	**09 47 38.5**	**+1.0**
EOS4				S	**Sn**	**09 48 00.1**	**-0.2**
TWK	**Hsinying**	**1.88**	**303**	*e*P	**Pb**	**09 47 40.1**	**-0.7**
TWK				*e*S	**Sb**	**09 48 05.4**	**+1.5**
WCKO	**Fanlu**	**1.89**	**309**	*e*P	**Pb**	**09 47 40.1**	**-0.8**
WHYT	**Xinyi Township**	**1.91**	**319**	P	**Pb**	**09 47 40.2**	**-0.9**
WHYT				*e*S	**Sb**	**09 48 03.1**	**-1.4**
TWD	**Chiawan**	**1.91**	**343**	*e*P	**Pn**	**09 47 38.7**	**+0.3**
TWD				*e*S	**Sn**	**09 48 00.2**	**-1.6**
LXIB	**Xiulin Townshi**	**1.91**	**338**	*e*P	**Pn**	**09 47 38.8**	**+0.2**
SSLB	**Suanglung**	**1.92**	**323**	*e*P	**Pn**	**09 47 39.3**	**+0.7**
CHN5	**Tsauling**	**1.95**	**314**	*e*P	**Pb**	**09 47 41.6**	**-0.3**
CHN5				*e*S	**Sb**	**09 48 06.8**	**+1.0**
OWD	**Renai**	**1.95**	**331**	P	**Pn**	**09 47 39.6**	**+0.6**
OWD				*e*S	**Sn**	**09 48 02.3**	**-0.7**
NACB	**Ninganchiao**	**2.00**	**344**	P	**Pn**	**09 47 39.9**	**+0.3**
NACB				S	**Sn**	**09 48 03.1**	**-1.0**
WUSB	**Renai**	**2.00**	**330**	*e*P	**Pn**	**09 47 40.9**	**+1.1**
SMLT	**Sun Moon Lake**	**2.02**	**324**	*e*P	**Pn**	**09 47 41.4**	**+1.2**
EOS3	**EOS3**	**2.03**	**3**	P	**Pn**	**09 47 41.5**	**+1.5**
EOS3				S	**Sn**	**09 48 05.3**	**+0.6**
ETLH	**Xiulin Townshi**	**2.06**	**341**	*e*P	**Pn**	**09 47 41.3**	**+0.7**
ETLH				*e*S	**Sn**	**09 48 04.2**	**-1.6**
TYC	**Yuchr**	**2.06**	**323**	*e*P	**Pb**	**09 47 43.1**	**-0.7**
WCS	**Beigang Elemen**	**2.16**	**327**	*e*P	**Pb**	**09 47 43.8**	**-1.6**
EOS2	**EOS2**	**2.16**	**1**	*e*P	**Pn**	**09 47 43.4**	**+1.6**
EOS2				*e*S	**Sn**	**09 48 09.2**	**+1.3**
EWUT	**Wuta**	**2.22**	**350**	*e*P	**Pn**	**09 47 43.7**	**+1.0**
EWUT				*e*S	**Sn**	**09 48 09.4**	**-0.3**
NNS	**Nan Shan**	**2.31**	**341**	*e*P	**Pn**	**09 47 43.7**	**-0.4**
NNS				*e*S	**Sn**	**09 48 11.1**	**-1.0**
HATJ	**Hateruma jima**	**2.33**	**39**	P	**Pn**	**09 47 44.9**	**+0.7**
WHP	**Taichung City**	**2.33**	**330**	*e*P	**Pb**	**09 47 47.7**	**-0.7**
LATG	**Datong**	**2.36**	**345**	*e*P	**Pn**	**09 47 46.1**	**+1.4**
TWC	**Suao**	**2.37**	**352**	*e*P	**Pn**	**09 47 46.4**	**+1.6**
IRIF	**Iriomote-Funau**	**2.51**	**34**	P	**Pn**	**09 47 47.4**	**+0.7**
IRIF				*e*S	**Sn**	**09 48 16.4**	**-0.3**
YHNB	**Yeheng**	**2.53**	**343**	*e*P	**Pn**	**09 47 48.9**	**+1.9**
YHNB				*e*S	**Sn**	**09 48 16.9**	**-0.5**
WDGT	**Dungji**	**2.56**	**294**	*e*P	**Pn**	**09 47 48.5**	**+1.2**
FUSB	**Fushanzhiwuyua**	**2.56**	**347**	*e*P	**Pn**	**09 47 49.1**	**+1.6**
JKRS	**Kuro-shima**	**2.58**	**40**	P	**Pn**	**09 47 48.5**	**+0.9**
JKRS				*e*S	**Sn**	**09 48 17.9**	**-0.6**
EGS		**2.60**	**355**	*e*P	**Pn**	**09 47 50.6**	**+2.7**
TIPB	**Shuangxi**	**2.73**	**353**	*e*P	**Pn**	**09 47 52.3**	**+2.5**
VCHM	**Qimei**	**2.74**	**291**	*e*P	**Pn**	**09 47 51.0**	**+1.2**
PHUB	**P'eng-hu**	**2.74**	**298**	*e*P	**Pn**	**09 47 50.8**	**+1.0**
TWB1	**Santiao Chiao**	**2.76**	**356**	*e*P	**Pn**	**09 47 51.9**	**+1.8**
TWB1				*e*S	**Sn**	**09 48 22.4**	**-0.4**
JIJ	**Ishigaki jima**	**2.76**	**40**	P	**Pn**	**09 47 50.3**	**+0.2**
JIJ				*e*S	**Sn**	**09 48 20.8**	**-2.0**
PNG	**Penghu**	**2.77**	**299**	*e*P	**Pn**	**09 47 52.0**	**+1.7**
SXI1	**Grass Mountain**	**2.85**	**354**	P	**Pn**	**09 47 53.5**	**+2.1**
JISG	**Ishigakijimahi**	**3.03**	**39**	P	**Pn**	**09 47 54.0**	**+0.2**
JISG				*e*S	**Sn**	**09 48 27.9**	**-1.6**
JTJ	**Tarama**	**3.31**	**43**	P	**Pn**	**09 47 57.9**	**+0.3**
JTJ				*e*S	**Sn**	**09 48 35.3**	**-1.1**

*ISK **02** 09:51:25.6,39°62N×26°43E,h12km,ML3.9/51*
*AFAD **02** 09:51:26.3,39°61N×26°44E,h7km±2km,MW3.7*
*ATH **02** 09:51:26.6,39°60N×26°41E,h14km±4km,ML3.6/18,*
Manual Solution by A.Moschou First location: 2019/03/02
09:52:35, This location: 2019/03/02 11:46:13 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 3 km;
Longitude uncertainty: 4 km
*THE **02** 09:51:27.5,39°58N×26°34E,h16km±1km,ML3.6/12,Error*
ellipse: s-maj=1.6km s-min=0.5km az=172.0
*SOF **02** 09:51:28.8,39°80N±0°02×26°35E±0°03,h11km±4km,*
MD3.8/5
ISC 02 09:51:26.5±0.8,39°61N±0°01×26°43E±0°02,h15km±6km,
n173,σ0ᵩ89/223,20C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNE	**Ezine-Canakkal**	**0.15**	**340**	Pg	**Pg**	**09 51 29.8**	**-0.6**
EZNE				Sg	**Sg**	**09 51 32.3**	**-0.6**
KOCA	**

GONE	**Gonen-Balikesi**	**1.06**	**65**	Pg	**Pb**	**09 51 46.3**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.09**	**349**	P	**Pb**	**09 51 47.3**	**+0.2**
CAVK				S	**Sg**	**09 52 02.2**	**+0.2**
CAVK				*i* AML	AML	09 52 04.0	
	comp=N,3μm,0.5s						
CAVK				*i* AML	AML	09 52 05.0	
	comp=E,3μm,1.1s						
CAVK	**Edirne/Enez-Ca**	**1.09**	**349**	⇑P	**Pb**	**09 51 47.1**	**0.0**
SMTH	**Samothraki Isl**	**1.10**	**321**	P	**Pb**	**09 51 46.9**	**-0.3**
SMTH				S	**Sg**	**09 52 01.9**	**-0.2**
	11μm,0.4s						
SMTH	**Samothraki Isl**	**1.10**	**321**	P	**Pg**	**09 51 47.7**	**0.0**
SMTH				S	**Sg**	**09 52 01.8**	**-0.2**
EFSA	**Agios Efstrati**	**1.12**	**267**	P	**Pb**	**09 51 47.6**	**+0.1**
EFSA				S	**Sg**	**09 52 02.5**	**-0.1**
ENEZ	**Enez**	**1.14**	**349**	Pn	**Pb**	**09 51 47.2**	**-0.7**
ENEZ	**Enez**	**1.14**	**349**	P	**Pb**	**09 51 48.0**	**+0.1**
ENEZ				S	**Sb**	**09 52 03.3**	**+0.7**
	8μm,0.4s						
BKES	**Balkesir-Mer**	**1.16**	**84**	P	**Pb**	**09 51 48.4**	**+0.1**
BKES				S	**Sb**	**09 52 04.1**	**+1.0**
BKES				*i* AML	AML	09 52 06.0	
	comp=N,2μm,0.4s						
BKES				*i* AML	AML	09 52 06.0	
	comp=E,4μm,0.4s						
RKY	**Sarkoy-Tekirda**	**1.22**	**28**	Pn	**Pn**	**09 51 48.7**	**-0.3**
SART	**Tekirdag**	**1.22**	**28**	P	**Pn**	**09 51 48.6**	**-0.4**
SART				S	**Sb**	**09 52 05.8**	**+1.0**
SART				*i* AML	AML	09 52 07.0	
	comp=E,2μm,0.3s						
SART				*i* AML	AML	09 52 13.0	
	comp=N,2μm,0.4s						
CESE	**eme**	**1.28**	**185**	Pn	**Pn**	**09 51 49.9**	**0.0**
AKS	**Akhisar**	**1.30**	**124**	Pn	**Pn**	**09 51 50.4**	**+0.3**
ALEX	**Alexandroupoli**	**1.30**	**342**	P	**Pb**	**09 51 51.0**	**+0.3**
ALEX				S	**Sg**	**09 52 08.4**	**-0.2**
ALN	**Alexandroupoli**	**1.32**	**347**	Pn	**Pn**	**09 51 50.4**	**+0.1**
ALN	**Alexandroupoli**	**1.32**	**347**	P	**Pn**	**09 51 50.6**	**+0.3**
ALN				S	**Sb**	**09 52 08.0**	**+0.4**
	4μm,0.4s						
BLCB	**Balcova**	**1.32**	**159**	Pn	**Pn**	**09 51 50.6**	**+0.3**
SUSR	**Susurluk-Balik**	**1.32**	**74**	Pn	**Pn**	**09 51 50.5**	**+0.1**
EDC	**Edincik**	**1.32**	**56**	Pn	**Pn**	**09 51 50.1**	**-0.3**
GOMA	**Golmarmara-Man**	**1.47**	**128**	Pn	**Pn**	**09 51 52.7**	**+0.3**
BAND	**Balkesir-Ban**	**1.48**	**59**	⇑P	**Pn**	**09 51 53.0**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.52**	**6**	Pn	**Pn**	**09 51 53.2**	**+0.1**
GORD	**Gordes-Manisa**	**1.53**	**117**	Pn	**Pn**	**09 51 52.5**	**-0.8**
GMLD	**Gumuldur**	**1.58**	**166**	Pn	**Pn**	**09 51 54.3**	**+0.4**
TKR	**Tekirdag**	**1.61**	**31**	Pn	**Pn**	**09 51 54.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.62**	**66**	Pn	**Pn**	**09 51 54.2**	**-0.3**
SKY	**Skiros Island**	**1.64**	**244**	P	**Pn**	**09 51 55.4**	**+0.7**
THAS	**Thassos island**	**1.65**	**308**	P	**Pn**	**09 51 54.7**	**-0.1**
THAS				S	**Sn**	**09 52 14.7**	**-1.0**
	1μm,0.3s						
THAS	**Thassos island**	**1.65**	**308**	P	**Pn**	**09 51 54.9**	**0.0**
THAS				S	**Sn**	**09 52 15.1**	**-0.6**
RDO	**Rodhopi**	**1.68**	**336**	Pn	**Pn**	**09 51 55.2**	**-0.1**
RDO	**Rodhopi**	**1.68**	**336**	P	**Pn**	**09 51 55.8**	**+0.5**
RDO				S	**Sn**	**09 52 16.9**	**+0.4**
	1μm,0.3s						
RDO	**Rodhopi**	**1.68**	**336**	P	**Pn**	**09 51 56.2**	**+0.9**
RDO				S	**Sn**	**09 52 17.0**	**+0.5**
DST	**Dursunbey**	**1.69**	**90**	Pn	**Pn**	**09 51 55.6**	**+0.1**
XANC	**Avdira**	**1.77**	**321**	P	**Pn**	**09 51 56.2**	**-0.4**
XANC				S	**Sn**	**09 52 19.3**	**+0.4**
CRLT	**Corlu**	**1.81**	**33**	Pn	**Pn**	**09 51 57.1**	**-0.1**
ODEM	**Odemis-Izmir**	**1.85**	**136**	Pn	**Pn**	**09 51 57.9**	**+0.2**
SMG	**Samos**	**1.93**	**170**	P	**Pn**	**09 51 58.3**	**-0.4**
SMG				S	**Sn**	**09 52 23.4**	**+0.6**
	1μm,0.4s						
SMG	**Samos**	**1.93**	**170**	P	**Pn**	**09 51 58.3**	**-0.4**
ORLT	**Orhaneli**	**1.95**	**76**	Pn	**Pn**	**09 51 59.2**	**+0.2**
GCAM	**G?zelcaml?**	**2.01**	**162**	Pn	**Pn**	**09 52 00.2**	**+0.3**
KAVA	**Kavala**	**2.02**	**314**	P	**Pn**	**09 52 00.3**	**+0.4**
KAVA				S	**Sn**	**09 52 24.1**	**-0.8**
	845nm,0.4s						
KAVA	**Kavala**	**2.02**	**314**	P	**Pn**	**09 52 00.4**	**+0.5**
KAVA				S	**Sn**	**09 52 24.4**	**-0.5**
OUR	**Ouranopolis**	**2.02**	**292**	Pn	**Pn**	**09 52 00.2**	**+0.3**
OUR	**Ouranopolis**	**2.02**	**292**	P	**Pn**	**09 52 00.0**	**+0.1**
OUR				S	**Sn**	**09 52 23.9**	**-1.0**
	712nm,0.5s						
OUR	**Ouranopolis**	**2.02**	**292**	P	**Pn**	**09 52 00.3**	**+0.4**
OUR				S	**Sn**	**09 52 24.3**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.02**	**145**	Pn	**Pn**	**09 52 00.4**	**+0.3**
AOS	**Alonnisos**	**2.03**	**258**	P	**Pn**	**09 52 00.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**2.03**	**67**	Pn	**Pn**	**09 52 00.5**	**+0.4**
SMAA	**Simav-Kutahya**	**2.04**	**104**	Pn	**Pn**	**09 52 00.5**	**+0.1**
KVLA	**Kavala**	**2.05**	**311**	P	**Pn**	**09 52 00.8**	**+0.4**
KVLA				S	**Sn**	**09 52 24.8**	**-0.9**
SIMA	**Simav-Kutahya**	**2.05**	**104**	Pn	**Pn**	**09 52 01.2**	**+0.7**
KULA	**Kula-Manisa**	**2.05**	**122**	Pn	**Pn**	**09 52 01.0**	**+0.5**
KYMI	**Kymi, Euboea I**	**2.06**	**242**	P	**Pn**	**09 51 59.9**	**-0.7**
KYMI				S	**Sn**	**09 52 24.1**	**-1.9**
	422nm,0.8s						
ARMT	**Armutlu**	**2.09**	**62**	Pn	**Pn**	**09 52 01.4**	**+0.4**
SLVT	**Silivri**	**2.11**	**39**	Pn	**Pn**	**09 52 01.5**	**+0.3**
PAIG	**Paliouri**	**2.14**	**279**	Pn	**Pn**	**09 52 01.6**	**-0.1**
KDZ	**Kurdzhali**	**2.18**	**338**	Pn	**Pn**	**09 52 02.5**	**+0.3**
KDZ	**Kurdzhali**	**2.18**	**338**	*i* P	**Pn**	**09 52 02.9**	**+0.7**
KDZ				*i* S	**Sn**	**09 52 29.0**	**0.0**
PHSR	**Pinarhisar**	**2.18**	**22**	Pn	**Pn**	**09 52 02.1**	**-0.1**
NAZL	**Nazilli-Aydin**	**2.20**	**138**	Pn	**Pn**	**09 52 02.9**	**+0.4**
KOKK	**Kokkinochori,**	**2.22**	**304**	P	**Pn**	**09 52 02.8**	**+0.1**
KARY	**Karystos**	**2.22**	**225**	P	**Pn**	**09 52 02.2**	**-0.5**
KARY	**Karystos**	**2.22**	**225**	P	**Pn**	**09 52 02.8**	**+0.1**
AVCI	**Avcilar-stanb**	**2.23**	**51**	Pn	**Pn**	**09 52 03.0**	**+0.1**
SHAP	**Saphane-Kutahy**	**2.24**	**104**	Pn	**Pn**	**09 52 03.6**	**+0.4**
EDRB	**Edirne**	**2.24**	**6**	Pn	**Pn**	**09 52 03.0**	**-0.1**
EDRB	**Edirne**	**2.24**	**6**	P	**Pn**	**09 52 03.3**	**+0.2**
EDRB				S	**Sn**	**09 52 32.2**	**+1.7**
CTKS	**Kestanelik-??a**	**2.27**	**44**	Pn	**Pn**	**09 52 03.4**	**0.0**
DIDI	**Didim-Aydin**	**2.32**	**164**	Pn	**Pn**	**09 52 04.9**	**+0.8**
CTYL	**Yalikoy Yolu**	**2.34**	**37**	Pn	**Pn**	**09 52 03.3**	**-1.0**
TVSB	**Tavsanli**	**2.35**	**93**	Pn	**Pn**	**09 52 04.7**	**+0.1**
BGKT	**Bogazkoy**	**2.38**	**48**	Pn	**Pn**	**09 52 04.9**	**0.0**
GEDZ	**Gediz**	**2.38**	**103**	Pn	**Pn**	**09 52 06.1**	**+1.1**
PLG	**Polygyros**	**2.42**	**289**	P	**Pn**	**09 52 05.8**	**+0.3**
PLG	**Polygyros**	**2.42**	**289**	P	**Pn**	**09 52 06.2**	**+0.7**
RZN	**Rozhen**	**2.44**	**329**	*i* P	**Pn**	**09 52 07.1**	**+1.1**
RZN				*i* S	**Sn**	**09 52 36.1**	**+0.3**
YLV	**Yalova**	**2.45**	**66**	Pn	**Pn**	**09 52 06.5**	**+0.5**
ISK	**Istanbul-Kandi**	**2.48**	**53**	Pn	**Pn**	**09 52 05.9**	**-0.4**
KAVV	**Kandilli-Istan**	**2.48**	**53**	Pn	**Pn**	**09 52 06.3**	**0.0**
DION	**Dionisos Attik**	**2.48**	**233**	P	**Pn**	**09 52 06.2**	**-0.2**
DIM	**Dimitrovgrad**	**2.51**	**345**	*i* P	**Pn**	**09 52 07.8**	**+1.0**
DIM				*i* S	**Sb**	**09 52 44.6**	**+2.5**
XOR	**Xorichti**	**2.52**	**265**	P	**Pn**	**09 52 06.4**	**-0.5**
PTL	**Penteli**	**2.54**	**233**	P	**Pn**	**09 52 07.7**	**+0.4**
MLSB	**Milas**	**2.54**	**155**	Pn	**Pn**	**09 52 07.7**	**+0.4**
KLYT	**Kilyos**	**2.58**	**50**	Pn	**Pn**	**09 52 08.2**	**+0.5**
NVR	**Nevrokopi**	**2.62**	**312**	P	**Pn**	**09 52 09.7**	**+1.4**
NVR	**Nevrokopi**	**2.62**	**312**	P	**Pn**	**09 52 09.4**	**+1.2**
APE	**Apeiranthos**	**2.64**	**196**	Pn	**Pn**	**09 52 08.6**	**0.0**
APE	**Apeiranthos**	**2.64**	**196**	⇑P	**Pn**	**09 52 08.3**	**-0.3**
APE	**Apeiranthos**	**2.64**	**196**	P	**Pn**	**09 52 07.9**	**-0.7**
SRS	**Serrai**	**2.64**	**306**	P	**Pn**	**09 52 08.8**	**+0.3**
BODT	**Bodrum**	**2.64**	**165**	Pn	**Pn**	**09 52 09.3**	**+0.8**
SOH	**Sokhos**	**2.65**	**298**	P	**Pn**	**09 52 09.2**	**+0.5**
ADVT	**Abdulvahap**	**2.67**	**71**	Pn	**Pn**	**09 52 09.1**	**+0.2**
CAVI	**Cavuskoy**	**2.69**	**76**	Pn	**Pn**	**09 52 10.3**	**+1.1**
OSMT	**Osmaniye**	**2.69**	**67**	Pn	**Pn**	**09 52 09.6**	**+0.3**
HORT	**Hortiatis**	**2.74**	**292**	Pn	**Pn**	**09 52 10.4**	**+0.4**
HORT	**Hortiatis**	**2.74**	**292**	P	**Pn**	**09 52 10.7**	**+0.7**
HRT	**Hereke**	**2.76**	**63**	Pn	**Pn**	**09 52 10.9**	**+0.7**
MMB	**Musomishta**	**2.81**	**314**	*i* P	**Pn**	**09 52 12.0**	**+1.1**
MMB				*i* S	**Sn**	**09 52 44.9**	**+0.3**
PLD	**Plovdiv**	**2.83**	**334**	Pn	**Pn**	**09 52 11.6**	**+0.4**
YER	**Yerkesik**	**2.87**	**149**	Pn	**Pn**	**09 52 11.9**	**+0.1**
LIT	**Litokhoron**	**3.07**	**280**	P	**Pn**	**09 52 15.3**	**+0.8**
KNT	**Kendrikon**	**3.11**	**301**	P	**Pn**	**09 52 15.9**	**+0.9**
KKB	**Krupnik**	**3.35**	**313**	*i* P	**Pn**	**09 52 19.9**	**+1.5**
THL	**Klokotos Trika**	**3.41**	**271**	P	**Pn**	**09 52 19.8**	**+0.6**
GUR	**Goura**	**3.61**	**244**	P	**Pn**	**09 52 22.4**	**+0.4**
EVR	**Evrytania**	**3.66**	**260**	P	**Pn**	**09 52 23.2**	**+0.6**
KLV	**Kalavryta, Ach**	**3.69**	**246**	P	**Pn**	**09 52 23.3**	**+0.2**
EFP	**Efpalio**	**3.72**	**253**	P	**Pn**	**09 52 24.2**	**+0.8**
VTS	**Vitosha**	**3.85**	**322**	*i* P	**Pn**	**09 52 27.0**	**+1.7**
KPRO	**Kipourio**	**3.92**	**277**	P	**Pn**	**09 52 26.4**	**+0.2**
MPEP	**Malo Peshtene**	**4.25**	**332**	*i* P	**Pn**	**09 52 31.9**	**+1.2**
TIRR	**Tirgusor**	**5.06**	**16**	⇑P	**Pn**	**09 52 42.9**	**+1.1**
BOVS	**Bovan**	**5.36**	**320**	⇑P	**Pn**	**09 52 46.9**	**+1.1**
TPGR	**Topolog**	**5.44**	**15**	⇓P	**Pn**	**09 52 47.7**	**+0.6**
SRE	**Strehaia**	**5.58**	**336**	⇑P	**Pn**	**09 52 50.0**	**+1.0**
CFR	**Carcaliu**	**5.70**	**12**	⇑P	**Pn**	**09 52 51.5**	**+0.9**
MLR	**Muntele Rosu**	**5.88**	**357**	⇓P	**Pn**	**09 52 54.9**	**+1.6**
ARR	**Arges**	**5.90**	**348**	⇑P	**Pn**	**09 52 54.8**	**+1.4**
VOIR		**5.91**	**351**	⇑P	**Pn**	**09 52 54.9**	**+1.4**
HERR	**Herculane**	**6.05**	**332**	⇓P	**Pn**	**09 52 56.0**	**+0.7**
SPBR	**Spulber**	**6.14**	**2**	⇓P	**Pn**	**09 52 58.4**	**+1.8**
COVR	**Voineasa-Covas**	**6.23**	**359**	⇑P	**Pn**	**09 52 59.7**	**+1.8**
PLOR	**Plostina**	**6.24**	**1**	⇑P	**Pn**	**09 53 00.1**	**+2.1**
MDVR	**Moldovita**	**6.24**	**327**	⇑P	**Pn**	**09 52 59.8**	**+1.8**
TNR	**Turnu Rosu**	**6.24**	**346**	⇑P	**Pn**	**09 52 59.9**	**+1.9**
VRI	**Vrincioaia**	**6.25**	**2**	⇑P	**Pn**	**09 52 60.0**	**+1.8**
GZR	**Gura Zlata**	**6.38**	**336**	⇑P	**Pn**	**09 53 01.0**	**+1.1**
TESR	**Tescani**	**6.90**	**1**	⇑P	**Pn**	**09 53 07.9**	**+0.9**
BZS	**Buzias**	**6.97**	**331**	⇑P	**Pn**	**09 53 08.7**	**+0.7**
SEV	**Sevastopol'**	**7.30**	**45**	⇓*e*P	**Pn**	**09 53 12.8**	**+0.3**
SEV				Pm		09 53 13.4	
	comp=Z,5.0nm,0.4s						
SEV				*e*S	**Sn**	**09 54 30.7**	**-4.3**
SEV				Sm		09 54 31.2	
	comp=N,7.0nm,0.7s						
SEV				Sm		09 54 31.2	
	comp=E,5.0nm,0.4s						
MARR	**Marisel-Cluj**	**7.46**	**342**	⇑P	**Pn**	**09 53 16.3**	**+1.4**
SIRR	**Siria**	**7.51**	**334**	⇓P	**Pn**	**09 53 16.1**	**+0.6**
DRGR		**7.67**	**340**	⇑P	**Pn**	**09 53 19.3**	**+1.6**
BURAR	**Bucovina Array**	**8.05**	**354**	⇓P	**Pn**	**09 53 24.2**	**+1.3**
SUDU	**Sudak**	**8.26**	**48**	*e*P	Pn	09 53 21.2	-4.4
SUDU				Pm		09 53 27.0	
	comp=Z,10.0nm,0.4s						
SUDU				*e*S	**Sn**	**09 54 52.0**	**-6.6**
SUDU				Sm		09 54 53.6	
	comp=N,13nm,0.6s						
SUDU				Sm		09 54 53.6	
	comp=E,8.0nm,0.5s						
VYHS	**Vyhne**	**10.42**	**331**	*e*PN	**Pn**	**09 53 55.5**	**+0.2**

IDC ***02*** *10:02:03.8±1.3, 51°.56N×173°.39W, h0km, mb3.7/11, mbtmp3.7/13, ML3.3/2, MS3.1/1, Error ellipse: s-maj=36.9km s-min=20.0km az=2.0*
AEIC ***02*** *10:02:10.3±1.1, 51°.8N±0°.1×173°.41W±0°.10, h44km±10km, Error ellipse: s-maj=16.1km s-min=8.7km az=184.0*
NEIC ***02*** *10:02:10.1±1.5, 51°.70N±0°.10×173°.40W±0°.09, h35km±2km, ML3.4/6, ML3.2(AEIC), Error ellipse: s-maj=16.6km s-min=9.2km az=185.0*

ISC 02 10:02:09.6±0.8, 51°.7N±0°.1×173°.35W±0°.05, h37km, n48, σ1§01/45, mb3.8/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.73**	**315**		**Pn**	**10 02 23.6**	**+0.2**
ATKA					**Sn**	**10 02 33.4**	**+0.1**
ATKA				IAML		10 02 39.8	
	comp=E,596nm,0.5s						
GSMY	**Great Sitkin M**	**1.71**	**283**		**Pn**	**10 02 37.5**	**+0.6**
GSTR	**Great Sitkin T**	**1.73**	**285**		**Pn**	**10 02 37.2**	**+0.2**
GSCK	**Great Sitkin C**	**1.77**	**282**		**Pn**	**10 02 38.2**	**+0.5**
ADAG	**Mount Adagdak**	**2.04**	**279**		**Pn**	**10 02 42.7**	**+1.4**
ADAG					**Sn**	**10 03 07.1**	**+1.7**
ADK	**Adak**	**2.08**	**277**		**Pn**	**10 02 42.0**	**+0.2**
ADK				IAML		10 03 10.5	
	comp=E,281nm,0.3s						
ADK				IAML		10 03 19.9	
	comp=E,278nm,0.3s						
KIWB	**Kanaga Island**	**2.37**	**275**		**Pn**	**10 02 46.4**	**+0.6**
TAFP	**Tanaga Falls P**	**2.88**	**276**		**Pn**	**10 02 54.0**	**+1.0**
TAFP					**Sn**	**10 03 28.2**	**+1.9**
TASE	**Tanaga Southea**	**2.92**	**275**		**Pn**	**10 02 54.5**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**3.66**	**60**		**Pn**	**10 03 05.7**	**+2.1**
MAPS	**Pakushin South**	**4.43**	**59**		**Pn**	**10 03 16.0**	**+1.7**
MGOD	**Makushin Gods**	**4.46**	**59**		**Pn**	**10 03 15.9**	**+1.2**
MSW	**Makushin Swltc**	**4.57**	**58**		**Pn**	**10 03 17.5**	**+1.5**
UNV	**Unalaska Valle**	**4.68**	**60**		**Pn**	**10 03 18.5**	**+0.9**
LVA	**Lava Point**	**5.07**	**58**	Pn	**Pn**	**10 03 23.8**	**+0.8**
LVA				IAML		10 04 46.5	
	comp=E,60nm,1.2s						
P08K	**Saint George I**	**5.40**	**23**	Pn	**Pn**	**10 03 27.8**	**+0.3**
S12K	**Black Hills**	**7.81**	**55**	Pn	**Pn**	**10 04 00.9**	**+0.4**
SDPT	**Sand Point**	**8.50**	**59**	Pn	**Pn**	**10 04 10.7**	**+0.8**
M14K	**Bethel**	**11.06**	**30**	Pn	**Pn**	**10 04 44.7**	**-0.2**
CHIR	**Chirikof Islan**	**11.27**	**62**	Pn	**Pn**	**10 04 46.7**	**-1.2**
P18K	**Big Mountain,**	**12.80**	**46**	Pn	**Pn**	**10 05 08.7**	**-0.2**
O18K	**Koktuh Hills**	**13.04**	**44**	Pn	**Pn**	**10 05 11.1**	**-1.0**
Q19K	**Cape Douglas,**	**13.32**	**49**	Pn	**Pn**	**10 05 16.1**	**+0.1**
KDAK	**Kodiak Island**	**13.43**	**55**	Pn	**Pn**	**10 05 15.3**	**-2.0**
KDAK	**Kodiak Island**	**13.43**	**55**	Pn	**Pn**	**10 05 15.9**	**-1.4**
	comp=E,0.2nm,0.3s,baz=327,slow=0.4,SNR=23						
KDAK				Sn	S	10 07 59.8	-8.0
	baz=325,slow=21,SNR=1.2						
KDAK				LR	LR	10 10 34.3	
	comp=E,78nm,18.1s,baz=96,slow=38						
SYI	**Shuyak Island**	**13.80**	**52**	Pn	**Pn**	**10 05 21.0**	**-1.4**
P19K	**Oil Pt**	**13.83**	**47**	Pn	**Pn**	**10 05 23.3**	**+0.6**
M19K	**Big River Lodg**	**14.52**	**38**	Pn	**Pn**	**10 05 31.3**	**-0.8**
PETK	**Petropavlovsk-**	**17.67**	**286**	P	**Pn**	**10 06 12.0**	**-0.6**
	comp=E,0.1nm,0.3s,baz=90,slow=17,SNR=2.2						
	comp=E,4.5nm,1.0s						
ILAR	**Eielson Array**	**18.93**	**36**	P	**Pn**	**10 06 28.6**	**+0.8**
	comp=E,0.4nm,0.3s,baz=233,slow=9.0,SNR=30						
	comp=E,0.6nm,0.3s						
YKA	**Yellowknife Ar**	**32.53**	**48**	P	**P**	**10 08 36.7**	**+0.2**
	comp=E,0.2nm,0.5s,baz=274,slow=8.3,SNR=2.9						
	comp=E,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.46**	**213**	T	T	10 47 15.4	
	baz=21,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**35.47**	**213**	T	T	10 47 12.3	
	baz=21,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**35.48**	**213**	T	T	10 47 11.9	
	baz=21,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**36.66**	**213**	T	T	10 48 30.8	
	baz=20,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**36.68**	**213**	T	T	10 48 27.5	
	baz=20,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**36.68**	**213**	T	T	10 48 29.9	
	baz=20,slow=76,SNR=4.7						
PDAR	**Pinedale Array**	**42.95**	**76**	P	**P**	**10 10 05.5**	**+0.5**
	comp=E,0.3nm,0.5s,baz=288,slow=4.4,SNR=4.6						
	comp=E,0.3nm,0.5s						
SONM	**Songino Array**	**49.51**	**299**	P	**P**	**10 10 56.7**	**+0.4**
	comp=E,0.4nm,0.4s,baz=76,slow=6.1,SNR=2.3						
	comp=E,0.4nm,0.4s						
TXAR	**Lajitas Array**	**55.24**	**85**	P	**P**	**10 11 38.2**	**-0.7**
	comp=E,0.1nm,0.4s,baz=304,slow=6.8,SNR=3.9						
	comp=E,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**58.30**	**352**	P	**P**	**10 12 00.1**	**+0.1**
	comp=E,2.9nm,0.8s,baz=12,slow=7.1,SNR=1.9						
	comp=E,2.9nm,0.8s						
LZH	**Lanzhou**	**58.53**	**290**	*e*P	**P**	**10 12 00.5**	**-1.7**
LZH				pP	pP	10 12 05.3	-6.8
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
KURBB	**Kurchatov Arra**	**61.31**	**316**	P	**P**	**10 12 21.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=145,slow=3.4,SNR=1.5						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**62.44**	**311**	P	**P**	**10 12 28.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=38,slow=6.6,SNR=2.0						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**62.78**	**322**	P	**P**	**10 12 31.4**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=39,slow=5.7,SNR=8.5						
	comp=Z,1.7nm,0.5s						
AKTO	**Aktyubinsk**	**69.32**	**328**	P	**P**	**10 13 13.3**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=80,slow=7.8,SNR=6.3						
	comp=Z,1.7nm,0.5s						
AKASG	**Malin Array Be**	**76.20**	**345**	P	**P**	**10 13 53.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=77,slow=14,SNR=1.4						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**88.10**	**227**	P	**P**	**10 14 55.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=25,slow=4.2,SNR=4.0						
	comp=Z,0.4nm,0.7s						

TEH ***02*** *10:04:45.6, 30°.77N×57°.40E, h6km±52km*
IDC ***02*** *10:04:46.9±0.6, 30°.73N×57°.24E, h0km, mb4.1/24, mbtmp4.1/29, ML3.8/5, MS3.4/12, Error ellipse: s-maj=14.6km s-min=12.7km az=12.0*
MOS ***02*** *10:04:46.8±1.1, 30°.71N×57°.29E, h10km, mb4.6/23, Error ellipse: s-maj=7.2km s-min=5.4km az=95.7*
THR ***02*** *10:04:47.4±0.6, 30°.77N×57°.39E, h14km±4km, ML4.5*
NEIC ***02*** *10:04:48.4±1.4, 30°.73N±0°.08×57°.30E±0°.08, h10km±1km, mb4.3/31, Error ellipse: s-maj=15.4km s-min=9.4km az=140.0*
OMAN ***02*** *10:04:49.4±0.3, 30°.80N×57°.58E, h10km, mb4.8/15, ml4.5/1, Error ellipse: s-maj=7.2km s-min=3.6km az=94.0*

ISC 02 10:04:47.9±0.3, 30°.79N±0°.02×57°.37E±0°.03, h10km, n254, σ1§78/231, mb4.3/62, MS3.3/11, 9C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.30**	**197**	Pg	**Pb**	**10 04 52.9**	**-2.6**
ZRDN	**Zarand Kerman**	**0.74**	**284**	Pg	**Pb**	**10 05 01.9**	**-1.1**
KHGB	**Koh Gabri**	**0.88**	**242**	Pg	**Pb**	**10 05 03.8**	**-1.5**
CHMN	**Cheshme madani**	**0.94**	**171**	Pg	**Pb**	**10 05 04.1**	**-2.5**
KRBR	**Kerman**	**0.96**	**213**	Pg	**Pn**	**10 05 05.6**	**-2.2**
KRBR	**Kerman**	**0.96**	**213**	*e*Pg	**Pn**	**10 05 05.7**	**-2.2**
NGRK	**Negar Kerman**	**1.27**	**206**	Pg	**Pg**	**10 05 11.1**	**-1.3**
IBAF	**Bafgh**	**1.74**	**298**	Pg	**Pg**	**10 05 19.6**	**-1.7**
KBAM	**BAM**	**1.90**	**150**	Pn	**Pg**	**10 05 21.3**	**-3.0**
BSRN	**Basiran**	**1.90**	**52**	Pn	**Pg**	**10 05 22.0**	**-2.4**
BSRN	**Basiran**	**1.90**	**52**	*e*Pn	**Pb**	**10 05 21.0**	**-1.9**
BSRN				*e*Sg	**Sg**	**10 05 47.6**	**-1.5**
BSRN				IAML		10 05 50.5	
	comp=Z,3μm,0.3s						
IKOO	**Kooshah**	**2.14**	**40**	Pn	**Pb**	**10 05 25.1**	**-1.9**
TPRV	**Parvadeh(Tabas**	**2.30**	**346**	Pn	**Pb**	**10 05 27.6**	**-2.0**
NHDN	**Nehbandan**	**2.38**	**75**	Pn	**Pb**	**10 05 27.8**	**-3.1**
ITEG	**Tejag**	**2.40**	**29**	Pn	**Pb**	**10 05 28.6**	**-2.8**
IMEH	**Mehriz**	**2.44**	**285**	Pn	**Pb**	**10 05 29.7**	**-2.3**
TKDS	**Koohdasht(Taba**	**2.82**	**356**	Pn	**Pb**	**10 05 34.6**	**-3.8**
KHNJ	**Kahnooj**	**2.85**	**174**	Pn	**Pb**	**10 05 34.2**	**-4.7**
TABS	**Tabas**	**2.86**	**356**	*e*Pn	**Pb**	**10 05 34.9**	**-4.2**
TABS				IAML		10 06 26.9	
	comp=Z,1μm,0.4s						
YZKH	**Yazd**	**2.86**	**305**	*e*Pn	**Pb**	**10 05 35.3**	**-3.8**
YZKH				*e*Sg	**Sg**	**10 06 17.5**	**-2.2**
YZKH				IAML		10 06 24.9	
	comp=Z,1μm,0.5s						
IDAH	**Dahanechah**	**2.88**	**47**	Pn	**Pb**	**10 05 34.8**	**-4.7**
ICHK	**Chekchek**	**2.92**	**301**	Pn	**Pb**	**10 05 35.9**

comp=Z,0.1nm,0.3s,baz=259,slow=18,SNR=3.4
comp=Z,3.6nm,1.0s
KBZ Khabaz 17.27 322 *i* P **P 10 08 50.6 0.0**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
SHA1 Shidzhatmaz 17.40 322 *i* P **P 10 08 53.5 +1.2**
KSH Kashi 17.50 55 P **P 10 08 50.6 -2.7**
KSH pP pP 10 08 53.7 -2.8
KSH pmax pmax
comp=Z,17nm,0.7s
ASF Jabal al Asfar 17.52 280 P **P 10 08 52.0 -1.5**
comp=Z,0.5nm,0.3s,baz=73,slow=8.7,SNR=4.4
comp=Z,4.5nm,0.8s
KIV Kislovodsk 17.54 323 **P 10 08 52.4 -1.2**
KIV IAmb IAmb 10 08 59.5
comp=Z,14nm,0.8s
KIV Kislovodsk 17.54 323 P **P 10 08 55.0 +1.4**
KIV Kislovodsk 17.54 323 *e*P **P 10 08 54.2 +0.6**
KIV pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 18.08 44 P **P 10 08 59.9 +0.1**
AAK Ala-Archa 18.08 44 P **P 10 09 04.1 +4.4**
comp=Z,5.4nm,0.7s,baz=212,slow=6.8,SNR=13
AAK LR LR 10 16 22.4
comp=Z,79nm,18.6s,baz=248,slow=38
AAK Ala-Archa 18.08 44 P **P 10 08 59.1 -0.6**
AAK Ala-Archa 18.08 44*ce*P **P 10 09 02.6 +2.9**
AAK pmax pmax
comp=Z,21nm,1.7s
ABKAR Akbulak array 18.54 5 P **Pn 10 09 05.6 +0.9**
MMAI Mount Meron Ar 18.78 283 P **Pn 10 09 09.6 +1.7**
comp=Z,2.9nm,0.7s,baz=96,slow=13,SNR=2.6
BNN Bunyan 19.39 300 P **Pn 10 09 14.3 -0.8**
EIL Elat 19.40 272 P **Pn 10 09 14.3 -1.0**
comp=Z,0.2nm,0.3s,baz=20,slow=6.3,SNR=8.5
comp=Z,9.7nm,0.8s
KDJ Kajisay 19.49 49 P **Pn 10 09 15.8 -0.7**
KDJ IAmb IAmb 10 09 29.0
comp=Z,7.5nm,0.9s
KDJ Kajisay 19.49 49 P **Pn 10 09 15.8 -0.7**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
AKTO Aktyubinsk 19.63 1 P **Pn 10 09 17.8 0.0**
comp=Z,1.1nm,0.3s,baz=181,slow=10,SNR=18
comp=Z,3.4nm,0.5s
WUS Wushi 20.45 53 P Pn 10 09 26.4 -1.4
WUS IAmb IAmb 10 09 32.7
comp=Z,16nm,1.0s
BRTR Keskin Array B 21.28 301 P **P 10 09 34.6 -0.1**
BRTR Keskin Array B 21.28 301 P **P 10 09 35.8 +1.1**
comp=Z,6.6nm,0.8s,baz=120,slow=13,SNR=30
comp=Z,6.6nm,0.8s
BRTR Keskin Array B 21.28 301 P **P 10 09 34.6 -0.1**
BR131 Keskin Array S 21.28 301 P **P 10 09 34.6 -0.1**
BR131 IAmb IAmb 10 09 39.7
comp=Z,12nm,0.9s
BR131 Keskin Array S 21.28 301 *i* P **P 10 09 34.6 -0.1**
ILGA Ilgaz 21.66 305 P **P 10 09 38.1 -0.7**
BELG Belogornoye 22.74 344 *i* P **P 10 09 50.0 +0.1**
BELG pmax pmax
comp=Z,4.0nm,1.0s
SIM Simferopol' 23.06 314 *e*P **P 10 09 54.0 +0.6**
SIM pmax pmax
comp=Z,34nm,1.1s
ELL Elmali 23.55 292 P **P 10 09 58.1 -0.5**
ELL Elmali 23.55 292 P **P 10 09 58.1 -0.5**
ELL pmax pmax
comp=Z,77nm,0.8s
BRVK Borovoye 24.16 19 P **P 10 10 05.5 +1.4**
BRVK IAmb IAmb 10 10 09.9
comp=Z,18nm,1.5s
BRVK Borovoye 24.16 19 P **P 10 10 05.3 +1.2**
BRVK Borovoye 24.16 19*ce*P **P 10 10 06.2 +2.1**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BVAR Borovoye Array 24.16 19 P **P 10 10 05.5 +1.4**
comp=Z,1.7nm,0.4s,baz=200,slow=7.7,SNR=13
BVAR PcP **PcP 10 13 43.6 -1.1**
comp=Z,1.0nm,0.5s,baz=240,slow=2.8,SNR=4.3
BVAR LR LR 10 20 14.9
comp=Z,58nm,21.2s,baz=208,slow=38
comp=Z,1.7nm,0.4s
VORR Voronezh 24.80 332 P **P 10 10 12.2 +2.3**
VORR pmax pmax
comp=Z,13nm,1.3s
MAKZ Makanchi 24.82 43 P **P 10 10 11.1 +0.9**
MAKZ IAmb IAmb 10 10 16.7
comp=Z,5.2nm,0.8s
MAKZ Makanchi 24.82 43 P **P 10 10 11.1 +0.9**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MANT Manisa 24.85 296 P **P 10 10 10.4 -0.3**
MANT IAmb IAmb 10 10 12.8
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 25.00 43 P **P 10 10 12.2 +0.3**
MK31 Makanchi Array 25.00 43*ce*P **P 10 10 13.7 +1.9**
MKAR Makanchi Array 25.00 43 P **P 10 10 12.6 +0.8**
MKAR Makanchi Array 25.00 43 P **P 10 10 12.9 +1.1**
comp=Z,1.5nm,0.7s,baz=231,slow=8.8,SNR=11
MKAR LR LR 10 21 27.2
comp=Z,65nm,18.6s,baz=304,slow=40
comp=Z,1.5nm,0.7s
MKAR Makanchi Array 25.00 43 P **P 10 10 12.6 +0.8**
KURBB Kurchatov Arra 25.33 33 P **P 10 10 16.2 +1.5**
comp=Z,4.3nm,0.8s,baz=232,slow=8.8,SNR=22
KURBB LR LR 10 22 23.1
comp=Z,51nm,18.7s,baz=171,slow=42
comp=Z,4.3nm,0.8s
KURK Kurchatov 25.43 32 P **P 10 10 16.6 +1.0**
KURK IAmb IAmb 10 10 22.3
comp=Z,6.6nm,0.9s
KURK Kurchatov 25.43 32 P **P 10 10 16.2 +0.6**
KURK Kurchatov 25.43 32*ce*P **P 10 10 18.6 +2.9**
KURK pmax pmax
comp=Z,15nm,1.7s
LPSR Galich'ya Gora 25.63 334 P **P 10 10 17.3 -0.1**
LPSR pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 27.24 53 *e*P **P 10 10 34.7 +2.5**
WMQ pP sP 10 10 37.9 +0.8
WMQ pmax pmax
comp=Z,11nm,0.7s
OBN Obninsk 28.46 335 P **P 10 10 43.8 +0.9**
MOS Moscow 28.58 336 *e*P **P 10 10 44.8 +0.9**
AKASG Malin Array Be 28.88 322 P **P 10 10 47.0 +0.4**
comp=Z,1.1nm,0.6s,baz=125,slow=8.6,SNR=9.3
comp=Z,1.1nm,0.6s
AKBB Malin Array Si 28.88 322 P **P 10 10 48.1 +1.5**
AKBB IAmb IAmb 10 10 58.6
comp=Z,5.9nm,0.9s
AKBB Malin Array Si 28.88 322*ce*P **P 10 10 47.6 +1.0**
AKBB pmax pmax
comp=Z,19nm,2.7s
KIEV Kiev 28.88 322 P **P 10 10 48.1 +1.4**
KIEV IAmb IAmb 10 10 48.3
comp=Z,4.2nm,0.8s
KIEV Kiev 28.88 322 P **P 10 10 48.1 +1.4**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 29.77 314 P **P 10 10 55.6 +0.9**
BUR08 Bucovina Ar. S 29.79 314 P **P 10 10 56.0 +1.1**
ZAA0 Zalesovo Array 30.43 33 P **P 10 11 01.0 +0.7**
ZAA0 IAmb IAmb 10 11 06.6
comp=Z,6.7nm,0.9s
ZALV Zalesovo Beam 30.43 33 P **P 10 11 00.7 +0.4**
ZALV Zalesovo Beam 30.43 33 P **P 10 11 01.0 +0.7**
comp=Z,4.9nm,0.5s,baz=238,slow=9.3,SNR=29
ZALV LR LR 10 23 53.0
comp=Z,38nm,21.4s,baz=282,slow=38
comp=Z,4.9nm,0.5s
ZALV Zalesovo Beam 30.43 33 *i* P **P 10 11 01.0 +0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
KOLS Kolonicke sedl 32.09 314 *e*P **P 10 11 17.7 +2.7**
KOLS Kolonicke sedl 32.09 314 *e*P **P 10 11 17.7 +2.7**
KLMR Klimovskoe 32.31 344 *e*P **P 10 11 12.7 -4.1**
KLMR pmax pmax
comp=Z,23nm,1.5s
OJC Ojcow 34.05 316 P **P 10 11 32.9 +0.7**
OJC Ojcow 34.05 316 P **P 10 11 32.9 +0.7**
OJC pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 34.09 312 *e*P **P 10 11 32.9 +0.3**
VYHS Vyhne 34.09 312 *e*P **P 10 11 32.9 +0.3**
MODS Modra-Piesok 35.06 312 *e*P **P 10 11 43.0 +2.1**
MODS Modra-Piesok 35.06 312 *e*P **P 10 11 43.0 +2.1**

GTA Gaotai 35.51 64 *e*P **P 10 11 46.6 +1.6**
GTA pmax pmax
comp=Z,3.0nm,0.7s
ARSA Arzberg 35.94 309 *i* P **P 10 11 49.3 +0.7**
comp=Z,4.0nm,0.8s
SOKA Soboth 36.16 308 *e*P **P 10 11 50.6 +0.1**
comp=Z,3.3nm,1.5s
FIA1 FINESS Array S 36.86 335 P **P 10 11 55.0 -1.2**
FINES FINESS Array B 36.86 335 P **P 10 11 57.0 +0.9**
FINES FINESS Array B 36.86 335 P **P 10 11 56.5 +0.3**
comp=Z,5.6nm,0.8s,baz=128,slow=11,SNR=9.3
comp=Z,5.6nm,0.8s
FINES FINESS Array B 36.86 335 P **P 10 11 57.0 +0.9**
MOA Molln 36.90 310 *i* P **P 10 11 57.2 +0.5**
comp=Z,5.4nm,0.8s
GEC2 GERESS Array S 37.48 311 P **P 10 12 01.3 -0.4**
GEC2 IAmb IAmb 10 12 02.5
comp=Z,5.5nm,0.8s
GERES GERESS Array B 37.48 311 P **P 10 11 59.9 -1.7**
GERES GERESS Array B 37.48 311 P **P 10 12 02.0 +0.4**
comp=Z,4.8nm,0.8s,baz=104,slow=9.7,SNR=16
comp=Z,4.8nm,0.8s
KHC Kasperske Hory 37.62 312 *e*P **P 10 12 02.1 -0.7**
KHC *e*pP **sP 10 12 08.0 +0.1**
KHC Kasperske Hory 37.62 312 *e*P **P 10 12 02.1 -0.7**
KHC *e* 10 12 08.0
LESA Schwarzleotal 37.88 309 *i* P **P 10 12 04.8 -0.3**
comp=Z,2.3nm,0.6s
ABTA Abfaltersbach 37.88 308 *i* P **P 10 12 04.9 -0.2**
comp=Z,2.0nm,0.7s
CLL Collm 38.49 315 *i* P **P 10 12 11.0 +0.9**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 38.49 315 *i* P **P 10 12 11.0 +0.9**
comp=Z,6.0nm,1.0s
WTTA Wattenberg 38.55 308 *e*P **P 10 12 10.5 -0.4**
comp=Z,3.9nm,0.7s
WATA Walderalm 38.60 309 *e*P **P 10 12 10.8 -0.5**
comp=Z,3.5nm,0.6s
SQTA Sankt Quirin 38.83 308 *i* P **P 10 12 12.1 -1.0**
comp=Z,6.2nm,1.0s
MOTA Moosalm 38.92 309 *e*P **P 10 12 12.9 -1.0**
comp=Z,3.7nm,0.8s
PZH PanZhiHua 38.98 85 P **P 10 12 15.8 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,4.9s
FETA Feichten 39.13 308 *e*P **P 10 12 15.2 -0.5**
comp=Z,5.5nm,1.0s
RETA Reutte 39.17 309 *e*P **P 10 12 14.9 -1.0**
comp=Z,2.5nm,0.9s
CHTO Chiang Mai 39.37 98 P **P 10 12 17.3 -0.5**
CHTO IAmb IAmb 10 12 21.8
comp=Z,6.6nm,0.9s
CHTO Chiang Mai 39.37 98 P **P 10 12 17.3 -0.5**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
FUORN Ofenpass-Fuorn 39.40 307 P **P 10 12 18.3 +0.3**
CMAR Chiang Mai Arr 39.52 98 P P 10 12 22.4 +3.2
comp=Z,1.0nm,0.3s,baz=303,slow=7.7,SNR=8.7
comp=Z,1.0nm,0.3s
DAVA Damuels 39.74 308 *e*P **P 10 12 20.0 -0.8**
comp=Z,11nm,1.1s
TUE Stuetta 40.01 307 P **P 10 12 22.6 -0.5**
KMI Kunming 40.26 87 ⇑P P 10 12 29.2 +3.7
KMI pmax pmax
comp=Z,20nm,1.0s
SONM Songino Array 40.83 51 P **P 10 12 31.3 +1.4**
comp=Z,1.1nm,0.9s,baz=268,slow=8.2,SNR=5.8
SONM LR LR 10 30 05.1
comp=Z,56nm,20.2s,baz=264,slow=37
comp=Z,1.1nm,0.9s
HFS Hagfors 41.19 328 P **P 10 12 32.9 +0.5**
comp=Z,1.1nm,0.5s,baz=116,slow=9.8,SNR=4.5
comp=Z,1.1nm,0.5s
ULN Ulaanbaatar 41.28 51 *i* P P 10 12 36.5 +3.0
ULN pmax pmax
comp=Z,5.0nm,1.2s
SENIN Lac Senin/Sane 41.41 307 P **P 10 12 34.6 -0.1**
BNI Bardonecchia 41.78 305 P **P 10 12 36.9 -0.7**
BNI IAmb IAmb 10 12 43.8
comp=Z,4.9nm,1.0s
BNI Bardonecchia 41.78 305 P **P 10 12 36.9 -0.7**
BNI pmax pmax
comp=Z,5.0nm,1.0s
NRIK Noril'sk 42.25 15 P **P 10 12 42.3 +1.4**
comp=Z,1.4nm,0.6s,baz=175,slow=6.6,SNR=3.7
comp=Z,1.4nm,0.6s
NRIK Noril'sk 42.25 15*ce*P P 10 12 44.1 +3.2
NRIK pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 42.68 329 P **P 10 12 44.7 +0.1**
comp=Z,1.7nm,1.0s,baz=116,slow=8.0,SNR=2.6
comp=Z,1.7nm,1.0s
ARCES ARCESS Array B 42.79 344 P **P 10 12 46.0 +0.7**
comp=Z,7.3nm,1.1s,baz=140,slow=8.6,SNR=4.8
comp=Z,7.3nm,1.1s
HHC Hu-ho-hao-te 44.45 61 *e*P **P 10 12 59.4 +0.1**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,99nm,4.7s
EKA Eskdalemuir Ar 48.70 319 P **P 10 13 31.9 -0.4**
comp=Z,1.6nm,0.7s,baz=82,slow=8.0,SNR=3.9
comp=Z,1.6nm,0.7s
ESDC Sonseca Array 50.02 298 P **P 10 13 41.8 -0.9**
comp=Z,0.8nm,0.6s,baz=83,slow=8.1,SNR=8.4
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 54.00 264 P **P 10 14 12.0 -0.5**
TORD IAmb IAmb 10 14 12.5
comp=Z,3.5nm,0.8s
TORD Torodi Ar. Bea 54.00 264 P **P 10 14 11.6 -1.0**
comp=Z,7.9nm,0.7s,baz=50,slow=7.8,SNR=5.4
comp=Z,7.9nm,0.7s
YAK Yakutsk 55.07 33 *i* P P 10 14 22.3 +2.7
YAK pmax pmax
comp=Z,6.0nm,0.5s
TIXI Tiksi 55.27 21 *i* P P 10 14 23.7 +2.8
KLR Kul'dur 57.55 48 LR LR 10 40 56.8
comp=Z,36nm,18.3s,baz=300,slow=38
KLR Kul'dur 57.55 48 *i* P **P 10 14 39.1 +1.6**
KLR pmax pmax
comp=Z,6.0nm,1.9s
KSRS Korea Array 57.56 63 P **P 10 14 39.6 +1.9**
comp=Z,1.2nm,0.8s,baz=263,slow=8.0,SNR=6.6
KSRS LR LR 10 42 22.3
comp=Z,19nm,19.5s,baz=285,slow=39
comp=Z,1.2nm,0.8s
JNU Nakatsue 61.18 67 LR LR 10 44 29.8
comp=Z,37nm,19.1s,baz=322,slow=39
DBIC Dimbokro 62.80 261 LR LR 10 46 05.9
comp=Z,78nm,19.1s,baz=4.0,slow=40
SEY Seymchan 65.25 30 P **P 10 15 30.1 +0.7**
comp=Z,1.3nm,0.6s,baz=261,slow=7.4,SNR=9.0
comp=Z,1.3nm,0.6s
SEY Seymchan 65.25 30*ce*P **P 10 15 31.5 +2.1**
SEY pmax pmax
comp=Z,5.0nm,1.3s
MA2 Magadan 65.64 34*ce*P P 10 15 34.7 +2.7
MA2 pmax pmax
comp=Z,9.0nm,1.7s
MJAR Matsushiro Arr 65.65 61 LR LR 10 47 11.4
comp=Z,20nm,19.7s,baz=290,slow=39
ASAJ Asahikawa 66.11 52 LR LR 10 46 28.7
comp=Z,44nm,18.3s,baz=184,slow=38
BOSA Boshof 66.54 211 P **P 10 15 37.8 -0.4**
comp=Z,1.7nm,0.7s,baz=39,slow=8.3,SNR=5.1
comp=Z,1.7nm,0.7s
BILL Bilibino 68.46 22 *i* P P 10 15 54.6 +4.8
BILL pmax pmax
comp=Z,18nm,3.4s
ILAR Eielson Array 82.88 10 P P 10 17 15.2 +2.8
comp=Z,0.2nm,0.7s,baz=323,slow=5.3,SNR=4.7
comp=Z,0.2nm,0.7s
YKA Yellowknife Ar 86.82 356 P **P 10 17 32.9 +0.7**
comp=Z,0.6nm,0.9s,baz=355,slow=4.9,SNR=10
comp=Z,0.6nm,0.9s
WRA Warramunga Arr 89.44 114 P **P 10 17 46.0 +0.6**
comp=Z,1.0nm,0.7s,baz=306,slow=4.5,SNR=6.5
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 89.44 114 *i* P **P 10 17 47.7 +2.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 91.12 117 P **P 10 17 52.5 -0.8**
comp=Z,1.3nm,0.9s,baz=295,slow=5.1,SNR=5.9
comp=Z,1.3nm,0.9s
QSPA South Pole Qui 120.62 180 PKP **PKiKP 10 23 40.8 +1.5**
comp=Z,1.6nm,1.1s,baz=286,slow=7.4,SNR=1.5

NEIC ***02*** *10:09:25.1±1.9, 40°.50N±0°.02×124°.98W±0°.04, h10km±2km, Error ellipse: s-maj=4.7km s-min=3.7km az=275.0*
NCEDC 02 10:09:29.4±1.6, 40°.46N±0°.03×124°.77W±0°.07, h25km±8km, Md2.8/43, ML2.7/62(NEIC), Error ellipse: s-maj=7.8km s-min=4.6km az=98.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.33**	**87**		Pb	10 09 37.2	+0.3
KCTM					Sb	10 09 43.1	+1.2
KMPM	**Mount Pierce**	**0.49**	**94**		Pb	10 09 39.2	-0.4
KMPM				Sg	Sb	10 09 46.0	-0.4
JCC	**Jacoby Creek,**	**0.67**	**57**		Pb	10 09 41.1	-1.3
JCC				Sg	Sb	10 09 49.3	-1.9
KMRM	**Mail Ridge**	**0.84**	**106**		Pb	10 09 44.7	-0.7
KMRM				Sg	Sb	10 09 55.6	-0.7
KMRM				IAML		10 09 58.6	
comp=N,325nm,0.7s							
KHMM	**Horse Mountain**	**0.89**	**62**		Pb	10 09 44.9	-1.4
KHMM				Sg	Sb	10 09 55.7	-2.2
KHMM				IAML		10 09 56.6	
comp=N,170nm,0.3s							
KRPM	**Rodgers**	**0.90**	**39**		Pb	10 09 44.8	-1.6
KRPM				IAML		10 09 56.5	
comp=N,313nm,0.6s							
KRPM				IAML		10 09 56.0	
comp=E,201nm,1.7s							
KIPM	**Iron Peak**	**1.18**	**123**		Pn	10 09 49.5	-1.0
KCPM	**Cahto Peak**	**1.19**	**130**		Pn	10 09 49.4	-1.3
KCPM				IAML		10 10 04.7	
comp=E,170nm,0.2s							
KCPM				IAML		10 10 05.1	
comp=N,117nm,0.2s							
KHBM	**Hayfork Bally**	**1.20**	**80**		Pn	10 09 49.2	-1.6
KOMM	**Orleans Mounta**	**1.29**	**50**		Pn	10 09 50.4	-1.6
KBNM	**Bluenose Ridge**	**1.33**	**115**		Pn	10 09 51.9	-0.7
WEAV	**Weaverville**	**1.39**	**77**		Pn	10 09 51.6	-1.7
LBPM	**Beegum Peak**	**1.45**	**95**		Pn	10 09 52.9	-1.2
DCMP	**DeCamp, Califo**	**1.48**	**132**		Pn	10 09 53.0	-1.4
O02D	**Mt. Diablo Mer**	**1.54**	**100**		Pn	10 09 54.6	-0.8
N02D	**Trinity Center**	**1.65**	**71**		Pn	10 09 55.4	-1.4
GROM	**Round Mountain**	**1.69**	**108**		Pn	10 09 57.2	-0.3
LBKM	**Bonanza King**	**1.71**	**68**		Pn	10 09 56.4	-1.4
M02C	**Callahan**	**1.72**	**57**		Pn	10 09 56.3	-1.6
GVV	**Valley View**	**1.74**	**112**		Pn	10 09 57.7	-0.5
KBO	**Bosley Butte**	**1.80**	**13**	Pn	Pn	10 09 57.1	-1.8
KBO				IAML		10 10 18.4	
comp=N,82nm,0.3s							
L02F	**Cave Junction**	**1.89**	**28**		Pn	10 09 59.4	-0.8
L02F				IAML		10 10 22.4	
comp=N,40nm,0.4s							
L02F				IAML		10 10 22.9	
comp=E,42nm,0.3s							
HOPS	**Hopland Field**	**1.96**	**138**	Pn	Pn	10 09 59.9	-1.2
HOPS				IAML		10 10 28.7	
comp=E,55nm,3.3s							
HOPS				IAML		10 11 08.8	
comp=N,62nm,2.8s							
LAMM	**Antelope Mount**	**1.99**	**54**		Pn	10 10 00.4	-1.2
YBH	**Yreka Blue Hor**	**2.01**	**50**	Pn	Pn	10 10 00.6	-1.2
LTCM	**Tuscan Springs**	**2.04**	**96**		Pn	10 10 01.6	-0.5
LCSM	**College of the**	**2.04**	**61**		Pn	10 10 01.5	-0.7
LSHM	**Sage Hen Hill**	**2.10**	**80**		Pn	10 10 02.2	-0.8
LGBM	**Gray Butte**	**2.14**	**65**		Pn	10 10 03.6	-0.2
M03C	**McCloud**	**2.17**	**67**		Pn	10 10 04.2	+0.2
M03C				IAML		10 10 24.2	
comp=E,27nm,3.1s							
O03E	**Paynes Creek**	**2.27**	**93**		Pn	10 10 04.2	-1.2
O03E	**Paynes Creek**	**2.27**	**93**	IAML		10 10 30.4	
comp=N,26nm,3.6s							
O03E				IAML		10 10 37.4	
comp=E,29nm,2.6s							
LDBM	**Digger Butte**	**2.27**	**90**		Pn	10 10 04.4	-1.1
LBFM	**Black Fox Moun**	**2.35**	**67**		Pn	10 10 06.0	-0.6
K02D	**Willamette Mer**	**2.38**	**20**	Pn	Pn	10 10 06.9	-0.1
K02D				IAML		10 10 33.6	
comp=E,47nm,0.2s							
K02D				IAML		10 10 33.7	
comp=N,37nm,0.3s							
LMEM	**Manzanita Entr**	**2.44**	**87**		Pn	10 10 06.9	-0.9
LRDM	**Redding Peak**	**2.52**	**89**		Pn	10 10 08.3	-0.5
OSUM	**Sutter Buttes**	**2.54**	**117**		Pn	10 10 07.8	-1.1
HATC	**Hat Creek Radi**	**2.54**	**81**		Pn	10 10 09.4	+0.3
HATC				IAML		10 10 29.6	
comp=E,38nm,3.6s							
HATC				IAML		10 10 30.0	
comp=N,33nm,2.5s							
L04D	**Klamath Falls**	**2.56**	**46**	Pn	Pn	10 10 10.1	+0.7
L04D				IAML		10 10 41.8	
comp=N,44nm,0.6s							
L04D				IAML		10 10 42.0	
comp=E,30nm,0.5s							
LBCM	**Butte Creek Ri**	**2.63**	**81**		Pn	10 10 09.4	-1.0
MCCM	**Marconi Confer**	**2.73**	**147**	Pn	Pn	10 10 10.5	-1.2
J01E	**Myrtle Point**	**2.77**	**13**	Pn	Pn	10 10 12.6	+0.3
J01E				IAML		10 10 55.5	
comp=E,30nm,2.4s							
J01E				IAML		10 11 57.7	
comp=N,25nm,4.2s							
AFDM	**Forest Hills D**	**3.29**	**116**	Pn	Pn	10 10 18.4	-1.0
AFDM				IAML		10 12 02.1	
comp=E,11nm,4.4s							
I03D	**Drain, OR**	**3.41**	**18**	Pn	Pn	10 10 20.9	0.0
I03D				IAML		10 11 01.2	
comp=N,14nm,3.5s							
I03D				IAML		10 11 35.0	
comp=E,16nm,4.2s							
I02E	**Swisshome, OR**	**3.71**	**10**	Pn	Pn	10 10 24.7	-0.4
J05D	**Fort Rock, OR**	**3.86**	**42**	Pn	Pn	10 10 28.2	+0.8
J05D				IAML		10 11 22.4	
comp=N,13nm,4.3s							
J05D				IAML		10 12 50.7	
comp=E,14nm,3.4s							
PAHR	**Pah Rah Range**	**4.20**	**99**	Pn	Pn	10 10 31.0	-1.0
PAHR				IAML		10 11 45.9	
comp=E,10.0nm,4.8s							
PAHR				IAML		10 12 35.2	
comp=N,9.0nm,4.7s							
PNTR	**Pine Nut**	**4.21**	**107**	Pn	Pn	10 10 33.1	+0.9
PNTR				IAML		10 11 04.0	
comp=N,8.6nm,4.6s							
H04A	**Detroit Lake**	**4.63**	**23**	Pn	Pn	10 10 38.2	+0.3
BJCM	**Johnson Can.**	**4.72**	**145**		Pn	10 10 34.8	-4.2
LRV	**Little Rabbit**	**4.99**	**143**		Pb	10 10 51.1	-4.9

IDC ***02*** *10:10:21.6±0.8, 14°.52N×54°.21E, h0km, mb4.0/19, mbtmp4.0/19, MS3.6/35, Error ellipse: s-maj=20.2km s-min=16.4km az=176.0*
NEIC ***02*** *10:10:24.8±1.3, 14°.60N±0°.06×54°.1E±0°.1, h10km±1km, mb4.3/19, Error ellipse: s-maj=24.2km s-min=3.8km az=112.0*
ISC 02 10:10:24.8±0.6, 14°.5N±0°.1×54°.21E±0°.09, h19km, n87, σ1§02/61, mb4.2/44, MS3.5/35, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**11.46**	**256**	LR	LR	10 16 21.1	
comp=Z,11nm,20.2s,baz=359,slow=31							
HRA	**Herat**	**21.08**	**19**	P	**P**	**10 15 10.6**	**+2.3**
HRA				IAmb	IAmb	10 15 13.5	
comp=Z,7.4nm,1.0s							
LODK	**Lodwar**	**21.61**	**241**	P	**P**	**10 15 15.1**	**+1.2**
KMBO	**Kilima Mbogo**	**22.87**	**229**	P	**P**	**10 15 28.4**	**+0.7**
KMBO				IAmb	IAmb	10 15 34.4	
comp=Z,6.0nm,1.0s							
KMBO	**Kilima Mbogo**	**22.87**	**229**	P	**P**	**10 15 27.8**	**+0.1**
comp=Z,1.8nm,0.5s,baz=8.7,slow=5.1,SNR=4.6							
KMBO				LR	LR	10 23 57.4	
comp=Z,68nm,19.7s,baz=88,slow=36							
comp=Z,1.8nm,0.5s							
KIBK	**Kibwezi**	**23.17**	**225**	P	**P**	**10 15 30.1**	**-0.4**
EIL	**Elat**	**23.31**	**314**	P	**P**	**10 15 33.0**	**+1.3**
comp=Z,6.3nm,1.1s,baz=54,slow=8.7,SNR=3.5							
comp=Z,6.3nm,1.1s							
ASF	**Jabal al Asfar**	**23.64**	**321**	P	**P**	**10 15 35.3**	**+0.2**
comp=Z,3.1nm,0.8s,baz=126,slow=8.7,SNR=2.6							
ASF				LR	LR	10 25 21.3	
comp=Z,116nm,19.5s,baz=151,slow=38							
comp=Z,3.1nm,0.8s							

KBL	Kabul	24.02	31	P	P	10 15 39.0	+0.1
MMAI	Mount Meron Ar	25.14	320	P	P	10 15 50.9	+2.1
	comp=Z,3.5nm,0.7s,baz=22,slow=12,SNR=2.6						
MMAI				LR	LR	10 26 28.3	
	comp=Z,92nm,19.8s,baz=143,slow=38						
MARD	Mardin	25.66	335	P	P	10 15 53.4	-0.3
MARD				IAmb	IAmb	10 15 56.9	
	comp=Z,7.1nm,0.7s						
GEVA	Gevas	25.68	339	P	P	10 15 53.1	-0.8
GURO	Guroymak-BITLI	26.25	338	P	P	10 15 59.1	+0.1
GURO				IAmb	IAmb	10 16 11.2	
	comp=Z,7.4nm,1.2s						
GNI	Garni	26.86	344	P	P	10 16 08.4	+4.0
	comp=Z,12nm,0.9s,baz=190,slow=6.0,SNR=3.3						
GNI				LR	LR	10 28 13.6	
	comp=Z,78nm,20.9s,baz=160,slow=40						
PALK	Pallekele	26.97	103	LR	LR	10 24 55.0	
	comp=Z,65nm,21.4s,baz=310,slow=32						
KBZ	Khabaz	30.69	344	LR	LR	10 30 58.9	
	comp=Z,106nm,21.6s,baz=170,slow=40						
BRTR	Keskin Array B	30.93	328	LR	LR	10 30 55.2	
	comp=Z,96nm,18.3s,baz=116,slow=40						
KVAR	Kislovodsk Arr	30.95	344	LR	LR	10 32 00.6	
	comp=Z,156nm,19.2s,baz=86,slow=42						
AAK	Ala-Archa	33.03	28	LR	LR	10 31 58.3	
	comp=Z,49nm,18.8s,baz=232,slow=39						
IDI	Anoyia	33.49	313	LR	LR	10 32 51.3	
	comp=Z,93nm,21.9s,baz=320,slow=40						
OPO	Ambohidratompo	33.59	192	LR	LR	10 28 22.6	
	comp=Z,134nm,20.6s,baz=212,slow=32						
WUS	Wushi	34.34	34	P	P	10 17 11.5	+1.0
WUS				IAmb	IAmb	10 17 14.8	
	comp=Z,2.6nm,0.9s						
ABKAR	Akbulak array	34.97	7	P	P	10 17 15.4	-0.2
AKTO	Aktyubinsk	35.96	4	P	P	10 17 23.8	-0.4
	comp=Z,5.6nm,0.9s,baz=205,slow=7.8,SNR=15						
AKTO				LR	LR	10 33 27.4	
	comp=Z,88nm,19.3s,baz=48,slow=38						
	comp=Z,5.6nm,0.9s						
SHL	Shillong	36.94	67	P	P	10 17 33.0	-0.2
SHL				IAmb	IAmb	10 17 38.1	
	comp=Z,3.7nm,0.6s						
BELG	Belogornoye	38.16	353	LR	LR	10 37 20.4	
	comp=Z,77nm,19.6s,baz=194,slow=42						
LSZ	Lusaka	39.21	222	LR	LR	10 33 34.0	
	comp=Z,84nm,21.0s,baz=100,slow=36						
MK31	Makanchi Array	39.83	30	P	P	10 17 58.0	+1.1
MKAR	Makanchi Array	39.83	30	P	P	10 17 56.6	-0.3
MKAR	Makanchi Array	39.83	30	P	P	10 17 57.0	+0.1
	comp=Z,0.4nm,0.5s,baz=212,slow=8.4,SNR=5.0						
MKAR				LR	LR	10 36 34.9	
	comp=Z,47nm,20.1s,baz=258,slow=40						
	comp=Z,0.4nm,0.5s						
BVAR	Borovoye Array	40.51	15	P	P	10 18 02.4	-0.1
	comp=Z,0.9nm,0.6s,baz=206,slow=9.1,SNR=4.1						
BVAR				LR	LR	10 36 15.3	
	comp=Z,92nm,19.1s,baz=236,slow=38						
	comp=Z,0.9nm,0.6s						
BRVK	Borovoye	40.52	15	P	P	10 18 02.7	+0.2
BRVK				IAmb	IAmb	10 18 16.2	
	comp=Z,3.1nm,0.9s						
BURAR	Bucovina Array	40.84	330	P	P	10 18 05.5	0.0
KURBB	Kurchatov Arra	41.05	24	P	P	10 18 07.4	+0.4
	comp=Z,0.9nm,0.8s,baz=223,slow=8.2,SNR=10						
KURBB				LR	LR	10 36 29.1	
	comp=Z,77nm,20.9s,baz=168,slow=38						
	comp=Z,0.9nm,0.8s						
KURK	Kurchatov	41.16	24	P	P	10 18 08.9	+1.0
KURK				IAmb	IAmb	10 18 23.9	
	comp=Z,5.8nm,1.4s						
AKASG	Malin Array Be	41.38	336	P	P	10 18 08.2	-1.4
	comp=Z,1.2nm,0.7s,baz=137,slow=7.3,SNR=5.9						
AKASG				LR	LR	10 38 32.6	
	comp=Z,40nm,19.0s,baz=246,slow=41						
	comp=Z,1.2nm,0.7s						
ARTI	Arti	41.92	3	LR	LR	10 37 07.8	
	comp=Z,74nm,19.4s,baz=202,slow=38						
CMAR	Chiang Mai Arr	43.00	78	P	P	10 18 23.9	+0.6
CMAR	Chiang Mai Arr	43.00	78	P	P	10 18 24.1	+0.7
	comp=Z,1.0nm,0.3s,baz=283,slow=8.5,SNR=5.3						
	comp=Z,1.0nm,0.3s						
FDMO	Fiordimonte	45.23	317	P	P	10 18 41.4	+0.4
KEST	Kesra	45.31	306	P	P	10 18 42.0	+0.2
	comp=Z,4.8nm,0.9s,baz=82,slow=14,SNR=2.4						
	comp=Z,4.8nm,0.9s						
RONA	Rosalia, Austr	45.59	324	*i* P	P	10 18 42.9	-0.9
	comp=Z,4.1nm,1.0s						
SOKA	Soboth	45.77	323	*i* P	P	10 18 44.9	-0.3
	comp=Z,2.1nm,0.7s						
CONA	Conrad Observa	45.97	325	*ep*P	P	10 18 46.5	-0.2
	comp=Z,6.6nm,1.1s						
OBKA	Obir	45.97	322	*ep*P	P	10 18 46.7	-0.1
	comp=Z,6.5nm,1.3s						
ZAA0	Zalesovo Array	46.09	25	P	P	10 18 48.1	+0.7
ZAA0				IAmb	IAmb	10 18 48.9	
	comp=Z,3.7nm,1.2s						
ZALV	Zalesovo Beam	46.09	25	P	P	10 18 46.8	-0.7
ZALV	Zalesovo Beam	46.09	25	P	P	10 18 46.3	-1.2
	comp=Z,0.7nm,0.6s,baz=224,slow=6.0,SNR=4.1						
ZALV				LR	LR	10 38 14.6	
	comp=Z,42nm,18.4s,baz=316,slow=36						
	comp=Z,0.7nm,0.6s						
MYKA	Terra Mystica	46.57	322	*i* pP	P	10 18 51.4	-0.1
	comp=Z,3.8nm,0.8s						
TAM	Tamanrasset	46.69	288	P	P	10 18 52.6	-0.3
TAM				IAmb	IAmb	10 18 53.8	
	comp=Z,5.4nm,0.9s						
ABTA	Abfaltersbach	47.31	322	*i* P	P	10 18 56.9	-0.4
	comp=Z,9.5nm,1.9s						
LESA	Schwarzleotal	47.54	322	*e*P	P	10 18 57.6	-1.5
	comp=Z,3.7nm,0.9s						
WTTA	Wattenberg	48.08	322	*i* P	P	10 19 02.4	-1.0
	comp=Z,5.9nm,0.9s						
WATA	Walderalm	48.15	322	*i* P	P	10 19 02.7	-1.2
	comp=Z,5.7nm,1.0s						
LBTB	Lobatse	48.19	216	P	P	10 19 05.2	+0.9
LBTB				IAmb	IAmb	10 19 19.6	
	comp=Z,6.4nm,1.2s						
LBTB	Lobatse	48.19	216	LR	LR	10 38 20.8	
	comp=Z,57nm,20.3s,baz=40,slow=35						
SQTA	Sankt Quirin	48.32	322	*i* P	P	10 19 04.0	-1.2
	comp=Z,4.2nm,0.8s						
MOTA	Moosalm	48.44	322	*i* P	P	10 19 04.7	-1.4
	comp=Z,8.5nm,0.9s						
RETA	Reutte	48.71	322	*e*P	P	10 19 06.6	-1.5
	comp=Z,5.8nm,1.4s						
DAVOX	Davos/Dischmat	48.93	320	LR	LR	10 41 32.9	
	comp=Z,103nm,18.1s,baz=106,slow=38						
DAVA	Damuels	49.15	321	*i* pP	P	10 19 11.2	-0.4
	comp=Z,7.2nm,0.9s						
SENIN	Lac Senin/Sane	50.37	319	P	P	10 19 20.7	-0.3
FINES	FINESS Array B	51.04	343	P	P	10 19 24.5	-1.0
FINES	FINESS Array B	51.04	343	P	P	10 19 24.3	-1.2
	comp=Z,2.8nm,0.9s,baz=134,slow=8.2,SNR=5.9						
FINES				LR	LR	10 44 30.6	
	comp=Z,34nm,18.3s,baz=91,slow=40						
	comp=Z,2.8nm,0.9s						
BOSA	Boshof	51.21	213	LR	LR	10 40 28.3	
	comp=Z,34nm,18.8s,baz=23,slow=35						
HFS	Hagfors	54.26	336	LR	LR	10 45 06.7	
	comp=Z,68nm,18.8s,baz=244,slow=38						
SONM	Songino Array	54.27	41	P	P	10 19 50.4	+0.6
	comp=Z,1.0nm,0.9s,baz=232,slow=7.2,SNR=6.0						
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	55.79	336	LR	LR	10 47 08.8	
	comp=Z,43nm,18.6s,baz=265,slow=40						
ESDC	Sonseca Array	56.46	308	P	P	10 20 04.9	-0.7
ESDC	Sonseca Array	56.46	308	P	P	10 20 04.3	-1.3
	comp=Z,1.6nm,0.8s,baz=86,slow=5.6,SNR=11						
ESDC				LR	LR	10 45 25.2	
	comp=Z,76nm,18.1s,baz=226,slow=37						
	comp=Z,1.6nm,0.8s						
SUR	Sutherland	56.53	214	LR	LR	10 43 54.3	
	comp=Z,40nm,20.6s,baz=92,slow=36						
ARCES	ARCESS Array B	57.87	348	P	P	10 20 13.8	-1.2
	comp=Z,4.7nm,0.9s,baz=114,slow=5.4,SNR=6.0						
ARCES				LR	LR	10 48 33.7	
	comp=Z,62nm,19.6s,baz=262,slow=40						
	comp=Z,4.7nm,0.9s						
DBIC	Dimbokro	58.45	269	P	P	10 20 20.1	+0.1
	comp=Z,6.1nm,0.9s,baz=76,slow=10,SNR=7.8						
	comp=Z,6.1nm,0.9s						
NRIK	Noril'sk	58.67	13	LR	LR	10 47 32.8	
	comp=Z,62nm,20.4s,baz=234,slow=38						
KSRS	Korea Array	68.48	55	P	P	10 21 24.7	-1.3
	comp=Z,1.1nm,0.7s,baz=268,slow=7.7,SNR=7.8						
	comp=Z,1.1nm,0.7s						
YAK	Yakutsk	70.48	29	LR	LR	10 53 55.8	
	comp=Z,37nm,19.7s,baz=256,slow=37						
H01W3	Cape Leeuwin H	75.09	133	T	T	11 44 18.0	
	baz=300,slow=76,SNR=17						
H01W2	Cape Leeuwin H	75.10	133	T	T	11 44 19.7	
	baz=300,slow=76,SNR=18						
H01W1	Cape Leeuwin H	75.11	133	T	T	11 44 20.4	
	baz=300,slow=76,SNR=20						
SFJD	Kangerlussuaq	82.44	337	LR	LR	11 03 13.8	
	comp=Z,41nm,18.9s,baz=115,slow=38						
WRA	Warramunga Arr	85.89	112	P	P	10 23 03.5	-0.5
	comp=Z,0.7nm,0.8s,baz=298,slow=3.7,SNR=5.4						
	comp=Z,0.7nm,0.8s						
ASAR	Alice Springs	86.59	115	P	P	10 23 06.8	-0.7
	comp=Z,0.7nm,0.8s,baz=290,slow=4.9,SNR=6.5						
	comp=Z,0.7nm,0.8s						
RES	Resolute Bay	88.90	352	LR	LR	11 09 19.3	
	comp=Z,42nm,18.2s,baz=12,slow=40						
FRB	Frobisher Bay	90.58	338	LR	LR	11 08 40.2	
	comp=Z,64nm,18.0s,baz=10,slow=39						
ILAR	Eielson Array	99.34	9	LR	LR	11 15 00.6	
	comp=Z,26nm,18.9s,baz=28,slow=39						
NVAR	Mina Array Bea	126.88	353	PKP	PKiKP	10 29 28.4	-0.1
	comp=Z,0.7nm,0.9s,baz=33,slow=3.4,SNR=4.0						
TXAR	Lajitas Array	131.46	334	PKP	PKiKP	10 29 37.8	0.0
	comp=Z,0.2nm,0.7s,baz=312,slow=2.8,SNR=2.0						

NEIC 02 10:20:39.5±0.5, 36°.66N±0°.01×98°.47W±0°.02, h5km±1km, mb_Lg2.8/48, ML3.1/42, Error ellipse: s-maj=3.1km s-min=1.9km az=311.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.29	231		Pg	10 20 46.0	+0.8
NOKA	Waynoka	0.38	266		Pg	10 20 47.2	+0.4
NOKA				Sg	Sg	10 20 53.0	+1.2
NOKA				IAML		10 20 53.4	
	comp=N,2μm,0.2s						
CROK	Carrier	0.42	112		Pg	10 20 48.4	+0.9
CROK				Sg	Sg	10 20 54.3	+1.3
CROK				IAML		10 20 58.8	
	comp=N,2μm,0.3s						
KAN14	Manchester OK	0.50	54		Pg	10 20 49.6	+0.5
KAN14				Sg	Sg	10 20 56.5	+0.9
GC02	Grant County #	0.52	68		Pg	10 20 50.3	+0.7
GC02				Sg	Sg	10 20 57.4	+1.0
KAN05	Bluff City Nor	0.65	47		Pg	10 20 52.6	+0.6
KAN05				Sg	Sg	10 21 01.4	+0.9
KAN05				IAML		10 21 02.8	
	comp=N,2μm,0.2s						
KAN05				IAML		10 21 04.3	
	comp=E,1μm,0.2s						
KAN17	Caldwell West	0.68	56		Pg	10 20 52.8	+0.2
KAN17				IAML		10 21 02.4	
	comp=N,913nm,0.3s						
KAN17				IAML		10 21 02.5	
	comp=E,1μm,0.3s						
KAN08	Anthony NE Sta	0.69	35		Pg	10 20 52.9	+0.2
KAN08				IAML		10 21 02.8	
	comp=N,765nm,0.3s						
KAN12	Harper NE Stat	0.74	30		Pg	10 20 53.8	+0.1
KAN12				IAML		10 21 11.1	
	comp=E,1μm,0.3s						
KAN12				IAML		10 21 16.6	
	comp=N,1μm,0.4s						
KAN01	Argonia South	0.75	49		Pg	10 20 54.1	+0.2
KAN01				IAML		10 21 04.8	
	comp=N,691nm,0.3s						
KAN09	Caldwell North	0.83	55		Pg	10 20 55.5	+0.1
KAN13	South Haven SW	0.87	66		Pg	10 20 56.0	-0.1
KAN13				IAML		10 21 10.7	
	comp=N,629nm,0.3s						
KAN13				IAML		10 21 13.0	
	comp=E,566nm,0.3s						
ELIS	Ellis County	0.97	233		Pg	10 20 58.5	+0.3
ELIS				IAML		10 21 18.9	
	comp=N,610nm,0.3s						
ELIS				IAML		10 21 20.6	
	comp=E,644nm,0.3s						
BLOK	Blackwell	1.01	84		Pg	10 20 58.8	-0.1
BLOK				IAML		10 21 14.0	
	comp=E,731nm,0.2s						
BLOK				IAML		10 21 14.4	
	comp=N,766nm,0.2s						
CSTR	Hydro, Custer	1.03	190		Pb	10 20 59.6	-0.2
OK029	Liberty Lake	1.19	136		Pg	10 21 02.3	0.0
OK029				IAML		10 21 18.7	
	comp=N,479nm,0.8s						
OK029				IAML		10 21 21.3	
	comp=N,393nm,0.5s						
OK051	E0350 and S346	1.32	96		Pn	10 21 04.4	-0.2
ADOK	Arcadia Dam	1.34	138		Pn	10 21 04.8	0.0
OK031	S. Brethren Rd	1.49	118		Pb	10 21 07.7	0.0
OK052	Battle Ridge R	1.50	116		Pb	10 21 07.5	-0.3
QUOK	Quay	1.50	109		Pb	10 21 07.6	-0.2
OKCSW	OKLAHOMA CITY	1.50	146		Pn	10 21 07.4	+0.3
FNO	Franklin	1.65	148		Pb	10 21 09.8	-0.6
DEOK	Depew	1.79	117		Pb	10 21 11.9	-0.8
WMOK	Wichita Mounta	1.94	188		Pn	10 21 13.9	+0.8
W35A	Tecumseh	1.98	139		Pn	10 21 14.3	+0.6
X34A	Smith Ranch, M	2.12	166		Pb	10 21 17.1	-1.3
SMWD	Samnorwood	2.12	223	Pn	Pb	10 21 17.6	-0.8
CBKS	Cedar Bluff	2.37	335		Pb	10 21 21.5	-1.3
CBKS				IAmb_Lg		10 21 55.4	
	comp=Z,36nm,0.7s						
KSU1	Kansas State U	2.84	31		Pn	10 21 26.9	+1.3
KSU1				IAmb_Lg		10 22 17.2	
	comp=Z,27nm,0.9s						
WTFS	Witchita Falls	2.89	180		Pn	10 21 26.4	+0.2
AMTX	Amarillo	3.16	237	IAmb_Lg		10 22 28.2	
	comp=Z,43nm,0.9s						
RTBA	Rita Blanca	3.45	268		Pn	10 21 35.5	+1.5
DKNS	Dickens	3.60	215	Pn	Pn	10 21 36.4	+0.3
HHAR	Hobbs	3.67	95		Pn	10 21 37.9	+1.0
FW06	Azle	3.75	168	Pn	Pn	10 21 39.7	+1.6
SN07	Snyder 07	4.08	210	Pn	Pn	10 21 44.0	+1.4
SN07				IAmb_Lg		10 22 58.2	
	comp=Z,15nm,0.7s						
SN05	Snyder 5	4.27	209	IAmb_Lg		10 22 57.7	
	comp=Z,25nm,0.9s						
TREL	Terrell	4.38	153	IAmb_Lg		10 23 03.6	
	comp=Z,21nm,0.8s						
MIAR	Mount Ida	4.51	116	Pn	Pn	10 21 50.3	+1.9
MIAR				IAmb_Lg		10 23 05.8	
	comp=Z,14nm,0.8s						
T25A	Trinidad	4.79	277	Pn	Pn	10 21 53.2	+0.7
T25A				IAmb_Lg		10 23 13.8	
	comp=Z,18nm,0.8s						
MGMO	Mountain Grove	4.99	82	Pn	Pn	10 21 56.1	+1.0
MGMO				IAmb_Lg		10 23 26.9	
	comp=Z,12nm,0.7s						
X40A	Basin Creek Fa	5.08	114	IAmb_Lg		10 23 25.0	
	comp=Z,14nm,0.8s						
OGNE	Ogallala	5.11	328	Pn	Pn	10 21 58.6	+1.9
WHAR	Wooly Hollow	5.19	103	IAmb_Lg		10 23 31.3	
	comp=Z,17nm,0.7s						
SGCY	Sterling City	5.22	206	IAmb_Lg		10 23 28.6	
	comp=Z,15nm,0.7s						
WLAR	White Oak Lake	5.29	123	IAmb_Lg		10 23 39.7	
	comp=Z,12nm,0.8s						
UALR	University of	5.32	109	IAmb_Lg		10 23 38.4	
	comp=Z,13nm,0.8s						
BRDY	Brady	5.38	185	Pn	Pn	10 21 59.9	-0.6
Q24A	Divide	5.77	295	IAmb_Lg		10 23 42.1	
	comp=Z,15nm,0.8s						
BRIGG	Briggsdale	6.03	312	IAmb_Lg		10 23 55.7	
	comp=Z,19nm,0.9s						
K30B	Basset	6.07	352	IAmb_Lg		10 23 59.5	
	comp=Z,14nm,0.8s						
ISCO	Idaho Springs	6.44	301	IAmb_Lg		10 24 14.0	
	comp=Z,9.9nm,1.0s						
PBMO	Poplar Bluff	6.46	87	IAmb_Lg		10 24 17.2	
	comp=Z,19nm,1.1s						
FVM	French Village	6.54	76	IAmb_Lg		10 24 05.5	
	comp=Z,14nm,0.9s						
ECSD	EROS Data Cent	7.21	11	Pn	Pn	10 22 24.1	-1.4
N23A	Red Feather La	7.21	308	IAmb_Lg		10 24 45.9	
	comp=Z,16nm,0.9s						
L42A	Oliver, Polo	8.65	49	IAmb_Lg		10 25 23.6	
	comp=Z,9.6nm,0.8s						

*IDC **02** 10:25:10.7±1.8, 6°.77S×129°.55E, h0km, mb3.5/2, mbtmp3.8/4, ML4.1/2, Error ellipse: s-maj=110.6km s-min=29.8km az=68.0*

*DJA **02** 10:25:24.0±0.4, 7°.S±3°.×13°.0E±°, h165km±11km, M4.4/12, mB4.9/4, mb4.4/8, MLv4.5/12, Mw(mB)4.2/4*

ISC 02 10:25:24.2±0.9, 7°.07S±0°.06×129°.90E±0°.08, h150km, n20, σ2°.66/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.67	123	P	Pn	10 25 58.1	+2.6
SAUI	Saumlaki	1.67	123	P	Pn	10 25 57.8	+2.3
BNDI	Bandanaira	2.53	0	P	Pn	10 26 07.4	+1.7
MSAI	Masohi	3.82	345	P	Pn	10 26 24.3	+2.2
FAKI	Fak Fak	4.74	30	P	Pn	10 26 33.4	-0.8
FAKI	Fak Fak	4.74	30	P	Pn	10 26 33.1	-1.1
KMPI	Kaimana, Papua	5.08	48	P	Pn	10 26 40.4	+1.7
KMPI				S	Sn	10 27 31.9	-5.0
DRS	Darwin Rock St	5.42	170	P	Pn	10 26 44.2	+0.9
MTN	Manton Dam	5.87	168	P	Pn	10 26 50.2	+1.0
KDU	Kakadu	6.14	156	P	Pn	10 26 53.4	+0.6
SOEI	Soe	6.18	244	P	Pn	10 26 52.3	-1.1
	0.7nm36nm,1.1s						
SWI	Sorong	6.31	13	P	Pn	10 26 54.0	-1.1
	0.2nm2μm27nm,0.4s						
RKPI	Ransiki, Papua	6.98	38	P	Pn	10 27 03.6	-0.4
	6μm78nm,0.6s						
BAKI	Biak	8.51	47	P	Pn	10 27 26.8	+2.3
FITZ	Fitzroy Crossi	11.72	200	P	Pn	10 28 05.8	-1.1
WRA	Warramunga Arr	13.51	162	Pn	Pn	10 28 28.7	-1.2
	1.1nm,0.3s,baz=340,slow=14,SNR=26						
WRA				Sn	Sn	10 30 47.2	-12
	1.5nm,0.3s,baz=338,slow=22,SNR=11						
	3.4nm,0.6s						
COEN	Coen	14.74	119	P	P	10 28 49.7	+2.1
ASAR	Alice Springs	16.95	167	P	Pn	10 29 14.3	+1.8
	0.7nm,0.3s,baz=342,slow=14,SNR=30						
ASAR				S	S	10 32 13.6	-7.5
	2.1nm,0.7s,baz=356,slow=27,SNR=6.5						
	1.8nm,0.5s						
MKAR	Makanchi Array	68.22	327	P	P	10 36 10.6	+1.9
	0.3nm,0.4s,baz=122,slow=7.7,SNR=6.7						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	72.51	329	P	P	10 36 36.7	+2.2
	0.2nm,0.5s,baz=122,slow=5.5,SNR=2.9						
	0.2nm,0.5s						

*NOU **02** 10:42:21.8, 36°.67S×178°.03E, h197km, MLv3.8/14, Off E. Coast of N. Island, N.Z.*
*WEL **02** 10:42:25.4±1.1, 36°.S±11°.×17°.8E±°, h148km±16km, M3.1/9, ML3.2/7, MLv3.1/9, Error ellipse: s-maj=14.8km s-min=9.0km az=26.6, confirmed*

ISC 02 10:42:20.2±2.9, 36°.5S±0°.1×177°.9E±0°.1, h201km±14km, n30, σ1°.58/41, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.08	164	P	Pn	10 42 51.4	+0.8
MXZ	Matakaoa Point	1.08	164	S	S	10 43 12.2	-1.9
MXZ	Matakaoa Point	1.08	164	P	Pn	10 42 51.0	+0.5
MXZ				S	S	10 43 11.7	-2.5
HAZ	Te Kaha	1.24	186	P	Pn	10 42 52.5	+0.7
HAZ				S	S	10 43 14.2	-1.9
PKGZ	Pakihiroa	1.35	175	P	Pn	10 42 54.0	+1.4
PKGZ				S	S	10 43 16.6	-1.2
WMGZ	Waiomatatini S	1.35	164	P	Pn	10 42 54.0	+1.4
WMGZ				S	S	10 43 17.4	-0.3
RUGZ	Raukumara Rang	1.46	188	P	Pn	10 42 54.8	+1.1
RUGZ				S	S	10 43 17.1	-2.5
PUZ	Puketiti	1.57	171	P	Pn	10 42 56.1	+1.4
PUZ				S	S	10 43 18.7	-2.4
TWGZ	Tauwhareparae	1.66	179	P	Pn	10 42 57.5	+2.1
TWGZ				S	S	10 43 23.3	+0.8
OPRZ	Ohinepanea	1.73	219	P	Pn	10 42 57.1	+1.1
MARZ	Manawahe	1.78	214	P	Pn	10 42 58.3	+1.7
MARZ				S	S	10 43 22.9	-1.6
KUZ	Kuaotunu	1.80	262	P	Pn	10 42 57.5	+0.8
KUZ	Kuaotunu	1.80	262	P	Pn	10 42 57.3	+0.6
TGRZ	Tauranga	1.81	227	P	Pn	10 42 58.3	+1.5
MWZ	Matawai	1.84	190	P	Pn	10 42 58.9	+1.7
MWZ				S	S	10 43 25.5	-0.1
URZ	Urewera	1.86	201	P	Pn	10 42 59.0	+1.7
URZ	Urewera	1.86	201	P	Pn	10 42 58.6	+1.4
URZ				S	S	10 43 25.1	-0.7
TBAS	Tolaga Bay Are	1.88	171	P	Pn	10 43 00.2	+2.8
TKGZ	Te Karaka	1.92	182	P	Pn	10 42 59.8	+2.0
TKGZ				S	S	10 43 26.5	-0.4
GRZ	Great Barrier	2.02	277	P	Pn	10 42 59.6	+0.7
BKZ	Black Stump Fm	2.88	203	P	Pn	10 43 09.9	+1.4
BKZ	Black Stump Fm	2.88	203	S	S	10 43 47.3	+1.6
WCZ	Waipu Caves	2.96	280	P	Pn	10 43 10.9	+1.5
HIZ	Hauiti	3.16	230	P	Pn	10 43 15.0	+3.3
BFZ	Birch Farm	4.37	197	P	Pn	10 43 26.9	+0.4
BFZ	Birch Farm	4.37	197	S	S	10 44 17.5	-0.7
SNZO	South Karori	5.41	207	P	Pn	10 43 39.4	-0.3
SNZO	South Karori	5.41	207	S	S	10 44 40.4	-1.9
QRZ	Quartz Range	6.04	223	P	Pn	10 43 47.5	-0.3
KHZ	Kahutara	6.80	209	P	Pn	10 43 57.0	-0.7

*IDC **02** 10:46:09.8±1.2, 9°.85S×150°.26E, h0km, mb3.9/6, mbtmp3.8/8, ML3.4/1, MS2.7/1, Error ellipse: s-maj=25.0km s-min=20.7km az=178.0*

ISC 02 10:46:15.4±1.2, 9°.9S±0°.2×150°.1E±0°.2, h35km, n8, σ0°.76/8, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.96	278	Pn	Pn	10 46 59.4	-0.7
	18nm,0.3s,baz=101,slow=5.8,SNR=18						
PMG				Lg	Lg	10 47 46.8	
	3.8nm,0.3s,baz=101,slow=14,SNR=3.0					

PAVE				*e*S		**Sn**	**10 49 33.5**	**-0.1**
RTAL	**Retalhuleu**	**0.94**	**103**	*e*P		**Pn**	**10 49 26.2**	**0.0**
RTAL				*e*S		**Sn**	**10 49 39.4**	**-0.1**
RTAL	**Retalhuleu**	**0.94**	**103**	P		**Pn**	**10 49 26.3**	**+0.1**
RTAL	**Retalhuleu**	**0.94**	**103**	P		**Pn**	**10 49 26.3**	**+0.1**
SOKI	**Kika Raxquin**	**1.20**	**86**	*i* P		**Pn**	**10 49 30.5**	**+0.7**
SOKI	**Kika Raxquin**	**1.20**	**86**	*i* P			10 49 30.5	
HUEH	**Huehuetenango**	**1.24**	**62**	*e*P		**Pn**	**10 49 31.4**	**+1.1**
HUEH				*e*S		**Sn**	**10 49 47.7**	**+1.2**
HUEH	**Huehuetenango**	**1.24**	**62**	P		**Pn**	**10 49 31.0**	**+0.8**
HUEH	**Huehuetenango**	**1.24**	**62**	S		**Sn**	**10 49 48.3**	**+1.8**
HUEH	**Huehuetenango**	**1.24**	**62**	P		**Pn**	**10 49 31.1**	**+0.9**
HUEH	**Huehuetenango**	**1.24**	**62**	*i* P		**Pn**	**10 49 30.8**	**+0.5**
HUEH				*i* S		**Sn**	**10 49 46.3**	**-0.2**
HUEH				IAML			10 49 50.1	
	comp=E,4μm,0.4s							
HUEH	**Huehuetenango**	**1.24**	**62**	*i* P			10 49 30.8	
HUEH				*i* S			10 49 46.3	
HUEH				IAML			10 49 50.1	
	comp=E,4μm,0.4s							
STG8	**El Palmar, Qui**	**1.28**	**103**	*i* P			10 49 26.8	
STG8				*i* S			10 49 39.3	
STG8				IAML			10 49 43.3	
	comp=N,8μm,0.2s							
STG0	**El Palmar, Qui**	**1.29**	**104**	*i* P			10 49 27.1	
STG0				IAML			10 49 43.0	
	comp=N,17μm,0.3s							
QUIS	**Sacapulas**	**1.59**	**70**	*i* P		**Pn**	**10 49 35.5**	**+0.7**
QUIS				*i* S		**Sn**	**10 49 53.9**	**-0.8**
QUIS	**Sacapulas**	**1.59**	**70**	*i* P			10 49 35.5	
QUIS				*i* S			10 49 53.9	
CCIG	**Comitan**	**1.61**	**17**	*e*P		**Pn**	**10 49 36.0**	**+1.0**
CCIG				*e*S		**Sn**	**10 49 53.2**	**-1.9**
CCIG	**Comitan**	**1.61**	**17**	P		Pn	10 49 31.0	-4.1
CCIG	**Comitan**	**1.61**	**17**	P		Pn	10 49 30.9	-4.1
CCIG	**Comitan**	**1.61**	**17**	S		**Sn**	**10 49 58.3**	**+3.2**
CCIG	**Comitan**	**1.61**	**17**	*i* P		**Pn**	**10 49 35.8**	**+0.7**
CCIG				*i* S		**Sn**	**10 49 51.9**	**-3.2**
CCIG	**Comitan**	**1.61**	**17**	*i* P			10 49 35.8	
CCIG				*i* S			10 49 51.9	
ESSG	**Sabana Grande**	**1.79**	**101**	*i* P		**Pn**	**10 49 37.4**	**+0.1**
ESSG	**Sabana Grande**	**1.79**	**101**	*i* P			10 49 37.4	
CARR	**Arriaga**	**1.94**	**321**	*i* P		**Pn**	**10 49 40.9**	**+1.6**
CARR				*e*S		**Sn**	**10 50 05.2**	**+2.5**
FG8	**Yepocapa, Chim**	**2.07**	**103**	*i* P			10 49 36.4	
TGIG		**2.08**	**347**	*e*P		**Pn**	**10 49 41.0**	**-0.3**
TGIG				*e*S		**Sn**	**10 50 05.0**	**-1.2**
TGIG		**2.08**	**347**	*i* P		**Pn**	**10 49 40.9**	**-0.3**
TGIG		**2.08**	**347**	*i* P			10 49 40.9	
APG	**El Apazote**	**2.12**	**83**	*i* P		**Pn**	**10 49 42.1**	**+0.2**
APG	**El Apazote**	**2.12**	**83**	*i* P			10 49 42.1	
NILT	**Santiago Nilte**	**2.63**	**314**	*e*P		**Pn**	**10 49 49.0**	**+0.4**
NILT				*e*S		**Sn**	**10 50 20.9**	**+1.3**
NUBE	**Las Nubes**	**2.89**	**106**	P		**Pn**	**10 49 52.6**	**+0.3**
NUBE	**Las Nubes**	**2.89**	**106**	S		**Sn**	**10 50 26.3**	**+0.2**
NUBE	**Las Nubes**	**2.89**	**106**	P		**Pn**	**10 49 52.6**	**+0.3**
NUBE	**Las Nubes**	**2.89**	**106**	*i* P		**Pn**	**10 49 52.4**	**0.0**
NUBE				*i* S		**Sn**	**10 50 23.9**	**-2.3**
NUBE	**Las Nubes**	**2.89**	**106**	*i* P			10 49 52.4	
NUBE				*i* S			10 50 23.9	
UXUV	**UXUV**	**2.94**	**331**	*e*P		**Pn**	**10 49 53.9**	**+1.0**
UXUV				*e*S		**Sn**	**10 50 26.5**	**-0.7**
CEVE	**Cerro Verde**	**3.06**	**107**	P		**Pn**	**10 49 55.4**	**+0.7**
CEVE	**Cerro Verde**	**3.06**	**107**	S		**Sn**	**10 50 32.3**	**+1.9**
CEVE	**Cerro Verde**	**3.06**	**107**	P		**Pn**	**10 49 56.5**	**+1.8**
CMIG	**Matias Romero**	**3.18**	**318**	*e*P		**Pn**	**10 49 57.1**	**+1.0**
CMIG				*e*S		**Sn**	**10 50 35.3**	**+2.3**
MTO3	**Montecristo**	**3.19**	**96**	P		**Pn**	**10 49 56.1**	**-0.3**
MTO3	**Montecristo**	**3.19**	**96**	P		**Pn**	**10 49 56.3**	**-0.2**
JAYA	**Jayaque - finc**	**3.27**	**109**	P		**Pn**	**10 49 58.0**	**+0.4**
JAYA	**Jayaque - finc**	**3.27**	**109**	P		**Pn**	**10 49 58.0**	**+0.4**
JAYA	**Jayaque - finc**	**3.27**	**109**	P		**Pn**	**10 49 58.6**	**+1.1**
JAYA	**Jayaque - finc**	**3.27**	**109**	*i* P		**Pn**	**10 49 57.6**	**+0.1**
JAYA				*i* S		**Sn**	**10 50 32.3**	**-3.2**
JAYA	**Jayaque - finc**	**3.27**	**109**	*i* P			10 49 57.6	
JAYA				*i* S			10 50 32.3	
CEDA	**San Andres**	**3.28**	**106**	P		**Pn**	**10 49 56.9**	**-0.7**
PETF	**Flores**	**3.43**	**51**	*e*P		**Pn**	**10 49 59.4**	**-0.2**
PETF				*e*S		**Sn**	**10 50 36.7**	**-2.4**
PETF	**Flores**	**3.43**	**51**	*i* P		**Pn**	**10 49 59.4**	**-0.2**
PETF	**Flores**	**3.43**	**51**	*i* P			10 49 59.4	
HUIG	**Huatulco**	**3.50**	**287**	*e*P		**Pn**	**10 50 00.2**	**-0.3**
HUIG				*e*S		**Sn**	**10 50 36.2**	**-4.6**
COEG	**Centro de Oper**	**3.81**	**107**	P		**Pn**	**10 50 05.7**	**+0.9**
COEG	**Centro de Oper**	**3.81**	**107**	P		**Pn**	**10 50 05.7**	**+0.9**
NEUV	**Arroyo Zacate**	**4.24**	**315**	*e*P		**Pn**	**10 50 13.4**	**+2.8**
NEUV				*e*S		**Sn**	**10 50 55.6**	**-3.3**
PMUV	**Sontecomapan**	**4.47**	**328**	*e*P		**Pn**	**10 50 13.7**	**-0.1**
PMUV				*e*S		**Sn**	**10 50 59.8**	**-4.9**
PEIG	**Puerto Escondi**	**4.53**	**287**	*e*P		**Pn**	**10 50 14.7**	**+0.2**
PEIG				*e*S		**Sn**	**10 51 01.1**	**-4.8**
VHO	**Vista Hermosa**	**4.57**	**301**	*e*S		**Sn**	**10 51 07.4**	**+0.1**
CNCH	**Conchagua**	**4.88**	**107**	P		**Pn**	**10 50 21.5**	**+2.0**
CNCH	**Conchagua**	**4.88**	**107**	P		**Pn**	**10 50 22.0**	**+2.5**
YOIG	**Yosondua**	**5.17**	**295**	*e*P		**Pn**	**10 50 25.9**	**+2.3**
YOIG				*e*S		**Sn**	**10 51 22.3**	**+0.2**
TOIG	**Toxpalan**	**5.40**	**309**	*e*P		**Pn**	**10 50 30.0**	**+3.4**
TOIG				*e*S		**Sn**	**10 51 26.7**	**-0.8**
TXIG	**Tlaxiaco**	**5.53**	**298**	*e*P		**Pn**	**10 50 30.5**	**+2.0**
TXIG				*e*S		**Sn**	**10 51 30.6**	**-0.3**
PNIG	**Pinotepa**	**5.54**	**288**	*e*P		**Pn**	**10 50 29.5**	**+1.1**
PNIG				*e*S		**Sn**	**10 51 30.2**	**-0.5**
TPIG	**Tehuac#an**	**5.82**	**310**	*e*P		**Pn**	**10 50 32.4**	**0.0**
TPIG				*e*S		**Sn**	**10 51 41.1**	**+3.3**
HLIG	**Huajuapan de L**	**5.83**	**302**	*e*P		Pn	10 50 37.2	+4.7
HLIG				*e*S		**Sn**	**10 51 36.2**	**-2.0**
QUEN	**Al S del Volca**	**6.01**	**110**	P		Pn	10 50 47.1	+12
QUEN	**Al S del Volca**	**6.01**	**110**	P		Pn	10 50 31.3	-3.7
JAUV	**Jalcomulco**	**6.08**	**320**	*e*P		**Pn**	**10 50 35.1**	**-0.7**
JAUV				*e*S		**Sn**	**10 51 39.9**	**-4.3**
FTIG	**Fresnillo de T**	**6.14**	**302**	*e*P		**Pn**	**10 50 37.2**	**+0.5**
FTIG				*e*S		**Sn**	**10 51 47.6**	**+1.9**
TLIG	**Tlapa**	**6.35**	**297**	*e*P		**Pn**	**10 50 43.6**	**+4.0**
TLIG				*e*S		**Sn**	**10 51 49.4**	**-1.4**
R4DEC	**Barrio San Lui**	**6.73**	**112**	P		Pn	10 50 39.6	-5.0
MGAN	**Managua**	**6.73**	**112**	P		Pn	10 50 39.6	-5.0
CXUV	**Coxquihui**	**7.18**	**320**	*e*P		**Pn**	**10 50 51.4**	**+0.6**
CXUV				*e*S		**Sn**	**10 52 08.5**	**-2.4**

*MEX **02** 10:51:41.9±1.4, 15°.20N×94°.45W, h16km±19km, MD4.3*
*GCG **02** 10:51:41.5±2.6, 15°.17N×94°.56W, h39km±652km, MD4.8, MW3.6*

ISC 02 10:51:40.6±1.1, 15°.23N±0°.04×94°.51W±0°.03, h28km, n38, σ1§66/68, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.16**	**29**	*e*P	**Pn**	**10 52 00.3**	**-0.7**
CARR				*e*S	**Sn**	**10 52 14.1**	**-1.9**
NILT	**Santiago Nilte**	**1.33**	**355**	*e*P	**Pn**	**10 52 02.8**	**-0.5**
NILT				*e*S	**Sn**	**10 52 17.7**	**-2.5**
HUIG	**Huatulco**	**1.64**	**289**	*e*P	**Pn**	**10 52 07.9**	**+0.4**
HUIG				*e*S	**Sn**	**10 52 26.7**	**-0.9**
HUIG	**Huatulco**	**1.64**	**289**	*e*P	**Pn**	**10 52 07.6**	**+0.1**
HUIG				*e*S	**Sn**	**10 52 26.2**	**-1.4**
HUIG	**Huatulco**	**1.64**	**289**	*e*P		10 52 07.6	
HUIG				*e*S		10 52 26.2	
CMIG	**Matias Romero**	**1.89**	**349**	*i* P	**Pn**	**10 52 11.7**	**+0.7**
CMIG				*e*S	**Sn**	**10 52 34.1**	**+0.2**
TGIG		**2.04**	**41**	*e*P	**Pn**	**10 52 13.9**	**+0.8**
TGIG				*e*S	**Sn**	**10 52 38.2**	**+0.5**
TGIG		**2.04**	**41**	*e*P	**Pn**	**10 52 14.0**	**+0.9**
TGIG		**2.04**	**41**	*e*P		10 52 14.0	
TGBT	**Tuxtla Gutierr**	**2.06**	**41**	*e*P	**Pn**	**10 52 13.9**	**+0.6**
TGBT				*e*S	**Sn**	**10 52 40.2**	**+2.2**
UXUV	**UXUV**	**2.11**	**9**	*e*P	**Pn**	**10 52 15.1**	**+1.1**
UXUV				*e*S	**Sn**	**10 52 40.9**	**+1.6**
THIG		**2.19**	**98**	*e*P	**Pn**	**10 52 13.9**	**-1.1**
THIG				*e*S	**Sn**	**10 52 39.0**	**-2.2**
THIG		**2.19**	**98**	*e*P	**Pn**	**10 52 14.3**	**-0.8**
THIG		**2.19**	**98**	*e*P		10 52 14.3	
PATR	**El Naranjo**	**2.20**	**93**	*e*P	**Pn**	**10 52 13.9**	**-1.5**
PATR				*e*S	**Sn**	**10 52 38.6**	**-3.2**
PAVE	**Pavencul**	**2.25**	**91**	*e*P	**Pn**	**10 52 15.2**	**-0.9**
PAVE				*e*S	**Sn**	**10 52 40.5**	**-2.6**
CCIG	**Comitan**	**2.51**	**65**	*e*P	**Pn**	**10 52 21.8**	**+2.1**
CCIG				*e*S	**Sn**	**10 52 50.3**	**+0.8**
CCIG	**Comitan**	**2.51**	**65**	*i* P	**Pn**	**10 52 21.8**	**+2.1**
CCIG	**Comitan**	**2.51**	**65**	*i* P		10 52 21.8	
PEIG	**Puerto Escondi**	**2.66**	**287**	*e*P	**Pn**	**10 52 22.0**	**+0.4**
PEIG				*e*S	**Sn**	**10 52 51.6**	**-1.3**
NEUV	**Arroyo Zacate**	**2.77**	**333**	*e*P	**Pn**	**10 52 23.9**	**+0.8**
NEUV				*e*S	**Sn**	**10 52 56.2**	**+0.6**
TUIG	**Tuzandepetl**	**2.79**	**2**	*e*P	**Pn**	**10 52 24.8**	**+1.4**
TUIG				*e*S	**Sn**	**10 52 54.8**	**-1.4**
TUIG				*e*S	**Sb**	**10 53 00.0**	**-3.6**
RTAL	**Retalhuleu**	**2.81**	**104**	*e*P	Pn	10 52 17.3	-6.3
RTAL				*e*S	**Sn**	**10 52 57.4**	**+0.9**
VHO	**Vista Hermosa**	**2.82**	**311**	*e*P	**Pn**	**10 52 24.9**	**+0.9**
VHO				*e*S	**Sn**	**10 52 58.6**	**+1.4**
HUEH	**Huehuetenango**	**2.90**	**88**	*e*P	**Pn**	**10 52 25.1**	**-0.1**
HUEH				*e*S	**Sn**	**10 53 00.6**	**+1.4**
HUEH	**Huehuetenango**	**2.90**	**88**	*e*P	**Pn**	**10 52 26.3**	**+1.2**
HUEH				*i* S	**Sn**	**10 53 01.2**	**+2.0**
HUEH	**Huehuetenango**	**2.90**	**88**	*e*P		10 52 26.3	
HUEH				*i* S		10 53 01.2	
SOKI	**Kika Raxquin**	**3.02**	**97**	*i* S	**Sb**	**10 53 11.0**	**+0.3**
SOKI	**Kika Raxquin**	**3.02**	**97**	*i* S		10 53 11.0	
STG8	**El Palmar, Qui**	**3.15**	**104**	*e*P		10 52 23.4	
STG0	**El Palmar, Qui**	**3.16**	**104**	*e*P		10 52 23.4	
QUIS	**Sacapulas**	**3.30**	**88**	*e*P	**Pn**	**10 52 31.5**	**+1.0**
QUIS	**Sacapulas**	**3.30**	**88**	*e*P		10 52 31.5	
YOIG	**Yosondua**	**3.34**	**299**	*e*P	**Pn**	**10 52 29.1**	**-2.2**
YOIG				*e*S	**Sn**	**10 53 12.0**	**+1.8**
PMUV	**Sontecomapan**	**3.35**	**350**	*e*P	**Pn**	**10 52 32.5**	**+1.3**
PMUV				*e*S	**Sn**	**10 53 07.6**	**-2.6**
PNIG	**Pinotepa**	**3.67**	**289**	*e*P	**Pn**	**10 52 37.0**	**+1.5**
PNIG				*e*S	**Sn**	**10 53 16.4**	**-1.6**
TXIG	**Tlaxiaco**	**3.73**	**303**	*e*P	**Pn**	**10 52 39.3**	**+2.8**
TXIG				*e*S	**Sn**	**10 53 18.4**	**-1.2**
TOIG	**Toxpalan**	**3.76**	**320**	*e*P	**Pn**	**10 52 38.4**	**+1.5**
TOIG				*e*S	**Sn**	**10 53 24.5**	**+4.2**
APG	**El Apazote**	**3.91**	**93**	*e*P	**Pn**	**10 52 41.2**	**+2.2**
APG	**El Apazote**	**3.91**	**93**	*e*P		10 52 41.2	
HLIG	**Huajuapan de L**	**4.09**	**310**	*e*P	**Pn**	**10 52 45.0**	**+3.6**
HLIG				*e*S	**Sn**	**10 53 28.0**	**-0.5**
FTIG	**Fresnillo de T**	**4.38**	**308**	*e*P	**Pn**	**10 52 47.7**	**+2.3**
FTIG				*e*S	**Sn**	**10 53 35.4**	**-0.2**
TLIG	**Tlapa**	**4.54**	**301**	*e*P	**Pn**	**10 52 47.6**	**+0.1**
TLIG				*e*S	**Sn**	**10 53 41.1**	**+1.7**
JAUV	**Jalcomulco**	**4.66**	**332**	*e*P	**Pn**	**10 52 48.5**	**-0.7**
JAUV				*e*S	**Sn**	**10 53 40.9**	**-1.6**
NUBE	**Las Nubes**	**4.76**	**105**	*e*P	**Pn**	**10 52 51.9**	**+1.2**
NUBE	**Las Nubes**	**4.76**	**105**	*e*P		10 52 51.9	
PETF	**Flores**	**4.77**	**69**	*e*P	**Pn**	**10 52 52.3**	**+1.7**
PETF				*e*S	**Sn**	**10 53 45.4**	**+0.5**
PETF	**Flores**	**4.77**	**69**	*e*P	**Pn**	**10 52 52.1**	**+1.5**
PETF	**Flores**	**4.77**	**69**	*e*P		10 52 52.1	
CXUV	**Coxquihui**	**5.73**	**330**	*e*P	**Pn**	**10 53 03.3**	**-0.5**
CXUV				*e*S	**Sn**	**10 54 08.8**	**+0.1**

*AEIC **02** 10:52:08.5±1.1, 53°.40N±0°.07×163°.60W±0°.07, h24km±8km, Error ellipse: s-maj=10.7km s-min=5.5km az=162.0*

NEIC 02 10:52:10.0±1.5, 53°.53N±0°.04×163°.61W±0°.07, h30km±7km, ML3.0/12, ML2.9(AEIC), Error ellipse: s-maj=6.5km s-min=6.1km az=116.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.11**	**329**		Pn	10 52 29.7	+0.2
ISLZ	**Isanotski Laza**	**1.20**	**357**		Pn	10 52 31.0	+0.2
SSLS	**Shishaldin Sou**	**1.20**	**349**		Pn	10 52 31.3	+0.5
WECS	**Westdahl Cape**	**1.22**	**326**		Pn	10 52 31.2	+0.2
WEBT	**Westdahl Beart**	**1.26**	**328**		Pn	10 52 31.9	+0.3
WEBT					Sn	10 52 43.0	-4.5
ISNN	**Isanotski Nort**	**1.31**	**356**		Pb	10 52 33.3	-0.6
FALS	**False Pass**	**1.33**	**5**		Pn	10 52 32.7	+0.1
FALS	**False Pass**	**1.33**	**5**		Sb	10 52 51.9	+1.0
AKSA	**Akutan Strait**	**1.38**	**297**		Pn	10 52 32.9	-0.3
AHB	**Akutan Harbor**	**1.44**	**295**		Pn	10 52 33.7	-0.3
AKBBA	**Akutan Broad B**	**1.49**	**293**		Pn	10 52 34.5	-0.2
AKBBA					Sb	10 52 54.8	-0.8
ZRO	**Akutan Zero**	**1.52**	**293**		Pn	10 52 34.8	-0.3
AKV	**Akutan Volcano**	**1.52**	**294**		Pn	10 52 34.9	-0.3
AKMO	**Akutan Morgan**	**1.53**	**292**		Pn	10 52 35.1	-0.2
AKGG	**Akutan Green G**	**1.56**	**296**		Pn	10 52 35.7	-0.1
AKGG					Sb	10 52 57.1	-0.5
LVA	**Lava Point**	**1.57**	**295**		Pn	10 52 35.6	-0.2
LVA				IAML		10 53 03.4	
	comp=E,138nm,1.1s						
LVA				IAML		10 53 06.6	
	comp=N,224nm,0.5s						
UNV	**Unalaska Valle**	**1.75**	**281**		Pn	10 52 37.4	-0.9
MTBL	**Makushin Table**	**1.88**	**285**		Pn	10 52 40.0	-0.1
MTBL					Sn	10 53 04.5	+1.6
MSW	**Makushin Switc**	**1.93**	**283**		Pn	10 52 40.5	-0.3
MGOD	**Makushin Gods**	**1.96**	**279**		Pn	10 52 41.0	-0.3
MAPS	**Pakushin South**	**2.00**	**279**		Pn	10 52 41.8	0.0
MAPS					Sn	10 53 07.3	+1.4
HAG	**Hague Volcano**	**2.05**	**28**		Pn	10 52 43.2	+0.8
PS4A	**Pavlof South-4**	**2.08**	**29**		Pn	10 52 44.0	+1.1
PS1A	**Pavlof South-1**	**2.18**	**29**		Pn	10 52 45.3	+1.0
PS1A					Sb	10 53 14.5	-0.9
S12K	**Black Hills**	**2.35**	**22**		Pn	10 52 47.1	+0.5
S12K				IAML		10 53 34.7	
	comp=E,71nm,0.8s						
SDPT	**Sand Point**	**2.58**	**44**		Pn	10 52 50.0	+0.3
SDPT				IAML		10 53 32.2	
	comp=N,68nm,1.4s						
SDPT				IAML		10 53 34.5	
	comp=E,78nm,1.5s						
OKTU	**Okmok Mt. Tuli**	**2.66**	**269**		Pn	10 52 50.7	-0.1
CNBA	**Chernabura Isl**	**2.69**	**60**	Pn	Pn	10 52 51.7	+0.5
OKSP	**Okmok Steeple**	**2.82**	**266**		Pn	10 52 52.6	-0.4
CHGN	**Chignik**	**4.08**	**45**	Pn	Pn	10 53 10.8	+0.5
CHGN				IAML		10 53 59.6	
	comp=N,25nm,1.3s						
CHIR	**Chirikof Islan**	**5.17**	**60**	Pn	Pn	10 53 24.1	-1.1
O14K	**Tigyukauivet M**	**5.88**	**12**	Pn	Pn	10 53 36.1	+1.1
O16K	**Kokwok River B**	**6.79**	**24**	Pn	Pn	10 53 47.9	+0.4
OHAK	**Old Harbor**	**6.94**	**54**	Pn	Pn	10 53 47.8	-1.7
M14K	**Bethel**	**7.29**	**6**	Pn	Pn	10 53 56.1	+1.8
P18K	**Big Mountain,**	**7.48**	**35**	Pn	Pn	10 53 56.9	-0.1
KDAK	**Kodiak Island**	**7.55**	**51**	Pn	Pn	10 53 56.7	-1.1
Q19K	**Cape Douglas,**	**7.74**	**42**	Pn	Pn	10 53 59.8	-0.8
N17K	**Nushagak Hills**	**7.83**	**24**	Pn	Pn	10 54 02.4	+0.6
M17K	**Holitna River**	**8.56**	**20**	Pn	Pn	10 54 10.0	-1.7

*IDC **02** 11:02:56.6±1.8, 5°.36S×141°.81E, h0km, mb3.8/4, mbtmp3.7/6, ML3.7/2, MS3.0/2, Error ellipse: s-maj=56.5km s-min=23.4km az=108.0*

ISC 02 11:03:00.0±1.3, 5°.23S±0°.08×141°.3E±0°.2, h10km, n8, σ1§93/11, mb4.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.76**	**348**	Pn	**Pn**	**11 03 44.5**	**+0.1**
	7.0nm,0.3s,baz=175,slow=5.7,SNR=22						
JAY				Sn	**Sn**	**11 04 17.8**	**-0.1**
	4.3nm,0.3s,baz=106,slow=20,SNR=5.4						
JAY				LR	LR	11 05 04.2	
	comp=Z,172nm,18.4s,baz=216,slow=42 15nm,0.4s						
WRA	**Warramunga Arr**	**16.11**	**204**	Pn	**Pn**	**11 06 46.1**	**-0.7**
	0.3nm,0.3s,baz=28,slow=12,SNR=15						
WRA				Sn	**Sn**	**11 09 45.5**	**-0.1**
	0.2nm,0.3s,baz=36,slow=24,SNR=1.1						
WRA				Lg	Lg	11 11 29.8	
	baz=29,slow=28 1.2nm,0.9s						
ASAR	**Alice Springs**	**19.66**	**201**	P	**P**	**11 07 31.8**	**+2.5**
	3.1nm,0.8s,baz=30,slow=11,SNR=14						
ASAR				S	**S**	**11 11 10.8**	**-0.5**
	0.2nm,0.3s,baz=22,slow=25,SNR=1.9						
ASAR				Lg	Lg	11 13 18.8	
	baz=48,slow=20						
FITZ	**Fitzroy Crossi**	**19.93**	**229**	P	**P**	**11 07 33.9**	**+1.7**
	1.6nm,0.6s,baz=58,slow=15,SNR=1.2						
FITZ				S	**S**	**11 11 13.2**	**-3.6**
	2.9nm,0.8s,baz=216,slow=7.0,SNR=1.9						
FITZ				Lg	Lg	11 13 41.3	
	0.1nm,0.3s,baz=100,slow=10,SNR=4.6 1.6nm,0.6s						
DZM	**Mont Dzumac**	**29.54**	**127**	LR	LR	11 19 16.7	
	comp=Z,46nm,20.1s,baz=182,slow=34						
MKAR	**Makanchi Array**	**73.34**	**322**	P	**P**	**11 14 33.3**	**+1.2**
	0.8nm,0.9s,baz=122,slow=5.2,SNR=5.9 0.8nm,0.9s						
BVAR	**Borovoye Array**	**82.84**	**325**	P	**P**	**11 15 25.1**	**+0.5**
	0.4nm,0.4s,baz=124,slow=7.3,SNR=1.7 0.4nm,0.4s						
ILAR	**Eielson Array**	**87.06**	**24**	P	**P**	**11 15 43.2**	**-2.4**
	0.6nm,0.7s,baz=252,slow=5.2,SNR=8.7 0.6nm,0.7s						

*IDC **02** 11:07:46.0±2.0, 27°.58N×52°.94E, h0km, mb3.8/9, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=39.4km s-min=24.8km az=12.0*
*TEH **02** 11:07:47.3, 27°.65N×53°.23E, h12km±19km*

ISC 02 11:07:49.6±0.8, 27°.61N±0°.05×53°.19E±0°.06, h20km, n27, σ1§10/28, mb3.8/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.27**	**184**	Pg	**Pb**	**11 07 55.1**	**-0.8**
QIR1	**Qir**	**0.87**	**352**	Pg	**Pb**	**11 08 04.7**	**-1.4**
JHRM	**Jahrom**	**0.95**	**21**	Pg	**Pb**	**11 08 05.5**	**-2.1**
DSBU	**Dashti - Bushe**	**1.86**	**294**	Pn	**Pb**	**11 08 22.2**	**-0.8**
AHBU	**AHRAM**	**2.08**	**307**	Pn	**Pb**	**11 08 27.1**	**+0.3**
SHI	**Shiraz**	**2.11**	**344**	Pn	**Pb**	**11 08 27.5**	**+0.3**
GENO	**Geno**	**2.66**	**94**	Pn	**Pn**	**11 08 32.3**	**+0.8**
NGRK	**Negar Kerman**	**3.71**	**56**	Pn	**Pn**	**11 08 47.0**	**+0.8**
KRBR	**Kerman**	**3.92**	**52**	Pn	**Pn**	**11 08 50.4**	**+1.4**
IMEH	**Mehriz**	**3.96**	**18**	Pn	**Pn**	**11 08 50.7**	**+1.2**
KHGB	**Koh Gabri**	**3.98**	**46**	Pn	**Pn**	**11 08 51.0**	**+1.2**
CHMN	**Cheshme madani**	**4.43**	**59**	Pn	**Pn**	**11 08 57.4**	**+1.4**
IBAF	**Bafgh**	**4.47**	**27**	Pn	**Pn**	**11 08 57.2**	**+0.7**
ICHK	**Chekchek**	**4.74**	**13**	Pn	**Pn**	**11 09 01.0**	**+0.9**
ANAR	**Anarak**	**5.58**	**5**	Pn	**Pn**	**11 09 11.8**	**+0.2**
TPRV	**Parvadeh(Tabas**	**6.19**	**28**	Pn	**Pn**	**11 09 20.8**	**+0.9**
WSAR	**Wadi Sarin**	**6.57**	**130**	Pn	**Pn**	**11 09 26.4**	**+1.2**
	2.5nm,0.3s,baz=310,slow=13,SNR=16						
WSAR				Sn	**Sn**	**11 10 38.8**	**-0.7**
	1.7nm,0.3s,baz=112,slow=22,SNR=4.2 6.8nm,0.4s						
CHBR	**Chabahar**	**6.83**	**105**	Pn	**Pn**	**11 09 29.1**	**+0.4**
AAK	**Ala-Archa**	**22.90**	**44**	P	**P**	**11 12 53.9**	**+1.7**
	0.6nm,0.4s,baz=245,slow=8.6,SNR=4.8 0.6nm,0.4s						
BVAR	**Borovoye Array**	**28.42**	**22**	P	**P**	**11 13 43.7**	**+1.0**
	0.8nm,0.6s,baz=230,slow=8.8,SNR=4.6 0.8nm,0.6s						
MKAR	**Makanchi Array**	**29.81**	**42**	P	**P**	**11 13 55.6**	**+0.4**
	0.3nm,0.5s,baz=231,slow=8.7,SNR=6.6 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**29.98**	**33**	P	**P**	**11 13 57.2**	**+0.7**
	0.2nm,0.2s,baz=231,slow=8.7,SNR=4.2 0.2nm,0.2s						
ZALV	**Zalesovo Beam**	**35.07**	**33**	P	**P**	**11 14 41.8**	**+0.8**
	0.6nm,0.4s,baz=240,slow=9.6,SNR=4.1 0.6nm,0.4s						
FINES	**FINESS Array B**	**38.38**	**339**	P	**P**	**11 15 08.2**	**-1.0**
	2.8nm,0.7s,baz=139,slow=9.3,SNR=9.0 2.8nm,0.7s						
ARCES	**ARCESS Array B**	**44.93**	**347**	P	**

comp=Z,0.7nm,0.7s,baz=276,slow=7.4,SNR=3.3
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 85.83 119 P P 11 44 46.2 -2.1
comp=Z,0.2nm,0.6s,baz=323,slow=4.9,SNR=5.3
comp=Z,0.2nm,0.6s

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*IDC **02** 11:42:33.5±1.6, 30°.18N×114°.12W, h0km, mb3.8/2, mbtmp3.4/10, ML3.3/8, MS3.5/16, Error ellipse: s-maj=23.8km s-min=10.3km az=38.0*
*ECX **02** 11:42:34.7±0.2, 30°.25N×114°.04W, h14km±5km, ML4.0*
*NEIC **02** 11:42:36.5±2.0, 30°.40N±0°.07×114°.10W±0°.07, h10km±2km, mb4.2/16, Error ellipse: s-maj=13.6km s-min=6.9km az=216.0*
*MEX **02** 11:42:47.5±0.3, 30°.88N×114°.94W, h5km, MD4.0*
ISC 02 11:42:34.1±1.3, 30°.31N±0°.03×114°.16W±0°.04, h3km±9km, n98, σ1§52/92, mb4.3/7, MS3.4/8, 5C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.53**	**204**	*e*P	**Pg**	**11 42 44.1**	**-0.1**
SLGB				*e*S	**Sg**	**11 42 51.4**	**+0.4**
SFX	**San Felipe**	**0.94**	**321**	Pg	**Pg**	**11 42 52.2**	**+0.1**
SFX	**San Felipe**	**0.94**	**321**	*e*P	**Pg**	**11 42 51.7**	**-0.4**
SFX	**San Felipe**	**0.94**	**321**	⇑*e*P	**Pg**	**11 42 52.1**	**+0.1**
SFX				*e*S	**Sb**	**11 43 06.4**	**+0.4**
SFX				IAML		11 43 18.6	
	comp=N,3μm,0.7s						
SFX				IAML		11 43 19.3	
	comp=E,3μm,1.0s						
SFX				⇓*e*		11 43 19.3	
PPXB	**Puerto Peasco**	**1.11**	**24**	⇓*e*P	**Pg**	**11 42 54.5**	**-1.0**
PPXB				*e*S	**Sg**	**11 43 09.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.34**	**303**	*e*P	**Pg**	**11 42 58.8**	**-1.1**
SPIG	**San Pedro Mart**	**1.34**	**303**	⇑*e*P	**Pg**	**11 42 58.9**	**-1.0**
SPIG				*e*S	**Sn**	**11 43 18.5**	**-0.3**
PIX	**Pinacate**	**1.38**	**25**		**Pn**	**11 42 58.7**	**-1.6**
PIX	**Pinacate**	**1.38**	**25**	⇓*e*P	**Pn**	**11 42 58.5**	**-1.8**
PIX				*e*S	**Sg**	**11 43 17.2**	**-1.3**
SQX	**San Quintin**	**1.51**	**280**	⇑*e*P	**Pn**	**11 43 01.1**	**-1.0**
SQX				*e*S	**Sg**	**11 43 22.4**	**-0.2**
SQX				⇑*e*		11 43 27.9	
SQX				IAML		11 43 27.9	
	comp=N,4μm,0.5s						
SQX				⇓*e*		11 43 28.6	
SQX				IAML		11 43 28.6	
	comp=E,2μm,0.5s						
VTX	**Valle De La Tr**	**1.77**	**308**	Pn	**Pn**	**11 43 05.5**	**-0.2**
SV2X	**San Vicente**	**2.06**	**300**	⇑*e*P	**Pn**	**11 43 09.5**	**-0.2**
SV2X				*e*S	**Sb**	**11 43 37.3**	**-1.0**
SFQB	**San Francisqui**	**2.21**	**149**	*e*P	**Pn**	**11 43 11.5**	**-0.2**
SFQB				*e*S	**Sn**	**11 43 38.7**	**-0.9**
MBIG	**Mexicali**	**2.27**	**337**	*e*P	**Pn**	**11 43 11.5**	**-1.0**
MBIG				*e*P	**Pb**	**11 43 15.6**	**-0.1**
ESJX	**Sierra Juarez**	**2.28**	**318**	Pn	**Pn**	**11 43 12.2**	**-0.7**
NE74	**Guerrero Negro**	**2.30**	**177**	*e*P	**Pn**	**11 43 11.2**	**-1.8**
113A	**Mohawk Valley,**	**2.47**	**8**		**Pn**	**11 43 14.7**	**-0.6**
YUH	**Yuha Desert**	**2.77**	**328**		**Pn**	**11 43 20.3**	**+0.8**
GLA	**Glamis**	**2.79**	**348**		**Pn**	**11 43 20.3**	**+0.6**
CBX	**Cerro Bola**	**2.93**	**314**		**Pn**	**11 43 23.3**	**+1.5**
CBX	**Cerro Bola**	**2.93**	**314**	*e*P	Pn	11 43 14.1	-7.6
TJIG	**Tijuana**	**3.02**	**315**	*e*P	**Pn**	**11 43 22.4**	**-0.5**
HSIG		**3.07**	**114**	Pn	**Pn**	**11 43 24.0**	**+0.4**
HSIG		**3.07**	**114**	*e*	Pn	11 43 10.8	-13
BLYC	**Blythe**	**3.44**	**355**		**Pn**	**11 43 30.6**	**+2.0**
TUC	**Tucson**	**3.51**	**55**		**Pn**	**11 43 28.4**	**-1.2**
TUC	**Tucson**	**3.51**	**55**	*e*	**Pn**	**11 43 27.0**	**-2.7**
Y14A	**Wickenburg**	**3.75**	**15**		**Pn**	**11 43 33.7**	**+0.8**
GUYB	**Guaymas**	**3.75**	**129**	*e*	Pn	11 43 27.7	-5.1
PFO	**Pinyon Flats O**	**3.83**	**330**		**Pn**	**11 43 34.6**	**+0.5**
PFO	**Pinyon Flats O**	**3.83**	**330**	Pn	**Pn**	**11 43 34.5**	**+0.4**
	comp=E,0.3nm,0.3s,baz=149,slow=10,SNR=4.2						
PFO				Sn	**Sn**	**11 44 18.9**	**-0.8**
	comp=E,2.1nm,0.3s,baz=139,slow=19,SNR=5.8						
PFO				Lg	Lg	11 44 39.0	
	comp=E,3.8nm,0.3s,baz=143,slow=16,SNR=6.1						
PFO				LR	LR	11 45 20.6	
	comp=E,861nm,19.4s,baz=174,slow=42						
	comp=E,1.1nm,0.5s						
NZIG	**Nacozari, Sono**	**3.98**	**88**	*e*	Pn	11 43 28.6	-7.6
NZIG				*e*		11 43 41.0	
319A	**Douglas**	**4.33**	**75**		**Pn**	**11 43 40.3**	**-0.7**
ELS	**Elsinore Mount**	**4.33**	**321**		**Pn**	**11 43 42.4**	**+1.4**
X16A	**Lo Mia Camp, P**	**4.69**	**29**		**Pn**	**11 43 46.5**	**+0.4**
DUN6	**Lazy B Ranch**	**4.87**	**61**		**Pn**	**11 43 48.1**	**-0.3**
X18A	**Snowflake**	**5.51**	**39**		**Pn**	**11 43 57.3**	**+0.1**
WUAZ	**Wupatki**	**5.69**	**24**		**Pn**	**11 44 01.6**	**+1.8**
121A	**Cookes Peak, D**	**5.88**	**66**		**Pn**	**11 44 02.3**	**0.0**
U15A	**North Rim**	**6.30**	**14**		**Pn**	**11 44 10.3**	**+2.1**
BCW	**Bitter Crk WRg**	**6.40**	**318**	Pn	**Pn**	**11 44 12.9**	**+3.5**
EPT	**El Paso**	**6.72**	**76**	Pn	**Pn**	**11 44 13.8**	**-0.1**
LCMT	**Little Creek M**	**6.73**	**6**		**Pn**	**11 44 16.5**	**+2.6**
KNB	**Kanab**	**6.78**	**9**		**Pn**	**11 44 17.4**	**+2.7**
SBM	**South Baldy**	**6.95**	**56**		**Pn**	**11 44 17.7**	**+0.4**
LPIG	**La Paz**	**7.07**	**150**	Pn	**Pn**	**11 44 15.7**	**-2.8**
	comp=E,2.6nm,0.3s,baz=254,slow=20,SNR=1.0						
LPIG				Lg	Lg	11 46 09.7	
	baz=58,slow=2.2						
LPIG				LR	LR	11 46 53.5	
	comp=E,639nm,19.9s,baz=335,slow=38						
	comp=E,6.6nm,0.3s						
PRN	**Pahroc Range**	**7.12**	**354**		**Pn**	**11 44 21.5**	**+2.2**
Y22D	**IRIS PASSCAL I**	**7.19**	**57**		**Pn**	**11 44 20.9**	**+0.6**
LENM	**Lemitar**	**7.20**	**56**		**Pn**	**11 44 20.6**	**+0.2**
CRNM	**Carthage**	**7.26**	**58**		**Pn**	**11 44 20.6**	**-0.7**
BNM	**Barren Site**	**7.44**	**57**	Pn	**Pn**	**11 44 23.1**	**-0.7**
SLBS	**Sierra La Lagu**	**7.59**	**149**	Pn	**Pn**	**11 44 29.2**	**+3.4**
VHRN	**Van Horn**	**7.92**	**84**	Pn	**Pn**	**11 44 30.8**	**+0.4**
ANMO	**Albuquerque**	**7.97**	**53**		**Pn**	**11 44 30.7**	**-0.3**
ANMO	**Albuquerque**	**7.97**	**53**	Pn	**Pn**	**11 44 30.8**	**-0.2**
	comp=E,0.5nm,0.3s,baz=114,slow=14,SNR=34						
ANMO				Lg	Lg	11 46 48.6	
	baz=332,slow=22						
ANMO				LR	LR	11 46 59.8	
	comp=E,59nm,22.0s,baz=56,slow=33						
	comp=E,4.3nm,0.7s						
BCIG	**La Boquilla**	**8.14**	**108**	*e*	Pn	11 44 24.7	-8.7
MVCO	**Mesa Verde**	**8.34**	**33**		**Pn**	**11 44 35.9**	**-0.2**
NVAR	**Mina Array Bea**	**8.79**	**338**	Pn	**Pn**	**11 44 44.9**	**+2.6**
	comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=6.6						
NVAR				Lg	Lg	11 47 14.1	
	comp=E,0.2nm,0.3s,baz=202,slow=18,SNR=4.2						
NVAR				LR	LR	11 48 19.3	
	comp=E,267nm,20.8s,baz=114,slow=39						
	comp=E,0.1nm,0.3s						
PECS	**Pecos**	**8.91**	**81**		**Pn**	**11 44 44.9**	**+1.1**
PV11	**David Mesa, Pa**	**9.09**	**27**	Pn	**Pn**	**11 44 46.0**	**-0.4**
ALPN	**Alpine**	**9.09**	**87**	Pn	**Pn**	**11 44 46.9**	**+0.5**
PV23	**Carpenter Ridg**	**9.16**	**26**	Pn	**Pn**	**11 44 46.8**	**-0.7**
TX31	**Lajitas Ar. Si**	**9.16**	**93**		**Pn**	**11 44 47.6**	**+0.2**
TXAR	**Lajitas Array**	**9.16**	**93**	Pn	**Pn**	**11 44 47.7**	**+0.3**
TXAR	**Lajitas Array**	**9.16**	**93**	Pn	**Pn**	**11 44 47.5**	**+0.1**
	comp=E,0.4nm,0.3s,baz=272,slow=13,SNR=15						
TXAR				Lg	Lg	11 47 19.8	
	comp=E,0.2nm,0.3s,baz=288,slow=31,SNR=4.1						
TXAR				LR	LR	11 48 37.8	
	comp=E,219nm,18.6s,baz=272,slow=40						
	comp=E,0.7nm,0.4s						
SAND	**Sanderson**	**10.43**	**89**		Pn	11 45 10.2	+5.6
ELK	**Elko**	**10.45**	**355**	Pn	**Pn**	**11 45 09.2**	**+4.1**
	comp=E,0.1nm,0.3s,baz=180,slow=19,SNR=2.2						
ELK				Lg	Lg	11 48 05.9	
	comp=E,0.1nm,0.3s,baz=295,slow=18,SNR=1.6						
ELK				LR	LR	11 49 11.0	
	comp=E,116nm,21.5s,baz=174,slow=38						
	comp=E,0.4nm,0.4s						
OZNA	**Ozona**	**11.24**	**84**	Pn	**Pn**	**11 45 16.1**	**+0.3**
JCT	**Junction City**	**12.39**	**86**	Pn	**Pn**	**11 45 36.1**	**+4.5**
PDAR	**Pinedale Array**	**12.96**	**15**	Pn	Pn	11 45 45.4	+6.0
	baz=186,slow=12,SNR=5.1						
PDAR				Lg	Lg	11 49 24.7	
	baz=138,slow=16,SNR=1.4						
	comp=E,1.0nm,1.1s						
YBH	**Yreka Blue Hor**	**13.32**	**331**	Pn	**Pn**	**11 45 48.0**	**+3.8**
	comp=E,0.1nm,0.3s,baz=135,slow=7.1,SNR=1.5						
YBH				LR	LR	11 50 40.3	
	comp=E,121nm,19.7s,baz=158,slow=36						
	comp=E,0.3nm,0.4s						
YMR	**Madison River**	**14.55**	**9**	P	**P**	**11 46 11.1**	**+3.2**
BMO	**Blue Mountains**	**14.73**	**351**	P	P	11 46 15.4	+5.7
I05D	**Terrebonne, OR**	**15.11**	**340**	Pn	**Pn**	**11 46 09.2**	**+0.6**
RLMT	**Red Lodge**	**15.28**	**13**		**P**	**11 46 13.8**	**-2.2**
RLMT				IAmb	IAmb	11 46 20.2	
	comp=Z,11nm,0.8s						
W35A	**Tecumseh**	**15.32**	**67**		**Pn**	**11 46 11.3**	**0.0**
OK052	**Battle Ridge R**	**15.59**	**64**	Pn	**Pn**	**11 46 15.0**	**+0.1**
OK052				IAmb	IAmb	11 46 23.0	
	comp=Z,19nm,1.3s						
TREL	**Terrell**	**15.60**	**76**	Pn	**Pn**	**11 46 15.9**	**+1.0**
RSSD	**Black Hills**	**15.95**	**27**		**Pn**	**11 46 18.8**	**-0.9**
HOOD	**Mount Hood Mea**	**16.10**	**341**	Pn	**P**	**11 46 23.3**	**-1.8**
HOOD				IAmb	IAmb	11 46 42.9	
	comp=Z,21nm,1.1s						
KSU1	**Kansas State U**	**16.86**	**54**	Pn	**Pn**	**11 46 31.0**	**-0.2**
NEW	**Newport**	**18.07**	**354**	LR	LR	11 54 23.7	
	comp=Z,171nm,18.3s,baz=172,slow=39						
CMIG	**Matias Romero**	**21.97**	**122**	LR	LR	11 56 19.9	
	comp=Z,145nm,20.0s,baz=298,slow=38						
HDIL	**Hopedale**	**22.62**	**56**	P	**P**	**11 47 36.1**	**-0.1**
HDIL				IAmb	IAmb	11 48 08.4	
	comp=Z,8.8nm,0.8s						
CLTN	**Cedars of Leba**	**23.94**	**69**	P	**P**	**11 47 48.7**	**-0.9**
CLTN				IAmb	IAmb	11 47 53.0	
	comp=Z,8.6nm,1.4s						
BBB	**Bella Bella**	**24.16**	**339**	LR	LR	11 58 03.8	
	comp=Z,120nm,20.4s,baz=168,slow=38						
SWET	**Sewanee**	**24.19**	**71**	P	**P**	**11 47 52.5**	**+0.5**
SWET				IAmb	IAmb	11 48 01.9	
	comp=Z,12nm,1.3s						
ULM	**Lac du Bonnet**	**24.19**	**29**	P	**P**	**11 47 51.8**	**0.0**
COWI	**Conover**	**25.05**	**44**	P	**P**	**11 48 00.1**	**+0.5**
COWI				IAmb	IAmb	11 48 19.4	
	comp=Z,7.4nm,1.1s						
TEIG	**Tepich**	**25.41**	**107**	P	**P**	**11 48 01.1**	**-2.0**
DLBC	**Dease Lake**	**30.16**	**343**	LR	LR	12 02 07.0	
	comp=Z,283nm,19.0s,baz=179,slow=39						
JTS	**Las Juntas de**	**33.70**	**120**	LR	LR	12 03 00.5	
	comp=Z,50nm,20.2s,baz=288,slow=36						
KDAK	**Kodiak Island**	**38.10**	**327**	LR	LR	12 04 23.7	
	comp=Z,101nm,18.7s,baz=318,slow=34						
ILAR	**Eielson Array**	**40.05**	**339**	P	**P**	**11 50 12.2**	**+1.9**
	comp=Z,0.4nm,1.0s,baz=155,slow=7.3,SNR=4.4						
ILAR				LR	LR	12 06 56.9	
	comp=Z,68nm,21.2s,baz=170,slow=36						
	comp=Z,0.4nm,1.0s						
SCHQ	**Schefferville**	**41.52**	**40**	P	**P**	**11 50 23.9**	**+1.3**
	comp=Z,5.6nm,1.0s,baz=260,slow=6.1,SNR=3.7						
	comp=Z,5.6nm,1.0s						
SDV	**Santo Domingo**	**45.84**	**108**	LR	LR	12 12 36.6	
	comp=Z,40nm,18.6s,baz=278,slow=39						
PLCA	**Paso Flores**	**81.41**	**148**	LR	LR	12 23 12.1	
	comp=Z,48nm,20.8s,baz=32,slow=30						
HHC	**Hu-ho-hao-te**	**97.52**	**327**	*e*P	**P**	**11 56 06.7**	**-3.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,51nm,3.9s						

SCB 02 11:45:17.5±1.2, 21°.59S×66°.91W, h204km±12km, ML3.3/2, MW3.5, Error ellipse: s-maj=6.8km s-min=5.3km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.23**	**74**	Pg	Pn	11 45 50.4	+0.5
MOCB				Sg	S	11 46 14.4	-0.2
MOCB				IAML		11 46 15.2	
	346nm,0.4s						
YJA	**Yavi**	**1.42**	**115**	Pg	Pn	11 45 52.0	+0.6
PB09	**IPOC Station P**	**2.18**	**264**	Pg	Pn	11 45 59.1	+0.8
PB01	**IPOC Station P**	**2.46**	**282**	Pg	Pn	11 46 01.7	+0.4
PB01				Sg	S	11 46 35.3	+0.4
PB01				IAML		11 46 38.5	
	41nm,0.2s						
PB08	**IPOC Station P**	**2.54**	**304**	Pg	Pn	11 46 03.7	+1.1
PB11	**IPOC Station P**	**3.15**	**305**	Pg	Pn	11 46 09.3	0.0
SOET	**ToroToro**	**3.61**	**17**	Pg	Pn	11 46 15.6	+0.6
AOEA	**Aiquile**	**3.74**	**25**	Pg	Pn	11 46 16.6	0.0
AOEA				Sg	S	11 47 02.2	-0.1
PB12	**IPOC Station P**	**4.37**	**312**	Pg	Pn	11 46 23.8	-0.4
LPAZ	**La Paz**	**5.40**	**347**	Pg	Pn	11 46 39.0	+1.3

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*ECX **02** 12:01:35.7±0.3, 30°.23N×114°.05W, h2km±4km, ML2.5*
*MEX **02** 12:01:45.9±0.6, 31°.15N×114°.39W, h12km±174km, MD3.7*
ISC 02 12:01:34.6±1.2, 30°.35N±0°.04×114°.14W±0°.04, h6km±12km, n14, σ1§83/23, 3C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.56**	**204**	⇓*e*P	**Pg**	**12 01 45.2**	**-0.2**
SLGB				*e*S	**Sg**	**12 01 52.1**	**-0.6**
SFX	**San Felipe**	**0.92**	**319**	*e*P	**Pn**	**12 01 53.7**	**-0.3**
SFX				*e*S	**Sg**	**12 01 59.4**	**-4.8**
SFX	**San Felipe**	**0.92**	**319**	*e*P	**Pn**	**12 01 54.1**	**+0.1**
SFX				*e*S	**Sn**	**12 02 09.1**	**+1.5**
SFX				⇓*e*		12 02 11.9	
SFX				IAML		12 02 11.9	
	comp=N,86nm,0.5s						
SFX				IAML		12 02 20.4	
	comp=E,104nm,0.7s						
SFX				⇓*e*		12 02 20.4	
PPXB	**Puerto Peasco**	**1.08**	**24**	⇓*e*P	**Pn**	**12 01 56.1**	**-0.1**
PPXB				*e*S	**Sn**	**12 02 12.1**	**+0.6**
SPIG	**San Pedro Mart**	**1.34**	**302**	*e*P	**Pg**	**12 02 00.6**	**+0.4**
SPIG				*e*S	**Sb**	**12 02 16.5**	**-1.2**
SPIG	**San Pedro Mart**	**1.34**	**302**	*e*P	**Pg**	**12 02 01.7**	**+1.4**
SPIG				*e*S	**Sg**	**12 02 22.0**	**+4.4**
PIX	**Pinacate**	**1.35**	**26**	⇓*e*P	**Pg**	**12 02 00.2**	**-0.2**
PIX				*e*S	**Sg**	**12 02 19.5**	**+1.7**
SQX	**San Quintin**	**1.52**	**279**	⇑*e*P	**Pn**	**12 02 02.4**	**+0.2**
SQX				*e*S	**Sg**	**12 02 24.5**	**+1.2**
SQX				⇓*e*		12 02 27.2	
SQX				IAML		12 02 27.2	
	comp=E,100nm,0.2s						
SQX				IAML		12 02 28.4	
	comp=N,75nm,0.2s						
SQX				⇑*e*		12 02 28.4	
VTX	**Valle De La Tr**	**1.76**	**307**	*e*P	**Pg**	**12 02 08.6**	**+0.3**
VTX				*e*S	**Sg**	**12 02 33.5**	**+2.5**
VTX				⇑*e*		12 02 36.5	
VTX				IAML		12 02 36.5	
	comp=E,30nm,0.4s						
SV2X	**San Vicente**	**2.06**	**299**	*e*P	**Pb**	**12 02 11.4**	**-0.9**
SV2X				*e*S	**Sg**	**12 02 40.5**	**-0.2**
MBIG	**Mexicali**	**2.25**	**337**	*e*P	**Pg**	**12 02 16.9**	**-0.7**
CBX	**Cerro Bola**	**2.92**	**313**	*e*P	Pn	12 02 16.1	-5.5
TJIG	**Tijuana**	**3.00**	**315**	*e*P	**Pn**	**12 02 21.4**	**-1.3**
HSIG		**3.08**	**115**	*e*P	**Pg**	**12 02 34.4**	**+0.8**

JMA 02 12:05:05.0±0.1, 25°.9N±0°.5×14°.1E±°, h114km, MV3.9/13, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.14**	**52**	P	Pn	12 05 28.2	+0.2
JHH2				*e*S	Sn	12 05 45.9	+0.5
CBIJ	**Chichi jima**	**1.47**	**38**	P	Pn	12 05 32.1	+0.3
CBIJ				S	Sn	12 05 52.3	+0.3
JAG	**Ashikaga**	**10.56**	**352**	*e*P	Pn	12 07 29.9	-3.2
JHO	**Hitachi**	**10.66**	**357**	*e*P	Pn	12 07 31.2	-3.2

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*JMA **02** 12:13:11.9±0.5, 29°.5N±0°.9×12°.9E±°, h12km±3km, MV3.6/21, NEAR TOKARA ISLANDS*
*NIED **02** 12:13:11.9, 29°.51N×128°.81E, h12km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.58; $M_{\theta\theta}$=1.98; $M_{\phi\phi}$=-1.40; $M_{r\theta}$=1.63; $M_{\theta\phi}$=-1.19; $M_{\phi r}$=1.33; Fault plane solution: M_0=2.98000×1015 NP1: ϕ_s=147.00000°, δ=46.00000°, λ=-13.00000°. NP2: ϕ_s=246.00000°, δ=81.00000°, λ=-135.00000°.*
*IDC **02** 12:13:12.2±0.9, 29°.39N×128°.93E, h0km, mb3.7/8, mbtmp3.7/13, ML3.2/5, MS3.3/13 Error ellipse: s-maj=27.4km s-min=14.0km az=92.0*
ISC 02 12:13:14.2±0.7, 29°.42N±0°.04×129°.02E±0°.06, h14km, n41, σ0§89/35, mb3.5/8, MS3.3/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.31**	**149**	P	**Pg**	**12 13 21.6**	**+0.9**
JNN	**Nakanoshima**	**0.85**	**60**	P	**Pb**	**12 13 30.2**	**-0.7**
JNN				S	**Sb**	**12 13 43.0**	**+0.7**
JAM	**Amami Oshima**	**1.13**	**153**	P	**Pn**	**12 13 35.0**	**-0.6**
JAMN	**Amaminishikomi**	**1.18**	**173**	*i* P	**Pn**	**12 13 36.0**	**-0.3**
JAMN				S	**Sg**	**12 13 53.3**	**+0.9**
JZK	**Kikaishima**	**1.38**	**143**	P	**Pb**	**12 13 40.4**	**+0.5**
JKC	**Kuchinoerabu**	**1.46**	**44**	P	**Pn**	**12 13 39.2**	**-0.9**
JKC				S	**Sn**	**12 14 00.2**	**+1.2**
JYAK	**Yakushimahirau**	**1.53**	**57**	P	**Pn**	**12 13 40.1**	**-1.0**
JTK	**Tokunoshima**	**1.63**	**182**	P	**Pb**	**12 13 43.5**	**-0.5**
JMTN	**Minamitane**	**1.90**	**59**	P	**Pn**	**12 13 45.8**	**-0.5**
JOKE	**Okinoerabujima**	**2.09**	**191**	*e*P	**Pn**	**12 13 48.2**	**-0.6**
JTN	**Tanegashima 3**	**2.10**	**54**	P	**Pn**	**12 13 48.7**	**-0.3**
JYRO	**Yoronjima**	**2.44**	**192**	P	**Pn**	**12 13 53.4**	**-0.2**
JIH	**Iheya**	**2.55**	**202**	*e*P	**Pn**	**12 13 54.8**	**-0.4**
JOW	**Kunigami**	**2.66**	**194**	Pn	**Pn**	**12 13 56.6**	**-0.1**
	6.6nm,0.3s,baz=80,slow=20,SNR=19						
JOW				Sn	**Sn**	**12 14 27.6**	**-1.2**
	7.2nm,0.3s,baz=330,slow=14,SNR=3.7						
	13nm,0.3s						
JOW	**Kunigami**	**2.66**	**194**	*e*P	**Pn**	**12 13 57.2**	**+0.5**
JNTH	**Nagotoyohara**	**3.02**	**197**	*e*P	**Pn**	**12 14 01.7**	**0.0**
JKE	**Kume jima 2**	**3.66**	**213**	P	**Pn**	**12 14 11.8**	**+1.3**
JNU	**Nakatsue**	**4.02**	**23**	Pn	**Pn**	**12 14 16.5**	**+1.0**
	3.5nm,0.3s,baz=183,slow=12,SNR=8.5						
JNU				Sn	**Sn**	**12 15 04.0**	**+1.6**
	1.0nm,0.3s,baz=234,slow=10,SNR=1.1						
	33nm,0.6s						
KSRS	**Korea Array**	**8.07**	**354**	Pn	**Pn**	**12 15 10.9**	**0.0**
	0.1nm,0.3s,baz=173,slow=13,SNR=4.3						
KSRS				Lg	Lg	12 17 27.2	
	0.2nm,0.3s,baz=171,slow=32,SNR=4.3						
KSRS				LR	LR	12 18 26.0	
	comp=Z,246nm,18.2s,baz=170,slow=39						
	0.6nm,0.8s						
JHJ	**Hachijo jima 2**	**9.92**	**65**	LR	LR	12 18 55.3	
	comp=Z,83nm,20.5s,baz=40,slow=34						
MJAR	**Matsushiro Arr**	**10.48**	**45**	Pn	**Pn**	**12 15 44.7**	**+0.5**
	0.1nm,0.3s,baz=243,slow=14,SNR=12						
MJAR				LR	LR	12 20 08.3	
	comp=Z,223nm,20.1s,baz=220,slow=39						
	1.0nm,0.5s						
JCJ	**Chichijima**	**11.84**	**98**	LR	LR	12 19 53.8	
	comp=Z,55nm,19.2s,baz=86,slow=34						
USRK	**Ussuriysk Ar.**	**14.94**	**8**	LR	LR	12 22 13.5	
	comp=Z,167nm,20.3s,baz=205,slow=36						
TGY	**Tagaytay City**	**16.98**	**208**	LR	LR	12 23 00.3	
	comp=Z,84nm,19.8s,baz=7.5,slow=35						
ASAJ	**Asahikawa**	**18.22**	**33**	P	**Pn**	**12 17 24.4**	**-2.3**
	4.8nm,1.0s,baz=180,slow=13,SNR=3.8						
ASAJ				LR	LR	12 24 13.7	
	comp=Z,131nm,21.0s,baz=229,slow=36						
KLR	**Kul'dur**	**19.89**	**5**	P	**Pn**	**12 17 46.0**	**-0.8**
	0.1nm,0.3s,baz=220,slow=5.6,SNR=4.8						
	4.7nm,1.0s						
DAV	**Davao City (W)**	**22.47**	**189**	LR	LR	12 25 36.8	
	comp=Z,40nm,21.7s,baz=346,slow=33						
SONM	**Songino Array**	**25.35**	**323**	P	**P**	**12 18 42.1**	**+1.2**
	0.5nm,0.5s,baz=115,slow=10.0,SNR=4.3						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.49**	**255**	LR	LR	12 31 11.8	
	comp=Z,83nm,18.1s,baz=65,slow=37						
PETK	**Petropavlovsk-**	**31.64**	**33**	LR	LR	12 32 53.0	
	comp=Z,56nm,18.5s,baz=220,slow=37						
YAK	**Yakutsk**	**32.62**	**1**	LR	LR	12 33 22.7	
	comp=Z,78nm,19.7s,baz=116,slow=37						
MA2	**Magadan**	**33.58**	**20**	LR	LR	12 33 16.2	
	comp=Z,20nm,19.8s,baz=235,slow=36						
PLAI	**Plampang**	**39.54**	**198**	P	P	12 20 38.6	-6.3
MKAR	**Makanchi Array**	**40.01**	**309**	P	**P**	**12 20 47.8**	**-0.8**
	0.5nm,0.8s,baz=110,slow=6.6,SNR=4.1						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**40.19**	**320**	P	**P**	**12 20 49.1**	**-0.9**
	0.7nm,0.7s,baz=106,slow=9.4,SNR=4.2						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**43.09**	**314**	P	**P**	**12 21 13.0**	**-0.7**
	0.6nm,0.7s,baz=96,slow=6.8,SNR=4.2						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**47.35**	**184**	P	**P**	**12 21 47.6**	**-0.2**
	2.3nm,0.9s,baz=88,slow=8.5,SNR=3.7						
	2.3nm,0.9s						
BVAR	**Borovoye Array**	**48.41**	**316**	P	**P**	**12 21 55.8**	**0.0**
	1.8nm,0.9s,baz=97,slow=7.6,SNR=4.6						

SQX	San Quintin	1.44 281	⇑eP		Pg	12 18 51.9 -0.9
SQX			eS		Sg	12 19 12.5 +0.9
SQX			e			12 19 18.6
SQX				IAML		12 19 18.9
	comp=N,813nm,0.5s					
VTX	Valle De La Tr	1.71 309	eP		Pg	12 18 59.8 +1.8
VTX			eS		Sg	12 19 23.9 +3.7
VTX			⇑e			12 19 26.1
VTX				IAML		12 19 26.1
	comp=E,439nm,0.6s					
VTX			⇑e			12 19 27.7
VTX				IAML		12 19 27.7
	comp=N,348nm,0.6s					
SV2X	San Vicente	2.00 301	eP		Pb	12 19 00.5 -0.6
SV2X			eS		Sg	12 19 27.8 -1.7
SV2X			⇑e			12 19 36.7
MBIG	Mexicali	2.24 339	eP		Pg	12 19 08.2 +0.1
CBX	Cerro Bola	2.88 314	eP		Pn	12 19 11.4 +1.0
TJIG	Tijuana	2.97 316	eP		Pn	12 19 13.1 +1.6
HSIG		3.14 113	eP		Pg	12 19 25.5 +0.2
TUC	Tucson	3.56 55	eP		Pg	12 19 32.7 -0.6
GUYB	Guaymas	3.80 128	eP		Pg	12 19 39.5 +1.6
NZIG	Nacozari, Sono	4.05 88	eP		Pg	12 19 41.7 -1.0

*IDC **02** 12:27:53.4±0.6, 9°.74S×150°.16E, h0km, mb4.4/17, mbtmp4.4/22, ML3.8/3, MS3.6/37, Error ellipse: s-maj=16.7km s-min=12.8km az=116.0*

*NEIC **02** 12:27:56.3±1.6, 9°.78S±0°.07×150°.05E±0°.07, h10km±1km, mb4.8/98, Error ellipse: s-maj=16.1km s-min=3.5km az=137.0*

*GCMT **02** 12:27:57.3±0.4, 9°.82S±0°.02×150°.30E±0°.04, h19km±1km, MW4.8/72, Moment Tensor Solution. s11,c12; s72,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.72±.17; $M_{\theta\theta}$1.46±.10; $M_{\phi\phi}$0.26±.09; $M_{r\theta}$0.25±.17; $M_{\phi\phi}$-0.31±.06; $M_{\theta r}$-1.05±.24; Best double couple: $M_0$1.89900×10^{16} NP1:ϕ_s87.00000°, δ39.00000°, λ-124.00000°. NP2: ϕ_s308.00000°, δ58.00000°, λ-66.00000°. Principal axes: T 1.6240, Plg10.0000°, Azm21.0000°; N 0.5600, Plg21.0000°, Azm114.0000°; P -2.1750, Plg67.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **02** 12:27:59.1±0.4, 10°S±3°×15°0E±°, h10km, M4.9/24, mb4.9/24, mB5.3/3, MLv4.9/1, Mw(mB)4.7/3*

ISC 02 12:27:58.8±0.3, 9°.87S±0°.05×149°.95E±0°.05, h28km, n420, σ1°.00/358, mb4.8/80, MS3.7/33, 2C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.79	279	Pn	Pn	12 28 42.5	+0.9
	127nm,0.4s,baz=84,slow=6.3,SNR=72						
PMG				Sn	Sb	12 29 20.0	-1.6
	46nm,0.3s,baz=142,slow=1.7,SNR=3.5						
PMG				LR	LR	12 30 12.7	
	comp=Z,2μm,19.1s,baz=56,slow=47						
BULU	Kimbe	4.32	5	P	Pn	12 29 06.0	+3.3
RABL	Rabaul	6.05	21		Pn	12 29 24.1	-2.4
KAVG	Kavieng	7.29	7	P	Pn	12 29 48.9	+5.4
COEN	Coen	7.77	238	Pn	Pn	12 29 51.2	+1.0
TATA	Tatamba Isabel	9.85	82	P	Pn	12 30 22.2	+3.6
MTSU	Mount Surprise	9.87	213	P	Pn	12 30 19.6	+0.7
HNR	Honiara	9.87	88	Pn	Pn	12 30 13.4	-5.5
	26nm,0.5s,baz=139,slow=2.4,SNR=1.1						
HNR				LR	LR	12 33 37.2	
	comp=Z,237nm,20.1s,baz=36,slow=36						
JAY	Jayapura	11.73	308	Pn	Pn	12 30 43.7	-0.8
	0.3nm,0.3s,baz=129,slow=12,SNR=1.4						
JAY				LR	LR	12 36 47.6	
	comp=Z,140nm,18.0s,baz=104,slow=45						
	4.4nm,0.7s						
QIS	Mount Isa	14.57	222	P	P	12 31 26.0	-3.4
EIDS	Eidsvold	15.46	176	Pn	Pn	12 31 35.7	+0.7
EIDS	Eidsvold	15.46	176	P	P	12 31 37.6	-1.6
KDU	Kakadu	17.36	259	P	P	12 32 01.6	+1.2
QLP	Quilpie	17.48	197	P	P	12 32 02.8	+1.1
RKPI	Ransiki, Papua	17.74	297	P	P	12 32 06.4	+1.8
	79nm,0.8s						
WR0	Warramunga Arr	17.94	234	P	P	12 32 07.2	+0.4
WB0	Warramunga Arr	17.96	235	P	P	12 32 07.0	0.0
WRAB	Tennant Creek	18.08	235	P	P	12 32 08.5	+0.2
WB2	Warramunga Arr	18.08	235		P	12 32 09.3	+0.9
WRA	Warramunga Arr	18.09	235		P	12 32 08.8	+0.4
WRA	Warramunga Arr	18.09	235	P	P	12 32 09.4	+0.9
	0.5nm,0.3s,baz=60,slow=11,SNR=38						
WRA				S	Sn	12 35 24.0	-5.5
	1.1nm,0.5s,baz=49,slow=22,SNR=4.6						
	11nm,0.8s						
SAUI	Saumlaki	18.52	274	P	Pn	12 32 16.0	+2.5
	73nm,1.1s						
MTN	Manton Dam	18.68	259		P	12 32 14.7	-0.3
MTN	Manton Dam	18.68	259	P	Pn	12 32 17.4	+1.9
DRS	Darwin Rock St	18.86	260	P	Pn	12 32 19.1	+1.5
FAKI	Fak Fak	18.88	290	P	Pn	12 32 20.4	+2.4
AULRC	Lightning Ridg	19.55	185	P	Pn	12 32 26.1	+0.3
INKA	Innaminka	19.78	205	P	Pn	12 32 29.2	+0.6
DZM	Mont Dzumac	19.95	129	eP	Pn	12 32 30.1	-0.6
	152nm,1.4s						
DZM				eLR	LR	12 37 11.8	
	410nm,24.2s						
DZM	Mont Dzumac	19.95	129	P	P	12 32 26.8	-2.1
DZM				IAmb	IAmb	12 32 36.8	
	comp=Z,50nm,1.1s						
DZM	Mont Dzumac	19.95	129	P	P	12 32 28.3	-0.6
	comp=Z,0.3nm,0.3s,baz=61,slow=8.5,SNR=4.1						
DZM				LR	LR	12 38 28.6	
	comp=Z,360nm,19.2s,baz=41,slow=32						
	comp=Z,10nm,1.0s						
ARMA	Armidale	20.51	176	P	P	12 32 34.8	-0.2
ARMA	Armidale	20.51	176	P	Pn	12 32 36.5	-0.8
AS01	Alice Springs	20.53	226	P	Pn	12 32 36.6	-0.9
AS31	Alice Springs	20.56	226	P	P	12 32 36.2	+0.6
ASAR	Alice Springs	20.57	226	P	P	12 32 30.4	-5.2
ASAR	Alice Springs	20.57	226	P	Pn	12 32 37.1	-0.8
	comp=Z,24nm,0.8s,baz=62,slow=10,SNR=189						
ASAR				S	Sn	12 36 29.8	+0.5
	comp=Z,1.3nm,0.8s,baz=44,slow=25,SNR=1.2						
ASAR				LR	LR	12 40 43.5	
	comp=Z,413nm,18.5s,baz=54,slow=37						
	comp=Z,24nm,0.8s						
SWI	Sorong	20.62	295	P	P	12 32 37.4	+1.2
	comp=Z,55nm,0.9s						
KNRA	Kununurra	21.44	252	P	P	12 32 46.0	+0.9
KNRA				IAmb	IAmb	12 32 47.9	
	comp=Z,42nm,0.8s						
CMSA	Cobar Meteorol	21.92	190	P	P	12 32 50.7	+0.6
OOD	Oodnadatta	22.32	215	P	P	12 32 55.1	+0.7
AAI	Ambon	22.44	284	P	P	12 32 56.0	+0.2
	comp=Z,43nm,0.9s						
LCRK	Leigh Creek	23.21	206	P	P	12 33 05.5	+1.8
STKA	Stephens Creek	23.23	198	P	P	12 33 03.5	-0.3
STKA	Stephens Creek	23.23	198	P	P	12 33 03.8	-0.1
	comp=Z,27nm,1.1s,baz=6.9,slow=11,SNR=17						
STKA				LR	LR	12 42 36.6	
	comp=Z,425nm,18.0s,baz=26,slow=38						
	comp=Z,27nm,1.1s						
STKA	Stephens Creek	23.23	198	P	P	12 33 03.7	-0.1
GUMO	Guam	23.84	348	LR	LR	12 41 11.7	
	comp=Z,120nm,21.4s,baz=174,slow=34						
YNG	Young	24.36	183	P	P	12 33 16.0	+1.4
FITZ	Fitzroy Crossi	24.94	248	P	P	12 33 20.7	+0.7
FITZ				IAmb	IAmb	12 33 22.0	
	comp=Z,10nm,0.7s						
FITZ	Fitzroy Crossi	24.94	248	LR	LR	12 43 29.9	
	comp=Z,370nm,18.9s,baz=80,slow=37						
SANI	Sanana	25.04	287	P	P	12 33 12.6	-8.3
SOEI	Soe	25.30	268	P	P	12 33 23.6	+0.2
SOEI	Soe	25.30	268	P	P	12 33 24.7	+1.3
SOEI	Soe	25.30	268	P	P	12 33 25.6	+2.2
	comp=Z,62nm,1.3s						
WRKA	Warakurna	25.52	231	P	P	12 33 26.1	+0.9
HTT	Hallett	25.55	202	P	P	12 33 26.6	+1.2
BBOO	Buckleboo	26.18	207	P	P	12 33 28.4	-2.8
MMRI	Maumere	27.37	270	P	P	12 33 42.7	+0.6
MMRI	Maumere	27.37	270	P	P	12 33 45.0	+3.0
MMRI	Maumere	27.37	270	P	P	12 33 42.4	+0.4
	comp=Z,55nm,1.0s						
KDI	Kendari	27.74	280	P	P	12 33 48.9	+3.6
	comp=Z,30nm,1.2s						
MSVF	Nonsavu	28.36	109	LR	LR	12 42 44.9	
	comp=Z,118nm,20.2s,baz=287,slow=32						
FORT	Forrest	29.11	221	P	P	12 33 57.5	+0.1
FORT	Forrest	29.11	221	P	P	12 33 59.4	+2.0
KAPI	Kappang	30.31	277	LR	LR	12 47 46.4	
	comp=Z,56nm,18.9s,baz=100,slow=39						
MBWA	Marble Bar	31.14	245	P	P	12 34 16.1	+0.7
MBWA				IAmb	IAmb	12 34 30.3	
	comp=Z,14nm,0.9s						
PSA00	Pilbara Seismi	31.16	244	P	P	12 34 16.1	+0.6
PSA00				IAmb	IAmb	12 34 38.8	
	comp=Z,18nm,1.1s						
PLAI	Plampang	31.75	269	P	P	12 34 22.7	+1.8
PLAI	Plampang	31.75	269	P	P	12 34 20.1	-0.8
	comp=Z,25nm,1.1s						
KMBL	Kambalda	33.70	226	P	P	12 34 39.1	+1.4
JAGI	Jajag, Banyuwa	35.35	269	P	P	12 34 51.5	-0.8
JAGI				IAmb	IAmb	12 35 01.4	
	comp=Z,17nm,0.8s						
JAGI	Jajag, Banyuwa	35.35	269	P	P	12 34 53.8	+1.5
JAGI	Jajag, Banyuwa	35.35	269	P	P	12 34 51.4	-0.9
	comp=Z,20nm,0.7s						
URZ	Urewera	37.33	144	LR	LR	12 49 00.6	
	comp=Z,199nm,18.4s,baz=34,slow=34						
JCJ	Chichijima	37.51	349	LR	LR	12 48 47.2	
	comp=Z,39nm,19.8s,baz=128,slow=34						
JCZ	Jackson Bay	37.80	158	P	P	12 35 14.6	+1.8
NWAO	Narrogin (SRO)	37.87	228	P	P	12 35 14.9	+1.4
SBUM	Sibu	39.51	286	P	P	12 35 26.8	-0.7
JOW	Kunigami	42.11	331	LR	LR	12 50 00.8	
	comp=Z,83nm,20.4s,baz=124,slow=32						
TPUB	Ta-pu	43.70	319	P	P	12 36 01.4	-0.3
TPUB				IAmb	IAmb	12 36 05.4	
	comp=Z,13nm,0.9s						
JHJ	Hachijo jima 2	43.83	348	LR	LR	12 53 51.8	
	comp=Z,37nm,18.6s,baz=61,slow=36						
CGJI	Cibinong	43.89	271	P	P	12 36 02.4	-1.0
MJAR	Matsushiro Arr	47.46	347	P	P	12 36 29.2	-2.1
	comp=Z,3.5nm,0.9s,baz=175,slow=8.7,SNR=9.0						
MJAR				LR	LR	12 53 56.5	
	comp=Z,19nm,21.2s,baz=166,slow=33						
	comp=Z,3.5nm,0.9s						
MAJO	Matsushiro	47.46	347		P	12 36 30.5	-0.7
MAJO				IAmb	IAmb	12 36 35.9	
	comp=Z,12nm,0.9s						
MJB9	Matsu-Tunnel	47.47	347	P	P	12 36 31.2	-0.1
MJB9				IAmb	IAmb	12 36 37.2	
	comp=Z,12nm,0.9s						
NJ2	Nanjing	51.20	326	eP	P	12 37 00.0	+0.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KULM	Kulim	51.37	285	P	P	12 37 01.0	-0.5
KULM				IAmb	IAmb	12 37 16.5	
	comp=Z,14nm,1.1s						
KSRS	Korea Array	51.40	338	P	P	12 36 59.8	-1.5
	comp=Z,1.6nm,0.9s,baz=152,slow=8.1,SNR=7.4						
KSRS				LR	LR	12 57 06.6	
	comp=Z,33nm,21.7s,baz=155,slow=34						
	comp=Z,1.6nm,0.9s						
KSAR	Wonju Array Be	51.40	338		P	12 36 59.5	-1.8
ASAJ	Asahikawa	54.14	353	LR	LR	12 59 43.9	
	comp=Z,28nm,18.9s,baz=180,slow=35						
TIA	Tai'an	55.28	328	P	P	12 37 29.1	-0.7
TIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
USA0B	Ussuriysk Arra	56.22	345	P	P	12 37 34.3	-2.1
USA0B				IAmb	IAmb	12 37 41.1	
	comp=Z,7.8nm,1.0s						
USRK	Ussuriysk Ar.	56.22	345	P	P	12 37 35.4	-1.0
USRK	Ussuriysk Ar.	56.22	345	P	P	12 37 35.0	-1.4
	comp=Z,1.6nm,0.6s,baz=170,slow=7.8,SNR=7.1						
	comp=Z,1.6nm,0.6s						
CMAR	Chiang Mai Arr	57.66	299	P	P	12 37 47.8	+0.7
CMAR	Chiang Mai Arr	57.66	299	P	P	12 37 46.8	-0.3
	comp=Z,1.5nm,0.7s,baz=126,slow=5.3,SNR=12						
CMAR				LR	LR	13 03 52.4	
	comp=Z,13nm,20.9s,baz=85,slow=37						
	comp=Z,1.5nm,0.7s						
CHTO	Chiang Mai	57.80	300	P	P	12 37 48.1	-0.1
BJI	Beijing	58.68	330	P	P	12 37 53.3	-0.5
BJI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PPT2	Papeete2	59.05	105	eLR	LR	12 55 09.5	
	comp=Z,92nm,26.5s						
PPT2				eLR	LR	12 55 15.6	
	comp=Z,102nm,29.2s						
PZH	PanZhiHua	59.14	309	P	P	12 38 00.3	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,6.0s						
TBI	Tubuai	59.22	111	eLR	LR	12 55 16.1	
	comp=Z,1μm,26.5s						
TBI				eLR	LR	12 55 17.1	
	comp=Z,182nm,26.0s						
KLR	Kul'dur	60.98	346	LR	LR	13 03 38.1	
	comp=Z,31nm,19.0s,baz=168,slow=35						
HHC	Hu-ho-hao-te	61.64	328	eP	P	12 38 16.0	+1.8
HHC				pP	pP	12 38 18.8	-4.1
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,54nm,5.4s						
HEH	HeiHe	63.02	344	eP	P	12 38 22.2	-0.9
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	Lanzhou	63.02	319	eP	P	12 38 29.9	+6.2
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
PETK	Petropavlovsk-	63.07	5	LR	LR	12 59 27.6	
	comp=Z,71nm,21.4s,baz=200,slow=30						
SHL	Shillong	66.56	303	P	P	12 38 47.3	+0.2
GTA	Gaotai	67.56	320	eP	P	12 38 54.1	+1.1
GTA				pP	pP	12 38 59.1	-2.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VNDA	Vanda	67.92	177	P	P	12 38 55.1	+0.6
VNDA	Vanda	67.92	177	LR	LR	13 04 43.0	
	comp=Z,80nm,19.2s,baz=354,slow=32						
ULN	Ulaanbaatar	68.88	331	P	P	12 39 01.6	+0.4
SONM	Songino Array	69.18	330	P	P	12 39 03.1	+0.1
SONM	Songino Array	69.18	330	P	P	12 39 03.4	+0.4
	comp=Z,5.5nm,0.9s,baz=143,slow=5.9,SNR=22						
SONM				LR	LR	13 12 08.2	
	comp=Z,20nm,18.2s,baz=172,slow=38						
	comp=Z,5.5nm,0.9s						
MA2	Magadan	69.21	0	P	P	12 39 03.4	+0.6
MA2				IAmb	IAmb	12 39 24.3	
	comp=Z,4.8nm,0.9s						
MA2	Magadan	69.21	0	LR	LR	13 05 48.9	
	comp=Z,40nm,21.8s,baz=196,slow=33						
PALK	Pallekele	71.03	281	LR	LR	13 15 37.3	
	comp=Z,22nm,18.1s,baz=124,slow=40						
UNV	Unalaska Valle	73.38	25	P	P	12 39 29.0	+1.0
	baz=225						
YAK	Yakutsk	73.40	350	LR	LR	13 19 32.4	
	comp=Z,7.0nm,18.0s,baz=113,slow=42						
P08K	Saint George I	74.19	22	P	P	12 39 33.7	+1.0
	baz=222						
SPIA	Saint Paul Isl	74.36	21	P	P	12 39 33.5	-0.2
	baz=221						
FALS	False Pass	75.38	26	P	P	12 39 40.3	+0.7
	baz=228						
S12K	Black Hills	76.53	26	P	P	12 39 46.5	+0.3
	baz=229						
SDPT	Sand Point	76.98	27	P	P	12 39 49.6	+0.8
	baz=230						
CHNA	Chernabura Isl	77.05	27	P	P	12 39 49.5	+0.4
	baz=231						
WMQ	Urumqi	77.61	319	eP	P	12 39 57.8	+5.2
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
S14K	Fog Glacier	77.98	26	P	P	12 39 55.3	+0.8
	baz=231						
M11K	Mekoryuk	78.16	21	P	P	12 39 56.0	+0.8
	baz=224						
CHGN	Chignik	78.49	26	P	P	12 39 58.1	+0.9
	baz=232						
BILL	Bilibino	78.58	6	P	P	12 39 57.2	-0.2
BILL				IAmb	IAmb	12 40 02.7	
	comp=Z,13nm,1.1s						
GAMB	Gambell	79.00	16	P	P	12 40 00.1	+0.4
	baz=218						
M13K	Dall Lake	79.19	22	P	P	12 40 01.0	+0.1
	baz=227						
O14K	Tigyukauivet M	79.19	23	P	P	12 40 01.5	+0.6
	baz=229						
CHIR	Chirikof Islan	79.46	28	P	P	12 40 03.0	+0.5
	baz=234						
N14K	Kuskokwak Cree	79.47	23	P	P	12 40 02.7	+0.3
	baz=228						
R16K	Pilot Point	79.63	26	P	P	12 40 03.0	-0.3
	baz=232						
O15K	Ungalikthiuk R	79.71	24	P	P	12 40 04.2	+0.4
	baz=230						
MAW	Mawson	79.83	203	LR	LR	13 13 57.2	
	comp=Z,88nm,19.1s,baz=116,slow=34						
M14K	Bethel	79.92	22	P	P	12 40 04.7	-0.2
	baz=228						
L14K	Kuka Creek	80.06	21	P	P	12 40 05.9	+0.3
	baz=227						
QSPA	South Pole Qui	80.13	180	P	P	12 40 06.1	-0.1
	comp=Z,27nm,1.0s,baz=354,slow=1.2,SNR=77						
QSPA				LR	LR	13 12 05.1	
	comp=Z,85nm,21.6s,baz=314,slow=33						
	comp=Z,27nm,1.0s						
N15K	Kwethluk River	80.24	23	P	P	12 40 07.1	+0.4
	baz=230						
P16K	Nushagak River	80.35	24	P	P	12 40 07.5	+0.3
	baz=232						
M15K	Kasigluk River	80.36	22	P	P	12 40 07.5	+0.2
	baz=229						
SII	Sitkinak Islan	80.54	28	P	P	12 40 08.6	+0.2
	baz=236						
O16K	Kokwok River B	80.66	24	P	P	12 40 09.1	+0.2
	baz=232						
Q16K	King Salmon	80.69	25	P	P	12 40 08.7	-0.3
	baz=233						
L15K	Ungalak Mounta	80.72	21	P	P	12 40 10.0	+0.8
	baz=228						
J14K	Nanvaranak Lak	80.73	20	P	P	12 40 10.0	+0.8
	baz=226						
N16K	Nishlik Lake	80.94	23	P	P	12 40 11.2	+0.7
	baz=231						
R18K	Karluk	80.99	27	P	P	12 40 10.6	0.0
	baz=235						
P17K	Kvichak River	81.09	25	P	P	12 40 11.1	-0.1
	baz=233						
K15K	Wolf Creek Mou	81.11	21	P	P	12 40 10.7	-0.5
	baz=228						
O17K	Koliganek Bris	81.17	24	P	P	12 40 11.9	+0.3
	baz=233						
M16K	Timber Creek	81.22	23	P	P	12 40 12.3	+0.4
	baz=231						
OHAK	Old Harbor	81.32	27	P	P	12 40 13.1	+0.6
	baz=236						
Q18K	Katmai Hardscr	81.37	26	P	P	12 40 12.7	-0.2
	baz=235						
TNA	Tin City	81.42	16	P	P	12 40 13.3	+0.5
	baz=222						
ANM	Nome	81.43	18	P	P	12 40 12.9	0.0
	baz=224						
L16K	Owhat River	81.46	22	P	P	12 40 13.8	+0.7
	baz=230						
N17K	Nushagak Hills	81.59	23	P	P	12 40 13.3	-0.5
	baz=232						
P18K	Big Mountain,	81.71	25	P	P	12 40 14.2	-0.3
	baz=234						
F14K	Arctic Creek	81.80	17	P	P	12 40 14.7	-0.2
	baz=223						
KDAK	Kodiak Island	81.95	27	LR	LR	13 09 38.5	
	comp=Z,69nm,20.1s,baz=99,slow=31						
KDAK	Kodiak Island	81.95	27	P	P	12 40 15.9	+0.2
	baz=237						
O18K	Koktuh Hills	81.99	25	P	P	12 40 16.3	+0.3
	baz=234						
M17K	Holitna River	82.03	23	P	P	12 40 17.1	+1.0
	baz=232						
J16K	Anvik River	82.09	20	IAmb	IAmb	12 40 21.7	
	comp=Z,13nm,1.0s						
J16K	Anvik River	82.09	20	P	P	12 40 17.7	+1.3
	baz=229						
Q19K	Cape Douglas,	82.11	26	P	P	12 40 17.4	+0.7
	baz=236						
G15K	Niukluk	82.14	18	P	P	12 40 17.2	+0.6
	baz=226						
L17K	Donlin	82.17	22	P	P	12 40 17.1	+0.3
	baz=231						
N18K	Kilae Creek	82.20	24	P	P	12 40 17.7	+0.7
	baz=234						
MK31	Makanchi Array	82.32	320	P	P	12 40 18.1	+0.1
MKAR	Makanchi Array	82.32	320	P	P	12 40 17.9	-0.1
MKAR	Makanchi Array	82.32	320	P	P	12 40 17.8	-0.2
	comp=Z,0.9nm,0.6s,baz=94,slow=5.7,SNR=8.5						
	comp=Z,0.9nm,0.6s						
H16K	Elim	82.45	19	P	P	12 40 19.4	+1.1
	baz=227						
I17K	Unalakleet	82.45	20	P	P	12 40 19.3	+1.1
	baz=229						
F15K	North Star Dit	82.46	17	P	P	12 40 19.1	+0.8
	baz=225						
Q20K	Shuyak Island	82.48	26	P	P	12 40 19.2	+0.6
	baz=237						
MAKZ	Makanchi	82.52	320	P	P	12 40 18.4	-0.7
K17K	Iditarod	82.53	21	P	P	12 40 19.5	+0.8
	baz=231						
TIXI	Tiksi	82.54	353	P	P	12 40 17.6	-0.9
TIXI	Tiksi	82.54	353	LR	LR	13 16 20.4	
	comp=Z,17nm,20.1s,baz=11,slow=35						
O19K	Port Alsworth	82.55	25	P	P	12 40 18.2	-0.7
	baz=235						
J17K	VABM Dome	82.68	21	P	P	12 40 19.7	+0.2
	baz=230						
P19K	Oil Pt	82.69	25	P	P	12 40 19.1	-0.5
	baz=236						
M18K	Stony River	82.70	23	P	P	12 40 19.8	+0.2
	baz=234						
L18K	Granite Mounta	82.81	22	P	P	12 40 19.9	-0.3
	baz=233						
N19K	Bonanza Creek	82.84	24	P	P	12 40 20.5	0.0
	baz=235						
G16K	Koyuk River	82.93	18	P	P	12 40 20.9	+0.2
	baz=227						
O20K	Slope Mountain	83.19	25	P	P	12 40 21.7	-0.6
	baz=237						
HOM	Homer	83.37	26	P	P	12 40 22.4	-0.8
	baz=238						
H17K	Granite Mounta	83.40	19	P	P	12 40 22.7	-0.4
	baz=229						
L19K	White Mountain	83.48	23	P	P	12 40 23.2	-0.5
	baz=234						
TTA	Tatalina	83.49	22	P	P	12 40 23.4	-0.4
TTA				IAmb	IAmb	12 40 28.8	
	comp=Z,10nm,1.2s						
TTA	Tatalina	83.49	22	P	P	12 40 24.0	+0.2
	baz=233						
M19K	Big River Lodg	83.50	23	P	P	12 40 23.8	0.0
	baz=235						
J18K	Innoko River	83.56	21	IAmb	IAmb	12 40 28.9	
	comp=Z,7.2nm,0.9s						
J18K	Innoko River	83.56	21	P	P	12 40 24.0	-0.1
	baz=233,SNR=6.9						
BRSE	Bradley Lake S	83.81	26	P	P	12 40 25.4	0.0
	baz=238						
ZAA0	Zalesovo Array	83.82	327	P	P	12 40 24.2	-1.3
ZAA0				IAmb	IAmb	12 40 30.3	
	comp=Z,10nm,1.3s						
ZALV	Zalesovo Beam	83.82	327	P	P	12 40 24.3	-1.2
	comp=Z,3.1nm,0.7s,baz=111,slow=5.1,SNR=20						
ZALV				LR	LR	13 18 04.9	
	comp=Z,36nm,19.2s,baz=64,slow=36

comp=Z,7.8nm,1.1s
J19K Poorman 84.27 21 P P 12 40 27.9 +0.3
baz=234,SNR=7.3
GCSA Galena City Sc 84.28 20 P P 12 40 27.6 -0.1
baz=232
D17K Noatak River 84.30 16 P P 12 40 28.1 +0.4
baz=226
G18K Tagagawik 84.42 19 IAmb IAmb 12 40 28.7
comp=Z,8.2nm,0.8s
G18K Tagagawik 84.42 19 P P 12 40 28.3 -0.1
baz=230
K20K Telida 84.46 22 IAmb IAmb 12 40 34.0
comp=Z,9.8nm,1.1s
K20K Telida 84.46 22 P P 12 40 28.5 -0.1
baz=235,SNR=8.7
SEW Seward 84.55 26 P P 12 40 28.2 -0.9
baz=239
F18K Selawik 84.56 18 P P 12 40 28.8 -0.2
baz=230
RDOG Red Dog Mine 84.60 16 P P 12 40 29.5 +0.3
baz=226
O22K Cooper Landing 84.62 26 P P 12 40 29.3 -0.2
baz=239
C17K DeLong Mountai 84.81 16 P P 12 40 30.4 +0.1
baz=226
E18K Tukpahlearik C 84.82 17 P P 12 40 30.5 +0.2
baz=229
J20K Nowinta River 84.90 21 P P 12 40 30.9 +0.1
baz=235
H19K Roundabout Mou 84.91 20 P P 12 40 30.9 +0.1
baz=233
PPLA Purkeypile 84.91 23 P P 12 40 30.5 -0.5
baz=237
RC01 Rabbit Creek A 84.93 25 P P 12 40 30.9 -0.2
baz=239
BOOM Boomskoye usch 85.05 314 IAmb IAmb 12 40 52.8
comp=Z,5.2nm,1.0s
G19K Purcell Mounta 85.07 19 P P 12 40 31.9 +0.2
baz=232
M22K Willow 85.12 24 P P 12 40 31.8 -0.1
baz=239
I20K Naaghedeneel 85.14 21 P P 12 40 32.0 0.0
baz=234
CAST Castle Rocks 85.23 23 IAmb IAmb 12 40 32.2
comp=Z,6.5nm,1.0s
CAST Castle Rocks 85.23 23 P P 12 40 32.6 +0.1
baz=237,SNR=8.4
F19K Shaleruckik Mo 85.29 18 P P 12 40 33.1 +0.4
baz=231
P23K Montague Islan 85.39 27 P P 12 40 33.5 +0.1
baz=241
CUT Chulitna 85.39 24 P P 12 40 33.8 +0.5
baz=238
CHUM Lake Minchumin 85.40 22 P P 12 40 33.6 +0.3
baz=237
PWL Port Wells 85.41 26 P P 12 40 33.4 0.0
baz=240
H20K Anotleneega Mo 85.41 20 P P 12 40 33.3 -0.1
baz=234
PMR Palmer 85.44 25 P P 12 40 33.3 -0.3
baz=240
C18K Utukok River 85.47 16 P P 12 40 34.0 +0.3
baz=228
Q23K Middleton Isla 85.59 27 P P 12 40 34.5 +0.1
baz=242
KNK Knik Glacier 85.63 25 P P 12 40 34.2 -0.4
baz=240
KTH Kantishna Hill 85.75 23 IAmb IAmb 12 40 34.4
comp=Z,8.5nm,1.0s
B18K Kokolik River 85.79 15 P P 12 40 35.7 +0.6
baz=227
E19K Redstone River 85.84 18 P P 12 40 35.2 -0.2
baz=232
SML Sawmill 85.88 25 P P 12 40 35.2 -0.6
baz=240
TRF Thorofare Moun 85.93 23 IAmb IAmb 12 40 40.8
comp=Z,6.0nm,1.1s
TRF Thorofare Moun 85.93 23 P P 12 40 36.1 -0.1
baz=238
GLI Glacier Island 85.95 26 P P 12 40 36.2 +0.1
baz=242
BPAW Bear Paw Mtn. 86.01 22 P P 12 40 35.6 -0.8
baz=238
KURBB Kurchatov Arra 86.05 323 P P 12 40 36.2 -0.7
comp=Z,0.7nm,0.6s,baz=106,slow=4.1,SNR=7.0
comp=Z,0.7nm,0.6s
F20K Avaraart Lake 86.06 19 P P 12 40 36.9 +0.4
baz=233
AAK Ala-Archa 86.11 314 P P 12 40 36.6 -1.0
M23K Glacier View 86.12 25 P P 12 40 37.3 +0.3
baz=241
H21K Melozitna Rive 86.21 20 P P 12 40 36.9 -0.4
baz=236
D19K Kuna River 86.23 17 IAmb IAmb 12 40 42.3
comp=Z,7.3nm,1.0s
D19K Kuna River 86.23 17 P P 12 40 36.6 -0.8
baz=231
I21K Tanana 86.24 21 IAmb IAmb 12 40 43.2
comp=Z,8.6nm,1.0s
I21K Tanana 86.24 21 P P 12 40 37.5 0.0
baz=237
SCM Sheep Creek Mo 86.31 25 P P 12 40 36.9 -1.1
baz=241
EYAK Cordova Ski Ar 86.38 27 P P 12 40 37.8 -0.5
baz=243
G21K Allakaket 86.46 20 P P 12 40 37.9 -0.6
baz=235
RND Reindeer 86.47 23 P P 12 40 37.4 -1.3
RND IAmb IAmb 12 40 42.6
comp=Z,11nm,1.1s
A19K Wainwright 86.54 15 P P 12 40 38.4 -0.4
baz=228
MCK McKinley 86.60 23 P P 12 40 38.2 -1.1
baz=240,SNR=16
E20K Nigu River 86.64 18 P P 12 40 39.0 -0.5
baz=233
KLU Klutina 86.74 26 P P 12 40 39.6 -0.5
baz=242
D20K Etivluk River 86.80 17 P P 12 40 39.9 -0.3
baz=232
ARSB Arslanbob 86.82 313 IAmb IAmb 12 40 53.7
comp=Z,4.6nm,0.9s
H22K Ishtalitna Cre 86.84 21 P P 12 40 40.4 0.0
baz=237
F21K Alatna River 86.87 19 P P 12 40 40.4 -0.2
baz=235
M24K Tolsona, Glenn 86.92 25 P P 12 40 40.5 -0.4
baz=242
NEA2 Nenana 86.98 22 IAmb IAmb 12 40 44.9
comp=Z,8.7nm,1.0s
NEA2 Nenana 86.98 22 P P 12 40 40.9 -0.3
baz=240,SNR=8.0
BMRM Bremner River 87.07 26 P P 12 40 40.8 -0.9
baz=244
I23K Minto, Yukon-K 87.16 22 P P 12 40 41.7 -0.2
baz=239
WRH Wood River Hil 87.29 23 P P 12 40 41.3 -1.3
WRH IAmb IAmb 12 40 46.4
comp=Z,7.4nm,1.0s
BGLC Bering Glacier 87.29 27 P P 12 40 42.3 -0.4
baz=245
N25K Chitina, Valde 87.36 26 P P 12 40 42.6 -0.5
baz=244
E21K Killik River 87.42 18 P P 12 40 42.9 -0.3
E21K IAmb IAmb 12 40 59.3
comp=Z,6.5nm,0.9s
E21K Killik River 87.42 18 P P 12 40 43.1 -0.1
baz=235
B20K Meade River 87.44 16 P P 12 40 43.4 +0.2
baz=232
F22K John River 87.45 19 P P 12 40 43.0 -0.3
baz=236
HARP HAARP 87.47 25 P P 12 40 43.3 -0.3
baz=243
COLA College 87.58 22 P P 12 40 42.5 -1.5
COLA College 87.58 22 P P 12 40 43.2 -0.7
baz=241
C21K Knifeblade Rid 87.59 17 P P 12 40 43.8 -0.2
baz=234
PAX Paxson 87.60 24 P P 12 40 43.8 -0.5
baz=243
GLB Gilahina Butte 87.62 26 IAmb IAmb 12 40 50.1
comp=Z,8.6nm,1.1s
HDA Harding Lake 87.69 23 IAmb IAmb 12 40 49.6
comp=Z,6.1nm,1.0s
HDA Harding Lake 87.69 23 P P 12 40 44.5 -0.1
baz=241
G23K Bananza Creek 87.73 20 P P 12 40 44.6 -0.2
baz=238
POKR Poker Plat Res 87.85 22 P P 12 40 44.8 -0.5
baz=241
K24K Donnelly Dome 87.86 24 P P 12 40 44.9 -0.5
baz=242
ILAR Eielson Array 87.89 23 P P 12 40 43.9 -1.6
ILAR Eielson Array 87.89 23 P P 12 40 43.7 -1.8
comp=Z,5.5nm,0.7s,baz=254,slow=5.0,SNR=63
ILAR LR LR 13 16 27.8
comp=Z,30nm,21.1s,baz=165,slow=33
comp=Z,5.5nm,0.7s
E22K Anaktuvuk Pass 87.91 19 IAmb IAmb 12 40 46.4
comp=Z,4.2nm,1.1s
E22K Anaktuvuk Pass 87.91 19 P P 12 40 45.5 -0.1
baz=237
B21K Ikpikpuk River 87.92 17 P P 12 40 45.2 -0.3
baz=234
MESA MESA 87.92 28 P P 12 40 45.4 -0.6
baz=246
COLD Coldfoot 87.94 20 P P 12 40 45.6 -0.1
baz=238
SYO Syowa Base 87.98 200⇑ *e*P P 12 40 46.1 +0.2
SYO Syowa Base 87.98 200⇑ *e*pP P 12 40 51.0 +5.1
H24K Noodor Dome 88.04 21 P P 12 40 46.4 +0.1
baz=241
GAR Garm 88.19 310 IAmb IAmb 12 41 08.4
comp=Z,6.3nm,1.2s
RIDG Independent Ri 88.20 24 P P 12 40 46.3 -0.8
baz=243
MENT Mentasta 88.31 25 IAmb IAmb 12 40 51.6
comp=Z,6.3nm,1.1s
M26K Nabesna, AK 88.38 25 P P 12 40 47.5 -0.5
baz=245
J25K Salcha River, 88.39 23 P P 12 40 47.0 -1.0
baz=243,SNR=20
L26K Log Cabin Wild 88.50 25 IAmb IAmb 12 40 53.2
comp=Z,6.5nm,1.0s
L26K Log Cabin Wild 88.50 25 P P 12 40 47.8 -0.7
baz=245
E23K Chandalar 88.57 19 P P 12 40 48.6 -0.2
baz=239
G24K Hadweenzic Riv 88.61 21 P P 12 40 48.7 -0.2
baz=241
A22K Sinclair Lake 88.63 16 P P 12 40 49.0 +0.2
baz=234
SCRK Sand Creek 88.65 24 P P 12 40 49.1 -0.2
baz=244
B22K Teshekpuk Lake 88.67 16 P P 12 40 49.2 +0.1
baz=235
D23K Nanushuk River 88.71 18 P P 12 40 49.8 +0.5
baz=238
PRP Porcupine Dome 88.75 22 P P 12 40 50.3 +0.5
baz=243
M27K Edge Creek, AK 88.84 26 P P 12 40 50.6 +0.4
baz=246,SNR=12
F24K Squaw Lake 88.86 20 IAmb IAmb 12 40 55.7
comp=Z,5.7nm,1.0s
F24K Squaw Lake 88.86 20 P P 12 40 50.3 +0.1
baz=240
TOLK Toolik Lake Re 88.89 19 IAmb IAmb 12 40 55.5
comp=Z,5.1nm,1.0s
TOLK Toolik Lake Re 88.89 19 P P 12 40 50.3 +0.1
baz=239
E24K Your Creek 88.94 19 P P 12 40 50.6 +0.1
baz=240
O28M Mount Upton 88.96 27 P P 12 40 50.6 -0.4
baz=248
H25L Birch Creek 88.99 21 P P 12 40 51.0 +0.4
baz=242
J26L Joseph Creek 89.04 23 IAmb IAmb 12 40 55.7
comp=Z,4.2nm,0.9s
J26L Joseph Creek 89.04 23 P P 12 40 51.3 +0.2
baz=244
G25K Bearman Lake 89.12 21 P P 12 40 51.5 +0.3
baz=242
L27K Beaver Creek, 89.14 25 IAmb IAmb 12 40 57.1
comp=Z,9.6nm,1.1s
L27K Beaver Creek, 89.14 25 P P 12 40 52.1 +0.6
baz=246,SNR=12
BCAR Beaver Creek A 89.16 25 P P 12 40 51.6 0.0
C23K Itkillik River 89.19 17 P P 12 40 52.5 +1.0
baz=238
YUK8 Steele Glacier 89.34 27 P P 12 40 52.7 0.0
baz=248
D24K Happy Valley 89.38 18 P P 12 40 53.1 +0.7
baz=240
K27K Chicken 89.44 24 P P 12 40 53.2 +0.4
baz=246
O29M Mount Kennedy 89.53 28 P P 12 40 53.5 0.0
baz=249
I26K Coal Creek Min 89.55 23 P P 12 40 53.9 +0.6
baz=245
F25K Christian Rive 89.66 20 P P 12 40 54.5 +0.7
baz=243
C24K Franklin Bluff 89.70 18 P P 12 40 54.9 +1.0
baz=240
NRIK Noril'sk 89.83 342 IAmb IAmb 12 41 00.1
comp=Z,6.4nm,1.1s
NRIK Noril'sk 89.83 342 P P 12 40 52.9 -1.6
comp=Z,2.8nm,0.6s,baz=94,slow=5.5,SNR=6.3
comp=Z,2.8nm,0.6s
YUK6 Outpost Mounta 89.85 28 P P 12 40 54.9 -0.2
baz=249
S31K Pelican 89.87 31 P P 12 40 55.1 +0.2
baz=251
YUK4 Talbot Arm 89.87 27 P P 12 40 55.7 +0.5
baz=249,SNR=5.6
E25K Arctic Village 89.93 20 IAmb IAmb 12 41 00.6
comp=Z,5.8nm,1.1s
E25K Arctic Village 89.93 20 P P 12 40 55.8 +0.7
baz=243
BMAR Burnt Mountain 89.95 21 P P 12 40 55.2 0.0
G26K Porcupine Rive 90.02 21 P P 12 40 55.7 +0.3
baz=244
HYT Haines Junctio 90.21 28 IAmb IAmb 12 41 04.7
comp=Z,9.3nm,1.1s
HYT Haines Junctio 90.21 28 P P 12 40 57.0 +0.3
baz=250
F26K Sheenjek River 90.22 20 P P 12 40 57.0 +0.6
baz=244
P30M Million Dollar 90.22 29 P P 12 40 56.9 +0.3
baz=250
D25K Kavik River 90.22 19 P P 12 40 56.5 0.0
baz=242
I27K Kandik River 90.25 23 P P 12 40 56.3 -0.3
baz=246
R31K City Hall, Gus 90.26 30 P P 12 40 56.4 -0.3
baz=251
M29M Somme Creek 90.34 26 IAmb IAmb 12 41 03.4
comp=Z,3.8nm,0.8s
M29M Somme Creek 90.34 26 P P 12 40 57.2 -0.1
baz=249
DAWY Dawson 90.54 25 P P 12 40 58.1 +0.1
baz=248
H27K Steamboat Moun 90.54 22 P P 12 40 58.6 +0.6
baz=246
N30M Aishikik Lake 90.61 27 P P 12 40 58.4 0.0
baz=250
L29M L29MI 90.72 26 P P 12 40 59.3 +0.4
baz=249
G27K Doyon Strip 90.72 22 P P 12 40 59.3 +0.5
baz=246
SKAG Skagway 90.79 30 P P 12 40 59.5 +0.4
baz=252
R32K Eaglecrest 90.83 31 P P 12 41 00.2 +0.7
baz=252
I28M Mier Creek 90.84 23 P P 12 41 00.2 +0.7
baz=248
O30N Mendenhall 90.84 28 P P 12 41 00.1 +0.6
baz=251
U33K Whale Pass 90.93 33 P P 12 41 00.1 +0.2
baz=254
C26K Camden Bay 90.95 18 P P 12 41 00.9 +1.1
baz=243
M30M Minto, Yukon 91.12 26 IAmb IAmb 12 41 06.2
comp=Z,4.5nm,1.1s
M30M Minto, Yukon 91.12 26 P P 12 41 00.8 +0.1
baz=251
J29N Klondike Camp 91.16 24 IAmb IAmb 12 41 09.7
comp=Z,3.5nm,0.9s
J29N Klondike Camp 91.16 24 P P 12 41 01.6 +0.7
baz=249
C27K Jago River 91.20 19 P P 12 41 01.6 +0.6
baz=244
N31M Braeburn, Yuko 91.21 28 IAmb IAmb 12 41 09.3
comp=Z,6.2nm,1.0s
N31M Braeburn, Yuko 91.21 28 P P 12 41 01.4 +0.2
baz=251
ELIB Princess Elisa 91.23 194 *d*P **P 12 41 00.9 -0.4**
comp=Z,3.8nm,0.7s
K29M Barlow Dome 91.23 25 IAmb IAmb 12 41 02.4
comp=Z,4.3nm,1.0s
K29M Barlow Dome 91.23 25 P P 12 41 01.3 -0.1
baz=250
E27K Coleen River 91.30 20 P P 12 41 02.5 +1.0
baz=246
WRAK Wrangell Islan 91.43 33 P P 12 41 02.3 +0.1
baz=254
I29M Ogilvie Camp, 91.44 23 P P 12 41 03.2 +1.0
baz=249
V35K Ketchikan 91.54 34 P P 12 41 03.4 +0.6
baz=255
BVAR Borovoye Array 91.59 324 P P 12 41 01.5 -1.6
comp=Z,0.9nm,0.8s,baz=100,slow=6.6,SNR=4.7
BVAR LR LR 13 25 23.6
comp=Z,28nm,18.1s,baz=328,slow=38
comp=Z,0.9nm,0.8s
P32M Atlin 91.61 30 P P 12 41 03.4 +0.3
baz=253
F28M Old Crow 91.68 21 P P 12 41 04.0 +0.7
baz=248
H29M Whitestone 91.72 23 P P 12 41 04.4 +0.9
baz=249
D27M Malcm River 91.93 19 P P 12 41 04.8 +0.4
baz=247
J30M Hart River 91.97 24 P P 12 41 05.0 +0.3
baz=251
M31M Drury Creek, Y 92.06 27 P P 12 41 05.1 0.0
baz=253
G29M Pine Creek 92.09 22 P P 12 41 04.8 -0.3
baz=250
Q32M Nakina River 92.15 30 P P 12 41 05.0 -0.8
baz=254
I30M Mount Dempster 92.16 24 P P 12 41 05.6 -0.1
baz=251
E28M Babbage River 92.17 20 P P 12 41 05.3 -0.1
baz=248
P33M Teslin, Yukon 92.22 29 P P 12 41 06.2 +0.3
baz=254
N32M Quiet Lake 92.36 28 P P 12 41 06.5 0.0
baz=254
BELA Belgrano 2 92.36 179 P P 12 41 05.6 -0.8
S34M Telegraph Cree 92.46 32 P P 12 41 06.7 -0.2
baz=255
FARO Faro, Yukon 92.54 27 P P 12 41 06.7 -0.6
baz=254
U35K Hyder 92.56 34 P P 12 41 06.7 -0.7
baz=256
E29M Blow River 92.65 21 P P 12 41 08.0 +0.3
baz=250
G30M tAoh Zraii Nji 92.79 22 P P 12 41 09.0 +0.7
baz=251
BBB Bella Bella 92.81 38 LR LR 13 16 38.1
comp=Z,43nm,18.8s,baz=272,slow=32
H31M Peel River 93.14 24 P P 12 41 09.4 -0.6
baz=253
F30M Barrier River 93.15 22 P P 12 41 09.9 -0.1
baz=252
DLBC Dease Lake 93.15 31 P P 12 41 06.8 -3.5
comp=Z,1.3nm,1.0s,baz=157,slow=21,SNR=7.9
comp=Z,1.3nm,1.0s
DLBC Dease Lake 93.15 31 P P 12 41 09.7 -0.6
baz=256
G31M Satah River 93.50 23 P P 12 41 11.5 -0.1
baz=253
INK Inuvik 94.17 21 P P 12 41 10.9 -3.6
comp=Z,1.9nm,0.9s,baz=215,slow=6.2,SNR=4.0
comp=Z,1.9nm,0.9s
YBH Yreka Blue Hor 94.51 49 LR LR 13 18 22.5
comp=Z,61nm,18.7s,baz=231,slow=32
SNAA Sanae 96.65 188 LR LR 13 24 29.8
comp=Z,92nm,18.8s,baz=180,slow=35
NVAR Mina Array Bea 97.41 52 P P 12 41 28.1 -2.3
comp=Z,0.5nm,0.8s,baz=251,slow=4.7,SNR=3.9
NVAR LR LR 13 17 25.3
comp=Z,41nm,21.8s,baz=236,slow=30
comp=Z,0.5nm,0.8s
NEW Newport 99.23 43 LR LR 13 22 07.3
comp=Z,56nm,18.4s,baz=246,slow=33
TORD Torodi Ar. Bea 148.73 279 PKPbc PKPbc 12 47 44.8 +0.1
comp=Z,9.5nm,0.9s,baz=57,slow=5.3,SNR=5.1
BDFB Brasilia 149.04 145 PKPbc PKPbc 12 47 44.7 -0.8
comp=Z,3.9nm,0.9s,baz=220,slow=3.4,SNR=4.4

IDC 02 12:36:36.7±2.1, 9.71S×150.00E, h0km, mb3.7/3, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=62.0km s-min=30.2km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.81**	**276**	Pn	Pn	Pn	12 37 24.8	+1.8
	9.4nm,0.3s,baz=117,slow=5.6,SNR=11							
PMG				Sn		Sb	12 38 03.8	+0.8
	2.6nm,0.3s,baz=132,slow=14,SNR=1.9							
WRA	**Warramunga Arr**	**18.22**	**234**	P		Pn	12 40 50.7	-0.6
	baz=55,slow=12,SNR=1.4							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**20.71**	**226**	P		P	12 41 18.8	-0.1
	1.4nm,0.8s,baz=59,slow=12,SNR=10							
	1.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**25.04**	**248**	P		P	12 42 02.2	-0.7
	3.2nm,0.9s,baz=69,slow=8.7,SNR=6.2							
	3.2nm,0.9s							
ILAR	**Eielson Array**	**87.73**	**22**	P		P	12 49 27.4	+0.2
	0.4nm,1.0s,baz=234,slow=6.8,SNR=4.2							
	0.4nm,1.0s							

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*IDC **02** 12:54:59.8±1.0, 18.18N×81.70W, h0km, mb3.8/7, mbtmp3.7/9, ML3.2/2, MS3.1/9, Error ellipse: s-maj=26.6km s-min=19.1km az=41.0*
*NEIC **02** 12:55:02.0±1.6, 18.24N±0.08×81.68W±0.07, h10km±2km, mb4.2/15, Error ellipse: s-maj=13.6km s-min=11.8km az=174.0*
*JSN **02** 12:55:03.6±2.5, 18.91N×81.45W, h15km, 999km, MD4.6*
*SSNC **02** 12:55:05.4±1.6, 18.30N×81.51W, h25km±26km, mb4.3, ML3.6, MW4.4*

ISC 02 12:55:01.3±0.6, 18.32N±0.06×81.45W±0.05, h14km, n65, σ2.57/72, mb4.1/13, MS3.1/4, 1C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBCY	**The Bluff, Cay**	**2.13**	**48**	⇑*i*P		**Pn**	**12 55 38.2**	**+1.7**
CBCY				*e*S		**Sn**	**12 56 03.6**	**+0.9**
CBCY				IAML			12 56 04.2	
	comp=E,301nm,0.3s							
CBCY				IAML			12 56 05.4	
	comp=N,332nm,0.3s							
MTDJ	**Mount Denham**	**3.72**	**91**	Pn		**Pn**	**12 56 00.9**	**+2.5**
MTDJ	**Mount Denham**	**3.72**	**91**	*e*P		**Pn**	**12 56 00.9**	**+2.5**
MTDJ				*e*S		**Sn**	**12 56 41.7**	**-0.4**
MTDJ				*e*Sg		**Sb**	**12 56 45.6**	**-6.2**
MTDJ				IAML			12 56 50.8	
	comp=N,92nm,0.5s							
MTDJ				IAML			12 56 50.9	
	comp=N,98nm,0.3s							
MTDJ	**Mount Denham**	**3.72**	**91**	*i* P		**Pn**	**12 56 00.8**	**+2.3**
MTDJ				*i* S		**Sn**	**12 56 41.4**	**-0.7**
PILO	**Pilon**	**4.14**	**67**	*e*P		**Pn**	**12 56 07.2**	**+3.1**
PILO				*e*S		**Sn**	**12 56 52.1**	**-0.2**
PILO				IAML			12 56 57.8	
	comp=E,23nm,0.4s							
PILO				IAML			12 56 58.5	
	comp=N,30nm,0.5s							
STH	**Stony Hill**	**4.42**	**92**	*e*P		**Pn**	**12 56 10.1**	**+2.1**
STH				*e*S		**Sn**	**12 57 00.9**	**+1.7**
STH	**Stony Hill**	**4.42**	**92**	*i* P		**Pn**	**12 56 09.5**	**+1.6**
LMGC	**Las Mercedes**	**4.54**	**67**	*e*P		**Pn**	**12 56 10.9**	**+1.3**
LMGC				*e*S		**Sn**	**12 56 59.9**	**-2.4**
CAIB	**Caibarien**	**4.55**	**24**	*e*P		**Pn**	**12 56 12.5**	**+2.8**
CAIB				*e*S		**Sn**	**12 57 00.2**	**-2.1**
CAIB				IAML			12 57 07.5	
	comp=E,79nm,0.5s							
CAIB				IAML			12 57 08.3	
	comp=N,75nm,0.3s							
SOR	**Soroa**	**4.68**	**342**	Pn		**Pn**	**12 56 13.7**	**+2.2**
SOR	**Soroa**	**4.68**	**342**	*e*P		**Pn**	**12 56 13.8**	**+2.2**
LTUP	**Las Tunas**	**4.95**	**57**	*e*P		**Pn**	**12 56 17.8**	**+2.6**
LTUP				*e*S		**Sn**	**12 57 10.9**	**-1.3**
CHIV	**Chivirico**	**5.04**	**70**	Pn		**Pn**	**12 56 19.1**	**+2.7**
CHIV	**Chivirico**	**5.04**	**70**	*e*P		**Pn**	**12 56 16.5**	**+0.1**
CHIV				*e*S		**Sn**	**12 57 09.8**	**-4.6**
MARVS	**Santiago de Cu**	**5.50**	**71**	*e*P		**Pn**	**12 56 24.5**	**+1.6**

MARVS					*e*S	**Sn**	**12 57 22.5**	**-3.5**
RCC	**Rio Carpintero**	**5.69**	**72**	*e*P	**Pn**	**12 56 26.2**	**+0.9**
RCC				*e*S	**Sn**	**12 57 28.7**	**-1.8**
PINC	**Pinares de May**	**5.76**	**67**	*e*P	**Pn**	**12 56 29.9**	**+3.6**
PINC				*e*S	**Sn**	**12 57 32.2**	**-0.1**
GTBY	**Guantanamo Bay**	**6.20**	**74**	*e*P	**Pn**	**12 56 31.7**	**-0.8**
GTBY				*e*S	**Sn**	**12 57 39.7**	**-3.5**
QMBU	**Quimbuelo**	**6.54**	**72**	*e*P	**Pn**	**12 56 38.6**	**+1.5**
QMBU				*e*S	**Sn**	**12 57 46.3**	**-5.3**
ESPN	**Las Esperanzas**	**6.68**	**205**		**Pn**	**12 56 38.3**	**-0.7**
TEIG	**Tepich**	**6.72**	**287**	Pn	**Pn**	**12 56 35.5**	**-4.2**
MASC	**Masc**	**7.06**	**74**	*e*P	**Pn**	**12 56 47.4**	**+3.1**
BOAB	**BOACO BROADBAN**	**7.11**	**215**	Pn	**Pn**	**12 56 43.4**	**-1.6**
ACON	**Acoyapa**	**7.27**	**210**	Pn	**Pn**	**12 56 45.8**	**-1.3**
061Z	**Ochoppi**	**7.53**	**4**	Pn	**Pn**	**12 56 52.8**	**+2.1**
061Z	**Ochoppi**	**7.53**	**4**	*e*P	**Pn**	**12 56 54.6**	**+3.9**
061Z				*e*S	**Sn**	**12 58 10.8**	**-5.0**
PETF	**Flores**	**8.15**	**261**	Pn	**Pn**	**12 56 56.9**	**-2.3**
MTO3	**Montecristo**	**8.54**	**244**	Pn	**Pn**	**12 57 02.2**	**-2.5**
JTS	**Las Juntas de**	**8.67**	**204**	LR	LR	13 00 27.0	
	comp=N,78nm,18.5s,baz=113,slow=39						
PAPH	**Port-au-Prince**	**8.69**	**87**	Pn	**Pn**	**12 57 11.0**	**+4.4**
APG	**El Apazote**	**9.25**	**250**	Pn	**Pn**	**12 57 11.3**	**-3.2**
	comp=N,0.1nm,0.3s,baz=79,slow=21,SNR=5.3						
	comp=N,0.2nm,0.3s						
SDDR	**Presa de Saban**	**9.65**	**84**	Pn	**Pn**	**12 57 23.8**	**+3.9**
GRTK	**Grand Turk**	**10.21**	**70**	Pn	**Pn**	**12 57 31.0**	**+3.6**
SC01	**Santiago de lo**	**10.21**	**82**	Pn	**Pn**	**12 57 31.5**	**+4.1**
CCIG	**Comitan**	**10.41**	**260**	Pn	**Pn**	**12 57 27.6**	**-2.8**
DR12	**Loma Pena Alta**	**11.46**	**86**	Pn	Pn	12 57 49.5	+4.9
CMIG	**Matias Romero**	**12.86**	**267**	Pn	**Pn**	**12 58 00.7**	**-3.1**
	comp=N,0.4nm,0.3s,baz=51,slow=12,SNR=5.5						
CMIG				LR	LR	13 02 38.7	
	comp=N,116nm,20.5s,baz=60,slow=36						
	comp=N,0.8nm,0.3s						
SDV	**Santo Domingo**	**14.08**	**130**	LR	LR	13 04 08.2	
	comp=N,82nm,19.2s,baz=288,slow=39						
SJG	**San Juan**	**14.54**	**88**	LR	LR	13 03 55.9	
	comp=N,84nm,20.2s,baz=253,slow=36						
TKL	**Tuckaleechee C**	**17.39**	**354**	LR	LR	13 05 21.9	
	comp=N,65nm,18.2s,baz=78,slow=36						
833A	**Chaparral WMA,**	**19.23**	**304**	P	**P**	**12 59 24.8**	**-0.4**
833A				IAmb	IAmb	12 59 27.3	
	comp=Z,20nm,1.1s						
ZAIG	**Zacatecas**	**20.26**	**286**	P	**P**	**12 59 36.9**	**+0.1**
BRDY	**Brady**	**20.47**	**312**		**P**	**12 59 39.4**	**+0.8**
DRIO	**Del Rio**	**20.69**	**306**	P	**P**	**12 59 40.0**	**-1.2**
DRIO				IAmb	IAmb	12 59 42.6	
	comp=Z,8.2nm,0.9s						
HHAR	**Hobbs**	**21.02**	**331**	P	**P**	**12 59 45.3**	**+0.7**
HHAR				IAmb	IAmb	12 59 47.1	
	comp=Z,15nm,1.3s						
SAND	**Sanderson**	**22.10**	**305**	P	**P**	**12 59 56.2**	**-0.1**
SGCY	**Sterling City**	**22.33**	**311**	P	**P**	**13 00 03.9**	**+5.2**
SGCY				IAmb	IAmb	13 00 05.4	
	comp=Z,11nm,1.1s						
APMT	**Aspermont**	**22.44**	**315**	P	**P**	**13 00 02.1**	**+2.3**
TXAR	**Lajitas Array**	**23.05**	**303**	P	**P**	**13 00 06.2**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=125,slow=10,SNR=21						
TXAR				S	**S**	**13 04 18.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=119,slow=20,SNR=3.6						
TXAR				LR	LR	13 09 33.1	
	comp=Z,37nm,18.6s,baz=54,slow=38						
	comp=Z,2.0nm,0.7s						
TX31	**Lajitas Ar. Si**	**23.05**	**303**	P	**P**	**13 00 05.1**	**-1.3**
TX31				IAmb	IAmb	13 00 17.5	
	comp=Z,6.0nm,1.1s						
ALPN	**Alpine**	**23.46**	**305**	P	**P**	**13 00 09.8**	**-0.8**
ALPN				IAmb	IAmb	13 00 13.3	
	comp=Z,5.0nm,0.9s						
AMTX	**Amarillo**	**24.41**	**317**	P	**P**	**13 00 18.6**	**-0.9**
VHRN	**Van Horn**	**24.69**	**305**	IAmb	IAmb	13 00 23.9	
	comp=Z,6.5nm,1.0s						
ANMO	**Albuquerque**	**27.71**	**312**	LR	LR	13 14 14.7	
	comp=Z,22nm,19.3s,baz=251,slow=42						
SDCO	**Great Sand Dun**	**28.59**	**318**	IAmb	IAmb	13 01 04.0	
	comp=Z,6.8nm,1.4s						
MDP	**Montagnes des**	**31.05**	**111**	LR	LR	13 15 05.2	
	comp=Z,62nm,18.5s,baz=162,slow=39						
ULM	**Lac du Bonnet**	**33.89**	**343**	P	**P**	**13 01 44.2**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=187,slow=5.8,SNR=4.0						
	comp=Z,1.6nm,0.7s						
PDAR	**Pinedale Array**	**34.07**	**322**	P	**P**	**13 01 45.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=123,slow=11,SNR=8.3						
	comp=Z,0.8nm,0.8s						
PFO	**Pinyon Flats O**	**34.77**	**303**	LR	LR	13 19 27.9	
	comp=Z,50nm,18.1s,baz=122,slow=42						
YKA	**Yellowknife Ar**	**49.76**	**341**	P	**P**	**13 03 54.0**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=140,slow=7.9,SNR=6.7						
	comp=Z,0.4nm,0.7s						
PLCA	**Paso Flores**	**59.62**	**170**	P	**P**	**13 05 04.5**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=5.3,slow=7.7,SNR=4.0						
	comp=Z,2.6nm,1.0s						
ILAR	**Eielson Array**	**63.16**	**334**	P	**P**	**13 05 29.6**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=112,slow=4.4,SNR=18						
	comp=Z,1.0nm,0.7s						
ESDC	**Sonseca Array**	**69.05**	**54**	P	**P**	**13 06 10.0**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=250,slow=5.0,SNR=2.3						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**146.19**	**261**	PKPbc	**PKPdf**	**13 14 41.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=85,slow=4.1,SNR=6.4						
ASAR	**Alice Springs**	**146.62**	**255**	PKPbc	**PKPdf**	**13 14 42.4**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=99,slow=4.5,SNR=5.3						

CATAC 02 13:07:02.4±1.7, 14°N±12°×8°8W±°, h5km±10km, M3.5/5, MLv3.5/5, Error ellipse: s-maj=31.6km s-min=10.1km az=35.7, confirmed, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCLA	**Alcaldia de Sa**	**0.71**	**239**	P	Pg	13 07 15.1	-0.9
SCLA	**Alcaldia de Sa**	**0.71**	**239**	S	Sb	13 07 26.6	-0.8
ALJI	**Alcalda de J**	**0.86**	**212**	P	Pg	13 07 18.4	-0.6
PANCS	**Alcalda de**	**1.14**	**247**	P	Pn	13 07 25.4	+0.3
MTO3	**Montecristo**	**1.27**	**285**	P	Pg	13 07 25.4	-1.3

IDC 02 13:11:36.9±2.2, 8°18S×128°26E, h0km, mb3.2/1, mbtmp3.4/5, ML2.9/4, Error ellipse: s-maj=61.2km s-min=28.0km az=64.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.02**	**290**	Pn	Pn	13 13 49.3	+0.8
	1.2nm,0.3s,baz=200,slow=1.9,SNR=1.5						
	3.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.19**	**194**	Pn	Pn	13 14 04.4	-0.1
	0.1nm,0.3s,baz=18,slow=13,SNR=1.8						
FITZ				Sn	Sn	13 15 56.7	-2.8
	0.1nm,0.3s,baz=0.0,slow=17,SNR=1.6						
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**13.09**	**154**	Pn	Pn	13 14 44.7	+0.4
	0.1nm,0.3s,baz=330,slow=11,SNR=5.5						
WRA				Sn	Sn	13 17 07.6	-3.2
	0.1nm,0.3s,baz=342,slow=22,SNR=5.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**16.32**	**161**	Pn	Pn	13 15 27.6	-0.1
	baz=345,slow=11,SNR=5.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**68.28**	**328**	P	P	13 22 39.5	-0.2
	0.2nm,0.6s,baz=133,slow=6.3,SNR=1.9						
	0.2nm,0.6s						

DJA 02 13:12:00.4±0.5, 0°N±3°×12°0E±°, h10km, M3.9/7, mB4.8/1, mb4.0/2, MLv3.8/7, Mw(mB)4.1/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.96**	**159**	P	Pg	13 12 17.4	-1.5
PCI				S	Sb	13 12 32.2	+0.3
APSI	**Ampana**	**2.33**	**113**	P	Pn	13 12 38.8	0.0
MRSI	**Marisa**	**2.49**	**79**	P	Pn	13 12 42.6	+1.6
MRSI				S	Sn	13 13 13.1	+1.7
TTSI	**Tana Toraja**	**3.04**	**174**	P	Pn	13 12 50.3	+1.7
LUWI	**Luwuk**	**3.43**	**108**	P	Pn	13 12 52.2	-1.8
SPSI	**Sidrap Palu**	**3.95**	**176**	P	Pn	13 13 01.3	+0.2
KDI	**Kendari**	**5.02**	**142**	P	Pn	13 13 15.6	-0.2
	0.1nm970nm14nm,0.6s						

KRSC 02 13:17:47.8±1.4, 48°48N×156°67E, h25km±29km, Ml4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.23**	**351**	*e*P	Pn	13 18 25.1	+2.0
SKR				*e*S	Sn	13 18 51.8	+2.0
PAU	**Pauzhetka**	**2.99**	**2**	*e*P	Pn	13 18 36.1	+2.6
PAU				*e*S	Sn	13 19 11.2	+2.6
KDTR	**Khodutka, Kamc**	**3.45**	**15**	*e*P	Pb	13 18 44.3	-3.8
KDTR				*e*S	Sb	13 19 25.4	-4.2
RUS	**Russkaya**	**4.13**	**16**	*e*P	Pn	13 18 52.9	+3.7
RUS				*e*S	Sn	13 19 41.5	+5.0
GRL	**Gorelyy**	**4.17**	**12**	*e*P	Pn	13 18 54.4	+4.5
KRMR	**Karymshinskiy**	**4.45**	**11**	*e*P	Pn	13 18 59.2	+5.6
KRMR				*e*S	Sn	13 19 51.4	+6.8
DALK	**Dalny**	**4.74**	**15**	*e*P	Pn	13 19 01.2	+3.6
UGLR	**Uglovaya**	**4.93**	**15**	*e*P	Pn	13 19 04.5	+4.3
AVH	**Avacha**	**4.97**	**15**	*e*P	Pn	13 19 05.5	+4.8
KOK	**Koryaka**	**4.97**	**14**	*e*P	Pn	13 19 05.2	+4.4
SDLR	**Sedlovina**	**5.00**	**15**	*e*P	Pn	13 19 05.0	+3.8
KRER	**Koryakskii**	**5.00**	**14**	*e*P	Pn	13 19 05.7	+4.4
KRX	**Arik**	**5.04**	**14**	*e*P	Pn	13 19 05.8	+4.0
SPN	**Mys Shipunski**	**5.09**	**23**	*e*S	Sn	13 20 05.3	+5.1

ECX ***02*** *13:30:31.8±0.3, 30°22N×114°07W, h14km±4km, ML3.2*
MEX ***02*** *13:30:46.5±0.3, 30°88N×114°89W, h5km, MD4.0*
ISC 02 13:30:32.4±1.1, 30°27N±0°04×114°21W±0°04, h17km±11km, n16, σ1§46/24, 3C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.47**	**201**	*e*P	**Pg**	**13 30 40.8**	**-1.1**
SLGB				*e*S	**Sg**	**13 30 47.4**	**-0.7**
SFX	**San Felipe**	**0.94**	**325**	*e*P	**Pb**	**13 30 49.5**	**-0.9**
SFX	**San Felipe**	**0.94**	**325**	*e*P	**Pb**	**13 30 50.1**	**-0.2**
SFX				*e*S	**Sg**	**13 31 04.5**	**+1.4**
SFX				⇓*e*		13 31 07.0	
SFX				IAML		13 31 07.0	
	comp=E,572nm,0.6s						
SFX				IAML		13 31 08.1	
	comp=N,372nm,0.6s						
SFX				⇑*e*		13 31 08.1	
PPXB	**Puerto Peasco**	**1.18**	**25**	⇓*e*P	**Pn**	**13 30 51.9**	**-2.2**
PPXB				*e*S	**Sb**	**13 31 07.6**	**-1.6**
SPIG	**San Pedro Mart**	**1.33**	**306**	*e*P	**Pn**	**13 30 56.1**	**-0.4**
SPIG				*e*S	**Sb**	**13 31 12.9**	**-1.1**
SPIG	**San Pedro Mart**	**1.33**	**306**	*e*P	**Pn**	**13 30 56.8**	**+0.2**
SPIG				*e*S	**Sg**	**13 31 16.4**	**+0.9**
PIX	**Pinacate**	**1.44**	**27**	⇓*e*P	**Pn**	**13 30 55.9**	**-1.9**
PIX				*e*S	**Sn**	**13 31 15.3**	**-1.1**
SQX	**San Quintin**	**1.47**	**282**	⇑*e*P	**Pn**	**13 30 58.1**	**-0.1**
SQX				*e*S	**Sb**	**13 31 19.3**	**+1.6**
SQX				⇑*e*		13 31 23.7	
SQX				IAML		13 31 23.7	
	comp=N,294nm,0.4s						
SV2X	**San Vicente**	**2.04**	**302**	*e*P	**Pn**	**13 31 06.2**	**+0.2**
SV2X				*e*S	**Sb**	**13 31 34.0**	**-0.2**
MBIG	**Mexicali**	**2.29**	**339**	*e*P	**Pn**	**13 31 10.6**	**+1.1**
BKIRB	**Bahia Kino**	**2.39**	**126**	*e*P	**Pn**	**13 31 10.1**	**-0.6**
BKIRB				*e*S	**Sb**	**13 31 43.7**	**-0.4**
CBX	**Cerro Bola**	**2.92**	**315**	*e*P	**Pn**	**13 31 17.7**	**-0.6**
TJIG	**Tijuana**	**3.01**	**316**	*e*P	**Pn**	**13 31 20.9**	**+1.4**
HSIG		**3.10**	**113**	*e*P	Pg	13 31 38.1	+6.2
TUC	**Tucson**	**3.57**	**54**	*e*P	**Pb**	**13 31 38.6**	**+3.4**
NZIG	**Nacozari, Sono**	**4.03**	**87**	*e*P	**Pb**	**13 31 45.5**	**+2.4**

KRNET ***02*** *14:16:34.1±0.1, 43°84N×78°24E, h15km, mb2.7*
NNC ***02*** *14:16:34.3±0.2, 43°77N×78°39E, h6km±2km, mb3.5, mpv3.7, Error ellipse: s-maj=1.9km s-min=1.6km az=0.0*
SOME ***02*** *14:16:35.2, 43°73N×78°32E, h10km*
ISC 02 14:16:35.1±0.7, 43°76N±0°02×78°34E±0°02, h10km, n55, σ1§32/94, 14C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLB	**Baldybastay**	**0.35**	**16**	P	**Pg**	**14 16 42.9**	**+0.7**
	601nm,0.1s						
BLB				S	**Sg**	**14 16 48.0**	**+1.1**
	2μm,0.3s						
KPKS	**Kokpek**	**0.38**	**139**	P	**Pb**	**14 16 43.5**	**-0.6**
	49nm,0.1s						
KPKS				S	**Sb**	**14 16 49.0**	**-1.1**
	965nm,0.2s						
KPKS	**Kokpek**	**0.38**	**139**	*e*P	**Pb**	**14 16 43.5**	**-0.6**
	49nm,0.1s						
KPKS				*e*S	**Sb**	**14 16 49.0**	**-1.1**
	976nm,0.1s						
ARXS	**Arharly**	**0.59**	**321**	P	**Pg**	**14 16 47.0**	**+0.4**
	89nm,0.1s						
ARXS				S	**Sb**	**14 16 55.3**	**-0.7**
	154nm,0.1s						
ZHN	**Zhinishke**	**0.59**	**173**	P	**Pb**	**14 16 47.1**	**-0.6**
	168nm,0.2s						
ZHN				S	**Sb**	**14 16 55.3**	**-0.9**
	586nm,0.2s						
ZHN	**Zhinishke**	**0.59**	**173**	*e*P	**Pb**	**14 16 47.1**	**-0.6**
	168nm,0.2s						
ZHN				*e*S	**Sb**	**14 16 55.3**	**-0.9**
	586nm,0.2s						
SATY	**Saty**	**0.70**	**176**	P	**Pb**	**14 16 49.1**	**-0.4**
	278nm,0.1s						
SATY				S	**Sb**	**14 16 59.1**	**-0.2**
	576nm,0.2s						
SATY	**Saty**	**0.70**	**176**	*e*P	**Pg**	**14 16 47.0**	**-1.7**
	89nm,0.1s						
SATY				*e*S	**Sg**	**14 16 55.3**	**-2.6**
	154nm,0.1s						
UZB	**Uzynbulak**	**0.79**	**141**	P	**Pg**	**14 16 50.1**	**-0.2**
	84nm,0.2s						
UZB				S	**Sg**	**14 17 00.6**	**0.0**
	309nm,0.2s						
UZB	**Uzynbulak**	**0.79**	**141**	*e*P	**Pg**	**14 16 50.1**	**-0.2**
	84nm,0.2s						
UZB				*e*S	**Sg**	**14 17 00.6**	**0.0**
	309nm,0.2s						
KNOS	**Konyrlen**	**0.85**	**45**	P	**Pg**	**14 16 50.8**	**-0.8**
	18nm,0.1s						
KNOS				S	**Sg**	**14 17 01.6**	**-1.2**
	87nm,0.2s						
PDGK	**Podgornoye**	**0.94**	**117**	⇑P	**Pg**	**14 16 52.2**	**-1.1**
	1.9nm,0.3s						
PDGK				⇑S	**Sg**	**14 17 04.3**	**-1.2**
	38nm,0.3s						
CHKK	**Chushkaly**	**0.98**	**276**	P	**Pg**	**14 16 53.9**	**-0.1**
	91nm,0.1s						
CHKK				S	**Sb**	**14 17 07.0**	**-0.3**
	192nm,0.2s						
CHKK	**Chushkaly**	**0.98**	**276**	*e*P	**Pg**	**14 16 53.9**	**-0.1**
	91nm,0.1s						
CHKK				*e*S	**Sb**	**14 17 07.0**	**-0.3**
	192nm,0.2s						
SHLS	**Shalkode**	**1.01**	**126**	P	**Pn**	**14 16 58.0**	**+2.5**
	14nm,0.2s						
SHLS				S	**Sn**	**14 17 14.0**	**+4.1**
	75nm,0.3s						
SHLS	**Shalkode**	**1.01**	**126**	*e*P	**Pn**	**14 16 58.0**	**+2.5**
	14nm,0.2s						
SHLS				*e*S	**Sn**	**14 17 14.0**	**+4.1**
	75nm,0.3s						
KOTS	**Kotyrbulak**	**1.03**	**240**	P	**Pb**	**14 16 55.1**	**-0.2**
	21nm,0.2s						
KOTS				S	**Sb**	**14 17 08.9**	**0.0**
	192nm,0.5s						
KOTS	**Kotyrbulak**	**1.03**	**240**	*e*P	**Pb**	**14 16 55.1**	**-0.2**
	21nm,0.2s						
KOTS				*e*S	**Sb**	**14 17 08.9**	**0.0**
	192nm,0.5s						
ANVS	**Anan'yevo**	**1.09**	**207**	⇓*e*P	**Pg**	**14 16 55.4**	**-0.7**
ANVS				⇓*e*S	**Sn**	**14 17 11.1**	**-0.8**
MDOK	**Medeo**	**1.11**	**238**	*e*P	Pn	14 17 05.6	+8.7
	31nm,0.2s						
MDOK				*e*S	Sn	14 17 27.2	+15
	223nm,0.2s						
KNDC	**Almaty**	**1.14**	**242**	⇓P	**Pb**	**14 16 56.4**	**-0.5**
	33nm,0.3s						
KNDC				⇑S	**Sn**	**14 17 12.7**	**-0.2**
	144nm,0.5s						
DJR	**Jarkent**	**1.19**	**61**	P	**Pb**	**14 16 56.8**	**-1.1**
	12nm,0.1s						
DJR				S	**Sb**	**14 17 11.9**	**-1.6**
	78nm,0.2s						
DJR	**Jarkent**	**1.19**	**61**	*e*P	**Pb**	**14 16 56.8**	**-1.1**
	12nm,0.1s						
DJR				*e*S	**Sb**	**14 17 11.9**	**-1.6**
	78nm,0.2s						
KTBS	**Karatobe**	**1.20**	**268**	P	**Pb**	**14 16 57.2**	**-0.8**
	26nm,0.3s						
KTBS				S	**Sb**	**14 17 12.6**	**-1.1**
	127nm,0.4s						
TNSS	**Tian-Shan**	**1.25**	**235**	P	**Pb**	**14 16 58.4**	**-0.6**
	23nm,0.3s						
TNSS				S	**Sg**	**14 17 15.0**	**-0.2**
	52nm,0.3s						
TNSS	**Tian-Shan**	**1.25**	**235**	*e*P	**Pb**	**14 16 58.4**	**-0.6**
	23nm,0.1s						
TNSS				*e*S	**Sg**	**14 17 15.0**	**-0.2**
	32nm,0.2s						
TDK	**Taldyqorghan**	**1.25**	**2**	P	**Pn**	**14 16 57.6**	**-1.1**
	80nm,0.3s						
TDK				S	**Sb**	**14 17 13.2**	**-1.7**
	227nm,0.2s						
TDK	**Taldyqorghan**	**1.25**	**2**	*e*P	**Pn**	**14 16 57.6**	**-1.1**
	80nm,0.3s						
TDK				*e*S	**Sb**	**14 17 13.2**	**-1.7**
	227nm,0.2s						
PRZ	**Przheval'sk**	**1.27**	**178**	⇓*e*P	**Pg**	**14 16 59.3**	**-0.3**
PRZ				⇓*e*S	**Sn**	**14 17 17.6**	**+1.2**
KASK	**Kaskelen**	**1.35**	**247**	⇑S	**Sg**	**14 17 19.5**	**+0.9**
	97nm,0.3s						
MTBS	**Maitube**	**1.53**	**246**	P	**Pb**	**14 17 03.0**	**-0.6**
	18nm,0.1s						
MTBS				S	**Sb**	**14 17 22.5**	**-0.5**
	94nm,0.2s						
MTBS	**Maitube**	**1.53**	**246**	*e*P	**Pb**	**14 17 03.0**	**-0.6**
	18nm,0.1s						
MTBS				*e*S	**Sb**	**14 17 22.5**	**-0.5**
	94nm,0.2s						
KAPS	**Kapalarasan**	**1.69**	**25**	P	**Pn**	**14 17 05.6**	**+0.8**
	31nm,0.2s						
KAPS				S	**Sn**	**14 17 27.2**	**+0.6**
	223nm,0.2s						
KDJ	**Kajisay**	**1.84**	**208**	⇓*i*P	**Pb**	**14 17 09.0**	**+0.1**
KDJ				⇓*i*S	**Sg**	**14 17 33.6**	**-0.6**
KST	**Kastek**	**1.87**	**248**	P	**Pb**	**14 17 08.6**	**-1.0**
	12nm,0.2s						
KST				S	**Sb**	**14 17 32.5**	**-0.6**
	47nm,0.2s						
KST	**Kastek**	**1.87**	**248**	*e*P	**Pb**	**14 17 09.5**	**0.0**
	5.8nm,0.2s						
KST				*e*S	**Sb**	**14 17 33.8**	**+0.7**
	47nm,0.2s						
DGS	**Degeres**	**1.94**	**255**	P	**Pb**	**14 17 09.9**	**-0.7**
	8.0nm,0.2s						
DGS				S	**Sb**	**14 17 34.6**	**-0.3**
	80nm,0.5s						
ULHL	**Ulahol**	**2.16**	**226**	⇓*i*P	**Pb**	**14 17 13.2**	**-1.2**
ULHL				⇓*i*S	**Sb**	**14 17 42.0**	**+0.7**
BOOM	**Boomskoye usch**	**2.17**	**235**	⇑*i*P	**Pb**	**14 17 13.1**	**-1.4**
BOOM				⇑*i*S	**Sb**	**14 17 41.8**	**+0.3**
TKM2	**Tokmak 2**	**2.17**	**248**	⇑*i*P	**Pb**	**14 17 13.1**	**-1.5**
TKM2				⇑*i*S	**Sb**	**14 17 42.1**	**+0.5**
SGDS	**Sogindy**	**2.71**	**265**	Pg	**Pb**	**14 17 23.4**	**-0.4**
	1.0nm,0.1s						
SGDS				Lg	Lg	14 17 57.4	
	7.2nm,0.2s						
KBK	**Karagaybulak**	**2.71**	**247**	⇓*i*P	**Pn**	**14 17 20.8**	**+1.8**
KBK				⇓*i*S	**Sb**	**14 17 55.0**	**-2.3**
CHMS	**Chumysh**	**2.72**	**255**	⇑*e*P	**Pn**	**14 17 20.6**	**+1.6**
CHMS				⇑*e*S	**Sb**	**14 17 55.0**	**-2.4**
USP	**Ospenovka**	**2.84**	**261**	⇑*i*P	**Pn**	**14 17 22.2**	**+1.7**
USP				⇑*i*S	**Sb**	**14 17 57.6**	**-3.1**
AAK	**Ala-Archa**	**3.03**	**250**	⇓Pg	**Pb**	**14 17 30.9**	**+1.7**
	2.0nm,0.3s						
AAK				⇓Lg	Lg	14 18 13.1	
	9.2nm,0.7s						
BTLS	**Baital**	**3.33**	**294**	Pg	**Pb**	**14 17 35.1**	**+0.8**
	2.1nm,0.3s						
BTLS				Lg	Lg	14 18 17.7	
	3.1nm,0.2s						
BTLS	**Baital**	**3.33**	**294**	*e*P	**Pb**	**14 17 35.1**	**+0.8**
	2.1nm,0.3s						
BTLS				*e*S	**Sb**	**14 18 17.7**	**+2.8**
	3.1nm,0.2s						
MRKS	**Merke**	**3.87**	**257**	Pg	**Pb**	**14 17 45.1**	**+1.5**
	2.1nm,0.5s						
MRKS				Lg	Lg	14 18 35.3	
	7.7nm,0.4s						
MRKS	**Merke**	**3.87**	**257**	*e*P	**Pg**	**14 17 46.8**	**-2.5**
	1.1nm,0.2s						
MRKS				*e*S	**Sg**	**14 18 37.5**	**-1.9**
	5.9nm,0.3s						
MAKZ	**Makanchi**	**3.99**	**39**	⇓Lg	Lg	14 18 38.2	
	1.7nm,0.6s						
MK31	**Makanchi Array**	**4.12**	**41**	Pn	**Pn**	**14 17 38.1**	**-0.1**
	0.1nm,0.2s,baz=221,slow=16,SNR=6.6						
MK31				⇑Pg	**Pb**	**14 17 49.6**	**+1.8**
	0.3nm,0.4s						
MK31				Sn	**Sn**	**14 18 25.9**	**-0.6**
	0.6nm,0.4s,baz=218,slow=25,SNR=3.9						
MK31				⇑Lg	Lg	14 18 43.4	
	3.2nm,0.6s,baz=224,slow=30,SNR=9.0						
KK31	**Karatay Array**	**5.74**	**266**	⇓Lg	Lg	14 19 37.4	
	0.7nm,0.3s,baz=78,slow=28,SNR=4.0						
OTUK	**Ortayu**	**6.13**	**319**	⇓Lg	Lg	14 19 49.2	
	6.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.87**	**1**	⇓Lg	Lg	14 20 12.1	
	7.0nm,0.7s						
KURK	**Kurchatov**	**6.96**	**1**	⇓Lg	Lg	14 20 15.0

IDC 02 14:27:04.0±4.2, 30°.57N×141°.11E, h0km, mb3.4/3, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=169.7km s-min=27.1km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.43**	**339**	Pn	Pn	14 28 39.3	-0.7
	0.1nm,0.3s,baz=159,slow=11,SNR=11 1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.58**	**307**	P	P	14 35 41.5	+0.1
	0.2nm,0.6s,baz=86,slow=9.3,SNR=3.6 0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.64**	**188**	P	P	14 36 05.5	+0.5
	0.4nm,0.4s,baz=5.6,slow=7.3,SNR=5.3 0.4nm,0.4s						
ASAR	**Alice Springs**	**54.37**	**188**	P	P	14 36 31.6	-1.0
	0.2nm,0.5s,baz=351,slow=8.9,SNR=1.2 0.2nm,0.5s						

*IDC **02** 14:29:51.6±3.8, 5°.85N×124°.33E, h455km±51km, mb3.2/12, mbtmp4.1/12, Error ellipse: s-maj=26.9km s-min=11.4km az=70.0*
*DJA **02** 14:29:53.6±1.1, 6°.N±10°.×12°.4E±°, h433km±7km, M4.4/6, mb4.1/5, mB4.7/2, MLv4.5/6, Mw(mB)3.9/2*

ISC 02 14:29:51.4±0.7, 5°.82N±0°.09×124°.1E±0°.2, h450km, n15, σ1§57/17, mb3.5/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.95**	**50**	S	**S**	**14 31 44.8**	**+4.3**
	94nm,0.3s,baz=316,slow=23,SNR=1.4						
TNTI	**Ternate**	**5.99**	**147**	P	**P**	**14 31 26.5**	**+0.8**
	0.4nm39nm,0.7s						
SANI	**Sanana**	**8.04**	**166**	P	**P**	**14 31 47.8**	**+0.4**
WRA	**Warramunga Arr**	**27.52**	**159**	P	**P**	**14 34 59.1**	**-1.2**
	1.0nm,0.4s,baz=342,slow=9.0,SNR=45 1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.54**	**299**	P	**P**	**14 35 02.1**	**+1.6**
	0.4nm,0.5s,baz=112,slow=6.1,SNR=4.2 0.4nm,0.5s						
ASAR	**Alice Springs**	**30.83**	**162**	P	**P**	**14 35 28.9**	**-0.3**
	2.9nm,0.3s,baz=338,slow=7.5,SNR=201						
ASAR				PcP	**PcP**	**14 38 12.4**	**-0.8**
	0.5nm,1.1s,baz=336,slow=2.7,SNR=1.9 2.9nm,0.3s						
MJAR	**Matsushiro Arr**	**33.21**	**21**	P	**P**	**14 35 47.4**	**-2.1**
	0.5nm,0.5s,baz=194,slow=8.7,SNR=3.3 0.5nm,0.5s						
STKA	**Stephens Creek**	**41.04**	**157**	P	**P**	**14 36 54.0**	**-0.1**
	1.7nm,0.7s,baz=335,slow=19,SNR=2.8 1.7nm,0.7s						
KLR	**Kul'dur**	**43.75**	**7**	P	**P**	**14 37 13.6**	**-1.8**
	0.7nm,0.4s,baz=182,slow=5.3,SNR=5.1 0.7nm,0.4s						
SONM	**Songino Array**	**44.52**	**343**	P	**P**	**14 37 22.2**	**+0.7**
	0.8nm,0.5s,baz=159,slow=8.3,SNR=8.0 0.8nm,0.5s						
MKAR	**Makanchi Array**	**54.35**	**326**	P	**P**	**14 38 35.5**	**+1.0**
	1.7nm,0.3s,baz=120,slow=7.5,SNR=27						
MKAR				PcP	**PcP**	**14 39 30.7**	**-0.9**
	0.6nm,0.7s,baz=126,slow=4.4,SNR=4.0 1.7nm,0.3s						
PETK	**Petropavlovsk-**	**54.57**	**24**	P	**P**	**14 38 36.2**	**+0.4**
	2.1nm,0.9s,baz=158,slow=5.1,SNR=1.7 2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**57.55**	**334**	P	**P**	**14 38 56.0**	**-0.6**
	0.7nm,0.4s,baz=138,slow=9.1,SNR=3.8 0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**58.57**	**328**	P	**P**	**14 39 04.0**	**+0.5**
	3.5nm,0.6s,baz=128,slow=6.3,SNR=24 3.5nm,0.6s						
BVAR	**Borovoye Array**	**64.14**	**327**	P	**P**	**14 39 40.5**	**+0.2**
	1.7nm,0.7s,baz=142,slow=11,SNR=11 1.7nm,0.7s						

*NNC **02** 14:35:44.4±0.5, 42°.98N×78°.79E, h0km±2km, mb3.3, mpv3.2, Error ellipse: s-maj=4.2km s-min=1.6km az=170.0*
*KRNET **02** 14:35:44.9±0.1, 43°.00N×78°.71E, h18km, mb2.4*
*SOME **02** 14:35:44.9, 42°.95N×78°.73E, h15km*

ISC 02 14:35:45.2±0.8, 42°.97N±0°.03×78°.76E±0°.02, h10km, n44, σ1§22/80, 13C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.26**	**47**	P	**Pg**	**14 35 49.4**	**-1.2**
	35nm,0.1s						
UZB				S	**Sg**	**14 35 52.9**	**-1.4**
	268nm,0.3s						
UZB	**Uzynbulak**	**0.26**	**47**	*e*P	**Pg**	**14 35 49.4**	**-1.2**
	35nm,0.1s						
UZB				*e*S	**Sg**	**14 35 52.9**	**-1.4**
	268nm,0.3s						
SATY	**Saty**	**0.28**	**290**	P	**Pg**	**14 35 50.5**	**-0.3**
	8.4nm,0.1s						
SATY				S	**Sg**	**14 35 54.2**	**-0.4**
	838nm,0.1s						
ZHN	**Zhinishke**	**0.31**	**310**	P	**Pg**	**14 35 51.0**	**-0.5**
	23nm,0.1s						
ZHN				S	**Sg**	**14 35 55.6**	**-0.2**
	326nm,0.2s						
ZHN	**Zhinishke**	**0.31**	**310**	*e*P	**Pg**	**14 35 51.0**	**-0.5**
	23nm,0.1s						
ZHN				*e*S	**Sg**	**14 35 55.5**	**-0.2**
	326nm,0.2s						
KPKS	**Kokpek**	**0.50**	**354**	P	**Pg**	**14 35 54.4**	**-0.6**
	55nm,0.1s						
KPKS				S	**Sg**	**14 36 01.0**	**-0.7**
	73nm,0.2s						
KPKS	**Kokpek**	**0.50**	**354**	*e*P	**Pg**	**14 35 54.4**	**-0.6**
	55nm,0.1s						
KPKS				*e*S	**Sg**	**14 36 01.0**	**-0.7**
	73nm,0.1s						
SHLS	**Shalkode**	**0.55**	**69**	P	**Pn**	**14 36 00.1**	**+0.9**
	7.9nm,0.1s						
SHLS				S	**Sn**	**14 36 11.1**	**+2.6**
	14nm,0.1s						
SHLS	**Shalkode**	**0.55**	**69**	*e*P	**Pn**	**14 36 00.1**	**+0.9**
	7.9nm,0.1s						
SHLS				*e*S	**Sn**	**14 36 11.1**	**+2.6**
	14nm,0.1s						
PRZ	**Przheval'sk**	**0.55**	**209**	⇑*e*P	**Pg**	**14 35 55.3**	**-0.6**
PRZ				⇑*e*S	**Sg**	**14 36 03.3**	**+0.1**
PDGK	**Podgornoye**	**0.65**	**56**	⇑P	**Pg**	**14 35 57.3**	**-0.4**
	4.2nm,0.3s						
PDGK				⇑S	**Sg**	**14 36 04.9**	**-1.3**
	19nm,0.6s						
ANVS	**Anan'yevo**	**0.82**	**258**	⇑*e*P	**Pg**	**14 36 00.1**	**-1.0**
ANVS				⇑*e*S	**Sg**	**14 36 11.0**	**-0.9**
BLB	**Baldybastay**	**1.15**	**350**	P	**Pb**	**14 36 06.2**	**-1.0**
	15nm,0.2s						
BLB				S	**Sg**	**14 36 21.6**	**-0.7**
	14nm,0.1s						
KOTS	**Kotyrbulak**	**1.24**	**283**	P	**Pn**	**14 36 07.8**	**-0.9**
	6.0nm,0.1s						
KOTS				S	**Sb**	**14 36 23.9**	**-0.8**
	31nm,0.3s						
KOTS	**Kotyrbulak**	**1.24**	**283**	*e*P	**Pn**	**14 36 07.8**	**-0.9**
	6.0nm,0.1s						
KOTS				*e*S	**Sb**	**14 36 23.9**	**-0.8**
	31nm,0.3s						
TNSS	**Tian-Shan**	**1.33**	**274**	P	**Pn**	**14 36 09.5**	**-0.8**
	4.8nm,0.1s						
TNSS				S	**Sb**	**14 36 26.7**	**-1.1**
	6.6nm,0.1s						
TNSS	**Tian-Shan**	**1.33**	**274**	*e*P	**Pn**	**14 36 09.4**	**-0.8**
	4.8nm,0.1s						
TNSS				*e*S	**Sb**	**14 36 26.7**	**-1.1**
	6.3nm,0.2s						
ARXS	**Arharly**	**1.42**	**332**	P	**Pb**	**14 36 11.2**	**-0.6**
	3.8nm,0.3s						
ARXS				S	**Sg**	**14 36 30.2**	**-0.7**
	9.5nm,0.2s						
KNOS	**Konyrlen**	**1.43**	**12**	P	**Pb**	**14 36 11.2**	**-0.8**
	3.8nm,0.1s						
KNOS				S	**Sb**	**14 36 29.8**	**-0.5**
	10.0nm,0.1s						
KDJ	**Kajisay**	**1.44**	**235**	⇑*i*P	**Pn**	**14 36 11.0**	**-0.4**
KDJ				⇑*i*S	**Sn**	**14 36 30.0**	**-0.5**
DJR	**Jarkent**	**1.56**	**28**	P	**Pb**	**14 36 13.3**	**-0.8**
	3.1nm,0.2s						
DJR				S	**Sb**	**14 36 33.5**	**-0.4**
	33nm,0.3s						
DJR	**Jarkent**	**1.56**	**28**	*e*P	**Pb**	**14 36 13.3**	**-0.8**
	3.1nm,0.2s						
DJR				*e*S	**Sb**	**14 36 33.5**	**-0.4**
	33nm,0.3s						
CHKK	**Chushkaly**	**1.57**	**305**	P	**Pb**	**14 36 14.0**	**-0.3**
	7.2nm,0.3s						
CHKK				S	**Sg**	**14 36 34.6**	**-1.0**
	28nm,0.2s						
CHKK	**Chushkaly**	**1.57**	**305**	*e*P	**Pb**	**14 36 14.0**	**-0.3**
	7.2nm,0.3s						
CHKK				*e*S	**Sg**	**14 36 34.6**	**-1.0**
	28nm,0.2s						
KTBS	**Karatobe**	**1.69**	**297**	P	**Pb**	**14 36 16.4**	**0.0**
	9.1nm,0.2s						
KTBS				S	**Sg**	**14 36 38.6**	**-0.8**
	38nm,0.3s						
MTBS	**Maitube**	**1.72**	**276**	P	**Pb**	**14 36 17.0**	**+0.1**
	4.4nm,0.3s						
MTBS				S	**Sg**	**14 36 39.6**	**-0.7**
	15nm,0.3s						
MTBS	**Maitube**	**1.72**	**276**	*e*P	**Pb**	**14 36 17.0**	**+0.1**
	4.4nm,0.3s						
MTBS				*e*S	**Sg**	**14 36 39.6**	**-0.7**
	15nm,0.3s						
ULHL	**Ulahol**	**1.99**	**250**	⇓*i*P	**Pb**	**14 36 20.6**	**-1.1**
ULHL				⇓*i*S	**Sb**	**14 36 47.1**	**+0.5**
KST	**Kastek**	**2.05**	**273**	Pg	**Pg**	**14 36 23.3**	**-1.3**
	3.9nm,0.3s						
KST				Lg	Lg	14 36 50.7	
	9.0nm,0.5s						
KST	**Kastek**	**2.05**	**273**	*e*P	**Pg**	**14 36 23.3**	**-1.3**
	3.9nm,0.3s						
KST				*e*S	**Sg**	**14 36 50.7**	**-0.4**
	9.0nm,0.5s						
BOOM	**Boomskoye usch**	**2.13**	**258**	⇓*i*P	**Pn**	**14 36 21.9**	**+0.9**
BOOM				⇓*i*S	**Sb**	**14 36 49.3**	**-1.3**
DGS	**Degeres**	**2.21**	**278**	Pg	**Pb**	**14 36 25.6**	**+0.4**
	6.8nm,0.3s						
DGS				Lg	Lg	14 36 54.6	
	21nm,0.3s						
TKM2	**Tokmak 2**	**2.32**	**270**	⇓*i*P	**Pb**	**14 36 25.5**	**-1.8**
TKM2				⇓*i*S	**Sb**	**14 36 55.2**	**-0.9**
KAPS	**Kapalarasan**	**2.36**	**10**	Pg	**Pb**	**14 36 28.2**	**+0.4**
	1.4nm,0.1s						
KAPS				Lg	Lg	14 36 58.9	
	46nm,0.1s						
CHMS	**Chumysh**	**2.94**	**272**	⇑*e*P	**Pn**	**14 36 33.9**	**+1.9**
CHMS				⇑*i*S	**Sn**	**14 37 09.6**	**+2.2**
SGDS	**Sogindy**	**3.06**	**281**	Pg	**Pb**	**14 36 39.9**	**+0.2**
	1.1nm,0.3s						
SGDS				Lg	Lg	14 37 19.1	
	4.0nm,0.4s						
USP	**Ospenovka**	**3.13**	**277**	⇓*i*P	**Pn**	**14 36 36.7**	**+2.0**
USP				⇓*i*S	**Sn**	**14 37 14.3**	**+2.1**
AAK	**Ala-Archa**	**3.16**	**265**	⇑Pg	**Pb**	**14 36 41.0**	**-0.5**
	0.9nm,0.4s						
AAK				Lg	Lg	14 37 25.3	
	3.6nm,0.6s						
AAK	**Ala-Archa**	**3.16**	**265**	⇓*i*P	**Pn**	**14 36 36.8**	**+1.7**
AAK				⇓*i*S	**Sn**	**14 37 14.9**	**+2.0**
EKS2	**Erkin-Say**	**3.68**	**267**	⇑*i*P	**Pn**	**14 36 44.2**	**+2.0**
EKS2				⇑*i*S	**Sn**	**14 37 27.5**	**+1.8**
AML	**Almayashu**	**3.83**	**259**	*e*P	**Pn**	**14 36 46.5**	**+1.9**
AML				*i* S	**Sn**	**14 37 31.6**	**+1.7**
BTLS	**Baital**	**3.98**	**303**	Pg	**Pb**	**14 36 57.7**	**+2.3**
	0.6nm,0.2s						
BTLS				Lg	Lg	14 37 49.6	
	1.9nm,0.8s						
BTLS	**Baital**	**3.98**	**303**	*e*P	**Pb**	**14 36 57.7**	**+2.3**
	0.6nm,0.2s						
BTLS				*e*S	**Sg**	**14 37 49.6**	**-3.4**
	1.9nm,0.8s						
MK31	**Makanchi Array**	**4.58**	**32**	⇓Lg	Lg	14 38 07.7	
	0.2nm,0.3s,baz=206,slow=29,SNR=6.4						

IDC 02 14:37:55.5±2.4, 5°.93S×147°.39E, h0km, mb3.8/3, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=57.2km s-min=27.0km az=91.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**184**	Pn	Pn	14 38 52.0	+1.4
	9.8nm,0.4s,baz=5.7,slow=10,SNR=6.7						
PMG				Pg	Pb	14 38 58.8	+1.1
	9.2nm,0.3s,baz=9.4,slow=11,SNR=12						
PMG				Sn	Sn	14 39 35.1	+2.8
	7.6nm,0.3s,baz=359,slow=18,SNR=5.6						
PMG				Lg	Lg	14 39 43.1	
	7.3nm,0.3s,baz=340,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**18.83**	**221**	P	P	14 42 16.9	-0.2
	0.3nm,0.3s,baz=44,slow=11,SNR=9.4 1.2nm,0.4s						
ASAR	**Alice Springs**	**21.89**	**215**	P	P	14 42 50.5	+0.1
	1.2nm,0.5s,baz=47,slow=8.2,SNR=38 1.2nm,0.5s						
STKA	**Stephens Creek**	**26.37**	**191**	P	P	14 43 33.5	-0.1
	2.2nm,0.7s,baz=350,slow=17,SNR=3.3 2.2nm,0.7s						
QSPA	**South Pole Qui**	**84.03**	**180**	P	P	14 50 27.8	-0.1
	0.5nm,0.5s,baz=336,slow=4.9,SNR=11 0.5nm,0.5s						

*SOME **02** 15:21:34.1, 41°.42N×83°.33E, h10km*
*NNC **02** 15:21:39.4±2.0, 41°.55N×83°.14E, h13km±8km, mb3.6, mpv3.2, Error ellipse: s-maj=13.4km s-min=10.2km az=130.0*

ISC 02 15:21:42.9±2.6, 41°.7N±0°.1×83°.00E±0°.08, h10km, n15, σ2§12/23, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.07**	**303**	⇓Pn	**Pn**	**15 22 29.6**	**-2.1**
	1.7nm,0.5s						
PDGK				⇓Pg	**Pb**	**15 22 38.5**	**+0.7**
	4.0nm,0.5s						
PDGK				⇓Lg	Lg	15 23 21.5	
	55nm,1.2s						
DJR	**Jarkent**	**3.54**	**319**	Pg	**Pb**	**15 22 47.1**	**+1.4**
	1.0nm,0.4s						
DJR				Lg	Lg	15 23 40.1	
	9.1nm,0.5s						
DJR	**Jarkent**	**3.54**	**319**	*e*P	**Pb**	**15 22 47.1**	**+1.4**
	1.0nm,0.4s						
DJR				*e*S	**Sg**	**15 23 40.1**	**+3.5**
	9.1nm,0.5s						
KPKS	**Kokpek**	**3.65**	**301**	Pg	**Pb**	**15 22 47.3**	**-0.3**
	7.0nm,0.4s						
KPKS				Lg	Lg	15 23 40.4	
	15nm,0.4s						
KPKS	**Kokpek**	**3.65**	**301**	*e*P	**Pb**	**15 22 47.3**	**-0.3**
	7.0nm,0.4s						
KPKS				*e*S	**Sg**	**15 23 40.4**	**+0.3**
	15nm,0.4s						
SATY	**Saty**	**3.67**	**293**	Pg	**Pb**	**15 22 48.7**	**+0.7**
	3.8nm,0.6s						
SATY				Lg	Lg	15 23 42.4	
	14nm,0.8s						
ARXS	**Arharly**	**4.56**	**305**	Pg	**Pg**	**15 23 06.3**	**-3.9**
	2.5nm,0.5s						
ARXS				Lg	Lg	15 24 13.1	
	7.6nm,0.4s						
TNSS	**Tian-Shan**	**4.68**	**289**	*e*P	**Pb**	**15 23 07.9**	**+2.5**
	1.6nm,0.3s						
TNSS				*e*S	**Sg**	**15 24 15.4**	**+2.0**
	7.2nm,0.5s						
KTBS	**Karatobe**	**5.08**	**296**	Pg	**Pb**	**15 23 14.4**	**+2.5**
	1.9nm,0.5s						
KTBS				Lg	Lg	15 24 26.9	
	10nm,0.5s						
MK31	**Makanchi Array**	**5.13**	**355**	Pn	**Pn**	**15 23 00.3**	**+0.4**
	1.2nm,0.6s,baz=171,slow=15,SNR=4.6						
MK31				Sn	**Sn**	**15 23 59.1**	**-0.1**
	1.5nm,0.5s,baz=107,slow=40,SNR=6.6						
MK31				⇓Lg	Lg	15 24 23.8	
	5.8nm,0.6s,baz=163,slow=28,SNR=7.0						
MAKZ	**Makanchi**	**5.17**	**352**	⇓Pn	**Pn**	**15 23 00.5**	**+0.1**
	2.5nm,0.6s						
MAKZ				⇑Sn	**Sn**	**15 24 00.5**	**+0.3**
	3.7nm,0.8s						
MAKZ				⇑Lg	Lg	15 24 25.6	
	5.6nm,0.8s						
KST	**Kastek**	**5.39**	**287**	Pg	**Pb**	**15 23 20.3**	**+3.1**
	2.3nm,0.5s						
KST				Lg	Lg	15 24 37.7	
	7.5nm,0.6s						
KST	**Kastek**	**5.39**	**287**	*e*P	**Pb**	**15 23 20.3**	**+3.1**
	2.3nm,0.5s						
KST				*e*S	**Sg**	**15 24 37.7**	**+1.9**
	7.5nm,0.6s						
ZSN	**Zaisan**	**5.91**	**12**	Pg	**Pb**	**15 23 28.5**	**+2.4**
	1.8nm,0.3s						
ZSN				Lg	Lg	15 24 51.4	
	7.8nm,0.7s						
ZSN	**Zaisan**	**5.91**	**12**	*e*P	**Pb**	**15 23 28.5**	**+2.4**
	1.0nm,0.1s						
ZSN				*e*S	**Sg**	**15 24 51.3**	**-1.4**
	9.6nm,0.9s						

*DJA **02** 15:29:55.9±0.7, 4°.S±4°.×13°.3E±°, h11km±6km, M3.8/7, mb4.2/2, MLv3.6/7*
*IDC **02** 15:29:56.0±1.8, 4°.35S×133°.07E, h0km, mb3.5/1, mbtmp3.6/5, ML3.5/4, Error ellipse: s-maj=42.6km s-min=30.3km az=91.0*

ISC 02 15:29:52.1±1.0, 4°.45S±0°.07×133°.4E±0°.1, h21km, n9, σ1§33/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.83**	**19**	P	**Pb**	**15 30 07.1**	**-0.7**
FAKI	**Fak Fak**	**1.93**	**322**	P	**Pn**	**15 30 23.8**	**+0.1**
RKPI	**Ransiki, Papua**	**3.02**	**14**	P	**Pn**	**15 30 39.2**	**+0.6**
SWI	**Sorong**	**4.18**	**329**	P	**Pn**	**15 30 54.5**	**-0.1**
JAY	**Jayapura**	**7.51**	**75**	Pn	Pb	15 31 51.2	-10
	0.5nm,0.3s,baz=334,slow=17,SNR=4.4 7.0nm,0.7s						
WRA	**Warramunga Arr**	**15.42**	**177**	Pn	**P**	**15 33 35.2**	**+2.3**
	0.2nm,0.3s,baz=355,slow=12,SNR=9.1						
WRA				Sn	**Sn**	**15 36 17.5**	**-1.4**
	0.1nm,0.3s,baz=0.6,slow=22,SNR=2.6 0.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.56**	**209**	Pn	**P**	**15 33 34.5**	**+0.1**
	0.2nm,0.3s,baz=37,slow=11,SNR=7.0						
FITZ				Sn	**Sn**	**15 36 22.9**	**+0.8**
	0.1nm,0.3s,baz=68,slow=16,SNR=1.9 2.7nm,0.7s						
ASAR	**Alice Springs**	**19.11**	**179**	P	Pn	15 34 23.1	+8.5
	0.1nm,0.3s,baz=3.5,slow=11,SNR=21						
ASAR				S	**Sn**	**15 37 46.7**	**-1.5**
	0.2nm,0.7s,baz=358,slow=27,SNR=4.3 1.5nm,0.7s						
MKAR	**Makanchi Array**	**68.06**	**325**	P	P	15 40 55.7	+5.5
	0.2nm,0.4s,baz=117,slow=8.2,SNR=2.3 0.2nm,0.4s						

*ISK **02** 15:30:52.8, 36°.97N×27°.34E, h16km, ML2.4/18*
*AFAD **02** 15:30:54.8, 37°.04N×27°.41E, h6km±3km, ML2.0*

ISC 02 15:30:53.3±1.0, 36°.98N±0°.03×27°.34E±0°.04, h16km±6km, n25, σ0§44/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.08**	**346**	Pg	**Pg**	**15 30 56.6**	**0.0**
BODT				Sg	**Sg**	**15 30 58.5**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.15**	**343**	Pg	**Pg**	**15 30 57.3**	**0.0**
YKAV				Sg	**Sg**	**15 31 00.2**	**+0.3**
DAT	**Datca**	**0.32**	**142**	Pg	**Pg**	**15 30 59.8**	**-0.2**
DAT				Sg	**Sg**	**15 31 04.4**	**-0.2**
DATC	**Datca-Mugla**	**0.34**	**130**	Pg	**Pg**	**15 31 00.2**	**-0.2**
MLSB	**Milas**	**0.47**	**48**	Pg	**Pg**	**15 31 02.5**	**-0.3**
DDIM	**Aydin, Didim**	**0.48**	**351**	P	**Pb**	**15 31 03.6**	**+0.1**
DDIM				S	**Sb**	**15 31 10.5**	**+0.2**
DDIM				*i* AML	AML	15 31 13.0	
	comp=E,122nm,0.6s						
DDIM				*i* AML	AML	15 31 19.0	
	comp=N,117nm,0.7s						
GCAM	**G?zelcaml?**	**0.72**	**354**	Pg	**Pb**	**15 31 07.8**	**+0.2**
GCAM	**G?zelcaml?**	**0.72**	**354**	P	**Pg**	**15 31 07.4**	**0.0**
GCAM				S	**Sn**	**15 31 20.0**	**+0.3**
GCAM				*i* AML	AML	15 31 21.0	
	comp=E,87nm,0.6s						
GCAM				*i* AML	AML	15 31 22.0	
	comp=N,63nm,0.2s						
TURN	**Turunc**	**0.76**	**105**	Pg	**Pg**	**15 31 07.6**	**-0.5**
TURN				Sg	**Sb**	**15 31 19.8**	**+1.6**
YER	**Yerkesik**	**0.77**	**78**	Pg	**Pb**	**15 31 08.5**	**0.0**
AYDN	**Tasoluk**	**0.81**	**32**	P	**Pg**	**15 31 08.9**	**-0.1**
AYDN				S	**Sg**	**15 31 18.9**	**-0.7**
AYDN				*i* AML	AML	15 31 23.0	
	comp=N,150nm,0.3s						
AYDN				*i* AML	AML	15 31 26.0	
	comp=E,73nm,0.4s						
ARG	**Arkhangelos**	**0.99**	**140**	Pg	**Pg**	**15 31 12.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**24**	Pg	**Pg**	**15 31 13.6**	**-0.3**
DALY	**Dalyan (Mula)**	**1.07**	**98**	Pg	**Pg**	**15 31 13.5**	**-0.5**
GMLD	**Gumuldur**	**1.14**	**343**	Pn	**Pb**	**15 31 14.2**	**-0.5**
ESEN	**Aydn-Nazilli**	**1.15**	**44**	P	**Pn**	**15 31 15.3**	**+0.5**
ESEN				S	**Sb**	**15 31 29.4**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.24**	**37**	Pn	**Pn**	**15 31 16.2**	**+0.1**
IZMR	**zmir-demi**	**1.25**	**23**	P	**Pn**	**15 31 15.7**	**-0.6**
IZMR				S	**Sb**	**15 31 31.8**	**-0.8**
IZMR				*i* AML	AML	15 31 36.0	
	comp=E,29nm,0.6s						
IZMR				*i* AML	AML	15 31 41.0	
	comp=N,21nm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.35**	**69**	P	**Pg**	**15 31 19.2**	**-0.1**
TAVA				S	**Sg**	**15 31 37.4**	**+0.5**
ODEM	**Odemis-Izmir**	**1.42**	**24**	Pn	**Pn**	**15 31 18.8**	**+0.2**
BLCB	**Balcova**	**1.42**	**351**	Pn	**Pn**	**15 31 18.8**	**+0.3**
KARP	**Karpathos**	**1.44**	**186**	Pn	**Pn**	**15 31 18.7**	**-0.1**
FETY	**Fethiye**	**1.44**	**103**	Pn	**Pn**	**15 31 18.9**	**0.0**
CAME	**Cameli-Denizli**	**1.57**	**91**	Pn	**Pn**	**15 31 20.9**	**+0.1**
APMY	**Acipayam-Deniz**	**1.64**	**72**	Pn	**Pn**	**15 31 21.6**	**-0.1**

*THE **02** 15:31:46.3, 36°.66N×25°.74E, h7km±15km, ML2.1/2, Error ellipse: s-maj=15.6km s-min=0.5km az=262.0*

ATH 02 15:31:46.4, 36°.65N×25°.75E, h13km±2km, ML2.2/7, Manual Solution by G.Panopoulou First location: 2019/03/02 15:33:16, This location: 2019/03/02 16:20:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGA	**Amorgos Island**	**0.21**	**32**	P	Pg	15 31 51.5	+0.3
AMGA				S	Sg	15 31 54.5	+0.1
THR2	**Thira island,**	**0.33**	**232**	P	Pg	15 31 52.9	-0.2
THR8	**Santorini-Mono**	**0.33**	**222**	P	Pg	15 31 52.6	-0.5
CMBO	**Columbo, Santo**	**0.33**	**237**	P	Pg	15 31 52.9	-0.3
CMBO				S	Sg	15 31 58.0	+0.3
	460nm,0.2s						
CMBO	**Columbo, Santo**	**0.33**	**237**	P	Pg	15 31 53.0	-0.2
CMBO				S	Sg	15 31 57.4	-0.3
THRA	**Thira**	**0.35**	**228**	P	Pg	15 31 53.6	+0.1
THRA				S	Sg	15 31 59.0	+0.8
THR3	**Thira Island,**	**0.37**	**230**	P	Pg	15 31 53.6	-0.3
SAP3	**Santorini-Thir**	**0.39**	**237**	P	Pg	15 31 54.0	-0.2
SAP3				S	Sg	15 31 59.4	-0.2
THR6	**Thira Island,**	**0.41**	**224**	P	Pg	15 31 54.3	-0.3
**

σ2§84/45, **9C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.03**	**311**	*eP*	**Pb**	**15 34 06.6**	**-0.6**
KTMS				*eS*	**Sb**	**15 34 43.5**	**-0.7**
SHLS	**Shalkode** 23nm,0.3s	**3.41**	**301**	Pg	**Pb**	**15 34 13.2**	**-0.5**
SHLS	282nm,0.4s			Lg	Lg	15 34 56.8	
SHLS	**Shalkode** 23nm,0.3s	**3.41**	**301**	*eP*	**Pb**	**15 34 13.2**	**-0.5**
SHLS	282nm,0.4s			*eS*	**Sb**	**15 34 56.8**	**+1.5**
PDGK	**Podgornoye** 3.4nm,0.4s	**3.48**	**303**	⇑Pn	**Pn**	**15 34 10.4**	**+3.0**
PDGK	12nm,0.5s			⇓Pg	**Pg**	**15 34 20.4**	**+0.6**
PDGK	60nm,0.4s			⇓Sn	**Sb**	**15 34 54.4**	**-2.8**
PDGK	131nm,0.8s			⇓Lg	Lg	15 35 07.9	
UZB	**Uzynbulak** 8.4nm,0.3s	**3.69**	**298**	Pg	**Pg**	**15 34 21.5**	**-2.4**
UZB	89nm,0.5s			Lg	Lg	15 35 11.3	
UZB	**Uzynbulak** 8.4nm,0.3s	**3.69**	**298**	*eP*	**Pg**	**15 34 21.5**	**-2.4**
UZB	89nm,0.5s			*eS*	**Sg**	**15 35 11.3**	**-0.4**
KPKS	**Kokpek** 19nm,0.3s	**4.06**	**301**	Pg	**Pb**	**15 34 27.1**	**+2.4**
KPKS	161nm,0.6s			Lg	Lg	15 35 21.1	
KPKS	**Kokpek** 19nm,0.3s	**4.06**	**301**	*eP*	**Pb**	**15 34 27.1**	**+2.4**
KPKS	161nm,0.6s			*eS*	**Sg**	**15 35 21.1**	**-2.3**
SATY	**Saty** 9.4nm,0.8s	**4.08**	**294**	Pg	**Pg**	**15 34 28.6**	**-2.6**
SATY	114nm,0.5s			Lg	Lg	15 35 23.5	
ZHN	**Zhinishke** 9.0nm,0.3s	**4.10**	**296**	Pg	**Pg**	**15 34 28.6**	**-3.0**
ZHN	61nm,0.5s			Lg	Lg	15 35 23.5	
ZHN	**Zhinishke** 9.0nm,0.3s	**4.10**	**296**	*eP*	**Pg**	**15 34 28.6**	**-3.0**
ZHN	61nm,0.5s			*eS*	**Sg**	**15 35 23.5**	**-1.1**
KNOS	**Konyrlen**	**4.26**	**314**	Pg	**Pg**	**15 34 34.0**	**-0.7**
KNOS				Lg	Lg	15 35 32.9	
BLB	**Baldybastay** 26nm,0.4s	**4.51**	**307**	Pg	**Pg**	**15 34 36.1**	**-3.3**
BLB	37nm,0.5s			Lg	Lg	15 35 36.6	
ARXS	**Arharly** 4.3nm,0.5s	**4.96**	**305**	Pg	**Pg**	**15 34 44.8**	**-3.4**
ARXS	26nm,0.3s			Lg	Lg	15 35 51.4	
TNSS	**Tian-Shan** 5.8nm,0.4s	**5.08**	**290**	Pg	**Pg**	**15 34 47.9**	**-2.6**
TNSS	23nm,0.6s			Lg	Lg	15 35 56.2	
TNSS	**Tian-Shan** 5.8nm,0.4s	**5.08**	**290**	*eP*	**Pg**	**15 34 47.9**	**-2.6**
TNSS	23nm,0.6s			*eS*	**Sg**	**15 35 56.2**	**-0.2**
CHKK	**Chushkaly**	**5.33**	**298**	Pg	**Pb**	**15 34 50.2**	**+3.8**
CHKK				Lg	Lg	15 36 00.9	
CHKK	**Chushkaly**	**5.33**	**298**	*eP*	**Pb**	**15 34 50.2**	**+3.8**
CHKK				*eS*	**Sg**	**15 36 00.9**	**-3.4**
MK31	**Makanchi Array** 0.2nm,0.2s,baz=187,slow=10,SNR=26	**5.37**	**351**	⇓Pn	**Pn**	**15 34 34.0**	**+0.7**
MK31	4.0nm,0.6s,baz=176,slow=18,SNR=12			⇑Pg	**Pg**	**15 34 51.5**	**-4.5**
MK31	0.8nm,0.2s,baz=90,slow=40,SNR=6.6			⇑Sn	**Sn**	**15 35 39.6**	**+4.4**
MK31	14nm,0.5s,baz=165,slow=28,SNR=6.8			⇑Lg	Lg	15 36 07.0	
MAKZ	**Makanchi** 2.1nm,0.8s	**5.42**	**349**	⇑Pn	**Pn**	**15 34 34.5**	**+0.5**
MAKZ	2.5nm,0.7s			⇑Pg	**Pg**	**15 34 55.0**	**-2.0**
MAKZ	7.5nm,0.8s			⇑Sn	**Sn**	**15 35 40.6**	**+4.1**
MAKZ	20nm,0.9s			⇑Lg	Lg	15 36 06.3	
MTBS	**Maitube** 3.2nm,0.6s	**5.48**	**290**	Pg	**Pg**	**15 34 54.5**	**-3.5**
MTBS	18nm,0.7s			Lg	Lg	15 36 07.5	
MTBS	**Maitube** 3.2nm,0.6s	**5.48**	**290**	*eP*	**Pg**	**15 34 54.5**	**-3.5**
MTBS	18nm,0.7s			*eS*	**Sg**	**15 36 07.5**	**-1.3**
KTBS	**Karatobe** 1.8nm,0.4s	**5.48**	**296**	Pg	**Pg**	**15 34 54.6**	**-3.5**
KTBS	32nm,0.6s			Lg	Lg	15 36 07.8	
KST	**Kastek** 4.8nm,0.5s	**5.79**	**288**	Pg	**Pg**	**15 35 00.5**	**-3.4**
KST	27nm,0.8s			Lg	Lg	15 36 18.0	
KST	**Kastek** 4.8nm,0.5s	**5.79**	**288**	*eP*	**Pg**	**15 35 00.5**	**-3.4**
KST	27nm,0.8s			*eS*	**Sg**	**15 36 18.0**	**-0.8**
DGS	**Degeres**	**5.97**	**290**	Pg	**Pg**	**15 35 03.0**	**-4.4**
DGS				Lg	Lg	15 36 22.6	
ZSN	**Zaisan** 2.6nm,0.3s	**6.04**	**9**	Pg	**Pg**	**15 35 05.0**	**-3.7**
ZSN	32nm,1.0s			Lg	Lg	15 36 26.2	
ZSN	**Zaisan** 2.6nm,0.3s	**6.04**	**9**	*eP*	**Pg**	**15 35 05.0**	**-3.7**
ZSN	32nm,1.0s			*eS*	**Sg**	**15 36 26.2**	**-0.7**
AAK	**Ala-Archa** 2.4nm,0.7s	**6.78**	**283**	Pg	**Pg**	**15 35 19.1**	**-3.8**
AAK	18nm,0.8s			⇑Lg	Lg	15 36 54.3	

BJI ***02*** *15:51:49.0,30.°91N×142.°04E,h4km,mB5.2/64,mb4.9/83, Ms5.2/89,Ms7 5.1/86*

IDC ***02*** *15:51:50.9±0.4,30.°83N×141.°84E,h0km,mb4.7/27, mbtmp4.7/32,ML4.0/7,MS4.8/69,Error ellipse: s-maj=14.4km s-min=9.0km az=65.0*

MOS ***02*** *15:51:51.7±1.2,30.°88N×141.°81E,h10km,mb5.4/56, MS5.0/21,Error ellipse: s-maj=8.6km s-min=3.7km az=119.2*

NIED ***02*** *15:51:52.7,30.°85N×142.°02E,h20km,MW5.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.00; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-0.86; $M_{r\theta}$-0.65; $M_{\theta\phi}$0.19; $M_{\phi r}$0.59; Fault plane solution: $M_0$1.29000×10^{17} NP1: ϕ_s179.00000°,δ28.00000°,λ120.00000°. NP2: ϕ_s325.00000°,δ66.00000°,λ75.00000°.*

JMA ***02*** *15:51:52.7±0.2,30.°9N±0.°8×14.°2E±.°,h20km,MD5.5/79, MV4.8/79,NEAR TORISHIMA IS*

NEIC ***02*** *15:51:53.2,30.°88N×142.°45E,h16km,Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.86; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-0.90; $M_{r\theta}$0.04; $M_{\theta\phi}$0.01; $M_{\phi r}$1.08; Fault plane solution: $M_0$1.39000×10^{17} NP1: ϕ_s177.64000°,δ19.58000°,λ86.31000°. NP2:ϕ_s1.56000°, δ70.47000°,λ91.31000°. Principal axes: T 1.3741, Plg65.0000°, Azm274.0000°; N 0.0395, Plg1.0000°, Azm181.0000°; P -1.4136, Plg25.0000°, Azm91.0000°;*

NEIC ***02*** *15:51:53.1±2.6,30.°87N±0.°05×142.°01E±0.°09,h10km±1km, mb5.3/155,Ms_20 4.9/131,Mww5.4/48 Error ellipse: s-maj=13.5km s-min=8.1km az=65.0*

NEIC ***02*** *15:51:53.2,30.°88N×142.°10E,h16km*

GCMT ***02*** *15:51:57.1±0.1,30.°84N±0.°01×142.°08E±0.°01,h12km, MW5.2/154,Moment Tensor Solution. s88,c139; s154,c296; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.86±.01; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-0.89±.01; $M_{r\theta}$-0.03±.03; $M_{\theta\phi}$-0.02±.01; $M_{\phi r}$0.13±.03; Best double couple: $M_0$0.88800×10^{17} NP1:ϕ_s183.00000°,δ41.00000°, λ93.00000°. NP2:ϕ_s359.00000°,δ49.00000°,λ87.00000°. Principal axes: T 0.8690, Plg85.0000°, Azm246.0000°; N 0.0370, Plg2.0000°, Azm1.0000°; P -0.9070, Plg4.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s.*

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nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 02 15:51:54.2±0.5,30.°85N±0.°03×142.°06E±0.°04,h19km±1km, h18km:pP-P,n988,σ1§67/889,mb5.2/234,MS4.9/165, 35C-25D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.53**	**310**	*eP*	**Pn**	**15 52 33.3**	**-0.9**
JAOM	**Aogashimamukai** comp=N,84nm,10.4s,comp=E,102nm,6.3s	**2.53**	**310**	A	A	15 52 33.3	
JHCJ	**Hachijojimakas**	**2.93**	**320**	*eP*	**Pn**	**15 52 40.0**	**+0.3**
JHCJ	**Hachijojimakas** comp=N,40nm,8.4s,comp=E,41nm,6.6s	**2.93**	**320**	A	A	15 52 40.0	
JHJ2	**Mitsune**	**2.95**	**320**	Pn	**Pn**	**15 52 39.9**	**0.0**
JHJ2	**Mitsune**	**2.95**	**320**	*eP*	**Pn**	**15 52 39.8**	**-0.2**
JHJ2				*eS*	**Sn**	**15 53 14.5**	**-0.3**
JHJ2	**Mitsune** comp=N,61nm,9.1s,comp=E,56nm,7.2s	**2.95**	**320**	A	A	15 52 39.8	
JHJ	**Hachijo jima 2** comp=E,46nm,0.3s,baz=193,slow=24,SNR=26	**2.97**	**320**	Pn	**Pn**	**15 52 36.2**	**-4.1**
JHJ	comp=E,141nm,0.3s,baz=72,slow=22,SNR=4.6			Sn	**Sn**	**15 53 12.3**	**-3.1**
JHJ	comp=E,15μm,21.3s,baz=140,slow=40 comp=E,124nm,0.2s			LR	LR	15 53 45.7	
JMKN	**Mikurajimanish**	**3.68**	**326**	*eP*	**Pn**	**15 52 49.8**	**-0.2**
JMKN	**Mikurajimanish** comp=N,32nm,8.1s,comp=E,45nm,7.0s	**3.68**	**326**	A	A	15 52 49.8	
CBIJ	**Chichi jima**	**3.74**	**178**	*eP*	**Pn**	**15 52 51.0**	**+0.1**
CBIJ				*eS*	**Sn**	**15 53 34.0**	**-0.4**
CBIJ	**Chichi jima** comp=N,23nm,6.3s,comp=E,30nm,5.8s	**3.74**	**178**	A	A	15 52 51.0	
JCJ	**Chichijima**	**3.75**	**178**		**Pn**	**15 52 50.4**	**-0.5**
JCJ				Sn	**Sn**	**15 53 34.0**	**-0.5**
JCJ	**Chichijima** comp=E,78nm,0.3s,baz=274,slow=21,SNR=54	**3.75**	**178**	Pn	Pn	15 52 44.0	-6.8
JCJ	comp=E,27nm,0.3s,baz=91,slow=20,SNR=4.1			Sn	**Sn**	**15 53 26.6**	**-7.8**
JCJ	**Chichijima**	**3.75**	**178**	P	**Pn**	**15 52 49.7**	**-1.2**
JMYK	**Miyake Tsubota**	**3.84**	**327**	*eP*	**Pn**	**15 52 52.9**	**+0.7**
JMYK				*eS*	**Sn**	**15 53 36.1**	**-0.6**
JMYK	**Miyake Tsubota** comp=N,38nm,7.8s,comp=E,39nm,4.8s	**3.84**	**327**	A	A	15 52 52.9	
BSO1	**Boso 1**	**3.90**	**347**	*eP*	**Pn**	**15 52 52.1**	**-0.4**
JKO	**Kozu shima** comp=N,27nm,6.6s,comp=E,33nm,9.9s	**4.14**	**324**	A	A	15 52 56.6	
BSO3	**Boso 3**	**4.15**	**342**	*eP*	**Pn**	**15 52 56.7**	**+0.5**
JHH2	**Haha-jima-NKT2** comp=N,19nm,5.3s,comp=E,25nm,6.3s	**4.21**	**179**	A	A	15 52 57.7	
JSKK	**Shikinejimakit** comp=E,15nm,10.7s,comp=E,22nm,7.2s	**4.22**	**326**	A	A	15 52 57.7	
JTHY	**Toshimahigashi** comp=N,29nm,6.7s,comp=E,26nm,5.9s	**4.34**	**328**	A	A	15 52 59.4	
BSO4	**Boso 4**	**4.37**	**341**	*eP*	**Pn**	**15 53 00.8**	**+1.4**
JIM2	**Oshima 3** comp=N,19nm,8.1s,comp=E,23nm,7.1s	**4.44**	**331**	A	A	15 53 00.9	
TATJ	**Tateyama 2** comp=N,26nm,10.9s,comp=E,35nm,7.7s	**4.55**	**337**	A	A	15 53 02.4	
JKUC	**kamogawauchiur** comp=N,14nm,4.1s,comp=E,15nm,6.9s	**4.57**	**341**	A	A	15 53 02.7	
JIZS	**Izushimoda** comp=N,8.0nm,4.7s,comp=E,7.0nm,4.7s	**4.69**	**326**	A	A	15 53 04.4	
JYO	**Yokosk** comp=N,20nm,9.3s,comp=E,24nm,11.6s	**4.80**	**336**	A	A	15 53 05.9	
JCN	**Nagara** comp=N,35nm,6.6s,comp=E,42nm,7.9s	**4.81**	**342**	A	A	15 53 06.2	
JHTM	**Izuhatsuma** comp=N,14nm,7.7s,comp=E,11nm,5.4s	**4.83**	**329**	A	A	15 53 06.3	
JSMT	**Sammumatsuo** comp=N,57nm,6.5s,comp=E,48nm,5.2s	**4.96**	**345**	A	A	15 53 08.3	
JSG	**Sagara** comp=N,18nm,7.3s,comp=E,13nm,5.6s	**5.02**	**320**	A	A	15 53 08.8	
JOD2	**Odawara 2**	**5.06**	**331**	*eP*	**Pn**	**15 53 09.3**	**+0.3**
JFNN	**Fujinakano** comp=N,14nm,5.8s,comp=E,14nm,7.4s	**5.17**	**328**	A	A	15 53 11.1	
JKKS	**Kakegawashinom** comp=N,17nm,6.1s,comp=E,13nm,6.7s	**5.18**	**320**	A	A	15 53 11.1	
TOK	**Tokyo** comp=N,40nm,8.2s,comp=E,45nm,6.5s	**5.19**	**339**	A	A	15 53 11.4	
JIHU	**Itakohorinouch** comp=N,21nm,4.1s,comp=E,31nm,5.9s	**5.26**	**346**	A	A	15 53 12.4	
SHZ3	**Shizuoka 3** comp=N,7.0nm,6.3s,comp=E,6.0nm,6.2s	**5.30**	**323**	A	A	15 53 12.9	
HMMJ	**Hamamatsu 2**	**5.41**	**319**	*eP*	**Pn**	**15 53 14.6**	**+0.9**
JYT	**Yasato**	**5.58**	**344**	*eP*	**Pn**	**15 53 16.2**	**+0.1**
JNY	**Yasuok**	**5.71**	**323**	*eP*	**Pn**	**15 53 18.8**	**+0.8**
JIE	**Ise**	**5.73**	**309**	*eP*	**Pn**	**15 53 18.6**	**+0.4**
JRY	**Ryogami san**	**5.79**	**334**	P	**Pn**	**15 53 18.7**	**-0.3**
JRY				*eS*	**Sn**	**15 54 25.2**	**+0.4**
JHO	**Hitachi**	**5.88**	**348**	*eP*	**Pn**	**15 53 18.6**	**-1.5**
JKN2	**Miekihoku**	**5.94**	**306**	*eP*	**Pn**	**15 53 21.9**	**+0.9**
JAG	**Ashikaga**	**5.97**	**339**	*eP*	**Pn**	**15 53 21.1**	**-0.3**
JAO	**Obara**	**5.97**	**319**	*eP*	**Pn**	**15 53 22.1**	**+0.6**
JNT	**Takato** comp=N,7.0nm,6.2s,comp=E,6.0nm,8.3s	**5.99**	**328**	A	A	15 53 22.5	
JGF	**Kuroka**	**6.16**	**322**	Pn	**Pn**	**15 53 25.3**	**+1.2**
JGF	**Kuroka**	**6.16**	**322**	P	**Pn**	**15 53 25.8**	**+1.7**
JGF	**Kuroka**	**6.16**	**322**	S	**Sn**	**15 54 36.9**	**+2.9**
INU	**Inuyama**	**6.16**	**318**	Pn	**Pn**	**15 53 24.3**	**+0.2**
INU	**Inuyama**	**6.16**	**318**	P	**Pn**	**15 53 25.7**	**+1.6**
JTNC	**Tanabenakahech**	**6.21**	**300**	*eP*	**Pn**	**15 53 26.1**	**+1.4**
JSB	**Shiboa** comp=N,14nm,4.5s,comp=E,10.0nm,3.5s	**6.35**	**344**	A	A	15 53 27.8	
JGK	**Kuni** comp=N,7.0nm,4.7s,comp=E,11nm,5.9s	**6.37**	**334**	A	A	15 53 27.9	
MJAR	**Matsushiro Arr** comp=E,4.9nm,0.3s,baz=158,slow=11,SNR=291	**6.52**	**332**	Pn	**Pn**	**15 53 27.7**	**-1.3**
MJAR	comp=E,0.7nm,0.3s,baz=157,slow=18,SNR=7.9			Sn	**Sn**	**15 54 42.6**	**-0.2**
MJAR	comp=E,7μm,19.8s,baz=148,slow=40 comp=E,108nm,0.8s			LR	LR	15 56 07.1	
MAJO	**Matsushiro**	**6.52**	**332**	Pn	**Pn**	**15 53 29.7**	**+0.7**
MAJO	**Matsushiro**	**6.52**	**332**	P	**Pn**	**15 53 30.2**	**+1.2**
MAJO	**Matsushiro**	**6.52**	**332**	S	**Sn**	**15 54 42.4**	**-0.5**
MAJO	**Matsushiro**	**6.52**	**332**	*i* P	**Pn**	**15 53 29.5**	**+0.5**
MJB9	**Matsu-Tunnel**	**6.52**	**332**	Pn	**Pn**	**15 53 31.4**	**+2.3**
JFK	**Kawauchi**	**6.57**	**352**	*eP*	**Pn**	**15 53 28.2**	**-1.6**
JMST	**Minamisoumatoc** comp=N,4.0nm,1.3s,comp=E,5.0nm,1.7s	**6.92**	**352**	A	A	15 53 35.7	
JMM	**Marumori**	**7.08**	**352**	Pn	**Pn**	**15 53 35.2**	**-1.4**
JMM	**Marumori**	**7.08**	**352**	P	**Pn**	**15 53 36.2**	**-0.4**
JMN	**Monobe**	**7.49**	**295**	Pn	**Pn**	**15 53 43.0**	**+0.6**
JMN	**Monobe**	**7.49**	**295**	P	**Pn**	**15 53 43.3**	**+0.8**
JYS	**Shirataka** comp=N,9.0nm,1.6s,comp=E,9.0nm,2.0s	**7.53**	**348**	A	A	15 53 44.2	
JOU	**Okura** comp=N,7.0nm,1.7s,comp=E,9.0nm,2.2s	**7.58**	**352**	A	A	15 53 45.0	
JOFO	**Osakifurukawao** comp=N,18nm,2.9s,comp=E,23nm,2.1s	**7.79**	**353**	A	A	15 53 47.8	
JSD	**Sado**	**7.82**	**337**	Pn	**Pn**	**15 53 45.8**	**-1.1**
JSD	**Sado**	**7.82**	**337**	P	**Pn**	**15 53 45.8**	**-1.1**
JYA	**Atsumi** comp=N,4.0nm,3.2s,comp=E,6.0nm,1.5s	**7.96**	**347**	A	A	15 53 50.1	
JMK	**Ichinoseki**	**8.11**	**355**	*eP*	**Pn**	**15 53 48.6**	**-2.2**
JYK	**Kaneyama** comp=N,5.0nm,2.5s,comp=E,6.0nm,2.9s	**8.17**	**351**	A	A	15 53 53.0	
JHS	**Sajiyo**	**8.58**	**301**	*eP*	**Pn**	**15 54 00.8**	**+3.5**
JOI	**OKI**	**9.13**	**309**	*eP*	**Pn**	**15 54 07.8**	**+2.9**
JNU	**Nakatsue**	**9.76**	**286**	Pn	**Pn**	**15 54 16.7**	**+3.2**
JNU	**Nakatsue** comp=E,0.6nm,0.3s,baz=60,slow=12,SNR=7.6	**9.76**	**286**	Pn	**Pn**	**15 54 10.3**	**-3.2**
JNU	comp=E,5μm,18.1s,baz=88,slow=39			LR	LR	15 58 01.8	
JNU	**Nakatsue**	**9.76**	**286**	P	**Pn**	**15 54 14.6**	**+1.1**
JTM	**Tenmabayashi**	**9.95**	**356**	Pn	**Pn**	**15 54 14.5**	**-1.5**
JTM	**Tenmabayashi**	**9.95**	**356**	P	**Pn**	**15 54 15.0**	**-1.0**
JOT	**Ohata**	**10.54**	**356**	*eP*	**Pn**	**15 54 24.0**	**-0.1**
ERM	**Erimo**	**11.18**	**4**	Pn	**Pn**	**15 54 31.0**	**-1.8**
ERM	**Erimo**	**11.18**	**4**	P	**Pn**	**15 54 31.4**	**-1.4**
ERM	**Erimo**	**11.18**	**4**	*ceP*	**Pn**	**15 54 30.0**	**-2.8**
ERM	comp=Z,33nm,0.8s			pmax	pmax		
JEM	**Erimo**	**11.18**	**4**	P	**Pn**	**15 54 31.4**	**-1.4**
JOW	**Kunigami** comp=Z,4μm,18.7s,baz=100,slow=36	**12.73**	**255**	LR	LR	15 59 26.4	
NMR	**Nemuro--Hokkai**	**12.83**	**12**	*eP*	**Pn**	**15 54 51.3**	**-4.1**
ASAJ	**Asahikawa** comp=Z,2.3nm,0.3s,baz=213,slow=13,SNR=33	**13.25**	**2**	Pn	**Pn**	**15 54 57.7**	**-3.5**
ASAJ	comp=Z,0.6nm,0.3s,baz=263,slow=9.7,SNR=3.9			Sn	Sn	15 57 17.4	-11
ASAJ	comp=Z,5μm,20.0s,baz=184,slow=41			LR	LR	16 00 59.9	
ASAJ	**Asahikawa**	**13.25**	**2**	P	**Pn**	**15 54 58.7**	**-2.4**
JKA	**Kamikawa-asahi**	**13.25**	**2**	Pn	**Pn**	**15 54 58.7**	**-2.4**
KSRS	**Korea Array** comp=Z,0.5nm,0.3s,baz=113,slow=13,SNR=25	**13.42**	**303**	Pn	**Pn**	**15 55 01.1**	**-2.5**
KSRS	comp=Z,5μm,18.1s,baz=115,slow=39			LR	LR	16 00 27.8	
TJN	**Taejon**	**13.42**	**298**	P	**Pn**	**15 55 03.9**	**+0.3**
TJN	**Taejon**	**13.42**	**298**	*i* P	**Pn**	**15 55 01.1**	**-2.5**
RUSJ	**Misakicho**	**13.47**	**10**	*eP*	**Pn**	**15 55 01.0**	**-3.1**
YUK	**Yuzh-Kuril'sk**	**13.50**	**12**	*eP*	**Pn**	**15 55 01.6**	**-2.9**
YUK	comp=N,38nm,0.4s			pmax	pmax		
YUK	comp=Z,78nm,0.4s			pmax	pmax		
YUK	comp=E,21nm,0.3s			pmax	pmax		
INCN	**Inchon**	**14.37**	**302**	Pn	**Pn**	**15 55 14.3**	**-2.3**
INCN	**Inchon**	**14.37**	**302**	P	**Pn**	**15 55 17.7**	**+1.1**
INCN	**Inchon**	**14.37**	**302**	P	**Pn**	**15 55 14.3**	**-2.3**
MSHR	**Mys Shultsa**	**14.59**	**326**	*i* P	**Pn**	**15 55 17.1**	**-2.4**
VLA	**Vladivostok**	**14.68**	**329**	*i* P	**Pn**	**15 55 19.1**	**-1.6**
TEY	**Ternei**	**14.79**	**345**	⇑*eP*	**Pn**	**15 55 20.0**	**-2.2**
TEY	comp=Z,20nm,1.2s			pmax	pmax		
TEY	comp=N,20nm,1.2s			pmax	pmax		
TEY	comp=E,10.0nm,1.2s			pmax	pmax		
TEY	comp=E,100nm,10.0s			MLR	MLR		
TEY	comp=N,100nm,14.0s			MLR	MLR		
TEY	comp=Z,100nm,11.0s			MLR	MLR		
KUR	**Kuril'sk**	**15.06**	**16**	P	Pn	15 55 18.2	-7.6
KUR	comp=Z,45nm,1.5s			pmax	pmax		
KUR	comp=Z,4μm,11.0s			MLR	MLR		
USA0B	**Ussuriysk Arra**	**15.52**	**332**	*i* P	**Pn**	**15 55 29.9**	**-1.9**
USRK	**Ussuriysk Ar.** comp=Z,0.4nm,0.3s,baz=145,slow=12,SNR=19	**15.52**	**332**	Pn	**Pn**	**15 55 29.6**	**-2.2**
USRK				Sn	**Sn**	**15 58 25.4**	**+2.3**
YSS	**Yuzhno-Sakhali** comp=Z,0.1nm,0.3s,baz=79,slow=15,SNR=1.4	**16.09**	**2**		**Pn**	**15 55 38.7**	**-0.5**
YSS	**Yuzhno-Sakhali** comp=Z,16nm,1.0s	**16.09**	**2**	P	**Pn**	**15 55 37.3**	**-1.8**
YSS	**Yuzhno-Sakhali**	**16.09**	**2**	⇑*eP*	**Pn**	**15 55 37.1**	**-2.0**
YSS	comp=Z,200nm,5.9s			pmax	pmax		
YSS	comp=Z,90nm,1.1s			pmax	pmax		
YSS	comp=Z,4μm,14.0s			MLR	MLR		
YSS	comp=N,2μm,13.0s			MLR	MLR		
YSS	comp=E,3μm,13.0s			MLR	MLR		
MDJ	**Mudanjiang**	**16.88**	**328**	Pn	**Pn**	**15 55 47.5**	**-1.8**
MDJ	**Mudanjiang**	**16.88**	**328**	P	**Pn**	**15 55 47.5**	**-1.8**
MDJ				sP	P	15 55 51.8	+0.6
MDJ	comp=E,41nm,1.3s			pmax	pmax		
MDJ	comp=E,420nm,4.0s			pmax	pmax		
MDJ	comp=E,5μm,14.4s			LR	LR		
MDJ	comp=E,5μm,15.1s			LR	LR		
MDJ	comp=E,8μm,16.5s			LR	LR		
MDJ	**Mudanjiang**	**16.88**	**328**	P	**Pn**	**15 55 47.5**	**-1.8**
GUMO	**Guam** comp=E,2.8nm,0.3s,baz=48,slow=15,SNR=8.6 comp=E,119nm,1.0s	**17.38**	**171**	P	**Pn**	**15 55 54.5**	**-1.1**
SSE	**Sheshan**	**17.90**	**276**	P	**P**	**15 56 02.6**	**0.0**
SSE				S	**Sn**	**15 59 23.2**	**+2.0**
SSE	comp=E,17nm,0.8s			pmax	pmax		
SSE	comp=E,490nm,7.5s			pmax	pmax		
SSE	comp=E,1μm,16.3s			LR	LR		
SSE	comp=E,1μm,16.3s			LR	LR		
YOJ	**Yonaguni jima**	**18.02**	**254**	P	**Pn**	**15 56 02.0**	**-1.6**
YOJ	**Yonaguni jima**	**18.02**	**254**	P	**Pn**	**15 56 02.0**	**-1.6**
YOJ	comp=Z,79nm,0.7s			pmax	pmax		
UGL	**Uglegorsk**	**18.20**	**0**	*eP*	**P**	**15 56 07.3**	**+1.5**
UGL				*eS*	**S**	**15 59 31.5**	**-1.8**
UGL	comp=Z,95nm,1.1s			pmax	pmax		
UGL	comp=E,4μm,5.9s			smax	smax		
UGL	comp=N,3μm,4.9s			smax	smax		
UGL	comp=E,3μm,13.0s			MLR	MLR		
CN2	**Changchun**	**18.44**	**319**	*eP*	**P**	**15 56 06.5**	**-1.9**
CN2				*eS*	**Sn**	**15 59 29.0**	**-4.9**
CN2	comp=E,50nm,1.5s			pmax	pmax		
CN2	comp=E,700nm,5.0s			pmax	pmax		
CN2	comp=E,5μm,17.0s			LR	LR		
CN2	comp=E,4μm,17.0s			LR	LR		
CN2	comp=E,4μm,19.6s			LR	LR		
SNY	**Shenyang**	**18.44**	**312**	⇓P	**P**	**15 56 08.0**	**-0.5**
SNY				S	**Sn**	**15 59 34.7**	**+0.6**
SNY	comp=E,46nm,1.3s			pmax	pmax		
SNY	comp=E,420nm,3.7s			pmax	pmax		
SNY	comp=E,4μm,16.5s			LR	LR		
SNY	comp=E,2μm,15.4s			LR	LR		
SNY	comp=E,3μm,17.1s			LR	LR		
DL2	**Dalian**	**18.56**	**301**	P	**P**	**15 56 09.4**	**-0.4**
DL2				S	**Sn**	**15 59 35.3**	**-1.7**
DL2	comp=E,28nm,1.1s			pmax	pmax		
DL2	comp=E,850nm,6.0s			pmax	pmax		
DL2	comp=E,7μm,15.2s			LR	LR		
DL2	comp=E,4μm,16.6s			LR	LR		
DL2	comp=E,8μm,13.2s			LR	LR		
BNX	**BinXian**	**18.75**	**327**	⇓P	**P**	**15 56 09.7**	**-2.1**
BNX	comp=E,78nm,1.5s			pmax	pmax		
BNX	comp=E,650nm,8.2s			pmax	pmax		
BNX	comp=E,3μm,13.5s			LR	LR		
BNX	comp=E,4μm,13.2s			LR	LR		
BNX	comp=E,5μm,17.7s			LR	LR		
TATO	**Taipei**	**19.09**	**257**	P	**P**	**15 56 14.9**	**-0.7**
TATO	**Taipei**	**19.09**	**257**	P	**Pn**	**15 56 17.1**	**+0.6**
YHNB	**Yeheng**	**19.30**	**256**	P	**P**	**15 56 17.9**	**-0.2**
YHNB	**Yeheng**	**19.30**	**256**	P	**Pn**	**15 56 18.7**	**-0.5**
YHNB	**Yeheng**	**19.30**	**256**	S	**S**	**15 59 59.2**	**+3.3**
NACB	**Ninganchiao**	**19.32**	**255**	P	**P**	**15 56 17.6**	**-0.6**
NACB	**Ninganchiao**	**19.32**	**255**	P	**Pn**	**15 56 20.7**	**+1.4**
NJ2	**Nanjing**	**19.83**	**279**	⇓P	**P**	**15 56 23.5**	**-0.2**
NJ2				S	**S**	**16 00 05.9**	**-0.4**
NJ2	comp=E,42nm,0.8s			pmax	pmax		
NJ2	comp=E,2μm,7.5s			pmax	pmax		
NJ2	comp=E,3μm,17.1s			LR	LR		
NJ2	comp=E,3μm,12.3s

comp=Z,325nm,1.5s
YULB Yu-li 19.90 253 P P 15 56 24.9 +0.3
YULB Yu-li 19.90 253 S Sn 16 00 10.3 +0.8
KLR Kul'dur 19.95 340 P P 15 56 22.9 -2.0
comp=Z,1.9nm,0.3s,baz=166,slow=7.8,SNR=34
KLR S **Sn 16 00 11.7 +1.4**
comp=Z,2.5nm,0.8s,baz=221,slow=20,SNR=1.5
comp=Z,12nm,0.6s
KLR Kul'dur 19.95 340 *ce*P **P 15 56 24.0 -0.9**
KLR pmax pmax
comp=Z,88nm,1.7s
TYV Tymovskoe 20.00 1 *e*P **Pn 15 56 27.7 +0.5**
TYV *e*S **Sn 16 00 13.8 +2.4**
TYV pmax pmax
comp=Z,39nm,1.4s
TYV pmax pmax
comp=Z,300nm,3.1s
TYV smax smax
comp=N,900nm,4.4s
TYV smax smax
comp=E,2μm,4.4s
TYV smax smax
comp=N,14nm,1.4s
TYV smax smax
comp=E,9.0nm,1.4s
SSLB Suanglung 20.01 255 P **P 15 56 26.3 +0.5**
SSLB Suanglung 20.01 255 P Pn 15 56 27.0 -0.6
SSLB Suanglung 20.01 255 S **S 16 00 10.7 +0.6**
GRNR Gornyy 20.34 350 ⇓*i*P **P 15 56 30.0 +0.9**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.2s
TWGBT Beinan 20.34 252 P **P 15 56 29.8 +0.5**
TPUB Ta-pu 20.49 254 P **P 15 56 31.2 +0.2**
TPUB IAmb IAmb 15 56 32.9
comp=Z,219nm,1.5s
TPUB Ta-pu 20.49 254 P Pn 15 56 32.4 -0.8
TIA Tai'an 21.44 291 P **P 15 56 39.7 -1.4**
TIA S **S 16 00 30.1 -8.1**
TIA pmax pmax
comp=Z,26nm,1.2s
TIA pmax pmax
comp=Z,480nm,11.2s
TIA LR LR
comp=Z,5μm,14.7s
TIA LR LR
comp=Z,4μm,15.7s
TIA LR LR
comp=Z,8μm,14.7s
QZH Quanzhou 21.54 260 P **P 15 56 41.5 -0.8**
QZH S **S 16 00 32.4 -7.9**
QZH pmax pmax
comp=Z,1μm,8.6s
QZH LR LR
comp=Z,2μm,13.7s
QZH LR LR
comp=Z,3μm,18.2s
QZH LR LR
comp=Z,4μm,19.2s
HEH HeiHe 22.27 335 *e*P **P 15 56 48.9 -1.0**
HEH pP **pP 15 56 51.8 -2.1**
HEH PP **PnPn 15 57 19.6 +6.9**
HEH S **S 16 00 53.0 -1.0**
HEH sS **pS 16 00 58.7 -0.5**
HEH pmax pmax
comp=Z,42nm,1.2s
HEH pmax pmax
comp=Z,1μm,8.3s
HEH LR LR
comp=Z,4μm,13.5s
HEH LR LR
comp=Z,3μm,12.4s
HEH LR LR
comp=Z,4μm,13.7s
NKL Nikolayevsk 22.30 358 *e*P **P 15 56 47.2 -3.0**
NKL *e*S **S 16 00 54.3 -0.2**
NKL pmax pmax
comp=E,100nm,1.2s
NKL pmax pmax
comp=N,125nm,0.9s
NKL pmax pmax
comp=Z,285nm,1.4s
NKL smax smax
comp=E,496nm,3.9s
NKL smax smax
comp=N,611nm,3.8s
NKL MLR MLR
comp=N,8μm,21.0s
NKL MLR MLR
comp=E,6μm,17.0s
NKL MLR MLR
comp=Z,9μm,17.0s
SKR Severo-Kuril's 22.42 24 *e*P P 15 57 07.4 +16
SKR *e*S Sn 16 01 46.7 +37
SKR pmax pmax
comp=Z,600nm,7.2s
BJT Baijiatuau 22.93 301 P **P 15 56 54.7 -2.3**
BJT IAmb IAmb 15 56 57.4
comp=Z,111nm,1.2s
BJT Baijiatuau 22.93 301 IAMs_20 IAMs_20 16 05 47.9
comp=Z,4μm,20.0s
BJT Baijiatuau 22.93 301 P **P 15 56 56.2 -0.8**
BJT Baijiatuau 22.93 301 P **P 15 56 54.7 -2.3**
BJT pmax pmax
comp=Z,111nm,1.2s
BJT MLR MLR
comp=Z,4μm,20.0s
BJI Beijing 22.93 301 P **P 15 56 54.0 -3.0**
BJI PP **PnPn 15 57 22.1 +0.4**
BJI S **S 16 01 02.6 -3.4**
BJI pmax pmax
comp=Z,39nm,1.5s
BJI pmax pmax
comp=Z,310nm,5.7s
BJI LR LR
comp=Z,1μm,13.0s
BJI LR LR
comp=Z,2μm,17.6s
BJI LR LR
comp=Z,2μm,16.9s
HNS HongShan 23.52 294 ⇑P **P 15 56 59.5 -3.4**
HNS S **S 16 01 10.3 -5.5**
HNS pmax pmax
comp=Z,29nm,1.4s
HNS LR LR
comp=Z,1μm,16.1s
HNS LR LR
comp=Z,4μm,15.9s
HNS LR LR
comp=Z,5μm,16.9s
SZP Santa 23.68 241 P **P 15 57 04.7 0.0**
WHN Wuhan 23.81 276 P **P 15 57 04.1 -1.7**
WHN PP **PnPn 15 57 34.6 +0.8**
WHN S **S 16 01 12.8 -7.8**
WHN pmax pmax
comp=Z,470nm,2.0s
WHN pmax pmax
comp=Z,1μm,8.1s
WHN LR LR
comp=Z,4μm,12.9s
WHN LR LR
comp=Z,9μm,13.9s
WHN LR LR
comp=Z,13μm,14.6s
XLT XiLinHaoTe 24.29 310 *e*P **P 15 57 09.5 -0.9**
XLT sP sP 15 57 16.5 +1.1
XLT S **S 16 01 29.3 +1.0**
XLT PcS **PcS 16 04 32.7 +3.0**
XLT pmax pmax
comp=Z,41nm,1.4s
XLT LR LR
comp=Z,370nm,12.5s
XLT LR LR
comp=Z,2μm,17.5s
XLT LR LR
comp=Z,2μm,17.7s
HIA Hailar 24.94 324 P **P 15 57 15.2 -0.9**
HIA IAmb IAmb 15 57 28.7
comp=Z,70nm,1.1s
HIA Hailar 24.94 324 IAMs_20 IAMs_20 16 07 10.4
comp=Z,3μm,19.0s
HIA Hailar 24.94 324 P **P 15 57 15.9 -0.2**
HIA Hailar 24.94 324 P **P 15 57 15.3 -0.9**
HIA pmax pmax
comp=Z,70nm,1.1s
HIA MLR MLR
comp=Z,3μm,19.0s
H11N2 WAKE ISLAND Hy 24.98 110 T T 16 23 19.6
baz=304,slow=74,SNR=5.7
H11N1 WAKE ISLAND Hy 24.99 110 T T 16 23 37.7
baz=304,slow=74,SNR=4.6
PETK Petropavlovsk- 24.99 23 P **P 15 57 17.6 +1.2**
comp=Z,3.7nm,1.0s,baz=218,slow=9.1,SNR=2.5
PETK LR LR 16 07 27.1
comp=Z,2μm,20.9s,baz=212,slow=37
comp=Z,3.7nm,1.0s
H11N3 WAKE ISLAND Hy 25.00 110 T T 16 23 26.5
baz=304,slow=74,SNR=4.5
LYN LuoYang 25.13 286 ⇓*i*P **P 15 57 16.3 -1.6**
LYN pmax pmax
comp=Z,39nm,1.3s
LYN LR LR
comp=Z,3μm,15.1s
LYN LR LR
comp=Z,5μm,15.1s
LYN LR LR
comp=Z,5μm,15.5s
PET Petropavlovsk 25.24 24 *e*P **P 15 57 18.7 0.0**
PET *e*S **S 16 01 38.2 -5.0**
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,15.0s
ZEA Zeya 25.26 339 *e*P **P 15 57 19.3 +0.5**
ZEA *e* 15 57 58.1
ZEA *e*S **S 16 01 39.6 -3.8**
ZEA pmax pmax
comp=E,200nm,6.4s
ZEA pmax pmax
comp=N,300nm,6.1s
ZEA pmax pmax
comp=Z,400nm,6.2s
ZEA pmax pmax
comp=N,90nm,1.3s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=Z,160nm,1.2s
ZEA pmax pmax
comp=N,400nm,4.8s
ZEA pmax pmax
comp=Z,500nm,5.7s
ZEA smax smax
comp=E,800nm,7.3s
ZEA smax smax
comp=N,900nm,8.9s
TIY Taiyuan 25.35 294 *e*P **P 15 57 19.0 -1.0**
TIY S **S 16 01 44.1 -1.3**
TIY pmax pmax
comp=N,76nm,1.0s
TIY pmax pmax
comp=N,430nm,8.6s
TIY LR LR
comp=N,2μm,15.1s
TIY LR LR
comp=N,3μm,15.8s
TIY LR LR
comp=N,4μm,15.8s
CNSH ChangSha 25.46 271 P **P 15 57 17.7 -3.2**
CNSH S **S 16 01 42.6 -4.5**
CNSH pmax pmax
comp=N,6.0nm,0.4s
CNSH LR LR
comp=N,2μm,12.3s
CNSH LR LR
comp=N,3μm,14.4s
CNSH LR LR
comp=N,2μm,14.1s
H11S3 WAKE ISLAND Hy 25.47 113 T T 16 24 07.0
baz=304,slow=75,SNR=6.9
H11S1 WAKE ISLAND Hy 25.48 113 T T 16 24 13.9
baz=304,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 25.49 113 T T 16 23 58.4
baz=304,slow=75,SNR=10
HKPS Hong Kong Po S 26.34 258 IAMs_20 IAMs_20 16 08 53.6
comp=Z,2μm,18.0s
HHC Hu-ho-hao-te 26.54 301 *e*P **P 15 57 29.4 -1.4**
HHC PP **PnPn 15 58 09.8 -1.4**
HHC S **S 16 02 02.3 -1.9**
HHC sS sS 16 02 11.6 +2.0
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,290nm,5.4s
HHC LR LR
comp=Z,3μm,14.1s
HHC LR LR
comp=Z,3μm,20.2s
HHC LR LR
comp=Z,5μm,20.2s
BTO Baotou 27.64 299 *e*P **P 15 57 41.2 +0.5**
BTO PP **PnPn 15 58 25.2 -1.0**
BTO SS SS 16 03 41.2 -37
BTO pmax pmax
comp=Z,53nm,0.9s
BTO pmax pmax
comp=Z,470nm,5.9s
BTO LR LR
comp=Z,10μm,15.3s
BTO LR LR
comp=Z,10μm,14.9s
BTO LR LR
comp=Z,11μm,15.1s
ENH Enshi 28.00 277 IAMs_20 IAMs_20 16 10 25.2
comp=Z,4μm,18.0s
ENH Enshi 28.00 277 P **P 15 57 44.6 +0.7**
XAN Xi'an 28.08 285 ⇓P **P 15 57 42.7 -1.9**
XAN pP pwP 15 57 54.2 -2.8
XAN S **S 16 02 32.3 +3.8**
XAN pmax pmax
comp=Z,39nm,1.0s
XAN pmax pmax
comp=Z,1μm,4.7s
XAN LR LR
comp=Z,2μm,11.7s
XAN LR LR
comp=Z,2μm,12.8s
XAN LR LR
comp=Z,3μm,12.4s
DAV Davao City (W) 28.25 216 IAMs_20 IAMs_20 16 07 20.3
comp=Z,3μm,20.0s
DAV Davao City (W) 28.25 216 LR LR 16 07 40.0
comp=Z,2μm,20.8s,baz=46,slow=34
PATS Pohnpei 28.34 144 IAMs_20 IAMs_20 16 08 31.9
comp=Z,4μm,20.0s
MA2 Magadan 29.32 9 P **P 15 57 56.6 +1.3**
MA2 Magadan 29.32 9 *ce*P **P 15 57 56.7 +1.4**
MA2 pmax pmax
comp=Z,40nm,1.7s
CIT Chita 29.75 324 *e*P **P 15 58 00.0 +0.8**
CIT *e* 15 58 56.9
CIT *e* 16 00 57.5
CIT *e*S **ScS 16 08 40.3 +1.8**
CIT pmax pmax
comp=Z,276nm,1.6s
GYA Guiyang 31.28 271 P **P 15 58 11.3 -1.9**
GYA pmax pmax
comp=Z,15nm,1.3s
QIZ Qiongzhong 31.38 256 P **P 15 58 13.0 -0.9**
QIZ S **S 16 03 22.6 +2.1**
QIZ sS **sS 16 03 32.2 +5.5**
QIZ pmax pmax
comp=Z,300nm,5.5s
QIZ LR LR
comp=Z,860nm,12.4s
QIZ LR LR
comp=Z,710nm,10.3s
QIZ LR LR
comp=Z,1μm,16.8s
ULN Ulaanbaatar 31.61 313 P **P 15 58 14.7 -1.1**
ULN Ulaanbaatar 31.61 313 IAMs_20 IAMs_20 16 11 29.7
comp=Z,3μm,19.0s
ULN Ulaanbaatar 31.61 313 *i*P **P 15 58 15.8 -0.1**
ULN pmax pmax
comp=Z,154nm,1.5s
SHEM Shemya Is, Ala 31.96 38 LR LR 16 09 43.1
comp=Z,1μm,20.5s,baz=257,slow=33
SONM Songino Array 32.02 312 P **P 15 58 19.1 -0.3**
comp=Z,30nm,1.1s,baz=126,slow=6.0,SNR=120
SONM LR LR 16 11 55.8
comp=Z,3μm,18.4s,baz=104,slow=38
comp=Z,30nm,1.1s
LZH Lanzhou 32.16 290 *e*P **P 15 58 19.6 -1.2**
LZH sP sP 15 58 28.0 +2.1
LZH S **S 16 03 30.8 -1.9**
LZH pmax pmax
comp=Z,33nm,1.1s
LZH LR LR
comp=Z,2μm,15.1s
LZH LR LR
comp=Z,2μm,15.1s
LZH LR LR
comp=Z,2μm,17.9s
YAK Yakutsk 32.22 349 IAMs_20 IAMs_20 16 11 14.8
comp=Z,2μm,19.0s
YAK Yakutsk 32.22 349 LR LR 16 11 33.6
comp=Z,2μm,18.8s,baz=153,slow=37
YAK Yakutsk 32.22 349 *e*P **P 15 58 20.4 -0.4**
YAK *e**PP **pP 15 58 24.7 +0.2**
YAK *e* 15 59 22.4
YAK *e*S **S 16 03 33.9 +1.3**
YAK *e**SS **sS 16 03 39.2 +0.1**
YAK *e*SS **SnSn 16 05 26.5 +2.5**
YAK pmax pmax
comp=Z,45nm,1.3s
YAK pmax pmax
comp=N,24nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,215nm,4.3s
YAK pmax pmax
comp=N,212nm,5.0s
YAK pmax pmax
comp=E,66nm,4.1s
YAK smax smax
comp=N,165nm,3.0s
YAK smax smax
comp=E,96nm,2.7s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK MLR MLR
comp=N,2μm,21.0s
YAK MLR MLR
comp=E,864nm,20.0s
CD2 Chengdu 32.76 280 P **P 15 58 25.4 -0.6**
CD2 sP pP 15 58 29.9 -0.2
CD2 PP **PP 15 59 39.1 -1.0**
CD2 S **S 16 03 43.8 +1.8**
CD2 pmax pmax
comp=E,20nm,1.2s
CD2 pmax pmax
comp=E,300nm,4.5s
CD2 LR LR
comp=E,3μm,13.0s
CD2 LR LR
comp=E,4μm,15.8s
SEY Seymchan 32.77 9 *ce*P **P 15 58 26.9 +1.2**
SEY pmax pmax
comp=Z,30nm,1.7s
TNTI Ternate 33.00 208 P **P 15 58 29.2 +1.1**
TNTI Ternate 33.00 208 P **P 15 58 27.9 -0.2**
comp=Z,669nmcomp=Z,35nm,0.9s
BOD Bodaibo 33.15 333 *e*P **P 15 58 28.0 -1.0**
BOD pmax pmax
comp=Z,53nm,1.7s
JAY Jayapura 33.21 182 LR LR 16 10 11.5
comp=Z,2μm,19.2s,baz=348,slow=33
MYLDM Lahad Datu 33.81 226 P **P 15 58 34.9 -0.3**
MYLDM Lahad Datu 33.81 226 P **P 15 58 37.4 +2.3**
KKM Kota Kinabalu 34.60 230 IAMs_20 IAMs_20 16 10 46.2
comp=Z,2μm,20.0s
KMSI Cibinong 34.65 213 P **P 15 58 43.9 +1.4**
ZAK Zakamensk 34.79 315 *e*P **P 15 58 43.7 +0.2**
ZAK pmax pmax
comp=Z,91nm,1.6s
FAKI Fak Fak 34.86 197 IAMs_20 IAMs_20 16 11 03.9
comp=Z,3μm,18.0s
IRK Irkutsk 34.88 319 *e*P **P 15 58 44.9 +0.8**
IRK *e*S **S 16 04 15.7 +1.4**
IRK pmax pmax
comp=Z,218nm,2.3s
KMI Kunming 35.06 271 ⇑P **P 15 58 44.4 -1.8**
KMI pmax pmax
comp=Z,200nm,8.0s
KMI LR LR
comp=Z,590nm,12.0s
KMI LR LR
comp=Z,2μm,13.9s
KMI LR LR
comp=Z,2μm,15.4s
GTA Gaotai 35.33 296 *e*P **P 15 58 47.3 -1.0**
GTA sP pwP 15 58 57.1 -3.5
GTA PP **PP 16 00 09.3 +0.8**
GTA S **S 16 04 21.6 0.0**
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,230nm,5.8s
GTA LR LR
comp=Z,1μm,15.6s
GTA LR LR
comp=Z,3μm,16.0s
GTA LR LR
comp=Z,3μm,16.0s
SLVN Son La 35.41 264 P **P 15 58 47.4 -1.7**
PZH PanZhiHua 35.50 273 P **P 15 58 47.9 -2.0**
PZH S **S 16 04 20.7 -3.8**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,170nm,5.5s
PZH LR LR
comp=Z,1μm,13.5s
PZH LR LR
comp=Z,1μm,14.5s
PZH LR LR
comp=Z,2μm,14.7s
MRSI Marisa 35.73 216 P **P 15 58 51.9 +0.1**
comp=Z,1μmcomp=Z,94nm,1.1s
TOLI2 Tolitoli 35.80 218 P **P 15 58 53.9 +1.5**
SANI Sanana 36.12 208 P **P 15 58 54.2 -0.9**
SANI Sanana 36.12 208 P **P 15 58 53.6 -1.5**
comp=Z,887nmcomp=Z,84nm,0.8s
MSAI Masohi 36.24 203 P **P 15 58 57.7 +1.6**
comp=Z,3μmcomp=Z,72nm,1.5s
MOY Mondy 36.58 317 *e*P **P 15 58 59.2 +0.4**
MOY pmax pmax
comp=Z,127nm,2.6s
UBPT Khong Chiam 36.86 254 P **P 15 59 03.5 +2.0**
APSI Ampana 37.07 215 P **P 15 59 04.0 +0.8**
comp=Z,56nm,0.9s
NONG Nongkai 37.45 259 P **P 15 59 07.2 +0.7**
PCI Palu 38.00 218 P **P 15 59 10.6 -0.5**
comp=Z,2μmcomp=Z,112nm,1.0s
ATKA Atka Island 38.32 43 IAMs_20 IAMs_20 16 13 46.6
comp=Z,2μm,19.0s
TNCH TengChong 38.72 272 ⇑P **P 15 59 16.2 -1.1**
TNCH sP sP 15 59 23.3 +1.0
TNCH PP **PnPn 16 00 52.9 +4.7**
TNCH S **S 16 05 09.6 -4.0**
TNCH sS pS 16 05 18.4 -0.6
TNCH SS **SnSn 16 07 58.1 -4.5**
TNCH pmax pmax
comp=Z,270nm,3.4s
TNCH LR LR
comp=Z,670nm,14.4s
TNCH LR LR
comp=Z,670nm,18.6s
TNCH LR LR
comp=Z,2μm,16.0s
KDI Kendari 39.28 212 P **P 15 59 22.6 +0.8**
comp=Z,1μmcomp=Z,28nm,1.0s
GOMU GeErMu 39.44 291 P **P 15 59 21.9 -1.6**
GOMU sP sP 15 59 28.3 -0.3
GOMU S **S 16 05 21.5 -3.2**
GOMU pmax pmax
comp=Z,79nm,1.6s
GOMU LR LR
comp=Z,2μm,14.7s
GOMU LR LR
comp=Z,2μm,14.9s
GOMU LR LR
comp=Z,3μm,14.4s
BILL Bilibino 39.84 14 IAMs_20 IAMs_20 16 18 32.5
comp=Z,1μm,19.0s
BILL Bilibino 39.84 14 *ce*P **P 15 59 28.1 +2.2**
BILL pmax pmax

comp=Z,58nm,2.5s
BKB Balikpapan 39.91 221 IAMs_20 IAMs_20 16 13 37.7
comp=Z,1µm,21.0s
SBUM Sibu 39.91 231 P **P** **15 59 25.5 -1.7**
PMG Port Moresby 40.33 172 LR LR 16 16 14.8
comp=Z,451nm,18.1s,baz=358,slow=36
SPSI Sidrap Palu 40.64 216 P **P** **15 59 33.0 -0.1**
comp=Z,679nmcomp=Z,53nm,0.8s
CHTO Chiang Mai 40.69 263 P **P** **15 59 32.2 -1.3**
CHTO IAMs_20 IAMs_20 16 18 09.8
comp=Z,1µm,18.0s
CHTO Chiang Mai 40.69 263 P **P** **15 59 32.3 -1.3**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO MLR MLR
comp=Z,1µm,18.0s
MTKI Muara Teweh, K 40.82 224 P **P** **15 59 34.9 +0.2**
comp=Z,62nm,0.7s
CM31 Chiang Mai Arr 40.84 263 P **P** **15 59 33.8 -1.1**
CMAR Chiang Mai Arr 40.84 263 P **P** **15 59 32.1 -2.8**
comp=Z,1.0nm,0.6s,baz=57,slow=6.4,SNR=9.3
CMAR LR LR 16 18 33.8
comp=Z,1µm,18.4s,baz=65,slow=39
comp=Z,1.0nm,0.6s
TIXI Tiksi 41.48 354 *i* P **P** **15 59 37.9 -1.5**
TIXI pmax pmax
comp=Z,12nm,1.5s
KAPI Kappang 41.55 215 LR LR 16 16 40.5
comp=Z,447nm,20.4s,baz=28,slow=36
KAPI Kappang 41.55 215 P **P** **15 59 44.2 +3.6**
KAPI Kappang 41.55 215 *i* P **P** **15 59 39.8 -0.8**
KAPI pmax pmax
comp=Z,28nm,0.9s
SPIA Saint Paul Isl 41.99 37 P **P** **15 59 45.2 +1.4**
baz=252
P08K Saint George I 42.19 38 P **P** **15 59 46.8 +1.4**
baz=253
SRDT SRDT 42.62 257 P **P** **15 59 49.8 +0.4**
UNV Unalaska Valle 43.22 43 P **P** **15 59 53.3 -0.5**
baz=259
HNR Honiara 43.58 154 LR LR 16 17 31.1
comp=Z,538nm,18.8s,baz=327,slow=35
MMRI Maumere 43.62 209 P **P** **15 59 59.8 +2.4**
MMRI Maumere 43.62 209 P **P** **15 59 58.9 +1.4**
comp=Z,1µmcomp=Z,50nm,1.2s
LSA Lhasa 43.67 282 P **P** **15 59 56.9 -1.5**
LSA IAMs_20 IAMs_20 16 20 27.7
comp=Z,1µm,20.0s
LSA Lhasa 43.67 282 P **P** **15 59 56.9 -1.5**
LSA pmax pmax
comp=Z,37nm,1.7s
LSA MLR MLR
comp=Z,1µm,20.0s
GAMB Gambell 43.83 28 P **P** **15 59 58.6 +0.1**
baz=244
SOEI Soe 43.84 206 P **P** **16 00 01.0 +1.7**
SOEI Soe 43.84 206 P **P** **16 00 00.8 +1.5**
comp=Z,1µmcomp=Z,40nm,1.3s
KDU Kakadu 44.26 193 P **P** **16 00 02.6 +0.1**
comp=Z,31nm,0.8s
KDU Kakadu 44.26 193 P **P** **16 00 04.3 +1.8**
WMQ Urumqi 44.38 303 *e*P **P** **16 00 04.6 +1.2**
WMQ LR LR
comp=Z,2µm,18.7s
WMQ LR LR
comp=Z,1µm,17.3s
WMQ LR LR
comp=Z,970nm,24.0s
COEN Coen 44.56 178 P **P** **16 00 07.4 +2.5**
comp=Z,38nm,1.8s
COEN Coen 44.56 178 P **P** **16 00 07.3 +2.4**
MTN Manton Dam 44.70 195 P **P** **16 00 04.8 -1.2**
MTN IAmb IAmb 16 00 08.0
comp=Z,33nm,0.8s
MTN Manton Dam 44.70 195 P **P** **16 00 05.6 -0.4**
comp=Z,50nm,0.9s
MTN Manton Dam 44.70 195 P **P** **16 00 06.9 +0.9**
M11K Mekoryuk 44.98 33 P **P** **16 00 05.7 -2.0**
baz=253
FALS False Pass 45.18 42 P **P** **16 00 08.5 -0.9**
baz=261
SRIT Nakonsritamara 45.31 250 P **P** **16 00 12.2 +1.2**
BRDH Bariadhala 45.43 272 LR LR 16 21 16.8
comp=Z,525nm,19.8s,baz=128,slow=39
PLAI Plampang 45.82 215 P **P** **16 00 15.4 +0.5**
PLAI Plampang 45.82 215 P **P** **16 00 13.4 -1.5**
TNA Tin City 46.06 26 IAmb IAmb 16 00 21.5
comp=Z,40nm,1.4s
TNA Tin City 46.06 26 P **P** **16 00 15.5 -0.8**
baz=246,SNR=6.7
S12K Black Hills 46.08 41 P **P** **16 00 15.0 -1.6**
baz=261
K13K Kusilvak Mount 46.15 32 P **P** **16 00 16.1 -1.0**
baz=253,SNR=7.7
ZSN Zaisan 46.29 308 *e*P **P** **16 00 18.0 -0.4**
ZSN pmax pmax
comp=Z,65nm,1.7s
ZSN Zaisan 46.29 308 *e*P **P** **16 00 18.1 -0.4**
comp=Z,65nm,1.7s
M13K Dall Lake 46.35 34 P **P** **16 00 17.4 -1.2**
baz=256
KULM Kulim 46.45 245 P **P** **16 00 19.5 -0.5**
KULM IAmb IAmb 16 00 22.5
comp=Z,16nm,0.8s
KULM Kulim 46.45 245 P **P** **16 00 22.1 +2.1**
ZALV Zalesovo Beam 46.63 317 P **P** **16 00 19.9 -1.1**
comp=Z,18nm,1.1s,baz=99,slow=7.7,SNR=50
ZALV PcP **PcP** **16 01 55.3 +0.6**
comp=Z,3.5nm,0.7s,baz=101,slow=2.9,SNR=2.3
ZALV S **S** **16 07 09.6 +0.6**
comp=Z,0.5nm,0.5s,baz=115,slow=28,SNR=1.1
ZALV LR LR 16 20 42.2
comp=Z,2µm,18.2s,baz=94,slow=37
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 46.63 317 *i* P **P** **16 00 21.2 +0.2**
ZALV pmax pmax
comp=Z,18nm,1.1s
F14K Arctic Creek 46.64 27 P **P** **16 00 20.7 -0.2**
baz=248,SNR=9.9
IPM Ipoh 46.66 244 P **P** **16 00 19.4 -2.3**
IPM IAmb IAmb 16 00 23.5
comp=Z,17nm,0.9s
IPM Ipoh 46.66 244 P **P** **16 00 22.2 +0.5**
ANM Nome 46.69 28 IAmb IAmb 16 00 26.6
comp=Z,60nm,1.4s
ANM Nome 46.69 28 P **P** **16 00 21.3 0.0**
baz=250,SNR=5.5
J14K Nanvaranak Lak 46.88 31 P **P** **16 00 21.8 -1.0**
J14K IAmb IAmb 16 00 27.9
comp=Z,60nm,1.5s
J14K Nanvaranak Lak 46.88 31 P **P** **16 00 22.7 0.0**
baz=253
L14K Kuka Creek 46.90 33 P **P** **16 00 20.6 -2.3**
baz=255,SNR=8.3
SDPT Sand Point 46.92 41 P **P** **16 00 21.8 -1.4**
baz=263
N14K Kuskokwak Cree 47.04 35 P **P** **16 00 23.7 -0.4**
baz=258
M14K Bethel 47.09 34 P **P** **16 00 23.7 -0.8**
M14K Bethel 47.09 34 P **P** **16 00 24.3 -0.1**
baz=257,SNR=6.1
O14K Tigyukauivet M 47.12 36 P **P** **16 00 26.2 +1.5**
O14K IAmb IAmb 16 00 43.9
comp=Z,31nm,1.2s
O14K IAMs_20 IAMs_20 16 17 56.0
comp=Z,1µm,20.0s
O14K Tigyukauivet M 47.12 36 P **P** **16 00 24.9 +0.3**
baz=259
CHNA Chernabura Isl 47.37 42 P **P** **16 00 27.0 +0.3**
baz=264
G15K Niukluk 47.37 28 P **P** **16 00 25.9 -0.7**
baz=251
F15K North Star Dit 47.37 27 P **P** **16 00 26.2 -0.4**
baz=249
JAGI Jajag, Banyuwa 47.38 219 P **P** **16 00 29.7 +2.5**
L15K Ungalak Mounta 47.53 33 P **P** **16 00 27.6 -0.3**
baz=256
S14K Fog Glacier 47.55 40 P **P** **16 00 27.6 -0.7**
baz=263
K15K Wolf Creek Mou 47.66 32 P **P** **16 00 29.0 +0.1**
baz=256
M15K Kasigluk River 47.69 34 P **P** **16 00 29.0 -0.2**
baz=258,SNR=6.1
O15K Ungalikthiuk R 47.83 36 P **P** **16 00 29.1 -1.1**
baz=260,SNR=12
N15K Kwethluk River 47.88 35 IAmb IAmb 16 00 35.5
comp=Z,50nm,1.4s
N15K IAMs_20 IAMs_20 16 19 00.0
comp=Z,974nm,18.0s
N15K Kwethluk River 47.88 35 P **P** **16 00 30.2 -0.4**
baz=259
H16K Elim 47.99 29 P **P** **16 00 30.7 -0.7**
baz=253
KNRA Kununurra 48.00 197 P **P** **16 00 29.8 -2.1**
KNRA IAmb IAmb 16 01 41.8
comp=Z,22nm,1.2s
MK31 Makanchi Array 48.06 307 *i* P **P** **16 00 32.2 -0.1**
MK31 pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 48.06 307 P **P** **16 00 31.2 -1.1**
comp=Z,8.6nm,0.6s,baz=90,slow=9.9,SNR=124
MKAR S **S** **16 07 28.9 -0.8**
comp=Z,0.9nm,0.9s,baz=93,slow=21,SNR=4.0
MKAR LR LR 16 21 46.3
comp=Z,2µm,19.2s,baz=84,slow=38
comp=Z,8.6nm,0.6s
C16K Lisburne Hills 48.08 23 IAmb IAmb 16 00 36.8
comp=Z,50nm,1.4s
C16K Lisburne Hills 48.08 23 P **P** **16 00 31.9 -0.1**
baz=246,SNR=12
G16K Koyuk River 48.17 28 P **P** **16 00 31.2 -1.5**
baz=252
CHGN Chignik 48.18 40 P **P** **16 00 32.2 -0.7**
baz=264
MAKZ Makanchi 48.28 307 P **P** **16 00 34.3 +0.3**
MAKZ Makanchi 48.28 307 P **P** **16 00 34.3 +0.3**
MAKZ pmax pmax
comp=Z,92nm,1.5s
MAKZ MLR MLR
comp=Z,2µm,18.0s
J16K Anvik River 48.32 31 P **P** **16 00 33.2 -0.8**
baz=256
I17K Unalakleet 48.43 30 P **P** **16 00 34.5 -0.3**
baz=255
L16K Owhat River 48.48 33 IAmb IAmb 16 00 39.9
comp=Z,36nm,1.4s
L16K IAMs_20 IAMs_20 16 18 57.8
comp=Z,1µm,20.0s
L16K Owhat River 48.48 33 P **P** **16 00 34.6 -0.6**
baz=258,SNR=7.3
N16K Nishlik Lake 48.58 35 P **P** **16 00 36.2 +0.2**
baz=260
M16K Timber Creek 48.59 34 IAMs_20 IAMs_20 16 19 13.8
comp=Z,1µm,19.0s
M16K Timber Creek 48.59 34 P **P** **16 00 35.0 -1.1**
baz=259
D17K Noatak River 48.66 25 P **P** **16 00 36.3 -0.2**
baz=249,SNR=22
P16K Nushagak River 48.74 37 P **P** **16 00 35.9 -1.3**
baz=262,SNR=9.3
MTSU Mount Surprise 48.75 177 P **P** **16 00 39.0 +1.3**
comp=Z,11nm,0.9s
MTSU Mount Surprise 48.75 177 P **P** **16 00 40.8 +3.0**
O16K Kokwok River B 48.77 36 IAmb IAmb 16 00 42.3
comp=Z,37nm,1.4s
O16K Kokwok River B 48.77 36 P **P** **16 00 36.0 -1.5**
baz=261,SNR=9.5
R16K Pilot Point 48.78 39 P **P** **16 00 37.3 -0.3**
baz=264
RDOG Red Dog Mine 48.84 24 IAmb IAmb 16 00 43.1
comp=Z,48nm,1.3s
RDOG Red Dog Mine 48.84 24 P **P** **16 00 37.8 -0.2**
baz=249,SNR=10
C17K DeLong Mountai 48.90 24 P **P** **16 00 38.4 0.0**
baz=249
E17K Hotham Inlet 48.91 26 P **P** **16 00 38.0 -0.4**
baz=251
F17K Baldwin Pennin 48.92 26 IAmb IAmb 16 00 43.7
comp=Z,73nm,1.8s
F17K Baldwin Pennin 48.92 26 P **P** **16 00 36.8 -1.7**
baz=252
J17K VABM Dome 49.02 31 P **P** **16 00 39.0 -0.3**
baz=257,SNR=14
H17K Granite Mounta 49.03 29 P **P** **16 00 39.4 -0.1**
baz=255,SNR=6.0
L17K Donlin 49.11 32 P **P** **16 00 39.2 -0.8**
baz=259,SNR=9.1
K17K Iditarod 49.22 32 P **P** **16 00 39.4 -1.5**
baz=258
O17K Koliganek Bris 49.30 36 P **P** **16 00 41.1 -0.4**
baz=262,SNR=14
PSI Prapat 49.34 244 LR LR 16 21 32.2
comp=Z,352nm,18.7s,baz=82,slow=36
PSI Prapat 49.34 244 P **P** **16 00 43.8 +1.3**
N17K Nushagak Hills 49.36 35 IAMs_20 IAMs_20 16 19 47.3
comp=Z,918nm,19.0s
N17K Nushagak Hills 49.36 35 P **P** **16 00 39.8 -2.2**
baz=261,SNR=16
M17K Holitna River 49.38 33 P **P** **16 00 41.1 -1.1**
baz=260,SNR=18
Q16K King Salmon 49.39 37 P **P** **16 00 40.6 -1.5**
baz=263
E18K Tukpahlearik C 49.46 25 IAmb IAmb 16 00 48.1
comp=Z,31nm,1.3s
E18K Tukpahlearik C 49.46 25 P **P** **16 00 42.0 -0.6**
baz=252
P17K Kvichak River 49.56 36 P **P** **16 00 42.8 -0.7**
baz=263,SNR=9.4
F18K Selawik 49.58 27 P **P** **16 00 43.4 -0.2**
baz=254,SNR=14
C18K Utukok River 49.65 24 IAmb IAmb 16 00 48.9
comp=Z,45nm,1.5s
C18K Utukok River 49.65 24 P **P** **16 00 43.4 -0.7**
baz=251,SNR=10
B18K Kokolik River 49.68 23 P **P** **16 00 44.6 +0.3**
baz=249,SNR=23
CHIR Chirikof Islan 49.70 41 P **P** **16 00 43.2 -1.4**
baz=267
H18K Honhosa River 49.72 29 P **P** **16 00 43.7 -1.0**
baz=256,SNR=8.5
G18K Tagagawik 49.79 28 IAmb IAmb 16 00 50.0
comp=Z,70nm,1.4s
G18K Tagagawik 49.79 28 P **P** **16 00 43.4 -1.8**
baz=255,SNR=25
L18K Granite Mounta 49.87 33 IAMs_20 IAMs_20 16 19 52.5
comp=Z,942nm,19.0s
L18K Granite Mounta 49.87 33 P **P** **16 00 44.3 -1.5**
baz=260,SNR=8.7
LEM Lembang 49.91 227 LR LR 16 24 31.7
comp=Z,424nm,18.5s,baz=12,slow=39
N18K Kilae Creek 50.02 35 IAMs_20 IAMs_20 16 19 48.6
comp=Z,881nm,20.0s
N18K Kilae Creek 50.02 35 P **P** **16 00 46.1 -0.9**
baz=262
J18K Innoko River 50.07 31 P **P** **16 00 46.1 -1.3**
baz=259,SNR=7.5
M18K Stony River 50.16 34 P **P** **16 00 47.2 -0.9**
baz=262,SNR=11
P18K Big Mountain, 50.20 36 P **P** **16 00 47.7 -0.8**
baz=264,SNR=20
A19K Wainwright 50.22 22 P **P** **16 00 48.9 +0.5**
baz=249
Q18K Katmai Hardscr 50.24 37 P **P** **16 00 47.8 -1.1**
baz=265,SNR=14
GCSA Galena City Sc 50.25 29 P **P** **16 00 47.3 -1.4**
baz=258
O18K Koktuli Hills 50.26 36 P **P** **16 00 47.7 -1.2**
baz=264,SNR=9.9
TTA Tatalina 50.29 32 P **P** **16 00 49.2 +0.1**
TTA Tatalina 50.29 32 P **P** **16 00 48.0 -1.1**
baz=260,SNR=8.1
KURK Kurchatov 50.33 312 P **P** **16 00 49.3 -0.2**
KURK Kurchatov 50.33 312 *i* P **P** **16 00 48.8 -0.7**
KURK pmax pmax
comp=Z,84nm,1.5s
PDGK Podgornoye 50.36 303 P **P** **16 00 49.3 -0.7**
F19K Shaleruckik Mo 50.36 26 P **P** **16 00 49.4 -0.2**
baz=256
KURBB Kurchatov Arra 50.39 312 P **P** **16 00 49.3 -0.7**
comp=Z,16nm,0.8s,baz=88,slow=6.8,SNR=92
KURBB S **S** **16 08 00.3 -1.8**
comp=Z,0.1nm,0.4s,baz=82,slow=14,SNR=1.8
KURBB LR LR 16 22 56.1
comp=Z,3µm,18.0s,baz=120,slow=37
comp=Z,16nm,0.8s
SHLS Shalkode 50.40 303 *e*P **P** **16 00 47.3 -3.0**
SHLS pmax pmax
comp=Z,29nm,1.3s
SHLS Shalkode 50.40 303 *e*P **P** **16 00 47.4 -3.0**
comp=Z,30nm,1.3s
R18K Karluk 50.45 39 P **P** **16 00 48.9 -1.4**
baz=266
G19K Purcell Mounta 50.47 27 IAmb IAmb 16 00 54.9
comp=Z,40nm,1.5s
G19K Purcell Mounta 50.47 27 P **P** **16 00 49.8 -0.5**
baz=257,SNR=14
SII Sitkinak Islan 50.55 40 P **P** **16 00 53.7 +2.6**
SII Sitkinak Islan 50.55 40 P **P** **16 00 49.4 -1.7**
baz=267
H19K Roundabout Mou 50.59 28 P **P** **16 00 50.5 -0.7**
baz=258,SNR=19
J19K Poorman 50.64 30 P **P** **16 00 51.3 -0.4**
baz=260,SNR=14
D19K Kuna River 50.68 24 IAmb IAmb 16 00 56.8
comp=Z,40nm,1.4s
D19K Kuna River 50.68 24 P **P** **16 00 51.2 -0.7**
baz=254,SNR=11
L19K White Mountain 50.71 33 IAmb IAmb 16 00 57.4
comp=Z,36nm,1.4s
L19K White Mountain 50.71 33 P **P** **16 00 51.4 -0.9**
baz=262
N19K Bonanza Creek 50.72 35 IAMs_20 IAMs_20 16 20 30.1
comp=Z,982nm,20.0s
N19K Bonanza Creek 50.72 35 P **P** **16 00 53.4 +1.0**
baz=264,SNR=9.3
UZB Uzynbulak 50.72 303 *e*P **P** **16 00 52.1 -0.7**
UZB pmax pmax
comp=Z,30nm,1.4s
UZB Uzynbulak 50.72 303 *e*P **P** **16 00 52.1 -0.7**
comp=Z,30nm,1.4s
E19K Redstone River 50.72 26 P **P** **16 00 51.4 -0.9**
baz=256
O19K Port Alsworth 50.73 35 IAmb IAmb 16 00 57.4
comp=Z,79nm,1.6s
O19K Port Alsworth 50.73 35 P **P** **16 00 51.7 -0.7**
baz=264,SNR=16
M19K Big River Lodg 50.89 33 IAMs_20 IAMs_20 16 20 22.6
comp=Z,989nm,20.0s
M19K Big River Lodg 50.89 33 P **P** **16 00 54.1 +0.5**
baz=263
KPKS Kokpek 50.92 303 *e*P **P** **16 00 53.7 -0.5**
KPKS Kokpek 50.92 303 *e*P **P** **16 00 53.7 -0.5**
TDK Taldyqorghan 50.92 305 *e*P **P** **16 00 53.7 -0.4**
TDK Taldyqorghan 50.92 305 *e*P **P** **16 00 53.8 -0.4**
Q19K Cape Douglas, 50.97 37 IAMs_20 IAMs_20 16 21 09.9
comp=Z,2µm,21.0s
Q19K Cape Douglas, 50.97 37 P **P** **16 00 53.7 -0.6**
baz=266,SNR=7.9
WRA Warramunga Arr 51.04 189 P **P** **16 00 55.0 -0.2**
comp=Z,12nm,0.5s,baz=5.9,slow=7.5,SNR=189
WRA S **S** **16 08 12.1 +0.4**
comp=Z,0.8nm,0.9s,baz=4.2,slow=14,SNR=2.4
WRA LR LR 16 21 57.1
comp=Z,1µm,19.9s,baz=1.5,slow=35
comp=Z,12nm,0.5s
OHAK Old Harbor 51.06 39 P **P** **16 00 56.5 +1.6**
OHAK Old Harbor 51.06 39 P **P** **16 00 54.0 -1.0**
baz=268
ZHN Zhinishke 51.14 303 *e*P **P** **16 00 55.2 -0.7**
ZHN Zhinishke 51.14 303 *e*P **P** **16 00 55.3 -0.7**
FITZ Fitzroy Crossi 51.16 200 P **P** **16 00 55.7 -0.3**
FITZ Fitzroy Crossi 51.16 200 P **P** **16 00 56.7 +0.6**
comp=Z,4.8nm,1.1s
FITZ Fitzroy Crossi 51.16 200 P **P** **16 00 55.4 -0.7**
comp=Z,13nm,0.8s,baz=3.1,slow=6.5,SNR=14
FITZ LR LR 16 21 09.8
comp=Z,497nm,21.9s,baz=30,slow=34
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 51.16 200 P **P** **16 00 58.9 +2.8**
QIS Mount Isa 51.17 183 P **P** **16 00 57.3 +1.2**
comp=Z,35nm,2.1s
QIS Mount Isa 51.17 183 P **P** **16 00 58.4 +2.3**
SATY Saty 51.18 303 *e*P **P** **16 00 55.8 -0.4**
SATY pmax pmax
comp=Z,43nm,1.8s
SATY Saty 51.18 303 *e*P **P** **16 00 55.8 -0.4**
comp=Z,43nm,1.8s
F20K Avaraart Lake 51.20 26 P **P** **16 00 55.6 -0.2**
baz=257
L20K Farewell, AK 51.20 32 P **P** **16 00 55.9 0.0**
baz=263,SNR=8.0
H20K Anotleneega Mo 51.22 28 P **P** **16 00 56.7 +0.6**
baz=259
K20K Telida 51.23 31 IAMs_20 IAMs_20 16 20 24.5
comp=Z,831nm,19.0s
K20K Telida 51.23 31 P **P** **16 00 55.5 -0.6**
baz=262,SNR=28
P19K Oil Pt 51.23 36 IAmb IAmb 16 01 00.4
comp=Z,41nm,1.2s
P19K Oil Pt 51.23 36 P **P** **16 00 54.2 -2.1**
baz=266,SNR=7.2
D20K Etivluk River 51.27 24 P **P** **16 00 54.6 -1.8**
baz=255,SNR=27
I20K Naaghedeneel 51.27 29 P **P** **16 00 56.9 +0.6**
baz=260
E20K Nigu River 51.30 25 P **P** **16 00 55.5 -1.2**
baz=256
J20K Nowinta River 51.31 30 IAmb IAmb 16 01 01.9
comp=Z,81nm,1.4s
J20K IAMs_20 IAMs_20 16 22 52.7
comp=Z,804nm,18.0s
J20K Nowinta River 51.31 30 P **P** **16 00 55.3 -1.5**
baz=261
GSI Gunungsitoli 51.32 244 P **P** **16 01 00.0 +2.6**
B20K Meade River 51.42 23 P **P** **16 00 55.8 -1.7**
baz=254
ARXS Arharly 51.43 304 *e*P **P** **16 00 58.4 +0.4**
KDAK Kodiak Island 51.47 38 P **P** **16 00 56.8 -1.1**
KDAK Kodiak Island 51.47 38 LR LR 16 21 23.4
comp=Z,2µm,21.5s,baz=104,slow=34
KDAK Kodiak Island 51.47 38 P **P** **16 00 56.8 -1.1**
KDAK pmax pmax
comp=Z,83nm,1.3s
KDAK Kodiak Island 51.47 38 P **P** **16 00 55.9 -2.1**
baz=268
M20K Styx River 51.48 33 IAMs_20 IAMs_20 16 20 54.2
comp=Z,892nm,20.0s
M20K Styx River 51.48 33 P **P** **16 00 55.2 -3.0**
baz=264
O20K Slope Mountain 51.57 36 P **P** **16 00 55.8 -3.0**
baz=266
Q20K Shuyak Island 51.60 37 P **P** **16 00 57.1 -1.8**
baz=267,SNR=9.1
N20K Mount Spurr 51.86 34 P **P** **16 00 59.3 -1.7**
baz=265
SPCR Spurr Chakacha 51.86 34 P **P** **16 01 00.2 -0.8**
baz=265,SNR=8.5
G21K Allakaket 51.96 27 P **P** **16 01 00.6 -1.0**
baz=260,SNR=13
C21K Knifeblade Rid 52.02 24 P **P** **16 01 01.5 -0.5**
baz=257
PPLA Purkeypile 52.02 32 P **P** **16 01 02.7 +0.4**
PPLA Purkeypile 52.02 32 P **P** **16 01 00.5 -1.7**
baz=264,SNR=13
HOM Homer 52.04 36 P **P** **16 01 00.6 -1.6**
baz=267
CHUM Lake Minchumin 52.07 31 P **P** **16 01 01.4 -1.0**
baz=263,SNR=7.0
CHKK Chushkaly 52.08 304 *e*P **P** **16 01 02.3 -0.5**
CHKK Chushkaly 52.08 304 *e*P **P** **16 01 02.4 -0.5**
F21K Alatna River 52.09 26 P **P** **16 01 00.2 -2.3**
baz=259,SNR=12
H21K Melozitna Rive 52.10 28 P **P** **16 01 02.5 -0.1**
baz=261,SNR=28
CAST Castle Rocks 52.12 31 P **P** **16 01 01.9 -0.9**
baz=264,SNR=26
E21K Killik River 52.15 25 P **P** **16 01 02.2 -0.7**
baz=258
B21K Ikpikpuk River 52.18 23 P **P** **16 01 01.8 -1.3**
baz=256
KDJ Kajisay 52.22 302 IAmb IAmb 16 01 06.2
comp=Z,52nm,1.6s
TNSS Tian-Shan 52.24 303 *e*P **P** **16 01 03.6 -0.9**
TNSS Tian-Shan 52.24 303 *e*P **P** **16 01 03.6 -0.9**
SKT Skwentna 52.24 33 P **P** **16 01 01.9 -1.8**
baz=265,SNR=12
CAPN Captain Cook N 52.34 35 P **P** **16 01 02.4 -2.0**
baz=267
I21K Tanana 52.38 29 P **P** **16 01 03.8 -0.8**
baz=262,SNR=19
A22K Sinclair Lake 52.40 22 P **P** **16 01 03.7 -1.0**
baz=255
BRLK Bradley Lake 52.43 36 P **P** **16 01 05.3 +0.1**
BRSE Bradley Lake S 52.50 36 P **P** **16 01 04.7 -1.0**
baz=268
F22K John River 52.64 26 P **P** **16 01 04.5 -2.1**
baz=260
BPAW Bear Paw Mtn. 52.68 31 P **P** **16 01 05.0 -1.9**
BPAW IAmb IAmb 16 01 12.0
comp=Z,40nm,1.5s
BPAW IAMs_20 IAMs_20 16 21 20.8
comp=Z,891nm,19.0s

BPAW	**Bear Paw Mtn.**	52.68	31	P	P	16 01 05.2	-1.7
	baz=264,SNR=13						
D22K	**Ayikyak River**	52.70	24	IAMs_20	IAMs_20	16 24 40.0	
	comp=Z,773nm,18.0s						
D22K	**Ayikyak River**	52.70	24	P	P	16 01 05.0	-2.0
	baz=259,SNR=16						
H22K	**Ishtalitna Cre**	52.72	28	P	P	16 01 05.9	-1.2
	baz=262,SNR=16						
B22K	**Teshekpuk Lake**	52.74	23	IAmb	IAmb	16 01 12.1	
	comp=Z,38nm,1.5s						
B22K				IAMs_20	IAMs_20	16 24 13.2	
	comp=Z,915nm,20.0s						
B22K	**Teshekpuk Lake**	52.74	23	P	P	16 01 06.9	-0.4
	baz=257						
SLKM	**Skilak Lake**	52.79	35	P	P	16 01 06.1	-1.7
SLKM				IAmb	IAmb	16 01 11.1	
	comp=Z,32nm,1.3s						
CUT	**Chulitna**	52.86	33	P	P	16 01 07.4	-0.8
	baz=266,SNR=6.7						
E22K	**Anaktuvuk Pass**	52.88	25	P	P	16 01 07.4	-1.0
	baz=260,SNR=19						
ULHL	**Ulahol**	52.89	302	P	P	16 01 09.4	+0.4
	SNR=12						
M22K	**Willow**	52.90	34	P	P	16 01 07.8	-0.6
	baz=267						
TRF	**Thorofare Moun**	52.93	31	P	P	16 01 07.7	-1.3
	baz=265,SNR=12						
O22K	**Cooper Landing**	53.03	35	IAMs_20	IAMs_20	16 23 13.4	
	comp=Z,1µm,19.0s						
O22K	**Cooper Landing**	53.03	35	P	P	16 01 08.6	-0.9
	baz=268						
RC01	**Rabbit Creek A**	53.05	34	P	P	16 01 09.5	-0.2
	baz=268						
BOOM	**Boomskoye usch**	53.06	302	IAmb	IAmb	16 01 24.0	
	comp=Z,100nm,1.8s						
SEW	**Seward**	53.16	36	IAmb	IAmb	16 01 46.7	
	comp=Z,51nm,1.3s						
SEW	**Seward**	53.16	36	P	P	16 01 08.9	-1.6
	baz=269						
TKM2	**Tokmak 2**	53.23	303	P	P	16 01 12.5	+0.9
	SNR=27						
COLD	**Coldfoot**	53.36	27	IAmb	IAmb	16 01 17.1	
	comp=Z,52nm,1.8s						
COLD	**Coldfoot**	53.36	27	P	P	16 01 10.9	-1.0
	baz=263,SNR=8.1						
PMR	**Palmer**	53.36	34	P	P	16 01 14.3	+2.4
PMR	**Palmer**	53.36	34	P	P	16 01 10.4	-1.5
	baz=268,SNR=15						
G23K	**Bananza Creek**	53.36	27	IAmb	IAmb	16 01 17.2	
	comp=Z,57nm,1.4s						
G23K	**Bananza Creek**	53.36	27	P	P	16 01 12.4	+0.5
	baz=263,SNR=20						
D23K	**Nanushuk River**	53.42	24	P	P	16 01 11.4	-0.9
	baz=261,SNR=18						
GHO	**Glory Hole Cre**	53.46	34	IAMs_20	IAMs_20	16 22 21.7	
	comp=Z,945nm,21.0s						
I23K	**Minto, Yukon-K**	53.47	29	P	P	16 01 13.2	+0.5
	baz=265,SNR=9.1						
MCK	**McKinley**	53.55	31	IAmb	IAmb	16 01 17.5	
	comp=Z,68nm,1.4s						
MCK	**McKinley**	53.55	31	P	P	16 01 12.3	-1.1
	baz=266,SNR=16						
NEA2	**Nenana**	53.55	30	P	P	16 01 12.3	-1.1
	baz=266,SNR=35						
RND	**Reindeer**	53.57	32	IAmb	IAmb	16 01 17.4	
	comp=Z,54nm,1.5s						
C23K	**Itkillik River**	53.59	23	P	P	16 01 12.2	-1.3
	baz=260						
KSH	**Kashi**	53.62	299	P	P	16 01 17.9	+3.5
KSH				pP	pwP	16 01 23.0	-3.6
KSH				S	S	16 08 54.1	+6.9
KSH				ScS	ScS	16 11 06.2	+3.1
KSH				pmax	pmax		
	comp=Z,21nm,1.6s						
KSH				pmax	pmax		
	comp=Z,410nm,5.9s						
KSH				LR	LR		
	comp=Z,1µm,14.4s						
KSH				LR	LR		
	comp=Z,1µm,16.5s						
KSH				LR	LR		
	comp=Z,2µm,16.5s						
KNK	**Knik Glacier**	53.68	34	IAMs_20	IAMs_20	16 22 17.3	
	comp=Z,1µm,20.0s						
KNK	**Knik Glacier**	53.68	34	P	P	16 01 12.3	-2.1
	baz=269,SNR=9.4						
E23K	**Chandalar**	53.68	26	IAmb	IAmb	16 01 19.8	
	comp=Z,75nm,1.7s						
E23K	**Chandalar**	53.68	26	P	P	16 01 12.6	-1.7
	baz=263,SNR=18						
PWL	**Port Wells**	53.73	35	IAMs_20	IAMs_20	16 25 07.7	
	comp=Z,1µm,19.0s						
PWL	**Port Wells**	53.73	35	P	P	16 01 13.3	-1.4
	baz=269						
SML	**Sawmill**	53.75	34	IAMs_20	IAMs_20	16 22 47.2	
	comp=Z,752nm,19.0s						
SML	**Sawmill**	53.75	34	P	P	16 01 14.6	-0.3
	baz=268,SNR=7.7						
KBK	**Karagaybulak**	53.75	303	P	P	16 01 16.6	+1.3
	SNR=17						
TOLK	**Toolik Lake Re**	53.78	25	IAmb	IAmb	16 01 19.2	
	comp=Z,39nm,1.4s						
TOLK	**Toolik Lake Re**	53.78	25	P	P	16 01 15.5	+0.5
	baz=262,SNR=15						
CHMS	**Chumysh**	53.83	303	P	P	16 01 16.8	+1.0
	SNR=11						
SGDS	**Sogindy**	53.84	304	eP	P	16 01 15.5	-0.3
SGDS				pmax	pmax		
	comp=Z,35nm,1.9s						
SGDS	**Sogindy**	53.84	304	eP	P	16 01 15.5	-0.3
	comp=Z,35nm,1.9s						
USP	**Ospenovka**	53.96	303	P	P	16 01 17.0	+0.2
	SNR=21						
WRH	**Wood River Hil**	53.97	30	P	P	16 01 16.1	-0.3
WRH				IAmb	IAmb	16 01 22.0	
	comp=Z,48nm,2.0s						
BTLS	**Baital**	53.97	306	eP	P	16 01 16.4	-0.3
BTLS				pmax	pmax		
	comp=Z,60nm,1.6s						
BTLS	**Baital**	53.97	306	eP	P	16 01 16.4	-0.3
	comp=Z,60nm,1.6s						
M23K	**Glacier View**	54.03	34	P	P	16 01 16.4	-0.5
	baz=269,SNR=5.7						
AAK	**Ala-Archa**	54.09	303	P	P	16 01 17.7	-0.1
AAK				IAmb	IAmb	16 01 19.8	
	comp=Z,55nm,1.7s						
AAK	**Ala-Archa**	54.09	303	LR	LR	16 25 04.6	
	comp=Z,2µm,18.7s,baz=76,slow=37						
AAK	**Ala-Archa**	54.09	303	P	P	16 01 18.3	+0.5
	SNR=14						
AAK	**Ala-Archa**	54.09	303	iP	P	16 01 16.3	-1.5
AAK				pmax	pmax		
	comp=Z,33nm,1.6s						
COLA	**College**	54.09	30	P	P	16 01 20.0	+2.8
COLA	**College**	54.09	30	iP	P	16 01 18.9	+1.7
COLA				pmax	pmax		
	comp=Z,31nm,1.4s						
COLA	**College**	54.09	30	P	P	16 01 16.6	-0.6
	baz=267						
E24K	**Your Creek**	54.11	26	IAMs_20	IAMs_20	16 28 46.3	
	comp=Z,753nm,19.0s						
E24K	**Your Creek**	54.11	26	P	P	16 01 17.9	+0.5
	baz=264						
D24K	**Happy Valley**	54.11	24	P	P	16 01 17.1	-0.3
	baz=262						
H24K	**Noodor Dome**	54.14	29	P	P	16 01 16.4	-1.3
	baz=266						
BRZS	**Berezniki**	54.18	312	eP	P	16 01 17.8	-0.3
BRZS				pmax	pmax		
	comp=Z,25nm,1.3s						
BRZS	**Berezniki**	54.18	312	eP	P	16 01 17.9	-0.3
	comp=Z,25nm,1.3s						
P23K	**Montague Islan**	54.19	36	P	P	16 01 17.3	-0.7
	baz=270						
SCM	**Sheep Creek Mo**	54.22	33	P	P	16 01 16.7	-1.7
	baz=269,SNR=7.2						
C24K	**Franklin Bluff**	54.23	24	P	P	16 01 16.9	-1.3
	baz=262						
F24K	**Squaw Lake**	54.28	26	P	P	16 01 18.5	-0.2
	baz=265						
POKR	**Poker Plat Res**	54.28	29	P	P	16 01 19.3	+0.6
	baz=267,SNR=14						
GLI	**Glacier Island**	54.33	35	P	P	16 01 18.8	-0.3
	baz=270						
G24K	**Hadweenzic Riv**	54.37	27	P	P	16 01 20.2	+1.0
	baz=266						
HDA	**Harding Lake**	54.46	30	P	P	16 01 20.3	+0.3
	baz=268,SNR=10						
ILAR	**Eielson Array**	54.50	30	P	P	16 01 20.2	0.0
	comp=Z,12nm,1.1s,baz=256,slow=6.2,SNR=50						
ILAR				LR	LR	16 22 49.8	
	comp=Z,358nm,21.8s,baz=262,slow=34						
	comp=Z,12nm,1.1s						
RK1H	**Rockhampton Ha**	54.53	170	P	P	16 01 22.0	+1.1
EKS2	**Erkin-Say**	54.60	303	P	P	16 01 22.0	+0.5
	SNR=11						
OTUK	**Ortayu**	54.63	310	P	P	16 01 21.4	-0.1
Q23K	**Middleton Isla**	54.73	36	P	P	16 01 21.1	-0.9
	baz=272						
AS06	**Alice Springs**	54.74	189	P	P	16 01 23.4	+0.9
	comp=Z,20nm,0.7s						
AS01	**Alice Springs**	54.76	189	P	P	16 01 25.0	+2.4
AML	**Almayashu**	54.77	302	P	P	16 01 24.2	+1.2
	SNR=36						
AS31	**Alice Springs**	54.77	189	P	P	16 01 22.6	0.0
	comp=Z,6.1nm,0.6s						
ASAR	**Alice Springs**	54.77	189	P	P	16 01 22.6	0.0
	comp=Z,5.7nm,0.7s,baz=357,slow=4.7,SNR=81						
ASAR				S	S	16 08 58.5	-4.0
	comp=Z,0.2nm,0.7s,baz=353,slow=8.1,SNR=1.6						
ASAR				LR	LR	16 24 02.2	
	comp=Z,1µm,20.0s,baz=22,slow=35						
ASAR				PKP2bc		16 31 48.3	
	comp=Z,0.4nm,1.1s,baz=174,slow=1.9,SNR=4.8						
	comp=Z,5.7nm,0.7s						
M24K	**Tolsona, Glenn**	54.77	33	IAmb	IAmb	16 02 22.8	
	comp=Z,54nm,1.2s						
M24K	**Tolsona, Glenn**	54.77	33	P	P	16 01 21.5	-0.8
	baz=270						
AS19	**Alice Springs**	54.80	189	P	P	16 01 23.1	+0.3
	comp=Z,19nm,0.8s						
KLU	**Klutina**	54.89	34	IAmb	IAmb	16 01 27.9	
	comp=Z,63nm,1.5s						
KLU				IAMs_20	IAMs_20	16 23 15.5	
	comp=Z,1µm,21.0s						
KLU	**Klutina**	54.89	34	P	P	16 01 22.0	-1.3
	baz=271,SNR=12						
G25K	**Bearman Lake**	54.92	27	P	P	16 01 22.5	-0.8
	baz=267,SNR=14						
K24K	**Donnelly Dome**	54.96	31	P	P	16 01 22.7	-0.9
	baz=269,SNR=5.9						
D25K	**Kavik River**	55.00	24	IAMs_20	IAMs_20	16 26 13.8	
	comp=Z,840nm,18.0s						
D25K	**Kavik River**	55.00	24	P	P	16 01 22.4	-1.4
	baz=265						
EYAK	**Cordova Ski Ar**	55.00	35	P	P	16 01 23.2	-0.7
	baz=272						
H25L	**Birch Creek**	55.01	28	P	P	16 01 22.6	-1.2
	baz=267						
PAX	**Paxson**	55.09	32	IAmb	IAmb	16 01 29.1	
	comp=Z,50nm,1.5s						
PAX	**Paxson**	55.09	32	P	P	16 01 25.4	+0.7
	baz=270,SNR=14						
PRP	**Porcupine Dome**	55.10	29	P	P	16 01 25.2	+0.4
	baz=268						
F25K	**Christian Rive**	55.14	26	P	P	16 01 24.1	-0.9
	baz=267,SNR=20						
J25K	**Salcha River,**	55.15	30	P	P	16 01 24.3	-0.7
	baz=269,SNR=5.8						
E25K	**Arctic Village**	55.20	26	P	P	16 01 24.5	-0.8
	baz=266,SNR=24						
HARP	**HAARP**	55.24	33	P	P	16 01 25.2	-0.5
	baz=271						
BVA0	**Borovoye Array**	55.25	316	iP	P	16 01 25.6	-0.2
BVAR	**Borovoye Array**	55.25	316	P	P	16 01 25.6	-0.3
	comp=Z,6.8nm,0.6s,baz=96,slow=6.7,SNR=20						
BVAR				LR	LR	16 26 18.7	
	comp=Z,2µm,19.0s,baz=81,slow=38						
	comp=Z,6.8nm,0.6s						
BRVK	**Borovoye**	55.31	316	P	P	16 01 27.0	+0.8
BRVK	**Borovoye**	55.31	316	iP	P	16 01 24.7	-1.5
BRVK				pmax	pmax		
	comp=Z,31nm,1.6s						
RIDG	**Independent Ri**	55.37	31	IAMs_20	IAMs_20	16 22 45.0	
	comp=Z,944nm,18.0s						
RIDG	**Independent Ri**	55.37	31	P	P	16 01 25.9	-0.7
	baz=270,SNR=6.2						
N25K	**Chitina, Valde**	55.53	34	P	P	16 01 25.9	-1.9
	baz=272						
BMRM	**Bremner River**	55.55	35	P	P	16 01 26.0	-1.9
	baz=272,SNR=6.7						
C26K	**Cannon Beach**	55.56	24	P	P	16 01 26.4	-1.3
	baz=266,SNR=18						
KAIM	**Kayak Island**	55.69	36	P	P	16 01 27.3	-1.6
	baz=273						
F26K	**Sheenjek River**	55.72	26	P	P	16 01 28.4	-0.6
	baz=268						
SCRK	**Sand Creek**	55.75	31	IAmb	IAmb	16 01 33.6	
	comp=Z,72nm,1.7s						
SCRK	**Sand Creek**	55.75	31	P	P	16 01 28.2	-1.3
	baz=271,SNR=20						
G26K	**Porcupine Rive**	55.84	27	P	P	16 01 28.4	-1.4
	baz=269,SNR=14						
MENT	**Mentasta**	55.89	32	P	P	16 01 32.3	+1.9
GLB	**Gilahina Butte**	55.91	34	IAmb	IAmb	16 01 35.3	
	comp=Z,46nm,1.4s						
GLB				IAMs_20	IAMs_20	16 22 55.3	
	comp=Z,821nm,18.0s						
J26L	**Joseph Creek**	55.93	30	P	P	16 01 29.9	-0.8
	baz=271,SNR=12						
C27K	**Jago River**	55.96	24	P	P	16 01 30.2	-0.5
	baz=267,SNR=12						
L26K	**Log Cabin Wild**	56.06	32	IAMs_20	IAMs_20	16 23 39.3	
	comp=Z,951nm,20.0s						
L26K	**Log Cabin Wild**	56.06	32	P	P	16 01 30.4	-1.2
	baz=272,SNR=20						
I26K	**Coal Creek Min**	56.09	29	P	P	16 01 30.6	-1.1
	baz=271						
VRDI	**Verde Repeater**	56.09	34	IAMs_20	IAMs_20	16 26 07.2	
	comp=Z,1µm,20.0s						
M26K	**Nabesna, AK**	56.25	33	IAMs_20	IAMs_20	16 26 45.3	
	comp=Z,1µm,19.0s						
M26K	**Nabesna, AK**	56.25	33	P	P	16 01 30.4	-2.5
	baz=273,SNR=7.6						
PSAC1	**Pilbara Seismi**	56.30	205	P	P	16 01 33.4	-0.2
	comp=Z,35nm,0.8s						
DZA	**Taraz**	56.31	304	eP	P	16 01 33.2	-0.5
DZA	**Taraz**	56.31	304	eP	P	16 01 33.2	-0.5
K27K	**Chicken**	56.59	31	P	P	16 01 34.8	-0.5
	baz=272,SNR=7.9						
G27K	**Doyon Strip**	56.68	27	P	P	16 01 34.4	-1.5
	baz=271						
E27K	**Coleen River**	56.69	26	IAMs_20	IAMs_20	16 30 17.6	
	comp=Z,774nm,20.0s						
I27K	**Kandik River**	56.73	29	P	P	16 01 35.6	-0.7
	baz=272,SNR=5.7						
H27K	**Steamboat Moun**	56.74	28	P	P	16 01 36.4	0.0
	baz=271,SNR=36						
L27K	**Beaver Creek,**	56.75	32	IAMs_20	IAMs_20	16 23 59.5	
	comp=Z,996nm,21.0s						
L27K	**Beaver Creek,**	56.75	32	P	P	16 01 36.0	-0.5
	baz=273,SNR=24						
M27K	**Edge Creek, AK**	56.77	33	P	P	16 01 35.7	-1.1
	baz=274,SNR=9.5						
KK31	**Karatay Array**	56.85	304	iP	P	16 01 37.2	-0.3
MESA	**MESA**	56.91	35	P	P	16 01 37.5	-0.3
	baz=275						
D27M	**Malcolm River**	56.92	24	P	P	16 01 36.8	-0.8
	baz=270						
WRKA	**Warakurna**	57.11	195	P	P	16 01 38.6	-0.8
	comp=Z,14nm,0.6s						
WRKA	**Warakurna**	57.11	195	P	P	16 01 41.0	+1.6
QLP	**Quilpie**	57.15	178	P	P	16 01 40.4	+0.8
	comp=Z,37nm,1.0s						
QLP	**Quilpie**	57.15	178	P	P	16 01 42.0	+2.4
BRLS	**Borolday**	57.35	304	eP	P	16 01 41.9	+0.9
BRLS				pmax	pmax		
	comp=Z,51nm,1.8s						
BRLS	**Borolday**	57.35	304	eP	P	16 01 42.0	+0.9
	comp=Z,51nm,1.8s						
I28M	**Miner Creek**	57.43	29	IAmb	IAmb	16 01 46.3	
	comp=Z,33nm,1.4s						
I28M				IAMs_20	IAMs_20	16 24 21.4	
	comp=Z,849nm,21.0s						
I28M	**Miner Creek**	57.43	29	P	P	16 01 40.6	-0.8
	baz=273,SNR=14						
E28M	**Babbage River**	57.45	25	IAMs_20	IAMs_20	16 25 15.5	
	comp=Z,712nm,20.0s						
E28M	**Babbage River**	57.45	25	P	P	16 01 40.9	-0.4
	baz=272,SNR=31						
DZM	**Mont Dzumac**	57.59	153	eP	P	16 01 45.3	+2.4
	comp=Z,133nm,1.4s						
DZM				eS	S	16 09 37.6	-2.5
	comp=Z,262nm,25.1s						
DZM				eSS	SS	16 13 30.5	-0.3
	comp=Z,184nm,24.4s						
DZM				eLQ	LQ	16 16 07.8	
	comp=Z,1µm,35.2s						
DZM				eLR	LR	16 18 24.2	
	comp=Z,878nm,22.9s						
DZM	**Mont Dzumac**	57.59	153	P	P	16 01 43.9	+0.9
	comp=Z,28nm,1.0s,baz=26,slow=12,SNR=4.0						
	comp=Z,28nm,1.0s						
D28M	**Stokes Point**	57.71	24	P	P	16 01 41.9	-1.1
	baz=272						
O28M	**Mount Upton**	57.71	35	P	P	16 01 43.5	-0.2
	baz=276						
DAWY	**Dawson**	57.77	31	P	P	16 01 43.3	-0.3
	baz=275,SNR=15						
YUK8	**Steele Glacier**	57.86	34	P	P	16 01 44.4	-0.2
	baz=276						
H29M	**Whitestone**	58.02	28	P	P	16 01 46.5	+1.1
	baz=274,SNR=7.9						
E29M	**Blow River**	58.06	25	P	P	16 01 46.5	+1.0
	baz=273						
G29M	**Pine Creek**	58.11	27	P	P	16 01 46.9	+0.9
	baz=274,SNR=20						
I29M	**Ogilvie Camp,**	58.12	29	P	P	16 01 47.5	+1.4
	baz=275						
J29N	**Klondike Camp**	58.24	30	IAMs_20	IAMs_20	16 27 33.8	
	comp=Z,958nm,20.0s						
J29N	**Klondike Camp**	58.24	30	P	P	16 01 48.2	+1.2
	baz=276						
INKA	**Innaminka**	58.28	181	P	P	16 01 50.8	+3.3
M29M	**Somme Creek**	58.35	32	P	P	16 01 50.0	+2.2
	baz=277,SNR=25						
YUK4	**Talbot Arm**	58.39	34	P	P	16 01 49.7	+1.4
	baz=277,SNR=16						
L29M	**L29M**	58.42	32	P	P	16 01 49.6	+1.3
	baz=276						
O29M	**Mount Kennedy**	58.56	35	P	P	16 01 50.4	+1.0
	baz=278,SNR=12						
YUK6	**Outpost Mounta**	58.58	34	P	P	16 01 50.1	+0.5
	baz=278,SNR=7.8						
K29M	**Barlow Dome**	58.61	31	IAmb	IAmb	16 01 55.0	
	comp=Z,46nm,1.4s						
K29M	**Barlow Dome**	58.61	31	P	P	16 01 50.6	+0.9
	baz=276						
OOD	**Oodnadatta**	58.63	187	P	P	16 01 52.7	+2.7
HYB	**Hyderabad**	58.80	273	eP	P	16 01 50.2	-1.3
G30M	**tAoh Zraii Nji**	58.81	27	P	P	16 01 51.1	+0.2
	baz=276						
F30M	**Barrier River**	58.91	26	P	P	16 01 52.9	+1.4
	baz=276						
I30M	**Mount Dempster**	58.94	29	IAmb	IAmb	16 01 56.9	
	comp=Z,44nm,1.4s						
I30M	**Mount Dempster**	58.94	29	P	P	16 01 51.6	-0.4
	baz=277						
HYT	**Haines Junctio**	59.01	34	IAmb	IAmb	16 01 59.4	
	comp=Z,53nm,1.5s						
HYT	**Haines Junctio**	59.01	34	P	P	16 01 52.7	+0.2
	baz=278						
J30M	**Hart River**	59.04	30	P	P	16 01 54.1	+1.5
	baz=277						
M30M	**Minto, Yukon**	59.10	32	P	P	16 01 53.1	+0.1
	baz=278,SNR=17						
N30M	**Aishikik Lake**	59.12	34	P	P	16 01 52.5	-0.6
	baz=278						
MAYO	**Mayo, Yukon**	59.36	31	P	P	16 01 53.8	-0.9
	baz=278						
P30M	**Million Dollar**	59.39	35	P	P	16 01 55.0	0.0
	baz=279						
MSVF	**Nonsavu**	59.42	139	LR	LR	16 26 12.2	
	comp=Z,584nm,18.9s,baz=319,slow=35						
G31M	**Satah River**	59.58	27	P	P	16 01 56.2	+0.1
	baz=278,SNR=11						
INK	**Inuvik**	59.68	25	LR	LR	16 32 11.7	
	comp=Z,236nm,19.0s,baz=264,slow=40						
INK	**Inuvik**	59.68	25	P	P	16 01 57.6	+0.8
	baz=277,SNR=8.5						
H31M	**Peel River**	59.71	28	P	P	16 01 56.4	-0.7
	baz=278						
O30N	**Mendenhall**	59.71	34	P	P	16 01 56.8	-0.4
	baz=280						
F31M	**Tsiigehtchic**	59.72	26	IAmb	IAmb	16 02 01.4	
	comp=Z,48nm,1.6s						
F31M	**Tsiigehtchic**	59.72	26	P	P	16 01 56.3	-0.8
	baz=278,SNR=8.8						
N31M	**Braeburn, Yuko**	59.74	33	P	P	16 01 57.0	-0.4
	baz=279						
S31K	**Pelican**	60.14	37	P	P	16 01 59.8	-0.3
	baz=281						
AULRC	**Lightning Ridg**	60.21	174	P	P	16 02 03.2	+2.4
SVE	**Sverdlovsk**	60.21	321	deP	P	16 02 01.6	+0.9
SVE				eS	S	16 10 17.7	+4.4
SVE				pmax	pmax		
	comp=Z,93nm,1.5s						
SVE				MLR	MLR		
	comp=Z,2µm,18.0s						
M31M	**Drury Creek, Y**	60.26	32	P	P	16 02 00.2	-0.8
	baz=280,SNR=10.0						
R31K	**City Hall, Gus**	60.31	37	P	P	16 02 00.9	-0.3
	baz=281						
WHY	**Whitehorse**	60.31	34	P	P	16 02 00.9	-0.5
	baz=281						
SKAG	**Skagway**	60.32	36	P	P	16 02 01.5	+0.2
	baz=281						
FARO	**Faro, Yukon**	60.74	32	P	P	16 02 04.5	+0.3
	baz=281						
SIT	**Sitka**	60.81	38	P	P	16 02 03.9	-0.8
	baz=282						
R32K	**Eaglecrest**	60.97	37	P	P	16 02 03.9	-1.9
	baz=282						
LCRK	**Leigh Creek**	61.07	184	P	P	16 02 09.7	+3.0
N32M	**Quiet Lake**	61.08	33	P	P	16 02 05.1	-1.5
	baz=282						
P32M	**Atlin**	61.10	35	P	P	16 02 06.1	-0.6
	baz=282						
S32K	**Killisnoo**	61.11	38	P	P	16 02 06.2	-0.5
	baz=283						
P33M	**Teslin, Yukon**	61.41	35	P	P	16 02 08.8	0.0
	baz=282,SNR=5.1						
ARTI	**Arti**	61.52	321	P	P	16 02 09.7	+0.1
ARTI	**Arti**	61.52	321	LR	LR	16 31 27.1	
	comp=Z,1µm,18.2s,baz=74,slow=39						
ARTI	**Arti**	61.52	321	P	P	16 02 09.7	+0.1
ARTI				pmax	pmax		
	comp=Z,98nm,1.4s						
ARTI				MLR	MLR		
	comp=Z,2µm,21.0s						
PALK	**Pallekele**	61.76	261	LR	LR	16 31 03.6	
	comp=Z,324nm,19.7s,baz=66,slow=38						
A36M	**Sachs Harbour**	61.81	21	P	P	16 02 12.0	+0.7
A36M				IAmb	IAmb	16 02 34.1	
	comp=Z,16nm,0.9s						
A36M	**Sachs Harbour**	61.81	21	P	P	16 02 11.0	-0.2
	baz=283,SNR=14						
Q32M	**Nakina River**	61.96	36	P	P	16 02 11.7	-1.1
	baz=284						
CMSA	**Cobar Meteorol**	62.15	176	P	P	16 02 15.7	+1.8
	comp=Z,19nm,1.3s						
CMSA	**Cobar Meteorol**	62.15	176	P	P	16 02 16.5	+2.6
U33K	**Whale Pass**	62.21	39	P	P	16 02 13.8	-0.4
	baz=284						
CRAG	**Craig**	62.37	40	P	P	16 02 14.0	-1.3
	baz=285						
STKA	**Stephens Creek**	62.39	180	P	P	16 02 16.1	+0.6
	comp=Z,60nm,1.1s						
STKA	**Stephens Creek**	62.39	180	P	P	16 02 14.8	-0.7
	comp=Z,9.2n

DLBC IAmb IAmb 16 02 52.8
comp=Z,37nm,1.5s
DLBC Dease Lake 63.23 36 LR LR 16 28 10.3
comp=Z,631nm,20.8s,baz=289,slow=34
DLBC Dease Lake 63.23 36 P **P** **16 02 18.4 -2.7**
baz=286
V35K Ketchikan 63.24 40 P **P** **16 02 18.2 -2.8**
baz=286
AKTO Aktyubinsk 63.30 315 LR LR 16 30 39.7
comp=Z,1μm,19.6s,baz=64,slow=37
AKTO Aktyubinsk 63.30 315 P **P** **16 02 19.3 -2.3**
T35M Bob Quinn 63.52 38 P **P** **16 02 20.5 -2.4**
baz=286
WHYH Whyalla 63.68 184 P **P** **16 02 27.6 +3.5**
HTT Hallett 64.00 183 P **P** **16 02 27.1 +0.8**
comp=Z,19nm,1.1s
HTT Hallett 64.00 183 P **P** **16 02 29.1 +2.8**
KMBL Kambalda 64.77 199 P **P** **16 02 29.9 -1.4**
KMBL Kambalda 64.77 199 P **P** **16 02 33.6 +2.3**
YNG Young 65.08 174 P **P** **16 02 30.6 -2.7**
TOAD Toad River Com 65.49 35 P **P** **16 02 34.1 -1.7**
baz=289,SNR=6.5
KIRV Kirov 65.55 325 LR LR 16 33 42.6
comp=Z,2μm,19.1s,baz=66,slow=38
BBB Bella Bella 66.19 42 LR LR 16 29 03.1
comp=Z,251nm,20.6s,baz=313,slow=34
KLBR Kellerberrin 66.24 203 P **P** **16 02 40.9 +0.1**
comp=Z,44nm,0.9s
NWAO Narrogin (SRO) 67.64 202 LR LR 16 32 20.5
comp=Z,129nm,19.9s,baz=294,slow=36
TOO Toolangi 68.14 177 P **P** **16 02 54.0 +1.2**
TOO Toolangi 68.14 177 P **P** **16 02 54.8 +2.0**
comp=Z,8.8nm,2.1s
TOO Toolangi 68.14 177 P **P** **16 02 54.0 +1.2**
TOO pmax pmax
comp=Z,12nm,1.2s
RES Resolute Bay 68.45 14 P **P** **16 02 55.1 +0.8**
RES IAmb IAmb 16 02 57.4
comp=Z,26nm,1.5s
RES Resolute Bay 68.45 14 LR LR 16 33 32.8
comp=Z,154nm,22.0s,baz=342,slow=36
RES Resolute Bay 68.45 14 P **P** **16 02 55.1 +0.8**
RES pmax pmax
comp=Z,26nm,1.5s
APA Apatity 68.55 337 ⇓*i* P **P** **16 02 51.8 -3.3**
APA pmax pmax
comp=Z,13nm,0.8s
BELG Belogornoye 68.75 319 *i* P **P** **16 02 56.2 -0.3**
BELG pmax pmax
comp=Z,17nm,1.1s
YKA Yellowknife Ar 68.91 29 P **P** **16 02 57.9 +0.5**
comp=Z,8.2nm,1.2s,baz=293,slow=5.8,SNR=21
YKA LR LR 16 39 19.1
comp=Z,197nm,19.0s,baz=300,slow=41
comp=Z,8.2nm,1.2s
KLMR Klimovskoe 69.30 329 *e*P **P** **16 02 58.0 -1.8**
KLMR S **S** **16 12 07.3 +2.3**
KLMR pmax pmax
comp=Z,23nm,1.7s
ARCES ARCESS Array B 69.97 340 P **P** **16 03 03.2 -0.6**
comp=Z,6.2nm,1.0s,baz=47,slow=8.9,SNR=6.8
ARCES LR LR 16 39 08.2
comp=Z,862nm,18.7s,baz=68,slow=41
comp=Z,6.2nm,1.0s
GNW Green Mountain 71.12 45 P **P** **16 03 12.2 +1.0**
GNW IAmb IAmb 16 03 16.7
comp=Z,29nm,1.6s
NEEM North Greenlan 71.66 3 *e*P **P** **16 03 13.8 -0.5**
NEEM IAmb IAmb 16 03 19.4
comp=Z,89nm,1.8s
JOF Joensuu 71.68 333 *e*P **P** **16 03 14.9 +0.6**
DAG Danmarks Havn 71.96 355 *e*P **P** **16 03 16.5 +0.7**
MOS Moscow 72.57 325 *e*P **P** **16 03 18.9 -0.8**
MOS *e*S **S** **16 12 47.2 +4.0**
MOS *e*SS **SS** **16 17 18.8 -2.6**
MOS pmax pmax
comp=Z,62nm,1.3s
MOS MLR MLR
comp=Z,2μm,20.0s
VRH Novokhopyorsk 72.57 320 *e*P **P** **16 03 17.7 -2.1**
VRH pmax pmax
comp=Z,10.0nm,1.0s
MAK Makhachkala 72.76 310 ⇓*i*P **P** **16 03 17.1 -4.0**
MAK *e*PPP PPP 16 07 42.2
MAK *e*S **S** **16 12 41.1 -4.7**
MAK *e*SS **SS** **16 17 19.6 -5.4**
MAK pmax pmax
comp=Z,98nm,1.2s
MAK MLR MLR
comp=Z,4μm,18.0s
B08A Colville Reser 72.88 44 IAmb IAmb 16 03 26.5
comp=Z,37nm,1.6s
WSAR Wadi Sarin 73.10 287 LR LR 16 37 46.3
comp=Z,263nm,20.8s,baz=91,slow=38
AKT Akhty 73.27 309 *e*P **P** **16 03 23.9 -0.4**
AKT *e* 16 03 37.4
AKT *e* 16 06 04.4
AKT *e*PPP PPP 16 07 48.7
AKT *e*S **S** **16 12 49.9 -2.0**
AKT pmax pmax
comp=Z,36nm,0.9s
AKT MLR MLR
comp=Z,2μm,18.0s
E07A Sunnyside 73.39 45 IAmb IAmb 16 03 29.8
comp=Z,33nm,1.5s
OBN Obninsk 73.40 325 LR LR 16 38 37.1
comp=Z,2μm,19.4s,baz=51,slow=38
LPSR Galich'ya Gora 73.43 322 *e*P **P** **16 03 22.8 -2.1**
LPSR pmax pmax
comp=Z,30nm,1.3s
G06A Carlson Farm, 73.51 47 IAmb IAmb 16 03 30.7
comp=Z,41nm,1.6s
VORR Voronezh 73.73 321 *e*P **P** **16 03 25.5 -1.2**
VORR pmax pmax
comp=Z,20nm,1.1s
SEKA Sheki 73.74 308 P **P** **16 03 28.9 +1.8**
YBH Yreka Blue Hor 73.76 51 LR LR 16 30 11.4
comp=Z,888nm,21.5s,baz=293,slow=31
LKRN Lenkeran, Azer 73.78 306 P **P** **16 03 29.8 +2.6**
VSR Storozhevoye 73.98 320 *e*P **P** **16 03 25.9 -2.2**
VSR pmax pmax
comp=Z,30nm,1.2s
PINE Pine Mountain 73.98 48 IAmb IAmb 16 03 34.0
comp=Z,41nm,1.3s
MNGR Mingechevir, A 74.02 308 P **P** **16 03 31.4 +2.8**
J05D Fort Rock, OR 74.02 49 P **P** **16 03 31.8 +3.0**
J05D IAmb IAmb 16 03 36.5
comp=Z,35nm,1.6s
VORD Divnogorie 74.03 320 *e*P **P** **16 03 26.7 -1.7**
VORD pmax pmax
comp=Z,20nm,1.3s
KULLO Kullorsuaq 74.07 5 *e*P **P** **16 03 25.9 -2.4**
NEW Newport 74.23 43 LR LR 16 37 45.0
comp=Z,133nm,18.6s,baz=298,slow=37
G08A Pilot Rock 74.53 46 IAmb IAmb 16 03 39.0
comp=Z,35nm,1.8s
FINES FINESS Array B 74.55 333 P **P** **16 03 30.7 -0.5**
comp=Z,10nm,0.9s,baz=80,slow=6.5,SNR=18
comp=Z,10nm,0.9s
KEF Keuruu 74.56 334 *e*P **P** **16 03 31.7 +0.3**
GANJ Ganja 74.59 308 P **P** **16 03 33.7 +1.7**
GOF Gofitskoye 74.67 313 *ce*P **P** **16 03 33.4 +1.1**
VAF Ylistaro 74.82 336 *e*P **P** **16 03 34.6 +1.8**
KBZ Khabaz 75.39 312 P **P** **16 03 36.4 -0.1**
comp=Z,22nm,1.1s,baz=75,slow=5.5,SNR=18
KBZ LR LR 16 39 32.4
comp=Z,723nm,18.0s,baz=56,slow=38
comp=Z,22nm,1.1s
KBZ Khabaz 75.39 312 P **P** **16 03 36.7 +0.2**
KBZ pmax pmax
comp=Z,62nm,1.5s
KIV Kislovodsk 75.42 313 P **P** **16 03 36.9 +0.1**
KIV Kislovodsk 75.42 313 ⇑P **P** **16 03 38.0 +1.2**
KIV Kislovodsk 75.42 313 *e*P **P** **16 03 36.5 -0.3**
KIV *e*S **S** **16 13 16.9 +1.0**
KIV *e*SS **SS** **16 18 08.0 +2.4**
KIV pmax pmax
comp=Z,66nm,3.5s
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,553nm,18.0s
SHA1 Shidzhatmaz 75.54 312 *i* P **P** **16 03 38.4 +0.7**
BMO Blue Mountains 75.77 46 IAMs_20 IAMs_20 16 31 12.5
comp=Z,526nm,19.0s
ARBE Arbavere 75.79 332 *e*P **P** **16 03 38.1 -0.4**

NAX Nakhchivan 75.84 307 P **P** **16 03 42.0 +2.7**
UPNV Upernavik 75.89 6 *e*P **P** **16 03 41.7 +2.9**
UPNV IAmb IAmb 16 03 42.8
comp=Z,57nm,1.6s
GNI Garni 75.89 308 LR LR 16 39 57.7
comp=Z,779nm,18.3s,baz=55,slow=38
GNI Garni 75.89 308 *i* P **P** **16 03 41.2 +1.5**
GNI pmax pmax
comp=Z,70nm,1.5s
ERBR Yeremizino-Bor 75.92 315 *e*P **P** **16 03 40.3 +0.8**
ERBR *e*S **S** **16 13 25.9 +4.7**
ERBR pmax pmax
comp=Z,145nm,1.6s
ERBR MLR MLR
comp=Z,1μm,16.0s
RAR Rarotonga 76.13 125 LR LR 16 31 28.3
comp=Z,658nm,19.4s,baz=274,slow=31
URZ Urewera 76.14 152 LR LR 16 33 38.6
comp=Z,248nm,21.9s,baz=54,slow=33
LABN Labinsk 76.31 314 *e*P **P** **16 03 42.3 +0.6**
LABN *e*S **S** **16 13 22.7 -2.8**
LABN pmax pmax
comp=Z,120nm,1.5s
LABN MLR MLR
comp=Z,1μm,15.0s
MSO Missoula 76.81 43 IAmb IAmb 16 03 48.1
comp=Z,52nm,2.0s
SUMG Summit 76.85 0 *e*P **P** **16 03 46.4 +1.6**
SUMG IAmb IAmb 16 03 53.4
comp=Z,312nm,2.7s
CMB Columbia Colle 77.07 53 IAMs_20 IAMs_20 16 34 53.4
comp=Z,779nm,19.0s
MTSE Matsula 77.12 332 *e*P **P** **16 03 47.4 +1.4**
MFID Camas Ranch 77.41 47 IAmb IAmb 16 03 53.1
comp=Z,33nm,1.4s
THZ Tophouse 77.66 157 P **P** **16 03 50.1 +1.0**
MNK Minsk 77.93 327 *e*P **P** **16 03 52.0 +1.4**
ANN Anapa 78.24 315 *e*P **P** **16 03 52.5 0.0**
ANN *e*S **S** **16 13 44.7 -1.8**
ANN pmax pmax
comp=Z,136nm,1.4s
NVAR Mina Array Bea 78.30 52 P **P** **16 03 54.1 +0.8**
comp=Z,3.4nm,0.7s,baz=292,slow=7.1,SNR=16
NVAR LR LR 16 35 50.3
comp=Z,711nm,18.8s,baz=298,slow=34
comp=Z,3.4nm,0.7s
PABE Paberze 79.09 329 *e*P **P** **16 03 58.1 +1.1**
AKASG Malin Array Be 79.54 323 P **P** **16 03 59.1 -0.4**
comp=Z,3.3nm,0.4s,baz=46,slow=5.5,SNR=45
AKASG LR LR 16 42 20.8
comp=Z,2μm,18.9s,baz=52,slow=38
comp=Z,3.3nm,0.4s
AKBB Malin Array Si 79.54 323 P **P** **16 03 59.1 -0.5**
KIEV Kiev 79.55 323 P **P** **16 03 59.4 -0.2**
KIEV IAmb IAmb 16 04 02.1
comp=Z,28nm,1.0s
KIEV Kiev 79.55 323 ⇓P **P** **16 03 59.9 +0.3**
KIEV Kiev 79.55 323 P **P** **16 03 59.4 -0.2**
KIEV pmax pmax
comp=Z,28nm,1.0s
KIEV MLR MLR
comp=Z,2μm,18.0s
KIEV Kiev 79.55 323 P **P** **16 03 59.2 -0.4**
comp=Z,113nm,1.4s
HFS Hagfors 79.94 337 P **P** **16 04 01.6 0.0**
comp=Z,7.5nm,1.0s,baz=81,slow=4.8,SNR=6.8
comp=Z,7.5nm,1.0s
NB2 NORSAR Subarra 80.09 338 P **P** **16 04 02.7 +0.2**
comp=Z,26nm,1.4s,baz=41,slow=5.3
NB2 NORSAR Subarra 80.09 338 P **P** **16 04 02.7 +0.2**
baz=41,slow=5.3
NOA NORSAR Array B 80.09 338 P **P** **16 04 02.5 0.0**
comp=Z,3.5nm,0.8s,baz=41,slow=5.3,SNR=8.2
NOA LR LR 16 45 38.0
comp=Z,674nm,18.6s,baz=55,slow=40
comp=Z,3.5nm,0.8s
SIM Simferopol' 80.14 317 *e*P **P** **16 04 06.9 +3.9**
SIM pmax pmax
comp=Z,29nm,1.4s
MI28 Mi28,Pidlybu 80.19 324 P **P** **16 04 02.4 -0.7**
FXWY Fox Creek 80.26 45 IAMs_20 IAMs_20 16 34 44.0
comp=Z,624nm,22.0s
ICESG Greenland Ices 80.35 1 *e*P **P** **16 04 07.0 +2.9**
SUW Suwalki 80.40 328 *e*P **P** **16 04 05.3 +1.2**
SUW Suwalki 80.40 328 *e*P **P** **16 04 05.1 +1.0**
LUBAR Lubar, Ukraine 80.76 323 P **P** **16 04 04.8 -1.4**
RNPP9 Sopachiv 80.78 325 P **P** **16 04 06.5 +0.3**
RNPP8 Varash 80.84 325 P **P** **16 04 05.9 -0.7**
NE56 Odesa 81.01 319 P **P** **16 04 06.4 -1.1**
DUG Dugway, Tooele 81.02 48 IAMs_20 IAMs_20 16 37 05.5
comp=Z,702nm,19.0s
HWUT Hardware Ranch 81.04 47 IAmb IAmb 16 04 13.2
comp=Z,38nm,1.4s
PPT Papeete 81.41 116 LR LR 16 36 53.1
comp=Z,333nm,18.2s,baz=274,slow=33
PPT2 Papeete2 81.42 116 *e*LR LR 16 29 21.8
comp=Z,460nm,27.2s
SORM Soroca 81.53 322 ⇑P **P** **16 04 10.8 +0.5**
SORM Soroca 81.53 322 ⇑P **P** **16 04 10.8 +0.5**
SORM Soroca 81.53 322 P **P** **16 04 09.2 -1.1**
comp=Z,18nm,1.5s
PDAR Pinedale Array 81.63 45 P **P** **16 04 12.3 +1.0**
PDAR Pinedale Array 81.63 45 P **P** **16 04 11.2 -0.1**
comp=Z,2.6nm,0.7s,baz=261,slow=2.4,SNR=21
PDAR LR LR 16 35 51.3
comp=Z,240nm,20.8s,baz=302,slow=32
comp=Z,2.6nm,0.7s
PFO Pinyon Flats O 82.05 56 LR LR 16 36 05.3
comp=Z,975nm,19.4s,baz=250,slow=32
KMPD K-Podol'skiy 82.27 323 P **pP** **16 04 13.5 -4.6**
KMPD P **P** **16 04 12.7 -1.4**
GAZ Gaziantep 82.47 309 IAmb IAmb 16 04 52.5
comp=Z,51nm,1.4s
FRB Frobisher Bay 82.66 13 LR LR 16 49 43.7
comp=Z,272nm,18.5s,baz=331,slow=42
KNB Kanab 82.74 51 IAmb IAmb 16 04 22.2
comp=Z,41nm,1.4s
Q16A Castle Valley 82.78 49 IAmb IAmb 16 04 22.4
comp=Z,41nm,1.6s
BEL Belsk 82.92 328 *e*P **P** **16 04 18.5 +1.0**
KSV Kosov 83.14 323 P **P** **16 04 17.3 -1.5**
STNU Starunia 83.18 324 P **P** **16 04 18.2 -0.7**
BRTR Keskin Array B 83.38 313 P **P** **16 04 20.8 +0.5**
BRTR Keskin Array B 83.38 313 P **P** **16 04 18.2 -2.1**
comp=Z,32nm,1.3s,baz=108,slow=2.7,SNR=30
BRTR LR LR 16 45 32.0
comp=Z,636nm,18.9s,baz=52,slow=39
comp=Z,32nm,1.3s
BR106 Keskin Array S 83.39 313 P **P** **16 04 20.7 +0.3**
comp=Z,190nmcomp=Z,17nm,1.3s
BR104 Keskin Array S 83.39 313 P **P** **16 04 19.3 -1.1**
comp=Z,202nmcomp=Z,20nm,1.2s
BR105 Keskin Array S 83.40 313 P **P** **16 04 20.3 -0.1**
comp=Z,214nmcomp=Z,16nm,1.3s
SHIU Shidnytsya 83.42 325 P **P** **16 04 19.7 -0.5**
TESR Tescani 83.44 321 ⇑P **P** **16 04 20.9 +0.6**
TESR Tescani 83.44 321 P **P** **16 04 20.3 -0.1**
comp=Z,28nm,1.4s
CFR Carcaliu 83.45 319 ⇑P **P** **16 04 21.6 +1.3**
CFR Carcaliu 83.45 319 ⇑P **P** **16 04 21.6 +1.3**
KWP Kalwaria Pacla 83.48 325 P **P** **16 04 20.7 +0.2**
comp=Z,62nm,1.2s
TPGR Topolog 83.49 319 ⇑P **P** **16 04 21.1 +0.4**
BURAR Bucovina Array 83.51 323 ⇓P **P** **16 04 21.4 +0.6**
BURAR Bucovina Array 83.51 323 ⇓P **P** **16 04 21.4 +0.6**
GKP Gorka Klasztor 83.51 330 *e*P **P** **16 04 21.5 +1.0**
KIRS Kirsehir-Merke 83.54 312 ⇓P **P** **16 04 21.8 +0.6**
RAYN Ar Rayn 83.55 293 P **P** **16 04 20.3 -1.1**
RAYN Ar Rayn 83.55 293 P **P** **16 04 20.3 -1.1**
RAYN pmax pmax
comp=Z,144nm,1.6s
TIRR Tirgusor 83.73 319 IAMs_20 IAMs_20 16 45 15.2
comp=Z,678nm,21.0s
RAKU Rahkiv 83.79 323 P **P** **16 04 21.9 -0.2**
VRI Vrincioaia 83.80 321 ⇑P **P** **16 04 23.2 +1.0**
VRI Vrincioaia 83.80 321 ⇑P **P** **16 04 23.2 +1.0**
VRI Vrincioaia 83.80 321 P **P** **16 04 22.0 -0.2**
comp=Z,35nm,1.4s
ANTO Ankara 83.83 313 P **P** **16 04 23.7 +1.1**
comp=Z,410nmcomp=Z,17nm,1.5s
PLOR Plostina 83.86 321 ⇓P **P** **16 04 23.9 +1.4**
PLOR Plostina 83.86 321 ⇓P **P** **16 04 23.9 +1.4**
COVR Voineasa-Covas 84.10 321 ⇓P **P** **16 04 25.1 +1.4**
KOLS Kolonicke sedl 84.15 325 *e*P **P** **16 04 24.7 +0.8**
KOLS pmax pmax
comp=Z,13nm,1.4s

KOLS Kolonicke sedl 84.15 325 *e*P **P** **16 04 24.7 +0.8**
OZUR 84.17 321 ⇓P **P** **16 04 25.5 +1.4**
BRIU Brid 84.17 324 P **P** **16 04 23.5 -0.5**
MUKU Mukachevo 84.26 324 P **P** **16 04 24.2 -0.3**
HOLU Holmets 84.36 325 P **P** **16 04 25.0 0.0**
ULM Lac du Bonnet 84.37 33 LR LR 16 40 37.1
comp=Z,514nm,21.5s,baz=310,slow=35
BERU Beregovo 84.43 324 P **P** **16 04 25.0 -0.3**
MLR Muntele Rosu 84.47 321 IAmb IAmb 16 04 48.8
comp=Z,33nm,1.4s
MLR Muntele Rosu 84.47 321 ⇑P **P** **16 04 26.4 +0.6**
MLR Muntele Rosu 84.47 321 ⇑P **P** **16 04 26.4 +0.6**
MLR Muntele Rosu 84.47 321 P **P** **16 04 25.1 -0.7**
comp=Z,15nm,1.6s
OJC Ojcow 84.48 327 *e*P **P** **16 04 26.5 +0.9**
OJC Ojcow 84.48 327 P **P** **16 04 25.8 +0.2**
comp=Z,48nm,1.5s
WUAZ Wupatki 84.55 52 IAMs_20 IAMs_20 16 33 25.2
comp=Z,640nm,21.0s
NIE Niedzica 84.79 326 *e*P **P** **16 04 28.3 +1.1**
NIE Niedzica 84.79 326 P **P** **16 04 27.7 +0.5**
comp=Z,13nm,1.3s
TBI Tubuai 84.90 121 *e*P **P** **16 04 28.0 0.0**
comp=Z,295nm,23.8s
TBI Tubuai 84.90 121 *e*PP **PP** **16 07 45.4 +0.4**
comp=Z,333nm,29.2s
TBI *e*S **SKSac** **16 14 54.5 +2.9**
comp=Z,599nm,24.8s
TBI *e*SS **SS** **16 20 24.0 -5.1**
comp=Z,295nm,24.8s
TBI *e*LQ LQ 16 27 24.1
comp=Z,956nm,23.2s
TBI *e*LR LR 16 30 57.8
comp=Z,3μm,28.2s
N23A Red Feather La 84.92 45 P **P** **16 04 25.9 -2.4**
baz=307
VOIR 84.99 321 ⇓P **P** **16 04 29.3 +1.0**
VOIR 84.99 321 ⇓P **P** **16 04 29.3 +1.0**
VOIR 84.99 321 P **P** **16 04 28.3 0.0**
comp=Z,8.2nm,1.5s
MARR Marisel-Cluj 85.21 323 ⇑P **P** **16 04 30.8 +1.4**
ARR Arges 85.26 321 ⇑P **P** **16 04 30.8 +1.2**
DRGR 85.34 323 ⇑P **P** **16 04 30.5 +0.4**
DRGR 85.34 323 ⇑P **P** **16 04 30.5 +0.4**
LANS Liptovska Anna 85.37 326 *e*P **P** **16 04 32.3 +2.2**
LANS pmax pmax
comp=Z,10.0nm,1.2s
LANS Liptovska Anna 85.37 326 *e*P **P** **16 04 32.3 +2.2**
STEB Steborice 85.62 328 *e*P **P** **16 04 32.0 +0.7**
KSP Ksiaz 85.64 329 *e*P **P** **16 04 32.2 +0.8**
KSP Ksiaz 85.64 329 P **P** **16 04 31.2 -0.2**
comp=Z,25nm,1.3s
AGMN Agassiz Nation 85.71 35 IAMs_20 IAMs_20 16 41 05.4
comp=Z,569nm,20.0s
MORC Moravsky Berou 85.84 328 IAmb IAmb 16 04 34.7
comp=Z,41nm,1.6s
MORC Moravsky Berou 85.84 328 *e*P **P** **16 04 32.4 0.0**
MORC Moravsky Berou 85.84 328 ⇑P **P** **16 04 33.1 +0.7**
MORC Moravsky Berou 85.84 328 ⇑P **P** **16 04 33.1 +0.7**
OSTC Ostas 85.88 329 *e*P **P** **16 04 34.5 +1.9**
OSTC Ostas 85.88 329 *e*P **P** **16 04 34.5 +1.9**
KRLC Kraliky 85.97 328 AMS AMS 16 45 10.0
comp=Z,1μm,23.0s
DPC Dobruska-Polom 85.98 329 *e*P **P** **16 04 34.2 +1.1**
DPC AMS AMS 16 46 20.0
comp=Z,1μm,20.6s
DPC Dobruska-Polom 85.98 329 *e*P **P** **16 04 34.2 +1.1**
DPC MLR MLR
comp=Z,1μm,20.6s
DPC Dobruska-Polom 85.98 329 P **P** **16 04 33.4 +0.3**
comp=Z,13nm,1.4s
MMAI Mount Meron Ar 86.01 306 P **P** **16 04 32.3 -1.4**
comp=Z,2.8nm,0.7s,baz=50,slow=6.6,SNR=4.4
MMAI LR LR 16 46 39.7
comp=Z,401nm,18.3s,baz=48,slow=38
comp=Z,2.8nm,0.7s
PSZ Piszkesteto 86.01 325 ⇑P **P** **16 04 34.1 +0.7**
PSZ Piszkesteto 86.01 325 P **P** **16 04 34.1 +0.7**
VYHS Vyhne 86.12 326 *e*P **P** **16 04 34.7 +0.9**
VYHS pmax pmax
comp=Z,37nm,1.6s
VYHS Vyhne 86.12 326 *e*P **P** **16 04 34.7 +0.9**
GZR Gura Zlata 86.23 322 ⇑P **P** **16 04 35.7 +1.2**
GZR Gura Zlata 86.23 322 ⇑P **P** **16 04 35.7 +1.2**
S22A 4UR Ranch, Cre 86.25 48 IAmb IAmb 16 05 07.1
comp=Z,23nm,1.5s
S22A 4UR Ranch, Cre 86.25 48 P **P** **16 04 33.0 -2.0**
baz=307
SURR Surduc 86.34 323 ⇑P **P** **16 04 36.0 +1.1**
JAVC Velka Javorina 86.42 327 *e*P **P** **16 04 37.0 +1.6**
Q24A Divide 86.57 46 P **P** **16 04 33.5 -3.2**
baz=308
VRAC Vranov 86.61 328 LR LR 16 46 28.0
comp=Z,827nm,18.5s,baz=58,slow=38
VRAC Vranov 86.61 328 *e*P **P** **16 04 36.7 +0.5**
VRAC Vranov 86.61 328 ⇑P **P** **16 04 37.0 +0.8**
VRAC Vranov 86.61 328 ⇑P **P** **16 04 37.0 +0.8**
BRG Berggiesshubel 86.65 330 *e*P **P** **16 04 37.2 +0.9**
BRG Amp 16 04 39.3
comp=Z,18nm,1.4s
BRG Berggiesshubel 86.65 330 Amp 16 05 11.8
comp=Z,7.4nm,1.2s
BRG Berggiesshubel 86.65 330 S **S** **16 15 16.0 +3.7**
BRG Berggiesshubel 86.65 330 P P 16 05 09.9 +34
CLL Collm 86.73 331 IAmb IAmb 16 04 39.8
comp=Z,31nm,1.3s
CLL Collm 86.73 331 *i* P **P** **16 04 36.9 +0.2**
CLL *e*S **S** **16 15 12.0 -1.0**
CLL pmax pmax
comp=Z,34nm,1.4s
CLL MLR MLR
comp=Z,700nm,16.8s
CLL Collm 86.73 331 P **P** **16 04 36.0 -0.7**
comp=Z,21nm,1.5s
CLL Collm 86.73 331 *i* P **P** **16 04 36.9 +0.2**
comp=Z,34nm,1.4s
CLL *i* x x 16 04 48.9
comp=Z,46nm,1.7s
CLL *e*PP **PP** **16 08 00.0 +1.7**
CLL *e*S **S** **16 15 12.0 -1.0**
CLL *e*SS **SS** **16 21 00.0 +6.7**
SMOL Smolenice 86.78 327 *e*P **P** **16 04 38.9 +1.9**
SRO Srobarova 86.85 326 *e*P **P** **16 04 39.0 +1.6**
SRO Srobarova 86.85 326 *e*P **P** **16 04 39.0 +1.6**
GHAJ Ghor Haditha 86.86 305 IAMs_20 IAMs_20 16 50 58.8
comp=Z,414nm,18.0s
KRUC Moravsky 86.87 328 *e*P **P** **16 04 37.9 +0.4**
MODS Modra-Piesok 86.95 327 *e*P **P** **16 04 39.4 +1.5**
MODS pmax pmax
comp=Z,69nm,1.6s
MODS Modra-Piesok 86.95 327 *e*P **P** **16 04 39.4 +1.5**
PRU Pruhonice 87.04 329 AMS AMS 16 48 30.0
comp=Z,1μm,16.8s
TREC Trest 87.12 328 AMS AMS 16 46 10.0
comp=Z,1μm,14.6s
F33A 5 Mile Ranch, 87.17 37 IAmb IAmb 16 04 43.1
comp=Z,36nm,1.6s
ZVC Zvikov 87.59 329 AMS AMS 16 47 50.0
comp=Z,1μm,15.1s
MPLH Magyarpolny 87.67 326 P **P** **16 04 40.7 -0.7**
comp=Z,34nm,1.6s
MORH Mrgy, Hungar 87.80 325 ⇑P **P** **16 04 42.8 +0.8**
RONA Rosalia, Austr 87.89 327 *e*PcP **PcP** **16 04 43.6 -0.7**
comp=Z,18nm,1.5s,SNR=7.4
RONA *e*PP **PP** **16 08 07.6 -0.3**
comp=Z,8.1nm,1.7s
CONA Conrad Observa 87.93 327 *e*pP **P** **16 04 44.0 +1.3**
comp=Z,22nm,1.7s,SNR=8.6
CONA *e*PP **PP** **16 08 09.0 +0.7**
comp=Z,12nm,1.5s
KHC Kasperske Hory 88.09 329 *e*P **P** **16 04 45.4 +2.0**
KHC *e*PP **PP** **16 08 10.5 +1.1**
KHC AMS AMS 16 49 00.0
comp=Z,1μm,19.4s
KHC Kasperske Hory 88.09 329 *e*P **P** **16 04 45.4 +2.0**
KHC *e* 16 08 10.5
KHC MLR MLR
comp=Z,1μm,19.4s
T25A Trinidad 88.14 47 P **P** **16 04 41.7 -2.4**
baz=308
ANMO Albuquerque 88.15 50 LR LR 16 39 21.1
comp=Z,1μm,20.9s,baz=118,slow=32
GERES GERESS Array B 88.25 329 P **P** **16 04 42.5 -1.8**
comp=Z,4.6nm,1.3s,baz=42,slow=2.2,SNR=5.9
GERES PP **PP** **16 08 11.4 +0.7**

comp=Z,0.7nm,0.7s,baz=27,slow=6.1,SNR=5.5
GERES LR LR 16 47 30.8
comp=Z,729nm,19.8s,baz=46,slow=38
comp=Z,4.6nm,1.3s
ARSA Arzberg 88.58 327 *i* PcP **PcP 16 04 46.6 -0.8**
comp=Z,9.1nm,1.3s
121A Cookes Peak, D 88.69 52 P **P 16 04 43.3 -3.4**
baz=306
MOA Molln 88.73 328 *i* PcP **P 16 04 47.2 +0.8**
comp=Z,18nm,1.6s
MOA *e*PP **PP 16 08 16.2 +1.7**
comp=Z,13nm,1.5s
E38A The Farm, Brul 88.98 34 IAmb IAmb 16 05 06.2
comp=Z,15nm,1.0s
BIOA Bad Ischl, Aus 89.13 328 *e*PcP **PcP 16 04 49.2 -0.6**
comp=Z,16nm,1.3s
BIOA *e*PP **PP 16 08 19.4 +1.6**
comp=Z,9.0nm,1.7s
SOKA Soboth 89.23 327 *e*PcP **P 16 04 49.5 +0.6**
comp=Z,19nm,1.6s,SNR=7.7
SOKA *e*PP **PP 16 08 21.1 +2.5**
comp=Z,7.7nm,1.7s
OBKA Obir 89.58 327 *e*pP **P 16 04 51.7 +1.1**
comp=Z,8.1nm,1.6s
OBKA *e*PP **PP 16 08 25.3 +3.9**
comp=Z,8.2nm,1.4s
KBA Koelnbreinsper 89.72 328 *e*pP **P 16 04 52.2 +0.9**
comp=Z,8.1nm,0.9s
KBA *e*PP **PP 16 08 23.5 +0.9**
comp=Z,10nm,1.5s
LESA Schwarzleotal 89.77 328 *e*PcP **P 16 04 52.0 +0.7**
comp=Z,18nm,1.4s,SNR=7.2
LESA *e*PP **PP 16 08 22.7 -0.2**
comp=Z,7.7nm,1.5s
MYKA Terra Mystica 89.91 327 *e*PcP **P 16 04 52.0 -0.1**
comp=Z,14nm,1.3s
MYKA *e*PP **PP 16 08 25.4 +1.3**
comp=Z,5.4nm,1.2s
CBKS Cedar Bluff 89.94 44 IAMs_20 IAMs_20 16 39 15.3
comp=Z,594nm,20.0s
WATA Walderalm 90.33 329 *e*PcP **P 16 04 53.4 -0.7**
comp=Z,8.0nm,1.2s
WATA *e*PP **PP 16 08 24.2 -3.2**
comp=Z,14nm,1.6s
ABTA Abfaltersbach 90.35 328 *i* PcP **P 16 04 53.7 -0.4**
comp=Z,9.5nm,1.2s
ABTA *e*PP **PP 16 08 27.4 -0.1**
comp=Z,4.7nm,1.5s
WTTA Wattenberg 90.35 329 *i* pP **P 16 04 54.8 +0.6**
comp=Z,12nm,1.8s
WTTA *i* PP **PP 16 08 28.3 +0.7**
comp=Z,13nm,1.7s
BCLA Clavier 90.49 334 *d*P **P 16 04 55.7 +1.2**
MOTA Moosalm 90.53 329 *e*PcP **P 16 04 55.5 +0.5**
comp=Z,15nm,1.6s
RETA Reutte 90.57 329 *e*pP **P 16 04 56.0 +0.9**
comp=Z,11nm,1.0s
SQTA Sankt Quirin 90.58 329 *i* PcP **P 16 04 55.3 +0.1**
comp=Z,14nm,1.5s
SQTA *e*PP **PP 16 08 29.7 +0.4**
comp=Z,7.0nm,1.3s
RCHB Rochefort 90.73 334 *d*P **P 16 04 57.2 +1.5**
WLF Walferdange 90.77 333 *d*P **P 16 04 56.1 +0.3**
BMRD Maredsous 90.78 334 *d*P **P 16 04 56.8 +0.8**
FETA Feichten 90.94 329 *e*PcP **P 16 04 56.7 -0.2**
comp=Z,12nm,1.3s
DOU Dourbes 91.02 334 *d*P **P 16 04 57.0 0.0**
DAVA Damuels 91.11 330 *e*PcP **P 16 04 58.1 +0.4**
comp=Z,17nm,1.2s
DAVA *i* PP **PP 16 08 30.6 -3.0**
comp=Z,11nm,1.5s
SCHQ Schefferville 91.11 16 P **P 16 04 58.0 +0.6**
comp=Z,3.4nm,1.0s,baz=41,slow=10,SNR=2.2
SCHQ LR LR 16 46 58.9
comp=Z,185nm,21.7s,baz=0.5,slow=36
comp=Z,3.4nm,1.0s
CTI Castel Tesino 91.27 328 P **P 16 04 57.5 -0.9**
CTI IAmb IAmb 16 04 59.5
comp=Z,13nm,1.2s
CTI Castel Tesino 91.27 328 P **P 16 04 57.5 -0.9**
CTI pmax pmax
comp=Z,13nm,1.2s
DAVOX Davos/Dischmat 91.50 329 LR LR 16 50 00.3
comp=Z,1μm,18.4s,baz=34,slow=38
ECH Echery 91.53 332 IAmb IAmb 16 05 02.2
comp=Z,19nm,1.3s
IDI Anoyia 91.59 313 LR LR 16 51 47.9
comp=Z,252nm,18.6s,baz=68,slow=39
VHRN Van Horn 91.65 52 IAmb IAmb 16 05 04.5
comp=Z,20nm,1.8s
LPIG La Paz 91.77 61 LR LR 16 41 38.6
comp=Z,828nm,19.4s,baz=312,slow=32
TUE Stuetta 91.97 329 P **P 16 05 01.6 -0.2**
comp=Z,62nm,1.4s
OK051 E0350 and S346 93.19 44 IAMs_20 IAMs_20 16 45 15.4
comp=Z,654nm,22.0s
TXAR Lajitas Array 93.44 53 P **P 16 05 10.0 +1.2**
comp=Z,6.4nm,0.9s,baz=305,slow=2.8,SNR=26
TXAR LR LR 16 43 52.7
comp=Z,514nm,19.2s,baz=307,slow=33
comp=Z,6.4nm,0.9s
OK052 Battle Ridge R 93.56 44 IAMs_20 IAMs_20 16 45 37.1
comp=Z,606nm,21.0s
OK031 S. Brethren Rd 93.56 44 IAMs_20 IAMs_20 16 48 43.2
comp=Z,534nm,19.0s
SADO Sadowa 95.90 28 LR LR 16 50 20.3
comp=Z,141nm,20.6s,baz=302,slow=37
833A Chaparral WMA, 96.98 51 P **P 16 05 20.8 -4.0**
baz=310
M65A Busby, Falmout 101.88 24 P **Pdif 16 05 43.6 -2.8**
baz=332
ESDC Sonseca Array 103.06 334 PP **PP 16 10 03.2 -2.2**
comp=Z,0.7nm,0.9s,baz=37,slow=7.6,SNR=4.7
LSZ Lusaka 118.00 268 IAMs_20 IAMs_20 16 57 51.5
comp=Z,388nm,20.0s
QSPA South Pole Qui 120.61 180 PKP **PKPdf 16 10 43.8 0.0**
comp=Z,0.7nm,0.5s,baz=350,slow=3.5,SNR=7.5
SYO Syowa Base 122.88 205‖ *e*Pdiff **Pdif 16 07 21.4 +2.5**
H03N2 Juan Fernandez 145.35 105 T T 18 51 46.4
SNR=4.4
ETMB Extrema 146.40 58 PKPdf **PKPab 16 11 35.2 -0.1**
LPAZ La Paz 148.89 69 PKPbc **PKPbc 16 11 42.0 0.0**
comp=Z,3.3nm,0.5s,baz=332,slow=2.6,SNR=12
LPAZ La Paz 148.89 69 PKP2 **PKPbc 16 11 42.0 0.0**
LCO Las Campanas 151.60 95 **PKiKP 16 11 49.8 +1.6**
LCO Las Campanas 151.60 95 PKIKP **PKiKP 16 11 49.8 +1.6**
PLCA Paso Flores 151.91 120 PKPbc **PKPbc 16 11 47.5 -0.3**
comp=Z,2.6nm,0.9s,baz=207,slow=5.5,SNR=4.1

*IDC **02** 16:01:32.3±1.8, 35°.91N×140°.15E, h82km±15km, mb3.5/14, mbtmp3.8/17, Error ellipse: s-maj=23.3km s-min=8.4km az=65.0*
*JMA **02** 16:01:32.5±0.1, 36°.0N±0°.3×140°.1E±0°.4, h62km, MV3.4/39, SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .
ISC 02 16:01:31.6±0.8, 36°.05N±0°.04×140°.16E±0°.05, h70km±6km, n41,σ1°51/53, mb3.9/14, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.18**	**9**	*i* P	**Pn**	**16 01 42.4**	**+0.3**
JYT				S	**Sn**	**16 01 49.7**	**0.0**
JIHU	**Itakohorinouch**	**0.31**	**105**	P	**Pn**	**16 01 43.8**	**+1.0**
JIHU				*e*S	**Sn**	**16 01 53.3**	**+2.4**
TOK	**Tokyo**	**0.48**	**222**	P	**Pn**	**16 01 45.9**	**+1.7**
TOK				S	**Sn**	**16 01 55.9**	**+2.5**
JAG	**Ashikaga**	**0.68**	**304**‖	*i* P	**Pn**	**16 01 46.5**	**+0.2**
JAG				‖S	**Sn**	**16 01 56.8**	**-0.4**
JRY	**Ryogami san**	**1.02**	**269**‖	*i* P	**Pn**	**16 01 50.2**	**-0.1**
JKT	**Katashina**	**1.03**	**315**‖	*i* P	**Pn**	**16 01 50.8**	**+0.3**
JKT				‖S	**Sn**	**16 02 05.1**	**+0.6**
JOD2	**Odawara 2**	**1.17**	**228**‖	*i* P	**Pn**	**16 01 51.7**	**-0.5**
JOD2				‖S	**Sn**	**16 02 05.5**	**-2.2**
JFY	**Yanaizu**	**1.41**	**345**	P	**Pn**	**16 01 56.5**	**+1.2**
JFY				*e*S	**Sn**	**16 02 15.0**	**+1.8**
JYN	**Shimob**	**1.42**	**248**‖	*i* P	**Pn**	**16 01 55.7**	**+0.1**
JYN				‖S	**Sn**	**16 02 12.8**	**-0.8**
JFK	**Kawauchi**	**1.44**	**23**	P	**Pn**	**16 01 57.2**	**+1.4**
JIM2	**Oshima 3**	**1.45**	**204**	*i* P	**Pn**	**16 01 54.8**	**-1.2**
JIM2				S	**Sn**	**16 02 11.7**	**-2.5**
JUON	**Uonuma**	**1.46**	**323**	P	**Pn**	**16 01 56.7**	**+0.7**
MJAR	**Matsushiro Arr**	**1.65**	**288**	P	**Pn**	**16 01 58.1**	**-0.5**
	103nm,0.3s,baz=22,slow=24,SNR=985						
MJAR				S	**Sn**	**16 02 21.4**	**+2.5**
	29nm,0.4s,baz=99,slow=23,SNR=3.4						
MAJO	**Matsushiro**	**1.65**	**288**	P	**Pn**	**16 01 59.5**	**+0.9**
JMM	**Marumori**	**1.89**	**15**	P	**Pn**	**16 02 03.6**	**+1.9**
JSG	**Sagara**	**2.12**	**230**	P	**Pn**	**16 02 05.5**	**+0.7**
JSG	**Sagara**	**2.12**	**230**	S	**Sn**	**16 02 33.1**	**+3.0**
JGF	**Kuroka**	**2.32**	**260**	P	**Pn**	**16 02 08.9**	**+1.3**
JGF	**Kuroka**	**2.32**	**260**	S	**Sn**	**16 02 36.7**	**+1.6**
JSD	**Sado**	**2.50**	**323**	P	**Pn**	**16 02 10.8**	**+0.8**
INU	**Inuyama**	**2.65**	**256**	P	**Pn**	**16 02 12.3**	**+0.3**
INU	**Inuyama**	**2.65**	**256**	S	**Sn**	**16 02 43.1**	**+0.1**
JHJ	**Hachijo jima 2**	**2.94**	**186**	P	**Pn**	**16 02 15.6**	**-0.3**
	107nm,0.7s,baz=339,slow=22,SNR=6.3						
JHJ				S	**Sn**	**16 02 48.0**	**-2.1**
	162nm,0.4s,baz=62,slow=15,SNR=6.8						
JHJ2	**Mitsune**	**2.94**	**186**	P	**Pn**	**16 02 19.6**	**+3.6**
JNU	**Nakatsue**	**8.19**	**252**	P	**Pn**	**16 03 27.6**	**-0.1**
	4.8nm,0.9s,baz=38,slow=9.1,SNR=1.5						
ASAJ	**Asahikawa**	**8.27**	**12**	P	**Pn**	**16 03 27.8**	**-1.0**
	1.6nm,0.3s,baz=196,slow=14,SNR=7.0						
ASAJ				S	**Sn**	**16 04 57.1**	**-3.5**
	3.3nm,0.7s,baz=198,slow=20,SNR=2.1						
KSRS	**Korea Array**	**9.92**	**282**	P	**Pn**	**16 03 54.4**	**+3.1**
	1.0nm,0.6s,baz=94,slow=14,SNR=6.1						
SONM	**Songino Array**	**27.52**	**306**	P	**P**	**16 07 11.0**	**-0.6**
	0.9nm,0.5s,baz=111,slow=9.1,SNR=5.5						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.27**	**255**	P	**P**	**16 09 01.1**	**-0.9**
	0.2nm,0.5s,baz=66,slow=8.0,SNR=2.2						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.84**	**313**	P	**P**	**16 09 13.8**	**-0.6**
	2.0nm,0.8s,baz=91,slow=7.4,SNR=6.6						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**43.79**	**303**	P	**P**	**16 09 30.4**	**+0.1**
	1.5nm,0.7s,baz=92,slow=9.6,SNR=12						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.82**	**309**	P	**P**	**16 09 46.0**	**-0.3**
	2.6nm,0.7s,baz=83,slow=7.7,SNR=26						
	2.6nm,0.7s						
BVAR	**Borovoye Array**	**50.49**	**313**	P	**P**	**16 10 22.4**	**+0.1**
	0.8nm,0.5s,baz=67,slow=7.3,SNR=4.4						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**16 10 25.3**	**+0.4**
	0.5nm,0.7s,baz=269,slow=6.4,SNR=6.8						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**55.95**	**187**	P	**P**	**16 11 01.5**	**-1.2**
	0.9nm,0.6s,baz=0.7,slow=7.7,SNR=12						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**59.68**	**187**	P	**P**	**16 11 27.8**	**-1.0**
	0.3nm,0.5s,baz=16,slow=12,SNR=6.5						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**64.56**	**339**	P	**P**	**16 12 00.3**	**-0.6**
	3.3nm,0.8s,baz=30,slow=7.3,SNR=2.4						
	3.3nm,0.8s						
FINES	**FINESS Array B**	**69.21**	**332**	P	**P**	**16 12 30.8**	**+0.3**
	2.4nm,0.8s,baz=50,slow=6.7,SNR=1.6						
	2.4nm,0.8s						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**16 13 01.7**	**-0.4**
	0.3nm,0.4s,baz=50,slow=6.4,SNR=6.1						
	0.3nm,0.4s						
NOA	**NORSAR Array B**	**74.70**	**337**	P	**P**	**16 13 02.7**	**-0.8**
	1.0nm,0.8s,baz=44,slow=5.0,SNR=2.6						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**79.08**	**45**	P	**P**	**16 13 29.7**	**+1.1**
	0.2nm,0.7s,baz=321,slow=2.3,SNR=1.8						
	0.2nm,0.7s						

ROM 02 16:03:21.9±0.3, 45°.933N±0°.006×10°.733E±0°.006, h9km±2km, ML1.0/8, 1D, Error ellipse: s-maj=0.7km s-min=0.1km az=210.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RONC	**Roncone**	**0.09**	**302**	*e*Pg	Pg	16 03 24.6	+0.2
RONC				*e*Sg	Sg	16 03 26.7	+0.4
RONC	**Roncone**	**0.09**	**302**	P	Pg	16 03 25.0	+0.5
RONC				S	Sg	16 03 26.7	+0.5
RONC				AML	AML		
	comp=N,124μm,0.5s						
RONC				AML	AML		
	comp=E,167μm,0.1s						
LUSI	**Trento, Gardas**	**0.15**	**80**	P	Pg	16 03 25.8	+0.5
LUSI				S	Sg	16 03 28.4	+0.9
LUSI				AML	AML		
	comp=E,45μm,0.4s						
LUSI				AML	AML		
	comp=N,80μm,0.2s						
VARA	**Varagna**	**0.16**	**133**‖	*e*Pg	Pg	16 03 25.9	+0.5
VARA				*e*Sg	Sg	16 03 28.4	+0.6
VARA	**Varagna**	**0.16**	**133**	P	Pg	16 03 25.9	+0.5
VARA				S	Sg	16 03 28.6	+0.7
VARA				AML	AML		
	comp=E,106μm,0.2s						
VARA				AML	AML		
	comp=N,75μm,0.6s						
MAGA	**Magasa**	**0.17**	**205**	P	Pg	16 03 26.2	+0.5
MAGA				S	Sg	16 03 29.2	+1.0
MAGA				AML	AML		
	comp=E,93μm,0.3s						
MAGA				AML	AML		
	comp=N,115μm,0.8s						
MAGA				AML	AML		
	comp=N,115μm,1.2s						
MABI	**Malga Bissina**	**0.20**	**309**	P	Pg	16 03 26.7	+0.6
MABI				S	Sg	16 03 29.5	+0.6

DJA 02 16:23:20.3±0.4, 0°S±4°×12°3E±°, h59km±20km, M3.6/10, mb3.6/1, MLv3.6/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.92**	**196**	P	Pn	16 23 38.2	+0.9
KMSI	**Cibinong**	**1.20**	**53**	P	Pn	16 23 42.0	+1.0
MRSI	**Marisa**	**1.25**	**300**	P	Pn	16 23 40.9	-0.7
MRSI				S	Sn	16 23 57.2	-0.2
APSI	**Ampana**	**1.57**	**241**	P	Pn	16 23 46.3	+0.4
PCI	**Palu**	**3.27**	**257**	P	Pn	16 24 09.8	+0.7
SANI	**Sanana**	**3.52**	**122**	P	Pn	16 24 10.2	-2.3
SANI				S	Sn	16 24 49.0	-3.9
KDI	**Kendari**	**3.80**	**186**	P	Pn	16 24 16.4	0.0
TTSI	**Tana Toraja**	**4.30**	**228**	P	Pn	16 24 23.3	0.0

*BJI **02** 16:33:59.6, 22°.17N×144°.00E, h135km, mB5.0/13, mb4.8/56*
*NEIC **02** 16:34:01.1±2.1, 22°.27N±0°.08×143°.8E±0°.1, h110km±5km, mb4.9/180, Error ellipse: s-maj=15.8km s-min=11.4km az=75.0*
*IDC **02** 16:34:02.5±1.2, 22°.25N×143°.58E, h131km±10km, mb4.3/25, mbtmp4.7/30, MS3.6/10, Error ellipse: s-maj=14.0km s-min=9.1km az=80.0*
*JMA **02** 16:34:04.7±0.3, 22°.N±1°×14°4E±°, h131km, MD5.4/32, IOTO ISLANDS REGION*
JMA Felt I J1 at IOTO ISLANDS REGION .
*GCMT **02** 16:34:06.1±0.3, 22°.34N±0°.02×143°.79E±0°.03, h131km±5km, MW4.8/97, Moment Tensor Solution. s14,c14; s97,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.59±.09; $M_{\theta\theta}$-0.74±.12; $M_{\phi\phi}$0.14±.11; $M_{r\theta}$-1.63±.07; $M_{r\phi}$0.59±.11; $M_{\theta\phi}$0.08±.06; Best double couple: $M_0$1.85400×10^{16} NP1:ϕ_s150.00000°, δ20.00000°, λ145.00000°. NP2:ϕ_s273.00000°, δ79.00000°, λ73.00000°. Principal axes: T 1.7350, Plg53.0000°, Azm163.0000°; N 0.2380, Plg16.0000°, Azm276.0000°; P -1.9740, Plg32.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 16:34:01.7±0.4, 22°.31N±0°.04×143°.75E±0°.05, h120km±3km, h120km:pP-P, n663,σ1°44/613, mb4.9/160, 2C-5D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.54**	**342**	P	**Pn**	**16 35 10.1**	**+1.7**
JHH2				*e*S	**Sn**	**16 36 00.9**	**+0.6**
JHH2	**Haha-jima-NKT2**	**4.54**	**342**	A	A	16 35 10.1	
	comp=N,47nm,0.4s,comp=E,38nm,0.3s						
JCJ	**Chichijima**	**4.97**	**344**		**Pn**	**16 35 14.9**	**+0.6**
JCJ	**Chichijima**	**4.97**	**344**	P	Pn	16 35 09.2	-5.2
	comp=E,2μm,0.4s,baz=234,slow=7.7,SNR=226						
JCJ				S	**Sn**	**16 36 03.3**	**-7.5**
	comp=E,4μm,0.6s,baz=131,slow=24,SNR=20						
JCJ	**Chichijima**	**4.97**	**344**	P	**Pn**	**16 35 15.9**	**+1.6**
JCJ	**Chichijima**	**4.97**	**344**	P	**Pn**	**16 35 16.2**	**+1.9**
CBIJ	**Chichi jima**	**4.97**	**344**	P	**Pn**	**16 35 15.2**	**+0.9**
CBIJ				S	**Sn**	**16 36 10.7**	**-0.1**
CBIJ	**Chichi jima**	**4.97**	**344**	A	A	16 35 15.2	
	comp=N,9.0nm,0.6s,comp=E,9.0nm,0.6s						
GUMO	**Guam**	**8.74**	**173**	P	**Pn**	**16 36 05.0**	**-0.2**
	comp=E,229nm,0.9s,baz=17,slow=20,SNR=9.5						
GUMO				LR	LR	16 38 17.1	
	comp=E,445nm,18.3s,baz=330,slow=29						
JHCJ	**Hachijojimakas**	**11.28**	**343**	*e*P	**Pn**	**16 36 41.7**	**+2.4**
JHJ2	**Mitsune**	**11.31**	**343**	P	**Pn**	**16 36 41.4**	**+1.7**
JHJ2	**Mitsune**	**11.31**	**343**	S	**Sn**	**16 38 48.5**	**+4.3**
JHJ2	**Mitsune**	**11.31**	**343**	P	**Pn**	**16 36 42.6**	**+2.9**
JHJ	**Hachijo jima 2**	**11.32**	**343**	P	**Pn**	**16 36 38.5**	**-1.4**
	comp=E,62nm,0.3s,baz=91,slow=22,SNR=8.1						
JHJ				S	**Sn**	**16 38 36.6**	**-8.0**
	comp=E,170nm,0.9s,baz=242,slow=20,SNR=1.6						
JMZ	**Minamidaito 2**	**11.96**	**289**	S	**Sn**	**16 39 03.0**	**+2.9**
JMZ	**Minamidaito 2**	**11.96**	**289**	*e*P	**P**	**16 36 54.4**	**-1.8**
JMYK	**Miyake Tsubota**	**12.28**	**343**	*e*P	**Pn**	**16 36 53.9**	**+1.4**
BSO3	**Boso 3**	**12.77**	**348**	P	**Pn**	**16 36 58.2**	**-0.4**
BSO3				*e*S	**Sn**	**16 39 14.1**	**-5.0**
BSO4	**Boso 4**	**12.98**	**347**	P	**Pn**	**16 37 03.6**	**+2.1**
JOD2	**Odawara 2**	**13.53**	**344**	P	**Pn**	**16 37 08.6**	**-0.2**
HMMJ	**Hamamatsu 2**	**13.57**	**338**	P	**Pn**	**16 37 09.2**	**-0.1**
JNY	**Yasuok**	**13.98**	**340**	*e*P	**Pn**	**16 37 15.1**	**+0.4**
INU	**Inuyama**	**14.26**	**337**	P	**P**	**16 37 21.4**	**-0.4**
INU	**Inuyama**	**14.26**	**337**	P	**Pn**	**16 37 19.8**	**+1.7**
JMN	**Monobe**	**14.32**	**325**		**P**	**16 37 24.7**	**+2.2**
JMN	**Monobe**	**14.32**	**325**	P	**Pn**	**16 37 21.0**	**+2.1**
JMN	**Monobe**	**14.32**	**325**	P	**P**	**16 37 25.8**	**+3.3**
JGF	**Kuroka**	**14.37**	**339**	Pn	**Pn**	**16 37 19.9**	**+0.3**
JGF	**Kuroka**	**14.37**	**339**	P	**Pn**	**16 37 19.9**	**+0.3**
JHO	**Hitachi**	**14.52**	**350**	P	**Pn**	**16 37 22.4**	**+1.0**
JAG	**Ashikaga**	**14.55**	**346**	P	**Pn**	**16 37 20.5**	**-1.3**
JOW	**Kunigami**	**14.78**	**291**	P	**Pn**	**16 37 22.8**	**-1.9**
	comp=E,21nm,1.1s,baz=121,slow=12,SNR=4.1						
MJAR	**Matsushiro Arr**	**14.97**	**342**	P	**Pn**	**16 37 25.8**	**-1.4**
	comp=E,7.3nm,0.5s,baz=160,slow=12,SNR=40						
MJAR				S	**Sn**	**16 40 07.9**	**-4.9**
	comp=E,6.3nm,0.7s,baz=108,slow=32,SNR=4.3						
MJAR				ScP	**ScP**	**16 45 47.2**	**-3.8**
	comp=E,2.4nm,1.0s,baz=123,slow=5.6,SNR=5.8						
MAJO	**Matsushiro**	**14.98**	**342**	Pn	**Pn**	**16 37 26.8**	**-0.4**
MAJO	**Matsushiro**	**14.98**	**342**	P	**Pn**	**16 37 28.7**	**+1.5**
MAJO	**Matsushiro**	**14.98**	**342**	P	**P**	**16 37 29.3**	**-0.4**
JNU	**Nakatsue**	**15.66**	**316**		**P**	**16 37 38.5**	**+1.1**
JNU	**Nakatsue**	**15.66**	**316**	P	**Pn**	**16 37 35.0**	**-0.9**
	comp=E,5.7nm,0.8s,baz=87,slow=7.0,SNR=14						
JNU				LR	LR	16 42 27.2	
	comp=E,156nm,21.4s,baz=126,slow=32						
JNU	**Nakatsue**	**15.66**	**316**	P	**P**	**16 37 38.1**	**+0.7**
JNU	**Nakatsue**	**15.66**	**316**	P	**P**	**16 37 42.7**	**+5.3**
JHS	**Saijyo**	**15.70**	**326**	P	**P**	**16 37 40.1**	**+2.4**
JMM	**Marumori**	**15.71**	**351**	P	**Pn**	**16 37 37.4**	**+1.0**
JMM	**Marumori**	**15.71**	**351**	P	**Pn**	**16 37 37.3**	**+1.0**
JMM	**Marumori**	**15.71**	**351**	P	**P**	**16 37 37.7**	**-0.1**
JSD	**Sado**	**16.37**	**344**		**Pn**	**16 37 43.7**	**-0.8**
JSD	**Sado**	**16.37**	**344**	P	**P**	**16 37 46.7**	**+1.6**
JTU	**Tsushima**	**17.51**	**317**	P	**Pn**	**16 38 00.4**	**+2.1**
JTM	**Tenmabayashi**	**18.56**	**354**	P	**P**	**16 38 09.9**	**+0.8**
JTM	**Tenmabayashi**	**18.56**	**354**	P	**Pn**	**16 38 12.3**	**+1.5**
JTM	**Tenmabayashi**	**18.56**	**354**	P	**Pn**	**16 38 10.9**	**+0.1**
YOJ	**Yonaguni jima**	**19.16**	**280**	P	**P**	**16 38 16.8**	**+1.0**
ERM	**Erimo**	**19.65**	**359**	P	**Pn**	**16 38 24.2**	**+0.6**
JEM	**Erimo**	**19.66**	**359**	P	**Pn**	**16 38 24.2**	**+0.6**
TJN	**Taejon**	**19.97**	**318**	P	**P**	**16 38 24.6**	**+0.1**
KSRS	**Korea Array**	**20.35**	**321**	P	**P**	**16 38 27.5**	**-1.1**
	comp=E,7.0nm,0.7s,baz=145,slow=8.3,SNR=76						
KSRS				S	**S**	**16 42 07.5**	**-2.5**
	comp=E,2.4nm,1.0s,baz=147,slow=15,SNR=4.4						
KSRS				LR	LR	16 45 36.1	
	comp=E,95nm,19.1s,baz=130,slow=34						
KSRS				ScP	**ScP**	**16 45 58.9**	**-3.3**
	comp=E,2.5nm,0.8s,baz=123,slow=1.8,SNR=10						
	comp=E,7.0nm,0.7s						
KSAR	**Wonju Array Be**	**20.36**	**321**	P	**P**	**16 38 27.2**	**-1.5**
KS19	**Wonju Array Si**	**20.42**	**321**	P	**P**	**16 38 28.9**	**-0.5**
NACB	**Ninganchiao**	**20.44**	**280**	P	**P**	**16 38 30.2**	**+0.5**
YHNB	**Yeheng**	**20.65**	**281**	P	**P**	**16 38 32.5**	**+0.4**
YHNB	**Yeheng**	**20.65**	**281**	P	**P**	**16 38 33.0**	**+1.0**
YHNB	**Yeheng**	**20.65**	**281**	P	Pn	16 38 35.1	-0.4
YULB	**Yu-li**	**20.72**	**277**	P	**P**	**16 38 34.3**	**+1.6**
YULB	**Yu-li**	**20.72**	**277**	P	Pn	16 38 35.0	-1.2
PATS	**Pohnpei**	**20.83**	**135**		**P**	**16 38 34.7**	**+0.7**
PATS	**Pohnpei**	**20.83**	**135**	P	Pn	16 38 35.5	-2.2
	comp=Z,274nm,1.0s						
PATS	**Pohnpei**	**20.83**	**135**	P	**P**	**16 38 35.2**	**+1.2**
TWGBT	**Beinan**	**20.94**	**276**	P	**P**	**16 38 36.2**	**+1.1**
SSLB	**Suanglung**	**21.02**	**278**	P	**P**	**16 38 38.0**	**+2.0**
SSLB	**Suanglung**	**21.02**	**278**	P	**P**	**16 38 38.1**	**+2.0**
SSLB	**Suanglung**	**21.02**	**278**	P	**P**	**16 38 38.7**	**+2.7**
INCN	**Inchon**	**21.13**	**320**	P	**P**	**16 38 41.7**	**+4.7**
TPUB	**Ta-pu**	**21.33**	**277**	P	**P**	**16 38 40.7**	**+1.4**
TPUB	**Ta-pu**	**21.33**	**277**	P	**P**	**16 38 40.8**	**+1.4**
H11N1	**WAKE ISLAND Hy**	**21.76**	**93**	T	T	17 01 27.2	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**21.76**	**92**	T	T	17 01 39.2	
	baz=280						
ASAJ	**Asahikawa**	**21.77**	**358**	P	**P**	**16 38 45.7**	**+2.0**
	comp=Z,15nm,0.7s,baz=231,slow=10,SNR=26						
ASAJ				S	**S**	**16 42 33.4**	**-3.6**
	comp=Z,4.2nm,0.8s,baz=256,slow=12,SNR=1.7						
	comp=Z,15nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**21.77**	**93**	T	T	17 01 30.8	
	baz=280						
H11S3	**WAKE ISLAND Hy**	**21.83**	**96**	T	T	17 01 37.1	
	baz=283,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**21.84**	**96**	T	T	17 01 37.7	
	baz=283,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**21.85**	**96**	T	T	17 01 37.5	
	baz=283,slow=75,SNR=12						
DAV	**Davao City (W)**	**23.16**	**232**	LR	LR	16 50 22.5	
	comp=Z,44nm,18.1s,baz=306,slow=43						
USA0B	**Ussuriysk Arra**	**23.89**	**339**	P	**P**	**16 39 05.9**	**+1.7**

comp=Z,13nm,0.7s
TOLI2 Tolitoli 30.71 230 P P 16 40 05.5 0.0
ENH Enshi 31.63 292 P P 16 40 15.9 +2.4
PMG Port Moresby 31.70 174 P P 16 40 12.8 -1.3
PETK Petropavlovsk- 32.55 16 P P 16 40 20.5 -0.7
PETK Petropavlovsk- 32.55 16 P P 16 40 21.6 +0.4
comp=Z,6.3nm,0.8s,baz=171,slow=8.9,SNR=8.4
PETK LR LR 16 53 52.1
comp=Z,44nm,18.6s,baz=195,slow=36
comp=Z,6.3nm,0.8s
PET Petropavlovsk 32.72 17 P P 16 40 22.5 -0.2
PET Petropavlovsk 32.72 17 P P 16 40 24.4 +1.8
PET Petropavlovsk 32.72 17 P P 16 40 24.3 +1.7
comp=Z,35nm,0.6s
PET Petropavlovsk 32.72 17 P P 16 40 24.6 +2.0
HHC Hu-ho-hao-te 32.81 312 *eP* **P 16 40 24.8 +1.0**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,200nm,5.6s
HIA Hailar 32.93 331 IAmb IAmb 16 40 26.3
comp=Z,15nm,0.7s
HIA Hailar 32.93 331 P P 16 40 25.5 +0.9
HIA Hailar 32.93 331 P P 16 40 25.8 +1.2
HIA Hailar 32.93 331 P P 16 40 25.0 +0.4
TATA Tatamba Isabel 34.33 151 P P 16 40 36.1 -0.9
ALEG Aligegeo Malai 35.06 150 P P 16 40 43.2 -0.1
KAPI Kappang 35.90 224 P P 16 40 51.3 +0.8
KAPI IAmb IAmb 16 40 52.8
comp=Z,16nm,0.7s
KAPI Kappang 35.90 224 P P 16 40 51.4 +0.8
COEN Coen 36.05 181 P P 16 40 49.8 -1.9
COEN PcP **PcP** 16 43 15.5 -0.1
COEN Coen 36.05 181 P P 16 40 51.8 0.0
comp=Z,33nm,0.7s
COEN Coen 36.05 181 P P 16 40 51.7 0.0
SBUM Sibu 36.42 242 P P 16 40 56.0 +1.0
SBUM Sibu 36.42 242 P P 16 40 56.2 +1.2
KDU Kakadu 36.49 199 P P 16 40 55.0 -0.5
CD2 Chengdu 36.61 292 P P 16 40 56.4 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.4s
MTN Manton Dam 37.06 201 P P 16 40 59.5 -0.8
MTN IAmb IAmb 16 41 00.3
comp=Z,11nm,0.6s
MTN Manton Dam 37.06 201 P P 16 40 59.0 -1.3
comp=Z,15nm,0.4s
MTN Manton Dam 37.06 201 P P 16 40 59.0 -1.3
SOEI Soe 37.15 213 P P 16 40 59.9 -1.4
SOEI IAmb IAmb 16 41 13.2
comp=Z,22nm,1.0s
LZH Lanzhou 37.18 301 *eP* **P 16 41 04.7 +3.3**
LZH pP pwP 16 41 33.9 +2.9
LZH pmax pmax
comp=Z,19nm,1.1s
MA2 Magadan 37.56 6 P P 16 41 05.4 +1.3
MA2 IAmb IAmb 16 41 06.8
comp=Z,19nm,0.7s
MA2 Magadan 37.56 6 P P 16 41 05.0 +0.9
comp=Z,34nm,1.0s
MA2 Magadan 37.56 6 P P 16 41 05.7 +1.6
PZH PanZhiHua 38.36 285 P P 16 41 12.0 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,180nm,7.1s
ULN Ulaanbaatar 38.83 320 P P 16 41 15.9 +0.8
ULN IAmb IAmb 16 41 16.6
comp=Z,16nm,0.7s
ULN Ulaanbaatar 38.83 320 P P 16 41 15.6 +0.5
SONM Songino Array 39.21 320 P P 16 41 18.7 +0.5
SONM IAmb IAmb 16 41 19.4
comp=Z,11nm,0.6s
SONM Songino Array 39.21 320 P P 16 41 17.9 -0.3
comp=Z,12nm,0.6s,baz=133,slow=7.4,SNR=111
SONM ScP **ScP** 16 46 59.3 -3.2
comp=Z,0.8nm,0.7s,baz=118,slow=3.9,SNR=4.2
comp=Z,12nm,0.6s
PLAI Plampang 40.07 222 P P 16 41 25.8 +0.2
MTSU Mount Surprise 40.20 179 P P 16 41 27.5 +1.0
comp=Z,32nm,0.7s
MTSU Mount Surprise 40.20 179 P P 16 41 26.5 -0.1
KNRA Kununurra 40.51 203 P P 16 41 27.8 -1.2
KNRA IAmb IAmb 16 41 30.5
comp=Z,15nm,0.6s
KNRA Kununurra 40.51 203 P P 16 41 27.9 -1.2
comp=Z,21nm,0.6s
YAK Yakutsk 40.86 350 P P 16 41 30.6 -0.8
YAK Yakutsk 40.86 350 LR LR 16 59 14.5
comp=Z,79nm,18.5s,baz=154,slow=37
YAK Yakutsk 40.86 350 P P 16 41 31.7 +0.3
YAK pP **pP** 16 41 58.8 +1.7
GTA Gaotai 40.95 305 *eP* **P 16 41 33.4 +0.7**
GTA pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 42.06 273 P P 16 41 39.8 -2.1
comp=Z,0.4nm,0.4s,baz=59,slow=7.7,SNR=9.1
CMAR ScP **ScP** 16 47 11.2 -2.9
comp=Z,1.3nm,0.7s,baz=113,slow=1.5,SNR=8.6
comp=Z,0.4nm,0.4s
QIS Mount Isa 42.80 186 P P 16 41 47.2 -0.5
comp=Z,21nm,0.8s
QIS Mount Isa 42.80 186 P P 16 41 47.4 -0.3
WR0 Warramunga Arr 42.96 193 P P 16 41 48.5 -0.5
WR0 IAmb IAmb 16 41 50.6
comp=Z,6.4nm,0.5s
WRAB Tennant Creek 42.98 193 P P 16 41 48.4 -0.7
WB2 Warramunga Arr 42.99 193 P P 16 41 48.5 -0.8
WB2 IAmb IAmb 16 41 49.8
comp=Z,16nm,0.5s
WRA Warramunga Arr 42.99 193 P P 16 41 48.7 -0.6
WRA Warramunga Arr 42.99 193 P P 16 41 47.7 -1.5
comp=Z,7.2nm,0.4s,baz=18,slow=8.7,SNR=108
WRA ScP **ScP** 16 47 15.6 -2.0
comp=Z,7.9nm,1.2s,baz=9.2,slow=4.1,SNR=8.8
comp=Z,7.2nm,0.4s
FITZ Fitzroy Crossi 43.89 205 P P 16 41 55.9 -0.7
FITZ Fitzroy Crossi 43.89 205 P P 16 41 55.8 -0.7
comp=Z,6.3nm,0.8s
SANVU Saraoutou 44.00 146 P P 16 41 56.0 -1.4
UGM Wanagama 44.29 231 P P 16 41 59.9 0.0
GOMU GeErMu 44.44 299 P P 16 42 02.7 +1.5
GOMU pmax pmax
comp=Z,35nm,0.6s
KULM Kulim 44.93 254 P P 16 42 05.3 +0.3
KULM IAmb IAmb 16 42 07.1
comp=Z,11nm,0.6s
KULM Kulim 44.93 254 P P 16 42 05.9 +0.9
BBJI Bungbulang 46.11 234 P P 16 42 13.7 -0.6
AS06 Alice Springs 46.66 192 P P 16 42 17.8 -0.6
comp=Z,9.2nm,0.6s
AS01 Alice Springs 46.68 192 P P 16 42 18.1 -0.4
AS31 Alice Springs 46.69 192 IAmb IAmb 16 42 19.6
comp=Z,6.7nm,0.5s
AS31 Alice Springs 46.69 192 P P 16 42 17.9 -0.7
comp=Z,8.5nm,0.6s
ASAR Alice Springs 46.69 192 P P 16 42 17.2 -1.4
comp=Z,10nm,0.6s,baz=10,slow=8.4,SNR=157
ASAR PcP **PcP** 16 43 50.2 -0.1
comp=Z,1.9nm,0.6s,baz=28,slow=3.1,SNR=5.4
ASAR ScP **ScP** 16 47 30.1 -2.7
comp=Z,1.7nm,0.9s,baz=13,slow=4.5,SNR=7.0
ASAR LR LR 17 04 01.1
comp=Z,83nm,18.3s,baz=78,slow=39
comp=Z,10nm,0.6s
AS19 Alice Springs 46.72 192 P P 16 42 17.5 -1.3
comp=Z,16nm,0.7s
SHL Shillong 47.27 285 IAmb IAmb 16 42 59.8
comp=Z,8.9nm,0.5s
PSI Prapat 47.59 252 P P 16 42 26.8 +0.9
RPSI Rantau Prapat 47.64 252 P P 16 42 24.4 -1.7
BILL Bilibino 47.82 11 P P 16 42 28.1 +1.3
BILL IAmb IAmb 16 42 29.2
comp=Z,12nm,0.8s
BILL Bilibino 47.82 11 P P 16 42 28.1 +1.3
BILL pP **pwP** 16 42 54.8 -3.8
BILL sP **sP** 16 43 07.8 +1.3
EIDS Eidsvold 47.93 171 P P 16 42 26.7 -1.4
SPIA Saint Paul Isl 48.17 32 P P 16 42 30.3 +0.6
baz=243
P08K Saint George I 48.27 33 P P 16 42 31.0 +0.6
baz=244
QLP Quilpie 48.61 179 P P 16 42 31.3 -2.0
comp=Z,49nm,0.9s
QLP Quilpie 48.61 179 P P 16 42 32.7 -0.6

UNV Unalaska Valle 48.81 37 P P 16 42 34.9 +0.4
baz=250
MBWA Marble Bar 49.15 210 P P 16 42 37.3 -0.2
MBWA Marble Bar 49.15 210 P P 16 42 37.8 +0.2
DZM Mont Dzumac 49.35 152 P P 16 42 39.2 +0.1
DZM Mont Dzumac 49.35 152 P P 16 42 39.0 -0.1
WRKA Warakurna 49.40 199 P P 16 42 38.6 -0.8
comp=Z,6.0nm,0.6s
WRKA Warakurna 49.40 199 P P 16 42 38.7 -0.7
PSA00 Pilbara Seismi 49.45 210 P P 16 42 39.7 -0.1
GSI Gunungsitoli 49.48 252 P P 16 42 39.8 -0.5
GSI Gunungsitoli 49.48 252 P P 16 42 40.5 +0.2
INKA Innaminka 49.84 183 P P 16 42 42.1 -0.5
TIXI Tiksi 50.10 354 P P 16 42 44.4 +0.3
TIXI IAmb IAmb 16 42 47.3
comp=Z,14nm,1.1s
TIXI Tiksi 50.10 354 P P 16 42 44.4 +0.3
OOD Oodnadatta 50.42 189 P P 16 42 46.7 -0.3
WMQ Urumqi 50.60 309 *eP* **P 16 42 50.6 +2.2**
WMQ pP pwP 16 43 17.0 -2.7
WMQ sP sP 16 43 32.7 +4.1
WMQ pmax pmax
comp=Z,13nm,0.9s
FALS False Pass 50.84 36 P P 16 42 36.1 -14
FALS False Pass 50.84 36 P P 16 42 50.3 +0.4
baz=252
GAMB Gambell 50.85 24 P P 16 42 50.6 +0.8
baz=237
YSA Yasawairara 50.99 137 P P 16 42 51.6 +0.1
M11K Mekoryuk 51.47 29 P P 16 42 55.1 +0.6
baz=245
S12K Black Hills 51.84 36 P P 16 42 57.9 +0.5
baz=253
MSVF Nonsavu 52.06 137 P P 16 43 01.3 +1.8
MSVF Nonsavu 52.06 137 P P 16 42 59.6 0.0
MSVF Nonsavu 52.06 137 P P 16 43 01.4 +1.8
SDPT Sand Point 52.61 36 P P 16 43 04.1 +1.1
SDPT Sand Point 52.61 36 P P 16 43 03.1 +0.1
baz=254
LCRK Leigh Creek 52.72 186 P P 16 43 04.2 +0.1
M13K Dall Lake 52.78 30 P P 16 43 05.5 +1.4
baz=248
K13K Kusilvak Mount 52.80 28 P P 16 43 05.6 +1.3
baz=246,SNR=7.7
CHNA Chernabura Isl 52.97 37 P P 16 43 07.1 +1.4
baz=256
ARMA Armidale 52.97 171 P P 16 43 05.8 -0.2
comp=Z,18nm,1.4s
ARMA Armidale 52.97 171 P P 16 43 05.3 -0.8
ZSN Zaisan 52.98 313 *eP* **P 16 43 06.4 +0.4**
comp=Z,8.3nm,0.8s
TNA Tin City 53.17 23 P P 16 43 08.8 +1.7
baz=240,SNR=6.0
S14K Fog Glacier 53.36 36 P P 16 43 09.2 +0.6
baz=255
O14K Tigyukauivet M 53.36 32 P P 16 43 09.8 +1.4
baz=251
N14K Kuskokwak Cree 53.38 31 P P 16 43 09.8 +1.2
baz=250
L14K Kuka Creek 53.43 29 P P 16 43 10.7 +1.7
baz=248
M14K Bethel 53.54 30 P P 16 43 11.8 +2.0
baz=249,SNR=10
CMSA Cobar Meteorol 53.57 178 P P 16 43 10.2 -0.2
comp=Z,19nm,1.7s
CMSA Cobar Meteorol 53.57 178 P P 16 43 10.3 0.0
J14K Nanvaranak Lak 53.60 27 P P 16 43 12.2 +2.0
baz=246
ANM Nome 53.65 25 IAmb IAmb 16 43 13.1
comp=Z,9.4nm,0.6s
ANM Nome 53.65 25 P P 16 43 12.6 +2.1
baz=243
F14K Arctic Creek 53.71 23 P P 16 43 13.4 +2.5
baz=242
STKA Stephens Creek 53.92 182 P P 16 43 11.7 -1.2
STKA Stephens Creek 53.92 182 P P 16 43 11.6 -1.2
comp=Z,100nm,0.7s
STKA Stephens Creek 53.92 182 P P 16 43 11.4 -1.4
comp=Z,13nm,0.5s,baz=6.3,slow=8.4,SNR=30
comp=Z,13nm,0.5s
STKA Stephens Creek 53.92 182 P P 16 43 11.7 -1.2
CHGN Chignik 53.98 36 P P 16 43 13.5 +0.5
baz=256
O15K Ungalikthiuk R 54.04 32 P P 16 43 15.0 +1.6
baz=252
ZAA0 Zalesovo Array 54.06 321 IAmb IAmb 16 43 14.1
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 54.06 321 P P 16 43 13.2 -0.5
ZALV Zalesovo Beam 54.06 321 P P 16 43 12.6 -1.1
comp=Z,17nm,0.7s,baz=107,slow=7.9,SNR=62
ZALV ScP **ScP** 16 48 02.6 -1.5
comp=Z,1.0nm,0.6s,baz=108,slow=4.8,SNR=3.9
comp=Z,17nm,0.7s
L15K Ungalak Mounta 54.09 29 P P 16 43 15.3 +1.6
baz=249
M15K Kasigluk River 54.11 30 P P 16 43 15.6 +1.7
baz=250,SNR=5.1
N15K Kwethluk River 54.22 31 P P 16 43 16.4 +1.7
baz=251
K15K Wolf Creek Mou 54.29 28 P P 16 43 17.2 +2.0
baz=248
G15K Niukluk 54.35 24 P P 16 43 17.6 +2.0
baz=244
MEEK Meekatharra 54.40 208 P P 16 43 15.4 -1.1
comp=Z,22nm,2.6s
MEEK Meekatharra 54.40 208 P P 16 43 16.2 -0.3
F15K North Star Dit 54.44 23 P P 16 43 18.4 +2.1
baz=243
MK31 Makanchi Array 54.67 312 P P 16 43 18.9 +0.6
MK31 IAmb IAmb 16 43 48.1
comp=Z,11nm,0.9s
MKAR Makanchi Array 54.67 312 P P 16 43 18.5 +0.2
MKAR Makanchi Array 54.67 312 P P 16 43 17.9 -0.4
comp=Z,8.1nm,0.6s,baz=91,slow=8.9,SNR=111
MKAR ScP **ScP** 16 48 05.3 -1.7
comp=Z,0.8nm,0.9s,baz=101,slow=3.1,SNR=3.8
MKAR S **S** 16 50 49.1 0.0
comp=Z,1.3nm,1.0s,baz=98,slow=18,SNR=4.9
comp=Z,8.1nm,0.6s
R16K Pilot Point 54.73 34 P P 16 43 20.1 +1.7
baz=256
MAKZ Makanchi 54.89 312 P P 16 43 19.9 0.0
MAKZ IAmb IAmb 16 43 49.8
comp=Z,16nm,0.8s
MAKZ Makanchi 54.89 312 P P 16 43 20.4 +0.5
MAKZ pP **pwP** 16 43 48.1 -3.2
FORT Forrest 54.89 197 P P 16 43 19.8 0.0
comp=Z,37nm,0.7s
FORT Forrest 54.89 197 P P 16 43 20.1 +0.2
H16K Elim 54.90 25 P P 16 43 21.3 +1.7
baz=246
P16K Nushagak River 54.90 33 P P 16 43 21.5 +1.9
baz=254,SNR=5.7
N16K Nishlik Lake 54.94 31 P P 16 43 21.6 +1.7
baz=252
L16K Owhat River 55.00 29 IAmb IAmb 16 43 22.3
comp=Z,5.3nm,0.7s
L16K Owhat River 55.00 29 P P 16 43 21.8 +1.4
baz=251
O16K Kokwok River B 55.01 32 P P 16 43 21.7 +1.3
baz=254,SNR=11
M16K Timber Creek 55.02 30 P P 16 43 21.7 +1.2
baz=252
J16K Anvik River 55.05 27 IAmb IAmb 16 43 23.7
comp=Z,12nm,0.8s
J16K Anvik River 55.05 27 P P 16 43 22.4 +1.7
baz=249,SNR=5.9
G16K Koyuk River 55.16 24 P P 16 43 22.8 +1.3
baz=246
I17K Unalakleet 55.23 26 P P 16 43 23.8 +1.8
baz=248
BBOO Buckleboo 55.30 188 P P 16 43 22.5 -0.3
CHIR Chirikof Islan 55.40 37 P P 16 43 24.2 +0.9
CHIR Chirikof Islan 55.40 37 P P 16 43 23.8 +0.6
baz=259
C16K Lisburne Hills 55.41 21 IAmb IAmb 16 43 25.8
comp=Z,20nm,0.9s
C16K Lisburne Hills 55.41 21 P P 16 43 24.6 +1.5
baz=241,SNR=13
O17K Koliganek Bris 55.55 32 P P 16 43 25.6 +1.3
baz=255,SNR=14
HTT Hallett 55.62 185 P P 16 43 24.6 -0.5
L17K Donlin 55.66 29 P P 16 43 27.2 +2.1
baz=252
N17K Nushagak Hills 55.70 31 IAmb IAmb 16 43 28.6
comp=Z,14nm,0.9s

N17K Nushagak Hills 55.70 31 P P 16 43 27.4 +2.0
baz=254,SNR=8.9
P17K Kvichak River 55.72 33 P P 16 43 26.7 +1.2
baz=256
J17K VABM Dome 55.73 27 P P 16 43 27.5 +1.9
baz=250
M17K Holitna River 55.83 30 P P 16 43 28.3 +2.0
baz=253
K17K Iditarod 55.85 28 P P 16 43 28.4 +2.0
baz=252,SNR=13
D17K Noatak River 55.89 22 P P 16 43 28.4 +1.8
baz=244,SNR=19
H17K Granite Mounta 55.94 25 P P 16 43 28.8 +1.8
baz=248
F17K Baldwin Pennin 56.01 23 P P 16 43 29.3 +1.9
baz=246,SNR=10
E17K Hotham Inlet 56.06 23 P P 16 43 29.9 +2.0
baz=245
RDOG Red Dog Mine 56.11 21 P P 16 43 29.9 +1.7
baz=243,SNR=12
C17K DeLong Mountai 56.21 21 P P 16 43 30.6 +1.7
baz=243,SNR=7.5
Q18K Katmai Hardscr 56.31 33 P P 16 43 30.0 +0.1
baz=257,SNR=9.1
SII Sitkinak Islan 56.33 36 P P 16 43 31.2 +1.3
SII Sitkinak Islan 56.33 36 P P 16 43 31.0 +1.1
baz=259
N18K Kilae Creek 56.36 31 P P 16 43 31.9 +1.8
baz=255,SNR=8.5
P18K Big Mountain, 56.37 33 IAmb IAmb 16 43 31.8
comp=Z,13nm,1.4s
P18K Big Mountain, 56.37 33 P P 16 43 31.1 +0.9
baz=257
R18K Karluk 56.38 35 P P 16 43 30.8 +0.6
baz=258
L18K Granite Mounta 56.41 29 P P 16 43 31.3 +0.9
baz=253
YNG Young 56.47 175 P P 16 43 30.9 -0.2
comp=Z,88nm,0.6s
YNG Young 56.47 175 P P 16 43 30.9 -0.2
O18K Koktuh Hills 56.49 32 P P 16 43 33.0 +1.9
baz=256,SNR=24
SHLS Shalkode 56.55 308 *eP* **P 16 43 29.6 -2.3**
M18K Stony River 56.60 30 P P 16 43 33.4 +1.6
baz=255,SNR=15
H18K Honhosa River 56.63 25 IAmb IAmb 16 43 33.9
comp=Z,10nm,0.7s
H18K Honhosa River 56.63 25 P P 16 43 33.2 +1.3
baz=250,SNR=5.8
E18K Tukpahlearik C 56.64 22 P P 16 43 33.7 +1.7
baz=246,SNR=16
F18K Selawik 56.66 24 P P 16 43 33.5 +1.5
baz=248,SNR=9.2
J18K Innoko River 56.76 28 P P 16 43 34.3 +1.4
baz=253
G18K Tagagawik 56.77 24 IAmb IAmb 16 43 35.3
comp=Z,15nm,0.8s
G18K Tagagawik 56.77 24 P P 16 43 34.3 +1.4
baz=249
UZB Uzynbulak 56.87 308 *eP* **P 16 43 34.3 +0.1**
TTA Tatalina 56.91 28 P P 16 43 34.6 +0.5
TTA IAmb IAmb 16 43 36.7
comp=Z,13nm,1.3s
TTA Tatalina 56.91 28 P P 16 43 35.3 +1.2
baz=254,SNR=5.5
OHAK Old Harbor 56.93 35 IAmb IAmb 16 43 36.2
comp=Z,11nm,0.9s
OHAK Old Harbor 56.93 35 P P 16 43 35.0 +0.9
OHAK Old Harbor 56.93 35 P P 16 43 35.2 +1.1
baz=260
C18K Utukok River 56.94 21 IAmb IAmb 16 43 36.6
comp=Z,8.5nm,0.9s
C18K Utukok River 56.94 21 P P 16 43 36.0 +1.9
baz=245,SNR=8.7
O19K Port Alsworth 57.00 32 P P 16 43 36.1 +1.5
baz=257,SNR=15
B18K Kokolik River 57.06 20 P P 16 43 36.6 +1.8
baz=244,SNR=11
N19K Bonanza Creek 57.06 31 P P 16 43 36.8 +1.6
baz=256,SNR=12
Q19K Cape Douglas, 57.07 33 P P 16 43 35.0 -0.1
baz=258,SNR=7.0
GCSA Galena City Sc 57.09 26 P P 16 43 36.3 +1.1
baz=252
KPKS Kokpek 57.11 308 *eP* **P 16 43 36.0 +0.2**
L19K White Mountain 57.23 29 IAmb IAmb 16 43 38.9
comp=Z,8.7nm,0.9s
L19K White Mountain 57.23 29 P P 16 43 37.4 +1.2
baz=255,SNR=9.4
TDK Taldygorghan 57.31 310 *eP* **P 16 43 37.3 +0.2**
comp=Z,6.2nm,0.6s
SATY Saty 57.32 308 *eP* **P 16 43 37.2 -0.1**
M19K Big River Lodg 57.37 30 IAmb IAmb 16 44 24.6
comp=Z,11nm,1.4s
M19K Big River Lodg 57.37 30 P P 16 43 38.4 +1.2
baz=256
J19K Poorman 57.38 27 P P 16 43 38.5 +1.2
baz=253,SNR=15
KURK Kurchatov 57.39 317 P P 16 43 37.5 0.0
KURK Kurchatov 57.39 317 P P 16 43 37.4 0.0
KURK pP **pP** 16 44 05.4 +0.4
KURK sP **sP** 16 44 17.9 +0.2
KDAK Kodiak Island 57.40 35 P P 16 43 38.5 +1.1
KDAK IAmb IAmb 16 43 39.4
comp=Z,16nm,1.2s
KDAK Kodiak Island 57.40 35 LR LR 17 05 34.5
comp=Z,69nm,21.1s,baz=96,slow=33
KDAK Kodiak Island 57.40 35 P P 16 43 38.1 +0.7
baz=260
KDAK Kodiak Island 57.40 35 P P 16 43 38.3 +0.9
KDAK pP **pwP** 16 44 06.6 -2.6
P19K Oil Pt 57.42 32 P P 16 43 38.6 +1.0
baz=258,SNR=9.4
KURBB Kurchatov Arra 57.44 317 P P 16 43 37.5 -0.3
comp=Z,32nm,0.7s,baz=93,slow=7.5,SNR=400
KURBB S **S** 16 51 22.1 -3.3
comp=Z,0.6nm,0.3s,baz=94,slow=11,SNR=7.4
comp=Z,32nm,0.7s
F19K Shaleruckik Mo 57.44 24 P P 16 43 38.8 +1.3
baz=249
G19K Purcell Mounta 57.46 24 P P 16 43 39.0 +1.2
baz=251,SNR=12
H19K Roundabout Mou 57.51 25 P P 16 43 39.7 +1.6
baz=252
CAN Canberra 57.53 175 P P 16 43 38.4 -0.2
CAN Canberra 57.53 175 P P 16 43 38.5 -0.2
CAN sP **sP** 16 44 18.8 -0.6
CNB Canberra Magne 57.56 175 P P 16 43 29.6 -9.3
CNB Canberra Magne 57.56 175 P P 16 43 38.5 -0.3
MORW Morawa 57.64 209 P P 16 43 39.3 -0.2
MORW Morawa 57.64 209 P P 16 43 39.3 -0.2
comp=Z,31nm,0.7s
MORW Morawa 57.64 209 P P 16 43 39.5 +0.1
Q20K Shuyak Island 57.65 34 P P 16 43 39.7 +0.6
baz=260,SNR=7.6
A19K Wainwright 57.66 19 P P 16 43 41.0 +2.0
baz=244
L20K Farewell, AK 57.74 29 P P 16 43 41.3 +1.4
baz=256,SNR=7.6
O20K Slope Mountain 57.81 32 P P 16 43 41.3 +1.0
baz=259
E19K Redstone River 57.86 23 P P 16 43 42.1 +1.6
baz=250,SNR=15
K20K Telida 57.88 28 P P 16 43 42.3 +1.6
baz=255
D19K Kuna River 57.92 22 IAmb IAmb 16 43 43.6
comp=Z,18nm,1.2s
D19K Kuna River 57.92 22 P P 16 43 42.4 +1.4
baz=248,SNR=7.4
M20K Styx River 57.95 30 P P 16 43 42.4 +1.1
baz=257
J20K Nowinta River 58.06 27 P P 16 43 43.6 +1.6
baz=255,SNR=17
I20K Naaghedeneel 58.09 26 P P 16 43 43.5 +1.4
baz=254
H20K Anotleneega Mo 58.12 26 P P 16 43 43.5 +1.1
baz=253,SNR=20
N20K Mount Spurr 58.23 31 P P 16 43 44.4 +1.1
baz=258
SPCR Spurr Chakacha 58.23 31 P P 16 43 44.3 +1.0
baz=258
F20K Avaraart Lake 58.27 24 P P 16 43 44.8 +1.4
baz=251
STLK Strandline Lak 58.47 31 IAmb IAmb 16 43 46.7
comp=Z,5.9nm,0.8s
E20K Nigu River 58.50 22 P P 16 43 46.8 +1.7
baz=250

D20K	Etivluk River	58.51	22	P	P	16 43 46.9	+1.8
	baz=250						
PPLA	Purkeypile	58.60	29	P	P	16 43 47.5	+1.6
	baz=257						
BRLK	Bradley Lake	58.61	33	IAmb	IAmb	16 43 46.7	
	comp=Z,9.9nm,0.7s						
BRSE	Bradley Lake S	58.68	33	P	P	16 43 46.9	+0.5
	baz=260,SNR=5.2						
BLDU	Ballidu	58.68	207	P	P	16 43 46.3	-0.4
	comp=Z,43nm,0.8s						
BLDU	Ballidu	58.68	207	P	P	16 43 45.9	-0.8
SKT	Skwentna	58.70	30	IAmb	IAmb	16 43 48.0	
	comp=Z,14nm,1.0s						
SKT	Skwentna	58.70	30	P	P	16 43 47.3	+0.8
	baz=258,SNR=11						
CAST	Castle Rocks	58.76	28	P	P	16 43 48.2	+1.3
	baz=257,SNR=14						
CHUM	Lake Minchumin	58.77	28	P	P	16 43 48.6	+1.7
	baz=257						
ARPS	Mount Arapiles	58.79	182	P	P	16 43 47.1	-0.1
	comp=Z,30nm,0.9s						
ARPS	Mount Arapiles	58.79	182	P	P	16 43 47.2	-0.1
B20K	Meade River	58.80	20	P	P	16 43 48.5	+1.5
	baz=248						
ULHL	Ulaho!	58.94	307	P	P	16 43 51.0	+2.3
	SNR=5.8						
G21K	Allakaket	58.95	25	P	P	16 43 49.6	+1.4
	baz=254						
H21K	Melozitna Rive	59.00	26	P	P	16 43 50.1	+1.6
	baz=255,SNR=20						
KLBR	Kellerberrin	59.10	206	P	P	16 43 49.1	-0.5
	comp=Z,71nm,0.7s						
KLBR	Kellerberrin	59.10	206	P	P	16 43 49.3	-0.3
F21K	Alatna River	59.16	24	P	P	16 43 51.5	+1.9
	baz=254,SNR=9.3						
I21K	Tanana	59.21	26	P	P	16 43 51.8	+1.9
	baz=256,SNR=20						
C21K	Knifeblade Rid	59.29	21	P	P	16 43 51.8	+1.4
	baz=251,SNR=7.3						
KTH	Kantishna Hill	59.30	28	IAmb	IAmb	16 43 53.4	
	comp=Z,6.2nm,0.7s						
O22K	Cooper Landing	59.30	32	P	P	16 43 52.0	+1.4
	baz=261,SNR=7.1						
M22K	Willow	59.32	30	P	P	16 43 51.0	+0.3
	baz=260						
KSH	Kashi	59.33	304	P	P	16 43 55.0	+3.7
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
E21K	Killik River	59.34	22	P	P	16 43 52.3	+1.5
	baz=252						
CUT	Chulitna	59.37	30	P	P	16 43 52.0	+1.0
	baz=259						
SEW	Seward	59.38	32	P	P	16 43 51.9	+0.8
	baz=262,SNR=5.6						
TKM2	Tokmak 2	59.38	308	P	P	16 43 53.0	+1.2
	SNR=6.8						
BPAW	Bear Paw Mtn.	59.38	28	P	P	16 43 52.2	+1.0
	baz=258,SNR=18						
RC01	Rabbit Creek A	59.39	31	IAmb	IAmb	16 43 52.7	
	comp=Z,11nm,0.7s						
RC01	Rabbit Creek A	59.39	31	P	P	16 43 51.6	+0.4
	baz=261,SNR=8.0						
A21K	Barrow	59.46	19	P	P	16 43 52.0	+0.5
	baz=248						
B21K	Ikpikpuk River	59.49	21	P	P	16 43 53.0	+1.3
	baz=251						
TRF	Thorofare Moun	59.56	28	IAmb	IAmb	16 43 54.2	
	comp=Z,15nm,0.8s						
TRF	Thorofare Moun	59.56	28	P	P	16 43 53.0	+0.4
	baz=259,SNR=9.5						
TOO	Toolangi	59.58	178	P	P	16 43 52.8	0.0
	comp=Z,5.2nm,1.0s						
H22K	Ishtalitna Cre	59.63	26	P	P	16 43 54.3	+1.5
	baz=256,SNR=11						
F22K	John River	59.72	24	P	P	16 43 55.1	+1.6
	baz=255						
PMR	Palmer	59.76	31	IAmb	IAmb	16 43 55.0	
	comp=Z,11nm,0.8s						
PMR	Palmer	59.76	31	P	P	16 43 54.2	+0.5
	baz=261,SNR=6.8						
A22K	Sinclair Lake	59.84	19	P	P	16 43 55.4	+1.3
	baz=250,SNR=29						
D22K	Ayikyak River	59.92	22	P	P	16 43 56.5	+1.7
	baz=253						
E22K	Anaktuvuk Pass	60.02	23	IAmb	IAmb	16 43 58.5	
	comp=Z,14nm,0.9s						
E22K	Anaktuvuk Pass	60.02	23	P	P	16 43 56.9	+1.4
	baz=255,SNR=17						
PWL	Port Wells	60.03	32	P	P	16 43 56.2	+0.5
	baz=262,SNR=8.1						
KNK	Knik Glacier	60.05	31	P	P	16 43 56.1	+0.3
	baz=262,SNR=9.3						
SGDS	Sogindy	60.06	308	eP	P	16 43 56.1	-0.1
MUN	Mundaring	60.07	207	P	P	16 43 56.1	-0.1
B22K	Teshekpuk Lake	60.12	20	P	P	16 43 57.0	+1.0
	baz=252						
SML	Sawmill	60.17	30	P	P	16 43 57.2	+0.6
	baz=262,SNR=9.8						
USP	Ospenovka	60.17	308	P	P	16 43 57.7	+0.7
	SNR=5.1						
RND	Reindeer	60.18	29	IAmb	IAmb	16 44 29.5	
	comp=Z,32nm,1.9s						
MCK	McKinley	60.20	28	P	P	16 43 56.5	-0.3
MCK				IAmb	IAmb	16 43 58.3	
	comp=Z,7.6nm,0.8s						
MCK	McKinley	60.20	28	P	P	16 43 57.5	+0.8
	baz=260,SNR=7.5						
AAK	Ala-Archa	60.21	307	P	P	16 43 57.7	+0.3
AAK				IAmb	IAmb	16 44 27.5	
	comp=Z,15nm,1.7s						
AAK	Ala-Archa	60.21	307	P	P	16 43 57.8	+0.3
	SNR=5.3						
AAK	Ala-Archa	60.21	307	P	P	16 43 57.7	+0.3
AAK				pP	pwP	16 44 26.6	-2.0
AAK				PcP	PcP	16 44 43.6	+1.9
I23K	Minto, Yukon-K	60.29	27	IAmb	IAmb	16 44 36.5	
	comp=Z,4.5nm,0.8s						
I23K	Minto, Yukon-K	60.29	27	P	P	16 43 58.2	+1.0
	baz=259,SNR=10.0						
NEA2	Nenana	60.30	27	IAmb	IAmb	16 43 59.7	
	comp=Z,13nm,1.2s						
NEA2	Nenana	60.30	27	P	P	16 43 58.8	+1.4
	baz=259,SNR=11						
G23K	Bananza Creek	60.35	25	IAmb	IAmb	16 44 00.8	
	comp=Z,23nm,1.2s						
G23K	Bananza Creek	60.35	25	P	P	16 43 59.2	+1.5
	baz=257						
COLD	Coldfoot	60.40	24	IAmb	IAmb	16 44 01.0	
	comp=Z,13nm,1.0s						
COLD	Coldfoot	60.40	24	P	P	16 43 59.4	+1.4
	baz=257,SNR=14						
BTLS	Baital	60.40	310	eP	P	16 43 58.6	+0.2
M23K	Glacier View	60.45	31	P	P	16 43 59.0	+0.5
	baz=262,SNR=8.4						
NWAO	Narrogin (SRO)	60.48	206	P	P	16 43 59.1	+0.1
NWAO	Narrogin (SRO)	60.48	206	P	P	16 43 58.8	-0.1
GLI	Glacier Island	60.63	32	P	P	16 44 00.3	+0.5
	baz=263						
D23K	Nanushuk River	60.64	22	P	P	16 44 01.6	+1.9
	baz=255						
SCM	Sheep Creek Mo	60.64	31	P	P	16 44 00.9	+1.0
	baz=262,SNR=8.9						
WRH	Wood River Hil	60.70	27	P	P	16 43 59.9	-0.2
E23K	Chandalar	60.80	23	P	P	16 44 02.9	+2.0
	baz=257						
AML	Almayashu	60.84	307	P	P	16 44 02.9	+1.0
	SNR=7.3						
COLA	College	60.87	27	P	P	16 44 02.9	+1.8
	baz=260						
C23K	Itkillik River	60.89	21	P	P	16 44 03.1	+1.8
	baz=255						
TOLK	Toolik Lake Re	60.95	23	IAmb	IAmb	16 44 04.7	
	comp=Z,20nm,1.1s						
TOLK	Toolik Lake Re	60.95	23	P	P	16 44 03.5	+1.7
	baz=257,SNR=15						
H24K	Noodor Dome	61.02	26	P	P	16 44 03.2	+0.8
	baz=260,SNR=9.3						
POKR	Poker Plat Res	61.08	27	P	P	16 44 03.7	+1.0
	baz=260						
BRZS	Berezniki	61.17	316	eP	P	16 44 03.4	-0.1
NIUE	Niue	61.17	129	P	P	16 44 05.0	+1.1
	comp=Z,217nm,1.1s						
HDA	Harding Lake	61.18	28	P	P	16 44 04.0	+0.6
	baz=261						
M24K	Tolsona, Glenn	61.22	30	P	P	16 44 06.2	+2.4
	baz=263						
E24K	Your Creek	61.22	23	P	P	16 44 05.4	+1.7
	baz=258						
IL31		61.26	27	IAmb	IAmb	16 44 04.7	
	comp=Z,8.2nm,0.8s						
ILAR	Eielson Array	61.26	27	P	P	16 44 03.7	-0.2
	comp=Z,5.5nm,0.7s,baz=259,slow=5.2,SNR=92						
	comp=Z,5.5nm,0.7s						
EYAK	Cordova Ski Ar	61.26	32	P	P	16 44 05.1	+1.2
	baz=265						
KLU	Klutina	61.27	31	IAmb	IAmb	16 44 07.2	
	comp=Z,11nm,0.6s						
KLU	Klutina	61.27	31	P	P	16 44 05.0	+0.9
	baz=264,SNR=10						
DIV	Divide	61.30	31	IAmb	IAmb	16 44 10.5	
	comp=Z,6.6nm,0.6s						
F24K	Squaw Lake	61.33	24	IAmb	IAmb	16 44 07.5	
	comp=Z,6.5nm,0.8s						
F24K	Squaw Lake	61.33	24	P	P	16 44 05.8	+1.4
	baz=259,SNR=10						
D24K	Happy Valley	61.34	22	IAmb	IAmb	16 44 06.9	
	comp=Z,12nm,0.7s						
D24K	Happy Valley	61.34	22	P	P	16 44 05.9	+1.5
	baz=257,SNR=12						
G24K	Hadweenzic Riv	61.34	25	P	P	16 44 06.0	+1.6
	baz=260,SNR=17						
ARSB	Arslanbob	61.44	306	IAmb	IAmb	16 44 46.4	
	comp=Z,9.5nm,0.9s						
C24K	Franklin Bluff	61.51	22	IAmb	IAmb	16 44 08.1	
	comp=Z,13nm,0.8s						
C24K	Franklin Bluff	61.51	22	P	P	16 44 07.2	+1.8
	baz=257,SNR=13						
K24K	Donnelly Dome	61.60	28	P	P	16 44 07.1	+0.9
	baz=263						
PAX	Paxson	61.64	29	IAmb	IAmb	16 44 08.8	
	comp=Z,18nm,1.5s						
PAX	Paxson	61.64	29	P	P	16 44 07.4	+0.8
	baz=264,SNR=6.2						
HARP	HAARP	61.72	30	P	P	16 44 08.1	+1.0
	baz=264,SNR=5.3						
BMRM	Bremner River	61.85	32	P	P	16 44 07.9	-0.1
	baz=265,SNR=6.2						
J25K	Salcha River,	61.88	28	P	P	16 44 08.0	-0.2
	baz=263,SNR=6.9						
G25K	Bearman Lake	61.89	25	P	P	16 44 09.0	+1.0
	baz=261						
N25K	Chitina, Valde	61.91	31	IAmb	IAmb	16 44 10.7	
	comp=Z,7.1nm,0.7s						
N25K	Chitina, Valde	61.91	31	P	P	16 44 09.5	+1.1
	baz=265,SNR=7.6						
H25L	Birch Creek	61.92	26	P	P	16 44 08.9	+0.7
	baz=261						
PRP	Porcupine Dome	61.94	26	P	P	16 44 08.7	+0.1
	baz=262						
RIDG	Independent Ri	62.01	29	IAmb	IAmb	16 44 10.7	
	comp=Z,15nm,1.1s						
RIDG	Independent Ri	62.01	29	P	P	16 44 09.4	+0.4
	baz=264,SNR=6.9						
F25K	Christian Rive	62.20	24	IAmb	IAmb	16 44 13.6	
	comp=Z,20nm,1.3s						
F25K	Christian Rive	62.20	24	P	P	16 44 11.7	+1.5
	baz=261,SNR=17						
FYU	Fort Yukon	62.20	25	IAmb	IAmb	16 44 12.7	
	comp=Z,10.0nm,0.7s						
D25K	Kavik River	62.23	22	P	P	16 44 11.6	+1.2
D25K	Kavik River	62.23	22	P	P	16 44 11.9	+1.5
	baz=259						
GLB	Gilahina Butte	62.27	31	IAmb	IAmb	16 44 13.1	
	comp=Z,35nm,1.6s						
E25K	Arctic Village	62.31	24	IAmb	IAmb	16 44 14.2	
	comp=Z,12nm,0.8s						
E25K	Arctic Village	62.31	24	P	P	16 44 12.7	+1.8
	baz=261,SNR=15						
DOT	Dot Lake	62.34	29	IAmb	IAmb	16 44 13.5	
	comp=Z,7.3nm,0.9s						
SCRK	Sand Creek	62.41	28	IAmb	IAmb	16 44 13.4	
	comp=Z,12nm,0.8s						
SCRK	Sand Creek	62.41	28	P	P	16 44 12.2	+0.5
	baz=264,SNR=20						
VRDI	Verde Repeater	62.43	31	IAmb	IAmb	16 44 14.0	
	comp=Z,7.2nm,0.9s						
MENT	Mentasta	62.43	29	IAmb	IAmb	16 45 08.0	
	comp=Z,34nm,2.0s						
BGLC	Bering Glacier	62.45	33	P	P	16 44 12.9	+1.0
	baz=267						
BVAR	Borovoye Array	62.55	319	P	P	16 44 12.9	+0.1
BMAR	Burnt Mountain	62.58	24	P	P	16 44 12.4	-0.3
L26K	Log Cabin Wild	62.61	29	P	P	16 44 14.3	+1.3
	baz=265						
BRVK	Borovoye	62.61	319	P	P	16 44 13.3	+0.2
BRVK	Borovoye	62.61	319	P	P	16 44 13.3	+0.2
BRVK				pP	pP	16 44 41.8	+0.7
J26L	Joseph Creek	62.64	28	P	P	16 44 14.0	+0.7
	baz=264,SNR=18						
M26K	Nabesna, AK	62.73	30	P	P	16 44 14.4	+0.6
	baz=266						
F26K	Sheenjek River	62.78	24	P	P	16 44 16.0	+2.0
	baz=262,SNR=23						
G26K	Porcupine Rive	62.82	25	P	P	16 44 15.7	+1.5
	baz=263,SNR=11						
C26K	Camden Bay	62.84	22	P	P	16 44 15.9	+1.6
	baz=260						
I26K	Coal Creek Min	62.90	27	P	P	16 44 15.6	+0.8
	baz=264						
KK31	Karatay Array	63.09	308	IAmb	IAmb	16 44 47.4	
	comp=Z,19nm,1.1s						
KKAR	Karatay Array	63.09	308	P	P	16 44 16.7	+0.2
KKAR	Karatay Array	63.09	308	IAmb	IAmb	16 44 47.3	
	comp=Z,12nm,1.1s						
MESA	MESA	63.12	33	P	P	16 44 17.0	+0.4
	baz=268						
C27K	Jago River	63.20	22	P	P	16 44 18.3	+1.5
	baz=262,SNR=12						
M27K	Edge Creek, AK	63.24	30	P	P	16 44 18.8	+1.4
	baz=267,SNR=6.3						
K27K	Chicken	63.25	28	P	P	16 44 18.3	+1.1
	baz=266						
L27K	Beaver Creek,	63.30	29	P	P	16 44 18.9	+1.4
	baz=267,SNR=11						
BCAR	Beaver Creek A	63.32	29	P	P	16 44 16.9	-0.8
I27K	Kandik River	63.56	27	P	P	16 44 20.6	+1.3
	baz=266						
BRLS	Borolday	63.59	308	eP	P	16 44 20.9	+1.0
G27K	Doyon Strip	63.64	25	P	P	16 44 21.3	+1.6
	baz=265						
H27K	Steamboat Moun	63.65	26	P	P	16 44 21.1	+1.3
	baz=266,SNR=22						
E27K	Coleen River	63.79	24	P	P	16 44 22.7	+2.0
	baz=264						
O28M	Mount Upton	64.00	32	P	P	16 44 23.7	+1.2
	baz=269,SNR=6.5						
D27M	Malcolm River	64.12	23	P	P	16 44 24.5	+1.7
	baz=264						
YUK8	Steele Glacier	64.22	31	P	P	16 44 25.2	+1.3
	baz=270						
I28M	Miner Creek	64.25	27	P	P	16 44 24.8	+1.0
	baz=267,SNR=10						
DAWY	Dawson	64.43	28	P	P	16 44 25.8	+0.8
DAWY	Dawson	64.43	28	P	P	16 44 26.6	+1.6
	baz=268,SNR=6.7						
E28M	Babbage River	64.58	23	IAmb	IAmb	16 44 29.0	
	comp=Z,34nm,1.4s						
E28M	Babbage River	64.58	23	P	P	16 44 27.4	+1.5
	baz=266						
YUK4	Talbot Arm	64.75	31	P	P	16 44 28.9	+1.6
	baz=270,SNR=17						
O29M	Mount Kennedy	64.80	33	P	P	16 44 29.4	+1.9
	baz=271						
SIMJ	Simiganj	64.81	303	P	P	16 44 28.2	+0.2
SIMJ				pP	pwP	16 44 57.2	-3.6
SIMJ				PcP	PcP	16 45 02.0	+1.5
M29M	Somme Creek	64.83	30	P	P	16 44 29.2	+1.5
	baz=270,SNR=19						
YUK6	Outpost Mounta	64.90	32	P	P	16 44 29.4	+1.1
	baz=271						
D28M	Stokes Point	64.92	23	P	P	16 44 30.1	+2.2
	baz=267						
H29M	Whitestone	64.92	26	P	P	16 44 29.8	+1.7
	baz=268						
I29M	Ogilvie Camp,	64.93	27	P	P	16 44 29.6	+1.4
	baz=269,SNR=6.7						
L29M	L29M	64.99	29	P	P	16 44 30.2	+1.6
	baz=270,SNR=15						
G29M	Pine Creek	65.08	25	P	P	16 44 30.2	+1.1
	baz=268,SNR=11						
E29M	Blow River	65.18	24	P	P	16 44 31.4	+1.8
	baz=268,SNR=9.4						
K29M	Barlow Dome	65.26	29	P	P	16 44 31.7	+1.3
	baz=270						
HYT	Haines Junctio	65.32	32	IAmb	IAmb	16 44 33.9	
	comp=Z,12nm,1.2s						
HYT	Haines Junctio	65.32	32	P	P	16 44 32.2	+1.3
	baz=272,SNR=6.2						
N30M	Aishikik Lake	65.50	31	P	P	16 44 33.2	+1.2
	baz=272						
M30M	Minto, Yukon	65.61	30	P	P	16 44 33.8	+1.2
	baz=272,SNR=7.5						
P30M	Million Dollar	65.61	33	P	P	16 44 33.9	+1.2
	baz=272						
I30M	Mount Dempster	65.74	27	P	P	16 44 34.8	+1.3
	baz=271,SNR=11						
J30M	Hart River	65.77	28	P	P	16 44 34.8	+1.1
	baz=271						
G30M	tAoh Zraii Nji	65.79	25	P	P	16 44 34.7	+1.0
	baz=270,SNR=16						
F30M	Barrier River	65.96	24	P	P	16 44 36.0	+1.3
	baz=270						
MAYO	Mayo, Yukon	65.99	29	P	P	16 44 36.5	+1.5
	baz=272						
O30N	Mendenhall	66.01	32	P	P	16 44 37.1	+1.9
	baz=273						
N31M	Braeburn, Yuko	66.13	31	IAmb	IAmb	16 44 38.8	
	comp=Z,16nm,0.9s						
N31M	Braeburn, Yuko	66.13	31	P	P	16 44 37.3	+1.4
	baz=273,SNR=6.7						
G31M	Satah River	66.56	25	P	P	16 44 39.5	+1.0
	baz=272,SNR=29						
H31M	Peel River	66.57	26	P	P	16 44 39.9	+1.2
	baz=272,SNR=12						
WHY	Whitehorse	66.61	32	P	P	16 44 40.1	+0.9
	baz=274						
M31M	Drury Creek, Y	66.74	30	P	P	16 44 40.5	+0.7
	baz=274,SNR=6.3						
F31M	Tsiigehtchic	66.75	25	IAmb	IAmb	16 44 41.4	
	comp=Z,9.8nm,0.8s						
F31M	Tsiigehtchic	66.75	25	P	P	16 44 40.2	+0.5
	baz=272,SNR=7.5						
TOZ	Tahuroa Road	66.78	153	P	P	16 44 41.6	+1.4
INK	Inuvik	66.80	24	IAmb	IAmb	16 44 41.7	
	comp=Z,8.1nm,0.8s						
INK	Inuvik	66.80	24	P	P	16 44 40.5	+0.5
	baz=272,SNR=14						
R32K	Eaglecrest	67.00	35	P	P	16 44 42.0	+0.5
	baz=275						
HIZ	Hauiti	67.17	154	P	P	16 44 42.6	-0.1
HIZ	Hauiti	67.17	154	P	P	16 44 46.9	+4.1
FARO	Faro, Yukon	67.23	30	P	P	16 44 43.7	+0.7
	baz=275						
P32M	Atlin	67.29	33	P	P	16 44 44.2	+0.9
	baz=276						
P33M	Teslin, Yukon	67.67	32	P	P	16 44 46.7	+0.9
	baz=276,SNR=5.3						
WATZ	Wairara	67.70	153	P	P	16 44 47.1	+1.0
URZ	Urewera	67.91	152	P	P	16 44 47.2	-0.1
URZ	Urewera	67.91	152	P	P	16 44 46.4	-0.9
RUGZ	Raukumara Rang	67.91	152	P	P	16 44 46.0	-1.6
WTVZ	West Tongariro	67.99	154	P	P	16 44 48.5	+0.5
NNVZ	North Ngauruho	68.01	154	P	P	16 44 48.3	+0.1
COVZ	Chateau Observ	68.04	154	P	P	16 44 48.5	+0.2
OTVZ	Otutere	68.06	154	P	P	16 44 48.8	+0.4
CRAG	Craig	68.08	38	P	P	16 44 49.2	+0.9
	baz=278						
Q32M	Nakina River	68.09	34	P	P	16 44 49.3	+0.7
	baz=277						
RTZ	Ruatahuna	68.15	152	P	P	16 44 46.7	-2.3
TWGZ	Tauwhareparae	68.22	151	P	P	16 44 48.6	-0.8
QRZ	Quartz Range	68.28	157	P	P	16 44 49.3	-0.3
WRAK	Wrangell Islan	68.38	36	P	P	16 44 51.1	+1.0
	baz=278						
BKZ	Black Stump Fm	68.40	153	P	P	16 44 50.1	-0.4
BKZ	Black Stump Fm	68.40	153	P	P	16 44 49.5	-1.0
R33M	Jennings River	68.70	33	P	P	16 44 52.9	+0.6
	baz=278						
S34M	Telegraph Cree	68.83	35	P	P	16 44 53.7	+0.8
	baz=278						
ARTI	Arti	69.19	324	P	P	16 44 54.4	-0.8
ARTI				IAmb	IAmb	16 44 55.6	
	comp=Z,18nm,0.7s						
ARTI	Arti	69.19	324	P	P	16 44 54.8	-0.4
ARTI				pP	pP	16 45 23.5	-0.3
THZ	Tophouse	69.23	157	P	P	16 44 54.8	-0.8
A36M	Sachs Harbour	69.29	19	IAmb	IAmb	16 44 57.5	
	comp=Z,13nm,0.9s						
A36M	Sachs Harbour	69.29	19	P	P	16 44 56.7	+1.2
	baz=278,SNR=18						
DLBC	Dease Lake	69.33	34	P	P	16 44 57.5	+1.4
	baz=279,SNR=7.4						
T35M	Bob Quinn	69.44	36	P	P	16 44 58.1	+1.3
	baz=279						
ABKAR	Akbulak array	69.47	316	P	P	16 44 56.7	-0.4
ABKAR	Akbulak array	69.47	316	IAmb	IAmb	16 44 57.6	
	comp=Z,14nm,0.7s						
SNZO	South Karori	69.51	156	P	P	16 44 56.9	-0.3
BFZ	Birch Farm	69.58	154	P	P	16 44 57.5	-0.2
FOZ	Fox Glacier	69.76	160	P	P	16 44 57.2	-1.5
PLWZ	Palliser	69.94	155	P	P	16 44 58.6	-1.4
KHZ	Kahutara	70.03	157	P	P	16 44 59.2	-1.2
C36M	Paulatuk	70.10	22	IAmb	IAmb	16 45 02.0	
	comp=Z,10nm,0.9s						
C36M	Paulatuk	70.10	22	P	P	16 45 01.3	+0.8
	baz=280,SNR=6.4						
OXZ	Oxford	70.31	158	IAmb	IAmb	16 45 01.1	
	comp=Z,17nm,0.8s						
ODZ	Otahua Downs	71.38	160	P	P	16 45 08.5	0.0
WRGLY	Wrigley	71.57	28	P	P	16 45 10.6	+1.1
	baz=283						
TOAD	Toad River Com	71.71	33	P	P	16 45 11.8	+1.3
	baz=283						
KOTAN	Kotaneelee Air	72.00	32	P	P	16 45 13.4	+1.2
	baz=283						
SYZ	Scrubby Hill	72.28	162	P	P	16 45 13.7	-0.1
HOPEN	Hopen	74.79	348	eP	P	16 45 29.1	+0.9
HOPEN				IAmb	IAmb	16 45 30.4	
	comp=Z,83nm,1.6s						
SPITS	Spitsbergen Ar	75.32	350	P	P	16 45 31.5	+0.2
	comp=Z,2.9nm,0.7s,baz=7.5,slow=7.1,SNR=5.4						
	comp=Z,2.9nm,0.7s						
YKA	Yellowknife Ar	75.67	28	P	P	16 45 34.2	+0.7
	comp=Z,5.0nm,0.6s,baz=291,slow=5.8,SNR=44						
	comp=Z,5.0nm,0.6s						
VADS	Vadso	77.06	341	IAmb	IAmb	16 45 41.3	
	comp=Z,91nm,1.1s						
VADS				eP	P	16 45 42.0	+0.8
ARA0	ARCESS Array S	78.51	342	eP	P	16 45 49.6	+0.3
ARA0				IAmb	IAmb	16 45 57.6	
	comp=Z,485nm,2.9s						
ARCES	ARCESS Array B	78.51	342	P	P	16 45 49.5	+0.2
ARCES	ARCESS Array B	78.51	342	P	P	16 45 49.5	+0.2
	comp=Z,11nm,0.6s,baz=72,slow=8.4,SNR=53						
	comp=Z,11nm,0.6s						
J05D	Fort Rock, OR	78.54	48	P	P	16 45 51.9	+1.7
PINE	Pine Mountain	78.57	47	IAmb	IAmb	16 45 53.6	
	comp=Z,21nm,1.3s						
KTK1	Kautokeino	79.47	342	eP	P	16 45 54.7	+0.2
KTK1				IAmb	IAmb	16 45 55.1	
	comp=Z,16nm,0.9s						
JETT	Jettan, Norway	79.95	343	eP	P	16 45 57.4	+0.2
JETT				IAmb	IAmb	16 45 57.5	
	comp=Z,31nm,0.7s						
TRO	Tromso	80.30	343	eP	P	16 45 58.7	-0.3

STOK	**Stokkvaagen**	**84.18**	**342**	*eP*	**P**	**16 46 18.5**	**-0.7**
STOK				IAmb	IAmb	16 46 23.7	
comp=Z,3μm,4.0s							
LEIR	**Leirfjorden**	**84.31**	**342**	*eP*	**P**	**16 46 19.2**	**-0.7**
YHB	**Horse Butte**	**84.64**	**44**	IAmb	IAmb	16 48 48.7	
comp=Z,13nm,1.4s							
FFC	**Flin Flon**	**85.03**	**32**	P	**P**	**16 46 24.8**	**+1.0**
FFC				IAmb	IAmb	16 46 25.7	
comp=Z,12nm,0.7s							
RLMT	**Red Lodge**	**85.70**	**43**	IAmb	IAmb	16 47 44.5	
comp=Z,12nm,0.8s							
NSS	**Namsos**	**85.78**	**341**	*eP*	**P**	**16 46 26.7**	**-0.6**
FCC	**Fort Churchill**	**86.26**	**26**	IAmb	IAmb	16 46 31.0	
comp=Z,7.3nm,0.8s							
JLU	**Jordanelle**	**86.30**	**48**	IAmb	IAmb	16 47 03.3	
comp=Z,33nm,2.0s							
PDAR	**Pinedale Array**	**86.59**	**45**	P	**P**	**16 46 31.4**	**-0.6**
comp=Z,0.8nm,0.8s,baz=259,slow=2.2,SNR=7.2							
comp=Z,0.8nm,0.8s							
LAO	**LASA Array**	**86.82**	**40**	IAmb	IAmb	16 46 35.5	
comp=Z,11nm,0.9s							
AKASG	**Malin Array Be**	**87.31**	**325**	P	**P**	**16 46 33.0**	**-2.0**
comp=Z,1.8nm,0.4s,baz=52,slow=5.3,SNR=28							
comp=Z,1.8nm,0.4s							
AKBB	**Malin Array Si**	**87.31**	**325**	P	**P**	**16 46 33.2**	**-1.8**
KIEV	**Kiev**	**87.33**	**325**	P	**P**	**16 46 32.8**	**-2.3**
KIEV				IAmb	IAmb	16 47 10.2	
comp=Z,34nm,1.9s							
KIEV	**Kiev**	**87.33**	**325**	P	**P**	**16 46 33.0**	**-2.1**
HFS	**Hagfors**	**88.36**	**337**	P	**P**	**16 46 37.8**	**-2.0**
comp=Z,2.5nm,0.4s,baz=68,slow=4.0,SNR=21							
comp=Z,2.5nm,0.4s							
LUBAR	**Lubar, Ukraine**	**88.53**	**324**	P	**P**	**16 46 38.7**	**-2.1**
NB2	**NORSAR Subarra**	**88.56**	**339**	P	**P**	**16 46 39.3**	**-1.5**
comp=Z,1.6nm,0.6s,baz=43,slow=5.1							
NB2	**NORSAR Subarra**	**88.56**	**339**	P	**P**	**16 46 39.3**	**-1.5**
baz=43,slow=5.1							
NOA	**NORSAR Array B**	**88.56**	**339**	P	**P**	**16 46 38.9**	**-1.9**
comp=Z,2.2nm,0.8s,baz=45,slow=5.5,SNR=7.0							
comp=Z,2.2nm,0.8s							
N23A	**Red Feather La**	**89.86**	**45**	P	**P**	**16 46 48.2**	**+0.6**
baz=300							
ULM	**Lac du Bonnet**	**90.64**	**34**	P	**P**	**16 46 48.8**	**-1.9**
comp=Z,2.1nm,0.7s,baz=306,slow=5.2,SNR=4.8							
comp=Z,2.1nm,0.7s							
S22A	**4UR Ranch, Cre**	**90.80**	**48**	P	**P**	**16 46 52.6**	**+0.5**
baz=299							
VYHS	**Vyhne**	**94.05**	**327**	*eP*	**P**	**16 47 07.0**	**+0.5**
CLL	**Collm**	**94.91**	**331**	*i* P	**P**	**16 47 09.0**	**-1.3**
TXAR	**Lajitas Array**	**97.27**	**54**	P	**P**	**16 47 22.0**	**+0.4**
comp=Z,0.2nm,0.7s,baz=293,slow=4.2,SNR=2.2							
TXAR				PKKPbc	**PKKPbc**	**17 03 59.7**	**0.0**
comp=Z,0.2nm,0.6s,baz=160,slow=4.0,SNR=4.5							
comp=Z,0.2nm,0.7s							
ESDC	**Sonseca Array**	**111.36**	**334**	PKKP		17 03 28.2	
comp=Z,1.3nm,0.8s,baz=220,slow=5.5,SNR=11							
BOSA	**Boshof**	**124.62**	**250**	PKP	**PKPdf**	**16 52 46.8**	**-0.9**
comp=Z,2.2nm,0.7s,baz=202,slow=3.0,SNR=4.9							
TROLL	**Troll, Antarti**	**125.67**	**194**	⦚PKiKP	**PKiKP**	**16 52 49.5**	**+0.7**
comp=Z,403nm,0.5s							
SNAA	**Sanae**	**127.06**	**193**	⦚PKiKP	**PKiKP**	**16 52 51.9**	**+0.4**
comp=Z,116nm,0.6s							
SNAA	**Sanae**	**127.06**	**193**	PKP	**PKPdf**	**16 52 50.5**	**-0.5**
comp=Z,5.1nm,0.7s,baz=216,slow=5.3,SNR=13							
VNA2	**Neumayer--Watz**	**128.54**	**192**	⦚PKiKP	**PKiKP**	**16 52 54.7**	**+0.4**
comp=Z,16nm,0.5s,baz=176,slow=1.1							
VNA3	**Neumayer Olymp**	**128.69**	**191**	⦚PKiKP	**PKPdf**	**16 52 54.5**	**+0.5**
comp=Z,6.6nm,0.6s							
VNA1	**Neumayer--Stat**	**128.93**	**192**	⦚PKiKP	**PKiKP**	**16 52 56.0**	**+0.9**
LR05	**Currie**	**144.90**	**129**	PKPdf	PKPbc	16 53 24.9	+0.6
PLCA	**Paso Flores**	**145.76**	**130**		**PKPbc**	**16 53 27.3**	**+0.3**
PLCA	**Paso Flores**	**145.76**	**130**	PKPbc	**PKPbc**	**16 53 27.4**	**+0.4**
comp=Z,25nm,0.8s,baz=242,slow=3.8,SNR=91							
EFI	**East Falkland**	**146.17**	**155**	PKPdf	**PKPdf**	**16 53 27.4**	**+0.9**
PB11	**IPOC Station P**	**148.75**	**92**		**PKPbc**	**16 53 36.1**	**+0.1**
LPAZ	**La Paz**	**149.36**	**84**		**PKPbc**	**16 53 38.7**	**+0.6**
LPAZ	**La Paz**	**149.36**	**84**	PKPbc	**PKPbc**	**16 53 38.9**	**+0.7**
comp=Z,8.7nm,0.6s,baz=316,slow=2.0,SNR=28							
CPUP	**Villa Florida**	**160.38**	**106**	PKPab	**PKPab**	**16 54 28.0**	**-1.1**
comp=Z,1.9nm,0.7s,baz=252,slow=6.4,SNR=2.9							

TAP 02 16:34:23.0,24°.93N×121°.88E,h25km,ML1.7,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi**	**0.06**	**308**	*i* P	Pb	16 34 27.8	+0.3
TIPB				*i* S	Sb	16 34 31.3	+0.7
EGS		**0.10**	**151**	*eP*	Pb	16 34 27.4	-0.2
EGS				*eS*	Sb	16 34 30.7	-0.1
TWB1	**Santiao Chiao**	**0.12**	**53**	P	Pb	16 34 28.5	+0.6
TWB1				*eS*	Sb	16 34 31.6	+0.5
SXI1	**Grass Mountain**	**0.16**	**359**	*i* P	Pb	16 34 28.6	+0.2
SXI1				*i* S	Sb	16 34 32.8	+0.9
NWF	**Wu-fen Shan**	**0.16**	**327**	*eP*	Pb	16 34 28.2	-0.1
WFSB	**Wu-fen Shan**	**0.16**	**327**	*eP*	Pb	16 34 28.2	-0.1
ILA	**Ilan**	**0.21**	**215**	*eP*	Pn	16 34 29.8	-0.7
ILA				*eS*	Sb	16 34 34.5	+1.9
TNOU	**National Taiwa**	**0.24**	**336**	*i* P	Pb	16 34 29.6	+0.4
TNOU				S	Sb	16 34 34.2	+0.9
TWE	**Neicheng**	**0.29**	**222**	P	Pb	16 34 30.6	+0.8
TWE				*eS*	Sb	16 34 34.8	+0.3
NHY	**Taipei**	**0.30**	**291**	P	Pb	16 34 30.5	+0.5
FUSB	**Fushanzhiwuyua**	**0.32**	**237**	*i* P	Pb	16 34 30.8	+0.4
FUSB				S	Sb	16 34 36.5	+1.1
YM01	**YM01**	**0.35**	**307**	P	Pb	16 34 31.6	+0.7
YM01				*eS*	Sn	16 34 38.5	-0.2
TAP	**Taipei**	**0.35**	**287**	*i* P	Pb	16 34 31.4	+0.6
TAP				*eS*	Sn	16 34 37.8	-0.9
ENTT	**Nioudou**	**0.41**	**224**	P	Pb	16 34 32.2	+0.4
ANP	**Anpu**	**0.41**	**308**	*eP*	Pb	16 34 30.8	-1.0
TWS1	**Kuangyinshan**	**0.45**	**292**	*eP*	Pb	16 34 31.4	-1.0
LATG	**Datong**	**0.51**	**219**	*eP*	Pb	16 34 32.7	-0.8
YHNB	**Yeheng**	**0.53**	**240**	P	Pb	16 34 34.0	+0.3
NSK	**Sanguang**	**0.54**	**242**	P	Pn	16 34 34.5	-0.6
NSK				S	Sn	16 34 43.0	-0.3
JMZ	**Minamidaito 2**	**8.50**	**82**	P	Pb	16 36 49.7	+0.3

DJA 02 16:37:25.9±0.8,10°S±8°×11°9E±°,h10km,M3.6/7,mb3.5/1,MLv3.6/7,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.58**	**24**	P	Pg	16 37 37.0	-0.1
WSI	**Waingapu**	**1.23**	**66**	P	Pn	16 37 47.5	-1.7
BASI	**Baing, Sumba**	**1.41**	**92**	P	Pn	16 37 51.7	+0.1
PLAI	**Plampang**	**1.90**	**314**	P	Pn	16 37 58.3	-0.1
MMRI	**Maumere**	**3.41**	**64**	P	Pn	16 38 19.3	+0.2
BSSI	**Bau Bau, Buton**	**4.22**	**18**	P	Pn	16 38 31.2	+0.9
BKSI	**Bulukumba**	**4.91**	**11**	P	Pn	16 38 40.5	+0.7

*TIF **02** 16:45:04.3, 40°.37N×37°.36E, h10km±1km*
*AFAD **02** 16:45:04.9, 40°.37N×37°.35E, h10km, MW3.5*
*ISK **02** 16:45:05.4, 40°.35N×37°.24E, h5km, ML3.4/32*
ISC 02 16:45:05.3±0.8,40°.40N±0°.02×37°.39E±0°.02,h9km±6km, n53,σ1°.9±17/74,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.05**	**271**	Pg	**Pg**	**16 45 07.2**	**+0.1**
RSDY				Sg	**Sg**	**16 45 08.6**	**+0.2**
SVSK	**Karacayir**	**0.56**	**212**	Pg	**Pg**	**16 45 15.3**	**-0.9**
SVSK				Sg	**Sg**	**16 45 23.8**	**+0.2**
SCER	**sogukcermik**	**0.57**	**200**	P	**Pg**	**16 45 15.4**	**-0.9**
SCER				S	**Sg**	**16 45 23.3**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.59**	**150**	P	**Pg**	**16 45 16.9**	**+0.3**
CUZAR				S	**Sg**	**16 45 25.1**	**+0.7**
TOKT	**Tokat**	**0.65**	**264**	Pg	**Pg**	**16 45 16.9**	**-0.9**
TOKT				Sg	**Sg**	**16 45 25.6**	**-0.7**
SUSE	**Susehri**	**0.65**	**106**	P	**Pb**	**16 45 18.3**	**-0.6**
SUSE				S	**Sb**	**16 45 27.9**	**-0.3**
ORDU	**Ordu-Boztepe**	**0.69**	**31**	P	**Pb**	**16 45 19.5**	**-0.1**
ORDU				S	**Sb**	**16 45 28.9**	**-0.4**
TOKA	**Tokat**	**0.70**	**264**	P	**Pg**	**16 45 17.9**	**-0.9**
TOKA				S	**Sg**	**16 45 28.4**	**+0.5**
ALUC	**Giresun/Alucra**	**1.06**	**92**	P	**Pg**	**16 45 25.4**	**-0.2**
ALUC				S	**Sb**	**16 45 40.2**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.08**	**177**	P	**Pg**	**16 45 24.8**	**-1.2**
CUKAN				S	**Sn**	**16 45 41.5**	**-0.5**
KIZO	**Buyukkizoglu-L**	**1.22**	**295**	Pn	**Pn**	**16 45 28.4**	**-0.1**
KVT	**Kavak**	**1.23**	**304**	Pn	**Pb**	**16 45 28.6**	**-0.1**
KVT				Sn	**Sn**	**16 45 45.9**	**+0.5**
CUAYA	**Sivas-Altinyay**	**1.23**	**204**	P	**Pn**	**16 45 28.0**	**-0.9**
CUAYA				S	**Sn**	**16 45 46.1**	**+0.4**
YARM	**Yarimca-Ladik(**	**1.30**	**294**	Pn	**Pb**	**16 45 29.9**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**1.31**	**222**	P	**Pn**	**16 45 28.7**	**-1.2**
CUSAR				S	**Sb**	**16 45 47.1**	**-0.1**
SAMS	**Samsun-Alacam**	**1.33**	**317**	P	**Pn**	**16 45 29.9**	**-0.1**
KEMA	**Kemaliye**	**1.41**	**143**	P	**Pg**	**16 45 32.3**	**0.0**
KEMA				S	**Sg**	**16 45 52.0**	**+1.4**
HAVZ	**Havza**	**1.44**	**299**	P	**Pb**	**16 45 31.9**	**-0.3**
HACI	**Hacifakili, Ak**	**1.45**	**242**	P	**Pn**	**16 45 31.3**	**-0.4**
HACI				S	**Sg**	**16 45 51.7**	**-0.2**
KELT	**Kelkit**	**1.45**	**99**	P	**Pb**	**16 45 32.0**	**-0.6**
KELT				S	**Sn**	**16 45 50.8**	**-0.4**
HEKM	**Malatya_Hekimh**	**1.58**	**164**	P	**Pg**	**16 45 35.3**	**-0.2**
HEKM				S	**Sg**	**16 45 57.8**	**+1.8**
CUGUR	**Gurin_SVAS**	**1.67**	**183**	P	**Pb**	**16 45 36.6**	**+0.3**
CUGUR				S	**Sg**	**16 45 59.4**	**+0.3**
YOZ	**Yozgat**	**1.76**	**245**	Pn	**Pn**	**16 45 36.4**	**+0.4**
DARE	**Darende-Malaty**	**1.82**	**178**	Pn	**Pb**	**16 45 38.5**	**-0.4**
COAL	**Corum-Alaca**	**1.84**	**266**	P	**Pb**	**16 45 38.7**	**-0.4**
MACK	**Trabzon**	**1.89**	**72**	P	**Pb**	**16 45 40.5**	**+0.6**
MACK				S	**Sg**	**16 46 05.8**	**-0.3**
EUZM	**Uzumlu**	**1.90**	**110**	P	**Pb**	**16 45 40.3**	**+0.1**
KTUT	**Trabzon**	**1.90**	**71**	Pn	**Pb**	**16 45 40.3**	**+0.2**
BNN	**Bunyan**	**1.95**	**218**	Pn	**Pn**	**16 45 39.5**	**+0.8**
SIRC	**Yozgat**	**2.02**	**239**	P	**Pn**	**16 45 40.7**	**+1.1**
SIRC				S	**Sb**	**16 46 08.8**	**+1.2**
DIKM	**Dikmen**	**2.04**	**309**	Pn	**Pb**	**16 45 41.5**	**-1.0**
TNCL	**Tunceli-Merkez**	**2.10**	**127**	P	**Pb**	**16 45 43.1**	**-0.4**
BAYT	**Aydintepe-Bayb**	**2.10**	**89**	Pn	**Pb**	**16 45 44.1**	**+0.4**
CORM	**Corum**	**2.12**	**265**	Pn	**Pn**	**16 45 41.9**	**+0.9**
SARI	**SarD1z-Kayseri**	**2.12**	**201**	Pn	**Pb**	**16 45 42.8**	**-1.2**
PTK	**Pertek**	**2.16**	**134**	Pn	**Pb**	**16 45 44.6**	**0.0**
PTK				Sn	**Sg**	**16 46 13.4**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.61**	**111**	Pn	**Pb**	**16 45 51.9**	**-0.4**
CHOM	**Cayeli-Rize**	**2.66**	**74**	Pn	**Pb**	**16 45 52.6**	**-0.4**
CANT	**Cankiri**	**2.88**	**275**	Pn	**Pn**	**16 45 52.9**	**+1.5**
BNGB	**Bingl**	**2.90**	**118**	Pn	**Pb**	**16 45 55.8**	**-1.4**
KMRS	**Kahramanmaras**	**2.91**	**188**	Pn	**Pn**	**16 45 54.2**	**+2.4**
BR131	**Keskin Array S**	**2.95**	**258**	Pn	**Pn**	**16 45 53.4**	**+0.9**
BZK	**Bozkurt**	**2.99**	**303**	Pn	**Pn**	**16 45 55.2**	**+2.3**
KAMT	**Kaman**	**3.01**	**251**	Pn	**Pn**	**16 45 54.6**	**+1.4**
KOZT	**Kozan**	**3.16**	**203**	Pn	**Pn**	**16 45 57.3**	**+2.2**
URFA	**Urfa**	**3.16**	**159**	Pn	**Pb**	**16 45 58.3**	**-3.3**
GAZ	**Gaziantep**	**3.22**	**183**	Pn	**Pn**	**16 45 58.7**	**+2.6**
SERE	**Sereflikochisa**	**3.29**	**245**	Pn	**Pn**	**16 45 58.5**	**+1.5**
CMRD	**Camardi-Nigde**	**3.31**	**215**	Pn	**Pn**	**16 45 58.8**	**+1.5**
BCA	**Borcka**	**3.38**	**71**	Pn	**Pb**	**16 46 02.9**	**-2.4**
KOPR	**Koprukoy-ERZUR**	**3.44**	**95**	Pn	**Pb**	**16 46 04.0**	**-2.5**
AFSR	**Afar-Bala (An**	**3.45**	**255**	Pn	**Pn**	**16 46 00.8**	**+1.5**
SENK	**Senkaya-Erzuru**	**3.79**	**86**	Pn	**Pb**	**16 46 08.9**	**-3.5**

*NAO **02** 17:06:00.9±2.0, 71°.78N×1°.42W, ML3.1*
*IDC **02** 17:06:01.0±1.4, 71°.63N×1°.20W, h0km, mb3.3/6, mbtmp3.5/11, ML3.0/5, MS3.3/3, Error ellipse: s-maj=26.3km s-min=20.5km az=72.0*
*BER **02** 17:06:05.7±3.1, 71°.86N×1°.07W, h10km, mb(Pn)4.3, ML3.1(NAO), Confirmed Earthquake*
*DNK **02** 17:06:09.6±0.3, 72°.18N×2°.23W, h28km±20km*
ISC 02 17:06:01.6±0.7,71°.75N±0°.07×1°.11W±0°.05,h10km,n68, σ2°.61/82,mb3.3/6,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**2.43**	**255**	*eP*	**Pb**	**17 06 47.6**	**+2.2**
JNW	**Jan Mayen West**	**2.46**	**256**	*eP*	**Pb**	**17 06 46.8**	**+1.0**
JNW				*eS*	**Sn**	**17 07 13.9**	**+2.2**
JNW				IAML		17 07 20.6	
comp=Z,11nm,0.4s							
JMIC	**Jan Mayen**	**2.50**	**256**	*eS*	**Sn**	**17 07 13.5**	**+0.9**
JMIC	**Jan Mayen**	**2.50**	**256**	Sn	**Sn**	**17 07 13.2**	**+0.6**
comp=Z,5.4nm,0.3s,baz=129,slow=8.6,SNR=3.0							
DBG	**Daneborg**	**6.14**	**304**	*eP*	**Pn**	**17 07 30.0**	**-2.2**
DBG				*eS*	**Sn**	**17 08 33.9**	**-8.4**
DBG	**Daneborg**	**6.14**	**304**	Pn	**Pn**	**17 07 29.9**	**-2.2**
DBG	**Daneborg**	**6.14**	**304**	*eP*	**Pn**	**17 07 30.1**	**-2.0**
LOF	**Lofoten**	**6.20**	**119**	*eP*	**Pn**	**17 07 35.8**	**+2.7**
LOF				*eS*	**Sn**	**17 08 40.4**	**-3.5**
LOF				IAML		17 08 44.8	
comp=Z,4.4nm,1.0s							
LOF	**Lofoten**	**6.20**	**119**	Pn	**Pn**	**17 07 35.6**	**+2.5**
LOF				Sn	**Sn**	**17 08 41.6**	**-2.3**
BJO1	**Bjornoya**	**6.45**	**55**	*eP*	**Pn**	**17 07 38.1**	**+1.7**
STEI	**Steigen**	**6.81**	**116**	*eP*	**Pn**	**17 07 43.6**	**+2.3**
STEI				*eS*	**Sn**	**17 08 54.4**	**-4.4**
STEI				IAML		17 09 00.4	
comp=Z,3.7nm,0.6s							
STEI	**Steigen**	**6.81**	**116**	Pn	**Pn**	**17 07 43.7**	**+2.3**
STEI				Sn	**Sn**	**17 08 55.2**	**-3.7**
SCO	**Scoresbysund**	**6.87**	**269**	*eP*	**Pn**	**17 07 42.7**	**+0.5**
HSPB	**Hornsund (broa**	**6.90**	**33**	*eP*	**Pn**	**17 07 43.7**	**+1.2**
HSPB	**Hornsund (broa**	**6.90**	**33**	Pn	**Pn**	**17 07 42.4**	**-0.1**
DAG	**Danmarks Havn**	**6.91**	**325**	*eP*	**Pn**	**17 07 41.5**	**-1.2**
DAG				*eS*	Sn	17 08 47.5	-14
DAG	**Danmarks Havn**	**6.91**	**325**	*eP*	**Pn**	**17 07 40.1**	**-2.5**
DAG				*i* S	Sn	17 08 47.2	-14
DAG				IAML		17 09 21.9	
comp=Z,1μm,6.6s							
TRO	**Tromso**	**6.96**	**98**	*eP*	**Pn**	**17 07 44.6**	**+1.2**
TRO	**Tromso**	**6.96**	**98**	Pn	**Pn**	**17 07 44.7**	**+1.3**
FAUS	**Fauske**	**7.20**	**119**	*eP*	**Pn**	**17 07 48.9**	**+2.2**
FAUS				*eS*	**Sn**	**17 09 03.8**	**-4.6**
FAUS				IAML		17 09 06.9	
comp=Z,2.6nm,0.5s							
FAUS	**Fauske**	**7.20**	**119**	Pn	**Pn**	**17 07 48.6**	**+1.9**
KONS	**Konsvik**	**7.30**	**129**	*eP*	**Pn**	**17 07 50.3**	**+2.2**
KONS				IAML		17 09 05.4	
comp=Z,35nm,0.8s							
KONS				*eS*	**Sn**	**17 09 06.5**	**-4.5**
KONS	**Konsvik**	**7.30**	**129**	Pn	**Pn**	**17 07 50.4**	**+2.2**
STOK	**Stokkvaagen**	**7.41**	**130**	*eP*	**Pn**	**17 07 51.7**	**+2.1**
STOK				*eS*	**Sn**	**17 09 08.5**	**-5.1**
STOK				IAML		17 09 13.4	
comp=Z,5.2nm,0.5s							
STOK	**Stokkvaagen**	**7.41**	**130**	Pn	**Pn**	**17 07 52.2**	**+2.6**
STOK				Sn	**Sn**	**17 09 09.6**	**-4.0**
JETT	**Jettan, Norway**	**7.46**	**97**	*eP*	**Pn**	**17 07 51.3**	**+1.0**
JETT				*eS*	Sn	17 09 06.9	-7.8
JETT				IAML		17 09 23.7	
comp=Z,4.0nm,0.6s							
JETT	**Jettan, Norway**	**7.46**	**97**	Pn	**Pn**	**17 07 51.6**	**+1.3**
BRBB	**Barentsburg B**	**7.48**	**25**	*eP*	**Pn**	**17 07 53.4**	**+2.8**
LEIR	**Leirfjorden**	**7.62**	**131**	*eP*	**Pn**	**17 07 54.0**	**+1.6**
LEIR				*eS*	**Sn**	**17 09 13.9**	**-4.7**
LEIR				IAML		17 09 17.6	
comp=Z,7.9nm,0.5s							
SPA0	**Spitsbergen Ar**	**7.84**	**27**	Pn	**Pn**	**17 07 57.6**	**+2.1**
baz=217,slow=14							
SPA0	**Spitsbergen Ar**	**7.84**	**27**	Pn	**Pn**	**17 07 57.6**	**+2.1**
baz=217,slow=14							
SPITS	**Spitsbergen Ar**	**7.84**	**27**	Pn	**Pn**	**17 07 56.6**	**+1.0**
baz=207,slow=14							
comp=Z,9.4nm,0.8s							
KIF	**Kilpisjarvi**	**7.85**	**100**	*eP*	**Pn**	**17 07 56.9**	**+1.4**
KIF	**Kilpisjarvi**	**7.85**	**100**	Pn	**Pn**	**17 07 57.0**	**+1.4**
MOR8	**Moi Rana**	**7.89**	**128**	*eP*	**Pn**	**17 07 58.9**	**+2.7**
MOR8				*eS*	**Sn**	**17 09 21.1**	**-4.3**
MOR8				IAML		17 09 26.1	
comp=Z,4.6nm,0.5s							
KTK1	**Kautokeino**	**8.60**	**97**	*eP*	**Pn**	**17 08 07.3**	**+1.4**
NSS	**Namsos**	**8.71**	**140**	*eP*	**Pn**	**17 08 10.0**	**+2.6**
NSS				*eS*	**Sn**	**17 09 41.3**	**-4.3**
NSS				IAML		17 09 47.6	
comp=Z,5.8nm,0.4s							
HEF	**Hetta**	**9.05**	**100**	*eP*	**Pn**	**17 08 12.9**	**+0.9**
HEF				*eS*	Sn	17 09 44.4	-9.5
HEF	**Hetta**	**9.05**	**100**	Pn	**Pn**	**17 08 13.4**	**+1.3**
ARA0	**ARCESS Array S**	**9.07**	**91**	Pn	**Pn**	**17 08 13.4**	**+1.1**
baz=289,slow=12							
ARA0	**ARCESS Array S**	**9.07**	**91**	Pn	**Pn**	**17 08 13.4**	**+1.1**
baz=289,slow=12							
ARCES	**ARCESS Array B**	**9.07**	**91**	Pn	**Pn**	**17 08 13.0**	**+0.7**
comp=Z,0.1nm,0.3s,baz=302,slow=12,SNR=13							
comp=Z,0.7nm,0.3s							
KEV	**Kevo**	**9.44**	**89**	Pn	**Pn**	**17 08 18.2**	**+0.7**
KEV	**Kevo**	**9.44**	**89**	Pn	**Pn**	**17 08 18.2**	**+0.7**
AKN	**Aaknes**	**10.11**	**158**	Pn	**Pn**	**17 08 28.5**	**+1.9**
AKN				Sn	**Sn**	**17 10 16.2**	**-3.7**
AKN	**Aaknes**	**10.11**	**158**	Pn	**Pn**	**17 08 28.5**	**+1.9**
AKN				Sn	**Sn**	**17 10 16.2**	**-3.7**
DOMB	**Dombas**	**10.51**	**153**	*eP*	**Pn**	**17 08 34.7**	**+2.6**
DOMB				*eS*	Sn	17 10 22.9	-6.9
DOMB				IAML		17 10 33.1	
comp=Z,2.2nm,1.0s							
NC204	**NORSAR Array S**	**11.50**	**150**	*eP*	**Pn**	**17 08 48.1**	**+2.5**
NC303	**NORSAR Array S**	**11.64**	**149**	*eP*	**Pn**	**17 08 50.8**	**+3.2**
SKAR	**Skarslia**	**11.72**	**157**	*eP*	**Pn**	**17 08 51.8**	**+3.1**
NB2	**NORSAR Subarra**	**11.79**	**149**	Pn	**Pn**	**17 08 52.8**	**+3.1**
NB2	**NORSAR Subarra**	**11.79**	**149**	Pn	**Pn**	**17 08 52.8**	**+3.1**
NOA	**NORSAR Array B**	**11.79**	**149**	Pn	**Pn**	**17 08 51.8**	**+2.1**
baz=338,slow=12,SNR=6.4							
NOA				LR	LR	17 13 05.7	
comp=Z,59nm,19.1s,baz=330,slow=36							
comp=Z,0.9nm,0.7s							
NRA0	**NORESS Array S**	**12.13**	**149**	Pn	**Pn**	**17 08 56.8**	**+2.5**
baz=335,slow=12							
NRA0	**NORESS Array S**	**12.13**	**149**	Pn	**Pn**	**17 08 56.8**	**+2.5**
baz=335,slow=12							
HFS	**Hagfors**	**13.07**	**146**	Pn	**Pn**	**17 09 09.6**	**+2.6**
baz=349,slow=10							
HFS	**Hagfors**	**13.07**	**146**	Pn	**Pn**	**17 09 09.6**	**+2.6**
baz=349,slow=10							
HFS	**Hagfors**	**13.07**	**146**	Pn	**Pn**	**17 09 08.7**	**+1.7**
comp=Z,0.7nm,0.3s,baz=349,slow=13,SNR=20							
comp=Z,3.2nm,0.6s							
FIA0	**FINESS Array S**	**14.76**	**121**	P	**Pn**	**17 09 30.7**	**+0.6**
baz=333,slow=16							
FIA0	**FINESS Array S**	**14.76**	**121**	P	**Pn**	**17 09 30.7**	**+0.6**
baz=333,slow=16							
FINES	**FINESS Array B**	**14.76**	**121**	Pn	**Pn**	**17 09 30.6**	**+0.5**
comp=Z,0.1nm,0.3s,baz=324,slow=9.4,SNR=4.7							
comp=Z,4.9nm,0.9s							
RES	**Resolute Bay**	**24.58**	**320**	P	**P**	**17 11 22.7**	**+1.6**
comp=Z,1.1nm,0.8s,baz=128,slow=6.7,SNR=2.9							
comp=Z,1.1nm,0.8s							
AKASG	**Malin Array Be**	**25.12**	**131**	P	**P**	**17 11 25.1**	**-1.1**
comp=Z,0.1nm,0.3s,baz=337,slow=10,SNR=3.3							
AKASG				LR	LR	17 20 33.4	
comp=Z,117nm,18.2s,baz=340,slow=35							
comp=Z,0.1nm,0.3s							
MLR	**Muntele Rosu**	**29.31**	**139**	LR	LR	17 24 32.8	
comp=Z,72nm,19.3s,baz=320,slow=38							
ESDC	**Sonseca Array**	**32.18**	**184**	P	**P**	**17 12 28.9**	**-0.4**
comp=Z,0.5nm,1.0s,baz=8.3,slow=6.3,SNR=1.6							
comp=Z,0.5nm,1.0s							
BVAR	**Borovoye Array**	**35.24**	**83**	P	**P**	**17 12 57.3**	**+1.6**
comp=Z,0.3nm,0.4s							
comp=Z,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**39.85**	**78**	P	**P**	**17 13 36.2**	**+1.5**
comp=Z,0.3nm,0.7s,baz=335,slow=6.9,SNR=4.7							
comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**44.40**	**77**	P	**P**	**17 14 12.7**	**+0.9**
comp=Z,0.4nm,1.0s,baz=354,slow=

PFVI			*i* AML	AML	17 14 31.7		
PFVI			*i* AML	AML	17 14 35.7		
MORF	**Marmelete**	**3.16 315**	*eP*	**Pn**	**17 13 48.4**	**-0.2**	
MORF	**Marmelete**	**3.16 315**	*eP*	**Pn**	**17 13 48.4**	**-0.2**	
MORF			*eS*	**Sn**	**17 14 25.4**	**+0.5**	
MORF			*i* AML	AML	17 14 28.6		
MORF			*i* AML	AML	17 14 29.5		
MORF			*i* AML	AML	17 14 33.9		
PBAR	**Barrancos**	**3.22 343**	*eP*	**Pn**	**17 13 49.8**	**+0.5**	
PBAR			*eS*	**Sn**	**17 14 26.3**	**-0.1**	
PBAR			*i* AML	AML	17 14 28.1		
PBAR			*i* AML	AML	17 14 30.3		
PBAR			*i* AML	AML	17 14 32.7		
PBAR	**Barrancos**	**3.22 343**	P	**Pn**	**17 13 49.6**	**+0.3**	
PBAR			S	**Sn**	**17 14 28.8**	**+0.7**	
EADA	**Adamuz**	**3.24 18**	P	**Pn**	**17 13 50.2**	**+0.6**	
EADA			S	**Sn**	**17 14 25.8**	**-1.2**	
EADA	**Adamuz**	**3.24 18**	Pn	**Pn**	**17 13 50.3**	**+0.6**	
EADA			Sn	**Sn**	**17 14 26.7**	**-0.3**	
EADA			*i* Vmb_Lg		17 14 29.8		
MESJ	**Messejana**	**3.33 326**	*eP*	**Pn**	**17 13 51.0**	**+0.1**	
MESJ			*eS*	**Sn**	**17 14 28.0**	**-1.3**	
MESJ			IAML		17 14 31.3		
	comp=N,6.3nm,0.1s						
MESJ	**Messejana**	**3.33 326**	*eP*	**Pn**	**17 13 51.5**	**+0.6**	
MESJ			*eS*	**Sn**	**17 14 29.5**	**+0.2**	
MESJ			*i* AML	AML	17 14 32.1		
MESJ			*i* AML	AML	17 14 32.4		
MESJ			*i* AML	AML	17 14 35.5		
PBEJ	**Beja**	**3.34 332**	*eS*	**Sn**	**17 14 29.7**	**+0.2**	
PBEJ			*i* AML	AML	17 14 31.6		
PBEJ			*i* AML	AML	17 14 32.8		
PBEJ			*i* AML	AML	17 14 36.8		
PTEO	**Sao Teotonio**	**3.37 317**	*eP*	**Pn**	**17 13 51.7**	**+0.4**	
PTEO			*eS*	**Sn**	**17 14 30.2**	**+0.2**	
PTEO			*i* AML	AML	17 14 33.6		
PTEO			*i* AML	AML	17 14 36.7		
PTEO			*i* AML	AML	17 14 39.6		
TISM	**Timmit**	**3.40 188**	P	**Pn**	**17 13 49.8**	**-2.0**	
TISM	**Timmit**	**3.40 188**	S	**Sn**	**17 14 30.2**	**-0.7**	
EQES	**Quesada**	**3.52 39**	Pn	**Pn**	**17 13 54.2**	**+0.7**	
EQES			Sn	**Sn**	**17 14 33.9**	**-0.1**	
EQES			*i* Vmb_Lg		17 14 45.0		
EBAD	**Badajoz**	**3.77 346**	P	**Pn**	**17 13 57.1**	**+0.2**	
EBAD			S	**Sn**	**17 14 39.6**	**-0.4**	
EBAD	**Badajoz**	**3.77 346**	Pn	**Pn**	**17 13 57.0**	**+0.1**	
EBAD			Sn	**Sn**	**17 14 40.8**	**+0.8**	
EBAD			*i* Vmb_Lg		17 14 46.5		
EVO	**Evora**	**3.84 334**	*eP*	**Pn**	**17 13 58.3**	**+0.4**	
EVO			*eS*	**Sn**	**17 14 40.8**	**-0.9**	
EVO			*i* AML	AML	17 14 43.3		
EVO			*i* AML	AML	17 14 46.7		
EVO			*i* AML	AML	17 14 47.2		
PSIM	**Granatula de C**	**4.08 24**	Pn	**Pn**	**17 14 01.6**	**+0.4**	
PSIM			Sn	**Sn**	**17 14 45.4**	**-2.4**	
OUK	**Oukaimeden**	**4.23 204**	P	**Pn**	**17 14 02.5**	**-1.0**	
OUK	**Oukaimeden**	**4.23 204**	S	**Sn**	**17 14 51.7**	**0.0**	
OUZM	**OUZ**	**4.24 191**	P	**Pn**	**17 14 03.6**	**+0.1**	
OUZM	**OUZ**	**4.24 191**	S	**Sn**	**17 14 55.3**	**+3.5**	
TZRR	**Tazzarine**	**4.30 177**	P	**Pn**	**17 14 03.0**	**-1.4**	
TZRR	**Tazzarine**	**4.30 177**	S	**Sn**	**17 14 54.2**	**+0.9**	
TIO	**Tiouine**	**4.32 196**	P	**Pn**	**17 14 04.7**	**+0.1**	
TIO			S	**Sn**	**17 14 52.0**	**-1.7**	
TIO	**Tiouine**	**4.32 196**	P	**Pn**	**17 14 03.1**	**-1.5**	
TIO	**Tiouine**	**4.32 196**	S	**Sn**	**17 14 54.2**	**+0.5**	
PMTG	**Montargil**	**4.39 335**	*eP*	**Pn**	**17 14 05.8**	**+0.3**	
PMTG			*eS*	**Sn**	**17 14 54.9**	**-0.4**	
PMTG			*i* AML	AML	17 14 56.6		
PMTG			*i* AML	AML	17 14 57.7		
PMTG			*i* AML	AML	17 14 58.1		
PMRV	**Marv??o**	**4.50 345**	*eP*	**Pn**	**17 14 07.3**	**+0.4**	
PMRV			*eS*	**Sn**	**17 14 56.4**	**-1.5**	
PMRV			*i* AML	AML	17 14 59.4		
PMRV			*i* AML	AML	17 15 00.2		
PMRV			*i* AML	AML	17 15 07.4		
PAB	**San Pablo**	**4.60 15**	Pn	**Pn**	**17 14 08.2**	**-0.3**	
PAB			Sn	**Sn**	**17 14 58.4**	**-2.2**	
PAB			*i* Vmb_Lg		17 15 05.4		
EAH	**EAH**	**4.64 223**	P	**Pn**	**17 14 08.0**	**-0.9**	
EAH	**EAH**	**4.64 223**	S	**Sn**	**17 15 02.0**	**+0.6**	
ESDC	**Sonseca Array**	**4.81 18**	Pn	**Pn**	**17 14 10.7**	**-0.6**	
ESDC			Sn	**Sn**	**17 15 02.9**	**-2.9**	
ESDC			*i* Vmb_Lg		17 15 06.3		
ESBB	**Sonseca Array**	**4.82 18**	Pn	**Pn**	**17 14 11.2**	**-0.1**	
ESBB			Sn	**Sn**	**17 15 02.3**	**-3.5**	
PCBR	**Castelo Branco**	**4.91 345**	*eP*	**Pn**	**17 14 13.6**	**+1.1**	
PCBR			*eS*	**Sn**	**17 15 06.4**	**-1.6**	
PCBR			*i* AML	AML	17 15 08.9		
PCBR			*i* AML	AML	17 15 09.2		
PCBR			*i* AML	AML	17 15 09.6		
EPLA	**Plasencia**	**4.96 358**	Pn	**Pn**	**17 14 13.3**	**0.0**	
EPLA			Sn	**Sn**	**17 15 07.6**	**-1.8**	
EPLA			*i* Vmb_Lg		17 15 10.2		
PSBE	**So Bento**	**4.99 333**	*eP*	**Pn**	**17 14 14.9**	**+1.2**	
TTIG	**Tnine Tigouga,**	**5.03 206**	P	**Pn**	**17 14 13.0**	**-1.3**	
TTIG	**Tnine Tigouga,**	**5.03 206**	S	**Sn**	**17 15 10.0**	**-1.2**	
MTE	**Manteigas**	**5.46 346**	*eP*	**Pn**	**17 14 21.6**	**+1.4**	
EVIV	**Cofrentes, Val**	**5.63 41**	Pn	**Pn**	**17 14 22.8**	**+0.3**	
EVIV			Sn	**Sn**	**17 15 23.8**	**-1.9**	
GUD	**Guadarrama**	**5.70 13**	Pn	**Pn**	**17 14 24.2**	**+0.6**	
GUD			Sn	**Sn**	**17 15 24.2**	**-3.5**	
EJUZ	**Juzbado, Salam**	**5.98 360**	Pn	**Pn**	**17 14 28.1**	**+0.7**	
EJUZ			Sn	**Sn**	**17 15 31.4**	**-3.1**	
MVO	**Moncorvo**	**6.13 352**	*eP*	**Pn**	**17 14 30.3**	**+1.0**	
MVO			*eS*	**Sn**	**17 15 35.8**	**-2.4**	
MVO			*i* AML	AML	17 15 38.0		
MVO			*i* AML	AML	17 15 38.9		
MVO			*i* AML	AML	17 15 39.6		
PVRL	**Vila Real**	**6.34 347**	*eP*	**Pn**	**17 14 32.7**	**+0.4**	
PVRL			*eS*	**Sn**	**17 15 40.5**	**-2.8**	
PVRL			*i* AML	AML	17 15 43.7		
PVRL			*i* AML	AML	17 15 43.7		
PVRL			*i* AML	AML	17 15 45.1		
POLO	**Lamas de Olo**	**6.45 347**	*eP*	**Pn**	**17 14 34.9**	**+1.1**	
POLO			*eS*	**Sn**	**17 15 44.1**	**-2.0**	
POLO			*i* AML	AML	17 15 46.9		
POLO			*i* AML	AML	17 15 48.1		
ETOR	**Torete**	**6.46 27**	Pn	**Pn**	**17 14 34.2**	**+0.4**	
ETOR			Sn	**Sn**	**17 15 42.4**	**-3.9**	
PBRG	**Braganca**	**6.74 354**	*eP*	**Pn**	**17 14 38.8**	**+1.1**	
ELOB	**Lobios**	**6.98 346**	Pn	**Pn**	**17 14 41.5**	**+0.5**	
ELOB			Sn	**Sn**	**17 15 56.3**	**-2.7**	

TXNET 02 17:37:08.4, 31.6N±0.6×104.3W±0.7, h5km±2km, ML2.3/9, Error ellipse: s-maj=1.1km s-min=0.8km az=65.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**34**	P	Pg	17 37 15.1	-0.1
TPB11				S	Sg	17 37 20.1	+0.3
PECS	**Pecos**	**0.43**	**129**	P	Pg	17 37 17.1	+0.3
PECS				S	Sg	17 37 22.9	+0.4
TPB12	**Southwest of T**	**0.50**	**149**	P	Pg	17 37 18.0	0.0
TPB12				S	Sg	17 37 24.8	+0.2
TPB07	**Mentone**	**0.51**	**97**	S	Sg	17 37 25.3	+0.3
GDL2	**Guadalupe Moun**	**0.56**	**351**	P	Pg	17 37 19.5	+0.2
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	17 37 19.4	+0.2
TPB10				S	Sg	17 37 27.3	+0.8
PCOS	**Crockett Middl**	**0.68**	**110**	S	Sg	17 37 31.4	+1.0
CLNB	**Carlsbad**	**0.70**	**28**	P	Pg	17 37 21.6	-0.2
CLNB				S	Sg	17 37 31.0	+0.1
TPB01	**Permian Basin**	**0.81**	**149**	P	Pg	17 37 23.4	-0.6
TPB01				S	Sg	17 37 34.0	-0.5
TPB03	**Saragosa**	**0.85**	**131**	S	Sg	17 37 36.3	+0.6
CLN7	**Carlsbad 7**	**0.86**	**27**	P	Pg	17 37 24.4	-0.5
TPB06	**Permian Basin**	**0.89**	**89**	S	Sg	17 37 36.6	-0.5
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	17 37 26.9	+0.1
MNTX				S	Sg	17 37 39.6	+0.5
TPB04	**Verhalen**	**0.96**	**118**	P	Pg	17 37 26.5	-0.3
TPB04				S	Sg	17 37 39.2	-0.2
HTMS	**Hat Mesa**	**0.98**	**33**	P	Pg	17 37 27.3	0.0
TPB16	**Coyonosa**	**1.01**	**121**	S	Sg	17 37 40.6	-0.2
NM01	**Eunice**	**1.02**	**46**	P	Pg	17 37 27.4	-0.6
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	17 37 28.4	-0.2
VHRN				S	Sg	17 37 43.2	-0.2
TPB05	**Hovey Rd**	**1.08**	**132**	P	Pg	17 37 28.6	-0.5
TPB05				S	Sg	17 37 43.0	-0.1
MNHN	**Monahans**	**1.32**	**103**	P	Pn	17 37 32.2	-1.3
MNHN				S	Sg	17 37 49.7	-1.0
ALPN	**Alpine**	**1.37**	**157**	P	Pn	17 37 33.2	-1.1
ALPN				S	Sb	17 37 50.9	-1.6
TPB08	**Permian Basin**	**1.38**	**122**	S	Sb	17 37 52.1	-0.6
CPRX	**Cap Rock**	**1.42**	**14**	P	Pn	17 37 34.7	-0.3
ODSA	**Odessa**	**1.53**	**71**	P	Pn	17 37 33.4	-3.1
ODSA				S	Sn	17 37 56.1	-0.8
TMB04	**Seminole**	**1.80**	**56**	P	Pn	17 37 40.4	+0.3
TMB04				S	Sb	17 38 04.8	+0.1
TMB02	**Rankin**	**1.95**	**103**	P	Pn	17 37 43.0	+0.7
TMB02				S	Sb	17 38 08.2	-0.9
TMB06	**Greenwood**	**2.12**	**80**	S	Sb	17 38 13.3	-0.7
TMB05	**Klondike**	**2.26**	**64**	P	Pb	17 37 48.2	-1.5
TMB05				S	Sb	17 38 16.8	-1.3
TX31	**Lajitas Ar. Si**	**2.36**	**167**	Pg	Pb	17 37 51.2	-0.2

UCR 02 17:44:50.9±1.0, 9.77N×83.92W, h8km±2km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REPA	**Paraso**	**0.08**	**38**	*eP*	Pg	17 44 53.6	+0.5
LCR2	**La Lucha 2**	**0.09**	**254**	*eP*	Pg	17 44 53.5	+0.3
LCR2				*eS*	Sg	17 44 55.4	+0.4
TAGO	**Cartago**	**0.10**	**356**	*eP*	Pg	17 44 54.1	+0.7
TAGO				*eS*	Sg	17 44 56.5	+1.4
ABE2	**San Pablo**	**0.15**	**246**	*eP*	Pg	17 44 54.5	+0.3
ABE2				*eS*	Sg	17 44 56.9	+0.5
RAZU	**San Marcos de**	**0.15**	**225**	*eP*	Pg	17 44 54.4	+0.2
TRIO	**Tres Rios**	**0.16**	**331**	*eP*	Pg	17 44 54.8	+0.6
TRIO				*eS*	Sg	17 44 57.6	+1.0
PCAYA	**Pacayas**	**0.18**	**35**	*eP*	Pg	17 44 55.5	+0.8
PCAYA				*eS*	Sg	17 44 58.8	+1.4
AMPA	**Desamparados**	**0.19**	**312**	*eP*	Pg	17 44 55.4	+0.5
RAFA	**San Farael, Vo**	**0.22**	**29**	*eP*	Pg	17 44 56.2	+0.8
LUJA	**Lujan**	**0.22**	**316**	*eP*	Pg	17 44 57.0	+1.7
CORON	**Coronado**	**0.22**	**338**	*eP*	Pg	17 44 56.5	+1.0
CENT	**San Jose**	**0.23**	**316**	*eP*	Pg	17 44 56.4	+0.8
VICA	**Volcano Irazu**	**0.23**	**18**	*eP*	Pg	17 44 56.3	+0.7
MEXI	**Barrio Mexico**	**0.24**	**316**	*eP*	Pg	17 44 56.6	+0.8
MEXI				*eS*	Sg	17 45 00.6	+1.5
PISJ	**San Jernim**	**0.24**	**237**	*eP*	Pg	17 44 55.9	+0.1
ACOS	**Acosta**	**0.24**	**277**	*eP*	Pg	17 44 56.4	+0.5
ACOS				*eS*	Sg	17 45 00.3	+1.2
CVIMO	**Finca Echandi**	**0.26**	**354**	*eP*	Pg	17 44 56.9	+0.8
VTLA	**Turrialba Volc**	**0.27**	**31**	*eP*	Pg	17 44 57.2	+0.7
CVTQ	**Turrialba Volc**	**0.28**	**32**	*eP*	Pg	17 44 57.3	+0.7
VERB	**Verbena**	**0.28**	**51**	*eP*	Pg	17 44 57.2	+0.7
VTCV	**VTCV, Calle Va**	**0.29**	**41**	*eP*	Pg	17 44 57.4	+0.8
CVTV	**Tajo**	**0.29**	**35**	*eP*	Pg	17 44 57.6	+0.9
CVTV				*eS*	Sb	17 45 02.3	-1.5
VTR0	**Volcan Turrial**	**0.29**	**32**	*eP*	Pg	17 44 57.7	+0.8
VTR0				*eS*	Sb	17 45 02.5	-1.5
CVTR	**Volcan Turrial**	**0.30**	**32**	*eP*	Pg	17 44 57.6	+0.7
HDC	**Heredia**	**0.30**	**320**	*eP*	Pg	17 44 57.8	+0.8
PICV	**PH. Pirrs**	**0.31**	**243**	*eP*	Pg	17 44 56.9	-0.1
PICV				*eS*	Sg	17 45 01.3	+0.3
SANTA	**Santa Ana**	**0.31**	**302**	*eP*	Pg	17 44 57.5	+0.4
SANTA				*eS*	Sg	17 45 02.1	+0.9
RVSTA	**Santa Teresita**	**0.34**	**52**	*eP*	Pg	17 44 58.3	+0.7
BELE	**Belen**	**0.34**	**308**	*eP*	Pg	17 44 58.0	+0.4
LLNJ	**Naranjito**	**0.34**	**212**	*eP*	Pg	17 44 58.4	+0.7
LLNJ				*eS*	Sb	17 45 04.5	-0.4
VBV1	**V. Barva**	**0.39**	**333**	*eP*	Pg	17 44 59.4	+0.8
VBV1				*eS*	Sb	17 45 05.3	-1.3
CVTG	**V. Turrialba,**	**0.40**	**20**	*eP*	Pb	17 44 59.9	-0.5
CVTG				*eS*	Sb	17 45 07.3	+0.5
TCS1	**Tacares**	**0.47**	**306**	*eP*	Pg	17 45 00.7	+0.7
EDPE	**Pejibaye, P**	**0.69**	**150**	*eP*	Pg	17 45 04.0	-0.3
DRK0	**Durika**	**0.83**	**127**	*eP*	Pg	17 45 05.4	-1.5
DRK0				*eS*	Sg	17 45 16.3	-1.4
SOCE	**Pocosol**	**0.92**	**312**	*eP*	Pg	17 45 08.7	0.0
FIMO	**Fila Mora**	**0.95**	**144**	*eP*	Pg	17 45 09.1	-0.1
ARE1	**Arenal 1**	**1.05**	**311**	*eP*	Pg	17 45 10.8	-0.3
VARE2	**V. Arenal**	**1.05**	**311**	*eP*	Pg	17 45 10.8	-0.3
MTEVE	**Monteverde**	**1.05**	**302**	*eP*	Pg	17 45 10.5	-0.6
CEDE	**Laguna Cedeo**	**1.05**	**313**	*eP*	Pg	17 45 11.1	-0.1
JTS	**Las Juntas de**	**1.15**	**297**	*eP*	Pg	17 45 11.8	-1.1
JUNT	**Juntas**	**1.15**	**297**	*eP*	Pg	17 45 12.2	-0.8
CBL1	**Cabuya**	**1.17**	**261**	*eP*	Pg	17 45 12.4	-1.0
PIRO	**Carate, Puerto**	**1.47**	**157**	*eP*	Pn	17 45 17.9	+0.2
CUI	**Cuipilapa**	**1.51**	**306**	*eP*	Pn	17 45 18.5	+0.1
COLC	**Colonia**	**1.55**	**305**	*eP*	Pn	17 45 19.0	+0.1
HORNC	**Hornillas**	**1.56**	**307**	*eP*	Pn	17 45 19.1	0.0
VRLE	**La Escondida,**	**1.75**	**306**	*eP*	Pn	17 45 22.4	+0.7
ALIBA	**Liberia Airpor**	**1.80**	**297**	*eP*	Pb	17 45 23.3	-0.9
ACON	**Acoyapa**	**2.51**	**331**	*eP*	Pn	17 45 33.1	+1.0

IDC 02 17:54:20.4±3.4, 30.15N×140.44E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=99.3km s-min=32.0km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**39.37**	**263**	P	P	18 01 51.9	0.0
	0.2nm,0.3s,baz=50,slow=8.4,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**47.38**	**308**	P	P	18 02 54.4	-1.9
	0.2nm,0.7s,baz=93,slow=5.9,SNR=2.0						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**49.84**	**313**	P	P	18 03 16.4	+1.3
	0.3nm,0.5s,baz=96,slow=6.5,SNR=5.1						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**50.14**	**187**	P	P	18 03 17.6	-0.1
	0.3nm,0.3s,baz=7.0,slow=8.1,SNR=7.5						
	0.3nm,0.3s						

IDC 02 17:57:18.5±12.0, 14.75S×174.19W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=562.7km s-min=38.6km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.25**	**256**	P	P	18 06 08.3	-1.0
	0.6nm,1.0s,baz=88,slow=6.8,SNR=4.7						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**49.59**	**251**	P	P	18 06 12.4	+0.5
	0.3nm,0.4s,baz=89,slow=8.1,SNR=11						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**81.97**	**11**	P	P	18 09 39.8	0.0
	0.9nm,1.1s,baz=210,slow=7.0,SNR=4.0						
	0.9nm,1.1s						

WEL 02 18:03:26.4±0.9, 31.S±16.×17.9W±4.3, h316km±12km, M4.2/9, mB4.4/6, ML4.8/12, MLv4.6/9, Mw(mB)3.5/6, Error ellipse: s-maj=59.4km s-min=5.8km az=109.7, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.41**	**25**	P	Pn	18 04 15.5	-2.5
GLKZ				S	S	18 04 59.5	+0.3
MXZ	**Matakaoa Point**	**6.46**	**199**	P	Pn	18 05 01.3	-0.1
MXZ				S	S	18 06 19.5	+1.3
WMGZ	**Waiomatatini S**	**6.67**	**197**	P	Pn	18 05 05.0	+1.0
WMGZ				S	S	18 06 23.6	+0.6
HAZ	**Te Kaha**	**6.79**	**201**	P	Pn	18 05 04.5	-0.8
HAZ				S	S	18 06 26.5	+1.0
PUZ	**Puketiti**	**6.95**	**198**	P	Pn	18 05 09.6	+2.3
PUZ				S	S	18 06 29.7	+0.7
RUGZ	**Raukumara Rang**	**7.01**	**201**	P	Pn	18 05 06.6	-1.6
RUGZ				S	S	18 06 30.1	-0.6
TWGZ	**Tauwhareparae**	**7.12**	**199**	P	Pn	18 05 12.6	+3.1
TWGZ				S	S	18 06 33.8	+0.8
CNGZ	**Carnagh Statio**	**7.35**	**197**	P	Pn	18 05 09.9	-2.2
CNGZ				S	S	18 06 38.2	+0.3
MWZ	**Matawai**	**7.40**	**201**	P	Pn	18 05 13.9	+1.1
MWZ				S	S	18 06 39.5	+0.5
TKGZ	**Te Karaka**	**7.40**	**199**	P	Pn	18 05 13.2	+0.5
TKGZ				S	S	18 06 39.0	0.0
URZ	**Urewera**	**7.47**	**204**	P	Pn	18 05 12.9	-0.6
URZ				S	S	18 06 40.4	0.0
RIGZ	**Rimuhau**	**7.67**	**199**	P	Pn	18 05 15.3	-0.8
RIGZ				S	S	18 06 45.7	+0.6
SNGZ	**Shannon Statio**	**7.87**	**201**	P	Pn	18 05 17.2	-1.2
KNZ	**Kokohu**	**7.99**	**198**	P	Pn	18 05 21.2	+1.3
RAHZ	**Arahi**	**8.07**	**202**	P	Pn	18 05 21.6	+0.7
MTHZ	**Maungataniwha**	**8.09**	**203**	P	Pn	18 05 20.0	-1.2
TLZ	**Tolley Road**	**8.15**	**211**	P	P	18 05 24.4	-2.1
NMHZ	**Naumai**	**8.32**	**203**	P	Pn	18 05 23.8	-0.2
ARHZ	**Aropaoanui**	**8.41**	**201**	P	Pn	18 05 24.9	-0.1
BKZ	**Black Stump Fm**	**8.49**	**204**	P	Pn	18 05 25.5	-0.5
HIZ	**Hauiti**	**8.61**	**214**	P	Pn	18 05 28.5	+1.1
MCHZ	**McNeill Hill**	**8.67**	**202**	P	Pn	18 05 28.4	+0.2
NTVZ	**North Tongarir**	**8.74**	**208**	P	Pn	18 05 28.7	-0.4
KWHZ	**Kaweka Forest**	**8.75**	**203**	P	Pn	18 05 27.1	-2.1
SNVZ	**South Ngauruho**	**8.83**	**208**	P	Pn	18 05 29.5	-0.7
NGZ	**Ngauruhoe**	**8.83**	**208**	P	Pn	18 05 29.8	-0.5
KAHZ	**Kahuranaki**	**8.94**	**200**	P	Pn	18 05 31.4	0.0
KRHZ	**Kereru**	**8.96**	**203**	P	Pn	18 05 30.6	-1.1
WNVZ	**Wahianoa**	**8.96**	**207**	P	Pn	18 05 30.4	-1.5
PWZ	**Pawanui**	**9.16**	**200**	P	Pn	18 05 33.1	-0.9
PXZ	**Pawanui**	**9.16**	**200**	P	Pn	18 05 33.1	-1.0
PNHZ	**Pukenui**	**9.26**	**203**	P	Pn	18 05 31.3	-4.0
TSZ	**Takapari Road**	**9.47**	**204**	P	Pn	18 05 35.6	-2.3
DVHZ	**Dannevirke**	**9.62**	**202**	P	Pn	18 05 37.4	-2.4
BFZ	**Birch Farm**	**9.94**	**201**	P	Pn	18 05 41.5	-2.1
MRZ	**Mangatainoka R**	**10.14**	**204**	P	Pn	18 05 38.0	-8.0
QRZ	**Quartz Range**	**11.54**	**214**	P	Pn	18 05 57.2	-5.7

*MEX **02** 18:08:24.7±0.8, 14.57N×92.08W, h83km±6km, MD4.3*
*GCG **02** 18:08:25.0±0.8, 14.46N×92.15W, h58km±10km, MD3.7*

ISC 02 18:08:24.0±1.4, 14.52N±0.06×92.20W±0.03, h73km±7km, n38, σ1°97/69, 4C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.36**	**19⇑**	*iP*	**Pn**	**18 08 35.7**	**-0.3**
SMCA				*eS*	**Sn**	**18 08 44.3**	**-0.4**
SMCA	**Catarina**	**0.36**	**19⇑**	*iP*		18 08 35.7	
SMCA				*eS*		18 08 44.3	
THIG		**0.40**	**350**	*i* P	**Pn**	**18 08 36.4**	**+0.2**
THIG				*eS*	**Sn**	**18 08 45.8**	**+0.7**
THIG		**0.40**	**350**	*eP*	**Pn**	**18 08 36.3**	**+0.1**
THIG				*eS*	**Sn**	**18 08 46.0**	**+0.8**
THIG		**0.40**	**350**	*eP*		18 08 36.3	
THIG				*eS*		18 08 46.0	
RTAL	**Retalhuleu**	**0.48**	**89**	*eP*	**Pn**	**18 08 36.5**	**-0.4**
RTAL				*eS*	**Sn**	**18 08 46.1**	**-0.4**
CHUJ	**Union Juarez**	**0.58**	**8**	*eP*	**Pn**	**18 08 38.0**	**-0.2**
PATR	**El Naranjo**	**0.60**	**356**	*eP*	**Pn**	**18 08 37.9**	**-0.5**
PATR				*eS*	**Sn**	**18 08 48.3**	**-0.6**
PAVE	**Pavencul**	**0.68**	**2**	*eP*	**Pn**	**18 08 39.0**	**-0.1**
PAVE				*eS*	**Sn**	**18 08 50.0**	**-0.2**
STG8	**El Palmar, Qui**	**0.82**	**94⇓**	*eP*		18 08 38.5	
STG8				*eS*		18 08 49.3	
SOKI	**Kika Raxquin**	**0.82**	**68**	*eP*	**Pn**	**18 08 41.7**	**+0.7**
SOKI				*eS*	**Sn**	**18 08 54.7**	**+1.3**
SOKI	**Kika Raxquin**	**0.82**	**68**	*eP*		18 08 41.7	
SOKI				*eS*		18 08 54.7	
STG0	**El Palmar, Qui**	**0.83**	**96**	*eP*		18 08 38.4	
STG0				*eS*		18 08 49.5	
HUEH	**Huehuetenango**	**1.04**	**40**	*eP*	**Pn**	**18 08 42.4**	**-1.1**
HUEH				*eS*	**Sn**	**18 08 55.5**	**-2.3**
ESSG	**Sabana Grande**	**1.33**	**95**	*eP*	**Pn**	**18 08 47.4**	**+0.5**
ESSG				*eS*	**Sn**	**18 09 03.9**	**-0.2**
ESSG	**Sabana Grande**	**1.33**	**95**	*eP*		18 08 47.4	
ESSG				*eS*		18 09 03.9	
APG	**El Apazote**	**1.74**	**74⇑**	*eP*	**Pn**	**18 08 53.4**	**+0.9**
APG				*eS*	**Sn**	**18 09 19.7**	**+5.6**
APG	**El Apazote**	**1.74**	**74⇑**	*eP*		18 08 53.4	
APG				*eS*		18 09 19.7	
CCIG	**Comitan**	**1.76**	**2**	*eP*	**Pn**	**18 08 54.5**	**+1.9**
CCIG				*eS*	**Sn**	**18 09 11.5**	**-2.9**
CCIG	**Comitan**	**1.76**	**2**	*eP*	**Pn**	**18 08 54.8**	**+2.1**
CCIG				*eS*	**Sn**	**18 09 17.5**	**+3.2**
CCIG	**Comitan**	**1.76**	**2**	*eP*		18 08 54.8	
CCIG				*eS*		18 09 17.5	
CARR	**Arriaga**	**2.39**	**316**	*eP*

GUMO Guam 0.06 264 P **Pn 18 51 18.9 +0.2**
515nm,0.3s,baz=51,slow=1.1,SNR=288
GUMO S **Sn 18 51 30.7 -0.5**
1μm,0.3s,baz=132,slow=23,SNR=25
JCJ Chichijima 13.68 350 Pn **Pn 18 54 12.1 +1.0**
PATS Pohnpei 14.78 116 Pn **Pn 18 54 25.0 -0.3**
JMN Monobe 22.42 335 P **P 18 55 51.1 +0.1**
JMN IAmb IAmb 18 55 54.7
comp=Z,11nm,0.8s
PMG Port Moresby 22.96 174 P **P 18 55 56.9 +0.6**
PMG IAmb IAmb 18 55 57.1
comp=Z,28nm,1.3s
YULB Yu-li 24.40 297 P **P 18 56 08.8 -0.7**
YULB IAmb IAmb 18 56 30.5
comp=Z,24nm,1.4s
SSLB Suanglung 24.83 298 P **P 18 56 12.3 -1.1**
SSLB IAmb IAmb 18 56 45.2
comp=Z,11nm,1.1s
TPUB Ta-pu 24.95 296 P **P 18 56 12.9 -1.6**
TPUB IAmb IAmb 18 56 42.3
comp=Z,34nm,1.3s
WB0 Warramunga Arr 34.74 198 P **P 18 57 40.6 -0.3**
WB0 IAmb IAmb 18 58 06.3
comp=Z,6.1nm,1.3s
WR8 Warramunga Arr 34.88 197 P **P 18 57 42.5 +0.4**
WR8 IAmb IAmb 18 58 18.6
comp=Z,5.7nm,1.2s
WRAB Tennant Creek 34.91 198 P **P 18 57 42.6 +0.3**
WRAB IAmb IAmb 18 58 14.7
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 34.92 198 P **P 18 57 42.8 +0.3**
comp=Z,0.6nm,0.8s,baz=20,slow=8.8,SNR=30
comp=Z,0.6nm,0.8s
FITZ Fitzroy Crossi 36.79 212 P **P 18 57 58.3 -0.2**
ASAR Alice Springs 38.57 196 P **P 18 58 13.7 +0.2**
comp=Z,0.2nm,0.7s,baz=25,slow=13,SNR=4.6
comp=Z,0.2nm,0.7s
MBWA Marble Bar 42.49 216 P **P 18 58 44.9 -0.8**
PSA00 Pilbara Seismi 42.75 216 P **P 18 58 49.4 +1.6**
SONM Songino Array 46.76 325 P **P 18 59 19.9 +0.5**
comp=Z,0.4nm,0.7s,baz=125,slow=9.0,SNR=2.2
comp=Z,0.4nm,0.7s
J14K Nanvaranak Lak 60.93 24 P **P 19 01 03.5 +1.5**
MK31 Makanchi Array 61.52 316 P **P 19 01 06.5 +0.1**
MKAR Makanchi Array 61.52 316 P **P 19 01 06.3 -0.1**
MKAR Makanchi Array 61.52 316 P **P 19 01 06.7 +0.3**
comp=Z,0.7nm,0.6s,baz=92,slow=8.5,SNR=12
comp=Z,0.7nm,0.6s
SYI Shuyak Island 64.37 31 P **P 19 01 23.4 -1.6**
SYI IAmb IAmb 19 01 43.8
comp=Z,12nm,1.5s
KURK Kurchatov 64.61 320 P **P 19 01 26.3 -0.4**
KURBB Kurchatov Arra 64.66 320 P **P 19 01 26.7 -0.2**
comp=Z,1.0nm,0.6s,baz=101,slow=6.6,SNR=11
comp=Z,1.0nm,0.6s
ILAR Eielson Array 68.54 25 P **P 19 01 49.4 -2.0**
comp=Z,0.1nm,0.4s,baz=259,slow=6.4,SNR=1.9
comp=Z,0.1nm,0.4s
BVAR Borovoye Array 69.96 322 P **P 19 02 00.1 -0.2**
comp=Z,0.6nm,0.4s,baz=100,slow=7.5,SNR=7.7
comp=Z,0.6nm,0.4s
U33K Whale Pass 74.35 35 P **P 19 02 26.9 +0.5**

IDC 02 19:05:22.3±3.7, 30°.61N×141°.22E, h0km, mb3.3/4, mbtmp3.3/5, ML2.6/1, Error ellipse: s-maj=143.8km s-min=22.9km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.43**	**338**	Pn	Pn	19 06 57.8	-0.4
	0.1nm,0.3s,baz=159,slow=11,SNR=14						
MJAR				Sn	Sn	19 08 12.1	-0.2
	baz=158,slow=11,SNR=1.4						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**47.63**	**307**	P	P	19 14 00.7	+0.5
	0.3nm,0.6s,baz=92,slow=8.8,SNR=5.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**50.02**	**312**	P	P	19 14 17.9	-0.5
	0.2nm,0.6s,baz=89,slow=6.7,SNR=4.2						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.70**	**188**	P	P	19 14 23.6	-0.1
	0.2nm,0.4s,baz=6.1,slow=7.4,SNR=2.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**54.42**	**188**	P	P	19 14 51.0	-0.3
	0.2nm,0.9s,baz=4.9,slow=6.2,SNR=1.8						
	0.2nm,0.9s						

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*IDC **02** 19:42:08.0±1.4, 23°.54N×125°.93E, h0km, mb3.4/4, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=42.1km s-min=26.6km az=71.0*
*JMA **02** 19:42:10.0±0.1, 24°.N±1°.×126°.1E±0°.8, h95km±2km, MV3.4/22, NEAR MIYAKOJIMA ISLAND*
ISC 02 19:42:07.6±2.1, 23°.89N±0°.08×126°.13E±0°.05, h12km±12km, n35, σ1°.08/46, mb3.3/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.09**	**323**	P	**Pg**	**19 42 29.4**	**+0.9**
JOGS				S	**Sg**	**19 42 43.6**	**+0.9**
JMJ2	**Miyako jima3**	**1.12**	**319**	P	**Pg**	**19 42 29.6**	**+0.5**
JMJ2				*e*S	**Sg**	**19 42 44.2**	**+0.5**
JMJ	**Miyako jima 2**	**1.19**	**320**	S	**Sg**	**19 42 44.9**	**-1.2**
JIRB	**Irabujima**	**1.28**	**317**	P	**Pg**	**19 42 31.5**	**-0.7**
JIRB				S	**Sg**	**19 42 47.4**	**-1.4**
JIKM	**Ikemajima**	**1.30**	**322**	P	**Pg**	**19 42 31.9**	**-0.7**
JIKM				*e*S	**Sg**	**19 42 48.6**	**-1.0**
JTJ	**Tarama**	**1.50**	**300**	P	**Pn**	**19 42 34.6**	**+0.3**
JTJ				S	**Sn**	**19 42 53.3**	**-0.6**
JISG	**Ishigakijimahi**	**1.80**	**293**	P	**Pn**	**19 42 38.7**	**+0.2**
JISG				S	**Sn**	**19 43 00.8**	**-0.4**
JIJ	**Ishigaki jima**	**1.88**	**285**	P	**Pn**	**19 42 40.1**	**+0.6**
JIJ				*e*S	**Sn**	**19 43 02.7**	**-0.5**
JKRS	**Kuro-shima**	**1.97**	**280**	P	**Pn**	**19 42 41.8**	**+1.0**
JKRS				S	**Sn**	**19 43 05.3**	**-0.1**
HATJ	**Hateruma jima**	**2.13**	**275**	P	**Pn**	**19 42 43.6**	**+0.6**
HATJ				S	**Sn**	**19 43 08.2**	**-1.3**
IRIF	**Iriomote-Funau**	**2.24**	**282**	P	**Pn**	**19 42 45.2**	**+0.7**
IRIF				S	**Sn**	**19 43 11.5**	**-0.5**
JKE	**Kume jima 2**	**2.49**	**14**	P	**Pn**	**19 42 47.0**	**-1.0**
JJT3	**Tamagusuku3**	**2.69**	**33**	*e*P	**Pn**	**19 42 50.6**	**-0.2**
JAGN	**Aguni-jima**	**2.87**	**20**	P	**Pn**	**19 42 52.8**	**-0.3**
YOJ	**Yonaguni jima**	**2.91**	**282**	P	**Pn**	**19 42 54.7**	**+1.0**
YOJ	**Yonaguni jima**	**2.91**	**282**	*e*P	**Pn**	**19 42 54.2**	**+0.5**
YOJ				*e*S	**Sn**	**19 43 27.0**	**-1.5**
JYNG	**Yonagunijimaku**	**2.96**	**281**	P	**Pn**	**19 42 55.1**	**+0.6**
JYNG				S	**Sn**	**19 43 27.9**	**-2.1**
JNTH	**Nagotoyohara**	**3.12**	**33**	P	**Pn**	**19 42 55.9**	**-0.8**
JOW	**Kunigami**	**3.51**	**33**	P	**Pn**	**19 43 01.5**	**-0.5**
JIH	**Iheya**	**3.54**	**28**	P	**Pn**	**19 43 01.7**	**-0.7**
NACB	**Ninganchiao**	**4.16**	**275**	P	**Pn**	**19 43 10.5**	**-0.4**
TATO	**Taipei**	**4.37**	**285**	S	**Sn**	**19 44 03.7**	**-0.9**
TATO	**Taipei**	**4.37**	**285**	P	**Pn**	**19 43 14.0**	**+0.2**
YHNB	**Yeheng**	**4.41**	**281**	S	**Sn**	**19 44 04.2**	**-1.5**
YHNB	**Yeheng**	**4.41**	**281**	P	**Pn**	**19 43 15.3**	**+0.9**
YULB	**Yu-li**	**4.46**	**265**	P	**Pn**	**19 43 14.3**	**-0.8**
SSLB	**Suanglung**	**4.74**	**270**	P	**Pn**	**19 43 18.5**	**-0.5**
TWGBT	**Beinan**	**4.76**	**258**	P	**Pn**	**19 43 17.8**	**-1.5**
TPUB	**Ta-pu**	**5.08**	**264**	P	**Pn**	**19 43 24.3**	**+0.7**
TPUB	**Ta-pu**	**5.08**	**264**	S	**Sn**	**19 44 20.4**	**-1.9**
MJAR	**Matsushiro Arr**	**16.35**	**37**	Pn	**P**	**19 46 03.6**	**+3.7**
	baz=230,slow=11,SNR=6.4						
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.90**	**263**	P	**P**	**19 47 40.1**	**+0.4**
	0.3nm,0.8s,baz=84,slow=8.0,SNR=1.8						
	0.3nm,0.8s						
SONM	**Songino Array**	**28.59**	**332**	P	P	19 48 07.9	+4.3
	0.2nm,0.5s,baz=149,slow=10,SNR=1.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.30**	**169**	P	**P**	**19 50 16.8**	**-0.7**
	1.1nm,0.8s,baz=346,slow=8.4,SNR=5.6						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**47.88**	**170**	P	**P**	**19 50 45.6**	**-0.1**
	0.2nm,0.5s,baz=350,slow=7.6,SNR=4.6						
	0.2nm,0.5s						

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*MOS **02** 19:46:18.2±0.9, 18°.55N×120°.43E, h11km, mb5.9/106, MS5.2/54, Error ellipse: s-maj=5.9km s-min=3.6km az=111.2*
*IPGP **02** 19:46:20.0, 18°.60N×120°.43E, h25km, Mw5.6, Fault plane solution: NP1:φs215.00000°, δ34.00000°, λ130.00000°. NP2:φs349.00000°, δ65.00000°, λ66.00000°.*
*NEIC **02** 19:46:20.4, 18°.66N×120°.32E, h26km*
*NEIC **02** 19:46:20.4, 18°.66N×120°.32E, h26km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 1017Nm; Mrr2.29; Mθθ0.59; Mφφ-2.89; Mrθ-1.52; Mrφ-0.29; Mθφ0.67; Fault plane solution: M0 3.12000×1017 NP1: φs211.30000°, δ46.45000°, λ133.69000°. NP2: φs337.10000°, δ58.39000°, λ54.00000°. Principal axes: T 3.2732, Plg59.0000°, Azm193.0000°; N -0.2969, Plg30.0000°, Azm358.0000°; P -2.9763, Plg7.0000°, Azm92.0000°;*
*ISC-PP **02** 19:46:21, 18°.65N×120°.36E, h29km, Mwppsm6.1, Moment Tensor Solution. s44 Moment tensor: Scale 1018Nm; Mrr0.27±.11; Mθθ0.35±.17; Mφφ-0.61±.14; Mrθ-0.21±.20; Mθφ0.25±.19; Mφr-0.33±.13; Fault plane solution: M0 1.70000×1018 NP1:φs237.00000°, δ56.60000°, λ159.30000°. NP2:φs338.70000°, δ72.90000°, λ35.20000°.*
*BJI **02** 19:46:21.2, 18°.86N×120°.30E, h10km, mB5.5/59, mb5.3/82, ML5.6/2, Ms5.4/97, Ms7 5.3/94*
*NEIC **02** 19:46:21.7±1.8, 18°.65N±0°.05×120°.36E±0°.06, h16km±2km, mb5.7/245, Ms_20 5.2/320, Mwb5.6/45, Mww5.6/59, Error ellipse: s-maj=8.5km s-min=7.6km az=94.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.74; Mθθ1.07; Mφφ-2.81; Mrθ-0.48; Mθφ-0.95; Mφr1.43; Fault plane solution: M0 3.03000×1017 NP1: φs346.99000°, δ65.78000°, λ56.82000°. NP2: φs224.90000°, δ40.25000°, λ140.59000°. Principal axes: T 2.5347, Plg56.0000°, Azm213.0000°; N 0.8248, Plg30.0000°, Azm2.0000°; P -3.3594, Plg14.0000°, Azm101.0000°;*
*NEIC **02** 19:46:21.9, 18°.64N×120°.39E, h17km*
*MAN **02** 19:46:22.6, 18°.63N×120°.38E, h29km, mb6.0, ML5.1, MS5.6*
MAN INTENSITY V - BURGOS ILOCOS NORTE; INTENSITY IV - LAOAG CITY; BACARRA DINGRAS PAOAY PASUQUIN AND SAN NICOLAS ILOCOS NORTE; CABUGAO AND SINAIT ILOCOS SUR; INTENSITY III- BADOC ILOCOS NORTE; BANTAY MAGSINGAL SAN ILDEFONSO SANTA SANTA CATALINA AND SANTO DOMINGO ILOCOS SUR; INTENSITY II- CAOAYAN GREGORIO DEL PILAR SANTA LUCIA SUGPON ILOCOS SUR; APARRI CAGAYAN.
*IDC **02** 19:46:23.3±1.5, 18°.58N×120°.44E, h32km±10km, mb5.2/33, mbtmp5.4/38, ML4.8/5, MS5.0/65, Error ellipse: s-maj=12.6km s-min=8.9km az=70.0*
*GCMT **02** 19:46:23.7±0.1, 18°.72N±0°.01×120°.18E±0°.01, h26km, MW5.6/155, Moment Tensor Solution. s136, c248; s155, c305; Duration: 1s6 Moment tensor: Scale 1017 Nm; Mrr2.56±.04; Mθθ0.71±.03; Mφφ-3.27±.03; Mrθ-1.67±.07; Mθφ-0.65±.03; Mφr1.23±.07; Best double couple: M0 3.68000×1017 NP1:φs216.00000°, δ44.00000°, λ137.00000°. NP2:φs341.00000°, δ62.00000°, λ55.00000°. Principal axes: T 3.8170, Plg58.0000°, Azm201.0000°; N -0.2710, Plg30.0000°, Azm359.0000°; P -3.5430, Plg10.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 19:46:24.3±0.2, 19°.N±2°.×12°.0E±°, h40km±3km, M5.6/129, mB6.1/111, mb5.7/129, MLv5.5/3, Mw(mB)5.7/111, MwWwp5.3/67, Mwp5.5/67*
ISC 02 19:46:23.9±0.2, 18°.57N±0°.02×120°.43E±0°.03, h39km±1km, h39km:pP-P, n1697, σ1°.31/1738, mb5.7/350, MS5.2/250, 78C-76D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**1.01**	**179**	P	**Pn**	**19 46 42.8**	**+1.2**
TWGBT	**Beinan**	**4.27**	**8**	P	**Pn**	**19 47 25.8**	**-0.6**
TWG	**Pinlang**	**4.27**	**8**		**Pn**	**19 47 24.2**	**-2.2**
TWG				Sn	**Sn**	**19 48 11.7**	**-3.2**
TGY	**Tagaytay City**	**4.47**	**174**	Pn	**Pn**	**19 47 30.7**	**+1.5**
	38nm,0.3s,baz=285,slow=2.4,SNR=29						
TGY				Sn	**Sn**	**19 48 21.6**	**+1.5**
	243nm,0.3s,baz=93,slow=6.2,SNR=4.1						
TGY				LR	LR	19 50 02.2	
	comp=Z,22μm,18.7s,baz=306,slow=49						
	343nm,0.5s						
TPUB	**Ta-pu**	**4.71**	**2**		**Pn**	**19 47 30.6**	**-1.9**
TPUB	**Ta-pu**	**4.71**	**2**	P	**Pn**	**19 47 31.4**	**-1.1**
YULB	**Yu-li**	**4.86**	**9**		**Pn**	**19 47 33.2**	**-1.3**
YULB	**Yu-li**	**4.86**	**9**	P	**Pn**	**19 47 34.8**	**+0.2**
YULB	**Yu-li**	**4.86**	**9**	S	**Sn**	**19 48 28.7**	**-1.0**
SSLB	**Suanglung**	**5.21**	**5**	Pn	**Pn**	**19 47 38.1**	**-1.3**
SSLB	**Suanglung**	**5.21**	**5**	P	**Pn**	**19 47 39.3**	**-0.1**
NACB	**Ninganchiao**	**5.68**	**11**		**Pn**	**19 47 44.3**	**-1.4**
NACB	**Ninganchiao**	**5.68**	**11**	P	**Pn**	**19 47 44.6**	**-1.2**
NACB	**Ninganchiao**	**5.68**	**11**	S	**Sn**	**19 48 49.2**	**-0.5**
YHNB	**Yeheng**	**6.13**	**8**		**Pn**	**19 47 52.1**	**0.0**
YHNB	**Yeheng**	**6.13**	**8**	P	**Pn**	**19 47 52.8**	**+0.8**
YHNB	**Yeheng**	**6.13**	**8**	S	**Sn**	**19 49 01.1**	**+0.1**
KNMB	**Chin-men Tao**	**6.16**	**342**		**Pn**	**19 47 49.1**	**-3.3**
YOJ	**Yonaguni jima**	**6.33**	**22**		**Pn**	**19 47 55.0**	**+0.3**
YOJ	**Yonaguni jima**	**6.33**	**22**	P	**Pn**	**19 47 55.5**	**+0.8**
YOJ	**Yonaguni jima**	**6.33**	**22**	S	**Sn**	**19 49 06.7**	**+0.9**
YOJ	**Yonaguni jima**	**6.33**	**22**	P	**Pn**	**19 47 55.0**	**+0.3**
TATO	**Taipei**	**6.45**	**9**		**Pn**	**19 47 54.5**	**-1.9**
TATO	**Taipei**	**6.45**	**9**	P	**Pn**	**19 47 57.9**	**+1.6**
TATO				P	**Pn**	**19 47 57.9**	**+1.6**
TATO	**Taipei**	**6.45**	**9**	P	**Pn**	**19 47 57.4**	**+1.1**
TATO	**Taipei**	**6.45**	**9**	S	**Sn**	**19 49 09.2**	**+0.6**
QZH	**Quanzhou**	**6.57**	**345**	Pn	**Pn**	**19 47 55.1**	**-2.8**
QZH				Sn	**Sn**	**19 49 14.4**	**+2.8**
QZH				LR	LR		
	comp=N,15μm,16.1s						
QZH				LR	LR		
	comp=E,14μm,16.8s						
QZH				LR	LR		
	comp=Z,20μm,17.9s						
HKPS	**Hong Kong Po S**	**6.96**	**303**	Pn	**Pn**	**19 48 00.0**	**-3.3**
HKPS	**Hong Kong Po S**	**6.96**	**303**	P	**Pn**	**19 48 00.4**	**-2.9**
MCO	**Taipa Grande**	**7.35**	**300**	P	**Pn**	**19 48 06.0**	**-2.8**
GZH	**Guangzhou**	**8.01**	**305**	Pn	**Pn**	**19 48 15.5**	**-2.2**
GZH				Sn	**Sn**	**19 49 49.8**	**+2.8**
GZH				LR	LR		
	comp=N,36μm,14.5s						
GZH				LR	LR		
	comp=E,36μm,13.3s						
GZH				LR	LR		
	comp=Z,40μm,15.9s						
QIZ	**Qiongzhong**	**10.04**	**274**	Pn	**Pn**	**19 48 42.3**	**-3.3**
QIZ	**Qiongzhong**	**10.04**	**274**	P	**Pn**	**19 48 42.4**	**-3.3**
QIZ				S	**Sn**	**19 50 32.6**	**-4.5**
QIZ				pmax	pmax		
	comp=Z,430nm,0.9s						
QIZ				smax	smax		
	comp=N,2μm,0.9s						
QIZ				smax	smax		
	comp=E,1μm,0.8s						
QIZ				LR	LR		
	comp=N,8μm,14.5s						
QIZ				LR	LR		
	comp=E,15μm,16.1s						
QIZ				LR	LR		
	comp=Z,21μm,18.6s						
JOW	**Kunigami**	**10.95**	**40**	Pn	**Pn**	**19 48 57.3**	**-0.8**
JOW	**Kunigami**	**10.95**	**40**	Pn	**Pn**	**19 48 57.1**	**-0.9**
	19nm,0.3s,baz=173,slow=15,SNR=76						
JOW				Sn	**Sn**	**19 50 52.4**	**-6.8**
	1.0nm,0.3s,baz=286,slow=29,SNR=1.3						
	61nm,0.5s						
JOW	**Kunigami**	**10.95**	**40**	P	**Pn**	**19 48 58.6**	**+0.6**
JOW	**Kunigami**	**10.95**	**40**	S	**Sn**	**19 51 01.1**	**+1.8**
CNSH	**ChangSha**	**11.78**	**326**	P	**Pn**	**19 49 05.7**	**-3.7**
CNSH				S	**Sn**	**19 51 19.0**	**-0.7**
CNSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CNSH				LR	LR		
	comp=N,12μm,15.1s						
CNSH				LR	LR		
	comp=E,15μm,17.1s						
CNSH				LR	LR		
	comp=Z,10μm,16.1s						
JMZ	**Minamidaito 2**	**12.32**	**52**	Pn	**Pn**	**19 49 16.9**	**+0.1**
DAV	**Davao City (W)**	**12.48**	**156**	Pn	**Pn**	**19 49 20.1**	**+1.1**
	23nm,0.3s,baz=71,slow=20,SNR=4.2						
DAV				Sn	**Sn**	**19 51 35.7**	**-1.2**
	23nm,0.3s,baz=17,slow=15,SNR=1.4						
DAV				LR	LR	19 55 22.2	
	comp=Z,25μm,18.3s,baz=350,slow=43						
	83nm,0.4s						
DAV	**Davao City (W)**	**12.48**	**156**	P	**Pn**	**19 49 22.0**	**+2.9**
SSE	**Sheshan**	**12.49**	**3**	P	**Pn**	**19 49 19.7**	**+0.6**
SSE				S	**Sn**	**19 51 40.1**	**+3.2**
SSE				pmax	pmax		
	comp=Z,11nm,0.8s						
SSE				pmax	pmax		
	comp=Z,120nm,3.0s						
SSE				LR	LR		
	comp=N,3μm,17.5s						
SSE				LR	LR		
	comp=E,3μm,17.2s						
KKM	**Kota Kinabalu**	**13.11**	**199**	Pn	**Pn**	**19 49 28.9**	**+1.1**
KKM	**Kota Kinabalu**	**13.11**	**199**	P	**Pn**	**19 49 28.9**	**+1.1**
WHN	**Wuhan**	**13.14**	**336**	P	**Pn**	**19 49 26.6**	**-1.3**
WHN				sP	P	19 49 31.4	-6.0
WHN				pmax	pmax		
	comp=Z,110nm,1.0s						
WHN				pmax	pmax		
	comp=Z,1μm,4.5s						
WHN				LR	LR		
	comp=N,27μm,14.7s						
WHN				LR	LR		
	comp=E,30μm,12.8s						
WHN				LR	LR		
	comp=Z,41μm,17.7s						
DLV	**Lat**	**13.27**	**242**	Pn	**Pn**	**19 49 28.4**	**-1.6**
DLV	**Lat**	**13.27**	**242**	P	**Pn**	**19 49 31.0**	**+0.9**
MYLDM	**Lahad Datu**	**13.44**	**188**	Pn	**Pn**	**19 49 34.5**	**+2.3**
NJ2	**Nanjing**	**13.50**	**354**	*e*P	**Pn**	**19 49 32.3**	**-0.6**
NJ2				PP	**P**	**19 49 43.7**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,22nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,220nm,3.9s						
NJ2				LR	LR		
	comp=N,11μm,16.6s						
NJ2				LR	LR		
	comp=E,13μm,15.6s						
NJ2				LR	LR		
	comp=Z,14μm,18.9s						
UBPT	**Khong Chiam**	**14.69**	**259**	Pn	**Pn**	**19 49 48.0**	**-1.1**
UBPT	**Khong Chiam**	**14.69**	**259**	P	**Pn**	**19 49 48.6**	**-0.5**
GYA	**Guiyang**	**14.94**	**304**	⇑P	**Pn**	**19 49 49.9**	**-2.7**
GYA				S	**Sn**	**19 52 32.2**	**-4.8**
GYA				pmax	pmax		
	comp=Z,47nm,1.2s						
GYA				pmax	pmax		
	comp=Z,1μm,6.4s						
GYA				LR	LR		
	comp=N,15μm,14.8s						
GYA				LR	LR		
	comp=E,10μm,15.5s						
GYA				LR	LR		
	comp=Z,18μm,16.3s						
ENH	**Enshi**	**15.32**	**322**	Pn	**Pn**	**19 49 55.1**	**-2.3**
ENH				IAmb	IAmb	19 49 59.9	
	comp=Z,626nm,1.3s						
ENH	**Enshi**	**15.32**	**322**	P	**Pn**	**19 49 56.6**	**-0.8**
SLVN	**Son La**	**15.78**	**283**	Pn	**Pn**	**19 50 01.2**	**-2.3**
SLVN				IAmb	IAmb	19 50 06.3	
	comp=Z,417nm,1.3s						
SLVN	**Son La**	**15.78**	**283**	P	**Pn**	**19 50 02.0**	**-1.5**
NONG	**Nongkai**	**16.42**	**271**	P	**Pn**	**19 50 10.8**	**-0.8**
JNU	**Nakatsue**	**17.25**	**31**	Pn	**Pn**	**19 50 20.7**	**-1.3**
JNU	**Nakatsue**	**17.25**	**31**	P	**Pn**	**19 50 22.1**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=197,slow=6.9,SNR=25						
JNU				LR	LR	19 57 03.4	
	comp=Z,9μm,21.6s,baz=200,slow=37						
	comp=Z,115nm,1.0s						
TOLI2	**Tolitoli**	**17.36**	**179**	Pn	**Pn**	**19 50 23.2**	**-0.1**
TOLI2	**Tolitoli**	**17.36**	**179**	P	**P**	**19 50 24.1**	**-0.2**
LYN	**LuoYang**	**17.42**	**338**	⇑*i*P	**P**	**19 50 25.1**	**+0.1**
LYN				pmax	pmax		
	comp=Z,170nm,1.4s						
LYN				LR	LR		
	comp=Z,8μm,22.0s						
LYN				LR	LR		
	comp=Z,7μm,15.5s						
LYN				LR	LR		
	comp=Z,13μm,18.2s						
I39PW	**PALAU INFRASON**	**17.57**	**127**	I	I	21 32 40.0	
	baz=312,slow=304,SNR=0.4						
KMI	**Kunming**	**17.66**	**295**	⇓P	**Pn**	**19 50 27.5**	**+0.2**
KMI				sP	pP	19 50 36.4	-0.5
KMI				pmax	pmax		
	comp=Z,110nm,2.2s						
KMI				pmax	pmax		
	comp=Z,2μm,5.5s						
KMI				LR	LR		
	comp=Z,9μm,13.1s						
KMI				LR	LR		
	comp=Z,15μm,17.1s						
KMI				LR	LR		
	comp=Z,18μm,16.5s						
TIA	**Tai'an**	**17.81**	**351**	P	**P**	**19 50 30.6**	**+1.3**
TIA				sP	**pP**	**19 50 36.9**	**-1.2**
TIA				PP	**sP**	**19 50 44.9**	**+2.4**
TIA				S	**Sn**	**19 53 38.8**	**-7.6**
TIA				SS	**SnSn**	**19 53 56.5**	**-4.0**
TIA				PcP	**PcP**	**19 55 05.9**	**+1.3**
TIA				PcS	**PcS**	**19 58 41.0**	**0.0**
TIA				ScS	**ScS**	**20 02 18.4**	**+1.1**
TIA				pmax	pmax		
	comp=Z,74nm,1.1s						
TIA				LR	LR		
	comp=Z,9μm,19.2s						
TIA				LR	LR		
	comp=Z,1μm,16.9s						
TIA				LR	LR		
	comp=Z,11μm,18.8s						
SBUM	**Sibu**	**17.93**	**208**	P	**P**	**19 50 30.6**	**-0.1**
SBUM	**Sibu**	**17.93**	**208**	P	**P**	**19 50 31.4**	**+0.7**
MRSI	**Marisa**	**18.04**	**175**	P	**Pn**	**19 50 31.7**	**-0.1**
	comp=Z,4μmcomp=Z,3μmcomp=Z,178nm,0.6s						
KMSI	**Cibinong**	**18.22**	**169**	P	**Pn**	**19 50 35.5**	**+1.6**
	comp=Z,4μmcomp=Z,7μmcomp=Z,517nm,0.9s						
XAN	**Xi'an**	**18.52**	**329**	⇑P	**Pn**	**19 50 37.8**	**+0.3**
XAN				pP	pP	19 50 42.5	-3.8
XAN				S	**Sn**	**19 54 02.0**	**-1.5**
XAN				pmax	pmax		
	comp=Z,85nm,1.0s						
XAN				pmax	pmax		
	comp=Z,3μm,7.2s						
XAN				LR	LR		
	comp=Z,8μm,16.0s						
XAN				LR	LR		
	comp=Z,10μm,17.2s						
XAN				LR	LR		
	comp=Z,10μm,17.9s						
TJN	**Taejon**	**18.76**	**18**	P	**P**	**19 50 38.6**	**-1.0**
TJN	**Taejon**	**18.76**	**18**	P	**Pn**	**19 50 40.0**	**-0.3**
TJN	**Taejon**	**18.76**	**18**	*i*P	**P**	**19 50 38.4**	**-1.2**
NAYO	**Nakonayok**	**18.81**	**260**	P	**P**	**19 50 39.9**	**-0.5**
TNTI	**Ternate**	**18.95**	**158**	P	**Pn**	**19 50 43.4**	**+0.6**
TNTI	**Ternate**	**18.95**	**158**	P	**Pn**	**19 50 43.9**	**+1.1**
TNTI	**Ternate**	**18.95**	**158**	P	**Pn**	**19 50 43.9**	**+1.1**
PZH	**PanZhiHua**	**18.97**	**298**	P	**Pn**	**19 50 43.7**	**+0.6**
PZH				PP	**PnPn**	**19 50 59.1**	**+3.0**
PZH				S	**Sn**	**19 54 13.0**	**-1.7**
PZH				PcS	**PcS**	**19 58 43.1**	**-1.0**
PZH				pmax	pmax		
	comp=Z,140nm,1.3s						
PZH				pmax	pmax		
	comp=Z,3μm,7.3s						
PZH				LR	LR		
	comp=Z,11μm,14.7s						
PZH				LR	LR		
	comp=Z,9μm,15.2s						
PZH				LR	LR		
	comp=Z,11μm,17.2s						
SMKI	**Samarin

HNS PcP **PcP** **19 55 08.6 +1.3**
HNS pmax pmax
comp=Z,170nm,1.3s
HNS LR LR
comp=Z,8μm,16.3s
HNS LR LR
comp=Z,1μm,14.0s
HNS LR LR
comp=Z,9μm,17.1s
CD2 Chengdu 19.47 312 P **Pn** **19 50 48.9 -0.1**
CD2 pP pP 19 50 52.4 -4.2
CD2 PP **PnPn** **19 51 07.0 +4.1**
CD2 S **S** **19 54 21.4 -4.2**
CD2 sS Sn 19 54 28.5 +1.9
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,2μm,6.8s
CD2 LR LR
comp=Z,18μm,13.9s
CD2 LR LR
comp=Z,18μm,16.4s
INCN Inchon 19.61 15 P **P** **19 50 48.5 -0.5**
INCN Inchon 19.61 15 P **Pn** **19 50 51.0 +0.4**
INCN P **Pn** **19 50 51.0 +0.4**
INCN Inchon 19.61 15 P **Pn** **19 50 50.1 -0.5**
INCN Inchon 19.61 15 P **P** **19 50 48.5 -0.5**
INCN pmax pmax
comp=Z,58nm,1.1s
LUWI Luwuk 19.63 173 P **P** **19 50 48.5 -0.7**
LUWI IAmb IAmb 19 51 05.2
comp=Z,393nm,0.9s
LUWI Luwuk 19.63 173 P **Pn** **19 50 51.0 +0.1**
LUWI Luwuk 19.63 173 P **P** **19 50 48.9 -0.4**
comp=Z,5μmcomp=Z,495nm,1.2s
KSM Kuching 19.68 211 P **P** **19 50 50.2 +0.3**
KSM IAmb IAmb 19 50 52.6
comp=Z,897nm,1.2s
KSM Kuching 19.68 211 P **Pn** **19 50 51.0 -0.5**
KSAR Wonju Array Be 19.90 18 P **P** **19 50 50.4 -1.7**
KSAR Wonju Array Be 19.90 18 P **P** **19 50 50.4 -1.7**
KSRS Korea Array 19.93 18 P **P** **19 50 52.5 +0.2**
comp=Z,1.7nm,0.3s,baz=200,slow=11,SNR=111
KSRS S **S** **19 54 28.0 -6.5**
comp=Z,1.6nm,0.6s,baz=198,slow=11,SNR=0.9
KSRS PcP **PcP** **19 55 09.2 +1.0**
comp=Z,7.9nm,0.9s,baz=177,slow=2.4,SNR=8.0
KSRS ScP **ScP** **19 58 42.8 +1.3**
comp=Z,2.5nm,0.9s,baz=160,slow=1.4,SNR=5.9
KSRS LR LR 20 00 02.8
comp=Z,4μm,18.1s,baz=200,slow=41
KSRS PKiKP **PKiKP** **20 02 56.9 -0.4**
comp=Z,1.6nm,0.8s,baz=239,slow=1.3,SNR=6.6
KSRS P3KPbc 20 25 06.9
comp=Z,1.5nm,0.9s,baz=19,slow=4.8,SNR=4.8
comp=Z,49nm,0.8s
KS19 Wonju Array Si 19.95 18 P **P** **19 50 52.1 -0.6**
BKB Balikpapan 20.01 190 P **P** **19 50 53.3 -0.2**
BKB Balikpapan 20.01 190 P **P** **19 50 53.3 -0.2**
BKB Balikpapan 20.01 190 P **P** **19 50 53.4 -0.1**
comp=Z,17μmcomp=Z,1μm,1.8s
DL2 Dalian 20.29 3 P **P** **19 50 57.3 +1.0**
DL2 S **S** **19 54 43.4 +1.7**
DL2 pmax pmax
comp=Z,170nm,1.7s
DL2 pmax pmax
comp=Z,600nm,4.0s
DL2 LR LR
comp=Z,3μm,19.4s
DL2 LR LR
comp=Z,6μm,15.6s
DL2 LR LR
comp=Z,6μm,16.9s
TIY Taiyuan 20.32 341 *e*P Pn 19 50 58.8 -0.1
TIY PP **PnPn** **19 51 16.8 +2.3**
TIY pmax pmax
comp=Z,31nm,0.8s
TIY pmax pmax
comp=Z,1μm,7.6s
TIY LR LR
comp=Z,4μm,19.9s
TIY LR LR
comp=Z,3μm,18.6s
TIY LR LR
comp=Z,8μm,16.5s
CHTO Chiang Mai 20.36 274 P **P** **19 50 56.6 -0.6**
CHTO IAmb IAmb 19 51 03.2
comp=Z,354nm,0.9s
CHTO IAMs_20 IAMs_20 19 59 06.3
comp=Z,7μm,18.0s
CHTO Chiang Mai 20.36 274 P **P** **19 50 56.7 -0.6**
CHTO pmax pmax
comp=Z,354nm,0.9s
CHTO MLR MLR
comp=Z,7μm,18.0s
CMAR Chiang Mai Arr 20.38 273 Pn **P** **19 50 58.0 +0.5**
CMAR Chiang Mai Arr 20.38 273 P **P** **19 50 58.3 +0.8**
comp=Z,114nm,1.0s,baz=89,slow=8.6,SNR=137
CMAR PcP **PcP** **19 55 10.8 +1.3**
comp=Z,25nm,0.9s,baz=107,slow=0.4,SNR=17
CMAR ScP **ScP** **19 58 43.1 +0.1**
comp=Z,1.5nm,0.9s,baz=88,slow=3.4,SNR=2.4
CMAR LR LR 19 58 51.1
comp=Z,4μm,18.6s,baz=90,slow=37
CMAR PKiKP **PKiKP** **20 02 57.8 -0.2**
comp=Z,3.2nm,0.8s,baz=292,slow=1.7,SNR=14
CMAR P3KPbc 20 25 05.1
comp=Z,0.8nm,0.9s,baz=242,slow=2.8,SNR=5.6
CMAR P3KP 20 25 55.0
comp=Z,1.3nm,1.1s,baz=331,slow=2.0,SNR=4.4
comp=Z,114nm,1.0s
STKI Sintang 20.39 207 P **P** **19 50 58.1 +0.5**
comp=Z,11μmcomp=Z,777nm,1.3s
SRDT SRDT 20.86 262 P Pn 19 51 04.1 -1.3
SANI Sanana 21.21 164 P **P** **19 51 03.4 -3.0**
comp=Z,207nm,1.0s
TNCH TengChong 21.32 291 ⇓P **P** **19 51 07.9 +0.1**
TNCH pP pP 19 51 09.2 -7.8
TNCH PP **PnPn** **19 51 30.4 +2.0**
TNCH S **S** **19 54 54.2 -8.6**
TNCH SS **SnSn** **19 55 31.3 +4.5**
TNCH pmax pmax
comp=Z,280nm,1.2s
TNCH LR LR
comp=Z,4μm,12.3s
TNCH LR LR
comp=Z,6μm,13.7s
TNCH LR LR
comp=Z,9μm,14.7s
TTSI Tana Toraja 21.49 182 P **P** **19 51 09.7 +0.3**
comp=Z,4μmcomp=Z,127nm,1.0s
BJT Baijiatuau 21.69 351 P **P** **19 51 10.6 -0.8**
BJT IAmb IAmb 19 51 16.1
comp=Z,220nm,1.0s
BJT Baijiatuau 21.69 351 IAMs_20 IAMs_20 20 00 15.3
comp=Z,7μm,19.0s
BJT Baijiatuau 21.69 351 P **P** **19 51 12.6 +1.2**
BJT Baijiatuau 21.69 351 P **P** **19 51 10.6 -0.8**
BJT pmax pmax
comp=Z,220nm,1.0s
BJT MLR MLR
comp=Z,7μm,19.0s
BJI Beijing 21.71 351 P **P** **19 51 12.2 +0.6**
BJI pP **pP** **19 51 15.5 -5.1**
BJI S **S** **19 55 08.6 -1.1**
BJI pmax pmax
comp=Z,110nm,0.9s
BJI pmax pmax
comp=Z,380nm,3.7s
BJI LR LR
comp=Z,2μm,18.4s
BJI LR LR
comp=Z,2μm,19.2s
BJI LR LR
comp=Z,4μm,18.0s
JCJ Chichijima 21.74 63 P **P** **19 51 11.2 -0.9**
JCJ IAmb IAmb 19 51 20.1
comp=Z,300nm,0.9s
JCJ Chichijima 21.74 63 P **P** **19 51 05.2 -6.9**
comp=Z,130nm,0.4s,baz=150,slow=5.5,SNR=22
JCJ S S 19 54 58.5 -12
comp=Z,37nm,0.7s,baz=160,slow=6.3,SNR=1.7
JCJ LR LR 19 57 57.8
comp=Z,4μm,21.4s,baz=256,slow=32
JCJ Chichijima 21.74 63 P **P** **19 51 12.9 +0.8**
SWI Sorong 22.05 150 P **P** **19 51 15.6 +0.1**

INU Inuyama 22.25 38 P **P** **19 51 17.2 -0.3**
INU IAmb IAmb 19 51 29.1
comp=Z,510nm,1.4s
INU Inuyama 22.25 38 P **P** **19 51 18.6 +1.1**
SPSI Sidrap Palu 22.40 182 P **P** **19 51 19.3 +0.1**
comp=Z,4μmcomp=Z,4μmcomp=Z,351nm,1.2s
KDI Kendari 22.49 174 P **P** **19 51 18.5 -1.7**
JSG Sagara 22.50 41 P **P** **19 51 20.0 -0.2**
JSG IAmb IAmb 19 51 23.9
comp=Z,453nm,1.3s
SRIT Nakonsritamara 22.52 247 P **P** **19 51 20.7 +0.1**
SRIT IAmb IAmb 19 51 23.4
comp=Z,361nm,1.2s
SRIT Nakonsritamara 22.52 247 P **P** **19 51 22.2 +1.6**
JHJ Hachijo jima 2 22.60 46 LR LR 19 58 53.5
comp=Z,4μm,21.8s,baz=256,slow=33
JGF Kuroka 22.63 38 P **P** **19 51 21.0 -0.6**
JGF IAmb IAmb 19 51 44.1
comp=Z,290nm,1.6s
JGF Kuroka 22.63 38 P **P** **19 51 22.4 +0.8**
NLAI Namlea 22.65 162 P **P** **19 51 23.3 +1.5**
comp=Z,4μmcomp=Z,3μmcomp=Z,192nm,1.0s
LZH Lanzhou 22.78 323 *e*P **P** **19 51 24.3 +1.0**
LZH sP pP 19 51 32.8 +0.1
LZH PP **PnPn** **19 51 50.7 +2.4**
LZH PcP **PcP** **19 55 15.9 +1.9**
LZH S **S** **19 55 32.8 +3.0**
LZH pmax pmax
comp=Z,350nm,1.3s
LZH pmax pmax
comp=Z,2μm,8.6s
LZH LR LR
comp=Z,8μm,16.5s
LZH LR LR
comp=Z,8μm,16.8s
LZH LR LR
comp=Z,11μm,18.9s
MYKOM Kota Tinggi 23.29 226 P **P** **19 51 28.3 -0.2**
MYKOM IAmb IAmb 19 51 30.4
comp=Z,591nm,1.2s
MYKOM IAMs_20 IAMs_20 19 59 35.8
comp=Z,12μm,20.0s
MYKOM Kota Tinggi 23.29 226 P **P** **19 51 28.0 -0.5**
MSAI Masohi 23.33 158 P **P** **19 51 30.5 +1.7**
comp=Z,3μmcomp=Z,165nm,1.0s
SNY Shenyang 23.34 6 ⇑P **P** **19 51 27.9 -0.7**
SNY S **S** **19 55 32.5 -6.1**
SNY pmax pmax
comp=Z,130nm,0.8s
SNY pmax pmax
comp=Z,460nm,3.8s
SNY LR LR
comp=Z,3μm,19.6s
SNY LR LR
comp=Z,4μm,15.3s
SNY LR LR
comp=Z,5μm,19.6s
KULM Kulim 23.39 238 P **P** **19 51 28.9 -0.6**
KULM IAMs_20 IAMs_20 19 59 58.8
comp=Z,7μm,20.0s
KULM Kulim 23.39 238 P **P** **19 51 29.7 +0.3**
AAI Ambon 23.40 160 P **P** **19 51 29.3 -0.2**
comp=Z,107nm,0.9s
KAPI Kappang 23.45 182 P **P** **19 51 29.0 -0.9**
KAPI IAmb IAmb 19 51 32.0
comp=Z,324nm,1.3s
KAPI Kappang 23.45 182 IAMs_20 IAMs_20 20 00 54.8
comp=Z,6μm,20.0s
KAPI Kappang 23.45 182 LR LR 20 01 15.6
comp=Z,6μm,19.8s,baz=10,slow=38
KAPI Kappang 23.45 182 P **P** **19 51 29.8 -0.1**
KAPI P **P** **19 51 29.8 -0.1**
KAPI P **P** **19 51 29.8 -0.1**
KAPI Kappang 23.45 182 P **P** **19 51 30.8 +0.9**
KAPI Kappang 23.45 182 *i* P **P** **19 51 28.1 -1.8**
HHC Hu-ho-hao-te 23.47 343 ⇓*i* P **P** **19 51 31.0 +0.9**
HHC pP pP 19 51 34.9 -4.7
HHC sP pwP 19 51 40.7 -2.8
HHC S **S** **19 55 45.5 +4.4**
HHC sS sS 19 55 49.7 -9.3
HHC pmax pmax
comp=Z,100nm,1.6s
HHC pmax pmax
comp=Z,1μm,4.2s
HHC LR LR
comp=Z,5μm,16.9s
HHC LR LR
comp=Z,3μm,15.4s
HHC LR LR
comp=Z,7μm,16.2s
TPRI Tanjung Pinang 23.48 223 P **P** **19 51 29.6 -0.7**
comp=Z,5μmcomp=Z,4μmcomp=Z,235nm,1.1s
IPM Ipoh 23.58 236 P **P** **19 51 30.7 -0.6**
IPM Ipoh 23.58 236 P **P** **19 51 30.6 -0.6**
BTO Baotou 23.71 340 *e*P **P** **19 51 34.1 +1.7**
BTO pmax pmax
comp=Z,240nm,1.6s
BTO pmax pmax
comp=Z,2μm,3.7s
BTO LR LR
comp=Z,9μm,13.1s
BTO LR LR
comp=Z,7μm,13.5s
BTO LR LR
comp=Z,9μm,18.2s
BKSI Bulukumba 23.74 181 P **P** **19 51 32.7 -0.1**
comp=Z,3μmcomp=Z,108nm,0.9s
MAJO Matsushiro 23.78 38 P **P** **19 51 32.7 -0.3**
MAJO Matsushiro 23.78 38 *i* P **P** **19 51 31.4 -1.6**
MAJO pmax pmax
comp=Z,138nm,1.5s
MJAR Matsushiro Arr 23.78 38 P **P** **19 51 31.8 -1.2**
comp=Z,11nm,0.9s,baz=224,slow=8.5,SNR=24
MJAR S **S** **19 55 48.8 +2.8**
comp=Z,1.9nm,1.1s,baz=286,slow=40,SNR=1.1
MJAR ScP **ScP** **19 58 52.3 +1.0**
comp=Z,1.9nm,1.0s,baz=197,slow=1.5,SNR=3.8
MJAR LR LR 20 00 19.9
comp=Z,3μm,22.0s,baz=214,slow=35
MJAR P3KPbc 20 24 48.1
comp=Z,4.3nm,1.0s,baz=70,slow=4.3,SNR=9.1
comp=Z,11nm,0.9s
MJB9 Matsu-Tunnel 23.78 38 P **P** **19 51 31.7 -1.3**
GUMO Guam 23.99 98 LR LR 20 01 18.9
comp=Z,6μm,18.9s,baz=272,slow=37
BBSI Bau Bau 24.00 175 P **P** **19 51 35.4 +0.2**
comp=Z,3μmcomp=Z,3μmcomp=Z,142nm,1.1s
RKPI Ransiki, Papua 24.11 144 P **P** **19 51 39.6 +3.4**
FAKI Fak Fak 24.32 150 P **P** **19 51 36.2 -1.9**
FAKI Fak Fak 24.32 150 P **P** **19 51 38.5 +0.3**
FAKI Fak Fak 24.32 150 P **P** **19 51 38.4 +0.3**
BSSI Bau Bau, Buton 24.56 180 P **P** **19 51 39.3 -1.0**
comp=Z,3μmcomp=Z,4μmcomp=Z,155nm,1.1s
TPI Tanjungpandan 24.65 212 P **P** **19 51 41.8 +0.7**
comp=Z,4μmcomp=Z,6μmcomp=Z,324nm,1.2s
BNDI Bandanaira 24.77 157 P **P** **19 51 45.5 +3.3**
BNDI Bandanaira 24.77 157 P **P** **19 51 43.5 +1.3**
comp=Z,8μmcomp=Z,341nm,1.0s
JSD Sado 24.87 35 P **P** **19 51 41.5 -1.4**
JSD Sado 24.87 35 P **P** **19 51 45.6 +2.7**
PPBI Pangkal Pinang 24.95 216 P **P** **19 51 45.8 +2.0**
BAKI Biak 24.96 140 P **P** **19 51 44.8 +0.8**
CN2 Changchun 25.50 8 *e*P **P** **19 51 48.2 -0.4**
CN2 *e*S **S** **19 56 12.4 -1.0**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,700nm,7.0s
CN2 LR LR
comp=Z,5μm,16.0s
CN2 LR LR
comp=Z,3μm,16.0s
CN2 LR LR
comp=Z,5μm,18.1s
PSTR Posyet 25.57 18 *i* P **P** **19 51 50.3 +1.1**
SRPI Serui, Papua 25.58 141 P **P** **19 51 50.3 +0.7**
MSHR Mys Shultsa 25.61 19 *i* P **P** **19 51 49.8 +0.3**
KMPI Kaimana, Papua 25.67 148 P **P** **19 51 51.8 +1.4**
comp=Z,4μmcomp=Z,2μmcomp=Z,123nm,0.9s
TSI Tuntungan 26.12 238 P **P** **19 51 54.8 +0.3**
JMM Marumori 26.19 39 P **P** **19 51 53.9 -1.0**
JMM Marumori 26.19 39 P **P** **19 51 55.2 +0.3**
KMMI Kalianget 26.25 195 P **P** **19 51 56.5 +0.9**
comp=Z,6μmcomp=Z,251nm,1.0s
PSI Prapat 26.25 236 LR LR 20 01 42.7
comp=Z,6μm,20.1s,baz=52,slow=35
PSI Prapat 26.25 236 P **P** **19 51 55.8 -0.1**
PSI Prapat 26.25 236 P **P** **19 51 55.6 -0.3**
PSI pmax pmax
comp=Z,650nm,1.1s
PSI MLR MLR
comp=Z,6μm,20.0s
BKNI Bangkinang 26.30 229 P **P** **19 51 55.5 -0.6**
BKNI IAMs_20 IAMs_20 20 02 06.6
comp=Z,10μm,18.0s
BKNI Bangkinang 26.30 229 P **P** **19 51 57.1 +1.0**
BKNI Bangkinang 26.30 229 P **P** **19 51 56.1 0.0**
VLA Vladivostok 26.32 19 *i* P **P** **19 51 57.6 +1.6**
VLA pmax pmax
comp=Z,44nm,1.3s
RPSI Rantau Prapat 26.32 236 P **P** **19 51 55.6 -0.7**
RPSI IAMs_20 IAMs_20 20 01 41.6
comp=Z,6μm,20.0s
PMBI Palembang 26.35 217 P **P** **19 51 56.9 +0.4**
PMBI IAmb IAmb 19 52 00.1
comp=Z,278nm,0.8s
PMBI Palembang 26.35 217 P **P** **19 51 57.8 +1.3**
PMBI Palembang 26.35 217 P **P** **19 51 57.4 +0.9**
comp=Z,4μmcomp=Z,6μmcomp=Z,432nm,1.1s
LHMI Lhok Sumawe 26.48 243 P **P** **19 51 57.8 +0.1**
LHMI Lhok Sumawe 26.48 243 P **P** **19 52 00.2 +2.4**
GRJI Gresik 26.51 198 P **P** **19 51 59.2 +1.2**
TBJI Tambak Boyo 26.61 199 P **P** **19 52 00.0 +1.1**
ABJI Asem Bagus 26.90 194 P **P** **19 52 02.3 +0.8**
comp=Z,4μmcomp=Z,4μmcomp=Z,264nm,1.4s
SRBI Singaraja 26.98 191 P **P** **19 52 02.6 +0.4**
comp=Z,3μmcomp=Z,3μmcomp=Z,143nm,1.7s
MNSI Mandailing Nat 27.04 232 P **P** **19 52 02.4 -0.4**
comp=Z,3μmcomp=Z,5μmcomp=Z,400nm,1.5s
MDJ Mudanjiang 27.08 14 P **P** **19 52 02.0 -0.8**
MDJ IAmb IAmb 19 52 04.8
comp=Z,160nm,1.5s
MDJ Mudanjiang 27.08 14 P **P** **19 52 02.9 +0.1**
MDJ pP pP 19 52 07.5 -5.5
MDJ S **S** **19 56 40.5 +2.3**
MDJ pmax pmax
comp=Z,81nm,1.4s
MDJ pmax pmax
comp=Z,460nm,4.5s
MDJ LR LR
comp=Z,5μm,17.2s
MDJ LR LR
comp=Z,3μm,17.9s
MDJ LR LR
comp=Z,5μm,20.6s
MDJ Mudanjiang 27.08 14 P **P** **19 52 03.6 +0.8**
MMRI Maumere 27.09 176 P **P** **19 52 04.0 +0.8**
MMRI IAmb IAmb 19 52 30.8
comp=Z,309nm,1.6s
MMRI Maumere 27.09 176 P **P** **19 52 03.8 +0.6**
MMRI Maumere 27.09 176 P **P** **19 52 04.9 +1.7**
comp=Z,2μmcomp=Z,90nm,0.6s
BRDH Bariadhala 27.23 284 LR LR 20 04 27.0
comp=Z,7μm,19.0s,baz=118,slow=40
NGJI Ngawi 27.25 200 P **P** **19 52 05.8 +1.2**
comp=Z,5μmcomp=Z,251nm,1.1s
PPI Padang Panjang 27.30 228 P **P** **19 52 05.0 -0.1**
SMRI Semarang 27.30 202 P **P** **19 52 05.9 +0.8**
SMRI IAmb IAmb 19 52 08.2
comp=Z,230nm,1.2s
SMRI Semarang 27.30 202 P **P** **19 52 05.7 +0.6**
SMRI Semarang 27.30 202 P **P** **19 52 06.3 +1.2**
comp=Z,2μmcomp=Z,175nm,1.4s
SHL Shillong 27.32 290 P **P** **19 52 03.9 -1.6**
SHL IAmb IAmb 19 52 07.5
comp=Z,316nm,1.2s
SHL Shillong 27.32 290 P **P** **19 52 05.5 0.0**
SNR=82
SHL Shillong 27.32 290 P **P** **19 52 03.9 -1.6**
SHL pmax pmax
comp=Z,316nm,1.2s
USA0B Ussuriysk Arra 27.33 18 P **P** **19 52 04.4 -0.7**
USA0B Ussuriysk Arra 27.33 18 *i* P **P** **19 52 04.9 -0.2**
USRK Ussuriysk Ar. 27.33 18 P **P** **19 52 04.9 -0.2**
USRK Ussuriysk Ar. 27.33 18 P **P** **19 52 06.2 +1.1**
comp=Z,12nm,0.7s,baz=204,slow=9.3,SNR=18
USRK PcP **PcP** **19 55 23.9 +0.1**
comp=Z,7.0nm,0.6s,baz=213,slow=4.0,SNR=6.2
USRK S **S** **19 56 42.0 -0.2**
comp=Z,2.1nm,0.6s,baz=148,slow=40,SNR=1.9
USRK LR LR 20 03 53.8
comp=Z,3μm,19.0s,baz=197,slow=38
comp=Z,12nm,0.7s
PLAI Plampang 27.35 186 P **P** **19 52 05.7 +0.2**
PLAI Plampang 27.35 186 P **P** **19 52 05.1 -0.4**
comp=Z,3μmcomp=Z,6μmcomp=Z,255nm,1.8s
GTA Gaotai 27.38 324 P **P** **19 52 07.2 +1.4**
GTA PcP **PcP** **19 55 24.6 +0.4**
GTA S **S** **19 56 47.1 +3.7**
GTA PcS **PcS** **19 59 06.2 +0.2**
GTA ScS **ScS** **20 02 53.3 -0.1**
GTA pmax pmax
comp=Z,32nm,1.1s
GTA pmax pmax
comp=Z,560nm,11.6s
GTA LR LR
comp=Z,2μm,18.5s
GTA LR LR
comp=Z,3μm,18.2s
GTA LR LR
comp=Z,4μm,16.4s
MLSI Meulaboh, Aceh 27.45 242 P **P** **19 52 05.4 -1.1**
GMJI Gumukmas 27.55 195 P **P** **19 52 06.8 -0.5**
comp=Z,3μmcomp=Z,115nm,1.2s
DNP Denpasar 27.56 191 P **P** **19 52 08.3 +0.9**
JAGI Jajag, Banyuwa 27.58 194 P **P** **19 52 07.0 -0.5**
JAGI IAmb IAmb 19 52 08.9
comp=Z,240nm,1.3s
JAGI Jajag, Banyuwa 27.58 194 P **P** **19 52 08.0 +0.5**
JAGI Jajag, Banyuwa 27.58 194 P **P** **19 52 07.5 0.0**
comp=Z,3μmcomp=Z,3μmcomp=Z,155nm,1.6s
BNX BinXian 27.70 11 ⇓P **P** **19 52 08.5 +0.1**
BNX pP **pP** **19 52 19.3 +1.1**
BNX S **S** **19 56 46.5 -1.5**
BNX pmax pmax
comp=Z,35nm,1.4s
BNX pmax pmax
comp=Z,560nm,4.5s
BNX LR LR
comp=Z,3μm,18.0s
BNX LR LR
comp=Z,2μm,19.0s
BNX LR LR
comp=Z,4μm,17.5s
BSI Banda Aceh 27.75 245 P **P** **19 52 08.6 -0.6**
comp=Z,4μmcomp=Z,4μmcomp=Z,319nm,1.3s
MDSI Maura Dua 27.96 217 P **P** **19 52 10.7 -0.3**
comp=Z,4μmcomp=Z,2μmcomp=Z,113nm,1.2s
WBSI Waikabubak, Su 28.05 182 P **P** **19 52 10.7 -1.1**
comp=Z,2μmcomp=Z,111nm,0.8s
WSI Waingapu 28.06 180 P **P** **19 52 09.3 -2.6**
comp=Z,2μmcomp=Z,234nm,1.0s
YOGI Yogyakarta 28.06 202 P **P** **19 52 12.9 +1.0**
comp=Z,5μmcomp=Z,314nm,1.8s
UGM Wanagama 28.07 201 P **P** **19 52 11.4 -0.7**
UGM Wanagama 28.07 201 P **P** **19 52 13.2 +1.2**
UGM Wanagama 28.07 201 P **P** **19 52 12.7 +0.7**
comp=Z,440nm,1.6s
PCJI Pacitan 28.12 200 P **P** **19 52 13.5 +1.1**
comp=Z,3μmcomp=Z,4μmcomp=Z,318nm,1.2s
KSI Kapahiang 28.22 220 P **P** **19 52 14.2 +0.8**
comp=Z,4μmcomp=Z,308nm,0.9s
LEM Lembang 28.23 208 LR LR 20 03 17.8
comp=Z,4μm,21.6s,baz=16,slow=36
GSI Gunungsitoli 28.24 235 P **P** **19 52 11.5 -2.0**
GSI IAMs_20 IAMs_20 20 03 04.4
comp=Z,6μm,20.0s
GSI Gunungsitoli 28.24 235 P **P** **19 52 12.8 -0.7**
GSI Gunungsitoli 28.24 235 P **P** **19 52 12.0 -1.5**
SBJI Serang 28.30 211 P **P** **19 52 14.9 +0.9**
comp=Z,5μmcomp=Z,202nm,1.3s
JTM Tenmabayashi 28.35 34 P **P** **19 52 12.2 -2.0**
JTM IAmb IAmb 19 52 27.7
comp=Z,276nm,1.3s
JTM IAMs_20 IAMs_20 20 05 07.9
comp=Z,4μm,18.0s
JTM Tenmabayashi 28.35 34 P **P** **19 52 16.9 +2.6**
SOEI Soe 28.40 172 P **P** **19 52 13.9 -1.2**
SOEI IAmb IAmb 19 53 06.5
comp=Z,119nm,1.1s
SOEI Soe 28.40 172 P **P** **19 52 16.1 +1.1**

SOEI	**Soe**	**28.40**	**172**	P	**P**	**19 52 14.2**	**-0.8**
	comp=Z,2μmcomp=Z,2μmcomp=Z,71nm,0.7s						
SNSI	**Sinabang, Aceh**	**28.56**	**239**	P	**P**	**19 52 15.5**	**-0.9**
MNAI	**Manna**	**28.56**	**219**	P	**P**	**19 52 16.3**	**-0.1**
MNAI				IAMs_20	IAMs_20	20 03 20.5	
	comp=Z,5μm,19.0s						
PBSI	**Pulau Batu**	**28.57**	**232**	P	**P**	**19 52 15.4**	**-1.0**
	comp=Z,486nm,1.4s						
GOMU	**GeErMu**	**28.60**	**313**	P	**P**	**19 52 18.2**	**+1.2**
GOMU				pP	pP	19 52 20.8	-6.0
GOMU				sP	pwP	19 52 25.7	-5.1
GOMU				S	**S**	**19 57 06.8**	**+3.6**
GOMU				pmax	pmax		
	comp=Z,71nm,1.1s						
GOMU				LR	LR		
	comp=Z,7μm,15.1s						
GOMU				LR	LR		
	comp=Z,14μm,15.2s						
GOMU				LR	LR		
	comp=Z,23μm,15.2s						
BASI	**Baing, Sumba**	**28.61**	**180**	P	**P**	**19 52 17.1**	**+0.4**
	comp=Z,3μmcomp=Z,190nm,1.2s						
GENI	**Genyem**	**28.63**	**135**	P	**P**	**19 52 19.3**	**+2.3**
GENI	**Genyem**	**28.63**	**135**	P	**P**	**19 52 20.2**	**+3.2**
	comp=Z,1μmcomp=Z,64nm,1.0s						
BBJI	**Bungbulang**	**28.78**	**207**	P	**P**	**19 52 18.8**	**+0.4**
SISI	**Saibi**	**28.84**	**229**	P	**P**	**19 52 17.8**	**-1.0**
	comp=Z,282nm,1.5s						
LSA	**Lhasa**	**28.85**	**298**	P	**P**	**19 52 19.7**	**+0.3**
LSA				IAmb	IAmb	19 52 22.4	
	comp=Z,213nm,0.8s						
LSA				IAMs_20	IAMs_20	20 04 10.0	
	comp=Z,5μm,22.0s						
LSA	**Lhasa**	**28.85**	**298**	P	**P**	**19 52 21.1**	**+1.7**
LSA				S	**S**	**19 57 12.1**	**+4.7**
LSA				pmax	pmax		
	comp=Z,280nm,0.9s						
LSA				LR	LR		
	comp=Z,3μm,16.5s						
LSA				LR	LR		
	comp=Z,5μm,19.6s						
LSA	**Lhasa**	**28.85**	**298**	P	**P**	**19 52 19.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,213nm,0.8s						
LSA				MLR	MLR		
	comp=Z,5μm,22.0s						
LSA	**Lhasa**	**28.85**	**298**	*i* P	**P**	**19 52 21.1**	**+1.7**
	SNR=254						
SKJI	**Sukabumi**	**28.87**	**210**	P	**P**	**19 52 20.4**	**+1.3**
	comp=Z,4μmcomp=Z,256nm,1.1s						
CNJI	**Cibinong**	**28.87**	**208**	P	**P**	**19 52 18.4**	**-0.7**
	comp=Z,2μmcomp=Z,108nm,1.3s						
JAY	**Jayapura**	**28.93**	**134**	LR	LR	20 02 02.9	
	comp=Z,4μm,21.1s,baz=329,slow=32						
CGJI	**Cibinong**	**28.94**	**211**	P	**P**	**19 52 18.7**	**-1.0**
	comp=Z,1μmcomp=Z,74nm,1.2s						
PPSI	**Pulau Pagai**	**29.22**	**226**	P	**P**	**19 52 22.3**	**+0.1**
	comp=Z,373nm,1.3s						
ERM	**Erimo**	**30.33**	**35**	IAMs_20	IAMs_20	20 04 18.5	
	comp=Z,7μm,21.0s						
ERM	**Erimo**	**30.33**	**35**	*i* P	**P**	**19 52 34.2**	**+2.4**
HIA	**Hailar**	**30.63**	**359**	P	**P**	**19 52 33.0**	**-1.3**
HIA	**Hailar**	**30.63**	**359**	IAMs_20	IAMs_20	20 06 28.3	
	comp=Z,5μm,18.0s						
HIA	**Hailar**	**30.63**	**359**	P	**P**	**19 52 34.6**	**+0.2**
HIA	**Hailar**	**30.63**	**359**	P	**P**	**19 52 33.0**	**-1.3**
HIA				pmax	pmax		
	comp=Z,44nm,1.2s						
HIA				MLR	MLR		
	comp=Z,5μm,18.0s						
ULN	**Ulaanbaatar**	**31.19**	**342**	P	**P**	**19 52 39.2**	**-0.3**
ULN	**Ulaanbaatar**	**31.19**	**342**	IAMs_20	IAMs_20	20 07 26.5	
	comp=Z,5μm,19.0s						
ULN	**Ulaanbaatar**	**31.19**	**342**	P	**P**	**19 52 40.6**	**+1.0**
ULN				P	**P**	**19 52 40.6**	**+1.0**
ULN	**Ulaanbaatar**	**31.19**	**342**	*i* P	**P**	**19 52 39.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,90nm,2.1s						
SONM	**Songino Array**	**31.36**	**342**	P	**P**	**19 52 40.6**	**-0.4**
SONM				IAmb	IAmb	19 52 43.4	
	comp=Z,148nm,1.9s						
SONM	**Songino Array**	**31.36**	**342**	P	**P**	**19 52 41.7**	**+0.8**
	comp=Z,13nm,0.7s,baz=161,slow=9.6,SNR=130						
SONM				PcP	**PcP**	**19 55 35.0**	**+0.8**
	comp=Z,13nm,0.9s,baz=159,slow=3.2,SNR=17						
SONM				ScP	**ScP**	**19 59 15.6**	**+1.3**
	comp=Z,3.4nm,1.2s,baz=151,slow=3.4,SNR=3.6						
SONM				PKiKP	**PKiKP**	**20 03 03.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=152,slow=2.1,SNR=4.5						
SONM				LR	LR	20 07 53.6	
	comp=Z,5μm,18.3s,baz=156,slow=41						
SONM				P3KPbc		20 24 17.2	
	comp=Z,1.0nm,1.1s,baz=302,slow=2.7,SNR=4.4						
	comp=Z,13nm,0.7s						
SONM	**Songino Array**	**31.36**	**342**	P	**P**	**19 52 40.6**	**-0.4**
SONM				pmax	pmax		
	comp=Z,148nm,1.9s						
ASAJ	**Asahikawa**	**31.53**	**31**	LR	LR	20 05 13.0	
	comp=Z,3μm,21.7s,baz=240,slow=36						
ASAJ	**Asahikawa**	**31.53**	**31**	P	**P**	**19 52 42.4**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,209nm,1.8s						
ASAJ				MLR	MLR		
	comp=Z,3μm,22.0s						
JKA	**Kamikawa-asahi**	**31.53**	**31**	P	**P**	**19 52 42.4**	**0.0**
JKA				IAmb	IAmb	19 53 03.3	
	comp=Z,209nm,1.8s						
KLR	**Kul'dur**	**31.92**	**14**	LR	LR	20 07 20.1	
	comp=Z,3μm,18.1s,baz=195,slow=39						
KLR	**Kul'dur**	**31.92**	**14**	*ceP*	**P**	**19 52 46.4**	**+0.7**
KLR				pmax	pmax		
	comp=Z,171nm,1.3s						
HEH	**HeiHe**	**32.10**	**8**	*eP*	**P**	**19 52 47.7**	**+0.4**
HEH				pP	**pP**	**19 52 52.0**	**-5.1**
HEH				sP	**pwP**	**19 52 54.6**	**-6.6**
HEH				PcP	**PcP**	**19 55 35.8**	**-0.1**
HEH				S	**S**	**19 58 02.3**	**+5.4**
HEH				sS	**sS**	**19 58 12.9**	**-1.7**
HEH				pmax	pmax		
	comp=Z,23nm,0.9s						
HEH				pmax	pmax		
	comp=Z,360nm,5.8s						
HEH				LR	LR		
	comp=Z,3μm,15.8s						
HEH				LR	LR		
	comp=Z,1μm,12.0s						
HEH				LR	LR		
	comp=Z,4μm,18.0s						
XMI	**Christmas Isla**	**32.30**	**208**	P	**P**	**19 52 49.0**	**-0.4**
XMIS	**Christmas Isla**	**32.34**	**208**	P	**P**	**19 52 48.4**	**-1.3**
XMIS	**Christmas Isla**	**32.34**	**208**	P	**P**	**19 52 48.6**	**-1.2**
DRS	**Darwin Rock St**	**32.49**	**161**	P	**P**	**19 52 51.3**	**+0.3**
MTN	**Manton Dam**	**32.95**	**161**	P	**P**	**19 52 53.3**	**-1.7**
MTN	**Manton Dam**	**32.95**	**161**	P	**P**	**19 52 54.4**	**-0.7**
KDU	**Kakadu**	**33.25**	**158**	P	**P**	**19 52 56.9**	**-0.8**
YSS	**Yuzhno-Sakhali**	**33.72**	**28**	P	**P**	**19 53 00.8**	**-0.6**
YSS				IAmb	IAmb	19 53 21.0	
	comp=Z,76nm,1.1s						
YSS				IAMs_20	IAMs_20	20 06 09.9	
	comp=Z,4μm,21.0s						
YSS	**Yuzhno-Sakhali**	**33.72**	**28**	P	**P**	**19 53 02.5**	**+1.0**
YSS	**Yuzhno-Sakhali**	**33.72**	**28**	*eP*	**P**	**19 53 02.1**	**+0.6**
YSS				*eS*	**S**	**19 58 20.4**	**-1.8**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				smax	smax		
	comp=N,400nm,5.5s						
YSS				smax	smax		
	comp=E,300nm,6.0s						
CIT	**Chita**	**33.82**	**352**	*eP*	**P**	**19 53 02.7**	**+0.4**
CIT				*e*		19 54 33.3	
CIT				pmax	pmax		
	comp=Z,122nm,2.9s						
GRNR	**Gornyy**	**34.55**	**18⇑**	*iP*	**P**	**19 53 09.1**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAK	**Zakamensk**	**34.57**	**341**	*eP*	**P**	**19 53 08.6**	**-0.3**
ZAK				*e*		19 55 43.3	
ZAK				pmax	pmax		
	comp=Z,29nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,25nm,1.4s						
KNRA	**Kununurra**	**35.01**	**166**	P	**P**	**19 53 10.9**	**-2.0**
KNRA				IAmb	IAmb	19 53 13.5	
	comp=Z,87nm,1.3s						
UGL	**Uglegorsk**	**35.09**	**25**	*eP*	**P**	**19 53 15.6**	**+2.4**
UGL				*e*		19 54 46.7	
UGL				*eS*	**S**	**19 58 43.1**	**0.0**
UGL				pmax	pmax		
	comp=Z,40nm,1.0s						
ZEA	**Zeya**	**35.49**	**7**	*eP*	**P**	**19 53 17.8**	**+1.1**
ZEA				*eS*	**S**	**19 58 50.0**	**+0.7**
ZEA				*e*SS*	**SS**	**20 01 13.8**	**-11**
ZEA				*e*		20 03 33.2	
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,40nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,80nm,0.8s						
ZEA				pmax	pmax		
	comp=N,200nm,6.1s						
ZEA				pmax	pmax		
	comp=Z,400nm,7.0s						
ZEA				smax	smax		
	comp=E,400nm,15.4s						
ZEA				MLR	MLR		
	comp=N,2μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,15.0s						
IRK	**Irkutsk**	**35.92**	**343**	*eP*	**P**	**19 53 20.6**	**+0.2**
IRK				pmax	pmax		
	comp=Z,160nm,1.6s						
MOY	**Mondy**	**36.41**	**340**	*eP*	**P**	**19 53 25.7**	**+0.9**
MOY				pmax	pmax		
	comp=Z,131nm,1.7s						
TYV	**Tymovskoe**	**36.74**	**24**	*eP*	**P**	**19 53 28.7**	**+1.3**
TYV				*eS*	**S**	**19 59 11.3**	**+2.9**
TYV				pmax	pmax		
	comp=Z,12nm,1.1s						
TYV				pmax	pmax		
	comp=Z,600nm,3.3s						
TYV				smax	smax		
	comp=N,500nm,8.9s						
TYV				smax	smax		
	comp=E,300nm,8.9s						
FITZ	**Fitzroy Crossi**	**36.80**	**172**	P	**P**	**19 53 26.5**	**-1.7**
WMQ	**Urumqi**	**37.25**	**320**	*eP*	**P**	**19 53 33.4**	**+1.4**
WMQ				sP	pP	19 53 41.0	-0.9
WMQ				PcP	**PcP**	**19 55 51.6**	**+0.5**
WMQ				S	**S**	**19 59 19.8**	**+3.1**
WMQ				PcS	**PcS**	**19 59 38.2**	**-1.2**
WMQ				pmax	pmax		
	comp=E,40nm,1.7s						
WMQ				pmax	pmax		
	comp=E,700nm,5.1s						
WMQ				LR	LR		
	comp=E,7μm,11.7s						
WMQ				LR	LR		
	comp=E,5μm,12.5s						
WMQ				LR	LR		
	comp=E,2μm,19.1s						
PMG	**Port Moresby**	**38.32**	**134**	LR	LR	20 11 30.6	
	comp=E,420nm,18.5s,baz=302,slow=39						
COCO	**West Island**	**38.42**	**219**	P	**P**	**19 53 41.7**	**-0.3**
COCO	**West Island**	**38.42**	**219**	P	**P**	**19 53 42.9**	**+0.9**
COCO				P	**P**	**19 53 42.9**	**+0.9**
COCO	**West Island**	**38.42**	**219**	P	**P**	**19 53 43.2**	**+1.2**
COCO	**West Island**	**38.42**	**219**	P	**P**	**19 53 41.7**	**-0.3**
COCO				pmax	pmax		
	comp=Z,705nm,1.4s						
RABL	**Rabaul**	**38.59**	**123**	P	**P**	**19 53 43.8**	**+0.3**
RABL				IAmb	IAmb	19 53 59.2	
	comp=Z,81nm,0.8s						
RABL				IAMs_20	IAMs_20	20 06 36.0	
	comp=Z,3μm,20.0s						
PATS	**Pohnpei**	**38.66**	**103**	P	**P**	**19 53 44.1**	**0.0**
PATS				IAmb	IAmb	19 53 45.5	
	comp=Z,356nm,1.4s						
COEN	**Coen**	**39.34**	**144**	P	**P**	**19 53 48.1**	**-1.5**
COEN	**Coen**	**39.34**	**144**	P	**P**	**19 53 49.2**	**-0.5**
BOD	**Bodaibo**	**39.48**	**355**	*eP*	**P**	**19 53 50.4**	**0.0**
BOD				pmax	pmax		
	comp=Z,56nm,1.7s						
MBWA	**Marble Bar**	**39.49**	**181**	P	**P**	**19 53 49.9**	**-0.9**
MBWA				IAmb	IAmb	19 53 51.0	
	comp=Z,224nm,1.4s						
MBWA	**Marble Bar**	**39.49**	**181**	P	**P**	**19 53 50.2**	**-0.7**
MBWA	**Marble Bar**	**39.49**	**181**	P	**P**	**19 53 50.2**	**-0.7**
HYB	**Hyderabad**	**39.78**	**275‖**	*eP*	**P**	**19 53 53.7**	**+0.2**
HYB				IVmB_BB		19 53 54.4	
	comp=Z,2μm,1.4s						
HYB				*eS*	**S**	**19 59 56.2**	**+0.9**
PSA00	**Pilbara Seismi**	**39.90**	**181**	P	**P**	**19 53 53.4**	**-0.9**
PSA00				IAmb	IAmb	19 53 54.6	
	comp=Z,365nm,1.4s						
PSA00	**Pilbara Seismi**	**39.90**	**181**	P	**P**	**19 53 53.4**	**-0.9**
PALK	**Pallekele**	**40.23**	**259**	P	**P**	**19 53 57.5**	**+0.3**
PALK				IAmb	IAmb	19 53 59.1	
	comp=Z,102nm,0.9s						
PALK	**Pallekele**	**40.23**	**259**	LR	LR	20 10 20.9	
	comp=Z,3μm,19.5s,baz=54,slow=36						
PALK	**Pallekele**	**40.23**	**259**	P	**P**	**19 53 57.8**	**+0.6**
PALK	**Pallekele**	**40.23**	**259**	P	**P**	**19 53 57.5**	**+0.3**
PALK				pmax	pmax		
	comp=Z,102nm,0.9s						
WB0	**Warramunga Arr**	**40.49**	**160**	P	**P**	**19 53 56.9**	**-2.3**
WRAB	**Tennant Creek**	**40.63**	**160**	*i* P	**P**	**19 53 58.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,42nm,1.0s						
WRA	**Warramunga Arr**	**40.63**	**160**	P	**P**	**19 53 58.2**	**-2.2**
WRA	**Warramunga Arr**	**40.63**	**160**	P	**P**	**19 53 58.6**	**-1.8**
	comp=Z,19nm,0.8s,baz=334,slow=10,SNR=62						
WRA				PcP	**PcP**	**19 56 02.7**	**+0.8**
	comp=Z,46nm,0.9s,baz=342,slow=3.5,SNR=30						
WRA				ScP	**ScP**	**19 59 49.4**	**+0.9**
	comp=Z,3.9nm,1.1s,baz=336,slow=3.7,SNR=4.0						
WRA				S	**S**	**20 00 00.4**	**-7.4**
	comp=Z,3.0nm,0.9s,baz=335,slow=15,SNR=7.4						
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**40.63**	**160**	*i* P	**P**	**19 53 58.0**	**-2.4**
WRA				pmax	pmax		
	comp=Z,18nm,0.9s						
ZSN	**Zaisan**	**40.87**	**323**	*eP*	**P**	**19 54 02.4**	**+0.3**
ZSN				*eS*	**S**	**20 00 15.1**	**+4.2**
ZSN	**Zaisan**	**40.87**	**323**	*eP*	**P**	**19 54 02.4**	**+0.3**
ZSN				*eS*	**S**	**20 00 15.1**	**+4.2**
WUS	**Wushi**	**41.74**	**312**	P	**P**	**19 54 09.4**	**-0.1**
WUS				IAmb	IAmb	19 54 13.2	
	comp=Z,99nm,1.0s						
MK31	**Makanchi Array**	**42.05**	**321**	P	**P**	**19 54 12.4**	**+0.6**
MK31	**Makanchi Array**	**42.05**	**321**	P	**P**	**19 54 12.4**	**+0.6**
MK31				pmax	pmax		
	comp=Z,71nm,0.9s						
MKAR	**Makanchi Array**	**42.05**	**321**	P	**P**	**19 54 12.0**	**+0.2**
MKAR	**Makanchi Array**	**42.05**	**321**	P	**P**	**19 54 13.3**	**+1.5**
	comp=Z,69nm,0.8s,baz=115,slow=8.3,SNR=135						
MKAR				PcP	**PcP**	**19 56 06.8**	**+0.6**
	comp=Z,32nm,0.8s,baz=97,slow=4.9,SNR=10						
MKAR				S	**S**	**20 00 29.4**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=38,slow=4.6,SNR=1.2						
MKAR				LR	LR	20 11 30.1	
	comp=Z,2μm,20.8s,baz=130,slow=36						
MKAR				PKPPKP	**P'P'df**	**20 26 15.1**	**-5.4**
	comp=Z,1.2nm,1.1s,baz=275,slow=3.6,SNR=4.3						
MKAR				P4KPbc		20 32 13.5	
	comp=Z,0.6nm,0.8s,baz=104,slow=5.9,SNR=6.6						
	comp=Z,69nm,0.8s						
SHLS	**Shalkode**	**42.28**	**315**	*eP*	**P**	**19 54 11.7**	**-2.1**
SHLS				pmax	pmax		
	comp=Z,81nm,1.0s						
SHLS	**Shalkode**	**42.28**	**315**	*eP*	**P**	**19 54 11.8**	**-2.1**
	comp=Z,81nm,1.0s						
UZB	**Uzynbulak**	**42.58**	**314**	*eP*	**P**	**19 54 16.2**	**-0.1**
UZB				*eS*	**S**	**20 00 40.2**	**+3.7**
UZB				pmax	pmax		
	comp=Z,91nm,0.9s						
UZB	**Uzynbulak**	**42.58**	**314**	*eP*	**P**	**19 54 16.3**	**-0.1**
	comp=Z,91nm,0.9s						
UZB				*eS*	**S**	**20 00 40.2**	**+3.7**
KPKS	**Kokpek**	**42.92**	**315**	*eP*	**P**	**19 54 19.0**	**0.0**
KPKS				*eS*	**S**	**20 00 45.3**	**+3.8**
KPKS				pmax	pmax		
	comp=Z,192nm,2.4s						
KPKS	**Kokpek**	**42.92**	**315**	*eP*	**P**	**19 54 19.1**	**0.0**
	comp=Z,192nm,2.4s						
KPKS				*eS*	**S**	**20 00 45.3**	**+3.8**
SATY	**Saty**	**42.96**	**314**	*eP*	**P**	**19 54 19.7**	**+0.3**
SATY				*eS*	**S**	**20 00 46.1**	**+4.0**
SATY				pmax	pmax		
	comp=Z,201nm,2.2s						
SATY	**Saty**	**42.96**	**314**	*eP*	**P**	**19 54 19.7**	**+0.3**
	comp=Z,201nm,2.2s						
SATY				*eS*	**S**	**20 00 46.1**	**+4.0**
ZHN	**Zhinishke**	**42.98**	**314**	*eP*	**P**	**19 54 19.5**	**0.0**
ZHN	**Zhinishke**	**42.98**	**314**	*eP*	**P**	**19 54 19.6**	**0.0**
QIS	**Mount Isa**	**43.19**	**153**	P	**P**	**19 54 20.3**	**-1.0**
MTSU	**Mount Surprise**	**43.38**	**146**	P	**P**	**19 54 23.7**	**+0.9**
KDJ	**Kajisay**	**43.49**	**312**	P	**P**	**19 54 24.4**	**+0.6**
KDJ	**Kajisay**	**43.49**	**312**	P	**P**	**19 54 24.4**	**+0.6**
KSH	**Kashi**	**43.59**	**308**	P	**P**	**19 54 27.8**	**+3.3**
KSH				sP	pwP	19 54 37.0	-1.9
KSH				PP	**PcP**	**19 56 12.8**	**+1.1**
KSH				PcS	**PcS**	**20 00 05.9**	**+1.4**
KSH				S	S	20 01 00.4	+9.0
KSH				ScS	**ScS**	**20 04 24.9**	**+3.7**
KSH				pmax	pmax		
	comp=Z,180nm,1.3s						
KSH				LR	LR		
	comp=Z,3μm,14.4s						
KSH				LR	LR		
	comp=Z,5μm,14.4s						
KSH				LR	LR		
	comp=Z,7μm,15.1s						
WAKE	**Wake Island**	**43.63**	**81**	P	**P**	**19 54 24.5**	**-0.4**
WAKE				IAMs_20	IAMs_20	20 10 05.3	
	comp=Z,4μm,18.0s						
WAKE	**Wake Island**	**43.63**	**81**	P	**P**	**19 54 27.0**	**+2.1**
TDK	**Taldyqorghan**	**43.70**	**317**	*eP*	**P**	**19 54 25.4**	**+0.2**
TDK				pmax	pmax		
	comp=Z,143nm,1.0s						
TDK				MLR	MLR		
	comp=Z,2μm,16.0s						
TDK	**Taldyqorghan**	**43.70**	**317**	*eP*	**P**	**19 54 25.4**	**+0.2**
	comp=Z,143nm,1.0s						
TDK				LR	LR	20 13 02.8	
	comp=Z,2μm,15.8s						
H11S3	**WAKE ISLAND Hy**	**43.76**	**82**	T	T	20 39 50.1	
	baz=276,slow=74,SNR=167						
H11S1	**WAKE ISLAND Hy**	**43.77**	**82**	T	T	20 39 48.1	
	baz=276,slow=74,SNR=91						
H11S2	**WAKE ISLAND Hy**	**43.78**	**82**	T	T	20 39 48.7	
	baz=276,slow=74,SNR=91						
ARXS	**Arharly**	**43.78**	**315**	*eP*	**P**	**19 54 26.9**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**43.80**	**81**	T	T	20 40 10.8	
	baz=278,slow=75,SNR=64						
H11N2	**WAKE ISLAND Hy**	**43.80**	**81**	T	T	20 40 13.3	
	baz=278,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**43.82**	**81**	T	T	20 40 09.8	
	baz=278,slow=75,SNR=57						
YAK	**Yakutsk**	**43.90**	**6**	P	**P**	**19 54 25.8**	**-0.7**
YAK				IAmb	IAmb	19 54 28.8	
	comp=Z,137nm,1.2s						
YAK	**Yakutsk**	**43.90**	**6**	IAMs_20	IAMs_20	20 14 28.7	
	comp=Z,2μm,19.0s						
YAK	**Yakutsk**	**43.90**	**6**	LR	LR	20 14 45.6	
	comp=Z,2μm,18.2s,baz=183,slow=39						
YAK	**Yakutsk**	**43.90**	**6**	*c iP*	**P**	**19 54 26.3**	**-0.1**
YAK				*e*		19 56 08.6	
YAK				*e*		19 56 11.6	
YAK				*e*PPP	PPP	19 56 44.8	
YAK				*eS*	**S**	**20 00 56.3**	**+1.4**
YAK				*e*SS	**SS**	**20 04 13.4**	**+1.3**
YAK				*e*		20 04 19.9	
YAK				*e*SSS	SSS	20 04 56.5	
YAK				pmax	pmax		
	comp=Z,115nm,1.2s						
YAK				pmax	pmax		
	comp=N,57nm,1.3s						
YAK				pmax	pmax		
	comp=E,25nm,1.5s						
YAK				pmax	pmax		
	comp=Z,56nm,2.0s						
YAK				pmax	pmax		
	comp=N,58nm,1.9s						
YAK				pmax	pmax		
	comp=E,55nm,2.0s						
YAK				smax	smax		
	comp=E,470nm,5.8s						
YAK				smax	smax		
	comp=N,545nm,5.9s						
YAK				MLR	MLR		
	comp=Z,2μm,21.0s						
YAK				MLR	MLR		
	comp=N,2μm,20.0s						
YAK				MLR	MLR		
	comp=E,1μm,19.0s						
AS31	**Alice Springs**	**43.99**	**162**	P	**P**	**19 54 26.8**	**-1.0**
ASAR	**Alice Springs**	**43.99**	**162**	P	**P**	**19 54 26.4**	**-1.3**
	comp=E,20nm,0.7s,baz=340,slow=6.8,SNR=230						
ASAR				PcP	**PcP**	**19 56 13.2**	**+0.2**
	comp=E,20nm,1.0s,baz=346,slow=2.9,SNR=6.9						
ASAR				ScP	**ScP**	**20 00 02.8**	**+0.9**
	comp=E,2.0nm,1.0s,baz=352,slow=5.1,SNR=4.4						
ASAR				S	**S**	**20 00 51.5**	**-5.7**
	comp=E,3.7nm,1.0s,baz=355,slow=24,SNR=8.6						
ASAR				PKPPKP	**P'P'df**	**20 26 14.1**	**+3.8**
	comp=E,0.5nm,0.9s,baz=117,slow=1.5,SNR=4.2						
ASAR				P4KPbc		20 32 22.6	
	comp=E,0.2nm,0.8s,baz=343,slow=4.0,SNR=4.6						
	comp=E,20nm,0.7s						
AS01	**Alice Springs**	**44.00**	**162**	P	**P**	**19 54 27.6**	**-0.2**
WRKA	**Warakurna**	**44.02**	**170**	P	**P**	**19 54 27.3**	**-0.6**
ULHL	**Ulahol**	**44.19**	**312**	P	**P**	**19 54 31.2**	**+1.8**
	SNR=196						
NIL	**Nilore**	**44.57**	**299**	P	**P**	**19 54 32.2**	**-0.2**
NIL	**Nilore**	**44.57**	**299**	P	**P**	**19 54 32.2**	**-0.2**
NIL				pmax	pmax		
	comp=Z,386nm,0.8s						
ZAA0	**Zalesovo Array**	**44.67**	**331**	P	**P**	**19 54 32.1**	**-0.7**
ZAA0				IAmb	IAmb	19 54 35.6	
	comp=Z,78nm,1.0s						
ZALV	**Zalesovo Beam**	**44.67**	**331**	P	**P**	**19 54 32.3**	**-0.5**
ZALV	**Zalesovo Beam**	**44.67**	**331**	P	**P**	**19 54 32.8**	**0.0**
	comp=Z,54nm,0.9s,baz=119,slow=7.5,SNR=109						
ZALV				PcP	**PcP**	**19 56 14.3**	**-0.5**
	comp=Z,10.0nm,0.8s,baz=116,slow=3.4,SNR=5.0						
ZALV				ScP	**ScP**	**20 00 03.9**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=107,slow=3.6,SNR=3.9						
ZALV				S	**S**	**20 01 04.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=85,slow=31,SNR=1.3						
ZALV				LR	LR	20 14 17.6	
	comp=Z,2μm,18.1s,baz=132,slow=38						
	comp=Z,54nm,0.9s						
ZALV	**Zalesovo Beam**	**44.67**	**331**	*i* P	**P**	**19 54 33.0**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,54nm,0.9s						
TKM2	**Tokmak 2**	**44.85**	**313**	P	**P**	**19 54 36.4**	**+1.7**
	SNR=63						
PEA0B	**Petropavlovsk-**	**44.95**	**31**	P	**P**	**19 54 34.5**	**-0.6**
PEA0B				IAmb	IAmb	19 54 53.6	
	comp=Z,154nm,1.4s						
PEA0B	**Petropavlovsk-**	**44.95**	**31**	*i* P	**P**	**19 54 34.7**	**-0.4**
PETK	**Petropavlovsk-**	**44.95**	**31**	P	**P**	**19 54 35.4**	**+0.4**
PETK	**Petropavlovsk-**	**44.95**	**31**	P	**P**	**19 54 34.5**	**-0.6**
	comp=Z,10nm,0.6s,baz=222,slow=3.

AAK pmax pmax
comp=Z,129nm,1.3s
AAK Ala-Archa 45.54 312 *i* P **P 19 54 41.4 +1.2**
SNR=78
SGDS Sogindy 45.69 313 *e*P **P 19 54 41.0 -0.2**
SGDS *e*S **S 20 01 25.2 +3.5**
SGDS Sogindy 45.69 313 *e*P **P 19 54 41.0 -0.2**
SGDS *e*S **S 20 01 25.2 +3.5**
USP Ospenovka 45.73 313 P **P 19 54 42.9 +1.4**
SNR=100
AML Almayashu 45.96 311 P **P 19 54 45.7 +2.0**
SNR=276
EKS2 Erkin-Say 46.05 312 P **P 19 54 46.0 +1.9**
SNR=118
KURK Kurchatov 46.07 324 P **P 19 54 44.2 +0.3**
KURK Kurchatov 46.07 324 P **P 19 54 45.1 +1.2**
KURK Kurchatov 46.07 324 *ce*P **P 19 54 45.0 +1.1**
KURK pmax pmax
comp=Z,420nm,1.3s
KURBB Kurchatov Arra 46.07 324 P **P 19 54 44.8 +0.9**
comp=Z,140nm,0.7s,baz=122,slow=8.2,SNR=133
KURBB PcP **PcP 19 56 20.0 +0.2**
comp=Z,14nm,0.8s,baz=110,slow=3.1,SNR=4.9
KURBB ScP **ScP 20 00 09.9 -0.2**
comp=Z,3.6nm,1.1s,baz=110,slow=5.5,SNR=3.5
KURBB S **S 20 01 25.6 -1.2**
comp=Z,0.6nm,0.3s,baz=48,slow=48,SNR=1.2
KURBB LR LR 20 16 27.3
comp=Z,2μm,19.5s,baz=126,slow=39
comp=Z,140nm,0.7s
ARSB Arslanbob 46.26 310 P **P 19 54 46.3 +0.5**
ARSB Arslanbob 46.26 310 P **P 19 54 46.3 +0.5**
ARSB pmax pmax
comp=Z,203nm,1.0s
MA2 Magadan 46.44 21 P **P 19 54 46.0 -0.6**
MA2 IAMs_20 IAMs_20 20 16 51.5
comp=Z,3μm,18.0s
MA2 Magadan 46.44 21 LR LR 20 16 44.2
comp=Z,2μm,18.2s,baz=228,slow=39
MA2 Magadan 46.44 21 P **P 19 54 47.4 +0.7**
MA2 Magadan 46.44 21 *ce*P **P 19 54 46.9 +0.2**
MA2 pmax pmax
comp=Z,58nm,1.3s
MA2 Magadan 46.44 21 P **P 19 54 45.5 -1.2**
comp=Z,1μmcomp=Z,50nm,1.0s
MA2 PcP **PcP 19 56 21.1 +0.2**
comp=Z,1μmcomp=Z,50nm,1.0s
BTLS Baital 46.60 315 *e*P **P 19 54 48.4 +0.3**
BTLS pmax pmax
comp=Z,94nm,1.4s
BTLS Baital 46.60 315 *e*P **P 19 54 48.5 +0.3**
comp=Z,94nm,1.4s
DRK Karamyk 46.71 307 P **P 19 54 49.8 +0.3**
DRK Karamyk 46.71 307 P **P 19 54 49.8 +0.3**
DRK pmax pmax
comp=Z,205nm,1.0s
TATA Tatamba Isabel 47.18 121 P **P 19 54 55.1 +2.0**
MORW Morawa 47.55 185 P **P 19 54 55.2 -0.5**
MORW Morawa 47.55 185 P **P 19 54 55.1 -0.5**
DZA Taraz 47.85 311 *e*P **P 19 54 57.9 -0.1**
DZA pmax pmax
comp=Z,82nm,1.2s
DZA Taraz 47.85 311 *e*P **P 19 54 57.9 -0.1**
comp=Z,82nm,1.2s
HNR Honiara 47.90 122 IAMs_20 IAMs_20 20 12 04.9
comp=Z,3μm,21.0s
HNR Honiara 47.90 122 LR LR 20 12 16.0
comp=Z,3μm,21.8s,baz=288,slow=32
ALEG Aligegeo Malai 48.11 121 P **P 19 55 02.2 +1.9**
KBL Kabul 48.14 300 P **P 19 55 00.8 +0.2**
KBL Kabul 48.14 300 P **P 19 55 01.5 +0.9**
SNR=136
KBL Kabul 48.14 300 P **P 19 55 00.8 +0.2**
KBL pmax pmax
comp=Z,321nm,1.2s
OOD Oodnadatta 48.40 162 P **P 19 55 01.9 -0.4**
KK31 Karatay Array 48.48 312 P **P 19 55 03.6 +0.7**
KK31 Karatay Array 48.48 312 P **P 19 55 03.6 +0.7**
KK31 pmax pmax
comp=Z,325nm,1.0s
KKAR Karatay Array 48.48 312 P **P 19 55 03.9 +1.0**
KKAR Karatay Array 48.48 312 P **P 19 55 03.9 +1.0**
CHGR Chuyangaron 48.58 305 P **P 19 55 04.2 +0.4**
CHGR Chuyangaron 48.58 305 P **P 19 55 04.2 +0.4**
SIMJ Simiganj 48.70 305 P **P 19 55 04.9 +0.2**
SIMJ IAmb IAmb 19 55 08.1
comp=Z,146nm,1.0s
BRLS Borolday 48.95 311 *e*P **P 19 55 06.9 +0.5**
BRLS pmax pmax
comp=Z,75nm,1.0s
BRLS Borolday 48.95 311 *e*P **P 19 55 07.0 +0.5**
comp=Z,75nm,1.0s
BLDU Ballidu 49.03 184 P **P 19 55 06.4 -0.7**
BRZS Berezniki 49.20 321 *e*P **P 19 55 08.7 +0.5**
BRZS pmax pmax
comp=Z,50nm,1.0s
BRZS Berezniki 49.20 321 *e*P **P 19 55 08.8 +0.5**
comp=Z,50nm,1.0s
SEY Seymchan 49.48 19 *ce*P **P 19 55 11.1 +1.0**
SEY pmax pmax
comp=Z,45nm,1.3s
FORT Forrest 49.61 171 P **P 19 55 10.7 -0.8**
FORT IAmb IAmb 19 56 35.0
comp=Z,145nm,0.9s
FORT Forrest 49.61 171 P **P 19 55 10.8 -0.7**
KMBL Kambalda 49.67 178 P **P 19 55 10.8 -1.2**
KAAM Kaadhehdhoo 49.89 254 P **P 19 55 14.2 +0.2**
KAAM IAMs_20 IAMs_20 20 15 03.0
comp=Z,3μm,20.0s
KAAM Kaadhehdhoo 49.89 254 P **P 19 55 15.1 +1.1**
SNR=8.4
KLBR Kellerberrin 49.94 183 P **P 19 55 13.3 -0.7**
INKA Innaminka 50.07 156 P **P 19 55 15.7 +0.7**
MUN Mundaring 50.42 185 P **P 19 55 17.3 -0.4**
QLP Quilpie 50.48 152 P **P 19 55 18.9 +0.7**
NWAO Narrogin (SRO) 51.30 183 P **P 19 55 23.7 -0.5**
NWAO IAmb IAmb 19 55 25.4
comp=Z,288nm,1.4s
NWAO Narrogin (SRO) 51.30 183 LR LR 20 18 28.2
comp=Z,963nm,21.8s,baz=352,slow=38
NWAO Narrogin (SRO) 51.30 183 P **P 19 55 24.5 +0.3**
NWAO Narrogin (SRO) 51.30 183 P **P 19 55 24.6 +0.4**
NWAO Narrogin (SRO) 51.30 183 P **P 19 55 24.9 +0.7**
NWAO Narrogin (SRO) 51.30 183 P **P 19 55 23.7 -0.5**
NWAO pmax pmax
comp=Z,288nm,1.4s
AUHAR St Anne's Scho 51.55 185 P **P 19 55 27.0 +0.9**
LCRK Leigh Creek 51.66 160 P **P 19 55 27.4 +0.5**
BVAR Borovoye Array 51.66 324 P **P 19 55 27.8 +1.0**
comp=Z,75nm,0.8s,baz=113,slow=11,SNR=135
BVAR PcP **PcP 19 56 40.2 +0.2**
comp=Z,72nm,0.7s,baz=120,slow=3.6,SNR=18
BVAR ScP **ScP 20 00 33.5 -0.3**
comp=Z,5.9nm,1.1s,baz=129,slow=3.9,SNR=2.5
BVAR S **S 20 02 46.1 +0.7**
comp=Z,0.8nm,0.9s,baz=228,slow=38,SNR=1.3
BVAR LR LR 20 17 47.7
comp=Z,1μm,20.5s,baz=117,slow=36
BVAR P4KPbc 20 32 52.6
comp=Z,1.1nm,0.7s,baz=96,slow=4.5,SNR=8.5
comp=Z,75nm,0.8s
BRVK Borovoye 51.74 324 P **P 19 55 28.1 +0.8**
BRVK Borovoye 51.74 324 P **P 19 55 28.9 +1.5**
BRVK P **P 19 55 28.9 +1.5**
BRVK Borovoye 51.74 324 *ce*P **P 19 55 28.5 +1.2**
BRVK pmax pmax
comp=Z,395nm,1.3s
EIDS Eidsvold 52.89 145 P **P 19 55 35.4 -0.8**
EIDS IAMs_20 IAMs_20 20 22 03.0
comp=Z,1μm,18.0s
BBOO Buckleboo 53.23 164 P **P 19 55 38.1 -0.5**
BBOO IAmb IAmb 19 55 40.2
comp=Z,73nm,0.9s
BBOO Buckleboo 53.23 164 P **P 19 55 38.4 -0.2**
TIXI Tiksi 53.31 3 P **P 19 55 38.4 -0.3**
TIXI IAmb IAmb 19 55 39.6
comp=Z,141nm,0.9s
TIXI Tiksi 53.31 3 LR LR 20 20 43.0
comp=Z,3μm,19.0s,baz=200,slow=39
TIXI Tiksi 53.31 3 *i* P **P 19 55 38.2 -0.5**
TIXI pmax pmax
comp=Z,169nm,1.0s
AUALB St Joseph's Co 53.33 183 P **P 19 55 40.6 +1.4**
LUES Luesalemba Tem 53.45 119 P **P 19 55 42.4 +1.9**
SHEM Shemya Is, Ala 53.62 37 LR LR 20 17 20.8
comp=Z,571nm,22.0s,baz=268,slow=35
HRA Herat 53.74 299 P **P 19 55 41.9 -0.8**
HRA IAmb IAmb 19 55 44.6
comp=Z,156nm,1.2s
STKA Stephens Creek 54.11 158 P **P 19 55 44.8 -0.2**
STKA Stephens Creek 54.11 158 P **P 19 55 44.8 -0.2**
comp=Z,18nm,0.6s,baz=333,slow=8.0,SNR=52
STKA PcP **PcP 19 56 49.9 +0.4**
comp=Z,30nm,0.9s,baz=333,slow=6.3,SNR=6.3
STKA S **S 20 03 15.5 -3.5**
comp=Z,1.9nm,1.0s,baz=338,slow=22,SNR=1.7
STKA LR LR 20 22 16.5
comp=Z,509nm,20.0s,baz=339,slow=40
comp=Z,18nm,0.6s
STKA Stephens Creek 54.11 158 P **P 19 55 45.1 +0.1**
STKA Stephens Creek 54.11 158 *i* P **P 19 55 44.0 -1.0**
PTPS Port Pirie 54.12 162 P **P 19 55 46.3 +1.3**
AULRC Lightning Ridg 54.62 150 P **P 19 55 49.1 +0.3**
HTT Hallett 54.64 161 P **P 19 55 48.8 -0.1**
CMSA Cobar Meteorol 55.41 154 P **P 19 55 55.1 +0.7**
AUMBR Murray Bridge 56.33 161 P **P 19 56 01.6 +0.6**
ABKAR Abkulak array 56.95 317 P **P 19 56 05.6 +0.2**
ABKAR Abkulak array 56.95 317 P **P 19 56 05.5 +0.2**
ABKAR IAmb IAmb 19 56 07.4
comp=Z,118nm,0.8s
JLN Jalan Bani Buh 56.99 285 P **P 19 56 04.9 -1.2**
BILL Bilibino 57.19 19 P **P 19 56 06.4 -0.2**
BILL IAmb IAmb 19 57 02.9
comp=Z,49nm,1.0s
BILL Bilibino 57.19 19 IAMs_20 IAMs_20 20 22 41.9
comp=Z,2μm,18.0s
BILL Bilibino 57.19 19 *ce*P **P 19 56 05.9 -0.8**
BILL pmax pmax
comp=Z,75nm,2.5s
ARMA Armidale 57.22 148 P **P 19 56 08.3 +0.8**
ARMA IAMs_20 IAMs_20 20 20 00.7
comp=Z,1μm,20.0s
WBK Wadi Bani Khal 57.33 285 P **P 19 56 07.2 -1.3**
WSAR Wadi Sarin 57.56 286 LR LR 20 23 38.0
comp=Z,811nm,19.6s,baz=103,slow=39
VLAKA Lakatoro 57.68 124 P **P 19 56 12.4 +1.6**
BIDO Bidbid 57.98 287 P **P 19 56 13.1 +0.1**
SMDO Samad 58.11 286 P **P 19 56 13.2 -0.9**
JMDO Jabal Madar 58.16 285 P **P 19 56 13.4 -0.9**
SVE Sverdlovsk 58.21 326 *d i* P **P 19 56 14.8 +0.7**
SVE *e*S **S 20 04 19.0 +6.0**
SVE pmax pmax
comp=Z,439nm,1.1s
SVE MLR MLR
comp=Z,2μm,19.0s
AKTO Aktyubinsk 58.38 318 LR LR 20 21 59.3
comp=Z,1μm,18.7s,baz=125,slow=37
MHTO MHTO 58.50 284 P **P 19 56 15.4 -1.3**
ARPS Mount Arapiles 58.64 160 P **P 19 56 17.6 +0.4**
HOQ Hoqain 58.71 287 P **P 19 56 18.3 +0.2**
BSY Bisya 58.93 286 P **P 19 56 19.6 -0.1**
DQM DQM 59.08 283 P **P 19 56 19.8 -0.9**
SNR=8.4
MGBR Mount Gambier 59.12 161 P **P 19 56 21.3 +0.8**
ARTI Arti 59.31 325 P **P 19 56 21.4 -0.3**
ARTI IAMs_20 IAMs_20 20 25 19.8
comp=Z,2μm,20.0s
ARTI Arti 59.31 325 LR LR 20 23 24.3
comp=Z,1μm,19.1s,baz=112,slow=37
ARTI Arti 59.31 325 P **P 19 56 21.4 -0.3**
ARTI pmax pmax
comp=Z,175nm,0.9s
ARTI MLR MLR
comp=Z,2μm,20.0s
SOHO SOHO 59.34 287 P **P 19 56 22.3 -0.1**
SOHO SOHO 59.34 287 *i* P **P 19 56 21.9 -0.5**
SNR=11
MDH Madha 59.39 289 P **P 19 56 22.7 -0.1**
MDH P **P 19 56 22.7 -0.1**
SHME Shamm 59.44 290 P **P 19 56 23.8 +0.6**
SHME Shamm 59.44 290 P **P 19 56 23.9 +0.7**
ARQ Araqi 59.46 287 P **P 19 56 23.0 -0.3**
SNR=5.5
MASF Masafi 59.51 289 P **P 19 56 24.1 +0.4**
MSFE Esma-Masafi 59.51 289 P **P 19 56 23.9 +0.2**
UOSS Minazif 59.52 288 P **P 19 56 23.5 -0.3**
UOSS Minazif 59.52 288 P **P 19 56 22.8 -1.0**
UOSS Minazif 59.52 288 P **P 19 56 23.2 -0.6**
HATD Hatta, Dubai 59.61 288 P **P 19 56 24.3 0.0**
SNR=6.2
HATD Hatta, Dubai 59.61 288 *i* P **P 19 56 24.2 -0.1**
SNR=12
ASHO Ashiyiah 59.69 288 P **P 19 56 25.3 +0.3**
SNR=12
ASHO Ashiyiah 59.69 288 *i* P **P 19 56 24.9 -0.1**
SNR=18
UMQ Umm Al-Quwin 59.94 289 P **P 19 56 27.3 +0.8**
NAZ Nazwa, Dubai 60.01 289 P **P 19 56 26.5 -0.6**
NAZ Nazwa, Dubai 60.01 289 *i* P **P 19 56 26.3 -0.8**
SNR=8.0
BRAT Ballarat 60.05 159 P **P 19 56 27.8 +0.9**
ALNE Al Ain 60.06 288 P **P 19 56 27.4 0.0**
SNR=13
ALNE Al Ain 60.06 288 *i* P **P 19 56 27.3 -0.1**
SNR=15
CAN Canberra 60.06 153 P **P 19 56 27.7 +0.5**
CAN IAmb IAmb 19 57 16.2
comp=Z,88nm,1.7s
CAN Canberra 60.06 153 P **P 19 56 29.1 +1.9**
CAN Canberra 60.06 153 P **P 19 56 27.7 +0.5**
CAN pmax pmax
comp=Z,88nm,1.7s
FAQ Al Faqa, Dubai 60.10 288 P **P 19 56 27.6 -0.1**
FAQ Al Faqa, Dubai 60.10 288 *i* P **P 19 56 27.3 -0.5**
SNR=7.3
CNB Canberra Magne 60.21 153 P **P 19 56 29.7 +1.5**
ASUD Al Ashush, Dub 60.36 288 P **P 19 56 29.8 +0.4**
ASUD Al Ashush, Dub 60.36 288 *i* P **P 19 56 29.8 +0.4**
SNR=5.9
DZM Mont Dzumac 60.47 130 P **P 19 56 31.5 +1.2**
DZM IAmb IAmb 19 56 48.0
comp=Z,114nm,1.6s
DZM Mont Dzumac 60.47 130 LR LR 20 19 25.1
comp=Z,1μm,21.7s,baz=342,slow=33
TOO Toolangi 60.62 157 P **P 19 56 31.9 +1.0**
TOO Toolangi 60.62 157 P **P 19 56 31.9 +1.0**
TOO pmax pmax
comp=Z,8.0nm,0.8s
TOO MLR MLR
comp=Z,400nm,20.0s
GEXS Deakin Univers 60.76 159 P **P 19 56 32.6 +0.9**
UMZA Um Al Zommool 60.80 286 P **P 19 56 32.1 -0.3**
MZWR Madinat Zayed 61.79 287 P **P 19 56 39.0 -0.2**
MZR Muzera 62.28 287 P **P 19 56 42.2 -0.3**
SNR=9.3
MZR Muzera 62.28 287 *i* P **P 19 56 42.1 -0.5**
SNR=25
DOK Doka 62.49 282 P **P 19 56 43.2 -0.7**
SNR=11
JRN Qarnain Island 62.54 289 P **P 19 56 43.6 -0.5**
RBK Rabkut 62.65 280 P **P 19 56 44.5 -0.5**
SNR=21
RBK P **P 19 56 44.5 -0.5**
SNR=21
RBK P **P 19 56 44.6 -0.5**
RBK P **P 19 56 44.6 -0.5**
GHWR Ruwais 62.67 288 P **P 19 56 44.6 -0.4**
SPIA Saint Paul Isl 63.39 35 P **P 19 56 49.8 +0.6**
baz=263
ABTO Aybut 63.52 281 P **P 19 56 50.4 -0.5**
SNR=18
ABTO P **P 19 56 50.4 -0.5**
SNR=18
P08K Saint George I 63.70 35 P **P 19 56 51.7 +0.4**
baz=264
SLWR Sila 63.72 288 P **P 19 56 52.1 +0.1**
GAMB Gambell 63.74 27 P **P 19 56 52.2 +0.7**
baz=258
TRNA Turayna 64.04 289 P **P 19 56 54.3 +0.2**
SNR=6.0
SHMA Al-Shehemyia 64.08 290 P **P 19 56 54.6 +0.2**
SNR=5.4
SMRA Abu-Samra 64.39 289 P **P 19 56 56.6 +0.2**
SNR=12
SAKB Bahrain 64.44 290 P **P 19 56 56.9 +0.1**
KIRV Kirov 64.45 327 LR LR 20 27 06.0
comp=Z,2μm,19.3s,baz=100,slow=38
KIRV Kirov 64.45 327 *i* P **P 19 56 56.0 -0.2**
BELG Belogornoye 65.04 320 LR LR 20 26 37.2
comp=Z,1μm,18.7s,baz=85,slow=37
AKT Akhty 65.11 308 *e*P **P 19 56 59.5 -1.5**
AKT *e* 19 57 29.9
AKT *e* 19 59 22.8
AKT *e*S **S 20 05 41.5 +0.3**
AKT pmax pmax
comp=Z,128nm,0.8s
MAK Makhachkala 65.20 309 *e*P **P 19 56 59.3 -2.1**
MAK *e* 19 59 22.1
MAK *e*S **S 20 05 43.0 +1.1**
MAK *e*SS **SS 20 09 54.7 -0.1**
MAK pmax pmax
comp=Z,124nm,1.4s
MAK MLR MLR
comp=Z,2μm,15.0s
UNV Unalaska Valle 65.24 39 P **P 19 57 02.1 +0.7**
UNV Unalaska Valle 65.24 39 P **P 19 57 01.5 +0.1**
baz=268
TNA Tin City 65.66 26 P **P 19 57 04.8 +0.8**
baz=261
M11K Mekoryuk 65.82 31 P **P 19 57 06.2 +1.2**
M11K IAmb IAmb 19 57 07.5
comp=Z,41nm,0.8s
M11K Mekoryuk 65.82 31 P **P 19 57 05.5 +0.4**
baz=265
TAU Tasmania Unive 66.00 159 P **P 19 57 08.1 +1.8**
TAU IAmb IAmb 19 57 11.1
comp=Z,118nm,1.4s
TAU Tasmania Unive 66.00 159 P **P 19 57 07.9 +1.6**
TAU Tasmania Unive 66.00 159 P **P 19 57 08.1 +1.8**
TAU pmax pmax
comp=Z,119nm,1.4s
YSA Yasawairara 66.25 118 P **P 19 57 10.0 +1.5**
F14K Arctic Creek 66.31 26 P **P 19 57 08.9 +0.8**
baz=263
KBD Kabd 66.44 294 P **P 19 57 09.3 -0.3**
ANM Nome 66.60 27 P **P 19 57 10.7 +0.7**
ANM IAMs_20 IAMs_20 20 30 09.1
comp=Z,950nm,18.0s
ANM Nome 66.60 27 P **P 19 57 10.7 +0.7**
ANM pmax pmax
comp=Z,43nm,1.3s
ANM MLR MLR
comp=Z,900nm,18.0s
ANM Nome 66.60 27 P **P 19 57 10.2 +0.2**
baz=264
K13K Kusilvak Mount 66.69 30 P **P 19 57 11.7 +1.0**
K13K IAmb IAmb 19 57 13.2
comp=Z,58nm,1.3s
K13K Kusilvak Mount 66.69 30 P **P 19 57 11.6 +1.0**
baz=266
F15K North Star Dit 67.03 26 IAMs_20 IAMs_20 20 27 31.4
comp=Z,1μm,20.0s
F15K North Star Dit 67.03 26 P **P 19 57 12.9 +0.2**
baz=264
C16K Lisburne Hills 67.06 23 P **P 19 57 13.7 +0.9**
baz=262
MSVF Nonsavu 67.15 119 P **P 19 57 16.8 +2.5**
MSVF Nonsavu 67.15 119 P **P 19 57 15.5 +1.2**
comp=Z,63nm,0.8s,baz=257,slow=5.4,SNR=23
MSVF LR LR 20 24 47.9
comp=Z,2μm,18.4s,baz=323,slow=34
comp=Z,63nm,0.8s
MSVF Nonsavu 67.15 119 P **P 19 57 16.1 +1.8**
MSVF Nonsavu 67.15 119 P **P 19 57 16.8 +2.5**
MSVF pmax pmax
comp=Z,131nm,1.1s
G15K Niukluk 67.21 27 P **P 19 57 14.3 +0.4**
baz=265
M13K Dall Lake 67.23 32 P **P 19 57 13.2 -0.8**
baz=268
J14K Nanvaranak Lak 67.26 29 P **P 19 57 13.7 -0.5**
baz=266
GNI Garni 67.48 306 P **P 19 57 16.8 +0.5**
GNI Garni 67.48 306 P **P 19 57 17.7 +1.4**
GNI Garni 67.48 306 *i* P **P 19 57 16.6 +0.3**
GNI pmax pmax
comp=Z,151nm,1.3s
L14K Kuka Creek 67.60 31 P **P 19 57 17.6 +1.3**
L14K IAmb IAmb 19 57 19.1
comp=Z,118nm,1.2s
L14K IAMs_20 IAMs_20 20 25 01.6
comp=Z,1μm,22.0s
L14K Kuka Creek 67.60 31 P **P 19 57 15.7 -0.6**
baz=268
D17K Noatak River 67.84 24 P **P 19 57 17.5 -0.3**
baz=265
S12K Black Hills 67.84 37 P **P 19 57 17.1 -1.0**
baz=271
DGTI Dogotuki 67.87 117 P **P 19 57 20.8 +2.0**
C17K DeLong Mountai 67.88 23 P **P 19 57 18.2 +0.1**
baz=264
M14K Bethel 67.93 31 P **P 19 57 18.5 +0.1**
baz=269,SNR=17
RDOG Red Dog Mine 67.94 23 P **P 19 57 19.4 +0.9**
RDOG Red Dog Mine 67.94 23 P **P 19 57 18.7 +0.2**
baz=265
G16K Koyuk River 67.95 26 P **P 19 57 17.9 -0.7**
baz=266
H16K Elim 67.95 27 P **P 19 57 18.6 0.0**
baz=267
MSEY Mahe Island 68.00 257 P **P 19 57 19.4 -0.4**
MSEY Mahe Island 68.00 257 P **P 19 57 20.2 +0.4**
MSEY P **P 19 57 20.4 +0.7**
MSEY Mahe Island 68.00 257 P **P 19 57 19.4 -0.4**
MSEY pmax pmax
comp=Z,253nm,1.3s
MSEY MLR MLR
comp=Z,900nm,20.0s
MSEY Mahe Island 68.00 257 *i* P **P 19 57 20.4 +0.7**
SNR=16
NCK Nalchik 68.02 310 *i* P **P 19 57 19.0 -0.4**
NCK pmax pmax
comp=Z,74nm,1.3s
N14K Kuskokwak Cree 68.05 32 P **P 19 57 18.8 -0.4**
baz=269
K15K Wolf Creek Mou 68.17 30 P **P 19 57 20.1 0.0**
baz=268
L15K Ungalak Mounta 68.18 30 P **P 19 57 19.1 -1.0**
baz=269
O14K Tigyukauivet M 68.26 33 P **P 19 57 20.7 +0.1**
baz=270
E17K Hotham Inlet 68.27 24 P **P 19 57 21.3 +0.8**
baz=266
GOF Gofitskoye 68.28 312 *ce*P **P 19 57 21.3 +0.3**
TAVE Taveuni 68.36 117 P **P 19 57 24.5 +2.6**
B18K Kokolik River 68.45 22 P **P 19 57 22.0 +0.4**
baz=265
F17K Baldwin Pennin 68.46 25 P **P 19 57 22.2 +0.5**
baz=267
KBZ Khabaz 68.50 310 P **P 19 57 22.7 +0.3**
comp=Z,84nm,0.9s,baz=91,slow=5.3,SNR=116
KBZ LR LR 20 30 43.7
comp=Z,2μm,19.3s,baz=82,slow=39
comp=Z,84nm,0.9s
M15K Kasigluk River 68.55 31 P **P 19 57 22.1 -0.3**
baz=270
I17K Unalakleet 68.60 28 P **P 19 57 21.9 -0.7**
baz=268
C18K Utukok River 68.62 23 IAMs_20 IAMs_20 20 31 01.8
comp=Z,2μm,18.0s
C18K Utukok River 68.62 23 P **P 19 57 21.9 -0.9**
baz=266
J16K Anvik River 68.63 28 P **P 19 57 23.2 +0.4**
baz=269
KIV Kislovodsk 68.63 311 P **P 19 57 23.5 +0.2**
KIV Kislovodsk 68.63 311 P **P 19 57 24.3 +0.9**
KIV Kislovodsk 68.63 311 ⇑P **P 19 57 24.0 +0.7**
KIV Kislovodsk 68.63 311 *e*P **P 19 57 22.3 -1.1**
KIV *e*S **S 20 06 26.3 +2.7**
KIV *e*SS **SS 20 10 51.8 +3.7**
KIV pmax pmax
comp=Z,237nm,1.0s
KIV pmax pmax
comp=Z,95nm,3.2s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 68.63 311 *i* P **P 19 57 23.9 +0.5**
SNR=91
KIV Kislovodsk 68.63 311 P **P 19 57 22.8 -0.6**
comp=Z,2μmcomp=Z,284nm,1.1s
KARS Kars 68.69 307 P **P 19 57 24.5 +0.6**
KARS Kars 68.69 307 P **P 19 57 24.5 +0.6**
KARS pmax pmax
comp=Z,266nm,0.8s
VRH Novokhopyorsk 68.72 319 *e*P **P 19 57 20.4 -3.2**
VRH pmax pmax

comp=Z,180nm,0.9s
SDPT Sand Point 68.75 37 P **P** 19 57 22.9 -0.8
baz=272
E18K Tukpahlearik C 68.77 24 P **P** 19 57 23.5 -0.1
baz=267
A19K Wainwright 68.77 21 P **P** 19 57 23.5 0.0
baz=266
N15K Kwethluk River 68.85 32 P **P** 19 57 23.9 -0.4
baz=270
H17K Granite Mounta 68.96 27 IAMs_20 IAMs_20 20 33 25.7
comp=Z,913nm,19.0s
H17K Granite Mounta 68.96 27 P **P** 19 57 25.1 +0.2
baz=269,SNR=9.1
GEVA Gevas 68.99 305 P **P** 19 57 26.0 +0.2
O15K Ungalikthiuk R 69.00 33 P **P** 19 57 25.2 0.0
baz=271
F18K Selawik 69.11 25 P **P** 19 57 26.3 +0.6
baz=268
L16K Owhat River 69.14 30 P **P** 19 57 26.5 +0.5
baz=270,SNR=21
S14K Fog Glacier 69.24 36 P **P** 19 57 26.3 -0.5
baz=272
CHNA Chernabura Isl 69.28 38 P **P** 19 57 28.9 +1.9
CHNA Chernabura Isl 69.28 38 P **P** 19 57 26.5 -0.5
baz=273
CNBA Chernabura Isl 69.29 38 P **P** 19 57 26.7 -0.3
CNBA IAmb IAmb 19 57 27.7
comp=Z,40nm,0.7s
J17K VABM Dome 69.31 28 IAMs_20 IAMs_20 20 27 41.2
comp=Z,1µm,21.0s
J17K VABM Dome 69.31 28 P **P** 19 57 27.0 -0.1
baz=270
RAYN Ar Rayn 69.39 289 P **P** 19 57 27.7 -0.7
RAYN Ar Rayn 69.39 289 P **P** 19 57 28.5 +0.1
RAYN Ar Rayn 69.39 289 P **P** 19 57 27.7 -0.7
RAYN pmax pmax
comp=Z,229nm,1.0s
RAYN Ar Rayn 69.39 289 *i* P **P** 19 57 28.2 -0.1
SNR=158
M16K Timber Creek 69.40 31 P **P** 19 57 27.1 -0.6
baz=271,SNR=23
G18K Tagagawik 69.50 26 P **P** 19 57 28.5 +0.3
baz=270,SNR=25
N16K Nishlik Lake 69.50 31 P **P** 19 57 27.7 -0.6
baz=272
KLMR Klimovskoe 69.55 329 *e*P **P** 19 57 26.1 -2.5
KLMR pmax pmax
comp=Z,243nm,1.1s
H18K Honhosa River 69.62 26 P **P** 19 57 28.3 -0.6
baz=270
K17K Iditarod 69.67 29 P **P** 19 57 29.2 -0.1
baz=271
BCA Borcka 69.69 308 ⇓P **P** 19 57 30.7 +0.8
L17K Donlin 69.69 30 P **P** 19 57 29.1 -0.3
baz=271
D19K Kuna River 69.74 23 IAMs_20 IAMs_20 20 27 20.5
comp=Z,1µm,22.0s
D19K Kuna River 69.74 23 P **P** 19 57 29.8 +0.1
baz=269
GURO Guroymak-BITLI 69.76 305 P **P** 19 57 30.8 +0.4
F19K Shaleruckik Mo 69.86 25 P **P** 19 57 30.9 +0.5
F19K IAmb IAmb 19 57 52.4
comp=Z,70nm,1.8s
F19K Shaleruckik Mo 69.86 25 P **P** 19 57 30.0 -0.3
baz=270
CHGN Chignik 69.87 36 P **P** 19 57 30.1 -0.5
CHGN IAmb IAmb 19 57 34.0
comp=Z,129nm,1.7s
CHGN Chignik 69.87 36 P **P** 19 57 30.0 -0.6
baz=273
O16K Kokwok River B 69.87 32 P **P** 19 57 30.2 -0.3
baz=272
P16K Nushagak River 69.95 33 P **P** 19 57 31.1 0.0
baz=273
LABN Labinsk 69.96 312 *e*P **P** 19 57 32.2 +0.8
LABN *e*S **S** 20 06 41.1 +2.1
LABN pmax pmax
comp=Z,49nm,0.8s
LABN MLR MLR
comp=Z,3µm,22.0s
ERBR Yeremizino-Bor 70.01 313 *e*P **P** 19 57 31.8 +0.1
ERBR *e*S **S** 20 06 40.7 +1.2
ERBR pmax pmax
comp=Z,254nm,0.8s
E19K Redstone River 70.07 24 P **P** 19 57 32.2 +0.5
baz=270
B20K Meade River 70.10 21 IAMs_20 IAMs_20 20 32 21.6
comp=Z,2µm,18.0s
B20K Meade River 70.10 21 P **P** 19 57 32.2 +0.4
baz=270
M17K Holitna River 70.12 30 P **P** 19 57 32.7 +0.6
baz=272
G19K Purcell Mounta 70.14 25 P **P** 19 57 31.9 -0.3
baz=271
VORR Voronezh 70.26 319 *e*P **P** 19 57 33.1 0.0
VORR pmax pmax
comp=Z,212nm,0.7s
GCSA Galena City Sc 70.26 27 P **P** 19 57 33.4 +0.6
baz=272,SNR=16
VORD Divnogorie 70.27 318 *e*P **P** 19 57 29.7 -3.5
VORD pmax pmax
comp=Z,70nm,1.0s
N17K Nushagak Hills 70.28 31 P **P** 19 57 33.9 +0.8
baz=273
A21K Barrow 70.29 20 P **P** 19 57 33.5 +0.5
baz=270
D20K Etivluk River 70.29 23 P **P** 19 57 32.9 -0.2
baz=270
VSR Storozhevoye 70.32 319 *e*P **P** 19 57 29.9 -3.6
VSR pmax pmax
comp=Z,90nm,1.0s
LPSR Galich'ya Gora 70.35 320 *e*P **P** 19 57 31.0 -2.6
LPSR pmax pmax
comp=Z,190nm,0.9s
O17K Koliganek Bris 70.37 32 P **P** 19 57 33.5 -0.1
baz=273,SNR=13
J18K Innoko River 70.38 28 P **P** 19 57 33.9 +0.2
baz=272
H19K Roundabout Mou 70.42 26 P **P** 19 57 34.9 +1.1
H19K IAmb IAmb 19 57 36.5
comp=Z,73nm,1.2s
H19K Roundabout Mou 70.42 26 P **P** 19 57 34.0 +0.2
baz=272
L18K Granite Mounta 70.44 30 IAMs_20 IAMs_20 20 26 40.1
comp=Z,972nm,21.0s
L18K Granite Mounta 70.44 30 P **P** 19 57 34.6 +0.6
baz=273,SNR=31
E20K Nigu River 70.46 23 P **P** 19 57 34.6 +0.5
baz=271
VSLR Vesyoloye 70.60 310 *i* P **P** 19 57 35.4 0.0
VSLR pmax pmax
comp=Z,290nm,1.0s
F20K Avaraart Lake 70.66 24 P **P** 19 57 35.7 +0.4
baz=272
Q16K King Salmon 70.67 33 P **P** 19 57 35.9 +0.5
baz=274
TTA Tatalina 70.72 29 P **P** 19 57 36.4 +0.6
TTA IAmb IAmb 19 57 38.1
comp=Z,54nm,1.4s
TTA Tatalina 70.72 29 P **P** 19 57 36.9 +1.1
TTA Tatalina 70.72 29 P **P** 19 57 36.4 +0.6
TTA pmax pmax
comp=Z,54nm,1.4s
TTA Tatalina 70.72 29 P **P** 19 57 36.2 +0.4
baz=273,SNR=25
KOPT Kop Dagi 70.73 307 P **P** 19 57 37.2 +0.6
KOPT IAmb IAmb 19 57 38.9
comp=Z,105nm,1.4s
P17K Kvichak River 70.74 33 P **P** 19 57 36.1 +0.2
baz=274,SNR=41
A22K Sinclair Lake 70.83 20 P **P** 19 57 36.6 +0.4
baz=271
J19K Poorman 70.84 28 IAMs_20 IAMs_20 20 28 40.1
comp=Z,949nm,21.0s
J19K Poorman 70.84 28 P **P** 19 57 36.7 +0.2
baz=273
MOS Moscow 70.84 324 *e*P **P** 19 57 34.0 -2.5
MOS *e* 19 57 54.9
MOS *e* 20 00 12.1
MOS *e*S **S** 20 06 45.5 -3.3
MOS pmax pmax
comp=Z,140nm,0.7s
MOS MLR MLR
comp=Z,2µm,16.0s
M18K Stony River 70.89 30 P **P** 19 57 36.8 0.0
baz=274
N18K Kilae Creek 70.91 31 P **P** 19 57 37.1 +0.2
baz=274
MARD Mardin 70.92 304 P **P** 19 57 37.9 +0.2
C21K Knifeblade Rid 70.94 22 P **P** 19 57 38.1 +1.1
baz=272
B21K Ikpikpuk River 70.99 22 IAMs_20 IAMs_20 20 33 11.7
comp=Z,2µm,18.0s
B21K Ikpikpuk River 70.99 22 P **P** 19 57 37.4 +0.1
baz=272
H20K Anotteneega Mo 71.07 26 P **P** 19 57 38.3 +0.5
baz=273
E21K Killik River 71.27 23 P **P** 19 57 39.3 +0.2
E21K IAmb IAmb 20 28 40.4
comp=Z,1µm,22.0s
E21K Killik River 71.27 23 P **P** 19 57 39.4 +0.4
baz=273
I20K Naaghedeneel 71.28 27 IAMs_20 IAMs_20 20 29 55.1
comp=Z,1µm,20.0s
I20K Naaghedeneel 71.28 27 P **P** 19 57 40.3 +1.2
baz=274
L19K White Mountain 71.30 30 IAMs_20 IAMs_20 20 26 44.9
comp=Z,1µm,21.0s
L19K White Mountain 71.30 30 P **P** 19 57 39.9 +0.6
baz=274,SNR=26
O18K Koktuh Hills 71.32 32 P **P** 19 57 40.1 +0.7
baz=275,SNR=49
P18K Big Mountain, 71.34 33 P **P** 19 57 40.2 +0.6
baz=275,SNR=24
B22K Teshekpuk Lake 71.37 21 IAMs_20 IAMs_20 20 33 09.7
comp=Z,2µm,18.0s
B22K Teshekpuk Lake 71.37 21 P **P** 19 57 40.6 +1.1
baz=273
LVZ Lovozero 71.37 337 P **P** 19 57 39.9 +0.3
LVZ IAmb IAmb 19 59 08.7
comp=Z,64nm,1.3s
LVZ Lovozero 71.37 337 P **P** 19 57 39.9 +0.3
LVZ pmax pmax
comp=Z,64nm,1.3s
LVZ MLR MLR
comp=Z,2µm,18.0s
ACHA Angle Creek He 71.40 34 P **P** 19 57 39.7 -0.3
J20K Nowinta River 71.47 27 IAMs_20 IAMs_20 20 29 50.3
comp=Z,891nm,20.0s
J20K Nowinta River 71.47 27 P **P** 19 57 40.8 +0.6
baz=274
OBN Obninsk 71.50 323 P **P** 19 57 40.3 -0.2
OBN Obninsk 71.50 323 LR LR 20 31 23.4
comp=Z,2µm,18.4s,baz=78,slow=38
OBN Obninsk 71.50 323 ⇑P **P** 19 57 40.5 0.0
OBN Obninsk 71.50 323 P **P** 19 57 40.4 -0.2
OBN Obninsk 71.50 323 P **P** 19 57 38.9 -1.6
comp=Z,2µmcomp=Z,202nm,1.1s
Q18K Katmai Hardscr 71.53 33 P **P** 19 57 40.2 -0.7
baz=275,SNR=13
F21K Alatna River 71.53 24 P **P** 19 57 40.4 -0.2
baz=274
M19K Big River Lodg 71.54 30 P **P** 19 57 41.2 +0.4
baz=275
G21K Allakaket 71.57 25 P **P** 19 57 40.7 -0.1
baz=274
K20K Telida 71.57 28 IAMs_20 IAMs_20 20 33 46.8
comp=Z,894nm,19.0s
K20K Telida 71.57 28 P **P** 19 57 40.8 -0.1
baz=275
N19K Bonanza Creek 71.59 31 P **P** 19 57 40.7 -0.5
baz=275
D22K Ayikyak River 71.72 22 IAMs_20 IAMs_20 20 30 33.8
comp=Z,1µm,20.0s
D22K Ayikyak River 71.72 22 P **P** 19 57 40.9 -0.7
baz=274
O19K Port Alsworth 71.73 32 P **P** 19 57 42.0 +0.1
baz=276,SNR=24
L20K Farewell, AK 71.73 29 P **P** 19 57 41.7 -0.2
baz=275,SNR=17
APA Apatity 71.87 336 ⇓*i* P **P** 19 57 41.0 -1.6
APA pmax pmax
comp=Z,58nm,0.8s
H21K Melozitna Rive 71.92 26 P **P** 19 57 42.6 -0.3
baz=275
R18K Karluk 71.93 34 P **P** 19 57 42.6 -0.5
baz=276
F22K John River 72.01 24 P **P** 19 57 43.2 -0.3
baz=275
E22K Anaktuvuk Pass 72.09 23 IAMs_20 IAMs_20 20 29 26.8
comp=Z,1µm,21.0s
E22K Anaktuvuk Pass 72.09 23 P **P** 19 57 44.5 +0.4
baz=275,SNR=30
M20K Styx River 72.14 30 IAMs_20 IAMs_20 20 27 33.5
comp=Z,985nm,22.0s
M20K Styx River 72.14 30 P **P** 19 57 44.0 -0.4
baz=276
SII Sitkinak Islan 72.19 35 P **P** 19 57 45.4 +0.7
SII IAmb IAmb 19 57 46.5
comp=Z,117nm,1.3s
SII Sitkinak Islan 72.19 35 P **P** 19 57 46.3 +1.6
SII Sitkinak Islan 72.19 35 P **P** 19 57 44.4 -0.3
baz=277,SNR=5.2
Q19K Cape Douglas, 72.20 33 P **P** 19 57 44.6 -0.2
baz=276,SNR=16
ANN Anapa 72.27 312 *e*P **P** 19 57 43.7 -1.7
ANN *e*S **S** 20 07 02.7 -2.9
ANN pmax pmax
comp=Z,178nm,1.4s
ANN MLR MLR
comp=Z,1µm,17.0s
CHUM Lake Minchumin 72.30 28 P **P** 19 57 44.9 -0.3
baz=276,SNR=6.7
I21K Tanana 72.31 26 P **P** 19 57 45.7 +0.5
baz=276,SNR=30
P19K Oil Pt 72.33 32 P **P** 19 57 45.9 +0.4
baz=277,SNR=5.8
C23K Itkillik River 72.37 21 IAMs_20 IAMs_20 20 33 54.1
comp=Z,1µm,18.0s
C23K Itkillik River 72.37 21 P **P** 19 57 45.4 -0.1
baz=276
D23K Nanushuk River 72.43 22 IAMs_20 IAMs_20 20 31 45.6
comp=Z,1µm,20.0s
D23K Nanushuk River 72.43 22 P **P** 19 57 46.0 +0.1
baz=276
CAST Castle Rocks 72.45 28 P **P** 19 57 47.2 +1.0
CAST IAmb IAmb 19 57 48.5
comp=Z,51nm,0.9s
CAST Castle Rocks 72.45 28 P **P** 19 57 45.9 -0.3
baz=276,SNR=55
PPLA Purkeypile 72.47 29 P **P** 19 57 46.1 -0.3
baz=276,SNR=8.8
H22K Ishtalitna Cre 72.48 25 P **P** 19 57 45.0 -1.4
baz=276
O20K Slope Mountain 72.58 32 P **P** 19 57 46.6 -0.5
baz=277
OHAK Old Harbor 72.59 35 IAMs_20 IAMs_20 20 31 29.3
comp=Z,779nm,18.0s
OHAK Old Harbor 72.59 35 P **P** 19 57 48.5 +1.4
OHAK Old Harbor 72.59 35 P **P** 19 57 46.5 -0.6
baz=277,SNR=14
N20K Mount Spurr 72.65 30 P **P** 19 57 47.1 -0.4
baz=277
SPCR Spurr Chakacha 72.65 30 P **P** 19 57 47.3 -0.1
baz=277,SNR=9.5
STLK Strandline Lak 72.80 30 P **P** 19 57 48.6 +0.3
COLD Coldfoot 72.80 24 P **P** 19 57 48.6 +0.5
baz=277,SNR=12
BPAW Bear Paw Mtn. 72.86 27 IAMs_20 IAMs_20 20 30 14.5
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 72.86 27 P **P** 19 57 49.1 +0.5
baz=277,SNR=38
TOLK Toolik Lake Re 72.87 23 IAMs_20 IAMs_20 20 30 05.1
comp=Z,1µm,22.0s
TOLK Toolik Lake Re 72.87 23 P **P** 19 57 48.6 0.0
baz=277,SNR=24
SKT Skwentna 72.88 30 IAMs_20 IAMs_20 20 27 46.1
comp=Z,1µm,22.0s
SKT Skwentna 72.88 30 P **P** 19 57 48.3 -0.4
baz=277,SNR=22
Q20K Shuyak Island 72.89 33 P **P** 19 57 48.5 -0.3
baz=278,SNR=14
KDAK Kodiak Island 72.90 34 P **P** 19 57 48.7 -0.2
KDAK IAmb IAmb 19 57 50.5
comp=Z,135nm,1.6s
KDAK Kodiak Island 72.90 34 P **P** 19 57 49.1 +0.2
comp=Z,23nm,0.7s,baz=112,slow=3.3,SNR=42
KDAK LR LR 20 28 55.3
comp=Z,370nm,21.3s,baz=98,slow=35
comp=Z,23nm,0.7s
KDAK Kodiak Island 72.90 34 P **P** 19 57 48.7 -0.2
KDAK pmax pmax
comp=Z,135nm,1.6s
KDAK MLR MLR
comp=Z,800nm,22.0s
KDAK Kodiak Island 72.90 34 P **P** 19 57 48.5 -0.4
baz=278
E23K Chandalar 72.92 23 IAMs_20 IAMs_20 20 30 03.9
comp=Z,954nm,20.0s
E23K Chandalar 72.92 23 P **P** 19 57 48.5 -0.5
baz=277
G23K Bananza Creek 72.93 25 P **P** 19 57 49.6 +0.5
baz=277
KTH Kantishna Hill 72.96 28 IAMs_20 IAMs_20 20 30 28.1
comp=Z,916nm,21.0s
C24K Franklin Bluff 73.04 21 IAMs_20 IAMs_20 20 31 35.9
comp=Z,870nm,20.0s
C24K Franklin Bluff 73.04 21 P **P** 19 57 49.5 0.0
baz=278
VADS Vadso 73.06 339 *e*P **P** 19 57 50.0 +0.4
VADS IAmb IAmb 19 57 50.1
comp=Z,185nm,1.4s
D24K Happy Valley 73.07 22 P **P** 19 57 50.6 +0.9
baz=278
CAPN Captain Cook N 73.22 31 P **P** 19 57 51.1 +0.5
baz=278
TRF Thorofare Moun 73.25 28 P **P** 19 57 50.5 -0.6
baz=278,SNR=8.2
JOF Joensuu 73.25 331 *e*P **P** 19 57 50.0 -0.9
E24K Your Creek 73.34 23 IAMs_20 IAMs_20 20 30 19.0
comp=Z,919nm,21.0s
E24K Your Creek 73.34 23 P **P** 19 57 52.3 +0.9
baz=278,SNR=50
HOPEN Hopen 73.34 346 *e*P **P** 19 57 51.8 +0.6
HOPEN IAmb IAmb 19 57 55.3
comp=Z,134nm,1.8s
CUT Chulitna 73.41 29 P **P** 19 57 52.2 +0.4
CUT IAmb IAmb 19 57 53.1
comp=Z,77nm,1.2s
CUT IAMs_20 IAMs_20 20 33 53.1
comp=Z,858nm,20.0s
CUT Chulitna 73.41 29 P **P** 19 57 51.7 -0.1
baz=278,SNR=8.5
I23K Minto, Yukon-K 73.41 26 P **P** 19 57 51.7 -0.1
baz=278,SNR=22
BRLK Bradley Lake 73.50 32 P **P** 19 57 52.0 -0.4
BRSE Bradley Lake S 73.57 32 P **P** 19 57 52.5 -0.3
baz=279,SNR=8.8
M22K Willow 73.57 30 P **P** 19 57 52.4 -0.3
baz=279
NEA2 Nenana 73.62 27 IAMs_20 IAMs_20 20 31 17.3
comp=Z,972nm,20.0s
NEA2 Nenana 73.62 27 P **P** 19 57 53.7 +0.7
baz=279,SNR=46
F24K Squaw Lake 73.65 24 P **P** 19 57 53.1 -0.1
baz=279
GAZ Gaziantep 73.75 304 P **P** 19 57 54.6 +0.2
GAZ IAmb IAmb 19 57 56.3
comp=Z,100nm,1.0s
MCK McKinley 73.81 28 P **P** 19 57 54.4 +0.2
baz=279,SNR=35
RC01 Rabbit Creek A 73.86 30 IAMs_20 IAMs_20 20 27 40.0
comp=Z,951nm,21.0s
RC01 Rabbit Creek A 73.86 30 P **P** 19 57 54.3 -0.2
baz=279,SNR=12
RND Reindeer 73.90 28 P **P** 19 57 54.9 +0.1
RND IAmb IAmb 19 57 55.9
comp=Z,62nm,1.0s
RND Reindeer 73.90 28 P **P** 19 57 54.9 +0.1
RND pmax pmax
comp=Z,62nm,1.0s
RND MLR MLR
comp=Z,800nm,20.0s
D25K Kavik River 73.91 22 IAMs_20 IAMs_20 20 35 04.9
comp=Z,1µm,18.0s
D25K Kavik River 73.91 22 P **P** 19 57 54.5 -0.2
baz=280
KEV Kevo 73.92 339 IAMs_20 IAMs_20 20 33 58.9
comp=Z,1µm,18.0s
H24K Noodor Dome 73.92 25 P **P** 19 57 54.8 -0.1
baz=279
G24K Hadweenzic Riv 73.94 24 P **P** 19 57 54.9 0.0
baz=280
O22K Cooper Landing 73.96 31 P **P** 19 57 54.8 -0.3
baz=279
WRH Wood River Hil 74.06 27 IAMs_20 IAMs_20 20 31 20.8
comp=Z,863nm,20.0s
PMR Palmer 74.06 30 P **P** 19 57 55.6 0.0
PMR Palmer 74.06 30 P **P** 19 57 57.0 +1.4
PMR Palmer 74.06 30 P **P** 19 57 55.6 0.0
PMR pmax pmax
comp=Z,35nm,1.0s
PMR MLR MLR
comp=Z,700nm,21.0s
PMR Palmer 74.06 30 P **P** 19 57 55.6 0.0
baz=280,SNR=14
COLA College 74.09 26 IAMs_20 IAMs_20 20 33 15.6
comp=Z,877nm,21.0s
COLA College 74.09 26 P **P** 19 57 56.9 +1.2
COLA College 74.09 26 *i* P **P** 19 57 56.3 +0.6
COLA pmax pmax
comp=Z,26nm,1.0s
COLA College 74.09 26 P **P** 19 57 55.4 -0.3
baz=280
SEW Seward 74.16 31 P **P** 19 57 56.1 -0.1
baz=280,SNR=17
POKR Poker Plat Res 74.22 26 P **P** 19 57 56.9 +0.3
baz=280,SNR=12
C26K Camden Bay 74.31 21 P **P** 19 57 57.4 +0.4
baz=281
SML Sawmill 74.40 30 P **P** 19 57 57.5 -0.2
baz=280,SNR=23
KNK Knik Glacier 74.41 30 IAMs_20 IAMs_20 20 29 41.7
comp=Z,1µm,21.0s
KNK Knik Glacier 74.41 30 P **P** 19 57 57.5 -0.2
baz=280,SNR=13
E25K Arctic Village 74.41 23 IAMs_20 IAMs_20 20 33 11.0
comp=Z,971nm,20.0s
E25K Arctic Village 74.41 23 P **P** 19 57 57.3 -0.4
baz=281,SNR=11
G25K Bearman Lake 74.46 24 P **P** 19 57 57.7 -0.2
baz=281
ARA0 ARCESS Array S 74.47 339 *e*P **P** 19 57 58.3 +0.4
ARA0 IAmb IAmb 19 57 59.1
comp=Z,102nm,1.5s
ARCES ARCESS Array B 74.47 339 P **P** 19 57 58.1 +0.1
ARCES IAmb IAmb 19 57 59.4
comp=Z,93nm,1.4s
ARCES ARCESS Array B 74.47 339 P **P** 19 57 58.0 0.0
comp=Z,17nm,0.6s,baz=75,slow=7.2,SNR=74
ARCES PKiKP **PKiKP** 20 03 50.5 +0.1
comp=Z,3.3nm,0.9s,baz=1.7,slow=4.1,SNR=4.1
ARCES LR LR 20 34 16.7
comp=Z,1µm,18.9s,baz=71,slow=39
comp=Z,17nm,0.6s
ARCES ARCESS Array B 74.47 339 P **P** 19 57 58.1 +0.1
ARCES pmax pmax
comp=Z,93nm,1.5s
BNN Bunyan 74.48 306 P **P** 19 57 58.7 0.0
F25K Christian Rive 74.48 23 IAMs_20 IAMs_20 20 30 56.9
comp=Z,929nm,21.0s
F25K Christian Rive 74.48 23 P **P** 19 57 58.4 +0.3
baz=281
IL31 74.51 26 P **P** 19 57 57.0 -1.2
ILAR Eielson Array 74.51 26 P **P** 19 57 57.2 -1.0
comp=Z,6.2nm,0.8s,baz=278,slow=4.7,SNR=40
ILAR PKPPKP **P'P'df** 20 25 28.9 -1.8
comp=Z,1.2nm,1.2s,baz=71,slow=3.0,SNR=4.2
ILAR LR LR 20 33 49.6
comp=Z,564nm,18.8s,baz=271,slow=38
comp=Z,6.2nm,0.8s
HDA Harding Lake 74.55 27 P **P** 19 57 57.7 -0.8
baz=281,SNR=11
SIM Simferopol' 74.56 313 *e*P **P** 19 57 57.0 -1.9
SIM *e*S **S** 20 07 29.4 -2.3
SIM pmax pmax
comp=Z,176nm,0.9s
PWL Port Wells 74.57 31 P **P** 19 57 58.1 -0.5
PWL IAmb IAmb 19 57 60.0
comp=Z,66nm,1.0s
PWL Port Wells 74.57 31 P **P** 19 57 58.0 -0.7
baz=280,SNR=16
H25L Birch Creek 74.67 25 P **P** 19 57 59.1 0.0
baz=281
M23K Glacier View 74.69 29 P **P** 19 57 58.9 -0.4
baz=281,SNR=13
ATD Arta Tunnel 74.77 277 P **P** 19 58 00.7 0.0
ATD IAmb IAmb 19 58 03.0
comp=Z,122nm,1.1s
ATD Arta Tunnel 74.77 277 LR LR 20 32 20.5
comp=Z,10nm,18.6s,baz=65,slow=37
C27K Jago River 74.77 21 IAMs_20 IAMs_20 20 33 01.7

comp=Z,889nm,19.0s
C27K Jago River 74.77 21 P **P 19 57 59.4 -0.3**
baz=282
SPB2 Spitsbergen Ar 74.80 348 P **P 19 58 00.0 +0.3**
SPB2 IAmb IAmb 19 58 01.5
comp=Z,129nm,1.0s
SPA0 Spitsbergen Ar 74.80 348 *e*P **P 19 58 00.3 +0.6**
SPA0 IAmb IAmb 19 58 01.3
comp=Z,201nm,1.1s
SPITS Spitsbergen Ar 74.80 348 P **P 19 58 00.0 +0.3**
comp=Z,68nm,0.9s,baz=81,slow=11,SNR=30
SPITS LR LR 20 35 34.5
comp=Z,2µm,19.0s,baz=37,slow=40
comp=Z,68nm,0.9s
SPITS Spitsbergen Ar 74.80 348 P **P 19 58 00.2 +0.5**
SPITS pmax pmax
comp=Z,178nm,1.1s
FYU Fort Yukon 74.84 24 P **P 19 58 00.9 +0.8**
HAMF Hammerfest 74.85 340 *e*P **P 19 58 00.5 +0.4**
HAMF IAmb IAmb 19 58 01.0
comp=Z,588nm,2.0s
SCM Sheep Creek Mo 74.87 29 IAMs_20 IAMs_20 20 36 03.6
comp=Z,885nm,19.0s
SCM Sheep Creek Mo 74.87 29 P **P 19 57 59.9 -0.5**
baz=281,SNR=24
BMAR Burnt Mountain 74.92 23 P **P 19 58 01.2 +0.6**
PRP Porcupine Dome 74.94 25 P **P 19 58 00.7 -0.2**
baz=282
F26K Sheenjek River 75.03 23 IAMs_20 IAMs_20 20 35 48.2
comp=Z,935nm,20.0s
F26K Sheenjek River 75.03 23 P **P 19 58 01.3 +0.1**
baz=282
ASF Jabal al Asfar 75.03 299 LR LR 20 36 08.3
comp=Z,1µm,18.7s,baz=95,slow=40
GLI Glacier Island 75.16 30 P **P 19 58 02.0 0.0**
GLI IAmb IAmb 19 58 03.6
comp=Z,70nm,1.2s
GLI IAMs_20 IAMs_20 20 29 53.5
comp=Z,1µm,22.0s
GLI Glacier Island 75.16 30 P **P 19 58 01.6 -0.4**
baz=281
K24K Donnelly Dome 75.17 27 P **P 19 58 02.2 0.0**
baz=282,SNR=14
J25K Salcha River, 75.18 26 P **P 19 58 01.8 -0.5**
baz=282
BZK Bozkurt 75.23 310 ⇓P **P 19 58 03.7 +0.9**
BJO1 Bjornoya 75.27 344 *e*P **P 19 58 02.3 -0.1**
G26K Porcupine Rive 75.32 24 P **P 19 58 02.7 -0.2**
baz=283
HSPB Hornsund (broa 75.34 347 *e*P **P 19 58 02.5 -0.3**
HSPB Hornsund (broa 75.34 347 *e*P **P 19 58 03.8 +1.0**
M24K Tolsona, Glenn 75.34 29 P **P 19 58 02.9 -0.3**
baz=282,SNR=18
KTK1 Kautokeino 75.37 338 *e*P **P 19 58 03.4 +0.2**
KTK1 IAmb IAmb 19 58 03.6
comp=Z,28nm,0.9s
KBS Kingsbay 75.38 349 *e*P **P 19 58 03.7 +0.7**
KBS IAmb IAmb 19 58 03.8
comp=Z,33nm,0.9s
PAX Paxson 75.48 28 P **P 19 58 04.0 -0.1**
baz=282,SNR=14
KLU Klutina 75.59 30 P **P 19 58 04.1 -0.5**
baz=282,SNR=14
RIDG Independent Ri 75.59 27 IAMs_20 IAMs_20 20 31 46.8
comp=Z,1µm,22.0s
RIDG Independent Ri 75.59 27 P **P 19 58 04.1 -0.5**
baz=283,SNR=24
HARP HAARP 75.75 29 P **P 19 58 05.2 -0.2**
baz=283,SNR=9.8
D27M Malcolm River 75.81 21 P **P 19 58 05.8 0.0**
baz=285
Q23K Middleton Isla 75.83 32 P **P 19 58 05.9 +0.1**
baz=282
E27K Coleen River 75.85 22 IAMs_20 IAMs_20 20 36 40.3
comp=Z,2µm,18.0s
E27K Coleen River 75.85 22 P **P 19 58 06.1 +0.2**
baz=284
EYAK Cordova Ski Ar 75.88 31 P **P 19 58 07.5 +1.4**
EYAK Cordova Ski Ar 75.88 31 P **P 19 58 06.1 0.0**
baz=283,SNR=5.7
KIRS Kirsehir-Merke 75.89 307 ⇓P **P 19 58 07.0 +0.2**
SCRK Sand Creek 75.91 27 P **P 19 58 05.7 -0.8**
baz=283,SNR=15
FIA1 FINESS Array S 75.93 330 P **P 19 58 06.5 0.0**
FINES FINESS Array B 75.94 330 P **P 19 58 06.3 -0.1**
FINES FINESS Array B 75.94 330 P **P 19 58 06.2 -0.3**
comp=Z,100nm,1.0s,baz=52,slow=6.3,SNR=173
FINES PKiKP **PKiKP 20 03 52.7 0.0**
comp=Z,3.5nm,0.9s,baz=113,slow=5.0,SNR=4.4
FINES LR LR 20 34 26.9
comp=Z,2µm,19.6s,baz=78,slow=38
comp=Z,100nm,1.0s
FINES FINESS Array B 75.94 330 *i*P **P 19 58 06.6 +0.1**
FINES pmax pmax
comp=Z,100nm,1.0s
I26K Coal Creek Min 75.95 25 IAMs_20 IAMs_20 20 34 15.8
comp=Z,884nm,20.0s
I26K Coal Creek Min 75.95 25 P **P 19 58 06.1 -0.4**
baz=284
DOT Dot Lake 75.95 27 P **P 19 58 07.1 +0.5**
J26L Joseph Creek 75.97 26 IAMs_20 IAMs_20 20 32 29.5
comp=Z,768nm,19.0s
J26L Joseph Creek 75.97 26 P **P 19 58 06.7 0.0**
baz=284
BR131 Keskin Array S 75.97 307 P **P 19 58 06.8 -0.5**
BR131 IAmb IAmb 19 58 08.4
comp=Z,124nm,1.7s
BR131 Keskin Array S 75.97 307 P **P 19 58 06.8 -0.5**
BR131 pmax pmax
comp=Z,124nm,1.7s
BRTR Keskin Array B 75.97 307 P **P 19 58 06.8 -0.5**
BRTR Keskin Array B 75.97 307 P **P 19 58 07.2 -0.1**
comp=Z,8.0nm,0.6s,baz=121,slow=3.3,SNR=52
BRTR PP **PP 20 00 59.0 +1.1**
comp=Z,5.7nm,1.3s,baz=77,slow=9.0,SNR=3.8
BRTR LR LR 20 36 47.5
comp=Z,982nm,18.5s,baz=80,slow=40
comp=Z,8.0nm,0.6s
BRTR Keskin Array B 75.97 307 *i*P **P 19 58 06.8 -0.5**
BRTR pmax pmax
comp=Z,9.0nm,0.6s
BR104 Keskin Array S 75.97 307 P **P 19 58 05.4 -1.9**
comp=Z,247nmcomp=Z,23nm,1.5s
BR106 Keskin Array S 75.98 307 P **P 19 58 05.1 -2.3**
comp=Z,276nmcomp=Z,25nm,1.4s
BR105 Keskin Array S 75.99 307 P **P 19 58 05.5 -1.9**
comp=Z,282nmcomp=Z,19nm,1.1s
MMAI Mount Meron Ar 76.07 300 P **P 19 58 08.9 +1.0**
comp=Z,38nm,1.0s,baz=69,slow=7.2,SNR=17
comp=Z,38nm,1.0s
G27K Doyon Strip 76.17 24 P **P 19 58 07.6 -0.2**
baz=285
N25K Chitina, Valde 76.19 29 IAMs_20 IAMs_20 20 37 02.5
comp=Z,725nm,18.0s
N25K Chitina, Valde 76.19 29 P **P 19 58 07.6 -0.4**
baz=283,SNR=11
JETT Jettan, Norway 76.21 339 *e*P **P 19 58 08.6 +0.7**
JETT IAmb IAmb 19 58 09.2
comp=Z,226nm,1.3s
TOZ Tahuroa Road 76.25 138 P **P 19 58 10.2 +1.7**
TOZ IAMs_20 IAMs_20 20 33 45.7
comp=Z,1µm,19.0s
MENT Mentasta 76.27 28 P **P 19 58 08.9 +0.5**
MENT Mentasta 76.27 28 P **P 19 58 09.6 +1.2**
VSU Vasula 76.28 327 *e*P **P 19 58 06.9 -1.5**
HIZ Hauiti 76.31 139 P **P 19 58 11.4 +2.5**
HIZ IAmb IAmb 19 58 43.3
comp=Z,131nm,1.2s
HIZ Hauiti 76.31 139 P **P 19 58 12.6 +3.7**
KEF Keuruu 76.33 331 *e*P **P 19 58 07.5 -1.1**
BMRM Bremner River 76.33 30 P **P 19 58 09.5 +0.6**
BMRM Bremner River 76.33 30 P **P 19 58 08.7 -0.2**
baz=284,SNR=12
GHAJ Ghor Haditha 76.33 299 P **P 19 58 09.2 -0.1**
QRZ Quartz Range 76.35 142 P **P 19 58 11.7 +2.7**
H27K Steamboat Moun 76.37 24 P **P 19 58 09.1 +0.1**
baz=285
MSZ Milford Sound 76.38 147 P **P 19 58 11.8 +2.7**
JCZ Jackson Bay 76.41 146 P **P 19 58 11.2 +1.7**
JCZ Jackson Bay 76.41 146 P **P 19 58 12.0 +2.5**
L26K Log Cabin Wild 76.42 28 IAMs_20 IAMs_20 20 32 14.6
comp=Z,1µm,20.0s
L26K Log Cabin Wild 76.42 28 P **P 19 58 09.7 +0.5**
baz=284,SNR=12
NE56 Odesa 76.42 315 P **P 19 58 06.6 -2.9**
SBV Sambava 76.43 251 P **P 19 58 09.6 -0.5**

RAGM Ragged Mountai 76.43 31 IAMs_20 IAMs_20 20 30 23.1
comp=Z,1µm,18.0s
ARBE Arbavere 76.44 328 *e*P **P 19 58 08.9 -0.5**
E28M Babbage River 76.47 22 IAMs_20 IAMs_20 20 36 19.8
comp=Z,1µm,18.0s
E28M Babbage River 76.47 22 P **P 19 58 09.7 +0.2**
baz=286,SNR=30
I27K Kandik River 76.50 25 P **P 19 58 09.8 +0.1**
baz=285,SNR=33
DSZ Denniston Nort 76.52 143 P **P 19 58 11.8 +1.7**
D28M Stokes Point 76.55 21 P **P 19 58 09.2 -0.6**
baz=287
MNK Minsk 76.55 323 *i*P **P 19 58 10.3 +0.2**
MNK *i* 19 58 20.8
MNK *i* 20 01 04.3
MNK *i* PPP PPP 20 02 51.2
MNK *i* S **S 20 07 54.5 +1.2**
MNK *i* SS **SS 20 12 54.8 +6.5**
MNK pmax pmax
comp=E,47nm,1.0s
MNK pmax pmax
comp=N,135nm,1.0s
MNK pmax pmax
comp=Z,245nm,0.9s
MNK MLR MLR
comp=Z,2µm,16.0s
MNK MLR MLR
comp=N,1µm,16.0s
MNK MLR MLR
comp=E,613nm,14.0s
ANTO Ankara 76.57 308 P **P 19 58 10.2 -0.5**
ANTO IAmb IAmb 19 58 11.8
comp=Z,85nm,1.0s
ANTO Ankara 76.57 308 P **P 19 58 10.2 -0.5**
ANTO Ankara 76.57 308 ⇑P **P 19 58 10.6 -0.1**
ANTO Ankara 76.57 308 P **P 19 58 10.2 -0.5**
ANTO pmax pmax
comp=Z,85nm,1.0s
ANTO Ankara 76.57 308 P **P 19 58 08.5 -2.1**
comp=Z,562nmcomp=Z,47nm,1.3s
GLB Gilahina Butte 76.59 29 IAMs_20 IAMs_20 20 38 24.2
comp=Z,853nm,20.0s
FOZ Fox Glacier 76.59 145 P **P 19 58 12.3 +1.9**
AKASG Malin Array Be 76.61 319 P **P 19 58 09.8 -0.7**
AKASG IAmb IAmb 19 58 11.0
comp=Z,130nm,1.1s
AKASG Malin Array Be 76.61 319 P **P 19 58 09.6 -0.9**
comp=Z,46nm,0.8s,baz=64,slow=5.7,SNR=127
comp=Z,46nm,0.8s
AKASG Malin Array Be 76.61 319 P **P 19 58 09.8 -0.7**
AKASG pmax pmax
comp=Z,130nm,1.1s
AKBB Malin Array Si 76.61 319 P **P 19 58 09.5 -1.0**
AKBB IAmb IAmb 19 58 10.9
comp=Z,94nm,0.9s
AKBB Malin Array Si 76.61 319 *i*P **P 19 58 09.4 -1.1**
AKBB pmax pmax
comp=Z,118nm,1.0s
AKBB Malin Array Si 76.61 319 P **P 19 58 07.9 -2.6**
KIEV Kiev 76.62 319 P **P 19 58 09.5 -1.0**
KIEV IAmb IAmb 19 58 10.9
comp=Z,84nm,0.9s
KIEV Kiev 76.62 319 IAMs_20 IAMs_20 20 35 57.6
comp=Z,1µm,18.0s
KIEV Kiev 76.62 319 ⇑P **P 19 58 09.8 -0.8**
KIEV Kiev 76.62 319 P **P 19 58 09.5 -1.0**
KIEV pmax pmax
comp=Z,84nm,1.0s
KIEV MLR MLR
comp=Z,1µm,18.0s
KIEV Kiev 76.62 319 *i*P **P 19 58 09.7 -0.8**
SNR=39
VRZ Vera Road 76.62 139 P **P 19 58 13.7 +3.1**
KAIM Kayak Island 76.67 31 P **P 19 58 10.4 -0.2**
baz=284
TRO Tromso 76.69 339 *e*P **P 19 58 10.7 +0.2**
TRO IAmb IAmb 19 58 11.1
comp=Z,118nm,1.5s
K27K Chicken 76.72 27 P **P 19 58 11.2 +0.3**
baz=285
M26K Nabesna, AK 76.73 28 P **P 19 58 10.8 -0.3**
baz=284
WVZ Waitaha Valley 76.79 145 P **P 19 58 13.1 +1.6**
VRDI Verde Repeater 76.81 30 IAMs_20 IAMs_20 20 30 46.0
comp=Z,1µm,22.0s
BERG Berg Lake 76.90 30 P **P 19 58 12.7 +0.7**
BERG IAMs_20 IAMs_20 20 30 37.6
comp=Z,1µm,21.0s
INZ Inchbonnie 76.95 144 P **P 19 58 14.3 +1.9**
MLZ Mavora Lakes 76.96 148 P **P 19 58 13.7 +1.3**
MEF Metsahovi 77.03 329 *e*P **P 19 58 12.0 -0.7**
L27K Beaver Creek, 77.08 28 IAMs_20 IAMs_20 20 33 16.0
comp=Z,870nm,20.0s
L27K Beaver Creek, 77.08 28 P **P 19 58 13.3 +0.3**
baz=285
NNZ Nelson 77.09 142 P **P 19 58 14.7 +1.5**
VAF Ylistaro 77.09 332 *e*P **P 19 58 12.2 -0.7**
BCAR Beaver Creek A 77.09 28 P **P 19 58 14.1 +1.0**
E29M Blow River 77.12 22 IAMs_20 IAMs_20 20 38 11.7
comp=Z,1µm,20.0s
E29M Blow River 77.12 22 P **P 19 58 12.9 -0.1**
baz=288
PURM Purcari 77.14 315 ⇓P **P 19 58 13.9 +0.4**
PURM Purcari 77.14 315 P **P 19 58 12.3 -1.2**
comp=Z,3µmcomp=Z,269nm,1.2s
THZ Tophouse 77.16 143 P **P 19 58 14.4 +0.7**
THZ Tophouse 77.16 143 P **P 19 58 14.9 +1.2**
NGZ Ngauruhoe 77.18 139 P **P 19 58 16.6 +2.6**
I28M Miner Creek 77.21 25 IAMs_20 IAMs_20 20 39 06.6
comp=Z,865nm,19.0s
I28M Miner Creek 77.21 25 P **P 19 58 13.6 -0.2**
baz=286
EIL Elat 77.24 297 LR LR 20 36 39.3
comp=Z,727nm,18.8s,baz=69,slow=39
WHZ Wether Hill Ro 77.24 148 P **P 19 58 15.4 +1.4**
M27K Edge Creek, AK 77.24 28 IAMs_20 IAMs_20 20 32 53.5
comp=Z,1µm,21.0s
M27K Edge Creek, AK 77.24 28 P **P 19 58 13.6 -0.5**
baz=286
IIGN Ignalina 77.29 324 *e*P **P 19 58 14.5 +0.3**
CSS Mathiatis 77.29 303 P **P 19 58 13.9 -0.8**
CSS IAMs_20 IAMs_20 20 36 06.9
comp=Z,1µm,21.0s
CSS Mathiatis 77.29 303 P **P 19 58 13.2 -1.5**
comp=Z,2µmcomp=Z,257nm,1.1s
LBZ Lake Benmore 77.36 146 P **P 19 58 16.9 +2.2**
RPZ Rata Peaks 77.39 145 P **P 19 58 15.9 +1.1**
RPZ IAmb IAmb 19 58 35.3
comp=Z,59nm,1.2s
RPZ Rata Peaks 77.39 145 LR LR 20 32 19.6
comp=Z,416nm,19.4s,baz=318,slow=36
RPZ Rata Peaks 77.39 145 P **P 19 58 16.5 +1.6**
LTZ Lake Taylor 77.45 144 P **P 19 58 17.3 +2.0**
EAZ Earnscleugh 77.48 147 P **P 19 58 17.6 +2.3**
MI28 Mi28,Pidlybu 77.52 320 P **P 19 58 13.6 -2.0**
G29M Pine Creek 77.52 23 IAMs_20 IAMs_20 20 35 12.2
comp=Z,1µm,20.0s
G29M Pine Creek 77.52 23 P **P 19 58 15.3 -0.1**
baz=288
URZ Urewera 77.58 138 LR LR 20 31 24.4
comp=Z,583nm,21.1s,baz=42,slow=35
URZ Urewera 77.58 138 P **P 19 58 17.4 +1.4**
H29M Whitestone 77.60 24 P **P 19 58 15.5 -0.3**
baz=288
MDUB Mudurnu 77.62 309 P **P 19 58 16.0 -0.6**
OXZ Oxford 77.67 144 P **P 19 58 18.1 +1.7**
MTSE Matsula 77.70 328 *e*P **P 19 58 15.9 -0.6**
LUBAR Lubar, Ukraine 77.71 319 P **P 19 58 14.7 -2.0**
HAZ Te Kaha 77.72 137 P **P 19 58 18.3 +1.5**
BKZ Black Stump Fm 77.73 139 IAMs_20 IAMs_20 20 35 40.3
comp=Z,1µm,19.0s
BKZ Black Stump Fm 77.73 139 P **P 19 58 18.6 +1.7**
MILM Milestii Mici 77.75 315 ⇑P **P 19 58 16.1 -1.0**
MILM Milestii Mici 77.75 315 P **P 19 58 16.0 -1.0**
SORM Soroca 77.76 317 ⇓P **P 19 58 16.4 -0.6**
SORM Soroca 77.76 317 P **P 19 58 16.4 -0.6**
SORM Soroca 77.76 317 P **P 19 58 14.5 -2.5**
comp=Z,2µmcomp=Z,126nm,1.3s
MESA MESA 77.80 30 P **P 19 58 17.0 -0.3**
baz=286
TMZ Timaru 77.80 145 P **P 19 58 19.4 +2.2**
NOR Nord 77.82 354 *i*P **P 19 58 15.5 -1.3**
NOR IAmb IAmb 19 58 18.0
comp=Z,19nm,1.1s
DAWY Dawson 77.84 26 P **P 19 58 17.6 +0.3**

DAWY Dawson 77.84 26 P **P 19 58 17.0 -0.3**
baz=287,SNR=22
I29M Ogilvie Camp, 77.89 25 P **P 19 58 18.2 +0.7**
baz=288,SNR=20
MWZ Matawai 77.89 138 P **P 19 58 19.7 +1.8**
GVZ Greta Valley S 78.00 143 P **P 19 58 20.5 +2.2**
ODZ Otahua Downs 78.05 146 P **P 19 58 20.7 +2.2**
RAF Rauma 78.06 331 *e*P **P 19 58 17.5 -0.9**
F30M Barrier River 78.12 22 P **P 19 58 19.3 +0.6**
baz=290,SNR=21
TUZ Tuapeka 78.13 147 P **P 19 58 21.2 +2.3**
G30M tAoh Zraii Nji 78.17 23 P **P 19 58 18.6 -0.4**
baz=290
TLCR 78.18 314 ⇓P **P 19 58 19.9 +0.5**
TLCR 78.18 314 P **P 19 58 19.9 +0.5**
J29N Klondike Camp 78.21 26 P **P 19 58 19.4 +0.1**
baz=288
JURR Jurilovca 78.24 313 ⇑P **P 19 58 20.5 +0.8**
MQZ McQueen's Vall 78.26 144 IAMs_20 IAMs_20 20 22 12.1
comp=Z,1µm,22.0s
MQZ McQueen's Vall 78.26 144 P **P 19 58 21.8 +2.2**
SYZ Scrubby Hill 78.28 148 P **P 19 58 22.1 +2.4**
NDNU Novodnistrovsk 78.28 317 P **P 19 58 18.6 -1.3**
BORA Eskisehir 78.32 308 P **P 19 58 19.9 -0.6**
BORA IAmb IAmb 19 58 21.1
comp=Z,72nm,0.9s
VSVD Vaisvydziai 78.38 325 *e*P **P 19 58 20.6 +0.3**
O28M Mount Upton 78.46 30 P **P 19 58 21.3 +0.2**
baz=287
BFZ Birch Farm 78.48 140 P **P 19 58 22.1 +1.1**
RNPP9 Sopachiv 78.48 320 P **P 19 58 19.6 -1.3**
PABE Paberze 78.49 325 P **P 19 58 20.5 -0.3**
PABE IAMs_20 IAMs_20 20 38 27.9
comp=Z,2µm,20.0s
PABE Paberze 78.49 325 *e*P **P 19 58 20.1 -0.8**
YUK8 Steele Glacier 78.51 29 P **P 19 58 21.7 +0.5**
baz=288,SNR=11
STEI Steigen 78.51 338 *e*P **P 19 58 20.7 -0.1**
STEI IAmb IAmb 19 58 21.4
comp=Z,103nm,0.8s
VLDR Vladesti 78.51 315 ⇓P **P 19 58 21.7 +0.5**
RNPP8 Varash 78.52 320 P **P 19 58 18.9 -2.2**
RNPP5 Staryi Chortor 78.53 320 P **P 19 58 19.3 -1.9**
TPGR Topolog 78.53 314 ⇓P **P 19 58 22.0 +0.6**
KHU Kahuku 78.57 73 P **P 19 58 23.3 +0.9**
KHU IAmb IAmb 19 58 25.0
comp=Z,97nm,1.0s
KHU Kahuku 78.57 73 P **P 19 58 23.3 +0.9**
KHU pmax pmax
comp=Z,97nm,1.0s
EFOR EFORIE 78.58 313 ⇑P **P 19 58 22.1 +0.5**
TATR Tatarca 78.60 314 ⇓P **P 19 58 22.2 +0.6**
SCTR Scanteiesti 78.61 314 ⇓P **P 19 58 22.6 +0.8**
TIRR Tirgusor 78.64 313 P **P 19 58 21.5 -0.4**
TIRR IAmb IAmb 19 58 23.1
comp=Z,109nm,1.2s
TIRR IAMs_20 IAMs_20 20 38 36.7
comp=Z,1µm,19.0s
TIRR Tirgusor 78.64 313 ⇑P **P 19 58 22.1 +0.1**
TIRR Tirgusor 78.64 313 P **P 19 58 21.5 -0.4**
TIRR pmax pmax
comp=Z,109nm,1.2s
TIRR MLR MLR
comp=Z,1µm,19.0s
TIRR Tirgusor 78.64 313 P **P 19 58 19.6 -2.3**
comp=Z,1µmcomp=Z,93nm,1.2s
CFR Carcaliu 78.64 314 ⇑P **P 19 58 22.0 0.0**
CFR Carcaliu 78.64 314 P **P 19 58 21.9 0.0**
VARL Varlezi 78.65 315 ⇑P **P 19 58 23.1 +1.1**
INK Inuvik 78.67 21 P **P 19 58 21.5 -0.1**
INK Inuvik 78.67 21 P **P 19 58 21.8 +0.2**
comp=Z,20nm,1.0s,baz=290,slow=6.6,SNR=26
INK LR LR 20 35 35.9
comp=Z,835nm,21.8s,baz=272,slow=38
comp=Z,20nm,1.0s
INK Inuvik 78.67 21 P **P 19 58 21.5 -0.1**
INK pmax pmax
comp=Z,50nm,1.3s
INK Inuvik 78.67 21 P **P 19 58 21.3 -0.3**
baz=292,SNR=17
L29M L29M 78.67 27 P **P 19 58 22.0 +0.2**
baz=289
MANR Mangalia 78.68 312 ⇑P **P 19 58 22.9 +0.7**
FAUS Fauske 78.69 338 *e*P **P 19 58 21.7 -0.1**
FAUS IAmb IAmb 19 58 22.3
comp=Z,95nm,1.1s
K29M Barlow Dome 78.69 26 IAMs_20 IAMs_20 20 39 12.9
comp=Z,979nm,20.0s
K29M Barlow Dome 78.69 26 P **P 19 58 22.2 +0.1**
baz=289,SNR=25
MFTR Murfatlar 78.70 313 ⇓P **P 19 58 22.9 +0.6**
I30M Mount Dempster 78.70 25 P **P 19 58 22.1 0.0**
baz=290
BIR Birlad 78.71 315 ⇑P **P 19 58 23.6 +1.2**
BIR Birlad 78.71 315 P **P 19 58 23.5 +1.2**
HORU Horodok 78.72 318 P **P 19 58 20.7 -1.6**
M29M Somme Creek 78.74 28 IAMs_20 IAMs_20 20 34 07.8
comp=Z,922nm,20.0s
M29M Somme Creek 78.74 28 P **P 19 58 23.1 +0.8**
baz=288
SLIT Slitere, Latvi 78.78 327 *e*P **P 19 58 21.7 -0.7**
ISP Isparta 78.79 306 P **P 19 58 21.9 -1.2**
ISP IAmb IAmb 19 58 23.3
comp=Z,108nm,0.8s
ISP IAMs_20 IAMs_20 20 37 24.3
comp=Z,1µm,22.0s
ISP Isparta 78.79 306 P **P 19 58 21.9 -1.2**
ISP pmax pmax
comp=Z,108nm,0.8s
ISP MLR MLR
comp=Z,1µm,22.0s
ISP Isparta 78.79 306 *e*P **P 19 58 21.5 -1.6**
IZVR Izvoarele 78.80 314 ⇓P **P 19 58 23.3 +0.5**
TUDR 78.86 314 ⇓P **P 19 58 24.2 +1.1**
TLBR Topalu 78.87 313 ⇓P **P 19 58 23.7 +0.4**
KMPD K-Podol'skiy 78.87 318 P **P 19 58 20.3 -2.9**
KMPD P **P 19 58 20.6 -2.6**
GHRR 78.91 315 ⇓P **P 19 58 24.7 +1.3**
HARR Harsova 78.91 313 ⇓P **P 19 58 23.9 +0.5**
HARR Harsova 78.91 313 P **P 19 58 23.9 +0.5**
G31M Satah River 78.91 23 P **P 19 58 22.9 -0.1**
baz=291,SNR=14
F31M Tsiigehtchic 78.92 22 P **P 19 58 23.1 +0.1**
baz=292,SNR=28
J30M Hart River 78.94 25 P **P 19 58 23.7 +0.3**
baz=290,SNR=6.9
YLV Yalova 78.95 309 P **P 19 58 21.7 -2.1**
comp=Z,2µmcomp=Z,201nm,1.1s
YUK4 Talbot Arm 79.00 29 P **P 19 58 24.4 +0.5**
baz=288,SNR=11
COSR Cosmesti PH 79.03 315 ⇓P **P 19 58 25.8 +1.7**
LOF Lofoten 79.03 339 *e*P **P 19 58 23.4 -0.2**
LOF IAmb IAmb 19 58 23.9
comp=Z,71nm,1.3s
PSN Preselentsi 79.04 312 P **P 19 58 24.0 -0.2**
PANC Panciu 79.13 315 ⇓P **P 19 58 26.2 +1.6**
ODBI Odobesti 79.22 315 ⇓P **P 19 58 27.3 +2.2**
ODBI Odobesti 79.22 315 P **P 19 58 25.6 +0.5**
comp=Z,1µmcomp=Z,129nm,0.9s
YUK6 Outpost Mounta 79.26 29 P **P 19 58 26.1 +0.7**
baz=289,SNR=9.7
H31M Peel River 79.29 24 P **P 19 58 25.2 0.0**
baz=291
TESR Tescani 79.30 315 ⇓P **P 19 58 26.1 +0.6**
TESR Tescani 79.30 315 P **P 19 58 24.2 -1.4**
comp=Z,3µmcomp=Z,204nm,1.9s
AMRR Amara 79.34 313 ⇓P **P 19 58 27.1 +1.3**
AMRR Amara 79.34 313 P **P 19 58 27.1 +1.3**
PRAR RASCA 79.35 316 ⇑P **P 19 58 26.1 +0.2**
SUW Suwalki 79.35 323 *e*P **P 19 58 25.0 -0.6**
SUW Suwalki 79.35 323 P **P 19 58 24.8 -0.8**
SUW IAMs_20 IAMs_20 20 39 46.7
comp=Z,1µm,18.0s
SUW Suwalki 79.35 323 P **P 19 58 24.8 -0.8**
SUW pmax pmax
comp=Z,525nm,1.1s
SUW MLR MLR
comp=Z,1µm,18.0s
SUW Suwalki 79.35 323 *e*P **P 19 58 24.6 -1.1**
O29M Mount Kennedy 79.37 30 IAMs_20 IAMs_20 20 40 14.7
comp=Z,952nm,18.0s
O29M Mount Kennedy 79.37 30 P **P 19 58 26.3 +0.5**
baz=289
GRER 79.38 314 ⇓P **P 19 58 28.2 +2.2**
VRI Vrincioaia 79.42 315 ⇓P **P 19 58 27.2 +1.0**

VRI Vrincioaia 79.42 315 P P 19 58 27.2 +1.0
VRI Vrincioaia 79.42 315 P P 19 58 25.5 -0.7
comp=Z,3µmcomp=Z,242nm,1.5s
M30M Minto, Yukon 79.43 27 P P 19 58 26.6 +0.6
baz=290,SNR=24
PBUR Paburge 79.44 326 *eP* **P 19 58 25.7 -0.4**
MOR8 Moi Rana 79.45 337 *eP* **P 19 58 24.6 -1.4**
MOR8 IAmb IAmb 19 58 24.9
comp=Z,54nm,1.0s
MAYO Mayo, Yukon 79.46 26 P P 19 58 26.7 +0.6
baz=290
PLOR5 Plostina Array 79.47 315 P P 19 58 24.8 -1.7
comp=Z,2µmcomp=Z,151nm,1.4s
PLOR Plostina 79.47 315 ⇓P **P 19 58 27.3 +0.7**
PLOR Plostina 79.47 315 P P 19 58 27.3 +0.7
PLOR3 Plostina Array 79.48 315 P P 19 58 26.1 -0.5
comp=Z,1µmcomp=Z,76nm,1.2s
ONER Baraj Valea Uz 79.52 315 ⇑P **P 19 58 27.4 +0.6**
BISRR Bisoca 79.52 315 ⇓P **P 19 58 28.3 +1.4**
BISRR Bisoca 79.52 315 P P 19 58 25.7 -1.2
comp=Z,6µmcomp=Z,602nm,1.0s
ELL Elmali 79.54 305 P P 19 58 26.1 -1.1
ELL Elmali 79.54 305 P P 19 58 26.1 -1.1
ELL pmax pmax
comp=Z,395nm,0.8s
A36M Sachs Harbour 79.67 17 P P 19 58 26.9 -0.1
A36M IAmb IAmb 19 58 28.6
comp=Z,117nm,1.1s
A36M Sachs Harbour 79.67 17 P P 19 58 27.3 +0.3
baz=299,SNR=79
N30M Aishikik Lake 79.67 28 P P 19 58 27.5 +0.1
baz=290
PRD Provadia 79.68 312 P P 19 58 27.6 -0.1
HYT Haines Junctio 79.70 29 P P 19 58 28.5 +0.9
HYT Haines Junctio 79.70 29 P P 19 58 28.0 +0.4
baz=290,SNR=16
LEHL Lehliu 79.73 313 ⇓P **P 19 58 29.2 +1.2**
NEF NEVSHA 79.75 312 P P 19 58 28.9 +0.8
ISR Istrita 79.75 314 ⇓P **P 19 58 29.5 +1.4**
ISR Istrita 79.75 314 P P 19 58 29.5 +1.4
ISR Istrita 79.75 314 P P 19 58 27.9 -0.2
comp=Z,133nm,1.5s
COVR Voineasa-Covas 79.78 315 ⇓P **P 19 58 28.7 +0.5**
KONS Konsvik 79.82 337 *eP* **P 19 58 27.8 -0.2**
KONS IAmb IAmb 19 58 28.2
comp=Z,157nm,1.6s
NEHR Nehoiu 79.83 314 ⇓P **P 19 58 29.6 +1.1**
KSV Kosov 79.83 318 P P 19 58 27.1 -1.3
AKAS Kas 79.91 305 P P 19 58 27.9 -1.4
AKAS IAmb IAmb 19 58 29.0
comp=Z,95nm,1.0s
STOK Stokkvaagen 79.92 337 *eP* **P 19 58 27.9 -0.6**
STOK IAmb IAmb 19 58 30.0
comp=Z,106nm,1.4s
BURAR Bucovina Array 79.94 317 ⇓P **P 19 58 29.6 +0.5**
BURAR Bucovina Array 79.94 317 P P 19 58 29.6 +0.5
BUR08 Bucovina Ar. S 79.94 317 P P 19 58 29.1 0.0
BUR08 IAmb IAmb 19 58 30.4
comp=Z,47nm,0.8s
BAND Balkesir-Ban 79.94 309 ⇓P **P 19 58 29.3 +0.1**
LEIR Leirfjorden 79.97 337 *eP* **P 19 58 28.1 -0.6**
LEIR IAmb IAmb 19 58 29.0
comp=Z,252nm,1.6s
OZUR 79.99 315 ⇓P **P 19 58 30.4 +1.1**
MLR Muntele Rosu 80.05 315 P P 19 58 29.8 0.0
MLR IAmb IAmb 19 58 31.3
comp=Z,90nm,0.8s
MLR IAMs_20 IAMs_20 20 38 12.9
comp=Z,1µm,22.0s
MLR Muntele Rosu 80.05 315 ⇓P **P 19 58 30.5 +0.7**
MLR Muntele Rosu 80.05 315 P P 19 58 29.8 0.0
MLR pmax pmax
comp=Z,90nm,0.8s
MLR MLR MLR
comp=Z,1µm,22.0s
MLR Muntele Rosu 80.05 315 P P 19 58 28.6 -1.2
comp=Z,1µmcomp=Z,120nm,0.8s
SULR 80.06 314 ⇓P **P 19 58 31.0 +1.2**
STNU Starunia 80.08 318 P P 19 58 28.4 -1.4
P30M Million Dollar 80.19 30 P P 19 58 30.9 +0.7
baz=290
N31M Braeburn, Yuko 80.25 28 P P 19 58 31.2 +0.7
baz=291,SNR=8.0
O30N Mendenhall 80.37 29 P P 19 58 31.4 +0.3
O30N Mendenhall 80.37 29 P P 19 58 30.9 -0.2
baz=291,SNR=14
SGRR Singureni 80.39 313 ⇑P **P 19 58 32.6 +1.2**
JMB Yambol 80.49 312 P P 19 58 32.0 -0.1
RAKU Rahkiv 80.50 317 P P 19 58 30.0 -2.0
M31M Drury Creek, Y 80.61 27 P P 19 58 32.3 -0.1
baz=292,SNR=14
SHIU Shidnytsya 80.65 319 P P 19 58 31.4 -1.4
ARCR ARCALIA 80.65 316 ⇑P **P 19 58 33.8 +0.9**
SZH Strazhitsa 80.66 312 P P 19 58 33.0 0.0
VOIR 80.67 315 ⇓P **P 19 58 32.9 -0.2**
VOIR 80.67 315 P P 19 58 32.9 -0.2
VOIR 80.67 315 P P 19 58 31.0 -2.1
comp=Z,33nm,1.0s
TGMR Targu Mures 80.70 316 ⇑P **P 19 58 34.7 +1.6**
STFAR Stefanesti-Arg 80.90 314 ⇓P **P 19 58 35.0 +0.7**
WHY Whitehorse 80.96 29 P P 19 58 35.4 +1.0
WHY IAmb IAmb 19 58 37.2
comp=Z,158nm,2.0s
WHY Whitehorse 80.96 29 P P 19 58 35.3 +1.0
baz=292,SNR=13
ARR Arges 80.97 315 ⇑P **P 19 58 35.1 +0.5**
ZIMR 80.97 313 ⇑P **P 19 58 35.5 +0.9**
ZIMR 80.97 313 P P 19 58 35.4 +0.9
ABPO Ambohimpanom 80.98 247 P P 19 58 34.6 -0.7
ABPO IAmb IAmb 19 58 36.8
comp=Z,104nm,1.0s
ABPO Ambohimpanom 80.98 247 IAMs_20 IAMs_20 20 31 17.5
comp=Z,2µm,20.0s
ABPO Ambohimpanom 80.98 247 P P 19 58 34.6 -0.7
ABPO pmax pmax
comp=Z,104nm,1.0s
ABPO MLR MLR
comp=Z,2µm,20.0s
HUMR Humele 80.98 314 ⇓P **P 19 58 34.9 +0.2**
BMR Baia Mare 81.03 317 ⇑P **P 19 58 35.8 +0.9**
BMR Baia Mare 81.03 317 P P 19 58 35.7 +0.9
FARO Faro, Yukon 81.05 27 P P 19 58 35.0 +0.3
FARO Faro, Yukon 81.05 27 P P 19 58 34.7 0.0
baz=293,SNR=18
NSS Namsos 81.05 335 *eP* **P 19 58 34.0 -0.7**
NSS IAmb IAmb 19 58 35.8
comp=Z,493nm,2.6s
ARG Arkhangelos 81.06 305 P P 19 58 34.8 -0.5
ARG IAmb IAmb 19 58 36.2
comp=Z,152nm,1.1s
ARG Arkhangelos 81.06 305 P P 19 58 34.8 -0.5
ARG pmax pmax
comp=Z,152nm,1.1s
KORU Korolevo 81.12 318 P P 19 58 34.9 -0.4
TNR Turnu Rosu 81.13 315 ⇓P **P 19 58 36.6 +1.1**
TNR Turnu Rosu 81.13 315 P P 19 58 36.5 +1.1
BRIU Brid 81.13 318 P P 19 58 34.0 -1.4
SKAG Skagway 81.20 30 P P 19 58 35.3 -0.1
baz=292
CJR Cluj-Napoca 81.25 316 ⇓P **P 19 58 37.4 +1.2**
CJR Cluj-Napoca 81.25 316 P P 19 58 37.3 +1.2
PVL Pavlikeni 81.26 312 P P 19 58 36.3 +0.1
CBBR Cluj-Babes-Bol 81.27 316 ⇑P **P 19 58 37.5 +1.3**
DIM Dimitrovgrad 81.29 311 P P 19 58 37.6 +1.3
S31K Pelican 81.30 32 P P 19 58 36.9 +0.9
baz=291
C36M Paulatuk 81.31 19 P P 19 58 35.6 -0.2
C36M IAmb IAmb 19 58 37.2
comp=Z,107nm,1.2s
C36M Paulatuk 81.31 19 P P 19 58 35.8 0.0
baz=300,SNR=39
MUKU Mukachevo 81.31 318 P P 19 58 34.7 -1.6
BEL Belsk 81.39 322 *eP* **P 19 58 36.7 +0.1**
BERU Beregovo 81.40 318 P P 19 58 35.2 -1.6
KOLS Kolonicke sedl 81.42 319 *eP* **P 19 58 37.2 +0.3**
KOLS pmax pmax
comp=Z,23nm,0.7s
KOLS Kolonicke sedl 81.42 319 *eP* **P 19 58 37.2 +0.3**
HOLU Holmets 81.48 318 P P 19 58 35.6 -1.6
VLAD Vladila 81.53 313 ⇓P **P 19 58 38.1 +0.5**
MESR Meseseni 81.54 317 ⇑P **P 19 58 38.6 +1.0**
MARR Marisel-Cluj 81.58 316 ⇑P **P 19 58 38.6 +0.7**
N32M Quiet Lake 81.59 28 P P 19 58 36.0 -1.6
baz=293

BESE Bessie Mountai 81.75 31 P P 19 58 39.0 +0.5
DAG Danmarks Havn 81.78 351 *i* P **P 19 58 37.0 -1.3**
DAG IAmb IAmb 19 58 39.1
comp=Z,31nm,1.5s
MMPY Sheldon Lake, 81.78 26 P P 19 58 37.4 -1.3
baz=295,SNR=8.9
DRGR 81.81 317 ⇓P **P 19 58 39.7 +0.5**
DRGR 81.81 317 P P 19 58 39.6 +0.5
PLD Plovdiv 81.85 312 P P 19 58 39.4 +0.1
P32M Atlin 81.91 30 P P 19 58 38.4 -0.9
baz=293
DEV Deva 81.97 316 ⇓P **P 19 58 40.8 +1.0**
DEV Deva 81.97 316 P P 19 58 40.8 +1.0
RZN Rozhen 81.99 311 P P 19 58 39.9 -0.4
KARP Karpathos 82.01 305 P P 19 58 39.5 -0.9
KARP Karpathos 82.01 305 *eP* **P 19 58 40.2 -0.1**
KARP Karpathos 82.01 305 P P 19 58 38.2 -2.1
comp=Z,4µmcomp=Z,410nm,1.1s
R32K Eaglecrest 82.03 31 P P 19 58 39.3 -0.7
baz=292
P33M Teslin, Yukon 82.08 29 P P 19 58 40.0 -0.3
baz=294
SIT Sitka 82.09 32 P P 19 58 41.5 +1.3
SIT Sitka 82.09 32 P P 19 58 39.9 -0.3
baz=292
JIS Juneau Island 82.10 31 P P 19 58 41.8 +1.6
HFS Hagfors 82.11 331 P P 19 58 39.6 -0.7
comp=Z,64nm,0.9s,baz=90,slow=4.7,SNR=74
comp=Z,64nm,0.9s
PGB Panagyurishte 82.14 312 P P 19 58 40.7 -0.2
MPEP Malo Peshtene 82.19 313 P P 19 58 42.2 +1.1
GZR Gura Zlata 82.21 315 ⇓P **P 19 58 41.8 +0.6**
GZR Gura Zlata 82.21 315 P P 19 58 41.8 +0.6
VALD Valdehram 82.30 313 P P 19 58 43.0 +1.4
S32K Killisnoo 82.31 32 P P 19 58 40.7 -0.6
baz=292
BORR Bors 82.32 317 ⇑P **P 19 58 43.0 +1.3**
PUNG Punghina 82.45 314 ⇓P **P 19 58 43.7 +1.3**
NIE Niedzica 82.49 320 *eP* **P 19 58 43.2 +0.6**
NIE Niedzica 82.49 320 P P 19 58 41.4 -1.2
comp=Z,44nm,1.2s
VOI Vohitsoka 82.49 244 P P 19 58 42.5 -0.6
VOI Vohitsoka 82.49 244 P P 19 58 42.8 -0.3
SNR=9.6
OJC Ojcow 82.52 320 *eP* **P 19 58 42.7 +0.1**
OJC Ojcow 82.52 320 P P 19 58 42.2 -0.5
OJC IAmb IAmb 19 58 44.0
comp=Z,102nm,0.9s
OJC Ojcow 82.52 320 P P 19 58 42.2 -0.5
OJC pmax pmax
comp=Z,102nm,0.9s
OJC Ojcow 82.52 320 P P 19 58 41.3 -1.4
comp=Z,2µmcomp=Z,157nm,1.2s
SURR Surduc 82.53 316 ⇓P **P 19 58 43.2 +0.5**
BLEU Blekinge 82.56 327 *i* P **P 19 58 42.0 -0.7**
NC405 NORSÅR Array S 82.59 332 P P 19 58 42.4 -0.5
DJES Djerdap 82.61 315 ⇑P **P 19 58 43.2 0.0**
HERR Herculane 82.61 315 ⇓P **P 19 58 43.9 +0.6**
SIRR Siria 82.67 316 ⇓P **P 19 58 44.0 +0.5**
PLNA Plana 82.68 312 P P 19 58 41.7 -2.1
KECS Kecovo 82.69 319 *eP* **P 19 58 44.2 +0.6**
KECS pmax pmax
comp=Z,48nm,0.8s
KECS Kecovo 82.69 319 *eP* **P 19 58 44.2 +0.6**
MMB Musomishta 82.74 311 P P 19 58 44.0 -0.1
VTS Vitosha 82.77 312 P P 19 58 44.5 +0.2
NC602 NORSAR Array S 82.83 332 *eP* **P 19 58 42.8 -1.3**
NC602 IAmb IAmb 19 58 43.5
comp=Z,37nm,0.9s
Q32M Nakina River 82.84 30 P P 19 58 44.1 -0.4
baz=294
NB2 NORSAR Subarra 82.84 332 P P 19 58 43.2 -1.0
comp=Z,79nm,0.9s,baz=64,slow=5.3
NB2 NORSAR Subarra 82.84 332 P P 19 58 43.2 -1.0
baz=64,slow=5.3
NB2 NORSAR Subarra 82.84 332 P P 19 58 40.0 -4.2
NOA NORSAR Array B 82.84 332 P P 19 58 43.5 -0.7
comp=Z,54nm,0.9s,baz=65,slow=5.2,SNR=116
NOA LR LR 20 40 12.5
comp=Z,2µm,18.0s,baz=75,slow=39
comp=Z,54nm,0.9s
BZS Buzias 82.91 316 ⇑P **P 19 58 44.5 -0.3**
BZS Buzias 82.91 316 P P 19 58 44.4 -0.3
GKP Gorka Klasztor 82.93 324 *eP* **P 19 58 44.7 0.0**
GKP Gorka Klasztor 82.93 324 *eP* **P 19 58 44.9 +0.2**
LANS Liptovska Anna 83.09 320 *eP* **P 19 58 46.7 +1.0**
LANS pmax pmax
comp=Z,31nm,1.6s
LANS Liptovska Anna 83.09 320 *eP* **P 19 58 46.7 +1.0**
KKB Krupnik 83.09 312 P P 19 58 45.3 -0.5
MDVR Moldovita 83.12 315 ⇑P **P 19 58 46.2 +0.2**
PSZ Piszkesteto 83.25 318 P P 19 58 46.3 -0.3
PSZ IAmb IAmb 19 58 48.0
comp=Z,50nm,1.1s
PSZ IAMs_20 IAMs_20 20 38 52.3
comp=Z,1µm,20.0s
PSZ Piszkesteto 83.25 318 ⇑P **P 19 58 46.9 +0.3**
PSZ Piszkesteto 83.25 318 P P 19 58 46.3 -0.3
PSZ pmax pmax
comp=Z,49nm,1.1s
PSZ MLR MLR
comp=Z,1µm,20.0s
PSZ Piszkesteto 83.25 318 *eP* **P 19 58 47.0 +0.4**
R33M Jennings River 83.27 29 P P 19 58 45.8 -0.7
baz=295
DOMB Dombas 83.32 334 *eP* **P 19 58 45.9 -0.7**
DOMB IAmb IAmb 19 58 46.5
comp=Z,57nm,0.9s
BSD Bornholm Skovb 83.49 326 *eP* **P 19 58 47.6 +0.1**
BSD Bornholm Skovb 83.49 326 *i* P **P 19 58 47.4 -0.1**
BSD IAmb IAmb 19 58 48.4
comp=Z,73nm,1.1s
DEL Delary 83.50 328 *i* P **P 19 58 47.1 -0.5**
BOVS Bovan 83.50 314 ⇓P **P 19 58 47.5 -0.4**
TGTN Hyland Airport 83.53 27 P P 19 58 47.2 -0.5
baz=297
KIBK Kibwezi 83.53 265 P P 19 58 48.8 +0.2
KIBK IAmb IAmb 19 58 50.6
comp=Z,76nm,1.1s
KIBK IAMs_20 IAMs_20 20 31 35.0
comp=Z,979nm,21.0s
KIBK Kibwezi 83.53 265 P P 19 58 49.8 +1.2
SNR=36
OSL Oslo 83.54 332 *eP* **P 19 58 47.5 -0.2**
OSL IAmb IAmb 19 58 49.0
comp=Z,91nm,0.8s
BORU Boraas 83.57 329 *i* P **P 19 58 47.4 -0.5**
U33K Whale Pass 83.58 33 P P 19 58 47.4 -0.5
baz=294
MOL Molde 83.70 335 *eP* **P 19 58 48.9 +0.4**
VYHS Vyhne 83.71 319 *eP* **P 19 58 49.0 +0.1**
VYHS pmax pmax
comp=Z,102nm,1.3s
VYHS Vyhne 83.71 319 *eP* **P 19 58 49.0 +0.1**
STRU Stroemstad 83.73 331 *eP* **P 19 58 49.1 +0.5**
S34M Telegraph Cree 83.82 31 P P 19 58 48.9 -0.3
baz=295
CRAG Craig 83.84 33 P P 19 58 49.0 -0.3
baz=294
STEB Steborice 83.84 321 *eP* **P 19 58 50.1 +0.6**
WRAK Wrangell Islan 83.85 32 P P 19 58 48.9 -0.4
baz=294
IDI Anoyia 83.85 305 P P 19 58 49.1 -0.8
IDI IAmb IAmb 19 58 51.3
comp=Z,121nm,1.5s
IDI Anoyia 83.85 305 LR LR 20 41 47.0
comp=Z,414nm,18.9s,baz=79,slow=40
KMBO Kilima Mbogo 83.89 267 P P 19 58 50.8 +0.1
KMBO Kilima Mbogo 83.89 267 IAMs_20 IAMs_20 20 33 09.3
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 83.89 267 P P 19 58 51.1 +0.4
comp=Z,40nm,1.0s,baz=62,slow=5.7,SNR=96
KMBO LR LR 20 33 33.0
comp=Z,1µm,21.1s,baz=91,slow=34
comp=Z,40nm,1.0s
KMBO Kilima Mbogo 83.89 267 P P 19 58 51.9 +1.2
KMBO Kilima Mbogo 83.89 267 P P 19 58 50.8 +0.1
KMBO pmax pmax
comp=Z,334nm,1.8s
KMBO MLR MLR
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 83.89 267 *i* P **P 19 58 51.9 +1.2**
SNR=58
TJOU Tjoern 83.95 330 *eP* **P 19 58 49.1 -0.7**
DBG Daneborg 83.97 350 *i* P **P 19 58 48.4 -1.3**

MAUC Maruska 84.02 320 *eP* **P 19 58 51.4 +0.9**
MORC Moravsky Berou 84.04 321 P P 19 58 50.2 -0.4
MORC IAmb IAmb 19 58 52.2
comp=Z,88nm,1.4s
MORC Moravsky Berou 84.04 321 *eP* **P 19 58 50.5 -0.1**
MORC Moravsky Berou 84.04 321 ⇓P **P 19 58 51.1 +0.5**
MORC Moravsky Berou 84.04 321 P P 19 58 50.2 -0.4
MORC pmax pmax
comp=Z,89nm,1.4s
NEEM North Greenlan 84.05 358 *i* P **P 19 58 50.4 -0.1**
NEEM IAmb IAmb 19 58 52.5
comp=Z,99nm,0.9s
LUNU Lund 84.05 327 *i* P **P 19 58 50.6 +0.2**
ONAU Onsala 84.08 329 *eP* **P 19 58 49.7 -0.8**
BJUU Bjuv 84.09 327 *i* P **P 19 58 50.6 +0.1**
AKN Aaknes 84.11 334 *eP* **P 19 58 50.7 +0.1**
AKN IAmb IAmb 19 58 51.7
comp=Z,200nm,0.9s
LIT Litokhoron 84.11 310 P P 19 58 49.6 -1.5
LIT Litokhoron 84.11 310 P P 19 58 49.6 -1.5
LIT pmax pmax
comp=Z,582nm,1.9s
DLBC Dease Lake 84.12 30 P P 19 58 51.8 +0.9
DLBC IAmb IAmb 19 58 54.3
comp=Z,46nm,1.3s
DLBC Dease Lake 84.12 30 P P 19 58 51.8 +0.9
comp=Z,6.1nm,0.7s,baz=310,slow=2.4,SNR=14
DLBC LR LR 20 36 44.9
comp=Z,687nm,21.5s,baz=296,slow=36
comp=Z,6.1nm,0.7s
DLBC Dease Lake 84.12 30 P P 19 58 51.0 +0.1
baz=296
KONO Kongsberg 84.18 332 P P 19 58 50.2 -0.8
KONO IAmb IAmb 19 58 52.7
comp=Z,68nm,1.2s
KONO Kongsberg 84.18 332 *eP* **P 19 58 50.8 -0.2**
KONO IAmb IAmb 19 58 51.8
comp=Z,62nm,1.1s
KONO Kongsberg 84.18 332 P P 19 58 50.2 -0.8
KONO pmax pmax
comp=Z,68nm,1.2s
KONO MLR MLR
comp=Z,3µm,18.0s
LODK Lodwar 84.25 272 P P 19 58 52.9 +0.6
LODK IAmb IAmb 19 58 55.1
comp=Z,86nm,1.2s
LODK Lodwar 84.25 272 P P 19 58 53.0 +0.6
SNR=40
FRGS Fruska Gora 84.26 316 ⇑ *i* P **P 19 58 51.5 -0.3**
SKAR Skarslia 84.28 333 *eP* **P 19 58 51.9 +0.3**
SKAR IAmb IAmb 19 58 52.6
comp=Z,117nm,1.4s
SRO Srobarova 84.28 319 *eP* **P 19 58 52.4 +0.6**
SRO pmax pmax
comp=Z,42nm,0.7s
SRO Srobarova 84.28 319 *eP* **P 19 58 52.4 +0.6**
RES Resolute Bay 84.29 9 P P 19 58 51.1 -0.1
RES IAmb IAmb 19 58 53.0
comp=Z,112nm,1.2s
RES Resolute Bay 84.29 9 P P 19 58 51.5 +0.3
comp=Z,52nm,1.0s,baz=320,slow=5.3,SNR=95
RES LR LR 20 38 28.8
comp=Z,493nm,21.4s,baz=321,slow=37
comp=Z,52nm,1.0s
RES Resolute Bay 84.29 9 P P 19 58 51.1 -0.1
RES pmax pmax
comp=Z,112nm,1.2s
JAVC Velka Javorina 84.30 320 *eP* **P 19 58 53.4 +1.5**
KSP Ksiaz 84.38 322 *eP* **P 19 58 52.5 +0.3**
KSP Ksiaz 84.38 322 P P 19 58 51.5 -0.7
comp=Z,188nm,1.2s
KRLC Kraliky 84.38 321 *eP* **P 19 58 52.9 +0.6**
KRLC AMS AMS 20 40 00.0
comp=Z,900nm,16.7s
KRLC Kraliky 84.38 321 *eP* **P 19 58 52.9 +0.6**
KRLC MLR MLR
comp=Z,900nm,16.7s
OSTC Ostas 84.54 322 *eP* **P 19 58 53.7 +0.7**
OSTC Ostas 84.54 322 *eP* **P 19 58 53.7 +0.7**
DPC Dobruska-Polom 84.55 321 *eP* **P 19 58 53.7 +0.5**
DPC AMS AMS 20 43 20.0
comp=Z,1µm,19.1s
DPC Dobruska-Polom 84.55 321 *eP* **P 19 58 53.7 +0.5**
DPC MLR MLR
comp=Z,1µm,19.1s
DPC Dobruska-Polom 84.55 321 P P 19 58 52.1 -1.1
comp=Z,76nm,1.4s
RGN Rugen 84.57 326 P P 19 58 53.2 +0.2
SMOL Smolenice 84.58 319 *eP* **P 19 58 54.0 +0.7**
SMOL pmax pmax
comp=Z,30nm,1.2s
CHVC Chvalec 84.62 322 *eP* **P 19 58 53.9 +0.4**
CHVC Chvalec 84.62 322 *eP* **P 19 58 53.9 +0.4**
MORH Mrgy, Hungar 84.65 317 ⇓P **P 19 58 54.0 +0.4**
MORH Mrgy, Hungar 84.65 317 P P 19 58 52.0 -1.6
comp=Z,85nm,1.4s
WRGLY Wrigley 84.65 24 P P 19 58 53.4 +0.1
baz=301
T35M Bob Quinn 84.66 31 P P 19 58 53.4 -0.1
baz=296
TEKS Tekeris 84.66 315 ⇑ *i* P **P 19 58 52.8 -1.0**
UPC Upice 84.68 322 *eP* **P 19 58 54.3 +0.6**
UPC AMS AMS 20 44 00.0
comp=Z,1µm,20.2s
UPC Upice 84.68 322 *eP* **P 19 58 54.3 +0.6**
UPC MLR MLR
comp=Z,1µm,20.2s
MODS Modra-Piesok 84.72 319 *eP* **P 19 58 54.4 +0.4**
MODS pmax pmax
comp=Z,269nm,1.8s
MODS Modra-Piesok 84.72 319 *eP* **P 19 58 54.4 +0.4**
VRAC Vranov 84.79 320 *eP* **P 19 58 54.7 +0.4**
VRAC Vranov 84.79 320 ⇓P **P 19 58 55.6 +1.3**
VRAC Vranov 84.79 320 P P 19 58 55.6 +1.3
SJES Sjenica 84.81 314 ⇑ *i* P **P 19 58 55.1 +0.4**
CASY Casey 84.92 184 P P 19 58 54.9 +0.6
HYA Hoyanger 84.95 334 *eP* **P 19 58 54.8 0.0**
HYA IAmb IAmb 19 58 55.5
comp=Z,224nm,1.2s
OHR Ohrid 84.99 312 ⇑ *i* P **P 19 58 54.6 -1.0**
BBLS Lazi&#263i 84.99 315 ⇑ *i* P **P 19 58 55.4 -0.1**
KRUC Moravsky 85.00 320 *eP* **P 19 58 55.6 +0.2**
IVA Berane 85.01 313 ⇑ *i* P **P 19 58 55.6 -0.1**
MPLH Magyarpolny 85.01 318 P P 19 58 53.5 -1.9
comp=Z,4µmcomp=Z,410nm,1.4s
PVY Plav 85.06 313 ⇑ *i* P **P 19 58 55.4 -0.6**
RUDO Rudo 85.10 314 *eP* **P 19 58 55.1 -0.9**
RUE Ruedersdorf 85.17 324 *eP* **P 19 58 56.8 +0.7**
PLE Pljevlja 85.19 314 ⇑ *i* P **P 19 58 56.9 +0.3**
FOO Floro 85.21 334 *eP* **P 19 58 56.0 -0.1**
FOO IAmb IAmb 19 58 56.9
comp=Z,116nm,1.0s
HAPS Han Pijesak,Bl 85.22 315 ⇑ *i* P **P 19 58 56.7 0.0**
KOME Kolasin 85.27 314 ⇑ *i* P **P 19 58 56.8 -0.2**
PUK Puka 85.30 313 P P 19 58 56.2 -0.9
HOMB Homborsund 85.32 331 *eP* **P 19 58 57.1 +0.4**
HOMB IAmb IAmb 19 58 57.2
comp=Z,103nm,1.2s
HOMB Homborsund 85.32 331 *i* P **P 19 58 56.8 0.0**
ODD1 Odda 85.38 332 *eP* **P 19 58 57.0 -0.1**
ODD1 IAmb IAmb 19 58 57.9
comp=Z,100nm,1.0s
TREC Trest 85.46 321 *eP* **P 19 58 58.2 +0.5**
TREC Trest 85.46 321 *eP* **P 19 58 58.2 +0.5**
ITM Ithomi 85.50 308 P P 19 58 57.0 -1.2
PVCC Panska Ves 85.51 322 *eP* **P 19 58 58.6 +0.7**
PVCC AMS AMS 20 42 20.0
comp=Z,1µm,16.1s
PVCC Panska Ves 85.51 322 *eP* **P 19 58 58.6 +0.7**
PVCC MLR MLR
comp=Z,1µm,16.1s
TIR Tirane 85.56 312 P P 19 58 57.9 -0.4
TIR IAMs_20 IAMs_20 20 43 05.1
comp=Z,975nm,18.0s
TIR Tirane 85.56 312 P P 19 58 57.9 -0.4
TIR pmax pmax
comp=Z,179nm,1.0s
TIR MLR MLR
comp=Z,1µm,18.0s
TIR Tirane 85.56 312 P P 19 58 56.4 -1.9
comp=Z,2µmcomp=Z,195nm,1.3s
UPM Unac-Piva 85.56 314 ⇑ *i* P **P 19 58 57.8 -0.8**
UPM Unac-Piva 85.56 314 ⇑ *i* P **P 19 58 58.2 -0.4**
RONA Rosalia, Austr 85.59 319 *i* P **P 19 58 58.3 -0.1**

comp=Z,68nm,1.4s,SNR=28
RONA *e*PP **PP** **20 02 18.9 +1.9**
comp=Z,9.4nm,1.3s
SUE Sulen 85.60 334 *e*P **P** **19 58 58.3 +0.2**
SUE IAmb IAmb 19 58 59.0
comp=Z,172nm,1.0s
PDG Podgorica 85.60 313⇑ *i*P **P** **19 58 57.7 -0.7**
PDG Podgorica 85.60 313 ⇓P **P** **19 58 58.6 +0.1**
PDG Podgorica 85.60 313⇑ *i*P **P** **19 58 57.8 -0.7**
GOPC GO Pecny, Ondr 85.63 321 *e*P **P** **19 58 59.3 +0.8**
GOPC GO Pecny, Ondr 85.63 321 *e*P **P** **19 58 59.3 +0.8**
NKME Niksic 85.69 314⇑ *i*P **P** **19 58 58.6 -0.4**
BLS5 Blasjo 85.70 332 *e*P **P** **19 58 58.8 +0.2**
BLS5 IAmb IAmb 19 58 59.6
comp=Z,283nm,1.0s
BER Bergen 85.70 333 *e*P **P** **19 58 58.8 +0.2**
BER IAmb IAmb 19 58 58.9
comp=Z,80nm,1.0s
ASK Askoy 85.71 333 *e*P **P** **19 58 58.5 -0.1**
BRG Berggiesshubel 85.74 322⇑ *i*P **P** **19 58 59.1 +0.1**
BRG Amp 19 59 00.6
comp=Z,135nm,1.0s
BRG Berggiesshubel 85.74 322 S **S** **20 09 34.0 +5.1**
DRME Dracevica, Mon 85.74 313⇑ *i*P **P** **19 58 58.7 -0.5**
DRME Dracevica, Mon 85.74 313⇑ *i*P **P** **19 58 58.9 -0.3**
PRU Pruhonice 85.75 322 *e*P **P** **19 58 59.3 +0.2**
PRU AMS AMS 20 39 50.0
comp=Z,1μm,20.0s
PRU Pruhonice 85.75 322 *e*P **P** **19 58 59.3 +0.2**
PRU MLR MLR
comp=Z,1μm,20.0s
CONA Conrad Observa 85.77 319 *i*P **P** **19 58 59.7 +0.3**
comp=Z,115nm,1.6s,SNR=40
CONA *i*PP **PP** **20 02 20.0 +1.5**
comp=Z,23nm,1.7s
ULC Ulcinj 85.78 313⇑ *i*P **P** **19 58 58.5 -0.9**
PRA Prague 85.78 322 *e*P **P** **19 58 59.9 +0.7**
PRA AMS AMS 20 40 00.0
comp=Z,2μm,21.6s
PRA Prague 85.78 322 *e*P **P** **19 58 59.9 +0.7**
PRA MLR MLR
comp=Z,2μm,21.6s
CEME Cevo 85.79 313⇑ *i*P **P** **19 58 58.8 -0.8**
MUD Monsted U'grnd 85.85 329 *i*P **P** **19 58 57.0 -2.4**
MUD IAmb IAmb 19 59 00.6
comp=Z,81nm,1.0s
SNART Snartemo 85.89 331 *e*P **P** **19 58 59.3 -0.2**
SNART IAmb IAmb 19 59 00.9
comp=Z,377nm,1.2s
SNART Snartemo 85.89 331 *i*P **P** **19 58 59.6 0.0**
BUM Brajici-Budva 85.90 313⇑ *i*P **P** **19 58 58.9 -1.2**
BRY Bratogost 85.92 314⇑ *i*P **P** **19 58 59.7 -0.6**
BRY Bratogost 85.92 314⇑ *i*P **P** **19 58 59.9 -0.4**
KOTAN Kotaneelee Air 86.01 27 P **P** **19 58 59.2 -0.9**
baz=301
CLL Collm 86.10 323⇑ *i*P **P** **19 59 00.3 -0.5**
CLL *e*S **S** **20 09 33.0 +0.6**
CLL pmax pmax
comp=Z,131nm,1.1s
CLL MLR MLR
comp=Z,2μm,18.6s
CLL Collm 86.10 323 P **P** **19 58 59.1 -1.7**
comp=Z,1μmcomp=Z,115nm,1.1s
KOGS Kog 86.10 318 *e*P **P** **19 59 00.7 -0.2**
HCY Herceg Novi 86.12 313⇑ *i*P **P** **19 58 59.9 -1.2**
HCY Herceg Novi 86.12 313⇑ *i*P **P** **19 59 00.5 -0.6**
TREB Trebinje 86.12 314 *e*P **P** **19 59 00.8 -0.3**
HSKC Hora Svate Kat 86.14 322 *e*P **P** **19 59 01.5 +0.4**
HSKC AMS AMS 20 43 10.0
comp=Z,2μm,21.1s
TOAD Toad River Com 86.14 28 P **P** **19 59 00.7 -0.2**
baz=300
BLY Banja Luka 86.15 316⇑ *i*P **P** **19 59 01.3 +0.1**
ZVC Zvikov 86.18 321 *e*P **P** **19 59 01.8 +0.6**
ZVC AMS AMS 20 44 10.0
comp=Z,2μm,18.3s
A051A Mrakovica 86.23 316⇑ *i*P **P** **19 59 01.5 -0.2**
ARSA Arzberg 86.25 319 *i*P **P** **19 59 01.6 -0.1**
comp=Z,46nm,1.0s,SNR=26
ARSA *e*PP **PP** **20 02 23.4 +1.0**
comp=Z,9.0nm,1.2s
KMY Karmoy 86.34 332 *e*P **P** **19 59 01.5 -0.2**
KMY IAmb IAmb 19 59 02.7
comp=Z,274nm,1.1s
STON Ston 86.51 314⇑ *i*P **P** **19 59 01.8 -1.1**
KHC Kasperske Hory 86.67 321 *e*P **P** **19 59 03.9 +0.2**
KHC AMS AMS 20 39 40.0
comp=Z,1μm,22.2s
KHC Kasperske Hory 86.67 321 *e*P **P** **19 59 03.9 +0.2**
KHC MLR MLR
comp=Z,1μm,22.2s
KHC Kasperske Hory 86.67 321 P **P** **19 59 02.3 -1.4**
comp=Z,50nm,2.2s
A050A Klekovaca 86.68 316⇑ *i*P **P** **19 59 03.5 -0.4**
GERES GERESS Array B 86.72 321 P **P** **19 59 03.5 -0.5**
GERES GERESS Array B 86.72 321 P **P** **19 59 03.6 -0.4**
comp=Z,25nm,0.9s,baz=57,slow=4.9,SNR=61
GERES LR LR 20 41 52.1
comp=Z,993nm,19.1s,baz=70,slow=38
comp=Z,25nm,0.9s
SOKA Soboth 86.78 318 *i*P **P** **19 59 04.2 -0.2**
comp=Z,53nm,0.9s,SNR=36
SOKA *e*PP **PP** **20 02 25.7 -1.1**
comp=Z,9.1nm,1.4s
MOA Molln 86.78 320 *i*PcP **P** **19 59 04.7 +0.4**
comp=Z,131nm,1.2s,SNR=52
MOA *e*PP **PP** **20 02 24.6 -2.1**
comp=Z,9.9nm,1.3s
KULLO Kullorsuaq 87.05 359 *i*P **P** **19 59 04.3 -0.7**
BOJS Bojanci 87.11 317 *i*P **P** **19 59 06.0 +0.1**
OBKA Obir 87.16 318 *i*P **P** **19 59 05.8 -0.4**
comp=Z,49nm,1.1s,SNR=20
OBKA *i*PP **PP** **20 02 29.2 -0.6**
comp=Z,18nm,1.5s
OBKA Obir 87.16 318⇑ *i*P **P** **19 59 05.7 -0.5**
BIOA Bad Ischl, Aus 87.24 320 *i*P **P** **19 59 06.5 0.0**
comp=Z,39nm,1.3s,SNR=16
LJU Ljubljana 87.36 318 *i*P **P** **19 59 07.0 -0.1**
SCO Scoresbysund 87.38 348 P **P** **19 59 07.0 +0.4**
SCO IAmb IAmb 19 59 08.8
comp=Z,50nm,1.4s
SCO Scoresbysund 87.38 348 P **P** **19 59 07.0 +0.4**
SCO pmax pmax
comp=Z,50nm,1.4s
SCO Scoresbysund 87.38 348 *i*P **P** **19 59 05.7 -1.0**
RAR Rarotonga 87.54 113 LR LR 20 32 31.5
comp=Z,496nm,21.0s,baz=284,slow=32
KBA Koelnbreinsper 87.67 319 *i*P **P** **19 59 08.1 -0.7**
comp=Z,37nm,1.2s,SNR=21
KBA *e*PP **PP** **20 02 32.9 -1.1**
comp=Z,8.3nm,1.2s
MYKA Terra Mystica 87.68 319 *i*P **P** **19 59 07.9 -0.8**
comp=Z,35nm,1.4s,SNR=14
VOJS Vojsko 87.77 318 *i*P **P** **19 59 08.4 -0.7**
GRA1 Grafenberg Arr 87.82 322 P **P** **19 59 09.1 -0.1**
GRA1 IAmb IAmb 19 59 12.0
comp=Z,119nm,1.8s
GRF Grafenberg Arr 87.82 322 P **P** **19 59 09.1 -0.1**
GRF pmax pmax
comp=Z,119nm,1.8s
GRF MLR MLR
comp=Z,2μm,18.0s
GRFO Grafenberg 87.82 322 P **P** **19 59 08.9 -0.3**
GRFO IAmb IAmb 19 59 12.0
comp=Z,113nm,1.8s
GRFO Grafenberg 87.82 322 P **P** **19 59 08.9 -0.3**
GRFO pmax pmax
comp=Z,113nm,1.8s
GRFO MLR MLR
comp=Z,2μm,18.0s
LESA Schwarzleotal 87.94 320 *i*P **P** **19 59 09.3 -0.6**
comp=Z,41nm,1.0s,SNR=17
LESA *i*PP **PP** **20 02 35.6 -0.4**
comp=Z,6.8nm,1.1s
BBB Bella Bella 87.94 35 LR LR 20 40 26.9
comp=Z,273nm,19.5s,baz=297,slow=37
SABO M.te Sabotino 87.97 318 P **P** **19 59 09.2 -0.9**
SUMG Summit 87.98 354 P **P** **19 59 09.4 -0.6**
SUMG Summit 87.98 354 P **P** **19 59 09.4 -0.6**
SUMG pmax pmax
comp=Z,120nm,1.2s
SUMG Summit 87.98 354 *i*P **P** **19 59 09.3 -0.7**
SGRT San Giovanni R 88.28 314 P **P** **19 59 10.8 -0.9**
ABTA Abfaltersbach 88.33 319 *i*P **P** **19 59 10.6 -1.2**
comp=Z,62nm,1.2s,SNR=29

ABTA *e*PP **PP** **20 02 39.0 -0.2**
comp=Z,8.8nm,1.5s
YKA Yellowknife Ar 88.39 22 P **P** **19 59 12.3 +0.6**
comp=Z,50nm,0.9s,baz=312,slow=4.6,SNR=434
YKA PKKPbc **PKKPbc** **20 16 52.8 -3.1**
comp=Z,1.7nm,0.8s,baz=130,slow=2.3,SNR=15
YKA PKPPKP **P'P'df** **20 25 02.8 -2.3**
comp=Z,0.7nm,1.0s,baz=146,slow=2.7,SNR=5.0
comp=Z,50nm,0.9s
TIP Timpagrande 88.57 311 P **P** **19 59 12.2 -0.9**
TIP Timpagrande 88.57 311 ⇓P **P** **19 59 13.2 +0.2**
TIP Timpagrande 88.57 311 P **P** **19 59 11.3 -1.8**
comp=Z,1μmcomp=Z,69nm,1.6s
WTTA Wattenberg 88.65 320 *i*P **P** **19 59 13.0 -0.4**
comp=Z,62nm,0.8s,SNR=32
WTTA *i*PP **PP** **20 02 41.7 -0.1**
comp=Z,14nm,1.1s
WATA Walderalm 88.65 320 *i*P **P** **19 59 12.6 -0.7**
comp=Z,48nm,1.1s,SNR=24
WATA *e*PP **PP** **20 02 42.4 +0.6**
comp=Z,8.7nm,1.1s
UPNV Upernavik 88.84 359 *i*P **P** **19 59 13.0 -0.6**
SQTA Sankt Quirin 88.93 320 *i*P **P** **19 59 14.0 -0.7**
comp=Z,49nm,0.8s,SNR=31
SQTA *e*PP **PP** **20 02 44.7 +0.8**
comp=Z,15nm,1.2s
MOTA Moosalm 88.94 320 *i*P **P** **19 59 14.0 -0.7**
comp=Z,43nm,1.0s
MOTA *e*PP **PP** **20 02 44.2 +0.2**
comp=Z,10.0nm,1.1s
RETA Reutte 89.08 320 *i*P **P** **19 59 14.8 -0.5**
comp=Z,16nm,0.8s,SNR=6.5
FETA Feichten 89.31 320 *i*PcP **P** **19 59 16.2 -0.3**
comp=Z,49nm,0.9s,SNR=17
FETA *e*PP **PP** **20 02 48.1 +1.0**
comp=Z,11nm,1.1s
STU Stuttgart 89.42 322 P **P** **19 59 16.7 -0.1**
STU Stuttgart 89.42 322 P **P** **19 59 16.7 -0.1**
STU pmax pmax
comp=Z,31nm,1.2s
STU Stuttgart 89.42 322 *e*P **P** **19 59 16.7 -0.1**
CEL Celeste 89.56 310 P **P** **19 59 16.5 -1.2**
comp=Z,3μmcomp=Z,228nm,1.7s
DAVA Damuels 89.70 320 *i*PcP **P** **19 59 18.1 -0.2**
comp=Z,34nm,1.0s,SNR=11
FUORN Ofenpass-Fuorn 89.78 320 P **P** **19 59 18.2 -0.6**
MBAR Mbarara 89.90 269 P **P** **19 59 19.3 -0.6**
MBAR Mbarara 89.90 269 P **P** **19 59 19.8 0.0**
MBAR Mbarara 89.90 269 P **P** **19 59 19.3 -0.6**
MBAR pmax pmax
comp=Z,22nm,1.1s
DAVOX Davos/Dischmat 89.94 320 LR LR 20 40 47.4
comp=Z,888nm,20.1s,baz=60,slow=36
NUUG Nuugaatsiaq 90.02 358 *i*P **P** **19 59 18.1 -0.9**
BFO Black Forest 90.14 322 P **P** **19 59 19.3 -0.9**
BFO IAmb IAmb 19 59 21.1
comp=Z,41nm,1.3s
BFO Black Forest 90.14 322 P **P** **19 59 19.3 -0.9**
BFO pmax pmax
comp=Z,41nm,1.3s
BTNL Ternell 90.28 324 *d*P **P** **19 59 20.2 -0.6**
comp=Z,14nm,1.4s
MEM Membach 90.34 325 *d*P **P** **19 59 21.0 0.0**
comp=Z,18nm,1.2s
TUE Stuetta 90.41 320 P **P** **19 59 19.4 -2.3**
comp=Z,319nm,1.4s
BHOU Houvegnez 90.47 324 *d*P **P** **19 59 21.5 -0.2**
comp=Z,18nm,1.1s
CBB Campbell River 90.50 36 P **P** **19 59 22.9 +1.1**
BSTI Sart Tilman 90.59 325 *d*P **P** **19 59 22.5 +0.3**
comp=Z,7.9nm,1.0s
WLF Walferdange 90.73 324 P **P** **19 59 23.1 +0.2**
WLF IAmb IAmb 19 59 24.5
comp=Z,86nm,1.1s
WLF Walferdange 90.73 324 *d*P **P** **19 59 23.5 +0.6**
comp=Z,39nm,1.2s
WLF Walferdange 90.73 324 P **P** **19 59 23.1 +0.2**
WLF pmax pmax
comp=Z,87nm,1.1s
BCLA Clavier 90.82 325 *d*P **P** **19 59 23.2 0.0**
comp=Z,18nm,1.2s
UMMG Uummannaq 90.83 358 *i*P **P** **19 59 21.6 -1.3**
ECH Echery 90.88 322 P **P** **19 59 22.9 -0.7**
ECH Echery 90.88 322 P **P** **19 59 22.9 -0.7**
ECH pmax pmax
comp=Z,29nm,1.2s
VAE Valguarnera 90.94 310 LR LR 20 48 30.3
comp=Z,383nm,18.5s,baz=7.0,slow=41
BGES Gesves 90.96 325 *d*P **P** **19 59 23.5 -0.4**
comp=Z,12nm,1.4s
RCHB Rochefort 91.00 324 *d*P **P** **19 59 24.0 -0.1**
comp=Z,23nm,1.1s
UCC Uccle 91.14 325 P **P** **19 59 24.1 -0.6**
UCC Uccle 91.14 325 *d*P **P** **19 59 24.6 -0.1**
comp=Z,19nm,1.1s
UCC Uccle 91.14 325 P **P** **19 59 24.1 -0.6**
UCC pmax pmax
comp=Z,7.0nm,1.1s
BMRD Maredsous 91.18 325 *d*P **P** **19 59 24.6 -0.3**
comp=Z,25nm,1.1s
DOU Dourbes 91.38 325 *d*P **P** **19 59 25.6 -0.2**
comp=Z,24nm,1.1s
ICESG Greenland Ices 91.42 353 *i*P **P** **19 59 25.4 -0.7**
SENIN Lac Senin/Sane 91.70 320 P **P** **19 59 27.4 -0.4**
CLRS Cowichan Lake 91.82 37 P **P** **19 59 29.2 +1.3**
CLRS IAmb IAmb 19 59 31.0
comp=Z,76nm,1.5s
LLLB Lillooet 92.11 34 P **P** **19 59 30.3 +1.0**
LLLB IAmb IAmb 19 59 32.4
comp=Z,52nm,1.1s
ILULI Ilulissat 92.25 357 P **P** **19 59 28.9 -0.6**
ILULI IAmb IAmb 19 59 30.8
comp=Z,86nm,1.4s
ILULI Ilulissat 92.25 357 P **P** **19 59 28.9 -0.6**
ILULI pmax pmax
comp=Z,86nm,1.4s
EKA Eskdalemuir Ar 92.30 332 P **P** **19 59 29.9 0.0**
comp=Z,36nm,1.1s,baz=54,slow=4.2,SNR=16
comp=Z,36nm,1.1s
EKA Eskdalemuir Ar 92.30 332 P **P** **19 59 30.0 0.0**
NLWA Neilton Lookou 92.70 38 P **P** **19 59 32.5 +0.4**
NLWA IAmb IAmb 19 59 35.5
comp=Z,45nm,1.1s
GNW Green Mountain 93.22 37 P **P** **19 59 35.1 +0.7**
GNW IAmb IAmb 19 59 37.7
comp=Z,32nm,1.1s
CLF Chambon-Foret 93.78 324 P **P** **19 59 37.1 +0.1**
SFJD Kangerlussuaq 94.43 356 P **P** **19 59 39.2 -0.3**
SFJD IAmb IAmb 19 59 40.3
comp=Z,52nm,1.1s
SFJD Kangerlussuaq 94.43 356 P **P** **19 59 39.2 -0.3**
SFJD pmax pmax
comp=Z,52nm,1.1s
KEST Kesra 95.37 310 P **P** **19 59 43.1 -1.6**
KEST IAmb IAmb 19 59 45.8
comp=Z,61nm,1.3s
KEST Kesra 95.37 310 P **P** **19 59 44.2 -0.4**
comp=Z,17nm,0.9s,baz=32,slow=3.7,SNR=11
KEST LR LR 20 50 30.3
comp=Z,675nm,18.1s,baz=67,slow=40
comp=Z,17nm,0.9s
PPT Papeete 95.44 107 LR LR 20 39 29.3
comp=Z,553nm,18.5s,baz=268,slow=33
HAWA Hanford 95.75 37 P **P** **19 59 46.5 +0.4**
NEW Newport 96.00 35 P **P** **19 59 47.3 +0.1**
NEW Newport 96.00 35 P **P** **19 59 47.9 +0.7**
comp=Z,11nm,0.9s,baz=302,slow=4.0,SNR=14
comp=Z,11nm,0.9s
NEW Newport 96.00 35 P **P** **19 59 47.3 +0.1**
NEW pmax pmax
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 96.36 42 P **P** **19 59 49.4 +0.3**
YBH Yreka Blue Hor 96.36 42 LR LR 20 35 30.3
comp=Z,392nm,21.7s,baz=281,slow=31
YBH Yreka Blue Hor 96.36 42 P **P** **19 59 49.4 +0.3**
YBH pmax pmax
comp=Z,10.0nm,1.1s
LSZ Lusaka 96.82 256 P **P** **19 59 50.3 -1.3**
LSZ IAmb IAmb 19 59 52.4
comp=Z,43nm,0.9s
LSZ Lusaka 96.82 256 P **P** **19 59 50.9 -0.6**
LSZ Lusaka 96.82 256 P **P** **19 59 50.3 -1.3**
LSZ pmax pmax
comp=Z,43nm,1.0s
LSZ MLR MLR
comp=Z,1μm,19.0s

O02D Mt. Diablo Mer 97.12 44 P Pdif 19 59 53.7 +1.1
O02D IAMs_20 IAMs_20 20 37 09.2
comp=Z,1μm,20.0s
POGA Pongola 97.23 244 P **P** **19 59 52.5 -0.6**
POGA IAmb IAmb 19 59 53.8
comp=Z,34nm,1.0s
HATC Hat Creek Radi 97.64 42 P Pdif 19 59 55.6 +0.7
HATC IAmb IAmb 19 59 57.2
comp=Z,23nm,0.8s
FCC Fort Churchill 97.88 17 P **P** **19 59 54.7 -0.7**
FCC IAmb IAmb 19 59 56.2
comp=Z,16nm,1.0s
FCC Fort Churchill 97.88 17 P **P** **19 59 54.7 -0.7**
FCC pmax pmax
comp=Z,16nm,1.0s
BMO Blue Mountains 97.91 37 P **P** **19 59 55.8 -0.2**
BMO Blue Mountains 97.91 37 P **P** **19 59 55.8 -0.2**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO MLR MLR
comp=Z,500nm,21.0s
FFC Flin Flon 98.53 23 P **P** **19 59 57.5 -0.9**
FFC IAmb IAmb 19 59 59.8
comp=Z,20nm,1.3s
FFC Flin Flon 98.53 23 P **P** **19 59 57.5 -0.9**
FFC pmax pmax
comp=Z,20nm,1.3s
AFDM Forest Hills D 98.96 44 IAMs_20 IAMs_20 20 45 17.1
comp=Z,534nm,19.0s
PAHR Pah Rah Range 99.58 43 **Pdif** **20 00 04.2 +0.6**
MFID Camas Ranch 99.62 38 **Pdif** **20 00 04.5 +0.8**
PNTR Pine Nut 99.78 43 IAMs_20 IAMs_20 20 35 35.1
comp=Z,796nm,22.0s
CMB Columbia Colle 99.84 44 IAMs_20 IAMs_20 20 36 47.8
comp=Z,647nm,21.0s
EGMT Eagleton 99.97 32 IAMs_20 IAMs_20 20 50 21.1
comp=Z,646nm,19.0s
WAKR Walker 100.21 44 IAMs_20 IAMs_20 20 36 32.5
comp=Z,1μm,22.0s
RYN Ryan 100.74 43 IAMs_20 IAMs_20 20 37 16.3
comp=Z,797nm,22.0s
LHV Little Huntoon 100.96 43 IAMs_20 IAMs_20 20 36 34.2
comp=Z,1μm,22.0s
NVAR Mina Array Bea 100.99 43 P **Pdif** **20 00 11.0 +0.9**
comp=Z,3.2nm,0.7s,baz=300,slow=5.1,SNR=17
NVAR PKKPbc **PKKPbc** **20 16 21.5 -0.7**
comp=Z,1.8nm,0.8s,baz=95,slow=2.7,SNR=9.7
CART Cartagena 101.58 316 IAMs_20 IAMs_20 20 49 08.6
comp=Z,837nm,19.0s
DSP Deep Springs 101.81 44 IAMs_20 IAMs_20 20 35 49.8
comp=Z,1μm,22.0s
YMP Mirror Lake Pl 101.95 34 IAMs_20 IAMs_20 20 47 59.1
comp=Z,737nm,20.0s
ESDC Sonseca Array 102.25 319 P **Pdif** **20 00 14.9 -0.5**
comp=Z,1.1nm,1.0s,baz=40,slow=3.3,SNR=5.5
ESDC PP **PP** **20 04 27.6 +0.3**
comp=Z,8.5nm,1.1s,baz=47,slow=7.8,SNR=14
ISA Isabella, Lake 102.42 46 IAMs_20 IAMs_20 20 45 59.4
comp=Z,774nm,19.0s
AHID Auburn Hatcher 102.73 36 IAMs_20 IAMs_20 20 47 18.0
comp=Z,635nm,20.0s
CCAC Calif City Air 103.02 46 IAMs_20 IAMs_20 20 46 40.2
comp=Z,1μm,19.0s
BOSA Boshof 103.07 244 Pdiff **Pdif** **20 00 18.4 -0.8**
comp=Z,1.8nm,0.9s,baz=117,slow=4.5,SNR=3.3
BOSA PP **PP** **20 04 31.1 -3.4**
comp=Z,8.2nm,1.1s,baz=78,slow=8.3,SNR=6.0
BOSA PKiKP **PKiKP** **20 04 39.4 +0.3**
comp=Z,3.4nm,0.9s,baz=104,slow=4.7,SNR=4.3
S11A Rachel 103.09 43 IAMs_20 IAMs_20 20 38 57.7
comp=Z,916nm,22.0s
TPNV Topopah Spring 103.17 43 IAMs_20 IAMs_20 20 55 50.9
comp=Z,639nm,19.0s
GWY Greenwater Val 103.34 44 IAMs_20 IAMs_20 20 37 35.4
comp=Z,608nm,20.0s
PASC Pasadena Art C 103.45 47 IAMs_20 IAMs_20 20 37 29.7
comp=Z,1μm,22.0s
PDAR Pinedale Array 103.59 35 PKiKP **PKiKP** **20 04 40.5 +0.6**
comp=Z,0.3nm,0.6s,baz=121,slow=1.0,SNR=2.1
PDAR PKKPbc **PKKPbc** **20 16 13.5 -1.3**
comp=Z,5.2nm,1.0s,baz=127,slow=4.7,SNR=18
SYO Syowa Base 103.94 202⇓ *e*PKiKP **PKiKP** **20 04 40.6 +1.4**
SYO Syowa Base 103.94 202⇑ *e*PP **PKiKP** **20 04 44.0 +4.8**
SYO Syowa Base 103.94 202⇓ *ep*PKiKP PKiKP 20 04 47.7 +8.5
ELS Elsinore Mount 104.26 47 IAMs_20 IAMs_20 20 37 42.3
comp=Z,968nm,22.0s
TAM Tamanrasset 104.29 300 IAMs_20 IAMs_20 20 47 36.9
comp=Z,754nm,18.0s
ULM Lac du Bonnet 104.36 23 Pdiff **Pdif** **20 00 23.1 -1.4**
comp=Z,2.8nm,0.8s,baz=324,slow=4.7,SNR=5.8
ULM PKiKP **PKiKP** **20 04 40.7 -0.1**
comp=Z,2.0nm,0.8s,baz=4.4,slow=3.7,SNR=3.1
PFO Pinyon Flats O 104.95 46 IAMs_20 IAMs_20 20 37 39.5
comp=Z,1μm,21.0s
RDMU Red Mountain 105.03 37 IAMs_20 IAMs_20 20 54 18.0
comp=Z,873nm,22.0s
LCMT Little Creek M 105.07 42 IAMs_20 IAMs_20 20 40 00.8
comp=Z,665nm,21.0s
KNB Kanab 105.33 42 IAMs_20 IAMs_20 20 37 54.8
comp=Z,652nm,21.0s
TKX Tecate 105.44 47 IAMs_20 IAMs_20 20 37 09.4
comp=Z,892nm,21.0s
RSSD Black Hills 105.54 32 IAMs_20 IAMs_20 20 51 27.6
comp=Z,783nm,20.0s
BLYC Blythe 106.19 45 IAMs_20 IAMs_20 20 45 53.9
comp=Z,829nm,19.0s
GLA Glamis 106.39 46 IAMs_20 IAMs_20 20 39 00.4
comp=Z,788nm,22.0s
CPBX Cerro Prieto 106.42 47 IAMs_20 IAMs_20 20 52 36.5
comp=Z,570nm,22.0s
VTX Valle De La Tr 106.68 48 IAMs_20 IAMs_20 20 55 13.4
comp=Z,1μm,20.0s
N23A Red Feather La 106.84 35 IAMs_20 IAMs_20 20 51 18.5
comp=Z,821nm,22.0s
N23A Red Feather La 106.84 35 P **PKiKP** **20 04 45.7 -0.3**
baz=314
SFX San Felipe 107.53 48 IAMs_20 IAMs_20 20 45 20.1
comp=Z,1μm,22.0s
ISCO Idaho Springs 107.78 36 IAMs_20 IAMs_20 20 36 30.5
comp=Z,433nm,19.0s
QSPA South Pole Qui 108.39 180 Pdiff **Pdif** **20 00 41.3 -0.6**
comp=Z,1.7nm,0.9s,baz=185,slow=1.5,SNR=2.5
QSPA PKiKP **PKiKP** **20 04 47.8 +0.1**
comp=Z,4.2nm,1.1s,baz=352,slow=4.9,SNR=3.0
QSPA PKKPbc **PKKPbc** **20 15 58.1 -3.2**
comp=Z,4.9nm,0.7s,baz=137,slow=2.5,SNR=9.5
S22A 4UR Ranch, Cre 108.50 38 P **PKiKP** **20 04 48.1 -1.1**
baz=313
TUC Tucson 109.56 44 IAMs_20 IAMs_20 20 56 01.0
comp=Z,928nm,20.0s
ELIB Princess Elisa 109.71 199 *d*PP **PP** **20 05 20.9 -1.3**
T25A Trinidad 110.31 37 P **PKiKP** **20 04 51.6 -0.9**
baz=315
121A Cookes Peak, D 111.37 43 P **PKiKP** **20 04 55.0 +0.4**
baz=311
HSIG 111.45 47 IAMs_20 IAMs_20 21 00 56.8
comp=Z,834nm,20.0s
TORD Torodi Ar. Bea 111.88 293 Pdiff **Pdif** **20 00 59.4 +0.8**
comp=Z,1.7nm,0.3s,baz=73,slow=4.8,SNR=1.9
TORD PKiKP **PKiKP** **20 04 55.7 0.0**
comp=Z,2.8nm,0.3s,baz=50,slow=1.9,SNR=4.5
TORD PKKPbc **PKKPbc** **20 15 49.2 +1.4**
comp=Z,1.9nm,0.3s,baz=284,slow=2.9,SNR=2.4
NVL N'lazarevskaya 113.51 200 *i*PKiKP **PKiKP** **20 04 56.5 -0.7**
NVL MLR MLR
comp=Z,2μm,18.0s
L44A Lake County Fo 114.13 23 P **PKiKP** **20 04 59.0 -0.4**
baz=330
N41A Harden Midland 114.24 26 IAMs_20 IAMs_20 20 54 42.9
comp=Z,624nm,21.0s
OK051 E0350 and S346 114.88 33 IAMs_20 IAMs_20 20 46 51.9
comp=Z,520nm,20.0s
OK052 Battle Ridge R 115.29 33 IAMs_20 IAMs_20 21 03 01.9
comp=Z,859nm,20.0s
MNHN Monahans 115.33 40 **PKPdf** **20 05 02.1 0.0**
ALPN Alpine 115.45 42 **PKiKP** **20 05 02.3 -0.1**
PKME Peaks-Kenny Pk 115.86 8 PKPdf **PKiKP** **20 05 02.5 0.0**
TROLL Troll, Antarti 116.03 198 ⇓PKPdf **PKiKP** **20 05 02.6 +0.4**
comp=Z,1μm,1.0s
TX31 Lajitas Ar. Si 116.14 43 **PKPdf** **20 05 03.6 -0.1**
TXAR Lajitas Array 116.14 43 **PKiKP** **20 05 04.0 +0.3**
TXAR Lajitas Array 116.14 43 PKP **PKiKP** **20 05 04.6 +0.9**
comp=Z,7.8nm,0.7s,baz=220,slow=0.6,SNR=93
TXAR PP **PP** **20 06 08.7 +0.5**
comp=Z,0.5nm,0.8s,baz=301,slow=6.6,SNR=0.9
TXAR PKKPbc **PKKPbc** **20 15 33.6 -0.3**
comp=Z,2.8nm,1.0s,baz=142,slow=6.3,SNR=7.9

TXAR PKKPab **PKKPab 20 15 38.4 -1.7**
comp=Z,2.1nm,0.8s,baz=151,slow=7.9,SNR=12
TXAR Lajitas Array 116.14 43 PKIKP **PKiKP 20 05 04.0 +0.3**
CCM Cathedral Cave 116.29 28 **PKiKP 20 05 03.4 -0.3**
CCM Cathedral Cave 116.29 28 IAMs_20 IAMs_20 21 05 22.5
comp=Z,819nm,20.0s
CCM Cathedral Cave 116.29 28 PKIKP **PKiKP 20 05 03.4 -0.3**
CCM MLR MLR
comp=Z,800nm,20.0s
GBN Guysborough 116.30 2 PKPdf **PKPdf 20 05 04.0 +0.6**
HPIG 116.40 46 **PKPdf 20 05 03.4 -1.0**
HHAR Hobbs 116.49 31 PKPdf **PKPdf 20 05 03.3 -0.8**
PLPT Palo Pinto 116.89 36 PKPdf **PKiKP 20 05 05.0 0.0**
ACSO Alum Creek Sta 117.56 20 **PKPdf 20 05 05.6 -0.4**
FCAR Ozark Folk Cen 117.67 30 **PKPdf 20 05 05.8 -0.6**
SNAA Sanae 117.71 197 PKPdf **PKPdf 20 05 05.1 -0.2**
SNAA Sanae 117.71 197 ⇓PKPdf **PKPdf 20 05 04.6 -0.8**
comp=Z,62nm,0.7s
SNAA Sanae 117.71 197 PKP **PKPdf 20 05 05.2 -0.1**
comp=Z,6.2nm,1.1s,baz=294,slow=4.2,SNR=3.4
SNAA PP **PP 20 06 16.6 -2.0**
comp=Z,4.6nm,1.0s,baz=132,slow=4.6,SNR=4.9
SNAA PKKPbc **PKKPab 20 15 26.4 -2.7**
comp=Z,6.1nm,0.9s,baz=322,slow=4.0,SNR=6.8
SNAA Sanae 117.71 197 PKIKP **PKPdf 20 05 05.1 -0.2**
SNAA MLR MLR
comp=Z,2μm,22.0s
JCT Junction City 117.73 39 PKPdf **PKiKP 20 05 07.1 +0.4**
JCT IAMs_20 IAMs_20 21 05 13.6
comp=Z,865nm,19.0s
JCT Junction City 117.73 39 PKIKP **PKiKP 20 05 07.1 +0.4**
JCT MLR MLR
comp=Z,900nm,19.0s
MIAR Mount Ida 118.06 32 PKPdf **PKiKP 20 05 07.2 +0.1**
MIAR Mount Ida 118.06 32 PKIKP **PKiKP 20 05 07.3 +0.1**
WCI Wyandotte Cave 118.17 24 PKPdf **PKPdf 20 05 07.2 -0.1**
WCI Wyandotte Cave 118.17 24 PKIKP **PKPdf 20 05 07.2 -0.1**
UALR University of 118.48 30 PKPdf **PKPdf 20 05 07.0 -0.9**
435B Jarrell 118.81 37 IAMs_20 IAMs_20 20 59 23.8
comp=Z,950nm,21.0s
435B Jarrell 118.81 37 P **PKPdf 20 05 07.2 -1.5**
baz=318
VNA2 Neumayer--Watz 119.36 197 ⇑PKPdf **PKiKP 20 05 08.6 +0.1**
comp=Z,29nm,0.8s,baz=123,slow=2.2
WVT Waverly 119.38 26 PKPdf **PKPdf 20 05 09.2 -0.4**
WVT Waverly 119.38 26 PKIKP **PKPdf 20 05 09.2 -0.4**
BELA Belgrano 2 119.42 186 PKPdf **PKPdf 20 05 08.4 0.0**
833A Chaparral WMA, 119.53 40 P **PKPdf 20 05 08.4 -1.7**
baz=316
VNA1 Neumayer--Stat 119.75 197 ⇑PKPdf **PKiKP 20 05 09.2 0.0**
comp=Z,26nm,0.9s
VNA3 Neumayer Olymp 119.82 197 ⇓PKPdf **PKPdf 20 05 09.1 -0.2**
comp=Z,23nm,0.8s
V48A Smith Brothers 120.13 26 IAMs_20 IAMs_20 21 01 58.3
comp=Z,893nm,21.0s
DBIC Dimbokro 120.52 290 PKPdf **PKPdf 20 05 11.7 -0.6**
DBIC Dimbokro 120.52 290 PKP **PKPdf 20 05 12.3 -0.1**
comp=Z,21nm,1.1s,baz=30,slow=1.7,SNR=12
DBIC PP **PP 20 06 37.5 -1.8**
comp=Z,26nm,1.1s,baz=65,slow=7.2,SNR=10
DBIC Dimbokro 120.52 290 PKIKP **PKPdf 20 05 11.7 -0.6**
ZAIG Zacatecas 121.23 47 PKPdf **PKiKP 20 05 14.2 +0.1**
CPCT Cooper Cave 121.29 24 PKPdf **PKPdf 20 05 13.1 -0.2**
TKL Tuckaleechee C 121.39 23 **PKPdf 20 05 13.3 -0.2**
TKL Tuckaleechee C 121.39 23 PKIKP **PKPdf 20 05 13.3 -0.2**
FPAL Fort Paine 121.66 25 IAMs_20 IAMs_20 21 06 35.2
comp=Z,622nm,18.0s
U56A King 121.94 20 IAMs_20 IAMs_20 21 03 45.8
comp=Z,805nm,20.0s
BRAL Brewton 123.94 28 PKPdf **PKiKP 20 05 18.9 +0.1**
JRQG Juriquilla Cam 124.07 48 PKPdf **PKiKP 20 05 20.3 +0.7**
TLIG Tlapa 127.47 49 PKPdf **PKiKP 20 05 27.1 +0.8**
NMDO Nuevo Mundo 138.28 22 IAMs_20 IAMs_20 21 00 06.8
comp=Z,2μm,18.0s
ACON Acoyapa 140.52 42 **PKPdf 20 05 50.2 +0.2**
SJG San Juan 142.98 10 PKhKP PKPpre 20 05 49.9
comp=Z,9.5nm,0.6s,baz=344,slow=5.3,SNR=3.2
GO10 Punta Arenas 144.35 168 PKPdf **PKPdf 20 05 55.8 0.0**
MG04 Isla Riesco 144.52 167 **PKPdf 20 05 56.3 +0.3**
MG02 Cerro Sombrero 145.04 170 PKPbc **PKPdf 20 05 57.2 +0.3**
MG05 Puerto Natales 145.42 166 PKPdf **PKPab 20 05 58.2 +0.5**
SVN Savane Anatole 146.76 3 **PKPdf 20 06 01.8 +0.7**
EFI East Falkland 146.95 182 **PKPbc 20 06 02.6 +0.5**
EFI East Falkland 146.95 182 PKP2 **PKPbc 20 06 02.6 +0.5**
SMRC Santa Marta, M 147.10 27 **PKPdf 20 06 02.3 +0.7**
AY03 Cochrane 149.47 162 PKPdf **PKPdf 20 06 04.6 +0.2**
SDV Santo Domingo 150.61 23 PKPdf **PKPdf 20 06 07.3 -0.2**
SDV Santo Domingo 150.61 23 PKP **PKPdf 20 06 08.1 +0.6**
comp=Z,30nm,0.8s,baz=1.6,slow=1.1,SNR=30
SDV PKPbc **PKiKP 20 06 13.4 -0.3**
comp=Z,285nm,0.9s,baz=353,slow=1.4,SNR=74
PCRV Puerto La Cruz 151.00 10 PKPbc **PKPbc 20 06 12.7 -1.0**
comp=Z,88nm,0.8s,baz=328,slow=0.5,SNR=26
BAUV El Baul 151.41 18 PKPdf **PKPdf 20 06 07.4 -1.1**
AY01 Puyuhuapi 151.99 160 PKPdf **PKPdf 20 06 08.6 +0.2**
ROSC El Rosal 152.56 33 PKP **PKPdf 20 06 12.1 +1.3**
comp=Z,20nm,0.4s,baz=290,slow=1.1,SNR=18
ROSC PKPbc **PKiKP 20 06 19.2 +1.3**
comp=Z,98nm,1.0s,baz=346,slow=6.5,SNR=27
ROSC PKPab **sPKPdf 20 06 27.2 +0.5**
comp=Z,45nm,0.8s,baz=100,slow=22,SNR=7.0
GO07 Milladeo Hill, 152.78 157 **PKiKP 20 06 16.9 -0.1**
LL02 Futaleuf 153.35 160 PKPdf **PKPdf 20 06 10.0 -0.5**
LL02 PKPbc **PKPbc 20 06 18.1 0.0**
RCBR Riachuelo 153.68 296 PKPdf **PKPdf 20 06 11.6 -0.3**
RCBR PKPbc **PKiKP 20 06 19.9 +0.1**
RCBR Riachuelo 153.68 296 PKPbc **PKiKP 20 06 20.1 +0.3**
comp=Z,9.8nm,0.8s,baz=49,slow=6.2,SNR=11
RCBR PKPab **PKPab 20 06 32.4 0.0**
comp=Z,9.7nm,0.9s,baz=84,slow=12,SNR=5.9
RCBR Riachuelo 153.68 296 PKIKP **PKPdf 20 06 11.6 -0.3**
RCBR 20 06 20.0
COHC Cochancay 154.94 53 PKPdf **PKPdf 20 06 12.9 -0.7**
COHC PKPab **PKPab 20 06 36.5 -1.2**
LL03 Petrohue 154.96 157 PKPab **PKPab 20 06 37.9 +0.9**
MDP Montagnes des 155.51 343 PKP **PKPdf 20 06 15.5 +1.1**
comp=Z,22nm,1.0s,baz=301,slow=4.3,SNR=4.0
MDP PKPab **PKPab 20 06 39.4 -0.5**
comp=Z,37nm,1.0s,baz=351,slow=5.9,SNR=3.5
LR05 Currie 155.90 156 PKPdf **PKPdf 20 06 13.2 -1.0**
LR05 PKPab **PKPab 20 06 42.9 +1.9**
PLCA Paso Flores 155.98 159 PKPdf **PKPdf 20 06 14.2 -0.2**
PLCA Paso Flores 155.98 159 PKP **PKPdf 20 06 15.4 +1.1**
comp=Z,7.3nm,1.1s,baz=214,slow=6.4,SNR=7.1
PLCA PKPbc **pPKPdf 20 06 25.4 -1.2**
comp=Z,8.3nm,0.9s,baz=182,slow=3.6,SNR=6.3
PLCA PKPab **PKPab 20 06 42.0 +0.5**
comp=Z,27nm,1.2s,baz=229,slow=2.3,SNR=10
BOAV Boa Vista 159.14 3 PKPdf **PKPdf 20 06 17.9 -1.1**
BOAV PKPab **PKPab 20 06 54.5 -1.1**
BI02 San Fabin de 159.24 153 PKPdf **PKPdf 20 06 17.8 -0.7**
TRQA Tornquist 160.47 174 PKPdf **PKPdf 20 06 19.9 +0.1**
TRQA Tornquist 160.47 174 PKIKP **PKPdf 20 06 19.9 +0.1**
BO02 Sierra Bellavi 161.01 151 PKPdf **PKPdf 20 06 19.5 -1.1**
BO02 PKPab **PKPab 20 07 04.2 +0.7**
BO01 Tunca 161.20 149 PKPdf **PKPdf 20 06 19.5 -1.1**
MT09 Talagante 161.74 148 **PKPdf 20 06 21.0 -0.5**
MT13 San Alfonso 162.11 150 **PKPdf 20 06 22.0 +0.2**
CO03 El Pedregal 164.16 143 **PKPdf 20 06 23.5 -0.4**
MACA Manacapuru-AM 164.65 4 PKPdf **PKPdf 20 06 23.9 -0.7**
VAO Valinhos 167.42 247 PKPdf **PKPdf 20 06 25.0 -1.7**
SPB Sao Paulo 167.62 244 **PKPdf 20 06 25.7 -0.9**
BDFB Brasilia 168.58 283 **PKPdf 20 06 26.6 -1.0**
BDFB PKPab **PKPab 20 07 36.7 -0.8**
BDFB Brasilia 168.58 283 PKP **PKPdf 20 06 27.7 0.0**
comp=Z,32nm,1.0s,baz=38,slow=1.4,SNR=30
BDFB PKPab **PKPab 20 07 36.9 -0.6**
comp=Z,20nm,0.9s,baz=122,slow=2.6,SNR=8.1
BDFB Brasilia 168.58 283 PKIKP **PKPdf 20 06 26.7 -1.0**
BDFB 20 07 36.7
ITAB Concordia 168.99 217 PKPab **PKPab 20 07 38.5 -0.2**
LPAZ La Paz 171.52 76 PKP **PKPdf 20 06 30.0 0.0**
comp=Z,28nm,1.0s,baz=19,slow=2.4,SNR=62
LPAZ PKPab **PKPab 20 07 51.0 -0.1**
comp=Z,2.3nm,0.8s,baz=20,slow=5.5,SNR=1.4
LPAZ PP **PP 20 11 43.0 +0.7**
comp=Z,3.4nm,1.2s,baz=265,slow=5.3,SNR=4.0
CPUP Villa Florida 172.01 195 PKP **PKPdf 20 06 28.7 -0.5**
comp=Z,13nm,1.1s,baz=126,slow=1.2,SNR=11
CPUP PKPab **PKPab 20 07 51.9 0.0**
comp=Z,21nm,1.1s,baz=162,slow=5.4,SNR=11
CPUP PP **PP 20 11 42.3 +0.6**
comp=Z,4.8nm,1.1s,baz=160,slow=6.1,SNR=2.9
PTLB Pontes e Lacer 176.87 352 **PKPdf 20 06 29.9 -1.0**
PTLB **PKPab 20 08 13.3 -0.3**
SIV San Ignacio 177.06 29 PKP **PKPdf 20 06 31.1 +0.1**
comp=Z,44nm,1.0s,baz=136,slow=0.4,SNR=102
SIV PKPab PKPab 20 08 14.3 -0.4
comp=Z,19nm,0.9s,baz=325,slow=4.8,SNR=13
SIV PP **PP 20 12 06.5 -0.1**
comp=Z,5.2nm,1.1s,baz=312,slow=2.7,SNR=3.8

*NNC **02** 19:47:06.1±1.7, 41°.24N×75°.20E, h0km, mb4.6, mpv4.3,*
Error ellipse: s-maj=12.9km s-min=7.2km az=176.0
*KRNET **02** 19:47:07.4±0.1, 41°.42N×75°.11E, h21km, mb3.8*
*SOME **02** 19:47:07.0, 41°.23N×75°.13E, h35km*
*KNET **02** 19:47:08.2±1.0, 41°.53N×75°.10E, h4km±6km, ml3.3, Error*
ellipse: s-maj=6.9km s-min=3.2km az=175.0
ISC 02 19:47:08.1±0.8, **41°.41N**±0°.03×**75°.14E**±0°.02, **h10**km, **n82,**
σ**1**§**43**/133, **46C-37D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.76**	**307**	⇓*e*P	**Pg**	**19 47 21.3**	**-1.5**
ARLS				⇓*e*S	**Sg**	**19 47 31.4**	**-1.4**
UCH	**Uchtor**	**0.94**	**331**	⇓P	**Pg**	**19 47 25.1**	**-1.2**
UCH	97nm,0.2s,SNR=105			⇓S	**Sg**	**19 47 37.9**	**-0.8**
UCH	**Uchtor**	**0.94**	**331**	⇑*e*P	**Pg**	**19 47 24.9**	**-1.5**
UCH	744nm,0.3s			⇑*e*S	**Sg**	**19 47 37.7**	**-1.0**
SALK	**Salom-Alik**	**1.12**	**243**	⇓*e*P	**Pg**	**19 47 28.2**	**-1.5**
SALK				⇓*e*S	**Sg**	**19 47 43.3**	**-1.0**
ULHL	**Ulahol**	**1.18**	**44**	⇓P	**Pb**	**19 47 29.1**	**-1.6**
ULHL	77nm,0.2s,SNR=235			⇓S	**Sb**	**19 47 44.9**	**-1.2**
ULHL	**Ulahol**	**1.18**	**44**	⇓*e*P	**Pb**	**19 47 29.3**	**-1.4**
ULHL	280nm,0.5s			⇓*e*S	**Sb**	**19 47 45.3**	**-0.8**
BOOM	**Boomskoye usch**	**1.24**	**29**	⇓*e*P	**Pn**	**19 47 30.4**	**-1.3**
BOOM				⇓*e*S	**Sb**	**19 47 47.1**	**-0.7**
KBK	**Karagaybulak**	**1.26**	**354**	P	**Pn**	**19 47 31.0**	**-1.0**
KBK	98nm,0.1s,SNR=83			⇓S	**Sb**	**19 47 47.7**	**-0.7**
KBK	**Karagaybulak**	**1.26**	**354**	⇑*e*P	**Pn**	**19 47 30.5**	**-1.4**
KBK	517nm,0.1s			⇑*e*S	**Sb**	**19 47 47.3**	**-1.1**
AML	**Almayashu**	**1.30**	**304**	⇑P	**Pn**	**19 47 31.3**	**-1.4**
AML	124nm,0.2s,SNR=112			⇓S	**Sb**	**19 47 48.6**	**-1.1**
AML	**Almayashu**	**1.30**	**304**	⇓*e*P	**Pn**	**19 47 31.2**	**-1.5**
AML	171nm,0.2s			⇓*e*S	**Sb**	**19 47 48.5**	**-1.3**
AAK	**Ala-Archa**	**1.32**	**339**	⇓P	**Pn**	**19 47 31.8**	**-1.0**
AAK	175nm,0.2s,SNR=122			⇑S	**Sb**	**19 47 48.9**	**-1.3**
AAK	**Ala-Archa**	**1.32**	**339**	⇓Pn	**Pn**	**19 47 32.4**	**-0.4**
AAK	70nm,0.3s			⇓Sn	**Sg**	**19 47 57.4**	**+6.8**
AAK	**Ala-Archa**	**1.32**	**339**	⇑*e*P	**Pn**	**19 47 31.5**	**-1.3**
AAK	314nm,0.5s			⇑*e*S	**Sb**	**19 47 49.0**	**-1.1**
FRU1	**Bishkek**	**1.45**	**345**	⇑*e*P	**Pn**	**19 47 34.2**	**-0.3**
FRU1				⇑*e*S	**Sn**	**19 47 53.8**	**+0.1**
TKM2	**Tokmak 2**	**1.55**	**13**	⇑P	**Pn**	**19 47 36.1**	**0.0**
TKM2	155nm,0.3s,SNR=114			⇓S	**Sn**	**19 47 56.2**	**-0.2**
TKM2	**Tokmak 2**	**1.55**	**13**	⇓*e*P	**Pn**	**19 47 35.8**	**-0.2**
TKM2				⇓*e*S	**Sn**	**19 47 56.5**	**+0.2**
EKS2	**Erkin-Say**	**1.61**	**322**	⇑P	**Pn**	**19 47 37.2**	**+0.5**
EKS2	111nm,0.3s,SNR=208			⇑S	**Sn**	**19 47 58.0**	**+0.3**
EKS2	**Erkin-Say**	**1.61**	**322**	⇑*e*P	**Pn**	**19 47 36.5**	**-0.3**
EKS2	81nm,0.2s			⇑*e*S	**Sn**	**19 47 57.8**	**+0.1**
CHMS	**Chumysh**	**1.62**	**350**	⇓P	**Pn**	**19 47 37.1**	**+0.4**
CHMS	115nm,0.2s,SNR=55			⇓S	**Sb**	**19 47 58.4**	**-0.2**
CHMS	**Chumysh**	**1.62**	**350**	⇑*e*P	**Pn**	**19 47 36.6**	**-0.2**
CHMS	447nm,0.3s			⇑*e*S	**Sn**	**19 47 58.0**	**+0.3**
ARSB	**Arslanbob**	**1.62**	**268**	⇑*e*P	**Pn**	**19 47 36.9**	**0.0**
ARSB				⇑*e*S	**Sb**	**19 47 58.4**	**-0.5**
KDJ	**Kajisay**	**1.69**	**64**	⇓*e*P	**Pb**	**19 47 38.7**	**-0.8**
KDJ				⇓*e*S	**Sb**	**19 48 01.6**	**+0.7**
KST	**Kastek**	**1.75**	**20**	P	**Pb**	**19 47 40.9**	**+0.5**
KST	81nm,0.3s			S	**Sg**	**19 48 05.0**	**+0.7**
KST	**Kastek**	**1.75**	**20**	*e*P	**Pb**	**19 47 40.9**	**+0.5**
KST	81nm,0.3s			*e*S	**Sg**	**19 48 05.0**	**+0.7**
SFK	**Sufi-Kurgan**	**1.86**	**222**	⇑*e*P	**Pb**	**19 47 41.4**	**-1.0**
SFK				⇑*e*S	**Sb**	**19 48 06.1**	**+0.2**
DGS	**Degeres**	**1.89**	**14**	Pg	**Pb**	**19 47 43.4**	**+0.5**
DGS	136nm,0.3s			Lg	Lg	19 48 09.2	
USP	**Ospenovka**	**1.92**	**346**	⇑P	**Pb**	**19 47 42.5**	**-0.7**
USP	90nm,0.2s,SNR=231			⇓S	**Sb**	**19 48 07.8**	**+0.5**
USP	**Ospenovka**	**1.92**	**346**	⇑*e*P	**Pn**	**19 47 41.8**	**+0.9**
USP				⇑*e*S	**Sb**	**19 48 06.8**	**-0.4**
MRKS	**Merke**	**1.95**	**314**	Pg	**Pb**	**19 47 43.4**	**-0.5**
MRKS	52nm,0.1s			Lg	Lg	19 48 09.1	
MRKS	**Merke**	**1.95**	**314**	*e*P	**Pb**	**19 47 43.4**	**-0.5**
MRKS	52nm,0.1s			*e*S	**Sb**	**19 48 09.1**	**+0.8**
MTBS	**Maitube**	**1.97**	**29**	Pg	**Pb**	**19 47 44.1**	**-0.1**
MTBS	42nm,0.3s			Lg	Lg	19 48 10.3	
MTBS	**Maitube**	**1.97**	**29**	*e*P	**Pb**	**19 47 44.1**	**-0.1**
MTBS	42nm,0.3s			*e*S	**Sg**	**19 48 10.3**	**-1.2**
OHH	**Osh**	**1.99**	**244**	⇓*e*P	**Pn**	**19 47 42.8**	**+0.9**
OHH				⇓*e*S	**Sb**	**19 48 08.7**	**-0.6**
TNSS	**Tian-Shan**	**2.11**	**39**	Pg	**Pb**	**19 47 46.5**	**-0.3**
TNSS	82nm,0.4s			Lg	Lg	19 48 14.5	
TNSS	**Tian-Shan**	**2.11**	**39**	*e*P	**Pb**	**19 47 46.5**	**-0.3**
TNSS	82nm,0.4s			*e*S	**Sb**	**19 48 14.5**	**+1.3**
KASK	**Kaskelen**	**2.13**	**31**	⇑Pn	**Pb**	**19 47 46.3**	**-0.5**
KASK	76nm,0.4s			⇓Sn	**Sg**	**19 48 16.5**	**+0.1**
MNAS	**Manas**	**2.24**	**300**	⇑*e*P	**Pn**	**19 47 46.2**	**+0.8**
MNAS				⇑*e*S	**Sn**	**19 48 14.6**	**+1.4**
KNDC	**Almaty**	**2.26**	**36**	⇑Pn	**Pb**	**19 47 47.9**	**-1.2**
KNDC	141nm,0.5s			⇑Sn	**Sg**	**19 48 19.8**	**-1.0**
KRBS	**Karabastau**	**2.32**	**10**	Pg	**Pb**	**19 47 50.5**	**+0.4**
KRBS	371nm,0.8s			Lg	Lg	19 48 21.4	
KRBS	**Karabastau**	**2.32**	**10**	*e*Pg	**Pb**	**19 47 50.5**	**+0.4**
KRBS	146nm,0.4s			*e*Lg	Lg	19 48 28.4	
ANVS	**Anan'yevo**	**2.33**	**53**	⇑*e*P	**Pn**	**19 47 47.9**	**+1.2**
ANVS				⇑*e*S	**Sb**	**19 48 17.6**	**-1.7**
KOTS	**Kotyrbulak**	**2.34**	**38**	Pg	**Pb**	**19 47 50.8**	**+0.3**
KOTS	145nm,0.3s			Lg	Lg	19 48 21.9	
KOTS	**Kotyrbulak**	**2.34**	**38**	*e*P	**Pb**	**19 47 50.8**	**+0.3**
KOTS	145nm,0.3s			*e*S	**Sg**	**19 48 21.9**	**-1.5**
ARK	**Arkit**	**2.41**	**280**	⇓*e*P	**Pn**	**19 47 48.6**	**+0.8**
ARK				⇓*e*S	**Sn**	**19 48 18.7**	**+1.3**
KTBS	**Karatobe**	**2.57**	**26**	Pg	**Pb**	**19 47 54.6**	**+0.2**
KTBS	212nm,0.5s			Lg	Lg	19 48 28.4	
KUU	**Kurty**	**2.64**	**19**	*e*P	**Pb**	**19 47 56.1**	**+0.6**
KUU	36nm,0.1s			*e*S	**Sg**	**19 48 30.7**	**-2.2**
PRZ	**Przheval'sk**	**2.66**	**65**	⇑*e*P	**Pn**	**19 47 52.7**	**+1.4**
PRZ				⇑*e*S	**Sn**	**19 48 25.7**	**+2.0**
CHKK	**Chushkaly**	**2.80**	**29**	Pg	**Pb**	**19 47 58.8**	**+0.5**
CHKK	64nm,0.6s			Lg	Lg	19 48 35.6	
CHKK	**Chushkaly**	**2.80**	**29**	*e*P	**Pb**	**19 47 58.8**	**+0.5**
CHKK	64nm,0.6s			*e*S	**Sg**	**19 48 35.5**	**-2.6**
SATY	**Saty**	**2.94**	**55**	*e*P	Pg	19 48 09.5	+5.1
SATY	45nm,0.3s			*e*S	Sg	19 48 54.1	+12
TRKS	**Terek-Say**	**3.00**	**274**	⇑*e*P	**Pn**	**19 47 56.5**	**+0.5**
TRKS				⇑*e*S	**Sn**	**19 48 32.4**	**+0.3**
ZHN	**Zhinishke**	**3.02**	**53**	Pg	**Pb**	**19 48 01.2**	**-0.8**
ZHN	27nm,0.4s			Lg	Lg	19 48 39.7	
ZHN	**Zhinishke**	**3.02**	**53**	*e*P	**Pb**	**19 48 01.2**	**-0.8**
ZHN	27nm,0.4s			*e*S	**Sb**	**19 48 39.7**	**+0.8**
KURS	**Kuram**	**3.06**	**46**	*e*P	**Pn**	**19 47 58.8**	**+2.1**
KURS	64nm,0.6s			*e*S	**Sn**	**19 48 35.5**	**+2.2**
DRK	**Karamyk**	**3.19**	**234**	⇑*e*P	**Pn**	**19 47 59.8**	**+1.2**
DRK				⇑*e*S	**Sn**	**19 48 37.9**	**+1.0**
DZA	**Taraz**	**3.19**	**299**	Pg	**Pb**	**19 48 03.9**	**-1.1**
DZA	40nm,0.1s			Lg	Lg	19 48 44.3	
DZA	**Taraz**	**3.19**	**299**	*e*P	**Pb**	**19 48 03.9**	**-1.1**
DZA	40nm,0.1s			*e*S	**Sb**	**19 48 44.3**	**+0.3**
KPKS	**Kokpek**	**3.34**	**51**	Pg	**Pb**	**19 48 06.7**	**-0.7**
KPKS	44nm,0.2s			Lg	Lg	19 48 49.2	
KPKS	**Kokpek**	**3.34**	**51**	*e*P	Pn	19 47 43.4	-17
KPKS	136nm,0.3s			*e*S	Sn	19 48 09.2	-31
KPKS	**Kokpek**	**3.34**	**51**	*e*P	**Pb**	**19 48 06.7**	**-0.7**
KPKS	44nm,0.2s			*e*S	**Sb**	**19 48 49.1**	**+1.0**
UZB	**Uzynbulak**	**3.37**	**58**	Pg	**Pb**	**19 48 07.4**	**-0.6**
UZB	22nm,0.4s			Lg	Lg	19 48 50.6	
UZB	**Uzynbulak**	**3.37**	**58**	*e*P	**Pb**	**19 48 07.4**	**-0.6**
UZB	22nm,0.4s			*e*S	**Sb**	**19 48 50.6**	**+1.5**
ARXS	**Arharly**	**3.43**	**34**	Pg	**Pb**	**19 48 09.5**	**+0.5**
ARXS	45nm,0.3s			Lg	Lg	19 48 54.1	
BTK	**Batken**	**3.55**	**249**	⇑*e*P	**Pn**	**19 48 04.5**	**+1.2**
BTK				⇑*e*S	**Sn**	**19 48 46.1**	**+0.7**
BLB	**Baldybastay**	**3.65**	**41**	Pg	**Pb**	**19 48 12.9**	**+0.1**
BLB	140nm,0.5s			Lg	Lg	19 48 59.9	
BTLS	**Baital**	**3.72**	**348**	Pg	**Pb**	**19 48 15.6**	**+1.7**
BTLS	11nm,0.3s			Lg	Lg	19 49 04.4	
BTLS	**Baital**	**3.72**	**348**	*e*P	**Pb**	**19 48 15.6**	**+1.7**
BTLS	11nm,0.3s			*e*S	**Sg**	**19 49 04.4**	**-3.1**
PDGK	**Podgornoye**	**3.75**	**58**	⇑Pn	**Pn**	**19 48 08.9**	**+2.7**
PDGK	31nm,0.8s			⇑Lg	Lg	19 49 11.2	
KK31	**Karatay Array**	**3.83**	**298**	Pn	**Pn**	**19 48 07.9**	**+0.8**
KK31	0.3nm,0.2s,baz=114,slow=12,SNR=241			⇓Pg	**Pb**	**19 48 17.0**	**+1.2**
KK31	6.0nm,0.3s,baz=126,slow=13,SNR=88			⇓Lg	Lg	19 49 10.2	
KKAR	**Karatay Array**	**3.83**	**298**	⇓*e*P	**Pn**	**19 48 08.1**	**+1.0**
KKAR	15nm,0.4s,baz=108,slow=28,SNR=7.2			⇓*e*S	**Sn**	**19 48 52.6**	**+0.4**
KNOS	**Konyrlen**	**4.19**	**44**	Pg	**Pb**	**19 48 23.6**	**+1.6**
KNOS	26nm,0.6s			Lg	Lg	19 49 18.1	
CHM	**Chimkent**	**4.23**	**284**	*e*P	**Pb**	**19 48 22.6**	**0.0**
CHM	32nm,0.2s			*e*S	**Sb**	**19 49 16.5**	**+2.7**
BRLS	**Borolday**	**4.26**	**294**	Pg	**Pb**	**19 48 23.9**	**+0.8**
BRLS	12nm,0.3s			Lg	Lg	19 49 18.8	
BRLS	**Borolday**	**4.26**	**294**	*e*P	**Pb**	**19 48 23.9**	**+0.8**
BRLS	12nm,0.3s			*e*S	**Sb**	**19 49 18.8**	**+4.3**
DJR	**Jarkent**	**4.50**	**48**	Pg	**Pb**	**19 48 29.1**	**+1.8**
DJR	13nm,0.3s			Lg	Lg	19 49 27.5	
DJR	**Jarkent**	**4.50**	**48**	*e*P	**Pb**	**19 48 29.1**	**+1.8**
DJR	13nm,0.3s			*e*S	**Sg**	**19 49 27.5**	**-5.0**
KAPS	**Kapalarasan**	**4.95**	**37**	Pg	**Pb**	**19 48 38.5**	**+3.5**
KAPS	22nm,0.5s			Lg	Lg	19 49 43.7	
CHGR	**Chuyangaron**	**5.35**	**241**	⇑*e*P	**Pn**	**19 48 29.3**	**+1.2**
CHGR				⇑*e*S	**Sn**	**19 49 29.2**	**-0.6**
OTUK	**Ortayu**	**7.12**	**345**	⇑Lg	Lg	19 51 00.2	
MAKZ	**Makanchi**	**7.30**	**40**	⇑Lg	Lg	19 51 05.4	
MK31	**Makanchi Array**	**7.45**	**41**	Pn	**Pn**	**19 48 59.9**	**+3.0**
MK31	2.2nm,0.5s,baz=223,slow=15,SNR=23			⇑Lg	Lg	19 51 10.2	
KURBB	**Kurchatov Arra**	**9.51**	**13**	⇓Lg	Lg	19 52 16.0	
	8.3nm,0.8s,baz=227,slow=30,SNR=4.0						
	59nm,1.0s						

*IDC **02** 19:49:20.6±0.6, 18°.55N×120°.32E, h0km, mb4.4/21,*
mbtmp4.4/24, ML3.9/3, MS4.9/3, Error ellipse:
s-maj=22.9km s-min=14.6km az=71.0
*NEIC **02** 19:49:24.2±1.0, 18°.63N±0°.08×120°.4E±0°.1, h10km±1km,*
mb4.9/36, Error ellipse: s-maj=18.1km s-min=14.2km
az=278.0
ISC 02 19:49:27.1±0.5, **18°.64N**±0°.06×**120°.41E**±0°.08, **h41**km, **n71,**
σ**1**§**13**/72, **mb4.6**/37, **MS5.0**/3, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**4.21**	**8**	Pn	**Pn**	**19 50 27.9**	**-0.9**
YHNB	**Yeheng**	**6.07**	**8**	Pn	**Pn**	**19 50 53.3**	**-1.2**
YOJ	**Yonaguni jima**	**6.28**	**22**	Pn	**Pn**	**19 50 58.4**	**+1.1**
JOW	**Kunigami**	**10.91**	**40**	Pn	**Pn**	**19 52 00.2**	**-0.6**
JOW	**Kunigami**	**10.91**	**40**	Pn	**Pn**	**19 52 00.4**	**-0.3**
JOW	3.4nm,0.3s,baz=130,slow=24,SNR=1.7			Sn	**Sn**	**19 53 57.3**	**-4.3**
	0.5nm,0.3s,baz=338,slow=16,SNR=1.5						
	11nm,0.4s						
JNU	**Nakatsue**	**17.21**	**31**		**Pn**	**19 53 23.4**	**-1.1**
JNU	**Nakatsue**	**17.21**	**31**	P	**Pn**	**19 53 23.8**	**-0.7**
	0.2nm,0.3s,baz=192,slow=3.3,SNR=3.2						
	18nm,0.8s						
SBUM	**Sibu**	**17.98**	**207**		**Pn**	**19 53 33.4**	**-0.7**
TJN	**Taejon**	**18.70**	**18**	P	**P**	**19 53 42.8**	**+0.6**
TJN				IAmb	IAmb	19 53 57.2	
	comp=Z,82nm,1.0s						
KSM	**Kuching**	**19.73**	**211**	P	**P**	**19 53 53.5**	**+0.1**
KSM				IAmb	IAmb	19 53 55.6	
	comp=Z,72nm,1.2s						
KSAR	**Wonju Array

CMAR	**Chiang Mai Arr**	**20.36**	**273**	P	Pn	19 54 04.4	+1.7
	comp=Z,11nm,0.8s,baz=75,slow=8.4,SNR=6.7						
BJT	**Baijiatuau**	**21.62**	**351**	P	**P**	**19 54 14.6**	**+0.9**
BJT				IAmb	IAmb	19 54 32.7	
	comp=Z,34nm,1.0s						
INU	**Inuyama**	**22.21**	**38**	P	**P**	**19 54 20.1**	**0.0**
INU				IAmb	IAmb	19 54 23.6	
	comp=Z,59nm,1.1s						
KULM	**Kulim**	**23.41**	**238**	P	**P**	**19 54 32.2**	**-0.5**
IPM	**Ipoh**	**23.60**	**236**	P	**P**	**19 54 33.6**	**-0.9**
IPM				IAmb	IAmb	19 54 35.3	
	comp=Z,56nm,1.0s						
MAJO	**Matsushiro**	**23.74**	**38**	P	**P**	**19 54 36.5**	**+0.9**
MJAR	**Matsushiro Arr**	**23.74**	**38**	P	**P**	**19 54 35.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=231,slow=12,SNR=1.7						
	comp=Z,2.3nm,0.8s						
RPSI	**Rantau Prapat**	**26.34**	**236**	P	**P**	**19 54 59.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**27.27**	**18**	P	**P**	**19 55 07.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=194,slow=21,SNR=1.7						
	comp=Z,1.9nm,0.7s						
GSI	**Gunungsitoli**	**28.26**	**235**	P	**P**	**19 55 16.3**	**-0.4**
LSA	**Lhasa**	**28.80**	**298**	P	**P**	**19 55 22.1**	**+0.2**
LSA				IAmb	IAmb	19 55 30.5	
	comp=Z,35nm,1.0s						
KNRA	**Kununurra**	**35.08**	**166**	P	**P**	**19 56 18.2**	**+1.8**
KNRA				IAmb	IAmb	19 56 26.7	
	comp=Z,14nm,1.1s						
PALK	**Pallekele**	**40.22**	**259**	P	**P**	**19 57 00.1**	**-0.1**
WRA	**Warramunga Arr**	**40.70**	**160**	P	**P**	**19 57 00.7**	**-3.3**
	comp=Z,2.4nm,0.7s,baz=343,slow=8.5,SNR=1.5						
WRA				PcP	**PcP**	**19 59 04.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=340,slow=3.2,SNR=4.7						
WRA				LR	LR	20 15 03.6	
	comp=Z,894nm,20.2s,baz=338,slow=38						
	comp=Z,2.4nm,0.7s						
WR0	**Warramunga Arr**	**40.78**	**159**	P	**P**	**19 57 05.1**	**+0.4**
MKAR	**Makanchi Array**	**41.99**	**321**	P	**P**	**19 57 14.3**	**0.0**
MKAR	**Makanchi Array**	**41.99**	**321**	P	**P**	**19 57 13.6**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=120,slow=8.5,SNR=1.7						
	comp=Z,4.5nm,0.8s						
ASAR	**Alice Springs**	**44.06**	**162**	P	**P**	**19 57 30.3**	**-1.0**
	comp=Z,7.3nm,0.8s,baz=336,slow=7.3,SNR=5.0						
ASAR				PcP	**PcP**	**19 59 16.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=341,slow=3.3,SNR=1.9						
	comp=Z,7.3nm,0.8s						
NIL	**Nilore**	**44.52**	**299**	P	**P**	**19 57 34.7**	**-0.3**
NIL				IAmb	IAmb	19 57 36.9	
	comp=Z,30nm,1.0s						
ZALV	**Zalesovo Beam**	**44.60**	**331**	P	**P**	**19 57 35.9**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=132,slow=6.4,SNR=2.0						
	comp=Z,4.5nm,0.9s						
PEA0B	**Petropavlovsk-**	**44.91**	**31**	P	**P**	**19 57 39.5**	**+1.8**
PETK	**Petropavlovsk-**	**44.91**	**31**	P	**P**	**19 57 38.7**	**+1.0**
PETK	**Petropavlovsk-**	**44.91**	**31**	P	**P**	**19 57 38.2**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=244,slow=7.4,SNR=1.9						
	comp=Z,2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**46.01**	**324**	P	**P**	**19 57 46.3**	**-0.2**
	comp=Z,6.4nm,0.8s,baz=122,slow=8.1,SNR=3.9						
	comp=Z,6.4nm,0.8s						
ARSB	**Arslanbob**	**46.21**	**310**	P	**P**	**19 57 48.8**	**+0.4**
ARSB				IAmb	IAmb	19 58 14.1	
	comp=Z,25nm,1.2s						
KK31	**Karatay Array**	**48.43**	**312**	P	**P**	**19 58 05.6**	**+0.1**
KK31				IAmb	IAmb	19 58 08.8	
	comp=Z,24nm,1.2s						
KKAR	**Karatay Array**	**48.43**	**312**	P	**P**	**19 58 05.7**	**+0.2**
BVAR	**Borovoye Array**	**51.60**	**324**	P	**P**	**19 58 29.7**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=90,slow=4.9,SNR=2.4						
	comp=Z,5.1nm,0.9s						
BRVK	**Borovoye**	**51.67**	**324**	P	**P**	**19 58 30.5**	**+0.6**
BRVK				IAmb	IAmb	19 58 43.8	
	comp=Z,14nm,0.9s						
TIXI	**Tiksi**	**53.25**	**3**	P	**P**	**19 58 43.1**	**+1.9**
TIXI				IAmb	IAmb	19 58 59.8	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**53.30**	**164**	P	**P**	**19 58 41.2**	**-0.9**
STKA	**Stephens Creek**	**54.18**	**158**	P	**P**	**19 58 47.9**	**-0.6**
STKA	**Stephens Creek**	**54.18**	**158**	P	**P**	**19 58 47.7**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=333,slow=9.0,SNR=2.0						
	comp=Z,3.3nm,0.6s						
ABKAR	**Akbulak array**	**56.90**	**317**	P	**P**	**19 59 08.8**	**+0.9**
ABKAR	**Akbulak array**	**56.90**	**317**	P	**P**	**19 59 08.8**	**+0.9**
ABKAR				IAmb	IAmb	19 59 20.1	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**60.69**	**157**	P	**P**	**19 59 35.1**	**+0.7**
MSVF	**Nonsavu**	**67.19**	**119**	P	**P**	**20 00 18.8**	**+1.2**
MSVF	**Nonsavu**	**67.19**	**119**	P	**P**	**20 00 18.5**	**+0.9**
	comp=Z,12nm,0.9s,baz=62,slow=23,SNR=5.1						
	comp=Z,12nm,0.9s						
L14K	**Kuka Creek**	**67.55**	**31**	P	**P**	**20 00 21.5**	**+2.5**
L14K				IAmb	IAmb	20 00 26.5	
	comp=Z,9.8nm,0.9s						
M14K	**Bethel**	**67.88**	**31**	P	**P**	**20 00 22.3**	**+1.1**
M14K				IAmb	IAmb	20 00 24.8	
	comp=Z,11nm,1.1s						
C18K	**Utukok River**	**68.56**	**23**	P	**P**	**20 00 27.4**	**+2.0**
C18K				IAmb	IAmb	20 00 29.3	
	comp=Z,11nm,1.4s						
KIV	**Kislovodsk**	**68.58**	**311**	P	**P**	**20 00 26.7**	**+0.7**
N15K	**Kwethluk River**	**68.81**	**32**	P	**P**	**20 00 29.2**	**+2.2**
N15K				IAmb	IAmb	20 00 39.1	
	comp=Z,14nm,1.1s						
L16K	**Owhat River**	**69.09**	**30**	P	**P**	**20 00 30.3**	**+1.6**
O18K	**Koktuh Hills**	**71.27**	**32**	P	**P**	**20 00 43.9**	**+1.8**
O18K				IAmb	IAmb	20 00 55.6	
	comp=Z,10nm,0.9s						
KDAK	**Kodiak Island**	**72.86**	**34**	P	**P**	**20 00 51.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=186,slow=5.5,SNR=1.6						
	comp=Z,1.6nm,0.6s						
ARCES	**ARCESS Array B**	**74.41**	**339**	P	**P**	**20 01 00.1**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=105,slow=5.9,SNR=1.9						
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**74.46**	**26**	P	**P**	**20 01 00.5**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=305,slow=5.5,SNR=3.2						
	comp=Z,1.4nm,0.9s						
SPITS	**Spitsbergen Ar**	**74.73**	**348**	P	**P**	**20 01 01.6**	**-0.7**
	comp=Z,6.8nm,1.0s,baz=162,slow=11,SNR=1.5						
	comp=Z,6.8nm,1.0s						
FINES	**FINESS Array B**	**75.87**	**330**	P	**P**	**20 01 09.1**	**0.0**
	comp=Z,2.8nm,0.7s,baz=40,slow=5.4,SNR=1.6						
	comp=Z,2.8nm,0.7s						
BRTR	**Keskin Array B**	**75.92**	**307**	P	**P**	**20 01 09.6**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=78,slow=6.5,SNR=2.0						
	comp=Z,2.2nm,1.0s						
AKASG	**Malin Array Be**	**76.55**	**319**	P	**P**	**20 01 12.2**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=65,slow=6.7,SNR=2.6						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	**82.04**	**331**	P	**P**	**20 01 42.5**	**-0.4**
	comp=Z,11nm,1.1s,baz=111,slow=7.9,SNR=2.2						
	comp=Z,11nm,1.1s						
NOA	**NORSAR Array B**	**82.78**	**332**	P	**P**	**20 01 45.4**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=62,slow=5.2,SNR=5.0						
	comp=Z,2.6nm,0.8s						
VRAC	**Vranov**	**84.73**	**320**	LR	LR	20 43 16.2	
	comp=Z,1μm,19.0s,baz=82,slow=38						
YKA	**Yellowknife Ar**	**88.34**	**22**	P	**P**	**20 02 15.0**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=304,slow=4.4,SNR=4.4						
YKA				LR	LR	20 44 44.2	
	comp=Z,551nm,18.9s,baz=323,slow=38						
	comp=Z,1.6nm,0.8s						
SDV	**Santo Domingo**	**150.56**	**23**	PKPbc	**PKPbc**	**20 09 15.8**	**0.0**
	comp=Z,13nm,0.8s,baz=325,slow=5.6,SNR=3.8						

WEL 02 19:49:53.2±0.9, 32°S±6°×18°0W±1°, 6, h354km±15km, M4.2/7, mB4.5/6, MLv4.7/7, Mw(mB)3.6/6, Error ellipse: s-maj=22.0km s-min=5.1km az=107.8, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.05**	**36**	P	Pn	19 50 51.5	-1.9
GLKZ				S	S	19 51 42.4	+0.6
MXZ	**Matakaoa Point**	**5.96**	**193**	P	Pn	19 51 23.8	+0.3
MXZ				S	S	19 52 38.2	+1.4
WMGZ	**Waiomatatini S**	**6.19**	**192**	P	Pn	19 51 27.1	+0.9
WMGZ				S	S	19 52 43.7	+2.0
HAZ	**Te Kaha**	**6.26**	**197**	P	Pn	19 51 26.9	-0.1
HAZ				S	S	19 52 42.6	-0.5
PKGZ	**Pakihiroa**	**6.30**	**194**	P	Pn	19 51 28.0	+0.6
PKGZ				S	S	19 52 44.9	+0.9
WCZ	**Waipu Caves**	**6.31**	**227**	P	Pn	19 51 28.8	+1.2
OUZ	**Omahuta**	**6.39**	**236**	P	Pn	19 51 29.3	+0.7
WIAZ	**Waiheke Island**	**6.45**	**218**	P	Pn	19 51 30.8	+1.5
PUZ	**Puketiti**	**6.46**	**193**	P	Pn	19 51 31.5	+2.2
PUZ				S	S	19 52 49.3	+1.9
RUGZ	**Raukumara Rang**	**6.49**	**197**	P	Pn	19 51 30.1	+0.4
RUGZ				S	S	19 52 48.6	+0.5
TWGZ	**Tauwhareparae**	**6.62**	**194**	P	P	19 51 31.9	-0.6
TWGZ				S	S	19 52 52.6	+1.8
CNGZ	**Carnagh Statio**	**6.87**	**192**	P	Pn	19 51 34.5	+0.4
MWZ	**Matawai**	**6.87**	**197**	P	Pn	19 51 34.5	+0.4
MWZ				S	S	19 52 56.2	+0.1
TKGZ	**Te Karaka**	**6.90**	**194**	P	Pn	19 51 34.4	+0.1
TKGZ				S	S	19 52 57.0	+0.4
URZ	**Urewera**	**6.91**	**200**	P	Pn	19 51 34.1	-0.4
URZ				S	S	19 52 55.2	-1.8
RTZ	**Ruatahuna**	**7.28**	**199**	P	Pn	19 51 38.7	-0.2
BKZ	**Black Stump Fm**	**7.93**	**200**	P	Pn	19 51 45.4	-1.1
BKZ				S	S	19 53 15.4	-3.6
NGZ	**Ngauruhoe**	**8.23**	**205**	P	Pn	19 51 48.7	-1.5
TSZ	**Takapari Road**	**8.91**	**201**	P	Pn	19 51 54.8	-3.3
TSZ				S	S	19 53 34.3	-6.0
BFZ	**Birch Farm**	**9.41**	**198**	P	Pn	19 52 00.4	-3.6
BFZ				S	S	19 53 45.6	-5.6
MRZ	**Mangatainoka R**	**9.58**	**201**	P	Pn	19 52 01.4	-4.6
MRZ				S	S	19 53 45.4	-9.4
NNZ	**Nelson**	**10.85**	**208**	P	Pn	19 52 15.2	-5.9
NNZ				S	S	19 54 15.5	-7.0
QRZ	**Quartz Range**	**10.88**	**212**	P	Pn	19 52 16.1	-5.4

IDC 02 20:00:60.0±4.3, 18°91S×177°58W, h596km±38km, mb2.9/4, mbtmp3.8/5, Error ellipse: s-maj=139.1km s-min=33.7km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.31**	**285**	P	P	20 02 27.5	-0.1
	1.8nm,0.4s,baz=117,slow=8.0,SNR=6.1						
STKA	**Stephens Creek**	**38.85**	**242**	P	P	20 07 35.6	0.0
	0.8nm,0.5s,baz=105,slow=12,SNR=4.2						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**45.23**	**260**	P	P	20 08 25.3	-0.4
	0.5nm,0.3s,baz=98,slow=7.3,SNR=18						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**45.29**	**255**	P	P	20 08 26.1	+0.1
	0.7nm,0.4s,baz=86,slow=8.5,SNR=19						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**71.15**	**180**	P	P	20 11 19.4	0.0
	1.3nm,0.8s,baz=276,slow=0.4,SNR=5.8						
	1.3nm,0.8s						

HEL 02 20:08:21.5±0.4, 67°83N×20°04E, h0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.77**	**73**	PG	Pg	20 08 34.8	-1.5
LANU				SG	Sg	20 08 44.0	-2.3
KIF	**Kilpisjarvi**	**1.21**	**13**	PN	Pb	20 08 45.2	-0.1
KIF				MSG		20 08 59.4	
	comp=Z,1.7nm,0.2s						
KIF				SG	Sg	20 09 00.8	+0.4
PAJU	**Pajala**	**1.44**	**123**	PG	Pn	20 08 47.0	-1.8
	baz=305						
PAJU				SG	Sg	20 09 06.3	-1.3
HEF	**Hetta**	**1.48**	**65**	PG	Pn	20 08 48.6	-0.8
HEF				MSG		20 09 05.8	
	comp=Z,0.9nm,0.2s						
HEF				SG	Sg	20 09 07.8	-1.1
ERTU	**Ertsjaerv**	**1.53**	**146**	PN	Pn	20 08 50.0	0.0
ERTU				SN	Sg	20 09 09.9	-0.7
KLF	**Kolari**	**1.62**	**110**	PG	Pn	20 08 51.0	-0.3
	baz=296						
KLF				MSG		20 09 10.0	
	comp=Z,0.7nm,0.2s						
KLF				SG	Sn	20 09 12.3	-0.6
KTK1	**Kautokeino**	**1.68**	**43**	SN	Sb	20 09 14.8	0.0
TRO	**Tromso**	**1.85**	**348**	SG	Sb	20 09 19.8	-0.1
KALU	**Kalix**	**2.38**	**145**	SG	Sb	20 09 34.5	-0.3
TOF	**Tornio**	**2.44**	**134**	PB	Pn	20 09 03.6	+1.1
TOF				MSG		20 09 33.5	
	comp=Z,0.5nm,0.2s						
TOF				SB	Sb	20 09 35.2	-1.4
RNF	**Rovaniemi**	**2.63**	**115**	PG	Pb	20 09 07.3	-2.1
RNF				SG	Sb	20 09 40.9	-1.3
ARA0	**ARCESS Array S**	**2.63**	**47**	SB	Sn	20 09 40.0	+2.2
RAJF	**Raja-Jooseppi**	**3.16**	**74**	SB	Sb	20 09 55.8	-1.7
KEV	**Kevo**	**3.19**	**49**	SB	Sb	20 09 56.6	-1.5

HEL ***02*** *20:09:39.3±0.2, 67°64N×33°75E, h0km, ML1.3, Suspected explosion*

KOLA 02 20:09:39.3, 67°67N×33°72E, h0km, ML1.5, Error ellipse: s-maj=2.7km s-min=1.6km az=140.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**229**	P	Pg	20 09 41.7	-0.6
APA0	**Apatity Array**	**0.29**	**257**	P	Pg	20 09 43.9	-0.9
APA0				S	Sg	20 09 48.0	-0.5
LVZ	**Lovozero**	**0.42**	**57**	P	Pg	20 09 46.4	-0.9
LVZ				S	Sg	20 09 52.4	-0.3
LVZ	**Lovozero**	**0.42**	**57**	PG	Pg	20 09 46.6	-0.6
LVZ				SG	Sg	20 09 48.8	-4.0
KVDA	**Kovda**	**1.04**	**199**	S	Sg	20 10 11.6	-1.0
VRF	**Varrio**	**1.57**	**275**	SB	Pn	20 10 07.0	-1.4
VRF	**Varrio**	**1.57**	**275**	PG	Pn	20 10 07.0	-1.4
VRF				MSG		20 10 26.7	
	comp=Z,3.6nm,0.2s						
VRF				SG	Sn	20 10 27.0	-2.4
TERR	**Teriberka**	**1.62**	**18**	S	Sn	20 10 28.7	-1.9
PRVG	**Vayda Guba**	**2.16**	**346**	S	Sb	20 10 46.0	-0.4
OLKF	**Oulanka, Finla**	**2.17**	**233**	SB	Pn	20 10 17.8	+1.2
OLKF	**Oulanka, Finla**	**2.17**	**233**	PG	Pn	20 10 17.8	+1.2
OLKF				MSG		20 10 43.6	
	comp=Z,1.1nm,0.2s						
OLKF				SG	Sg	20 10 48.1	-0.9
RAJF	**Raja-Jooseppi**	**2.18**	**294**	PB	Pn	20 10 17.4	+0.6
RAJF				SN	Sn	20 10 43.4	-1.0
KU6	**Riekki**	**2.24**	**224**	SN	Pg	20 10 18.7	-3.5
KU6	**Riekki**	**2.24**	**224**	PG	Pn	20 10 18.7	+1.1
	baz=46						
KU6				MSG		20 10 45.4	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	20 10 48.4	-0.4
MSF	**Maaselka**	**2.56**	**228**	SG	Pb	20 10 24.6	-1.5
MSF	**Maaselka**	**2.56**	**228**	PG	Pb	20 10 24.6	-1.5
MSF				SG	Sb	20 10 58.6	+0.6
VADS	**Vadso**	**2.92**	**329**	S	Sn	20 11 02.0	-0.6
KEV	**Kevo**	**3.22**	**314**	PN	Pn	20 10 31.1	+0.2
KEV				SN	Sn	20 11 09.1	-0.9
ARA0	**ARCESS Array S**	**3.54**	**306**	PN	Pn	20 10 35.4	-0.1
ARA0				SN	Sn	20 11 16.5	-1.5
ARCES	**ARCESS Array B**	**3.54**	**306**	P	Pn	20 10 34.8	-0.7
ARCES				S	Sn	20 11 15.5	-2.5
HEF	**Hetta**	**3.85**	**286**	SN	Sn	20 11 24.6	-1.0
KTK1	**Kautokeino**	**4.11**	**294**	SG	Sg	20 11 47.0	-4.2
PAJU	**Pajala**	**4.15**	**266**	SN	Sn	20 11 31.7	-1.3
ERTU	**Ertsjaerv**	**4.64**	**261**	SN	Sn	20 11 43.5	-1.5

IDC ***02*** *20:13:54.6±1.3, 10°12S×124°41E, h0km, mb3.8/3, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=92.5km s-min=23.3km az=62.0*

ISC 02 20:13:57.6±0.9, 10°50S±0°09×124°1E±0°1, h27km, n14, σ2°41/14, mb4.0/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.76**	**12**	P	Pn	20 14 18.3	+5.6
MMRI	**Maumere**	**2.61**	**315**	P	**Pn**	**20 14 37.4**	**-0.7**
PLAI	**Plampang**	**6.46**	**284**	P	**Pn**	**20 15 28.4**	**-2.6**
MTN	**Manton Dam**	**7.27**	**109**	P	Pn	20 15 50.1	+8.0
FITZ	**Fitzroy Crossi**	**7.70**	**169**	Pn	**Pn**	**20 15 51.2**	**+3.3**
	0.7nm,0.3s,baz=358,slow=8.0,SNR=63						
FITZ				Sn	**Sn**	**20 17 14.6**	**+0.3**
	2.2nm,0.3s,baz=111,slow=22,SNR=9.1						
	2.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**7.70**	**169**	P	**Pn**	**20 15 51.3**	**+3.3**
KDU	**Kakadu**	**8.48**	**106**	P	Pn	20 16 07.8	+9.0
WRA	**Warramunga Arr**	**13.62**	**135**	Pn	**Pn**	**20 17 11.7**	**+2.5**
	0.4nm,0.3s,baz=309,slow=15,SNR=22						
WRA				Sn	**Sn**	**20 19 36.6**	**-3.1**
	0.7nm,0.3s,baz=309,slow=24,SNR=10						
	0.3nm,0.3s						
WRKA	**Warakurna**	**14.99**	**165**	P	**P**	**20 17 31.4**	**-1.7**
ASAR	**Alice Springs**	**16.09**	**146**	Pn	**P**	**20 17 45.1**	**-0.2**
	0.3nm,0.3s,baz=321,slow=12,SNR=16						
ASAR				Sn	**Sn**	**20 20 36.6**	**-3.1**
	0.3nm,0.3s,baz=323,slow=24,SNR=7.4						
	0.9nm,0.5s						
MEEK	**Meekatharra**	**16.86**	**197**	P	**Pn**	**20 17 52.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**38.01**	**319**	P	**P**	**20 21 15.8**	**+2.1**
	0.5nm,0.6s,baz=126,slow=8.1,SNR=2.3						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**68.16**	**330**	P	**P**	**20 24 55.4**	**0.0**
	0.7nm,0.6s,baz=141,slow=6.2,SNR=12						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**72.31**	**337**	P	**P**	**20 25 19.2**	**-1.5**
	0.6nm,0.4s,baz=124,slow=5.9,SNR=4.0						
	0.6nm,0.4s						

JMA 02 20:20:29.5±0.1, 24°3N±0°7×123°6E±0°4, h14km±1km, MV1.4/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**91**	*i* P	Pg	20 20 32.8	-0.1
IRIF				*e*S	Sg	20 20 35.6	+0.3
HATJ	**Hateruma jima**	**0.34**	**145**	P	Pg	20 20 36.1	-0.3
HATJ				S	Sb	20 20 41.9	-0.7
JKRS	**Kuro-shima**	**0.39**	**104**	P	Pg	20 20 37.5	0.0
JKRS				*e*S	Sb	20 20 43.8	-0.4
JIJ	**Ishigaki jima**	**0.50**	**87**	P	Pg	20 20 39.0	-0.4
JIJ				*e*S	Sg	20 20 46.3	+0.1
YOJ	**Yonaguni jima**	**0.55**	**283**	*e*P	Pg	20 20 40.2	-0.1
JISG	**Ishigakijimahi**	**0.70**	**69**	*e*P	Pg	20 20 43.0	-0.2
JTJ	**Tarama**	**1.05**	**73**	*e*S	Sn	20 21 04.6	+0.2

TAP 02 20:21:27.3, 24°70N×122°20E, h80km, ML2.1, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.28**	**174**	*e*P	Pn	20 21 39.7	+0.4
EOS2				*e*S	Sn	20 21 48.4	+0.2
TWC	**Suao**	**0.33**	**254**	P	Pn	20 21 40.1	+0.3
TWC				*i* S	Sn	20 21 48.6	-0.5
TWB1	**Santiao Chiao**	**0.36**	**328**	*i* P	Pn	20 21 40.2	+0.1
TWB1				S	Sn	20 21 49.0	-0.4
EOS3	**EOS3**	**0.43**	**165**	*e*P	Pn	20 21 40.5	+0.2
EOS3				*e*S	Sn	20 21 50.0	+0.1
TIPB	**Shuangxi**	**0.43**	**309**	*i* P	Pn	20 21 40.8	+0.2
TIPB				*i* S	Sn	20 21 50.0	-0.4
EWUT	**Wuta**	**0.46**	**237**	*i* P	Pn	20 21 41.3	+0.5
EWUT				*i* S	Sn	20 21 50.9	+0.2
TWE	**Neicheng**	**0.48**	**273**	*i* P	Pn	20 21 41.2	+0.3
TWE				S	Sn	20 21 50.9	-0.1
SXI1	**Grass Mountain**	**0.49**	**323**	*i* P	Pn	20 21 41.2	+0.1
SXI1				*e*S	Sn	20 21 52.1	+0.8
ENA	**Nanau**	**0.50**	**237**	*i* P	Pn	20 21 41.5	+0.4
ENA				*i* S	Sn	20 21 51.7	+0.5
FUSB	**Fushanzhiwuyua**	**0.56**	**276**	*i* P	Pn	20 21 42.0	+0.4
FUSB				*e*S	Sn	20 21 52.2	-0.1
EOS4	**EOS4**	**0.59**	**169**	*e*P	Pn	20 21 42.1	+0.6
EOS4				S	Sn	20 21 52.0	0.0
TWA	**Mucha**	**0.62**	**297**	P	Pn	20 21 43.0	+0.8
TWA				S	Sn	20 21 54.0	+0.7
LATG	**Datong**	**0.63**	**255**	*i* P	Pn	20 21 43.3	+0.8
LATG				S	Sn	20 21 54.4	+0.7
NWLT	**Wulai**	**0.64**	**277**	*i* P	Pn	20 21 42.3	-0.1
NWLT				S	Sn	20 21 53.5	-0.1
YM01	**YM01**	**0.72**	**308**	*i* P	Pn	20 21 43.6	+0.3
YM01				S	Sn	20 21 55.2	0.0
YHNB	**Yeheng**	**0.75**	**268**	*i* P	Pn	20 21 44.5	+0.9
YHNB				*i* S	Sn	20 21 56.2	+0.5
ZUZH	**Zhuzihu**	**0.75**	**308**	*i* P	Pn	20 21 43.6	0.0
ZUZH				*i* S	Sn	20 21 55.0	-0.6
NACB	**Ninganchiao**	**0.76**	**227**	*i* P	Pn	20 21 43.3	-0.4
NACB				S	Sn	20 21 55.9	+0.1
NSK	**Sanguang**	**0.76**	**268**	P	Pn	20 21 44.4	+0.7
NSK				*i* S	Sn	20 21 56.4	+0.4
NNSB	**Datong**	**0.79**	**250**	P	Pn	20 21 44.7	+0.6
NNSB				S	Sn	20 21 56.8	+0.2
NNS	**Nan Shan**	**0.80**	**251**	*e*P	Pn	20 21 44.9	+0.7
NNS				*i* S	Sn	20 21 56.8	+0.1
TWS1	**Kuangyinshan**	**0.81**	**300**	*i* P	Pn	20 21 43.7	-0.5
TWS1				*e*S	Sn	20 21 56.0	-0.8
ETLH	**Xiulin Townshi**	**0.82**	**233**	*i* P	Pn	20 21 44.7	+0.3
ETLH				S	Sn	20 21 57.5	+0.4
KSHI	**Guanxi Townshi**	**0.93**	**275**	P	Pn	20 21 47.0	+1.4
KSHI				*i* S	Sn	20 22 00.7	+1.4
ETM	**Tongmen**	**0.97**	**221**	*e*P	Pn	20 21 45.4

*GUC **02** 20:21:53.2±0.7, 33°.67S×72°.50W, h16km, ML5.3*
*VAO **02** 20:21:54.2±0.3, 33°.67S×72°.23W, h10km, mb5.2*
*GCMT **02** 20:21:57.6±0.1, 33°.67S±0°.01×72°.69W±0°.01, h17km, MW5.5/154, Moment Tensor Solution. s97, c149; s154, c263; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.40±.03; $M_{\theta\theta}$-0.06±.02; $M_{\phi\phi}$-1.34±.03; $M_{r\theta}$-0.64±.06; $M_{\theta\phi}$-0.04±.01; $M_{\phi r}$-2.07±.09; Best double couple: $M_0$2.56200×10^{17} NP1:ϕ_s352.00000°, δ17.00000°, λ68.00000°. NP2:ϕ_s195.00000°, δ74.00000°, λ97.00000°. Principal axes: T 2.6230, Plg60.0000°, Azm114.0000°; N -0.1220, Plg6.0000°, Azm13.0000°; P -2.5010, Plg29.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 20:21:52.1±0.7, 33°.67S±0°.02×72°.52W±0°.03, h8km±3km, h8km:pP-P, n655, σ1s25/571, mb5.3/88, MS5.3/171, 30C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.76**	**89**		**Pn**	**20 22 08.5**	**-0.7**
VA05				Sg	**Sn**	**20 22 19.9**	**-0.9**
VA05	**Santo Domingo**	**0.76**	**89**	⇑*iP*	**Pn**	**20 22 08.6**	**-0.5**
VA05				*i* S	**Sn**	**20 22 19.8**	**-0.9**
VA05				IAML		20 22 26.4	
	comp=E,133μm,0.5s						
BO03	**Pichilemu**	**0.94**	**151**	⇑*iP*	**Pg**	**20 22 10.5**	**+0.2**
BO03				*i* S	**Sg**	**20 22 23.1**	**+0.6**
VA01	**Torpederas**	**0.98**	**49**		**Pb**	**20 22 11.4**	**+0.1**
VA01				Sn	**Sn**	**20 22 26.5**	**+0.3**
VA01	**Torpederas**	**0.98**	**49**	⇑*iP*	**Pb**	**20 22 11.5**	**+0.1**
VA01	**Torpederas**	**0.98**	**49**	*eP*	**Pg**	**20 22 10.0**	**-0.9**
VA01				*e*S	**Sn**	**20 22 27.3**	**+1.1**
VA01				IAML		20 22 32.4	
	comp=Z,59μm,0.9s						
VA01				IAML		20 22 32.4	
	comp=Z,59μm,0.9s						
MT01	**Popeta**	**1.08**	**101**		**Pb**	**20 22 12.7**	**-0.3**
MT01				Sn	**Sn**	**20 22 27.6**	**-1.0**
MT01	**Popeta**	**1.08**	**101**	⇑*iP*	**Pb**	**20 22 12.8**	**-0.2**
MT01	**Popeta**	**1.08**	**101**	*eP*	**Pn**	**20 22 13.3**	**-0.2**
MT01				*e*S	**Sn**	**20 22 30.9**	**+2.2**
MT01				IAML		20 22 35.2	
	comp=Z,94μm,0.7s						
MT01				IAML		20 22 35.2	
	comp=Z,94μm,0.7s						
MT02	**Curacav**	**1.23**	**71**		**Pn**	**20 22 15.1**	**-0.5**
MT02				Sn	**Sn**	**20 22 32.2**	**-0.2**
MT02	**Curacav**	**1.23**	**71**	⇑*iP*	**Pn**	**20 22 15.2**	**-0.5**
MT02	**Curacav**	**1.23**	**71**	*eP*	**Pn**	**20 22 15.0**	**-0.6**
MT02				*e*S	**Sn**	**20 22 35.5**	**+3.1**
MT02				IAML		20 22 37.8	
	comp=Z,66μm,0.9s						
MT02				IAML		20 22 37.8	
	comp=Z,66μm,0.9s						
MT09	**Talagante**	**1.28**	**95**		**Pn**	**20 22 15.8**	**-0.7**
MT09				Sn	**Sg**	**20 22 33.3**	**-0.1**
MT09	**Talagante**	**1.28**	**95**	⇑*iP*	**Pn**	**20 22 15.9**	**-0.6**
MT09				*i* S	**Sb**	**20 22 32.1**	**-1.2**
MT09				IAML		20 22 37.6	
	comp=E,66μm,0.6s						
BO01	**Tunca**	**1.39**	**121**		**Pn**	**20 22 16.7**	**-1.2**
BO01				Sn	**Sg**	**20 22 37.5**	**+0.6**
BO01	**Tunca**	**1.39**	**121**	*eP*	**Pn**	**20 22 17.0**	**-0.9**
BO01				IAML		20 22 47.7	
	comp=Z,29μm,0.7s						
BO01				IAML		20 22 47.7	
	comp=Z,29μm,0.7s						
GO05	**Hualane**	**1.42**	**160**	⇑*iP*	**Pn**	**20 22 17.2**	**-1.1**
GO05				*i* S	**Sn**	**20 22 34.8**	**-2.4**
ROCH	**El Roble**	**1.45**	**61**	⇑*iP*	**Pn**	**20 22 18.6**	**-0.2**
ROCH				⇑*iP*	**Pn**	**20 22 18.6**	**-0.2**
ROCH				*i* S	**Sg**	**20 22 38.3**	**-0.4**
VA06	**Catapilco**	**1.51**	**43**		**Pn**	**20 22 18.8**	**-0.7**
VA06				Sn	**Sb**	**20 22 39.9**	**+0.1**
VA06	**Catapilco**	**1.51**	**43**	⇑*eP*	**Pn**	**20 22 18.9**	**-0.6**
VA06				*e*S	**Sn**	**20 22 38.8**	**-0.6**
VA06				IAML		20 22 51.0	
	comp=E,129μm,0.6s						
MT05	**Renca**	**1.52**	**80**		**Pn**	**20 22 19.5**	**-0.2**
MT05	**Renca**	**1.52**	**80**	⇑*eP*	**Pn**	**20 22 19.5**	**-0.2**
MT05				*e*S	**Sg**	**20 22 40.2**	**-0.7**
MT05				IAML		20 22 50.6	
	comp=E,49μm,0.5s						
MT05	**Renca**	**1.52**	**80**	*eP*	**Pn**	**20 22 19.4**	**-0.2**
MT05				*e*S	**Sg**	**20 22 43.8**	**+2.9**
MT05				IAML		20 22 49.5	
	comp=Z,47μm,1.4s						
MT05				IAML		20 22 49.5	
	comp=Z,47μm,1.4s						
BO04	**La Punta**	**1.62**	**102**		**Pn**	**20 22 21.2**	**+0.1**
PEL	**Peldehue**	**1.62**	**72**		**Pn**	**20 22 21.5**	**+0.4**
PEL	**Peldehue**	**1.62**	**72**	⇑*iP*	**Pn**	**20 22 21.5**	**+0.4**
PEL				*i* S	**Sg**	**20 22 44.1**	**-0.2**
PEL	**Peldehue**	**1.62**	**72**	P	**Pn**	**20 22 21.5**	**+0.4**
MT14	**Cerro Calı́n**	**1.68**	**81**	⇑*iP*	**Pn**	**20 22 22.4**	**+0.5**
MT14				*i* S	**Sb**	**20 22 44.2**	**-0.5**
MT14				IAML		20 22 58.2	
	comp=E,67μm,0.7s						
MT15	**Las Vizcachas**	**1.68**	**88**	⇑*iP*	**Pn**	**20 22 22.0**	**+0.1**
MT15				*i* S	**Sb**	**20 22 43.8**	**-1.0**
MT15				IAML		20 22 52.3	
	comp=E,36μm,0.5s						
MT16	**CCHEN**	**1.69**	**82**		**Pn**	**20 22 22.4**	**+0.4**
MT16	**CCHEN**	**1.69**	**82**	⇑*iP*	**Pn**	**20 22 22.5**	**+0.5**
MT16				IAML		20 22 56.9	
	comp=N,39μm,0.6s						
MT03	**Universidad Ad**	**1.69**	**84**		**Pn**	**20 22 22.2**	**+0.2**
MT03	**Universidad Ad**	**1.69**	**84**	⇑*iP*	**Pn**	**20 22 22.3**	**+0.2**
MT03				*i* S	**Sn**	**20 22 43.9**	**-0.1**
MT03				IAML		20 22 56.2	
	comp=N,57μm,0.8s						
MT03	**Universidad Ad**	**1.69**	**84**	*eP*	**Pn**	**20 22 22.4**	**+0.3**
MT03				*e*S	**Sg**	**20 22 50.8**	**+4.3**
MT03				IAML		20 22 59.2	
	comp=Z,50μm,0.8s						
MT03				IAML		20 22 59.2	
	comp=Z,50μm,0.8s						
MT10	**Hacienda Santa**	**1.71**	**77**	⇑*iP*	**Pb**	**20 22 23.2**	**-0.7**
MT10				*i* S	**Sb**	**20 22 45.7**	**+0.1**
MT10				IAML		20 22 54.0	
	comp=N,105μm,0.4s						
BO02	**Sierra Bellavi**	**1.82**	**128**		**Pn**	**20 22 23.9**	**0.0**
BO02	**Sierra Bellavi**	**1.82**	**128**	*eP*	**Pn**	**20 22 24.6**	**+0.7**
BO02				*e*S	**Sg**	**20 22 53.0**	**+2.2**
BO02				IAML		20 23 01.4	
	comp=Z,65μm,0.7s						
BO02				IAML		20 23 01.4	
	comp=Z,65μm,0.7s						
MT13	**San Alfonso**	**1.86**	**93**		**Pn**	**20 22 24.6**	**+0.1**
MT13	**San Alfonso**	**1.86**	**93**	⇑*iP*	**Pn**	**20 22 24.9**	**+0.3**
MT13				*i* S	**Sb**	**20 22 49.6**	**-0.4**
MT13				IAML		20 22 56.3	
	comp=E,39μm,0.7s						
MT13	**San Alfonso**	**1.86**	**93**	*eP*	**Pn**	**20 22 24.8**	**+0.3**
MT13				*e*S	**Sg**	**20 22 51.3**	**-0.8**
MT13				IAML		20 22 57.9	
	comp=Z,27μm,1.2s						
MT13				IAML		20 22 57.9	
	comp=Z,27μm,1.2s						
VA03	**San Esteban**	**1.89**	**62**		**Pn**	**20 22 25.1**	**+0.3**
VA03	**San Esteban**	**1.89**	**62**	⇑*iP*	**Pn**	**20 22 24.9**	**+0.1**
VA03				*e*S	**Sn**	**20 22 48.6**	**-0.2**
VA03				IAML		20 23 03.5	
	comp=N,74μm,0.9s						
VA03	**San Esteban**	**1.89**	**62**	*eP*	**Pn**	**20 22 24.9**	**+0.1**
VA03				*e*S	**Sg**	**20 22 54.1**	**+1.4**
VA03				IAML		20 23 06.8	
	comp=Z,63μm,1.5s						
VA03				IAML		20 23 06.8	
	comp=Z,63μm,1.5s						
FCH	**Farellones**	**1.90**	**80**	⇑*iP*	**Pn**	**20 22 25.9**	**+0.8**
FCH				*i* S	**Sb**	**20 22 51.5**	**+0.3**
LMEL	**Las Melosas**	**1.94**	**96**		**Pn**	**20 22 25.9**	**+0.4**
LMEL	**Las Melosas**	**1.94**	**96**	⇑*iP*	**Pn**	**20 22 25.9**	**+0.4**
LMEL	**Las Melosas**	**1.94**	**96**	*eP*	**Pn**	**20 22 25.8**	**+0.2**
LMEL				*e*S	**Sg**	**20 22 56.6**	**+2.1**
MT04	**Ro Olivares**	**2.01**	**83**	⇑*iP*	**Pn**	**20 22 27.3**	**+0.7**
MT04				*i* S	**Sn**	**20 22 52.6**	**+0.5**
MT04				IAML		20 23 02.4	
	comp=N,28μm,0.7s						
MT04	**Ro Olivares**	**2.01**	**83**	*eP*	**Pn**	**20 22 27.3**	**+0.7**
MT04				*e*S	**Sg**	**20 22 57.5**	**+0.7**
MT04				IAML		20 23 04.0	
	comp=Z,26μm,0.9s						
MT04				IAML		20 23 04.0	
	comp=Z,26μm,0.9s						
MT08	**Bocatoma Ro**	**2.10**	**84**		**Pn**	**20 22 28.6**	**+0.8**
MT08	**Bocatoma Ro**	**2.10**	**84**	⇑*iP*	**Pn**	**20 22 28.7**	**+0.8**
MT08				IAML		20 23 09.4	
	comp=N,23μm,0.6s						
MT08	**Bocatoma Ro**	**2.10**	**84**	*eP*	**Pn**	**20 22 28.7**	**+0.8**
MT08				*e*S	**Sg**	**20 22 59.7**	**-0.1**
MT08				IAML		20 23 09.8	
	comp=Z,21μm,0.7s						
MT08				IAML		20 23 09.8	
	comp=Z,21μm,0.7s						
ML02	**Panimavida**	**2.27**	**157**		**Pn**	**20 22 30.1**	**+0.1**
ML02	**Panimavida**	**2.27**	**157**	⇑*iP*	**Pn**	**20 22 30.0**	**-0.1**
ML02				*e*S	**Sn**	**20 22 56.3**	**-2.0**
ML02	**Panimavida**	**2.27**	**157**	*eP*	**Pn**	**20 22 29.9**	**-0.1**
ML02				*e*S	**Sb**	**20 23 02.4**	**+0.7**
ML02				IAML		20 23 18.1	
	comp=Z,34μm,0.8s						
ML02				IAML		20 23 18.1	
	comp=Z,34μm,0.8s						
CO06	**Fray Jorge**	**3.08**	**14**	Pn	**Pn**	**20 22 40.0**	**-1.2**
CO06	**Fray Jorge**	**3.08**	**14**	*i* P	**Pn**	**20 22 40.1**	**-1.1**
CO06				*i* S	**Sn**	**20 23 16.5**	**-1.7**
CO06				IAML		20 23 53.4	
	comp=E,11μm,1.1s						
BI05	**Punta Hualpn**	**3.12**	**190**		**Pn**	**20 22 39.9**	**-1.7**
BI05	**Punta Hualpn**	**3.12**	**190**	*eP*	**Pn**	**20 22 40.8**	**-0.8**
BI05				IAML		20 23 45.6	
	comp=Z,7μm,0.9s						
BI05				IAML		20 23 45.6	
	comp=Z,7μm,0.9s						
ARCO	**CERRO ARCO**	**3.12**	**76**	*eP*	**Pb**	**20 22 45.2**	**-2.8**
ARCO				*e*S	**Sg**	**20 23 35.6**	**+3.2**
ARCO				IAML		20 23 43.0	
	comp=Z,16μm,1.2s						
AAGR	**Agrelo**	**3.15**	**80**	*eP*	**Pn**	**20 22 43.6**	**+1.5**
BI02	**San Fabin de**	**3.15**	**161**		**Pn**	**20 22 42.0**	**-0.2**
BI02	**San Fabin de**	**3.15**	**161**	*eP*	**Pn**	**20 22 41.8**	**-0.4**
BI02				IAML		20 23 43.3	
	comp=Z,7μm,0.8s						
BI02				IAML		20 23 43.3	
	comp=Z,7μm,0.8s						
CO03	**El Pedregal**	**3.23**	**29**	Pn	**Pn**	**20 22 43.4**	**+0.2**
CO03	**El Pedregal**	**3.23**	**29**	⇑*iP*	**Pn**	**20 22 43.4**	**+0.2**
CO03				*i* S	**Sn**	**20 23 20.3**	**-1.5**
CO03				IAML		20 23 55.5	
	comp=E,7μm,0.7s						
CO03	**El Pedregal**	**3.23**	**29**	*eP*	**Pn**	**20 22 44.0**	**+0.8**
CO03				*e*S	**Sb**	**20 23 25.1**	**-4.1**
CO03				IAML		20 23 42.5	
	comp=Z,8μm,0.9s						
CO03				IAML		20 23 42.5	
	comp=Z,8μm,0.9s						
RTLS	**Leoncito**	**3.30**	**56**	*eP*	**Pb**	**20 22 47.9**	**-3.2**
RTLS				IAML		20 23 44.6	
	comp=Z,28μm,1.9s						
RFA	**San Rafael**	**3.54**	**109**	*eP*	**Pn**	**20 22 48.4**	**+1.0**
RFA				*e*S	**Sg**	**20 23 44.5**	**-1.2**
RFA				IAML		20 23 52.2	
	comp=Z,7μm,1.0s						
RFA				IAML		20 23 52.2	
	comp=Z,7μm,1.0s						
GO04	**Tololo Observa**	**3.79**	**23**		**Pn**	**20 22 50.7**	**-0.3**
DOCA	**Reserva Natura**	**3.98**	**48**	*eP*	**Pn**	**20 22 55.5**	**+1.7**
DOCA				*e*S	**Sn**	**20 23 44.0**	**+3.1**
DOCA				IAML		20 24 13.9	
	comp=Z,9μm,1.4s						
DOCA				IAML		20 24 13.9	
	comp=Z,9μm,1.4s						
CFA	**Coronel Fontan**	**4.16**	**61**	Pn	**Pn**	**20 22 57.3**	**+1.3**
	comp=Z,4.4nm,0.3s,baz=240,slow=14,SNR=111						
CFA				Pg	**Pb**	**20 23 04.4**	**-1.2**
	comp=Z,27nm,0.3s,baz=239,slow=17,SNR=34						
CFA				Lg	Lg	20 23 58.9	
	comp=Z,73nm,0.3s,baz=41,slow=12,SNR=5.6						
CO01	**Juntas del Tor**	**4.22**	**30**	Pn	**Pn**	**20 22 57.7**	**+0.6**
CO01	**Juntas del Tor**	**4.22**	**30**	*i* P	**Pn**	**20 22 57.0**	**-0.1**
CO01				*e*S	**Sn**	**20 23 44.9**	**-1.9**
ACCO	**Cerro Coronel**	**4.25**	**45**	*eP*	**Pn**	**20 22 60.0**	**+2.5**
AROD	**Rodeo**	**4.35**	**37**	*eP*	**Pn**	**20 23 01.2**	**+2.3**
LCO	**Las Campanas**	**4.90**	**19**	Pn	**Pn**	**20 23 05.6**	**-0.8**
LCO	**Las Campanas**	**4.90**	**19**	P	**Pn**	**20 23 05.6**	**-0.8**
LC02	**Puerto Saavedr**	**5.16**	**188**		**Pn**	**20 23 08.2**	**-1.3**
I14CL	**ROBINSON CRUSO**	**5.23**	**268**	I	I	20 57 20.0	
	baz=93,slow=333,SNR=2.0						
AVFE	**Valle Fertil**	**5.24**	**56**	*eP*	**Pn**	**20 23 12.5**	**+1.6**
AVFE				IAML		20 24 37.6	
	comp=Z,4μm,1.0s						
AVFE				IAML		20 24 47.0	
	comp=Z,3μm,0.9s						
VA04	**Juan Fernndez**	**5.26**	**269**	Pn	**Pn**	**20 23 08.7**	**-2.3**
H03S1	**Juan Fernandez**	**5.32**	**266**	T	T	20 28 38.6	
	baz=98,slow=74						
H03S3	**Juan Fernandez**	**5.32**	**267**	T	T	20 28 36.6	
	baz=98						
H03S2	**Juan Fernandez**	**5.34**	**266**	T	T	20 28 37.6	
	baz=98,slow=74						
H03N1	**Juan Fernandez**	**5.34**	**271**	T	T	20 28 47.0	
	baz=98,slow=74,SNR=118						
H03N3	**Juan Fernandez**	**5.35**	**271**	T	T	20 28 44.6	
	baz=98,slow=74,SNR=46						
H03N2	**Juan Fernandez**	**5.36**	**271**	T	T	20 28 46.8	
	baz=98,slow=74,SNR=175						
AC04	**Llanos de Chal**	**5.59**	**13**	Pn	**Pn**	**20 23 13.9**	**-1.7**
LR03	**Panguipulli**	**5.95**	**179**		**Pn**	**20 23 19.1**	**-1.4**
LR04	**Corral**	**6.24**	**186**		**Pn**	**20 23 22.1**	**-2.3**
LR05	**Currie**	**6.56**	**177**		**Pn**	**20 23 28.1**	**-0.7**
PLCA	**Paso Flores**	**7.22**	**168**	Pn	**Pn**	**20 23 38.0**	**-0.1**
PLCA	**Paso Flores**	**7.22**	**168**	Pn	**Pn**	**20 23 38.4**	**+0.4**
	comp=Z,5.0nm,0.3s,baz=335,slow=12,SNR=91						
PLCA				Lg	Lg	20 25 34.0	
	comp=Z,1.8nm,0.3s,baz=203,slow=10,SNR=3.1						
PLCA				LR	LR	20 26 20.4	
	comp=Z,8μm,20.5s,baz=348,slow=38						
	comp=Z,14nm,0.4s						
PLCA	**Paso Flores**	**7.22**	**168**	P	**Pn**	**20 23 38.0**	**-0.1**
PLCA	**Paso Flores**	**7.22**	**168**	*eP*	**Pn**	**20 23 38.4**	**+0.4**
LL04	**Puerto Octay**	**7.22**	**179**		**Pn**	**20 23 35.9**	**-2.1**
AC02	**Maricunga**	**7.42**	**24**		**Pn**	**20 23 40.9**	**-0.3**
LL03	**Petrohue**	**7.45**	**179**		**Pn**	**20 23 39.5**	**-1.7**
AC01	**Pan de Azucar**	**7.68**	**13**		**Pn**	**20 23 42.4**	**-2.0**
LL05	**Los Muermos**	**7.75**	**185**		**Pn**	**20 23 43.9**	**-1.4**
LL06	**Loncomilla**	**8.57**	**186**		**Pn**	**20 23 54.8**	**-1.7**
LL01	**San Ignacio de**	**8.69**	**179**	Pn	**Pn**	**20 23 56.9**	**-1.2**
GO02	**Mina Guanaco**	**8.86**	**18**		**Pn**	**20 23 59.1**	**-1.7**
LL07	**Hotel Espejo d**	**9.18**	**184**		**Pn**	**20 24 03.5**	**-1.3**
PB14	**IPOC Station P**	**9.20**	**12**	Pn	**Pn**	**20 24 03.3**	**-2.2**
GO07	**Milladeo Hill,**	**9.47**	**185**		**Pn**	**20 24 06.6**	**-2.2**
LL02	**Futaleuf**	**9.52**	**177**	Pn	**Pn**	**20 24 07.2**	**-2.3**
TRQA	**Tornquist**	**9.61**	**120**	Pn	**Pn**	**20 24 10.7**	**0.0**
TRQA	**Tornquist**	**9.61**	**120**	P	**Pn**	**20 24 10.7**	**0.0**
TRQA	**Tornquist**	**9.61**	**120**	*eP*	**Pn**	**20 24 12.3**	**+1.5**
AY01	**Puyuhuapi**	**10.73**	**180**	Pn	**Pn**	**20 24 25.6**	**-0.5**
AF01	**San Pedro de A**	**11.34**	**21**		**Pn**	**20 24 34.4**	**-0.5**
PB03	**IPOC Station P**	**11.84**	**13**		**Pn**	**20 24 41.1**	**-0.4**
COYC	**Coyhaique**	**11.89**	**178**	Pn	**Pn**	**20 24 41.0**	**-0.9**
PB09	**IPOC Station P**	**12.18**	**15**		**Pn**	**20 24 44.7**	**-1.5**
PB01	**IPOC Station P**	**12.87**	**13**		**Pn**	**20 24 53.3**	**-2.2**
AY03	**Cochrane**	**13.56**	**180**		**Pn**	**20 25 02.8**	**-2.0**
PB11	**IPOC Station P**	**14.09**	**11**		**Pn**	**20 25 12.7**	**+0.5**
TBOT	**Tacuaremb**	**14.11**	**86**	*eP*	**Pn**	**20 25 09.7**	**-2.7**
CPUP	**Villa Florida**	**15.05**	**65**	Pn	**Pn**	**20 25 25.0**	**-0.2**
CPUP	**Villa Florida**	**15.05**	**65**	Pn	**Pn**	**20 25 20.0**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=263,slow=12,SNR=3.5						
CPUP				Sn	**Sn**	**20 28 09.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=169,slow=20,SNR=1.1						
CPUP				LR	LR	20 30 59.9	
	comp=Z,4μm,20.9s,baz=244,slow=37						
CPUP	**Villa Florida**	**15.05**	**65**	P	**Pn**	**20 25 25.0**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,41nm,1.3s						
CPUP	**Villa Florida**	**15.05**	**65**	*eP*	**Pn**	**20 25 25.1**	**0.0**
PB12	**IPOC Station P**	**15.13**	**8**	Pn	**Pn**	**20 25 23.9**	**-2.4**
PLTB	**Pedras Altas**	**16.04**	**88**	Pn	**Pn**	**20 25 36.1**	**-1.9**
PB18	**Visviri**	**16.25**	**10**		**Pn**	**20 25 39.7**	**-1.6**
CPSB	**Cacapava Do Su**	**16.51**	**84**	*eP*	**Pn**	**20 25 40.1**	**-3.9**
SJPY	**San Joaquin**	**16.71**	**63**	*eP*	**Pn**	**20 25 45.5**	**-1.2**
LPAZ	**La Paz**	**17.76**	**14**		**Pn**	**20 25 59.1**	**-1.3**
LPAZ	**La Paz**	**17.76**	**14**	P	**P**	**20 26 01.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=186,slow=8.8,SNR=23						
LPAZ				S	**Sn**	**20 29 21.7**	**+2.9**
	comp=Z,8.6nm,1.1s,baz=191,slow=13,SNR=1.3						
	comp=Z,21nm,0.8s						
LPAZ	**La Paz**	**17.76**	**14**	P	**Pn**	**20 25 59.1**	**-1.3**
LPAZ				pmax	pmax		
	comp=Z,43nm,0.9s						
LPAZ	**La Paz**	**17.76**	**14**	*eP*	**P**	**20 26 01.1**	**-0.2**
MURT	**Porto Murtinho**	**17.80**	**52**	*eP*	**Pn**	**20 25 58.8**	**-1.5**
MG05	**Puerto Natales**	**18.00**	**180**		**Pn**	**20 26 01.1**	**-1.4**
ITAB	**Concordia**	**18.70**	**75**		**P**	**20 26 10.3**	**-0.7**
ITAB				IAmb	IAmb	20 26 15.3	
	comp=Z,324nm,1.2s						
ITAB	**Concordia**	**18.70**	**75**	*eP*	**P**	**20 26 10.4**	**-0.7**
CNLB	**Canela**	**18.98**	**83**	*eP*	**Pn**	**20 26 15.2**	**+0.5**
BDQN	**Bodoquena, MS**	**19.22**	**51**	*eP*	**P**	**20 26 16.3**	**-0.4**
AQDB	**Aquidauana**	**19.89**	**53**	P	**P**	**20 26 24.0**	**-0.1**
AQDB				IAmb	IAmb	20 26 36.1	
	comp=Z,242nm,1.3s						
PTGB	**Pitanga**	**19.94**	**69**	*eP*	**P**	**20 26 24.6**	**-0.1**
MG03	**Isla Dawson**	**20.22**	**176**	P	**P**	**20 26 27.8**	**+0.4**
MG03				IAmb	IAmb	20 26 42.0	
	comp=Z,340nm,1.3s						
MG03				IAMs_20	IAMs_20	20 35 03.1	
	comp=Z,12μm,18.0s						
PANT	**Pantanal (Braz**	**20.38**	**48**	*eP*	**P**	**20 26 29.8**	**+0.4**
SIV	**San Ignacio**	**20.41**	**33**	P	**P**	**20 26 29.2**	**-0.6**
	comp=Z,28nm,1.0s,baz=223,slow=9.7,SNR=36						
SIV				S	**S**	**20 30 19.0**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=223,slow=23,SNR=1.0						
SIV				LR	LR	20 35 56.2	
	comp=Z,16μm,18.2s,baz=230,slow=42						
	comp=Z,28nm,1.0s						
TER01	**Tubaro-SC**	**20.66**	**82**	*eP*	**P**	**20 26 31.8**	**-0.7**
EFI	**East Falkland**	**20.83**	**154**	P	**P**	**20 26 32.5**	**-1.5**
EFI	**East Falkland**	**20.83**	**154**	*eP*	**P**	**20 26 30.6**	**-3.4**
MAJ01	**Sao Joao Batis**	**21.17**	**79**	*eP*	**P**	**20 26 36.6**	**-1.3**
RPRD	**Ribas do Rio P**	**21.25**	**57**	*eP*	**P**	**20 26 38.5**	**-0.3**
LDASE	**Londrina, Braz**	**21.38**	**67**	*eP*	**P**	**20 26 38.9**	**-1.2**
MG01	**Puerto William**	**21.53**	**172**	P	**P**	**20 26 41.6**	**+0.1**
MG01				IAmb	IAmb	20 26 54.1	
	comp=Z,247nm,1.4s						
PTLB	**Pontes e Lacer**	**21.81**	**37**	P	**P**	**20 26 44.6**	**-0.2**
PTLB	**Pontes e Lacer**	**21.81**	**37**	*eP*	**P**	**20 26 45.3**	**+0.5**
NNA	**Nana**	**21.95**	**349**	P	**P**	**20 26 45.3**	**-1.0**
NNA				IAmb	IAmb	20 27 04.3	
	comp=Z,165nm,1.4s						
NNA	**Nana**	**21.95**	**349**	P	**P**	**20 26 49.0**	**+2.7**
	comp=Z,25nm,0.8s,baz=191,slow=10.0,SNR=11						
NNA				S	**S**	**20 30 52.2**	**+3.2**
	comp=Z,2.6nm,0.3s,baz=251,slow=11,SNR=1.3						
NNA				Lg	Lg	20 33 22.8	
	comp=Z,0.7nm,0.3s,baz=231,slow=19,SNR=1.3						
NNA				LR	LR	20 33 37.1	
	comp=Z,6μm,19.5s,baz=172,slow=32						
	comp=Z,25nm,0.8s						
NNA	**Nana**	**21.95**	**349**	*ceP*	**P**	**20 26 48.7**	**+2.4**
NNA				pmax	pmax		
	comp=Z,224nm,1.7s						
FRTB	**Fartura**	**22.60**	**69**	*eP*	**P**	**20 26 52.7**	**-0.7**
C2SB	**Chapadao do Su**	**23.01**	**55**	*eP*	**P**	**20 26 57.8**	**+0.2**
SALV	**Santo Antonio**	**23.32**	**45**	*eP*	**P**	**20 27 00.1**	**-0.7**
VILB	**Vilhena**	**23.48**	**31**	P	**P**	**20 27 01.6**	**-0.8**
VILB				IAMs_20	IAMs_20	20 37 29.8	
	comp=Z,7μm,21.0s						
VILB	**Vilhena**	**23.48**	**31**	*eP*	**P**	**20 27 02.0**	**-0.4**
ITRB	**Iturama**	**24.13**	**60**	*eP*	**P**	**20 27 07.7**	**-1.0**
SPB	**Sao Paulo**	**24.15**	**72**	P	**P**	**20 27 07.5**	**-1.3**
SPB	**Sao Paulo**	**24.15**	**72**	*eP*	**P**	**20 27 08.7**	**-0.1**
ETMB	**Extrema**	**24.44**	**15**	P	**P**	**20 27 11.3**	**-0.2**
ETMB				IAmb	IAmb	20 27 40.6	
	comp=Z,181nm,1.3s						
ETMB	**Extrema**	**24.44**	**15**	*eP*	**P**	**20 27 12.6**	**+1.1**
BB19B	**Bebedouro**	**24.66**	**66**	*eP*	**P**	**20 27 12.3**	**-1.3**
VAO	**Valinhos**	**24.82**	**71**	P	**P**	**20 27 13.8**	**-1.2**
VAO	**Valinhos**	**24.82**	**71**	*eP*	**P**	**20

comp=Z,3μm,18.0s
SDV Santo Domingo 42.36 3 S **S 20 36 06.7 -2.1**
SDV LR LR 20 48 27.9
comp=Z,0.8nm,0.3s,baz=316,slow=21,SNR=1.2
comp=Z,3μm,20.1s,baz=207,slow=38
SDV Santo Domingo 42.36 3 *e*P **P 20 29 49.1 +1.9**
BAUV El Baul 42.59 7 P **P 20 29 48.5 -0.3**
BAUV IAmb IAmb 20 30 01.9
comp=Z,94nm,1.1s
MDP Montagnes des 42.91 30 LR LR 20 49 08.8
comp=Z,6μm,18.9s,baz=198,slow=38
RCBR Riachuelo 43.82 59 P **P 20 29 58.5 -0.4**
RCBR IAmb IAmb 20 30 11.4
comp=Z,113nm,1.5s
RCBR Riachuelo 43.82 59 P **P 20 29 58.6 -0.4**
comp=Z,6.8nm,1.1s,baz=223,slow=17,SNR=3.6
RCBR LR LR 20 49 26.2
comp=Z,3μm,18.7s,baz=224,slow=38
comp=Z,6.8nm,1.1s
RCBR Riachuelo 43.82 59 P **P 20 29 58.5 -0.4**
RCBR pmax pmax
comp=Z,113nm,1.5s
RCBR MLR MLR
comp=Z,7μm,18.0s
RCBR Riachuelo 43.82 59 *e*P **P 20 29 59.0 +0.1**
PCRV Puerto La Cruz 44.25 11 LR LR 20 50 43.9
comp=Z,6μm,18.4s,slow=39
JTS Las Juntas de 45.29 343 P **P 20 30 10.8 +0.3**
JTS Las Juntas de 45.29 343 P **P 20 30 12.2 +1.7**
comp=Z,2.4nm,0.3s,baz=145,slow=5.4,SNR=7.4
comp=Z,2.4nm,0.3s
JTS Las Juntas de 45.29 343 P **P 20 30 10.8 +0.3**
JTS pmax pmax
comp=Z,88nm,0.2s
JTS MLR MLR
comp=Z,2μm,20.0s
SOCE Pocosol 45.30 343 P **P 20 30 10.7 +0.1**
HATO Hato, Curacao 45.72 5 IAMs_20 IAMs_20 20 52 33.6
comp=Z,4μm,18.0s
GRGR Grenville 46.71 15 IAMs_20 IAMs_20 20 53 26.1
comp=Z,3μm,18.0s
ACON Acoyapa 46.96 343 P **P 20 30 23.0 -0.6**
ACON IAmb IAmb 20 30 50.9
comp=Z,30nm,1.2s
BELA Belgrano 2 47.27 170 P **P 20 30 26.5 +1.1**
BOAB BOACO BROADBAN 47.54 342 P **P 20 30 26.9 -1.3**
BOAB IAMs_20 IAMs_20 20 53 58.2
comp=Z,3μm,18.0s
HERN Volcan Telica 48.00 341 IAMs_20 IAMs_20 20 46 27.2
comp=Z,876nm,19.0s
MPOM Morne Pois Mar 49.12 15 IAMs_20 IAMs_20 20 52 36.1
comp=Z,3μm,20.0s
BIM Bigot 49.15 15 IAMs_20 IAMs_20 20 52 37.8
comp=Z,4μm,20.0s
ILAM Ilet Lapin Mar 49.44 15 IAMs_20 IAMs_20 20 52 55.5
comp=Z,3μm,19.0s
TGUH Tegucigalpa,Un 49.50 341 P **P 20 30 43.0 -0.5**
TGUH IAmb IAmb 20 30 55.0
comp=Z,58nm,1.1s
VNA3 Neumayer Olymp 49.81 158 ⇓P **P 20 30 46.2 +1.1**
comp=Z,17nm,0.8s
VNA1 Neumayer--Stat 50.13 157 ⇓P **P 20 30 50.0 +2.5**
comp=Z,24nm,1.2s
TDBA Terre de Bas, 50.33 14 IAMs_20 IAMs_20 20 55 49.2
comp=Z,2μm,19.0s
MTO3 Montecristo 50.43 339 P **P 20 30 50.2 -0.3**
VNA2 Neumayer--Watz 50.47 157 ⇓P **P 20 30 51.0 +1.0**
comp=Z,17nm,0.6s,baz=286,slow=4.8
MAGL Barre de l'Ile 50.50 14 IAMs_20 IAMs_20 20 53 35.5
comp=Z,3μm,20.0s
CBE Ff, Capester 50.55 14 IAMs_20 IAMs_20 20 55 47.7
comp=Z,3μm,20.0s
ESQI Esquipulas 50.58 339 P **P 20 30 51.0 -0.5**
ESQI IAmb IAmb 20 31 36.5
comp=Z,60nm,1.3s
GDHS Morne Mazeau, 50.72 13 IAMs_20 IAMs_20 20 56 11.6
comp=Z,4μm,18.0s
GDSD La Dsirade Is 50.89 14 IAMs_20 IAMs_20 20 55 09.0
comp=Z,2μm,21.0s
ABD La Joyeuse, An 50.97 14 IAMs_20 IAMs_20 20 55 14.9
comp=Z,3μm,19.0s
RTAL Retalhuleu 51.30 336 IAMs_20 IAMs_20 20 47 42.6
comp=Z,2μm,20.0s
APG El Apazote 51.34 338 P **P 20 30 59.1 +1.7**
comp=Z,0.8nm,1.0s,baz=187,slow=12,SNR=12
SEUS St. Eustatius 51.69 12 IAMs_20 IAMs_20 20 53 59.9
comp=Z,4μm,20.0s
SABA Saba 51.77 11 P **P 20 30 59.9 -0.4**
MTDJ Mount Denham 51.83 354 IAMs_20 IAMs_20 20 56 00.0
comp=Z,2μm,19.0s
SJG San Juan 51.85 8 P **P 20 31 00.0 -0.9**
SJG IAmb IAmb 20 31 26.2
comp=Z,108nm,1.6s
SJG San Juan 51.85 8 IAMs_20 IAMs_20 20 56 14.0
comp=Z,3μm,20.0s
SJG San Juan 51.85 8 P **P 20 31 00.8 -0.1**
comp=Z,28nm,0.9s,baz=348,slow=21,SNR=3.6
comp=Z,28nm,0.9s
SJG San Juan 51.85 8 P **P 20 31 00.0 -0.9**
SJG pmax pmax
comp=Z,108nm,1.6s
SJG MLR MLR
comp=Z,3μm,20.0s
SNAA Sanae 52.04 158 P **P 20 31 02.4 +0.5**
SNAA IAmb IAmb 20 31 14.1
comp=Z,64nm,1.0s
SNAA IAMs_20 IAMs_20 20 50 09.5
comp=Z,2μm,22.0s
SNAA Sanae 52.04 158 ⇓P **P 20 31 02.8 +0.9**
comp=Z,404nm,0.8s
SNAA ⇑S **S 20 38 19.2 -6.3**
SNAA Sanae 52.04 158 P **P 20 31 00.7 -1.2**
comp=Z,45nm,1.1s,baz=276,slow=5.3,SNR=24
SNAA LR LR 20 53 28.6
comp=Z,2μm,18.1s,baz=292,slow=36
comp=Z,45nm,1.1s
SNAA Sanae 52.04 158 *ce*P **P 20 30 59.6 -2.3**
SNAA pmax pmax
comp=Z,111nm,1.7s
ANWB Willy Bob 52.07 13 IAMs_20 IAMs_20 20 56 13.1
comp=Z,2μm,19.0s
SMRT St. Maarten 52.22 11 IAMs_20 IAMs_20 20 55 23.9
comp=Z,3μm,18.0s
SC01 Santiago de lo 52.83 2 P **P 20 31 08.1 -0.1**
CCIG Comitan 53.08 336 P **P 20 31 09.6 -0.7**
CCIG IAmb IAmb 20 32 05.3
comp=Z,40nm,1.3s
CCIG IAMs_20 IAMs_20 20 48 52.6
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 53.36 357 IAMs_20 IAMs_20 20 58 10.6
comp=Z,2μm,18.0s
TROLL Troll, Antarti 53.74 158 ⇓P **P 20 31 15.4 +0.8**
comp=Z,754nm,0.7s
TROLL ⇓S **S 20 38 47.8 -1.0**
NMDO Nuevo Mundo 53.98 357 IAMs_20 IAMs_20 20 55 21.3
comp=Z,1μm,20.0s
CMIG Matias Romero 54.80 334 P **P 20 31 23.4 +0.7**
comp=Z,2.1nm,0.8s,baz=180,slow=10,SNR=5.0
CMIG LR LR 20 50 30.0
comp=Z,1μm,20.1s,baz=206,slow=31
comp=Z,2.1nm,0.8s
TEIG Tepich 55.66 342 P **P 20 31 27.2 -1.6**
QSPA South Pole Qui 56.56 180 P **P 20 31 35.4 +0.4**
QSPA IAmb IAmb 20 32 04.6
comp=Z,44nm,1.0s
QSPA South Pole Qui 56.56 180 IAMs_20 IAMs_20 20 54 30.6
comp=Z,2μm,20.0s
QSPA South Pole Qui 56.56 180 P **P 20 31 35.4 +0.4**
comp=Z,29nm,1.0s,baz=145,slow=2.7,SNR=43
QSPA LR LR 20 54 40.6
comp=Z,2μm,19.0s,baz=162,slow=35
comp=Z,29nm,1.0s
TLIG Tlapa 56.69 330 IAMs_20 IAMs_20 20 50 22.9
comp=Z,2μm,20.0s
NVL N'lazarevskaya 56.78 157 *e*P **P 20 31 36.5 +0.2**
NVL *e*S **S 20 39 29.3 +0.2**
NVL pmax pmax
comp=Z,41nm,1.2s
NVL MLR MLR
comp=Z,549nm,19.0s
SOR Soroa 57.03 348 P **P 20 31 37.1 -1.5**
SOR IAmb IAmb 20 31 57.9
comp=Z,73nm,1.5s
SOR Soroa 57.03 348 P **P 20 31 37.1 -1.5**
SOR pmax pmax
comp=Z,73nm,1.5s
UNM Universidad Na 58.52 330 IAMs_20 IAMs_20 20 51 33.5
comp=Z,3μm,20.0s
ELIB Princess Elisa 60.15 159 *d*P **P 20 32 00.3 +0.4**
comp=Z,17nm,1.0s
JRQG Juriquilla Cam 60.27 330 P **P 20 32 00.0 -1.5**
060A Indiantown 60.83 352 IAMs_20 IAMs_20 21 03 11.5
comp=Z,1μm,20.0s
DWPF Disney Wildern 62.02 351 IAMs_20 IAMs_20 21 03 51.0
comp=Z,1μm,20.0s
ZAIG Zacatecas 63.01 329 P **P 20 32 18.7 -1.3**
KVTX Kingsville 65.47 335 IAMs_20 IAMs_20 20 55 56.8
comp=Z,1μm,18.0s
SYO Syowa Base 66.32 159 ⇑*i*pP **P 20 32 40.6 -0.1**
SYO Syowa Base 66.32 159 ⇓*i*sP **P 20 32 42.1 +1.4**
833A Chaparral WMA, 66.71 334 P **P 20 32 42.7 -1.0**
833A IAmb IAmb 20 33 15.4
comp=Z,41nm,1.0s
NHSC New Hope 66.82 353 IAMs_20 IAMs_20 21 02 30.0
comp=Z,1μm,22.0s
HKT Hockley 67.01 338 P **P 20 32 44.4 -1.0**
HKT Hockley 67.01 338 *e*P **P 20 32 45.7 +0.3**
HKT pmax pmax
comp=Z,37nm,1.9s
GOGA Godfrey 67.52 350 P **P 20 32 47.7 -1.0**
GOGA IAmb IAmb 20 33 11.8
comp=Z,52nm,1.5s
GOGA Godfrey 67.52 350 P **P 20 32 47.7 -1.0**
GOGA pmax pmax
comp=Z,52nm,1.5s
GOGA MLR MLR
comp=Z,1μm,20.0s
LRAL Lakeview Retre 67.74 347 P **P 20 32 49.9 -0.2**
LRAL IAmb IAmb 20 33 12.9
comp=Z,58nm,1.7s
Y57A Sumter 67.74 353 IAMs_20 IAMs_20 21 05 13.4
comp=Z,1μm,20.0s
LPIG La Paz 67.78 323 LR LR 20 54 04.0
comp=Z,351nm,18.5s,baz=164,slow=28
HPIG 67.99 328 IAMs_20 IAMs_20 20 58 22.4
comp=Z,1μm,18.0s
JSC Jenkinsville 68.09 352 IAMs_20 IAMs_20 21 05 59.8
comp=Z,1μm,18.0s
DRIO Del Rio 68.16 334 P **P 20 32 52.3 -0.5**
BIRD Birdtown, Kers 68.37 353 IAMs_20 IAMs_20 21 07 02.1
comp=Z,1μm,19.0s
PAULI Pauline 68.69 352 P **P 20 32 55.9 -0.1**
W59A Clinton 68.71 355 IAMs_20 IAMs_20 21 02 23.1
comp=Z,1μm,20.0s
JCT Junction City 68.82 335 P **P 20 32 56.1 -0.9**
JCT Junction City 68.82 335 P **P 20 32 56.1 -0.9**
JCT pmax pmax
comp=Z,55nm,1.3s
W57A Gilead 68.83 353 IAMs_20 IAMs_20 21 01 48.2
comp=Z,1μm,21.0s
KMSC Kings Mountain 68.95 352 IAMs_20 IAMs_20 21 07 21.5
comp=Z,1μm,20.0s
SAND Sanderson 69.20 333 P **P 20 32 59.1 -0.3**
SAND IAmb IAmb 20 33 16.6
comp=Z,26nm,1.1s
TXAR Lajitas Array 69.25 331 P **P 20 32 58.8 -1.0**
TXAR Lajitas Array 69.25 331 P **P 20 33 01.6 +1.8**
comp=Z,2.3nm,0.9s,baz=152,slow=5.7,SNR=17
TXAR LR LR 20 59 03.1
comp=Z,1μm,18.5s,baz=173,slow=32
comp=Z,2.3nm,0.9s
TX31 Lajitas Ar. Si 69.25 331 P **P 20 32 59.5 -0.3**
TX31 IAmb IAmb 20 33 25.8
comp=Z,40nm,1.6s
V58A Windy Hill, Pi 69.38 354 IAMs_20 IAMs_20 21 05 08.9
comp=Z,1μm,20.0s
V53A Saluda 69.65 351 IAMs_20 IAMs_20 21 00 40.0
comp=Z,1μm,21.0s
SWET Sewanee 69.67 348 P **P 20 33 01.8 -0.4**
SWET IAmb IAmb 20 33 26.5
comp=Z,55nm,1.2s
TKL Tuckaleechee C 69.77 350 **P 20 33 03.2 +0.5**
TKL Tuckaleechee C 69.77 350 P **P 20 33 04.2 +1.5**
comp=Z,6.7nm,0.8s,baz=146,slow=6.4,SNR=7.4
comp=Z,6.7nm,0.8s
TKL Tuckaleechee C 69.77 350 P **P 20 33 03.2 +0.5**
TKL pmax pmax
comp=Z,122nm,1.8s
PPT Papeete 69.89 262 P **P 20 33 06.5 +2.5**
comp=Z,11nm,0.6s,baz=126,slow=12,SNR=4.3
PPT LR LR 20 56 44.7
comp=Z,867nm,18.1s,baz=142,slow=30
comp=Z,11nm,0.6s
V48A Smith Brothers 70.34 348 IAMs_20 IAMs_20 21 01 59.0
comp=Z,881nm,20.0s
X40A Basin Creek Fa 70.43 342 P **P 20 33 06.6 -0.2**
T59A Double "B" Far 70.44 356 P **P 20 33 07.3 +0.6**
T59A IAMs_20 IAMs_20 21 07 17.0
comp=Z,1μm,20.0s
TZTN Tazewell 70.61 351 IAMs_20 IAMs_20 21 09 49.6
comp=Z,1μm,18.0s
MIAR Mount Ida 70.68 342 P **P 20 33 08.6 +0.3**
MIAR IAmb IAmb 20 33 38.7
comp=Z,34nm,1.2s
MIAR Mount Ida 70.68 342 P **P 20 33 08.6 +0.3**
MIAR pmax pmax
comp=Z,34nm,1.3s
WVT Waverly 70.90 347 P **P 20 33 09.4 -0.2**
WVT Waverly 70.90 347 P **P 20 33 09.4 -0.2**
WVT pmax pmax
comp=Z,60nm,0.9s
WHAR Wooly Hollow 71.06 343 P **P 20 33 11.0 +0.4**
ODSA Odessa 71.30 333 P **P 20 33 12.1 -0.2**
R58B Mineral 71.45 356 IAMs_20 IAMs_20 21 02 39.8
comp=Z,1μm,20.0s
CBN Corbin Frederi 71.66 356 IAMs_20 IAMs_20 21 08 22.4
comp=Z,1μm,20.0s
BBTS Babate 71.78 58 LR LR 21 05 02.1
comp=Z,2μm,18.1s,baz=118,slow=36
WMOK Wichita Mounta 72.37 338 P **P 20 33 17.7 -0.9**
WMOK IAmb IAmb 20 33 42.3
comp=Z,32nm,1.2s
WMOK Wichita Mounta 72.37 338 P **P 20 33 17.7 -0.9**
WMOK pmax pmax
comp=Z,32nm,1.3s
EPT El Paso 72.56 330 IAMs_20 IAMs_20 21 00 50.6
comp=Z,1μm,20.0s
P57A Homestead Farm 72.97 356 IAMs_20 IAMs_20 21 09 03.1
comp=Z,1μm,19.0s
QUOK Quay 73.07 340 P **P 20 33 22.5 -0.1**
WUPA West Chester U 73.30 358 P **P 20 33 24.3 +0.4**
319A Douglas 73.41 328 P **P 20 33 24.4 -0.5**
319A IAmb IAmb 20 33 59.4
comp=Z,38nm,1.4s
CCM Cathedral Cave 73.46 345 P **P 20 33 24.7 -0.2**
CCM IAmb IAmb 20 33 40.4
comp=Z,39nm,0.9s
CCM Cathedral Cave 73.46 345 P **P 20 33 24.7 -0.2**
CCM pmax pmax
comp=Z,39nm,0.9s
MAW Mawson 73.61 164 LR LR 21 07 31.1
comp=Z,3μm,18.4s,baz=230,slow=37
P49A Miami Univ. Ec 73.71 350 P **P 20 33 25.6 -0.7**
P49A IAmb IAmb 20 33 49.1
comp=Z,54nm,1.4s
121A Cookes Peak, D 73.75 329 P **P 20 33 26.2 -0.8**
121A IAmb IAmb 20 33 45.0
comp=Z,33nm,1.1s
121A IAMs_20 IAMs_20 21 02 01.9
comp=Z,2μm,18.0s
KAN05 Bluff City Nor 74.28 339 P **P 20 33 29.7 0.0**
Y22D IRIS PASSCAL I 74.73 331 IAMs_20 IAMs_20 21 02 29.1
comp=Z,2μm,18.0s
TUC Tucson 74.88 327 P **P 20 33 32.5 -0.9**
TUC Tucson 74.88 327 P **P 20 33 32.5 -0.9**
TUC pmax pmax
comp=Z,29nm,1.5s
ANMO Albuquerque 75.30 332 P **P 20 33 35.8 -0.1**
ANMO IAmb IAmb 20 33 53.8
comp=Z,33nm,1.3s
ANMO Albuquerque 75.30 332 IAMs_20 IAMs_20 21 01 29.1
comp=Z,1μm,20.0s
ANMO Albuquerque 75.30 332 P **P 20 33 37.5 +1.6**
comp=Z,5.2nm,1.0s,baz=315,slow=9.7,SNR=9.3
ANMO LR LR 21 02 01.8
comp=Z,1μm,20.2s,baz=332,slow=32
comp=Z,5.2nm,1.0s
ANMO Albuquerque 75.30 332 *i*P **P 20 33 37.0 +1.0**
ANMO pmax pmax
comp=Z,17nm,1.4s
SUR Sutherland 75.34 119 P **P 20 33 36.4 -0.1**
DBIC Dimbokro 75.46 72 P **P 20 33 36.7 -0.4**
DBIC IAmb IAmb 20 33 39.3
comp=Z,42nm,1.1s
DBIC Dimbokro 75.46 72 P **P 20 33 37.1 0.0**
comp=Z,23nm,0.9s,baz=218,slow=5.6,SNR=20
DBIC LR LR 21 05 21.0
comp=Z,802nm,18.1s,baz=192,slow=35
comp=Z,23nm,0.9s
DBIC Dimbokro 75.46 72 P **P 20 33 36.7 -0.4**
DBIC pmax pmax
comp=Z,42nm,1.1s
PIX Pinacate 75.50 325 P **P 20 33 36.8 -0.2**
L56A Greenwood 75.58 356 P **P 20 33 37.4 +0.2**
L56A IAmb IAmb 20 33 41.1
comp=Z,46nm,1.1s
MMNY Mt. Morris Dam 76.20 356 P **P 20 33 40.5 -0.1**
RAR Rarotonga 76.36 254 LR LR 21 01 14.7
comp=Z,834nm,18.1s,baz=112,slow=31
113A Mohawk Valley, 76.64 325 P **P 20 33 42.5 -0.8**
GLA Glamis 77.39 325 IAMs_20 IAMs_20 21 02 31.3
comp=Z,1μm,18.0s
WIN Windhoek 77.55 109 P **P 20 33 49.2 +0.1**
WIN IAmb IAmb 20 34 02.8
comp=Z,49nm,1.3s
WIN Windhoek 77.55 109 P **P 20 33 49.2 +0.1**
WIN pmax pmax
comp=Z,49nm,1.3s
YUH Yuha Desert 77.59 324 IAMs_20 IAMs_20 21 03 38.8
comp=Z,1μm,18.0s
JFWS Jewell Farm 77.93 347 P **P 20 33 50.5 +0.1**
JFWS Jewell Farm 77.93 347 P **P 20 33 50.5 +0.1**
JFWS pmax pmax
comp=Z,100nm,1.7s
TJX Tijuana 78.05 323 IAMs_20 IAMs_20 21 03 49.9
comp=Z,1μm,18.0s
MVCO Mesa Verde 78.08 331 P **P 20 33 52.1 +0.4**
SADO Sadowa 78.31 355 P **P 20 33 53.2 +0.8**
comp=Z,15nm,1.1s,baz=179,slow=2.4,SNR=6.8
comp=Z,15nm,1.1s
WBO Williamsburg 78.34 358 P **P 20 33 53.3 +0.7**
WBO IAmb IAmb 20 34 13.3
comp=Z,30nm,1.1s
ACRG Accra 78.57 75 P **P 20 33 54.3 -0.3**
ACRG IAmb IAmb 20 33 56.6
comp=Z,55nm,1.1s
ACRG IAMs_20 IAMs_20 21 07 09.3
comp=Z,2μm,19.0s
SOE Somerset East 78.58 122 P **P 20 33 54.8 +0.2**
SOE IAmb IAmb 20 34 19.5
comp=Z,49nm,1.2s
I42A Draeger Farm, 78.63 348 P **P 20 33 54.5 +0.3**
I42A IAmb IAmb 20 34 17.6
comp=Z,61nm,1.5s
PFO Pinyon Flats O 78.64 324 P **P 20 33 56.1 +1.4**
comp=Z,3.7nm,0.7s,baz=190,slow=6.5,SNR=1.3
PFO LR LR 21 01 51.1
comp=Z,978nm,19.7s,baz=116,slow=30
comp=Z,3.7nm,0.7s
PFO Pinyon Flats O 78.64 324 *i*P **P 20 33 51.9 -2.8**
PFO pmax pmax
comp=Z,30nm,1.6s
GRHM Grahamstown, E 78.85 122 P **P 20 33 55.2 -0.9**
GRHM IAMs_20 IAMs_20 21 11 15.3
comp=Z,2μm,18.0s
I40A Norwalk 78.94 347 IAMs_20 IAMs_20 21 13 37.0
comp=Z,1μm,18.0s
H43A Windswept, Lux 79.00 349 P **P 20 33 56.5 +0.2**
H43A IAmb IAmb 20 33 59.1
comp=Z,54nm,1.3s
LMN Caledonia Moun 79.46 5 P **P 20 33 58.9 +0.1**
LMN IAmb IAmb 20 34 09.5
comp=Z,103nm,1.8s
I37A Lemond, Waseca 79.63 345 P **P 20 33 59.6 -0.1**
I37A IAmb IAmb 20 34 31.1
comp=Z,56nm,1.1s
TSUM Tsumeb 79.69 106 P **P 20 34 01.0 0.0**
TSUM IAmb IAmb 20 34 24.4
comp=Z,63nm,1.4s
TSUM Tsumeb 79.69 106 IAMs_20 IAMs_20 21 04 43.7
comp=Z,1μm,20.0s
TSUM Tsumeb 79.69 106 LR LR 21 04 55.8
comp=Z,1μm,20.3s,baz=242,slow=32
KOOLE Kule 79.75 111 *i*P **P 20 34 01.8 +0.5**
K30B Basset 79.93 340 P **P 20 34 01.4 -0.1**
K30B IAmb IAmb 20 34 06.4
comp=Z,66nm,1.1s
ECSD EROS Data Cent 80.12 343 P **P 20 34 02.7 +0.3**
ECSD IAmb IAmb 20 34 26.2
comp=Z,69nm,1.4s
SHPR Sheep Range 80.36 326 P **P 20 34 04.1 0.0**
BOSA Boshof 80.58 118 P **P 20 34 05.3 -0.3**
BOSA IAmb IAmb 20 34 18.8
comp=Z,51nm,1.4s
BOSA Boshof 80.58 118 P **P 20 34 05.3 -0.3**
comp=Z,17nm,1.0s,baz=238,slow=3.5,SNR=18
BOSA LR LR 21 08 35.6
comp=Z,518nm,18.6s,baz=238,slow=35
comp=Z,17nm,1.0s
Q16A Castle Valley 80.63 330 IAMs_20 IAMs_20 21 05 00.4
comp=Z,1μm,20.0s
COWI Conover 80.81 348 P **P 20 34 06.3 +0.2**
P18A Preston Nutter 80.86 331 IAMs_20 IAMs_20 21 06 02.5
comp=Z,2μm,20.0s
TCRU Three Creeks R 80.91 329 IAMs_20 IAMs_20 21 07 46.6
comp=Z,1μm,18.0s
GRTLG Ghanzi 81.42 110 *i*P **P 20 34 10.9 +0.7**
PSUT Pine Spring 81.45 328 IAMs_20 IAMs_20 21 06 35.0
comp=Z,964nm,19.0s
VLDQ Val d'Or 81.54 357 P **P 20 34 10.6 +0.8**
VLDQ IAmb IAmb 20 34 12.9
comp=Z,34nm,1.1s
S11A Rachel 81.56 327 IAMs_20 IAMs_20 21 05 09.0
comp=Z,1μm,18.0s
BSUT Blindstream Ca 81.84 332 P **P 20 34 12.7 +0.6**
BSUT IAmb IAmb 20 34 37.1
comp=Z,50nm,1.7s
SPR3 Spring Creek 3 82.04 328 IAMs_20 IAMs_20 21 08 20.7
comp=Z,1μm,18.0s
K22A Casper 82.10 335 P **P 20 34 13.2 +0.1**
K22A IAmb IAmb 20 34 17.1
comp=Z,55nm,1.5s
QNGWA Qangwa 82.38 108 *i*P **P 20 34 17.1 +1.9**
DUG Dugway, Tooele 82.39 330 P **P 20 34 15.7 +1.0**
DUG IAmb IAmb 20 34 49.0
comp=Z,25nm,1.2s
DUG Dugway, Tooele 82.39 330 P **P 20 34 15.7 +1.0**
DUG pmax pmax
comp=Z,25nm,1.2s
RSSD Black Hills 82.58 338 P **P 20 34 15.4 -0.3**
RSSD Black Hills 82.58 338 P **P 20 34 15.4 -0.3**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
LBTB Lobatse 82.81 115 P **P 20 34 17.4 0.0**
LBTB Lobatse 82.81 115 LR LR 21 07 48.0
comp=Z,766nm,19.2s,baz=228,slow=33
LBTB Lobatse 82.81 115 P **P 20 34 17.4 0.0**
LBTB pmax pmax
comp=Z,76nm,1.3s
KDWAN Kaudwane 83.00 113 *i*P **P 20 34 19.3 +0.9**
HWUT Hardware Ranch 83.07 332 P **P 20 34 18.8 +0.5**
HWUT IAmb IAmb 20 34 42.8
comp=Z,32nm,1.2s
HWUT IAMs_20 IAMs_20 21 07 15.0
comp=Z,2μm,20.0s
BGU Big Grassy Mou 83.09 330 IAMs_20 IAMs_20 21 07 47.4
comp=Z,942nm,19.0s
PD31 Pinedale Array 83.29 333 P **P 20 34 19.6 +0.2**
PDAR Pinedale Array 83.29 333 P **P 20 34 19.4 -0.1**
PDAR Pinedale Array 83.29 333 P **P 20 34 20.4 +0.9**
comp=Z,5.1nm,1.1s,baz=142,slow=5.3,SNR=20
PDAR LR LR 21 07 53.2
comp=Z,778nm,19.1s,baz=126,slow=33
comp=Z,5.1nm,1.1s
NVAR Mina Array Bea 83.39 325 P **P 20 34 20.4 +0.3**
NVAR Mina Array Bea 83.39 325 P **P 20 34 22.5 +2.5**
comp=Z,3.9nm,0.9s,baz=144,slow=5.5,SNR=11
NVAR LR LR 21 04 51.9
comp=Z,415nm,21.4s,baz=154,slow=31
comp=Z,3.9nm,0.9s
URZ Urewera 83.58 228 LR LR 21 02 37.9
comp=Z,1μm,21.1s,baz=228,slow=29
SAO San Andreas Ge 83.62 322 IAMs_20 IAMs_20 21 03 38.4
comp=Z,1μm,20.0s
RPZ Rata Peaks 83.63 221 P **P 20 34 24.1 +2.9**
comp=Z,12nm,0.9s,baz=121,slow=0.8,SNR=4.2
comp=Z,12nm,0.9s
DRLN Deer Lake 83.64 10 P **P 20 34 21.2 +0.5**
ELK Elko 83.88 329 P **P 20 34 22.7 +0.2**

ELK IAmb IAmb 20 34 39.1
comp=Z,18nm,1.1s
ELK IAMs_20 IAMs_20 21 09 07.2
comp=Z,875nm,18.0s
ELK Elko 83.88 329 P **P** **20 34 24.1 +1.6**
comp=Z,6.6nm,0.9s,baz=164,slow=5.0,SNR=14
comp=Z,6.6nm,0.9s
ELK Elko 83.88 329 P **P** **20 34 22.7 +0.2**
ELK pmax pmax
comp=Z,18nm,1.2s
ELK MLR MLR
comp=Z,900nm,18.0s
LPHEP Lephephe 83.92 114 *i* P **P** **20 34 23.7 +0.5**
WAKR Walker 83.99 325 IAMs_20 IAMs_20 21 05 27.1
comp=Z,853nm,20.0s
AGMN Agassiz Nation 84.23 345 P **P** **20 34 24.4 +0.6**
LOHW Long Hollow 84.41 333 P **P** **20 34 25.8 +0.6**
LOHW IAMs_20 IAMs_20 21 07 55.4
comp=Z,1μm,21.0s
TORD Torodi Ar. Bea 84.48 70 P **P** **20 34 25.4 -0.4**
TORD IAmb IAmb 20 34 28.1
comp=Z,32nm,1.1s
TORD Torodi Ar. Bea 84.48 70 P **P** **20 34 25.9 0.0**
comp=Z,12nm,0.9s,baz=226,slow=4.9,SNR=10
comp=Z,12nm,0.9s
PNTR Pine Nut 84.53 325 IAMs_20 IAMs_20 21 05 53.4
comp=Z,851nm,20.0s
MOOW Moose Ponds 84.58 333 IAMs_20 IAMs_20 21 08 12.9
comp=Z,1μm,20.0s
TOZ Tahuroa Road 84.90 228 IAMs_20 IAMs_20 21 03 40.8
comp=Z,1μm,19.0s
YFT Old Faithful 85.21 334 P **P** **20 34 29.1 -0.1**
LAO LASA Array 85.57 337 P **P** **20 34 31.3 +0.7**
LAO IAmb IAmb 20 34 46.5
comp=Z,34nm,1.1s
YHB Horse Butte 85.60 333 IAMs_20 IAMs_20 21 08 56.0
comp=Z,1μm,20.0s
POGA Pongola 86.00 120 IAMs_20 IAMs_20 21 12 46.6
comp=Z,1μm,18.0s
ULM Lac du Bonnet 86.08 345 P **P** **20 34 32.5 -0.5**
ULM IAmb IAmb 20 34 36.1
comp=Z,26nm,1.2s
ULM Lac du Bonnet 86.08 345 P **P** **20 34 33.0 0.0**
comp=Z,15nm,1.1s,baz=162,slow=3.4,SNR=14
comp=Z,15nm,1.1s
ULM Lac du Bonnet 86.08 345 P **P** **20 34 32.5 -0.5**
ULM pmax pmax
comp=Z,26nm,1.2s
HOPS Hopland Field 86.15 323 IAMs_20 IAMs_20 21 06 15.5
comp=Z,1μm,18.0s
BROLN Tlhalogang 86.32 113 *i* P **P** **20 34 36.2 +1.0**
DLMT Dillon 86.65 333 IAMs_20 IAMs_20 21 09 38.6
comp=Z,1μm,19.0s
WVOR Wild Horse Val 86.73 328 IAMs_20 IAMs_20 21 10 33.9
comp=Z,892nm,18.0s
HATC Hat Creek Radi 86.77 325 P **P** **20 34 37.7 +0.9**
PLID Pearl Lake 87.76 331 IAMs_20 IAMs_20 21 13 19.0
comp=Z,763nm,18.0s
BMO Blue Mountains 88.10 330 P **P** **20 34 44.2 +1.1**
BMO Blue Mountains 88.10 330 P **P** **20 34 44.2 +1.1**
BMO pmax pmax
comp=Z,14nm,1.3s
L04D Klamath Falls 88.25 325 P **P** **20 34 43.9 -0.1**
SCHQ Schefferville 88.28 3 P **P** **20 34 43.9 +0.3**
SCHQ IAmb IAmb 20 34 46.4
comp=Z,39nm,1.4s
SCHQ Schefferville 88.28 3 P **P** **20 34 43.5 -0.1**
comp=Z,16nm,1.1s,baz=205,slow=4.8,SNR=7.6
SCHQ LR LR 21 13 39.9
comp=Z,711nm,22.0s,baz=179,slow=35
comp=Z,16nm,1.1s
I07A Izee 88.43 328 P **P** **20 34 45.3 +0.6**
I07A IAmb IAmb 20 35 34.7
comp=Z,14nm,1.1s
J05D Fort Rock, OR 88.58 327 P **P** **20 34 46.3 +0.8**
J05D IAmb IAmb 20 35 03.2
comp=Z,27nm,1.2s
G08A Pilot Rock 89.15 329 IAMs_20 IAMs_20 21 10 34.9
comp=Z,1μm,20.0s
HAWA Hanford 90.27 330 P **P** **20 34 54.2 +1.1**
HAWA IAmb IAmb 20 35 18.1
comp=Z,21nm,1.3s
LSZ Lusaka 90.29 109 P **P** **20 34 54.9 +0.6**
LSZ IAmb IAmb 20 34 58.8
comp=Z,34nm,1.2s
LSZ Lusaka 90.29 109 LR LR 21 11 45.7
comp=Z,2μm,19.7s,baz=232,slow=33
LSZ Lusaka 90.29 109 P **P** **20 34 54.9 +0.6**
LSZ pmax pmax
comp=Z,34nm,1.3s
LSZ MLR MLR
comp=Z,2μm,20.0s
HOOD Mount Hood Mea 90.35 328 IAMs_20 IAMs_20 21 12 11.6
comp=Z,1μm,18.0s
NEW Newport 90.79 332 IAMs_20 IAMs_20 21 12 41.3
comp=Z,983nm,19.0s
NEW Newport 90.79 332 P **P** **20 34 57.5 +1.9**
comp=Z,2.4nm,0.8s,baz=149,slow=4.1,SNR=3.1
NEW LR LR 21 13 00.1
comp=Z,695nm,18.4s,baz=125,slow=34
comp=Z,2.4nm,0.8s
C09A Chrisman Ranch 90.88 331 IAMs_20 IAMs_20 21 11 20.6
comp=Z,752nm,18.0s
LON Longmire 91.53 329 IAMs_20 IAMs_20 21 12 59.8
comp=Z,863nm,18.0s
MDT Midelt 91.93 51 LR LR 21 15 55.2
comp=Z,2μm,20.0s,baz=252,slow=35
PVAQ Vaqueiros 92.93 46 *e*LR LR 21 13 26.8
PVAQ *i* AMs_20 21 16 52.0
comp=Z,2μm,20.0s
TAM Tamanrasset 93.05 65 P **P** **20 35 07.6 +0.8**
TAM Tamanrasset 93.05 65 P **P** **20 35 07.6 +0.8**
TAM pmax pmax
comp=Z,11nm,1.1s
TAM MLR MLR
comp=Z,2μm,18.0s
FCC Fort Churchill 93.83 349 P **P** **20 35 09.7 +0.5**
FCC IAmb IAmb 20 36 17.8
comp=Z,18nm,1.4s
FCC Fort Churchill 93.83 349 P **P** **20 35 09.7 +0.5**
FCC pmax pmax
comp=Z,18nm,1.4s
MTE Manteigas 94.99 44 *e*LR LR 21 17 40.8
MTE *i* AMs_20 21 19 52.6
comp=Z,1μm,18.0s
PGAV Gavieira, Arco 95.59 42 *e*LR LR 21 14 47.8
PGAV *i* AMs_20 21 16 10.5
comp=Z,1μm,20.0s
MVO Moncorvo 95.78 44 *e*LR LR 21 16 40.5
MVO *i* AMs_20 21 17 59.2
comp=Z,1μm,18.0s
ESDC Sonseca Array 96.64 46 P **P** **20 35 22.0 -0.7**
ESDC Sonseca Array 96.64 46 P **P** **20 35 22.4 -0.3**
comp=Z,2.7nm,1.0s,baz=247,slow=4.0,SNR=11
ESDC LR LR 21 19 02.2
comp=Z,2μm,18.4s,baz=248,slow=36
comp=Z,2.7nm,1.0s
FRB Frobisher Bay 97.14 2 LR LR 21 19 48.2
comp=Z,848nm,20.0s,baz=164,slow=36
BBB Bella Bella 98.32 329 LR LR 21 17 05.3
comp=Z,233nm,18.7s,baz=120,slow=34
CAN Canberra 101.12 214 IAMs_20 IAMs_20 21 11 32.4
comp=Z,794nm,19.0s
YKA Yellowknife Ar 101.62 341 P **Pdif** **20 35 45.0 +0.7**
comp=Z,0.9nm,0.8s,baz=148,slow=4.5,SNR=10
YKA PP **PP** **20 39 58.6 +3.5**
comp=Z,0.3nm,0.8s,baz=147,slow=7.4,SNR=4.4
DLBC Dease Lake 103.52 333 IAMs_20 IAMs_20 21 31 42.6
comp=Z,822nm,19.0s
WTLY Watson Lake, Y 104.23 335 IAMs_20 IAMs_20 21 29 08.5
comp=Z,753nm,21.0s
KIBK Kibwezi 105.69 104 IAMs_20 IAMs_20 21 20 34.4
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 105.74 102 IAMs_20 IAMs_20 21 27 14.4
comp=Z,764nm,19.0s
P33M Teslin, Yukon 105.77 333 IAMs_20 IAMs_20 21 26 13.3
comp=Z,578nm,20.0s
CASP Castiglione de 107.63 50 IAMs_20 IAMs_20 21 26 28.6
comp=Z,1μm,18.0s
N30M Aishikik Lake 108.18 333 IAMs_20 IAMs_20 21 35 19.7
comp=Z,744nm,19.0s
OSSC Osservatorio P 108.23 50 IAMs_20 IAMs_20 21 28 13.5
comp=Z,996nm,19.0s
M30M Minto, Yukon 108.76 334 IAMs_20 IAMs_20 21 25 45.2
comp=Z,737nm,19.0s
PAOL Paolisi 109.20 53 IAMs_20 IAMs_20 21 32 15.4
comp=Z,872nm,19.0s

INTR Introdacqua 109.22 52 IAMs_20 IAMs_20 21 26 56.9
comp=Z,821nm,20.0s
J30M Hart River 109.81 336 IAMs_20 IAMs_20 21 33 48.7
comp=Z,788nm,20.0s
I30M Mount Dempster 110.22 336 IAMs_20 IAMs_20 21 29 42.5
comp=Z,715nm,20.0s
EPYK Eagle Plains 111.02 337 IAMs_20 IAMs_20 21 37 21.9
comp=Z,750nm,19.0s
INK Inuvik 111.22 340 IAMs_20 IAMs_20 21 33 23.4
comp=Z,785nm,21.0s
A36M Sachs Harbour 111.55 345 IAMs_20 IAMs_20 21 33 58.1
comp=Z,896nm,18.0s
NKC Novy Kostel 112.09 44 AMS AMS 21 26 20.0
comp=Z,1μm,22.0s
GERES GERESS Array B 112.21 45 PKiKP **PKiKP** **20 40 28.4 +0.3**
comp=Z,0.8nm,0.6s,baz=238,slow=3.1,SNR=4.1
KHC Kasperske Hory 112.26 45 AMS AMS 21 29 10.0
comp=Z,1μm,20.1s
ZVC Zvikov 112.76 45 AMS AMS 21 29 10.0
comp=Z,1μm,21.1s
PRA Prague 113.17 44 AMS AMS 21 26 50.0
comp=Z,2μm,23.5s
E28M Babbage River 113.20 338 IAMs_20 IAMs_20 21 28 29.2
comp=Z,714nm,21.0s
PRU Pruhonice 113.20 45 AMS AMS 21 27 10.0
comp=Z,2μm,23.6s
GOPC GO Pecny, Ondr 113.31 45 AMS AMS 21 27 00.0
comp=Z,800nm,18.5s
PVCC Panska Ves 113.44 44 AMS AMS 21 27 30.0
comp=Z,2μm,22.0s
TREC Trest 113.47 46 AMS AMS 21 29 10.0
comp=Z,2μm,19.4s
ILAR Eielson Array 113.72 333 PKiKP **PKiKP** **20 40 31.6 +1.2**
comp=Z,0.4nm,0.9s,baz=150,slow=2.0,SNR=4.0
ILAR PP **PP** **20 41 26.3 +2.7**
comp=Z,0.8nm,1.1s,baz=108,slow=9.0,SNR=4.2
WRH Wood River Hil 114.04 333 IAMs_20 IAMs_20 21 27 53.8
comp=Z,628nm,19.0s
OSTC Ostas 114.41 44 AMS AMS 21 27 50.0
comp=Z,1μm,19.5s
KTH Kantishna Hill 114.73 331 IAMs_20 IAMs_20 21 39 34.2
comp=Z,642nm,20.0s
BPAW Bear Paw Mtn. 115.00 332 IAMs_20 IAMs_20 21 27 05.2
comp=Z,572nm,19.0s
VYHS Vyhne 115.17 47 *e*PKiKP **PKiKP** **20 40 35.5 +1.9**
VYHS Vyhne 115.17 47 *e*PKP **PKiKP** **20 40 35.5 +1.9**
VYHS *e* 20 55 09.4
D25K Kavik River 115.69 338 IAMs_20 IAMs_20 21 29 48.1
comp=Z,739nm,18.0s
E24K Your Creek 115.82 336 IAMs_20 IAMs_20 21 36 59.5
comp=Z,543nm,19.0s
I21K Tanana 115.84 333 IAMs_20 IAMs_20 21 30 04.5
comp=Z,589nm,18.0s
H21K Melozitna Rive 116.35 333 IAMs_20 IAMs_20 21 38 30.8
comp=Z,644nm,20.0s
ARG Arkhangelos 116.70 63 IAMs_20 IAMs_20 21 31 50.1
comp=Z,626nm,21.0s
E22K Anaktuvuk Pass 116.98 336 IAMs_20 IAMs_20 21 30 59.3
comp=Z,632nm,20.0s
ATD Arta Tunnel 117.37 94 IAMs_20 IAMs_20 21 32 36.5
comp=Z,652nm,19.0s
KOLS Kolonicke sedl 117.44 48 *e*PKiKP **PKiKP** **20 40 40.5 +2.5**
KOLS Kolonicke sedl 117.44 48 *e*PKP **PKiKP** **20 40 40.5 +2.5**
ASAR Alice Springs 117.67 207 PKP **PKPdf** **20 40 38.1 -1.3**
comp=Z,1.0nm,0.9s,baz=149,slow=2.4,SNR=4.2
E21K Killik River 117.84 336 IAMs_20 IAMs_20 21 30 15.0
comp=Z,518nm,19.0s
MSEY Mahe Island 117.84 117 IAMs_20 IAMs_20 21 26 52.8
comp=Z,728nm,20.0s
MANT Manisa 117.89 61 IAMs_20 IAMs_20 21 38 26.8
comp=Z,624nm,20.0s
ISP Isparta 119.08 62 IAMs_20 IAMs_20 21 33 22.3
comp=Z,722nm,20.0s
BORA Eskisehir 119.77 60 IAMs_20 IAMs_20 21 36 25.5
comp=Z,697nm,20.0s
CSS Mathiatis 120.13 66 IAMs_20 IAMs_20 21 32 59.2
comp=Z,645nm,22.0s
GHAJ Ghor Haditha 120.46 71 IAMs_20 IAMs_20 21 32 21.3
comp=Z,806nm,20.0s
WRA Warramunga Arr 120.85 210 PKP **PKiKP** **20 40 45.7 0.0**
comp=Z,0.5nm,0.3s,baz=62,slow=28,SNR=18
WRAB Tennant Creek 120.85 210 *i* PKiKP **PKPdf** **20 40 43.7 -1.9**
COEN Coen 121.68 222 IAMs_20 IAMs_20 21 24 53.3
comp=Z,798nm,19.0s
BRTR Keskin Array B 122.03 61 PKP **PKPdf** **20 40 46.5 -0.8**
comp=Z,1.8nm,0.8s,baz=188,slow=2.1,SNR=7.1
AKASG Malin Array Be 122.27 47 PKP **PKiKP** **20 40 47.5 +0.1**
comp=Z,2.9nm,0.7s,baz=270,slow=3.2,SNR=11
AKBB Malin Array Si 122.27 47 *i* PKiKP **PKPdf** **20 40 46.7 -0.5**
MNK Minsk 122.42 43 *i* PKiKP **PKiKP** **20 40 47.8 +0.3**
MNK *i* 20 42 24.9
MNK *i* PPP PPP 20 44 58.6
MNK *i* 20 48 01.2
MNK *i* SS SS 20 59 07.0 +1.9
MNK *i* SSS SSS 21 03 34.4
MNK pmax pmax
comp=E,20nm,0.8s
MNK pmax pmax
comp=Z,18nm,1.0s
MNK pmax pmax
comp=N,8.0nm,0.7s
TOKA Tokat 124.28 61 IAMs_20 IAMs_20 21 37 31.0
comp=Z,649nm,20.0s
FITZ Fitzroy Crossi 125.68 201 PKP **PKiKP** **20 40 55.7 +0.4**
comp=Z,2.5nm,0.8s,baz=205,slow=6.7,SNR=4.2
MARD Mardin 126.59 66 IAMs_20 IAMs_20 21 44 13.3
comp=Z,454nm,19.0s
KOPT Kop Dagi 127.15 62 IAMs_20 IAMs_20 21 39 34.0
comp=Z,563nm,20.0s
MOS Moscow 128.14 42 *i* PKiKP **PKiKP** **20 40 58.7 -0.2**
MOS *e* 20 42 58.8
VSR Storozhevoye 128.53 48 *e*PKiKP **PKPdf** **20 40 58.0 -1.2**
VSR pmax pmax
comp=Z,9.0nm,1.1s
MTN Manton Dam 128.54 210 IAMs_20 IAMs_20 21 44 01.3
comp=Z,684nm,19.0s
LPSR Galich'ya Gora 128.56 47 *e*PKiKP **PKPdf** **20 40 59.0 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 128.57 49 *e*PKiKP **PKPdf** **20 40 58.3 -0.9**
VORD pmax pmax
comp=Z,9.0nm,1.1s
GEVA Gevas 128.61 65 IAMs_20 IAMs_20 21 38 06.7
comp=Z,607nm,21.0s
VORR Voronezh 128.62 48 PKiKP **PKiKP** **20 41 01.3 +1.4**
VORR pmax pmax
comp=Z,13nm,1.9s
KLMR Klimovskoe 129.38 36 *e*PKiKP **PKPdf** **20 40 59.1 -1.4**
KLMR pmax pmax
comp=Z,55nm,1.3s
KLMR MLR MLR
comp=Z,1μm,21.0s
KIV Kislovodsk 129.66 58 *i* PKiKP **PKPdf** **20 41 00.7 -1.0**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,191nm,23.0s
KBZ Khabaz 129.76 58 PKP **PKPdf** **20 41 01.6 -0.2**
comp=Z,4.0nm,1.0s,baz=197,slow=2.1,SNR=4.3
KBZ Khabaz 129.76 58 *i* PKiKP **PKPdf** **20 41 00.5 -1.2**
VRH Novokhopyorsk 130.12 49 PKiKP **PKPdf** **20 41 01.5 -0.7**
VRH pmax pmax
comp=Z,24nm,2.0s
BILL Bilibino 132.37 334 IAMs_20 IAMs_20 21 39 11.1
comp=Z,558nm,19.0s
BILL Bilibino 132.37 334 *i* PKiKP **PKPdf** **20 41 04.4 -1.6**
AKT Akhty 132.83 62 *i* PKiKP **PKiKP** **20 41 08.9 -0.1**
AKT pmax pmax
comp=Z,24nm,1.6s
BELG Belogornoye 133.85 47 *i* PKiKP **PKPdf** **20 41 08.5 -0.7**
KIRV Kirov 134.52 39 *i* PKiKP **PKPdf** **20 41 07.0 -3.2**
MMRI Maumere 135.65 201 IAMs_20 IAMs_20 21 48 59.2
comp=Z,514nm,18.0s
SEY Seymchan 139.55 330 *ce*PKiKP **PKiKP** **20 41 21.1 -0.7**
SEY pmax pmax
comp=Z,11nm,1.3s
KAPI Kappang 139.81 199 IAMs_20 IAMs_20 21 45 18.6
comp=Z,648nm,20.0s
TIXI Tiksi 140.30 350 PKPdf **PKPdf** **20 41 20.8 +0.3**
TIXI Tiksi 140.30 350 *i* PKiKP **PKPdf** **20 41 18.6 -2.0**
MA2 Magadan 141.63 326 PKPdf **PKPdf** **20 41 23.9 +0.6**
MA2 Magadan 141.63 326 *i* PKiKP **PKPdf** **20 41 22.4 -0.9**
HRA Herat 142.74 76 PKPdf **PKPdf** **20 41 27.0 +0.6**
PALK Pallekele 143.90 131 PKPdf **PKPdf** **20 41 27.6 -1.2**
PALK Pallekele 143.90 131 IAMs_20 IAMs_20 21 41 28.8
comp=Z,607nm,20.0s

PALK Pallekele 143.90 131 PKP PKPbc 20 41 27.4 +0.9
comp=Z,24nm,1.1s,baz=198,slow=2.9,SNR=5.3
PALK Pallekele 143.90 131 PKIKP **PKPdf** **20 41 27.7 -1.2**
PALK MLR MLR
comp=Z,600nm,20.0s
TOLI2 Tolitoli 145.29 204 PKPbc **PKPbc** **20 41 29.8 -1.1**
TOLI2 IAMs_20 IAMs_20 21 48 29.0
comp=Z,402nm,20.0s
BRVK Borovoye 147.24 42 PKPdf **PKPdf** **20 41 34.0 +0.7**
BRVK Borovoye 147.24 42 PKP2 **PKPdf** **20 41 34.0 +0.7**
BRVK MLR MLR
comp=Z,1μm,20.0s
BVAR Borovoye Array 147.31 42 PKPbc **PKPbc** **20 41 35.0 -0.8**
comp=Z,8.7nm,0.7s,baz=264,slow=2.7,SNR=30
BVAR Borovoye Array 147.31 42 PKP2 **PKPbc** **20 41 35.0 -0.8**
PSI Prapat 148.26 164 PKPbc **PKPbc** **20 41 39.5 -0.1**
comp=Z,40nm,1.0s,baz=196,slow=6.6,SNR=7.9
YAK Yakutsk 148.29 340 PKPbc **PKPbc** **20 41 38.0 0.0**
YAK Yakutsk 148.29 340 IAMs_20 IAMs_20 21 57 11.5
comp=Z,388nm,20.0s
YAK Yakutsk 148.29 340 *e*PKIKP **PKPdf** **20 41 36.1 +1.4**
YAK *e* 20 45 08.7
YAK pmax pmax
comp=Z,52nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=Z,163nm,5.7s
YAK pmax pmax
comp=N,185nm,5.5s
YAK pmax pmax
comp=E,152nm,5.2s
KBL Kabul 148.29 77 PKPdf **PKPdf** **20 41 35.4 -0.5**
KBL Kabul 148.29 77 PKIKP **PKPdf** **20 41 35.4 -0.5**
SIMJ Simiganj 148.71 70 PKPdf **PKPdf** **20 41 36.7 +0.3**
TYV Tymovskoe 149.19 315 *e*PKP2 **PKiKP** **20 41 42.8 +0.8**
TYV pmax pmax
comp=Z,18nm,1.5s
TYV pmax pmax
comp=Z,300nm,4.4s
BRLS Boroldoy 149.25 61 *e*PKIKP **PKPdf** **20 41 36.1 -0.8**
BRLS *e* 20 45 12.5
BRLS Boroldoy 149.25 61 *e*PKP **PKPdf** **20 41 36.2 -0.8**
BRLS *e*PP **PP** **20 45 12.6 -1.0**
HYB Hyderabad 149.43 115 *e*PKiKP **PKiKP** **20 41 43.0 -0.6**
BRZS Berezniki 149.72 47 *e*PKHKP PKPpre 20 41 37.0
BRZS Berezniki 149.72 47 *e*PKP **PKPdf** **20 41 37.1 -0.4**
YSS Yuzhno-Sakhali 150.28 307 *e*PKIKP **PKiKP** **20 41 44.2 -0.1**
YSS pmax pmax
comp=Z,20nm,1.1s
DZA Taraz 150.36 61 *e*PKIKP **PKPdf** **20 41 38.1 -0.6**
DZA Taraz 150.36 61 *e*PKP **PKPdf** **20 41 38.2 -0.6**
ASAJ Asahikawa 150.94 301 PKPbc **PKiKP** **20 41 46.8 +1.0**
comp=Z,16nm,1.0s,baz=262,slow=11,SNR=4.1
ASAJ PKPab **pPKPab** **20 41 55.2 +1.0**
comp=Z,37nm,0.9s,baz=159,slow=6.0,SNR=9.9
KKM Kota Kinabalu 151.34 198 IAMs_20 IAMs_20 21 51 37.1
comp=Z,493nm,20.0s
BTLS Baital 151.96 56 *e*PKIKP **PKPdf** **20 41 40.7 -0.3**
BTLS Baital 151.96 56 *e*PKP **PKPdf** **20 41 40.8 -0.3**
EKS2 Erkin-Say 152.18 61 P **PKPdf** **20 41 43.9 +2.2**
SNR=8.7
AML Almayashu 152.18 62 P **PKPdf** **20 41 44.0 +2.0**
SNR=5.9
USP Ospenovka 152.61 60 P **PKPdf** **20 41 44.9 +2.7**
SNR=6.1
SGDS Sogindy 152.68 59 *e*PKIKP **PKPdf** **20 41 41.8 -0.4**
SGDS Sogindy 152.68 59 *e*PKP **PKPdf** **20 41 41.9 -0.4**
AAK Ala-Archa 152.70 61 PKP **PKPdf** **20 41 42.7 +0.3**
comp=Z,4.9nm,1.2s,baz=181,slow=3.6,SNR=8.1
AAK PKPbc **PKiKP** **20 41 50.4 +0.6**
comp=Z,31nm,1.2s,baz=301,slow=1.0,SNR=31
AAK PKPab **PKPab** **20 41 59.5 -0.8**
comp=Z,14nm,0.8s,baz=53,slow=2.3,SNR=8.7
AAK Ala-Archa 152.70 61 P **PKPdf** **20 41 44.9 +2.5**
SNR=6.0
CHMS Chumysh 152.84 60 P **PKiKP** **20 41 51.6 +1.8**
SNR=7.9
KURBB Kurchatov Arra 152.91 43 PKP **PKPdf** **20 41 42.5 +0.2**
comp=Z,2.3nm,0.8s,baz=303,slow=2.1,SNR=11
KURBB PKPbc **PKiKP** **20 41 51.0 +1.3**
comp=Z,18nm,1.1s,baz=298,slow=2.8,SNR=26
KURBB PKPab **PKPab** **20 41 59.3 -1.4**
comp=Z,7.6nm,0.9s,baz=301,slow=3.2,SNR=8.6
KURBB PP **PP** **20 45 34.0 +0.1**
comp=Z,3.2nm,1.1s,baz=301,slow=6.1,SNR=3.8
KURK Kurchatov 152.91 42 PKIKP **PKPdf** **20 41 42.5 +0.3**
KURK 20 41 51.0
KURK 20 41 59.3
KBK Karagaybulak 153.03 61 P **PKiKP** **20 41 52.5 +2.0**
SNR=9.4
TKM2 Tokmak 2 153.46 60 P **PKiKP** **20 41 52.0 +0.6**
SNR=7.5
DHRM DHARAMSHALA 153.85 84 *e*P **PKPdf** **20 41 46.2 +1.6**
KSH Kashi 154.12 68 PKPbc **PKPdf** **20 41 46.2 +1.6**
KSH PP **PP** **20 45 42.9 +1.2**
KSH AMB AMB
comp=Z,310nm,8.2s
KSH LR LR
comp=Z,440nm,19.6s
KSH LR LR
comp=Z,470nm,19.9s
ZALV Zalesovo Beam 154.16 32 PKP **PKPdf** **20 41 44.2 +0.3**
comp=Z,8.4nm,1.1s,baz=274,slow=2.4,SNR=23
ZALV PKPbc **PKiKP** **20 41 53.2 +1.1**
comp=Z,21nm,0.8s,baz=302,slow=3.0,SNR=33
SMLA Simla 154.32 87 *e*P **PKPdf** **20 41 46.4 +1.5**
MJAR Matsushiro Arr 154.75 285 PKPbc **PKiKP** **20 41 54.8 +0.8**
comp=Z,3.1nm,1.2s,baz=108,slow=2.8,SNR=4.7
BOD Bodaibo 155.45 352 *e*PKP2 **PKPab** **20 42 11.5 +0.3**
BOD pmax pmax
comp=Z,30nm,1.4s
ZHN Zhinishke 155.45 59 *e*PKIKP **PKPdf** **20 41 45.7 -0.5**
ZHN Zhinishke 155.45 59 *e*PKP **PKPdf** **20 41 45.8 -0.5**
SATY Saty 155.46 59 *e*PKIKP **PKPdf** **20 41 45.4 -0.8**
SATY Saty 155.46 59 *e*PKP **PKPdf** **20 41 45.5 -0.8**
KPKS Kokpek 155.56 58 *e*PKIKP **PKPdf** **20 41 45.9 -0.5**
KPKS Kokpek 155.56 58 *e*PKP **PKPdf** **20 41 45.9 -0.5**
UZB Uzynbulak 155.88 59 *e*PKIKP **PKPdf** **20 41 46.3 -0.6**
UZB Uzynbulak 155.88 59 *e*PKP **PKPdf** **20 41 46.3 -0.6**
SHLS Shalkode 156.19 58 *e*PKIKP **PKPdf** **20 41 47.1 -0.1**
SHLS Shalkode 156.19 58 *e*PKP **PKPdf** **20 41 47.1 -0.1**
KLR Kul'dur 156.22 318 PKP **PKPdf** **20 41 46.6 -0.3**
comp=Z,1.7nm,0.8s,baz=122,slow=3.9,SNR=3.8
KLR Kul'dur 156.22 318 *e*PKIKP **PKPdf** **20 41 46.2 -0.7**
KLR pmax pmax
comp=Z,7.0nm,1.6s
MKAR Makanchi Array 156.85 48 PKP **PKPdf** **20 41 47.8 -0.1**
comp=Z,0.7nm,0.9s,baz=278,slow=2.1,SNR=5.2
MKAR PKPab **PKPab** **20 42 18.0 +0.3**
comp=Z,8.5nm,0.7s,baz=308,slow=2.8,SNR=14
MKAR PP **PP** **20 45 56.4 +0.2**
comp=Z,10nm,1.3s,baz=297,slow=6.3,SNR=4.1
HEH HeiHe 157.88 324 *e*PKP **PKPdf** **20 41 49.4 +0.4**
ZSN Zaisan 158.09 44 *e*PKIKP **PKPdf** **20 41 49.1 -0.3**
ZSN Zaisan 158.09 44 *e*PKP **PKPdf** **20 41 49.1 -0.3**
USRK Ussuriysk Ar. 158.31 306 PKPab **PKPab** **20 42 25.8 +1.8**
comp=Z,1.8nm,0.7s,baz=72,slow=5.2,SNR=4.5
DLV Lat 158.35 183 IAMs_20 IAMs_20 21 55 34.2
comp=Z,476nm,19.0s
MDJ Mudanjiang 159.73 309 PKP **PKPdf** **20 41 51.9 +0.5**
BNX BinXian 160.56 314 PKP **PKPdf** **20 41 51.9 -0.3**
MOY Mondy 161.41 13 *e*PKIKP **PKPdf** **20 41 54.8 +1.7**
WMQ Urumqi 161.58 51 *e*PKP **PKPdf** **20 41 55.3 +1.8**
WMQ PKPab **pPKPab** **20 42 40.3 +0.4**
WMQ LR LR
comp=Z,530nm,19.3s
WMQ LR LR
comp=Z,990nm,15.9s
WMQ LR LR
comp=Z,650nm,21.7s
KSRS Korea Array 162.95 289 PKP **PKPdf** **20 41 55.3 +0.3**
comp=Z,2.6nm,1.1s,baz=311,slow=0.2,SNR=9.4
KSRS PKPab **pPKPab** **20 42 46.2 -0.1**
comp=Z,1.5nm,0.9s,baz=95,slow=4.9,SNR=4.7
ZAK Zakamensk 163.02 9 *e*PKP2 **PKPab** **20 42 44.4 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
CMAR Chiang Mai Arr 163.03 151 PKP **PKPdf** **20 41 55.9 +0.2**
comp=Z,4.2nm,1.2s,baz=241,slow=2.3,SNR=15
CMAR PKPab **PKPab** **20 42 43.4 -1.7**
comp=Z,3.7nm,1.1s,baz=222,slow=5.1,SNR=5.5
QIZ Qiongzhong 165.26 189 PKP PKPdf 20 41 48.5 -9.1

QIZ				PP	PP	20 46 36.3	-4.0
SONM	**Songino Array**	**165.83**	**3**	PKP	**PKPdf**	**20 41 58.0**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=270,slow=0.3,SNR=3.9						
SONM				PKPab	**PKPab**	**20 42 57.1**	**+0.3**
	comp=Z,6.0nm,1.1s,baz=341,slow=2.8,SNR=13						
SONM				PP	**PP**	**20 46 45.1**	**+1.6**
	comp=Z,1.8nm,1.1s,baz=3.4,slow=7.2,SNR=4.1						
GOMU	**GeErMu**	**169.30**	**73**	PKP	**PKPdf**	**20 42 02.7**	**+2.1**
GOMU				PP	**PP**	**20 46 59.8**	**-3.4**
GOMU				SS	SS	21 07 59.8	-0.5
GOMU				LR	LR		
	comp=Z,880nm,19.2s						
GOMU				LR	LR		
	comp=Z,900nm,19.5s						
GOMU				LR	LR		
	comp=Z,1μm,19.1s						
NJ2	**Nanjing**	**170.29**	**264**	*e*PKP	**PKPdf**	**20 41 59.4**	**-1.4**
PZH	**PanZhiHua**	**171.30**	**144**	PKP	**PKPdf**	**20 42 02.7**	**+1.0**
PZH				PKPab	**PKPab**	**20 43 22.4**	**+0.8**
PZH				PP	**PP**	**20 47 10.0**	**-1.8**
PZH				SS	SS	21 08 18.8	+1.2
PZH				AMB	AMB		
	comp=Z,250nm,6.9s						
PZH				LR	LR		
	comp=Z,390nm,17.2s						
PZH				LR	LR		
	comp=Z,240nm,17.7s						
PZH				LR	LR		
	comp=Z,600nm,18.4s						
GTA	**Gaotai**	**171.59**	**45**	*e*PKP	**PKPdf**	**20 42 02.7**	**+1.3**
GTA				PKPab	**pPKPab**	**20 43 24.1**	**-0.1**
GTA				SKKS		20 53 58.1	
GTA				LR	LR		
	comp=Z,200nm,22.2s						
GTA				LR	LR		
	comp=Z,510nm,21.8s						
GTA				LR	LR		
	comp=Z,500nm,21.8s						
TIA	**Tai'an**	**171.69**	**290**	PKP	**PKPdf**	**20 42 02.6**	**+1.2**
TIA				SKKS		20 53 59.2	
TIA				LR	LR		
	comp=Z,210nm,15.1s						
TIA				LR	LR		
	comp=Z,510nm,17.8s						
TIA				LR	LR		
	comp=Z,980nm,17.3s						
HHC	**Hu-ho-hao-te**	**172.13**	**337**	*e*PKP	**PKPdf**	**20 41 55.2**	**-6.4**
GYA	**Guiyang**	**172.78**	**174**	PKP	**PKPdf**	**20 42 02.9**	**+0.6**
GYA				PKPab	**pPKPab**	**20 43 29.7**	**-0.2**
GYA				SS	SS	21 08 29.2	-1.6
GYA				LR	LR		
	comp=Z,290nm,18.8s						
GYA				LR	LR		
	comp=Z,280nm,15.9s						
GYA				LR	LR		
	comp=Z,460nm,16.8s						
BTO	**Baotou**	**172.79**	**344**	*e*PKP	**PKPdf**	**20 42 03.6**	**+1.7**
BTO				PP	**PP**	**20 47 19.7**	**+1.1**
BTO				SS	SS	21 08 35.5	+4.3
BTO				LR	LR		
	comp=Z,1μm,13.0s						
BTO				LR	LR		
	comp=Z,800nm,13.9s						
BTO				LR	LR		
	comp=Z,750nm,16.2s						
LZH	**Lanzhou**	**176.16**	**50**	*e*PKP	PKPdf	20 41 54.2	-9.0

IDC 02 20:28:45.3±1.2, 9°.32S×159°.24E, *h*0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=25.3km s-min=14.7km az=177.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.71**	**99**	Pn	Pn	20 29 02.9	+0.3
	578nm,0.3s,baz=257,slow=6.3,SNR=144						
HNR				Sn	Sn	20 29 14.3	+0.1
	2μm,0.3s,baz=279,slow=23,SNR=21						
WRA	**Warramunga Arr**	**26.27**	**244**	P	P	20 34 22.7	+0.2
	0.7nm,0.6s,baz=71,slow=9.7,SNR=4.6						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**28.10**	**236**	P	P	20 34 39.0	-0.1
	0.4nm,0.8s,baz=66,slow=10,SNR=5.3						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**87.92**	**318**	P	P	20 41 36.8	-0.3
	0.3nm,0.6s,baz=102,slow=4.9,SNR=4.0						
	0.3nm,0.6s						

JMA 02 20:33:30.4±0.1, 28°.3N±0°.4×128°.2E±0°.4, *h*21km±3km, MV1.6/4, NW OFF AMAMI-OSHIMA IS, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.83**	**126**	P	Pb	20 33 45.9	-0.3
JTK				S	Sb	20 33 56.8	-0.1
JAMN	**Amaminishikomi**	**0.87**	**93**	*e*P	Pb	20 33 46.5	-0.3
JAMN				S	Sb	20 33 58.2	+0.3
JOKE	**Okinoerabujima**	**0.98**	**160**	*e*P	Pb	20 33 48.4	-0.3
JOKE				S	Sb	20 34 01.1	0.0

*JMA **02** 20:34:25.8±0.5, 21°.N±2°.×12°.2E±°, h0km, MV4.6/16, TAIWAN REGION*
*NEIC **02** 20:34:25.6±1.5, 20°.90N±0°.07×121°.59E±0°.09, h62km±8km, mb4.5/37, Error ellipse: s-maj=12.4km s-min=10.3km az=93.0*
*TAP **02** 20:34:27.1, 21°.08N×121°.46E, h96km, ML4.8, D*
*IDC **02** 20:34:29.0±3.4, 20°.92N×121°.72E, h99km±32km, mb3.9/21, mbtmp4.2/24, MS4.5/6, Error ellipse: s-maj=22.0km s-min=10.4km az=75.0*

ISC 02 20:34:27.5±0.8, 20°.98N±0°.05×121°.50E±0°.03, h85km±7km, n308, σ1§80/480, mb4.4/37, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.02**	**4**	⇓*i*P	**Pn**	**20 34 46.4**	**-0.8**
LYUB				S	**Sn**	**20 35 01.1**	**-0.8**
LAY	**Lan-yu**	**1.06**	**3**	*i*P	**Pn**	**20 34 46.7**	**-1.0**
LAY				S	**Sn**	**20 35 02.1**	**-0.6**
TSEB	**Hengchuen, Pin**	**1.08**	**329**	*i*P	**Pn**	**20 34 47.6**	**-0.2**
TSEB				S	**Sn**	**20 35 03.0**	**0.0**
TWKBT	**Hengchun**	**1.15**	**326**	*i*P	**Pn**	**20 34 48.3**	**-0.5**
TWKBT				*i*S	**Sn**	**20 35 04.4**	**-0.3**
TWK1	**Hengchun**	**1.16**	**326**	*i*P	**Pn**	**20 34 48.2**	**-0.6**
TWK1				*e*S	**Sn**	**20 35 03.5**	**-1.3**
SMST	**Manzhou Townsh**	**1.21**	**329**	*e*P	**Pn**	**20 34 48.8**	**-0.7**
SMST				S	**Sn**	**20 35 05.0**	**-0.8**
HEN	**Hengchun**	**1.25**	**325**	*i*P	**Pn**	**20 34 49.6**	**-0.3**
HEN				*i*S	**Sn**	**20 35 06.7**	**0.0**
SLIU	**Shizi**	**1.40**	**332**	*i*P	**Pn**	**20 34 50.9**	**-0.9**
SLIU				*i*S	**Sn**	**20 35 08.7**	**-1.3**
TAWH	**Dawu Township**	**1.47**	**337**	*i*P	**Pn**	**20 34 51.4**	**-1.3**
TAWH				*i*S	**Sn**	**20 35 10.2**	**-1.6**
TAW	**Tawu**	**1.49**	**338**	*i*P	**Pn**	**20 34 51.5**	**-1.3**
TAW				S	**Sn**	**20 35 09.5**	**-2.5**
EAST	**Anshuo**	**1.53**	**337**	*i*P	**Pn**	**20 34 52.2**	**-1.2**
EAST				*i*S	**Sn**	**20 35 11.2**	**-1.8**
SCZT	**Fangliau**	**1.61**	**330**	*i*P	**Pn**	**20 34 53.8**	**-0.7**
SCZT				*i*S	**Sn**	**20 35 12.9**	**-2.0**
LDUT	**Ludao**	**1.69**	**359**	P	**Pn**	**20 34 54.0**	**-1.5**
LDUT				*i*S	**Sn**	**20 35 14.2**	**-2.5**
ECL	**Taimali**	**1.69**	**343**	*i*P	**Pn**	**20 34 53.7**	**-1.9**
ECL				*i*S	**Sn**	**20 35 13.3**	**-3.5**
WLCH	**Liuqiu**	**1.72**	**323**	*i*P	**Pn**	**20 34 56.2**	**+0.3**
WLCH				*i*S	**Sn**	**20 35 18.5**	**+1.0**
TWP	**Hsiaoliuchiu**	**1.73**	**322**	*i*P	**Pn**	**20 34 57.3**	**+1.3**
TWP				*i*S	**Sn**	**20 35 19.5**	**+1.9**
TTN	**Taitung**	**1.80**	**350**	*i*P	**Pn**	**20 34 56.4**	**-0.6**
TTN				S	**Sn**	**20 35 18.5**	**-0.8**
MASBT	**Mashibuluo**	**1.82**	**334**	*i*P	**Pn**	**20 34 56.4**	**-0.8**
MASBT				S	**Sn**	**20 35 17.7**	**-2.1**
TWGBT	**Beinan**	**1.87**	**348**	P	**Pn**	**20 34 56.2**	**-1.7**
TWGBT	**Beinan**	**1.87**	**348**	P	**Pn**	**20 34 56.1**	**-1.8**
TWGBT	**Beinan**	**1.87**	**348**	S	**Sn**	**20 35 19.2**	**-1.9**
TWGBT	**Beinan**	**1.87**	**348**	*i*P	**Pn**	**20 34 56.3**	**-1.7**
TWGBT				*e*S	**Sn**	**20 35 18.6**	**-2.5**
TWG	**Pinlang**	**1.88**	**348**	Pn	**Pn**	**20 34 55.8**	**-2.2**
TWG				Sn	**Sn**	**20 35 17.6**	**-3.6**
TWG	**Pinlang**	**1.88**	**348**	*i*P	**Pn**	**20 34 56.1**	**-1.9**
TWG				S	**Sn**	**20 35 18.2**	**-3.0**
TSMG	**Majia**	**1.90**	**335**	P	**Pn**	**20 34 57.8**	**-0.4**
TSMG				*i*S	**Sn**	**20 35 19.3**	**-2.3**
TSPT	**Pingtung City**	**1.93**	**331**	P	**Pn**	**20 34 58.6**	**-0.1**
TSPT				S	**Sn**	**20 35 22.8**	**+0.4**
KAU	**Kaohsiung**	**1.93**	**325**	P	**Pn**	**20 34 58.7**	**0.0**
KAU				*e*S	**Sn**	**20 35 22.1**	**-0.3**
LONT	**Longtian**	**1.95**	**350**	*i*P	**Pn**	**20 34 57.6**	**-1.4**
LONT				S	**Sn**	**20 35 19.7**	**-3.2**
SGLT	**Jiouru**	**1.98**	**332**	P	**Pn**	**20 34 59.6**	**+0.3**
SGLT				*i*S	**Sn**	**20 35 23.6**	**+0.2**
EDH	**Donghe**	**2.00**	**355**	*i*P	**Pn**	**20 34 58.2**	**-1.4**
EDH				S	**Sn**	**20 35 22.4**	**-1.5**
WSSB	**Gushan**	**2.02**	**325**	*i*P	**Pn**	**20 34 58.5**	**-1.3**
WSSB				*i*S	**Sn**	**20 35 23.4**	**-1.1**
SNJT	**Kaohsiung City**	**2.07**	**329**	*i*P	**Pn**	**20 35 00.6**	**0.0**
SNJT				*i*S	**Sn**	**20 35 25.5**	**-0.2**
TWM1	**Shoushan**	**2.09**	**332**	*i*P	**Pn**	**20 35 01.1**	**+0.2**
TWM1				S	**Sn**	**20 35 27.8**	**+1.5**
CHKT	**Chengkung**	**2.12**	**357**	*i*P	**Pn**	**20 35 00.2**	**-1.0**
CHKT				*i*S	**Sn**	**20 35 24.9**	**-1.8**
SCST	**Cishan**	**2.12**	**334**	*i*P	**Pn**	**20 35 01.0**	**-0.1**
SCST				*i*S	**Sn**	**20 35 26.3**	**-0.5**
ECS	**Chishang**	**2.13**	**353**	*i*P	**Pn**	**20 35 00.2**	**-1.0**
ECS				*i*S	**Sn**	**20 35 25.1**	**-1.9**
EHD	**Haiduan**	**2.18**	**353**	*i*P	**Pn**	**20 35 00.5**	**-1.5**
EHD				S	**Sn**	**20 35 25.9**	**-2.5**
CHKH	**Chenggong**	**2.21**	**358**	P	**Pn**	**20 35 01.5**	**-0.8**
CHKH				S	**Sn**	**20 35 26.9**	**-2.0**
FULB	**Fuli**	**2.22**	**355**	*i*P	**Pn**	**20 35 02.0**	**-0.6**
FULB				*i*S	**Sn**	**20 35 28.5**	**-0.8**
ELDTW	**Lidau**	**2.25**	**349**	*i*P	**Pn**	**20 35 03.1**	**+0.1**
ELDTW				*e*S	**Sn**	**20 35 27.7**	**-2.4**
SGST	**Jiashian**	**2.26**	**338**	*i*P	**Pn**	**20 35 01.6**	**-1.5**
SGST				*i*S	**Sn**	**20 35 27.7**	**-2.6**
STYT	**Tauyuan**	**2.28**	**343**	⇓*i*P	**Pn**	**20 35 01.8**	**-1.6**
STYT				*i*S	**Sn**	**20 35 28.0**	**-2.8**
STYH	**Taoyuan**	**2.29**	**343**	*i*P	**Pn**	**20 35 03.0**	**-0.3**
STYH				*i*S	**Sn**	**20 35 28.5**	**-2.2**
SHHT	**Tainan City**	**2.30**	**333**	*i*P	**Pn**	**20 35 03.7**	**+0.2**
SHHT				*i*S	**Sn**	**20 35 30.7**	**-0.5**
ECBN	**Changbin**	**2.33**	**359**	P	**Pn**	**20 35 03.1**	**-0.9**
ECBN				S	**Sn**	**20 35 30.0**	**-1.8**
CHN3	**Shinhua**	**2.34**	**333**	*i*P	**Pn**	**20 35 04.2**	**+0.1**
CHN3				*i*S	**Sn**	**20 35 32.1**	**0.0**
TAI	**Tainan**	**2.35**	**329**	*i*P	**Pn**	**20 35 03.6**	**-0.6**
TAI				S	**Sn**	**20 35 30.5**	**-1.7**
EYUL	**Yuli**	**2.37**	**356**	*i*P	**Pn**	**20 35 04.4**	**-0.1**
EYUL				*e*S	**Sn**	**20 35 31.2**	**-1.5**
TAI1	**Yung-k'ang**	**2.37**	**330**	*i*P	**Pn**	**20 35 04.0**	**-0.5**
TAI1				S	**Sn**	**20 35 31.6**	**-1.2**
TWF1	**Yuli**	**2.37**	**355**	*i*P	**Pn**	**20 35 03.9**	**-0.7**
TWF1				S	**Sn**	**20 35 31.7**	**-1.2**
CHN1	**Nanshi**	**2.38**	**338**	⇓*i*P	**Pn**	**20 35 03.9**	**-0.8**
CHN1				*i*S	**Sn**	**20 35 30.8**	**-2.2**
WTP	**Ta-pu**	**2.40**	**340**	*i*P	**Pn**	**20 35 04.2**	**-0.8**
WTP				S	**Sn**	**20 35 31.6**	**-2.2**
YULB	**Yu-li**	**2.41**	**356**	Pn	**Pn**	**20 35 03.5**	**-1.6**
YULB	**Yu-li**	**2.41**	**356**	P	**Pn**	**20 35 05.1**	**0.0**
YULB	**Yu-li**	**2.41**	**356**	S	**Sn**	**20 35 34.8**	**+0.9**
YULB	**Yu-li**	**2.41**	**356**	P	**Pn**	**20 35 05.4**	**+0.3**
YULB	**Yu-li**	**2.41**	**356**	S	**Sn**	**20 35 31.9**	**-2.0**
YULB	**Yu-li**	**2.41**	**356**	*e*P	**Pn**	**20 35 03.5**	**-1.6**
YULB				*e*S	**Sn**	**20 35 31.1**	**-2.8**
SNST	**Tainan City**	**2.42**	**338**	*i*P	**Pn**	**20 35 04.6**	**-0.6**
SNST				*i*S	**Sn**	**20 35 31.9**	**-2.0**
SSHA	**Shanhua**	**2.43**	**333**	*i*P	**Pn**	**20 35 05.1**	**-0.1**
SSHA				S	**Sn**	**20 35 32.7**	**-1.4**
TPUB	**Ta-pu**	**2.45**	**341**		**Pn**	**20 35 04.2**	**-1.4**
TPUB	**Ta-pu**	**2.45**	**341**	P	**Pn**	**20 35 04.8**	**-0.9**
TPUB	**Ta-pu**	**2.45**	**341**	P	**Pn**	**20 35 04.7**	**-0.9**
TPUB	**Ta-pu**	**2.45**	**341**	S	**Sn**	**20 35 33.0**	**-1.8**
TPUB	**Ta-pu**	**2.45**	**341**	*i*P	**Pn**	**20 35 04.7**	**-0.9**
TPUB				S	**Sn**	**20 35 32.3**	**-2.5**
TWK	**Hsinying**	**2.47**	**338**	*i*P	**Pn**	**20 35 04.9**	**-0.9**
TWK				*i*S	**Sn**	**20 35 32.9**	**-2.3**
SCLT	**Jiali**	**2.50**	**331**	*i*P	**Pn**	**20 35 05.6**	**-0.6**
SCLT				*i*S	**Sn**	**20 35 33.8**	**-2.1**
HGSD	**Ruisui**	**2.51**	**358**	*i*P	**Pn**	**20 35 05.2**	**-1.1**
HGSD				S	**Sn**	**20 35 36.0**	**0.0**
CHN4	**Tsaushan**	**2.51**	**341**	*i*P	**Pn**	**20 35 05.5**	**-0.9**
CHN4				*i*S	**Sn**	**20 35 34.1**	**-2.0**
EHYH	**Wanrong**	**2.51**	**357**	*i*P	**Pn**	**20 35 05.4**	**-0.9**
EHYH				S	**Sn**	**20 35 33.5**	**-2.7**
EHY	**Hungye**	**2.52**	**356**	*i*P	**Pn**	**20 35 05.2**	**-1.4**
EHY				S	**Sn**	**20 35 33.8**	**-2.7**
TSCK	**Chigu Township**	**2.53**	**329**	*i*P	**Pn**	**20 35 05.8**	**-0.8**
TSCK				*i*S	**Sn**	**20 35 35.6**	**-2.9**
YUS	**Yu-Shan**	**2.55**	**349**	*e*P	**Pn**	**20 35 05.5**	**-2.1**
YUS				S	**Sn**	**20 35 35.1**	**-2.8**
WCKO	**Fanlu**	**2.59**	**341**	*i*P	**Pn**	**20 35 06.6**	**-0.9**
WCKO				*e*S	**Sn**	**20 35 36.1**	**-1.9**
ALS	**Alishan**	**2.60**	**346**	*i*P	**Pn**	**20 35 07.4**	**-0.5**
ALS				*i*S	**Sn**	**20 35 37.1**	**-1.7**
ICHU	**Yijhu**	**2.63**	**335**	*i*P	**Pn**	**20 35 07.2**	**-0.7**
ICHU				*e*S	**Sn**	**20 35 36.7**	**-2.3**
CHN8	**Yiju**	**2.65**	**333**	*i*P	**Pn**	**20 35 07.2**	**-0.9**
CHN8				*i*S	**Sn**	**20 35 37.3**	**-2.1**
EGFH	**Guangfu**	**2.68**	**359**	*i*P	**Pn**	**20 35 09.2**	**+0.5**
EGFH				*e*S	**Sn**	**20 35 38.5**	**-1.8**
CHY	**Chiayi**	**2.70**	**339**	*i*P	**Pn**	**20 35 08.1**	**-0.8**
CHY				*i*S	**Sn**	**20 35 38.0**	**-2.8**
CHN5	**Tsauling**	**2.72**	**344**	*i*P	**Pn**	**20 35 08.4**	**-0.8**
CHN5				*i*S	**Sn**	**20 35 38.7**	**-2.6**
TEGC	**Jichi Village**	**2.72**	**1**	P	**Pn**	**20 35 09.4**	**+0.2**
TEGC				S	**Sn**	**20 35 39.9**	**-1.3**
WARBT	**Fenglin Townsh**	**2.73**	**358**	*i*P	**Pn**	**20 35 08.4**	**-0.9**
WARBT				S	**Sn**	**20 35 38.3**	**-3.2**
WHYT	**Xinyi Township**	**2.77**	**348**	*i*P	**Pn**	**20 35 09.4**	**-0.6**
WHYT				S	**Sn**	**20 35 40.9**	**-1.6**
VWDT	**VWDT**	**2.79**	**353**	P	**Pn**	**20 35 10.5**	**+0.4**
VWDT				*e*S	**Sn**	**20 35 41.5**	**-1.2**
WSL	**Shuilin Townsh**	**2.80**	**335**	*i*P	**Pn**	**20 35 09.0**	**-1.2**
WSL				S	**Sn**	**20 35 39.9**	**-3.1**
SHUL	**Shoufeng**	**2.80**	**1**	P	**Pn**	**20 35 09.9**	**-0.3**
SHUL				*i*S	**Sn**	**20 35 41.9**	**-1.3**
ESL	**Shilin**	**2.83**	**359**	*e*P	**Pn**	**20 35 10.6**	**-0.1**
ESL				S	**Sn**	**20 35 40.9**	**-2.9**
WGK	**Gukeng**	**2.83**	**342**	*e*P	**Pn**	**20 35 09.8**	**-0.9**
WGK				S	**Sn**	**20 35 41.8**	**-2.2**
WDGT	**Dungji**	**2.84**	**323**	*i*P	**Pn**	**20 35 09.3**	**-1.6**
WDGT				*i*S	**Sn**	**20 35 40.2**	**-3.9**
WDLH	**Douliu**	**2.84**	**342**	*i*P	**Pn**	**20 35 09.9**	**-1.0**
WDLH				*i*S	**Sn**	**20 35 41.3**	**-2.6**
SSLB	**Suanglung**	**2.84**	**350**	Pn	**Pn**	**20 35 10.3**	**-0.6**
SSLB	**Suanglung**	**2.84**	**350**	P	**Pn**	**20 35 10.8**	**-0.1**
SSLB	**Suanglung**	**2.84**	**350**	S	**Sn**	**20 35 43.6**	**-0.7**
SSLB	**Suanglung**	**2.84**	**350**	P	**Pn**	**20 35 10.6**	**-0.3**
SSLB	**Suanglung**	**2.84**	**350**	S	**Sn**	**20 35 43.3**	**-1.0**
SSLB	**Suanglung**	**2.84**	**350**	*i*P	**Pn**	**20 35 10.6**	**-0.3**
SSLB				S	**Sn**	**20 35 42.3**	**-2.0**
WDL	**Douliou City**	**2.87**	**342**	P	**Pn**	**20 35 10.4**	**-0.7**
WDL				S	**Sn**	**20 35 42.5**	**-2.3**
TEYL	**Yanliau Villag**	**2.88**	**2**	*e*P	**Pn**	**20 35 09.6**	**-1.7**
TEYL				*i*S	**Sn**	**20 35 43.1**	**-1.9**
WTK	**Tuku**	**2.89**	**339**	*e*P	**Pn**	**20 35 10.4**	**-1.1**
WTK				*i*S	**Sn**	**20 35 42.8**	**-2.5**
WSF	**Szhu**	**2.90**	**336**	*i*P	**Pn**	**20 35 10.3**	**-1.3**
WSF				*i*S	**Sn**	**20 35 42.0**	**-3.6**
WJS	**Zhushan**	**2.92**	**346**	P	**Pn**	**20 35 11.3**	**-0.6**
WJS				*i*S	**Sn**	**20 35 44.7**	**-1.3**
VCHM	**Qimei**	**2.94**	**320**	*i*P	**Pn**	**20 35 10.6**	**-1.5**
VCHM				*i*S	**Sn**	**20 35 42.4**	**-4.1**
SMLT	**Sun Moon Lake**	**2.95**	**349**	*i*P	**Pn**	**20 35 11.1**	**-1.3**
SMLT				*i*S	**Sn**	**20 35 44.6**	**-2.3**
TYC	**Yuchr**	**2.98**	**349**	*i*P	**Pn**	**20 35 12.2**	**-0.4**
TYC				S	**Sn**	**20 35 46.0**	**-1.4**
ETM	**Tongmen**	**2.98**	**360**	*i*P	**Pn**	**20 35 12.4**	**-0.3**
ETM				S	**Sn**	**20 35 44.8**	**-2.6**
OWD	**Renai**	**2.98**	**354**	*i*P	**Pn**	**20 35 12.9**	**+0.1**
OWD				*i*S	**Sn**	**20 35 45.7**	**-2.0**
WNT	**Mingjian**	**2.99**	**346**	*i*P	**Pn**	**20 35 12.1**	**-0.7**
WNT				*e*S	**Sn**	**20 35 45.0**	**-2.6**
HWA	**Hwalien**	**2.99**	**2**	P	**Pn**	**20 35 12.6**	**-0.2**
HWA				*i*S	**Sn**	**20 35 46.7**	**-1.0**
WNT1	**Nantou City**	**3.01**	**346**	*i*P	**Pn**	**20 35 12.6**	**-0.5**
WNT1				S	**Sn**	**20 35 44.9**	**-3.4**
WUSB	**Renai**	**3.02**	**353**	*i*P	**Pn**	**20 35 13.5**	**+0.1**
WUSB				*i*S	**Sn**	**20 35 47.7**	**-1.0**
LXIB	**Xiulin Townshi**	**3.03**	**358**	*e*P	**Pn**	**20 35 13.3**	**-0.2**
LXIB				S	**Sn**	**20 35 46.9**	**-2.1**
WPL	**Puli Township**	**3.06**	**351**	*i*P	**Pn**	**20 35 11.3**	**-2.5**
WPL				S	**Sn**	**20 35 45.9**	**-3.6**
RLNB	**Erlin**	**3.09**	**340**	*i*P	**Pn**	**20 35 12.8**	**-1.3**
RLNB				S	**Sn**	**20 35 43.9**	**-6.2**
WTCT	**Ta-ch'eng**	**3.09**	**339**	*i*P	**Pn**	**20 35 12.8**	**-1.4**
WTCT				S	**Sn**	**20 35 46.9**	**-3.2**
DPDB	**Guoxing**	**3.09**	**350**	*i*P	**Pn**	**20 35 13.3**	**-0.9**
DPDB				S	**Sn**	**20 35 46.6**	**-3.6**
TWD	**Chiawan**	**3.09**	**2**	*i*P	**Pn**	**20 35 13.5**	**-0.7**
TWD				S	**Sn**	**20 35 48.2**	**-1.9**
WRL	**Guolierlin Hig**	**3.09**	**341**	*i*P	**Pn**	**20 35 12.8**	**-1.4**
WRL				S	**Sn**	**20 35 46.8**	**-3.3**
PHUB	**P'eng-hu**	**3.09**	**325**	*i*P	**Pn**	**20 35 12.4**	**-1.8**
PHUB				*i*S	**Sn**	**20 35 46.1**	**-4.1**
WCS	**Beigang Elemen**	**3.12**	**350**	*i*P	**Pn**	**20 35 14.2**	**-0.3**
WCS				S	**Sn**	**20 35 49.1**	**-1.7**
WWF	**Wufeng**	**3.14**	**346**	P	**Pn**	**20 35 13.8**	**-1.1**
WWF				*e*S	**Sn**	**20 35 47.1**	**-4.3**
PNG	**Penghu**	**3.15**	**325**	*i*P	**Pn**	**20 35 13.3**	**-1.6**
PNG				*e*S	**Sn**	**20 35 47.0**	**-4.5**
WHF	**Hehuan Shan**	**3.16**	**356**	*i*P	**Pn**	**20 35 16.2**	**+0.7**
WHF				*i*S	**Sn**	**20 35 50.9**	**-1.6**
ETL	**Fush Village**	**3.17**	**2**	P	**Pn**	**20 35 13.8**	**-1.5**
ETL				S	**Sn**	**20 35 50.8**	**-1.4**
NACB	**Ninganchiao**	**3.18**	**2**	Pn	**Pn**	**20 35 14.5**	**-1.0**
NACB				Sn	**Sn**	**20 35 49.9**	**-2.6**
NACB	**Ninganchiao**	**3.18**	**2**	P	**Pn**	**20 35 15.1**	**-0.4**
NACB	**Ninganchiao**	**3.18**	**2**	P	**Pn**	**20 35 14.9**	**-0.6**
NACB	**Ninganchiao**	**3.18**	**2**	P	**Pn**	**20 35 14.9**	**-0.6**
NACB	**Ninganchiao**	**3.18**	**2**	S	**Sn**	**20 35 50.9**	**-1.5**
NACB	**Ninganchiao**	**3.18**	**2**	*i*P	**Pn**	**20 35 14.8**	**-0.7**
NACB				*i*S	**Sn**	**20 35 50.1**	**-2.3**
WCH1	**Changhua City**	**3.21**	**344**	*e*P	**Pn**	**20 35 15.0**	**-0.7**
WCH1				*i*S	**Sn**	**20 35 53.8**	**-2.1**
WCHH	**Zhanghua**	**3.21**	**344**	P	**Pn**	**20 35 14.9**	**-0.9**
WCHH				*e*S	**Sn**	**20 35 49.7**	**-3.3**
ETLH	**Xiulin Townshi**	**3.22**	**360**	*i*P	**Pn**	**20 35 15.3**	**-0.6**
ETLH				S	**Sn**	**20 35 51.5**	**-1.9**
EOS4	**EOS4**	**3.22**	**13**	*e*P	**Pn**	**20 35 15.3**	**-0.3**
EOS4				*i*S	**Sn**	**20 35 50.1**	**-2.6**
TCU	**Taichung**	**3.25**	**347**	*i*P	**Pn**	**20 35 15.7**	**-0.6**
TCU				*i*S	**Sn**	**20 35 51.3**	**-2.6**
FUSS	**Fushou**	**3.27**	**356**	P	**Pn**	**20 35 17.2**	**+0.4**
FUSS				S	**Sn**	**20 35 53.2**	**-1.6**
TWT	**Tachien**	**3.28**	**355**	*i*P	**Pn**	**20 35 17.4**	**+0.6**
TWT				S	**Sn**	**20 35 53.3**	**-1.6**
TDCB	**Techi**	**3.28**	**355**	*i*P	**Pn**	**20 35 16.8**	**-0.1**
TDCB				*e*S	**Sn**	**20 35 52.0**	**-2.9**
WHP	**Taichung City**	**3.33**	**351**	*i*P	**Pn**	**20 35 17.3**	**-0.2**
WHP				*i*S	**Sn**	**20 35 54.1**	**-1.8**
EAHA	**Aohua**	**3.34**	**4**	*i*P	**Pn**	**20 35 17.2**	**-0.5**
EAHA				*i*S	**Sn**	**20 35 54.7**	**-1.6**
EOS3	**EOS3**	**3.38**	**13**	*i*P	**Pn**	**20 35 18.1**	**+0.1**
EOS3				*i*S	**Sn**	**20 35 55.2**	**-1.7**
TWQ1	**Liyutan**	**3.42**	**349**	*e*P	**Pn**	**20 35 18.6**	**-0.1**
TWQ1				S	**Sn**	**20 35 56.0**	**-2.2**
NNSB	**Datong**	**3.44**	**358**	*i*P	**Pn**	**20 35 19.8**	**+0.8**
NNSB				S	**Sn**	**20 35 57.7**	**-1.1**
ENA	**Nanau**	**3.44**	**4**	*e*P	**Pn**	**20 35 18.6**	**-0.3**
ENA				*e*S	**Sn**	**20 35 56.8**	**-1.9**
WDJ	**Dajia District**	**3.45**	**347**	*i*P	**Pn**	**20 35 18.6**	**-0.5**
WDJ				*i*S	**Sn**	**20 35 57.1**	**-1.7**
NNS	**Nan Shan**	**3.45**	**358**	*i*P	**Pn**	**20 35 20.4**	**+1.3**
NNS				S	**Sn**	**20 35 57.9**	**-1.2**
EWUT	**Wuta**	**3.46**	**4**	*i*P	**Pn**	**20 35 19.0**	**-0.3**

KNMB	Chin-men Tao	4.51	321	*i* P		Pn	20 35 32.4	-0.9
KNMB				S		Sn	20 36 21.1	-3.5
ZPLA	Ao Xicun	4.55	311	*i* P		Pn	20 35 32.8	-1.1
ZPLA				S		Sn	20 36 22.6	-2.9
PTMZ	Houxiangcun	4.60	332	*i* P		Pn	20 35 33.4	-1.3
PTMZ				*i* S		Sn	20 36 21.8	-5.1
DSXP	Dongshan	4.65	307	*i* P		Pn	20 35 34.4	-0.9
DSXP				*i* S		Sn	20 36 25.1	-3.0
PCYT	Pengchaiyu	4.66	6	*i* P		Pn	20 35 36.3	+0.8
PCYT				*e*S		Sn	20 36 25.7	-2.7
JTJ	Tarama	4.69	38	P		Pn	20 35 34.8	-1.2
JTJ				S		Sn	20 36 26.9	-2.2
AXDP	Jialang	5.08	321	*i* P		Pn	20 35 40.2	-1.0
AXDP				*i* S		Sn	20 36 34.7	-3.9
JIRB	Irabujima	5.12	41	S		Sn	20 36 36.5	-3.0
JMJ	Miyako jima 2	5.18	42	P		Pn	20 35 40.6	-1.9
JMJ	Miyako jima 2	5.18	42	S		Sn	20 36 38.7	-2.3
MATB	Ma-tsu	5.35	345	*i* P		Pn	20 35 42.8	-2.0
MATB				S		Sn	20 36 39.2	-5.9
MHZQ	Yeshan	5.58	337	P		Pn	20 35 46.6	-1.4
MHZQ				S		Sn	20 36 45.5	-5.3
XPSS	Dashiqiu	6.05	349	*i* P		Pn	20 35 52.6	-1.7
XPSS				S		Sn	20 36 56.6	-5.6
SXFK	Yanhouchang	6.45	328	*i* P		Pn	20 35 58.8	-1.2
SXFK				S		Sn	20 37 07.7	-4.5
HKPS	Hong Kong Po S	6.97	282	Pn		Pn	20 36 06.6	-0.4
HKPS	Hong Kong Po S	6.97	282	P		Pn	20 36 07.4	+0.4
HKPS	Hong Kong Po S	6.97	282	S		Sn	20 37 22.4	-2.3
JOW	Kunigami	8.51	45	Pn		Pn	20 36 25.7	-2.3
JOW	Kunigami	8.51	45	P		Pn	20 36 26.1	-1.9
	17nm,0.4s,baz=174,slow=20,SNR=11							
QIZ	Qiongzhong	11.13	262	Pn		Pn	20 37 00.9	-2.8
JNU	Nakatsue	14.69	33	Pn		Pn	20 37 50.7	-0.2
JNU	Nakatsue	14.69	33	P		Pn	20 37 51.4	+0.4
	9.2nm,1.2s,baz=314,slow=4.1,SNR=5.6							
JNU	Nakatsue	14.69	33	P		Pn	20 37 51.8	+0.8
KKM	Kota Kinabalu	15.70	200			Pn	20 38 04.9	+0.9
KSAR	Wonju Array Be	17.32	17			Pn	20 38 23.4	-0.3
KSRS	Korea Array	17.34	17	P		P	20 38 24.8	+0.6
	3.1nm,0.6s,baz=201,slow=11,SNR=21							
KS19	Wonju Array Si	17.37	17	Pn		Pn	20 38 22.8	-1.6
BJT	Baijiatuan	19.52	348	P		P	20 38 47.9	-0.1
BJT				IAmb		IAmb	20 38 49.6	
	comp=Z,19nm,0.6s							
BJT	Baijiatuan	19.52	348	P		Pn	20 38 49.2	-0.9
BJI	Beijing	19.54	348	P		P	20 38 49.1	+0.9
BJI				pP		Pn	20 38 54.3	+4.0
BJI				pmax		pmax		
	comp=Z,13nm,0.7s							
TOLI2	Tolitoli	19.76	182	P		P	20 38 50.3	-0.4
TOLI2				IAmb		IAmb	20 38 54.5	
	comp=Z,21nm,1.1s							
TOLI2	Tolitoli	19.76	182	P		P	20 38 50.8	0.0
INU	Inuyama	19.77	40	P		P	20 38 51.5	+0.8
INU				IAmb		IAmb	20 38 56.6	
	comp=Z,9.6nm,0.6s							
JGF	Kuroka	20.14	40	P		P	20 38 55.8	+1.0
JHJ	Hachijo jima 2	20.25	50	LR		LR	20 45 15.0	
	comp=Z,258nm,21.8s,baz=120,slow=32							
MJAR	Matsushiro Arr	21.28	40	P		P	20 39 08.1	+1.1
	comp=Z,1.5nm,0.7s,baz=230,slow=11,SNR=2.5							
	comp=Z,1.5nm,0.7s							
LUWI	Luwuk	21.92	177	P		P	20 39 14.2	+0.2
SANI	Sanana	23.30	169	P		P	20 39 27.0	-1.1
USRK	Ussuriysk Ar.	24.75	18	P		P	20 39 41.8	+0.9
	comp=Z,1.6nm,0.7s,baz=209,slow=8.8,SNR=4.3							
	comp=Z,1.6nm,0.7s							
JTM	Tenmabayashi	25.82	36	P		P	20 39 50.0	-0.7
FAKI	Fak Fak	25.98	155	P		P	20 39 50.5	-1.9
FAKI				IAmb		IAmb	20 40 13.0	
	comp=Z,30nm,1.3s							
FAKI	Fak Fak	25.98	155	P		P	20 39 53.1	+0.7
ASAJ	Asahikawa	28.97	32	P		P	20 40 18.9	+0.1
	comp=Z,3.3nm,0.5s,baz=224,slow=11,SNR=5.0							
	comp=Z,3.3nm,0.5s							
ULN	Ulaanbaatar	29.25	340	P		P	20 40 22.5	+0.9
KLR	Kul'dur	29.36	14	P		P	20 40 23.1	+0.8
	comp=Z,0.7nm,0.4s,baz=221,slow=11,SNR=3.5							
	comp=Z,0.7nm,0.4s							
SONM	Songino Array	29.44	339	P		P	20 40 23.9	+0.8
SONM	Songino Array	29.44	339	P		P	20 40 23.8	+0.7
	comp=Z,1.1nm,0.4s,baz=160,slow=10,SNR=14							
	comp=Z,1.1nm,0.4s							
MTN	Manton Dam	34.91	163	P		P	20 41 08.9	-2.2
MTN	Manton Dam	34.91	163	P		P	20 41 09.5	-1.7
KNRA	Kununurra	37.12	168	P		P	20 41 28.3	-1.6
FITZ	Fitzroy Crossi	39.04	174	P		P	20 41 45.2	-0.9
	comp=Z,2.0nm,0.6s,baz=351,slow=5.6,SNR=7.9							
	comp=Z,2.0nm,0.6s							
COEN	Coen	40.73	147	P		P	20 41 58.7	-1.4
COEN				IAmb		IAmb	20 42 16.9	
	comp=Z,9.5nm,0.9s							
MK31	Makanchi Array	40.88	318	P		P	20 42 03.6	+2.5
MK31				IAmb		IAmb	20 42 20.1	
	comp=Z,8.3nm,0.8s							
MKAR	Makanchi Array	40.88	318	P		P	20 42 03.6	+2.5
MKAR	Makanchi Array	40.88	318	P		P	20 42 03.2	+2.1
	comp=Z,5.3nm,0.5s,baz=114,slow=8.9,SNR=69							
	comp=Z,5.3nm,0.5s							
MAKZ	Makanchi	41.08	318	P		P	20 42 06.0	+3.2
MAKZ				IAmb		IAmb	20 42 19.2	
	comp=Z,10nm,0.8s							
WB0	Warramunga Arr	42.41	162	P		P	20 42 12.2	-1.7
WB0				IAmb		IAmb	20 42 13.6	
	comp=Z,9.7nm,1.2s							
H11S3	WAKE ISLAND Hy	42.50	85	T		T	21 27 34.8	
	baz=282,slow=75,SNR=11							
H11S1	WAKE ISLAND Hy	42.51	85	T		T	21 27 37.3	
	baz=282,slow=75,SNR=11							
H11S2	WAKE ISLAND Hy	42.52	85	T		T	21 27 37.3	
	baz=282,slow=75,SNR=9.1							
WRA	Warramunga Arr	42.56	162	P		P	20 42 13.2	-1.9
WRA	Warramunga Arr	42.56	162	P		P	20 42 13.9	-1.2
	comp=Z,1.5nm,0.4s,baz=344,slow=8.3,SNR=27							
	comp=Z,1.5nm,0.4s							
ZALV	Zalesovo Beam	43.11	329	P		P	20 42 20.8	+1.7
	comp=Z,9.1nm,0.4s,baz=118,slow=8.8,SNR=27							
	comp=Z,9.1nm,0.4s							
KURBB	Kurchatov Arra	44.77	322	P		P	20 42 34.1	+1.7
	comp=Z,3.3nm,0.6s,baz=116,slow=7.9,SNR=11							
	comp=Z,3.3nm,0.6s							
QIS	Mount Isa	44.91	156	P		P	20 42 33.4	-0.6
AS31	Alice Springs	45.99	164	P		P	20 42 41.7	-0.7
ASAR	Alice Springs	45.99	164	P		P	20 42 41.9	-0.6
ASAR	Alice Springs	45.99	164	P		P	20 42 42.0	-0.4
	comp=Z,1.2nm,0.4s,baz=344,slow=7.3,SNR=32							
	comp=Z,1.2nm,0.4s							
AS01	Alice Springs	46.00	164	P		P	20 42 42.9	+0.4
WRKA	Warakurna	46.21	171	P		P	20 42 43.8	-0.3
BVAR	Borovoye Array	50.36	322	P		P	20 43 17.2	+1.5
	comp=Z,2.4nm,0.6s,baz=98,slow=8.7,SNR=6.5							
	comp=Z,2.4nm,0.6s							
OOD	Oodnadatta	50.39	164	P		P	20 43 16.4	+0.2
BRVK	Borovoye	50.43	322	P		P	20 43 17.9	+1.6
TIXI	Tiksi	50.87	3	P		P	20 43 18.1	-1.1
TIXI				IAmb		IAmb	20 43 18.5	
	comp=Z,3.8nm,1.1s							
LCRK	Leigh Creek	53.59	162	P		P	20 43 40.6	+0.7
BILL	Bilibino	54.60	19	P		P	20 43 46.8	0.0
BILL				IAmb		IAmb	20 43 47.1	
	comp=Z,2.7nm,0.8s							
BBOO	Buckleboo	55.26	165	P		P	20 43 51.1	-0.9
BBOO	Buckleboo	55.26	165	P		P	20 43 49.1	-2.9
ABKAR	Akbulak array	55.91	316	P		P	20 43 57.9	+1.3
STKA	Stephens Creek	55.97	159	P		P	20 43 56.2	-0.8
STKA	Stephens Creek	55.97	159	P		P	20 43 56.4	-0.7
	comp=Z,3.4nm,0.5s,baz=343,slow=7.4,SNR=12							
	comp=Z,3.4nm,0.5s							
STKA	Stephens Creek	55.97	159	P		P	20 43 57.4	+0.3
HTT	Hallett	56.60	163	P		P	20 44 02.7	+1.1
ARTI	Arti	57.94	324	P		P	20 44 11.7	+1.0
C16K	Lisburne Hills	64.46	23	P		P	20 44 55.3	+0.7
C16K				IAmb		IAmb	20 44 56.6	
	comp=Z,3.8nm,1.0s							
L14K	Kuka Creek	65.03	31	P		P	20 44 59.6	+1.3
C18K	Utukok River	66.02	23	P		P	20 45 05.6	+0.8
C18K				IAmb		IAmb	20 45 06.5	
	comp=Z,4.4nm,0.7s							
M16K	Timber Creek	66.83	31	P		P	20 45 10.9	+0.9
M16K				IAmb		IAmb	20 45 11.9	
	comp=Z,8.2nm,1.0s							
TTA	Tatalina	68.14	29	P		P	20 45 19.4	+1.1
TTA				IAmb		IAmb	20 45 20.2	
	comp=Z,2.5nm,0.5s							
TTA	Tatalina	68.14	29	P		P	20 45 19.2	+0.9
G21K	Allakaket	68.98	25	P		P	20 45 24.6	+1.3
G21K				IAmb		IAmb	20 45 25.9	
	comp=Z,4.6nm,1.0s							
CAST	Castle Rocks	69.87	29	P		P	20 45 29.8	+0.8
CAST				IAmb		IAmb	20 45 31.3	
	comp=Z,7.5nm,0.8s							
OHAK	Old Harbor	70.06	35	P		P	20 45 30.4	+0.3
SKT	Skwentna	70.30	30	P		P	20 45 31.4	-0.2
KDAK	Kodiak Island	70.36	35	P		P	20 45 31.9	0.0
KDAK				IAmb		IAmb	20 45 33.0	
	comp=Z,5.9nm,0.9s							
NEA2	Nenana	71.03	27	P		P	20 45 36.8	+0.8
NEA2				IAmb		IAmb	20 45 38.0	
	comp=Z,4.1nm,0.8s							
MCK	McKinley	71.22	28	P		P	20 45 37.4	+0.2
MCK				IAmb		IAmb	20 45 39.4	
	comp=Z,6.6nm,1.0s							
RND	Reindeer	71.31	28	P		P	20 45 37.8	0.0
ILAR	Eielson Array	71.92	27	P		P	20 45 40.5	-0.8
	comp=Z,1.1nm,0.9s,baz=275,slow=4.6,SNR=12							
	comp=Z,1.1nm,0.9s							
ARCES	ARCESS Array B	72.61	338	P		P	20 45 45.7	+0.4
	comp=Z,1.7nm,0.8s,baz=79,slow=5.0,SNR=8.8							
	comp=Z,1.7nm,0.8s							
SPITS	Spitsbergen Ar	72.67	348	P		P	20 45 46.0	+0.4
	comp=Z,5.8nm,0.8s,baz=85,slow=9.3,SNR=10							
	comp=Z,5.8nm,0.8s							
FINES	FINESS Array B	74.36	330	P		P	20 45 56.6	+0.9
	comp=Z,7.0nm,1.1s,baz=67,slow=6.7,SNR=4.7							
	comp=Z,7.0nm,1.1s							
DAWY	Dawson	75.25	27	P		P	20 46 01.4	+0.5
AKASG	Malin Array Be	75.46	319	P		P	20 46 03.3	+1.0
	comp=Z,0.2nm,0.3s,baz=58,slow=6.4,SNR=2.6							
	comp=Z,0.2nm,0.3s							
HFS	Hagfors	80.50	331	P		P	20 46 30.3	+0.3
	comp=Z,2.6nm,1.0s,baz=11,slow=1.5,SNR=4.6							
HFS				LR		LR	21 26 39.3	
	comp=Z,329nm,18.7s,baz=252,slow=39							
	comp=Z,2.6nm,1.0s							
NOA	NORSAR Array B	81.19	332	P		P	20 46 33.9	+0.2
	comp=Z,0.9nm,0.8s,baz=59,slow=5.3,SNR=2.0							
NOA				LR		LR	21 27 47.8	
	comp=Z,173nm,19.5s,baz=240,slow=39							
	comp=Z,0.9nm,0.8s							
JMIC	Jan Mayen	81.99	345	LR		LR	21 27 52.8	
	comp=Z,348nm,18.8s,baz=222,slow=39							
IDI	Anoyia	83.30	305	LR		LR	21 30 55.7	
	comp=Z,378nm,19.7s,baz=265,slow=41							
YKA	Yellowknife Ar	85.80	23	P		P	20 46 56.9	-0.3
	comp=Z,1.6nm,0.6s,baz=308,slow=4.9,SNR=35							
YKA				LR		LR	21 29 24.0	
	comp=Z,543nm,18.3s,baz=124,slow=38							
	comp=Z,1.6nm,0.6s							

DJA ***02*** *20:38:47.8±0.4, 2°N±2°×10°0E±°, h199km±7km, M4.2/19, mB5.0/2, mb4.4/5, MLv4.1/19, Mw(mB)4.3/2*
IDC ***02*** *20:38:49.0±0.9, 1°71N×99°80E, h175km±9km, mb3.5/9, mbtmp4.0/9, Error ellipse: s-maj=68.8km s-min=14.0km az=55.0*
NEIC ***02*** *20:38:49.5±1.3, 1°53N±0°07×99°58E±0°07, h177km±7km, mb4.0/7, Error ellipse: s-maj=11.0km s-min=9.4km az=222.0*
ISC 02 20:38:47.7±0.6, 1°54N±0°06×99°57E±0°06, h166km, n42, σ1°66/46, mb4.0/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.74	180	P	Pn	20 39 15.7	+3.5
RPSI	Rantau Prapat	1.32	330		Pn	20 39 19.6	+2.9
PSI	Prapat	1.41	333	P	Pn	20 39 19.8	+2.1
	14nm,0.3s,baz=339,slow=15,SNR=13						
PSI				S	Sn	20 39 42.0	+1.0
	33nm,0.5s,baz=135,slow=17,SNR=35						
BKNI	Bangkinang	1.90	129	Pn	Pn	20 39 24.6	+1.9
BKNI	Bangkinang	1.90	129	P	Pn	20 39 25.3	+2.6
GSI	Gunungsitoli	2.01	263		Pn	20 39 26.6	+2.7
GSI	Gunungsitoli	2.01	263	P	Pn	20 39 26.9	+3.0
PBSI	Pulau Batu	2.05	219	P	Pn	20 39 26.9	+2.6
PPI	Padang Panjang	2.15	157	P	Pn	20 39 28.8	+3.3
TSI	Tuntungan	2.19	333	P	Pn	20 39 28.8	+2.8
SISI	Saibi	2.89	190	P	Pn	20 39 34.9	+0.5
IPM	Ipoh	3.26	26	Pn	Pn	20 39 42.4	+3.4
SNSI	Sinabang, Aceh	3.36	285	P	Pn	20 39 42.2	+2.0
KULM	Kulim	3.88	16		Pn	20 39 48.4	+1.6
KULM	Kulim	3.88	16	P	Pn	20 39 48.9	+2.1
MLSI	Meulaboh, Aceh	4.17	311	P	Pn	20 39 52.2	+1.7
MYKOM	Kota Tinggi	4.28	87	Pn	Pn	20 39 53.8	+1.8
PPSI	Pulau Pagai	4.30	174	P	Pn	20 39 51.6	-0.7
BSI	Banda Aceh	5.80	313	P	Pn	20 40 12.5	+0.5
	0.6nm1μm25nm,0.6s						
MNAI	Manna	6.77	150	Pn	Pn	20 40 24.7	0.0
MNAI	Manna	6.77	150	P	Pn	20 40 24.5	-0.3
	195nm,1.0s						
SRIT	Nakonsritamara	7.01	0	Pn	Pn	20 40 27.4	-0.6
MDSI	Maura Dua	7.55	142	P	Pn	20 40 35.6	+0.5
KNRA	Kununurra	33.54	122	P	P	20 45 11.1	-0.9
WB0	Warramunga Arr	40.19	124	P	P	20 46 07.2	-1.0
WB0				IAmb	IAmb	20 46 09.8	
	comp=Z,7.9nm,1.3s						
WRA	Warramunga Arr	40.23	124	P	P	20 46 08.8	+0.3
WRA	Warramunga Arr	40.23	124	P	P	20 46 08.1	-0.3
	comp=Z,1.6nm,0.4s,baz=303,slow=9.1,SNR=18						
WRA				PcP	PcP	20 48 08.9	-0.3
	comp=Z,0.6nm,0.8s,baz=309,slow=3.1,SNR=2.0						
	comp=Z,1.6nm,0.4s						
ASAR	Alice Springs	41.73	129	P	P	20 46 19.8	-1.0
	comp=Z,0.2nm,0.4s,baz=301,slow=7.5,SNR=6.5						
ASAR				PcP	PcP	20 48 14.1	-0.1
	comp=Z,0.2nm,0.5s,baz=303,slow=3.4,SNR=2.4						
	comp=Z,0.2nm,0.4s						
AS31	Alice Springs	41.74	129	P	P	20 46 21.0	+0.2
SONM	Songino Array	46.49	6	P	P	20 46 56.8	-1.5
	comp=Z,0.8nm,0.5s,baz=188,slow=8.9,SNR=4.5						
SONM				PcP	PcP	20 48 30.2	+0.2
	comp=Z,0.5nm,0.6s,baz=207,slow=2.3,SNR=1.7						
	comp=Z,0.8nm,0.5s						
MK31	Makanchi Array	47.53	344	P	P	20 47 06.6	+0.4
MK31				IAmb	IAmb	20 47 20.9	
	comp=Z,4.8nm,1.4s						
MKAR	Makanchi Array	47.53	344	P	P	20 47 06.3	+0.1
MKAR	Makanchi Array	47.53	344	P	P	20 47 05.8	-0.4
	comp=Z,0.2nm,0.3s,baz=158,slow=7.9,SNR=7.4						
	comp=Z,0.2nm,0.3s						
ZAA0	Zalesovo Array	53.63	349	P	P	20 47 52.1	+0.4
ZAA0				IAmb	IAmb	20 47 57.8	
	comp=Z,4.9nm,1.4s						
ZALV	Zalesovo Beam	53.63	349	P	P	20 47 52.0	+0.3
ZALV	Zalesovo Beam	53.63	349	P	P	20 47 52.3	+0.6
	comp=Z,0.8nm,0.4s,baz=156,slow=7.3,SNR=4.0						
	comp=Z,0.8nm,0.4s						
BVAR	Borovoye Array	56.74	339	P	P	20 48 12.6	-1.5
	comp=Z,0.2nm,0.4s,baz=151,slow=6.6,SNR=1.1						
	comp=Z,0.2nm,0.4s						
TIXI	Tiksi	72.45	9	P	P	20 49 55.1	-0.4
TIXI				IAmb	IAmb	20 49 55.3	
	comp=Z,2.3nm,1.1s						
ARCES	ARCESS Array B	83.02	340	P	P	20 50 53.7	-0.3
	comp=Z,5.8nm,1.0s,baz=114,slow=4.4,SNR=2.5						
	comp=Z,5.8nm,1.0s						
HFS	Hagfors	86.61	330	P	P	20 51 12.5	+0.3
	comp=Z,2.3nm,0.8s,baz=103,slow=3.3,SNR=4.7						
	comp=Z,2.3nm,0.8s						
SPITS	Spitsbergen Ar	87.10	348	P	P	20 51 13.3	-1.0
	comp=Z,6.9nm,0.9s,baz=190,slow=4.2,SNR=2.2						
	comp=Z,6.9nm,0.9s						
QSPA	South Pole Qui	91.48	180		P	20 51 36.1	+1.1
QSPA				IAmb	IAmb	20 51 59.6	
	comp=Z,3.3nm,1.4s						

IDC ***02*** *20:46:29.2±1.7, 2°77N×128°65E, h235km±17km, mb3.7/23, mbtmp4.3/25, Error ellipse: s-maj=16.2km s-min=8.0km az=82.0*
NEIC ***02*** *20:46:29.1±1.3, 2°81N±0°07×128°59E±0°09, h228km±5km, mb4.5/42, Error ellipse: s-maj=13.6km s-min=9.5km az=72.0*
DJA ***02*** *20:46:31.7±0.3, 3°N±3°×12°8E±°, h201km±3km, M4.3/23, mb4.4/23, mB4.8/9, MLv4.5/13, Mw(mB)4.1/9*
ISC 02 20:46:28.6±0.4, 2°79N±0°04×128°57E±0°05, h228km, n134, σ1°25/136, mb4.3/40, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.34	211	Pn	Pn	20 47 13.6	+1.0
TNTI				Sn	S	20 47 46.8	-0.3
TNTI	Ternate	2.34	211	P	Pn	20 47 13.3	+0.7
SGSI	Sangihe	3.16	286	P	Pn	20 47 22.1	+0.5
SGSI				S	S	20 48 02.3	-0.8
SANI	Sanana	5.46	208	P	Pn	20 47 47.9	-1.6
MSAI	Masohi	6.11	177	P	Pn	20 48 00.1	+2.4
	0.1nm2μm44nm,0.8s						
NLAI	Namlea	6.17	194	P	Pn	20 47 59.5	+1.0
	0.4nm1μm38nm,0.6s						
FAKI	Fak Fak	6.76	147	Pn	Pn	20 48 06.2	+0.2
FAKI	Fak Fak	6.76	147	P	Pn	20 48 12.4	+6.4
LUWI	Luwuk	6.94	237	Pn	Pn	20 48 07.9	-0.3
LUWI	Luwuk	6.94	237	P	Pn	20 48 09.3	+1.1
	2μm101nm,0.8s						
LUWI				S	S	20 49 27.9	+0.1
	2μm101nm,0.8s						
MRSI	Marisa	7.01	251	P	Pn	20 48 10.7	+1.5
APSI	Ampana	7.83	242	P	Pn	20 48 20.4	+0.6
	0.4nm52nm,1.0s						
TOLI2	Tolitoli	7.96	258	Pn	Pn	20 48 21.6	+0.3
KDI	Kendari	8.96	222	P	Pn	20 48 34.9	+0.7
TTSI	Tana Toraja	10.49	237	P	Pn	20 48 56.3	+2.5
	21nm,0.8s						
SPSI	Sidrap Palu	11.06	233	P	Pn	20 49 02.1	+1.1
	19nm,0.7s						
BKSI	Bulukumba	11.67	226	P	Pn	20 49 10.2	+1.6
KAPI	Kappang	11.74	229	Pn	Pn	20 49 11.1	+1.7
KAPI	Kappang	11.74	229	P	Pn	20 49 10.5	+1.0
	2.1nm,0.3s,baz=344,slow=2.0,SNR=4.2						
KAPI				S	S	20 51 16.4	-3.1
	2.0nm,0.3s,baz=44,slow=21,SNR=1.6						
KKM	Kota Kinabalu	12.73	285	Pn	Pn	20 49 21.5	-0.6
GENI	Genyem	12.77	115	P	P	20 49 27.7	+2.6
	76nm,1.1s						
MMRI	Maumere	12.99	209		P	20 49 28.1	+0.6
SOEI	Soe	13.18	199	Pn	Pn	20 49 27.5	-0.1
SOEI	Soe	13.18	199	P	P	20 49 29.9	+0.1
SOEI	Soe	13.18	199	P	P	20 49 29.7	-0.1
	20nm,0.7s						
JAY	Jayapura	13.23	113	P	Pn	20 49 27.0	-1.2
	3.6nm,0.6s,baz=306,slow=5.3,SNR=7.4						
JAY	Jayapura	13.23	113	P	P	20 49 32.4	+2.2
	23nm,0.8s						
WSI	Waingapu	14.87	214	P	P	20 49 50.0	+1.6
	63nm,1.0s						
BASI	Baing, Sumba	15.18	212	P	P	20 49 52.5	+0.7
	82nm,1.0s						
DRS	Darwin Rock St	15.30	171	P	P	20 49 53.8	+0.7
WBSI	Waikabubak, Su	15.37	216	P	Pn	20 49 55.1	+0.9
	839nm36nm,0.7s						
PLAI	Plampang	15.78	223	P	Pn	20 50 00.8	+1.7
PLAI	Plampang	15.78	223	P	Pn	20 50 01.9	+2.8
KDU	Kakadu	15.86	166	P	P	20 49 59.6	+0.3
SBUM	Sibu	16.34	269		P	20 50 05.0	+0.4
SBUM				IAmb	IAmb	20 50 10.0	
	comp=Z,8.1nm,0.8s						
SBUM	Sibu	16.34	269	P	Pn	20 50 08.1	+2.3
SRBI	Singaraja	17.15	231	P	Pn	20 50 18.4	+3.0
	comp=Z,39nm,0.9s						
KMMI	Kalianget	17.55	236	P	Pn	20 50 21.8	+1.8
	comp=Z,52nm,1.0s						
JAGI	Jajag, Banyuwa	18.22	232	P	P	20 50 25.6	+0.6
JAGI				IAmb	IAmb	20 50 28.2	
	comp=Z,18nm,0.9s						
JAGI	Jajag, Banyuwa	18.22	232	P	Pn	20 50 27.9	0.0
KSM	Kuching	18.29	266	P	P	20 50 26.3	+0.4
KSM				IAmb	IAmb	20 50 29.5	
	comp=Z,25nm,1.2s						
KSM	Kuching	18.29	266	P	Pn	20 50 28.7	-0.1
KNRA	Kununurra	18.35	179	P	P	20 50 26.7	+0.2
GMJI	Gumukmas	18.66	234	P	Pn	20 50 34.8	+1.7
	comp=Z,28nm,1.0s						
UGM	Wanagama	20.91	239	P	P	20 50 52.5	-1.5
UGM	Wanagama	20.91	239	P	P	20 50 55.8	+1.9
FITZ	Fitzroy Crossi	20.96	188	P	P	20 50 53.1	-1.3
FITZ	Fitzroy Crossi	20.96	188	P	P	20 50 53.5	-0.8
	comp=Z,2.4nm,0.5s,baz=12,slow=11,SNR=21						
	comp=Z,2.4nm,0.5s						
TPUB	Ta-pu	21.79	340	P	P	20 51 01.7	-0.8
TPUB				IAmb	IAmb	20 51 19.3	
	comp=Z,31nm,1.3s						
TPUB	Ta-pu	21.79	340	P	P	20 51 01.9	-0.6
YHNB	Yeheng	22.83	343	P	P	20 51 11.9	-0.3
YHNB	Yeheng	22.83	343	P	P	20 51 12.9	+0.8
LEM	Lembang	22.99	245	P	P	20 51 15.8	+1.9
	com

USRK Ussuriysk Ar. 41.34 4 P P 20 53 53.3 +1.1
comp=Z,1.8nm,0.6s,baz=171,slow=6.5,SNR=2.9
comp=Z,1.8nm,0.6s
SHL Shillong 41.91 306 P P 20 53 57.1 -0.2
JKA Kamikawa-asahi 42.98 15 P P 20 54 06.0 +0.6
JKA IAmb IAmb 20 54 10.5
comp=Z,37nm,1.4s
KLR Kul'dur 46.35 3 P P 20 54 30.3 -1.5
comp=Z,0.7nm,0.5s,baz=261,slow=3.6,SNR=3.7
comp=Z,0.7nm,0.5s
SONM Songino Array 48.78 340 P P 20 54 51.1 +0.4
SONM Songino Array 48.78 340 P P 20 54 50.4 -0.3
comp=Z,0.8nm,0.7s,baz=147,slow=7.6,SNR=5.5
comp=Z,0.8nm,0.7s
PETK Petropavlovsk- 55.62 21 P P 20 55 40.8 +0.1
PETK Petropavlovsk- 55.62 21 P P 20 55 40.5 -0.2
comp=Z,4.1nm,0.8s,baz=162,slow=3.1,SNR=4.8
comp=Z,4.1nm,0.8s
YAK Yakutsk 59.10 1 P P 20 56 05.2 +0.4
MK31 Makanchi Array 59.37 325 P P 20 56 06.9 -0.1
MKAR Makanchi Array 59.37 325 P P 20 56 07.2 +0.2
MKAR Makanchi Array 59.37 325 P P 20 56 07.6 +0.6
comp=Z,1.0nm,0.4s,baz=115,slow=8.8,SNR=28
comp=Z,1.0nm,0.4s
THZ Tophouse 59.84 143 P P 20 56 10.0 -0.4
THZ IAmb IAmb 20 56 36.3
comp=Z,23nm,1.4s
LBZ Lake Benmore 59.89 147 P P 20 56 11.0 +0.5
LBZ IAmb IAmb 20 56 55.0
comp=Z,23nm,1.3s
KDJ Kajisay 60.26 318 P P 20 56 12.7 -0.7
URZ Urewera 60.61 137 P P 20 56 14.2 -1.2
comp=Z,8.2nm,1.0s,baz=289,slow=4.5,SNR=3.2
comp=Z,8.2nm,1.0s
ZALV Zalesovo Beam 62.26 332 P P 20 56 25.2 -1.0
ZALV Zalesovo Beam 62.26 332 P P 20 56 25.5 -0.7
comp=Z,0.7nm,0.3s,baz=126,slow=6.1,SNR=5.6
comp=Z,0.7nm,0.3s
SEY Seymchan 62.55 12 P P 20 56 29.1 +1.2
comp=Z,1.3nm,0.6s,baz=198,slow=12,SNR=9.6
comp=Z,1.3nm,0.6s
KURK Kurchatov 63.52 327 P P 20 56 34.7 +0.1
KURK IAmb IAmb 20 56 35.5
comp=Z,3.1nm,0.8s
KURBB Kurchatov Arra 63.52 327 P P 20 56 34.9 +0.3
comp=Z,2.9nm,0.5s,baz=126,slow=6.0,SNR=18
comp=Z,2.9nm,0.5s
KKAR Karatay Array 65.17 317 P P 20 56 44.9 -0.5
TIXI Tiksi 68.76 0 P P 20 57 07.0 -0.4
TIXI IAmb IAmb 20 57 08.0
comp=Z,3.8nm,1.0s
BVAR Borovoye Array 69.10 327 P P 20 57 10.0 +0.1
comp=Z,1.3nm,0.5s,baz=118,slow=8.6,SNR=9.9
comp=Z,1.3nm,0.5s
BRVK Borovoye 69.17 327 P P 20 57 10.2 -0.2
ABKAR Akbulak array 74.03 321 P P 20 57 39.1 -0.3
ABKAR Akbulak array 74.03 321 P P 20 57 39.4 0.0
ABKAR IAmb IAmb 20 57 40.5
comp=Z,1.0nm,0.8s
M14K Bethel 77.63 28 P P 20 58 00.3 +0.8
M14K IAmb IAmb 20 58 09.4
comp=Z,16nm,1.3s
J16K Anvik River 78.96 26 P P 20 58 08.2 +1.5
J16K IAmb IAmb 20 58 09.4
comp=Z,5.7nm,1.0s
SII Sitkinak Islan 80.66 33 P P 20 58 17.0 +1.0
TTA Tatalina 80.91 27 P P 20 58 18.3 +1.1
OHAK Old Harbor 81.24 33 P P 20 58 19.9 +0.9
OHAK IAmb IAmb 20 58 58.7
comp=Z,12nm,1.5s
KDAK Kodiak Island 81.70 32 P P 20 58 22.5 +1.1
KDAK IAmb IAmb 20 58 22.9
comp=Z,6.6nm,0.5s
KDAK Kodiak Island 81.70 32 P P 20 58 22.3 +0.9
comp=Z,5.5nm,0.5s,baz=252,slow=1.6,SNR=48
comp=Z,5.5nm,0.5s
CAST Castle Rocks 82.75 26 P P 20 58 27.7 +0.9
SLKM Skilak Lake 83.25 30 P P 20 58 29.6 +0.2
SLKM IAmb IAmb 20 58 31.0
comp=Z,7.2nm,1.0s
PWL Port Wells 84.20 29 P P 20 58 34.8 +0.6
PWL IAmb IAmb 20 58 35.7
comp=Z,8.6nm,0.9s
ILAR Eielson Array 85.16 25 P P 20 58 38.8 -0.1
comp=Z,0.3nm,0.5s,baz=265,slow=6.0,SNR=4.3
comp=Z,0.3nm,0.5s
SPITS Spitsbergen Ar 91.75 349 P P 20 59 08.5 -1.4
comp=Z,3.9nm,0.8s,baz=25,slow=5.1,SNR=1.2
comp=Z,3.9nm,0.8s
ARCES ARCESS Array B 91.95 340 P P 20 59 09.8 -1.1
comp=Z,3.8nm,0.9s,baz=83,slow=4.8,SNR=9.6
comp=Z,3.8nm,0.9s
SYO Syowa Base 92.22 201⇓*e*PcP PcP 20 59 16.6 +3.9
QSPA South Pole Qui 92.70 180 P P 20 59 15.0 +0.5
comp=Z,0.9nm,0.7s,baz=297,slow=4.5,SNR=5.1
comp=Z,0.9nm,0.7s
FINES FINESS Array B 93.52 332 P P 20 59 16.4 -1.9
comp=Z,5.9nm,1.1s,baz=69,slow=5.2,SNR=2.1
comp=Z,5.9nm,1.1s
TXAR Lajitas Array 120.70 53 PKP PKPdf 21 04 53.8 -0.4
comp=Z,0.2nm,0.7s,baz=282,slow=6.0,SNR=2.5

*IDC **02** 20:54:37.2±1.4, 18°.64S×169°.46E, h256km±13km, mb4.1/18, mbtmp4.8/20, Error ellipse: s-maj=13.3km s-min=11.3km az=97.0*
*NOU **02** 20:54:39.3, 18°.60S×169°.27E, h253km, mb4.7/36, Vanuatu Islands*
*NEIC **02** 20:54:39.1±1.5, 18°.65S±0°.09×169°.31E±0°.09, h270km±6km, mb4.6/74, Error ellipse: s-maj=14.2km s-min=12.2km az=148.0*

ISC 02 20:54:36.5±0.3, 18°.65S±0°.05×169°.40E±0°.06, h250km, n452, σ1$08/443, mb4.6/53, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DVP	Devils Point	1.47	308	P	Pn	20 55 16.7	+2.1
DVP	Devils Point	1.47	308	S	S	20 55 46.8	+2.2
MARNC	Mare, Loyalty	3.10	204	P	Pn	20 55 32.7	+2.7
YATNC	Mamie plateau,	4.13	214	P	Pn	20 55 44.5	+2.7
PINNC	Pines Island,	4.35	205		Pn	20 55 46.9	+2.5
DZM	Mont Dzumac	4.40	219		Pn	20 55 47.4	+2.4
DZM	Mont Dzumac	4.40	219	P	Pn	20 55 47.5	+2.5
DZM	54nm,0.5s,baz=122,slow=15,SNR=86			S	S	20 56 41.6	+2.0
	17nm,0.3s,baz=231,slow=9.3,SNR=3.6						
DZM	Mont Dzumac	4.40	219	P	Pn	20 55 47.5	+2.5
OUENC	Ouen Island, N	4.46	212	P	Pn	20 55 48.5	+2.8
ONTNC	Ouen Toro	4.57	217		Pn	20 55 49.3	+2.2
ONTNC	Ouen Toro	4.57	217	P	Pn	20 55 49.8	+2.7
KOUNC	Koumac, New Ca	5.18	248	P	Pn	20 55 57.1	+2.6
YSA	Yasawairara	8.03	77	P	Pn	20 56 34.4	+4.2
MSVF	Nonsavu	8.27	85		Pn	20 56 37.3	+4.0
MSVF	Nonsavu	8.27	85	P	Pn	20 56 36.6	+3.3
	36nm,0.7s,baz=256,slow=12,SNR=36						
MSVF	Nonsavu	8.27	85	P	Pn	20 56 37.7	+4.4
DGTI	Dogotuki	10.13	78	P	P	20 57 00.8	-1.6
NGOA	Tingoa Renbel	11.44	307	P	P	20 57 14.9	-2.1
HNR	Honiara	12.96	314		Pn	20 57 32.3	+0.3
HNR	Honiara	12.96	314	P	P	20 57 33.1	-0.7
	458nm,0.8s,baz=152,slow=4.7,SNR=36						
HNR	Honiara	12.96	314	P	P	20 57 33.7	-0.1
ALEG	Aligegeo Malai	12.96	318	P	P	20 57 33.7	-0.2
TATA	Tatamba Isabel	13.81	316	P	P	20 57 44.0	+0.7
FUNA	Funafuti	13.84	45	P	P	20 57 46.6	+3.0
EIDS	Eidsvold	18.25	245	P	Pn	20 58 33.9	-1.2
EIDS				IAmb	IAmb	20 58 34.8	
	comp=Z,31nm,1.4s						
ARMA	Armidale	19.94	231	P	P	20 58 51.6	+1.6
ARMA				IAmb	IAmb	20 59 35.4	
	comp=Z,26nm,1.4s						
MXZ	Matakaoa Point	20.40	159	P	Pn	20 58 57.5	-2.7
HAZ	Te Kaha	20.40	161	P	Pn	20 58 58.3	-1.9
RUGZ	Raukumara Rang	20.56	161	P	Pn	20 58 59.1	-3.1
PKGZ	Pakihiroa	20.60	160	P	Pn	20 58 59.9	-2.6
WMGZ	Waiomatatini S	20.67	159	P	P	20 58 58.9	+1.4
URZ	Urewera	20.67	163	P	P	20 58 57.9	+0.3
	comp=Z,15nm,0.9s,baz=319,slow=4.4,SNR=16						
URZ				S	S	21 02 26.0	-7.0
	comp=Z,9.1nm,1.1s,baz=180,slow=23,SNR=2.3						
	comp=Z,15nm,0.9s						
URZ	Urewera	20.67	163	P	Pn	20 59 00.7	-2.6
URZ	Urewera	20.67	163	P	Pn	20 59 00.1	-3.2
PUZ	Puketiti	20.84	160	P	Pn	20 59 02.2	-3.2
TWGZ	Tauwhareparae	20.85	161	P	Pn	20 59 01.7	-3.8
MWZ	Matawai	20.86	162	P	Pn	20 59 02.8	-2.7
RTZ	Ruatahuna	20.96	163	P	P	20 59 02.5	+1.8
RTZ				IAmb	IAmb	20 59 30.3	
	comp=Z,25nm,1.0s						
RTZ	Ruatahuna	20.96	163	P	Pn	20 59 03.2	-3.6
MRHZ	Matea Rd	21.02	165	P	P	20 59 04.8	+3.5
MTHZ	Maungataniwha	21.15	164	P	P	20 59 05.2	+2.7
CNGZ	Carnagh Statio	21.20	161	P	P	20 59 05.1	+2.1
SNGZ	Shannon Statio	21.22	163	P	P	20 59 04.0	+0.8
RIGZ	Rimuhau	21.27	162	P	P	20 59 05.2	+1.5
RAHZ	Arahi	21.27	163	P	P	20 59 05.9	+2.2
BKZ	Black Stump Fm	21.35	165	P	P	20 59 06.4	+2.0
BKZ				IAmb	IAmb	20 59 08.3	
	comp=Z,29nm,1.1s						
BKZ	Black Stump Fm	21.35	165	P	P	20 59 06.8	+2.4
BKZ				S	S	21 02 43.4	-1.1
WHHZ	Waihua	21.46	163	P	P	20 59 08.6	+3.1
ARHZ	Aropaoanui	21.57	164	P	P	20 59 08.6	+2.2
KWHZ	Kaweka Forest	21.58	165	P	P	20 59 08.9	+2.3
MCHZ	McNeill Hill	21.67	165	P	P	20 59 09.8	+2.4
KRHZ	Kereru	21.78	165	P	P	20 59 10.3	+1.9
PNHZ	Pukenui	21.99	166	P	P	20 59 06.8	-3.5
KAHZ	Kahuranaki	22.04	165	P	P	20 59 12.4	+1.6
AULRC	Lightning Ridg	22.28	237	P	P	20 59 15.4	+2.3
DVHZ	Dannevirke	22.35	166	P	P	20 59 15.1	+1.5
MRZ	Mangatainoka R	22.57	168	P	P	20 59 16.8	+1.2
OGWZ	Otaki Gorge	22.65	169	P	P	20 59 17.6	+1.3
BFZ	Birch Farm	22.74	166	P	P	20 59 19.0	+1.9
PAWZ	Paruwai Farm	23.24	168	P	P	20 59 20.8	-0.9
MTSU	Mount Surprise	23.81	267	P	P	20 59 28.6	+1.5
QLP	Quilpie	24.51	247	P	P	20 59 35.3	+1.9
CMSA	Cobar Meteorol	24.95	234	P	P	20 59 38.8	+1.5
INKA	Innaminka	27.80	246	P	P	21 00 04.2	+1.5
QIS	Mount Isa	28.12	261	P	P	21 00 06.9	+1.2
STKA	Stephens Creek	28.30	237	P	P	21 00 08.3	+1.2
STKA	Stephens Creek	28.30	237	P	P	21 00 08.4	+1.2
	comp=Z,9.4nm,0.6s,baz=63,slow=9.0,SNR=15						
	comp=Z,9.4nm,0.6s						
STKA	Stephens Creek	28.30	237	P	P	21 00 08.8	+1.7
OOD	Oodnadatta	32.21	247	P	P	21 00 42.8	+1.3
BBOO	Buckleboo	33.03	238	P	P	21 00 48.5	0.0
WB0	Warramunga Arr	33.05	262	P	P	21 00 48.4	-0.6
WB0				IAmb	IAmb	21 00 49.1	
	comp=Z,16nm,0.6s						
WRA	Warramunga Arr	33.09	262	P	P	21 00 47.7	-1.5
WRA	Warramunga Arr	33.09	262	P	P	21 00 48.9	-0.3
	comp=Z,13nm,0.9s,baz=80,slow=6.2,SNR=111						
WRA				PP	PnPn	21 02 12.6	+2.8
	comp=Z,2.3nm,1.0s,baz=92,slow=10.0,SNR=5.6						
WRA				S	S	21 05 42.7	-6.9
	comp=Z,7.8nm,1.1s,baz=91,slow=15,SNR=15						
WRA				ScP	ScP	21 06 46.5	-0.3
	comp=Z,4.1nm,0.9s,baz=86,slow=3.3,SNR=14						
	comp=Z,13nm,0.9s						
AS01	Alice Springs	33.38	255	P	P	21 00 52.0	+0.2
AS31	Alice Springs	33.42	255	P	P	21 00 52.3	+0.2
ASAR	Alice Springs	33.42	255	P	P	21 00 52.4	+0.2
	comp=Z,55nm,0.7s,baz=83,slow=8.8,SNR=724						
ASAR				S	S	21 05 51.2	-3.6
	comp=Z,2.2nm,0.9s,baz=87,slow=15,SNR=8.7						
ASAR				ScP	ScP	21 06 48.0	0.0
	comp=Z,1.4nm,0.8s,baz=100,slow=2.8,SNR=7.9						
	comp=Z,55nm,0.7s						
MTN	Manton Dam	37.23	273	P	P	21 01 24.4	-0.2
MTN				IAmb	IAmb	21 01 25.2	
	comp=Z,20nm,0.7s						
MTN	Manton Dam	37.23	273	P	P	21 01 25.4	+0.9
WRKA	Warakurna	38.57	253	P	P	21 01 37.0	+1.3
KNRA	Kununurra	38.89	268	P	P	21 01 38.3	0.0
KNRA				IAmb	IAmb	21 01 38.9	
	comp=Z,14nm,0.7s						
FAKI	Fak Fak	39.57	289	P	P	21 01 43.9	-0.2
FAKI				IAmb	IAmb	21 01 44.7	
	comp=Z,24nm,0.8s						
FITZ	Fitzroy Crossi	41.46	264	P	P	21 01 60.0	+0.6
FITZ	Fitzroy Crossi	41.46	264	P	P	21 01 60.0	+0.6
	comp=Z,22nm,0.7s,baz=97,slow=6.7,SNR=49						
	comp=Z,22nm,0.7s						
FITZ	Fitzroy Crossi	41.46	264	P	P	21 02 00.2	+0.8
SOEI	Soe	44.53	275	P	P	21 02 23.2	-1.0
PSA00	Pilbara Seismi	46.48	258	P	P	21 02 39.8	+0.7
MORW	Morawa	49.54	247	P	P	21 03 01.8	-0.6
HMH	Humu'ula Sheep	51.30	44	P	P	21 03 16.9	+1.0
STCH	Steam Cracks	51.38	45	P	P	21 03 16.5	+0.2
STCH				IAmb	IAmb	21 03 17.6	
	comp=Z,38nm,0.9s						
JOKA	Jonika Flow	51.50	45	P	P	21 03 17.5	+0.4
TOLI2	Tolitoli	51.65	287	P	P	21 03 17.0	-1.2
KSM	Kuching	61.40	282	P	P	21 04 26.6	-0.2
KSM				IAmb	IAmb	21 04 28.1	
	comp=Z,11nm,0.8s						
MJAR	Matsushiro Arr	62.30	332	P	P	21 04 31.8	-0.6
	comp=Z,5.1nm,1.0s,baz=164,slow=6.1,SNR=13						
MJAR				PP	PP	21 06 54.4	+1.4
	comp=Z,0.6nm,0.3s,baz=178,slow=12,SNR=4.5						
	comp=Z,5.1nm,1.0s						
JSD	Sado	63.52	333	P	P	21 04 40.6	+0.3
JSD				IAmb	IAmb	21 04 42.0	
	comp=Z,12nm,0.7s						
JTM	Tenmabayashi	64.73	337	P	P	21 04 48.2	+0.1
JTM				IAmb	IAmb	21 04 49.3	
	comp=Z,14nm,0.8s						
KSRS	Korea Array	68.11	325	P	P	21 05 10.9	+1.4
	comp=Z,1.3nm,0.9s,baz=127,slow=5.6,SNR=5.1						
YSS	Yuzhno-Sakhali	69.57	341	P	P	21 05 19.2	+0.9
YSS				IAmb	IAmb	21 05 20.9	
	comp=Z,14nm,0.8s						
USRK	Ussuriysk Ar.	71.28	333	P	P	21 05 29.1	+0.4
USRK	Ussuriysk Ar.	71.28	333	P	P	21 05 29.3	+0.6
	comp=Z,5.4nm,0.9s,baz=145,slow=4.3,SNR=8.3						
	comp=Z,5.4nm,0.9s						
QSPA	South Pole Qui	71.41	180	P	P	21 05 29.6	+0.2
QSPA	South Pole Qui	71.41	180	P	P	21 05 29.9	+0.5
	comp=Z,2.9nm,0.8s,baz=306,slow=0.6,SNR=18						
	comp=Z,2.9nm,0.8s						
PEA0B	Petropavlovsk-	72.17	353	P	P	21 05 34.6	+0.8
PETK	Petropavlovsk-	72.17	353	P	P	21 05 34.6	+0.8
PETK	Petropavlovsk-	72.17	353	P	P	21 05 34.8	+1.0
	comp=Z,21nm,0.8s,baz=156,slow=8.1,SNR=17						
	comp=Z,21nm,0.8s						
CN2	Changchun	74.03	328	*e*P	P	21 05 44.4	-0.5
CN2				*e*S	SKiKP	21 14 48.6	+1.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,400nm,18.0s						
CN2				LR	LR		
	comp=E,500nm,18.0s						
CN2				LR	LR		
	comp=Z,400nm,16.1s						
BNX	BinXian	74.53	331	⇓P	P	21 05 47.9	+0.2
BNX				pmax	pmax		
	comp=Z,10.0nm,0.9s						
UNV	Unalaska Valle	75.11	14	P	P	21 05 50.6	-0.2
	baz=204						
BJT	Baijiatuau	76.57	321	P	P	21 05 59.5	+0.2
P08K	Saint George I	77.02	12	P	P	21 06 01.0	-0.4
	baz=200						
SPIA	Saint Paul Isl	77.43	11	P	P	21 06 03.0	-0.7
	baz=200						
CHNA	Chernabura Isl	77.82	18	P	P	21 06 05.5	-0.4
	baz=210						
S12K	Black Hills	77.90	16	P	P	21 06 05.8	-0.7
	baz=206						
HEH	HeiHe	77.95	334	*e*P	P	21 06 07.0	+0.2
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SDPT	Sand Point	78.02	17	P	P	21 06 07.3	+0.3
	baz=209						
CMAR	Chiang Mai Arr	78.40	294	P	P	21 06 11.3	+1.3
	comp=Z,1.4nm,0.9s,baz=131,slow=3.9,SNR=7.8						
	comp=Z,1.4nm,0.9s						
S14K	Fog Glacier	79.09	17	P	P	21 06 11.5	-1.5
	baz=210						
MA2	Magadan	79.41	350	P	P	21 06 13.1	-1.4
MA2				IAmb	IAmb	21 06 15.8	
	comp=Z,11nm,1.0s						
CHGN	Chignik	79.43	18	P	P	21 06 14.1	-0.5
CHGN	Chignik	79.43	18	P	P	21 06 14.6	-0.1
	baz=211						
CHIR	Chirikof Islan	79.86	19	P	P	21 06 16.8	-0.2
	baz=214						
R16K	Pilot Point	80.75	17	P	P	21 06 21.3	-0.4
	baz=212						
SII	Sitkinak Islan	80.92	19	P	P	21 06 22.1	-0.5
	baz=215						
M11K	Mekoryuk	81.19	12	P	P	21 06 24.2	+0.3
	baz=203						
O14K	Tigyukauivet M	81.25	15	P	P	21 06 24.6	+0.3
O14K				IAmb	IAmb	21 06 26.3	
	comp=Z,11nm,0.9s						
O14K	Tigyukauivet M	81.25	15	P	P	21 06 24.9	+0.6
	baz=208						
O15K	Ungalikthiuk R	81.54	15	P	P	21 06 25.9	+0.1
	baz=209						
R18K	Karluk	81.67	19	P	P	21 06 26.5	+0.1
	baz=214						
OHAK	Old Harbor	81.75	19	P	P	21 06 27.3	+0.4
OHAK				IAmb	IAmb	21 06 29.5	
	comp=Z,12nm,0.8s						
OHAK	Old Harbor	81.75	19	P	P	21 06 26.8	-0.1
	baz=216,SNR=6.8						
N14K	Kuskokwak Cree	81.75	14	P	P	21 06 26.9	+0.1
	baz=208						
M13K	Dall Lake	81.81	13	P	P	21 06 27.5	+0.3
	baz=206						
P16K	Nushagak River	81.89	16	P	P	21 06 28.1	+0.5
	baz=211						
Q16K	King Salmon	81.95	17	P	P	21 06 28.4	+0.5
	baz=212						
N15K	Kwethluk River	82.34	15	P	P	21 06 30.3	+0.3
	baz=209						
O16K	Kokwok River B	82.35	16	P	P	21 06 29.4	-0.5
	baz=211						
Q18K	Katmai Hardscr	82.40	18	P	P	21 06 29.9	-0.6
	baz=214,SNR=14						
SEY	Seymchan	82.41	352	P	P	21 06 30.2	0.0
	comp=Z,6.2nm,0.9s,baz=152,slow=6.5,SNR=30						
	comp=Z,6.2nm,0.9s						
M14K	Bethel	82.42	14	P	P	21 06 30.8	+0.5
M14K				IAmb	IAmb	21 06 31.9	
	comp=Z,8.8nm,0.8s						
M14K	Bethel	82.42	14	P	P	21 06 30.8	+0.5
	baz=207						
KDAK	Kodiak Island	82.42	19	P	P	21 06 31.2	+0.8
KDAK				IAmb	IAmb	21 06 32.2	
	comp=Z,18nm,1.0s						
KDAK	Kodiak Island	82.42	19	P	P	21 06 29.8	-0.6
	baz=216						
P17K	Kvichak River	82.45	17	P	P	21 06 30.5	0.0
	baz=212,SNR=6.7						
M15K	Kasigluk River	82.67	14	P	P	21 06 31.5	-0.1
	baz=208						
BELA	Belgrano 2	82.67	175	P	P	21 06 31.1	-0.5
O17K	Koliganek Bris	82.77	16	P	P	21 06 32.0	-0.2
	baz=212						
L14K	Kuka Creek	82.79	13	P	P	21 06 31.7	-0.5
	baz=207						
K13K	Kusilvak Mount	82.92	12	P	P	21 06 32.7	-0.2
	baz=205						
N16K	Nishlik Lake	82.94	15	P	P	21 06 32.9	-0.2
	baz=210						
P18K	Big Mountain,	82.96	17	P	P	21 06 33.1	-0.1
	baz=214,SNR=29						
Q19K	Cape Douglas,	83.03	18	P	P	21 06 33.3	-0.3
	baz=215,SNR=13						
Q20K	Shuyak Island	83.15	19	P	P	21 06 34.0	-0.1
	baz=216,SNR=10						
SYI	Shuyak Island	83.15	19	P	P	21 06 34.8	+0.7
O18K	Koktuh Hills	83.35	17	P	P	21 06 34.5	-0.6
	baz=214,SNR=18						
L15K	Ungalak Mounta	83.35	14	P	P	21 06 34.7	-0.4
	baz=208						
M16K	Timber Creek	83.36	15	P	P	21 06 35.0	-0.2
	baz=210						
N17K	Nushagak Hills	83.39	16	P	P	21 06 35.5	+0.2
	baz=212						
GAMB	Gambell	83.46	8	P	P	21 06 36.5	+0.9
	baz=198						
P19K	Oil Pt	83.75	18	P	P	21 06 37.9	+0.7
	baz=215,SNR=9.7						
L16K	Owhat River	83.84	14	P	P	21 06 37.8	+0.3
	baz=210,SNR=16						
N18K	Kilae Creek	83.86	16	P	P	21 06 37.8	+0.1
	baz=213						
J14K	Nanvaranak Lak	83.88	12	P	P	21 06 38.1	+0.4
	baz=206						
O19K	Port Alsworth	83.88	17	P	P	21 06 38.3	+0.5
	baz=214,SNR=13						
K15K	Wolf Creek Mou	83.89	13	P	P	21 06 38.4	+0.5
	baz=208						
M17K	Holitna River	84.07	15	P	P	21 06 40.1	+1.3
M17K	Holitna River	84.07	15	P	P	21 06 39.1	+0.3
	baz=212						
HOM	Homer	84.23	19	P	P	21 06 40.0	+0.5
	baz=217						
O20K	Slope Mountain	84.28	18	P	P	21 06 39.9	-0.1
	baz=216						
N19K	Bonanza Creek	84.35	17	P	P	21 06 39.8	-0.5
N19K				IAmb	IAmb	21 06 41.2	
	comp=Z,9.1nm,1.1s						
N19K	Bonanza Creek	84.35	17	P	P	21 06 40.6	+0.3
	baz=214						
L17K	Donlin	84.49	15	P	P	21 06 40.7	-0.1
	baz=211						
M18K	Stony River	84.56	16	P	P	21 06 41.3	+0.2
	baz=213						
BRSE	Bradley Lake S	84.57	19	P	P	21 06 41.3	0.0
	baz=218,SNR=6.3						
L18K	Granite Mounta	84.95	15	P	P	21 06 43.6	+0.4
	baz=212						
J16K	Anvik River	84.97	13	P	P	21 06 44.0	+0.8
	baz=208						
K17K	Iditarod	84.99	14	P	P	21 06 43.7	+0.4
	baz=211,SNR=13						
ANM	Nome	85.19	11	P	P	21 06 44.8	+0.5
	baz=204						
SEW	Seward	85.26	19	P	P	21 06 45.1	+0.5
	baz=219						
CAPN	Captain Cook N	85.27	18	P	P	21 06 44.5	-0.2
	baz=217						
M19K	Big River Lodg	85.28	16	P	P	21 06 45.0	+0.2
	baz=214						
N20K	Mount Spurr	85.31	18	P	P	21 06 44.9	-0.2
	baz=216						
SPCR	Spurr Chakacha	85.31	18	P	P	21 06 44.7	-0.3
	baz=216						
KMRM	Mail Ridge	85.38	45	P	P	21 06 47.2	+1.3
L19K	White Mountain	85.39	16	P	P	21 06 44.9	-0.5
	baz=214						
J17K	VABM Dome	85.40	14	P	P	21 06 45.4	+0.1
	baz=210,SNR=9.0						
I17K	Unalakleet	85.48	13	P	P	21 06 46.1	+0.4
	baz=208						
M20K	Styx River	85.60	17	P	P	21 06 46.4	-0.1
	baz=215						
TNA	Tin City	85.70	9	P	P	21 06 47.1	+0.4
	baz=202,SNR=7.9						
TTA	Tatalina	85.72	15	P	P	21 06 47.4	+0.3
TTA	Tatalina	85.72	15	P	P	21 06 47.2	+0.2
	baz=213						
G15K	Niukluk	85.82	11	P	P	21 06 47.9	+0.6
	baz=205						
P23K	Montague Islan	85.83	20	P	P	21 06 47.7	+0.2
	baz=221						
H16K	Elim	85.84	12	P	P	21 06 47.3	-0.1
	baz=207,SNR=6.6						
F14K	Arctic Creek	85.87	10	P	P	21 06 47.8	+0.2
	baz=203,SNR=6.1						
L20K	Farewell, AK	85.89	16	P	P	21 06 48.5	+0.7
	baz=215						
RC01

K20K	Telida	86.57	16	P	P	21 06 50.4	-0.6
	baz=214						
H17K	Granite Mounta	86.57	13	P	P	21 06 50.8	-0.2
	baz=209						
KNK	Knik Glacier	86.59	19	P	P	21 06 51.2	0.0
KNK				IAmb	IAmb	21 07 18.1	
	comp=Z,18nm,1.5s						
KNK	Knik Glacier	86.59	19	P	P	21 06 51.2	0.0
	baz=220						
GLI	Glacier Island	86.60	20	P	P	21 06 50.4	-0.8
	baz=221						
CMB	Columbia Colle	86.65	48	P	P	21 06 52.2	+0.1
CMB				IAmb	IAmb	21 06 53.9	
	comp=Z,8.6nm,0.9s						
PPLA	Purkeypile	86.69	17	P	P	21 06 51.7	-0.1
	baz=216						
J19K	Poorman	86.72	15	P	P	21 06 51.6	-0.1
	baz=213						
YBH	Yreka Blue Hor	86.77	44	P	P	21 06 52.9	+0.3
	comp=Z,7.1nm,0.9s,baz=226,slow=1.8,SNR=18						
	comp=Z,7.1nm,0.9s						
KAIM	Kayak Island	86.78	21	P	P	21 06 51.8	-0.3
	baz=223						
EYAK	Cordova Ski Ar	86.79	20	P	P	21 06 51.9	-0.3
	baz=222						
SONM	Songino Array	86.84	323	P	P	21 06 53.1	+0.2
SONM				IAmb	IAmb	21 06 54.3	
	comp=Z,8.8nm,1.0s						
SONM	Songino Array	86.84	323	P	P	21 06 52.9	0.0
	comp=Z,6.3nm,0.9s,baz=147,slow=6.3,SNR=43						
	comp=Z,6.3nm,0.9s						
SML	Sawmill	86.93	19	P	P	21 06 52.9	+0.1
	baz=220						
GCSA	Galena City Sc	87.06	14	P	P	21 06 53.0	-0.3
	baz=212						
H18K	Honhosa River	87.08	13	P	P	21 06 53.1	-0.4
	baz=210						
M23K	Glacier View	87.10	19	P	P	21 06 53.5	-0.1
	baz=220						
CAST	Castle Rocks	87.14	16	P	P	21 06 52.5	-1.3
CAST	Castle Rocks	87.14	16	P	P	21 06 52.9	-0.9
	baz=216						
J20K	Nowinta River	87.23	15	P	P	21 06 54.6	+0.5
	baz=214						
SCM	Sheep Creek Mo	87.26	19	P	P	21 06 54.2	-0.2
	baz=221						
KLU	Klutina	87.44	20	P	P	21 06 54.9	-0.4
	baz=222						
CHUM	Lake Minchumin	87.45	16	P	P	21 06 54.9	-0.3
	baz=216						
BMRM	Bremner River	87.48	21	P	P	21 06 54.6	-0.9
	baz=223						
WAKR	Walker	87.52	48	P	P	21 06 57.2	+0.7
WAKR				IAmb	IAmb	21 06 58.4	
	comp=Z,7.0nm,1.0s						
KTH	Kantishna Hill	87.56	17	P	P	21 06 54.5	-1.4
KTH				IAmb	IAmb	21 06 57.4	
	comp=Z,7.8nm,1.0s						
F17K	Baldwin Pennin	87.64	11	P	P	21 06 56.3	+0.2
	baz=208						
TRF	Thorofare Moun	87.65	17	P	P	21 06 56.3	-0.1
	baz=218						
I20K	Naaghedeneel	87.66	15	P	P	21 06 56.0	-0.2
	baz=214						
G18K	Tagagawik	87.67	13	P	P	21 06 56.5	+0.2
	baz=210						
M24K	Tolsona, Glenn	87.82	19	P	P	21 06 57.0	-0.1
	baz=222						
H19K	Roundabout Mou	87.82	14	P	P	21 06 56.7	-0.2
	baz=212						
MESA	MESA	87.83	22	P	P	21 06 57.1	-0.3
	baz=226						
N25K	Chitina, Valde	87.95	20	P	P	21 06 57.3	-0.5
	baz=223						
BPAW	Bear Paw Mtn.	87.98	16	P	P	21 06 56.9	-0.8
	baz=217						
F18K	Selawik	88.08	12	P	P	21 06 58.3	+0.2
	baz=209						
E17K	Hotham Inlet	88.10	11	P	P	21 06 58.6	+0.3
	baz=207						
H20K	Anotleneega Mo	88.15	14	P	P	21 06 58.1	-0.4
	baz=214						
G19K	Purcell Mounta	88.21	13	P	P	21 06 59.1	+0.4
G19K				IAmb	IAmb	21 07 01.8	
	comp=Z,9.6nm,0.9s						
G19K	Purcell Mounta	88.21	13	P	P	21 06 59.0	+0.2
	baz=212						
MCK	McKinley	88.25	17	P	P	21 06 59.4	+0.4
	baz=219						
NVAR	Mina Array Bea	88.29	48	P	P	21 07 00.3	+0.1
NVAR	Mina Array Bea	88.29	48	P	P	21 06 59.7	-0.5
	comp=Z,2.5nm,0.8s,baz=228,slow=8.5,SNR=11						
	comp=Z,2.5nm,0.8s						
CRAG	Craig	88.33	29	P	P	21 06 59.2	-0.4
	baz=233						
SIT	Sitka	88.34	27	P	P	21 06 59.7	+0.1
	baz=231						
HARP	HAARP	88.36	19	P	P	21 06 59.2	-0.4
	baz=223						
D17K	Noatak River	88.44	10	P	P	21 07 00.3	+0.5
	baz=206,SNR=5.9						
J05D	Fort Rock, OR	88.46	43	P	P	21 07 01.3	+0.6
H04A	Detroit Lake	88.50	42	P	P	21 07 00.9	+0.3
H04A				IAmb	IAmb	21 07 02.3	
	comp=Z,9.3nm,0.9s						
S31K	Pelican	88.53	26	P	P	21 06 59.8	-0.6
	baz=230						
I21K	Tanana	88.59	15	P	P	21 07 00.4	-0.2
I21K				IAmb	IAmb	21 07 02.5	
	comp=Z,6.6nm,0.9s						
I21K	Tanana	88.59	15	P	P	21 07 00.4	-0.2
	baz=216,SNR=8.4						
C16K	Lisburne Hills	88.61	9	P	P	21 07 00.5	-0.1
	baz=204						
E18K	Tukpahlearik C	88.63	11	P	P	21 07 00.8	+0.1
	baz=208						
F19K	Shaleruckik Mo	88.66	12	P	P	21 07 00.4	-0.4
	baz=211						
PAX	Paxson	88.68	19	P	P	21 07 00.1	-1.1
	baz=222						
U33K	Whale Pass	88.72	28	P	P	21 07 00.1	-1.3
	baz=233						
H21K	Melozitna Rive	88.78	15	P	P	21 07 01.1	-0.4
	baz=216						
RDOG	Red Dog Mine	88.79	10	P	P	21 07 01.0	-0.4
	baz=206,SNR=5.2						
O28M	Mount Upton	88.87	22	P	P	21 07 02.0	-0.4
	baz=227						
NEA2	Nenana	88.88	17	P	P	21 07 01.4	-0.6
	baz=219						
S32K	Killisnoo	88.92	27	P	P	21 07 01.6	-0.7
	baz=232						
V35K	Ketchikan	88.94	29	P	P	21 07 01.5	-0.9
	baz=234						
M26K	Nabesna, AK	89.05	20	P	P	21 07 02.0	-0.9
	baz=224						
WRH	Wood River Hil	89.06	17	P	P	21 07 01.1	-1.6
WRH				IAmb	IAmb	21 07 02.5	
	comp=Z,13nm,1.5s						
C17K	DeLong Mountai	89.13	10	P	P	21 07 02.3	-0.8
	baz=206						
O29M	Mount Kennedy	89.14	23	P	P	21 07 02.3	-1.2
	baz=228						
SLBS	Sierra La Lagu	89.18	65	P	P	21 07 05.7	+1.3
K24K	Donnelly Dome	89.21	18	P	P	21 07 02.5	-1.0
	baz=222						
I23K	Minto, Yukon-K	89.24	16	P	P	21 07 03.1	-0.5
	baz=219						
WRAK	Wrangell Islan	89.25	28	P	P	21 07 02.6	-1.2
	baz=234						
CCB	Clear Creek Bu	89.27	17	P	P	21 07 02.5	-1.3
F20K	Avaraart Lake	89.27	13	P	P	21 07 04.5	+0.8
F20K	Avaraart Lake	89.27	13	P	P	21 07 03.0	-0.7
	baz=213						
E19K	Redstone River	89.31	12	P	P	21 07 02.8	-1.1
	baz=212						
H22K	Ishtalitna Cre	89.31	15	P	P	21 07 03.4	-0.6
	baz=217						
G21K	Allakaket	89.31	14	P	P	21 07 02.8	-1.1
	baz=215						
HDA	Harding Lake	89.33	17	P	P	21 07 02.9	-1.2
	baz=221,SNR=5.2						
YUK8	Steele Glacier	89.37	22	P	P	21 07 03.3	-1.4
	baz=227						
L26K	Log Cabin Wild	89.39	20	P	P	21 07 03.9	-0.5
	baz=224						
M27K	Edge Creek, AK	89.39	21	P	P	21 07 03.5	-1.1
	baz=226						
COLA	College	89.43	17	P	P	21 07 04.3	-0.2
	baz=220						
R32K	Eaglecrest	89.44	26	P	P	21 07 03.9	-0.8
	baz=232						
RIDG	Independent Ri	89.44	19	P	P	21 07 04.6	-0.1
	baz=223						
C18K	Utukok River	89.61	10	P	P	21 07 05.5	+0.2
	baz=208						
IL31		89.62	17	P	P	21 07 04.0	-1.4
ILAR	Eielson Array	89.62	17	P	P	21 07 04.1	-1.3
	comp=Z,2.8nm,0.9s,baz=240,slow=4.6,SNR=25						
	comp=Z,2.8nm,0.9s						
P30M	Million Dollar	89.63	24	P	P	21 07 04.8	-0.9
	baz=230						
YUK6	Outpost Mounta	89.65	23	P	P	21 07 05.2	-0.7
	baz=229						
POKR	Poker Plat Res	89.73	17	P	P	21 07 05.6	-0.3
	baz=220						
SNAA	Sanae	89.76	182	P	P	21 07 06.0	-0.3
SNAA	Sanae	89.76	182	P	P	21 07 05.6	-0.6
	comp=Z,1.1nm,0.6s,baz=203,slow=15,SNR=6.2						
	comp=Z,1.1nm,0.6s						
SHPR	Sheep Range	89.78	51	P	P	21 07 07.0	0.0
YUK4	Talbot Arm	89.81	22	P	P	21 07 05.5	-1.1
	baz=228						
SKAG	Skagway	89.85	25	P	P	21 07 06.3	-0.2
	baz=231						
SCRK	Sand Creek	89.88	19	P	P	21 07 06.3	-0.5
SCRK				IAmb	IAmb	21 07 08.5	
	comp=Z,5.4nm,0.9s						
SCRK	Sand Creek	89.88	19	P	P	21 07 06.5	-0.3
	baz=224,SNR=6.7						
HYT	Haines Junctio	89.89	23	P	P	21 07 06.3	-0.6
	baz=229						
F21K	Alatna River	89.90	14	P	P	21 07 06.6	-0.1
	baz=215						
L27K	Beaver Creek,	89.90	20	P	P	21 07 06.0	-0.8
	baz=226						
BCAR	Beaver Creek A	89.92	20	P	P	21 07 05.7	-1.2
J25K	Salcha River,	89.94	18	P	P	21 07 06.6	-0.4
	baz=222						
D19K	Kuna River	90.03	11	P	P	21 07 07.6	+0.3
D19K	Kuna River	90.03	11	P	P	21 07 07.6	+0.3
	baz=211						
B18K	Kokolik River	90.15	10	P	P	21 07 07.6	-0.2
	baz=207						
H24K	Noodor Dome	90.16	16	P	P	21 07 07.7	-0.3
	baz=220						
W13A	Hualapai Mount	90.18	53	P	P	21 07 09.3	+0.3
W13A				IAmb	IAmb	21 07 11.2	
	comp=Z,6.3nm,0.9s						
E20K	Nigu River	90.20	12	P	P	21 07 08.3	+0.2
	baz=212						
HSIG		90.24	59	P	P	21 07 09.7	+0.6
G23K	Bananza Creek	90.30	15	P	P	21 07 08.4	-0.2
	baz=218						
O30N	Mendenhall	90.38	24	P	P	21 07 08.0	-1.1
	baz=231						
J26L	Joseph Creek	90.39	18	P	P	21 07 08.6	-0.5
	baz=224						
F22K	John River	90.43	14	P	P	21 07 09.5	+0.3
	baz=216						
N30M	Aishikik Lake	90.45	23	P	P	21 07 09.0	-0.4
	baz=230						
D20K	Etivluk River	90.50	12	P	P	21 07 09.6	+0.1
	baz=212						
K27K	Chicken	90.50	19	P	P	21 07 09.4	-0.1
	baz=225						
T35M	Bob Quinn	90.52	28	P	P	21 07 09.5	-0.3
	baz=236						
P32M	Atlin	90.58	25	P	P	21 07 09.2	-0.8
	baz=233						
M29M	Somme Creek	90.61	22	P	P	21 07 09.6	-0.6
	baz=228						
S34M	Telegraph Cree	90.66	27	P	P	21 07 10.4	0.0
	baz=235,SNR=5.3						
COLD	Coldfoot	90.67	15	P	P	21 07 11.0	+0.8
COLD				IAmb	IAmb	21 07 11.7	
	comp=Z,7.5nm,1.0s						
COLD	Coldfoot	90.67	15	P	P	21 07 10.3	+0.1
	baz=218						
WHY	Whitehorse	90.78	24	P	P	21 07 10.7	-0.3
	baz=232						
Q32M	Nakina River	90.79	26	P	P	21 07 10.7	-0.6
	baz=234						
E21K	Kilik River	90.80	13	P	P	21 07 10.5	-0.4
	baz=214						
G24K	Hadweenzic Riv	90.93	16	P	P	21 07 10.8	-0.7
	baz=220						
HAWA	Hanford	90.94	41	P	P	21 07 12.9	+0.9
HAWA				IAmb	IAmb	21 07 14.2	
	comp=Z,12nm,0.9s						
N31M	Braeburn, Yuko	90.95	23	P	P	21 07 10.8	-1.0
	baz=231						
A19K	Wainwright	91.01	10	P	P	21 07 11.4	-0.4
	baz=206						
E22K	Anaktuvuk Pass	91.02	14	P	P	21 07 11.6	-0.3
	baz=216						
H25L	Birch Creek	91.04	17	P	P	21 07 11.6	-0.4
	baz=222						
I26K	Coal Creek Min	91.09	18	P	P	21 07 11.4	-0.8
	baz=224						
L29M	L29M	91.17	21	P	P	21 07 12.3	-0.4
	baz=229						
C21K	Knifeblade Rid	91.23	12	P	P	21 07 13.0	+0.2
	baz=214						
M30M	Minto, Yukon	91.28	22	P	P	21 07 12.3	-0.9
	baz=230,SNR=6.1						
P33M	Teslin, Yukon	91.31	25	P	P	21 07 12.5	-1.0
	baz=233						
G25K	Bearman Lake	91.34	16	P	P	21 07 13.0	-0.3
	baz=222						
DAWY	Dawson	91.39	20	P	P	21 07 13.2	-0.5
	baz=228						
ELK	Elko	91.41	47	P	P	21 07 14.4	-0.1
	comp=Z,1.4nm,0.8s,baz=266,slow=3.8,SNR=6.5						
	comp=Z,1.4nm,0.8s						
D22K	Ayikyak River	91.44	13	P	P	21 07 13.5	-0.3
	baz=216						
DLBC	Dease Lake	91.44	27	P	P	21 07 14.5	+0.4
DLBC				IAmb	IAmb	21 07 16.3	
	comp=Z,13nm,1.1s						
DLBC	Dease Lake	91.44	27	P	P	21 07 14.0	-0.1
	comp=Z,7.9nm,1.0s,baz=230,slow=6.8,SNR=9.5						
	comp=Z,7.9nm,1.0s						
DLBC	Dease Lake	91.44	27	P	P	21 07 13.1	-1.0
	baz=236,SNR=6.1						
F24K	Squaw Lake	91.45	15	P	P	21 07 13.5	-0.5
	baz=220						
E23K	Chandalar	91.46	14	P	P	21 07 13.0	-1.0
	baz=218						
B20K	Meade River	91.50	11	P	P	21 07 14.2	+0.2
	baz=212						
R33M	Jennings River	91.59	26	P	P	21 07 13.8	-1.1
	baz=235,SNR=6.6						
B21K	Ikpikpuk River	91.66	12	P	P	21 07 14.6	-0.1
	baz=214						
E24K	Your Creek	91.74	15	P	P	21 07 14.8	-0.5
	baz=220						
I27K	Kandik River	91.75	18	P	P	21 07 14.4	-1.0
	baz=226						
N32M	Quiet Lake	91.77	24	P	P	21 07 14.5	-1.0
	baz=233						
X16A	Lo Mia Camp, P	91.80	54	P	P	21 07 17.6	+1.1
X16A				IAmb	IAmb	21 07 18.9	
	comp=Z,8.3nm,0.9s						
K29M	Barlow Dome	91.86	21	P	P	21 07 15.1	-0.8
	baz=229						
M31M	Drury Creek, Y	91.92	23	P	P	21 07 15.2	-1.0
	baz=232						
TOLK	Toolik Lake Re	91.93	14	P	P	21 07 16.1	0.0
	baz=219						
D23K	Nanushuk River	91.94	13	P	P	21 07 16.1	0.0
	baz=218						
F25K	Christian Rive	92.08	16	P	P	21 07 16.3	-0.5
	baz=222						
G26K	Porcupine Rive	92.10	17	P	P	21 07 16.6	-0.2
	baz=224						
I28M	Miner Creek	92.15	19	P	P	21 07 17.0	-0.3
	baz=227						
H27K	Steamboat Moun	92.22	18	P	P	21 07 16.9	-0.6
	baz=226						
BMAR	Burnt Mountain	92.23	16	P	P	21 07 17.7	+0.2
FARO	Faro, Yukon	92.32	23	P	P	21 07 16.8	-1.2
	baz=233						
B22K	Teshekpuk Lake	92.48	12	P	P	21 07 18.4	-0.1
	baz=215						
E25K	Arctic Village	92.49	15	P	P	21 07 18.3	-0.4
	baz=222						
D24K	Happy Valley	92.50	14	P	P	21 07 18.3	-0.3
	baz=219						
F26K	Sheenjek River	92.54	16	P	P	21 07 18.3	-0.6
	baz=224						
G27K	Doyon Strip	92.59	17	P	P	21 07 18.9	-0.3
	baz=226						
I29M	Ogilvie Camp,	92.60	19	P	P	21 07 18.0	-1.2
	baz=229						
C23K	Itkillik River	92.64	13	P	P	21 07 19.6	+0.4
C23K				IAmb	IAmb	21 07 21.1	
	comp=Z,5.8nm,0.8s						
C23K	Itkillik River	92.64	13	P	P	21 07 19.4	+0.1
	baz=218						
A22K	Sinclair Lake	92.74	11	P	P	21 07 19.4	-0.3
	baz=214						
C24K	Franklin Bluff	92.97	13	P	P	21 07 20.9	+0.1
	baz=219						
I30M	Mount Dempster	93.13	20	P	P	21 07 21.8	0.0
	baz=230						
H29M	Whitestone	93.15	19	P	P	21 07 21.7	-0.1
	baz=229						
D25K	Kavik River	93.19	14	P	P	21 07 22.4	+0.5
	baz=222						
MMPY	Sheldon Lake,	93.34	23	P	P	21 07 22.5	-0.3
MMPY				IAmb	IAmb	21 07 23.7	
	comp=Z,7.4nm,1.1s						
MMPY	Sheldon Lake,	93.34	23	P	P	21 07 22.1	-0.6
	baz=235,SNR=5.4						
E27K	Coleen River	93.57	16	P	P	21 07 23.9	+0.2
	baz=226						
G29M	Pine Creek	93.71	18	P	P	21 07 24.3	0.0
	baz=229						
EPYK	Eagle Plains	93.76	19	P	P	21 07 24.6	0.0
	baz=230						
TOAD	Toad River Com	93.78	28	P	P	21 07 24.9	+0.1
	baz=240						
TGTN	Hyland Airport	93.89	25	P	P	21 07 25.3	0.0
	baz=237						
C26K	Camden Bay	93.98	14	P	P	21 07 25.8	+0.4
	baz=223,SNR=13						
121A	Cookes Peak, D	94.01	57	P	P	21 07 26.4	-0.3
	baz=250						
C27K	Jago River	94.06	15	P	P	21 07 26.3	+0.5
C27K	Jago River	94.06	15	P	P	21 07 26.9	+1.1
	baz=224						
H31M	Peel River	94.16	20	P	P	21 07 26.4	0.0
	baz=232						
G30M	tAoh Zraii Nji	94.30	19	P	P	21 07 26.8	-0.2
	baz=231						
E28M	Babbage River	94.41	17	P	P	21 07 27.1	-0.3
	baz=228,SNR=7.6						
D27M	Malcolm River	94.47	16	P	P	21 07 27.1	-0.7
	baz=226						
E29M	Blow River	94.72	17	P	P	21 07 27.9	-0.9
	baz=229						
F30M	Barrier River	94.83	18	P	P	21 07 28.9	-0.5
	baz=231						
G31M	Satah River	94.86	19	P	P	21 07 29.0	-0.5
	baz=232,SNR=6.9						
D28M	Stokes Point	95.11	16	P	P	21 07 30.5	-0.1
	baz=229						
Y22D	IRIS PASSCAL I	95.19	56	P	P	21 07 31.4	-0.7
	baz=251						
F31M	Tsiigehtchic	95.34	19	P	P	21 07 31.3	-0.4
	baz=233,SNR=5.5						
INK	Inuvik	95.93	18	P	P	21 07 34.5	+0.2
	baz=233,SNR=5.1						
WRGLY	Wrigley	96.69	25	P	P	21 07 37.5	-0.4
	baz=242						
N23A	Red Feather La	98.06	50	P	P	21 07 43.8	-1.2
	baz=252						
T25A	Trinidad	98.08	54	P	P	21 07 43.5	-1.6
	baz=253						
C36M	Paulatuk	99.39	19	P	Pdif	21 07 49.4	-0.4
	baz=242						
YKA	Yellowknife Ar	100.07	27	P	Pdif	21 07 53.4	+0.4
	comp=Z,2.1nm,0.8s,baz=252,slow=5.0,SNR=24						
A36M	Sachs Harbour	100.31	17	P	Pdif	21 07 53.1	-0.7
	baz=241						
MKAR	Makanchi Array	101.42	316	P	Pdif	21 07 59.3	-0.2
	comp=Z,0.6nm,0.8s,baz=98,slow=6.2,SNR=6.7						
ARCES	ARCESS Array B	124.53	345	PKP	PKPdf	21 13 04.0	-1.3
	comp=Z,2.3nm,0.7s,baz=67,slow=2.3,SNR=10						
AKASG	Malin Array Be	135.10	325	PKP	PKPdf	21 13 25.1	-0.7
	comp=Z,0.9nm,0.7s,baz=49,slow=2.1,SNR=2.9						
RICC	Richard	142.59	334	ePKP	PKPdf	21 13 37.7	-1.9
ZVC	Zvikov	143.38	333	ePKP	PKPbc	21 13 38.3	-0.6
RONA	Rosalia, Austr	143.66	329	*i* PKP	PKPdf	21 13 40.5	-1.2
	comp=Z,8.9nm,1.1s						
CONA	Conrad Observa	143.71	330	*i* PKP	PKPdf	21 13 40.4	-1.4
	comp=Z,5.3nm,1.0s						
KHC	Kasperske Hory	143.88	333	ePKP	PKPbc	21 13 39.9	-0.5
TEKS	Tekeris	143.95	322	*e*P	PKPab	21 13 39.6	-0.6
GEC2	GERESS Array S	144.04	332	PKPdf	PKPbc	21 13 40.7	-0.3
GERES	GERESS Array B	144.04	332	PKPdf	PKPbc	21 13 40.2	-0.7
GERES	GERESS Array B	144.04	332	PKP	PKPab	21 13 39.7	-0.8
	comp=Z,4.9nm,0.9s,baz=38,slow=2.4,SNR=12						
ARSA	Arzberg	144.35	329	*i* PKP	PKPab	21 13 40.3	-1.3
	comp=Z,8.7nm,1.4s						
LIT	Litokhoron	144.41	314	PKPbc	PKPab	21 13 41.0	-1.1
BBLS	Lazi&#263i	144.42	322	*e*P	PKPdf	21 13 42.3	-0.8
SJES	Sjenica	144.43	320	*e*P	PKPdf	21 13 42.6	-0.6
MOA	Molln	144.52	331	*i* PKP	PKPdf	21 13 41.9	-1.2
	comp=Z,26nm,1.1s,SNR=18						
HAPS	Han Pijesak,Bl	144.56	322	*e*P	PKPdf	21 13 42.4	-1.0
RUDO	Rudo	144.59	321	*e*P	PKPab	21 13 41.3	-1.3
BIOA	Bad Ischl, Aus	144.93	331	*i* PKP	PKPbc	21 13 42.4	-1.2
	comp=Z,8.3nm,1.0s						
SOKA	Soboth	144.99	329	*e*PKP	PKPbc	21 13 43.0	-1.0
	comp=Z,12nm,1.1s,SNR=5.8						
A051A	Mrakovica	145.14	325	*e*P	PKPab	21 13 43.8	-0.9
BLY	Banja Luka	145.16	324	*e*P	PKPab	21 13 44.2	-0.5
PDG	Podgorica	145.33	320	*e*P	PKPdf	21 13 43.9	-0.7
OBKA	Obir	145.35	329	*i* PKP	PKPbc	21 13 44.0	-1.0
	comp=Z,8.4nm,1.1s						
OBKA	Obir	145.35	329	*e*P	PKPab	21 13 45.0	-0.5
BRY	Bratogost	145.50	321	*e*P	PKPdf	21 13 44.3	-0.8
KBA	Koelnbreinsper	145.51	331	*i* PKP	PKPdf	21 13 44.4	-0.6
	comp=Z,5.3nm,1.0s,SNR=4.7						
LESA	Schwarzleotal	145.56	332	*i* PKP	PKPbc	21 13 44.6	-1.0
	comp=Z,11nm,1.0s						
A050A	Klekovaca	145.69	325	*e*P	PKPbc	21 13 45.0	-1.1
MYKA	Terra Mystica	145.70	330	*i* PKP	PKPdf	21 13 44.0	-1.2
	comp=Z,2.8nm,0.8s						
HCY	Herceg Novi	145.79	320	*e*P	PKPdf	21 13 43.9	-1.5
WATA	Walderalm	146.12	333	*i* PKP	PKPdf	21 13 45.1	-0.9
	comp=Z,5.0nm,1.0s						
ABTA	Abfaltersbach	146.14	331	*i* PKP	PKPbc	21 13 46.3	-1.1
	comp=Z,12nm,0.9s						
WTTA	Wattenberg	146.14	332	*e*PKP	PKPdf	21 13 45.8	-0.2
	comp=Z,7.0nm,0.9s,SNR=5.2						
SABO	M.te Sabotino	146.19	329	PKPbc	PKPbc	21 13 46.8	-0.7
WLF	Walferdange	146.25	340	PKPbc	PKPab	21 13 47.5	-1.2
MOTA	Moosalm	146.31	333	*i* PKP	PKPdf	21 13 45.6	-0.7
	comp=Z,9.8nm,0.9s						
RETA	Reutte	146.35	334	*i* PKP	PKPbc	21 13 46.3	-1.6
	comp=Z,9.1nm,1.3s						
SQTA	Sankt Quirin	146.36	333	*e*PKP	PKPbc	21 13 47.6	-0.5
	comp=Z,10.0nm,0.8s,SNR=7.5						
BFO	Black Forest	146.64	337	PKPbc	PKPbc	21 13 47.8	-0.9
BFO				PKPab	PKiKP	21 13 51.0	-0.2
FETA	Feichten	146.72	333	*e*PKP	PKPbc	21 13 47.8	-1.3
	comp=Z,6.0nm,0.6s,SNR=8.3						
FUORN	Ofenpass-Fuorn	147.24	333	PKPbc	PKPbc	21 13 50.6	-0.1
TUE	Stuetta	147.74	334	PKPbc	PKPbc	21 13

ILCN	**San Idelfonso**	**1.18**	**71**	P	Sn	21 11 42.4	+0.6
ILCN	**San Idelfonso**	**1.18**	**71**	P	Pn	21 11 25.0	-1.3
ILCN				S	Sb	21 11 40.7	-0.8
COPN	**Copaltepe**	**1.23**	**90**	P	Pn	21 11 26.6	-0.3
COPN	**Copaltepe**	**1.23**	**90**	P	Pn	21 11 26.6	-0.2
PACA	**Pacayal**	**1.35**	**340**	P	Sn	21 11 46.8	+0.6
PACA	**Pacayal**	**1.35**	**340**	P	Pn	21 11 28.5	-0.2
SAPS	**Ciudad Sandino**	**1.41**	**91**	P	Sn	21 11 48.5	+1.2
SAPS	**Ciudad Sandino**	**1.41**	**91**	P	Pb	21 11 30.3	-0.2
PQSS	**Presa 15 de Se**	**1.59**	**334**	P	Pb	21 11 34.0	+0.5
PQSS	**Presa 15 de Se**	**1.59**	**334**	P	Pn	21 11 31.5	-0.3
RCPN	**Sur Rio San Ju**	**2.16**	**52**	P	Pb	21 11 41.9	-1.6
RCPN	**Sur Rio San Ju**	**2.16**	**52**	P	Pn	21 11 40.6	+0.8
MTO3	**Montecristo**	**2.65**	**326**	P	Pb	21 11 58.2	+6.5
SOCE	**Pocosol**	**3.64**	**119**	P	Pn	21 11 59.3	-0.8
SOCE	**Pocosol**	**3.64**	**119**	P	Pn	21 12 00.1	0.0
SOCE	**Pocosol**	**3.64**	**119**	P	Pn	21 11 59.6	-0.5

*NEIC **02** 21:20:35.3±0.2, 21°.85S±0°.08×16°.05E±0°.07, h10km±2km, ML3.5/4, Error ellipse: s-maj=16.1km s-min=5.9km az=215.0*
*PRE **02** 21:20:40.3±0.7, 22°.19S×18°.07E, h5km, ML3.0*
ISC 02 21:20:33.9±1.4,**22°.10S**±0°.06×**15°.77E**±0°.08,**h10km**,**n12**, σ2°58/18,**Namibia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIN	**Windhoek**	**1.31**	**111**		**Pn**	**21 20 58.3**	**-0.2**
WIN				Sg	**Sb**	**21 21 14.0**	**-1.9**
WIN				IAML		21 21 18.0	
	comp=E,566nm,0.4s						
WIN	**Windhoek**	**1.31**	**111**	*e*P	**Pg**	**21 20 59.1**	**-0.1**
WIN				*e*S	**Sb**	**21 21 12.8**	**-3.1**
WIN				IAML		21 21 19.0	
	comp=Z,188nm,0.3s						
TSUM	**Tsumeb**	**3.35**	**31**		**Pn**	**21 21 22.9**	**-3.6**
TSUM				IAML		21 22 16.6	
	comp=Z,238nm,0.6s						
TSUM	**Tsumeb**	**3.35**	**31**	*e*P	**Pn**	**21 21 28.9**	**+2.4**
TSUM				*e*S	**Sn**	**21 22 05.8**	**-0.7**
TSUM				IAML		21 22 17.9	
	comp=Z,198nm,0.5s						
KOOLE	**Kule**	**4.19**	**103**	*i* P	**Pn**	**21 21 38.7**	**+0.7**
KOOLE				*i* S	**Sb**	**21 22 39.0**	**+0.5**
KOOLE				IAML		21 22 43.3	
	comp=N,173nm,0.5s						
AUSN	**Aus**	**4.57**	**174**	*e*P	**Pb**	**21 21 53.6**	**-0.7**
AUSN				*e*S	**Sb**	**21 22 47.7**	**-1.8**
GRTLG	**Ghanzi**	**5.12**	**83**	*i* P	**Pn**	**21 21 48.5**	**-2.3**
GRTLG				IAML		21 23 16.3	
	comp=N,122nm,0.7s						
QNGWA	**Qangwa**	**5.67**	**64**	*i* P	**Pn**	**21 21 54.9**	**-3.4**
QNGWA				*i* S	**Sn**	**21 23 09.7**	**+6.1**
QNGWA				IAML		21 23 26.6	
	comp=E,48nm,0.6s						
KGCAE	**Kacgae**	**6.00**	**98**	*i* P	Pn	21 21 56.5	-6.4
KGCAE				*i* S	**Sn**	**21 23 11.9**	**+0.1**
KGCAE				IAML		21 23 38.7	
	comp=E,132nm,0.9s						
LBTB	**Lobatse**	**9.47**	**110**	Pn	**Pn**	**21 22 49.8**	**-0.8**
BOSA	**Boshof**	**10.75**	**129**	Pn	**Pn**	**21 23 08.1**	**0.0**
SUR	**Sutherland**	**11.17**	**157**	Pn	**Pn**	**21 23 16.9**	**+2.9**

*IDC **02** 21:31:51.9±1.2, 30°.79N×141°.78E, h0km, mb3.7/7, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=45.4km s-min=19.7km az=74.0*
ISC 02 21:31:55.6±1.2,**30°.8N**±0°.1×**141°.8E**±0°.3,**h24km**,**n10**, σ0°57/9,**mb3.7**/7,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.86**	**324**	Sn	**Sn**	**21 33 13.4**	**+0.1**
	15nm,0.3s,baz=257,slow=19,SNR=2.1						
JCJ	**Chichijima**	**3.71**	**174**	Pn	Pn	21 32 43.8	-7.7
	5.7nm,0.3s,baz=75,slow=20,SNR=5.5						
JCJ				Sn	Sn	21 33 25.1	-9.3
	12nm,0.3s,baz=286,slow=23,SNR=5.8						
MJAR	**Matsushiro Arr**	**6.44**	**334**	Pn	**Pn**	**21 33 28.6**	**-0.4**
	0.3nm,0.3s,baz=160,slow=12,SNR=30						
	2.0nm,0.3s						
SONM	**Songino Array**	**31.87**	**312**	P	**P**	**21 38 19.6**	**+0.8**
	1.0nm,1.1s,baz=130,slow=8.3,SNR=3.8						
	1.0nm,1.1s						
ZALV	**Zalesovo Beam**	**46.49**	**317**	P	**P**	**21 40 20.9**	**+0.2**
	0.3nm,0.3s,baz=88,slow=10,SNR=2.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.89**	**307**	P	**P**	**21 40 31.8**	**0.0**
	0.5nm,0.7s,baz=90,slow=9.1,SNR=9.2						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**50.24**	**312**	P	**P**	**21 40 48.5**	**-1.0**
	0.9nm,0.2s,baz=82,slow=6.7,SNR=4.6						
	0.9nm,0.2s						
WRA	**Warramunga Arr**	**50.96**	**189**	P	**P**	**21 40 55.1**	**-0.2**
	0.6nm,0.4s,baz=5.3,slow=7.5,SNR=14						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**54.68**	**189**	P	**P**	**21 41 22.8**	**0.0**
	0.3nm,0.4s,baz=2.1,slow=5.8,SNR=8.9						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**69.07**	**29**	P	**P**	**21 42 59.3**	**+0.2**
	0.3nm,1.0s,baz=292,slow=6.8,SNR=3.6						
	0.3nm,1.0s						

*SJA **02** 21:37:16.5±0.7, 35°.96S×72°.35W, h52km±9km, ML3.4, MW3.5*
*GUC **02** 21:37:17.9±0.8, 36°.07S×72°.19W, h60km±5km, ML3.7*
ISC 02 21:37:15.7±1.2,**36°.06S**±0°.03×**72°.21W**±0°.04,**h15km**±11km, **n32**, σ1°73/50,**2C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**0.71**	**65**	⇓*i*P	**Pn**	**21 37 32.2**	**+1.0**
ML02				*i* S	**Sn**	**21 37 42.3**	**+0.4**
ML02				IAML		21 37 43.8	
	comp=N,8μm,0.2s						
ML02	**Panimavida**	**0.71**	**65**	*e*P	**Pn**	**21 37 32.2**	**+1.0**
ML02				*e*S	**Pn**	**21 37 32.3**	**+1.0**
ML02				IAML		21 37 43.9	
	comp=Z,5μm,0.1s						
BI02	**San Fabin de**	**0.96**	**129**	⇑*i*P	**Pn**	**21 37 35.1**	**+0.2**
BI02				*i* S	**Sg**	**21 37 46.1**	**-1.0**
BI02				IAML		21 37 48.4	
	comp=N,5μm,0.2s						
BI05	**Punta Hualpn**	**1.05**	**229**	*e*P	**Pg**	**21 37 36.1**	**+0.1**
BI05				*e*S	**Sg**	**21 37 50.2**	**+0.5**
BI05				IAML		21 37 58.0	
	comp=N,2μm,0.2s						
BI05	**Punta Hualpn**	**1.05**	**229**	*e*P	**Pb**	**21 37 35.8**	**+0.1**
BI05				IAML		21 37 51.8	
	comp=Z,1μm,0.1s						
GO05	**Hualane**	**1.07**	**12**	⇑*i*P	**Pn**	**21 37 37.3**	**+1.0**
GO05				*i* S	**Sn**	**21 37 50.8**	**-0.2**
GO05				IAML		21 37 54.3	
	comp=E,3μm,0.5s						
BO03	**Pichilemu**	**1.57**	**7**	*e*P	**Pn**	**21 37 43.4**	**+0.2**
BO02	**Sierra Bellavi**	**1.72**	**43**	*i* P	**Pn**	**21 37 45.8**	**+0.5**
BO02				*e*S	**Sn**	**21 38 05.7**	**-1.3**
BO02				IAML		21 38 08.6	
	comp=N,2μm,0.2s						
BO02	**Sierra Bellavi**	**1.72**	**43**	*e*P	**Pn**	**21 37 45.8**	**+0.5**
BO02				*e*S	**Sn**	**21 38 07.3**	**+0.3**
BO02				IAML		21 38 09.3	
	comp=Z,1μm,0.1s						
BO01	**Tunca**	**1.90**	**29**	*e*P	**Pn**	**21 37 47.8**	**+0.1**
BO01				*e*S	Sn	21 37 57.2	-14
BO01				IAML		21 38 05.7	
	comp=Z,256nm,0.5s						
CANA	**Caviahue**	**2.04**	**154**	*e*P	**Pb**	**21 37 52.2**	**-0.5**
EDS3	**Malargue**	**2.30**	**84**	*e*P	**Pb**	**21 37 55.8**	**-1.3**
MT01	**Popeta**	**2.33**	**20**	*e*P	**Pn**	**21 37 53.8**	**+0.2**
MT01	**Popeta**	**2.33**	**20**	*e*P	**Pn**	**21 37 53.8**	**+0.2**
MT01				*e*S	**Sg**	**21 38 28.4**	**-2.1**
MT01				IAML		21 38 40.0	
	comp=Z,199nm,0.5s						
LMEL	**Las Melosas**	**2.75**	**37**	*e*P	**Pn**	**21 38 00.6**	**+1.1**
LMEL				*e*S	**Sn**	**21 38 27.1**	**-5.6**
MT13	**San Alfonso**	**2.80**	**35**	*e*P	**Pn**	**21 38 01.6**	**+1.5**
MT13				IAML		21 38 50.8	
	comp=Z,108nm,0.7s						
LC01	**Cunco**	**2.84**	**175**	*e*P	**Pn**	**21 38 00.7**	**0.0**
MT03	**Universidad Ad**	**2.92**	**29**	*e*P	**Pn**	**21 38 02.9**	**+1.1**
MT03				*e*S	**Sg**	**21 38 46.5**	**-3.0**
MT03				IAML		21 38 56.5	
	comp=Z,165nm,0.4s						
MT05	**Renca**	**2.92**	**25**	*e*P	**Pn**	**21 38 02.7**	**+0.8**
MT05				*e*S	**Sg**	**21 38 54.8**	**+5.1**
MT05				IAML		21 38 56.5	
	comp=Z,126nm,0.6s						
MT02	**Curacav**	**2.93**	**18**	*e*P	**Pn**	**21 38 01.6**	**-0.3**
MT02				*e*S	**Sn**	**21 38 35.8**	**-1.1**
MT02				IAML		21 38 54.1	
	comp=Z,78nm,0.8s						
VA01	**Torpederas**	**3.07**	**9**	*e*P	**Pn**	**21 38 03.0**	**-0.7**
VA01				*e*S	**Sn**	**21 38 38.4**	**-1.7**
VA01				IAML		21 38 39.2	
	comp=Z,42nm,0.3s						
MT04	**Ro Olivares**	**3.15**	**33**	*e*P	**Pn**	**21 38 06.7**	**+1.6**
MT04				*e*S	**Sn**	**21 38 43.8**	**+1.3**
MT04				IAML		21 39 11.2	
	comp=Z,72nm,0.6s						
PEL	**Peldehue**	**3.17**	**24**	*e*P	**Pn**	**21 38 05.8**	**+0.7**
PEL				*e*S	**Sn**	**21 38 45.5**	**+2.8**
MT08	**Bocatoma Ro**	**3.17**	**35**	*e*P	**Pn**	**21 38 02.7**	**-2.7**
MT08				*e*P		21 38 06.4	
MT08				*e*S	**Sb**	**21 38 51.9**	**+1.3**
MT08				IAML		21 39 02.8	
	comp=Z,44nm,0.3s						
ROC1	**El Roble**	**3.23**	**18**	*e*P	**Pn**	**21 38 06.3**	**+0.1**
ROC1				*e*S	**Sn**	**21 38 44.8**	**+0.2**
RFA	**San Rafael**	**3.31**	**68**	*e*P	**Pn**	**21 38 08.9**	**+1.7**
RFA				*e*S	Sn	21 38 31.7	-15
RFA				IAML		21 38 32.6	
	comp=Z,38nm,0.5s						
VA03	**San Esteban**	**3.56**	**23**	*e*P	**Pn**	**21 38 10.9**	**+0.3**
VA03	**San Esteban**	**3.56**	**23**	*e*P	**Pn**	**21 38 10.7**	**+0.1**
VA03				*e*S	**Sn**	**21 38 53.2**	**+0.7**
VA03				IAML		21 39 20.1	
	comp=Z,96nm,0.8s						
ASAL	**Salagasta**	**4.45**	**40**	*e*P	**Pn**	**21 38 26.2**	**+3.4**
PLCA	**Paso Flores**	**4.84**	**165**	*e*P	Pn	21 38 20.4	-7.8
PLCA				IAML		21 39 28.4	
	comp=Z,9.1nm,2.5s						
RTLS	**Leoncito**	**4.89**	**30**	*e*P	**Pn**	**21 38 30.8**	**+1.8**
RTLS				IAML		21 40 00.5	
	comp=Z,53nm,0.7s						
CO03	**El Pedregal**	**5.36**	**14**	*e*P	**Pn**	**21 38 35.1**	**-0.2**
CO03				*e*S	**Sn**	**21 39 34.1**	**-2.8**
CO03				IAML		21 39 38.1	
	comp=Z,19nm,0.7s						

DJA 02 21:47:49.9±0.8,**10°S**±9°×**11°9E**±°,**h13km**±5km,**M3.5**/6, **mb3.9**/3,**mB5.5**/1,**MLv3.3**/6,**Mw(mB)5.0**/1,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.22**	**64**	P	Pb	21 47 55.9	+0.1
WBSI				S	Sb	21 47 59.9	+0.1
WSI	**Waingapu**	**1.09**	**86**	P	Pb	21 48 10.1	-0.6
WSI				S	Sg	21 48 25.3	0.0
PLAI	**Plampang**	**1.66**	**303**	P	Pn	21 48 19.0	+0.2
PLAI				S	Sn	21 48 40.2	+0.2
GMJI	**Gumukmas**	**5.86**	**284**	P	Pn	21 49 17.1	+0.6
	0.1nm12nm,2.0s						

*SOME **02** 21:55:31.9, 41°.40N×73°.32E, h5km*
*KRNET **02** 21:55:33.9±0.1, 41°.46N×73°.34E, h19km, mb3.4*
*KNET **02** 21:55:36.8±0.8, 41°.61N×73°.46E, h9km, 6km, ml3.1, Error ellipse: s-maj=4.9km s-min=4.2km az=23.0*
ISC 02 21:55:33.4±1.0,**41°.45N**±0°.02×**73°.29E**±0°.02,**h14km**±10km, **n34**, σ0°84/57,**29C-15D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.27**	**241**	⇑*e*P	**Pb**	**21 55 40.0**	**0.0**
ARSB				⇑*e*S	**Sb**	**21 55 44.6**	**+0.1**
SALK	**Salom-Alik**	**0.69**	**145**	⇓*e*P	**Pg**	**21 55 46.9**	**0.0**
SALK				⇓*e*S	**Sg**	**21 55 56.3**	**+0.2**
AML	**Almayashu**	**0.74**	**24**	⇑P	**Pg**	**21 55 47.9**	**0.0**
	79nm,0.1s,SNR=72						
AML				⇓S	**Sg**	**21 55 57.0**	**-0.8**
	219nm,0.2s						
AML	**Almayashu**	**0.74**	**24**	⇑*e*P	**Pg**	**21 55 47.7**	**-0.2**
AML				⇑*e*S	**Sg**	**21 55 57.8**	**+0.1**
ARLS	**Aral**	**0.87**	**62**	⇑*e*P	**Pb**	**21 55 49.7**	**-0.7**
ARLS				⇑*e*S	**Sb**	**21 56 01.1**	**-0.8**
OHH	**Osh**	**1.00**	**203**	⇓*e*P	**Pg**	**21 55 53.0**	**+0.2**
OHH				⇓*e*S	**Sn**	**21 56 06.8**	**-0.2**
ARK	**Arkit**	**1.06**	**290**	⇑*e*P	**Pb**	**21 55 53.4**	**0.0**
ARK				⇑*e*S	**Sn**	**21 56 09.0**	**+0.6**
MNAS	**Manas**	**1.19**	**331**	⇓*e*P	**Pb**	**21 55 55.9**	**+0.1**
MNAS				⇓*e*S	**Sg**	**21 56 12.2**	**+0.3**
UCH	**Uchtor**	**1.20**	**49**	⇑P	**Pg**	**21 55 56.7**	**+0.3**
	177nm,0.2s,SNR=188						
UCH				⇓S	**Sb**	**21 56 11.2**	**-0.3**
	126nm,0.2s						
UCH	**Uchtor**	**1.20**	**49**	⇑*e*P	**Pg**	**21 55 57.1**	**+0.6**
EKS2	**Erkin-Say**	**1.26**	**16**	⇑P	**Pb**	**21 55 57.1**	**+0.1**
	7.2nm,0.1s,SNR=20						
EKS2				⇓S	**Sn**	**21 56 13.5**	**0.0**
	35nm,0.2s						
EKS2	**Erkin-Say**	**1.26**	**16**	⇓*e*P	**Pb**	**21 55 56.8**	**-0.2**
EKS2				⇓*e*S	**Sn**	**21 56 13.6**	**+0.2**
MRKS	**Merke**	**1.29**	**358**	S	**Sg**	**21 56 16.1**	**+1.0**
	80nm,0.1s						
MRKS	**Merke**	**1.29**	**358**	*e*P	**Pb**	**21 55 57.6**	**+0.1**
	21nm,0.2s						
MRKS				*e*S	**Sg**	**21 56 16.1**	**+1.0**
	80nm,0.1s						
MRKS	**Merke**	**1.29**	**358**	P	**Pb**	**21 55 57.7**	**+0.2**
	21nm,0.2s						
SFK	**Sufi-Kurgan**	**1.45**	**174**	⇑*e*P	**Pb**	**21 56 00.6**	**+0.4**
SFK				⇑*e*S	**Sg**	**21 56 20.0**	**0.0**
AAK	**Ala-Archa**	**1.48**	**37**	⇑P	**Pb**	**21 56 01.0**	**+0.2**
	9.2nm,0.2s,SNR=22						
AAK	**Ala-Archa**	**1.48**	**37**	⇓*e*P	**Pb**	**21 56 00.6**	**-0.2**
AAK				⇓*e*S	**Sb**	**21 56 20.1**	**+0.6**
AAK	**Ala-Archa**	**1.48**	**37**	⇓S	**Sg**	**21 56 20.4**	**-0.8**
	118nm,0.8s						
TRKS	**Terek-Say**	**1.62**	**273**	⇑*e*P	**Pb**	**21 56 03.7**	**+0.6**
TRKS				⇑*e*S	**Sg**	**21 56 25.4**	**-0.2**
FRU1	**Bishkek**	**1.68**	**36**	⇑*e*P	**Pb**	**21 56 04.3**	**+0.2**
FRU1				⇑*e*S	**Sg**	**21 56 26.5**	**-1.0**
CHMS	**Chumysh**	**1.89**	**35**	⇑P	**Pb**	**21 56 08.3**	**+0.8**
	134nm,0.2s,SNR=104						
CHMS	**Chumysh**	**1.89**	**35**	⇑*e*P	**Pb**	**21 56 07.2**	**-0.4**
CHMS				⇑*i*S	**Sb**	**21 56 31.8**	**+0.8**
USP	**Ospenovka**	**2.02**	**26**	⇓P	**Pb**	**21 56 10.9**	**+1.0**
	15nm,0.3s,SNR=24						
DZA	**Taraz**	**2.05**	**315**	*e*P	**Pg**	**21 56 11.9**	**-0.8**
	38nm,0.3s						
DZA				*e*S	**Sg**	**21 56 40.2**	**+0.9**
	190nm,0.2s						
DRK	**Karamyk**	**2.28**	**211**	⇑*e*P	**Pb**	**21 56 13.8**	**-0.6**
DRK				⇑*e*S	**Sb**	**21 56 42.8**	**+0.4**
BTK	**Batken**	**2.34**	**234**	⇑*e*P	**Pb**	**21 56 14.6**	**-0.7**
BTK				⇑*e*S	**Sb**	**21 56 44.3**	**+0.2**
KK31	**Karatay Array**	**2.64**	**310**	Pn	**Pb**	**21 56 19.6**	**-0.8**
	7.0nm,0.2s,baz=127,slow=12,SNR=226						
KK31				⇑Lg	Lg	21 56 56.8	
	12nm,0.3s,baz=128,slow=26,SNR=14						
KKAR	**Karatay Array**	**2.64**	**310**	⇑*e*P	**Pb**	**21 56 18.5**	**-1.9**
KKAR				⇑*e*S	**Sb**	**21 56 51.1**	**-1.6**
MTBS	**Maitube**	**2.87**	**53**	*e*P	**Pb**	**21 56 25.6**	**+1.3**
	48nm,0.2s						
MTBS				*e*S	**Sg**	**21 57 03.7**	**-1.7**
	68nm,0.3s						
CHM	**Chimkent**	**2.89**	**289**	*e*P	**Pb**	**21 56 26.7**	**+2.1**
	47nm,0.2s						
CHM				*e*S	**Sg**	**21 57 05.4**	**-0.7**
	224nm,0.4s						
BRLS	**Borolday**	**3.01**	**303**	Lg	Lg	21 57 08.5	
	38nm,0.6s						
BRLS	**Borolday**	**3.01**	**303**	*e*P	**Pb**	**21 56 28.4**	**+1.6**
	4.0nm,0.2s						
BRLS				*e*S	**Sg**	**21 57 08.4**	**-1.7**
	38nm,0.6s						
BRLS	**Borolday**	**3.01**	**303**	Pg	**Pb**	**21 56 28.4**	**+1.6**
	4.0nm,0.2s						

*SOME **02** 21:55:43.7, 41°.50N×74°.72E, h15km*
*NNC **02** 21:55:44.3±1.0, 41°.56N×74°.79E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=6.8km s-min=4.9km az=25.0*

ISC 02 21:55:46.1±1.2,**41°.68N**±0°.04×**74°.64E**±0°.02,**h18km**±3km, **n50**, σ1°53/81,**27C-12D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.30**	**308**	⇑*e*P	**Pg**	**21 55 52.9**	**+0.1**
ARLS				⇑*e*S	**Sb**	**21 55 58.9**	**+1.4**
UCH	**Uchtor**	**0.56**	**350**	⇑*e*S	**Sb**	**21 56 06.4**	**+1.1**
AML	**Almayashu**	**0.84**	**303**	⇓*e*P	**Pn**	**21 56 03.1**	**-0.2**
AML				⇓*e*S	**Sn**	**21 56 16.5**	**+1.1**
AAK	**Ala-Archa**	**0.96**	**354**	⇑P	**Pb**	**21 56 04.4**	**0.0**
	36nm,0.3s						
AAK	**Ala-Archa**	**0.96**	**354**	⇑*e*P	**Pb**	**21 56 04.4**	**0.0**
AAK				⇑*e*S	**Sn**	**21 56 18.9**	**+0.7**
KBK	**Karagaybulak**	**1.00**	**13**	⇑*e*P	**Pb**	**21 56 04.4**	**-0.7**
KBK				⇑*e*S	**Sg**	**21 56 18.9**	**0.0**
FRU1	**Bishkek**	**1.13**	**360**	⇓*e*P	**Pb**	**21 56 07.5**	**+0.3**
FRU1				⇓*e*S	**Sg**	**21 56 24.2**	**+1.3**
BOOM	**Boomskoye usch**	**1.26**	**50**	⇓*e*P	**Pn**	**21 56 07.5**	**-1.5**
BOOM				⇓*e*S	**Sb**	**21 56 24.2**	**-1.3**
ARSB	**Arslanbob**	**1.29**	**255**	⇑*e*P	**Pb**	**21 56 10.3**	**+0.3**
ARSB				⇑*e*S	**Sg**	**21 56 29.0**	**+0.9**
CHMS	**Chumysh**	**1.32**	**4**	⇑*e*P	**Pb**	**21 56 10.2**	**-0.2**
CHMS				⇑*e*S	**Sg**	**21 56 29.1**	**+0.1**
ULHL	**Ulahol**	**1.32**	**64**	⇓*e*P	**Pn**	**21 56 07.8**	**-2.1**
ULHL				⇓*e*S	**Sn**	**21 56 24.9**	**-2.2**
TKM2	**Tokmak 2**	**1.43**	**29**	⇓*e*P	**Pn**	**21 56 11.3**	**0.0**
TKM2				⇓*e*S	**Sb**	**21 56 30.8**	**+0.5**
MRKS	**Merke**	**1.50**	**316**	*e*P	**Pg**	**21 56 14.4**	**-0.6**
	102nm,0.3s						
MRKS				*e*S	**Sg**	**21 56 36.2**	**+1.7**
	114nm,0.3s						
USP	**Ospenovka**	**1.59**	**356**	⇑*e*P	**Pb**	**21 56 15.2**	**+0.2**
USP				⇑*e*S	**Sg**	**21 56 37.7**	**+0.2**
KST	**Kastek**	**1.68**	**35**	P	**Pb**	**21 56 15.8**	**-0.7**
	30nm,0.4s						
KST				S	**Sb**	**21 56 38.9**	**+1.4**
	314nm,0.3s						
KST	**Kastek**	**1.68**	**35**	*e*P	**Pb**	**21 56 15.8**	**-0.7**
	30nm,0.4s						
KST				*e*S	**Sb**	**21 56 38.9**	**+1.4**
	314nm,0.3s						
DGS	**Degeres**	**1.77**	**28**	P	**Pb**	**21 56 18.2**	**+0.1**
	101nm,0.5s						
DGS				S	**Sg**	**21 56 43.0**	**-0.3**
	340nm,0.6s						
KDJ	**Kajisay**	**1.95**	**76**	⇑*e*P	**Pn**	**21 56 18.7**	**+0.3**
KDJ				⇑*e*S	**Sn**	**21 56 43.6**	**+1.1**
MTBS	**Maitube**	**1.97**	**42**	Pg	**Pb**	**21 56 20.6**	**-0.8**
	52nm,0.2s						
MTBS				Lg	Lg	21 56 46.9	
	112nm,0.3s						
MTBS	**Maitube**	**1.97**	**42**	*e*P	**Pb**	**21 56 20.6**	**-0.8**
	52nm,0.2s						
MTBS				*e*S	**Sb**	**21 56 46.9**	**+1.3**
	112nm,0.3s						
KASK	**Kaskelen**	**2.14**	**43**	⇑Sn	**Sb**	**21 56 51.0**	**+0.6**
	241nm,0.4s						
KRBS	**Karabastau**	**2.16**	**20**	Pg	**Pb**	**21 56 24.9**	**+0.3**
	339nm,0.4s						
KRBS				Lg	Lg	21 56 54.1	
	437nm,0.5s						
TNSS	**Tian-Shan**	**2.18**	**51**	Pg	**Pb**	**21 56 24.1**	**-1.3**
	34nm,0.5s						
TNSS				Lg	Lg	21 56 52.8	
	48nm,0.4s						
TNSS	**Tian-Shan**	**2.18**	**51**	*e*P	**Pb**	**21 56 24.1**	**-1.3**
	34nm,0.5s						
TNSS				*e*S	**Sb**	**21 56 52.8**	**+0.6**
	48nm,0.4s						
KNDC	**Almaty**	**2.31**	**47**	⇑Pg	**Pb**	**21 56 26.2**	**-1.0**
	75nm,0.6s						
KNDC				⇑Lg	Lg	21 56 57.9	
	178nm,0.5s						
KOTS	**Kotyrbulak**	**2.40**	**49**	Pg	**Pb**	**21 56 28.2**	**-0.6**
	72nm,0.6s						
KOTS				Lg	Lg	21 56 59.8	
	240nm,0.5s						
KOTS	**Kotyrbulak**	**2.40**	**49**	*e*P	**Pb**	**21 56 28.2**	**-0.6**
	72nm,0.6s						
KOTS				*e*S	**Sb**	**21 56 59.8**	**+1.6**
	240nm,0.5s						
ANVS	**Anan'yevo**	**2.50**	**63**	⇓*e*P	**Pn**	**21 56 26.6**	**+0.5**
ANVS				⇓*e*S	**Sn**	**21 56 57.4**	**+1.1**
KTBS	**Karatobe**	**2.53**	**36**	Pg	**Pb**	**21 56 30.8**	**-0.2**
	72nm,0.4s						
KTBS				Lg	Lg	21 57 04.4	
	21nm,0.6s						
DZA	**Taraz**	**2.74**	**297**	*e*P	**Pg**	**21 56 36.7**	**-1.9**
	60nm,0.4s						
DZA				*e*S	**Sg**	**21 57 14.7**	**+0.6**
	156nm,0.3s						
CHKK	**Chushkaly**	**2.78**	**38**	Pg	**Pb**	**21 56 35.2**	**0.0**
	33nm,0.4s						
CHKK				Lg	Lg	21 57 12.0	
	213nm,0.3s						
CHKK	**Chushkaly**	**2.78**	**38**	*e*P	**Pb**	**21 56 35.2**	**0.0**
	33nm,0.4s						
CHKK				*e*S	**Sb**	**21 57 12.0**	**+3.1**
	213nm,0.3s						
PRZ	**Przheval'sk**	**2.91**	**73**	⇑*e*P	**Pn**	**21 56 31.9**	**+0.2**
PRZ				⇑*e*

27nm,0.3s
MK31 Makanchi Array 7.50 44 ⇑Pn **Pn 21 57 32.5 -2.1**
0.4nm,0.4s,baz=222,slow=15,SNR=7.8
MK31 ⇑Pg Pb 21 58 02.5 +6.8
1.0nm,0.6s,baz=226,slow=14,SNR=6.1
MK31 ⇑Lg Lg 21 59 45.4
3.2nm,0.8s,baz=230,slow=28,SNR=7.4

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*SOME **02** 22:00:21.0, 42°.32N×82°.50E, h30km*
*NNC **02** 22:00:24.7±1.9, 42°.23N×82°.03E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=13.7km s-min=8.2km az=158.0*
ISC 02 22:00:19.1±2.3, 42°.3N±0°.1×82°.76E±0°.08, h10km, n35, σ1§96/50, 4C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.12 304**		P	**Pn**	**22 00 55.5**	**+0.8**
KTMS	12nm,0.4s			S	**Sn**	**22 01 20.5**	**-0.7**
	39nm,0.2s						
KTMS	**Ketmen**	**2.12 304**		*e*P	**Pn**	**22 00 55.5**	**+0.8**
KTMS	12nm,0.4s			*e*S	**Sn**	**22 01 20.5**	**-0.7**
	39nm,0.2s						
SHLS	**Shalkode**	**2.58 291**		Pg	**Pn**	**22 00 59.1**	**-2.0**
SHLS	46nm,0.2s			Lg	Lg	22 01 26.8	
	128nm,0.5s						
SHLS	**Shalkode**	**2.58 291**		*e*P	**Pn**	**22 00 59.1**	**-2.0**
SHLS	46nm,0.2s			*e*S	**Sn**	**22 01 26.8**	**-5.9**
	128nm,0.5s						
PDGK	**Podgornoye**	**2.62 295**		⇑Pn	**Pb**	**22 01 04.5**	**-1.8**
PDGK	5.2nm,0.5s			⇑Lg	Lg	22 01 37.2	
	52nm,0.6s						
UZB	**Uzynbulak**	**2.89 289**		Pg	**Pn**	**22 01 07.9**	**+2.6**
UZB	6.9nm,0.2s			Lg	Lg	22 01 41.7	
	25nm,0.4s						
UZB	**Uzynbulak**	**2.89 289**		*e*P	**Pn**	**22 01 07.9**	**+2.6**
UZB	6.9nm,0.2s			*e*S	**Sn**	**22 01 41.7**	**+1.5**
	25nm,0.4s						
DJR	**Jarkent**	**2.98 314**		Pg	**Pb**	**22 01 11.5**	**-1.0**
DJR	1.1nm,0.1s			Lg	Lg	22 01 47.8	
	14nm,0.4s						
DJR	**Jarkent**	**2.98 314**		*e*P	**Pb**	**22 01 11.5**	**-1.0**
DJR	1.1nm,0.1s			*e*S	**Sb**	**22 01 47.8**	**-1.2**
	14nm,0.4s						
KPKS	**Kokpek**	**3.22 293**		Pg	**Pn**	**22 01 12.8**	**+2.9**
KPKS	5.6nm,0.2s			Lg	Lg	22 01 50.4	
	46nm,0.5s						
KPKS	**Kokpek**	**3.22 293**		*e*P	**Pn**	**22 01 12.8**	**+2.9**
KPKS	5.6nm,0.2s			*e*S	**Sn**	**22 01 50.4**	**+2.0**
	46nm,0.5s						
SATY	**Saty**	**3.30 285**		Pg	**Pb**	**22 01 15.9**	**-2.0**
SATY	3.6nm,0.2s			Lg	Lg	22 01 55.8	
	18nm,0.3s						
SATY	**Saty**	**3.30 285**		*e*P	Pg	22 01 29.6	+7.2
SATY	4.2nm,0.5s			*e*S	Sg	22 02 19.2	+14
	10.0nm,0.5s						
ZHN	**Zhinishke**	**3.31 287**		Pg	**Pb**	**22 01 16.5**	**-1.5**
ZHN	4.2nm,0.2s			Lg	Lg	22 01 56.4	
	19nm,0.3s						
ZHN	**Zhinishke**	**3.31 287**		*e*P	**Pb**	**22 01 16.5**	**-1.5**
ZHN	4.2nm,0.2s			*e*S	**Sb**	**22 01 56.4**	**-1.9**
	19nm,0.3s						
KNOS	**Konyrlen**	**3.34 310**		Pg	**Pb**	**22 01 16.1**	**-2.4**
KNOS	2.0nm,0.2s			Lg	Lg	22 01 56.0	
	16nm,0.2s						
KURS	**Kuram**	**3.58 291**		*e*P	Pg	22 01 37.3	+10
KURS	12nm,0.3s			*e*S	Sg	22 02 32.5	+18
	6.1nm,0.2s						
BLB	**Baldybastay**	**3.62 302**		Pg	**Pb**	**22 01 21.4**	**-1.9**
BLB	16nm,0.3s			Lg	Lg	22 02 05.0	
	14nm,0.4s						
KAPS	**Kapalarasan**	**3.88 322**		Pg	**Pb**	**22 01 26.4**	**-1.3**
KAPS	6.4nm,0.2s			Lg	Lg	22 02 13.8	
	18nm,0.1s						
ARXS	**Arharly**	**4.09 300**		Pg	**Pb**	**22 01 29.6**	**-1.6**
ARXS	4.2nm,0.5s			Lg	Lg	22 02 19.2	
	10.0nm,0.5s						
TDK	**Taldyqorghan**	**4.17 312**		Pg	**Pb**	**22 01 32.0**	**-0.6**
TDK	10.0nm,0.4s			Lg	Lg	22 02 23.1	
	22nm,0.5s						
TDK	**Taldyqorghan**	**4.17 312**		*e*P	**Pb**	**22 01 32.0**	**-0.6**
TDK	10.0nm,0.4s			*e*S	**Sb**	**22 02 23.1**	**+0.1**
	22nm,0.5s						
KOTS	**Kotyrbulak**	**4.27 285**		Pg	**Pb**	**22 01 32.5**	**-1.8**
KOTS	2.7nm,0.3s			Lg	Lg	22 02 23.9	
	15nm,0.5s						
KOTS	**Kotyrbulak**	**4.27 285**		*e*P	**Pb**	**22 01 32.5**	**-1.8**
KOTS	2.7nm,0.3s			*e*S	**Sb**	**22 02 23.9**	**-2.0**
	15nm,0.5s						
MDOK	**Medeo**	**4.30 284**		*e*P	**Pn**	**22 01 26.4**	**+1.7**
MDOK	6.4nm,0.2s			*e*S	**Sn**	**22 02 13.8**	**-1.2**
	18nm,0.1s						
TNSS	**Tian-Shan**	**4.35 282**		Pg	**Pb**	**22 01 34.8**	**-1.1**
TNSS	1.1nm,0.3s			Lg	Lg	22 02 27.9	
	2.8nm,0.6s						
TNSS	**Tian-Shan**	**4.35 282**		*e*P	**Pb**	**22 01 34.8**	**-1.1**
TNSS	1.1nm,0.3s			*e*S	**Sb**	**22 02 27.9**	**-0.8**
	2.8nm,0.6s						
CHKK	**Chushkaly**	**4.51 292**		Pg	**Pb**	**22 01 37.3**	**-1.1**
CHKK	12nm,0.3s			Lg	Lg	22 02 32.6	
	6.1nm,0.2s						
CHKK	**Chushkaly**	**4.51 292**		*e*P	**Pb**	**22 01 37.3**	**-1.1**
CHKK	12nm,0.3s			*e*S	**Sb**	**22 02 32.5**	**-0.3**
	6.1nm,0.2s						
MK31	**Makanchi Array**	**4.53 356**		Pn	**Pb**	**22 01 36.4**	**-2.2**
MK31	0.2nm,0.2s,baz=183,slow=12,SNR=15			⇓Pg	**Pg**	**22 01 47.6**	**+1.8**
MK31	0.3nm,0.3s,baz=181,slow=16,SNR=3.2			⇓Sn	**Sb**	**22 02 31.6**	**-1.7**
MK31	0.8nm,0.3s,baz=181,slow=25,SNR=5.5			⇑Lg	Lg	22 02 49.0	
	4.5nm,0.6s,baz=23,slow=13,SNR=4.2						
MAKZ	**Makanchi**	**4.56 353**		⇓Pn	**Pb**	**22 01 36.1**	**-3.2**
MAKZ	0.6nm,0.3s			⇓Pg	**Pg**	**22 01 49.3**	**+2.8**
	1.4nm,0.6s						
MAKZ				⇑Sn	**Sb**	**22 02 32.1**	**-2.2**
	1.8nm,0.3s						
MAKZ				⇓Lg	Lg	22 02 49.7	
	3.2nm,0.8s						
KTBS	**Karatobe**	**4.68 290**		Pg	**Pb**	**22 01 40.8**	**-0.5**
KTBS	1.6nm,0.4s			Lg	Lg	22 02 38.1	
	0.7nm,0.6s						
DGS	**Degeres**	**5.23 283**		Pg	**Pb**	**22 01 50.9**	**+0.2**
DGS	2.4nm,0.4s			Lg	Lg	22 02 55.9	
	5.2nm,0.5s						
ZSN	**Zaisan**	**5.38 15**		Pg	**Pg**	**22 02 02.3**	**+0.1**
ZSN	3.1nm,0.3s			Lg	Lg	22 03 15.3	
	6.5nm,0.7s						
ZSN	**Zaisan**	**5.38 15**		*e*P	**Pg**	**22 02 02.3**	**+0.1**
ZSN	3.1nm,0.3s			*e*S	**Sg**	**22 03 15.3**	**+3.4**
	6.5nm,0.7s						

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*SJA **02** 22:02:46.1±0.7, 22°.09S×68°.38W, h119km±5km, ML3.6,*
MW3.6
*GUC **02** 22:02:48.7±0.8, 22°.06S×68°.59W, h116km±5km, ML3.5*
ISC 02 22:02:48.1±1.5, 22°.12S±0°.04×68°.57W±0°.05, h126km±10km, n23, σ1§19/40, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.70 297**		⇓*i*P	**Pn**	**22 03 08.6**	**+0.3**
PB09				*i* S	**Sn**	**22 03 22.8**	**-0.8**
PB09	**IPOC Station P**	**0.70 297**		*e*P	**Pn**	**22 03 07.9**	**-0.4**
PB09				*e*S	**Sn**	**22 03 23.2**	**-0.3**
PB09				IAML		22 03 23.9	
	comp=Z,2μm,0.8s						
AF01	**San Pedro de A**	**0.90 156**		*e*P	**Pn**	**22 03 11.1**	**+1.0**
AF01				*i* S	**Sn**	**22 03 27.5**	**+0.7**
AF01				IAML		22 03 43.8	
	comp=N,2μm,0.5s						
AF01	**San Pedro de A**	**0.90 156**		*e*P	**Pn**	**22 03 07.8**	**-2.3**
AF01				IAML		22 03 45.2	
	comp=Z,1μm,0.6s						
PB06	**IPOC Station P**	**1.09 238**		⇑*i*P	**Pn**	**22 03 12.5**	**+0.7**
PB06				*i* S	**Sn**	**22 03 30.2**	**+0.5**
PB06				IAML		22 03 32.4	
	comp=N,978nm,0.2s						
PB06	**IPOC Station P**	**1.09 238**		*e*P	**Pn**	**22 03 10.2**	**-1.5**
PB06				*e*S	**Sn**	**22 03 30.8**	**+1.1**
PB06				IAML		22 03 33.5	
	comp=Z,564nm,0.4s						
PB03	**IPOC Station P**	**1.10 274**		⇑*i*P	**Pn**	**22 03 12.1**	**+0.2**
PB03				*i* S	**Sn**	**22 03 29.7**	**-0.1**
PB03				IAML		22 03 31.0	
	comp=N,876nm,0.1s						
PB03	**IPOC Station P**	**1.10 274**		*e*P	**Pn**	**22 03 11.9**	**+0.1**
PB03				*e*S	**Sn**	**22 03 30.2**	**+0.4**
PB03				IAML		22 03 30.6	
	comp=Z,769nm,0.5s						
PB01	**IPOC Station P**	**1.37 321**		⇑*i*P	**Pn**	**22 03 14.4**	**-0.2**
PB01				*i* S	**Sn**	**22 03 34.3**	**-0.5**
PB01				IAML		22 03 35.7	
	comp=N,578nm,0.2s						
PB01	**IPOC Station P**	**1.37 321**		*e*P	**Pn**	**22 03 14.5**	**-0.1**
PB01				IAML		22 03 35.7	
	comp=Z,291nm,0.1s						
PB01				*e*S	**Sn**	**22 03 35.7**	**+1.0**
PB08	**IPOC Station P**	**2.04 344**		⇑*i*P	**Pn**	**22 03 23.7**	**+0.8**
PB08				*e*S	**Sn**	**22 03 49.4**	**0.0**
PB08				IAML		22 03 52.0	
	comp=N,318nm,0.2s						
PB08	**IPOC Station P**	**2.04 344**		*e*P	**Pn**	**22 03 23.7**	**+0.8**
PB08				*e*S	**Sn**	**22 03 50.4**	**+1.0**
PB08				IAML		22 03 51.4	
	comp=Z,151nm,0.3s						
TA01	**Diego Aracena**	**2.16 316**		*e*P	**Pn**	**22 03 23.4**	**-0.4**
TA01				*i* S	**Sn**	**22 03 50.3**	**-0.9**
TA01				IAML		22 03 52.0	
	comp=E,489nm,0.3s						
TA01	**Diego Aracena**	**2.16 316**		*e*P	**Pn**	**22 03 23.6**	**-0.2**
TA01				*e*S	**Sn**	**22 03 51.5**	**+0.4**
TA01				IAML		22 03 52.6	
	comp=Z,250nm,0.6s						
TA02	**Huaiquique**	**2.35 321**		*e*P	**Pn**	**22 03 25.7**	**-0.6**
TA02				*e*S	**Sn**	**22 03 55.8**	**+0.3**
TA02				IAML		22 03 56.7	
	comp=Z,248nm,0.1s						
PB11	**IPOC Station P**	**2.56 336**		⇑*i*P	**Pn**	**22 03 28.7**	**-0.4**
PB11	**IPOC Station P**	**2.56 336**		*e*P	**Pn**	**22 03 28.7**	**-0.4**
PB11				*e*S	**Sn**	**22 04 00.0**	**-0.5**
PB11				IAML		22 04 00.9	
	comp=Z,199nm,0.3s						
YJA	**Yavi**	**2.83 92**		*e*P	**Pn**	**22 03 35.0**	**+2.2**
YJA	**Yavi**	**2.83 92**		*e*P	**Pn**	**22 03 30.1**	**-2.7**
SALTA		**2.93 136**		*e*P	**Pn**	**22 03 36.9**	**+2.7**
SALTA		**2.93 136**		*e*P	**Pn**	**22 03 32.0**	**-2.2**
PB14	**IPOC Station P**	**3.01 214**		*e*P	**Pn**	**22 03 35.7**	**+0.7**
PB14				*e*S	**Sn**	**22 04 13.0**	**+1.8**
PB14				IAML		22 04 20.6	
	comp=Z,150nm,0.5s						
AC01	**Pan de Azucar**	**4.42 204**		*e*P	**Pn**	**22 03 52.8**	**-0.6**
AC01				*e*S	**Sn**	**22 04 42.1**	**-1.9**
AC01				IAML		22 05 01.8	
	comp=Z,68nm,0.6s						

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*IDC **02** 22:11:42.9±2.8, 51°.16N×178°.98W, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=75.5km s-min=24.5km az=180.0*
*NEIC **02** 22:11:49.8±2.3, 51°.1N±0°.2×178°.7W±0°.2, h35km±2km, mb3.7/26, ML3.3(AEIC), Error ellipse: s-maj=31.6km s-min=12.4km az=326.0*
*AEIC **02** 22:11:50.7±2.3, 51°.3N±0°.1×178°.6W±0°.2, h51km±8km, Error ellipse: s-maj=22.1km s-min=11.8km az=152.0*
ISC 02 22:11:48.9±1.3, 51°.1N±0°.2×178°.79W±0°.08, h45km, n55, σ1§21/51, mb3.7/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.25**	**54**		**Pn**	**22 12 09.0**	**-0.9**
KIWB				Sn	**Sn**	**22 12 24.2**	**-1.3**
ADK	**Adak**	**1.51**	**60**		**Pn**	**22 12 12.7**	**-0.8**
ADK				Sn	**Sn**	**22 12 30.2**	**-1.7**
GSTR	**Great Sitkin T**	**1.95**	**60**	Pn	**Pn**	**22 12 19.9**	**+0.4**
ATKA	**Atka Island**	**3.05**	**68**	Pn	**Pn**	**22 12 34.6**	**0.0**
ATKA				Sn	**Sn**	**22 13 10.5**	**+0.7**
UNV	**Unalaska Valle**	**7.97**	**65**	Pn	**Pn**	**22 13 42.9**	**+0.9**
S12K	**Black Hills**	**10.97**	**59**	Pn	**Pn**	**22 14 23.6**	**+0.6**
M11K	**Mekoryuk**	**11.64**	**32**	Pn	**Pn**	**22 14 34.1**	**+2.0**
CNBA	**Chernabura Isl**	**12.14**	**65**	Pn	**Pn**	**22 14 37.3**	**-1.6**
O14K	**Tigyukauivet M**	**12.86**	**44**	Pn	**Pn**	**22 14 50.6**	**+1.9**
K13K	**Kusilvak Mount**	**13.30**	**30**	Pn	**Pn**	**22 14 55.9**	**+1.1**
L14K	**Kuka Creek**	**13.54**	**35**	Pn	**Pn**	**22 14 59.7**	**+1.6**
O16K	**Kokwok River B**	**14.44**	**46**	Pn	**Pn**	**22 15 10.8**	**+0.6**
ACHA	**Angle Creek He**	**15.25**	**53**	Pn	**Pn**	**22 15 22.2**	**+1.2**
ACHA				IAmb	IAmb	22 16 04.4	
	comp=Z,6.0nm,1.4s						
M17K	**Holitna River**	**15.61**	**41**		**P**	**22 15 29.8**	**+0.8**
M17K				IAmb	IAmb	22 15 57.1	
	comp=Z,10nm,1.4s						
P18K	**Big Mountain,**	**15.69**	**49**	Pn	**P**	**22 15 29.1**	**-1.0**
P18K				IAmb	IAmb	22 16 02.6	
	comp=Z,7.3nm,1.4s						
OHAK	**Old Harbor**	**16.06**	**58**	Pn	**Pn**	**22 15 28.5**	**-2.8**
J17K	**VABM Dome**	**16.17**	**33**		**P**	**22 15 34.8**	**-0.4**
J17K				IAmb	IAmb	22 16 12.6	
	comp=Z,12nm,1.5s						
Q19K	**Cape Douglas,**	**16.31**	**52**	Pn	**Pn**	**22 15 34.2**	**-0.3**
Q19K				IAmb	IAmb	22 16 02.3	
	comp=Z,8.9nm,1.0s						
KDAK	**Kodiak Island**	**16.55**	**56**	Pn	**Pn**	**22 15 33.6**	**-3.8**
N19K	**Bonanza Creek**	**16.60**	**45**	Pn	**Pn**	**22 15 36.9**	**-1.3**
N19K				IAmb	IAmb	22 16 05.6	
	comp=Z,7.8nm,1.4s						
SYI	**Shuyak Island**	**16.85**	**53**	Pn	**Pn**	**22 15 40.4**	**-0.7**
SYI				IAmb	IAmb	22 15 54.0	
	comp=Z,14nm,1.5s						
H18K	**Honhosa River**	**17.57**	**29**		**P**	**22 15 52.2**	**+1.4**
H18K				IAmb	IAmb	22 15 57.4	
	comp=Z,7.3nm,1.4s						
C16K	**Lisburne Hills**	**18.40**	**16**	P	**P**	**22 15 59.7**	**-0.1**
F19K	**Shaleruckik Mo**	**18.93**	**26**	P	**Pn**	**22 16 07.1**	**+0.5**
KTH	**Kantishna Hill**	**19.30**	**39**	P	**Pn**	**22 16 11.3**	**+0.1**
C18K	**Utukok River**	**19.51**	**19**	P	**Pn**	**22 16 13.8**	**+0.2**
C18K				IAmb	IAmb	22 16 20.3	
	comp=Z,5.3nm,1.4s						
G21K	**Allakaket**	**19.98**	**30**	P	Pn	22 16 18.4	-0.7
G21K				IAmb	IAmb	22 16 22.5	
	comp=Z,2.8nm,0.7s						
F21K	**Alatna River**	**20.43**	**28**	P	**P**	**22 16 23.4**	**+1.4**
ILAR	**Eielson Array**	**21.43**	**38**	P	**P**	**22 16 33.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=254,slow=9.2,SNR=4.5						
	comp=Z,0.3nm,0.7s						
E22K	**Anaktuvuk Pass**	**21.51**	**28**	P	**P**	**22 16 34.5**	**+0.9**
B21K	**Ikpikpuk River**	**21.76**	**23**	P	**P**	**22 16 37.1**	**+0.9**
B21K				IAmb	IAmb	22 16 40.1	
	comp=Z,3.7nm,1.1s						
D23K	**Nanushuk River**	**22.36**	**27**	P	**P**	**22 16 43.1**	**+0.5**
D23K				IAmb	IAmb	22 16 59.1	
	comp=Z,4.6nm,1.4s						
F24K	**Squaw Lake**	**22.37**	**31**	P	**P**	**22 16 44.0**	**+1.2**
F24K				IAmb	IAmb	22 16 49.3	
	comp=Z,1.4nm,0.7s						
B22K	**Teshekpuk Lake**	**22.57**	**22**	P	**P**	**22 16 45.2**	**+0.3**
B22K				IAmb	IAmb	22 16 46.8	
	comp=Z,5.5nm,1.5s						
BCAR	**Beaver Creek A**	**23.00**	**45**	P	**P**	**22 16 49.5**	**0.0**
F25K	**Christian Rive**	**23.15**	**32**	P	**P**	**22 16 51.8**	**+0.9**
BMAR	**Burnt Mountain**	**23.43**	**33**	P	**P**	**22 16 54.2**	**+0.5**
D25K	**Kavik River**	**23.81**	**28**	P	**P**	**22 16 57.4**	**+0.1**
H11S1	**WAKE ISLAND Hy**	**34.53**	**205**	T	T	22 55 25.6	
	baz=18,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**34.55**	**205**	T	T	22 55 25.6	
	baz=18,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**34.55**	**205**	T	T	22 55 20.8	
	baz=18,slow=76,SNR=8.9						
YKA	**Yellowknife Ar**	**35.39**	**46**	P	**P**	**22 18 39.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=280,slow=8.8,SNR=3.6						
	comp=Z,0.2nm,0.4s						
DSP	**Deep Springs**	**44.43**	**84**	P	**P**	**22 19 56.9**	**+1.8**
PD31	**Pinedale Array**	**46.38**	**72**	P	**P**	**22 20 11.9**	**+1.1**
PDAR	**Pinedale Array**	**46.38**	**72**	P	**P**	**22 20 11.5**	**+0.8**
PDAR	**Pinedale Array**	**46.38**	**72**	P	**P**	**22 20 12.1**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=299,slow=3.6,SNR=12						
	comp=Z,1.1nm,0.6s						
SONM	**Songino Array**	**46.76**	**297**	P	**P**	**22 20 13.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=57,slow=9.3,SNR=2.3						
	comp=Z,0.3nm,0.7s						
RDMU	**Red Mountain**	**47.67**	**74**	P	**P**	**22 20 20.8**	**0.0**
ARCES	**ARCESS Array B**	**58.33**	**350**	P	**P**	**22 21 38.9**	**+0.3**
	comp=Z,5.6nm,1.0s,baz=18,slow=6.6,SNR=2.1						
	comp=Z,5.6nm,1.0s						
MKAR	**Makanchi Array**	**60.19**	**309**	P	**P**	**22 21 50.2**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=50,slow=7.3,SNR=2.6						
	comp=Z,0.1nm,0.5s						
BVAR	**Borovoye Array**	**61.08**	**320**	P	**P**	**22 21 58.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=60,slow=6.6,SNR=3.6						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**66.02**	**347**	P	**P**	**22 22 30.3**	**+0.1**
	comp=Z,3.4nm,1.1s,baz=30,slow=5.9,SNR=1.2						
	comp=Z,3.4nm,1.1s						
H03N2	**Juan Fernandez**	**121.07**	**106**	T	T	00 43 31.8	
	baz=317,slow=77,SNR=3.7						
H03N1	**Juan Fernandez**	**121.09**	**106**	T	T	00 43 33.3	
	baz=317,slow=77,SNR=5.2						
H03N3	**Juan Fernandez**	**121.09**	**106**	T	T	00 43 37.8	
	baz=317,slow=77,SNR=5.5						

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*IDC **02** 22:17:52.1±1.0, 2°.02S×120°.48E, h0km, mb3.7/6, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=45.0km s-min=16.5km az=68.0*
*DJA **02** 22:17:54.9±0.3, 2°.5±2°.×12°.0E±°, h10km, M4.3/13, mb4.5/2, MLv4.2/13*
ISC 02 22:17:57.2±0.8, 2°.12S±0°.04×120°.36E±0°.07, h33km, n17, σ1§67/20, mb3.7/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.06 210**		P	**Pn**	**22 18 12.8**	**-3.0**
TTSI				S	**Sn**	**22 18 27.7**	**-1.7**
PCI	**Palu**	**1.31 337**		P	**Pn**	**22 18 18.8**	**-0.5**
APSI	**Ampana**	**1.77 47**		P	**Pn**	**22 18 25.6**	**+0.2**
SPSI	**Sidrap Palu**	**1.92 198**		P	**Pn**	**22 18 27.4**	**-0.2**
SPSI				S	**Sn**	**22 18 53.3**	**+2.6**
LUWI	**Luwuk**	**2.64 66**		P	**Pn**	**22 18 36.9**	**-0.6**
KDI	**Kendari**	**2.90 129**		P	**Pn**	**22 18 39.1**	**-2.0**
KAPI	**Kappang**	**2.94 192**		Pn	**Pn**	**22 18 41.8**	**+0.3**
	18nm,0.3s,baz=15,slow=20,SNR=44						
KAPI				Sn	**Sn**	**22 19 18.7**	**+3.0**
	25nm,0.3s,baz=90,slow=20,SNR=11						
	57nm,0.4s						
MRSI	**Marisa**	**3.03 32**		P	**Pn**	**22 18 42.0**	**-0.8**
BKSI	**Bulukumba**	**3.19 184**		P	**Pn**	**22 18 45.2**	**+0.2**
BSSI	**Bau Bau, Buton**	**4.00 178**		P	**Pn**	**22 18 56.5**	**+0.3**
BBSI	**Bau Bau**	**4.01 147**		P	**Pn**	**22 18 55.6**	**-0.7**
WRA	**Warramunga Arr**	**22.37 143**		P	**P**	**22 22 50.7**	**-2.0**
	3.6nm,0.7s,baz=322,slow=11,SNR=15						
	3.6nm,0.7s						
ASAR	**Alice Springs**	**25.12 150**		P	**P**	**22 23 20.7**	**+1.5**
	0.8nm,0.7s,baz=327,slow=9.0,SNR=12						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.37 315**		P	**P**	**22 23 58.7**	**+1.3**
	0.7nm,0.3s,baz=126,slow=9.2,SNR=5.4						
	0.7nm,0.3s						
SONM	**Songino Array**	**51.23 348**		P	**P**	**22 26 58.5**	**+0.8**
	0.4nm,0.7s,baz=164,slow=7.5,SNR=3.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**59.08 330**		P	**P**	**22 27 53.3**	**-1.0**
	0.5nm,0.6s,baz=128,slow=7.5,SNR=8.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.51 332**		P	**P**	**22 28 22.2**	**-1.9**
	0.2nm,0.5s,baz=138,slow=6.2,SNR=4.0						
	0.2nm,0.5s						

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*IDC **02** 22:26:45.3±2.6, 21°.30S×177°.82W, h399km±22km, mb3.2/5, mbtmp4.1/7, Error ellipse: s-maj=31.9km s-min=18.7km az=83.0*
ISC 02 22:26:46.5±1.4, 21°.3S±0°.1×177°.9W±0°.3, h412km, n9, σ1§44/11, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.19 312**		P	**P**	**22 28 09.7**	**-1.4**
	15nm,0.6s,baz=134,slow=9.3,SNR=18						
URZ	**Urewera**	**17.45 193**		P	**P**	**22 30 23.7**	**-0.9**
	3.8nm,0.3s,baz=351,slow=3.5,SNR=22						
URZ				S	**S**	**22 33 23.4**	**-1.6**
	3.6nm,0.8s,baz=90,slow=20,SNR=1.1						
STKA	**Stephens Creek**	**37.52 245**		P	**P**	**22 33 24.9**	**+1.4**
	2.6nm,0.5s,baz=97,slow=10,SNR=5.3						
	2.6nm,0.5s						
ASAR	**Alice Springs**	**44.42 257**		P	**P**	**22 34 19.6**	**+0.6**
	1.8nm,0.8s,baz=98,slow=7.8,SNR=19						
ASAR				PcP	**PcP**	**22 35 54.5**	**0.0**
	0.5nm,0.6s,baz=98,slow=3.6,SNR=5.9						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**44.57 263**		P	**P**	**22 34 19.9**	**-0.3**
	1.4nm,0.6s,baz=96,slow=7.3,SNR=27						
	1.4nm,0.6s						
QSPA	**South Pole Qui**	**68.78 180**		P	**P**	**22 37 08.8**	**+1.3**
	0.7nm,0.9s,baz=27,slow=6.8,SNR=1.4						
	0.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.66 326**		P	**P**	**22 38 11.2**	**+1.6**
	0.7nm,0.6s,baz=139,slow=7.3,SNR=1.2						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**119.73 320**		PKP	**PKiKP**	**22 44 47.2**	**-1.1**
	0.2nm,0.4s,baz=95,slow=3.2,SNR=1.8						
AKASG	**Malin Array Be**	**143.74 331**		PKP	**PKPdf**	**22 45 31.4**	**-1.8**
	1.6nm,0.4s,baz=46,slow=4.1,SNR=19						

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*IDC **02** 22:30:27.8±0.9, 1°.08N×96°.99E, h0km, mb4.2/22, mbtmp4.2/24, ML4.0/2, MS3.0/2, Error ellipse: s-maj=22.7km s-min=15.6km az=48.0*
*NEIC **02** 22:30:29.6±2.6, 1°.08N±0°.07×96°.95E±0°.04, h10km±1km,

LHMI Lhok Sumawe 4.09 359 Pn **Pn** **22 31 33.4 +0.8**
BKNI Bangkinang 4.09 101 Pn **Pn** **22 31 32.8 +0.1**
BKNI Bangkinang 4.09 101 P **Pn** **22 31 33.6 +0.9**
BSI Banda Aceh 4.68 338 P **Pn** **22 31 38.9 -1.9**
IPM Ipoh 5.21 50 **Pn** **22 31 47.6 -0.5**
IPM Ipoh 5.21 50 P **Pn** **22 31 48.6 +0.5**
KULM Kulim 5.51 41 Pn **Pn** **22 31 51.1 -1.1**
KULM Kulim 5.51 41 P **Pn** **22 31 51.5 -0.6**
MYKOM Kota Tinggi 6.86 84 Pn **Pn** **22 32 09.9 -0.8**
MYKOM Kota Tinggi 6.86 84 P **Pn** **22 32 11.8 +1.1**
SRIT Nakonsritamara 7.86 19 Pn **Pn** **22 32 24.9 +0.3**
MNAI Manna 8.05 133 Pn **Pn** **22 32 26.5 -0.6**
SBUM Sibu 15.25 85 Pn **Pn** **22 34 04.8 -0.7**
UBPT Khong Chiam 16.36 30 **Pn** **22 34 20.4 +0.6**
CMAR Chiang Mai Arr 17.34 6 **Pn** **22 34 32.4 +0.3**
CMAR Chiang Mai Arr 17.34 6 P **Pn** **22 34 31.0 -1.1**
0.7nm,0.3s,baz=195,slow=10,SNR=9.4
CMAR LR LR 22 42 42.5
comp=Z,61nm,19.1s,baz=245,slow=42
1.7nm,0.3s
CHTO Chiang Mai 17.69 6 P **Pn** **22 34 36.0 -0.5**
KKM Kota Kinabalu 19.77 75 P **P** **22 34 58.4 -1.9**
KKM IAmb IAmb 22 35 33.8
comp=Z,23nm,1.3s
SLVN Son La 21.19 18 P **P** **22 35 14.2 -1.3**
SLVN IAmb IAmb 22 35 16.7
comp=Z,15nm,0.8s
TOLI2 Tolitoli 23.76 90 P **P** **22 35 40.3 -2.1**
TOLI2 IAmb IAmb 22 35 42.1
comp=Z,14nm,0.8s
KMI Kunming 24.50 13 ⇓P **P** **22 35 51.2 +1.8**
KMI sP sP 22 36 04.1 +4.5
KMI pmax pmax
comp=Z,14nm,1.3s
KMI LR LR
comp=N,250nm,16.7s
KMI LR LR
comp=E,130nm,16.9s
KMI LR LR
comp=Z,240nm,15.3s
SHL Shillong 24.81 349 P **P** **22 35 51.8 -0.3**
PZH PanZhiHua 25.65 10 P **P** **22 36 00.0 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,6.1s
H08S2 Diego Garcia H 25.97 250 T T 23 02 56.6
baz=71,slow=76,SNR=1060
H08S3 Diego Garcia H 25.97 250 T T 23 03 00.5
baz=71,slow=76,SNR=1130
H08S1 Diego Garcia H 25.98 250 T T 23 02 58.0
baz=71,slow=76,SNR=824
GYA Guiyang 26.85 19 P **P** **22 36 11.4 +0.9**
GYA pmax pmax
comp=Z,8.0nm,0.8s
GYA LR LR
comp=Z,140nm,12.6s
ENH Enshi 31.32 21 P **P** **22 36 48.0 -2.2**
ENH IAmb IAmb 22 36 56.2
comp=Z,8.9nm,0.9s
FITZ Fitzroy Crossi 34.02 125 P **P** **22 37 12.5 -1.4**
XAN Xi'an 34.60 18 ⇓P **P** **22 37 18.0 -0.8**
XAN pP pP 22 37 24.7 -1.4
XAN pmax pmax
comp=Z,12nm,0.1s
NJ2 Nanjing 37.03 32 *eP* **P** **22 37 39.8 +0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
GTA Gaotai 38.20 4 *eP* **P** **22 37 50.8 +1.3**
GTA pmax pmax
comp=Z,6.0nm,0.8s
H01W3 Cape Leeuwin H 39.23 158 T T 23 19 33.4
baz=333,slow=74
H01W2 Cape Leeuwin H 39.25 158 T T 23 19 34.1
baz=333,slow=74
H01W1 Cape Leeuwin H 39.25 157 T T 23 19 30.4
baz=333
NIL Nilore 39.29 328 P **P** **22 37 58.6 -0.1**
HHC Hu-ho-hao-te 41.69 17 *eP* **P** **22 38 22.0 +3.5**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.6s
WB0 Warramunga Arr 42.11 122 P **P** **22 38 21.2 -0.9**
WB0 IAmb IAmb 22 38 28.0
comp=Z,8.9nm,1.3s
WRA Warramunga Arr 42.14 122 P **P** **22 38 22.2 -0.2**
comp=Z,1.1nm,0.6s,baz=301,slow=9.1,SNR=16
comp=Z,1.1nm,0.6s
BJT Baijiatuau 42.46 22 P **P** **22 38 22.9 -1.7**
BJI Beijing 42.48 22 P **P** **22 38 25.6 +0.8**
BJI pmax pmax
comp=Z,3.0nm,0.8s
KSH Kashi 42.77 336 P **P** **22 38 29.5 +2.1**
KSH pmax pmax
comp=Z,2.0nm,1.1s
WUS Wushi 43.03 340 P **P** **22 38 29.4 -0.1**
ASAR Alice Springs 43.49 127 P **P** **22 38 32.9 -0.4**
ASAR Alice Springs 43.49 127 P **P** **22 38 33.5 +0.2**
comp=Z,1.2nm,0.9s,baz=298,slow=7.6,SNR=12
comp=Z,1.2nm,0.9s
KDJ Kajisay 44.56 339 P **P** **22 38 41.6 -0.2**
KDJ IAmb IAmb 22 38 44.9
comp=Z,5.8nm,1.0s
DRK Karamyk 44.58 332 P **P** **22 38 43.2 +1.1**
JNU Nakatsue 44.99 41 P **P** **22 38 43.1 -2.0**
CHGR Chuyangaron 45.25 329 P **P** **22 38 47.1 -0.1**
SIMJ Simiganj 45.32 329 P **P** **22 38 48.3 +0.4**
SIMJ IAmb IAmb 22 38 49.8
comp=Z,9.6nm,1.2s
BOOM Boomskoye usch 45.33 338 P **P** **22 38 48.1 +0.2**
BOOM IAmb IAmb 22 39 11.8
comp=Z,5.6nm,1.0s
BTK Batken 45.50 332 P **P** **22 38 50.3 +1.1**
BTK IAmb IAmb 22 38 52.8
comp=Z,8.7nm,1.4s
ARSB Arslanbob 45.54 335 P **P** **22 38 50.6 +1.1**
ARSB IAmb IAmb 22 38 52.4
comp=Z,5.8nm,0.7s
KSAR Wonju Array Be 45.99 35 P **P** **22 38 51.6 -1.4**
KSRS Korea Array 46.02 35 P **P** **22 38 53.2 0.0**
comp=Z,4.1nm,0.8s,baz=221,slow=9.3,SNR=18
comp=Z,4.1nm,0.8s
KS19 Wonju Array Si 46.02 35 P **P** **22 38 51.4 -1.8**
SONM Songino Array 47.24 9 P **P** **22 39 02.2 -0.6**
SONM Songino Array 47.24 9 P **P** **22 39 03.5 +0.7**
comp=Z,1.1nm,0.5s,baz=185,slow=10,SNR=15
SONM PcP **PcP** **22 40 34.6 +0.8**
comp=Z,0.3nm,0.4s,baz=194,slow=3.0,SNR=3.6
comp=Z,1.1nm,0.5s
MK31 Makanchi Array 47.28 346 P **P** **22 39 03.8 +0.8**
MK31 IAmb IAmb 22 39 04.6
comp=Z,1.8nm,0.7s
MKAR Makanchi Array 47.28 346 P **P** **22 39 04.2 +1.2**
comp=Z,2.1nm,0.5s,baz=160,slow=9.0,SNR=56
comp=Z,2.1nm,0.5s
KK31 Karatay Array 48.05 334 P **P** **22 39 10.0 +1.0**
KK31 IAmb IAmb 22 39 12.0
comp=Z,3.2nm,1.2s
KKAR Karatay Array 48.05 334 P **P** **22 39 10.3 +1.3**
KURBB Kurchatov Arra 51.77 345 P **P** **22 39 38.1 +1.0**
comp=Z,1.3nm,0.6s,baz=168,slow=6.9,SNR=20
comp=Z,1.3nm,0.6s
KURK Kurchatov 51.83 345 P **P** **22 39 37.3 -0.3**
KURK IAmb IAmb 22 39 39.7
comp=Z,4.0nm,1.0s
BNX BinXian 51.84 27 ⇓P **P** **22 39 37.8 0.0**
BNX pmax pmax
comp=Z,8.0nm,0.6s
MJAR Matsushiro Arr 51.87 42 P **P** **22 39 37.7 -0.5**
comp=Z,0.7nm,0.8s,baz=226,slow=8.3,SNR=2.1
comp=Z,0.7nm,0.8s
USA0B Ussuriysk Arra 52.93 31 P **P** **22 39 44.6 -1.3**
USA0B IAmb IAmb 22 39 47.3
comp=Z,6.8nm,0.8s
USRK Ussuriysk Ar. 52.93 31 P **P** **22 39 45.0 -0.9**
USRK Ussuriysk Ar. 52.93 31 P **P** **22 39 46.2 +0.4**
comp=Z,5.3nm,0.8s,baz=235,slow=6.2,SNR=15
comp=Z,5.3nm,0.8s
STKA Stephens Creek 53.43 132 P **P** **22 39 50.4 +0.6**
comp=Z,4.7nm,1.1s,baz=294,slow=10.0,SNR=3.0
comp=Z,4.7nm,1.1s
ZAA0 Zalesovo Array 53.61 351 P **P** **22 39 50.8 +0.1**
ZAA0 IAmb IAmb 22 39 52.4
comp=Z,6.1nm,0.9s
ZALV Zalesovo Beam 53.61 351 P **P** **22 39 50.9 +0.2**
ZALV Zalesovo Beam 53.61 351 P **P** **22 39 51.5 +0.9**
comp=Z,3.8nm,0.5s,baz=176,slow=5.6,SNR=24
comp=Z,3.8nm,0.5s
BVAR Borovoye Array 56.27 341 P **P** **22 40 10.3 +0.3**
comp=Z,2.1nm,0.6s,baz=136,slow=8.8,SNR=11
comp=Z,2.1nm,0.6s
BRVK Borovoye 56.33 341 P **P** **22 40 10.5 +0.1**
BRVK IAmb IAmb 22 40 11.8
comp=Z,5.1nm,1.2s
KLR Kul'dur 56.41 27 P **P** **22 40 11.4 +0.4**
comp=Z,3.4nm,0.9s,baz=279,slow=4.6,SNR=13
comp=Z,3.4nm,0.9s
ABKAR Abkulak array 57.50 332 P **P** **22 40 19.4 +0.7**
ABKAR IAmb IAmb 22 40 20.7
comp=Z,4.4nm,0.9s
ABKAR Abkulak array 57.50 332 P **P** **22 40 19.3 +0.5**
H04N2 CROZET ISLANDS 61.60 214 T T 23 47 32.6
baz=54,slow=75,SNR=1783
H04N1 CROZET ISLANDS 61.61 214 T T 23 47 39.5
baz=54,slow=75,SNR=2210
H04N3 CROZET ISLANDS 61.62 214 T T 23 47 31.8
baz=54,slow=75,SNR=2986
H04S1 CROZET ISLANDS 61.94 213 T T 23 48 04.7
baz=53,slow=76,SNR=46
H04S3 CROZET ISLANDS 61.95 213 T T 23 48 06.0
baz=53,slow=76,SNR=41
H04S2 CROZET ISLANDS 61.96 213 T T 23 48 08.3
baz=53,slow=76,SNR=36
KBZ Khabaz 64.02 319 P **P** **22 41 03.0 -0.3**
comp=Z,2.3nm,0.9s,baz=118,slow=5.7,SNR=4.5
comp=Z,2.3nm,0.9s
YAK Yakutsk 65.55 16 P **P** **22 41 12.2 -0.6**
comp=Z,6.0nm,0.5s,baz=145,slow=18,SNR=5.4
comp=Z,6.0nm,0.5s
BRTR Keskin Array B 69.04 312 P **P** **22 41 35.8 +0.2**
comp=Z,0.3nm,0.5s,baz=121,slow=5.4,SNR=2.2
comp=Z,0.3nm,0.5s
MA2 Magadan 71.48 26 P **P** **22 41 50.1 +0.1**
comp=Z,2.8nm,0.7s,baz=240,slow=3.2,SNR=6.9
comp=Z,2.8nm,0.7s
PETK Petropavlovsk- 71.90 34 P **P** **22 41 53.0 +0.3**
comp=Z,2.9nm,0.9s,baz=215,slow=7.0,SNR=2.7
comp=Z,2.9nm,0.9s
TIXI Tiksi 73.30 10 P **P** **22 41 60.0 -0.6**
TIXI IAmb IAmb 22 42 01.0
comp=Z,2.5nm,0.8s
TIXI Tiksi 73.30 10 P **P** **22 41 59.8 -0.8**
comp=Z,1.3nm,0.5s,baz=222,slow=2.8,SNR=10
comp=Z,1.3nm,0.5s
SEY Seymchan 73.91 23 P **P** **22 42 04.3 0.0**
comp=Z,1.4nm,0.7s,baz=252,slow=4.4,SNR=7.7
comp=Z,1.4nm,0.7s
BURAR Buovina Array 76.97 319 P **P** **22 42 22.5 +0.1**
SYO Syowa Base 79.87 198 ⇓*i*pP pP 22 42 43.0 -2.5
FINES FINESS Array B 79.99 333 P **P** **22 42 37.1 -1.5**
comp=Z,3.1nm,0.9s,baz=122,slow=2.5,SNR=4.1
comp=Z,3.1nm,0.9s
ARCES ARCESS Array B 82.55 340 P **P** **22 42 52.7 +0.6**
comp=Z,1.7nm,0.8s,baz=114,slow=8.3,SNR=1.2
comp=Z,1.7nm,0.8s
GERES GERESS Array B 84.76 319 P **P** **22 43 04.7 +0.8**
comp=Z,0.8nm,0.7s,baz=98,slow=2.0,SNR=2.9
comp=Z,0.8nm,0.7s

NEIC ***02*** *22:40:03.9±1.6, 18°.4N±0°.1×146°.5E±0°.2, h77km±10km, mb3.9/7, Error ellipse: s-maj=24.4km s-min=13.1km az=109.0*
IDC ***02*** *22:40:05.0±3.3, 18°.33N×146°.36E, h89km±29km, mb3.3/12, mbtmp3.7/14, Error ellipse: s-maj=33.3km s-min=14.0km az=84.0*
ISC 02 22:40:02.5±0.8, 18°.40N±0°.07×146°.4E±0°.2, h64km, n31,
σ1§10/27, mb3.8/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.01**	**198**	P	**Pn**	**22 41 15.8**	**+0.6**
	24nm,0.4s,baz=60,slow=14,SNR=1.9						
GUMO				S	**Sn**	**22 42 13.6**	**+1.7**
	24nm,0.5s,baz=18,slow=20,SNR=1.3						
JGF	**Kuroka**	**18.93**	**337**	P	**P**	**22 44 18.8**	**+0.6**
JGF				IAmb	IAmb	22 44 51.5	
	comp=Z,12nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**19.22**	**87**	T	T	23 03 09.5	
	baz=273,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**19.24**	**86**	T	T	23 03 15.1	
	baz=273,slow=74,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**19.24**	**87**	T	T	23 03 14.2	
	baz=273,slow=74,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**19.39**	**83**	T	T	23 03 33.6	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**19.39**	**83**	T	T	23 03 23.2	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**19.41**	**83**	T	T	23 03 33.7	
	baz=268						
MJAR	**Matsushiro Arr**	**19.47**	**340**	P	**P**	**22 44 23.0**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=173,slow=8.7,SNR=4.1						
KSRS	**Korea Array**	**24.97**	**323**	P	**P**	**22 45 20.7**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=154,slow=9.1,SNR=1.8						
	comp=Z,0.4nm,0.5s						
KLR	**Kul'dur**	**32.96**	**342**	P	**P**	**22 46 32.3**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=153,slow=16,SNR=4.8						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**39.73**	**198**	P	**P**	**22 47 27.5**	**-1.4**
WRA	**Warramunga Arr**	**39.91**	**198**	P	**P**	**22 47 29.6**	**-0.9**
	comp=Z,1.4nm,1.1s,baz=29,slow=8.6,SNR=9.8						
WRA				PcP	**PcP**	**22 49 33.3**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=21,slow=3.4,SNR=1.8						
	comp=Z,1.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.63**	**211**	P	**P**	**22 47 43.6**	**-1.0**
FITZ				IAmb	IAmb	22 48 27.4	
	comp=Z,2.2nm,1.5s						
AS31	**Alice Springs**	**43.56**	**197**	P	**P**	**22 47 59.2**	**-1.1**
AS31				IAmb	IAmb	22 48 25.7	
	comp=Z,2.2nm,1.3s						
ASAR	**Alice Springs**	**43.56**	**197**	P	**P**	**22 48 00.1**	**-0.2**
ASAR	**Alice Springs**	**43.56**	**197**	P	**P**	**22 47 59.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=31,slow=6.8,SNR=10.0						
	comp=Z,0.6nm,0.7s						
SONM	**Songino Array**	**43.81**	**321**	P	**P**	**22 48 02.4**	**+0.1**
SONM	**Songino Array**	**43.81**	**321**	P	**P**	**22 48 03.9**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=132,slow=8.4,SNR=2.7						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**58.67**	**322**	P	**P**	**22 49 52.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=117,slow=9.4,SNR=3.6						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.17**	**314**	P	**P**	**22 49 57.4**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=82,slow=7.4,SNR=2.4						
	comp=Z,0.2nm,0.7s						
KURK	**Kurchatov**	**61.95**	**318**	P	**P**	**22 50 16.1**	**+0.4**
KURK				IAmb	IAmb	22 50 21.7	
	comp=Z,2.0nm,1.1s						
KURBB	**Kurchatov Arra**	**62.00**	**318**	P	**P**	**22 50 15.2**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.3,SNR=8.7						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**63.61**	**26**	P	**P**	**22 50 26.9**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=240,slow=7.0,SNR=3.1						
	comp=Z,0.5nm,1.0s						
BMAR	**Burnt Mountain**	**65.11**	**23**	P	**P**	**22 50 36.5**	**+0.2**
BVAR	**Borovoye Array**	**67.14**	**320**	P	**P**	**22 50 49.5**	**0.0**
	comp=Z,1.2nm,0.5s,baz=89,slow=7.8,SNR=13						
	comp=Z,1.2nm,0.5s						
ABKAR	**Abkulak array**	**74.03**	**317**	P	**P**	**22 51 30.4**	**-1.1**
ABKAR	**Abkulak array**	**74.03**	**317**	P	**P**	**22 51 30.3**	**-1.2**
ABKAR				IAmb	IAmb	22 52 13.4	
	comp=Z,2.2nm,1.2s						
YKA	**Yellowknife Ar**	**77.93**	**28**	P	**P**	**22 51 54.4**	**+1.1**
	comp=Z,0.1nm,0.7s,baz=295,slow=6.0,SNR=4.3						
	comp=Z,0.1nm,0.7s						
FINES	**FINESS Array B**	**87.44**	**335**	P	**P**	**22 52 40.8**	**-2.0**
	comp=Z,2.8nm,0.9s,baz=57,slow=5.1,SNR=3.3						
	comp=Z,2.8nm,0.9s						
LPAZ	**La Paz**	**146.97**	**92**	PKPbc	**PKPdf**	**22 59 38.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=300,slow=5.9,SNR=2.5						

IDC ***02*** *22:50:01.0±1.1, 9°.92S×150°.13E, h0km, mb3.7/6, mbtmp3.7/8, ML3.5/1, MS3.2/1, Error ellipse: s-maj=23.6km s-min=18.4km az=10.0*
ISC 02 22:50:05.4±1.1, 10°.0S±0°.1×150°.0E±0°.1, h28km, n9,
σ1§31/10, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.89**	**281**	Pn	**Pn**	**22 50 49.1**	**-0.6**
	18nm,0.3s,baz=61,slow=7.5,SNR=10						
PMG				Pg	**Pb**	**22 50 57.1**	**+0.7**
	23nm,0.3s,baz=95,slow=6.6,SNR=24						
PMG				Lg	Lg	22 51 35.1	
	18nm,0.3s,baz=192,slow=15,SNR=7.0						
WRA	**Warramunga Arr**	**18.10**	**235**	P	**Pn**	**22 54 13.4**	**-1.6**
	0.1nm,0.3s,baz=63,slow=12,SNR=5.4						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**20.55**	**227**	P	**P**	**22 54 42.4**	**+0.3**
	1.0nm,0.7s,baz=61,slow=10,SNR=12						
	1.0nm,0.7s						
STKA	**Stephens Creek**	**23.16**	**199**	P	**P**	**22 55 09.2**	**-0.5**
	3.2nm,0.9s,baz=22,slow=10,SNR=4.1						
STKA				LR	LR	23 04 43.7	
	comp=Z,64nm,19.4s,baz=31,slow=38						
	3.2nm,0.9s						
SONM	**Songino Array**	**69.32**	**330**	P	**P**	**23 01 10.9**	**+0.5**
	1.1nm,1.2s,baz=146,slow=2.8,SNR=3.8						
	1.1nm,1.2s						
QSPA	**South Pole Qui**	**80.02**	**180**	P	**P**	**23 02 14.0**	**+1.8**
	0.6nm,0.6s,baz=316,slow=1.5,SNR=8.6						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**83.96**	**327**	P	**P**	**23 02 34.0**	**+1.1**
	0.2nm,0.3s,baz=134,slow=4.2,SNR=1.8						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**87.96**	**22**	P	**P**	**23 02 50.6**	**-1.8**
	0.5nm,0.7s,baz=259,slow=5.0,SNR=6.9						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.84**	**279**	PKPbc	**PKPbc**	**23 09 50.9**	**-0.6**
	2.0nm,0.3s,baz=44,slow=3.3,SNR=2.0						

KRNET ***02*** *22:53:43.8±0.1, 41°.58N×74°.77E, h24km, mb3.2*
SOME ***02*** *22:53:43.5, 41°.65N×74°.73E, h10km*
NNC ***02*** *22:53:44.7±0.7, 41°.65N×74°.79E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=4.5km s-min=2.8km az=11.0*
KNET ***02*** *22:53:44.0±1.1, 41°.67N×74°.77E, h0km, ml2.5, Error ellipse: s-maj=7.4km s-min=4.0km az=4.0*
ISC 02 22:53:44.1±0.7, 41°.64N±0°.02×74°.71E±0°.02, h10km, n83,
σ1§41/138, 49C-28D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.36**	**308**	⇓*eP*	**Pb**	**22 53 52.4**	**-0.4**
ARLS				⇓*e*S	**Sb**	**22 53 58.5**	**-0.1**
UCH	**Uchtor**	**0.61**	**346**	P	**Pb**	**22 53 56.9**	**-0.3**
	89nm,0.2s,SNR=113						
UCH				⇓S	**Sb**	**22 54 06.4**	**+0.4**
	50nm,0.1s						
UCH	**Uchtor**	**0.61**	**346**	⇓*eP*	**Pb**	**22 53 56.7**	**-0.4**
UCH				⇓*e*S	**Sb**	**22 54 06.2**	**+0.2**
AML	**Almayashu**	**0.90**	**304**	⇑P	**Pb**	**22 54 02.1**	**0.0**
	41nm,0.1s,SNR=218						
AML				⇑S	**Sb**	**22 54 14.9**	**+0.6**
	155nm,0.2s						
AML	**Almayashu**	**0.90**	**304**	⇑*eP*	**Pb**	**22 54 02.1**	**0.0**
AML				⇑*e*S	**Sn**	**22 54 15.5**	**-1.1**
SALK	**Salom-Alik**	**1.00**	**222**	⇑*eP*	**Pg**	**22 54 02.4**	**-1.0**
SALK				⇑*e*S	**Sg**	**22 54 16.0**	**-0.5**
AAK	**Ala-Archa**	**1.01**	**351**	⇓P	**Pn**	**22 54 03.9**	**-0.6**
	32nm,0.1s,SNR=96						
AAK				⇓S	**Sn**	**22 54 18.3**	**-0.6**
	54nm,0.2s						
AAK	**Ala-Archa**	**1.01**	**351**	⇓P	**Pn**	**22 54 04.4**	**-0.1**
	16nm,0.3s						
AAK				⇑S	**Sn**	**22 54 17.6**	**-1.4**
	62nm,0.7s						
AAK	**Ala-Archa**	**1.01**	**351**	⇑*eP*	**Pn**	**22 54 03.8**	**-0.8**
AAK				⇑*e*S	**Sn**	**22 54 18.2**	**-0.8**
KBK	**Karagaybulak**	**1.04**	**10**	⇑P	**Pn**	**22 54 04.2**	**-0.7**
	191nm,0.1s,SNR=192						
KBK				⇓S	**Sn**	**22 54 18.8**	**-0.8**
	256nm,0.2s						
KBK	**Karagaybulak**	**1.04**	**10**	⇓*eP*	**Pb**	**22 54 03.9**	**-0.3**
KBK				⇓*e*S	**Sn**	**22 54 18.4**	**-1.1**
FRU1	**Bishkek**	**1.18**	**357**	⇑*eP*	**Pn**	**22 54 06.9**	**+0.2**
FRU1				⇑*e*S	**Sn**	**22 54 23.7**	**+0.9**
EKS2	**Erkin-Say**	**1.24**	**326**	⇑P	**Pg**	**22 54 08.3**	**+0.4**
	13nm,0.2s,SNR=86						
EKS2				⇓S	**Sn**	**22 54 25.9**	**+1.5**
	18nm,0.1s						
EKS2	**Erkin-Say**	**1.24**	**326**	⇑*eP*	**Pg**	**22 54 07.8**	**-0.1**
EKS2				⇑*e*S	**Sn**	**22 54 25.4**	**+1.0**
BOOM	**Boomskoye usch**	**1.25**	**47**	⇓*eP*	**Pn**	**22 54 06.9**	**-1.0**
BOOM				⇓*e*S	**Sg**	**22 54 23.7**	**-0.8**
ULHL	**Ulahol**	**1.30**	**61**	⇓P	**Pn**	**22 54 06.7**	**-1.8**
	21nm,0.2s,SNR=30						
ULHL				⇓S	**Sb**	**22 54 23.7**	**-1.9**
	54nm,0.2s						
ULHL	**Ulahol**	**1.30**	**61**	⇑*eP*	**Pn**	**22 54 07.3**	**-1.2**
ULHL				⇑*e*S	**Sb**	**22 54 24.5**	**-1.0**
ARSB	**Arslanbob**	**1.33**	**257**	⇑*eP*	**Pb**	**22 54 09.0**	**-0.3**
ARSB				⇑*e*S	**Sg**	**22 54 27.7**	**+0.7**
CHMS	**Chumysh**	**1.36**	**1**	P	**Pg**	**22 54 10.1**	**-0.2**
	96nm,0.3s,SNR=69						
CHMS				⇑S	**Sg**	**22 54 28.9**	**+1.0**
	61nm,0.2s						
CHMS	**Chumysh**	**1.36**	**1**	⇑*eP*	**Pg**	**22 54 09.7**	**-0.6**
CHMS				⇑*e*S	**Sg**	**22 54 28.5**	**+0.5**
TKM2	**Tokmak 2**	**1.44**	**27**	⇑P	**Pb**	**22 54 10.8**	**-0.5**
	29nm,0.2s,SNR=93						
TKM2				⇓S	**Sg**	**22 54 30.2**	**-0.4**
	52nm,0.1s						
TKM2	**Tokmak 2**	**1.44**	**27**	⇑*eP*	**Pb**	**22 54 10.7**	**-0.5**
TKM2				⇑*e*S	**Sg**	**22 54 30.4**	**-0.2**
MRKS	**Merke**	**1.56**	**316**	P	**Pg**	**22 54 14.0**	**-0.1**
	23nm,0.2s						
MRKS				S	**Sg**	**22 54 35.6**	**+1.3**
	98nm,0.4s						
MRKS	**Merke**	**1.56**	**316**	*eP*	**Pg**	**22 54 14.0**	**-0.1**
	23nm,0.2s						
MRKS				*e*S	**Sg**	**22 54 35.6**	**+1.3**
	98nm,0.4s						
USP	**Ospenovka**	**1.64**	**355**	P	**Pg**	**22 54 15.2**	**-0.3**
	126nm,0.2s,SNR=144						
USP				⇑S	**Sg**	**22 54 37.0**	**+0.3**
	122nm,0.3s						
USP	**Ospenovka**	**1.64**	**355**	⇑*eP*	**Pb**	**22 54 14.4**	**0.0**
USP				⇑*e*S	**Sg**	**22 54 36.9**	**+0.1**
KST	**Kastek**	**1.69**	**33**	P	**Pb**	**22 54 15.1**	**-0.3**
	18nm,0.2s						
KST				S	**Sg**	**22 54 37.8**	**-0.6**
	185nm,0.4s						
KST	**Kastek**	**1.69**	**33**	*eP*	**Pb**	**22 54 15.1**	**-0.3**
	18nm,0.2s						
KST				*e*S	**Sg**	**22 54 37.8**	**-0.6**
	185nm,0.4s						
DGS	**Degeres**	**1.79**	**26**	P	**Pg**	**22 54 17.2**	**-1.2**
	55nm,0.5s						
DGS				S	**Sg**	**22 54 41.3**	**-0.3**
	194nm,0.7s						
SGDS	**Sogindy**	**1.82**	**358**	P	**Pg**	**22 54 18.2**	**-0.7**
	124nm,0.3s						
SGDS				S	**Sg**	**22 54 42.9**	**+0.4**
	172nm,0.5s						
OHH	**Osh**	**1.83**	**233**	⇑*eP*	**Pb**	**22 54 16.5**	**-1.2**
OHH				⇑*e*S	**Sb**	**22 54 40.4**	**-0.3**
MNAS	**Manas**	**1.85**	**298**	⇓*eP*	**Pb**	**22 54 17.7**	**-0.4**
MNAS				⇓*e*S	**Sg**	**22 54 42.4**	**-1.1**
SFK	**Sufi-Kurgan**	**1.86**	**210**	⇑*eP*	**Pn**	**22 54 16.5**	**+0.2**
SFK				⇑*e*S	**Sn**	**22 54 40.5**	**+0.6**
KDJ	**Kajisay**	**1.91**	**74**	⇓*eP*	**Pn**	**22 54 17.3**	**+0.4**
KDJ				⇓*e*S	**Sb**	**22 54 41.7**	**-1.5**
MTBS	**Maitube**	**1.96**	**40**	Pg	**Pb**	**22 54 20.0**	**0.0**
	32nm,0.2s						
MTBS				Lg	Lg	22 54 46.2	
	60nm,0.4s						
MTBS	**Maitube**	**1.96**	**40**	*eP*	**Pb**	**22 54 20.0**	**0.0**
	32nm,0.2s						
MTBS				*e*S	**Sg**	**22 54 46.2**	**-1.1**
	60nm,0.4s						
ARK	**Arkit**	**2.06**	**275**	⇓*eP*	**Pb**	**22 54 20.4**	**-1.3**
ARK				⇓*e*S	**Sb**	**22 54 47.2**	**-0.2**
KASK	**Kaskelen**	**2.13**	**42**	⇑Lg	Lg	22 54 51.1	
	144nm,0.4s						
TNSS	**Tian-Shan**	**2.17**	**49**	Pg	**Pb**	**22 54 23.3**	**-0

KNDC ⇓Lg Lg 22 54 56.3
112nm,0.5s
KOTS Kotyrbulak 2.39 47 Pg Pb 22 54 27.5 +0.1
52nm,0.6s
KOTS Lg Lg 22 54 59.0
168nm,0.6s
KOTS Kotyrbulak 2.39 47 *eP* **Pb 22 54 27.5 +0.1**
52nm,0.6s
KOTS *eS* **Sg 22 54 59.0 -2.0**
168nm,0.6s
ANVS Anan'yevo 2.48 61⇓*eP* **Pn 22 54 25.4 +0.7**
ANVS ⇓*iS* **Sn 22 54 55.6 +0.4**
KTBS Karatobe 2.54 34 Pg **Pb 22 54 29.9 +0.2**
34nm,0.3s
KTBS Lg Lg 22 55 03.1
12nm,0.7s
TRKS Terek-Say 2.68 269⇑*eP* **Pn 22 54 28.6 +1.2**
TRKS ⇑*eS* **Sn 22 55 01.4 +1.4**
CHKK Chushkaly 2.78 36 Pg **Pb 22 54 34.3 +0.4**
20nm,0.4s
CHKK Lg Lg 22 55 10.9
129nm,0.3s
CHKK Chushkaly 2.78 36 *eP* **Pb 22 54 34.3 +0.4**
20nm,0.4s
CHKK *eS* **Sg 22 55 10.9 -2.6**
129nm,0.3s
DZA Taraz 2.80 298 Pg **Pg 22 54 36.3 -1.5**
24nm,0.1s
DZA Lg Lg 22 55 13.9
97nm,0.2s
DZA Taraz 2.80 298 *eP* **Pg 22 54 36.3 -1.5**
24nm,0.1s
DZA *eS* **Sg 22 55 13.9 -0.2**
97nm,0.2s
PRZ Przheval'sk 2.88 72⇑*eP* **Pn 22 54 30.8 +0.6**
PRZ ⇑*eS* **Sn 22 55 05.4 +0.4**
DRK Karamyk 3.09 227⇑*iP* **Pn 22 54 34.0 +0.8**
DRK ⇑*iS* **Sn 22 55 10.7 +0.4**
SATY Saty 3.09 61 Pg **Pb 22 54 38.8 -0.5**
7.1nm,0.3s
SATY Lg Lg 22 55 18.6
44nm,0.4s
SATY Saty 3.09 61 *eP* **Pg 22 54 45.1 +1.9**
11nm,0.4s
SATY *eS* **Sg 22 55 29.4 +6.1**
54nm,0.5s
KURS Kuram 3.16 53 *eP* **Pn 22 54 34.3 +0.4**
20nm,0.4s
KURS *eS* **Sn 22 55 10.9 -0.8**
129nm,0.3s
ZHN Zhinishke 3.16 60 Pg **Pb 22 54 40.1 -0.3**
8.3nm,0.3s
ZHN Lg Lg 22 55 20.6
29nm,0.4s
ZHN Zhinishke 3.16 60 *eP* **Pb 22 54 40.1 -0.3**
8.3nm,0.3s
ZHN *eS* **Sb 22 55 20.6 +1.6**
29nm,0.4s
BTK Batken 3.34 243⇑*eP* **Pn 22 54 37.8 +1.3**
BTK ⇑*eS* **Sn 22 55 17.2 +0.9**
KK31 Karatay Array 3.44 297⇑Pg **Pb 22 54 45.4 +0.4**
1.8nm,0.3s,baz=113,slow=16,SNR=22
KK31 ⇑Lg Lg 22 55 34.9
7.4nm,0.4s,baz=117,slow=26,SNR=9.2
KKAR Karatay Array 3.44 297⇑*eP* **Pn 22 54 39.6 +1.9**
KKAR ⇑*eS* **Sn 22 55 20.5 +2.0**
BTLS Baital 3.44 352 Pg **Pg 22 54 47.3 -2.6**
7.3nm,0.5s
BTLS Lg Lg 22 55 33.0
18nm,0.3s
BTLS Baital 3.44 352 *eP* **Pg 22 54 47.3 -2.6**
7.3nm,0.5s
BTLS *eS* **Sg 22 55 33.0 -1.5**
18nm,0.3s
ARXS Arharly 3.45 41 Pg **Pb 22 54 45.2 -0.1**
11nm,0.4s
ARXS Lg Lg 22 55 29.4
54nm,0.5s
KPKS Kokpek 3.46 57 Pg **Pb 22 54 45.2 -0.4**
4.2nm,0.3s
KPKS Lg Lg 22 55 29.5
34nm,0.3s
KPKS Kokpek 3.46 57 *eP* **Pb 22 54 45.2 -0.4**
4.2nm,0.3s
KPKS *eS* **Sb 22 55 29.5 +1.8**
34nm,0.3s
IUG Iuzhnay 3.53 280 Pg **Pg 22 54 49.1 -2.5**
18nm,0.2s
IUG Lg Lg 22 55 36.0
57nm,0.5s
UZB Uzynbulak 3.54 63 Pg **Pb 22 54 46.8 0.0**
5.1nm,0.2s
UZB Lg Lg 22 55 32.1
19nm,0.5s
UZB Uzynbulak 3.54 63 *eP* **Pb 22 54 46.8 0.0**
5.1nm,0.2s
UZB *eS* **Sb 22 55 32.1 +2.2**
19nm,0.5s
BLB Baldybastay 3.71 47 Pg **Pb 22 54 50.7 +0.9**
56nm,0.4s
BLB Lg Lg 22 55 39.0
141nm,0.7s
SHLS Shalkode 3.84 65 Pg **Pg 22 54 57.6 0.0**
12nm,0.4s
SHLS Lg Lg 22 55 50.9
SHLS Shalkode 3.84 65 *eP* **Pg 22 54 57.6 0.0**
12nm,0.4s
SHLS *eS* **Sg 22 55 50.9 +3.6**
BRLS Borolday 3.87 293 Pg **Pg 22 54 57.2 -1.1**
2.8nm,0.4s
BRLS Lg Lg 22 55 50.4
10nm,0.6s
BRLS Borolday 3.87 293 *eP* **Pg 22 54 57.1 -1.1**
2.8nm,0.4s
BRLS *eS* **Sg 22 55 50.4 +2.0**
10nm,0.6s
PDGK Podgornoye 3.92 63⇑Pn **Pn 22 54 46.2 +1.7**
0.8nm,0.7s
PDGK ⇓Pg **Pg 22 54 56.6 -2.7**
4.6nm,0.6s
PDGK ⇑Lg Lg 22 55 46.8
13nm,0.6s
KNOS Konyrlen 4.26 49 Pg **Pb 22 55 01.1 +1.8**
8.1nm,0.5s
KNOS Lg Lg 22 55 56.7
24nm,0.3s
TDK Taldyqorghan 4.31 37 Pg **Pb 22 55 02.1 +2.1**
20nm,0.4s
TDK Lg Lg 22 55 58.4
41nm,0.6s
TDK Taldyqorghan 4.31 37 *eP* **Pb 22 55 02.1 +2.1**
20nm,0.4s
TDK *eS* **Sg 22 55 58.4 -4.1**
41nm,0.6s
DJR Jarkent 4.60 52 Pg **Pb 22 55 07.0 +2.1**
3.1nm,0.6s
DJR Lg Lg 22 56 06.6
16nm,0.4s
DJR Jarkent 4.60 52 *eP* **Pb 22 55 07.0 +2.1**
3.1nm,0.6s
DJR *eS* **Sg 22 56 06.6 -5.2**
16nm,0.4s
KAPS Kapalarasan 4.98 41 Pg **Pb 22 55 14.5 +3.2**
3.7nm,0.3s
KAPS Lg Lg 22 56 19.4
10nm,0.2s
MAKZ Makanchi 7.35 43⇑Lg Lg 22 57 35.7
3.6nm,1.1s
MK31 Makanchi Array 7.50 44 Pn **Pn 22 55 36.2 +2.7**
0.1nm,0.3s,baz=221,slow=14,SNR=6.0
MK31 ⇑Lg Lg 22 57 39.9
1.8nm,0.8s,baz=226,slow=29,SNR=5.8

HEL ***02*** *23:00:49.7±0.5, 67°.17N×20°.64E, h0km, ML0.9, Suspected explosion*
UPP 02 23:00:49.3±0.0, 67°.19N×20°.68E, h0km, ML1.7, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**213**	P	Pg	23 00 50.4	-0.3
DUNU				S	Sg	23 00 51.7	-0.1
DUNU	**Dundret**	**0.08**	**213**	P	Pg	23 00 51.1	+0.3
DUNU				S	Sg	23 00 52.3	+0.5
MASU	**Masugnsbyn**	**0.58**	**62**	P	Pg	23 01 00.3	0.0
MASU				S	Sg	23 01 08.3	+0.4
RATU	**Laukkuluspa**	**0.76**	**327**	P	Pg	23 01 03.2	-0.8
RATU				S	Sg	23 01 13.9	+0.1
RATU	**Laukkuluspa**	**0.76**	**327**	P	Pg	23 01 03.6	-0.3
RATU				S	Sg	23 01 14.2	+0.4
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	23 01 03.4	-0.9
KUA				S	Sg	23 01 14.2	-0.2
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	23 01 03.9	-0.4
KUA				S	Sg	23 01 14.8	+0.4
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	23 01 04.6	-1.4
ERTU				S	Sg	23 01 16.6	-0.7
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	23 01 05.5	-0.5
ERTU				S	Sg	23 01 17.3	+0.1
ERTU	**Ertsjaerv**	**0.87**	**136**	PG	Pg	23 01 04.6	-1.4
PAJU	**Pajala**	**0.97**	**99**	P	Pg	23 01 06.4	-1.4
PAJU				S	Sg	23 01 19.4	-0.8
PAJU	**Pajala**	**0.97**	**99**	P	Pg	23 01 07.2	-0.6
PAJU				S	Sg	23 01 20.5	+0.2
PAJU	**Pajala**	**0.97**	**99**	PG	Pg	23 01 06.7	-1.1
PAJU				SB	Sg	23 01 20.7	+0.4
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 01 07.5	-1.0
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 01 08.0	-0.4
LANU	**Lannavaara**	**1.00**	**30**	PG	Pg	23 01 07.9	-0.6
LANU				SN	Sn	23 01 27.4	+2.0
KOVU	**Salmi**	**1.06**	**350**	P	Pg	23 01 08.9	-0.7
KOVU	**Salmi**	**1.06**	**350**	P	Pg	23 01 09.2	-0.3
KOVU				S	Sg	23 01 23.6	+0.4
KLF	**Kolari**	**1.28**	**86**	PG	Pg	23 01 12.6	-1.2
baz=272							
KLF				MSG		23 01 28.9	
comp=Z,0.5nm,0.2s							
KLF				SG	Sg	23 01 29.9	-0.5
HEF	**Hetta**	**1.67**	**41**	PG	Pn	23 01 19.5	-0.3
HEF				MSG		23 01 40.2	
comp=Z,0.5nm,0.2s							
HEF				SN	Sg	23 01 43.2	+0.3
KALU	**Kalix**	**1.71**	**140**	P	Pn	23 01 19.9	-0.4
KALU	**Kalix**	**1.71**	**140**	P	Pn	23 01 20.9	+0.6
KALU	**Kalix**	**1.71**	**140**	PG	Pb	23 01 21.0	-0.5
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	23 01 19.7	-0.8
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	23 01 20.8	+0.3
KIF	**Kilpisjarvi**	**1.83**	**1**	PG	Pb	23 01 23.2	-0.3
KIF				MSG		23 01 45.7	
comp=Z,0.8nm,0.2s							
KIF				SG	Sg	23 01 48.7	+0.8
TOF	**Tornio**	**1.83**	**126**	PG	Pb	23 01 22.8	-0.7
TOF				MSG		23 01 44.4	
comp=Z,0.5nm,0.2s							
KTK1	**Kautokeino**	**2.07**	**26**	PG	Pb	23 01 27.1	-0.6
RNF	**Rovaniemi**	**2.18**	**103**	PG	Pn	23 01 27.8	+1.0
RNF				SG	Sb	23 01 57.8	+0.6

IDC ***02*** *23:06:42.3±0.8, 9°.90S×150°.21E, h0km, mb4.0/15, mbtmp4.0/17, ML3.2/2, MS3.4/16, Error ellipse: s-maj=18.5km s-min=17.2km az=126.0*
NEIC ***02*** *23:06:44.2±1.2, 9°.89S±0°.08×150°.2E±0°.1, h10km±1km, mb4.4/15, Error ellipse: s-maj=18.9km s-min=12.8km az=277.0*
ISC 02 23:06:46.3±0.7, 9°.94S±0°.08×150°.11E±0°.09, h28km, n52, σ1§85/41, mb4.2/20, MS3.4/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**280**	Pn	**Pn**	**23 07 31.5**	**+0.2**
33nm,0.3s,baz=85,slow=7.7,SNR=59							
PMG				Pg	**Pb**	**23 07 38.5**	**+0.2**
86nm,0.3s,baz=89,slow=10,SNR=42							
PMG				Lg	Lg	23 08 16.7	
55nm,0.3s,baz=99,slow=19,SNR=1.6							
PMG				LR	LR	23 09 04.0	
comp=Z,1μm,18.4s,baz=24,slow=46							
134nm,0.6s							
RABL	**Rabaul**	**6.07**	**20**	Pn	**Pn**	**23 08 10.6**	**-3.6**
COEN	**Coen**	**7.87**	**239**	Pn	**Pn**	**23 08 38.4**	**-0.6**
HNR	**Honiara**	**9.71**	**88**	LR	LR	23 11 46.1	
comp=Z,103nm,19.8s,baz=334,slow=32							
JAY	**Jayapura**	**11.90**	**308**	LR	LR	23 14 25.1	
comp=Z,176nm,18.9s,baz=3.5,slow=39							
EIDS	**Eidsvold**	**15.37**	**177**	Pn	**Pn**	**23 10 22.6**	**+1.2**
EIDS				IAmb	IAmb	23 10 34.7	
comp=Z,33nm,1.4s							
WR0	**Warramunga Arr**	**18.02**	**235**	P	**Pn**	**23 10 55.0**	**+0.1**
WR0				IAmb	IAmb	23 11 14.7	
comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	**18.18**	**235**	P	**Pn**	**23 10 56.9**	**+0.1**
WRA	**Warramunga Arr**	**18.18**	**235**	P	**P**	**23 10 58.0**	**+1.2**
comp=Z,0.3nm,0.3s,baz=64,slow=12,SNR=9.4							
WRA				S	**Sn**	**23 14 09.5**	**-9.5**
comp=Z,0.4nm,0.7s,baz=50,slow=24,SNR=2.1							
WRA				LR	LR	23 18 02.4	
comp=Z,128nm,18.1s,baz=64,slow=37							
comp=Z,1.4nm,0.7s							
MTN	**Manton Dam**	**18.82**	**259**	P	**P**	**23 11 04.2**	**+0.2**
DZM	**Mont Dzumac**	**19.77**	**130**	LR	LR	23 17 56.9	
comp=Z,145nm,19.7s,baz=11,slow=34							
AS31	**Alice Springs**	**20.63**	**227**	P	**P**	**23 11 24.6**	**+0.9**
ASAR	**Alice Springs**	**20.63**	**227**	P	**P**	**23 11 24.2**	**+0.5**
ASAR	**Alice Springs**	**20.63**	**227**	P	**P**	**23 11 25.4**	**+1.6**
comp=Z,1.9nm,0.5s,baz=57,slow=9.3,SNR=14							
ASAR				LR	LR	23 18 35.3	
comp=Z,74nm,18.1s,baz=79,slow=34							
comp=Z,1.9nm,0.5s							
KNRA	**Kununurra**	**21.57**	**252**	P	**P**	**23 11 33.8**	**-0.1**
KNRA				IAmb	IAmb	23 11 56.1	
comp=Z,18nm,1.1s							
STKA	**Stephens Creek**	**23.21**	**199**	P	**P**	**23 11 51.5**	**+0.4**
comp=Z,3.8nm,1.0s,baz=16,slow=10,SNR=4.0							
comp=Z,3.8nm,1.0s							
GUMO	**Guam**	**23.95**	**347**	LR	LR	23 20 23.4	
comp=Z,61nm,19.9s,baz=78,slow=34							
FITZ	**Fitzroy Crossi**	**25.06**	**248**	P	**P**	**23 12 08.5**	**0.0**
FITZ				IAmb	IAmb	23 12 16.4	
comp=Z,2.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**25.06**	**248**	LR	LR	23 22 28.6	
comp=Z,104nm,18.1s,baz=61,slow=38							
SOEI	**Soe**	**25.46**	**268**	P	**P**	**23 12 13.0**	**+0.7**
SOEI				IAmb	IAmb	23 12 29.7	
comp=Z,14nm,1.0s							
MSVF	**Nonsavu**	**28.19**	**109**	LR	LR	23 22 07.7	
comp=Z,177nm,18.6s,baz=83,slow=33							
JAGI	**Jajag, Banyuwa**	**35.51**	**269**	P	**P**	**23 13 41.2**	**+0.1**
URZ	**Urewera**	**37.17**	**144**	LR	LR	23 27 36.8	
comp=Z,97nm,19.1s,baz=38,slow=34							
JCJ	**Chichijima**	**37.61**	**348**	LR	LR	23 26 59.9	
comp=Z,40nm,19.9s,baz=123,slow=32							
NWAO	**Narrogin (SRO)**	**37.94**	**228**	LR	LR	23 29 51.1	
comp=Z,90nm,19.1s,baz=264,slow=36							
MJAR	**Matsushiro Arr**	**47.57**	**347**	P	**P**	**23 15 20.1**	**+0.5**
comp=Z,1.3nm,0.8s,baz=164,slow=7.2,SNR=2.0							
comp=Z,1.3nm,0.8s							
RAR	**Rarotonga**	**49.38**	**109**	LR	LR	23 36 03.5	
comp=Z,42nm,18.1s,baz=276,slow=36							
KSRS	**Korea Array**	**51.53**	**337**	P	**P**	**23 15 51.0**	**+1.3**
comp=Z,0.4nm,0.3s,baz=166,slow=6.3,SNR=5.4							
comp=Z,0.4nm,0.3s							
PSI	**Prapat**	**52.52**	**281**	LR	LR	23 40 36.8	
comp=Z,38nm,19.7s,baz=112,slow=39							
ASAJ	**Asahikawa**	**54.23**	**353**	LR	LR	23 36 59.0	
comp=Z,24nm,21.9s,baz=178,slow=34							
USRK	**Ussuriysk Ar.**	**56.34**	**344**	P	**P**	**23 16 25.3**	**+0.6**
comp=Z,1.1nm,0.6s,baz=124,slow=8.9,SNR=2.3							
comp=Z,1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**57.83**	**299**	P	**P**	**23 16 37.2**	**+1.4**
comp=Z,1.1nm,0.3s,baz=113,slow=7.7,SNR=4.6							
comp=Z,1.1nm,0.3s							
PPT	**Papeete**	**58.88**	**105**	LR	LR	23 37 53.9	
comp=Z,30nm,19.0s,baz=4.5,slow=32							
KLR	**Kul'dur**	**61.09**	**346**	P	**P**	**23 16 57.5**	**-0.1**
comp=Z,0.3nm,0.3s,baz=108,slow=9.9,SNR=2.5							
comp=Z,0.3nm,0.3s							
SONM	**Songino Array**	**69.33**	**330**	P	**P**	**23 17 51.4**	**+0.1**
SONM	**Songino Array**	**69.33**	**330**	P	**P**	**23 17 53.5**	**+2.1**
comp=Z,4.3nm,1.1s,baz=138,slow=5.7,SNR=16							
comp=Z,4.3nm,1.1s							
QSPA	**South Pole Qui**	**80.05**	**180**	P	**P**	**23 18 54.7**	**+1.4**
QSPA				IAmb	IAmb	23 18 55.2	
comp=Z,4.2nm,0.8s							
QSPA	**South Pole Qui**	**80.05**	**180**	P	**P**	**23 18 54.3**	**+1.0**
comp=Z,3.8nm,0.7s,baz=324,slow=1.1,SNR=25							
comp=Z,3.8nm,0.7s							
MKAR	**Makanchi Array**	**82.48**	**320**	P	**P**	**23 19 05.9**	**-0.4**
MKAR	**Makanchi Array**	**82.48**	**320**	P	**P**	**23 19 06.8**	**+0.5**
comp=Z,0.2nm,0.5s,baz=108,slow=7.0,SNR=5.0							
comp=Z,0.2nm,0.5s							
TIXI	**Tiksi**	**82.64**	**353**	P	**P**	**23 19 06.3**	**-0.2**
comp=Z,1.1nm,0.3s,baz=95,slow=2.4,SNR=2.0							
comp=Z,1.1nm,0.3s							
L18K	**Granite Mounta**	**82.82**	**22**	P	**P**	**23 19 07.5**	**-0.2**
L18K				IAmb	IAmb	23 19 10.2	
comp=Z,5.5nm,1.1s							
TTA	**Tatalina**	**83.50**	**22**	P	**P**	**23 19 11.7**	**+0.5**
TTA				IAmb	IAmb	23 19 34.5	
comp=Z,6.3nm,1.5s							
ZALV	**Zalesovo Beam**	**83.97**	**327**	P	**P**	**23 19 14.2**	**+0.5**
comp=Z,1.2nm,0.8s,baz=92,slow=7.7,SNR=5.0							
comp=Z,1.2nm,0.8s							
F17K	**Baldwin Pennin**	**84.00**	**18**	P	**P**	**23 19 14.0**	**+0.4**
SML	**Sawmill**	**85.88**	**25**	P	**P**	**23 19 23.5**	**+0.2**
SML				IAmb	IAmb	23 19 24.3	
comp=Z,5.6nm,1.0s							
KURBB	**Kurchatov Arra**	**86.21**	**323**	P	**P**	**23 19 24.3**	**-0.8**
comp=Z,0.2nm,0.7s,baz=101,slow=4.3,SNR=1.5							
comp=Z,0.2nm,0.7s							
ILAR	**Eielson Array**	**87.90**	**22**	P	**P**	**23 19 32.2**	**-0.8**
ILAR	**Eielson Array**	**87.90**	**22**	P	**P**	**23 19 31.6**	**-1.3**
comp=Z,2.4nm,0.7s,baz=250,slow=4.7,SNR=40							
comp=Z,2.4nm,0.7s							
BCAR	**Beaver Creek A**	**89.16**	**25**	P	**P**	**23 19 39.9**	**+0.9**
BVAR	**Borovoye Array**	**91.75**	**324**	P	**P**	**23 19 50.0**	**-1.3**
comp=Z,0.3nm,0.6s,baz=113,slow=3.7,SNR=2.1							
comp=Z,0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**148.90**	**279**	PKPbc	**PKPbc**	**23 26 33.0**	**+0.5**
comp=Z,2.8nm,0.4s,baz=44,slow=3.2,SNR=4.3							

MEX ***02*** *23:10:08.9±0.7, 14°.65N×92°.47W, h76km±9km, MD3.9*
GCG ***02*** *23:10:09.0±1.0, 14°.66N×92°.38W, h70km±9km, MD3.4*
ISC 02 23:10:08.6±1.7, 14°.71N±0°.08×92°.45W±0°.07, h71km±11km, n14, σ1§79/26, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.27**	**42**	*eP*	**Pn**	**23 10 19.9**	**+0.2**
THIG				*eS*	**Sn**	**23 10 27.3**	**-0.5**
THIG		**0.27**	**42**	*i P*	**Pn**	**23 10 20.1**	**+0.4**
THIG		**0.27**	**42**	*i P*		23 10 20.1	
SMCA	**Catarina**	**0.39**	**68**	*i P*	**Pn**	**23 10 20.3**	**-0.3**
SMCA				*i S*	**Sn**	**23 10 29.9**	**+0.5**
SMCA	**Catarina**	**0.39**	**68**	*i P*		23 10 20.3	
SMCA				*i S*		23 10 29.9	
PATR	**El Naranjo**	**0.46**	**27**	*eP*	**Pn**	**23 10 20.9**	**-0.4**
PATR				*eS*	**Sn**	**23 10 30.9**	**+0.1**
PAVE	**Pavencul**	**0.55**	**29**	*eP*	**Pn**	**23 10 22.0**	**-0.2**
PAVE				*eS*	**Sn**	**23 10 33.2**	**+0.9**
RTAL	**Retalhuleu**	**0.75**	**104**	*eP*	**Pn**	**23 10 23.9**	**-0.3**
RTAL				*eS*	**Sn**	**23 10 35.2**	**-0.5**
STG8	**El Palmar, Qui**	**1.09**	**103**	*i P*		23 10 24.8	
STG0	**El Palmar, Qui**	**1.11**	**105**	*i P*		23 10 24.9	
STG0				*i S*		23 10 38.1	
CCIG	**Comitan**	**1.59**	**11**	*eP*	**Pn**	**23 10 36.5**	**+1.5**
CCIG				*eS*	**Sn**	**23 10 51.8**	**-3.1**
CCIG	**Comitan**	**1.59**	**11**	*i P*	**Pn**	**23 10 36.5**	**+1.5**
CCIG				*i S*	**Sn**	**23 10 58.3**	**+3.4**
CCIG	**Comitan**	**1.59**	**11**	*i P*		23 10 36.5	
CCIG				*i S*		23 10 58.3	
ESSG	**Sabana Grande**	**1.60**	**101**	*i S*	**Sn**	**23 10 54.9**	**-0.1**
ESSG	**Sabana Grande**	**1.60**	**101**	*i S*		23 10 54.9	
CARR	**Arriaga**	**2.08**	**318**	*eP*	**Pn**	**23 10 42.7**	**+1.3**
CARR				*eS*	**Sn**	**23 11 08.4**	**+2.1**
TGIG		**2.16**	**343**	*eP*	**Pn**	**23 10 42.3**	**-0.1**
TGIG				*eS*	**Sn**	**23 11 04.7**	**-3.6**
NILT	**Santiago Nilte**	**2.79**	**312**	*eP*	**Pn**	**23 10 51.3**	**+0.4**
NILT				*eS*	**Sn**	**23 11 23.4**	**0.0**
UXUV	**UXUV**	**3.06**	**328**	*eP*	**Pn**	**23 10 55.6**	**+0.9**
UXUV				*eS*	**Sn**	**23 11 25.5**	**-4.7**
CMIG	**Matias Romero**	**3.33**	**316**	*eP*	**Pn**	**23 10 58.6**	**+0.3**
CMIG				*eS*	**Sn**	**23 11 36.9**	**+0.1**

IDC ***02*** *23:31:24.3±0.9, 29°.54S×178°.97W, h311km±9km, mb3.1/4, mbtmp4.1/7, Error ellipse: s-maj=24.4km s-min=22.2km az=146.0*
ISC 02 23:31:22.0±0.7, 29°.77S±0°.06×178°.7W±0°.1, h300km, n62, σ2§00/70, mb3.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.86**	**54**	P	**Pn**	**23 32 05.9**	**+4.1**
GLKZ				S	**S**	**23 32 31.3**	**-2.1**
RIZ	**Raoul Island**	**0.86**	**53**	P	**Pn**	**23 32 05.8**	**+4.0**
RIZ				S	**S**	**23 32 30.7**	**-2.8**
RAO	**Raoul Island**	**0.87**	**54**	P	**Pn**	**23 32 05.7**	**+3.9**
288nm,0.3s,baz=287,slow=19,SNR=10.0							
RAO				S	**S**	**23 32 29.2**	**-4.3**
169nm,0.3s,baz=301,slow=19,SNR=4.0							
RAO	**Raoul Island**	**0.87**	**54**	P	**Pn**	**23 32 05.7**	**+3.9**
GRZ	**Great Barrier**	**8.10**	**216**	P	Pn	23 33 22.3	+5.6
MXZ	**Matakaoa Point**	**8.16**	**197**	P	**Pn**	**23 33 18.2**	**+0.9**
MXZ				S	**S**	**23 34 51.3**	**+0.3**
OUZ	**Omahuta**	**8.46**	**228**	P		23 33 28.2	
WCZ	**Waipu Caves**	**8.48**	**222**	P		23 33 28.3	
HAZ	**Te Kaha**	**8.48**	**199**	P	**Pn**	**23 33 22.1**	**+0.8**
HAZ				S	**S**	**23 34 58.0**	**-0.2**
PKGZ	**Pakihiroa**	**8.50**	**197**	P	**Pn**	**23 33 23.1**	**+1.4**
PKGZ				S	**S**	**23 34 59.4**	**+0.6**
PUZ	**Puketiti**	**8.65**	**196**	P	**Pn**	**23 33 24.0**	**+0.5**
PUZ				S	**S**	**23 35 01.4**	**-0.8**
RUGZ	**Raukumara Rang**	**8.71**	**199**	P	**Pn**	**23 33 24.7**	**+0.5**
MKAZ	**Moumakai**	**8.92**	**213**	P	**Pn**	**23 33 30.1**	**+3.4**
TGRZ	**Tauranga**	**8.97**	**206**	P	**Pn**	**23 33 30.6**	**+3.3**
CNGZ	**Carnagh Statio**	**9.06**	**195**	P	**Pn**	**23 33 29.7**	**+1.3**
MWZ	**Matawai**	**9.09**	**199**	P	**Pn**	**23 33 28.9**	**0.0**
MWZ				S	**S**	**23 35 12.5**	**+0.4**
TKGZ	**Te Karaka**	**9.10**	**197**	P	**Pn**	**23 33 28.8**	**-0.1**
URZ	**Urewera**	**9.15**	**201**	P	**Pn**	**23 33 29.8**	**+0.4**
36nm,0.3s,baz=360,slow=2.4,SNR=43							
URZ				S	**S**	**23 35 11.2**	**-2.1**
20nm,0.4s,baz=79,slow=10,SNR=8.9							
URZ	**Urewera**	**9.15**	**201**	P	**Pn**	**23 33 29.7**	**+0.2**
URZ				S	**S**	**23 35 14.1**	**+0.8**
TOZ	**Tahuroa Road**	**9.28**	**210**	P	**P**	**23 33 36.0**	**+0.5**
RIGZ	**Rimuhau**	**9.38**	**197**	P	**Pn**	**23 33 32.3**	**0.0**
RTZ	**Ruatahuna**	**9.51**	**201**	P	**Pn**	**23 33 33.6**	**-0.5**
KNZ	**Kokohu**	**9.70**	**197**	P	**Pn**	**23 33 35.4**	**-0.8**
TLZ	**Tolley Road**	**9.78**	**208**	P	**Pn**	**23 33 40.2**	**+3.0**
BKZ	**Black Stump Fm**	**10.17**	**202**	P	**Pn**	**23 33 42.1**	**-0.1**
HIZ	**Hauiti**	**10.21**	**210**	P	**P**	**23 33 46.2**	**+0.3**
NGZ	**Ngauruhoe**	**10.49**	**205**	P	**Pn**	**23 33 46.9**	**+0.8**
PXZ	**Pawanui**	**10.86**	**198**	P	**Pn**	**23 33 50.8**	**+0.3**
TSZ	**Takapari Road**	**11.15**	**202**	P	**Pn**	**23 33 52.7**	**-1.4**
NEZ	**North Egmont**	**11.17**	**210**	P	**P**	**23 33 57.2**	**+0.5**
WAZ	**Wanganui**	**11.22**	**206**	P	**Pn**	**23 33 55.7**	**+0.8**
BFZ	**Birch Farm**	**11.64**	**199**	P	**Pn**	**23 33 58.8**	**-1.2**
NFK	**Norfolk Island**	**11.66**	**270**	P	P	23 34 10.0	+7.9
MRZ	**Mangatainoka R**	**11.82**	**202**	P	**Pn**	**23 34 00.3**	**-1.9**
KIW	**Kapiti Island**	**12.22**	**203**	P	**Pn**	**23 34 05.7**	**-1.4**
KIW				S	**S**	**23 36 16.7**	**-6.2**
MSVF	**Nonsavu**	**12.34**	**345**	P	**Pn**	**23 34 06.7**	**-2.1**
8.6nm,0.3s,baz=178,slow=7.4,SNR=30							
CAW	**Cannon Point**	**12.39**	**202**	P	**Pn**	**23 34 07.4**	**-1.7**
NNZ	**Nelson**	**13.10**	**207**	P	**Pn**	**23 34 16.0**	**-1.7**
QRZ	**Quartz Range**	**13.13**	**211**	P	**Pn**	**23 34 16.2**	**-1.9**
THZ	**Tophouse**	**13.75**	**207

1.4nm,1.1s
PETK Petropavlovsk- 85.05 346 P **P 23 43 23.8 +0.1**
2.2nm,0.7s,baz=103,slow=9.9,SNR=6.8
2.2nm,0.7s
BVAR Borovoye Array 125.52 316 PKP **PKPdf 23 49 47.4 +0.3**
0.9nm,0.7s,baz=42,slow=2.3,SNR=2.6
FINES FINESS Array B 144.34 340 PKP **PKPab 23 50 20.5 -0.2**
2.3nm,0.5s,baz=48,slow=4.0,SNR=32
NOA NORSAR Array B 148.03 351 PKPbc **PKPbc 23 50 31.5 0.0**
0.7nm,0.9s,baz=19,slow=2.8,SNR=1.4
HFS Hagfors 148.50 348 PKPbc **PKPbc 23 50 32.5 -0.2**
4.4nm,1.0s,baz=50,slow=2.3,SNR=7.8
AKASG Malin Array Be 150.42 323 PKPbc **PKPbc 23 50 37.4 -0.2**
0.4nm,0.3s,baz=47,slow=3.4,SNR=6.6
MMAI Mount Meron Ar 150.77 285 PKPbc **PKPbc 23 50 40.1 +0.9**
1.5nm,0.6s,baz=88,slow=5.9,SNR=4.1

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*IDC **03** 00:03:51.6±1.7,2°.77S×128°.40E,h0km,mb3.7/3,*
mbtmp3.7/5,ML3.7/2,Error ellipse: s-maj=106.5km
s-min=22.3km az=71.0
*DJA **03** 00:03:55.8±0.2,3°S±2°×12°8E±°,h10km,M4.0/11,mB4.8/2,*
mb4.1/4,MLv3.9/11,Mw(mB)4.0/2,MwMwp4.4/1,Mwp4.8/1
ISC 03 00:03:57.3±1.0,2°.92S±0°.07×128°.20E±0°.06,h35km,n12,
σ1§33/16,mb3.7/3,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.76**	**180**	P	**Pn**	**00 04 10.7**	**-0.8**
AAI				S	**Sn**	**00 04 21.8**	**0.0**
MSAI	**Masohi**	**0.84**	**120**	P	**Pn**	**00 04 13.7**	**+1.0**
NLAI	**Namlea**	**1.14**	**254**	P	**Pn**	**00 04 17.9**	**+1.2**
NLAI				S	**Sn**	**00 04 33.6**	**+2.5**
SANI	**Sanana**	**2.37**	**291**	P	**Pn**	**00 04 33.1**	**-0.6**
SANI				S	**Sn**	**00 04 59.9**	**-1.7**
SWI	**Sorong**	**3.68**	**56**	P	**Pn**	**00 04 53.5**	**+1.7**
FAKI	**Fak Fak**	**4.05**	**90**	P	**Pn**	**00 04 57.8**	**+1.0**
APSI	**Ampana**	**6.84**	**287**	P	**Pn**	**00 05 36.2**	**+1.0**
918nm48nm,0.6s
FITZ Fitzroy Crossi 15.29 189 Pn **Pn 00 07 31.8 +1.2**
0.2nm,0.3s,baz=27,slow=7.8,SNR=5.7
1.5nm,0.9s
WRA Warramunga Arr 17.95 161 P **Pn 00 08 02.9 -1.4**
0.3nm,0.3s,baz=340,slow=12,SNR=18
0.6nm,0.3s
ASAR Alice Springs 21.35 165 P **P 00 08 41.1 -0.5**
1.1nm,0.3s,baz=345,slow=12,SNR=26
ASAR S **S 00 12 35.8 -1.2**
0.3nm,0.6s,baz=351,slow=22,SNR=2.7
1.1nm,0.3s
MKAR Makanchi Array 63.85 327 P **P 00 14 25.4 -1.0**
0.4nm,0.6s,baz=141,slow=7.4,SNR=4.5
0.4nm,0.6s
KURBB Kurchatov Arra 68.12 328 P **P 00 14 54.0 +0.4**
0.5nm,0.6s,baz=130,slow=5.3,SNR=5.6
0.5nm,0.6s

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*SOME **03** 00:06:57.6,40°.85N×82°.87E,h5km*
NNC 03 00:07:01.6±2.7,41°.62N×83°.34E,h0km,mb3.4,mpv3.0,
4C-1D,Error ellipse: s-maj=18.9km s-min=12.6km
az=155.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.26**	**299**	Pg	Pn	00 07 57.1	+3.0
2.3nm,0.3s
SHLS Lg Lg 00 08 39.5
20nm,0.3s
SHLS Shalkode 3.26 299 *eP* Pn 00 07 56.9 +2.8
1.2nm,0.1s
SHLS *eS* Sb 00 08 40.1 -0.7
20nm,0.3s
PDGK Podgornoye 3.32 302 ⇓Pg Pb 00 08 03.0 +1.5
1.7nm,0.7s
PDGK ⇑Sn Sn 00 08 34.2 -1.1
1.2nm,0.4s
PDGK ⇑Lg Lg 00 08 48.5
5.5nm,0.6s
UZB Uzynbulak 3.55 297 Pg Pb 00 08 06.3 +0.9
4.7nm,0.2s
UZB Lg Lg 00 08 54.6
8.4nm,0.4s
UZB Uzynbulak 3.55 297 *eP* Pb 00 08 05.8 +0.5
4.0nm,0.1s
UZB *eS* Sg 00 08 55.3 -0.3
8.4nm,0.4s
KPKS Kokpek 3.91 300 Pg Pb 00 08 13.0 +1.6
1.5nm,0.3s
KPKS Lg Lg 00 09 06.1
14nm,0.3s
KPKS Kokpek 3.91 300 *eP* Pb 00 08 12.2 +0.8
0.8nm,0.1s
KPKS *eS* Sg 00 09 05.8 -1.3
8.8nm,0.3s
SATY Saty 3.93 293 Pg Pb 00 08 13.4 +1.5
1.0nm,0.2s
SATY Lg Lg 00 09 07.3
6.1nm,0.4s
ZHN Zhinishke 3.95 295 Pg Pb 00 08 13.8 +1.6
1.2nm,0.2s
ZHN Lg Lg 00 09 07.7
4.9nm,0.4s
ZHN Zhinishke 3.95 295 *eP* Pb 00 08 12.2 0.0
0.5nm,0.1s
ZHN *eS* Sg 00 09 06.2 -2.4
5.7nm,0.3s
BLB Baldybastay 4.35 306 Pg Pb 00 08 21.6 +2.6
3.5nm,0.5s
BLB Lg Lg 00 09 20.8
3.1nm,0.7s
MK31 Makanchi Array 5.23 352 Pg Pg 00 08 39.1 -2.8
0.4nm,0.6s,baz=177,slow=15,SNR=4.0
MK31 ⇑Sn Sn 00 09 22.4 +0.2
0.3nm,0.4s
MK31 ⇑Lg Lg 00 09 54.3
1.0nm,0.5s,baz=168,slow=28,SNR=3.6
KTBS Karatobe 5.34 295 Pg Pb 00 08 39.0 +3.2
0.6nm,0.6s
KTBS Lg Lg 00 09 50.6
3.1nm,0.5s

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*SOME **03** 00:13:25.8,40°.40N×78°.63E,h5km*
*KRNET **03** 00:13:26.2±0.1,39°.89N×78°.58E,mb3.0*
*NNC **03** 00:13:29.4±1.4,40°.49N×78°.68E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=9.3km s-min=7.3km az=156.0
ISC 03 00:13:25.9±2.1,40°.03N±0°.09×78°.41E±0°.06,h10km,n43,
σ2§01/66,16C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.29**	**337**	⇑*iP*	**Pb**	**00 14 05.6**	**-1.8**
KDJ ⇑*iS* **Sn 00 14 34.1 +1.8**
PRZ Przheval'sk 2.45 360 ⇓*eP* **Pn 00 14 07.4 +1.3**
PRZ ⇓*eS* **Sn 00 14 37.3 +1.1**
ULHL Ulahol 2.75 324 ⇓*iP* **Pn 00 14 12.0 +1.8**
ULHL ⇓*iS* **Sn 00 14 45.1 +1.5**
ANVS Anan'yevo 2.81 349 ⇑*iP* **Pn 00 14 12.6 +1.6**
ANVS ⇑*iS* **Sn 00 14 45.8 +0.8**
SATY Saty 3.03 0 Pg **Pb 00 14 17.6 -2.3**
28nm,0.5s
SATY Lg Lg 00 14 53.9
107nm,0.7s
BOOM Boomskoye usch 3.08 324 ⇓*iP* **Pn 00 14 16.5 +1.8**
BOOM ⇓*iS* **Sn 00 14 52.9 +1.2**
ZHN Zhinishke 3.13 0 Pg **Pb 00 14 18.8 -2.9**
12nm,0.8s
ZHN Lg Lg 00 14 54.9
39nm,0.6s
ZHN Zhinishke 3.13 0 *eP* **Pn 00 14 17.4 +1.9**
2.1nm,0.2s
ZHN *eS* **Sn 00 14 54.8 +1.8**
39nm,0.3s
UZB Uzynbulak 3.15 8 *eP* **Pn 00 14 16.6 +1.0**
2.7nm,0.1s
UZB *eS* **Sn 00 14 53.4 0.0**
49nm,0.5s
TNSS Tian-Shan 3.20 340 Pg **Pb 00 14 21.4 -1.6**
14nm,0.4s
TNSS Lg Lg 00 14 59.2
15nm,0.6s
TNSS Tian-Shan 3.20 340 *eP* **Pb 00 14 21.2 -1.8**
10nm,0.3s
TNSS *eS* **Sb 00 15 01.4 -0.8**
15nm,0.6s

SHLS Shalkode 3.22 14 Pg **Pn 00 14 19.6 +2.9**
16nm,0.7s
SHLS Lg Lg 00 14 56.2
23nm,0.5s
SHLS Shalkode 3.22 14 *eP* **Pn 00 14 19.1 +2.4**
1.9nm,0.3s
SHLS *eS* **Sn 00 14 57.7 +2.5**
23nm,0.5s
KOTS Kotyrbulak 3.34 344 Pg **Pb 00 14 24.2 -1.1**
13nm,0.4s
KOTS Lg Lg 00 15 04.0
75nm,0.7s
KOTS Kotyrbulak 3.34 344 *eP* **Pb 00 14 22.2 -3.1**
4.3nm,0.3s
KOTS *eS* **Sb 00 15 03.0 -3.1**
44nm,0.4s
KNDC Almaty 3.36 342 ⇑Pg **Pb 00 14 25.8 +0.2**
14nm,0.5s
KNDC ⇑Lg Lg 00 15 07.0
21nm,0.7s
PDGK Podgornoye 3.40 13 ⇓Pg **Pn 00 14 20.8 +1.8**
8.1nm,0.6s
PDGK ⇑Lg Lg 00 14 58.6
27nm,0.8s
KPKS Kokpek 3.44 3 Pg **Pn 00 14 22.8 +3.2**
11nm,0.4s
KPKS Lg Lg 00 15 02.8
26nm,0.6s
KPKS Kokpek 3.44 3 *eP* **Pn 00 14 21.5 +1.9**
5.8nm,0.2s
KPKS *eS* **Sn 00 15 01.9 +1.4**
45nm,0.5s
KPKS Kokpek 3.44 3 *eP* **Pg 00 14 30.8 -0.9**
3.4nm,0.3s
KPKS *eS* **Sg 00 15 17.7 +1.4**
20nm,0.4s
KURS Kuram 3.46 357 Pg **Pb 00 14 25.5 -1.8**
9.7nm,0.6s
KURS Lg Lg 00 15 06.3
28nm,0.6s
KURS Kuram 3.46 357 *eP* **Pg 00 14 33.1 +0.9**
2.2nm,0.1s
KURS *eS* **Sg 00 15 21.8 +4.9**
45nm,0.5s
KST Kastek 3.52 329 Pg **Pb 00 14 28.6 +0.2**
6.7nm,0.6s
KST Lg Lg 00 15 13.4
25nm,0.8s
KST Kastek 3.52 329 *eP* **Pb 00 14 26.9 -1.5**
6.6nm,0.3s
KST *eS* **Sb 00 15 10.8 -0.5**
15nm,0.3s
TKM2 Tokmak 2 3.58 325 ⇓*iP* **Pn 00 14 23.3 +1.7**
TKM2 ⇓*iS* **Sn 00 15 05.1 +1.1**
ARLS Aral 3.59 302 ⇑*iP* **Pn 00 14 23.2 +1.4**
ARLS ⇑*eS* **Sn 00 15 05.1 +0.8**
SALK Salom-Alik 3.60 285 ⇑*iP* **Pn 00 14 23.5 +1.6**
SALK ⇑*iS* **Sn 00 15 05.2 +0.7**
DGS Degeres 3.77 329 Pg **Pb 00 14 33.3 +0.8**
5.4nm,1.1s
DGS Lg Lg 00 15 19.6
20nm,0.7s
KTBS Karatobe 3.90 341 Pg **Pb 00 14 34.2 -0.5**
5.5nm,0.5s
KTBS Lg Lg 00 15 21.3
21nm,0.4s
AAK Ala-Archa 3.93 313 ⇓Pg **Pb 00 14 37.6 +2.2**
4.8nm,0.7s
AAK ⇓Lg Lg 00 15 28.9
8.9nm,0.8s
AAK Ala-Archa 3.93 313 ⇑*eP* **Pn 00 14 28.1 +1.7**
AAK ⇑*iS* **Sn 00 15 13.1 +0.4**
CHKK Chushkaly 3.96 345 Pg **Pb 00 14 36.4 +0.6**
7.0nm,0.5s
CHKK Lg Lg 00 15 24.8
20nm,0.7s
CHKK Chushkaly 3.96 345 *eP* **Pb 00 14 33.1 -2.7**
2.2nm,0.1s
CHKK *eS* **Sb 00 15 21.8 -2.0**
45nm,0.5s
BLB Baldybastay 4.06 1 Pg **Pb 00 14 35.9 -1.7**
18nm,0.8s
BLB Lg Lg 00 15 24.9
22nm,0.8s
AML Almayashu 4.13 302 ⇓*eP* **Pn 00 14 30.9 +1.5**
AML ⇓*iS* **Sn 00 15 18.2 +0.2**
KRBS Karabastau 4.19 332 Pg **Pb 00 14 41.0 +1.3**
2.7nm,0.5s
KRBS Lg Lg 00 15 32.8
3.4nm,0.4s
ARXS Arharly 4.20 354 Pg **Pb 00 14 39.0 -0.9**
5.6nm,0.6s
ARXS Lg Lg 00 15 29.7
20nm,0.5s
USP Ospenovka 4.36 319 ⇑*iP* **Pn 00 14 34.0 +1.8**
USP ⇑*iS* **Sn 00 15 23.4 +0.3**
KNOS Konyrlen 4.36 7 Pg **Pb 00 14 41.8 -0.9**
2.4nm,0.5s
KNOS Lg Lg 00 15 34.1
7.5nm,0.7s
DJR Jarkent 4.42 13 *eP* **Pb 00 14 40.2 -3.4**
0.4nm,0.1s
DJR *eS* **Sb 00 15 33.9 -3.1**
7.6nm,0.4s
SGDS Sogindy 4.43 322 Pg **Pb 00 14 46.1 +2.2**
2.0nm,0.5s
SGDS Lg Lg 00 15 41.6
8.7nm,0.8s
MRKS Merke 4.75 307 *eP* **Pb 00 14 51.5 +2.3**
0.3nm,0.1s
MRKS *eS* **Sg 00 15 53.2 -5.0**
3.4nm,0.5s
KK31 Karatay Array 6.67 300 ⇓Pg **Pg 00 15 30.2 -3.3**
0.2nm,0.2s
KK31 ⇑Lg Lg 00 16 57.3
0.3nm,0.3s,baz=120,slow=29,SNR=3.6

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*IDC **03** 00:43:49.2±1.1,7°.07S×110°.25E,h0km,mb3.7/5,*
mbtmp3.7/7,ML3.7/2,Error ellipse: s-maj=52.6km
s-min=18.6km az=40.0
*DJA **03** 00:43:54.7±0.7,9°S±4°×10°9E±°,h12km±5km,M4.1/18,*
mb4.3/2,MLv4.0/18
ISC 03 00:43:55.6±1.1,8.7S±0°.1×109°.16E±0°.07,h35km,n27,
σ1§25/21,mb3.6/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.11**	**321**	P	**Pn**	**00 44 14.5**	**-0.3**
YOGI	**Yogyakarta**	**1.39**	**54**	P	**Pn**	**00 44 17.0**	**-1.6**
UGM	**Wanagama**	**1.53**	**62**	P	**Pn**	**00 44 19.6**	**-0.9**
SMRI	**Semarang**	**2.03**	**39**	P	**Pn**	**00 44 26.1**	**-1.3**
PCJI	**Pacitan**	**2.04**	**77**	P	**Pn**	**00 44 27.9**	**+0.4**
LEM	**Lembang**	**2.37**	**320**	Pn	**Pn**	**00 44 33.5**	**+1.3**
21nm,0.3s,baz=142,slow=22,SNR=9.4
LEM Sn **Sn 00 45 02.0 +1.8**
23nm,0.3s,baz=342,slow=23,SNR=12
57nm,0.4s
LEM Lembang 2.37 320 P **Pn 00 44 33.7 +1.5**
CNJI Cibinong 2.42 303 P **Pn 00 44 32.7 0.0**
NGJI Ngawi 2.61 61 P **Pn 00 44 36.3 +1.0**
NGJI S **Sn 00 45 07.4 +1.6**
GRJI Gresik 3.71 63 P **Pn 00 44 50.3 -0.2**
CGJI Cibinong 3.99 300 P **Pn 00 44 55.2 +0.8**
GMJI Gumukmas 4.25 85 P **Pn 00 44 59.4 +1.5**
JAGI Jajag, Banyuwa 4.94 88 P **Pn 00 45 08.2 +0.8**
SRBI Singaraja 6.01 85 P **Pn 00 45 23.3 +1.2**
0.1nm18nm,0.9s
PLAI Plampang 8.52 92 P **Pn 00 45 57.5 +0.9**
FITZ Fitzroy Crossi 18.56 122 P **P 00 48 09.2 -0.4**
0.1nm,0.3s,baz=259,slow=10,SNR=2.5
FITZ S Sn 00 51 24.7 -12
0.8nm,0.7s,baz=334,slow=19,SNR=1.4
1.6nm,0.7s
WRA Warramunga Arr 26.81 117 P **P 00 49 30.7 -2.2**
1.6nm,1.0s,baz=288,slow=9.9,SNR=8.8
1.6nm,1.0s
ASAR Alice Springs 27.99 125 P **P 00 49 42.3 -1.1**
0.9nm,0.6s,baz=306,slow=9.4,SNR=14
0.9nm,0.6s
H08S2 Diego Garcia H 36.31 269 T T 01 29 23.5
baz=92
H08S3 Diego Garcia H 36.32 269 T T 01 29 24.6
baz=92
H08S1 Diego Carcia H 36.33 269 T T 01 29 11.4
baz=92

STKA Stephens Creek 37.95 132 P **P 00 51 10.0 -0.1**
1.0nm,0.4s,baz=309,slow=13,SNR=3.0
1.0nm,0.4s
MKAR Makanchi Array 60.17 339 P P 00 53 51.0 -8.9
0.1nm,0.4s,baz=150,slow=7.9,SNR=5.0
0.1nm,0.4s
H04N2 CROZET ISLANDS 61.44 222 T T 02 01 23.5
baz=68,slow=74
H04N1 CROZET ISLANDS 61.45 222 T T 02 01 57.6
baz=68
H04N3 CROZET ISLANDS 61.46 222 T T 02 01 21.5
baz=68,slow=74
KURBB Kurchatov Arra 64.74 339 P P 00 54 22.4 -7.9
0.2nm,0.5s,baz=152,slow=6.4,SNR=2.3
0.2nm,0.5s

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*IDC **03** 00:49:33.5±1.0,2°.11S×120°.49E,h0km,mb3.6/6,*
mbtmp3.6/7,ML3.7/1,MS2.7/3,Error ellipse: s-maj=48.2km
s-min=17.1km az=72.0
*DJA **03** 00:49:35.5±0.3,2°S±3°×12°0E±°,h10km,M4.2/11,mB5.7/1,*
mb4.4/1,MLv4.0/11,Mw(mB)5.3/1
ISC 03 00:49:35.0±0.8,2°.13S±0°.05×120°.34E±0°.08,h10km,n16,
σ1§29/18,mb3.8/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.05**	**210**	P	**Pg**	**00 49 53.1**	**-2.1**
TTSI S **Sg 00 50 08.2 -0.7**
PCI Palu 1.31 337 P **Pn 00 49 59.3 -0.1**
APSI Ampana 1.78 47 P **Pn 00 50 06.1 +0.3**
SPSI Sidrap Palu 1.91 197 P **Pn 00 50 08.3 +0.6**
SPSI S **Sb 00 50 33.7 -0.3**
LUWI Luwuk 2.66 66 P **Pn 00 50 18.1 +0.2**
KDI Kendari 2.92 129 P **Pn 00 50 21.3 -0.2**
KAPI Kappang 2.93 192 Pn **Pn 00 50 22.5 +0.8**
10nm,0.3s,baz=12,slow=9.9,SNR=25
KAPI Sn **Sn 00 50 59.5 +2.6**
14nm,0.3s,baz=276,slow=23,SNR=9.2
KAPI LR LR 00 51 47.4
comp=Z,136nm,19.3s,baz=352,slow=45
37nm,0.5s
MRSI Marisa 3.04 32 P **Pn 00 50 23.9 +0.7**
BSSI Bau Bau, Buton 3.99 178 P **Pn 00 50 37.7 +1.4**
WRA Warramunga Arr 22.38 143 P **P 00 54 31.4 -2.3**
2.9nm,0.7s,baz=322,slow=11,SNR=16
2.9nm,0.7s
ASAR Alice Springs 25.12 150 P **P 00 55 00.6 +0.3**
0.5nm,0.7s,baz=320,slow=8.1,SNR=8.5
ASAR LR LR 01 07 05.4
comp=Z,18nm,18.5s,baz=269,slow=42
0.5nm,0.7s
CMAR Chiang Mai Arr 29.36 315 LR LR 01 09 34.1
comp=Z,10.0nm,18.6s,baz=355,slow=41
SONM Songino Array 51.23 348 P **P 00 58 39.7 +0.8**
0.3nm,0.6s,baz=151,slow=9.2,SNR=1.9
0.3nm,0.6s
MKAR Makanchi Array 59.08 330 P **P 00 59 34.5 -1.0**
0.5nm,0.6s,baz=129,slow=6.9,SNR=7.5
0.5nm,0.6s
ZALV Zalesovo Beam 63.19 337 P **P 01 00 04.3 +1.1**
0.2nm,0.2s,baz=120,slow=8.5,SNR=1.9
0.2nm,0.2s
KURBB Kurchatov Arra 63.51 332 P **P 01 00 06.5 +1.1**
0.2nm,0.2s,baz=142,slow=4.7,SNR=1.6
0.2nm,0.2s

IDC 03 01:04:29.0±6.5,21°.90S×148°.16E,h0km,mbtmp3.5/3,
ML3.3/3,Error ellipse: s-maj=53.2km s-min=34.8km
az=61.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.53**	**209**	Pn	Pn	01 07 15.3	+0.4
0.3nm,0.3s,baz=29,slow=10,SNR=3.0
STKA Sn Sn 01 09 24.2 -0.3
0.4nm,0.3s,baz=105,slow=16,SNR=1.3
STKA Lg Lg 01 10 34.4
baz=53,slow=20
1.2nm,0.4s
WRA Warramunga Arr 13.07 276 Pn Pn 01 07 36.7 +0.7
0.1nm,0.3s,baz=98,slow=12,SNR=4.8
WRA Sn Sn 01 10 01.5 -0.7
0.1nm,0.3s,baz=99,slow=22,SNR=1.7
WRA Lg Lg 01 11 24.8
0.1nm,0.3s,baz=103,slow=27,SNR=6.1
0.7nm,1.1s
ASAR Alice Springs 13.27 260 Pn Pn 01 07 38.5 -0.4
0.1nm,0.3s,baz=90,slow=14,SNR=7.1
ASAR Sn Sn 01 10 07.5 +0.3
0.1nm,0.3s,baz=86,slow=24,SNR=4.1
ASAR Lg Lg 01 11 32.6
0.1nm,0.3s,baz=79,slow=28,SNR=6.3
0.3nm,0.4s

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*AEIC **03** 01:07:20.8±2.5,52°.76N±0°.09×174°.2W±0°.1,h197km±5km,*
Error ellipse: s-maj=14.3km s-min=6.8km az=152.0
*NEIC **03** 01:07:20.5±1.6,52°.7N±0°.1×174°.3W±0°.1,h201km±6km,*
mb4.1/87,ML3.4(AEIC),Error ellipse: s-maj=17.4km
s-min=8.0km az=164.0
*IDC **03** 01:07:22.4±3.2,52°.86N×174°.33W,h216km±28km,*
mb3.4/22,mbtmp4.0/25,Error ellipse: s-maj=17.1km
s-min=10.6km az=7.0
ISC 03 01:07:20.2±0.6,52°.73N±0°.08×174°.27W±0°.04,
h199km±6km,n302,σ0§94/283,mb4.0/41,Andreanof
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.53**	**175**		**Pn**	**01 07 46.9**	**-0.4**
ATKA **S 01 08 07.8 -0.4**
GSTR Great Sitkin T 1.27 240 **Pn 01 07 51.8 -0.1**
GSMY Great Sitkin M 1.29 238 **Pn 01 07 51.8 -0.2**
GSCK Great Sitkin C 1.36 239 **Pn 01 07 52.7 0.0**
GSCK **S 01 08 17.2 -0.5**
ADAG Mount Adagdak 1.61 243 **Pn 01 07 55.0 +0.1**
ADK Adak 1.71 241 Pn **Pn 01 07 55.7 0.0**
KIRH Kanaga Island 1.92 245 **Pn 01 07 58.0 +0.2**
KIWB Kanaga Island 1.97 245 **S 01 08 28.3 +0.4**
KIWB Kanaga Island 1.97 245 **Pn 01 07 58.6 +0.3**
TAFP Tanaga Falls P 2.42 251 **Pn 01 08 03.6 +0.4**
TAFP **S 01 08 35.5 -1.2**
TASE Tanaga Southea 2.48 250 **Pn 01 08 04.5 +0.7**
GANE Gareloi Northe 2.91 254 **Pn 01 08 09.3 +0.6**
GANE **S 01 08 46.4 -0.2**
GANO Gareloi North 2.93 254 **Pn 01 08 09.7 +0.8**
GANO **S 01 08 46.1 -0.8**
MAPS Pakushin South 4.53 73 **Pn 01 08 29.4 +0.9**
MAPS **S 01 09 22.6 +0.2**
MSW Makushin Switc 4.64 72 **Pn 01 08 30.9 +0.9**
MREP Makushin Rep't 4.65 74 **Pn 01 08 31.2 +1.2**
P08K Saint George I 4.75 33 Pn **Pn 01 08 32.6 +1.4**
P08K Saint George I 4.75 33 P **Pn 01 08 32.0 +0.8**
baz=217
UNV Unalaska Valle 4.79 73 **S 01 09 27.0 -1.2**
UNV Unalaska Valle 4.79 73 Pn **Pn 01 08 32.9 +1.1**
SPIA Saint Paul Isl 5.02 26 Pn **Pn 01 08 36.4 +1.7**
SPIA Saint Paul Isl 5.02 26 P **Pn 01 08 36.1 +1.5**
baz=209
LVA Lava Point 5.13 71 Pn **Pn 01 08 37.6 +1.5**
ZRO Akutan Zero 5.15 71 **Pn 01 08 37.7 +1.3**
ISLZ Isanotski Laza 6.58 68 **Pn 01 08 56.6 +1.7**
M11K Mekoryuk 8.87 27 P **Pn 01 09 24.7 +0.2**
baz=214
O14K Tigyukauivet M 9.78 43 P **Pn 01 09 36.8 +0.5**
baz=234
CHGN Chignik 9.89 63 P **Pn 01 09 38.9 +1.1**
baz=255
N14K Kuskokwak Cree 10.03 39 P **Pn 01 09 40.6 +1.1**
baz=230
O15K Ungalikthiuk R 10.35 46 P **Pn 01 09 45.6 +1.9**
baz=238
M14K Bethel 10.49 35 P **Pn 01 09 47.5 +2.1**
baz=225
K13K Kusilvak Mount 10.57 26 P **Pn 01 09 47.7 +1.1**
baz=214
N15K Kwethluk River 10.80 41 Pn **Pn 01 09 51.5 +2.0**
M15K Kasigluk River 10.91 38 P **Pn 01 09 52.0 +1.1**
baz=229
P16K Nushagak River 11.09 49 P **Pn 01 09 54.4 +1.1**
baz=242
L15K Ungalak Mounta 11.31 33 P **Pn 01 09 57.0 +0.9**
baz=223

O16K	Kokwok River B	11.32	46	P	Pn	01 09 57.9	+1.8
	baz=240						
CHIR	Chirikof Islan	11.33	67	P	Pn	01 09 57.1	+0.8
	baz=262						
N16K	Nishlik Lake	11.52	42	P	Pn	01 10 00.5	+1.9
	baz=234						
J14K	Nanvaranak Lak	11.54	25	P	Pn	01 09 59.9	+0.9
	baz=214						
Q16K	King Salmon	11.57	52	P	Pn	01 10 00.1	+0.8
	baz=246						
K15K	Wolf Creek Mou	11.76	30		Pn	01 10 03.2	+1.5
K15K	Wolf Creek Mou	11.76	30	P	Pn	01 10 02.6	+0.9
	baz=221,SNR=5.5						
M16K	Timber Creek	11.77	39	P	Pn	01 10 02.9	+0.9
	baz=232						
O17K	Koliganek Bris	11.85	47	P	Pn	01 10 03.8	+0.9
	baz=241						
P17K	Kvichak River	11.88	50	P	Pn	01 10 04.6	+1.2
	baz=245						
L16K	Owhat River	12.02	36	P	Pn	01 10 06.2	+1.1
	baz=228						
N17K	Nushagak Hills	12.20	43	P	Pn	01 10 08.1	+0.8
	baz=238						
SII	Sitkinak Islan	12.24	64	P	Pn	01 10 08.7	+0.8
	baz=260						
R18K	Karluk	12.31	59	P	Pn	01 10 09.3	+0.5
	baz=255						
Q18K	Katmai Hardscr	12.36	54	P	Pn	01 10 09.8	+0.3
	baz=250						
P18K	Big Mountain,	12.53	50	P	Pn	01 10 12.2	+0.6
	baz=246						
M17K	Holitna River	12.59	40	P	Pn	01 10 12.9	+0.6
	baz=234						
ANM	Nome	12.72	18	P	Pn	01 10 14.0	+0.1
	baz=205						
L17K	Donlin	12.72	36	P	Pn	01 10 15.4	+1.4
	baz=230						
O18K	Koktuh Hills	12.73	48	P	Pn	01 10 15.0	+0.9
	baz=244						
J16K	Anvik River	12.79	29	P	Pn	01 10 15.5	+0.8
	baz=220						
N18K	Kilae Creek	12.82	44	P	Pn	01 10 16.4	+1.1
	baz=240						
OHAK	Old Harbor	12.85	61		P	01 10 18.4	-0.5
OHAK	Old Harbor	12.85	61	P	Pn	01 10 15.8	+0.3
	baz=258,SNR=7.7						
K17K	Iditarod	13.11	34	P	Pn	01 10 19.8	+1.1
	baz=228						
Q19K	Cape Douglas,	13.12	54		Pn	01 10 20.3	+1.3
Q19K	Cape Douglas,	13.12	54	P	Pn	01 10 19.4	+0.4
	baz=251						
M18K	Stony River	13.28	41	P	Pn	01 10 21.9	+1.0
	baz=237						
O19K	Port Alsworth	13.28	48	P	Pn	01 10 22.2	+1.2
	baz=244						
J17K	VABM Dome	13.33	31	P	P	01 10 26.7	+2.4
J17K	VABM Dome	13.33	31	P	P	01 10 23.2	-1.1
	baz=224,SNR=8.3						
KDAK	Kodiak Island	13.34	59	P	Pn	01 10 21.7	+0.1
	2.8nm,0.3s,baz=235,slow=16,SNR=39						
KDAK				S	S	01 12 49.2	-1.0
	3.2nm,0.8s,baz=217,slow=23,SNR=9.3						
KDAK	Kodiak Island	13.34	59	P	Pn	01 10 22.4	+0.8
	baz=257						
G15K	Niukluk	13.36	19	P	Pn	01 10 23.1	+1.2
	baz=208						
F14K	Arctic Creek	13.40	14	P	Pn	01 10 23.6	+1.3
	baz=201						
H16K	Elim	13.45	23	P	Pn	01 10 24.1	+1.2
	baz=213						
N19K	Bonanza Creek	13.49	45	P	Pn	01 10 24.4	+0.8
	baz=242						
P19K	Oil Pt	13.57	51	P	Pn	01 10 25.2	+0.7
	baz=248						
O20K	Slope Mountain	14.02	50	P	Pn	01 10 30.9	+0.8
	baz=248						
L19K	White Mountain	14.04	40	P	P	01 10 31.9	-0.4
	baz=236						
TTA	Tatalina	14.05	36	P	P	01 10 31.8	-0.6
	baz=232						
G16K	Koyuk River	14.06	21	P	Pn	01 10 31.2	+0.7
	baz=211						
M19K	Big River Lodg	14.07	41	P	Pn	01 10 31.8	+1.0
	baz=238						
J18K	Innoko River	14.15	34	P	P	01 10 32.7	-0.6
	baz=229						
H17K	Granite Mounta	14.27	25	P	P	01 10 34.4	-0.2
	baz=218						
G17K	Kiwalik Mounta	14.54	23	P	P	01 10 37.6	0.0
	baz=215						
M20K	Styx River	14.58	43	P	Pn	01 10 37.9	+0.8
	baz=241						
L20K	Farewell, AK	14.59	40	P	Pn	01 10 37.6	+0.5
	baz=237						
N20K	Mount Spurr	14.65	46	P	Pn	01 10 38.7	+0.7
	baz=244						
BRSE	Bradley Lake S	14.79	52	P	Pn	01 10 40.0	+0.4
	baz=252						
H18K	Honhosa River	14.85	27	P	Pn	01 10 40.0	-0.3
	baz=221						
J19K	Poorman	14.86	33	P	Pn	01 10 40.3	-0.1
	baz=229						
GCSA	Galena City Sc	14.98	30	P	Pn	01 10 41.6	-0.2
	baz=225						
F17K	Baldwin Pennin	15.20	20	P	Pn	01 10 44.7	+0.3
	baz=212						
SLKM	Skilak Lake	15.29	50		Pn	01 10 46.1	+0.4
SKT	Skwentna	15.29	44	P	P	01 10 48.7	+2.7
SKT	Skwentna	15.29	44	P	Pn	01 10 45.5	-0.2
	baz=243						
G18K	Tagagawik	15.35	25	P	Pn	01 10 46.4	+0.1
	baz=218						
PPLA	Purkeypile	15.47	40	P	P	01 10 51.7	+3.6
PPLA				IAmb	IAmb	01 10 57.5	
	comp=Z,13nm,1.4s						
PPLA	Purkeypile	15.47	40	P	Pn	01 10 47.0	-1.0
	baz=239						
J20K	Nowinta River	15.48	34	P	Pn	01 10 47.4	-0.6
	baz=232						
SEW	Seward	15.52	52	P	P	01 10 49.4	+0.9
	baz=252						
E17K	Hotham Inlet	15.64	18	P	Pn	01 10 50.2	+0.4
	baz=209						
H19K	Roundabout Mou	15.67	28	P	Pn	01 10 50.3	+0.2
	baz=224						
F18K	Selawik	15.68	22	P	Pn	01 10 50.7	+0.4
	baz=215						
RC01	Rabbit Creek A	15.71	48	P	Pn	01 10 51.0	+0.2
	baz=249						
I20K	Naaghedeneel	15.77	32	P	Pn	01 10 51.9	+0.5
	baz=229						
CAST	Castle Rocks	15.79	39	Pn	Pn	01 10 54.5	+2.9
CAST				IAmb	IAmb	01 10 59.3	
	comp=Z,4.1nm,0.4s						
CAST	Castle Rocks	15.79	39	P	Pn	01 10 52.1	+0.4
	baz=238						
G19K	Purcell Mounta	15.95	26	P	P	01 10 53.5	+0.3
	baz=221						
CHUM	Lake Minchumin	15.96	37	P	P	01 10 53.2	-0.1
	baz=236						
D17K	Noatak River	15.96	16	P	P	01 10 53.7	+0.3
	baz=206						
H20K	Anotleneega Mo	16.11	30	P	P	01 10 54.9	-0.1
	baz=227,SNR=7.6						
E18K	Tukpahlearik C	16.17	19	P	Pn	01 10 58.3	+2.1
E18K	Tukpahlearik C	16.17	19	P	Pn	01 10 56.8	+0.6
	baz=211						
C16K	Lisburne Hills	16.17	12	P	P	01 10 55.1	-0.5
	baz=200						
PWL	Port Wells	16.28	50	P	P	01 10 57.1	+0.1
	baz=252						
KTH	Kantishna Hill	16.30	39	P	Pn	01 10 59.3	+1.4
KTH				IAmb	IAmb	01 11 00.9	
	comp=Z,7.0nm,0.8s						
F19K	Shaleruckik Mo	16.31	24	P	Pn	01 10 57.8	-0.1
	baz=218						
TRF	Thorofare Moun	16.49	40	P	Pn	01 11 01.5	+1.2
BPAW	Bear Paw Mtn.	16.56	38	Pn	Pn	01 11 02.5	+1.5
BPAW				IAmb	IAmb	01 11 06.8	
	comp=Z,6.5nm,0.7s						
BPAW	Bear Paw Mtn.	16.56	38	P	P	01 11 00.6	+0.5
	baz=238,SNR=7.3						
SML	Sawmill	16.60	47	P	P	01 11 00.4	-0.1
	baz=248						
C17K	DeLong Mountai	16.66	14	P	P	01 11 01.6	+0.6
	baz=204						
I21K	Tanana	16.83	34	IAmb	IAmb	01 11 07.2	
	comp=Z,8.5nm,0.9s						
I21K	Tanana	16.83	34	P	Pn	01 11 04.1	0.0
	baz=233,SNR=6.7						
H21K	Melozitna Rive	16.86	32	P	P	01 11 03.8	+0.6
	baz=230						
M23K	Glacier View	16.87	47	P	Pn	01 11 04.6	0.0
	baz=249						
PETK	Petropavlovsk-	16.87	282	P	P	01 11 04.1	+0.6
	comp=Z,1.4nm,0.5s,baz=86,slow=14,SNR=10.0						
E19K	Redstone River	16.93	23	P	Pn	01 11 05.6	+0.3
	baz=218						
F20K	Avaraart Lake	16.99	25	P	Pn	01 11 05.8	-0.2
	baz=222						
RND	Reindeer	17.04	41	P	Pn	01 11 06.4	-0.3
SCM	Sheep Creek Mo	17.06	47	P	P	01 11 06.4	+0.8
	baz=250						
C18K	Utukok River	17.14	16	IAmb	IAmb	01 11 10.7	
	comp=Z,5.3nm,0.9s						
C18K	Utukok River	17.14	16	P	P	01 11 07.1	+0.8
	baz=206						
MCK	McKinley	17.16	40	P	Pn	01 11 07.7	-0.4
MCK				IAmb	IAmb	01 11 09.7	
	comp=Z,5.7nm,0.6s						
MCK	McKinley	17.16	40	P	Pn	01 11 07.9	-0.2
	baz=242,SNR=7.3						
G21K	Allakaket	17.22	29	P	Pn	01 11 08.3	-0.4
	baz=227						
H22K	Ishtalitna Cre	17.47	32	P	Pn	01 11 11.0	-0.7
	baz=232						
NEA2	Nenana	17.53	38	P	Pn	01 11 11.8	-0.7
NEA2	Nenana	17.53	38	P	P	01 11 11.2	+0.6
	baz=239						
D19K	Kuna River	17.58	20	P	P	01 11 12.0	+0.8
	baz=214						
KLU	Klutina	17.59	49	P	P	01 11 12.2	+0.9
	baz=253						
M24K	Tolsona, Glenn	17.66	47	P	P	01 11 11.4	-0.8
	baz=251						
B18K	Kokolik River	17.68	15	P	P	01 11 11.0	-1.2
	baz=206						
F21K	Alatna River	17.72	27	IAmb	IAmb	01 11 19.6	
	comp=Z,4.2nm,0.6s						
F21K	Alatna River	17.72	27	P	P	01 11 12.6	0.0
	baz=225						
I23K	Minto, Yukon-K	17.72	36	P	P	01 11 12.3	-0.3
	baz=237,SNR=7.7						
E20K	Nigu River	17.81	22	P	P	01 11 14.5	+0.8
	baz=218						
WRH	Wood River Hil	17.84	39	IAmb	IAmb	01 11 17.7	
	comp=Z,4.3nm,0.6s						
BILL	Bilibino	17.97	336	P	P	01 11 14.8	-0.5
CCB	Clear Creek Bu	18.03	38	IAmb	IAmb	01 11 19.5	
	comp=Z,4.1nm,0.6s						
D20K	Etivluk River	18.08	21	P	P	01 11 17.1	+0.5
	baz=217						
HARP	HAARP	18.21	46	P	P	01 11 18.7	+0.7
	baz=251						
N25K	Chitina, Valde	18.23	49	P	P	01 11 18.3	0.0
	baz=254						
HDA	Harding Lake	18.25	40	P	P	01 11 17.7	-0.7
	baz=243,SNR=11						
PAX	Paxson	18.27	45	IAmb	IAmb	01 11 22.1	
	comp=Z,3.6nm,0.4s						
PAX	Paxson	18.27	45	P	P	01 11 17.3	-1.4
	baz=249						
F22K	John River	18.28	27	P	P	01 11 19.0	+0.2
	baz=227						
POKR	Poker Plat Res	18.40	37	P	P	01 11 19.4	-0.7
	baz=240						
G23K	Bananza Creek	18.41	31	IAmb	IAmb	01 11 23.1	
	comp=Z,11nm,1.4s						
G23K	Bananza Creek	18.41	31	P	P	01 11 18.8	-1.3
	baz=232						
ILAR	Eielson Array	18.44	39	P	P	01 11 19.4	-1.1
	comp=Z,1.2nm,0.5s,baz=231,slow=9.4,SNR=28						
K24K	Donnelly Dome	18.45	42	P	P	01 11 21.7	+1.0
	baz=246,SNR=11						
A19K	Wainwright	18.55	14	P	Pn	01 11 23.4	-0.8
	baz=206						
H24K	Noodor Dome	18.61	35	P	P	01 11 22.8	+0.4
	baz=238,SNR=13						
COLD	Coldfoot	18.67	30	IAmb	IAmb	01 11 28.6	
	comp=Z,6.0nm,0.6s						
COLD	Coldfoot	18.67	30	P	P	01 11 22.0	-1.0
	baz=231,SNR=5.7						
RIDG	Independent Ri	18.81	43	P	P	01 11 22.3	-2.2
	baz=248,SNR=6.6						
E22K	Anaktuvuk Pass	18.82	26	IAmb	IAmb	01 11 29.6	
	comp=Z,4.1nm,0.7s						
E22K	Anaktuvuk Pass	18.82	26	P	P	01 11 24.1	-0.4
	baz=226						
C21K	Knifeblade Rid	18.84	22	P	P	01 11 25.2	+0.5
	baz=219						
J25K	Salcha River,	18.95	40	IAmb	IAmb	01 11 28.0	
	comp=Z,9.6nm,1.4s						
J25K	Salcha River,	18.95	40	P	P	01 11 26.8	+0.7
	baz=245						
B20K	Meade River	19.04	18	IAmb	IAmb	01 11 28.6	
	comp=Z,6.0nm,0.9s						
B20K	Meade River	19.04	18	P	P	01 11 26.5	-0.3
	baz=213,SNR=5.3						
D22K	Ayikyak River	19.13	24	IAmb	IAmb	01 11 30.3	
	comp=Z,5.6nm,0.8s						
D22K	Ayikyak River	19.13	24	P	P	01 11 28.3	+0.5
	baz=223						
M26K	Nabesna, AK	19.17	47	P	P	01 11 28.2	-0.3
	baz=254						
L26K	Log Cabin Wild	19.20	45	P	P	01 11 29.4	+0.7
	baz=252						
G24K	Hadweenzic Riv	19.22	33	IAmb	IAmb	01 11 35.4	
	comp=Z,6.6nm,0.9s						
G24K	Hadweenzic Riv	19.22	33	P	P	01 11 29.3	+0.5
	baz=236						
B21K	Ikpikpuk River	19.24	21	P	P	01 11 30.1	+1.1
	baz=218,SNR=12						
SCRK	Sand Creek	19.25	42	P	P	01 11 29.6	+0.2
	baz=248,SNR=18						
PRP	Porcupine Dome	19.30	37	P	P	01 11 31.0	+1.2
	baz=242						
E23K	Chandalar	19.38	28	IAmb	IAmb	01 11 35.4	
	comp=Z,9.2nm,1.4s						
E23K	Chandalar	19.38	28	P	P	01 11 31.3	+0.7
	baz=230						
H25L	Birch Creek	19.56	35	P	P	01 11 33.2	+0.8
	baz=240,SNR=6.0						
F24K	Squaw Lake	19.56	31	P	P	01 11 32.7	+0.1
	baz=234						
J26L	Joseph Creek	19.62	41	IAmb	IAmb	01 11 34.6	
	comp=Z,5.2nm,0.8s						
J26L	Joseph Creek	19.62	41	P	P	01 11 34.3	+1.0
	baz=248						
M27K	Edge Creek, AK	19.66	48	P	P	01 11 33.7	-0.1
	baz=256						
D23K	Nanushuk River	19.70	25	IAmb	IAmb	01 11 38.1	
	comp=Z,5.6nm,0.8s						
D23K	Nanushuk River	19.70	25	P	P	01 11 34.7	+0.7
	baz=226						
E24K	Your Creek	19.72	29	IAmb	IAmb	01 11 38.4	
	comp=Z,4.2nm,0.8s						
E24K	Your Creek	19.72	29	P	P	01 11 34.3	+0.1
	baz=232						
G25K	Bearman Lake	19.72	34	P	P	01 11 34.6	+0.5
	baz=238						
TOLK	Toolik Lake Re	19.77	27	P	P	01 11 34.9	+0.1
	baz=229,SNR=7.0						
L27K	Beaver Creek,	19.87	46	P	P	01 11 35.4	-0.6
	baz=254						
K27K	Chicken	20.06	43	P	P	01 11 39.1	+1.2
K27K				IAmb	IAmb	01 11 41.6	
	comp=Z,6.1nm,0.8s						
K27K	Chicken	20.06	43	P	P	01 11 36.5	-1.4
	baz=251,SNR=8.2						
B22K	Teshekpuk Lake	20.06	21	IAmb	IAmb	01 11 42.0	
	comp=Z,6.2nm,1.0s						
B22K	Teshekpuk Lake	20.06	21	P	P	01 11 38.3	+0.5
	baz=219						
I26K	Coal Creek Min	20.10	39	P	P	01 11 37.2	-1.1
I26K	Coal Creek Min	20.10	39	P	P	01 11 39.6	+1.4
	baz=246						
SEY	Seymchan	20.23	313	P	P	01 11 40.2	+0.5
	comp=Z,3.5nm,0.7s,baz=112,slow=10.0,SNR=12						
	comp=Z,3.5nm,0.7s						
A22K	Sinclair Lake	20.28	18	P	P	01 11 39.1	-1.0
	baz=216,SNR=8.7						
F25K	Christian Rive	20.31	32	IAmb	IAmb	01 11 43.3	
	comp=Z,11nm,1.4s						
F25K	Christian Rive	20.31	32	P	P	01 11 40.9	+0.3
	baz=237						
D24K	Happy Valley	20.32	26	P	P	01 11 38.1	-2.5
	baz=229						
C23K	Itkillik River	20.33	24	P	P	01 11 40.5	-0.1
	baz=225						
G26K	Porcupine Rive	20.60	35	P	P	01 11 43.4	-0.2
	baz=241,SNR=10						
E25K	Arctic Village	20.63	31	P	P	01 11 45.6	+1.6
E25K				IAmb	IAmb	01 11 47.1	
	comp=Z,5.5nm,0.8s						
E25K	Arctic Village	20.63	31	P	P	01 11 42.8	-1.1
	baz=236,SNR=10.0						
C24K	Franklin Bluff	20.73	25	IAmb	IAmb	01 11 47.9	
	comp=Z,6.4nm,0.6s						
C24K	Franklin Bluff	20.73	25	P	P	01 11 43.6	-1.3
	baz=228						
I27K	Kandik River	20.81	39	P	P	01 11 45.0	-0.9
	baz=248						
F26K	Sheenjek River	20.85	33	IAmb	IAmb	01 11 49.5	
	comp=Z,4.6nm,0.8s						
F26K	Sheenjek River	20.85	33	P	P	01 11 45.2	-1.1
	baz=239						
O29M	Mount Kennedy	20.88	55	IAmb	IAmb	01 11 50.5	
	comp=Z,4.7nm,0.9s						
O29M	Mount Kennedy	20.88	55	P	P	01 11 46.0	-0.8
	baz=265						
H27K	Steamboat Moun	21.09	38	P	P	01 11 47.7	-1.2
	baz=246						
D25K	Kavik River	21.10	27	IAmb	IAmb	01 11 50.8	
	comp=Z,9.3nm,1.2s						
D25K	Kavik River	21.10	27	P	P	01 11 48.0	-0.8
	baz=232,SNR=6.7						
DAWY	Dawson	21.20	44	P	P	01 11 50.9	+0.9
DAWY	Dawson	21.20	44	P	P	01 11 47.6	-2.4
	baz=254						
M29M	Somme Creek	21.23	49	P	P	01 11 49.7	-0.7
	baz=259						
G27K	Doyon Strip	21.29	36	P	P	01 11 50.9	0.0
	baz=245						
I28M	Miner Creek	21.40	40	IAmb	IAmb	01 11 55.5	
	comp=Z,7.8nm,0.8s						
I28M	Miner Creek	21.40	40	P	P	01 11 52.5	+0.3
	baz=250,SNR=15						
L29M	L29M	21.52	47	P	P	01 11 53.2	-0.1
	baz=258						
C26K	Camden Bay	21.87	27	P	P	01 11 56.1	-0.6
	baz=233,SNR=9.9						
E27K	Coleen River	21.93	33	IAmb	IAmb	01 12 00.9	
	comp=Z,9.2nm,1.4s						
E27K	Coleen River	21.93	33	P	P	01 11 56.7	-0.7
	baz=242						
K29M	Barlow Dome	21.94	45	IAmb	IAmb	01 11 59.0	
	comp=Z,4.4nm,0.7s						
K29M	Barlow Dome	21.94	45	P	P	01 11 58.6	+1.0
	baz=257						
I29M	Ogilvie Camp,	22.02	41	IAmb	IAmb	01 11 58.8	
	comp=Z,4.6nm,0.8s						
I29M	Ogilvie Camp,	22.02	41	P	P	01 11 58.4	+0.1
	baz=252						
C27K	Jago River	22.04	28	P	P	01 11 57.9	-0.4
	baz=236						
H29M	Whitestone	22.27	39	P	P	01 11 59.2	-1.4
	baz=250						
J30M	Hart River	22.62	44	IAmb	IAmb	01 12 05.7	
	comp=Z,5.1nm,0.9s						
J30M	Hart River	22.62	44	P	P	01 12 02.6	-1.3
	baz=256						
G29M	Pine Creek	22.65	37	P	P	01 12 02.6	-1.4
	baz=249						
D27M	Malcolm River	22.65	31	IAmb	IAmb	01 12 06.6	
	comp=Z,4.3nm,0.7s						
D27M	Malcolm River	22.65	31	P	P	01 12 03.8	-0.3
	baz=240,SNR=7.7						
I30M	Mount Dempster	22.76	42	IAmb	IAmb	01 12 06.5	
	comp=Z,8.7nm,1.1s						
I30M	Mount Dempster	22.76	42	P	P	01 12 04.8	-0.4
	baz=255,SNR=10						
E28M	Babbage River	22.80	33	IAmb	IAmb	01 12 08.4	
	comp=Z,6.2nm,0.7s						
E28M	Babbage River	22.80	33	P	P	01 12 04.6	-0.8
	baz=243						
EPYK	Eagle Plains	22.95	39	P	P	01 12 06.5	-0.3
EPYK	Eagle Plains	22.95	39	P	P	01 12 05.4	-1.4
	baz=252,SNR=5.4						
E29M	Blow River	23.26	34	P	P	01 12 10.5	+1.0
	baz=246						
G30M	tAoh Zraii Nji	23.34	38	P	P	01 12 10.3	+0.1
	baz=251						
F30M	Barrier River	23.70	36	P	P	01 12 12.8	-0.8
	baz=250						
H31M	Peel River	23.73	41	P	P	01 12 15.1	+1.3
	baz=256						
CRAG	Craig	24.03	67	P	P	01 12 16.2	-0.4
	baz=281						
F31M	Tsiigehtchic	24.40	37	P	P	01 12 20.5	+0.8
	baz=253						
INK	Inuvik	24.74	35	P	P	01 12 23.6	+0.8
	baz=252						
S34M	Telegraph Cree	24.75	61	P	P	01 12 24.0	+0.9
	baz=277						
A36M	Sachs Harbour	28.54	29	P	P	01 12 57.9	+1.1
A36M	Sachs Harbour	28.54	29	P	P	01 12 56.4	-0.3
	baz=254,SNR=7.3						
YKA	Kluskiffe Ar	32.26	49	P	P	01 13 30.2	+0.8
	comp=Z,0.3nm,0.6s,baz=285,slow=8.3,SNR=7.1						
YKA				PcP	PcP	01 16 12.5	-0.1
	comp=Z,0.1nm,0.5s,baz=280,slow=3.3,SNR=1.6						
	comp=Z,0.3nm,0.6s						
B08A	Colville Reser	34.47	75	IAmb	IAmb	01 13 51.1	
	comp=Z,3.8nm,0.8s						
HLID	Hailey	39.91	79	P	P	01 14 34.1	-0.6
PD31	Pinedale Array	43.25	76	P	P	01 15 02.4	+0.4
PDAR	Pinedale Array	43.25	76	P	P	01 15 02.7	+0.7
	comp=Z,1.9nm,0.5s,baz=313,slow=2.9,SNR=32						
PDAR				PcP	PP	01 16 47.1	+0.6
	comp=Z,0.2nm,0.5s,baz=179,slow=0.8,SNR=1.8						
	comp=Z,1.9nm,0.5s						
SONM	Songino Array	48.51	298	P	P	01 15 42.8	0.0
	comp=Z,0.2nm,0.5s,baz=72,slow=9.3,SNR=3.9						
SONM				PcP	PcP	01 17 05.1	-0.4
	comp=Z,0.4nm,0.4s,baz=46,slow=6.2,SNR=4.7						
	comp=Z,0.2nm,0.5s						
SPITS	Spitsbergen Ar	49.19	357	P	P	01 15 47.4	0.0
	comp=Z,11nm,1.2s,baz=44,slow=7.4,SNR=6.2						
	comp=Z,11nm,1.2s						
T25A	Trinidad	49.87	79	P	P	01 15 52.4	-0.9
	baz=312						
ZALV	Zalesovo Beam	55.09	315	P	P	01 16 30.7	-0.4
	comp=Z,0.3nm,0.4s,baz=32,slow=5.6,SNR=2.0						
	comp=Z,0.3nm,0.4s						
TXAR	Lajitas Array	55.72	85	P	P	01 16 36.1	0.0
TXAR	Lajitas Array	55.72	85	P	P	01 16 36.9	+0.8
	comp=Z,0.7nm,0.7s,baz=304,slow=4.5,SNR=7.6						
TXAR				PcP	PcP	01 17 33.4	+0.6
	comp=Z,0.5nm,0.7s,baz=306,slow=5.2,SNR=4.9						
	comp=Z,0.7nm,0.7s						
ARCES	ARCESS Array B	57.19	352	P	P	01 16 45.5	-0.3
	comp=Z,3.6nm,1.0s,baz=8.2,slow=8.2,SNR=1.4						
ARCES				PcP	PcP	01 17 37.2	-0.6
	comp=Z,4.8nm,0.9s,baz=3.4,slow=4.5,SNR=4.6						
	comp=Z,3.6nm,1.0s						
LZH	Lanzhou	57.65	288	eP	P	01 16 50.3	+0.6
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
FCAR	Ozark Folk Cen	57.94	72	P	P	01 16 50.1	-1.4
FCAR				IAmb	IAmb	01 16 50.8	
	comp=Z,3.5nm,0.9s						
MIAR	Mount Ida	58.05	74	P	P	01 16 52.6	+0.4
MIAR				IAmb	IAmb	01 16 53.0	
	comp=Z,5.6nm,0.9s						
KURK	Kurchatov	60.06	315	P	P	01 17 04.6	-1.1
KURBB	Kurchatov Arra	60.17	315	P	P	01 17 06.0	-0.5
	comp=Z,1.6nm,0.8s,baz=45,slow=6.6,SNR=16						
KURBB				PcP	PcP	01 17 49.4

PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
NOA NORSAR Array B 66.49 357 P P 01 17 47.7 -0.1
comp=Z,0.8nm,1.0s,baz=5.4,slow=6.7,SNR=1.6
comp=Z,0.8nm,1.0s
HFS Hagfors 67.31 356 P P 01 17 52.0 -0.9
comp=Z,1.7nm,0.7s,baz=45,slow=4.9,SNR=9.3
comp=Z,1.7nm,0.7s
AAK Ala-Archa 68.08 312 P **P 01 17 58.6 +0.2**
ABKAR Abkulak array 68.49 325 P **P 01 18 00.5 0.0**
ABKAR IAmb IAmb 01 18 01.0
comp=Z,7.3nm,1.4s
KKAR Karatay Array 69.47 315 P **P 01 18 06.2 -0.5**
KKAR Karatay Array 69.47 315 P **P 01 18 05.5 -1.1**
KKAR IAmb IAmb 01 18 06.3
comp=Z,3.2nm,1.4s
KSH Kashi 69.87 309 P **P 01 18 12.8 +3.5**
KSH pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 73.61 279 P **P 01 18 31.6 -0.1**
comp=Z,0.8nm,0.3s,baz=26,slow=6.9,SNR=4.3
comp=Z,0.8nm,0.3s
AKASG Malin Array Be 75.05 345 P **P 01 18 38.4 -1.1**
comp=Z,0.8nm,0.5s,baz=20,slow=6.0,SNR=5.2
comp=Z,0.8nm,0.5s
AKBB Malin Array Si 75.05 345 P **P 01 18 38.5 -0.9**
AKBB IAmb IAmb 01 18 45.3
comp=Z,5.0nm,1.3s
KIEV Kiev 75.06 345 P **P 01 18 38.5 -1.0**
KIEV IAmb IAmb 01 18 45.3
comp=Z,4.4nm,1.3s
DZM Mont Dzumac 76.36 198 P **P 01 18 48.0 +0.8**
comp=Z,18nm,0.9s,baz=282,slow=9.3,SNR=3.3
GERES GERESS Array B 78.57 355 P **P 01 18 59.3 0.0**
comp=Z,0.6nm,0.7s,baz=354,slow=3.9,SNR=2.4
comp=Z,0.6nm,0.7s
BUR08 Bucovina Ar. S 78.63 347 P **P 01 18 59.4 -0.4**
BURAR Bucovina Array 78.66 347 P **P 01 18 59.6 -0.3**
KBZ Khabaz 78.73 333 P **P 01 18 59.8 -0.3**
comp=Z,1.3nm,0.8s,baz=329,slow=13,SNR=1.6
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 84.79 339 P **P 01 19 31.6 -0.4**
comp=Z,1.0nm,0.8s,baz=19,slow=3.6,SNR=4.5
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 84.96 228 P **P 01 19 32.7 -0.1**
comp=Z,0.4nm,0.5s,baz=32,slow=5.7,SNR=2.4
comp=Z,0.4nm,0.5s
BORA Eskisehir 85.30 341 P **P 01 19 34.7 +0.2**
ESDC Sonseca Array 87.59 7 P **P 01 19 44.5 -1.0**
comp=Z,0.5nm,0.7s,baz=342,slow=4.7,SNR=6.6
comp=Z,0.5nm,0.7s
ASAR Alice Springs 88.41 226 P **P 01 19 50.0 +0.6**
comp=Z,1.3nm,0.7s,baz=23,slow=4.9,SNR=16
comp=Z,1.3nm,0.7s
QSPA South Pole Qui 142.49 180 PKP **PKPdf 01 26 28.1 +0.4**
comp=Z,1.7nm,1.1s,baz=241,slow=0.9,SNR=6.8

IDC 03 01:13:56.8±2.0, 1°.32N×126°.10E, h0km, mb3.2/4, mbtmp3.3/4, MS3.4/1, Error ellipse: s-maj=221.4km s-min=23.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**159**	P	P	01 18 59.8	+0.3
	0.2nm,0.3s,baz=338,slow=11,SNR=2.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**25.97**	**163**	P	P	01 19 31.1	-0.3
	0.3nm,0.9s,baz=342,slow=7.4,SNR=2.2						
	0.3nm,0.9s						
KLR	**Kul'dur**	**47.98**	**5**	LR	LR	01 45 37.9	
	comp=Z,35nm,18.0s,baz=39,slow=40						
MKAR	**Makanchi Array**	**59.18**	**326**	P	P	01 23 59.7	0.0
	0.2nm,0.4s,baz=115,slow=7.5,SNR=7.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.43**	**328**	P	P	01 24 28.3	-0.1
	0.2nm,0.4s,baz=127,slow=6.2,SNR=4.4						
	0.2nm,0.4s						

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*IDC **03** 01:19:14.3±0.8, 11°.76N×86°.25W, h0km, mb3.7/9, mbtmp3.8/10, ML2.7/2, MS3.4/3, Error ellipse: s-maj=38.7km s-min=11.9km az=49.0*
*CATAC **03** 01:19:16.3±0.6, 11°.N±5°×.8°.7W±°, h43km, M4.1/30, MLv4.1/30, confirmed*
*UCR **03** 01:19:16.1±0.9, 11°.06N×86°.78W, h23km±7km, MW4.6*
*NEIC **03** 01:19:20.2±0.8, 11°.29N±0°.02×86°.72W±0°.06, h35km±2km, mb4.3/20, Error ellipse: s-maj=9.5km s-min=4.1km az=272.0*
ISC 03 01:19:16.9±1.1, 11°.04N±0°.04×86°.79W±0°.04, h34km±3km, n156, σ1°28/158, mb4.1/18, 11C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**0.82**	**18**	P	**Pb**	01 19 32.5	-0.4
MSHP	**Masachapa**	**0.82**	**18**	P	**Pn**	01 19 32.2	+0.1
MSHP	**Masachapa**	**0.82**	**18**	P	**Pb**	01 19 33.1	+0.2
ARIN	**Rivas**	**1.02**	**66**	P	**Pn**	01 19 34.7	-0.1
ARIN	**Rivas**	**1.02**	**66**	P	**Pn**	01 19 34.5	-0.3
ARIN	**Rivas**	**1.02**	**66**	P	**Pb**	01 19 36.4	+0.2
SABN	**Sabanita**	**1.10**	**34**	P	**Pn**	01 19 35.3	-0.6
SABN	**Sabanita**	**1.10**	**34**	P	**Pn**	01 19 35.1	-0.8
SABN	**Sabanita**	**1.10**	**34**	P	**Pb**	01 19 36.8	-0.8
NANN	**Nandasmo**	**1.11**	**36**	⇑P	**Pb**	01 19 37.1	-0.5
NANN	**Nandasmo**	**1.11**	**36**	P	**Pb**	01 19 37.4	-0.3
MASN	**Masaya**	**1.13**	**34**	P	**Pb**	01 19 39.0	+1.0
LCRUZ	**La Cruz**	**1.14**	**88**	*e*P	**Pn**	01 19 36.0	-0.4
COPN	**Copaltepe**	**1.15**	**10**	⇑P	**Pn**	01 19 36.3	-0.3
COPN	**Copaltepe**	**1.15**	**10**	P	**Pn**	01 19 36.5	-0.1
COPN	**Copaltepe**	**1.15**	**10**	*e*P	**Pn**	01 19 36.2	-0.4
MAS3	**Al N del Volca**	**1.15**	**32**	P	**Pn**	01 19 36.4	-0.2
MAS3	**Al N del Volca**	**1.15**	**32**	P	**Pn**	01 19 36.1	-0.5
ABCN	**Banco Central**	**1.17**	**24**	P	**Pb**	01 19 41.7	+3.0
UNAN	**Cigeo UNAN**	**1.18**	**26**	P	**Pn**	01 19 37.2	+0.2
UNAN	**Cigeo UNAN**	**1.18**	**26**	⇑P	**Pn**	01 19 36.8	-0.2
UNAN	**Cigeo UNAN**	**1.18**	**26**	P	**Pb**	01 19 37.8	-1.1
USIM	**UNAN**	**1.18**	**25**	P	**Pb**	01 19 42.0	+3.1
SAPS	**Ciudad Sandino**	**1.18**	**19**	P	**Pn**	01 19 37.0	-0.1
SAPS	**Ciudad Sandino**	**1.18**	**19**	⇑P	**Pn**	01 19 36.9	-0.1
SAPS	**Ciudad Sandino**	**1.18**	**19**	P	**Pn**	01 19 37.5	+0.5
ENAN	**Enatrel Managu**	**1.19**	**26**	P	**Pn**	01 19 37.7	+0.6
ENAN	**Enatrel Managu**	**1.19**	**26**	P	**Pb**	01 19 39.7	+0.8
TISN	**Laguna Tiscapa**	**1.21**	**25**	P	**Pn**	01 19 36.6	-0.8
TISN	**Laguna Tiscapa**	**1.21**	**25**	⇑P	**Pn**	01 19 36.5	-0.9
TISN	**Laguna Tiscapa**	**1.21**	**25**	P	**Pn**	01 19 36.9	-0.5
MGAN	**Managua**	**1.22**	**26**		**Pn**	01 19 37.6	0.0
MGAN	**Managua**	**1.22**	**26**	P	**Pn**	01 19 37.8	+0.2
MGAN	**Managua**	**1.22**	**26**	P	**Pb**	01 19 39.4	-0.1
MGAN	**Managua**	**1.22**	**26**	*e*P	**Pn**	01 19 37.7	+0.1
R4DEC	**Barrio San Lui**	**1.22**	**26**	P	**Pn**	01 19 37.8	+0.2
R4DEC	**Barrio San Lui**	**1.22**	**26**	P	**Pb**	01 19 39.5	-0.1
APQ2	**Apoyeque**	**1.23**	**22**	P	**Pb**	01 19 40.9	+1.1
CARN	**Rivas**	**1.25**	**83**	P	**Pn**	01 19 38.0	0.0
CARN	**Rivas**	**1.25**	**83**	⇓P	**Pn**	01 19 38.0	0.0
CARN	**Rivas**	**1.25**	**83**	P	**Pn**	01 19 38.7	+0.7
CONN	**Concepcion**	**1.25**	**65**	P	**Pn**	01 19 37.1	-0.9
CONN	**Concepcion**	**1.25**	**65**	P	**Pn**	01 19 37.0	-1.1
CONN	**Concepcion**	**1.25**	**65**	P	**Pn**	01 19 37.9	-0.1
APYN	**Apoyeque**	**1.26**	**20**	P	**Sb**	01 19 56.5	+0.3
ELI1	**Hacienda Flor**	**1.28**	**108**	*e*P	**Pn**	01 19 38.6	+0.2
ALIBA	**Liberia Airpor**	**1.30**	**110**	*e*P	**Pn**	01 19 38.7	0.0
ALIBA				*e*S	**Sb**	01 19 56.2	-1.2
LEVN	**Ruinas Leon Vi**	**1.36**	**7**	P	**Pn**	01 19 39.7	+0.2
LEVN	**Ruinas Leon Vi**	**1.36**	**7**	⇑P	**Pn**	01 19 39.5	0.0
LEVN				S	**Sb**	01 19 58.2	-0.9
LEVN	**Ruinas Leon Vi**	**1.36**	**7**	P	**Pn**	01 19 40.0	+0.4
MOMN	**Momotombo**	**1.38**	**10**	⇓P	**Pn**	01 19 39.7	-0.2
MOMN				S	**Sn**	01 19 56.7	-0.2
MOMN	**Momotombo**	**1.38**	**10**	P	**Pn**	01 19 38.0	-1.8
VRLE	**La Escondida,**	**1.42**	**100**	*e*P	**Pn**	01 19 40.2	-0.2
CNGN	**Cerro Negro**	**1.45**	**4**		**Pn**	01 19 40.4	-0.4
CNGN	**Cerro Negro**	**1.45**	**4**	P	**Pn**	01 19 41.2	+0.4
CNGN	**Cerro Negro**	**1.45**	**4**	P	**Pn**	01 19 40.9	+0.1
CNGN	**Cerro Negro**	**1.45**	**4**	P	**Pn**	01 19 40.4	-0.4
ILCN	**San Idelfonso**	**1.53**	**3**	P	**Pn**	01 19 40.6	-1.2
ILCN	**San Idelfonso**	**1.53**	**3**	P	**Pn**	01 19 37.6	-4.2
PLRN	**Geotermica Pol**	**1.53**	**1**	P	**Pn**	01 19 41.6	-0.2
PLRN	**Geotermica Pol**	**1.53**	**1**	P	**Pn**	01 19 42.4	+0.5
HERN	**Volcan Telica**	**1.56**	**359**		**Pn**	01 19 42.0	-0.3
HERN	**Volcan Telica**	**1.56**	**359**	P	**Pn**	01 19 42.1	-0.3
HERN	**Volcan Telica**	**1.56**	**359**	⇑P	**Pn**	01 19 41.9	-0.4
CRIN	**San Cristobal**	**1.67**	**351**		**Pn**	01 19 43.8	-0.1
CRIN	**San Cristobal**	**1.67**	**351**	P	**Pn**	01 19 44.0	+0.1
CRIN	**San Cristobal**	**1.67**	**351**	P	**Pn**	01 19 43.7	-0.1
CRIN	**San Cristobal**	**1.67**	**351**	*e*P	**Pn**	01 19 43.7	-0.1
INDI	**Punta indio, G**	**1.72**	**133**	P	**Pn**	01 19 43.1	-1.5
INDI	**Punta indio, G**	**1.72**	**133**	⇓P	**Pn**	01 19 43.0	-1.5
INDI	**Punta indio, G**	**1.72**	**133**	S	**Sn**	01 20 02.0	-3.3
BOAB	**BOACO BROADBAN**	**.78**	**38**		**Pn**	01 19 45.0	-0.3
BOAB	**BOACO BROADBAN**	**.78**	**38**	P	**Pn**	01 19 45.1	-0.2
BOAB				P	**Pb**	01 19 45.3	-3.7
BOAB	**BOACO BROADBAN**	**.78**	**38**	⇑P	**Pn**	01 19 45.0	-0.2
ACON	**Acoyapa**	**1.83**	**60**		**Pn**	01 19 45.4	-0.5
ACON	**Acoyapa**	**1.83**	**60**	P	**Pn**	01 19 45.8	-0.2
ACON	**Acoyapa**	**1.83**	**60**	P	**Pn**	01 19 45.5	-0.5
ACON	**Acoyapa**	**1.83**	**60**	*e*P	**Pn**	01 19 45.2	-0.8
VERA	**Fina Concepci**	**1.90**	**96**	*e*P	**Pn**	01 19 47.8	+0.9
JTS	**Las Juntas de**	**1.96**	**112**		**Pb**	01 19 51.4	-0.6
JTS	**Las Juntas de**	**1.96**	**112**	Pn	**Pn**	01 19 47.8	+0.1
	11nm,0.3s,baz=305,slow=7.7,SNR=31						
JTS				Pg	**Pb**	01 19 50.9	-1.1
	14nm,0.3s,baz=299,slow=21,SNR=23						
JTS				LR	LR	01 20 09.2	
	comp=Z,91nm,20.6s,baz=296,slow=28						
JTS				Sn	**Sn**	01 20 10.1	-1.0
	34nm,0.3s,baz=358,slow=21,SNR=5.0						
JTS				Lg	Lg	01 20 21.9	
	18nm,0.3s,baz=119,slow=22,SNR=8.9						
JTS	**Las Juntas de**	**1.96**	**112**	*e*P	**Pn**	01 19 47.8	+0.1
JTS				*e*S	Sb	01 20 25.9	+10
LIMN	**Finca el Limon**	**2.05**	**12**	P	**Pn**	01 19 48.9	-0.2
LIMN	**Finca el Limon**	**2.05**	**12**	⇑P	**Pn**	01 19 48.9	-0.2
CSGN	**Cosiguina Volc**	**2.06**	**339**	P	**Pn**	01 19 49.9	+0.6
CSGN	**Cosiguina Volc**	**2.06**	**339**	P	**Pn**	01 19 49.3	+0.1
CSGN	**Cosiguina Volc**	**2.06**	**339**	⇑P	**Pn**	01 19 49.4	+0.1
CSGN				S	**Sn**	01 20 14.2	+0.4
CSGN	**Cosiguina Volc**	**2.06**	**339**	*e*P	**Pn**	01 19 49.2	-0.1
POTN	**Potosi Cosigui**	**2.07**	**340**	P	**Pn**	01 19 49.9	+0.7
POTN	**Potosi Cosigui**	**2.07**	**340**	P	**Pn**	01 19 49.4	+0.2
POTN	**Potosi Cosigui**	**2.07**	**340**	P	**Pn**	01 19 49.2	-0.1
POTN				S	**Sn**	01 20 13.6	-0.2
ARE1	**Arenal 1**	**2.12**	**106**	*e*P	**Pn**	01 19 50.2	+0.3
VARE2	**V. Arenal**	**2.12**	**106**	*e*P	**Pn**	01 19 50.3	+0.4
CEDE	**Laguna Cedeo**	**2.12**	**105**	*e*P	**Pn**	01 19 50.5	+0.4
VACR	**Volcan Arenal**	**2.15**	**105**	*e*P	**Pn**	01 19 50.9	+0.5
SOCE	**Pocosol**	**2.23**	**107**		**Pb**	01 19 55.5	-1.3
SOCE	**Pocosol**	**2.23**	**107**	P	Pb	01 20 05.6	+8.9
CNCH	**Conchagua**	**2.44**	**335**	P	**Pn**	01 19 54.9	+0.4
CNCH	**Conchagua**	**2.44**	**335**	⇑P	**Pn**	01 19 54.6	0.0
CNCH	**Conchagua**	**2.44**	**335**	S	**Sn**	01 20 23.3	0.0
RCPN	**Sur Rio San Ju**	**2.56**	**15**	P	**Pn**	01 19 56.9	+0.8
RCPN	**Sur Rio San Ju**	**2.56**	**15**	P	**Pn**	01 19 57.4	+1.3
RCPN	**Sur Rio San Ju**	**2.56**	**15**	⇓P	**Pn**	01 19 56.5	+0.4
RCVN	**Varillal2**	**2.59**	**13**	P	**Pn**	01 19 57.3	+0.7
RCVN	**Varillal2**	**2.59**	**13**	P	**Pn**	01 19 56.9	+0.3
PACA	**Pacayal**	**2.84**	**328**	P	**Pn**	01 20 01.3	+1.3
PACA	**Pacayal**	**2.84**	**328**	P	**Pn**	01 20 00.4	+0.4
PACA	**Pacayal**	**2.84**	**328**	⇓P	**Pn**	01 20 00.1	+0.1
PACA	**Pacayal**	**2.84**	**328**	S	**Sn**	01 20 32.9	-0.2
TGUH	**Tegucigalpa,Un**	**3.03**	**351**	Pn	**Pn**	01 20 03.0	+0.3
TGUH	**Tegucigalpa,Un**	**3.03**	**351**	P	**Pn**	01 20 05.1	+2.5
TGUH	**Tegucigalpa,Un**	**3.03**	**351**	P	**Pn**	01 20 02.9	+0.3
TRT2	**Tortugero**	**3.04**	**99**	P	**Pb**	01 20 14.4	+4.0
SCLA	**Alcaldia de Sa**	**3.25**	**325**	P	**Pn**	01 20 06.8	+1.2
SCLA	**Alcaldia de Sa**	**3.25**	**325**	P	**Pn**	01 20 06.3	+0.7
SCLA	**Alcaldia de Sa**	**3.25**	**325**	P	**Pn**	01 20 05.7	+0.1
SCLA	**Alcaldia de Sa**	**3.25**	**325**	S	**Sn**	01 20 42.7	-0.4
PMON	**Piamonte**	**3.62**	**317**	P	**Pb**	01 20 17.8	-2.6
NUBE	**Las Nubes**	**4.08**	**315**	P	**Pn**	01 20 17.5	+0.5
NUBE	**Las Nubes**	**4.08**	**315**	S	**Sn**	01 21 01.2	-2.4
NUBE	**Las Nubes**	**4.08**	**315**	P	**Pn**	01 20 17.8	+0.8
APG	**El Apazote**	**5.32**	**318**	Pn	**Pn**	01 20 35.4	+1.2
	baz=130,slow=12,SNR=1.9						
APG				Sn	**Sn**	01 21 33.4	-1.1
	baz=179,slow=11,SNR=4.3						
APG				Lg	Lg	01 22 00.6	
	baz=227,slow=20,SNR=2.3						
GMAL	**Guarumal, Vera**	**6.38**	**120**	*e*S	**Pn**	01 20 52.1	+3.5
CMIG	**Matias Romero**	**9.89**	**308**	Pn	**Pn**	01 21 38.3	+1.6
	0.5nm,0.3s,baz=122,slow=10,SNR=7.9						
CMIG				Sn	**Sn**	01 23 29.4	+2.9
	0.1nm,0.3s,baz=178,slow=18,SNR=1.9						
	2.8nm,0.6s						
ATAH	**Atahualpa**	**19.90**	**155**	LR	LR	01 30 14.1	
	comp=Z,66nm,19.3s,baz=6.1,slow=32						
SJG	**San Juan**	**21.16**	**68**	LR	LR	01 30 29.4	
	comp=Z,34nm,19.7s,baz=240,slow=33						
GOGA	**Godfrey**	**22.47**	**7**	P	**P**	01 24 14.4	+1.1
GOGA				IAmb	IAmb	01 24 40.7	
	comp=Z,12nm,1.5s						
Y58A	**Scranton**	**23.67**	**15**	P	**P**	01 24 26.1	+0.7
JSC	**Jenkinsville**	**23.68**	**11**	P	**P**	01 24 25.8	+0.4
TXAR	**Lajitas Array**	**24.07**	**322**	P	**P**	01 24 30.2	+0.9
TXAR	**Lajitas Array**	**24.07**	**322**	P	**P**	01 24 29.9	+0.6
	comp=Z,1.5nm,0.7s,baz=136,slow=10,SNR=22						
TXAR				PcP	**PcP**	01 28 13.4	+3.0
	comp=Z,0.5nm,0.7s,baz=139,slow=5.5,SNR=7.4						
	comp=Z,1.5nm,0.7s						
TX31	**Lajitas Ar. Si**	**24.07**	**322**	P	**P**	01 24 29.8	+0.5
SWET	**Sewanee**	**24.08**	**2**	P	**P**	01 24 28.6	-0.7
SWET				IAmb	IAmb	01 24 30.1	
	comp=Z,3.6nm,0.5s						
MIAR	**Mount Ida**	**24.20**	**346**	P	**P**	01 24 30.3	-0.1
CPCT	**Cooper Cave**	**24.39**	**4**	IAmb	IAmb	01 24 34.5	
	comp=Z,5.4nm,0.7s						
WHAR	**Wooly Hollow**	**24.65**	**349**	IAmb	IAmb	01 24 34.6	
	comp=Z,5.4nm,0.8s						
MNHN	**Monahans**	**25.03**	**326**	IAmb	IAmb	01 24 51.9	
	comp=Z,5.3nm,1.0s						
OK052	**Battle Ridge R**	**26.45**	**342**	P	**P**	01 24 49.1	-1.6
OK052				IAmb	IAmb	01 24 50.5	
	comp=Z,8.1nm,0.8s						
SMWD	**Samnorwood**	**26.90**	**335**	IAmb	IAmb	01 24 58.3	
	comp=Z,4.5nm,0.7s						
L42A	**Oliver, Polo**	**30.95**	**356**	IAmb	IAmb	01 25 29.4	
	comp=Z,11nm,0.9s						
F33A	**5 Mile Ranch,**	**35.61**	**349**	IAmb	IAmb	01 26 10.1	
	comp=Z,6.3nm,0.8s						
SIV	**San Ignacio**	**37.01**	**136**	P	**P**	01 26 26.7	+3.1
	comp=Z,1.2nm,0.7s,baz=320,slow=8.0,SNR=8.4						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**37.31**	**332**	P	**P**	01 26 25.6	-0.6
	comp=Z,0.3nm,0.6s,baz=144,slow=7.2,SNR=5.0						
PDAR				PcP	**PcP**	01 28 45.8	+0.8
	comp=Z,0.2nm,0.6s,baz=203,slow=1.3,SNR=2.8						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**39.18**	**319**	P	**P**	01 26 43.5	+1.5
	comp=Z,0.5nm,0.7s,baz=130,slow=4.1,SNR=3.1						
NVAR				PcP	**PcP**	01 28 54.0	+3.1
	comp=Z,1.9nm,0.7s,baz=111,slow=2.2,SNR=11						
	comp=Z,0.5nm,0.7s						
ULM	**Lac du Bonnet**	**39.80**	**351**	IAmb	IAmb	01 26 45.9	
	comp=Z,8.7nm,1.3s						
ULM	**Lac du Bonnet**	**39.80**	**351**	P	**P**	01 26 44.3	-2.4
	comp=Z,3.7nm,0.8s,baz=172,slow=9.4,SNR=8.9						
	comp=Z,3.7nm,0.8s						
HOOD	**Mount Hood Mea**	**45.32**	**325**	P	**P**	01 27 35.7	+4.0
SCHQ	**Schefferville**	**46.44**	**16**	P	**P**	01 27 37.4	-2.9
	comp=Z,3.8nm,1.0s,baz=222,slow=10,SNR=4.1						
	comp=Z,3.8nm,1.0s						
YKA	**Yellowknife Ar**	**55.13**	**345**	P	**P**	01 28 42.6	-3.0
	comp=Z,0.6nm,0.8s,baz=142,slow=7.4,SNR=5.4						
	comp=Z,0.6nm,0.8s						
RES	**Resolute Bay**	**63.78**	**358**	P	**P**	01 29 42.4	-2.7
	comp=Z,0.7nm,0.7s,baz=179,slow=8.8,SNR=2.1						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**67.56**	**336**	P	**P**	01 30 08.8	-0.8
	comp=Z,0.5nm,0.9s,baz=118,slow=5.0,SNR=4.2						
	comp=Z,0.5nm,0.9s						
SEY	**Seymchan**	**93.49**	**337**	LR	LR	02 18 54.3	
	comp=Z,102nm,19.4s,baz=146,slow=38						
KSRS	**Korea Array**	**121.80**	**328**	PKP	**PKiKP**	01 38 08.9	+0.9
	comp=Z,1.3nm,0.7s,baz=22,slow=1.8,SNR=6.0						
ASAR	**Alice Springs**	**139.33**	**247**	PKP	**PKiKP**	01 38 45.4	+1.7
	comp=Z,0.4nm,0.9s,baz=85,slow=3.4,SNR=1.2						
WRA	**Warramunga Arr**	**139.48**	**252**	PKP	**PKiKP**	01 38 45.6	+1.5
	comp=Z,0.8nm,1.0s,baz=88,slow=3.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**150.15**	**349**	PKPbc	**PKiKP**	01 39 06.0	0.0
	comp=Z,1.8nm,0.3s,baz=37,slow=2.6,SNR=4.8						

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*MOS **03** 01:33:46.3±0.9, 42°.46N×144°.98E, h46km, mb4.3/2, Error ellipse: s-maj=11.4km s-min=7.2km az=90.0*
*NEIC **03** 01:33:46.5±2.2, 42°.46N±0°.08×145°.2E±0°.1, h35km±2km, mb4.1/9, Error ellipse: s-maj=17.6km s-min=11.9km az=113.0*
*NIED **03** 01:33:47.6, 42°.58N×144°.95E, h50km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=4.61; Mθθ=4.36; Mφφ=0.26; Mrθ=3.66; Mθφ=0.48; Mφr=1.56; Fault plane solution: M0=5.99000×10^14^ NP1:φs=70.00000°, δ=28.00000°, λ=-118.00000°. NP2:φs=281.00000°, δ=66.00000°, λ=-76.00000°.*
*JMA **03** 01:33:47.6±0.1, 42°.6N±0°.2×145°.0E±0°.5, h50km±1km, MD3.9/36, MV3.9/36, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
*SKHL **03** 01:33:47.3±0.2, 42°.50N×145°.10E, h53km±4km, mb5.3/3*
*IDC **03** 01:33:50.7±2.1, 42°.45N×144°.85E, h67km±16km, mb3.5/16, mbtmp3.8/21, MS2.9/8, Error ellipse: s-maj=17.1km s-min=13.2km az=94.0*
ISC 03 01:33:48.0±1.1, 42°.54N±0°.05×145°.00E±0°.05, h42km±10km, n92, σ1°17/93, mb3.9/22, MS2.9/3, 3C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK	**Akkeshi**	**0.49**	**347**	*i* P	**Pn**	01 33 58.3	-0.3
AKK				AMB	AMB	01 33 58.6	
	4μm,0.4s						
JAK	**Akkeshi**	**0.50**	**334**	P	**Pn**	01 33 58.1	-0.8
JAK				S	**Sn**	01 34 06.0	-0.5
JAK	**Akkeshi**	**0.50**	**334**	A	A	01 33 58.1	
	comp=N,29nm,1.1s,comp=E,13nm,0.8s						
JKHN	**Kushirohamanak**	**0.55**	**13**	P	**Pn**	01 33 59.4	-0.2
JKHN	**Kushirohamanak**	**0.55**	**13**	A	A	01 33 59.4	
	comp=N,28nm,1.1s,comp=E,10.0nm,0.3s						
JOB	**Onbets**	**0.93**	**293**	*i* P	**Pn**	01 34 04.1	-0.5
NMR	**Nemuro--Hokkai**	**0.99**	**33**	⇑*i*PN	**Pn**	01 34 05.1	-0.3
NMR				*i* S	**Sn**	01 34 17.7	-0.4
NMR	**Nemuro--Hokkai**	**0.99**	**33**	*i* P	**Pn**	01 34 05.0	-0.3
NMR				AMB	AMB	01 34 06.1	
	comp=E,400nm,0.4s						
NMR				*i* S	**Sn**	01 34 17.9	-0.2
NMR				A	A	01 34 19.7	
	comp=E,3μm,0.5s						
NMR				A	A	01 34 19.7	
	comp=E,3μm,0.5s						
NEM2	**Nemuro 2**	**0.99**	**33**	*i* P	**Pn**	01 34 05.1	-0.3
NEM2				S	**Sn**	01 34 17.8	-0.3
NEM2	**Nemuro 2**	**0.99**	**33**	A	A	01 34 05.1	
	comp=N,4.0nm,2.2s,comp=E,5.0nm,1.7s						
JNK	**Nakash**	**1.06**	**349**	*i* P	**Pn**	01 34 05.5	-0.9
JNK				S	**Sn**	01 34 18.4	-1.6
JAR	**Ashorobuto**	**1.18**	**310**	*i* P	**Pn**	01 34 07.1	-0.9
JAR				S	**Sn**	01 34 21.5	-1.2
JAR	**Ashorobuto**	**1.18**	**310**	A	A	01 34 07.1	
	comp=N,8.0nm,0.4s,comp=E,12nm,0.4s						
JCH	**Churui**	**1.21**	**274**	P	**Pn**	01 34 08.3	-0.1
JCH				*e*S	**Sn**	01 34 23.2	-0.4
JNSB	**Nemuroshibetsu**	**1.23**	**0**	A	A	01 34 08.3	
	comp=N,4.0nm,2.2s,comp=E,4.0nm,0.8s						
JRA	**Rausu**	**1.40**	**4**	P	**Pn**	01 34 10.4	-0.6
JRA				*e*S	**Sn**	01 34 27.3	-0.9
ERM	**Erimo**	**1.46**	**249**		**Pn**	01 34 12.4	+0.5
ERM	**Erimo**	**1.46**	**249**	PN	**Pn**	01 34 12.4	+0.5
JEM	**Erimo**	**1.46**	**250**	P	**Pn**	01 34 13.2	+1.3
RUSJ	**Misakicho**	**1.57**	**7**	*e*PN	**Pn**	01 34 13.3	-0.1
RUSJ				*i* S	**Sn**	01 34 33.2	+0.7
YUK	**Yuzh-Kuril

KLR				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KLR	**Kul'dur**	**11.39**	**310**	*eP*	**Pn**	**01 36 29.3**	**+1.3**
PETK	**Petropavlovsk-**	**13.56**	**34**	P	**P**	**01 37 02.4**	**-3.4**
	comp=Z,1.8nm,0.6s,baz=197,slow=13,SNR=5.7						
KSRS	**Korea Array**	**14.04**	**254**	LR	LR	01 42 04.0	
	comp=Z,22nm,20.7s,baz=335,slow=35						
JNU	**Nakatsue**	**14.57**	**234**	LR	LR	01 43 33.2	
	comp=Z,54nm,19.3s,baz=4.0,slow=40						
JCJ	**Chichijima**	**15.58**	**189**	LR	LR	01 43 44.1	
	comp=Z,24nm,19.6s,baz=80,slow=38						
MA2	**Magadan**	**17.43**	**10**	LR	LR	01 45 07.7	
	comp=Z,19nm,18.1s,baz=117,slow=39						
JOW	**Kunigami**	**20.79**	**226**	LR	LR	01 46 43.5	
	comp=Z,49nm,19.3s,baz=294,slow=37						
YAK	**Yakutsk**	**21.54**	**340**	LR	LR	01 47 26.4	
	comp=Z,38nm,19.2s,baz=282,slow=38						
SONM	**Songino Array**	**27.51**	**294**	P	**P**	**01 39 30.6**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=81,slow=7.6,SNR=17						
	comp=Z,2.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.31**	**134**	T	T	02 10 59.0	
	baz=327,slow=76,SNR=135						
H11N1	**WAKE ISLAND Hy**	**29.32**	**134**	T	T	02 10 59.9	
	baz=327,slow=76,SNR=114						
H11N3	**WAKE ISLAND Hy**	**29.32**	**134**	T	T	02 10 53.0	
	baz=327,slow=76,SNR=103						
H11S1	**WAKE ISLAND Hy**	**30.22**	**136**	T	T	02 12 06.7	
	baz=328,slow=76,SNR=263						
H11S3	**WAKE ISLAND Hy**	**30.22**	**136**	T	T	02 12 09.3	
	baz=328,slow=76,SNR=182						
H11S2	**WAKE ISLAND Hy**	**30.23**	**136**	T	T	02 12 04.4	
	baz=328,slow=76,SNR=154						
H19K	**Roundabout Mou**	**39.37**	**34**	P	**P**	**01 41 13.8**	**+0.9**
H19K				IAmb	IAmb	01 41 15.6	
	comp=Z,3.6nm,0.8s						
B20K	**Meade River**	**39.84**	**27**	P	**P**	**01 41 16.5**	**-0.3**
B20K				IAmb	IAmb	01 41 34.9	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**40.48**	**308**	P	**P**	**01 41 22.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=76,slow=6.3,SNR=1.7						
ZALV				PcP	**PcP**	**01 43 24.7**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=69,slow=2.3,SNR=2.7						
	comp=Z,0.4nm,0.5s						
E22K	**Anaktuvuk Pass**	**41.45**	**30**	P	**P**	**01 41 30.5**	**+0.3**
E22K				IAmb	IAmb	01 41 33.3	
	comp=Z,2.0nm,0.8s						
NEA2	**Nenana**	**42.46**	**36**	P	**P**	**01 41 39.7**	**+1.3**
ILAR	**Eielson Array**	**43.39**	**35**	P	**P**	**01 41 46.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=254,slow=5.9,SNR=20						
	comp=Z,0.5nm,0.5s						
D25K	**Kavik River**	**43.50**	**29**	P	**P**	**01 41 47.0**	**+0.2**
MK31	**Makanchi Array**	**43.75**	**298**	P	**P**	**01 41 48.7**	**-0.5**
MK31	**Makanchi Array**	**43.75**	**298**	P	**P**	**01 41 48.7**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MKAR	**Makanchi Array**	**43.75**	**298**	P	**P**	**01 41 47.9**	**-1.3**
MKAR	**Makanchi Array**	**43.75**	**298**	P	**P**	**01 41 48.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=80,slow=9.0,SNR=11						
MKAR				PcP	**PcP**	**01 43 34.8**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=50,slow=2.3,SNR=1.3						
	comp=Z,0.9nm,0.8s						
KURK	**Kurchatov**	**44.90**	**304**	P	**P**	**01 41 57.8**	**-0.4**
KURK				IAmb	IAmb	01 41 58.3	
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**44.90**	**304**	P	**P**	**01 41 57.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**44.90**	**304**	*eP*	**P**	**01 41 57.8**	**-0.4**
KURBB	**Kurchatov Arra**	**44.98**	**304**	P	**P**	**01 41 58.4**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=74,slow=8.9,SNR=24						
KURBB				PcP	**PcP**	**01 43 38.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=59,slow=3.7,SNR=2.9						
KURBB				LR	LR	02 01 28.8	
	comp=Z,89nm,20.1s,baz=180,slow=37						
	comp=Z,2.7nm,0.7s						
BVAR	**Borovoye Array**	**49.05**	**310**	P	**P**	**01 42 30.4**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=83,slow=10,SNR=11						
	comp=Z,1.1nm,0.3s						
KKAR	**Karatay Array**	**52.88**	**298**	P	**P**	**01 42 58.9**	**-0.6**
KKAR	**Karatay Array**	**52.88**	**298**	P	**P**	**01 42 58.9**	**-0.6**
ABKAR	**Akbulak array**	**56.59**	**309**	P	**P**	**01 43 25.4**	**-0.8**
ABKAR				IAmb	IAmb	01 43 26.5	
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**56.59**	**309**	P	**P**	**01 43 24.8**	**-1.4**
YKA	**Yellowknife Ar**	**57.67**	**33**	P	**P**	**01 43 36.4**	**+2.7**
	comp=Z,0.1nm,0.5s,baz=298,slow=8.2,SNR=3.2						
	comp=Z,0.1nm,0.5s						
ARCES	**ARCESS Array B**	**59.82**	**339**	P	**P**	**01 43 48.7**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=35,slow=7.0,SNR=1.4						
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**62.95**	**191**	P	**P**	**01 44 09.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=8.2,slow=6.8,SNR=4.1						
	comp=Z,0.7nm,0.7s						
FIA1	**FINESS Array S**	**65.22**	**332**	P	**P**	**01 44 23.6**	**-1.1**
FINES	**FINESS Array B**	**65.22**	**332**	P	**P**	**01 44 23.9**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=43,slow=7.3,SNR=9.7						
	comp=Z,3.8nm,0.9s						
ASAR	**Alice Springs**	**66.67**	**191**	P	**P**	**01 44 34.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=11,slow=6.9,SNR=3.0						
	comp=Z,0.4nm,0.7s						
NOA	**NORSAR Array B**	**70.15**	**338**	P	**P**	**01 44 55.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=36,slow=6.4,SNR=1.5						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**70.18**	**336**	P	**P**	**01 44 55.8**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=46,slow=4.3,SNR=2.3						
	comp=Z,3.4nm,0.9s						
AKASG	**Malin Array Be**	**71.60**	**323**	P	**P**	**01 45 04.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.2,SNR=1.9						
	comp=Z,0.4nm,0.4s						
PDAR	**Pinedale Array**	**71.89**	**48**	P	**P**	**01 45 07.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=310,slow=4.2,SNR=2.6						
	comp=Z,0.2nm,0.5s						
BURAR	**Bucovina Array**	**75.66**	**323**	P	**P**	**01 45 28.7**	**+0.1**
TXAR	**Lajitas Array**	**84.63**	**55**	P	**P**	**01 46 17.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=302,slow=3.8,SNR=3.9						
	comp=Z,0.3nm,0.8s						

CATAC ***03*** *01:54:34.4±1.1, 11°N±10°×8°7W±°, h12km±6km, M3.8/5, MLv3.8/5, Error ellipse: s-maj=21.2km s-min=7.5km az=15.5, confirmed*
UCR ***03*** *01:54:34.2±1.1, 10°.86N×86°.87W, h0km±11km, MW4.1*
ISC 03 01:54:30.1±1.4, 10°.59N±0°.06×87°.05W±0°.06, h10km, n76, σ0$97/78, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**1.33**	**22**	P	**Pg**	**01 54 55.6**	**0.0**
MSHP	**Masachapa**	**1.33**	**22**	P	**Pg**	**01 54 57.2**	**+1.6**
ELI1	**Hacienda Flor**	**1.47**	**88**	*eP*	**Pg**	**01 55 00.3**	**+2.0**
ALIBA	**Liberia Airpor**	**1.48**	**90**	*eP*	**Pg**	**01 55 00.2**	**+1.7**
NADN	**Granada**	**1.52**	**41**	*eP*	**Pn**	**01 54 57.5**	**+0.2**
SABN	**Sabanita**	**1.61**	**33**	P	**Pn**	**01 54 58.2**	**-0.4**
SABN	**Sabanita**	**1.61**	**33**	P	**Pn**	**01 54 58.3**	**-0.3**
SABN	**Sabanita**	**1.61**	**33**	P	**Pb**	**01 54 59.8**	**-0.1**
CARN	**Rivas**	**1.61**	**68**	P	**Pb**	**01 54 59.5**	**-0.4**
CARN				S	**Sn**	**01 55 18.4**	**-1.0**
CARN	**Rivas**	**1.61**	**68**	P	**Pb**	**01 55 00.2**	**+0.2**
CARN	**Rivas**	**1.61**	**68**	P	**Pg**	**01 55 01.3**	**+0.3**
NANN	**Nandasmo**	**1.62**	**34**	P	**Pb**	**01 54 60.0**	**-0.1**
NANN	**Nandasmo**	**1.62**	**34**	P	**Pb**	**01 55 00.2**	**+0.2**
NANN	**Nandasmo**	**1.62**	**34**	P	**Pb**	**01 55 00.5**	**+0.4**
COPN	**Copaltepe**	**1.64**	**16**	P	**Pb**	**01 54 59.9**	**-0.5**
COPN	**Copaltepe**	**1.64**	**16**	P	**Pb**	**01 54 60.0**	**-0.5**
COPN	**Copaltepe**	**1.64**	**16**	P	**Pb**	**01 55 00.2**	**-0.3**
COPN	**Copaltepe**	**1.64**	**16**	*eP*	**Pb**	**01 54 59.8**	**-0.5**
MASN	**Masaya**	**1.64**	**32**	P	**Pg**	**01 55 01.2**	**-0.4**
VRLE	**La Escondida,**	**1.66**	**83**	*eP*	**Pb**	**01 55 01.8**	**+0.9**
ABCN	**Banco Central**	**1.68**	**25**	P	**Pg**	**01 55 01.9**	**-0.5**
ABCN	**Banco Central**	**1.68**	**25**	P	**Pg**	**01 55 04.5**	**+2.1**
INDI	**Punta indio, G**	**1.68**	**115**	P	**Pg**	**01 55 04.5**	**+2.0**
SAPS	**Ciudad Sandino**	**1.69**	**22**	P	**Pn**	**01 55 00.2**	**+0.6**
SAPS	**Ciudad Sandino**	**1.69**	**22**	P	**Pb**	**01 55 00.6**	**-0.7**
SAPS	**Ciudad Sandino**	**1.69**	**22**	P	**Pb**	**01 55 01.2**	**0.0**
UNAN	**Cigeo UNAN**	**1.69**	**27**	P	**Pn**	**01 55 00.3**	**+0.6**
UNAN	**Cigeo UNAN**	**1.69**	**27**	P	**Pb**	**01 55 01.6**	**+0.3**
USIM	**UNAN**	**1.69**	**27**	P	**Pg**	**01 55 05.0**	**+2.4**
CONN	**Concepcion**	**1.70**	**55**	P	**Pn**	**01 54 59.5**	**-0.3**
CONN	**Concepcion**	**1.70**	**55**	P	**Pn**	**01 54 59.3**	**-0.5**
CONN	**Concepcion**	**1.70**	**55**	P	**Pn**	**01 55 00.1**	**+0.3**
ENAN	**Enatrel Managu**	**1.70**	**27**	P	**Pn**	**01 54 59.9**	**+0.1**
ENAN	**Enatrel Managu**	**1.70**	**27**	P	**Pn**	**01 55 00.1**	**+0.3**
ENAN	**Enatrel Managu**	**1.70**	**27**	P	**Pg**	**01 55 04.1**	**+1.4**
TISN	**Laguna Tiscapa**	**1.72**	**26**	P	**Pn**	**01 55 00.0**	**-0.1**
TISN	**Laguna Tiscapa**	**1.72**	**26**	P	**Pn**	**01 55 00.1**	**-0.1**
TISN	**Laguna Tiscapa**	**1.72**	**26**	P	**Pb**	**01 55 01.5**	**-0.3**
MGAN	**Managua**	**1.73**	**27**	P	**Pn**	**01 55 00.7**	**+0.5**
MGAN	**Managua**	**1.73**	**27**	P	**Pb**	**01 55 02.4**	**+0.4**
R4DEC	**Barrio San Lui**	**1.73**	**27**	P	**Pn**	**01 55 00.5**	**+0.2**
R4DEC	**Barrio San Lui**	**1.73**	**27**	P	**Pb**	**01 55 02.4**	**+0.4**
APQ2	**Apoyeque**	**1.74**	**24**	P	**Pn**	**01 55 00.7**	**+0.3**
APQ2	**Apoyeque**	**1.74**	**24**	P	**Pg**	**01 55 04.0**	**+0.4**
BAGA	**Bagaces**	**1.76**	**92**	*eP*	**Pg**	**01 55 04.0**	**+0.2**
LEVN	**Ruinas Leon Vi**	**1.84**	**13**	P	**Pb**	**01 55 03.1**	**-0.9**
LEVN	**Ruinas Leon Vi**	**1.84**	**13**	P	**Pg**	**01 55 04.9**	**-0.6**
MOMN	**Momotombo**	**1.87**	**15**	P	**Pb**	**01 55 03.2**	**-1.2**
MOMN	**Momotombo**	**1.87**	**15**	P	**Pb**	**01 55 03.9**	**-0.5**
MOMN	**Momotombo**	**1.87**	**15**	P	**Pb**	**01 55 05.0**	**+0.6**
CNGN	**Cerro Negro**	**1.93**	**10**	P	**Pb**	**01 55 04.4**	**-0.9**
CNGN	**Cerro Negro**	**1.93**	**10**	P	**Pb**	**01 55 04.6**	**-0.8**
CNGN	**Cerro Negro**	**1.93**	**10**	P	**Pg**	**01 55 06.9**	**-0.2**
CRIN	**San Cristobal**	**2.09**	**360**	P	**Pb**	**01 55 07.4**	**-0.8**
CRIN	**San Cristobal**	**2.09**	**360**	P	**Pg**	**01 55 12.2**	**+1.9**
CRIN	**San Cristobal**	**2.09**	**360**	*eP*	**Pb**	**01 55 07.6**	**-0.6**
BOAB	**BOACO BROADBAN**	**2.29**	**36**	P	**Pn**	**01 55 07.8**	**-0.1**
BOAB				S	**Sn**	**01 55 34.5**	**-1.6**
BOAB	**BOACO BROADBAN**	**2.29**	**36**	P	**Pn**	**01 55 08.1**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.29**	**36**	P	**Pn**	**01 55 09.2**	**+1.3**
ACON	**Acoyapa**	**2.29**	**53**	P	**Pn**	**01 55 07.7**	**-0.2**
ACON	**Acoyapa**	**2.29**	**53**	S	**Sn**	**01 55 35.5**	**-0.7**
ACON	**Acoyapa**	**2.29**	**53**	P	**Pb**	**01 55 09.9**	**-1.6**
ACON	**Acoyapa**	**2.29**	**53**	P	**Pb**	**01 55 10.7**	**-0.8**
ACON	**Acoyapa**	**2.29**	**53**	*eP*	**Pn**	**01 55 08.2**	**+0.3**
SOCE	**Pocosol**	**2.40**	**95**	P	**Pg**	**01 55 16.9**	**+0.9**
CSGN	**Cosiguina Volc**	**2.42**	**348**	P	**Pb**	**01 55 13.2**	**-0.6**
CSGN	**Cosiguina Volc**	**2.42**	**348**	P	**Pb**	**01 55 13.6**	**-0.2**
CSGN	**Cosiguina Volc**	**2.42**	**348**	P	**Pb**	**01 55 14.2**	**+0.3**
LIMN	**Finca el Limon**	**2.54**	**15**	P	**Pn**	**01 55 12.6**	**+1.1**
CNCH	**Conchagua**	**2.77**	**344**	P	**Pb**	**01 55 19.5**	**-0.4**
CNCH	**Conchagua**	**2.77**	**344**	P	**Pb**	**01 55 18.9**	**-1.0**
RCPN	**Sur Rio San Ju**	**3.06**	**18**	P	**Pn**	**01 55 20.5**	**+1.8**
RCVN	**Varillal2**	**3.09**	**16**	P	**Pn**	**01 55 20.9**	**+1.8**
PACA	**Pacayal**	**3.12**	**337**	P	**Pb**	**01 55 24.7**	**-1.0**
OCHAL	**Ojochal**	**3.67**	**114**	P	**Pb**	**01 55 32.2**	**-2.8**
NUBE	**Las Nubes**	**4.24**	**321**	P	**Pb**	**01 55 43.9**	**-0.9**

IDC 03 02:02:47.0±12.0, 54°.23N×159°.92E, h0km, Error ellipse: s-maj=93.8km s-min=35.1km az=51.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**1.73**	**230**	I	I	02 11 50.0	
	0.1nm,0.8s,baz=48,slow=330,SNR=10.0						
PETK	**Petropavlovsk-**	**1.73**	**231**	Pg	Pn	02 03 18.6	+0.3
	0.3nm,0.3s,baz=48,slow=17,SNR=5.3						
I53US	**FAIRBANKS INFR**	**27.68**	**47**	I	I	04 47 09.1	
	baz=268,slow=315,SNR=6.7						
I10CA	**LAC DU BONNET**	**58.09**	**47**	I	I	08 02 04.8	
	baz=315,slow=334,SNR=2.5						

WEL ***03*** *02:16:23.8±1.1, 37°S±5°×17°8E±°, h12km, M3.0/11, ML3.2/12, MLv3.0/11, Error ellipse: s-maj=9.8km s-min=5.0km az=62.9, confirmed*
NOU ***03*** *02:16:24.6, 37°.22S×178°.50E, h30km, MLv3.6/13, Off E. Coast of N. Island, N.Z.*
ISC 03 02:16:25.4±2.1, 37°.16S±0°.07×178°.47E±0°.09, h31km±10km, n31, σ1$20/43, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.43**	**198**	P	**Pb**	**02 16 34.1**	**-0.6**
MXZ	**Matakaoa Point**	**0.43**	**198**	S	**Sb**	**02 16 41.7**	**+0.6**
MXZ	**Matakaoa Point**	**0.43**	**198**	P	**Pb**	**02 16 34.2**	**-0.5**
MXZ				S	**Sb**	**02 16 41.4**	**+0.3**
TDHS	**Te Araroa Dist**	**0.48**	**190**	P	**Pn**	**02 16 35.9**	**-0.3**
TDHS				S	**Sn**	**02 16 46.1**	**+2.4**
WMGZ	**Waiomatatini S**	**0.66**	**184**	P	**Pn**	**02 16 39.0**	**+0.2**
WMGZ				S	**Sn**	**02 16 50.2**	**+2.1**
PKGZ	**Pakihiroa**	**0.78**	**203**	P	**Pn**	**02 16 40.2**	**-0.1**
PKGZ				S	**Sn**	**02 16 52.2**	**+1.3**
HAZ	**Te Kaha**	**0.81**	**222**	P	**Pn**	**02 16 40.6**	**-0.1**
HAZ				S	**Sb**	**02 16 52.7**	**+1.0**
PUZ	**Puketiti**	**0.93**	**190**	P	**Pn**	**02 16 42.3**	**-0.1**
PUZ				S	**Sn**	**02 16 56.2**	**+1.4**
RUGZ	**Raukumara Rang**	**1.02**	**218**	P	**Pn**	**02 16 44.1**	**+0.3**
RUGZ				S	**Sb**	**02 16 59.0**	**+1.1**
WIZ	**White Island**	**1.09**	**250**	P	**Pn**	**02 16 44.6**	**+0.1**
TWGZ	**Tauwhareparae**	**1.09**	**201**	P	**Pn**	**02 16 44.9**	**+0.2**
TWGZ				S	**Sb**	**02 17 01.3**	**+1.6**
OPCS	**Opotiki Colleg**	**1.27**	**227**	S	**Sn**	**02 17 03.2**	**+0.2**
CNGZ	**Carnagh Statio**	**1.34**	**189**	P	**Pn**	**02 16 47.6**	**-0.4**
TKGZ	**Te Karaka**	**1.37**	**201**	P	**Pn**	**02 16 47.7**	**-0.8**
MWZ	**Matawai**	**1.39**	**212**	P	**Pn**	**02 16 48.9**	**+0.1**
MWZ				S	**Sb**	**02 17 09.4**	**+1.1**
URZ	**Urewera**	**1.54**	**224**	P	**Pn**	**02 16 50.4**	**-0.3**
URZ	**Urewera**	**1.54**	**224**	P	**Pn**	**02 16 50.5**	**-0.3**
URZ				S	**Sn**	**02 17 10.2**	**+0.4**
RIGZ	**Rimuhau**	**1.65**	**200**	P	**Pn**	**02 16 51.6**	**-0.7**
MYRZ	**Mayor Island**	**1.78**	**265**	P	**Pn**	**02 16 54.1**	**0.0**
SNGZ	**Shannon Statio**	**1.85**	**208**	P	**Pn**	**02 16 55.0**	**-0.1**
RTZ	**Ruatahuna**	**1.88**	**219**	P	**Pn**	**02 16 55.6**	**+0.2**
RTZ				S	**Sn**	**02 17 18.7**	**+0.6**
KNZ	**Kokohu**	**1.97**	**198**	P	**Pn**	**02 16 54.9**	**-1.7**
KUZ	**Kuaotunu**	**2.24**	**280**	P	**Pn**	**02 16 59.8**	**-0.6**
KUZ	**Kuaotunu**	**2.24**	**280**	P	**Pn**	**02 16 59.8**	**-0.6**
KUZ				S	**Sn**	**02 17 25.7**	**-1.3**
BKZ	**Black Stump Fm**	**2.54**	**217**	P	**Pn**	**02 17 03.8**	**-0.8**
BKZ	**Black Stump Fm**	**2.54**	**217**	S	**Sn**	**02 17 34.8**	**+0.3**
HIZ	**Hauiti**	**3.17**	**244**	P	**Pn**	**02 17 14.3**	**+1.2**
BFZ	**Birch Farm**	**3.92**	**206**	P	**Pn**	**02 17 21.1**	**-2.5**
BFZ	**Birch Farm**	**3.92**	**206**	S	**Sn**	**02 18 05.4**	**-3.2**
OUZ	**Omahuta**	**4.39**	**295**	P	**Pn**	**02 17 31.2**	**+1.3**
QRZ	**Quartz Range**	**5.90**	**230**	P	**Pn**	**02 17 47.9**	**-2.8**

NEIC ***03*** *02:21:51.0±0.6, 19°.31N±0°.01×155°.195W±0°.009, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.1km az=145.0*
HVO 03 02:21:50.7±0.5, 19°.34N±0°.01×155°.198W±0°.009, h6km±2km, ML2.9/44, ML2.8/40(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.04**	**336**		Pg	02 21 52.7	+0.5
PUH				Sg	Sg	02 21 53.9	+0.7
KNHH	**Kane Nui o Ham**	**0.05**	**31**		Pg	02 21 52.8	+0.5
STCH	**Steam Cracks**	**0.09**	**54**		Pg	02 21 53.1	+0.4
STCH				Sg	Sg	02 21 54.8	+0.7
STCH				IAML		02 21 55.3	
	comp=N,6μm,0.5s						
STCH				IAML		02 21 55.9	
	comp=E,4μm,0.3s						
BYL	**Byron's Ledge**	**0.10**	**323**		Pg	02 21 53.4	+0.4
BYL				IAML		02 21 56.0	
	comp=N,3μm,0.6s						
HATHI	**Halema'uma'u T**	**0.11**	**326**		Pg	02 21 53.6	+0.5
HATHI				Sg	Sg	02 21 55.7	+0.9
HATHI				IAML		02 21 55.8	
	comp=N,2μm,0.3s						
HATHI				IAML		02 21 56.0	
	comp=E,3μm,0.6s						
HLP	**Hilina Pali**	**0.11**	**250**		Pg	02 21 53.7	+0.6
HLP				Sg	Sg	02 21 56.0	+1.2
HLP				IAML		02 21 56.2	
	comp=E,5μm,0.3s						
HLP				IAML		02 21 56.2	
	comp=N,5μm,0.3s						
SBLHI	**Steaming Bluff**	**0.11**	**324**		Pg	02 21 53.6	+0.4
SBLHI					Sg	02 21 55.7	+0.8
OBL	**Observatory Le**	**0.12**	**315**		Pg	02 21 53.8	+0.5
OBL					Sg	02 21 55.9	+0.9
UWB	**Uwekahuna Bluf**	**0.12**	**320**		Pg	02 21 53.6	+0.4
UWB					Sg	02 21 55.9	+0.8
WRMHI	**West Rim**	**0.12**	**307**		Pg	02 21 53.7	+0.4
WRMHI					Sg	02 21 55.8	+0.7
RSD	**Rainshed**	**0.15**	**329**		Pg	02 21 54.2	+0.3
RSD					Sg	02 21 56.6	+0.7
JOKA	**Jonika Flow**	**0.21**	**62**		Pg	02 21 54.8	0.0
HTC	**Hot Caves**	**0.21**	**243**		Pg	02 21 55.5	+0.6
MLH	**Mauna Loa**	**0.24**	**312**		Pg	02 21 55.9	+0.4
PAH	**Pahoa**	**0.29**	**56**		Sg	02 22 01.4	+1.3
HMH	**Humu'ula Sheep**	**0.38**	**315**		Pg	02 21 58.2	0.0
HMH					Sg	02 22 03.8	+0.6
HMH	**Humu'ula Sheep**	**0.38**	**315**	IAML		02 22 05.5	
	comp=N,3μm,0.3s						
HMH				IAML		02 22 05.5	
	comp=E,4μm,0.3s						
KHU	**Kahuku**	**0.40**	**257**	Pg	Pg	02 21 58.6	0.0
KHU				Sg	Sg	02 22 04.7	+0.7
KHU				IAML		02 22 05.1	
	comp=N,806nm,0.5s						
KHU				IAML		02 22 10.5	
	comp=E,966nm,0.3s						
MWH	**Mokuaweoweo**	**0.41**	**292**		Pg	02 21 58.6	-0.2
MWH					Sg	02 22 04.6	+0.5
MWH	**Mokuaweoweo**	**0.41**	**292**	IAML		02 22 06.2	
	comp=N,2μm,0.7s						
MWH				IAML		02 22 06.2	
	comp=E,2μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.41**	**299**		Pg	02 21 58.7	-0.1
MLOA					Sg	02 22 04.4	+0.2
MLOA	**Mauna Loa Obse**	**0.41**	**299**	IAML		02 22 05.1	
	comp=N,55nm,4.8s						
MLOA				IAML		02 22 05.2	
	comp=E,59nm,4.5s						
HPO	**Honuapo**	**0.42**	**234**		Pg	02 21 58.9	+0.1
HPO	**Honuapo**	**0.42**	**234**		Sg	02 22 04.8	+0.6
ALEP	**Alea Permanent**	**0.47**	**296**		Pg	02 21 59.4	-0.4
ALEP					Sg	02 22 06.2	+0.2
POHA	**Pohakuloa**	**0.53**	**323**	Pg	Pg	02 22 00.6	-0.3
POHA	**Pohakuloa**	**0.53**	**323**		Sg	02 22 07.9	+0.1
HUH	**Hualalai**	**0.69**	**300**		Pg	02 22 03.3	-0.8
HUH					Sg	02 22 12.7	-0.5
CPH	**Captain Cook**	**0.70**	**283**		Pg	02 22 03.4	-0.7
HPAH	**Hawaii Prepara**	**0.84**	**326**		Pg	02 22 04.8	-2.1
HPAH					Sg	02 22 15.2	-2.5
HPAH	**Hawaii Prepara**	**0.84**	**326**	IAML		02 22 17.9	
	comp=N,270nm,0.2s						
HPAH				IAML		02 22 17.9	
	comp=E,444nm,0.2s						
MHA	**Mahukona**	**1.08**	**322**		Pg	02 22 08.5	-2.9
MHA					Sg	02 22 21.6	-3.9

IDC 03 02:27:19.9±5.2, 4°.98S×131°.95E, h0km, mb3.3/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=348.7km s-min=33.2km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.06**	**171**	Pn	Pn	02 30 53.1	-1.0
	0.1nm,0.3s,baz=351,slow=13,SNR=7.3						
WRA				Sn	Sn	02 33 26.8	-15
	0.2nm,0.3s,baz=352,slow=23,SNR=5.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**18.68**	**174**	P	Pn	02 31 40.0	0.0
	0.1nm,0.3s,baz=349,slow=10,SNR=6.8						
ASAR				S	Sn	02 34 53.7	-16
	0.1nm,0.4s,baz=359,slow=27,SNR=4.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	02 38 18.8	0.0
	0.1nm,0.3s,baz=111,slow=7.9,SNR=2.0						
	0.1nm,0.3s						

STR ***03*** *02:36:53.5±0.5, 49°N±3°×±°, h2km, MLv2.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=155.3, preliminary*
LDG ***03*** *02:36:54.7±0.2, 48°.61N×6°.24E, h1km, Ml1.9/4, Error ellipse: s-maj=4.0km s-min=2.5km az=16.0*
ISC 03 02:36:52.9±0.9, 48°.74N±0°.03×6°.26E±0°.02, h0km, n24, σ0$62/39, France

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

EHD				*e*S	Sb	02 40 06.1	-1.5
LYUB	**Lan-yu**	0.60	162	⇑P	Pb	02 39 58.5	-0.9
LYUB				*e*S	Sb	02 40 06.5	-1.1
CHKH	**Chenggong**	0.62	1	⇑P	Pb	02 39 59.3	-0.3
CHKH				S	Sb	02 40 07.6	-0.5
FULB	**Fuli**	0.63	353	*e*P	Pb	02 39 59.7	-0.2
FULB				S	Sn	02 40 08.8	-0.2
SLIU	**Shizi**	0.65	237	⇑*e*P	Pb	02 39 59.3	-0.8
SLIU				*e*S	Sb	02 40 07.9	-1.0
MASBT	**Mashibuluo**	0.69	273	⇓*i*P	Pn	02 40 00.2	-0.7
MASBT				S	Sb	02 40 08.6	-1.7
TSMG	**Majia**	0.69	281	⇓*e*P	Pb	02 40 00.0	-0.9
TSMG				*e*S	Sb	02 40 08.1	-2.2
ELDTW	**Lidau**	0.70	331	⇑P	Pb	02 39 59.7	-1.4
SCZT	**Fangliau**	0.73	254	⇓P	Pn	02 40 00.9	-0.5
SCZT				S	Sb	02 40 10.2	-1.1
ECBN	**Changbin**	0.74	5	*e*P	Pn	02 40 01.4	-0.1
ECBN				S	Sn	02 40 11.3	-0.4
SMST	**Manzhou Townsh**	0.75	223	*e*P	Pn	02 40 01.1	-0.5
SMST				*e*S	Sb	02 40 10.6	-1.1
EYUL	**Yuli**	0.77	356	*e*P	Pn	02 40 01.5	-0.5
EYUL				*e*S	Sb	02 40 11.6	-0.9
TWF1	**Yuli**	0.78	354	*e*P	Pn	02 40 01.0	-1.1
TSEB	**Hengchuen, Pin**	0.81	214	*e*P	Pn	02 40 02.8	+0.5
TSEB				*i*S	Sn	02 40 14.0	+0.8
STYH	**Taoyuan**	0.81	317	⇑P	Pn	02 40 02.2	-0.3
STYH				*e*S	Sb	02 40 12.2	-1.5
YULB	**Yu-li**	0.82	355	⇑P	Pn	02 40 01.4	-1.3
YULB				*e*S	Sb	02 40 12.1	-1.7
HEN	**Hengchun**	0.82	227	*e*P	Pn	02 40 02.8	+0.2
HEN				*e*S	Sn	02 40 13.3	-0.4
TWKBT	**Hengchun**	0.82	220	⇑*e*P	Pn	02 40 02.3	-0.3
TWKBT				*e*S	Sn	02 40 12.7	-0.9
TWK1	**Hengchun**	0.82	220	⇑*i*P	Pn	02 40 02.4	-0.3
TWK1				S	Sn	02 40 13.0	-0.7
SCST	**Cishan**	0.88	291	*e*P	Pb	02 40 04.7	+0.8
SCST				*e*S	Sb	02 40 16.0	+0.6
SGST	**Jiashian**	0.89	305	⇑P	Pn	02 40 03.5	-0.1
SGST				*e*S	Sn	02 40 15.5	0.0
HGSD	**Ruisui**	0.92	2	*e*P	Pn	02 40 04.0	0.0
HGSD				*e*S	Sb	02 40 16.2	-0.3
EHYH	**Wanrong**	0.92	358	*e*P	Pn	02 40 03.1	-0.8
EHYH				*e*S	Sn	02 40 13.9	-2.1
TWM1	**Shoushan**	0.92	286	P	Pb	02 40 05.5	+0.8
TWM1				*e*S	Sb	02 40 18.8	+2.1
EHY	**Hungye**	0.93	357	⇑P	Pn	02 40 03.0	-1.1
WLCH	**Liuqiu**	0.95	257	*e*P	Pb	02 40 07.7	+2.4
TWP	**Hsiaoliuchiu**	0.97	257	*e*P	Pb	02 40 07.1	+1.6
WTP	**Ta-pu**	0.97	314	⇑*i*P	Pb	02 40 05.5	-0.1
WTP				S	Sb	02 40 18.7	+0.5
YUS	**Yu-Shan**	0.99	337	*e*P	Pb	02 40 03.0	-2.5
CHN1	**Nanshi**	0.99	308	⇑*i*P	Pb	02 40 06.3	+0.4
CHN1				*i*S	Sb	02 40 19.6	+0.8
TPUB	**Ta-pu**	1.00	316	P	Pb	02 40 05.8	-0.3
TPUB	**Ta-pu**	1.00	316	⇑*i*P	Pb	02 40 05.9	-0.2
TPUB				*e*S	Sb	02 40 19.2	+0.2
WSSB	**Gushan**	1.04	274	*e*P	Pb	02 40 06.8	+0.1
WSSB				*e*S	Sb	02 40 22.0	+2.1
SNST	**Tainan City**	1.04	308	*e*P	Pb	02 40 07.2	+0.5
SNST				*e*S	Sb	02 40 20.8	+0.7
SHHT	**Tainan City**	1.05	295	*e*P	Pb	02 40 08.8	+1.8
CHN4	**Tsaushan**	1.06	317	*e*P	Pb	02 40 07.3	+0.2
CHN4				S	Sb	02 40 21.6	+1.0
CHN3	**Shinhua**	1.06	298	*e*P	Pb	02 40 08.1	+1.0
ALS	**Alishan**	1.07	330	*i*P	Pb	02 40 07.0	-0.4
ALS				*e*S	Sb	02 40 21.1	-0.2
TWK	**Hsinying**	1.07	310	*e*P	Pb	02 40 07.6	+0.3
TWK				*e*S	Sb	02 40 21.7	+0.6
EGFH	**Guangfu**	1.09	2	*e*P	Pn	02 40 05.8	-0.6
WCKO	**Fanlu**	1.12	320	*e*P	Pb	02 40 08.7	+0.6
WCKO				*e*S	Sb	02 40 23.0	+0.7
WARBT	**Fenglin Townsh**	1.14	0	*e*P	Pn	02 40 05.8	-1.2
TEGC	**Jichi Village**	1.14	7	*e*P	Pn	02 40 07.0	0.0
VWDT	**VWDT**	1.20	349	P	Pn	02 40 07.9	+0.1
VWDT				*e*S	Sn	02 40 23.0	+0.1
CHN5	**Tsauling**	1.21	328	*e*P	Pb	02 40 09.4	-0.2
CHN5				*e*S	Sb	02 40 25.3	+0.4
WHYT	**Xinyi Township**	1.22	337	*e*P	Pb	02 40 09.7	0.0
WHYT				*e*S	Sb	02 40 25.0	-0.2
SHUL	**Shoufeng**	1.22	8	*e*P	Pn	02 40 08.6	+0.5
SHUL				*i*S	Sb	02 40 24.6	-0.5
ESL	**Shilin**	1.24	2	*e*P	Pn	02 40 07.5	-0.8
SCLT	**Jiali**	1.25	299	*e*P	Pb	02 40 10.3	+0.1
SCLT				*e*S	Sb	02 40 26.7	+0.8
CHN2	**Minshiung**	1.27	319	*e*P	Pb	02 40 11.0	+0.5
SSLB	**Suanglung**	1.27	342	P	Pn	02 40 09.4	+0.8
SSLB	**Suanglung**	1.27	342	*e*P	Pn	02 40 09.4	+0.6
SSLB				S	Sb	02 40 25.8	-0.9
CHY	**Chiayi**	1.27	316	*e*P	Pb	02 40 10.6	-0.1
CHY				*i*S	Sb	02 40 27.4	+0.6
ICHU	**Yijhu**	1.28	308	*e*P	Pb	02 40 10.7	-0.1
ICHU				*e*S	Sb	02 40 28.2	+1.2
TEYL	**Yanliau Villag**	1.30	9	*e*P	Pn	02 40 08.8	-0.5
CHN8	**Yiju**	1.32	306	*e*P	Pb	02 40 11.1	-0.4
CHN8				*e*S	Sb	02 40 28.9	+0.8
TSCK	**Chigu Township**	1.32	296	*e*P	Pb	02 40 10.7	+1.1
TSCK				*i*S	Sb	02 40 28.0	-0.1
WGK	**Gukeng**	1.34	326	*e*P	Pb	02 40 11.4	-0.4
WGK				*e*S	Sb	02 40 29.5	+0.9
WDLH	**Douliu**	1.35	325	P	Pb	02 40 12.1	+0.1
WDLH				*i*S	Sb	02 40 30.0	+1.0
WDL	**Douliou City**	1.38	326	*e*P	Pb	02 40 12.2	-0.1
WDL				*e*S	Sb	02 40 30.6	+1.0
SMLT	**Sun Moon Lake**	1.38	341	*e*P	Pb	02 40 10.9	+0.6
SMLT				*e*S	Sb	02 40 30.0	+0.2
WJS	**Zhushan**	1.38	334	*i*P	Pb	02 40 12.9	+0.4
WJS				*e*S	Sb	02 40 31.4	+1.6
OWD	**Renai**	1.39	352	*e*P	Pn	02 40 10.7	+0.1
ETM	**Tongmen**	1.39	4	*e*P	Pn	02 40 09.8	-0.7
TYC	**Yuchr**	1.41	340	*i*P	Pb	02 40 12.8	-0.2
TYC				*e*S	Sb	02 40 29.8	-0.7
WSL	**Shuilin Townsh**	1.42	312	*i*P	Pb	02 40 12.4	-0.7
WSL				*e*S	Sb	02 40 31.2	+0.3
WUSB	**Renai**	1.43	350	*e*P	Pn	02 40 11.8	+0.6
WTK	**Tuku**	1.44	321	*i*P	Pb	02 40 12.7	-0.8
WTK				S	Sb	02 40 31.1	-0.2
LXIB	**Xiulin Townshi**	1.44	1	*e*P	Pn	02 40 10.6	-0.7
WNT	**Mingjian**	1.45	334	⇑P	Pb	02 40 13.7	+0.1
WNT				*i*S	Sb	02 40 32.6	+0.9
TWD	**Chiawan**	1.51	7	P	Pn	02 40 12.3	+0.2
TWD				*e*S	Sn	02 40 30.7	0.0
WCS	**Beigang Elemen**	1.54	344	*e*P	Pb	02 40 14.3	-0.8
WCS				*e*S	Sb	02 40 35.1	+0.9
WHF	**Hehuan Shan**	1.57	356	*e*P	Pn	02 40 13.6	+0.3
WHF				*e*S	Sn	02 40 32.9	+0.2
NACB	**Ninganchiao**	1.60	7	P	Pn	02 40 13.0	-0.4
NACB	**Ninganchiao**	1.60	7	S	Sn	02 40 33.8	+0.8
NACB	**Ninganchiao**	1.60	7	*e*P	Pn	02 40 12.7	-0.7
NACB				*e*S	Sn	02 40 31.8	-1.3
ETLH	**Xiulin Townshi**	1.63	3	*e*P	Pn	02 40 13.4	-0.4
FUSS	**Fushou**	1.67	356	*e*P	Pn	02 40 15.5	+1.0
WCHH	**Zhanghua**	1.68	333	*e*P	Pb	02 40 16.6	-1.0
WCHH				*e*S	Sb	02 40 37.7	-0.6
TWT	**Tachien**	1.68	354	*e*P	Pn	02 40 15.6	+1.0
TWT				*e*S	Sb	02 40 37.6	-1.0
TDCB	**Techi**	1.68	353	*e*P	Pb	02 40 16.9	-0.8
TCU	**Taichung**	1.70	338	*e*P	Pb	02 40 16.9	-0.9
TCU				*e*S	Sb	02 40 38.4	-0.3
WDGT	**Dungji**	1.73	294	*e*P	Pn	02 40 15.7	+0.6
WDGT				*e*S	Sn	02 40 35.5	-0.6
WHP	**Taichung City**	1.74	347	*e*P	Pb	02 40 17.9	-0.7
WHP				*i*S	Sb	02 40 40.3	+0.1
EOS4	**EOS4**	1.77	29	*e*P	Pn	02 40 16.2	+0.9
EOS4				*e*S	Sn	02 40 37.1	+0.6
TWQ1	**Liyutan**	1.85	343	P	Pb	02 40 19.5	-0.9
TWQ1				*i*S	Sb	02 40 43.0	-0.3
NNS	**Nan Shan**	1.86	360	*e*P	Pn	02 40 18.4	+1.4
ENA	**Nanau**	1.88	10	*e*P	Pn	02 40 17.3	+0.2
WDJ	**Dajia District**	1.89	339	*e*P	Pb	02 40 19.9	-1.3
WDJ				*e*S	Sb	02 40 44.5	+0.1
EWUT	**Wuta**	1.90	11	*e*P	Pn	02 40 18.5	+1.1
EWUT				*e*S	Sn	02 40 41.2	+1.0
VCHM	**Qimei**	1.91	290	*i*P	Pn	02 40 18.2	+0.7
VCHM				*e*S	Sn	02 40 39.2	-1.3
EOS3	**EOS3**	1.91	27	*e*P	Pn	02 40 18.7	+1.3
EOS3				*e*S	Sn	02 40 41.4	+1.1
PHUB	**P'eng-hu**	1.91	300	*e*P	Pn	02 40 17.8	+0.2
PHUB				*i*S	Sn	02 40 39.8	-0.8
NSY	**Sanyi**	1.92	343	*e*P	Pb	02 40 20.0	-1.6
NSY				*i*S	Sb	02 40 44.8	-0.4
PNG	**Penghu**	1.95	301	*e*P	Pn	02 40 17.9	-0.2
PNG				*e*S	Sn	02 40 39.7	-1.8
LATG	**Datong**	1.96	4	*e*P	Pn	02 40 18.8	+0.4
EOS2	**EOS2**	2.00	23	*e*P	Pb	02 40 20.6	-2.2
NMLH	**Miaoli**	2.03	345	*e*P	Pb	02 40 21.4	-2.1
NMLH				*i*S	Sb	02 40 47.5	-0.8
ESAO	**Su ao**	2.04	12	*e*P	Pn	02 40 20.7	+1.4
NFF	**Wufeng Townshi**	2.06	353	P	Pb	02 40 22.3	-1.8
NFF				*e*S	Sb	02 40 47.3	-2.1
ENTT	**Nioudou**	2.06	5	*e*P	Pn	02 40 20.6	+0.8
TWC	**Suao**	2.07	12	*e*P	Pn	02 40 21.0	+1.2
NSTT	**Nanjuang**	2.08	350	*e*P	Pb	02 40 22.1	-2.2
NSTT				*e*S	Sb	02 40 46.9	-2.8
YHNB	**Yeheng**	2.09	360	P	Pn	02 40 21.4	+1.3
YHNB	**Yeheng**	2.09	360	*e*P	Pn	02 40 21.7	+1.6
LIOB	**Emei**	2.09	351	*e*P	Pn	02 40 22.0	+1.9
LIOB				S	Sb	02 40 48.6	-1.5
NSK	**Sanguang**	2.09	359	*e*P	Pn	02 40 21.8	+1.6
NSK				*e*S	Sn	02 40 44.5	-0.7
TWE	**Neicheng**	2.15	7	*e*P	Pn	02 40 21.5	+0.5
FUSB	**Fushanzhiwuyua**	2.19	5	*e*P	Pn	02 40 22.8	+1.4
NWLT	**Wulai**	2.20	3	*e*P	Pn	02 40 23.4	+1.9
NWLT				*e*S	Sn	02 40 48.2	+0.5
KSHI	**Guanxi Townshi**	2.20	355	*e*P	Pb	02 40 24.5	-1.9
KSHI				*e*S	Sn	02 40 49.6	+1.9
EGS		2.32	12	*e*P	Pn	02 40 25.3	+2.1
JYNG	**Yonagunijimaku**	2.36	37	*e*P	Pn	02 40 24.5	+0.8
JYNG				*e*S	Sn	02 40 52.1	+0.5
TATO	**Taipei**	2.39	2	P	Pn	02 40 26.7	+2.5
TATO	**Taipei**	2.39	2	S	Sn	02 40 54.4	+1.9
YOJ	**Yonaguni jima**	2.40	38	*e*P	Pn	02 40 25.8	+1.5
YOJ	**Yonaguni jima**	2.40	38	P	Pn	02 40 26.0	+1.6
YOJ				*e*S	Sn	02 40 53.5	+0.8
TIPB	**Shuangxi**	2.42	10	*e*P	Pn	02 40 25.9	+1.2
TIPB				*e*S	Sn	02 40 54.3	+1.0
TWB1	**Santiao Chiao**	2.49	13	*e*P	Pn	02 40 28.0	+2.5
SXI1	**Grass Mountain**	2.55	10	*e*P	Pn	02 40 28.2	+1.7
YM01	**YM01**	2.57	4	*e*P	Pn	02 40 27.6	+0.9
ZUZH	**Zhuzihu**	2.58	3	*e*P	Pn	02 40 28.1	+1.2
ANP	**Anpu**	2.60	3	*e*P	Pn	02 40 28.6	+1.4
HATJ	**Hateruma jima**	2.67	56	*e*P	Pn	02 40 29.4	+1.3
HATJ				*e*S	Sn	02 40 59.3	-0.1
IRIF	**Iriomote-Funau**	2.78	50	*e*P	Pn	02 40 31.7	+2.1
IRIF				*e*S	Sn	02 41 03.4	+1.4
JKRS	**Kuro-shima**	2.93	55	*e*P	Pn	02 40 33.3	+1.7
JKRS				*e*S	Sn	02 41 06.2	+0.5
VWUC	**VWUC**	2.99	324	*e*P	Pn	02 40 32.7	+0.3
JIJ	**Ishigaki jima**	3.10	54	*e*P	Pn	02 40 35.6	+1.6
JIJ				*e*S	Sn	02 41 09.4	-0.5
PCYT	**Pengchaiyu**	3.11	12	*e*P	Pn	02 40 35.6	+1.5
PTMZ	**Houxiangcun**	3.21	320	*e*P	Pn	02 40 36.2	+0.7
KNM	**Kinmen**	3.27	305	*e*P	Pn	02 40 38.3	+2.0
KNMB	**Chin-men Tao**	3.33	305	*e*P	Pn	02 40 38.0	+0.8
JISG	**Ishigakijimahi**	3.35	53	*e*P	Pn	02 40 38.0	+0.5
JISG				*e*S	Sn	02 41 16.4	+0.2
ZPLA	**Ao Xicun**	3.60	293	*e*P	Pn	02 40 41.2	+0.3
JTJ	**Tarama**	3.68	55	*e*P	Pn	02 40 43.9	+2.0
JTJ				*e*S	Sn	02 41 24.8	+0.7
MATB	**Ma-tsu**	3.79	340	*e*P	Pn	02 40 43.4	-0.1
AXDP	**Jialang**	3.89	307	*e*P	Pn	02 40 45.1	+0.3
MHZQ	**Yeshan**	4.11	329	*e*P	Pn	02 40 48.0	+0.1

GCG ***03*** *02:45:30.8±1.4, 16°.59N×93°.96W, h146km±17km, MD4.5*
MEX ***03*** *02:45:34.0±0.7, 16°.69N×93°.94W, h143km±4km, MD4.2*
ISC 03 02:45:31.1±1.3**, 16°.69N**±0°.04×**93°.92W**±0°.03**, h152**km±7km**,**
n39, σ**1**$**54/72, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	0.45	179	*e*P	**Pn**	02 45 53.5	+1.0
CARR				*e*S	**Sn**	02 46 08.3	-0.4
UXUV	**UXUV**	0.66	341	*i*P	**Pn**	02 45 54.5	+0.9
UXUV				*e*S	**Sn**	02 46 09.3	-1.5
NILT	**Santiago Nilte**	0.68	259	*e*P	**Pn**	02 45 54.4	+0.7
NILT				*e*S	**Sn**	02 46 10.8	-0.1
TGIG		0.77	84	*e*P	**Pn**	02 45 55.2	+0.8
TGIG				*e*S	**Sn**	02 46 10.9	-1.2
TGIG		0.77	84	*i*P	**Pn**	02 45 54.9	+0.5
TGIG				*i*S	**Sn**	02 46 11.2	-1.0
TGIG		0.77	84	*i*PA		02 45 54.9	
TGIG				*i*S		02 46 11.2	
TGBT	**Tuxtla Gutierr**	0.80	84	*e*P	**Pn**	02 45 55.1	+0.5
TGBT				*e*S	**Sn**	02 46 11.1	-1.3
CMIG	**Matias Romero**	1.00	293	*e*P	**Pn**	02 45 56.9	+0.8
CMIG				*e*S	**Sn**	02 46 14.4	-0.8
TUIG	**Tuzandepetl**	1.42	340	*e*P	**Pn**	02 46 01.2	+1.2
TUIG				*e*S	**Sn**	02 46 20.5	-1.6
VHSA	**Villahermosa**	1.59	36	*e*P	**Pn**	02 46 02.6	+0.8
VHSA				*e*S	**Sn**	02 46 24.7	-0.7
CCIG	**Comitan**	1.76	103	*e*P	**Pn**	02 46 05.0	+1.2
CCIG				*e*S	**Sn**	02 46 28.6	-0.3
CCIG	**Comitan**	1.76	103	*i*S	**Sn**	02 46 30.7	+1.7
CCIG	**Comitan**	1.76	103	*i*S		02 46 30.7	
NEUV	**Arroyo Zacate**	2.06	300	*e*P	**Pn**	02 46 08.1	+1.1
NEUV				*e*S	**Sn**	02 46 33.8	-1.0
PMUV	**Sontecomapan**	2.17	328	*e*P	**Pn**	02 46 08.8	+0.4
PMUV				*e*S	**Sn**	02 46 35.7	-1.5
PAVE	**Pavencul**	2.25	131	*e*P	**Pn**	02 46 11.0	+1.5
PAVE				*e*S	**Sn**	02 46 39.0	-0.1
PATR	**El Naranjo**	2.26	134	*e*P	**Pn**	02 46 11.0	+1.3
PATR				*e*S	**Sn**	02 46 37.9	-1.4
HUIG	**Huatulco**	2.29	247	*e*P	**Pn**	02 46 08.7	-1.1
HUIG				*e*S	**Sn**	02 46 38.8	-0.8
HUIG	**Huatulco**	2.29	247	*i*P	**Pn**	02 46 08.5	-1.3
HUIG				*i*S	**Sn**	02 46 38.5	-1.2
HUIG	**Huatulco**	2.29	247	*i*P		02 46 08.5	
HUIG				*i*S		02 46 38.5	
THIG		2.39	138	*e*S	**Sn**	02 46 43.4	+1.7
PANG	**Puerto Angel**	2.65	248	*e*S	**Sn**	02 46 47.1	-0.4
HUEH	**Huehuetenango**	2.70	120	*e*P	**Pn**	02 46 16.1	+1.0
HUEH				*e*S	**Sn**	02 46 48.1	-0.8
OXBJ	**Oaxaca**	2.71	278	*e*S	**Sn**	02 46 49.2	+0.2
VHO	**Vista Hermosa**	2.72	278	*e*P	**Pn**	02 46 17.2	+2.0
VHO				*e*S	**Sn**	02 46 49.3	+0.1
PEIG	**Puerto Escondi**	3.17	258	*e*P	**Pn**	02 46 20.1	-0.7
PEIG				*e*S	**Sn**	02 46 57.9	-1.3
TOIG	**Toxpalan**	3.31	295	*e*P	**Pn**	02 46 24.3	+1.7
TOIG				*e*S	**Sn**	02 47 02.3	-0.1
STG8	**El Palmar, Qui**	3.34	132	*i*P		02 46 18.7	
STG0	**El Palmar, Qui**	3.36	132	*i*S		02 46 56.8	
YOIG	**Yosondua**	3.47	273	*e*P	**Pn**	02 46 26.4	+1.5
YOIG				*e*S	**Sn**	02 47 05.4	-1.1
TPIG	**Tehuac#an**	3.70	298	*e*P	**Pn**	02 46 30.3	+2.6
TPIG				*e*S	**Sn**	02 47 09.7	-1.9
TXIG	**Tlaxiaco**	3.72	279	*e*P	**Pn**	02 46 30.4	+2.3
TXIG				*e*S	**Sn**	02 47 10.1	-2.1
APG	**El Apazote**	3.73	116	*i*P	**Pn**	02 46 28.8	+0.7
APG				*i*S	**Sn**	02 47 11.7	-0.7
APG	**El Apazote**	3.73	116	*i*P		02 46 28.8	
APG				*i*S		02 47 11.7	
JAUV	**Jalcomulco**	3.82	315	*e*P	**Pn**	02 46 29.6	+0.5
JAUV				*e*S	**Sn**	02 47 12.9	-1.3
LVIG	**Laguna Verde**	3.83	322	*e*P	**Pn**	02 46 31.3	+2.1
LVIG				*e*S	**Sn**	02 47 12.3	-2.2
HLIG	**Huajuapan de L**	3.88	288	*e*P	**Pn**	02 46 32.4	+2.4
HLIG				*e*S	**Sn**	02 47 14.9	-0.9
PETF	**Flores**	3.89	86	*e*P	**Pn**	02 46 26.9	-3.1
PETF				*e*S	**Sn**	02 47 14.9	-0.9
POHV	**Veracruz**	3.97	307	*e*P	**Pn**	02 46 34.9	+3.3
PNIG	**Pinotepa**	4.04	266	*e*P	**Pn**	02 46 32.3	+0.3
PNIG				*e*S	**Sn**	02 47 18.0	-1.4
FTIG	**Fresnillo de T**	4.20	287	*e*P	**Pn**	02 46 36.8	+2.6
FTIG				*e*S	**Sn**	02 47 21.6	-1.6
TLIG	**Tlapa**	4.52	282	*e*P	**Pn**	02 46 40.7	+2.3
TLIG				*e*S	**Sn**	02 47 29.6	-1.2
CXUV	**Coxquihui**	4.91	315	*e*P	**Pn**	02 46 44.9	+1.5
CXUV				*e*S	**Sn**	02 47 31.9	-7.8
CRIG	**Cruz Grande**	4.99	271	*e*P	**Pn**	02 46 45.2	+0.8
CRIG				*e*S	**Sn**	02 47 38.3	-3.4
PPM	**Popocatepetl**	5.06	298	*e*P	**Pn**	02 46 49.3	+3.4
PPM				*e*S	**Sn**	02 47 42.4	-1.7

IDC ***03*** *02:47:09.1±2.3, 5°.34S×153°.27E, h0km, mb3.8/8,*
mbtmp3.8/8, Error ellipse: s-maj=90.1km s-min=24.4km
az=119.0
ISC 03 02:47:14.9±1.9**, 5°.3S**±0°.3×**153°.0E**±0°.4**, h35**km**, n10,**
σ**0$79/10, mb3.6/8, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.08	235	Sn	**Sn**	02 50 14.5	-1.0
	2.4nm,0.3s,baz=353,slow=19,SNR=9.3						
WRA	**Warramunga Arr**	23.27	230	P	**P**	02 52 20.6	+1.1
	2.0nm,0.9s,baz=54,slow=9.7,SNR=6.3						
	2.0nm,0.9s						
ASAR	**Alice Springs**	25.91	223	P	**P**	02 52 44.5	+0.4
	0.5nm,0.6s,baz=56,slow=9.1,SNR=5.9						
	0.5nm,0.6s						
PETK	**Petropavlovsk-**	58.34	3	P	**P**	02 57 06.1	-0.3
	3.1nm,0.8s,baz=172,slow=5.7,SNR=2.4						
	3.1nm,0.8s						
MKAR	**Makanchi Array**	80.86	319	P	**P**	02 59 26.0	+0.6
	0.1nm,0.5s,baz=103,slow=5.1,SNR=2.0						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	81.70	326	P	**P**	02 59 30.5	+0.8
	0.9nm,0.7s,baz=108,slow=4.8,SNR=4.1						
	0.9nm,0.7s						
ILAR	**Eielson Array**	82.56	22	P	**P**	02 59 33.1	-0.9
	0.5nm,0.9s,baz=256,slow=5.1,SNR=4.1						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	84.34	322	P	**P**	02 59 43.8	+0.4
	0.3nm,0.6s,baz=105,slow=4.5,SNR=2.8						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	89.78	323	P	**P**	03 00 10.1	+0.3
	1.5nm,0.8s,baz=102,slow=4.8,SNR=4.9						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	150.67	287	PKPbc	**PKiKP**	03 07 05.1	0.0
	1.2nm,0.3s,baz=77,slow=2.7,SNR=1.4						

IDC ***03*** *02:53:28.6±0.7, 1°.18S×24°.27W, h0km, mb3.9/10,*
mbtmp4.0/11, ML4.4/1, MS3.4/8, Error ellipse:
s-maj=24.8km s-min=19.8km az=159.0
ISC 03 02:53:31.7±0.6**, 1°.2S**±0°.2×**24°.3W**±0°.1**, h22**km**, n25,**
σ**0$94/16, mb3.9/9, MS3.4/7, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	11.78	124	T	T	03 08 20.2	
	baz=305,slow=74,SNR=381						
H10N2	**ASCENSION HYDR**	11.79	124	T	T	03 08 19.1	
	baz=305,slow=74,SNR=553						
H10N1	**ASCENSION HYDR**	11.80	124	T	T	03 08 21.6	
	baz=305,slow=74,SNR=651						
H10S3	**ASCENSION HYDR**	12.30	129	T	T	03 09 02.0	
	baz=308,slow=74,SNR=227						
**H

comp=Z,14nm,0.8s
LSZ Lusaka 16.95 260 *i* P **Pn 03 04 28.3 -2.0**
MOPA Mopani 17.05 230 *eP* **Pn 03 04 31.5 +0.1**
MOPA Mopani 17.05 230 *i* P **P 03 04 32.4 -0.8**
MUSN Musina, Limpop 17.58 236 *eP* **Pn 03 04 38.0 0.0**
MUSN Musina, Limpop 17.58 236 *i* P **Pn 03 04 36.8 -1.2**
BLWY Bulawayo 17.71 244 *i* P **Pn 03 04 39.7 -0.1**
PILG Pilgrimsrest, 18.40 227 *eP* **P 03 04 49.7 +1.5**
MBAR Mbarara 19.04 309 P **Pn 03 04 56.8 +0.8**
LODK Lodwar 19.06 327 Pn 03 04 57.5 +1.3
POGA Pongola 19.33 220 *eP* **Pn 03 05 00.2 +0.9**
LEPH Lephalale, Lim 20.01 234 *eP* **P 03 05 03.1 -2.6**
LBTB Lobatse 22.32 234 P **P 03 05 30.3 -0.4**
LBTB Lobatse 22.32 234 P **P 03 05 30.4 -0.4**
comp=Z,6.3nm,0.7s,baz=53,slow=11,SNR=9.1
LBTB LR LR 03 13 53.0
comp=Z,174nm,20.8s,baz=60,slow=36
comp=Z,6.3nm,0.7s
LBTB Lobatse 22.32 234 *eP* **P 03 05 27.7 -3.1**
LBTB Lobatse 22.32 234 *i* P **P 03 05 30.6 -0.2**
ATD Arta Tunnel 24.39 354 LR LR 03 14 47.4
comp=Z,4.8nm,19.1s,baz=179,slow=35
BOSA Boshof 24.50 227 P **P 03 05 52.1 -0.3**
BOSA IAmb IAmb 03 06 00.5
comp=Z,5.4nm,0.7s
BOSA Boshof 24.50 227 P **P 03 05 51.9 -0.5**
comp=Z,2.1nm,0.3s,baz=50,slow=7.6,SNR=24
BOSA LR LR 03 15 32.5
comp=Z,121nm,18.3s,baz=21,slow=37
comp=Z,2.1nm,0.3s
BOSA Boshof 24.50 227 *i* P **P 03 05 52.2 -0.3**
FRAZ Fraserburg 29.13 225 *eP* **P 03 06 34.7 +0.6**
SUR Sutherland 29.80 225 P **P 03 06 40.2 +0.1**
SUR IAmb IAmb 03 06 52.8
comp=Z,19nm,1.2s
SUR Sutherland 29.80 225 P **P 03 06 41.1 +1.1**
comp=Z,2.8nm,0.6s,baz=72,slow=9.3,SNR=15
SUR LR LR 03 17 49.3
comp=Z,59nm,19.7s,baz=355,slow=35
comp=Z,2.8nm,0.6s
SUR Sutherland 29.80 225 *eP* **P 03 06 40.5 +0.4**
WSAR Wadi Sarin 38.13 20 LR LR 03 20 54.2
comp=Z,101nm,19.8s,baz=196,slow=32
PALK Pallekele 40.31 62 LR LR 03 21 49.7
comp=Z,38nm,18.7s,baz=274,slow=32
MMAI Mount Meron Ar 46.64 348 LR LR 03 28 59.9
comp=Z,77nm,19.1s,baz=134,slow=37
TORD Torodi Ar. Bea 50.53 299 P **P 03 09 31.3 -0.4**
comp=Z,2.2nm,0.3s,baz=118,slow=7.8,SNR=1.7
comp=Z,2.2nm,0.3s
GNI Garni 52.76 359 LR LR 03 33 07.3
comp=Z,102nm,19.1s,baz=234,slow=37
BRTR Keskin Array B 53.48 349 P **P 03 09 53.2 0.0**
BRTR Keskin Array B 53.48 349 P **P 03 09 53.7 +0.4**
comp=Z,1.0nm,0.6s,baz=166,slow=10,SNR=7.7
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 53.48 349 P **P 03 09 53.3 0.0**
BR131 IAmb IAmb 03 10 16.2
comp=Z,12nm,1.5s
PSI Prapat 55.28 77 LR LR 03 31 36.6
comp=Z,54nm,18.0s,baz=208,slow=34
SIMJ Simiganj 55.78 22 P **P 03 10 10.8 +0.7**
CHGR Chuyangaron 55.84 22 P **P 03 10 11.5 +1.1**
MAW Mawson 55.87 172 LR LR 03 30 21.7
comp=Z,65nm,20.3s,baz=316,slow=32
KBZ Khabaz 56.38 358 P **P 03 10 14.8 +0.8**
comp=Z,3.1nm,0.9s,baz=3.3,slow=4.4,SNR=3.8
KBZ LR LR 03 35 24.3
comp=Z,101nm,18.6s,baz=311,slow=37
comp=Z,3.1nm,0.9s
KEST Kesra 59.20 326 LR LR 03 36 30.2
comp=Z,67nm,18.9s,baz=352,slow=36
CFR Carcaliu 59.88 346 ⇑P **P 03 10 38.4 -0.2**
KK31 Karatay Array 60.23 21 P **P 03 10 41.1 0.0**
KK31 IAmb IAmb 03 10 53.8
comp=Z,6.6nm,1.1s
KKAR Karatay Array 60.23 21 P **P 03 10 41.2 0.0**
KKAR Karatay Array 60.23 21 P **P 03 10 41.1 0.0**
KKAR IAmb IAmb 03 10 53.8
comp=Z,4.2nm,1.1s
BOVS Bovan 60.29 340 ⇓P **P 03 10 41.1 -0.2**
MLR Muntele Rosu 60.72 344 ⇓P **P 03 10 44.9 +0.4**
VOIR 60.91 342 ⇑P **P 03 10 45.4 -0.4**
ARR Arges 60.96 343 ⇑P **P 03 10 45.7 -0.4**
CMAR Chiang Mai Arr 61.22 60 P **P 03 10 49.2 +1.0**
comp=Z,0.9nm,0.3s,baz=245,slow=6.9,SNR=4.3
comp=Z,0.9nm,0.3s
MDVR Moldovita 61.31 341 ⇑P **P 03 10 48.5 +0.1**
AAK Ala-Archa 61.32 24 LR LR 03 36 33.0
comp=Z,100nm,18.1s,baz=306,slow=35
OZUR 61.32 344 ⇑P **P 03 10 47.8 -0.7**
GZR Gura Zlata 61.53 342 ⇑P **P 03 10 50.3 +0.4**
SURR Surduc 62.05 342 ⇑P **P 03 10 53.6 +0.3**
BZS Buzias 62.08 341 ⇓P **P 03 10 53.9 +0.4**
MARR Marisel-Cluj 62.59 343 ⇑P **P 03 10 57.7 +0.7**
BURAR Bucovina Array 62.88 345 P **P 03 10 59.5 +0.6**
BURAR Bucovina Array 62.88 345 ⇑P **P 03 10 59.0 +0.1**
BUR08 Bucovina Ar. S 62.91 345 P **P 03 10 59.3 +0.2**
BUR08 IAmb IAmb 03 11 14.0
comp=Z,5.5nm,1.5s
ABKAR Akbulak array 63.16 11 P **P 03 11 00.7 0.0**
ABKAR Akbulak array 63.16 11 P **P 03 11 00.7 0.0**
ABKAR IAmb IAmb 03 11 01.4
comp=Z,12nm,0.8s
MORH Mrgy, Hungar 63.59 340 ⇑P **P 03 11 04.0 +0.5**
AKTO Aktyubinsk 63.99 9 P **P 03 11 05.8 -0.3**
comp=Z,4.0nm,0.8s,baz=206,slow=4.3,SNR=14
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 64.67 341 ⇑P **P 03 11 10.4 -0.4**
AKASG Malin Array Be 64.89 349 P **P 03 11 10.9 -1.0**
comp=Z,0.2nm,0.4s,baz=160,slow=6.6,SNR=4.4
comp=Z,0.2nm,0.4s
OBKA Obir 65.32 337 *i* P **P 03 11 14.8 -0.3**
comp=Z,1.4nm,0.5s
VYHS Vyhne 65.52 341 *eP* **P 03 11 15.9 -0.2**
ARSA Arzberg 65.58 338 *eP* **P 03 11 16.5 -0.1**
comp=Z,0.5nm,0.3s
RONA Rosalia, Austr 65.68 339 *eP* **P 03 11 16.5 -0.8**
comp=Z,1.5nm,0.5s
MODS Modra-Piesok 65.92 340 *eP* **P 03 11 18.7 -0.1**
CONA Conrad Observa 66.03 339 *i* P **P 03 11 18.4 -1.2**
comp=Z,0.5nm,0.4s
KBA Koelnbreinsper 66.25 337 *i* P **P 03 11 20.2 -0.9**
comp=Z,0.6nm,0.5s
ABTA Abfaltersbach 66.31 336 *i* P **P 03 11 20.9 -0.5**
comp=Z,1.5nm,0.7s
MOA Molln 66.54 338 *i* P **P 03 11 22.3 -0.5**
comp=Z,0.9nm,0.4s
VRAC Vranov 66.96 340 LR LR 03 41 37.4
comp=Z,110nm,19.4s,baz=302,slow=37
VRAC Vranov 66.96 340 ⇑P **P 03 11 24.7 -0.6**
MORC Moravsky Berou 67.05 341 P **P 03 11 25.1 -1.0**
MORC IAmb IAmb 03 11 27.2
comp=Z,11nm,1.5s
MORC Moravsky Berou 67.05 341 ⇑P **P 03 11 25.6 -0.4**
WTTA Wattenberg 67.08 336 *i* P **P 03 11 25.8 -0.6**
comp=Z,0.6nm,0.5s
PZH PanZhiHua 67.22 54 P **P 03 11 30.6 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.3s
FETA Feichten 67.25 335 *i* P **P 03 11 26.3 -1.2**
comp=Z,0.8nm,0.4s
MOTA Moosalm 67.36 335 *eP* **P 03 11 27.2 -0.9**
comp=Z,0.3nm,0.3s
GERES GERESS Array B 67.58 338 P **P 03 11 28.8 -0.6**
comp=Z,2.3nm,0.8s,baz=142,slow=11,SNR=4.3
comp=Z,2.3nm,0.8s
MK31 Makanchi Array 67.94 26 P **P 03 11 31.4 -0.3**
MKAR Makanchi Array 67.94 26 P **P 03 11 31.7 0.0**
MKAR Makanchi Array 67.94 26 P **P 03 11 31.2 -0.4**
comp=Z,1.4nm,0.7s,baz=217,slow=7.2,SNR=15
comp=Z,1.4nm,0.7s
WMQ Urumqi 68.28 32 *eP* **P 03 11 36.6 +2.7**
WMQ pP pwP 03 11 40.8 +0.8
WMQ pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 69.03 16 P **P 03 11 38.3 0.0**
comp=Z,3.9nm,1.1s,baz=220,slow=3.9,SNR=6.0
comp=Z,3.9nm,1.1s
KURBB Kurchatov Arra 69.51 22 P **P 03 11 41.0 -0.3**
comp=Z,0.6nm,0.7s,baz=221,slow=6.9,SNR=7.4
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 69.61 321 P **P 03 11 43.0 +0.7**
ESDC IAmb IAmb 03 12 05.3
comp=Z,2.9nm,1.2s
ESDC Sonseca Array 69.61 321 P **P 03 11 42.8 +0.5**
comp=Z,2.9nm,0.9s,baz=122,slow=5.4,SNR=20
comp=Z,2.9nm,0.9s
ARTI Arti 69.84 8 P **P 03 11 43.0 -0.3**
ZALV Zalesovo Beam 74.50 23 P **P 03 12 10.8 -0.4**
comp=Z,0.6nm,0.4s,baz=235,slow=7.0,SNR=4.9
ZALV LR LR 03 46 35.2
comp=Z,46nm,19.0s,baz=300,slow=37
comp=Z,0.6nm,0.4s
FINES FINESS Array B 75.65 351 P **P 03 12 17.2 -0.5**
FINES FINESS Array B 75.65 351 P **P 03 12 17.5 -0.2**
comp=Z,5.0nm,0.9s,baz=132,slow=6.2,SNR=4.5
comp=Z,5.0nm,0.9s
HFS Hagfors 77.11 344 P **P 03 12 26.0 +0.1**
comp=Z,1.8nm,0.6s,baz=145,slow=6.0,SNR=7.6
comp=Z,1.8nm,0.6s
QSPA South Pole Qui 77.22 180 P **P 03 12 28.2 +1.4**
QSPA IAmb IAmb 03 12 37.7
comp=Z,5.9nm,1.1s
QSPA South Pole Qui 77.22 180 P **P 03 12 28.2 +1.4**
comp=Z,1.9nm,0.9s,baz=271,slow=4.9,SNR=4.1
QSPA LR LR 03 44 10.1
comp=Z,81nm,18.5s,baz=239,slow=34
comp=Z,1.9nm,0.9s
NOA NORSAR Array B 78.53 344 P **P 03 12 33.8 -0.2**
comp=Z,1.2nm,0.9s,baz=145,slow=5.8,SNR=3.7
comp=Z,1.2nm,0.9s
SONM Songino Array 81.03 37 P **P 03 12 48.7 +0.7**
comp=Z,0.6nm,0.8s,baz=224,slow=4.1,SNR=4.4
comp=Z,0.6nm,0.8s
HHC Hu-ho-hao-te 81.04 45 *eP* **P 03 12 48.3 +0.2**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.8s
NJ2 Nanjing 83.10 55 *eP* **P 03 13 00.9 +1.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ASAR Alice Springs 83.50 113 P **P 03 13 03.1 +1.7**
comp=Z,0.6nm,0.6s,baz=259,slow=5.0,SNR=10
ASAR LR LR 03 44 27.0
comp=Z,58nm,20.6s,baz=270,slow=32
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 84.64 109 P **P 03 13 08.6 +1.4**
comp=Z,1.1nm,0.8s,baz=261,slow=3.3,SNR=7.3
comp=Z,1.1nm,0.8s
PMSA Palmer Station 86.55 204 LR LR 03 46 36.2
comp=Z,32nm,18.4s,baz=155,slow=32
YKA Yellowknife Ar 128.45 348 PKP **PKPdf 03 19 39.5 +0.1**
comp=Z,0.4nm,0.9s,baz=34,slow=1.5,SNR=4.5
PDAR Pinedale Array 143.21 329 PKP PKPbc 03 20 05.9 +1.3
comp=Z,1.1nm,0.9s,baz=101,slow=3.0,SNR=6.8
TXAR Lajitas Array 147.03 305 PKPbc **PKPbc 03 20 15.7 -0.8**
comp=Z,0.8nm,0.7s,baz=111,slow=3.9,SNR=9.7
NVAR Mina Array Bea 150.75 333 PKP **PKPdf 03 20 22.1 +1.7**
comp=Z,1.0nm,0.8s,baz=50,slow=1.4,SNR=5.5
NVAR PKPbc **PKiKP 03 20 26.9 +0.3**
comp=Z,0.6nm,0.6s,baz=45,slow=2.8,SNR=6.2

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*NOU **03** 03:07:48.3, 38.°25S×178.°02E, h37km, MLv3.7/12, Off E. Coast of N. Island, N.Z.*
*WEL **03** 03:07:48.1±0.6, 38.°S±4.°×17.°8E±.°, h29km±5km, M3.8/11, ML4.1/11, MLv3.8/11, Error ellipse: s-maj=5.6km s-min=3.8km az=128.7, confirmed*
ISC 03 03:07:49.0±0.9, 38.°21S±0.°02×178.°00E±0.°03, h33km±4km, n51, σ0°99/63, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**0.03**	**339**	P	**Pb**	**03 07 53.9**	**-0.6**
TWGZ				S	**Sb**	**03 07 58.8**	**+0.5**
PUZ	**Puketiti**	**0.25**	**57**	P	**Pn**	**03 07 55.8**	**-0.5**
PUZ				S	**Sb**	**03 08 01.4**	**+0.5**
TKGZ	**Te Karaka**	**0.26**	**207**	P	**Pn**	**03 07 56.1**	**-0.4**
TKGZ				S	**Sb**	**03 08 02.3**	**+1.2**
CNGZ	**Carnagh Statio**	**0.32**	**149**	P	**Pn**	**03 07 57.4**	**+0.1**
PKGZ	**Pakihiroa**	**0.35**	**11**	P	**Pb**	**03 07 56.6**	**-0.7**
PKGZ				S	**Sb**	**03 08 02.6**	**-0.5**
RUGZ	**Raukumara Rang**	**0.35**	**314**	P	**Pb**	**03 07 56.3**	**-1.1**
RUGZ				S	**Sn**	**03 08 03.5**	**-0.2**
MWZ	**Matawai**	**0.39**	**251**	P	**Pb**	**03 07 57.4**	**-0.5**
MWZ				S	**Sn**	**03 08 04.0**	**-0.6**
HAZ	**Te Kaha**	**0.48**	**339**	P	**Pb**	**03 07 58.2**	**-1.0**
HAZ				S	**Sn**	**03 08 07.3**	**+0.4**
WMGZ	**Waiomatatini S**	**0.51**	**41**	P	**Pn**	**03 07 59.7**	**-0.3**
WMGZ				S	**Sn**	**03 08 09.0**	**+1.4**
RIGZ	**Rimuhau**	**0.53**	**200**	P	**Pn**	**03 08 00.5**	**+0.2**
RIGZ				S	**Sn**	**03 08 10.9**	**+2.8**
RAGZ	**Rawiri**	**0.54**	**238**	P	**Pn**	**03 08 00.2**	**-0.3**
RAGZ				S	**Sn**	**03 08 09.7**	**+1.2**
MXZ	**Matakaoa Point**	**0.69**	**21**	P	**Pb**	**03 08 02.5**	**-0.1**
MXZ	**Matakaoa Point**	**0.69**	**21**	P	**Pb**	**03 08 02.4**	**-0.3**
MXZ				S	**Sn**	**03 08 13.7**	**+1.7**
URZ	**Urewera**	**0.70**	**266**	P	**Pb**	**03 08 02.2**	**-0.5**
URZ	**Urewera**	**0.70**	**266**	S	**Sb**	**03 08 13.3**	**+1.1**
URZ	**Urewera**	**0.70**	**266**	P	**Pb**	**03 08 02.3**	**-0.5**
PRGZ	**Paritu Road**	**0.72**	**187**	P	**Pb**	**03 08 02.7**	**-0.5**
SNGZ	**Shannon Statio**	**0.77**	**222**	P	**Pb**	**03 08 03.8**	**-0.1**
SNGZ				S	**Sb**	**03 08 16.7**	**+2.5**
KNZ	**Kokohu**	**0.85**	**197**	P	**Pb**	**03 08 04.2**	**-1.1**
WHRZ	**Whale Island**	**0.88**	**293**	P	**Pb**	**03 08 05.8**	**0.0**
RTZ	**Ruatahuna**	**0.90**	**243**	P	**Pb**	**03 08 05.8**	**-0.3**
WIZ	**White Island**	**0.93**	**317**	P	**Pn**	**03 08 05.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**0.94**	**184**	P	**Pb**	**03 08 05.8**	**-1.1**
WSRZ	**White Island S**	**0.95**	**317**	P	**Pb**	**03 08 06.6**	**-0.3**
MUGZ	**Murupara**	**1.00**	**254**	P	**Pb**	**03 08 07.3**	**-0.5**
RAHZ	**Arahi**	**1.00**	**225**	P	**Pb**	**03 08 07.0**	**-0.9**
WHHZ	**Waihua**	**1.05**	**214**	P	**Pb**	**03 08 08.0**	**-0.7**
MARZ	**Manawahe**	**1.07**	**282**	P	**Pb**	**03 08 08.0**	**-1.0**
MTHZ	**Maungataniwha**	**1.11**	**234**	P	**Pb**	**03 08 08.9**	**-0.8**
RRRZ	**Republican Roa**	**1.17**	**263**	P	**Pb**	**03 08 09.9**	**-0.8**
TARZ	**Mount Tarawera**	**1.17**	**268**	P	**Pb**	**03 08 09.8**	**-1.0**
OPRZ	**Ohinepanea**	**1.20**	**287**	P	**Pn**	**03 08 09.1**	**-0.2**
MKRZ	**Makatiti**	**1.21**	**273**	P	**Pb**	**03 08 10.9**	**-0.5**
OMRZ	**Omania**	**1.28**	**274**	P	**Pn**	**03 08 11.0**	**+0.4**
PRRZ	**Plateau Road**	**1.29**	**257**	P	**Pb**	**03 08 11.2**	**-1.6**
HLRZ	**Highlands Stat**	**1.29**	**268**	P	**Pb**	**03 08 12.7**	**-0.1**
ARHZ	**Aropaoanui**	**1.31**	**216**	P	**Pb**	**03 08 11.5**	**-1.6**
ALRZ	**Allen Road**	**1.35**	**254**	P	**Pb**	**03 08 12.3**	**-1.3**
HRRZ	**Handcock Road**	**1.36**	**262**	P	**Pb**	**03 08 12.5**	**-1.4**
HSRZ	**Hossack Road**	**1.38**	**265**	P	**Pb**	**03 08 13.0**	**-1.2**
MRHZ	**Matea Rd**	**1.39**	**243**	P	**Pn**	**03 08 12.4**	**+0.3**
KARZ	**Kaharoa**	**1.39**	**277**	P	**Pn**	**03 08 12.4**	**+0.2**
TGRZ	**Tauranga**	**1.45**	**289**	P	**Pn**	**03 08 12.7**	**-0.2**
BKZ	**Black Stump Fm**	**1.52**	**230**	P	**Pn**	**03 08 14.2**	**+0.3**
KUZ	**Kuaotunu**	**2.33**	**308**	P	**Pn**	**03 08 24.2**	**-0.7**
KUZ	**Kuaotunu**	**2.33**	**308**	S	**Sn**	**03 08 52.4**	**0.0**
HIZ	**Hauiti**	**2.49**	**262**	P	**Pn**	**03 08 28.2**	**+1.0**
BFZ	**Birch Farm**	**2.82**	**208**	P	**Pn**	**03 08 29.7**	**-2.0**
BFZ	**Birch Farm**	**2.82**	**208**	S	**Sn**	**03 09 02.4**	**-2.1**
SNZO	**South Karori**	**4.00**	**218**	P	**Pn**	**03 08 47.4**	**-0.6**
QRZ	**Quartz Range**	**4.97**	**237**	P	**Pn**	**03 09 00.9**	**-0.4**

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*IDC **03** 03:18:37.9±6.8, 6.°99S×155.°88E, h85km±56km, mb3.4/8, mbtmp3.8/9, ML2.5/1, MS3.0/1, Error ellipse: s-maj=40.8km s-min=27.1km az=88.0*
ISC 03 03:18:35.1±1.2, 7.°0S±0.°2×156.°0E±0.°1, h62km, n10, σ0°84/10, mb3.6/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.59**	**123**	LR	LR	03 21 44.1	
comp=Z,167nm,19.4s,baz=10,slow=40							
PMG	**Port Moresby**	**9.11**	**254**	P	**Pn**	**03 20 44.8**	**+0.9**
2.5nm,0.3s,baz=49,slow=11,SNR=3.1							
PMG				S	**Sn**	**03 22 25.1**	**+0.1**
15nm,1.0s,baz=191,slow=19,SNR=3.9							
20nm,0.6s							
WRA	**Warramunga Arr**	**24.68**	**236**	P	**P**	**03 23 49.9**	**-0.5**
0.5nm,0.7s,baz=61,slow=10,SNR=2.2							
0.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**31.61**	**247**	P	**P**	**03 24 50.6**	**-1.6**
1.1nm,0.3s,baz=68,slow=10,SNR=3.8							
1.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**61.70**	**295**	P	**P**	**03 28 47.1**	**-0.2**
0.6nm,0.3s,baz=124,slow=6.1,SNR=5.8							
0.6nm,0.3s							
SONM	**Songino Array**	**69.87**	**327**	P	**P**	**03 29 40.1**	**+0.6**
0.5nm,0.6s,baz=128,slow=6.6,SNR=5.3							
0.5nm,0.6s							
ILAR	**Eielson Array**	**82.97**	**21**	P	**P**	**03 30 53.3**	**+0.2**
0.1nm,0.4s,baz=251,slow=5.2,SNR=5.0							
0.1nm,0.4s							
QSPA	**South Pole Qui**	**83.01**	**180**	P	**P**	**03 30 54.0**	**+0.5**
1.0nm,0.5s,baz=3.5,slow=1.7,SNR=14							
1.0nm,0.5s							
MKAR	**Makanchi Array**	**84.06**	**318**	P	**P**	**03 30 58.8**	**-0.3**
0.4nm,0.6s,baz=109,slow=5.9,SNR=5.4							
0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**87.48**	**322**	P	**P**	**03 31 15.4**	**-0.5**
0.2nm,0.6s,baz=101,slow=4.9,SNR=1.7							
0.2nm,0.6s							

NNC 03 03:33:33.1±8.0, 38.°53N×71.°87E, h0km, mb3.6, mpv3.3, 2C-2D, Error ellipse: s-maj=83.3km s-min=45.3km az=150.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.57**	**25**	⇑Pn	Pn	03 34 44.4	+0.8
2.6nm,0.5s							
AAK				⇓Sn	Sn	03 35 37.9	+0.4
5.9nm,0.6s							
KK31	**Karatay Array**	**4.69**	**348**	⇑Pn	Pn	03 34 45.2	+0.2
1.3nm,0.2s,baz=155,slow=11,SNR=64							
KK31				⇓Sn	Sn	03 35 43.4	+3.3
3.4nm,0.5s,baz=150,slow=24,SNR=4.8							
AB31	**Akbulak array**	**13.73**	**325**	P	Pn	03 36 45.6	-3.2
0.4nm,0.6s,baz=136,slow=14,SNR=10							

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*GCG **03** 03:42:30.9±0.7, 14.°90N×92.°39W, h80km±5km, MD4.0*
*MEX **03** 03:42:32.3±1.1, 14.°70N×92.°49W, h77km±8km, MD3.9*
ISC 03 03:42:30.3±1.3, 14.°67N±0.°06×92.°55W±0.°04, h73km±8km, n24, σ2°11/44, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**50**	*eP*	**Pn**	**03 42 42.4**	**+0.2**
THIG				*eS*	**Sn**	**03 42 51.7**	**+0.7**
THIG		**0.36**	**50**	*i* P	**Pn**	**03 42 42.3**	**+0.1**
THIG				*i* S	**Sn**	**03 42 51.1**	**+0.1**
THIG		**0.36**	**50**	*i* P		03 42 42.3	
THIG				*i* S		03 42 51.1	
SMCA	**Catarina**	**0.49**	**68**	*i* P	**Pn**	**03 42 43.4**	**+0.1**
SMCA				*i* S	**Sn**	**03 42 53.1**	**+0.1**
SMCA	**Catarina**	**0.49**	**68**	*i* P		03 42 43.4	
SMCA				*i* S		03 42 53.1	
PATR	**El Naranjo**	**0.54**	**35**	*eP*	**Pn**	**03 42 43.7**	**-0.3**
PATR				*eS*	**Sn**	**03 42 53.6**	**-0.5**
CHUJ	**Union Juarez**	**0.60**	**46**	*eP*	**Pn**	**03 42 44.4**	**-0.2**
CHUJ				*eS*	**Sn**	**03 42 54.7**	**-0.4**
PAVE	**Pavencul**	**0.63**	**35**	*eP*	**Pn**	**03 42 45.0**	**0.0**
PAVE				*eS*	**Sn**	**03 42 55.1**	**-0.6**
RTAL	**Retalhuleu**	**0.84**	**100**	*eP*	**Pn**	**03 42 47.0**	**-0.1**
RTAL				*i* S	**Sn**	**03 42 59.2**	**-0.2**
STG8	**El Palmar, Qui**	**1.18**	**101**	⇓*i*P		03 42 47.8	
STG8				*i* S		03 43 01.7	
STG0	**El Palmar, Qui**	**1.20**	**102**	*i* P		03 42 48.0	
STG0				*i* S		03 43 01.6	
HUEH	**Huehuetenango**	**1.20**	**58**	*eP*	**Pn**	**03 42 52.2**	**+0.5**
HUEH				*i* S	**Sn**	**03 43 09.2**	**+1.6**
CCIG	**Comitan**	**1.65**	**14**	*eP*	**Pn**	**03 42 58.8**	**+1.3**
CCIG				*eS*	**Sn**	**03 43 14.6**	**-3.4**
CCIG	**Comitan**	**1.65**	**14**	*i* P	**Pn**	**03 42 58.9**	**+1.3**
CCIG				*i* S	**Sn**	**03 43 14.9**	**-3.1**
CCIG	**Comitan**	**1.65**	**14**	*i* P		03 42 58.9	
CCIG				*i* S		03 43 14.9	
APG	**El Apazote**	**2.04**	**80**	*i* P	**Pn**	**03 43 03.1**	**+0.3**
APG	**El Apazote**	**2.04**	**80**	*i* P		03 43 03.1	
CARR	**Arriaga**	**2.04**	**320**	*eP*	**Pn**	**03 43 05.5**	**+2.9**
CARR				*eS*	**Sn**	**03 43 29.9**	**+2.6**
TGIG		**2.16**	**345**	*eP*	**Pn**	**03 43 05.1**	**+0.8**
TGIG				*eS*	**Sn**	**03 43 25.2**	**-5.0**
NILT	**Santiago Nilte**	**2.74**	**314**	*i* P	**Pn**	**03 43 13.3**	**+1.2**
NILT				*i* S	**Sn**	**03 43 45.2**	**+1.1**
NUBE	**Las Nubes**	**2.79**	**106**	*i* S	**Sn**	**03 43 46.5**	**+0.8**
NUBE	**Las Nubes**	**2.79**	**106**	*i* S		03 43 46.5	
UXUV	**UXUV**	**3.04**	**330**	*eP*	**Pn**	**03 43 17.8**	**+1.5**
UXUV				*eS*	**Sn**	**03 43 53.1**	**+1.5**
JAYA	**Jayaque - finc**	**3.17**	**108**	*i* S	**Sn**	**03 43 54.9**	**-0.1**
JAYA	**Jayaque - finc**	**3.17**	**108**	*i* S		03 43 54.9	
CMIG	**Matias Romero**	**3.29**	**317**	*eP*	**Pn**	**03 43 22.1**	**+2.5**
CMIG				*eS*	**Sn**	**03 43 57.6**	**0.0**
PETF	**Flores**	**3.41**	**49**	*eP*	**Pn**	**03 43 21.4**	**+0.2**
PETF				*i* S	**Sn**	**03 43 58.7**	**-1.8**
HUIG	**Huatulco**	**3.60**	**288**	*eP*	**Pn**	**03 43 23.3**	**-0.5**
HUIG				*eS*	**Sn**	**03 43 59.4**	**-5.8**
NEUV	**Arroyo Zacate**	**4.35**	**314**	*eP*	**Pn**	**03 43 33.9**	**-0.1**
NEUV				*eS*	**Sn**	**03 44 22.2**	**-1.2**
PEIG	**Puerto Escondi**	**4.63**	**287**	*eP*	**Pn**	**03 43 38.3**	**+0.5**
PEIG				*eS*	Sn	03 44 23.1	-7.2
TXIG	**Tlaxiaco**	**5.64**	**298**	*eP*	**Pn**	**03 43 55.2**	**+3.4**
TXIG				*eS*	**Sn**	**03 44 57.3**	**+1.9**
PNIG	**Pinotepa**	**5.64**	**288**	*eP*	**Pn**	**03 43 52.8**	**+1.1**
PNIG				*eS*	**Sn**	**03 44 49.1**	**-6.0**

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*UPA **03** 03:59:55.4±0.6, 8.°31N×82.°95W, h18km±4km, MD3.3*
*UCR **03** 03:59:55.4±1.2, 8.°37N×82.°83W, h0km±999km, MW3.5*
ISC 03 03:59:54.9±1.1, 8.°29N±0.°07×82.°91W±0.°05, h28km±10km, n16, σ0°95/26, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.09**	**161**	*eP*	**Pb**	**03 59 59.4**	**-0.5**
PTPM				*eS*	**Sb**	**04 00 03.1**	**-0.2**
LIMO3	**Limones**	**0.19**	**167**	*eP*	**Pb**	**04 00 00.9**	**+0.1**
LIMO3				*eS*	**Sb**	**04 00 05.6**	**+0.8**
DVD	**David**	**0.48**	**72**	*eP*	**Pn**	**04 00 05.7**	**-0.2**
DVD				*eS*	**Sn**	**04 00 13.6**	**+0.3**
PEDE3	**Pedregal, Chir**	**0.49**	**79**	*eP*	**Pn**	**04 00 05.8**	**-0.3**
LOMA3	**Las Lomas, Chi**	**0.53**	**75**	*eP*	**Pn**	**04 00 06.5**	**-0.2**
LOMA3				*eS*	**Sn**	**04 00 14.2**	**-0.2**
PTAR3	**Potrerillos Ar**	**0.57**	**45**	*eP*	**Pn**	**04 00 07.3**	**0.0**
BC3P	**Paso Ancho**	**0.60**	**29**	*eP*	**Pn**	**04 00 07.5**	**-0.3**
BC3P				*eS*	**Sn**	**04 00 17.1**	**+0.4**
GUAL3	**Gualaca, Chiri**	**0.65**	**68**	*eP*	**Pn**	**04 00 08.4**	**+0.1**
GUAL3				*eS*	**Sn**	**04 00 18.0**	**+0.3**
ALCO	**Alturas Coton,**	**0.66**	**6⇑**	*eP*	**Pb**	**04 00 08.1**	**0.0**
ALCO				*eS*	**Sn**	**04 00 17.6**	**-0.6**
CHGR2	**Aguacate**	**0.99**	**49**	*eP*	**Pb**	**04 00

SML IAML 04 05 23.8
comp=N,884nm,0.8s
SML IAML 04 05 24.4
comp=E,496nm,0.7s
SML Sawmill 0.68 39 Sn 04 05 23.1 +0.1
O22K Cooper Landing 0.84 197 Pn 04 05 14.1 -1.7
O22K Cooper Landing 0.84 197 Sn 04 05 26.7 -0.3
M23K Glacier View 0.88 54 Pn 04 05 15.7 -0.7
M23K Sn 04 05 28.5 +0.5
SLKM Skilak Lake 0.92 212 Pn 04 05 15.6 -1.3
SCM Sheep Creek Mo 1.06 58 Pn 04 05 18.4 -0.5
SCM IAML 04 05 35.6
comp=E,366nm,0.5s
SCM IAML 04 05 36.0
comp=N,343nm,0.7s
GLI Glacier Island 1.11 111 Pn 04 05 18.5 -1.1
GLI Glacier Island 1.11 111 Sn 04 05 33.9 +0.3
SEW Seward 1.19 185 Pn 04 05 18.9 -1.6
CUT Chulitna 1.23 337 Pn 04 05 20.8 -0.3
CUT Chulitna 1.23 337 Sn 04 05 37.0 +0.7
CUT Chulitna 1.23 337 IAML 04 05 37.5
comp=E,881nm,0.4s
CUT IAML 04 05 38.4
comp=N,800nm,0.3s
STLK Strandline Lak 1.27 281 Pn 04 05 21.2 -0.5
SKT Skwentna 1.30 303 Pn 04 05 21.5 -0.6
SKT Skwentna 1.30 303 Sn 04 05 38.9 +0.6
SPCR Spurr Chakacha 1.44 268 Pn 04 05 23.4 -0.8
P23K Montague Islan 1.57 144 Pn 04 05 24.3 -1.6
KLU Klutina 1.60 81 Pn 04 05 26.0 -0.4
KLU IAML 04 05 48.4
comp=E,249nm,0.3s
HIN Hinchinbrook I 1.61 123 Pn 04 05 25.6 -0.7
HIN IAML 04 05 50.8
comp=E,286nm,0.5s
HIN IAML 04 05 51.0
comp=N,217nm,0.6s
M24K Tolsona, Glenn 1.67 59 Pn 04 05 27.8 +0.5
DIV Divide 1.68 94 Pn 04 05 26.8 -0.5
BRLK Bradley Lake 1.73 209 Pn Pn 04 05 27.0 -1.1
BRLK IAML 04 05 54.0
comp=E,187nm,0.1s
BRLK IAML 04 05 53.0
comp=N,161nm,0.2s
EYAK Cordova Ski Ar 1.85 112 Pn 04 05 29.1 -0.6
RDJH Redoubt Jeurge 1.88 250 Pn 04 05 29.4 -0.8
M20K Styx River 1.96 289 Pn 04 05 30.8 -0.5
M20K Styx River 1.96 289 IAML 04 06 02.0
comp=N,80nm,0.6s
M20K IAML 04 06 03.8
comp=E,60nm,0.8s
O20K Slope Mountain 2.06 236 Pn 04 05 32.1 -0.6
RND Reindeer 2.13 5 Pn 04 05 34.0 +0.3
RND IAML 04 06 04.7
comp=N,57nm,0.5s
RND IAML 04 06 07.9
comp=E,52nm,0.6s
TRF Thorofare Moun 2.23 348 Pn 04 05 35.4 +0.4
TRF IAML 04 06 05.3
comp=N,70nm,0.5s
TRF IAML 04 06 06.5
comp=E,72nm,0.4s
HARP HAARP 2.23 58 Pn 04 05 35.5 +0.6
N25K Chitina, Valde 2.25 80 Pn 04 05 34.6 -0.6
N25K IAML 04 06 07.0
comp=E,59nm,0.4s
N25K IAML 04 06 07.5
comp=N,87nm,0.4s
BMRM Bremner River 2.27 96 Pn 04 05 34.4 -1.0
GOAT Goat Mountain 2.31 106 Pn 04 05 35.1 -0.9
ILS Iliamna Low So 2.32 237 Pn 04 05 35.1 -1.0
ILSW Iliamna Southw 2.33 238 Pn 04 05 35.6 -0.8
ILSW IAML 04 06 05.4
comp=E,42nm,0.7s
ILSW IAML 04 06 07.7
comp=N,50nm,0.6s
RAGM Ragged Mountai 2.41 110 Pn 04 05 36.5 -0.8
KTH Kantishna Hill 2.41 342 Pn 04 05 37.6 +0.3
KTH IAML 04 06 12.9
comp=N,61nm,0.5s
KTH IAML 04 06 14.8
comp=E,55nm,0.8s
WACK Wrangell Chich 2.44 71 Pn 04 05 38.1 +0.1
PAX Paxson 2.44 45 Pn 04 05 39.0 +1.1
MCK McKinley 2.46 3 Pn 04 05 39.2 +1.2
L20K Farewell, AK 2.51 301 Pn 04 05 37.8 -0.9
CAST Castle Rocks 2.52 329 Pn 04 05 38.6 -0.3
CAST IAML 04 06 11.9
comp=E,44nm,0.7s
CAST IAML 04 06 26.7
comp=N,36nm,0.6s
M19K Big River Lodg 2.54 286 Pn 04 05 38.3 -0.9
M19K IAML 04 06 18.2
comp=N,39nm,0.4s
P19K Oil Pt 2.57 232 Pn 04 05 39.2 -0.4
P19K IAML 04 06 19.7
comp=E,104nm,0.4s
P19K IAML 04 06 30.1
comp=N,103nm,0.6s
N19K Bonanza Creek 2.60 262 Pn 04 05 39.0 -1.0
N19K Bonanza Creek 2.60 262 IAML 04 06 25.4
comp=N,34nm,1.1s
GLB Gilahina Butte 2.61 84 Pn 04 05 39.7 -0.5
GLB IAML 04 06 21.8
comp=N,54nm,0.5s
HMT Hamilton 2.61 109 Pn 04 05 38.9 -1.3
O19K Port Alsworth 2.73 249 Pn 04 05 40.5 -1.2
VRDI Verde Repeater 2.79 89 Pn 04 05 41.9 -0.9
VRDI IAML 04 06 22.9
comp=N,35nm,0.6s
L19K White Mountain 2.82 291 Pn 04 05 42.4 -0.6
L19K White Mountain 2.82 291 IAML 04 06 31.4
comp=E,30nm,0.9s
L19K IAML 04 06 38.3
comp=N,28nm,0.8s
AUL Augustine Lava 2.83 229 Pn 04 05 42.7 -0.5
BPAW Bear Paw Mtn. 2.94 345 IAML 04 06 33.3
comp=N,42nm,1.1s
BPAW IAML 04 06 33.3
comp=E,41nm,1.1s
CHUM Lake Minchumin 2.97 333 Pn 04 05 44.6 -0.4
K20K Telida 3.07 315 Pn 04 05 45.4 -1.0
K20K Telida 3.07 315 IAML 04 06 41.5
comp=E,38nm,0.8s
MENT Mentasta 3.07 55 IAML 04 06 35.8
comp=E,62nm,0.5s
MENT IAML 04 06 40.6
comp=N,67nm,0.7s
SYI Shuyak Island 3.12 212 Pn 04 05 46.1 -1.0
M26K Nabesna, AK 3.16 67 IAML 04 06 45.2
comp=N,24nm,0.7s
M18K Stony River 3.18 277 Pn 04 05 47.1 -0.8
RIDG Independent Ri 3.19 38 IAML 04 06 33.2
comp=E,38nm,0.8s
RIDG IAML 04 06 33.5
comp=N,44nm,1.1s
Q19K Cape Douglas, 3.24 225 Pn 04 05 47.7 -1.0
Q19K IAML 04 06 54.9
comp=N,57nm,0.9s
WRH Wood River Hil 3.24 9 Pn 04 05 49.4 +0.7
L26K Log Cabin Wild 3.26 55 IAML 04 06 47.0
comp=N,28nm,0.4s
L26K IAML 04 06 50.0
comp=E,36nm,0.5s
O18K Koktuh Hills 3.28 247 Pn 04 05 47.5 -1.8
O18K IAML 04 06 40.2
comp=E,21nm,0.8s
O18K IAML 04 06 40.4
comp=N,23nm,0.7s
HDA Harding Lake 3.30 17 IAML 04 06 37.6
comp=N,27nm,0.4s
HDA IAML 04 06 46.3
comp=E,24nm,0.5s
N18K Kilae Creek 3.30 262 Pn 04 05 48.1 -1.5
N18K Kilae Creek 3.30 262 IAML 04 06 42.2
comp=N,28nm,1.1s
NEA2 Nenana 3.32 1 Pn 04 05 49.6 -0.2
SNH Sunshine Point 3.33 107 Pn 04 05 49.1 -0.9
SNH Sunshine Point 3.33 107 IAML 04 06 41.6
comp=E,28nm,0.9s
SNH IAML 04 07 45.7
comp=N,31nm,1.1s
CCB Clear Creek Bu 3.44 10 Pn 04 05 51.8 +0.4
P18K Big Mountain, 3.54 240 Pn 04 05 51.4 -1.5
TTA Tatalina 3.59 300 Pn 04 05 52.3 -1.3
COLA College 3.66 9 Pn 04 05 55.4 +1.0
COLA College 3.66 9 IAML 04 06 47.2
comp=N,43nm,0.5s
IL31 3.66 16 Pn 04 05 54.7 +0.3
ILAR Eielson Array 3.66 16 Pn 04 06 00.3 +5.8
L18K Granite Mounta 3.67 288 Pn 04 05 53.5 -1.1
L18K Granite Mounta 3.67 288 IAML 04 07 05.7
comp=N,17nm,1.1s
J20K Nowinta River 3.68 324 Pn 04 05 53.8 -1.0
J20K Nowinta River 3.68 324 IAML 04 06 39.8
comp=N,31nm,0.4s
J20K IAML 04 06 47.4
comp=E,25nm,0.6s
MESA MESA 3.74 104 Pn 04 05 55.3 -0.5
MESA MESA 3.74 104 IAML 04 06 54.8
comp=E,31nm,1.2s
J25K Salcha River, 3.77 26 IAML 04 06 47.4
comp=E,16nm,0.7s
J25K IAML 04 06 47.8
comp=N,13nm,0.6s
I23K Minto, Yukon-K 3.88 359 Pn 04 05 58.4 +0.9
L27K Beaver Creek, 3.90 60 Pn 04 05 57.4 -0.4
BCAR Beaver Creek A 3.92 60 Pn 04 05 57.8 -0.3
KAHC Katmai Hardscr 3.93 230 Pn 04 05 56.4 -2.0
POKR Poker Flat Res 3.93 11 Pn 04 05 59.5 +1.3
M17K Holitna River 3.96 275 Pn 04 05 57.6 -1.0
M17K Holitna River 3.96 275 IAML 04 07 04.7
comp=N,34nm,0.8s
M17K IAML 04 07 19.2
comp=E,29nm,0.9s
N17K Nushagak Hills 3.96 262 Pn 04 05 57.3 -1.4
N17K Nushagak Hills 3.96 262 IAML 04 07 05.5
comp=N,15nm,0.7s
RKAV Rock Avalanche 3.99 101 Pn 04 05 56.9 -2.3
J19K Poorman 4.01 315 IAML 04 07 08.8
comp=E,12nm,1.0s
J19K IAML 04 07 12.1
comp=N,13nm,0.6s
I21K Tanana 4.10 344 Pn 04 06 00.1 -0.5
J18K Innoko River 4.12 305 Pn 04 05 59.8 -1.0
J18K Innoko River 4.12 305 IAML 04 06 51.0
comp=N,11nm,0.7s
J26L Joseph Creek 4.14 36 IAML 04 07 06.5
comp=N,15nm,0.6s
J26L IAML 04 07 08.5
comp=E,9.9nm,0.6s
O17K Koliganek Bris 4.17 252 Pn 04 06 00.2 -1.4
KAKN Katmai Knife C 4.20 227 Pn 04 06 00.1 -2.0
L17K Donlin 4.40 285 Pn 04 06 03.5 -1.2
K17K Iditarod 4.51 292 Pn 04 06 05.0 -1.2
K17K Iditarod 4.51 292 IAML 04 07 31.9
comp=E,14nm,1.5s
K17K IAML 04 07 39.8
comp=N,12nm,0.9s
OHAK Old Harbor 4.58 209 Pn 04 06 04.4 -2.7
OHAK Old Harbor 4.58 209 IAML 04 06 59.9
comp=N,9.6nm,0.2s
OHAK IAML 04 07 00.2
comp=E,9.5nm,0.4s
H21K Melozitna Rive 4.67 341 Pn 04 06 08.1 -0.3
M16K Timber Creek 4.72 271 Pn 04 06 08.1 -1.0
M16K Timber Creek 4.72 271 IAML 04 07 43.3
comp=E,7.0nm,1.2s
I26K Coal Creek Min 4.88 32 IAML 04 07 34.5
comp=N,8.5nm,0.6s
I26K IAML 04 07 39.6
comp=E,12nm,0.9s
P16K Nushagak River 4.93 247 Pn 04 06 10.9 -1.0
L16K Owhat River 4.93 279 Pn 04 06 10.6 -1.3
L16K Owhat River 4.93 279 IAML 04 07 40.9
comp=N,5.8nm,1.5s
J16K Anvik River 5.67 296 Pn 04 06 20.4 -1.7
K15K Wolf Creek Mou 5.92 285 Pn 04 06 24.5 -1.1
H17K Granite Mounta 6.07 312 Pn 04 06 27.0 -0.6
G18K Tagagawik 6.25 322 Pn 04 06 29.1 -0.8

*KOLA **03** 04:05:03.1, 67°.64N×33°.61E, h0km, ML1.6, Error ellipse: s-maj=3.7km s-min=2.0km az=100.0, Khibiny Massif*
HEL 03 04:05:02.2±0.2, 67°.68N×33°.68E, h0km, ML1.3,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**224**	P	Pg	04 05 04.8	-0.2
APA0	**Apatity Array**	**0.27**	**255**	P	Pg	04 05 07.2	-0.2
APA0				S	Sg	04 05 10.9	0.0
LVZ	**Lovozero**	**0.43**	**59**	P	Pg	04 05 09.7	-0.7
LVZ				S	Sg	04 05 15.4	-0.6
LVZ	**Lovozero**	**0.43**	**59**	PG	Pg	04 05 10.0	-0.4
LVZ				SG	Sg	04 05 15.4	-0.6
KVDA	**Kovda**	**1.04**	**198**	P	Pg	04 05 20.6	-1.4
KVDA				S	Sg	04 05 34.2	-1.2
VRF	**Varrio**	**1.55**	**274**	PG	Pn	04 05 30.3	-0.8
VRF				MSG		04 05 48.9	
VRF	comp=Z,3.8nm,0.2s			SG	Sn	04 05 50.2	-1.7
TERR	**Teriberka**	**1.62**	**18**	S	Sn	04 05 53.2	-0.2
PRVG	**Vayda Guba**	**2.15**	**346**	P	Pb	04 05 41.2	-0.7
PRVG				S	Sb	04 06 09.4	+0.4
OLKF	**Oulanka, Finla**	**2.16**	**233**	PG	Pb	04 05 41.0	-1.1
OLKF				MSG		04 06 06.2	
OLKF	comp=Z,1.3nm,0.2s			SG	Sb	04 06 09.5	0.0
RAJF	**Raja-Jooseppi**	**2.17**	**294**	PG	Pn	04 05 40.6	+1.1
RAJF				SB	Sn	04 06 06.9	-0.1
KU6	**Riekki**	**2.23**	**224**	PG	Pn	04 05 41.8	+1.4
KU6				MSG		04 06 08.3	
KU6	comp=Z,0.8nm,0.2s			SG	Sb	04 06 11.5	-0.1
MSF	**Maaselka**	**2.55**	**228**	PG	Pb	04 05 47.0	-1.8
VADS	**Vadso**	**2.91**	**330**	S	Sn	04 06 24.3	-0.9
RNF	**Rovaniemi**	**3.18**	**254**	PN	Pn	04 05 53.6	+0.3
RANF	**Ranua**	**3.19**	**242**	SG	Sb	04 06 40.2	+1.1
KEV	**Kevo**	**3.20**	**314**	PN	Pn	04 05 54.5	+0.8
KEV				SN	Sn	04 06 32.2	-0.3
ARA0	**ARCESS Array S**	**3.53**	**306**	PN	Pn	04 05 58.1	0.0
ARA0				SN	Sn	04 06 39.8	-0.8
ARCES	**ARCESS Array B**	**3.53**	**306**	P	Pn	04 05 58.0	-0.1
ARCES				S	Sn	04 06 39.1	-1.4
HEF	**Hetta**	**3.83**	**286**	PN	Pn	04 06 01.8	-0.6
HEF				SN	Sn	04 06 48.2	+0.1
KTK1	**Kautokeino**	**4.09**	**294**	SN	Sn	04 06 55.4	+0.9
LANU	**Lannavaara**	**4.44**	**280**	PG	Pb	04 06 21.6	+0.7
ERTU	**Ertsjaerv**	**4.62**	**261**	SN	Sn	04 07 07.7	+0.1

*IDC **03** 04:08:02.8±2.8, 15°.15S×175°.59W, h0km, mb3.5/5, mbtmp3.5/5, MS3.5/12, Error ellipse: s-maj=173.7km s-min=26.5km az=148.0*
ISC 03 04:08:06.6±2.8, 15°.2S±1°.0×175°.6W±0°.6, h26km, n23, σ0°65/6, mb3.5/5, MS3.6/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.59**	**247**	LR	LR	04 11 49.3	
	comp=Z,437nm,20.1s,baz=105,slow=34						
DZM	**Mont Dzumac**	**18.32**	**245**	LR	LR	04 17 54.1	
	comp=Z,162nm,18.0s,baz=142,slow=32						
PPT	**Papeete**	**25.07**	**99**	LR	LR	04 20 24.1	
	comp=Z,48nm,21.0s,baz=173,slow=30						
H11S2	**WAKE ISLAND Hy**	**37.75**	**332**	T	T	04 55 55.3	
	baz=149,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**37.76**	**332**	T	T	04 56 34.1	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**37.77**	**332**	T	T	04 56 09.0	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**38.73**	**333**	T	T	04 57 07.8	
	baz=152,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**38.74**	**333**	T	T	04 57 09.8	
	baz=152,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**38.75**	**333**	T	T	04 57 04.3	
	baz=152,slow=76,SNR=9.1						
WRA	**Warramunga Arr**	**47.82**	**257**	P	**P**	**04 16 42.4**	**-0.1**
	0.5nm,0.9s,baz=94,slow=7.0,SNR=1.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**48.15**	**252**	P	**P**	**04 16 45.4**	**+0.4**
	2.3nm,0.8s,baz=83,slow=8.1,SNR=16						
ASAR				LR	LR	04 35 16.8	
	comp=Z,71nm,18.1s,baz=95,slow=34						
	2.3nm,0.8s						
MJAR	**Matsushiro Arr**	**67.44**	**321**	LR	LR	04 42 53.6	
	comp=Z,24nm,19.9s,baz=66,slow=31						
JNU	**Nakatsue**	**70.13**	**314**	LR	LR	04 43 46.2	
	comp=Z,32nm,20.1s,baz=42,slow=31						
ASAJ	**Asahikawa**	**70.27**	**329**	LR	LR	04 42 03.1	
	comp=Z,33nm,21.6s,baz=112,slow=29						
PETK	**Petropavlovsk-**	**71.82**	**343**	LR	LR	04 44 14.0	
	comp=Z,38nm,21.9s,baz=106,slow=30						
KSRS	**Korea Array**	**74.55**	**317**	LR	LR	04 50 20.3	
	comp=Z,12nm,18.5s,baz=5.0,slow=34						
NVAR	**Mina Array Bea**	**75.62**	**43**	P	**P**	**04 19 50.4**	**+0.7**
	0.2nm,0.6s,baz=240,slow=4.2,SNR=2.0						
	0.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**75.97**	**324**	LR	LR	04 47 08.7	
	comp=Z,54nm,20.7s,baz=143,slow=31						
MA2	**Magadan**	**79.35**	**343**	LR	LR	04 49 00.8	
	comp=Z,31nm,21.2s,baz=124,slow=31						
TXAR	**Lajitas Array**	**82.28**	**57**	LR	LR	04 51 31.8	
	comp=Z,26nm,18.3s,baz=79,slow=32						
ILAR	**Eielson Array**	**82.68**	**12**	P	**P**	**04 20 27.6**	**+0.1**
	0.2nm,0.8s,baz=203,slow=5.3,SNR=5.8						
	0.2nm,0.8s						
PDAR	**Pinedale Array**	**83.55**	**43**	P	**P**	**04 20 32.3**	**-0.5**
	0.3nm,0.8s,baz=242,slow=6.3,SNR=2.8						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**144.65**	**319**	PKP	**PKPdf**	**04 27 40.9**	**-0.6**
	1.4nm,0.8s,baz=82,slow=3.0,SNR=7.5						

*NEIC **03** 04:12:29.6±2.2, 19°.948N±0°.009×155°.77W±0°.01, h10km±1km, Error ellipse: s-maj=3.0km s-min=2.4km az=40.0*
HVO 03 04:12:29.5±1.8, 19°.95N±0°.01×155°.79W±0°.02, h9km±4km, ML2.7/38, ML2.8/26(NEIC), Error ellipse: s-maj=2.6km s-min=1.4km az=71.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.12**	**47**		Pg	04 12 32.8	+0.5
HPAH					Sg	04 12 34.8	+0.5
HPAH	**Hawaii Prepara**	**0.12**	**47**	IAML		04 12 35.3	
	comp=N,9μm,0.3s						
HPAH				IAML		04 12 35.3	
	comp=E,5μm,0.2s						
MHA	**Mahukona**	**0.26**	**336**	Pg	Pg	04 12 35.1	+0.3
MHA					Sg	04 12 39.1	+0.9
HUH	**Hualalai**	**0.27**	**189**		Sb	04 12 41.0	-0.4
POHA	**Pohakuloa**	**0.31**	**128**		Sg	04 12 40.8	+0.8
KKH	**Kailua Kona**	**0.36**	**217**		Pg	04 12 36.6	-0.1
KKH					Sg	04 12 42.0	+0.5
ALEP	**Alea Permanent**	**0.43**	**161**		Pg	04 12 38.2	+0.2
ALEP					Sg	04 12 44.4	+0.7
HMH	**Humu'ula Sheep**	**0.45**	**140**		Pg	04 12 38.4	0.0
HMH					Sg	04 12 45.4	+1.0
MLOA	**Mauna Loa Obse**	**0.46**	**154**		Pg	04 12 38.6	+0.1
MLOA					Sg	04 12 45.3	+0.7
CPH	**Captain Cook**	**0.47**	**195**		Pg	04 12 38.3	-0.5
MWH	**Mokuaweoweo**	**0.50**	**159**		Sg	04 12 45.8	-0.1
MLH	**Mauna Loa**	**0.59**	**140**		Sg	04 12 48.1	-0.8
RSD	**Rainshed**	**0.68**	**135**		Sg	04 12 50.1	-1.6
UWE	**Uwekahuna**	**0.70**	**138**		Sg	04 12 50.5	-1.9
UWB	**Uwekahuna Bluf**	**0.71**	**137**		Pg	04 12 41.4	-1.8
UWB					Sg	04 12 50.8	-1.8
WRMHI	**West Rim**	**0.71**	**139**		Pg	04 12 41.4	-1.9
WRMHI					Sg	04 12 50.6	-2.0
OBL	**Observatory Le**	**0.71**	**138**		Pg	04 12 41.5	-1.8
OBL					Sg	04 12 50.4	-2.3
SBLHI	**Steaming Bluff**	**0.72**	**137**		Pg	04 12 41.5	-1.9
SBLHI					Sg	04 12 50.7	-2.0
KHU	**Kahuku**	**0.72**	**167**		Pg	04 12 41.5	-1.9
KHU	**Kahuku**	**0.72**	**167**	IAML		04 12 58.0	
	comp=N,290nm,2.9s						
KHU				IAML		04 13 06.5	
	comp=E,299nm,1.2s						
HATHI	**Halema'uma'u T**	**0.72**	**136**		Sg	04 12 50.4	-2.6
SDHHI	**Sand Hill**	**0.73**	**140**		Pg	04 12 41.7	-1.9
SDHHI					Sg	04 12 51.2	-1.9
BYL	**Byron's Ledge**	**0.73**	**137**		Sg	04 12 51.0	-2.2
RIM	**Rim**	**0.73**	**139**		Pg	04 12 41.7	-2.1
RIM					Sg	04 12 51.4	-2.0
KKO	**Keanakako'i**	**0.74**	**138**		Pg	04 12 42.0	-1.8
KKO					Sg	04 12 52.5	-1.0
PUH	**Pauahi**	**0.79**	**137**		Pg	04 12 42.3	-2.4
PUH				IAML		04 13 02.0	
	comp=N,262nm,0.4s						
PUH	**Pauahi**	**0.79**	**137**		Sg	04 12 53.3	-1.7
HLP	**Hilina Pali**	**0.79**	**145**		Pg	04 12 42.8	-2.1
HLP				IAML		04 13 02.1	
	comp=N,468nm,0.8s						
HLP				IAML		04 13 04.9	
	comp=E,547nm,1.2s						
HLP	**Hilina Pali**	**0.79**	**145**		Sg	04 12 52.2	-3.0
HTC	**Hot Caves**	**0.80**	**152**		Pg	04 12 42.8	-2.1
KNHH	**Kane Nui o Ham**	**0.81**	**134**		Pg	04 12 42.9	-2.4
STCH	**Steam Cracks**	**0.84**	**132**		Pg	04 12 43.2	-2.5
STCH				IAML		04 13 02.0	
	comp=N,367nm,0.3s						
STCH	**Steam Cracks**	**0.84**	**132**		Sg	04 12 53.5	-3.2
NPOC	**North of Pu'u**	**0.85**	**131**		Pg	04 12 43.2	-2.7
NPOC					Sg	04 12 54.2	-2.7
JCUZ	**Jacuzzi**	**0.86**	**131**		Pg	04 12 44.7	-1.4
JCUZ					Sg	04 12 55.9	-1.4
JOKA	**Jonika Flow**	**0.90**	**125**		Pg	04 12 44.0	-2.8
JOKA	**Jonika Flow**	**0.90**	**125**		Sg	04 12 56.3	-2.3
HLK	**Haleakala**	**0.91**	**332**		Pg	04 12 44.4	-2.7
HLK					Sg	04 12 55.5	-3.5
HLK	**Haleakala**	**0.91**	**332**	IAML		04 13 00.4	
	comp=E,230nm,3.5s						
HLK				IAML		04 13 14.8	
	comp=N,253nm,4.4s						

IDC 03 04:15:22.7±1.5, 52°.57S×26°.02E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=54.5km s-min=27.1km az=100.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**17.63**	**81**	T	T	04 37 19.5	
	baz=241						
H04S3	**CROZET ISLANDS**	**17.63**	**81**	T	T	04 37 24.3	
	baz=241						
H04S1	**CROZET ISLANDS**	**17.65**	**81**	T	T	04 37 25.2	
	baz=241						
SNAA	**Sanae**	**23.00**	**203**	P	P	04 20 28.7	0.0
	2.0nm,1.0s,baz=37,slow=10,SNR=2.2						
	2.0nm,1.0s						
BOSA	**Boshof**	**23.93**	**358**	P	P	04 20 38.5	+0.1
	1.5nm,0.7s,baz=162,slow=10,SNR=3.4						
	1.5nm,0.7s						
QSPA	**South Pole Qui**	**37.66**	**180**	P	P	04 22 39.2	-0.1
	4.4nm,0.8s,baz=254,slow=5.8,SNR=12						
	4.4nm,0.8s						
ASAR	**Alice Springs**	**81.70**	**118**	P	P	04 27 43.3	+0.2
	1.2nm,0.6s,baz=215,slow=4.7,SNR=17						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**84.95**	**116**	P	P	04 27 59.5	-0.3
	0.6nm,0.7s,baz=212,slow=3.6,SNR=2.5						
	0.6nm,0.7s						

*IDC **03** 04:15:58.8±0.9, 52°.59S×26°.03E, h0km, mb4.3/8, mbtmp4.3/8, MS3.3/1, Error ellipse: s-maj=27.1km s-min=24.5km az=49.0*
*NEIC **03** 04:16:02.1±2.5, 52°.7S±0°.1×26°.5E±0°.3, h10km±1km, mb4.4/11, Error ellipse: s-maj=32.4km s-min=5.3km az=238.0*
ISC 03 04:16:01.2±0.7, 52°.7S±0°.1×26°.1E±0°.2, h10km, n28, σ1°20/21, mb4.4/13, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**17.57**	**81**	T	T	04 38 02.2	
	baz=242,slow=75,SNR=201						
H04S3	**CROZET ISLANDS**	**17.57**	**81**	T	T	04 38 02.8	
	baz=242,slow=75,SNR=155						
H04S1	**CROZET ISLANDS**	**17.59**	**81**	T	T	04 38 01.4	
	baz=242,slow=75,SNR=172						
H04N3	**CROZET ISLANDS**	**17.84**	**79**	T	T	04 38 19.9	
	baz=241,slow=74						
H04N1	**CROZET ISLANDS**	**17.84**	**79**	T	T	04 38 17.6	
	baz=241						
H04N2	**CROZET ISLANDS**	**17.86**	**79**	T	T	04 38 19.5	
	baz=241,slow=74						
SNAA	**Sanae**	**22.95**	**203**	P	**P**	**04 21 04.6**	**-0.6**
	3.2nm,0.9s,baz=136,slow=5.0,SNR=3.6						
	3.2nm,0.9s						
MAW	**Mawson**	**23.13**	**144**	LR	LR	04 30 38.8	

comp=Z,69nm,18.1s,baz=302,slow=38
BOSA Boshof 24.02 358 P P 04 21 15.2 -1.1
BOSA IAmb IAmb 04 21 30.5
comp=Z,7.5nm,1.2s
BOSA Boshof 24.02 358 P P 04 21 15.1 -1.2
comp=Z,2.8nm,0.8s,baz=180,slow=9.6,SNR=4.5
comp=Z,2.8nm,0.8s
LBTB Lobatse 27.60 359 P P 04 21 50.2 +1.5
LBTB IAmb IAmb 04 21 57.7
comp=Z,12nm,1.5s
BELA Belgrano 2 33.07 200 P P 04 22 39.0 +2.6
BELA IAmb IAmb 04 22 40.2
comp=Z,2.1nm,0.7s
TSUM Tsumeb 34.05 345 P P 04 22 47.6 +2.0
TSUM IAmb IAmb 04 22 48.6
comp=Z,6.6nm,0.9s
QSPA South Pole Qui 37.57 180 P P 04 23 15.7 +0.3
QSPA South Pole Qui 37.57 180 P P 04 23 15.4 0.0
comp=Z,14nm,0.9s,baz=254,slow=7.3,SNR=11
comp=Z,14nm,0.9s
CPUP Villa Florida 65.67 258 P P 04 26 46.3 +0.7
CPUP IAmb IAmb 04 26 48.8
comp=Z,9.0nm,1.4s
CPUP Villa Florida 65.67 258 P P 04 26 44.7 -0.9
comp=Z,2.7nm,0.9s,baz=157,slow=7.0,SNR=6.0
comp=Z,2.7nm,0.9s
BDFB Brasilia 68.12 273 P P 04 26 59.2 -2.2
comp=Z,2.1nm,0.9s,baz=156,slow=10.0,SNR=2.8
comp=Z,2.1nm,0.9s
TORD Torodi Ar. Bea 68.84 334 P P 04 27 05.8 +0.1
TORD IAmb IAmb 04 27 06.3
comp=Z,1.5nm,1.1s
STKA Stephens Creek 78.81 128 P P 04 28 03.8 -0.3
comp=Z,2.2nm,0.9s,baz=192,slow=5.4,SNR=3.3
comp=Z,2.2nm,0.9s
FITZ Fitzroy Crossi 81.42 108 P P 04 28 17.7 -0.6
ASAR Alice Springs 81.60 118 P P 04 28 19.4 +0.1
ASAR Alice Springs 81.60 118 P P 04 28 18.9 -0.5
comp=Z,3.5nm,0.7s,baz=207,slow=5.2,SNR=23
comp=Z,3.5nm,0.7s
AS31 Alice Springs 81.60 118 P P 04 28 19.0 -0.3
WRA Warramunga Arr 84.84 116 P P 04 28 35.7 -0.4
comp=Z,2.7nm,0.8s,baz=212,slow=4.0,SNR=13
comp=Z,2.7nm,0.8s
WB2 Warramunga Arr 84.85 116 P P 04 28 35.1 -1.0
WB0 Warramunga Arr 85.01 116 P P 04 28 36.3 -0.7
WB0 IAmb IAmb 04 28 41.4
comp=Z,4.2nm,0.9s
PDAR Pinedale Array 149.05 269 PKPbc PKPbc 04 35 48.1 -1.0
comp=Z,0.7nm,0.9s,baz=195,slow=1.0,SNR=5.1

IDC 03 04:52:53.0±1.7,20°.44S×175°.78W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=65.7km s-min=41.1km az=160.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.56**	**256**	P	P	05 01 23.1	+0.2
	0.8nm,0.6s,baz=93,slow=8.2,SNR=15						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**46.67**	**261**	P	P	05 01 23.2	-0.7
	0.2nm,0.5s,baz=95,slow=7.4,SNR=1.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**87.81**	**12**	P	P	05 05 43.8	+0.1
	0.1nm,0.5s,baz=206,slow=5.2,SNR=1.3						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**172.36**	**161**	PKPab	PKPab	05 14 28.2	-0.6
	8.9nm,0.4s,baz=197,slow=4.5,SNR=2.7						

*TAP **03** 04:53:23.1,24°.83N×121°.93E,h101km,ML3.6,B*
*JMA **03** 04:53:23.3±0.2,24°.8N±0°.7×121°.9E±0°.4,h98km±2km, MV2.5/12,TAIWAN REGION*
ISC 03 04:53:22.7±1.6,24°.85N±0°.05×121°.94E±0°.03,h104km±8km, n121,σ0°59/158,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.01**	**254**	*eP*	**Pn**	**04 53 37.4**	**+0.3**
TIPB	**Shuangxi**	**0.16**	**319**	*eP*	**Pn**	**04 53 37.3**	**0.0**
TWB1	**Santiao Chiao**	**0.16**	**14**	*eP*	**Pn**	**04 53 37.3**	**0.0**
TWB1				*eS*	**Sn**	**04 53 47.5**	**-0.6**
SXI1	**Grass Mountain**	**0.25**	**346**	*eP*	**Pn**	**04 53 37.8**	**+0.1**
TWC	**Suao**	**0.25**	**200**	*i* P	**Pn**	**04 53 37.8**	**+0.2**
TWC				*i* S	**Sn**	**04 53 48.1**	**-0.6**
WFSB	**Wu-fen Shan**	**0.27**	**326**	*eP*	**Pn**	**04 53 37.7**	**+0.1**
TWE	**Neicheng**	**0.28**	**243**	P	**Pn**	**04 53 38.3**	**+0.6**
TWE				*i* S	**Sn**	**04 53 49.2**	**+0.3**
ESAO	**Su ao**	**0.29**	**199**	P	**Pn**	**04 53 38.2**	**+0.5**
ESAO				*eS*	**Sn**	**04 53 48.7**	**-0.2**
NDS	**Dongshan**	**0.30**	**224**	*eP*	**Pn**	**04 53 38.7**	**+0.9**
FUSB	**Fushanzhiwuyua**	**0.34**	**255**	*i* P	**Pn**	**04 53 38.4**	**+0.3**
FUSB				*eS*	**Sn**	**04 53 49.5**	**0.0**
NHY	**Taipei**	**0.39**	**299**	*eP*	**Pn**	**04 53 38.5**	**+0.3**
ENTT	**Nioudou**	**0.40**	**239**	*i* P	**Pn**	**04 53 38.9**	**+0.6**
ENTT				S	**Sn**	**04 53 50.6**	**+0.6**
NWLT	**Wulai**	**0.41**	**260**	*i* P	**Pn**	**04 53 38.5**	**+0.1**
NWLT				*i* S	**Sn**	**04 53 49.6**	**-0.5**
EWUT	**Wuta**	**0.43**	**201**	*eP*	**Pn**	**04 53 38.9**	**+0.5**
EWUT				*eS*	**Sn**	**04 53 51.0**	**+0.8**
TATO	**Taipei**	**0.43**	**287**	P	**Pn**	**04 53 38.7**	**+0.3**
TATO	**Taipei**	**0.43**	**287**	S	**Sn**	**04 53 49.7**	**-0.6**
TAP	**Taipei**	**0.44**	**296**	*eP*	**Pn**	**04 53 38.8**	**+0.3**
YM01	**YM01**	**0.45**	**311**	*eP*	**Pn**	**04 53 38.7**	**+0.1**
YM01				*eS*	**Sn**	**04 53 50.0**	**-0.6**
ENA	**Nanau**	**0.46**	**204**	*eP*	**Pn**	**04 53 39.0**	**+0.4**
YM08	**YM08**	**0.47**	**317**	*eP*	**Pn**	**04 53 38.7**	**0.0**
YM08				*eS*	**Sn**	**04 53 49.5**	**-1.3**
LATG	**Datong**	**0.49**	**231**	*eP*	**Pn**	**04 53 39.4**	**+0.4**
EOS2	**EOS2**	**0.50**	**148**	*eP*	**Pn**	**04 53 39.5**	**+0.8**
EOS2				*eS*	**Sn**	**04 53 52.0**	**+1.2**
ANP	**Anpu**	**0.51**	**311**	*eP*	**Pn**	**04 53 39.2**	**+0.1**
TWY	**Chenhua**	**0.53**	**324**	*eP*	**Pn**	**04 53 38.3**	**-0.8**
TWY				*eS*	**Sn**	**04 53 50.5**	**-0.9**
TWS1	**Kuangyinshan**	**0.54**	**298**	*eP*	**Pn**	**04 53 38.8**	**-0.4**
TWS1				*eS*	**Sn**	**04 53 51.5**	**0.0**
YHNB	**Yeheng**	**0.55**	**251**	P	**Pn**	**04 53 39.3**	**-0.1**
YHNB	**Yeheng**	**0.55**	**251**	S	**Sn**	**04 53 50.8**	**-1.0**
YHNB	**Yeheng**	**0.55**	**251**	*eP*	**Pn**	**04 53 39.2**	**-0.1**
NTST	**Danshui**	**0.55**	**305**	*eP*	**Pn**	**04 53 39.7**	**+0.4**
NTST				*eS*	**Sn**	**04 53 51.9**	**+0.2**
EAHA	**Aohua**	**0.55**	**200**	*eP*	**Pn**	**04 53 39.5**	**+0.2**
NSK	**Sanguang**	**0.56**	**252**	*eP*	**Pn**	**04 53 39.3**	**-0.1**
EOS3	**EOS3**	**0.66**	**149**	*eP*	**Pn**	**04 53 40.8**	**+0.9**
NNS	**Nan Shan**	**0.66**	**232**	*eP*	**Pn**	**04 53 40.5**	**+0.1**
NNSB	**Datong**	**0.66**	**231**	*eP*	**Pn**	**04 53 40.4**	**+0.1**
NCUH	**Zhongli**	**0.70**	**280**	*eP*	**Pn**	**04 53 40.8**	**+0.3**
NCUH				*eS*	**Sn**	**04 53 53.9**	**0.0**
NACB	**Ninganchiao**	**0.74**	**205**	P	**Pn**	**04 53 40.5**	**-0.4**
NACB	**Ninganchiao**	**0.74**	**205**	*eP*	**Pn**	**04 53 40.2**	**-0.7**
ETL	**Fush Village**	**0.75**	**203**	*eP*	**Pn**	**04 53 40.7**	**-0.2**
ETLH	**Xiulin Townshi**	**0.77**	**213**	*eP*	**Pn**	**04 53 41.0**	**-0.2**
NFF	**Wufeng Townshi**	**0.78**	**254**	*eP*	**Pn**	**04 53 41.2**	**-0.1**
NFF				*eS*	**Sn**	**04 53 54.6**	**-0.7**
PCYT	**Pengchaiyu**	**0.79**	**8**	*eP*	**Pn**	**04 53 41.8**	**+0.5**
EOS4	**EOS4**	**0.80**	**155**	*eP*	**Pn**	**04 53 41.3**	**+0.3**
TWD	**Chiawan**	**0.83**	**203**	*eP*	**Pn**	**04 53 41.1**	**-0.6**
LIOB	**Emei**	**0.87**	**257**	*eP*	**Pn**	**04 53 42.2**	**+0.2**
SBCB	**Hsinchu**	**0.87**	**267**	*eP*	**Pn**	**04 53 42.4**	**+0.3**
SBCB				*eS*	**Sn**	**04 53 56.9**	**+0.2**
FUSS	**Fushou**	**0.87**	**227**	*eP*	**Pn**	**04 53 42.9**	**+0.5**
NSTT	**Nanjuang**	**0.88**	**256**	*eP*	**Pn**	**04 53 42.3**	**+0.1**
NSTT				*eS*	**Sn**	**04 53 56.3**	**-0.6**
HSN	**Hsinchu**	**0.89**	**267**	*eP*	**Pn**	**04 53 42.2**	**0.0**
TWT	**Tachien**	**0.92**	**230**	*eP*	**Pn**	**04 53 43.6**	**+0.8**
HWA	**Hwalien**	**0.92**	**200**	*eP*	**Pn**	**04 53 42.6**	**0.0**
TDCB	**Techi**	**0.93**	**231**	*eP*	**Pn**	**04 53 43.5**	**+0.6**
WHF	**Hehuan Shan**	**0.93**	**222**	*eP*	**Pn**	**04 53 43.5**	**+0.3**
LXIB	**Xiulin Townshi**	**0.95**	**211**	*eP*	**Pn**	**04 53 42.4**	**-0.7**
LXIB				*eS*	**Sn**	**04 53 58.2**	**-0.3**
ETM	**Tongmen**	**0.97**	**205**	*eP*	**Pn**	**04 53 42.5**	**-0.6**
JYNG	**Yonagunijimaku**	**0.99**	**113**	P	**Pn**	**04 53 43.5**	**+0.2**
JYNG				S	**Sn**	**04 53 58.8**	**0.0**
TEYL	**Yanliau Villag**	**1.03**	**198**	*eP*	**Pn**	**04 53 41.7**	**-2.0**
YOJ	**Yonaguni jima**	**1.04**	**111**	P	**Pn**	**04 53 44.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.04**	**111**	*eP*	**Pn**	**04 53 44.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.04**	**111**	*eP*	**Pn**	**04 53 44.0**	**+0.1**
YOJ				*eS*	**Sn**	**04 53 59.8**	**0.0**
WHP	**Taichung City**	**1.07**	**238**	*eP*	**Pn**	**04 53 44.8**	**+0.5**
WHP				*eS*	**Sn**	**04 54 00.4**	**-0.2**
NMLH	**Miaoli**	**1.09**	**254**	*eP*	**Pn**	**04 53 44.6**	**+0.2**
NMLH				*eS*	**Sn**	**04 54 00.6**	**-0.3**
SHUL	**Shoufeng**	**1.11**	**198**	*eP*	**Pn**	**04 53 44.7**	**+0.1**
ESL	**Shilin**	**1.13**	**204**	*eP*	**Pn**	**04 53 43.8**	**-1.0**
OWD	**Renai**	**1.13**	**218**	*eP*	**Pn**	**04 53 45.4**	**+0.3**
OWD				*eS*	**Sn**	**04 54 01.6**	**-0.3**
WUSB	**Renai**	**1.14**	**222**	*eP*	**Pn**	**04 53 45.8**	**+0.7**
TWQ1	**Liyutan**	**1.18**	**245**	*eP*	**Pn**	**04 53 45.5**	**+0.2**
TWQ1				*eS*	**Sn**	**04 54 02.0**	**-0.5**
TEGC	**Jichi Village**	**1.19**	**198**	*eP*	**Pn**	**04 53 45.8**	**+0.2**
WCS	**Beigang Elemen**	**1.23**	**230**	*eP*	**Pn**	**04 53 46.5**	**+0.6**
WCS				*eS*	**Sn**	**04 54 03.5**	**-0.1**
WARBT	**Fenglin Townsh**	**1.23**	**204**	*eP*	**Pn**	**04 53 45.0**	**-1.1**
EGFH	**Guangfu**	**1.27**	**202**	*eP*	**Pn**	**04 53 47.0**	**+0.6**
WDJ	**Dajia District**	**1.29**	**247**	*eP*	**Pn**	**04 53 47.1**	**+0.5**
VWDT	**VWDT**	**1.31**	**214**	*eP*	**Pn**	**04 53 47.6**	**+0.7**
TCU	**Taichung**	**1.35**	**239**	*eP*	**Pn**	**04 53 47.8**	**+0.5**
SMLT	**Sun Moon Lake**	**1.35**	**225**	*eP*	**Pn**	**04 53 47.1**	**-0.5**
TYC	**Yuchr**	**1.37**	**227**	*eP*	**Pn**	**04 53 48.0**	**+0.4**
SSLB	**Suanglung**	**1.39**	**221**	P	**Pn**	**04 53 48.3**	**+0.4**
SSLB	**Suanglung**	**1.39**	**221**	*eP*	**Pn**	**04 53 48.3**	**+0.4**
HGSD	**Ruisui**	**1.43**	**199**	*eP*	**Pn**	**04 53 48.6**	**+0.2**
EHY	**Hungye**	**1.45**	**203**	*eP*	**Pn**	**04 53 47.5**	**-1.1**
WCHH	**Zhanghua**	**1.48**	**239**	*eP*	**Pn**	**04 53 49.2**	**+0.4**
WNT	**Mingjian**	**1.50**	**230**	*eP*	**Pn**	**04 53 49.7**	**+0.5**
WNT				*eS*	**Sn**	**04 54 09.6**	**+0.4**
WJS	**Zhushan**	**1.51**	**228**	*eP*	**Pn**	**04 53 49.9**	**+0.6**
WHYT	**Xinyi Township**	**1.52**	**221**	*eP*	**Pn**	**04 53 50.1**	**+0.7**
WHYT				*eS*	**Sn**	**04 54 10.1**	**+0.4**
YULB	**Yu-li**	**1.56**	**202**	P	**Pn**	**04 53 49.6**	**-0.4**
YULB	**Yu-li**	**1.56**	**202**	*eP*	**Pn**	**04 53 49.3**	**-0.7**
EYUL	**Yuli**	**1.60**	**201**	*eP*	**Pn**	**04 53 51.1**	**+0.6**
TWF1	**Yuli**	**1.60**	**202**	*eP*	**Pn**	**04 53 49.5**	**-1.0**
YUS	**Yu-Shan**	**1.63**	**214**	*eP*	**Pn**	**04 53 50.4**	**-0.9**
YUS				*eS*	**Sn**	**04 54 12.0**	**-0.8**
ALS	**Alishan**	**1.69**	**218**	*eP*	**Pn**	**04 53 52.5**	**+0.7**
CHN5	**Tsauling**	**1.70**	**223**	*eP*	**Pn**	**04 53 52.3**	**+0.6**
CHN5				*eS*	**Sn**	**04 54 14.5**	**+0.7**
IRIF	**Iriomote-Funau**	**1.70**	**107**	*eP*	**Pn**	**04 53 51.9**	**+0.2**
IRIF				*eS*	**Sn**	**04 54 13.2**	**-0.5**
WGK	**Gukeng**	**1.71**	**228**	*eP*	**Pn**	**04 53 52.5**	**+0.7**
CHKH	**Chenggong**	**1.72**	**197**	*eP*	**Pn**	**04 53 52.2**	**+0.2**
WDLH	**Douliu**	**1.73**	**228**	*eP*	**Pn**	**04 53 52.6**	**+0.6**
WDLH				*eS*	**Sn**	**04 54 14.5**	**+0.2**
FULB	**Fuli**	**1.75**	**200**	*eP*	**Pn**	**04 53 52.8**	**+0.5**
CHKT	**Chengkung**	**1.82**	**197**	*eP*	**Pn**	**04 53 52.6**	**-0.5**
EHD	**Haiduan**	**1.82**	**202**	*eP*	**Pn**	**04 53 54.1**	**+0.9**
WTK	**Tuku**	**1.83**	**231**	*eP*	**Pn**	**04 53 53.7**	**+0.4**
WTK				*eS*	**Sn**	**04 54 16.5**	**0.0**
ELDTW	**Lidau**	**1.86**	**207**	*eP*	**Pn**	**04 53 54.4**	**+0.6**
WCKO	**Fanlu**	**1.86**	**221**	*eP*	**Pn**	**04 53 54.4**	**+0.7**
WCKO				*eS*	**Sn**	**04 54 17.7**	**+0.4**
CHY	**Chiayi**	**1.93**	**226**	*eP*	**Pn**	**04 53 55.0**	**+0.4**
CHN4	**Tsaushan**	**1.94**	**220**	*eP*	**Pn**	**04 53 55.4**	**+0.8**
TPUB	**Ta-pu**	**1.95**	**218**	P	**Pn**	**04 53 55.5**	**+0.6**
TPUB	**Ta-pu**	**1.95**	**218**	S	**Sn**	**04 54 18.9**	**-0.5**
TPUB	**Ta-pu**	**1.95**	**218**	*eP*	**Pn**	**04 53 55.7**	**+0.9**
EDH	**Donghe**	**1.96**	**198**	*eP*	**Pn**	**04 53 54.6**	**-0.2**
JKRS	**Kuro-shima**	**1.98**	**107**	*eP*	**Pn**	**04 53 56.0**	**+0.9**
JKRS				*eS*	**Sn**	**04 54 19.9**	**+0.1**
WSF	**Szhu**	**1.98**	**233**	*eP*	**Pn**	**04 53 56.1**	**+0.9**
STYH	**Taoyuan**	**1.98**	**213**	*eP*	**Pn**	**04 53 56.0**	**+0.8**
WTP	**Ta-pu**	**2.01**	**218**	*eP*	**Pn**	**04 53 56.4**	**+0.8**
WSL	**Shuilin Townsh**	**2.05**	**230**	*eP*	**Pn**	**04 53 56.4**	**+0.3**
JIJ	**Ishigaki jima**	**2.06**	**103**	P	**Pn**	**04 53 56.5**	**+0.3**
JIJ				S	**Sn**	**04 54 20.9**	**-0.9**
TWK	**Hsinying**	**2.06**	**221**	*eP*	**Pn**	**04 53 56.7**	**+0.4**
SNST	**Tainan City**	**2.09**	**220**	*eP*	**Pn**	**04 53 57.5**	**+0.8**
CHN1	**Nanshi**	**2.10**	**218**	*eP*	**Pn**	**04 53 57.6**	**+0.8**
CHN1				*eS*	**Sn**	**04 54 22.6**	**-0.2**
SGST	**Jiashian**	**2.15**	**216**	*eP*	**Pn**	**04 53 57.6**	**+0.2**
TWG	**Pinlang**	**2.17**	**202**	*eP*	**Pn**	**04 53 56.8**	**-0.8**
TWGBT	**Beinan**	**2.17**	**202**	P	**Pn**	**04 53 56.9**	**-0.8**
TWGBT	**Beinan**	**2.17**	**202**	S	**Sn**	**04 54 22.8**	**-1.6**
TWGBT	**Beinan**	**2.17**	**202**	*eP*	**Pn**	**04 53 56.6**	**-1.0**
LDUT	**Ludao**	**2.21**	**191**	*eP*	**Pn**	**04 53 57.8**	**-0.4**

*SOME **03** 04:55:43.0,40°.37N×77°.55E,h5km,MS3.0*
*IDC **03** 04:55:44.7±1.5,40°.18N×77°.70E,h0km,mb3.6/10, mbtmp3.6/16,ML3.2/5,MS3.3/2,Error ellipse: s-maj=24.7km s-min=17.1km az=150.0*
*KRNET **03** 04:55:46.5±0.1,40°.51N×77°.77E,mb4.1*
*NNC **03** 04:55:52.2±1.2,40°.67N×77°.56E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=8.3km s-min=5.8km az=163.0*
ISC 03 04:55:49.3±0.7,40°.46N±0°.04×77°.68E±0°.03,h10km,n97, σ2°02/129,mb3.7/11,31C-23D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.61**	**235**	Pn	**Pg**	**04 56 23.7**	**+3.5**
KSH				Sn	Sg	04 56 53.2	+12
KSH				smax	smax		
	comp=N,590nm,0.5s						
KSH				smax	smax		
	comp=E,2μm,0.7s						
KDJ	**Kajisay**	**1.72**	**347**	⇑*iP*	**Pn**	**04 56 17.8**	**-1.6**
KDJ				⇑*iS*	**Sn**	**04 56 40.7**	**-0.8**
ULHL	**Ulahol**	**2.09**	**329**	P	**Pn**	**04 56 25.0**	**+0.4**
	SNR=44						
ULHL	**Ulahol**	**2.09**	**329**	⇑*iP*	**Pn**	**04 56 24.7**	**+0.1**
ULHL				⇑*iS*	**Sn**	**04 56 52.6**	**+1.8**
PRZ	**Przheval'sk**	**2.10**	**15**	⇑*eP*	**Pn**	**04 56 24.4**	**-0.2**
PRZ				⇑*eS*	**Sn**	**04 56 51.8**	**+0.9**
ANVS	**Anan'yevo**	**2.33**	**360**	⇑*eP*	**Pn**	**04 56 57.3**	**-0.4**
ANVS				⇑*eS*	**Sn**	**04 56 57.1**	**+0.6**
BOOM	**Boomskoye usch**	**2.42**	**328**	⇓*iP*	**Pn**	**04 56 29.2**	**+0.2**
BOOM				⇓*iS*	**Sn**	**04 57 00.5**	**+1.7**
TNSS	**Tian-Shan**	**2.64**	**348**	Pg	**Pb**	**04 56 38.3**	**+1.4**
	comp=E,195nm,0.4s						
TNSS				Lg	Lg	04 57 10.9	
	comp=E,552nm,0.5s						
TNSS	**Tian-Shan**	**2.64**	**348**	*eP*	**Pn**	**04 56 34.2**	**+1.9**
	comp=E,137nm,0.3s						
TNSS				*eS*	**Sb**	**04 57 11.2**	**+1.8**
	comp=E,705nm,0.3s						
SATY	**Saty**	**2.66**	**11**	Pg	**Pb**	**04 56 38.4**	**+1.4**
	comp=E,80nm,0.5s						
SATY				Lg	Lg	04 57 12.2	
	comp=E,488nm,0.3s						
ZHN	**Zhinishke**	**2.77**	**11**	Pg	**Pb**	**04 56 39.4**	**+0.4**
	comp=E,48nm,0.2s						
ZHN				Lg	Lg	04 57 13.3	
	comp=E,639nm,0.3s						
ZHN	**Zhinishke**	**2.77**	**11**	*eP*	**Pn**	**04 56 36.6**	**+2.8**
	comp=E,24nm,0.1s						
ZHN				*eS*	**Sb**	**04 57 15.2**	**+2.3**
	comp=E,639nm,0.3s						
KOTS	**Kotyrbulak**	**2.81**	**351**	Pg	**Pb**	**04 56 42.0**	**+2.4**
	comp=E,139nm,0.3s						
KOTS				Lg	Lg	04 57 17.2	
	comp=E,2μm,0.4s						
KOTS	**Kotyrbulak**	**2.81**	**351**	*eP*	**Pn**	**04 56 36.9**	**+2.5**
	comp=E,52nm,0.2s						
KOTS				*eS*	**Sb**	**04 57 15.4**	**+1.2**
	comp=E,2μm,0.4s						
AAA	**Alma-Ata**	**2.81**	**348**	Pg	**Pb**	**04 56 41.8**	**+2.2**
	comp=E,216nm,0.3s						
AAA				Lg	Lg	04 57 16.7	
	comp=E,800nm,0.6s						
AAA	**Alma-Ata**	**2.81**	**348**	*eP*	**Pn**	**04 56 37.2**	**+2.9**
	comp=E,29nm,0.1s						
AAA				*eS*	**Sb**	**04 57 16.3**	**+2.2**
	comp=E,806nm,0.6s						
KNDC	**Almaty**	**2.81**	**349**	⇓Pn	**Pn**	**04 56 35.8**	**+1.4**
	comp=E,189nm,0.6s						
KNDC				⇑Lg	Lg	04 57 17.1	
	comp=E,1μm,0.4s						
UZB	**Uzynbulak**	**2.87**	**20**	Pg	**Pb**	**04 56 40.7**	**0.0**
	comp=E,54nm,0.8s						
UZB				Lg	Lg	04 57 15.1	
	comp=E,363nm,0.6s						
UZB	**Uzynbulak**	**2.87**	**20**	*eP*	**Pb**	**04 56 38.7**	**-1.9**
	comp=E,23nm,0.3s						
UZB				*eS*	**Sb**	**04 57 19.0**	**+3.1**
	comp=E,368nm,0.6s						
KST	**Kastek**	**2.89**	**334**	Pg	**Pb**	**04 56 41.3**	**+0.3**
	comp=E,88nm,0.6s						
KST				Lg	Lg	04 57 17.7	
	comp=E,409nm,0.3s						
KST	**Kastek**	**2.89**	**334**	*eP*	**Pn**	**04 56 37.8**	**+2.3**
	comp=E,11nm,0.1s						
KST				*eS*	**Sb**	**04 57 16.8**	**+0.3**
	comp=E,481nm,0.3s						
ARLS	**Aral**	**2.90**	**300**	⇑*eP*	**Pn**	**04 56 36.5**	**+0.9**
ARLS				⇑*eS*	**Sn**	**04 57 12.9**	**+2.2**
TKM2	**Tokmak 2**	**2.92**	**328**	P	**Pn**	**04 56 37.6**	**+1.6**
	SNR=25						
TKM2	**Tokmak 2**	**2.92**	**328**	⇓*eP*	**Pn**	**04 56 36.2**	**+0.3**
TKM2				⇓*eS*	**Sn**	**04 57 12.5**	**+1.3**
SALK	**Salom-Alik**	**2.97**	**280**	⇓*eP*	**Pn**	**04 56 37.8**	**+1.2**
SALK				⇓*eS*	**Sn**	**04 57 15.4**	**+3.0**
UCH	**Uchtor**	**2.97**	**308**	P	**Pn**	**04 56 38.2**	**+1.4**
	SNR=12						
UCH	**Uchtor**	**2.97**	**308**	⇑*eP*	**Pn**	**04 56 37.5**	**+0.6**
UCH				⇑*eS*	**Sn**	**04 57 14.9**	**+2.1**
KBK	**Karagaybulak**	**3.01**	**318**	P	**Pb**	**04 56 42.1**	**-1.0**
	SNR=74						
KBK	**Karagaybulak**	**3.01**	**318**	⇓*eP*	**Pn**	**04 56 37.6**	**+0.4**
KBK				⇓*eS*	**Sn**	**04 57 15.1**	**+1.7**
SHLS	**Shalkode**	**3.01**	**26**	Pg	**Pg**	**04 56 48.1**	**+1.1**
	comp=E,94nm,0.6s						
SHLS				Lg	Lg	04 57 27.6	
	comp=E,231nm,0.6s						
SHLS	**Shalkode**	**3.01**	**26**	*eP*	**Pb**	**04 56 43.6**	**+0.6**
	comp=E,15nm,0.2s						
SHLS				*eS*	**Sg**	**04 57 27.3**	**+1.3**
	comp=E,229nm,0.4s						
KURS	**Kuram**	**3.05**	**7**	Pg	**Pb**	**04 56 45.9**	**+2.2**
	comp=E,53nm,0.6s						
KURS				Lg	Lg	04 57 23.7	
	comp=E,177nm,0.4s						
KURS	**Kuram**	**3.05**	**7**	*eP*	**Pg**	**04 56 48.4**	**+0.6**
	comp=E,13nm,0.2s						
KURS				*eS*	**Sg**	**04 57 35.3**	**+8.0**
	comp=E,703nm,0.4s						
KPKS	**Kokpek**	**3.10**	**14**	*eP*	**Pb**	**04 56 42.2**	**-2.4**
	comp=E,46nm,0.5s						
KPKS				*eS*	**Sb**	**04 57 24.9**	**+2.4**
	comp=E,403nm,0.3s						
DGS	**Degeres**	**3.13**	**333**	Pg	**Pb**	**04 56 45.8**	**+0.7**
	comp=E,71nm,0.6s						
DGS				Lg	Lg	04 57 25.4	
	comp=E,283nm,0.3s						
PDGK	**Podgornoye**	**3.17**	**25**	⇑Pn	**Pn**	**04 56 40.6**	**+1.3**
	comp=E,58nm,0.6s						
PDGK				⇑Lg	Lg	04 57 25.4	
	comp=E,262nm,0.8s						
SFK	**Sufi-Kurgan**	**3.23**	**264**	⇑*eP*	**Pn**	**04 56 41.7**	**+1.5**
SFK				⇑*eS*	**Sn**	**04 57 22.1**	**+3.2**
AAK	**Ala-Archa**	**3.24**	**313**	Pn	**Pn**	**04 56 41.7**	**+1.4**
	comp=E,52nm,0.3s,baz=135,slow=10,SNR=59						
AAK				Lg	Lg	04 57 27.7	
	comp=E,38nm,0.3s,baz=276,slow=17,SNR=18						
AAK				LR	LR	04 58 03.5	
	comp=E,87nm,21.3s,baz=275,slow=40						
AAK	**Ala-Archa**	**3.24**	**313**	P	**Pn**	**04 56 41.9**	**+1.6**
	SNR=89						
AAK	**Ala-Archa**	**3.24**	**313**	⇓Pg	**Pb**	**04 56 45.5**	**-1.4**
	comp=E,58nm,0.4s						
AAK				⇑Lg	Lg	04 57 27.5	
	comp=E,343nm,0.8s						
AAK	**Ala-Archa**	**3.24**	**313**	⇑*eP*	**Pn**	**04 56 41.0**	**+0.7**
AAK				⇑*eS*	**Sn**	**04 57 20.7**	**+1.7**
FRU1	**Bishkek**	**3.28**	**317**	⇑*eP*	**Pn**	**04 56 41.6**	**+0.8**
FRU1				⇑*eS*	**Sn**	**04 57 22.1**	**+2.1**
KTBS	**Karatobe**	**3.34**	**347**	Pg	**Pb**	**04 56 47.9**	**-0.7**
	comp=E,70nm,0.3s						
KTBS				Lg	Lg	04 57 27.2	
	comp=E,19nm,0.2s						
CHMS	**Chumysh**	**3.36**	**320**	P	**Pn**	**04 56 43.6**	**+1.8**
	SNR=43						
CHMS	**Chumysh**	**3.36**	**320**	⇓*eP*	**Pn**	**04 56 42.3**	**+0.5**
CHMS				⇓*eS*	**Sn**	**04 57 23.1**	**+1.3**
CHKK	**Chushkaly**	**3.44**	**352**	Pg	**P

comp=E,5.4nm,0.6s
BRLS Lg Lg 04 59 06.0
comp=E,13nm,0.8s
BRLS Borolday 6.41 296 *e*P **Pb 04 57 41.8 +0.9**
comp=E,2.4nm,0.3s
BRLS *e*S Sb 04 59 07.0 +9.5
comp=E,14nm,0.5s
MK31 Makanchi Array 7.16 26 ⇑Pn **Pn 04 57 34.7 +0.6**
comp=E,0.7nm,0.3s,baz=201,slow=14,SNR=29
MK31 ⇓Pg Pb 04 57 58.9 +5.2
comp=E,1.1nm,0.5s,baz=210,slow=15,SNR=4.2
MK31 ⇑Lg Lg 04 59 32.1
comp=E,5.5nm,0.6s,baz=210,slow=28,SNR=4.0
MKAR Makanchi Array 7.16 26 Pn **Pn 04 57 34.1 +0.1**
comp=E,0.8nm,0.3s,baz=202,slow=16,SNR=27
MKAR Sn **Sn 04 58 57.1 +1.6**
comp=E,0.6nm,0.3s,baz=217,slow=7.6,SNR=4.0
MKAR Lg Lg 04 59 34.4
comp=E,1.2nm,0.3s,baz=211,slow=28,SNR=6.3
comp=E,0.9nm,0.3s
WMQ Urumqi 8.16 62 P **Pn 04 57 51.6 +3.8**
OTUK Ortayu 8.68 336 Pg Pg 04 58 27.0 -8.2
comp=E,0.9nm,0.7s
OTUK Ortayu 8.68 336 ⇑Lg Lg 05 00 18.8
comp=E,29nm,0.7s
KURBB Kurchatov Arra 10.19 3 Pn **Pn 04 58 15.1 -0.3**
comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=5.4
KURBB Sn **Sn 05 00 11.4 +1.8**
comp=E,0.1nm,0.3s,baz=195,slow=26,SNR=4.2
KURBB Lg Lg 05 01 09.1
comp=E,0.2nm,0.3s,baz=190,slow=32,SNR=7.7
comp=E,0.4nm,0.2s
KURK Kurchatov 10.28 3 ⇓Lg Lg 05 01 11.3
comp=E,26nm,0.8s
BVAR Borovoye Array 13.52 341 Pn **Pn 04 58 59.0 -2.0**
baz=134,slow=10,SNR=2.4
BVAR Lg Lg 05 02 55.4
baz=157,slow=27,SNR=5.6
comp=E,0.5nm,0.4s
ZALV Zalesovo Beam 14.33 17 Pn **Pn 04 59 11.6 -0.4**
comp=E,0.5nm,0.3s,baz=213,slow=12,SNR=7.5
ZALV Lg Lg 05 03 25.2
comp=E,0.1nm,0.3s,baz=201,slow=20,SNR=2.5
comp=E,0.3nm,0.3s
AKTO Aktyubinsk 16.98 313 Pn **Pn 04 59 44.0 -2.8**
comp=E,0.1nm,0.3s,baz=107,slow=11,SNR=2.1
comp=E,0.6nm,0.4s
SONM Songino Array 21.80 61 P **P 05 00 41.3 -0.1**
comp=E,0.3nm,0.7s,baz=277,slow=9.8,SNR=6.2
comp=E,0.3nm,0.7s
BRTR Keskin Array B 33.44 283 P **P 05 02 26.2 -2.3**
comp=E,0.5nm,0.5s,baz=194,slow=32,SNR=3.8
comp=E,0.5nm,0.5s
CN2 Changchun 35.20 68 *e*P **P 05 02 45.1 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
FINES FINESS Array B 37.39 322 P **P 05 03 00.3 -1.5**
comp=Z,1.5nm,0.8s,baz=111,slow=9.0,SNR=5.5
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 39.68 334 P **P 05 03 20.4 -0.7**
comp=Z,3.1nm,0.9s,baz=97,slow=7.5,SNR=8.8
comp=Z,3.1nm,0.9s
HFS Hagfors 43.36 319 P **P 05 03 49.9 -1.4**
comp=Z,3.9nm,1.1s,baz=83,slow=12,SNR=0.7
comp=Z,3.9nm,1.1s
NOA NORSAR Array B 44.53 320 P **P 05 03 58.4 -2.4**
comp=Z,0.6nm,0.8s,baz=86,slow=6.2,SNR=1.5
comp=Z,0.6nm,0.8s
GERES GERESS Array B 45.06 303 P **P 05 04 03.2 -2.0**
comp=Z,0.2nm,0.3s,baz=66,slow=9.8,SNR=1.5
comp=Z,0.2nm,0.3s
ILAR Eielson Array 69.45 19 P **P 05 06 55.5 -1.7**
comp=Z,0.3nm,0.8s,baz=321,slow=33,SNR=4.2
comp=Z,0.3nm,0.8s
KDAK Kodiak Island 73.47 25 P **P 05 07 20.5 -1.1**
comp=Z,0.7nm,0.5s,baz=119,slow=3.6,SNR=4.7
comp=Z,0.7nm,0.5s
YKA Yellowknife Ar 76.92 6 P **P 05 07 39.1 -2.2**
comp=Z,0.4nm,0.6s,baz=338,slow=5.8,SNR=4.9
comp=Z,0.4nm,0.6s
SADO Sadowa 92.64 344 LR LR 05 58 00.5
comp=Z,64nm,18.3s,baz=71,slow=40

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*IDC **03** 04:57:50.3±1.1, 52°.21N×171°.04W, h0km, mb3.8/14, mbtmp3.7/16, ML3.2/2, Error ellipse: s-maj=31.5km s-min=17.3km az=171.0*
*AEIC **03** 04:57:56.7±2.1, 52°.3N±0°.1×171°.32W±0°.10, h23km±7km, Error ellipse: s-maj=17.3km s-min=3.9km az=152.0*
*NEIC **03** 04:57:57.1±2.6, 52°.0N±0°.1×171°.24W±0°.06, h35km±2km, mb4.1/7, ML3.1(AEIC), Error ellipse: s-maj=26.0km s-min=3.1km az=166.0*
ISC 03 04:57:56.0±0.9, 52°.0N±0°.1×171°.20W±0°.06, h42km, n50, σ1§36/48, mb4.0/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.87**	**279**			**Pn**	**04 58 25.8**	**+0.4**
ATKA	**Atka Island**	**1.87**	**279**			**Sn**	**04 58 47.4**	**-0.3**
OKSP	**Okmok Steeple**	**2.20**	**52**			**Pn**	**04 58 31.3**	**+1.2**
OKWR	**Okmok West Rim**	**2.35**	**50**			**Pn**	**04 58 32.9**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**2.40**	**52**			**Pn**	**04 58 32.1**	**-0.7**
OKTU						**Sn**	**04 59 01.4**	**+0.4**
OKNC	**Okmok New Cone**	**2.40**	**50**			**Pn**	**04 58 33.2**	**+0.4**
OKNC						**Sn**	**04 59 02.2**	**+1.2**
OKFG	**Magazine Ridge**	**2.48**	**53**			**Pn**	**04 58 33.2**	**-0.6**
OKFG						**Sn**	**04 59 01.8**	**-1.1**
GSTR	**Great Sitkin T**	**3.01**	**275**			**Pn**	**04 58 42.2**	**+1.1**
GSCK	**Great Sitkin C**	**3.07**	**273**			**Pn**	**04 58 43.4**	**+1.5**
MGOD	**Makushin Gods**	**3.21**	**53**			**Pn**	**04 58 45.3**	**+1.4**
MGOD						**Sn**	**04 59 19.5**	**-1.3**
MSW	**Makushin Switc**	**3.32**	**52**			**Pn**	**04 58 45.8**	**+0.4**
ADAG	**Mount Adagdak**	**3.34**	**273**			**Pn**	**04 58 47.0**	**+1.3**
ADK	**Adak**	**3.40**	**271**	Pn		**Pn**	**04 58 47.7**	**+1.3**
UNV	**Unalaska Valle**	**3.42**	**54**			**Pn**	**04 58 46.5**	**-0.2**
KIWB	**Kanaga Island**	**3.69**	**271**			**Pn**	**04 58 52.5**	**+2.0**
ZRO	**Akutan Zero**	**3.81**	**54**			**Pn**	**04 58 53.9**	**+1.7**
O14K	**Tigyukauivet M**	**9.22**	**34**	Pn		**Pn**	**05 00 08.0**	**+1.8**
N15K	**Kwethluk River**	**10.30**	**33**	Pn		**Pn**	**05 00 23.2**	**+2.1**
N17K	**Nushagak Hills**	**11.58**	**37**	Pn		**Pn**	**05 00 39.9**	**+1.5**
KDAK	**Kodiak Island**	**12.19**	**54**	Pn		**Pn**	**05 00 44.1**	**-2.7**
	0.1nm,0.3s,baz=298,slow=1.9,SNR=8.6							
	0.5nm,0.5s							
I23K	**Minto, Yukon-K**	**17.32**	**32**			**P**	**05 01 55.6**	**+0.4**
ILAR	**Eielson Array**	**17.94**	**35**	P		**Pn**	**05 01 58.2**	**-3.7**
	0.1nm,0.3s,baz=221,slow=9.0,SNR=6.8							
	0.4nm,1.0s							
O29M	**Mount Kennedy**	**19.83**	**52**	P		**Pn**	**05 02 24.3**	**-0.5**
O29M				IAmb		IAmb	05 02 25.0	
	comp=Z,2.9nm,0.6s							
HYT	**Haines Junctio**	**20.44**	**51**	P		**P**	**05 02 30.7**	**+1.1**
HYT				IAmb		IAmb	05 02 42.8	
	comp=Z,7.2nm,1.4s							
YKA	**Yellowknife Ar**	**31.36**	**48**	P		**P**	**05 04 11.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=272,slow=8.3,SNR=2.9							
	comp=Z,0.1nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**36.44**	**216**	T		T	05 43 52.9	
	baz=22							
H11N3	**WAKE ISLAND Hy**	**36.44**	**216**	T		T	05 43 53.1	
	baz=22							
H11N1	**WAKE ISLAND Hy**	**36.45**	**216**	T		T	05 44 06.2	
	baz=22							
H11S1	**WAKE ISLAND Hy**	**37.63**	**216**	T		T	05 45 50.3	
	baz=22,slow=76,SNR=28							
H11S2	**WAKE ISLAND Hy**	**37.64**	**216**	T		T	05 45 51.4	
	baz=22,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**37.65**	**216**	T		T	05 45 51.0	
	baz=22,slow=76,SNR=16							
USRK	**Ussuriysk Ar.**	**37.87**	**281**	P		**P**	**05 05 09.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=83,slow=12,SNR=2.0							
	comp=Z,0.9nm,0.6s							
EUNU	**Eureka**	**38.44**	**16**	P		**P**	**05 05 13.2**	**+0.2**
EUNU				IAmb		IAmb	05 05 53.6	
	comp=Z,5.7nm,1.4s							
PDAR	**Pinedale Array**	**41.59**	**77**	P		**P**	**05 05 37.8**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.8,SNR=3.7							
	comp=Z,0.3nm,0.6s							
SONM	**Songino Array**	**50.54**	**300**	P		**P**	**05 06 50.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=5.3,SNR=2.0							
	comp=Z,0.2nm,0.3s							
TXAR	**Lajitas Array**	**53.89**	**87**	P		**P**	**05 07 15.2**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=280,slow=5.9,SNR=3.6							
	comp=Z,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**58.21**	**353**	P		**P**	**05 07 43.8**	**-1.4**
	comp=Z,3.4nm,0.8s,baz=18,slow=6.5,SNR=1.7							
	comp=Z,3.4nm,0.8s							
KURBB	**Kurchatov Arra**	**62.04**	**317**	P		**P**	**05 08 11.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=39,slow=8.4,SNR=1.9							
	comp=Z,0.4nm,0.3s							
MKAR	**Makanchi Array**	**63.27**	**312**	P		**P**	**05 08 18.5**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=39,slow=7.4,SNR=2.4							
	comp=Z,0.1nm,0.4s							
BVAR	**Borovoye Array**	**63.38**	**324**	P		**P**	**05 08 20.0**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=41,slow=13,SNR=3.8							
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**66.12**	**351**	P		**P**	**05 08 36.9**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=0.8,slow=10,SNR=3.4							
	comp=Z,2.5nm,0.9s							
NC602	**NORSAR Array S**	**67.64**	**359**	P		**P**	**05 08 50.9**	**+2.9**
HFS	**Hagfors**	**68.20**	**357**	P		**P**	**05 08 50.4**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=18,slow=5.2,SNR=2.4							
	comp=Z,3.2nm,0.9s							
AKTO	**Aktyubinsk**	**69.80**	**329**	P		**P**	**05 09 00.6**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=50,slow=7.9,SNR=7.3							
	comp=Z,1.6nm,0.5s							
ABKAR	**Akbulak array**	**70.19**	**327**	P		**P**	**05 09 03.4**	**-0.6**
ABKAR				IAmb		IAmb	05 09 25.1	
	comp=Z,3.2nm,1.5s							
ABKAR	**Akbulak array**	**70.19**	**327**	P		**P**	**05 09 03.3**	**-0.6**
GAR	**Garm**	**74.80**	**315**	P		**P**	**05 09 31.6**	**-0.1**
GAR				IAmb		IAmb	05 09 32.0	
	comp=Z,4.1nm,1.0s							
CMAR	**Chiang Mai Arr**	**75.60**	**281**	P		**P**	**05 09 37.6**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=25,slow=6.8,SNR=6.2							
	comp=Z,1.1nm,0.6s							
ASAR	**Alice Springs**	**89.27**	**229**	P		**P**	**05 10 48.2**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=23,slow=5.1,SNR=6.9							
	comp=Z,0.4nm,0.5s							
BOSA	**Boshof**	**153.65**	**326**	PKPbc		**PKiKP**	**05 17 51.2**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=28,slow=2.1,SNR=3.5							

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*IDC **03** 05:03:35.6±2.0, 28°.23S×177°.15W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=60.1km s-min=23.6km az=117.0*
ISC 03 05:03:39.6±2.3, 28°.3S±0°.3×177°.0W±0°.5, h35km, n6, σ0§54/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**221**	Pn		**Pn**	**05 04 00.6**	**-0.1**
	204nm,0.3s,baz=28,slow=17,SNR=11							
RAO				Sn		**Sn**	**05 04 16.4**	**0.0**
	280nm,0.3s,baz=88,slow=23,SNR=6.0							
ASAR	**Alice Springs**	**44.16**	**264**	P		**P**	**05 11 45.1**	**-0.1**
	0.6nm,0.6s,baz=97,slow=6.8,SNR=7.7							
	0.6nm,0.6s							
WRA	**Warramunga Arr**	**44.96**	**270**	P		**P**	**05 11 51.7**	**+0.1**
	0.4nm,0.3s,baz=108,slow=7.8,SNR=5.4							
	0.4nm,0.3s							
HFS	**Hagfors**	**147.35**	**350**	PKPbc		**PKPab**	**05 23 20.4**	**-0.4**
	1.5nm,0.8s,baz=42,slow=2.3,SNR=1.3							
AKASG	**Malin Array Be**	**150.12**	**326**	PKPbc		**PKPbc**	**05 23 25.9**	**-0.4**
	0.2nm,0.3s,baz=56,slow=1.8,SNR=2.9							
BRTR	**Keskin Array B**	**152.31**	**302**	PKPbc		**PKiKP**	**05 23 33.2**	**+0.9**
	0.6nm,0.7s,baz=100,slow=1.9,SNR=3.0							

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*IDC **03** 05:15:17.4±2.3, 50°.19N×129°.16W, h0km, mb3.8/1, mbtmp3.1/7, ML3.1/6, MS3.2/2, Error ellipse: s-maj=36.8km s-min=14.6km az=73.0*
ISC 03 05:15:20.6±1.6, 50°.42N±0°.09×128°.9W±0°.2, h10km, n12, σ1§42/8, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.84**	**16**	Pn		**Pn**	**05 15 51.6**	**-0.6**
	5.1nm,0.3s,baz=234,slow=6.3,SNR=39							
BBB				Sn		**Sb**	**05 16 18.7**	**+1.3**
	9.5nm,0.3s,baz=140,slow=22,SNR=8.1							
	20nm,0.4s							
NEW	**Newport**	**8.02**	**101**	LR		LR	05 19 43.5	
	comp=Z,75nm,18.3s,baz=263,slow=33							
DLBC	**Dease Lake**	**8.06**	**356**	Pn		**Pn**	**05 17 18.7**	**+1.1**
	0.1nm,0.3s,baz=180,slow=15,SNR=4.8							
	0.8nm,0.6s							
NVAR	**Mina Array Bea**	**14.17**	**144**	Pn		**Pn**	**05 18 41.8**	**+0.3**
	0.1nm,0.3s,baz=333,slow=14,SNR=3.0							
	0.3nm,0.7s							
YKA	**Yellowknife Ar**	**14.41**	**28**	Pn		**Pn**	**05 18 43.8**	**-0.6**
	0.1nm,0.3s,baz=221,slow=12,SNR=10.0							
	0.2nm,0.7s							
PDAR	**Pinedale Array**	**15.34**	**112**	Pn		**Pn**	**05 18 56.5**	**-0.7**
	baz=306,slow=15,SNR=1.3							
	0.2nm,0.8s							
ILAR	**Eielson Array**	**17.20**	**333**	P		**P**	**05 19 20.7**	**-1.5**
	baz=145,slow=11,SNR=1.9							
	0.2nm,1.0s							
ULM	**Lac du Bonnet**	**21.02**	**78**	P		**P**	**05 20 06.0**	**+1.9**
	4.3nm,0.8s,baz=285,slow=10,SNR=10							
	4.3nm,0.8s							
TKL	**Tuckaleechee C**	**35.57**	**97**	LR		LR	05 37 53.2	
	comp=Z,66nm,18.9s,baz=64,slow=38							
H11N2	**WAKE ISLAND Hy**	**58.63**	**263**	T		T	06 27 44.5	
	baz=42,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**58.63**	**263**	T		T	06 27 48.2	
	baz=42,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**58.65**	**263**	T		T	06 27 49.3	
	baz=42,slow=76,SNR=9.2							

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*IDC **03** 05:38:35.6±1.4, 0°.88S×127°.62E, h0km, mb3.6/5, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=110.0km s-min=19.6km az=68.0*
*DJA **03** 05:38:39.7±0.7, 1°.5±6°.5×12°.7E±°, h10km, M3.9/6, mB4.8/1, mb4.4/2, MLv3.7/6, Mw(mB)4.1/1*
ISC 03 05:38:40.8±1.2, 1°.0S±0°.1×127°.43E±0°.10, h31km, n11, σ1§08/13, mb3.7/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.26**	**188**	P		**Pn**	**05 39 16.5**	**+0.4**
NLAI				S		**Sn**	**05 39 44.0**	**+1.1**
MSAI	**Masohi**	**2.78**	**147**	P		**Pn**	**05 39 24.8**	**+1.5**
MSAI				S		**Sb**	**05 40 02.1**	**-1.5**
AAI	**Ambon**	**2.79**	**164**	P		**Pn**	**05 39 24.8**	**+1.4**
FAKI	**Fak Fak**	**5.19**	**112**	P		**Pn**	**05 39 57.1**	**+0.7**
	0.1nm30nm,1.0s							
APSI	**Ampana**	**5.78**	**271**	P		**Pn**	**05 40 05.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.09**	**186**	P		**Pn**	**05 42 37.1**	**-0.5**
	baz=5.7,slow=10,SNR=2.7							
	2.4nm,1.0s							
WRA	**Warramunga Arr**	**20.02**	**161**	P		**P**	**05 43 09.8**	**-1.4**
	1.0nm,0.7s,baz=341,slow=12,SNR=10							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**23.40**	**165**	P		**P**	**05 43 47.0**	**-0.3**
	2.1nm,0.8s,baz=345,slow=10,SNR=21							
	2.1nm,0.8s							
STKA	**Stephens Creek**	**33.51**	**158**	P		**P**	**05 45 18.0**	**+0.3**
	1.8nm,0.8s,baz=311,slow=11,SNR=3.5							
	1.8nm,0.8s							
MKAR	**Makanchi Array**	**61.82**	**326**	P		**P**	**05 48 56.8**	**-0.2**
	0.4nm,0.8s,baz=119,slow=7.6,SNR=5.1							
	0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**66.08**	**328**	P		**P**	**05 49 24.3**	**-0.5**
	0.2nm,0.3s,baz=136,slow=5.3,SNR=6.2							
	0.2nm,0.3s							

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*MEX **03** 05:52:37.1±1.0, 14°.14N×93°.11W, h20km±68km, MD4.1*
*GCG **03** 05:52:40.6±1.0, 14°.49N×92°.67W, h0km±35km, MD4.2*
ISC 03 05:52:34.1±2.1, 14°.25N±0°.09×92°.99W±0°.06, h13km±12km, n14, σ1§33/27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**0.96**	**47**	*e*P		**Pn**	**05 52 54.3**	**+0.9**
THIG				*e*S		**Sn**	**05 53 07.1**	**+0.1**
PATR	**El Naranjo**	**1.13**	**40**	*e*P		**Pn**	**05 52 56.1**	**+0.2**
PATR				*i*S		**Sg**	**05 53 10.2**	**-0.7**
PAVE	**Pavencul**	**1.23**	**40**	*e*P		**Pg**	**05 52 57.7**	**-0.1**
PAVE				*e*S		**Sb**	**05 53 12.4**	**-0.8**
RTAL	**Retalhuleu**	**1.29**	**78**	*e*P		**Pg**	**05 52 59.4**	**+0.4**
RTAL				*e*S		**Sg**	**05 53 15.5**	**-0.2**
STG0	**El Palmar, Qui**	**1.61**	**83**	*e*P			05 53 01.3	
STG0				*e*S			05 53 18.0	
HUEH	**Huehuetenango**	**1.79**	**53**	*e*P		**Pb**	**05 53 07.4**	**+0.4**
HUEH				*e*S		**Sg**	**05 53 31.2**	**-0.7**
CARR	**Arriaga**	**2.18**	**336**	*e*P		**Pn**	**05 53 11.9**	**+1.8**
CARR				*e*S		**Sn**	**05 53 36.2**	**-0.8**
CCIG	**Comitan**	**2.18**	**22**	*e*P		**Pb**	**05 53 13.8**	**+0.2**
CCIG				*e*S		**Sb**	**05 53 39.3**	**-1.4**
CCIG	**Comitan**	**2.18**	**22**	*e*P		**Pb**	**05 53 14.5**	**+0.8**
CCIG				*e*S		**Sb**	**05 53 39.3**	**-1.4**
CCIG	**Comitan**	**2.18**	**22**	*e*P			05 53 14.5	
CCIG				*e*S			05 53 39.3	
TGIG		**2.52**	**357**	*e*P		**Pn**	**05 53 17.0**	**+2.1**
TGIG				*e*S		**Sn**	**05 53 46.2**	**+0.7**
APG	**El Apazote**	**2.56**	**73**	*e*P		**Pb**	**05 53 19.2**	**-0.9**
APG				*e*S		**Sb**	**05 53 51.6**	**0.0**
APG	**El Apazote**	**2.56**	**73**	*e*P			05 53 19.2	
APG				*e*S			05 53 51.6	
NILT	**Santiago Nilte**	**2.79**	**326**	*e*P		**Pn**	**05 53 20.0**	**+1.5**
NILT				*e*S		**Sn**	**05 53 50.9**	**-1.1**
UXUV	**UXUV**	**3.25**	**340**	*e*P		**Pn**	**05 53 27.3**	**+2.4**
UXUV				*e*S		**Sn**	**05 54 05.7**	**+2.2**
CMIG	**Matias Romero**	**3.36**	**327**	*e*P		Pn	05 53 17.5	-9.0
CMIG				*e*S		**Sn**	**05 54 05.2**	**-1.1**
NEUV	**Arroyo Zacate**	**4.38**	**322**	*e*P		**Pn**	**05 53 39.5**	**-0.9**
NEUV				*e*S		**Sn**	**05 54 28.6**	**-2.7**

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*IDC **03** 06:01:41.4±1.0, 18°.01S×178°.03W, h627km±10km, mb3.3/15, mbtmp4.3/16, Error ellipse: s-maj=16.9km s-min=13.5km az=154.0*
*NEIC **03** 06:01:41.4±0.9, 18°.05±0°.1×178°.00W±0°.10, h623km±7km, mb4.2/50, Error ellipse: s-maj=21.4km s-min=11.9km az=160.0*
ISC 03 06:01:41.1±0.4, 18°.0S±0°.1×178°.00W±0°.07, h623km, n93, σ0§80/85, mb4.2/41, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.68**	**358**	P		**P**	**06 03 05.2**	**-1.2**
MSVF	**Nonsavu**	**3.77**	**273**	P		**P**	**06 03 07.0**	**+0.1**
MSVF	**Nonsavu**	**3.77**	**273**	P		**P**	**06 03 06.7**	**-0.2**
	356nm,0.7s,baz=138,slow=3.9,SNR=272							
MSVF				S		**S**	**06 04 18.1**	**+1.3**
	34nm,1.1s,baz=126,slow=21,SNR=7.2							
NIUE	**Niue**	**7.73**	**99**	P		**P**	**06 03 38.7**	**-0.1**
PPT	**Papeete**	**27.06**	**94**	P		**P**	**06 06 36.4**	**-0.1**
	14nm,0.7s,baz=75,slow=5.3,SNR=5.0							
	14nm,0.7s							
PPTF	**Pamatai, Papee**	**27.07**	**94**	P		**P**	**06 06 36.5**	**-0.1**
EIDS	**Eidsvold**	**29.60**	**250**	P		**P**	**06 06 57.8**	**-0.5**
EIDS				IAmb		IAmb	06 07 25.6	
	comp=Z,8.5nm,1.1s							
CAN	**Canberra**	**33.95**	**233**	P		**P**	**06 07 35.3**	**+0.3**
COEN	**Coen**	**37.49**	**270**	P		**P**	**06 08 05.3**	**+0.9**
TAOE	**Nuku Hiva Isla**	**37.86**	**81**	P		**P**	**06 08 07.0**	**-0.4**
STKA	**Stephens Creek**	**38.92**	**241**	P		**P**	**06 08 16.4**	**+0.8**
STKA	**Stephens Creek**	**38.92**	**241**	P		**P**	**06 08 15.8**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=64,slow=9.9,SNR=5.0							
	comp=Z,2.8nm,0.7s							
BBOO	**Buckleboo**	**43.70**	**241**	P		**P**	**06 08 52.7**	**-0.5**
WB0	**Warramunga Arr**	**44.96**	**260**	P		**P**	**06 09 02.7**	**-0.3**
WB0				IAmb		IAmb	06 09 28.6	
	comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**44.98**	**260**	P		**P**	**06 09 02.3**	**-0.9**
WB2				IAmb		IAmb	06 09 02.9	
	comp=Z,3.8nm,0.6s							
WRA	**Warramunga Arr**	**45.00**	**260**	P		**P**	**06 09 02.5**	**-0.7**
WRA	**Warramunga Arr**	**45.00**	**260**	P		**P**	**06 09 02.6**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=95,slow=7.0,SNR=35							
WRA				PcP		**PcP**	**06 10 30.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=91,slow=3.8,SNR=4.8							
	comp=Z,2.4nm,0.4s							
AS31	**Alice Springs**	**45.14**	**254**	P		**P**	**06 09 03.1**	**-1.2**
ASAR	**Alice Springs**	**45.14**	**254**	P		**P**	**06 09 03.3**	**-1.0**
ASAR	**Alice Springs**	**45.14**	**254**	P		**P**	**06 09 04.0**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=85,slow=8.5,SNR=58							
ASAR				PcP		**PcP**	**06 10 31.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=100,slow=3.9,SNR=5.9							
	comp=Z,6.2nm,0.6s							
MTN	**Manton Dam**	**49.18**	**268**	P		**P**	**06 09 33.7**	**-0.9**
MTN				IAmb		IAmb	06 09 34.4	
	comp=Z,7.0nm,0.7s							
FORT	**Forrest**	**50.32**	**245**	P		**P**	**06 09 41.9**	**-0.7**
KNRA	**Kununurra**	**50.87**	**264**	P		**P**	**06 09 46.3**	**-0.4**
KNRA				IAmb		IAmb	06 09 53.0	
	comp=Z,16nm,1.5s							
FITZ	**Fitzroy Crossi**	**53.40**	**261**	P		**P**	**06 10 04.8**	**0.0**
SOEI	**Soe**	**56.46**	**270**	P		**P**	**06 10 26.3**	**0.0**
SOEI				IAmb		IAmb	06 10 28.3	
	comp=Z,19nm,0.9s							
MBWA	**Marble Bar**	**58.43**	**256**	P		**P**	**06 10 38.9**	**-0.4**
MJAR	**Matsushiro Art**	**68.21**	**323**	P		**P**	**06 11 40.8**	**-0.4**
	comp=Z,3.6nm,0.5s,baz=156,slow=5.7,SNR=11							
	comp=Z,3.6nm,0.5s							
UGM	**Wanagama**	**70.03**	**268**	P		**P**	**06 11 52.4**	**-0.1**
QSPA	**South Pole Qui**	**72.05**	**180**	P		**P**	**06 12 04.0**	**+0.5**
QSPA	**South Pole Qui**	**72.05**	**180**	P		**P**	**06 12 03.5**	**0.0**
	comp=Z,2.4nm,0.6s,baz=306,slow=0.8,SNR=25							
	comp=Z,2.4nm,0.6s							
SSLB	**Suanglung**	**72.61**	**303**	P		**P**	**06 12 06.9**	**-0.4**
SSLB				IAmb		IAmb	06 12 29.0	
	comp=Z,11nm,1.0s							
PEA0B	**Petropavlovsk-**	**73.87**	**345**	P		**P**	**06 12 14.1**	**+0.3**
PETK	**Petropavlovsk-**	**73.87**	**345**	P		**P**	**06 12 13.8**	**0.0**
PETK	**Petropavlovsk-**	**73.87**	**345**	P		**P**	**06 12 13.7**	**-0

comp=Z,1.4nm,0.3s
G31M Satah River 90.64 16 IAmb IAmb 06 13 56.2
comp=Z,5.3nm,1.4s
SONM Songino Array 93.88 319 P **P 06 13 52.6 -0.9**
comp=Z,0.2nm,0.4s,baz=122,slow=1.9,SNR=2.1
comp=Z,0.2nm,0.4s
YKA Yellowknife Ar 94.25 25 P **P 06 13 54.2 -0.6**
comp=Z,0.2nm,0.7s,baz=237,slow=4.6,SNR=2.5
comp=Z,0.2nm,0.7s
MKAR Makanchi Array 109.48 314 PKiKP **PKiKP 06 19 00.7 -1.4**
comp=Z,0.1nm,0.4s,baz=179,slow=1.0,SNR=4.8
KURBB Kurchatov Arra 112.21 318 PKiKP **PKiKP 06 19 05.6 -1.5**
comp=Z,0.2nm,0.3s,baz=90,slow=1.7,SNR=4.1
BVAR Borovoye Array 117.16 321 PKP **PKPdf 06 19 15.7 -0.9**
comp=Z,0.5nm,0.3s,baz=45,slow=2.2,SNR=3.0
ARCES ARCESS Array B 126.48 350 PKP **PKPdf 06 19 32.5 -1.5**
comp=Z,2.6nm,0.8s,baz=343,slow=2.8,SNR=1.8
FINES FINESS Array B 133.38 344 PKP **PKPdf 06 19 46.0 -1.2**
comp=Z,2.1nm,0.8s,baz=85,slow=6.1,SNR=4.8
BRTR Keskin Array B 145.12 315 PKPbc **PKPbc 06 20 10.3 -0.2**
comp=Z,2.1nm,0.6s,baz=122,slow=4.1,SNR=9.7
OSTC Ostas 145.59 344 *e*PKP **PKPab 06 20 12.5 -0.6**
STEB Steborice 145.71 342 *e*PKP **PKPbc 06 20 12.1 +0.4**
DPC Dobruska-Polom 145.75 344 *e*PKP **PKPbc 06 20 12.6 +0.8**
KRLC Kraliky 145.87 343 *e*PKP **PKPbc 06 20 12.7 +0.5**
PVCC Panska Ves 146.03 346 *e*PKP **PKPbc 06 20 13.2 +0.7**
MMAI Mount Meron Ar 146.52 303 PKPbc **PKPbc 06 20 15.2 +0.6**
comp=Z,2.6nm,0.5s,baz=72,slow=6.2,SNR=4.6
KHC Kasperske Hory 147.56 346 *e*PKP **PKPbc 06 20 17.3 +0.6**
GERES GERESS Array B 147.80 345 PKPbc **PKPbc 06 20 16.9 -0.4**
comp=Z,2.0nm,0.7s,baz=358,slow=4.0,SNR=5.4
CONA Conrad Observa 148.07 342 *e*PKP **PKPbc 06 20 18.7 +0.7**
comp=Z,2.6nm,0.7s
RONA Rosalia, Austr 148.15 342 *e*PKP **PKPbc 06 20 18.3 +0.1**
comp=Z,2.4nm,0.7s
MOA Molln 148.58 344 *e*PKP **PKiKP 06 20 21.2 +1.0**
comp=Z,0.4nm,0.2s
BIOA Bad Ischl, Aus 148.89 345 *e*PKP **PKPdf 06 20 17.5 +2.3**
comp=Z,1.1nm,0.3s
LESA Schwarzleotal 149.37 346 *e*PKP **PKPbc 06 20 21.6 +0.4**
comp=Z,1.0nm,0.3s
KBA Koelnbreinsper 149.53 345 *e*PKP **PKPdf 06 20 19.1 +2.7**
comp=Z,1.2nm,0.4s
WATA Walderalm 149.71 347 *i* PKP **PKPbc 06 20 22.0 -0.1**
comp=Z,1.5nm,0.5s
WTTA Wattenberg 149.76 347 *e*PKP **PKPbc 06 20 22.3 0.0**
comp=Z,4.5nm,0.5s
MOTA Moosalm 149.79 348 *i* PKP **PKPbc 06 20 22.2 -0.1**
comp=Z,0.3nm,0.2s
SQTA Sankt Quirin 149.89 347 *e*PKP **PKPbc 06 20 22.6 +0.1**
comp=Z,2.4nm,0.6s
ABTA Abfaltersbach 150.05 345 *e*PKP **PKPbc 06 20 22.4 -0.5**
comp=Z,3.5nm,0.6s
FETA Feichten 150.18 348 *i* PKP **PKPbc 06 20 23.6 +0.4**
comp=Z,1.1nm,0.6s

*TRN **03** 06:18:22.1, 18˚.07N×63˚.22W, h86km, MD4.1, West of St. Maarten.*
*NEIC **03** 06:18:24.1±1.1, 18˚.0N±0˚.1×63˚.22W±0˚.07, h85km±8km, ML3.8/26, Error ellipse: s-maj=18.9km s-min=8.4km az=197.0*
ISC 03 06:18:24.1±1.6, 18˚.01N±0˚.09×63˚.21W±0˚.07, h88km±9km, n26, σ0°66/37, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.14**	**72**		**Pn**	**06 18 37.3**	**+0.6**
SMRT				Sn	**Sn**	**06 18 46.5**	**+0.5**
SABA	**Saba**	**0.39**	**184**		**Pn**	**06 18 38.0**	**+0.2**
SABA				Sn	**Sn**	**06 18 47.7**	**-0.3**
SABA				IAML		06 18 50.7	
	comp=N,2μm,0.3s						
SABA				IAML		06 18 53.8	
	comp=E,3μm,0.4s						
SEUS	**St. Eustatius**	**0.56**	**157**		**Pn**	**06 18 39.0**	**-0.1**
SEUS				Sn	**Sn**	**06 18 49.8**	**-0.5**
SEUS				IAML		06 18 50.2	
	comp=E,3μm,0.4s						
SEUS				IAML		06 18 50.2	
	comp=N,3μm,0.5s						
SKI	**Saint Kitts**	**0.81**	**146**	*e*P	**Pn**	**06 18 41.9**	**+0.3**
SKI				*e*S	**Sn**	**06 18 54.7**	**+0.1**
SKOC	**St. Kitts, UWI**	**0.84**	**147**	*e*P	**Pn**	**06 18 42.0**	**+0.1**
SKOC				*e*S	**Sn**	**06 18 55.5**	**+0.2**
ANWB	**Willy Bob**	**1.40**	**104**		**Pn**	**06 18 48.3**	**-0.1**
ANWB	**Willy Bob**	**1.40**	**104**	*e*P	**Pn**	**06 18 48.7**	**+0.3**
ANWB				*e*S	**Sn**	**06 19 07.3**	**+0.4**
MBFL	**Flemmings, Mon**	**1.57**	**143**	*e*P	**Pn**	**06 18 51.0**	**+0.2**
MBFL				*e*S	**Sn**	**06 19 12.2**	**+1.4**
ANBD	**Bethesda, Anti**	**1.68**	**124**	*e*P	**Pn**	**06 18 51.9**	**-0.1**
ANBD				*e*S	**Sn**	**06 19 12.4**	**-0.8**
GDHS	**Morne Mazeau,**	**2.21**	**141**		**Pn**	**06 18 58.4**	**-0.7**
ABD	**La Joyeuse, An**	**2.24**	**133**	Pn	**Pn**	**06 18 58.9**	**-0.6**
ABD				IAML		06 19 26.2	
	comp=N,574nm,0.7s						
ABD				IAML		06 19 26.4	
	comp=E,490nm,0.5s						
CBE	**Ff, Capester**	**2.46**	**141**		**Pn**	**06 19 02.5**	**0.0**
TBG	**Guadaloupe-3**	**2.62**	**145**	*e*P	**Pn**	**06 19 04.3**	**-0.1**
TBG				*e*S	**Sn**	**06 19 35.4**	**+0.1**
TDBA	**Terre de Bas,**	**2.62**	**145**		**Pn**	**06 19 04.1**	**-0.4**
TDBA				IAML		06 19 37.9	
	comp=E,259nm,0.7s						
TDBA				IAML		06 19 39.0	
	comp=N,365nm,0.6s						
GDSD	**La Dsirade Is**	**2.65**	**129**	Pn	**Pn**	**06 19 03.0**	**-2.0**
MAGL	**Barre de l'ile**	**2.76**	**138**	Pn	**Pn**	**06 19 05.9**	**-0.4**
MAGL				IAML		06 19 40.4	
	comp=N,354nm,1.5s						
MAGL				IAML		06 19 46.1	
	comp=E,308nm,0.4s						
SJG	**San Juan**	**2.80**	**273**		**Pn**	**06 19 07.0**	**+0.2**
DSLB	**Salisbury**	**3.08**	**146**	*e*P	**Pn**	**06 19 10.6**	**-0.1**
DSLB				*e*S	**Sn**	**06 19 48.0**	**+1.5**
MDN	**Morne-Daniel**	**3.19**	**147**	*e*P	**Pn**	**06 19 11.9**	**-0.2**
BIM	**Bigot**	**4.03**	**149**	Pn	**Pn**	**06 19 22.7**	**-0.9**
BIM				IAML		06 20 12.7	
	comp=E,125nm,1.7s						
BIM				IAML		06 21 31.5	
	comp=N,109nm,1.6s						
BIM	**Bigot**	**4.03**	**149**	*e*P	**Pn**	**06 19 23.3**	**-0.3**
MPOM	**Morne Pois Mar**	**4.20**	**147**	Pn	**Pn**	**06 19 25.9**	**0.0**
MPOM				IAML		06 20 26.4	
	comp=E,72nm,3.0s						
MPOM				IAML		06 22 04.0	
	comp=N,78nm,1.9s						
SLBI	**Saint Lucia, B**	**4.51**	**151**	*e*P	**Pn**	**06 19 29.5**	**-0.5**
SLBI				*e*S	**Sn**	**06 20 21.0**	**-0.2**
DR12	**Loma Pena Alta**	**5.91**	**279**	Pn	**Pn**	**06 19 49.5**	**+0.4**
SC01	**Santiago de lo**	**7.26**	**282**	Pn	**Pn**	**06 20 06.5**	**-1.0**
SDDR	**Presa de Saban**	**7.72**	**278**	Pn	**Pn**	**06 20 13.4**	**-0.5**

*IDC **03** 06:33:17.8±0.7, 28˚.74N×67˚.35E, h0km, mb4.1/23, mbtmp4.1/25, ML3.9/2, MS3.8/43, Error ellipse: s-maj=16.8km s-min=13.9km az=12.0*
*MOS **03** 06:33:18.9±1.2, 28˚.90N×67˚.36E, h17km, mb4.7/30, Error ellipse: s-maj=7.8km s-min=4.2km az=79.7*
*NEIC **03** 06:33:21.7±1.1, 28˚.84N±0˚.09×67˚.39E±0˚.05, h17km±4km, mb4.5/53, Error ellipse: s-maj=13.0km s-min=6.2km az=165.0*
ISC 03 06:33:19.7±0.4, 28˚.81N±0˚.05×67˚.39E±0˚.04, h10km, n225, σ1°60/217, mb4.5/80, MS3.8/45, 12C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**3.63**	**120**	*e*P	**Pn**	**06 34 16.3**	**+0.3**
JASL				*e*S	**Sn**	**06 34 58.3**	**-0.6**
JASL				IAML		06 35 05.9	
	comp=E,405nm,0.6s						
JASL				IAML		06 35 08.1	
	comp=N,427nm,0.4s						
BKNR	**BIKANER**	**5.25**	**97**	*e*S	**Sn**	**06 35 37.6**	**-1.2**
SRGN	**SRI GANGA NAGA**	**5.78**	**77**	*e*P	Pn	06 34 33.4	-12
KBL	**Kabul**	**5.89**	**13**	Pn	**Pn**	**06 34 47.2**	**0.0**
KBL	**Kabul**	**5.89**	**13**	P	**Pn**	**06 34 47.2**	**0.0**
BHUJ	**Bhuj**	**5.89**	**159**	*e*P	**Pn**	**06 34 46.7**	**-0.4**
BHUJ				*e*S	**Sn**	**06 35 53.7**	**-1.0**
AJM	**Ajmer**	**6.84**	**108**	*e*P	**Pn**	**06 35 01.1**	**+1.0**
AJM				*e*S	**Sn**	**06 36 17.4**	**-0.7**
AJM				IAML		06 36 20.9	
	comp=E,62nm,0.7s						
AJM				IAML		06 36 24.1	
	comp=N,81nm,0.6s						
NIL	**Nilore**	**6.96**	**45**		**Pn**	**06 35 02.8**	**+1.0**
NIL	**Nilore**	**6.96**	**45**	P	**Pn**	**06 35 02.8**	**+1.0**
HRA	**Herat**	**7.08**	**323**	Pn	**Pn**	**06 35 03.9**	**+0.3**
JMU	**Jammu**	**7.54**	**57**	*e*P	**Pn**	**06 35 10.2**	**+0.5**
JMU				*e*S	**Sn**	**06 36 34.9**	**-0.5**
JMU				IAML		06 36 38.0	
	comp=E,372nm,0.8s						
JMU				IAML		06 36 46.7	
	comp=E,215nm,0.7s						
THN	**Thein Dam**	**8.03**	**61**	*e*P	**Pn**	**06 35 18.5**	**+2.1**
THN				*e*S	**Sn**	**06 36 47.0**	**-0.3**
THN				IAML		06 36 55.0	
	comp=E,145nm,0.9s						
THN				IAML		06 37 00.8	
	comp=E,118nm,0.5s						
KUDL	**Kundal**	**8.04**	**93**	*e*P	**Pn**	**06 35 16.6**	**+0.1**
KUDL				*e*S	**Sn**	**06 36 43.7**	**-3.8**
KUDL				IAML		06 37 02.9	
	comp=E,45nm,0.7s						
KUDL				IAML		06 37 09.6	
	comp=E,56nm,1.0s						
BHK	**Bhakra**	**8.24**	**69**	*e*P	**Pn**	**06 35 18.6**	**-0.7**
BHK				*e*S	**Sn**	**06 36 48.3**	**-4.2**
BHK				IAML		06 37 01.1	
	comp=E,153nm,0.5s						
BHK				IAML		06 37 09.4	
	comp=E,152nm,0.4s						
DHRM	**DHARAMSHALA**	**8.41**	**64**	*e*P	**Pn**	**06 35 22.7**	**+0.8**
DHRM				*e*S	**Sn**	**06 36 52.5**	**-4.7**
DHRM				IAML		06 37 06.2	
	comp=E,545nm,0.7s						
DHRM				IAML		06 37 08.1	
	comp=E,416nm,0.8s						
GNR	**GANAUR**	**8.44**	**85**	*e*P	**Pn**	**06 35 21.4**	**-0.7**
SONA	**Sohna**	**8.55**	**91**	*e*P	**Pn**	**06 35 25.2**	**+1.7**
SONA				*e*S	**Sn**	**06 36 57.0**	**-3.0**
SONA				IAML		06 37 05.3	
	comp=E,92nm,0.6s						
SONA				IAML		06 37 12.9	
	comp=E,62nm,0.7s						
NPLP	**NPLP New Delhi**	**8.59**	**89**	*e*P	**Pn**	**06 35 24.1**	**0.0**
NPLP				*e*S	**Sn**	**06 36 56.0**	**-5.1**
NDI	**New Delhi**	**8.63**	**88**	*e*P	**Pn**	**06 35 24.4**	**-0.3**
NDI				*e*S	**Sn**	**06 37 00.7**	**-1.4**
NDI				IAML		06 37 05.1	
	comp=E,41nm,0.4s						
NDI				IAML		06 37 10.3	
	comp=E,52nm,0.4s						
JMIU	**JAMIA UNIVERSI**	**8.70**	**89**	*e*P	**Pn**	**06 35 26.1**	**+0.5**
JMIU				*e*S	**Sn**	**06 37 00.1**	**-3.8**
SMLA	**Simla**	**8.79**	**72**	*e*P	**Pn**	**06 35 27.0**	**+0.1**
SMLA				*e*S	**Sn**	**06 37 06.8**	**+0.9**
SMLA				IAML		06 37 09.5	
	comp=E,361nm,0.6s						
SMLA				IAML		06 37 13.5	
	comp=E,260nm,0.5s						
DDI	**Dehra Dun**	**9.41**	**78**	*e*S	**Sn**	**06 37 20.9**	**-0.4**
WSAR	**Wadi Sarin**	**9.63**	**237**	Pn	**Pn**	**06 35 36.5**	**-1.9**
	comp=E,1.6nm,0.3s,baz=94,slow=11,SNR=8.8						
WSAR				Sn	Sn	06 37 16.9	-10
	comp=E,1.5nm,0.3s,baz=314,slow=18,SNR=9.5						
WSAR				LR	LR	06 40 37.4	
	comp=E,461nm,18.2s,baz=101,slow=46 comp=E,5.3nm,0.4s						
SIMJ	**Simiganj**	**9.92**	**7**		**Pn**	**06 35 42.6**	**+0.2**
CHGR	**Chuyangaron**	**9.93**	**8**	Pn	**Pn**	**06 35 42.9**	**+0.3**
CHGR	**Chuyangaron**	**9.93**	**8**	P	**Pn**	**06 35 42.9**	**+0.3**
TKRD	**Thakurdwara**	**10.05**	**85**	*e*S	**Sn**	**06 37 37.4**	**+0.5**
GAR	**Garm**	**10.45**	**13**		**Pn**	**06 35 50.3**	**+0.6**
JHNI	**Jhansi**	**10.47**	**106**	*e*P	**Pn**	**06 35 51.0**	**+1.1**
JHNI				*e*S	**Sn**	**06 37 43.6**	**-3.8**
BHPL	**Bhopal**	**10.59**	**119**	*e*P	**Pn**	**06 35 51.2**	**-0.4**
BHPL				*e*S	**Sn**	**06 37 47.6**	**-2.6**
BHPL				IAML		06 38 35.9	
	comp=N,44nm,1.2s						
BHPL				IAML		06 38 36.1	
	comp=E,39nm,0.5s						
UOSS	**Minazif**	**10.70**	**252**	Pn	**Pn**	**06 35 53.5**	**+0.5**
HNLY	**HANLEY**	**10.72**	**65**	*e*P	**Pn**	**06 35 54.4**	**+0.7**
HNLY				IAML		06 37 58.4	
	comp=E,12nm,1.2s						
HNLY				IAML		06 38 01.7	
	comp=E,10.0nm,0.7s						
JOSI	**Joshimath**	**10.73**	**78**	*e*P	**Pn**	**06 35 53.5**	**-0.1**
JOSI				*e*S	**Sn**	**06 37 49.9**	**-4.0**
JOSI				IAML		06 38 02.2	
	comp=N,108nm,0.7s						
JOSI				IAML		06 38 03.5	
	comp=E,102nm,0.9s						
DRK	**Karamyk**	**11.25**	**18**	Pn	**Pn**	**06 36 01.9**	**+1.1**
DRK	**Karamyk**	**11.25**	**18**	P	**Pn**	**06 36 01.9**	**+1.1**
LGTI	**Lohaghat**	**11.26**	**84**	*e*P	**Pn**	**06 35 58.5**	**-2.2**
LGTI				*e*S	**Sn**	**06 38 00.6**	**-6.1**
BTK	**Batken**	**11.57**	**13**		**Pn**	**06 36 06.0**	**+1.0**
BTK	**Batken**	**11.57**	**13**	P	**Pn**	**06 36 06.0**	**+1.0**
OHH	**Osh**	**12.50**	**19**	P	**Pn**	**06 36 18.4**	**+0.7**
KSH	**Kashi**	**12.82**	**31**	P	**Pn**	**06 36 17.4**	**-4.7**
KSH				S	Sn	06 38 34.0	-11
KSH				pmax	pmax		
	comp=Z,28nm,1.2s						
KSH				pmax	pmax		
	comp=Z,280nm,2.9s						
KSH				LR	LR		
	comp=N,750nm,13.2s						
KSH				LR	LR		
	comp=E,800nm,10.1s						
KSH				LR	LR		
	comp=Z,570nm,11.7s						
ARSB	**Arslanbob**	**13.29**	**19**		**Pn**	**06 36 27.0**	**-1.6**
ARSB	**Arslanbob**	**13.29**	**19**	P	**Pn**	**06 36 27.0**	**-1.6**
IUG	**Iuzhnay**	**13.48**	**8**	*e*P	**Pn**	**06 36 29.7**	**-1.4**
AML	**Almayashu** SNR=8.8	**14.24**	**19**	P	**Pn**	**06 36 42.0**	**+0.2**
BRLS	**Borolday**	**14.33**	**7**	*e*P	**Pn**	**06 36 39.0**	**-3.6**
KK31	**Karatay Array**	**14.48**	**9**	Pn	**Pn**	**06 36 44.3**	**-0.5**
KK31	**Karatay Array**	**14.48**	**9**	P	**Pn**	**06 36 44.3**	**-0.5**
KKAR	**Karatay Array**	**14.48**	**9**	Pn	**Pn**	**06 36 44.5**	**-0.3**
KKAR	**Karatay Array**	**14.48**	**9**	Pn	**Pn**	**06 36 44.1**	**-0.7**
KKAR	**Karatay Array**	**14.48**	**9**	P	**Pn**	**06 36 44.1**	**-0.7**
EKS2	**Erkin-Say** SNR=8.8	**14.76**	**19**	P	**Pn**	**06 36 48.1**	**-0.5**
AAK	**Ala-Archa**	**14.95**	**21**	Pn	**Pn**	**06 36 50.0**	**-1.2**
AAK	**Ala-Archa**	**14.95**	**21**	Pn	**Pn**	**06 36 50.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=206,slow=14,SNR=19						
AAK				Sn	**Sn**	**06 39 33.8**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=11,SNR=4.8						
AAK				LR	LR	06 43 36.3	
	comp=Z,516nm,20.8s,baz=219,slow=41 comp=Z,6.1nm,0.7s						
AAK	**Ala-Archa** SNR=11	**14.95**	**21**	P	**Pn**	**06 36 50.5**	**-0.7**
AAK	**Ala-Archa**	**14.95**	**21**	*ce*P	**Pn**	**06 36 48.3**	**-2.9**
AAK				pmax	pmax		
	comp=Z,20nm,1.7s						
KBK	**Karagaybulak** SNR=7.4	**15.11**	**22**	P	**Pn**	**06 36 52.7**	**-0.6**
FRU1	**Bishkek**	**15.15**	**21**	Pn	**Pn**	**06 36 52.6**	**-1.1**
FRU1				IAmb	IAmb	06 37 09.4	
	comp=Z,22nm,0.9s						
FRU1	**Bishkek**	**15.15**	**21**	P	**Pn**	**06 36 52.6**	**-1.1**
FRU1				pmax	pmax		
	comp=Z,23nm,0.9s						
BOOM	**Boomskoye usch**	**15.31**	**25**		**Pn**	**06 36 54.2**	**-1.8**
BOOM	**Boomskoye usch**	**15.31**	**25**	P	**Pn**	**06 36 54.2**	**-1.8**
BOOM				pmax	pmax		
	comp=Z,14nm,0.9s						
KDJ	**Kajisay**	**15.48**	**28**	Pn	**Pn**	**06 36 55.6**	**-2.7**
KDJ	**Kajisay**	**15.48**	**28**	P	**Pn**	**06 36 55.6**	**-2.7**
KDJ				pmax	pmax		
	comp=Z,18nm,1.0s						
TKM2	**Tokmak 2** SNR=12	**15.56**	**23**	P	**Pn**	**06 36 58.2**	**-1.2**
WUS	**Wushi**	**15.69**	**35**	Pn	**Pn**	**06 36 59.3**	**-1.6**
WUS				IAmb	IAmb	06 37 13.3	
	comp=Z,24nm,0.9s						
ZHN	**Zhinishke**	**16.86**	**29**	*e*P	**Pn**	**06 37 13.2**	**-2.8**
UZB	**Uzynbulak**	**17.10**	**30**	*e*P	**Pn**	**06 37 18.7**	**-0.3**
KPKS	**Kokpek**	**17.21**	**29**	*e*P	**Pn**	**06 37 17.1**	**-3.2**
RAYN	**Ar Rayn**	**20.33**	**260**	P	Pn	06 37 58.6	+0.4
RAYN	**Ar Rayn**	**20.33**	**260**	P	Pn	06 37 58.6	+0.4
RAYN				pmax	pmax		
	comp=Z,16nm,1.4s						
AKT	**Akhty**	**20.39**	**313**	*e*P	**P**	**06 37 55.4**	**-1.4**
AKT				*e*		06 38 13.1	
AKT				pmax	pmax		
	comp=Z,50nm,2.1s						
LSA	**Lhasa**	**20.75**	**82**	P	**P**	**06 38 01.9**	**+0.8**
LSA				IAmb	IAmb	06 38 04.7	
	comp=Z,32nm,1.1s						
LSA	**Lhasa**	**20.75**	**82**	P	Pn	06 38 03.2	-0.3
LSA				pmax	pmax		
	comp=Z,26nm,1.1s						
LSA	**Lhasa**	**20.75**	**82**	P	**P**	**06 38 01.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,32nm,1.1s						
ABKAR	**Akbulak array**	**21.20**	**346**	P	**P**	**06 38 06.2**	**+0.9**
MAKZ	**Makanchi**	**21.29**	**28**	P	**P**	**06 38 07.0**	**+0.7**
MAKZ	**Makanchi**	**21.29**	**28**	P	**P**	**06 38 07.0**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,80nm,1.5s						
MK31	**Makanchi Array**	**21.41**	**29**	P	**P**	**06 38 08.0**	**+0.5**
MK31	**Makanchi Array**	**21.41**	**29**	*ce*P	**P**	**06 38 08.1**	**+0.5**
MKAR	**Makanchi Array**	**21.41**	**29**	P	**P**	**06 38 07.9**	**+0.3**
MKAR	**Makanchi Array**	**21.41**	**29**	P	**P**	**06 38 07.5**	**-0.1**
	comp=Z,5.5nm,0.5s,baz=208,slow=12,SNR=94						
MKAR				LR	LR	06 48 34.3	
	comp=Z,212nm,18.1s,baz=212,slow=43 comp=Z,5.5nm,0.5s						
GNI	**Garni**	**21.77**	**307**	P	**P**	**06 38 11.7**	**0.0**
GNI				IAmb	IAmb	06 38 20.4	
	comp=Z,36nm,1.4s						
GNI	**Garni**	**21.77**	**307**	P	**P**	**06 38 13.0**	**+1.3**
	comp=Z,3.0nm,0.3s,baz=193,slow=2.9,SNR=5.0						
GNI				LR	LR	06 48 07.6	
	comp=Z,128nm,21.5s,baz=106,slow=41 comp=Z,3.0nm,0.3s						
GNI	**Garni**	**21.77**	**307**	*i* P	**P**	**06 38 12.4**	**+0.7**
GNI				pmax	pmax		
	comp=Z,32nm,1.3s						
GNI	**Garni**	**21.77**	**307**	P	**P**	**06 38 12.8**	**+1.1**
	comp=Z,26nm,1.1s						
SHL	**Shillong**	**22.02**	**93**	P	**P**	**06 38 14.3**	**-0.2**
SHL				IAmb	IAmb	06 38 40.1	
	comp=Z,21nm,1.2s						
SHL	**Shillong**	**22.02**	**93**	P	**P**	**06 38 14.3**	**-0.2**
SHL				pmax	pmax		
	comp=Z,21nm,1.2s						
WMQ	**Urumqi**	**22.10**	**42**	*e*P	**P**	**06 38 17.5**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,50nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,380nm,5.3s						
BRDH	**Bariadhala**	**22.66**	**100**	LR	LR	06 48 55.8	
	comp=Z,131nm,20.4s,baz=306,slow=41						
AKTO	**Aktyubinsk**	**22.74**	**344**	LR	LR	06 48 42.2	
	comp=Z,243nm,19.4s,baz=248,slow=41						
GURO	**Guroymak-BITLI**	**23.17**	**301**	P	**P**	**06 38 27.3**	**+0.7**
KURBB	**Kurchatov Arra**	**23.36**	**18**	P	**P**	**06 38 27.2**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=209,slow=11,SNR=30						
KURBB				LR	LR	06 48 57.5	
	comp=Z,306nm,20.2s,baz=172,slow=40 comp=Z,3.1nm,0.6s						
KURK	**Kurchatov**	**23.47**	**18**	P	**P**	**06 38 28.7**	**-0.5**
KURK				IAmb	IAmb	06 38 32.7	
	comp=Z,31nm,1.4s						
KURK	**Kurchatov**	**23.47**	**18**	*ce*P	**P**	**06 38 29.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,30nm,1.7s						
MARD	**Mardin**	**23.80**	**298**	P	**P**	**06 38 32.9**	**0.0**
MARD				IAmb	IAmb	06 38 35.2	
	comp=Z,14nm,1.1s						
GOMU	**GeErMu**	**24.22**	**65**	P	**P**	**06 38 39.4**	**+2.3**
GOMU				pP	sP	06 38 43.8	+2.4
GOMU				sP	pP	06 38 47.5	+7.4
GOMU				S	S	06 43 07.0	+11
GOMU				pmax	pmax		
	comp=Z,12nm,0.8s						
GOMU				LR	LR		
	comp=N,150nm,8.6s						
GOMU				LR	LR		
	comp=E,250nm,8.9s						
GOMU				LR	LR		
	comp=Z,310nm,8.6s						
BVAR	**Borovoye Array**	**24.30**	**4**	P	**P**	**06 38 37.4**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=167,slow=9.2,SNR=13						
BVAR				LR	LR	06 49 44.4	
	comp=Z,494nm,19.3s,baz=181,slow=40 comp=Z,2.8nm,0.6s						
BRVK	**Borovoye**	**24.32**	**4**	P	**P**	**06 38 38.1**	**+0.7**
BRVK				IAmb	IAmb	06 38 40.5	
	comp=Z,16nm,1.2s						
BRVK	**Borovoye**	**24.32**	**4**	*ce*P	**P**	**06 38 38.4**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,21nm,1.7s						
PALK	**Pallekele**	**24.84**	**147**	LR	LR	06 49 43.5	
	comp=Z,331nm,18.5s,baz=322,slow=40						
KIV	**Kislovodsk**	**24.85**	**314**	*e*P	**P**	**06 38 40.5**	**-1.9**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LABN	**Labinsk**	**26.42**	**314**	*e*P	**P**	**06 38 54.0**	**-2.5**
LABN				*e**PP	**pP**	**06 38 58.6**	**-1.0**
LABN				*e*S	**S**	**06 43 28.4**	**-1.5**
LABN				pmax	pmax		
	comp=Z,16nm,0.5s						
ERBR	**Yeremizino-Bor**	**27.08**	**316**	*e*P	**P**	**06 38 59.8**	**-2.6**
ERBR				*e**PP	**pP**	**06 39 04.1**	**-1.5**
ERBR				*e*S	**S**	**06 43 38.9**	**-1.4**
ERBR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MMAI	**Mount Meron Ar**	**27.70**	**287**	LR	LR	06 52 12.5	
	comp=Z,65nm,21.1s,baz=84,slow=41						
BELG	**Belogornoye**	**27.75**	**334**	LR	LR	06 53 44.6	
	comp=Z,349nm,20.1s,baz=120,slow=44						
BELG	**Belogornoye**	**27.75**	**334**	*i* P	**P**	**06 39 07.8**	**-0.5**
BELG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**28.16**	**22**	P	**P**	**06 39 12.0**	**0.0**
ZAA0				IAmb	IAmb	06 39 39.0	
	comp=Z,10nm,1.4s						
ZALV	**Zalesovo Beam**	**28.16**	**22**	P	**P**	**06 39 12.6**	**+0.6**
ZALV	**Zalesovo Beam**	**28.16**	**22**	P	**P**	**06 39 12.8**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=226,slow=11,SNR=5.5						
ZALV				LR	LR	06 51 39.1	
	comp=Z,189nm,18.7s,baz=222,slow=39 comp=Z,1.3nm,0.7s				

comp=E,170nm,18.0s
PZH LR LR
comp=Z,130nm,20.1s
CMAR Chiang Mai Arr 30.60 103 P P 06 39 34.6 +0.6
comp=Z,0.5nm,0.3s,baz=299,slow=9.0,SNR=1.1
CMAR LR LR 06 54 22.5
comp=Z,76nm,19.5s,baz=280,slow=41
comp=Z,0.5nm,0.3s
VSR Storozhevoye 30.79 324 *e*P **P 06 39 34.9 -0.4**
VSR pmax pmax
comp=Z,5.0nm,1.0s
LZH Lanzhou 31.47 67 *e*P **P 06 39 44.7 +2.9**
LZH pP sP 06 39 49.2 +3.1
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=N,180nm,12.7s
LZH LR LR
comp=E,250nm,12.4s
LZH LR LR
comp=Z,170nm,18.2s
LPSR Galich'ya Gora 31.73 326 *e*P **P 06 39 43.0 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 32.26 342 LR LR 06 55 07.0
comp=Z,141nm,19.9s,baz=190,slow=40
KIRV Kirov 32.26 342 *ce*P **P 06 39 48.2 0.0**
MOY Mondy 33.87 38 *e*P **P 06 40 04.1 +1.6**
MOS Moscow 34.29 330 *e*P **P 06 40 05.2 -0.7**
OBN Obninsk 34.37 329 *ce*P **P 06 40 05.4 -1.2**
OBN *e* 06 41 21.1
OBN *e*PPP PPP 06 41 34.7
OBN *e* 06 42 44.4
OBN pmax pmax
comp=Z,41nm,1.7s
ZAK Zakamensk 34.57 41 *e*P **P 06 40 08.8 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 35.54 47 P **P 06 40 17.6 +0.6**
SONM Songino Array 35.54 47 P **P 06 40 18.4 +1.4**
comp=Z,2.0nm,0.7s,baz=250,slow=8.8,SNR=15
SONM LR LR 06 57 49.3
comp=Z,230nm,19.0s,baz=214,slow=41
comp=Z,2.0nm,0.7s
SONM Songino Array 35.54 47 P **P 06 40 17.6 +0.6**
SONM pmax pmax
comp=Z,3.0nm,0.9s
AK10 Malin Array Si 35.97 318 P **P 06 40 21.4 +0.9**
ULN Ulaanbaatar 35.97 47 *i* P **P 06 40 21.0 +0.3**
ULN pmax pmax
comp=Z,7.0nm,1.6s
AK08 Malin Array Si 35.98 318 P **P 06 40 21.5 +1.0**
AKASG Malin Array Be 36.02 318 P **P 06 40 22.4 +1.4**
comp=Z,0.9nm,0.7s,baz=105,slow=7.4,SNR=6.9
AKASG LR LR 06 57 17.7
comp=Z,117nm,18.9s,baz=126,slow=40
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 36.02 318 *i* P **P 06 40 21.2 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 36.02 318 *ce*P **P 06 40 23.1 +2.2**
AKBB pmax pmax
comp=Z,12nm,1.6s
MLR Muntele Rosu 36.53 309 LR LR 06 58 32.9
comp=Z,88nm,20.1s,baz=286,slow=42
KLMR Klimovskoe 37.08 338 *e*P **P 06 40 28.5 -1.3**
KLMR pmax pmax
comp=Z,12nm,1.1s
BURAR Bucovina Array 37.53 312 P **P 06 40 35.4 +1.4**
HHC Hu-ho-hao-te 37.83 60 *e*P **P 06 40 38.2 +1.6**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.1s
MNK Minsk 38.34 323 *i* P **P 06 40 38.3 -2.2**
comp=E,19nm,0.9s
MNK *i* P **P 06 40 38.3 -2.2**
comp=N,30nm,1.0s
MNK *i* P **P 06 40 38.3 -2.2**
comp=Z,12nm,0.9s,baz=116
MNK *i* PP **PP 06 42 05.7 -2.4**
MNK *i* PPP PPP 06 42 24.8
MNK *i* S **S 06 46 34.1 -0.7**
MNK *i* SS **SnSn 06 49 21.8 +2.0**
MNK *i* SSS SSS 06 49 39.5
MNK *i* LQ LQ 06 53 39.4
MNK *i* LR LR 06 55 56.3
MNK *i* LRM MLR 06 58 39.6
comp=E,305nm,18.6s
MNK *i* LRM MLR 07 00 33.1
comp=Z,120nm,14.6s
MNK *i* LRM MLR 07 01 40.9
comp=N,254nm,20.2s
MNK Minsk 38.34 323 *i* P **P 06 40 38.3 -2.2**
MNK *i* 06 42 05.7
MNK *i* S **S 06 46 34.1 -0.7**
MNK *i* SSS SSS 06 49 39.4
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,30nm,1.0s
MNK pmax pmax
comp=E,19nm,0.9s
MNK MLR MLR
comp=E,305nm,19.0s
MNK MLR MLR
comp=Z,120nm,15.0s
LYN LuoYang 38.54 70 *e*P **P 06 40 44.6 +2.1**
LYN pmax pmax
comp=Z,14nm,0.7s
NACGM Naroch 39.09 323 *e*P **P 06 40 48.2 +1.4**
comp=Z,1μm,0.8s
PSI Prapat 39.61 125 LR LR 06 57 55.2
comp=Z,150nm,20.3s,baz=346,slow=37
KOLS Kolonicke sedl 39.76 313 *e*P P 06 40 57.9 +5.4
KOLS Kolonicke sedl 39.76 313 *e*P P 06 40 57.9 +5.4
WHN Wuhan 40.61 76 P **P 06 41 00.8 +1.0**
BJI Beijing 41.31 61 P **P 06 41 07.7 +2.2**
BJI pmax pmax
comp=Z,3.0nm,0.7s
XLT XiLinHaoTe 41.41 55 *e*P **P 06 41 08.3 +2.0**
XLT pmax pmax
comp=Z,14nm,0.8s
VYHS Vyhne 41.90 312 *e*P **P 06 41 11.0 +0.8**
VYHS Vyhne 41.90 312 *e*P **P 06 41 11.0 +0.8**
TIA Tai'an 42.21 67 P **P 06 41 13.8 +0.9**
TIA pmax pmax
comp=Z,11nm,1.5s
FINES FINESS Array B 42.51 332 P **P 06 41 14.8 -0.2**
comp=Z,6.3nm,1.1s,baz=125,slow=5.6,SNR=6.4
FINES LR LR 07 02 14.2
comp=Z,278nm,19.2s,baz=148,slow=41
comp=Z,6.3nm,1.1s
VRAC Vranov 43.49 313 LR LR 07 05 50.0
comp=Z,199nm,19.1s,baz=316,slow=45
NJ2 Nanjing 44.16 72 *e*P **P 06 41 31.0 +2.3**
NJ2 pmax pmax
comp=Z,11nm,0.7s
GERES GERESS Array B 45.31 312 P **P 06 41 36.3 -1.5**
comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=2.1
GERES LR LR 07 04 58.6
comp=Z,140nm,18.2s,baz=280,slow=42
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 47.27 341 P **P 06 41 52.9 +0.2**
comp=Z,4.2nm,0.8s,baz=120,slow=7.2,SNR=15
ARCES LR LR 07 03 17.3
comp=Z,143nm,19.4s,baz=112,slow=38
comp=Z,4.2nm,0.8s
ARCES ARCESS Array B 47.27 341 P **P 06 41 53.5 +0.7**
ARCES pmax pmax
comp=Z,19nm,1.3s
HFS Hagfors 47.54 327 P **P 06 41 54.6 -0.3**
comp=Z,3.8nm,0.9s,baz=111,slow=11,SNR=3.1
HFS LR LR 07 04 37.1
comp=Z,270nm,20.9s,baz=288,slow=40
comp=Z,3.8nm,0.9s
CN2 Changchun 48.18 56 *e*P **P 06 42 01.9 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.6s
KEST Kesra 48.95 294 P **P 06 42 06.0 -0.4**
comp=Z,4.8nm,0.8s,baz=79,slow=5.2,SNR=3.4
comp=Z,4.8nm,0.8s
NOA NORSAR Array B 48.96 328 P **P 06 42 05.1 -0.9**
comp=Z,4.1nm,1.1s,baz=111,slow=7.3,SNR=4.0
NOA LR LR 07 06 46.8
comp=Z,114nm,19.5s,baz=95,slow=41
comp=Z,4.1nm,1.1s
KSAR Wonju Array Be 50.64 64 P **P 06 42 19.1 0.0**
KSAR Wonju Array Be 50.64 64 P **P 06 42 19.1 0.0**
KSRS Korea Array 50.66 64 P **P 06 42 19.3 +0.1**
comp=Z,5.1nm,0.8s,baz=272,slow=7.4,SNR=23
KSRS LR LR 07 09 12.1
comp=Z,42nm,18.5s,baz=330,slow=42
comp=Z,5.1nm,0.8s
KLR Kul'dur 52.34 48 LR LR 07 07 55.2
comp=Z,96nm,18.3s,baz=270,slow=40
KLR Kul'dur 52.34 48 *ce*P **P 06 42 31.1 -0.6**
KLR pmax pmax
comp=Z,6.0nm,1.7s
LEM Lembang 52.50 126 LR LR 07 05 01.4
comp=Z,113nm,21.5s,baz=198,slow=36
USRK Ussuriysk Ar. 52.86 55 LR LR 07 07 58.6
comp=Z,77nm,18.2s,baz=341,slow=39
TIXI Tiksi 54.02 20 LR LR 07 07 58.5
comp=Z,84nm,20.7s,baz=6.0,slow=38
TIXI Tiksi 54.02 20 *i* P **P 06 42 43.8 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
SPITS Spitsbergen Ar 54.34 349 LR LR 07 12 54.0
comp=Z,54nm,20.0s,baz=178,slow=44
TAM Tamanrasset 55.49 279 P **P 06 42 54.5 -0.8**
TAM IAmb IAmb 06 42 58.9
comp=Z,5.1nm,1.2s
TAM Tamanrasset 55.49 279 P **P 06 42 54.5 -0.8**
TAM pmax pmax
comp=Z,5.0nm,1.2s
LSZ Lusaka 57.94 226 LR LR 07 11 21.1
comp=Z,54nm,18.3s,baz=158,slow=40
ESDC Sonseca Array 58.57 301 P **P 06 43 16.5 -0.3**
ESDC Sonseca Array 58.57 301 P **P 06 43 15.8 -1.0**
comp=Z,2.6nm,1.0s,baz=69,slow=6.5,SNR=7.9
comp=Z,2.6nm,1.0s
MJAR Matsushiro Arr 58.91 63 P **P 06 43 19.2 +0.1**
comp=Z,1.3nm,0.9s,baz=269,slow=3.5,SNR=2.8
comp=Z,1.3nm,0.9s
YSS Yuzhno-Sakhali 59.92 50 *i* P **P 06 43 25.8 -0.1**
YSS pmax pmax
comp=Z,19nm,1.7s
JTM Tenmabayashi 60.05 57 P **P 06 43 27.4 +0.5**
ASAJ Asahikawa 60.40 53 LR LR 07 13 55.6
comp=Z,71nm,18.8s,baz=130,slow=40
MA2 Magadan 62.34 35 LR LR 07 12 44.5
comp=Z,69nm,18.4s,baz=270,slow=38
MA2 Magadan 62.34 35 *ce*P **P 06 43 41.5 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,2.5s
MA2 Magadan 62.34 35 P **P 06 43 42.8 +0.7**
comp=Z,3.5nm,0.9s
SEY Seymchan 62.53 31 *ce*P **P 06 43 43.6 +0.3**
SEY pmax pmax
comp=Z,18nm,2.5s
TORD Torodi Ar. Bea 62.60 270 P **P 06 43 44.5 0.0**
TORD IAmb IAmb 06 43 47.0
comp=Z,4.6nm,1.2s
BORG Borgarnes 63.80 331 LR LR 07 13 33.0
comp=Z,216nm,19.3s,baz=111,slow=38
BILL Bilibino 66.84 24 *ce*P **P 06 44 11.9 +0.5**
BILL pmax pmax
comp=Z,9.0nm,1.7s
LBTB Lobatse 66.92 221 P **P 06 44 12.2 -0.3**
comp=Z,2.8nm,0.9s,baz=22,slow=5.4,SNR=3.9
comp=Z,2.8nm,0.9s
BOSA Boshof 69.89 219 LR LR 07 16 28.5
comp=Z,43nm,18.1s,baz=330,slow=37
SFJD Kangerlussuaq 73.81 339 LR LR 07 17 24.8
comp=Z,70nm,20.6s,baz=76,slow=36
KNRA Kununurra 73.96 118 P **P 06 44 55.8 +0.2**
KNRA IAmb IAmb 06 44 56.0
comp=Z,5.0nm,0.9s
RES Resolute Bay 76.11 355 LR LR 07 23 21.4
comp=Z,51nm,18.3s,baz=356,slow=39
D19K Kuna River 77.36 16 IAmb IAmb 06 45 15.4
comp=Z,4.4nm,0.8s
C23K Itkillik River 77.89 13 IAmb IAmb 06 45 20.8
comp=Z,4.3nm,0.9s
F17K Baldwin Pennin 78.12 18 IAmb IAmb 06 45 20.1
comp=Z,4.6nm,0.8s
E19K Redstone River 78.38 16 IAmb IAmb 06 45 26.3
comp=Z,5.1nm,1.1s
A36M Sachs Harbour 79.09 4 P **P 06 45 24.6 +0.7**
A36M IAmb IAmb 06 45 27.1
comp=Z,5.7nm,0.8s
TOLK Toolik Lake Re 79.09 13 P **P 06 45 25.1 +1.1**
TOLK IAmb IAmb 06 45 30.5
comp=Z,8.7nm,1.3s
D25K Kavik River 79.11 12 IAmb IAmb 06 45 31.4
comp=Z,4.8nm,1.1s
COLD Coldfoot 80.16 14 P **P 06 45 30.6 +0.8**
E25K Arctic Village 80.30 12 P **P 06 45 31.8 +1.2**
WB0 Warramunga Arr 80.69 119 P **P 06 45 33.2 -0.1**
WB0 IAmb IAmb 06 45 44.2
comp=Z,6.2nm,1.2s
WRA Warramunga Arr 80.75 119 P **P 06 45 32.8 -0.8**
comp=Z,1.9nm,0.9s,baz=315,slow=4.9,SNR=8.4
comp=Z,1.9nm,0.9s
WB2 Warramunga Arr 80.76 119 P **P 06 45 33.7 0.0**
E28M Babbage River 80.86 10 IAmb IAmb 06 45 41.4
comp=Z,4.7nm,0.9s
BMAR Burnt Mountain 81.09 12 P **P 06 45 36.5 +1.7**
INK Inuvik 81.94 8 P **P 06 45 40.2 +1.1**
INK Inuvik 81.94 8 P **P 06 45 40.2 +1.1**
INK pmax pmax
comp=Z,3.0nm,1.0s
ASAR Alice Springs 82.57 122 P **P 06 45 42.5 -0.7**
comp=Z,1.4nm,0.6s,baz=310,slow=5.6,SNR=17
comp=Z,1.4nm,0.6s
CAST Castle Rocks 82.91 17 P **P 06 45 45.0 +0.6**
CAST IAmb IAmb 06 45 45.9
comp=Z,3.8nm,0.9s
ILAR Eielson Array 82.97 14 P **P 06 45 44.4 -0.3**
comp=Z,0.3nm,0.7s,baz=316,slow=3.7,SNR=5.0
ILAR LR LR 07 27 20.7
comp=Z,98nm,18.6s,baz=321,slow=39
comp=Z,0.3nm,0.7s
I28M Miner Creek 83.70 11 IAmb IAmb 06 45 49.8
comp=Z,3.3nm,0.8s
J26L Joseph Creek 83.89 13 IAmb IAmb 06 45 50.5
comp=Z,3.1nm,0.8s
I30M Mount Dempster 84.47 10 IAmb IAmb 06 45 53.5
comp=Z,2.8nm,0.8s
DAWY Dawson 85.06 11 P **P 06 45 56.1 +0.7**
DAWY IAmb IAmb 06 46 13.0
comp=Z,4.6nm,1.3s
KDAK Kodiak Island 87.45 20 P **P 06 46 07.2 0.0**
KDAK Kodiak Island 87.45 20 LR LR 07 28 16.6
comp=Z,78nm,18.9s,baz=133,slow=38
KDAK Kodiak Island 87.45 20 P **P 06 46 07.2 0.0**
KDAK pmax pmax
comp=Z,5.0nm,1.2s
SCHQ Schefferville 87.89 335 LR LR 07 28 43.6
comp=Z,51nm,18.3s,baz=32,slow=38
YKA Yellowknife Ar 89.00 1 P **P 06 46 15.3 +0.8**
YKA Yellowknife Ar 89.00 1 P **P 06 46 14.6 +0.1**
comp=Z,0.9nm,0.9s,baz=347,slow=4.8,SNR=11
comp=Z,0.9nm,0.9s
BBB Bella Bella 98.22 10 LR LR 07 36 30.4
comp=Z,35nm,18.3s,baz=298,slow=39

*IDC **03** 06:50:16.5±1.1, 2°.53S×138°.58E, h0km, mb3.6/5, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=25.1km s-min=15.3km az=4.0*

ISC 03 06:50:21.4±1.0, 2°.6S±0°.1×138°.7E±0°.2, h32km, n7, σ0°69/7, mb3.6/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.05**	**87**	Pg	**Pn**	**06 50 54.0**	**+0.3**
9.3nm,0.3s,baz=231,slow=7.7,SNR=12							
JAY				Lg	Lg	06 51 24.2	
9.3nm,0.3s,baz=274,slow=16,SNR=6.2							
WRA	**Warramunga Arr**	**17.71**	**193**	P	**Pn**	**06 54 25.8**	**0.0**
0.3nm,0.3s,baz=8.1,slow=12,SNR=5.5							
1.2nm,0.6s							
ASAR	**Alice Springs**	**21.41**	**192**	P	**P**	**06 55 06.6**	**-0.2**
1.7nm,0.7s,baz=21,slow=11,SNR=22							
1.7nm,0.7s							
MKAR	**Makanchi Array**	**69.69**	**322**	P	**P**	**07 01 28.4**	**+0.2**
0.2nm,0.5s,baz=111,slow=7.9,SNR=3.2							
0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**73.63**	**325**	P	**P**	**07 01 50.7**	**-1.0**
0.2nm,0.5s,baz=116,slow=6.8,SNR=2.0							
0.2nm,0.5s							
BVAR	**Borovoye Array**	**79.22**	**325**	P	**P**	**07 02 23.8**	**+0.5**
0.6nm,0.5s,baz=126,slow=3.7,SNR=2.6							
0.6nm,0.5s							
ILAR	**Eielson Array**	**85.78**	**24**	P	**P**	**07 02 56.5**	**-0.8**
0.4nm,0.7s,baz=257,slow=4.5,SNR=5.9							
0.4nm,0.7s							

IDC 03 06:54:47.0±3.9, 17°.02S×177°.30W, h390km±29km, mb2.9/4, mbtmp3.6/5, Error ellipse: s-maj=119.5km s-min=25.9km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.49**	**260**	P	Pn	06 56 03.4	0.0
4.4nm,0.6s,baz=269,slow=21,SNR=4.4							
WRA	**Warramunga Arr**	**45.84**	**259**	P	P	07 02 32.6	+0.3
0.2nm,0.4s,baz=99,slow=8.4,SNR=4.8							
0.2nm,0.4s							
ASAR	**Alice Springs**	**46.05**	**253**	P	P	07 02 33.6	-0.4
1.6nm,0.5s,baz=88,slow=8.1,SNR=22							
1.6nm,0.5s							
TXAR	**Lajitas Array**	**84.63**	**57**	P	P	07 06 38.6	+0.4
0.2nm,0.7s,baz=240,slow=4.6,SNR=2.4							
0.2nm,0.7s							
ILAR	**Eielson Array**	**84.79**	**13**	P	P	07 06 37.8	-0.3
0.2nm,0.4s,baz=206,slow=4.6,SNR=7.9							
0.2nm,0.4s							

*AEIC **03** 07:01:18.4±0.3, 53°.38N±0°.09×163°.49W±0°.04, h42km±10km, Error ellipse: s-maj=13.3km s-min=2.3km az=168.0*

NEIC 03 07:01:15.6±1.9, 53°.33N±0°.07×163°.57W±0°.09, h10km±2km, ML2.7/12, ML2.6(AEIC), Error ellipse: s-maj=12.1km s-min=8.7km az=170.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WECS	**Westdahl Cape**	**1.40**	**330**		Pb	07 01 41.8	0.0
WECS					Sg	07 02 00.5	-0.2
ISLZ	**Isanotski Laza**	**1.41**	**357**		Pn	07 01 41.3	+0.1
ISLZ					Sn	07 01 59.6	-0.2
SSLS	**Shishaldin Sou**	**1.41**	**350**		Pb	07 01 41.7	-0.3
WEBT	**Westdahl Beart**	**1.45**	**332**		Pb	07 01 42.4	-0.2
AKSA	**Akutan Strait**	**1.50**	**303**		Pb	07 01 43.4	-0.1
ISNN	**Isanotski Nort**	**1.51**	**355**		Pb	07 01 43.4	-0.3
ISNN					Sb	07 02 03.2	+0.2
FALS	**False Pass**	**1.54**	**3**		Pn	07 01 43.0	0.0
FALS	**False Pass**	**1.54**	**3**		Sn	07 02 02.2	-0.7
LVA	**Lava Point**	**1.69**	**301**	Pn	Pn	07 01 44.8	-0.3
LVA				IAML		07 02 02.1	
comp=E,66nm,0.8s							
UNV	**Unalaska Valle**	**1.83**	**288**		Pn	07 01 45.4	-1.6
MSW	**Makushin Switc**	**2.00**	**288**		Pn	07 01 50.7	+1.2
MAPS	**Pakushin South**	**2.07**	**285**		Pb	07 01 52.2	-0.9
HAG	**Hague Volcano**	**2.22**	**25**		Pn	07 01 53.3	+0.9
HAG					Sn	07 02 19.9	0.0
PS4A	**Pavlof South-4**	**2.26**	**26**		Pn	07 01 53.7	+0.8
PS1A	**Pavlof South-1**	**2.35**	**26**		Pn	07 01 55.3	+1.0
S12K	**Black Hills**	**2.54**	**20**		Pn	07 01 56.6	-0.1
S12K				IAML		07 02 40.4	
comp=E,31nm,0.6s							
SDPT	**Sand Point**	**2.72**	**41**		Pn	07 01 59.1	-0.1
SDPT				IAML		07 02 32.5	
comp=N,43nm,0.9s							
SDPT				IAML		07 02 55.3	
comp=E,21nm,1.2s							
CNBA	**Chernabura Isl**	**2.78**	**56**	Pn	Pn	07 02 00.0	-0.1
CHGN	**Chignik**	**4.21**	**43**	Pn	Pn	07 02 19.6	-0.1
CHGN				IAML		07 03 09.5	
comp=N,10nm,1.0s							
CHGN				IAML		07 03 14.0	
comp=E,11nm,0.4s							
CHIR	**Chirikof Islan**	**5.25**	**58**	Pn	Pn	07 02 33.8	-0.3
N15K	**Kwethluk River**	**7.12**	**14**	Pn	Pn	07 02 59.5	-0.2
KDAK	**Kodiak Island**	**7.66**	**50**	Pn	Pn	07 03 06.1	-0.9
BPAW	**Bear Paw Mtn.**	**12.59**	**26**	Pn	Pn	07 04 13.3	-1.3

*KRSC **03** 07:09:26.9±1.2, 55°.21N×162°.73E, h20km±20km, Ml3.8*
*IDC **03** 07:09:26.6±1.9, 55°.63N×162°.46E, h0km, mb3.7/3, mbtmp3.6/4, ML2.5/1, Error ellipse: s-maj=69.6km s-min=22.9km az=133.0*

ISC 03 07:09:27.2±1.6, 55°.29N±0°.03×162°.70E±0°.06, h9km±10km, n30, σ1°45/40, mb3.5/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.92**	**218**	*e*P	**Pg**	**07 09 43.3**	**-1.6**
MKZ				*e*S	**Sb**	**07 09 55.1**	**-2.4**
KBTR	**Krutoberegovo**	**0.93**	**4**	*e*P	**Pg**	**07 09 45.3**	**+0.3**
KBG	**Krutoberegovo**	**0.97**	**0**	*e*P	**Pn**	**07 09 47.6**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.31**	**301**	*e*P	**Pn**	**07 09 51.2**	**-0.6**
BZGR				*e*S	**Sb**	**07 10 09.3**	**+0.3**
TUMD	**Tumrok D**	**1.32**	**267**	*e*P	**Pn**	**07 09 50.4**	**-1.4**
TUMD				*e*S	**Sb**	**07 10 07.7**	**-1.4**
CIRR	**Tsirk**	**1.38**	**308**	*e*P	**Pn**	**07 09 53.3**	**+0.5**
CIRR				*e*S	**Sg**	**07 10 12.8**	**+1.1**
LGNR	**Loginova**	**1.39**	**306**	*e*P	**Pb**	**07 09 53.6**	**+0.1**
KMNR	**Kamenistaya**	**1.48**	**290**	*e*P	**Pn**	**07 09 54.1**	**+0.1**
KMNR				*e*S	**Sb**	**07 10 14.4**	**+0.6**
KIRR	**Kirishev**	**1.50**	**298**	*e*P	**Pn**	**07 09 54.4**	**+0.1**
KIRR				*e*S	**Sg**	**07 10 15.7**	**+0.5**
KRSR	**Krestovskiy**	**1.52**	**309**	*e*P	**Pn**	**07 09 53.9**	**-0.8**
KRSR				*e*S	**Sn**	**07 10 14.0**	**-0.7**
KLY	**Klyuchi**	**1.55**	**313**	*e*P	**Pn**	**07 09 53.0**	**-1.9**
KLY				*e*S	**Sn**	**07 10 11.9**	**-3.2**
KPT	**Kopyto**	**1.56**	**297**	*e*P	**Pn**	**07 09 55.3**	**+0.2**
KOZ	**Kozyrevsk**	**1.78**	**297**	*e*P	**Pn**	**07 09 58.7**	**+0.7**
KOZ				*e*S	**Sb**	**07 10 23.6**	**+1.3**
SRDR	**Sredinnyy**	**1.98**	**303**	*e*P	**Pn**	**07 10 01.3**	**+0.5**
SRDR				*e*S	**Sn**	**07 10 27.5**	**+1.8**
ESO	**Esso**	**2.36**	**287**	*e*P	**Pn**	**07 10 05.8**	**-0.3**
SPN	**Mys Shipunski**	**2.70**	**217**	*e*S	**Sn**	**07 10 41.8**	**-1.6**
SDLR	**Sedlovina**	**3.01**	**230**	*e*P	**Pn**	**07 10 16.4**	**+1.3**
KRX	**Arik**	**3.06**	**233**	*e*P	**Pn**	**07 10 17.0**	**+1.2**
AVH	**Avacha**	**3.08**	**231**	*e*P	**Pn**	**07 10 17.2**	**+1.1**
UGLR	**Uglovaya**	**3.08**	**229**	*e*P	**Pn**	**07 10 15.7**	**-0.3**
DALK	**Dalny**	**3.24**	**227**	*e*P	**Pn**	**07 10 19.6**	**+1.5**
DALK				*e*S	**Sn**	**07 10 57.8**	**+1.0**
PET	**Petropavlovsk**	**3.29**	**228**	*e*P	**Pn**	**07 10 20.6**	**+1.9**
PET				*e*S	**Sn**	**07 10 58.3**	**+0.4**
KRMR	**Karymshinskiy**	**3.65**	**229**	*e*P	**Pn**	**07 10 25.8**	**+2.1**
PETK	**Petropavlovsk-**	**3.66**	**235**	Pn	**Pn**	**07 10 25.1**	**+1.2**
1.9nm,0.3s,baz=66,slow=18,SNR=24							
PETK				Sn	**Sn**	**07 11 10.2**	**+3.0**
1.3nm,0.3s,baz=86,slow=21,SNR=4.3							
2.6nm,0.5s							
MJAR	**Matsushiro Arr**	**25.11**	**232**	P	**P**	**07 14 54.6**	**+2.5**
0.7nm,0.6s,baz=152,slow=6.6,SNR=4.0							
0.7nm,0.6s							
ILAR	**Eielson Array**	**26.20**	**48**	P	**P**	**07 15 01.1**	**-0.6**
0.7nm,1.0s,baz=266,slow=9.1,SNR=3.3							
0.7nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**35.64**	**173**	T	T	07 56 11.4	
baz=358,slow=74							
H11N3	**WAKE ISLAND Hy**	**35.65**	**173**	T	T	07 56 21.1	
baz=358							
H11N1	**WAKE ISLAND Hy**	**35.66**	**173**	T	T	07 56 12.3	
baz=358,slow=74							
FINES	**FINESS Array B**	**58.70**	**337**	P	**P**	**07 19 22.6**	**-1.8**
2.9nm,1.0s,baz=26,slow=8.0,SNR=4.4							
2.9nm,1.0s							

*IDC **03** 07:12:36.7±2.3, 15°.99S×74°.67W, h0km, mb3.4/3, mbtmp3.5/6, ML3.3/3, MS3.1/1, Error ellipse: s-maj=80.3km s-min=29.1km az=38.0*

ISC 03 07:12:41.9±2.0, 15°.5S±0°.3×73°.9W±0°.2, h35km, n11, σ1°23/8, mb3.3/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.55**	**320**	Pn	**Pn**	**07 13 48.0**	**-0.3**
5.4nm,0.3s,baz=150,slow=10.0,SNR=34							
NNA				Sn	**Sn**	**07 14 42.0**	**+1.9**
1.1nm,0.3s,baz=237,slow=21,SNR=12							
86nm,0.7s							
LPAZ	**La Paz**	**5.58**	**99**	Pn	Pn	07 14 11.8	+8.8
0.2nm,0.3s,baz=270,slow=6.1,SNR=5.3							
LPAZ				LR	LR	07 16 55.4	
comp=Z,162nm,18.9s,baz=292,slow=41							

1.1nm,0.6s
ATAH Atahualpa 9.44 332 Pn **Pn 07 14 54.2 -1.7**
0.3nm,0.3s,baz=156,slow=17,SNR=3.7
3.4nm,0.8s
SIV San Ignacio 12.34 94 Pn **Pn 07 15 35.9 +0.6**
0.1nm,0.3s,baz=262,slow=8.2,SNR=15
H03N1 Juan Fernandez 18.41 193 T T 07 35 29.5
baz=17,slow=74,SNR=70
H03N2 Juan Fernandez 18.41 193 T T 07 35 29.4
baz=17,slow=74,SNR=46
H03N3 Juan Fernandez 18.43 193 T T 07 35 28.7
baz=17,slow=74,SNR=58
TXAR Lajitas Array 53.07 327 P **P 07 21 55.8 -0.2**
0.3nm,0.8s,baz=161,slow=8.0,SNR=3.5
0.3nm,0.8s
NVAR Mina Array Bea 67.91 324 P **P 07 23 37.7 +0.3**
0.2nm,0.7s,baz=133,slow=6.9,SNR=2.2
0.2nm,0.7s
YKA Yellowknife Ar 84.06 342 P **P 07 25 08.2 -0.4**
0.5nm,0.9s,baz=140,slow=5.6,SNR=5.7
0.5nm,0.9s
SONM Songino Array 147.78 360 PKPbc **PKiKP 07 32 25.2 -0.1**
0.7nm,0.7s,baz=4.4,slow=1.9,SNR=5.3

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*MEX **03** 07:24:42.9±1.3, 14.°74N×92.°68W, h82km±17km, MD4.2*
*GCG **03** 07:24:45.7±1.2, 14.°68N×92.°33W, h57km±11km, MD3.8*
ISC 03 07:24:42.0±1.4, 14.°57N±0.°06×92.°63W±0.°04, h66km±13km, n21, σ2°77/39, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.49**	**46**	*eP*	**Pn**	**07 24 55.1**	**+0.8**
THIG				*eS*	**Sn**	**07 25 04.7**	**+1.5**
THIG		**0.49**	**46**	*i P*	**Pn**	**07 24 55.1**	**+0.8**
THIG		**0.49**	**46**	*i P*		07 24 55.1	
SMCA	**Catarina**	**0.61**	**62**	*i P*	**Pn**	**07 24 55.5**	**-0.1**
SMCA	**Catarina**	**0.61**	**62**	*i P*		07 24 55.5	
PATR	**El Naranjo**	**0.66**	**35**	*i P*	**Pn**	**07 24 56.5**	**0.0**
PATR				*eS*	**Sn**	**07 25 06.4**	**-0.7**
CHUJ	**Union Juarez**	**0.72**	**44**	*eP*	**Pn**	**07 24 57.0**	**-0.1**
CHUJ				*eS*	**Sn**	**07 25 07.5**	**-0.8**
PAVE	**Pavencul**	**0.76**	**35**	*eP*	**Pn**	**07 24 57.7**	**+0.2**
PAVE				*eS*	**Sn**	**07 25 08.7**	**-0.3**
RTAL	**Retalhuleu**	**0.91**	**93**	*eP*	**Pn**	**07 24 58.4**	**-0.7**
RTAL				*eS*	**Sn**	**07 25 09.7**	**-2.1**
STG0	**El Palmar, Qui**	**1.25**	**96**	*i P*		07 24 60.0	
STG0				*i S*		07 25 13.0	
HUEH	**Huehuetenango**	**1.32**	**56**	*eP*	**Pn**	**07 25 05.5**	**+0.8**
HUEH				*eS*	**Sn**	**07 25 21.3**	**-0.3**
CCIG	**Comitan**	**1.77**	**16**	*eP*	**Pn**	**07 25 12.7**	**+2.1**
CCIG				*eS*	**Sn**	**07 25 34.9**	**+2.6**
CCIG	**Comitan**	**1.77**	**16**	*i P*	**Pn**	**07 25 12.6**	**+2.0**
CCIG	**Comitan**	**1.77**	**16**	*i P*		07 25 12.6	
TGIG		**2.25**	**348**	*eP*	**Pn**	**07 25 15.9**	**-1.1**
TGIG				*i S*	**Sn**	**07 25 41.3**	**-2.4**
NUBE	**Las Nubes**	**2.84**	**103**	*i P*	**Pn**	**07 25 26.6**	**+1.5**
NUBE				*i S*	**Sn**	**07 25 56.7**	**-1.6**
NUBE	**Las Nubes**	**2.84**	**103**	*i P*		07 25 26.6	
NUBE				*i S*		07 25 56.7	
UXUV	**UXUV**	**3.10**	**332**	*eP*	**Pn**	**07 25 32.2**	**+3.7**
UXUV				*eS*	**Sn**	**07 25 59.5**	**-4.8**
CMIG	**Matias Romero**	**3.31**	**319**	*eP*	**Pn**	**07 25 33.9**	**+2.5**
CMIG				*eS*	**Sn**	**07 26 11.2**	**+1.5**
HUIG	**Huatulco**	**3.56**	**290**	*eP*	**Pn**	**07 25 37.4**	**+2.5**
HUIG				*eS*	**Sn**	**07 26 16.1**	**+0.3**
NEUV	**Arroyo Zacate**	**4.37**	**316**	*eP*	**Pn**	**07 25 45.5**	**-0.3**
NEUV				*eS*	**Sn**	**07 26 29.1**	**-6.3**
PEIG	**Puerto Escondi**	**4.58**	**289**	*eP*	**Pn**	**07 25 52.6**	**+3.8**
PEIG				*eS*	**Sn**	**07 26 36.8**	**-4.0**
YOIG	**Yosondua**	**5.25**	**296**	*eP*	**Pn**	**07 26 02.3**	**+4.1**
YOIG				*eS*	**Sn**	**07 26 53.0**	**-4.6**
TOIG	**Toxpalan**	**5.51**	**310**	*eP*	**Pn**	**07 26 04.3**	**+2.6**
TOIG				*eS*	**Sn**	**07 27 00.4**	**-3.4**
PNIG	**Pinotepa**	**5.60**	**290**	*eP*	**Pn**	**07 26 05.9**	**+3.1**
PNIG				*eS*	**Sn**	**07 27 02.4**	**-3.5**
TXIG	**Tlaxiaco**	**5.62**	**299**	*eP*	**Pn**	**07 26 07.0**	**+3.7**
TXIG				*eS*	**Sn**	**07 27 02.4**	**-4.2**

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*GCG **03** 07:27:38.5±1.1, 15.°11N×92.°72W, h80km±17km, MD3.8*
*MEX **03** 07:27:38.8±1.2, 15.°01N×92.°92W, h78km±16km, MD4.2*
ISC 03 07:27:37.7±1.3, 15.°08N±0.°05×92.°78W±0.°03, h90km±9km, n32, σ2°14/61, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.52**	**109**	*eP*	**Pn**	**07 27 52.2**	**-0.3**
THIG				*eS*	**Sn**	**07 28 03.4**	**-0.3**
THIG		**0.52**	**109**	*eP*	**Pn**	**07 27 51.9**	**-0.7**
THIG				*eS*	**Sn**	**07 28 03.3**	**-0.3**
THIG		**0.52**	**109**	*eP*		07 27 51.9	
THIG				*eS*		07 28 03.3	
PATR	**El Naranjo**	**0.53**	**86**	*eP*	**Pn**	**07 27 52.1**	**-0.7**
PATR				*eS*	**Sn**	**07 28 03.0**	**-1.2**
PAVE	**Pavencul**	**0.59**	**79**	*eP*	**Pn**	**07 27 52.9**	**-0.5**
PAVE				*eS*	**Sn**	**07 28 04.6**	**-0.5**
CHUJ	**Union Juarez**	**0.65**	**89**	*eP*	**Pn**	**07 27 53.5**	**-0.4**
CHUJ				*eS*	**Sn**	**07 28 06.2**	**+0.2**
SMCA	**Catarina**	**0.71**	**108**	*eP*	**Pn**	**07 27 53.8**	**-0.5**
SMCA				*eS*	**Sn**	**07 28 06.0**	**-0.7**
SMCA	**Catarina**	**0.71**	**108**	*eP*		07 27 53.8	
SMCA				*eS*		07 28 06.0	
RTAL	**Retalhuleu**	**1.18**	**118**	*eP*	**Pn**	**07 27 59.9**	**+0.4**
RTAL				*eS*	**Sn**	**07 28 16.2**	**+0.3**
HUEH	**Huehuetenango**	**1.25**	**79**	*eP*	**Pn**	**07 28 00.9**	**+0.4**
HUEH				*eS*	**Sn**	**07 28 18.4**	**+0.6**
CCIG	**Comitan**	**1.34**	**27**	*eP*	**Pn**	**07 28 03.2**	**+1.5**
CCIG				*eS*	**Sn**	**07 28 21.7**	**+2.0**
CCIG	**Comitan**	**1.34**	**27**	*eP*	**Pn**	**07 28 02.9**	**+1.2**
CCIG				*eS*	**Sn**	**07 28 21.6**	**+1.8**
CCIG	**Comitan**	**1.34**	**27**	*eP*		07 28 02.9	
CCIG				*eS*		07 28 21.6	
STG8	**El Palmar, Qui**	**1.52**	**114**	*eP*		07 27 58.6	
STG8				*eS*		07 28 17.1	
STG0	**El Palmar, Qui**	**1.53**	**115**	*eP*		07 28 00.0	
STG0				*eS*		07 28 17.3	
CARR	**Arriaga**	**1.59**	**317**	*i P*	**Pn**	**07 28 06.0**	**+1.4**
CARR				*i S*	**Sn**	**07 28 28.3**	**+3.3**
QUIS	**Sacapulas**	**1.64**	**82**	*eS*	**Sn**	**07 28 27.2**	**+0.9**
QUIS	**Sacapulas**	**1.64**	**82**	*eS*		07 28 27.2	
TGBT	**Tuxtla Gutierr**	**1.71**	**350**	*eS*	**Sn**	**07 28 27.6**	**-0.2**
TGIG		**1.72**	**349**	*eP*		07 28 06.6	
TGIG				*eS*		07 28 27.5	
TGIG		**1.72**	**349**	*eP*	**Pn**	**07 28 06.7**	**+0.3**
TGIG				*eS*	**Sn**	**07 28 27.5**	**-0.6**
TGIG		**1.72**	**349**	*eP*	**Pn**	**07 28 06.6**	**+0.3**
TGIG				*eS*	**Sn**	**07 28 27.5**	**-0.6**
NILT	**Santiago Nilte**	**2.31**	**310**	*eP*	**Pn**	**07 28 16.8**	**+2.9**
NILT				*eS*	**Sn**	**07 28 43.3**	**+1.7**
UXUV	**UXUV**	**2.58**	**330**	*eP*	**Pn**	**07 28 19.4**	**+1.8**
UXUV				*eS*	**Sn**	**07 28 49.0**	**+0.6**
CMIG	**Matias Romero**	**2.85**	**315**	*eP*	**Pn**	**07 28 22.0**	**+0.8**
CMIG				*eS*	**Sn**	**07 28 52.6**	**-2.0**
NUBE	**Las Nubes**	**3.13**	**112**	*eP*	**Pn**	**07 28 27.4**	**+2.3**
NUBE				*eS*	**Sn**	**07 29 03.1**	**+1.4**
NUBE	**Las Nubes**	**3.13**	**112**	*eP*		07 28 27.4	
NUBE				*eS*		07 29 03.1	
HUIG	**Huatulco**	**3.29**	**282**	*eP*	**Pn**	**07 28 27.9**	**+0.9**
HUIG				*eS*	**Sn**	**07 29 00.9**	**-4.2**
PETF	**Flores**	**3.34**	**56**	*eP*	**Pn**	**07 28 28.0**	**+0.2**
PETF				*eS*	**Sn**	**07 29 02.5**	**-4.0**
PETF	**Flores**	**3.34**	**56**	*eP*	**Pn**	**07 28 27.9**	**+0.2**
PETF				*eS*	**Sn**	**07 29 03.4**	**-3.1**
PETF	**Flores**	**3.34**	**56**	*eP*		07 28 27.9	
PETF				*eS*		07 29 03.4	
NEUV	**Arroyo Zacate**	**3.91**	**312**	*eP*	**Pn**	**07 28 36.9**	**+1.4**
NEUV				*eS*	**Sn**	**07 29 14.0**	**-6.3**
SCIG	**Sabancuy**	**4.16**	**21**	*eP*	**Pn**	**07 28 39.5**	**+0.7**
SCIG				*eS*	**Sn**	**07 29 25.1**	**-1.2**
VHO	**Vista Hermosa**	**4.29**	**298**	*eP*	Pn	07 28 46.3	+5.5
VHO				*eS*	**Sn**	**07 29 31.9**	**+2.0**
PEIG	**Puerto Escondi**	**4.31**	**283**	*eP*	**Pn**	**07 28 41.4**	**+0.5**
PEIG				*eS*	**Sn**	**07 29 24.2**	**-5.9**
YOIG	**Yosondua**	**4.92**	**292**	*eP*	**Pn**	**07 28 50.6**	**+1.2**
YOIG				*eS*	**Sn**	**07 29 43.9**	**-1.3**
TOIG	**Toxpalan**	**5.09**	**307**	*eP*	**Pn**	**07 28 53.6**	**+2.0**
TOIG				*eS*	**Sn**	**07 29 47.8**	**-1.4**
TXIG	**Tlaxiaco**	**5.26**	**295**	*eP*	**Pn**	**07 28 56.8**	**+2.7**
TXIG				*eS*	**Sn**	**07 29 54.9**	**+1.3**
HLIG	**Huajuapan de L**	**5.54**	**300**	*eP*	**Pn**	**07 29 01.9**	**+3.9**
HLIG				*eS*	**Sn**	**07 30 00.5**	**0.0**
JAUV	**Jalcomulco**	**5.74**	**319**	*eP*	**Pn**	**07 28 56.7**	**-3.8**
JAUV				*eS*	**Sn**	**07 30 00.6**	**-4.4**
FTIG	**Fresnillo de T**	**5.86**	**299**	*eP*	**Pn**	**07 29 04.8**	**+2.7**
FTIG				*eS*	**Sn**	**07 30 06.7**	**-1.3**

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*IDC **03** 07:39:43.2±1.1, 29.°79N×131.°24E, h0km, mb3.9/15, mbtmp3.8/20, ML3.1/5, MS3.4/7, Error ellipse: s-maj=25.0km s-min=23.4km az=86.0*
*NEIC **03** 07:39:47.0±0.7, 30.°12N±0.°05×131.°33E±0.°07, h10km±1km, mb4.4/16, Error ellipse: s-maj=11.6km s-min=7.9km az=54.0*
*JMA **03** 07:39:47.4±0.3, 30.°1N±0.°8×131.°4E±1.°0, h20km±1km, MV3.8/24, E OFF TANEGASHIMA ISLAND*
*NIED **03** 07:39:47.4, 30.°07N×131.°41E, h20km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.24; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-1.02; $M_{r\theta}$0.14; $M_{\theta\phi}$-0.98; $M_{\phi r}$0.61; Fault plane solution: $M_0$1.60000×10^15 NP1: ϕ_s228.00000°, δ36.00000°, λ112.00000°. NP2: ϕ_s22.00000°, δ57.00000°, λ75.00000°.*
ISC 03 07:39:48.2±1.4, 30.°05N±0.°05×131.°36E±0.°06, h25km±10km, n65, σ0°91/66, mb4.3/23, MS3.5/6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.53**	**312**	P	**Pb**	**07 39 58.0**	**-0.8**
JMTN				*eS*	**Sb**	**07 40 06.0**	**0.0**
JTN	**Tanegashima 3**	**0.69**	**332**	P	**Pb**	**07 40 00.8**	**-0.8**
JTN				S	**Sb**	**07 40 09.7**	**-1.0**
JYAK	**Yakushimahirau**	**0.76**	**285**	P	**Pb**	**07 40 02.5**	**-0.2**
JYAK				*eS*	**Sb**	**07 40 12.8**	**+0.2**
JKC	**Kuchinoerabu**	**1.08**	**293**	P	**Pn**	**07 40 08.1**	**+0.3**
JTSR	**Tashiro 2**	**1.18**	**342**	P	**Pn**	**07 40 08.6**	**-0.5**
JTSR				S	**Sn**	**07 40 23.8**	**-0.6**
JNN	**Nakanoshima**	**1.30**	**261**	P	**Pb**	**07 40 11.8**	**-0.2**
JNN				S	**Sb**	**07 40 29.7**	**+1.5**
JNAR	**Kushima--Naru**	**1.47**	**357**	P	**Pn**	**07 40 13.2**	**0.0**
JNKG	**Nichinankitago**	**1.61**	**1**	P	**Pn**	**07 40 15.2**	**+0.2**
JNKG				S	**Sn**	**07 40 35.2**	**+0.2**
JSU	**Suzuyama**	**1.65**	**332**	P	**Pn**	**07 40 15.4**	**-0.2**
JSU				*eS*	**Sn**	**07 40 36.3**	**+0.4**
JNU	**Nakatsue**	**3.09**	**353**	Pn	**Pn**	**07 40 34.4**	**-1.1**
JNU	**Nakatsue**	**3.09**	**353**	Pn	**Pn**	**07 40 35.8**	**+0.3**
	1.6nm,0.3s,baz=185,slow=12,SNR=36						
JNU				Sn	**Sn**	**07 41 10.0**	**-1.6**
	4.5nm,0.3s,baz=42,slow=19,SNR=4.0						
	17nm,0.6s						
JOW	**Kunigami**	**4.20**	**221**	Pn	**Pn**	**07 40 51.4**	**+0.7**
JOW	**Kunigami**	**4.20**	**221**	Pn	**Pn**	**07 40 51.5**	**+0.8**
	3.7nm,0.3s,baz=123,slow=25,SNR=17						
JOW				Sn	**Sn**	**07 41 39.4**	**+0.5**
	22nm,0.3s,baz=59,slow=25,SNR=13						
JMZ	**Minamidaito 2**	**4.21**	**182**	Pn	**Pn**	**07 40 52.1**	**+1.2**
JMN	**Monobe**	**4.25**	**30**	Pn	**Pn**	**07 40 50.8**	**-0.6**
INU	**Inuyama**	**7.12**	**41**	Pn	**Pn**	**07 41 31.6**	**+0.9**
JGF	**Kuroka**	**7.49**	**41**	Pn	**Pn**	**07 41 36.1**	**+0.2**
KSRS	**Korea Array**	**7.92**	**340**	Pn	**Pn**	**07 41 43.7**	**+2.0**
	0.2nm,0.3s,baz=163,slow=14,SNR=5.7						
	0.7nm,0.5s						
MAJO	**Matsushiro**	**8.65**	**40**	Pn	**Pn**	**07 41 51.5**	**-0.3**
MJAR	**Matsushiro Arr**	**8.65**	**40**	Pn	**Pn**	**07 41 53.5**	**+1.8**
	0.1nm,0.3s,baz=235,slow=14,SNR=8.6						
	1.0nm,0.5s						
MJB9	**Matsu-Tunnel**	**8.65**	**40**	Pn	**Pn**	**07 41 51.8**	**0.0**
JCJ	**Chichijima**	**9.96**	**105**	LR	LR	07 45 39.6	
	comp=Z,73nm,19.4s,baz=138,slow=36						
USRK	**Ussuriysk Ar.**	**14.13**	**2**	Pn	**Pn**	**07 43 09.1**	**+2.3**
	0.2nm,0.3s,baz=163,slow=10,SNR=5.5						
	1.1nm,0.6s						
KLR	**Kul'dur**	**19.16**	**1**	P	**P**	**07 44 09.6**	**-0.1**
	0.2nm,0.3s,baz=217,slow=6.8,SNR=6.9						
	1.1nm,0.6s						
ULN	**Ulaanbaatar**	**25.78**	**320**	P	**P**	**07 45 16.8**	**-0.5**
SONM	**Songino Array**	**26.13**	**320**	P	**P**	**07 45 20.2**	**-0.2**
SONM	**Songino Array**	**26.13**	**320**	P	**P**	**07 45 19.2**	**-1.1**
	1.7nm,0.8s,baz=142,slow=10.0,SNR=10						
SONM				LR	LR	07 57 05.3	
	comp=Z,100nm,18.1s,baz=84,slow=40						
	1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.62**	**256**	LR	LR	08 00 36.7	
	comp=Z,56nm,18.6s,baz=75,slow=40						
MA2	**Magadan**	**32.32**	**18**	LR	LR	07 58 46.5	
	comp=Z,38nm,18.9s,baz=214,slow=35						
H11N2	**WAKE ISLAND Hy**	**33.72**	**99**	T	T	08 22 29.5	
	baz=296,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**33.72**	**99**	T	T	08 22 29.6	
	baz=296,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**33.73**	**99**	T	T	08 22 30.6	
	baz=296,slow=75,SNR=22						
SHL	**Shillong**	**35.08**	**272**	P	**P**	**07 46 38.9**	**-0.8**
SHL				IAmb	IAmb	07 46 39.6	
	comp=Z,4.8nm,0.7s						
MKAR	**Makanchi Array**	**41.21**	**308**	P	**P**	**07 47 31.1**	**+0.2**
MKAR	**Makanchi Array**	**41.21**	**308**	P	**P**	**07 47 30.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=92,slow=11,SNR=12						
MKAR				PcP	**PcP**	**07 49 30.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=83,slow=3.2,SNR=4.1						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**44.13**	**313**	P	**P**	**07 47 54.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=92,slow=9.1,SNR=5.8						
	comp=Z,0.3nm,0.3s						
AAK	**Ala-Archa**	**46.69**	**302**	LR	LR	08 09 35.2	
	comp=Z,88nm,19.6s,baz=322,slow=38						
BVAR	**Borovoye Array**	**49.37**	**316**	P	**P**	**07 48 35.3**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=92,slow=8.3,SNR=9.0						
	comp=Z,1.8nm,0.6s						
BRVK	**Borovoye**	**49.43**	**316**	P	**P**	**07 48 35.9**	**-0.1**
BRVK				IAmb	IAmb	07 48 37.4	
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**49.56**	**303**	P	**P**	**07 48 37.0**	**-0.2**
KK31				IAmb	IAmb	07 48 38.1	
	comp=Z,3.3nm,0.8s						
KKAR	**Karatay Array**	**49.56**	**303**	P	**P**	**07 48 37.0**	**-0.2**
GAR	**Garm**	**50.25**	**298**	P	**P**	**07 48 42.9**	**+0.3**
CHGR	**Chuyangaron**	**51.20**	**297**	P	**P**	**07 48 50.0**	**+0.3**
SIMJ	**Simiganj**	**51.32**	**297**	P	**P**	**07 48 50.4**	**-0.3**
SIMJ				IAmb	IAmb	07 48 52.6	
	comp=Z,5.3nm,0.8s						
PALK	**Pallekele**	**52.55**	**255**	LR	LR	08 12 35.5	
	comp=Z,43nm,19.1s,baz=36,slow=38						
ASAR	**Alice Springs**	**53.46**	**177**	P	**P**	**07 49 02.5**	**-3.9**
	comp=Z,0.3nm,1.0s,baz=338,slow=4.3,SNR=1.8						
	comp=Z,0.3nm,1.0s						
ABKAR	**Akbulak array**	**56.12**	**312**	P	**P**	**07 49 25.5**	**+0.1**
ARTI	**Arti**	**56.27**	**320**	P	**P**	**07 49 26.4**	**0.0**
ARTI				IAmb	IAmb	07 49 39.1	
	comp=Z,5.9nm,1.3s						
ACHA	**Angle Creek He**	**56.33**	**38**	P	**P**	**07 49 27.8**	**+0.9**
ACHA				IAmb	IAmb	07 49 48.8	
	comp=Z,4.1nm,1.3s						
CAPN	**Captain Cook N**	**58.25**	**34**	P	**P**	**07 49 39.3**	**-0.9**
RND	**Reindeer**	**59.06**	**31**	P	**P**	**07 49 46.5**	**+0.4**
RND				IAmb	IAmb	07 49 54.4	
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**59.77**	**29**	P	**P**	**07 49 51.4**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=274,slow=8.3,SNR=1.8						
	comp=Z,0.3nm,0.9s						
SPITS	**Spitsbergen Ar**	**65.67**	**348**	P	**P**	**07 50 31.1**	**+1.2**
	comp=Z,6.0nm,0.9s,baz=83,slow=15,SNR=5.1						
	comp=Z,6.0nm,0.9s						
A36M	**Sachs Harbour**	**65.73**	**19**	P	**P**	**07 50 30.5**	**+0.2**
A36M				IAmb	IAmb	07 50 33.5	
	comp=Z,2.8nm,0.7s						
KBZ	**Khabaz**	**68.89**	**309**	P	**P**	**07 50 51.0**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=81,slow=4.1,SNR=5.2						
	comp=Z,2.9nm,0.8s						
FINES	**FINESS Array B**	**70.90**	**331**	P	**P**	**07 51 03.2**	**+0.3**
FINES	**FINESS Array B**	**70.90**	**331**	P	**P**	**07 51 03.0**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=81,slow=6.0,SNR=21						
	comp=Z,3.4nm,0.6s						
YKA	**Yellowknife Ar**	**73.90**	**26**	P	**P**	**07 51 22.1**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=300,slow=6.0,SNR=4.3						
	comp=Z,0.4nm,0.9s						
AKASG	**Malin Array Be**	**74.42**	**320**	P	**P**	**07 51 23.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=62,slow=5.3,SNR=4.8						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**76.71**	**333**	P	**P**	**07 51 36.5**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=64,slow=9.8,SNR=5.5						
	comp=Z,2.1nm,0.6s						
BRTR	**Keskin Array B**	**76.86**	**308**	P	**P**	**07 51 37.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=76,slow=4.2,SNR=4.8						
	comp=Z,1.1nm,0.8s						
NB2	**NORSAR Subarra**	**77.09**	**334**	P	**P**	**07 51 39.6**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**77.09**	**334**	P	**P**	**07 51 39.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=50,slow=5.6,SNR=4.5						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**88.47**	**40**	P	**P**	**07 52 39.1**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=20,slow=4.7,SNR=4.2						
	comp=Z,0.4nm,0.8s						
SCHQ	**Schefferville**	**94.03**	**10**	LR	LR	08 39 00.2	
	comp=Z,16nm,18.3s,baz=21,slow=38						

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*SJA **03** 07:55:45.5±0.6, 24.°35S×67.°41W, h183km, ML3.4, MW3.5*
*GUC **03** 07:55:47.5±0.8, 24.°31S×67.°40W, h154km±7km, ML3.5*
ISC 03 07:55:45.9±1.6, 24.°31S±0.°03×67.°43W±0.°04, h176km±14km, n33, σ1°51/52, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.00**	**85**	⇑*iP*	**Pn**	**07 56 12.8**	**-1.1**
SALTA				*eS*	**Sn**	**07 56 32.7**	**-2.6**
AF01	**San Pedro de A**	**1.52**	**333**	*eP*	**Pn**	**07 56 18.3**	**+0.2**
AF01				IAML		07 56 46.2	
	comp=E,381nm,0.7s						
AF01	**San Pedro de A**	**1.52**	**333**	*eP*	**Pn**	**07 56 19.6**	**+1.5**
AF01				*eS*	**Sn**	**07 56 44.5**	**+1.5**
AF01				IAML		07 56 56.2	
	comp=Z,147nm,0.5s						
SLA	**San Lorenzo**	**1.80**	**103**	*eP*	**Pn**	**07 56 20.6**	**-0.2**
SLA	**San Lorenzo**	**1.80**	**103**	*eP*	**Pn**	**07 56 21.2**	**+0.4**
GO02	**Mina Guanaco**	**2.14**	**246**	⇓*iP*	**Pn**	**07 56 25.1**	**+0.5**
GO02				*eS*	**Sn**	**07 56 54.2**	**-0.3**
GO02				IAML		07 56 55.2	
	comp=N,307nm,0.2s						
GO02	**Mina Guanaco**	**2.14**	**246**	*eP*	**Pn**	**07 56 25.3**	**+0.7**
GO02				*eS*	**Sn**	**07 56 54.6**	**+0.1**
AZAP	**Zapla**	**2.16**	**88**	*eP*	**Pn**	**07 56 24.4**	**-0.4**
FSA	**Cafayete**	**2.22**	**144**	*eP*	**Pn**	**07 56 25.3**	**-0.1**
FSA				*eP*		07 56 25.7	
PB06	**IPOC Station P**	**2.53**	**309**	⇑*iP*	**Pn**	**07 56 29.8**	**+0.9**
PB06				*eS*	**Sn**	**07 57 01.6**	**-0.8**
PB06				IAML		07 57 03.9	
	comp=E,250nm,0.3s						
PB06	**IPOC Station P**	**2.53**	**309**	*eP*	**Pn**	**07 56 29.9**	**+0.9**
PB06				*eS*	**Sn**	**07 57 02.4**	**0.0**
PB06				IAML		07 57 03.0	
	comp=Z,121nm,0.3s						
PB14	**IPOC Station P**	**2.73**	**263**	*eP*	**Pn**	**07 56 32.8**	**+1.4**
PB14				IAML		07 57 06.8	
	comp=E,45nm,0.4s						
PB14	**IPOC Station P**	**2.73**	**263**	*eP*	**Pn**	**07 56 32.5**	**+1.1**
PB14				*eS*	**Sn**	**07 57 05.7**	**-1.0**
PB14				IAML		07 57 10.0	
	comp=Z,67nm,0.4s						
YJA	**Yavi**	**2.76**	**40**	*eP*	**Pn**	**07 56 32.5**	**+0.5**
YJA	**Yavi**	**2.76**	**40**	*eP*	**Pn**	**07 56 33.2**	**+1.2**
YJA				*eS*	**Sn**	**07 57 09.1**	**+1.3**
AC02	**Maricunga**	**2.94**	**211**	⇓*iP*	**Pn**	**07 56 34.9**	**+0.7**
AC02				*eS*	**Sn**	**07 57 11.9**	**+0.1**
AC02				IAML		07 57 15.3	
	comp=E,34nm,0.5s						
AC02	**Maricunga**	**2.94**	**211**	*eP*	**Pn**	**07 56 35.1**	**+0.9**
AC02				*eS*	**Sn**	**07 57 14.1**	**+2.3**
PB09	**IPOC Station P**	**3.01**	**326**	*i P*	**Pn**	**07 56 36.1**	**+1.3**
PB09				*eS*	**Sn**	**07 57 12.7**	**0.0**
PB09				IAML		07 57 16.7	
	comp=E,126nm,0.6s						
PB09	**IPOC Station P**	**3.01**	**326**	*eP*	**Pn**	**07 56 36.2**	**+1.4**
PB09				*eS*	**Sn**	**07 57 13.1**	**+0.4**
PB09				IAML		07 57 13.3	
	comp=Z,98nm,0.5s						
AHML	**Horco Molle**	**3.10**	**143**	*eP*	Pn	07 56 50.9	+15
AHML				*eS*	Sn	07 57 28.5	+14
PB03	**IPOC Station P**	**3.11**	**316**	⇑*iP*	**Pn**	**07 56 36.6**	**+0.7**
PB03				IAML		07 57 15.1	
	comp=N,182nm,0.3s						
PB03	**IPOC Station P**	**3.11**	**316**	*eP*	**Pn**	**07 56 36.5**	**+0.6**

SIV	**San Ignacio**	**14.94**	**121**	P	**Pn**	**08 16 03.7**	**+0.1**
	5.8nm,0.5s,baz=303,slow=10,SNR=36						
SIV				S	**Sn**	**08 18 47.4**	**-2.2**
	1.8nm,0.5s,baz=255,slow=21,SNR=2.7						
PB14	**IPOC Station P**	**16.36**	**167**		**Pn**	**08 16 20.8**	**-0.4**
PTLB	**Pontes e Lacer**	**16.40**	**116**	P	**P**	**08 16 22.8**	**+1.3**
PTLB				IAmb	IAmb	08 16 24.2	
	comp=Z,7.9nm,0.8s						
PTLB	**Pontes e Lacer**	**16.40**	**116**	*e*P	**P**	**08 16 23.1**	**+1.6**
BOAV	**Boa Vista**	**17.66**	**52**	P	**P**	**08 16 36.0**	**+0.6**
PDRB	**Porto dos Gac**	**17.66**	**101**	P	**P**	**08 16 35.8**	**+0.4**
PDRB	**Porto dos Gac**	**17.66**	**101**	*e*P	**P**	**08 16 36.2**	**+0.8**
AC01	**Pan de Azucar**	**17.80**	**169**	P	**Pn**	**08 16 37.3**	**-0.9**
AC01				IAmb	IAmb	08 17 12.0	
	comp=Z,8.9nm,1.1s						
SDV	**Santo Domingo**	**17.80**	**12**	P	**P**	**08 16 37.2**	**0.0**
SDV				IAmb	IAmb	08 17 10.7	
	comp=Z,12nm,1.5s						
SDV	**Santo Domingo**	**17.80**	**12**	P	**Pn**	**08 16 38.8**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=335,slow=17,SNR=3.6						
CLDB	**Colider**	**18.48**	**98**	P	**Pn**	**08 16 45.8**	**-0.6**
BAUV	**El Baul**	**18.57**	**20**	P	**P**	**08 16 45.9**	**+0.5**
BAUV				IAmb	IAmb	08 17 06.7	
	comp=Z,23nm,1.3s						
NPGB	**Novo Progresso**	**18.94**	**87**	P	**P**	**08 16 49.6**	**+0.1**
NPGB	**Novo Progresso**	**18.94**	**87**	*e*P	**P**	**08 16 49.3**	**-0.2**
ITTB	**Itaituba**	**19.03**	**78**	P	**P**	**08 16 51.1**	**+0.7**
MURT	**Porto Murtinho**	**20.73**	**131**	*e*P	**P**	**08 17 08.9**	**+0.4**
MAL2	**Monte Alegre,**	**21.18**	**73**	P	**P**	**08 17 13.7**	**+0.2**
AQDB	**Aquidauana**	**21.58**	**125**	P	**P**	**08 17 18.8**	**+1.1**
AQDB	**Aquidauana**	**21.58**	**125**	P	**P**	**08 17 18.4**	**+0.7**
CO03	**El Pedregal**	**22.37**	**172**	P	**P**	**08 17 27.4**	**+1.7**
CO03				IAmb	IAmb	08 18 01.5	
	comp=Z,19nm,1.5s						
BMO2	**UHE Belo Monte**	**22.91**	**78**	P	**P**	**08 17 30.6**	**-0.3**
SNDB	**Serra Nova Dou**	**22.99**	**100**	P	**P**	**08 17 31.8**	**+0.1**
SNDB	**Serra Nova Dou**	**22.99**	**100**	*e*P	**P**	**08 17 31.9**	**+0.3**
ARAG	**Araguaiana, MT**	**23.17**	**110**	P	**P**	**08 17 33.2**	**-0.1**
SJPY	**San Joaquin**	**23.87**	**135**	*e*P	**P**	**08 17 39.4**	**-0.2**
CPUP	**Villa Florida**	**23.94**	**139**	P	**P**	**08 17 39.7**	**-0.5**
CPUP				IAmb	IAmb	08 18 13.7	
	comp=Z,5.8nm,1.3s						
CPUP	**Villa Florida**	**23.94**	**139**	P	**P**	**08 17 39.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=323,slow=9.4,SNR=8.6						
	comp=Z,0.9nm,0.6s						
CPUP	**Villa Florida**	**23.94**	**139**	P	**P**	**08 17 39.7**	**-0.5**
PTGB	**Pitanga**	**26.66**	**130**	P	**P**	**08 18 04.5**	**-0.4**
BDFB	**Brasília**	**26.71**	**108**	P	**P**	**08 18 04.8**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=249,slow=4.2,SNR=5.3						
	comp=Z,1.3nm,0.4s						
ITAB	**Concordia**	**28.05**	**134**	P	**P**	**08 18 16.8**	**-0.4**
JANB	**Januaria**	**30.12**	**105**	P	**P**	**08 18 35.0**	**-0.7**
JQT1	**Jequitai-MG**	**30.48**	**109**	P	**P**	**08 18 37.8**	**-1.1**
RIB01	**Linhares ES**	**34.61**	**112**	P	**P**	**08 19 16.4**	**+1.6**
HNDO	**Hondo**	**44.86**	**329**	P	**P**	**08 20 39.7**	**+0.4**
TX31	**Lajitas Ar. Si**	**47.10**	**324**	P	**P**	**08 20 57.8**	**+0.8**
TXAR	**Lajitas Array**	**47.10**	**324**	P	**P**	**08 20 57.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=149,slow=8.3,SNR=15						
TXAR				pP	**pP**	**08 21 31.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=142,slow=7.1,SNR=3.2						
	comp=Z,0.7nm,0.5s						
VHRN	**Van Horn**	**48.95**	**325**	P	**P**	**08 21 11.9**	**+0.7**
SMWD	**Samnorwood**	**49.88**	**332**	P	**P**	**08 21 19.0**	**+0.9**
SMWD				IAmb	IAmb	08 21 19.4	
	comp=Z,8.1nm,0.8s						
X16A	**Lo Mia Camp, P**	**55.34**	**323**	P	**P**	**08 21 59.8**	**+1.4**
X16A				IAmb	IAmb	08 22 00.4	
	comp=Z,1.4nm,0.6s						
PV13	**Radium Mtn., P**	**56.53**	**328**	P	**P**	**08 22 08.1**	**+1.1**
PV13				IAmb	IAmb	08 22 28.9	
	comp=Z,4.7nm,1.2s						
TCUT	**Toone Canyon**	**60.06**	**328**	P	**P**	**08 22 32.3**	**+0.9**
PDAR	**Pinedale Array**	**60.36**	**331**	P	**P**	**08 22 33.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=121,slow=9.1,SNR=8.9						
	comp=Z,0.4nm,0.5s						
ULM	**Lac du Bonnet**	**61.54**	**345**	P	**P**	**08 22 40.6**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=148,slow=8.0,SNR=2.0						
	comp=Z,0.9nm,0.4s						
NVAR	**Mina Array Bea**	**62.13**	**322**	P	**P**	**08 22 45.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=131,slow=5.3,SNR=2.8						
	comp=Z,0.4nm,0.7s						
YMR	**Madison River**	**62.46**	**331**	P	**P**	**08 22 49.0**	**+1.6**
YMR				IAmb	IAmb	08 22 49.7	
	comp=Z,3.3nm,0.8s						
YHL	**Hebgen Lake**	**62.70**	**331**	P	**P**	**08 22 50.3**	**+1.2**
SCHQ	**Schefferville**	**63.54**	**5**	P	**P**	**08 22 53.6**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=218,slow=6.1,SNR=3.6						
	comp=Z,2.5nm,1.0s						
MFID	**Camas Ranch**	**64.00**	**328**	P	**P**	**08 22 58.1**	**+0.7**
MFID				IAmb	IAmb	08 22 59.4	
	comp=Z,3.9nm,0.8s						
MSO	**Missoula**	**65.46**	**331**	P	**P**	**08 23 07.1**	**+0.3**
MSO				IAmb	IAmb	08 23 08.6	
	comp=Z,5.5nm,1.0s						
DBIC	**Dimbokro**	**70.98**	**80**	P	**P**	**08 23 41.0**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=267,slow=6.5,SNR=4.6						
	comp=Z,1.5nm,0.5s						
YKA	**Yellowknife Ar**	**77.37**	**342**	P	**P**	**08 24 17.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=146,slow=6.2,SNR=10						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.61**	**75**	P	**P**	**08 24 24.7**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=268,slow=3.3,SNR=3.2						
	comp=Z,0.8nm,0.4s						
ILAR	**Eielson Array**	**90.40**	**336**	P	**P**	**08 25 23.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=104,slow=3.8,SNR=3.7						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**137.08**	**24**	PKP	**PKPdf**	**08 31 45.7**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=325,slow=2.3,SNR=2.8						
ASAR	**Alice Springs**	**137.62**	**220**	PKP	**PKPdf**	**08 31 46.1**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=132,slow=2.6,SNR=2.3						
WRA	**Warramunga Arr**	**139.91**	**225**	PKP	**PKiKP**	**08 31 52.1**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=124,slow=2.7,SNR=2.3						
SONM	**Songino Array**	**140.92**	**359**	PKP	**PKPdf**	**08 31 50.2**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=114,slow=3.5,SNR=1.8						
KSRS	**Korea Array**	**144.90**	**328**	PKP	PKPbc	08 31 58.5	-0.6
	comp=Z,1.1nm,0.7s,baz=36,slow=3.9,SNR=5.5						

*SOME **03** 08:18:01.7, 41°.42N×78°.25E, h5km*
*KRNET **03** 08:18:01.8±0.1, 41°.44N×78°.33E, h13km, mb2.7*
*NNC **03** 08:18:02.6±0.8, 41°.40N×78°.29E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=5.8km s-min=3.5km az=161.0,
Suspected Mining explosion.

ISC 03 08:18:04.5±1.5, **41°.50N**±0°.07×**78°.28E**±0°.04, **h0km, n41, σ1°19/63, 20C-10D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.98**	**5**	⇑*e*P	**Pg**	**08 18 22.5**	**-0.9**
PRZ				⇑*e*S	**Sb**	**08 18 37.1**	**-1.1**
KDJ	**Kajisay**	**1.03**	**308**	⇑*i*P	**Pg**	**08 18 22.9**	**-1.4**
KDJ				⇑*i*S	**Sg**	**08 18 38.0**	**+0.3**
ANVS	**Anan'yevo**	**1.36**	**341**	⇑*e*P	**Pg**	**08 18 29.2**	**-1.3**
ANVS				⇑*e*S	**Sn**	**08 18 49.1**	**-0.6**
ZHN	**Zhinishke**	**1.67**	**4**	P	**Pn**	**08 18 34.9**	**-0.2**
	9.7nm,0.2s						
ZHN				S	**Sg**	**08 18 58.8**	**+0.7**
	29nm,0.3s						
ZHN	**Zhinishke**	**1.67**	**4**	*e*P	**Pn**	**08 18 34.9**	**-0.2**
	7.8nm,0.1s						
ZHN				*e*S	**Sg**	**08 18 58.8**	**+0.7**
	31nm,0.1s						
ULHL	**Ulahol**	**1.69**	**297**	⇑*i*P	**Pn**	**08 18 34.5**	**-1.0**
ULHL				⇑*i*S	**Sb**	**08 18 58.9**	**+0.3**
UZB	**Uzynbulak**	**1.73**	**18**	P	**Pb**	**08 18 36.0**	**-1.3**
	3.1nm,0.1s						
UZB				S	**Sg**	**08 19 00.2**	**0.0**
	9.1nm,0.4s						
UZB	**Uzynbulak**	**1.73**	**18**	*e*P	**Pn**	**08 18 35.8**	**-0.3**
	2.6nm,0.1s						
UZB				*e*S	**Sg**	**08 19 00.1**	**-0.1**
	8.4nm,0.1s						
TNSS	**Tian-Shan**	**1.82**	**328**	Pg	**Pn**	**08 18 38.0**	**+0.5**
	6.0nm,0.3s						
TNSS				Lg	Lg	08 19 04.5	
	9.9nm,0.2s						
TNSS	**Tian-Shan**	**1.82**	**328**	*e*P	**Pn**	**08 18 38.0**	**+0.5**
	3.8nm,0.1s						
TNSS				*e*S	**Sg**	**08 19 04.2**	**+1.1**
	11nm,0.2s						
SHLS	**Shalkode**	**1.87**	**28**	*e*P	**Pg**	**08 18 41.8**	**+1.4**
	4.5nm,0.1s						
SHLS				*e*S	**Sg**	**08 19 10.2**	**+5.6**
	11nm,0.1s						
KOTS	**Kotyrbulak**	**1.93**	**334**	Pg	**Pb**	**08 18 40.1**	**-0.6**
	6.5nm,0.2s						
KOTS				Lg	Lg	08 19 08.7	
	59nm,0.2s						
KOTS	**Kotyrbulak**	**1.93**	**334**	*e*P	**Pb**	**08 18 40.3**	**-0.4**
	2.4nm,0.1s						
KOTS				*e*S	**Sg**	**08 19 07.8**	**+1.2**
	60nm,0.2s						
KPKS	**Kokpek**	**1.98**	**9**	Pg	**Pb**	**08 18 40.2**	**-1.4**
	8.8nm,0.2s						
KPKS				Lg	Lg	08 19 08.6	
	19nm,0.2s						
KPKS	**Kokpek**	**1.98**	**9**	*e*P	**Pb**	**08 18 40.8**	**-0.8**
	7.9nm,0.1s						
KPKS				*e*S	**Sg**	**08 19 08.6**	**+0.4**
	19nm,0.2s						
KPKS	**Kokpek**	**1.98**	**9**	*e*P	Pg	08 18 50.0	+7.5
	1.5nm,0.2s						
KPKS				*e*S	Sg	08 19 24.6	+16
	10.0nm,0.3s						
KURS	**Kuram**	**1.98**	**358**	Pg	**Pb**	**08 18 40.9**	**-0.7**
	7.7nm,0.4s						
KURS				Lg	Lg	08 19 08.7	
	5.4nm,0.4s						
KURS	**Kuram**	**1.98**	**358**	*e*P	Pg	08 18 50.9	+8.3
	1.2nm,0.1s						
KURS				*e*S	Sg	08 19 26.0	+18
	19nm,0.3s						
BOOM	**Boomskoye usch**	**2.00**	**300**	⇓*i*P	**Pn**	**08 18 40.1**	**+0.3**
BOOM				⇓*i*S	**Sb**	**08 19 07.8**	**+0.3**
PDGK	**Podgornoye**	**2.03**	**26**	⇑Pg	**Pb**	**08 18 40.5**	**-1.9**
	5.0nm,0.5s						
PDGK				⇓Lg	Lg	08 19 10.0	
	8.2nm,0.5s						
KST	**Kastek**	**2.31**	**313**	Pg	**Pb**	**08 18 45.7**	**-1.4**
	2.7nm,0.3s						
KST				Lg	Lg	08 19 17.6	
	12nm,0.4s						
KST	**Kastek**	**2.31**	**313**	*e*P	**Pb**	**08 18 46.4**	**-0.7**
	1.2nm,0.2s						
KST				*e*S	**Sg**	**08 19 18.3**	**-0.3**
	12nm,0.4s						
TKM2	**Tokmak 2**	**2.44**	**306**	⇑*i*P	**Pn**	**08 18 45.9**	**0.0**
TKM2				⇑*i*S	**Sn**	**08 19 18.4**	**+1.8**
KTBS	**Karatobe**	**2.50**	**332**	Pg	**Pb**	**08 18 50.1**	**-0.3**
	4.3nm,0.2s						
KTBS				Lg	Lg	08 19 24.2	
	29nm,0.3s						
CHKK	**Chushkaly**	**2.53**	**338**	Pg	**Pb**	**08 18 50.4**	**-0.4**
	3.7nm,0.2s						
CHKK				Lg	Lg	08 19 25.7	
	24nm,0.3s						
CHKK	**Chushkaly**	**2.53**	**338**	*e*P	**Pb**	**08 18 50.9**	**0.0**
	1.2nm,0.1s						
CHKK				*e*S	**Sg**	**08 19 26.0**	**+0.1**
	19nm,0.3s						
DGS	**Degeres**	**2.54**	**314**	Pg	**Pb**	**08 18 50.0**	**-1.1**
	3.5nm,0.4s						
DGS				Lg	Lg	08 19 24.8	
	9.7nm,0.4s						
BLB	**Baldybastay**	**2.59**	**3**	Pg	**Pb**	**08 18 51.8**	**-0.2**
	12nm,0.3s						
BLB				Lg	Lg	08 19 27.3	
	22nm,0.6s						
KBK	**Karagaybulak**	**2.73**	**296**	⇓*i*P	**Pn**	**08 18 50.0**	**+0.2**
KBK				⇓*i*S	**Sn**	**08 19 25.3**	**+1.6**
UCH	**Uchtor**	**2.90**	**286**	⇓*i*P	**Pn**	**08 18 52.5**	**+0.1**
UCH				⇓*i*S	**Sn**	**08 19 29.7**	**+1.5**
KRBS	**Karabastau**	**2.91**	**320**	Pg	**Pb**	**08 18 57.3**	**-0.1**
	0.9nm,0.2s						
KRBS				Lg	Lg	08 19 36.9	
	6.0nm,0.2s						
KNOS	**Konyrlen**	**2.93**	**13**	Pg	**Pb**	**08 18 56.9**	**-0.8**
	2.8nm,0.4s						
KNOS				Lg	Lg	08 19 36.8	
	4.4nm,0.3s						
ARLS	**Aral**	**2.98**	**278**	⇑*i*P	**Pn**	**08 18 53.2**	**-0.1**
ARLS				⇑*i*S	**Sn**	**08 19 31.0**	**+1.2**
AAK	**Ala-Archa**	**3.04**	**293**	⇓Pg	**Pb**	**08 18 58.1**	**-1.5**
	1.0nm,0.3s						
AAK				⇑Lg	Lg	08 19 41.3	
	5.5nm,0.7s						
AAK	**Ala-Archa**	**3.04**	**293**	⇑*i*P	**Pn**	**08 18 54.1**	**+0.1**
AAK				⇑*i*S	**Sn**	**08 19 32.5**	**+1.4**
DJR	**Jarkent**	**3.04**	**21**	Pg	**Pb**	**08 18 58.7**	**-0.8**
	0.5nm,0.1s						
DJR				Lg	Lg	08 19 39.3	
	10nm,0.3s						
DJR	**Jarkent**	**3.04**	**21**	*e*P	**Pb**	**08 18 58.7**	**-0.8**
	0.7nm,0.1s						
DJR				*e*S	**Sg**	**08 19 39.3**	**-2.8**
	10nm,0.3s						
USP	**Ospenovka**	**3.31**	**303**	⇑*i*P	**Pn**	**08 18 57.7**	**+0.1**
USP				⇑*i*S	**Sn**	**08 19 38.9**	**+1.3**
SGDS	**Sogindy**	**3.33**	**307**	Pg	**Pb**	**08 19 04.6**	**+0.1**
	1.0nm,0.1s						
SGDS				Lg	Lg	08 19 49.4	
	5.4nm,0.5s						
SALK	**Salom-Alik**	**3.42**	**261**	⇑*i*P	**Pn**	**08 18 59.3**	**0.0**
SALK				⇑*i*S	**Sn**	**08 19 41.0**	**+0.4**
AML	**Almayashu**	**3.48**	**282**	⇓*i*P	**Pn**	**08 19 01.5**	**+0.2**
AML				⇓*i*S	**Sn**	**08 19 43.7**	**+1.2**

*NEIC **03** 08:44:52.2±1.4, 39°.13N±0°.03×115°.69W±0°.04, h4km±5km,*
Error ellipse: s-maj=5.9km s-min=3.6km az=136.0

REN 03 08:44:53.8±1.2, **39°.10N**±0°.02×**115°.67W**±0°.04, **h2km**±5km, **ML2.7**/4, **ML2.4**/46(NEIC), **Error ellipse: s-maj=4.3km s-min=2.7km az=105.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q12A	**Willow Creek R**	**0.66**	**95**		Pg	08 45 06.3	-0.1
Q12A					Sg	08 45 15.9	+1.0
R11B	**Troy Canyon, C**	**0.76**	**175**		Pg	08 45 07.3	-1.0
R11B				IAML		08 45 21.1	
	comp=E,193nm,0.3s						
R11B				IAML		08 45 21.4	
	comp=N,120nm,0.2s						
SPR3	**Spring Creek 3**	**1.05**	**95**		Pg	08 45 13.9	0.0
SPR3				IAML		08 45 30.0	
	comp=E,65nm,0.1s						
SPR3				IAML		08 45 30.6	
	comp=N,68nm,0.5s						
Q09A	**Carvers**	**1.21**	**258**		Pg	08 45 16.5	-0.5
S11A	**Rachel**	**1.46**	**182**		Pn	08 45 20.6	-0.7
S11A					Sg	08 45 39.9	-0.8
PSUT	**Pine Spring**	**1.53**	**111**		Pn	08 45 21.1	-1.2
PSUT					Sn	08 45 41.8	-1.1
PSUT				IAML		08 45 45.4	
	comp=N,57nm,0.4s						
ELK	**Elko**	**1.67**	**11**		Pn	08 45 23.4	-0.9
PRN	**Pahroc Range**	**1.76**	**164**		Pn	08 45 24.9	-0.6
MZP	**Montezuma Peak**	**1.94**	**224**		Pn	08 45 26.8	-1.2
NV11	**Mina Array Sit**	**2.06**	**252**		Pn	08 45 28.5	-1.0
NVAR	**Mina Array Bea**	**2.17**	**253**		Pn	08 45 30.2	-0.9
NV08	**Mina Array Sit**	**2.19**	**252**		Pn	08 45 30.4	-0.9
NV09	**Mina Array Sit**	**2.19**	**253**		Pn	08 45 30.7	-0.7
TPNV	**Topopah Spring**	**2.20**	**192**		Pn	08 45 30.5	-1.0
TPNV				IAML		08 46 03.3	
	comp=N,23nm,0.6s						
TPNV				IAML		08 46 04.5	
	comp=N,29nm,0.6s						
RYN	**Ryan**	**2.28**	**259**		Pn	08 45 31.8	-0.7
LHV	**Little Huntoon**	**2.38**	**250**		Pn	08 45 33.2	-0.5
LHV				IAML		08 46 11.1	
	comp=N,28nm,0.5s						
NSP	**Numbskull Pass**	**2.41**	**190**		Pb	08 45 37.1	-0.9
WCT	**Wildcat Mounta**	**2.43**	**198**		Pn	08 45 33.8	-0.8
WCT				IAML		08 46 11.4	
	comp=E,13nm,0.5s						
LCH	**Last Change Ra**	**2.43**	**220**		Pn	08 45 34.2	-0.4
DSP	**Deep Springs**	**2.50**	**227**		Pn	08 45 34.9	-0.6
DSP				IAML		08 46 12.3	
	comp=N,11nm,4.2s						
SDH	**Striped Hills**	**2.51**	**192**		Pb	08 45 40.7	+1.1
AMDNV	**Amargosa**	**2.69**	**191**		Pn	08 45 37.9	-0.1
BGU	**Big Grassy Mou**	**2.73**	**47**	Pn	Pn	08 45 38.1	-0.6
BGU				IAML		08 46 28.8	
	comp=E,10nm,3.5s						
WAKR	**Walker**	**3.00**	**260**		Pn	08 45 41.7	-0.9
WAKR				IAML		08 46 03.5	
	comp=E,15nm,4.0s						
WAKR				IAML		08 47 14.1	
	comp=N,12nm,4.0s						
GWY	**Greenwater Val**	**3.02**	**196**		Pn	08 45 42.3	-0.4
GWY				IAML		08 46 38.2	
	comp=N,8.8nm,0.5s						
GWY				IAML		08 46 48.9	
	comp=E,14nm,3.5s						
V12A	**Nelson**	**3.43**	**169**		Pn	08 45 47.6	-0.8
V12A				IAML		08 46 29.8	
	comp=E,7.5nm,5.0s						
V12A				IAML		08 46 56.5	
	comp=N,5.3nm,3.1s						

*OSPL **03** 08:48:53.5±2.8, 19°.53N×69°.70W, h5km±12km, ML2.5*
*SDD **03** 08:48:55.0±1.9, 19°.46N×69°.85W, h20km±6km, MD3.2,*
ML2.7, MW3.1

ISC 03 08:48:53.7±1.1, **19°.48N**±0°.04×**69°.75W**±0°.04, **h16**km±6km, **n19, σ1°92/31, 14C-6D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.16**	**217**	⇓*e*Pg	**Pg**	**08 48 58.2**	**+0.3**
NADR				⇑*e*Sg	**Sg**	**08 49 01.5**	**+0.8**
NADR				IAML		08 49 01.6	
	comp=N,5μm,0.3s						
CADR	**Cabrera**	**0.26**	**317**	⇑*e*Pg	**Pg**	**08 48 58.7**	**-0.7**
CADR				⇓*e*Sg	**Sb**	**08 49 04.6**	**+0.4**
CADR				IAML		08 49 04.7	
	comp=N,1μm,0.5s						
SFDR	**San Fco. de Ma**	**0.50**	**247**	⇑*i*Pn	**Pg**	**08 49 01.6**	**-2.1**
SFDR				⇑*e*Sg	**Sg**	**08 49 09.1**	**-1.3**
SFDR				IAML		08 49 10.8	
	comp=N,1μm,0.2s						
SMDR	**Samana, DR**	**0.57**	**109**	⇑*i*Pn	**Pn**	**08 49 07.2**	**+0.1**
SMDR				IAML		08 49 20.4	
	comp=N,192nm,0.3s						
HATOM	**Hato Mayor del**	**0.77**	**153**	⇓*e*Pg	**Pb**	**08 49 09.5**	**+0.6**
HATOM				⇓*e*Sg	**Sb**	**08 49 20.8**	**+1.7**
HATOM				IAML		08 49 21.8	
	comp=N,77nm,0.2s						
SC01	**Santiago de lo**	**0.92**	**267**	⇑*e*Pg	**Pg**	**08 49 09.8**	**-1.8**
SC01				IAML		08 49 24.8	
	comp=N,210nm,0.6s						
SC01	**Santiago de lo**	**0.92**	**267**	*i* P	**Pg**	**08 49 10.6**	**-1.0**
SC01				*e*S	**Sg**	**08 49 23.9**	**+0.1**
SC01				IAML		08 49 26.2	
	comp=Z,122nm,0.3s						
SDD	**Santo Domingo**	**1.03**	**188**	*e*S	**Sg**	**08 49 25.8**	**-1.3**
ABDR	**Alto Bandera**	**1.06**	**231**	⇑*e*Pg	**Pg**	**08 49 11.0**	**-3.3**
ABDR				⇓*e*Sg	**Sg**	**08 49 24.9**	**-3.4**
ABDR				IAML		08 49 25.6	
	comp=N,126nm,0.5s						
BANI	**BANI**	**1.22**	**208**	⇑*e*Pg	**Pg**	**08 49 15.0**	**-2.4**
BANI				⇑*e*Sg	**Sg**	**08 49 30.8**	**-2.6**
BANI				IAML		08 49 32.7	
	comp=N,228nm,0.2s						
MADR	**Mao Valverde**	**1.27**	**274**	⇓*e*Pg	**Pn**	**08 49 16.8**	**-0.1**
MADR				IAML		08 49 40.8	
	comp=N,227nm,0.3s						
SDDR	**Presa de Saban**	**1.53**	**251**	⇑*e*Pg	**Pn**	**08 49 21.5**	**+1.0**
SDDR				⇑*e*Sg	**Sn**	**08 49 38.2**	**-1.8**
SDDR				IAML		08 49 45.4	
	comp=N,69nm,0.3s						
SDDR	**Presa de Saban**	**1.53**	**251**	*i* P	**Pn**	**08 49 20.1**	**-0.3**
SDDR				*e*S	**Sn**	**08 49 39.3**	**-0.7**
SDDR				IAML		08 49 42.8	
	comp=Z,37nm,0.7s						
REDR	**Restauracion**	**1.58**	**259**	⇑*e*Pg	**Pg**	**08 49 25.4**	**+1.3**
REDR				⇑*e*Sg	**Sg**	**08 49 48.0**	**+3.2**
REDR				⇑*e*		08 49 48.0	
REDR				IAML		08 49 49.4	
	comp=N,119nm,0.2s						
LONE3	**El Aguacate, B**	**1.83**	**242**	*i* P	**Pn**	**08 49 25.2**	**+0.5**
LONE3				*e*S	**Sn**	**08 49 48.5**	**+1.0**
LONE3				IAML		08 49 52.5	
	comp=Z,28nm,0.9s						
PODR	**Polo**	**1.95**	**228**	*i* P	**Pn**	**08 49 28.2**	**+1.9**
PODR				*e*S	**Sn**	**08 49 53.8**	**+3.3**
GRTK	**Grand Turk**	**2.40**	**328**	*i*		08 48 04.1	
GRTK				*e*S	**Sn**	**08 49 58.9**	**-2.4**
GRTK				IAML		08 50 07.6	
	comp=Z,36nm,1.2s						
LOBH	**Bahia de las A**	**2.41**	**228**	*i* P	**Pn**	**08 49 35.5**	**+3.0**
LOBH				IAML		08 50 12.5	
	comp=Z,67nm,1.3s						
PAPH	**Port-au-Prince**	**2.59**	**249**	*i* P	**Pn**	**08 49 35.5**	**+0.5**
PAPH				IAML		08 50 12.7	
	comp=Z,11nm,2.0s						

*ATH **03** 09:00:51.0, 37°.23N×20°.58E, h11km±3km, ML2.6/3,*
Manual Solution by A.Moschou First location: 2019/03/03
09:01:59, This location: 2020/10/07 09:23:52 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 2 km;
Longitude uncertainty: 1 km
*THE **03** 09:00:55.2, 37°.41N×20°.75E, h0km±3km, ML2.2/6, Error*
ellipse: s-maj=4.5km s-min=0.8km az=218.0

ISC 03 09:00:52.7±2.4, **37°.31N**±0°.08×**20°.65E**±0°.07, **h7**km±11km, **n18, σ0°62/33, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.43**	**21**	P	**Pg**	**09 01 01.2**	**+0.3**
LTHK			

ALIB			Sn	Sn	09 11 50.4	+0.8
SAAT	**Saatly**	**1.47 338**	Pn	Pn	09 11 33.1	+1.5
SAAT			Sn	Sn	09 11 51.9	+2.1
QRD	**Qoradiz**	**1.71 305**	Pn	Pn	09 11 34.6	-0.3
QRD			Sn	Sn	09 11 55.6	-0.3
BLQ	**Beylaqan**	**1.73 315**	Pn	Pn	09 11 34.9	-0.3
BLQ			Sn	Sn	09 11 55.9	-0.4
JIR1	**Jirandeh**	**1.86 163**	Pg	Pn	09 11 37.0	-0.1
IHSH	**Hashtrud**	**1.90 232**	Pg	Pn	09 11 39.0	+1.1
GBS	**Qobustan**	**2.04 356**	Pn	Pn	09 11 41.6	+2.1
GBS			Sn	Sn	09 12 06.5	+2.5
ZRD	**Zardab**	**2.11 328**	Pg	Pn	09 11 43.3	+3.0
ZRD			Sn	Sn	09 12 06.2	+0.7
AGDM	**Agdam**	**2.25 316**	Pn	Pn	09 11 42.0	-0.4
AGDM			Sn	Sn	09 12 10.3	+1.2
IGZV	**Ghazvin**	**2.27 158**	Pn	Pn	09 11 42.9	+0.1
PQL	**Pirkuli**	**2.33 350**	Pn	Pn	09 11 45.2	+1.7
PQL			Sn	Sn	09 12 11.7	+0.5
BRDA	**Brd**	**2.33 320**	Pn	Pn	09 11 43.4	0.0
BRDA			Sn	Sn	09 12 12.5	+1.5
ATGJ	**Altiaghaj**	**2.37 356**	Pn	Pn	09 11 46.7	+2.7
ATGJ			Sn	Sn	09 12 13.0	+0.9
IML	**Ismayilli**	**2.41 342**	Pn	Pn	09 11 45.6	+1.0
IML			Sn	Sn	09 12 12.8	-0.3
KLST	**Kelardasht - M**	**2.50 142**	Pn	Pn	09 11 45.6	-0.4
ORD	**Ordubad**	**2.50 281**	Pn	Pn	09 11 47.7	+1.8
ORD			Sn	Sn	09 12 17.5	+2.2
QBL	**Gabala**	**2.65 338**	Pn	Pn	09 11 47.2	-0.6
QBL			Sn	Sn	09 12 18.1	-0.8
IMRD	**Marand**	**2.70 276**	Pn	Pn	09 11 50.9	+2.2
XNQ	**Khinaliq**	**2.78 344**	Pn	Pn	09 11 50.8	+1.0
XNQ			Sn	Sn	09 12 22.1	-0.4
QABG	**Abgarm-Qazvin**	**2.81 173**	Pn	Pn	09 11 49.9	-0.2
MZPU	**Pul - Mazandar**	**2.82 136**	Pn	Pn	09 11 50.1	-0.2
QUBA	**Quba, Azerbaij**	**2.90 350**	Pn	Pn	09 11 51.2	-0.1
QUBA			Sn	Sn	09 12 25.0	-0.1
NAX	**Nakhchivan**	**2.93 284**	Pn	Pn	09 11 53.3	+1.6
NAX			Sn	Sn	09 12 27.3	+1.4
SBZ	**Shahbuz**	**2.94 289**	Pn	Pn	09 11 53.6	+1.7
SBZ			Sn	Sn	09 12 27.8	+1.6
GANJ	**Ganja**	**3.06 315**	Pn	Pn	09 11 53.5	+0.1
GANJ			Sn	Sn	09 12 26.2	-2.8
QSAR	**Qusar**	**3.09 348**	Pn	Pn	09 11 55.1	+1.2
QSAR			Sn	Sn	09 12 29.4	-0.4
SEKA	**Sheki**	**3.09 332**	Pn	Pn	09 11 53.3	-0.7
SEKA			Sn	Sn	09 12 28.5	-1.4
IPRN	**Peran**	**3.40 130**	Pn	Pn	09 11 58.5	+0.3
GDB	**GEDABAY**	**3.43 311**	Pn	Pn	09 11 59.0	+0.2
GDB			Sn	Sn	09 12 36.5	-1.9
ZKTA	**Zakatala**	**3.69 329**	Pn	Pn	09 12 02.2	+0.2
ZKTA			Sn	Sn	09 12 43.6	-0.9
QZX	**Qazax, Azerbai**	**3.87 313**	Pn	Pn	09 12 05.6	+1.0
QZX			Sn	Sn	09 12 49.1	0.0
IKIA	**Kiasar**	**4.28 121**	Pn	Pn	09 12 11.3	+0.8

*NEIC **03** 09:15:27.7±1.5, 39°.09N±0°.02×115°.71W±0°.03, h6km±5km, Error ellipse: s-maj=3.0km s-min=2.4km az=87.0*

REN 03 09:15:28.7±1.4, 39°.08N±0°.02×115°.67W±0°.03, h0km±2km, ML2.8/13, ML2.4/50(NEIC), Error ellipse: s-maj=3.1km s-min=2.8km az=111.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q12A	**Willow Creek R**	**0.66**	**93**		Pg	09 15 41.3	0.0
Q12A					Sg	09 15 51.1	+1.3
R11B	**Troy Canyon, C**	**0.73**	**175**		Pg	09 15 42.4	-0.4
R11B				IAML		09 15 56.2	
	comp=E,132nm,0.4s						
SPR3	**Spring Creek 3**	**1.05**	**94**		Pg	09 15 49.0	+0.3
SPR3					Sb	09 16 03.5	-0.8
SPR3	**Spring Creek 3**	**1.05**	**94**	IAML		09 16 05.8	
	comp=N,92nm,0.5s						
SPR3				IAML		09 16 06.3	
	comp=E,80nm,0.6s						
Q09A	**Carvers**	**1.20**	**259**		Pg	09 15 51.0	-0.8
S11A	**Rachel**	**1.44**	**182**		Pn	09 15 55.5	-0.7
S11A					Sg	09 16 15.0	+0.1
PSUT	**Pine Spring**	**1.52**	**111**		Pn	09 15 55.9	-1.5
PSUT				IAML		09 16 18.4	
	comp=N,85nm,0.4s						
ELK	**Elko**	**1.69**	**11**		Pn	09 15 58.7	-1.1
ELK	**Elko**	**1.69**	**11**	IAML		09 16 24.7	
	comp=N,28nm,0.3s						
PRN	**Pahroc Range**	**1.74**	**164**		Pn	09 15 59.6	-0.8
MZP	**Montezuma Peak**	**1.93**	**225**		Pn	09 16 01.6	-1.4
NV11	**Mina Array Sit**	**2.05**	**252**		Pn	09 16 04.3	-0.3
NVAR	**Mina Array Bea**	**2.16**	**253**		Pn	09 16 05.5	-0.6
CPY	**CP-1**	**2.17**	**188**		Pn	09 16 05.8	-0.3
NV08	**Mina Array Sit**	**2.18**	**253**		Pn	09 16 05.7	-0.7
TPNV	**Topopah Spring**	**2.18**	**192**		Pn	09 16 05.7	-0.7
TPNV	**Topopah Spring**	**2.18**	**192**	IAML		09 16 40.7	
	comp=N,38nm,0.5s						
TPNV				IAML		09 16 45.9	
	comp=N,34nm,0.8s						
NV09	**Mina Array Sit**	**2.18**	**254**		Pn	09 16 05.9	-0.6
RYN	**Ryan**	**2.27**	**259**		Pn	09 16 07.2	-0.5
WCT	**Wildcat Mounta**	**2.41**	**199**		Pn	09 16 07.5	-1.9
WCT				IAML		09 16 46.5	
	comp=E,20nm,0.8s						
DUG	**Dugway, Tooele**	**2.47**	**62**		Pn	09 16 10.2	-0.2
DUG				IAML		09 16 52.2	
	comp=E,12nm,0.7s						
DUG				IAML		09 16 53.7	
	comp=E,14nm,0.6s						
DSP	**Deep Springs**	**2.49**	**227**		Pn	09 16 09.5	-1.0
DSP				IAML		09 16 57.6	
	comp=E,15nm,4.5s						
SHPR	**Sheep Range**	**2.60**	**171**		Pn	09 16 10.7	-1.5
AMDNV	**Amargosa**	**2.67**	**191**		Pn	09 16 13.3	+0.4
BGU	**Big Grassy Mou**	**2.74**	**47**		Pn	09 16 12.5	-1.6
BGU				IAML		09 17 27.2	
	comp=E,12nm,4.7s						
MSU	**Marysvale**	**2.79**	**101**		Pn	09 16 15.1	+0.3
GWY	**Greenwater Val**	**3.00**	**196**		Pn	09 16 14.9	-2.7
GWY				IAML		09 17 07.1	
	comp=N,9.6nm,0.4s						
GWY				IAML		09 17 16.1	
	comp=E,11nm,0.8s						
WAKR	**Walker**	**3.00**	**260**		Pn	09 16 17.0	-0.6
WAKR	**Walker**	**3.00**	**260**	IAML		09 17 16.4	
	comp=N,15nm,3.7s						
WAKR				IAML		09 18 15.7	
	comp=E,15nm,4.3s						
PNTR	**Pine Nut**	**3.06**	**271**		Pn	09 16 17.9	-0.6
PNTR				IAML		09 17 23.5	
	comp=N,15nm,3.4s						
PNTR				IAML		09 17 31.0	
	comp=E,18nm,4.0s						
PKCU	**Pink Cliffs**	**3.11**	**121**		Pn	09 16 17.8	-1.5

WEL 03 09:15:36.0±1.0, 36°.S±18°×17°.9E±2°.2, h158km±18km, M3.2/8, ML3.6/12, MLv3.2/8, Error ellipse: s-maj=35.0km s-min=11.8km az=127.8, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.12**	**203**	P	Pn	09 16 12.1	-0.9
MXZ				S	Sn	09 16 40.4	-1.1
WMGZ	**Waiomatatini S**	**2.33**	**199**	P	Pn	09 16 15.8	+0.4
WMGZ				S	Sn	09 16 46.6	+0.7
PKGZ	**Pakihiroa**	**2.47**	**204**	P	Pn	09 16 17.6	+0.4
PKGZ				S	Sn	09 16 49.1	0.0
HAZ	**Te Kaha**	**2.49**	**210**	P	Pn	09 16 17.7	+0.4
HAZ				S	Sn	09 16 51.6	+2.4
PUZ	**Puketiti**	**2.61**	**200**	P	Pn	09 16 18.7	-0.1
PUZ				S	Sn	09 16 51.5	-0.5
RUGZ	**Raukumara Rang**	**2.71**	**210**	P	Pn	09 16 20.3	+0.2
RUGZ				S	Sn	09 16 54.0	-0.4
TWGZ	**Tauwhareparae**	**2.79**	**203**	P	Pn	09 16 21.3	+0.3
TWGZ				S	Sn	09 16 58.0	+2.0
CNGZ	**Carnagh Statio**	**3.01**	**198**	P	Pn	09 16 23.9	+0.2
MWZ	**Matawai**	**3.09**	**208**	P	Pn	09 16 24.9	+0.1
MWZ				S	Sn	09 17 03.4	+0.7
URZ	**Urewera**	**3.20**	**214**	P	Pn	09 16 26.3	+0.2
URZ				S	Sn	09 17 04.4	-0.6
RAGZ	**Rawiri**	**3.27**	**208**	P	Pn	09 16 25.6	-1.5
RIGZ	**Rimuhau**	**3.34**	**202**	P	Pn	09 16 27.7	-0.3
RIGZ				S	Sn	09 17 08.3	-0.1
RTZ	**Ruatahuna**	**3.55**	**212**	P	Pn	09 16 30.5	-0.2

SNGZ	**Shannon Statio**	**3.55**	**207**	P	Pn	09 16 30.6	0.0
SNGZ				S	Sn	09 17 14.5	+1.3
RAHZ	**Arahi**	**3.76**	**208**	P	Pn	09 16 33.9	+0.6
RAHZ				S	Sn	09 17 18.3	+0.2
MTHZ	**Maungataniwha**	**3.81**	**211**	P	Pn	09 16 34.9	+0.9
MTHZ				S	Sn	09 17 19.5	+0.4
BKZ	**Black Stump Fm**	**4.22**	**212**	P	Pn	09 16 38.8	-0.5
BKZ				S	Sn	09 17 28.0	-0.7
MCHZ	**McNeill Hill**	**4.37**	**208**	P	Pn	09 16 41.2	-0.1
MCHZ				S	Sn	09 17 32.9	+0.8
KAHZ	**Kahuranaki**	**4.62**	**205**	P	Pn	09 16 43.7	-0.7

IDC 03 09:17:49.7±2.6, 3°.82S×153°.60E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=218.2km s-min=30.2km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.69**	**228**	P	P	09 23 13.2	+0.5
	0.5nm,0.5s,baz=53,slow=9.4,SNR=5.5						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**27.41**	**222**	P	P	09 23 36.8	-0.4
	0.1nm,0.3s,baz=39,slow=10,SNR=7.6						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**80.95**	**22**	P	P	09 30 05.8	0.0
	0.3nm,0.9s,baz=258,slow=4.9,SNR=5.0						
	0.3nm,0.9s						

*IDC **03** 09:26:39.4±1.2, 3°.75S×136°.24E, h0km, mb3.7/4, mbtmp3.8/7, ML3.8/3, MS3.2/1, Error ellipse: s-maj=30.3km s-min=26.2km az=120.0*
*DJA **03** 09:26:41.1±0.5, 4°.S±7°×13°.6E±°, h10km, M4.2/6, mb4.6/1, MLv3.9/6*

ISC 03 09:26:41.8±0.8, 4°.01S±0°.07×136°.24E±0°.08, h24km, n13, σ1°85/16, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.13**	**360**	P	**Pn**	**09 27 14.3**	**-1.6**
BAKI	**Biak**	**2.81**	**357**	P	**Pn**	**09 27 24.3**	**-0.9**
FAKI	**Fak Fak**	**4.13**	**285**	P	**Pn**	**09 27 44.9**	**+1.5**
JAY	**Jayapura**	**4.70**	**72**	Pn	**Pn**	**09 27 52.2**	**+0.9**
	1.8nm,0.3s,baz=220,slow=14,SNR=5.5						
JAY				Sn	**Sn**	**09 28 46.8**	**+1.6**
	0.8nm,0.3s,baz=84,slow=3.9,SNR=1.6						
	15nm,0.9s						
SWI	**Sorong**	**5.88**	**302**	P	**Pn**	**09 28 07.3**	**-0.2**
PMG	**Port Moresby**	**12.09**	**117**	LR	LR	09 36 27.2	
	comp=Z,110nm,19.2s,baz=156,slow=48						
WRA	**Warramunga Arr**	**15.94**	**187**	Pn	**Pn**	**09 30 25.1**	**+0.4**
	0.2nm,0.3s,baz=15,slow=13,SNR=7.0						
WRA				Sn	**Sn**	**09 33 18.0**	**-2.9**
	0.3nm,0.3s,baz=3.3,slow=23,SNR=4.8						
FITZ	**Fitzroy Crossi**	**17.43**	**216**	P	**P**	**09 30 46.1**	**+1.5**
	0.3nm,0.3s,baz=53,slow=6.7,SNR=7.9						
FITZ				S	**Sn**	**09 33 53.5**	**-3.4**
	1.4nm,0.6s,baz=123,slow=6.3,SNR=2.0						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**19.67**	**186**	P	**Pn**	**09 31 13.4**	**+2.6**
	0.5nm,0.3s,baz=9.5,slow=11,SNR=39						
ASAR				S	**S**	**09 34 48.3**	**-1.7**
	0.2nm,0.5s,baz=51,slow=52,SNR=2.5						
	3.3nm,0.8s						
MKAR	**Makanchi Array**	**69.34**	**324**	P	**P**	**09 37 48.0**	**+0.5**
	0.5nm,0.5s,baz=110,slow=7.7,SNR=10.0						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**71.84**	**331**	P	**P**	**09 38 02.6**	**+0.1**
	0.6nm,0.5s,baz=90,slow=3.5,SNR=3.7						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**73.39**	**326**	P	**P**	**09 38 12.7**	**+0.9**
	0.5nm,0.8s,baz=119,slow=4.7,SNR=2.3						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**88.03**	**25**	P	**P**	**09 39 28.4**	**-1.4**
	0.4nm,0.8s,baz=266,slow=5.7,SNR=4.9						
	0.4nm,0.8s						

*IDC **03** 09:37:54.5±1.0, 9°.87N×125°.04E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=71.5km s-min=20.8km az=68.0*

ISC 03 09:37:59.0±0.9, 9°.8N±0°.2×125°.0E±0°.5, h30km, n7, σ0°75/7, mb3.5/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.41**	**165**	P	**P**	**09 44 44.2**	**+0.3**
	0.3nm,0.8s,baz=343,slow=7.8,SNR=4.6						
	0.3nm,0.8s						
SONM	**Songino Array**	**41.01**	**341**	P	**P**	**09 45 40.6**	**+1.1**
	0.3nm,0.5s,baz=129,slow=2.0,SNR=1.9						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**44.41**	**160**	P	**P**	**09 46 07.2**	**0.0**
	2.6nm,0.8s,baz=290,slow=6.9,SNR=3.4						
	2.6nm,0.8s						
MKAR	**Makanchi Array**	**51.63**	**324**	P	**P**	**09 47 02.3**	**-0.6**
	0.7nm,0.8s,baz=120,slow=8.5,SNR=6.3						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**55.73**	**326**	P	**P**	**09 47 32.4**	**-0.5**
	1.0nm,0.7s,baz=126,slow=6.5,SNR=6.9						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**80.37**	**26**	P	**P**	**09 50 07.0**	**-0.4**
	0.2nm,0.7s,baz=247,slow=5.8,SNR=4.2						
	0.2nm,0.7s						
PLCA	**Paso Flores**	**146.28**	**158**	PKPbc	**PKPbc**	**09 57 36.7**	**-0.5**
	1.6nm,0.9s,baz=131,slow=4.8,SNR=3.6						

*SJA **03** 09:38:02.5±0.6, 30°.27S×72°.94W, h37km, ML3.1, MW3.5*
*GUC **03** 09:38:11.2±0.6, 30°.55S×72°.09W, h15km±3km, ML2.6*

ISC 03 09:38:09.2±3.7, 30°.49S±0°.07×72°.2W±0°.1, h8km±17km, n11, σ1°62/20, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**112**	⇓*i* P	**Pb**	**09 38 19.9**	**-0.1**
CO06				*e*S	**Sg**	**09 38 25.7**	**+0.7**
CO06				IAML		09 38 32.0	
	comp=N,546nm,0.1s						
GO04	**Tololo Observa**	**1.22**	**75**	⇓*i* P	**Pn**	**09 38 32.5**	**-0.2**
GO04				*e*S	**Sn**	**09 38 49.0**	**-0.5**
CO03	**El Pedregal**	**1.31**	**106**	*e*P	**Pn**	**09 38 33.2**	**-0.6**
CO03				*e*S	**Sb**	**09 38 50.4**	**-0.8**
CO03				IAML		09 38 53.6	
	comp=E,300nm,0.2s						
CO01	**Juntas del Tor**	**1.86**	**74**	⇑*i* P	**Pn**	**09 38 42.5**	**+1.0**
CO01				*e*S	**Sb**	**09 39 06.5**	**-0.5**
CO01				IAML		09 39 13.4	
	comp=E,56nm,0.3s						
LCO	**Las Campanas**	**1.94**	**41**	*e*P	**Pn**	**09 38 42.7**	**-0.1**
AROD	**Rodeo**	**2.34**	**83**	*i* P	**Pn**	**09 38 50.6**	**+2.3**
AROD				*i* S	**Sg**	**09 39 26.8**	**+2.3**
ACDV	**Cuesta del Vie**	**2.65**	**84**	*i* P	**Pn**	**09 38 55.1**	**+2.8**
ACDV				*i* S	**Sg**	**09 39 33.1**	**-1.1**
ACDV				IAML		09 39 36.0	
	comp=Z,29nm,0.6s						
ACCO	**Cerro Coronel**	**2.67**	**93**	*i* P	**Pb**	**09 38 56.1**	**-1.4**
ACCO				*i* S	**Sg**	**09 39 35.7**	**+0.6**
RTLS	**Leoncito**	**2.78**	**119**	*i* P	**Pb**	**09 38 57.7**	**-1.5**
RTLS				*i* S	**Sg**	**09 39 38.6**	**+0.1**
RTLS				IAML		09 39 42.2	
	comp=Z,108nm,0.6s						
AUSP	**Uspallata**	**2.93**	**127**	*i* P	**Pn**	**09 38 59.0**	**+2.7**
AUSP				*i* S	**Sg**	**09 39 41.5**	**-2.0**
AGUA	**GUANDACOL**	**3.33**	**73**	*i* P	**Pn**	**09 39 03.7**	**+2.0**
AGUA				IAML		09 40 13.8	
	comp=Z,15nm,1.5s						

*SDD **03** 09:50:35.9±0.9, 20°.32N×70°.78W, h29km±17km, MD3.2, ML3.0, MW3.5*
*OSPL **03** 09:50:36.1±3.4, 20°.25N×70°.82W, h0km±34km, ML2.4*

ISC 03 09:50:34.0±1.4, 20°.23N±0°.04×70°.75W±0°.05, h10km±12km, n13, σ0°80/25, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.51**	**161**	*e*Pg	**Pn**	**09 50 46.5**	**-0.8**
SODR				*e*Sg	**Sn**	**09 50 55.2**	**-0.8**
SODR				IAML		09 50 57.2	
	comp=N,686nm,0.9s						
SC01	**Santiago de lo**	**0.80**	**179**	*i* P	**Pn**	**09 50 51.0**	**-0.4**
SC01				*e*S	**Sb**	**09 51 01.5**	**+0.5**
SC01				IAML		09 51 05.8	
	comp=Z,116nm,0.3s						

REDR	**Restauracion**	**1.22**	**210**	*e*Pg	**Pg**	**09 50 59.1**	**+1.6**
REDR				⇑*e*Sg	**Sn**	**09 51 15.6**	**+1.8**
REDR				IAML		09 51 18.6	
	comp=N,144nm,0.5s						
GRTK	**Grand Turk**	**1.32**	**344**	*i* P	**Pg**	**09 51 00.0**	**+0.7**
GRTK				*e*S	**Sn**	**09 51 15.8**	**-0.4**
GRTK				IAML		09 51 24.1	
	comp=Z,46nm,1.9s						
SDDR	**Presa de Saban**	**1.34**	**202**	*e*Pg	**Pg**	**09 50 59.4**	**-0.4**
SDDR				*e*Sg	**Sn**	**09 51 17.2**	**+0.3**
SDDR				IAML		09 51 19.5	
	comp=N,113nm,0.4s						
SDDR	**Presa de Saban**	**1.34**	**202**	*i* P	**Pb**	**09 50 59.0**	**-0.3**
SDDR				*e*S	**Sb**	**09 51 16.6**	**-0.1**
SDDR				IAML		09 51 19.8	
	comp=Z,67nm,0.4s						
DR08	**Loma La Naviza**	**1.44**	**151**	*e*Pg	**Pb**	**09 51 00.9**	**0.0**
DR08				*e*Sg	**Sn**	**09 51 19.8**	**+0.6**
DR08				IAML		09 51 24.1	
	comp=N,2μm,0.2s						
SMDR	**Samana, DR**	**1.74**	**122**	⇑*e*Pg	**Pb**	**09 51 06.3**	**+0.2**
SMDR				*e*Sg	**Sb**	**09 51 28.5**	**+0.4**
SMDR				IAML		09 51 42.2	
	comp=N,63nm,0.7s						
LONE3	**El Aguacate, B**	**1.75**	**203**	*i* P	**Pb**	**09 51 06.0**	**-0.4**
LONE3				*e*S	**Sn**	**09 51 28.0**	**+0.9**
LONE3				IAML		09 51 29.2	
	comp=Z,37nm,0.5s						
BANI	**BANI**	**1.87**	**169**	*e*Pg	**Pb**	**09 51 08.1**	**-0.1**
BANI				*e*Sg	**Sb**	**09 51 32.2**	**+0.4**
BANI				IAML		09 51 38.3	
	comp=N,146nm,0.4s						
HATOM	**Hato Mayor del**	**1.93**	**138**	*e*Pg	**Pb**	**09 51 08.8**	**-0.6**
HATOM				*e*Sg	**Sb**	**09 51 33.8**	**+0.3**
HATOM				IAML		09 51 44.5	
	comp=N,38nm,1.6s						
PODR	**Polo**	**2.12**	**194**	*i* P	**Pb**	**09 51 12.2**	**-0.4**
PODR				*e*S	**Sg**	**09 51 41.1**	**-1.0**
LOBH	**Bahia de las A**	**2.50**	**200**	*i* P	**Pb**	**09 51 18.0**	**-1.1**

SCB 03 09:54:30.3±1.2, 17°.90S×64°.99W, h3km±8km, ML3.1/1, MW4.0, Error ellipse: s-maj=5.0km s-min=4.8km az=0.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOEA	**Aiquile**	**0.36**	**219**	Pg	Pg	09 54 37.7	+0.3
AOEA	**Aiquile**	**0.36**	**219**	Pg	Pg	09 54 37.8	+0.4
AOEA				Sg	Sg	09 54 41.7	-0.5
AOEA				IAML		09 54 43.3	
	2μm,0.5s						
SOET	**ToroToro**	**0.81**	**254**	Pg	Pg	09 54 44.9	-1.0
SOEO	**Opoqueri**	**2.83**	**256**	Pn	Pb	09 55 22.0	+0.2
BBOE	**La Paz, Chanca**	**3.05**	**290**	Pn	Pb	09 55 25.8	+0.1
MOCB	**Mochara**	**3.39**	**190**	Pn	Pb	09 55 30.3	-1.1
LPAZ	**La Paz**	**3.40**	**298**	Pn	Pb	09 55 29.7	-1.9
BBOD	**La Paz, Gloria**	**3.67**	**289**	Pn	Pb	09 55 34.0	-2.1
SIV	**San Ignacio**	**4.20**	**64**	Pn	Pb	09 55 40.3	-4.7
YJA	**Yavi**	**4.29**	**186**	Pn	Pn	09 55 41.7	+4.8
BBPS	**Puerto Suarez**	**6.88**	**101**	Pn	Pn	09 56 17.4	+5.2

*JMA **03** 10:26:19.9±0.3, 22°.N±2°.×122°.0E±0°.7, h111km, MV3.5/11, TAIWAN REGION*
*TAP **03** 10:26:21.9, 22°.05N×122°.06E, h34km, ML3.2, D*

ISC 03 10:26:18.5±1.4, 22°.15N±0°.03×122°.12E±0°.03, h4km±10km, n108, σ0°98/213, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.52**	**253**	*i* P	**Pn**	**10 26 31.7**	**-1.0**
LYUB				S	**Sb**	**10 26 37.4**	**-0.8**
LAY	**Lan-yu**	**0.54**	**258**	*i* P	**Pb**	**10 26 31.4**	**+0.7**
LAY				*e*S	**Sb**	**10 26 38.9**	**0.0**
LDUT	**Ludao**	**0.80**	**311**	*i* P	**Pn**	**10 26 36.6**	**+0.1**
LDUT				S	**Sn**	**10 26 47.4**	**-1.5**
TTN	**Taitung**	**1.08**	**304**	*e*P	**Pn**	**10 26 41.5**	**+1.0**
TTN				S	**Sn**	**10 26 55.6**	**-0.4**
EDH	**Donghe**	**1.11**	**317**	*i* P	**Pn**	**10 26 41.3**	**+0.4**
EDH				S	**Sn**	**10 26 56.1**	**-0.7**
TAW	**Tawu**	**1.16**	**280**	*i* P	**Pn**	**10 26 41.4**	**-0.1**
TAW				S	**Sg**	**10 26 54.8**	**-0.9**
TAWH	**Dawu Township**	**1.16**	**279**	*i* P	**Pn**	**10 26 41.4**	**-0.2**
TAWH				S	**Sg**	**10 26 55.5**	**-0.3**
TSEB	**Hengchuen, Pin**	**1.16**	**258**	P	**Pn**	**10 26 43.4**	**+1.8**
TSEB				*i* S	**Sn**	**10 26 58.2**	**+0.3**
ECL	**Taimali**	**1.17**	**292**	*i* P	**Pn**	**10 26 42.2**	**+0.5**
ECL				S	**Sb**	**10 26 56.2**	**-0.6**
TWGBT	**Beinan**	**1.17**	**305**	*e*P	**Pn**	**10 26 42.7**	**+1.0**
TWGBT				*e*S	**Sn**	**10 26 57.5**	**-0.7**
CHKT	**Chengkung**	**1.17**	**324**	*i* P	**Pn**	**10 26 42.0**	**+0.3**
CHKT				*i* S	**Sn**	**10 26 57.4**	**-0.8**
TWG	**Pinlang**	**1.18**	**305**	*i* P	**Pn**	**10 26 43.1**	**+1.3**
TWG				*e*S	**Sn**	**10 26 57.5**	**-0.8**
LONT	**Longtian**	**1.19**	**309**	*i* P	**Pn**	**10 26 42.9**	**+1.0**
LONT				S	**Sn**	**10 26 57.7**	**-0.8**
EAST	**Anshuo**	**1.20**	**281**	*i* P	**Pn**	**10 26 42.2**	**+0.1**
EAST				S	**Sg**	**10 26 56.0**	**-1.2**
SLIU	**Shizi**	**1.23**	**273**	*i* P	**Pn**	**10 26 42.6**	**+0.1**
SLIU				*e*S	**Sg**	**10 26 56.0**	**-2.1**
CHKH	**Chenggong**	**1.23**	**327**	*i* P	**Pn**	**10 26 43.1**	**+0.5**
CHKH				*i* S	**Sn**	**10 26 59.4**	**-0.3**
TWKBT	**Hengchun**	**1.23**	**260**	*i* P	**Pn**	**10 26 42.8**	**+0.2**

ESL	**Shilin**	**1.77**	**339**	*i* P	**Pb**	**10 26 51.4**	**-0.2**
ESL				*i* S	**Sn**	**10 27 13.0**	**0.0**
TPUB	**Ta-pu**	**1.79**	**310**	*i* P	**Pg**	**10 26 53.3**	**+0.4**
TPUB				*e*S	**Sg**	**10 27 16.1**	**0.0**
CHN1	**Nanshi**	**1.80**	**305**	*i* P	**Pg**	**10 26 53.9**	**+0.9**
CHN1				S	**Sg**	**10 27 16.9**	**+0.6**
ALS	**Alishan**	**1.82**	**318**	*i* P	**Pg**	**10 26 53.7**	**+0.3**
ALS				*e*S	**Sg**	**10 27 16.3**	**-0.7**
VWDT	**VWDT**	**1.83**	**331**	*i* P	**Pg**	**10 26 53.2**	**-0.5**
VWDT				S	**Sg**	**10 27 16.9**	**-0.5**
SNST	**Tainan City**	**1.84**	**306**	*i* P	**Pg**	**10 26 54.9**	**+1.1**
SNST				*e*S	**Sg**	**10 27 17.7**	**+0.1**
CHN4	**Tsaushan**	**1.85**	**310**	*i* P	**Pg**	**10 26 54.4**	**+0.4**
CHN4				S	**Sg**	**10 27 18.5**	**+0.5**
TWK	**Hsinying**	**1.87**	**307**	*i* P	**Pg**	**10 26 55.4**	**+0.9**
TWK				S	**Sg**	**10 27 18.6**	**-0.2**
HWA	**Hwalien**	**1.88**	**345**	*e*P	**Pb**	**10 26 54.0**	**+0.6**
HWA				S	**Sb**	**10 27 16.8**	**-0.4**
ETM	**Tongmen**	**1.90**	**342**	*i* P	**Pb**	**10 26 53.4**	**-0.3**
ETM				*e*S	**Sn**	**10 27 16.3**	**+0.2**
WCKO	**Fanlu**	**1.90**	**313**	*i* P	**Pg**	**10 26 55.1**	**+0.1**
WCKO				S	**Sg**	**10 27 19.6**	**+0.1**
WHYT	**Xinyi Township**	**1.93**	**323**	*i* P	**Pg**	**10 26 55.1**	**-0.5**
WHYT				*i* S	**Sg**	**10 27 20.5**	**-0.1**
SSLB	**Suanglung**	**1.95**	**327**	*i* P	**Pb**	**10 26 54.5**	**-0.2**
SSLB				S	**Sb**	**10 27 19.7**	**+0.3**
CHN5	**Tsauling**	**1.96**	**317**	*i* P	**Pg**	**10 26 56.2**	**0.0**
CHN5				*i* S	**Sg**	**10 27 23.1**	**+1.5**
EOS4	**EOS4**	**1.97**	**5**	*i* P	**Pb**	**10 26 54.9**	**+0.1**
EOS4				*i* S	**Sb**	**10 27 19.0**	**-0.5**
LXIB	**Xiulin Townshi**	**1.97**	**341**	*i* P	**Pn**	**10 26 53.8**	**+0.9**
LXIB				S	**Sn**	**10 27 18.3**	**+0.2**
TWD	**Chiawan**	**1.98**	**346**	*e*P	**Pb**	**10 26 55.2**	**+0.1**
TWD				*e*S	**Sn**	**10 27 18.1**	**0.0**
OWD	**Renai**	**1.99**	**334**	*i* P	**Pb**	**10 26 55.6**	**+0.1**
OWD				*i* S	**Sb**	**10 27 19.3**	**-1.5**
WUSB	**Renai**	**2.05**	**333**	*i* P	**Pb**	**10 26 56.3**	**-0.2**
WUSB				*e*S	**Sb**	**10 27 21.6**	**-0.8**
SMLT	**Sun Moon Lake**	**2.06**	**327**	*i* P	**Pb**	**10 26 55.7**	**-0.9**
SMLT				S	**Sb**	**10 27 22.7**	**+0.2**
CHY	**Chiayi**	**2.06**	**311**	*i* P	**Pg**	**10 26 58.0**	**0.0**
CHY				S	**Sg**	**10 27 23.5**	**-1.3**
NACB	**Ninganchiao**	**2.07**	**347**	*i* P	**Pn**	**10 26 54.9**	**+0.8**
NACB				*e*S	**Sn**	**10 27 20.0**	**-0.4**
TYC	**Yuchr**	**2.10**	**326**	*i* P	**Pb**	**10 26 57.4**	**+0.2**
TYC				S	**Sg**	**10 27 24.5**	**-1.5**
WJS	**Zhushan**	**2.10**	**323**	*i* P	**Pb**	**10 26 57.6**	**+0.4**
WJS				S	**Sg**	**10 27 27.5**	**+1.5**
WDLH	**Douliu**	**2.12**	**317**	*e*P	**Pb**	**10 26 58.2**	**+0.7**
WDLH				*e*S	**Sg**	**10 27 25.9**	**-0.6**
TSCK	**Chigu Township**	**2.13**	**298**	*e*P	**Pb**	**10 26 58.0**	**+0.3**
TSCK				*e*S	**Sb**	**10 27 24.8**	**+0.4**
ETLH	**Xiulin Townshi**	**2.13**	**344**	P	**Pb**	**10 26 57.2**	**-0.6**
ETLH				S	**Sb**	**10 27 23.2**	**-1.4**
EOS3	**EOS3**	**2.13**	**5**	*i* P	**Pb**	**10 26 57.5**	**-0.1**
EOS3				*i* S	**Sb**	**10 27 23.5**	**-0.9**
WHF	**Hehuan Shan**	**2.13**	**338**	*e*P	**Pg**	**10 26 59.3**	**-0.2**
WHF				*i* S	**Sb**	**10 27 23.6**	**-1.4**
WNT	**Mingjian**	**2.17**	**323**	P	**Pg**	**10 26 59.5**	**-0.6**
WNT				S	**Sg**	**10 27 28.5**	**+0.2**
WCS	**Beigang Elemen**	**2.20**	**330**	*i* P	**Pb**	**10 26 59.3**	**+0.4**
WCS				*e*S	**Sb**	**10 27 26.6**	**0.0**
WSL	**Shuilin Townsh**	**2.22**	**308**	*i* P	**Pb**	**10 26 59.5**	**+0.3**
WSL				*e*S	**Sb**	**10 27 27.2**	**+0.2**
FUSS	**Fushou**	**2.24**	**339**	*i* P	**Pb**	**10 26 59.2**	**-0.4**
FUSS				*e*S	**Sb**	**10 27 26.8**	**-1.1**
EOS2	**EOS2**	**2.26**	**3**	*i* P	**Pb**	**10 26 59.3**	**-0.5**
EOS2				*i* S	**Sb**	**10 27 27.7**	**-0.3**
TWT	**Tachien**	**2.27**	**338**	*e*P	**Pg**	**10 27 01.4**	**-0.6**
TWT				*e*S	**Sb**	**10 27 27.1**	**-1.4**
ENA	**Nanau**	**2.29**	**351**	*e*P	**Pb**	**10 26 59.7**	**-0.7**
ENA				*i* S	**Sn**	**10 27 27.0**	**+1.2**
EWUT	**Wuta**	**2.30**	**352**	*e*P	**Pb**	**10 27 00.0**	**-0.6**
EWUT				*i* S	**Sn**	**10 27 27.2**	**+1.1**
NNSB	**Datong**	**2.37**	**343**	*i* P	**Pn**	**10 26 59.9**	**+1.7**
NNSB				S	**Sb**	**10 27 29.4**	**-2.0**
WHP	**Taichung City**	**2.38**	**333**	*i* P	**Pb**	**10 27 02.6**	**+0.6**
WHP				S	**Sb**	**10 27 32.0**	**+0.3**
NNS	**Nan Shan**	**2.38**	**343**	*e*P	**Pb**	**10 27 00.6**	**-1.5**
NNS				*i* S	**Sb**	**10 27 29.5**	**-2.3**
LATG	**Datong**	**2.43**	**347**	*i* P	**Pb**	**10 27 02.3**	**-0.7**
LATG				S	**Sn**	**10 27 30.8**	**+1.3**
HATJ	**Hateruma jima**	**2.45**	**39**	*e*P	**Pn**	**10 27 00.9**	**+1.7**
HATJ				*e*S	**Sn**	**10 27 29.6**	**0.0**
TWC	**Suao**	**2.46**	**354**	*i* P	**Pn**	**10 27 01.1**	**+1.7**
TWC				*i* S	**Sb**	**10 27 32.0**	**-2.0**
TWQ1	**Liyutan**	**2.51**	**331**	*i* P	**Pb**	**10 27 04.4**	**+0.1**
TWQ1				*i* S	**Sg**	**10 27 37.6**	**-1.8**
WDGT	**Dungji**	**2.53**	**296**	*e*P	**Pn**	**10 27 01.4**	**+1.1**
WDGT				S	**Sn**	**10 27 31.6**	**0.0**
ENTT	**Nioudou**	**2.53**	**348**	*i* P	**Pb**	**10 27 03.4**	**-1.1**
ENTT				*e*S	**Sb**	**10 27 35.0**	**-1.0**
YHNB	**Yeheng**	**2.60**	**345**	*i* P	**Pb**	**10 27 04.3**	**-1.4**
YHNB				*e*S	**Sb**	**10 27 36.1**	**-2.0**
NSK	**Sanguang**	**2.61**	**345**	*i* P	**Pb**	**10 27 05.6**	**-0.3**
NSK				*i* S	**Sb**	**10 27 36.3**	**-2.1**
IRIF	**Iriomote-Funau**	**2.63**	**34**	*e*P	**Pn**	**10 27 03.6**	**+1.9**
NFF	**Wufeng Townshi**	**2.63**	**340**	*i* P	**Pb**	**10 27 06.2**	**-0.2**
NFF				S	**Sb**	**10 27 39.9**	**+0.7**
FUSB	**Fushanzhiwuyua**	**2.64**	**349**	*i* P	**Pb**	**10 27 05.2**	**-1.3**
FUSB				*e*S	**Sb**	**10 27 36.9**	**-2.5**
NSTT	**Nanjuang**	**2.67**	**338**	*e*P	**Pb**	**10 27 07.0**	**0.0**
NSTT				S	**Sb**	**10 27 39.0**	**-1.2**
NWLT	**Wulai**	**2.67**	**348**	*i* P	**Pb**	**10 27 06.6**	**-0.4**
NWLT				S	**Sb**	**10 27 37.9**	**-2.4**
LIOB	**Emei**	**2.68**	**338**	P	**Pb**	**10 27 07.2**	**0.0**
LIOB				*e*S	**Sb**	**10 27 41.0**	**+0.5**
VCHM	**Qimei**	**2.70**	**293**	*i* P	**Pn**	**10 27 04.6**	**+1.8**
VCHM				*e*S	**Sn**	**10 27 35.4**	**-0.5**
JKRS	**Kuro-shima**	**2.71**	**40**	*e*P	**Pn**	**10 27 04.8**	**+1.9**
PHUB	**P'eng-hu**	**2.71**	**300**	*i* P	**Pn**	**10 27 04.9**	**+2.0**
PHUB				*e*S	**Sn**	**10 27 35.2**	**-1.1**
KSHI	**Guanxi Townshi**	**2.75**	**342**	P	**Pb**	**10 27 07.9**	**-0.5**
KSHI				*e*S	**Sb**	**10 27 40.5**	**-2.0**
TIPB	**Shuangxi**	**2.82**	**355**	*i* P	**Pb**	**10 27 08.2**	**-1.3**
TIPB				*i* S	**Sb**	**10 27 41.4**	**-3.0**
JIJ	**Ishigaki jima**	**2.88**	**40**	*e*P	**Pn**	**10 27 06.6**	**+1.3**
JISG	**Ishigakijimahi**	**3.15**	**39**	*e*P	**Pn**	**10 27 10.1**	**+1.2**
JISG				*e*S	**Sn**	**10 27 45.7**	**-1.3**
JTJ	**Tarama**	**3.43**	**43**	*e*P	**Pn**	**10 27 13.9**	**+1.1**
JTJ				*e*S	**Sn**	**10 27 53.8**	**0.0**
VWUC	**VWUC**	**3.74**	**320**	*e*P	**Pn**	**10 27 19.4**	**+2.3**
VWUC				*e*S	**Sn**	**10 28 04.8**	**+3.2**

BJI ***03*** *10:31:14.0,30.°60S×178.°00W,h10km,mB5.7/17, mb5.3/41,Ms5.1/21,Ms7 4.9/22*

MOS ***03*** *10:31:15.7±0.9,30.°39S×178.°04W,h12km,mb5.6/38, Error ellipse: s-maj=9.8km s-min=8.3km az=88.3*

NEIC ***03*** *10:31:17.1,30.°57S×177.°00W,h50km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.44; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$-1.15; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.41; $M_{\phi r}$0.41; Fault plane solution: $M_0$1.45000×10^{17} NP1: ϕ_s200.91000°,δ35.90000°,λ88.70000°. NP2:ϕ_s22.51000°, δ54.11000°,λ90.94000°. Principal axes: T 1.5134, Plg81.0000°, Azm297.0000°; N -0.1237, Plg1.0000°, Azm202.0000°; P -1.3897, Plg9.0000°, Azm112.0000°;*

NEIC ***03*** *10:31:17.1,30.°57S×178.°01W,h50km*

NOU ***03*** *10:31:19.6,30.°96S×177.°47W,h45km,ML5.5/137, Kermadec Islands, New Zealand*

NEIC ***03*** *10:31:20.8±1.4,30.°58S±0.°06×178.°0W±0.°1,h35km±1km, mb5.5/115,Mww5.4/20,Error ellipse: s-maj=17.2km s-min=10.0km az=105.0*

IDC ***03*** *10:31:21.5±1.1,30.°43S×178.°07W,h45km±9km,mb4.9/22, mbtmp5.1/23,ML3.6/1,MS4.6/49,Error ellipse: s-maj=11.7km s-min=9.0km az=86.0*

GCMT ***03*** *10:31:22.8±0.1,30.°45S±0.°01×177.°71W±0.°01,h47km, MW5.4/137,Moment Tensor Solution. s126,c211; s137,c246; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.37±.02; $M_{\theta\theta}$0.02±.02; $M_{\phi\phi}$-1.39±.02; $M_{r\theta}$0.20±.01; $M_{\theta\phi}$-0.34±.01; $M_{\phi r}$0.61±.02; Best double couple: $M_0$1.55700×10^{17} NP1:ϕ_s190.00000°,δ33.00000°, λ86.00000°. NP2:ϕ_s15.00000°,δ57.00000°,λ93.00000°. Principal axes: T 1.5100, Plg78.0000°, Azm295.0000°; N 0.0980, Plg2.0000°, Azm194.0000°; P -1.6040,*

Plg12.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 03 10:31:19.8±0.5,30.°58S±0.°03×177.°89W±0.°05,h34km±1km, h34km:pP-P,n1022,σ1s51/1004,mb5.5/156,MS4.7/58, 57C-66D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.31**	**359**	P	**Pn**		**10 31 41.2**	**-0.5**
GLKZ				S	**Sn**		**10 31 55.4**	**-2.6**
RAO	**Raoul Island**	**1.32**	**359**		**Pn**		**10 31 41.5**	**-0.4**
RAO	**Raoul Island**	**1.32**	**359**	P	**Pn**		**10 31 41.0**	**-0.8**
	7μm,0.4s,baz=84,slow=7.1,SNR=36							
RAO				S	**Sn**		**10 31 56.6**	**-1.6**
	35μm,0.4s,baz=93,slow=23,SNR=17							
RAO				LR	LR		10 32 06.6	
	comp=Z,7μm,18.7s,baz=138,slow=38							
RAO	**Raoul Island**	**1.32**	**359**	P	**Pb**		**10 31 44.2**	**+0.1**
MXZ	**Matakaoa Point**	**7.65**	**203**		**Pn**		**10 33 05.8**	**-3.0**
MXZ	**Matakaoa Point**	**7.65**	**203**	P	**Pn**		**10 33 05.8**	**-3.0**
MXZ	**Matakaoa Point**	**7.65**	**203**	S	**Sn**		**10 34 30.7**	**-3.5**
MXZ	**Matakaoa Point**	**7.65**	**203**	P	**Pn**		**10 33 05.7**	**-3.0**
MXZ				S	**Sn**		**10 34 32.8**	**-1.4**
WMGZ	**Waiomatatini S**	**7.84**	**202**	P	**Pn**		**10 33 09.0**	**-2.5**
WMGZ				S	**Sn**		**10 34 38.9**	**-0.2**
PKGZ	**Pakihiroa**	**8.00**	**204**	P	**Pn**		**10 33 10.7**	**-2.9**
PKGZ				S	**Sn**		**10 34 41.3**	**-1.6**
HAZ	**Te Kaha**	**8.01**	**205**	P	**Pn**		**10 33 11.7**	**-2.0**
PUZ	**Puketiti**	**8.12**	**202**	P	**Pn**		**10 33 12.8**	**-2.5**
KUZ	**Kuaotunu**	**8.13**	**219**	P	**Pn**		**10 33 14.9**	**-0.5**
KUZ	**Kuaotunu**	**8.13**	**219**	P	**Pn**		**10 33 19.1**	**+3.6**
RUGZ	**Raukumara Rang**	**8.23**	**205**	P	**Pn**		**10 33 13.7**	**-3.2**
TWGZ	**Tauwhareparae**	**8.31**	**203**	P	**Pn**		**10 33 15.1**	**-2.8**
TWGZ				S	**Sn**		**10 34 47.5**	**-3.2**
TBAS	**Tolaga Bay Are**	**8.39**	**201**	P	**Pn**		**10 33 18.8**	**-0.1**
WCZ	**Waipu Caves**	**8.42**	**229**	P	Pn		10 33 25.6	+6.3
CNGZ	**Carnagh Statio**	**8.52**	**201**	P	**Pn**		**10 33 17.7**	**-3.0**
OUZ	**Omahuta**	**8.53**	**235**	P	Pn		10 33 27.6	+6.8
TKGZ	**Te Karaka**	**8.59**	**203**	P	**Pn**		**10 33 17.5**	**-4.2**
MWZ	**Matawai**	**8.61**	**205**	P	**Pn**		**10 33 18.3**	**-3.7**
MKAZ	**Moumakai**	**8.70**	**220**	P	**Pn**		**10 33 27.1**	**+3.9**
URZ	**Urewera**	**8.70**	**207**	P	**Pn**		**10 33 19.7**	**-3.5**
	27nm,0.4s,baz=350,slow=3.7,SNR=62							
URZ				S	**Sn**		**10 34 58.2**	**-1.9**
	676nm,0.8s,baz=111,slow=9.5,SNR=3.5							
URZ	**Urewera**	**8.70**	**207**	P	**Pn**		**10 33 19.6**	**-3.6**
URZ	**Urewera**	**8.70**	**207**	S	**Sn**		**10 34 56.5**	**-3.6**
RIGZ	**Rimuhau**	**8.86**	**203**	P	**Pn**		**10 33 21.5**	**-4.0**
KMRZ	**Kaimai**	**8.87**	**214**	P	**Pn**		**10 33 25.7**	**+0.2**
TOZ	**Tahuroa Road**	**8.99**	**216**	Pn	**Pn**		**10 33 26.3**	**-0.8**
RTZ	**Ruatahuna**	**9.06**	**206**	Pn	**Pn**		**10 33 24.8**	**-3.4**
MTHZ	**Maungataniwha**	**9.32**	**206**	P	**Pn**		**10 33 29.4**	**-2.4**
BKZ	**Black Stump Fm**	**9.73**	**207**	Pn	**Pn**		**10 33 33.2**	**-4.1**
BKZ	**Black Stump Fm**	**9.73**	**207**	P	**Pn**		**10 33 33.6**	**-3.7**
BKZ	**Black Stump Fm**	**9.73**	**207**	P	Pn		10 33 32.6	-4.8
HIZ	**Hauiti**	**9.92**	**215**		**Pn**		**10 33 39.0**	**-0.9**
HIZ	**Hauiti**	**9.92**	**215**	P	**Pn**		**10 33 37.5**	**-2.4**
HIZ	**Hauiti**	**9.92**	**215**	P	**Pn**		**10 33 40.9**	**+1.0**
BFZ	**Birch Farm**	**11.15**	**204**		Pn		10 33 50.7	-6.0
LKBA	**Tubou, Lakemba**	**12.32**	**356**	P	P		10 34 19.6	-5.0
LKBA	**Tubou, Lakemba**	**12.32**	**356**	S	Sn		10 36 39.3	+10
QRZ	**Quartz Range**	**12.84**	**215**	P	**Pn**		**10 34 18.7**	**-1.2**
QRZ	**Quartz Range**	**12.84**	**215**	S	**Sn**		**10 36 38.7**	**-2.9**
CTZ	**Chatham Island**	**13.17**	**176**	P	**Pn**		**10 34 20.1**	**-4.2**
CTZ	**Chatham Island**	**13.17**	**176**	S	Sn		10 36 39.3	-10
MSVF	**Nonsavu**	**13.31**	**343**	P	**Pn**		**10 34 27.6**	**+1.1**
	25nm,0.9s,baz=141,slow=13,SNR=11							
MSVF				LR	LR		10 38 48.6	
	comp=Z,6μm,19.5s,baz=183,slow=34							
MSVF	**Nonsavu**	**13.31**	**343**	P	**Pn**		**10 34 29.6**	**+3.1**
MSVF	**Nonsavu**	**13.31**	**343**	S	Sn		10 37 03.0	+10
MSVF	**Nonsavu**	**13.31**	**343**	*e*P	**Pn**		**10 34 28.6**	**+2.1**
NIUE	**Niue**	**13.53**	**34**	P	Pn		10 34 11.9	-17
	comp=Z,293nm,1.0s							
NIUE				S	Sn		10 36 43.9	-15
KHZ	**Kahutara**	**13.67**	**208**	P	**Pn**		**10 34 28.3**	**-2.8**
TAVE	**Taveuni**	**13.93**	**352**	P	**Pn**		**10 34 42.8**	**+0.3**
DGTI	**Dogotuki**	**14.38**	**351**	P	**P**		**10 34 46.4**	**-1.1**
OXZ	**Oxford**	**15.04**	**209**		**Pn**		**10 34 46.5**	**-3.2**
RPZ	**Rata Peaks**	**15.78**	**211**	P	**Pn**		**10 34 56.3**	**-3.1**
	comp=Z,25nm,0.5s,baz=327,slow=3.0,SNR=15							
RPZ				S	Sn		10 37 36.7	-16
	comp=Z,52nm,0.7s,baz=302,slow=21,SNR=8.0							
RPZ				LR	LR		10 41 38.3	
	comp=Z,992nm,20.0s,baz=44,slow=39							
RPZ	**Rata Peaks**	**15.78**	**211**	P	**Pn**		**10 34 56.0**	**-3.4**
OUENC	**Ouen Island, N**	**15.89**	**297**	P	**P**		**10 35 08.1**	**+3.8**
YATNC	**Mamie plateau,**	**16.06**	**298**	P	**P**		**10 35 09.7**	**+3.6**
ONTNC	**Ouen Toro**	**16.25**	**297**	P	**Pn**		**10 35 06.0**	**+0.4**
ONTNC	**Ouen Toro**	**16.25**	**297**	P	**P**		**10 35 11.5**	**+3.2**
DZM	**Mont Dzumac**	**16.39**	**297**	P	**P**		**10 35 09.3**	**-0.6**
DZM	**Mont Dzumac**	**16.39**	**297**	P	**Pn**		**10 35 08.0**	**+0.6**
	comp=Z,95nm,1.2s,baz=138,slow=12,SNR=6.4							
DZM				LR	LR		10 40 14.6	
	comp=Z,7μm,19.0s,baz=134,slow=33							
DZM	**Mont Dzumac**	**16.39**	**297**	P	**P**		**10 35 14.1**	**+4.2**
ODZ	**Otahua Downs**	**17.02**	**209**	P	**Pn**		**10 35 09.3**	**-5.8**
JCZ	**Jackson Bay**	**17.11**	**214**	P	**Pn**		**10 35 13.3**	**-3.0**
AFI	**Afiamalu**	**17.52**	**20**		**Pn**		**10 35 20.5**	**-1.0**
AFI	**Afiamalu**	**17.52**	**20**	P	**P**		**10 35 24.2**	**+1.8**
AFI	**Afiamalu**	**17.52**	**20**	P	**Pn**		**10 35 20.5**	**-1.0**
AFI				pmax	pmax			
	comp=Z,83nm,1.0s							
RAR	**Rarotonga**	**18.76**	**64**	P	**P**		**10 35 35.2**	**-0.7**
RAR	**Rarotonga**	**18.76**	**64**	P	**P**		**10 35 35.6**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=196,slow=4.0,SNR=12							
RAR				S	Sn		10 38 49.7	-16
	comp=Z,31nm,0.6s,baz=48,slow=12,SNR=5.8							
	comp=Z,64nm,0.9s							
RAR	**Rarotonga**	**18.76**	**64**	P	**P**		**10 35 33.7**	**-2.2**
RAR	**Rarotonga**	**18.76**	**64**	P	**P**		**10 35 35.2**	**-0.7**
RAR				pmax	pmax			
	comp=Z,116nm,1.1s							
KOUNC	**Koumac, New Ca**	**18.91**	**298**	P	**Pn**		**10 35 42.3**	**+3.9**
LHI	**Lord Howe Isla**	**19.77**	**261**	P	**P**		**10 35 45.6**	**-1.4**
LHI	**Lord Howe Isla**	**19.77**	**261**	P	**Pn**		**10 35 50.6**	**+1.9**
	comp=Z,185nm,1.2s							
GC1S	**Gold Coast 1 S**	**25.02**	**268**	P	**P**		**10 36 43.4**	**+2.8**
AUWSH	**Wavell State H**	**25.60**	**270**	P	**P**		**10 36 48.5**	**+2.6**
NTLH	**Newcastle Hard**	**25.93**	**257**	P	**P**		**10 36 50.3**	**+1.4**
ARMA	**Armidale**	**26.23**	**263**	P	**P**		**10 36 53.1**	**+1.3**
ARMA	**Armidale**	**26.23**	**263**	P	**P**		**10 36 52.5**	**+0.7**
	comp=Z,0.0nmcomp=Z,66nm,1.4s							
ARMA	**Armidale**	**26.23**	**263**	P	**P**		**10 36 53.3**	**+1.5**
RIV	**Riverview**	**26.34**	**255**	P	**P**		**10 36 54.3**	**+1.7**
	comp=Z,264nm,1.1s							
RIV	**Riverview**	**26.34**	**255**	P	**P**		**10 36 55.2**	**+2.6**
MGCD	**Mangrove Creek**	**26.41**	**256**	P	**P**		**10 36 55.5**	**+2.3**
	comp=Z,329nm,0.9s							
MGCD	**Mangrove Creek**	**26.41**	**256**	P	**P**		**10 36 54.7**	**+1.5**
TW1H	**Toowoomba 1 Ha**	**26.48**	**269**	P	**P**		**10 36 57.0**	**+2.9**
WOLH	**Wollongong Har**	**26.57**	**253**	P	**P**		**10 36 57.3**	**+2.6**
SYDH	**Sydney Hard Ro**	**26.69**	**255**	P	**P**		**10 36 58.9**	**+3.1**
AUPHS	**Peel High Scho**	**26.77**	**261**	P	**P**		**10 36 58.4**	**+1.8**
AUUHS	**Ulladulla High**	**26.91**	**251**	P	**P**		**10 36 58.4**	**+0.7**
CNB	**Canberra Magne**	**27.81**	**251**	P	**P**		**10 37 06.8**	**+0.9**
	comp=Z,139nm,1.1s							
CNB	**Canberra Magne**	**27.81**	**251**	P	**P**		**10 37 08.9**	**+3.0**
EIDS	**Eidsvold**	**27.84**	**273**	P	**P**		**10 37 06.2**	**0.0**
EIDS				IAmb	IAmb		10 37 11.3	
	comp=Z,106nm,1.1s							
EIDS	**Eidsvold**	**27.84**	**273**	P	**P**		**10 37 05.8**	**-0.4**
EIDS	**Eidsvold**	**27.84**	**273**	P	**P**		**10 37 08.7**	**+2.5**
MILA	**Mila**	**28.04**	**248**	P	**P**		**10 37 10.4**	**+2.4**
	comp=Z,72nm,1.0s							
CAN	**Canberra**	**28.11**	**251**	P	**P**		**10 37 09.1**	**+0.5**
CAN				IAmb	IAmb		10 37 12.6	
	comp=Z,172nm,1.0s							
CAN	**Canberra**	**28.11**	**251**	P	**P**		**10 37 07.8**	**-0.7**
CAN	**Canberra**	**28.11**	**251**	P	**P**		**10 37 12.1**	**+3.5**
CAN	**Canberra**	**28.11**	**251**	P	**P**		**10 37 09.1**	**+0.5**
CAN				pmax	pmax			
	comp=Z,172nm,1.0s							
GD1S	**Gladstone Soft**	**28.27**	**276**	P	**P**		**10 37 12.6**	**+2.6**
AUDCS	**Dubbo College**	**28.56**	**258**	P	**P**		**10 37 13.7**	**+1.1**
YNG	**Young**	**28.62**	**254**	P	**P**		**10 37 13.9**	**+0.8**
	comp=Z,792nm,1.0s							
YNG	**Young**	**28.62**	**254**	P	**P**		**10 37 15.9**	**+2.8**
PPTF	**Pamatai, Papee**	**28.82**	**70**	P	**P**		**10 37 17.8**	**+2.8**
PPT	**Papeete**	**28.82**	**70**	P	**P**		**10 37 15.8**	**+0.9**
	comp=Z,9.2nm,0.8s,baz=46,slow=9.5,SNR=3.5							
PPT				LR	LR		10 45 58.0	
	comp=Z,793nm,21.7s,baz=242,slow=30							
	comp=Z,9.2nm,0.8s							
RK1H	**Rockhampton Ha**	**29.01**	**277**	P	**P**		**10 37 18.9**	**+2.3**
HNR	**Honiara**	**29.49**	**311**	LR	LR		10 47 13.9	
	comp=Z,1μm,21.7s,baz=178,slow=32							
AULRC	**Lightning Ridg**	**29.52**	**263**	P	**P**		**10 37 23.0**	**+1.9**
ALEG	**Aligegeo Malai**	**29.52**	**313**	P	**P**		**10 37 21.1**	**-0.1**
CORO	**Coronation Par**	**30.11**	**239**	P	**P**		**10 37 27.8**	**+1.7**
MOO	**Moorlands**	**30.26**	**237**	P	**P**		**10 37 27.2**	**-0.3**
	comp=Z,111nm,1.0s							
MOO	**Moorlands**	**30.26**	**237**	P	**P**		**10 37 28.6**	**+1.1**
TAU	**Tasmania Unive**	**30.26**	**236**	P	**P**		**10 37 27.4**	**-0.1**
TAU				IAmb	IAmb		10 37 29.3	
	comp=Z,84nm,0.9s							
TAU	**Tasmania Unive**	**30.26**	**236**	P	**P**		**10 37 27.2**	**-0.3**
TAU	**Tasmania Unive**	**30.26**	**236**	P	**P**		**10 37 27.4**	**-0.1**
TAU				pmax	pmax			
	comp=Z,84nm,1.0s							
TAU	**Tasmania Unive**	**30.26**	**236**	P	**P**		**10 37 28.4**	**+0.9**
TAU				pP	**sP**		**10 37 38.3**	**-1.3**
TOO	**Toolangi**	**30.98**	**247**	P	**P**		**10 37 34.7**	**+0.7**
TOO	**Toolangi**	**30.98**	**247**	P	**P**		**10 37 34.8**	**+0.7**
	comp=Z,38nm,1.1s							
TOO	**Toolangi**	**30.98**	**247**	P	**P**		**10 37 34.7**	**+0.7**
TOO				pmax	pmax			
	comp=Z,49nm,1.2s							
CMSA	**Cobar Meteorol**	**31.13**	**259**	P	**P**		**10 37 35.9**	**+0.6**
	comp=Z,405nm,1.1s							
CMSA	**Cobar Meteorol**	**31.13**	**259**	P	**P**		**10 37 37.7**	**+2.4**
MLBS	**Spotswood, Mel**	**31.46**	**247**	P	**P**		**10 37 40.2**	**+2.0**
AUMAG	**Moama Anglican**	**31.56**	**250**	P	**P**		**10 37 39.7**	**+0.6**
GEXS	**Deakin Univers**	**31.96**	**246**	P	**P**		**10 37 43.2**	**+0.7**
BRAT	**Ballarat**	**32.22**	**247**	P	**P**		**10 37 46.4**	**+1.6**
AUAYR	**Ayr State High**	**33.16**	**281**	P	**P**		**10 37 55.8**	**+2.6**
QLP	**Quilpie**	**33.40**	**267**	P	**P**		**10 37 54.5**	**-0.8**
QLP	**Quilpie**	**33.40**	**267**	P	**P**		**10 37 57.2**	**+2.0**
TV1H	**Townsville Har**	**33.82**	**281**	P	**P**		**10 38 02.3**	**+3.3**
ARPS	**Mount Arapiles**	**33.90**	**249**	P	**P**		**10 37 59.7**	**+0.2**
	comp=Z,119nm,1.1s

PUH	**Pauahi**	**54.24 27**	P	**P**	**10 40 43.3 +0.8**
HATHI	**Halema'uma'u T**	**54.27 27**	P	**P**	**10 40 43.2 +0.5**
MLH	**Mauna Loa**	**54.29 26**	P	**P**	**10 40 43.9 +0.9**
HMH	**Humu'ula Sheep**	**54.35 26**	P	**P**	**10 40 44.1 +0.5**
KLBR	**Kellerberrin**	**54.38 251**	P	**P**	**10 40 42.0 -1.5**
	comp=Z,204nm,1.2s				
KLBR	**Kellerberrin**	**54.38 251**	P	**P**	**10 40 42.1 -1.5**
NWAO	**Narrogin (SRO)**	**54.42 249**	P	P	10 40 37.5 -6.3
NWAO	**Narrogin (SRO)**	**54.42 249**	LR	LR	11 00 28.9
	comp=Z,641nm,21.5s,baz=64,slow=32				
NWAO	**Narrogin (SRO)**	**54.42 249**	P	**P**	**10 40 42.6 -1.2**
NWAO	**Narrogin (SRO)**	**54.42 249**	P	**P**	**10 40 43.0 -0.8**
FAKI	**Fak Fak**	**54.49 290**	P	**P**	**10 40 43.1 -1.3**
FAKI			IAmb	IAmb	10 40 44.6
	comp=Z,103nm,1.3s				
FAKI	**Fak Fak**	**54.49 290**	P	**P**	**10 40 44.0 -0.5**
FAKI	**Fak Fak**	**54.49 290**	P	**P**	**10 40 43.2 -1.3**
	comp=Z,917nmcomp=Z,62nm,1.2s				
CASY	**Casey**	**55.03 208**	P	**P**	**10 40 47.4 -0.3**
CASY	**Casey**	**55.03 208**	P	**P**	**10 40 47.3 -0.3**
CASY			sP	**pwP**	**10 41 02.8 +1.7**
KIP	**Kipapa**	**55.12 23**	⇓*e*P	P	**10 40 47.3 -1.4**
MEEK	**Meekatharra**	**55.24 257**	P	**P**	**10 40 48.5 -1.4**
	comp=Z,58nm,1.2s				
MEEK	**Meekatharra**	**55.24 257**	P	**P**	**10 40 48.3 -1.5**
AUHAR	**St Anne's Scho**	**55.46 249**	P	**P**	**10 40 51.2 -0.1**
MUN	**Mundaring**	**55.53 250**	P	**P**	**10 40 50.6 -1.2**
	comp=Z,63nm,1.1s				
MUN	**Mundaring**	**55.53 250**	P	**P**	**10 40 50.6 -1.2**
BLDU	**Ballidu**	**55.53 252**	P	**P**	**10 40 49.4 -2.4**
BLDU	**Ballidu**	**55.53 252**	P	**P**	**10 40 51.9 +0.1**
PSA00	**Pilbara Seismi**	**56.04 263**	P	**P**	**10 40 54.1 -1.5**
PSA00	**Pilbara Seismi**	**56.04 263**	P	**P**	**10 40 52.8 -2.8**
PSA00	**Pilbara Seismi**	**56.04 263**	P	**P**	**10 40 54.8 -0.8**
PSAC1	**Pilbara Seismi**	**56.09 263**	P	**P**	**10 40 54.6 -1.3**
	comp=Z,23nm,1.5s				
MBWA	**Marble Bar**	**56.30 264**	P	**P**	**10 40 56.5 -1.0**
MBWA	**Marble Bar**	**56.30 264**	P	**P**	**10 40 56.0 -1.5**
	comp=Z,28nm,1.1s				
MBWA	**Marble Bar**	**56.30 264**	P	**P**	**10 40 56.4 -1.0**
MBWA	**Marble Bar**	**56.30 264**	P	**P**	**10 40 55.7 -1.8**
MBWA			pP	**pP**	**10 41 06.0 -0.7**
SWI	**Sorong**	**56.50 292**	P	**P**	**10 40 58.7 -0.2**
	comp=Z,82nm,1.0s				
MORW	**Morawa**	**56.57 253**	P	**P**	**10 40 58.1 -1.2**
MORW			IAmb	IAmb	10 40 58.9
	comp=Z,62nm,1.0s				
MORW	**Morawa**	**56.57 253**	P	**P**	**10 40 57.7 -1.6**
	comp=Z,69nm,1.1s				
MORW	**Morawa**	**56.57 253**	P	**P**	**10 40 59.4 +0.1**
GUMO	**Guam**	**56.67 315**	P	**P**	**10 40 58.4 -1.6**
	comp=Z,80nm,0.9s,baz=181,slow=21,SNR=2.6				
	comp=Z,80nm,0.9s				
SOEI	**Soe**	**57.48 278**	P	**P**	**10 41 06.7 +0.7**
SOEI			IAmb	IAmb	10 41 18.8
	comp=Z,46nm,0.9s				
SOEI	**Soe**	**57.48 278**	P	**P**	**10 41 08.2 +2.2**
SOEI	**Soe**	**57.48 278**	P	**P**	**10 41 07.3 +1.3**
	comp=Z,55nm,1.0s				
NLAI	**Namlea**	**58.52 286**	P	**P**	**10 41 12.4 -0.8**
	comp=Z,51nm,1.4s				
QSPA	**South Pole Qui**	**59.53 180**	P	**P**	**10 41 21.4 +1.8**
QSPA	**South Pole Qui**	**59.53 180**	P	**P**	**10 41 21.7 +2.1**
	comp=Z,99nm,1.1s,baz=33,slow=1.6,SNR=161				
QSPA			S	**S**	**10 49 35.3 +8.5**
	comp=Z,5.7nm,1.0s,baz=238,slow=4.0,SNR=10				
QSPA			LR	LR	11 04 38.1
	comp=Z,356nm,19.7s,baz=40,slow=34				
QSPA			PKPPKP	**P'P'df**	**11 10 49.3 -5.3**
	comp=Z,4.4nm,1.0s,baz=242,slow=2.7,SNR=9.0				
	comp=Z,99nm,1.1s				
QSPA	**South Pole Qui**	**59.53 180**	P	**P**	**10 41 21.8 +2.2**
SANI	**Sanana**	**60.11 287**	P	**P**	**10 41 23.3 -0.8**
SANI	**Sanana**	**60.11 287**	P	**P**	**10 41 23.1 -1.0**
	comp=Z,938nmcomp=Z,44nm,1.1s				
GIRL	**Giralia**	**60.41 260**	P	**P**	**10 41 26.0 -0.1**
WBSI	**Waikabubak, Su**	**61.71 276**	P	**P**	**10 41 35.2 +0.1**
	comp=Z,50nm,1.0s				
PLAI	**Plampang**	**63.49 275**	P	**P**	**10 41 46.8 -0.1**
PLAI	**Plampang**	**63.49 275**	P	**P**	**10 41 46.1 -0.8**
	comp=Z,857nmcomp=Z,106nm,1.0s				
KAPI	**Kappang**	**63.74 280**	P	**P**	**10 41 48.2 -0.3**
	comp=Z,5.0nm,0.3s,baz=136,slow=15,SNR=2.5				
KAPI			LR	LR	11 10 34.6
	comp=Z,682nm,18.0s,baz=122,slow=37				
	comp=Z,5.0nm,0.3s				
KAPI	**Kappang**	**63.74 280**	*e*P	**P**	**10 41 47.5 -1.0**
KAPI			pmax	pmax	
	comp=Z,25nm,1.0s				
SPSI	**Sidrap Palu**	**64.27 281**	P	**P**	**10 41 50.9 -1.1**
TWSI	**Taliwang, Sumb**	**64.31 275**	P	**P**	**10 41 51.7 -0.6**
APSI	**Ampana**	**64.34 285**	P	**P**	**10 41 52.4 -0.1**
	comp=Z,39nm,1.0s				
TTSI	**Tana Toraja**	**64.72 282**	P	**P**	**10 41 53.5 -1.4**
MRSI	**Marisa**	**64.86 287**	P	**P**	**10 41 53.6 -2.3**
PCI	**Palu**	**65.85 284**	P	**P**	**10 42 02.8 +0.5**
	comp=Z,151nm,1.0s				
SRBI	**Singaraja**	**66.06 275**	P	**P**	**10 42 03.1 -0.6**
	comp=Z,1µmcomp=Z,99nm,1.1s				
JAGI	**Jajag, Banyuwa**	**66.78 274**	P	**P**	**10 42 06.6 -1.7**
JAGI	**Jajag, Banyuwa**	**66.78 274**	P	**P**	**10 42 08.1 -0.2**
JAGI	**Jajag, Banyuwa**	**66.78 274**	P	**P**	**10 42 06.8 -1.5**
	comp=Z,1µmcomp=Z,107nm,1.0s				
ABJI	**Asem Bagus**	**67.05 275**	P	**P**	**10 42 09.3 -0.6**
	comp=Z,61nm,0.9s				
GMJI	**Gumukmas**	**67.49 274**	P	**P**	**10 42 11.7 -1.1**
	comp=Z,106nm,1.1s				
KMMI	**Kalianget**	**67.64 275**	P	**P**	**10 42 14.0 +0.3**
	comp=Z,104nm,1.1s				
JCJ	**Chichijima**	**68.89 322**	LR	LR	11 08 43.3
	comp=Z,288nm,21.8s,baz=130,slow=33				
PCJI	**Pacitan**	**69.48 273**	P	**P**	**10 42 24.8 -0.4**
BELA	**Belgrano 2**	**69.59 172**	P	**P**	**10 42 25.3 +0.4**
BELA			IAmb	IAmb	10 42 27.1
	comp=Z,124nm,1.6s				
NGJI	**Ngawi**	**69.64 273**	P	**P**	**10 42 27.2 +1.0**
	comp=Z,67nm,1.0s				
UGM	**Wanagama**	**70.18 272**	P	**P**	**10 42 28.6 -1.0**
UGM			IAmb	IAmb	10 42 29.6
	comp=Z,63nm,0.8s				
UGM	**Wanagama**	**70.18 272**	P	**P**	**10 42 30.6 +1.0**
UGM	**Wanagama**	**70.18 272**	P	**P**	**10 42 28.9 -0.7**
	comp=Z,90nm,1.3s				
MYLDM	**Lahad Datu**	**70.35 289**	P	**P**	**10 42 30.4 -0.1**
MYLDM			IAmb	IAmb	10 42 55.4
	comp=Z,39nm,1.2s				
MYLDM	**Lahad Datu**	**70.35 289**	P	**P**	**10 42 33.8 +3.3**
SMRI	**Semarang**	**70.68 273**	P	**P**	**10 42 31.9 -0.7**
SMRI			IAmb	IAmb	10 42 53.3
	comp=Z,39nm,0.9s				
CMJI	**Cimerak**	**72.03 272**	P	**P**	**10 42 39.0 -1.8**
	comp=Z,148nm,1.0s				
PMSA	**Palmer Station**	**72.06 156**	LR	LR	11 07 26.8
	comp=Z,376nm,19.9s,baz=306,slow=30				
MAW	**Mawson**	**72.17 201**	P	**P**	**10 42 41.3 +0.6**
MAW	**Mawson**	**72.17 201**	P	**P**	**10 42 41.0 +0.3**
	comp=Z,49nm,0.9s,baz=124,slow=8.7,SNR=7.6				
MAW			LR	LR	11 13 09.3
	comp=Z,801nm,20.4s,baz=112,slow=35				
	comp=Z,49nm,0.9s				
MAW	**Mawson**	**72.17 201**	P	**P**	**10 42 41.3 +0.6**
MAW			pmax	pmax	
	comp=Z,35nm,1.4s				
KKM	**Kota Kinabalu**	**72.70 288**	P	**P**	**10 42 44.0 -0.8**
KKM			IAmb	IAmb	10 42 44.8
	comp=Z,53nm,0.9s				
KKM	**Kota Kinabalu**	**72.70 288**	P	**P**	**10 42 44.0 -0.8**
BBJI	**Bungbulang**	**72.88 271**	P	**P**	**10 42 44.3 -1.6**
LEM	**Lembang**	**73.22 272**	PP	**PP**	**10 45 30.9 -0.5**
	comp=Z,38nm,0.9s,baz=143,slow=1.8,SNR=5.8				
LEM			LR	LR	11 16 55.6
	comp=Z,669nm,18.7s,baz=134,slow=37				
STKI	**Sintang**	**73.42 280**	P	**P**	**10 42 48.2 -0.8**
	comp=Z,90nm,0.7s				
TGY	**Tagaytay City**	**73.69 298**	LR	LR	11 12 34.2
	comp=Z,136nm,21.8s,baz=24,slow=34				
SBUM	**Sibu**	**74.06 283**	P	**P**	**10 42 52.2 -0.6**
SBUM	**Sibu**	**74.06 283**	P	**P**	**10 42 52.1 -0.6**
JHJ	**Hachijo jima 2**	**74.94 324**	P	**P**	**10 42 55.5 -1.8**
	comp=Z,123nm,0.8s,baz=173,slow=8.1,SNR=2.9				
JHJ			LR	LR	11 11 55.0
	comp=Z,181nm,18.7s,baz=166,slow=33				
	comp=Z,123nm,0.8s				
CGJI	**Cibinong**	**74.98 271**	P	**P**	**10 42 56.5 -1.6**
	comp=Z,113nm,1.0s				
KSM	**Kuching**	**75.15 281**	P	**P**	**10 42 57.7 -1.4**
KSM			IAmb	IAmb	10 42 59.1
	comp=Z,102nm,1.4s				
KSM	**Kuching**	**75.15 281**	P	**P**	**10 42 57.8 -1.3**
TPI	**Tanjungpandan**	**75.23 276**	P	**P**	**10 42 58.6 -0.9**
	comp=Z,823nmcomp=Z,62nm,1.4s				
MG03	**Isla Dawson**	**75.24 144**	P	**P**	**10 42 59.9 +1.0**
MG03			IAmb	IAmb	10 43 16.9
	comp=Z,31nm,0.8s				
MG05	**Puerto Natales**	**75.31 142**	P	**P**	**10 43 00.4 +1.1**
MG05			IAmb	IAmb	10 43 18.1
	comp=Z,46nm,0.9s				
ELIB	**Princess Elisa**	**76.68 187**	*d*P	**P**	**10 43 08.1 +1.0**
	comp=Z,43nm,1.0s				
SYO	**Syowa Base**	**76.96 193**	⇑*i*P	**P**	**10 43 09.0 +0.6**
MDSI	**Maura Dua**	**77.35 272**	P	**P**	**10 43 08.9 -2.7**
	comp=Z,1µmcomp=Z,161nm,1.0s				
TROLL	**Troll, Antarti**	**77.69 180**	⇑P	**P**	**10 43 13.8 +1.1**
	comp=Z,3µm,0.8s				
SNAA	**Sanae**	**77.97 178**	P	**P**	**10 43 14.6 +0.4**
SNAA			IAmb	IAmb	10 43 22.1
	comp=Z,57nm,1.1s				
SNAA	**Sanae**	**77.97 178**	⇑P	**P**	**10 43 14.9 +0.7**
	comp=Z,398nm,1.0s				
SNAA			⇓PcP	**pP**	**10 43 20.6 -3.0**
SNAA	**Sanae**	**77.97 178**	P	**P**	**10 43 14.7 +0.5**
	comp=Z,25nm,1.1s,baz=214,slow=6.1,SNR=14				
SNAA			LR	LR	11 13 56.0
	comp=Z,297nm,21.7s,baz=177,slow=33				
	comp=Z,25nm,1.1s				
SNAA	**Sanae**	**77.97 178**	*c i*P	**P**	**10 43 14.7 +0.5**
SNAA			pmax	pmax	
	comp=Z,55nm,1.3s				
INU	**Inuyama**	**78.10 324**	P	**P**	**10 43 16.6 +1.4**
VNA3	**Neumayer Olymp**	**78.12 176**	⇑P	**P**	**10 43 15.5 +0.5**
	comp=Z,41nm,0.8s				
VNA3			⇓PcP	**pP**	**10 43 22.2 -2.2**
JGF	**Kuroka**	**78.13 324**	P	**P**	**10 43 13.9 -1.5**
JGF			IAmb	IAmb	10 43 30.9
	comp=Z,87nm,1.7s				
JGF	**Kuroka**	**78.13 324**	P	**P**	**10 43 15.1 -0.3**
MJAR	**Matsushiro Arr**	**78.44 325**	P	**P**	**10 43 15.2 -1.9**
	comp=Z,8.5nm,0.8s,baz=157,slow=5.4,SNR=13				
MJAR			LR	LR	11 12 28.2
	comp=Z,183nm,20.3s,baz=164,slow=32				
	comp=Z,8.5nm,0.8s				
MAJO	**Matsushiro**	**78.44 325**	P	**P**	**10 43 16.2 -0.9**
MAJO	**Matsushiro**	**78.44 325**	P	**P**	**10 43 18.4 +1.3**
MAJO	**Matsushiro**	**78.44 325**	⇓*i*P	**P**	**10 43 16.0 -1.1**
MAJO			pmax	pmax	
	comp=Z,19nm,1.0s				
MJB9	**Matsu-Tunnel**	**78.45 325**	P	**P**	**10 43 18.0 +0.9**
VNA2	**Neumayer--Watz**	**78.56 177**	⇑P	**P**	**10 43 18.3 +1.0**
	comp=Z,42nm,0.9s,baz=179,slow=5.0				
VNA2			⇓PcP	**PcP**	**10 43 24.8 -1.5**
	baz=178,slow=3.8				
NVL	**N'lazarevskaya**	**78.70 183**	⇑*i*P	**P**	**10 43 18.7 +0.6**
NVL			*e*S	**S**	**10 53 11.9 -0.8**
NVL			pmax	pmax	
	comp=Z,32nm,1.0s				
COYC	**Coyhaique**	**78.74 136**	P	**P**	**10 43 20.6 +1.8**
VNA1	**Neumayer--Stat**	**78.79 176**	⇑P	**P**	**10 43 19.5 +0.9**
	comp=Z,64nm,1.1s				
AY01	**Puyuhuapi**	**79.01 135**	P	**P**	**10 43 21.6 +1.3**
AY01			IAmb	IAmb	10 43 38.9
	comp=Z,52nm,1.1s				
JSD	**Sado**	**79.60 326**	P	**P**	**10 43 23.7 +0.3**
JNU	**Nakatsue**	**79.75 318**	P	**P**	**10 43 23.2 -1.2**
	comp=Z,20nm,1.0s,baz=105,slow=2.3,SNR=6.6				
JNU			LR	LR	11 14 51.0
	comp=Z,125nm,21.6s,baz=144,slow=33				
	comp=Z,20nm,1.0s				
JNU	**Nakatsue**	**79.75 318**	P	**P**	**10 43 26.0 +1.6**
TPRI	**Tanjung Pinang**	**79.79 277**	P	**P**	**10 43 26.1 +1.1**
LL02	**Futaleuf**	**80.16 134**	P	**P**	**10 43 27.0 +0.4**
LL02			IAmb	IAmb	10 43 45.8
	comp=Z,58nm,0.9s				
H03S2	**Juan Fernandez**	**80.28 123**	T	T	12 12 39.3
	baz=238,slow=74,SNR=224				
H03S1	**Juan Fernandez**	**80.30 123**	T	T	12 12 37.5
	baz=238,slow=74,SNR=174				
H03S3	**Juan Fernandez**	**80.30 123**	T	T	12 12 35.9
	baz=238,slow=74,SNR=230				
H03N3	**Juan Fernandez**	**80.48 123**	T	T	12 12 45.7
	baz=241,slow=72,SNR=126				
H03N2	**Juan Fernandez**	**80.48 123**	T	T	12 12 46.6
	baz=241,slow=72,SNR=73				
H03N1	**Juan Fernandez**	**80.49 123**	T	T	12 12 48.2
	baz=241,slow=72,SNR=156				
JTM	**Tenmabayashi**	**80.53 330**	P	**P**	**10 43 28.3 0.0**
JTM			IAmb	IAmb	10 43 45.6
	comp=Z,60nm,1.2s				
JTM	**Tenmabayashi**	**80.53 330**	P	**P**	**10 43 29.0 +0.7**
ERM	**Erimo**	**80.66 332**	⇓*e*P	**P**	**10 43 29.6 +0.6**
ERM			pmax	pmax	
	comp=Z,31nm,1.6s				
MYKOM	**Kota Tinggi**	**80.81 278**	P	**P**	**10 43 29.3 -1.3**
MYKOM			IAmb	IAmb	10 43 30.7
	comp=Z,62nm,1.1s				
MYKOM	**Kota Tinggi**	**80.81 278**	P	**P**	**10 43 29.8 -0.7**
LL04	**Puerto Octay**	**81.04 132**	P	**P**	**10 43 32.3 +0.9**
LR05	**Currie**	**81.67 132**	P	**P**	**10 43 35.5 +0.8**
LR03	**Panguipulli**	**81.77 131**	P	**P**	**10 43 36.3 +1.0**
LR03			IAmb	IAmb	10 43 54.7
	comp=Z,87nm,1.1s				
ADK	**Adak**	**82.11 1**	P	**P**	**10 43 36.4 0.0**
ADK	**Adak**	**82.11 1**	P	**P**	**10 43 36.4 0.0**
ADK			pmax	pmax	
	comp=Z,227nm,1.3s				
DLV	**Lat**	**82.31 289**	P	**P**	**10 43 39.9 +1.3**
PLCA	**Paso Flores**	**82.31 133**	P	**P**	**10 43 39.3 +1.1**
PLCA			IAmb	IAmb	10 43 57.6
	comp=Z,57nm,1.1s				
PLCA	**Paso Flores**	**82.31 133**	P	**P**	**10 43 39.8 +1.6**
	comp=Z,20nm,1.0s,baz=220,slow=5.6,SNR=29				
PLCA			LR	LR	11 11 28.0
	comp=Z,576nm,21.4s,baz=253,slow=29				
	comp=Z,20nm,1.0s				
PLCA	**Paso Flores**	**82.31 133**	P	**P**	**10 43 39.3 +1.1**
PLCA			pmax	pmax	
	comp=Z,57nm,1.1s				
BKNI	**Bangkinang**	**82.47 275**	P	**P**	**10 43 37.2 -2.1**
BKNI	**Bangkinang**	**82.47 275**	P	**P**	**10 43 40.3 +1.0**
EFI	**East Falkland**	**82.59 147**	⇓*e*P	**P**	**10 43 40.7 +1.4**
EFI			pmax	pmax	
	comp=Z,36nm,1.3s				
ASAJ	**Asahikawa**	**82.64 332**	P	**P**	**10 43 40.0 +0.6**
	comp=Z,17nm,0.8s,baz=233,slow=12,SNR=9.8				
	comp=Z,17nm,0.8s				
SHEM	**Shemya Is, Ala**	**83.25 355**	LR	LR	11 16 51.9
	comp=Z,643nm,19.1s,baz=132,slow=33				
MNSI	**Mandailing Nat**	**83.97 274**	P	**P**	**10 43 44.5 -2.5**
TJN	**Taejon**	**84.10 319**	P	**P**	**10 43 49.5 +2.4**
TJN	**Taejon**	**84.10 319**	⇓*e*P	**P**	**10 43 47.1 0.0**
BI02	**San Fabin de**	**84.11 129**	P	**P**	**10 43 48.7 +1.2**
BI02			IAmb	IAmb	10 44 06.3
	comp=Z,46nm,0.8s				
ML02	**Panimavida**	**84.51 128**	P	**P**	**10 43 50.3 +0.8**
ML02			IAmb	IAmb	10 44 08.0
	comp=Z,48nm,0.8s				
KSRS	**Korea Array**	**84.55 320**	P	**P**	**10 43 49.0 -0.3**
	comp=Z,4.1nm,0.8s,baz=148,slow=5.7,SNR=18				
KSRS			LR	LR	11 17 36.3
	comp=Z,163nm,21.0s,baz=150,slow=33				
	comp=Z,4.1nm,0.8s				
LPIG	**La Paz**	**84.55 58**	LR	LR	11 16 42.2
	comp=Z,371nm,18.0s,baz=242,slow=32				
KSAR	**Wonju Array Be**	**84.56 320**	P	**P**	**10 43 49.1 -0.3**
KSAR	**Wonju Array Be**	**84.56 320**	P	**P**	**10 43 49.1 -0.3**
SLBS	**Sierra La Lagu**	**84.57 59**	P	**P**	**10 43 50.0 +0.1**
SLBS			IAmb	IAmb	10 44 09.3
	comp=Z,89nm,1.7s				
IPM	**Ipoh**	**84.61 278**	P	**P**	**10 43 48.7 -1.6**
IPM			IAmb	IAmb	10 43 50.0
	comp=Z,45nm,1.0s				
IPM	**Ipoh**	**84.61 278**	P	**P**	**10 43 49.4 -0.9**
UNV	**Unalaska Valle**	**84.65 7**	P	**P**	**10 43 48.9 -0.5**
	baz=190				
YSS	**Yuzhno-Sakhali**	**84.95 334**	P	**P**	**10 43 52.8 +1.7**
YSS	**Yuzhno-Sakhali**	**84.95 334**	*e*P	**P**	**10 43 51.6 +0.5**
YSS			*e*		10 47 06.7
YSS			*e*		10 54 14.0
YSS			*e*S	**S**	**10 54 18.6 +1.3**
YSS			*e*SS	**SS**	**10 59 52.6 +1.1**
YSS			pmax	pmax	
	comp=Z,30µm,0.9s				
YSS			pmax	pmax	
	comp=Z,300nm,6.8s				
QIZ	**Qiongzhong**	**85.16 295**	P	**P**	**10 43 53.6 +0.7**
QIZ			S	**S**	**10 54 21.0 +0.4**
QIZ			LR	LR	
	comp=Z,220nm,17.9s				
QIZ			LR	LR	
	comp=Z,260nm,24.7s				
QIZ			LR	LR	
	comp=Z,440nm,33.7s				
VTX	**Valle De La Tr**	**85.26 49**	P	**P**	**10 43 54.7 +1.5**
VTX			IAmb	IAmb	10 43 56.2
	comp=Z,38nm,1.4s				
KULM	**Kulim**	**85.35 279**	P	**P**	**10 43 54.9 +0.9**
BO02	**Sierra Bellavi**	**85.48 128**	P	**P**	**10 43 55.4 +0.9**
TKX	**Tecate**	**85.48 48**	P	**P**	**10 43 55.5 +1.3**
ESJX	**Sierra Juarez**	**85.54 49**	P	**P**	**10 43 55.4 +0.7**
ESJX			IAmb	IAmb	10 43 58.2
	comp=Z,45nm,1.5s				
PSI	**Prapat**	**85.55 276**	LR	LR	11 22 40.9
	comp=Z,817nm,21.2s,baz=158,slow=36				
PSI	**Prapat**	**85.55 276**	P	**P**	**10 43 53.5 -1.6**
ELS	**Elsinore Mount**	**85.67 47**	P	**P**	**10 43 56.4 +1.3**
ELS			IAmb	IAmb	10 43 58.2
	comp=Z,41nm,1.4s				
VA01	**Torpederas**	**85.88 126**	P	**P**	**10 43 57.1 +0.7**
GSI	**Gunungsitoli**	**85.95 274**	P	**P**	**10 43 56.5 -0.5**
GSI	**Gunungsitoli**	**85.95 274**	P	**P**	**10 43 57.8 +0.8**
GSI	**Gunungsitoli**	**85.95 274**	P	**P**	**10 43 57.0 0.0**
PEA0B	**Petropavlovsk-**	**86.01 346**	*ce*P	**P**	**10 43 55.7 -0.6**
PETK	**Petropavlovsk-**	**86.01 346**	P	**P**	**10 43 55.9 -0.3**
	comp=Z,18nm,0.6s,baz=111,slow=8.0,SNR=20				
PETK			LR	LR	11 20 46.5
	comp=Z,215nm,18.3s,baz=168,slow=34				
	comp=Z,18nm,0.6s				
MT02	**Curacav**	**86.10 126**	P	**P**	**10 43 58.4 +0.9**
MT02			IAmb	IAmb	10 44 22.8
	comp=Z,31nm,0.8s				
PFO	**Pinyon Flats O**	**86.25 47**	P	**P**	**10 43 59.5 +1.3**
PFO			IAmb	IAmb	10 44 01.3
	comp=Z,48nm,1.6s				
PFO	**Pinyon Flats O**	**86.25 47**	LR	LR	11 15 27.8
	comp=Z,252nm,20.5s,baz=232,slow=31				
PFO	**Pinyon Flats O**	**86.25 47**	*c i*P	**P**	**10 43 59.8 +1.7**
PFO			pmax	pmax	
	comp=Z,38nm,1.4s				
CCAC	**Calif City Air**	**86.30 45**	P	**P**	**10 43 59.0 +0.8**
CCAC			IAmb	IAmb	10 44 01.4
	comp=Z,52nm,1.6s				
ISA	**Isabella, Lake**	**86.36 45**	P	**P**	**10 44 00.1 +1.6**
ISA			IAmb	IAmb	10 44 01.6
	comp=Z,48nm,1.2s				
ISA	**Isabella, Lake**	**86.36 45**	P	**P**	**10 44 00.1 +1.6**
ISA			pmax	pmax	
	comp=Z,48nm,1.3s				
MT03	**Universidad Ad**	**86.40 127**	P	**P**	**10 44 00.2 +1.1**
MT03			IAmb	IAmb	10 44 17.7
	comp=Z,57nm,1.1s				
LMEL	**Las Melosas**	**86.41 127**	P	**P**	**10 44 00.9 +1.7**
LMEL			IAmb	IAmb	10 44 18.4
	comp=Z,60nm,1.2s				
NJ2	**Nanjing**	**86.44 311**	*e*P	**P**	**10 44 00.7 +1.8**
NJ2			pmax	pmax	
	comp=Z,11nm,0.5s				
NJ2			LR	LR	
	comp=Z,380nm,21.8s				
NJ2			LR	LR	
	comp=Z,220nm,19.9s				
NJ2			LR	LR	
	comp=Z,630nm,21.8s				
CHNA	**Chernabura Isl**	**86.51 10**	P	**P**	**10 43 59.6 +1.0**
CHNA	**Chernabura Isl**	**86.51 10**	P	**P**	**10 43 58.9 +0.2**
	baz=196				
UBPT	**Khong Chiam**	**86.58 290**	P	**P**	**10 43 59.9 0.0**
UBPT			IAmb	IAmb	10 44 01.2
	comp=Z,27nm,1.0s				
UBPT	**Khong Chiam**	**86.58 290**	P	**P**	**10 44 00.5 +0.6**
PSTR	**Posyet**	**86.79 325**	⇓*i*P	**P**	**10 44 00.4 +0.1**
CMB	**Columbia Colle**	**86.83 42**	P	**P**	**10 44 01.4 +0.7**
CMB	**Columbia Colle**	**86.83 42**	P	**P**	**10 44 01.4 +0.7**
CMB			pmax	pmax	
	comp=Z,16nm,1.0s				
SDPT	**Sand Point**	**86.88 10**	P	**P**	**10 44 00.3 -0.1**
SDPT	**Sand Point**	**86.88 10**	P	**P**	**10 44 01.1 +0.7**
SDPT	**Sand Point**	**86.88 10**	P	**P**	**10 44 01.8 +1.3**
	baz=195				
S12K	**Black Hills**	**87.00 9**	P	**P**	**10 44 01.4 +0.3**
S12K	**Black Hills**	**87.00 9**	P	**P**	**10 44 02.5 +1.4**
	baz=194				
HSIG		**87.04 54**	P	**P**	**10 44 02.6 +0.6**
HSIG			IAmb	IAmb	10 44 20.8
	comp=Z,28nm,1.1s				
GSC	**Goldstone, Bar**	**87.14 46**	P	**P**	**10 44 03.6 +1.2**
GSC			IAmb	IAmb	10 44 05.4
	comp=Z,68nm,1.4s				
GSC	**Goldstone, Bar**	**87.14 46**	P	**P**	**10 44 03.6 +1.2**
GSC			pmax	pmax	
	comp=Z,68nm,1.5s				
USA0B	**Ussuriysk Arra**	**87.36 326**	*c i*P	**P**	**10 44 02.9 -0.2**
USRK	**Ussuriysk Ar.**	**87.36 326**	P	**P**	**10 44 01.9 -1.2**
USRK	**Ussuriysk Ar.**	**87.36 326**	P	**P**	**10 44 02.9 -0.2**
	comp=Z,12nm,0.9s,baz=133,slow=2.8,SNR=13				
USRK			LR	LR	11 18 37.0
	comp=Z,186nm,20.2s,baz=136,slow=32				
	comp=Z,12nm,0.9s				
BLYC	**Blythe**	**87.58 48**	P	**P**	**10 44 06.2 +1.8**
BLYC			IAmb	IAmb	10 44 08.0
	comp=Z,90nm,1.9s				
SPIA	**Saint Paul Isl**	**87.65 4**	P	**P**	**10 44 04.5 +0.4**
	baz=187				
CO03	**El Pedregal**	**87.77 125**	P	**P**	**10 44 06.3 +0.5**
GWY	**Greenwater Val**	**87.80 45**	P	**P**	**10 44 06.1 +0.5**
S14K	**Fog Glacier**	**87.92 10**	P	**P**	**10 44 05.8 +0.2**
	baz=196				
CHGN	**Chignik**	**

MDJ				LR	LR	
	comp=Z,610nm,22.5s					
MDJ	**Mudanjiang**	**88.83**	**325**	P	**P**	**10 44 11.5 +1.4**
SII	**Sitkinak Islan**	**89.10**	**13**	P	**P**	**10 44 11.4 +0.3**
SII	**Sitkinak Islan**	**89.10**	**13**	P	**P**	**10 44 12.5 +1.4**
	baz=200,SNR=5.8					
DL2	**Dalian**	**89.15**	**317**	P	**P**	**10 44 11.5 -0.2**
DL2				S	**S**	**10 54 57.0 -1.2**
DL2				pmax	pmax	
	comp=Z,24nm,1.0s					
DL2				pmax	pmax	
	comp=Z,380nm,5.0s					
DL2				LR	LR	
	comp=Z,390nm,22.1s					
DL2				LR	LR	
	comp=Z,340nm,19.5s					
DL2				LR	LR	
	comp=Z,790nm,21.7s					
R16K	**Pilot Point**	**89.46**	**11**	P	**P**	**10 44 14.0 +1.4**
	baz=198					
R11B	**Troy Canyon, C**	**89.86**	**44**	P	**P**	**10 44 15.5 +0.2**
OHAK	**Old Harbor**	**89.90**	**13**	P	**P**	**10 44 15.5 +0.8**
OHAK	**Old Harbor**	**89.90**	**13**	P	**P**	**10 44 15.5 +0.8**
	baz=201,SNR=11					
NONG	**Nongkai**	**89.94**	**291**	P	**P**	**10 44 16.6 +0.7**
J05D	**Fort Rock, OR**	**89.98**	**38**	P	**P**	**10 44 16.8 +1.1**
J05D				IAmb	IAmb	10 44 18.4
	comp=Z,38nm,1.3s					
X16A	**Lo Mia Camp, P**	**89.99**	**49**	P	**P**	**10 44 18.0 +1.9**
X16A				IAmb	IAmb	10 44 19.6
	comp=Z,33nm,1.0s					
R18K	**Karluk**	**90.00**	**12**	P	**P**	**10 44 16.1 +0.9**
	baz=200					
TIA	**Tai'an**	**90.16**	**313**	P	**P**	**10 44 16.1 -0.4**
TIA				pmax	pmax	
	comp=Z,35nm,1.0s					
CN2	**Changchun**	**90.34**	**323**	*e*P	**P**	**10 44 16.4 -0.8**
CN2				*e*SKS	**SKSac**	**10 54 44.8 -0.9**
CN2				pmax	pmax	
	comp=Z,30nm,1.1s					
CN2				pmax	pmax	
	comp=Z,220nm,5.0s					
CN2				LR	LR	
	comp=Z,210nm,17.0s					
CN2				LR	LR	
	comp=Z,180nm,17.0s					
CN2				LR	LR	
	comp=Z,310nm,19.0s					
GRNR	**Gornyy**	**90.49**	**333**	⇑*i*P	**P**	**10 44 18.1 +0.4**
GRNR				pmax	pmax	
	comp=Z,6.0nm,1.0s					
O14K	**Tigyukauivet M**	**90.56**	**8**	P	**P**	**10 44 18.5 +0.8**
	baz=194					
KDAK	**Kodiak Island**	**90.56**	**13**	LR	LR	11 20 04.4
	comp=Z,155nm,19.6s,baz=60,slow=32					
KDAK	**Kodiak Island**	**90.56**	**13***c*	*i*P	**P**	**10 44 18.4 +0.6**
KDAK				pmax	pmax	
	comp=Z,40nm,1.4s					
KDAK	**Kodiak Island**	**90.56**	**13**	P	**P**	**10 44 18.4 +0.6**
	baz=202					
Q16K	**King Salmon**	**90.67**	**11**	P	**P**	**10 44 18.7 +0.4**
	baz=198,SNR=7.1					
O15K	**Ungalikthiuk R**	**90.67**	**9**	P	**P**	**10 44 18.9 +0.6**
	baz=196					
U15A	**North Rim**	**90.68**	**47**	P	**P**	**10 44 21.0 +1.7**
U15A				IAmb	IAmb	10 44 38.8
	comp=Z,22nm,1.0s					
BNX	**BinXian**	**90.71**	**325**	⇓P	**P**	**10 44 18.1 -0.7**
BNX				pmax	pmax	
	comp=Z,17nm,1.1s					
P16K	**Nushagak River**	**90.80**	**10**	P	**P**	**10 44 21.0 +2.2**
	baz=197					
Q18K	**Katmai Hardscr**	**90.92**	**12**	P	**P**	**10 44 19.9 +0.3**
	baz=200,SNR=20					
M11K	**Mekoryuk**	**91.14**	**6**	P	**P**	**10 44 21.3 +0.9**
	baz=190					
N14K	**Kuskokwak Cree**	**91.16**	**8**	P	**P**	**10 44 21.2 +0.7**
	baz=194					
P17K	**Kvichak River**	**91.20**	**11**	P	**P**	**10 44 20.4 -0.3**
	baz=198,SNR=8.2					
KLR	**Kul'dur**	**91.24**	**330**	LR	LR	11 19 17.4
	comp=Z,244nm,21.0s,baz=164,slow=32					
KLR	**Kul'dur**	**91.24**	**330***c*	*i*P	**P**	**10 44 21.0 -0.2**
KLR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
121A	**Cookes Peak, D**	**91.32**	**53**	P	**P**	**10 44 22.0 -0.2**
	baz=234					
O16K	**Kokwok River B**	**91.32**	**10**	P	**P**	**10 44 22.1 +0.8**
	baz=197					
Q20K	**Shuyak Island**	**91.37**	**13**	P	**P**	**10 44 22.1 +0.5**
	baz=202					
Q19K	**Cape Douglas,**	**91.43**	**12**	P	**P**	**10 44 22.1 +0.2**
	baz=201,SNR=7.5					
I07A	**Izee**	**91.44**	**38**	P	**P**	**10 44 23.4 +0.9**
I07A				IAmb	IAmb	10 44 24.9
	comp=Z,15nm,1.0s					
M13K	**Dall Lake**	**91.44**	**7**	P	**P**	**10 44 23.2 +1.4**
	baz=193					
P18K	**Big Mountain,**	**91.58**	**11**	P	**P**	**10 44 22.6 -0.1**
	baz=200,SNR=6.4					
N15K	**Kwethluk River**	**91.59**	**9**	P	**P**	**10 44 23.6 +1.0**
	baz=195					
O17K	**Koliganek Bris**	**91.64**	**10**	P	**P**	**10 44 23.9 +1.1**
	baz=198					
GYA	**Guiyang**	**91.72**	**300**	P	**P**	**10 44 25.2 +1.0**
GYA				LR	LR	
	comp=Z,500nm,24.0s					
ENH	**Enshi**	**91.78**	**304**	P	**P**	**10 44 24.9 +0.6**
M14K	**Bethel**	**91.93**	**8**	P	**P**	**10 44 25.3 +1.3**
	baz=194					
O18K	**Koktuh Hills**	**92.03**	**11**	P	**P**	**10 44 24.8 +0.2**
	baz=200,SNR=17					
M15K	**Kasigluk River**	**92.03**	**8**	P	**P**	**10 44 25.4 +0.9**
	baz=195					
N16K	**Nishlik Lake**	**92.07**	**9**	P	**P**	**10 44 26.0 +1.2**
	baz=196					
P19K	**Oil Pt**	**92.18**	**12**	P	**P**	**10 44 25.8 +0.5**
	baz=201					
LYN	**LuoYang**	**92.19**	**309**	P	**P**	**10 44 26.3 +0.3**
LYN				sP	pP	10 44 33.4 -2.3
LYN				pmax	pmax	
	comp=Z,45nm,1.0s					
LYN				LR	LR	
	comp=Z,300nm,17.5s					
LYN				LR	LR	
	comp=Z,330nm,17.2s					
LYN				LR	LR	
	comp=Z,490nm,19.9s					
N17K	**Nushagak Hills**	**92.35**	**10**	P	**P**	**10 44 26.6 +0.5**
	baz=196					
TXAR	**Lajitas Array**	**92.40**	**57**	P	**P**	**10 44 27.8 +0.6**
TXAR	**Lajitas Array**	**92.40**	**57**	P	**P**	**10 44 28.5 +1.3**
	comp=Z,2.8nm,0.9s,baz=205,slow=5.5,SNR=24					
TXAR				LR	LR	11 21 56.3
	comp=Z,112nm,18.2s,baz=212,slow=33					
	comp=Z,2.8nm,0.9s					
TXAR	**Lajitas Array**	**92.40**	**57**	P	**P**	**10 44 27.8 +0.6**
HNS	**HongShan**	**92.42**	**313**	⇑P	**P**	**10 44 27.3 +0.3**
HNS				S	**S**	**10 55 26.8 -1.4**
HNS				pmax	pmax	
	comp=Z,17nm,1.3s					
HNS				LR	LR	
	comp=Z,330nm,18.0s					
HNS				LR	LR	
	comp=Z,260nm,16.7s					
HNS				LR	LR	
	comp=Z,360nm,16.3s					
L14K	**Kuka Creek**	**92.42**	**7**	P	**P**	**10 44 27.1 +0.8**
	baz=193					
HOM	**Homer**	**92.49**	**13**	P	**P**	**10 44 27.4 +0.7**
	baz=202					
O19K	**Port Alsworth**	**92.50**	**12**	P	**P**	**10 44 26.8 0.0**
	baz=200,SNR=9.2					
ILSW	**Iliamna Southw**	**92.51**	**12**	P	**P**	**10 44 26.5 -0.5**
G08A	**Pilot Rock**	**92.54**	**37**	P	**P**	**10 44 28.2 +0.7**
G08A				IAmb	IAmb	10 44 29.9
	comp=Z,32nm,1.2s					
M16K	**Timber Creek**	**92.57**	**9**	P	**P**	**10 44 27.6 +0.5**
	baz=196					
O20K	**Slope Mountain**	**92.69**	**12**	P	**P**	**10 44 27.5 -0.3**
	baz=202					
N18K	**Kilae Creek**	**92.70**	**11**	P	**P**	**10 44 28.6 +0.9**
	baz=199					
CMIG	**Matias Romero**	**92.72**	**72**	LR	LR	11 17 58.7
	comp=Z,142nm,20.2s,baz=211,slow=30					
BRSE	**Bradley Lake S**	**92.74**	**13**	P	**P**	**10 44 28.6 +0.7**
	baz=203					
K13K	**Kusilvak Mount**	**92.80**	**6**	P	**P**	**10 44 29.1 +1.0**
	baz=192					
L15K	**Ungalak Mounta**	**92.89**	**8**	P	**P**	**10 44 28.7 +0.2**
	baz=194					
MFID	**Camas Ranch**	**92.99**	**40**	P	**P**	**10 44 30.0 +0.4**
MFID				IAmb	IAmb	10 44 31.8
	comp=Z,12nm,1.0s					
N19K	**Bonanza Creek**	**93.05**	**11**	P	**P**	**10 44 29.7 +0.3**
	baz=200					
BJT	**Baijiatuau**	**93.11**	**315**	P	**P**	**10 44 31.7 +1.6**
BJI	**Beijing**	**93.12**	**315**	P	**P**	**10 44 29.6 -0.5**
BJI				pmax	pmax	
	comp=Z,4.0nm,1.0s					
M17K	**Holitna River**	**93.15**	**10**	P	**P**	**10 44 30.6 +0.8**
	baz=198					
L16K	**Owhat River**	**93.17**	**9**	P	**P**	**10 44 30.5 +0.8**
	baz=196,SNR=6.8					
BBB	**Bella Bella**	**93.21**	**28**	LR	LR	11 18 25.7
	comp=Z,195nm,21.4s,baz=196,slow=30					
NNA	**Nana**	**93.28**	**106**	LR	LR	11 17 12.2
	comp=Z,335nm,21.5s,baz=241,slow=29					
SEW	**Seward**	**93.34**	**14**	P	**P**	**10 44 31.2 +0.6**
	baz=204					
M18K	**Stony River**	**93.48**	**10**	P	**P**	**10 44 31.7 +0.5**
	baz=199					
K15K	**Wolf Creek Mou**	**93.48**	**8**	P	**P**	**10 44 32.3 +1.1**
	baz=194					
MA2	**Magadan**	**93.49**	**345**	LR	LR	11 21 49.6
	comp=Z,354nm,21.1s,baz=168,slow=32					
MA2	**Magadan**	**93.49**	**345**	P	**P**	**10 44 30.6 -0.8**
MA2	**Magadan**	**93.49**	**345**	⇑*e*P	**P**	**10 44 30.1 -1.3**
MA2				pmax	pmax	
	comp=Z,9.0nm,1.0s					
SLKM	**Skilak Lake**	**93.55**	**13**	P	**P**	**10 44 31.5 -0.2**
CMAR	**Chiang Mai Arr**	**93.55**	**289**	P	**P**	**10 44 32.7 0.0**
CMAR	**Chiang Mai Arr**	**93.55**	**289**	P	**P**	**10 44 33.1 +0.4**
	comp=Z,4.7nm,0.9s,baz=152,slow=3.3,SNR=13					
CMAR				PP	PP	10 48 09.6 -8.2
	comp=Z,1.0nm,0.4s,baz=134,slow=5.5,SNR=4.2					
CMAR				LR	LR	11 29 30.2
	comp=Z,81nm,19.5s,baz=125,slow=37					
	comp=Z,4.7nm,0.9s					
CMAR	**Chiang Mai Arr**	**93.55**	**289**	*i* P	**P**	**10 44 34.0 +1.3**
CMAR				pmax	pmax	
	comp=Z,4.0nm,0.9s					
ANMO	**Albuquerque**	**93.61**	**51**	P	**P**	**10 44 33.6 +0.8**
ANMO				IAmb	IAmb	10 44 35.4
	comp=Z,36nm,1.9s					
ANMO	**Albuquerque**	**93.61**	**51**	LR	LR	11 19 23.5
	comp=Z,132nm,21.6s,baz=56,slow=31					
ANMO	**Albuquerque**	**93.61**	**51**	P	**P**	**10 44 33.6 +0.8**
ANMO				pmax	pmax	
	comp=Z,36nm,1.9s					
O22K	**Cooper Landing**	**93.63**	**14**	P	**P**	**10 44 32.4 +0.5**
	baz=204					
HVU	**Hansel Valley**	**93.70**	**43**	P	**P**	**10 44 34.0 +1.0**
HVU				IAmb	IAmb	10 44 35.3
	comp=Z,46nm,1.6s					
HVU	**Hansel Valley**	**93.70**	**43**	P	**P**	**10 44 34.0 +1.0**
HVU				pmax	pmax	
	comp=Z,46nm,1.6s					
J14K	**Nanvaranak Lak**	**93.71**	**7**	P	**P**	**10 44 32.5 +0.2**
	baz=192					
L17K	**Donlin**	**93.73**	**9**	P	**P**	**10 44 33.4 +0.9**
	baz=197,SNR=5.2					
CHTO	**Chiang Mai**	**93.73**	**290**	P	**P**	**10 44 32.8 -0.7**
CHTO	**Chiang Mai**	**93.73**	**290**	P	**P**	**10 44 32.8 -0.7**
CHTO				pmax	pmax	
	comp=Z,12nm,1.1s					
N20K	**Mount Spurr**	**93.81**	**12**	P	**P**	**10 44 32.8 -0.1**
	baz=202					
SPCR	**Spurr Chakacha**	**93.81**	**12**	P	**P**	**10 44 32.7 -0.2**
	baz=202					
CRAG	**Craig**	**93.87**	**24**	P	**P**	**10 44 34.0 +0.8**
	baz=218					
HEH	**HeiHe**	**93.91**	**328**	*e*P	**P**	**10 44 32.1 -1.4**
HEH				pmax	pmax	
	comp=Z,4.0nm,1.2s					
L18K	**Granite Mounta**	**94.04**	**10**	P	**P**	**10 44 34.2 +0.4**
	baz=196					
M19K	**Big River Lodg**	**94.10**	**11**	P	**P**	**10 44 34.3 +0.2**
	baz=200					
TCUT	**Toone Canyon**	**94.10**	**44**	P	**P**	**10 44 35.9 +0.9**
TCUT				IAmb	IAmb	10 44 38.3
	comp=Z,23nm,1.3s					
GAMB	**Gambell**	**94.16**	**3**	P	**P**	**10 44 34.8 +0.5**
	baz=185					
RC01	**Rabbit Creek A**	**94.18**	**13**	P	**P**	**10 44 35.1 +0.6**
	baz=204					
PWL	**Port Wells**	**94.26**	**14**	P	**P**	**10 44 35.0 +0.1**
	baz=205					
L19K	**White Mountain**	**94.28**	**11**	P	**P**	**10 44 35.5 +0.5**
L19K				IAmb	IAmb	10 44 36.7
	comp=Z,42nm,1.5s					
L19K	**White Mountain**	**94.28**	**11**	P	**P**	**10 44 35.8 +0.8**
	baz=200					
V35K	**Ketchikan**	**94.28**	**24**	P	**P**	**10 44 36.0 +0.9**
	baz=219					
M20K	**Styx River**	**94.29**	**11**	P	**P**	**10 44 35.4 +0.3**
	baz=201					
K17K	**Iditarod**	**94.29**	**9**	P	**P**	**10 44 35.9 +0.9**
	baz=197					
KAIM	**Kayak Island**	**94.30**	**16**	P	**P**	**10 44 36.0 +1.0**
	baz=209					
U33K	**Whale Pass**	**94.38**	**23**	P	**P**	**10 44 36.6 +1.1**
	baz=218					
SIT	**Sitka**	**94.41**	**22**	P	**P**	**10 44 36.2 +0.6**
	baz=216					
ATAH	**Atahualpa**	**94.51**	**101**	LR	LR	11 17 20.8
	comp=Z,254nm,21.7s,baz=226,slow=29					
GLI	**Glacier Island**	**94.54**	**15**	P	**P**	**10 44 37.0 +0.9**
	baz=206					
EYAK	**Cordova Ski Ar**	**94.54**	**15**	P	**P**	**10 44 36.9 +0.8**
	baz=208					
J16K	**Anvik River**	**94.55**	**8**	P	**P**	**10 44 36.8 +0.7**
	baz=195,SNR=5.2					
SKT	**Skwentna**	**94.66**	**12**	P	**P**	**10 44 36.7 0.0**
	baz=203					
L20K	**Farewell, AK**	**94.72**	**11**	P	**P**	**10 44 36.7 -0.3**
	baz=201					
KNK	**Knik Glacier**	**94.73**	**14**	P	**P**	**10 44 37.0 -0.1**
	baz=205					
BGLC	**Bering Glacier**	**94.75**	**17**	P	**P**	**10 44 37.8 +0.7**
	baz=210					
PMR	**Palmer**	**94.76**	**13**	P	**P**	**10 44 37.1 0.0**
PMR	**Palmer**	**94.76**	**13**	P	**P**	**10 44 37.7 +0.6**
	baz=205					
TTA	**Tatalina**	**94.82**	**10**	P	**P**	**10 44 37.6 +0.1**
TTA	**Tatalina**	**94.82**	**10**	P	**P**	**10 44 38.1 +0.6**
	baz=199,SNR=6.9					
J17K	**VABM Dome**	**94.84**	**8**	P	**P**	**10 44 38.6 +1.1**
	baz=196					
S31K	**Pelican**	**94.86**	**21**	P	**P**	**10 44 38.5 +0.9**
	baz=215					
WRAK	**Wrangell Islan**	**94.89**	**23**	P	**P**	**10 44 38.4 +0.6**
	baz=216					
S22A	**4UR Ranch, Cre**	**94.97**	**49**	P	**P**	**10 44 39.9 +0.7**
	baz=235					
S32K	**Killisnoo**	**94.98**	**22**	P	**P**	**10 44 39.1 +0.8**
	baz=216					
833A	**Chaparral WMA,**	**95.00**	**60**	P	**P**	**10 44 39.4 +0.3**
	baz=238					
SML	**Sawmill**	**95.12**	**14**	P	**P**	**10 44 39.8 +0.9**
	baz=205					
I17K	**Unalakleet**	**95.12**	**8**	P	**P**	**10 44 40.0 +1.3**
	baz=195					
MESA	**MESA**	**95.13**	**17**	P	**P**	**10 44 39.8 +0.7**
	baz=211					
BMRM	**Bremner River**	**95.17**	**16**	P	**P**	**10 44 39.8 +0.7**
	baz=208					
J18K	**Innoko River**	**95.22**	**9**	P	**P**	**10 44 40.0 +0.8**
	baz=198,SNR=6.0					
M23K	**Glacier View**	**95.23**	**14**	P	**P**	**10 44 39.9 +0.6**
	baz=206					
CUT	**Chulitna**	**95.28**	**13**	P	**P**	**10 44 40.7 +1.1**
	baz=204					
AHID	**Auburn Hatcher**	**95.29**	**43**	P	**P**	**10 44 40.9 +0.5**
AHID				IAmb	IAmb	10 44 42.6
	comp=Z,19nm,1.3s					
U35K	**Hyder**	**95.31**	**25**	P	**P**	**10 44 40.6 +0.9**
	baz=220					
APG	**El Apazote**	**95.32**	**76**	LR	LR	11 16 59.8
	comp=Z,16nm,21.7s,baz=325,slow=29					
ANM	**Nome**	**95.33**	**5**	P	**P**	**10 44 41.1 +1.3**
	baz=191					
KLU	**Klutina**	**95.34**	**15**	P	**P**	**10 44 40.7 +0.7**
	baz=207					
SCM	**Sheep Creek Mo**	**95.35**	**14**	P	**P**	**10 44 40.7 +0.8**
	baz=206					
R31K	**City Hall, Gus**	**95.39**	**21**	P	**P**	**10 44 41.1 +1.1**
	baz=216					
PPLA	**Purkeypile**	**95.39**	**12**	P	**P**	**10 44 41.1 +0.9**
	baz=202					
NEW	**Newport**	**95.46**	**36**	LR	LR	11 24 19.5
	comp=Z,236nm,18.0s,baz=220,slow=33					
PZH	**PanZhiHua**	**95.47**	**297**	P	**P**	**10 44 43.3 +1.8**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,110nm,4.7s					
K20K	**Telida**	**95.52**	**11**	P	**P**	**10 44 41.6 +1.0**
	baz=201					
R32K	**Eaglecrest**	**95.65**	**21**	P	**P**	**10 44 42.2 +0.9**
	baz=217					
H16K	**Elim**	**95.69**	**7**	P	**P**	**10 44 42.2 +0.9**
	baz=194					
N25K	**Chitina, Valde**	**95.74**	**15**	P	**P**	**10 44 41.9 +0.1**
N25K	**Chitina, Valde**	**95.74**	**15**	P	**P**	**10 44 42.5 +0.7**
	baz=208					
M24K	**Tolsona, Glenn**	**95.84**	**14**	P	**P**	**10 44 42.8 +0.6**
	baz=207					
G15K	**Niukluk**	**95.87**	**6**	P	**P**	**10 44 42.7 +0.5**
	baz=192					
J19K	**Poorman**	**95.88**	**10**	P	**P**	**10 44 42.8 +0.5**
	baz=199					
CAST	**Castle Rocks**	**95.90**	**11**	P	**P**	**10 44 42.3 -0.1**
	baz=202					
T35M	**Bob Quinn**	**96.05**	**24**	P	**P**	**10 44 43.9 +0.7**
	baz=220					
LOHW	**Long Hollow**	**96.09**	**42**	P	**P**	**10 44 44.4 +0.4**
O28M	**Mount Upton**	**96.09**	**18**	P	**P**	**10 44 43.9 +0.3**
	baz=212					
O29M	**Mount Kennedy**	**96.13**	**18**	P	**P**	**10 44 44.1 +0.5**
	baz=213					
TNA	**Tin City**	**96.14**	**4**	P	**P**	**10 44 43.8 +0.5**
	baz=189,SNR=5.6					
F14K	**Arctic Creek**	**96.16**	**5**	P	**P**	**10 44 43.9 +0.4**
	baz=190					
SEY	**Seymchan**	**96.17**	**347**	⇑*i*P	**P**	**10 44 42.6 -0.9**
SEY				pmax	pmax	
	comp=Z,10.0nm,1.1s					
PDAR	**Pinedale Array**	**96.20**	**44**	P	**P**	**10 44 44.6 +0.1**
	comp=Z,1.2nm,0.8s,baz=221,slow=3.1,SNR=12					
PDAR				PP	**PP**	**10 48 35.7 -2.6**
	comp=Z,0.5nm,0.9s,baz=258,slow=5.1,SNR=4.3					
PDAR				PKKPbc	**PKKPbc**	**11 01 30.2 -1.7**
	comp=Z,2.0nm,0.7s,baz=25,slow=3.6,SNR=22					
PDAR				PKPPKP	**P'P'df**	**11 09 42.8 +1.0**
	comp=Z,0.6nm,1.0s,baz=41,slow=3.3,SNR=4.0					
PDAR				LR	LR	11 20 38.5
	comp=Z,182nm,21.6s,baz=224,slow=31					
	comp=Z,1.2nm,0.8s					
T25A	**Trinidad**	**96.22**	**50**	P	**P**	**10 44 44.2 -0.5**
	baz=236					
H17K	**Granite Mounta**	**96.23**	**8**	P	**P**	**10 44 43.9 +0.1**
	baz=196					
TRF	**Thorofare Moun**	**96.24**	**12**	P	**P**	**10 44 44.4 +0.3**
	baz=204					
J20K	**Nowinta River**	**96.28**	**10**	P	**P**	**10 44 44.3 +0.3**
	baz=200					
CHUM	**Lake Minchumin**	**96.29**	**11**	P	**P**	**10 44 45.2 +1.1**
	baz=202					
HARP	**HAARP**	**96.32**	**15**	P	**P**	**10 44 45.1 +0.8**
	baz=208					
G16K	**Koyuk River**	**96.42**	**6**	P	**P**	**10 44 45.1 +0.5**
	baz=194					
GCSA	**Galena City Sc**	**96.42**	**9**	P	**P**	**10 44 45.4 +0.8**
	baz=198					
P30M	**Million Dollar**	**96.43**	**19**	P	**P**	**10 44 45.6 +0.7**
	baz=215					
HHC	**Hu-ho-hao-te**	**96.43**	**314**	*e*P	**P**	**10 44 47.4 +2.0**
HHC				pmax	pmax	
	comp=Z,10.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,130nm,4.5s					
HHC				LR	LR	
	comp=Z,230nm,17.3s					
HHC				LR	LR	
	comp=Z,120nm,18.6s					
HHC				LR	LR	
	comp=Z,360nm,20.1s					
ZEA	**Zeya**	**96.45**	**331**	*e*P	**P**	**10 44 44.7 -0.3**
S34M	**Telegraph Cree**	**96.47**	**23**	P	**P**	**10 44 45.5 +0.5**
	baz=219					
YMR	**Madison River**	**96.51**	**41**	P	**P**	**10 44 46.8 +0.9**
YMR				IAmb	IAmb	10 44 48.9
	comp=Z,18nm,1.4s					
F15K	**North Star Dit**	**96.52**	**5**	P	**P**	**10 44 45.5 +0.4**
	baz=192					
H18K	**Honhosa River**	**96.62**	**8**	P	**P**	**10 44 45.7 +0.1**
	baz=197					
YUK8	**Steele Glacier**	**96.64**	**17**	P	**P**	**10 44 46.6 +0.5**
	baz=212					
G17K	**Kiwalik Mounta**	**96.70**	**7**	P	**P**	**10 44 46.6 +0.7**
	baz=195					
BPAW	**Bear Paw Mtn.**	**96.72**	**12**	P	**P**	**10 44 46.6 +0.6**
	baz=203					
YUK6	**Outpost Mounta**	**96.72**	**18**	P	**P**	**10 44 46.4 0.0**
	baz=214					
Q24A	**Divide**	**96.75**	**49**	P	**P**	**10 44 46.4 -0.8**
	baz=236					
MCK	**McKinley**	**96.75**	**13**	P	**P**	**10 44 46.6 +0.4**
	baz=205					
PAX	**Paxson**	**96.76**	**14**	P	**P**	**10 44 46.8 +0.4**
	baz=208					
M26K	**Nabesna, AK**	**96.81**	**16**	P	**P**	**10 44 46.9 +0.4**
	baz=210					
I20K	**Naaghedeneel**	**96.81**	**10**	P	**P**	**10 44 47.1 +0.8**
	baz=200					
HYT	**Haines Junctio**	**96.86**	**19**	P	**P**	**10 44 47.0 +0.1**
	baz=214					
Q32M	**Nakina River**	**96.91**	**22**	P	**P**	**10 44 47.5 +0.2**
	baz=218					
P32M	**Atlin**	**96.96**	**21**	P	**P**	**10 44 48.3 +1.0**
	baz=217					
YUK4	**Talbot Arm**	**96.98**	**18**	P	**P**	**10 44 49.1 +1.5**
	baz=214					
M27K	**Edge Creek, AK**	**97.03**	**16**	P	Pdif	10 44 48.2 +0.5
	baz=211					
MENT	**Mentasta**	**97.11**	**15**	P	Pdif	10 44 48.8 +0.8
O30N	**Mendenhall**	**97.21**	**19**	P	Pdif	10 44 49.3 +0.8
	baz=216					
H19K	**Roundabout Mou**	**97.23**	**9**	P	Pdif	10 44 49.8 +1.5
	baz=199					
DLBC	**Dease Lake**	**97.25**	**23**	LR	LR	11 20 53.8
	comp=Z,315nm,21.3s,baz=238,slow=31					
DLBC	**Dease Lake**	**97.25**	**23**	P	Pdif	10 44 49.2 +0.5
	baz=220					
BTO	**Baotou**	**97.25**	**313**	*e*P	Pdif	10 44 51.3 +2.0
BTO				sP	pP	10 44 57.5 -1.4
BTO				PP	**PP**	**10 48 49.4 +3.0**
BTO				S	**S**	**10 56 16.4 +5.9**
BTO				pmax	pmax	
	comp=Z,20nm,0.6s					
BTO				pmax	pmax	
	comp=Z,310nm,5.1s					
BTO				LR	LR	
	comp=Z,260nm,5.5s					
BTO				LR	LR	
	comp=Z,400nm,5.7s					
BTO				LR	LR	
	comp=Z,440nm,7.1s					
L26K	**Log Cabin Wild**	**97.27**	**15**	P	Pdif	10 44 49.2 +0.5
	baz=210					
G18K	**Tagagawik**	**97.30**	**8**	P	Pdif	10 44 49.4 +0.7
	baz=197					
N23A	**Red Feather La**	**97.32**	**47**	P	**P**	**10 44 49.7 0.0**
	baz=236					
H20K	**Anotleneega Mo**	**97.41**	**9**	P	Pdif	10 44 49.8 +0.6
	baz=200					
WHY	**Whitehorse**	**97.47**	**20**	P	Pdif	10 44 51.0 +1.3
	baz=216					
N30M	**Aishikik Lake**	**97.50**	**18**	P	Pdif	10 44 51.1 +1.4
	baz=215					
NEA2	**Nenana**	**97.51**	**12**	P	Pdif	10 44 50.9 +1.3
	baz=205					
F17K	**Baldwin Pennin**	**97.55**	**7**	P	Pdif	10 44 50.3 +0.6
	baz=194					
I21K	**Tanana**	**97.55**	**11**	P	**P**	**10 44 49.8 +0.1**
	baz=202					
RIDG	**Independent Ri**	**97.57**	**14**	P	**P**	**10 44 50.2 +0.2**
	baz=208					
435B	**Jar

baz=211
JTS Las Juntas de 97.66 83 LR LR 11 18 46.5
comp=Z,250nm,21.7s,baz=293,slow=29
R33M Jennings River 97.67 22 P **P 10 44 50.5 -0.1**
baz=220
P33M Teslin, Yukon 97.73 21 P Pdif 10 44 51.6 +0.7
baz=218
G19K Purcell Mounta 97.73 8 P Pdif 10 44 51.1 +0.5
baz=198
HDA Harding Lake 97.74 13 P Pdif 10 44 51.7 +1.0
baz=207
H21K Melozitna Rive 97.87 10 P Pdif 10 44 52.6 +1.4
baz=202
F18K Selawik 97.87 7 P Pdif 10 44 52.6 +1.5
baz=196
N31M Braeburn, Yuko 97.88 19 P **P 10 44 51.2 -0.2**
baz=216
M29M Sommle Creek 97.95 17 P **P 10 44 51.6 -0.1**
baz=214
SCRK Sand Creek 97.96 14 P Pdif 10 44 52.2 +0.3
baz=209
I23K Minto, Yukon-K 97.96 12 P Pdif 10 44 51.9 +0.3
baz=205
LPAZ La Paz 97.98 114 P Pdif 10 44 55.5 +1.7
comp=Z,0.8nm,0.6s,baz=216,slow=2.5,SNR=4.1
LPAZ LR LR 11 20 48.6
comp=Z,183nm,21.3s,baz=218,slow=30
comp=Z,0.8nm,0.6s
COLA College 97.99 12 P **P 10 44 51.9 +0.2**
COLA College 97.99 12 *ce*P **P 10 44 51.1 -0.6**
COLA pmax pmax
comp=Z,12nm,1.6s
COLA College 97.99 12 P Pdif 10 44 52.3 +0.6
baz=206
ILAR Eielson Array 98.08 13 P **P 10 44 51.6 -0.6**
comp=Z,1.1nm,0.7s,baz=221,slow=5.0,SNR=23
ILAR PP **PP 10 48 47.3 -4.7**
comp=Z,0.8nm,1.0s,baz=213,slow=6.5,SNR=4.0
ILAR PKiKP **PKiKP 10 49 24.2 -0.8**
comp=Z,0.3nm,0.5s,baz=308,slow=3.1,SNR=5.9
ILAR PKKPbc **PKKPbc 11 01 22.1 -5.1**
comp=Z,0.7nm,0.8s,baz=7.8,slow=2.6,SNR=5.8
ILAR LR LR 11 24 04.7
comp=Z,94nm,18.9s,baz=208,slow=32
comp=Z,1.1nm,0.7s
E17K Hotham Inlet 98.12 6 P Pdif 10 44 53.1 +0.8
baz=194
J25K Salcha River, 98.24 14 P Pdif 10 44 53.9 +0.9
baz=208
POKR Poker Plat Res 98.28 13 P Pdif 10 44 54.0 +0.9
baz=206
F19K Shaleruckik Mo 98.31 8 P Pdif 10 44 54.0 +0.8
baz=198
H22K Ishtalitna Cre 98.31 11 P Pdif 10 44 54.6 +1.4
baz=203
N32M Quiet Lake 98.39 20 P Pdif 10 44 54.5 +0.8
baz=218
K27K Chicken 98.43 15 P Pdif 10 44 55.3 +1.5
baz=211
M30M Minto, Yukon 98.50 18 P Pdif 10 44 55.9 +1.7
baz=215
J26L Joseph Creek 98.51 14 P Pdif 10 44 55.4 +1.2
baz=210
E18K Tukpahlearik C 98.56 7 P Pdif 10 44 55.3 +1.1
baz=195
G21K Allakaket 98.57 10 P Pdif 10 44 55.4 +1.0
baz=201
L29M L29M 98.59 17 P Pdif 10 44 55.6 +1.0
baz=214
D17K Noatak River 98.61 6 P Pdif 10 44 56.0 +1.6
baz=193
F20K Avaraart Lake 98.77 9 P Pdif 10 44 56.8 +1.6
baz=199
M31M Drury Creek, Y 98.85 19 P Pdif 10 44 57.4 +1.7
baz=217
H24K Noodor Dome 98.85 12 P Pdif 10 44 57.4 +1.7
baz=206
LZH Lanzhou 98.91 307 *e*P Pdif 10 45 00.7 +3.9
LZH sP sP 10 45 08.3 -1.5
LZH pmax pmax
comp=Z,24nm,0.9s
E19K Redstone River 98.97 8 P Pdif 10 44 57.1 +1.0
baz=198
RDOG Red Dog Mine 98.97 6 P Pdif 10 44 57.2 +1.2
baz=193
C16K Lisburne Hills 99.00 5 P **Pdif 10 44 57.5 +1.4**
baz=191
PRP Porcupine Dome 99.01 13 P **Pdif 10 44 57.6 +1.1**
baz=208
BILL Bilibino 99.03 354⇓*e*P **Pdif 10 44 58.3 +2.0**
BILL pmax pmax
comp=Z,9.0nm,1.4s
DAWY Dawson 99.08 16 P **Pdif 10 44 58.7 +2.0**
baz=213
FARO Faro, Yukon 99.17 19 P **Pdif 10 44 58.4 +1.3**
baz=218
F21K Alatna River 99.23 9 P **Pdif 10 44 58.6 +1.3**
baz=201
TOAD Toad River Com 99.23 25 P **Pdif 10 44 59.4 +1.9**
baz=224
G23K Bananza Creek 99.28 11 P **Pdif 10 44 59.6 +2.0**
baz=204
I26K Coal Creek Min 99.30 14 P **Pdif 10 44 59.2 +1.5**
baz=210
K29M Barlow Dome 99.35 17 P **Pdif 10 44 59.9 +1.9**
baz=214
C17K DeLong Mountai 99.36 5 P **Pdif 10 44 59.9 +2.1**
baz=193
MAYO Mayo, Yukon 99.57 18 P **Pdif 10 45 01.4 +2.6**
baz=216
H25L Birch Creek 99.62 13 P **Pdif 10 45 01.2 +2.2**
baz=208
F22K John River 99.69 10 P **Pdif 10 45 01.3 +2.0**
baz=202
J29N Klondike Camp 99.69 16 P **Pdif 10 45 01.1 +1.7**
baz=214
C18K Utukok River 99.70 6 P **Pdif 10 45 00.6 +1.2**
baz=195
G24K Hadweenzic Riv 99.70 12 P **Pdif 10 45 01.1 +1.7**
baz=206
COLD Coldfoot 99.73 11 P **Pdif 10 44 59.7 +0.2**
baz=204
E20K Nigu River 99.86 8 P **Pdif 10 45 00.3 +0.2**
baz=199
D19K Kuna River 99.86 7 P **Pdif 10 45 00.3 +0.2**
baz=197
I27K Kandik River 99.88 14 P **Pdif 10 45 01.5 +1.2**
baz=211
G25K Bearman Lake 100.01 12 P **Pdif 10 45 02.0 +1.3**
baz=208
I28M Miner Creek 100.12 15 P **Pdif 10 45 03.3 +1.9**
baz=213
D20K Etivluk River 100.24 8 P **Pdif 10 45 03.5 +1.8**
baz=199
J30M Hart River 100.25 17 P **Pdif 10 45 03.4 +1.3**
baz=216
E21K Killik River 100.31 9 P **Pdif 10 45 03.8 +1.8**
baz=201
E22K Anaktuvuk Pass 100.32 10 P **Pdif 10 45 03.6 +1.5**
baz=203
B18K Kokolik River 100.34 6 P **Pdif 10 45 03.2 +1.1**
baz=194
F24K Squaw Lake 100.37 11 P **Pdif 10 45 03.4 +1.0**
baz=206
I29M Ogilvie Camp, 100.42 16 P **Pdif 10 45 03.3 +0.6**
baz=214
H27K Steamboat Moun 100.44 14 P **Pdif 10 45 03.4 +0.6**
baz=211
KOTAN Kotaneelee Air 100.57 24 P **Pdif 10 45 03.6 +0.3**
baz=225
E23K Chandalar 100.58 10 P **Pdif 10 45 04.8 +1.4**
baz=205
G26K Porcupine Rive 100.61 13 P **Pdif 10 45 04.6 +1.2**
baz=210
I30M Mount Dempster 100.77 17 P **Pdif 10 45 05.5 +1.1**
baz=216
E24K Your Creek 100.78 11 P **Pdif 10 45 05.3 +1.1**
baz=206
F25K Christian Rive 100.83 12 P **Pdif 10 45 05.1 +0.6**
baz=208
C21K Knifeblade Rid 100.88 8 P **Pdif 10 45 05.1 +0.5**
baz=200
D22K Ayikyak River 100.89 9 P **Pdif 10 45 05.5 +0.8**
baz=202
G27K Doyon Strip 100.91 14 P **Pdif 10 45 05.6 +0.8**
baz=211
TOLK Toolik Lake Re 101.12 10 P **Pdif 10 45 06.0 +0.3**
baz=205

H29M Whitestone 101.12 15 P **Pdif 10 45 06.1 +0.3**
baz=214
F26K Sheenjek River 101.19 12 P **Pdif 10 45 06.5 +0.4**
baz=209
A19K Wainwright 101.22 6 P **Pdif 10 45 07.6 +1.6**
baz=195
D23K Nanushuk River 101.25 10 P **Pdif 10 45 06.9 +0.7**
baz=204
E25K Arctic Village 101.31 12 P **Pdif 10 45 06.7 +0.2**
baz=208
B21K Ikpikpuk River 101.34 8 P **Pdif 10 45 08.2 +1.7**
baz=200
B20K Meade River 101.41 7 P **Pdif 10 45 08.6 +1.7**
baz=198
YAK Yakutsk 101.45 338 *e*P **Pdif 10 45 07.5 +0.3**
YAK pmax pmax
comp=Z,5.0nm,0.7s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,1.0nm,0.8s
D24K Happy Valley 101.70 10 P **Pdif 10 45 09.6 +1.4**
baz=205
H31M Peel River 101.75 17 P **Pdif 10 45 09.8 +1.3**
baz=217
G29M Pine Creek 101.78 15 P **Pdif 10 45 09.9 +1.3**
baz=214
C23K Itkillik River 102.06 9 P **Pdif 10 45 11.3 +1.5**
baz=204
E27K Coleen River 102.11 13 P **Pdif 10 45 11.6 +1.5**
baz=212
B22K Teshekpuk Lake 102.16 8 P **Pdif 10 45 11.6 +1.4**
baz=202
C24K Franklin Bluff 102.23 10 P **Pdif 10 45 11.8 +1.3**
baz=206
D25K Kavik River 102.24 11 P **Pdif 10 45 11.5 +0.8**
baz=208
G30M tAoh Zraii Nji 102.24 16 P **Pdif 10 45 11.0 +0.3**
baz=216
A22K Sinclair Lake 102.60 8 P **Pdif 10 45 12.9 +0.7**
baz=200
G31M Satah River 102.65 16 P **Pdif 10 45 13.6 +1.2**
baz=218
A21K Barrow 102.72 7 P **Pdif 10 45 14.5 +1.8**
baz=199
F30M Barrier River 102.85 15 P **Pdif 10 45 13.5 +0.2**
baz=216
E28M Babbage River 102.87 14 P **Pdif 10 45 13.6 +0.2**
baz=213
WRGLY Wrigley 102.95 22 P **Pdif 10 45 14.8 +0.9**
baz=226
C27K Jago River 102.96 12 P **Pdif 10 45 15.0 +1.2**
baz=210
E29M Blow River 103.03 14 P **Pdif 10 45 14.6 +0.5**
baz=215
D27M Malcolm River 103.13 13 P **Pdif 10 45 15.4 +0.7**
baz=212
F31M Tsiigehtchic 103.19 16 P **Pdif 10 45 15.8 +1.0**
baz=218
SONM Songino Array 103.34 318 Pdiff **Pdif 10 45 17.5 +1.3**
comp=E,0.4nm,0.8s,baz=131,slow=6.5,SNR=2.3
SONM PKiKP **PKiKP 10 49 36.0 +0.9**
comp=E,0.5nm,0.5s,baz=122,slow=2.2,SNR=2.2
SONM PKKPbc **PKKPbc 11 01 11.9 +0.4**
comp=E,0.4nm,0.6s,baz=309,slow=5.6,SNR=4.3
D28M Stokes Point 103.63 13 P **Pdif 10 45 18.4 +1.6**
baz=214
INK Inuvik 103.93 16 P **Pdif 10 45 19.9 +1.8**
baz=218
YKA Yellowknife Ar 105.56 26 PKiKP **PKiKP 10 49 39.1 +0.6**
comp=E,0.5nm,0.8s,baz=240,slow=2.2,SNR=6.4
YKA PKKPbc **PKKPbc 11 01 00.4 -4.7**
comp=E,1.0nm,0.7s,baz=44,slow=2.7,SNR=3.7
C36M Paulatuk 107.02 17 P **PKiKP 10 49 41.4 +0.4**
baz=227
ULM Lac du Bonnet 108.13 42 PKKP 11 01 07.1
comp=E,0.9nm,0.2s,baz=99,slow=2.3,SNR=5.8
A36M Sachs Harbour 108.56 15 P **PKiKP 10 49 44.3 +0.4**
baz=226
L44A Lake County Fo 109.78 52 P **PKiKP 10 49 47.4 +0.3**
baz=246
WMQ Urumqi 113.41 308 *e*PKP **PKiKP 10 49 55.1 +1.0**
ZSN Zaisan 116.46 311 *e*PKIKP **PKPdf 10 49 58.8 -0.9**
ZSN Zaisan 116.46 311 *e*PKP **PKPdf 10 49 58.8 -0.9**
BOSA Boshof 117.13 203 PKP **PKiKP 10 50 02.4 +0.4**
comp=E,8.6nm,0.8s,baz=158,slow=2.1,SNR=12
MK31 Makanchi Array 117.96 310 *i*PKIKP **PKPdf 10 50 00.9 -1.8**
MKAR Makanchi Array 117.96 310 PKP **PKPdf 10 50 01.2 -1.4**
comp=E,14nm,1.1s,baz=107,slow=1.3,SNR=44
MKAR PKKPbc **PKKPbc 11 00 23.4 +0.1**
comp=E,0.5nm,0.6s,baz=292,slow=2.2,SNR=4.5
MAKZ Makanchi 118.17 310 ⇑PKIKP **PKPdf 10 50 01.9 -1.2**
ZALV Zalesovo Beam 118.23 318 PKP **PKPdf 10 50 01.4 -1.4**
comp=E,4.8nm,0.8s,baz=124,slow=0.7,SNR=17
SHLS Shalkode 118.90 305 *e*PKIKP **PKPdf 10 50 02.9 -1.8**
SHLS Shalkode 118.90 305 *e*PKP **PKPdf 10 50 02.1 -2.6**
UZB Uzynbulak 119.20 305 *e*PKIKP **PKPdf 10 50 04.2 -1.1**
UZB Uzynbulak 119.20 305 *e*PKP **PKPdf 10 50 04.3 -1.1**
KPKS Kokpek 119.53 306 *e*PKIKP **PKPdf 10 50 04.8 -1.1**
KPKS Kokpek 119.53 306 *e*PKP **PKPdf 10 50 04.8 -1.1**
SATY Saty 119.61 305 *e*PKIKP **PKPdf 10 50 05.0 -1.1**
SATY Saty 119.61 305 *e*PKP **PKPdf 10 50 05.0 -1.1**
ZHN Zhinishke 119.62 305 *e*PKIKP **PKPdf 10 50 05.0 -1.1**
ZHN Zhinishke 119.62 305 *e*PKP **PKPdf 10 50 05.0 -1.1**
MAKGR Makgori 119.87 204 *i*P **PKiKP 10 50 07.9 +0.6**
KSH Kashi 120.41 301 PKP **PKPdf 10 50 07.8 +0.1**
L61B Northampton 120.52 56 P **PKiKP 10 50 08.1 +0.3**
baz=255
TNSS Tian-Shan 120.64 305 *e*PKIKP **PKPdf 10 50 06.9 -1.5**
TNSS Tian-Shan 120.64 305 *e*PKP **PKPdf 10 50 07.0 -1.5**
AAA Alma-Ata 120.71 305 *e*PKIKP **PKPdf 10 50 07.1 -1.0**
AAA Alma-Ata 120.71 305 *e*PKP **PKPdf 10 50 07.1 -1.0**
KURK Kurchatov 121.24 314 *c i*PKIKP **PKPdf 10 50 07.4 -1.4**
KURK pmax pmax
comp=Z,40nm,1.3s
KURBB Kurchatov Arra 121.28 314 PKP **PKPdf 10 50 07.6 -1.3**
comp=Z,19nm,0.9s,baz=106,slow=2.0,SNR=91
KURBB PKKPbc **PKKPbc 11 00 11.6 +0.5**
comp=Z,0.2nm,0.3s,baz=285,slow=5.1,SNR=2.0
TKM2 Tokmak 2 121.57 304 P **PKPdf 10 50 09.0 -1.0**
SNR=9.3
LPHEP Lephephe 121.72 206 *i*P **PKiKP 10 50 11.5 +0.5**
M65A Busby, Falmout 121.76 57 P **PKiKP 10 50 10.6 +0.4**
baz=256
KBK Karagaybulak 121.97 304 P **PKPdf 10 50 10.0 -0.7**
SNR=11
CHMS Chumysh 122.19 304 P **PKPdf 10 50 10.1 -0.9**
SNR=14
AAK Ala-Archa 122.29 304 P **PKPdf 10 50 10.6 -0.8**
SNR=11
AAK Ala-Archa 122.29 304 *c i*PKIKP **PKPdf 10 50 10.3 -1.0**
AAK pmax pmax
comp=Z,19nm,1.3s
SGDS Sogindy 122.38 305 *e*PKIKP **PKPdf 10 50 10.2 -1.1**
SGDS Sogindy 122.38 305 *e*PKP **PKPdf 10 50 10.3 -1.1**
USP Ospenovka 122.43 304 P **PKPdf 10 50 10.4 -1.0**
SNR=15
AML Almayashu 122.75 303 P **PKPdf 10 50 12.1 -0.4**
SNR=26
EKS2 Erkin-Say 122.81 304 P **PKPdf 10 50 12.1 -0.1**
SNR=12
OHH Osh 123.04 301 PKIKP **PKPdf 10 50 12.0 -0.7**
BTLS Baital 123.14 306 *e*PKIKP **PKPdf 10 50 11.7 -0.9**
BTLS Baital 123.14 306 *e*PKP **PKPdf 10 50 11.8 -0.9**
BROLN Tlhalogang 123.19 208 *i*P **PKPdf 10 50 13.9 +0.2**
KGCAE Kacgae 123.48 202 *i*P **PKiKP 10 50 15.1 +0.7**
KOOLE Kule 123.98 200 *i*P **PKiKP 10 50 15.9 +0.4**
DZA Taraz 124.62 303 *e*PKIKP **PKPdf 10 50 14.6 -1.0**
DZA Taraz 124.62 303 *e*PKP **PKPdf 10 50 14.7 -1.0**
OTUK Ortayu 124.86 310 PKIKP **PKPdf 10 50 14.8 -1.1**
GRTLG Ghanzi 125.19 202 *i*P **PKiKP 10 50 18.2 +0.3**
KK31 Karatay Array 125.25 303 *i*PKIKP **PKPdf 10 50 15.5 -1.3**
IUG Iuzhnay 125.42 302 *e*PKIKP **PKPdf 10 50 16.1 -1.1**
IUG Iuzhnay 125.42 302 *e*PKP **PKPdf 10 50 16.2 -1.1**
BRLS Borolday 125.73 303 *e*PKIKP **PKPdf 10 50 16.8 -0.9**
BRLS Borolday 125.73 303 *e*PKP **PKPdf 10 50 16.9 -0.9**
SCHQ Schefferville 126.31 42 PKP **PKPdf 10 50 17.9 -0.4**
comp=Z,7.0nm,0.9s,baz=77,slow=2.1,SNR=6.2
BVA0 Borovoye Array 126.60 316 PKIKP **PKPdf 10 50 17.3 -1.7**
BVAR Borovoye Array 126.60 316 PKP **PKPdf 10 50 18.1 -0.9**
comp=Z,27nm,0.9s,baz=98,slow=3.0,SNR=72
BRVK Borovoye 126.67 316 *c i*PKIKP **PKPdf 10 50 17.9 -1.2**
BRVK pmax pmax
comp=Z,46nm,1.3s
QNGWA Qangwa 126.91 203 *i*P **PKPdf 10 50 21.4 +0.5**
NEEM North Greenlan 127.37 13 *i*P **PKPdf 10 50 19.8 -0.4**

UPNV Upernavik 128.20 19 *i*P **PKPdf 10 50 20.3 -1.2**
NOR Nord 128.37 3⇓*i*P **PKPdf 10 50 21.4 -0.3**
SPA0 Spitsbergen Ar 131.89 356 *e*PKPdf **PKiKP 10 50 29.4 0.0**
SPITS Spitsbergen Ar 131.89 356 PKP **PKPdf 10 50 27.9 -0.5**
comp=Z,17nm,0.7s,baz=73,slow=2.9,SNR=14
SVE Sverdlovsk 132.10 321 *e*PKIKP **PKPdf 10 50 29.1 -0.2**
SVE pmax pmax
comp=Z,21nm,1.3s
DAG Danmarks Havn 132.71 6 *i*P **PKPdf 10 50 28.5 -1.5**
SUMG Summit 132.85 16 *i*P **PKPdf 10 50 30.3 -0.5**
AB31 Akbulak array 133.10 311 *i*PKIKP **PKPdf 10 50 30.7 -0.7**
ARTI Arti 133.39 320 PKP **PKPdf 10 50 31.5 -0.3**
comp=Z,18nm,0.7s,baz=101,slow=1.4,SNR=27
ARTI SKPbc **SKPbc 10 53 56.6 -0.9**
comp=Z,9.3nm,1.0s,baz=90,slow=1.0,SNR=6.1
ARTI Arti 133.39 320 *i*PKIKP **PKPdf 10 50 31.0 -0.8**
ARTI 10 52 59.1
ARTI SS SS 11 10 37.6 -4.7
KMBO Kilima Mbogo 134.05 233 PKP **PKPdf 10 50 35.4 +0.7**
comp=Z,1.6nm,0.3s,baz=138,slow=4.5,SNR=8.9
KMBO SKPbc **SKPbc 10 53 59.4 -2.1**
comp=Z,0.6nm,0.3s,baz=64,slow=4.3,SNR=1.8
KMBO Kilima Mbogo 134.05 233⇓*e*PKIKP **PKPdf 10 50 34.6 -0.1**
AKTO Aktyubinsk 134.29 312 PKP **PKPdf 10 50 33.1 -0.6**
comp=Z,15nm,1.1s,baz=88,slow=1.4,SNR=17
AKTO SKPbc **SKPbc 10 54 00.3 -0.4**
comp=Z,1.7nm,0.7s,baz=86,slow=1.2,SNR=3.6
DBG Daneborg 134.76 8 *i*P **PKPdf 10 50 32.9 -0.9**
KIRV Kirov 137.52 325 PKP **PKPdf 10 50 38.8 -0.6**
comp=Z,18nm,0.6s,baz=41,slow=2.6,SNR=8.6
KIRV Kirov 137.52 325⇓*i*PKIKP **PKPdf 10 50 38.9 -0.5**
APA Apatity 138.61 342⇓*i*PKIKP **PKPdf 10 50 40.5 -0.6**
APA *i* 10 53 34.1
APA pmax pmax
comp=Z,8.0nm,0.6s
ARA0 ARCESS Array S 138.78 348 *e*PKPdf **PKPdf 10 50 38.4 -3.1**
ARCES ARCESS Array B 138.78 348 PKhKP PKPpre 10 50 33.0
comp=Z,6.5nm,0.7s,baz=29,slow=2.8,SNR=8.0
ARCES PKP **PKPdf 10 50 39.8 -1.7**
comp=Z,15nm,0.9s,baz=67,slow=2.3,SNR=9.1
KTK1 Kautokeino 139.64 348 *e*PKPdf **PKPdf 10 50 40.7 -2.4**
BELG Belogornoye 140.39 317 PKhKP PKPpre 10 50 40.4
comp=Z,58nm,1.0s,baz=37,slow=1.5,SNR=19
BELG Belogornoye 140.39 317 *c i*PKIKP **PKPdf 10 50 44.1 -0.7**
RAYN Ar Rayn 140.91 270⇓PKIKP **PKPdf 10 50 47.0 +0.2**
KLMR Klimovskoe 140.96 332 *e*PKIKP **PKPdf 10 50 43.6 -2.0**
KLMR *e* 10 53 44.0
KLMR pmax pmax
comp=Z,47nm,1.5s
LKRN Lenkeran, Azer 141.10 295 PKIKP **PKPdf 10 50 47.1 +0.5**
LOF Lofoten 141.81 353 *e*PKPdf **PKPdf 10 50 45.2 -1.7**
STEI Steigen 141.82 352 *e*PKPdf **PKPdf 10 50 42.3 -4.6**
AKT Akhty 141.93 299 *e*P **Pdif 10 48 08.9 +1.0**
AKT *e* 10 50 48.0
AKT pmax pmax
comp=Z,27nm,1.0s
FAUS Fauske 142.33 352 *e*PKPdf **PKPdf 10 50 44.5 -3.4**
SEKA Sheki 142.34 299 PKIKP **PKPdf 10 50 49.1 +0.3**
GANJ Ganja 143.02 298 PKIKP **PKPdf 10 50 50.5 +0.5**
KONS Konsvik 143.44 353 *e*PKPdf PKPab 10 50 45.0 -1.0
MOR8 Moi Rana 143.59 352 *e*PKPdf PKPbc 10 50 48.3 +0.7
STOK Stokkvaagen 143.61 353 *e*PKPdf PKPab 10 50 47.4 +0.6
NAX Nakhchivan 143.68 296 PKIKP **PKPdf 10 50 51.6 +0.3**
LEIR Leirfjorden 143.81 352 *e*PKPdf PKPab 10 50 47.9 +0.4
GNI Garni 144.24 297 *c i*PKIKP **PKPab 10 50 49.8 -0.4**
VRH Novokhopyorsk 144.24 317 *e*PKIKP **PKPdf 10 50 51.2 -0.5**
VRH pmax pmax
comp=Z,11nm,0.8s
MOS Moscow 144.54 326 *i*PKIKP **PKPab 10 50 48.7 -1.9**
MOS pmax pmax
comp=Z,55nm,0.8s
NCK Nalchik 144.82 303⇓*i*PKIKP **PKPab 10 50 51.9 -0.2**
GOF Gofitskoye 144.97 306 *ce*PKIKP PKPbc 10 50 52.2 -0.4
PUL Pulkovo 145.20 335⇓*e*PKIKP **PKPbc 10 50 52.3 -0.5**
KBZ Khabaz 145.29 304 PKPbc **PKPbc 10 50 52.9 -0.7**
comp=Z,35nm,1.1s,baz=86,slow=1.0,SNR=28
KBZ Khabaz 145.29 304 *c i*PKIKP **PKPbc 10 50 52.5 -1.1**
LPSR Galich'ya Gora 145.31 320 *e*PKP2 **PKPbc 10 50 50.8 -2.6**
LPSR pmax pmax
comp=Z,50nm,1.0s
FINES FINESS Array B 145.35 340 PKPbc **PKPbc 10 50 52.2 -1.0**
comp=Z,223nm,0.8s,baz=58,slow=4.7,SNR=306
OBN Obninsk 145.37 325 PKPbc **PKPbc 10 50 52.7 -0.8**
comp=Z,58nm,0.5s,baz=40,slow=2.2,SNR=33
OBN Obninsk 145.37 325⇑⇑P **PKPbc 10 50 52.2 -1.3**
OBN Obninsk 145.37 325 *c i*PKIKP **PKPbc 10 50 52.3 -1.2**
OBN *e* 10 54 12.0
OBN *e*PPP PPP 10 57 26.4
OBN pmax pmax
comp=Z,298nm,1.5s
KIV Kislovodsk 145.41 304⇓P **PKPdf 10 50 53.9 -0.3**
KIV Kislovodsk 145.41 304 *i*PKP2 **PKPdf 10 50 52.4 -1.7**
KIV pmax pmax
comp=Z,40nm,1.1s
SHA1 Shidzhatmaz 145.46 304 *c i*PKIKP **PKPdf 10 50 53.5 -0.9**
NSS Namsos 145.47 352 *e* **PKPdf 10 50 52.7 -0.8**
NSS *e*PKPbc **PKPdf 10 50 52.7 -0.8**
NEUR Neytrino 145.50 303 *i*PKHKP PKPpre 10 50 45.8
VORR Voronezh 145.53 318 *e*PKP2 **PKPdf 10 50 52.7 -1.2**
VORR pmax pmax
comp=Z,38nm,0.8s
VSR Storozhevoye 145.73 318 *e*PKHKP PKPpre 10 50 50.4
VSR pmax pmax
comp=Z,60nm,1.0s
BCA Borcka 146.51 300⇓P **PKPbc 10 50 57.3 -0.2**
ERBR Yeremizino-Bor 146.61 308 *i*PKP2 **PKPdf 10 50 56.2 +0.2**
ERBR pmax pmax
comp=Z,136nm,0.9s
LABN Labinsk 146.67 306 *i*PKP2 **PKPab 10 50 58.9 -0.1**
LABN pmax pmax
comp=Z,68nm,1.3s
VSLR Vesyoloye 147.39 304 *c i*PKP2 **PKPdf 10 50 58.9 +1.5**
VSU Vasula 147.43 336 *c i*PKP2 **PKPdf 10 50 57.7 +0.8**
MOL Molde 147.80 355 *e*PKPdf **PKPbc 10 50 60.0 -0.4**
DOMB Dombas 148.20 354 *e*PKPbc **PKPbc 10 51 00.9 -0.6**
AKN Aaknes 148.23 356 *e*PKPbc **PKPbc 10 51 01.5 0.0**
FOO Floro 148.91 357 *e*pPKPdf **PKPbc 10 51 02.9 -0.4**
ANN Anapa 148.92 307 *i*PKP2 **PKPbc 10 51 02.6 -1.2**
ANN pmax pmax
comp=Z,78nm,1.2s
NB2 NORSAR Subarra 148.94 351 PKP **PKPbc 10 51 02.7 -0.8**
comp=Z,227nm,1.7s,baz=12,slow=2.6
NB2 NORSAR Subarra 148.94 351 PKP **PKPbc 10 51 02.7 -0.8**
baz=12,slow=2.6
NOA NORSAR Array B 148.94 351 PKPbc **PKPbc 10 51 02.9 -0.6**
comp=Z,33nm,0.6s,baz=15,slow=4.2,SNR=94
NC602 NORSAR Array S 149.19 351 *e*pPKPdf **PKPbc 10 51 03.5 -0.5**
HYA Hoyanger 149.29 356 *e*pPKPdf **PKPbc 10 51 03.2 -1.0**
HFS Hagfors 149.44 349 PKP **PKPdf 10 50 58.9 -1.3**
comp=Z,76nm,0.8s,baz=64,slow=3.4,SNR=6.6
HFS PKPbc **PKPbc 10 51 03.5 -1.1**
comp=Z,60nm,0.7s,baz=64,slow=6.6,SNR=61
SUE Sulen 149.47 357 *e*pPKPdf **PKPbc 10 51 04.5 -0.1**
SKAR Skarslia 149.61 354 *e*pPKPdf **PKPbc 10 51 05.2 0.0**
MNK Minsk 149.79 330 *i*PKP2 **PKPbc 10 51 05.1 -0.6**
MNK *e* 10 54 37.7
MNK *i* 10 58 06.7
MNK *i*SS SS 11 13 54.7 +2.5
MNK *i*SSS SSS 11 19 34.1
MNK pmax pmax
comp=Z,188nm,1.2s
MNK pmax pmax
comp=E,54nm,1.1s
MNK pmax pmax
comp=N,41nm,1.1s
MNK MLR MLR
comp=Z,430nm,21.0s
MNK MLR MLR
comp=E,742nm,22.0s
MNK MLR MLR
comp=N,763nm,23.0s
ASK Askoy 150.02 357 *e*pPKPdf **PKPbc 10 51 05.8 -0.3**
OSL Oslo 150.07 351 *e*pPKPdf **PKPbc 10 51 06.0 -0.2**
BER Bergen 150.11 357 *e*pPKPdf **PKPbc 10 51 05.5 -0.7**
KONO Kongsberg 150.49 352 *e*pPKPdf **PKPbc 10 51 06.9 -0.3**
KONO Kongsberg 150.49 352⇑PKIKP **PKPbc 10 51 07.0 -0.2**
ODD1 Odda 150.51 355 *e*pPKPdf **PKPbc 10 51 07.3 0.0**
BLS5 Blasjo 151.01 355 *e*pPKPdf **PKPbc 10 51 08.2 -0.2**
BEIL Beino 151.09 287 *e*P **PKPbc 10 51 09.5 0.0**
SIM Simferopol' 151.13 309 *i*PKIKP **PKPbc 10 51 07.7 -1.5**
SIM *e* 10 51 16.9
SIM *e* 10 54 48.6
SIM pmax pmax
comp=Z,101nm,1.2s

SIM pmax pmax
comp=Z,75nm,0.8s
DIKM Dikmen 151.20 302 ⇑P PKPbc 10 51 09.4 -0.1
HWQ Hawqa 151.28 286 *e*P **PKPbc 10 51 09.6 -0.5**
KMY Karmoy 151.29 357 *e*PKPbc **PKPbc 10 51 09.1 +0.1**
ZAHL Zahle 151.31 285 *e*P **PKPbc 10 51 10.3 +0.1**
RCY Rachaya 151.34 285 *e*P **PKPbc 10 51 10.1 -0.1**
SHBL Chebaa 151.40 284 *e*P **PKPbc 10 51 10.1 -0.3**
QRWL Qaraoun 151.47 285 *e*P **PKPbc 10 51 10.7 +0.2**
AKASG Malin Array Be 151.50 323 PKP **PKPdf 10 51 02.6 -1.0**
comp=Z,3.8nm,0.9s,baz=48,slow=1.1,SNR=14
AKASG PKPbc **PKPbc 10 51 08.9 -1.0**
comp=Z,53nm,0.7s,baz=50,slow=3.5,SNR=107
BHL Bhannes 151.51 286 *e*P **PKPbc 10 51 10.5 0.0**
KIEV Kiev 151.51 323 ⇓P **PKPdf 10 51 04.1 +0.4**
KIEV Kiev 151.51 323 ⇓PKIKP **PKPdf 10 51 04.1 +0.4**
DQRL Deir Qamar 151.57 285 *e*P **PKPbc 10 51 10.9 +0.1**
MMAI Mount Meron Ar 151.67 284 PKP **PKPdf 10 51 05.4 +0.8**
comp=Z,1.1nm,0.2s,baz=145,slow=3.0,SNR=2.7
MMAI PKPbc **PKPbc 10 51 11.2 +0.2**
comp=Z,28nm,0.6s,baz=74,slow=6.2,SNR=21
HOMB Homborsund 151.97 353 *e*P **PKPbc 10 51 10.4 -0.2**
SNART Snartemo 152.02 354 *e*PKPbc **PKPbc 10 51 10.8 0.0**
BZK Bozkurt 152.05 303 ⇓P **PKPbc 10 51 09.7 -1.6**
SUW Suwalki 152.08 333 *e*PKP **PKPbc 10 51 10.8 -0.3**
KIRS Kirsehir-Merke 152.65 297 ⇑P **PKPbc 10 51 12.4 -0.6**
OVD Ostervraa, Den 152.68 350 *i* P **PKPbc 10 51 11.6 -0.6**
BRTR Keskin Array B 152.77 298 PKP **PKPdf 10 51 05.2 -1.0**
comp=Z,2.6nm,1.0s,baz=103,slow=3.9,SNR=8.0
BRTR PKPbc **PKPbc 10 51 11.8 -1.6**
comp=Z,14nm,1.0s,baz=133,slow=2.9,SNR=26
GOET G??ttrup 153.09 351 *i* P **PKPbc 10 51 12.8 -0.4**
PURM Purcari 153.26 314 ⇑P **PKPbc 10 51 13.0 -0.9**
SORM Soroca 153.38 319 ⇓P **PKPbc 10 51 11.3 -2.8**
SORM Soroca 153.38 319 ⇓PKIKP **PKPbc 10 51 11.3 -2.8**
MILM Milestii Mici 153.73 316 ⇑*i* P **PKPbc 10 51 13.9 -1.0**
comp=Z,90nm,1.2s
MILM Milestii Mici 153.73 316*c i*PKIKP **PKPbc 10 51 13.9 -1.0**
MILM pmax pmax
comp=Z,90nm,1.2s
BSD Bornholm Skovb 153.83 343 *i* P **PKPbc 10 51 13.6 -1.3**
TLCR 154.52 312 ⇓P **PKPbc 10 51 16.5 -0.2**
TLCR 154.52 312 ⇓PKIKP **PKPbc 10 51 16.5 -0.2**
SSRD Sdr. Stenderup 154.54 350 *i* P **PKPbc 10 51 14.4 -1.9**
BEL Belsk 154.68 332 *e*PKP **PKPbc 10 51 17.0 +0.2**
VLDR Vladesti 154.68 314 ⇓P **PKPbc 10 51 14.0 -3.0**
GKP Gorka Klasztor 154.79 338 *e*PKP **PKPbc 10 51 17.2 +0.2**
TPGR Topolog 154.92 312 ⇑P **PKPbc 10 51 17.3 -0.3**
CFR Carcaliu 154.96 313 ⇓P **PKPbc 10 51 16.9 -0.7**
CFR Carcaliu 154.96 313 ⇓PKIKP **PKPbc 10 51 16.9 -0.7**
EKA Eskdalemuir Ar 154.97 7 PKPbc **PKPbc 10 51 16.8 -0.5**
comp=Z,2.6nm,0.8s,baz=32,slow=1.9,SNR=3.5
EKA PKPab **sPKPbc 10 51 31.4 +0.8**
comp=Z,8.3nm,0.8s,baz=352,slow=3.7,SNR=8.5
PRAR RASCA 155.01 319 ⇓P **PKPdf 10 51 15.1 +6.2**
TIRR Tirgusor 155.09 311 ⇑P **PKPdf 10 51 07.9 -1.1**
TIRR Tirgusor 155.09 311 ⇑PKIKP **PKPdf 10 51 07.9 -1.1**
MFTR Murfatlar 155.20 311 ⇑P PKPdf 10 51 17.3 +8.1
TESR Tescani 155.22 317 ⇓P **PKPdf 10 51 09.8 +0.6**
PANC Panciu 155.24 315 ⇑P **PKPab 10 51 32.8 -1.6**
TLBR Topalu 155.29 312 ⇓P **PKPdf 10 51 14.1 +4.8**
HARR Harsova 155.30 312 ⇓P PKPdf 10 51 18.3 +9.0
HARR Harsova 155.30 312 ⇓PKIKP PKPdf 10 51 18.3 +9.0
DBIC Dimbokro 155.33 163 PKP **PKPdf 10 51 10.5 +0.2**
comp=Z,5.4nm,0.9s,baz=84,slow=3.4,SNR=4.8
DBIC PKPab **PKPab 10 51 36.3 +0.9**
comp=Z,8.1nm,0.7s,baz=184,slow=3.3,SNR=5.7
BURAR Bucovina Array 155.43 320 ⇓PKIKP PKPdf 10 51 19.2 +10
VRI Vrincioaia 155.50 315 ⇑P **PKPdf 10 51 08.5 -1.1**
VRI Vrincioaia 155.50 315 ⇑PKIKP **PKPdf 10 51 08.5 -1.1**
PLOR Plostina 155.56 315 ⇑P **PKPdf 10 51 10.2 +0.5**
PLOR Plostina 155.56 315 ⇑PKIKP **PKPdf 10 51 10.2 +0.5**
OZUR 155.95 317 ⇑P PKPdf 10 51 18.2 +8.0
KOLS Kolonicke sedl 156.12 326 *e*PKIKP **PKPdf 10 51 12.0 +1.7**
KOLS *e* 10 51 20.8
KOLS Kolonicke sedl 156.12 326 *e*PKP **PKPdf 10 51 12.0 +1.7**
KOLS *e* 10 51 20.8
MLR Muntele Rosu 156.16 315 ⇑P **PKPdf 10 51 10.1 -0.5**
MLR Muntele Rosu 156.16 315 ⇑PKIKP **PKPdf 10 51 10.1 -0.5**
OJC Ojcow 156.31 331 *e*PKP **PKPdf 10 51 10.3 -0.2**
NIE Niedzica 156.70 329 *e*PKP **PKPdf 10 51 10.9 -0.2**
MARR Marisel-Cluj 157.14 321 ⇓P **PKPdf 10 51 10.8 -1.0**
KSP Ksiaz 157.16 336 *e*PKP **PKPdf 10 51 11.6 0.0**
DRGR 157.29 321 ⇓P **PKPdf 10 51 17.3 +5.3**
DRGR 157.29 321 ⇓PKIKP **PKPdf 10 51 17.3 +5.3**
OSTC Ostas 157.42 336 *e*PKPDF **PKPdf 10 51 11.9 -0.1**
OSTC Ostas 157.42 336 *e*PKIKP **PKPdf 10 51 11.9 -0.1**
DPC Dobruska-Polom 157.56 336 ⇑*e*PKP PKPdf 10 51 23.9 +12
DPC *e*PKPab **PKPab 10 51 45.5 +1.3**
DPC Dobruska-Polom 157.56 336 *e*PKIKP PKPdf 10 51 23.9 +12
MORC Moravsky Berou 157.57 333 *e*PKP **PKPdf 10 51 11.7 -0.5**
MORC Moravsky Berou 157.57 333 ⇓P **PKPdf 10 51 09.3 -2.9**
MORC Moravsky Berou 157.57 333 ⇓PKIKP **PKPdf 10 51 09.3 -2.9**
CLL Collm 157.76 342 *i* PKIKP **PKPdf 10 51 12.0 -0.3**
CLL pmax pmax
comp=Z,56nm,2.1s
CLL MLR MLR
comp=Z,300nm,24.4s
CLL Collm 157.76 342 *i* PKPdf **PKPdf 10 51 12.0 -0.3**
comp=Z,56nm,2.1s
CLL *e*(PKPdif) 10 51 23.0
comp=Z,13nm,1.1s
CLL *i* PKPab **PKPab 10 51 44.2 -0.7**
comp=Z,35nm,1.1s
CLL *i* x x 10 51 47.1
comp=Z,44nm,1.4s
CLL AMS AMS 12 13 00.0
comp=Z,400nm,19.5s
MAUC Maruska 157.78 332 ⇑*e*PKP PKPdf 10 51 23.8 +11
BRG Berggiesshubel 157.89 340 ⇓*e*PKPf 10 51 12.3
BRG Amp 10 51 13.4
comp=Z,20nm,1.3s
BRG Berggiesshubel 157.89 340 P **PKPab 10 51 48.4 +2.9**
BRG Amp 10 51 49.9
comp=Z,22nm,1.1s
PSZ Piszkesteto 157.97 327 ⇓P **PKPdf 10 51 11.4 -1.4**
PSZ Piszkesteto 157.97 327 ⇓PKIKP **PKPdf 10 51 11.4 -1.4**
VYHS Vyhne 158.03 329 *e*PKIKP **PKPdf 10 51 12.6 -0.2**
VYHS *e* 10 51 45.5
VYHS Vyhne 158.03 329 *e*PKP **PKPdf 10 51 12.6 -0.2**
VYHS *e* 10 51 45.5
GZR Gura Zlata 158.09 318 ⇓P **PKPdf 10 51 09.2 -3.9**
GZR Gura Zlata 158.09 318 ⇓PKIKP **PKPdf 10 51 09.2 -3.9**
SIRR Siria 158.18 321 ⇓P **PKPdf 10 51 11.5 -1.5**
SURR Surduc 158.25 320 ⇓P **PKPdf 10 51 14.5 +1.4**
SURR Surduc 158.25 320 ⇓S **SKPdf 10 54 49.1 +6.1**
JAVC Velka Javorina 158.25 331 *e*PKP **PKPdf 10 51 13.8 +0.7**
VRAC Vranov 158.32 334 PKP **PKPdf 10 51 12.3 -0.8**
comp=Z,1.9nm,0.6s,baz=333,slow=2.3,SNR=4.5
VRAC PKPab **PKPab 10 51 46.3 -1.1**
comp=Z,3.1nm,0.6s,baz=82,slow=4.1,SNR=5.4
VRAC Vranov 158.32 334 *e*PKP **PKPdf 10 51 12.7 -0.4**
KRUC Moravsky 158.59 334 *e*PKP **PKPdf 10 51 12.7 -0.7**
HERR Herculane 158.59 317 ⇓P **PKPdf 10 51 13.5 -0.1**
BZS Buzias 158.61 320 ⇓P **PKPdf 10 51 11.3 -2.3**
BZS Buzias 158.61 320 ⇓PKIKP **PKPdf 10 51 11.3 -2.3**
MODS Modra-Piesok 158.79 331 *e*PKIKP **PKPdf 10 51 14.3 +0.6**
MODS *e* 10 51 49.1
MODS Modra-Piesok 158.79 331 *e*PKP **PKPdf 10 51 14.3 +0.6**
MODS *e* 10 51 24.9
MODS *e* 10 51 49.1
MDVR Moldovita 159.06 318 ⇑P **PKPdf 10 51 13.6 -0.6**
MDVR Moldovita 159.06 318 ⇓S **SKPdf 10 54 51.9 +7.9**
KHC Kasperske Hory 159.53 338 *e*PKPDF **PKPdf 10 51 13.5 -1.1**
KHC ⇑*e*PKP **sPKPdf 10 51 27.9 0.0**
KHC *e*PKPAB **PKPab 10 51 52.0 -0.7**
KHC Kasperske Hory 159.53 338 *e*PKIKP **PKPdf 10 51 13.5 -1.1**
KHC *e* 10 51 52.0
BOVS Bovan 159.72 315 ⇑P **PKPdf 10 51 13.3 -1.6**
CONA Conrad Observa 159.72 333 *e*PKP **PKPdf 10 51 13.5 -1.4**
comp=Z,5.2nm,1.2s
CONA *e*PKP **PKPab 10 51 52.8 -0.8**
comp=Z,7.7nm,1.1s
RONA Rosalia, Austr 159.73 331 *e*PKP **PKPdf 10 51 13.4 -1.5**
comp=Z,10.0nm,1.2s
RONA *e*PKP **PKPab 10 51 52.8 -0.8**
comp=Z,14nm,1.5s
GERES GERESS Array B 159.74 337 PKP **PKPdf 10 51 14.3 -0.6**
comp=Z,3.5nm,1.0s,baz=240,slow=3.3,SNR=4.4
GERES PKPab **PKPab 10 51 51.7 -2.1**
comp=Z,2.2nm,0.5s,baz=47,slow=5.9,SNR=3.6
MORH Mrgy, Hungar 159.78 325 ⇓P **PKPdf 10 51 12.2 -2.7**
MEM Membach 159.78 353 *d*PKPdf **PKPdf 10 51 15.2 +0.5**
BTNL Ternell 159.79 353 *d*PKP **PKPab 10 51 52.5 -1.2**
BHOU Houvegnez 160.03 353 *d*PKP **PKPab 10 51 54.6 -0.2**
BCLA Clavier 160.04 354 *d*PKP **PKPab 10 51 53.5 -1.3**
BGES Gesves 160.09 354 *d*PKP **PKPab 10 51 54.2 -0.8**
BMRD Maredsous 160.20 355 *d*PKP **PKPab 10 51 55.0 -0.5**
RCHB Rochefort 160.30 354 *d*PKP **PKPab 10 51 55.2 -0.8**
MOA Molln 160.39 335 *e*PKP **PKPab 10 51 56.1 -0.4**
comp=Z,15nm,1.7s
ARSA Arzberg 160.40 332 *e*PKP **PKPdf 10 51 13.9 -1.7**
comp=Z,4.1nm,0.9s
ARSA *e*PKP **PKPab 10 51 55.0 -1.5**
comp=Z,7.5nm,1.3s
DOU Dourbes 160.41 355 *d*PKP **PKPab 10 51 55.8 -0.6**
WLF Walferdange 160.69 352 *d*PKP **PKPab 10 51 57.7 0.0**
BIOA Bad Ischl, Aus 160.75 336 *e*PKP **PKPdf 10 51 15.1 -0.9**
comp=Z,9.8nm,1.5s
BIOA *e*PKP **PKPab 10 51 57.2 -0.9**
comp=Z,18nm,1.4s
SOKA Soboth 161.06 332 *e*PKP **PKPdf 10 51 15.2 -1.3**
comp=Z,8.3nm,1.1s
SOKA *e*PKP **PKPab 10 51 57.8 -1.8**
comp=Z,9.0nm,1.3s
LESA Schwarzleotal 161.31 337 *e*PKP **PKPdf 10 51 14.5 -2.2**
comp=Z,18nm,1.2s,SNR=8.1
LESA *e*PKP **PKPab 10 52 00.7 +0.1**
comp=Z,11nm,0.9s
KBA Koelnbreinsper 161.38 335 *e*PKP **PKPdf 10 51 14.9 -2.0**
comp=Z,9.6nm,1.7s
OBKA Obir 161.39 332 *e*PKP **PKPab 10 52 00.7 -0.3**
comp=Z,8.2nm,1.4s
MYKA Terra Mystica 161.65 334 *e*PKP **PKPab 10 52 00.5 -1.6**
comp=Z,3.9nm,0.5s
WATA Walderalm 161.75 339 *e*PKP **PKPdf 10 51 16.1 -1.1**
comp=Z,5.8nm,1.2s
WATA *e*PKP **PKPab 10 52 02.0 -0.6**
comp=Z,28nm,1.4s,SNR=5.1
LJU Ljubljana 161.78 331 *i* PKPdf **PKPdf 10 51 16.3 -0.8**
WTTA Wattenberg 161.79 339 *e*PKP **PKPdf 10 51 16.6 -0.7**
comp=Z,11nm,1.4s
WTTA *e*PKP **PKPab 10 52 02.5 -0.4**
comp=Z,14nm,1.4s
RETA Reutte 161.85 341 *e*PKP **PKPab 10 52 02.6 -0.3**
comp=Z,19nm,1.1s
MOTA Moosalm 161.88 340 *e*PKP **PKPab 10 52 02.8 -0.3**
comp=Z,29nm,1.1s
PDG Podgorica 161.88 315 ⇓P **PKPab 10 51 59.6 -3.6**
BOJS Bojanci 161.90 329 *i* PKPdf **PKPdf 10 51 16.3 -0.9**
ABTA Abfaltersbach 161.96 336 *e*PKP **PKPdf 10 51 15.6 -1.8**
comp=Z,14nm,1.3s,SNR=6.1
ABTA *e*PKP **PKPab 10 52 01.9 -1.6**
comp=Z,16nm,1.4s
SQTA Sankt Quirin 161.96 340 *e*PKP **PKPdf 10 51 15.8 -1.6**
comp=Z,7.9nm,1.2s
SQTA *e*PKP **PKPab 10 52 02.9 -0.5**
comp=Z,20nm,1.1s
DAVA Damuels 162.27 342 *e*PKP **PKPdf 10 51 15.8 -1.9**
comp=Z,5.9nm,0.9s
DAVA *e*PKP **PKPab 10 52 04.2 -0.7**
comp=Z,14nm,0.8s,SNR=5.8
FETA Feichten 162.28 340 *e*PKP **PKPdf 10 51 16.3 -1.5**
comp=Z,7.8nm,1.0s
FETA *e*PKP **PKPab 10 52 04.4 -0.5**
comp=Z,15nm,1.1s
TORD Torodi Ar. Bea 162.65 179 PKP **PKPdf 10 51 18.3 -0.5**
comp=Z,8.0nm,1.2s,baz=345,slow=2.7,SNR=17
TORD PKPab **PKPab 10 52 07.2 +0.2**
comp=Z,18nm,0.8s,baz=168,slow=1.7,SNR=18
TORD PP **PP 10 55 50.9 +0.7**
comp=Z,1.0nm,0.3s,baz=169,slow=3.7,SNR=4.8
PCBR Castelo Branco 167.89 38 *e*PKPdf **PKPdf 10 51 23.6 +1.1**
PMRV Marv??o 168.23 39 *e*PKPab **PKPab 10 52 31.4 +0.1**
EVO Evora 168.49 44 *e*PKPdf **PKPdf 10 51 24.3 +1.3**
MESJ Messejana 168.80 47 *e*PKPab **PKPab 10 52 33.6 -0.2**
PBAR Barrancos 169.30 42 *e*PKPdf **PKPdf 10 51 24.3 +0.8**
PBAR *e*PKPab **PKPab 10 52 35.5 -0.5**
PBDV Barranco-do-Ve 169.34 49 *e*PKPdf **PKPdf 10 51 25.2 +1.6**
PAB San Pablo 169.61 29 ⇓PKIKP **PKPdf 10 51 24.3 +0.5**
ESDC Sonseca Array 169.66 27 PKP **PKPdf 10 51 23.8 0.0**
comp=Z,8.8nm,1.2s,baz=351,slow=2.1,SNR=18
ESDC PKPab **PKPab 10 52 37.2 -0.3**
comp=Z,2.4nm,0.9s,baz=335,slow=4.1,SNR=5.5

IDC ***03*** *10:45:02.9±0.4, 1°.49S×120°.25E, h0km, mb4.6/22, mbtmp4.6/24, ML4.7/2, MS4.1/20, Error ellipse: s-maj=16.2km s-min=9.2km az=52.0*
MOS ***03*** *10:45:03.5±0.8, 1°.36S×120°.22E, h10km, mb5.0/44, Error ellipse: s-maj=10.7km s-min=5.4km az=118.5*
BJI ***03*** *10:45:05.5, 1°.50S×120°.20E, h10km, mB5.0/12, mb4.8/61, Ms4.5/14, Ms7 4.2/17*
DJA ***03*** *10:45:06.9±0.1, 2°.5±1°×12°.0E±°, h10km, M4.9/55, mb4.9/55, mB5.4/21, MLv5.3/26, Mw(mB)4.8/21, MwMwp4.8/5, Mwp5.1/5*
NEIC ***03*** *10:45:06.2, 1°.49S×120°.00E, h18km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr=1.38; Mθθ3.47; Mφφ=2.09; Mrθ0.79; Mφθ 1.03; Mφr=0.51; Fault plane solution: M0 3.19000×10^16 NP1:φs37.32000°, δ64.19000°, λ=164.19000°. NP2:φs300.29000°, δ75.81000°, λ=26.69000°. Principal axes: T 3.7507, Plg8.0000°, Azm351.0000°; N -1.1219, Plg60.0000°, Azm94.0000°; P -2.6288, Plg29.0000°, Azm256.0000°;*
NEIC ***03*** *10:45:06.2, 1°.49S×120°.16E, h18km*
NEIC ***03*** *10:45:06.2±1.8, 1°.49S±0°.05×120°.16E±0°.05, h10km±1km, mb5.0/52, Mww4.9/18, Error ellipse: s-maj=9.4km s-min=9.0km az=237.0*
GCMT ***03*** *10:45:06.2±0.2, 1°.48S±0°.01×120°.29E±0°.02, h20km±1km, MW4.9/93, Moment Tensor Solution. s31,c39; s93,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.01±.19; Mθθ3.62±.13; Mφφ=1.60±.13; Mrθ0.86±.21; Mφθ0.48±.08; Mφr0.35±.28; Best double couple: M0 3.03200×10^16 NP1:φs109.00000°, δ41.00000°, λ=54.00000°. NP2: φs245.00000°, δ58.00000°, λ=117.00000°. Principal axes: T 3.8020, Plg9.0000°, Azm354.0000°; N -1.5310, Plg23.0000°, Azm261.0000°; P -2.2610, Plg65.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 10:45:05.7±0.3, 1°.53S±0°.04×120°.16E±0°.04, h10km, n301, σ1**s47**/309**, mb4.9**/95**, MS4.2**/26**, 16C-7D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.70**	**332**	P	**Pg**	**10 45 17.7**	**-1.5**
TTSI	**Tana Toraja**	**1.55**	**193**	P	**Pn**	**10 45 32.6**	**-0.8**
APSI	**Ampana**	**1.61**	**68**	P	**Pb**	**10 45 34.7**	**-0.9**
SPSI	**Sidrap Palu**	**2.45**	**189**	P	**Pn**	**10 45 45.8**	**-0.1**
LUWI	**Luwuk**	**2.66**	**80**		**Pn**	**10 45 48.7**	**+0.1**
LUWI	**Luwuk**	**2.66**	**80**	P	**Pn**	**10 45 49.2**	**+0.5**
LUWI	**Luwuk**	**2.66**	**80**	P	**Pn**	**10 45 48.9**	**+0.2**
MRSI	**Marisa**	**2.67**	**42**	P	**Pn**	**10 45 47.5**	**-1.4**
TOLI2	**Tolitoli**	**2.69**	**13**	Pn	**Pn**	**10 45 49.6**	**+0.4**
TOLI2	**Tolitoli**	**2.69**	**13**	P	**Pn**	**10 45 50.2**	**+1.0**
SMKI	**Samarinda**	**3.14**	**290**	P	**Pn**	**10 45 56.1**	**+0.8**
BKB	**Balikpapan**	**3.27**	**275**		**Pn**	**10 45 57.4**	**+0.3**
BKB	**Balikpapan**	**3.27**	**275**	P	**Pn**	**10 45 57.8**	**+0.7**
BKB	**Balikpapan**	**3.27**	**275**	P	**Pn**	**10 45 57.8**	**+0.7**
KDI	**Kendari**	**3.45**	**135**	P	**Pn**	**10 45 59.8**	**+0.3**
KAPI	**Kappang**	**3.49**	**187**	Pn	**Pn**	**10 46 02.1**	**+2.0**
KAPI	**Kappang**	**3.49**	**187**	Pn	**Pn**	**10 46 00.9**	**+0.8**
KAPI	37nm,0.3s,baz=338,slow=7.8,SNR=53			Sn	**Sn**	**10 46 46.4**	**+4.9**
KAPI	22nm,0.3s,baz=109,slow=12,SNR=3.9			LR	LR	10 47 31.9	
KAPI	comp=Z,3μm,19.5s,baz=337,slow=42 157nm,0.5s **Kappang**	**3.49**	**187***c*	*i*P	**Pn**	**10 46 01.7**	**+1.6**
KMSI	**Cibinong**	**4.35**	**61**	P	**Pn**	**10 46 15.0**	**+3.0**
BSSI	**Bau Bau, Buton**	**4.60**	**176**	P	**Pn**	**10 46 16.8**	**+1.4**
BBSI	**Bau Bau**	**4.61**	**149**	P	**Pn**	**10 46 19.2**	**+3.6**
MTKI	**Muara Teweh, K** 2.5nm412nm,0.8s	**5.29**	**276**	P	**Pn**	**10 46 24.1**	**-0.9**
SANI	**Sanana** 0.8nm2μm78nm,0.6s	**5.85**	**95**	P	**Pn**	**10 46 31.0**	**-1.6**
MYLDM	**Lahad Datu**	**6.87**	**346**	Pn	**Pn**	**10 46 47.9**	**+1.4**
MYLDM	**Lahad Datu**	**6.87**	**346**	P	**Pn**	**10 46 48.1**	**+1.6**
NLAI	**Namlea** 0.8nm2μm76nm,0.5s	**7.14**	**104**	P	**Pn**	**10 46 53.1**	**+2.8**
MMRI	**Maumere**	**7.36**	**164**	Pn	**Pn**	**10 46 52.3**	**-1.1**
MMRI	**Maumere**	**7.36**	**164**	P	**Pn**	**10 46 54.4**	**+1.0**
LBMI	**Labuha** 0.4nm3μm102nm,1.0s	**7.39**	**83**	P	**Pn**	**10 46 53.7**	**-0.1**
SGSI	**Sangihe**	**7.46**	**46**	P	**Pn**	**10 46 55.8**	**+1.1**
TNTI	**Ternate** 0.3nm53nm,1.6s	**7.56**	**72**	P	**Pn**	**10 46 59.8**	**+3.7**
PLAI	**Plampang** 0.2nm54nm,1.2s	**7.63**	**198**	P	**Pn**	**10 47 00.1**	**+3.0**
TWSI	**Taliwang, Sumb** 21nm,0.7s	**7.87**	**204**	P	**Pn**	**10 47 01.4**	**+1.0**
WBSI	**Waikabubak, Su** 3μm2μm157nm,1.0s	**8.10**	**185**	P	**Pn**	**10 47 05.6**	**+2.1**
SRBI	**Singaraja** 36nm,0.9s	**8.17**	**217**	P	**Pn**	**10 47 05.5**	**+1.0**
KMMI	**Kalianget** 28nm,0.7s	**8.26**	**228**	P	**Pn**	**10 47 07.0**	**+1.3**
AAI	**Ambon** 1μm119nm,1.1s	**8.31**	**105**	P	**Pn**	**10 47 08.1**	**+1.7**
KKM	**Kota Kinabalu**	**8.49**	**332**	Pn	**Pn**	**10 47 10.2**	**+1.2**
KKM	**Kota Kinabalu**	**8.49**	**332**	P	**Pn**	**10 47 10.0**	**+1.0**
BASI	**Baing, Sumba** 151nm,1.5s	**8.65**	**177**	P	**Pn**	**10 47 13.3**	**+2.3**
STKI	**Sintang** 110nm,0.7s	**8.82**	**280**	P	**Pn**	**10 47 13.7**	**+0.2**
SBUM	**Sibu**	**8.87**	**296**	Pn	**Pn**	**10 47 14.3**	**+0.3**
MSAI	**Masohi** 168nm,0.8s	**8.95**	**102**	P	**Pn**	**10 47 17.5**	**+2.3**
JAGI	**Jajag, Banyuwa**	**9.13**	**221**		**Pn**	**10 47 18.6**	**+1.0**
JAGI	**Jajag, Banyuwa** 36nm,1.1s	**9.13**	**221**	P	**Pn**	**10 47 18.4**	**+0.7**
SOEI	**Soe**	**9.14**	**154**	Pn	**Pn**	**10 47 19.8**	**+1.9**
SOEI	**Soe**	**9.14**	**154**	P	**Pn**	**10 47 17.1**	**-0.8**
SOEI	**Soe** 2μm177nm,1.1s	**9.14**	**154**	P	**Pn**	**10 47 18.7**	**+0.8**
GMJI	**Gumukmas**	**9.47**	**225**	P	**Pn**	**10 47 23.6**	**+1.3**
DAV	**Davao City (W)** 16nm,0.3s,baz=27,slow=14,SNR=1.4	**10.11**	**32**	Sn	**Sn**	**10 49 28.9**	**+4.2**
DAV	comp=Z,1μm,21.5s,baz=153,slow=39			LR	LR	10 51 33.4	
KSM	**Kuching**	**10.29**	**287**		**Pn**	**10 47 32.6**	**-1.0**
NGJI	**Ngawi** 64nm,1.0s	**10.43**	**236**	P	**Pn**	**10 47 36.8**	**+1.3**
SWI	**Sorong** 62nm,1.2s	**11.12**	**87**	P	**Pn**	**10 47 46.2**	**+1.3**
PCJI	**Pacitan** 48nm,1.2s	**11.13**	**233**	P	**Pn**	**10 47 45.5**	**+0.4**
SMRI	**Semarang**	**11.13**	**240**	Pn	**Pn**	**10 47 46.2**	**+1.0**
SMRI	**Semarang** 36nm,0.8s	**11.13**	**240**	P	**Pn**	**10 47 47.8**	**+2.6**
UGM	**Wanagama**	**11.51**	**236**	Pn	**Pn**	**10 47 52.9**	**+2.6**
UGM	**Wanagama** 68nm,1.1s	**11.51**	**236**	P	**Pn**	**10 47 51.7**	**+1.4**
FAKI	**Fak Fak**	**12.16**	**97**		**Pn**	**10 47 58.6**	**-0.6**
FAKI	**Fak Fak**	**12.16**	**97**	P	**Pn**	**10 47 59.5**	**+0.3**
FAKI	**Fak Fak** 2μm598nm58nm,1.1s	**12.16**	**97**	P	**Pn**	**10 47 59.3**	**+0.1**
TPI	**Tanjungpandan**	**12.56**	**264**	P	**Pn**	**10 48 04.9**	**+0.3**
LEM	**Lembang** 5.3nm,0.3s,baz=100,slow=17,SNR=1.5	**13.57**	**247**	Pn	**Pn**	**10 48 19.8**	**+1.2**
LEM	comp=Z,1μm,20.1s,baz=128,slow=41 11nm,0.4s			LR	LR	10 54 25.7	
CNJI	**Cibinong** 30nm,1.2s	**14.20**	**246**	P	**Pn**	**10 48 28.6**	**+1.5**
CGJI	**Cibinong** 1μm49nm,0.9s	**15.28**	**250**	P	**Pn**	**10 48 43.0**	**+1.2**
TGY	**Tagaytay City** 44nm,0.3s,baz=197,slow=7.7,SNR=7.1	**15.55**	**3**	Pn	**P**	**10 48 47.1**	**-2.5**
TGY	comp=Z,511nm,21.5s,baz=268,slow=37			LR	LR	10 54 35.1	
MTN	**Manton Dam**	**15.64**	**136**	P	**P**	**10 48 49.2**	**-1.3**
MTN	**Manton Dam** comp=Z,28nm,2.1s	**15.64**	**136**	P	**P**	**10 48 49.3**	**-1.3**
BAKI	**Biak** comp=Z,121nm,1.0s	**15.95**	**89**	P	**P**	**10 48 52.4**	**-1.6**
MDSI	**Maura Dua** comp=Z,29nm,1.1s	**16.23**	**259**	P	**Pn**	**10 48 56.0**	**+2.0**
KNRA	**Kununurra**	**16.42**	**149**	P	**P**	**10 48 58.7**	**-0.6**
KDU	**Kakadu** comp=Z,23nm,0.8s	**16.49**	**133**	P	**P**	**10 48 59.6**	**-0.4**
KDU	**Kakadu**	**16.49**	**133**	P	**Pn**	**10 48 57.6**	**+0.3**
MYKOM	**Kota Tinggi**	**16.64**	**281**	P	**Pn**	**10 48 59.9**	**+0.7**
FITZ	**Fitzroy Crossi** comp=Z,5.9nm,0.9s,baz=350,slow=12,SNR=7.6	**17.33**	**162**	P	**P**	**10 49 09.8**	**+0.5**
PPI	**Padang Panjang** comp=Z,40nm,0.9s	**19.79**	**273**	P	**Pn**	**10 49 39.1**	**+1.1**
IPM	**Ipoh**	**20.03**	**287**	P	**P**	**10 49 40.0**	**+0.9**
JAY	**Jayapura** comp=Z,17nm,1.0s,baz=103,slow=5.8,SNR=1.5	**20.56**	**93**	P	**P**	**10 49 44.4**	**-0.5**
JAY	**Jayapura** comp=Z,17nm,1.0s comp=Z,34nm,1.2s	**20.56**	**93**	P	Pn	10 49 48.1	+1.0
KULM	**Kulim**	**20.63**	**289**	P	**P**	**10 49 46.2**	**+0.6**
KULM	**Kulim**	**20.63**	**289**	P	**P**	**10 49 46.4**	**+0.8**
RPSI	**Rantau Prapat**	**21.64**	**281**	P	**P**	**10 49 56.2**	**-0.3**
RPSI	**Rantau Prapat**	**21.64**	**281**	P	**P**	**10 49 56.5**	**0.0**
PSI	**Prapat** comp=Z,3.5nm,0.2s,baz=156,slow=22,SNR=8.3	**21.66**	**281**	P	**P**	**10 49 56.5**	**-0.4**
PSI				S	**S**	**10 53 59.2**	**+2.2**
PSI	comp=Z,1.8nm,0.4s,baz=156,slow=19,SNR=1.3			LR	LR	11 00 04.8	
PSI	comp=Z,503nm,18.7s,baz=108,slow=42 comp=Z,3.5nm,0.2s	**21.66**	**281**	P	**P**	**10 49 57.0**	**+0.1**
UBPT	**Khong Chiam**	**22.14**	**319**	P	**P**	**10 50 01.7**	**-0.1**
GSI	**Gunungsitoli**	**22.75**	**277**	P	**P**	**10 50 08.3**	**-0.2**
GSI	comp=Z,37nm,0.8s			IAmb	IAmb	10 50 25.1	
GSI	**Gunungsitoli** comp=Z,3μmcomp=Z,60nm,1.1s	**22.75**	**277**	P	**P**	**10 50 10.0**	**+1.5**
QIZ	**Qiongzhong**	**22.80**	**334**	P	**P**	**10 50 09.0**	**+0.1**
QIZ				S	**S**	**10 54 17.3**	**-1.0**
QIZ	comp=Z,24nm,1.5s			pmax	pmax		
QIZ	comp=Z,220nm,12.4s			LR	LR		
QIZ	comp=Z,290nm,17.9s			LR	LR		
QIZ	comp=Z,260nm,22.0s			LR	LR		
WB0	**Warramunga Arr**	**22.86**	**143**	P	**P**	**10 50 08.8**	**-0.7**
WB0	comp=Z,68nm,1.1s			IAmb	IAmb	10 50 13.6	
WRAB	**Tennant Creek**	**22.96**	**144**	P	**P**	**10 50 10.1**	**-0.5**
WRAB	comp=Z,67nm,1.1s			IAmb	IAmb	10 50 14.7	
**WRAB

PMG Port Moresby 27.97 107 P **P** **10 50 56.0 -0.9**
comp=Z,9.7nm,0.8s,baz=115,slow=22,SNR=2.2
comp=Z,9.7nm,0.8s
PMG Port Moresby 27.97 107 P **P** **10 50 56.0 -0.9**
CMAR Chiang Mai Arr 28.81 315 P **P** **10 51 04.3 0.0**
CMAR Chiang Mai Arr 28.81 315 P **P** **10 51 04.8 +0.5**
comp=Z,2.1nm,0.4s,baz=139,slow=7.1,SNR=13
CMAR PcP **PcP** **10 54 12.8 -1.5**
comp=Z,0.6nm,0.3s,baz=119,slow=3.4,SNR=1.7
CMAR LR LR 11 03 52.6
comp=Z,200nm,20.9s,baz=115,slow=39
comp=Z,2.1nm,0.4s
CHTO Chiang Mai 29.04 315 P **P** **10 51 06.8 +0.4**
CHTO Chiang Mai 29.04 315 P **P** **10 51 06.8 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,1.1s
FORT Forrest 30.04 166 P **P** **10 51 14.1 -1.0**
FORT IAmb IAmb 10 52 18.3
comp=Z,45nm,1.1s
FORT Forrest 30.04 166 P **P** **10 51 15.2 +0.1**
OOD Oodnadatta 30.05 152 P **P** **10 51 15.3 +0.1**
KMI Kunming 31.41 329 ⇑P **P** **10 51 30.4 +2.9**
KMI S **S** **10 56 39.6 +4.1**
KMI pmax pmax
comp=Z,12nm,0.7s
KMI LR LR
comp=Z,150nm,13.5s
KMI LR LR
comp=Z,250nm,19.7s
KMI LR LR
comp=Z,270nm,24.7s
RABL Rabaul 32.07 95 P **P** **10 51 33.3 0.0**
RABL IAmb IAmb 10 51 47.6
comp=Z,26nm,0.8s
WHN Wuhan 32.37 351 ⇓P **P** **10 51 37.5 +1.9**
WHN sP **sP** **10 51 42.7 +2.3**
WHN pmax pmax
comp=Z,54nm,0.9s
INKA Innaminka 32.68 145 P **P** **10 51 39.0 +0.6**
PZH PanZhiHua 33.05 329 P **P** **10 51 43.1 +1.3**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.9s
NJ2 Nanjing 33.42 358 *e*P **P** **10 51 44.9 +0.2**
NJ2 sP **sP** **10 51 51.4 +1.8**
NJ2 pmax pmax
comp=Z,31nm,0.8s
LCRK Leigh Creek 33.48 151 P **P** **10 51 45.7 +0.4**
BBOO Buckleboo 34.52 156 P **P** **10 51 54.4 0.0**
JCJ Chichijima 35.50 35 P **P** **10 52 04.0 +1.1**
CD2 Chengdu 35.84 336 P **P** **10 52 06.1 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,280nm,16.5s
HTT Hallett 36.29 153 P **P** **10 52 10.2 +0.6**
STKA Stephens Creek 36.34 148 P **P** **10 52 09.9 -0.1**
STKA Stephens Creek 36.34 148 P **P** **10 52 10.1 +0.1**
comp=Z,21nm,0.8s,baz=312,slow=9.3,SNR=24
STKA PcP **PcP** **10 54 31.9 -2.9**
comp=Z,3.9nm,0.8s,baz=12,slow=3.9,SNR=1.2
STKA LR LR 11 09 04.4
comp=Z,428nm,18.4s,baz=324,slow=40
comp=Z,21nm,0.8s
STKA Stephens Creek 36.34 148 P **P** **10 52 10.1 +0.1**
STKA Stephens Creek 36.34 148 *ce*P **P** **10 52 10.6 +0.6**
LYN LuoYang 36.61 349 P **P** **10 52 13.0 +0.8**
LYN pmax pmax
comp=Z,22nm,1.0s
LYN LR LR
comp=Z,480nm,18.9s
LYN LR LR
comp=Z,260nm,18.6s
LYN LR LR
comp=Z,370nm,17.9s
TIA Tai'an 37.65 356 P **P** **10 52 24.0 +2.9**
TIA pmax pmax
comp=Z,23nm,1.0s
CMSA Cobar Meteorol 38.38 144 P **P** **10 52 27.5 +0.2**
SHL Shillong 38.39 316 P **P** **10 52 27.6 -0.1**
SHL IAmb IAmb 10 52 33.9
comp=Z,25nm,0.9s
SHL Shillong 38.39 316 P **P** **10 52 27.6 -0.1**
SHL pmax pmax
comp=Z,25nm,0.9s
HNS HongShan 39.06 353 ⇑P **P** **10 52 34.9 +2.0**
HNS S **S** **10 58 38.8 +6.6**
HNS pmax pmax
comp=Z,14nm,1.4s
HNS LR LR
comp=Z,260nm,17.8s
HNS LR LR
comp=Z,250nm,17.8s
HNS LR LR
comp=Z,460nm,16.5s
KSAR Wonju Array Be 39.43 10 P **P** **10 52 35.4 -0.6**
KSAR Wonju Array Be 39.43 10 P **P** **10 52 35.4 -0.6**
KSRS Korea Array 39.45 10 P **P** **10 52 35.4 -0.7**
comp=Z,3.5nm,0.6s,baz=190,slow=9.1,SNR=27
KSRS LR LR 11 07 59.0
comp=Z,169nm,21.8s,baz=170,slow=35
comp=Z,3.5nm,0.6s
HNR Honiara 40.34 103 LR LR 11 10 52.6
comp=Z,137nm,18.7s,baz=236,slow=38
ARPS Mount Arapiles 40.39 153 P **P** **10 52 44.2 +0.2**
LZH Lanzhou 40.39 339 *e*P **P** **10 52 45.7 +1.4**
LZH sP sP 10 52 54.1 +4.9
LZH pmax pmax
comp=Z,24nm,0.7s
MAJO Matsushiro 41.43 22 P **P** **10 52 52.6 -0.1**
MAJO IAmb IAmb 10 52 55.0
comp=Z,54nm,1.8s
MAJO Matsushiro 41.43 22 ⇑*i*P **P** **10 52 53.9 +1.2**
MAJO pmax pmax
comp=Z,28nm,1.7s
MJAR Matsushiro Arr 41.43 22 P **P** **10 52 49.4 -3.3**
comp=Z,7.8nm,1.1s,baz=194,slow=8.6,SNR=6.4
comp=Z,7.8nm,1.1s
MJB9 Matsu-Tunnel 41.43 22 P **P** **10 52 53.0 +0.3**
MJB9 IAmb IAmb 10 52 57.8
comp=Z,53nm,1.8s
BJI Beijing 41.53 355 P **P** **10 52 57.0 +3.7**
BJI pmax pmax
comp=Z,9.0nm,1.0s
YNG Young 41.93 144 P **P** **10 52 57.6 +0.8**
TOO Toolangi 42.78 150 P **P** **10 53 03.7 0.0**
TOO Toolangi 42.78 150 P **P** **10 53 03.7 0.0**
TOO pmax pmax
comp=Z,30nm,2.0s
HHC Hu-ho-hao-te 42.90 350 *e*P **P** **10 53 05.0 +0.3**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,85nm,4.6s
BTO Baotou 42.94 349 *e*P **P** **10 53 06.1 +1.1**
BTO pP **sP** **10 53 12.2 +2.3**
BTO sP pP 10 53 17.1 +8.6
BTO S **S** **10 59 30.9 +0.7**
BTO pmax pmax
comp=Z,21nm,0.6s
BTO LR LR
comp=Z,530nm,15.1s
BTO LR LR
comp=Z,190nm,6.7s
BTO LR LR
comp=Z,380nm,6.7s
CAN Canberra 43.00 145 P **P** **10 53 07.2 +1.6**
CAN IAmb IAmb 10 53 11.8
comp=Z,28nm,1.0s
CAN Canberra 43.00 145 P **P** **10 53 05.5 -0.1**
CAN Canberra 43.00 145 P **P** **10 53 07.2 +1.6**
CAN pmax pmax
comp=Z,28nm,1.0s
GOMU GeErMu 44.34 330 P **P** **10 53 18.1 +1.4**
GOMU pP sP 10 53 21.2 -0.4
GOMU sP pP 10 53 25.9 +5.7
GOMU pmax pmax
comp=Z,4.0nm,0.4s
GOMU LR LR
comp=Z,220nm,11.2s
GOMU LR LR
comp=Z,320nm,11.7s
GOMU LR LR
comp=Z,270nm,11.4s
GTA Gaotai 44.81 338 P **P** **10 53 22.0 +1.9**
GTA pP sP 10 53 26.1 +1.0
GTA pmax pmax
comp=Z,29nm,0.8s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,120nm,16.4s
GTA LR LR
comp=Z,170nm,15.6s
XLT XiLinHaoTe 45.37 356 *e*P **P** **10 53 23.8 -0.6**
XLT pmax pmax
comp=Z,7.0nm,1.0s
MDJ Mudanjiang 46.70 9 P **P** **10 53 33.9 -0.9**
MDJ pmax pmax
comp=Z,23nm,0.7s
MDJ pmax pmax
comp=Z,160nm,8.9s
USA0B Ussuriysk Arra 46.74 12 ⇑*e*P **P** **10 53 33.0 -2.1**
USRK Ussuriysk Ar. 46.74 12 P **P** **10 53 33.6 -1.4**
comp=Z,3.9nm,0.6s,baz=189,slow=6.7,SNR=11
comp=Z,3.9nm,0.6s
BNX BinXian 47.50 7 ⇓P **P** **10 53 41.6 +0.6**
BNX pmax pmax
comp=Z,8.0nm,0.9s
ASAJ Asahikawa 49.67 21 P **P** **10 53 56.5 -1.3**
ASAJ pmax pmax
comp=Z,123nm,2.0s
JKA Kamikawa-asahi 49.67 21 P **P** **10 53 56.5 -1.3**
ULN Ulaanbaatar 50.50 349 P **P** **10 54 03.8 -0.5**
ULN IAmb IAmb 10 54 11.9
comp=Z,9.3nm,0.9s
ULN Ulaanbaatar 50.50 349 *c i*P **P** **10 54 04.1 -0.1**
ULN pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 50.61 348 P **P** **10 54 04.4 -0.6**
SONM Songino Array 50.61 348 P **P** **10 54 04.7 -0.3**
comp=Z,4.2nm,0.6s,baz=167,slow=9.0,SNR=16
comp=Z,4.2nm,0.6s
SONM Songino Array 50.61 348 P **P** **10 54 04.4 -0.6**
SONM pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 51.54 10 ⇑*e*P **P** **10 54 10.6 -1.2**
KLR pmax pmax
comp=Z,9.0nm,1.5s
HEH HeiHe 51.95 6 *e*P **P** **10 54 13.2 -1.7**
HEH pmax pmax
comp=Z,32nm,0.7s
YSS Yuzhno-Sakhali 52.20 19 *e*P **P** **10 54 19.2 +2.5**
YSS pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 53.68 331 *e*P **P** **10 54 28.4 +0.5**
WMQ pP sP 10 54 33.9 +1.0
WMQ PcS **PcS** **10 59 33.8 +0.6**
WMQ pmax pmax
comp=Z,27nm,0.7s
ZAK Zakamensk 53.69 347 *e*P **P** **10 54 25.7 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ZEA Zeya 55.39 5 *e*P **P** **10 54 38.7 -1.3**
MOY Mondy 55.43 346 *e*P **P** **10 54 40.5 0.0**
MOY pmax pmax
comp=Z,20nm,1.7s
KSH Kashi 57.47 320 P **P** **10 54 56.1 +0.8**
KSH sP sP 10 55 03.1 +2.8
KSH pmax pmax
comp=Z,14nm,0.8s
SHLS Shalkode 57.55 326 *e*P **P** **10 54 53.4 -2.4**
SHLS pmax pmax
comp=Z,12nm,1.2s
SHLS Shalkode 57.55 326 *e*P **P** **10 54 53.4 -2.4**
comp=Z,12nm,1.2s
ZSN Zaisan 57.70 332 *e*P **P** **10 54 55.9 -0.7**
ZSN pmax pmax
comp=Z,13nm,1.1s
ZSN Zaisan 57.70 332 *e*P **P** **10 54 56.0 -0.7**
comp=Z,12nm,1.1s
UZB Uzynbulak 57.79 325 *e*P **P** **10 54 56.9 -0.6**
UZB Uzynbulak 57.79 325 *e*P **P** **10 54 56.9 -0.6**
SATY Saty 58.09 325 *e*P **P** **10 54 58.7 -0.9**
SATY pmax pmax
comp=Z,10.0nm,1.2s
SATY Saty 58.09 325 *e*P **P** **10 54 58.8 -0.9**
comp=Z,10nm,1.2s
KPKS Kokpek 58.18 325 *e*P **P** **10 54 59.5 -0.7**
KPKS pmax pmax
comp=Z,6.0nm,0.7s
KPKS Kokpek 58.18 325 *e*P **P** **10 54 59.6 -0.7**
comp=Z,5.8nm,0.7s
MK31 Makanchi Array 58.47 330 P **P** **10 55 01.9 -0.1**
MK31 IAmb IAmb 10 55 03.0
comp=Z,12nm,0.8s
MK31 Makanchi Array 58.47 330 P **P** **10 55 01.9 -0.1**
MK31 pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 58.47 330 P **P** **10 55 02.3 +0.3**
MKAR Makanchi Array 58.47 330 P **P** **10 55 02.1 0.0**
comp=Z,14nm,0.7s,baz=133,slow=7.8,SNR=93
comp=Z,14nm,0.7s
MKAR Makanchi Array 58.47 330 P **P** **10 55 02.3 +0.3**
MAKZ Makanchi 58.63 330 P **P** **10 55 02.8 -0.4**
MAKZ IAmb IAmb 10 55 04.0
comp=Z,8.7nm,0.8s
MAKZ Makanchi 58.63 330 P **P** **10 55 02.8 -0.4**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
TNSS Tian-Shan 58.92 324 *e*P **P** **10 55 04.8 -0.9**
TNSS Tian-Shan 58.92 324 *e*P **P** **10 55 04.8 -0.9**
BOOM Boomskoye usch 59.20 323 P **P** **10 55 07.5 +0.1**
BOOM Boomskoye usch 59.20 323 P **P** **10 55 07.5 +0.1**
BOOM pmax pmax
comp=Z,73nm,1.3s
TDK Taldyqorghan 59.31 327 *e*P **P** **10 55 07.2 -0.6**
TDK Taldyqorghan 59.31 327 *e*P **P** **10 55 07.3 -0.6**
BOD Bodaibo 59.37 356 *e*P **P** **10 55 06.0 -2.0**
BOD pmax pmax
comp=Z,14nm,1.8s
TKM2 Tokmak 2 59.65 323 P **P** **10 55 10.9 +0.3**
SNR=5.4
KBL Kabul 59.80 312 P **P** **10 55 10.7 -1.0**
KBL Kabul 59.80 312 P **P** **10 55 10.7 -1.0**
KBL pmax pmax
comp=Z,23nm,0.9s
KBK Karagaybulak 59.89 323 P **P** **10 55 13.1 +0.9**
SNR=8.7
AAK Ala-Archa 60.15 323 P **P** **10 55 14.0 0.0**
AAK IAmb IAmb 10 55 15.3
comp=Z,9.1nm,0.8s
AAK Ala-Archa 60.15 323 P **P** **10 55 14.6 +0.7**
SNR=8.6
AAK Ala-Archa 60.15 323 *c i*P **P** **10 55 14.2 +0.2**
AAK pmax pmax
comp=Z,11nm,0.9s
AML Almayashu 60.36 322 P **P** **10 55 16.3 +0.6**
SNR=12
ARSB Arslanbob 60.37 321 P **P** **10 55 15.1 -0.4**
ARSB IAmb IAmb 10 55 16.4
comp=Z,16nm,0.8s
ARSB Arslanbob 60.37 321 P **P** **10 55 15.1 -0.4**
ARSB pmax pmax
comp=Z,16nm,0.8s
USP Ospenovka 60.51 323 P **P** **10 55 16.6 +0.4**
SNR=6.9
SGDS Sogindy 60.54 323 *e*P **P** **10 55 15.8 -0.6**
SGDS Sogindy 60.54 323 *e*P **P** **10 55 15.8 -0.6**
EKS2 Erkin-Say 60.61 322 P **P** **10 55 17.7 +0.7**
SNR=6.5
GAR Garm 60.94 317 P **P** **10 55 18.7 -0.7**
BTK Batken 61.12 318 P **P** **10 55 20.2 -0.3**
BTK IAmb IAmb 10 55 33.4
comp=Z,22nm,1.5s
BTK Batken 61.12 318 P **P** **10 55 20.2 -0.3**
BTK pmax pmax
comp=Z,22nm,1.5s
BTLS Baital 61.79 325 *e*P **P** **10 55 24.2 -0.6**
BTLS pmax pmax
comp=Z,7.0nm,1.2s
BTLS Baital 61.79 325 *e*P **P** **10 55 24.2 -0.6**
comp=Z,7.2nm,1.2s
DZA Taraz 62.24 321 *e*P **P** **10 55 27.2 -0.7**
DZA Taraz 62.24 321 *e*P **P** **10 55 27.3 -0.7**
ZAA0 Zalesovo Array 62.57 337 P **P** **10 55 28.2 -1.6**
ZAA0 IAmb IAmb 10 55 29.9
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 62.57 337 P **P** **10 55 28.4 -1.5**
ZALV Zalesovo Beam 62.57 337 P **P** **10 55 28.0 -1.8**
comp=Z,10nm,0.8s,baz=123,slow=5.5,SNR=33
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 62.57 337 *i* P **P** **10 55 28.2 -1.6**
ZALV pmax pmax
comp=Z,10.0nm,0.8s
IUG Iuzhnay 62.68 320 *e*P **P** **10 55 30.3 -0.7**
IUG pmax pmax
comp=Z,12nm,0.8s
IUG Iuzhnay 62.68 320 *e*P **P** **10 55 30.3 -0.7**
comp=Z,12nm,0.8s
KK31 Karatay Array 62.87 321 P **P** **10 55 31.2 -0.9**
KK31 IAmb IAmb 10 55 33.1
comp=Z,7.4nm,0.9s
KK31 Karatay Array 62.87 321 P **P** **10 55 31.2 -0.9**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 62.87 321 P **P** **10 55 31.1 -1.0**
KKAR Karatay Array 62.87 321 P **P** **10 55 31.1 -1.0**
KURBB Kurchatov Arra 62.90 332 P **P** **10 55 31.0 -1.1**
comp=Z,14nm,1.0s,baz=143,slow=6.2,SNR=38
comp=Z,14nm,1.0s
KURK Kurchatov 62.92 332 P **P** **10 55 31.5 -0.7**
KURK Kurchatov 62.92 332 *c i*P **P** **10 55 31.4 -0.8**
KURK pmax pmax
comp=Z,37nm,0.9s
BRLS Borolday 63.26 321 *e*P **P** **10 55 33.7 -1.0**
BRLS pmax pmax
comp=Z,6.0nm,0.9s
BRLS Borolday 63.26 321 *e*P **P** **10 55 33.8 -1.0**
comp=Z,6.0nm,0.9s
URZ Urewera 63.55 133 LR LR 11 22 55.7
comp=Z,162nm,20.7s,baz=22,slow=36
YAK Yakutsk 63.80 5 P **P** **10 55 38.5 +0.7**
YAK Yakutsk 63.80 5 LR LR 11 25 09.5
comp=Z,231nm,22.0s,baz=127,slow=38
YAK Yakutsk 63.80 5 *e*P **P** **10 55 40.7 +2.9**
YAK *e* 10 56 12.4
YAK *e* 10 57 59.1
YAK *e*PPP PPP 10 59 31.0
YAK *e*S **S** **11 04 13.7 +1.0**
YAK *e**SS sS 11 04 42.9 +24
YAK *e* 11 05 31.0
YAK *e*SS **SS** **11 08 22.5 +1.6**
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,237nm,5.1s
YAK pmax pmax
comp=N,132nm,4.4s
YAK pmax pmax
comp=E,170nm,5.3s
YAK smax smax
comp=E,262nm,7.7s
YAK smax smax
comp=N,201nm,8.7s
BRZS Berezniki 65.42 328 *e*P **P** **10 55 48.1 -0.6**
BRZS pmax pmax
comp=Z,7.0nm,1.1s
BRZS Berezniki 65.42 328 *e*P **P** **10 55 48.2 -0.6**
comp=Z,7.3nm,1.1s
MA2 Magadan 65.47 17 ⇓*e*P **P** **10 55 52.3 +3.4**
MA2 pmax pmax
comp=Z,12nm,1.1s
BVAR Borovoye Array 68.35 330 P **P** **10 56 06.2 -1.1**
comp=Z,7.2nm,0.8s,baz=127,slow=9.4,SNR=24
comp=Z,7.2nm,0.8s
BRVK Borovoye 68.42 330 P **P** **10 56 06.8 -0.9**
BRVK IAmb IAmb 10 56 13.7
comp=Z,13nm,0.9s
BRVK Borovoye 68.42 330 *d i*P **P** **10 56 07.2 -0.6**
BRVK pmax pmax
comp=Z,14nm,0.9s
SEY Seymchan 68.69 15 LR LR 11 25 20.8
comp=Z,378nm,21.3s,baz=150,slow=35
SEY Seymchan 68.69 15 ⇑*e*P **P** **10 56 09.1 -0.1**
ABKAR Akbulak array 72.22 323 P **P** **10 56 30.2 -0.9**
ABKAR IAmb IAmb 10 56 38.2
comp=Z,9.9nm,1.1s
ABKAR Akbulak array 72.22 323 P **P** **10 56 29.9 -1.2**
TIXI Tiksi 73.27 3 P **P** **10 56 38.3 +1.5**
TIXI IAmb IAmb 10 56 45.4
comp=Z,7.2nm,0.8s
TIXI Tiksi 73.27 3 LR LR 11 32 47.6
comp=Z,279nm,18.9s,baz=183,slow=39
TIXI Tiksi 73.27 3 *i* P **P** **10 56 33.7 -3.1**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
AKTO Aktyubinsk 73.84 324 P **P** **10 56 39.2 -1.5**
comp=Z,3.9nm,0.7s,baz=92,slow=7.4,SNR=6.6
comp=Z,3.9nm,0.7s
ARTI Arti 76.06 330 P **P** **10 56 51.7 -1.6**
ARTI IAmb IAmb 10 56 58.2
comp=Z,7.7nm,1.0s
ARTI Arti 76.06 330 P **P** **10 56 51.1 -2.3**
comp=Z,4.3nm,0.8s,baz=162,slow=3.9,SNR=5.0
comp=Z,4.3nm,0.8s
ARTI Arti 76.06 330 *d i*P **P** **10 56 51.6 -1.8**
ARTI 10 59 37.7
ARTI S **S** **11 06 33.1 -3.7**
ARTI pmax pmax
comp=Z,11nm,1.5s
BILL Bilibino 76.34 16 ⇑*e*P **P** **10 56 57.5 +2.8**
BILL pmax pmax
comp=Z,9.0nm,2.0s
RAYN Ar Rayn 76.57 294 P **P** **10 56 56.8 -0.2**
RAYN IAmb IAmb 10 57 05.3
comp=Z,11nm,1.2s
RAYN Ar Rayn 76.57 294 P **P** **10 56 56.8 -0.2**
RAYN pmax pmax
comp=Z,11nm,1.2s
VNDA Vanda 79.15 172 LR LR 11 33 44.7
comp=Z,102nm,18.2s,baz=332,slow=37
GNI Garni 79.87 311 *ce*P **P** **10 57 13.7 -1.4**
GNI pmax pmax
comp=Z,23nm,1.5s
BELG Belogornoye 80.62 324 P **P** **10 57 17.7 -0.9**
comp=Z,8.7nm,0.7s,baz=124,slow=2.5,SNR=4.0
comp=Z,8.7nm,0.7s
BELG Belogornoye 80.62 324 *i* P **P** **10 57 20.5 +1.9**
BELG pmax pmax
comp=Z,6.0nm,1.2s
GEVA Gevas 80.84 309 P **P** **10 57 18.9 -1.5**
GEVA IAmb IAmb 10 57 24.5
comp=Z,13nm,0.8s
KIRV Kirov 81.36 330 P **P** **10 57 21.2 -1.3**
comp=Z,6.7nm,0.5s,baz=90,slow=3.0,SNR=2.8
comp=Z,6.7nm,0.5s
GURO Guroymak-BITLI 81.67 309 P **P** **10 57 24.3 -0.5**
GURO IAmb IAmb 10 57 27.9
comp=Z,18nm,1.2s
KBZ Khabaz 81.86 314 P **P** **10 57 24.1 -1.4**
comp=Z,1.3nm,0.8s,baz=126,slow=4.1,SNR=3.7
comp=Z,1.3nm,0.8s
KBZ Khabaz 81.86 314 ⇓*e*P **P** **10 57 23.7 -1.7**
KBZ pmax pmax
comp=Z,12nm,2.2s
KIV Kislovodsk 82.05 315 *e*P **P** **10 57 25.5 -1.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,71nm,19.0s
KMBO Kilima Mbogo 82.88 269 P **P** **10 57 27.9 -3.9**
comp=Z,0.4nm,0.3s,baz=171,slow=4.0,SNR=1.6
SYO Syowa Base 85.20 201 ⇓*e*P **P** **10 57 44.0 +1.9**
KLMR Klimovskoe 86.76 331 *e*P **P** **10 57 47.8 -2.2**
KLMR pmax pmax
comp=Z,30nm,2.0s
OBN Obninsk 87.57 325 *e*P **P** **10 57 53.5 -0.5**
OBN *e* 11 01 16.5
OBN *e*PPP PPP 11 03 13.4
OBN pmax pmax
comp=Z,7.0nm,1.2s
BR131 Keskin Array S 88.28 310 ⇑*e*P **P** **10 57 56.8 -1.2**
BRTR Keskin Array B 88.28 310 P **P** **10 57 55.8 -2.2**
comp=Z,1.9nm,0.8s,baz=66,slow=3.6,SNR=7.6
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 88.28 310 *i* P **P** **10 57 59.0 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
QSPA South Pole Qui 88.42 180 P **P** **10 57 56.1 -1.9**
comp=Z,0.9nm,0.7s,baz=298,slow=3.4,SNR=8.0
QSPA LR LR 11 38 13.8

comp=Z,64nm,18.1s,baz=312,slow=36
comp=Z,0.9nm,0.7s
PPT Papeete 89.80 107 LR LR 11 38 58.7
comp=Z,47nm,19.3s,baz=272,slow=36
MNK Minsk 92.56 324 *i* P **P 10 58 15.1 -2.3**
MNK *i* 11 01 55.7
MNK *i* PPP PPP 11 03 56.5
MNK *i* S **SKSac 11 08 48.2 -2.9**
MNK *i* SS **SS 11 15 31.7 -1.6**
MNK *i* SSS SSS 11 19 11.6
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=N,319nm,18.0s
MNK MLR MLR
comp=E,306nm,26.0s
MNK MLR MLR
comp=Z,186nm,18.0s
ILAR Eielson Array 92.64 25 P **P 10 58 16.0 -1.6**
comp=Z,0.2nm,0.6s,baz=248,slow=6.1,SNR=1.3
ILAR Eielson Array 92.64 25 P **P 10 58 16.0 -1.6**
VSU Vasula 93.09 328 *ce*P **P 10 58 18.3 -1.4**
VSU pmax pmax
comp=Z,35nm,1.6s
LBTB Lobatse 93.50 245 LR LR 11 37 27.5
comp=Z,122nm,19.3s,baz=141,slow=34
BOSA Boshof 93.58 241 LR LR 11 37 06.3
comp=Z,131nm,19.6s,baz=185,slow=33
SPITS Spitsbergen Ar 94.30 348 LR LR 11 46 34.3
comp=Z,199nm,19.0s,baz=1.0,slow=39
SNAA Sanae 98.46 196 LR LR 11 40 43.5
comp=Z,105nm,21.2s,baz=130,slow=34
NVAR Mina Array Bea 115.28 48 PKP **PKiKP 11 03 45.2 -3.2**
comp=Z,0.2nm,0.7s,baz=338,slow=6.8,SNR=1.8
TXAR Lajitas Array 129.99 52 PKP **PKPdf 11 04 13.1 -3.6**
comp=Z,0.1nm,0.3s,baz=342,slow=4.1,SNR=1.5
PLCA Paso Flores 136.82 168 PKP **PKPdf 11 04 29.1 -0.1**
comp=Z,1.2nm,0.8s,baz=146,slow=3.6,SNR=2.3
CPUP Villa Florida 152.20 185 PKPbc **PKPbc 11 05 00.7 -1.8**
comp=Z,0.9nm,0.6s,baz=225,slow=2.9,SNR=3.0
LPAZ La Paz 160.50 155 PKP **PKPdf 11 05 09.2 +1.5**
comp=Z,0.7nm,0.6s,baz=202,slow=5.4,SNR=3.8

*IDC **03** 10:52:14.4±0.7,3°.56S×122°.17E, h0km, mb3.9/11, mbtmp3.9/13, ML4.1/2, Error ellipse: s-maj=26.4km s-min=14.7km az=68.0*
*DJA **03** 10:52:16.3±0.2,4°.S±3°×12°.2E±°, h10km, M4.2/14, mb4.3/3, MLv4.2/14*
ISC 03 10:52:16.2±0.6, 3°.64S±0°.05×122°.23E±0°.06, h10km, n28, σ1♀03/29, mb4.0/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.50**	**129**	P	**Pb**	**10 52 27.6**	**+0.6**
SPSI	**Sidrap Palu**	**2.48**	**263**	P	**Pn**	**10 52 56.6**	**0.0**
TTSI	**Tana Toraja**	**2.48**	**284**	P	**Pn**	**10 52 57.9**	**+1.2**
LUWI	**Luwuk**	**2.64**	**12**	P	**Pn**	**10 52 59.0**	**+0.1**
APSI	**Ampana**	**2.78**	**348**	P	**Pn**	**10 53 01.3**	**+0.6**
KAPI	**Kappang**	**2.82**	**241**	Pn	**Pn**	**10 53 01.5**	**+0.2**
	67nm,0.3s,baz=95,slow=5.0,SNR=58						
KAPI				Sn	**Sn**	**10 53 34.9**	**-0.5**
	26nm,0.3s,baz=132,slow=23,SNR=7.9						
	219nm,0.5s						
BSSI	**Bau Bau, Buton**	**3.03**	**215**	P	**Pn**	**10 53 04.6**	**+0.4**
PCI	**Palu**	**3.62**	**319**	P	**Pn**	**10 53 15.5**	**+3.1**
SANI	**Sanana**	**4.07**	**67**	P	**Pn**	**10 53 18.5**	**-0.1**
MRSI	**Marisa**	**4.10**	**356**	P	**Pn**	**10 53 18.6**	**-0.4**
NLAI	**Namlea**	**4.88**	**85**	P	**Pn**	**10 53 29.3**	**-0.3**
PLAI	**Plampang**	**6.79**	**220**	P	**Pn**	**10 53 57.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**14.75**	**167**	Pn	**Pn**	**10 55 45.3**	**+0.3**
	0.3nm,0.3s,baz=14,slow=9.1,SNR=7.6						
	2.5nm,0.9s						
WRA	**Warramunga Arr**	**20.05**	**145**	P	**P**	**10 56 49.8**	**+0.1**
	1.5nm,0.8s,baz=319,slow=11,SNR=5.9						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**22.88**	**151**	P	**P**	**10 57 21.4**	**+1.2**
	3.1nm,0.9s,baz=322,slow=7.5,SNR=15						
	3.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.76**	**315**	P	**P**	**10 58 40.8**	**0.0**
	0.4nm,0.4s,baz=140,slow=7.0,SNR=9.0						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**33.47**	**149**	P	**P**	**10 58 56.1**	**+0.5**
	3.1nm,0.8s,baz=342,slow=13,SNR=4.2						
	3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**48.43**	**9**	P	**P**	**11 00 58.3**	**-0.3**
	3.8nm,0.8s,baz=198,slow=8.7,SNR=6.1						
	3.8nm,0.8s						
MKAR	**Makanchi Array**	**61.32**	**330**	P	**P**	**11 02 30.6**	**-1.5**
	0.6nm,0.5s,baz=127,slow=7.1,SNR=7.0						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**65.31**	**337**	P	**P**	**11 02 57.9**	**-0.4**
	0.6nm,0.7s,baz=83,slow=12,SNR=2.8						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**65.74**	**331**	P	**P**	**11 02 59.5**	**-1.7**
	0.4nm,0.5s,baz=124,slow=6.4,SNR=5.2						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**71.21**	**330**	P	**P**	**11 03 33.4**	**-1.9**
	0.7nm,0.6s,baz=134,slow=6.4,SNR=3.7						
	0.7nm,0.6s						
AKTO	**Aktyubinsk**	**76.76**	**324**	P	**P**	**11 04 07.3**	**-0.6**
	1.7nm,0.9s,baz=87,slow=6.8,SNR=4.4						
	1.7nm,0.9s						
QSPA	**South Pole Qui**	**86.31**	**180**	P	**P**	**11 04 57.7**	**-0.6**
	0.8nm,0.8s,baz=20,slow=1.2,SNR=1.7						
	0.8nm,0.8s						
SNAA	**Sanae**	**96.98**	**195**	P	**P**	**11 05 48.9**	**+1.1**
	8.3nm,0.5s,baz=321,slow=7.0,SNR=75						
PDAR	**Pinedale Array**	**119.82**	**42**	PKP	**PKiKP**	**11 11 07.8**	**+0.3**
	0.1nm,0.7s,baz=336,slow=3.1,SNR=1.4						
TXAR	**Lajitas Array**	**129.59**	**54**	PKP	**PKiKP**	**11 11 26.9**	**-0.2**
	0.3nm,1.0s,baz=331,slow=6.5,SNR=2.4						
CPUP	**Villa Florida**	**150.20**	**181**	PKPbc	**PKPbc**	**11 12 07.8**	**-0.5**
	1.0nm,0.4s,baz=258,slow=3.7,SNR=3.7						

*DJA **03** 10:54:41.8±0.3,5°.N±2°×12°.5E±°, h10km, M4.4/10, mB5.1/1, mb4.6/5, MLv4.4/10, Mw(mB)4.4/1*
*NEIC **03** 10:54:48.7±2.8,4°.32N±0°.08×124°.94E±0°.09, h58km±8km, mb4.5/25, Error ellipse: s-maj=13.0km s-min=10.9km az=103.0*
*IDC **03** 10:54:48.8±2.8,4°.76N×125°.46E, h75km±28km, mb3.7/11, mbtmp4.0/12, MS4.0/2, Error ellipse: s-maj=34.4km s-min=12.7km az=74.0*
ISC 03 10:54:46.8±0.5, 4°.43N±0°.06×125°.03E±0°.07, h50km, n53, σ1♀45/53, mb4.2/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.89**	**146**	P	**Pn**	**10 55 02.0**	**-1.2**
SGSI				S	**Sn**	**10 55 14.3**	**-0.8**
DAV	**Davao City (W)**	**2.67**	**12**	Pn	**Pn**	**10 55 30.2**	**+2.7**
DAV	**Davao City (W)**	**2.67**	**12**	P	**Pn**	**10 55 25.2**	**-2.3**
	79nm,0.3s,baz=192,slow=14,SNR=1.7						
TNTI	**Ternate**	**4.32**	**147**	P	**Pn**	**10 55 49.0**	**-1.1**
MRSI	**Marisa**	**5.00**	**218**	P	**Pn**	**10 55 58.3**	**-1.1**
TOLI2	**Tolitoli**	**5.38**	**232**	Pn	**Pn**	**10 56 02.9**	**-1.7**
SANI	**Sanana**	**6.51**	**172**	P	**Pn**	**10 56 19.9**	**-0.2**
	0.2nm35nm,0.8s						
MYLDM	**Lahad Datu**	**6.55**	**277**	Pn	**Pn**	**10 56 20.9**	**+0.2**
FAKI	**Fak Fak**	**10.27**	**135**	Pn	**Pn**	**10 57 12.0**	**+0.4**
SOEI	**Soe**	**14.12**	**183**	Pn	**Pn**	**10 58 03.9**	**-0.3**
DLV	**Lat**	**17.98**	**296**	P	**P**	**10 58 54.1**	**+0.5**
MTN	**Manton Dam**	**18.20**	**161**	P	**P**	**10 58 53.8**	**-2.0**
KNRA	**Kununurra**	**20.32**	**170**	P	**P**	**10 59 19.4**	**+0.5**
KNRA				IAmb	IAmb	10 59 22.1	
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.40**	**178**	P	**P**	**10 59 41.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.40**	**178**	P	**P**	**10 59 43.6**	**+2.3**
	comp=Z,4.7nm,0.6s,baz=3.3,slow=14,SNR=17						
	comp=Z,4.7nm,0.6s						
WB0	**Warramunga Arr**	**25.75**	**159**	P	**P**	**11 00 13.2**	**+0.1**
WB0				IAmb	IAmb	11 00 27.9	
	comp=Z,30nm,1.4s						
WRAB	**Tennant Creek**	**25.89**	**160**	P	**P**	**11 00 14.3**	**+0.1**
WRAB				IAmb	IAmb	11 00 29.3	
	comp=Z,19nm,1.2s						
WRA	**Warramunga Arr**	**25.89**	**160**	P	**P**	**11 00 14.9**	**+0.6**
WRA	**Warramunga Arr**	**25.89**	**160**	P	**P**	**11 00 15.2**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=333,slow=11,SNR=24						
	comp=Z,5.0nm,0.7s						
PSA00	**Pilbara Seismi**	**26.34**	**191**	P	**P**	**11 00 18.2**	**-0.1**
PSA00				IAmb	IAmb	11 00 21.1	
	comp=Z,25nm,1.4s						
CMAR	**Chiang Mai Arr**	**29.06**	**301**	P	**P**	**11 00 42.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.06**	**301**	P	**P**	**11 00 44.0**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=116,slow=9.0,SNR=1.4						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**29.24**	**163**	P	**P**	**11 00 45.3**	**+1.0**
ASAR	**Alice Springs**	**29.24**	**163**	P	**P**	**11 00 44.0**	**-0.2**
ASAR	**Alice Springs**	**29.24**	**163**	P	**P**	**11 00 45.4**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=342,slow=6.9,SNR=40						
ASAR				PcP	**PcP**	**11 03 51.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=346,slow=2.9,SNR=2.7						
	comp=Z,1.6nm,0.7s						
MJAR	**Matsushiro Arr**	**34.17**	**19**	P	**P**	**11 01 23.1**	**-4.4**
	comp=Z,2.0nm,0.8s,baz=193,slow=9.3,SNR=5.9						
	comp=Z,2.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.89**	**191**	LR	LR	11 19 52.6	
	comp=Z,215nm,18.3s,baz=120,slow=39						
SHL	**Shillong**	**38.10**	**307**	P	**P**	**11 02 01.3**	**0.0**
SHL				IAmb	IAmb	11 02 17.9	
	comp=Z,6.1nm,0.7s						
BBOO	**Buckleboo**	**38.49**	**165**	P	**P**	**11 02 04.7**	**+0.4**
STKA	**Stephens Creek**	**39.40**	**158**	P	**P**	**11 02 13.1**	**+1.2**
STKA	**Stephens Creek**	**39.40**	**158**	P	**P**	**11 02 13.5**	**+1.6**
	comp=Z,2.9nm,0.8s,baz=329,slow=9.0,SNR=3.9						
	comp=Z,2.9nm,0.8s						
PEA0B	**Petropavlovsk-**	**55.44**	**23**	P	**P**	**11 04 18.4**	**+2.2**
PETK	**Petropavlovsk-**	**55.44**	**23**	P	**P**	**11 04 19.1**	**+2.9**
PET	**Petropavlovsk**	**55.76**	**24**	P	**P**	**11 04 21.4**	**+2.9**
MK31	**Makanchi Array**	**56.02**	**326**	P	**P**	**11 04 20.3**	**-0.3**
MKAR	**Makanchi Array**	**56.02**	**326**	P	**P**	**11 04 20.5**	**0.0**
MKAR	**Makanchi Array**	**56.02**	**326**	P	**P**	**11 04 20.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.1,SNR=11						
	comp=Z,0.7nm,0.5s						
NIL	**Nilore**	**56.16**	**308**	P	**P**	**11 04 22.0**	**+0.2**
GAR	**Garm**	**60.20**	**313**	P	**P**	**11 04 50.4**	**+0.4**
KURBB	**Kurchatov Arra**	**60.24**	**328**	P	**P**	**11 04 48.7**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=122,slow=6.4,SNR=5.9						
	comp=Z,1.3nm,0.9s						
BVAR	**Borovoye Array**	**65.81**	**327**	P	**P**	**11 05 25.7**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=179,slow=12,SNR=2.4						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**70.54**	**321**	P	**P**	**11 05 56.9**	**+0.3**
N15K	**Kwethluk River**	**78.66**	**29**	P	**P**	**11 06 44.0**	**+0.5**
N15K				IAmb	IAmb	11 06 55.7	
	comp=Z,14nm,1.3s						
M16K	**Timber Creek**	**79.37**	**29**	P	**P**	**11 06 47.7**	**+0.4**
M16K				IAmb	IAmb	11 07 03.3	
	comp=Z,21nm,1.5s						
C18K	**Utukok River**	**80.01**	**21**	P	**P**	**11 06 50.5**	**-0.2**
C18K				IAmb	IAmb	11 07 10.2	
	comp=Z,4.4nm,1.4s						
P18K	**Big Mountain,**	**80.98**	**31**	P	**P**	**11 06 55.8**	**-0.3**
P18K				IAmb	IAmb	11 07 06.8	
	comp=Z,9.2nm,1.4s						
D19K	**Kuna River**	**81.08**	**21**	P	**P**	**11 06 55.9**	**-0.6**
D19K				IAmb	IAmb	11 07 02.4	
	comp=Z,5.2nm,1.2s						
H19K	**Roundabout Mou**	**81.23**	**24**	P	**P**	**11 06 56.6**	**-0.5**
H19K				IAmb	IAmb	11 07 24.6	
	comp=Z,4.1nm,1.2s						
OHAK	**Old Harbor**	**81.78**	**33**	P	**P**	**11 07 01.4**	**+1.1**
OHAK				IAmb	IAmb	11 07 25.8	
	comp=Z,7.0nm,1.3s						
KDAK	**Kodiak Island**	**82.20**	**32**	P	**P**	**11 07 02.6**	**+0.2**
KDAK				IAmb	IAmb	11 07 10.7	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**85.20**	**25**	P	**P**	**11 07 13.4**	**-4.3**
	comp=Z,0.3nm,0.7s,baz=255,slow=6.1,SNR=5.6						
	comp=Z,0.3nm,0.7s						
KMBO	**Kilima Mbogo**	**87.87**	**269**	LR	LR	11 47 12.1	
	comp=Z,75nm,19.0s,baz=94,slow=36						
BRTR	**Kesin Array B**	**88.27**	**310**	P	**P**	**11 07 33.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=33,slow=11,SNR=1.9						
	comp=Z,0.3nm,0.6s						

*JMA **03** 11:04:12.3±0.0,35°.9N±0°.1×138°.7E±0°.1, h6km±1km, MD3.7/20, MV3.7/20, WESTERN SAITAMA PREF*
JMA Felt II J1 at WESTERN SAITAMA PREF .
*IDC **03** 11:04:16.3±1.5,36°.05N×138°.56E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=18.6km s-min=11.8km az=64.0*
ISC 03 11:04:13.5±0.7, 35°.91N±0°.03×138°.69E±0°.03, h10km, n29, σ1♀86/28, mb3.2/3, 5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.20**	**57**	P	**Pg**	**11 04 16.7**	**-1.1**
JRY				S	**Sg**	**11 04 19.5**	**-1.2**
JRY	**Ryogami san**	**0.20**	**57**	A	A	11 04 16.7	
	comp=N,22nm,0.3s,comp=E,20nm,0.3s						
JYN	**Shimob**	**0.42**	**197**	⇓*i*P	**Pg**	**11 04 20.3**	**-1.5**
JNT	**Takato**	**0.45**	**266**	*i* P	**Pg**	**11 04 21.4**	**-1.0**
JNT				S	**Sg**	**11 04 27.6**	**-0.8**
JSGW	**Sagamiharawaka**	**0.52**	**126**	A	A	11 04 22.0	
	comp=N,8.0nm,0.5s,comp=E,9.0nm,3.4s						
JFNN	**Fujinakano**	**0.71**	**180**	⇓*i*P	**Pg**	**11 04 25.7**	**-1.5**
JFNN				⇓S	**Sg**	**11 04 35.2**	**-1.3**
JOD2	**Odawara 2**	**0.72**	**153**	⇓*i*P	**Pg**	**11 04 25.7**	**-1.7**
JOD2				⇓S	**Sg**	**11 04 35.4**	**-1.4**
JOD2	**Odawara 2**	**0.72**	**153**	A	A	11 04 25.7	
	comp=N,4.0nm,2.8s,comp=E,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**0.75**	**329**	Pg	**Pg**	**11 04 25.9**	**-2.1**
	comp=E,90nm,0.3s,baz=154,slow=16,SNR=7403						
MJAR				Lg	Lg	11 04 35.1	
	comp=E,40nm,0.3s,baz=325,slow=7.7,SNR=5.7						
MAJO	**Matsushiro**	**0.75**	**328**	P	**Pg**	**11 04 26.8**	**-1.2**
MAJO	**Matsushiro**	**0.75**	**328**	S	**Sb**	**11 04 36.9**	**-2.0**
MAT	**Matsushiro**	**0.75**	**328**	P	**Pb**	**11 04 26.9**	**-1.7**
MAT				S	**Sg**	**11 04 36.7**	**-1.0**
JNY	**Yasuok**	**0.87**	**231**	A	A	11 04 28.9	
	comp=N,3.0nm,0.7s,comp=E,3.0nm,0.5s						
SHZ3	**Shizuoka 3**	**0.93**	**205**	A		11 04 29.7	
	comp=N,3.0nm,0.4s,comp=E,3.0nm,1.0s						
JGF	**Kuroka**	**1.13**	**255**	P	**Pb**	**11 04 33.4**	**-1.7**
JGF	**Kuroka**	**1.13**	**255**	S	**Sg**	**11 04 48.1**	**-1.7**
JSG	**Sagara**	**1.30**	**199**	P	**Pg**	**11 04 37.2**	**-1.2**
INU	**Inuyama**	**1.47**	**248**	P	**Pb**	**11 04 39.1**	**-1.9**
INU	**Inuyama**	**1.47**	**248**	S	**Sb**	**11 04 58.2**	**-1.6**
JSD	**Sado**	**2.16**	**351**	P	**Pb**	**11 04 49.8**	**-2.8**
JMM	**Marumori**	**2.58**	**40**	P	**Pn**	**11 04 56.0**	**+0.6**
JMM	**Marumori**	**2.58**	**40**	S	**Sb**	**11 05 29.8**	**-1.9**
JHJ2	**Mitsune**	**2.94**	**161**	P	**Pn**	**11 05 00.9**	**+0.7**
JMN	**Monobe**	**4.52**	**243**	P	**Pn**	**11 05 22.8**	**+0.8**
JMN	**Monobe**	**4.52**	**243**	S	**Sn**	**11 06 16.5**	**+1.9**
JNU	**Nakatsue**	**7.02**	**249**	P	**Pn**	**11 05 57.9**	**+1.5**
SONM	**Songino Array**	**26.64**	**307**	P	**P**	**11 09 56.1**	**+3.6**
	comp=E,0.2nm,0.6s,baz=104,slow=4.8,SNR=2.6						
	comp=E,0.2nm,0.6s						
ILAR	**Eielson Array**	**51.61**	**32**	P	**P**	**11 13 23.1**	**+3.4**
	comp=E,0.2nm,0.6s,baz=270,slow=7.1,SNR=4.4						
	comp=E,0.2nm,0.6s						
WRA	**Warramunga Arr**	**55.70**	**185**	P	P	11 13 55.9	+5.8
	comp=E,0.4nm,0.6s,baz=2.1,slow=7.2,SNR=1.9						
	comp=E,0.4nm,0.6s						

*TEH **03** 11:31:20.4,38°.37N×44°.97E, h8km±86km*
*AZER **03** 11:31:20.5,38°.43N×45°.05E, h10km, ml3.1*
*NSSP **03** 11:31:20.0,38°.40N×45°.10E, h10km, Ms3.1*
*AFAD **03** 11:31:22.7,38°.39N×44°.93E, h8km±2km, ML2.6*
ISC 03 11:31:21.2±1.1, 38°.39N±0°.02×45°.02E±0°.02, h6km±10km, n46, σ1♀24/81, 2C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.48**	**102**	Pg	**Pg**	**11 31 30.5**	**-0.1**
IMRD	**Marand**	**0.63**	**59**	Pg	**Pg**	**11 31 33.5**	**+0.1**
OZAP	**Van, Ozalp-Mer**	**0.85**	**289**	P	**Pn**	**11 31 38.4**	**-1.5**
OZAP				S	**Sb**	**11 31 49.4**	**-0.8**
NAX	**Nakhchivan**	**0.87**	**25**	P	**Pb**	**11 31 38.0**	**-0.7**
NAX				S	**Sb**	**11 31 50.6**	**-0.1**
ITBZ	**Tabriz**	**0.90**	**99**	Pg	**Pg**	**11 31 37.6**	**-1.0**
ORD	**Ordubad**	**0.94**	**55**	P	**Pb**	**11 31 39.9**	**-0.1**
ORD				S	**Sb**	**11 31 52.4**	**-0.2**
YOVA	**Hakkari_Yksek**	**0.98**	**216**	P	**Pn**	**11 31 40.6**	**-1.2**
YOVA				S	**Sn**	**11 31 54.6**	**-1.4**
YOVA				*i* AML	AML	11 32 01.0	
	comp=E,183nm,0.5s						
YOVA				*i* AML	AML	11 32 02.0	
	comp=N,188nm,0.6s						
MAKU	**Maku**	**1.00**	**345**	Pg	**Pg**	**11 31 39.2**	**-1.3**
IAZR	**Azarshahr**	**1.04**	**133**	Pg	**Pb**	**11 31 41.1**	**-0.7**
SBZ	**Shahbuz**	**1.09**	**22**	P	**Pg**	**11 31 42.0**	**-0.2**
SBZ				S	**Sn**	**11 31 58.1**	**-0.6**
TVAN	**Van**	**1.27**	**277**	P	**Pn**	**11 31 45.8**	**+0.1**
TVAN				S	**Sb**	**11 32 00.7**	**-1.7**
TVAN				*i* AML	AML	11 32 20.0	
	comp=N,103nm,0.6s						
HAKT	**HAKKARI**	**1.32**	**232**	P	**Pg**	**11 31 48.0**	**+1.4**
HAKT				S	**Sb**	**11 32 01.8**	**-2.1**
HAKT	**HAKKARI**	**1.32**	**232**	P	**Pg**	**11 31 48.1**	**+1.4**
HAKT				S	**Sn**	**11 32 09.4**	**+4.8**
HYR	**Heyderabad**	**1.34**	**355**	P	**Pg**	**11 31 48.0**	**+1.1**
HYR				S	**Sn**	**11 32 07.0**	**+2.4**
VAYK	**Vayk**	**1.34**	**14**	*i* P	**Pn**	**11 31 45.9**	**-0.7**
VAYK				*i* S	**Sb**	**11 32 03.3**	**-1.1**
EGVZ	**Egvard**	**1.46**	**54**	*e*P	**Pn**	**11 31 47.5**	**-0.7**
EGVZ				*e*S	**Sn**	**11 32 07.4**	**-0.3**
GEVA	**Gevas**	**1.54**	**268**	P	**Pg**	**11 31 50.0**	**-0.8**
GEVA				S	**Sg**	**11 32 13.4**	**+2.6**
CUKT	**Cukurca**	**1.59**	**225**	P	**Pg**	**11 31 52.5**	**+0.7**
CUKT				*i* AML	AML	11 32 18.0	
	comp=N,75nm,0.6s						
CUKT				*i* AML	AML	11 32 19.0	
	comp=E,128nm,0.5s						
IHRS	**Heris**	**1.59**	**92**	Pg	**Pb**	**11 31 51.0**	**-0.2**
NRKZ	**NAREK**	**1.63**	**350**	*e*P	**Pb**	**11 31 51.3**	**-0.5**
NRKZ				*e*S	**Sg**	**11 32 14.5**	**+0.7**
IGDI	**IGDIR**	**1.65**	**334**	P	**Pg**	**11 31 53.8**	**+0.9**
IGDI				S	**Sg**	**11 32 15.3**	**+1.1**
GNI	**Garni**	**1.77**	**353**	⇑*i*P	**Pg**	**11 31 55.0**	**-0.3**
GNI				⇑*i*S	**Sg**	**11 32 19.1**	**+0.8**
GNI	**Garni**	**1.77**	**353**	Pg	**Pb**	**11 31 53.5**	**-0.7**
AYRK	**Ayrk**	**1.83**	**19**	*e*P	**Pb**	**11 31 54.1**	**-1.1**
AYRK				*e*S	**Sg**	**11 32 19.3**	**-0.7**
METS	**Metsamor**	**1.90**	**338**	*e*P	**Pg**	**11 31 57.0**	**-0.8**
METS				*e*S	**Sg**	**11 32 24.4**	**+2.0**
KAPZ	**Kaputan**	**1.95**	**353**	*e*P	**Pb**	**11 31 56.7**	**-0.5**
KAPZ				*e*S	**Sg**	**11 32 23.9**	**0.0**
VNNZ	**Vanand**	**1.95**	**332**	*e*P	**Pg**	**11 31 57.4**	**-1.2**
VNNZ				*e*S	**Sg**	**11 32 25.1**	**+1.3**
KOTA	**Agri, Merkez-K**	**2.00**	**316**	P	**Pg**	**11 31 59.0**	**-0.4**
KOTA				S	**Sg**	**11 32 25.2**	**-0.1**
KOTA				*i* AML	AML	11 32 31.0	
	comp=E,32nm,1.3s						
PERV	**Siirt/Pervari-**	**2.00**	**258**	P	**Pg**	**11 31 59.3**	**-0.2**
PERV				*i* AML	AML	11 32 30.0	
	comp=E,75nm,0.6s						
PERV				*i* AML	AML	11 32 33.0	
	comp=N,56nm,0.6s						
ARUZ	**Aruch**	**2.02**	**340**	*e*P	**Pb**	**11 31 58.4**	**-0.1**
ARUZ				*e*S	**Sg**	**11 32 26.9**	**+0.6**
IHSH	**Hashtrud**	**2.08**	**121**	Pn	**Pb**	**11 31 59.0**	**-0.6**
AMBZ	**Amberd**	**2.08**	**344**	*e*P	**Pb**	**11 31 58.8**	**-0.8**
AMBZ				*e*S	**Sg**	**11 32 27.6**	**-0.6**
QRD	**Qoradiz**	**2.09**	**58**	P	**Pb**	**11 31 58.2**	**-1.4**
QRD				S	**Sb**	**11 32 26.4**	**+0.6**
AGDM	**Agdam**	**2.37**	**43**	P	**Pn**	**11 32 01.4**	**+0.8**
AGDM				S	**Sb**	**11 32 33.5**	**-0.2**
BLQ	**Beylaqan**	**2.39**	**55**	P	**Pn**	**11 32 02.2**	**+1.4**
BLQ				S	**Sb**	**11 32 32.6**	**-1.7**
GDB	**GEDABAY**	**2.40**	**14**	P	**Pb**	**11 32 04.2**	**-0.7**
GDB				S	**Sb**	**11 32 35.5**	**+0.7**
GANJ	**Ganja**	**2.47**	**24**	P	**Pn**	**11 32 03.2**	**+1.1**
GANJ				S	**Sb**	**11 32 36.6**	**-0.1**
LSVT	**Lusahovit**	**2.53**	**3**	*e*P	**Pb**	**11 32 06.2**	**-0.9**
LSVT				*e*S	**Sb**	**11 32 40.0**	**+1.5**
KMOZ	**Kamo**	**2.57**	**342**	*e*P	**Pb**	**11 32 08.2**	**+0.4**
KMOZ				*e*S	**Sg**	**11 32 43.9**	**+0.2**
YRD	**Yardimli**	**2.58**	**77**	P	**Pb**	**11 32 06.9**	**-1.1**
YRD				S	**Sb**	**11 32 38.7**	**-1.3**
LRK	**Lerik**	**2.62**	**83**	P	**Pb**	**11 32 08.5**	**-0.2**
LRK				S	**Sb**	**11 32 41.5**	**+0.3**
QZX	**Qazax, Azerbai**	**2.68**	**6**	P	**Pn**	**11 32 06.0**	**+1.0**
QZX				S	**Sb**	**11 32 41.8**	**-1.0**
SRTK	**Saratovka**	**2.73**	**349**	*e*P	**Pb**	**11 32 10.8**	**+0.3**
SRTK				*e*S	**Sg**	**11 32 48.6**	**-0.3**
GLBA	**Clilabad**	**2.77**	**71**	P	**Pn**	**11 32 07.4**	**+1.3**
GLBA				S	**Sb**	**11 32 42.8**	**-2.6**
ASTR	**Astara**	**2.97**	**86**	P	**Pn**	**11 32 11.2**	**+2.3**
ASTR				S	**Sb**	**11 32 49.4**	**-1.6**
BTMN	**Batman**	**3.00**	**262**	P	**Pn**	**11 32 07.0**	**-2.3**

*NOU **03** 11:42:18.7,38°.06S×179°.04E, h14km, MLv3.6/13, Off E. Coast of N. Island, N.Z.*
*WEL **03** 11:42:20.3±0.8,38°.S±5°.×17°.9E±°, h33km, M3.2/13, ML3.5

AAK	**Ala-Archa**	6.48	23	⇑P	Pn	11 44 59.8	+1.1
	2.3nm,0.3s						
AAK				⇓S	Sn	11 46 13.7	+0.9
	12nm,0.6s						
KBK	**Karagaybulak**	6.64	25	P	Pn	11 45 03.2	+2.3
	SNR=5.8						
USP	**Ospenovka**	7.06	20	P	Pn	11 45 07.5	+1.4
	SNR=5.5						
TKM2	**Tokmak 2**	7.11	28	P	Pn	11 45 08.3	+1.5
	SNR=15						
MKAR	**Makanchi Array**	13.07	36	P	Pn	11 46 22.1	-1.3
	0.4nm,0.7s,baz=220,slow=11,SNR=4.5						
KURBB	**Kurchatov Arra**	14.91	19	P	Pn	11 46 45.0	-1.1
	0.1nm,0.3s,baz=209,slow=11,SNR=5.1						
AB31	**Akbulak array**	14.97	331	⇑P	P	11 46 48.0	+0.5
	0.4nm,0.4s,baz=150,slow=12,SNR=4.0						
BVAR	**Borovoye Array**	16.34	358	P	P	11 47 03.4	+0.8
	1.1nm,0.5s,baz=163,slow=11,SNR=7.4						
AKTO	**Aktyubinsk**	16.67	330	⇑P	P	11 47 06.1	-0.2
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	19.70	25	P	P	11 47 39.3	+0.3
	0.9nm,0.5s,baz=218,slow=10,SNR=5.9						
YKA	**Yellowknife Ar**	81.05	3	P	P	11 55 18.3	+1.0
	0.1nm,0.4s,baz=348,slow=5.6,SNR=5.3						
	0.1nm,0.4s						
ASAR	**Alice Springs**	84.27	125	P	P	11 55 32.9	-1.6
	0.2nm,0.8s,baz=322,slow=4.6,SNR=4.3						
	0.2nm,0.8s						

*IDC **03** 11:53:10.8±1.0, 37°.59N×20°.92E, h0km, mb3.8/11, mbtmp3.7/16, ML3.6/2, Error ellipse: s-maj=19.5km s-min=16.5km az=177.0*
*NEIC **03** 11:53:12.3±1.6, 37°.49N±0°.03×20°.78E±0°.07, h10km±1km, mb4.3/10, Error ellipse: s-maj=9.9km s-min=4.0km az=248.0*
*BEO **03** 11:53:13.0±0.9, 37°.39N×20°.47E, h30km±2km, ML3.6/9*
*THE **03** 11:53:13.0, 37°.62N×20°.73E, h0km±3km, ML3.5/9, Error ellipse: s-maj=3.6km s-min=0.7km az=221.0*
*ATH **03** 11:53:14.2, 37°.69N×20°.79E, h8km±2km, ML3.5/14, Manual Solution by A.Moschou First location: 2019/03/03 11:53:51, This location: 2019/03/03 12:33:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

ISC 03 11:53:12.8±0.8, 37°.61N±0°.03×20°.81E±0°.03, h14km±4km, n129, σ1§55/163, mb4.0/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	0.10	13	P	Pg	11 53 16.0	0.0
LTHK				S	Sg	11 53 17.7	-0.4
	101μm,0.3s						
LTHK	**Lithakia**	0.10	13	P	Pg	11 53 16.0	0.0
LTHK				S	Sg	11 53 17.8	-0.4
RTZL	**Ratzakli, Kefa**	0.47	356	P	Pb	11 53 22.3	-0.5
RTZL				S	Sg	11 53 28.1	+0.3
PSDA	**Pessada-Kefalo**	0.53	341	P	Pg	11 53 23.3	-0.1
PSDA				S	Sg	11 53 29.8	-0.7
	10μm,0.3s						
PSDA	**Pessada-Kefalo**	0.53	341	P	Pg	11 53 23.6	+0.2
PSDA				S	Sg	11 53 29.6	-0.9
VLS	**Valsamata**	0.59	343	P	Pg	11 53 24.1	-0.4
VLS				S	Sg	11 53 33.0	+0.7
	5μm,0.3s						
VLS	**Valsamata**	0.59	343	P	Pg	11 53 24.5	+0.1
VLS				S	Sg	11 53 31.3	-1.1
SMHA	**Samh**	0.65	349	P	Pg	11 53 25.0	-0.6
SMHA				S	Sg	11 53 33.5	-0.7
RLS	**Riolos of Patr**	0.69	49	P	Pb	11 53 26.9	+0.4
RLS				S	Sn	11 53 37.7	-0.8
	5μm,0.5s						
RLS	**Riolos of Patr**	0.69	49	P	Pb	11 53 27.0	+0.4
RLS				S	Sg	11 53 34.7	-0.5
AMT	**Artemida-Makis**	0.72	96	P	Pn	11 53 28.2	-0.4
AMT				S	Sn	11 53 37.7	-1.7
DRO	**Drossia**	0.79	64	P	Pn	11 53 29.3	-0.3
DRO				S	Sn	11 53 40.8	-0.4
FSK	**Fiskardo**	0.87	347	P	Pg	11 53 28.8	-0.9
FSK				S	Sb	11 53 42.2	+1.1
	4μm,0.9s						
ITM	**Ithomi**	0.99	116		Pn	11 53 31.8	-0.5
ITM	**Ithomi**	0.99	116	P	Pn	11 53 32.3	0.0
ITM				S	Sn	11 53 48.2	+2.2
	1μm,0.6s						
EVGI	**Lefkada island**	1.01	353	P	Pg	11 53 31.3	-1.2
EVGI				S	Sb	11 53 46.6	+1.2
	2μm,0.4s						
EVGI	**Lefkada island**	1.01	353	P	Pg	11 53 31.9	-0.6
EVGI				S	Sg	11 53 44.9	-0.9
DRAG	**Dragano-Lefkad**	1.09	350	P	Pg	11 53 32.9	-0.9
NYDR	**Nydri-Lefkada**	1.10	355	P	Pb	11 53 32.8	-0.9
NYDR				S	Sn	11 53 49.9	+1.1
	1μm,0.7s						
KLV	**Kalavryta, Ach**	1.15	67	P	Pn	11 53 35.8	+1.3
KLV				S	Sn	11 53 51.8	+1.8
PVO	**Paravola**	1.15	29	P	Pn	11 53 35.3	+0.8
PVO				S	Sn	11 53 50.1	0.0
LKD2	**Lefkada island**	1.18	354	P	Pb	11 53 34.5	-0.5
LKD2				S	Sn	11 53 51.9	+1.1
	3μm,0.7s						
EFP	**Efpalio**	1.19	46	P	Pg	11 53 36.4	+0.6
EFP				S	Sn	11 53 52.0	+1.1
TSLK	**Tsoukalades, L**	1.22	354	P	Pn	11 53 35.1	-0.3
TSLK	**Tsoukalades, L**	1.22	354	P	Pn	11 53 35.6	+0.2
GUR	**Goura**	1.26	75	P	Pg	11 53 38.3	+1.2
GUR				S	Sn	11 53 54.8	+2.0
AXAR	**Agios Charalam**	1.86	51	P	Pg	11 53 47.0	-1.5
KRND	**KRANIDI**	1.88	96	P	Pg	11 53 47.3	-1.6
VLI	**Veliai**	1.92	117	P	Pg	11 53 48.4	-1.2
IGT	**Igoumenitsa**	1.95	349	*e*Pn	Pn	11 53 47.0	+1.5
IGT				*e*Sn	Sb	11 54 12.2	-0.2
IGT	**Igoumenitsa**	1.95	349	P	Pn	11 53 47.0	+1.5
LKR	**Lokris**	2.02	58	P	Pb	11 53 49.2	0.0
LKR				S	Sb	11 54 13.3	-0.8
MET5	**Makryloggos,Me**	2.02	89	P	Pb	11 53 48.8	-0.5
VIL2	**Platees**	2.04	72	P	Pb	11 53 49.5	-0.1
THL	**Klokotos Trika**	2.17	25	P	Pb	11 53 51.0	-0.8
KEK	**Kerkira**	2.24	340		Pb	11 53 52.0	-1.1
KEK	**Kerkira**	2.24	340	P	Pn	11 53 50.5	+1.0
TYRN	**Tyrnavos**	2.37	28	P	Pn	11 53 53.1	+1.8
DION	**Dionisos Attik**	2.52	78	P	Pb	11 53 56.3	-1.4
KYMI	**Kymi, Euboea I**	2.79	68	P	Pn	11 53 58.6	+1.6
LIT	**Litokhoron**	2.81	27		Pn	11 53 58.8	+1.4
SCTE	**Santa Cesarea**	3.06	324	Pn	Pn	11 54 01.1	+0.3
OHR	**Ohrid**	3.50	360	*i* Pn	Pb	11 54 11.3	-3.2
OHR	**Ohrid**	3.50	360	*e*Pn	Pn	11 54 08.8	+2.0
TIP	**Timpagrande**	3.55	297	Pn	Pn	11 54 08.1	+0.6
TIR	**Tirane**	3.80	349	Pn	Pn	11 54 12.8	+1.8
CEL	**Celeste**	3.94	281	Pn	Pn	11 54 13.2	+0.3
IDI	**Anoyia**	4.03	124	Pn	Pn	11 54 11.8	-2.2
IDI	**Anoyia**	4.03	124	Pn	Pn	11 54 12.0	-2.1
	4.9nm,0.7s,baz=300,slow=8.1,SNR=1.2						
IDI				Sn	Sn	11 55 00.9	-0.1
	2.9nm,0.3s,baz=76,slow=22,SNR=6.4						
SRS	**Serrai**	4.11	31	*e*Pn	Pn	11 54 18.0	+2.8
PEHC	**Pehcevo**	4.46	21	*i* Pn	Pn	11 54 07.2	-13
PUK	**Puka**	4.48	351		Pn	11 54 21.2	+0.9
CUC	**Castrocucco**	4.57	303		Pn	11 54 23.4	+1.9
DRME	**Dracevica, Mon**	4.74	345	*e*Pn	Pn	11 54 24.7	+0.9
PDG	**Podgorica**	4.96	347		Pn	11 54 28.4	+1.7
PDG	**Podgorica**	4.96	347	*e*Pn	Pn	11 54 26.3	-0.5
VAE	**Valguarnera**	5.09	270	Pn	Pn	11 54 30.1	+1.5
	5.5nm,0.5s,baz=153,slow=12,SNR=3.2						
VAE				Sn	Sn	11 55 32.5	+5.4
	1.5nm,0.3s,baz=216,slow=21,SNR=2.2						
RDO	**Rodhopi**	5.09	45	Pn	Pn	11 54 30.5	+1.9
RAFF	**Raffo Rosso**	5.15	268	Pn	Pn	11 54 28.1	-1.3
ALN	**Alexandroupoli**	5.22	49	Pn	Pn	11 54 32.0	+1.6
BARS	**Barje**	5.26	8	*e*Pn	Pn	11 54 32.0	+1.1
VTS	**Vitosha**	5.33	20	*e*Pn	Pn	11 54 33.9	+1.8
WDD	**Wied Dalam**	5.35	253	Pn	Pn	11 54 31.4	-0.8
TREB	**Trebinje**	5.44	341	*e*Pn	Pn	11 54 33.0	-0.3
TREB	**Trebinje**	5.44	341	*e*Pn	Pn	11 54 33.1	-0.3
TREB				*e*Sn	Sn	11 55 33.7	-2.0
KARP	**Karpathos**	5.51	110	Pn	Pn	11 54 34.0	-0.4
BRY	**Bratogost**	5.56	343	*e*Pn	Pn	11 54 33.3	-1.9
SELS	**Selova**	5.61	2	*e*Pn	Pn	11 54 37.1	+1.3
SELS				*e*Sn	Sn	11 55 41.4	+1.5
SJES	**Sjenica**	5.68	354	*e*Pn	Pn	11 54 38.2	+1.4
SJES				*e*Sn	Sn	11 55 42.3	+0.5
SGRT	**San Giovanni R**	5.69	318	Pn	Pn	11 54 36.9	-0.1
STON	**Ston**	5.77	337	*e*Pn	Pn	11 54 37.2	-0.7
STON	**Ston**	5.77	337	*e*Pn	Pn	11 54 36.9	-1.0
STON				*e*Sn	Sn	11 55 40.6	-3.2
UPM	**Unac-Piva**	5.77	346	*e*Pn	Pn	11 54 42.3	+4.1
ZAPS	**Zavoj**	5.82	13	*e*Pn	Pn	11 54 40.5	+1.7
GOCS	**Kraljevo Serbi**	5.95	0	*e*Pn	Pn	11 54 41.5	+1.0
BOVS	**Bovan**	6.06	6	*e*Pn	Pn	11 54 42.8	+0.9
RUDO	**Rudo**	6.10	350	*e*Pn	Pn	11 54 44.4	+1.9
BBLS	**Lazi&#263i**	6.34	351	*e*Pn	Pn	11 54 50.8	+5.0
BBLS	**Lazi&#263i**	6.34	351	*e*Pn	Pn	11 54 46.9	+1.1
DIVS	**Divibare**	6.51	355	*e*Pn	Pn	11 54 49.0	+0.8
HAPS	**Han Pijesak,BI**	6.62	348	*e*Pn	Pn	11 54 51.3	+1.6
HAPS	**Han Pijesak,BI**	6.62	348	*e*Pn	Pn	11 54 50.9	+1.2
HAPS				*e*Sn	Sn	11 56 04.1	-0.9
CAMP	**Campotosto**	7.51	313	Pn	Pn	11 55 02.0	0.0
A050A	**Klekovaca**	7.58	336	*e*Pn	Pn	11 55 03.5	+0.5
BLY	**Banja Luka**	7.64	340	*e*Pn	Pn	11 55 06.6	+3.0
NRCA	**Norcia**	7.86	314	Pn	Pn	11 55 06.9	+0.1
A051A	**Mrakovica**	7.96	340	*e*Pn	Pn	11 55 06.7	-1.3
FDMO	**Fiordimonte**	8.01	315	Pn	Pn	11 55 10.1	+1.4
MLR	**Muntele Rosu**	8.76	24	Pn	Pn	11 55 21.2	+2.1
	0.1nm,0.3s,baz=148,slow=11,SNR=1.6						
	1.4nm,0.6s						
SABO	**M.te Sabotino**	9.94	330	Pn	Pn	11 55 36.1	+0.9
OBKA	**Obir**	10.03	334	*e*Pn	Pn	11 55 37.3	+0.8
	1.2nm,0.3s						
OBKA				*e*Sn	Sn	11 57 25.7	-3.1
	3.6nm,0.4s						
OBKA	**Obir**	10.03	334	*e*Pn	Pn	11 55 35.0	-1.5
CTI	**Castel Tesino**	10.84	324	Pn	Pn	11 55 47.3	-0.3
KBA	**Koelnbreinsper**	10.95	332	*e*Pn	Pn	11 55 49.1	0.0
	0.7nm,0.4s						
KBA				*e*Sn	Sn	11 57 46.0	-5.4
	1.0nm,0.4s						
ABTA	**Abfaltersbach**	11.00	329	*e*Pn	Pn	11 55 51.4	+1.6
	0.6nm,0.3s						
ABTA				*e*Sn	Sn	11 57 50.4	-2.3
	5.4nm,0.7s						
MOA	**Molln**	11.30	337	*e*Pn	Pn	11 55 55.2	+1.4
	0.6nm,0.3s						
MOA				*e*Sn	Sn	11 57 54.1	-5.7
	0.8nm,0.5s						
BIOA	**Bad Ischl, Aus**	11.37	335	*e*Pn	Pn	11 55 55.1	+0.4
	0.7nm,0.2s						
LESA	**Schwarzleotal**	11.49	331	*i* Pn	Pn	11 55 57.5	+1.1
	2.1nm,0.5s						
LESA				*e*Sn	Sn	11 57 59.2	-5.4
	1.5nm,0.5s						
WTTA	**Wattenberg**	11.78	328	*e*Sn	Sn	11 58 07.7	-4.0
	1.9nm,0.5s						
MOTA	**Moosalm**	12.07	327	*e*Sn	Sn	11 58 16.8	-2.1
	1.6nm,0.5s						
TUE	**Stuetta**	12.28	320	Pn	Pn	11 56 08.8	+1.5
SENIN	**Lac Senin/Sane**	13.31	315	Pn	Pn	11 56 22.4	+1.0
AKASG	**Malin Array Be**	14.40	22	Pn	Pn	11 56 37.1	+1.1
	0.1nm,0.3s,baz=212,slow=12,SNR=5.5						
SUW	**Suwalki**	16.48	5	Pn	Pn	11 57 04.6	+1.1
SUW				IAmb	IAmb	11 57 09.5	
	comp=Z,49nm,1.1s						
ESDC	**Sonseca Array**	19.45	284	P	Pn	11 57 40.2	+0.1
	comp=Z,0.1nm,0.3s,baz=75,slow=10,SNR=5.7						
	comp=Z,1.3nm,1.0s						
HFS	**Hagfors**	22.99	351	P	P	11 58 16.4	-0.4
	comp=Z,7.8nm,1.2s,baz=168,slow=12,SNR=6.5						
	comp=Z,7.8nm,1.2s						
EKA	**Eskdalemuir Ar**	24.02	325	P	P	11 58 26.8	-0.2
	comp=Z,1.6nm,0.7s,baz=126,slow=10,SNR=1.4						
	comp=Z,1.6nm,0.7s						
FINES	**FINESS Array B**	24.08	6	P	P	11 58 27.8	+0.3
FINES	**FINESS Array B**	24.08	6	P	P	11 58 27.0	-0.5
	comp=Z,1.2nm,0.7s,baz=170,slow=12,SNR=5.4						
	comp=Z,1.2nm,0.7s						
FIA1	**FINESS Array S**	24.08	6	P	P	11 58 28.5	+1.0
NOA	**NORSAR Array B**	24.22	349	P	P	11 58 28.7	-0.2
	comp=Z,0.9nm,0.9s,baz=166,slow=11,SNR=3.5						
	comp=Z,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	29.74	220	P	P	11 59 20.3	+1.6
	comp=Z,0.8nm,0.3s,baz=28,slow=9.9,SNR=1.4						
	comp=Z,0.8nm,0.3s						
ABKAR	**Akbulak array**	30.38	55	P	P	11 59 24.1	0.0
ABKAR				IAmb	IAmb	11 59 35.1	
	comp=Z,2.8nm,1.3s						
ARCES	**ARCESS Array B**	32.08	3	P	P	11 59 39.7	+0.7
	comp=Z,1.5nm,0.8s,baz=196,slow=12,SNR=1.3						
	comp=Z,1.5nm,0.8s						
BVAR	**Borovoye Array**	37.31	49	P	P	12 00 24.6	+0.3
	comp=Z,0.4nm,0.4s,baz=272,slow=7.1,SNR=4.0						
	comp=Z,0.4nm,0.4s						
KK31	**Karatay Array**	37.82	66	P	P	12 00 28.8	0.0
KKAR	**Karatay Array**	37.82	66	P	P	12 00 28.2	-0.5
KURBB	**Kurchatov Arra**	42.38	53	P	P	12 01 05.4	-1.1
	comp=Z,0.4nm,0.5s,baz=282,slow=8.7,SNR=4.9						
	comp=Z,0.4nm,0.5s						
MK31	**Makanchi Array**	45.41	58	P	P	12 01 30.9	0.0
MKAR	**Makanchi Array**	45.41	58	P	P	12 01 31.0	+0.2
MKAR	**Makanchi Array**	45.41	58	P	P	12 01 30.1	-0.8
	comp=Z,0.4nm,0.4s,baz=277,slow=6.6,SNR=12						
	comp=Z,0.4nm,0.4s						
ZAA0	**Zalesovo Array**	45.90	48	P	P	12 01 35.1	+0.5
ZAA0				IAmb	IAmb	12 02 04.3	
	comp=Z,4.9nm,1.5s						
ZALV	**Zalesovo Beam**	45.90	48	P	P	12 01 34.6	0.0
ZALV	**Zalesovo Beam**	45.90	48	P	P	12 01 34.3	-0.3
	comp=Z,0.8nm,0.5s,baz=273,slow=8.5,SNR=4.8						
	comp=Z,0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	69.74	82	P	P	12 04 23.0	+0.4
CMAR	**Chiang Mai Arr**	69.74	82	P	P	12 04 22.1	-0.5
	comp=Z,0.6nm,0.4s,baz=307,slow=7.7,SNR=6.4						
	comp=Z,0.6nm,0.4s						
B21K	**Ikpikpuk River**	73.03	358	P	P	12 04 43.4	+1.7
B21K				IAmb	IAmb	12 05 25.4	
	comp=Z,2.5nm,1.2s						
E29M	**Blow River**	73.12	352	P	P	12 04 43.6	+1.3
E29M				IAmb	IAmb	12 04 48.9	
	comp=Z,4.6nm,1.2s						
D23K	**Nanushuk River**	73.55	357	P	P	12 04 47.4	+2.6
D23K				IAmb	IAmb	12 04 59.6	
	comp=Z,4.8nm,1.5s						

*ISK **03** 12:17:47.6, 36°.43N×28°.75E, h2km, ML2.5/12*
*AFAD **03** 12:17:48.2, 36°.42N×28°.75E, h6km±4km, ML2.3*

ISC 03 12:17:48.5±1.1, 36°.43N±0°.03×28°.71E±0°.02, h11km±9km, n31, σ0§75/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	0.36	56	Pg	Pg	12 17 55.1	-0.6
FETY				Sg	Sg	12 18 00.7	+0.1
FETY	**Fethiye**	0.36	56	P	Pg	12 17 55.2	-0.6
DALY	**Dalyan (Mula)**	0.39	353	Pg	Pg	12 17 55.8	-0.4
DALY				Sg	Sg	12 18 02.3	+0.9
IZZE	**Mula-Seydike**	0.41	89	P	Pg	12 17 56.6	-0.1
IZZE				S	Sg	12 18 01.5	-0.6
IZZE				*i* AML	AML	12 18 07.0	
	comp=E,690nm,0.3s						
IZZE				*i* AML	AML	12 18 08.0	
	comp=N,618nm,0.4s						
SABU	**Mula-Dalaman**	0.44	28	P	Pg	12 17 57.4	+0.2
SABU				S	Sg	12 18 03.6	+0.5
SABU				*i* AML	AML	12 18 04.0	
	comp=E,185nm,0.2s						
TURN	**Turunc**	0.51	313	P	Pg	12 17 58.2	-0.2
TURN				S	Sg	12 18 05.2	0.0
ARG	**Arkhangelos**	0.52	246	Pg	Pg	12 17 58.4	-0.2
ARG				Sg	Sb	12 18 07.7	+0.5
CAME	**Cameli-Denizli**	0.70	43	Pg	Pg	12 18 01.7	-0.4
AKAS	**Kas**	0.75	105	P	Pg	12 18 02.1	-0.9
AKAS				S	Sg	12 18 12.1	-0.6
AKAS				*i* AML	AML	12 18 21.0	
	comp=N,162nm,0.4s						
YER	**Yerkesik**	0.78	334	Pg	Pg	12 18 04.1	+0.5
KNIK	**Mula-Seydike**	0.81	59	P	Pg	12 18 03.8	-0.3
KNIK				S	Sb	12 18 15.3	-0.4
KNIK				*i* AML	AML	12 18 19.0	
	comp=N,89nm,0.5s						
KNIK				*i* AML	AML	12 18 20.0	
	comp=E,92nm,0.7s						
MULA	**Mugla, Merkez-**	0.88	339	P	Pg	12 18 05.9	+0.4
DNZT	**Denizli-Tavas-**	0.88	16	P	Pb	12 18 06.1	+0.1
DNZT				S	Sg	12 18 17.0	-0.1
DAT	**Datca**	0.96	288	Pg	Pb	12 18 07.5	+0.2
DAT	**Datca**	0.96	288	P	Pn	12 18 08.0	-0.1
DAT				S	Sn	12 18 21.4	-0.4
DAT				*i* AML	AML	12 18 29.0	
	comp=N,62nm,0.3s						
DAT				*i* AML	AML	12 18 30.0	
	comp=E,59nm,1.0s						
TAVA	**DENIZLI_Tavas**	1.05	9	P	Pb	12 18 08.6	-0.2
TAVA				S	Sb	12 18 22.0	-0.5
TAVA				*i* AML	AML	12 18 28.0	
	comp=E,63nm,0.4s						
GOLH	**Golhisar**	1.05	40	P	Pg	12 18 08.7	-0.1
GOLH				S	Sb	12 18 22.2	-0.5
GOLH				*i* AML	AML	12 18 32.0	
	comp=E,67nm,0.4s						
GOLH				*i* AML	AML	12 18 37.0	
	comp=N,53nm,0.4s						
APMY	**Acipayam-Deniz**	1.14	24	Pn	Pg	12 18 10.4	-0.1
MLSB	**Milas**	1.14	319	Pn	Pg	12 18 11.1	+0.6
BODT	**Bodrum**	1.29	300	Pn	Pg	12 18 13.7	+0.4
AKUM	**Antalya-Kumluc**	1.32	94	P	Pg	12 18 14.6	+0.7
AKUM				S	Sg	12 18 32.9	+1.8
AKUM				*i* AML	AML	12 18 40.0	
	comp=E,36nm,0.8s						
ESEN	**Aydn-Nazilli**	1.40	348	P	Pb	12 18 14.9	+0.3
ESEN				S	Sb	12 18 32.6	+0.2
ESEN				*i* AML	AML	12 18 36.0	
	comp=E,42nm,0.3s						
AYDN	**Tasoluk**	1.40	332	P	Pg	12 18 15.2	-0.1
AYDN				S	Sg	12 18 33.5	0.0
AYDN				*i* AML	AML	12 18 38.0	
	comp=E,68nm,0.4s						
AYDN				*i* AML	AML	12 18 39.0	
	comp=N,57nm,0.5s						
KORT	**Korkueli**	1.43	66	P	Pg	12 18 16.6	+0.5
KORT				S	Sg	12 18 38.3	+3.7
KORT				*i* AML	AML	12 18 43.0	
	comp=N,34nm,0.5s						
KORT				*i* AML	AML	12 18 44.0	
	comp=E,64nm,0.9s						
INCE	**Denizli-Bozkur**	1.45	28	P	Pg	12 18 16.4	+0.1
INCE				S	Sg	12 18 36.1	+0.8
INCE				*i* AML	AML	12 18 39.0	
	comp=E,59nm,0.5s						
INCE				*i* AML	AML	12 18 41.0	
	comp=N,66nm,0.5s						
NAZL	**Nazilli-Aydin**	1.57	348	Pn	Pb	12 18 17.4	-0.2
AYDB	**Zeytinkoy-Aydi**	1.65	337	Pn	Pb	12 18 18.8	-0.2
GCAM	**G?zelcaml?**	1.73	317	P	Pb	12 18 20.4	0.0
GCAM				S	Sb	12 18 41.4	-0.8
GCAM				*i* AML	AML	12 18 47.0	
	comp=E,41nm,0.2s						
GCAM				*i* AML	AML	12 18 47.0	
	comp=N,32nm,0.2s						
KIRA	**zmir-Kiraz**	1.78	352	P	Pb	12 18 21.4	+0.1
KIRA				S	Sn	12 18 41.7	-0.4
KIRA				*i* AML	AML	12 18 45.0	
	comp=E,28nm,0.5s						
IZMR	**zmir-demi**	1.81	341	P	Pb	12 18 21.3	-0.3
IZMR				S	Sb	12 18 43.8	-0.5
ODEM	**Odemis-Izmir**	1.91	345	Pn	Pb	12 18 22.7	-0.8

*NEIC **03** 12:41:10.6±0.8, 35°.84N±0°.01×96°.63W±0°.02, h9km±5km, mb_Lg2.2/10, ML2.4/44, ML2.7/28, Error ellipse: s-maj=2.3km s-min=1.6km az=101.0*

NEIC 03 12:41:10.6±0.7, 35°.834N±0°.009×96°.64W±0°.02, h7km±2km, Error ellipse: s-maj=2.7km s-min=1.3km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	0.11	86		Pg	12 41 13.5	+0.4
DEOK				Sg	Sg	12 41 15.4	+0.7
DEOK				IAML		12 41 15.7	
	comp=N,1μm,0.3s						
OK031	**S. Brethren Rd**	0.20	306		Pg	12 41 15.1	+0.4
OK031				Sg	Sg	12 41 17.9	+0.4
OK031				IAML		12 41 18.4	
	comp=N,1μm,0.3s						
OK052	**Battle Ridge R**	0.21	320		Pg	12 41 15.2	+0.4
OK052				Sg	Sg	12 41 18.3	+0.7
OK052				IAML		12 41 18.6	
	comp=N,818nm,0.4s						
OK052				IAML		12 41 20.3	
	comp=N,723nm,0.3s						
QUOK	**Quay**	0.34	350		Pg	12 41 17.7	+0.4
QUOK				Sg	Sg	12 41 22.1	+0.3
ADOK	**Arcadia Dam**	0.62	253	Pg	Pg	12 41 22.3	-0.4
OK048	**Pawnee Station**	0.63	337		Pg	12 41 23.0	+0.2
OK048					Sg	12 41 31.5	+0.5
OK029	**Liberty Lake**	0.67	267		Pg	12 41 23.5	0.0
OK029					Sg	12 41 32.7	+0.6
OK051	**E0350 and S346**	0.69	346		Pg	12 41 24.0	+0.1
OK051					Sg	12 41 33.4	+0.6
OK051				IAML		12 41 35.9	
	comp=N,204nm,0.2s						
OK051				IAML		12 41 35.9	
	comp=N,170nm,0.2s						
W35A	**Tecumseh**	0.71	196		Pg	12 41 24.2	0.0
W35A					Sg	12 41 34.0	+0.6

WRA Warramunga Arr 33.15 117 P P 13 06 16.0 +10
0.3nm,0.7s,baz=289,slow=8.5,SNR=2.2
0.3nm,0.7s

ASAR Alice Springs 34.20 124 P P 13 06 25.8 +11
0.1nm,0.3s,baz=301,slow=8.4,SNR=8.9
0.1nm,0.3s

KSRS Korea Array 49.28 26 P **P 13 08 17.6 -0.4**
0.3nm,0.5s,baz=216,slow=8.5,SNR=1.8
0.3nm,0.5s

SONM Songino Array 53.98 3 P **P 13 08 53.1 0.0**
0.5nm,0.8s,baz=179,slow=9.2,SNR=4.0
0.5nm,0.8s

MKAR Makanchi Array 56.03 343 P **P 13 09 08.5 +0.7**
0.1nm,0.4s,baz=142,slow=9.6,SNR=5.1
0.1nm,0.4s

H04N2 CROZET ISLANDS 59.36 219 T T 14 14 06.0
baz=64,slow=75,SNR=17

H04N1 CROZET ISLANDS 59.37 219 T T 14 14 03.9
baz=64,slow=75,SNR=22

H04N3 CROZET ISLANDS 59.38 219 T T 14 14 00.2
baz=64,slow=75,SNR=18

H04S1 CROZET ISLANDS 59.58 218 T T 14 14 15.0
baz=63

H04S3 CROZET ISLANDS 59.60 218 T T 14 14 18.3
baz=63

H04S2 CROZET ISLANDS 59.60 218 T T 14 14 04.1
baz=63

KURBB Kurchatov Arra 60.57 342 P **P 13 09 40.7 +1.2**
0.2nm,0.6s,baz=158,slow=5.8,SNR=2.4
0.2nm,0.6s

ZALV Zalesovo Beam 61.99 348 P **P 13 09 49.3 +0.3**
0.4nm,0.3s,baz=165,slow=6.0,SNR=2.8
0.4nm,0.3s

TXAR Lajitas Array 145.85 45 PKPbc **PKPab 13 19 09.5 0.0**
0.3nm,0.6s,baz=316,slow=0.4,SNR=6.4

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*IDC **03** 13:27:38.1±4.8,36°.61N×82°.44E, h0km, mb3.2/1, mbtmp3.6/5, ML3.2/4, Error ellipse: s-maj=63.9km s-min=40.3km az=50.0*

ISC 03 13:27:39.6±4.7, 36°.4N±0°.3×82°.7E±0°.5, h35km, n6, σ1s74/7, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**10.38**	**358**	Pn	**Pn**	**13 30 06.6**	**+0.7**
	0.4nm,0.2s,baz=178,slow=12,SNR=59						
MK31				⇑Sn	**Sn**	**13 32 02.1**	**+1.2**
	1.4nm,0.8s,baz=182,slow=24						
MKAR	**Makanchi Array**	**10.38**	**358**	Pn	**Pn**	**13 30 06.5**	**+0.6**
	0.9nm,0.3s,baz=182,slow=13,SNR=64						
MKAR				Sn	**Sn**	**13 31 59.9**	**-1.1**
	0.2nm,0.3s,baz=180,slow=25,SNR=3.8						
MKAR				Lg	Lg	13 33 01.5	
	0.1nm,0.3s,baz=177,slow=27,SNR=1.2						
	1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**14.52**	**349**	Pn	**Pn**	**13 30 59.9**	**-2.6**
	0.1nm,0.3s,baz=163,slow=9.7,SNR=5.1						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**17.60**	**4**	P	**Pn**	**13 31 40.4**	**-1.5**
	0.1nm,0.3s,baz=195,slow=14,SNR=5.1						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**18.73**	**336**	P	**Pn**	**13 31 55.5**	**-0.2**
	baz=154,slow=10.0,SNR=8.8						
	1.5nm,0.5s						
SONM	**Songino Array**	**20.86**	**49**	P	Pn	13 32 22.4	+1.2
	0.7nm,0.5s,baz=245,slow=12,SNR=6.3						
	0.7nm,0.5s						

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*IDC **03** 13:46:20.0±1.0, 47°.79N×27°.61W, h0km, mb3.6/9, mbtmp3.6/10, ML3.9/1, MS3.9/25, Error ellipse: s-maj=31.3km s-min=20.4km az=32.0*

ISC 03 13:46:21.4±0.8, 47°.8N±0°.2×27°.6W±0°.1, h10km, n38, σ0s79/12, mb3.5/9, MS3.9/24, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.86**	**107**	P	**Pn**	**13 50 42.5**	**+0.2**
	0.1nm,0.3s,baz=298,slow=13,SNR=5.0						
ESDC				LR	LR	13 56 42.5	
	comp=Z,368nm,18.2s,baz=306,slow=33						
	0.9nm,1.0s						
MDT	**Midelt**	**22.92**	**122**	P	**P**	**13 51 25.5**	**-0.1**
	0.7nm,0.5s,baz=296,slow=11,SNR=1.7						
	0.7nm,0.5s						
DAVOX	**Davos/Dischmat**	**25.31**	**78**	LR	LR	14 00 29.4	
	comp=Z,299nm,20.8s,baz=262,slow=34						
NOA	**NORSAR Array B**	**25.77**	**45**	LR	LR	14 00 15.3	
	comp=Z,99nm,18.0s,baz=260,slow=32						
HFS	**Hagfors**	**26.80**	**47**	LR	LR	14 01 20.7	
	comp=Z,184nm,18.4s,baz=278,slow=34						
GERES	**GERESS Array B**	**27.27**	**72**	LR	LR	14 02 51.9	
	comp=Z,563nm,18.7s,baz=262,slow=36						
VRAC	**Vranov**	**29.01**	**70**	LR	LR	14 03 11.5	
	comp=Z,450nm,20.4s,baz=267,slow=35						
KEST	**Kesra**	**29.80**	**100**	LR	LR	14 03 39.0	
	comp=Z,364nm,20.8s,baz=315,slow=35						
FINES	**FINESS Array B**	**32.94**	**45**	LR	LR	14 06 10.7	
	comp=Z,124nm,18.1s,baz=269,slow=36						
BBTS	**Babate**	**34.26**	**161**	LR	LR	14 04 14.5	
	comp=Z,134nm,18.2s,baz=242,slow=31						
MLR	**Muntele Rosu**	**36.25**	**73**	LR	LR	14 08 51.0	
	comp=Z,268nm,18.0s,baz=283,slow=37						
AKASG	**Malin Array Be**	**36.46**	**64**	P	**P**	**13 53 25.7**	**-0.5**
	0.2nm,0.3s,baz=288,slow=8.2,SNR=4.8						
AKASG				LR	LR	14 07 36.6	
	comp=Z,321nm,21.9s,baz=264,slow=35						
	0.2nm,0.3s						
RES	**Resolute Bay**	**38.67**	**337**	LR	LR	14 08 50.3	
	comp=Z,131nm,19.8s,baz=44,slow=35						
OBN	**Obninsk**	**39.39**	**55**	LR	LR	14 08 58.5	
	comp=Z,209nm,22.0s,baz=331,slow=34						
TORD	**Torodi Ar. Bea**	**42.28**	**135**	P	**P**	**13 54 14.4**	**-0.7**
	2.2nm,0.3s,baz=344,slow=9.4,SNR=1.6						
	2.2nm,0.3s						
ULM	**Lac du Bonnet**	**43.42**	**300**	LR	LR	14 11 17.3	
	comp=Z,214nm,18.6s,baz=66,slow=34						
BRTR	**Keskin Array B**	**43.94**	**77**	P	**P**	**13 54 29.0**	**+0.5**
	0.3nm,0.7s,baz=282,slow=7.1,SNR=2.0						
BRTR				LR	LR	14 13 47.5	
	comp=Z,144nm,21.2s,baz=309,slow=38						
	0.3nm,0.7s						
DBIC	**Dimbokro**	**45.32**	**147**	P	**P**	**13 54 40.8**	**+1.2**
	2.5nm,0.9s,baz=333,slow=3.5,SNR=2.2						
	2.5nm,0.9s						
BELG	**Belogornoye**	**46.49**	**55**	LR	LR	14 14 42.6	
	comp=Z,123nm,19.0s,baz=274,slow=37						
MDP	**Montagnes des**	**47.60**	**215**	LR	LR	14 10 58.7	
	comp=Z,91nm,20.1s,baz=16,slow=31						
YKA	**Yellowknife Ar**	**47.92**	**321**	P	**P**	**13 55 00.0**	**+0.6**
	0.1nm,0.4s,baz=72,slow=4.0,SNR=4.8						
YKA				LR	LR	14 12 34.1	
	comp=Z,125nm,18.1s,baz=340,slow=33						
	0.1nm,0.4s						
PCRV	**Puerto La Cruz**	**48.70**	**232**	LR	LR	14 10 56.3	
	comp=Z,77nm,21.9s,slow=30						
GNI	**Garni**	**50.90**	**70**	LR	LR	14 19 01.3	
	comp=Z,72nm,18.5s,baz=320,slow=38						
INK	**Inuvik**	**51.95**	**333**	LR	LR	14 16 42.2	
	comp=Z,216nm,19.1s,baz=322,slow=35						
SDV	**Santo Domingo**	**53.07**	**237**	LR	LR	14 15 02.7	
	comp=Z,67nm,21.7s,baz=83,slow=32						
DLBC	**Dease Lake**	**56.53**	**322**	LR	LR	14 18 25.1	
	comp=Z,102nm,19.0s,baz=108,slow=34						
H10N2	**ASCENSION HYDR**	**56.55**	**164**	T	T	14 56 49.2	
	baz=349,slow=74						
H10N3	**ASCENSION HYDR**	**56.56**	**164**	T	T	14 56 48.5	
	baz=349						
H10N1	**ASCENSION HYDR**	**56.57**	**164**	T	T	14 56 50.5	
	baz=349,slow=74						
H10S3	**ASCENSION HYDR**	**57.62**	**165**	T	T	14 58 14.8	
	baz=231,slow=74,SNR=7.8						
H10S2	**ASCENSION HYDR**	**57.63**	**165**	T	T	14 58 07.7	
	baz=349,slow=74,SNR=8.3						
TXAR	**Lajitas Array**	**59.88**	**282**	P	**P**	**13 56 27.4**	**0.0**
	0.2nm,0.7s,baz=39,slow=7.1,SNR=4.1						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**63.30**	**43**	P	**P**	**13 56 50.4**	**+0.4**
	0.5nm,0.3s,baz=318,slow=6.5,SNR=3.1						
	0.5nm,0.3s						
SONM	**Songino Array**	**76.73**	**30**	P	**P**	**13 58 12.7**	**0.0**
	0.5nm,0.9s,baz=343,slow=4.5,SNR=3.6						
	0.5nm,0.9s						
TSUM	**Tsumeb**	**78.00**	**137**	LR	LR	14 32 03.6	
	comp=Z,67nm,18.0s,baz=332,slow=35						
BOSA	**Boshof**	**89.63**	**135**	LR	LR	14 38 01.9	
	comp=Z,72nm,19.9s,baz=1.5,slow=35						

QSPA South Pole Qui 137.64 180 PKP **PKiKP 14 05 45.2 -1.2**
1.2nm,1.0s,baz=162,slow=6.4,SNR=2.3

ASAR Alice Springs 151.81 38 PKPbc **PKPbc 14 06 15.3 -1.1**
0.5nm,0.7s,baz=0.0,slow=2.8,SNR=8.0

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*IDC **03** 13:48:03.9±0.8, 47°.65N×27°.72W, h0km, mb3.9/15, mbtmp3.8/16, ML4.5/1, MS3.7/7, Error ellipse: s-maj=26.3km s-min=15.5km az=16.0*
*NEIC **03** 13:48:07.0±1.1, 47°.8N±0°.1×27°.6W±0°.1, h10km±1km, mb4.6/62, Error ellipse: s-maj=20.2km s-min=7.6km az=209.0*

ISC 03 13:48:05.6±0.5, 47°.7N±0°.1×27°.59W±0°.07, h6km, n96, σ0s82/84, mb4.5/44, MS3.8/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.84**	**107**	P	**Pn**	**13 52 27.0**	**+0.4**
ESDC	**Sonseca Array**	**18.84**	**107**	P	**Pn**	**13 52 26.6**	**+0.1**
	0.3nm,0.3s,baz=298,slow=13,SNR=9.3						
	0.6nm,0.3s						
ESBB	**Sonseca Array**	**18.84**	**107**	P	**Pn**	**13 52 27.3**	**+0.7**
DRLN	**Deer Lake**	**19.82**	**286**	P	**P**	**13 52 36.9**	**+0.2**
CEST	**Esterri de Car**	**20.91**	**94**	P	Pn	13 52 51.1	-0.2
CEST				IAmb	IAmb	13 53 11.9	
	comp=Z,29nm,1.5s						
MDT	**Midelt**	**22.89**	**122**	LR	LR	14 00 05.6	
	comp=Z,157nm,20.2s,baz=334,slow=32						
TUE	**Stuetta**	**25.03**	**79**	P	**P**	**13 53 32.4**	**+2.0**
LMN	**Caledonia Moun**	**25.39**	**280**	P	**P**	**13 53 35.8**	**+2.3**
CLL	**Collm**	**26.35**	**67**	*i* P	**P**	**13 53 42.0**	**-0.1**
D62A	**Allapoint, All**	**27.83**	**284**	P	**P**	**13 53 56.4**	**+1.0**
G62A	**West of Eustis**	**29.40**	**281**	P	**P**	**13 54 09.4**	**-0.1**
KEST	**Kesra**	**29.78**	**100**	P	**P**	**13 54 14.7**	**+1.6**
KEST				IAmb	IAmb	13 54 21.1	
	comp=Z,13nm,1.2s						
VAE	**Valguarnera**	**32.21**	**93**	LR	LR	14 06 24.2	
	comp=Z,194nm,18.1s,baz=328,slow=34						
ARCES	**ARCESS Array B**	**33.57**	**31**	LR	LR	14 08 03.0	
	comp=Z,69nm,18.0s,baz=280,slow=36						
SPA2	**Spitsbergen Ar**	**34.70**	**15**	P	**P**	**13 54 55.5**	**0.0**
SPB2	**Spitsbergen Ar**	**34.70**	**15**	P	**P**	**13 54 55.3**	**-0.3**
AKASG	**Malin Array Be**	**36.45**	**64**	P	**P**	**13 55 10.4**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=288,slow=8.7,SNR=4.3						
	comp=Z,2.8nm,0.9s						
RES	**Resolute Bay**	**38.69**	**337**	P	**P**	**13 55 30.3**	**+0.7**
O52A	**Adamsville**	**39.10**	**279**	P	**P**	**13 55 35.0**	**+1.6**
O52A				IAmb	IAmb	13 56 02.5	
	comp=Z,19nm,1.5s						
FCC	**Fort Churchill**	**39.65**	**311**	P	**P**	**13 55 38.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**42.25**	**135**	P	**P**	**13 55 59.4**	**-0.3**
TORD				IAmb	IAmb	13 56 23.0	
	comp=Z,13nm,0.8s						
TORD	**Torodi Ar. Bea**	**42.25**	**135**	P	**P**	**13 55 58.3**	**-1.3**
	comp=Z,2.0nm,0.3s,baz=336,slow=8.7,SNR=1.5						
	comp=Z,2.0nm,0.3s						
ULM	**Lac du Bonnet**	**43.44**	**300**	P	**P**	**13 56 07.2**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=68,slow=9.5,SNR=3.1						
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**43.93**	**77**	P	**P**	**13 56 13.3**	**+0.1**
BRTR	**Keskin Array B**	**43.93**	**77**	P	**P**	**13 56 13.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=319,slow=6.3,SNR=3.8						
	comp=Z,0.6nm,0.6s						
DBIC	**Dimbokro**	**45.29**	**147**	P	**P**	**13 56 22.8**	**-1.2**
	comp=Z,4.0nm,1.0s,baz=2.9,slow=6.4,SNR=3.6						
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**47.95**	**321**	P	**P**	**13 56 44.6**	**+0.2**
YKA	**Yellowknife Ar**	**47.95**	**321**	P	**P**	**13 56 43.0**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=65,slow=7.4,SNR=5.4						
	comp=Z,0.5nm,0.9s						
YKAB2	**New Yellowknif**	**47.98**	**321**	P	**P**	**13 56 44.8**	**+0.1**
ARTI	**Arti**	**50.24**	**46**	P	**P**	**13 57 02.0**	**-0.1**
ARTI				IAmb	IAmb	13 57 03.0	
	comp=Z,14nm,1.4s						
F31M	**Tsiigehtchic**	**52.54**	**332**	P	**P**	**13 57 18.8**	**-0.2**
F31M				IAmb	IAmb	13 57 26.1	
	comp=Z,11nm,1.2s						
E29M	**Blow River**	**53.23**	**334**	P	**P**	**13 57 24.0**	**-0.3**
E28M	**Babbage River**	**53.57**	**335**	P	**P**	**13 57 27.7**	**+0.9**
E28M				IAmb	IAmb	13 57 33.0	
	comp=Z,5.8nm,1.2s						
H31M	**Peel River**	**53.70**	**331**	P	**P**	**13 57 28.0**	**+0.3**
H31M				IAmb	IAmb	13 57 30.2	
	comp=Z,9.7nm,1.4s						
N23A	**Red Feather La**	**54.23**	**294**	P	**P**	**13 57 33.2**	**+0.9**
YNE	**Yellowstone No**	**54.32**	**300**	P	**P**	**13 57 32.6**	**-0.3**
YNE				IAmb	IAmb	13 57 35.3	
	comp=Z,3.4nm,0.9s						
ABKAR	**Akbulak array**	**54.80**	**53**	P	**P**	**13 57 35.4**	**-0.5**
D25K	**Kavik River**	**54.95**	**338**	P	**P**	**13 57 36.7**	**-0.2**
D25K				IAmb	IAmb	13 57 37.8	
	comp=Z,7.3nm,1.4s						
BW06	**Boulder Array**	**55.34**	**298**	P	**P**	**13 57 39.2**	**-1.1**
PDAR	**Pinedale Array**	**55.34**	**298**	P	**P**	**13 57 39.3**	**-1.0**
PDAR	**Pinedale Array**	**55.34**	**298**	P	**P**	**13 57 39.4**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=60,slow=6.8,SNR=6.5						
	comp=Z,1.0nm,0.9s						
G27K	**Doyon Strip**	**55.35**	**334**	P	**P**	**13 57 39.4**	**-0.3**
G27K				IAmb	IAmb	13 57 46.1	
	comp=Z,5.5nm,1.4s						
BPMT	**Black Pine Rid**	**55.48**	**303**	P	**P**	**13 57 41.0**	**-0.3**
DLMT	**Dillon**	**55.62**	**302**	P	**P**	**13 57 42.9**	**+0.8**
DLMT				IAmb	IAmb	13 57 48.6	
	comp=Z,11nm,1.4s						
FXWY	**Fox Creek**	**55.71**	**299**	P	**P**	**13 57 42.8**	**-0.2**
B22K	**Teshekpuk Lake**	**55.91**	**341**	P	**P**	**13 57 44.2**	**+0.7**
B22K				IAmb	IAmb	13 57 51.4	
	comp=Z,6.9nm,0.9s						
D23K	**Nanushuk River**	**56.29**	**339**	P	**P**	**13 57 47.1**	**+0.7**
D23K				IAmb	IAmb	13 57 48.4	
	comp=Z,13nm,1.5s						
H10N2	**ASCENSION HYDR**	**56.53**	**164**	T	T	14 58 31.3	
	baz=345						
H10N3	**ASCENSION HYDR**	**56.54**	**164**	T	T	14 58 38.3	
	baz=345						
H10N1	**ASCENSION HYDR**	**56.55**	**164**	T	T	14 58 45.5	
	baz=345						
M30M	**Minto, Yukon**	**56.55**	**328**	P	**P**	**13 57 48.8**	**+0.4**
B21K	**Ikpikpuk River**	**56.72**	**340**	P	**P**	**13 57 50.3**	**+0.9**
B21K				IAmb	IAmb	13 57 57.3	
	comp=Z,5.5nm,1.1s						
I26K	**Coal Creek Min**	**56.82**	**333**	P	**P**	**13 57 50.6**	**+0.4**
I26K				IAmb	IAmb	13 57 51.3	
	comp=Z,4.6nm,1.1s						
B20K	**Meade River**	**56.98**	**342**	P	**P**	**13 57 52.0**	**+0.8**
B20K				IAmb	IAmb	13 57 55.0	
	comp=Z,9.6nm,1.1s						
HWUT	**Hardware Ranch**	**57.23**	**298**	P	**P**	**13 57 53.5**	**-0.3**
HWUT				IAmb	IAmb	13 58 00.7	
	comp=Z,6.9nm,1.4s						
PV04	**Paradox Valley**	**57.56**	**293**	P	**P**	**13 57 56.6**	**+0.5**
PV04				IAmb	IAmb	13 57 56.9	
	comp=Z,10nm,1.3s						
PV23	**Carpenter Ridg**	**57.59**	**293**	P	**P**	**13 57 56.0**	**-0.4**
H10S3	**ASCENSION HYDR**	**57.59**	**165**	T	T	15 00 08.4	
	baz=350,slow=74,SNR=6.1						
PV11	**David Mesa, Pa**	**57.60**	**293**	P	**P**	**13 57 56.2**	**-0.2**
PV11				IAmb	IAmb	13 58 00.8	
	comp=Z,5.4nm,0.7s						
H10S2	**ASCENSION HYDR**	**57.60**	**165**	T	T	15 00 10.1	
	baz=230,slow=74,SNR=6.0						
P18A	**Preston Nutter**	**57.63**	**295**	P	**P**	**13 57 56.7**	**0.0**
P18A				IAmb	IAmb	13 58 09.3	
	comp=Z,4.7nm,1.0s						
PV10	**Paradox Valley**	**57.65**	**293**	P	**P**	**13 57 57.9**	**+1.1**
HLID	**Hailey**	**57.73**	**301**	P	**P**	**13 57 57.8**	**+0.6**
G23K	**Bananza Creek**	**57.79**	**337**	P	**P**	**13 57 57.2**	**+0.2**
G23K				IAmb	IAmb	13 58 04.5	
	comp=Z,8.3nm,1.4s						
BVAR	**Borovoye Array**	**57.90**	**45**	P	**P**	**13 57 59.0**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=302,slow=8.5,SNR=5.6						
	comp=Z,1.4nm,0.6s						
J25K	**Salcha River,**	**57.98**	**333**	P	**P**	**13 57 58.7**	**+0.1**
J25K				IAmb	IAmb	13 58 05.5	
	comp=Z,8.0nm,1.3s						
POKR	**Poker Plat Res**	**58.24**	**334**	P	**P**	**13 57 59.7**	**-0.5**
POKR				IAmb	IAmb	13 58 28.4	
	comp=Z,5.5nm,0.8s						
F21K	**Alatna River**	**58.30**	**338**	P	**P**	**13 57 59.9**	**-0.8**
F21K				IAmb	IAmb	13 58 22.1	
	comp=Z,7.1nm,1.5s						
ILAR	**Eielson Array**	**58.33**	**334**	P	**P**	**13 58 01.1**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=36,slow=6.2,SNR=5.4						
	comp=Z,0.7nm,1.0s						

SAND Sanderson 58.48 281 P **P 13 58 02.2 -0.3**
SAND IAmb IAmb 13 58 08.9
comp=Z,4.6nm,1.1s

I23K Minto, Yukon-K 58.77 335 P **P 13 58 03.8 0.0**
ACON Acoyapa 59.59 253 P **P 13 58 10.9 +0.6**
TXAR Lajitas Array 59.90 282 P **P 13 58 11.8 -0.6**
TXAR Lajitas Array 59.90 282 P **P 13 58 12.0 -0.4**
comp=Z,0.9nm,0.7s,baz=68,slow=7.3,SNR=11
comp=Z,0.9nm,0.7s

ELK Elko 59.95 299 P **P 13 58 12.0 -0.7**
C16K Lisburne Hills 60.08 343 P **P 13 58 11.5 -1.4**
C16K IAmb IAmb 13 58 21.1
comp=Z,11nm,1.4s

KTH Kantishna Hill 60.42 335 P **P 13 58 15.2 -0.1**
O22K Cooper Landing 62.41 332 P **P 13 58 28.0 -0.7**
MZP Montezuma Peak 63.18 297 P **P 13 58 34.9 +0.3**
MZP IAmb IAmb 13 58 42.9
comp=Z,5.3nm,1.5s

NVAR Mina Array Bea 63.25 298 P **P 13 58 32.9 -2.1**
comp=Z,0.6nm,0.9s,baz=39,slow=5.6,SNR=3.7
comp=Z,0.6nm,0.9s

KURBB Kurchatov Arra 63.30 43 P **P 13 58 34.6 -0.3**
comp=Z,0.3nm,0.3s,baz=310,slow=5.9,SNR=4.8
comp=Z,0.3nm,0.3s

ZAA0 Zalesovo Array 63.70 38 P **P 13 58 38.5 +1.1**
ZAA0 IAmb IAmb 13 58 45.0
comp=Z,5.0nm,1.4s

ARSB Arslanbob 66.92 54 P **P 13 58 57.4 -1.3**
GAR Garm 67.04 57 P **P 13 58 59.8 +0.2**
MKAR Makanchi Array 67.77 44 P **P 13 59 03.9 +0.1**
comp=Z,0.4nm,0.9s,baz=333,slow=4.2,SNR=3.4
comp=Z,0.4nm,0.9s

PTLB Pontes e Lacer 68.94 213 P **P 13 59 11.8 +0.5**
PTLB IAmb IAmb 13 59 13.2
comp=Z,5.4nm,1.0s

NIL Nilore 72.48 59 P **P 13 59 32.5 -0.5**
NIL IAmb IAmb 14 00 15.5
comp=Z,4.3nm,0.8s

KMBO Kilima Mbogo 74.19 110 LR LR 14 33 26.5
comp=Z,96nm,18.2s,baz=79,slow=37

SONM Songino Array 76.74 30 P **P 13 59 58.0 +0.4**
SONM Songino Array 76.74 30 P **P 13 59 58.3 +0.6**
comp=Z,1.2nm,0.9s,baz=317,slow=5.0,SNR=6.7

SONM LR LR 14 38 43.7
comp=Z,30nm,18.6s,baz=354,slow=40
comp=Z,1.2nm,0.9s

KSRS Korea Array 92.41 19 P **P 14 01 15.6 -1.4**
comp=Z,0.8nm,0.9s,baz=15,slow=5.2,SNR=3.9
comp=Z,0.8nm,0.9s

PLCA Paso Flores 95.98 211 LR LR 14 42 18.1
comp=Z,33nm,19.7s,baz=104,slow=34

PALK Pallekele 96.74 72 LR LR 14 48 05.3
comp=Z,38nm,20.9s,baz=305,slow=37

QSPA South Pole Qui 137.62 180 PKP **PKPdf 14 07 29.1 -0.1**
comp=Z,1.6nm,0.9s,baz=173,slow=2.0,SNR=2.8

WRA Warramunga Arr 148.63 34 PKPbc **PKPbc 14 07 53.0 -0.6**
comp=Z,1.4nm,0.7s,baz=337,slow=3.1,SNR=8.4

ASAR Alice Springs 151.81 38 PKPbc **PKPbc 14 08 00.5 -0.7**
comp=Z,2.0nm,0.7s,baz=346,slow=2.1,SNR=21

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*IDC **03** 13:56:34.4±0.8, 47°.80N×27°.66W, h0km, mb3.7/14, mbtmp3.7/15, ML4.3/1, MS3.6/14, Error ellipse: s-maj=27.7km s-min=15.0km az=16.0*
*NEIC **03** 13:56:35.2±1.9, 47°.9N±0°.1×27°.2W±0°.2, h10km±1km, mb4.7/30, Error ellipse: s-maj=24.8km s-min=19.4km az=185.0*

ISC 03 13:56:35.6±0.6, 47°.9N±0°.1×27°.39W±0°.08, h10km, n68, σ1s50/47, mb4.2/30, MS3.6/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**10.21**	**172**	Pn	Pn	13 58 53.7	-8.5
ESK	**Eskdalemuir**	**16.70**	**55**	Pn	**Pn**	**14 00 25.7**	**-3.7**
ESK				IAmb	IAmb	14 00 32.7	
	comp=Z,48nm,1.5s						
ESDC	**Sonseca Array**	**18.75**	**107**	P	**Pn**	**14 00 58.2**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=295,slow=12,SNR=9.6						
ESDC				LR	LR	14 06 29.4	
	comp=Z,265nm,21.1s,baz=300,slow=32						
	comp=Z,1.2nm,0.8s						
CLF	**Chambon-Foret**	**19.81**	**79**	P	**P**	**14 01 03.8**	**-2.2**
CLF				IAmb	IAmb	14 01 18.3	
	comp=Z,67nm,1.4s						
CART	**Cartagena**	**21.85**	**108**	P	**P**	**14 01 26.3**	**-1.8**
SFJD	**Kangerlussuaq**	**22.60**	**336**	LR	LR	14 08 32.1	
	comp=Z,226nm,19.8s,baz=134,slow=32						
MDT	**Midelt**	**22.86**	**123**	LR	LR	14 09 29.9	
	comp=Z,116nm,18.7s,baz=316,slow=34						
DAVOX	**Davos/Dischmat**	**25.13**	**79**	LR	LR	14 10 32.6	
	comp=Z,196nm,21.1s,baz=255,slow=33						
SCHQ	**Schefferville**	**25.31**	**301**	LR	LR	14 10 18.4	
	comp=Z,168nm,18.8s,baz=48,slow=33						
NOA	**NORSAR Array B**	**25.57**	**45**	LR	LR	14 10 31.5	
	comp=Z,64nm,18.6s,baz=275,slow=32						
FETA	**Feichten**	**25.62**	**78**	*e*P	P	14 02 13.1	+8.0
	comp=Z,5.2nm,1.2s						
SQTA	**Sankt Quirin**	**25.88**	**77**	*e*P	P	14 02 16.4	+9.0
	comp=Z,7.2nm,1.2s						
WTTA	**Wattenberg**	**26.15**	**77**	*e*P	P	14 02 17.4	+7.4
	comp=Z,5.4nm,1.4s						
ZCCA	**Zocca**	**26.64**	**83**	P	**P**	**14 02 12.2**	**-2.1**
ZCCA				IAmb	IAmb	14 02 49.8	
	comp=Z,27nm,1.5s						
GEC2	**GERESS Array S**	**27.08**	**72**	P	**P**	**14 02 14.3**	**-4.0**
GERES	**GERESS Array B**	**27.08**	**72**	P	**P**	**14 02 21.2**	**+3.0**
	comp=Z,1.4nm,0.8s,baz=306,slow=8.0,SNR=5.2						
GERES				LR	LR	14 12 20.7	
	comp=Z,210nm,19.0s,baz=263,slow=35						
	comp=Z,1.4nm,0.8s						
FRB	**Frobisher Bay**	**27.40**	**321**	LR	LR	14 10 27.9	
	comp=Z,118nm,18.7s,baz=128,slow=30						
VRAC	**Vranov**	**28.82**	**71**	LR	LR	14 13 54.2	
	comp=Z,180nm,18.1s,baz=275,slow=36						
KEST	**Kesra**	**29.68**	**101**	P	**P**	**14 02 40.1**	**-1.4**
KEST	**Kesra**	**29.68**	**101**	LR	LR	14 12 44.5	
	comp=Z,204nm,21.6s,baz=359,slow=32						
BURAR	**Bucovina Array**	**34.80**	**70**	P	**P**	**14 03 24.0**	**-2.2**
SADO	**Sadowa**	**35.32**	**285**	LR	LR	14 16 44.9	
	comp=Z,205nm,19.6s,baz=62,slow=

H10N2	**ASCENSION HYDR**	**56.64**	**165**	T	T	15 07 10.6	
	baz=348						
H10N3	**ASCENSION HYDR**	**56.65**	**165**	T	T	15 07 04.6	
	baz=348,slow=74						
H10N1	**ASCENSION HYDR**	**56.66**	**165**	T	T	15 07 13.0	
	baz=348,slow=74						
B20K	**Meade River**	**56.88**	**342**	P	**P**	**14 06 21.0**	**+1.1**
B20K				IAmb	IAmb	14 06 29.3	
	comp=Z,12nm,1.4s						
J26L	**Joseph Creek**	**57.43**	**333**	P	**P**	**14 06 25.1**	**+1.1**
PV23	**Carpenter Ridg**	**57.65**	**293**	P	**P**	**14 06 25.3**	**-0.9**
H10S3	**ASCENSION HYDR**	**57.71**	**165**	T	T	15 08 22.8	
	baz=350,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**57.72**	**165**	T	T	15 08 32.5	
	baz=230,slow=74,SNR=12						
MNHN	**Monahans**	**58.11**	**283**	P	**P**	**14 06 29.9**	**+0.6**
MNHN				IAmb	IAmb	14 06 32.7	
	comp=Z,4.1nm,0.5s						
ILAR	**Eielson Array**	**58.25**	**334**	P	**P**	**14 06 30.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=44,slow=6.3,SNR=7.0						
	comp=Z,0.5nm,0.8s						
TMUT	**Trail Mountain**	**58.48**	**295**	P	**P**	**14 06 33.2**	**+1.2**
TMUT				IAmb	IAmb	14 06 39.9	
	comp=Z,7.3nm,1.3s						
SAND	**Sanderson**	**58.58**	**281**	P	**P**	**14 06 32.1**	**-0.5**
SAND				IAmb	IAmb	14 06 41.0	
	comp=Z,5.9nm,1.2s						
C18K	**Utukok River**	**58.82**	**342**	P	**P**	**14 06 32.1**	**-1.5**
C18K				IAmb	IAmb	14 06 38.2	
	comp=Z,5.4nm,1.1s						
DUG	**Dugway, Tooele**	**58.89**	**297**	P	**P**	**14 06 33.7**	**-1.0**
NEA2	**Nenana**	**59.02**	**335**	P	**P**	**14 06 34.7**	**-0.3**
NEA2				IAmb	IAmb	14 06 44.2	
	comp=Z,8.6nm,1.3s						
TX31	**Lajitas Ar. Si**	**60.01**	**282**	P	**P**	**14 06 42.5**	**+0.1**
TXAR	**Lajitas Array**	**60.01**	**282**	P	**P**	**14 06 42.6**	**+0.2**
TXAR	**Lajitas Array**	**60.01**	**282**	P	**P**	**14 06 42.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=66,slow=5.9,SNR=10						
	comp=Z,0.9nm,0.8s						
F15K	**North Star Dit**	**62.04**	**341**	P	**P**	**14 06 55.2**	**-0.3**
F15K				IAmb	IAmb	14 07 23.1	
	comp=Z,8.9nm,1.3s						
KURBB	**Kurchatov Arra**	**63.09**	**43**	P	**P**	**14 07 03.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=318,slow=6.2,SNR=4.2						
	comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	**63.29**	**298**	P	**P**	**14 07 03.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=42,slow=8.1,SNR=2.0						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**67.56**	**44**	P	**P**	**14 07 33.6**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=318,slow=5.8,SNR=4.1						
	comp=Z,0.3nm,0.8s						
PTLB	**Pontes e Lacer**	**69.14**	**213**	P	**P**	**14 07 40.5**	**-1.5**
PTLB				IAmb	IAmb	14 07 49.4	
	comp=Z,5.9nm,1.1s						
SONM	**Songino Array**	**76.54**	**30**	P	**P**	**14 08 27.8**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=320,slow=6.6,SNR=4.6						
	comp=Z,0.8nm,0.9s						
WRA	**Warramunga Arr**	**148.43**	**34**	PKPbc	**PKPbc**	**14 16 22.3**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=326,slow=2.6,SNR=7.1						
ASAR	**Alice Springs**	**151.61**	**38**	PKPbc	**PKPbc**	**14 16 30.1**	**0.0**
	comp=Z,1.4nm,0.8s,baz=343,slow=1.8,SNR=17						

IDC 03 14:03:09.3±1.5, 9°.75S×124°.66E, h0km, mb3.8/1, mbtmp3.2/3, ML3.1/2, MS3.9/1, Error ellipse: s-maj=121.3km s-min=24.6km az=56.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.78**	**138**	Pn	Pn	14 06 24.4	-1.8
	0.1nm,0.3s,baz=316,slow=14,SNR=6.3						
WRA				Sn	Sn	14 08 59.4	-0.7
	0.2nm,0.3s,baz=312,slow=24,SNR=6.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**16.41**	**149**	Pn	Pn	14 07 02.6	+1.3
	0.1nm,0.3s,baz=327,slow=12,SNR=15						
ASAR				Sn	Sn	14 10 08.1	+3.8
	0.1nm,0.3s,baz=320,slow=20,SNR=5.0						
	0.2nm,0.6s						
RAO	**Raoul Island**	**56.93**	**119**	LR	LR	14 36 45.2	
	comp=Z,115nm,21.8s,baz=136,slow=35						
MKAR	**Makanchi Array**	**67.78**	**330**	P	P	14 14 09.3	+0.2
	0.6nm,0.6s,baz=123,slow=8.1,SNR=9.5						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**72.22**	**331**	P	P	14 14 35.8	-0.3
	0.5nm,0.3s,baz=129,slow=6.6,SNR=2.8						

IDC 03 14:04:11.2±2.6, 5°.45N×126°.01E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=232.5km s-min=27.9km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.53**	**162**	P	P	14 09 49.2	-1.7
	0.4nm,0.8s,baz=341,slow=9.8,SNR=2.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**29.95**	**165**	P	P	14 10 22.7	+1.4
	0.3nm,0.6s,baz=347,slow=8.4,SNR=5.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.74**	**325**	P	P	14 13 49.7	-0.1
	0.2nm,0.5s,baz=120,slow=7.6,SNR=5.2						
	0.2nm,0.5s						

*KRNET **03** 14:04:18.1±0.1, 42°.95N×77°.92E, h23km, mb2.4*
*SOME **03** 14:04:19.5, 42°.88N×77°.92E, h10km*
*NNC **03** 14:04:19.5±0.5, 42°.91N×77°.92E, h0km, mpv2.6, Error ellipse: s-maj=4.4km s-min=1.6km az=175.0*
ISC 03 14:04:19.3±0.9, 42°.87N±0°.03×77°.93E±0°.02, h15km±8km, n21, σ0°.53/42, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.21**	**246**	⇑*i*P	**Pg**	**14 04 24.3**	**-0.1**
ANVS				⇑*i*S	**Sg**	**14 04 28.4**	**+0.6**
SATY	**Saty**	**0.40**	**61**	P	**Pg**	**14 04 27.6**	**+0.1**
	1.4nm,0.1s						
SATY				S	**Sg**	**14 04 33.3**	**+0.3**
	22nm,0.1s						
ZHN	**Zhinishke**	**0.47**	**51**	P	**Pg**	**14 04 28.7**	**-0.2**
	1.8nm,0.1s						
ZHN				S	**Sg**	**14 04 35.1**	**-0.2**
	20nm,0.2s						
ZHN	**Zhinishke**	**0.47**	**51**	*e*P	**Pg**	**14 04 28.7**	**-0.2**
	1.2nm,0.0s						
ZHN				*e*S	**Sg**	**14 04 35.1**	**-0.2**
	17nm,0.1s						
PRZ	**Przheval'sk**	**0.52**	**138**	⇑*e*P	**Pg**	**14 04 29.2**	**-0.5**
PRZ				⇑*e*S	**Sb**	**14 04 37.8**	**+0.2**
KURS	**Kuram**	**0.64**	**16**	P	**Pg**	**14 04 31.5**	**-0.5**
	0.8nm,0.1s						
KURS				S	**Sg**	**14 04 40.0**	**-0.6**
	0.7nm,0.1s						
KOTS	**Kotyrbulak**	**0.70**	**302**	P	**Pg**	**14 04 32.9**	**-0.3**
	0.8nm,0.1s						
KOTS				S	**Sg**	**14 04 42.3**	**-0.2**
	2.5nm,0.2s						
KOTS	**Kotyrbulak**	**0.70**	**302**	*e*P	**Pg**	**14 04 32.9**	**-0.3**
	0.8nm,0.1s						
KOTS				*e*S	**Sg**	**14 04 42.3**	**-0.2**
	2.1nm,0.1s						
TNSS	**Tian-Shan**	**0.74**	**283**	P	**Pg**	**14 04 33.8**	**-0.1**
	0.4nm,0.1s						
TNSS				S	**Sg**	**14 04 43.9**	**+0.1**
	1.2nm,0.3s						
TNSS	**Tian-Shan**	**0.74**	**283**	*e*P	**Pg**	**14 04 33.8**	**-0.1**
	0.2nm,0.1s						
TNSS				*e*S	**Sg**	**14 04 43.9**	**+0.1**
	1.1nm,0.1s						
KPKS	**Kokpek**	**0.81**	**42**	P	**Pg**	**14 04 34.7**	**-0.5**
	3.1nm,0.1s						
KPKS				S	**Sg**	**14 04 45.2**	**-0.7**
	12nm,0.3s						
KPKS	**Kokpek**	**0.81**	**42**	*e*P	**Pg**	**14 04 34.6**	**-0.5**
	3.1nm,0.1s						
KPKS				*e*S	**Sg**	**14 04 45.2**	**-0.7**
	12nm,0.3s						
UZB	**Uzynbulak**	**0.85**	**70**	P	**Pg**	**14 04 35.4**	**-0.4**
	2.1nm,0.1s						
UZB				S	**Sg**	**14 04 46.6**	**-0.4**
	3.1nm,0.1s						
UZB	**Uzynbulak**	**0.85**	**70**	*e*P	**Pg**	**14 04 35.4**	**-0.4**
	1.0nm,0.1s						
UZB				*e*S	**Sg**	**14 04 46.6**	**-0.4**
	3.1nm,0.1s						
KDJ	**Kajisay**	**0.93**	**217**	⇑*i*P	**Pg**	**14 04 36.6**	**-0.7**
KDJ				⇑*i*S	**Sb**	**14 04 49.8**	**+0.5**
KTBS	**Karatobe**	**1.24**	**313**	P	**Pb**	**14 04 42.5**	**0.0**
	0.3nm,0.1s						
KTBS				S	**Sg**	**14 04 58.4**	**-1.2**
	2.1nm,0.2s						
BLB	**Baldybastay**	**1.29**	**18**	P	**Pn**	**14 04 43.0**	**+0.1**
	4.2nm,0.1s						
BLB				S	**Sg**	**14 05 00.2**	**-0.9**
	11nm,0.3s						
ULHL	**Ulahol**	**1.40**	**244**	⇑*i*P	**Pn**	**14 04 44.3**	**-0.1**
ULHL				⇑*i*S	**Sb**	**14 05 03.3**	**+0.4**
BOOM	**Boomskoye usch**	**1.52**	**256**	⇑*e*P	**Pn**	**14 04 45.7**	**-0.4**
BOOM				⇑*e*S	**Sn**	**14 05 05.9**	**+0.3**
DJR	**Jarkent**	**1.99**	**42**	P	**Pb**	**14 04 55.4**	**+0.1**
DJR				S	**Sb**	**14 05 20.9**	**+1.1**
DJR	**Jarkent**	**1.99**	**42**	*e*P	**Pb**	**14 04 55.7**	**+0.4**
	0.3nm,0.1s						
DJR				*e*S	**Sb**	**14 05 21.3**	**+1.4**
	1.1nm,0.2s						

*IDC **03** 14:38:07.7±0.7, 56°.26N×148°.65W, h0km, mb4.0/19, mbtmp4.0/24, ML3.2/4, MS3.2/8, Error ellipse: s-maj=19.5km s-min=12.3km az=29.0*
*NEIC **03** 14:38:08.8±1.0, 56°.30N±0°.08×148°.8W±0°.1, h15km±5km, mb4.2/21, ML4.0/62, ML3.7(AEIC), Error ellipse: s-maj=11.2km s-min=8.5km az=176.0*
*AEIC **03** 14:38:13.1±1.9, 56°.26N±0°.07×148°.7W±0°.1, h12km±4km, Error ellipse: s-maj=11.1km s-min=6.9km az=208.0*
ISC 03 14:38:08.9±0.5, 56°.31N±0°.06×148°.65W±0°.05, h10km, n121, σ1°.63/101, mb4.2/29, MS3.0/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.61**	**306**	Pn	**Pn**	**14 38 49.9**	**-1.1**
KDAK	**Kodiak Island**	**2.61**	**306**		**Sn**	**14 39 18.9**	**-3.9**
KDAK	**Kodiak Island**	**2.61**	**306**	Pn	**Pn**	**14 38 50.4**	**-0.6**
	2.2nm,0.3s,baz=249,slow=2.7,SNR=5.7						
KDAK				Sn	**Sn**	**14 39 19.4**	**-3.3**
	30nm,0.3s,baz=228,slow=22,SNR=32						
KDAK				LR	LR	14 40 02.1	
	comp=Z,259nm,20.7s,baz=260,slow=43						
	22nm,0.3s						
OHAK	**Old Harbor**	**2.71**	**292**	Pn	**Pn**	**14 38 50.8**	**-1.6**
OHAK	**Old Harbor**	**2.71**	**292**		**Sn**	**14 39 20.0**	**-5.3**
OHAK	**Old Harbor**	**2.71**	**292**	P	**Pn**	**14 38 50.5**	**-2.0**
SYI	**Shuyak Island**	**3.07**	**320**		**Pn**	**14 38 56.8**	**-0.5**
SYI				IAML		14 39 34.1	
	comp=E,473nm,0.4s						
SYI				IAML		14 39 34.4	
	comp=N,284nm,0.4s						
SYI	**Shuyak Island**	**3.07**	**320**		**Sn**	**14 39 31.6**	**-2.4**
SII	**Sitkinak Islan**	**3.08**	**277**	Pn	**Pn**	**14 38 55.5**	**-2.1**
SII				IAML		14 39 33.8	
	comp=E,458nm,0.6s						
SII				IAML		14 39 36.5	
	comp=N,407nm,0.6s						
SII	**Sitkinak Islan**	**3.08**	**277**		**Sn**	**14 39 30.0**	**-4.5**
SII	**Sitkinak Islan**	**3.08**	**277**	P	**Pn**	**14 38 55.6**	**-2.1**
Q23K	**Middleton Isla**	**3.36**	**20**		**Pn**	**14 39 00.7**	**-0.6**
Q23K					**Sn**	**14 39 37.8**	**-3.4**
BRSE	**Bradley Lake S**	**3.62**	**343**		**Pn**	**14 39 04.0**	**-0.9**
BRLK	**Bradley Lake**	**3.66**	**342**	Pn	**Pn**	**14 39 04.5**	**-1.0**
HOM	**Homer**	**3.72**	**336**		**Pn**	**14 39 06.0**	**-0.2**
HOM				IAML		14 39 51.7	
	comp=E,426nm,0.4s						
HOM				IAML		14 40 01.5	
	comp=N,420nm,0.6s						
Q19K	**Cape Douglas,**	**3.76**	**316**		**Sn**	**14 39 51.3**	**+0.2**
Q19K	**Cape Douglas,**	**3.76**	**316**		**Pn**	**14 39 06.7**	**-0.2**
SEW	**Seward**	**3.83**	**354**	Pn	**Pn**	**14 39 06.9**	**-0.9**
KAHG	**Katmai Hook Gl**	**3.87**	**307**		**Pn**	**14 39 08.8**	**+0.4**
CHIR	**Chirikof Islan**	**3.94**	**266**		**Pn**	**14 39 07.5**	**-1.9**
CHIR				IAML		14 39 50.5	
	comp=E,154nm,0.6s						
CHIR				IAML		14 39 54.6	
	comp=N,207nm,0.5s						
CHIR	**Chirikof Islan**	**3.94**	**266**	P	**Pn**	**14 39 08.0**	**-1.3**
AU22	**Augustine Moun**	**3.97**	**323**		**Pn**	**14 39 10.3**	**+0.6**
AUL	**Augustine Lava**	**4.00**	**322**		**Pn**	**14 39 10.8**	**+0.7**
KAKN	**Katmai Knife C**	**4.01**	**302**		**Pn**	**14 39 10.5**	**+0.2**
ACHA	**Angle Creek He**	**4.10**	**300**	Pn	**Pn**	**14 39 09.4**	**-2.1**
P19K	**Oil Pt**	**4.14**	**326**		**Pn**	**14 39 11.5**	**-0.7**
KVTA	**Katmai Vly 10**	**4.16**	**303**		**Pn**	**14 39 13.4**	**+1.1**
O22K	**Cooper Landing**	**4.22**	**353**		**Pn**	**14 39 12.3**	**-0.8**
HIN	**Hinchinbrook I**	**4.25**	**15**		**Pn**	**14 39 13.0**	**-0.6**
HIN				IAML		14 40 01.6	
	comp=N,268nm,0.5s						
HIN				IAML		14 40 01.7	
	comp=E,244nm,0.8s						
KAIM	**Kayak Island**	**4.26**	**30**		**Pn**	**14 39 13.4**	**-0.4**
KAIM				IAML		14 40 04.4	
	comp=N,218nm,0.6s						
KAIM				IAML		14 40 07.7	
	comp=E,204nm,0.4s						
SLKM	**Skilak Lake**	**4.29**	**350**		**Pn**	**14 39 13.1**	**-1.1**
SLKM				IAML		14 40 02.8	
	comp=E,188nm,0.3s						
SLKM				IAML		14 40 04.3	
	comp=N,191nm,0.3s						
ILSW	**Iliamna Southw**	**4.38**	**329**		**Pn**	**14 39 14.4**	**-1.1**
ILSW				IAML		14 40 06.6	
	comp=N,219nm,0.6s						
ILSW				IAML		14 40 11.7	
	comp=E,166nm,0.5s						
EYAK	**Cordova Ski Ar**	**4.51**	**18**		**Pn**	**14 39 16.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.51**	**18**	P	**Pn**	**14 39 17.2**	**0.0**
PWL	**Port Wells**	**4.56**	**2**	Pn	**Pn**	**14 39 17.1**	**-0.8**
PWL				IAML		14 40 09.7	
	comp=E,113nm,0.4s						
PWL				IAML		14 40 11.4	
	comp=N,92nm,0.3s						
SUCK	**Suckling Hills**	**4.57**	**32**		**Pn**	**14 39 18.2**	**+0.2**
SUCK	**Suckling Hills**	**4.57**	**32**	IAML		14 40 13.0	
	comp=N,139nm,1.2s						
SUCK				IAML		14 40 21.4	
	comp=E,112nm,0.8s						
RAGM	**Ragged Mountai**	**4.59**	**25**		**Pn**	**14 39 18.6**	**+0.2**
PLK1	**Peulik 1**	**4.60**	**292**		**Pn**	**14 39 18.0**	**-0.3**
NICHA	**Nichawak Mount**	**4.65**	**30**		**Pn**	**14 39 19.6**	**+0.6**
GLI	**Glacier Island**	**4.65**	**9**		**Pn**	**14 39 18.8**	**-0.4**
GLI	**Glacier Island**	**4.65**	**9**	IAML		14 40 11.0	
	comp=E,97nm,0.6s						
RED	**Redoubt Volcan**	**4.66**	**334**		**Pn**	**14 39 18.2**	**-1.0**
P18K	**Big Mountain,**	**4.68**	**314**		**Pn**	**14 39 18.5**	**-1.1**
P18K	**Big Mountain,**	**4.68**	**314**	IAML		14 40 13.9	
	comp=N,100nm,0.4s						
RDT	**Redoubt**	**4.71**	**337**		**Pn**	**14 39 18.9**	**-1.1**
BGLC	**Bering Glacier**	**4.76**	**34**		**Pn**	**14 39 19.9**	**-0.6**
DFR	**Drift River**	**4.79**	**335**		**Pn**	**14 39 20.2**	**-0.9**
RC01	**Rabbit Creek A**	**4.83**	**354**		**Pn**	**14 39 21.1**	**-0.4**
RC01	**Rabbit Creek A**	**4.83**	**354**	IAML		14 40 16.6	
	comp=E,130nm,0.4s						
O19K	**Port Alsworth**	**4.91**	**325**		**Pn**	**14 39 22.0**	**-0.6**
SNH	**Sunshine Point**	**4.95**	**36**	IAML		14 40 24.7	
	comp=E,100nm,0.5s						
SNH				IAML		14 40 26.3	
	comp=N,79nm,1.0s						
O18K	**Koktuh Hills**	**4.97**	**318**	IAML		14 40 19.8	
	comp=E,76nm,0.6s						
O18K				IAML		14 40 35.3	
	comp=N,86nm,0.6s						
P17K	**Kvichak River**	**5.08**	**308**		**Pn**	**14 39 25.2**	**+0.3**
MESA	**MESA**	**5.25**	**40**	IAML		14 40 29.5	
	comp=E,109nm,0.5s						
MESA				IAML		14 40 29.8	
	comp=N,116nm,0.4s						
PMR	**Palmer**	**5.30**	**357**		**Pn**	**14 39 27.5**	**-0.5**
PMR				IAML		14 40 26.9	
	comp=E,59nm,0.6s						
PMR				IAML		14 40 27.8	
	comp=N,52nm,0.6s						
PMR	**Palmer**	**5.30**	**357**	P	**Pn**	**14 39 28.1**	**+0.1**
CHGN	**Chignik**	**5.44**	**274**		**Pn**	**14 39 29.2**	**-0.7**
CHGN				IAML		14 40 29.1	
	comp=N,114nm,0.3s						
CHNA	**Chernabura Isl**	**6.38**	**261**	P	**Pn**	**14 39 41.4**	**-1.4**
SDPT	**Sand Point**	**6.74**	**267**	P	**Pn**	**14 39 47.1**	**-0.6**
SIT	**Sitka**	**7.38**	**79**		**Pn**	**14 39 52.7**	**-3.8**
SIT	**Sitka**	**7.38**	**79**	P	**Pn**	**14 39 52.7**	**-3.8**
SKAG	**Skagway**	**7.77**	**61**	P	**Pn**	**14 40 00.9**	**-0.9**
BESE	**Bessie Mountai**	**7.78**	**67**		**Pn**	**14 40 01.1**	**-0.9**
JIS	**Juneau Island**	**7.97**	**70**	P	**Pn**	**14 40 03.4**	**-1.2**
FALS	**False Pass**	**8.49**	**266**	P	**Pn**	**14 40 11.2**	**-0.6**
ILAR	**Eielson Array**	**8.53**	**5**	Pn	**Pn**	**14 40 11.3**	**-1.0**
	comp=N,0.6nm,0.3s,baz=192,slow=14,SNR=43						
ILAR				Sn	**Sn**	**14 41 43.2**	**-5.3**
	comp=N,0.4nm,0.3s,baz=218,slow=11,SNR=4.3						
	comp=N,1.3nm,0.5s						
COLA	**College**	**8.60**	**2**	P	**Pn**	**14 40 13.7**	**+0.5**
CRAG	**Craig**	**8.77**	**89**	P	**Pn**	**14 40 11.6**	**-3.9**
DLBC	**Dease Lake**	**10.27**	**70**	Pn	**Pn**	**14 40 36.5**	**+0.3**
	comp=N,4.8nm,0.3s,baz=259,slow=10,SNR=83						
DLBC				Sn	**Sn**	**14 42 26.5**	**-4.9**
	comp=N,0.4nm,0.3s,baz=227,slow=24,SNR=1.6						
BBB	**Bella Bella**	**12.68**	**100**	LR	LR	14 44 49.4	
	comp=N,111nm,19.2s,baz=324,slow=32						
INK	**Inuvik**	**13.87**	**24**	Pn	**Pn**	**14 41 26.1**	**+0.9**
	baz=204,slow=16,SNR=3.6						
	comp=N,1.3nm,0.9s						
YKA	**Yellowknife Ar**	**18.23**	**56**	P	**P**	**14 42 22.2**	**+0.4**
	comp=N,0.1nm,0.3s,baz=262,slow=11,SNR=12						
	comp=N,1.3nm,0.9s						
A36M	**Sachs Harbour**	**18.52**	**23**	P	**Pn**	**14 42 24.9**	**-0.1**
B08A	**Colville Reser**	**19.48**	**102**	P	**P**	**14 42 35.2**	**-0.5**
I02E	**Swisshome, OR**	**19.89**	**117**	P	**P**	**14 42 39.8**	**-0.4**
MXC	**Moxie City**	**20.04**	**107**	IAmb	IAmb	14 42 46.5	
	comp=Z,13nm,1.1s						
E07A	**Sunnyside**	**20.29**	**107**	Pn	Pn	14 42 46.2	-0.3
E07A				IAmb	IAmb	14 42 49.2	
	comp=Z,5.7nm,0.7s						
NEW	**Newport**	**20.74**	**99**	LR	LR	14 49 33.8	
	comp=Z,68nm,18.4s,baz=304,slow=33						
PINE	**Pine Mountain**	**21.58**	**114**	IAmb	IAmb	14 43 05.2	
	comp=Z,17nm,1.3s						
F10A	**Beach Ranch, E**	**22.07**	**105**	IAmb	IAmb	14 43 07.5	
	comp=Z,4.6nm,0.8s						
YBH	**Yreka Blue Hor**	**22.22**	**120**	P	**P**	**14 43 06.1**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=314,slow=6.8,SNR=5.2						
YBH				LR	LR	14 49 30.5	
	comp=Z,52nm,20.6s,baz=335,slow=31						
	comp=Z,2.2nm,0.9s						
BILL	**Bilibino**	**23.46**	**318**	P	**P**	**14 43 17.1**	**-0.9**
BILL				IAmb	IAmb	14 43 20.7	
	comp=Z,6.5nm,0.8s						
WVOR	**Wild Horse Val**	**23.73**	**113**	IAmb	IAmb	14 43 23.5	
	comp=Z,5.4nm,0.9s						
HLID	**Hailey**	**25.16**	**106**	P	**P**	**14 43 34.5**	**+0.2**
PNTR	**Pine Nut**	**25.77**	**120**	IAmb	IAmb	14 43 47.8	
	comp=Z,7.4nm,1.1s						
NVAR	**Mina Array Bea**	**26.91**	**119**	P	**P**	**14 43 49.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=304,slow=8.3,SNR=6.7						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**28.32**	**102**	P	**P**	**14 44 02.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=322,slow=4.7,SNR=10.0						
	comp=Z,0.5nm,0.6s						
SEY	**Seymchan**	**29.57**	**307**	P	**P**	**14 44 13.7**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=96,slow=18,SNR=5.7						
	comp=Z,1.3nm,0.9s						
SRU	**San Rafael Swe**	**30.37**	**108**	IAmb	IAmb	14 44 23.4	
	comp=Z,3.7nm,1.0s						
PETK	**Petropavlovsk-**	**30.51**	**287**	P	**P**	**14 44 22.4**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=61,slow=12,SNR=5.9						
PETK				LR	LR	14 55 53.7	
	comp=Z,46nm,20.0s,baz=83,slow=35						
	comp=Z,5.0nm,0.9s						
O20A	**White River Ci**	**30.86**	**104**	P	**P**	**14 44 24.8**	**-0.5**
O20A				IAmb	IAmb	14 44 26.9	
	comp=Z,3.8nm,0.8s						
MA2	**Magadan**	**31.35**	**302**	P	**P**	**14 44 30.1**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=76,slow=17,SNR=5.2						
MA2				LR	LR	14 57 05.5	
	comp=Z,31nm,18.9s,baz=90,slow=36						
	comp=Z,1.2nm,0.5s						
X16A	**Lo Mia Camp, P**	**33.48**	**115**	IAmb	IAmb	14 44 51.2	
	comp=Z,3.4nm,1.0s						
TXAR	**Lajitas Array**	**41.51**	**111**	P	**P**	**14 45 57.7**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=318,slow=4.0,SNR=6.3						
	comp=Z,0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**49.20**	**241**	T	T	15 40 41.5	
	baz=29,slow=76,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**49.21**	**241**	T	T	15 40 48.7	
	baz=29,slow=76,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**49.22**	**241**	T	T	15 40 49.6	
	baz=29,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**50.34**	**240**	T	T	15 42 15.7	
	baz=29,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**50.36**	**240**	T	T	15 42 08.9	
	baz=29,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**50.36**	**240**	T	T	15 42 07.4	
	baz=29,slow=76,SNR=9.2						
ARCES	**ARCESS Array B**	**54.39**	**3**	P	**P**	**14 47 35.2**	**0.0**
	comp=Z,8.6nm,1.1s,baz=336,slow=11,SNR=5.0						
	comp=Z,8.6nm,1.1s						
KSRS	**Korea Array**	**56.39**	**288**	LR	LR	15 10 15.0	
	comp=Z,14nm,21.9s,baz=310,slow=34						
SONM	**Songino Array**	**58.89**	**311**	P	**P**	**14 48 08.9**	**+1.2**
SONM	**Songino Array**	**58.89**	**311**	P	**P**	**14 48 08.9**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=52,slow=7.5,SNR=16						
SONM				PcP	**PcP**	**14 48 58.5**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=66,slow=2.7,SNR=4.8						
	comp=Z,2.6nm,0.8s						
ZALV	**

*IDC **03** 14:43:28.6±0.9,51°.56N×177°.83E,h0km,mb3.8/17, mbtmp3.8/19,ML4.1/2,Error ellipse: s-maj=22.5km s-min=15.7km az=167.0*
*NEIC **03** 14:43:36.9±1.4,51°.8N±0°.1×177°.78E±0°.09,h51km±8km, mb4.1/32,ML3.9(AEIC),Error ellipse: s-maj=18.7km s-min=8.2km az=181.0*
*AEIC **03** 14:43:37.3±1.9,51°.8N±0°.1×177°.75E±0°.10,h56km±6km, Error ellipse: s-maj=19.1km s-min=8.6km az=185.0*

ISC 03 14:43:36.1±0.7,**51°.7N**±0°.1×**177.77E**±0°.04,**h50**km,**n75**, σ1§**22**/75,**mb4.1**/27,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**2.13**	**86**		**Pn**	**14 44 09.9**	**+0.7**
GANE	**Gareloi Northe**	**2.15**	**86**		**Pn**	**14 44 10.0**	**+0.7**
GANE					**Sn**	**14 44 36.2**	**+1.4**
SHEM	**Shemya Is, Ala**	**2.47**	**295**	Pn	**Pn**	**14 44 13.8**	**0.0**
	46nm,0.3s,baz=122,slow=17,SNR=9.5						
SHEM				Sn	**Sn**	**14 44 45.3**	**+2.6**
	35nm,0.3s,baz=300,slow=19,SNR=7.8						
	100nm,0.3s						
TASE	**Tanaga Southea**	**2.60**	**86**		**Pn**	**14 44 16.4**	**+0.7**
TAFP	**Tanaga Falls P**	**2.64**	**85**		**Pn**	**14 44 16.6**	**+0.5**
TAFP					**Sn**	**14 44 47.7**	**+0.8**
KICM	**Kanaga Island**	**3.13**	**85**		**Pn**	**14 44 24.0**	**+1.2**
KIWB	**Kanaga Island**	**3.15**	**86**	Pn	**Pn**	**14 44 24.0**	**+0.8**
KIWB	**Kanaga Island**	**3.15**	**86**		**Sn**	**14 44 58.8**	**-0.7**
ADK	**Adak**	**3.44**	**85**	Pn	**Pn**	**14 44 27.5**	**+0.4**
ADAG	**Mount Adagdak**	**3.50**	**84**		**Pn**	**14 44 27.7**	**-0.1**
GSCK	**Great Sitkin C**	**3.77**	**83**		**Pn**	**14 44 31.4**	**-0.3**
GSCK					**Sn**	**14 45 15.7**	**+1.0**
ATKA	**Atka Island**	**4.99**	**81**		**Pn**	**14 44 48.7**	**+0.4**
ATKA					**Sn**	**14 45 42.5**	**-2.1**
PETK	**Petropavlovsk-**	**12.33**	**284**	Pn	**Pn**	**14 46 30.7**	**+2.0**
	0.1nm,0.3s,baz=86,slow=19,SNR=7.8						
PETK				Sn	**Sn**	**14 48 38.4**	**-6.2**
	0.3nm,0.3s,baz=272,slow=8.8,SNR=1.7						
GAMB	**Gambell**	**13.29**	**21**	Pn	**Pn**	**14 46 39.6**	**-2.2**
L14K	**Kuka Creek**	**14.39**	**40**	P	**P**	**14 47 01.6**	**-0.7**
SII	**Sitkinak Islan**	**17.06**	**63**	P	**Pn**	**14 47 30.4**	**-0.4**
SII				IAmb	IAmb	14 48 12.7	
	comp=Z,21nm,1.1s						
N19K	**Bonanza Creek**	**17.76**	**48**	P	**Pn**	**14 47 38.9**	**-0.6**
KDAK	**Kodiak Island**	**18.05**	**59**		**P**	**14 47 40.6**	**-2.2**
KDAK	**Kodiak Island**	**18.05**	**59**	P	**P**	**14 47 41.1**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=286,slow=2.7,SNR=29						
	comp=Z,1.0nm,0.4s						
J20K	**Nowinta River**	**19.21**	**39**		**P**	**14 47 55.4**	**-0.2**
BRLK	**Bradley Lake**	**19.23**	**53**		**P**	**14 47 55.5**	**-0.3**
BRLK				IAmb	IAmb	14 48 27.0	
	comp=Z,14nm,1.4s						
SLKM	**Skilak Lake**	**19.70**	**51**	Pn	**P**	**14 48 02.4**	**+1.4**
SLKM				IAmb	IAmb	14 48 19.6	
	comp=Z,9.2nm,1.4s						
C18K	**Utukok River**	**19.74**	**23**	P	**P**	**14 48 00.3**	**-1.0**
C18K				IAmb	IAmb	14 48 09.2	
	comp=Z,11nm,1.4s						
GHO	**Glory Hole Cre**	**20.60**	**48**	Pn	**P**	**14 48 12.3**	**+1.5**
GHO				IAmb	IAmb	14 48 37.1	
	comp=Z,8.7nm,1.3s						
PWL	**Port Wells**	**20.68**	**51**		**P**	**14 48 12.2**	**+0.6**
PWL				IAmb	IAmb	14 48 26.9	
	comp=Z,7.1nm,1.1s						
SML	**Sawmill**	**20.89**	**48**	P	**P**	**14 48 12.6**	**-1.2**
ILAR	**Eielson Array**	**22.34**	**41**	P	**P**	**14 48 28.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=244,slow=8.0,SNR=9.0						
	comp=Z,0.3nm,0.6s						
B22K	**Teshekpuk Lake**	**22.88**	**25**	P	**P**	**14 48 35.0**	**0.0**
B22K				IAmb	IAmb	14 48 37.9	
	comp=Z,3.8nm,0.8s						
C23K	**Itkillik River**	**23.35**	**27**	P	**P**	**14 48 40.0**	**+0.5**
L27K	**Beaver Creek,**	**24.10**	**46**	P	**P**	**14 48 46.5**	**-0.2**
D25K	**Kavik River**	**24.35**	**30**	P	**P**	**14 48 48.5**	**-0.4**
D25K				IAmb	IAmb	14 48 51.1	
	comp=Z,3.7nm,0.6s						
INK	**Inuvik**	**28.41**	**36**	P	**P**	**14 49 25.9**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=275,slow=7.1,SNR=2.5						
	comp=Z,0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**31.75**	**257**	P	**P**	**14 49 55.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=54,slow=10,SNR=1.8						
	comp=Z,0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.05**	**199**	T	T	15 25 08.1	
	baz=11,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**33.06**	**199**	T	T	15 25 16.9	
	baz=11,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**33.07**	**199**	T	T	15 25 14.7	
	baz=11,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**34.28**	**199**	T	T	15 26 55.4	
	baz=11,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**34.30**	**199**	T	T	15 27 01.9	
	baz=11,slow=76,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**34.30**	**199**	T	T	15 26 58.0	
	baz=11,slow=76,SNR=5.7						
SONM	**Songino Array**	**44.57**	**295**	P	**P**	**14 51 43.7**	**+0.8**
SONM	**Songino Array**	**44.57**	**295**	P	**P**	**14 51 43.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=66,slow=8.1,SNR=13						
	comp=Z,1.6nm,0.7s						
YHB	**Horse Butte**	**46.09**	**69**	P	**P**	**14 51 53.7**	**-1.4**
YHB				IAmb	IAmb	14 51 54.5	
	comp=Z,4.6nm,0.9s						
PDAR	**Pinedale Array**	**48.22**	**70**	P	**P**	**14 52 11.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=318,slow=4.4,SNR=4.5						
	comp=Z,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**49.86**	**355**	P	**P**	**14 52 24.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=32,slow=8.5,SNR=19						
	comp=Z,1.2nm,0.3s						
SPB2	**Spitsbergen Ar**	**49.86**	**355**	P	**P**	**14 52 24.1**	**+0.6**
KURBB	**Kurchatov Arra**	**57.32**	**312**	P	**P**	**14 53 19.0**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=40,slow=6.7,SNR=17						
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**57.36**	**349**	P	**P**	**14 53 18.9**	**+0.4**
ARCES	**ARCESS Array B**	**57.36**	**349**	P	**P**	**14 53 18.8**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=30,slow=7.7,SNR=9.8						
	comp=Z,2.3nm,0.8s						
MK31	**Makanchi Array**	**58.12**	**306**	P	**P**	**14 53 23.6**	**-0.6**
MK31				IAmb	IAmb	14 53 24.6	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**58.12**	**306**	P	**P**	**14 53 23.6**	**-0.6**
MKAR	**Makanchi Array**	**58.12**	**306**	P	**P**	**14 53 23.9**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=52,slow=6.9,SNR=9.3						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**58.27**	**307**	P	**P**	**14 53 25.1**	**-0.1**
MAKZ				IAmb	IAmb	14 53 25.6	
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**59.22**	**318**	P	**P**	**14 53 32.4**	**+0.8**
	comp=Z,3.0nm,0.5s,baz=52,slow=6.8,SNR=17						
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**59.24**	**318**	P	**P**	**14 53 32.4**	**+0.6**
TXAR	**Lajitas Array**	**60.70**	**79**	P	**P**	**14 53 43.7**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=324,slow=6.3,SNR=1.9						
	comp=Z,0.1nm,0.6s						
ARTI	**Arti**	**61.25**	**326**	P	**P**	**14 53 46.3**	**+0.8**
FINES	**FINESS Array B**	**64.94**	**345**	P	**P**	**14 54 09.9**	**+0.1**
	comp=Z,4.1nm,1.1s,baz=7.7,slow=7.2,SNR=5.1						
	comp=Z,4.1nm,1.1s						
AAK	**Ala-Archa**	**64.97**	**308**	P	**P**	**14 54 11.3**	**+0.7**
AAK				IAmb	IAmb	14 54 12.1	
	comp=Z,1.1nm,0.6s						
ABKAR	**Akbulak array**	**66.34**	**321**	P	**P**	**14 54 19.8**	**+0.7**
KKAR	**Karatay Array**	**66.55**	**310**	P	**P**	**14 54 20.7**	**+0.1**
NB201	**NORSAR Array S**	**67.05**	**353**	P	**P**	**14 54 23.8**	**+0.3**
NOA	**NORSAR Array B**	**67.07**	**353**	P	**P**	**14 54 23.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=358,slow=5.0,SNR=1.5						
	comp=Z,0.4nm,0.6s						
HFS	**Hagfors**	**67.75**	**351**	P	**P**	**14 54 27.9**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=14,slow=6.6,SNR=4.6						
	comp=Z,2.2nm,0.8s						
GAR	**Garm**	**69.79**	**308**	P	**P**	**14 54 41.4**	**+0.3**
GAR				IAmb	IAmb	14 54 42.6	
	comp=Z,6.8nm,1.3s						
AKASG	**Malin Array Be**	**74.52**	**340**	P	**P**	**14 55 09.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=22,slow=6.1,SNR=6.5						
	comp=Z,0.9nm,0.3s						
AKBB	**Malin Array Si**	**74.52**	**340**	P	**P**	**14 55 09.2**	**+0.3**
AKBB				IAmb	IAmb	14 55 33.6	
	comp=Z,6.9nm,1.2s						
KIEV	**Kiev**	**74.53**	**340**	P	**P**	**14 55 09.2**	**+0.3**
KIEV				IAmb	IAmb	14 55 33.7	
	comp=Z,6.9nm,1.3s						
BUR08	**Bucovina Ar. S**	**78.25**	**341**	P	**P**	**14 55 31.4**	**+1.1**
BUR08				IAmb	IAmb	14 55 32.0	
	comp=Z,1.7nm,0.7s						
BURAR	**Bucovina Array**	**78.28**	**341**	P	**P**	**14 55 31.6**	**+1.2**
WB0	**Warramunga Arr**	**80.65**	**221**	P	**P**	**14 55 41.7**	**-1.7**
WR0	**Warramunga Arr**	**80.76**	**221**	P	**P**	**14 55 42.2**	**-1.7**
WRA	**Warramunga Arr**	**80.83**	**221**	P	**P**	**14 55 42.5**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=30,slow=5.7,SNR=4.6						
	comp=Z,0.5nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**81.44**	**351**	P	**P**	**14 55 48.3**	**+0.6**
ASAR	**Alice Springs**	**84.34**	**220**	P	**P**	**14 56 01.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=23,slow=5.8,SNR=5.5						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**149.11**	**308**	PKPbc	**PKPbc**	**15 03 17.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=34,slow=5.5,SNR=4.2						

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*NEIC **03** 14:51:42.4±1.4,48°.8N±0°.1×153°.3E±0°.2,h122km±7km, mb4.3/70,Error ellipse: s-maj=18.6km s-min=11.9km az=137.0*
*IDC **03** 14:51:47.0±1.5,48°.70N×153°.35E,h176km±13km, mb3.7/27,mbtmp4.1/35,Error ellipse: s-maj=12.1km s-min=8.4km az=149.0*
*MOS **03** 14:51:46.6±1.1,48°.74N×153°.30E,h183km,mb4.1/24, Error ellipse: s-maj=9.1km s-min=5.8km az=86.8*
*SKHL **03** 14:51:46.3±0.2,48°.80N×153°.30E,h162km±3km,mb5.0/4, msha6.0/4*
*JMA **03** 14:51:48.1±0.5,47°N±5°×15°4E±°,h2km,MV3.5/9,FAR FIELD*

ISC 03 14:51:44.7±0.5,**48°.64N**±0°.06×**153°.30E**±0°.06,**h150**km, **n247**,σ1§**54**/253,**mb4.2**/88,**18C-22D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.75**	**41**	*e*PN	**Pn**	**14 52 30.3**	**+1.6**
SKR				*e*S	**Sn**	**14 53 03.5**	**+0.7**
SKR				pmax	pmax		
	comp=Z,68nm,0.7s						
SKR				smax	smax		
	comp=E,168nm,0.7s						
SKR				smax	smax		
	comp=N,234nm,1.0s						
SKR	**Severo-Kuril's**	**2.75**	**41**	*e*P	**Pn**	**14 52 30.4**	**+1.7**
SKR				AMB	AMB	14 52 31.5	
	comp=N,70nm,0.5s						
SKR				*i* S	**Sn**	**14 53 03.9**	**+1.1**
SKR				A	A	14 53 05.9	
	comp=N,350nm,0.5s						
SKR				A	A	14 53 05.9	
	comp=N,270nm,0.5s						
PAU	**Pauzhetka**	**3.63**	**37**	*e*P	**Pn**	**14 52 41.1**	**+1.2**
PAU				AMB	AMB	14 52 41.7	
	comp=N,50nm,0.3s						
PAU				*e*S	**Sn**	**14 53 22.9**	**0.0**
PAU				A	A	14 53 28.0	
	comp=N,220nm,0.2s						
PAU				A	A	14 53 28.0	
	comp=N,190nm,0.2s						
KUR	**Kuril'sk**	**5.04**	**230**	*e*PN	Pn	14 53 04.6	+6.0
KUR				*e*S	**Sn**	**14 54 03.7**	**+7.5**
KUR				pmax	pmax		
	comp=Z,30nm,0.8s						
KUR				smax	smax		
	comp=N,50nm,0.6s						
KUR				smax	smax		
	comp=E,40nm,0.4s						
KUR	**Kuril'sk**	**5.04**	**230**	*e*P	Pn	14 53 04.4	+5.8
KUR				AMB	AMB	14 53 08.1	
	comp=E,300nm,0.8s						
KUR				*e*S	**Sn**	**14 54 04.1**	**+7.9**
KUR				A	A	14 54 11.5	
	comp=E,500nm,0.5s						
KUR				A	A	14 54 11.5	
	comp=E,400nm,0.5s						
PEA0B	**Petropavlovsk-**	**5.27**	**30**	Pn	Pn	14 52 56.0	-5.6
PEA0B	**Petropavlovsk-**	**5.27**	**30**	‖*e*PN	**Pn**	**14 53 03.9**	**+2.3**
PETK	**Petropavlovsk-**	**5.27**	**30**	Pn	Pn	14 52 54.0	-7.5
PETK	**Petropavlovsk-**	**5.27**	**30**	P	**Pn**	**14 53 04.0**	**+2.4**
	comp=E,7.5nm,0.8s,baz=189,slow=10,SNR=15						
PETK				S	**Sn**	**14 54 03.0**	**+1.4**
	comp=E,25nm,1.2s,baz=180,slow=5.6,SNR=1.8						
PET	**Petropavlovsk**	**5.55**	**36**	*e*P	**Pn**	**14 53 06.6**	**+1.4**
PET				AMB	AMB	14 53 10.5	
	comp=E,10.0nm,0.8s						
PET				*e*S	**Sn**	**14 54 07.0**	**-1.2**
PET				A	A	14 54 10.0	
	comp=E,730nm,0.3s						
PET				A	A	14 54 10.0	
	comp=E,140nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.91**	**231**	*e*PN	**Pn**	**14 53 26.4**	**+3.0**
YUK				*e*S	**Sn**	**14 54 41.7**	**+1.0**
YUK				pmax	pmax		
	comp=Z,25nm,0.2s						
YUK				pmax	pmax		
	comp=N,45nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.91**	**231**	*e*P	**Pn**	**14 53 26.6**	**+3.2**
YUK				AMB	AMB	14 53 27.3	
	comp=N,30nm,0.2s						
YUK				*e*S	**Sn**	**14 54 46.4**	**+5.7**
RUSJ	**Misakicho**	**7.18**	**234**	*e*PN	Pn	14 53 31.8	+4.8
TYV	**Tymovskoe**	**7.25**	**292**	*e*P	**Pn**	**14 53 30.6**	**+2.7**
YSS	**Yuzhno-Sakhali**	**7.30**	**261**	Pn	Pn	14 53 23.3	-5.3
YSS	**Yuzhno-Sakhali**	**7.30**	**261**	*e*PN	**Pn**	**14 53 28.8**	**+0.2**
YSS				*e*S	**Sn**	**14 54 48.7**	**-1.5**
YSS				smax	smax		
	comp=N,10.0nm,1.2s						
YSS	**Yuzhno-Sakhali**	**7.30**	**261**	*e*P	**Pn**	**14 53 31.1**	**+2.5**
YSS				AMB	AMB	14 53 36.1	
	comp=N,10.0nm,0.3s						
NEM2	**Nemuro 2**	**7.45**	**228**	*e*P	**Pn**	**14 53 30.2**	**-0.4**
NEM2				*e*S	**Sn**	**14 54 49.3**	**-4.5**
NMR	**Nemuro--Hokkai**	**7.45**	**228**	*e*PN	**Pn**	**14 53 30.2**	**-0.4**
JTKR	**Abashiri--Toko**	**8.00**	**238**	*e*P	**Pn**	**14 53 41.5**	**+3.5**
JAK	**Akkeshi**	**8.24**	**230**	*e*P	**Pn**	**14 53 40.9**	**-0.3**
JAK				S	**Sn**	**14 55 09.3**	**-3.5**
JAR	**Ashorobuto**	**8.52**	**235**	*e*P	**Pn**	**14 53 46.6**	**+1.7**
JAR				S	**Sn**	**14 55 21.0**	**+1.5**
JKA	**Kamikawa-asahi**	**8.67**	**243**	*e*P	**Pn**	**14 53 50.4**	**+3.5**
ASAJ	**Asahikawa**	**8.67**	**243**	P	**Pn**	**14 53 50.4**	**+3.5**
	comp=N,6.9nm,0.7s,baz=86,slow=12,SNR=8.5						
JKK2	**Kamakawa 2**	**8.72**	**241**	*e*P	**Pn**	**14 53 51.6**	**+3.9**
JOB	**Onbets**	**8.75**	**233**	*e*P	**Pn**	**14 53 49.0**	**+1.0**
JOB				*e*S	**Sn**	**14 55 22.4**	**-2.7**
JCH	**Churui**	**9.20**	**233**	*e*P	**Pn**	**14 53 54.8**	**+0.8**
JCH				*e*S	**Sn**	**14 55 30.3**	**-5.7**
ERM	**Erimo**	**9.73**	**231**	Pn	**Pn**	**14 53 57.1**	**-3.9**
ERM	**Erimo**	**9.73**	**231**	PN	**Pn**	**14 53 57.1**	**-3.9**
JNBK	**Urakawa-nobuka**	**9.76**	**233**	*e*P	**Pn**	**14 54 01.4**	**+0.1**
JNBK				S	**Sn**	**14 55 42.8**	**-6.6**
MA2	**Magadan**	**11.06**	**353**	P	**Pn**	**14 54 19.0**	**+0.6**
	comp=N,0.7nm,0.2s,baz=171,slow=13,SNR=4.0						
MA2	**Magadan**	**11.06**	**353**	‖*e*PN	**Pn**	**14 54 20.6**	**+2.2**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MA2	**Magadan**	**11.06**	**353**	*e*P	**Pn**	**14 54 20.6**	**+2.2**
JANG	**Nango**	**11.78**	**230**	S	Sn	14 56 27.2	-11
TEY	**Ternei**	**11.99**	**259**	*e*P	**Pn**	**14 54 33.0**	**+2.4**
TEY				AMB	AMB	14 54 34.7	
EKMR	**Ekimchan**	**13.59**	**297**	*e*P	**Pn**	**14 54 51.5**	**+0.3**
EKMR				AMB	AMB	14 54 59.4	
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**14.18**	**281**	P	**P**	**14 55 00.9**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=75,slow=10,SNR=16						
KLR	**Kul'dur**	**14.18**	**281**	‖*i*P	**P**	**14 55 03.2**	**+1.7**
KLR				pmax	pmax		
	comp=Z,12nm,1.3s						
KLR	**Kul'dur**	**14.18**	**281**	*e*P	**P**	**14 55 01.4**	**-0.1**
SEY	**Seymchan**	**14.34**	**358**	P	**Pn**	**14 55 01.3**	**+0.8**
	comp=Z,2.7nm,0.4s,baz=167,slow=9.9,SNR=34						
SEY	**Seymchan**	**14.34**	**358**	‖*e*P	**Pn**	**14 55 01.3**	**+0.8**
SEY				pmax	pmax		
	comp=Z,18nm,3.9s						
USRK	**Ussuriysk Ar.**	**15.34**	**261**	P	**P**	**14 55 15.2**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=60,slow=12,SNR=2.9						
MJAR	**Matsushiro Arr**	**16.38**	**228**	P	**P**	**14 55 27.2**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=33,slow=12,SNR=1.7						
HEH	**HeiHe**	**16.89**	**285**	*e*P	**Pn**	**14 55 33.1**	**+1.1**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZEA	**Zeya**	**17.06**	**297**	*e*P	**Pn**	**14 55 36.8**	**+2.8**
ZEA	**Zeya**	**17.06**	**297**	*e*P	**Pn**	**14 55 33.8**	**-0.2**
YAK	**Yakutsk**	**18.83**	**324**	P	**P**	**14 55 51.0**	**-1.6**
YAK	**Yakutsk**	**18.83**	**324**	P	**P**	**14 55 52.3**	**-0.3**
	comp=Z,19nm,0.3s,baz=112,slow=4.0,SNR=12						
YAK	**Yakutsk**	**18.83**	**324**	*e*P	**Pn**	**14 55 55.8**	**+1.0**
YAK				pmax	pmax		
	comp=Z,26nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK	**Yakutsk**	**18.83**	**324**	*e*P	**Pn**	**14 55 54.6**	**-0.2**
BILL	**Bilibino**	**20.53**	**14**	P	**P**	**14 56 10.4**	**-0.4**
BILL	**Bilibino**	**20.53**	**14**	‖*e*P	**P**	**14 56 10.6**	**-0.2**
BILL				pmax	pmax		
	comp=Z,18nm,3.3s						
BILL	**Bilibino**	**20.53**	**14**	*e*P	**P**	**14 56 10.6**	**-0.2**
KSRS	**Korea Array**	**21.55**	**248**	P	**P**	**14 56 24.0**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=50,slow=10.0,SNR=9.1						
	comp=Z,1.7nm,0.7s						
TIXI	**Tiksi**	**25.70**	**342**	P	**P**	**14 56 59.4**	**-1.0**
TIXI	**Tiksi**	**25.70**	**342**	‖*i*P	**P**	**14 56 59.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,13nm,3.0s						
TIXI	**Tiksi**	**25.70**	**342**	*i* P	**P**	**14 56 59.3**	**-1.1**
F17K	**Baldwin Pennin**	**29.28**	**36**	P	**P**	**14 57 32.4**	**+0.2**
F17K				IAmb	IAmb	14 58 12.5	
	comp=Z,9.0nm,1.3s						
M16K	**Timber Creek**	**29.44**	**47**	P	**P**	**14 57 34.4**	**+0.6**
M16K				IAmb	IAmb	14 57 58.0	
	comp=Z,13nm,1.3s						
C18K	**Utukok River**	**29.94**	**32**	P	**P**	**14 57 38.2**	**0.0**
C18K				IAmb	IAmb	14 57 58.3	
	comp=Z,6.8nm,1.4s						
H18K	**Honhosa River**	**30.17**	**39**	P	**P**	**14 57 40.6**	**+0.4**
H18K				IAmb	IAmb	14 57 47.8	
	comp=Z,5.5nm,1.4s						
G18K	**Tagagawik**	**30.18**	**37**	P	**P**	**14 57 40.6**	**+0.3**
G18K				IAmb	IAmb	14 58 23.4	
	comp=Z,6.6nm,1.4s						
M17K	**Holitna River**	**30.20**	**46**	P	**P**	**14 57 41.1**	**+0.6**
ULN	**Ulaanbaatar**	**30.45**	**286**	‖*e*P	**P**	**14 57 43.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	**Ulaanbaatar**	**30.45**	**286**	*e*P	**P**	**14 57 43.5**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**30.85**	**154**	T	T	15 30 07.6	
	baz=342,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**30.86**	**154**	T	T	15 30 03.4	
	baz=342,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**30.87**	**154**	T	T	15 30 12.0	
	baz=342,slow=76,SNR=8.9						
SONM	**Songino Array**	**30.87**	**287**	P	**P**	**14 57 45.7**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=81,slow=11,SNR=5.8						
	comp=Z,0.9nm,0.8s						
TTA	**Tatalina**	**30.94**	**44**	P	**P**	**14 57 47.3**	**+0.2**
TTA	**Tatalina**	**30.94**	**44**	P	**P**	**14 57 47.3**	**+0.2**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
H19K	**Roundabout Mou**	**31.02**	**38**	P	**P**	**14 57 47.9**	**+0.3**
H19K				IAmb	IAmb	14 58 05.3	
	comp=Z,6.8nm,1.4s						
ACHA	**Angle Creek He**	**31.34**	**53**	P	**P**	**14 57 50.6**	**-0.1**
ACHA				IAmb	IAmb	14 58 20.9	
	comp=Z,6.5nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**31.96**	**155**	T	T	15 31 26.7	
	baz=344,slow=76,SNR=101						
H11S3	**WAKE ISLAND Hy**	**31.97**	**155**	T	T	15 31 23.1	
	baz=344,slow=76,SNR=112						
H11S2	**WAKE ISLAND Hy**	**31.98**	**155**	T	T	15 31 31.6	
	baz=344,slow=76,SNR=82						
B21K	**Ikpikpuk River**	**32.47**	**31**	P	**P**	**14 58 00.2**	**0.0**
B21K				IAmb	IAmb	14 58 03.4	
	comp=Z,6.3nm,0.8s						
CAST	**Castle Rocks**	**32.74**	**43**	P	**P**	**14 58 03.3**	**+0.5**
KDAK	**Kodiak Island**	**32.84**	**53**	P	**P**	**14 58 02.3**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=59,slow=0.5,SNR=12						
	comp=Z,2.1nm,0.8s						
STLK	**Strandline Lak**	**32.89**	**46**	P	**P**	**14 58 04.6**	**+0.5**
TOLK	**Toolik Lake Re**	**34.09**	**33**	P	**P**	**14 58 14.6**	**+0.2**
E24K	**Your Creek**	**34.44**	**34**	P	**P**	**14 58 17.6**	**+0.3**
WRH	**Wood River Hil**	**34.50**	**41**	P	**P**	**14 58 18.3**	**+0.4**
SML	**Sawmill**	**34.54**	**45**	P	**P**	**14 58 18.2**	**-0.2**
SML				IAmb	IAmb	14 58 18.8	
	comp=Z,6.0nm,0.6s						
COLA	**College**	**34.59**	**40**	‖*i*P	**P**	**14 58 18.9**	**+0.2**
COLA				pmax	pmax		
	comp=Z,14nm,2.7s						
IL31		**35.01**	**40**	P	**P**	**14 58 22.1**	**-0.1**
IL31				IAmb	IAmb	14 58 56.8	
	comp=Z,4.7nm,1.4s						
ILAR	**Eielson Array**	**35.01**	**40**	P	**P**	**14 58 22.1**	**-0.2**
ILAR	**Eielson Array**	**35.01**	**40**	P	**P**	**14 58 21.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=257,slow=5.9,SNR=21						
	comp=Z,0.5n

comp=Z,3.0nm,1.2s
AAK Ala-Archa 53.13 295⇓ *i*P P 15 00 47.0 +0.2
AAK pmax pmax
comp=Z,12nm,3.9s
AAK Ala-Archa 53.13 295 *e*P P 15 00 47.0 +0.2
ARTI Arti 53.82 317 P **P 15 00 50.7 -0.8**
ARTI Arti 53.82 317 *c i*P P 15 00 50.0 -1.5
ARTI *PP **pwP** 15 01 32.0 +4.0
ARTI 15 01 50.0
ARTI 15 02 49.8
ARTI S **S 15 08 11.6 -2.6**
ARTI SS **SS 15 11 54.1 -2.4**
ARTI pmax pmax
comp=Z,6.0nm,0.8s
LTY Liberty 54.61 56 P **P 15 00 57.1 -0.3**
LTY IAmb IAmb 15 01 40.7
comp=Z,5.4nm,1.3s
ARSB Arslanbob 54.81 295 P **P 15 00 59.4 +0.3**
ARSB Arslanbob 54.81 295 P **P 15 00 59.4 +0.3**
DBO Dodson Butte 55.60 62 P **P 15 01 05.3 +0.8**
DBO IAmb IAmb 15 01 44.7
comp=Z,8.1nm,1.4s
I05D Terrebonne, OR 55.96 60 P **P 15 01 07.9 +0.8**
I05D IAmb IAmb 15 01 19.6
comp=Z,5.5nm,1.0s
ARCES ARCESS Array B 56.12 340 P **P 15 01 06.3 -1.5**
comp=Z,4.0nm,1.1s,baz=36,slow=6.8,SNR=1.2
comp=Z,4.0nm,1.1s
KIRV Kirov 56.35 322⇓ *e*P P 15 01 08.7 -0.8
PINE Pine Mountain 56.52 60 P **P 15 01 12.5 +1.2**
PINE IAmb IAmb 15 01 13.1
comp=Z,3.7nm,0.8s
J05D Fort Rock, OR 56.66 61 P **P 15 01 13.2 +1.0**
J05D IAmb IAmb 15 01 24.2
comp=Z,5.8nm,1.3s
ABKAR Akbulak array 57.33 309 P **P 15 01 15.5 -1.0**
GAR Garm 57.85 294 P **P 15 01 20.1 -0.5**
PLID Pearl Lake 58.50 56 P **P 15 01 25.3 +0.2**
PLID IAmb IAmb 15 01 26.1
comp=Z,3.4nm,0.7s
CHGR Chuyangaron 58.77 294 P **P 15 01 26.6 -0.3**
CHGR Chuyangaron 58.77 294 P **P 15 01 26.6 -0.3**
CHGR pmax pmax
comp=Z,14nm,0.7s
SIMJ Simiganj 58.86 294 P **P 15 01 27.4 -0.2**
BPMT Black Pine Rid 59.04 54 P **P 15 01 28.8 0.0**
PNTR Pine Nut 60.26 64 P **P 15 01 37.8 +0.5**
BOZ Bozeman (W) 60.55 53 P **P 15 01 39.2 +0.2**
BOZ IAmb IAmb 15 01 40.3
comp=Z,2.2nm,0.8s
BOZ Bozeman (W) 60.55 53 P **P 15 01 39.2 +0.2**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
WAKR Walker 60.74 64 P **P 15 01 40.9 +0.5**
WAKR IAmb IAmb 15 01 52.0
comp=Z,6.0nm,1.4s
BELG Belogornoye 61.22 318⇑ *e*P P 15 01 42.2 -1.0
BELG pmax pmax
comp=Z,2.0nm,1.1s
NVAR Mina Array Bea 61.46 63 P **P 15 01 45.6 +0.2**
NVAR Mina Array Bea 61.46 63 P **P 15 01 44.9 -0.4**
comp=Z,1.6nm,0.6s,baz=301,slow=7.5,SNR=7.9
comp=Z,1.6nm,0.6s
FIA1 FINESS Array S 62.39 334 P **P 15 01 49.9 -1.0**
FINES FINESS Array B 62.39 334 P **P 15 01 49.8 -1.1**
comp=Z,2.4nm,0.4s,baz=32,slow=7.1,SNR=34
comp=Z,2.4nm,0.4s
R11B Troy Canyon, C 63.11 62 P **P 15 01 56.3 0.0**
PDAR Pinedale Array 63.54 55 P **P 15 01 59.7 +0.6**
PDAR Pinedale Array 63.54 55 P **P 15 01 57.9 -1.2**
comp=Z,0.9nm,0.8s,baz=341,slow=3.1,SNR=9.1
comp=Z,0.9nm,0.8s
HEL Helsinki 63.74 334 P **P 15 01 57.7 -2.1**
HEL pmax pmax
comp=Z,1.0nm,0.6s
OBN Obninsk 63.83 325 *e*P P 15 01 57.1 -3.3
OBN *e* 15 02 34.3
OBN *e*PP **pwP 15 02 41.0 +2.7**
OBN *e*SP sP 15 03 03.1 +12
OBN *e* 15 04 20.8
OBN pmax pmax
comp=Z,4.0nm,1.0s
NC303 NORSAR Array S 66.29 341 P **P 15 02 16.1 -0.1**
NC204 NORSAR Array S 66.37 341 P **P 15 02 16.4 -0.5**
NB201 NORSAR Array S 66.46 341 P **P 15 02 16.7 -0.7**
NB2 NORSAR Subarra 66.48 341 P **P 15 02 16.6 -1.0**
comp=Z,1.0nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 66.48 341 P **P 15 02 16.6 -1.0**
comp=Z,1.4nm,0.7s,baz=29,slow=6.6,SNR=6.2
comp=Z,1.4nm,0.7s
HFS Hagfors 66.74 339 P **P 15 02 18.4 -0.7**
comp=Z,2.1nm,0.4s,baz=63,slow=3.5,SNR=17
comp=Z,2.1nm,0.4s
KBZ Khabaz 69.65 314 P **P 15 02 37.1 -0.4**
comp=Z,1.2nm,0.7s,baz=65,slow=6.7,SNR=4.8
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 70.05 326 P **P 15 02 37.3 -2.6**
comp=Z,0.6nm,0.3s,baz=35,slow=6.2,SNR=7.5
comp=Z,0.6nm,0.3s
AKASG Malin Array Be 70.05 326 *c e*P P 15 02 37.7 -2.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
WB0 Warramunga Arr 70.16 199 P **P 15 02 40.6 -0.2**
WB0 IAmb IAmb 15 02 52.2
comp=Z,7.0nm,1.2s
WR0 Warramunga Arr 70.31 199 P **P 15 02 41.4 -0.3**
WR0 IAmb IAmb 15 03 11.1
comp=Z,4.8nm,1.2s
WRAB Tennant Creek 70.33 199 P **P 15 02 41.8 0.0**
WRAB IAmb IAmb 15 02 49.2
comp=Z,6.0nm,1.4s
WRAB Tennant Creek 70.33 199 P **P 15 02 41.8 0.0**
WRAB pmax pmax
comp=Z,6.0nm,1.4s
WB2 Warramunga Arr 70.34 199 P **P 15 02 41.7 -0.2**
WB2 IAmb IAmb 15 02 47.0
comp=Z,5.4nm,1.1s
WRA Warramunga Arr 70.34 199 P **P 15 02 40.4 -1.5**
comp=Z,0.7nm,0.5s,baz=17,slow=6.7,SNR=13
comp=Z,0.7nm,0.5s
WRA Warramunga Arr 70.34 199 *i*P P 15 02 41.7 -0.2
WRA pmax pmax
comp=Z,1.0nm,0.4s
FITZ Fitzroy Crossi 70.87 208 P **P 15 02 45.9 +0.8**
SCHQ Schefferville 71.52 23 P **P 15 02 48.0 -0.7**
comp=Z,1.4nm,0.9s,baz=291,slow=8.6,SNR=1.8
comp=Z,1.4nm,0.9s
KOLS Kolonicke sedl 74.02 329 *e*P P 15 03 03.4 -0.1
KOLS Kolonicke sedl 74.02 329 *e*P P 15 03 03.4 -0.1
AS31 Alice Springs 74.04 198 P **P 15 03 04.3 +0.5**
ASAR Alice Springs 74.04 198 P **P 15 03 03.9 +0.1**
ASAR Alice Springs 74.04 198 P **P 15 03 04.5 +0.7**
comp=Z,0.9nm,0.4s,baz=9.6,slow=5.4,SNR=47
comp=Z,0.9nm,0.4s
BUR08 Bucovina Ar. S 74.07 326 P **P 15 03 03.2 -0.7**
BURAR Bucovina Array 74.09 326 P **P 15 03 03.4 -0.6**
BURAR Bucovina Array 74.09 326 ⇓P **P 15 03 03.6 -0.5**
BURAR Bucovina Array 74.09 326 ⇓P **P 15 03 03.6 -0.5**
EKA Eskdalemuir Ar 74.54 346 P **P 15 03 06.1 -0.3**
comp=Z,1.6nm,0.4s,baz=19,slow=5.0,SNR=17
comp=Z,1.6nm,0.4s
EKB Eskdalemuir 74.54 346 P **P 15 03 06.3 -0.1**
ESK Eskdalemuir 74.56 346 P **P 15 03 06.4 -0.1**
ESK Eskdalemuir 74.56 346 P **P 15 03 06.4 -0.1**
ESK pmax pmax
comp=Z,51nm,1.5s
CLL Collm 74.80 335 *i*P P 15 03 06.6 -1.4
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 74.80 335 *i*P P 15 03 07.3 -0.7
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 74.83 332 ⇓P **P 15 03 08.2 -0.1**
MORC Moravsky Berou 74.83 332 ⇓P **P 15 03 08.2 -0.1**
VRI Vrincioaia 74.98 324 ⇑P **P 15 03 09.5 +0.4**
VRI Vrincioaia 74.98 324 ⇑P **P 15 03 09.5 +0.4**
TPGR Topolog 75.16 323 ⇑P **P 15 03 10.2 0.0**
CJR Cluj-Napoca 75.44 327 ⇑P P 15 03 19.1 +7.4
CJR Cluj-Napoca 75.44 327 ⇑P P 15 03 19.1 +7.3
HARR Harsova 75.49 323 ⇓P **P 15 03 11.7 -0.3**
HARR Harsova 75.49 323 ⇓P **P 15 03 11.7 -0.3**
VYHS Vyhne 75.54 331 *e*P P 15 03 12.4 +0.1
VYHS Vyhne 75.54 331 *e*P P 15 03 12.4 +0.1
MLR Muntele Rosu 75.60 325 P **P 15 03 12.8 0.0**
MLR Muntele Rosu 75.60 325 ⇑P **P 15 03 13.1 +0.3**
MLR Muntele Rosu 75.60 325 P **P 15 03 12.8 0.0**
MLR pmax pmax
comp=Z,3.0nm,0.9s
MARR Marisel-Cluj 75.64 327 ⇓P **P 15 03 12.6 -0.5**
DRGR 75.69 327 ⇑P **P 15 03 13.1 -0.2**
DRGR 75.69 327 ⇑P **P 15 03 13.1 -0.2**
VOIR 75.98 325 ⇓P **P 15 03 15.6 +0.7**
VOIR 75.98 325 ⇓P **P 15 03 15.6 +0.7**
MODS Modra-Piesok 76.15 332 *e*P P 15 03 17.7 +2.0
MODS Modra-Piesok 76.15 332 *e*P P 15 03 17.7 +2.0
ARR Arges 76.20 325 ⇓P **P 15 03 16.9 +0.8**
TX31 Lajitas Ar. Si 76.46 61 P **P 15 03 17.9 0.0**
TX31 IAmb IAmb 15 03 18.7
comp=Z,4.5nm,1.1s
TXAR Lajitas Array 76.46 61 P **P 15 03 17.8 -0.1**
comp=Z,0.9nm,0.5s,baz=298,slow=5.0,SNR=16
comp=Z,0.9nm,0.5s
KHC Kasperske Hory 76.60 334 *e*P P 15 03 18.6 +0.3
KHC Kasperske Hory 76.60 334⇓ *e*P P 15 03 18.7 +0.4
KHC pmax pmax
comp=Z,27nm,2.6s
GERES GERESS Array B 76.82 334 P **P 15 03 19.1 -0.5**
comp=Z,1.2nm,0.6s,baz=76,slow=5.7,SNR=3.6
comp=Z,1.2nm,0.6s
GZR Gura Zlata 76.86 327 ⇑P **P 15 03 19.1 -0.7**
CONA Conrad Observa 76.99 332 *e*P P 15 03 21.2 +0.6
comp=Z,1.7nm,0.6s
BZS Buzias 77.09 327 ⇓P **P 15 03 19.8 -1.2**
BZS Buzias 77.09 327 ⇓P **P 15 03 19.8 -1.2**
BRTR Keskin Array B 77.11 317 P **P 15 03 21.0 -0.4**
BRTR Keskin Array B 77.11 317 P **P 15 03 21.6 +0.2**
comp=Z,1.0nm,0.6s,baz=57,slow=4.6,SNR=7.2
comp=Z,1.0nm,0.6s
MOA Molln 77.54 333 *e*P P 15 03 24.0 +0.4
comp=Z,0.4nm,0.2s
MDVR Moldovita 77.78 327 ⇑P **P 15 03 24.0 -0.9**
LESA Schwarzleotal 78.40 334 *i*P P 15 03 28.7 +0.4
comp=Z,2.6nm,0.5s
KBA Koelnbreinsper 78.51 333 *e*P P 15 03 29.7 +0.6
comp=Z,4.7nm,0.6s
BOVS Bovan 78.77 326 ⇑P **P 15 03 29.5 -0.9**
WATA Walderalm 78.79 335 *i*P P 15 03 30.8 +0.2
comp=Z,2.4nm,0.4s
WTTA Wattenberg 78.84 334 *i*P P 15 03 31.3 +0.4
comp=Z,5.2nm,0.6s
RETA Reutte 78.89 335 *i*P P 15 03 31.0 0.0
comp=Z,0.7nm,0.4s
MOTA Moosalm 78.92 335 *i*P P 15 03 31.2 -0.1
comp=Z,2.5nm,0.5s
SQTA Sankt Quirin 79.00 335 *i*P P 15 03 32.1 +0.4
comp=Z,0.3nm,0.2s
PRED Cave del Predi 79.02 333 P **P 15 03 30.8 -0.9**
PRED IAmb IAmb 15 03 31.7
comp=Z,2.7nm,0.6s
DAVA Damuels 79.31 336 *i*P P 15 03 33.5 +0.1
comp=Z,0.6nm,0.3s
FETA Feichten 79.32 335 *i*P P 15 03 33.7 +0.2
comp=Z,0.7nm,0.4s
RDO Rodhopi 79.42 323 P **P 15 03 34.1 +0.2**
RDO IAmb IAmb 15 03 34.7
comp=Z,7.8nm,0.8s
ALN Alexandroupoli 79.42 322 P **P 15 03 33.7 -0.2**
ALN Alexandroupoli 79.42 322 P **P 15 03 33.7 -0.2**
ALN pmax pmax
comp=Z,20nm,1.4s
FUORN Ofenpass-Fuorn 79.82 335 P **P 15 03 36.5 +0.2**
FUORN IAmb IAmb 15 03 38.7
comp=Z,5.9nm,1.2s
TUE Stuetta 80.20 336 P **P 15 03 38.4 +0.1**
TUE IAmb IAmb 15 03 39.5
comp=Z,6.6nm,0.8s
PUK Puka 80.81 327 P **P 15 03 41.5 0.0**
PUK IAmb IAmb 15 03 49.3
comp=Z,11nm,1.4s
MMAI Mount Meron Ar 81.66 311 P **P 15 03 46.5 +0.3**
comp=Z,3.5nm,0.6s,baz=51,slow=6.6,SNR=5.3
comp=Z,3.5nm,0.6s
BNI Bardonecchia 82.23 337 P **P 15 03 49.5 +0.5**
BNI IAmb IAmb 15 03 50.6
comp=Z,7.3nm,1.1s
BNI Bardonecchia 82.23 337 P **P 15 03 49.5 +0.5**
BNI pmax pmax
comp=Z,7.0nm,1.1s
SGRT San Giovanni R 82.52 329 P **P 15 03 50.0 -0.5**
TIP Tinpagrande 84.46 328 P **P 15 04 00.3 0.0**
QSPA South Pole Qui 138.37 180 PKP **PKPdf 15 10 50.2 -0.6**
comp=Z,0.9nm,0.8s,baz=150,slow=1.1,SNR=6.7
PLCA Paso Flores 148.20 92 PKPbc **PKPdf 15 11 09.1 +0.2**
comp=Z,1.7nm,0.9s,baz=297,slow=6.8,SNR=4.1

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*IDC **03** 15:04:07.3±2.0,38°.86N×122°.81W,h0km,mbtmp3.0/6, ML3.3/6,Error ellipse: s-maj=26.3km s-min=11.7km az=45.0*
*NEIC **03** 15:04:07.7±1.4,38°.922N±0°.010×122°.63W±0°.03, h9km±8km,Error ellipse: s-maj=3.3km s-min=0.7km az=112.0*
*NCEDC **03** 15:04:08.2±2.7,38°.90N±0°.01×122°.68W±0°.05,h3km±6km, ML3.1/41,ML3.0/76(NEIC),Error ellipse: s-maj=5.6km s-min=1.9km az=87.0*

ISC 03 15:04:08.3±0.9,**38°.90N**±0°.02×**122°.68W**±0°.02,**h10**km±6km, **n123**,σ1§**17**/111,**Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTM	**Round Top Moun**	**0.04**	**14**		**Pg**	**15 04 10.3**	**-0.1**
GBGM	**Boggs Mountain**	**0.08**	**178**		**Pg**	**15 04 10.6**	**-0.2**
GDXM	**Geysers**	**0.12**	**224**		**Pg**	**15 04 10.9**	**-0.4**
GDXM					**Sg**	**15 04 13.0**	**-0.5**
GDXM	**Geysers**	**0.12**	**224**	IAML		15 04 13.2	
	comp=E,46μm,0.1s						
GDXM				IAML		15 04 13.3	
	comp=N,49μm,0.1s						
GGPM	**Geyser Peak**	**0.18**	**224**		**Pb**	**15 04 12.2**	**-1.7**
MNRC	**McLaughlin Min**	**0.19**	**96**		**Pg**	**15 04 12.4**	**0.0**
MNRC	**McLaughlin Min**	**0.19**	**96**	IAML		15 04 18.1	
	comp=N,9μm,0.8s						
MNRC				IAML		15 04 18.5	
	comp=E,11μm,0.4s						
GAXM	**Alexander Vall**	**0.19**	**197**		**Pg**	**15 04 12.2**	**-0.2**
NMTM	**Middletown**	**0.21**	**116**		**Pg**	**15 04 12.6**	**0.0**
GPMM	**Pine Mountain**	**0.21**	**256**		**Pb**	**15 04 12.9**	**-1.4**
NHSM	**Mount Saint He**	**0.25**	**167**		**Pb**	**15 04 13.6**	**-1.4**
HOPS	**Hopland Field**	**0.32**	**288**	Pg	**Pb**	**15 04 14.9**	**-1.2**
GHCM	**House Creek**	**0.50**	**234**		**Pb**	**15 04 18.5**	**-0.6**
OAKV	**Oakville Exper**	**0.51**	**155**		**Pb**	**15 04 18.4**	**-1.0**
GFC	**Funks Creek**	**0.53**	**35**		**Pn**	**15 04 20.6**	**-1.3**
GWRM	**Wonder Ranch**	**0.57**	**303**		**Pb**	**15 04 19.7**	**-0.7**
CVS	**Carmenet Viney**	**0.58**	**162**		**Pb**	**15 04 19.6**	**-0.9**
CVS	**Carmenet Viney**	**0.58**	**162**	IAML		15 04 30.2	
	comp=N,821nm,0.6s						
QRDG	**Quail Ridge Na**	**0.59**	**134**		**Pb**	**15 04 20.6**	**-0.1**
GCK	**Clark Valley**	**0.67**	**16**		**Pn**	**15 04 23.2**	**-0.7**
NADM	**Allendale**	**0.71**	**128**		**Pn**	**15 04 23.2**	**-1.1**
NGVM		**0.72**	**149**		**Pb**	**15 04 22.6**	**-0.2**
RUSS	**Russell Ranch**	**0.73**	**119**		**Pn**	**15 04 23.5**	**-1.2**
OSUM	**Sutter Buttes**	**0.75**	**60**		**Pb**	**15 04 22.6**	**-0.8**
DCMP	**DeCamp, Califo**	**0.76**	**319**		**Pb**	**15 04 23.4**	**-0.3**
MCCM	**Marconi Confer**	**0.77**	**192**		**Pn**	**15 04 23.6**	**-1.5**
MCCM	**Marconi Confer**	**0.77**	**192**	IAML		15 04 40.6	
	comp=N,565nm,1.1s						
MCCM				IAML		15 04 47.2	
	comp=E,532nm,1.0s						
NOLM	**Olema**	**0.86**	**186**		**Pb**	**15 04 24.5**	**-0.8**
GVV	**Valley View**	**0.88**	**0**		**Pn**	**15 04 25.9**	**-1.0**
PINL	**Point Pinole R**	**0.92**	**164**		**Pn**	**15 04 26.1**	**-1.2**
JEPS	**Jepson Natural**	**0.93**	**133**		**Pn**	**15 04 26.8**	**-0.5**
NPRM	**Point Reyes**	**0.94**	**196**		**Pn**	**15 04 26.6**	**-0.9**
OSTM	**Stimpson Lane**	**0.97**	**61**		**Pg**	**15 04 25.4**	**-1.5**
CPIM	**Pinole Ridge**	**0.98**	**158**		**Pb**	**15 04 26.6**	**-0.8**
CSPM	**San Pablo Ridg**	**0.98**	**163**		**Pb**	**15 04 26.7**	**-0.7**
CTAM	**Taylor**	**1.01**	**149**		**Pn**	**15 04 27.5**	**-1.1**
HMR	**Hamilton Ranch**	**1.01**	**137**		**Pn**	**15 04 28.1**	**-0.5**
GROM	**Round Mountain**	**1.02**	**1**		**Pn**	**15 04 28.6**	**-0.2**
KCPM	**Cahto Peak**	**1.05**	**319**		**Pn**	**15 04 29.4**	**+0.2**
KCPM				IAML		15 04 52.5	
	comp=N,423nm,0.6s						
PAM	**Palermo**	**1.06**	**58**		**Pb**	**15 04 26.6**	**-2.1**
KBNM	**Bluenose Ridge**	**1.07**	**338**		**Pn**	**15 04 29.4**	**-0.1**
VAK	**Adit at Lawren**	**1.07**	**161**		**Pn**	**15 04 29.5**	**+0.1**
BL67	**Building 67, L**	**1.07**	**162**		**Pn**	**15 04 29.5**	**0.0**
BRK	**Berkeley--Havi**	**1.07**	**162**		**Pn**	**15 04 28.5**	**-0.9**
CVPM	**Vollmer Peak**	**1.07**	**160**		**Pn**	**15 04 28.4**	**-1.1**
BKS	**Berkeley--Byer**	**1.08**	**161**		**Pb**	**15 04 27.9**	**-1.2**
OWYM	**Wyandotte**	**1.08**	**59**		**Pb**	**15 04 27.2**	**-1.9**
CYBM	**Yerba Buena Is**	**1.11**	**167**		**Pb**	**15 04 28.7**	**-0.9**
JPRM	**Presidio of Sa**	**1.11**	**171**		**Pn**	**15 04 29.8**	**-0.1**
SFRE	**Sierra Foothil**	**1.12**	**71**		**Pb**	**15 04 27.4**	**-2.3**
BDM	**Black Diamond**	**1.14**	**145**		**Pb**	**15 04 28.7**	**-1.4**
CRPB	**Russellman Par**	**1.16**	**148**		**Pg**	**15 04 29.7**	**-0.8**
CMCM	**Mills College**	**1.18**	**160**		**Pn**	**15 04 29.9**	**-1.0**
FARB	**Farallon Islan**	**1.22**	**192**		**Pn**	**15 04 29.7**	**-1.7**
FARB	**Farallon Islan**	**1.22**	**192**	IAML		15 04 56.2	
	comp=E,223nm,1.1s						
JSBM	**San Bruno Moun**	**1.24**	**169**		**Pn**	**15 04 30.6**	**-1.0**
O02D	**Mt. Diablo Mer**	**1.28**	**356**		**Pg**	**15 04 32.6**	**-0.3**
O02D	**Mt. Diablo Mer**	**1.28**	**356**	IAML		15 04 37.1	
	comp=N,143nm,0.8s						
O02D				IAML		15 04 38.9	
	comp=E,113nm,0.6s						
SAC	**San Andreas**	**1.33**	**171**		**Pn**	**15 04 31.7**	**-1.3**
AFDM	**Forest Hills D**	**1.34**	**87**		**Pn**	**15 04 31.0**	**-2.1**
CBSNC	**Byron Hot Spri**	**1.35**	**142**		**Pn**	**15 04 32.0**	**-1.2**
LTCM	**Tuscan Springs**	**1.38**	**18**		**Pn**	**15 04 32.1**	**-1.5**
JCHM	**Cahill Ridge**	**1.40**	**170**		**Pn**	**15 04 32.9**	**-1.0**
CBZL	**Buffer Zone**	**1.42**	**147**		**Pb**	**15 04 33.8**	**-1.2**
CVLM	**Vallecito**	**1.43**	**152**		**Pn**	**15 04 33.5**	**-0.9**
KMRM	**Mail Ridge**	**1.54**	**329**	Pg	**Pb**	**15 04 35.9**	**-1.1**
KMRM				IAML		15 05 11.3	
	comp=N,167nm,1.8s						
KMRM				IAML		15 05 23.1	
	comp=E,212nm,1.2s						
JSFB	**Stanford Teles**	**1.54**	**165**		**Pn**	**15 04 34.3**	**-1.5**
O03E	**Paynes Creek**	**1.55**	**26**		**Pn**	**15 04 34.7**	**-1.4**
O03E	**Paynes Creek**	**1.55**	**26**	IAML		15 04 59.8	
	comp=E,148nm,1.4s						
CSTL	**Corral Hollow**	**1.56**	**143**		**Pn**	**15 04 35.1**	**-1.1**
JFP	**Foothills Park**	**1.58**	**166**		**Pn**	**15 04 35.1**	**-1.3**
CALM	**Calaveras Res.**	**1.60**	**154**		**Pn**	**15 04 35.7**	**-1.0**
JSJM	**St Joseph**	**1.63**	**163**		**Pn**	**15 04 35.9**	**-1.2**
LDBM	**Digger Butte**	**1.68**	**24**		**Pn**	**15 04 36.6**	**-1.3**
MTOS	**Mt Oso, Westle**	**1.75**	**142**		**Pn**	**15 04 37.6**	**-1.2**
ARN	**Arnold Ranch**	**1.79**	**149**		**Pn**	**15 04 38.6**	**-0.8**
CCOB	**Coe Ranch Numb**	**1.82**	**154**		**Pn**	**15 04 39.3**	**-0.4**
LRDM	**Redding Peak**	**1.83**	**31**		**Pn**	**15 04 39.3**	**-0.6**
WEAV	**Weaverville**	**1.86**	**353**		**Pg**	**15 04 43.9**	**-0.1**
KMPM	**Mount Pierce**	**1.88**	**324**		**Pb**	**15 04 41.3**	**-1.5**
KMPM				IAML		15 05 02.4	
	comp=N,131nm,2.7s						
KMPM				IAML		15 05 11.9	
	comp=E,159nm,3.7s						
LSHM	**Sage Hen Hill**	**1.96**	**14**		**Pn**	**15 04 41.0**	**-0.6**
CMB	**Columbia Colle**	**2.00**	**115**		**Pn**	**15 04 41.8**	**-0.4**
CMB	**Columbia Colle**	**2.00**	**115**	IAML		15 05 12.2	
	comp=N,78nm,0.8s						
HLPM	**Lions Peak**	**2.03**	**156**		**Pn**	**15 04 41.5**	**-1.1**
BEKR	**Beckworth**	**2.04**	**61**		**Pn**	**15 04 43.2**	**+0.3**
GHS	**Gilroy Hot Spr**	**2.05**	**151**		**Pn**	**15 04 41.7**	**-1.2**
CDC	**Canada Road**	**2.10**	**153**		**Pn**	**15 04 42.8**	**-0.7**
KHMM	**Horse Mountain**	**2.13**	**338**	Pn	**Pn**	**15 04 44.5**	**+0.4**
KHMM				IAML		15 04 56.8	
	comp=E,91nm,2.0s						
KHMM				IAML		15 05 14.2	
	comp=N,73nm,2.9s						
HATC	**Hat Creek Radi**	**2.13**	**26**		**Pn**	**15 04 44.5**	**+0.4**
HATC	**Hat Creek Radi**	**2.13**	**26**	IAML		15 05 39.9	
	comp=N,106nm,3.0s						
HATC				IAML		15 05 49.5	
	comp=E,125nm,2.6s						
HPCM	**Pacheco Lake**	**2.15**	**148**		**Pn**	**15 04 43.2**	**-1.0**
SLD	**San Luis Dam**	**2.15**	**147**		**Pn**	**15 04 44.0**	**-0.4**
LBCM	**Butte Creek Ri**	**2.19**	**27**		**Pn**	**15 04 45.4**	**+0.4**
PEAR	**Peavine Mounta**	**2.23**	**71**		**Pn**	**15 04 46.1**	**+0.5**
MYLM	**Yosemite Lake**	**2.34**	**130**		**Pn**	**15 04 46.3**	**-0.5**
PNTR	**Pine Nut**	**2.41**	**84**		**Pn**	**15 04 48.3**	**+0.3**
BPCNC	**Pine Canyon**	**2.47**	**160**		**Pn**	**15 04 47.3**	**-1.3**
BJOM	**Mount Johnson**	**2.51**	**154**		**Pn**	**15 04 48.9**	**-0.3**
WAKR	**Walker**	**2.57**	**98**		**Pn**	**15 04 51.2**	**+1.0**
WAKR	**Walker**	**2.57**	**98**	IAML		15 05 30.0	
	comp=N,66nm,0.8s						
LEGD	**La Grand CA**	**2.61**	**129**		**Pn**	**15 04 50.5**	**-0.1**
BBGB	**Big Mountain B**	**2.66**	**150**		**Pn**	**15 04 51.2**	**-0.1**
PAHR	**Pah Rah Range**	**2.68**	**71**	Pn	**Pn**	**15 04 51.6**	**-0.2**
PAHR				IAML		15 05 49.4	
	comp=E,48nm,1.2s						
PAHR				IAML		15 05 51.1	
	comp=N,61nm,1.6s						
BPIM	**Pinnacles**	**2.69**	**153**		**Pn**	**15 04 50.0**	**-1.6**
BMSM	**Mercy Hot Spri**	**2.69**	**146**		**Pn**	**15 04 51.2**	**-0.5**
YBH	**Yreka Blue Hor**	**2.83**	**360**	Pn	**Pn**	**15 04 54.2**	**+0.5**
YBH	**Yreka Blue Hor**	**2.83**	**360**	Pn	**Pb**	**15 04 55.8**	**-3.2**
	comp=N,1.9nm,0.3s,baz=183,slow=10,SNR=27						
	comp=N,4.1nm,0.5s						
RYN	**Ryan**	**3.26**	**93**	IAML		15 05 57.4	
	comp=N,42nm,1.0s						
RYN				IAML		15 06 12.7	
	comp=E,41nm,0.9s						
L02F	**Cave Junction**	**3.29**	**348**	Pn	**Pn**	**15 05 00.3**	**+0.4**
L02F				IAML		15 05 32.8	
	comp=N,33nm,3.7s						
L02F				IAML		15 06 09.8	
	comp=E,39nm,3.8s						
L04D	**Klamath Falls**	**3.33**	**5**	Pn	**Pn**	**15 05 01.4**	**+0.8**
L04D				IAML		15 06 02.1	
	comp=E,45nm,3.1s						
L04D				IAML		15 06 57.7	
	comp=N,37nm,3.5s						
LHV	**Little Huntoon**	**3.34**	**100**		**Pn**	**15 05 01.0**	**+0.5**
NVAR	**Mina Array Bea**	**3.46**	**96**		**Pn**	**15 05 02.5**	**0.0**
NVAR	**Mina Array Bea**	**3.46**	**96**	Pn	**Pn**	**15 05 03.1**	**+0.6**
	comp=N,1.8nm,0.3s,baz=276,slow=16,SNR=14						
NVAR				Pg	**Pb**	**15 05 09.9**	**+0.1**
	comp=N,4.2nm,0.3s,baz=282,slow=16,SNR=46						
NVAR				Lg	Lg	15 05 57.4	
	comp=N,2.7nm,0.3s,baz=285,slow=35,SNR=4.1						
	comp=N,1.6nm,0.3s						
NV11	**Mina Array Sit**	**3.58**	**96**		**Pn**	**15 05 04.0**	**+0.1**
NV11				IAML		15 06 12.7	
	comp=E,29nm,1.9s						
NV11				IAML		15 06 16.7	
	comp=N,35nm,1.6s						
DSP	**Deep Springs**	**4.02**	**111**	IAML		15 06 39.1	
	comp=E,15nm,1.1s						
J05D	**Fort Rock, OR**	**4.52**	**14**		**Pn**	**15 05 16.7**	**-0.3**
ISA	**Isabella, Lake**	**4.66**	**133**	Pn	**Pn**	**15 05 18.0**	**-0.8**
ISA				IAML		15 06 30.8	
	comp=N,11nm,4.2s						
ISA				IAML		15 07 06.6	
	comp=E,14nm,4.3s						
WVOR	**Wild Horse Val**	**4.69**	**40**	IAML		15 06 57.1	
	comp=E,11nm,2.9s						
WVOR				IAML		15 08 18.6	
	comp=E,9.5nm,4.0s						
WCT	**Wildcat Mounta**	**5.23**	**112**	IAML		15 07 37.6	
	comp=N,10nm,2.0s						
WCT				IAML		15 07 42.3	
	comp=E,9.0nm,4.2s						
ELK	**Elko**	**6.02**	**70**	Pn	**Pn**	**15 05 41.3**	**+3.6**
	comp=E,0.2nm,0.3s,baz=259,slow=12,SNR=4.3						
ELK				Lg	Lg	15 07 13.0	
	comp=E,0.1nm,0.3s,baz=151,slow=18,SNR=1.2						
	comp=E,0.6nm,0.5s						
PFO	**Pinyon Flats O**	**7.29**	**134**	Pn	**Pn**	**15 05 56.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=181,slow=15,SNR=1.9						
P

ULHL Ulahol 0.67 277 ⇓P Pg 15 18 36.5 0.0
16nm,0.1s,SNR=31
ULHL ⇑S **Sb 15 18 46.9 -0.5**
92nm,0.2s
ULHL Ulahol 0.67 277 ⇓*iP* **Pg 15 18 36.0 -0.5**
ULHL ⇓*iS* **Sg 15 18 45.8 +0.6**
ANVS Anan'yevo 0.73 33 ⇑*iP* **Pg 15 18 37.2 -0.4**
ANVS ⇑*iS* **Sg 15 18 47.4 +0.3**
TNSS Tian-Shan 0.88 351 P Pb 15 18 40.7 -0.7
70nm,0.1s
TNSS S **Sb 15 18 53.8 +0.2**
39nm,0.1s
TNSS Tian-Shan 0.88 351 *eP* **Pb 15 18 40.7 -0.7**
70nm,0.1s
TNSS *eS* **Sb 15 18 53.8 +0.2**
39nm,0.1s
BOOM Boomskoye usch 0.94 290⇑*eP* **Pg 15 18 41.0 -0.7**
BOOM ⇑*iS* **Sg 15 18 54.3 +0.4**
PRZ Przheval'sk 0.99 71⇓*eP* **Pg 15 18 41.2 -1.4**
PRZ ⇓*eS* **Sg 15 18 54.5 -0.9**
AAA Alma-Ata 1.05 351 P **Pn 15 18 44.4 -0.5**
463nm,0.1s
AAA S **Sn 15 18 60.0 +0.1**
38nm,0.2s
AAA Alma-Ata 1.05 351 *eP* **Pn 15 18 44.4 -0.5**
463nm,0.1s
AAA *eS* **Sn 15 19 00.0 +0.1**
38nm,0.2s
KNDC Almaty 1.05 353 ⇓P **Pn 15 18 44.2 -0.7**
53nm,0.3s
KNDC ⇑S **Sn 15 19 00.5 +0.5**
25nm,0.3s
KOTS Kotyrbulak 1.06 359 P **Pb 15 18 44.1 -0.4**
124nm,0.2s
KOTS S **Sn 15 18 59.8 -0.5**
138nm,0.2s
KOTS Kotyrbulak 1.06 359 *eP* **Pb 15 18 44.1 -0.4**
124nm,0.2s
KOTS *eS* **Sn 15 18 59.8 -0.5**
138nm,0.2s
MTBS Maitube 1.09 332 P **Pb 15 18 44.7 -0.3**
54nm,0.1s
MTBS S **Sn 15 19 00.6 -0.4**
169nm,0.2s
MTBS Maitube 1.09 332 *eP* **Pb 15 18 44.7 -0.3**
54nm,0.1s
MTBS *eS* **Sn 15 19 00.6 -0.4**
154nm,0.1s
KST Kastek 1.23 316 P **Pn 15 18 47.2 -0.2**
18nm,0.2s
KST S **Sn 15 19 05.0 +0.6**
85nm,0.3s
KST Kastek 1.23 316 *eP* **Pn 15 18 47.2 -0.2**
18nm,0.2s
KST *eS* **Sn 15 19 05.0 +0.6**
134nm,0.2s
SATY Saty 1.29 46 P **Pn 15 18 46.6 -1.7**
22nm,0.2s
SATY S **Sb 15 19 03.9 -1.3**
234nm,0.1s
TKM2 Tokmak 2 1.36 304 ⇓P **Pb 15 18 49.4 -0.2**
7.7nm,0.1s,SNR=73
TKM2 ⇓S **Sn 15 19 09.0 +1.2**
222nm,0.1s
TKM2 Tokmak 2 1.36 304⇑*iP* **Pn 15 18 48.5 -0.8**
TKM2 ⇑*iS* **Sg 15 19 07.3 -0.1**
ZHN Zhinishke 1.38 43 P **Pn 15 18 48.2 -1.4**
11nm,0.1s
ZHN S **Sb 15 19 06.9 -1.0**
242nm,0.2s
ZHN Zhinishke 1.38 43 *eP* **Pn 15 18 48.2 -1.4**
9.3nm,0.1s
ZHN *eS* **Sb 15 19 06.9 -1.0**
242nm,0.2s
DGS Degeres 1.47 317 P **Pb 15 18 51.3 -0.1**
7.5nm,0.1s
DGS S **Sg 15 19 11.9 +1.1**
90nm,0.2s
KURS Kuram 1.52 30 P **Pn 15 18 51.1 -0.3**
8.2nm,0.2s
KURS S **Sg 15 19 11.8 -0.7**
42nm,0.4s
KURS Kuram 1.52 30 *eP* **Pg 15 18 55.4 +2.6**
19nm,0.1s
KURS *eS* **Sg 15 19 18.8 +6.3**
218nm,0.2s
KTBS Karatobe 1.57 348 P **Pb 15 18 53.1 -0.1**
28nm,0.2s
KTBS S **Sg 15 19 15.2 +0.9**
202nm,0.3s
CHKK Chushkaly 1.69 356 P **Pg 15 18 55.3 -0.6**
19nm,0.1s
CHKK S **Sg 15 19 18.8 +1.0**
218nm,0.2s
CHKK Chushkaly 1.69 356 *eP* **Pg 15 18 55.4 -0.6**
19nm,0.1s
CHKK *eS* **Sg 15 19 18.8 +1.0**
218nm,0.2s
KBK Karagaybulak 1.69 287 ⇓P **Pb 15 18 55.1 -0.1**
7.0nm,0.1s,SNR=17
KBK ⇑S **Sg 15 19 19.5 +1.5**
62nm,0.2s
KBK Karagaybulak 1.69 287⇑*iP* **Pn 15 18 54.1 +0.3**
KBK ⇑*iS* **Sb 15 19 17.1 +0.3**
UZB Uzynbulak 1.70 54 P **Pn 15 18 53.3 -0.7**
9.2nm,0.3s
UZB S **Sn 15 19 15.2 -0.9**
93nm,0.3s
UZB Uzynbulak 1.70 54 *eP* **Pn 15 18 53.3 -0.7**
9.1nm,0.1s
UZB *eS* **Sn 15 19 15.2 -0.9**
114nm,0.2s
KPKS Kokpek 1.72 41 P **Pn 15 18 54.5 +0.2**
27nm,0.1s
KPKS S **Sb 15 19 17.0 -0.6**
113nm,0.3s
KPKS Kokpek 1.72 41 *eP* **Pn 15 18 51.3 -2.9**
7.5nm,0.1s
KPKS *eS* **Sn 15 19 11.9 -4.7**
73nm,0.1s
KPKS Kokpek 1.72 41 *eP* **Pn 15 18 54.5 +0.2**
27nm,0.1s
KPKS *eS* **Sb 15 19 17.1 -0.6**
113nm,0.3s
KRBS Karabastau 1.86 325 Pg **Pb 15 18 58.5 +0.4**
15nm,0.3s
KRBS Lg Lg 15 19 24.3
106nm,0.3s
CHMS Chumysh 1.94 296 ⇑P **Pb 15 18 59.0 -0.5**
3.9nm,0.2s,SNR=5.7
CHMS ⇑S **Sg 15 19 26.2 +0.1**
32nm,0.2s
CHMS Chumysh 1.94 296 ⇓*iP* **Pn 15 18 57.8 +0.6**
CHMS ⇓*iS* **Sb 15 19 23.4 -0.6**
FRU1 Bishkek 1.96 290 ⇓*iP* **Pb 15 18 58.4 -1.3**
FRU1 ⇓*iS* **Sb 15 19 24.1 -0.3**
SHLS Shalkode 1.98 59 Pg **Pg 15 19 02.9 +1.4**
9.4nm,0.2s
SHLS Lg Lg 15 19 32.1
46nm,0.4s
SHLS Shalkode 1.98 59 *eP* **Pg 15 19 02.9 +1.4**
10.0nm,0.1s
SHLS *eS* **Sg 15 19 32.1 +4.9**
45nm,0.2s
AAK Ala-Archa 2.01 284 ⇑P **Pb 15 19 00.4 -0.3**
3.4nm,0.2s,SNR=10
AAK ⇑S **Sg 15 19 27.9 -0.3**
36nm,0.3s
AAK Ala-Archa 2.01 284 ⇑Pn **Pb 15 19 00.1 -0.5**
2.2nm,0.3s
AAK ⇑Sn **Sg 15 19 28.2 0.0**
22nm,0.4s
AAK Ala-Archa 2.01 284 ⇓*iP* **Pn 15 18 58.9 +0.7**
AAK ⇓*iS* **Sb 15 19 25.1 -0.9**
PDGK Podgornoye 2.08 56 ⇑Pn **Pn 15 18 59.3 +0.1**
2.5nm,0.5s
PDGK ⇑Sn **Sb 15 19 27.1 -1.0**
48nm,0.6s
ARXS Arharly 2.10 14 Pg **Pb 15 19 01.5 -0.7**
16nm,0.2s
ARXS Lg Lg 15 19 29.3
98nm,0.4s
ARLS Aral 2.12 263 ⇓*iP* **Pn 15 19 00.0 +0.3**
ARLS ⇓*iS* **Sn 15 19 27.3 +0.9**
BLB Baldybastay 2.16 27 Pg **Pb 15 19 02.2 -1.0**
19nm,0.2s
BLB Lg Lg 15 19 30.5
127nm,0.2s
USP Ospenovka 2.23 300 ⇑P **Pb 15 19 03.0 -1.3**
4.6nm,0.2s,SNR=5.9
USP ⇑S **Sg 15 19 33.8 -1.5**
29nm,0.2s
USP Ospenovka 2.23 300 ⇓*iP* **Pn 15 19 01.8 +0.7**
USP ⇓*iS* **Sb 15 19 30.4 -1.8**
EKS2 Erkin-Say 2.53 282 ⇑*iP* **Pn 15 19 05.9 +0.5**
EKS2 ⇑*iS* **Sn 15 19 37.6 +1.0**
AML Almayashu 2.56 270 ⇑*iP* **Pn 15 19 06.6 +0.6**
AML ⇑*iS* **Sn 15 19 38.4 +0.8**
KNOS Konyrlen 2.65 34 Pg **Pb 15 19 11.0 -0.5**
9.4nm,0.2s
KNOS Lg Lg 15 19 45.6
24nm,0.3s
SALK Salom-Alik 2.80 244 ⇓*iP* **Pn 15 19 09.5 +0.4**
SALK ⇓*iS* **Sn 15 19 43.2 -0.1**
DJR Jarkent 2.90 41 Pg **Pb 15 19 14.6 -1.2**
0.6nm,0.2s
DJR Lg Lg 15 19 51.8
18nm,0.4s
DJR Jarkent 2.90 41 *eP* **Pb 15 19 14.6 -1.2**
0.6nm,0.1s
DJR *eS* **Sb 15 19 51.8 +0.2**
17nm,0.3s
MRKS Merke 2.95 283 *eP* **Pg 15 19 18.6 -1.5**
1.4nm,0.1s
MRKS *eS* **Sg 15 19 58.5 +0.2**
28nm,0.1s
MNAS Manas 3.45 277 ⇑*iP* **Pn 15 19 18.8 +0.8**
MNAS ⇑*iS* **Sn 15 19 59.4 +0.2**
SFK Sufi-Kurgan 3.49 233 ⇓*eP* **Pn 15 19 18.9 +0.3**
SFK ⇓*iS* **Sn 15 19 59.7 -0.6**
KAPS Kapalarasan 3.50 27 Pg **Pb 15 19 26.0 0.0**
2.7nm,0.2s
KAPS Lg Lg 15 20 11.4
24nm,0.3s
BTLS Baital 3.64 323 Pg **Pg 15 19 30.8 -2.5**
2.0nm,0.2s
BTLS Lg Lg 15 20 17.9
9.3nm,0.2s
BTLS Baital 3.64 323 *eP* **Pg 15 19 30.8 -2.5**
2.2nm,0.1s
BTLS *eS* **Sg 15 20 19.5 -1.0**
9.3nm,0.2s
KK31 Karatay Array 4.97 283 ⇑Pg **Pg 15 20 02.7 +3.8**
0.1nm,0.2s,baz=92,slow=17,SNR=3.6
KK31 ⇓Lg Lg 15 20 59.4
2.4nm,0.5s,baz=96,slow=28,SNR=4.7
MK31 Makanchi Array 5.91 37 Pn **Pn 15 19 54.1 +2.5**
0.1nm,0.2s,baz=213,slow=15,SNR=18
MK31 ⇑Sn **Sn 15 21 07.2 +7.5**
0.4nm,0.5s,baz=220,slow=25,SNR=3.6
MK31 ⇓Lg Lg 15 21 27.1
0.5nm,0.5s,baz=214,slow=30,SNR=3.8
OTUK Ortayu 6.95 332 ⇑Lg Lg 15 22 00.6
2.4nm,0.6s

*IDC **03** 15:25:53.7±0.4, 18°.50N×101°.39W, h60km±3km, mb4.7/26, mbtmp4.9/28, MS4.2/58, Error ellipse: s-maj=15.5km s-min=8.9km az=58.0*
*NEIC **03** 15:25:53.6±2.4, 18°.45N±0°.03×101°.41W±0°.04, h49km±3km, mb5.1/571, Mww5.1/22, Md5.1/142(MEX), Error ellipse: s-maj=5.5km s-min=4.6km az=65.0*
*MOS **03** 15:25:53.3±1.1, 18°.55N×101°.34W, h66km, mb5.6/34, Error ellipse: s-maj=8.4km s-min=5.9km az=88.7*
*NEIC **03** 15:25:53.5, 18°.45N×101°.41W, h50km*
*NEIC **03** 15:25:53.5, 18°.25N×101°.00W, h50km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.75; $M_{\theta\theta}$=5.76; $M_{\phi\phi}$=-0.01; $M_{r\theta}$=1.09; $M_{\phi\theta}$=-0.36; $M_{\phi r}$=0.86; Fault plane solution: M_0=5.93000×10^{16} NP1: ϕ_s=282.31000°, δ=40.59000°, λ=-76.52000°. NP2:ϕ_s=84.79000°, δ=50.75000°, λ=-101.30000°. Principal axes: T 5.8772, Plg5.0000°, Azm183.0000°; N 0.1087, Plg9.0000°, Azm92.0000°; P -5.9860, Plg80.0000°, Azm303.0000°;*
*MEX **03** 15:25:54.9±1.0, 18°.35N×101°.44W, h71km±9km, MD5.1*
*RSNC **03** 15:25:55.4±1.9, 19°N±10°×10°1W±1°0, h66km±21km, M4.9, mB5.1, mb4.8, mBc6.1, Mw(mB)4.5*
*GCMT **03** 15:25:55.5±0.2, 18°.37N±0°.01×101°.42W±0°.01, h63km, MW5.1/113, Moment Tensor Solution. s103, c147; s113, c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.24±.12; $M_{\theta\theta}$5.97±.08; $M_{\phi\phi}$-0.73±.10; $M_{r\theta}$-0.63±.09; $M_{\theta\phi}$0.34±.09; $M_{\phi r}$-0.85±.08; Best double couple: M_0=5.72400×10^{16} NP1:ϕ_s=277.00000°, δ42.00000°, λ-75.00000°. NP2:ϕ_s78.00000°, δ49.00000°, λ-103.00000°. Principal axes: T 6.0270, Plg3.0000°, Azm177.0000°; N -0.6110, Plg10.0000°, Azm86.0000°; P -5.4220, Plg80.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 15:25:53.2±0.2, 18°.43N±0°.03×101°.44W±0°.03, h60km±1km, h60km:pP-P, n1158, σ1§32/993, mb5.1/352, MS4.3/58, 25C-33D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UON	**La Union**	**0.57**	**218**	*eP*	**Pn**	**15 26 05.4**	**-0.6**
UON				*i S*	**Sn**	**15 26 14.4**	**-0.8**
ZIIG	**Zihuatanejo**	**0.81**	**182**		**Pn**	**15 26 08.2**	**-0.6**
ZIIG					**Sn**	**15 26 20.0**	**-0.3**
ZIIG	**Zihuatanejo**	**0.81**	**182**⇑	*eP*	**Pn**	**15 26 08.2**	**-0.6**
ZIIG				*eS*	**Sn**	**15 26 20.0**	**-0.3**
PET2	**Petatlan**	**0.90**	**169**	*eP*	**Pn**	**15 26 09.2**	**-0.8**
PET2				*i S*	**Sn**	**15 26 22.0**	**-0.2**
ARIG	**Puente Sto Nin**	**1.05**	**98**		**Pn**	**15 26 12.2**	**+0.4**
ARIG					**Sn**	**15 26 24.1**	**-1.6**
ARIG	**Puente Sto Nin**	**1.05**	**98**⇓	*eP*	**Pn**	**15 26 12.2**	**+0.4**
ARIG				*eS*	**Sn**	**15 26 24.1**	**-1.6**
URUA	**Uruapan**	**1.16**	**329**		**Pn**	**15 26 11.6**	**-1.9**
URUA					**Sn**	**15 26 28.0**	**-0.5**
URUA	**Uruapan**	**1.16**	**329**	*eP*	**Pn**	**15 26 11.6**	**-1.9**
URUA				*eS*	**Sn**	**15 26 28.0**	**-0.5**
MOIG	**Morelia**	**1.27**	**11**	Pn	**Pn**	**15 26 15.8**	**+0.8**
MOIG	**Morelia**	**1.27**	**11**⇑	*eP*	**Pn**	**15 26 16.0**	**+1.0**
MOIG				*i S*	**Sn**	**15 26 33.1**	**+1.8**
TEJU	**Tejupilco**	**1.31**	**68**	*eP*	**Pn**	**15 26 16.0**	**+0.6**
TEJU				*eS*	**Sn**	**15 26 34.6**	**+2.5**
ATYC	**Atoyac**	**1.54**	**141**	*eP*	**Pn**	**15 26 18.1**	**-0.3**
ATYC				*i S*	**Sn**	**15 26 32.9**	**-4.6**
CAIG	**El Cayaco**	**1.77**	**141**		**Pn**	**15 26 21.1**	**-0.4**
CAIG					**Sn**	**15 26 38.8**	**-4.2**
CAIG	**El Cayaco**	**1.77**	**141**⇑	*eP*	**Pn**	**15 26 21.1**	**-0.4**
CAIG				*eS*	**Sn**	**15 26 38.8**	**-4.2**
MMIG	**Aquila**	**1.81**	**266**		**Pn**	**15 26 21.9**	**-0.2**
MMIG	**Aquila**	**1.81**	**266**	*eP*	**Pn**	**15 26 21.9**	**-0.2**
MMIG				*i S*	**Sn**	**15 26 44.0**	**0.0**
PLIG	**Platanillo**	**1.84**	**91**		**Pn**	**15 26 23.5**	**+0.9**
PLIG	**Platanillo**	**1.84**	**91**	*eP*	**Pn**	**15 26 23.5**	**+0.9**
MAVM	**Malinalco, Edo**	**1.92**	**74**		**Pn**	**15 26 24.1**	**+0.3**
MAVM	**Malinalco, Edo**	**1.92**	**74**	*eP*	**Pn**	**15 26 24.1**	**+0.3**
ACIG	**Acambay**	**2.14**	**43**		**Pn**	**15 26 28.0**	**+1.3**
ACIG	**Acambay**	**2.14**	**43**	*eP*	**Pn**	**15 26 28.0**	**+1.3**
ACP2	**Acapulco**	**2.14**	**136**		**Pn**	**15 26 26.1**	**-0.5**
ACP2					**Sn**	**15 26 51.5**	**-0.5**
ACP2	**Acapulco**	**2.14**	**136**	*eP*	**Pn**	**15 26 26.1**	**-0.5**
ACP2				*i S*	**Sn**	**15 26 51.5**	**-0.5**
VNTA	**La Mica**	**2.16**	**134**	*eP*	**Pn**	**15 26 25.7**	**-1.1**
VNTA				*eS*	Sn	15 26 42.5	-10
AOVM	**Tlapan**	**2.18**	**67**		**Pn**	**15 26 29.0**	**+1.6**
AOVM	**Tlapan**	**2.18**	**67**	*i P*	**Pn**	**15 26 29.0**	**+1.6**
DAIG	**Los Arroyos**	**2.21**	**129**		**Pn**	**15 26 27.2**	**-0.3**
DAIG	**Los Arroyos**	**2.21**	**129**⇑	*eP*	**Pn**	**15 26 27.2**	**-0.3**
CUJM	**Cuajimalpa**	**2.25**	**65**	*eP*	**Pn**	**15 26 29.8**	**+1.6**
YAIG	**Yautepec**	**2.29**	**79**		**Pn**	**15 26 30.0**	**+1.2**
YAIG	**Yautepec**	**2.29**	**79**⇑	*eP*	**Pn**	**15 26 30.0**	**+1.2**
EZ5V		**2.30**	**297**		**Pn**	**15 26 31.3**	**+2.4**
EZ5V		**2.30**	**297**	*eP*	**Pn**	**15 26 31.3**	**+2.4**
TLVM	**San Miguel Top**	**2.30**	**70**	*eP*	**Pn**	**15 26 33.2**	**+4.1**
MNGA	**Volcan de Coli**	**2.31**	**297**	*eP*	**Pn**	**15 26 31.4**	**+2.4**
IGIG	**Irapuato, Guan**	**2.32**	**3**		**Pn**	**15 26 30.2**	**+1.0**
IGIG	**Irapuato, Guan**	**2.32**	**3**⇑	*eP*	**Pn**	**15 26 30.2**	**+1.0**
INCO	**Volcan de Coli**	**2.32**	**298**	*eP*	**Pn**	**15 26 30.9**	**+1.6**
INCO				*eS*	**Sn**	**15 27 01.0**	**+4.0**
CNCY	**Coyoacan**	**2.32**	**67**	*eP*	**Pn**	**15 26 30.1**	**+0.8**
CUP5	**Mexico City**	**2.32**	**67**	*eP*	**Pn**	**15 26 30.8**	**+1.5**
UNM	**Universidad Na**	**2.33**	**67**		**Pn**	**15 26 30.3**	**+1.0**
UNM	**Universidad Na**	**2.33**	**67**	*eP*	**Pn**	**15 26 31.0**	**+1.7**
UNM	**Universidad Na**	**2.33**	**67**	P	**Pn**	**15 26 30.3**	**+1.0**
MHVM	**Bosque de Chap**	**2.33**	**65**	*eP*	**Pn**	**15 26 31.3**	**+1.9**
SOMAC	**Volcano de Col**	**2.34**	**298**	*eP*	**Pn**	**15 26 32.0**	**+2.4**
SOMAC				*eS*	**Sn**	**15 27 01.4**	**+4.0**
BJVM	**Benito Juarez**	**2.35**	**66**	*eP*	**Pn**	**15 26 29.3**	**-0.4**
XCVM	**Xochimilco**	**2.35**	**69**	*eP*	**Pn**	**15 26 31.2**	**+1.6**
COVM	**Coyoacan**	**2.35**	**67**	*eP*	**Pn**	**15 26 30.8**	**+1.1**
COVM				*eP*		15 26 32.1	
APVM	**Azcapotzalco**	**2.36**	**63**		**Pn**	**15 26 31.8**	**+1.9**
APVM	**Azcapotzalco**	**2.36**	**63**	*eP*	**Pn**	**15 26 31.8**	**+1.9**
COMA	**Comala**	**2.37**	**293**	*eP*	**Pn**	**15 26 31.8**	**+2.1**
COMA				*eS*	**Sn**	**15 27 00.5**	**+2.7**
SCT2	**Benito Juarez**	**2.38**	**66**	*eP*	**Pn**	**15 26 30.8**	**+0.8**
VRVM	**Mexico City**	**2.42**	**65**	*i P*	Pn	15 26 37.1	+6.5
MPVM	**San Francisco**	**2.43**	**71**	*eP*	**Pn**	**15 26 32.6**	**+1.9**
PBVM	**Pinon**	**2.45**	**65**		**Pn**	**15 26 32.6**	**+1.8**
PBVM	**Pinon**	**2.45**	**65**	*i P*	**Pn**	**15 26 32.6**	**+1.8**
JRQG	**Juriquilla Cam**	**2.45**	**22**	Pn	**Pn**	**15 26 32.2**	**+1.1**
JRQG	**Juriquilla Cam**	**2.45**	**22**⇑	*eP*	**Pn**	**15 26 32.2**	**+1.1**
CEGR	**Campo Tres**	**2.48**	**293**⇑	*eP*	**Pn**	**15 26 33.2**	**+1.8**
CEGR				*eS*	**Sn**	**15 27 03.9**	**+3.4**
CDAR	**Ciudad de Arme**	**2.49**	**282**⇑	*eP*	**Pn**	**15 26 31.9**	**+0.7**
CDAR				*eS*	**Sn**	**15 27 03.8**	**+3.3**
THVM	**De Xico**	**2.50**	**69**	*eP*	**Pn**	**15 26 33.5**	**+1.8**
TXVM	**Universitario**	**2.59**	**67**	*eP*	**Pn**	**15 26 34.3**	**+1.3**
PBXN	**Popocatepetl**	**2.70**	**77**	*eP*	**Pn**	**15 26 35.6**	**+0.9**
PBXN				*eP*		15 26 35.9	
PBPN	**Popocatepetl**	**2.74**	**77**	*eP*	**Pn**	**15 26 36.1**	**+0.9**
PBPN				*eP*		15 26 36.2	
PPIG	**Popocatepetl**	**2.74**	**76**		**Pn**	**15 26 36.8**	**+1.6**
PPM	**Popocatepetl**	**2.74**	**76**	*eP*	**Pn**	**15 26 36.8**	**+1.5**
TON2	**Tonala**	**2.77**	**323**	*eP*	**Pn**	**15 26 35.8**	**+0.5**
CRIG	**Cruz Grande**	**2.77**	**127**		**Pn**	**15 26 35.2**	**0.0**
CRIG	**Cruz Grande**	**2.77**	**127**⇑	*eP*	**Pn**	**15 26 35.2**	**0.0**
PBCV	**Popocatepetl**	**2.79**	**78**	*eP*	**Pn**	**15 26 36.6**	**+0.9**
HMTT	**Tlapaneco**	**2.81**	**102**		**Pn**	**15 26 36.9**	**+1.1**
HMTT					**Sn**	**15 27 08.6**	**0.0**
HMTT	**Tlapaneco**	**2.81**	**102**	*eP*	**Pn**	**15 26 36.9**	**+1.1**
HMTT				*eS*	**Sn**	**15 27 08.6**	**0.0**
TLIG	**Tlapa**	**2.87**	**107**	Pn	**Pn**	**15 26 38.0**	**+1.4**
TLIG	**Tlapa**	**2.87**	**107**⇑	*eP*	**Pn**	**15 26 38.1**	**+1.4**
GDLP	**Chapalita**	**2.93**	**320**	*eP*	**Pn**	**15 26 38.8**	**+1.2**
DEIG	**Demacu**	**2.94**	**50**⇑	*eP*	**Pn**	**15 26 38.8**	**+1.1**
DHIG	**Demacu**	**2.94**	**50**		**Pn**	**15 26 38.8**	**+1.1**
PHPU	**Puebla**	**3.16**	**78**		**Pn**	**15 26 40.8**	**0.0**
PHPU					**Sn**	**15 27 15.7**	**-1.7**
PHPU	**Puebla**	**3.16**	**78**	*eP*	**Pn**	**15 26 40.8**	**0.0**
PHPU				*eS*	**Sn**	**15 27 15.7**	**-1.7**
FTIG	**Fresnillo de T**	**3.19**	**99**		**Pn**	**15 26 42.5**	**+1.5**
FTIG	**Fresnillo de T**	**3.19**	**99**⇑	*eP*	**Pn**	**15 26 42.5**	**+1.5**
CIHU	**Emiliano Zapat**	**3.23**	**286**	*eP*	**Pn**	**15 26 41.9**	**+0.5**
CIHU				*eS*	**Sn**	**15 27 22.2**	**+3.5**
HLIG	**Huajuapan de L**	**3.51**	**99**		**Pn**	**15 26 47.1**	**+1.6**
HLIG					**Sn**	**15 27 24.5**	**-1.4**
HLIG	**Huajuapan de L**	**3.51**	**99**	*eP*	**Pn**	**15 26 47.1**	**+1.6**
HLIG				*eS*	**Sn**	**15 27 24.5**	**-1.4**
CJM	**Chamela**	**3.57**	**288**	*eP*	**Pn**	**15 26 47.2**	**+1.1**
CJM				*i S*	**Sn**	**15 27 28.1**	**+1.0**
AAIG	**Aguscalientes**	**3.63**	**346**		**Pn**	**15 26 48.8**	**+1.6**
AAIG	**Aguscalientes**	**3.63**	**346**	*eP*	**Pn**	**15 26 48.8**	**+1.6**
TXIG	**Tlaxiaco**	**3.69**	**108**		**Pn**	**15 26 49.9**	**+1.9**
TXIG					**Sn**	**15 27 32.2**	**+1.8**
TXIG	**Tlaxiaco**	**3.69**	**108**⇑	*eP*	**Pn**	**15 26 49.9**	**+1.9**
TXIG				*eS*	**Sn**	**15 27 32.2**	**+1.8**
RPIG	**Rio Verde**	**3.71**	**21**		**Pn**	**15 26 49.8**	**+1.7**
RPIG	**Rio Verde**	**3.71**	**21**	*eP*	**Pn**	**15 26 49.8**	**+1.7**
PNIG	**Pinotepa**	**3.76**	**122**		**Pn**	**15 26 49.0**	**+0.3**
PNIG	**Pinotepa**	**3.76**	**122**⇑	*eP*	**Pn**	**15 26 49.0**	**+0.3**
TPIG	**Tehuac#an**	**3.87**	**89**		**Pn**	**15 26 52.0**	**+1.6**
TPIG	**Tehuac#an**	**3.87**	**89**	*eP*	**Pn**	**15 26 52.0**	**+1.6**
ANIG	**Ahuacatlan**	**3.90**	**313**		**Pn**	**15 26 52.0**	**+1.2**
ANIG	**Ahuacatlan**	**3.90**	**313**	*eP*	**Pn**	**15 26 52.0**	**+1.2**
POHV	**Veracruz**	**4.00**	**80**		**Pn**	**15 26 55.4**	**+3.0**
POHV	**Veracruz**	**4.00**	**80**	*eP*	**Pn**	**15 26 55.4**	**+3.0**
YOIG	**Yosondua**	**4.03**	**112**		**Pn**	**15 26 53.9**	**+1.2**
YOIG					**Sn**	**15 27 36.9**	**-1.9**
YOIG	**Yosondua**	**4.03**	**112**⇑	*eP*	**Pn**	**15 26 53.9**	**+1.2**
YOIG				*eS*	**Sn**	**15 27 36.9**	**-1.9**
CXUV	**Coxquihui**	**4.03**	**64**	*eP*	**Pn**	**15 26 54.1**	**+1.6**
TOIG	**Toxpalan**	**4.17**	**94**		**Pn**	**15 26 56.1**	**+1.7**
TOIG	**Toxpalan**	**4.17**	**94**	*eP*	**Pn**	**15 26 56.1**	**+1.7**
PUVA	**Puert Vallarta**	**4.18**	**302**		**Pn**	**15 26 56.3**	**+1.9**
PUVA	**Puert Vallarta**	**4.18**	**302**	*eP*	**Pn**	**15 26 56.3**	**+1.9**
CTUV	**Llano Grande**	**4.20**	**43**	*eP*	**Pn**	**15 26 56.1**	**+1.4**
XALA	**Xalapa**	**4.43**	**75**	*eP*	**Pn**	**15 26 55.7**	**-2.4**
ZAIG	**Zacatecas**	**4.45**	**346**	Pn	**Pn**	**15 26 59.7**	**+1.3**
ZAIG	**Zacatecas**	**4.45**	**346**	*eP*	**Pn**	**15 26 60.0**	**+1.6**
JAUV	**Jalcomulco**	**4.49**	**77**	*eP*	**Pn**	**15 27 00.5**	**+1.7**
OXIG	**Oaxaca**	**4.69**	**106**		**Pn**	**15 27 03.8**	**+2.2**
OXIG					**Sn**	**15 27 53.8**	**-1.0**
VHO	**Vista Hermosa**	**4.69**	**106**	*eP*	**Pn**	**15 27 03.8**	**+2.2**
VHO				*eS*	**Sn**	**15 27 53.8**	**-1.0**
OXBJ	**Oaxaca**	**4.70**	**106**		**Pn**	**15 27 02.0**	**+0.3**
OXBJ					**Sn**	**15 27 53.8**	**-1.2**
OXBJ	**Oaxaca**	**4.70**	**106**	*eP*	**Pn**	**15 27 02.0**	**+0.3**
OXBJ				*eS*	**Sn**	**15 27 53.8**	**-1.2**
PEIG	**Puerto Escondi**	**4.76**	**120**		**Pn**	**15 27 03.1**	**+0.6**
PEIG	**Puerto Escondi**	**4.76**	**120**	*eP*	**Pn**	**15 27 03.1**	**+0.6**
LVIG	**Laguna Verde**	**4.92**	**74**	*eP*	**Pn**	**15 27 06.0**	**+1.3**
NEUV	**Arroyo Zacate**	**5.41**	**97**	*eP*	**Pn**	**15 27 12.6**	**+1.2**
PANG	**Puerto Angel**	**5.49**	**119**		**Pn**	**15 27 15.7**	**+3.3**
PANG					**Sn**	**15 28 12.9**	**-1.3**
PANG	**Puerto Angel**	**5.49**	**119**	*eP*	**Pn**	**15 27 15.7**	**+3.3**
PANG				*eS*	**Sn**	**15 28 12.9**	**-1.3**
HUIG	**Huatulco**	**5.74**	**117**		**Pn**	**15 27 16.9**	**+1.0**
HUIG					**Sn**	**15 28 16.8**	**-3.8**
HUIG	**Huatulco**	**5.74**	**117**	*eP*	**Pn**	**15 27 16.9**	**+1.0**
HUIG				*eS*	**Sn**	**15 28 16.8**	**-3.8**
PMUV	**Sontecomapan**	**6.00**	**88**	*eP*	**Pn**	**15 27 15.8**	**-3.7**
CMIG	**Matias Romero**	**6.39**	**101**		**Pn**	**15 27 26.3**	**+1.6**
CMIG					**Sn**	**15 28 38.9**	**+2.6**
CMIG	**Matias Romero**	**6.39**	**101**	P	**Pn**	**15 27 26.5**	**+1.8**
	98nm,0.4s,baz=278,slow=10,SNR=156						
CMIG				S	**Sn**	**15 28 34.2**	**-2.2**
	323nm,0.8s,baz=150,slow=19,SNR=5.6						
CMIG				LR	LR	15 30 10.7	
	comp=Z,3μm,21.5s,baz=287,slow=40						
CMIG	**Matias Romero**	**6.39**	**101**	*eP*	**Pn**	**15 27 26.3**	**+1.6**
CMIG				*eS*	**Sn**	**15 28 38.9**	**+2.6**
MAIG	**Mazatlaan**	**6.65**	**316**		**Pn**	**15 27 29.8**	**+1.5**
MAIG	**Mazatlaan**	**6.65**	**316**	*eP*	**Pn**	**15 27 29.8**	**+1.5**
TUIG	**Tuzandepetl**	**6.68**	**92**	*eP*	**Pn**	**15 27 28.9**	**+0.1**
LNIG	**Linares**	**6.70**	**16**	*eP*	**Pn**	**15 27 29.9**	**+0.9**
NILT	**Santiago Nilte**	**6.77**	**105**	*eP*	**Pn**	**15 27 31.9**	**+2.0**

TSIG Topolobambo 10.03 317 Pn 15 28 19.5 +5.0
TSIG Topolobambo 10.03 317 *e*P Pn 15 28 19.5 +5.0
833A Chaparral WMA, 10.03 10 P **Pn 15 28 16.2 +1.6**
baz=190,SNR=16
RTAL Retalhuleu 10.12 111 Pn 15 28 15.9 0.0
CSIG Choix 10.53 324 Pn 15 28 25.7 +4.3
CSIG Choix 10.53 324 *e*P Pn 15 28 25.7 +4.3
DRIO Del Rio 10.97 4 Pn **Pn 15 28 27.2 -0.2**
TXAR Lajitas Array 11.05 350 Pn 15 28 31.6 +3.1
TXAR Lajitas Array 11.05 350 P **Pn 15 28 31.9 +3.3**
53nm,1.0s,baz=166,slow=16,SNR=105
TXAR S **Sn 15 30 31.9 +1.3**
29nm,0.9s,baz=183,slow=26,SNR=1.5
TXAR LR LR 15 33 09.9
comp=Z,2µm,21.9s,baz=154,slow=40
TXAR Lajitas Array 11.05 350 P **Pn 15 28 31.6 +3.1**
TX31 Lajitas Ar. Si 11.05 350 Pn 15 28 31.8 +3.3
APG El Apazote 11.05 106 P **Pn 15 28 30.5 +1.7**
0.6nm,0.4s,baz=210,slow=14,SNR=13
APG S **Sn 15 30 29.3 -1.7**
2.7nm,0.9s,baz=60,slow=23,SNR=1.1
APG LR LR 15 33 24.2
comp=Z,26nm,20.6s,baz=270,slow=41
PETF Flores 11.14 96 Pn 15 28 32.4 +2.7
HNDO Hondo 11.23 10 Pn 15 28 33.6 +2.7
SAND Sanderson 11.49 357 Pn **Pn 15 28 37.9 +3.3**
ALPN Alpine 12.06 351 Pn **Pn 15 28 45.4 +3.0**
JCT Junction City 12.09 7 Pn **Pn 15 28 44.8 +2.0**
JCT Junction City 12.09 7 P **Pn 15 28 44.8 +2.0**
MTO3 Montecristo 12.26 107 Pn 15 28 46.1 +0.8
OZNA Ozona 12.45 1 Pn **Pn 15 28 50.9 +3.3**
TEIG Tepich 12.56 80 Pn **Pn 15 28 49.3 +0.2**
TEIG Tepich 12.56 80 P **Pn 15 28 50.1 +1.0**
baz=267,slow=24,SNR=1.8
TEIG S **Sn 15 31 04.2 -3.2**
baz=107,slow=19
HKT Hockley 12.56 23 Pn **Pn 15 28 48.1 -0.9**
HKT Hockley 12.56 23*c i*P **Pn 15 28 49.7 +0.7**
VHRN Van Horn 12.72 346 Pn **Pn 15 28 54.1 +2.6**
435B Jarrell 12.79 15 P **Pn 15 28 54.0 +1.7**
baz=196
MNHN Monahans 12.91 355 Pn 15 28 56.7 +2.7
BRDY Brady 12.99 9 Pn **Pn 15 28 56.5 +1.4**
CGIG 13.29 335 Pn 15 29 01.5 +2.3
CGIG 13.29 335 *e*P **Pn 15 29 01.5 +2.3**
HSIG 13.67 322 *e*P **Pn 15 29 02.2 -1.9**
ODSA Odessa 13.67 356 Pn 15 29 03.5 -0.8
NZIG Nacozari, Sono 13.99 330 P **P 15 29 13.2 -1.7**
NZIG Nacozari, Sono 13.99 330 *e*P **P 15 29 13.2 -1.7**
TREL Terrell 15.04 18 IAmb IAmb 15 29 30.0
comp=Z,176nm,1.2s
121A Cookes Peak, D 15.16 339 IAmb IAmb 15 29 32.0
comp=Z,112nm,1.4s
121A Cookes Peak, D 15.16 339 P **P 15 29 26.6 -1.2**
baz=156
DUN6 Lazy B Ranch 15.66 335 IAmb IAmb 15 29 37.4
comp=Z,214nm,1.3s
BOAB BOACO BROADBAN 16.32 109 IAmb IAmb 15 29 48.2
comp=Z,221nm,1.4s
Y22D IRIS PASSCAL I 16.34 344 P **P 15 29 40.9 +0.1**
baz=160
AMTX Amarillo 16.39 359 IAmb IAmb 15 29 45.8
comp=Z,74nm,0.6s
X34A Smith Ranch, M 16.43 11 Pn 15 29 38.7 -1.2
X34A IAmb IAmb 15 29 48.0
comp=Z,104nm,1.1s
Z41A Richland Creek 16.68 26 IAmb IAmb 15 29 52.0
comp=Z,125nm,1.1s
VBMS Vicksburg 16.90 34 IAmb IAmb 15 29 51.7
comp=Z,154nm,1.2s
ANMO Albuquerque 17.05 346 P **P 15 29 50.7 +1.9**
ANMO Albuquerque 17.05 346 P **P 15 29 49.0 +0.2**
comp=Z,3.1nm,0.6s,baz=321,slow=15,SNR=15
ANMO LR LR 15 36 55.6
comp=Z,3µm,19.7s,baz=341,slow=39
ANMO Albuquerque 17.05 346*ce*P **P 15 29 48.4 -0.4**
ANMO pmax pmax
comp=Z,31nm,1.3s
SOR Soroa 17.79 73 P **Pn 15 29 56.7 -0.1**
SOR Soroa 17.79 73 P **Pn 15 29 56.7 -0.1**
SOR pmax pmax
comp=Z,12nm,0.7s
JTS Las Juntas de 17.89 115 P **Pn 15 30 00.4 +2.3**
JTS Las Juntas de 17.89 115 P **Pn 15 30 00.6 +2.5**
comp=Z,12nm,0.8s,baz=300,slow=14,SNR=9.4
JTS Las Juntas de 17.89 115 P **Pn 15 30 00.4 +2.3**
JTS pmax pmax
comp=Z,18nm,0.9s
OK052 Battle Ridge R 17.98 12 IAmb IAmb 15 30 05.8
comp=Z,120nm,1.1s
QUOK Quay 18.17 12 IAmb IAmb 15 30 05.8
comp=Z,75nm,0.7s
VTX Valle De La Tr 18.30 318 P **Pn 15 30 04.5 +1.5**
KAN14 Manchester OK 18.71 9 IAmb IAmb 15 30 15.7
comp=Z,242nm,1.8s
T25A Trinidad 18.82 353 P **Pn 15 30 09.6 +0.2**
baz=171
T35A Sooner Cattle 18.93 12 IAmb IAmb 15 30 25.1
comp=Z,71nm,0.9s
WUAZ Wupatki 19.17 335 IAmb IAmb 15 30 20.5
comp=Z,99nm,1.1s
BLYC Blythe 19.23 325 P **Pn 15 30 13.4 -0.6**
YUH Yuha Desert 19.24 320 P **Pn 15 30 14.8 +0.7**
FCAR Ozark Folk Cen 19.25 24 IAmb IAmb 15 30 27.6
comp=Z,73nm,0.9s
CBX Cerro Bola 19.47 318 P **Pn 15 30 17.4 +0.4**
TJIG Tijuana 19.56 318 *e*P **Pn 15 30 19.4 +1.5**
MVCO Mesa Verde 19.71 343 P **P 15 30 18.3 +0.2**
MVCO IAmb IAmb 15 30 25.2
comp=Z,103nm,1.0s
LCAR Lake Charles 19.79 25 IAmb IAmb 15 30 34.3
comp=Z,141nm,1.5s
S22A 4UR Ranch, Cre 19.82 347 P **Pn 15 30 21.1 -0.2**
baz=164
PFO Pinyon Flats O 20.23 321 P Pn 15 30 25.5 -0.5
PFO Pinyon Flats O 20.23 321 P **P 15 30 24.4 +0.8**
comp=Z,24nm,1.1s,baz=128,slow=6.9,SNR=21
PFO LR LR 15 38 01.3
comp=Z,280nm,18.8s,baz=127,slow=36
comp=Z,24nm,1.1s
PFO Pinyon Flats O 20.23 321*d i*P Pn 15 30 25.9 -0.1
PFO pmax pmax
comp=Z,54nm,0.9s
PLAL Pickwick Lake 20.32 33 IAmb IAmb 15 30 41.2
comp=Z,81nm,1.1s
MGMO Mountain Grove 20.32 22 IAmb IAmb 15 30 41.1
comp=Z,44nm,0.8s
PBMO Poplar Bluff 20.70 26 IAmb IAmb 15 30 48.7
comp=Z,61nm,1.0s
Q24A Divide 20.72 352 P Pn 15 30 30.6 -1.3
baz=170
DWPF Disney Wildern 20.73 59 P **P 15 30 29.1 +0.2**
PV11 David Mesa, Pa 20.84 343 IAmb IAmb 15 30 36.8
comp=Z,52nm,0.7s
ELS Elsinore Mount 20.84 320 P Pn 15 30 31.8 -1.3
PV10 Paradox Valley 20.95 343 IAmb IAmb 15 30 35.7
comp=Z,101nm,1.1s
PV23 Carpenter Ridg 21.02 343 IAmb IAmb 15 30 51.3
comp=Z,64nm,0.8s
KSU1 Kansas State U 21.03 11 IAmb IAmb 15 30 54.4
comp=Z,69nm,0.8s
HMU Henry Mountain 21.07 339 IAmb IAmb 15 30 38.4
comp=Z,129nm,0.9s
PKCU Pink Cliffs 21.21 335 IAmb IAmb 15 30 54.3
comp=Z,116nm,1.3s
WVT Waverly 21.34 32 P **P 15 30 33.6 -1.8**
WVT IAmb IAmb 15 30 55.8
comp=Z,129nm,1.5s
WVT Waverly 21.34 32 P **P 15 30 33.6 -1.8**
WVT pmax pmax
comp=Z,129nm,1.5s
CCM Cathedral Cave 21.49 22 P **P 15 30 35.1 -1.8**
CCM IAmb IAmb 15 30 57.4
comp=Z,47nm,0.8s
CCM Cathedral Cave 21.49 22 P **P 15 30 35.1 -1.8**
CCM pmax pmax
comp=Z,47nm,0.9s
V48A Smith Brothers 21.56 34 IAmb IAmb 15 31 01.1
comp=Z,119nm,1.3s
SWET Sewanee 21.66 36 IAmb IAmb 15 31 01.6
comp=Z,107nm,1.4s
MTPU Mount Pierson 21.68 337 IAmb IAmb 15 30 59.0
comp=Z,233nm,1.6s
FVM French Village 21.74 24 IAmb IAmb 15 31 02.8
comp=Z,60nm,0.7s
SNCC San Nicolas Is 21.92 316 IAmb IAmb 15 30 45.4
comp=Z,146nm,0.9s
GOGA Godfrey 21.95 44 IAmb IAmb 15 31 04.6
comp=Z,34nm,0.7s
SIUC Southern Illin 22.00 27 IAmb IAmb 15 31 02.6
comp=Z,58nm,0.8s
SRU San Rafael Swe 22.07 341 IAmb IAmb 15 31 05.7
comp=Z,73nm,1.2s
Q16A Castle Valley 22.10 339 IAmb IAmb 15 31 05.8
comp=Z,85nm,1.1s
BRIGG Briggsdale 22.22 354 IAmb IAmb 15 31 07.1
comp=Z,121nm,0.9s
CCAC Calif City Air 22.23 322 IAmb IAmb 15 30 53.3
comp=Z,40nm,0.6s
PRN Pahroc Range 22.36 330 IAmb IAmb 15 31 10.6
comp=Z,68nm,1.3s
SLM Saint Louis 22.38 24 IAmb IAmb 15 31 09.1
comp=Z,63nm,0.7s
O20A White River Ci 22.42 346 IAmb IAmb 15 31 10.2
comp=Z,127nm,1.5s
TMUT Trail Mountain 22.46 340 IAmb IAmb 15 31 09.6
comp=Z,73nm,1.2s
P18A Preston Nutter 22.46 342 IAmb IAmb 15 31 10.3
comp=Z,150nm,1.5s
TPNV Topopah Spring 22.58 328 IAmb IAmb 15 31 13.5
comp=Z,51nm,1.0s
MTDJ Mount Denham 22.70 87 *i*P **P 15 30 52.7 +2.6**
N23A Red Feather La 22.73 351 IAmb IAmb 15 31 13.3
comp=Z,131nm,1.0s
N23A Red Feather La 22.73 351 P **P 15 30 51.3 +0.9**
baz=168
ISA Isabella, Lake 22.85 322 IAmb IAmb 15 31 15.0
comp=Z,60nm,1.1s
S11A Rachel 22.88 330 IAmb IAmb 15 31 16.1
comp=Z,83nm,1.3s
N35A Tabor 22.91 11 IAmb IAmb 15 31 19.0
comp=Z,133nm,0.9s
BCW Bitter Crk WRg 22.93 319 IAmb IAmb 15 30 59.3
comp=Z,136nm,1.6s
TKL Tuckaleechee C 23.22 39 IAmb IAmb 15 31 19.4
comp=Z,40nm,0.7s
TKL Tuckaleechee C 23.22 39 LR LR 15 43 22.3
comp=Z,207nm,18.8s,baz=218,slow=45
MPU Maple Canyon 23.25 340 IAmb IAmb 15 31 18.1
comp=Z,125nm,1.5s
BG3 Lake Jocassee 23.30 41 IAmb IAmb 15 31 24.4
comp=Z,45nm,0.8s
OLIL Olney 23.33 27 IAmb IAmb 15 31 22.9
comp=Z,72nm,0.8s
STH Stony Hill 23.39 87 || *i*P **P 15 30 59.4 +2.3**
BSUT Blindstream Ca 23.45 342 IAmb IAmb 15 31 21.9
comp=Z,49nm,1.0s
CHIV Chivirico 23.68 82 IAmb IAmb 15 31 03.1
comp=Z,34nm,1.0s
WCI Wyandotte Cave 23.75 31 P **P 15 30 58.7 -1.4**
WCI IAmb IAmb 15 31 22.4
comp=Z,95nm,0.8s
WCI Wyandotte Cave 23.75 31 P **P 15 30 58.7 -1.4**
WCI pmax pmax
comp=Z,95nm,0.9s
V53A Saluda 23.81 40 IAmb IAmb 15 31 21.0
comp=Z,55nm,1.1s
PAULI Pauline 23.90 43 IAmb IAmb 15 31 04.1
comp=Z,37nm,0.7s
TZTN Tazewell 23.96 38 IAmb IAmb 15 31 31.1
comp=Z,43nm,0.8s
NHSC New Hope 24.02 48 IAmb IAmb 15 31 24.4
comp=Z,101nm,0.9s
TCUT Toone Canyon 24.18 341 IAmb IAmb 15 31 32.5
comp=Z,52nm,0.9s
BLO Bloomington 24.39 29 IAmb IAmb 15 31 27.6
comp=Z,66nm,0.8s
KMSC Kings Mountain 24.41 43 IAmb IAmb 15 31 31.9
comp=Z,45nm,0.7s
PMPB Monarch Peak 24.61 320 P **P 15 31 10.0 +1.9**
PMPB IAmb IAmb 15 31 32.6
comp=Z,66nm,1.0s
HWUT Hardware Ranch 24.67 342 IAmb IAmb 15 31 36.2
comp=Z,51nm,0.9s
NV11 Mina Array Sit 24.69 327 IAmb IAmb 15 31 33.1
comp=Z,80nm,1.1s
LHV Little Huntoon 24.73 326 IAmb IAmb 15 31 41.3
comp=Z,71nm,1.3s
NVAR Mina Array Bea 24.76 327 P **P 15 31 11.4 +1.9**
NVAR Mina Array Bea 24.76 327 P **P 15 31 11.1 +1.6**
comp=Z,21nm,0.6s,baz=154,slow=9.4,SNR=74
NVAR pP **pP 15 31 25.3 +0.9**
comp=Z,13nm,0.7s,baz=144,slow=10,SNR=6.2
NVAR sP **sP 15 31 32.3 +0.9**
comp=Z,79nm,1.1s,baz=144,slow=9.8,SNR=9.8
NVAR PcP **PcP 15 34 46.4 +1.4**
comp=Z,4.0nm,0.7s,baz=163,slow=3.4,SNR=4.8
NVAR pPcP 15 35 02.3
comp=Z,1.9nm,0.7s,baz=97,slow=2.7,SNR=4.0
NVAR LR LR 15 41 44.8
comp=Z,220nm,20.8s,baz=163,slow=39
comp=Z,21nm,0.6s
GTBY Guantanamo Bay 24.91 82 P **P 15 31 11.8 +1.0**
GTBY Guantanamo Bay 24.91 82 *i*P **P 15 31 13.2 +2.4**
V55A Taylorsville 24.92 42 IAmb IAmb 15 31 37.8
comp=Z,50nm,0.8s
U54A Nelsons Funny 24.97 40 IAmb IAmb 15 31 34.0
comp=Z,48nm,0.6s
BBGB Big Mountain B 25.00 320 IAmb IAmb 15 31 37.9
comp=Z,68nm,1.1s
NMDO Nuevo Mundo 25.02 81 IAmb IAmb 15 31 14.1
comp=Z,41nm,1.0s
RYN Ryan 25.03 327 IAmb IAmb 15 31 35.6
comp=Z,49nm,1.2s
L40A Anamosa 25.12 18 IAmb IAmb 15 31 41.2
comp=Z,44nm,0.8s
SFIN Lafayette 25.13 26 IAmb IAmb 15 31 39.0
comp=Z,56nm,0.8s
ELK Elko 25.21 335 LR LR 15 41 44.6
comp=Z,1µm,21.9s,baz=158,slow=38
PD31 Pinedale Array 25.22 346 IAmb IAmb 15 31 37.4
comp=Z,150nm,1.2s
PDAR Pinedale Array 25.22 346 P **P 15 31 13.4 -0.3**
PDAR Pinedale Array 25.22 346 P **P 15 31 13.6 -0.1**
comp=Z,12nm,0.7s,baz=149,slow=8.1,SNR=55
PDAR pP **pP 15 31 29.6 +1.1**
comp=Z,29nm,0.8s,baz=146,slow=11,SNR=14
PDAR PcP **PcP 15 34 46.2 +0.2**
comp=Z,6.0nm,0.9s,baz=152,slow=4.3,SNR=4.3
PDAR pPcP 15 35 02.6
comp=Z,5.4nm,0.7s,baz=139,slow=5.0,SNR=5.3
PDAR LR LR 15 42 17.2
comp=Z,770nm,19.4s,baz=167,slow=39
PDAR PKiKP **PKiKP 15 42 26.1 -0.8**
comp=Z,0.8nm,0.7s,baz=98,slow=4.5,SNR=6.9
comp=Z,12nm,0.7s
W57A Gilead 25.29 45 IAmb IAmb 15 31 41.6
comp=Z,45nm,0.8s
WAKR Walker 25.42 326 IAmb IAmb 15 31 38.7
comp=Z,114nm,1.9s
P49A Miami Univ. Ec 25.54 31 IAmb IAmb 15 31 38.0
comp=Z,58nm,0.9s
ECSD EROS Data Cent 25.56 8 IAmb IAmb 15 31 56.2
comp=Z,55nm,0.9s
L42A Oliver, Polo 25.56 21 IAmb IAmb 15 31 38.0
comp=Z,60nm,0.8s
AHID Auburn Hatcher 25.61 343 IAmb IAmb 15 31 39.8
comp=Z,80nm,1.4s
S54A Dingess, Beckl 26.12 38 IAmb IAmb 15 31 48.3
comp=Z,41nm,0.8s
SNOW Snow King Moun 26.17 345 IAmb IAmb 15 31 47.2
comp=Z,76nm,0.9s
JFWS Jewell Farm 26.19 19 IAmb IAmb 15 31 46.3
comp=Z,61nm,0.8s
TPAW Teton Pass 26.25 344 IAmb IAmb 15 31 50.7
comp=Z,90nm,1.1s
LOHW Long Hollow 26.27 345 IAmb IAmb 15 31 48.2
comp=Z,81nm,1.3s
BLA Blacksburg 26.28 40 IAmb IAmb 15 31 50.4
comp=Z,58nm,0.8s
L44A Lake County Fo 26.33 23 P **P 15 31 24.1 +0.7**
baz=210
I37A Lemond, Waseca 26.39 13 IAmb IAmb 15 31 43.9
comp=Z,63nm,0.8s
FXWY Fox Creek 26.40 344 IAmb IAmb 15 31 52.5
comp=Z,59nm,1.2s
MOOW Moose Ponds 26.44 345 IAmb IAmb 15 31 52.8
comp=Z,38nm,1.1s
N49A Columbus Grove 26.87 30 IAmb IAmb 15 32 11.3
comp=Z,75nm,0.9s
ACSO Alum Creek Sta 26.93 32 IAmb IAmb 15 32 12.9
comp=Z,46nm,0.9s
P52A Corning 26.94 34 IAmb IAmb 15 32 10.6
comp=Z,63nm,1.1s
I40A Norwalk 26.98 17 IAmb IAmb 15 32 12.6
comp=Z,26nm,0.7s
Q54A Coxs Mills 27.20 37 IAmb IAmb 15 32 15.0
comp=Z,57nm,1.2s
P53A Whipple 27.24 35 IAmb IAmb 15 31 56.8
comp=Z,42nm,0.8s
YMR Madison River 27.35 345 IAmb IAmb 15 31 57.6
comp=Z,100nm,1.7s
O52A Adamsville 27.44 34 IAmb IAmb 15 31 58.9
comp=Z,52nm,0.7s
YNE Yellowstone No 27.45 347 IAmb IAmb 15 32 15.1
comp=Z,42nm,1.2s
S57A Dark Hollow, R 27.53 41 IAmb IAmb 15 32 20.1
comp=Z,32nm,1.0s
YHL Hebgen Lake 27.58 345 IAmb IAmb 15 32 06.7
comp=Z,46nm,1.4s
F33A 5 Mile Ranch, 27.67 8 IAmb IAmb 15 32 15.4
comp=Z,50nm,1.4s
SPMN Marine on St. 27.68 13 IAmb IAmb 15 32 19.2
comp=Z,31nm,0.9s
O53A New Philadelph 27.87 34 IAmb IAmb 15 32 29.9
comp=Z,89nm,1.3s
E28A Huff 28.08 1 IAmb IAmb 15 31 54.9
comp=Z,35nm,0.6s
Q56A Snyder Ridge, 28.20 39 IAmb IAmb 15 32 05.9
comp=Z,31nm,0.9s
O54A Avella 28.28 36 IAmb IAmb 15 32 43.2
comp=Z,35nm,1.0s
DLMT Dillon 28.42 343 IAmb IAmb 15 32 05.9
comp=Z,142nm,1.5s
SDDR Presa de Saban 28.55 84 IAmb IAmb 15 31 46.5
comp=Z,88nm,0.9s
SDDR Presa de Saban 28.55 84 *i*P **P 15 31 44.4 +0.7**
J08A Circle Bar Ran 28.72 334 IAmb IAmb 15 32 08.3
comp=Z,74nm,1.5s
M52A Chesterland 28.73 32 IAmb IAmb 15 32 10.3
comp=Z,39nm,0.7s
OTAV Otavalo 28.93 126 P **P 15 31 48.8 +1.4**
OTAV Otavalo 28.93 126 P **P 15 31 48.8 +1.4**
OTAV pmax pmax
comp=Z,10.0nm,0.9s
OTAV Otavalo 28.93 126 *e*P **P 15 31 47.1 -0.4**
KMRM Mail Ridge 28.98 323 IAmb IAmb 15 31 50.2
comp=Z,52nm,1.2s
K50A Casco 29.05 29 IAmb IAmb 15 32 09.7
comp=Z,43nm,0.8s
P57A Homestead Farm 29.18 39 IAmb IAmb 15 32 14.3
comp=Z,31nm,1.1s
E38A The Farm, Brul 29.26 14 IAmb IAmb 15 32 09.4
comp=Z,21nm,0.7s
COWI Conover 29.42 18 IAmb IAmb 15 32 44.8
comp=Z,99nm,1.9s
ALLY Alegheny Colle 29.44 34 IAmb IAmb 15 32 55.6
comp=Z,64nm,1.3s
YBH Yreka Blue Hor 29.48 327 LR LR 15 44 15.3
comp=Z,200nm,19.6s,baz=150,slow=37
L04D Klamath Falls 29.62 328 IAmb IAmb 15 31 54.5
comp=Z,57nm,1.6s
ROSC El Rosal 29.73 114 P **P 15 31 56.3 +1.7**
comp=Z,5.8nm,0.5s,baz=240,slow=20,SNR=7.4
ROSC LR LR 15 46 09.8
comp=Z,244nm,18.1s,baz=279,slow=41
comp=Z,5.8nm,0.5s
ERPA Erie 29.85 33 IAmb IAmb 15 32 22.8
comp=Z,28nm,0.8s
SSPA Standing Stone 29.99 37 P **P 15 31 54.5 -1.6**
SSPA IAmb IAmb 15 33 03.3
comp=Z,50nm,1.4s
MSO Missoula 30.14 343 IAmb IAmb 15 32 19.6
comp=Z,36nm,1.3s
AGMN Agassiz Nation 30.14 7 IAmb IAmb 15 32 17.9
comp=Z,36nm,0.8s
J04A Umpqua Nationa 30.28 329 IAmb IAmb 15 32 22.1
comp=Z,34nm,0.9s
F10A Beach Ranch, E 30.43 338 IAmb IAmb 15 32 03.3
comp=Z,32nm,0.9s
EYMN Ely 30.54 13 IAmb IAmb 15 32 20.6
comp=Z,24nm,0.9s
WVNY West Valley, N 30.78 34 IAmb IAmb 15 32 58.6
comp=Z,42nm,1.1s
M57A Sunshine Farm, 30.88 37 IAmb IAmb 15 33 13.8
comp=Z,24nm,0.9s
WUPA West Chester U 30.92 41 P **P 15 32 03.2 -1.1**
J01E Myrtle Point 31.13 327 IAmb IAmb 15 32 33.4
comp=Z,41nm,0.8s
I03D Drain, OR 31.22 329 IAmb IAmb 15 32 10.8
comp=Z,28nm,1.0s
SDV Santo Domingo 31.36 103 P **P 15 32 09.2 +0.6**
SDV IAmb IAmb 15 32 36.8
comp=Z,22nm,0.8s
SDV Santo Domingo 31.36 103 LR LR 15 45 53.8
comp=Z,395nm,21.0s,baz=280,slow=38
SDV Santo Domingo 31.36 103 *e*P **P 15 32 09.8 +1.1**
H04A Detroit Lake 31.41 331 IAmb IAmb 15 32 10.6
comp=Z,31nm,1.1s
HOOD Mount Hood Mea 31.66 332 IAmb IAmb 15 32 34.1
comp=Z,47nm,1.1s
ULM Lac du Bonnet 32.06 7 P **P 15 32 12.5 -1.7**
comp=Z,14nm,0.7s,baz=192,slow=9.8,SNR=25
ULM PcP **PcP 15 35 02.4 -0.1**
comp=Z,23nm,0.9s,baz=179,slow=4.2,SNR=5.4
ULM pPcP 15 35 18.3
comp=Z,8.2nm,0.8s,baz=227,slow=4.0,SNR=3.1
ULM LR LR 15 46 19.3
comp=Z,762nm,18.2s,baz=190,slow=38
comp=Z,14nm,0.7s
BINY Binghamton 32.09 37 IAmb IAmb 15 32 39.8
comp=Z,29nm,0.9s
SADO Sadowa 32.20 30 IAmb IAmb 15 32 36.6
comp=Z,14nm,0.6s
NEW Newport 32.38 340 LR LR 15 46 42.2
comp=Z,672nm,19.1s,baz=163,slow=39
DELO Deloro Mine 32.77 32 IAmb IAmb 15 32 49.6
comp=Z,31nm,1.1s
J57A Williamstown 32.87 35 IAmb IAmb 15 32 48.0
comp=Z,17nm,0.8s
B08A Colville Reser 33.21 338 IAmb IAmb 15 32 46.5
comp=Z,44nm,1.4s
SJG San Juan 33.48 85 P **P 15 32 27.2 +0.2**
SJG San Juan 33.48 85 LR LR 15 47 24.3
comp=Z,130nm,20.3s,baz=244,slow=39
SJG San Juan 33.48 85 P **P 15 32 27.2 +0.2**
SJG pmax pmax
comp=Z,101nm,0.9s
SJG San Juan 33.48 85 P **P 15 32 27.1 +0.1**
SJG pP **pP 15 32 41.8 -0.2**
SJG sP **sP 15 32 48.4 -0.6**
BAUV El Baul 33.74 102 P **P 15 32 29.2 -0.1**
BAUV IAmb IAmb 15 32 30.9
comp=Z,51nm,1.2s
ATAH Atahualpa 34.09 136 LR LR 15 43 53.4
comp=Z,452nm,19.1s,baz=306,slow=32
L61B Northampton 34.19 39 P **P 15 32 32.3 -0.6**
baz=234
M65A Busby, Falmout 34.95 42 P **P 15 32 39.4 0.0**
baz=238
CLRS Cowichan Lake 35.45 334 IAmb IAmb 15 32 46.0
comp=Z,26nm,1.0s
TRQ Mont Tremblant 35.51 33 IAmb IAmb 15 33 12.0
comp=Z,20nm,0.9s
LLLB Lillooet 36.01 338 IAmb IAmb 15 33 28.7
comp=Z,26nm,1.2s
FFC Flin Flon 36.24 359 P **P 15 32 49.6 -0.7**
FFC IAmb IAmb 15 32 51.6
comp=Z,19nm,0.8s
FFC Flin Flon 36.24 359 P **P 15 32 49.6 -0.7**
FFC pmax pmax
comp=Z,19nm,0.8s
FFC Flin Flon 36.24 359 P **P 15 32 49.0 -1.3**
FFC pP **pP 15 33 03.9 -1.7**
FFC sP **sP 15 33 10.5 -2.3**
FFC PcP **PcP 15 35 15.0 +0.6**
PCRV Puerto La Cruz 36.54 98 LR LR 15 49 22.8
comp=Z,166nm,20.5s,slow=39
CZSB Cruzeiro do Su 38.46 130 P **P 15 33 11.2 +1.5**
CZSB IAmb IAmb 15 33 27.1
comp=Z,31nm,0.8s
CZSB Cruzeiro do Su 38.46 130 *e*P **P 15 33 11.9 +2.3**
LMQ La Malbaie 38.58 34 IAmb IAmb 15 34 00.2
comp=Z,28nm,1.1s
NNA Nana 38.76 139 LR LR 15 46 02.6
comp=Z,413nm,21.2s,baz=304,slow=31
D62A Allapoint, All 38.99 36 IAmb IAmb 15 33 37.8
comp=Z,46nm,1.3s
BBB Bella Bella 39.66 334 LR LR 15 49 58.0
comp=Z,276nm,20.6s,baz=176,slow=36
FCC Fort Churchill 40.64 6 P **P 15 33 25.9 -1.3**

FCC	Fort Churchill	40.64	6	P	P	15 33 25.9 -1.3
FCC				pmax	pmax	
	comp=Z,9.0nm,0.6s					
TEFE	Tefe	42.30	117	eP	P	15 33 41.9 +0.6
BOAV	Boa Vista	43.13	107	P	P	15 33 48.2 0.0
BOAV				IAmb	IAmb	15 34 04.3
	comp=Z,27nm,0.9s					
BOAV	Boa Vista	43.13	107	eP	P	15 33 48.6 +0.4
U35K	Hyder	43.20	337	P	P	15 33 49.3 +1.2
	baz=138					
V35K	Ketchikan	43.38	335	P	P	15 33 50.6 +1.1
	baz=136					
TOAD	Toad River Com	43.95	342	P	P	15 33 54.6 +0.5
	baz=146,SNR=16					
T35M	Bob Quinn	44.08	338	IAmb	IAmb	15 33 57.6
	comp=Z,21nm,0.7s					
T35M	Bob Quinn	44.08	338	P	P	15 33 56.3 +1.1
	baz=139,SNR=16					
CRAG	Craig	44.09	335	P	P	15 33 56.9 +1.7
CRAG				IAmb	IAmb	15 34 18.5
	comp=Z,60nm,1.2s					
CRAG	Craig	44.09	335	P	P	15 33 57.7 +2.5
CRAG	Craig	44.09	335	P	P	15 33 56.2 +1.0
	baz=134					
WRAK	Wrangell Islan	44.45	336	P	P	15 33 58.8 +0.7
	baz=136					
U33K	Whale Pass	44.54	335	P	P	15 33 59.4 +0.6
	baz=134					
ETMB	Extrema	44.68	126	P	P	15 34 00.5 0.0
ETMB				IAmb	IAmb	15 34 16.2
	comp=Z,24nm,0.8s					
ETMB	Extrema	44.68	126	eP	P	15 34 00.2 -0.3
KOTAN	Kotaneelee Air	44.71	344	P	P	15 34 00.7 +0.6
	baz=148,SNR=10					
SCHQ	Schefferville	44.90	28	P	P	15 34 00.3 -1.5
SCHQ				IAmb	IAmb	15 35 44.1
	comp=Z,110nm,1.8s					
SCHQ	Schefferville	44.90	28	P	P	15 34 00.7 -1.1
	comp=Z,7.3nm,0.6s,baz=230,slow=8.3,SNR=22					
SCHQ				PcP	PcP	15 35 42.6 +0.2
	comp=Z,18nm,0.8s,baz=250,slow=4.0,SNR=5.5					
SCHQ				pPcP		15 35 59.0
	comp=Z,15nm,0.8s,baz=243,slow=4.7,SNR=4.9					
SCHQ				LR	LR	15 54 38.8
	comp=Z,211nm,19.1s,baz=228,slow=38					
	comp=Z,7.3nm,0.6s					
YKA	Yellowknife Ar	44.97	351	P	P	15 34 00.9 -1.3
	comp=Z,9.7nm,0.8s,baz=165,slow=7.7,SNR=119					
YKA				PcP	PcP	15 35 42.8 +0.4
	comp=Z,7.1nm,0.8s,baz=165,slow=3.5,SNR=15					
YKA				pPcP		15 35 59.0
	comp=Z,3.5nm,0.8s,baz=162,slow=3.7,SNR=5.2					
YKA				PKiKP	PKiKP	15 42 39.7 -1.2
YKA				LR	LR	15 54 16.5
	comp=Z,1µm,18.9s,baz=146,slow=38					
	comp=Z,9.7nm,0.8s					
DLBC	Dease Lake	45.12	339	P	P	15 34 05.1 +1.6
DLBC				IAmb	IAmb	15 34 06.2
	comp=Z,21nm,0.8s					
DLBC	Dease Lake	45.12	339	LR	LR	15 54 53.7
	comp=Z,852nm,19.8s,baz=132,slow=39					
DLBC	Dease Lake	45.12	339	P	P	15 34 04.5 +1.0
	baz=140,SNR=21					
MACA	Manacapuru-AM	45.51	114	eP	P	15 34 07.5 +0.4
WTLY	Watson Lake, Y	46.04	341	IAmb	IAmb	15 35 48.8
	comp=Z,33nm,0.7s					
WTLY	Watson Lake, Y	46.04	341	P	P	15 34 11.4 +0.7
	baz=142,SNR=7.8					
S32K	Killisnoo	46.06	336	P	P	15 34 11.7 +0.9
	baz=134					
SIT	Sitka	46.07	335	P	P	15 34 12.2 +1.3
	baz=132					
R33M	Jennings River	46.16	340	IAmb	IAmb	15 34 14.2
	comp=Z,15nm,0.7s					
R33M	Jennings River	46.16	340	P	P	15 34 12.7 +0.9
	baz=139					
Q32M	Nakina River	46.28	338	P	P	15 34 13.5 +0.7
	baz=137					
R32K	Eaglecrest	46.60	337	P	P	15 34 16.5 +1.4
	baz=134					
S31K	Pelican	47.05	335	P	P	15 34 19.9 +1.4
	baz=132					
R31K	City Hall, Gus	47.16	336	P	P	15 34 20.8 +1.3
	baz=133					
P32M	Atlin	47.25	338	IAmb	IAmb	15 35 52.9
	comp=Z,16nm,1.0s					
P32M	Atlin	47.25	338	P	P	15 34 20.7 +0.5
	baz=136,SNR=7.3					
WRGLY	Wrigley	47.26	347	IAmb	IAmb	15 35 01.7
	comp=Z,18nm,0.7s					
WRGLY	Wrigley	47.26	347	P	P	15 34 20.6 +0.5
	baz=151,SNR=7.9					
P33M	Teslin, Yukon	47.40	339	IAmb	IAmb	15 35 53.4
	comp=Z,20nm,1.2s					
P33M	Teslin, Yukon	47.40	339	P	P	15 34 22.5 +1.1
	baz=138					
LPAZ	La Paz	47.59	134	IAmb	IAmb	15 34 40.9
	comp=Z,69nm,1.9s					
LPAZ	La Paz	47.59	134	P	P	15 34 24.6 +0.6
	comp=Z,5.7nm,0.8s,baz=328,slow=6.6,SNR=15					
LPAZ				PcP	PcP	15 35 53.9 +0.6
	comp=Z,4.8nm,0.8s,baz=308,slow=1.2,SNR=2.1					
LPAZ				LR	LR	15 52 46.1
	comp=Z,337nm,21.0s,baz=315,slow=34					
	comp=Z,5.7nm,0.8s					
LPAZ	La Paz	47.59	134	eP	P	15 34 23.7 -0.4
LPAZ	La Paz	47.59	134	P	P	15 34 24.7 +0.6
LPAZ				pP	pP	15 34 39.6 -0.4
LPAZ				PcP	PcP	15 35 53.7 +0.5
PLBC	Pleasant Camp	48.11	337	P	P	15 34 28.2 +1.4
	baz=133					
N32M	Quiet Lake	48.18	340	P	P	15 34 28.4 +0.9
	baz=138					
WHY	Whitehorse	48.43	339	P	P	15 34 30.5 +1.1
WHY	Whitehorse	48.43	339	P	P	15 34 29.8 +0.4
	baz=135,SNR=6.8					
P30M	Million Dollar	48.79	337	P	P	15 34 33.4 +1.3
	baz=133					
O30N	Mendenhall	48.92	338	IAmb	IAmb	15 34 56.3
	comp=Z,24nm,1.2s					
O30N	Mendenhall	48.92	338	P	P	15 34 33.8 +0.7
	baz=134,SNR=12					
FARO	Faro, Yukon	49.08	341	IAmb	IAmb	15 34 57.2
	comp=Z,19nm,1.2s					
FARO	Faro, Yukon	49.08	341	P	P	15 34 35.2 +0.9
	baz=138,SNR=13					
PB11	IPOC Station P	49.12	139	P	P	15 34 35.8 +0.5
N31M	Braeburn, Yuko	49.32	339	IAmb	IAmb	15 34 59.3
	comp=Z,41nm,1.1s					
N31M	Braeburn, Yuko	49.32	339	P	P	15 34 36.7 +0.6
	baz=135,SNR=14					
M31M	Drury Creek, Y	49.38	340	IAmb	IAmb	15 34 38.8
	comp=Z,15nm,0.8s					
M31M	Drury Creek, Y	49.38	340	P	P	15 34 37.4 +0.8
	baz=137,SNR=22					
MDP	Montagnes des	49.41	99	LR	LR	15 57 11.1
	comp=Z,120nm,19.9s,baz=308,slow=38					
HYT	Haines Junctio	49.47	338	IAmb	IAmb	15 35 01.1
	comp=Z,26nm,1.2s					
HYT	Haines Junctio	49.47	338	P	P	15 34 38.5 +1.2
	baz=132,SNR=8.0					
O29M	Mount Kennedy	49.51	337	IAmb	IAmb	15 34 40.3
	comp=Z,14nm,0.9s					
O29M	Mount Kennedy	49.51	337	P	P	15 34 38.4 +0.7
	baz=131					
PB08	IPOC Station P	49.72	139	IAmb	IAmb	15 34 57.5
	comp=Z,34nm,1.0s					
N30M	Aishikik Lake	49.75	338	P	P	15 34 40.9 +1.5
	baz=133					
YUK6	Outpost Mounta	49.86	337	P	P	15 34 41.5 +1.0
	baz=132,SNR=7.9					
PB01	IPOC Station P	50.19	140	IAmb	IAmb	15 34 59.9
	comp=Z,21nm,0.9s					
YUK4	Talbot Arm	50.23	338	P	P	15 34 44.5 +1.2
	baz=132,SNR=36					
ITTB	Itaituba	50.41	112	eP	P	15 34 45.0 -0.1
O28M	Mount Upton	50.42	337	P	P	15 34 45.7 +0.9
	baz=129					
M30M	Minto, Yukon	50.43	340	P	P	15 34 45.6 +1.1
	baz=134,SNR=11					
FRB	Frobisher Bay	50.51	18	LR	LR	15 56 03.5
	comp=Z,193nm,20.1s,baz=216,slow=36					
YUK8	Steele Glacier	50.59	337	P	P	15 34 46.9 +0.9
	baz=130,SNR=43					
KNHH	Kane Nui o Ham	50.66	280	P	P	15 34 48.9 +1.9
MAL2	Monte Alegre,	50.73	109	P	P	15 34 47.8 +0.3
MESA	MESA	50.74	335	P	P	15 34 48.3 +1.2
	baz=127					
BYL	Byron's Ledge	50.74	280	P	P	15 34 49.9 +2.2
PB03	IPOC Station P	50.79	141	P	P	15 34 48.9 +1.0
MAYO	Mayo, Yukon	50.87	341	IAmb	IAmb	15 35 12.0
	comp=Z,32nm,0.8s					
MAYO	Mayo, Yukon	50.87	341	P	P	15 34 49.1 +1.2
	baz=136					
M29M	Somme Creek	50.90	339	IAmb	IAmb	15 35 11.1
	comp=Z,19nm,0.8s					
M29M	Somme Creek	50.90	339	P	P	15 34 49.2 +1.0
	baz=132					
POHA	Pohakuloa	50.95	281	P	P	15 34 50.9 +1.6
POHA	Pohakuloa	50.95	281	P	P	15 34 51.9 +2.6
POHA	Pohakuloa	50.95	281	P	P	15 34 51.2 +1.9
POHA				pP	pP	15 35 06.2 +1.0
POHA				sP	sP	15 35 13.0 +0.9
L29M	L29M	51.25	340	IAmb	IAmb	15 34 53.1
	comp=Z,32nm,0.8s					
L29M	L29M	51.25	340	P	P	15 34 51.7 +1.0
	baz=133					
VILB	Vilhena	51.25	125	eP	P	15 34 51.1 -0.2
K29M	Barlow Dome	51.56	341	IAmb	IAmb	15 35 24.3
	comp=Z,19nm,0.8s					
K29M	Barlow Dome	51.56	341	P	P	15 34 53.5 +0.4
	baz=134					
KAIM	Kayak Island	51.59	334	P	P	15 34 54.1 +0.9
	baz=124					
J30M	Hart River	51.72	342	IAmb	IAmb	15 36 08.2
	comp=Z,10nm,0.8s					
J30M	Hart River	51.72	342	P	P	15 34 54.7 +0.4
	baz=136					
NPGB	Novo Progresso	52.03	115	eP	P	15 34 56.4 -0.8
M27K	Edge Creek, AK	52.05	337	IAmb	IAmb	15 35 20.1
	comp=Z,13nm,1.1s					
M27K	Edge Creek, AK	52.05	337	P	P	15 34 57.6 +0.8
	baz=128,SNR=8.9					
H31M	Peel River	52.07	344	IAmb	IAmb	15 36 09.8
	comp=Z,33nm,0.9s					
H31M	Peel River	52.07	344	P	P	15 34 57.6 +0.9
	baz=139,SNR=7.7					
Q23K	Middleton Isla	52.14	333	P	P	15 34 57.8 +0.6
	baz=122					
I30M	Mount Dempster	52.20	342	IAmb	IAmb	15 35 21.0
	comp=Z,17nm,0.8s					
I30M	Mount Dempster	52.20	342	P	P	15 34 58.8 +1.0
	baz=136					
J29N	Klondike Camp	52.20	341	P	P	15 34 58.2 +0.4
	baz=134					
GLB	Gilahina Butte	52.23	336	IAmb	IAmb	15 35 00.6
	comp=Z,18nm,0.7s					
BMRM	Bremner River	52.26	335	IAmb	IAmb	15 35 27.1
	comp=Z,20nm,0.8s					
BMRM	Bremner River	52.26	335	P	P	15 34 59.0 +0.7
	baz=124,SNR=8.6					
DAWY	Dawson	52.31	340	IAmb	IAmb	15 35 21.1
	comp=Z,20nm,1.1s					
DAWY	Dawson	52.31	340	P	P	15 34 59.9 +1.3
	baz=132,SNR=10					
SIV	San Ignacio	52.44	128	LR	LR	15 55 08.9
	comp=Z,265nm,21.5s,baz=304,slow=34					
BCAR	Beaver Creek A	52.47	338	P	P	15 35 00.6 +0.9
L27K	Beaver Creek,	52.48	338	IAmb	IAmb	15 35 22.4
	comp=Z,11nm,0.8s					
L27K	Beaver Creek,	52.48	338	P	P	15 35 01.4 +1.6
	baz=129					
M26K	Nabesna, AK	52.49	337	IAmb	IAmb	15 35 02.2
	comp=Z,12nm,0.8s					
M26K	Nabesna, AK	52.49	337	P	P	15 35 00.5 +0.5
	baz=127,SNR=17					
EYAK	Cordova Ski Ar	52.49	334	IAmb	IAmb	15 35 23.0
	comp=Z,17nm,0.9s					
EYAK	Cordova Ski Ar	52.49	334	P	P	15 35 01.3 +1.4
EYAK	Cordova Ski Ar	52.49	334	P	P	15 35 00.6 +0.7
	baz=123					
N25K	Chitina, Valde	52.63	336	IAmb	IAmb	15 35 03.7
	comp=Z,12nm,0.7s					
N25K	Chitina, Valde	52.63	336	P	P	15 35 02.0 +1.0
	baz=125,SNR=11					
C36M	Paulatuk	52.80	350	P	P	15 35 02.8 +0.8
	baz=152					
DIV	Divide	52.82	335	IAmb	IAmb	15 35 25.1
	comp=Z,17nm,0.8s					
I29M	Ogilvie Camp,	52.87	342	P	P	15 35 03.6 +1.0
	baz=134					
P23K	Montague Islan	52.90	333	P	P	15 35 03.8 +0.9
	baz=121					
G31M	Satah River	52.90	344	P	P	15 35 03.5 +0.7
	baz=140,SNR=65					
L26K	Log Cabin Wild	53.00	338	IAmb	IAmb	15 35 26.2
	comp=Z,12nm,0.9s					
L26K	Log Cabin Wild	53.00	338	P	P	15 35 05.1 +1.4
	baz=127,SNR=7.2					
KIP	Kipapa	53.03	283	P	P	15 35 06.8 +2.3
KIP	Kipapa	53.03	283	P	P	15 35 07.5 +3.0
KIP	Kipapa	53.03	283	‖/P	P	15 35 07.0 +2.5
KIP				pmax	pmax	
	comp=Z,49nm,1.0s					
KIP	Kipapa	53.03	283	P	P	15 35 06.5 +2.0
KIP				pP	pP	15 35 21.5 +1.1
MENT	Mentasta	53.08	337	IAmb	IAmb	15 35 27.5
	comp=Z,31nm,1.5s					
MENT	Mentasta	53.08	337	P	P	15 35 05.5 +1.2
KLU	Klutina	53.09	335	IAmb	IAmb	15 35 27.9
	comp=Z,15nm,0.7s					
KLU	Klutina	53.09	335	P	P	15 35 05.5 +1.1
	baz=124,SNR=8.3					
F31M	Tsiigehtchic	53.17	345	IAmb	IAmb	15 35 05.7
	comp=Z,26nm,0.7s					
F31M	Tsiigehtchic	53.17	345	P	P	15 35 04.6 -0.1
	baz=140,SNR=38					
K27K	Chicken	53.18	339	P	P	15 35 05.6 +0.7
	baz=129					
GLI	Glacier Island	53.23	334	IAmb	IAmb	15 36 14.3
	comp=Z,22nm,1.0s					
GLI	Glacier Island	53.23	334	P	P	15 35 05.5 +0.2
	baz=122					
PDRB	Porto dos Gac	53.26	121	eP	P	15 35 05.2 -1.0
HARP	HAARP	53.30	336	P	P	15 35 06.2 +0.3
	baz=125					
I28M	Miner Creek	53.42	341	IAmb	IAmb	15 35 32.2
	comp=Z,9.6nm,0.8s					
I28M	Miner Creek	53.42	341	P	P	15 35 06.9 +0.1
	baz=132					
G30M	tAoh Zraii Nji	53.45	344	IAmb	IAmb	15 36 19.2
	comp=Z,9.7nm,0.8s					
G30M	tAoh Zraii Nji	53.45	344	P	P	15 35 06.8 -0.1
	baz=137					
H29M	Whitestone	53.49	342	IAmb	IAmb	15 35 29.6
	comp=Z,38nm,0.9s					
H29M	Whitestone	53.49	342	P	P	15 35 07.1 -0.1
	baz=135,SNR=12					
M24K	Tolsona, Glenn	53.53	336	IAmb	IAmb	15 35 53.8
	comp=Z,28nm,0.8s					
M24K	Tolsona, Glenn	53.53	336	P	P	15 35 08.2 +0.6
	baz=124					
PTLB	Pontes e Lacer	53.56	126	eP	P	15 35 08.0 -0.4
CLDB	Colider	53.63	119	eP	P	15 35 08.4 -0.6
DOT	Dot Lake	53.64	338	IAmb	IAmb	15 35 31.6
	comp=Z,61nm,1.6s					
PWL	Port Wells	53.74	334	IAmb	IAmb	15 35 31.7
	comp=Z,54nm,1.5s					
PWL	Port Wells	53.74	334	P	P	15 35 09.8 +0.7
	baz=120,SNR=7.5					
PAX	Paxson	53.75	337	IAmb	IAmb	15 35 11.0
	comp=Z,13nm,0.8s					
PAX	Paxson	53.75	337	P	P	15 35 09.0 -0.2
	baz=125,SNR=12					
INK	Inuvik	53.79	346	LR	LR	15 59 54.7
	comp=Z,465nm,21.9s,baz=196,slow=38					
INK	Inuvik	53.79	346	P	P	15 35 09.4 +0.1
	baz=141,SNR=56					
SCRK	Sand Creek	53.81	338	IAmb	IAmb	15 35 32.9
	comp=Z,22nm,1.2s					
SCRK	Sand Creek	53.81	338	P	P	15 35 10.3 +0.6
	baz=127,SNR=9.7					
F30M	Barrier River	53.81	344	P	P	15 35 09.9 +0.4
	baz=138					
SCM	Sheep Creek Mo	53.84	335	IAmb	IAmb	15 35 36.9
	comp=Z,20nm,0.8s					
SCM	Sheep Creek Mo	53.84	335	P	P	15 35 10.4 +0.5
	baz=122					
SEW	Seward	53.84	333	IAmb	IAmb	15 35 32.4
	comp=Z,19nm,1.1s					
SEW	Seward	53.84	333	P	P	15 35 10.3 +0.5
	baz=119,SNR=5.5					
G29M	Pine Creek	53.89	343	IAmb	IAmb	15 35 39.7
	comp=Z,23nm,0.8s					
G29M	Pine Creek	53.89	343	P	P	15 35 10.9 +0.8
	baz=135					
RIDG	Independent Ri	53.97	338	P	P	15 35 11.3 +0.5
	baz=126,SNR=45					
M23K	Glacier View	53.97	335	P	P	15 35 11.1 +0.3
	baz=122					
J26L	Joseph Creek	53.98	339	P	P	15 35 11.7 +0.8
	baz=128					
I27K	Kandik River	54.05	341	P	P	15 35 11.6 +0.2
	baz=131					
KNK	Knik Glacier	54.07	334	IAmb	IAmb	15 35 34.5
	comp=Z,47nm,1.4s					
KNK	Knik Glacier	54.07	334	P	P	15 35 12.0 +0.4
	baz=121,SNR=6.8					
O22K	Cooper Landing	54.14	333	P	P	15 35 12.7 +0.8
	baz=119					
SML	Sawmill	54.23	335	IAmb	IAmb	15 35 35.3
	comp=Z,28nm,1.0s					
SML	Sawmill	54.23	335	P	P	15 35 12.9 +0.2
	baz=121,SNR=11					
BRSE	Bradley Lake S	54.24	332	P	P	15 35 13.6 +0.8
	baz=117,SNR=8.7					
KDAK	Kodiak Island	54.24	329	P	P	15 35 13.6 +0.9
KDAK	Kodiak Island	54.24	329	LR	LR	15 58 32.9
	comp=Z,236nm,18.7s,baz=329,slow=36					
KDAK	Kodiak Island	54.24	329	eP	P	15 35 12.9 +0.1
KDAK				pmax	pmax	
	comp=Z,26nm,0.9s					
KDAK	Kodiak Island	54.24	329	P	P	15 35 13.2 +0.4
	baz=114					
KDAK	Kodiak Island	54.24	329	P	P	15 35 13.7 +0.9
KDAK				pP	pP	15 35 28.8 +0.2
KDAK				sP	sP	15 35 34.9 -0.6
KDAK				PcP	PcP	15 36 18.8 +2.4
BRLK	Bradley Lake	54.31	332	IAmb	IAmb	15 35 15.2
	comp=Z,30nm,0.8s					
I26K	Coal Creek Min	54.35	340	P	P	15 35 13.5 +0.1
	baz=129					
OHAK	Old Harbor	54.36	328	IAmb	IAmb	15 35 16.0
	comp=Z,31nm,0.9s					
OHAK	Old Harbor	54.36	328	P	P	15 35 15.0 +1.4
OHAK	Old Harbor	54.36	328	P	P	15 35 14.4 +0.8
	baz=113,SNR=23					
H27K	Steamboat Moun	54.44	341	P	P	15 35 14.6 +0.4
	baz=131					
PMR	Palmer	54.44	334	IAmb	IAmb	15 35 15.8
	comp=Z,17nm,0.7s					
PMR	Palmer	54.44	334	P	P	15 35 15.0 +0.9
PMR	Palmer	54.44	334	P	P	15 35 14.5 +0.4
	baz=120,SNR=20					
RC01	Rabbit Creek A	54.44	334	IAmb	IAmb	15 35 49.7
	comp=Z,13nm,0.8s					
RC01	Rabbit Creek A	54.44	334	P	P	15 35 14.6 +0.4
	baz=119,SNR=7.9					
Q20K	Shuyak Island	54.50	330	P	P	15 35 15.3 +0.7
	baz=115					
SII	Sitkinak Islan	54.56	327	P	P	15 35 17.1 +1.9
SII	Sitkinak Islan	54.56	327	P	P	15 35 15.9 +0.7
	baz=112,SNR=5.5					
HOM	Homer	54.61	331	P	P	15 35 16.3 +0.9
	baz=116					
J25K	Salcha River,	54.67	338	IAmb	IAmb	15 36 20.2
	comp=Z,26nm,0.9s					
J25K	Salcha River,	54.67	338	P	P	15 35 16.6 +0.7
	baz=126					
AC02	Maricunga	54.84	144	IAmb	IAmb	15 35 36.3
	comp=Z,32nm,0.8s					
CAPN	Captain Cook N	54.90	333	P	P	15 35 18.0 +0.5
	baz=118					
E29M	Blow River	54.92	344	IAmb	IAmb	15 35 39.9
	comp=Z,31nm,1.0s					
E29M	Blow River	54.92	344	P	P	15 35 17.8 +0.2
	baz=136					
M22K	Willow	54.93	334	P	P	15 35 17.9 +0.2
	baz=119					
CHIR	Chirikof Islan	55.05	326	P	P	15 35 18.5 -0.1
	baz=110					
R18K	Karluk	55.08	328	P	P	15 35 18.9 +0.1
	baz=112,SNR=5.3					
HDA	Harding Lake	55.11	338	IAmb	IAmb	15 35 41.3
	comp=Z,24nm,0.8s					
HDA	Harding Lake	55.11	338	P	P	15 35 19.3 +0.3
	baz=124,SNR=19					
Q19K	Cape Douglas,	55.22	330	IAmb	IAmb	15 36 21.9
	comp=Z,23nm,0.8s					
Q19K	Cape Douglas,	55.22	330	P	P	15 35 20.5 +0.6
	baz=114					
O20K	Slope Mountain	55.24	332	P	P	15 35 20.2 +0.2
	baz=116					
PRP	Porcupine Dome	55.27	339	P	P	15 35 20.0 -0.2
	baz=126,SNR=26					
IL31		55.30	338	IAmb	IAmb	15 35 42.8
	comp=Z,21nm,0.9s					
ILAR	Eielson Array	55.30	338	P	P	15 35 20.6 +0.3
	comp=Z,9.9nm,0.8s,baz=145,slow=5.8,SNR=110					
ILAR				pP	pP	15 35 35.5 -0.9
	comp=Z,10nm,0.9s,baz=121,slow=7.5,SNR=14					
ILAR				PcP	PcP	15 36 20.9 +0.5
	comp=Z,7.4nm,0.7s,baz=165,slow=2.3,SNR=8.8					
ILAR				pPcP		15 36 36.9
	comp=Z,5.4nm,0.6s,baz=152,slow=1.9,SNR=6.4					
ILAR				LR	LR	16 01 08.5
	comp=Z,392nm,19.0s,baz=106,slow=38					
ILAR				PKPPKP	P'P'df	16 05 27.2 -1.0
	comp=Z,0.5nm,1.0s,baz=335,slow=5.2,SNR=4.4					
	comp=Z,9.9nm,0.8s					
CUT	Chulitna	55.31	335	P	P	15 35 20.7 +0.2
	baz=119,SNR=18					
P19K	Oil Pt	55.33	331	P	P	15 35 21.2 +0.6
	baz=115,SNR=6.7					
A36M	Sachs Harbour	55.33	351	P	P	15 35 19.6 -0.8
	baz=152,SNR=19					
MCK	McKinley	55.47	337	IAmb	IAmb	15 35 23.3
	comp=Z,18nm,0.8s					
MCK	McKinley	55.47	337	P	P	15 35 21.5 -0.2
	baz=122,SNR=16					
SPU	Mount Spurr	55.48	333	IAmb	IAmb	15 35 45.5
	comp=Z,27nm,0.8s					
E28M	Babbage River	55.50	344	IAmb	IAmb	15 35 43.5
	comp=Z,21nm,0.9s					
E28M	Babbage River	55.50	344	P	P	15 35 21.5 -0.2
	baz=134					
CCB	Clear Creek Bu	55.55	338	IAmb	IAmb	15 35 38.1
	comp=Z,10nm,0.7s					
N20K	Mount Spurr	55.55	333	P	P	15 35 22.8 +0.5
	baz=117					
SPCR	Spurr Chakacha	55.55	333	P	P	15 35 22.4 +0.1
	baz=117,SNR=10					
WRH	Wood River Hil	55.56	338	IAmb	IAmb	15 36 23.2
	comp=Z,21nm,0.9s					
G26K	Porcupine Rive	55.59	341	P	P	15 35 23.0 +0.6
	baz=129					
SKT	Skwentna	55.63	334	P	P	15 35 22.7 0.0
	baz=118,SNR=19					
POKR	Poker Plat Res	55.69	338	IAmb	IAmb	15 36 23.9
	comp=Z,35nm,0.9s					
POKR	Poker Plat Res	55.69	338	P	P	15 35 23.3 +0.2
	baz=124					
COLA	College	55.70	338	P	P	15 35 23.3 +0.2
COLA	College	55.70	338	P	P	15 35 23.9 +0.8
COLA	College	55.70	338‖	eP	P	15 35 22.6 -0.5
COLA				pmax	pmax	
	comp=Z,16nm,1.2s					
COLA	College	55.70	338	P	P	15 35 23.3 +0.2
	baz=123					
COLA	College	55.70	338	P	P	15 35 23.2 +0.1
COLA				pP	pP	15 35 38.8 -0.4
COLA				sP	sP	15 35 45.3 -0.8
COLA				PcP	PcP	15 36 22.5 +0.6
LCO	Las Campanas	55.73	147	P	P	15 35 25.4 +1.2
LCO				IAmb	IAmb	15 35 41.6
	comp=Z,28nm,0.8s					
LCO	Las Campanas	55.73	147	P	P	15 35 25.4 +1.2
LCO				pmax	pmax	
	comp=Z,28nm,0.8s					
LCO	Las Campanas	55.73	147	P	P	15 35 25.5 +1.4
LCO				pP	pP

FYU	Fort Yukon	55.80	340	IAmb	IAmb	15 35 40.2
	comp=Z,35nm,0.9s					
H25L	Birch Creek	55.81	340	P	P	15 35 24.1 +0.2
	baz=126,SNR=22					
D28M	Stokes Point	55.81	345	P	P	15 35 24.4 +0.5
	baz=136					
TRF	Thorofare Moun	55.85	336	P	P	15 35 24.5 0.0
	baz=120,SNR=44					
NEA2	Nenana	55.98	337	IAmb	IAmb	15 35 50.0
	comp=Z,11nm,0.6s					
NEA2	Nenana	55.98	337	P	P	15 35 25.8 +0.5
	baz=122,SNR=12					
O19K	Port Alsworth	56.06	331	P	P	15 35 26.1 +0.3
	baz=114,SNR=9.2					
BMAR	Burnt Mountain	56.13	341	P	P	15 35 26.8 +0.5
KTH	Kantishna Hill	56.14	336	IAmb	IAmb	15 36 25.8
	comp=Z,64nm,1.6s					
P18K	Big Mountain,	56.16	330	P	P	15 35 26.9 +0.2
	baz=112,SNR=10					
F26K	Sheenjek River	56.17	342	IAmb	IAmb	15 35 49.2
	comp=Z,22nm,1.0s					
F26K	Sheenjek River	56.17	342	P	P	15 35 26.7 +0.1
	baz=129,SNR=22					
G25K	Bearman Lake	56.20	340	P	P	15 35 26.9 +0.2
	baz=126,SNR=23					
H24K	Noodor Dome	56.25	339	P	P	15 35 27.7 +0.5
	baz=124					
M20K	Styx River	56.26	333	P	P	15 35 27.4 +0.1
	baz=116					
D27M	Malcolm River	56.32	344	P	P	15 35 27.5 -0.1
	baz=133					
O18K	Koktuh Hills	56.33	331	IAmb	IAmb	15 35 50.8
	comp=Z,27nm,0.7s					
O18K	Koktuh Hills	56.33	331	P	P	15 35 27.8 0.0
	baz=113,SNR=13					
PPLA	Purkeypile	56.33	335	IAmb	IAmb	15 35 50.5
	comp=Z,25nm,0.8s					
PPLA	Purkeypile	56.33	335	P	P	15 35 28.2 +0.2
	baz=118,SNR=7.3					
I23K	Minto, Yukon-K	56.38	338	P	P	15 35 28.4 +0.3
	baz=122,SNR=24					
N19K	Bonanza Creek	56.38	332	P	P	15 35 28.7 +0.4
	baz=114,SNR=24					
RES	Resolute Bay	56.39	2	P	P	15 35 26.5 -1.5
RES				IAmb	IAmb	15 36 26.0
	comp=Z,21nm,1.1s					
RES	Resolute Bay	56.39	2	LR	LR	16 00 41.1
	comp=Z,502nm,18.5s,baz=194,slow=37					
RES	Resolute Bay	56.39	2	P	P	15 35 26.5 -1.5
RES				pmax	pmax	
	comp=Z,21nm,1.1s					
TMAB	Tom-Au,PA,Br	56.40	106	eP	P	15 35 29.9 +0.9
BPAW	Bear Paw Mtn.	56.44	336	IAmb	IAmb	15 36 26.1
	comp=Z,18nm,0.9s					
BPAW	Bear Paw Mtn.	56.44	336	P	P	15 35 28.8 +0.3
	baz=120,SNR=13					
SALV	Santo Antonio	56.50	124	eP	P	15 35 29.7 +0.1
CAST	Castle Rocks	56.53	335	IAmb	IAmb	15 36 26.9
	comp=Z,39nm,1.0s					
CAST	Castle Rocks	56.53	335	P	P	15 35 28.8 -0.4
	baz=118,SNR=38					
F25K	Christian Rive	56.56	341	IAmb	IAmb	15 35 45.6
	comp=Z,17nm,0.7s					
F25K	Christian Rive	56.56	341	P	P	15 35 29.5 +0.2
	baz=127					
Q16K	King Salmon	56.58	329	P	P	15 35 29.7 +0.2
	baz=111,SNR=7.3					
G24K	Hadweenzic Riv	56.60	340	P	P	15 35 30.2 +0.6
	baz=125					
GO04	Tololo Observa	56.62	148	IAmb	IAmb	15 35 47.8
	comp=Z,36nm,0.9s					
P17K	Kvichak River	56.66	330	P	P	15 35 30.8 +0.7
	baz=111,SNR=6.1					
CHGN	Chignik	56.68	326	IAmb	IAmb	15 35 52.6
	comp=Z,24nm,0.9s					
CHGN	Chignik	56.68	326	P	P	15 35 30.3 0.0
	baz=108					
M19K	Big River Lodg	56.80	333	P	P	15 35 31.5 +0.4
	baz=115					
CO01	Juntas del Tor	56.82	147	IAmb	IAmb	15 35 49.7
	comp=Z,14nm,1.1s					
L20K	Farewell, AK	56.84	334	P	P	15 35 31.4 0.0
	baz=116					
CHUM	Lake Minchumin	56.85	336	P	P	15 35 31.6 +0.2
	baz=118,SNR=8.7					
E25K	Arctic Village	56.86	342	P	P	15 35 31.8 +0.3
	baz=128,SNR=11					
CHNA	Chernabura Isl	56.90	324	P	P	15 35 31.6 -0.2
	baz=106					
N18K	Kilae Creek	56.96	331	P	P	15 35 32.3 0.0
	baz=113,SNR=17					
L19K	White Mountain	57.12	333	P	P	15 35 33.5 +0.2
	baz=115					
O17K	Koliganek Bris	57.18	330	P	P	15 35 34.5 +0.7
	baz=111,SNR=13					
F24K	Squaw Lake	57.21	341	P	P	15 35 35.0 +1.1
	baz=125					
M18K	Stony River	57.26	332	P	P	15 35 34.4 +0.1
	baz=113					
S14K	Fog Glacier	57.29	326	P	P	15 35 35.2 +0.5
	baz=106					
C27K	Jago River	57.30	344	P	P	15 35 34.6 +0.1
	baz=130					
K20K	Telida	57.30	335	P	P	15 35 35.1 +0.5
	baz=116					
P16K	Nushagak River	57.35	329	P	P	15 35 35.7 +0.7
	baz=110					
I21K	Tanana	57.35	337	IAmb	IAmb	15 35 36.4
	comp=Z,26nm,0.9s					
I21K	Tanana	57.35	337	P	P	15 35 35.4 +0.5
	baz=119,SNR=23					
G23K	Bananza Creek	57.45	339	IAmb	IAmb	15 35 51.7
	comp=Z,20nm,0.9s					
G23K	Bananza Creek	57.45	339	P	P	15 35 36.2 +0.5
	baz=122					
H22K	Ishtalitna Cre	57.49	338	P	P	15 35 35.9 0.0
	baz=120					
N17K	Nushagak Hills	57.50	331	P	P	15 35 36.0 0.0
	baz=111					
SDPT	Sand Point	57.53	325	P	P	15 35 36.7 +0.4
	baz=105					
O16K	Kokwok River B	57.59	330	P	P	15 35 37.1 +0.5
	baz=110,SNR=7.9					
J20K	Nowinta River	57.70	336	P	P	15 35 37.3 -0.1
	baz=116					
E24K	Your Creek	57.72	341	P	P	15 35 38.2 +0.7
	baz=124					
COLD	Coldfoot	57.79	340	P	P	15 35 38.9 +0.9
	baz=122,SNR=23					
C26K	Camden Bay	57.80	344	P	P	15 35 38.8 +0.8
	baz=129					
D25K	Kavik River	57.83	343	P	P	15 35 38.6 +0.2
	baz=127					
NRS	Narsarsuaq	57.86	28	i P	P	15 35 37.4 -1.1
NRS				IAmb	IAmb	15 35 39.6
	comp=Z,19nm,0.9s					
H21K	Melozitna Rive	57.89	338	P	P	15 35 38.8 +0.1
	baz=119					
TTA	Tatalina	57.92	334	P	P	15 35 39.2 +0.2
TTA	Tatalina	57.92	334	P	P	15 35 38.9 -0.1
	baz=114,SNR=14					
L18K	Granite Mounta	57.92	333	P	P	15 35 39.8 +0.9
	baz=113					
M17K	Holitna River	57.94	332	P	P	15 35 39.5 +0.4
	baz=112,SNR=7.0					
SNDB	Serra Nova Dou	57.96	118	eP	P	15 35 40.5 +0.5
E23K	Chandalar	58.06	341	P	P	15 35 41.2 +1.2
	baz=123					
I20K	Naaghedeneel	58.11	336	P	P	15 35 40.5 +0.3
	baz=116					
J19K	Poorman	58.20	335	P	P	15 35 40.7 -0.2
	baz=115					
N16K	Nishlik Lake	58.21	331	P	P	15 35 41.4 +0.3
	baz=110					
O15K	Ungalikthiuk R	58.29	329	P	P	15 35 41.6 0.0
	baz=108					
SFJD	Kangerlussuaq	58.36	21	LR	LR	16 00 12.9
	comp=Z,195nm,22.0s,baz=232,slow=35					
TOLK	Toolik Lake Re	58.37	341	IAmb	IAmb	15 35 57.9
	comp=Z,20nm,0.7s					
TOLK	Toolik Lake Re	58.37	341	P	P	15 35 42.1 0.0
	baz=124,SNR=19					
BDQN	Bodoquena, MS	58.41	129	eP	P	15 35 41.8 -1.2
J18K	Innoko River	58.43	334	IAmb	IAmb	15 36 05.0
	comp=Z,23nm,0.8s					
J18K	Innoko River	58.43	334	P	P	15 35 42.5 0.0
	baz=113					
D24K	Happy Valley	58.44	342	P	P	15 35 42.4 0.0
	baz=125					
M16K	Timber Creek	58.49	331	IAmb	IAmb	15 36 06.1
	comp=Z,19nm,0.7s					
M16K	Timber Creek	58.49	331	P	P	15 35 43.4 +0.4
	baz=110					
S12K	Black Hills	58.49	325	P	P	15 35 43.7 +0.6
	baz=104					
MURT	Porto Murtinho	58.55	131	eP	P	15 35 42.9 -1.0
G21K	Allakaket	58.55	338	IAmb	IAmb	15 36 35.6
	comp=Z,17nm,0.8s					
G21K	Allakaket	58.55	338	P	P	15 35 43.5 +0.2
	baz=118					
H20K	Anotleneega Mo	58.57	337	P	P	15 35 43.3 -0.2
	baz=116					
L17K	Donlin	58.59	333	P	P	15 35 44.0 +0.4
	baz=111					
F22K	John River	58.59	340	P	P	15 35 43.8 +0.2
	baz=120					
C24K	Franklin Bluff	58.73	343	P	P	15 35 44.8 +0.3
	baz=125					
N15K	Kwethluk River	58.73	330	P	P	15 35 44.8 +0.1
	baz=108					
E22K	Anaktuvuk Pass	58.80	340	IAmb	IAmb	15 36 00.8
	comp=Z,13nm,0.8s					
E22K	Anaktuvuk Pass	58.80	340	P	P	15 35 45.5 +0.5
	baz=121,SNR=13					
K17K	Iditarod	58.80	333	P	P	15 35 44.7 -0.4
	baz=111,SNR=7.2					
D23K	Nanushuk River	58.88	341	P	P	15 35 45.9 +0.3
	baz=123					
F21K	Alatna River	58.89	339	P	P	15 35 46.6 +1.0
	baz=119,SNR=29					
L16K	Owhat River	58.96	332	P	P	15 35 46.8 +0.7
	baz=110					
GCSA	Galena City Sc	59.01	336	P	P	15 35 46.2 -0.3
	baz=114					
O14K	Tigyukauivet M	59.02	329	P	P	15 35 47.2 +0.6
	baz=107					
FALS	False Pass	59.05	323	P	P	15 35 47.2 +0.3
	baz=102					
H19K	Roundabout Mou	59.18	337	P	P	15 35 47.1 -0.5
	baz=115,SNR=12					
M15K	Kasigluk River	59.18	331	P	P	15 35 47.7 0.0
	baz=108					
AQDB	Aquidauana	59.21	129	eP	P	15 35 48.1 -0.4
PPT	Papeete	59.33	236	P	P	15 35 49.8 +0.5
	comp=Z,16nm,0.9s,baz=216,slow=20,SNR=2.8					
	comp=Z,16nm,0.9s					
C23K	Itkillik River	59.34	342	P	P	15 35 49.3 +0.5
	baz=123					
J17K	VABM Dome	59.38	334	IAmb	IAmb	15 35 49.8
	comp=Z,14nm,0.9s					
J17K	VABM Dome	59.38	334	P	P	15 35 49.5 +0.4
	baz=111					
N14K	Kuskokwak Cree	59.42	329	P	P	15 35 49.6 +0.2
	baz=106					
D22K	Ayikyak River	59.45	341	P	P	15 35 50.6 +1.1
	baz=120					
MT09	Talagante	59.48	151	IAmb	IAmb	15 36 07.4
	comp=Z,21nm,0.8s					
ARAG	Araguaiana, MT	59.49	122	eP	P	15 35 50.4 -0.1
F20K	Avaraart Lake	59.58	338	P	P	15 35 51.0 +0.6
	baz=116					
E21K	Killik River	59.64	340	P	P	15 35 50.8 -0.1
	baz=119					
SMTB	Santa Maria do	59.65	112	eP	P	15 35 52.3 +0.5
G19K	Purcell Mounta	59.67	337	P	P	15 35 51.4 +0.3
	baz=114					
H18K	Honhosa River	59.76	336	IAmb	IAmb	15 35 52.8
	comp=Z,12nm,1.0s					
H18K	Honhosa River	59.76	336	P	P	15 35 51.7 0.0
	baz=113					
M14K	Bethel	59.79	330	P	P	15 35 51.9 0.0
	baz=107					
UMMG	Uummannaq	59.85	17	i P	P	15 35 47.2 -5.0
UMMG				IAmb	IAmb	15 35 53.0
	comp=Z,33nm,1.3s					
L15K	Ungalak Mounta	59.85	331	P	P	15 35 52.7 +0.3
	baz=108					
BO01	Tunca	59.95	151	IAmb	IAmb	15 36 10.8
	comp=Z,27nm,0.9s					
J16K	Anvik River	59.99	333	P	P	15 35 53.9 +0.6
	baz=110					
NUUG	Nuugaatsiaq	60.05	16	i P	P	15 35 54.0 +0.4
NUUG				IAmb	IAmb	15 35 54.4
	comp=Z,16nm,0.8s					
K15K	Wolf Creek Mou	60.07	332	P	P	15 35 54.7 +0.8
	baz=108					
UPNV	Upernavik	60.08	14	i P	P	15 35 53.7 0.0
UPNV				IAmb	IAmb	15 35 54.2
	comp=Z,9.5nm,0.7s					
G18K	Tagagawik	60.16	337	IAmb	IAmb	15 36 10.3
	comp=Z,45nm,1.9s					
G18K	Tagagawik	60.16	337	P	P	15 35 54.5 +0.1
	baz=113					
F19K	Shaleruckik Mo	60.21	338	IAmb	IAmb	15 35 56.2
	comp=Z,17nm,0.8s					
F19K	Shaleruckik Mo	60.21	338	P	P	15 35 54.8 0.0
	baz=114					
I17K	Unalakleet	60.23	334	P	P	15 35 55.6 +0.7
I17K	Unalakleet	60.23	334	P	P	15 35 55.6 +0.7
	baz=110					
C21K	Knifeblade Rid	60.25	341	P	P	15 35 55.8 +0.9
	baz=118					
E20K	Nigu River	60.28	339	P	P	15 35 56.1 +0.8
	baz=117					
H17K	Granite Mounta	60.28	335	P	P	15 35 55.4 +0.1
	baz=111					
E19K	Redstone River	60.29	338	IAmb	IAmb	15 36 12.2
	comp=Z,18nm,0.7s					
E19K	Redstone River	60.29	338	P	P	15 35 55.6 +0.3
	baz=115					
L14K	Kuka Creek	60.30	331	P	P	15 35 56.2 +0.8
	baz=106					
M13K	Dall Lake	60.36	330	P	P	15 35 55.9 +0.1
	baz=105					
C2SB	Chapadao do Su	60.38	125	eP	P	15 35 57.5 +1.0
B21K	Ikpikpuk River	60.42	341	P	P	15 35 56.7 +0.6
	baz=119					
B22K	Teshekpuk Lake	60.43	342	IAmb	IAmb	15 36 18.0
	comp=Z,32nm,1.0s					
B22K	Teshekpuk Lake	60.43	342	P	P	15 35 55.8 -0.4
	baz=120					
D20K	Etivluk River	60.63	340	P	P	15 35 58.0 +0.4
	baz=116					
UNV	Unalaska Valle	60.64	322	P	P	15 35 58.6 +0.7
	baz=99					
RPRD	Ribas do Rio P	60.71	127	eP	P	15 35 57.8 -1.0
G17K	Kiwalik Mounta	60.78	336	P	P	15 35 59.2 +0.6
	baz=111					
F18K	Selawik	60.81	337	P	P	15 35 58.7 -0.1
	baz=112,SNR=8.9					
D19K	Kuna River	61.03	339	P	P	15 36 00.1 -0.2
	baz=115					
J14K	Nanvaranak Lak	61.10	332	P	P	15 36 01.4 +0.6
	baz=106					
H16K	Elim	61.12	335	P	P	15 36 01.6 +0.7
	baz=109					
A22K	Sinclair Lake	61.21	343	P	P	15 36 01.4 0.0
	baz=119					
F17K	Baldwin Pennin	61.34	337	IAmb	IAmb	15 36 26.9
	comp=Z,23nm,0.8s					
F17K	Baldwin Pennin	61.34	337	P	P	15 36 02.9 +0.5
	baz=110,SNR=8.2					
K13K	Kusilvak Mount	61.37	331	P	P	15 36 02.7 0.0
	baz=105					
B20K	Meade River	61.39	341	P	P	15 36 02.7 +0.1
	baz=116					
G16K	Koyuk River	61.41	335	IAmb	IAmb	15 36 40.0
	comp=Z,22nm,1.1s					
G16K	Koyuk River	61.41	335	P	P	15 36 02.8 -0.1
	baz=109					
E18K	Tukpahlearik C	61.46	338	P	P	15 36 03.9 +0.7
	baz=112					
M11K	Mekoryuk	61.72	329	P	P	15 36 06.6 +1.6
	baz=103					
SJPY	San Joaquin	61.74	133	eP	P	15 36 05.5 -0.3
CPUP	Villa Florida	61.76	135	IAmb	IAmb	15 36 06.8
	comp=Z,18nm,0.8s					
CPUP	Villa Florida	61.76	135	P	P	15 36 05.8 0.0
	comp=Z,18nm,0.9s,baz=323,slow=7.7,SNR=46					
CPUP				LR	LR	16 02 36.9
	comp=Z,216nm,19.4s,baz=330,slow=36					
	comp=Z,18nm,0.9s					
CPUP	Villa Florida	61.76	135	P	P	15 36 05.7 -0.1
CPUP				pP	pP	15 36 21.0 -1.6
CPUP				sP	sP	15 36 27.7 -1.8
E17K	Hotham Inlet	61.78	337	P	P	15 36 05.5 +0.1
	baz=110					
A21K	Barrow	61.83	343	P	P	15 36 06.1 +0.5
	baz=118					
G15K	Niukluk	61.96	335	P	P	15 36 07.3 +0.7
	baz=107					
C18K	Utukok River	62.13	339	IAmb	IAmb	15 36 08.6
	comp=Z,18nm,0.8s					
C18K	Utukok River	62.13	339	P	P	15 36 08.7 +0.9
	baz=112					
ANM	Nome	62.38	334	P	P	15 36 09.2 -0.2
	baz=106					
F15K	North Star Dit	62.41	335	P	P	15 36 10.5 +0.9
	baz=107					
D17K	Noatak River	62.45	338	P	P	15 36 09.8 0.0
	baz=109,SNR=16					
RDOG	Red Dog Mine	62.51	338	P	P	15 36 09.5 -0.8
RDOG	Red Dog Mine	62.51	338	P	P	15 36 09.6 -0.6
	baz=110,SNR=7.6					
BDFB	Brasilia	62.56	119	P	P	15 36 11.6 +0.1
BDFB	Brasilia	62.56	119	P	P	15 36 11.8 +0.3
	comp=Z,13nm,0.9s,baz=289,slow=6.5,SNR=20					
BDFB				pP	pP	15 36 27.6 -0.3
	comp=Z,8.8nm,0.6s,baz=298,slow=10,SNR=6.3					
BDFB				LR	LR	16 03 32.6
	comp=Z,174nm,19.9s,baz=304,slow=36					
	comp=Z,13nm,0.9s					
BDFB	Brasilia	62.56	119	P	P	15 36 11.6 +0.1
BDFB				pmax	pmax	
	comp=Z,76nm,1.7s					
B18K	Kokolik River	62.60	340	P	P	15 36 11.2 +0.4
	baz=111					
ANGG	Ammassalik, Gr	62.63	25	i P	P	15 36 09.2 -1.8
ANGG				IAmb	IAmb	15 36 10.9
	comp=Z,29nm,0.9s					
A19K	Wainwright	62.68	341	P	P	15 36 12.0 +0.6
	baz=113					
C17K	DeLong Mountai	62.75	339	P	P	15 36 12.7 +0.8
	baz=110					
P08K	Saint George I	62.77	325	P	P	15 36 12.8 +0.7
	baz=98					
ITRB	Iturama	62.83	125	eP	P	15 36 13.6 +0.4
ICESG	Greenland Ices	62.98	21	i P	P	15 36 12.7 -1.1
ICESG				IAmb	IAmb	15 36 13.9
	comp=Z,33nm,0.8s					
F14K	Arctic Creek	63.02	335	P	P	15 36 13.8 +0.1
	baz=105					
SPIA	Saint Paul Isl	63.23	325	P	P	15 36 15.4 +0.2
	baz=97					
C16K	Lisburne Hills	63.44	338	IAmb	IAmb	15 36 39.0
	comp=Z,38nm,1.3s					
IPMB	Ipameri, GO	63.61	122	eP	P	15 36 18.1 -0.3
SDBA	SÃO DESIDERIO	63.62	115	eP	P	15 36 18.8 +0.3
NEEM	North Greenlan	63.96	11	i P	P	15 36 19.4 -0.7
NEEM				IAmb	IAmb	15 36 21.8
	comp=Z,32nm,0.9s					
LDASE	Londrina, Braz	64.35	128	eP	P	15 36 22.6 -0.6
PTGB	Pitanga	64.44	130	eP	P	15 36 23.6 -0.1
LR05	Currie	64.48	155	IAmb	IAmb	15 36 25.6
	comp=Z,24nm,1.1s					
SUMG	Summit	64.57	17	P	P	15 36 23.9 -0.3
SUMG				IAmb	IAmb	15 37 03.8
	comp=Z,34nm,1.1s					
SUMG	Summit	64.57	17	P	P	15 36 23.9 -0.3
SUMG				pmax	pmax	
	comp=Z,34nm,1.1s					
SUMG	Summit	64.57	17	i P	P	15 36 23.1 -1.1
SUMG				IAmb	IAmb	15 36 24.7
	comp=Z,17nm,0.7s					
LL04	Puerto Octay	64.90	156	IAmb	IAmb	15 36 44.5
	comp=Z,36nm,1.4s					
BB19B	Bebedouro	65.01	125	eP	P	15 36 27.8 +0.3
PMNB	Patos De Minas	65.34	121	eP	P	15 36 29.4 -0.3
JANB	Januaria	65.38	117	eP	P	15 36 30.3 +0.3
NBPB	Pedra_Branca-C	65.45	105	eP	P	15 36 31.4 +0.9
PLCA	Paso Flores	65.49	155	P	P	15 36 30.6 +0.4
PLCA	Paso Flores	65.49	155	P	P	15 36 31.4 +1.2
	comp=Z,13nm,1.0s,baz=330,slow=7.8,SNR=18					
PLCA				pP	pP	15 36 46.9 +0.1
	comp=Z,22nm,1.1s,baz=327,slow=8.3,SNR=11					
PLCA				LR	LR	15 59 08.5
	comp=Z,174nm,20.0s,baz=338,slow=30					
	comp=Z,13nm,1.0s					
PLCA	Paso Flores	65.49	155	P	P	15 36 30.6 +0.4
PLCA				pmax	pmax	
	comp=Z,55nm,1.3s					
PLCA	Paso Flores	65.49	155	eP	P	15 36 31.4 +1.2
PLCA	Paso Flores	65.49	155	P	P	15 36 31.2 +1.0
PLCA				pP	pP	15 36 47.2 +0.4
PLCA				sP	sP	15 36 54.2 +0.5
FRTB	Fartura	65.49	127	eP	P	15 36 30.2 -0.4
ALE	Alert	65.91	5	P	P	15 36 30.5 -1.8
ITAB	Concordia	65.92	132	eP	P	15 36 33.4 +0.3
TBOT	Tacuaremb	66.23	138	eP	P	15 36 36.1 +1.1
CPSB	Cacapava Do Su	67.01	136	eP	P	15 36 40.4 +0.3
LL02	Futaleuf	67.08	157	IAmb	IAmb	15 36 58.3
	comp=Z,34nm,1.0s					
SPB	Sao Paulo	67.25	126	IAmb	IAmb	15 36 59.5
	comp=Z,20nm,1.0s					
SPB	Sao Paulo	67.25	126	eP	P	15 36 42.5 +0.8
SPB	Sao Paulo	67.25	126	P	P	15 36 42.2 +0.5
SPB				pP	pP	15 36 58.4 +0.1
SPB				sP	sP	15 37 03.8 -1.3
VAO	Valinhos	67.28	126	IAmb	IAmb	15 36 59.9
	comp=Z,26nm,0.9s					
VAO	Valinhos	67.28	126	eP	P	15 36 42.0 0.0
TRQA	Tornquist	67.31	147	P	P	15 36 42.4 +0.6
TRQA				IAmb	IAmb	15 36 59.0
	comp=Z,30nm,1.0s					
TRQA	Tornquist	67.31	147	P	P	15 36 42.4 +0.6
TRQA				pmax	pmax	
	comp=Z,30nm,1.0s					
PLTB	Pedras Altas	67.78	137	P	P	15 36 45.1 +0.1
PLTB				IAmb	IAmb	15 37 01.9
	comp=Z,36nm,1.0s					
PLTB	Pedras Altas	67.78	137	eP	P	15 36 45.2 +0.3
MAJ01	Sao Joao Batis	68.23	131	eP	P	15 36 48.3 +0.4
PARB	Paraibuna	68.50	125	eP	P	15 36 50.5 +0.8
RCBR	Riachuelo	68.94	104	P	P	15 36 53.7 +1.1
RCBR				IAmb	IAmb	15 36 55.2
	comp=Z,53nm,1.1s					
RCBR	Riachuelo	68.94	104	LR	LR	16 08 11.2
	comp=Z,38nm,19.8s,baz=287,slow=37					
RCBR	Riachuelo	68.94	104	P	P	15 36 53.7 +1.1
RCBR				pmax	pmax	
	comp=Z,53nm,1.2s					
RCBR	Riachuelo	68.94	104	eP	P	15 36 54.5 +2.0
RCBR	Riachuelo	68.94	104	P	P	15 36 54.0 +1.4
RCBR				pP	pP	15 37 09.6 +0.5
RCBR				sP	sP	15 37 15.7 -0.2
COYC	Coyhaique	69.05	158	P	P	15 36 53.8 +1.3
COYC				IAmb	IAmb	15 37 10.9
	comp=Z,36nm,0.9s					
COYC	Coyhaique	69.05	158	P	P	15 36 54.1 +1.6
COYC				pP	pP	15 37 10.0 +0.7
NBLA	Lagarto - SE	69.26	110	eP	P	15 36 55.1 +0.7
BORG	Borgarnes	69.29	27	LR	LR	16 07 44.0
	comp=Z,165nm,18.3s,baz=298,slow=36					
RAR	Rarotonga	69.39	238	LR	LR	15 58 47.6
	comp=Z,202nm,20.9s,baz=72,slow=28					
MAN01	Angra dos Reis	69.55	124	eP	P	15 36 56.8 +0.6
CMC01	Camacan, BA	69.61	115	eP	P	15 36 57.3 +0.7
SJMB	Sao Joao De Ma	69.74	119	eP	P	15 36 58.3 +0.9
NBCA	Caruaru-PE	69.75	106	eP	P	15 36 59.6 +2.0
DBG	Daneborg	70.02	17	i P	P	15 36 57.1 -1.1
DBG				IAmb	IAmb	15 36 58.5
	comp=Z,6.8nm,0.9s					
NBAN	Anadia - AL	70.08	108	eP	P	15 37 00.3 +0.7
BSFB	Barra de Sao F	70.08	119	eP	P	15 36 60.0 +0.5
DUB01	Friburgo-RJ	70.42	122	eP	P	15 37 02.2 +0.7
DAG	Danmarks Havn	70.54	14	i P	P	15 36 59.5 -1.9
DAG				IAmb	IAmb	15 37 00.8
	comp=Z,26nm,1.0s					
RIB01	Linhares ES	70.69	119	eP	P	15 37 03.7 +0.5
CAM01	Campos-RJ	70.86	122	eP	P	15 37 05.2 +1.0
NOR	Nord	71.12	9	i P	P	15 37 04.0 -0.8
NOR				IAmb	IAmb	15 37 05.5
	comp=Z,30nm,1.5s					
ABR01	Abrolhos, BA	71.49	117	eP	P	15 37 09.4 +1.4
BILL	Bilibino	73.93	337	P	P	15 37 22.

KBS IAmb IAmb 15 37 43.6
comp=Z,151nm,2.0s
SPA0 Spitsbergen Ar 77.52 11 *eP* **P 15 37 41.8 -0.3**
SPA0 IAmb IAmb 15 37 42.5
comp=Z,31nm,0.9s
SPITS Spitsbergen Ar 77.52 11 P **P 15 37 42.0 -0.1**
comp=Z,7.2nm,0.5s,baz=5.7,slow=0.8,SNR=23
SPITS LR LR 16 13 32.2
comp=Z,243nm,19.8s,baz=268,slow=37
comp=Z,7.2nm,0.5s
SPITS Spitsbergen Ar 77.52 11 P **P 15 37 42.0 -0.1**
SPB2 Spitsbergen Ar 77.53 11 P **P 15 37 41.4 -0.7**
EKA Eskdalemuir Ar 79.65 35 P **P 15 37 53.6 -0.5**
comp=Z,8.2nm,0.8s,baz=304,slow=5.4,SNR=16
comp=Z,8.2nm,0.8s
HOPEN Hopen 80.04 11 *eP* **P 15 37 56.3 +0.5**
HOPEN IAmb IAmb 15 38 08.8
comp=Z,221nm,2.1s
PCAB Cabril 80.45 49 *eP* **P 15 37 59.5 +0.7**
PSBE So Bento 80.49 52 *eP* **P 15 38 00.2 +1.1**
PCAS Casmilo, Conde 80.56 51 *eP* **P 15 38 00.1 +0.7**
PCAS *i* Amb 15 38 30.5
comp=Z,106nm,1.7s
POLO Lamas de Olo 80.71 50 *eP* **P 15 38 00.8 +0.5**
POLO *i* Amb 15 38 01.8
comp=Z,58nm,1.4s
BBTS Babate 80.76 78 LR LR 16 07 21.7
comp=Z,149nm,22.0s,baz=170,slow=31
PVIS Viseu 80.82 50 *eP* **P 15 38 01.4 +0.6**
SEY Seymchan 80.89 334‖ *iP* **P 15 38 01.8 +1.2**
SEY pmax pmax
comp=Z,48nm,1.0s
PMTG Montargil 81.04 52 *eP* **P 15 38 02.5 +0.6**
PMTG *i* Amb 15 38 03.4
comp=Z,58nm,1.0s
PTEO Sao Teotonio 81.09 53 *eP* **P 15 38 03.9 +1.6**
PTEO *i* AML AML 15 38 07.4
PFVI Vila Bisbo 81.13 54 *eP* **P 15 38 04.0 +1.6**
PFVI *i* Amb 15 38 05.0
comp=Z,85nm,1.5s
MTE Manteigas 81.17 50 IAmb IAmb 15 38 03.8
comp=Z,38nm,0.9s
MTE Manteigas 81.17 50 *eP* **P 15 38 03.1 +0.4**
MTE *i* Amb 15 38 03.5
comp=Z,69nm,1.1s
MORF Marmelete 81.21 54 *eP* **P 15 38 03.3 +0.3**
MORF IAmb IAmb 15 38 07.1
comp=Z,26nm,1.1s
MORF Marmelete 81.21 54 *eP* **P 15 38 04.0 +1.1**
MORF *i* Amb 15 38 06.9
comp=Z,54nm,1.3s
MORF Marmelete 81.21 54 *eP* **P 15 38 03.3 +0.3**
PET Petropavlovsk 81.27 323 P **P 15 38 04.2 +1.3**
PET Petropavlovsk 81.27 323 P **P 15 38 04.9 +2.0**
PET Petropavlovsk 81.27 323‖ *eP* **P 15 38 03.6 +0.7**
PET pmax pmax
comp=Z,91nm,1.2s
PET Petropavlovsk 81.27 323 P **P 15 38 04.3 +1.4**
MVO Moncorvo 81.32 50 *eP* **P 15 38 04.0 +0.4**
PBRG Braganca 81.35 49 *eP* **P 15 38 04.3 +0.7**
EVO Evora 81.35 52 *eP* **P 15 38 04.4 +0.7**
EVO *i* Amb 15 38 06.0
comp=Z,39nm,2.2s
PCBR Castelo Branco 81.38 51 *eP* **P 15 38 04.3 +0.6**
PCBR *i* Amb 15 38 06.5
comp=Z,50nm,1.5s
MESJ Messejana 81.39 53 IAmb IAmb 15 38 05.5
comp=Z,26nm,1.1s
MESJ Messejana 81.39 53 *eP* **P 15 38 04.2 +0.4**
MESJ IAmb IAmb 15 38 05.2
comp=Z,18nm,0.9s
MESJ Messejana 81.39 53 *eP* **P 15 38 04.7 +0.8**
MESJ Messejana 81.39 53 *eP* **P 15 38 04.2 +0.4**
FOO Floro 81.54 28 *eP* **P 15 38 04.8 +0.7**
PMRV Marv??o 81.56 51 *eP* **P 15 38 05.5 +0.8**
PMRV *i* Amb 15 38 06.2
comp=Z,74nm,1.1s
PCVE Castro Verde 81.59 53 *eP* **P 15 38 06.0 +1.1**
PCVE *i* Amb 15 38 07.5
comp=Z,54nm,1.7s
PBEJ Beja 81.61 53 *eP* **P 15 38 05.8 +0.8**
PBEJ *i* Amb 15 38 08.9
comp=Z,36nm,1.8s
PBDV Barranco-do-Ve 81.78 54 *eP* **P 15 38 07.3 +1.3**
PEA0B Petropavlovsk- 81.79 323‖ *iP* **P 15 38 06.8 +1.2**
PETK Petropavlovsk- 81.79 323 P **P 15 38 06.3 +0.7**
comp=Z,56nm,1.0s,baz=80,slow=7.0,SNR=34
PETK pP **pP 15 38 22.5 0.0**
comp=Z,12nm,0.7s,baz=78,slow=8.9,SNR=3.8
comp=Z,56nm,1.0s
LOF Lofoten 81.89 20 *eP* **P 15 38 06.2 +0.4**
LOF IAmb IAmb 15 38 06.9
comp=Z,62nm,1.1s
PVAQ Vaqueiros 81.90 53 P **P 15 38 06.8 +0.3**
PVAQ IAmb IAmb 15 38 08.4
comp=Z,27nm,1.0s
PVAQ Vaqueiros 81.90 53 *eP* **P 15 38 07.6 +1.0**
PVAQ *i* Amb 15 38 09.1
comp=Z,63nm,1.6s
AKN Aaknes 82.15 27 *eP* **P 15 38 08.0 +0.6**
PBAR Barrancos 82.19 52 *eP* **P 15 38 09.0 +1.0**
PBAR *i* Amb 15 38 10.5
comp=Z,42nm,1.5s
STEI Steigen 82.55 20 *eP* **P 15 38 10.2 +1.0**
STEI IAmb IAmb 15 38 10.8
comp=Z,68nm,0.9s
KONS Konsvik 82.56 22 *eP* **P 15 38 10.5 +1.2**
KONS IAmb IAmb 15 38 11.2
comp=Z,1μm,3.6s
STOK Stokkvaagen 82.60 22 *eP* **P 15 38 10.8 +1.2**
STOK IAmb IAmb 15 38 11.3
comp=Z,68nm,1.1s
LEIR Leirfjorden 82.75 22 *eP* **P 15 38 11.3 +1.0**
LEIR IAmb IAmb 15 38 12.3
comp=Z,74nm,0.9s
TRO Tromso 82.75 18 IAmb IAmb 15 38 10.6
comp=Z,217nm,2.0s
TRO *eP* **P 15 38 10.8 +0.5**
FAUS Fauske 82.85 20 *eP* **P 15 38 11.6 +0.8**
FAUS IAmb IAmb 15 38 12.1
comp=Z,22nm,0.8s
ODD1 Odda 82.94 29 *eP* **P 15 38 12.2 +0.7**
MA2 Magadan 82.95 331 P **P 15 38 12.7 +1.2**
MA2 Magadan 82.95 331 P **P 15 38 13.3 +1.8**
MA2 Magadan 82.95 331 *d iP* **P 15 38 12.5 +1.0**
MA2 pmax pmax
comp=Z,62nm,1.7s
MA2 Magadan 82.95 331 P **P 15 38 12.5 +1.0**
comp=Z,36nm,1.2s
BLS5 Blasjo 83.06 29 *eP* **P 15 38 13.3 +1.1**
BLS5 IAmb IAmb 15 38 14.9
comp=Z,68nm,1.3s
DOMB Dombas 83.09 26 *eP* **P 15 38 13.0 +0.8**
NSS Namsos 83.10 24 *eP* **P 15 38 12.8 +0.6**
NSS IAmb IAmb 15 38 13.4
comp=Z,2μm,3.9s
MOR8 Moi Rana 83.18 22 *eP* **P 15 38 13.6 +0.9**
MOR8 IAmb IAmb 15 38 14.2
comp=Z,36nm,0.8s
JETT Jettan, Norway 83.22 17 *eP* **P 15 38 14.0 +1.2**
JETT IAmb IAmb 15 38 14.6
comp=Z,99nm,0.8s
AVE Averroes 83.35 57 P **P 15 38 14.1 -0.1**
SKAR Skarslia 83.36 28 *eP* **P 15 38 14.4 +0.7**
PAB San Pablo 83.77 51 P **P 15 38 16.5 +0.2**
PAB IAmb IAmb 15 38 18.0
comp=Z,17nm,0.9s
PAB San Pablo 83.77 51 P **P 15 38 16.5 +0.2**
PAB pmax pmax
comp=Z,17nm,1.0s
SNART Snartemo 83.87 30 *eP* **P 15 38 17.7 +1.4**
TIXI Tiksi 83.92 346 P **P 15 38 15.7 -0.5**
TIXI Tiksi 83.92 346 LR LR 16 18 25.1
comp=Z,174nm,21.7s,baz=14,slow=38
TIXI Tiksi 83.92 346 *deP* **P 15 38 16.2 -0.1**
TIXI pmax pmax
comp=Z,51nm,1.0s
ESDC Sonseca Array 84.01 50 P **P 15 38 17.0 -0.5**
ESDC IAmb IAmb 15 38 18.7
comp=Z,31nm,1.1s
ESDC Sonseca Array 84.01 50 P **P 15 38 18.2 +0.7**
comp=Z,5.7nm,0.9s,baz=300,slow=5.3,SNR=29
ESDC pP **pP 15 38 33.7 -0.7**
comp=Z,2.3nm,0.9s,baz=272,slow=4.5,SNR=3.6
ESDC LR LR 16 11 51.2
comp=Z,93nm,20.7s,baz=305,slow=33
comp=Z,5.7nm,0.9s
KTK1 Kautokeino 84.35 17 *eP* **P 15 38 18.9 +0.4**
KTK1 IAmb IAmb 15 38 20.1
comp=Z,42nm,0.8s
KONO Kongsberg 84.40 28 P **P 15 38 19.9 +1.0**
KONO Kongsberg 84.40 28 *eP* **P 15 38 20.5 +1.6**
KONO Kongsberg 84.40 28‖ *iP* **P 15 38 20.2 +1.2**
KONO pmax pmax
comp=Z,62nm,0.9s
NB2 NORSAR Subarra 84.47 27 P **P 15 38 19.7 +0.4**
comp=Z,24nm,1.0s,baz=297,slow=5.1
NB2 NORSAR Subarra 84.47 27 P **P 15 38 19.7 +0.4**
baz=297,slow=5.1
NB2 NORSAR Subarra 84.47 27 P **P 15 38 18.0 -1.3**
NOA NORSAR Array B 84.47 27 P **P 15 38 20.1 +0.7**
comp=Z,6.7nm,0.7s,baz=297,slow=4.7,SNR=31
NOA pP **pP 15 38 37.1 +0.7**
comp=Z,1.7nm,0.8s,baz=307,slow=4.6,SNR=2.7
NOA LR LR 16 17 15.2
comp=Z,116nm,18.3s,baz=295,slow=36
comp=Z,6.7nm,0.7s
NB201 NORSAR Array S 84.49 27 IAmb IAmb 15 38 21.9
comp=Z,23nm,0.7s
HOMB Homborsund 84.52 30 *eP* **P 15 38 20.9 +1.3**
HOMB IAmb IAmb 15 38 21.5
comp=Z,56nm,0.9s
ARA0 ARCESS Array S 84.64 16 *eP* **P 15 38 20.2 +0.2**
ARA0 IAmb IAmb 15 38 21.3
comp=Z,42nm,0.9s
ARCES ARCESS Array B 84.64 16 P **P 15 38 20.1 +0.1**
comp=Z,27nm,0.7s,baz=311,slow=5.3,SNR=47
ARCES LR LR 16 15 48.7
comp=Z,208nm,20.4s,baz=307,slow=35
comp=Z,27nm,0.7s
NC602 NORSAR Array S 84.75 27 *eP* **P 15 38 21.8 +1.1**
OSL Oslo 84.77 28 *eP* **P 15 38 21.4 +0.7**
DGTI Dogotuki 84.89 251 P **P 15 38 24.9 +2.7**
VADS Vadso 85.24 15 *eP* **P 15 38 23.6 +0.6**
VADS IAmb IAmb 15 38 24.5
comp=Z,52nm,1.1s
UCC Uccle 85.48 38 *dP* **P 15 38 25.3 +0.7**
comp=Z,25nm,1.0s
MDT Midelt 85.74 57 LR LR 16 20 55.5
comp=Z,48nm,18.1s,baz=316,slow=38
DOU Dourbes 85.91 38 *dP* **P 15 38 26.8 +0.1**
comp=Z,13nm,1.0s
BMRD Maredsous 85.92 38 *dP* **P 15 38 28.0 +1.2**
comp=Z,19nm,1.0s
BMRD *dPP* **PP 15 41 46.4 -0.3**
HFS Hagfors 85.98 27 P **P 15 38 26.8 0.0**
comp=Z,13nm,0.9s,baz=225,slow=0.6,SNR=10
HFS LR LR 16 18 08.9
comp=Z,142nm,18.1s,baz=298,slow=36
comp=Z,13nm,0.9s
BGES Gesves 86.08 38 *dP* **P 15 38 28.0 +0.5**
comp=Z,14nm,1.0s
RCHB Rochefort 86.25 38 *dP* **P 15 38 29.2 +0.8**
comp=Z,9.5nm,1.0s
MEM Membach 86.52 38 *dP* **P 15 38 30.5 +0.8**
comp=Z,9.7nm,0.8s
MSVF Nonsavu 86.90 250 P **P 15 38 35.7 +3.5**
comp=Z,33nm,0.9s,baz=132,slow=9.3,SNR=16
MSVF pP **pP 15 38 51.2 +2.0**
comp=Z,42nm,1.0s,baz=112,slow=5.9,SNR=11
MSVF LR LR 16 08 19.5
comp=Z,119nm,19.6s,baz=33,slow=29
MSVF Nonsavu 86.90 250 P **P 15 38 36.3 +4.1**
MSVF Nonsavu 86.90 250‖ *eP* **P 15 38 34.9 +2.7**
MSVF pmax pmax
comp=Z,67nm,1.0s
WLF Walferdange 87.00 38 IAmb IAmb 15 39 00.4
comp=Z,28nm,1.1s
WLF Walferdange 87.00 38 *dP* **P 15 38 32.5 +0.4**
comp=Z,17nm,0.9s
PMSA Palmer Station 87.74 165 LR LR 16 09 09.8
comp=Z,127nm,19.4s,baz=322,slow=30
PMSA Palmer Station 87.74 165 *eP* **P 15 38 35.4 +0.3**
SSB Saint Sauveur 87.83 43 IAmb IAmb 15 39 24.0
comp=Z,40nm,1.7s
LVZ Lovozero 88.17 15‖ *eP* **P 15 38 35.6 -1.8**
LVZ pmax pmax
comp=Z,25nm,1.0s
CLL Collm 90.12 35 *i P* **P 15 38 46.4 -0.4**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 90.12 35 *i* Px Px 15 38 46.4
comp=Z,7.0nm,0.9s
FINES FINESS Array B 90.13 22 P **P 15 38 45.7 -0.9**
comp=Z,5.6nm,0.8s,baz=354,slow=3.9,SNR=15
FINES LR LR 16 19 00.2
comp=Z,259nm,21.5s,baz=306,slow=35
comp=Z,5.6nm,0.8s
YAK Yakutsk 90.22 338 P **P 15 38 47.5 +0.5**
YAK Yakutsk 90.22 338 LR LR 16 23 36.2
comp=Z,164nm,19.4s,baz=69,slow=38
YAK Yakutsk 90.22 338 *d iP* **P 15 38 47.7 +0.7**
YAK *e**PP **sP 15 39 09.3 -1.3**
YAK *e*PPP PPP 15 44 26.0
YAK *e*S **SKSac 15 49 10.4 -2.5**
YAK *e* 15 49 37.4
YAK *e*SS **SS 15 55 33.6 -1.6**
YAK *e*SSS SSS 15 59 06.7
YAK pmax pmax
comp=Z,142nm,0.9s
YAK pmax pmax
comp=N,33nm,2.0s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,239nm,7.3s
YAK pmax pmax
comp=N,141nm,7.3s
YAK pmax pmax
comp=E,159nm,4.8s
YAK smax smax
comp=N,257nm,7.2s
YAK smax smax
comp=E,154nm,6.2s
DAVA Damuels 90.28 39 *e*PcP **P 15 38 48.2 +0.4**
comp=E,9.1nm,1.0s
TUE Stuetta 90.33 40 IAmb IAmb 15 38 49.7
comp=Z,11nm,1.2s
TUE Stuetta 90.33 40 P **P 15 38 48.0 -0.2**
comp=Z,51nm,1.8s
DAVOX Davos/Dischmat 90.52 40 LR LR 16 20 38.6
comp=Z,73nm,18.7s,baz=284,slow=36
RETA Reute 90.71 39 *e*PcP **P 15 38 49.9 +0.2**
comp=Z,5.3nm,1.0s
FUORN Ofenpass-Fuorn 90.83 40 IAmb IAmb 15 38 51.8
comp=Z,10nm,1.1s
BRG Berggiesshubel 90.85 35 *eP* **P 15 38 50.2 0.0**
BRG Amp 15 38 53.5
comp=Z,8.6nm,0.9s
FETA Feichten 90.92 39 *e*PcP **P 15 38 51.1 +0.3**
comp=Z,7.0nm,1.2s
MOTA Moosalm 90.99 39 *eP* **P 15 38 51.0 -0.1**
comp=Z,8.6nm,1.1s
SQTA Sankt Quirin 91.11 39 *eP* **P 15 38 50.8 -0.8**
comp=Z,10.0nm,1.2s
TYV Tymovskoe 91.13 325 *eP* **P 15 38 52.6 +1.1**
TYV pmax pmax
comp=Z,37nm,1.0s
TYV pmax pmax
comp=Z,200nm,5.2s
WATA Walderalm 91.27 39 *eP* **P 15 38 52.3 -0.1**
comp=Z,4.4nm,1.2s
WTTA Wattenberg 91.34 39 *e*PcP **PcP 15 38 53.4 -0.3**
comp=Z,3.5nm,0.9s
KHC Kasperske Hory 91.54 37 *eP* **P 15 38 54.1 +0.6**
KHC Kasperske Hory 91.54 37‖ *eP* **P 15 38 53.3 -0.2**
KHC pmax pmax
comp=Z,9.0nm,1.3s
PRU Pruhonice 91.64 35 *eP* **P 15 38 53.8 -0.1**
PRU Pruhonice 91.64 35 *eP* **P 15 38 53.8 -0.1**
ZVC Zvikov 91.73 36 *eP* **P 15 38 55.0 +0.7**
GEC2 GERESS Array S 91.75 37 IAmb IAmb 15 38 55.5
comp=Z,6.6nm,1.0s
GERES GERESS Array B 91.75 37 P **P 15 38 54.1 -0.5**
GERES GERESS Array B 91.75 37 P **P 15 38 54.7 +0.1**
comp=Z,3.4nm,0.7s,baz=357,slow=2.7,SNR=10
GERES LR LR 16 23 23.2
comp=Z,81nm,18.8s,baz=304,slow=38
comp=Z,3.4nm,0.7s
LESA Schwarzleotal 91.88 38 *eP* **P 15 38 54.3 -0.9**
comp=Z,5.7nm,1.6s
ABTA Abfaltersbach 92.12 39 *eP* **P 15 38 56.1 -0.2**
comp=Z,8.8nm,1.1s
UPC Upice 92.16 35 *eP* **P 15 38 56.8 +0.5**
UPC Upice 92.16 35 *eP* **P 15 38 56.8 +0.5**
OSTC Ostas 92.24 34 *eP* **P 15 38 56.1 -0.6**
OSTC Ostas 92.24 34 *eP* **P 15 38 56.1 -0.6**
BIOA Bad Ischl, Aus 92.31 38 *eP* **P 15 38 56.7 -0.3**
comp=Z,5.2nm,1.1s
VSU Vasula 92.36 24‖ *iP* **P 15 38 58.4 +1.4**
VSU pmax pmax
comp=Z,23nm,1.0s
DPC Dobruska-Polom 92.41 35 *eP* **P 15 38 57.8 +0.3**
DPC Dobruska-Polom 92.41 35 *eP* **P 15 38 57.8 +0.3**
DPC Dobruska-Polom 92.41 35 P **P 15 38 57.5 0.0**
comp=Z,14nm,1.0s
KBA Koelnbreinsper 92.45 38 *eP* **P 15 38 56.4 -1.5**
comp=Z,5.6nm,1.5s
MOA Molln 92.59 37 *eP* **P 15 38 57.6 -0.8**
comp=Z,5.1nm,1.1s
OSSC Osservatorio P 92.91 42 IAmb IAmb 15 39 02.3
comp=Z,7.9nm,0.8s
YSS Yuzhno-Sakhali 93.11 322 P **P 15 39 01.1 +0.4**
YSS Yuzhno-Sakhali 93.11 322 P **P 15 39 01.6 +0.9**
YSS Yuzhno-Sakhali 93.11 322 *eP* **P 15 39 01.2 +0.5**
YSS *e* 15 49 27.8
YSS *e*S **S 15 50 01.2 -1.5**
YSS *e*PS **PS 15 51 29.6 +7.3**
YSS pmax pmax
comp=Z,30nm,1.1s
VRAC Vranov 93.13 35 LR LR 16 22 06.6
comp=Z,72nm,18.7s,baz=312,slow=36
VRAC Vranov 93.13 35 *eP* **P 15 39 01.1 +0.3**
KRUC Moravsky 93.15 36 *eP* **P 15 39 00.8 -0.1**
SABO M.te Sabotino 93.16 39 IAmb IAmb 15 39 04.7
comp=Z,6.6nm,0.7s
MORC Moravsky Berou 93.39 35 IAmb IAmb 15 39 03.2
comp=Z,11nm,1.0s
MORC Moravsky Berou 93.39 35 *eP* **P 15 39 02.4 +0.4**
OBKA Obir 93.45 38 *eP* **P 15 39 01.1 -1.3**
comp=Z,6.0nm,1.0s
CONA Conrad Observa 93.46 37 *eP* **P 15 39 00.9 -1.6**
comp=Z,5.7nm,1.2s
ARSA Arzberg 93.63 37 *eP* **P 15 39 02.1 -1.1**
comp=Z,4.5nm,1.2s
SOKA Soboth 93.64 38 *eP* **P 15 39 02.3 -1.0**
comp=Z,10nm,1.2s
RONA Rosalia, Austr 93.83 37 *eP* **P 15 39 03.3 -0.8**
comp=Z,7.4nm,0.9s
JAVC Velka Javorina 93.97 35 *eP* **P 15 39 06.1 +1.4**
MODS Modra-Piesok 94.02 36 *eP* **P 15 39 06.1 +1.2**
MODS pmax pmax
comp=Z,39nm,1.3s
MODS Modra-Piesok 94.02 36 *eP* **P 15 39 06.1 +1.2**
DBIC Dimbokro 94.12 82 P **P 15 39 05.1 -0.9**
DBIC Dimbokro 94.12 82 P **P 15 39 05.3 -0.7**
comp=Z,9.7nm,0.9s,baz=285,slow=3.8,SNR=9.8
DBIC LR LR 16 15 55.6
comp=Z,92nm,21.8s,baz=288,slow=32
comp=Z,9.7nm,0.9s
DBIC Dimbokro 94.12 82 P **P 15 39 05.1 -0.9**
DBIC pmax pmax
comp=Z,17nm,1.1s
CESX Cesi 94.21 43 IAmb IAmb 15 39 06.4
comp=Z,17nm,1.2s
FDMO Fiordimonte 94.32 42 IAmb IAmb 15 39 07.5
comp=Z,15nm,1.0s
URZ Urewera 94.74 231 LR LR 16 11 53.3
comp=Z,78nm,21.4s,baz=124,slow=29
VYHS Vyhne 94.81 35 *eP* **P 15 39 09.2 +0.7**
VYHS pmax pmax
comp=Z,21nm,1.3s
VYHS Vyhne 94.81 35 *eP* **P 15 39 09.2 +0.7**
SRO Srobarova 94.91 36 *eP* **P 15 39 10.1 +1.2**
SRO Srobarova 94.91 36 *eP* **P 15 39 10.1 +1.2**
KLMR Klimovskoe 94.99 18 *eP* **P 15 39 04.8 -4.2**
KLMR pmax pmax
comp=Z,21nm,1.1s
NIE Niedzica 95.06 34 P **P 15 39 09.9 +0.2**
KEST Kesra 95.25 50 P **P 15 39 11.1 +0.2**
comp=Z,11nm,1.1s,baz=326,slow=3.6,SNR=4.7
comp=Z,11nm,1.1s
ERM Erimo 95.39 317 P **P 15 39 13.5 +2.2**
ERM Erimo 95.39 317 *deP* **P 15 39 10.9 0.4**
ERM pmax pmax
comp=Z,49nm,1.1s
JEM Erimo 95.39 317 P **P 15 39 13.4 +2.1**
MNK Minsk 95.49 27 *i* P **P 15 39 09.5 -2.0**
MNK *i* *PP **pP 15 39 30.5 +2.0**
MNK *i* 15 42 59.4
MNK *i* S **SKSac 15 49 37.7 -4.7**
MNK *i* *SS **S 15 50 16.0 -7.2**
MNK *i* SS **SS 15 56 47.2 -3.8**
MNK *i* SSS SSS 16 00 31.2
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=E,16nm,1.0s
MNK MLR MLR
comp=N,197nm,23.0s
MNK MLR MLR
comp=E,113nm,18.0s
MNK MLR MLR
comp=Z,166nm,23.0s
KECS Kecovo 95.71 35 *eP* **P 15 39 13.2 +0.6**
KECS pmax pmax
comp=Z,23nm,1.3s
KECS Kecovo 95.71 35 *eP* **P 15 39 13.2 +0.6**
KOLS Kolonicke sedl 96.39 34 *eP* **P 15 39 16.8 +1.1**
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 96.39 34 *eP* **P 15 39 16.8 +1.1**
ZEA Zeya 96.87 333 *eP* **P 15 39 18.4 +0.7**
KLR Kul'dur 97.80 328‖ *eP* Pdif 15 39 22.3 +0.2
KLR pmax pmax
comp=Z,4.0nm,1.4s
TORD Torodi Ar. Bea 98.00 73 P **P 15 39 22.4 -1.2**
TORD IAmb IAmb 15 39 23.5
comp=Z,4.6nm,1.1s
TORD Torodi Ar. Bea 98.00 73 P **P 15 39 21.8 -1.8**
comp=Z,7.0nm,0.4s,baz=281,slow=4.2,SNR=2.0
comp=Z,7.0nm,0.4s
OBN Obninsk 98.53 23 LR LR 16 26 06.3
comp=Z,144nm,18.1s,baz=358,slow=37
OBN Obninsk 98.53 23‖ *eP* **P 15 39 24.3 -0.8**
OBN *e**PP **sP 15 39 46.3 -2.5**
OBN *e* 15 43 28.9
OBN pmax pmax
comp=Z,30nm,1.9s
DZM Mont Dzumac 98.62 250 LR LR 16 14 23.0
comp=Z,152nm,20.9s,baz=71,slow=30
AKASG Malin Array Be 98.68 29 P **P 15 39 24.5 -1.5**
comp=Z,0.4nm,0.2s,baz=293,slow=3.5,SNR=12
AKASG LR LR 16 25 06.2
comp=Z,47nm,18.4s,baz=306,slow=36
comp=Z,0.4nm,0.2s
AKASG Malin Array Be 98.68 29 *i* P **P 15 39 24.0 -2.0**
AKBB Malin Array Si 98.68 29‖ *iP* **P 15 39 24.3 -1.7**
HEH HeiHe 99.21 331 *eP* **Pdif 15 39 28.6 +0.3**
HEH pmax pmax
comp=Z,8.0nm,1.0s
KIRV Kirov 99.60 15 LR LR 16 26 08.3
comp=Z,112nm,18.2s,baz=333,slow=36
KIRV Kirov 99.60 15‖ *iP* **Pdif 15 39 27.6 -2.2**
MJAR Matsushiro Arr 101.54 315 P **Pdif 15 39 39.6 +0.6**
comp=Z,2.4nm,0.9s,baz=58,slow=4.4,SNR=5.8
KSRS Korea Array 107.56 321 PKiKP **PKiKP 15 44 13.2 -0.5**
comp=Z,0.6nm,0.7s,baz=30,slow=1.7,SNR=3.5
ZALV Zalesovo Beam 107.72 356 Pdiff **Pdif 15 40 06.0 -0.1**
comp=Z,0.7nm,0.5s,baz=348,slow=3.6,SNR=3.6
ZALV PP **PP 15 44 33.9 0.0**
comp=Z,0.8nm,0.6s,baz=343,slow=4.6,SNR=3.6
QSPA South Pole Qui 108.34 180 PKiKP **PKiKP 15 44 15.1 +0.9**
comp=Z,1.8nm,0.8s,baz=236,slow=0.7,SNR=9.1
QSPA PKKPbc **PKKPbc 15 55 24.5 -3.7**
comp=Z,1.8nm,0.8s,baz=251,slow=2.2,SNR=8.6
BVAR Borovoye Array 108.50 5 PKKP 15 55 40.9
comp=Z,0.7nm,0.8s,baz=180,slow=5.3,SNR=1.7
SONM Songino Array 109.48 341 PKiKP **PKiKP 15 44 17.4 +0.2**
comp=Z,0.2nm,0.4s,baz=243,slow=1.7,SNR=4.9
SONM PKKPbc **PKKPbc 15 55 22.1 -1.4**
comp=Z,0.1nm,0.4s,baz=193,slow=4.4,SNR=4.5
SNAA Sanae 110.06 161‖ *i*PKIKP **PKiKP 15 44 17.0 -0.4**
KURK Kurchatov 111.16 360 *i* PKIKP **PKiKP 15 44 19.9 -0.2**
KURBB Kurchatov Arra 111.26 0 PKiKP **PKiKP 15 44 19.9 -0.4**
comp=Z,0.2nm,0.4s,baz=11,slow=1.8,SNR=2.7

KURBB				PP	**PP**	**15 44 59.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=14,slow=7.6,SNR=5.1						
KURBB				PKKPbc	**PKKPbc**	**15 55 16.4**	**-1.3**
	comp=Z,0.6nm,0.2s,baz=206,slow=3.3,SNR=4.5						
MAK	**Makhachkala**	**112.56**	**24**	*i* P	**Pdif**	**15 40 27.3**	**-0.6**
MAK				*i*		15 44 23.0	
MAK				*e*		15 44 38.0	
MAK				*e*		15 45 07.8	
MAK				*e*		15 51 01.3	
MAK				*e*PS	**PS**	**15 54 46.2**	**+1.8**
MAK				*e*SS	SS	16 00 45.7	+0.6
MAK				*e*SSS	SSS	16 04 53.1	
MAK				pmax	pmax		
	comp=Z,135nm,1.5s						
HHC	**Hu-ho-hao-te**	**113.53**	**333**	*e*PKP	**PKiKP**	**15 44 21.2**	**-3.9**
HHC				LR	LR		
	comp=Z,140nm,12.6s						
HHC				LR	LR		
	comp=Z,140nm,17.2s						
HHC				LR	LR		
	comp=Z,220nm,15.7s						
MKAR	**Makanchi Array**	**115.00**	**357**	Pdiff	**Pdif**	**15 40 39.1**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=16,slow=3.5,SNR=3.6						
MKAR				PKP	**PKiKP**	**15 44 26.4**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=0.1,slow=2.8,SNR=7.7						
MKAR				PKKPbc	**PKKPbc**	**15 55 03.2**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=144,slow=4.3,SNR=8.8						
MKAR				PKKPab	**PKKPab**	**15 55 09.5**	**-2.8**
	comp=Z,2.1nm,0.8s,baz=156,slow=6.2,SNR=17						
MKAR				PKKP	**PKKPdf**	**15 55 25.9**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=167,slow=5.7,SNR=7.4						
NJ2	**Nanjing**	**116.68**	**322**	*e*PKP	**PKiKP**	**15 44 32.7**	**+1.5**
WMQ	**Urumqi**	**117.50**	**353**	*e*PKP	**PKiKP**	**15 44 33.3**	**+0.7**
WMQ				LR	LR		
	comp=Z,320nm,19.7s						
WMQ				LR	LR		
	comp=Z,280nm,22.7s						
ELIB	**Princess Elisa**	**117.86**	**163**	*d*PKPdf	**PKiKP**	**15 44 32.9**	**+0.4**
ELIB				*dp*PKPdf	**pPKPdf**	**15 44 49.6**	**-0.7**
AAK	**Ala-Archa**	**119.13**	**3** ⇓	*i*PKIKP	**PKPdf**	**15 44 35.4**	**-0.5**
GTA	**Gaotai**	**119.13**	**341**	PKP	**PKiKP**	**15 44 36.4**	**+0.4**
QLP	**Quilpie**	**119.34**	**249**	P	**PKiKP**	**15 44 38.6**	**+2.1**
LZH	**Lanzhou**	**120.74**	**336**	*e*PKP	**PKPdf**	**15 44 34.1**	**-5.1**
STKA	**Stephens Creek**	**122.09**	**244**	PKP	**PKiKP**	**15 44 41.9**	**+0.2**
	comp=Z,11nm,0.8s,baz=38,slow=2.1,SNR=22						
STKA				pPKP	**pPKPdf**	**15 44 58.7**	**-0.7**
	comp=Z,6.9nm,0.8s,baz=359,slow=3.4,SNR=6.7						
STKA	**Stephens Creek**	**122.09**	**244**	P	**PKiKP**	**15 44 42.2**	**+0.5**
STKA	**Stephens Creek**	**122.09**	**244**	P	**PKiKP**	**15 44 42.6**	**+0.9**
GAR	**Garm**	**122.36**	**8**		**PKiKP**	**15 44 42.7**	**+0.4**
INKA	**Innaminka**	**122.55**	**248**	P	**PKiKP**	**15 44 44.8**	**+2.1**
INKA	**Innaminka**	**122.55**	**248**	P	**PKiKP**	**15 44 43.9**	**+1.2**
QIS	**Mount Isa**	**122.71**	**257**	P	**PKiKP**	**15 44 43.2**	**0.0**
ENH	**Enshi**	**123.16**	**328**	P	**PKPdf**	**15 44 43.9**	**+0.2**
ENH	**Enshi**	**123.16**	**328**	P	**PKPdf**	**15 44 44.0**	**+0.2**
GOMU	**GeErMu**	**123.54**	**344**	PKP	**PKiKP**	**15 44 45.0**	**-0.1**
GOMU				SS	SS	16 03 08.5	+0.7
GOMU				LR	LR		
	comp=Z,280nm,17.6s						
GOMU				LR	LR		
	comp=Z,190nm,17.6s						
GOMU				LR	LR		
	comp=Z,390nm,17.4s						
SYO	**Syowa Base**	**123.99**	**164** ⇑	*i*Pdiff	**Pdif**	**15 41 19.1**	**+1.2**
SYO	**Syowa Base**	**123.99**	**164** ⇑	*ep*Pdiff	pPdif	15 41 33.0	-2.2
RAYN	**Ar Rayn**	**127.28**	**39**		**PKPdf**	**15 44 51.7**	**-0.2**
RAYN	**Ar Rayn**	**127.28**	**39**	PKIKP	**PKPdf**	**15 44 51.7**	**-0.2**
WRAB	**Tennant Creek**	**127.49**	**259**		**PKPdf**	**15 44 52.0**	**-0.2**
WRAB	**Tennant Creek**	**127.49**	**259**	*d*PKIKP	**PKPdf**	**15 44 52.2**	**0.0**
WRA	**Warramunga Arr**	**127.50**	**259**	PKP	**PKPdf**	**15 44 52.3**	**0.0**
	comp=Z,10nm,0.8s,baz=79,slow=1.8,SNR=43						
WRA				pPKP	**pPKPdf**	**15 45 09.2**	**-0.8**
	comp=Z,7.4nm,0.9s,baz=74,slow=1.8,SNR=9.5						
WRA				SKKPbc	SKKPbc	15 58 02.9	-1.6
	comp=Z,0.6nm,1.0s,baz=254,slow=2.9,SNR=2.0						
GYA	**Guiyang**	**127.70**	**328**	⇑PKP	**PKiKP**	**15 44 53.1**	**-0.2**
GYA				AMB	AMB		
	comp=Z,100nm,6.1s						
AS06	**Alice Springs**	**128.28**	**254**	P	**PKiKP**	**15 44 54.4**	**0.0**
AS01	**Alice Springs**	**128.30**	**254**	P	**PKiKP**	**15 44 54.3**	**-0.1**
AS01	**Alice Springs**	**128.30**	**254**	P	**PKiKP**	**15 44 54.4**	**+0.1**
AS31	**Alice Springs**	**128.34**	**254**	P	**PKiKP**	**15 44 54.2**	**-0.2**
ASAR	**Alice Springs**	**128.34**	**254**		**PKPdf**	**15 44 53.7**	**-0.1**
ASAR	**Alice Springs**	**128.34**	**254**	PKP	**PKPdf**	**15 44 53.9**	**0.0**
	comp=Z,7.0nm,0.8s,baz=92,slow=2.0,SNR=43						
ASAR				SKKPbc	SKKPbc	15 58 01.4	-0.3
	comp=Z,1.5nm,0.9s,baz=265,slow=3.2,SNR=8.0						
MAW	**Mawson**	**129.82**	**172**	PKP	**PKiKP**	**15 44 55.8**	**-0.1**
	comp=Z,22nm,0.8s,baz=249,slow=4.8,SNR=5.6						
MAW				pPKP	**pPKPdf**	**15 45 13.4**	**+0.3**
	comp=Z,33nm,0.9s,baz=242,slow=10,SNR=2.4						
MBAR	**Mbarara**	**129.84**	**75** ⇓	*i*PKIKP	**PKiKP**	**15 44 58.0**	**+0.1**
PZH	**PanZhiHua**	**129.99**	**333**	PKP	**PKiKP**	**15 44 57.8**	**-0.1**
BOSA	**Boshof**	**130.43**	**112**		**PKPdf**	**15 44 57.8**	**+0.1**
BOSA	**Boshof**	**130.43**	**112**	PKP	**PKPdf**	**15 44 58.0**	**+0.3**
	comp=Z,10nm,0.9s,baz=279,slow=1.3,SNR=13						
LBTB	**Lobatse**	**130.61**	**107**		**PKPdf**	**15 44 58.5**	**+0.3**
LBTB	**Lobatse**	**130.61**	**107**	PKIKP	**PKPdf**	**15 44 58.5**	**+0.3**
WRKA	**Warakurna**	**133.53**	**253**	P	**PKPdf**	**15 45 01.7**	**-1.9**
WRKA	**Warakurna**	**133.53**	**253**	P	**PKiKP**	**15 45 05.2**	**+0.3**
WRKA	**Warakurna**	**133.53**	**253**	P	**PKiKP**	**15 45 04.8**	**-0.1**
KMBO	**Kilima Mbogo**	**135.99**	**72**	PKP	**PKPdf**	**15 45 07.3**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=217,slow=22,SNR=1.6						
NONG	**Nongkai**	**136.42**	**325**	P	**PKiKP**	**15 45 11.5**	**+0.6**
NONG	**Nongkai**	**136.42**	**325**	P	**PKiKP**	**15 45 10.1**	**-0.8**
CHTO	**Chiang Mai**	**137.92**	**331**		**PKPdf**	**15 45 11.7**	**-0.2**
CHTO	**Chiang Mai**	**137.92**	**331**	PKIKP	**PKPdf**	**15 45 11.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**138.23**	**330**	PKhKP	PKPpre	15 45 05.0	
	comp=Z,1.8nm,0.8s,baz=359,slow=1.9,SNR=11						
CMAR				PKP	**PKPdf**	**15 45 13.3**	**+0.8**
	comp=Z,7.3nm,0.7s,baz=329,slow=1.7,SNR=30						
CMAR				pPKP	pPKPdf	15 45 29.6	-0.6
	comp=Z,5.5nm,0.8s,baz=275,slow=1.3,SNR=6.1						
CMAR				SKPab	**SKPab**	**15 48 48.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=38,slow=3.3,SNR=4.6						
HYB	**Hyderabad**	**144.38**	**0**	*e*PKPdf	**PKPab**	**15 45 21.5**	**-0.2**
SMRI	**Semarang**	**146.97**	**286**	P	**PKPbc**	**15 45 30.6**	**+0.5**
UGM	**Wanagama**	**147.23**	**284**	PKPdf	**PKPdf**	**15 45 29.1**	**+0.6**
UGM	**Wanagama**	**147.23**	**284**	P	**PKPbc**	**15 45 31.1**	**+0.3**
KULM	**Kulim**	**147.91**	**315**	PKPbc	**PKPbc**	**15 45 33.0**	**+0.3**
FOMA	**Nahampoana Res**	**149.99**	**108**		**PKPbc**	**15 45 37.8**	**+0.2**
VOI	**Vohitsoka**	**150.01**	**102**		**PKPdf**	**15 45 32.7**	**-0.2**
PSI	**Prapat**	**150.89**	**314**	P	**PKPdf**	**15 45 35.2**	**+0.6**
PSI	**Prapat**	**150.89**	**314**	P	**PKPdf**	**15 45 35.0**	**+0.4**
GSI	**Gunungsitoli**	**152.90**	**314**		**PKiKP**	**15 45 45.1**	**+0.2**

*IDC **03** 15:31:20.7±5.7, 44°.80N×146°.55E, h154km±52km, mb3.1/7, mbtmp3.6/8, Error ellipse: s-maj=31.0km s-min=23.2km az=168.0*
*JMA **03** 15:31:23.8±0.3, 45°.N±2°.×14°.7E±°, h174km±3km, MV3.4/27, NEAR ETOROFU ISLAND*
*SKHL **03** 15:31:24.0±0.2, 44°.80N×146°.70E, h153km±3km, mb4.6/5, msha5.2/3*
ISC 03 15:31:22.5±0.8, 44°.70N±0°.06×146°.79E±0°.06, h179km±7km, n29, σ0°95/37, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.93**	**55**	*e*P	**Pn**	**15 31 50.3**	**+0.8**
KUR				AMB	AMB	15 31 50.7	
	280nm,0.4s						
KUR				*e*S	**Sn**	**15 32 10.6**	**+0.2**
KUR				A	A	15 32 17.5	
	520nm,0.4s						
KUR				A	A	15 32 17.5	
	350nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.94**	**225**	*i* P	**Pn**	**15 31 50.1**	**+0.5**
YUK				AMB	AMB	15 31 51.0	
	340nm,0.3s						
YUK				*e*S	**Sn**	**15 32 10.5**	**+0.1**
YUK				A	A	15 32 12.3	
	280nm,0.4s						
YUK				A	A	15 32 12.3	
	460nm,0.4s						
JRA	**Rausu**	**1.42**	**238**	P	**Pn**	**15 31 54.2**	**+0.7**
JRA				*e*S	**Sn**	**15 32 17.7**	**+0.3**
NEM2	**Nemuro 2**	**1.53**	**210**	P	**Pn**	**15 31 54.7**	**+0.1**
NEM2				*e*S	**Sn**	**15 32 18.0**	**-1.4**
NMR	**Nemuro--Hokkai**	**1.54**	**210**	*i* P	**Pn**	**15 31 54.8**	**+0.2**
NMR				*e*S	**Sn**	**15 32 18.8**	**-0.6**
JNSB	**Nemuroshibetsu**	**1.58**	**235**	P	**Pn**	**15 31 55.9**	**+0.9**
JNSB				*e*S	**Sn**	**15 32 20.8**	**+0.6**
JNK	**Nakash**	**1.86**	**234**	P	**Pn**	**15 31 58.7**	**+0.8**
JKHN	**Kushirohamanak**	**2.00**	**217**	P	**Pn**	**15 31 59.9**	**+0.5**
JKHN				*e*S	**Sn**	**15 32 27.3**	**-0.7**
JTKR	**Abashiri--Toko**	**2.19**	**252**	P	**Pn**	**15 32 02.1**	**+0.7**
JTKR				*e*S	**Sn**	**15 32 31.5**	**-0.2**
AKK	**Akkeshi**	**2.19**	**221**	*i* P	**Pn**	**15 32 01.9**	**+0.4**
AKK				*e*S	**Sn**	**15 32 30.7**	**-1.1**
JAK	**Akkeshi**	**2.28**	**222**	P	**Pn**	**15 32 02.9**	**+0.4**
JAK				*e*S	**Sn**	**15 32 32.5**	**-1.1**
JMP	**Maruseppu**	**2.55**	**255**	*e*P	**Pn**	**15 32 06.4**	**+0.7**
JMP				*e*S	**Sn**	**15 32 39.4**	**+0.1**
JAR	**Ashorobuto**	**2.59**	**238**	P	**Pn**	**15 32 07.7**	**+1.6**
JAR				*e*S	**Sn**	**15 32 41.2**	**+1.2**
JOB	**Onbets**	**2.79**	**231**	*e*P	**Pn**	**15 32 09.4**	**+0.9**
JOB				*e*S	**Sn**	**15 32 43.2**	**-1.0**
YSS	**Yuzhno-Sakhali**	**3.61**	**310**	*e*P	**Pn**	**15 32 18.6**	**+0.2**
YSS				AMB	AMB	15 32 18.9	
	40nm,0.4s						
YSS				*e*S	**Sn**	**15 33 02.2**	**-0.1**
YSS				A	A	15 33 03.5	
	10.0nm,0.4s						
YSS				A	A	15 33 03.5	
	10.0nm,0.4s						
PETK	**Petropavlovsk-**	**11.05**	**37**	P	**Pn**	**15 33 53.9**	**-1.6**
	5.3nm,1.0s,baz=214,slow=11,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**29.99**	**140**	T	T	16 08 26.4	
	baz=329,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.01**	**140**	T	T	16 08 34.0	
	baz=329,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**30.01**	**140**	T	T	16 08 39.1	
	baz=329,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**30.97**	**141**	T	T	16 09 45.1	
	baz=330,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.98**	**141**	T	T	16 09 46.3	
	baz=330,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**30.99**	**141**	T	T	16 09 47.2	
	baz=330,slow=76,SNR=12						
ILAR	**Eielson Array**	**40.88**	**37**	P	**P**	**15 38 47.3**	**+0.8**
	0.3nm,0.6s,baz=262,slow=6.1,SNR=2.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**43.92**	**297**	P	**P**	**15 39 11.6**	**+0.3**
	0.2nm,0.4s,baz=70,slow=7.6,SNR=4.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.87**	**303**	P	**P**	**15 39 17.9**	**-0.8**
	0.4nm,0.4s,baz=74,slow=8.5,SNR=4.4						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**63.91**	**333**	P	**P**	**15 41 33.7**	**-2.0**
	1.9nm,1.0s,baz=36,slow=6.3,SNR=1.3						
	1.9nm,1.0s						
WRA	**Warramunga Arr**	**65.33**	**193**	P	**P**	**15 41 45.9**	**+0.6**
	0.3nm,0.6s,baz=9.2,slow=6.6,SNR=2.4						
	0.3nm,0.6s						
NOA	**NORSAR Array B**	**68.62**	**339**	P	**P**	**15 42 04.6**	**-1.1**
	0.7nm,0.8s,baz=46,slow=7.3,SNR=1.2						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**69.50**	**50**	P	**P**	**15 42 13.7**	**+2.0**
	0.3nm,0.6s,baz=294,slow=3.6,SNR=3.0						
	0.3nm,0.6s						

*IDC **03** 15:57:23.5±1.7, 19°.57S×172°.14E, h0km, mb3.7/5, mbtmp3.6/7, ML4.4/1, MS3.6/3, Error ellipse: s-maj=105.2km s-min=21.3km az=158.0*
ISC 03 15:57:28.5±1.1, 19°.7S±0°.4×172°.2E±0°.2, h35km, n19, σ0°54/16, mb3.8/5, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.86**	**246**	Pn	**Pn**	**15 58 53.2**	**+0.2**
	6.8nm,0.8s,baz=72,slow=19,SNR=2.4						
MSVF	**Nonsavai**	**5.89**	**71**	Pn	**Pn**	**15 58 53.6**	**+0.2**
	0.3nm,0.3s,baz=200,slow=18,SNR=2.0						
	3.1nm,0.8s						
HNR	**Honiara**	**15.66**	**309**	LR	LR	16 07 04.5	
	comp=Z,33nm,18.3s,baz=246,slow=38						
WRA	**Warramunga Arr**	**35.56**	**263**	P	**P**	**16 04 22.5**	**-0.2**
	0.6nm,0.9s,baz=103,slow=8.5,SNR=4.8						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**35.72**	**257**	P	**P**	**16 04 23.4**	**-0.6**
	0.5nm,0.8s,baz=93,slow=7.8,SNR=8.4						
	0.5nm,0.8s						
MA2	**Magadan**	**80.95**	**349**	LR	LR	16 40 11.4	
	comp=Z,34nm,19.3s,baz=76,slow=32						
NVAR	**Mina Array Bea**	**87.06**	**47**	P	**P**	**16 10 11.1**	**+0.3**
	0.2nm,0.4s,baz=235,slow=4.5,SNR=2.1						
	0.2nm,0.4s						
BRDH	**Bariadhala**	**89.19**	**294**	LR	LR	16 52 38.3	
	comp=Z,158nm,19.4s,baz=350,slow=37						
ILAR	**Eielson Array**	**89.90**	**16**	P	**P**	**16 10 22.8**	**-0.6**
	0.4nm,0.8s,baz=237,slow=4.5,SNR=6.6						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**94.56**	**61**	P	**P**	**16 10 45.2**	**-0.7**
	0.4nm,0.7s,baz=237,slow=4.0,SNR=4.0						
	0.4nm,0.7s						
RONA	**Rosalia, Austr**	**145.93**	**331**	*i* PKP	**PKPab**	**16 17 05.4**	**+0.6**
	0.2nm,0.2s						
CONA	**Conrad Observa**	**145.96**	**331**	*i* PKP	**PKPab**	**16 17 05.8**	**+0.7**
	0.4nm,0.3s						
GERES	**GERESS Array B**	**146.20**	**334**	PKPbc	**PKPab**	**16 17 05.9**	**0.0**
	1.5nm,0.7s,baz=45,slow=1.5,SNR=6.5						
BIOA	**Bad Ischl, Aus**	**147.12**	**333**	*i* PKP	**PKPdf**	**16 17 06.5**	**+0.8**
	1.1nm,0.3s						
KBA	**Koelnbreinsper**	**147.72**	**333**	*i* PKP	**PKPbc**	**16 17 09.9**	**+0.2**
	0.3nm,0.3s						
LESA	**Schwarzleotal**	**147.74**	**334**	*i* PKP	**PKPbc**	**16 17 09.6**	**0.0**
	1.3nm,0.5s						
WTTA	**Wattenberg**	**148.30**	**334**	*e*PKP	**PKPbc**	**16 17 10.7**	**-0.5**
	0.2nm,0.2s						
MOTA	**Moosalm**	**148.45**	**335**	*e*PKP	**PKPbc**	**16 17 12.3**	**+0.7**
	0.4nm,0.2s						
RETA	**Reutte**	**148.46**	**336**	*i* PKP	**PKPbc**	**16 17 11.4**	**-0.1**
	0.4nm,0.2s						

*REN **03** 16:10:23.0±1.3, 37°.52N±0°.01×113°.86W±0°.02, h3km±1km, Error ellipse: s-maj=2.4km s-min=1.8km az=224.0*
*NEIC **03** 16:10:22.3±1.4, 37°.49N±0°.02×113°.87W±0°.02, h8km±11km, Error ellipse: s-maj=2.9km s-min=1.0km az=220.0*
UUSS 03 16:10:22.6±0.9, 37°.49N±0°.01×113°.85W±0°.02, h7km±5km, ML3.0/10, ML3.0/23(REN), ML3.0/130(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=222.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.35**	**190**		Pg	16 10 27.6	-1.8
ARUT	**Antelope Range**	**0.44**	**48**		Pg	16 10 31.3	+0.2
LCMT	**Little Creek M**	**0.68**	**135**		Sg	16 10 45.3	+0.7
LCMT	**Little Creek M**	**0.68**	**135**		Pg	16 10 35.7	-0.1
LCMT	**Little Creek M**	**0.68**	**135**	IAML		16 10 46.4	
	comp=E,606nm,0.2s						
LCMT				IAML		16 10 49.1	
	comp=N,525nm,0.2s						
DWU	**Dry Willow Pea**	**0.91**	**48**		Pg	16 10 40.1	0.0
KNB	**Kanab**	**0.95**	**120**		Sg	16 10 53.6	+0.5
KNB	**Kanab**	**0.95**	**120**	Pg	Pg	16 10 40.6	-0.2
KNB	**Kanab**	**0.95**	**120**	IAML		16 10 53.8	
	comp=E,197nm,0.6s						
KNB				IAML		16 10 54.1	
	comp=N,182nm,0.4s						
PRN	**Pahroc Range**	**0.96**	**265**		Pg	16 10 40.9	-0.2
PRN				IAML		16 11 00.6	
	comp=N,652nm,0.3s						
PRN				IAML		16 11 04.5	
	comp=E,521nm,0.5s						
PSUT	**Pine Spring**	**1.04**	**360**	Pg	Pg	16 10 42.0	-0.6
PSUT				IAML		16 10 56.2	
	comp=E,371nm,0.6s						
PSUT				IAML		16 10 59.8	
	comp=N,266nm,0.6s						
PKCU	**Pink Cliffs**	**1.23**	**92**		Pg	16 10 46.0	-0.2
PKCU				IAML		16 11 03.8	
	comp=N,348nm,0.2s						
IMU	**Iron Mountain**	**1.26**	**25**		Pg	16 10 46.5	-0.3
NMUT	**North Mineral**	**1.29**	**37**		Pn	16 10 46.9	-0.5
MTPU	**Mount Pierson**	**1.43**	**67**		Pb	16 10 49.7	-0.1
SHPR	**Sheep Range**	**1.44**	**227**		Pn	16 10 49.2	-0.2
SHPR				IAML		16 11 08.6	
	comp=E,125nm,0.5s						
SHPR				IAML		16 11 09.9	
	comp=N,141nm,0.3s						
S11A	**Rachel**	**1.52**	**276**		Sg	16 11 12.9	+1.6
S11A	**Rachel**	**1.52**	**276**		Pn	16 10 49.8	-0.5
S11A	**Rachel**	**1.52**	**276**	IAML		16 11 13.7	
	comp=E,838nm,0.4s						
S11A				IAML		16 11 14.1	
	comp=N,840nm,0.9s						
SPR3	**Spring Creek 3**	**1.55**	**346**		Pn	16 10 49.3	-1.7
SPR3				IAML		16 11 13.4	
	comp=N,120nm,0.5s						
TCRU	**Three Creeks R**	**1.57**	**44**		Sg	16 11 13.4	+0.3
TCRU	**Three Creeks R**	**1.57**	**44**		Pn	16 10 51.5	+0.3
TCRU	**Three Creeks R**	**1.57**	**44**	IAML		16 11 15.4	
	comp=E,84nm,0.6s						
TCRU				IAML		16 11 21.0	
	comp=N,108nm,0.9s						
R11B	**Troy Canyon, C**	**1.62**	**302**		Pn	16 10 51.4	-0.4
R11B				IAML		16 11 15.7	
	comp=N,264nm,0.7s						
U15A	**North Rim**	**1.64**	**130**		Pn	16 10 52.6	+0.4
U15A				IAML		16 11 15.5	
	comp=E,102nm,0.6s						
U15A				IAML		16 11 20.1	
	comp=N,178nm,0.7s						
MSU	**Marysvale**	**1.67**	**52**		Pn	16 10 52.9	+0.4
Q12A	**Willow Creek R**	**1.73**	**334**		Pn	16 10 53.3	+0.1
CPY	**CP-1**	**1.85**	**253**		Pn	16 10 54.5	-0.4
MCY	**Mercury**	**1.88**	**244**		Pn	16 10 55.1	-0.3
V12A	**Nelson**	**1.94**	**205**	Pn	Pn	16 10 56.0	-0.1
V12A				IAML		16 11 24.4	
	comp=E,134nm,0.6s						
V12A				IAML		16 11 25.2	
	comp=N,104nm,0.6s						
TPNV	**Topopah Spring**	**1.99**	**255**		Pn	16 10 56.4	-0.5
TPNV				IAML		16 11 30.5	
	comp=N,118nm,0.5s						
TPNV				IAML		16 11 40.7	
	comp=N,99nm,0.5s						
NSP	**Numbskull Pass**	**2.04**	**249**		Pn	16 10 57.3	-0.2
SDH	**Striped Hills**	**2.16**	**248**		Pn	16 10 59.2	0.0
AMDNV	**Amargosa**	**2.21**	**243**		Pn	16 11 00.1	+0.4
FSU	**Fish Springs**	**2.25**	**9**		Pn	16 11 00.3	-0.2
WCT	**Wildcat Mounta**	**2.33**	**253**		Pn	16 11 01.7	+0.2
WCT	**Wildcat Mounta**	**2.33**	**253**		Pn	16 11 01.6	+0.1
W13A	**Hualapai Mount**	**2.39**	**181**	IAML		16 11 39.5	
	comp=E,84nm,0.7s						
W13A				IAML		16 11 41.5	
	comp=N,55nm,0.6s						
GWY	**Greenwater Val**	**2.61**	**241**		Pn	16 11 05.7	+0.3
GWY	**Greenwater Val**	**2.61**	**241**	IAML		16 11 50.3	
	comp=E,70nm,0.6s						
GWY				IAML		16 11 51.1	
	comp=N,46nm,0.4s						
TUQ	**Turquoise Moun**	**2.65**	**220**		Pn	16 11 06.7	+0.8
MZP	**Montezuma Peak**	**2.81**	**275**		Pn	16 11 08.3	0.0
MZP	**Montezuma Peak**	**2.81**	**275**	IAML		16 11 59.2	
	comp=E,29nm,0.4s						
DUG	**Dugway, Tooele**	**2.82**	**16**	IAML		16 11 55.1	
	comp=E,50nm,0.8s						
DUG				IAML		16 11 56.9	
	comp=E,43nm,0.9s						
GMRC	**Granite Mounta**	**3.08**	**209**		Pn	16 11 11.9	+0.1
GSC	**Goldstone, Bar**	**3.24**	**228**	IAML		16 12 08.9	
	comp=E,34nm,0.6s						
GSC				IAML		16 12 52.8	
	comp=N,22nm,0.1s						
DSP	**Deep Springs**	**3.28**	**269**		Pn	16 11 14.8	+0.4
DSP	**Deep Springs**	**3.28**	**269**	IAML		16 12 15.4	
	comp=N,24nm,1.0s						
DSP				IAML		16 12 16.2	
	comp=E,25nm,0.7s						
ELK	**Elko**	**3.42**	**342**		Pn	16 11 16.5	-0.2
BGU	**Big Grassy Mou**	**3.49**	**10**	IAML		16 12 16.8	
	comp=E,17nm,1.3s						
NV11	**Mina Array Sit**	**3.53**	**287**	IAML		16 12 16.1	
	comp=E,24nm,0.6s						
NV11				IAML		16 12 17.3	
	comp=N,26nm,0.5s						
Y14A	**Wickenburg**	**3.61**	**169**	IAML		16 12 18.8	
	comp=N,40nm,0.7s						
Y14A				IAML		16 12 23.4	
	comp=E,27nm,1.0s						
NV08	**Mina Array Sit**	**3.65**	**286**		Pn	16 11 19.9	+0.2
NV09	**Mina Array Sit**	**3.67**	**286**		Pn	16 11 21.0	+1.0
LHV	**Little Huntoon**	**3.76**	**283**		Pn	16 11 22.0	+1.0
BLYC	**Blythe**	**3.77**	**189**	IAML		16 12 25.6	
	comp=E,28nm,0.6s						
BLYC				IAML		16 12 31.6	
	comp=N,15nm,1.5s						
RYN	**Ryan**	**3.86**	**288**		Pn	16 11 22.5	-0.1
RYN	**Ryan**	**3.86**	**288**	IAML		16 12 28.9	
	comp=N,38nm,0.5s						
CCAC	**Calif City Air**	**4.10**	**236**	IAML		16 13 05.4	
	comp=E,15nm,1.6

comp=N,38nm,0.7s
TPNV IAML 16 12 59.5
comp=N,40nm,0.6s
NSP Numbskull Pass 2.05 248 Pg 16 12 30.7 -0.5
SDH Striped Hills 2.17 247 Pb 16 12 32.6 +0.7

IDC 03 16:14:45.5±4.5, 11°.43S×166°.62E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=214.0km s-min=32.5km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.16**	**251**	P	P	16 21 15.1	-0.1
	0.3nm,0.8s,baz=81,slow=9.1,SNR=1.7 0.3nm,0.8s						
ASAR	**Alice Springs**	**33.39**	**244**	P	P	16 21 24.8	-1.1
	0.3nm,0.7s,baz=69,slow=9.1,SNR=2.3 0.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.11**	**256**	P	P	16 22 24.2	+1.0
	3.1nm,1.1s,baz=79,slow=10,SNR=1.6 3.1nm,1.1s						
ILAR	**Eielson Array**	**83.61**	**18**	P	P	16 27 15.4	0.0
	0.3nm,0.8s,baz=226,slow=3.5,SNR=6.7 0.3nm,0.8s						

*IDC **03** 16:19:09.1±1.0, 38°.46S×94°.48W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=48.2km s-min=25.6km az=85.0*

ISC 03 16:19:10.6±1.1, 38°.5S±0°.2×94°.5W±0°.3, h10km, n12, σ1§08/6, mb4.0/5, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.41**	**74**	T	T	16 35 33.2	
	baz=244,slow=74,SNR=36						
H03S1	**Juan Fernandez**	**13.42**	**75**	T	T	16 35 34.3	
	baz=244,slow=74,SNR=59						
H03S3	**Juan Fernandez**	**13.43**	**74**	T	T	16 35 21.6	
	baz=244,slow=74,SNR=67						
LPAZ	**La Paz**	**32.01**	**54**	P	**P**	**16 25 38.4**	**+0.5**
	1.7nm,0.9s,baz=193,slow=5.5,SNR=3.2 1.7nm,0.9s						
QSPA	**South Pole Qui**	**51.73**	**180**	P	**P**	**16 28 18.8**	**+0.9**
	0.6nm,0.6s,baz=119,slow=6.0,SNR=7.7 0.6nm,0.6s						
SNAA	**Sanae**	**54.49**	**157**	P	**P**	**16 28 37.0**	**-1.0**
	1.6nm,0.9s,baz=271,slow=9.2,SNR=1.4 1.6nm,0.9s						
NVAR	**Mina Array Bea**	**79.62**	**341**	P	**P**	**16 31 18.5**	**+0.4**
	0.9nm,0.6s,baz=137,slow=3.9,SNR=5.7 0.9nm,0.6s						
PDAR	**Pinedale Array**	**82.03**	**349**	P	**P**	**16 31 29.8**	**-1.1**
	0.8nm,0.7s,baz=162,slow=6.2,SNR=10 0.8nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**08.02**	**280**	T	T	18 35 06.1	
	baz=127						
H11S1	**WAKE ISLAND Hyl**	**08.03**	**280**	T	T	18 35 13.9	
	baz=127						
H11S3	**WAKE ISLAND Hyl**	**08.03**	**280**	T	T	18 35 09.9	
	baz=127						
USRK	**Ussuriysk Ar.**	**145.01**	**295**	PKPbc	**PKPab**	**16 38 47.2**	**+0.1**
	1.4nm,0.7s,baz=111,slow=3.6,SNR=4.5						

*IDC **03** 16:19:13.9±1.3, 25°.95N×128°.47E, h0km, mb3.3/4, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=61.3km s-min=17.7km az=79.0*

*JMA **03** 16:19:17.8±0.3, 26°N±1°×12°9E±°, h47km±4km, MV3.0/16, NEAR OKINAWAJIMA ISLAND*

ISC 03 16:19:14.6±2.1, 25°.94N±0°.06×128°.63E±0°.04, h14km±13km, n20, σ1§41/30, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.79**	**285**	P	**Pn**	**16 19 31.4**	**0.0**
JJT3				S	**Sn**	**16 19 41.8**	**-1.2**
JNTH	**Nagotoyohara**	**0.80**	**316**	P	**Pb**	**16 19 30.7**	**+0.5**
JNTH				S	**Sg**	**16 19 40.0**	**-0.5**
JOW	**Kunigami**	**0.94**	**340**	Pn	**Pb**	**16 19 33.1**	**+0.3**
	112nm,0.3s,baz=146,slow=14,SNR=485						
JOW				Sn	**Sg**	**16 19 44.5**	**-0.7**
	144nm,0.3s,baz=343,slow=19,SNR=33						
JOW	**Kunigami**	**0.94**	**340**	P	**Pb**	**16 19 33.3**	**+0.5**
JOW				eS	**Sg**	**16 19 44.5**	**-0.7**
JYRO	**Yoronjima**	**1.09**	**351**	P	**Pb**	**16 19 35.3**	**0.0**
JIH	**Iheya**	**1.24**	**331**	P	**Pn**	**16 19 37.8**	**+0.2**
JIH				eS	**Sb**	**16 19 52.6**	**-1.2**
JAGN	**Aguni-jima**	**1.41**	**298**	P	**Pn**	**16 19 40.1**	**+0.3**
JAGN				eS	**Sn**	**16 19 56.1**	**-2.1**
JOKE	**Okinoerabujima**	**1.42**	**358**	P	**Pn**	**16 19 40.2**	**+0.2**
JOKE				eS	**Sn**	**16 19 56.4**	**-2.0**
JKE	**Kume jima 2**	**1.71**	**283**	P	**Pn**	**16 19 43.6**	**-0.3**
JKE				eS	**Sn**	**16 20 02.7**	**-2.9**
JTK	**Tokunoshima**	**1.86**	**9**	P	**Pn**	**16 19 46.4**	**+0.3**
JTK				eS	**Sn**	**16 20 07.6**	**-1.8**
JMZ	**Minamidaito 2**	**2.34**	**92**	P	**Pn**	**16 19 52.0**	**-0.7**
JAMN	**Amaminishikomi**	**2.34**	**12**	P	**Pn**	**16 19 53.1**	**+0.4**
JKDJ	**Kitadaitoujima**	**2.40**	**89**	P	**Pn**	**16 19 53.1**	**-0.4**
JKDJ				S	**Sn**	**16 20 19.4**	**-3.2**
JAM	**Amami Oshima**	**2.61**	**19**	eP	**Pn**	**16 19 56.4**	**+0.1**
JZK	**Kikaishima**	**2.65**	**26**	eP	**Pn**	**16 19 58.3**	**+1.4**
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**16 21 04.2**	**+1.7**
	0.3nm,0.3s,baz=197,slow=17,SNR=7.0 8.4nm,1.0s						
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**16 25 07.6**	**+2.5**
	0.4nm,0.4s,baz=137,slow=9.8,SNR=4.8 0.4nm,0.4s						
MKAR	**Makanchi Array**	**42.00**	**312**	P	**P**	**16 27 05.1**	**-0.3**
	0.1nm,0.6s,baz=93,slow=9.6,SNR=2.2 0.1nm,0.6s						
WRA	**Warramunga Arr**	**45.95**	**173**	P	**P**	**16 27 37.7**	**+0.5**
	0.3nm,0.6s,baz=350,slow=7.8,SNR=2.0 0.3nm,0.6s						
ASAR	**Alice Springs**	**49.58**	**174**	P	**P**	**16 28 07.5**	**+2.1**
	0.2nm,0.9s,baz=352,slow=7.5,SNR=7.1 0.2nm,0.9s						

*IDC **03** 16:30:00.8±2.0, 20°.42S×177°.55W, h518km±22km, mb3.3/4, mbtmp4.2/7, Error ellipse: s-maj=33.7km s-min=26.0km az=8.0*

ISC 03 16:30:00.7±1.2, 20°.6S±0°.2×177°.6W±0°.2, h500km, n8, σ0§64/7, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.98**	**304**	P	**P**	**16 31 28.1**	**+0.5**
	6.7nm,0.4s,baz=128,slow=12,SNR=38						
RAR	**Rarotonga**	**16.70**	**95**	P	**P**	**16 33 28.6**	**0.0**
	7.2nm,0.4s,baz=180,slow=5.1,SNR=3.1						
URZ	**Urewera**	**18.19**	**193**	P	**P**	**16 33 42.8**	**+0.2**
	9.1nm,1.0s,baz=338,slow=2.9,SNR=6.7						
STKA	**Stephens Creek**	**38.06**	**244**	P	**P**	**16 36 36.5**	**+0.5**
	1.1nm,0.5s,baz=83,slow=13,SNR=2.7 1.1nm,0.5s						
ASAR	**Alice Springs**	**44.84**	**257**	P	**P**	**16 37 29.6**	**-0.3**
	3.4nm,0.5s,baz=89,slow=7.8,SNR=133 3.4nm,0.5s						
WRA	**Warramunga Arr**	**44.94**	**262**	P	**P**	**16 37 29.7**	**-1.0**
	1.0nm,0.3s,baz=97,slow=7.5,SNR=80 1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**90.47**	**289**	P	**P**	**16 42 08.9**	**-0.2**
	0.4nm,0.3s,baz=117,slow=5.1,SNR=4.4 0.4nm,0.3s						
AKASG	**Malin Array Be**	**143.26**	**331**	PKP	PKPab	16 48 32.8	-2.4
	0.3nm,0.6s,baz=46,slow=4.4,SNR=5.9						

*DJA **03** 16:40:47.2±0.7, 6°N±6°×12°7E±°, h143km±7km, M4.4/12, mB5.0/5, mb4.4/10, MLv4.5/12, Mw(mB)4.3/5*

*IDC **03** 16:40:50.0±1.9, 5°.52N×126°.96E, h73km±15km, mb3.8/14, mbtmp4.1/15, MS3.1/3, Error ellipse: s-maj=37.2km s-min=11.3km az=66.0*

*NEIC **03** 16:40:50.9±1.3, 5°.54N±0°.08×127°.0E±0°.1, h77km±8km, mb4.2/25, Error ellipse: s-maj=20.7km s-min=9.2km az=67.0*

ISC 03 16:40:51.1±0.5, 5°.45N±0°.06×126°.93E±0°.09, h84km, n64, σ1§25/64, mb4.3/26, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.09**	**320**	Pn	**Pn**	**16 41 22.7**	**-1.7**
DAV	**Davao City (W)**	**2.09**	**320**	P	**Pn**	**16 41 23.3**	**-1.1**
	328nm,0.4s,baz=121,slow=1.2,SNR=16						
DAV				S	**Sn**	**16 41 47.9**	**-1.9**
	351nm,0.3s,baz=240,slow=20,SNR=4.2						
SGSI	**Sangihe**	**2.24**	**219**	P	**Pn**	**16 41 24.9**	**-1.5**
TNTI	**Ternate**	**4.67**	**175**		**Pn**	**16 41 59.5**	**+0.3**
TNTI	**Ternate**	**4.67**	**175**	P	**Pn**	**16 42 00.4**	**+1.1**
KMSI	**Cibinong**	**5.67**	**211**	P	**Pn**	**16 42 13.6**	**+0.7**
	87nm,0.9s						
MRSI	**Marisa**	**7.02**	**225**	P	**Pn**	**16 42 32.9**	**+1.6**
	0.2nm41nm,0.6s						
TOLI2	**Tolitoli**	**7.50**	**235**		**Pn**	**16 42 37.4**	**-0.5**
SANI	**Sanana**	**7.51**	**187**	P	**Pn**	**16 42 34.3**	**-3.7**
	0.1nm741nm18nm,0.6s						
SWI	**Sorong**	**7.62**	**145**	P	**Pn**	**16 42 35.4**	**-4.1**
	0.1nm787nm21nm,0.5s						
LUWI	**Luwuk**	**7.67**	**213**	P	**Pn**	**16 42 41.6**	**+1.4**
	85nm,0.9s						
MYLDM	**Lahad Datu**	**8.40**	**269**	Pn	**Pn**	**16 42 51.2**	**+1.1**
NLAI	**Namlea**	**8.63**	**179**	P	**Pn**	**16 42 51.8**	**-1.6**
	983nm40nm,0.7s						
FAKI	**Fak Fak**	**9.87**	**147**	Pn	**Pn**	**16 43 07.7**	**-2.5**
KAPI	**Kappang**	**12.63**	**215**	LR	LR	16 49 30.2	
	comp=Z,39nm,18.1s,baz=74,slow=41						
SBUM	**Sibu**	**14.97**	**259**	Pn	**Pn**	**16 44 18.9**	**+0.5**
KSM	**Kuching**	**17.05**	**257**		**Pn**	**16 44 44.4**	**0.0**
KSM				IAmb	IAmb	16 44 53.7	
	comp=Z,10nm,0.7s						
TWG	**Pinlang**	**18.17**	**342**	P	**P**	**16 44 55.9**	**-1.2**
TWG				IAmb	IAmb	16 45 08.8	
	comp=Z,54nm,1.5s						
MTN	**Manton Dam**	**18.65**	**167**	P	**P**	**16 45 02.7**	**+0.3**
MTN				IAmb	IAmb	16 45 03.1	
	comp=Z,10nm,0.9s						
TPUB	**Ta-pu**	**18.76**	**342**	P	**P**	**16 45 02.6**	**-0.9**
GUMO	**Guam**	**19.44**	**64**	LR	LR	16 51 08.4	
	comp=Z,36nm,21.5s,baz=172,slow=32						
HKPS	**Hong Kong Po S**	**20.80**	**325**	P	**P**	**16 45 25.8**	**+0.1**
HKPS				IAmb	IAmb	16 45 31.3	
	comp=Z,18nm,0.9s						
KNRA	**Kununurra**	**21.07**	**175**	P	**P**	**16 45 29.5**	**+0.8**
KNRA				IAmb	IAmb	16 45 37.0	
	comp=Z,8.6nm,0.8s						
TNG	**Tangerang**	**23.31**	**241**	P	P	16 45 42.3	-10
FITZ	**Fitzroy Crossi**	**23.43**	**183**	P	**P**	**16 45 53.5**	**+0.4**
WB0	**Warramunga Arr**	**26.11**	**164**	P	**P**	**16 46 17.9**	**+0.5**
WB0				IAmb	IAmb	16 46 23.0	
	comp=Z,5.9nm,0.6s						
WRAB	**Tennant Creek**	**26.26**	**164**	P	**P**	**16 46 19.3**	**+0.6**
WRAB				IAmb	IAmb	16 46 37.9	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**26.27**	**164**	P	**P**	**16 46 19.4**	**+0.6**
WRA	**Warramunga Arr**	**26.27**	**164**	P	**P**	**16 46 19.3**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=344,slow=10,0,SNR=21						
WRA				PcP	**PcP**	**16 49 44.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=334,slow=2.1,SNR=2.6						
WRA				ScP	**ScP**	**16 53 17.2**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=321,slow=3.5,SNR=5.0 comp=Z,1.4nm,0.6s						
WB2	**Warramunga Arr**	**26.27**	**164**	P	**P**	**16 46 19.8**	**+1.0**
WB2				IAmb	IAmb	16 46 25.1	
	comp=Z,6.6nm,0.9s						
WR0	**Warramunga Arr**	**26.34**	**164**	P	**P**	**16 46 21.1**	**+1.7**
AS31	**Alice Springs**	**29.73**	**167**	P	**P**	**16 46 50.0**	**+0.4**
ASAR	**Alice Springs**	**29.73**	**167**	P	**P**	**16 46 49.7**	**+0.1**
ASAR	**Alice Springs**	**29.73**	**167**	P	**P**	**16 46 49.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=346,slow=7.4,SNR=14						
ASAR				PcP	**PcP**	**16 49 52.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=345,slow=2.3,SNR=11						
ASAR				ScP	**ScP**	**16 53 28.6**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=335,slow=3.1,SNR=4.8 comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.21**	**298**	P	**P**	**16 46 54.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=106,slow=8.5,SNR=1.3 comp=Z,0.2nm,0.3s						
PZH	**PanZhiHua**	**31.88**	**314**	P	**P**	**16 47 10.1**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
LZH	**Lanzhou**	**37.14**	**328**	eP	P	16 47 59.5	+5.5
LZH				pP	sP	16 48 19.0	-3.5
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC	**Hu-ho-hao-te**	**37.84**	**341**	eP	**P**	**16 48 02.0**	**+2.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,89nm,5.1s						
USRK	**Ussuriysk Ar.**	**38.85**	**6**	P	**P**	**16 48 08.2**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=178,slow=8.1,SNR=5.8 comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**39.03**	**168**	P	**P**	**16 48 10.7**	**+1.0**
STKA	**Stephens Creek**	**39.67**	**160**	P	**P**	**16 48 16.0**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=357,slow=6.8,SNR=6.8 comp=Z,3.7nm,0.7s						
ULN	**Ulaanbaatar**	**45.56**	**341**	P	**P**	**16 49 02.8**	**0.0**
ULN				IAmb	IAmb	16 49 06.3	
	comp=Z,2.8nm,0.9s						
SONM	**Songino Array**	**45.74**	**341**	P	**P**	**16 49 04.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=155,slow=6.0,SNR=8.6 comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**53.77**	**22**	P	**P**	**16 50 05.5**	**+0.7**
MK31	**Makanchi Array**	**56.27**	**325**	P	**P**	**16 50 21.8**	**-1.2**
MK31				IAmb	IAmb	16 50 26.3	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**56.27**	**325**	P	**P**	**16 50 22.3**	**-0.7**
MKAR	**Makanchi Array**	**56.27**	**325**	P	**P**	**16 50 22.7**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=114,slow=7.7,SNR=32 comp=Z,1.6nm,0.4s						
MAKZ	**Makanchi**	**56.46**	**324**	P	**P**	**16 50 24.0**	**-0.3**
MAKZ				IAmb	IAmb	16 50 24.9	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**59.16**	**333**	P	**P**	**16 50 42.8**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=124,slow=6.0,SNR=7.6 comp=Z,1.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.41**	**327**	P	**P**	**16 50 51.0**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=125,slow=6.8,SNR=18 comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**60.41**	**327**	P	**P**	**16 50 50.9**	**-0.8**
KKAR	**Karatay Array**	**62.12**	**316**	P	**P**	**16 51 02.6**	**-0.9**
RPZ	**Rata Peaks**	**63.05**	**146**	P	**P**	**16 51 09.2**	**-0.3**
BKZ	**Black Stump Fm**	**63.73**	**139**	P	**P**	**16 51 13.1**	**-1.1**
BVAR	**Borovoye Array**	**66.00**	**327**	P	**P**	**16 51 28.4**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=133,slow=6.5,SNR=10 comp=Z,2.4nm,0.5s						
BRVK	**Borovoye**	**66.07**	**327**	P	**P**	**16 51 28.5**	**-0.6**
BRVK				IAmb	IAmb	16 51 30.2	
	comp=Z,3.5nm,0.8s						
TIXI	**Tiksi**	**66.13**	**1**	P	**P**	**16 51 28.2**	**-0.8**
ABKAR	**Akbulak array**	**70.95**	**320**	P	**P**	**16 51 59.5**	**0.0**
ABKAR				IAmb	IAmb	16 52 00.5	
	comp=Z,1.6nm,0.8s						
M14K	**Bethel**	**76.08**	**29**	P	**P**	**16 52 31.6**	**+2.2**
ILAR	**Eielson Array**	**83.47**	**25**	P	**P**	**16 53 08.4**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=265,slow=8.7,SNR=1.4 comp=Z,0.1nm,0.5s						
MMAI	**Mount Meron Ar**	**88.34**	**303**	LR	LR	17 38 22.0	
	comp=Z,26nm,19.7s,baz=170,slow=39						
ARCES	**ARCESS Array B**	**88.91**	**340**	P	**P**	**16 53 34.6**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=78,slow=5.8,SNR=3.8 comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**90.42**	**332**	P	**P**	**16 53 42.8**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=22,slow=2.1,SNR=5.7 comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**95.35**	**180**	P	**P**	**16 54 05.9**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=28,slow=15,SNR=2.5 comp=Z,1.7nm,1.0s						

*CATAC **03** 16:57:30.8±0.3, 16°N±8°×9°5W±°, h10km, M5.2/6, MLv5.2/6, Error ellipse: s-maj=19.8km s-min=3.7km az=22.5, confirmed*

*NEIC **03** 16:57:33.9±1.0, 16°.45N±0°.08×95°.06W±0°.07, h76km±8km, mb4.6/30, Md4.7/122(MEX), Error ellipse: s-maj=13.0km s-min=9.3km az=210.0*

*IDC **03** 16:57:33.9±0.9, 16°.57N×94°.87W, h75km±5km, mb3.8/8, mbtmp4.0/11, MS3.1/3, Error ellipse: s-maj=21.5km s-min=10.3km az=51.0*

*MEX **03** 16:57:34.1±0.9, 16°.42N×95°.11W, h80km±6km, MD4.7*

ISC 03 16:57:33.8±0.5, 16°.48N±0°.03×95°.12W±0°.03, h79km±5km, n166, σ1§85/217, mb4.0/14, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.49**	**79**	eP	**Pn**	**16 57 46.5**	**-0.9**
NILT				eS	**Sn**	**16 57 56.3**	**-1.1**
CMIG	**Matias Romero**	**0.65**	**20**		**Pn**	**16 57 48.5**	**-0.5**
CMIG					**Sn**	**16 57 59.5**	**-0.7**
CMIG	**Matias Romero**	**0.65**	**20**	P	**Pn**	**16 57 48.3**	**-0.6**
	3μm,0.3s,baz=211,slow=9.5						
CMIG				S	**Sn**	**16 57 59.3**	**-0.9**
	3μm,0.4s,baz=94,slow=21,SNR=17						
CMIG	**Matias Romero**	**0.65**	**20**	i P	**Pn**	**16 57 48.5**	**-0.5**
CMIG				eS	**Sn**	**16 57 59.5**	**-0.7**
CARR	**Arriaga**	**1.18**	**101**	eP	**Pn**	**16 57 54.3**	**-0.7**
CARR				i S	**Sn**	**16 58 10.2**	**-0.7**
HUIG	**Huatulco**	**1.18**	**234**	eP	**Pn**	**16 57 53.2**	**-1.8**
HUIG				eS	**Sn**	**16 58 09.4**	**-1.6**
UXUV	**UXUV**	**1.25**	**48**	eP	**Pn**	**16 57 55.7**	**-0.2**
UXUV				eS	**Sn**	**16 58 11.8**	**-0.7**
NEUV	**Arroyo Zacate**	**1.39**	**332**	eP	**Pn**	**16 57 57.4**	**-0.3**
NEUV				eS	**Sn**	**16 58 15.6**	**-0.2**
PANG	**Puerto Angel**	**1.53**	**239**	eP	**Pn**	**16 57 57.0**	**-2.4**
PANG				eS	**Sn**	**16 58 16.9**	**-2.0**
OXBJ	**Oaxaca**	**1.65**	**291**	eP	**Pn**	**16 58 01.0**	**-0.2**
OXBJ				eS	**Sn**	**16 58 22.1**	**+0.1**
VHO	**Vista Hermosa**	**1.66**	**291**	eP	**Pn**	**16 58 02.2**	**+0.9**
VHO				eS	**Sn**	**16 58 24.0**	**+1.8**
TUIG	**Tuzandepetl**	**1.69**	**23**	eP	**Pn**	**16 58 01.1**	**-0.4**
TUIG				eS	**Sn**	**16 58 22.3**	**-0.2**
TGIG		**1.94**	**81**	eP	**Pn**	**16 58 04.0**	**-0.8**
TGBT	**Tuxtla Gutierr**	**1.97**	**81**	eP	**Pn**	**16 58 04.4**	**-0.8**
TGBT				eS	**Sn**	**16 58 27.6**	**-1.6**
PEIG	**Puerto Escondi**	**2.01**	**257**	eP	**Pn**	**16 58 03.9**	**-1.8**
PEIG				eS	**Sn**	**16 58 25.9**	**-4.3**
PMUV	**Sontecomapan**	**2.06**	**360**	eP	**Pn**	**16 58 05.3**	**-1.2**
PMUV				eS	**Sn**	**16 58 28.9**	**-2.6**
YOIG	**Yosondua**	**2.36**	**280**	eP	**Pn**	**16 58 10.7**	**-0.1**
TOIG	**Toxpalan**	**2.46**	**311**	eP	**Pn**	**16 58 12.9**	**+1.0**
TOIG				eS	**Sn**	**16 58 36.8**	**-4.4**
VHSA	**Villahermosa**	**2.56**	**54**	i P	**Pn**	**16 58 13.8**	**+0.5**
VHSA				eS	**Sn**	**16 58 44.0**	**+0.4**
TXIG	**Tlaxiaco**	**2.65**	**287**	eP	**Pn**	**16 58 15.5**	**+0.8**
TXIG				eS	**Sn**	**16 58 45.9**	**-0.2**
CCIG	**Comitan**	**2.87**	**93**		**Pn**	**16 58 16.6**	**-0.9**
CCIG	**Comitan**	**2.87**	**93**	eP	**Pn**	**16 58 16.8**	**-0.7**
CCIG				eS	**Sn**	**16 58 49.2**	**-1.9**
CCIG	**Comitan**	**2.87**	**93**	P	**Pn**	**16 58 18.7**	**+1.2**
CCIG	**Comitan**	**2.87**	**93**	S	**Sn**	**16 58 53.1**	**+2.0**
CCIG	**Comitan**	**2.87**	**93**	P	**Pn**	**16 58 17.5**	**0.0**
TPIG	**Tehuac#an**	**2.89**	**312**	eP	**Pn**	**16 58 18.6**	**+0.8**
TPIG				eS	**Sn**	**16 58 52.6**	**+1.0**
PNIG	**Pinotepa**	**2.89**	**269**	eP	**Pn**	**16 58 16.5**	**-1.2**
PNIG				eS	**Sn**	**16 58 48.4**	**-3.1**
HLIG	**Huajuapan de L**	**2.90**	**298**	eP	**Pn**	**16 58 19.1**	**+1.1**
PATR	**El Naranjo**	**3.09**	**116**	eP	**Pn**	**16 58 19.9**	**-0.7**
PAVE	**Pavencul**	**3.10**	**114**	eP	**Pn**	**16 58 20.2**	**-0.6**
THIG		**3.16**	**119**	eP	**Pn**	**16 58 20.5**	**-0.8**
THIG				eS	**Sn**	**16 58 56.0**	**-1.9**
FTIG	**Fresnillo de T**	**3.21**	**297**	eP	**Pn**	**16 58 23.3**	**+1.2**
JAUV	**Jalcomulco**	**3.29**	**331**	eP	**Pn**	**16 58 21.7**	**-1.5**
JAUV				eS	**Sn**	**16 58 59.5**	**-1.7**
POHV	**Veracruz**	**3.30**	**322**	eP	**Pn**	**16 58 24.1**	**+0.3**
LVIG	**Laguna Verde**	**3.46**	**339**	eP	**Pn**	**16 58 23.4**	**-2.0**
LVIG				eS	**Sn**	**16 59 00.5**	**-4.7**
TLIG	**Tlapa**	**3.47**	**289**		**Pn**	**16 58 26.7**	**+1.0**
TLIG	**Tlapa**	**3.47**	**289**	eP	**Pn**	**16 58 25.9**	**+0.2**
TLIG				eS	**Sn**	**16 59 06.4**	**+0.6**
TLIG	**Tlapa**	**3.47**	**289**	P	**Pn**	**16 58 26.7**	**+1.0**
TLIG	**Tlapa**	**3.47**	**289**	S	Sn	16 58 56.8	-9.0
XALA	**Xalapa**	**3.48**	**331**	eP	**Pn**	**16 58 25.6**	**-0.2**
XALA				eS	**Sn**	**16 59 04.6**	**-1.3**
HMTT	**Tlapaneco**	**3.54**	**292**	eP	**Pn**	**16 58 26.5**	**-0.1**
HMTT				eS	**Sn**	**16 59 07.4**	**-0.1**
HUEH	**Huehuetenango**	**3.66**	**108**		**Pn**	**16 58 28.5**	**+0.2**
HUEH	**Huehuetenango**	**3.66**	**108**	P	**Pn**	**16 58 29.1**	**+0.8**
HUEH	**Huehuetenango**	**3.66**	**108**	P	**Pn**	**16 58 29.2**	**+0.8**
RTAL	**Retalhuleu**	**3.83**	**120**		**Pn**	**16 58 30.8**	**+0.4**
RTAL	**Retalhuleu**	**3.83**	**120**	P	**Pn**	**16 58 30.9**	**+0.5**
RTAL	**Retalhuleu**	**3.83**	**120**	S	**Sn**	**16 59 13.9**	**-0.3**
RTAL	**Retalhuleu**	**3.83**	**120**	P	**Pn**	**16 58 31.3**	**+0.9**
CRIG	**Cruz Grande**	**3.86**	**274**	eP	**Pn**	**16 58 29.8**	**-0.9**
CRIG				eS	**Sn**	**16 59 11.8**	**-3.2**
PHPU	**Puebla**	**3.87**	**312**	eP	**Pn**	**16 58 31.8**	**+0.6**
PHPU				eS	**Sn**	**16 59 16.0**	**+0.4**
PPM	**Popocatepetl**	**4.22**	**308**	eP	**Pn**	**16 58 38.7**	**+2.5**
PPM				eS	**Sn**	**16 59 28.2**	**+3.6**
CXUV	**Coxquihui**	**4.36**	**328**	eP	**Pn**	**16 58 37.0**	**-0.7**
CXUV				eS	**Sn**	**16 59 26.8**	**-0.6**
DAIG	**Los Arroyos**	**4.38**	**278**	eP	**Pn**	**16 58 37.5**	**-0.3**
DAIG				eS	**Sn**	**16 59 24.6**	**-3.1**
YAIG	**Yautepec**	**4.45**	**303**	eP	**Pn**	**16 58 41.0**	**+2.0**
YAIG				eS	**Sn**	**16 59 27.7**	**-1.9**
SCIG	**Sabancuy**	**4.49**	**56**	eP	**Pn**	**16 58 37.3**	**-2.1**
SCIG				eS	**Sn**	**16 59 25.8**	**-4.6**
VNTA	**La Mica**	**4.53**	**276**	eP	**Pn**	**16 58 39.0**	**-0.

INCO	**Volcan de Coli**	**8.62 292**	*e*P	**Pn**	**16 59 39.6**	**+3.3**
INCO			*e*S	**Sn**	**17 01 13.9**	**+1.8**
SOMAC	**Volcano de Col**	**8.65 292**	*e*P	**Pn**	**16 59 39.5**	**+3.0**
SOMAC			*e*S	**Sn**	**17 01 13.6**	**+0.9**
AAIG	**Aguscalientes**	**8.77 310**	*e*P	**Pn**	**16 59 41.0**	**+3.0**
CEGR	**Campo Tres**	**8.81 291**	*e*P	**Pn**	**16 59 40.5**	**+1.9**
CEGR			*e*S	**Sn**	**17 01 17.1**	**+0.8**
CDAR	**Ciudad de Arme**	**8.82 287**	*e*P	**Pn**	**16 59 39.3**	**+0.7**
CDAR			*e*S	**Sn**	**17 01 16.4**	**0.0**
COPN	**Copaltepe**	**9.30 116**	P	**Pn**	**16 59 44.7**	**-0.4**
COPN	**Copaltepe**	**9.30 116**	P	**Pn**	**16 59 45.0**	**-0.1**
LNIG	**Linares**	**9.31 335**	*e*P	**Pn**	**16 59 46.0**	**+0.7**
LNIG			*e*S	**Sn**	**17 01 25.3**	**-3.1**
ZAIG	**Zacatecas**	**9.40 313**	*e*P	**Pn**	**16 59 45.9**	**-0.8**
CJM	**Chamela**	**9.91 289**	*e*P	**Pn**	**16 59 54.6**	**+1.2**
CJM			*e*S	**Sn**	**17 01 40.7**	**-2.3**
ANIG	**Ahuacatlan**	**10.00 299**	*e*P	**Pn**	**16 59 56.5**	**+1.8**
HBVL	**Hebbronville**	**11.04 343**	Pn	**Pn**	**17 00 09.4**	**+0.6**
JTS	**Las Juntas de**	**11.64 121**	Pn	**Pn**	**17 00 16.0**	**-1.1**
JTS	**Las Juntas de**	**11.64 121**	P	**Pn**	**17 00 16.3**	**-0.8**
	7.4nm,0.3s,baz=314,slow=17,SNR=9.8					
SOCE	**Pocosol**	**11.87 119**	Pn	**Pn**	**17 00 18.5**	**-1.7**
833A	**Chaparral WMA,**	**12.44 342**	Pn	**Pn**	**17 00 28.8**	**+1.0**
HNDO	**Hondo**	**13.54 344**	Pn	**Pn**	**17 00 42.9**	**+0.3**
DRIO	**Del Rio**	**13.84 340**	Pn	**Pn**	**17 00 47.6**	**+1.1**
435B	**Jarrell**	**14.42 351**	Pn	**Pn**	**17 00 54.9**	**+1.0**
JCT	**Junction City**	**14.58 344**	Pn	**Pn**	**17 00 56.0**	**-0.1**
TXAR	**Lajitas Array**	**15.02 330**	P	**Pn**	**17 01 04.2**	**+2.4**
	1.0nm,0.8s,baz=148,slow=13,SNR=8.2					
TXAR			pP	**pP**	**17 01 22.1**	**+1.1**
	2.3nm,0.7s,baz=154,slow=9.1,SNR=12					
OZNA	**Ozona**	**15.39 340**	Pn	**Pn**	**17 01 06.6**	**0.0**
OZNA			IAmb	IAmb	17 01 14.3	
	comp=Z,26nm,0.7s					
ALPN	**Alpine**	**15.88 332**	P	**P**	**17 01 14.7**	**-0.2**
FW13	**Cleburne**	**15.95 353**	P	**P**	**17 01 15.8**	**+0.2**
TREL	**Terrell**	**16.21 357**		**P**	**17 01 19.2**	**+0.8**
FW07	**Weatherford**	**16.34 352**		**Pn**	**17 01 18.8**	**+0.5**
MNHN	**Monahans**	**16.36 336**		**Pn**	**17 01 19.3**	**+0.7**
PLPT	**Palo Pinto**	**16.52 350**		**Pn**	**17 01 21.9**	**+1.3**
PLPT			IAmb	IAmb	17 01 38.0	
	comp=Z,32nm,0.7s					
FW06	**Azle**	**16.57 353**	P	**Pn**	**17 01 22.5**	**+1.2**
FW06			IAmb	IAmb	17 01 36.0	
	comp=Z,62nm,1.0s					
FW03	**Perrin-Whitt E**	**16.71 351**	Pn	**Pn**	**17 01 22.5**	**-0.4**
VHRN	**Van Horn**	**16.86 329**	P	**Pn**	**17 01 25.7**	**+0.8**
MTDJ	**Mount Denham**	**16.88 82**		**Pn**	**17 01 25.0**	**-0.2**
MTDJ			IAmb	IAmb	17 01 33.1	
	comp=Z,41nm,1.1s					
APMT	**Aspermont**	**17.38 346**		**Pn**	**17 01 30.9**	**-0.3**
APMT			IAmb	IAmb	17 01 48.1	
	comp=Z,16nm,0.8s					
POST	**Post**	**17.50 342**	P	**Pn**	**17 01 33.0**	**+0.3**
POST			IAmb	IAmb	17 01 41.8	
	comp=Z,20nm,0.7s					
DKNS	**Dickens**	**17.90 344**	P	**P**	**17 01 37.2**	**0.0**
MIAR	**Mount Ida**	**18.05 4**		**P**	**17 01 39.1**	**+0.4**
W35A	**Tecumseh**	**18.67 355**	P	**P**	**17 01 45.9**	**+0.3**
W35A			IAmb	IAmb	17 02 04.5	
	comp=Z,41nm,1.1s					
AMTX	**Amarillo**	**19.25 343**	Pn	**Pn**	**17 01 54.4**	**+0.6**
AMTX			IAmb	IAmb	17 02 32.5	
	comp=Z,15nm,0.6s					
DEOK	**Depew**	**19.33 357**	P	**P**	**17 01 53.2**	**+0.4**
DEOK			IAmb	IAmb	17 02 04.0	
	comp=Z,28nm,0.9s					
QUOK	**Quay**	**19.67 356**	P	**P**	**17 01 56.5**	**0.0**
QUOK			IAmb	IAmb	17 02 08.5	
	comp=Z,21nm,0.8s					
OK051	**E0350 and S346**	**20.01 356**	P	**P**	**17 02 00.2**	**+0.1**
T42A	**Van Buren**	**20.78 9**	P	**P**	**17 02 09.4**	**+1.0**
ANMO	**Albuquerque**	**21.01 333**	P	**P**	**17 02 13.4**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=148,slow=9.3,SNR=3.7					
	comp=Z,1.6nm,0.8s					
TKL	**Tuckaleechee C**	**21.62 26**	pP	**pP**	**17 02 33.3**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=204,slow=17,SNR=2.4					
TKL			S	**S**	**17 06 09.7**	**-2.9**
	comp=Z,3.3nm,0.5s,baz=316,slow=8.4,SNR=4.2					
TKL			LR	LR	17 12 24.9	
	comp=Z,35nm,19.7s,baz=157,slow=42					
RUSC	**La Rusia**	**24.01 113**	P	**P**	**17 02 41.6**	**-0.3**
PFO	**Pinyon Flats O**	**25.70 316**	pP	pP	17 03 15.5	+0.2
	comp=Z,2.5nm,0.6s,baz=134,slow=7.5,SNR=2.1					
SJG	**San Juan**	**27.70 82**	LR	LR	17 15 26.3	
	comp=Z,28nm,19.7s,baz=206,slow=39					
PDAR	**Pinedale Array**	**28.97 338**	pP	pP	17 03 44.2	-0.4
	comp=Z,0.5nm,0.5s,baz=144,slow=3.7,SNR=5.0					
NVAR	**Mina Array Bea**	**29.87 322**	pP	pP	17 03 54.0	+1.3
	comp=Z,2.1nm,0.8s,baz=132,slow=9.3,SNR=7.3					
NEW	**Newport**	**36.48 335**	LR	LR	17 21 06.0	
	comp=Z,42nm,18.6s,baz=52,slow=39					
LPAZ	**La Paz**	**42.05 139**	P	**P**	**17 05 19.2**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=59,slow=7.0,SNR=5.6					
	comp=Z,1.4nm,0.6s					
YKA	**Yellowknife Ar**	**47.97 348**	P	**P**	**17 06 04.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=157,slow=7.5,SNR=7.8					
YKA			pP	**pP**	**17 06 23.2**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=158,slow=7.6,SNR=16					
YKA			sP	**sP**	**17 06 31.1**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=158,slow=7.4,SNR=3.9					
	comp=Z,0.4nm,0.7s					
MT09	**Talagante**	**55.01 155**	P	**P**	**17 06 56.9**	**-0.5**
CPUP	**Villa Florida**	**56.21 139**	P	**P**	**17 07 08.4**	**+2.5**
	comp=Z,1.0nm,0.5s,baz=344,slow=2.5,SNR=3.6					
BDFB	**Brasilia**	**56.38 122**	P	**P**	**17 07 08.2**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=277,slow=10,SNR=4.2					
	comp=Z,2.4nm,0.8s					
KNHH	**Kane Nui o Ham**	**56.97 283**	P	**P**	**17 07 11.6**	**0.0**
ILAR	**Eielson Array**	**59.40 337**	pP	pP	17 07 47.8	-0.4
	comp=Z,0.9nm,0.9s,baz=105,slow=6.7,SNR=7.9					
PLCA	**Paso Flores**	**61.32 159**	P	**P**	**17 07 40.7**	**-0.5**
PLCA			IAmb	IAmb	17 07 45.7	
	comp=Z,8.6nm,1.3s					
PLCA	**Paso Flores**	**61.32 159**	P	**P**	**17 07 40.5**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=339,slow=7.9,SNR=4.7					
	comp=Z,2.0nm,0.8s					
EKA	**Eskdalemuir Ar**	**77.73 36**	P	**P**	**17 09 21.3**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=281,slow=6.5,SNR=7.2					
	comp=Z,1.4nm,0.6s					
ESDC	**Sonseca Array**	**80.54 51**	P	**P**	**17 09 37.6**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=283,slow=4.5,SNR=4.8					
	comp=Z,1.3nm,0.9s					
TORD	**Torodi Ar. Bea**	**92.70 76**	P	**P**	**17 10 36.8**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=315,slow=5.5,SNR=2.4					
	comp=Z,2.1nm,0.4s					
WRA	**Warramunga Arr**	**133.02 258**	PKP	**PKPdf**	**17 16 40.6**	**-0.4**
	comp=Z,6.6nm,1.0s,baz=72,slow=2.0,SNR=5.4					
ASAR	**Alice Springs**	**133.58 253**	PKP	**PKPdf**	**17 16 42.3**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=90,slow=2.2,SNR=2.1					

*ATH **03** 17:03:28.6, 37°.34N×20°.90E, h6km, ML3.4/30, Manual Solution by M.Charalampakis First location: 2019/03/03 17:04:24, This location: 2020/10/02 08:51:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **03** 17:03:28.7, 37°.38N×20°.96E, h0km±2km, ML3.3/15, Error ellipse: s-maj=2.6km s-min=0.8km az=201.0*
*IDC **03** 17:03:35.9±3.0, 37°.44N×20°.94E, h87km±32km, mb3.5/9, mbtmp3.7/12, Error ellipse: s-maj=27.8km s-min=19.1km az=157.0*

ISC 03 17:03:29.0±1.2**, 37°.38N**±0°.03×**20°.94E**±0°.03**, h16**km±8km**, n82**, σ1=25/110**, mb3.7/9, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.34**	**346**	P	**Pb**	**17 03 35.7**	**-1.0**
LTHK				S	**Sb**	**17 03 41.5**	**-0.3**
	8μm,0.5s						
LTHK	**Lithakia**	**0.34**	**346**	P	**Pb**	**17 03 35.7**	**-1.0**
LTHK				S	**Sb**	**17 03 41.6**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.45**	**348**	P	**Pb**	**17 03 38.0**	**-0.5**
KYPS				S	**Sb**	**17 03 45.2**	**+0.2**
ORTH	**Orthonies,Zaky**	**0.51**	**338**	P	**Pb**	**17 03 38.8**	**-0.8**
ORTH				S	**Sb**	**17 03 46.2**	**-0.6**
CLEM	**Kyllini,Ilia,G**	**0.54**	**17**	P	**Pb**	**17 03 39.5**	**-0.4**
CLEM				S	**Sb**	**17 03 47.8**	**+0.3**
ZARO	**Zacharo**	**0.57**	**79**	P	**Pb**	**17 03 40.5**	**-0.1**
AMT	**Artemida-Makis**	**0.63**	**75**	P	**Pb**	**17 03 41.2**	**-0.4**
AMT				S	**Sb**	**17 03 50.6**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.71**	**349**	P	**Pg**	**17 03 41.9**	**-1.0**
RTZL				S	**Sb**	**17 03 53.0**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.79**	**339**	P	**Pg**	**17 03 43.2**	**-1.1**
PSDA				S	**Sb**	**17 03 55.6**	**+0.9**
	2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.79**	**339**	P	**Pg**	**17 03 43.3**	**-1.1**
PSDA				S	**Sb**	**17 03 55.3**	**+0.6**
RLS	**Riolos of Patr**	**0.80**	**31**	P	**Pg**	**17 03 43.6**	**-0.9**
RLS				S	**Sb**	**17 03 54.5**	**-0.5**
	1μm,0.4s						
RLS	**Riolos of Patr**	**0.80**	**31**	P	**Pb**	**17 03 43.9**	**-0.5**
RLS				S	**Sb**	**17 03 55.7**	**+0.7**
ITM	**Ithomi**	**0.81**	**104**	P	**Pg**	**17 03 44.0**	**-0.8**
ITM				S	**Sb**	**17 03 56.3**	**+1.0**
	3μm,0.5s						
ITM	**Ithomi**	**0.81**	**104**	P	**Pg**	**17 03 43.9**	**-0.8**
MTHA	**Methoni**	**0.83**	**132**	P	**Pb**	**17 03 44.9**	**0.0**
DRO	**Drossia**	**0.84**	**46**	P	**Pg**	**17 03 44.5**	**-0.8**
DRO				S	**Sb**	**17 03 56.9**	**+0.7**
	3μm,0.5s						
DRO	**Drossia**	**0.84**	**46**	P	**Pb**	**17 03 44.6**	**-0.5**
DRO				S	**Sn**	**17 03 57.6**	**-0.5**
VLS	**Valsamata**	**0.85**	**341**	P	**Pg**	**17 03 44.1**	**-1.3**
VLS				S	**Sb**	**17 03 57.0**	**+0.6**
	2μm,0.5s						
VLS	**Valsamata**	**0.85**	**341**	P	**Pg**	**17 03 44.2**	**-1.3**
VLS				S	**Sb**	**17 03 57.2**	**+0.7**
AXS	**Araxos**	**0.89**	**23**	P	**Pb**	**17 03 45.6**	**-0.4**
AXS				S	**Sb**	**17 03 58.2**	**+0.6**
DMLN	**Damoulianata-K**	**0.97**	**333**	P	**Pg**	**17 03 46.7**	**-1.1**
DMLN				S	**Sn**	**17 04 01.2**	**-0.2**
	4μm,0.6s						
DMLN	**Damoulianata-K**	**0.97**	**333**	P	**Pg**	**17 03 46.9**	**-0.9**
DMLN				S	**Sn**	**17 04 01.6**	**+0.2**
FSK	**Fiskardo**	**1.12**	**345**	P	**Pb**	**17 03 49.0**	**-1.0**
FSK				S	**Sn**	**17 04 06.2**	**+1.2**
	1μm,0.7s						
FSK	**Fiskardo**	**1.12**	**345**	P	**Pb**	**17 03 49.4**	**-0.6**
UPR	**University Cam**	**1.13**	**36**	P	**Pb**	**17 03 49.6**	**-0.4**
UPR				S	**Sn**	**17 04 05.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.17**	**55**	P	**Pb**	**17 03 50.0**	**-0.8**
KLV				S	**Sn**	**17 04 07.4**	**+1.1**
	710nm,0.6s						
KLV	**Kalavryta, Ach**	**1.17**	**55**	P	**Pg**	**17 03 50.5**	**-1.0**
GUR	**Goura**	**1.25**	**63**	P	**Pn**	**17 03 51.1**	**-0.7**
GUR				S	**Sn**	**17 04 09.4**	**+1.1**
	2μm,0.5s						
GUR	**Goura**	**1.25**	**63**	P	**Pb**	**17 03 51.9**	**-0.2**
EVGI	**Lefkada island**	**1.26**	**350**	P	**Pn**	**17 03 51.7**	**-0.2**
EVGI				S	**Sn**	**17 04 12.4**	**+3.8**
	1μm,0.4s						
EVGI	**Lefkada island**	**1.26**	**350**	P	**Pb**	**17 03 52.2**	**-0.2**
EFP	**Efpalio**	**1.30**	**36**	P	**Pb**	**17 03 52.6**	**-0.4**
EFP				S	**Sg**	**17 04 12.0**	**+1.1**
	652nm,0.5s						
EFP	**Efpalio**	**1.30**	**36**	P	**Pb**	**17 03 52.6**	**-0.4**
PVO	**Paravola**	**1.32**	**20**	P	**Pb**	**17 03 53.1**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.34**	**348**	P	**Pg**	**17 03 54.4**	**-0.4**
DRAG				S	**Sg**	**17 04 13.5**	**+1.3**
	352nm,0.5s						
DRAG	**Dragano-Lefkad**	**1.34**	**348**	P	**Pb**	**17 03 53.5**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.35**	**352**	P	**Pg**	**17 03 54.4**	**-0.6**
NYDR				S	**Sg**	**17 04 14.9**	**+2.3**
	900nm,0.5s						
KALE	**Kalithea**	**1.39**	**43**	P	**Pb**	**17 03 54.3**	**-0.2**
KALE	**Kalithea**	**1.39**	**43**	P	**Pb**	**17 03 54.3**	**-0.2**
LKD2	**Lefkada island**	**1.43**	**351**	P	**Pg**	**17 03 55.7**	**-0.8**
LKD2				S	**Sg**	**17 04 15.0**	**-0.1**
	1μm,0.4s						
LKD2	**Lefkada island**	**1.43**	**351**	P	**Pb**	**17 03 54.9**	**-0.3**
ANX	**Ano Chora**	**1.44**	**32**	P	**Pb**	**17 03 55.1**	**-0.4**
ANX	**Ano Chora**	**1.44**	**32**	P	**Pb**	**17 03 55.0**	**-0.4**
TSLK	**Tsoukalades, L**	**1.47**	**351**	P	**Pg**	**17 03 56.0**	**-1.2**
TSLK	**Tsoukalades, L**	**1.47**	**351**	P	**Pg**	**17 03 56.4**	**-0.8**
EVR	**Evrytania**	**1.68**	**24**	P	**Pg**	**17 04 00.5**	**-0.9**
VLI	**Veliai**	**1.73**	**112**	P	**Pg**	**17 04 00.8**	**-1.4**
KRND	**KRANIDI**	**1.76**	**89**	P	**Pb**	**17 04 00.3**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.89**	**30**	P	**Pb**	**17 04 03.3**	**+0.3**
MET6	**Megalochori,Me**	**1.93**	**83**	P	**Pb**	**17 04 02.8**	**-1.0**
MET5	**Makryloggos,Me**	**1.94**	**82**	P	**Pb**	**17 04 02.9**	**-1.0**
AXAR	**Agios Charalam**	**1.94**	**44**	P	**Pb**	**17 04 04.2**	**+0.2**
TETR	**Tetrakomo, Epi**	**1.98**	**8**	P	**Pb**	**17 04 04.3**	**-0.4**
VIL2	**Platees**	**2.02**	**65**	P	**Pb**	**17 04 04.2**	**-1.1**
LKR	**Lokris**	**2.07**	**51**	P	**Pb**	**17 04 05.3**	**-0.7**
IGT	**Igoumenitsa**	**2.21**	**348**	P	**Pn**	**17 04 06.5**	**+1.6**
VLY	**Voula,Athens**	**2.32**	**77**	P	**Pn**	**17 04 07.4**	**+1.1**
ATHU	**Athens Univers**	**2.33**	**74**	P	**Pn**	**17 04 08.4**	**+1.8**
THL	**Klokotos Trika**	**2.34**	**21**	P	**Pb**	**17 04 09.0**	**-1.7**
DION	**Dionisos Attik**	**2.48**	**73**	P	**Pn**	**17 04 09.9**	**+1.3**
KEK	**Kerkira**	**2.50**	**339**	P	**Pb**	**17 04 11.6**	**-1.9**
TYRN	**Tyrnavos**	**2.54**	**23**	P	**Pn**	**17 04 11.5**	**+2.0**
NEO	**Neokhori**	**2.63**	**42**	P	**Pn**	**17 04 13.0**	**+2.2**
XOR	**Xorichti**	**2.66**	**41**	P	**Pn**	**17 04 13.0**	**+1.8**
KYMI	**Kymi, Euboea I**	**2.79**	**62**	P	**Pn**	**17 04 14.9**	**+2.0**
KARY	**Karystos**	**2.85**	**76**	P	**Pn**	**17 04 15.1**	**+1.4**
LIT	**Litokhoron**	**2.98**	**24**	P	**Pn**	**17 04 17.6**	**+2.1**
NEST	**Nestorio**	**3.04**	**2**	P	**Pn**	**17 04 19.3**	**+2.9**
SCTE	**Santa Cesarea**	**3.31**	**325**	P	**Pn**	**17 04 20.6**	**+0.5**
PLG	**Polygyros**	**3.58**	**32**	P	**Pn**	**17 04 25.1**	**+1.4**
KEST	**Kesra**	**9.47**	**264**	P	**Pn**	**17 05 49.2**	**+4.5**
	3.3nm,0.8s,baz=323,slow=16,SNR=2.1						
BRTR	**Keskin Array B**	**10.22**	**73**	P	**Pn**	**17 05 59.4**	**+4.4**
	0.5nm,0.5s,baz=254,slow=12,SNR=5.7						
AKASG	**Malin Array Be**	**14.58**	**21**	P	**P**	**17 06 58.8**	**-2.0**
	0.1nm,0.3s,baz=207,slow=8.8,SNR=4.6						
HFS	**Hagfors**	**23.24**	**351**	P	**P**	**17 08 33.8**	**-1.5**
	1.8nm,0.8s,baz=157,slow=8.0,SNR=4.1						
	1.8nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.27**	**325**	P	**P**	**17 08 45.1**	**0.0**
	2.3nm,0.7s,baz=126,slow=8.5,SNR=3.8						
	2.3nm,0.7s						
FINES	**FINESS Array B**	**24.31**	**6**	P	**P**	**17 08 44.2**	**-1.1**
	0.6nm,0.6s,baz=175,slow=9.6,SNR=4.4						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.63**	**221**	P	**P**	**17 09 33.6**	**0.0**
	1.9nm,0.3s,baz=33,slow=8.5,SNR=1.1						
	1.9nm,0.3s						
ARCES	**ARCESS Array B**	**32.31**	**3**	P	**P**	**17 09 55.9**	**-0.9**
	3.0nm,0.9s,baz=186,slow=9.9,SNR=3.9						
	3.0nm,0.9s						
BVAR	**Borovoye Array**	**37.38**	**49**	P	**P**	**17 10 38.9**	**-1.9**
	0.4nm,0.5s,baz=240,slow=7.8,SNR=2.2						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**42.44**	**53**	P	**P**	**17 11 21.5**	**-1.3**
	0.3nm,0.4s,baz=276,slow=8.6,SNR=5.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.44**	**58**	P	**P**	**17 11 46.1**	**-0.8**
	0.3nm,0.4s,baz=266,slow=8.0,SNR=12						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**45.98**	**48**	P	**P**	**17 11 49.7**	**-1.3**
	0.4nm,0.4s,baz=282,slow=7.2,SNR=2.8						
	0.4nm,0.4s						

*SDD **03** 17:13:46.7±2.5, 20°.15N×70°.75W, h22km±163km, MD2.9, ML2.0, MW2.4*
*OSPL **03** 17:13:47.7±0.8, 20°.18N×70°.96W, h5km, ML1.8*

ISC 03 17:13:46.8±1.4**, 20°.14N**±0°.06×**70°.86W**±0°.07**, h19**km**, n8,** σ1=01/10**, 7C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.79**	**252**	⇑*e*Sg	**Sn**	**17 14 14.7**	**+0.4**
MCDR				IAML		17 14 20.7	
	comp=N,59nm,1.1s						
REDR	**Restauracion**	**1.09**	**208**	⇑*e*Pg	**Pn**	**17 14 06.9**	**-0.2**
REDR				IAML		17 14 28.6	
	comp=N,26nm,0.1s						
SDDR	**Presa de Saban**	**1.22**	**200**	⇑*e*Pg	**Pb**	**17 14 09.8**	**+0.4**
SDDR				⇑*e*Sg	**Sn**	**17 14 25.9**	**+0.9**
SDDR				IAML		17 14 58.1	
	comp=N,19nm,2.9s						
SDDR	**Presa de Saban**	**1.22**	**200**	*i* P	**Pn**	**17 14 09.2**	**+0.2**
SDDR				IAML		17 14 30.2	
	comp=Z,16nm,3.4s						
ABDR	**Alto Bandera**	**1.34**	**171**	⇑*e*Sg	**Sn**	**17 14 26.3**	**-2.0**
ABDR				IAML		17 14 32.7	
	comp=N,25nm,0.8s						
GRTK	**Grand Turk**	**1.39**	**349**	*i* P	**Pn**	**17 14 11.0**	**-0.2**
GRTK				IAML		17 14 42.0	
	comp=Z,42nm,1.8s						
LONE3	**El Aguacate, B**	**1.63**	**201**	*i* P	**Pb**	**17 14 15.9**	**-0.4**
LONE3				IAML		17 14 41.4	
	comp=Z,12nm,2.3s						
HATOM	**Hato Mayor del**	**1.93**	**134**	⇑*e*Pg	**Pn**	**17 14 18.6**	**-0.1**
HATOM				⇑*e*Sg	**Sn**	**17 14 43.9**	**+1.3**
HATOM				IAML		17 15 26.9	
	comp=N,22nm,3.1s						

*ATH **03** 17:19:23.9, 37°.60N×20°.64E, h12km, ML3.6/25, Manual Solution by M.Charalampakis First location: 2019/03/03 17:20:21, This location: 2020/10/02 08:55:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **03** 17:19:24.2, 37°.62N×20°.66E, h8km, ML3.5/12, Error ellipse: s-maj=1.4km s-min=0.6km az=45.0*
*PDG **03** 17:19:28.1±0.7, 37°.83N×20°.80E, h2km±1km, ML3.8/8, Error ellipse: s-maj=2.6km s-min=2.1km az=90.0*
*IDC **03** 17:19:36.0±5.6, 37°.78N×20°.45E, h119km±54km, mb3.3/8, mbtmp3.5/11, MS3.1/5, Error ellipse: s-maj=33.1km s-min=20.6km az=141.0*

ISC 03 17:19:24.8±0.9**, 37°.67N**±0°.04×**20°.71E**±0°.03**, h16**km±4km**, n89**, σ1=44/117**, mb3.7/7**, 1C-5D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.11**	**71**	P	**Pg**	**17 19 27.7**	**-0.6**
LTHK				S	**Sg**	**17 19 29.9**	**-0.8**
	63μm,0.1s						
LTHK	**Lithakia**	**0.11**	**71**	P	**Pg**	**17 19 27.7**	**-0.6**
LTHK				S	**Sg**	**17 19 30.3**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.17**	**32**	P	**Pg**	**17 19 29.6**	**+0.4**
KYPS				S	**Sg**	**17 19 32.8**	**+0.7**
ORTH	**Orthonies,Zaky**	**0.18**	**357**	P	**Pg**	**17 19 29.4**	**+0.1**
ORTH				S	**Sg**	**17 19 33.0**	**+0.7**
CLEM	**Kyllini,Ilia,G**	**0.40**	**57**	P	**Pb**	**17 19 33.5**	**0.0**
CLEM				S	**Sb**	**17 19 39.1**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.41**	**7**	P	**Pb**	**17 19 33.2**	**-0.4**
RTZL				S	**Sb**	**17 19 40.2**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.45**	**348**	P	**Pb**	**17 19 34.0**	**-0.4**
PSDA				S	**Sb**	**17 19 41.5**	**+0.7**
	8μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.45**	**348**	P	**Pb**	**17 19 34.0**	**-0.4**
PSDA				S	**Sb**	**17 19 40.8**	**0.0**
VLS	**Valsamata**	**0.51**	**350**	P	**Pb**	**17 19 35.1**	**-0.3**
VLS				S	**Sb**	**17 19 43.3**	**+0.7**
VLS	**Valsamata**	**0.51**	**350**	P	**Pb**	**17 19 34.9**	**-0.5**
VLS				S	**Sb**	**17 19 43.0**	**+0.3**
DMLN	**Damoulianata-K**	**0.62**	**335**	P	**Pb**	**17 19 36.9**	**-0.4**
DMLN				S	**Sb**	**17 19 47.0**	**+1.2**
	7μm,0.6s						
DMLN	**Damoulianata-K**	**0.62**	**335**	P	**Pb**	**17 19 36.9**	**-0.4**
DMLN				S	**Sb**	**17 19 45.6**	**-0.2**
RLS	**Riolos of Patr**	**0.71**	**57**	P	**Pb**	**17 19 38.8**	**-0.1**
RLS				S	**Sn**	**17 19 49.5**	**-1.3**
	3μm,0.3s						
RLS	**Riolos of Patr**	**0.71**	**57**	P	**Pb**	**17 19 38.7**	**-0.1**
AXS	**Araxos**	**0.74**	**45**	P	**Pb**	**17 19 39.1**	**-0.2**
FSK	**Fiskardo**	**0.79**	**352**	P	**Pb**	**17 19 39.6**	**-0.6**
FSK				S	**Sn**	**17 19 53.0**	**+0.2**
	3μm,0.5s						
FSK	**Fiskardo**	**0.79**	**352**	P	**Pb**	**17 19 39.6**	**-0.6**
AMT	**Artemida-Makis**	**0.81**	**100**	P	**Pb**	**17 19 40.4**	**-0.1**
DRO	**Drossia**	**0.84**	**70**	P	**Pn**	**17 19 41.2**	**-0.8**
DRO				S	**Sn**	**17 19 54.3**	**+0.2**
	3μm,0.3s						
DRO	**Drossia**	**0.84**	**70**	P	**Pn**	**17 19 41.0**	**-1.0**
EVGI	**Lefkada island**	**0.95**	**358**	P	**Pb**	**17 19 42.4**	**-0.5**
EVGI				S	**Sn**	**17 19 57.6**	**+1.0**
	3μm,0.2s						
EVGI	**Lefkada island**	**0.95**	**358**	P	**Pn**	**17 19 42.6**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.01**	**354**	P	**Pb**	**17 19 43.4**	**-0.6**
DRAG				S	**Sn**	**17 20 00.2**	**+1.9**

GNI Garni 18.86 75 LR LR 17 30 54.9
comp=Z,37nm,19.9s,baz=314,slow=36
ESDC Sonseca Array 19.35 284 P **P 17 23 50.3 +0.7**
1.4nm,1.0s,baz=91,slow=11,SNR=4.5
HFS Hagfors 22.92 351 P **P 17 24 28.2 +0.4**
1.8nm,0.7s,baz=159,slow=9.3,SNR=1.9
1.8nm,0.7s
FINES FINESS Array B 24.03 6 P **P 17 24 38.1 -0.6**
1.4nm,0.8s,baz=188,slow=8.4,SNR=1.4
FINES LR LR 17 35 08.4
comp=Z,143nm,19.7s,baz=238,slow=39
1.4nm,0.8s
TORD Torodi Ar. Bea 29.73 220 P **P 17 25 30.2 -0.2**
2.0nm,0.4s,baz=39,slow=11,SNR=1.9
2.0nm,0.4s
ARCES ARCESS Array B 32.03 3 P **P 17 25 49.0 -1.2**
3.5nm,1.0s,baz=184,slow=9.0,SNR=1.8
3.5nm,1.0s
KURBB Kurchatov Arra 42.41 53 P **P 17 27 19.3 +0.9**
0.2nm,0.6s,baz=279,slow=8.8,SNR=2.4
0.2nm,0.6s
MKAR Makanchi Array 45.44 58 P **P 17 27 44.3 +1.5**
0.3nm,0.5s,baz=272,slow=7.5,SNR=5.3
0.3nm,0.5s
ZALV Zalesovo Beam 45.92 48 P **P 17 27 46.7 +0.2**
0.3nm,0.3s,baz=280,slow=8.5,SNR=2.0
0.3nm,0.3s
YKA Yellowknife Ar 73.91 340 P **P 17 30 57.5 -1.1**
baz=41,slow=6.1,SNR=1.9

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*IDC **03** 17:27:18.8±1.0, 0°.74N×122°.77E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=152.3km s-min=18.3km az=64.0*
*DJA **03** 17:27:47.5±0.7, 1°.N±6°×12°.4E±°, h272km±6km, M3.5/9, mb3.9/1, MLv3.3/9*
ISC 03 17:27:49.0±0.9, 1°.0N±0°.1×124°.1E±0°.1, h300km, n12, σ2°19/12, mb3.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.43**	**190**	P	**Pn**	**17 28 24.2**	**-3.2**
MRSI	**Marisa**	**2.18**	**256**	P	**Pn**	**17 28 36.0**	**-1.2**
MRSI				S	**S**	**17 29 14.2**	**-1.4**
LUWI	**Luwuk**	**2.40**	**212**	P	**Pn**	**17 28 37.7**	**-1.4**
SANI	**Sanana**	**3.59**	**147**	P	**Pn**	**17 28 47.5**	**-3.3**
NLAI	**Namlea**	**5.19**	**144**	P	**Pn**	**17 29 07.4**	**-1.4**
WRA	**Warramunga Arr**	**23.12**	**155**	P	**P**	**17 32 31.9**	**+2.5**
1.2nm,0.3s,baz=334,slow=9.6,SNR=23							
1.2nm,0.3s							
ASAR	**Alice Springs**	**26.32**	**159**	P	**P**	**17 32 57.6**	**-0.5**
0.3nm,0.7s,baz=335,slow=8.2,SNR=9.4							
0.3nm,0.7s							
STKA	**Stephens Creek**	**36.68**	**155**	P	**P**	**17 34 30.3**	**+2.5**
1.6nm,0.9s,baz=306,slow=8.7,SNR=1.6							
1.6nm,0.9s							
SONM	**Songino Array**	**49.11**	**344**	P	**P**	**17 36 08.0**	**+1.2**
0.2nm,0.4s,baz=145,slow=5.3,SNR=2.7							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**58.34**	**327**	P	**P**	**17 37 13.1**	**-0.1**
0.2nm,0.3s,baz=133,slow=6.5,SNR=8.1							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**62.64**	**329**	P	**P**	**17 37 41.3**	**-0.7**
0.1nm,0.4s,baz=122,slow=7.1,SNR=2.9							
0.1nm,0.4s							
TXAR	**Lajitas Array**	**125.37**	**52**	PKP	PKiKP	17 46 23.6	+8.0
0.1nm,0.5s,baz=313,slow=4.6,SNR=1.9							

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*KRSC **03** 17:33:32.4±0.5, 55°.48N×162°.74E, h54km±16km, Ml4.2*
*IDC **03** 17:33:37.8±2.9, 55°.53N×162°.37E, h65km±28km, mb3.4/14, mbtmp3.6/17, ML3.3/3, MS3.3/2, Error ellipse: s-maj=21.1km s-min=15.8km az=167.0*
ISC 03 17:33:34.8±1.1, 55°.51N±0°.04×162°.72E±0°.04, h45km±11km, n44, σ1°35/47, mb3.6/14, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.70**	**5**	*eP*	**Pn**	**17 33 47.1**	**-1.3**
KBTR				*eS*	**Sn**	**17 33 59.5**	**+1.4**
KBG	**Krutoberegovo**	**0.75**	**360**	*eP*	**Pn**	**17 33 47.7**	**-1.3**
MKZ	**Mys Kozlova**	**1.11**	**211**	*eP*	**Pn**	**17 33 51.8**	**-2.1**
MKZ				*eS*	**Sn**	**17 34 07.7**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.22**	**291**	*eP*	**Pn**	**17 33 54.6**	**-0.9**
BZGR				*eS*	**Sn**	**17 34 11.1**	**+0.2**
SMKR	**Semkarok**	**1.28**	**327**	*eP*	**Pn**	**17 33 55.8**	**-0.5**
TUMD	**Tumrok D**	**1.36**	**258**	*eP*	**Pn**	**17 33 56.7**	**-0.6**
TUMD				*eS*	**Sn**	**17 34 13.9**	**-0.3**
KRSR	**Krestovskiy**	**1.40**	**301**	*eP*	**Pn**	**17 33 57.2**	**-0.8**
KRSR				*eS*	**Sn**	**17 34 14.4**	**-1.0**
KLY	**Klyuchi**	**1.41**	**306**	*eP*	**Pn**	**17 33 56.1**	**-1.9**
KLY				*eS*	**Sn**	**17 34 13.8**	**-1.6**
KIRR	**Kirishev**	**1.41**	**289**	*eP*	**Pn**	**17 33 58.1**	**-0.1**
KMNR	**Kamenistaya**	**1.43**	**281**	*eP*	**Pn**	**17 33 58.5**	**+0.1**
KMNR				*eS*	**Sn**	**17 34 17.3**	**+1.4**
KPT	**Kopyto**	**1.48**	**289**	*eP*	**Pn**	**17 33 59.0**	**-0.1**
KOZ	**Kozyrevsk**	**1.70**	**290**	*eP*	**Pn**	**17 34 02.6**	**+0.7**
SRDR	**Sredinnyy**	**1.87**	**297**	*eP*	**Pn**	**17 34 05.2**	**+0.8**
SRDR				*eS*	**Sn**	**17 34 29.3**	**+2.5**
BKI	**Bering**	**1.89**	**98**	*eP*	**Pn**	**17 34 04.7**	**+0.3**
BKI				*eS*	**Sn**	**17 34 28.1**	**+1.1**
ESO	**Esso**	**2.31**	**282**	*eP*	**Pn**	**17 34 10.1**	**-0.2**
SDLR	**Sedlovina**	**3.17**	**227**	*eP*	**Pn**	**17 34 22.0**	**-0.1**
KRX	**Arik**	**3.21**	**229**	*eP*	**Pn**	**17 34 23.1**	**+0.4**
AVH	**Avacha**	**3.24**	**228**	*eP*	**Pn**	**17 34 23.2**	**+0.2**
UGLR	**Uglovaya**	**3.24**	**226**	*eP*	**Pn**	**17 34 23.3**	**+0.1**
GNL	**Ganaly**	**3.32**	**239**	*eP*	**Pn**	**17 34 24.8**	**+0.6**
DALK	**Dalny**	**3.40**	**225**	*eP*	**Pn**	**17 34 25.6**	**+0.4**
OSSR	**Ossora**	**3.75**	**3**	*eP*	**Pn**	**17 34 31.5**	**+1.4**
PETK	**Petropavlovsk-**	**3.80**	**233**	P	**Pn**	**17 34 31.4**	**+0.6**
1.4nm,0.3s,baz=61,slow=15,SNR=4.1							
PETK				S	**Sn**	**17 35 17.5**	**+3.4**
8.2nm,0.6s,baz=82,slow=23,SNR=4.1							
4.3nm,0.6s							
KRMR	**Karymshinskiy**	**3.80**	**227**	*eP*	**Pn**	**17 34 33.0**	**+2.2**
MA2	**Magadan**	**7.61**	**307**	P	**Pn**	**17 35 24.9**	**+2.0**
0.2nm,0.3s,baz=124,slow=23,SNR=1.6							
0.6nm,0.3s							
ASAJ	**Asahikawa**	**17.21**	**237**	P	**P**	**17 37 31.4**	**-1.3**
0.1nm,0.3s,baz=277,slow=5.8,SNR=2.2							
6.0nm,1.0s							
TIXI	**Tiksi**	**21.61**	**331**	P	**P**	**17 38 20.9**	**+0.5**
1.2nm,0.5s,baz=130,slow=13,SNR=9.6							
TIXI				LR	LR	17 47 33.6	
comp=Z,49nm,18.3s,baz=360,slow=39							
1.2nm,0.5s							
MJAR	**Matsushiro Arr**	**25.26**	**232**	P	**P**	**17 38 56.9**	**+0.4**
2.3nm,0.9s,baz=40,slow=9.2,SNR=4.5							
2.3nm,0.9s							
ILAR	**Eielson Array**	**26.04**	**49**	P	**P**	**17 39 05.0**	**+1.7**
1.0nm,0.9s,baz=273,slow=10.0,SNR=11							
1.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**35.86**	**173**	T	T	18 20 02.5	
baz=357,slow=76,SNR=26							
H11N3	**WAKE ISLAND Hy**	**35.88**	**173**	T	T	18 19 47.0	
baz=357,slow=76,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**35.88**	**173**	T	T	18 19 36.9	
baz=357,slow=76,SNR=20							
YKA	**Yellowknife Ar**	**40.35**	**45**	P	P	17 41 09.2	+1.7
0.2nm,0.5s,baz=298,slow=9.3,SNR=4.9							
0.2nm,0.5s							
SPITS	**Spitsbergen Ar**	**45.00**	**351**	P	**P**	**17 41 45.8**	**+0.8**
7.6nm,0.9s,baz=31,slow=5.9,SNR=1.8							
7.6nm,0.9s							
KURBB	**Kurchatov Arra**	**47.88**	**301**	P	**P**	**17 42 07.0**	**-0.8**
0.2nm,0.3s,baz=56,slow=8.1,SNR=4.7							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**48.50**	**295**	P	**P**	**17 42 11.3**	**-1.5**
0.2nm,0.4s,baz=41,slow=7.7,SNR=5.3							
MKAR				LR	LR	18 05 00.2	
comp=Z,51nm,19.5s,baz=329,slow=39							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**50.10**	**308**	P	**P**	**17 42 24.2**	**-0.7**
0.4nm,0.3s,baz=52,slow=8.7,SNR=2.7							
0.4nm,0.3s							
NVAR	**Mina Array Bea**	**53.52**	**73**	P	**P**	**17 42 51.6**	**+0.8**
0.4nm,0.6s,baz=332,slow=7.8,SNR=2.8							
0.4nm,0.6s							
PDAR	**Pinedale Array**	**55.04**	**64**	P	P	17 43 04.8	+3.0
0.1nm,0.6s,baz=304,slow=9.3,SNR=1.7							
0.1nm,0.6s							
ULM	**Lac du Bonnet**	**56.06**	**49**	P	P	17 43 10.4	+1.7
0.4nm,0.4s,baz=59,slow=21,SNR=1.3							
0.4nm,0.4s							
FINES	**FINESS Array B**	**58.50**	**337**	P	**P**	**17 43 26.6**	**+0.9**
1.4nm,0.6s,baz=22,slow=6.2,SNR=6.3							
1.4nm,0.6s							
AKASG	**Malin Array Be**	**67.31**	**330**	P	**P**	**17 44 24.1**	**-0.3**
0.2nm,0.3s,baz=28,slow=6.7,SNR=3.1							
0.2nm,0.3s							
TXAR	**Lajitas Array**	**68.31**	**70**	P	P	17 44 34.0	+2.8
0.7nm,0.6s,baz=296,slow=5.3,SNR=12							
0.7nm,0.6s							
QSPA	**South Pole Qui**	**145.26**	**180**	PKPbc	**PKiKP**	**17 53 05.9**	**-3.9**
1.8nm,1.1s,baz=284,slow=2.0,SNR=5.9							

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*IDC **03** 17:37:53.8±1.6, 7°.88S×122°.91E, h239km±15km, mb3.4/13, mbtmp4.1/17, Error ellipse: s-maj=27.1km s-min=8.9km az=65.0*
*DJA **03** 17:37:53.7±0.4, 8°.S±4°×12°.3E±°, h227km±8km, M4.0/12, mB4.7/2, mb3.9/6, MLv4.1/12, Mw(mB)4.0/2*
*NEIC **03** 17:37:54.1±1.7, 7°.95S±0°.09×122°.96E±0°.10, h231km±7km, mb4.4/15, Error ellipse: s-maj=16.2km s-min=10.1km az=53.0*
ISC 03 17:37:52.8±0.4, 7°.96S±0°.04×122°.98E±0°.05, h221km, n97, σ1°42/100, mb4.0/20, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.00**	**227**	Pn	**Pn**	**17 38 26.2**	**+1.5**
MMRI	**Maumere**	**1.00**	**227**	P	**Pn**	**17 38 26.7**	**+2.0**
MMRI	**Maumere**	**1.00**	**227**	P	**Pn**	**17 38 26.1**	**+1.4**
SOEI	**Soe**	**2.19**	**145**	Pn	**Pn**	**17 38 36.9**	**+1.9**
SOEI	**Soe**	**2.19**	**145**	P	**Pn**	**17 38 36.9**	**+1.9**
SOEI	**Soe**	**2.19**	**145**	P	**Pn**	**17 38 37.4**	**+2.4**
BBSI	**Bau Bau**	**2.48**	**351**	P	**Pn**	**17 38 39.7**	**+1.8**
BSSI	**Bau Bau, Buton**	**3.06**	**306**	P	**Pn**	**17 38 44.5**	**+0.3**
BASI	**Baing, Sumba**	**3.27**	**226**	P	**Pn**	**17 38 47.1**	**+0.5**
WBSI	**Waikabubak, Su**	**3.92**	**244**	P	**Pn**	**17 38 55.1**	**+0.7**
KDI	**Kendari**	**3.99**	**355**	P	**Pn**	**17 38 55.5**	**+0.3**
KAPI	**Kappang**	**4.34**	**312**	Pn	**Pn**	**17 39 00.7**	**+1.1**
KAPI	**Kappang**	**4.34**	**312**	P	**Pn**	**17 39 00.3**	**+0.8**
23nm,0.8s,baz=146,slow=8.9,SNR=11							
SPSI	**Sidrap Palu**	**5.09**	**321**	P	**Pn**	**17 39 12.0**	**+3.1**
0.1nm17nm,0.8s							
PLAI	**Plampang**	**5.22**	**260**	P	**Pn**	**17 39 10.4**	**-0.1**
0.3nm990nm31nm,0.8s							
TTSI	**Tana Toraja**	**5.80**	**327**	P	**Pn**	**17 39 20.3**	**+2.4**
0.1nm26nm,1.0s							
SANI	**Sanana**	**6.59**	**27**	P	**Pn**	**17 39 29.7**	**+1.8**
JAGI	**Jajag, Banyuwa**	**8.75**	**266**	P	**Pn**	**17 39 57.9**	**+2.1**
DRS	**Darwin Rock St**	**8.97**	**120**	P	**Pn**	**17 39 59.0**	**+0.4**
MTN	**Manton Dam**	**9.38**	**122**	Pn	**Pn**	**17 40 04.1**	**+0.3**
MTN	**Manton Dam**	**9.38**	**122**	P	**Pn**	**17 40 03.9**	**+0.1**
KNRA	**Kununurra**	**9.54**	**144**	Pn	**Pn**	**17 40 05.7**	**0.0**
FITZ	**Fitzroy Crossi**	**10.41**	**166**	Pn	**Pn**	**17 40 15.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**10.41**	**166**	P	**Pn**	**17 40 16.9**	**0.0**
2.5nm,0.4s,baz=354,slow=7.9,SNR=28							
FITZ				S	**S**	**17 42 08.8**	**-4.9**
32nm,0.7s,baz=134,slow=6.2,SNR=12							
FITZ	**Fitzroy Crossi**	**10.41**	**166**	P	**Pn**	**17 40 17.0**	**0.0**
KDU	**Kakadu**	**10.46**	**118**	P	**Pn**	**17 40 17.9**	**+0.3**
FAKI	**Fak Fak**	**10.50**	**62**	P	**Pn**	**17 40 18.8**	**+0.7**
FAKI	**Fak Fak**	**10.50**	**62**	S	**S**	**17 42 16.7**	**+0.8**
UGM	**Wanagama**	**12.34**	**269**		**P**	**17 40 45.4**	**+0.5**
UGM	**Wanagama**	**12.34**	**269**	P	**P**	**17 40 44.2**	**-0.7**
MBWA	**Marble Bar**	**13.50**	**193**		**P**	**17 40 59.3**	**+1.6**
MBWA	**Marble Bar**	**13.50**	**193**	P	**P**	**17 40 57.2**	**-0.5**
MBWA	**Marble Bar**	**13.50**	**193**	S	**S**	**17 43 27.0**	**+1.9**
PSA00	**Pilbara Seismi**	**13.87**	**192**	Pn	**Pn**	**17 41 00.2**	**-0.2**
PSA00	**Pilbara Seismi**	**13.87**	**192**	P	**P**	**17 41 03.2**	**+1.3**
SBUM	**Sibu**	**14.90**	**314**	P	**P**	**17 41 15.7**	**+2.3**
WB0	**Warramunga Arr**	**16.13**	**138**	P	**P**	**17 41 27.6**	**+0.7**
WB0				IAmb	IAmb	17 41 29.6	
comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**16.22**	**138**	P	**P**	**17 41 27.5**	**-0.4**
WRA	**Warramunga Arr**	**16.22**	**138**	P	**P**	**17 41 28.5**	**+0.6**
comp=Z,4.1nm,0.3s,baz=319,slow=12,SNR=123							
WRA				S	**S**	**17 44 23.9**	**-3.0**
comp=Z,3.0nm,0.6s,baz=323,slow=23,SNR=8.4							
WRAB	**Tennant Creek**	**16.22**	**138**	P	**Pn**	**17 41 28.9**	**0.0**
WRAB				IAmb	IAmb	17 41 29.1	
comp=Z,11nm,0.5s							
WR0	**Warramunga Arr**	**16.37**	**138**	P	**P**	**17 41 30.2**	**+0.7**
WR0				IAmb	IAmb	17 41 32.2	
comp=Z,12nm,0.8s							
GIRL	**Giralia**	**16.85**	**209**		**P**	**17 41 35.2**	**+0.5**
GIRL	**Giralia**	**16.85**	**209**	P	**Pn**	**17 41 36.5**	**+0.2**
WRKA	**Warakurna**	**17.73**	**164**	P	**Pn**	**17 41 45.9**	**-0.7**
AS31	**Alice Springs**	**18.81**	**147**	P	**P**	**17 41 57.4**	**+1.3**
AS31				IAmb	IAmb	17 42 02.1	
comp=Z,13nm,0.7s							
ASAR	**Alice Springs**	**18.81**	**147**	P	**P**	**17 41 56.7**	**+0.6**
ASAR	**Alice Springs**	**18.81**	**147**	P	**P**	**17 41 57.0**	**+1.0**
comp=Z,28nm,0.6s,baz=334,slow=12,SNR=154							
ASAR				S	**S**	**17 45 19.9**	**+1.6**
comp=Z,0.7nm,0.7s,baz=314,slow=20,SNR=3.0							
ASAR				ScP	**ScP**	**17 49 23.9**	**-4.1**
comp=Z,1.1nm,0.7s,baz=336,slow=2.0,SNR=5.7							
AS01	**Alice Springs**	**18.83**	**147**	P	**P**	**17 41 57.2**	**+0.9**
MEEK	**Meekatharra**	**19.04**	**192**	P	**P**	**17 41 59.9**	**+1.4**
QIS	**Mount Isa**	**20.38**	**130**	P	**P**	**17 42 13.8**	**+0.8**
COEN	**Coen**	**20.70**	**108**	P	**P**	**17 42 16.4**	**+0.1**
COEN				IAmb	IAmb	17 42 16.7	
comp=Z,8.0nm,1.0s							
COEN	**Coen**	**20.70**	**108**	P	**P**	**17 42 15.9**	**-0.5**
MORW	**Morawa**	**21.99**	**196**	P	**P**	**17 42 29.1**	**-0.1**
MORW				IAmb	IAmb	17 42 38.8	
comp=Z,8.5nm,0.9s							
MORW	**Morawa**	**21.99**	**196**	P	**P**	**17 42 29.1**	**-0.1**
MTSU	**Mount Surprise**	**23.09**	**118**	P	**P**	**17 42 40.0**	**+0.7**
OOD	**Oodnadatta**	**23.11**	**150**	P	**P**	**17 42 39.8**	**+0.5**
FORT	**Forrest**	**23.20**	**169**	P	**P**	**17 42 40.5**	**+0.4**
FORT	**Forrest**	**23.20**	**169**	P	**P**	**17 42 40.9**	**+0.8**
BLDU	**Ballidu**	**23.29**	**194**	P	**P**	**17 42 40.7**	**-0.3**
KMBL	**Kambalda**	**23.32**	**182**	P	**P**	**17 42 41.7**	**+0.5**
KLBR	**Kellerberrin**	**24.02**	**191**	P	**P**	**17 42 48.6**	**+1.0**
NWAO	**Narrogin (SRO)**	**25.41**	**191**	P	**P**	**17 43 02.0**	**+1.8**
LCRK	**Leigh Creek**	**26.54**	**149**	P	**P**	**17 43 11.3**	**+1.0**
BBOO	**Buckleboo**	**27.55**	**156**	P	**P**	**17 43 19.4**	**+0.2**
BBOO	**Buckleboo**	**27.55**	**156**	P	**P**	**17 43 19.6**	**+0.4**
HTT	**Hallett**	**29.33**	**152**	P	**P**	**17 43 36.4**	**+1.3**
STKA	**Stephens Creek**	**29.44**	**146**	P	**P**	**17 43 36.4**	**+0.4**
STKA				IAmb	IAmb	17 43 37.6	
comp=Z,14nm,0.7s							
STKA	**Stephens Creek**	**29.44**	**146**	P	**P**	**17 43 36.9**	**+0.9**
comp=Z,3.1nm,0.5s,baz=323,slow=9.5,SNR=11							
comp=Z,3.1nm,0.5s							
STKA	**Stephens Creek**	**29.44**	**146**	P	**P**	**17 43 36.7**	**+0.7**
TWGBT	**Beinan**	**30.64**	**357**	P	**P**	**17 43 48.5**	**+1.9**
CMSA	**Cobar Meteorol**	**31.60**	**141**	P	**P**	**17 43 56.5**	**+1.5**
ARPS	**Mount Arapiles**	**33.43**	**152**	P	**P**	**17 44 11.6**	**+0.8**
YNG	**Young**	**35.14**	**142**	P	**P**	**17 44 27.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**37.35**	**318**	P	**P**	**17 44 26.7**	**-1.0**
comp=Z,0.5nm,0.6s,baz=143,slow=7.0,SNR=4.2							
CMAR				PcP	**PcP**	**17 46 51.5**	**-1.2**
comp=Z,0.3nm,0.5s,baz=144,slow=3.1,SNR=4.7							
comp=Z,0.5nm,0.6s							
PZH	**PanZhiHua**	**39.98**	**330**	P	**P**	**17 45 09.5**	**+3.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
KSRS	**Korea Array**	**45.41**	**6**	P	**P**	**17 45 48.5**	**-1.0**
comp=Z,0.4nm,0.6s,baz=180,slow=9.5,SNR=2.5							
comp=Z,0.4nm,0.6s							
MJAR	**Matsushiro Arr**	**46.52**	**17**	P	**P**	**17 45 56.8**	**-1.4**
comp=Z,0.4nm,0.4s,baz=191,slow=7.9,SNR=1.6							
comp=Z,0.4nm,0.4s							
HHC	**Hu-ho-hao-te**	**49.69**	**349**	*eP*	P	17 46 27.3	+4.8
HHC				pmax	pmax		
comp=Z,14nm,0.6s							
HHC				pmax	pmax		
comp=Z,110nm,4.6s							
GTA	**Gaotai**	**51.79**	**337**	*eP*	P	17 46 45.5	+7.3
GTA				pmax	pmax		
comp=Z,4.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**52.55**	**8**	P	**P**	**17 46 42.6**	**-0.8**
comp=Z,1.8nm,0.4s,baz=196,slow=6.7,SNR=15							
comp=Z,1.8nm,0.4s							
SONM	**Songino Array**	**57.45**	**347**	P	**P**	**17 47 16.3**	**-2.4**
comp=Z,0.4nm,0.6s,baz=179,slow=7.3,SNR=4.2							
comp=Z,0.4nm,0.6s							
KSH	**Kashi**	**64.19**	**321**	P	**P**	**17 48 04.9**	**+0.7**
KSH				pmax	pmax		
comp=Z,5.0nm,0.8s							
MK31	**Makanchi Array**	**65.41**	**330**	P	**P**	**17 48 11.1**	**-0.7**
MKAR	**Makanchi Array**	**65.41**	**330**	P	**P**	**17 48 10.3**	**-1.5**
comp=Z,1.3nm,0.5s,baz=133,slow=6.9,SNR=21							
comp=Z,1.3nm,0.5s							
BOOM	**Boomskoye usch**	**66.00**	**324**	P	**P**	**17 48 16.4**	**+0.5**
BOOM				IAmb	IAmb	17 48 17.0	
comp=Z,5.1nm,0.8s							
AAK	**Ala-Archa**	**66.94**	**323**	P	**P**	**17 48 22.1**	**+0.2**
ARSB	**Arslanbob**	**67.10**	**321**	P	**P**	**17 48 22.2**	**-0.6**
ARSB				IAmb	IAmb	17 48 23.7	
comp=Z,4.9nm,0.7s							
PETK	**Petropavlovsk-**	**67.60**	**22**	P	**P**	**17 48 26.0**	**+0.5**
ZALV	**Zalesovo Beam**	**69.55**	**337**	P	**P**	**17 48 36.8**	**-0.7**
ZALV	**Zalesovo Beam**	**69.55**	**337**	P	**P**	**17 48 35.1**	**-2.3**
comp=Z,1.5nm,0.4s,baz=136,slow=5.6,SNR=9.0							
comp=Z,1.5nm,0.4s							
KURBB	**Kurchatov Arra**	**69.85**	**332**	P	**P**	**17 48 38.4**	**-1.0**
comp=Z,0.5nm,0.5s,baz=139,slow=5.4,SNR=8.8							
comp=Z,0.5nm,0.5s							
ABKAR	**Akbulak array**	**79.02**	**323**	P	**P**	**17 49 31.0**	**-1.2**
TIXI	**Tiksi**	**79.53**	**2**	P	**P**	**17 49 32.5**	**-2.0**
comp=Z,1.3nm,0.3s,baz=101,slow=2.2,SNR=2.3							
comp=Z,1.3nm,0.3s							
QSPA	**South Pole Qui**	**82.03**	**180**	P	**P**	**17 49 47.8**	**-0.3**
QSPA	**South Pole Qui**	**82.03**	**180**	P	**P**	**17 49 48.2**	**+0.1**
comp=Z,1.1nm,0.6s,baz=182,slow=0.8,SNR=17							
comp=Z,1.1nm,0.6s							
KBZ	**Khabaz**	**88.34**	**314**	P	**P**	**17 50 17.5**	**-2.0**
comp=Z,1.5nm,0.9s,baz=134,slow=4.5,SNR=3.8							
comp=Z,1.5nm,0.9s							
BRTR	**Keskin Array B**	**94.52**	**309**	P	**P**	**17 50 46.8**	**-1.7**
comp=Z,0.4nm,0.7s,baz=125,slow=6.8,SNR=2.4							
comp=Z,0.4nm,0.7s							

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*IGQ **03** 17:41:12.3±0.6, 0°.N±3°×8°1W±°, h15km, MLv4.1/33*
*IDC **03** 17:41:12.4±0.8, 0°.41N×80°.79W, h0km, mb4.0/9, mbtmp4.0/12, ML4.0/2, MS3.1/5, Error ellipse: s-maj=33.1km s-min=16.1km az=65.0*
*RSNC **03** 17:41:18.5±0.0, 0°.N±10°×8°1W±1°0, h33km±44km, M3.4, ML3.1*
ISC 03 17:41:14.1±1.6, 0°.31N±0°.04×80°.86W±0°.05, h16km±10km, n94, σ1°30/100, mb4.0/8, 5C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAB1	**Cabo Pasado-Ma**	**0.81**	**148**	S	**Sg**	**17 41 40.5**	**-0.1**
CAB1				⇑P	**Pg**	**17 41 28.9**	**-1.0**
JAMA	**Jama**	**0.86**	**131**	S	**Sb**	**17 41 40.4**	**-1.8**
JAMA				⇓P	**Pb**	**17 41 29.3**	**-1.6**
FLF1	**Flavio Alfaro-**	**1.21**	**123**	⇑P	**Pn**	**17 41 35.8**	**-0.7**
FLF1				S	**Sg**	**17 41 56.5**	**+3.1**
AMNT	**Manta-Manabi**	**1.25**	**174**	P	**Pn**	**17 41 34.9**	**-2.1**
ACHN	**Ecuador-Chone-**	**1.27**	**142**	P	**Pn**	**17 41 35.7**	**-1.5**
AMA1	**Acelerografo,**	**1.30**	**61**	P	**Pn**	**17 41 36.2**	**-1.5**
PECV	**Mancha de Ca P**	**1.35**	**143**	⇓P	Pn	17 41 34.8	-3.6
AV21	**Acelerografo,**	**1.36**	**75**	⇑P	**Pn**	**17 41 37.2**	**-1.3**
AES2	**Ecuador-Puerto**	**1.39**	**61**	P	**Pn**	**17 41 37.2**	**-1.7**
ISPT	**Isla de la Pla**	**1.57**	**188**	P	**Pn**	**17 41 39.7**	**-1.7**
RVRD	**Rio Verde**	**1.66**	**63**	⇓P	**Pn**	**17 41 41.5**	**-1.1**
PPLP	**Puerto Lpez**	**1.84**	**177**	⇓P	**Pn**	**17 41 43.8**	**-1.3**
PPLP	**Puerto Lpez**	**1.84**	**177**	P	**Pn**	**17 41 44.0**	**-1.2**
PPLP				S	**Sn**	**17 42 06.4**	**-1.8**
PAC1	**Pacto, Paraso**	**2.07**	**91**	P	**Pn**	**17 41 47.0**	**-1.4**
PAC1	**Pacto, Paraso**	**2.07**	**91**	P	**Pn**	**17 41 47.1**	**-1.3**
PAC1				S	**Sn**	**17 42 13.4**	**-0.6**
SNLR	**San Lorenzo-Es**	**2.24**	**64**	P	**Pn**	**17 41 50.1**	**-0.5**
HPAL	**Hacienda Las P**	**2.27**	**103**	P	**Pn**	**17 41 50.0**	**-1.4**
PINO	**Pino**	**2.30**	**102**	⇑P	**Pn**	**17 41 50.8**	**-1.2**
GGPT	**Toaza - Volcan**	**2.30**	**103**	P	**Pn**	**17 41 50.4**	**-1.4**
TERV	**Terraza Guagua**	**2.31**	**102**	P	**Pn**	**17 41 51

2.1nm,0.6s,baz=170,slow=9.6,SNR=5.6
2.1nm,0.6s
YKA Yellowknife Ar 67.00 344 P **P 17 52 06.7 +0.7**
1.1nm,0.8s,baz=143,slow=6.1,SNR=18
1.1nm,0.8s
DBIC Dimbokro 76.06 83 P **P 17 53 01.8 +0.2**
3.5nm,0.9s,baz=261,slow=9.3,SNR=2.3
3.5nm,0.9s
ESDC Sonseca Array 79.73 50 P **P 17 53 22.6 +1.0**
1.0nm,0.7s,baz=262,slow=5.5,SNR=7.9
1.0nm,0.7s
TORD Torodi Ar. Bea 82.68 77 P **P 17 53 37.8 +0.1**
1.8nm,0.4s,baz=280,slow=6.5,SNR=2.0
1.8nm,0.4s
ZALV Zalesovo Beam 124.64 10 PKP **PKPdf 18 00 12.5 -0.5**
0.4nm,0.5s,baz=333,slow=0.5,SNR=2.2
KURBB Kurchatov Arra 126.31 16 PKP **PKPdf 18 00 17.0 +0.7**
0.5nm,0.6s,baz=332,slow=2.4,SNR=4.8
ASAR Alice Springs 139.06 233 PKhKP PKPpre 18 00 31.6
0.3nm,0.9s,baz=122,slow=3.2,SNR=1.7
ASAR PKP **PKPdf 18 00 40.6 -0.5**
0.5nm,0.8s,baz=86,slow=1.7,SNR=7.6
WRA Warramunga Arr 140.40 238 PKP **PKPdf 18 00 43.3 -0.3**
0.7nm,0.9s,baz=108,slow=1.4,SNR=7.0

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*IDC **03** 17:45:07.6±1.6, 19°.39S×172°.19E, h0km, mb3.7/5, mbtmp3.6/7, ML3.9/2, MS3.1/4, Error ellipse: s-maj=90.4km s-min=23.6km az=158.0*
ISC 03 17:45:12.2±1.1, 19°.65S±0°.4×172°.3E±0°.2, h35km, n14, σ0°64/10, mb3.7/5, MS3.3/3, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.81**	**72**	Pn	**Pn**	**17 46 36.3**	**+0.3**
	0.3nm,0.3s,baz=336,slow=18,SNR=1.5						
	3.0nm,0.8s						
DZM	**Mont Dzumac**	**5.95**	**245**	Pn	**Pn**	**17 46 37.6**	**-0.3**
	0.4nm,0.3s,baz=95,slow=18,SNR=2.2						
	12nm,0.9s						
HNR	**Honiara**	**15.63**	**309**	LR	LR	17 54 22.3	
	comp=Z,63nm,18.9s,baz=68,slow=36						
RAR	**Rarotonga**	**26.25**	**98**	LR	LR	17 58 21.3	
	comp=Z,24nm,21.3s,baz=269,slow=30						
ASAR	**Alice Springs**	**35.80**	**257**	P	**P**	**17 52 09.0**	**+0.6**
	1.3nm,1.1s,baz=90,slow=7.8,SNR=6.3						
	1.3nm,1.1s						
KAPI	**Kappang**	**53.09**	**279**	LR	LR	18 16 54.6	
	comp=Z,28nm,19.2s,baz=106,slow=36						
KLR	**Kul'dur**	**77.44**	**334**	LR	LR	18 25 23.8	
	comp=Z,19nm,20.7s,baz=36,slow=31						
CMAR	**Chiang Mai Arr**	**81.27**	**293**	P	**P**	**17 57 25.2**	**0.0**
	0.5nm,0.8s,baz=100,slow=6.2,SNR=2.5						
	0.5nm,0.8s						
NVAR	**Mina Array Bea**	**86.95**	**47**	P	**P**	**17 57 54.8**	**+0.7**
	0.3nm,0.6s,baz=257,slow=5.7,SNR=2.2						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**89.79**	**16**	P	**P**	**17 58 06.0**	**-0.6**
	0.3nm,0.7s,baz=238,slow=5.4,SNR=6.9						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**94.47**	**61**	P	**P**	**17 58 28.2**	**-1.0**
	0.2nm,0.7s,baz=237,slow=4.0,SNR=2.9						
	0.2nm,0.7s						
GERES	**GERESS Array B**	**146.13**	**334**	PKPbc	**PKPbc**	**18 04 49.2**	**+0.4**
	1.4nm,0.7s,baz=2.9,slow=2.0,SNR=7.2						
MOTA	**Moosalm**	**148.38**	**335**	*i* PKP	**PKPbc**	**18 04 55.5**	**+0.4**
	1.2nm,0.5s						
SQTA	**Sankt Quirin**	**148.44**	**335**	*i* PKP	**PKPbc**	**18 04 55.6**	**+0.4**
	0.7nm,0.3s						

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*THE **03** 18:00:45.0, 37°.34N×20°.93E, h0km±2km, ML2.9/10, Error ellipse: s-maj=2.9km s-min=0.7km az=207.0*
*ATH **03** 18:00:46.4, 37°.40N×20°.96E, h9km±2km, ML3.0/23, Manual Solution by M.Charalampakis First location: 2019/03/03 18:01:42, This location: 2019/03/03 20:32:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*IDC **03** 18:00:46.6±10.0, 36°.79N×20°.11E, h90km±66km, mb3.4/4, mbtmp3.7/6, ML4.0/2, Error ellipse: s-maj=135.3km s-min=35.8km az=42.0*
ISC 03 18:00:44.3±1.4, 37°.29N±0°.05×20°.92E±0°.03, h10km±9km, n79, σ1°06/97, mb3.6/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.42**	**351**	P	**Pg**	**18 00 52.9**	**+0.2**
LTHK				S	**Sg**	**18 00 58.5**	**+0.2**
	5μm,0.5s						
LTHK	**Lithakia**	**0.42**	**351**	P	**Pg**	**18 00 52.9**	**+0.2**
LTHK				S	**Sg**	**18 00 58.1**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.53**	**352**	P	**Pg**	**18 00 55.0**	**+0.3**
KYPS				S	**Sg**	**18 01 01.8**	**0.0**
ORTH	**Orthonies,Zaky**	**0.59**	**343**	P	**Pg**	**18 00 55.9**	**+0.2**
ORTH				S	**Sg**	**18 01 03.4**	**0.0**
ZARO	**Zacharo**	**0.62**	**71**	P	**Pb**	**18 00 57.8**	**+0.6**
CLEM	**Kyllini,Ilia,G**	**0.62**	**16**	P	**Pg**	**18 00 56.4**	**0.0**
CLEM				S	**Sg**	**18 01 04.7**	**0.0**
AMT	**Artemida-Makis**	**0.68**	**69**	P	**Pb**	**18 00 58.1**	**-0.1**
AMT				S	**Sg**	**18 01 06.6**	**+0.3**
MTHA	**Methoni**	**0.79**	**126**	P	**Pn**	**18 01 01.8**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.79**	**352**	P	**Pg**	**18 00 59.0**	**-0.6**
RTZL				S	**Sg**	**18 01 10.3**	**+0.3**
ITM	**Ithomi**	**0.81**	**97**	P	**Pn**	**18 01 01.0**	**-0.8**
ITM				S	**Sn**	**18 01 12.6**	**-1.4**
	1μm,0.5s						
ITM	**Ithomi**	**0.81**	**97**	P	**Pb**	**18 01 00.2**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.86**	**342**	P	**Pg**	**18 01 00.3**	**-0.7**
PSDA				S	**Sg**	**18 01 12.2**	**0.0**
	1μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.86**	**342**	P	**Pg**	**18 01 00.4**	**-0.5**
PSDA				S	**Sg**	**18 01 10.9**	**-1.3**
RLS	**Riolos of Patr**	**0.88**	**30**	P	**Pg**	**18 01 00.9**	**-0.4**
RLS				S	**Sg**	**18 01 12.8**	**0.0**
	498nm,0.8s						
RLS	**Riolos of Patr**	**0.88**	**30**	P	**Pg**	**18 01 00.9**	**-0.4**
RLS				S	**Sg**	**18 01 12.4**	**-0.4**
DRO	**Drossia**	**0.91**	**43**	P	**Pb**	**18 01 01.5**	**-0.8**
DRO				S	**Sg**	**18 01 13.7**	**-0.1**
	2μm,0.4s						
DRO	**Drossia**	**0.91**	**43**	P	**Pb**	**18 01 01.4**	**-0.8**
DRO				S	**Sg**	**18 01 12.9**	**-1.0**
VLS	**Valsamata**	**0.92**	**344**	P	**Pb**	**18 01 01.3**	**-1.1**
VLS				S	**Sg**	**18 01 14.4**	**+0.3**
	732nm,0.3s						
VLS	**Valsamata**	**0.92**	**344**	P	**Pb**	**18 01 01.3**	**-1.1**
AXS	**Araxos**	**0.98**	**22**	P	**Pb**	**18 01 02.2**	**-1.1**
DMLN	**Damoulianata-K**	**1.04**	**336**	P	**Pb**	**18 01 03.6**	**-0.8**
DMLN				S	**Sb**	**18 01 18.6**	**+0.5**
	2μm,0.5s						
DMLN	**Damoulianata-K**	**1.04**	**336**	P	**Pb**	**18 01 03.9**	**-0.5**
FSK	**Fiskardo**	**1.20**	**347**	P	**Pn**	**18 01 06.3**	**-0.9**
KLV	**Kalavryta, Ach**	**1.23**	**52**	P	**Pn**	**18 01 07.0**	**-0.7**
KLV				S	**Sg**	**18 01 25.2**	**+1.1**
	280nm,0.6s						
KLV	**Kalavryta, Ach**	**1.23**	**52**	P	**Pn**	**18 01 06.8**	**-0.9**
GUR	**Goura**	**1.30**	**60**	P	**Pn**	**18 01 08.2**	**-0.5**
GUR	**Goura**	**1.30**	**60**	P	**Pn**	**18 01 08.3**	**-0.3**
EVGI	**Lefkada island**	**1.34**	**351**	P	**Pn**	**18 01 08.7**	**-0.4**
EVGI				S	**Sg**	**18 01 29.1**	**+1.5**
	545nm,0.2s						
EVGI	**Lefkada island**	**1.34**	**351**	P	**Pn**	**18 01 08.7**	**-0.4**
ALIK	**Aliki, Aigiali**	**1.35**	**44**	P	**Pg**	**18 01 10.7**	**+0.4**
EFP	**Efpalio**	**1.38**	**34**	P	**Pn**	**18 01 09.6**	**0.0**
EFP	**Efpalio**	**1.38**	**34**	P	**Pn**	**18 01 09.5**	**-0.1**
PVO	**Paravola**	**1.41**	**20**	P	**Pn**	**18 01 10.2**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.42**	**349**	P	**Pb**	**18 01 11.8**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.43**	**353**	P	**Pn**	**18 01 10.4**	**+0.1**
NYDR				S	**Sg**	**18 01 31.6**	**+1.2**
	298nm,0.6s						
KALE	**Kalithea**	**1.47**	**41**	P	**Pn**	**18 01 11.0**	**+0.1**
KALE	**Kalithea**	**1.47**	**41**	P	**Pn**	**18 01 11.1**	**+0.3**
LKD2	**Lefkada island**	**1.51**	**352**	P	**Pn**	**18 01 11.9**	**+0.5**
LKD2	**Lefkada island**	**1.51**	**352**	P	**Pn**	**18 01 11.8**	**+0.3**
ANX	**Ano Chora**	**1.52**	**31**	P	**Pn**	**18 01 11.8**	**+0.1**
ANX	**Ano Chora**	**1.52**	**31**	P	**Pn**	**18 01 11.7**	**0.0**
TSLK	**Tsoukalades, L**	**1.55**	**352**	P	**Pn**	**18 01 12.6**	**+0.7**
TSLK	**Tsoukalades, L**	**1.55**	**352**	P	**Pn**	**18 01 11.9**	**0.0**
VLI	**Veliai**	**1.72**	**109**	P	**Pg**	**18 01 17.9**	**+0.7**
EVR	**Evrytania**	**1.77**	**23**	P	**Pb**	**18 01 17.1**	**+0.2**
KRND	**KRANIDI**	**1.78**	**86**	P	**Pg**	**18 01 17.7**	**-0.8**
MET6	**Megalochori,Me**	**1.97**	**80**	P	**Pb**	**18 01 19.7**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.97**	**29**	P	**Pb**	**18 01 20.6**	**+0.4**
MET5	**Makryloggos,Me**	**1.97**	**80**	P	**Pb**	**18 01 19.7**	**-0.6**
AXAR	**Agios Charalam**	**2.02**	**43**	P	**Pb**	**18 01 21.0**	**-0.1**
TETR	**Tetrakomo, Epi**	**2.07**	**8**	P	**Pb**	**18 01 21.4**	**-0.6**
VIL2	**Platees**	**2.08**	**63**	P	**Pb**	**18 01 21.0**	**-1.1**
LKR	**Lokris**	**2.13**	**50**	P	**Pb**	**18 01 22.0**	**-1.0**
IGT	**Igoumenitsa**	**2.29**	**349**	P	**Pn**	**18 01 23.5**	**+1.4**
VLY	**Voula,Athens**	**2.35**	**75**	P	**Pn**	**18 01 23.8**	**+0.8**
THL	**Klokotos Trika**	**2.43**	**20**	P	**Pn**	**18 01 26.4**	**+2.3**
DION	**Dionisos Attik**	**2.52**	**71**	P	**Pn**	**18 01 27.2**	**+1.9**
KEK	**Kerkira**	**2.57**	**340**	P	**Pb**	**18 01 28.6**	**-1.9**
TYRN	**Tyrnavos**	**2.63**	**23**	P	**Pn**	**18 01 28.4**	**+1.7**
KPRO	**Kipourio**	**2.68**	**7**	P	**Pn**	**18 01 30.2**	**+2.6**
NEO	**Neokhori**	**2.71**	**41**	P	**Pn**	**18 01 29.9**	**+2.0**
XOR	**Xorichti**	**2.74**	**40**	P	**Pn**	**18 01 30.2**	**+1.9**
KYMI	**Kymi, Euboea I**	**2.85**	**61**	P	**Pn**	**18 01 31.3**	**+1.4**
KARY	**Karystos**	**2.89**	**74**	P	**Pn**	**18 01 32.0**	**+1.7**
PENT	**Pentalofos**	**2.91**	**3**	P	**Pn**	**18 01 33.8**	**+3.1**
SCTE	**Santa Cesarea**	**3.38**	**326**	P	**Pn**	**18 01 37.7**	**+0.6**
PLG	**Polygyros**	**3.66**	**32**	P	**Pn**	**18 01 42.3**	**+1.3**
HORT	**Hortiatis**	**3.72**	**27**	P	**Pn**	**18 01 43.3**	**+1.5**
OUR	**Ouranopolis**	**3.87**	**37**	P	**Pn**	**18 01 45.2**	**+1.3**
CEL	**Celeste**	**4.09**	**285**	P	**Pn**	**18 01 48.8**	**+1.8**
KNT	**Kendrikon**	**4.16**	**21**	P	**Pn**	**18 01 49.3**	**+1.4**
LIA	**Limnos Island**	**4.24**	**51**	P	**Pn**	**18 01 50.1**	**+1.2**
MMAI	**Mount Meron Ar**	**12.60**	**105**	P	P	18 03 49.2	-6.0
	0.7nm,0.3s,baz=304,slow=10,SNR=8.1						
	5.4nm,0.8s						
AKASG	**Malin Array Be**	**14.66**	**21**	P	**P**	**18 04 18.2**	**+0.3**
	0.7nm,0.3s,baz=209,slow=8.7,SNR=3.5						
	0.1nm,0.3s						
HFS	**Hagfors**	**23.32**	**351**	P	**P**	**18 05 49.7**	**-2.5**
	7.2nm,1.1s,baz=160,slow=8.9,SNR=2.9						
	7.2nm,1.1s						
FINES	**FINESS Array B**	**24.39**	**6**	P	**P**	**18 06 01.6**	**-0.9**
	3.3nm,1.1s,baz=186,slow=8.4,SNR=1.1						
	3.3nm,1.1s						
KURBB	**Kurchatov Arra**	**42.51**	**53**	P	**P**	**18 08 39.1**	**-0.5**
	0.2nm,0.4s,baz=277,slow=8.9,SNR=2.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**18 09 03.2**	**-0.6**
	0.2nm,0.3s,baz=270,slow=7.7,SNR=6.3						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.05**	**48**	P	**P**	**18 09 11.1**	**+3.1**
	0.3nm,0.4s,baz=282,slow=7.2,SNR=1.8						

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*IDC **03** 18:06:27.9±0.6, 28°.06N×103°.66E, h0km, mb3.8/18, mbtmp3.8/20, ML3.4/2, MS2.9/2, Error ellipse: s-maj=26.1km s-min=12.8km az=57.0*
ISC 03 18:06:33.2±0.6, 28°.05N±0°.10×103°.7E±0°.1, h35km, n21, σ1°09/23, mb3.9/18, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.49**	**206**	Pn	**Pn**	**18 09 01.0**	**-0.3**
	baz=13,slow=13,SNR=7.0						
CMAR				LR	LR	18 13 27.2	
	comp=Z,95nm,19.1s,baz=10.0,slow=40						
	0.4nm,0.4s						
SONM	**Songino Array**	**19.86**	**5**	P	**P**	**18 11 01.6**	**+0.3**
	0.2nm,0.3s,baz=188,slow=10,SNR=9.1						
	0.5nm,0.5s						
KSRS	**Korea Array**	**22.39**	**59**	P	**P**	**18 11 28.1**	**-0.5**
	1.8nm,0.6s,baz=246,slow=9.4,SNR=12						
KSRS				LR	LR	18 20 08.2	
	comp=Z,22nm,20.9s,baz=240,slow=37						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**25.13**	**324**	P	**P**	**18 11 54.8**	**-0.1**
	1.9nm,0.7s,baz=125,slow=11,SNR=32						
MKAR				PcP	**PcP**	**18 15 29.1**	**+0.7**
	0.2nm,0.6s,baz=119,slow=1.8,SNR=2.0						
MKAR				ScP	**ScP**	**18 19 08.7**	**+3.8**
	0.3nm,0.8s,baz=146,slow=0.5,SNR=3.8						
	1.9nm,0.7s						
AAK	**Ala-Archa**	**27.74**	**309**	P	**P**	**18 12 18.3**	**-0.3**
	1.0nm,0.6s,baz=148,slow=5.9,SNR=5.1						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**29.34**	**337**	P	**P**	**18 12 32.3**	**-0.2**
	0.5nm,0.4s,baz=122,slow=11,SNR=2.1						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**29.52**	**327**	P	**P**	**18 12 33.1**	**-1.0**
	0.2nm,0.3s,baz=130,slow=10,SNR=6.0						
	0.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.56**	**153**	P	**P**	**18 15 26.6**	**-1.9**
	1.7nm,1.0s,baz=344,slow=13,SNR=1.8						
	1.7nm,1.0s						
KBZ	**Khabaz**	**50.58**	**305**	P	**P**	**18 15 28.6**	**+0.1**
	1.1nm,0.8s,baz=106,slow=19,SNR=2.4						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**56.17**	**145**	P	**P**	**18 16 09.9**	**+0.2**
	1.0nm,0.7s,baz=334,slow=8.5,SNR=14						
	1.0nm,0.7s						
BRTR	**Keskin Array B**	**57.97**	**301**	P	**P**	**18 16 22.3**	**-0.2**
	0.3nm,0.7s,baz=126,slow=7.3,SNR=3.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**59.10**	**147**	P	**P**	**18 16 30.7**	**+0.4**
	0.8nm,0.4s,baz=325,slow=6.6,SNR=44						
	0.8nm,0.4s						
AKASG	**Malin Array Be**	**59.23**	**315**	P	**P**	**18 16 30.8**	**-0.1**
	0.4nm,0.3s,baz=71,slow=6.6,SNR=4.5						
	0.4nm,0.3s						
ARCES	**ARCESS Array B**	**59.89**	**337**	P	**P**	**18 16 34.7**	**-0.5**
	4.6nm,1.1s,baz=88,slow=7.8,SNR=12						
	4.6nm,1.1s						
FINES	**FINESS Array B**	**59.91**	**327**	P	**P**	**18 16 35.0**	**-0.3**
	1.1nm,0.5s,baz=83,slow=7.2,SNR=9.5						
	1.1nm,0.5s						
HFS	**Hagfors**	**66.10**	**327**	P	**P**	**18 17 15.5**	**-1.1**
	2.7nm,0.9s,baz=118,slow=5.7,SNR=4.8						
	2.7nm,0.9s						
NB2	**NORSAR Subarra**	**67.04**	**328**	P	**P**	**18 17 21.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=72,slow=6.9						
NOA	**NORSAR Array B**	**67.04**	**328**	P	**P**	**18 17 21.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=82,slow=4.5,SNR=4.2						
	comp=Z,0.4nm,0.5s						
GERES	**GERESS Array B**	**69.43**	**315**	P	**P**	**18 17 38.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=86,slow=5.6,SNR=2.8						
	comp=Z,0.3nm,0.4s						
STKA	**Stephens Creek**	**69.67**	**146**	P	**P**	**18 17 39.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=304,slow=7.3,SNR=2.9						
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**84.71**	**17**	P	**P**	**18 19 03.0**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=310,slow=4.3,SNR=1.9						
	comp=Z,0.1nm,0.5s						

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*JMA **03** 18:35:12.0±0.2, 24°N±1°×122°.5E±0°.7, h27km, MV2.8/14, NEAR ISHIGAKIJIMA ISLAND*
*TAP **03** 18:35:11.9, 23°.78N×122°.58E, h27km, ML3.3, D*
ISC 03 18:35:11.6±1.0, 23°.73N±0°.02×122°.53E±0°.02, h33km±8km, n127, σ0°76/173, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.44**	**334**	P	**Pb**	**18 35 20.4**	**-0.6**
EOS4				S	**Sb**	**18 35 27.2**	**-0.2**
EOS3	**EOS3**	**0.59**	**341**	P	**Pb**	**18 35 23.6**	**+0.1**
EOS2	**EOS2**	**0.74**	**339**	*i* P	**Pb**	**18 35 26.5**	**+0.4**
EOS2				*e*S	**Sb**	**18 35 38.0**	**+2.1**
JYNG	**Yonagunijimaku**	**0.82**	**28**	P	**Pn**	**18 35 26.6**	**-0.3**
JYNG				S	**Sn**	**18 35 36.0**	**-1.8**
YOJ	**Yonaguni jima**	**0.85**	**31**	P	**Pn**	**18 35 27.4**	**0.0**
YOJ	**Yonaguni jima**	**0.85**	**31**	P	**Pn**	**18 35 27.5**	**0.0**
YOJ				S	**Sn**	**18 35 37.7**	**-1.1**
YOJ	**Yonaguni jima**	**0.85**	**31**	P	**Pn**	**18 35 27.4**	**0.0**
YOJ				*e*S	**Sn**	**18 35 37.1**	**-1.7**
TEYL	**Yanliau Villag**	**0.86**	**280**	*e*P	**Pn**	**18 35 26.6**	**-0.9**
TEYL				S	**Sn**	**18 35 38.2**	**-0.8**
HWA	**Hwalien**	**0.88**	**287**	*e*P	**Pb**	**18 35 28.1**	**-0.3**
HWA				*e*S	**Sb**	**18 35 40.9**	**+0.9**
SHUL	**Shoufeng**	**0.89**	**274**	*e*P	**Pb**	**18 35 28.4**	**-0.2**
SHUL				S	**Sb**	**18 35 41.0**	**+0.9**
TWD	**Chiawan**	**0.92**	**293**	*i* P	**Pn**	**18 35 28.5**	**+0.2**
TWD				S	**Sn**	**18 35 39.9**	**-0.6**
ETL	**Fush Village**	**0.94**	**298**	*e*P	**Pb**	**18 35 29.1**	**-0.3**
ETL				*e*S	**Sb**	**18 35 41.8**	**+0.2**
EAHA	**Aohua**	**0.94**	**310**	*e*P	**Pb**	**18 35 29.3**	**-0.1**
NACB	**Ninganchiao**	**0.96**	**298**	P	**Pn**	**18 35 28.7**	**-0.2**
NACB	**Ninganchiao**	**0.96**	**298**	*i* P	**Pn**	**18 35 28.9**	**0.0**
NACB				*e*S	**Sb**	**18 35 41.8**	**-0.5**
ETM	**Tongmen**	**0.98**	**284**	P	**Pn**	**18 35 29.0**	**-0.1**
ETM				*e*S	**Sn**	**18 35 42.0**	**+0.1**
EWUT	**Wuta**	**0.99**	**316**	*i* P	**Pb**	**18 35 30.1**	**-0.3**
EWUT				*e*S	**Sb**	**18 35 44.1**	**+1.0**
ENA	**Nanau**	**1.00**	**314**	P	**Pb**	**18 35 29.9**	**-0.7**
EGFH	**Guangfu**	**1.01**	**267**	*e*P	**Pn**	**18 35 29.8**	**+0.2**
EGFH				*e*S	**Sb**	**18 35 44.0**	**+0.3**
HGSD	**Ruisui**	**1.04**	**257**	P	**Pn**	**18 35 30.3**	**+0.4**
HGSD				S	**Sn**	**18 35 43.5**	**+0.2**
WARBT	**Fenglin Townsh**	**1.05**	**270**	*i* P	**Pn**	**18 35 30.2**	**+0.1**
WARBT				*e*S	**Sb**	**18 35 44.1**	**-0.6**
ESAO	**Su ao**	**1.05**	**324**	*e*P	**Pb**	**18 35 31.0**	**-0.3**
ESAO				*e*S	**Sb**	**18 35 44.4**	**-0.4**
LXIB	**Xiulin Townshi**	**1.06**	**286**	*e*P	**Pn**	**18 35 30.6**	**+0.2**
ECBN	**Changbin**	**1.07**	**248**	P	**Pb**	**18 35 31.5**	**-0.1**
ECBN				*i* S	**Sb**	**18 35 44.6**	**-0.7**
ETLH	**Xiulin Townshi**	**1.07**	**297**	*e*P	**Pn**	**18 35 30.6**	**+0.1**
ETLH				*e*S	**Sn**	**18 35 44.6**	**+0.3**
TWC	**Suao**	**1.08**	**325**	*i* P	**Pn**	**18 35 30.8**	**+0.3**
TWC				S	**Sb**	**18 35 45.5**	**-0.1**
EHYH	**Wanrong**	**1.11**	**258**	*e*P	**Pb**	**18 35 32.0**	**-0.3**
EHYH				S	**Sb**	**18 35 46.7**	**+0.2**
EHY	**Hungye**	**1.13**	**259**	P	**Pb**	**18 35 32.2**	**-0.4**
EHY				S	**Sb**	**18 35 47.0**	**0.0**
CHKH	**Chenggong**	**1.17**	**243**	*e*P	**Pn**	**18 35 32.2**	**+0.5**
CHKH				S	**Sn**	**18 35 46.4**	**-0.1**
NDS	**Dongshan**	**1.17**	**321**	*e*P	**Pb**	**18 35 33.1**	**-0.2**
EYUL	**Yuli**	**1.17**	**252**	*e*P	**Pb**	**18 35 32.8**	**-0.5**
EYUL				S	**Sb**	**18 35 48.1**	**-0.1**
YULB	**Yu-li**	**1.18**	**254**	P	**Pb**	**18 35 32.8**	**-0.7**
YULB	**Yu-li**	**1.18**	**254**	P	**Sb**	**18 35 48.6**	**+0.2**
YULB	**Yu-li**	**1.18**	**254**	*i* P	**Pb**	**18 35 33.1**	**-0.4**
YULB				*e*S	**Sb**	**18 35 48.3**	**-0.1**
TWF1	**Yuli**	**1.19**	**252**	P	**Pb**	**18 35 33.1**	**-0.6**
TWF1				*e*S	**Sb**	**18 35 48.8**	**0.0**
HATJ	**Hateruma jima**	**1.21**	**74**	*e*P	**Pb**	**18 35 33.7**	**-0.3**
LATG	**Datong**	**1.22**	**312**	*e*P	**Pb**	**18 35 33.4**	**-0.8**
WHF	**Hehuan Shan**	**1.23**	**290**	*e*P	**Pn**	**18 35 33.5**	**+0.6**
CHKT	**Chengkung**	**1.24**	**240**	*e*P	**Pn**	**18 35 33.1**	**+0.5**
CHKT				*i* S	**Sn**	**18 35 48.2**	**0.0**
EGS		**1.24**	**334**	*e*P	**Pb**	**18 35 34.4**	**-0.1**
EGS				S	**Sb**	**18 35 50.9**	**+0.7**
FULB	**Fuli**	**1.25**	**245**	*i* P	**Pb**	**18 35 33.6**	**+0.8**
FULB				*i* S	**Sn**	**18 35 49.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.25**	**61**	*e*P	**Pb**	**18 35 34.1**	**-0.6**
IRIF				*e*S	**Sb**	**18 35 50.9**	**+0.3**
ILA	**Ilan**	**1.26**	**326**	*e*P	**Pb**	**18 35 35.9**	**+1.1**
NNSB	**Datong**	**1.26**	**304**	*e*P	**Pb**	**18 35 34.0**	**-0.9**
OWD	**Renai**	**1.26**	**281**	*e*P	**Pn**	**18 35 33.8**	**+0.7**
OWD				*i* S	**Sb**	**18 35 50.1**	**-0.8**
ENTT	**Nioudou**	**1.27**	**316**	*e*P	**Pb**	**18 35 34.3**	**-0.7**
TWE	**Neicheng**	**1.27**	**322**	*e*P	**Pb**	**18 35 34.4**	**-0.5**
VWDT	**VWDT**	**1.27**	**272**	*i* P	**Pb**	**18 35 34.3**	**-0.7**
VWDT				S	**Sb**	**18 35 50.3**	**-0.7**
NNS	**Nan Shan**	**1.27**	**304**	*e*P	**Pb**	**18 35 34.3**	**-0.8**
FUSS	**Fushou**	**1.29**	**294**	*e*P	**Pb**	**18 35 34.5**	**-0.9**
WUSB	**Renai**	**1.32**	**282**	*e*P	**Pb**	**18 35 34.9**	**-1.0**
WUSB				*e*S	**Sb**	**18 35 52.1**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.34**	**320**	*e*P	**Pb**	**18 35 35.6**	**-0.6**
EHD	**Haiduan**	**1.34**	**245**	*e*P	**Pb**	**18 35 35.5**	**-0.7**
EHD				S	**Sb**	**18 35 52.0**	**-1.1**
TWT	**Tachien**	**1.34**	**293**	*e*P	**Pb**	**18 35 36.0**	**-0.4**
EDH	**Donghe**	**1.35**	**237**	*e*P	**Pn**	**18 35 34.8**	**+0.6**
EDH				*i* S	**Sn**	**18 35 51.4**	**+0.4**
ECS	**Chishang**	**1.36**	**243**	*e*P	**Pb**	**18 35 35.7**	**-0.8**
ECS				*e*S	**Sb**	**18 35 54.0**	**+0.6**
TDCB	**Techi**	**1.36**	**293**	*e*P	**Pb**	**18 35 35.9**	**-0.7**
TWB1	**Santiao Chiao**	**1.37**	**339**	*e*P	**Pb**	**18 35 36.2**	**-0.4**
TIPB	**Shuangxi**	**1.40**	**333**	*e*P	**Pb**	**18 35 36.3**	**-0.9**
TIPB				S	**Sb**	**18 35 55.0**	**+0.3

LVA	**Lava Point**	**1.34**	**320**	Pn	Pn	18 45 54.6	-0.9
LVA				IAML		18 46 16.8	
	comp=E,297nm,0.7s						
AKGG	**Akutan Green G**	**1.35**	**322**		Pn	18 45 55.7	-0.1
UNV	**Unalaska Valle**	**1.35**	**302**		Pn	18 45 55.3	-0.4
UNV	**Unalaska Valle**	**1.35**	**302**		Sn	18 46 12.8	+0.1
WECS	**Westdahl Cape**	**1.39**	**355**		Pn	18 45 56.0	-0.3
WEBT	**Westdahl Beart**	**1.45**	**356**		Pn	18 45 56.9	-0.2
WEBT					Sn	18 46 15.4	+0.2
MTBL	**Makushin Table**	**1.51**	**304**		Pn	18 45 57.9	-0.1
MTBL					Sn	18 46 16.8	+0.1
MSW	**Makushin Switc**	**1.53**	**301**		Pn	18 45 58.4	+0.2
MSW					Sn	18 46 17.4	+0.2
MAPS	**Pakushin South**	**1.57**	**296**		Pn	18 45 58.7	0.0
MAPS					Sn	18 46 18.3	+0.3
SSLS	**Shishaldin Sou**	**1.60**	**12**		Pn	18 45 58.8	-0.4
ISLZ	**Isanotski Laza**	**1.66**	**17**		Pn	18 45 59.5	-0.5
ISLZ					Sn	18 46 21.0	+0.6
ISNN	**Isanotski Nort**	**1.75**	**15**		Pn	18 46 01.6	+0.4
FALS	**False Pass**	**1.84**	**21**	Pn	Pn	18 46 00.6	-1.8
OKTU	**Okmok Mt. Tuli**	**2.10**	**278**		Pn	18 46 06.7	+0.6
HAG	**Hague Volcano**	**2.68**	**35**		Pn	18 46 14.4	+0.5
S12K	**Black Hills**	**2.95**	**29**		Pn	18 46 18.1	+0.5
S12K	**Black Hills**	**2.95**	**29**	IAML		18 47 06.0	
	comp=N,32nm,0.8s						
S12K				IAML		18 47 17.6	
	comp=E,41nm,1.2s						
SDPT	**Sand Point**	**3.26**	**46**		Pn	18 46 22.4	+0.6
SDPT	**Sand Point**	**3.26**	**46**	IAML		18 47 02.7	
	comp=E,50nm,0.3s						
SDPT				IAML		18 47 04.0	
	comp=N,50nm,1.1s						
CNBA	**Chernabura Isl**	**3.38**	**58**		Pn	18 46 23.9	+0.3
CHGN	**Chignik**	**4.76**	**46**	Pn	Pn	18 46 43.4	+0.9
CHGN				IAML		18 48 30.4	
	comp=N,17nm,0.1s						

*NNC **03** 18:48:37.7±0.8, 42°.92N×77°.29E, h0km, mpv2.5, Error ellipse: s-maj=7.9km s-min=3.6km az=11.0*
*SOME **03** 18:48:38.1, 42°.90N×77°.25E, h5km*
ISC 03 18:48:37.7±1.4, 42°.93N±0°.08×77°.28E±0°.03, h16km±9km, n9, σ0°30/16, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.27**	**294**	P	**Pg**	**18 48 43.8**	**0.0**
	8.6nm,0.1s						
TNSS				S	**Sg**	**18 48 48.0**	**0.0**
	9.6nm,0.2s						
TNSS	**Tian-Shan**	**0.27**	**294**	*eP*	**Pg**	**18 48 43.9**	**0.0**
	8.6nm,0.1s						
TNSS				*eS*	**Sg**	**18 48 47.8**	**-0.2**
	9.1nm,0.1s						
KOTS	**Kotyrbulak**	**0.33**	**338**	P	**Pb**	**18 48 45.0**	**-0.3**
	7.8nm,0.1s						
KOTS				S	**Sg**	**18 48 49.7**	**+0.2**
	18nm,0.2s						
KOTS	**Kotyrbulak**	**0.33**	**338**	*eP*	**Pb**	**18 48 45.0**	**-0.3**
	7.8nm,0.1s						
KOTS				*eS*	**Sg**	**18 48 49.7**	**+0.2**
	20nm,0.1s						
SATY	**Saty**	**0.83**	**81**	P	**Pb**	**18 48 54.1**	**+0.2**
	0.7nm,0.1s						
SATY				S	**Sb**	**18 49 05.3**	**+0.4**
	5.2nm,0.1s						
SATY	**Saty**	**0.83**	**81**	*eP*	Pn	18 49 03.4	+8.5
	0.3nm,0.1s						
SATY				*eS*	Sn	18 49 21.2	+14
	2.2nm,0.1s						
KTBS	**Karatobe**	**0.90**	**331**	P	**Pg**	**18 48 55.2**	**+0.1**
	0.4nm,0.1s						
KTBS				S	**Sg**	**18 49 07.3**	**+0.3**
	3.4nm,0.2s						
DGS	**Degeres**	**1.15**	**286**	P	**Pg**	**18 48 59.6**	**-0.3**
	0.3nm,0.1s						
DGS				S	**Sn**	**18 49 14.8**	**+0.1**
	1.3nm,0.3s						
KPKS	**Kokpek**	**1.16**	**62**	*eP*	**Pg**	**18 48 59.6**	**-0.4**
	0.3nm,0.1s						
KPKS				*eS*	**Sg**	**18 49 14.8**	**-0.4**
	1.5nm,0.1s						

IDC 03 18:52:30.7±5.6, 21°.32S×175°.48W, h145km±44km, mb3.3/3, mbtmp3.7/4, Error ellipse: s-maj=60.2km s-min=39.9km az=45.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.07**	**299**	P	Pn	18 54 11.6	-0.1
	4.0nm,0.8s,baz=140,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**46.63**	**257**	P	P	19 00 45.0	+0.3
	0.5nm,0.7s,baz=100,slow=8.0,SNR=8.7						
ASAR				PcP	PcP	19 02 16.8	+0.5
	0.5nm,0.9s,baz=99,slow=3.4,SNR=3.3						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**46.82**	**262**	P	P	19 00 45.7	-0.6
	0.6nm,0.7s,baz=100,slow=8.1,SNR=5.4						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**68.75**	**180**	P	P	19 03 18.8	+0.1
	2.2nm,1.1s,baz=40,slow=2.3,SNR=5.2						
	2.2nm,1.1s						
BRTR	**Keskin Array B**	**149.12**	**313**	PKPbc	PKPbc	19 12 01.1	-1.3
	0.5nm,0.6s,baz=102,slow=3.4,SNR=2.8						

*SNET **03** 18:54:27.1±1.1, 13°.30N×89°.90W, h61km, ML3.7*
*CATAC **03** 18:54:27.4±0.7, 13°.N±4°.×9°.0W±°., h27km±4km, M3.8/7, MLv3.8/7, Error ellipse: s-maj=9.2km s-min=6.6km az=31.7, confirmed*
*GCG **03** 18:54:27.5±0.8, 13°.32N×89°.98W, h33km±5km, MD4.3*
ISC 03 18:54:27.4±1.7, 13°.36N±0°.07×89°.94W±0°.05, h20km±8km, n78, σ0°74/84, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.56**	**33**	*eP*	**Pn**	**18 54 40.5**	**-0.1**
CEVE				*eS*	**Sn**	**18 54 50.8**	**+1.4**
CEVE	**Cerro Verde**	**0.56**	**33**	P	Pn	18 54 40.3	-0.2
CEVE	**Cerro Verde**	**0.56**	**33**	P	**Pn**	**18 54 40.5**	**-0.1**
JAYA	**Jayaque - finc**	**0.56**	**58**	*eP*	**Pn**	**18 54 40.0**	**-0.6**
JAYA				*eS*	**Sn**	**18 54 49.5**	**+0.2**
JAYA	**Jayaque - finc**	**0.56**	**58**	P	**Pn**	**18 54 39.9**	**-0.6**
JAYA	**Jayaque - finc**	**0.56**	**58**	P	**Pn**	**18 54 40.0**	**-0.6**
JAYA	**Jayaque - finc**	**0.56**	**58**	*eP*	**Pn**	**18 54 39.9**	**-0.6**
JAYA	**Jayaque - finc**	**0.56**	**58**	*eP*		18 54 39.9	
NUBE	**Las Nubes**	**0.56**	**16**	*eP*	**Pn**	**18 54 40.5**	**0.0**
NUBE				*eS*	**Sn**	**18 54 50.0**	**+0.7**
NUBE	**Las Nubes**	**0.56**	**16**	P	**Pn**	**18 54 40.5**	**0.0**
NUBE	**Las Nubes**	**0.56**	**16**	S	**Sn**	**18 54 49.8**	**+0.4**
NUBE	**Las Nubes**	**0.56**	**16**	P	**Pn**	**18 54 40.5**	**0.0**
NUBE	**Las Nubes**	**0.56**	**16**	*i* P	**Pn**	**18 54 40.5**	**0.0**
NUBE				*i* S	**Sn**	**18 54 49.9**	**+0.4**
NUBE	**Las Nubes**	**0.56**	**16**	*i* P		18 54 40.5	
NUBE				*i* S		18 54 49.9	
LALI	**Alcalda de L**	**0.61**	**78**	*eP*	**Pg**	**18 54 40.1**	**+0.4**
LALI				*eS*	**Sn**	**18 54 49.6**	**-0.8**
LALI	**Alcalda de L**	**0.61**	**78**	P	**Pg**	**18 54 40.0**	**+0.3**
LALI	**Alcalda de L**	**0.61**	**78**	P	**Pg**	**18 54 40.1**	**+0.4**
LALI	**Alcalda de L**	**0.61**	**78**	*eP*	**Pg**	**18 54 39.9**	**+0.2**
LALI	**Alcalda de L**	**0.61**	**78**	*eP*		18 54 39.9	
LOAL	**Lomas de Alarc**	**0.66**	**13**	P	**Pn**	**18 54 41.9**	**+0.2**
LOAL	**Lomas de Alarc**	**0.66**	**13**	P	**Pn**	**18 54 42.1**	**+0.4**
SLOZ	**Alcaldia de Sa**	**0.68**	**13**	P	**Pn**	**18 54 42.1**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.68**	**13**	S	**Sn**	**18 54 53.5**	**+1.4**
SLOZ	**Alcaldia de Sa**	**0.68**	**13**	P	**Pn**	**18 54 42.2**	**+0.1**
CEDA	**San Andres**	**0.69**	**50**	*eP*	**Pn**	**18 54 41.8**	**-0.3**
CEDA				*eS*	**Sn**	**18 54 52.9**	**+0.6**
CEDA	**San Andres**	**0.69**	**50**	P	**Pg**	**18 54 41.7**	**+0.6**
CEDA	**San Andres**	**0.69**	**50**	P	Pn	18 54 52.8	+11
PMON	**Piamonte**	**0.70**	**60**	P	**Pn**	**18 54 42.0**	**-0.4**
PMON	**Piamonte**	**0.70**	**60**	P	**Pn**	**18 54 41.9**	**-0.4**
ITCA	**Escuela Especi**	**0.72**	**64**	P	**Pg**	**18 54 41.7**	**+0.1**
ITCA	**Escuela Especi**	**0.72**	**64**	P	**Pn**	**18 54 44.1**	**+1.6**
UNIC	**Universidad Ca**	**0.73**	**31**	P	**Pn**	**18 54 42.7**	**+0.1**
UNIC	**Universidad Ca**	**0.73**	**31**	S	**Sn**	**18 54 54.7**	**+1.4**
UNIC	**Universidad Ca**	**0.73**	**31**	P	**Pn**	**18 54 42.8**	**+0.1**
BOQS	**Boqueron**	**0.74**	**59**	*eP*	**Pn**	**18 54 42.7**	**-0.4**
UEES	**Universidad Ev**	**0.77**	**62**	P	**Pg**	**18 54 42.7**	**+0.2**
UEES	**Universidad Ev**	**0.77**	**62**	P	**Pg**	**18 54 42.8**	**+0.2**
LOMA	**Loma Larga**	**0.80**	**69**	P	**Pg**	**18 54 42.9**	**-0.3**
IGN	**Direccin Gen**	**0.83**	**64**	P	Pn	18 54 57.8	+14
IGN	**Direccin Gen**	**0.83**	**64**	P	**Pg**	**18 54 43.4**	**-0.3**
IGN	**Direccin Gen**	**0.83**	**64**	S	**Sn**	**18 54 56.1**	**+0.3**
UDBS	**Universidad Do**	**0.84**	**65**	P	**Pg**	**18 54 43.7**	**-0.2**
UDBS	**Universidad Do**	**0.84**	**65**	S	**Sn**	**18 54 56.3**	**+0.2**
UDBS	**Universidad Do**	**0.84**	**65**	P	**Pn**	**18 54 46.3**	**+2.0**
LFRS	**El Faro**	**0.89**	**73**	*eP*	**Pb**	**18 54 44.4**	**0.0**
PAVA	**Las Pavas**	**1.04**	**70**	P	**Pn**	**18 54 47.2**	**+0.2**
PAVA	**Las Pavas**	**1.04**	**70**	P	**Pg**	**18 54 48.5**	**+0.9**
COEG	**Centro de Oper**	**1.06**	**76**	*eP*	**Pb**	**18 54 46.6**	**-0.6**
COEG				*eS*	**Sg**	**18 55 01.5**	**-0.6**
COEG	**Centro de Oper**	**1.06**	**76**	P	**Pb**	**18 54 46.6**	**-0.6**
COEG	**Centro de Oper**	**1.06**	**76**	P	**Pn**	**18 54 47.5**	**+0.2**
COEG	**Centro de Oper**	**1.06**	**76**	P	**Pb**	**18 54 46.7**	**-0.6**
TECO	**Alcaldia de Te**	**1.14**	**81**	P	**Pn**	**18 54 47.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.14**	**81**	S	**Sb**	**18 55 02.2**	**-0.7**
TECO	**Alcaldia de Te**	**1.14**	**81**	P	**Pn**	**18 54 47.7**	**-0.6**
UESV	**Universidad de**	**1.15**	**76**	P	**Pn**	**18 54 47.5**	**-1.0**
UESV	**Universidad de**	**1.15**	**76**	S	**Sn**	**18 55 03.8**	**0.0**
UESV	**Universidad de**	**1.15**	**76**	P	**Pg**	**18 54 49.5**	**-0.3**
MTO3	**Montecristo**	**1.18**	**28**	P	**Pn**	**18 54 48.9**	**-0.1**
MTO3	**Montecristo**	**1.18**	**28**	P	**Pn**	**18 54 49.0**	**-0.1**
MTO3	**Montecristo**	**1.18**	**28**	*i* P	**Pn**	**18 54 49.0**	**-0.1**
MTO3	**Montecristo**	**1.18**	**28**	*i* P		18 54 49.0	
SCLA	**Alcaldia de Sa**	**1.23**	**74**	P	**Pn**	**18 54 49.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.23**	**74**	P	**Pn**	**18 54 49.4**	**-0.2**
LLGN	**La Laguna**	**1.25**	**50**	P	**Pn**	**18 54 49.4**	**-0.6**
LLGN	**La Laguna**	**1.25**	**50**	P	**Pb**	**18 54 51.0**	**+0.5**
ESQI	**Esquipulas**	**1.33**	**26**	P	**Pn**	**18 54 50.9**	**-0.1**
ESQI	**Esquipulas**	**1.33**	**26**	P	**Pn**	**18 54 51.4**	**+0.4**
ESSG	**Sabana Grande**	**1.34**	**320**	*eP*	**Pn**	**18 54 50.5**	**-0.7**
ESSG				*i* S	**Sn**	**18 55 07.3**	**-1.1**
ESSG	**Sabana Grande**	**1.34**	**320**	*eP*		18 54 50.5	
ESSG				*i* S		18 55 07.3	
PQSS	**Presa 15 de Se**	**1.37**	**79**	P	**Pn**	**18 54 50.9**	**-0.5**
PQSS	**Presa 15 de Se**	**1.37**	**79**	P	**Pn**	**18 54 51.1**	**-0.3**
PQSS	**Presa 15 de Se**	**1.37**	**79**	P	**Pn**	**18 54 51.3**	**-0.1**
PACA	**Pacayal**	**1.57**	**86**	P	**Pn**	**18 54 54.4**	**0.0**
PACA	**Pacayal**	**1.57**	**86**	P	**Pn**	**18 54 54.4**	**0.0**
APG	**El Apazote**	**1.72**	**343**	*eP*	**Pn**	**18 54 56.5**	**+0.1**
APG	**El Apazote**	**1.72**	**343**	*eP*		18 54 56.5	
STG0	**El Palmar, Qui**	**1.73**	**308**	*eP*		18 55 00.6	
CNCH	**Conchagua**	**2.05**	**92**	P	**Pn**	**18 54 59.8**	**-1.1**
CNCH	**Conchagua**	**2.05**	**92**	P	**Pn**	**18 55 00.3**	**-0.7**
MOMN	**Momotombo**	**3.44**	**105**	P	**Pn**	**18 55 23.0**	**+3.0**
COPN	**Copaltepe**	**3.47**	**109**	P	**Pn**	**18 55 22.6**	**+2.3**
LIMN	**Finca el Limon**	**3.49**	**94**	P	**Pn**	**18 55 19.6**	**-1.1**
LIMN	**Finca el Limon**	**3.49**	**94**	P	**Pn**	**18 55 21.7**	**+1.0**
RCVN	**Varillal2**	**3.65**	**86**	P	**Pn**	**18 55 22.4**	**-0.6**
RCVN	**Varillal2**	**3.65**	**86**	P	**Pn**	**18 55 22.2**	**-0.7**

IDC 03 19:08:40.0±10.0, 18°.43S×176°.34W, h0km, mb3.3/3, mbtmp3.3/3, MS3.0/1, Error ellipse: s-maj=450.0km s-min=42.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**33.96**	**291**	LR	LR	19 28 54.0	
	comp=Z,24nm,21.3s,baz=280,slow=36						
WRA	**Warramunga Arr**	**46.48**	**260**	P	P	19 17 08.8	-0.4
	0.1nm,0.3s,baz=95,slow=7.6,SNR=1.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**46.55**	**255**	P	P	19 17 09.9	+0.1
	0.3nm,0.7s,baz=92,slow=8.0,SNR=6.9						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**85.96**	**12**	P	P	19 21 21.6	0.0
	0.1nm,0.4s,baz=205,slow=4.6,SNR=2.0						
	0.1nm,0.4s						

KRNET 03 19:11:47.2±0.1, 40°.51N×70°.09E, h20km, mb2.2, 15C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.72**	**129**	⇑*eP*	Pb	19 12 00.9	-0.3
BTK				⇑*i* S	Sb	19 12 11.0	+0.3
TRKS	**Terek-Say**	**1.29**	**38**	⇓*i* P	Pn	19 12 10.2	-0.1
TRKS				⇓*i* S	Sb	19 12 27.2	0.0
GAR	**Garm**	**1.52**	**173**	⇑*i* P	Pb	19 12 15.1	+0.2
GAR				⇑*i* S	Sb	19 12 35.5	+1.7
DRK	**Karamyk**	**1.67**	**128**	⇑*eP*	Pb	19 12 18.0	+0.5
DRK				⇑*i* S	Sb	19 12 40.2	+1.9
ARK	**Arkit**	**1.91**	**47**	⇑*eP*	Pb	19 12 21.8	+0.3
CHGR	**Chuyangaron**	**1.99**	**201**	⇑*i* P	Pb	19 12 22.8	0.0
CHGR				⇑*eS*	Sb	19 12 48.3	+1.1
OHH	**Osh**	**2.06**	**89**	⇑*eP*	Pb	19 12 23.7	-0.3
OHH				⇑*i* S	Sb	19 12 50.0	+0.9
SFK	**Sufi-Kurgan**	**2.66**	**100**	⇑*i* P	Pb	19 12 32.2	-2.2
SFK				⇑*i* S	Sb	19 13 04.6	-2.1
SALK	**Salom-Alik**	**2.86**	**81**	⇑*i* P	Pb	19 12 34.9	-2.9
SALK				⇑*i* S	Sb	19 13 09.8	-2.6

*SOME **03** 19:12:10.7, 40°.55N×70°.00E, h5km*
*KRNET **03** 19:12:12.9±0.1, 40°.49N×70°.19E, h15km, mb2.6*
ISC 03 19:12:11.6±1.3, 40°.51N±0°.03×70°.18E±0°.05, h13km±12km, n13, σ0°85/25, 19C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.67**	**133**	⇑*i* P	**Pb**	**19 12 25.0**	**0.0**
BTK				⇑*i* S	**Sb**	**19 12 34.1**	**-0.1**
TRKS	**Terek-Say**	**1.25**	**35**	⇑*i* P	**Pg**	**19 12 36.0**	**+0.4**
TRKS				⇑*i* S	**Sn**	**19 12 52.7**	**+1.1**
GAR	**Garm**	**1.51**	**176**	⇑*i* P	**Pg**	**19 12 40.8**	**+0.1**
GAR				⇑*i* S	**Sg**	**19 13 01.3**	**+1.0**
DRK	**Karamyk**	**1.61**	**129**	⇑*i* P	**Pg**	**19 12 42.8**	**+0.2**
DRK				⇑*i* S	**Sg**	**19 13 04.4**	**+0.8**
ARK	**Arkit**	**1.86**	**46**	⇑*i* P	**Pg**	**19 12 47.3**	**+0.1**
ARK				⇑*i* S	**Sg**	**19 13 12.7**	**+1.3**
ARK	**Arkit**	**1.86**	**46**	⇑*i* S	**Pg**	**19 12 46.8**	**-0.4**
OHH	**Osh**	**1.98**	**89**	⇑*i* P	**Pg**	**19 12 49.1**	**-0.5**
OHH				⇑*i* S	**Sg**	**19 13 15.5**	**+0.2**
CHGR	**Chuyangaron**	**2.02**	**203**	⇑*i* P	**Pg**	**19 12 49.6**	**-0.6**
CHGR				⇑*i* S	**Sg**	**19 13 15.9**	**-0.5**
BRLS	**Borolday**	**2.53**	**354**	*eP*	**Pn**	**19 12 52.5**	**+0.2**
	2.6nm,0.1s						
BRLS				*eS*	**Sn**	**19 13 22.6**	**-0.3**
	40nm,0.2s						
SFK	**Sufi-Kurgan**	**2.59**	**100**	⇓*i* P	**Pb**	**19 12 57.5**	**-0.4**
SFK				⇓*i* S	**Sb**	**19 13 30.2**	**+0.5**
MNAS	**Manas**	**2.63**	**41**	⇑*i* P	**Pb**	**19 12 58.5**	**-0.1**
MNAS				⇑*i* S	**Sb**	**19 13 32.0**	**+1.1**
SALK	**Salom-Alik**	**2.79**	**81**	⇑*i* P	**Pb**	**19 13 00.5**	**-0.8**
SALK				⇑*i* S	**Sb**	**19 13 35.0**	**-0.5**
KST	**Kastek**	**5.01**	**58**	*eP*	**Pg**	**19 13 44.9**	**-2.5**
	0.5nm,0.1s						
KST				*eS*	**Sg**	**19 14 52.3**	**+0.1**
	3.1nm,0.2s						

*TEH **03** 19:31:00.4, 36°.24N×45°.71E, h6km±999km*
*ISN **03** 19:31:01.0±1.9, 36°.30N×45°.67E, h25km, ML2.5*
ISC 03 19:30:57.5±3.1, 36°.1N±0°.2×46°.0E±0°.2, h10km, n6, σ0°57/7, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.43**	**280**	Pg	**Pg**	**19 31 05.8**	**-0.3**
MAHB	**Mahabad**	**0.73**	**340**	Pg	**Pg**	**19 31 11.7**	**0.0**
IKRK	**Kirkuk**	**1.52**	**244**	*eP*g	**Pn**	**19 31 25.0**	**+0.3**
	baz=50						
IKRK				*eS*g	**Sg**	**19 31 46.0**	**-0.3**
IKRK				AML	AML	19 31 50.1	
	comp=E,105nm,0.3s						
IKRK				AML	AML	19 31 50.2	
	comp=N,74nm,0.1s						
ITBZ	**Tabriz**	**2.16**	**3**	Pn	**Pg**	**19 31 38.2**	**-0.7**
ISHB	**Shabestar**	**2.23**	**352**	Pn	**Pb**	**19 31 37.8**	**-0.2**
IMRD	**Marand**	**2.65**	**355**	Pn	**Pb**	**19 31 45.9**	**+0.8**

IDC 03 19:35:11.2±2.2, 7°.37S×126°.51E, h0km, mb3.2/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=287.5km s-min=33.1km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.63**	**149**	Pn	Pn	19 38 38.5	-1.1
	0.1nm,0.3s,baz=326,slow=14,SNR=4.7						
WRA				Sn	Sn	19 41 15.5	-7.2
	0.1nm,0.3s,baz=327,slow=23,SNR=5.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**17.70**	**157**	P	P	19 39 20.0	-0.3
	0.1nm,0.3s,baz=337,slow=13,SNR=8.4						
ASAR				S	Sn	19 42 31.0	-6.2
	0.2nm,0.7s,baz=334,slow=22,SNR=2.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**66.68**	**329**	P	P	19 46 03.9	0.0
	0.1nm,0.5s,baz=128,slow=8.8,SNR=2.4						
	0.1nm,0.5s						

IDC 03 19:54:23.6±1.9, 11°.59S×166°.75E, h0km, mb4.0/5, mbtmp4.0/6, ML4.8/1, Error ellipse: s-maj=52.9km s-min=31.6km az=148.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.03**	**287**	Pn	Pn	19 56 07.5	-0.3
	18nm,0.3s,baz=213,slow=17,SNR=4.1						
HNR				Sn	Sn	19 57 30.6	+2.2
	28nm,0.3s,baz=224,slow=15,SNR=5.3						
	35nm,0.3s						
WRA	**Warramunga Arr**	**32.23**	**251**	P	P	20 00 54.0	+0.1
	3.4nm,0.8s,baz=84,slow=8.9,SNR=14						
	3.4nm,0.8s						
ASAR	**Alice Springs**	**33.44**	**244**	P	P	20 01 04.6	0.0
	1.8nm,0.8s,baz=70,slow=9.6,SNR=22						
	1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.23**	**293**	P	P	20 05 57.4	+0.2
	0.3nm,0.3s,baz=106,slow=4.6,SNR=4.5						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**83.71**	**18**	P	P	20 06 54.7	+0.6
	0.3nm,0.7s,baz=238,slow=5.2,SNR=2.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**94.59**	**317**	P	P	20 07 45.1	-1.3
	0.3nm,0.5s,baz=86,slow=5.9,SNR=4.8						
	0.3nm,0.5s						

*FCIAR **03** 20:09:51.0, 78°.23N×7°.80E, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.60*
*NAO **03** 20:09:52.1±355.0, 78°.43N×6°.87E, h16km±900km, ML2.8*
*IDC **03** 20:09:52.7±1.5, 78°.22N×7°.07E, h0km, mb3.3/3, mbtmp3.4/4, ML2.8/1, MS3.2/4, Error ellipse: s-maj=28.3km s-min=17.1km az=4.0*
*DNK **03** 20:09:53.4±3.8, 78°.47N×7°.05E, h17km±51km, ML2.3*
*BER **03** 20:09:54.7±3.6, 78°.46N×7°.19E, h21km±22km, mb(Pn)4.0, ML2.8(NAO), Confirmed Earthquake*
*KOLA **03** 20:09:55.5, 78°.35N×8°.54E, h0km, ML2.8, Error ellipse: s-maj=13.9km s-min=8.6km az=80.0, Greenland sea*
ISC 03 20:09:50.3±1.5, 78°.40N±0°.05×6°.90E±0°.04, h11km±11km, n53, σ2°71/84, mb3.2/3, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.13**	**60**	⇑*i* P	**Pn**	**20 10 13.1**	**+1.1**
KBS				*eS*	**Sg**	**20 10 25.5**	**-1.0**
KBS				IAML		20 10 27.5	
	comp=Z,356nm,0.5s						
KBS	**Kingsbay**	**1.13**	**60**	Pn	**Pn**	**20 10 13.1**	**+1.1**
KBS				Lg	Lg	20 10 25.4	
KBS	**Kingsbay**	**1.13**	**60**	P	**Pn**	**20 10 12.6**	**+0.6**
KBS				S	**Sg**	**20 10 25.6**	**-1.0**
KBS	**Kingsbay**	**1.13**	**60**	*eP*	**Pg**	**20 10 11.5**	**-0.4**
KBS				*eS*	**Sg**	**20 10 25.8**	**-0.7**
KBS	**Kingsbay**	**1.13**	**60**	*i* P	**Pn**	**20 10 13.0**	**+1.1**
KBS				*i* S	**Sg**	**20 10 26.8**	**+0.2**
BRBB	**Barentsburg B**	**1.53**	**98**	⇑*i* P	**Pn**	**20 10 18.5**	**+1.0**
BRBB				*eS*	**Sn**	**20 10 35.1**	**-2.2**
BRBB	**Barentsburg B**	**1.53**	**98**	Pn	**Pn**	**20 10 18.6**	**+1.0**
BRBB				Sn	**Sn**	**20 10 35.3**	**-2.0**
BRBB	**Barentsburg B**	**1.53**	**98**	P	**Pn**	**20 10 18.4**	**+0.9**
BRBB				S	**Sn**	**20 10 35.4**	**-2.0**
BRBA	**Barentsburg A**	**1.54**	**99**	*eP*	**Pn**	**20 10 18.6**	**+1.0**
BRBA				*eS*	**Sn**	**20 10 36.1**	**-1.4**
BRBA				IAML		20 10 39.6	
	comp=Z,174nm,0.2s						
BRBA	**Barentsburg A**	**1.54**	**99**	Pn	**Pn**	**20 10 18.3**	**+0.7**
BRBA				Sn	**Sn**	**20 10 35.7**	**-1.9**
SPA0	**Spitsbergen Ar**	**1.95**	**92**	Pn	**Pb**	**20 10 25.5**	**-0.2**
	baz=262,slow=14						
SPA0				Sn	**Sn**	**20 10 48.0**	**+0.4**
	baz=294,slow=28						
SPA0	**Spitsbergen Ar**	**1.95**	**92**	Pn	**Pb**	**20 10 25.5**	**-0.2**
	baz=262,slow=14						
SPA0				Sn	**Sn**	**20 10 48.0**	**+0.4**
	baz=294,slow=28						
SPA0	**Spitsbergen

VADS Sn **Sn** **20 14 06.7 -3.8**
ARA0 ARCESS Array S 10.20 141 Pn **Pn** **20 12 16.7 +0.3**
ARA0 Sn Sn 20 14 02.9 -7.7
baz=330,slow=22
ARA0 ARCESS Array S 10.20 141 Pn **Pn** **20 12 16.7 +0.3**
ARA0 Sn Sn 20 14 02.9 -7.7
baz=330,slow=22
ARCES ARCESS Array B 10.20 141 Pn **Pn** **20 12 15.4 -1.0**
comp=Z,0.1nm,0.3s,baz=344,slow=8.4,SNR=5.2
ARCES LR LR 20 15 55.6
comp=Z,77nm,20.4s,baz=212,slow=36
comp=Z,3.9nm,0.9s
SCO Scoresbysund 10.91 239 *i* P **Pn** **20 12 26.0 -0.1**
SCO *i* S Sn 20 14 18.1 -10
SCO IAML 20 15 17.1
comp=Z,46nm,2.5s
SCO Scoresbysund 10.91 239 *i* P **Pn** **20 12 26.0 -0.1**
SCO *i* S Sn 20 14 18.1 -10
SCO IAML 20 15 17.1
comp=Z,46nm,2.5s
NEEM North Greenlan 11.74 294 *i* P **Pn** **20 12 35.8 -1.9**
NEEM *i* S Sn 20 14 35.2 -13
NEEM IAML 20 15 01.9
comp=Z,9.3nm,1.3s
NEEM North Greenlan 11.74 294 *i* P **Pn** **20 12 35.8 -1.9**
NEEM *i* S Sn 20 14 37.3 -11
NEEM IAML 20 15 01.9
comp=Z,9.3nm,1.3s
SUMG Summit 12.40 266 *i* P Pn 20 12 43.5 -3.4
SUMG *i* S Sn 20 14 49.5 -15
SUMG IAML 20 15 38.5
comp=Z,46nm,5.6s
SUMG Summit 12.40 266 *i* P **Pn** **20 12 47.1 +0.3**
SUMG *i* S Sn 20 14 55.4 -10
SUMG IAML 20 15 38.5
comp=Z,46nm,5.6s
SFJD Kangerlussuaq 19.40 266 LR LR 20 20 56.6
comp=Z,38nm,18.5s,baz=54,slow=34
KURBB Kurchatov Arra 37.29 94 P **P** **20 17 05.2 +3.4**
comp=Z,0.5nm,0.7s,baz=342,slow=7.8,SNR=5.4
comp=Z,0.5nm,0.7s
MKAR Makanchi Array 41.70 92 P **P** **20 17 42.6 +4.0**
comp=Z,0.4nm,0.7s,baz=353,slow=8.2,SNR=4.8
comp=Z,0.4nm,0.7s
KEST Kesra 42.79 177 LR LR 20 34 52.2
comp=Z,42nm,18.7s,baz=308,slow=35
AAK Ala-Archa 44.12 102 LR LR 20 38 04.2
comp=Z,48nm,19.2s,baz=326,slow=38
TXAR Lajitas Array 65.46 296 P **P** **20 20 37.5 +4.5**
comp=Z,0.1nm,0.6s,baz=8.2,slow=7.7,SNR=3.6
comp=Z,0.1nm,0.6s

IDC 03 20:09:59.6±5.1,36°.71N×82°.48E,h0km,mb2.8/1, mbtmp3.2/4,ML2.8/3,MS3.4/1,Error ellipse: s-maj=68.9km s-min=42.1km az=55.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**10.07 359**		Pn	Pn	20 12 26.8	+1.2
	0.2nm,0.3s,baz=184,slow=13,SNR=8.5						
MKAR				Sn	Sn	20 14 17.3	-2.0
	0.1nm,0.3s,baz=179,slow=23,SNR=2.1						
MKAR				Lg	Lg	20 15 19.4	
	baz=183,slow=24,SNR=1.6						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**17.31**	**5**	P	Pn	20 14 03.2	+0.7
	0.1nm,0.3s,baz=186,slow=13,SNR=2.3						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**18.38 336**		P	Pn	20 14 15.5	-0.2
	baz=125,slow=14,SNR=3.6						
	0.6nm,0.6s						
SONM	**Songino Array**	**20.81**	**50**	P	P	20 14 42.2	-0.3
	0.4nm,0.7s,baz=246,slow=11,SNR=4.4						
	0.4nm,0.7s						
ARTI	**Arti**	**25.49 328**		LR	LR	20 25 07.7	
	comp=Z,87nm,18.3s,baz=268,slow=36						

*SJA **03** 20:11:56.6±1.6,22°.63S×67°.37W,h160km,ML3.3,MW3.6*
*SCB **03** 20:11:59.8±1.2,22°.57S×67°.60W,h163km±18km,ML3.4/3, MW3.6,Error ellipse: s-maj=10.7km s-min=4.1km az=0.0*
ISC 03 20:11:56.5±1.9,22°.64S±0°.05×67°.55W±0°.05, h193km±17km,n17,σ1§65/28,2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.78 298**		*e*P	Pn	20 12 33.8	+1.3
PB09				⇓*e*S	Sn	20 13 01.0	+0.6
PB09	**IPOC Station P**	**1.78 298**		Pg	Pn	20 12 33.7	+1.2
PB06	**IPOC Station P**	**1.87 268**		*e*P	Pn	20 12 33.4	0.0
PB06				*e*S	Sn	20 13 01.4	-0.6
YJA	**Yavi**	**1.94**	**77**	*e*P	Pn	20 12 31.5	-2.8
YJA	**Yavi**	**1.94**	**77**	Pg	Pn	20 12 36.1	+1.8
PB03	**IPOC Station P**	**2.13 286**		*e*P	Pn	20 12 37.2	+1.1
PB03				*e*S	Sn	20 13 05.9	-0.8
MOCB	**Mochara**	**2.25**	**52**	Pg	Pn	20 12 39.7	+2.0
MOCB				Sg	Sn	20 13 09.5	-0.1
MOCB				IAML		20 13 13.6	
	44nm,0.4s						
PB01	**IPOC Station P**	**2.41 311**		*e*P	Pn	20 12 39.9	+0.8
PB01				*e*S	Sn	20 13 11.6	-0.5
PB01	**IPOC Station P**	**2.41 311**		Pg	Pn	20 12 40.0	+0.9
PB01				Sg	Sn	20 13 10.8	-1.3
PB01				IAML		20 13 12.2	
	193nm,0.2s						
GO02	**Mina Guanaco**	**3.13 216**		*e*P	Pn	20 12 48.9	+1.2
GO02				*e*S	Sn	20 13 26.9	-0.8
TA01	**Diego Aracena**	**3.21 310**		*e*P	Pn	20 12 50.4	+2.1
PB14	**IPOC Station P**	**3.28 232**		*e*P	Pn	20 12 50.4	+0.9
PB14				⇓*e*S	Sn	20 13 29.0	-2.0
PB11	**IPOC Station P**	**3.48 325**		*e*P	Pn	20 12 52.7	+0.9
PB11				*e*S	Sn	20 13 33.8	-1.2
PB11				IAML		20 13 37.5	
	comp=Z,52nm,0.1s						
PB11	**IPOC Station P**	**3.48 325**		Pg	Pn	20 12 52.7	+0.9
PB11				Sg	Sn	20 13 33.0	-2.0
PB11				IAML		20 13 35.0	
	comp=Z,151nm,0.2s						
AC01	**Pan de Azucar**	**4.46 218**		*e*P	Pn	20 13 04.9	+1.0
PB12	**IPOC Station P**	**4.78 326**		*e*P	Pn	20 13 08.3	+0.3
PB12				*e*S	Sn	20 14 00.7	-3.6
PB12				IAML		20 14 03.2	
	comp=Z,20nm,0.2s						
LPAZ	**La Paz**	**6.34 355**		Pg	Pn	20 13 31.6	+2.8

*IDC **03** 20:36:58.3±5.8,5°.48S×153°.07E,h66km±48km,mb3.7/11, mbtmp4.0/12,ML1.8/1,MS3.3/6,Error ellipse: s-maj=40.4km s-min=22.7km az=99.0*
ISC 03 20:36:54.7±1.2,5°.4S±0°.2×153°.3E±0°.2,h35km,n17, σ1§28/13,mb3.9/11,MS3.2/5,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.23 236**		P	Pn	20 38 39.9	+1.9
	1.0nm,0.3s,baz=41,slow=11,SNR=2.4						
PMG				S	Sn	20 39 57.9	-0.9
	18nm,0.7s,baz=108,slow=21,SNR=6.8						
	8.7nm,0.7s						
HNR	**Honiara**	**7.73 121**		LR	LR	20 41 35.2	
	comp=Z,66nm,21.1s,baz=352,slow=35						
GUMO	**Guam**	**20.65 336**		LR	LR	20 50 21.6	
	comp=Z,54nm,19.1s,baz=142,slow=39						
WRA	**Warramunga Arr**	**23.39 230**		P	**P**	**20 41 58.9**	**-1.7**
	0.6nm,0.5s,baz=51,slow=10,SNR=5.8						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.01 224**		P	**P**	**20 42 23.2**	**-1.5**
	0.3nm,0.7s,baz=51,slow=9.0,SNR=6.3						
ASAR				LR	LR	20 52 25.2	
	comp=Z,67nm,20.6s,baz=80,slow=36						
	0.3nm,0.7s						
JHJ	**Hachijo jima 2**	**40.41 342**		LR	LR	21 00 02.3	
	comp=Z,30nm,19.1s,baz=333,slow=34						
PETK	**Petropavlovsk-**	**58.44**	**3**	P	**P**	**20 46 48.0**	**+1.1**
	7.6nm,1.1s,baz=176,slow=7.3,SNR=8.8						
	7.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**58.56 295**		P	**P**	**20 46 49.0**	**+0.6**
	0.4nm,0.6s,baz=111,slow=7.1,SNR=3.0						
	0.4nm,0.6s						
SONM	**Songino Array**	**67.10 328**		P	**P**	**20 47 44.7**	**-0.2**
	0.6nm,0.5s,baz=132,slow=6.0,SNR=6.0						
	0.6nm,0.5s						
KDAK	**Kodiak Island**	**76.53**	**27**	LR	LR	21 17 28.1	
	comp=Z,39nm,20.0s,baz=99,slow=32						
MKAR	**Makanchi Array**	**81.10 319**		P	**P**	**20 49 05.3**	**-1.2**
	0.7nm,0.8s,baz=123,slow=7.1,SNR=7.2						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**81.93 326**		P	**P**	**20 49 09.0**	**-1.7**
	1.7nm,0.7s,baz=123,slow=4.0,SNR=7.2						
	1.7nm,0.7s						
ILAR	**Eielson Array**	**82.56**	**22**	P	**P**	**20 49 13.2**	**-0.7**
	0.4nm,0.8s,baz=255,slow=4.4,SNR=4.1						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**84.54 180**		P	**P**	**20 49 24.7**	**+0.6**
	1.0nm,0.7s,baz=337,slow=0.6,SNR=8.9						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**84.57 322**		P	**P**	**20 49 24.3**	**-0.1**
	1.5nm,0.2s,baz=107,slow=3.2,SNR=6.1						
	1.5nm,0.2s						
YBH	**Yreka Blue Hor**	**89.13**	**48**	LR	LR	21 23 05.1	
	comp=Z,26nm,19.2s,baz=304,slow=31						
BVAR	**Borovoye Array**	**90.02 323**		P	**P**	**20 49 51.0**	**+0.2**
	2.2nm,0.7s,baz=96,slow=5.8,SNR=9.6						
	2.2nm,0.7s						

*DJA **03** 20:40:06.2±1.7,7°.S±3°.×12°.3E±°,h19km±17km,M4.0/10, mb4.2/1,MLv3.8/10*
*IDC **03** 20:40:07.5±1.6,8°.28S×122°.25E,h0km,mb3.4/1, mbtmp3.5/5,ML3.4/4,Error ellipse: s-maj=116.1km s-min=19.9km az=59.0*
ISC 03 20:40:04.9±1.1,7°.54S±0°.05×123°.16E±0°.08,h10km,n14, σ1§81/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.42 220**		P	**Pn**	**20 40 31.6**	**+0.8**
MMRI				S	**Sn**	**20 40 51.7**	**+2.2**
BBSI	**Bau Bau**	**2.12 344**		P	**Pn**	**20 40 40.4**	**-0.1**
SOEI	**Soe**	**2.46 154**		P	**Pn**	**20 40 48.5**	**+3.3**
BSSI	**Bau Bau, Buton**	**2.99 298**		P	**Pn**	**20 40 52.6**	**+0.2**
BSSI				S	**Sn**	**20 41 27.8**	**-0.6**
KDI	**Kendari**	**3.60 351**		P	**Pn**	**20 41 01.5**	**+0.7**
BASI	**Baing, Sumba**	**3.68 224**		P	**Pn**	**20 41 01.9**	**-0.1**
BKSI	**Bulukumba**	**3.73 306**		P	**Pn**	**20 41 02.4**	**-0.3**
KAPI	**Kappang**	**4.21 306**		Pn	**Pn**	**20 41 10.4**	**+1.1**
	1.4nm,0.3s,baz=139,slow=11,SNR=1.3						
KAPI				Sn	**Sn**	**20 41 58.1**	**-0.5**
	2.9nm,0.3s,baz=53,slow=22,SNR=6.3						
	4.0nm,0.3s						
WBSI	**Waikabubak, Su**	**4.27 240**		P	**Pn**	**20 41 09.9**	**-0.2**
PLAI	**Plampang**	**5.48 256**		P	**Pn**	**20 41 26.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.77 167**		Pn	**Pn**	**20 42 37.5**	**-1.7**
	0.4nm,0.3s,baz=342,slow=13,SNR=16						
FITZ				Sn	**Sn**	**20 44 35.4**	**-4.6**
	0.1nm,0.3s,baz=324,slow=19,SNR=2.1						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**16.42 140**		Pn	**P**	**20 43 59.6**	**+1.2**
	0.1nm,0.3s,baz=312,slow=10,SNR=4.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**19.07 148**		P	**P**	**20 44 29.0**	**+1.4**
	0.2nm,0.3s,baz=325,slow=11,SNR=8.4						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**65.14 330**		P	P	20 50 52.4	+6.3
	0.2nm,0.6s,baz=142,slow=7.3,SNR=2.5						
	0.2nm,0.6s						

*IDC **03** 20:49:29.5±0.8,10°.32N×57°.06E,h0km,mb3.8/16, mbtmp3.8/17,ML4.0/1,MS3.5/23,Error ellipse: s-maj=22.1km s-min=18.1km az=57.0*
*NEIC **03** 20:49:31.4±2.8,10°.5N±0°.1×56°.9E±0°.1,h10km±1km, mb4.3/33,Error ellipse: s-maj=23.7km s-min=16.6km az=105.0*
*OMAN **03** 20:49:32.7±0.2,10°.32N×57°.21E,h10km,mb4.0/11, ms3.1/6,Error ellipse: s-maj=14.4km s-min=1.6km az=288.0*
ISC 03 20:49:31.0±0.6,10°.29N±0°.07×57°.21E±0°.10,h10km,n121, σ1§89/94,mb4.1/40,MS3.6/22,5C-6D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBK	**Rabkut**	**7.75 338**		P	**Pn**	**20 51 26.3**	**+2.4**
RBK				P	**Pn**	**20 51 26.3**	**+2.4**
ABTO	**Aybut**	**7.99 332**		P	**Pn**	**20 51 28.8**	**+1.6**
DOK	**Doka**	**8.80 341**		P	**Pn**	**20 51 40.2**	**+1.8**
DQM	**DQM**	**9.59**	**2**	P	**Pn**	**20 51 51.2**	**+2.0**
MHTO	**MHTO**	**10.67**	**4**	P	**Pn**	**20 52 06.0**	**+2.1**
JLN	**Jalan Bani Buh**	**11.99**	**10**	P	**Pn**	**20 52 22.9**	**+0.9**
JLN				P	**Pn**	**20 52 22.9**	**+0.9**
JMDO	**Jabal Madar**	**12.05**	**4**	P	**Pn**	**20 52 25.1**	**+2.3**
	SNR=12						
WBK	**Wadi Bani Khal**	**12.37**	**8**	P	**Pn**	**20 52 28.6**	**+1.3**
	SNR=12						
BSY	**Bisya**	**12.39 360**		P	**Pn**	**20 52 29.9**	**+2.3**
SMDO	**Samad**	**12.73**	**4**	P	**Pn**	**20 52 34.9**	**+2.7**
	SNR=14						
SMDO				P	**Pn**	**20 52 34.9**	**+2.7**
	SNR=14						
WSAR	**Wadi Sarin**	**12.95**	**6**	Pn	**Pn**	**20 52 36.9**	**+1.6**
	0.8nm,0.3s,baz=170,slow=9.6,SNR=10						
WSAR				LR	LR	20 56 47.2	
	comp=Z,182nm,19.3s,baz=201,slow=34						
	5.9nm,0.7s						
ARQ	**Araqi**	**13.00 357**		P	**Pn**	**20 52 37.6**	**+1.7**
BIDO	**Bidbid**	**13.19**	**4**	P	**Pn**	**20 52 40.7**	**+2.3**
ALNE	**Al Ain**	**13.77 354**		P	**Pn**	**20 52 49.4**	**+3.1**
SOHO	**SOHO**	**13.79 357**		P	**Pn**	**20 52 49.4**	**+2.8**
ATD	**Arta Tunnel**	**14.16 276**		Pn	Pn	20 52 46.0	-5.8
ASHO	**Ashiyiah**	**14.36 356**		P	**Pn**	**20 52 56.8**	**+2.3**
HATD	**Hatta, Dubai**	**14.50 356**		P	**Pn**	**20 52 59.2**	**+2.8**
UOSS	**Minazif**	**14.61 356**		Pn	Pn	20 52 52.4	-5.5
UOSS	**Minazif**	**14.61 356**		P	**Pn**	**20 53 01.6**	**+3.7**
MSEY	**Mahe Island**	**14.96 187**		Pn	**Pn**	**20 53 03.2**	**+0.5**
MSEY				IAmb	IAmb	20 53 37.2	
	comp=Z,13nm,1.1s						
MASF	**Masafi**	**15.04 356**		P	**Pn**	**20 53 06.0**	**+2.3**
SHME	**Shamm**	**15.71 356**		P	**Pn**	**20 53 14.6**	**+2.1**
SHME				P	**Pn**	**20 53 14.6**	**+2.1**
RAYN	**Ar Rayn**	**17.27 321**		Pn	Pn	20 53 26.2	-6.1
KBD	**Kabd**	**20.80 336**		P	**P**	**20 54 12.4**	**0.0**
KBK	**Kibwezi**	**22.83 238**		P	**P**	**20 54 31.6**	**-2.9**
KIBK				IAmb	IAmb	20 54 40.5	
	comp=Z,17nm,1.2s						
KIBK	**Kibwezi**	**22.83 238**		P	**P**	**20 54 34.8**	**+0.2**
PALK	**Pallekele**	**23.41**	**95**	LR	LR	21 01 30.6	
	comp=Z,114nm,21.4s,baz=285,slow=31						
HRA	**Herat**	**24.43**	**10**	P	**P**	**20 54 47.9**	**-2.3**
HRA				IAmb	IAmb	20 55 12.4	
	comp=Z,11nm,1.4s						
KBL	**Kabul**	**26.46**	**22**	P	**P**	**20 55 03.8**	**-4.8**
EIL	**Elat**	**28.35 316**		LR	LR	21 06 22.0	
	comp=Z,82nm,18.7s,baz=107,slow=36						
ASF	**Jabal al Asfar**	**28.75 322**		LR	LR	21 07 01.4	
	comp=Z,95nm,18.5s,baz=251,slow=37						
MMAI	**Mount Meron Ar**	**30.24 322**		LR	LR	21 07 37.3	
	comp=Z,78nm,19.3s,baz=144,slow=36						
GEVA	**Gevas**	**30.66 338**		P	P	20 55 42.0	-3.9
GEVA				IAmb	IAmb	20 55 54.9	
	comp=Z,4.0nm,0.8s						
MARD	**Mardin**	**30.72 334**		P	P	20 55 42.1	-4.3
GURO	**Guroymak-BITLI**	**31.26 337**		P	**P**	**20 55 51.2**	**+0.1**
GNI	**Garni**	**31.74 342**		P	**P**	**20 55 52.8**	**-2.6**
GNI	**Garni**	**31.74 342**		LR	LR	21 09 36.8	
	comp=Z,60nm,21.3s,baz=138,slow=38						
DRK	**Karamyk**	**31.85**	**22**	P	**P**	**20 55 56.6**	**0.0**
DRK				IAmb	IAmb	20 56 14.7	
	comp=Z,6.4nm,1.5s						
BTK	**Batken**	**32.02**	**20**	P	**P**	**20 55 56.3**	**-1.5**
KK31	**Karatay Array**	**34.69**	**17**	P	**P**	**20 56 19.6**	**-1.3**
KK31				IAmb	IAmb	20 56 36.4	
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**34.69**	**17**	P	**P**	**20 56 21.1**	**+0.2**
KKAR	**Karatay Array**	**34.69**	**17**	P	**P**	**20 56 19.5**	**-1.5**
KKAR				IAmb	IAmb	20 56 36.4	
	comp=Z,3.1nm,1.1s						
KBZ	**Khabaz**	**35.56 342**		P	**P**	**20 56 28.5**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=170,slow=7.4,SNR=5.6						
	comp=Z,2.4nm,0.8s						
AAK	**Ala-Archa**	**35.60**	**22**	LR	LR	21 12 20.9	
	comp=Z,73nm,18.1s,baz=227,slow=38						
KIV	**Kislovodsk**	**35.83 342**		P	P	20 56 27.3	-3.6
AKAS	**Kas**	**35.95 320**		P	**P**	**20 56 29.8**	**-2.3**
BOOM	**Boomskoye usch**	**36.03**	**24**	P	P	20 56 29.4	-3.3
BOOM				IAmb	IAmb	20 57 01.0	
	comp=Z,2.6nm,0.9s						
BR131	**Keskin Array S**	**36.04 328**		P	P	20 56 29.4	-3.4
BR131				IAmb	IAmb	20 56 44.0	
	comp=Z,3.3nm,0.9s						
BRTR	**Keskin Array B**	**36.04 328**		P	P	20 56 28.1	-4.6
BRTR	**Keskin Array B**	**36.04 328**		P	**P**	**20 56 33.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=155,slow=10,SNR=6.5						
	comp=Z,0.9nm,0.8s						
ISP	**Isparta**	**36.42 323**		P	P	20 56 32.3	-3.7
ISP				IAmb	IAmb	20 56 44.9	
	comp=Z,4.6nm,0.7s						
ANTO	**Ankara**	**36.59 328**		P	**P**	**20 56 38.5**	**+1.2**
ILGA	**Ilgaz**	**37.00 330**		P	**P**	**20 56 39.2**	**-1.8**
LSZ	**Lusaka**	**38.36 229**		P	**P**	**20 56 53.0**	**+0.3**
LSZ				IAmb	IAmb	20 57 03.6	
	comp=Z,3.5nm,0.6s						
LSZ	**Lusaka**	**38.36 229**		P	**P**	**20 56 54.8**	**+2.2**
AB31	**Akbulak array**	**38.91**	**3**	P	**P**	**20 56 55.5**	**-1.3**
ABKAR	**Akbulak array**	**38.91**	**3**	P	**P**	**20 56 56.8**	**+0.1**
ABKAR	**Akbulak array**	**38.91**	**3**	P	**P**	**20 56 56.4**	**-0.4**
ABKAR				IAmb	IAmb	20 57 07.0	
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.16**	**74**	P	**P**	**20 57 18.1**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=273,slow=7.2,SNR=7.6						
	comp=Z,1.0nm,0.8s						
MAKZ	**Makanchi**	**42.04**	**25**	P	**P**	**20 57 23.8**	**+1.1**
MK31	**Makanchi Array**	**42.16**	**26**	P	**P**	**20 57 23.4**	**-0.3**
MKAR	**Makanchi Array**	**42.16**	**26**	P	**P**	**20 57 22.8**	**-0.9**
MKAR	**Makanchi Array**	**42.16**	**26**	P	**P**	**20 57 24.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=205,slow=7.5,SNR=8.3						
MKAR				LR	LR	21 14 40.8	
	comp=Z,73nm,19.0s,baz=256,slow=36						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.89**	**20**	P	**P**	**20 57 38.1**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=221,slow=7.6,SNR=8.7						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**43.93**	**11**	P	**P**	**20 57 38.6**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=200,slow=7.7,SNR=1.8						
	comp=Z,0.3nm,0.5s						
BRVK	**Borovoye**	**43.94**	**11**	P	P	20 57 32.7	-5.4
VRI	**Vrincioaia**	**43.98 329**		⇑P	**P**	**20 57 41.4**	**+2.9**
PLOR	**Plostina**	**44.01 329**		⇑P	**P**	**20 57 41.1**	**+2.3**
MLR	**Muntele Rosu**	**44.12 328**		P	**P**	**20 57 36.6**	**-3.2**
MLR				IAmb	IAmb	20 57 54.4	
	comp=Z,4.2nm,0.9s						
MLR	**Muntele Rosu**	**44.12 328**		⇓P	**P**	**20 57 42.4**	**+2.7**
TESR	**Tescani**	**44.47 330**		⇓P	**P**	**20 57 42.8**	**+0.4**
VOIR		**44.55 328**		⇓P	**P**	**20 57 43.8**	**+0.6**
OZUR		**44.62 329**		⇑P	**P**	**20 57 44.1**	**+0.5**
ARR	**Arges**	**44.73 327**		⇑P	**P**	**20 57 44.6**	**+0.1**
HERR	**Herculane**	**45.63 325**		⇓P	**P**	**20 57 51.6**	**0.0**
BURAR	**Bucovina Array**	**45.94 330**		P	**P**	**20 57 52.9**	**-1.3**
BURAR	**Bucovina Array**	**45.94 330**		⇑P	**P**	**20 57 54.8**	**+0.6**
MDVR	**Moldovita**	**45.96 325**		⇓P	P	20 57 48.4	-5.9
BUR08	**Bucovina Ar. S**	**45.97 330**		P	**P**	**20 57 54.5**	**+0.1**
BUR08				IAmb	IAmb	20 58 02.6	
	comp=Z,5.6nm,1.2s						
AKASG	**Malin Array Be**	**46.40 336**		P	**P**	**20 57 56.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=144,slow=6.7,SNR=5.2						
	comp=Z,0.1nm,0.3s						
AKBB	**Malin Array Si**	**46.40 336**		P	**P**	**20 57 57.0**	**-0.6**
AKBB				IAmb	IAmb	20 58 05.6	
	comp=Z,5.9nm,1.1s						
KIEV	**Kiev**	**46.41 336**		P	**P**	**20 57 56.9**	**-0.7**
KIEV				IAmb	IAmb	20 58 05.6	
	comp=Z,5.2nm,1.1s						
KIEV	**Kiev**	**46.41 336**		⇓P	P	20 58 03.9	+6.3
LBTB	**Lobatse**	**46.70 221**		P	**P**	**20 57 59.4**	**-1.0**
LBTB	**Lobatse**	**46.70 221**		LR	LR	21 15 19.9	
	comp=Z,36nm,18.4s,baz=126,slow=33						
ZAA0	**Zalesovo Array**	**48.81**	**21**	P	**P**	**20 58 16.6**	**+0.3**
ZAA0				IAmb	IAmb	20 58 30.0	
	comp=Z,2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**48.81**	**21**	P	**P**	**20 58 15.5**	**-0.8**
ZALV	**Zalesovo Beam**	**48.81**	**21**	P	**P**	**20 58 15.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=228,slow=9.6,SNR=4.3						
	comp=Z,0.9nm,0.5s						
TSUM	**Tsumeb**	**48.82 233**		LR	LR	21 17 58.2	
	comp=Z,53nm,21.0s,baz=142,slow=35						
BOSA	**Boshof**	**49.48 218**		P	**P**	**20 58 21.4**	**-0.5**
BOSA				IAmb	IAmb	20 58 39.9	
	comp=Z,2.8nm,0.8s						
BOSA	**Boshof**	**49.48 218**		P	**P**	**20 58 22.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=28,slow=5.4,SNR=6.7						
BOSA				LR	LR	21 17 49.4	
	comp=Z,59nm,19.8s,baz=160,slow=34						
	comp=Z,1.0nm,0.5s						
KEST	**Kesra**	**50.18 308**		LR	LR	21 19 59.0	
	comp=Z,77nm,18.1s,baz=315,slow=37						
RONA	**Rosalia, Austr**	**50.71 325**		*e*P	**P**	**20 58 35.2**	**+4.2**
	comp=Z,2.3nm,0.9s						
OBKA	**Obir**	**51.09 323**		*i* P	**P**	**20 58 37.7**	**+3.9**
	comp=Z,0.4nm,0.3s						
MOA	**Molln**	**51.95 324**		*e*P	**P**	**20 58 42.8**	**+2.6**
	comp=Z,0.5nm,0.3s						
KBA	**Koelnbreinsper**	**52.09 323**		*e*P	**P**	**20 58 45.4**	**+4.0**
	comp=Z,1.2nm,0.6s						
ABTA	**Abfaltersbach**	**52.42 322**		*e*P	**P**	**20 58 46.2**	**+2.4**
	comp=Z,0.3nm,0.4s						
LESA	**Schwarzleotal**	**52.66 323**		*e*P	**P**	**20 58 47.3**	**+1.8**
	comp=Z,0.4nm,0.2s						
WTTA	**Wattenberg**	**53.19 323**		*e*P	**P**	**20 58 51.3**	**+1.7**
	comp=Z,1.8nm,0.6s						
WATA	**Walderalm**	**53.27 323**		*i* P	**P**	**20 58 51.7**	**+1.6**
	comp=Z,0.2nm,0.2s						
SQTA	**Sankt Quirin**	**53.43 322**		*e*P	**P**	**20 58 52.6**	**+1.3**
	comp=Z,0.2nm,0.2s						
MOTA	**Moosalm**	**53.55 322**		*e*P	**P**	**20 58 54.8**	**+2.5**
	comp=Z,0.3nm,0.2s						
DAVOX	**Davos/Dischmat**	**54.03 321**		LR	LR	21 22 42.7	
	comp=Z,51nm,18.4s,baz

WRA S Sn 20 55 12.2 -12
0.5nm,0.4s,baz=334,slow=23,SNR=9.0
ASAR Alice Springs 16.95 166 P Pn 20 53 35.9 +0.7
0.7nm,0.5s,baz=346,slow=10,SNR=17
ASAR S S 20 56 40.6 -0.9
0.3nm,0.6s,baz=355,slow=30,SNR=1.5
MKAR Makanchi Array 68.12 327 P P 21 00 28.6 -0.1
0.2nm,0.4s,baz=118,slow=7.7,SNR=5.1
0.2nm,0.4s

IDC 03 21:52:16.9±64.0, 18°23S×169°43E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1086.0km s-min=116.6km az=73.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.55**	**236**	P	P	21 58 15.1	+0.5
	2.3nm,0.7s,baz=53,slow=15,SNR=5.5						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**33.17**	**261**	P	P	21 58 55.0	-0.6
	0.8nm,0.6s,baz=94,slow=8.9,SNR=11						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**33.56**	**255**	P	P	21 58 58.9	0.0
	1.2nm,0.7s,baz=84,slow=8.7,SNR=14						
	1.2nm,0.7s						

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*NOU **03** 21:54:27.8, 18°.05S×168°.80E, h123km, MLv4.5/21, Vanuatu Islands*
*IDC **03** 21:54:28.1±3.3, 17°.93S×168°.47E, h142km±27km, mb3.8/11, mbtmp4.2/12, MS3.0/2, Error ellipse: s-maj=24.2km s-min=19.3km az=43.0*
*NEIC **03** 21:54:28.0±1.3, 17°.88S±0°.10×168°.5E±0°.1, h133km±5km, mb4.4/18, Error ellipse: s-maj=19.9km s-min=11.5km az=118.0*

ISC 03 21:54:28.6±0.5, 17°.96S±0°.05×168°.57E±0°.09, h150km, n105, σ1$64/103, mb4.3/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.43**	**303**	P	**Pn**	**21 54 48.0**	**-1.6**
DVP	**Devils Point**	**0.43**	**303**	S	**Sn**	**21 55 04.2**	**-1.4**
MARNC	**Mare, Loyalty**	**3.54**	**188**	P	**Pn**	**21 55 21.0**	**-1.9**
MARNC	**Mare, Loyalty**	**3.54**	**188**	S	**Sn**	**21 56 01.1**	**-3.9**
YATNC	**Mamie plateau,**	**4.37**	**201**	P	**Pn**	**21 55 31.8**	**-1.9**
YATNC	**Mamie plateau,**	**4.37**	**201**	S	**Sn**	**21 56 23.2**	**-1.3**
DZM	**Mont Dzumac**	**4.55**	**206**	P	**Pn**	**21 55 35.3**	**-0.8**
DZM	**Mont Dzumac**	**4.55**	**206**	P	**Pn**	**21 55 35.7**	**-0.5**
	66nm,0.3s,baz=49,slow=20,SNR=137						
DZM				S	**Sn**	**21 56 27.4**	**-1.5**
	86nm,0.4s,baz=132,slow=22,SNR=11						
DZM				LR	LR	21 57 08.5	
	comp=Z,119nm,19.0s,baz=30,slow=35						
DZM	**Mont Dzumac**	**4.55**	**206**	P	**Pn**	**21 55 35.4**	**-0.8**
DZM	**Mont Dzumac**	**4.55**	**206**	S	**Sn**	**21 56 27.7**	**-1.1**
OUENC	**Ouen Island, N**	**4.72**	**200**	P	**Pn**	**21 55 38.1**	**-0.2**
OUENC	**Ouen Island, N**	**4.72**	**200**	S	**Sn**	**21 56 31.7**	**-1.0**
PINNC	**Pines Island,**	**4.75**	**193**		**Pn**	**21 55 38.3**	**-0.4**
PINNC	**Pines Island,**	**4.75**	**193**	P	**Pn**	**21 55 37.2**	**-1.5**
PINNC	**Pines Island,**	**4.75**	**193**	S	**Sn**	**21 56 31.8**	**-1.5**
ONTNC	**Ouen Toro**	**4.76**	**204**		**Pn**	**21 55 38.6**	**-0.2**
ONTNC	**Ouen Toro**	**4.76**	**204**	P	**Pn**	**21 55 38.6**	**-0.2**
ONTNC	**Ouen Toro**	**4.76**	**204**	S	**Sn**	**21 56 32.7**	**-0.9**
KOUNC	**Koumac, New Ca**	**4.79**	**237**	P	**Pn**	**21 55 39.3**	**0.0**
KOUNC	**Koumac, New Ca**	**4.79**	**237**	S	**Sn**	**21 56 36.7**	**+2.3**
HNR	**Honiara**	**11.91**	**314**	LR	LR	22 01 27.4	
	comp=Z,76nm,18.0s,baz=152,slow=36						
NIUE	**Niue**	**20.42**	**97**	P	P	21 58 42.8	-11
HAZ	**Te Kaha**	**21.31**	**160**	P	**P**	**21 59 05.3**	**+1.7**
MXZ	**Matakaoa Point**	**21.32**	**158**	P	**P**	**21 59 06.6**	**+3.0**
MXZ				IAmb	IAmb	21 59 34.2	
	comp=Z,27nm,1.1s						
MXZ	**Matakaoa Point**	**21.32**	**158**	P	**P**	**21 59 04.5**	**+0.9**
RUGZ	**Raukumara Rang**	**21.47**	**160**	P	**P**	**21 59 07.3**	**+1.9**
URZ	**Urewera**	**21.56**	**161**	P	**P**	**21 59 08.1**	**+1.9**
	comp=Z,4.3nm,0.4s,baz=186,slow=0.6,SNR=7.4						
	comp=Z,4.3nm,0.4s						
URZ	**Urewera**	**21.56**	**161**	P	**P**	**21 59 08.6**	**+2.4**
WMGZ	**Waiomatatini S**	**21.59**	**158**	P	**P**	**21 59 08.4**	**+1.9**
MUGZ	**Murupara**	**21.66**	**162**	P	**P**	**21 59 10.8**	**+3.5**
MWZ	**Matawai**	**21.76**	**161**	P	**P**	**21 59 12.7**	**+4.4**
TWGZ	**Tauwhareparae**	**21.76**	**160**	P	**P**	**21 59 10.8**	**+2.5**
MRHZ	**Matea Rd**	**21.89**	**163**	P	**P**	**21 59 12.2**	**+2.4**
WTVZ	**West Tongariro**	**21.95**	**165**	P	**P**	**21 59 14.0**	**+3.6**
TMVZ	**Te Maari**	**21.98**	**165**	P	**P**	**21 59 15.0**	**+4.4**
NGZ	**Ngauruhoe**	**22.01**	**165**	P	**P**	**21 59 14.8**	**+3.8**
OTVZ	**Oturere**	**22.01**	**165**	P	**P**	**21 59 14.9**	**+3.9**
SNVZ	**South Ngauruho**	**22.03**	**165**	P	**P**	**21 59 15.1**	**+3.9**
MTHZ	**Maungataniwha**	**22.03**	**163**	P	**P**	**21 59 13.3**	**+2.2**
BKZ	**Black Stump Fm**	**22.23**	**164**	P	**P**	**21 59 14.8**	**+1.8**
BKZ				IAmb	IAmb	21 59 42.1	
	comp=Z,22nm,1.4s						
BKZ	**Black Stump Fm**	**22.23**	**164**	P	**P**	**21 59 14.7**	**+1.6**
MOVZ	**Moawhango**	**22.26**	**165**	P	**P**	**21 59 15.5**	**+2.0**
KWHZ	**Kaweka Forest**	**22.45**	**164**	P	**P**	**21 59 17.2**	**+2.0**
KRHZ	**Kereru**	**22.64**	**164**	P	**P**	**21 59 18.7**	**+1.7**
KAHZ	**Kahuranaki**	**22.92**	**163**	P	**P**	**21 59 20.8**	**+1.2**
TSZ	**Takapari Road**	**22.93**	**165**	P	**P**	**21 59 20.8**	**+1.1**
QRZ	**Quartz Range**	**23.04**	**172**	P	**P**	**21 59 23.4**	**+2.8**
MRZ	**Mangatainoka R**	**23.41**	**166**	P	**P**	**21 59 24.6**	**+0.5**
OGWZ	**Otaki Gorge**	**23.48**	**167**	P	**P**	**21 59 25.5**	**+0.8**
BFZ	**Birch Farm**	**23.59**	**165**	P	**P**	**21 59 26.2**	**+0.5**
BFZ				IAmb	IAmb	21 59 43.9	
	comp=Z,20nm,1.1s						
BFZ	**Birch Farm**	**23.59**	**165**	P	**P**	**21 59 25.9**	**+0.2**
HOWZ	**Holdsworth Sta**	**23.63**	**167**	P	**P**	**21 59 26.1**	**0.0**
MRNZ	**Matariki Terra**	**23.64**	**172**	P	**P**	**21 59 28.1**	**+2.0**
MRNZ	**Matariki Terra**	**23.64**	**172**	P	**P**	**21 59 28.1**	**+2.0**
TMWZ	**Te Maipa**	**23.91**	**166**	P	**P**	**21 59 29.4**	**+0.8**
THZ	**Tophouse**	**24.01**	**172**	P	**P**	**21 59 30.6**	**+1.0**
MSWZ	**Moikau Station**	**24.07**	**168**	P	**P**	**21 59 30.8**	**+0.7**
PAWZ	**Paruwai Farm**	**24.07**	**167**	P	**P**	**21 59 30.3**	**+0.2**
PLWZ	**Palliser**	**24.22**	**168**	P	**P**	**21 59 31.6**	**+0.2**
PLWZ	**Palliser**	**24.22**	**168**	P	**P**	**21 59 31.7**	**+0.2**
KHZ	**Kahutara**	**24.74**	**171**	P	**P**	**21 59 36.5**	**+0.4**
STKA	**Stephens Creek**	**28.02**	**235**	P	**P**	**22 00 06.8**	**+1.2**
STKA	**Stephens Creek**	**28.02**	**235**	P	**P**	**22 00 05.7**	**0.0**
	comp=Z,1.9nm,0.6s,baz=61,slow=7.3,SNR=5.2						
	comp=Z,1.9nm,0.6s						
WB0	**Warramunga Arr**	**32.36**	**261**	P	**P**	**22 00 43.2**	**-0.9**
WB0				IAmb	IAmb	22 00 53.3	
	comp=Z,6.5nm,1.3s						
WB2	**Warramunga Arr**	**32.39**	**261**	P	**P**	**22 00 43.4**	**-1.0**
WB2				IAmb	IAmb	22 01 00.4	
	comp=Z,9.0nm,1.2s						
WRAB	**Tennant Creek**	**32.39**	**261**	P	**P**	**22 00 43.8**	**-0.6**
WRA	**Warramunga Arr**	**32.40**	**261**	P	**P**	**22 00 43.6**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=80,slow=6.1,SNR=9.9						
	comp=Z,0.9nm,0.9s						
AS31	**Alice Springs**	**32.84**	**254**	P	**P**	**22 00 48.2**	**-0.1**
ASAR	**Alice Springs**	**32.84**	**254**	P	**P**	**22 00 48.2**	**-0.1**
ASAR	**Alice Springs**	**32.84**	**254**	P	**P**	**22 00 47.9**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=81,slow=9.0,SNR=42						
	comp=Z,4.1nm,0.5s						
KNRA	**Kununurra**	**38.12**	**267**	P	**P**	**22 01 32.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**40.75**	**263**	P	**P**	**22 01 55.4**	**+0.2**
VNDA	**Vanda**	**59.68**	**182**	P	**P**	**22 04 17.4**	**+0.7**
VNDA	**Vanda**	**59.68**	**182**	P	**P**	**22 04 17.1**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=6.3,slow=9.2,SNR=1.9						
	comp=Z,3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**70.31**	**333**	P	**P**	**22 05 26.2**	**+0.5**
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**22 05 36.7**	**+0.3**
QSPA				IAmb	IAmb	22 05 37.6	
	comp=Z,6.4nm,0.9s						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**22 05 36.9**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=53,slow=3.2,SNR=16						
	comp=Z,4.2nm,0.8s						
ENH	**Enshi**	**74.37**	**310**	P	**P**	**22 05 48.3**	**-1.9**
ENH				IAmb	IAmb	22 06 27.6	
	comp=Z,11nm,1.5s						
CMAR	**Chiang Mai Arr**	**77.40**	**294**	P	**P**	**22 06 08.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=114,slow=4.6,SNR=5.2						
	comp=Z,0.7nm,0.3s						
RC01	**Rabbit Creek A**	**85.56**	**19**	P	**P**	**22 06 50.4**	**+0.9**
SONM	**Songino Array**	**85.82**	**323**	P	**P**	**22 06 51.3**	**0.0**
SONM	**Songino Array**	**85.82**	**323**	P	**P**	**22 06 51.3**	**0.0**
	comp=Z,0.6nm,0.4s,baz=139,slow=5.2,SNR=7.9						
	comp=Z,0.6nm,0.4s						
NVAR	**Mina Array Bea**	**88.44**	**49**	P	**P**	**22 07 05.3**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=232,slow=8.9,SNR=5.0						
	comp=Z,1.0nm,0.8s						
M26K	**Nabesna, AK**	**88.69**	**20**	P	**P**	**22 07 05.8**	**+1.1**
M26K				IAmb	IAmb	22 07 07.4	
	comp=Z,4.0nm,1.4s						
RIDG	**Independent Ri**	**89.05**	**19**	P	**P**	**22 07 07.7**	**+1.4**
RIDG				IAmb	IAmb	22 07 50.8	
	comp=Z,5.9nm,1.5s						
ILAR	**Eielson Array**	**89.21**	**17**	P	**P**	**22 07 07.7**	**+0.8**
ILAR	**Eielson Array**	**89.21**	**17**	P	**P**	**22 07 06.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=230,slow=5.5,SNR=6.6						
	comp=Z,0.2nm,0.6s						
SNAA	**Sanae**	**90.40**	**183**	P	**P**	**22 07 12.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=187,slow=8.1,SNR=1.6						
	comp=Z,2.0nm,0.7s						
U15A	**North Rim**	**92.10**	**52**	P	**P**	**22 07 23.2**	**+1.8**
U15A				IAmb	IAmb	22 07 23.4	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**100.38**	**316**	Pdif	**Pdif**	**22 07 58.9**	**+0.5**
ABKAR	**Akbulak array**	**115.51**	**317**	PKPdf	**PKiKP**	**22 12 52.2**	**-0.5**
SPITS	**Spitsbergen Ar**	**118.26**	**354**	PKP	**PKPdf**	**22 12 56.2**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=98,slow=4.5,SNR=5.7						
ARCES	**ARCESS Array B**	**123.68**	**345**	PKP	**PKPdf**	**22 13 07.1**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=50,slow=1.7,SNR=16						
FINES	**FINESS Array B**	**129.17**	**338**	PKP	**PKPdf**	**22 13 18.3**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=110,slow=2.4,SNR=5.0						
RONA	**Rosalia, Austr**	**142.67**	**329**	*i* PKP	**PKPdf**	**22 13 41.8**	**-2.2**
	comp=Z,0.4nm,0.3s						
MOA	**Molln**	**143.54**	**331**	*i* PKP	PKPbc	22 13 43.4	+0.2
	comp=Z,0.8nm,0.4s						
KBA	**Koelnbreinsper**	**144.53**	**330**	*e*PKP	**PKPab**	**22 13 45.2**	**-1.0**
	comp=Z,1.0nm,0.4s						
LESA	**Schwarzleotal**	**144.58**	**331**	*e*PKP	**PKPab**	**22 13 46.2**	**-0.2**
	comp=Z,2.8nm,0.4s						
MYKA	**Terra Mystica**	**144.71**	**330**	*e*PKP	**PKPab**	**22 13 46.0**	**-0.9**
	comp=Z,3.1nm,0.6s						
WATA	**Walderalm**	**145.15**	**332**	*i* PKP	**PKPbc**	**22 13 48.0**	**-0.3**
	comp=Z,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**145.16**	**331**	*e*PKP	**PKPbc**	**22 13 47.4**	**-0.9**
	comp=Z,2.7nm,0.6s						
WTTA	**Wattenberg**	**145.17**	**332**	*i* PKP	**PKPbc**	**22 13 47.7**	**-0.7**
	comp=Z,1.6nm,0.4s						
MOTA	**Moosalm**	**145.35**	**333**	*e*PKP	**PKPdf**	**22 13 48.6**	**-0.2**
	comp=Z,4.3nm,0.9s						
SQTA	**Sankt Quirin**	**145.40**	**332**	*i* PKP	**PKPdf**	**22 13 49.0**	**+0.1**
	comp=Z,2.0nm,0.4s						
FETA	**Feichten**	**145.76**	**333**	*i* PKP	**PKPbc**	**22 13 50.2**	**-0.1**
	comp=Z,1.9nm,0.6s						

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*JMA **03** 22:21:13.8±0.6, 45°N±3°×15°0E±°, h30km, MV3.7/12, KURILE ISLANDS REGION*
*SKHL **03** 22:21:16.9±0.3, 44°.60N×149°.70E, h15km±4km, mb4.7/3*

ISC 03 22:21:16.0±4.3, 44°.57N±0°.10×150°.0E±0°.2, h35km, n15, σ1$33/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.65**	**294**	*e*P	**Pn**	**22 21 41.5**	**-0.9**
KUR				AMB	AMB	22 21 42.5	
	80nm,0.2s						
KUR				*e*S	**Sn**	**22 22 00.0**	**-2.4**
KUR				A	A	22 22 02.6	
	460nm,0.2s						
KUR				A	A	22 22 02.6	
	120nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.02**	**261**	*e*P	**Pn**	**22 22 01.7**	**+0.5**
YUK				*e*S	**Sn**	**22 22 35.1**	**-1.0**
YUK				A	A	22 22 39.0	
	310nm,0.5s						
YUK				A	A	22 22 39.0	
	150nm,0.5s						
NEM2	**Nemuro 2**	**3.30**	**250**	*e*P	**Pn**	**22 22 04.7**	**-0.4**
NEM2				*e*S	**Sn**	**22 22 43.0**	**0.0**
NMR	**Nemuro--Hokkai**	**3.31**	**250**	*e*P	**Pn**	**22 22 05.0**	**-0.2**
NMR				AMB	AMB	22 22 06.2	
	90nm,0.2s						
NMR				*e*S	**Sn**	**22 22 41.3**	**-2.0**
NMR				A	A	22 22 44.2	
	280nm,0.4s						
NMR				A	A	22 22 44.2	
	610nm,0.4s						
JRA	**Rausu**	**3.56**	**261**	*e*P	**Pn**	**22 22 10.3**	**+1.7**
JNK	**Nakash**	**3.93**	**257**	P	**Pn**	**22 22 14.6**	**+0.8**
AKK	**Akkeshi**	**4.04**	**249**	*e*P	**Pn**	**22 22 16.1**	**+0.8**
AKK				AMB	AMB	22 22 17.0	
	40nm,0.2s						
AKK				*e*S	**Sn**	**22 22 59.9**	**-1.5**
JAK	**Akkeshi**	**4.15**	**249**	*e*P	**Pn**	**22 22 16.6**	**-0.1**
JAK				*e*S	**Sn**	**22 23 03.4**	**-0.6**
JTKR	**Abashiri--Toko**	**4.41**	**264**	*e*P	**Pn**	**22 22 22.1**	**+1.7**
JTKR				*e*S	**Sn**	**22 23 12.9**	**+2.4**
JAR	**Ashorobuto**	**4.67**	**256**	*e*P	**Pn**	**22 22 25.1**	**+1.1**
JAR				*e*S	**Sn**	**22 23 17.4**	**+0.4**
JOB	**Onbets**	**4.77**	**252**	*e*P	**Pn**	**22 22 25.8**	**+0.6**
JOB				*e*S	**Sn**	**22 23 18.2**	**-1.1**
JKK2	**Kamakawa 2**	**5.26**	**265**	*e*P	**Pn**	**22 22 34.3**	**+2.2**
YSS	**Yuzhno-Sakhali**	**5.60**	**298**	*e*P	**Pn**	**22 22 37.8**	**+1.1**
JNBK	**Urakawa-nobuka**	**5.75**	**249**	*e*P	**Pn**	**22 22 38.6**	**-0.2**
JNBK				*e*S	**Sn**	**22 23 42.7**	**-0.8**
JANG	**Nango**	**7.54**	**239**	*e*S	Sn	22 24 20.4	-7.2

IDC 03 22:25:27.4±1.5, 21°.05S×176°.11W, h0km, mb3.7/3, mbtmp3.9/4, ML5.5/1, MS3.5/5, Error ellipse: s-maj=70.9km s-min=29.4km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.43**	**300**	Pn	Pn	22 27 03.4	0.0
	3.1nm,0.3s,baz=125,slow=12,SNR=75						
	80nm,0.7s						
RAR	**Rarotonga**	**15.24**	**94**	LR	LR	22 33 09.1	
	comp=Z,186nm,20.5s,baz=288,slow=30						
DZM	**Mont Dzumac**	**16.27**	**263**	LR	LR	22 34 25.9	
	comp=Z,217nm,18.3s,baz=238,slow=33						
URZ	**Urewera**	**18.12**	**197**	LR	LR	22 36 01.8	
	comp=Z,376nm,18.5s,baz=96,slow=35						
PPT	**Papeete**	**25.26**	**87**	LR	LR	22 37 56.6	
	comp=Z,88nm,20.9s,baz=262,slow=30						
HNR	**Honiara**	**25.79**	**293**	LR	LR	22 39 35.4	
	comp=Z,63nm,20.6s,baz=147,slow=33						
ASAR	**Alice Springs**	**46.12**	**257**	P	P	22 33 54.0	+0.2
	0.9nm,0.7s,baz=92,slow=8.2,SNR=11						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**46.28**	**262**	P	P	22 33 53.9	-1.2
	0.7nm,0.8s,baz=97,slow=8.2,SNR=5.7						
	0.7nm,0.8s						
NVAR	**Mina Array Bea**	**80.22**	**42**	P	P	22 37 39.3	-0.9
	0.8nm,0.7s,baz=208,slow=8.4,SNR=4.1						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**115.65**	**317**	PKP	PKiKP	22 44 11.9	+0.5
	0.4nm,0.7s,baz=89,slow=1.4,SNR=5.5						
BVAR	**Borovoye Array**	**120.64**	**320**	PKP	PKiKP	22 44 21.5	+0.4
	0.7nm,0.7s,baz=54,slow=2.7,SNR=3.8						
AKASG	**Malin Array Be**	**144.34**	**332**	PKP	PKPab	22 45 03.5	+0.1
	0.6nm,0.5s,baz=44,slow=3.4,SNR=5.4						
GERES	**GERESS Array B**	**151.18**	**347**	PKPbc	PKiKP	22 45 23.4	+0.2
	0.9nm,0.8s,baz=104,slow=4.8,SNR=4.5						

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*IDC **03** 22:39:25.5±1.2, 28°.43N×52°.96E, h0km, mb3.8/14, mbtmp3.8/16, ML3.8/2, MS3.3/1, Error ellipse: s-maj=27.9km s-min=18.1km az=14.0*
*TEH **03** 22:39:26.3, 28°.49N×53°.06E, h5km*
*OMAN **03** 22:39:28.6±0.4, 28°.45N×53°.12E, h10km, mb4.5/11, ml3.9/12, Error ellipse: s-maj=7.4km s-min=2.0km az=336.0*
*DSN **03** 22:39:31.5±1.0, 28°.16N×52°.95E, h15km, ML3.4/10, Error ellipse: s-maj=12.3km s-min=5.4km az=8.0*

ISC 03 22:39:28.0±0.5, 28°.46N±0°.04×53°.05E±0°.03, h16km, n105, σ1$65/122, mb3.9/24, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.02**	**335**	Pg	**Pg**	**22 39 27.3**	**-3.6**
JHRM	**Jahrom**	**0.46**	**85**	Pg	**Pg**	**22 39 34.7**	**-2.6**
LMD1	**Lamerd**	**1.12**	**175**	Pg	**Pg**	**22 39 50.1**	**+0.4**
SHI	**Shiraz**	**1.27**	**338**	Pg	**Pn**	**22 39 51.9**	**+0.7**
DSBU	**Dashti - Bushe**	**1.58**	**267**	Pg	**Pb**	**22 39 56.7**	**-0.2**
AHBU	**AHRAM**	**1.59**	**285**	Pg	**Pg**	**22 39 58.6**	**-0.1**
KAZ2	**Kazeron-Fars-I**	**1.67**	**314**	Pg	**Pn**	**22 39 57.5**	**+0.8**
KLNJ	**Kolanjah**	**2.84**	**334**	Pn	**Pn**	**22 40 13.9**	**+0.9**
BNDS	**Bandar-Abbas**	**2.96**	**110**	Pn	**Pn**	**22 40 16.9**	**+2.5**
GENO	**Geno**	**2.96**	**110**	Pn	**Pn**	**22 40 17.0**	**+2.6**
SHMA	**Al-Shehemyia**	**3.19**	**216**	P	**Pn**	**22 40 19.8**	**+2.3**
	SNR=31						
SHMA				S	**Sb**	**22 40 59.1**	**-3.9**
IMEH	**Mehriz**	**3.22**	**25**	Pn	**Pn**	**22 40 20.3**	**+2.2**
IBND	**Bandar-abas**	**3.25**	**107**	Pn	**Pn**	**22 40 21.3**	**+3.1**
SAKB	**Bahrain**	**3.34**	**223**	P	**Pn**	**22 40 21.4**	**+1.9**
SAKB				S	**Sb**	**22 41 02.4**	**-4.8**
IRAM	**Ramesheh**	**3.39**	**350**	Pn	**Pn**	**22 40 22.0**	**+1.6**
NGRK	**Negar Kerman**	**3.43**	**69**	Pn	**Pn**	**22 40 23.1**	**+2.0**
ISAD	**Sadrabad**	**3.48**	**9**	Pn	**Pn**	**22 40 24.4**	**+2.6**
KHGB	**Koh Gabri**	**3.54**	**57**	Pn	**Pn**	**22 40 24.6**	**+2.0**
KRBR	**Kerman**	**3.58**	**64**	Pn	**Pn**	**22 40 25.0**	**+1.9**
SHME	**Shamm**	**3.65**	**130**	P	**Pn**	**22 40 26.1**	**+2.2**
ZRDN	**Zarand Kerman**	**3.93**	**50**	Pn	**Pn**	**22 40 29.2**	**+1.4**
ICHK	**Chekchek**	**3.95**	**17**	Pn	**Pn**	**22 40 29.9**	**+1.8**
TRNA	**Turayna**	**4.06**	**204**	P	**Pn**	**22 40 31.5**	**+2.0**
	SNR=13						
TRNA				S	**Sn**	**22 41 19.6**	**+2.9**
KHNJ	**Kahnooj**	**4.14**	**96**	Pn	**Pn**	**22 40 32.8**	**+2.2**
MASF	**Masafi**	**4.14**	**137**	P	**Pn**	**22 40 32.5**	**+1.8**
MASF				S	**Sn**	**22 41 21.0**	**+2.2**
CHMN	**Cheshme madani**	**4.17**	**69**	Pn	**Pn**	**22 40 33.4**	**+2.2**
NAZ	**Nazwa, Dubai**	**4.17**	**145**	P	**Pn**	**22 40 33.0**	**+1.9**
	SNR=6.5						
NAZ				S	**Sn**	**22 41 20.9**	**+1.5**
NAZ	**Nazwa, Dubai**	**4.17**	**145**	*i* P	**Pn**	**22 40 32.5**	**+1.5**
	SNR=6.4						
KRM1	**Kerman Provinc**	**4.20**	**60**	Pn	**Pn**	**22 40 33.6**	**+2.0**
SMRA	**Abu-Samra**	**4.21**	**209**	P	**Pn**	**22 40 33.5**	**+2.1**
SMRA				S	**Sn**	**22 41 23.6**	**+3.4**
MDH	**Madha**	**4.28**	**137**	P	**Pn**	**22 40 33.7**	**+1.2**
MDH				S	**Sn**	**22 41 24.9**	**+2.7**
ASUD	**Al Ashush, Dub**	**4.33**	**151**	P	**Pn**	**22 40 35.0**	**+1.8**
	SNR=17						
ASUD	**Al Ashush, Dub**	**4.33**	**151**	*i* P	**Pn**	**22 40 34.6**	**+1.4**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**4.34**	**148**	S	**Sn**	**22 41 24.5**	**+0.8**
	SNR=6.4						
IZEF	**Zefreh**	**4.46**	**352**	Pn	**Pn**	**22 40 36.9**	**+1.7**
GHWR	**Ruwais**	**4.48**	**182**	P	**Pn**	**22 40 37.6**	**+2.4**
UOSS	**Minazif**	**4.50**	**140**	Pn	**Pn**	**22 40 37.0**	**+1.6**
UOSS	**Minazif**	**4.50**	**140**	P	**Pn**	**22 40 36.8**	**+1.4**
UOSS	**Minazif**	**4.50**	**140**	P	**Pn**	**22 40 36.3**	**+0.8**
SLWR	**Sila**	**4.54**	**196**	P	**Pn**	**22 40 37.3**	**+1.2**
SLWR				S	**Sn**	**22 41 29.6**	**+1.1**
HATD	**Hatta, Dubai**	**4.55**	**142**	P	**Pn**	**22 40 38.7**	**+2.5**
HATD				S	**Sn**	**22 41 32.0**	**+3.1**
HATD	**Hatta, Dubai**	**4.55**	**142**	P	**Pn**	**22 40 38.3**	**+2.0**
IPIR	**Pirpir**	**4.60**	**337**	Pn	**Pn**	**22 40 38.8**	**+1.6**
ASHO	**Ashiyiah**	**4.63**	**144**	P	**Pn**	**22 40 38.4**	**+1.1**
	SNR=14						
ASHO				S	**Sn**	**22 41 31.4**	**+0.7**
ASHO	**Ashiyiah**	**4.63**	**144**	*i* P	**Pn**	**22 40 38.2**	**+0.9**
	SNR=14						
ASHO				S	**Sn**	**22 41 30.8**	**0.0**
MZWR	**Madinat Zayed**	**4.74**	**171**	P	**Pn**	**22 40 40.1**	**+1.3**
MZWR				S	**Sn**	**22 41 33.3**	**-0.1**
ANAR	**Anarak**	**4.75**	**7**	Pn	**Pn**	**22 40 40.8**	**+1.7**
IKLH	**Kolahrood**	**5.00**	**346**	Pn	**Pn**	**22 40 44.1**	**+1.4**
JASK	**Jask - Hormozg**	**5.01**	**120**	P	**Pn**	**22 40 44.3**	**+1.9**
JASK				S	**Sn**	**22 41 41.3**	**+1.2**
ALNE	**Al Ain**	**5.01**	**150**	P	**Pn**	**22 40 43.4**	**+0.8**
	SNR=10.0						
ALNE	**Al Ain**	**5.01**	**150**	*i* P	**Pn**	**22 40 42.6**	**+0.1**
	SNR=9.7						
SOHO	**SOHO**	**5.32**	**143**	P	**Pn**	**22 40 47.0**	**+0.2**
SOHO				S	**Sn**	**22 41 49.4**	**+1.6**
SOHO	**SOHO**	**5.32**	**143**	*i* P	**Pn**	**22 40 46.8**	**0.0**
	SNR=19						
QAMS	**Qamsar**	**5.45**	**345**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	58.71	260	P	P	22 49 24.8	-0.5
	1.9nm,0.6s,baz=23,slow=7.7,SNR=3.6						
	1.9nm,0.6s						
ILAR	Eielson Array	85.78	8	P	P	22 52 07.5	+1.2
	0.3nm,0.9s,baz=338,slow=3.9,SNR=4.7						
	0.3nm,0.9s						
YKA	Yellowknife Ar	88.82	354	P	P	22 52 20.6	-0.3
	0.5nm,0.7s,baz=8.0,slow=4.6,SNR=7.8						
	0.5nm,0.7s						

IDC 03 22:51:28.3±15.0, 63°24′S×84°35′E, h0km, Error ellipse: s-maj=35.6km s-min=13.9km az=177.0, Southern Kerguelen Plateau

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	24.40	297	H	H	23 22 19.3	
	baz=144,slow=75,SNR=17						
H04S1	CROZET ISLANDS	24.41	297	H	H	23 22 20.4	
	baz=144,slow=75,SNR=16						
H04S3	CROZET ISLANDS	24.42	297	H	H	23 22 17.6	
	baz=144,slow=75,SNR=16						
H01W2	Cape Leeuwin H	33.82	47	H	H	23 33 58.2	
	baz=203,slow=76,SNR=5.7						
H01W1	Cape Leeuwin H	33.84	47	H	H	23 33 58.9	
	baz=203,slow=76,SNR=5.7						
H01W3	Cape Leeuwin H	33.84	47	H	H	23 33 59.8	
	baz=203,slow=76,SNR=5.6						
H08S2	Diego Garcia H	56.16	346	H	H	00 01 47.7	
	baz=174,slow=76,SNR=6.2						
H08S1	Diego Carcia H	56.16	346	H	H	00 01 48.9	
	baz=174,slow=76,SNR=6.7						
H08S3	Diego Garcia H	56.17	346	H	H	00 01 51.1	
	baz=174,slow=76,SNR=8.1						

IDC 03 22:51:43.5±0.6, 7°.99S×123°.06E, h0km, mb4.4/11, mbtmp4.5/14, ML4.3/3, MS3.5/10, Error ellipse: s-maj=41.0km s-min=13.6km az=61.0
DJA 03 22:51:46.5±0.8, 8°S±3°×12°3E±°, h11km±7km, M4.5/16, mB5.1/5, mb4.7/10, MLv4.5/16, Mw(mB)4.5/5
NEIC 03 22:51:49.2±1.3, 8°.15S±0°.06×122°.91E±0°.05, h35km±2km, mb4.6/35, Error ellipse: s-maj=9.5km s-min=8.3km az=165.0

ISC 03 22:51:45.9±0.4, 8°.16S±0°.04×122°.97E±0°.04, h10km, n145, σ1§40/140, mb4.7/35, MS3.5/6, 3D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.86	237		Pb	22 52 03.5	+0.5
MMRI					Sg	22 52 15.0	+1.2
MMRI	Maumere	0.86	237	P	Pg	22 52 03.2	+0.7
MMRI	Maumere	0.86	237	S	Sb	22 52 16.5	+1.9
MMRI	Maumere	0.86	237	P	Pg	22 52 03.3	+0.7
MMRI				S	Sb	22 52 15.8	+1.2
SOEI	Soe	2.04	141	Pn	Pn	22 52 21.1	+0.5
SOEI	Soe	2.04	141	P	Pb	22 52 23.2	0.0
SOEI	Soe	2.04	141	S	Sb	22 52 49.4	+0.7
SOEI	Soe	2.04	141	P	Pn	22 52 22.9	+2.4
BBSI	Bau Bau	2.68	352	P	Pn	22 52 27.7	-1.5
BASI	Baing, Sumba	3.12	229	P	Pn	22 52 36.1	+0.9
BSSI	Bau Bau, Buton	3.17	309	P	Pn	22 52 34.9	-1.0
WBSI	Waikabubak, Su	3.83	247	P	Pn	22 52 45.1	+0.1
BKSI	Bulukumba	3.99	315	P	Pn	22 52 45.5	-1.7
KDI	Kendari	4.19	355	P	Pn	22 52 48.3	-1.6
KAPI	Kappang	4.47	314	Pn	Pn	22 52 53.4	-0.4
KAPI	Kappang	4.47	314	Pn	Pn	22 52 53.1	-0.7
	6.2nm,0.3s,baz=216,slow=14,SNR=16						
KAPI				Sn	Sn	22 53 45.0	-0.8
	8.5nm,0.3s,baz=152,slow=22,SNR=8.6						
	22nm,0.5s						
KAPI	Kappang	4.47	314	P	Pn	22 52 53.8	0.0
KAPI	Kappang	4.47	314	S	Sn	22 53 46.4	+0.5
PLAI	Plampang	5.17	262	P	Pn	22 53 04.6	+1.1
PLAI	Plampang	5.17	262	P	Pn	22 53 03.9	+0.4
	0.5nm113nm,0.8s						
SPSI	Sidrap Palu	5.24	322	P	Pn	22 53 04.1	-0.3
	1μm24nm,0.4s						
TTSI	Tana Toraja	5.97	328	P	Pn	22 53 15.4	+1.0
	0.2nm43nm,1.5s						
NLAI	Namlea	6.39	40	P	Pn	22 53 26.2	+6.0
SANI	Sanana	6.78	27	P	Pn	22 53 27.2	+1.7
SANI	Sanana	6.78	27	P	Pn	22 53 26.0	+0.5
LUWI	Luwuk	7.07	358	Pn	Pn	22 53 28.8	-0.9
LUWI	Luwuk	7.07	358	P	Pn	22 53 30.1	+0.4
LUWI	Luwuk	7.07	358	S	Sn	22 54 52.2	+2.0
LUWI	Luwuk	7.07	358	P	Pn	22 53 30.0	+0.4
	102nm,0.9s						
APSI	Ampana	7.32	350	P	Pn	22 53 32.7	-0.3
	2μm105nm,0.8s						
MRSI	Marisa	8.64	353	P	Pn	22 53 51.8	+0.7
	0.1nm22nm,1.3s						
JAGI	Jajag, Banyuwa	8.73	267	Pn	Pn	22 53 52.4	+0.1
MTN	Manton Dam	9.28	121	Pn	Pn	22 54 00.0	+0.1
MTN	Manton Dam	9.28	121	P	Pn	22 54 01.4	+1.5
MTN	Manton Dam	9.28	121	S	Sn	22 55 46.5	+2.0
KNRA	Kununurra	9.38	143	Pn	Pn	22 54 01.3	0.0
TOLI2	Tolitoli	9.46	347	Pn	Pn	22 54 01.1	-1.3
TOLI2	Tolitoli	9.46	347	P	Pn	22 54 04.3	+1.9
FITZ	Fitzroy Crossi	10.22	166	Pn	Pn	22 54 12.3	-0.4
	3.4nm,0.3s,baz=358,slow=9.7,SNR=75						
FITZ				Sn	Sn	22 56 02.9	-4.5
	2.6nm,0.3s,baz=130,slow=6.4,SNR=8.5						
FITZ				LR	LR	22 58 41.1	
	comp=Z,282nm,19.0s,baz=328,slow=40						
	6.8nm,0.3s						
FITZ	Fitzroy Crossi	10.22	166	P	Pn	22 54 13.7	+1.0
KDU	Kakadu	10.38	116	P	Pn	22 54 16.5	+1.6
SWI	Sorong	10.99	49	P	Pn	22 54 24.9	+1.5
	908nm49nm,1.1s						
MBWA	Marble Bar	13.29	193	Pn	Pn	22 54 57.0	+2.2
PSA00	Pilbara Seismi	13.67	192		Pn	22 54 59.6	-0.4
PSA00	Pilbara Seismi	13.67	192	P	Pn	22 55 00.8	+0.8
BBJI	Bungbulang	15.19	272	P	Pn	22 55 21.2	+0.4
LEM	Lembang	15.28	274	LR	LR	23 03 22.3	
	comp=Z,208nm,18.2s,baz=348,slow=46						
DAV	Davao City (W)	15.35	10	LR	LR	23 01 30.9	
	comp=Z,45nm,20.3s,baz=230,slow=39						
WB0	Warramunga Arr	15.99	137	Pn	Pn	22 55 30.2	-1.0
WRA	Warramunga Arr	16.08	138	Pn	Pn	22 55 29.8	-2.5
WRA	Warramunga Arr	16.08	138	Pn	Pn	22 55 29.0	-3.3
	0.6nm,0.3s,baz=312,slow=13,SNR=38						
WRA				Sn	Sn	22 58 19.2	-12
	0.6nm,0.3s,baz=308,slow=23,SNR=9.8						
WRAB	Tennant Creek	16.08	138	Pn	Pn	22 55 28.6	-3.7
WB2	Warramunga Arr	16.09	138	Pn	Pn	22 55 30.4	-2.0
WB2				IAmb	IAmb	22 55 37.8	
	comp=Z,31nm,0.8s						
WR0	Warramunga Arr	16.23	138	Pn	Pn	22 55 30.1	-4.1
WR0				IAmb	IAmb	22 55 39.4	
	comp=Z,27nm,0.8s						
WRKA	Warakurna	17.54	164	P	Pn	22 55 51.8	+1.1
TABU	Tabubil	18.36	82	P	P	22 56 02.5	+1.5
AS31	Alice Springs	18.64	147		P	22 56 04.0	0.0
ASAR	Alice Springs	18.65	147	P	P	22 56 04.3	+0.2
	comp=Z,1.1nm,0.3s,baz=323,slow=12,SNR=124						
ASAR				S	Sn	22 59 22.8	-10
	comp=Z,20nm,1.1s,baz=322,slow=24,SNR=13						
ASAR				LR	LR	23 03 22.2	
	comp=Z,145nm,19.1s,baz=283,slow=37						
	comp=Z,32nm,0.8s						
AS01	Alice Springs	18.67	147	P	P	22 56 04.7	+0.4
MEEK	Meekatharra	18.84	192	P	Pn	22 56 07.5	+0.9
QIS	Mount Isa	20.27	129	P	P	22 56 23.2	+1.4
COEN	Coen	20.65	108	P	P	22 56 25.9	-0.1
COEN				IAmb	IAmb	22 56 27.2	
	comp=Z,28nm,1.0s						
COEN	Coen	20.65	108	P	P	22 56 26.3	+0.3
MORW	Morawa	21.80	197	P	P	22 56 38.4	+0.1
MORW				IAmb	IAmb	22 56 40.2	
	comp=Z,40nm,1.0s						
MORW	Morawa	21.80	197	P	P	22 56 38.6	+0.4
OOD	Oodnadatta	22.94	150	P	P	22 56 51.2	+0.8
FORT	Forrest	23.00	169	P	P	22 56 50.8	-0.3
FORT	Forrest	23.00	169	P	P	22 56 51.3	+0.2
MTSU	Mount Surprise	23.01	118	P	P	22 56 52.0	+0.7
BLDU	Ballidu	23.09	194	P	P	22 56 52.2	+0.2
KMBL	Kambalda	23.11	182	P	P	22 56 52.7	+0.5
KLBR	Kellerberrin	23.81	191	P	P	22 56 59.8	+0.6
NWAO	Narrogin (SRO)	25.21	191	P	P	22 57 12.0	+0.1
NWAO				IAmb	IAmb	22 57 13.8	
	comp=Z,25nm,1.0s						
NWAO	Narrogin (SRO)	25.21	191	LR	LR	23 07 09.0	
	comp=Z,107nm,18.9s,baz=358,slow=36						
INKA	Innaminka	25.73	141	P	P	22 57 17.9	+1.2
LCRK	Leigh Creek	26.37	149	P	P	22 57 24.0	+1.5
QLP	Quilpie	27.26	135	P	P	22 57 31.8	+1.2
BBOO	Buckleboo	27.37	155	P	P	22 57 31.8	+0.3
BBOO				IAmb	IAmb	22 57 35.9	
	comp=Z,23nm,0.8s						
BBOO	Buckleboo	27.37	155	P	P	22 57 32.2	+0.7
HTT	Hallett	29.15	152	P	P	22 57 48.8	+1.3
STKA	Stephens Creek	29.28	146	P	P	22 57 48.8	+0.3
STKA	Stephens Creek	29.28	146	P	P	22 57 48.5	-0.1
	comp=Z,7.7nm,0.9s,baz=318,slow=9.9,SNR=12						
	comp=Z,7.7nm,0.9s						
STKA	Stephens Creek	29.28	146	P	P	22 57 49.3	+0.8
ARPS	Mount Arapiles	33.25	152	P	P	22 58 24.6	+1.1
CMAR	Chiang Mai Arr	35.52	318	P	P	22 58 43.0	-0.3
	comp=Z,1.7nm,0.4s,baz=143,slow=6.8,SNR=14						
CMAR				LR	LR	23 14 02.8	
	comp=Z,35nm,21.7s,baz=135,slow=38						
	comp=Z,1.7nm,0.4s						
CHTO	Chiang Mai	35.77	319	P	P	22 58 44.4	-1.1
PZH	PanZhiHua	40.15	330	P	P	22 59 24.2	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
NJ2	Nanjing	40.18	355	eP	P	22 59 22.7	+0.2
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CD2	Chengdu	42.99	336	P	P	22 59 46.4	+0.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PALK	Pallekele	44.84	289	LR	LR	23 20 49.5	
	comp=Z,59nm,18.7s,baz=108,slow=39						
SHL	Shillong	45.15	319	P	P	23 00 01.9	-1.3
SHL				IAmb	IAmb	23 00 03.5	
	comp=Z,4.6nm,0.7s						
HHC	Hu-ho-hao-te	49.88	349	eP	P	23 00 40.3	+0.6
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
CN2	Changchun	51.76	2	eP	P	23 00 55.0	+1.3
CN2				ePP	PP	23 02 54.0	+2.4
CN2				eS	S	23 08 16.8	+1.2
GTA	Gaotai	51.97	337	eP	P	23 00 57.4	+1.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XLT	XiLinHaoTe	52.19	354	eP	P	23 00 56.1	-0.9
XLT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
USRK	Ussuriysk Ar.	52.75	8	P	P	23 00 59.0	-2.0
	comp=Z,3.6nm,0.7s,baz=202,slow=7.6,SNR=8.4						
	comp=Z,3.6nm,0.7s						
MDJ	Mudanjiang	52.87	6	P	P	23 01 01.3	-0.6
RPZ	Rata Peaks	54.79	139	P	P	23 01 15.4	-0.7
	comp=Z,14nm,0.8s,baz=350,slow=2.6,SNR=4.5						
	comp=Z,14nm,0.8s						
URZ	Urewera	57.08	131	LR	LR	23 25 54.9	
	comp=Z,28nm,20.9s,baz=341,slow=36						
ULN	Ulaanbaatar	57.53	347	P	P	23 01 34.4	-1.3
SONM	Songino Array	57.65	347	P	P	23 01 35.4	-1.1
SONM				IAmb	IAmb	23 01 38.6	
	comp=Z,7.6nm,1.4s						
SONM	Songino Array	57.65	347	P	P	23 01 34.8	-1.7
	comp=Z,4.5nm,1.2s,baz=170,slow=7.5,SNR=13						
	comp=Z,4.5nm,1.2s						
HEH	HeiHe	58.30	3	eP	P	23 01 39.2	-1.6
HEH				pmax	pmax		
	comp=Z,13nm,1.0s						
WMQ	Urumqi	60.81	331	eP	P	23 01 58.0	-0.4
WMQ				S	S	23 10 19.6	+3.7
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSH	Kashi	64.34	321	P	P	23 02 20.7	-1.5
KSH				pP	sP	23 02 25.7	-0.9
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK31	Makanchi Array	65.58	331	P	P	23 02 28.8	-1.1
MK31				IAmb	IAmb	23 02 30.1	
	comp=Z,4.2nm,0.8s						
MKAR	Makanchi Array	65.58	331	P	P	23 02 27.8	-2.2
MKAR	Makanchi Array	65.58	331	P	P	23 02 28.8	-1.2
	comp=Z,4.8nm,0.8s,baz=134,slow=7.7,SNR=59						
	comp=Z,4.8nm,0.8s						
MAKZ	Makanchi	65.74	330	P	P	23 02 29.5	-1.5
BOOM	Boomskoye usch	66.16	324	P	P	23 02 32.9	-1.1
BOOM				IAmb	IAmb	23 02 34.1	
	comp=Z,9.6nm,1.0s						
KBL	Kabul	66.32	313		P	23 02 33.7	-1.5
KBL				IAmb	IAmb	23 02 44.6	
	comp=Z,7.3nm,1.5s						
KBK	Karagaybulak	66.84	323	P	P	23 02 37.9	-0.5
	SNR=6.1						
DRK	Karamyk	66.97	319	P	P	23 02 37.5	-1.9
DRK				IAmb	IAmb	23 02 39.4	
	comp=Z,5.7nm,0.8s						
AAK	Ala-Archa	67.10	323	P	P	23 02 38.7	-1.2
AAK				IAmb	IAmb	23 02 40.2	
	comp=Z,6.7nm,0.9s						
AAK	Ala-Archa	67.10	323	LR	LR	23 37 49.5	
	comp=Z,43nm,18.8s,baz=7.5,slow=41						
AAK	Ala-Archa	67.10	323	P	P	23 02 39.1	-0.9
	SNR=9.3						
ARSB	Arslanbob	67.25	321	P	P	23 02 40.0	-1.0
AML	Almayashu	67.28	322	P	P	23 02 40.8	-0.6
	SNR=11						
USP	Ospenovka	67.47	324	P	P	23 02 41.3	-0.8
	SNR=7.0						
EKS2	Erkin-Say	67.54	323	P	P	23 02 42.4	-0.4
	SNR=7.1						
GAR	Garm	67.69	318	P	P	23 02 42.2	-1.5
BTK	Batken	67.92	319	P	P	23 02 43.8	-1.3
BTK				IAmb	IAmb	23 02 45.8	
	comp=Z,5.4nm,1.1s						
CHGR	Chuyangaron	68.28	317	P	P	23 02 46.0	-1.5
SIMJ	Simiganj	68.39	317	P	P	23 02 46.2	-1.9
SIMJ				IAmb	IAmb	23 02 47.3	
	comp=Z,12nm,1.3s						
ZAA0	Zalesovo Array	69.73	337	P	P	23 02 54.1	-1.9
ZAA0				IAmb	IAmb	23 02 55.4	
	comp=Z,7.5nm,1.1s						
ZALV	Zalesovo Beam	69.73	337		P	23 02 53.2	-2.7
ZALV	Zalesovo Beam	69.73	337	P	P	23 02 53.1	-2.9
	comp=Z,5.1nm,0.9s,baz=144,slow=5.3,SNR=17						
	comp=Z,5.1nm,0.9s						
KKAR	Karatay Array	69.77	322	P	P	23 02 54.6	-1.8
KURBB	Kurchatov Arra	70.03	332	P	P	23 02 56.1	-1.8
	comp=Z,1.9nm,0.8s,baz=141,slow=5.3,SNR=11						
	comp=Z,1.9nm,0.8s						
KURK	Kurchatov	70.05	332	P	P	23 02 56.7	-1.3
KURK				IAmb	IAmb	23 03 01.6	
	comp=Z,5.6nm,0.9s						
MA2	Magadan	71.08	15		P	23 03 03.2	-0.9
H04N2	CROZET ISLANDS	71.12	224	T	T	00 20 43.3	
	baz=83,slow=75,SNR=8.2						
H04N3	CROZET ISLANDS	71.14	224	T	T	00 20 28.8	
	baz=83,slow=75,SNR=6.9						
H04N1	CROZET ISLANDS	71.14	224	T	T	00 20 30.3	
	baz=83,slow=75,SNR=6.9						
BVAR	Borovoye Array	75.46	330	P	P	23 03 28.4	-1.7
	comp=Z,1.6nm,0.8s,baz=162,slow=7.0,SNR=7.5						
	comp=Z,1.6nm,0.8s						
BRVK	Borovoye	75.53	330	P	P	23 03 28.9	-1.6
TIXI	Tiksi	79.74	2	P	P	23 03 52.9	-0.7
TIXI				IAmb	IAmb	23 03 53.3	
	comp=Z,8.0nm,1.0s						
SYO	Syowa Base	80.06	201	↓iP	P	23 03 56.0	+0.5
SYO	Syowa Base	80.06	201	↓ePcP	P	23 04 01.2	+5.7
ELIB	Princess Elisa	85.27	198	dP	P	23 04 23.6	+0.8
	comp=Z,4.8nm,1.2s						
KBZ	Khabaz	88.47	314	P	P	23 04 37.6	-1.1
	comp=Z,1.1nm,0.8s,baz=69,slow=2.6,SNR=3.8						
	comp=Z,1.1nm,0.8s						
BOSA	Boshof	92.84	241	P	P	23 04 58.7	-1.0
	comp=Z,2.6nm,0.9s,baz=86,slow=5.6,SNR=4.6						
	comp=Z,2.6nm,0.9s						
KDAK	Kodiak Island	93.89	32	LR	LR	23 42 35.9	
	comp=Z,71nm,20.4s,baz=50,slow=33						
CPUP	Villa Florida	145.72	180	PKPbc	PKPdf	23 11 25.3	-0.3
	comp=Z,6.6nm,0.9s,baz=171,slow=2.3,SNR=13						
LPAZ	La Paz	153.34	156	PKPbc	PKiKP	23 11 47.0	+0.6
	comp=Z,1.6nm,0.7s,baz=270,slow=2.0,SNR=2.8						

WEL 03 22:53:22.9±1.4, 32°S±5°×17°7W±2°0, h33km, M4.4/6, mB5.0/6, ML5.4/7, Mw(mB)4.4/6, Error ellipse: s-maj=26.6km s-min=5.1km az=99.9, confirmed
IDC 03 22:53:24.8±0.6, 31°.86S×178°.05W, h0km, mb4.5/13, mbtmp4.5/15, ML4.7/2, MS4.2/31, Error ellipse: s-maj=21.9km s-min=20.3km az=167.0
NEIC 03 22:53:27.9±1.4, 31°.85±0°.1×178°.0W±0°.2, h10km±1km, mb4.9/32, Error ellipse: s-maj=25.5km s-min=19.6km az=108.0
GCMT 03 22:53:29.9±0.4, 31°.87S±0°.03×177°.56W±0°.03, h21km±1km, MW4.9/69, Moment Tensor Solution. s28,c34; s69,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.19±.17; Mθθ-0.17±.11; Mφφ-2.02±.11; Mrθ0.11±.20; Mθφ-0.62±.06; Mφr1.89±.18; Best double couple: M0=2.90300×10^16 NP1:φs206.00000°, δ26.00000°, λ106.00000°. NP2: φs8.00000°, δ65.00000°, λ83.00000°. Principal axes: T 2.9190, Plg69.0000°, Azm264.0000°; N -0.0310, Plg7.0000°, Azm11.0000°; P -2.8870, Plg20.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 03 22:53:26.0±0.4, 31°.94S±0°.05×178°.00W±0°.08, h10km, n142, σ1§68/119, mb4.8/30, MS4.2/29, 2C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.67	2	P	Pn	22 54 07.1	-2.0
GLKZ				S	Sn	22 54 38.9	-2.7
MXZ	Matakaoa Point	6.38	207	P	Pn	22 54 56.1	-3.8
MXZ				S	Sn	22 56 09.9	-2.9
HAZ	Te Kaha	6.75	210	P	Pn	22 55 03.8	-1.4
PUZ	Puketiti	6.84	206	P	Pn	22 55 04.3	-2.1
PUZ				S	Sn	22 56 20.8	-3.6
RUGZ	Raukumara Rang	6.97	209	P	Pn	22 55 05.7	-2.7
TWGZ	Tauwhareparae	7.04	207	P	Pn	22 55 07.6	-1.6
TWGZ				S	Sn	22 56 27.3	-1.9
WHRZ	Whale Island	7.20	214	S	Sn	22 56 32.0	-1.1
TKGZ	Te Karaka	7.32	207	S	Sn	22 56 31.9	-4.1
MWZ	Matawai	7.35	209	P	Pn	22 55 10.7	-2.8
MWZ				S	Sn	22 56 34.4	-2.6
URZ	Urewera	7.46	211	Pn	Pn	22 55 12.5	-2.4
	1.8nm,0.3s,baz=345,slow=3.7,SNR=11						
URZ				Sn	Sn	22 56 35.9	-3.8
	15nm,0.3s,baz=192,slow=1.7,SNR=19						
URZ	Urewera	7.46	211	P	Pn	22 55 12.5	-2.4
WCZ	Waipu Caves	7.50	236	S	Pn	22 55 20.4	+4.9
RAGZ	Rawiri	7.54	209	S	Sn	22 56 38.8	-2.7
OUZ	Omahuta	7.73	243	P	Pn	22 55 24.3	+5.7
MUGZ	Murupara	7.79	212	S	Sn	22 56 44.6	-3.3
SNGZ	Shannon Statio	7.81	208	P	Pn	22 55 19.1	-0.6
SNGZ				S	Sn	22 56 44.8	-3.4
RTZ	Ruatahuna	7.82	210		Pn	22 55 22.8	+2.9
RTZ	Ruatahuna	7.82	210	P	Pn	22 55 16.5	-3.4
TOZ	Tahuroa Road	7.86	221		Pn	22 55 23.9	+3.5
BKZ	Black Stump Fm	8.49	210		Pn	22 55 27.8	-1.2
BKZ	Black Stump Fm	8.49	210	P	Pn	22 55 28.2	-0.8
BFZ	Birch Farm	9.88	206	Pn	Pn	22 55 45.1	-2.9
MRZ	Mangatainoka R	10.12	209	P	Pn	22 55 46.0	-5.4
TUWZ	Tuamarina	11.46	212	Pn	Pn	22 56 13.1	+3.4
NNZ	Nelson	11.55	214	Pn	Pn	22 56 14.2	+3.2
MRNZ	Matariki Terra	11.99	216	Pn	Pn	22 56 19.3	+2.2
RPZ	Rata Peaks	14.57	213	Pn	Pn	22 56 51.2	-1.1
	1.2nm,0.3s,baz=53,slow=15,SNR=2.3						
RPZ				Sn	Sn	22 59 16.0	-18
	1.7nm,0.3s,baz=150,slow=17,SNR=7.1						
	3.4nm,0.3s						
MSVF	Nonsavu	14.59	345	Pn	Pn	22 56 53.0	+0.2
	0.2nm,0.3s,baz=157,slow=7.5,SNR=5.9						
MSVF				LR	LR	23 01 37.6	
	comp=Z,1μm,18.0s,baz=165,slow=34						
	13nm,0.9s						
ODZ	Otahua Downs	15.79	211	Pn	Pn	22 57 06.1	-2.3
DZM	Mont Dzumac	16.98	302	eP	P	22 57 27.2	+1.5
	97nm,1.4s						
DZM				eLR	LR	23 01 20.8	
	2μm,23.2s						
DZM	Mont Dzumac	16.98	302	LR	LR	23 02 57.5	
	comp=Z,3μm,18.4s,baz=107,slow=34						
RAR	Rarotonga	19.46	61	LR	LR	23 05 49.7	
	comp=Z,45nm,19.2s,baz=264,slow=38						
TBI	Tubuai	26.63	78	eP	P	22 58 51.9	-13
	385nm,36.2s						
TBI				eS	S	23 03 37.0	-2.9
	3μm,24.8s						
TBI				eLR	LR	23 05 41.8	
	2μm,28.2s						
PPT2	Papeete2	29.39	68	eP	P	22 59 26.8	-2.9
	28nm,22.8s						
PPT2				eS	S	23 04 19.3	-4.3
	61nm,26.2s						
PPT2				eLR	LR	23 06 57.1	
	275nm,25.8s						
PPT2				eLR	LR	23 07 02.9	
	398nm,24.8s						
HNR	Honiara	30.32	313	LR	LR	23 10 31.2	
	comp=Z,542nm,19.2s,baz=162,slow=34						
STKA	Stephens Creek	34.16	259	P	P	23 00 11.9	+0.5
	4.9nm,1.0s,baz=96,slow=10,SNR=3.4						
STKA				LR	LR	23 13 22.9	
	comp=Z,694nm,18.4s,baz=77,slow=35						
	4.9nm,1.0s						
PMG	Port Moresby	39.28	297	LR	LR	23 15 37.4	
	comp=Z,264nm,18.3s,baz=130,slow=34						
TAOE	Nuku Hiva Isla	41.94	65	eS	S	23 07 37.3	+1.4
	150nm,28.4s						
TAOE				eLR	LR	23 12 42.6	
	180nm,24.4s						
ASAR	Alice Springs	43.05	269	P	P	23 01 26.2	0.0
	6.2nm,0.8s,baz=117,slow=7.9,SNR=10						
ASAR				LR	LR	23 19 08.1	
	comp=Z,348nm,18.8s,baz=102,slow=36						
	6.2nm,0.8s						
WRA	Warramunga Arr	44.17	274

JNU	Nakatsue	80.71	319	P		P	23 05 40.3 +0.9
JNU	Nakatsue	80.71	319	LR		LR	23 36 38.4
comp=Z,75nm,20.7s,baz=148,slow=32							
PLCA	Paso Flores	81.46	133	P		P	23 05 46.3 +2.7
PLCA	Paso Flores	81.46	133	P		P	23 05 44.1 +0.5
comp=Z,5.6nm,1.0s,baz=236,slow=8.7,SNR=6.5							
PLCA				LR		LR	23 35 51.3
comp=Z,209nm,18.2s,baz=210,slow=31							
comp=Z,5.6nm,1.0s							
BI02	San Fabin de	83.32	129	P		P	23 05 54.0 +0.6
LPIG	La Paz	85.35	58	LR		LR	23 37 31.0
comp=Z,154nm,18.8s,baz=222,slow=31							
KSRS	Korea Array	85.52	320	P		P	23 06 04.3 +0.2
comp=Z,0.5nm,0.3s,baz=149,slow=2.8,SNR=2.1							
comp=Z,0.5nm,0.3s							
PSI	Prapat	85.59	276	LR		LR	23 48 23.3
comp=Z,295nm,18.3s,baz=136,slow=39							
PFO	Pinyon Flats O	87.25	47	LR		LR	23 43 26.4
comp=Z,166nm,18.0s,baz=225,slow=34							
PEA0B	Petropavlovsk-	87.30	346	P		P	23 06 12.8 +0.2
PETK	Petropavlovsk-	87.30	346	P		P	23 06 12.8 +0.3
PETK	Petropavlovsk-	87.30	346	P		P	23 06 12.1 -0.4
comp=Z,5.5nm,0.8s,baz=172,slow=5.2,SNR=4.7							
comp=Z,5.5nm,0.8s							
ISA	Isabella, Lake	87.39	45			P	23 06 14.8 +1.3
ISA				IAmb		IAmb	23 06 16.2
comp=Z,6.9nm,1.1s							
CMB	Columbia Colle	87.91	42			P	23 06 15.6 -0.3
CMB				IAmb		IAmb	23 06 17.9
comp=Z,10nm,1.4s							
USRK	Ussuriysk Ar.	88.44	327	P		P	23 06 20.5 +2.3
USRK	Ussuriysk Ar.	88.44	327	P		P	23 06 18.5 +0.3
comp=Z,3.4nm,0.9s,baz=174,slow=3.6,SNR=6.8							
comp=Z,3.4nm,0.9s							
WAKR	Walker	88.77	42	P		P	23 06 21.0 +0.8
GWY	Greenwater Val	88.83	45	P		P	23 06 20.5 0.0
GWY				IAmb		IAmb	23 06 26.7
comp=Z,11nm,1.5s							
LHV	Little Huntoon	89.13	43	P		P	23 06 23.3 +1.8
LHV				IAmb		IAmb	23 06 28.3
comp=Z,8.8nm,1.1s							
GMN	Gold Mountain	89.22	44	P		P	23 06 23.2 +0.8
YBH	Yreka Blue Hor	89.25	38	LR		LR	23 41 04.8
comp=Z,82nm,18.4s,baz=190,slow=32							
WCT	Wildcat Mounta	89.26	45	P		P	23 06 24.0 +1.6
NVAR	Mina Array Bea	89.37	43	P		P	23 06 23.8 +0.8
NVAR	Mina Array Bea	89.37	43	P		P	23 06 23.5 +0.5
comp=Z,2.7nm,0.9s,baz=211,slow=8.6,SNR=10.0							
NVAR				LR		LR	23 42 11.0
comp=Z,199nm,18.6s,baz=236,slow=33							
comp=Z,2.7nm,0.9s							
TPNV	Topopah Spring	89.59	45	P		P	23 06 24.9 +0.9
TPNV				IAmb		IAmb	23 06 36.5
comp=Z,5.4nm,1.1s							
V12A	Nelson	89.64	47			P	23 06 25.9 +1.8
Y14A	Wickenburg	89.65	49	P		P	23 06 25.3 +1.1
Y14A				IAmb		IAmb	23 06 26.9
comp=Z,7.1nm,1.1s							
W13A	Hualapai Mount	89.83	48	P		P	23 06 26.4 +1.2
W13A				IAmb		IAmb	23 06 28.1
comp=Z,6.3nm,1.1s							
SHPR	Sheep Range	89.95	46			P	23 06 26.9 +1.2
TUC	Tucson	90.08	51			P	23 06 27.6 +1.3
TUC				IAmb		IAmb	23 06 29.5
comp=Z,6.4nm,1.2s							
PRN	Pahroc Range	90.61	45	P		P	23 06 29.8 +1.1
PRN				IAmb		IAmb	23 06 32.3
comp=Z,9.8nm,1.3s							
X16A	Lo Mia Camp, P	90.95	49			P	23 06 31.5 +1.1
X16A				IAmb		IAmb	23 06 33.5
comp=Z,7.9nm,1.2s							
U15A	North Rim	91.68	47			P	23 06 35.4 +1.5
U15A				IAmb		IAmb	23 06 41.4
comp=Z,5.3nm,1.1s							
KNB	Kanab	91.72	47			P	23 06 35.5 +1.5
MTPU	Mount Pierson	92.76	46	P		P	23 06 40.3 +1.3
MTPU				IAmb		IAmb	23 06 55.6
comp=Z,7.4nm,1.4s							
TXAR	Lajitas Array	93.22	57	P		P	23 06 40.8 -0.1
comp=Z,1.0nm,1.0s,baz=208,slow=6.9,SNR=6.8							
TXAR				LR		LR	23 41 58.9
comp=Z,38nm,19.5s,baz=237,slow=31							
comp=Z,1.0nm,1.0s							
CMIG	Matias Romero	93.23	72	LR		LR	23 41 55.8
comp=Z,40nm,18.4s,baz=178,slow=31							
G08A	Pilot Rock	93.68	37	P		P	23 06 43.4 +0.7
CMAR	Chiang Mai Arr	93.91	289	LR		LR	23 51 58.8
comp=Z,36nm,18.8s,baz=115,slow=37							
ATAH	Atahualpa	94.35	101	LR		LR	23 41 52.4
comp=Z,52nm,18.9s,baz=248,slow=31							
ANMO	Albuquerque	94.54	51	LR		LR	23 42 09.4
comp=Z,77nm,19.7s,baz=66,slow=31							
PLID	Pearl Lake	95.10	39			P	23 06 50.1 +0.7
PLID				IAmb		IAmb	23 06 51.6
comp=Z,6.1nm,1.3s							
NEW	Newport	96.62	36	LR		LR	23 43 55.4
comp=Z,169nm,19.8s,baz=218,slow=31							
PDAR	Pinedale Array	97.25	44	P		P	23 06 59.9 +0.7
comp=Z,0.5nm,0.9s,baz=259,slow=4.1,SNR=3.8							
PDAR				LR		LR	23 46 46.1
comp=Z,83nm,18.2s,baz=260,slow=33							
comp=Z,0.5nm,0.9s							
LPAZ	La Paz	97.51	114	LR		LR	23 44 24.9
comp=Z,51nm,18.8s,baz=222,slow=31							
CPUP	Villa Florida	99.03	129	LR		LR	23 48 48.7
comp=Z,78nm,18.1s,baz=198,slow=34							
MKAR	Makanchi Array	118.75	309	PKP		PKPdf	23 12 12.9 -1.3
comp=Z,0.4nm,0.7s,baz=214,slow=0.9,SNR=6.5							
KURBB	Kurchatov Arra	122.14	313	PKP		PKPdf	23 12 19.9 -0.6
comp=Z,1.1nm,0.5s,baz=115,slow=1.9,SNR=22							
BVAR	Borovoye Array	127.50	315	PKP		PKPdf	23 12 30.9 +0.2
comp=Z,1.0nm,0.5s,baz=90,slow=1.8,SNR=6.4							
ARCES	ARCESS Array B	140.09	347	PKhKP		PKPpre	23 12 49.1
comp=Z,3.0nm,0.8s,baz=30,slow=4.3,SNR=1.9							
KBZ	Khabaz	145.95	302	PKPbc		PKPbc	23 13 05.2 -0.4
comp=Z,13nm,1.1s,baz=22,slow=1.2,SNR=12							
FINES	FINESS Array B	146.59	339	PKPbc		PKPbc	23 13 07.0 -0.1
comp=Z,8.1nm,0.6s,baz=53,slow=3.6,SNR=42							
NB2	NORSAR Subarra	150.27	351	PKP		PKPbc	23 13 16.9 +0.2
comp=Z,0.4nm,0.5s,baz=17,slow=2.6							
NOA	NORSAR Array B	150.27	351	PKPbc		PKPbc	23 13 16.5 -0.3
comp=Z,2.3nm,0.8s,baz=15,slow=4.2,SNR=7.5							
HFS	Hagfors	150.75	348	PKPbc		PKPbc	23 13 17.6 -0.3
comp=Z,5.6nm,0.8s,baz=72,slow=4.8,SNR=8.1							
MMAI	Mount Meron Ar	151.86	281	PKPbc		PKiKP	23 13 22.7 +0.9
comp=Z,3.4nm,0.5s,baz=87,slow=7.1,SNR=8.4							
AKASG	Malin Array Be	152.51	321	PKPbc		PKPbc	23 13 22.1 -0.1
comp=Z,1.0nm,0.6s,baz=58,slow=1.9,SNR=12							
BRTR	Keskin Array B	153.30	296	PKPbc		PKiKP	23 13 24.6 0.0
comp=Z,0.9nm,0.5s,baz=145,slow=4.1,SNR=14							
MORC	Moravsky Berou	158.73	331	*e*PKP		PKPab	23 14 00.8 +1.6
DPC	Dobruska-Polom	158.75	334	*e*PKPAB		PKPab	23 14 00.5 +1.2
CLL	Collm	159.02	340	*i* PKPab		PKPab	23 14 00.4 +0.1
comp=Z,8.0nm,1.0s							
BRG	Berggiesshubel	159.12	338	*e*PKP		PKPab	23 14 01.3 +0.5
BRG				Amp			23 14 02.9
comp=Z,27nm,1.6s							
VYHS	Vyhne	159.13	327	*e*PKP		PKPab	23 14 01.2 +0.2
JAVC	Velka Javorina	159.38	330	*e*PKP		PKPab	23 14 03.2 +1.1
VRAC	Vranov	159.48	332	*e*PKP		PKPab	23 14 02.5 0.0
KRUC	Moravsky	159.76	332	*e*PKP		PKPab	23 14 03.9 +0.3
MODS	Modra-Piesok	159.92	329	*e*PKP		PKPab	23 14 04.8 +0.4
ZVC	Zvikov	160.27	336	*e*PKPAB		PKPab	23 14 06.5 +0.6
KHC	Kasperske Hory	160.75	336	*e*PKPAB		PKPab	23 14 07.8 -0.2
RONA	Rosalia, Austr	160.86	329	*e*PKP		PKPab	23 14 09.3 +0.8
comp=Z,5.5nm,1.2s							
CONA	Conrad Observa	160.87	331	*i* PKP		PKPab	23 14 09.5 +0.8
comp=Z,3.9nm,0.8s							
BIOA	Bad Ischl, Aus	161.94	334	*i* PKP		PKPab	23 14 13.9 +0.7
comp=Z,12nm,1.4s							
LESA	Schwarzleotal	162.52	335	*e*PKP		PKPab	23 14 15.5 -0.4
comp=Z,14nm,1.7s							
WATA	Walderalm	162.97	337	*e*PKP		PKPab	23 14 18.4 +0.5
comp=Z,9.2nm,1.7s							
RETA	Reutte	163.09	339	*e*PKP		PKPab	23 14 18.2 -0.1
comp=Z,6.6nm,1.3s							
MOTA	Moosalm	163.12	338	*e*PKP		PKPab	23 14 18.3 -0.3
comp=Z,10nm,1.2s							
ABTA	Abfaltersbach	163.15	334	*e*PKP		PKPab	23 14 18.1 -0.5
comp=Z,7.7nm,1.4s							
SQTA	Sankt Quirin	163.19	338	*e*PKP		PKPab	23 14 17.9 -0.9
comp=Z,6.5nm,1.1s							
FETA	Feichten	163.52	339	*e*PKP		PKPab	23 14 20.4 0.0
comp=Z,6.9nm,1.4s							
DAVA	Damuels	163.53	341	*e*PKP		PKPab	23 14 19.4 -1.0
comp=Z,8.6nm,1.3s							

DJA ***03*** *23:09:52.0±1.1, 8°S±8°×12°0E±°, h631km±16km, M4.1/12, mB4.7/1, mb4.1/3, MLv4.1/12, Mw(mB)3.9/1*
NEIC ***03*** *23:09:53.5±1.3, 7°4S±0°1×120°1E±0°1, h617km±6km, mb4.0/21, Error ellipse: s-maj=17.7km s-min=12.3km az=48.0*
IDC ***03*** *23:09:53.5±1.2, 7°41S×120°07E, h623km±15km, mb3.3/8, mbtmp4.3/11, Error ellipse: s-maj=45.0km s-min=10.9km az=62.0*
ISC 03 23:09:52.0±0.5,**7°38S**±0°08×**120°17E**±0°07,**h600**km,**n73,** σ1§**63**/77,**mb3.8**/14,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.27	15	P	P	23 11 07.4	+3.4
BKSI	Bulukumba	2.05	359	P	P	23 11 09.4	+2.8
WBSI	Waikabubak, Su	2.37	199	P	P	23 11 09.8	+1.8
KAPI	Kappang	2.39	350	P	P	23 11 11.7	+3.6
KAPI	Kappang	2.39	350	P	P	23 11 12.0	+3.9
56nm,0.5s,baz=181,slow=2.5,SNR=28							
KAPI	Kappang	2.39	350	P	P	23 11 12.3	+4.2
MMRI	Maumere	2.40	121	P	P	23 11 09.4	+1.4
MMRI	Maumere	2.40	121	P	P	23 11 09.6	+1.5
MMRI	Maumere	2.40	121	P	P	23 11 09.5	+1.4
PLAI	Plampang	2.77	239	P	P	23 11 12.4	+2.5
PLAI	Plampang	2.77	239	S	S	23 12 14.5	+1.2
PLAI	Plampang	2.77	239	P	P	23 11 12.1	+2.2
BASI	Baing, Sumba	2.85	172	P	P	23 11 13.4	+3.0
SPSI	Sidrap Palu	3.42	353	P	P	23 11 17.3	+3.5
SOEI	Soe	4.69	120	P	P	23 11 24.7	+2.0
SOEI				S	S	23 12 38.8	+2.1
SOEI	Soe	4.69	120	P	P	23 11 24.0	+1.3
JAGI	Jajag, Banyuwa	6.05	259	P	P	23 11 34.2	+0.5
JAGI				S	S	23 12 54.9	-1.9
JAGI	Jajag, Banyuwa	6.05	259	P	P	23 11 34.1	+0.5
0.3nm16nm,0.9s							
GMJI	Gumukmas	6.72	262	P	P	23 11 41.0	+1.5
BKB	Balikpapan	6.90	332	P	P	23 11 43.2	+2.0
NLAI	Namlea	8.04	60	P	P	23 11 54.5	+2.7
TOLI2	Tolitoli	8.46	4	P	P	23 11 57.8	+2.0
UGM	Wanagama	9.57	266	P	P	23 12 07.8	+1.1
DRS	Darwin Rock St	11.70	116	P	P	23 12 29.2	+1.4
43nm,0.6s							
KNRA	Kununurra	11.78	135	P	P	23 12 29.6	+1.0
FITZ	Fitzroy Crossi	11.91	154	P	P	23 12 31.1	+1.1
FITZ	Fitzroy Crossi	11.91	154	P	P	23 12 30.9	+1.1
6.2nm,0.7s,baz=338,slow=9.1,SNR=27							
MTN	Manton Dam	12.08	118	P	P	23 12 32.1	+0.4
MTN	Manton Dam	12.08	118	P	P	23 12 32.5	+0.8
BBJI	Bungbulang	12.41	269	P	P	23 12 36.1	+1.0
SBUM	Sibu	12.58	321	P	P	23 12 38.3	+1.6
FAKI	Fak Fak	12.82	70	P	P	23 12 38.1	-1.1
KSM	Kuching	13.20	311	P	P	23 12 45.1	+2.1
KDU	Kakadu	13.21	114	P	P	23 12 43.1	0.0
KKM	Kota Kinabalu	13.91	343	P	P	23 12 50.4	+0.1
WB0	Warramunga Arr	18.50	133	P	P	23 13 33.2	+1.0
WB0				IAmb	IAmb	23 13 35.7	
comp=Z,4.9nm,0.5s							
WRA	Warramunga Arr	18.57	134	P	P	23 13 33.5	+0.5
WRA	Warramunga Arr	18.57	134	P	P	23 13 33.6	+0.7
comp=Z,3.1nm,0.4s,baz=308,slow=11,SNR=64							
WRAB	Tennant Creek	18.57	134	P	P	23 13 34.0	+1.0
WRAB				IAmb	IAmb	23 13 35.0	
comp=Z,4.7nm,0.7s							
WB2	Warramunga Arr	18.58	134	P	P	23 13 33.8	+0.8
WB2				IAmb	IAmb	23 13 35.0	
comp=Z,5.1nm,0.7s							
WR0	Warramunga Arr	18.72	133	P	P	23 13 35.2	+0.9
WR0				IAmb	IAmb	23 13 36.0	
comp=Z,8.3nm,0.7s							
AS31	Alice Springs	20.88	142	P	P	23 13 54.7	+0.9
ASAR	Alice Springs	20.88	142	P	P	23 13 54.8	+1.0
ASAR	Alice Springs	20.88	142	P	P	23 13 54.5	+0.7
comp=Z,2.5nm,0.3s,baz=321,slow=8.5,SNR=44							
ASAR				PcP	PcP	23 17 34.6	-0.8
comp=Z,0.4nm,0.4s,baz=327,slow=1.8,SNR=4.2							
ASAR				ScP	ScP	23 20 13.2	-3.2
comp=Z,0.2nm,0.4s,baz=342,slow=1.4,SNR=4.2							
comp=Z,2.5nm,0.3s							
COEN	Coen	23.52	108	P	P	23 14 17.7	+0.3
COEN				IAmb	IAmb	23 14 32.8	
comp=Z,18nm,1.2s							
FORT	Forrest	24.42	163	P	P	23 14 26.0	+0.9
BBOO	Buckleboo	29.29	152	P	P	23 15 08.3	+0.6
STKA	Stephens Creek	31.51	144	P	P	23 15 27.6	+1.0
STKA	Stephens Creek	31.51	144	P	P	23 15 27.8	+1.0
comp=Z,4.9nm,0.3s,baz=318,slow=10.0,SNR=14							
comp=Z,4.9nm,0.3s							
USRK	Ussuriysk Ar.	52.44	11	P	P	23 18 09.4	-0.7
comp=Z,1.3nm,0.6s,baz=188,slow=7.8,SNR=2.9							
comp=Z,1.3nm,0.6s							
SONM	Songino Array	56.31	349	P	P	23 18 37.3	+0.1
SONM	Songino Array	56.31	349	P	P	23 18 37.3	+0.1
comp=Z,1.5nm,0.6s,baz=166,slow=9.1,SNR=14							
comp=Z,1.5nm,0.6s							
ODZ	Otahua Downs	57.49	140	P	P	23 18 43.3	-1.9
ODZ				IAmb	IAmb	23 19 09.8	
comp=Z,18nm,1.3s							
RER	Riviere de l'E	63.54	250	P	P	23 19 24.7	-0.8
MK31	Makanchi Array	63.57	332	P	P	23 19 25.1	+0.1
MKAR	Makanchi Array	63.57	332	P	P	23 19 25.0	-0.1
MKAR	Makanchi Array	63.57	332	P	P	23 19 25.1	+0.1
comp=Z,1.9nm,0.5s,baz=146,slow=6.7,SNR=60							
comp=Z,1.9nm,0.5s							
MAKZ	Makanchi	63.73	332	P	P	23 19 25.9	-0.2
BOOM	Boomskoye usch	63.91	325	P	P	23 19 27.4	-0.2
BOOM				IAmb	IAmb	23 19 41.9	
comp=Z,3.7nm,1.1s							
MSEY	Mahe Island	64.34	268	P	P	23 19 29.6	-1.1
AAK	Ala-Archa	64.83	324	P	P	23 19 33.3	0.0
ARSB	Arslanbob	64.93	322	P	P	23 19 33.9	-0.1
ARSB				IAmb	IAmb	23 19 34.7	
comp=Z,2.3nm,0.7s							
GAR	Garm	65.27	319	P	P	23 19 35.5	-0.6
GAR				IAmb	IAmb	23 19 36.0	
comp=Z,3.5nm,1.1s							
ZAA0	Zalesovo Array	67.96	338	P	P	23 19 51.0	-1.1
ZAA0				IAmb	IAmb	23 19 51.5	
comp=Z,2.2nm,0.8s							
ZALV	Zalesovo Beam	67.96	338	P	P	23 19 51.1	-1.0
ZALV	Zalesovo Beam	67.96	338	P	P	23 19 50.9	-1.2
comp=Z,2.3nm,0.3s,baz=140,slow=5.2,SNR=14							
comp=Z,2.3nm,0.3s							
KURBB	Kurchatov Arra	68.05	333	P	P	23 19 52.2	-0.6
comp=Z,0.7nm,0.4s,baz=139,slow=5.6,SNR=12							
comp=Z,0.7nm,0.4s							
KURK	Kurchatov	68.08	333	P	P	23 19 52.5	-0.4
KURK				IAmb	IAmb	23 19 53.6	
comp=Z,2.9nm,1.0s							
PETK	Petropavlovsk-	68.14	23	P	P	23 19 53.4	+0.2
PETK	Petropavlovsk-	68.14	23	P	P	23 19 53.8	+0.6
comp=Z,5.5nm,1.0s,baz=140,slow=6.0,SNR=5.2							
comp=Z,5.5nm,1.0s							
ABKAR	Akbulak array	76.92	324	P	P	23 20 42.6	-1.1
OLIL	Olney	139.71	35	PKPdf	PKPdf	23 28 12.3	-0.7
CGM3	Cape Girardeau	139.75	38	PKPdf	PKPdf	23 28 10.0	-3.1

IDC ***03*** *23:40:29.7±1.1, 9°73S×154°72E, h0km, mb4.1/10, mbtmp4.1/11, ML1.7/1, MS3.6/31, Error ellipse: s-maj=33.0km s-min=19.8km az=105.0*
ISC 03 23:40:36.1±0.6,**9°7S**±0°1×**154°62E**±0°07,**h35**km,**n57,** σ1§**36**/33,**mb4.1**/10,**MS3.5**/28,**D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.26	88	LR	LR	23 43 31.0	
comp=Z,317nm,20.4s,baz=280,slow=35							
ALEG	Aligegeo Malai	6.07	82	P	Pn	23 42 05.5	+2.1
ALEG	Aligegeo Malai	6.07	82	S	Sn	23 43 10.9	-0.7
PMG	Port Moresby	7.36	271	Pn	Pn	23 42 21.5	+0.3
0.8nm,0.3s,baz=77,slow=3.1,SNR=9.3							
PMG				LR	LR	23 45 10.1	
comp=Z,558nm,20.0s,baz=160,slow=38							
6.5nm,0.3s							
EIDS	Eidsvold	15.99	192	P	P	23 44 20.3	-1.4
DZM	Mont Dzumac	16.78	139	LR	LR	23 50 00.4	
comp=Z,679nm,20.3s,baz=296,slow=34							
QIS	Mount Isa	18.09	231	P	P	23 44 45.4	+0.5
QIS	Mount Isa	18.09	231	S	S	23 48 10.2	-0.4
QLP	Quilpie	19.50	209	P	P	23 45 00.7	+0.3
AULRC	Lightning Ridg	20.64	197	P	P	23 45 12.8	+0.1
ARMA	Armidale	20.85	187	P	P	23 45 16.3	+1.1
AUPHS	Peel High Scho	21.63	189	P	P	23 45 23.5	+0.1
KDU	Kakadu	21.93	260	P	P	23 45 31.6	+4.8
WRA	Warramunga Arr	22.09	240	P	P	23 45 26.8	-1.7
4.7nm,0.9s,baz=66,slow=9.2,SNR=12							
4.7nm,0.9s							
INKA	Innaminka	22.25	214	P	P	23 45 29.3	-0.7
AUDCS	Dubbo College	23.15	193	P	P	23 45 38.8	-0.7
CMSA	Cobar Meteorol	23.31	200	P	P	23 45 39.8	-1.2
MSVF	Nonsavu	24.12	112	LR	LR	23 53 17.3	
comp=Z,206nm,21.0s,baz=325,slow=32							
AS01	Alice Springs	24.16	232	P	P	23 45 49.0	-0.3
ASAR	Alice Springs	24.20	232	P	P	23 45 48.2	-1.5
3.6nm,0.9s,baz=62,slow=9.0,SNR=18							
ASAR				LR	LR	23 54 47.1	
comp=Z,150nm,19.1s,baz=96,slow=35							
3.6nm,0.9s							
WOLH	Wollongong Har	24.88	187	P	P	23 45 54.3	-1.3
GUMO	Guam	25.03	337	LR	LR	23 54 27.8	
comp=Z,71nm,21.8s,baz=137,slow=33							
YNG	Young	25.19	192	P	P	23 45 59.4	+0.9
STKA	Stephens Creek	25.20	207	P	P	23 45 56.5	-2.2
5.1nm,0.6s,baz=359,slow=9.8,SNR=11							
STKA				LR	LR	23 56 02.2	
comp=Z,265nm,18.9s,baz=26,slow=37							
5.1nm,0.6s							
STKA	Stephens Creek	25.20	207	P	P	23 45 57.4	-1.2
OOD	Oodnadatta	25.37	222	P	P	23 46 01.5	+1.3
LCRK	Leigh Creek	25.73	214	P	P	23 46 03.1	-0.3
HTT	Hallett	27.73	209	P	P	23 46 22.6	+1.1
FITZ	Fitzroy Crossi	29.32	250	LR	LR	23 57 33.7	
comp=Z,120nm,21.9s,baz=92,slow=35							
ARPS	Mount Arapiles	29.38	201	P	P	23 46 36.4	+0.3
KAPI	Kappang	34.87	275	LR	LR	00 03 36.8	
comp=Z,62nm,20.0s,baz=182,slow=40							
URZ	Urewera	34.93	148	LR	LR	00 00 08.1	
comp=Z,212nm,18.5s,baz=38,slow=34							
RPZ	Rata Peaks	36.83	160	LR	LR	00 01 43.1	
comp=Z,248nm,19.4s,baz=308,slow=35							
NWAO	Narrogin (SRO)	41.49	230	LR	LR	00 05 06.1	
comp=Z,150nm,18.0s,baz=79,slow=36							
JHJ	Hachijo jima 2	44.82	342	LR	LR	00 04 22.2	
comp=Z,47nm,21.3s,baz=165,slow=32							
JNU	Nakatsue	48.17	333	LR	LR	00 06 25.5	
comp=Z,38nm,21.4s,baz=148,slow=32							
MJAR	Matsushiro Arr	48.47	342	LR	LR	00 07 56.6	
comp=Z,36nm,20.3s,baz=168,slow=34							
KSRS	Korea Array	53.11	333	P	P	23 49 49.6	-0.7
0.9nm,0.5s,baz=147,slow=7.4,SNR=5.1							
KSRS				LR	LR	00 11 14.8	
comp=Z,15nm,20.0s,baz=150,slow=35							
0.9nm,0.5s							
ASAJ	Asahikawa	54.61	349	LR	LR	00 10 44.9	
comp=Z,48nm,21.3s,baz=155,slow=33							
PPT	Papeete	54.65	105	LR	LR	00 10 27.4	
comp=Z,43nm,18.5s,baz=338,slow=33							
CMAR	Chiang Mai Arr	61.62	297	P	P	23 50 50.7	-0.1
0.6nm,0.3s,baz=122,slow=4.7,SNR=8.8							
CMAR				LR	LR	00 19 57.1	
comp=Z,11nm,18.2s,baz=190,slow=38							
0.6nm,0.3s							
KLR	Kul'dur	61.98	343	LR	LR	00 19 17.8	
comp=Z,16nm,18.1s,baz=162,slow=38							
PETK	Petropavlovsk-	62.56	2	LR	LR	00 12 45.3	
comp=Z,52nm,21.9s,baz=151,slow=31							
MA2	Magadan	69.06	358	LR	LR	00 21 32.6	
comp=Z,10nm,18.9s,baz=156,slow=36							
SONM	Songino Array	71.36	328	P	P	23 51 52.7	0.0
3.6nm,1.0s,baz=139,slow=4.9,SNR=13							
3.6nm,1.0s							
YAK	Yakutsk	74.06	348	LR	LR	00 22 35.8	
comp=Z,25nm,21.4s,baz=129,slow=34							
KDAK	Kodiak Island	79.70	26	LR	LR	00 21 55.1	
comp=Z,24nm,19.6s,baz=96,slow=31							
QSPA	South Pole Qui	80.34	180	P	P	23 52 43.0	-0.7
4.1nm,0.9s,baz=5.0,slow=1.0,SNR=5.8							
4.1nm,0.9s							
TIXI	Tiksi	82.91	352	LR	LR	00 26 47.0	
comp=Z,26nm,21.9s,baz=1.5,slow=34							
MKAR	Makanchi Array	85.14	319	P	P	23 53 08.6	-0.2
0.5nm,0.8s,baz=98,slow=8.7,SNR=5.4							
0.5nm,0.8s							
ILAR	Eielson Array	85.96	21	P	P	23 53 11.7	-0.7
0.7nm,0.9s,baz=248,slow=4.6,SNR=6.2							
ILAR				LR	LR	00 26 08.2	
comp=Z,60nm,20.9s

comp=Z,21nm,1.0s
KHZ Kahutara 26.77 203 P **P 00 53 23.4 +2.1**
KHZ IAmb IAmb 00 53 42.4
comp=Z,12nm,1.2s
DSZ Denniston Nort 26.88 206 P **P 00 53 24.6 +2.2**
GVZ Greta Valley S 27.44 203 P **P 00 53 29.7 +2.3**
LTZ Lake Taylor 27.57 204 P **P 00 53 30.4 +1.9**
HNR Honiara 27.71 285 LR LR 01 02 43.8
comp=Z,141nm,19.3s,baz=345,slow=32
INZ Inchbonnie 27.84 205 P **P 00 53 32.7 +1.7**
OXZ Oxford 28.12 204 P **P 00 53 35.2 +1.8**
MQZ McQueen's Vall 28.21 202 P **P 00 53 36.6 +2.4**
RPZ Rata Peaks 28.83 205 P **P 00 53 42.4 +2.7**
FOZ Fox Glacier 29.18 206 P **P 00 53 46.6 +3.7**
ODZ Otahua Downs 30.11 204 P **P 00 53 55.4 +4.3**
ODZ IAmb IAmb 00 54 01.8
comp=Z,13nm,1.0s
WKZ Wanaka 30.57 206 P **P 00 53 58.0 +2.8**
MLZ Mavora Lakes 31.38 206 P **P 00 54 03.5 +1.1**
MLZ IAmb IAmb 00 54 04.6
comp=Z,16nm,1.0s
STKA Stephens Creek 43.11 243 P **P 00 55 41.0 -1.0**
STKA Stephens Creek 43.11 243 P **P 00 55 39.0 -3.0**
comp=Z,3.0nm,0.8s,baz=81,slow=12,SNR=6.9
STKA LR LR 01 10 38.9
comp=Z,64nm,20.2s,baz=201,slow=32
comp=Z,3.0nm,0.8s
BBOO Buckleboo 47.87 242 P **P 00 56 18.9 -0.7**
BBOO IAmb IAmb 00 56 20.2
comp=Z,5.3nm,0.7s
WB0 Warramunga Arr 49.69 259 P **P 00 56 30.9 -2.8**
WB0 IAmb IAmb 00 56 32.0
comp=Z,3.7nm,0.7s
WB2 Warramunga Arr 49.70 259 P **P 00 56 30.5 -3.4**
WB2 IAmb IAmb 00 56 35.0
comp=Z,5.4nm,0.8s
WRAB Tennant Creek 49.70 259 P **P 00 56 31.7 -2.2**
WRAB IAmb IAmb 00 56 37.6
comp=Z,5.5nm,1.1s
WRA Warramunga Arr 49.71 259 P **P 00 56 30.7 -3.3**
WRA Warramunga Arr 49.71 259 P **P 00 56 31.0 -3.0**
comp=Z,2.3nm,0.6s,baz=97,slow=6.4,SNR=34
comp=Z,2.3nm,0.6s
AS31 Alice Springs 49.74 254 P **P 00 56 32.4 -1.8**
AS31 IAmb IAmb 00 56 34.7
comp=Z,5.2nm,0.9s
ASAR Alice Springs 49.74 254 P **P 00 56 31.5 -2.7**
comp=Z,18nm,0.9s,baz=87,slow=8.1,SNR=60
comp=Z,18nm,0.9s
FORT Forrest 54.62 245 P **P 00 57 09.0 -1.3**
KNRA Kununurra 55.65 263 P **P 00 57 16.9 -1.0**
KNRA IAmb IAmb 00 57 17.0
comp=Z,6.9nm,0.8s
FITZ Fitzroy Crossi 58.13 260 P **P 00 57 33.8 -1.7**
MJAR Matsushiro Arr 71.34 320 P **P 00 59 00.4 -0.9**
comp=Z,2.3nm,0.8s,baz=158,slow=5.6,SNR=4.1
comp=Z,2.3nm,0.8s
QSPA South Pole Qui 71.89 180 P **P 00 59 02.8 -1.5**
comp=Z,1.2nm,0.8s,baz=69,slow=5.1,SNR=3.0
comp=Z,1.2nm,0.8s
LPIG La Paz 74.11 58 LR LR 01 25 40.6
comp=Z,31nm,19.1s,baz=49,slow=30
PETK Petropavlovsk- 75.39 342 P **P 00 59 25.8 +1.0**
comp=Z,6.2nm,0.9s,baz=144,slow=6.2,SNR=3.1
comp=Z,6.2nm,0.9s
YBH Yreka Blue Hor 75.53 36 P **P 00 59 26.4 +0.5**
comp=Z,2.9nm,0.9s,baz=177,slow=1.1,SNR=4.8
YBH LR LR 01 26 50.9
comp=Z,30nm,20.4s,baz=216,slow=31
comp=Z,2.9nm,0.9s
GMN Gold Mountain 76.08 43 P **P 00 59 29.1 -0.2**
NVAR Mina Array Bea 76.08 41 P **P 00 59 28.4 -1.0**
NVAR Mina Array Bea 76.08 41 P **P 00 59 29.6 +0.2**
comp=Z,0.8nm,0.7s,baz=232,slow=5.5,SNR=4.7
comp=Z,0.8nm,0.7s
TUC Tucson 77.80 50 P **P 00 59 38.5 -0.5**
TUC IAmb IAmb 00 59 49.2
comp=Z,4.2nm,1.1s
PINE Pine Mountain 77.86 36 P **P 00 59 38.5 -0.7**
PINE IAmb IAmb 00 59 43.2
comp=Z,8.9nm,1.1s
KSM Kuching 77.90 276 P **P 00 59 39.1 -0.8**
X16A Lo Mia Camp, P 78.41 48 P **P 00 59 41.6 -0.8**
KSRS Korea Array 78.45 316 P **P 00 59 43.7 +1.4**
comp=Z,4.2nm,0.8s,baz=129,slow=6.0,SNR=13
KSRS LR LR 01 31 36.6
comp=Z,13nm,18.7s,baz=155,slow=33
comp=Z,4.2nm,0.8s
U15A North Rim 78.88 46 P **P 00 59 45.5 +0.4**
G08A Pilot Rock 79.91 35 P **P 00 59 50.0 -0.3**
G08A IAmb IAmb 00 59 53.8
comp=Z,5.6nm,1.0s
HAWA Hanford 80.29 34 P **P 00 59 51.6 -0.5**
BMO Blue Mountains 80.56 37 P **P 00 59 52.6 -1.2**
D08A Wollman Farm, 81.03 34 P **P 00 59 56.1 0.0**
D08A IAmb IAmb 00 59 58.4
comp=Z,4.4nm,1.0s
E09A Wood Farm, Sta 81.11 35 P **P 00 59 56.3 -0.2**
E09A IAmb IAmb 00 59 58.3
comp=Z,4.3nm,1.1s
TMUT Trail Mountain 81.14 44 P **P 00 59 57.4 +0.1**
TMUT IAmb IAmb 01 00 02.0
comp=Z,3.7nm,1.0s
F10A Beach Ranch, E 81.28 36 P **P 00 59 56.9 -0.7**
F10A IAmb IAmb 01 00 04.2
comp=Z,4.4nm,1.1s
VHRN Van Horn 81.40 54 P **P 00 59 58.2 -0.5**
HLID Hailey 81.48 39 P **P 00 59 58.9 0.0**
SRU San Rafael Swe 81.49 44 P **P 00 59 58.0 -1.0**
B08A Colville Reser 81.64 33 P **P 00 59 58.3 -1.1**
B08A IAmb IAmb 01 00 01.2
comp=Z,3.1nm,0.9s
TX31 Lajitas Ar. Si 81.78 56 P **P 00 59 59.5 -1.1**
TXAR Lajitas Array 81.78 56 P **P 01 00 00.4 -0.2**
TXAR Lajitas Array 81.78 56 P **P 01 00 00.8 +0.1**
comp=Z,1.4nm,1.0s,baz=235,slow=3.9,SNR=4.3
comp=Z,1.4nm,1.0s
TCUT Toone Canyon 81.98 42 P **P 01 00 01.4 -0.2**
TCUT IAmb IAmb 01 00 04.0
comp=Z,6.5nm,1.1s
PV10 Paradox Valley 82.11 45 P **P 01 00 01.9 -0.5**
PV10 IAmb IAmb 01 00 05.4
comp=Z,6.6nm,1.0s
PV13 Radium Mtn., P 82.15 46 P **P 01 00 00.9 -1.7**
PV13 IAmb IAmb 01 00 06.4
comp=Z,4.2nm,1.1s
PV23 Carpenter Ridg 82.17 45 P **P 01 00 00.7 -2.0**
PV23 IAmb IAmb 01 00 06.6
comp=Z,9.2nm,1.0s
NJ2 Nanjing 82.20 307 *e*P **P 01 00 04.9 +2.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
S22A 4UR Ranch, Cre 83.31 47 P **P 01 00 07.9 -0.8**
S22A IAmb IAmb 01 00 10.0
comp=Z,3.9nm,1.1s
BNX BinXian 83.40 323 ⇑P **P 01 00 07.7 -0.9**
BNX pmax pmax
comp=Z,7.0nm,0.9s
PD31 Pinedale Array 84.02 41 P **P 01 00 11.2 -0.9**
PDAR Pinedale Array 84.02 41 P **P 01 00 11.4 -0.7**
comp=Z,0.9nm,0.7s,baz=220,slow=3.6,SNR=12
comp=Z,0.9nm,0.7s
O30N Mendenhall 84.06 17 P **P 01 00 12.1 +0.4**
O30N IAmb IAmb 01 00 25.9
comp=Z,2.4nm,1.0s
MYKOM Kota Tinggi 84.12 274 P **P 01 00 11.2 -1.8**
YHL Hebgen Lake 84.13 39 P **P 01 00 12.8 +0.1**
YHL IAmb IAmb 01 00 23.4
comp=Z,4.0nm,1.1s
BOZ Bozeman (W) 84.27 38 P **P 01 00 12.7 -0.5**
CMIG Matias Romero 84.38 70 LR LR 01 32 05.9
comp=Z,34nm,18.5s,baz=176,slow=31
ILAR Eielson Array 85.06 11 P **P 01 00 17.1 +0.6**
comp=Z,0.6nm,0.8s,baz=206,slow=5.2,SNR=4.8
comp=Z,0.6nm,0.8s
SYO Syowa Base 89.98 191⇑*e*P **P 01 00 39.6 -0.8**
SYO Syowa Base 89.98 191⇓*e*PcP **PcP 01 00 41.9 +0.3**
HHC Hu-ho-hao-te 91.24 313 *e*P **P 01 00 47.8 +1.0**
HHC pmax pmax
comp=Z,9.0nm,0.6s
YKA Yellowknife Ar 92.45 23 P **P 01 00 51.9 +0.1**
comp=Z,0.3nm,0.9s,baz=237,slow=5.3,SNR=4.5
comp=Z,0.3nm,0.9s
CMAR Chiang Mai Arr 93.91 288 P **P 01 00 59.6 0.0**
comp=Z,0.6nm,0.2s,baz=116,slow=2.3,SNR=7.3
CMAR LR LR 01 43 06.7
comp=Z,9.3nm,18.8s,baz=175,slow=35
comp=Z,0.6nm,0.2s
PZH PanZhiHua 93.92 296 P **P 01 01 00.2 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,3.5s
LZH Lanzhou 95.22 306 *e*P **P 01 01 04.2 -1.2**
LZH pP pP 01 01 11.1 -1.4
LZH pmax pmax
comp=Z,19nm,1.3s
SONM Songino Array 97.20 318 P Pdif 01 01 14.5 +0.3
comp=Z,0.2nm,0.4s,baz=84,slow=4.5,SNR=3.8
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 120.33 321 PKP **PKPdf 01 06 31.6 -0.7**
comp=Z,1.5nm,0.7s,baz=108,slow=1.9,SNR=6.8
AKASG Malin Array Be 143.06 336 PKP PKPbc 01 07 13.2 +1.3
comp=Z,0.3nm,0.6s,baz=34,slow=3.4,SNR=4.1
BRTR Keskin Array B 148.56 319 PKPbc **PKPdf 01 07 26.4 +1.4**
comp=Z,2.3nm,0.8s,baz=62,slow=3.0,SNR=15
GERES GERESS Array B 148.94 352 PKPbc **PKPbc 01 07 29.7 +0.4**
comp=Z,0.7nm,0.7s,baz=13,slow=2.6,SNR=4.2
CONA Conrad Observa 149.47 348 *ep*PKP **PKiKP 01 07 33.0 +1.3**
comp=Z,8.0nm,1.4s
RONA Rosalia, Austr 149.60 348 *ep*PKP **PKiKP 01 07 33.7 +1.7**
comp=Z,5.7nm,1.2s
MOA Molln 149.82 350 *e*PKiKP **PKiKP 01 07 32.2 -0.2**
comp=Z,7.2nm,1.6s
BIOA Bad Ischl, Aus 150.07 351 *ep*PKP **PKiKP 01 07 34.6 +1.7**
comp=Z,13nm,2.0s
ARSA Arzberg 150.18 348 *e*PKP **PKPab 01 07 37.4 -0.9**
comp=Z,7.1nm,1.5s
MMAI Mount Meron Ar 150.61 306 PKPbc **PKPbc 01 07 32.9 -0.9**
comp=Z,5.2nm,0.9s,baz=61,slow=6.8,SNR=5.0
RETA Reutte 150.61 355 *i* PKiKP **PKiKP 01 07 35.3 +1.3**
comp=Z,8.2nm,1.3s
KBA Koelnbreinsper 150.71 351 *ep*PKP **PKPab 01 07 42.1 +1.5**
comp=Z,4.4nm,1.1s
WTTA Wattenberg 150.75 354 *i* pPKP **PKiKP 01 07 36.0 +1.5**
comp=Z,7.9nm,1.1s
SOKA Soboth 150.82 349 *ep*PKP **PKiKP 01 07 36.3 +1.7**
comp=Z,2.0nm,0.6s
SQTA Sankt Quirin 150.83 354 *ep*PKP **PKiKP 01 07 36.6 +2.0**
comp=Z,4.0nm,1.2s
FETA Feichten 151.07 355 *e*PKiKP **PKiKP 01 07 35.5 +0.4**
comp=Z,9.0nm,1.5s
ABTA Abfaltersbach 151.15 352 *e*PKiKP **PKiKP 01 07 36.4 +1.2**
comp=Z,7.3nm,1.2s

*NEIC **04** 01:41:46.7±2.8, 21°.4S±0°.2×178°.6W±0°.2, h527km±5km, mb4.3/21, Error ellipse: s-maj=25.6km s-min=16.8km az=139.0*
*IDC **04** 01:41:50.1±1.8, 21°.02S×179°.05W, h556km±15km, mb3.0/6, mbtmp4.1/9, Error ellipse: s-maj=36.8km s-min=15.4km az=153.0*
ISC 04 01:41:50.0±0.7, **21°.4S**±0°.1×**179°.0W**±0°.1, **h550**km, **n76,**
$\sigma_{2\delta}$**19/57, mb4.2/15, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**321**	P	P		01 43 13.7	-2.8
9.8nm,0.6s,baz=268,slow=23,SNR=12								
MSVF				S	**S**		**01 44 24.3**	**-2.6**
9.8nm,1.0s,baz=118,slow=22,SNR=2.2								
AFI	**Afiamalu**	**10.08**	**44**	P	P		01 44 00.3	-8.6
DZM	**Mont Dzumac**	**13.59**	**264**	P	**P**		**01 44 44.7**	**-0.4**
DZM	**Mont Dzumac**	**13.59**	**264**	P	**P**		**01 44 45.2**	**+0.1**
7.6nm,0.7s,baz=105,slow=22,SNR=2.1								
OUZ	**Omahuta**	**15.28**	**204**	P	**P**		**01 45 04.8**	**+2.6**
GRZ	**Great Barrier**	**15.62**	**197**	P	**P**		**01 45 06.5**	**+0.9**
WCZ	**Waipu Caves**	**15.67**	**201**	P	**P**		**01 45 08.2**	**+2.2**
KUZ	**Kuaotunu**	**16.02**	**196**	P	**P**		**01 45 08.9**	**-0.7**
WIAZ	**Waiheke Island**	**16.22**	**197**	P	**P**		**01 45 12.5**	**+1.1**
MXZ	**Matakaoa Point**	**16.32**	**188**	P	**P**		**01 45 11.3**	**-1.1**
MYRZ	**Mayor Island**	**16.41**	**194**	P	**P**		**01 45 13.9**	**+0.7**
MKAZ	**Moumakai**	**16.50**	**197**	P	**P**		**01 45 13.9**	**-0.1**
HAZ	**Te Kaha**	**16.59**	**189**	P	**P**		**01 45 13.6**	**-1.2**
AWAZ	**Awhitu Peninsu**	**16.61**	**198**	P	**P**		**01 45 15.0**	**0.0**
PUZ	**Puketiti**	**16.83**	**188**	P	**P**		**01 45 15.2**	**-1.8**
TWGZ	**Tauwhareparae**	**16.97**	**188**	P	**P**		**01 45 18.8**	**+0.5**
URZ	**Urewera**	**17.18**	**191**	P	**P**		**01 45 17.7**	**-2.5**
6.9nm,0.3s,baz=357,slow=2.0,SNR=18								
URZ				S	**S**		**01 48 09.9**	**-1.7**
2.4nm,0.5s,baz=246,slow=0.7,SNR=3.3								
URZ	**Urewera**	**17.18**	**191**	P	**P**		**01 45 17.7**	**-2.5**
MWZ	**Matawai**	**17.19**	**189**	P	**P**		**01 45 19.3**	**-1.0**
CNGZ	**Carnagh Statio**	**17.25**	**188**	P	**P**		**01 45 20.0**	**-0.7**
RTZ	**Ruatahuna**	**17.55**	**191**	P	**P**		**01 45 21.0**	**-2.6**
RTZ				IAmb	IAmb		01 45 38.1	
comp=Z,11nm,1.0s								
RAR	**Rarotonga**	**17.88**	**93**	P	**P**		**01 45 27.6**	**+0.8**
comp=Z,12nm,0.4s,baz=166,slow=14,SNR=2.1								
BKZ	**Black Stump Fm**	**18.18**	**191**	P	**P**		**01 45 26.3**	**-3.1**
BKZ				IAmb	IAmb		01 45 37.4	
comp=Z,7.6nm,0.7s								
MRZ	**Mangatainoka R**	**19.80**	**192**	P	**P**		**01 45 42.9**	**-1.2**
TCW	**Tory Channel**	**20.61**	**195**	P	**P**		**01 45 51.0**	**-0.4**
QRZ	**Quartz Range**	**20.71**	**199**	P	**P**		**01 45 52.0**	**-0.3**
NNZ	**Nelson**	**20.84**	**196**	P	**P**		**01 45 51.5**	**-1.9**
NNZ	**Nelson**	**20.84**	**196**	P	**P**		**01 45 52.6**	**-0.8**
DSZ	**Denniston Nort**	**21.77**	**199**	P	**P**		**01 46 01.4**	**-0.5**
KHZ	**Kahutara**	**21.93**	**195**	P	**P**		**01 46 01.0**	**-2.1**
FOZ	**Fox Glacier**	**24.01**	**200**	P	**P**		**01 46 19.2**	**-2.5**
FOZ				IAmb	IAmb		01 46 38.4	
comp=Z,20nm,1.2s								
TOO	**Toolangi**	**34.67**	**234**	P	**P**		**01 47 54.6**	**+0.5**
STKA	**Stephens Creek**	**36.61**	**245**	P	**P**		**01 48 11.2**	**+1.1**
comp=Z,0.7nm,0.4s,baz=109,slow=14,SNR=3.4								
comp=Z,0.7nm,0.4s								
ASAR	**Alice Springs**	**43.46**	**258**	P	**P**		**01 49 05.4**	**+0.3**
comp=Z,0.4nm,0.4s,baz=94,slow=8.4,SNR=7.0								
ASAR				PcP	**PcP**		**01 50 40.1**	**-0.8**
comp=Z,0.3nm,0.6s,baz=98,slow=3.9,SNR=1.8								
comp=Z,0.4nm,0.4s								
WB0	**Warramunga Arr**	**43.59**	**263**	P	P		01 49 04.5	-1.6
WRA	**Warramunga Arr**	**43.60**	**263**	P	P		01 49 03.5	-2.8
comp=Z,0.2nm,0.4s,baz=98,slow=7.7,SNR=9.8								
comp=Z,0.2nm,0.4s								
FORT	**Forrest**	**48.14**	**247**	P	**P**		**01 49 39.6**	**-0.8**
FORT				IAmb	IAmb		01 49 44.5	
comp=Z,22nm,1.2s								
FITZ	**Fitzroy Crossi**	**52.03**	**263**	P	**P**		**01 50 09.4**	**+0.2**
KDAK	**Kodiak Island**	**81.86**	**14**	P	P		01 53 09.6	-1.9
L04D	**Klamath Falls**	**82.05**	**39**	P	P		01 53 12.1	-1.0
L04D				IAmb	IAmb		01 53 45.9	
comp=Z,16nm,1.4s								
NVAR	**Mina Array Bea**	**82.26**	**44**	P	P		01 53 13.0	-1.4
NVAR	**Mina Array Bea**	**82.26**	**44**	P	P		01 53 13.2	-1.1
comp=Z,0.8nm,0.6s,baz=222,slow=8.3,SNR=6.8								
comp=Z,0.8nm,0.6s								
O16K	**Kokwok River B**	**82.45**	**11**	P	P		01 53 11.8	-2.7
P18K	**Big Mountain,**	**82.78**	**12**	P	P		01 53 13.8	-2.4
P18K				IAmb	IAmb		01 53 46.3	
comp=Z,11nm,1.4s								
O18K	**Koktuh Hills**	**83.22**	**12**	P	P		01 53 15.8	-2.5
O18K				IAmb	IAmb		01 53 57.5	
comp=Z,18nm,1.4s								
J05D	**Fort Rock, OR**	**83.33**	**38**	P	P		01 53 19.0	-0.5
J05D				IAmb	IAmb		01 53 19.6	
comp=Z,4.4nm,0.6s								
M16K	**Timber Creek**	**83.67**	**10**	P	P		01 53 19.4	-1.1
PINE	**Pine Mountain**	**83.81**	**38**	P	P		01 53 21.3	-0.6
BRLK	**Bradley Lake**	**84.03**	**14**	P	P		01 53 19.9	-2.5
BRLK				IAmb	IAmb		01 53 20.4	
comp=Z,12nm,1.4s								
K15K	**Wolf Creek Mou**	**84.51**	**8**	P	P		01 53 23.9	-0.7
F10A	**Beach Ranch, E**	**87.22**	**38**	P	P		01 53 36.4	-1.7
F10A				IAmb	IAmb		01 53 37.4	
comp=Z,3.0nm,0.8s								
ILAR	**Eielson Array**	**89.34**	**13**	P	P		01 53 45.1	-2.4
comp=Z,0.8nm,0.5s,baz=219,slow=5.1,SNR=19								
comp=Z,0.8nm,0.5s								
M30M	**Minto, Yukon**	**90.06**	**18**	P	P		01 53 49.3	-1.6
M30M					P		01 53 49.6	-1.3
M30M				IAmb	IAmb		01 54 01.8	
comp=Z,3.8nm,1.3s								
PDAR	**Pinedale Array**	**90.20**	**44**	P	P		01 53 50.5	-1.7
comp=Z,0.9nm,0.6s,baz=211,slow=3.0,SNR=14								
comp=Z,0.9nm,0.6s								
MKAR	**Makanchi Array**	**111.13**	**313**	PKiKP	**PKiKP**		**01 59 19.9**	**-1.4**
comp=Z,0.1nm,0.3s,baz=117,slow=0.6,SNR=4.4								
BVAR	**Borovoye Array**	**119.15**	**320**	PKP	**PKPdf**		**01 59 34.9**	**-1.5**
comp=Z,0.8nm,0.4s,baz=90,slow=2.6,SNR=5.0								
BATG	**Bathurst New B**	**120.80**	**47**	PKPdf	**PKPdf**		**01 59 36.7**	**-3.1**
SPITS	**Spitsbergen Ar**	**122.66**	**356**	PKP	**PKPdf**		**01 59 41.0**	**-1.5**
comp=Z,3.8nm,0.8s,baz=36,slow=1.7,SNR=4.4								
GBN	**Guysborough**	**124.03**	**49**	PKPdf	**PKPdf**		**01 59 43.7**	**-2.3**
ARCES	**ARCESS Array B**	**129.59**	**349**	PKP	**PKPdf**		**01 59 54.4**	**-1.5**
comp=Z,1.6nm,0.5s,baz=34,slow=1.9,SNR=11								
FINES	**FINESS Array B**	**136.33**	**343**	PKPdf	**PKPdf**		**02 00 08.6**	**-0.1**
FINES	**FINESS Array B**	**136.33**	**343**	PKP	**PKPdf**		**02 00 06.5**	**-2.3**
comp=Z,3.1nm,0.9s,baz=35,slow=3.4,SNR=6.0								
HFS	**Hagfors**	**140.23**	**350**	PKhKP	PKPpre		02 00 08.6	
comp=Z,0.7nm,0.4s,baz=75,slow=1.6,SNR=10								
AKASG	**Malin Array Be**	**143.31**	**330**	PKhKP	PKPpre		02 00 17.7	
comp=Z,2.1nm,0.5s,baz=44,slow=4.2,SNR=18								
AKBB	**Malin Array Si**	**143.31**	**330**	PKPdf	PKPab		02 00 18.5	-1.3
EKA	**Eskdalemuir Ar**	**145.93**	**4**	PKPbc	**PKPdf**		**02 00 25.5**	**-0.6**
comp=Z,2.7nm,0.7s,baz=333,slow=2.4,SNR=5.5								
BRTR	**Keskin Array B**	**146.73**	**311**	PKPbc	**PKPdf**		**02 00 28.9**	**+0.8**
BRTR	**Keskin Array B**	**146.73**	**311**	PKPbc	**PKPdf**		**02 00 29.9**	**+1.8**
comp=Z,0.4nm,0.5s,baz=130,slow=6.6,SNR=6.5								
BUR08	**Bucovina Ar. S**	**147.34**	**329**	PKPbc	**PKPdf**		**02 00 31.1**	**+2.3**
BURAR	**Bucovina Array**	**147.35**	**329**	PKPbc	**PKPdf**		**02 00 31.1**	**+2.3**
MMAI	**Mount Meron Ar**	**147.44**	**298**	PKPbc	**PKPdf**		**02 00 32.1**	**+2.7**
comp=Z,0.9nm,0.5s,baz=79,slow=6.0,SNR=5.7								
BORA	**Eskisehir**	**148.88**	**313**	PKPbc	**PKPdf**		**02 00 34.6**	**+3.1**
GERES	**GERESS Array B**	**150.76**	**343**	PKPbc	**PKPdf**		**02 00 39.1**	**+4.9**
GERES	**GERESS Array B**	**150.76**	**343**	PKPbc	**PKPdf**		**02 00 39.2**	**+5.1**
comp=Z,1.2nm,0.6s,baz=355,slow=2.8,SNR=3.8								
RDO	**Rodhopi**	**151.39**	**319**	PKPbc	**PKPdf**		**02 00 39.6**	**+4.4**
FUORN	**Ofenpass-Fuorn**	**153.70**	**346**	PKPbc	**PKPdf**		**02 00 45.6**	**+6.8**
FUORN				PKPab	**PKPab**		**02 01 01.4**	**-1.3**

*GCG **04** 01:48:36.5±2.4, 14°.57N×93°.89W, h36km±48km, MD5.0*
*CATAC **04** 01:48:37.0±0.4, 15°.N±4°.×9°.4W±°., h1km, M4.2/12, mb4.1/1, MLv4.2/12, Error ellipse: s-maj=9.5km s-min=4.0km az=20.0, confirmed*
*MEX **04** 01:48:40.1±1.4, 14°.85N×93°.73W, h65km±53km, MD4.3*
ISC 04 01:48:36.4±2.0, **14°.71N**±0°.05×**93°.87W**±0°.03, **h25**km±20km,
n72, $\sigma_{2\delta}$**70**/103, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.53**	**359**	*e*P	**Pn**		**01 49 01.8**	**-0.3**
CARR				*e*S	**Sn**		**01 49 17.6**	**-3.6**
THIG		**1.57**	**83**	*e*P	**Pn**		**01 49 01.7**	**-1.0**
THIG				*e*S	**Sn**		**01 49 19.8**	**-2.4**
THIG		**1.57**	**83**	*i* P	**Pn**		**01 49 01.6**	**-1.0**
THIG				*i* S	**Sn**		**01 49 20.5**	**-1.7**
THIG		**1.57**	**83**	*i* P			01 49 01.6	
THIG				*i* S			01 49 20.5	
PATR	**El Naranjo**	**1.64**	**75**	*e*P	**Pn**		**01 49 02.3**	**-1.5**
PATR				*e*S	**Sn**		**01 49 18.8**	**-5.4**
PAVE	**Pavencul**	**1.71**	**73**	*e*P	**Pn**		**01 49 03.7**	**-1.1**
PAVE				*e*S	**Sn**		**01 49 19.7**	**-6.3**
CHUJ	**Union Juarez**	**1.75**	**77**	*e*P	**Pn**		**01 49 04.3**	**-1.0**
CHUJ				*e*S	**Sn**		**01 49 22.2**	**-4.8**
NILT	**Santiago Nilte**	**1.98**	**339**	*e*P	**Pn**		**01 49 09.7**	**+1.4**
NILT				*e*S	**Sn**		**01 49 31.6**	**-0.7**
RTAL	**Retalhuleu**	**2.12**	**95**	*e*P	**Pn**		**01 49 10.1**	**-0.1**
RTAL				*e*S	**Sn**		**01 49 33.2**	**-2.6**
RTAL	**Retalhuleu**	**2.12**	**95**	P	**Pn**		**01 49 11.1**	**+0.8**
RTAL	**Retalhuleu**	**2.12**	**95**	S	**Sn**		**01 49 35.6**	**-0.1**
TGIG		**2.18**	**19**	*e*P	**Pn**		**01 49 12.4**	**+1.2**
TGIG				*e*S	**Sn**		**01 49 34.6**	**-2.8**
TGIG		**2.18**	**19**	*e*P	**Pn**		**01 49 12.4**	**+1.2**
TGIG		**2.18**	**19**	*e*P			01 49 12.4	
TGBT	**Tuxtla Gutierr**	**2.19**	**20**	*e*P	**Pn**		**01 49 12.5**	**+1.3**
TGBT				*i* S	**Sn**		**01 49 35.8**	**-1.8**
CCIG	**Comitan**	**2.29**	**47**	*e*P	**Pn**		**01 49 15.0**	**+2.2**
CCIG				*e*S	**Sn**		**01 49 39.2**	**-1.1**
CCIG	**Comitan**	**2.29**	**47**	P	**Pn**		**01 49 15.1**	**+2.3**
CCIG	**Comitan**	**2.29**	**47**	P	**Pn**		**01 49 15.5**	**+2.7**
CCIG	**Comitan**	**2.29**	**47**	P	**Pn**		**01 49 14.7**	**+1.9**
CCIG	**Comitan**	**2.29**	**47**	S	**Sn**		**01 49 40.1**	**-0.2**
CCIG	**Comitan**	**2.29**	**47**	*i* P	**Pn**		**01 49 14.7**	**+1.9**
CCIG	**Comitan**	**2.29**	**47**	*i* P			01 49 14.7	
HUEH	**Huehuetenango**	**2.37**	**75**	*e*P	**Pn**		**01 49 14.8**	**+0.9**
HUEH				*e*S	**Sn**		**01 49 44.0**	**+1.7**
HUEH	**Huehuetenango**	**2.37**	**75**	P	**Pn**		**01 49 15.5**	**+1.6**
HUEH	**Huehuetenango**	**2.37**	**75**	P	**Pn**		**01 49 15.4**	**+1.4**
HUEH	**Huehuetenango**	**2.37**	**75**	S	**Sn**		**01 49 44.1**	**+1.8**
HUEH	**Huehuetenango**	**2.37**	**75**	*e*P	**Pn**		**01 49 15.2**	**+1.3**
HUEH				*e*S	**Sn**		**01 49 45.0**	**+2.7**
HUEH	**Huehuetenango**	**2.37**	**75**	*e*P			01 49 15.2	
HUEH				*e*S			01 49 45.0	
HUIG	**Huatulco**	**2.40**	**296**	*e*P	**Pn**		**01 49 14.2**	**0.0**
HUIG				*e*S	**Sn**		**01 49 40.0**	**-2.7**
HUIG	**Huatulco**	**2.40**	**296**	*e*P	**Pn**		**01 49 14.1**	**-0.1**
HUIG	**Huatulco**	**2.40**	**296**	*e*P			01 49 14.1	
STG8	**El Palmar, Qui**	**2.46**	**96**	*i* P			01 49 10.6	
STG0	**El Palmar, Qui**	**2.47**	**96**	*e*P			01 49 10.8	
CMIG	**Matias Romero**	**2.56**	**338**	*e*P	**Pn**		**01 49 16.6**	**+0.2**
CMIG				*e*S	**Sn**		**01 49 44.4**	**-2.3**
UXUV	**UXUV**	**2.61**	**354**	*e*P	**Pn**		**01 49 19.2**	**+2.2**
UXUV				*e*S	**Sn**		**01 49 49.4**	**+1.6**
QUIS	**Sacapulas**	**2.75**	**77**	*i* P	**Pn**		**01 49 20.9**	**+1.9**
QUIS				*e*S	**Sn**		**01 49 54.1**	**+2.5**
QUIS	**Sacapulas**	**2.75**	**77**	*i* P			01 49 20.9	
QUIS				*e*S			01 49 54.1	
APG	**El Apazote**	**3.31**	**84**	*i* P	**Pn**		**01 49 27.8**	**+0.9**
APG	**El Apazote**	**3.31**	**84**	*i* P			01 49 27.8	
PEIG	**Puerto Escondi**	**3.41**	**293**	*e*P	**Pn**		**01 49 28.6**	**+0.5**
PEIG				*e*S	**Sn**		**01 50 03.1**	**-4.6**
NEUV	**Arroyo Zacate**	**3.52**	**328**	*e*P	**Pn**		**01 49 29.5**	**0.0**
NEUV				*e*S	**Sn**		**01 50 08.4**	**-1.8**
VHO	**Vista Hermos

CAIG	El Cayaco	6.58 292	eP	Pn	01 50 13.8	+2.2
CAIG			eS	Sn	01 51 23.0	-2.8
ARIG	Puente Sto Nin	7.15 301	eP	Pn	01 50 24.2	+4.6
ARIG			eS	Sn	01 51 37.0	-3.0
BOAB	BOACO BROADBAN	8.29 105	P	Pn	01 50 38.0	+2.9

IDC 04 01:55:36.3±1.6, 2°41N×125°80E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=125.9km s-min=21.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.38	180	P	P	02 00 14.8	0.0
	1.4nm,0.9s,baz=8.5,slow=11,SNR=0.9 1.4nm,0.9s						
WRA	Warramunga Arr	23.75	160	P	P	02 00 50.9	+0.3
	1.1nm,0.9s,baz=339,slow=11,SNR=7.2 1.1nm,0.9s						
ASAR	Alice Springs	27.09	164	P	P	02 01 21.1	+0.1
	0.2nm,0.7s,baz=340,slow=8.6,SNR=2.8 0.2nm,0.7s						
MKAR	Makanchi Array	58.11	326	P	P	02 05 32.2	+0.5
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.2 0.2nm,0.6s						
KURBB	Kurchatov Arra	62.35	328	P	P	02 06 00.1	-0.6
	0.8nm,0.7s,baz=125,slow=6.2,SNR=7.6 0.8nm,0.7s						

*IDC **04** 02:06:30.4±3.0, 29°61S×178°06W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=79.1km s-min=36.8km az=34.0*

ISC 04 02:06:27.3±2.4, 30°67S±0°07×177°4W±0°3, h10km, n15, σ1§84/17, mb4.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.47	342	P	Pn	02 06 55.8	+1.9
GLKZ				S	Sn	02 07 09.7	-3.5
PKGZ	Pakihiroa	8.10	206	P	Pn	02 08 25.8	+0.9
HAZ	Te Kaha	8.12	208	P	Pn	02 08 26.9	+1.7
HAZ				S	Sn	02 09 56.5	-0.5
PUZ	Puketiti	8.21	205	P	Pn	02 08 27.5	+1.0
PUZ				S	Sn	02 09 56.8	-2.6
RUGZ	Raukumara Rang	8.34	208	P	Pn	02 08 28.9	+0.5
TWGZ	Tauwhareparae	8.40	206	P	Pn	02 08 30.4	+1.2
TWGZ				S	Sn	02 10 01.6	-2.5
CNGZ	Carnagh Statio	8.60	204	P	Pn	02 08 31.9	+0.1
OUZ	Omahuta	8.82	237	P	Pn	02 08 27.6	-7.3
URZ	Urewera	8.82	209	P	Pn	02 08 36.5	+1.7
BKZ	Black Stump Fm	9.85	209	P	Pn	02 08 49.0	+0.1
STKA	Stephens Creek	34.92	257	P	P	02 13 21.0	+1.7
	4.0nm,0.7s,baz=96,slow=10,SNR=10 4.0nm,0.7s						
ASAR	Alice Springs	43.61	267	P	P	02 14 32.0	0.0
	0.7nm,0.5s,baz=105,slow=7.5,SNR=8.2 0.7nm,0.5s						
WRA	Warramunga Arr	44.62	272	P	P	02 14 40.6	+0.4
	1.4nm,0.4s,baz=112,slow=8.0,SNR=11 1.4nm,0.4s						
QSPA	South Pole Qui	59.44	180	P	P	02 16 42.3	+12
	2.2nm,0.7s,baz=41,slow=0.7,SNR=5.4 2.2nm,0.7s						
FINES	FINESS Array B	145.57	340	PKP	PKiKP	02 26 06.7	-2.4
	1.5nm,0.6s,baz=50,slow=3.0,SNR=10						

UCR 04 02:13:17.2±1.0, 10°23N×84°09W, h90km±2km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VBV1	V. Barva	0.11	184	eP	Pn	02 13 30.4	0.0
HDC	Heredia	0.23	186	eP	Pn	02 13 30.4	-0.1
HDC				eS	Sn	02 13 40.3	0.0
CVIMO	Finca Echandi	0.25	144	eP	Pn	02 13 30.8	+0.2
CVIMO				eS	Sn	02 13 41.0	+0.4
BELE	Belen	0.27	201	eP	Pn	02 13 30.4	-0.2
BELE				eS	Sn	02 13 40.2	-0.3
CORON	Coronado	0.27	161	eP	Pn	02 13 30.8	+0.1
TCS1	Tacares	0.28	228	eP	Pn	02 13 30.6	-0.1
TCS1				eS	Sn	02 13 41.1	+0.5
ITAL	Pital	0.28	321	eP	Pn	02 13 31.0	+0.4
SANTA	Santa Ana	0.31	198	eP	Pn	02 13 30.6	-0.2
NARAN	Naranjo de Ala	0.31	246	eP	Pn	02 13 31.0	+0.1
NARAN				eS	Sn	02 13 41.5	+0.5
CVTG	V. Turrialba,	0.32	104	eP	Pn	02 13 31.3	+0.5
CVTG				eS	Sn	02 13 41.9	+0.9
AMPA	Desamparados	0.33	175	eP	Pn	02 13 30.5	-0.5
AMPA				eS	Sn	02 13 40.7	-0.5
TRIO	Tres Rios	0.33	163	eP	Pn	02 13 30.8	-0.3
VICA	Volcano Irazu	0.34	135	eP	Pn	02 13 31.4	+0.1
VTLA	Turrialba Volc	0.38	126	eP	Pn	02 13 31.8	+0.2
RAFA	San Farael, Vo	0.38	134	eP	Pn	02 13 31.9	+0.4
CVTR	Volcan Turrial	0.39	122	eP	Pn	02 13 31.8	+0.1
VTR0	Volcan Turrial	0.39	123	eP	Pn	02 13 31.9	+0.2
CVTQ	Turrialba Volc	0.39	125	eP	Pn	02 13 31.8	+0.2
RAMO	San Ramon	0.40	249	eP	Pn	02 13 32.2	+0.9
RAMO				eS	Sn	02 13 42.8	+1.0
CVTV	Tajo	0.40	123	eP	Pn	02 13 32.0	+0.4
SRA1	San Ramn	0.41	250	eP	Pn	02 13 31.1	-0.3
SRA1				eS	Sn	02 13 41.9	-0.1
PCAYA	Pacayas	0.41	138	eP	Pn	02 13 31.8	+0.2
VTCV	VTCV, Calle Va	0.43	124	eP	Pn	02 13 32.0	+0.3
ACOS	Acosta	0.43	190	eP	Pn	02 13 31.3	-0.3
ACOS				eS	Sn	02 13 41.9	-0.4
REPA	Paraso	0.45	151	eP	Pn	02 13 31.7	-0.1
VERB	Verbena	0.48	126	eP	Pn	02 13 32.3	+0.4
LCR2	La Lucha 2	0.49	170	eP	Pn	02 13 31.6	-0.5
LCR2				eS	Sn	02 13 42.7	-0.5
RVSTA	Santa Teresita	0.50	120	eP	Pn	02 13 32.5	+0.5
RVSTA				eS	Sn	02 13 44.4	+1.3
RVLA	Villa Bonita	0.51	103	eP	Pn	02 13 32.8	+0.8
ABE2	San Pablo	0.52	176	eP	Pn	02 13 32.1	-0.4
ABE2				eS	Sn	02 13 43.3	-0.3
SOCE	Pocosol	0.54	287	eP	Pn	02 13 32.6	+0.3
IRES	Siquirres	0.59	103	eP	Pn	02 13 33.5	+0.8
PISJ	San Jernim	0.59	183	eP	Pn	02 13 32.0	-0.9
PISJ				eS	Sn	02 13 43.6	-1.0
PICV	PH. Pirrs	0.60	190	eP	Pn	02 13 32.1	-0.8
VACR	Volcan Arenal	0.63	293	eP	Pn	02 13 33.7	+0.6
CEDE	Laguna Cedeo	0.66	293	eP	Pn	02 13 33.9	+0.5
ARE1	Arenal 1	0.66	291	eP	Pn	02 13 34.0	+0.6
VARE2	V. Arenal	0.66	291	eP	Pn	02 13 34.0	+0.6
MTEVE	Monteverde	0.73	277	eP	Pn	02 13 34.6	+0.5
LLNJ	Naranjito	0.75	181	eP	Pn	02 13 33.9	-0.4
LLNJ				eS	Sn	02 13 46.9	+0.1
JTS	Las Juntas de	0.85	274	eP	Pn	02 13 35.4	+0.2
JUNT	Juntas	0.86	274	eP	Pn	02 13 35.4	+0.1
CUI	Cuipilapa	1.14	292	eP	Pn	02 13 39.1	+0.5
NYURE	Nandayure	1.17	259	eP	Pn	02 13 39.5	+0.6
CBL1	Cabuya	1.17	237	eP	Pn	02 13 38.5	-0.5
HORNC	Hornillas	1.17	294	eP	Pn	02 13 39.6	+0.5
COLC	Colonia	1.18	292	eP	Pn	02 13 39.7	+0.7
EDPE	Pejibaye, P	1.18	154	eP	Pn	02 13 39.1	0.0
DRK0	Durika	1.27	139	eP	Pn	02 13 39.5	-0.8
NICO	Nicoya	1.34	266	eP	Pn	02 13 42.7	+1.8
VRLE	La Escondida,	1.37	294	eP	Pn	02 13 42.2	+0.8
FIMO	Fila Mora	1.43	149	eP	Pn	02 13 42.4	+0.2
ALIBA	Liberia Airpor	1.48	284	eP	Pn	02 13 43.4	+0.7
EDP2	Potrero Grande	1.50	143	eP	Pn	02 13 43.2	+0.1
ALCO	Alturas Coton,	1.77	136	eP	Pn	02 13 46.5	-0.1
EDAD	Golfito	1.81	150	eP	Pn	02 13 45.9	-1.1
PIRO	Carate, Puerto	1.96	158	eP	Pn	02 13 49.6	+0.8

*IDC **04** 02:27:02.7±4.7, 30°77N×141°48E, h91km±33km, mb3.4/5, mbtmp3.8/6, Error ellipse: s-maj=97.8km s-min=21.7km az=79.0*

ISC 04 02:26:53.5±1.7, 30°8N±0°2×142°1E±0°4, h24km, n12, σ1§20/7, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.05	319	P	Pb	02 27 46.5	-0.5
	124nm,0.6s,baz=134,slow=22,SNR=6.5						
JHJ				S	Sn	02 28 16.8	+0.9
	177nm,0.6s,baz=241,slow=22,SNR=2.4						
H11N2	WAKE ISLAND Hy	24.90	110	T	T	03 00 24.6	
	baz=300						
H11N1	WAKE ISLAND Hy	24.91	111	T	T	03 00 26.1	
	baz=300						
H11N3	WAKE ISLAND Hy	24.92	110	T	T	03 00 25.0	
	baz=300						
H11S3	WAKE ISLAND Hy	25.39	113	T	T	03 01 30.5	
	baz=304,slow=74						
H11S1	WAKE ISLAND Hy	25.40	113	T	T	03 01 31.0	
	baz=304,slow=74						
H11S2	WAKE ISLAND Hy	25.41	113	T	T	03 01 35.7	
	baz=304						
WRA	Warramunga Arr	51.02	189	P	P	02 35 54.7	+1.0
	0.3nm,0.3s,baz=6.4,slow=7.7,SNR=6.6 0.3nm,0.3s						
ASAR	Alice Springs	54.75	189	P	P	02 36 20.7	-0.5
	0.2nm,0.5s,baz=14,slow=6.4,SNR=2.3 0.2nm,0.5s						
FINES	FINESS Array B	74.61	333	P	P	02 38 30.4	+0.2
	1.8nm,1.1s,baz=68,slow=5.9,SNR=1.4 1.8nm,1.1s						
HFS	Hagfors	80.00	337	P	P	02 39 01.8	+1.2
	1.5nm,0.9s,baz=68,slow=9.4,SNR=1.4 1.5nm,0.9s						
BRTR	Keskin Array B	83.46	313	P	P	02 39 18.0	-1.4
	0.6nm,0.8s,baz=62,slow=3.7,SNR=4.4 0.6nm,0.8s						

*NEIC **04** 02:41:31.4±0.9, 19°416N±0°006×155°609W±0°008, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.4km az=15.0*

HVO 04 02:41:31.1±1.1, 19°429N±0°006×155°612W±0°009, h-0km±8km, ML2.5/40, ML2.5/44(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=114.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	Mokuaweoweo	0.06	14	Pg	Pg	02 41 32.9	+0.7
MWH				Sg	Sg	02 41 34.4	+1.4
MLOA	Mauna Loa Obse	0.11	18		Pg	02 41 33.9	+0.6
MLOA					Sg	02 41 36.2	+1.5
ALEP	Alea Permanent	0.12	345		Pg	02 41 34.3	+0.9
ALEP					Sg	02 41 36.4	+1.5
KHU	Kahuku	0.18	181	Pg	Pg	02 41 34.8	+0.2
KHU				Sg	Sg	02 41 37.3	+0.3
HMH	Humu'ula Sheep	0.21	35		Pg	02 41 35.9	+0.7
MLH	Mauna Loa	0.22	73		Pg	02 41 36.2	+0.8
MLH				IAML		02 41 40.6	
	comp=E,2μm,0.5s						
HTC	Hot Caves	0.28	133		Pg	02 41 36.8	+0.4
CPH	Captain Cook	0.29	282		Pg	02 41 37.9	+1.1
WRMHI	West Rim	0.30	94		Pg	02 41 37.3	+0.5
WRMHI					Sg	02 41 41.5	+0.8
UWE	Uwekahuna	0.30	91		Pg	02 41 37.0	+0.1
SDHHI	Sand Hill	0.30	97		Pg	02 41 37.3	+0.4
SDHHI					Sg	02 41 41.7	+0.8
OBL	Observatory Le	0.31	92		Pg	02 41 37.5	+0.4
OBL					Sg	02 41 42.0	+0.9
HLP	Hilina Pali	0.32	115		Pg	02 41 37.5	+0.3
UWB	Uwekahuna Bluf	0.32	91		Pg	02 41 37.5	+0.3
UWB					Sg	02 41 42.5	+1.2
RSD	Rainshed	0.32	84		Pn	02 41 42.3	-0.8
RIM	Rim	0.32	96		Pg	02 41 37.5	+0.3
RIM					Sg	02 41 42.0	+0.6
SBLHI	Steaming Bluff	0.33	90		Pg	02 41 37.6	+0.3
SBLHI					Sg	02 41 42.4	+0.9
KKO	Keanakako'i	0.33	95		Pg	02 41 37.7	+0.3
KKO					Sg	02 41 42.8	+1.1
HUH	Hualalai	0.33	320		Pb	02 41 38.9	-1.2
HUH				IAML		02 41 48.1	
	comp=N,826nm,0.4s						
HUH				IAML		02 41 48.7	
	comp=E,689nm,0.4s						
HATHI	Halema'uma'u T	0.33	91		Pg	02 41 37.4	-0.1
BYL	Byron's Ledge	0.33	93		Pg	02 41 37.3	-0.2
BYL				Sg	Sg	02 41 42.3	+0.5
BYL				IAML		02 41 45.8	
	comp=N,888nm,0.6s						
BYL				IAML		02 41 48.0	
	comp=E,735nm,0.6s						
POHA	Pohakuloa	0.34	13	Pg	Pg	02 41 37.6	+0.1
POHA				Sg	Sg	02 41 42.7	+0.8
POHA				IAML		02 41 47.5	
	comp=E,529nm,0.4s						
POHA				IAML		02 41 49.1	
	comp=E,519nm,0.8s						
PUH	Pauahi	0.38	98		Pg	02 41 38.2	-0.1
PUH				Sg	Sg	02 41 43.4	+0.1
PUH				IAML		02 41 48.9	
	comp=E,415nm,0.8s						
PUH				IAML		02 41 50.3	
	comp=N,566nm,0.7s						
KNHH	Kane Nui o Ham	0.42	97		Pg	02 41 38.8	-0.4
STCH	Steam Cracks	0.46	95		Pg	02 41 39.6	-0.4
STCH				Sg	Sg	02 41 46.8	+0.8
STCH				IAML		02 41 52.6	
	comp=E,297nm,0.6s						
STCH				IAML		02 41 55.6	
	comp=N,389nm,0.7s						
NPOC	North of Pu'u	0.48	94		Pg	02 41 40.5	+0.2
NPOC					Sg	02 41 47.1	+0.7
JCUZ	Jacuzzi	0.48	95		Pg	02 41 40.4	0.0
JCUZ					Sg	02 41 47.5	+0.8
JOKA	Jonika Flow	0.57	89		Pg	02 41 41.6	-0.5
JOKA				Sg	Sg	02 41 49.5	0.0
JOKA				IAML		02 41 56.8	
	comp=N,364nm,1.2s						
HPAH	Hawaii Prepara	0.60	352	Pg	Pg	02 41 42.0	-0.7
HPAH				IAML		02 42 02.4	
	comp=E,198nm,1.4s						
PAH	Pahoa	0.63	84		Pg	02 41 42.5	-0.7
MHA	Mahukona	0.80	340	Pg	Pg	02 41 46.1	-0.4

*IDC **04** 02:47:09.8±1.0, 33°96N×83°60E, h0km, mb3.7/12, mbtmp3.8/14, ML3.0/3, MS3.7/2, Error ellipse: s-maj=34.2km s-min=15.3km az=54.0*

ISC 04 02:47:11.7±1.0, 33°9N±0°1×83°5E±0°1, h10km, n17, σ1§80/17, mb3.8/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	11.19	324	Pn	Pn	02 49 53.7	+1.9
	0.1nm,0.3s,baz=166,slow=16,SNR=2.2						
AAK				Lg	Lg	02 53 06.0	
	0.1nm,0.3s,baz=258,slow=23,SNR=1.7 0.4nm,0.4s						
MKAR	Makanchi Array	12.88	356	Pn	Pn	02 50 14.2	-0.7
	baz=174,slow=14,SNR=3.5						
LZH	Lanzhou	16.84	77	eP	P	02 51 15.5	+5.7
LZH				pP	sP	02 51 21.0	+5.0
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
KURBB	Kurchatov Arra	17.07	349	P	Pn	02 51 10.1	-0.2
	comp=Z,0.2nm,0.3s,baz=170,slow=11,SNR=20 comp=Z,1.4nm,0.3s						
ZALV	Zalesovo Beam	20.04	2	P	P	02 51 43.8	-0.9
	comp=Z,0.8nm,0.4s,baz=181,slow=11,SNR=6.6 comp=Z,0.8nm,0.4s						
CMAR	Chiang Mai Arr	20.70	134	P	P	02 51 50.8	-1.3
	comp=Z,2.0nm,0.3s,baz=314,slow=10,SNR=13 comp=Z,2.0nm,0.3s						
BVAR	Borovoye Array	21.25	338	P	P	02 51 57.8	-0.1
	comp=Z,2.3nm,0.6s,baz=149,slow=12,SNR=13 comp=Z,2.3nm,0.6s						
SONM	Songino Array	22.11	44	P	P	02 52 06.1	-1.2
	comp=Z,1.0nm,0.9s,baz=236,slow=11,SNR=6.3 comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	45.37	325	P	P	02 55 29.3	-0.6
	comp=Z,1.6nm,0.9s,baz=102,slow=8.4,SNR=1.7						
FINES				LR	LR	03 15 25.6	
	comp=Z,140nm,18.4s,baz=300,slow=37 comp=Z,1.6nm,0.9s						
HFS	Hagfors	51.33	323	P	P	02 56 16.0	+0.1
	comp=Z,1.9nm,0.9s,baz=76,slow=6.1,SNR=1.6 comp=Z,1.9nm,0.9s						
NB2	NORSAR Subarra	52.50	324	P	P	02 56 26.2	+1.5
	comp=Z,0.6nm,0.7s,baz=86,slow=7.4						
NOA	NORSAR Array B	52.50	324	P	P	02 56 24.9	+0.2
	comp=Z,1.2nm,0.8s,baz=86,slow=7.2,SNR=4.2						
NOA				LR	LR	03 20 46.2	
	comp=Z,49nm,18.9s,baz=355,slow=38 comp=Z,1.2nm,0.8s						
GERES	GERESS Array B	52.62	309	P	P	02 56 25.9	+0.1
	comp=Z,0.5nm,0.7s,baz=76,slow=8.1,SNR=2.6 comp=Z,0.5nm,0.7s						
WRA	Warramunga Arr	72.23	130	P	P	02 58 36.8	-0.5
	comp=Z,1.4nm,0.8s,baz=333,slow=5.8,SNR=5.6 comp=Z,1.4nm,0.8s						
ILAR	Eielson Array	74.06	20	P	P	02 58 46.7	-0.8
	comp=Z,0.9nm,0.8s,baz=304,slow=5.1,SNR=12 comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	74.71	133	P	P	02 58 51.3	-0.5
	comp=Z,0.4nm,0.8s,baz=325,slow=5.9,SNR=4.7 comp=Z,0.4nm,0.8s						
YKA	Yellowknife Ar	82.82	8	P	P	02 59 34.6	-1.2
	comp=Z,0.9nm,0.7s,baz=337,slow=4.9,SNR=18 comp=Z,0.9nm,0.7s						

*IDC **04** 03:04:35.8±2.5, 15°44N×146°11E, h0km, mb3.6/5, mbtmp3.7/6, ML3.9/1, MS3.0/1, Error ellipse: s-maj=77.4km s-min=20.0km az=92.0*
*NEIC **04** 03:04:50.1±1.3, 15°3N±0°1×145°88E±0°06, h112km±4km, mb4.0/5, Error ellipse: s-maj=19.1km s-min=7.4km az=187.0*

ISC 04 03:04:41.8±1.0, 15°52N±0°10×145°9E±0°2, h35km, n20, σ1§02/16, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.14	207	Pn	Pn	03 05 22.1	+7.1
GUMO	Guam	2.14	207	Pn	Pn	03 05 14.5	-0.6
	38nm,0.3s,baz=276,slow=16,SNR=2.3						
GUMO				Sn	Sn	03 05 42.2	+1.7
	59nm,0.3s,baz=207,slow=21,SNR=3.5 79nm,0.2s						
PATS	Pohnpei	14.95	124	P	P	03 08 16.4	+0.7
JAY	Jayapura	18.63	196	LR	LR	03 16 29.7	
	comp=Z,43nm,20.4s,baz=290,slow=38						
H11S3	WAKE ISLAND Hy	20.14	79	T	T	03 30 51.3	
	baz=263,slow=74						
H11S1	WAKE ISLAND Hy	20.15	79	T	T	03 30 50.1	
	baz=263						
H11S2	WAKE ISLAND Hy	20.15	79	T	T	03 30 45.1	
	baz=263,slow=74						
WB0	Warramunga Arr	36.83	198	P	P	03 11 45.5	-1.2
WB2	Warramunga Arr	37.01	198	P	P	03 11 47.2	-1.1
WB2				IAmb	IAmb	03 12 14.1	
	comp=Z,10nm,1.5s						
WRA	Warramunga Arr	37.01	198	P	P	03 11 47.2	-1.1
	comp=Z,0.7nm,0.6s,baz=20,slow=8.4,SNR=7.4 comp=Z,0.7nm,0.6s						
FITZ	Fitzroy Crossi	38.89	212	P	P	03 12 04.0	-0.2
ASAR	Alice Springs	40.66	197	P	P	03 12 17.5	-1.3
	comp=Z,0.2nm,0.6s,baz=16,slow=7.4,SNR=1.8 comp=Z,0.2nm,0.6s						
MK31	Makanchi Array	60.79	315	P	P	03 14 50.5	+0.2
MK31				IAmb	IAmb	03 15 09.8	
	comp=Z,1.7nm,1.4s						
MKAR	Makanchi Array	60.79	315	P	P	03 14 51.2	+0.8
MKAR	Makanchi Array	60.79	315	P	P	03 14 51.4	+1.0
	comp=Z,0.4nm,0.5s,baz=94,slow=8.6,SNR=11 comp=Z,0.4nm,0.5s						
KURBB	Kurchatov Arra	63.79	319	P	P	03 15 11.2	+0.8
	comp=Z,0.6nm,0.5s,baz=96,slow=7.3,SNR=12 comp=Z,0.6nm,0.5s						
KKAR	Karatay Array	68.92	311	P	P	03 15 43.5	+0.1
BVAR	Borovoye Array	69.02	321	P	P	03 15 44.6	+0.8
	comp=Z,0.3nm,0.3s,baz=79,slow=6.6,SNR=2.4 comp=Z,0.3nm,0.3s						
ABKAR	Akbulak array	75.77	318		P	03 16 23.5	-0.6
ABKAR	Akbulak array	75.77	318	P	P	03 16 23.2	-0.9
ABKAR				IAmb	IAmb	03 16 35.7	
	comp=Z,2.7nm,1.4s						

*KRNET **04** 03:17:15.1±0.1, 41°88N×77°19E, h23km, mb2.6*
*SOME **04** 03:17:15.3, 41°90N×77°17E, h10km*
*NNC **04** 03:17:16.2±0.6, 41°92N×77°21E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=4.0km s-min=2.5km az=175.0*

ISC 04 03:17:17.4±1.2, 41°97N±0°04×77°14E±0°02, h15km±8km, n54, σ1§34/96, 19C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	0.16	11	⇑eP	Pg	03 17 21.0	-0.6
KDJ				⇑eS	Sb	03 17 25.2	-0.3
ULHL	Ulahol	0.72	293	⇑eP	Pg	03 17 30.1	-1.4
ULHL				⇑eS	Sg	03 17 41.1	0.0
ANVS	Anan'yevo	0.90	26	⇑eP	Pb	03 17 33.3	-1.6
ANVS				⇑eS	Sb	03 17 46.6	-0.2
BOOM	Boomskoye usch	1.03	301	⇓eP	Pb	03 17 35.7	-1.4
BOOM				⇓eS	Sg	03 17 50.9	+0.1
PRZ	Przheval'sk	1.07	61	⇑eP	Pb	03 17 35.5	-2.2
PRZ				⇑eS	Sb	03 17 50.3	-1.3
TNSS	Tian-Shan	1.07	352	P	Pb	03 17 37.3	-0.7
	112nm,0.2s						
TNSS				S	Sn	03 17 53.1	-0.1
	59nm,0.2s						
TNSS	Tian-Shan	1.07	352	eP	Pb	03 17 37.3	-0.7
	112nm,0.2s						
TNSS				eS	Sn	03 17 53.1	-0.1
	59nm,0.2s						
AAA	Alma-Ata	1.25	352	P	Pg	03 17 41.0	-0.5
	139nm,0.1s						
AAA				S	Sg	03 17 59.5	+1.8
	27nm,0.2s						
AAA	Alma-Ata	1.25	352	eP	Pn	03 17 39.6	-0.8
	139nm,0.1s						
AAA				eS	Sb	03 17 56.9	+0.3
	65nm,0.4s						
KNDC	Almaty	1.25	354	⇓P	Pn	03 17 40.2	-0.2
	26nm,0.5s						
KNDC				⇓S	Sg	03 17 59.3	+1.5
	163nm,0.4s						
KOTS	Kotyrbulak	1.26	359	P	Pb	03 17 40.7	-0.3
	93nm,0.2s						
KOTS				S	Sg	03 17 59.4	+1.2
	68nm,0.3s						
KOTS	Kotyrbulak	1.26	359	eP	Pn	03 17 40.1	-0.6
	68nm,0.2s						
KOTS				eS	Sn	03 17 57.8	+0.3
	112nm,0.3s						
MTBS	Maitube	1.27	336	P	Pb	03 17 40.8	-0.3
	17nm,0.2s						
MTBS				S	Sg	03 17 59.0	+0.6
	77nm,0.3s						
MTBS	Maitube	1.27	336	eP	Pn	03 17 40.1	-0.6
	17nm,0.2s						
MTBS				eS	Sb	03 17 57.7	+0.3
	77nm,0.3s						
KST	Kastek	1.38	321	P	Pb	03 17 42.5	-0.5
	12nm,0.2s						
KST				S	Sg	03 18 02.6	+0.7
	60nm,0.3s						
KST	Kastek	1.38	321	eP	Pn	03 17 41.7	-0.6
	14nm,0.1s						
KST				eS	Sn	03 18 00.5	+0.1
	63nm,0.2s						
SATY	Saty	1.44	40	P	Pn	03 17 42.5	-0.6
	17nm,0.2s						
SATY				S	Sg	03 18 03.0	-0.7
	114nm,0.1s						
TKM2	Tokmak 2	1.48	310	⇓eP	Pn	03 17 43.9	+0.1
TKM2				⇓eS	Sg	03 18 05.0	-0.3
ZHN	Zhinishke	1.53	38	P	Pn	03 17 44.3	-0.1
	30nm,0.1s						
ZHN				S

UZB				S		Sb	03 18 12.9	-0.3
	41nm,0.2s							
UZB	**Uzynbulak**	**1.82**	**49**	*eP*		**Pn**	**03 17 48.6**	**+0.2**
	7.5nm,0.3s							
UZB				*eS*		**Sb**	**03 18 12.9**	**-0.3**
	41nm,0.2s							
KPKS	**Kokpek**	**1.88**	**37**	Pg		**Pb**	**03 17 50.0**	**-1.5**
	16nm,0.2s							
KPKS				Lg		Lg	03 18 16.1	
	117nm,0.3s							
KPKS	**Kokpek**	**1.88**	**37**	*eP*		**Pn**	**03 17 47.0**	**-2.1**
	6.5nm,0.2s							
KPKS				*eS*		**Sn**	**03 18 09.6**	**-3.0**
	48nm,0.4s							
KPKS	**Kokpek**	**1.88**	**37**	*eP*		**Pb**	**03 17 50.0**	**-1.5**
	16nm,0.2s							
KPKS				*eS*		**Sb**	**03 18 14.9**	**0.0**
	94nm,0.4s							
CHKK	**Chushkaly**	**1.88**	**357**	Pg		**Pb**	**03 17 51.5**	**0.0**
	18nm,0.3s							
CHKK				Lg		Lg	03 18 17.9	
	70nm,0.3s							
CHKK	**Chushkaly**	**1.88**	**357**	*eP*		**Pb**	**03 17 51.5**	**0.0**
	18nm,0.3s							
CHKK				*eS*		**Sg**	**03 18 17.9**	**-0.1**
	70nm,0.3s							
UCH	**Uchtor**	**1.97**	**278**	⇓*eP*		**Pn**	**03 17 50.7**	**0.0**
UCH				⇓*eS*		**Sb**	**03 18 16.6**	**-1.2**
KRBS	**Karabastau**	**2.03**	**328**	Pg		**Pb**	**03 17 54.2**	**+0.1**
	14nm,0.3s							
KRBS				Lg		Lg	03 18 21.9	
	42nm,0.2s							
CHMS	**Chumysh**	**2.04**	**301**	⇓*eP*		**Pn**	**03 17 51.9**	**+0.6**
CHMS				⇓*eS*		**Sb**	**03 18 18.7**	**-0.8**
AAK	**Ala-Archa**	**2.07**	**290**	⇑Pn		**Pb**	**03 17 54.2**	**-0.6**
	3.7nm,0.5s							
AAK				⇑Sn		**Sg**	**03 18 22.4**	**-1.6**
	8.7nm,0.7s							
AAK	**Ala-Archa**	**2.07**	**290**	⇑*eP*		**Pn**	**03 17 52.1**	**+0.3**
AAK				⇑*eS*		**Sb**	**03 18 19.2**	**-1.2**
SHLS	**Shalkode**	**2.08**	**55**	Pg		**Pg**	**03 17 58.4**	**+1.0**
	9.9nm,0.2s							
SHLS				Lg		Lg	03 18 29.2	
	58nm,0.4s							
SHLS	**Shalkode**	**2.08**	**55**	*eP*		**Pg**	**03 17 58.4**	**+1.0**
	9.9nm,0.2s							
SHLS				*eS*		**Sg**	**03 18 29.2**	**+4.7**
	58nm,0.4s							
ARLS	**Aral**	**2.10**	**268**	⇓*eP*		**Pn**	**03 17 52.1**	**-0.2**
ARLS				⇓*eS*		**Sn**	**03 18 18.8**	**+0.5**
PDGK	**Podgornoye**	**2.20**	**51**	⇑Pn		**Pn**	**03 17 54.2**	**+0.6**
	1.9nm,0.3s							
PDGK				⇑Sn		**Sb**	**03 18 24.2**	**+0.1**
	17nm,0.6s							
ARXS	**Arharly**	**2.30**	**12**	Pg		**Pb**	**03 17 58.5**	**-0.1**
	5.0nm,0.2s							
ARXS				Lg		Lg	03 18 29.4	
	35nm,0.4s							
BLB	**Baldybastay**	**2.34**	**24**	Pg		**Pb**	**03 17 58.9**	**-0.5**
	50nm,0.2s							
BLB				Lg		Lg	03 18 30.0	
	44nm,0.2s							
SGDS	**Sogindy**	**2.37**	**310**	Pg		**Pb**	**03 17 59.5**	**-0.3**
SGDS				Lg		Lg	03 18 31.1	
AML	**Almayashu**	**2.57**	**275**	⇑*eP*		**Pn**	**03 17 58.9**	**0.0**
AML				⇑*eS*		**Sn**	**03 18 30.8**	**+0.7**
EKS2	**Erkin-Say**	**2.59**	**287**	⇑*eP*		**Pn**	**03 17 59.1**	**+0.2**
EKS2				⇑*eS*		**Sn**	**03 18 31.3**	**+1.2**
KNOS	**Konyrlen**	**2.81**	**31**	Pg		**Pb**	**03 18 05.9**	**-1.6**
	1.9nm,0.2s							
KNOS				Lg		Lg	03 18 41.9	
	8.9nm,0.3s							
MRKS	**Merke**	**3.00**	**286**	Pg		**Pb**	**03 18 12.1**	**+1.4**
	0.8nm,0.3s							
MRKS				Lg		Lg	03 18 52.7	
	9.0nm,0.3s							
MRKS	**Merke**	**3.00**	**286**	*eP*		**Pb**	**03 18 12.1**	**+1.4**
	0.8nm,0.3s							
MRKS				*eS*		**Sg**	**03 18 52.7**	**-1.1**
	9.0nm,0.3s							
DJR	**Jarkent**	**3.05**	**39**	Pg		**Pb**	**03 18 10.3**	**-1.2**
	0.9nm,0.1s							
DJR				Lg		Lg	03 18 49.6	
	6.6nm,0.3s							
DJR	**Jarkent**	**3.05**	**39**	*eP*		**Pb**	**03 18 11.9**	**+0.3**
	0.7nm,0.0s							
DJR				*eS*		**Sg**	**03 18 52.2**	**-3.3**
	3.5nm,0.2s							
BTLS	**Baital**	**3.80**	**325**	Pg		**Pb**	**03 18 25.9**	**+1.7**
	1.2nm,0.2s							
BTLS				Lg		Lg	03 19 16.5	
	8.0nm,0.4s							
BTLS	**Baital**	**3.80**	**325**	*eP*		**Pb**	**03 18 25.9**	**+1.7**
	1.2nm,0.2s							
BTLS				*eS*		**Sg**	**03 19 16.5**	**-3.0**
	8.0nm,0.4s							
KK31	**Karatay Array**	**5.03**	**285**	⇓Pg		**Pb**	**03 18 48.4**	**+3.4**
	0.6nm,0.6s,baz=98,slow=15,SNR=4.5							
KK31				⇑Lg		Lg	03 19 54.9	
	1.3nm,0.5s,baz=102,slow=28,SNR=8.9							

*SNET **04** 03:23:52.6±0.9, 13°.38N×87°.02W, h12km±11km, ML2.9*
CATAC 04 03:23:50.7±0.1, 13°N±1°×87°.0W±0°.8, h3km±1km, M3.2/29, Mjma3.0/24, ML3.1/26, MLv3.1/29, Ms(BB)3.4/3, Error ellipse: s-maj=2.4km s-min=1.5km az=32.3, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.11**	**189**	P	Pg	03 23 53.6	+0.6
CRIN				S	Sg	03 23 56.2	+1.7
CRIN	**San Cristobal**	**0.11**	**189**	P	Pg	03 23 53.6	+0.6
POLN	**AI Sur del Vol**	**0.27**	**127**	P	Pg	03 23 56.4	+0.5
POLN				S	Sg	03 24 01.1	+1.7
POLN	**AI Sur del Vol**	**0.27**	**127**	P	Pg	03 23 56.6	+0.7
QUEN	**AI S del Volca**	**0.28**	**141**	P	Pg	03 23 56.8	+0.6
QUEN	**AI S del Volca**	**0.28**	**141**	P	Pg	03 23 57.0	+0.9
HERN	**Volcan Telica**	**0.28**	**136**	P	Pg	03 23 56.6	+0.4
PLRN	**Geotermica Pol**	**0.34**	**131**	P	Pg	03 23 56.7	-0.6
PLRN				S	Sg	03 24 01.8	0.0
PLRN	**Geotermica Pol**	**0.34**	**131**	P	Pg	03 23 56.8	-0.6
PACN	**AI O del Volca**	**0.39**	**143**	P	Pg	03 23 58.6	+0.4
PACN				S	Sg	03 24 03.6	+0.4
PACN	**AI O del Volca**	**0.39**	**143**	P	Pg	03 23 58.7	+0.5
ILCN	**San Idelfonso**	**0.40**	**126**	P	Pg	03 23 56.2	-2.2
ROCN	**Rota Cerro Neg**	**0.41**	**136**	P	Pg	03 23 51.6	-6.9
CNGN	**Cerro Negro**	**0.45**	**134**	P	Pg	03 23 59.8	+0.4
CNGN	**Cerro Negro**	**0.45**	**134**	P	Pg	03 23 59.9	+0.5
CNGA	**AI SSO del Vol**	**0.45**	**134**	P	Pg	03 23 59.9	+0.5
CNGA	**AI SSO del Vol**	**0.45**	**134**	P	Pg	03 23 59.4	0.0
POTN	**Potosi Cosigui**	**0.50**	**292**	P	Pg	03 24 00.2	-0.1
POTN	**Potosi Cosigui**	**0.50**	**292**	P	Pg	03 24 00.2	-0.1
POTN	**Potosi Cosigui**	**0.50**	**292**	P	Pg	03 24 00.5	+0.2
CSGN	**Cosiguina Volc**	**0.54**	**288**	P	Pg	03 24 00.7	-0.3
CSGN				S	Sg	03 24 08.2	+0.1
CSGN	**Cosiguina Volc**	**0.54**	**288**	P	Pg	03 24 00.8	-0.3
CSGN	**Cosiguina Volc**	**0.54**	**288**	P	Pg	03 24 00.9	-0.1
LEVN	**Ruinas Leon Vi**	**0.58**	**135**	P	Pn	03 24 07.2	+1.4
LEVN	**Ruinas Leon Vi**	**0.58**	**135**	P	Pg	03 24 01.8	0.0
LEVN				S	Sg	03 24 09.5	+0.3
MOMN	**Momotombo**	**0.63**	**130**	P	Pg	03 24 02.8	0.0
MOMN	**Momotombo**	**0.63**	**130**	P	Pg	03 24 03.0	+0.3
CHOHN	**Orocuina**	**0.68**	**349**	P	Pg	03 24 03.7	0.0
CHOHN	**Orocuina**	**0.68**	**349**	S	Sg	03 24 13.5	+1.1
LIMN	**Finca el Limon**	**0.69**	**69**	P	Pg	03 24 04.2	+0.1
LIMN	**Finca el Limon**	**0.69**	**69**	P	Pg	03 24 04.3	+0.2
LIMN	**Finca el Limon**	**0.69**	**69**	P	Pg	03 24 04.3	+0.2
LIMN	**Finca el Limon**	**0.69**	**69**	S	Sb	03 24 14.5	-1.1
COPN	**Copaltepe**	**0.76**	**146**	P	Pg	03 24 04.9	-0.4
COPN	**Copaltepe**	**0.76**	**146**	P	Pg	03 24 04.9	-0.4
BC87	**San Francisco**	**0.79**	**113**	S	Sg	03 24 16.4	+0.5
SAPS	**Ciudad Sandino**	**0.89**	**136**	P	Pg	03 24 07.8	+0.1
SAPS	**Ciudad Sandino**	**0.89**	**136**	P	Pg	03 24 07.8	+0.1
SAPS	**Ciudad Sandino**	**0.89**	**136**	S	Sb	03 24 20.2	-0.8
CNCH	**Conchagua**	**0.91**	**301**	*eP*	Pg	03 24 07.3	-0.9
CNCH				*eS*	Sg	03 24 19.9	-0.1
CNCH				IAML		03 24 27.7	
	comp=Z,2µm,0.4s						
CNCH	**Conchagua**	**0.91**	**301**	P	Pg	03 24 07.4	-0.8
CNCH	**Conchagua**	**0.91**	**301**	P	Pg	03 24 07.8	-0.3
CNCH	**Conchagua**	**0.91**	**301**	S	Sb	03 24 21.6	-0.2
CNCH	**Conchagua**	**0.91**	**301**	P	Pg	03 24 07.9	-0.3
APQ2	**Apoyeque**	**0.92**	**131**	P	Pn	03 24 16.3	+5.7
TISN	**Laguna Tiscapa**	**1.00**	**132**	P	Pn	03 24 12.8	+1.2
TISN	**Laguna Tiscapa**	**1.00**	**132**	P	Pg	03 24 08.9	-1.0
R4DEC	**Barrio San Lui**	**1.01**	**131**	P	Pg	03 24 10.2	+0.1
R4DEC	**Barrio San Lui**	**1.01**	**131**	S	Sb	03 24 24.4	-0.2
MGAN	**Managua**	**1.01**	**131**	P	Pg	03 24 10.5	+0.3
MGAN	**Managua**	**1.01**	**131**	S	Sb	03 24 24.1	-0.6
UNAN	**Cigeo UNAN**	**1.02**	**133**	P	Pb	03 24 11.1	+0.1
UNAN	**Cigeo UNAN**	**1.02**	**133**	P	Pb	03 24 10.8	-0.3
UNAN				S	Sb	03 24 24.7	-0.2
RCFN	**AI S de San Ju**	**1.07**	**48**	P	Pg	03 24 10.6	-0.7
RCFN	**AI S de San Ju**	**1.07**	**48**	P	Pg	03 24 10.5	-0.8
RCFN				S	Sg	03 24 25.5	+0.2
SBEN	**San Benito**	**1.08**	**118**	S	Sg	03 24 25.6	+0.2
RCVN	**Varillal2**	**1.12**	**47**	P	Pg	03 24 11.4	-0.8
RCVN	**Varillal2**	**1.12**	**47**	P	Pg	03 24 11.6	-0.7
RCVN	**Varillal2**	**1.12**	**47**	P	Pg	03 24 11.4	-0.8
RCVN	**Varillal2**	**1.12**	**47**	S	Sg	03 24 26.6	-0.2
YUSH	**Yuscaran**	**1.15**	**9**	P	Pg	03 24 12.5	-0.3
YUSH	**Yuscaran**	**1.15**	**9**	S	Sg	03 24 27.6	-0.2
RCPN	**Sur Rio San Ju**	**1.16**	**52**	P	Pg	03 24 12.2	-0.8
RCPN	**Sur Rio San Ju**	**1.16**	**52**	P	Pg	03 24 12.4	-0.5
RCPN	**Sur Rio San Ju**	**1.16**	**52**	P	Pg	03 24 12.4	-0.6
RCPN	**Sur Rio San Ju**	**1.16**	**52**	S	Sg	03 24 28.4	+0.5
NANN	**Nandasmo**	**1.24**	**134**	P	Pn	03 24 15.6	+0.5
NANN	**Nandasmo**	**1.24**	**134**	P	Pb	03 24 14.9	0.0
NANN	**Nandasmo**	**1.24**	**134**	S	Sb	03 24 31.7	+0.3
TGUH	**Tegucigalpa,Un**	**1.26**	**349**	P	Pg	03 24 13.9	-1.0
TGUH				P	Pb	03 24 14.2	-1.0
TGUH	**Tegucigalpa,Un**	**1.26**	**349**	P	Pg	03 24 13.9	-1.0
TGUH				S	Sg	03 24 31.3	0.0
RANC	**El Ranchito**	**1.37**	**297**	*eP*	Pn	03 24 14.7	-2.2
RANC	**El Ranchito**	**1.37**	**297**	P	Pn	03 24 14.8	-2.1
RANC	**El Ranchito**	**1.37**	**297**	P	Pn	03 24 15.3	-1.7
RANC	**El Ranchito**	**1.37**	**297**	S	Sg	03 24 34.3	-0.5
LCY	**Lacayo**	**1.37**	**296**	*eP*	Pn	03 24 15.2	-1.7
BOAB	**BOACO BROADBAN**	**.38**	**105**	P	Pn	03 24 14.8	-2.2
BOAB	**BOACO BROADBAN**	**.38**	**105**	P	Pn	03 24 15.7	-1.2
BOAB	**BOACO BROADBAN**	**.38**	**105**	S	Sg	03 24 34.2	-1.0
BOAB	**BOACO BROADBAN**	**.38**	**105**	P	Pn	03 24 15.0	-1.9
PACA	**Pacayal**	**1.42**	**298**	*eP*	Pn	03 24 15.7	-1.9
PACA				*eS*	Sg	03 24 32.8	-3.5
PACA	**Pacayal**	**1.42**	**298**	P	Pn	03 24 16.3	-1.3
PACA	**Pacayal**	**1.42**	**298**	P	Pn	03 24 16.2	-1.4
PACA	**Pacayal**	**1.42**	**298**	S	Sg	03 24 35.0	-1.3
ALJI	**Alcalda de J**	**1.58**	**289**	P	Pn	03 24 18.2	-1.5
ALJI	**Alcalda de J**	**1.58**	**289**	S	Sn	03 24 39.5	-1.3
TECA	**Tecapa**	**1.58**	**295**	*eP*	Pn	03 24 18.7	-1.3
COMHN	**El Horno**	**1.70**	**343**	P	Pn	03 24 20.9	-0.6
COMHN	**El Horno**	**1.70**	**343**	S	Sn	03 24 43.4	-0.5
TECO	**Alcaldia de Te**	**1.85**	**293**	S	Sn	03 24 47.0	-0.4
SCLA	**Alcaldia de Sa**	**1.87**	**298**	*eP*	Pn	03 24 22.5	-1.3
SCLA				*eS*	Sn	03 24 45.5	-2.5
SCLA				IAML		03 24 55.3	
	comp=Z,17nm,0.5s						
SCLA	**Alcaldia de Sa**	**1.87**	**298**	P	Pn	03 24 23.6	-0.2
SCLA	**Alcaldia de Sa**	**1.87**	**298**	P	Pn	03 24 23.2	-0.6
SCLA	**Alcaldia de Sa**	**1.87**	**298**	S	Sb	03 24 49.9	+0.4
UESV	**Universidad de**	**1.90**	**296**	S	Sn	03 24 49.2	+0.7
COEG	**Centro de Oper**	**1.97**	**294**	S	Sn	03 24 50.8	+0.4
ACON	**Acoyapa**	**2.00**	**115**	P	Pn	03 24 25.5	0.0
ACON	**Acoyapa**	**2.00**	**115**	P	Pn	03 24 25.3	-0.1
ACON	**Acoyapa**	**2.00**	**115**	S	Sb	03 24 52.3	-0.8
PAVA	**Las Pavas**	**2.06**	**296**	P	Pg	03 24 31.2	+1.0
PAVA	**Las Pavas**	**2.06**	**296**	P	Pn	03 24 26.1	-0.3
PAVA	**Las Pavas**	**2.06**	**296**	S	Sb	03 24 54.6	-0.4
LOMA	**Loma Larga**	**2.24**	**292**	S	Sn	03 24 58.0	+0.9
LOMA	**Loma Larga**	**2.24**	**292**	P	Pg	03 24 43.0	+9.3
PMON	**Piamonte**	**2.40**	**292**	S	Sb	03 25 03.5	-1.1
PMON	**Piamonte**	**2.40**	**292**	P	Pg	03 24 37.0	+0.3
JAYA	**Jayaque - finc**	**2.50**	**290**	*eP*	Pn	03 24 30.5	-2.0
JAYA				*eS*	Sn	03 25 00.7	-2.9
JAYA				IAML		03 25 10.2	
	comp=Z,95nm,0.2s						
JAYA	**Jayaque - finc**	**2.50**	**290**	P	Pn	03 24 32.2	-0.3
JAYA	**Jayaque - finc**	**2.50**	**290**	P	Pn	03 24 32.0	-0.5
JAYA	**Jayaque - finc**	**2.50**	**290**	S	Sb	03 25 05.6	-2.0
MTO3	**Montecristo**	**2.76**	**305**	*eP*	Pn	03 24 33.4	-2.7
NUBE	**Las Nubes**	**2.88**	**292**	*eP*	Pn	03 24 35.9	-1.9
NUBE	**Las Nubes**	**2.88**	**292**	P	Pn	03 24 39.0	+1.2
NUBE	**Las Nubes**	**2.88**	**292**	P	Pn	03 24 37.9	+0.1

*AEIC **04** 03:30:52.8±0.7, 53°.9N±0°.1×165°.8W±0°.1, h92km±5km, Error ellipse: s-maj=20.9km s-min=4.0km az=155.0*
NEIC 04 03:30:51.7±1.0, 53°.8N±0°.2×165°.7W±0°.2, h91km±8km, mb3.6/20, ML3.3/12, ML3.2(AEIC), Error ellipse: s-maj=25.4km s-min=3.8km az=149.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKBBA	**Akutan Broad B**	**0.35**	**338**		Pn	03 31 05.3	-0.2
AKBBA					Sn	03 31 15.6	-0.2
ZRO	**Akutan Zero**	**0.35**	**334**		Pn	03 31 05.4	-0.2
ZRO					Sn	03 31 15.7	-0.2
AKSA	**Akutan Strait**	**0.36**	**2**		Pn	03 31 05.4	-0.2
AKSA					Sn	03 31 15.7	-0.2
AKRB	**Akutan Reef Bi**	**0.41**	**330**		Pn	03 31 06.0	+0.1
LVA	**Lava Point**	**0.43**	**334**	Pn	Pn	03 31 05.5	-0.6
LVA				Sn	Sn	03 31 16.6	-0.2
AKGG	**Akutan Green G**	**0.46**	**339**		Pn	03 31 06.4	+0.2
UNV	**Unalaska Valle**	**0.47**	**279**	Pn	Pn	03 31 06.5	+0.2
UNV				Sn	Sn	03 31 17.8	+0.6
MTBL	**Makushin Table**	**0.60**	**289**		Pn	03 31 07.5	0.0
MSW	**Makushin Switc**	**0.65**	**283**		Pn	03 31 07.6	-0.2
MGOD	**Makushin Gods**	**0.69**	**272**		Pn	03 31 08.2	-0.1
MAPS	**Pakushin South**	**0.73**	**273**		Pn	03 31 08.4	-0.2
MAPS					Sn	03 31 21.6	+0.5
WECS	**Westdahl Cape**	**0.94**	**36**		Pn	03 31 10.7	-0.1
WESE	**West Dahl East**	**0.96**	**43**		Pn	03 31 11.1	-0.1
WEBT	**Westdahl Beart**	**0.99**	**34**		Sn	03 31 26.3	+0.1
OKFG	**Magazine Ridge**	**1.36**	**255**		Pn	03 31 15.7	-0.1
OKFG					Sn	03 31 34.3	+0.4
SSLS	**Shishaldin Sou**	**1.38**	**46**		Pn	03 31 15.9	-0.1
OKTU	**Okmok Mt. Tuli**	**1.44**	**255**		Pn	03 31 16.9	+0.1
OKRE	**Okmok R'deer P**	**1.48**	**261**		Pn	03 31 17.1	-0.2
ISLZ	**Isanotski Laza**	**1.51**	**50**		Pn	03 31 17.7	0.0
ISNN	**Isanotski Nort**	**1.55**	**46**		Pn	03 31 18.5	+0.3
FALS	**False Pass**	**1.73**	**50**	Pn	Pn	03 31 20.2	-0.1
FALS				Sn	Sn	03 31 42.0	-0.1
HAG	**Hague Volcano**	**2.70**	**54**		Pn	03 31 33.5	+0.3
PS4A	**Pavlof South-4**	**2.74**	**53**		Pn	03 31 34.1	+0.3
PVV	**Pavlof Volcano**	**2.79**	**53**		Pn	03 31 34.6	+0.2
PS1A	**Pavlof South-1**	**2.84**	**53**		Pn	03 31 35.2	+0.2
S12K	**Black Hills**	**2.87**	**46**	Pn	Pn	03 31 34.9	-0.5
S12K				IAML		03 31 57.6	
	comp=E,76nm,1.4s						
S12K				Sn	Sn	03 32 09.8	+0.7
S12K				IAML		03 32 24.3	
	comp=N,64nm,1.2s						
SDPT	**Sand Point**	**3.43**	**61**	Pn	Pn	03 31 42.3	-0.7
SDPT				IAML		03 32 22.6	
	comp=N,75nm,0.5s						
SDPT				IAML		03 32 38.1	
	comp=E,59nm,0.8s						
CNBA	**Chernabura Isl**	**3.74**	**71**	Pn	Pn	03 31 45.7	-1.4
CHGN	**Chignik**	**4.90**	**56**	Pn	Pn	03 32 01.9	-1.0
CHGN				IAML		03 32 57.8	
	comp=N,15nm,0.3s						
CHGN				IAML		03 33 02.5	
	comp=E,22nm,0.8s						
ATKA	**Atka Island**	**5.36**	**256**	Pn	Pn	03 32 08.1	-1.1
CHIR	**Chirikof Islan**	**6.19**	**67**	Pn	Pn	03 32 18.3	-2.0
N15K	**Kwethluk River**	**7.11**	**23**	Pn	Pn	03 32 32.4	-0.5
SII	**Sitkinak Islan**	**7.17**	**62**	Pn	Pn	03 32 31.1	-2.6
O16K	**Kokwok River B**	**7.18**	**33**	Pn	Pn	03 32 33.8	-0.1
ANCK	**Angle Creek**	**7.24**	**48**		Pn	03 32 34.4	-0.5
M14K	**Bethel**	**7.29**	**15**	Pn	Pn	03 32 34.6	-0.7
ACHA	**Angle Creek He**	**7.33**	**48**	Pn	Pn	03 32 36.2	+0.3
R18K	**Karluk**	**7.41**	**55**	Pn	Pn	03 32 34.7	-2.3
P17K	**Kvichak River**	**7.47**	**40**		Pn	03 32 36.9	-0.9
KAHC	**Katmai Hardscr**	**7.71**	**46**		Pn	03 32 40.8	-0.4
OHAK	**Old Harbor**	**7.86**	**59**	Pn	Pn	03 32 39.9	-3.2
P18K	**Big Mountain,**	**8.07**	**42**	Pn	Pn	03 32 46.0	0.0
M16K	**Timber Creek**	**8.13**	**24**	Pn	Pn	03 32 46.4	-0.4
N17K	**Nushagak Hills**	**8.20**	**31**	Pn	Pn	03 32 47.2	-0.5
O18K	**Koktuli Hills**	**8.38**	**39**	Pn	Pn	03 32 50.5	+0.2
KDAK	**Kodiak Island**	**8.42**	**56**	Pn	Pn	03 32 47.5	-3.2
Q19K	**Cape Douglas,**	**8.46**	**48**	Pn	Pn	03 32 50.0	-1.3
N18K	**Kilae Creek**	**8.73**	**34**	Pn	Pn	03 32 54.7	-0.3
M17K	**Holitna River**	**8.84**	**27**	Pn	Pn	03 32 56.0	-0.4
SYI	**Shuyak Island**	**8.86**	**52**	Pn	Pn	03 32 54.4	-2.4
N19K	**Bonanza Creek**	**9.30**	**36**	Pn	Pn	03 33 02.9	0.0
M19K	**Big River Lodg**	**10.12**	**32**	Pn	Pn	03 33 14.4	+0.5
M20K	**Styx River**	**10.52**	**34**	Pn	Pn	03 33 20.0	+0.6
SLKM	**Skilak Lake**	**10.77**	**45**	Pn	Pn	03 33 19.9	-2.9
J18K	**Innoko River**	**10.78**	**22**	Pn	Pn	03 33 23.4	+0.5
SEW	**Seward**	**10.89**	**48**	Pn	Pn	03 33 20.8	-3.6
SKT	**Skwentna**	**11.14**	**37**	Pn	Pn	03 33 28.1	+0.3
K20K	**Telida**	**11.35**	**28**	Pn	Pn	03 33 29.7	-0.9
PPLA	**Purkeypile**	**11.55**	**32**	Pn	Pn	03 33 33.1	-0.4
PWL	**Port Wells**	**11.75**	**46**	Pn	Pn	03 33 31.1	-4.8
CAST	**Castle Rocks**	**11.97**	**31**	Pn	Pn	03 33 39.0	+0.1
SML	**Sawmill**	**12.24**	**42**	Pn	Pn	03 33 39.3	-3.3
HIN	**Hinchinbrook I**	**12.35**	**50**	Pn	Pn	03 33 40.2	-3.8
FID	**Port Fidalgo**	**12.50**	**48**	Pn	Pn	03 33 41.3	-4.7
SCM	**Sheep Creek Mo**	**12.66**	**43**	Pn	Pn	03 33 44.5	-3.7
EYAK	**Cordova Ski Ar**	**12.75**	**50**	Pn	Pn	03 33 45.1	-4.1
DIV	**Divide**	**12.98**	**47**	Pn	Pn	03 33 48.7	-3.7
KLU	**Klutina**	**13.08**	**46**	Pn	Pn	03 33 49.4	-4.3
KAIM	**Kayak Island**	**13.14**	**54**	Pn	Pn	03 33 52.3	-2.3
M24K	**Tolsona, Glenn**	**13.27**	**43**	Pn	Pn	03 33 52.1	-4.1
I21K	**Tanana**	**13.35**	**26**	Pn	Pn	03 33 57.5	+0.2
HMT	**Hamilton**	**13.36**	**52**	Pn	Pn	03 33 53.9	-3.4
BMRM	**Bremner River**	**13.43**	**49**	Pn	Pn	03 33 55.0	-3.3
SUCK	**Suckling Hills**	**13.50**	**53**	Pn	Pn	03 33 57.4	-1.8
H21K	**Melozitna Rive**	**13.54**	**23**	Pn	Pn	03 34 00.5	+0.8
BERG	**Berg Lake**	**13.63**	**52**	Pn	Pn	03 33 57.8	-3.2
N25K	**Chitina, Valde**	**13.70**	**47**	Pn	Pn	03 33 58.3	-3.5
GLB	**Gilahina Butte**	**13.97**	**48**	Pn	Pn	03 34 01.3	-4.1
PAX	**Paxson**	**13.99**	**41**	Pn	Pn	03 34 03.7	-2.1
VRDI	**Verde Repeater**	**14.05**	**49**	Pn	Pn	03 34 02.5	-4.0
MESA	**MESA**	**14.40**	**54**	Pn	Pn	03 34 09.2	-1.9
RIDG	**Independent Ri**	**14.65**	**39**	Pn	Pn	03 34 12.2	-1.9
MENT	**Mentasta**	**14.67**	**43**	Pn	Pn	03 34 13.0	-1.4
M26K	**Nabesna, AK**	**14.72**	**45**	Pn	Pn	03 34 12.1	-3.0
M27K	**Edge Creek, AK**	**15.18**	**46**	Pn	Pn	03 34 18.6	-2.4
M27K				IAmb	IAmb	03 34 46.4	
	comp=Z,4.0nm,1.2s						
L27K	**Beaver Creek,**	**15.49**	**44**	Pn	Pn	03 34 21.3	-3.6
BCAR	**Beaver Creek A**	**15.51**	**44**	Pn	Pn	03 34 21.3	-3.7
E22K	**Anaktuvuk Pass**	**15.84**	**19**		P	03 34 31.9	+0.8
E22K				IAmb	IAmb	03 35 10.1	
	comp=Z,7.6nm,1.5s						
O29M	**Mount Kennedy**	**16.07**	**55**	Pn	Pn	03 34 32.2	+0.1
M29M	**Somme Creek**	**16.69**	**48**	Pn	Pn	03 34 37.6	-2.2
M29M				IAmb	IAmb	03 34 45.4	
	comp=Z,3.6nm,1.2s						
HYT	**Haines Junctio**	**16.69**	**54**		P	03 34 41.3	+0.6
**S31

KIF				*e*S		**Sn**	**04 02 18.6**	**-1.2**
KIF	**Kilpisjarvi**	**7.61**	**101**	Pn		**Pn**	**04 00 56.2**	**+2.5**
MOR8	**Moi Rana**	**7.69**	**129**	*e*P		**Pn**	**04 00 56.9**	**+2.0**
MOR8				*e*S		**Sn**	**04 02 20.1**	**-1.8**
MOR8				IAML			04 02 25.3	
comp=Z,4.6nm,0.4s								
SPA0	**Spitsbergen Ar**	**7.76**	**26**	Pn		**Pn**	**04 00 55.5**	**-0.2**
baz=201,slow=14								
SPA0				IAML			04 01 14.2	
comp=Z,2.6nm,0.8s								
SPA0	**Spitsbergen Ar**	**7.76**	**26**	Pn		**Pn**	**04 00 55.5**	**-0.2**
baz=201,slow=14								
KBS	**Kingsbay**	**7.85**	**18**	*e*P		**Pn**	**04 00 56.1**	**-0.9**
KBS				IAML			04 00 57.5	
comp=Z,3.5nm,0.6s								
KTK1	**Kautokeino**	**8.36**	**98**	*e*P		**Pn**	**04 01 06.8**	**+2.8**
HEF	**Hetta**	**8.81**	**100**	Pn		**Pn**	**04 01 12.4**	**+2.2**
HEF	**Hetta**	**8.81**	**100**	Pn		**Pn**	**04 01 12.4**	**+2.2**
ARA0	**ARCESS Array S**	**8.83**	**92**	Pn		**Pn**	**04 01 12.4**	**+1.9**
baz=290,slow=11								
ARA0	**ARCESS Array S**	**8.83**	**92**	Pn		**Pn**	**04 01 12.4**	**+1.9**
baz=290,slow=11								

HEL 04 04:05:03.4±0.6, 69°21N×30°84E, h0km, ML1.0, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.18**	**232**	PN	Pn	04 05 26.9	-0.2
RAJF				SN	Sn	04 05 44.2	+0.3
KEV	**Kevo**	**1.46**	**294**	PG	Pn	04 05 29.5	-1.4
baz=107							
KEV				SG	Sg	04 05 47.2	-3.0
KEV				MSG		04 05 47.2	
comp=Z,0.6nm,0.2s							
ARA0	**ARCESS Array S**	**1.92**	**282**	PG	Pb	04 05 38.3	-0.9
ARA0				SG	Sn	04 06 02.7	+0.6
HEF	**Hetta**	**2.73**	**256**	PN	Pn	04 05 47.8	-0.6
HEF				MSG		04 06 23.7	
comp=Z,0.3nm,0.2s							
KTK1	**Kautokeino**	**2.73**	**269**	SG	Sb	04 06 27.5	+0.4
OLKF	**Oulanka, Finla**	**2.96**	**191**	PN	Pn	04 05 51.6	0.0
OLKF				MSG		04 06 30.2	
comp=Z,0.6nm,0.2s							
RNF	**Rovaniemi**	**3.19**	**217**	SG	Sg	04 06 43.6	-2.0
KU6	**Riekki**	**3.22**	**187**	PN	Pn	04 05 52.6	-2.6
RANF	**Ranua**	**3.57**	**208**	SG	Sb	04 06 50.5	-0.5

KOLA 04 04:05:12.5, 67°66N×33°74E, h0km, ML1.4, Error ellipse: s-maj=2.2km s-min=1.1km az=140.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**235**	P	Pg	04 05 15.3	-0.2
APA				S	Sg	04 05 17.5	0.0
APA0	**Apatity Array**	**0.29**	**260**	P	Pg	04 05 17.6	-0.5
APA0				S	Sg	04 05 21.6	-0.2
LVZ	**Lovozero**	**0.42**	**55**	P	Pg	04 05 20.4	-0.2
LVZ				S	Sg	04 05 26.1	+0.1
KVDA	**Kovda**	**1.03**	**200**	S	Sg	04 05 44.3	-1.2
TERR	**Teriberka**	**1.63**	**17**	P	Pn	04 05 41.7	-0.7
VADS	**Vadso**	**2.94**	**329**	S	Sn	04 06 35.1	-1.1

*CATAC **04** 04:06:26.9±0.6, 13°N±3°×9°0W±°, h18km±2km, M3.3/7, MLv3.3/7, Error ellipse: s-maj=6.0km s-min=3.8km az=27.8, confirmed*
*SNET **04** 04:06:28.0±1.3, 13°20N×89°79W, h25km±35km, ML5.0*
ISC 04 04:06:26.1±2.2, 13°10N±0°09×89°79W±0°07, h29km, n86, σ0s49/88, 3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.60**	**49**	*e*P	**Pn**	**04 06 38.6**	**0.0**
LALI	**Alcalda de L**	**0.60**	**49**	P	**Sb**	**04 06 46.5**	**+0.2**
LALI	**Alcalda de L**	**0.60**	**49**	P	**Pn**	**04 06 38.7**	**0.0**
LALI	**Alcalda de L**	**0.60**	**49**	S	**Sn**	**04 06 46.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.64**	**31**	⇑*i*P	**Pn**	**04 06 39.3**	**-0.1**
JAYA				*e*S	**Sn**	**04 06 48.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.64**	**31**	P	**Pn**	**04 06 39.3**	**-0.1**
JAYA	**Jayaque - finc**	**0.64**	**31**	P	**Pn**	**04 06 39.2**	**-0.1**
CEVE	**Cerro Verde**	**0.74**	**12**	*e*P	**Pn**	**04 06 40.9**	**0.0**
CEVE	**Cerro Verde**	**0.74**	**12**	P	**Pn**	**04 06 40.9**	**0.0**
CEVE	**Cerro Verde**	**0.74**	**12**	P	**Pn**	**04 06 40.8**	**0.0**
CEVE	**Cerro Verde**	**0.74**	**12**	S	**Sn**	**04 06 51.6**	**+0.3**
SBLS	**San Blas**	**0.76**	**12**	⇑*i*P	**Pn**	**04 06 40.9**	**-0.1**
ITCA	**Escuela Especi**	**0.76**	**41**	P	**Sn**	**04 06 53.0**	**+1.5**
ITCA	**Escuela Especi**	**0.76**	**41**	P	**Pn**	**04 06 41.0**	**+0.1**
ITCA	**Escuela Especi**	**0.76**	**41**	S	**Sn**	**04 06 51.2**	**-0.2**
PMON	**Piamonte**	**0.77**	**37**	*e*P	**Pn**	**04 06 40.9**	**0.0**
PMON	**Piamonte**	**0.77**	**37**	P	**Pn**	**04 06 41.1**	**0.0**
PMON	**Piamonte**	**0.77**	**37**	P	**Pn**	**04 06 41.0**	**0.0**
PMON	**Piamonte**	**0.77**	**37**	S	**Sn**	**04 06 51.5**	**-0.1**
FAME	**Alcaldia de Sa**	**0.77**	**343**	S	**Sn**	**04 06 51.4**	**-0.3**
PANCS	**Alcalda de**	**0.78**	**49**	*e*P	**Pb**	**04 06 41.0**	**-0.2**
PANCS	**Alcalda de**	**0.78**	**49**	P	**Pb**	**04 06 40.9**	**-0.3**
PANCS	**Alcalda de**	**0.78**	**49**	S	**Sb**	**04 06 51.4**	**-0.1**
SNJE	**San Jose**	**0.79**	**13**	⇑*e*P	**Pn**	**04 06 41.3**	**-0.1**
CEDA	**San Andres**	**0.80**	**29**	P	**Pb**	**04 06 41.6**	**+0.2**
CEDA	**San Andres**	**0.80**	**29**	S	**Sn**	**04 06 52.5**	**+0.1**
NUBE	**Las Nubes**	**0.80**	**1**	*e*P	**Pb**	**04 06 41.4**	**-0.2**
NUBE				*e*S	**Sb**	**04 06 51.8**	**-0.3**
NUBE	**Las Nubes**	**0.80**	**1**	P	**Pb**	**04 06 41.4**	**-0.2**
NUBE	**Las Nubes**	**0.80**	**1**	P	**Pb**	**04 06 41.3**	**-0.2**
NUBE	**Las Nubes**	**0.80**	**1**	S	**Sb**	**04 06 52.0**	**-0.1**
BOQS	**Boqueron**	**0.80**	**38**	*e*P	**Pn**	**04 06 42.1**	**+0.4**
LOMA	**Loma Larga**	**0.81**	**48**	*e*P	**Pb**	**04 06 41.7**	**+0.1**
LOMA				*e*S	**Sn**	**04 06 52.5**	**-0.4**
LOMA	**Loma Larga**	**0.81**	**48**	P	**Pb**	**04 06 41.8**	**+0.1**
LOMA	**Loma Larga**	**0.81**	**48**	P	**Pb**	**04 06 41.7**	**+0.1**
UEES	**Universidad Ev**	**0.81**	**41**	P	Pb	04 06 49.2	+7.4
UEES	**Universidad Ev**	**0.81**	**41**	P	**Pb**	**04 06 41.8**	**0.0**
UEES	**Universidad Ev**	**0.81**	**41**	S	**Sn**	**04 06 53.0**	**+0.1**
UTEC	**Universidad Te**	**0.83**	**44**	P	**Sn**	**04 06 54.6**	**+1.5**
UTEC	**Universidad Te**	**0.83**	**44**	S	**Sn**	**04 06 53.0**	**-0.1**
IGN	**Direccin Gen**	**0.86**	**44**	S	**Sn**	**04 06 54.0**	**+0.1**
UDBS	**Universidad Do**	**0.87**	**45**	S	**Sn**	**04 06 54.5**	**+0.3**
LFRS	**El Faro**	**0.88**	**53**	*e*P	**Pb**	**04 06 42.8**	**-0.1**
LOAL	**Lomas de Alarc**	**0.90**	**0**	S	**Sn**	**04 06 55.9**	**+1.1**
LOAL	**Lomas de Alarc**	**0.90**	**0**	P	**Pb**	**04 06 43.2**	**+0.1**
UNIC	**Universidad Ca**	**0.91**	**15**	P	**Pb**	**04 06 44.8**	**+1.4**
UNIC	**Universidad Ca**	**0.91**	**15**	P	**Pb**	**04 06 43.0**	**-0.3**
UNIC	**Universidad Ca**	**0.91**	**15**	S	**Sb**	**04 06 54.8**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.92**	**0**	*e*P	**Pb**	**04 06 43.3**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.92**	**0**	P	**Pb**	**04 06 43.5**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.92**	**0**	P	**Pb**	**04 06 43.4**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.92**	**0**	S	**Sn**	**04 06 56.2**	**+0.8**
COEG	**Centro de Oper**	**1.02**	**59**	*e*P	**Pn**	**04 06 44.6**	**+0.1**
COEG	**Centro de Oper**	**1.02**	**59**	P	**Pn**	**04 06 44.3**	**-0.3**
COEG	**Centro de Oper**	**1.02**	**59**	P	**Pn**	**04 06 44.2**	**-0.3**
COEG	**Centro de Oper**	**1.02**	**59**	S	**Sb**	**04 06 58.4**	**0.0**
PAVA	**Las Pavas**	**1.03**	**53**	*e*P	**Pb**	**04 06 45.6**	**+0.2**
PAVA	**Las Pavas**	**1.03**	**53**	P	**Pb**	**04 06 45.7**	**+0.2**
PAVA	**Las Pavas**	**1.03**	**53**	P	**Pb**	**04 06 45.5**	**+0.2**
PAVA	**Las Pavas**	**1.03**	**53**	S	**Sb**	**04 06 59.2**	**+0.6**
TECO	**Alcaldia de Te**	**1.07**	**66**	*e*P	**Pn**	**04 06 45.4**	**+0.2**
TECO	**Alcaldia de Te**	**1.07**	**66**	P	**Pn**	**04 06 45.4**	**+0.2**
TECO	**Alcaldia de Te**	**1.07**	**66**	S	**Sn**	**04 06 59.1**	**0.0**
UESV	**Universidad de**	**1.11**	**61**	P	**Pb**	**04 06 48.2**	**+1.4**
UESV	**Universidad de**	**1.11**	**61**	P	**Pb**	**04 06 46.2**	**-0.5**
UESV	**Universidad de**	**1.11**	**61**	S	**Sb**	**04 07 00.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.19**	**60**	*e*P	**Pb**	**04 06 48.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**60**	P	**Pb**	**04 06 48.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**60**	P	**Pb**	**04 06 48.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**60**	S	**Sb**	**04 07 03.4**	**+0.2**
ALJI	**Alcalda de J**	**1.21**	**79**	S	**Sb**	**04 07 03.3**	**-0.2**
PQSS	**Presa 15 de Se**	**1.30**	**66**	S	**Sb**	**04 07 05.8**	**-0.5**
LLGN	**La Laguna**	**1.34**	**38**	S	**Sb**	**04 07 06.9**	**-0.5**
LLGN	**La Laguna**	**1.34**	**38**	P	**Pb**	**04 06 49.9**	**-0.7**
MTO3	**Montecristo**	**1.36**	**18**	*e*P	**Pn**	**04 06 50.0**	**+0.7**
MTO3	**Montecristo**	**1.36**	**18**	P	**Pn**	**04 06 50.0**	**+0.7**
MTO3	**Montecristo**	**1.36**	**18**	P	**Pb**	**04 06 50.2**	**-0.8**
MTO3	**Montecristo**	**1.36**	**18**	P	**Pn**	**04 06 49.9**	**+0.7**
MTO3	**Montecristo**	**1.36**	**18**	S	**Sb**	**04 07 07.3**	**-0.8**
PACA	**Pacayal**	**1.47**	**75**	*e*P	**Pb**	**04 06 53.2**	**+0.3**
PACA	**Pacayal**	**1.47**	**75**	P	**Pb**	**04 06 53.2**	**+0.3**
PACA	**Pacayal**	**1.47**	**75**	P	**Pb**	**04 06 52.2**	**-0.7**
PACA	**Pacayal**	**1.47**	**75**	S	**Sb**	**04 07 10.6**	**-0.6**
RANC	**El Ranchito**	**1.50**	**77**	S	**Sb**	**04 07 11.1**	**-0.9**
ESQI	**Esquipulas**	**1.52**	**17**	S	**Sb**	**04 07 11.8**	**-0.7**
CNCH	**Conchagua**	**1.91**	**84**	P	**Pb**	**04 06 60.0**	**-0.4**
CNCH	**Conchagua**	**1.91**	**84**	S	**Sn**	**04 07 20.9**	**+0.9**

*AEIC **04** 04:13:13.6±1.1, 54°04N±0°07×163°45W±0°10, h20km±8km, Error ellipse: s-maj=12.0km s-min=4.4km az=140.0*
NEIC 04 04:13:14.3±1.4, 54°07N±0°02×163°45W±0°07, h28km±10km, ML2.7/8, ML2.6(AEIC), Error ellipse: s-maj=6.1km s-min=2.3km az=96.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**0.67**	**347**		Pb	04 13 27.4	-0.1
ISLZ					Sn	04 13 37.8	+0.1
FALS	**False Pass**	**0.79**	**1**		Sn	04 13 40.8	+0.5
FALS	**False Pass**	**0.79**	**1**	Pn	Pb	04 13 29.2	-0.2
FALS					Sb	04 13 39.5	-0.2
ISNN	**Isanotski Nort**	**0.79**	**346**		Pb	04 13 29.3	-0.2
AKSA	**Akutan Strait**	**1.32**	**274**		Pn	04 13 36.9	0.0
AKSA					Sn	04 13 54.1	+0.4
ZRO	**Akutan Zero**	**1.49**	**272**		Pn	04 13 39.1	-0.1
ZRO					Sn	04 13 58.3	+0.5
LVA	**Lava Point**	**1.52**	**274**	Pn	Pn	04 13 37.2	-2.5
HAG	**Hague Volcano**	**1.54**	**35**		Pn	04 13 39.8	-0.1
PS4A	**Pavlof South-4**	**1.57**	**35**		Pn	04 13 40.4	-0.1
S12K	**Black Hills**	**1.82**	**26**	Pn	Pn	04 13 43.0	-0.8
S12K				IAML		04 14 10.6	
comp=N,60nm,1.1s							
S12K				IAML		04 14 15.0	
comp=E,81nm,1.4s							
UNV	**Unalaska Valle**	**1.82**	**264**	Pn	Pn	04 13 42.7	-1.0
MSW	**Makushin Switc**	**1.98**	**267**		Pn	04 13 46.1	+0.2
MGOD	**Makushin Gods**	**2.04**	**264**		Pn	04 13 46.9	0.0
SDPT	**Sand Point**	**2.15**	**52**	Pn	Pn	04 13 46.4	-1.8
SDPT				IAML		04 14 22.3	
comp=N,44nm,1.1s							
CHGN	**Chignik**	**3.65**	**50**	Pn	Pn	04 14 08.7	-0.2
CHGN				IAML		04 16 35.8	
comp=N,16nm,1.0s							
N15K	**Kwethluk River**	**6.38**	**15**	Pn	Pn	04 14 47.4	+1.1
KDAK	**Kodiak Island**	**7.14**	**54**	Pn	Pn	04 14 56.3	-0.5
O18K	**Koktuh Hills**	**7.34**	**35**	Pn	Pn	04 15 00.6	+1.1
M16K	**Timber Creek**	**7.37**	**17**	Pn	Pn	04 15 00.9	+1.0
M17K	**Holitna River**	**8.02**	**21**	Pn	Pn	04 15 09.1	+0.3

*SJA **04** 04:18:13.9±0.7, 33°43S×71°25W, h60km±2km, ML3.7, MW3.7*
*NEIC **04** 04:18:14.8±0.9, 33°45S±0°03×71°28W±0°03, h62km±4km, ML4.0/54, Error ellipse: s-maj=5.1km s-min=3.7km az=150.0*
*GUC **04** 04:18:15.1±0.7, 33°44S×71°24W, h65km±2km, ML3.9*
ISC 04 04:18:15.5±1.2, 33°43S±0°02×71°27W±0°03, h57km±5km, n87, σ1s17/137, 14C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT02	**Curacav**	**0.21**	**33**		**Pn**	**04 18 24.5**	**-0.1**
MT02				Sn	**Sn**	**04 18 31.4**	**+0.1**
MT02				IAML		04 18 31.8	
comp=E,7μm,0.2s							
MT02				IAML		04 18 31.9	
comp=N,9μm,0.5s							
MT02	**Curacav**	**0.21**	**33**	⇑*e*P	**Pn**	**04 18 24.7**	**0.0**
MT02				*e*S	**Sn**	**04 18 31.3**	**0.0**
MT02				IAML		04 18 31.9	
comp=E,8μm,0.1s							
MT02	**Curacav**	**0.21**	**33**	*e*P	**Pn**	**04 18 24.3**	**-0.3**
MT02				IAML		04 18 34.0	
comp=Z,2μm,0.2s							
VA05	**Santo Domingo**	**0.36**	**232**		**Pn**	**04 18 25.9**	**+0.1**
VA05				Sn	**Sn**	**04 18 33.6**	**+0.3**
VA05	**Santo Domingo**	**0.36**	**232**	⇓*e*P	**Pn**	**04 18 25.9**	**+0.1**
VA05				*e*S	**Sn**	**04 18 34.2**	**+1.0**
VA05				IAML		04 18 36.3	
comp=E,15μm,0.3s							
MT09	**Talagante**	**0.41**	**145**		**Pn**	**04 18 26.2**	**-0.3**
MT09				Sn	**Sn**	**04 18 34.1**	**-0.3**
MT09				IAML		04 18 35.9	
comp=E,10μm,0.1s							
MT09	**Talagante**	**0.41**	**145**	⇑*e*P	**Pn**	**04 18 26.4**	**-0.1**
MT09				*e*S	**Sn**	**04 18 34.8**	**+0.3**
MT09				IAML		04 18 36.0	
comp=N,15μm,0.3s							
MT01	**Popeta**	**0.43**	**178**	Pn	**Pn**	**04 18 26.1**	**-0.5**
MT01				Sn	**Sn**	**04 18 34.2**	**-0.3**
MT01	**Popeta**	**0.43**	**178**	*e*P	**Pn**	**04 18 26.2**	**-0.3**
MT01				*e*S	**Sn**	**04 18 34.4**	**0.0**
MT01				IAML		04 18 34.8	
comp=E,25μm,0.4s							
MT01				IAML		04 18 35.1	
comp=N,20μm,0.1s							
MT01	**Popeta**	**0.43**	**178**	*e*P	**Pn**	**04 18 26.0**	**-0.5**
MT01				*e*S	**Sn**	**04 18 34.5**	**+0.1**
MT01				IAML		04 18 34.9	
comp=Z,10μm,0.5s							
MT05	**Renca**	**0.45**	**85**		**Pn**	**04 18 26.2**	**-0.5**
MT05				Sn	**Sn**	**04 18 34.8**	**0.0**
MT05				IAML		04 18 36.0	
comp=E,8μm,0.4s							
MT05				IAML		04 18 36.1	
comp=N,11μm,0.3s							
MT05	**Renca**	**0.45**	**85**	*e*P	**Pn**	**04 18 26.7**	**0.0**
MT05				*e*S	**Sn**	**04 18 35.1**	**+0.3**
MT05				IAML		04 18 36.0	
comp=N,11μm,0.4s							
MT05	**Renca**	**0.45**	**85**	*e*P	**Pn**	**04 18 25.7**	**-1.0**
MT05				*e*S	**Sn**	**04 18 35.7**	**+0.8**
MT05				IAML		04 18 36.1	
comp=Z,3μm,0.1s							
ROC1	**El Roble**	**0.50**	**25**	*e*P	**Pn**	**04 18 26.7**	**-0.8**
ROC1				*e*S	**Sn**	**04 18 36.9**	**+0.7**
ROCH	**El Roble**	**0.51**	**25**	⇓*e*P	**Pn**	**04 18 27.5**	**-0.1**
ROCH				*e*S	**Sn**	**04 18 36.8**	**+0.6**
ROCH				IAML		04 18 38.8	
comp=N,9μm,0.5s							
VA01	**Torpederas**	**0.52**	**322**		**Pn**	**04 18 27.5**	**+0.1**
VA01				IAML		04 18 38.1	
comp=N,5μm,0.4s							
VA01				IAML		04 18 38.6	
comp=E,4μm,0.3s							
VA01	**Torpederas**	**0.52**	**322**	⇑*e*P	**Pn**	**04 18 27.6**	**+0.3**
VA01				*e*S	**Sn**	**04 18 36.9**	**+0.9**
VA01				IAML		04 18 38.8	
comp=N,5μm,0.2s							
VA01	**Torpederas**	**0.52**	**322**	*e*P	**Pn**	**04 18 27.7**	**+0.3**
VA01				*e*S	**Sn**	**04 18 38.3**	**+2.3**
VA01				IAML		04 18 38.8	
comp=Z,2μm,0.5s							
PEL	**Peldehue**	**0.57**	**60**		**Pn**	**04 18 27.8**	**-0.2**
PEL				Sn	**Sn**	**04 18 37.0**	**-0.2**
PEL				IAML		04 18 38.0	
comp=N,5μm,0.3s							
PEL	**Peldehue**	**0.57**	**60**	⇓*e*P	**Pn**	**04 18 27.9**	**-0.2**
PEL				*e*S	**Sn**	**04 18 37.3**	**+0.1**
PEL				IAML		04 18 38.1	
comp=N,6μm,0.2s							
PEL	**Peldehue**	**0.57**	**60**	*e*P	Pn	04 18 12.4	-16
PEL				*e*S	**Sn**	**04 18 37.4**	**+0.1**
MT14	**Cerro Cal¡n**	**0.62**	**87**	⇑*e*P	**Pn**	**04 18 28.3**	**-0.3**
MT14				*e*S	**Sn**	**04 18 38.1**	**-0.1**
MT14				IAML		04 18 41.5	
comp=E,5μm,0.2s							
MT16	**CCHEN**	**0.63**	**90**	Pn	**Pn**	**04 18 28.4**	**-0.3**
MT16				Sn	**Sn**	**04 18 38.2**	**-0.2**
MT16				IAML		04 18 38.9	
comp=N,6μm,0.2s							
MT16	**CCHEN**	**0.63**	**90**	⇑*e*P	**Pn**	**04 18 28.4**	**-0.3**
MT16				*e*S	**Sn**	**04 18 38.3**	**-0.1**
MT16				IAML		04 18 38.8	
comp=N,5μm,0.2s							
MT10	**Hacienda Santa**	**0.64**	**76**	⇑*e*P	**Pn**	**04 18 28.8**	**-0.2**
MT10				*e*S	**Sn**	**04 18 38.7**	**0.0**
MT10				IAML		04 18 39.6	
comp=E,14μm,0.3s							
MT03	**Universidad Ad**	**0.64**	**96**	Pn	**Pn**	**04 18 28.6**	**-0.4**
MT03	**Universidad Ad**	**0.64**	**96**	⇑*e*P	**Pn**	**04 18 28.6**	**-0.4**
MT03				*e*S	**Sn**	**04 18 38.5**	**-0.2**
MT03				IAML		04 18 39.2	
comp=N,22μm,0.2s							
MT03	**Universidad Ad**	**0.64**	**96**	*e*P	**Pn**	**04 18 28.4**	**-0.4**
MT03				*e*S	**Sn**	**04 18 38.8**	**0.0**
MT03				IAML		04 18 40.1	
comp=Z,8μm,0.1s							
MT15	**Las Vizcachas**	**0.66**	**105**	⇑*e*P	**Pn**	**04 18 28.9**	**-0.3**
MT15				*e*S	**Sn**	**04 18 38.9**	**-0.2**
MT15				IAML		04 18 39.8	
comp=E,16μm,0.2s							
BO04	**La Punta**	**0.78**	**135**	Pn	**Pn**	**04 18 30.3**	**-0.4**
BO04				IAML		04 18 42.3	
comp=N,4μm,0.2s							
BO04				IAML		04 18 43.4	
comp=E,5μm,0.1s							
BO04	**La Punta**	**0.78**	**135**	*e*P	**Pn**	**04 18 30.2**	**-0.4**
BO04				*e*S	**Sn**	**04 18 41.8**	**0.0**
BO04				IAML		04 18 43.4	
comp=E,6μm,0.2s							
FCH	**Farellones**	**0.83**	**83**	⇑*e*P	**Pn**	**04 18 31.0**	**-0.5**
FCH				*e*S	**Sn**	**04 18 43.1**	**-0.1**
FCH				IAML		04 18 44.0	
comp=E,3μm,0.2s							
VA06	**Catapilco**	**0.87**	**359**	Pn	**Pn**	**04 18 31.5**	**-0.2**
VA06				IAML		04 18 45.1	
comp=E,4μm,0.5s							
VA06				IAML		04 18 48.6	
comp=N,3μm,0.4s							
VA06	**Catapilco**	**0.87**	**359**	*e*P	**Pn**	**04 18 31.5**	**-0.2**
VA06				*e*S	**Sn**	**04 18 44.1**	**+0.5**
VA06				IAML		04 18 45.4	
comp=E,4μm,0.5s							
MT13	**San Alfonso**	**0.88**	**111**	Pn	**Pn**	**04 18 31.6**	**-0.3**
MT13				IAML		04 18 44.5	
comp=N,6μm,0.2s							
MT13				IAML		04 18 44.9	
comp=E,5μm,0.3s							
MT13	**San Alfonso**	**0.88**	**111**	⇑*e*P	**Pn**	**04 18 31.7**	**-0.3**
MT13				*e*S	**Sn**	**04 18 44.2**	**+0.2**
MT13				IAML		04 18 44.5	
comp=N,5μm,0.2s							
MT13	**San Alfonso**	**0.88**	**111**	*e*P	**Pn**	**04 18 31.5**	**-0.4**
MT13				*e*S	**Sn**	**04 18 44.5**	**+0.4**
MT13				IAML		04 18 44.8	
comp=Z,2μm,0.2s							
VA03	**San Esteban**	**0.90**	**42**	Pn	**Pn**	**04 18 31.9**	**-0.3**
VA03				IAML		04 18 46.0	
comp=N,5μm,0.5s							
VA03	**San Esteban**	**0.90**	**42**	*e*P	**Pn**	**04 18 32.0**	**-0.3**
VA03				*e*S	**Sn**	**04 18 44.7**	**+0.2**
VA03				IAML		04 18 45.9	
comp=E,7μm,0.2s							
VA03	**San Esteban**	**0.90**	**42**	*e*P	**Pn**	**04 18 31.6**	**-0.6**
VA03				*e*S	**Sn**	**04 18 45.1**	**+0.6**
VA03				IAML		04 18 45.9	
comp=Z,3μm,0.5s							
MT04	**Ro Olivares**	**0.95**	**89**	⇑*e*P	**Pn**	**04 18 32.6**	**-0.3**
MT04				*e*S	**Sn**	**04 18 45.5**	**-0.4**
MT04				IAML		04 18 47.1	
comp=E,5μm,0.1s							
MT04	**Ro Olivares**	**0.95**	**89**	*e*P	**Pn**	**04 18 31.9**	**-1.1**
MT04				*e*S	**Sn**	**04 18 45.9**	**0.0**
MT04				IAML		04 18 46.5	
comp=Z,2μm,0.1s							
BO01	**Tunca**	**0.97**	**171**	Pn	**Pn**	**04 18 32.7**	**-0.3**
BO01	**Tunca**	**0.97**	**171**	⇓*e*P	**Pn**	**04 18 32.7**	**-0.3**
BO01				*e*S	**Sn**	**04 18 45.9**	**-0.1**
BO01				IAML		04 18 46.4	
comp=E,2μm,0.2s							
BO01	**Tunca**	**0.97**	**171**	*e*P	**Pn**	**04 18 32.4**	**-0.7**
BO01				*e*S	**Sn**	**04 18 46.5**	**+0.5**
BO01				IAML		04 18 46.8	
comp=Z,1μm,0.1s							
LMEL	**Las Melosas**	**0.98**	**115**	Pn	**Pn**	**04 18 33.4**	**0.0**
LMEL				IAML		04 18 48.1	
comp=E,5μm,0.1s							
LMEL	**Las Melosas**	**0.98**	**115**	⇑*e*P	**Pn**	**04 18 33.3**	**0.0**
LMEL				*e*S	**Sn**	**04 18 46.5**	**0.0**
LMEL				IAML		04 18 47.6	
comp=N,11μm,0.1s							
LMEL	**Las Melosas**	**0.98**	**115**	*e*P	**Pn**	**04 18 32.9**	**-0.4**
LMEL				*e*S	**Sn**	**04 18 47.0**	**+0.5**
MT08	**Bocatoma Ro**	**1.05**	**91**	Pn	**Pn**	**04 18 34.2**	**-0.1**
MT08				IAML		04 18 50.4	
comp=N,2μm,0.6s							
MT08				IAML		04 18 51.6	
comp=E,2μm,0.4s							
MT08	**Bocatoma Ro**	**1.05**	**91**	⇑*e*P	**Pn**	**04 18 34.2**	**-0.1**
MT08				*e*S	**Sn**	**04 18 48.5**	**+0.3**
MT08				IAML	

LCO	**Las Campanas**	4.44	6	Pn	Pn	04 19 19.7	-0.8
LCO				IAML		04 20 10.6	
comp=Z,147nm,0.3s							
LCO	**Las Campanas**	4.44	6	eS	Sn	04 20 10.1	-0.9
LCO				IAML		04 20 40.0	
comp=Z,96nm,1.0s							
AC04	**Llanos de Chal**	5.21	2	Pn	Pn	04 19 30.2	-0.7
AC04				IAML		04 20 50.9	
comp=E,46nm,1.1s							
AC04				IAML		04 20 53.0	
comp=N,48nm,0.9s							
LR03	**Panguipulli**	6.25	188		Pn	04 19 43.0	-2.0
LR05	**Currie**	6.81	185	Pn	Pn	04 19 50.8	-1.9
PLCA	**Paso Flores**	7.31	176	Pn	Pn	04 19 59.5	-0.1
LL04	**Puerto Octay**	7.52	187	Pn	Pn	04 20 00.0	-2.4
TRQA	**Tornquist**	8.85	124	Pn	Pn	04 20 19.3	-1.4

*IDC **04** 04:27:47.6±1.9, 7°.29N×126°.90E, h73km±17km, mb3.7/13, mbtmp4.0/13, MS3.2/7, Error ellipse: s-maj=21.9km s-min=13.6km az=81.0*
*NEIC **04** 04:27:47.1±1.8, 7°.25N±0°.09×126°.80E±0°.10, h63km±6km, mb4.4/48, Error ellipse: s-maj=14.4km s-min=12.2km az=51.0*

ISC 04 04:27:45.1±0.5, 7°.28N±0°.06×126°.93E±0°.08, h52km, n83, σ1°.31/83, mb4.4/37, MS3.1/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	1.36	261			Pn	04 28 08.9	+1.3
DAV	**Davao City (W)**	1.36	261	P		Pn	04 28 09.1	+1.5
2μm,0.6s,baz=59,slow=2.8,SNR=27								
DAV				S		Sn	04 28 28.5	+3.9
722nm,0.5s,baz=102,slow=20,SNR=3.6								
DAV	**Davao City (W)**	1.36	261	P		Pn	04 28 07.0	-0.7
TNTI	**Ternate**	6.48	176	Pn		Pn	04 29 19.4	+1.4
TOLI2	**Tolitoli**	8.67	225	Pn		Pn	04 29 46.4	-1.6
TGY	**Tagaytay City**	8.98	320	LR		LR	04 34 34.5	
comp=Z,173nm,18.9s,baz=292,slow=46								
LUWI	**Luwuk**	9.25	207	Pn		Pn	04 29 55.7	-0.2
SBUM	**Sibu**	15.42	253	P		P	04 31 24.9	+1.8
KNRA	**Kununurra**	22.89	175	P		P	04 32 44.1	-0.4
KNRA				IAmb		IAmb	04 32 50.0	
comp=Z,16nm,0.8s								
FITZ	**Fitzroy Crossi**	25.25	183	P		P	04 33 06.2	-0.3
JNU	**Nakatsue**	25.97	8	P		P	04 33 11.6	-1.3
JNU	**Nakatsue**	25.97	8	LR		LR	04 42 55.0	
comp=Z,34nm,21.5s,baz=132,slow=35								
WB0	**Warramunga Arr**	27.87	165	P		P	04 33 28.3	-1.8
WRA	**Warramunga Arr**	28.02	165	P		P	04 33 30.1	-1.4
WRA	**Warramunga Arr**	28.02	165	P		P	04 33 31.4	0.0
comp=Z,0.8nm,0.6s,baz=340,slow=10,SNR=5.4								
WRA				PcP		PcP	04 36 44.6	-0.8
comp=Z,0.4nm,0.6s,baz=338,slow=2.7,SNR=2.3								
WRA				ScP		ScP	04 40 21.5	-0.7
comp=Z,1.3nm,1.0s,baz=333,slow=3.4,SNR=3.5								
comp=Z,0.8nm,0.6s								
WB2	**Warramunga Arr**	28.02	165	P		P	04 33 30.5	-1.0
KSRS	**Korea Array**	30.05	2	P		P	04 33 50.1	+0.9
comp=Z,1.6nm,0.8s,baz=173,slow=9.6,SNR=6.5								
KSRS				LR		LR	04 48 49.1	
comp=Z,15nm,18.1s,baz=150,slow=42								
comp=Z,1.6nm,0.8s								
MJAR	**Matsushiro Arr**	30.89	18	LR		LR	04 45 37.3	
comp=Z,31nm,20.1s,baz=223,slow=35								
ASAR	**Alice Springs**	31.51	168	P		P	04 34 02.5	+0.2
comp=Z,0.4nm,0.3s,baz=343,slow=7.3,SNR=6.7								
ASAR				PcP		PcP	04 36 54.3	-0.1
comp=Z,0.8nm,0.6s,baz=348,slow=2.8,SNR=8.0								
ASAR				ScP		ScP	04 40 33.1	-0.3
comp=Z,0.5nm,0.6s,baz=350,slow=2.8,SNR=2.9								
ASAR				LR		LR	04 48 48.4	
comp=Z,91nm,18.5s,baz=242,slow=40								
comp=Z,0.4nm,0.3s								
JMM	**Marumori**	32.94	20	P		P	04 34 15.2	+0.5
USRK	**Ussuriysk Ar.**	37.04	6	P		P	04 34 50.5	+0.6
USRK	**Ussuriysk Ar.**	37.04	6	P		P	04 34 50.9	+1.0
comp=Z,3.4nm,0.6s,baz=193,slow=6.8,SNR=8.2								
comp=Z,3.4nm,0.6s								
FORT	**Forrest**	37.86	178	P		P	04 34 56.5	-0.5
BBOO	**Buckleboo**	40.81	168	P		P	04 35 20.1	-1.5
NWAO	**Narrogin (SRO)**	41.04	192	P		P	04 35 23.5	+0.1
STKA	**Stephens Creek**	41.38	161	P		P	04 35 26.9	+0.6
comp=Z,2.3nm,0.7s,baz=330,slow=5.1,SNR=6.3								
comp=Z,2.3nm,0.7s								
KLR	**Kul'dur**	42.00	5	LR		LR	04 54 15.8	
comp=Z,29nm,18.2s,baz=234,slow=38								
PETK	**Petropavlovsk-**	52.09	23	P		P	04 36 52.1	+2.4
PETK	**Petropavlovsk-**	52.09	23	P		P	04 36 51.9	+2.2
comp=Z,2.0nm,0.6s,baz=161,slow=2.7,SNR=1.8								
comp=Z,2.0nm,0.6s								
MK31	**Makanchi Array**	54.80	324	P		P	04 37 08.3	-1.5
MKAR	**Makanchi Array**	54.80	324	P		P	04 37 09.3	-0.5
comp=Z,1.0nm,0.5s,baz=121,slow=7.6,SNR=12								
comp=Z,1.0nm,0.5s								
MAKZ	**Makanchi**	54.99	324	P		P	04 37 10.3	-0.8
MA2	**Magadan**	55.23	14	P		P	04 37 14.0	+1.3
AAK	**Ala-Archa**	57.91	316	LR		LR	05 03 29.3	
comp=Z,68nm,21.1s,baz=69,slow=37								
KURBB	**Kurchatov Arra**	58.89	326	P		P	04 37 37.8	-0.8
comp=Z,1.1nm,0.7s,baz=126,slow=6.2,SNR=10								
comp=Z,1.1nm,0.7s								
GAR	**Garm**	59.72	311	P		P	04 37 43.1	-1.6
GAR				IAmb		IAmb	04 37 46.2	
comp=Z,3.4nm,0.8s								
KK31	**Karatay Array**	60.81	316	P		P	04 37 50.7	-1.4
KK31				IAmb		IAmb	04 37 52.1	
comp=Z,2.5nm,0.7s								
KKAR	**Karatay Array**	60.81	316	P		P	04 37 50.8	-1.2
KKAR	**Karatay Array**	60.81	316	P		P	04 37 50.7	-1.4
KKAR				IAmb		IAmb	04 37 52.0	
comp=Z,1.6nm,0.7s								
BVAR	**Borovoye Array**	64.48	326	P		P	04 38 15.5	-0.8
comp=Z,0.7nm,0.6s,baz=116,slow=6.8,SNR=3.0								
comp=Z,0.7nm,0.6s								
ABKAR	**Akbulak array**	69.56	320	P		P	04 38 47.2	-1.3
J17K	**VABM Dome**	76.37	26	P		P	04 39 30.5	+1.9
E18K	**Tukpahlearik C**	76.61	22	P		P	04 39 31.3	+1.4
E18K				IAmb		IAmb	04 39 32.6	
comp=Z,3.5nm,0.8s								
C18K	**Utukok River**	76.69	21	P		P	04 39 31.7	+1.3
C18K				IAmb		IAmb	04 39 32.2	
comp=Z,4.2nm,1.0s								
O18K	**Koktuh Hills**	77.64	30	P		P	04 39 37.5	+1.6
E19K	**Redstone River**	77.89	22	P		P	04 39 38.1	+1.0
E19K				IAmb		IAmb	04 39 42.3	
comp=Z,3.6nm,0.9s								
B20K	**Meade River**	78.39	20	P		P	04 39 41.0	+1.3
B20K				IAmb		IAmb	04 40 10.6	
comp=Z,7.6nm,1.4s								
KDAK	**Kodiak Island**	78.80	33	P		P	04 39 43.5	+1.3
KDAK				IAmb		IAmb	04 39 48.8	
comp=Z,9.4nm,1.2s								
B21K	**Ikpikpuk River**	79.19	20	P		P	04 39 45.3	+1.2
B21K				IAmb		IAmb	04 39 47.0	
comp=Z,3.1nm,0.8s								
RAYN	**Ar Rayn**	79.30	293	P		P	04 39 44.3	-1.4
RAYN				IAmb		IAmb	04 39 45.8	
comp=Z,3.3nm,0.6s								
H21K	**Melozitna Rive**	79.39	25	P		P	04 39 46.8	+1.4
H21K				IAmb		IAmb	04 39 57.2	
comp=Z,5.7nm,1.4s								
B22K	**Teshekpuk Lake**	79.70	20	P		P	04 39 47.9	+1.1
B22K				IAmb		IAmb	04 39 51.9	
comp=Z,5.2nm,1.1s								
BRLK	**Bradley Lake**	79.81	31	P		P	04 39 48.2	+0.5
SLKM	**Skilak Lake**	80.18	30	P		P	04 39 49.4	-0.3
SLKM				IAmb		IAmb	04 40 06.9	
comp=Z,6.3nm,1.3s								
D23K	**Nanushuk River**	80.51	21	P		P	04 39 52.9	+1.5
C23K	**Itkillik River**	80.60	20	P		P	04 39 53.2	+1.4
C23K				IAmb		IAmb	04 39 55.9	
comp=Z,3.6nm,0.7s								
TOLK	**Toolik Lake Re**	80.89	22	P		P	04 39 54.2	+0.8
TOLK				IAmb		IAmb	04 40 06.5	
comp=Z,4.1nm,1.1s								
RND	**Reindeer**	80.94	27	P		P	04 39 54.4	+0.5
RND				IAmb		IAmb	04 40 12.2	
comp=Z,9.2nm,1.5s								
D24K	**Happy Valley**	81.19	21	P		P	04 39 54.6	-0.3
D24K				IAmb		IAmb	04 39 57.5	
comp=Z,3.3nm,0.7s								
E24K	**Your Creek**	81.26	22	P		P	04 39 56.8	+1.3
E24K				IAmb		IAmb	04 40 25.4	
comp=Z,5.3nm,1.4s								
H24K	**Noodor Dome**	81.43	25	P		P	04 39 57.2	+0.8
H24K				IAmb		IAmb	04 40 00.7	
comp=Z,3.0nm,0.9s								
ILAR	**Eielson Array**	81.83	26	P		P	04 39 58.5	+0.1
comp=Z,0.8nm,0.8s,baz=262,slow=5.0,SNR=13								
comp=Z,0.8nm,0.8s								
D25K	**Kavik River**	82.06	21	P		P	04 40 00.4	+0.8
BMAR	**Burnt Mountain**	82.75	23	P		P	04 40 05.1	+1.9
C27K	**Jago River**	83.00	21	P		P	04 40 06.4	+1.9
SCRK	**Sand Creek**	83.11	26	P		P	04 40 06.5	+1.3
SCRK				IAmb		IAmb	04 40 48.3	
comp=Z,5.2nm,1.5s								
I26K	**Coal Creek Min**	83.40	25	P		P	04 40 07.2	+0.6
I26K				IAmb		IAmb	04 40 09.9	
comp=Z,4.2nm,0.8s								
BERG	**Berg Lake**	83.41	30	P		P	04 40 08.7	+2.0
E27K	**Coleen River**	83.84	22	P		P	04 40 10.6	+1.8
K27K	**Chicken**	83.94	26	P		P	04 40 11.5	+2.1
K27K				IAmb		IAmb	04 40 12.8	
comp=Z,5.6nm,0.9s								
BCAR	**Beaver Creek A**	84.15	27	P		P	04 40 12.7	+2.2
E28M	**Babbage River**	84.56	22	P		P	04 40 14.0	+1.5
E28M				IAmb		IAmb	04 40 15.2	
comp=Z,3.9nm,0.8s								
I28M	**Miner Creek**	84.73	25	P		P	04 40 15.5	+2.0
G29M	**Pine Creek**	85.34	23	P		P	04 40 16.8	+0.4
FINES	**FINESS Array B**	88.81	332	P		P	04 40 32.0	-1.2
comp=Z,2.0nm,0.8s,baz=82,slow=5.0,SNR=3.6								
comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	89.28	321	P		P	04 40 34.2	-1.4
comp=Z,0.3nm,0.5s,baz=70,slow=4.7,SNR=2.6								
comp=Z,0.3nm,0.5s								
YKA	**Yellowknife Ar**	96.20	24	P		P	04 41 08.0	+0.6
comp=Z,0.3nm,0.7s,baz=299,slow=4.7,SNR=7.3								
comp=Z,0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	121.94	290	PKPdf		PKPdf	04 46 33.8	-0.9
TORD	**Torodi Ar. Bea**	121.94	290	PKP		PKPdf	04 46 34.3	-0.4
comp=Z,1.6nm,0.4s,baz=48,slow=2.2,SNR=1.3								
BI02	**San Fabin de**	146.37	153			PKPbc	04 47 21.5	+0.7
TRQA	**Tornquist**	148.32	167	PKPbc		PKPbc	04 47 26.5	+0.4
MT01	**Popeta**	148.66	150	PKPbc		PKPbc	04 47 27.4	+0.3
MT02	**Curacav**	149.20	150	PKPbc		PKPbc	04 47 28.9	+0.5

IDC 04 04:43:36.5±4.5, 15°.38S×174°.86W, h0km, mb3.7/3, mbtmp3.7/3, MS3.6/4, Error ellipse: s-maj=343.0km s-min=32.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	7.19	250	LR		LR	04 47 16.8	
comp=Z,216nm,20.1s,baz=223,slow=31								
WRA	**Warramunga Arr**	48.48	257	P		P	04 52 22.3	+0.8
0.4nm,0.8s,baz=90,slow=7.4,SNR=1.5								
0.4nm,0.8s								
ASAR	**Alice Springs**	48.78	252	P		P	04 52 23.1	-0.7
1.5nm,0.6s,baz=90,slow=8.0,SNR=13								
1.5nm,0.6s								
JOW	**Kunigami**	69.34	307	LR		LR	05 19 08.9	
comp=Z,95nm,21.2s,baz=284,slow=31								
NVAR	**Mina Array Bea**	75.26	43	P		P	04 55 21.8	0.0
0.4nm,0.5s,baz=218,slow=7.2,SNR=4.1								
0.4nm,0.5s								
PSI	**Prapat**	87.09	274	LR		LR	05 35 24.2	
comp=Z,34nm,19.0s,baz=137,slow=36								
NNA	**Nana**	94.43	104	LR		LR	05 30 17.0	
comp=Z,39nm,21.4s,baz=140,slow=30								

*NEIC **04** 04:49:29.2±1.1, 56°.11S±0°.07×27°.4W±0°.2, h106km±5km, mb4.8/54, Error ellipse: s-maj=13.4km s-min=9.8km az=105.0*
*IDC **04** 04:49:31.2±4.0, 56°.03S×27°.28W, h124km±35km, mb4.4/12, mbtmp4.8/14, MS3.6/6, Error ellipse: s-maj=19.4km s-min=12.1km az=62.0*

ISC 04 04:49:28.6±1.0, 56°.07S±0°.07×27°.40W±0°.08, h103km±8km, n330, σ0°.82/321, mb4.8/34, 6C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	5.51	285			Pn	04 50 48.3	+0.2
VNA1	**Neumayer--Stat**	16.82	158	⇑P		P	04 53 18.7	+0.8
comp=Z,21nm,0.2s								
VNA3	**Neumayer Olymp**	17.01	160	⇑P		Pn	04 53 19.7	-0.2
comp=Z,24nm,0.3s								
VNA2	**Neumayer--Watz**	17.22	158	⇑P		P	04 53 22.1	-0.2
comp=Z,14nm,0.3s,baz=310,slow=14								
EFI	**East Falkland**	18.52	271	P		P	04 53 36.8	+0.1
SNAA	**Sanae**	18.77	156	P		P	04 53 39.3	-0.1
SNAA	**Sanae**	18.77	156	⇑P		P	04 53 39.8	+0.3
comp=Z,862nm,0.4s								
SNAA	**Sanae**	18.77	156	P		P	04 53 39.7	+0.3
comp=Z,38nm,0.5s,baz=308,slow=10,SNR=320								
SNAA				PcP		PcP	04 58 01.7	-0.2
comp=Z,3.5nm,1.0s,baz=221,slow=8.6,SNR=2.5								
SNAA				LR		LR	04 59 01.6	
comp=Z,171nm,21.4s,baz=288,slow=30								
PMSA	**Palmer Station**	19.80	229	P		P	04 53 50.6	+0.2
PMSA				IAmb		IAmb	04 53 56.4	
comp=Z,46nm,0.7s								
PMSA	**Palmer Station**	19.80	229	P		Pn	04 53 52.7	-0.2
comp=Z,49nm,0.7s,baz=66,slow=6.3,SNR=16								
TROLL	**Troll, Antarti**	20.28	153	⇑P		P	04 53 55.9	+0.1
comp=Z,1μm,0.4s								
BELA	**Belgrano 2**	22.05	184	P		P	04 54 14.0	-0.5
BELA				IAmb		IAmb	04 54 15.8	
comp=Z,35nm,0.6s								
MG02	**Cerro Sombrero**	24.28	260	P		P	04 54 35.1	-0.8
MG03	**Isla Dawson**	24.53	257	P		P	04 54 38.2	0.0
MG03				IAmb		IAmb	04 54 52.0	
comp=Z,46nm,1.4s								
MG05	**Puerto Natales**	26.58	260	P		P	04 54 56.0	-0.8
MG05				IAmb		IAmb	04 55 16.3	
comp=Z,40nm,1.2s								
TRQA	**Tornquist**	29.22	293	P		P	04 55 19.6	-0.8
PLTB	**Pedras Altas**	30.42	312	P		P	04 55 31.3	+0.1
PLTB				IAmb		IAmb	04 55 32.3	
comp=Z,13nm,0.6s								
SYO	**Syowa Base**	31.64	141	⇑eP		P	04 55 41.2	-0.2
PLCA	**Paso Flores**	31.89	280	P		P	04 55 43.4	-0.7
ITAB	**Concordia**	33.86	318	P		P	04 56 01.0	-0.2
ITAB				IAmb		IAmb	04 56 20.6	
comp=Z,21nm,1.3s								
QSPA	**South Pole Qui**	34.18	180	P		P	04 56 04.9	+1.1
QSPA	**South Pole Qui**	34.18	180	P		P	04 56 04.4	+0.6
comp=Z,15nm,0.4s,baz=213,slow=0.5,SNR=142								
QSPA				PcP		PcP	04 58 37.7	-0.4
comp=Z,12nm,1.2s,baz=342,slow=1.7,SNR=4.0								
comp=Z,15nm,0.4s								
QSPA	**South Pole Qui**	34.18	180	P		P	04 56 04.5	+0.7
QSPA				PcP		PcP	04 58 37.0	-1.0
VAO	**Valinhos**	36.04	328	P		P	04 56 20.8	+0.8
VAO				IAmb		IAmb	04 56 40.5	
comp=Z,22nm,1.5s								
CPUP	**Villa Florida**	36.74	312	P		P	04 56 25.6	-0.2
CPUP	**Villa Florida**	36.74	312	P		P	04 56 25.6	-0.2
comp=Z,4.4nm,0.7s,baz=152,slow=7.6,SNR=21								
CPUP				PcP		PcP	04 58 45.7	-0.4
comp=Z,0.7nm,0.6s,baz=148,slow=4.3,SNR=4.4								
comp=Z,4.4nm,0.7s								
CPUP	**Villa Florida**	36.74	312	P		P	04 56 25.5	-0.2
CPUP				pP		pP	04 56 47.7	-0.8
CPUP				PcP		PcP	04 58 45.5	-0.5
BO01	**Tunca**	36.79	287	P		P	04 56 25.8	-0.4
MT09	**Talagante**	37.21	288	P		P	04 56 28.0	-2.0
MT09				IAmb		IAmb	04 56 28.9	
comp=Z,27nm,1.5s								
MT01	**Popeta**	37.28	288	P		P	04 56 28.4	-1.9
MT01				IAmb		IAmb	04 56 42.3	
comp=Z,23nm,1.5s								
PEL	**Peldehue**	37.53	289	P		P	04 56 32.3	-0.3
PEL				IAmb		IAmb	04 56 32.7	
comp=Z,11nm,1.0s								
VA05	**Santo Domingo**	37.63	288	P		P	04 56 32.1	-1.2
MT02	**Curacav**	37.68	289	P		P	04 56 32.5	-1.3
MT02				IAmb		IAmb	04 56 57.1	
comp=Z,21nm,1.4s								
VA03	**San Esteban**	37.76	290	P		P	04 56 34.5	0.0
VA03				IAmb		IAmb	04 56 34.8	
comp=Z,20nm,1.3s								
MAW	**Mawson**	40.20	144	P		P	04 56 54.9	+0.5
MAW				IAmb		IAmb	04 57 06.0	
comp=Z,21nm,1.2s								
MAW	**Mawson**	40.20	144	P		P	04 56 55.0	+0.6
comp=Z,22nm,0.7s,baz=255,slow=7.2,SNR=2.0								
comp=Z,22nm,0.7s								
SUR	**Sutherland**	40.76	75	LR		LR	05 11 27.0	
comp=Z,47nm,18.2s,baz=174,slow=32								
AQDB	**Aquidauana**	41.34	318	P		P	04 57 03.6	-0.6
AC04	**Llanos de Chal**	41.65	293	P		P	04 57 06.9	+0.2
AC02	**Maricunga**	41.78	297	P		P	04 57 08.9	+0.6
AC02				IAmb		IAmb	04 57 09.7	
comp=Z,11nm,0.8s								
AC01	**Pan de Azucar**	43.09	296	P		P	04 57 18.0	-0.3
AC01				IAmb		IAmb	04 57 40.7	
comp=Z,12nm,1.1s								
SHEL	**Horse Pasture**	43.31	31	P		P	04 57 30.0	+10
BDFB	**Brasilia**	43.32	330	P		P	04 57 21.7	+1.3
BDFB	**Brasilia**	43.32	330	P		P	04 57 21.3	+0.9
comp=Z,1.0nm,0.4s,baz=335,slow=1.1,SNR=5.3								
BDFB				LR		LR	05 16 14.8	
comp=Z,59nm,18.6s,baz=188,slow=37								
comp=Z,1.0nm,0.4s								
GO02	**Mina Guanaco**	43.40	298	P		P	04 57 21.4	+0.1
PB14	**IPOC Station P**	44.25	297	P		P	04 57 27.1	-1.0
PB09	**IPOC Station P**	46.06	301	P		P	04 57 43.2	+0.9
BOSA	**Boshof**	46.09	76	P		P	04 57 42.0	-0.3
BOSA	**Boshof**	46.09	76	P		P	04 57 42.0	-0.3
comp=Z,1.0nm,0.6s,baz=226,slow=11,SNR=4.1								
BOSA				LR		LR	05 14 13.7	
comp=Z,76nm,18.6s,baz=184,slow=32								
comp=Z,1.0nm,0.6s								
PB03	**IPOC Station P**	46.09	300	P		P	04 57 42.6	+0.1
PB03				IAmb		IAmb	04 57 43.2	
comp=Z,14nm,0.6s								
VNDA	**Vanda**	46.55	183	P		P	04 57 46.2	+1.1
VNDA				IAmb		IAmb	04 57 48.1	
comp=Z,16nm,0.8s								
VNDA	**Vanda**	46.55	183	P		P	04 57 46.4	+1.2
comp=Z,14nm,0.7s,baz=185,slow=7.1,SNR=15								
comp=Z,14nm,0.7s								
VNDA	**Vanda**	46.55	183	P		P	04 57 46.1	+0.9
PB01	**IPOC Station P**	46.82	301	P		P	04 57 48.7	+0.6
PTLB	**Pontes e Lacer**	47.23	316	P		P	04 57 51.2	+0.1
PTLB				IAmb		IAmb	04 57 51.9	
comp=Z,7.2nm,0.7s								
PB08	**IPOC Station P**	47.43	302	P		P	04 57 54.1	+1.0
TA01	**Diego Aracena**	47.56	300	P		P	04 57 53.8	+0.1
TA01				IAmb		IAmb	04 57 54.4	
comp=Z,26nm,1.2s								
CCD	**Concordia, Ant**	47.68	170	P		P	04 57 54.2	-0.2
TA02	**Huaiquique**	47.79	301	P		P	04 57 55.6	+0.1
PB11	**IPOC Station P**	48.00	302	P		P	04 57 57.4	+0.1
PB11				IAmb		IAmb	04 57 59.0	
comp=Z,17nm,0.8s								
LBTB	**Lobatse**	49.12	73	P		P	04 58 05.8	0.0
LBTB				IAmb		IAmb	04 58 06.9	
comp=Z,15nm,1.5s								
LBTB	**Lobatse**	49.12	73	P		P	04 58 05.6	-0.2
H10N1	**ASCENSION HYDR**	49.17	17	T		T	05 51 15.0	
baz=182,slow=71								
H10N3	**ASCENSION HYDR**	49.17	17	T		T	05 51 09.0	
baz=182,slow=71								
H10N2	**ASCENSION HYDR**	49.19	17	T		T	05 51 16.9	
baz=182,slow=71								
VILB	**Vilhena**	49.92	316	P		P	04 58 11.5	-0.3
VILB				IAmb		IAmb	04 58 12.1	
comp=Z,7.4nm,0.7s								
LPAZ	**La Paz**	50.29	305	P		P	04 58 16.0	+0.6
LPAZ				IAmb		IAmb	04 58 16.7	
comp=Z,13nm,0.8s								
LPAZ	**La Paz**	50.29	305	P		P	04 58 15.9	+0.6
comp=Z,10nm,0.4s,baz=93,slow=4.0,SNR=96								
comp=Z,10nm,0.4s								
LPAZ	**La Paz**	50.29	305	P		P	04 58 15.8	+0.4
LPAZ				pP		pP	04 58 39.8	+0.4
LPAZ				PcP		PcP	04 59 33.2	+0.5
BOAV	**Boa Vista**	64.22	323	P		P	04 59 51.7	-0.8
MDP	**Montagnes des**	64.40	332	LR		LR	05 26 42.6	
comp=Z,42nm,18.5s,baz=130,slow=35								
DBIC	**Dimbokro**	65.23	25	P		P	04 59 59.1	0.0
DBIC				IAmb		IAmb	04 59 59.9	
comp=Z,6.6nm,0.8s								
DBIC	**Dimbokro**	65.23	25	P		P	04 59 58.9	-0.1
comp=Z,5.4nm,0.6s,baz=165,slow=5.4,SNR=7.6								
DBIC				LR		LR	05 20 52.6	
comp=Z,46nm,20.4s,baz=127,slow=29								
comp=Z,5.4nm,0.6s								
DBIC	**Dimbokro**	65.23	25	P		P	04 59 59.0	0.0
COHC	**Cochancay**	67.58	302	P		P	05 00 15.1	+1.1
OTAV	**Otavalo**	69.57	304	P		P	05 00 27.2	+0.2
OTAV				IAmb		IAmb	05 00 30.1	
comp=Z,14nm,1.5s								
ROSC	**El Rosal**	71.81	310	P		P	05 00 41.0	+0.5
comp=Z,5.6nm,0.7s,baz=130,slow=7.7,SNR=12								
comp=Z,5.6nm,0.7s							

	baz=114						
H31M	Peel River	145.26 316	P		PKPdf	05 08 52.2	-0.4
	baz=110						
YUK4	Talbot Arm	145.43 308	P		PKPdf	05 08 52.7	-0.5
	baz=113,SNR=17						
F31M	Tsiigehtchic	145.56 319	P		PKPdf	05 08 53.1	+0.1
	baz=108,SNR=6.3						
G31M	Satah River	145.60 318	PKPdf		PKPdf	05 08 53.1	0.0
G31M	Satah River	145.60 318	P		PKPdf	05 08 53.0	0.0
	baz=108,SNR=10						
J30M	Hart River	145.63 314	P		PKPdf	05 08 53.7	+0.2
	baz=110,SNR=11						
INK	Inuvik	145.75 321	PKPbc		PKPdf	05 08 53.8	+0.5
	comp=Z,7.2nm,0.6s,baz=87,slow=2.0,SNR=40						
INK	Inuvik	145.75 321	P		PKPdf	05 08 53.5	+0.2
	baz=107,SNR=10.0						
M29M	Somme Creek	145.76 310	P		PKPbc	05 08 54.6	+0.2
	baz=112						
L29M	L29M	145.86 311	P		PKPdf	05 08 54.2	+0.4
	baz=111						
I30M	Mount Dempster	145.87 315	P		PKPdf	05 08 54.1	+0.2
	baz=109						
K29M	Barlow Dome	145.87 312	P		PKPdf	05 08 54.3	+0.4
	baz=110						
O28M	Mount Upton	145.90 306	P		PKPdf	05 08 54.3	+0.1
	baz=113						
YUK8	Steele Glacier	145.90 307	P		PKPdf	05 08 54.1	-0.1
	baz=112						
G30M	tAoh Zraii Nji	146.35 318	PKPdf		PKPbc	05 08 55.5	-0.5
G30M	tAoh Zraii Nji	146.35 318	P		PKPdf	05 08 55.2	+0.7
	baz=107						
J29N	Klondike Camp	146.36 313	P		PKPdf	05 08 55.2	+0.6
	baz=109						
F30M	Barrier River	146.37 319	P		PKPdf	05 08 55.4	+0.9
	baz=106						
MESA	MESA	146.47 305	P		PKPdf	05 08 55.6	+0.5
	baz=113						
I29M	Ogilvie Camp,	146.68 315	P		PKPbc	05 08 56.3	-0.6
	baz=108						
DAWY	Dawson	146.72 312	P		PKPbc	05 08 56.5	-0.6
	baz=109						
H29M	Whitestone	146.95 316	P		PKPbc	05 08 56.9	-0.8
	baz=106						
G29M	Pine Creek	147.01 317	P		PKPdf	05 08 56.9	+1.3
	baz=106						
BGLC	Bering Glacier	147.07 304	P		PKPdf	05 08 56.8	+1.1
	baz=112						
M27K	Edge Creek, AK	147.22 308	PKPdf		PKPbc	05 08 58.0	-0.6
M27K	Edge Creek, AK	147.22 308	P		PKPdf	05 08 56.6	+0.4
	baz=110						
E29M	Blow River	147.33 320	P		PKPdf	05 08 57.5	+1.5
	baz=103						
I28M	Miner Creek	147.36 314	P		PKPbc	05 08 57.9	-1.0
	baz=106						
L27K	Beaver Creek,	147.43 310	P		PKPbc	05 08 58.1	-1.0
	baz=109						
KAIM	Kayak Island	147.52 303	P		PKPdf	05 08 57.8	+1.2
	baz=112						
M26K	Nabesna, AK	147.73 308	P		PKPbc	05 08 58.8	-1.1
	baz=109						
RAGM	Ragged Mountai	147.81 304	PKPbc		PKPbc	05 08 59.9	-0.3
D28M	Stokes Point	147.83 322	P		PKPbc	05 08 59.0	-0.9
	baz=101						
K27K	Chicken	147.83 311	P		PKPdf	05 08 58.4	+1.5
	baz=107						
E28M	Babbage River	147.97 320	P		PKPbc	05 08 59.5	-0.9
	baz=102						
BMRM	Bremner River	147.98 305	P		PKPdf	05 08 59.2	+1.8
	baz=110						
I27K	Kandik River	148.07 314	P		PKPbc	05 08 59.7	-1.0
	baz=105						
L26K	Log Cabin Wild	148.08 309	P		PKPbc	05 08 60.0	-0.8
	baz=108,SNR=5.4						
N25K	Chitina, Valde	148.19 306	P		PKPbc	05 09 00.4	-0.8
	baz=109,SNR=7.2						
H27K	Steamboat Moun	148.19 315	P		PKPbc	05 08 59.8	-1.2
	baz=104						
Q23K	Middleton Isla	148.25 302	P		PKPbc	05 09 00.1	-1.2
	baz=111						
EYAK	Cordova Ski Ar	148.37 304	P		PKPbc	05 09 00.1	-1.5
	baz=110						
G27K	Doyon Strip	148.38 316	P		PKPbc	05 09 00.3	-1.1
	baz=103						
J26L	Joseph Creek	148.59 312	P		PKPbc	05 09 01.0	-1.2
	baz=105						
D27M	Malcolm River	148.59 321	P		PKPbc	05 09 01.3	-0.8
	baz=100						
I26K	Coal Creek Min	148.62 313	P		PKPbc	05 09 01.2	-0.9
	baz=104						
SCRK	Sand Creek	148.63 311	P		PKPbc	05 09 01.3	-1.0
	baz=106,SNR=11						
E27K	Coleen River	148.64 319	P		PKPbc	05 09 01.4	-0.7
	baz=101						
HARP	HAARP	148.69 308	P		PKPbc	05 09 01.5	-0.9
	baz=107						
KLU	Klutina	148.75 306	P		PKPbc	05 09 01.6	-1.0
	baz=108,SNR=14						
RIDG	Independent Ri	148.93 310	P		PKPbc	05 09 01.9	-1.1
	baz=106,SNR=19						
P23K	Montague Islan	148.96 302	P		PKPbc	05 09 02.1	-0.9
	baz=110						
PAX	Paxson	148.99 309	P		PKPbc	05 09 02.5	-0.7
	baz=106						
M24K	Tolsona, Glenn	149.06 307	P		PKPbc	05 09 02.8	-0.6
	baz=107						
GLI	Glacier Island	149.10 304	P		PKPbc	05 09 02.7	-0.7
	baz=109						
G26K	Porcupine Rive	149.23 316	P		PKPbc	05 09 02.9	-0.6
	baz=101						
K24K	Donnelly Dome	149.35 310	P		PKPbc	05 09 03.0	-1.0
	baz=105						
J25K	Salcha River,	149.37 312	PKPbc		PKPbc	05 09 03.4	-0.7
J25K	Salcha River,	149.37 312	P		PKPbc	05 09 03.1	-0.9
	baz=104						
SCM	Sheep Creek Mo	149.50 306	P		PKPbc	05 09 03.6	-0.9
	baz=107,SNR=8.5						
F26K	Sheenjek River	149.50 318	P		PKPbc	05 09 04.0	-0.2
	baz=100						
C27K	Jago River	149.61 322	P		PKPbc	05 09 04.0	-0.4
	baz=97						
PRP	Porcupine Dome	149.63 313	P		PKPbc	05 09 03.8	-1.0
	baz=102						
M23K	Glacier View	149.67 306	P		PKPbc	05 09 03.9	-0.9
	baz=107,SNR=8.4						
PWL	Port Wells	149.67 304	P		PKPbc	05 09 03.8	-1.0
	baz=108						
KNK	Knik Glacier	149.89 305	P		PKPbc	05 09 03.8	-1.5
	baz=107,SNR=5.2						
H25L	Birch Creek	149.90 315	P		PKPbc	05 09 05.0	-0.2
	baz=101						
SML	Sawmill	149.95 306	P		PKPbc	05 09 04.9	-0.6
	baz=106,SNR=6.9						
SEW	Seward	149.96 302	P		PKPbc	05 09 05.1	-0.4
	baz=108						
HDA	Harding Lake	149.99 311	P		PKPbc	05 09 05.5	0.0
	baz=103,SNR=5.4						
ILAR	Eielson Array	150.04 312	PKPbc		PKPbc	05 09 05.0	-0.6
	comp=Z,8.9nm,0.8s,baz=105,slow=2.8,SNR=102						
F25K	Christian Rive	150.05 317	P		PKPbc	05 09 05.7	+0.1
	baz=98						
C26K	Camden Bay	150.05 322	P		PKPbc	05 09 05.5	0.0
	baz=95						
E25K	Arctic Village	150.09 318	PKPbc		PKPbc	05 09 05.8	+0.1
E25K	Arctic Village	150.09 318	P		PKPbc	05 09 05.7	0.0
	baz=98						
G25K	Bearman Lake	150.10 316	P		PKPbc	05 09 05.4	-0.2
	baz=100						
O22K	Cooper Landing	150.21 303	P		PKPbc	05 09 05.6	-0.5
	baz=108						
PMR	Palmer	150.25 305	P		PKPbc	05 09 06.4	+0.3
	baz=106						
POKR	Poker Plat Res	150.34 312	P		PKPbc	05 09 05.9	-0.4
	baz=101,SNR=5.3						
RC01	Rabbit Creek A	150.39 304	P		PKPbc	05 09 06.0	-0.6
	baz=107,SNR=6.1						
BRSE	Bradley Lake S	150.46 301	P		PKPbc	05 09 05.9	-0.9
	baz=108						
COLA	College	150.47 312	P		PKPbc	05 09 06.3	-0.2
	baz=101						
D25K	Kavik River	150.51 321	P		PKPbc	05 09 06.2	-0.5
	baz=95						
G24K	Hadweenzic Riv	150.63 315	P		PKPbc	05 09 06.2	-0.7
	baz=98						
H24K	Noodor Dome	150.65 314	P		PKPbc	05 09 07.2	+0.1
	baz=100						
MCK	McKinley	150.69 309	P		PKPbc	05 09 06.8	-0.4
	baz=103,SNR=10						
KDAK	Kodiak Island	150.72 296	P		PKPbc	05 09 06.9	-0.5
	baz=110						
SONM	Songino Array	150.84 87	PKPbc		PKPbc	05 09 07.7	-0.5
	comp=Z,4.7nm,0.7s,baz=217,slow=3.4,SNR=30						
HOM	Homer	150.87 300	P		PKPbc	05 09 07.4	-0.3
	baz=108						
OHAK	Old Harbor	150.88 295	PKPbc		PKPbc	05 09 07.4	-0.4
OHAK	Old Harbor	150.88 295	P		PKPbc	05 09 07.3	-0.5
	baz=111						
F24K	Squaw Lake	150.89 317	P		PKPbc	05 09 07.4	-0.2
	baz=97						
Q20K	Shuyak Island	150.91 298	P		PKPbc	05 09 07.4	-0.4
	baz=109						
NEA2	Nenana	150.93 311	P		PKPbc	05 09 07.2	-0.6
	baz=101,SNR=6.6						
CAPN	Captain Cook N	150.97 303	P		PKPbc	05 09 07.3	-0.5
	baz=106						
CUT	Chulitna	150.98 306	PKPbc		PKPbc	05 09 07.7	-0.2
CUT	Chulitna	150.98 306	P		PKPbc	05 09 07.3	-0.5
	baz=104,SNR=5.3						
SII	Sitkinak Islan	151.09 293	P		PKPbc	05 09 07.6	-0.8
	baz=112						
I23K	Minto, Yukon-K	151.15 312	P		PKPbc	05 09 08.0	-0.1
	baz=100						
E24K	Your Creek	151.18 318	P		PKPbc	05 09 08.2	-0.1
	baz=95						
TRF	Thorofare Moun	151.22 308	P		PKPbc	05 09 08.2	-0.5
	baz=102,SNR=6.1						
C24K	Franklin Bluff	151.35 322	P		PKPbc	05 09 08.4	-0.1
	baz=92						
D24K	Happy Valley	151.38 320	P		PKPbc	05 09 09.0	+0.4
	baz=93						
SKT	Skwentna	151.45 305	PKPbc		PKPbc	05 09 08.6	-0.5
SKT	Skwentna	151.45 305	P		PKPbc	05 09 08.0	-1.0
	baz=104,SNR=8.7						
O20K	Slope Mountain	151.47 301	P		PKPbc	05 09 08.3	-0.9
	baz=106						
CHIR	Chirikof Islan	151.56 291	P		PKPbc	05 09 08.6	-0.8
	baz=112						
N20K	Mount Spurr	151.58 303	P		PKPbc	05 09 08.3	-1.1
	baz=105						
SPCR	Spurr Chakacha	151.58 303	P		PKPbc	05 09 08.7	-0.7
	baz=105						
R18K	Karluk	151.59 295	P		PKPbc	05 09 08.5	-0.9
	baz=110						
E23K	Chandalar	151.60 318	P		PKPbc	05 09 08.4	-0.9
	baz=94						
TOLK	Toolik Lake Re	151.62 319	P		PKPbc	05 09 09.0	-0.3
	baz=93						
Q19K	Cape Douglas,	151.63 298	P		PKPbc	05 09 08.9	-0.7
	baz=108						
G23K	Bananza Creek	151.63 315	P		PKPbc	05 09 09.0	-0.3
	baz=96						
P19K	Oil Pt	151.64 300	P		PKPbc	05 09 09.0	-0.5
	baz=107						
BPAW	Bear Paw Mtn.	151.66 310	P		PKPbc	05 09 09.0	-0.4
	baz=100,SNR=11						
COLD	Coldfoot	151.75 316	P		PKPbc	05 09 09.3	-0.2
	baz=95						
PPLA	Purkeypile	151.96 307	P		PKPbc	05 09 09.7	-0.6
	baz=102						
CAST	Castle Rocks	152.01 308	P		PKPbc	05 09 09.4	-0.9
	baz=101,SNR=6.0						
C23K	Itkillik River	152.02 322	P		PKPbc	05 09 09.8	-0.2
	baz=90						
D23K	Nanushuk River	152.03 320	P		PKPbc	05 09 10.1	-0.1
	baz=92						
H22K	Ishtalitna Cre	152.09 313	P		PKPbc	05 09 09.9	-0.4
	baz=97						
M20K	Styx River	152.17 305	P		PKPbc	05 09 09.8	-1.0
	baz=103						
CHUM	Lake Minchumin	152.19 309	P		PKPbc	05 09 10.3	-0.3
	baz=100						
Q18K	Katmai Hardscr	152.22 297	P		PKPbc	05 09 10.4	-0.6
	baz=108						
I21K	Tanana	152.25 312	P		PKPbc	05 09 10.5	-0.2
	baz=98						
O19K	Port Alsworth	152.32 301	P		PKPbc	05 09 10.8	-0.2
	baz=105						
E22K	Anaktuvuk Pass	152.43 318	P		PKPbc	05 09 10.5	-0.6
	baz=92						
F22K	John River	152.54 317	P		PKPbc	05 09 11.1	-0.2
	baz=93						
P18K	Big Mountain,	152.54 299	P		PKPbc	05 09 10.8	-0.8
	baz=106						
N19K	Bonanza Creek	152.55 302	P		PKPbc	05 09 11.3	-0.4
	baz=104						
L20K	Farewell, AK	152.64 306	P		PKPbc	05 09 11.5	-0.2
	baz=101						
H21K	Melozitna Rive	152.65 313	PKPbc		PKPbc	05 09 11.3	-0.3
H21K	Melozitna Rive	152.65 313	P		PKPbc	05 09 11.4	-0.2
	baz=96						
O18K	Koktuh Hills	152.66 300	P		PKPbc	05 09 11.7	-0.1
	baz=105						
M19K	Big River Lodg	152.75 304	P		PKPbc	05 09 12.1	+0.2
	baz=102						
D22K	Ayikyak River	152.76 320	P		PKiKP	05 09 12.1	+0.2
	baz=90						
K20K	Telida	152.88 308	P		PKPbc	05 09 12.3	+0.1
	baz=100						
B22K	Teshekpuk Lake	152.97 323	P		PKiKP	05 09 12.4	+0.2
	baz=86						
G21K	Allakaket	153.00 315	P		PKiKP	05 09 12.9	+0.4
	baz=94						
L19K	White Mountain	153.03 305	P		PKiKP	05 09 12.9	+0.1
	baz=101						
F21K	Alatna River	153.03 316	P		PKiKP	05 09 13.4	+0.9
	baz=92						
J20K	Nowinta River	153.04 309	P		PKiKP	05 09 13.6	+0.9
	baz=98						
Q16K	King Salmon	153.05 297	P		PKiKP	05 09 13.7	+1.0
	baz=107						
P17K	Kvichak River	153.09 298	P		PKiKP	05 09 14.0	+1.1
	baz=106						
R16K	Pilot Point	153.18 294	P		PKiKP	05 09 13.9	+0.8
	baz=108						
N18K	Kilae Creek	153.19 301	P		PKiKP	05 09 14.3	+1.3
	baz=103						
CHGN	Chignik	153.20 291	P		PKiKP	05 09 13.5	+0.4
	baz=110						
E21K	Kilik River	153.23 319	P		PKiKP	05 09 14.5	+1.6
	baz=90						
I20K	Naaghedeneel	153.25 311	P		PKiKP	05 09 14.4	+1.4
	baz=96						
CHNA	Chernabura Isl	153.28 288	P		PKiKP	05 09 14.5	+1.1
	baz=113						
M18K	Stony River	153.34 303	P		PKiKP	05 09 13.7	+0.4
	baz=102						
A22K	Sinclair Lake	153.42 325	P		PKiKP	05 09 14.3	+1.1
	baz=83						
B21K	Ikpikpuk River	153.42 321	P		PKiKP	05 09 13.8	+0.6
	baz=86						
H20K	Anotleneega Mo	153.49 312	P		PKiKP	05 09 13.9	+0.4
	baz=95						
C21K	Knifeblade Rid	153.51 320	P		PKiKP	05 09 14.4	+0.9
	baz=87						
O17K	Koliganek Bris	153.56 299	P		PKiKP	05 09 14.7	+0.9
	baz=104						
J19K	Pooorman	153.66 309	P		PKiKP	05 09 15.2	+1.3
	baz=97						
TTA	Tatalina	153.68 306	P		PKiKP	05 09 14.6	+0.5
	baz=99						
N17K	Nushagak Hills	153.78 301	P		PKiKP	05 09 15.6	+1.4
	baz=103						
S14K	Fog Glacier	153.79 291	P		PKiKP	05 09 14.9	+0.4
	baz=110						
P16K	Nushagak River	153.81 297	P		PKiKP	05 09 15.7	+1.3
	baz=105						
L18K	Granite Mounta	153.88 305	P		PKiKP	05 09 15.3	+0.9
	baz=100						
F20K	Avaraart Lake	153.90 316	P		PKiKP	05 09 15.7	+1.4
	baz=91						
A21K	Barrow	153.91 325	P		PKiKP	05 09 15.6	+1.4
	baz=81						
SDPT	Sand Point	153.95 288	P		PKiKP	05 09 15.8	+1.1
	baz=111						
O16K	Kokwok River B	154.01 298	P		PKiKP	05 09 15.5	+0.8
	baz=104						
E20K	Nigu River	154.06 318	P		PKiKP	05 09 15.7	+1.0
	baz=88						
J18K	Innoko River	154.07 307	P		PKiKP	05 09 15.7	+0.9
	baz=97						
M17K	Holitna River	154.08 303	P		PKiKP	05 09 15.1	+0.3
	baz=101						
H19K	Roundabout Mou	154.14 312	P		PKiKP	05 09 15.7	+0.9
	baz=93						
D20K	Etivluk River	154.19 319	P		PKiKP	05 09 16.6	+1.6
	baz=86						
B20K	Meade River	154.27 322	P		PKiKP	05 09 16.0	+1.0
	baz=83						
GCSA	Galena City Sc	154.27 310	P		PKiKP	05 09 16.6	+1.5
	baz=94						
G19K	Purcell Mounta	154.43 314	P		PKiKP	05 09 16.6	+1.1
	baz=91						
E19K	Redstone River	154.48 317	P		PKiKP	05 09 17.0	+1.4
	baz=88						
N16K	Nishlik Lake	154.54 300	P		PKiKP	05 09 17.3	+1.5
	baz=102						
L17K	Donlin	154.61 304	P		PKiKP	05 09 17.7	+1.7
	baz=99						
K17K	Iditarod	154.69 305	P		PKiKP	05 09 17.9	+1.9
	baz=98						
F19K	Shaleruckik Mo	154.71 315	P		PKiKP	05 09 18.5	+2.5
	baz=89						
M16K	Timber Creek	154.73 301	P		PKiKP	05 09 18.1	+1.9
	baz=101						
D19K	Kuna River	154.76 319	P		PKiKP	05 09 18.5	+2.4
	baz=85						
O15K	Ungalikthiuk R	154.77 297	P		PKiKP	05 09 18.7	+2.4
	baz=104						
S12K	Black Hills	154.92 288	P		PKiKP	05 09 18.9	+2.2
	baz=110						
H18K	Honhosa River	154.93 311	P		PKiKP	05 09 19.0	+2.5
	baz=92						
G18K	Tagagawik	155.07 313	P		PKPdf	05 09 19.5	+12
	baz=90						
L16K	Owhat River	155.09 303	P		PKPdf	05 09 19.2	+11
	baz=99						
N15K	Kwethluk River	155.12 299	P		PKPdf	05 09 19.5	+11
	baz=102						
J17K	VABM Dome	155.12 307	P		PKPdf	05 09 19.7	+12
	baz=96						
FALS	False Pass	155.35 286	P		PKPab	05 09 34.5	0.0
	baz=111						
F18K	Selawik	155.46 315	P		PKPab	05 09 34.9	+0.2
	baz=88						
O14K	Tigyukauivet M	155.50 297	P		PKPab	05 09 35.4	+0.3
	baz=103						
M15K	Kasigluk River	155.51 300	P		PKPab	05 09 35.9	+0.8
	baz=100						
A19K	Wainwright	155.56 323	P		PKPab	05 09 36.2	+1.2
	baz=79						
H17K	Granite Mounta	155.58 311	P		PKPab	05 09 35.9	+0.6
	baz=92						
E18K	Tukpahlearik C	155.78 317	P		PKPab	05 09 36.6	+0.5
	baz=85						
N14K	Kuskokwak Cree	155.85 298	P		PKPab	05 09 37.0	+0.4
	baz=101						
C18K	Utukok River	155.87 320	P		PKPab	05 09 37.0	+0.5
	baz=82						
B18K	Kokolik River	155.97 322	P		PKPab	05 09 37.4	+0.6
	baz=80						
L15K	Ungalak Mounta	156.04 302	P		PKPab	05 09 38.0	+0.7
	baz=98						
F17K	Baldwin Pennin	156.11 314	P		PKPab	05 09 38.6	+1.1
	baz=87						
M14K	Bethel	156.13 300	P		PKPab	05 09 38.7	+1.0
	baz=99						
E17K	Hotham Inlet	156.29 316	P		PKPab	05 09 39.4	+1.1
	baz=85						
L14K	Kuka Creek	156.57 301	P		PKPab	05 09 40.2	+0.6
	baz=97						
H16K	Elim	156.57 310	P		PKPab	05 09 40.2	+0.7
	baz=90						
G16K	Koyuk River	156.61 312	P		PKPab	05 09 40.7	+1.1
	baz=88						
C17K	DeLong Mountai	156.61 320	P		PKPab	05 09 40.4	+0.7
	baz=80						
D17K	Noatak River	156.70 318	P		PKPab	05 09 41.1	+1.1
	baz=82						
M13K	Dall Lake	156.76 299	P		PKPab	05 09 41.7	+1.3
	baz=99						
C16K	Lisburne Hills	157.44 319	P		PKPab	05 09 43.4	+0.2
	baz=78						

BJI ***04*** *04:51:24.5, 54°.96N×161°.71W, h21km, mB5.1/8, mb4.9/39, Ms5.2/1*

AEIC ***04*** *04:51:25.9±2.4, 54°.58N±0°.04×160°.97W±0°.04, h6km±3km, Error ellipse: s-maj=6.3km s-min=3.4km az=189.0*

NEIC ***04*** *04:51:26.9±1.9, 54°.62N±0°.06×160°.92W±0°.06, h39km±5km, mb4.7/100, ML4.6/28, Mwr4.4/10, ML4.4(AEIC), Error ellipse: s-maj=8.6km s-min=4.8km az=183.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.83; Mθθ-0.32; Mφφ-0.52; Mre4.77; Mθφ-0.43; Mθr2.83; Fault plane solution: M0 5.61000×10^15^ NP1: φ=59.07000°, δ=85.93000°, λ=93.01000°. NP2: φ=202.58000°, δ=5.06000°, λ=53.61000°. Principal axes: T 5.6490, Plg49.0000°, Azm332.0000°; N -0.0812, Plg3.0000°, Azm239.0000°; P -5.5679, Plg41.0000°, Azm146.0000°;*

IDC ***04*** *04:51:27.1±2.5, 54°.78N×161°.21W, h37km±19km, mb4.4/27, mbtmp4.6/30, ML4.2/3, MS3.6/44 Error ellipse: s-maj=18.1km s-min=10.6km az=177.0*

ANF ***04*** *04:51:27.5±0.3, 54°.62N×160°.95W, h51km±3km, ML4.8/12, Error ellipse: s-maj=3.7km s-min=2.3km az=17.0*

NEIC ***04*** *04:51:28.2, 54°.77N×160°.99W, h45km*

ISC 04 04:51:26.8±0.9, 54°.64N±0°.05×160°.92W±0°.03, h42km±8km, n822, σ1§13/852, mb4.8/117, MS3.6/39, 30C-10D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.76**	**20**		**Pn**	**04 51 41.0**	**-0.1**
SDPT					**Sn**	**04 51 50.8**	**-0.6**
SDPT				IAML		04 51 52.6	
	comp=E,15μm,0.5s						
SDPT				IAML		04 51 52.8	
	comp=N,22μm,0.7s						
SDPT	**Sand Point**	**0.76**	**20**	P	**Pn**	**04 51 41.1**	**0.0**
SDPT	**Sand Point**	**0.76**	**20**	S	**Sn**	**04 51 51.3**	**-0.1**
SDPT	**Sand Point**	**0.76**	**20**	P	**Pn**	**04 51 41.0**	**-0.1**
	baz=206						
SDPT				S	**Sn**	**04 51 51.3**	**-0.1**
	baz=206						
CNBA	**Chernabura Isl**	**0.80**	**76**		**Pn**	**04 51 40.3**	**-1.2**
CNBA					**Sn**	**04 51 50.9**	**-1.3**
CHNA	**Chernabura Isl**	**0.80**	**75**	P	**Pn**	**04 51 40.4**	**-1.2**
CHNA	**Chernabura Isl**	**0.80**	**75**	S	**Sn**	**04 51 51.0**	**-1.3**
CHNA	**Chernabura Isl**	**0.80**	**75**	P	**Pn**	**04 51 40.3**	**-1.3**
	baz=265,SNR=50						
CHNA				S	**Sn**	**04 51 50.2**	**-2.1**
	baz=265						
HAG	**Hague Volcano**	**0.89**	**321**		**Pn**	**04 51 42.5**	**-0.4**
HAG					**Sn**	**04 51 55.2**	**+0.6**
PS4A	**Pavlof South-4**	**0.89**	**323**		**Pn**	**04 51 42.4**	**-0.5**
PS4A					**Sn**	**04 51 55.7**	**+1.1**
PVV	**Pavlof Volcano**	**0.89**	**326**		**Pn**	**04 51 42.5**	**-0.4**
PVV					**Sn**	**04 51 55.2**	**+0.6**
PS1A	**Pavlof South-1**	**0.92**	**329**		**Pn**	**04 51 43.0**	**-0.2**
PS1A					**Sn**	**04 51 56.1**	**+0.8**
S12K	**Black Hills**	**1.25**	**329**		**Pn**	**04 51 47.5**	**-0.3**
S12K					**Sn**	**04 52 04.5**	**+0.9**
S12K				IAML		04 52 05.6	
	comp=N,16μm,0.4s						
S12K	**Black Hills**	**1.25**	**329**	P	**Pn**	**04 51 48.4**	**+0.5**
	baz=146,SNR=275						
S12K				S	**Sn**	**04 52 05.2**	**+1.6**
	baz=146						
FALS	**False Pass**	**1.46**	**280**		**Pn**	**04 51 49.8**	**-0.9**
FALS	**False Pass**	**1.46**	**280**	P	**Pn**	**04 51 49.8**	**-0.9**
FALS	**False Pass**	**1.46**	**280**	P	**Pn**	**04 51 49.8**	**-0.9**
	baz=93,SNR=105						
FALS				S	**Sn**	**04 52 08.8**	**+0.2**
	baz=93						
ISLZ	**Isanotski Laza**	**1.62**	**274**		**Pn**	**04 51 52.1**	**-0.8**
ISLZ					**Sn**	**04 52 13.3**	**+0.7**
ISNN	**Isanotski Nort**	**1.67**	**278**		**Sn**	**04 52 15.9**	**+2.2**
SSLS	**Shishaldin Sou**	**1.79**	**274**		**Pn**	**04 51 55.4**	**+0.2**
VNSG	**Veniaminof 6**	**1.82**	**34**		**Pn**	**04 51 57.6**	**+1.9**
S14K	**Fog Glacier**	**1.83**	**25**	P	**Pn**	**04 51 58.0**	**+2.2**
	baz=208,SNR=97						
VNFG	**Fog Glacier, M**	**1.83**	**25**	Pn	**Pn**	**04 51 57.3**	**+1

CHGN S Sn 04 52 30.2 +3.6
baz=224
WEBT Westdahl Beart 2.23 270 Pn 04 52 01.7 +0.5
WEBT Sn 04 52 29.2 +1.7
WECS Westdahl Cape 2.25 269 Pn 04 52 02.3 +0.8
ANPB Aniakchak Plen 2.64 33 Pn 04 52 08.7 +1.8
ANNW Aniakchak Nort 2.79 32 Pn 04 52 10.6 +1.6
ANNE Aniakchak Nort 2.80 34 Pn 04 52 10.6 +1.6
AKBBA Akutan Broad B 2.98 262 Pn 04 52 11.6 +0.1
AKV Akutan Volcano 2.99 262 Pn 04 52 11.9 +0.2
AKGG Akutan Green G 2.99 264 Pn 04 52 11.8 +0.1
ZRO Akutan Zero 3.01 262 Pn 04 52 12.1 +0.2
LVA Lava Point 3.02 263 Pn 04 52 12.9 +0.8
LVA IAML 04 52 59.2
comp=E,1µm,0.6s
CHIR Chirikof Islan 3.26 66 Pn 04 52 15.7 +0.4
CHIR IAML 04 53 14.3
comp=N,993nm,1.1s
CHIR IAML 04 53 15.1
comp=E,1µm,1.4s
CHIR Chirikof Islan 3.26 66 P Pn 04 52 16.0 +0.7
CHIR Chirikof Islan 3.26 66 S Sn 04 52 53.5 +0.7
CHIR Chirikof Islan 3.26 66 P Pn 04 52 16.3 +1.0
baz=253,SNR=6.6
CHIR S Sn 04 52 53.5 +0.7
baz=253
UNV Unalaska Valle 3.37 259 Pn 04 52 16.7 -0.2
UNV Unalaska Valle 3.37 259 P Pn 04 52 16.6 -0.2
baz=72,SNR=14
UNV S Sn 04 52 54.9 -0.6
baz=72
MTBL Makushin Table 3.44 261 Pn 04 52 17.7 -0.2
R16K Pilot Point 3.49 31 Pn Pn 04 52 20.5 +2.1
R16K IAML 04 53 09.8
comp=N,2µm,0.8s
R16K IAML 04 53 41.5
comp=E,978nm,1.1s
R16K Pilot Point 3.49 31 P Pn 04 52 20.3 +1.8
baz=215
R16K S Sn 04 53 01.2 +2.8
baz=215
MREP Makushin Rep't 3.52 259 Pn 04 52 18.8 -0.1
MGOD Makushin Gods 3.59 259 Pn 04 52 19.9 -0.1
PLBL Peulik Blue Cr 3.83 35 Pn 04 52 25.3 +2.1
PLK1 Peulik 1 3.98 35 Pn 04 52 27.2 +1.9
SII Sitkinak Islan 4.28 60 Pn Pn 04 52 29.9 +0.5
SII Sitkinak Islan 4.28 60 P Pn 04 52 29.9 +0.5
SII Sitkinak Islan 4.28 60 P Pn 04 52 30.1 +0.7
baz=248,SNR=24
SII S Sn 04 53 18.6 +0.6
baz=248
O15K Ungalikthiuk R 4.59 7 Pn 04 52 35.1 +1.5
O15K Ungalikthiuk R 4.59 7 P Pn 04 52 34.8 +1.2
baz=188
O15K S Sn 04 53 28.3 +2.6
baz=188
O14K Tigyukauivet M 4.63 358 Pn Pn 04 52 34.6 +0.5
O14K IAML 04 54 02.9
comp=N,401nm,1.0s
O14K Tigyukauivet M 4.63 358 P Pn 04 52 35.1 +1.0
baz=178
O14K S Sn 04 53 28.6 +1.9
baz=178
R18K Karluk 4.66 48 Pn 04 52 35.7 +1.1
R18K Karluk 4.66 48 IAML 04 53 56.6
comp=N,714nm,0.6s
R18K Karluk 4.66 48 P Pn 04 52 36.0 +1.5
baz=235
R18K S Sn 04 53 29.3 +1.9
baz=235
ANCK Angle Creek 4.67 38 Pn 04 52 36.7 +1.9
Q16K King Salmon 4.69 28 P Pn 04 52 36.6 +1.7
baz=213,SNR=23
Q16K S Sn 04 53 30.2 +2.3
baz=213
P16K Nushagak River 4.69 19 P Pn 04 52 36.5 +1.6
baz=202,SNR=5.5
ACHA Angle Creek He 4.74 39 Pn Pn 04 52 36.9 +1.1
OHAK Old Harbor 5.01 56 Pn Pn 04 52 39.1 -0.3
OHAK IAML 04 54 06.7
comp=E,288nm,1.2s
OHAK IAML 04 54 08.8
comp=N,389nm,1.2s
OHAK Old Harbor 5.01 56 P Pn 04 52 39.3 -0.1
comp=N,69nm,1.0s
OHAK Old Harbor 5.01 56 P Pn 04 52 39.5 +0.1
baz=243,SNR=15
Q18K Katmai Hardscr 5.18 37 P Pn 04 52 43.7 +1.9
baz=222,SNR=95
P17K Kvichak River 5.19 26 Pn 04 52 44.3 +2.6
P17K Kvichak River 5.19 26 P Pn 04 52 44.2 +2.4
baz=211,SNR=20
O16K Kokwok River B 5.21 16 Pn Pn 04 52 42.9 +0.9
O16K Kokwok River B 5.21 16 P Pn 04 52 43.8 +1.8
baz=199
KAHG Katmai Hook Gl 5.23 40 Pn 04 52 43.9 +1.5
N14K Kuskokwak Cree 5.32 356 Pn 04 52 44.6 +1.0
N14K Kuskokwak Cree 5.32 356 P Pn 04 52 44.6 +1.0
baz=175,SNR=125
N14K S Sn 04 53 44.9 +1.4
baz=175
O17K Koliganek Bris 5.55 20 P Pn 04 52 48.4 +1.6
baz=204,SNR=15
N15K Kwethluk River 5.57 4 Pn Pn 04 52 47.9 +0.9
N15K Kwethluk River 5.57 4 P Pn 04 52 48.0 +1.0
baz=185
N15K S Sn 04 53 52.1 +2.5
baz=185
KDAK Kodiak Island 5.62 52 Pn Pn 04 52 48.4 +0.6
KDAK Kodiak Island 5.62 52 Pn Pn 04 52 48.1 +0.4
comp=N,5.4nm,0.3s,baz=255,slow=1.3,SNR=130
KDAK Sn Sn 04 53 48.5 -2.4
comp=N,8.5nm,0.3s,baz=70,slow=17,SNR=1.5
KDAK LR LR 04 54 38.1
comp=N,50nm,19.8s,baz=70,slow=34
comp=N,11nm,0.3s
KDAK Kodiak Island 5.62 52 P Pn 04 52 48.1 +0.4
baz=240
KDAK S Sn 04 53 51.1 +0.2
baz=240
P18K Big Mountain, 5.69 31 Pn Pn 04 52 50.0 +1.3
P18K Big Mountain, 5.69 31 P Pn 04 52 50.6 +1.8
baz=216,SNR=23
P18K S Sn 04 53 55.1 +2.3
baz=216
SPIA Saint Paul Isl 5.83 300 Pn Pn 04 52 51.3 +0.7
SPIA Saint Paul Isl 5.83 300 P Pn 04 52 51.6 +1.0
baz=111
Q19K Cape Douglas, 5.87 40 Pn 04 52 52.6 +1.3
Q19K Cape Douglas, 5.87 40 P Pn 04 52 52.3 +1.1
baz=227
M13K Dall Lake 5.94 348 Pn Pn 04 52 52.5 +0.5
M13K Dall Lake 5.94 348 P Pn 04 52 53.6 +1.6
baz=166,SNR=11
M13K S Sn 04 54 00.2 +1.5
baz=166
N16K Nishlik Lake 5.97 10 Pn 04 52 54.4 +1.9
N16K Nishlik Lake 5.97 10 P Pn 04 52 54.4 +1.9
baz=193,SNR=100
N16K S Sn 04 54 02.2 +2.7
baz=193
M15K Kasigluk River 6.08 1 P Pn 04 52 54.1 +0.1
baz=182,SNR=20
M15K S Sn 04 54 04.5 +2.3
baz=182
O18K Koktuh Hills 6.08 28 Pn 04 52 55.3 +1.2
O18K Koktuh Hills 6.08 28 P Pn 04 52 55.6 +1.6
baz=214,SNR=24
M14K Bethel 6.16 355 Pn 04 52 55.7 +0.7
M14K Bethel 6.16 355 P Pn 04 52 55.7 +0.7
baz=175,SNR=124
M14K S Sn 04 54 04.1 0.0
baz=175
Q20K Shuyak Island 6.17 46 P Pn 04 52 56.8 +1.6
baz=234,SNR=28
SYI Shuyak Island 6.17 46 Pn 04 52 56.0 +0.9
N17K Nushagak Hills 6.24 17 Pn 04 52 56.4 +0.2
N17K Nushagak Hills 6.24 17 P Pn 04 52 57.6 +1.4
baz=201,SNR=21
M11K Mekoryuk 6.43 336 Pn Pn 04 52 59.0 +0.3
M11K Mekoryuk 6.43 336 P Pn 04 52 59.4 +0.6
baz=151
M11K S Sn 04 54 11.7 +1.1
baz=151
M16K Timber Creek 6.49 8 Pn 04 52 59.8 +0.2
M16K Timber Creek 6.49 8 P Pn 04 53 00.8 +1.2
baz=190,SNR=18
P19K Oil Pt 6.54 37 Pn 04 53 01.1 +0.7
P19K Oil Pt 6.54 37 P Pn 04 53 02.2 +1.8
baz=224,SNR=7.1
O19K Port Alsworth 6.62 30 Pn 04 53 02.2 +0.9
O19K Port Alsworth 6.62 30 P Pn 04 53 03.6 +2.3
baz=216,SNR=50
N18K Kilae Creek 6.63 22 Pn Pn 04 53 03.9 +2.2
N18K Kilae Creek 6.63 22 P Pn 04 53 03.4 +1.8
baz=207
L14K Kuka Creek 6.79 353 Pn Pn 04 53 04.0 +0.2
L14K Kuka Creek 6.79 353 P Pn 04 53 04.8 +1.1
baz=171
L14K S Sn 04 54 21.0 +1.4
baz=171
ILSW Iliamna Southw 6.82 35 Pn 04 53 05.2 +1.0
ILS Iliamna Low So 6.82 35 Pn 04 53 06.0 +1.7
M17K Holitna River 7.03 14 Pn Pn 04 53 08.4 +1.4
M17K Holitna River 7.03 14 P Pn 04 53 08.5 +1.4
baz=197
O20K Slope Mountain 7.06 36 Pn 04 53 09.6 +2.1
O20K Slope Mountain 7.06 36 P Pn 04 53 10.0 +2.4
baz=224
L15K Ungalak Mounta 7.07 358 Pn 04 53 07.8 +0.3
L15K Ungalak Mounta 7.07 358 P Pn 04 53 07.8 +0.3
baz=178
L15K S Sn 04 54 26.2 -0.3
baz=178
N19K Bonanza Creek 7.09 26 Pn Pn 04 53 09.6 +1.7
N19K Bonanza Creek 7.09 26 P Pn 04 53 10.3 +2.4
baz=212,SNR=30
HOM Homer 7.13 41 Pn 04 53 09.9 +1.5
HOM Homer 7.13 41 P Pn 04 53 10.9 +2.5
baz=230
L16K Owhat River 7.14 6 Pn Pn 04 53 09.2 +0.7
L16K Owhat River 7.14 6 P Pn 04 53 09.7 +1.2
baz=187,SNR=11
L16K S Sn 04 54 28.8 +0.6
baz=187
RED Redoubt Volcan 7.27 34 Pn 04 53 12.4 +2.0
RDWB Redoubt West 7.30 33 Pn 04 53 12.3 +1.5
NCT North Crescent 7.33 33 Pn 04 53 13.6 +2.4
M18K Stony River 7.38 19 Pn 04 53 13.8 +1.9
M18K Stony River 7.38 19 P Pn 04 53 13.8 +1.9
baz=204,SNR=27
M18K S Sn 04 54 35.9 +1.7
baz=204
BRLK Bradley Lake 7.49 43 Pn 04 53 13.2 -0.2
RDT Redoubt 7.50 34 Pn 04 53 14.8 +1.3
BRSE Bradley Lake S 7.53 43 P Pn 04 53 14.4 +0.5
baz=232
BRSE S Sn 04 54 36.8 -1.1
baz=232
K13K Kusilvak Mount 7.58 346 Pn 04 53 14.9 +0.4
K13K Kusilvak Mount 7.58 346 P Pn 04 53 15.7 +1.2
baz=163,SNR=44
K13K S Sn 04 54 39.3 +0.4
baz=163
L17K Donlin 7.65 9 Pn 04 53 16.2 +0.8
L17K Donlin 7.65 9 P Pn 04 53 16.7 +1.2
baz=192,SNR=16
L17K S Sn 04 54 42.5 +1.8
baz=192
K15K Wolf Creek Mou 7.69 358 Pn Pn 04 53 16.7 +0.6
K15K Wolf Creek Mou 7.69 358 P Pn 04 53 17.4 +1.3
baz=178,SNR=19
K15K S Sn 04 54 42.7 +1.1
baz=178
L18K Granite Mounta 7.92 15 Pn Pn 04 53 19.8 +0.6
L18K Granite Mounta 7.92 15 P Pn 04 53 20.8 +1.6
baz=198,SNR=10.0
L18K S Sn 04 54 49.5 +2.0
baz=198
SPWE Spurr West 8.00 30 Pn 04 53 23.1 +2.7
CKL Chakachamna La 8.00 31 Pn 04 53 22.4 +1.9
SPNN North Nagishla 8.03 30 Pn 04 53 23.0 +2.1
SPBG Spurr Blockage 8.04 31 Pn 04 53 24.7 +3.7
N20K Mount Spurr 8.05 32 P Pn 04 53 23.6 +2.6
baz=220
SPCR Spurr Chakacha 8.05 32 Pn 04 53 22.9 +1.9
SPCR Spurr Chakacha 8.05 32 P Pn 04 53 23.9 +2.8
baz=220,SNR=5.7
M19K Big River Lodg 8.06 23 Pn 04 53 21.5 +0.4
M19K Big River Lodg 8.06 23 P Pn 04 53 23.4 +2.3
baz=209,SNR=24
CAPN Captain Cook N 8.07 36 Pn Pn 04 53 21.6 +0.4
CAPN Captain Cook N 8.07 36 P Pn 04 53 23.9 +2.7
baz=225
SPU Mount Spurr 8.08 32 Pn 04 53 22.0 +0.6
L19K White Mountain 8.21 20 Pn 04 53 24.3 +1.1
L19K White Mountain 8.21 20 P Pn 04 53 25.2 +2.0
baz=206,SNR=13
K17K Iditarod 8.22 8 Pn Pn 04 53 23.4 +0.2
K17K Iditarod 8.22 8 P Pn 04 53 23.7 +0.4
baz=191,SNR=25
SLKM Skilak Lake 8.22 40 Pn 04 53 24.1 +0.7
J14K Nanvaranak Lak 8.25 352 Pn 04 53 23.9 +0.1
J14K Nanvaranak Lak 8.25 352 P Pn 04 53 24.6 +0.8
baz=169,SNR=20
J14K S Sn 04 54 55.8 +0.4
baz=169
SEW Seward 8.27 44 Pn 04 53 24.8 +0.8
SEW Seward 8.27 44 P Pn 04 53 25.2 +1.2
baz=234
SEW S Sn 04 54 57.3 +1.4
baz=234
ATKA Atka Island 8.29 258 Pn 04 53 26.5 +2.1
ATKA Atka Island 8.29 258 P Pn 04 53 23.8 -0.6
M20K Styx River 8.34 26 Pn Pn 04 53 27.6 +2.5
M20K Styx River 8.34 26 P Pn 04 53 28.0 +3.0
baz=213
STLK Strandline Lak 8.39 31 Pn 04 53 25.9 +0.1
O22K Cooper Landing 8.39 41 Pn 04 53 26.7 +1.0
O22K Cooper Landing 8.39 41 P Pn 04 53 26.9 +1.2
baz=231,SNR=19
FIS Fire Island 8.66 37 Pn 04 53 29.6 +0.4
J16K Anvik River 8.68 1 Pn 04 53 29.0 -0.5
J16K Anvik River 8.68 1 P Pn 04 53 29.9 +0.4
baz=181,SNR=16
J16K S Sn 04 55 06.9 +0.9
baz=181
L20K Farewell, AK 8.68 22 Pn 04 53 31.8 +2.1
L20K Farewell, AK 8.68 22 P Pn 04 53 31.2 +1.6
baz=209,SNR=20
TTA Tatalina 8.70 15 Pn 04 53 30.3 +0.4
TTA Tatalina 8.70 15 P Pn 04 53 30.5 +0.5
baz=200,SNR=18
TTA S Sn 04 55 07.7 +1.1
baz=200
RC01 Rabbit Creek A 8.79 38 Pn 04 53 32.0 +0.9
RC01 Rabbit Creek A 8.79 38 P Pn 04 53 31.8 +0.7
baz=228,SNR=16
J17K VABM Dome 8.84 5 Pn 04 53 31.9 +0.1
J17K VABM Dome 8.84 5 P Pn 04 53 31.6 -0.2
baz=187
J17K S Sn 04 55 11.0 +1.1
baz=187
SKT Skwentna 8.86 30 Pn 04 53 33.4 +1.3
SKT Skwentna 8.86 30 P Pn 04 53 34.4 +2.3
baz=218,SNR=15
P23K Montague Islan 9.07 48 P Pn 04 53 35.5 +0.6
baz=240,SNR=6.6
J18K Innoko River 9.12 12 Pn 04 53 35.9 +0.3
J18K Innoko River 9.12 12 P Pn 04 53 36.5 +0.9
baz=196,SNR=27
PWL Port Wells 9.17 42 Pn 04 53 36.1 -0.2
PWL Port Wells 9.17 42 P Pn 04 53 37.0 +0.7
baz=233,SNR=16
I17K Unalakleet 9.28 1 Pn 04 53 37.9 0.0
I17K Unalakleet 9.28 1 P Pn 04 53 38.8 +1.0
baz=181
I17K S Sn 04 55 20.7 0.0
baz=181
PMR Palmer 9.35 37 Pn 04 53 38.8 +0.1
PMR Palmer 9.35 37 P Pn 04 53 39.3 +0.6
PMR Palmer 9.35 37 P Pn 04 53 38.9 +0.2
baz=228
K20K Telida 9.43 19 Pn Pn 04 53 40.6 +0.8
K20K Telida 9.43 19 P Pn 04 53 41.5 +1.6
baz=205,SNR=23
K20K S Sn 04 55 25.8 +1.4
baz=205
PPLA Purkeypile 9.44 25 Pn Pn 04 53 40.0 -0.1
PPLA Purkeypile 9.44 25 P Pn 04 53 43.2 +3.2
baz=213,SNR=20
KNK Knik Glacier 9.47 39 Pn 04 53 40.5 +0.1
KNK Knik Glacier 9.47 39 P Pn 04 53 40.6 +0.1
baz=230,SNR=9.1
GHO Glory Hole Cre 9.54 37 Pn 04 53 42.3 +0.8
CUT Chulitna 9.56 31 Pn 04 53 42.7 +1.0
CUT Chulitna 9.56 31 P Pn 04 53 41.5 -0.2
baz=221
HIN Hinchinbrook I 9.66 47 Pn 04 53 42.9 -0.1
GLI Glacier Island 9.67 44 Pn 04 53 43.4 +0.3
GLI Glacier Island 9.67 44 P Pn 04 53 43.2 0.0
baz=236
GLI S Sn 04 55 29.6 -0.7
baz=236
J19K Poorman 9.77 14 Pn Pn 04 53 45.1 +0.6
J19K Poorman 9.77 14 P Pn 04 53 45.1 +0.6
baz=199,SNR=32
J19K S Sn 04 55 34.4 +1.8
baz=199
SML Sawmill 9.77 38 Pn Pn 04 53 43.0 -1.7
SML Sawmill 9.77 38 P Pn 04 53 44.5 -0.1
baz=229
SML S Sn 04 55 33.1 +0.2
baz=229
ADK Adak 9.84 260 Pn Pn 04 53 44.9 -0.6
FID Port Fidalgo 9.85 46 Pn Pn 04 53 44.1 -1.6
CAST Castle Rocks 9.91 24 Pn 04 53 45.9 -0.5
CAST Castle Rocks 9.91 24 P Pn 04 53 48.1 +1.7
baz=212,SNR=12
M23K Glacier View 9.98 39 P Pn 04 53 47.7 +0.2
baz=230,SNR=20
M23K S Sn 04 55 38.9 +1.0
baz=230
H16K Elim 10.06 357 P Pn 04 53 48.5 +0.1
baz=176
H16K S Sn 04 55 41.0 +1.3
baz=176
EYAK Cordova Ski Ar 10.06 48 Pn 04 53 48.3 -0.1
EYAK Cordova Ski Ar 10.06 48 P Pn 04 53 48.0 -0.4
EYAK Cordova Ski Ar 10.06 48 S Sn 04 55 41.1 +1.3
EYAK Cordova Ski Ar 10.06 48 P Pn 04 53 48.7 +0.3
baz=241,SNR=9.2
EYAK S Sn 04 55 40.6 +0.8
baz=241
SCM Sheep Creek Mo 10.15 39 Pn 04 53 49.6 -0.2
SCM Sheep Creek Mo 10.15 39 P Pn 04 53 50.2 +0.3
baz=231,SNR=16
SCM S Sn 04 55 42.3 +0.1
baz=231
J20K Nowinta River 10.17 17 Pn 04 53 50.2 +0.2
J20K Nowinta River 10.17 17 P Pn 04 53 51.6 +1.7
baz=203,SNR=26
ANM Nome 10.21 349 Pn Pn 04 53 50.6 +0.1
ANM Nome 10.21 349 P Pn 04 53 51.2 +0.7
baz=165
ANM S Sn 04 55 43.8 +0.4
baz=165
CHUM Lake Minchumin 10.26 22 P Pn 04 53 53.4 +2.2
baz=210,SNR=15
KTH Kantishna Hill 10.30 26 Pn 04 53 52.3 +0.4
GCSA Galena City Sc 10.34 10 P Pn 04 53 53.4 +1.1
baz=193,SNR=23
DIV Divide 10.35 45 Pn 04 53 52.6 +0.1
H17K Granite Mounta 10.35 2 Pn Pn 04 53 53.2 +0.8
H17K Granite Mounta 10.35 2 P Pn 04 53 53.9 +1.4
baz=183,SNR=6.8
H17K S Sn 04 55 48.0 +1.1
baz=183
KAIM Kayak Island 10.38 53 Pn Pn 04 53 52.5 -0.3
KAIM Kayak Island 10.38 53 P Pn 04 53 53.1 +0.3
baz=247,SNR=11
TRF Thorofare Moun 10.38 27 Pn 04 53 53.0 0.0
TRF Thorofare Moun 10.38 27 P Pn 04 53 53.9 +0.9
baz=217,SNR=13
RAGM Ragged Mountai 10.45 50 Pn 04 53 54.1 +0.2
KLU Klutina 10.49 43 Pn 04 53 54.4 +0.1
KLU Klutina 10.49 43 P Pn 04 53 54.5 +0.1
baz=236,SNR=53
G15K Niukluk 10.51 353 P Pn 04 53 55.8 +1.2
baz=170
G15K S Sn 04 55 50.4 -0.4
baz=170
HMT Hamilton 10.62 51 Pn 04 53 55.9 -0.3
H18K Honhosa River 10.63 6 Pn Pn 04 53 57.5 +1.2
H18K Honhosa River 10.63 6 P Pn 04 53 57.4 +1.1
baz=188
I20K Naaghedeneel 10.69 15 Pn 04 53 56.8 -0.3
I20K Naaghedeneel 10.69 15 P Pn 04 53 56.2 -0.9
baz=201
BPAW Bear Paw Mtn. 10.74 24 Pn 04 53 58.2 +0.3
BPAW Bear Paw Mtn. 10.74 24 P Pn 04 53 59.0 +1.2
baz=213,SNR=12
M24K Tolsona, Glenn 10.75 40 Pn 04 53 58.1 +0.1
M24K Tolsona, Glenn 10.75 40 P Pn 04 53 58.2 +0.3
baz=233,SNR=27
RND Reindeer 10.75 30 Pn 04 53 57.8 -0.2
BMRM Bremner River 10.75 47 Pn 04 53 58.2 +0.1
BMRM Bremner River 10.75 47 P Pn 04 53 58.2 +0.1
baz=242,SNR=16
G16K Koyuk River 10.82 357 Pn Pn 04 53 59.1 +0.3
G16K Koyuk River 10.82 357 P Pn 04 53 59.7 +0.9
baz=176,SNR=6.7
G16K S Sn 04 55 58.5 +0.2
baz=176
BERG Berg Lake 10.89 51 Pn Pn 04 53 59.4 -0.5
G17K Kiwalik Mounta 10.90 1 P Pn 04 54 01.2 +1.2
baz=181
MCK McKinley 10.98 29 Pn Pn 04 53 59.6 -1.5
MCK McKinley 10.98 29 P Pn 04 54 01.0 -0.1
baz=220,SNR=6.2
N25K Chitina, Valde 11.08 44 Pn Pn 04 54 02.1 -0.4
N25K Chitina, Valde 11.08 44 P Pn 04 54 02.9 +0.4
baz=239,SNR=22
H19K Roundabout Mou 11.15 10 Pn Pn 04 54 03.6 +0.2
H19K Roundabout Mou 11.15 10 P Pn 04 54 04.6 +1.3
baz=194
F14K Arctic Creek 11.20 348 P Pn 04 54 04.6 +0.6
baz=164
SNH Sunshine Point 11.21 53 Pn 04 54 05.2 +1.0
F15K North Star Dit 11.26 352 Pn Pn 04 54 05.8 +0.9
F15K North Star Dit 11.26 352 P Pn 04 54 05.6 +0.7
baz=169
H20K Anotleneega Mo 11.29 13 P Pn 04 54 05.9 +0.5
baz=198,SNR=25
HARP HAARP 11.31 40 P Pn 04 54 05.2 -0.4
baz=234,SNR=9.8
GLB Gilahina Butte 11.32 46 Pn 04 54 05.4 -0.4
G18K Tagagawik 11.35 5 P Pn 04 54 06.3 +0.2
baz=187
VRDI Verde Repeater 11.37 47 Pn 04 54 06.9 +0.3
I21K Tanana 11.47 19 Pn 04 54 08.2 +0.4
I21K Tanana 11.47 19 P Pn 04 54 08.7 +0.9
baz=207,SNR=22
TNA Tin City 11.49 345 Pn Pn 04 54 08.2 +0.2
TNA Tin City 11.49 345 P Pn 04 54 09.0 +1.0
baz=159
PAX Paxson 11.54 37 Pn 04 54 08.7 -0.1
PAX Paxson 11.54 37 P Pn 04 54 08.6 -0.2
baz=231,SNR=28
MESA MESA 11.62 54 Pn 04 54 10.6 +0.7
MESA MESA 11.62 54 P Pn 04 54 10.2 +0.3
baz=250
NEA2 Nenana 11.62 26 Pn Pn 04 54 07.7 -2.1
NEA2 Nenana 11.62 26 P Pn 04 54 08.2 -1.7
baz=217,SNR=8.0
G19K Purcell Mounta 11.70 8 Pn Pn 04 54 11.6 +0.7
G19K Purcell Mounta 11.70 8 P Pn 04 54 11.3 +0.4
baz=191
H21K Melozitna Rive 11.76 17 Pn 04 54 12.1 +0.4
H21K Melozitna Rive 11.76 17 P Pn 04 54 12.8 +1.1
baz=204,SNR=12
WRH Wood River Hil 11.79 28 Pn 04 54 10.2 -1.9
F17K Baldwin Pennin 11.85 359 Pn 04 54 13.2 +0.4
F17K Baldwin Pennin 11.85 359 P Pn 04 54 12.7 -0.2
baz=179
K24K Donnelly Dome 11.99 34 P Pn 04 54 15.0 +0.1
baz=227,SNR=33
CCB Clear Creek Bu 12.00 28 Pn 04 54 12.9 -2.1
I23K Minto, Yukon-K 12.01 24 Pn 04 54 14.1 -1.0
I23K Minto, Yukon-K 12.01 24 P Pn 04 54 14.0 -1.1
baz=214,SNR=10.0
F18K Selawik 12.02 2 P Pn 04 54 16.4 +1.2
baz=184,SNR=7.4
HDA Harding Lake 12.06 30 Pn 04 54 14.0 -1.9
HDA Harding Lake 12.06 30 P Pn 04 54 14.0 -1.9
baz=223,SNR=8.9

M26K	Nabesna, AK	12.14	43	Pn		Pn	04 54 16.4	-0.6
M26K	Nabesna, AK	12.14	43	P		Pn	04 54 17.1	+0.1
	baz=239,SNR=27							
MENT	Mentasta	12.16	40			Pn	04 54 17.5	+0.3
MENT	Mentasta	12.16	40	P		Pn	04 54 17.9	+0.7
COLA	College	12.17	27	Pn		Pn	04 54 16.4	-0.8
COLA	College	12.17	27	P		Pn	04 54 15.9	-1.3
COLA	College	12.17	27	P		Pn	04 54 16.9	-0.3
	baz=219							
H22K	Ishtalitna Cre	12.23	19	P		Pn	04 54 19.8	+1.7
	baz=207,SNR=23							
RIDG	Independent Ri	12.26	35			Pn	04 54 18.0	-0.5
RIDG	Independent Ri	12.26	35	P		Pn	04 54 18.2	-0.3
	baz=230,SNR=26							
F19K	Shaleruckik Mo	12.33	6	Pn		Pn	04 54 20.4	+0.9
F19K	Shaleruckik Mo	12.33	6	P		Pn	04 54 20.0	+0.5
	baz=189,SNR=9.1							
L26K	Log Cabin Wild	12.35	40			Pn	04 54 19.1	-0.7
IL31		12.35	29			Pn	04 54 17.5	-2.3
ILAR	Eielson Array	12.35	29			Pn	04 54 19.2	-0.6
ILAR	Eielson Array	12.35	29	Pn		Pn	04 54 17.1	-2.7
	comp=N,0.9nm,0.3s,baz=222,slow=13,SNR=41							
ILAR				Sn		Sn	04 56 24.6	-11
	baz=219,slow=25							
ILAR				LR		LR	04 59 35.2	
	comp=N,333nm,18.4s,baz=246,slow=40							
G21K	Allakaket	12.45	14	P		Pn	04 54 22.0	+0.9
	baz=201,SNR=19							
DOT	Dot Lake	12.47	37			Pn	04 54 21.0	-0.4
POKR	Poker Plat Res	12.47	27			Pn	04 54 20.0	-1.4
POKR	Poker Plat Res	12.47	27	P		Pn	04 54 21.2	-0.2
	baz=219							
E17K	Hotham Inlet	12.50	358	P		Pn	04 54 22.3	+0.6
	baz=178							
M27K	Edge Creek, AK	12.57	44	P		Pn	04 54 23.1	+0.2
	baz=241,SNR=7.4							
O28M	Mount Upton	12.64	53	P		Pn	04 54 24.5	+0.4
	baz=251							
J25K	Salcha River,	12.68	32	Pn		Pn	04 54 21.4	-2.9
J25K	Salcha River,	12.68	32	P		Pn	04 54 22.7	-1.7
	baz=226,SNR=13							
SCRK	Sand Creek	12.70	36			Pn	04 54 23.5	-1.1
SCRK	Sand Creek	12.70	36	P		Pn	04 54 23.3	-1.4
	baz=231,SNR=8.7							
F20K	Avaraart Lake	12.70	9	P		Pn	04 54 25.1	+0.6
	baz=194,SNR=12							
E18K	Tukpahlearik C	12.83	1	P		Pn	04 54 25.7	-0.6
	baz=181,SNR=6.3							
H24K	Noodor Dome	12.93	25	P		Pn	04 54 27.5	-0.2
	baz=216,SNR=8.3							
L27K	Beaver Creek,	12.95	42			Pn	04 54 27.5	-0.5
L27K	Beaver Creek,	12.95	42	P		Pn	04 54 27.9	-0.1
	baz=238,SNR=16							
BCAR	Beaver Creek A	12.97	42	Pn		Pn	04 54 27.8	-0.5
E19K	Redstone River	12.99	6	P		Pn	04 54 28.9	+0.5
	baz=190							
YUK8	Steele Glacier	13.02	51	P		Pn	04 54 30.3	+1.2
	baz=249,SNR=18							
F21K	Alatna River	13.12	13	P		Pn	04 54 31.9	+1.6
	baz=200							
D17K	Noatak River	13.15	356	P		Pn	04 54 31.8	+1.2
	baz=175							
J26L	Joseph Creek	13.18	34			Pn	04 54 30.2	-1.0
J26L	Joseph Creek	13.18	34	P		Pn	04 54 30.3	-1.0
	baz=230,SNR=12							
G23K	Bananza Creek	13.21	19	P		Pn	04 54 31.0	-0.4
	baz=209,SNR=13							
O29M	Mount Kennedy	13.26	56			Pn	04 54 32.8	+0.5
O29M	Mount Kennedy	13.26	56	P		Pn	04 54 32.9	+0.6
	baz=255,SNR=22							
PRP	Porcupine Dome	13.29	29			Pn	04 54 31.6	-1.2
PRP	Porcupine Dome	13.29	29	P		Pn	04 54 31.4	-1.3
	baz=222							
K27K	Chicken	13.40	38	P		Pn	04 54 34.2	+0.1
	baz=234							
RDOG	Red Dog Mine	13.50	357			Pn	04 54 35.7	+0.3
RDOG	Red Dog Mine	13.50	357	P		Pn	04 54 35.6	+0.1
	baz=175,SNR=9.4							
YUK4	Talbot Arm	13.54	51	P		Pn	04 54 38.0	+1.8
	baz=250							
YUK6	Outpost Mounta	13.54	53	P		Pn	04 54 37.3	+1.0
	baz=253							
F22K	John River	13.57	14	P		Pn	04 54 37.8	+1.5
	baz=202,SNR=15							
COLD	Coldfoot	13.63	18			Pn	04 54 36.4	-0.9
COLD	Coldfoot	13.63	18	P		Pn	04 54 37.3	0.0
	baz=208,SNR=19							
G24K	Hadweenzic Riv	13.73	23			Pn	04 54 38.4	-0.2
G24K	Hadweenzic Riv	13.73	23	P		Pn	04 54 38.0	-0.6
	baz=215,SNR=13							
H25L	Birch Creek	13.79	26	P		Pn	04 54 38.7	-0.6
	baz=220							
C16K	Lisburne Hills	13.84	353			Pn	04 54 39.5	-0.5
C16K	Lisburne Hills	13.84	353	P		Pn	04 54 41.4	+1.4
	baz=169,SNR=5.5							
I26K	Coal Creek Min	13.85	32	Pn		Pn	04 54 36.6	-3.5
I26K	Coal Creek Min	13.85	32	P		Pn	04 54 37.1	-3.0
	baz=228							
E20K	Nigu River	13.85	7	P		Pn	04 54 41.4	+1.2
	baz=192							
HYT	Haines Junctio	13.91	54			Pn	04 54 42.4	+1.2
HYT	Haines Junctio	13.91	54	P		Pn	04 54 41.4	+0.2
	baz=254							
C17K	DeLong Mountai	13.93	357	P		Pn	04 54 42.4	+1.1
	baz=175							
D19K	Kuna River	13.97	4	P		Pn	04 54 41.2	-0.7
	baz=187,SNR=11							
P30M	Million Dollar	14.00	57	P		Pn	04 54 43.1	+0.8
	baz=258							
M29M	Somme Creek	14.03	47			Pn	04 54 42.8	0.0
M29M	Somme Creek	14.03	47	P		Pn	04 54 42.6	-0.2
	baz=247,SNR=36							
C18K	Utukok River	14.06	360	P		Pn	04 54 44.5	+1.3
	baz=180							
S31K	Pelican	14.08	66	Pn		Pn	04 54 43.5	+0.2
S31K	Pelican	14.08	66	P		Pn	04 54 43.2	0.0
	baz=267							
FYU	Fort Yukon	14.17	26			Pn	04 54 45.0	+0.6
E22K	Anaktuvuk Pass	14.20	14			Pn	04 54 45.7	+0.7
E22K	Anaktuvuk Pass	14.20	14	P		Pn	04 54 46.4	+1.4
	baz=202,SNR=48							
E21K	Killik River	14.23	10	P		Pn	04 54 46.4	+1.1
	baz=197							
D20K	Etivluk River	14.27	6	P		Pn	04 54 47.3	+1.4
	baz=190							
N30M	Aishikik Lake	14.29	52	Pn		Pn	04 54 45.7	-0.6
N30M	Aishikik Lake	14.29	52	P		Pn	04 54 46.3	+0.1
	baz=253							
F24K	Squaw Lake	14.33	21			Pn	04 54 46.3	-0.4
F24K	Squaw Lake	14.33	21	P		Pn	04 54 46.2	-0.5
	baz=212							
DAWY	Dawson	14.41	40			Pn	04 54 47.8	0.0
DAWY	Dawson	14.41	40	P		Pn	04 54 47.3	-0.4
	baz=239,SNR=6.0							
L29M	L29M	14.45	45	P		Pn	04 54 48.7	+0.3
	baz=245,SNR=13							
E23K	Chandalar	14.48	17	P		Pn	04 54 49.5	+0.7
	baz=207,SNR=20							
I27K	Kandik River	14.53	33	P		Pn	04 54 48.0	-1.4
	baz=230							
SIT	Sitka	14.55	70	P		Pn	04 54 49.9	+0.2
SIT	Sitka	14.55	70	P		Pn	04 54 50.3	+0.7
	baz=272							
O30N	Mendenhall	14.57	55			Pn	04 54 51.4	+1.5
O30N	Mendenhall	14.57	55	P		Pn	04 54 49.2	-0.8
	baz=256							
SKAG	Skagway	14.69	60			Pn	04 54 53.6	+2.1
SKAG	Skagway	14.69	60	P		Pn	04 54 52.8	+1.3
SKAG	Skagway	14.69	60	P		Pn	04 54 52.4	+0.9
	baz=262							
E24K	Your Creek	14.69	19			Pn	04 54 51.7	+0.1
E24K	Your Creek	14.69	19	P		Pn	04 54 52.0	+0.4
	baz=210,SNR=10							
B18K	Kokolik River	14.79	359	P		Pn	04 54 53.5	+0.8
	baz=178,SNR=15							
D22K	Ayikyak River	14.79	12	P		Pn	04 54 52.9	0.0
	baz=199,SNR=17							
M30M	Minto, Yukon	14.80	48			Pn	04 54 53.8	+0.8
M30M	Minto, Yukon	14.80	48	P		Pn	04 54 54.1	+1.1
	baz=249							
G26K	Porcupine Rive	14.84	27	P		Pn	04 54 52.1	-1.3
	baz=222							
C21K	Knifeblade Rid	14.84	9	P		Pn	04 54 55.1	+1.6
	baz=194							
F25K	Christian Rive	14.88	23	Pn		Pn	04 54 53.4	-0.6
F25K	Christian Rive	14.88	23	P		Pn	04 54 52.6	-1.4
	baz=217							
N31M	Braeburn, Yuko	14.90	52			Pn	04 54 53.6	-0.7
SHEM	Shemya Is, Ala	14.90	273	LR		LR	05 00 07.6	
	comp=N,242nm,18.7s,baz=324,slow=35							
S32K	Killisnoo	14.95	68	Pn		Pn	04 54 55.7	+0.7
S32K	Killisnoo	14.95	68	P		Pn	04 54 56.1	+1.1
	baz=271							
H27K	Steamboat Moun	14.97	31	P		Pn	04 54 54.1	-1.0
	baz=229							
I28M	Miner Creek	14.98	35	P		Pn	04 54 55.2	-0.3
	baz=234,SNR=8.6							
BMAR	Burnt Mountain	15.00	25			Pn	04 54 56.4	+0.8
R32K	Eaglecrest	15.00	65	P		P	04 55 00.3	-0.1
TOLK	Toolik Lake Re	15.01	16			Pn	04 54 56.2	+0.5
TOLK				IAmb		IAmb	04 55 03.2	
	comp=Z,32nm,0.8s							
TOLK	Toolik Lake Re	15.01	16	P		Pn	04 54 55.8	+0.1
	baz=206,SNR=29							
K29M	Barlow Dome	15.02	43	P		Pn	04 54 56.5	+0.5
	baz=243							
J29N	Klondike Camp	15.04	40	P		Pn	04 54 56.3	0.0
	baz=240							
JIS	Juneau Island	15.07	65	P		Pn	04 54 57.8	+1.3
WHY	Whitehorse	15.12	56	P		Pn	04 54 58.9	+1.6
WHY	Whitehorse	15.12	56	P		Pn	04 54 58.5	+1.2
	baz=258,SNR=10							
D23K	Nanushuk River	15.13	14	P		Pn	04 54 58.3	+1.0
	baz=204							
F26K	Sheenjek River	15.31	25	P		Pn	04 54 58.5	-1.1
	baz=243							
B21K	Ikpikpuk River	15.31	8	P		Pn	04 54 59.5	-0.1
	baz=194							
G27K	Doyon Strip	15.32	30	P		Pn	04 54 58.7	-1.1
	baz=227,SNR=7.3							
E25K	Arctic Village	15.32	22			Pn	04 55 00.0	+0.2
E25K	Arctic Village	15.32	22	P		Pn	04 54 59.7	-0.1
	baz=216,SNR=8.7							
B20K	Meade River	15.52	5	P		Pn	04 55 02.7	+0.4
	baz=188							
P32M	Atlin	15.52	60			Pn	04 55 03.9	+1.4
P32M	Atlin	15.52	60	P		Pn	04 55 02.9	+0.4
	baz=264							
MAYO	Mayo, Yukon	15.57	45	P		Pn	04 55 04.0	+1.0
MAYO	Mayo, Yukon	15.57	45	P		Pn	04 55 03.6	+0.6
	baz=247,SNR=9.8							
D24K	Happy Valley	15.59	16			Pn	04 55 03.4	+0.2
D24K				IAmb		IAmb	04 55 21.3	
	comp=Z,28nm,0.8s							
D24K	Happy Valley	15.59	16	P		Pn	04 55 03.9	+0.7
	baz=207,SNR=17							
A19K	Wainwright	15.63	360	P		Pn	04 55 03.6	0.0
	baz=180							
M31M	Drury Creek, Y	15.73	51	P		Pn	04 55 06.4	+1.2
	baz=254							
J30M	Hart River	15.82	41	P		Pn	04 55 06.6	+0.3
	baz=243,SNR=64							
CRAG	Craig	15.91	76	P		Pn	04 55 08.0	+0.6
	baz=279							
C23K	Itkillik River	15.95	13	P		Pn	04 55 07.6	-0.2
	baz=202,SNR=27							
H29M	Whitestone	15.96	34	P		Pn	04 55 06.2	-1.8
	baz=234							
P33M	Teslin, Yukon	16.05	58	Pn		Pn	04 55 08.4	-0.8
P33M	Teslin, Yukon	16.05	58	P		Pn	04 55 09.8	+0.5
	baz=262,SNR=10							
N32M	Quiet Lake	16.08	55	P		Pn	04 55 09.5	-0.1
	baz=259							
I30M	Mount Dempster	16.11	39	Pn		Pn	04 55 08.8	-1.3
I30M				IAmb		IAmb	04 55 19.1	
	comp=Z,73nm,0.8s							
I30M	Mount Dempster	16.11	39	P		Pn	04 55 09.4	-0.6
	baz=241,SNR=84							
B22K	Teshekpuk Lake	16.12	9	P		Pn	04 55 09.0	-0.9
	baz=196							
C24K	Franklin Bluff	16.12	15	P		Pn	04 55 09.2	-0.7
	baz=206							
D25K	Kavik River	16.16	19	P		Pn	04 55 09.5	-1.1
D25K	Kavik River	16.16	19	P		Pn	04 55 10.4	-0.2
	baz=212,SNR=11							
FARO	Faro, Yukon	16.21	51	Pn		Pn	04 55 12.1	+0.8
FARO	Faro, Yukon	16.21	51	P		Pn	04 55 11.5	+0.3
	baz=255,SNR=21							
Q32M	Nakina River	16.21	63	P		Pn	04 55 11.6	+0.2
	baz=267							
E27K	Coleen River	16.32	26	P		Pn	04 55 12.1	-0.4
	baz=224							
G29M	Pine Creek	16.48	33	P		Pn	04 55 14.1	-0.6
	baz=233,SNR=34							
A22K	Sinclair Lake	16.64	7	P		Pn	04 55 16.1	-0.3
	baz=192							
S34M	Telegraph Cree	16.80	67	P		Pn	04 55 19.4	+0.8
S34M	Telegraph Cree	16.80	67	P		Pn	04 55 18.8	+0.2
	baz=272,SNR=6.2							
R33M	Jennings River	16.90	61	P		Pn	04 55 19.5	-0.6
	baz=267							
C27K	Jago River	16.94	21	P		Pn	04 55 20.2	-0.1
	baz=216							
C26K	Camden Bay	16.95	19	P		Pn	04 55 20.2	-0.1
	baz=214,SNR=29							
G30M	tAoh Zraii Nji	17.10	34	P		Pn	04 55 22.1	-0.3
	baz=236,SNR=36							
H31M	Peel River	17.14	39	P		Pn	04 55 22.3	-0.5
	baz=242							
E28M	Babbage River	17.15	27	P		Pn	04 55 22.1	-0.9
	baz=226							
D27M	Malcolm River	17.26	24	P		Pn	04 55 23.8	-0.5
	baz=222							
T35M	Bob Quinn	17.33	70	P		Pn	04 55 25.2	0.0
	baz=276							
DLBC	Dease Lake	17.37	65	P		P	04 55 28.3	+1.6
DLBC	Dease Lake	17.37	65	P		P	04 55 27.4	+0.7
	comp=Z,0.2nm,0.3s,baz=312,slow=8.7,SNR=6.3							
DLBC				Sn		Sn	04 58 35.9	-2.0
	baz=116,slow=16,SNR=1.7							
DLBC				LR		LR	05 01 21.1	
	comp=Z,121nm,20.2s,baz=336,slow=34							
	comp=Z,2.9nm,0.8s							
DLBC	Dease Lake	17.37	65	P		Pn	04 55 25.6	-0.2
	baz=271							
E29M	Blow River	17.45	29	P		Pn	04 55 26.1	-0.6
	baz=230							
F30M	Barrier River	17.60	33	P		Pn	04 55 28.2	-0.3
	baz=235,SNR=14							
G31M	Satah River	17.71	36	Pn		Pn	04 55 28.6	-1.3
G31M	Satah River	17.71	36	P		Pn	04 55 28.6	-1.3
	baz=239,SNR=21							
D28M	Stokes Point	17.87	26	P		Pn	04 55 30.1	-1.6
	baz=226							
WTLY	Watson Lake, Y	18.04	59	P		P	04 55 35.4	+1.3
WTLY	Watson Lake, Y	18.04	59	P		Pn	04 55 34.3	+0.3
	baz=267,SNR=13							
F31M	Tsiigehtchic	18.16	34	P		P	04 55 33.8	-1.4
F31M	Tsiigehtchic	18.16	34	P		P	04 55 34.3	-1.0
	baz=239,SNR=13							
TGTN	Hyland Airport	18.43	55	P		P	04 55 38.6	+0.2
	baz=263,SNR=20							
INK	Inuvik	18.70	32	P		P	04 55 39.4	-1.7
INK	Inuvik	18.70	32	P		P	04 55 40.3	-0.9
	comp=Z,1.2nm,0.3s,baz=236,slow=13,SNR=53							
INK				Sn		Sn	04 59 03.4	-6.3
	baz=34,slow=6.5,SNR=1.1							
INK				LR		LR	05 03 46.2	
	comp=Z,224nm,19.9s,baz=228,slow=40							
	comp=Z,12nm,0.6s							
INK	Inuvik	18.70	32	P		P	04 55 39.9	-1.2
	baz=237,SNR=23							
BBB	Bella Bella	19.61	84	LR		LR	05 01 53.3	
	comp=Z,130nm,20.1s,baz=306,slow=32							
TOAD	Toad River Com	19.86	63	P		P	04 55 54.2	+0.2
	baz=274,SNR=15							
BILL	Bilibino	20.33	324	P		P	04 55 58.6	-0.4
KOTAN	Kotaneelee Air	20.42	59	P		P	04 56 00.2	+0.2
	baz=271,SNR=16							
WRGLY	Wrigley	20.87	51	P		P	04 56 05.9	+1.2
WRGLY				IAmb		IAmb	04 56 23.6	
	comp=Z,36nm,0.9s							
WRGLY	Wrigley	20.87	51	P		P	04 56 04.4	-0.4
	baz=263,SNR=12							
C36M	Paulatuk	22.22	34	P		P	04 56 17.5	-1.6
C36M				IAmb		IAmb	04 56 21.7	
	comp=Z,10nm,0.7s							
C36M	Paulatuk	22.22	34	P		P	04 56 18.0	-1.1
	baz=248,SNR=20							
A36M	Sachs Harbour	23.05	28	P		P	04 56 25.4	-2.4
A36M				IAmb		IAmb	04 56 32.9	
	comp=Z,28nm,0.8s							
A36M	Sachs Harbour	23.05	28	P		P	04 56 26.3	-1.6
	baz=240,SNR=33							
PEA0B	Petropavlovsk-	24.20	284	P		P	04 56 37.4	-1.6
PETK	Petropavlovsk-	24.20	284	P		P	04 56 36.1	-2.9
PETK	Petropavlovsk-	24.20	284	P		P	04 56 37.7	-1.3
	comp=Z,20nm,0.5s,baz=79,slow=13,SNR=92							
PETK				LR		LR	05 05 59.9	
	comp=Z,88nm,21.5s,baz=76,slow=36							
	comp=Z,20nm,0.5s							
YKA	Yellowknife Ar	24.90	53	P		P	04 56 46.4	+1.1
	comp=Z,1.8nm,0.5s,baz=271,slow=9.3,SNR=77							
YKA				PcP		PcP	05 00 19.9	+0.2
	comp=Z,0.7nm,0.5s,baz=270,slow=2.4,SNR=5.9							
YKA				ScP		ScP	05 03 55.1	+0.3
	comp=Z,0.5nm,0.8s,baz=265,slow=2.8,SNR=6.9							
YKA				LR		LR	05 08 03.2	
	comp=Z,107nm,19.5s,baz=312,slow=40							
	comp=Z,1.8nm,0.5s							
MA2	Magadan	26.21	301	P		P	04 56 56.8	-0.4
MA2				IAmb		IAmb	04 56 59.4	
	comp=Z,13nm,1.0s							
MA2	Magadan	26.21	301	LR		LR	05 07 52.1	
	comp=Z,106nm,18.4s,baz=95,slow=38							
MA2	Magadan	26.21	301	P		P	04 56 57.1	-0.1
	comp=Z,13nm,0.9s							
B08A	Colville Reser	26.33	86	P		P	04 57 00.3	+1.9
NEW	Newport	27.66	85	LR		LR	05 06 52.8	
	comp=Z,92nm,19.1s,baz=294,slow=33							
YBH	Yreka Blue Hor	28.18	101	LR		LR	05 05 60.0	
	comp=Z,142nm,20.5s,baz=328,slow=31							
MFID	Camas Ranch	31.10	92	P		P	04 57 42.1	+1.1
LYMT	Lyon Mountain	31.13	84	P		P	04 57 42.2	+0.8
PNTR	Pine Nut	31.71	102	P		P	04 57 47.8	+1.3
PNTR				IAmb		IAmb	04 57 50.5	
	comp=Z,6.5nm,1.1s							
RES	Resolute Bay	32.09	27	P		P	04 57 49.2	0.0
NVAR	Mina Array Bea	32.90	102	P		P	04 57 59.6	+2.7
	comp=Z,1.6nm,0.8s,baz=296,slow=7.8,SNR=11							
NVAR				PcP		PcP	05 00 41.9	+1.3
	comp=Z,0.7nm,0.7s,baz=274,slow=1.4,SNR=5.1							
NVAR				ScP		ScP	05 04 22.9	+2.0
	comp=Z,0.3nm,0.6s,baz=313,slow=3.2,SNR=3.8							
NVAR				LR		LR	05 08 44.4	
	comp=Z,104nm,21.4s,baz=195,slow=31							
	comp=Z,1.6nm,0.8s							
ELK	Elko	33.11	96	P		P	04 57 59.9	+1.1
TIXI	Tiksi	33.48	327	LR		LR	05 12 21.2	
	comp=Z,144nm,19.5s,baz=178,slow=38							
EUNU	Eureka	34.08	17	P		P	04 58 07.2	+0.6
EUNU				IAmb		IAmb	04 58 09.6	
	comp=Z,4.5nm,0.8s							
R11B	Troy Canyon, C	34.51	99	P		P	04 58 13.2	+2.4
TPNV	Topopah Spring	35.10	102	P		P	04 58 16.6	+0.6
PDAR	Pinedale Array	35.14	88	P		P	04 58 18.0	+1.6
PDAR	Pinedale Array	35.14	88	P		P	04 58 18.3	+2.0
	comp=Z,0.3nm,0.7s,baz=311,slow=8.5,SNR=2.8							
PDAR				LR		LR	05 10 27.6	
	comp=Z,18nm,20.3s,baz=306,slow=32							
GWY	Greenwater Val	35.40	103	P		P	04 58 19.1	+0.6
GWY				IAmb		IAmb	04 58 35.5	
	comp=Z,4.7nm,1.0s							
PRN	Pahroc Range	35.46	100	P		P	04 58 20.0	+1.0
YAK	Yakutsk	35.51	311	LR		LR	05 14 06.9	
	comp=Z,206nm,19.5s,baz=97,slow=38							
FCC	Fort Churchill	35.55	55	P		P	04 58 20.2	+0.9
FCC				IAmb		IAmb	04 58 21.6	
	comp=Z,6.6nm,1.1s							
BSUT	Blindstream Ca	35.84	92	P		P	04 58 25.0	+2.4
TMUT	Trail Mountain	36.40	94	P		P	04 58 29.0	+1.8
SRU	San Rafael Swe	36.92	94	P		P	04 58 33.0	+1.5
SRU				IAmb		IAmb	04 58 49.0	
	comp=Z,7.3nm,1.0s							
ASAJ	Asahikawa	37.28	278	LR		LR	05 11 58.5	
	comp=Z,69nm,21.7s,baz=172,slow=33							
PFO	Pinyon Flats O	37.39	106	LR		LR	05 11 22.1	
	comp=Z,116nm,18.5s,baz=208,slow=32							
O20A	White River Ci	37.57	90	P		P	04 58 39.0	+2.0
O20A				IAmb		IAmb	04 58 55.9	
	comp=Z,8.3nm,0.8s							
HMU	Henry Mountain	37.58	95	P		P	04 58 37.3	0.0
HMU				IAmb		IAmb	04 58 49.9	
	comp=Z,4.7nm,0.7s							
W13A	Hualapai Mount	37.76	101	P		P	04 58 39.6	+0.9
ERM	Erimo	38.25	274	P		P	04 58 41.5	-0.9
PV13	Radium Mtn., P	38.55	93	P		P	04 58 46.3	+1.0
PV13				IAmb		IAmb	04 59 02.0	
	comp=Z,8.0nm,0.9s							
ULM	Lac du Bonnet	38.62	69	P		P	04 58 46.0	+0.5
ULM				IAmb		IAmb	04 58 47.8	
	comp=Z,5.8nm,1.1s							
ULM	Lac du Bonnet	38.62	69	P		P	04 58 47.0	+1.4
	comp=Z,5.6nm,0.8s,baz=302,slow=7.7,SNR=12							
ULM				LR		LR	05 13 25.6	
	comp=Z,64nm,20.0s,baz=299,slow=34							
	comp=Z,5.6nm,0.8s							
AGMN	Agassiz Nation	39.70	71	P		P	04 58 54.5	0.0
AGMN				IAmb		IAmb	04 58 56.5	
	comp=Z,6.1nm,0.7s							
KLR	Kul'dur	40.42	291	LR		LR	05 15 44.4	
	comp=Z,70nm,20.3s,baz=50,slow=36							
F33A	5 Mile Ranch,	40.89	75	P		P	04 59 03.6	-0.9
NEEM	North Greenlan	41.35	18	*i* P		P	04 59 06.9	-1.3
NEEM				IAmb		IAmb	04 59 12.8	
	comp=Z,15nm,0.8s							
KULLO	Kullorsuaq	41.66	23	*i* P		P	04 59 09.9	-0.4
KULLO				IAmb		IAmb	04 59 13.1	
	comp=Z,9.8nm,0.9s							
ANMO	Albuquerque	42.14	95	LR		LR	05 16 06.4	
	comp=Z,23nm,18.4s,baz=110,slow=35							

DAG Danmarks Havn 46.70 11 *i* P **P 04 59 50.0 -0.6**
DAG *i* P **P 04 59 50.0 -0.6**
DAG IAmb IAmb 04 59 51.5
comp=Z,9.8nm,0.7s
SUMG Summit 47.02 20 *i* P **P 04 59 54.1 +0.4**
SUMG IAmb IAmb 04 59 55.3
comp=Z,30nm,1.4s
SPA0 Spitsbergen Ar 47.44 1 *eP* **P 04 59 55.8 -0.6**
SPITS Spitsbergen Ar 47.44 1 P **P 04 59 55.9 -0.5**
comp=Z,1.6nm,0.4s,baz=1.6,slow=7.3,SNR=26
SPITS PcP **PcP 05 01 26.2 +0.1**
comp=Z,3.7nm,0.7s,baz=5.7,slow=1.4,SNR=7.8
comp=Z,1.6nm,0.4s
TXAR Lajitas Array 47.84 98 P **P 05 00 03.1 +2.9**
comp=Z,0.5nm,0.6s,baz=323,slow=7.7,SNR=5.9
TXAR LR LR 05 17 33.4
comp=Z,44nm,21.3s,baz=292,slow=33
comp=Z,0.5nm,0.6s
SFJD Kangerlussuaq 48.02 30 P **P 05 00 02.0 +1.0**
SFJD IAmb IAmb 05 00 03.2
comp=Z,10nm,0.8s
SFJD Kangerlussuaq 48.02 30 LR LR 05 19 34.1
comp=Z,65nm,19.2s,baz=341,slow=35
SFJD Kangerlussuaq 48.02 30 *i* P **P 05 00 00.5 -0.5**
LPIG La Paz 48.12 108 LR LR 05 16 02.6
comp=Z,32nm,18.1s,baz=298,slow=30
HDIL Hopedale 48.20 76 P **P 05 00 03.1 +0.3**
DBG Daneborg 48.66 13 *i* P **P 05 00 05.2 -0.7**
DBG IAmb IAmb 05 00 06.5
comp=Z,7.5nm,0.7s
HOPEN Hopen 49.07 358 *eP* **P 05 00 09.3 +0.3**
ICESG Greenland Ices 49.38 24 *i* P **P 05 00 11.2 -0.6**
ICESG IAmb IAmb 05 00 13.2
comp=Z,20nm,0.7s
KSRS Korea Array 50.05 281 P **P 05 00 16.9 -0.1**
comp=Z,7.8nm,0.8s,baz=49,slow=6.8,SNR=23
KSRS LR LR 05 23 14.3
comp=Z,17nm,18.0s,baz=65,slow=38
comp=Z,7.8nm,0.8s
KSAR Wonju Array Be 50.08 281 P **P 05 00 16.4 -0.8**
OLIL Olney 50.11 77 P **P 05 00 17.5 +0.1**
OLIL IAmb IAmb 05 00 18.8
comp=Z,13nm,1.0s
SCHQ Schefferville 50.23 49 P **P 05 00 18.7 +0.6**
comp=Z,3.8nm,0.7s,baz=310,slow=8.8,SNR=15
SCHQ LR LR 05 23 56.7
comp=Z,58nm,18.9s,baz=28,slow=39
comp=Z,3.8nm,0.7s
JNU Nakatsue 51.41 275 LR LR 05 22 27.4
comp=Z,31nm,21.7s,baz=21,slow=36
WVT Waverly 52.08 79 P **P 05 00 32.6 +0.4**
WVT IAmb IAmb 05 00 46.5
comp=Z,7.3nm,0.8s
XLT XiLinHaoTe 52.16 295 *eP* **P 05 00 32.6 -0.2**
XLT pmax pmax
comp=Z,24nm,0.9s
XLT pmax pmax
comp=Z,92nm,4.3s
ICQ Pointe Anglais 53.63 54 P **P 05 00 43.8 +0.4**
ICQ IAmb IAmb 05 00 44.3
comp=Z,14nm,1.1s
ULN Ulaanbaatar 54.01 304 P **P 05 00 45.3 -1.1**
ULN IAmb IAmb 05 00 47.1
comp=Z,4.7nm,0.8s
SONM Songino Array 54.34 304 P **P 05 00 48.0 -0.9**
SONM IAmb IAmb 05 00 49.4
comp=Z,6.9nm,1.1s
SONM Songino Array 54.34 304 P **P 05 00 48.0 -0.9**
comp=Z,4.7nm,0.8s,baz=43,slow=6.9,SNR=28
SONM PcP **PcP 05 01 52.4 0.0**
comp=Z,3.1nm,0.7s,baz=66,slow=2.2,SNR=8.4
SONM LR LR 05 25 57.9
comp=Z,71nm,18.5s,baz=18,slow=38
comp=Z,4.7nm,0.8s
SSPA Standing Stone 54.45 68 P **P 05 00 49.4 -0.1**
SSPA IAmb IAmb 05 00 50.5
comp=Z,7.6nm,0.8s
TKL Tuckaleechee C 54.73 77 LR LR 05 23 13.5
comp=Z,72nm,20.6s,baz=360,slow=35
HAMF Hammerfest 54.98 358 *eP* **P 05 00 52.2 -0.7**
BATG Bathurst New B 55.78 55 P **P 05 00 59.2 +0.1**
BATG IAmb IAmb 05 01 00.1
comp=Z,8.2nm,0.7s
TRO Tromso 56.04 0 *eP* **P 05 01 00.8 +0.3**
ARA0 ARCESS Array S 56.05 357 *eP* **P 05 01 00.1 -0.6**
ARCES ARCESS Array B 56.05 357 P **P 05 00 59.9 -0.8**
comp=Z,1.4nm,0.4s,baz=14,slow=6.9,SNR=25
comp=Z,1.4nm,0.4s
JETT Jettan, Norway 56.11 359 *eP* **P 05 01 01.1 -0.1**
HHC Hu-ho-hao-te 56.68 295 *eP* **P 05 01 07.2 +1.5**
HHC pmax pmax
comp=Z,10.0nm,0.6s
BORG Borgarnes 56.97 19 LR LR 05 27 44.3
comp=Z,57nm,18.5s,baz=343,slow=38
TIA Tai'an 57.02 287 P **P 05 01 07.7 -0.3**
TIA pmax pmax
comp=Z,7.0nm,1.0s
LVZ Lovozero 57.23 353 P **P 05 01 08.4 -0.7**
HNS HongShan 57.49 290 ⇓P **P 05 01 11.8 +0.5**
HNS pmax pmax
comp=Z,24nm,0.8s
STEI Steigen 57.72 2 *eP* **P 05 01 12.1 -0.3**
DRLN Deer Lake 58.25 49 P **P 05 01 16.2 -0.3**
DRLN IAmb IAmb 05 01 17.5
comp=Z,5.3nm,0.8s
FAUS Fauske 58.27 2 *eP* **P 05 01 16.0 -0.3**
ZAA0 Zalesovo Array 59.00 321 P **P 05 01 21.1 -0.5**
ZAA0 IAmb IAmb 05 01 30.0
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 59.00 321 P **P 05 01 21.2 -0.4**
ZALV Zalesovo Beam 59.00 321 P **P 05 01 21.1 -0.5**
comp=Z,3.3nm,0.6s,baz=38,slow=6.3,SNR=12
ZALV LR LR 05 29 04.2
comp=Z,171nm,18.3s,baz=42,slow=38
comp=Z,3.3nm,0.6s
KONS Konsvik 59.10 3 *eP* **P 05 01 22.3 +0.2**
STOK Stokkvaagen 59.27 3 *eP* **P 05 01 23.4 +0.1**
MOR8 Moi Rana 59.47 2 *eP* **P 05 01 23.1 -1.6**
LEIR Leirfjorden 59.49 3 *eP* **P 05 01 24.9 +0.1**
NSS Namsos 61.04 4 *eP* **P 05 01 35.2 -0.2**
JOF Joensuu 62.40 354 *eP* **P 05 01 44.0 -0.5**
VAF Ylistaro 62.63 358 *eP* **P 05 01 45.9 -0.2**
MOL Molde 62.78 6 *eP* **P 05 01 47.6 +0.4**
XAN Xi'an 63.13 291 ⇓P **P 05 01 49.5 -0.5**
XAN pP pP 05 01 55.2 -7.0
XAN pmax pmax
comp=Z,16nm,1.1s
AKN Aaknes 63.14 6 *eP* **P 05 01 50.0 +0.4**
DOMB Dombas 63.40 5 *eP* **P 05 01 51.0 -0.3**
KEF Keuruu 63.45 357 *eP* **P 05 01 51.2 -0.3**
GTA Gaotai 63.77 302 *eP* **P 05 01 53.5 -0.7**
GTA pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 63.85 322 P **P 05 01 53.7 -0.7**
KURK IAmb IAmb 05 01 54.9
comp=Z,6.8nm,0.7s
KURBB Kurchatov Arra 63.96 322 P **P 05 01 54.9 -0.2**
comp=Z,3.2nm,0.7s,baz=21,slow=6.8,SNR=27
KURBB LR LR 05 31 41.8
comp=Z,166nm,20.8s,baz=170,slow=38
comp=Z,3.2nm,0.7s
FIA1 FINESS Array S 64.13 356 P **P 05 01 55.7 -0.4**
FINES FINESS Array B 64.13 356 P **P 05 01 55.0 -1.0**
FINES FINESS Array B 64.13 356 P **P 05 01 55.5 -0.5**
comp=Z,8.0nm,0.5s,baz=18,slow=7.3,SNR=102
comp=Z,8.0nm,0.5s
NC204 NORSAR Array S 64.25 4 P **P 05 01 56.3 -0.6**
LZH Lanzhou 64.27 296 *eP* **P 05 01 54.7 -2.9**
LZH pP pP 05 02 09.9 0.0
LZH pmax pmax
comp=Z,16nm,0.8s
NC405 NORSAR Array S 64.45 4 P **P 05 01 57.9 -0.3**
NC405 IAmb IAmb 05 02 14.7
comp=Z,7.2nm,1.0s
NB2 NORSAR Subarra 64.50 4 P **P 05 01 58.2 -0.4**
comp=Z,4.2nm,0.6s,baz=356,slow=6.5
NB2 NORSAR Subarra 64.50 4 P **P 05 01 58.2 -0.4**
baz=356,slow=6.5
NOA NORSAR Array B 64.50 4 P **P 05 01 58.6 0.0**
comp=Z,7.3nm,0.7s,baz=356,slow=6.6,SNR=33
comp=Z,7.3nm,0.7s
KIRV Kirov 64.51 343 LR LR 05 32 07.2
comp=Z,59nm,21.8s,baz=9.9,slow=38
BVAR Borovoye Array 64.60 329 P **P 05 01 59.3 0.0**
comp=Z,7.3nm,0.5s,baz=44,slow=6.8,SNR=29
BVAR LR LR 05 32 51.2
comp=Z,106nm,18.3s,baz=51,slow=39
comp=Z,7.3nm,0.5s
BRVK Borovoye 64.60 329 P **P 05 01 58.8 -0.5**
BRVK IAmb IAmb 05 02 00.5
comp=Z,6.4nm,0.6s
RAF Rauma 64.67 359 *eP* **P 05 01 59.1 -0.4**
ASK Askoy 64.70 8 *eP* **P 05 02 00.3 +0.5**
SKAR Skarslia 64.71 6 *eP* **P 05 02 00.3 +0.4**
ARTI Arti 64.78 337 P **P 05 01 59.7 -0.8**
NC602 NORSAR Array S 64.82 4 *eP* **P 05 02 00.5 -0.1**
ODD1 Odda 65.37 7 *eP* **P 05 02 04.5 +0.3**
HFS Hagfors 65.50 3 P **P 05 02 04.7 -0.3**
comp=Z,14nm,0.5s,baz=0.0,slow=6.5,SNR=132
comp=Z,14nm,0.5s
MK31 Makanchi Array 65.72 318 P **P 05 02 05.5 -1.2**
MK31 IAmb IAmb 05 02 06.9
comp=Z,4.8nm,0.7s
MKAR Makanchi Array 65.72 318 P **P 05 02 05.8 -0.9**
comp=Z,6.2nm,0.5s,baz=44,slow=5.5,SNR=89
MKAR LR LR 05 32 47.2
comp=Z,118nm,18.5s,baz=22,slow=38
comp=Z,6.2nm,0.5s
KONO Kongsberg 65.81 5 P **P 05 02 06.9 -0.1**
KONO Kongsberg 65.81 5 *eP* **P 05 02 07.6 +0.6**
MAKZ Makanchi 65.83 318 P **P 05 02 06.6 -0.8**
BLS5 Blasjo 65.84 7 *eP* **P 05 02 07.5 +0.2**
WMQ Urumqi 65.92 312 *eP* **P 05 02 08.4 +0.3**
WMQ pmax pmax
comp=Z,14nm,0.9s
ARBE Arbavere 66.14 356 *eP* **P 05 02 07.4 -1.8**
SNART Snartemo 66.97 7 *eP* **P 05 02 15.2 +0.8**
VSU Vasula 67.09 356 *eP* **P 05 02 14.4 -0.8**
HOMB Homborsund 67.12 6 *eP* **P 05 02 16.4 +1.0**
HOMB Homborsund 67.12 6 *i* P **P 05 02 14.4 -1.0**
TJOU Tjoern 67.53 4 *i* P **P 05 02 17.5 -0.5**
BORU Boraas 67.97 4 *i* P **P 05 02 20.0 -0.8**
ONAU Onsala 68.17 4 *i* P **P 05 02 21.9 -0.1**
FABU Falkenberg 68.60 4 *i* P **P 05 02 23.6 -1.1**
EKA Eskdalemuir Ar 68.88 13 P **P 05 02 27.4 +0.9**
comp=Z,5.7nm,0.6s,baz=337,slow=5.0,SNR=15
comp=Z,5.7nm,0.6s
MUD Monsted U'grnd 68.97 6 *i* P **P 05 02 27.3 +0.3**
MUD IAmb IAmb 05 02 29.3
comp=Z,27nm,1.0s
DEL Delary 69.17 3 *i* P **P 05 02 27.7 -0.6**
BLEU Blekinge 69.39 2 *i* P **P 05 02 28.1 -1.5**
BJUU Bjuv 69.54 4 *i* P **P 05 02 29.8 -0.7**
OBN Obninsk 69.67 349 P **P 05 02 31.4 0.0**
comp=Z,34nm,2.0s
LUNU Lund 70.00 3 *i* P **P 05 02 33.2 -0.1**
PABE Paberze 70.15 357 P **P 05 02 34.1 -0.1**
PABE Paberze 70.15 357 *eP* **P 05 02 33.8 -0.5**
IIGN Ignalina 70.22 356 *eP* **P 05 02 32.6 -2.2**
AKTO Aktyubinsk 70.35 335 LR LR 05 36 42.4
comp=Z,50nm,18.9s,baz=55,slow=39
BELG Belogornoye 70.73 342 LR LR 05 37 31.8
comp=Z,48nm,19.9s,baz=32,slow=39
ABKAR Akbulak array 70.94 333 P **P 05 02 38.9 -0.3**
ABKAR IAmb IAmb 05 02 40.0
comp=Z,8.8nm,0.8s
TKM2 Tokmak 2 71.55 320 P **P 05 02 43.9 +0.6**
SNR=9.7
WUS Wushi 71.61 316 P **P 05 02 43.2 -0.5**
WUS IAmb IAmb 05 02 44.5
comp=Z,13nm,0.8s
KDJ Kajisay 71.62 318 P **P 05 02 42.8 -0.9**
KDJ IAmb IAmb 05 02 44.8
comp=Z,12nm,1.0s
USP Ospenovka 71.66 321 P **P 05 02 44.0 +0.2**
SNR=8.5
SUW Suwalki 71.66 357 *eP* **P 05 02 43.1 -0.4**
BOOM Boomskoye usch 71.79 319 P **P 05 02 44.6 -0.1**
ULHL Ulahol 71.88 319 P **P 05 02 45.5 +0.2**
SNR=10
KBK Karagaybulak 72.02 320 P **P 05 02 46.7 +0.6**
SNR=12
AAK Ala-Archa 72.20 320 P **P 05 02 47.8 +0.6**
AAK IAmb IAmb 05 02 48.3
comp=Z,12nm,0.8s
AAK Ala-Archa 72.20 320 LR LR 05 37 17.0
comp=Z,122nm,18.3s,baz=32,slow=38
AAK Ala-Archa 72.20 320 P P 05 02 35.0 -12
SNR=7.2
EKS2 Erkin-Say 72.45 321 P **P 05 02 48.9 +0.3**
SNR=11
PZH PanZhiHua 72.86 292 P **P 05 02 52.6 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
AML Almayashu 72.94 321 P P 05 02 36.1 -16
SNR=5.4
KKAR Karatay Array 73.23 323 P **P 05 02 52.7 -0.4**
ARSB Arslanbob 73.90 321 P **P 05 02 57.1 -0.2**
ARSB IAmb IAmb 05 02 58.8
comp=Z,6.8nm,0.7s
RNPP9 Sopachiv 74.17 356 P **P 05 02 58.1 -0.3**
RNPP8 Varash 74.25 356 P **P 05 02 58.9 +0.1**
CLL Collm 74.31 4 P **P 05 02 59.5 +0.3**
comp=Z,13nm,2.2s
CLL Collm 74.31 4 *i* P **P 05 02 59.3 +0.1**
comp=Z,9.0nm,0.9s
KSH Kashi 74.33 318 P **P 05 03 03.0 +3.3**
KSH pmax pmax
comp=Z,43nm,0.9s
RNPP5 Staryi Chortor 74.35 356 P **P 05 02 59.4 -0.1**
AK21 Malin Array Si 74.63 353 P **P 05 03 00.5 -0.6**
AK20 Malin Array Si 74.66 353 P **P 05 03 00.7 -0.6**
AKASG Malin Array Be 74.69 353 P **P 05 03 00.7 -0.8**
AKASG IAmb IAmb 05 03 02.0
comp=Z,3.8nm,0.9s
AKASG Malin Array Be 74.69 353 P **P 05 03 00.8 -0.6**
comp=Z,14nm,0.5s,baz=11,slow=5.8,SNR=59
AKASG LR LR 05 35 55.8
comp=Z,32nm,21.7s,baz=35,slow=36
comp=Z,14nm,0.5s
AKBB Malin Array Si 74.69 353 P **P 05 03 00.8 -0.6**
KIEV Kiev 74.70 353 P **P 05 03 00.7 -0.8**
KIEV Kiev 74.70 353 ⇑P **P 05 03 00.8 -0.7**
KIEV Kiev 74.70 353 P **P 05 03 00.6 -0.8**
comp=Z,136nm,1.3s
AK12 Malin Array Si 74.75 353 P **P 05 03 01.1 -0.7**
BRG Berggiesshubel 74.77 3 *eP* **P 05 03 02.2 +0.3**
BRG Amp 05 03 03.4
comp=Z,9.2nm,1.1s
KSP Ksiaz 74.87 2 P **P 05 03 02.9 +0.4**
comp=Z,17nm,2.8s
HSKC Hora Svate Kat 75.02 4 *eP* **P 05 03 04.2 +0.8**
CHVC Chvalec 75.12 2 *eP* **P 05 03 04.7 +0.7**
PVCC Panska Ves 75.14 3 *eP* **P 05 03 04.8 +0.8**
OSTC Ostas 75.15 2 *eP* **P 05 03 04.6 +0.4**
UPC Upice 75.20 2 *eP* **P 05 03 04.9 +0.5**
NKC Novy Kostel 75.36 4 *eP* **P 05 03 06.1 +0.8**
DPC Dobruska-Polom 75.36 2 *eP* **P 05 03 06.1 +0.7**
DPC Dobruska-Polom 75.36 2 P **P 05 03 06.2 +0.8**
comp=Z,14nm,1.0s
LUBAR Lubar, Ukraine 75.56 354 P **P 05 03 05.8 -0.7**
KRLC Kraliky 75.64 2 *eP* **P 05 03 07.8 +0.8**
PRU Pruhonice 75.68 3 *eP* **P 05 03 07.8 +0.7**
GOPC GO Pecny, Ondr 75.76 3 *eP* **P 05 03 08.4 +0.8**
SLVN Son La 75.79 287 P **P 05 03 07.9 -0.4**
SLVN IAmb IAmb 05 03 09.1
comp=Z,7.5nm,0.8s
MORC Moravsky Berou 75.95 1 P **P 05 03 09.2 +0.4**
MORC IAmb IAmb 05 03 09.7
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 75.95 1 *eP* **P 05 03 08.9 +0.1**
MORC Moravsky Berou 75.95 1 ⇓P **P 05 03 09.5 +0.7**
ZVC Zvikov 76.22 3 *eP* **P 05 03 11.1 +0.9**
NIE Niedzica 76.31 359 P **P 05 03 11.7 +0.9**
comp=Z,3.2nm,0.9s
HORU Horodok 76.34 355 P **P 05 03 10.5 -0.4**
VRAC Vranov 76.41 2 *eP* **P 05 03 11.5 +0.2**
VRAC Vranov 76.41 2 ⇓P **P 05 03 12.2 +0.9**
SHIU Shidnytsya 76.45 357 P **P 05 03 12.6 +1.0**
KHC Kasperske Hory 76.50 4 *eP* **P 05 03 13.1 +1.2**
KHC Kasperske Hory 76.50 4 P **P 05 03 13.2 +1.3**
comp=Z,12nm,1.1s
KRUC Moravsky 76.65 2 *eP* **P 05 03 12.8 +0.1**
KOLS Kolonicke sedl 76.77 358 *eP* **P 05 03 14.5 +1.1**
GERES GERESS Array B 76.79 4 P **P 05 03 13.7 0.0**
GERES GERESS Array B 76.79 4 P **P 05 03 14.1 +0.5**
comp=Z,3.5nm,0.7s,baz=5.0,slow=4.6,SNR=12
GERES LR LR 05 37 55.2
comp=Z,69nm,18.4s,baz=290,slow=36
comp=Z,3.5nm,0.7s
JAVC Velka Javorina 76.87 1 *eP* **P 05 03 15.5 +1.5**
NDNU Novodnistrovsk 76.91 354 P **P 05 03 13.8 -0.3**
STNU Starunia 76.93 356 P **P 05 03 14.4 +0.1**
ECH Echery 77.03 8 P **P 05 03 15.1 +0.3**
ECH IAmb IAmb 05 03 19.4
comp=Z,7.3nm,1.0s
HOLU Holmets 77.17 358 P **P 05 03 16.4 +0.8**
VYHS Vyhne 77.24 0 *eP* **P 05 03 16.7 +0.6**
SORM Soroca 77.30 354 ⇑P **P 05 03 15.6 -0.7**
SORM Soroca 77.30 354 P **P 05 03 15.7 -0.7**
comp=Z,31nm,0.8s
MODS Modra-Piesok 77.35 1 *eP* **P 05 03 17.8 +1.1**
CHGR Chuyangaron 77.64 322 P **P 05 03 17.7 -0.8**
CONA Conrad Observa 77.77 2 *eP* **P 05 03 20.2 +1.1**
comp=Z,16nm,0.8s,SNR=14
PSZ Piszkesteto 77.82 359 ⇓P **P 05 03 20.5 +1.2**
PSZ Piszkesteto 77.82 359 *eP* **P 05 03 19.9 +0.6**
BUR08 Bucovina Ar. S 77.96 356 P **P 05 03 20.2 0.0**
BUR08 IAmb IAmb 05 03 21.4
comp=Z,3.7nm,0.8s
BURAR Bucovina Array 77.99 356 ⇑P **P 05 03 20.5 +0.1**
RETA Reutte 78.01 6 *eP* **P 05 03 21.6 +1.1**
comp=Z,4.4nm,0.7s
RONA Rosalia, Austr 78.01 2 *eP* **P 05 03 21.5 +1.1**
comp=Z,2.6nm,0.6s
SJG San Juan 78.15 76 LR LR 05 38 31.8
comp=Z,22nm,18.3s,baz=188,slow=36
LESA Schwarzleotal 78.17 4 *i* P **P 05 03 21.9 +0.6**
comp=Z,3.2nm,0.5s,SNR=4.4
MOTA Moosalm 78.17 6 *i* P **P 05 03 21.9 +0.5**
comp=Z,6.5nm,0.9s
WATA Walderalm 78.20 5 *i* P **P 05 03 22.3 +0.7**
comp=Z,6.3nm,0.6s
WTTA Wattenberg 78.28 5 *i* P **P 05 03 22.9 +0.9**
comp=Z,9.9nm,0.7s
SQTA Sankt Quirin 78.30 5 *i* P **P 05 03 22.8 +0.7**
comp=Z,13nm,0.8s
ARSA Arzberg 78.44 2 *i* P **P 05 03 23.8 +1.0**
comp=Z,11nm,1.1s
FETA Feichten 78.47 6 *i* P **P 05 03 23.8 +0.7**
comp=Z,6.0nm,0.8s
KBA Koelnbreinsper 78.54 4 *i* P **P 05 03 24.7 +1.2**
comp=Z,9.2nm,0.5s
ABTA Abfaltersbach 78.84 5 *eP* **P 05 03 26.5 +1.4**
comp=Z,11nm,1.4s
FUORN Ofenpass-Fuorn 78.84 6 P **P 05 03 26.0 +0.8**
FUORN IAmb IAmb 05 03 26.8
comp=Z,5.7nm,0.5s
DRGR 78.90 357 ⇑P **P 05 03 25.6 +0.3**
TUE Stuetta 78.93 7 P **P 05 03 26.8 +1.1**
TUE IAmb IAmb 05 03 27.9
comp=Z,5.5nm,1.0s
SOKA Soboth 79.00 3 *i* P **P 05 03 27.1 +1.2**
comp=Z,16nm,1.2s,SNR=12
MYKA Terra Mystica 79.00 4 *i* P **P 05 03 27.0 +1.1**
comp=Z,4.4nm,0.7s
PERS Pernice 79.05 3 *i* P **P 05 03 26.7 +0.6**
OBKA Obir 79.16 3 *i* P **P 05 03 27.8 +1.1**
comp=Z,21nm,0.5s,SNR=32
OBKA Obir 79.16 3 ⇑*i* P **P 05 03 27.3 +0.5**
PRED Cave del Predi 79.19 4 P **P 05 03 26.1 -0.8**
PRED IAmb IAmb 05 03 27.4
comp=Z,4.9nm,0.6s
GROS Grobnik 79.23 3 *i* P **P 05 03 27.7 +0.6**
ROBS Robic 79.38 4 *eP* **P 05 03 27.7 -0.2**
OZUR 79.48 355 ⇑P **P 05 03 29.3 +0.9**
VOJS Vojsko 79.61 4 *eP* **P 05 03 28.8 -0.5**
VRI Vrincioaia 79.66 355 ⇑P **P 05 03 29.7 +0.3**
PLOR Plostina 79.68 355 ⇓P **P 05 03 30.1 +0.5**
COVR Voineasa-Covas 79.71 355 ⇑P **P 05 03 30.8 +1.0**
KIV Kislovodsk 79.74 343 ⇑P **P 05 03 30.5 +0.5**
KBZ Khabaz 79.93 343 P **P 05 03 31.6 +0.7**
comp=Z,12nm,0.9s,baz=327,slow=3.4,SNR=31
comp=Z,12nm,0.9s
SURR Surduc 79.95 358 ⇑P **P 05 03 31.4 +0.4**
TNR Turnu Rosu 79.99 356 ⇑P **P 05 03 32.2 +1.0**
BZS Buzias 80.10 358 ⇓P **P 05 03 32.2 +0.4**
VOIR 80.17 356 ⇑P **P 05 03 32.9 +0.6**
TEOL Teolo 80.18 5 P **P 05 03 31.9 -0.3**
TLCR 80.21 353 ⇑P **P 05 03 31.6 -0.8**
ARR Arges 80.26 356 ⇓P **P 05 03 33.3 +0.5**
CFR Carcaliu 80.26 354 ⇓P **P 05 03 33.0 +0.4**
GZR Gura Zlata 80.30 357 ⇑P **P 05 03 33.2 +0.2**
A051A Mrakovica 80.71 2 ⇑*i* P **P 05 03 35.3 +0.1**
HERR Herculane 80.82 358 ⇑P **P 05 03 36.0 +0.4**
CMAR Chiang Mai Arr 80.85 289 P **P 05 03 35.9 -0.3**
comp=Z,9.5nm,0.9s,baz=15,slow=5.5,SNR=44
comp=Z,9.5nm,0.9s
MDVR Moldovita 80.93 358 ⇑P **P 05 03 36.6 +0.3**
PGAV Gavieira, Arco 80.97 20 *eP* P 05 03 43.0 +6.4
MSSA Maissana 81.09 7 P **P 05 03 36.0 -1.2**
TEKS Tekeris 81.19 360 ⇑*i* P **P 05 03 37.6 -0.1**
A050A Klekovaca 81.23 2 ⇑*i* P **P 05 03 37.1 -0.9**
POLO Lamas de Olo 81.64 20 *eP* **P 05 03 41.6 +1.5**
HAPS Han Pijesak,Bl 81.65 0 ⇑*i* P **P 05 03 40.6 +0.4**
PVRL Vila Real 81.75 20 *eP* **P 05 03 42.3 +1.6**
BBLS Lazi&#263i 81.87 360 ⇑*i* P **P 05 03 41.7 +0.3**
MVO Moncorvo 81.99 20 *eP* **P 05 03 42.6 +0.6**
BOVS Bovan 82.08 358 ⇑P **P 05 03 42.2 -0.1**
RUDO Rudo 82.12 360 *eP* **P 05 03 42.4 -0.2**
PVIS Viseu 82.25 20 *eP* **P 05 03 43.9 +0.6**
SJES Sjenica 82.47 359 ⇑*i* P **P 05 03 45.6 +1.0**
UPM Unac-Piva 82.54 0 *eP* **P 05 03 44.8 -0.2**
MTE Manteigas 82.62 20 P **P 05 03 46.3 +0.9**
MTE Manteigas 82.62 20 *eP* **P 05 03 46.7 +1.4**
PCAS Casmilo, Conde 82.76 21 *eP* **P 05 03 47.4 +1.4**
BRY Bratogost 82.84 0 ⇑*i* P **P 05 03 46.4 -0.1**
STON Ston 82.86 1 ⇑*i* P **P 05 03 43.6 -2.8**
TREB Trebinje 83.02 1 ⇑*i* P **P 05 03 47.3 0.0**
GNI Garni 83.06 340 LR LR 05 47 37.0
comp=Z,50nm,18.1s,baz=46,slow=41
PCBR Castelo Branco 83.18 20 *eP* **P 05 03 49.3 +1.2**
PSBE So Bento 83.22 21 *eP* **P 05 03 49.9 +1.5**
HCY Herceg Novi 83.29 0 *eP* **P 05 03 48.2 -0.5**
PDG Podgorica 83.31 360 P **P 05 03 48.0 -0.7**
PDG Podgorica 83.31 360 ⇑*i* P **P 05 03 48.8 +0.1**
PDG Podgorica 83.31 360 ⇑P **P 05 03 49.0 +0.3**
DRME Dracevica, Mon 83.55 360 ⇑*i* P **P 05 03 50.1 +0.1**
PMRV Marv??o 83.59 20 *eP* **P 05 03 52.9 +2.6**
PUK Puka 83.69 359 P **P 05 03 51.6 +0.8**
PUK IAmb IAmb 05 04 01.5
comp=Z,4.9nm,0.9s
PMTG Montargil 83.77 21 *eP* **P 05 03 52.0 +0.8**
ESDC Sonseca Array 84.00 18 P **P 05 03 53.5 +1.1**
comp=Z,9.7nm,0.8s,baz=344,slow=5.3,SNR=43
comp=Z,9.7nm,0.8s
EVO Evora 84.33 21 *eP* **P 05 03 55.3 +1.3**
ALN Alexandroupoli 84.65 355 P **P 05 03 55.6 0.0**
BRTR Keskin Array B 85.18 349 P **P 05 03 58.9 +0.4**
comp=Z,6.7nm,0.8s,baz=14,slow=5.2,SNR=43
comp=Z,6.7nm,0.8s
PCRV Puerto La Cruz 85.40 79 LR LR 05 40 50.1
comp=Z,46nm,20.8s,slow=35
KIRS Kirsehir-Merke 85.74 348 ⇑P **P 05 04 02.2 +1.0**
MMAI Mount Meron Ar 91.58 346 LR LR 05 50 59.1
comp=Z,21nm,19.1s,baz=46,slow=39
WRA Warramunga Arr 92.43 238 P **P 05 04 32.6 -0.2**
comp=Z,0.9nm,0.9s,baz=37,slow=5.4,SNR=5.0
comp=Z,0.9nm,0.9s
ASAR Alice Springs 95.79 237 P **P 05 04 47.8 -0.4**
comp=Z,0.8nm,0.8s,baz=34,slow=4.1,SNR=7.3
comp=Z,0.8nm,0.8s
H03N2 Juan Fernandez 112.24 117 T T 07 12 35.9
baz=322,slow=76
H03N1 Juan Fernandez 112.25 117 T T 07 12 39.4
baz=322,slow=76
H03N3 Juan Fernandez 112.26 117 T T 07 12 30.6
baz=322
QSPA South Pole Qui 144.41 180 PKPdf **PKPab 05 10 54.6 -0.5**
LBTB Lobatse 150.02 348 PKPbc **PKPbc 05 11 12.5 0.0**
BELA Belgrano 2 150.23 160 **PKPbc 05 11 10.1 -1.2**
BOSA Boshof 153.61 348 PKPbc **PKiKP 05 11 21.8 +1.1**
comp=Z,1.4nm,0.7s,baz=49,slow=4.5,SNR=5.1

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*IDC **04** 05:20:58.3±2.8, 1°.42S×134°.66E, h0km, mb3.4/2, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=105.7km s-min=27.4km az=81.0*
*DJA **04** 05:21:01.2±0.6, 1°S±10°×13°4E±°, h12km±5km, M4.0/5, MLv4.0/5*
ISC 04 05:21:02.7±0.9, **1°.5S**±0°.1×**134°.46E**±0°.04, **h29km, n9,**

σ0°84/12, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.28**	**264**	P	**Pb**	**05 21 08.8**	**-1.1**
RKPI				S	**Sb**	**05 21 13.9**	**-0.8**
BAKI	**Biak**	**1.67**	**80**	P	**Pn**	**05 21 31.1**	**+1.0**
BAKI				S	**Sn**	**05 21 50.7**	**+0.1**
SRPI	**Serui, Papua**	**1.82**	**102**	P	**Pn**	**05 21 32.0**	**-0.1**
SRPI				S	**Sb**	**05 21 56.6**	**-1.2**
FAKI	**Fak Fak**	**2.63**	**237**	P	**Pn**	**05 21 44.3**	**+1.0**
SWI	**Sorong**	**3.26**	**281**	P	**Pn**	**05 21 51.9**	**0.0**
WRA	**Warramunga Arr**	**18.35**	**180**	P	**P**	**05 25 15.1**	**-0.1**
	0.2nm,0.3s,baz=0.3,slow=12,SNR=5.9 0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**18.65**	**207**	P	**P**	**05 25 18.9**	**+0.5**
	0.3nm,0.3s,baz=21,slow=14,SNR=5.6 4.3nm,0.8s						
ASAR	**Alice Springs**	**22.06**	**181**	P	**P**	**05 25 55.8**	**+0.4**
	1.0nm,0.6s,baz=7.1,slow=12,SNR=15 1.0nm,0.6s						
MKAR	**Makanchi Array**	**66.26**	**324**	P	**P**	**05 31 49.0**	**+0.7**
	0.3nm,0.6s,baz=115,slow=6.5,SNR=3.9 0.3nm,0.6s						

*IDC **04** 05:22:53.1±0.6, 5.°91S×105.°03E, h0km, mb4.0/15, mbtmp4.0/16, ML4.2/1, MS3.4/14, Error ellipse: s-maj=23.9km s-min=13.0km az=51.0*
*DJA **04** 05:22:56.8±0.3, 6.°5±3.°×10.°5E±.°, h10km, M4.6/16, mb4.8/3, MLv4.5/16*
*NEIC **04** 05:23:00.8±1.6, 5.°97S±0.°02×105.°13E±0.°07, h48km±8km, mb4.4/21, Error ellipse: s-maj=10.5km s-min=3.1km az=92.0*

ISC 04 05:22:54.8±0.4, **6.°02S**±0.°05×**105.°10E**±0.°04, **h10**km, **n85,** σ1°**53**/73, **mb4.3**/24, **MS3.4**/12, **1D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.66**	**13**	P	**Pn**	**05 23 09.4**	**-0.9**
BLSI				S	**Sb**	**05 23 17.9**	**+0.1**
CGJI	**Cibinong**	**0.83**	**135**	P	**Pg**	**05 23 10.5**	**-0.4**
CGJI				S	**Sg**	**05 23 19.7**	**-2.2**
SBJI	**Serang**	**1.03**	**96**	P	**Pg**	**05 23 14.1**	**-0.6**
TNG	**Tangerang**	**1.55**	**96**	P	**Pg**	**05 23 24.3**	**-0.2**
TNG				P	**Pb**	**05 23 24.4**	**+0.8**
SKJI	**Sukabumi**	**1.75**	**124**	P	**Pn**	**05 23 25.6**	**+0.4**
MDSI	**Maura Dua**	**1.78**	**329**	P	**Pb**	**05 23 28.1**	**+0.6**
CNJI	**Cibinong**	**2.39**	**123**	P	**Pn**	**05 23 34.5**	**+0.4**
LEM	**Lembang**	**2.63**	**108**	Pn	**Pb**	**05 23 40.2**	**-1.9**
	38nm,0.3s,baz=192,slow=19,SNR=19						
LEM				Sn	**Sb**	**05 24 15.1**	**+0.5**
	20nm,0.3s,baz=248,slow=23,SNR=3.5						
LEM				LR	LR	05 24 29.4	
	comp=Z,161nm,20.9s,baz=144,slow=35 132nm,0.5s						
LEM	**Lembang**	**2.63**	**108**	P	**Pn**	**05 23 39.4**	**+1.9**
MNAI	**Manna**	**2.70**	**308**		**Pb**	**05 23 42.1**	**-1.1**
MNAI				Sn	**Sb**	**05 24 15.6**	**-0.8**
MNAI	**Manna**	**2.70**	**308**	P	**Pb**	**05 23 41.9**	**-1.3**
PMBI	**Palembang**	**3.09**	**354**	Pn	**Pb**	**05 23 46.9**	**-3.0**
KSI	**Kapahiang**	**3.43**	**313**	P	**Pn**	**05 23 52.0**	**+3.6**
CMJI	**Cimerak**	**3.76**	**118**	P	**Pn**	**05 23 54.3**	**+1.4**
PPBI	**Pangkal Pinang**	**3.97**	**15**	P	**Pn**	**05 23 59.2**	**+3.4**
TPI	**Tanjungpandan**	**4.12**	**38**	P	**Pn**	**05 23 58.9**	**+1.0**
UGM	**Wanagama**	**5.70**	**110**	Pn	**Pn**	**05 24 22.0**	**+2.3**
UGM	**Wanagama**	**5.70**	**110**	P	**Pn**	**05 24 20.3**	**+0.6**
	0.3nm67nm,0.9s						
PPSI	**Pulau Pagai**	**6.02**	**302**	P	**Pn**	**05 24 26.8**	**+2.8**
	0.6nm135nm,0.9s						
PCJI	**Pacitan**	**6.41**	**110**	P	**Pn**	**05 24 31.0**	**+1.7**
MYKOM	**Kota Tinggi**	**7.86**	**351**	Pn	**Pn**	**05 24 51.4**	**+2.2**
JAGI	**Jajag, Banyuwa**	**9.30**	**106**	Pn	**Pn**	**05 25 13.3**	**+4.2**
GSI	**Gunungsitoli**	**10.46**	**314**	Pn	**Pn**	**05 25 26.8**	**+1.9**
KAPI	**Kappang**	**14.62**	**87**	LR	LR	05 32 14.9	
	comp=Z,92nm,19.3s,baz=268,slow=38						
TOLI2	**Tolitoli**	**17.18**	**66**	Pn	**Pn**	**05 26 55.2**	**-0.1**
TOLI2				IAmb	IAmb	05 27 05.9	
	comp=Z,20nm,1.1s						
MMRI	**Maumere**	**17.20**	**100**		**P**	**05 26 57.7**	**+0.7**
MMRI				IAmb	IAmb	05 27 10.2	
	comp=Z,33nm,0.5s						
MYLDM	**Lahad Datu**	**17.40**	**51**		**P**	**05 27 00.0**	**+0.8**
MYLDM				IAmb	IAmb	05 27 29.4	
	comp=Z,16nm,1.0s						
SOEI	**Soe**	**19.34**	**102**	P	**P**	**05 27 21.1**	**+0.3**
MBWA	**Marble Bar**	**20.68**	**138**	P	**P**	**05 27 35.9**	**+0.8**
PSA00	**Pilbara Seismi**	**21.04**	**139**	P	**P**	**05 27 38.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.37**	**123**	P	**P**	**05 28 04.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.37**	**123**	P	**P**	**05 28 04.0**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=292,slow=3.7,SNR=5.4						
FITZ				LR	LR	05 39 06.7	
	comp=Z,103nm,19.0s,baz=300,slow=42 comp=Z,3.2nm,0.8s						
DAV	**Davao City (W)**	**24.22**	**58**	LR	LR	05 37 21.2	
	comp=Z,112nm,21.8s,baz=332,slow=36						
CMAR	**Chiang Mai Arr**	**25.07**	**346**	P	**P**	**05 28 18.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=182,slow=8.1,SNR=6.0 comp=Z,0.6nm,0.3s						
KNRA	**Kununurra**	**25.12**	**114**	P	**P**	**05 28 20.8**	**+0.7**
KNRA				IAmb	IAmb	05 28 28.4	
	comp=Z,26nm,0.9s						
PALK	**Pallekele**	**27.69**	**298**	LR	LR	05 39 13.8	
	comp=Z,72nm,18.8s,baz=120,slow=36						
WB0	**Warramunga Arr**	**31.58**	**118**	P	**P**	**05 29 17.4**	**-0.6**
WB0				IAmb	IAmb	05 29 38.1	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**31.60**	**119**	P	**P**	**05 29 18.3**	**+0.2**
WRA	**Warramunga Arr**	**31.60**	**119**	P	**P**	**05 29 18.5**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=294,slow=10,SNR=5.3 comp=Z,1.3nm,0.8s						
WB2	**Warramunga Arr**	**31.61**	**119**	P	**P**	**05 29 17.3**	**-0.9**
WB2				IAmb	IAmb	05 29 31.0	
	comp=Z,9.2nm,1.2s						
WR0	**Warramunga Arr**	**31.78**	**119**	P	**P**	**05 29 19.2**	**-0.5**
WR0				IAmb	IAmb	05 29 26.8	
	comp=Z,3.4nm,0.8s						
H08S2	**Diego Garcia H**	**32.41**	**265**	T	T	06 02 59.1	
	baz=89,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**32.42**	**265**	T	T	06 02 58.4	
	baz=89,slow=76,SNR=39						
H08S1	**Diego Garcia H**	**32.43**	**265**	T	T	06 03 01.1	
	baz=89,slow=76,SNR=6.7						
ASAR	**Alice Springs**	**32.79**	**125**	P	**P**	**05 29 29.3**	**+0.7**
ASAR	**Alice Springs**	**32.79**	**125**	P	**P**	**05 29 28.8**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=298,slow=8.0,SNR=9.8						
ASAR				PcP	**PcP**	**05 32 13.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=319,slow=2.7,SNR=5.3						
ASAR				S	**S**	**05 34 39.8**	**-6.1**
	comp=Z,0.8nm,1.1s,baz=287,slow=16,SNR=5.3						
ASAR				LR	LR	05 44 50.1	
	comp=Z,117nm,19.0s,baz=279,slow=40 comp=Z,1.2nm,0.6s						
COEN	**Coen**	**38.27**	**105**	P	**P**	**05 30 15.8**	**+0.1**
STKA	**Stephens Creek**	**42.70**	**132**	P	**P**	**05 30 53.0**	**+0.8**
STKA	**Stephens Creek**	**42.70**	**132**	P	**P**	**05 30 52.8**	**+0.7**
	comp=Z,7.1nm,0.4s,baz=312,slow=7.6,SNR=40 comp=Z,7.1nm,0.4s						
JNU	**Nakatsue**	**45.98**	**30**	LR	LR	05 51 01.1	
	comp=Z,44nm,19.1s,baz=183,slow=37						
KSRS	**Korea Array**	**48.21**	**24**	LR	LR	05 53 46.6	
	comp=Z,16nm,18.1s,baz=190,slow=38						
MJAR	**Matsushiro Arr**	**52.47**	**34**	LR	LR	05 55 00.2	
	comp=Z,27nm,20.4s,baz=136,slow=37						
SONM	**Songino Array**	**53.63**	**1**	P	**P**	**05 32 16.9**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=193,slow=5.8,SNR=4.9						
SONM				LR	LR	05 56 39.3	
	comp=Z,60nm,18.9s,baz=66,slow=38 comp=Z,0.2nm,0.4s						
BNX	**BinXian**	**55.25**	**19**	⇓P	P	05 32 33.9	+5.8
BNX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**55.55**	**23**	P	**P**	**05 32 30.8**	**+0.4**
USA0B				IAmb	IAmb	05 33 13.0	
	comp=Z,3.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**55.55**	**23**	P	**P**	**05 32 31.1**	**+0.7**
AAK	**Ala-Archa**	**55.85**	**333**	LR	LR	05 58 38.4	
	comp=Z,36nm,20.0s,baz=170,slow=38						
MK31	**Makanchi Array**	**56.34**	**341**	P	**P**	**05 32 35.4**	**-0.7**
MKAR	**Makanchi Array**	**56.34**	**341**	P	**P**	**05 32 36.0**	**0.0**
MKAR	**Makanchi Array**	**56.34**	**341**	P	**P**	**05 32 33.6**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=157,slow=8.6,SNR=5.7 comp=Z,0.3nm,0.5s						
KLR	**Kul'dur**	**59.73**	**20**	LR	LR	06 00 33.0	
	comp=Z,24nm,18.1s,baz=323,slow=38						
H04N2	**CROZET ISLANDS**	**60.79**	**220**	T	T	06 39 03.9	
	baz=65,slow=75						
H04N1	**CROZET ISLANDS**	**60.80**	**220**	T	T	06 39 05.0	
	baz=65,slow=75						
H04N3	**CROZET ISLANDS**	**60.81**	**220**	T	T	06 39 03.8	
	baz=65,slow=75						
KURBB	**Kurchatov Arra**	**60.90**	**341**	P	**P**	**05 33 06.2**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=146,slow=7.2,SNR=1.6						
KURBB				PcP	**PcP**	**05 33 50.3**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=159,slow=5.1,SNR=4.4 comp=Z,0.4nm,0.9s						
H04S1	**CROZET ISLANDS**	**61.00**	**219**	T	T	06 39 20.8	
	baz=64,slow=76,SNR=6.8						
H04S3	**CROZET ISLANDS**	**61.01**	**219**	T	T	06 39 18.9	
	baz=64,slow=76,SNR=5.8						
H04S2	**CROZET ISLANDS**	**61.02**	**219**	T	T	06 39 22.9	
	baz=64,slow=76,SNR=6.1						
ZALV	**Zalesovo Beam**	**62.13**	**347**	P	**P**	**05 33 14.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=150,slow=5.0,SNR=2.7 comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**67.61**	**330**	P	**P**	**05 33 50.7**	**-1.1**
ABKAR				IAmb	IAmb	05 33 59.0	
	comp=Z,3.3nm,0.8s						
MAW	**Mawson**	**67.77**	**196**	P	**P**	**05 33 53.3**	**+0.8**
MAW	**Mawson**	**67.77**	**196**	P	**P**	**05 33 52.6**	**+0.2**
	comp=Z,46nm,0.8s,baz=84,slow=18,SNR=8.1						
PETK	**Petropavlovsk-**	**73.67**	**30**	P	**P**	**05 34 28.5**	**-0.1**
	comp=Z,3.1nm,1.1s,baz=226,slow=5.8,SNR=2.4 comp=Z,9.1nm,1.1s						
KBZ	**Khabaz**	**74.66**	**318**	P	**P**	**05 34 35.3**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=141,slow=6.0,SNR=4.0 comp=Z,1.8nm,0.9s						
KIRV	**Kirov**	**78.17**	**334**	LR	LR	06 13 19.3	
	comp=Z,104nm,18.0s,baz=317,slow=39						
BOSA	**Boshof**	**78.24**	**242**	P	**P**	**05 34 55.9**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=141,slow=6.5,SNR=2.1 comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**05 35 02.2**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=143,slow=6.0,SNR=5.2 comp=Z,0.6nm,0.6s						
SUR	**Sutherland**	**81.99**	**238**	LR	LR	06 06 11.4	
	comp=Z,39nm,19.2s,baz=165,slow=32						
QSPA	**South Pole Qui**	**83.97**	**180**	P	**P**	**05 35 26.3**	**+1.1**
QSPA				IAmb	IAmb	05 35 35.1	
	comp=Z,6.8nm,1.1s						
QSPA	**South Pole Qui**	**83.97**	**180**	P	**P**	**05 35 25.6**	**+0.5**
	comp=Z,2.2nm,1.1s,baz=315,slow=1.4,SNR=2.5 comp=Z,2.2nm,1.1s						
AKASG	**Malin Array Be**	**85.76**	**322**	P	**P**	**05 35 32.8**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=89,slow=4.6,SNR=4.8 comp=Z,0.9nm,0.8s						
BURAR	**Bucovina Array**	**87.62**	**318**	P	**P**	**05 35 44.4**	**+0.8**
BUR08	**Bucovina Ar. S**	**87.64**	**318**	P	**P**	**05 35 44.5**	**+0.8**
BUR08				IAmb	IAmb	05 35 51.3	
	comp=Z,2.4nm,0.9s						
TXAR	**Lajitas Array**	**144.29**	**46**	PKP	**PKPab**	**05 42 29.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=186,slow=1.3,SNR=3.8						
BDFB	**Brasilia**	**145.76**	**231**	PKPbc	**PKPab**	**05 42 36.4**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=109,slow=2.8,SNR=6.1						

*NOU **04** 05:24:51.9, 41.°97S×173.°18E, h322km, MLv3.5/8, South Island, New Zealand*
*WEL **04** 05:25:22.9±0.3, 41.°5±2.°×17.°5E±.°, h12km, M3.0/23, ML3.2/23, MLv3.0/23, Error ellipse: s-maj=2.9km s-min=2.3km az=78.0, confirmed*

ISC 04 05:25:23.8±1.0, **40.°52S**±0.°02×**174.°67E**±0.°02, **h28**km±10km, **n77,** σ0°**58**/91, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.39**	**152**	P	**Pb**	**05 25 32.5**	**+0.1**
KIW				S	**Sb**	**05 25 38.5**	**+0.3**
OGWZ	**Otaki Gorge**	**0.48**	**128**	P	**Pb**	**05 25 33.8**	**-0.1**
OHWZ	**Ohakea**	**0.59**	**58**	P	**Pb**	**05 25 35.6**	**+0.1**
OHWZ				S	**Sb**	**05 25 44.4**	**+0.9**
DUWZ	**D'Urville Isla**	**0.63**	**243**	P	**Pb**	**05 25 35.8**	**-0.6**
CAW	**Cannon Point**	**0.66**	**153**	P	**Pb**	**05 25 36.6**	**-0.3**
CAW				S	**Sb**	**05 25 45.3**	**-0.4**
MRZ	**Mangatainoka R**	**0.71**	**102**	P	**Pb**	**05 25 37.2**	**-0.4**
MRZ				S	**Sb**	**05 25 46.6**	**-0.3**
HOWZ	**Holdsworth Sta**	**0.74**	**121**	P	**Pb**	**05 25 38.0**	**-0.2**
HOWZ				S	**Sn**	**05 25 50.0**	**+1.1**
TCW	**Tory Channel**	**0.75**	**203**	P	**Pb**	**05 25 37.6**	**-0.7**
WEL	**Wellington**	**0.77**	**174**	P	**Pb**	**05 25 38.2**	**-0.4**
SNZO	**South Karori**	**0.79**	**178**	P	**Pb**	**05 25 37.6**	**-1.4**
WAZ	**Wanganui**	**0.80**	**18**	P	**Pb**	**05 25 38.6**	**-0.6**
POWZ	**Post Office Ro**	**0.85**	**82**	P	**Pb**	**05 25 39.5**	**-0.5**
MTW	**Mount Morrison**	**0.90**	**135**	P	**Pn**	**05 25 40.7**	**+0.1**
BHW	**Baring Head**	**0.90**	**170**	P	**Pn**	**05 25 40.1**	**-0.6**
TIWZ	**Tintock**	**0.96**	**106**	P	**Pn**	**05 25 41.6**	**+0.2**
PRWZ	**Pori Road**	**0.99**	**92**	P	**Pn**	**05 25 42.3**	**+0.4**
MSWZ	**Moikau Station**	**1.00**	**154**	P	**Pn**	**05 25 42.1**	**+0.1**
MSWZ				S	**Sn**	**05 25 56.0**	**+0.9**
PAWZ	**Paruwai Farm**	**1.03**	**147**	P	**Pn**	**05 25 42.8**	**+0.3**
TUWZ	**Tuamarina**	**1.06**	**211**	P	**Pn**	**05 25 42.6**	**-0.2**
LREZ	**Lake Rotokare**	**1.08**	**349**	P	**Pn**	**05 25 43.6**	**+0.5**
TSZ	**Takapari Road**	**1.09**	**65**	P	**Pn**	**05 25 43.0**	**-0.2**
TMWZ	**Te Maipa**	**1.10**	**123**	P	**Pn**	**05 25 43.6**	**+0.3**
PLWZ	**Palliser**	**1.14**	**157**	P	**Pn**	**05 25 44.1**	**+0.2**
DVHZ	**Dannevirke**	**1.17**	**80**	P	**Pn**	**05 25 44.3**	**0.0**
TRWZ	**Traveller**	**1.17**	**139**	P	**Pn**	**05 25 45.0**	**+0.7**
NNZ	**Nelson**	**1.20**	**234**	P	**Pn**	**05 25 44.5**	**-0.2**
BFZ	**Birch Farm**	**1.21**	**98**	P	**Pn**	**05 25 45.4**	**+0.5**
BFZ	**Birch Farm**	**1.21**	**98**	P	**Pn**	**05 25 44.6**	**-0.3**
PREZ	**Palmer Road**	**1.24**	**341**	P	**Pn**	**05 25 46.1**	**+0.7**
MTVZ	**Mangateitei**	**1.29**	**29**	P	**Pn**	**05 25 45.4**	**-0.6**
PNHZ	**Pukenui**	**1.32**	**63**	P	**Pn**	**05 25 46.3**	**-0.1**
KHEZ	**Kahui Hut**	**1.32**	**337**	P	**Pn**	**05 25 47.0**	**+0.5**
KHEZ	**Kahui Hut**	**1.32**	**337**	P	**Pn**	**05 25 47.1**	**+0.5**
KHEZ				S	**Sb**	**05 26 04.4**	**-0.3**
NEZ	**North Egmont**	**1.32**	**340**	P	**Pn**	**05 25 47.1**	**+0.6**
NEZ				S	**Sb**	**05 26 04.6**	**0.0**
BSWZ	**Blackbirch Sta**	**1.33**	**206**	P	**Pn**	**05 25 46.8**	**+0.2**
BSWZ				S	**Sb**	**05 26 04.6**	**-0.3**
PKVZ	**Pokaka**	**1.34**	**23**	P	**Pn**	**05 25 45.8**	**-0.8**
MOVZ	**Moawhango**	**1.39**	**37**	P	**Pn**	**05 25 46.6**	**-0.8**
MOVZ				S	**Sn**	**05 26 04.4**	**-0.5**
WNVZ	**Wahianoa**	**1.39**	**31**	P	**Pn**	**05 25 46.8**	**-0.7**
WNVZ				S	**Sn**	**05 26 04.9**	**-0.1**
NBEZ	**Newall Road No**	**1.40**	**334**	P	**Pn**	**05 25 48.6**	**+1.2**
NBEZ				S	**Sb**	**05 26 07.1**	**+0.5**
TKNZ	**Takaka Hill**	**1.40**	**248**	P	**Pn**	**05 25 47.7**	**+0.3**
TKNZ				S	**Sn**	**05 26 05.7**	**+0.8**
TRVZ	**Turoa**	**1.40**	**29**	P	**Pn**	**05 25 46.8**	**-0.8**
VRZ	**Vera Road**	**1.40**	**3**	P	**Pn**	**05 25 47.2**	**-0.2**
VRZ				S	**Sn**	**05 26 05.7**	**+0.8**
PKE	**Pukeiti**	**1.43**	**338**	P	**Pn**	**05 25 48.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.43**	**30**	P	**Pn**	**05 25 47.6**	**-0.4**
MAVZ	**Matarangi**	**1.43**	**29**	P	**Pn**	**05 25 48.8**	**+0.7**
WPHZ	**Waipukurau**	**1.43**	**72**	P	**Pn**	**05 25 48.1**	**+0.1**
FWVZ	**Far West T-bar**	**1.44**	**29**	P	**Pn**	**05 25 47.4**	**-0.8**
TUVZ	**Tukino**	**1.46**	**32**	P	**Pn**	**05 25 48.1**	**-0.4**
COVZ	**Chateau Observ**	**1.48**	**27**	P	**Pn**	**05 25 48.3**	**-0.4**
NGZ	**Ngauruhoe**	**1.52**	**28**	P	**Pn**	**05 25 48.8**	**-0.5**
SNVZ	**South Ngauruho**	**1.53**	**30**	P	**Pn**	**05 25 49.1**	**-0.3**
OTVZ	**Oturere**	**1.56**	**30**	P	**Pn**	**05 25 49.5**	**-0.4**
TWVZ	**Taurewa**	**1.56**	**22**	P	**Pn**	**05 25 49.1**	**-0.8**
NNVZ	**North Ngauruho**	**1.57**	**28**	P	**Pn**	**05 25 49.4**	**-0.5**
KRHZ	**Kereru**	**1.57**	**57**	P	**Pn**	**05 25 49.9**	**+0.1**
WTVZ	**West Tongariro**	**1.57**	**27**	P	**Pn**	**05 25 49.3**	**-0.7**
ETVZ	**East Tongariro**	**1.60**	**30**	P	**Pn**	**05 25 50.1**	**-0.3**
KRVZ	**Karewarewa**	**1.61**	**28**	P	**Pn**	**05 25 49.8**	**-0.7**
TMVZ	**Te Maari**	**1.61**	**30**	P	**Pn**	**05 25 50.1**	**-0.5**
NTVZ	**North Tongarir**	**1.62**	**29**	P	**Pn**	**05 25 50.4**	**-0.3**
QRZ	**Quartz Range**	**1.66**	**259**	S	**Sn**	**05 26 11.2**	**-0.1**
QRZ	**Quartz Range**	**1.66**	**259**	P	**Pn**	**05 25 50.7**	**-0.3**
MRNZ	**Matariki Terra**	**1.69**	**238**	P	**Pn**	**05 25 51.8**	**+0.3**
KWHZ	**Kaweka Forest**	**1.74**	**51**	P	**Pn**	**05 25 52.5**	**+0.4**
RITZ	**Rihia Road**	**1.79**	**31**	P	**Pn**	**05 25 54.2**	**+1.3**
THZ	**Tophouse**	**1.82**	**226**	P	**Pn**	**05 25 53.7**	**+0.3**
KAHZ	**Kahuranaki**	**1.84**	**68**	P	**Pn**	**05 25 53.1**	**-0.5**
MCHZ	**McNeill Hill**	**1.89**	**56**	P	**Pb**	**05 25 56.4**	**-1.3**
BKZ	**Black Stump Fm**	**1.95**	**47**	P	**Pn**	**05 25 56.0**	**+0.9**
BKZ	**Black Stump Fm**	**1.95**	**47**	P	**Pn**	**05 25 55.5**	**+0.4**
HIZ	**Hauiti**	**2.01**	**4**	P	**Pn**	**05 25 56.1**	**+0.2**
HIZ	**Hauiti**	**2.01**	**4**	P	**Pn**	**05 25 56.4**	**+0.5**
KHZ	**Kahutara**	**2.08**	**204**	P	**Pn**	**05 25 56.8**	**+0.1**
MRHZ	**Matea Rd**	**2.16**	**39**	P	**Pn**	**05 25 57.6**	**-0.4**
TLZ	**Tolley Road**	**2.29**	**17**	P	**Pn**	**05 26 01.2**	**+1.5**
DSZ	**Denniston Nort**	**2.48**	**240**	P	**Pn**	**05 26 03.0**	**+0.5**
URZ	**Urewera**	**2.95**	**41**	P	**Pn**	**05 26 08.4**	**-0.3**

*NEIC **04** 05:40:49.8±1.1, 18.°43S±0.°10×172.°47W±0.°04, h10km±1km, mb4.6/12, Error ellipse: s-maj=17.1km s-min=5.6km az=15.0*
*IDC **04** 05:40:53.7±0.8, 18.°67S×173.°15W, h0km, mb4.2/11, mbtmp4.2/11, MS3.9/29, Error ellipse: s-maj=30.6km s-min=18.7km az=134.0*

ISC 04 05:40:54.2±0.7, **18.°37S**±0.°10×**172.°50W**±0.°08, **h41**km, **n58,** σ1°**53**/27, **mb4.3**/16, **MS4.0**/27, **1D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.53**	**106**		**Pn**	**05 41 30.1**	**-2.7**
NIUE					**Sn**	**05 42 05.3**	**+2.8**
AFI	**Afiamalu**	**4.49**	**9**	Pn	**Pn**	**05 41 58.5**	**-1.3**
MSVF	**Nonsavu**	**9.02**	**273**	Pn	**Pn**	**05 43 01.9**	**-0.1**
MSVF	**Nonsavu**	**9.02**	**273**	Pn	**Pn**	**05 43 04.3**	**+2.3**
	0.3nm,0.3s,baz=159,slow=12,SNR=4.3						
MSVF				LR	LR	05 46 02.0	
	comp=Z,1μm,18.8s,baz=129,slow=37						
RAR	**Rarotonga**	**12.30**	**105**	LR	LR	05 47 30.0	
	comp=Z,601nm,20.4s,baz=264,slow=31						
URZ	**Urewera**	**21.79**	**202**	P	**P**	**05 45 42.9**	**+0.3**
	19nm,0.9s,baz=1.7,slow=3.6,SNR=8.7 19nm,0.9s						
PPT	**Papeete**	**21.82**	**91**	LR	LR	05 52 05.1	
	comp=Z,354nm,19.7s,baz=258,slow=30						
TOZ	**Tahuroa Road**	**21.96**	**206**	P	**P**	**05 45 42.6**	**-1.9**
TOZ				IAmb	IAmb	05 45 51.1	
	comp=Z,14nm,0.9s						
HNR	**Honiara**	**28.15**	**285**	LR	LR	05 56 13.5	
	comp=Z,234nm,20.0s,baz=144,slow=33						
PMG	**Port Moresby**	**40.09**	**277**	LR	LR	06 02 49.2	
	comp=Z,158nm,18.8s,baz=152,slow=33						
STKA	**Stephens Creek**	**43.38**	**243**	P	**P**	**05 48 52.1**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=125,slow=12,SNR=3.8						
STKA				LR	LR	06 05 36.7	
	comp=Z,197nm,18.4s,baz=48,slow=35 comp=Z,2.0nm,0.8s						
BBOO	**Buckleboo**	**48.13**	**242**	P	**P**	**05 49 30.3**	**-0.1**
WB0	**Warramunga Arr**	**50.05**	**259**	P	**P**	**05 49 43.8**	**-1.4**
WB0				IAmb	IAmb	05 49 56.2	
	comp=Z,5.0nm,0.9s						
WB2	**Warramunga Arr**	**50.06**	**259**	P	**P**	**05 49 44.7**	**-0.6**
WB2				IAmb	IAmb	05 50 05.7	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**50.07**	**259**	P	**P**	**05 49 44.7**	**-0.7**
WRA	**Warramunga Arr**	**50.07**	**259**	P	**P**	**05 49 44.4**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=97,slow=8.4,SNR=14 comp=Z,2.0nm,0.6s						
AS31	**Alice Springs**	**50.08**	**254**	P	**P**	**05 49 44.8**	**-0.7**
ASAR	**Alice Springs**	**50.08**	**254**	P	**P**	**05 49 44.8**	**-0.7**
ASAR	**Alice Springs**	**50.08**	**254**	P	**P**	**05 49 45.3**	**-0.2**
	comp=Z,12nm,0.9s,baz=87,slow=8.5,SNR=50						
ASAR				LR	LR	06 10 01.1	
	comp=Z,77nm,19.4s,baz=111,slow=35 comp=Z,12nm,0.9s						
GUMO	**Guam**	**52.69**	**304**	LR	LR	06 11 45.5	
	comp=Z,46nm,18.7s,baz=78,slow=35						
KNRA	**Kununurra**	**56.03**	**263**	P	**P**	**05 50 28.4**	**-0.9**
KNRA				IAmb	IAmb	05 50 48.5	
	comp=Z,9.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**58.49**	**260**	P	**P**	**05 50 45.7**	**

IJOK	**Jokulheimar**	**0.46 228**	P	**Pg**	**05 53 08.5**	**-1.7**
IJOK			S	**Sg**	**05 53 15.7**	**-0.5**
IKRE	**Kreppuhraun**	**0.48 70**	P	**Pg**	**05 53 09.0**	**-1.7**
IKRE			S	**Sg**	**05 53 16.0**	**-1.1**
IASK	**Askja**	**0.55 38**	P	**Pg**	**05 53 10.0**	**-1.9**
IASK			S	**Sg**	**05 53 17.9**	**-1.3**
IMKO	**Mokollar**	**0.59 52**	P	**Pg**	**05 53 11.0**	**-1.8**
IMKO			S	**Sg**	**05 53 19.6**	**-1.0**
IIEY	**Innrieyrar**	**0.60 209**	P	**Pg**	**05 53 11.0**	**-2.0**
IIEY			S	**Sg**	**05 53 20.1**	**-0.8**
IKSK	**Karasker**	**0.63 137**	P	**Pg**	**05 53 10.9**	**-2.5**
IKSK			S	**Sg**	**05 53 19.9**	**-1.7**
IHAE	**Haedir**	**0.63 161**	P	**Pg**	**05 53 11.2**	**-2.2**
IHAE			S	**Sg**	**05 53 20.6**	**-1.0**
IKAL	**Kalfafell**	**0.68 189**	P	**Pg**	**05 53 12.5**	**-2.0**
IKAL			S	**Sg**	**05 53 22.1**	**-1.3**
IFAL	**Falljokull**	**0.72 158**	P	**Pg**	**05 53 12.8**	**-2.3**
IFAL			S	**Sg**	**05 53 23.1**	**-1.4**
ISVA	**Svartarkot**	**0.72 6**	P	**Pg**	**05 53 13.0**	**-2.2**
IVSH	**V-Sauoahnukur**	**0.76 75**	P	**Pg**	**05 53 13.7**	**-2.2**
IVSH			S	**Sg**	**05 53 24.5**	**-1.3**
SLET	**Slettubjorg**	**0.77 152**	P	**Pg**	**05 53 13.9**	**-2.2**
IKVI	**Kvisker**	**0.78 145**	P	**Pg**	**05 53 13.7**	**-2.6**
IKVI			S	**Sg**	**05 53 24.6**	**-1.8**
IFAG	**Fagurholsmyri**	**0.82 155**	P	**Pg**	**05 53 14.8**	**-2.4**
IFAG			S	**Sg**	**05 53 26.2**	**-1.6**
IADA	**Aoalbol**	**0.89 63**	P	**Pg**	**05 53 15.7**	**-2.7**
IADA			S	**Sg**	**05 53 27.9**	**-2.2**
ISTE	**Stelbrattur**	**0.96 285**	P	**Pg**	**05 53 17.3**	**-2.6**
IMEL	**Melhnausar**	**1.01 19**	P	**Pg**	**05 53 17.7**	**-3.0**
IMEL			S	**Sg**	**05 53 32.5**	**-1.3**
ISNB	**Snabyli**	**1.03 211**	P	**Pg**	**05 53 18.2**	**-2.8**
ISNB			S	**Sg**	**05 53 32.2**	**-2.2**
IREN	**Reynihlio**	**1.05 12**	P	**Pg**	**05 53 18.4**	**-3.1**
ISLY	**Slysaalda**	**1.08 223**	P	**Pg**	**05 53 19.1**	**-3.0**
IHES	**Hestalda**	**1.09 239**	P	**Pg**	**05 53 19.4**	**-2.7**
IKVO	**Krokottuvotn**	**1.12 12**	P	**Pb**	**05 53 19.5**	**-3.3**
IRJU	**Rjupnafell**	**1.14 209**	P	**Pb**	**05 53 20.3**	**-2.8**
IRJU			S	**Sb**	**05 53 35.5**	**-2.4**
IFED	**Fedgar**	**1.15 240**	P	**Pb**	**05 53 20.5**	**-2.6**
IGRS	**Grimsstaoir**	**1.16 28**	P	**Pb**	**05 53 20.3**	**-3.1**
IGRS			S	**Sb**	**05 53 36.8**	**-1.8**
IMJO	**Mjoaskard**	**1.19 236**	P	**Pb**	**05 53 21.5**	**-2.5**
IGYG	**Gygjarholskot**	**1.25 255**	P	**Pn**	**05 53 22.2**	**-2.5**
IGYG			S	**Sb**	**05 53 39.4**	**-1.6**
IHVO	**Lagu-Hvolar**	**1.26 210**	P	**Pn**	**05 53 22.4**	**-2.5**
IHVO			S	**Sb**	**05 53 38.2**	**-3.1**
ISKI	**Skildingahlsh**	**1.27 8**	P	**Pn**	**05 53 21.9**	**-3.1**
IGOD	**Go??abunga**	**1.27 221**	P	**Pn**	**05 53 22.8**	**-2.4**
IGHA	**Grjothals**	**1.27 15**	P	**Pn**	**05 53 22.1**	**-2.9**
IHAU	**Haukadalur**	**1.28 240**	P	**Pn**	**05 53 22.5**	**-2.6**
IGRA	**Granastaoir**	**1.30 358**	P	**Pn**	**05 53 22.3**	**-3.1**
IGRA			S	**Sb**	**05 53 40.4**	**-2.1**
IDIM	**Dimmadalss**	**1.36 9**	P	**Pn**	**05 53 23.4**	**-2.9**
IHLA	**Hella**	**1.39 344**	P	**Pn**	**05 53 24.0**	**-2.6**
IHLA			S	**Sb**	**05 53 42.9**	**-2.0**
IESK	**Eystri-Skogar**	**1.41 220**	P	**Pn**	**05 53 24.5**	**-2.5**
IESK			S	**Sn**	**05 53 43.7**	**-1.8**
ISAU	**Saurbar**	**1.44 245**	P	**Pn**	**05 53 24.7**	**-2.6**
ISAU			S	**Sn**	**05 53 44.2**	**-2.1**
IMID	**Miomork**	**1.44 229**	P	**Pn**	**05 53 25.2**	**-2.2**
IHED	**Heoinshofoi**	**1.47 2**	P	**Pn**	**05 53 25.2**	**-2.6**
IHED			S	**Sn**	**05 53 44.6**	**-2.4**
IGIL	**Gilhagi**	**1.53 17**	P	**Pn**	**05 53 26.0**	**-2.7**
IASM	**Asmuli**	**1.59 242**	P	**Pn**	**05 53 27.2**	**-2.2**
ISIG	**Siglufjorour**	**1.64 339**	P	**Pn**	**05 53 27.6**	**-2.4**
ISIG			S	**Sn**	**05 53 50.0**	**-1.2**
BORG	**Borgarnes**	**1.67 276**	Pn	**Pn**	**05 53 29.2**	**-1.3**
	36nm,0.3s,baz=94,slow=6.9,SNR=59					
BORG			Sn	**Sg**	**05 53 53.1**	**-1.9**
	23nm,0.3s,baz=217,slow=23,SNR=13					
ISOL	**Solvholt**	**1.68 247**	P	**Pn**	**05 53 28.6**	**-2.0**
ISOL			S	**Sn**	**05 53 50.5**	**-1.6**
IHEI	**Heioarbar**	**1.70 257**	P	**Pn**	**05 53 29.1**	**-1.8**
IVES	**Vestmannaeyjar**	**1.72 228**	P	**Pn**	**05 53 29.4**	**-1.8**
IEDA	**Engidalur**	**1.80 254**	P	**Pn**	**05 53 30.8**	**-1.5**
IBJA	**Bjarnastaoir**	**1.81 250**	P	**Pn**	**05 53 30.8**	**-1.7**
ILEI	**Leirhofn**	**1.84 12**	P	**Pn**	**05 53 30.8**	**-2.0**
IHRN	**Hraun**	**1.87 324**	P	**Pn**	**05 53 31.2**	**-2.0**
ISAN	**Sandskeio**	**1.88 254**	P	**Pn**	**05 53 32.0**	**-1.4**
IMOR	**Morastadir**	**1.89 262**	P	**Pn**	**05 53 32.4**	**-1.2**
IGRI	**Grimsey**	**1.94 353**	P	**Pn**	**05 53 31.9**	**-2.3**
IKAS	**Kald??rsel**	**2.01 255**	P	**Pn**	**05 53 34.2**	**-1.0**
IVOS	**Vogsosar**	**2.01 249**	P	**Pn**	**05 53 34.1**	**-1.1**
SCO	**Scoresbysund**	**6.13 346**	*e*P	**Pn**	**05 54 30.9**	**-0.9**
SCO			*i* S	Pn	05 54 35.5	+3.8
EKA	**Eskdalemuir Ar**	**11.71 136**	Pn	**Pn**	**05 55 47.9**	**-0.2**
	0.8nm,0.4s,baz=323,slow=13,SNR=12					
NOA	**NORSAR Array B**	**13.51 92**	Pn	**Pn**	**05 56 12.7**	**-0.1**
	baz=298,slow=12,SNR=3.4					
NOA			LR	LR	06 01 47.1	
	comp=Z,31nm,19.1s,baz=0.0,slow=39					
	0.2nm,0.6s					
ARCES	**ARCESS Array B**	**17.13 54**	LR	LR	06 02 10.9	
	comp=Z,100nm,20.0s,baz=312,slow=32					
FINES	**FINESS Array B**	**19.69 79**	P	**Pn**	**05 57 31.8**	**+0.2**
	0.1nm,0.3s,baz=303,slow=8.1,SNR=2.4					
	2.8nm,0.9s					
BRG	**Berggiesshubel**	**21.37 115**	*e*P	**P**	**05 57 53.1**	**+4.6**
BRG			Amp		05 57 54.6	
	comp=Z,19nm,1.5s					
FRB	**Frobisher Bay**	**21.79 291**	P	**P**	**05 57 54.7**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=61,slow=7.1,SNR=7.5					
	comp=Z,1.2nm,0.7s					
KHC	**Kasperske Hory**	**22.63 118**	*e*P	**P**	**05 58 04.0**	**+1.9**
GERES	**GERESS Array B**	**22.91 119**	P	**P**	**05 58 07.0**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=325,slow=3.7,SNR=4.0					
GERES			LR	LR	06 07 48.4	
	comp=Z,96nm,18.6s,baz=338,slow=39					
	comp=Z,0.7nm,0.5s					
DAVOX	**Davos/Dischmat**	**23.27 127**	LR	LR	06 07 58.2	
	comp=Z,82nm,18.2s,baz=79,slow=39					
SCHQ	**Schefferville**	**26.06 272**	P	**P**	**05 58 35.6**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=53,slow=11,SNR=12					
	comp=Z,2.0nm,0.6s					
ESDC	**Sonseca Array**	**26.20 156**	P	**P**	**05 58 36.5**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=353,slow=8.6,SNR=2.1					
ESDC			LR	LR	06 08 04.3	
	comp=Z,40nm,20.4s,baz=1.5,slow=35					
	comp=Z,0.6nm,0.8s					
AKASG	**Malin Array Be**	**27.81 98**	P	**P**	**05 58 51.4**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=324,slow=9.6,SNR=5.7					
	comp=Z,0.5nm,0.7s					
MDT	**Midelt**	**32.80 160**	LR	LR	06 13 08.3	
	comp=Z,87nm,18.0s,baz=4.5,slow=37					
BRTR	**Keskin Array B**	**38.45 105**	P	**P**	**06 00 24.9**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=343,slow=7.9,SNR=7.6					
	comp=Z,1.4nm,0.8s					
KBZ	**Khabaz**	**39.09 92**	P	**P**	**06 00 29.5**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=316,slow=12,SNR=5.9					
	comp=Z,1.8nm,0.8s					
YKA	**Yellowknife Ar**	**39.26 313**	P	**P**	**06 00 30.4**	**+1.0**
	comp=Z,0.3nm,0.9s,baz=43,slow=8.0,SNR=4.6					
YKA			PcP	**PcP**	**06 02 39.5**	**+1.7**
	comp=Z,0.5nm,1.0s,baz=62,slow=2.9,SNR=4.4					
	comp=Z,0.3nm,0.9s					
GNI	**Garni**	**42.80 94**	LR	LR	06 21 28.6	
	comp=Z,36nm,19.4s,baz=336,slow=40					
BVAR	**Borovoye Array**	**43.20 62**	P	**P**	**06 01 03.5**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=322,slow=9.4,SNR=7.5					
	comp=Z,1.8nm,0.8s					
ILAR	**Eielson Array**	**45.74 332**	P	**P**	**06 01 25.0**	**+3.0**
	comp=Z,1.1nm,1.0s,baz=20,slow=6.5,SNR=9.0					
ILAR			PcP	**PcP**	**06 03 01.0**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=16,slow=1.3,SNR=6.7					
	comp=Z,1.1nm,1.0s					
KURBB	**Kurchatov Arra**	**48.16 58**	P	**P**	**06 01 42.2**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=322,slow=7.6,SNR=15					
	comp=Z,1.5nm,0.8s					
MKAR	**Makanchi Array**	**52.73 58**	P	**P**	**06 02 18.4**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=317,slow=5.0,SNR=6.1					
	comp=Z,0.6nm,0.8s					
PDAR	**Pinedale Array**	**53.22 293**	P	**P**	**06 02 20.6**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=45,slow=4.9,SNR=10					
	comp=Z,1.1nm,0.8s					
SONM	**Songino Array**	**59.66 40**	P	**P**	**06 03 06.2**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=346,slow=5.2,SNR=2.5					
	comp=Z,0.3nm,0.3s					

*NNC **04** 05:55:15.3±2.8, 46°.82N×79°.62E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=24.8km s-min=12.2km az=35.0, Suspected Mining explosion.*

*SOME **04** 05:55:16.6, 47°.13N×79°.48E, h0km*
ISC 04 05:55:15.3±1.2, 47°.13N±0°.04×79°.70E±0°.07, h0km, n6, σ0.44/10, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.59**	**101**	⇑P	**Pn**	**05 55 44.8**	**+0.1**
	0.9nm,0.5s						
MAKZ				⇑S	**Sn**	**05 56 06.1**	**0.0**
	3.4nm,0.9s						
MK31	**Makanchi Array**	**1.81**	**100**	P	**Pb**	**05 55 49.2**	**-0.1**
	1.0nm,0.5s,baz=265,slow=14,SNR=55						
MK31				⇑S	**Sg**	**05 56 13.2**	**-0.2**
	0.6nm,0.3s,baz=272,slow=24,SNR=11						
DJR	**Jarkent**	**2.79**	**179**	*e*P	**Pg**	**05 56 09.2**	**+0.4**
	0.9nm,0.1s						
DJR				*e*S	**Sg**	**05 56 44.1**	**-0.9**
	1.3nm,0.1s						
KURBB	**Kurchatov Arra**	**3.58**	**348**	⇓Pg	**Pg**	**05 56 24.2**	**+0.3**
	0.4nm,0.6s						
KURBB				⇓Lg	Lg	05 57 21.1	
	5.3nm,0.8s						
KURK	**Kurchatov**	**3.66**	**349**	⇓Pg	**Pg**	**05 56 25.4**	**0.0**
	0.4nm,0.6s						
KURK				⇑Lg	Lg	05 57 20.2	
	5.5nm,1.0s						
KPKS	**Kokpek**	**3.73**	**191**	*e*P	**Pg**	**05 56 27.2**	**+0.4**
	0.7nm,0.1s						
KPKS				*e*S	**Sg**	**05 57 14.8**	**-0.2**
	0.9nm,0.2s						

*IDC **04** 06:02:30.3±1.9, 5°.12S×152°.57E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=69.7km s-min=30.6km az=102.0*
ISC 04 06:02:38.2±1.7, 5°.2S±0°.2×152°.5E±0°.4, h55km, n7, σ0.85/7, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.94**	**229**	P	**P**	**06 07 37.3**	**-0.6**
	0.2nm,0.4s,baz=53,slow=10,SNR=2.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**25.64**	**222**	P	**P**	**06 08 03.8**	**+0.9**
	0.4nm,0.9s,baz=50,slow=9.3,SNR=1.3						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**	**06 14 44.8**	**+0.9**
	0.2nm,0.5s,baz=94,slow=6.6,SNR=2.1						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**81.28**	**326**	P	**P**	**06 14 48.4**	**-0.1**
	1.2nm,0.8s,baz=93,slow=6.2,SNR=3.8						
	1.2nm,0.8s						
QSPA	**South Pole Qui**	**84.78**	**180**	P	**P**	**06 15 06.5**	**+0.1**
	1.1nm,1.0s,baz=37,slow=5.1,SNR=1.9						
	1.1nm,1.0s						
BVAR	**Borovoye Array**	**89.34**	**323**	P	**P**	**06 15 28.5**	**-0.2**
	0.7nm,0.5s,baz=84,slow=6.1,SNR=3.8						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.10**	**287**	PKPbc	**PKPbc**	**06 22 23.0**	**-0.9**
	2.5nm,0.3s,baz=98,slow=3.9,SNR=1.3						

*MDD **04** 06:21:18.5±1.6, 36°.66N×12°.10W, h0km, Mb4.2/7, M_mb3.6/7, Error ellipse: s-maj=11.4km s-min=10.6km az=89.0*
*IGIL **04** 06:21:20.0, 36°.55N×12°.22W, h25km, ML1.8*
*INMG **04** 06:21:20.8±1.3, 36°.56N×12°.26W, h31km, ML2.1, Error ellipse: s-maj=7.9km s-min=5.2km az=83.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*
*CNRM **04** 06:21:28.0, 35°.60N×11°.56W, h63km*
ISC 04 06:21:13.0±1.8, 36°.26N±0°.04×12°.1W±0°.1, h10km, n44, σ3.27/53, 7C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.74**	**71**	*e*P	**Pb**	**06 22 01.0**	**-1.1**
PFVI				*e*S	**Sn**	**06 22 32.5**	**+2.2**
PFVI	**Vila Bisbo**	**2.74**	**71**	Pn	**Pb**	**06 22 01.0**	**-1.1**
PFVI				Sn	**Sn**	**06 22 32.2**	**+1.9**
MORF	**Marmelete**	**2.93**	**68**	*e*P	**Pb**	**06 22 04.0**	**-1.4**
MORF				*e*S	**Sn**	**06 22 36.1**	**+1.2**
MORF				IAML		06 22 37.9	
	comp=E,3.8nm,0.2s						
MORF	**Marmelete**	**2.93**	**68**	*e*P	**Pb**	**06 22 03.8**	**-1.5**
MORF				*e*S	**Sn**	**06 22 36.4**	**+1.5**
MORF				*i* AML	AML	06 22 46.8	
MORF				*i* AML	AML	06 22 49.1	
MORF				*i* AML	AML	06 22 49.2	
PTEO	**Sao Teotonio**	**2.97**	**63**	*e*S	**Sn**	**06 22 37.2**	**+1.4**
MESJ	**Messejana**	**3.46**	**62**	*e*S	**Sn**	**06 22 48.8**	**+1.0**
MESJ				*i* AML	AML	06 22 51.2	
MESJ				*i* AML	AML	06 22 51.4	
MESJ				*i* AML	AML	06 22 51.7	
PBDV	**Barranco-do-Ve**	**3.46**	**72**	*e*P	**Pb**	**06 22 12.0**	**-2.3**
PBDV				*e*S	**Sn**	**06 22 49.6**	**+1.6**
PBDV				*i* AML	AML	06 22 56.2	
PBDV				*i* AML	AML	06 23 03.3	
PBDV				*i* AML	AML	06 23 03.4	
PMAFR	**Mafra**	**3.48**	**39**	*e*S	**Sn**	**06 22 46.2**	**-2.2**
PMAFR				*i* AML	AML	06 22 46.8	
PMAFR				*i* AML	AML	06 22 47.0	
PMAFR				*i* AML	AML	06 22 47.1	
PMAFR	**Mafra**	**3.48**	**39**	Sn	**Sn**	**06 22 45.4**	**-3.1**
PCVE	**Castro Verde**	**3.50**	**66**	*e*P	**Pb**	**06 22 12.3**	**-2.7**
PCVE				*e*S	**Sn**	**06 22 49.8**	**+0.8**
PCVE				*i* AML	AML	06 22 52.5	
PCVE				*i* AML	AML	06 22 54.2	
PCVE				*i* AML	AML	06 22 56.0	
PCVE	**Castro Verde**	**3.50**	**66**	Pn	**Pn**	**06 22 10.9**	**+3.4**
PCVE				Sn	**Sn**	**06 22 48.7**	**-0.2**
PVAQ	**Vaqueiros**	**3.67**	**71**	*e*P	**Pb**	**06 22 14.4**	**-3.5**
PVAQ				*e*S	**Sn**	**06 22 56.5**	**+3.4**
PVAQ				*i* AML	AML	06 23 09.3	
PVAQ	**Vaqueiros**	**3.67**	**71**	Pn	Pn	06 22 14.2	+4.4
EGRO	**El Granado**	**3.88**	**70**	Pn	Pn	06 22 17.1	+4.4
EGRO	**El Granado**	**3.88**	**70**	Pn	Pn	06 22 17.1	+4.4
EGRO				⇑*i*Vmb_V		06 22 18.2	
	comp=E,166nm,SNR=1.5						
EGRO				Sn	**Sn**	**06 23 00.1**	**+1.7**
EVO	**Evora**	**3.94**	**54**	*e*S	**Sn**	**06 22 58.1**	**-1.7**
EVO				*i* AML	AML	06 22 59.3	
EVO				*i* AML	AML	06 23 00.6	
EVO				*i* AML	AML	06 23 00.6	
EVO	**Evora**	**3.94**	**54**	Sn	**Sn**	**06 22 57.5**	**-2.3**
PMTG	**Montargil**	**4.14**	**46**	*e*P	Pn	06 22 19.5	+3.2
PMTG				*e*S	**Sn**	**06 23 02.2**	**-2.4**
PMTG				*i* AML	AML	06 23 05.3	
PMTG				*i* AML	AML	06 23 07.3	
PMTG				*i* AML	AML	06 23 08.3	
PBAR	**Barrancos**	**4.44**	**63**	*e*S	**Sn**	**06 23 11.7**	**-0.5**
PBAR				*i* AML	AML	06 23 13.5	
PBAR				*i* AML	AML	06 23 15.4	
PBAR	**Barrancos**	**4.44**	**63**	Pn	**Pn**	**06 22 23.2**	**+2.8**
PBAR				Sn	**Sn**	**06 23 09.9**	**-2.2**
EMIN	**Mina Concepcio**	**4.57**	**69**	Pn	Pn	06 22 26.2	+4.1
EMIN				⇑*i*Vmb_V		06 22 29.9	
	comp=E,171nm,SNR=1.6						
EMIN				Sn	**Sn**	**06 23 16.8**	**+1.5**
PCAS	**Casmilo, Conde**	**4.71**	**36**	*e*P	**Pn**	**06 22 26.0**	**+1.8**
PCAS				*e*S	**Sn**	**06 23 15.1**	**-3.8**
EBAD	**Badajoz**	**4.72**	**57**	Pn	**Pn**	**06 22 27.3**	**+3.0**
EBAD				Sn	**Sn**	**06 23 17.2**	**-1.9**
EBAD	**Badajoz**	**4.72**	**57**	Pn	**Pn**	**06 22 27.3**	**+3.0**
EBAD				⇑*i*Vmb_V		06 22 30.9	
	comp=E,202nm,SNR=1.6						
EBAD				Sn	**Sn**	**06 23 17.3**	**-1.9**
PMRV	**Marv??o**	**4.86**	**48**	*e*P	**Pn**	**06 22 28.9**	**+2.7**
PMRV				*e*S	**Sn**	**06 23 19.2**	**-3.4**
PMRV				*i* AML	AML	06 23 21.2	
PMRV				*i* AML	AML	06 23 21.4	
PMRV				*i* AML	AML	06 23 23.1	
ZHG	**ZHG**	**5.27**	**121**	P	**Pn**	**06 22 34.4**	**+2.6**
ZHG	**ZHG**	**5.27**	**121**	S	**Sn**	**06 23 27.5**	**-5.2**
MTE	**Manteigas**	**5.45**	**39**	*e*S	**Sn**	**06 23 33.0**	**-4.0**
PVIS	**Viseu**	**5.52**	**35**	*e*S	**Sn**	**06 23 33.5**	**-5.3**
ECAB	**El Cabril**	**5.61**	**69**	Pn	Pn	06 22 40.6	+4.2
ECAB				Sn	**Sn**	**06 23 38.6**	**-2.3**
ECAB	**El Cabril**	**5.61**	**69**	Pn	Pn	06 22 40.7	+4.2
ECAB				⇑*i*Vmb_V		06 22 41.7	
	comp=E,223nm,SNR=1.6						
ECAB				Sn	**Sn**	**06 23 40.9**	**0.0**
EPLA	**Plasencia**	**6.05**	**49**	⇑*i*Vmb_V		06 22 47.5	
	comp=E,200nm,SNR=1.2						
EPLA				Sn	**Sn**	**06 23 48.7**	**-3.2**
POLO	**Lamas de Olo**	**6.10**	**32**	*e*S	**Sn**	**06 23 46.8**	**-6.3**
EADA	**Adamuz**	**6.27**	**70**	⇑*i*Vmb_V		06 22 56.2	
	comp=E,122nm,SNR=0.8						
EADA				Sn	**Sn**	**06 23 56.8**	**-0.5**
MVO	**Moncorvo**	**6.28**	**37**	*e*S	**Sn**	**06 23 52.1**	**-5.4**
ELOB	**Lobios**	**6.41**	**28**	⇑*i*Vmb_V		06 22 54.9	
	comp=E,290nm,SNR=0.7						
ELOB				Sn	**Sn**	**06 23 54.3**	**-6.4**
PGAV	**Gavieira, Arco**	**6.41**	**26**	*e*S	**Sn**	**06 23 53.8**	**-7.1**
TTIG	**Tnine Tigouga,**	**6.45**	**151**	P	**Pn**	**06 22 50.0**	**+1.8**
TTIG	**Tnine Tigouga,**	**6.45**	**151**	S	Sn	06 23 54.9	-7.0
MD31	**MD31**	**6.91**	**117**	P	**Pn**	**06 22 57.2**	**+2.8**
MD31	**MD31**	**6.91**	**117**	S	**Sn**	**06 24 08.1**	**-5.0**
PBRG	**Braganca**	**6.91**	**35**	*e*S	**Sn**	**06 24 06.6**	**-6.5**
MDT	**Midelt**	**7.05**	**117**	P	Pn	06 23 00.5	+4.2
MDT	**Midelt**	**7.05**	**117**	S	**Sn**	**06 24 12.2**	**-4.4**

*NOU **04** 06:33:31.3, 45°.50S×166°.13E, h121km, mb4.1/6, Off W. Coast of S. Island, N.Z.*
*WEL **04** 06:33:36.4±1.0, 45°.S±5°.×16°.7E±°, h12km, M3.5/7, ML3.6/8, MLv3.5/7, Error ellipse: s-maj=8.1km s-min=6.7km az=111.1, confirmed*
ISC 04 06:33:37.3±1.5, 45°.35S±0°.04×166°.82E±0°.07, h22km±10km, n39, σ1.04/40, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.26**	**116**	P	**Pb**	**06 33 43.6**	**+0.1**
DCZ				S	**Sb**	**06 33 48.0**	**+0.2**
TAFS	**Te Anau Fire S**	**0.64**	**96**	P	**Pb**	**06 33 48.3**	**-1.5**
TAFS				S	**Sb**	**06 33 57.9**	**-0.4**
PYZ	**Puysegur Point**	**0.82**	**187**	P	**Pb**	**06 33 51.6**	**-1.3**
PYZ	**Puysegur Point**	**0.82**	**187**	P	**Pb**	**06 33 51.5**	**-1.3**
PYZ				S	**Sn**	**06 34 06.3**	**+1.4**
MLZ	**Mavora Lakes**	**0.92**	**91**	P	**Pb**	**06 33 54.0**	**-0.5**
MLZ				S	**Sn**	**06 34 06.8**	**-0.5**
WHZ	**Wether Hill Ro**	**0.96**	**125**	P	**Pb**	**06 33 54.7**	**-0.5**
WHZ				S	**Sn**	**06 34 07.7**	**-0.6**
MSZ	**Milford Sound**	**1.04**	**50**	P	**Pb**	**06 33 54.4**	**-2.2**
MOSS	**Mossburn Schoo**	**1.05**	**108**	P	**Pb**	**06 33 56.6**	**-0.1**
QTPS	**Queenstown Pol**	**1.34**	**77**	P	**Pn**	**06 34 00.9**	**+0.2**
WKZ	**Wanaka**	**1.64**	**72**	P	**Pn**	**06 34 05.7**	**+0.9**
WKZ				S	Sn	06 34 26.1	+0.9
APZ	**The Paps**	**1.69**	**152**	P	**Pb**	**06 34 06.7**	**-1.0**
EAZ	**Earnscleugh**	**1.76**	**87**	P	**Pn**	**06 34 07.3**	**+0.9**
JCZ	**Jackson Bay**	**1.90**	**48**	P	**Pb**	**06 34 10.6**	**-0.6**
JCZ	**Jackson Bay**	**1.90**	**48**	P	**Pn**	**06 34 09.0**	**+0.6**
SYZ	**Scrubby Hill**	**2.01**	**127**	P	**Pn**	**06 34 10.2**	**+0.4**
SYZ	**Scrubby Hill**	**2.01**	**127**	P	**Pn**	**06 34 10.4**	**+0.6**
TUZ	**Tuapeka**	**2.06**	**108**	P	**Pn**	**06 34 11.3**	**+0.7**
LBZ	**Lake Benmore**	**2.58**	**69**	P	**Pn**	**06 34 17.6**	**-0.1**
HHSZ	**Highcliff Hill**	**2.71**	**103**	P	**Pn**	**06 34 19.9**	**+0.5**
ODZ	**Otahua Downs**	**2.72**	**85**	P	**Pn**	**06 34 19.3**	**-0.3**
ODZ	**Otahua Downs**	**2.72**	**85**	P	**Pn**	**06 34 19.4**	**-0.2**
FOZ	**Fox Glacier**	**2.81**	**51**	P	**Pn**	**06 34 21.4**	**+0.6**
TMZ	**Timaru**	**3.13**	**73**	P	Pn	06 34 24.5	-0.8
GCSZ	**Gaunt Creek Bo**	**3.24**	**52**	P	**Pn**	**06 34 27.1**	**+0.5**
ARCZ	**Arundel**	**3.41**	**67**	P	Pn	06 34 28.1	-1.1
RPZ	**Rata Peaks**	**3.44**	**63**	P	Pn	06 34 28.9	-0.6
RPZ	**Rata Peaks**	**3.44**	**63**	P	**Pn**	**06 34 29.9**	**+0.4**
WVZ	**Waitaha Valley**	**3.62**	**52**	P	**Pn**	**06 34 32.6**	**+0.6**
WACZ	**Wakanui South**	**3.85**	**70**	P	Pn	06 34 34.2	-0.9
MHCZ	**Mount Hutt**	**3.86**	**64**	P	**Pn**	**06 34 35.4**	**+0.1**
INZ	**Inchbonnie**	**4.24**	**53**	P	**Pn**	**06 34 41.9**	**+1.4**
MQZ	**McQueen's Vall**	**4.48**	**71**	P	**Pn**	**06 34 43.9**	**+0.1**
LTZ	**Lake Taylor**	**4.69**	**59**	P	**Pn**	**06 34 48.0**	**+1.2**
DSZ	**Denniston Nort**	**5.11**	**47**	P	**Pn**	**06 34 52.4**	**-0.1**
THZ	**Tophouse**	**5.69**	**53**	P	**Pn**	**06 35 01.7**

SMCA	**Catarina**	**0.71**	**41**	*i* P			06 48 08.1
SMCA				*i* S			06 48 17.6
PATR	**El Naranjo**	**0.86**	**21**	*eP*		**Pn**	**06 48 10.0 -1.6**
PATR				*eS*		**Sn**	**06 48 20.6 -2.6**
RTAL	**Retalhuleu**	**0.86**	**76**	*eP*		**Pn**	**06 48 10.5 -0.9**
RTAL				*eS*		**Sn**	**06 48 21.1 -1.8**
RTAL	**Retalhuleu**	**0.86**	**76**	*eP*		**Pn**	**06 48 10.4 -0.9**
RTAL				*eS*		**Sn**	**06 48 20.6 -2.3**
RTAL	**Retalhuleu**	**0.86**	**76**	S		**Sn**	**06 48 22.1 -0.8**
RTAL	**Retalhuleu**	**0.86**	**76**	⇑P		**Pn**	**06 48 10.5 -0.9**
RTAL	**Retalhuleu**	**0.86**	**76**	P		**Pn**	**06 48 10.5 -0.9**
RTAL	**Retalhuleu**	**0.86**	**76**	S		**Sn**	**06 48 21.7 -1.2**
RTAL	**Retalhuleu**	**0.86**	**76**	P		**Pn**	**06 48 10.7 -0.7**
CHUJ	**Union Juarez**	**0.89**	**29**	*eP*		**Pn**	**06 48 10.1 -1.9**
CHUJ				*eS*		**Sn**	**06 48 21.8 -2.2**
PAVE	**Pavencul**	**0.95**	**23**	*eP*		**Pn**	**06 48 11.5 -1.4**
PAVE				*eS*		**Sn**	**06 48 23.5 -1.9**
STG8	**El Palmar, Qui**	**1.17**	**83**	*i* P			06 48 12.3
STG8				*i* S			06 48 25.4
STG0	**El Palmar, Qui**	**1.18**	**84**	*i* P			06 48 12.4
STG0				*eS*			06 48 25.5
SOKI	**Kika Raxquin**	**1.22**	**66**	*eP*		**Pn**	**06 48 16.1 -0.7**
SOKI				*eS*		**Sn**	**06 48 31.5 -0.8**
SOKI	**Kika Raxquin**	**1.22**	**66**	*eP*			06 48 16.1
SOKI				*eS*			06 48 31.5
HUEH	**Huehuetenango**	**1.43**	**45**	*eP*		**Pn**	**06 48 19.3 0.0**
HUEH				*i* S		**Sn**	**06 48 35.7 -1.4**
HUEH	**Huehuetenango**	**1.43**	**45**	*eP*		**Pn**	**06 48 18.9 -0.5**
HUEH	**Huehuetenango**	**1.43**	**45**	⇑P		**Pn**	**06 48 19.3 0.0**
HUEH	**Huehuetenango**	**1.43**	**45**	P		**Pn**	**06 48 19.0 -0.4**
HUEH	**Huehuetenango**	**1.43**	**45**	S		**Sn**	**06 48 37.3 +0.2**
HUEH	**Huehuetenango**	**1.43**	**45**	P		**Pn**	**06 48 19.4 0.0**
HUEH	**Huehuetenango**	**1.43**	**45**	P		**Pn**	**06 48 19.6 +0.3**
HUEH	**Huehuetenango**	**1.43**	**45**	*i* P		**Pn**	**06 48 19.2 0.0**
HUEH	**Huehuetenango**	**1.43**	**45**	*i* P			06 48 19.2
ESSG	**Sabana Grande**	**1.67**	**87**	*i* P		**Pn**	**06 48 21.5 -1.1**
ESSG				*i* S		**Sn**	**06 48 40.0 -2.9**
ESSG	**Sabana Grande**	**1.67**	**87**	*i* P			06 48 21.5
ESSG				*i* S			06 48 40.0
QUIS	**Sacapulas**	**1.72**	**55**	*i* P		**Pn**	**06 48 23.8 +0.5**
QUIS				*i* S		**Sn**	**06 48 45.5 +1.4**
QUIS	**Sacapulas**	**1.72**	**55**	*i* P			06 48 23.8
QUIS				*i* S			06 48 45.5
FG8	**Yepocapa, Chim**	**1.93**	**91**	*eP*			06 48 20.2
FG8				*eS*			06 48 38.1
CCIG	**Comitan**	**2.00**	**12**	*eP*		**Pn**	**06 48 28.3 +1.1**
CCIG				*i* S		**Sn**	**06 48 51.7 +0.7**
CCIG	**Comitan**	**2.00**	**12**	*i* P		**Pn**	**06 48 28.4 +1.1**
CCIG				*i* S		**Sn**	**06 48 51.8 +0.7**
CCIG	**Comitan**	**2.00**	**12**	*i* P			06 48 28.4
CCIG				*i* S			06 48 51.8
APG	**El Apazote**	**2.14**	**71**	P		**Pn**	**06 48 29.1 -0.1**
	12nm,0.3s,baz=198,slow=13,SNR=123						
APG				S		**Sn**	**06 48 55.8 +1.2**
	50nm,0.7s,baz=200,slow=13,SNR=9.1						
APG	**El Apazote**	**2.14**	**71**	*i* P		**Pn**	**06 48 29.0 -0.1**
APG				*i* S		**Sn**	**06 48 56.7 +2.1**
APG	**El Apazote**	**2.14**	**71**	*i* P			06 48 29.0
APG				*i* S			06 48 56.7
CARR	**Arriaga**	**2.33**	**326**	*eP*		**Pn**	**06 48 31.9 +0.4**
CARR				*i* S		**Sn**	**06 48 59.7 +0.8**
TGBT	**Tuxtla Gutierr**	**2.50**	**348**	*eP*		**Pn**	**06 48 36.4 +2.5**
TGBT				*eS*		**Sn**	**06 49 02.4 -0.8**
TGIG		**2.51**	**347**	*eP*		**Pn**	**06 48 34.0 -0.2**
TGIG				*eS*		**Sn**	**06 49 02.2 -1.3**
TGIG		**2.51**	**347**	*i* P		**Pn**	**06 48 33.8 -0.3**
TGIG		**2.51**	**347**	*i* P			06 48 33.8
SLOZ	**Alcaldia de Sa**	**2.70**	**96**	*eP*		**Pn**	**06 48 35.7 -1.0**
SLOZ	**Alcaldia de Sa**	**2.70**	**96**	P		**Pn**	**06 48 36.6 -0.1**
SLOZ	**Alcaldia de Sa**	**2.70**	**96**	S		**Sn**	**06 49 08.0 -0.2**
SLOZ	**Alcaldia de Sa**	**2.70**	**96**	⇑P		**Pn**	**06 48 37.1 +0.4**
SLOZ	**Alcaldia de Sa**	**2.70**	**96**	S		**Sn**	**06 49 07.8 -0.5**
SLOZ	**Alcaldia de Sa**	**2.70**	**96**	P		**Pn**	**06 48 37.1 +0.4**
LOAL	**Lomas de Alarc**	**2.71**	**96**	S		**Sn**	**06 49 08.8 +0.4**
LOAL	**Lomas de Alarc**	**2.71**	**96**	⇓P		**Pn**	**06 48 37.0 +0.2**
LOAL	**Lomas de Alarc**	**2.71**	**96**	P		**Pn**	**06 48 37.4 +0.6**
LOAL	**Lomas de Alarc**	**2.71**	**96**	P		**Pn**	**06 48 37.3 +0.4**
LOAL	**Lomas de Alarc**	**2.71**	**96**	S		**Sn**	**06 49 06.7 -1.8**
NUBE	**Las Nubes**	**2.72**	**98**	*eP*		**Pn**	**06 48 36.3 -0.8**
NUBE	**Las Nubes**	**2.72**	**98**	S		**Sn**	**06 49 07.4 -1.5**
NUBE	**Las Nubes**	**2.72**	**98**	⇓P		**Pn**	**06 48 37.4 +0.3**
NUBE	**Las Nubes**	**2.72**	**98**	S		**Sn**	**06 49 06.7 -2.3**
NUBE	**Las Nubes**	**2.72**	**98**	P		**Pn**	**06 48 36.6 -0.5**
NUBE	**Las Nubes**	**2.72**	**98**	P		**Pn**	**06 48 36.6 -0.5**
NUBE	**Las Nubes**	**2.72**	**98**	*eP*		**Pn**	**06 48 36.5 -0.7**
NUBE				*i* S		**Sn**	**06 49 05.5 -3.4**
NUBE	**Las Nubes**	**2.72**	**98**	*eP*			06 48 36.5
NUBE				*i* S			06 49 05.5
RTR	**El Retiro**	**2.85**	**98**	*eP*		**Pn**	**06 48 39.3 +0.3**
RTR				*eS*		**Sn**	**06 49 11.2 -0.9**
SBLS	**San Blas**	**2.88**	**99**	*eP*		**Pn**	**06 48 39.0 -0.4**
CEVE	**Cerro Verde**	**2.88**	**99**	*eP*		**Pn**	**06 48 39.7 +0.3**
CEVE	**Cerro Verde**	**2.88**	**99**	P		**Pn**	**06 48 40.9 +1.5**
CEVE	**Cerro Verde**	**2.88**	**99**	S		**Sn**	**06 49 12.9 -0.1**
CEVE	**Cerro Verde**	**2.88**	**99**	⇑P		**Pn**	**06 48 40.0 +0.6**
CEVE	**Cerro Verde**	**2.88**	**99**	P		**Pn**	**06 48 40.1 +0.6**
CEVE	**Cerro Verde**	**2.88**	**99**	P		**Pn**	**06 48 40.1 +0.7**
CEVE	**Cerro Verde**	**2.88**	**99**	S		**Sn**	**06 49 11.8 -1.2**
UNIC	**Universidad Ca**	**2.94**	**96**	P		**Pn**	**06 48 41.3 +1.4**
UNIC	**Universidad Ca**	**2.94**	**96**	S		**Sn**	**06 49 12.9 -1.1**
UNIC	**Universidad Ca**	**2.94**	**96**	P		**Pn**	**06 48 40.5 +0.6**
UNIC	**Universidad Ca**	**2.94**	**96**	P		**Pn**	**06 48 39.8 -0.2**
UNIC	**Universidad Ca**	**2.94**	**96**	S		**Sn**	**06 49 13.3 -0.7**
NILT	**Santiago Nilte**	**2.99**	**319**	*eP*		**Pn**	**06 48 40.7 0.0**
NILT				*eS*		**Sn**	**06 49 13.7 -1.6**
JAYA	**Jayaque - finc**	**3.08**	**102**	*eP*		**Pn**	**06 48 41.0 -1.1**
JAYA				IAML			06 49 23.4
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**3.08**	**102**	P		**Pn**	**06 48 41.8 -0.3**
JAYA	**Jayaque - finc**	**3.08**	**102**	S		**Sn**	**06 49 15.8 -2.0**
JAYA	**Jayaque - finc**	**3.08**	**102**	⇓P		**Pn**	**06 48 41.2 -0.9**
JAYA	**Jayaque - finc**	**3.08**	**102**	P		**Pn**	**06 48 41.3 -0.8**
JAYA	**Jayaque - finc**	**3.08**	**102**	S		**Sn**	**06 49 16.0 -1.9**
JAYA	**Jayaque - finc**	**3.08**	**102**	P		**Pn**	**06 48 41.5 -0.6**
JAYA	**Jayaque - finc**	**3.08**	**102**	P		**Pn**	**06 48 41.8 -0.3**
JAYA	**Jayaque - finc**	**3.08**	**102**	*eP*		**Pn**	**06 48 41.2 -0.9**
JAYA				*i* S		**Sn**	**06 49 14.3 -3.5**
JAYA	**Jayaque - finc**	**3.08**	**102**	*eP*			06 48 41.2
JAYA				*i* S			06 49 14.3
MTO3	**Montecristo**	**3.10**	**88**	P		**Pn**	**06 48 41.8 -0.6**
MTO3	**Montecristo**	**3.10**	**88**	S		**Sn**	**06 49 23.0 +4.8**
MTO3	**Montecristo**	**3.10**	**88**	S		**Sn**	**06 49 22.0 +3.8**
MTO3	**Montecristo**	**3.10**	**88**	P		**Pn**	**06 48 41.9 -0.4**
ESQI	**Esquipulas**	**3.12**	**85**	*eP*		**Pn**	**06 48 43.5 +0.9**
PMON	**Piamonte**	**3.20**	**100**	*eP*		**Pn**	**06 48 43.0 -0.6**
PMON	**Piamonte**	**3.20**	**100**	P		**Pn**	**06 48 43.9 +0.2**
PMON	**Piamonte**	**3.20**	**100**	S		**Sn**	**06 49 20.0 -0.6**
PMON	**Piamonte**	**3.20**	**100**	⇓P		**Pn**	**06 48 43.8 +0.1**
PMON	**Piamonte**	**3.20**	**100**	P		**Pn**	**06 48 44.0 +0.4**
PMON	**Piamonte**	**3.20**	**100**	P		**Pn**	**06 48 44.6 +1.0**
PMON	**Piamonte**	**3.20**	**100**	P		**Pn**	**06 48 43.6 0.0**
PMON	**Piamonte**	**3.20**	**100**	S		**Sn**	**06 49 20.0 -0.6**
LALI	**Alcalda de L**	**3.25**	**104**	*eP**		**Pn**	**06 48 42.3 -1.8**
LALI	**Alcalda de L**	**3.25**	**104**	P		**Pn**	**06 48 43.4 -0.8**
LALI	**Alcalda de L**	**3.25**	**104**	S		**Sn**	**06 49 20.1 -1.4**
LALI	**Alcalda de L**	**3.25**	**104**	P		**Pn**	**06 48 43.7 -0.4**
LALI	**Alcalda de L**	**3.25**	**104**	P		**Pn**	**06 48 43.8 -0.3**
LALI	**Alcalda de L**	**3.25**	**104**	P		**Pn**	**06 48 43.7 -0.4**
LALI	**Alcalda de L**	**3.25**	**104**	S		**Sn**	**06 49 18.6 -3.0**
LALI	**Alcalda de L**	**3.25**	**104**	*eP*		**Pn**	**06 48 43.6 -0.5**
LALI	**Alcalda de L**	**3.25**	**104**	*eP*			06 48 43.6
UEES	**Universidad Ev**	**3.27**	**100**	*eP*		**Pn**	**06 48 44.7 +0.1**
UEES	**Universidad Ev**	**3.27**	**100**	P		**Pn**	**06 48 45.7 +1.1**
UEES	**Universidad Ev**	**3.27**	**100**	S		**Sn**	**06 49 24.9 +2.5**
UEES	**Universidad Ev**	**3.27**	**100**	P		**Pn**	**06 48 45.4 +0.8**
UEES	**Universidad Ev**	**3.27**	**100**	P		**Pn**	**06 48 45.7 +1.1**
UEES	**Universidad Ev**	**3.27**	**100**	S		**Sn**	**06 49 21.7 -0.7**
PANCS	**Alcalda de**	**3.35**	**102**	P		**Pn**	**06 48 46.0 +0.3**
PANCS	**Alcalda de**	**3.35**	**102**	S		**Sn**	**06 49 22.1 -2.1**
PANCS	**Alcalda de**	**3.35**	**102**	P		**Pn**	**06 48 45.8 +0.2**
PANCS	**Alcalda de**	**3.35**	**102**	S		**Sn**	**06 49 20.4 -3.9**
LOMA	**Loma Larga**	**3.35**	**101**	P		**Pn**	**06 48 46.0 +0.2**
LOMA	**Loma Larga**	**3.35**	**101**	S		**Sn**	**06 49 23.2 -1.2**
LOMA	**Loma Larga**	**3.35**	**101**	P		**Pn**	**06 48 46.4 +0.6**
LOMA	**Loma Larga**	**3.35**	**101**	P		**Pn**	**06 48 46.6 +0.9**
LOMA	**Loma Larga**	**3.35**	**101**	S		**Sn**	**06 49 23.3 -1.1**
UDBS	**Universidad Do**	**3.35**	**100**	P		**Pn**	**06 48 46.4 +0.7**
UDBS	**Universidad Do**	**3.35**	**100**	S		**Sn**	**06 49 23.8 -0.5**
UDBS	**Universidad Do**	**3.35**	**100**	P		**Pn**	**06 48 46.6 +0.9**
UDBS	**Universidad Do**	**3.35**	**100**	P		**Pn**	**06 48 46.4 +0.7**
UDBS	**Universidad Do**	**3.35**	**100**	S		**Sn**	**06 49 23.3 -1.0**
UXUV	**UXUV**	**3.36**	**333**	*eP*		**Pn**	**06 48 46.7 +1.0**
UXUV				*eS*		**Sn**	**06 49 23.5 -0.8**
CMIG	**Matias Romero**	**3.56**	**321**	P		**Pn**	**06 48 48.5 0.0**
	comp=Z,99nm,0.4s,baz=149,slow=13,SNR=90						
CMIG				S		**Sn**	**06 49 28.3 -0.9**
	comp=Z,51nm,0.3s,baz=102,slow=16,SNR=3.6						
CMIG	**Matias Romero**	**3.56**	**321**	*eP*		**Pn**	**06 48 48.6 +0.1**
CMIG				*eS*		**Sn**	**06 49 28.6 -0.7**
PAVA	**Las Pavas**	**3.56**	**99**	P		**Pn**	**06 48 48.4 -0.2**
PAVA	**Las Pavas**	**3.56**	**99**	S		**Sn**	**06 49 32.7 +3.1**
PAVA	**Las Pavas**	**3.56**	**99**	⇓P		**Pn**	**06 48 48.7 +0.1**
PAVA	**Las Pavas**	**3.56**	**99**	P		**Pn**	**06 48 49.8 +1.1**
PAVA	**Las Pavas**	**3.56**	**99**	P		**Pn**	**06 48 50.4 +1.8**
PAVA	**Las Pavas**	**3.56**	**99**	S		**Sn**	**06 49 35.3 +5.7**
PAVA	**Las Pavas**	**3.56**	**99**	P		**Pn**	**06 48 50.4 +1.8**
COEG	**Centro de Oper**	**3.63**	**101**	P		**Pn**	**06 48 50.6 +1.1**
COEG	**Centro de Oper**	**3.63**	**101**	S		**Sn**	**06 49 32.4 +1.1**
COEG	**Centro de Oper**	**3.63**	**101**	⇓P		**Pn**	**06 48 50.1 +0.5**
COEG	**Centro de Oper**	**3.63**	**101**	P		**Pn**	**06 48 50.2 +0.7**
COEG	**Centro de Oper**	**3.63**	**101**	P		**Pn**	**06 48 50.2 +0.7**
COEG	**Centro de Oper**	**3.63**	**101**	S		**Sn**	**06 49 32.6 +1.4**
PETF	**Flores**	**3.66**	**45**	*i* P			06 48 49.7
PETF	**Flores**	**3.66**	**45**	*eP*		**Pn**	**06 48 49.4 -0.5**
PETF				*i* S		**Sn**	**06 49 28.1 -3.7**
PETF	**Flores**	**3.66**	**45**	*eP*		**Pn**	**06 48 49.1 -0.7**
PETF	**Flores**	**3.66**	**45**	*i* P		**Pn**	**06 48 49.7 -0.1**
HUIG	**Huatulco**	**3.73**	**293**	*eP*		**Pn**	**06 48 50.8 0.0**
HUIG				*eS*		**Sn**	**06 49 28.2 -5.2**
HUIG	**Huatulco**	**3.73**	**293**	*i* P		**Pn**	**06 48 50.5 -0.2**
HUIG	**Huatulco**	**3.73**	**293**	*i* P			06 48 50.5
TECO	**Alcaldia de Te**	**3.75**	**101**	*eP*		**Pn**	**06 48 50.0 -1.0**
SCLA	**Alcaldia de Sa**	**3.76**	**99**	P		**Pn**	**06 48 51.3 +0.1**
SCLA	**Alcaldia de Sa**	**3.76**	**99**	S		**Sn**	**06 49 36.7 +2.3**
SCLA	**Alcaldia de Sa**	**3.76**	**99**	⇓P		**Pn**	**06 48 51.4 +0.1**
SCLA	**Alcaldia de Sa**	**3.76**	**99**	P		**Pn**	**06 48 51.5 +0.2**
SCLA	**Alcaldia de Sa**	**3.76**	**99**	P		**Pn**	**06 48 51.4 +0.1**
SCLA	**Alcaldia de Sa**	**3.76**	**99**	S		**Sn**	**06 49 36.7 +2.3**
PQSS	**Presa 15 de Se**	**3.94**	**100**	S		**Sn**	**06 49 38.9 +0.3**
PQSS	**Presa 15 de Se**	**3.94**	**100**	⇓P		**Pn**	**06 48 53.7 0.0**
PQSS	**Presa 15 de Se**	**3.94**	**100**	P		**Pn**	**06 48 54.7 +1.0**
PQSS	**Presa 15 de Se**	**3.94**	**100**	P		**Pn**	**06 48 56.5 +2.8**
PQSS	**Presa 15 de Se**	**3.94**	**100**	S		**Sn**	**06 49 39.2 +0.6**
PACA	**Pacayal**	**4.19**	**101**	P		**Pn**	**06 49 00.9 +3.6**
PACA	**Pacayal**	**4.19**	**101**	P		Pn	06 49 03.9 +6.6
PACA	**Pacayal**	**4.19**	**101**	P		**Pn**	**06 49 00.1 +2.8**
PACA	**Pacayal**	**4.19**	**101**	S		**Sn**	**06 49 47.3 +2.2**
NEUV	**Arroyo Zacate**	**4.60**	**318**	*eP*		**Pn**	**06 49 02.4 -0.3**
NEUV				*eS*		**Sn**	**06 49 51.6 -3.3**
CNCH	**Conchagua**	**4.70**	**102**	*eP*		**Pn**	**06 49 04.1 -0.2**
CNCH				IAML			06 50 07.6
	comp=Z,757nm,0.4s						
CNCH	**Conchagua**	**4.70**	**102**	P		**Pn**	**06 49 03.7 -0.6**
CNCH	**Conchagua**	**4.70**	**102**	P		**Pn**	**06 49 04.2 0.0**
CNCH	**Conchagua**	**4.70**	**102**	S		**Sn**	**06 49 59.4 +1.8**
CNCH	**Conchagua**	**4.70**	**102**	P		**Pn**	**06 49 04.3 0.0**
PEIG	**Puerto Escondi**	**4.74**	**291**	*eP*		**Pn**	**06 49 05.3 +0.6**
PEIG				*eS*		**Sn**	**06 49 53.3 -5.1**
SCIG	**Sabancuy**	**4.81**	**16**	*eP*		**Pn**	**06 49 04.8 -0.8**
SCIG				*eS*		**Sn**	**06 49 52.6 -7.5**
VHO	**Vista Hermosa**	**4.87**	**305**	*eP*		**Pn**	**06 49 07.5 +0.9**
VHO				*eS*		**Sn**	**06 49 59.0 -2.0**
PMUV	**Sontecomapan**	**4.88**	**330**	*eP*		**Pn**	**06 49 09.4 +2.8**
PMUV				*i* S		**Sn**	**06 49 54.2 -7.6**
CSGN	**Cosiguina Volc**	**5.04**	**105**	P		**Pn**	**06 49 10.0 +1.2**
CSGN	**Cosiguina Volc**	**5.04**	**105**	P		**Pn**	**06 49 10.5 +1.7**
CSGN	**Cosiguina Volc**	**5.04**	**105**	P		**Pn**	**06 49 09.3 +0.5**
CSGN				S		**Sn**	**06 50 04.6 -1.3**
POTN	**Potosi Cosigui**	**5.08**	**104**	P		**Pn**	**06 49 11.4 +2.1**
POTN	**Potosi Cosigui**	**5.08**	**104**	P		**Pn**	**06 49 12.2 +2.8**
YOIG	**Yosondua**	**5.43**	**298**	*eP*		**Pn**	**06 49 17.2 +2.7**
YOIG				*eS*		**Sn**	**06 50 14.9 -1.0**
TOIG	**Toxpalan**	**5.74**	**312**	*eP*		**Pn**	**06 49 18.7 +0.2**
TOIG				*eS*		**Sn**	**06 50 19.3 -3.8**
PNIG	**Pinotepa**	**5.76**	**292**	*eP*		**Pn**	**06 49 19.8 +1.1**
PNIG				*eS*		**Sn**	**06 50 16.8 -6.7**
TXIG	**Tlaxiaco**	**5.81**	**301**	*eP*		**Pn**	**06 49 22.0 +2.4**
TXIG				*eS*		**Sn**	**06 50 26.4 +1.3**
ROCN	**Rota Cerro Neg**	**5.93**	**107**	P		**Pn**	**06 49 18.3 -2.8**
ROCN	**Rota Cerro Neg**	**5.93**	**107**	S		Sn	06 50 36.4 +8.6
ROCN	**Rota Cerro Neg**	**5.93**	**107**	P		**Pn**	**06 49 19.3 -1.7**
ROCN				P			06 49 20.3
HLIG	**Huajuapan de L**	**6.14**	**305**	*eP*		**Pn**	**06 49 27.2 +3.1**
HLIG				*eS*		**Sn**	**06 50 32.7 -0.5**
LIMN	**Finca el Limon**	**6.14**	**101**	P		**Pn**	**06 49 24.7 +0.7**
LIMN	**Finca el Limon**	**6.14**	**101**	P		**Pn**	**06 49 25.5 +1.5**
LIMN	**Finca el Limon**	**6.14**	**101**	P		**Pn**	**06 49 25.3 +1.2**
TPIG	**Tehuac#an**	**6.16**	**312**	*eP*		**Pn**	**06 49 22.7 -1.6**
TPIG				*eS*		**Sn**	**06 50 27.1 -6.6**
COPN	**Copaltepe**	**6.18**	**109**	P		**Pn**	**06 49 22.6 -1.9**
COPN	**Copaltepe**	**6.18**	**109**	P		**Pn**	**06 49 25.6 +1.2**
COPN	**Copaltepe**	**6.18**	**109**	P		**Pn**	**06 49 25.7 +1.2**
SAPS	**Ciudad Sandino**	**6.36**	**109**	P		Pn	06 49 32.1 +5.2
SAPS	**Ciudad Sandino**	**6.36**	**109**	S		**Sn**	**06 50 45.5 +7.3**
SAPS	**Ciudad Sandino**	**6.36**	**109**	P		Pn	06 49 36.8 +10
FTIG	**Fresnillo de T**	**6.44**	**304**	*eP*		**Pn**	**06 49 30.7 +2.6**
FTIG				*eS*		**Sn**	**06 50 37.6 -2.9**
JAUV	**Jalcomulco**	**6.46**	**322**	*eP*		**Pn**	**06 49 26.4 -2.0**
JAUV				*eS*		**Sn**	**06 50 35.4 -5.5**
UNAN	**Cigeo UNAN**	**6.50**	**109**	P		**Pn**	**06 49 30.7 +1.8**
UNAN				S		**Sn**	**06 50 48.4 +6.6**
UNAN	**Cigeo UNAN**	**6.50**	**109**	P		Pn	06 49 36.9 +8.0
LVIG	**Laguna Verde**	**6.53**	**326**	*eP*		**Pn**	**06 49 26.5 -2.6**
LVIG				*eS*		**Sn**	**06 50 37.3 -5.0**
MGIG	**Malinaltepec**	**6.53**	**297**	*eP*		**Pn**	**06 49 32.1 +2.6**
MGIG				*eS*		**Sn**	**06 50 40.0 -2.9**
POHV	**Veracruz**	**6.55**	**317**	*eP*		**Pn**	**06 49 30.4 +0.5**
POHV				*eS*		**Sn**	**06 50 40.2 -3.4**
TLIG	**Tlapa**	**6.62**	**300**	*eP*		Pn	06 49 23.7 -7.0
TLIG				*eS*		**Sn**	**06 50 46.7 +1.7**
CRIG	**Cruz Grande**	**6.78**	**292**	*eP*		**Pn**	**06 49 34.3 +1.6**
CRIG				*eS*		**Sn**	**06 50 42.1 -6.6**
BOAB	**BOACO BROADBAN**	**6.96**	**105**	P		**Pn**	**06 49 34.7 -0.5**
BOAB	**BOACO BROADBAN**	**6.96**	**105**	P		**Pn**	**06 49 36.4 +1.2**
BOAB	**BOACO BROADBAN**	**6.96**	**105**	P		**Pn**	**06 49 35.5 +0.4**
BOAB	**BOACO BROADBAN**	**6.96**	**105**	S		Sn	06 51 05.3 +12
TEIG	**Tepich**	**7.16**	**34**	P		**Pn**	**06 49 36.6 -1.2**
	baz=231,slow=20,SNR=31						
TEIG				S		**Sn**	**06 50 53.6 -4.3**
	baz=272,slow=24,SNR=1.6						
PBCV	**Popocatepetl**	**7.39**	**310**	*eP*		Pn	06 49 46.0 +4.5
PBCV				*eS*		**Sn**	**06 51 06.8 +2.6**
PBXN	**Popocatepetl**	**7.48**	**309**	*eP*		Pn	06 49 47.6 +4.8
PBXN				*eP*			06 49 47.7
PBXN				*i* S		**Sn**	**06 51 05.6 -1.0**
PPM	**Popocatepetl**	**7.50**	**310**	*eP*		Pn	06 49 48.0 +5.0
PPM				*i* S		**Sn**	**06 51 05.3 -1.6**
CXUV	**Coxquihui**	**7.55**	**321**	*eP*		**Pn**	**06 49 42.5 -0.9**
CXUV				*eS*		**Sn**	**06 51 04.3 -3.4**
YAIG	**Yautepec**	**7.71**	**307**	*eP*		**Pn**	**06 49 48.6 +3.0**
YAIG				*eS*		**Sn**	**06 51 10.8 -0.8**
PLIG	**Platanillo**	**7.80**	**302**	*eP*		**Pn**	**06 49 50.3 +3.5**
MPVM	**San Francisco**	**7.86**	**309**	*eP*		Pn	06 49 53.9 +6.1
MAVM	**Malinalco, Edo**	**8.10**	**306**	*e*		Pn	06 49 40.4 -11
MAVM				*e*			06 51 13.8
AOVM	**Tlapan**	**8.14**	**308**	*eP*		**Pn**	**06 49 54.5 +2.7**
JTS	**Las Juntas de**	**8.44**	**117**	P		**Pn**	**06 49 57.5 +2.0**
	comp=Z,2.3nm,0.3s,baz=283,slow=14,SNR=10						
JTS				S		**Sn**	**06 51 23.1 -6.3**
	comp=Z,2.3nm,0.4s,baz=105,slow=23,SNR=1.2						
ARIG	**Puente Sto Nin**	**8.46**	**299**	*eP*		Pn	06 50 03.9 +8.1
EZ5V		**11.75**	**297**	*eP*		**Pn**	**06 50 37.6 -3.5**
MNGA	**Volcan de Coli**	**11.76**	**297**	*eP*		**Pn**	**06 50 43.2 +2.0**
INCO	**Volcan de Coli**	**11.77**	**298**	*eP*		**Pn**	**06 50 42.5 +1.0**
SOMAC	**Volcano de Col**	**11.79**	**298**	*eP*		Pn	06 50 50.2 +8.4
CEGR	**Campo Tres**	**11.94**	**297**	*eP*		Pn	06 50 48.2 +4.7
TXAR	**Lajitas Array**	**18.14**	**327**	P		**P**	**06 52 05.7 +1.3**
	comp=Z,1.4nm,0.8s,baz=139,slow=12,SNR=7.5						
NVAR	**Mina Array Bea**	**33.09**	**321**	P		**P**	**06 54 28.3 +0.6**
	comp=Z,0.8nm,0.6s,baz=131,slow=8.6,SNR=5.1						
	comp=Z,0.8nm,0.6s						
SCHQ	**Schefferville**	**45.12**	**21**	LR		LR	07 14 54.8
	comp=Z,41nm,18.2s,baz=4.5,slow=36						
YKA	**Yellowknife Ar**	**50.60**	**347**	P		**P**	**06 56 48.3 -1.5**
	comp=Z,0.5nm,0.7s,baz=157,slow=7.6,SNR=12						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**62.34**	**337**	P		**P**	**06 58 12.5 -0.8**
	comp=Z,0.3nm,0.9s,baz=107,slow=7.3,SNR=2.9						
	comp=Z,0.3nm,0.9s						

IDC 04 06:50:59.9±2.2, 7°.05N×126°.36E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=214.6km s-min=23.2km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.95**	**164**	P	P	P	06 56 52.1	-0.1
	0.3nm,0.7s,baz=344,slow=9.9,SNR=2.0							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**31.41**	**167**	P	P	P	06 57 23.2	+0.3
	0.1nm,0.4s,baz=338,slow=6.8,SNR=6.7							
ASAR				PcP	PcP	PcP	07 00 16.0	-0.7
	0.2nm,0.4s,baz=355,slow=2.8,SNR=1.8							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**54.65**	**324**	P	P	P	07 00 31.0	+0.4
	0.3nm,0.4s,baz=112,slow=7.4,SNR=6.2							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**58.77**	**326**	P	P

1.2nm,0.3s,baz=355,slow=28,SNR=16
1.0nm,0.3s
I46RU ZALESOVO INFRA 4.50 22 I I 07 52 30.0
baz=205,slow=318,SNR=6.8
ZALV Zalesovo Beam 4.50 22 Pn **Pb 07 27 29.8 +0.3**
0.1nm,0.3s,baz=212,slow=14,SNR=2.5
ZALV Lg Lg 07 28 42.4
0.2nm,0.3s,baz=196,slow=26,SNR=9.2
0.5nm,0.3s

IDC 04 07:27:19.7±3.2, 32°.39S×178°.36W, h0km, mb3.5/2, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=78.6km s-min=48.6km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.93**	**211**	Pn	Pn	07 29 01.8	-0.7
	0.4nm,0.3s,baz=57,slow=14,SNR=1.5						
URZ				Sn	Sn	07 30 16.6	-5.4
	1.6nm,0.3s,baz=336,slow=20,SNR=9.3						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**42.73**	**269**	P	P	07 35 19.0	+0.1
	0.4nm,0.6s,baz=114,slow=8.5,SNR=4.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.90**	**274**	P	P	07 35 28.3	-0.1
	0.3nm,0.4s,baz=114,slow=8.3,SNR=2.7						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**146.89**	**339**	PKPbc	PKPbc	07 47 02.4	-0.9
	3.3nm,1.1s,baz=46,slow=4.2,SNR=4.2						

IDC 04 07:43:17.6±1.7, 54°.66N×83°.74E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=14.5km s-min=10.2km az=7.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**138**	I	I	07 49 00.0	
	0.1nm,0.9s,baz=320,slow=333,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.95**	**138**	Pg	Pg	07 43 35.5	-0.4
	1.3nm,0.3s,baz=319,slow=18,SNR=12						
ZALV				Lg	Lg	07 43 49.9	
	5.4nm,0.3s,baz=317,slow=29,SNR=32						
KURBB	**Kurchatov Arra**	**5.14**	**220**	Pn	Pn	07 44 36.4	+0.6
	baz=41,slow=14,SNR=3.7						
KURBB				Lg	Lg	07 46 01.8	
	0.1nm,0.3s,baz=42,slow=30,SNR=4.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.93**	**187**	Pn	Pn	07 45 14.1	0.0
	0.1nm,0.3s,baz=16,slow=13,SNR=2.2						
MKAR				Sn	Sn	07 46 41.9	-2.5
	0.2nm,0.3s,baz=16,slow=25,SNR=2.5						
MKAR				Lg	Lg	07 47 29.8	
	baz=16,slow=27,SNR=3.5						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**8.06**	**264**	Pn	Pn	07 45 14.8	-1.1
	baz=77,slow=15,SNR=3.6						
	0.5nm,0.4s						

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*SJA **04** 08:20:52.4±0.7, 23°.05S×66°.47W, h254km±4km, ML3.6, MW3.5*
*GUC **04** 08:21:34.9±0.6, 23°.93S×67°.68W, h10km, ML2.9*

ISC 04 08:20:53.3±2.0, 23°.09S±0°.05×66°.57W±0°.06, h241km±14km, n29, σ1°.80/42, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**1.15**	**169**	‖ *i* P	**Pn**	**08 21 29.0**	**+0.1**
YJA	**Yavi**	**1.33**	**47**	‖ *i* P	**Pn**	**08 21 30.5**	**+0.4**
YJA				*e*S	**S**	**08 21 56.4**	**-2.5**
YJA	**Yavi**	**1.33**	**47**	*e*P	**Pn**	**08 21 30.9**	**+0.8**
YJA				*e*S	**S**	**08 21 58.4**	**-0.4**
AF01	**San Pedro de A**	**1.49**	**275**	*e*P	**Pn**	**08 21 32.2**	**+1.2**
AF01	**San Pedro de A**	**1.49**	**275**	*e*P	**Pn**	**08 21 32.8**	**+1.7**
AF01				*e*S	**S**	**08 22 01.9**	**+1.4**
SLA	**San Lorenzo**	**1.89**	**149**	*i* P	**Pn**	**08 21 34.8**	**+0.6**
SLA				*i* S	**S**	**08 22 05.4**	**-1.0**
SLA	**San Lorenzo**	**1.89**	**149**	*e*P	**Pn**	**08 21 34.9**	**+0.6**
SLA				*e*S	**S**	**08 22 06.2**	**-0.2**
PB09	**IPOC Station P**	**2.79**	**297**	*e*P	**S**	**08 22 18.8**	**-3.5**
PB09				IAML		08 22 26.3	
	comp=E,31nm,0.2s						
PB09	**IPOC Station P**	**2.79**	**297**	⇑ *i* P	**Pn**	**08 21 44.9**	**+1.8**
PB09	**IPOC Station P**	**2.79**	**297**	*e*P	**Pn**	**08 21 45.0**	**+1.8**
PB09				*e*S	**S**	**08 22 25.1**	**+2.8**
PB06	**IPOC Station P**	**2.79**	**277**	*e*P	S	08 22 11.0	-11
PB06				IAML		08 22 23.7	
	comp=E,136nm,0.1s						
PB06	**IPOC Station P**	**2.79**	**277**	*e*P	**Pn**	**08 21 44.2**	**+1.0**
PB06				*e*S	**S**	**08 22 21.3**	**-1.1**
PB06				IAML		08 22 25.5	
	comp=N,127nm,0.1s						
PB06	**IPOC Station P**	**2.79**	**277**	*e*P	**Pn**	**08 21 44.4**	**+1.2**
PB06				*e*S	**S**	**08 22 22.5**	**+0.1**
PB06				IAML		08 22 25.7	
	comp=Z,64nm,0.1s						
FSA	**Cafayete**	**3.06**	**170**	*e*P	**Pn**	**08 21 46.7**	**+0.7**
PB03	**IPOC Station P**	**3.12**	**289**	*e*P	S	08 22 20.2	-8.7
PB03				IAML		08 22 28.4	
	comp=E,69nm,0.2s						
PB03	**IPOC Station P**	**3.12**	**289**	⇑ *i* P	**Pn**	**08 21 47.7**	**+0.9**
PB03				IAML		08 22 28.5	
	comp=E,72nm,0.2s						
PB03	**IPOC Station P**	**3.12**	**289**	*e*P	**Pn**	**08 21 47.7**	**+0.9**
PB03				*e*S	**S**	**08 22 27.4**	**-1.4**
PB03				IAML		08 22 31.0	
	comp=Z,93nm,0.1s						
PB01	**IPOC Station P**	**3.39**	**306**	*e*P	**S**	**08 22 28.3**	**-5.9**
PB01	**IPOC Station P**	**3.39**	**306**	⇑ *i* P	**Pn**	**08 21 51.0**	**+1.2**
PB01	**IPOC Station P**	**3.39**	**306**	*e*P	**Pn**	**08 21 50.9**	**+1.2**
PB01				*e*S	**S**	**08 22 33.2**	**-1.0**
PB01				IAML		08 22 35.7	
	comp=Z,68nm,0.2s						
GO02	**Mina Guanaco**	**3.44**	**233**	*e*P	**Pn**	**08 21 51.3**	**+0.7**
GO02	**Mina Guanaco**	**3.44**	**233**	*e*P	**Pn**	**08 21 50.8**	**+0.3**
GO02				*e*S	**S**	**08 22 35.1**	**-0.6**
PB08	**IPOC Station P**	**3.79**	**320**	*e*P	**Pn**	**08 21 56.7**	**+1.9**
PB08				*e*S	**S**	**08 22 44.2**	**+0.9**
PB08				IAML		08 22 46.4	
	comp=Z,38nm,0.5s						
TA01	**Diego Aracena**	**4.19**	**306**	*e*P	**Pn**	**08 21 59.4**	**+0.3**
TA01				*e*S	**S**	**08 22 49.8**	**-1.3**
TA01				IAML		08 22 51.5	
	comp=Z,36nm,0.2s						
PB11	**IPOC Station P**	**4.39**	**318**	*e*P	**Pn**	**08 22 01.8**	**+0.2**
PB11				*e*S	**S**	**08 22 53.8**	**-1.8**
PB11				IAML		08 22 55.2	
	comp=Z,78nm,0.2s						
AC02	**Maricunga**	**4.39**	**211**	*e*P	**Pn**	**08 22 03.1**	**+1.2**
AC02				*e*S	**S**	**08 22 55.2**	**-1.0**
AC01	**Pan de Azucar**	**4.76**	**229**	*e*P	Pn	08 21 48.5	-17
AC01				*e*S	**S**	**08 23 00.1**	**-3.5**
AC01				IAML		08 23 01.8	
	comp=Z,32nm,0.2s						
GUSE	**Guasayan**	**5.02**	**162**	*e*P	**Pn**	**08 22 11.3**	**+2.2**
GUSE				*e*S	S	08 22 57.6	-12
CYA	**Choya**	**5.37**	**173**	*e*P	**Pn**	**08 22 15.3**	**+1.8**

HEL 04 08:29:30.9±0.4, 67°.82N×20°.06E, h0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.77**	**72**	PG	Pg	08 29 44.8	-0.8
LANU				SG	Sg	08 29 54.1	-1.4
KIF	**Kilpisjarvi**	**1.22**	**13**	PN	Pn	08 29 55.1	-0.1
KIF				MSG		08 30 09.0	
	comp=Z,1.6nm,0.2s						
KIF				SB	Sg	08 30 10.2	+0.1
HEF	**Hetta**	**1.47**	**65**	PG	Pn	08 29 57.9	-0.8
HEF				MSG		08 30 15.2	
	comp=Z,0.8nm,0.2s						
HEF				SG	Sg	08 30 16.4	-1.8
ERTU	**Ertsjaerv**	**1.52**	**146**	PN	Pn	08 29 59.3	0.0
ERTU				SN	Sn	08 30 20.0	+0.3
KLF	**Kolari**	**1.61**	**110**	PG	Pn	08 30 00.5	-0.1
KLF				MSG		08 30 19.1	
	comp=Z,0.8nm,0.2s						
KLF				SN	Sn	08 30 21.8	-0.3
KTK1	**Kautokeino**	**1.68**	**43**	PN	Pb	08 30 02.6	-0.1
KTK1				SN	Sg	08 30 25.5	+0.8
KALU	**Kalix**	**2.36**	**145**	SG	Sb	08 30 45.2	+1.3
TOF	**Tornio**	**2.42**	**134**	PG	Pn	08 30 13.5	+1.8
	baz=313						
TOF				SN	Sn	08 30 41.5	-0.5
TOF				MSG		08 30 42.7	
	comp=Z,0.5nm,0.2s						
RNF	**Rovaniemi**	**2.62**	**115**	PB	Pb	08 30 16.8	-1.9
RNF				SB	Sb	08 30 49.8	-1.5
ARA0	**ARCESS Array S**	**2.63**	**47**	PG	Pb	08 30 16.9	-2.0
	baz=233						
ARA0				SB	Sn	08 30 49.4	+2.2
RAJF	**Raja-Jooseppi**	**3.16**	**74**	SG	Sb	08 31 08.3	+1.6
KEV	**Kevo**	**3.19**	**49**	SN	Sn	08 31 01.2	+0.4
OUF	**Merijarvi**	**3.96**	**149**	SB	Sb	08 31 25.1	-4.6
UMAU	**Umeaa**	**3.96**	**176**	PN	Pn	08 30 31.0	-1.8
MSF	**Maaselka**	**4.03**	**114**	PN	Pn	08 30 32.4	-1.4

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*HEL **04** 08:30:33.2±0.1, 63°.96N×28°.17E, h0km, ML1.5, Suspected explosion*
*IDC **04** 08:30:34.4±1.9, 63°.92N×28°.24E, h0km, mbtmp2.9/2, ML1.4/1, Error ellipse: s-maj=44.4km s-min=10.7km az=96.0*

ISC 04 08:30:31.9±0.8, 63°.95N±0°.02×28°.18E±0°.03, h0km, n35, σ0°.88/56, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.58**	**197**	PG	**Pb**	**08 30 44.0**	**-1.0**
NIF				SG	**Sg**	**08 30 51.5**	**+0.9**
RMF	**Romuvaara**	**0.81**	**70**	PB	**Pb**	**08 30 48.6**	**-0.4**
RMF				MSG		08 30 58.6	
	comp=Z,3.7nm,0.2s						
RMF				SB	**Sb**	**08 30 59.4**	**-1.1**
OUL	**Oulu**	**1.51**	**320**	SB	**Sg**	**08 31 19.4**	**-1.0**
OUL	**Oulu**	**1.51**	**320**	PG	**Pb**	**08 31 00.6**	**-0.2**
OUL				SG	**Sg**	**08 31 19.4**	**-1.0**
SUF	**Sumiainen**	**1.54**	**218**	PG	**Pb**	**08 31 01.1**	**-0.1**
	baz=40						
SUF				MSG		08 31 19.6	
	comp=Z,1.4nm,0.2s						
SUF				SG	**Sg**	**08 31 21.4**	**+0.1**
OUF	**Merijarvi**	**1.57**	**287**	PG	**Pn**	**08 31 00.5**	**-0.5**
OUF				MSG		08 31 19.9	
	comp=Z,3.7nm,0.2s						
OUF				SG	**Sn**	**08 31 21.2**	**-0.8**
OBF4	**Vikkela, Lumij**	**1.60**	**304**	PG	**Pn**	**08 31 01.5**	**+0.1**
OBF4				MSG		08 31 20.6	
	comp=Z,3.2nm,0.2s						
OBF4				SG	**Sn**	**08 31 22.2**	**-0.5**
KU1	**Kurvinen**	**1.73**	**19**	PG	**Pb**	**08 31 04.1**	**-0.4**
KU1				SN	**Sb**	**08 31 26.6**	**-0.1**
JOF	**Joensuu**	**1.75**	**125**	*e*P	**Pb**	**08 31 04.8**	**0.0**
JOF	**Joensuu**	**1.75**	**125**	PG	**Pb**	**08 31 04.6**	**-0.2**
	baz=303						
JOF				SN	**Sg**	**08 31 28.4**	**+0.5**
KU2	**Taivalkoski**	**1.77**	**1**	SG	**Sg**	**08 31 28.5**	**-0.2**
KU2	**Taivalkoski**	**1.77**	**1**	PG	**Pb**	**08 31 04.9**	**-0.3**
KU2				SN	**Sg**	**08 31 28.5**	**-0.2**
OBF0	**Syolatti, Pyha**	**1.81**	**289**	PG	**Pb**	**08 31 05.4**	**-0.5**
OBF0				MSG		08 31 26.9	
	comp=Z,2.5nm,0.2s						
OBF0				SN	**Sb**	**08 31 28.5**	**-0.6**
MSF	**Maaselka**	**2.00**	**10**	PG	**Pn**	**08 31 06.2**	**-0.8**
MSF				SG	**Sb**	**08 31 33.9**	**-0.8**
MSF	**Maaselka**	**2.00**	**10**	SG	**Sb**	**08 31 33.9**	**-0.8**
KAF	**Kangasniemi**	**2.03**	**206**	PG	**Pb**	**08 31 09.5**	**-0.2**
KAF				MSG		08 31 33.8	
	comp=Z,2.4nm,0.2s						
KAF				SG	**Sg**	**08 31 36.7**	**-0.5**
RANF	**Ranua**	**2.16**	**345**	SG	**Pb**	**08 31 11.5**	**-0.4**
RANF	**Ranua**	**2.16**	**345**	PG	**Pb**	**08 31 11.5**	**-0.4**
RANF				SG	**Sb**	**08 31 39.1**	**0.0**
KU6	**Riekki**	**2.21**	**18**	PG	**Pb**	**08 31 12.3**	**-0.4**
KU6				MSG		08 31 38.2	
	comp=Z,1.2nm,0.2s						
KU6				SG	**Sb**	**08 31 39.9**	**-0.7**
KEF	**Keuruu**	**2.34**	**222**	*e*P	**Pb**	**08 31 14.4**	**-0.5**
KEF	**Keuruu**	**2.34**	**222**	PG	**Pb**	**08 31 15.1**	**+0.2**
KEF				MSG		08 31 42.6	
	comp=Z,4.3nm,0.2s						
KEF				SG	**Sb**	**08 31 44.4**	**0.0**
OLKF	**Oulanka, Finla**	**2.44**	**12**	SN	**Pb**	**08 31 16.3**	**-0.3**
OLKF	**Oulanka, Finla**	**2.44**	**12**	PG	**Pb**	**08 31 16.3**	**-0.3**
OLKF				MSG		08 31 44.7	
	comp=Z,1.7nm,0.2s						
OLKF				SG	**Sb**	**08 31 46.8**	**-0.4**
RUF	**Ruokolahti**	**2.56**	**172**	PG	**Pb**	**08 31 18.7**	**0.0**
RUF				MSG		08 31 49.1	
	comp=Z,1.8nm,0.2s						
RUF				SG	**Sg**	**08 31 52.7**	**-1.3**
VAF	**Ylistaro**	**2.63**	**252**	*e*P	**Pb**	**08 31 19.1**	**-0.8**
VAF	**Ylistaro**	**2.63**	**252**	PB	**Pb**	**08 31 19.1**	**-0.8**
VAF				MSG		08 31 50.9	
	comp=Z,1.2nm,0.2s						
VAF				SB	**Sb**	**08 31 52.2**	**-0.6**
TOF	**Tornio**	**2.69**	**324**	SB	**Sn**	**08 31 52.0**	**+2.2**
TOF				MSG		08 31 52.0	
	comp=Z,0.9nm,0.2s						
FIA0	**FINESS Array S**	**2.70**	**202**	PB	**Pb**	**08 31 20.4**	**-0.6**
FIA0				MSG		08 31 53.0	
	comp=Z,1.2nm,0.2s						
FIA0				SB	**Sb**	**08 31 54.5**	**-0.1**
FINES	**FINESS Array B**	**2.70**	**202**	Pn	**Pb**	**08 31 20.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=22,slow=15,SNR=8.6						
FINES				Sn	**Sb**	**08 31 54.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=21,slow=27,SNR=12						
	comp=Z,0.9nm,0.5s						
KALU	**Kalix**	**2.81**	**315**	SG	**Sb**	**08 31 59.0**	**+1.1**
RNF	**Rovaniemi**	**2.82**	**342**	SB	**Sb**	**08 31 57.8**	**-0.5**
ERTU	**Ertsjaerv**	**3.63**	**319**	PN	**Pn**	**08 31 31.6**	**+2.3**
	baz=129						
ERTU				SN	**Sn**	**08 32 14.7**	**+1.9**
KLF	**Kolari**	**3.73**	**334**	SN	**Sn**	**08 32 15.6**	**+0.3**
ARCES	**ARCESS Array B**	**5.71**	**350**	Pn	**Pn**	**08 32 00.6**	**+2.8**
	comp=Z,5.7nm,1.2s,baz=176,slow=9.7,SNR=1.7						
ARCES				Sn	**Sn**	**08 33 02.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=169,slow=24,SNR=1.5						
I43RU	**DUBNA INFRASON**	**8.51**	**144**	I	I	09 19 30.0	
	baz=333,slow=341,SNR=7.1						

IDC 04 08:31:41.8±1.8, 2°.20N×125°.23E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=208.9km s-min=23.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**158**	P	P	08 36 55.3	-0.8
	0.6nm,0.6s,baz=336,slow=10.0,SNR=3.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**27.06**	**162**	P	P	08 37 26.7	+0.5
	0.1nm,0.7s,baz=348,slow=8.8,SNR=4.2						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**57.97**	**326**	P	P	08 41 36.7	+0.5
	0.2nm,0.5s,baz=127,slow=6.7,SNR=2.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.23**	**328**	P	P	08 42 04.9	-0.3
	0.5nm,0.7s,baz=123,slow=6.5,SNR=6.6						
	0.5nm,0.7s						

IDC 04 09:09:57.9±1.9, 3°.85S×150°.76E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=81.4km s-min=25.9km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.58**	**213**	Sn	Sn	09 12 55.0	+3.4
	2.2nm,0.3s,baz=30,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**22.63**	**224**	P	P	09 15 01.6	+0.9
	0.9nm,0.4s,baz=51,slow=10,SNR=13						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.56**	**218**	P	P	09 15 28.4	-0.3
	1.3nm,0.6s,baz=58,slow=8.7,SNR=25						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**78.28**	**319**	P	P	09 21 58.5	-1.3
	0.5nm,0.9s,baz=124,slow=4.4,SNR=4.0						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**82.06**	**23**	P	P	09 22 20.8	+1.0
	0.1nm,0.5s,baz=253,slow=5.0,SNR=5.8						
	0.1nm,0.5s						

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*TXNET **04** 09:11:00.1, 31°.1N±0°.6×103°.2W±0°.8, h2km, ML2.4/12, Error ellipse: s-maj=1.2km s-min=0.9km az=101.9, final*
*NEIC **04** 09:11:00.5±0.7, 31°.11N±0°.01×103°.26W±0°.02, h5km±1km, mb_Lg2.5/13, ML2.3/42, Error ellipse: s-maj=3.4km s-min=2.2km az=97.0*

ISC 04 09:11:00.3±0.8, 31°.12N±0°.02×103°.26W±0°.02, h1km±5km, n59, σ0°.80/85, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB16	**Coyonosa**	**0.00**	**57**	P	**Pg**	**09 11 00.8**	**0.0**
TPB16				S	**Sg**	**09 11 01.2**	**+0.2**
TPB04	**Verhalen**	**0.07**	**350**	P	**Pg**	**09 11 01.9**	**+0.2**
TPB04				S	**Sg**	**09 11 03.6**	**+1.0**
TPB05	**Hovey Rd**	**0.21**	**196**	P	**Pg**	**09 11 05.2**	**+0.8**
TPB05				S	**Sg**	**09 11 08.8**	**+1.7**
TPB03	**Saragosa**	**0.22**	**260**	P	**Pg**	**09 11 05.5**	**+0.8**
TPB03				S	**Sg**	**09 11 08.8**	**+1.3**
PCOS	**Crockett Middl**	**0.36**	**323**	S	**Sb**	**09 11 14.4**	**-1.4**
TPB08	**Permian Basin**	**0.38**	**127**	P	**Pg**	**09 11 08.6**	**+1.0**
TPB08				S	**Sb**	**09 11 14.9**	**-1.4**
TPB10	**Southeast of T**	**0.46**	**291**	P	**Pb**	**09 11 11.5**	**+0.3**
TPB10				S	**Sb**	**09 11 18.9**	**+0.4**
MNHN	**Monahans**	**0.48**	**63**		**Pg**	**09 11 09.9**	**+0.5**
MNHN	**Monahans**	**0.48**	**63**	P	**Pg**	**09 11 10.0**	**+0.5**
MNHN	**Monahans**	**0.48**	**63**	P	**Pg**	**09 11 09.7**	**+0.2**
MNHN				S	**Sg**	**09 11 16.9**	**+1.3**
TPB01	**Permian Basin**	**0.48**	**249**	P	**Pg**	**09 11 09.6**	**0.0**
TPB01				S	**Sg**	**09 11 16.9**	**+1.0**
TPB06	**Permian Basin**	**0.52**	**4**	P	**Pg**	**09 11 11.2**	**+0.8**
TPB06				S	**Sg**	**09 11 19.1**	**+1.9**
TPB07	**Mentone**	**0.58**	**322**	P	**Pg**	**09 11 12.5**	**+1.1**
TPB07				S	**Sb**	**09 11 20.8**	**-1.2**
PECS	**Pecos**	**0.58**	**295**		**Pg**	**09 11 12.1**	**+0.6**
PECS				Sg	**Sg**	**09 11 20.1**	**+1.2**
PECS				IAML		09 11 24.2	
	138nm,0.4s						
PECS				IAML		09 11 29.5	
	166nm,0.9s						
PECS	**Pecos**	**0.58**	**295**	P	**Pg**	**09 11 11.7**	**+0.3**
PECS	**Pecos**	**0.58**	**295**	P	**Pg**	**09 11 11.7**	**+0.3**
PECS				S	**Sg**	**09 11 20.2**	**+1.2**
TPB12	**Southwest of T**	**0.61**	**279**	P	**Pg**	**09 11 12.6**	**+0.6**
TPB12				S	**Sg**	**09 11 21.0**	**+1.1**
ALPN	**Alpine**	**0.81**	**204**		**Pg**	**09 11 15.7**	**-0.3**
ALPN				IAML		09 11 31.4	
	91nm,0.4s						
ALPN				IAML		09 11 38.0	
	83nm,0.5s						
ALPN	**Alpine**	**0.81**	**204**	P	**Pg**	**09 11 15.5**	**-0.4**
ALPN	**Alpine**	**0.81**	**204**	P	**Pg**	**09 11 15.5**	**-0.4**
ALPN				S	**Sg**	**09 11 26.6**	**+0.1**
TMB02	**Rankin**	**1.05**	**86**	P	**Pg**	**09 11 20.1**	**-0.3**
TMB02				S	**Sg**	**09 11 34.5**	**+0.5**
TPB11	**China Draw**	**1.05**	**321**	P	**Pn**	**09 11 21.7**	**-0.5**
TPB11				S	**Sb**	**09 11 35.0**	**-0.6**
ODSA	**Odessa**	**1.16**	**31**	Pg	**Pg**	**09 11 22.3**	**-0.3**
ODSA	**Odessa**	**1.16**	**31**	P	**Pg**	**09 11 22.5**	**-0.1**
ODSA	**Odessa**	**1.16**	**31**	P	**Pg**	**09 11 22.2**	**-0.5**
ODSA				S	**Sb**	**09 11 38.8**	**-0.1**
NM01	**Eunice**	**1.23**	**354**	P	**Pg**	**09 11 24.0**	**-0.1**
NM01				S	**Sb**	**09 11 41.1**	**+0.2**
CLNB	**Carlsbad**	**1.26**	**335**	Pg	**Pg**	**09 11 24.4**	**0.0**
CLNB	**Carlsbad**	**1.26**	**335**	P	**Pg**	**09 11 24.7**	**+0.3**
CLNB				S	**Sn**	**09 11 42.0**	**-0.7**
CLN7	**Carlsbad 7**	**1.37**	**340**		**Pb**	**09 11 26.7**	**-0.2**
CLN7	**Carlsbad 7**	**1.37**	**340**	P	**Pb**	**09 11 26.6**	**-0.2**
HTMS	**Hat Mesa**	**1.38**	**347**	P	**Pn**	**09 11 26.7**	**-0.1**
GDL2	**Guadalupe Moun**	**1.43**	**319**	P	**Pg**	**09 11 28.2**	**+0.4**
SAND	**Sanderson**	**1.52**	**140**	Pg	**Pb**	**09 11 28.8**	**-0.5**
SAND	**Sanderson**	**1.52**	**140**	P	**Pn**	**09 11 28.6**	**-0.1**
SAND				S	**Sg**	**09 11 50.6**	**+1.4**
VHRN	**Van Horn**	**1.52**	**258**		**Pn**	**09 11 28.5**	**-0.3**
VHRN				IAML		09 11 52.0	
	58nm,0.6s						
VHRN				IAML		09 11 54.4	
	60nm,0.4s						
VHRN	**Van Horn**	**1.52**	**258**	P	**Pn**	**09 11 28.5**	**-0.3**
VHRN	**Van Horn**	**1.52**	**258**	P	**Pn**	**09 11 28.4**	**-0.3**
VHRN				S	**Sb**	**09 11 48.9**	**-0.4**
TMB04	**Seminole**	**1.64**	**23**	P	**Pn**	**09 11 30.2**	**-0.2**
TMB04				S	**Sg**	**09 11 53.0**	**+0.1**
TX31	**Lajitas Ar. Si**	**1.82**	**191**		**Pb**	**09 11 33.9**	**-0.6**
TX31	**Lajitas Ar. Si**	**1.82**	**191**	P	**Pb**	**09 11 33.4**	**-1.0**
TX31				S	**Sb**	**09 11 57.8**	**0.0**
TXAR	**Lajitas Array**	**1.82**	**191**		**Pb**	**09 11 33.3**	**-1.1**
OZNA	**Ozona**	**1.84**	**96**		**Pb**	**09 11 34.1**	**-0.6**
OZNA	**Ozona**	**1.84**	**96**	P	**Pb**	**09 11 33.9**	**-0.8**
OZNA				S	**Sg**	**09 11 59.5**	**+0.1**
MNTX	**Cornudas Mount**	**1.91**	**288**	P	**Pb**	**09 11 35.3**	**-0.6**
MNTX				S	**Sg**	**09 12 01.2**	**-0.4**
CPRX	**Cap Rock**	**1.97**	**345**		**Pb**	**09 11 36.2**	**-0.9**
SGCY	**Sterling City**	**1.98**	**66**		**Pn**	**09 11 35.8**	**+0.7**
SGCY	**Sterling City**	**1.98**	**66**	P	**Pb**	**09 11 36.1**	**-1.1**
SGCY				S	**Sb**	**09 12 03.2**	**+0.7**
POST	**Post**	**2.44**	**37**		**Pn**	**09 11 42.3**	**+0.9**
POST				IAmb_Lg		09 12 21.4	
	comp=Z,21nm,0.9s						
POST	**Post**	**2.44**	**37**	P	**Pn**	**09 11 42.2**	**+0.7**
POST				S	**Sb**	**09 12 14.2**	**-1.5**
SN05	**Snyder 5**	**2.67**	**48**	IAmb_Lg		09 12 25.9	
	comp=Z,15nm,0.7s						
SN07	**Snyder 07**	**2.81**	**45**	Pn	**Pn**	**09 11 47.3**	**+0.9**
DRIO	**Del Rio**	**2.84**	**126**		**Pn**	**09 11 47.2**	**+0.4**
DRIO				IAmb_Lg		09 12 31.3	
	comp=Z,20nm,0.7s						
JCT	**Junction City**	**3.04**	**101**	Pn	**Pn**	**09 11 51.0**	**+1.4**
DKNS	**Dickens**	**3.21**	**37**	Pn	**Pn**	**09 11 51.3**	**-0.7**
DKNS				IAmb_Lg		09 12 46.9	
	comp=Z,15nm,1.0s						

BJI ***04*** *10:05:58.9, 5°.37S×146°.46E, h25km, mB5.7/86, mb5.3/89, Ms5.7/99, Ms7 5.6/99*

MOS ***04*** *10:05:58.8±0.8, 5°.26S×146°.11E, h12km, mb5.9/46, MS5.5/32, Error ellipse: s-maj=8.1km s-min=4.8km az=107.0*

IDC ***04*** *10:05:58.8±0.4, 5°.29S×146°.21E, h0km, mb5.5/26, mbtmp5.5/29, ML4.9/3, MS5.4/54, Error ellipse: s-maj=18.2km s-min=10.1km az=86.0*

ISC-PP ***04*** *10:06:00, 5°.22S×146°.21E, h36km, Mwppsm6.2, Moment Tensor Solution. s43 Moment tensor: Scale 10^18^Nm; Mrr0.65±.14; Mθθ0.03±.16; Mφφ-0.66±.17; Mrθ-0.10±.09; Mθφ-0.24±.27; Mφr-0.01±.09; Fault plane solution: M0 2.66000×10^18^ NP1:φs188.30000°, δ55.70000°, λ99.00000°. NP2:φs352.60000°, δ35.30000°, λ77.10000°.*

NEIC ***04*** *10:06:01.0±1.6, 5°.22S±0°.06×146°.21E±0°.07, h10km±1km, mb5.8/310, Ms_20 5.6/825, Mww5.9/33 Error ellipse: s-maj=11.4km s-min=10.3km az=114.0*

NEIC ***04*** *10:06:01, 5°.13S×146°.19E, h24km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^17^Nm; Mrr6.51; Mθθ-6.93; Mφφ0.42; Mrθ-2.17; Mθφ3.43; Mφr1.10; Fault plane solution: M0 7.79000×10^17^ NP1: φs108.75000°, δ36.01000°, λ85.85000°. NP2: φs293.87000°, δ54.10000°, λ93.01000°. Principal axes: T 6.9051, Plg81.0000°, Azm217.0000°; N 1.7652, Plg2.0000°, Azm112.0000°; P -8.6703, Plg9.0000°, Azm22.0000°;*

IPGP ***04*** *10:06:01.0, 5°.24S×146°.19E, h24km, Mw5.9, Fault plane solution: NP1:φs111.00000°, δ37.00000°, λ101.00000°. NP2:φs276.00000°, δ53.00000°, λ81.00000°.*

NEIC ***04*** *10:06:01, 5°.23S×146°.19E, h24km*

GCMT ***04*** *10:06:07.0±0.1, 5°.26S×146°.25E, h27km, MW5.9/169, Moment Tensor Solution. s163, c313; s169, c503; Duration: 2s2 Moment tensor: Scale 10^18^Nm; Mrr0.69±.01; Mθθ-0.75±.01; Mφφ0.06±.01; Mrθ-0.40±.01; Mθφ0.34±.00; Mφr0.01±.01; Best double couple: M0 0.88100×10^18^ NP1:φs122.00000°, δ33.00000°, λ109.00000°. NP2:φs280.00000°, δ59.00000°, λ78.00000°. Principal axes: T 0.8000, Plg73.0000°, Azm159.0000°; N 0.1610, Plg10.0000°, Azm286.0000°; P -0.9610, Plg13.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***04*** *10:06:08.4±0.4, 5°.3S×14°.6E±°, h64km±3km, M5.8/88, mB6.2/77, mb5.9/88, MLv6.5/4, Mw(mB)5.8/77, MwMwp5.5/55, Mwp5.7/55*

ISC 04 10:06:03.6±0.4, 5°.31S±0°.03×146°.27E±0°.03, h32km±2km, h33km; pP-P, n1479, σ1.58/1148, mb5.7/300, MS5.6/480, 40C-9D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.42**	**19**	P	**Pn**	**Pn**	**10 06 54.4**	**-0.4**
PMG	**Port Moresby**	**4.17**	**168**	Pn	**Pn**	**Pn**	**10 07 08.1**	**+3.1**
	324nm,0.3s,baz=359,slow=5.9,SNR=365							
PMG				Sn	**Sn**	**Sn**	**10 07 56.9**	**+4.3**
	500nm,0.3s,baz=351,slow=22,SNR=4.1							
TABUI	**Tabubil**	**5.02**	**270**	P		**Pn**	**10 07 20.8**	**+4.0**
KAVG	**Kavieng**	**5.28**	**59**	P		**Pn**	**10 07 23.0**	**+2.7**
RABL	**Rabaul**	**5.98**	**80**			**Pn**	**10 07 30.8**	**+0.8**
JAY	**Jayapura**	**6.20**	**296**	Pn		**Pn**	**10 07 35.7**	**+2.7**
	12nm,0.3s,baz=165,slow=11,SNR=41							
JAY				Sn		**Sn**	**10 08 51.6**	**+8.7**
	13nm,0.3s,baz=189,slow=7.4,SNR=2.0							
JAY				LR		LR	10 10 19.2	
	comp=Z,64μm,18.2s,baz=128,slow=42							
JAY	**Jayapura**	**6.20**	**296**	P		**Pn**	**10 07 37.2**	**+4.2**
	8.5nm32μm11μm1μm,1.0s							
MMPI	**Merauke**	**6.63**	**241**	P		**Pn**	**10 07 42.0**	**+3.2**
	15nm20μm2μm,0.7s							
GENI	**Genyem**	**6.65**	**294**	P		**Pn**	**10 07 42.3**	**+3.1**
GENI	**Genyem**	**6.65**	**294**	P		**Pn**	**10 07 42.7**	**+3.5**
	21nm37μm39μm2μm,0.8s							
SMPI	**Sarmi**	**8.23**	**293**	P		**Pn**	**10 08 04.1**	**+3.3**
	28μm16μm599nm,0.8s							
COEN	**Coen**	**9.12**	**199**	Pn		**Pn**	**10 08 14.1**	**+1.1**
COEN	**Coen**	**9.12**	**199**	P		**Pn**	**10 08 15.7**	**+2.7**
	comp=Z,0.0nmcomp=Z,987nm,0.7s							
COEN	**Coen**	**9.12**	**199**	P		**Pn**	**10 08 16.0**	**+3.0**
SRPI	**Serui, Papua**	**10.57**	**288**	P		**Pn**	**10 08 34.8**	**+1.8**
	comp=Z,6μmcomp=Z,407nm,0.7s							
BAKI	**Biak**	**10.93**	**292**	P		**Pn**	**10 08 42.0**	**+4.1**
	comp=Z,13μmcomp=Z,6μmcomp=Z,574nm,1.0s							
KMPI	**Kaimana, Papua**	**12.63**	**277**	P		Pn	10 09 06.6	+5.5
	comp=Z,12μmcomp=Z,7μmcomp=Z,525nm,1.1s							
RKPI	**Ransiki, Papua**	**12.64**	**287**	P		**Pn**	**10 09 05.6**	**+4.3**
	comp=Z,641nm,0.9s							
MTSU	**Mount Surprise**	**12.89**	**188**	P		**Pn**	**10 09 07.9**	**+3.3**
	comp=Z,259nm,1.1s							
MTSU	**Mount Surprise**	**12.89**	**188**	P		**Pn**	**10 09 07.6**	**+2.9**
TATA	**Tatamba Isabel**	**13.79**	**104**	P		**P**	**10 09 21.4**	**-3.6**
HNR	**Honiara**	**14.17**	**108**			**Pn**	**10 09 23.2**	**+1.0**
HNR	**Honiara**	**14.17**	**108**	Pn		**Pn**	**10 09 23.6**	**+1.4**
	comp=Z,2.5nm,0.3s,baz=218,slow=4.5,SNR=26							
HNR				Sn		**S**	**10 12 14.1**	**-4.4**
	comp=Z,3.4nm,0.3s,baz=255,slow=18,SNR=0.7							
HNR				LR		LR	10 14 00.4	
	comp=Z,11μm,20.5s,baz=270,slow=34							
	comp=Z,272nm,1.0s							
HNR	**Honiara**	**14.17**	**108**	P		**Pn**	**10 09 25.4**	**+3.2**
HNR	**Honiara**	**14.17**	**108**	P		**Pn**	**10 09 23.2**	**+1.0**
FAKI	**Fak Fak**	**14.18**	**279**	Pn		**Pn**	**10 09 19.8**	**-2.6**
FAKI	**Fak Fak**	**14.18**	**279**	P		**Pn**	**10 09 25.0**	**+2.7**
FAKI	**Fak Fak**	**14.18**	**279**	P		**P**	**10 09 27.3**	**-2.1**
	comp=Z,9μmcomp=Z,215nm,0.9s							
NGOA	**Tingoa Renbel**	**14.99**	**115**	P		**P**	**10 09 36.6**	**-1.7**
SAUI	**Saumlaki**	**15.10**	**259**			**Pn**	**10 09 35.7**	**+0.9**
SAUI				IAmb		IAmb	10 09 39.5	
	comp=Z,804nm,1.5s							
SAUI	**Saumlaki**	**15.10**	**259**	P		**P**	**10 09 38.4**	**-1.2**
SAUI	**Saumlaki**	**15.10**	**259**	P		**P**	**10 09 38.8**	**-0.8**
	comp=Z,17μmcomp=Z,15μmcomp=Z,974nm,1.4s							
KDU	**Kakadu**	**15.46**	**241**	P		**Pn**	**10 09 41.0**	**+1.5**
	comp=Z,0.0nmcomp=Z,1μm,0.8s							
KDU	**Kakadu**	**15.46**	**241**	P		**Pn**	**10 09 40.0**	**+0.5**
SWI	**Sorong**	**15.62**	**286**	P		**Pn**	**10 09 42.4**	**+0.9**
	comp=Z,6μmcomp=Z,570nm,0.8s							
HURO	**Huro Makira**	**16.31**	**109**	P		**P**	**10 09 53.0**	**0.0**
BNDI	**Bandanaira**	**16.32**	**272**	P		**P**	**10 09 52.4**	**-0.8**
BNDI	**Bandanaira**	**16.32**	**272**	P		**P**	**10 09 54.8**	**+1.6**
QIS	**Mount Isa**	**16.48**	**203**	P		**Pn**	**10 09 53.2**	**+0.6**
	comp=Z,0.0nmcomp=Z,298nm,1.2s							
QIS	**Mount Isa**	**16.48**	**203**	P		**P**	**10 09 54.6**	**-0.4**
MTN	**Manton Dam**	**16.71**	**242**			**Pn**	**10 09 55.5**	**+0.2**
MTN				IAmb		IAmb	10 09 59.4	
	comp=Z,522nm,0.8s							
MTN	**Manton Dam**	**16.71**	**242**	P		**Pn**	**10 09 55.4**	**0.0**
	comp=Z,0.0nmcomp=Z,1μm,1.0s							
MTN	**Manton Dam**	**16.71**	**242**	P		**Pn**	**10 09 55.7**	**+0.3**
DRS	**Darwin Rock St**	**16.74**	**244**	P		**P**	**10 09 58.1**	**+0.3**
PATS	**Pohnpei**	**17.03**	**45**	P		**Pn**	**10 10 00.1**	**+0.6**
PATS	**Pohnpei**	**17.03**	**45**	P		**P**	**10 10 03.2**	**+2.2**
MSAI	**Masohi**	**17.40**	**276**	P		**P**	**10 10 08.3**	**+3.2**
	comp=Z,10μmcomp=Z,10μmcomp=Z,632nm,1.1s							
AAI	**Ambon**	**18.09**	**274**	P		**P**	**10 10 13.8**	**+1.1**
	comp=Z,10μmcomp=Z,8μmcomp=Z,687nm,0.6s							
RK1H	**Rockhampton Ha**	**18.43**	**168**	P		**Pn**	**10 10 18.5**	**+1.8**
WB0	**Warramunga Arr**	**18.44**	**218**	P		**P**	**10 10 15.7**	**-1.0**
WR0	**Warramunga Arr**	**18.50**	**217**	P		**P**	**10 10 16.7**	**-0.6**
WRAB	**Tennant Creek**	**18.59**	**218**	P		**P**	**10 10 17.4**	**-1.0**
WRAB	**Tennant Creek**	**18.59**	**218**	*c iP*		**P**	**10 10 17.3**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,160nm,0.9s							
WRAB				MLR		MLR		
	comp=Z,28μm,13.0s							
WB2	**Warramunga Arr**	**18.60**	**218**	P		**P**	**10 10 17.4**	**-1.0**
WRA	**Warramunga Arr**	**18.61**	**218**	P		**P**	**10 10 18.4**	**0.0**
	comp=Z,6.7nm,0.3s,baz=32,slow=11,SNR=135							
WRA				S		**Sn**	**10 13 44.3**	**-1.9**
	comp=Z,67nm,1.1s,baz=40,slow=22,SNR=4.9							
WRA				LR		LR	10 18 08.3	
	comp=Z,24μm,18.4s,baz=37,slow=39							
	comp=Z,128nm,0.8s							
WRA	**Warramunga Arr**	**18.61**	**218**	*i* P		**P**	**10 10 17.5**	**-1.0**
WRA				pmax		pmax		
	comp=Z,91nm,0.9s							
GUMO	**Guam**	**18.82**	**356**	P		**Pn**	**10 10 21.4**	**-0.1**
	comp=Z,4.0nm,0.3s,baz=209,slow=3.5,SNR=4.1							
GUMO				S		**Sn**	**10 13 47.4**	**-4.0**
	comp=Z,77nm,0.8s,baz=181,slow=23,SNR=2.3							
GUMO				LR		LR	10 17 27.9	
	comp=Z,13μm,18.3s,baz=174,slow=37							
	comp=Z,51nm,0.5s							
GD1S	**Gladstone Soft**	**19.02**	**166**	P		**Pn**	**10 10 25.5**	**+1.7**
NLAI	**Namlea**	**19.22**	**275**	P		**Pn**	**10 10 27.3**	**+1.0**
	comp=Z,14μmcomp=Z,13μmcomp=Z,801nm,0.6s							
LBMI	**Labuha**	**19.30**	**283**	P		Pn	10 10 35.9	+8.6
TNTI	**Ternate**	**19.82**	**287**	P		**Pn**	**10 10 33.8**	**+0.4**
TNTI	**Ternate**	**19.82**	**287**	P		Pn	10 10 40.9	+7.5
KNRA	**Kununurra**	**20.04**	**238**	P		**P**	**10 10 33.6**	**-0.5**
KNRA				IAmb		IAmb	10 10 47.3	
	comp=Z,282nm,0.9s							
KNRA				IAMs_20		IAMs_20	10 18 52.6	
	comp=Z,26μm,18.0s							
KNRA	**Kununurra**	**20.04**	**238**	P		**P**	**10 10 33.6**	**-0.5**
	comp=Z,0.0nmcomp=Z,350nm,0.7s							
LUES	**Luesalemba Tem**	**20.16**	**107**	P		**P**	**10 10 36.1**	**+0.6**
EIDS	**Eidsvold**	**20.48**	**167**			**P**	**10 10 39.8**	**+1.1**
EIDS				IAmb		IAmb	10 10 55.3	
	comp=Z,517nm,1.1s							
EIDS	**Eidsvold**	**20.48**	**167**	P		Pn	10 10 40.2	-0.8
	comp=Z,0.0nmcomp=Z,430nm,1.0s							
EIDS	**Eidsvold**	**20.48**	**167**	P		**P**	**10 10 39.9**	**+1.1**
SANI	**Sanana**	**20.49**	**278**	P		**P**	**10 10 37.7**	**-1.3**
SANI				S		Sn	10 14 29.4	-2.2
SANI	**Sanana**	**20.49**	**278**	P		**P**	**10 10 38.8**	**-0.2**
SANI	**Sanana**	**20.49**	**278**	P		**P**	**10 10 39.4**	**+0.4**
	comp=Z,13μmcomp=Z,9μmcomp=Z,716nm,1.1s							
RMQ	**Roma**	**21.19**	**174**	P		**P**	**10 10 48.0**	**+1.5**
QLP	**Quilpie**	**21.25**	**185**	P		**P**	**10 10 48.2**	**+1.1**
	comp=Z,0.0nmcomp=Z,1μm,1.4s							
QLP	**Quilpie**	**21.25**	**185**	P		**P**	**10 10 47.6**	**+0.5**
AS06	**Alice Springs**	**21.75**	**212**	P		**P**	**10 10 52.2**	**-0.4**
	comp=Z,556nm,1.2s							
AS01	**Alice Springs**	**21.77**	**212**	P		**P**	**10 10 52.6**	**-0.2**
AS31	**Alice Springs**	**21.79**	**212**	P		**P**	**10 10 52.7**	**-0.4**
AS31	**Alice Springs**	**21.79**	**212**	P		**P**	**10 10 53.2**	**+0.1**
	comp=Z,0.0nmcomp=Z,141nm,1.2s							
AS19	**Alice Springs**	**21.80**	**212**	P		**P**	**10 10 52.9**	**-0.1**
	comp=Z,412nm,0.8s							
ASAR	**Alice Springs**	**21.80**	**212**	P		**P**	**10 10 52.8**	**-0.3**
	comp=Z,83nm,0.9s,baz=40,slow=9.3,SNR=232							
ASAR				S		**S**	**10 14 48.8**	**-3.8**
	comp=Z,32nm,1.1s,baz=26,slow=15,SNR=2.2							
ASAR				LR		LR	10 20 00.4	
	comp=Z,27μm,18.7s,baz=40,slow=39							
	comp=Z,83nm,0.9s							
SOEI	**Soe**	**22.25**	**257**	P		**P**	**10 10 58.1**	**+0.1**
SOEI	**Soe**	**22.25**	**257**	P		**P**	**10 10 57.0**	**-1.1**
SOEI				S		**S**	**10 15 02.2**	**+0.8**
SOEI	**Soe**	**22.25**	**257**	P		**P**	**10 10 58.2**	**+0.1**
SOEI	**Soe**	**22.25**	**257**	P		**P**	**10 10 58.4**	**+0.3**
	comp=Z,14μmcomp=Z,17μmcomp=Z,1μm,1.0s							
SGSI	**Sangihe**	**22.56**	**293**	P		P	10 11 16.5	+15
TW1H	**Toowoomba 1 Ha**	**22.77**	**167**	P		**P**	**10 11 03.6**	**+0.1**
AUWSH	**Wavell State H**	**22.90**	**164**	P		**P**	**10 11 04.7**	**0.0**
INKA	**Innaminka**	**22.92**	**193**	P		**P**	**10 11 05.0**	**+0.1**
KMSI	**Cibinong**	**23.01**	**284**	P		**P**	**10 11 10.2**	**+4.2**
KOUNC	**Koumac, New Ca**	**23.15**	**132**	P		**P**	**10 11 07.8**	**+0.4**
BBSI	**Bau Bau**	**23.59**	**268**	P		**P**	**10 11 14.1**	**+2.3**
	comp=Z,9μmcomp=Z,16μmcomp=Z,956nm,1.1s							
GC1S	**Gold Coast 1 S**	**23.75**	**164**	P		**P**	**10 11 14.6**	**+1.5**
	comp=Z,190nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.83**	**236**	P		**P**	**10 11 12.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.83**	**236**	P		**P**	**10 11 12.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.83**	**236**	P		**P**	**10 11 12.4**	**-1.5**
	comp=Z,283nm,0.7s,baz=51,slow=14,SNR=142							
FITZ				S		**S**	**10 15 27.0**	**-0.9**
	comp=Z,116nm,1.1s,baz=12,slow=9.3,SNR=3.3							
FITZ				LR		LR	10 21 27.5	
	comp=Z,28μm,18.2s,baz=60,slow=39							
	comp=Z,283nm,0.7s							
FITZ	**Fitzroy Crossi**	**23.83**	**236**	P		**P**	**10 11 12.0**	**-2.0**
LUWI	**Luwuk**	**23.83**	**279**	P		**P**	**10 11 12.3**	**-1.7**
LUWI				S		**S**	**10 15 29.6**	**+1.5**
DAV	**Davao City (W)**	**24.03**	**301**	LR		LR	10 20 15.2	
	comp=Z,4μm,20.5s,baz=120,slow=36							
DAV	**Davao City (W)**	**24.03**	**301**	P		**P**	**10 11 13.0**	**-2.9**
MMRI	**Maumere**	**24.07**	**261**	P		**P**	**10 11 14.6**	**-1.8**
MMRI	**Maumere**	**24.07**	**261**	P		**P**	**10 11 15.8**	**-0.5**
MMRI	**Maumere**	**24.07**	**261**	P		**P**	**10 11 15.4**	**-0.9**
	comp=Z,9μmcomp=Z,669nm,1.0s							
OOD	**Oodnadatta**	**24.52**	**203**	P		**P**	**10 11 20.1**	**-0.2**
DVP	**Devils Point**	**24.73**	**122**	P		**P**	**10 11 23.5**	**+1.2**
ARMA	**Armidale**	**25.48**	**169**	P		**P**	**10 11 30.0**	**+0.9**
ARMA				IAmb		IAmb	10 11 32.5	
	comp=Z,226nm,1.1s							
ARMA				IAMs_20		IAMs_20	10 21 16.6	
	comp=Z,19μm,19.0s							
ARMA	**Armidale**	**25.48**	**169**	P		**P**	**10 11 30.3**	**+1.1**
	comp=Z,0.0nmcomp=Z,231nm,1.1s							
ARMA	**Armidale**	**25.48**	**169**	P		**P**	**10 11 30.2**	**+1.1**
BSSI	**Bau Bau, Buton**	**25.66**	**267**	P		**P**	**10 11 34.9**	**+4.1**
	comp=Z,7μmcomp=Z,369nm,1.3s							
DZM	**Mont Dzumac**	**25.67**	**132**	P		**P**	**10 11 31.0**	**+0.1**
DZM				IAMs_20		IAMs_20	10 20 22.2	
	comp=Z,20μm,22.0s							
DZM	**Mont Dzumac**	**25.67**	**132**	P		**P**	**10 11 31.1**	**+0.2**
ONTNC	**Ouen Toro**	**25.82**	**133**	P		**P**	**10 11 31.8**	**-0.3**
ONTNC	**Ouen Toro**	**25.82**	**133**	P		**P**	**10 11 31.9**	**-0.2**
BASI	**Baing, Sumba**	**25.91**	**258**	P		**P**	**10 11 33.4**	**+0.4**
YATNC	**Mamie plateau,**	**25.99**	**132**	P		**P**	**10 11 34.4**	**+0.7**
CMSA	**Cobar Meteorol**	**26.10**	**181**	P		**P**	**10 11 35.2**	**+0.6**
	comp=Z,0.0nmcomp=Z,245nm,1.0s							
CMSA	**Cobar Meteorol**	**26.10**	**181**	P		**P**	**10 11 35.4**	**+0.9**
WRKA	**Warakurna**	**26.12**	**219**	P		**P**	**10 11 34.8**	**0.0**
	comp=Z,0.0nmcomp=Z,214nm,1.3s							
WRKA	**Warakurna**	**26.12**	**219**	P		**P**	**10 11 34.9**	**0.0**
LCRK	**Leigh Creek**	**26.13**	**196**	P		**P**	**10 11 35.1**	**+0.3**
OUENC	**Ouen Island, N**	**26.17**	**132**	P		**P**	**10 11 35.4**	**+0.1**
TOLI2	**Tolitoli**	**26.24**	**283**	P		**P**	**10 11 38.0**	**+2.0**
KAPI	**Kappang**	**26.41**	**269**	P		**P**	**10 11 37.0**	**-0.5**
KAPI				IAmb		IAmb	10 11 49.8	
	comp=Z,180nm,0.8s							
KAPI	**Kappang**	**26.41**	**269**	LR		LR	10 24 39.9	
	comp=Z,8μm,20.7s,baz=90,slow=42							
KAPI	**Kappang**	**26.41**	**269**	P		**P**	**10 11 39.3**	**+1.8**
KAPI	**Kappang**	**26.41**	**269**	*c iP*		**P**	**10 11 36.2**	**-1.3**
KAPI				pmax		pmax		
	comp=Z,32nm,0.7s							
KAPI				MLR		MLR		
	comp=Z,9μm,20.0s							
MARNC	**Mare, Loyalty**	**26.52**	**129**	P		**P**	**10 11 39.8**	**+1.3**
PINNC	**Pines Island,**	**26.73**	**132**	P		**P**	**10 11 41.1**	**+0.8**
PINNC				IAmb		IAmb	10 11 44.5	
	comp=Z,332nm,1.0s							
PINNC				IAMs_20		IAMs_20	10 21 05.4	
	comp=Z,23μm,21.0s							
PINNC	**Pines Island,**	**26.73**	**132**	P		**P**	**10 11 41.8**	**+1.4**
STKA	**Stephens Creek**	**26.79**	**189**	P		**P**	**10 11 41.2**	**+0.4**
STKA	**Stephens Creek**	**26.79**	**189**	P		**P**	**10 11 40.8**	**0.0**
	comp=Z,0.0nmcomp=Z,1μm,0.8s							
STKA	**Stephens Creek**	**26.79**	**189**	P		**P**	**10 11 40.9**	**0.0**
	comp=Z,176nm,0.8s,baz=355,slow=9.4,SNR=251							
STKA				S		**S**	**10 16 14.8**	**-0.1**
	comp=Z,14nm,1.1s,baz=307,slow=20,SNR=1.3							
STKA				LR		LR	10 22 42.5	
	comp=Z,14μm,20.1s,baz=4.7,slow=37							
	comp=Z,176nm,0.8s							
STKA	**Stephens Creek**	**26.79**	**189**	P		**P**	**10 11 40.5**	**-0.3**
STKA	**Stephens Creek**	**26.79**	**189**	P		**P**	**10 11 41.2**	**+0.4**
STKA				pmax		pmax		
	comp=Z,850nm,0.9s							
WBSI	**Waikabubak, Su**	**26.98**	**259**	P		**P**	**10 11 42.0**	**-0.8**
NTLH	**Newcastle Hard**	**27.92**	**170**	P		**P**	**10 11 52.0**	**+1.2**
PLAI	**Plampang**	**28.48**	**261**	P		**P**	**10 11 54.4**	**-1.7**
PLAI	**Plampang**	**28.48**	**261**	P		**P**	**10 11 54.5**	**-1.7**
	comp=Z,4μmcomp=Z,2μmcomp=Z,169nm,0.7s							
SYDH	**Sydney Hard Ro**	**28.62**	**172**	P		**P**	**10 11 58.5**	**+1.4**
LHI	**Lord Howe Isla**	**28.71**	**157**	P		**P**	**10 11 58.7**	**+0.8**
LHI				IAmb		IAmb	10 12 04.3	
	comp=Z,135nm,0.8s							
WHYH	**Whyalla**	**28.75**	**195**	P		**P**	**10 11 58.5**	**+0.2**
HTT	**Hallett**	**28.80**	**193**	P		**P**	**10 11 58.9**	**+0.1**
	comp=Z,0.0nmcomp=Z,200nm,1.0s							
HTT	**Hallett**	**28.80**	**193**	P		**P**	**10 11 59.0**	**+0.1**
YNG	**Young**	**28.91**	**176**	P		**P**	**10 12 00.6**	**+0.8**
	comp=Z,1μm,0.8s							
YNG	**Young**	**28.91**	**176**	P		**P**	**10 12 00.5**	**+0.8**
BBOO	**Buckleboo**	**28.97**	**198**	P		**P**	**10 12 00.1**	**-0.2**
BBOO				IAmb		IAmb	10 12 46.9	
	comp=Z,102nm,0.9s							
BBOO				IAMs_20		IAMs_20	10 24 16.2	
	comp=Z,13μm,19.0s							
BBOO	**Buckleboo**	**28.97**	**198**	P		**P**	**10 12 00.3**	**0.0**
	comp=Z,0.0nmcomp=Z,111nm,0.7s							
BBOO	**Buckleboo**	**28.97**	**198**	P		**P**	**10 11 59.9**	**-0.4**
WOLH	**Wollongong Har**	**29.27**	**172**	P		**P**	**10 12 04.2**	**+1.3**
TWSI	**Taliwang, Sumb**	**29.36**	**262**	P		**P**	**10 12 05.3**	**+1.4**
	comp=Z,4μmcomp=Z,87nm,0.7s							
MYLDM	**Lahad Datu**	**29.62**	**290**	P		**P**	**10 12 08.8**	**+2.5**
MYLDM				IAmb		IAmb	10 12 36.4	
	comp=Z,170nm,0.9s							
MYLDM	**Lahad Datu**	**29.62**	**290**	P		**P**	**10 12 07.0**	**+0.8**
CAN	**Canberra**	**29.97**	**176**	P		**P**	**10 12 10.1**	**+0.9**
CAN				IAMs_20		IAMs_20	10 24 39.5	
	comp=Z,18μm,19.0s							
CAN	**Canberra**	**29.97**	**176**	P		**P**	**10 12 10.0**	**+0.9**
	comp=Z,0.0nmcomp=Z,93nm,0.9s							
CAN	**Canberra**	**29.97**	**176**	P		**P**	**10 12 10.3**	**+1.1**
CAN	**Canberra**	**29.97**	**176**	P		**P**	**10 12 10.1**	**+0.9**
CAN				pmax		pmax		
	comp=Z,70nm,0.9s							
CAN				MLR		MLR		
	comp=Z,18μm,19.0s							
CNB	**Canberra Magne**	**30.00**	**175**	P		**P**	**10 12 10.5**	**+1.1**
	comp=Z,0.0nmcomp=Z,109nm,0.8s							
CNB	**Canberra Magne**	**30.00**	**175**	P		**P**	**10 12 10.2**	**+0.8**
MBWA	**Marble Bar**	**30.17**	**236**	P		**P**	**10 12 10.7**	**-0.4**
MBWA				IAmb		IAmb	10 12 13.9	
	comp=Z,316nm,1.9s							
MBWA				IAMs_20		IAMs_20	10 25 11.1	
	comp=Z,16μm,18.0s							
MBWA	**Marble Bar**	**30.17**	**236**	P		**P**	**10 12 11.0**	**-0.1**
PSA00	**Pilbara Seismi**	**30.27**	**235**	P		**P**	**10 12 11.6**	**-0.4**
PSA00	**Pilbara Seismi**	**30.27**	**235**	IAmb		IAmb	10 12 13.4	
	comp=Z,124nm,0.9s							
PSA00	**Pilbara Seismi**	**30.27**	**235**	P		**P**	**10 12 12.4**	**+0.5**
	comp=Z,174nm,1.3s							
PSA00	**Pilbara Seismi**	**30.27**	**235**	P		**P**	**10 12 12.0**	**0.0**
PSAC1	**Pilbara Seismi**	**30.28**	**235**	P		**P**	**10 12 12.2**	**+0.1**
	comp=Z,179nm,1.1s							
GHSS	**Government Hou**	**30.31**	**193**	P		**P**	**10 12 13.5**	**+1.5**
FORT	**Forrest**	**30.58**	**212**	P		**P**	**10 12 14.1**	**-0.5**
FORT				IAmb		IAmb	10 12 20.0	
	comp=Z,163nm,0.8s							
FORT	**Forrest**	**30.58**	**212**	P		**P**	**10 12 14.2**	**-0.5**
	comp=Z,0.0nmcomp=Z,229nm,0.8s							
FORT	**Forrest**	**30.58**	**212**	P		**P**	**10 12 14.1**	**-0.5**
SRBI	**Singaraja**	**30.96**	**263**	P		**P**	**10 12 18.6**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**31.06**	**40**	T		T	10 44 43.4	
	baz=223,slow=76,SNR=61							
H11S2	**WAKE ISLAND Hy**	**31.07**	**40**	T		T	10 44 42.5	
	baz=223,slow=76,SNR=48							
H11S1	**WAKE ISLAND Hy**	**31.08**	**40**	T		T	10 44 34.8	
	baz=223,slow=76,SNR=60							
ARPS	**Mount Arapiles**	**31.57**	**187**	P		**P**	**10 12 24.1**	**+0.9**
	comp=Z,326nm,0.9s							
ARPS	**Mount Arapiles**	**31.57**	**187**	P		**P**	**10 12 24.2**	**+1.0**
TGY	**Tagaytay City**	**31.68**	**308**	LR		LR	10 26 26.1	
	comp=Z,7μm,18.3s,baz=126,slow=39							
MILA	**Mila**	**31.71**	**176**	P		**P**	**10 12 25.5**	**+1.0**
	comp=Z,45nm,1.0s							
ABJI	**Asem Bagus**	**31.91**	**264**	P		P	10 12 37.8	+11
JAGI	**Jajag, Banyu

YULB	**Yu-li**	**37.52 320**	P	**P**	**10 13 12.8**	**-2.0**
YULB			IAmb	IAmb	10 13 27.2	
	comp=Z,233nm,1.4s					
YULB			IAMs_20	IAMs_20	10 27 10.7	
	comp=Z,8μm,19.0s					
YULB	**Yu-li**	**37.52 320**	P	**P**	**10 13 14.9**	**+0.1**
CMJI	**Cimerak**	**37.64 264**	P	**P**	**10 13 15.3**	**-0.7**
	comp=Z,3μmcomp=Z,320nm,1.0s					
TPUB	**Ta-pu**	**37.88 320**	P	**P**	**10 13 15.6**	**-2.4**
TPUB			IAmb	IAmb	10 13 28.7	
	comp=Z,107nm,0.8s					
TPUB	**Ta-pu**	**37.88 320**	P	**P**	**10 13 17.2**	**-0.7**
NACB	**Ninganchiao**	**37.91 322**	IAmb	IAmb	10 13 48.0	
	comp=Z,226nm,1.2s					
NACB	**Ninganchiao**	**37.91 322**	P	**P**	**10 13 17.3**	**-0.7**
SSLB	**Suanglung**	**38.02 321**	P	**P**	**10 13 17.4**	**-1.8**
SSLB			IAMs_20	IAMs_20	10 29 56.0	
	comp=Z,12μm,18.0s					
SSLB	**Suanglung**	**38.02 321**	P	**P**	**10 13 20.0**	**+0.9**
YHNB	**Yeheng**	**38.40 322**	IAmb	IAmb	10 13 45.1	
	comp=Z,260nm,1.0s					
YHNB	**Yeheng**	**38.40 322**	P	**P**	**10 13 22.7**	**+0.4**
BBJI	**Bungbulang**	**38.43 265**	P	**P**	**10 13 20.7**	**-2.0**
NWAO	**Narrogin (SRO)**	**38.56 221**	P	**P**	**10 13 23.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.56 221**	LR	LR	10 30 10.4	
	comp=Z,15μm,19.6s,baz=7.0,slow=38					
NWAO	**Narrogin (SRO)**	**38.56 221**	P	**P**	**10 13 24.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**38.56 221**	P	**P**	**10 13 23.9**	**+0.4**
NWAO	**Narrogin (SRO)**	**38.56 221**	P	**P**	**10 13 23.0**	**-0.5**
NWAO			pmax	pmax		
	comp=Z,67nm,1.0s					
NWAO			MLR	MLR		
	comp=Z,17μm,20.0s					
TATO	**Taipei**	**38.56 322**	P	**P**	**10 13 21.8**	**-1.7**
TATO	**Taipei**	**38.56 322**	P	**P**	**10 13 24.4**	**+0.9**
TPI	**Tanjungpandan**	**38.59 272**	P	**P**	**10 13 25.0**	**+1.0**
	comp=Z,4μmcomp=Z,2μmcomp=Z,139nm,1.1s					
MUN	**Mundaring**	**38.66 223**	P	**P**	**10 13 24.7**	**+0.3**
MTKN	**Mount Kenneth**	**38.93 223**	P	**P**	**10 13 28.3**	**+1.7**
CNJI	**Cibinong**	**38.94 265**	P	**P**	**10 13 26.4**	**-0.5**
	comp=Z,2μmcomp=Z,182nm,1.1s					
OUZ	**Omahuta**	**39.01 143**	IAMs_20	IAMs_20	10 28 02.4	
	comp=Z,12μm,20.0s					
OUZ	**Omahuta**	**39.01 143**	P	**P**	**10 13 28.8**	**+1.6**
OUZ	**Omahuta**	**39.01 143**	P	**P**	**10 13 29.0**	**+1.8**
CBJI	**Citeko**	**39.22 266**	P	P	10 13 40.0	+11
WCZ	**Waipu Caves**	**39.95 143**	P	**P**	**10 13 37.3**	**+2.3**
PPBI	**Pangkal Pinang**	**40.16 273**	P	**P**	**10 13 40.0**	**+2.9**
QZH	**Quanzhou**	**40.36 319**	P	**P**	**10 13 37.6**	**-0.9**
QZH			S	**S**	**10 19 45.3**	**+0.7**
QZH			pmax	pmax		
	comp=Z,200nm,1.1s					
QZH			pmax	pmax		
	comp=Z,1μm,5.3s					
QZH			LR	LR		
	comp=Z,3μm,21.5s					
QZH			LR	LR		
	comp=Z,4μm,23.8s					
QZH			LR	LR		
	comp=Z,4μm,17.8s					
CGJI	**Cibinong**	**40.37 266**	P	**P**	**10 13 37.9**	**-0.9**
	comp=Z,4μmcomp=Z,349nm,1.3s					
XMI	**Christmas Isla**	**40.49 260**	P	**P**	**10 13 40.7**	**+0.8**
XMIS	**Christmas Isla**	**40.53 260**	P	**P**	**10 13 40.9**	**+0.7**
JMN	**Monobe**	**40.56 344**	IAmb	IAmb	10 13 53.9	
	comp=Z,253nm,1.0s					
JMN			IAMs_20	IAMs_20	10 29 32.0	
	comp=Z,8μm,18.0s					
JMN	**Monobe**	**40.56 344**	P	**P**	**10 13 40.9**	**+0.8**
GRZ	**Great Barrier**	**40.82 143**	P	**P**	**10 13 44.1**	**+1.8**
JNU	**Nakatsue**	**40.91 340**	P	**P**	**10 13 43.0**	**-0.1**
	comp=Z,195nm,1.0s,baz=142,slow=6.4,SNR=32					
JNU			S	**S**	**10 19 53.3**	**+0.6**
	comp=Z,10.0nm,1.1s,baz=171,slow=15,SNR=1.1					
JNU			LR	LR	10 29 43.1	
	comp=Z,6μm,19.4s,baz=154,slow=35					
	comp=Z,195nm,1.0s					
JNU	**Nakatsue**	**40.91 340**	P	**P**	**10 13 43.3**	**+0.2**
DLV	**Lat**	**41.30 295**	P	**P**	**10 13 48.1**	**+1.4**
KUZ	**Kuaotunu**	**41.31 143**	P	**P**	**10 13 47.6**	**+1.4**
KUZ	**Kuaotunu**	**41.31 143**	P	**P**	**10 13 48.1**	**+1.8**
INU	**Inuyama**	**41.37 349**	IAmb	IAmb	10 14 00.6	
	comp=Z,157nm,1.2s					
INU	**Inuyama**	**41.37 349**	P	**P**	**10 13 46.4**	**-0.3**
JGF	**Kuroka**	**41.54 349**	P	**P**	**10 13 46.9**	**-1.3**
JGF	**Kuroka**	**41.54 349**	P	**P**	**10 13 48.1**	**-0.1**
H01W1	**Cape Leeuwin H**	**41.79 221**	P	**P**	**10 13 50.7**	**+0.8**
	baz=69,slow=7.0,SNR=5.5					
H01W3	**Cape Leeuwin H**	**41.79 221**	P	**P**	**10 13 50.8**	**+0.8**
	baz=69,slow=7.0,SNR=5.5					
H01W2	**Cape Leeuwin H**	**41.80 221**	P	**P**	**10 13 50.8**	**+0.8**
	baz=69,slow=7.0,SNR=3.7					
TOZ	**Tahuroa Road**	**41.85 145**	IAMs_20	IAMs_20	10 30 04.3	
	comp=Z,10μm,19.0s					
TOZ	**Tahuroa Road**	**41.85 145**	P	**P**	**10 13 52.9**	**+2.2**
MDSI	**Maura Dua**	**41.94 269**	P	**P**	**10 13 51.4**	**-0.3**
	comp=Z,3μmcomp=Z,3μmcomp=Z,168nm,1.2s					
HIZ	**Hauiti**	**42.02 146**	IAMs_20	IAMs_20	10 30 04.9	
	comp=Z,9μm,20.0s					
HIZ	**Hauiti**	**42.02 146**	P	**P**	**10 13 53.1**	**+1.0**
HIZ	**Hauiti**	**42.02 146**	P	**P**	**10 13 55.0**	**+2.9**
KHEZ	**Kahui Hut**	**42.12 147**	P	**P**	**10 13 53.9**	**+1.0**
NEZ	**North Egmont**	**42.14 147**	P	**P**	**10 13 56.3**	**+3.2**
TPRI	**Tanjung Pinang**	**42.14 277**	P	**P**	**10 13 56.0**	**+2.6**
	comp=Z,3μmcomp=Z,278nm,1.1s					
AFI	**Afiamalu**	**42.18 105**	P	**P**	**10 13 53.9**	**+0.1**
AFI			IAmb	IAmb	10 14 15.5	
	comp=Z,169nm,0.9s					
AFI	**Afiamalu**	**42.18 105**	IAMs_20	IAMs_20	10 28 58.3	
	comp=Z,7μm,20.0s					
AFI	**Afiamalu**	**42.18 105**	P	**P**	**10 13 53.9**	**+0.1**
AFI	**Afiamalu**	**42.18 105**	P	**P**	**10 13 53.9**	**+0.1**
AFI			pmax	pmax		
	comp=Z,169nm,1.0s					
TLZ	**Tolley Road**	**42.28 145**	P	**P**	**10 13 56.5**	**+2.3**
MJAR	**Matsushiro Arr**	**42.31 350**	P	**P**	**10 13 53.6**	**-0.8**
	comp=Z,80nm,1.2s,baz=173,slow=7.2,SNR=55					
MJAR			S	**S**	**10 20 14.8**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=135,slow=8.4,SNR=1.5					
	comp=Z,80nm,1.2s					
MAJO	**Matsushiro**	**42.31 350**	P	**P**	**10 13 53.4**	**-1.0**
MAJO			IAmb	IAmb	10 13 56.7	
	comp=Z,197nm,1.4s					
MAJO	**Matsushiro**	**42.31 350**	P	**P**	**10 13 53.8**	**-0.6**
MAJO	**Matsushiro**	**42.31 350**	P	**P**	**10 13 53.4**	**-1.0**
MAJO			pmax	pmax		
	comp=Z,197nm,1.4s					
MJB9	**Matsu-Tunnel**	**42.31 350**	IAmb	IAmb	10 13 59.5	
	comp=Z,202nm,1.4s					
VRZ	**Vera Road**	**42.40 147**	P	**P**	**10 13 58.2**	**+3.1**
QRZ	**Quartz Range**	**42.48 150**	IAmb	IAmb	10 13 59.6	
	comp=Z,270nm,0.8s					
QRZ			IAMs_20	IAMs_20	10 32 47.1	
	comp=Z,9μm,19.0s					
QRZ	**Quartz Range**	**42.48 150**	P	**P**	**10 13 56.7**	**+0.9**
QRZ	**Quartz Range**	**42.48 150**	P	**P**	**10 13 58.2**	**+2.4**
JTU	**Tsushima**	**42.70 339**	P	**P**	**10 13 58.2**	**+0.6**
GZH	**Guangzhou**	**42.79 313**	P	**P**	**10 13 59.3**	**+0.8**
GZH			S	**S**	**10 20 23.8**	**+3.1**
GZH			LR	LR		
	comp=Z,4μm,17.3s					
GZH			LR	LR		
	comp=Z,2μm,17.1s					
GZH			LR	LR		
	comp=Z,5μm,18.2s					
DSZ	**Denniston Nort**	**42.84 152**	IAmb	IAmb	10 14 13.6	
	comp=Z,269nm,1.0s					
DSZ	**Denniston Nort**	**42.84 152**	P	**P**	**10 14 00.5**	**+1.8**
NGZ	**Ngauruhoe**	**42.90 146**	P	**P**	**10 14 02.2**	**+2.8**
MYKOM	**Kota Tinggi**	**42.95 278**	P	**P**	**10 13 58.6**	**-1.4**
MYKOM	**Kota Tinggi**	**42.95 278**	P	**P**	**10 14 01.4**	**+1.4**
WAZ	**Wanganui**	**42.97 147**	P	**P**	**10 14 02.7**	**+2.9**
URZ	**Urewera**	**43.14 144**	LR	LR	10 30 51.5	
	comp=Z,7μm,19.0s,baz=40,slow=35					
URZ	**Urewera**	**43.14 144**	P	**P**	**10 14 02.5**	**+1.3**
NNZ	**Nelson**	**43.20 150**	IAmb	IAmb	10 14 19.2	
	comp=Z,210nm,0.9s					
NNZ			IAMs_20	IAMs_20	10 33 02.1	
	comp=Z,7μm,18.0s					
NNZ	**Nelson**	**43.20 150**	P	**P**	**10 14 03.0**	**+1.4**
HAZ	**Te Kaha**	**43.21 143**	P	**P**	**10 14 03.3**	**+1.6**
JMM	**Marumori**	**43.25 354**	IAmb	IAmb	10 14 16.1	
	comp=Z,206nm,1.2s					
JMM	**Marumori**	**43.25 354**	P	**P**	**10 14 02.7**	**+0.7**
QIZ	**Qiongzhong**	**43.26 305**	P	**P**	**10 13 59.7**	**-2.7**

QIZ			PP	**PP**	**10 15 42.2**	**-1.2**
QIZ			S	**S**	**10 20 24.2**	**-3.6**
QIZ			sS	**sS**	**10 20 44.8**	**+1.8**
QIZ			SS	**SS**	**10 23 39.9**	**-2.0**
QIZ			pmax	pmax		
	comp=Z,960nm,9.4s					
QIZ			LR	LR		
	comp=Z,2μm,16.7s					
QIZ			LR	LR		
	comp=Z,3μm,16.1s					
QIZ			LR	LR		
	comp=Z,5μm,15.1s					
RTZ	**Ruatahuna**	**43.30 144**	IAMs_20	IAMs_20	10 31 07.9	
	comp=Z,10μm,19.0s					
RTZ	**Ruatahuna**	**43.30 144**	P	**P**	**10 14 04.1**	**+1.6**
FOZ	**Fox Glacier**	**43.37 155**	IAmb	IAmb	10 14 05.7	
	comp=Z,134nm,1.0s					
FOZ	**Fox Glacier**	**43.37 155**	P	**P**	**10 14 04.7**	**+1.8**
THZ	**Tophouse**	**43.38 151**	P	**P**	**10 14 04.1**	**+1.0**
THZ	**Tophouse**	**43.38 151**	P	**P**	**10 14 04.4**	**+1.3**
JCZ	**Jackson Bay**	**43.39 156**	P	**P**	**10 14 05.4**	**+2.2**
JCZ	**Jackson Bay**	**43.39 156**	P	**P**	**10 14 05.4**	**+2.2**
BKZ	**Black Stump Fm**	**43.39 145**	IAMs_20	IAMs_20	10 30 54.3	
	comp=Z,8μm,20.0s					
BKZ	**Black Stump Fm**	**43.39 145**	P	**P**	**10 14 04.5**	**+1.2**
BKZ	**Black Stump Fm**	**43.39 145**	P	**P**	**10 14 04.7**	**+1.4**
WVZ	**Waitaha Valley**	**43.40 154**	P	**P**	**10 14 03.6**	**+0.5**
MXZ	**Matakaoa Point**	**43.40 142**	IAmb	IAmb	10 14 07.2	
	comp=Z,216nm,0.8s					
MXZ			IAMs_20	IAMs_20	10 32 01.6	
	comp=Z,9μm,18.0s					
MXZ	**Matakaoa Point**	**43.40 142**	P	**P**	**10 14 04.8**	**+1.5**
MXZ	**Matakaoa Point**	**43.40 142**	P	**P**	**10 14 04.8**	**+1.5**
SSE	**Sheshan**	**43.41 328**	P	**P**	**10 14 03.4**	**0.0**
SSE			sP	**pP**	**10 14 11.2**	**-1.4**
SSE			S	**S**	**10 20 30.6**	**+1.0**
SSE			pmax	pmax		
	comp=Z,59nm,0.9s					
SSE			pmax	pmax		
	comp=Z,670nm,4.0s					
SSE			LR	LR		
	comp=Z,3μm,18.7s					
INZ	**Inchbonnie**	**43.43 153**	IAmb	IAmb	10 14 06.9	
	comp=Z,182nm,1.1s					
INZ			IAMs_20	IAMs_20	10 29 41.2	
	comp=Z,9μm,22.0s					
INZ	**Inchbonnie**	**43.43 153**	P	**P**	**10 14 04.6**	**+1.1**
MWZ	**Matawai**	**43.44 144**	P	**P**	**10 14 05.1**	**+1.5**
MSZ	**Milford Sound**	**43.56 158**	P	**P**	**10 14 06.6**	**+2.2**
KSI	**Kapahiang**	**43.56 270**	P	**P**	**10 14 09.6**	**+4.6**
PUZ	**Puketiti**	**43.70 143**	P	**P**	**10 14 07.3**	**+1.6**
TSZ	**Takapari Road**	**43.71 147**	P	**P**	**10 14 07.8**	**+1.9**
JSD	**Sado**	**43.76 351**	P	**P**	**10 14 06.5**	**+0.4**
LTZ	**Lake Taylor**	**43.86 152**	IAMs_20	IAMs_20	10 33 32.4	
	comp=Z,8μm,19.0s					
LTZ	**Lake Taylor**	**43.86 152**	P	**P**	**10 14 08.2**	**+1.2**
MRZ	**Mangatainoka R**	**43.93 148**	IAMs_20	IAMs_20	10 30 57.5	
	comp=Z,7μm,21.0s					
MRZ	**Mangatainoka R**	**43.93 148**	P	**P**	**10 14 08.8**	**+1.3**
SNZO	**South Karori**	**43.94 149**	P	**P**	**10 14 07.9**	**+0.4**
SNZO	**South Karori**	**43.94 149**	IAMs_20	IAMs_20	10 32 12.7	
	comp=Z,9μm,19.0s					
SNZO	**South Karori**	**43.94 149**	P	**P**	**10 14 08.6**	**+1.1**
DCZ	**Deep Cove**	**43.95 159**	P	**P**	**10 14 09.6**	**+2.1**
KNZ	**Kokohu**	**43.98 144**	P	**P**	**10 14 09.0**	**+1.1**
RPZ	**Rata Peaks**	**44.05 154**	P	**P**	**10 14 09.4**	**+1.0**
RPZ			IAMs_20	IAMs_20	10 31 53.3	
	comp=Z,8μm,19.0s					
RPZ	**Rata Peaks**	**44.05 154**	LR	LR	10 32 14.5	
	comp=Z,7μm,19.3s,baz=323,slow=36					
RPZ	**Rata Peaks**	**44.05 154**	P	**P**	**10 14 09.6**	**+1.2**
RPZ	**Rata Peaks**	**44.05 154**	P	**P**	**10 14 09.8**	**+1.4**
WKZ	**Wanaka**	**44.11 157**	P	**P**	**10 14 10.0**	**+1.1**
OXZ	**Oxford**	**44.17 153**	IAMs_20	IAMs_20	10 30 15.8	
	comp=Z,7μm,21.0s					
OXZ	**Oxford**	**44.17 153**	P	**P**	**10 14 10.0**	**+0.6**
KHZ	**Kahutara**	**44.18 151**	IAMs_20	IAMs_20	10 32 02.0	
	comp=Z,6μm,18.0s					
KHZ	**Kahutara**	**44.18 151**	P	**P**	**10 14 10.0**	**+0.6**
PXZ	**Pawanui**	**44.19 146**	P	**P**	**10 14 10.8**	**+1.2**
LBZ	**Lake Benmore**	**44.22 155**	P	**P**	**10 14 10.8**	**+1.0**
MLZ	**Mavora Lakes**	**44.22 158**	P	**P**	**10 14 11.5**	**+1.7**
BFZ	**Birch Farm**	**44.31 147**	P	**P**	**10 14 11.5**	**+1.0**
BFZ	**Birch Farm**	**44.31 147**	P	**P**	**10 14 11.9**	**+1.4**
GVZ	**Greta Valley S**	**44.36 152**	IAMs_20	IAMs_20	10 33 57.7	
	comp=Z,9μm,18.0s					
GVZ	**Greta Valley S**	**44.36 152**	P	**P**	**10 14 12.2**	**+1.3**
PYZ	**Puysegur Point**	**44.39 160**	P	**P**	**10 14 12.4**	**+1.3**
EAZ	**Earnscleugh**	**44.56 157**	P	**P**	**10 14 13.2**	**+0.7**
TMZ	**Timaru**	**44.56 155**	P	**P**	**10 14 13.0**	**+0.5**
WHZ	**Wether Hill Ro**	**44.60 158**	IAmb	IAmb	10 14 15.1	
	comp=Z,178nm,0.9s					
WHZ	**Wether Hill Ro**	**44.60 158**	P	**P**	**10 14 13.7**	**+0.9**
MQZ	**McQueen's Vall**	**44.75 153**	P	**P**	**10 14 15.1**	**+1.1**
ODZ	**Otahua Downs**	**44.94 156**	IAmb	IAmb	10 14 23.8	
	comp=Z,98nm,1.2s					
ODZ	**Otahua Downs**	**44.94 156**	P	**P**	**10 14 16.2**	**+0.7**
ODZ	**Otahua Downs**	**44.94 156**	P	**P**	**10 14 16.3**	**+0.7**
TJN	**Taejon**	**45.09 338**	P	**P**	**10 14 15.8**	**-1.0**
TJN	**Taejon**	**45.09 338**	⇑*i*P	**P**	**10 14 15.7**	**-1.0**
TUZ	**Tuapeka**	**45.29 157**	P	**P**	**10 14 19.6**	**+1.4**
UBPT	**Khong Chiam**	**45.29 297**	P	**P**	**10 14 17.4**	**-1.3**
UBPT			IAmb	IAmb	10 14 29.9	
	comp=Z,212nm,1.8s					
UBPT	**Khong Chiam**	**45.29 297**	P	**P**	**10 14 19.9**	**+1.2**
NJ2	**Nanjing**	**45.40 327**	⇑P	**P**	**10 14 20.1**	**+0.8**
NJ2			sP	**pP**	**10 14 28.0**	**-0.6**
NJ2			S	**S**	**10 21 00.8**	**+2.3**
NJ2			SS	**ScS**	**10 24 09.9**	**-3.9**
NJ2			pmax	pmax		
	comp=Z,37nm,1.1s					
NJ2			pmax	pmax		
	comp=Z,910nm,4.6s					
NJ2			LR	LR		
	comp=Z,5μm,19.2s					
NJ2			LR	LR		
	comp=Z,2μm,14.5s					
NJ2			LR	LR		
	comp=Z,5μm,22.9s					
APZ	**The Paps**	**45.42 159**	P	**P**	**10 14 20.2**	**+0.9**
BKNI	**Bangkinang**	**45.51 276**	P	**P**	**10 14 17.7**	**-2.8**
BKNI			S	**S**	**10 21 00.2**	**-0.5**
BKNI	**Bangkinang**	**45.51 276**	P	**P**	**10 14 21.9**	**+1.4**
BKNI	**Bangkinang**	**45.51 276**	P	P	10 14 31.1	+11
SYZ	**Scrubby Hill**	**45.59 158**	P	**P**	**10 14 21.7**	**+1.2**
SYZ	**Scrubby Hill**	**45.59 158**	P	**P**	**10 14 21.8**	**+1.2**
HHSZ	**Highcliff Hill**	**45.61 156**	P	**P**	**10 14 23.2**	**+2.4**
KSRS	**Korea Array**	**45.85 340**	P	**P**	**10 14 23.3**	**+0.6**
	comp=Z,176nm,1.1s,baz=159,slow=9.0,SNR=220					
KSRS			S	**S**	**10 21 03.2**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=179,slow=24,SNR=1.3					
KSRS			LR	LR	10 31 16.0	
	comp=Z,6μm,20.4s,baz=140,slow=33					
	comp=Z,176nm,1.1s					
KSAR	**Wonju Array Be**	**45.85 340**	P	**P**	**10 14 23.2**	**+0.5**
KSAR	**Wonju Array Be**	**45.85 340**	P	**P**	**10 14 23.3**	**+0.5**
KS19	**Wonju Array Si**	**45.91 340**	P	**P**	**10 14 23.1**	**-0.2**
PPI	**Padang Panjang**	**46.05 274**	P	**P**	**10 14 25.3**	**+0.5**
	comp=Z,3μmcomp=Z,3μmcomp=Z,320nm,1.0s					
JTM	**Tenmabayashi**	**46.12 355**	P	**P**	**10 14 25.2**	**+0.4**
IPM	**Ipoh**	**46.22 281**	IAmb	IAmb	10 14 46.5	
	comp=Z,207nm,1.3s					
IPM	**Ipoh**	**46.22 281**	P	**P**	**10 14 27.2**	**+1.1**
CNSH	**ChangSha**	**46.27 318**	P	**P**	**10 14 27.0**	**+0.7**
CNSH			S	**S**	**10 21 13.6**	**+2.4**
CNSH			pmax	pmax		
	comp=Z,36nm,1.1s					
CNSH			LR	LR		
	comp=Z,2μm,23.5s					
CNSH			LR	LR		
	comp=Z,3μm,22.9s					
CNSH			LR	LR		
	comp=Z,5μm,22.2s					
GULI	**GuiLin**	**46.28 313**	P	**P**	**10 14 28.6**	**+2.2**
GULI			S	**S**	**10 21 15.6**	**+4.2**
GULI			pmax	pmax		
	comp=Z,30nm,1.4s					
GULI			pmax	pmax		
	comp=Z,1μm,11.9s					
GULI			LR	LR		
	comp=Z,2μm,17.6s					
GULI			LR	LR		
	comp=Z,3μm,17.3s					
GULI			LR	LR		
	comp=Z,5μm,17.4s					
INCN	**Inchon**	**46.34 338**	P	**P**	**10 14 26.4**	**-0.2**
INCN	**Inchon**	**46.34 338**	P	**P**	**10 14 27.4**	**+0.7**
INCN	**Inchon**	**46.34 338**	P	**P**	**10 14 26.4**	**-0.2**
INCN			pmax	pmax		
	comp=Z,475nm,1.1s					
KULM	**Kulim**	**46.75 282**	P	**P**	**10 14 29.7**	**-0.6**
KULM			IAmb	IAmb	10 14 50.5	
	comp=Z,185nm,1.3s					
KULM	**Kulim**	**46.75 282**	P	**P**	**10 14 30.5**	**+0.2**
WHN	**Wuhan**	**46.94 321**	⇑P	**P**	**10 14 32.1**	**+0.6**
WHN			pP	**pP**	**10 14 41.0**	**+0.3**
WHN			PP	**PP**	**10 16 24.7**	**+2.4**
WHN			S	**S**	**10 21 21.7**	**+1.0**
WHN			pmax	pmax		
	comp=Z,210nm,1.0s					
WHN			pmax	pmax		
	comp=Z,4μm,5.1s					
WHN			LR	LR		
	comp=Z,8μm,16.7s					
WHN			LR	LR		
	comp=Z,8μm,14.9s					
WHN			LR	LR		
	comp=Z,12μm,17.5s					
MNSI	**Mandailing Nat**	**47.02 276**	P	**P**	**10 14 33.4**	**+1.0**
	comp=Z,6μmcomp=Z,96nm,0.7s					
HJU	**Haeju**	**47.17 338**	P	**P**	**10 14 33.4**	**+0.3**
HJU			S	**S**	**10 21 24.9**	**+1.3**
HJU			AmB			
	comp=Z,4μm,2.7s					
HJU			AMS	AMS		
	comp=Z,4μm,12.6s					
ERM	**Erimo**	**47.18 357**	P	**P**	**10 14 34.0**	**+0.9**
ERM	**Erimo**	**47.18 357**	⇑*i*P	**P**	**10 14 31.2**	**-1.9**
ERM			pmax	pmax		
	comp=Z,29nm,1.1s					
JEM	**Erimo**	**47.18 357**	P	**P**	**10 14 34.2**	**+1.1**
RPSI	**Rantau Prapat**	**47.95 278**	P	**P**	**10 14 39.4**	**-0.3**
PSI	**Prapat**	**47.97 279**	P	**P**	**10 14 40.5**	**+0.6**
PSI	**Prapat**	**47.97 279**	P	**P**	**10 14 39.4**	**-0.5**
PSI			pmax	pmax		
	comp=Z,257nm,1.4s					
PSI			MLR	MLR		
	comp=Z,4μm,22.0s					
PYAG	**Pyongyang**	**48.04 338**	P	**P**	**10 14 40.3**	**+0.4**
PYAG			S	**S**	**10 21 38.0**	**+2.0**
PYAG			AmB			
	comp=Z,3μm,4.3s					
PYAG			AMS	AMS		
	comp=Z,6μm,17.9s					
HHU	**Hamhung**	**48.21 341**	P	**P**	**10 14 40.9**	**-0.3**
HHU			S	**S**	**10 21 39.3**	**+0.9**
HHU			AmB			
	comp=Z,818nm,1.5s					
HHU			AMS	AMS		
	comp=Z,2μm,18.8s					
NONG	**Nongkai**	**48.46 300**	P	**P**	**10 14 44.6**	**+1.1**
SRIT	**Nakonsritamara**	**48.53 286**	P	**P**	**10 14 45.8**	**+1.7**
NAYO	**Nakonayok**	**48.65 294**	P	**P**	**10 14 46.2**	**+1.2**
JOHN	**Johnston Islan**	**48.88 62**	P	**P**	**10 14 46.7**	**0.0**
GSI	**Gunungsitoli**	**49.07 276**	P	**P**	**10 14 47.7**	**-0.5**
GSI			IAmb	IAmb	10 15 07.4	
	comp=Z,81nm,0.6s					
GSI	**Gunungsitoli**	**49.07 276**	P	**P**	**10 14 47.8**	**-0.5**
GSI	**Gunungsitoli**	**49.07 276**	P	P	10 14 56.0	+7.7
SLVN	**Son La**	**49.25 304**	P	**P**	**10 14 49.8**	**+0.2**
JKA	**Kamikawa-asahi**	**49.31 357**	IAmb	IAmb	10 14 52.0	
	comp=Z,148nm,1.4s					
ASAJ	**Asahikawa**	**49.31 357**	P	**P**	**10 14 50.2**	**+0.7**
	comp=Z,72nm,1.2s,baz=236,slow=16,SNR=16					
ASAJ			LR	LR	10 36 28.6	
	comp=Z,1μm,18.9s,baz=184,slow=37					
	comp=Z,72nm,1.2s					
SUJ	**Sinuiju**	**49.43 338**	P	**P**	**10 14 50.8**	**+0.2**
SUJ			S	**S**	**10 21 57.4**	**+1.8**
SUJ			AmB			
	comp=Z,4μm,4.8s					
SUJ			AMS	AMS		
	comp=Z,5μm,16.3s					
TIA	**Tai'an**	**49.51 329**	P	**P**	**10 14 51.0**	**-0.2**
TIA			pP	**pP**	**10 14 59.8**	**-0.7**
TIA			S	**S**	**10 21 57.6**	**+0.7**
TIA			SS	**SS**	**10 25 27.1**	**-2.3**
TIA			pmax	pmax		
	comp=Z,23nm,1.1s					
TIA			pmax	pmax		
	comp=Z,750nm,3.5s					
TIA			LR	LR		
	comp=Z,4μm,16.5s					
TIA			LR	LR		
	comp=Z,10μm,15.8s					
DL2	**Dalian**	**49.55 335**	P	**P**	**10 14 51.6**	**+0.1**
DL2			S	**S**	**10 21 58.1**	**+0.8**
DL2			pmax	pmax		
	comp=Z,220nm,1.3s					
DL2			pmax	pmax		
	comp=Z,640nm,8.4s					
DL2			LR	LR		
	comp=Z,6μm,18.4s					
DL2			LR	LR		
	comp=Z,4μm,18.8s					
DL2			LR	LR		
	comp=Z,7μm,21.2s					
MSHR	**Mys Shultsa**	**49.60 345***c*	*i*P	**P**	**10 14 52.0**	**+0.2**
MSHR			pmax	pmax		
	comp=Z,64nm,1.1s					
GYA	**Guiyang**	**49.68 311**	P	**P**	**10 14 55.7**	**+2.9**
GYA			S	**S**	**10 22 00.8**	**+1.0**
GYA			SS	**SS**	**10 25 33.5**	**+0.9**
GYA			pmax	pmax		
	comp=Z,29nm,1.3s					
GYA			LR	LR		
	comp=Z,2μm,19.4s					
GYA			LR	LR		
	comp=Z,1μm,15.1s					
GYA			LR	LR		
	comp=Z,2μm,25.3s					
PSTR	**Posyet**	**49.76 345***c*	*i*P	**P**	**10 14 53.4**	**+0.5**
ENH	**Enshi**	**49.92 317**	P

USA0B	**Ussuriysk Arra**	**50.93 347**	*c iP*	**P**	**10 15 02.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**50.93 347**	P	**P**	**10 15 02.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**50.93 347**	P	**P**	**10 15 02.5**	**+0.6**
	comp=Z,68nm,0.8s,baz=171,slow=8.0,SNR=131					
USRK			S	**S**	**10 22 19.0**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=1.4					
USRK			LR	LR	10 35 21.0	
	comp=Z,4μm,18.8s,baz=164,slow=35					
	comp=Z,68nm,0.8s					
USRK	**Ussuriysk Ar.**	**50.93 347**	P	**P**	**10 15 02.0**	**+0.2**
SNY	**Shenyang**	**51.28 338**	⇑P	**P**	**10 15 04.5**	**+0.1**
SNY			S	**S**	**10 22 19.6**	**-1.6**
SNY			pmax	pmax		
	comp=Z,65nm,1.2s					
SNY			pmax	pmax		
	comp=Z,2μm,3.8s					
SNY			LR	LR		
	comp=Z,2μm,20.1s					
SNY			LR	LR		
	comp=Z,2μm,19.6s					
SNY			LR	LR		
	comp=Z,6μm,20.8s					
HNS	**HongShan**	**51.67 328**	⇑P	**P**	**10 15 07.1**	**-0.4**
HNS			pP	**pP**	**10 15 16.3**	**-0.5**
HNS			S	**S**	**10 22 26.2**	**-0.6**
HNS			pmax	pmax		
	comp=Z,49nm,0.9s					
HNS			pmax	pmax		
	comp=Z,990nm,6.5s					
HNS			LR	LR		
	comp=Z,4μm,20.1s					
HNS			LR	LR		
	comp=Z,2μm,19.1s					
HNS			LR	LR		
	comp=Z,5μm,19.6s					
MDJ	**Mudanjiang**	**51.91 345**	P	**P**	**10 15 09.2**	**+0.1**
MDJ			PP	**PP**	**10 17 05.5**	**-1.9**
MDJ			S	**S**	**10 22 24.9**	**-4.9**
MDJ			pmax	pmax		
	comp=Z,120nm,1.5s					
MDJ			LR	LR		
	comp=Z,2μm,17.0s					
MDJ			LR	LR		
	comp=Z,2μm,17.0s					
MDJ			LR	LR		
	comp=Z,5μm,16.7s					
MDJ	**Mudanjiang**	**51.91 345**	P	**P**	**10 15 09.3**	**+0.1**
KMI	**Kunming**	**52.00 308**	⇑P	**P**	**10 15 11.0**	**+0.5**
KMI			S	**S**	**10 22 32.0**	**-0.2**
KMI			pmax	pmax		
	comp=Z,1μm,10.5s					
KMI			LR	LR		
	comp=Z,570nm,17.9s					
KMI			LR	LR		
	comp=Z,2μm,16.1s					
KMI			LR	LR		
	comp=Z,2μm,17.0s					
BSI	**Banda Aceh**	**52.01 281**	P	**P**	**10 15 12.0**	**+1.5**
	comp=Z,3μmcomp=Z,2μmcomp=Z,136nm,0.9s					
YSS	**Yuzhno-Sakhali**	**52.13 357**	P	**P**	**10 15 10.6**	**-0.1**
YSS			IAmb	IAmb	10 15 22.6	
	comp=Z,141nm,1.2s					
YSS	**Yuzhno-Sakhali**	**52.13 357**	P	**P**	**10 15 11.2**	**+0.5**
YSS	**Yuzhno-Sakhali**	**52.13 357**	*e*P	**P**	**10 15 11.2**	**+0.5**
YSS			*e**SP	**pP**	**10 15 21.4**	**+1.4**
YSS			*e*S	**S**	**10 22 30.3**	**-2.4**
YSS			pmax	pmax		
	comp=Z,80nm,1.1s					
YSS			pmax	pmax		
	comp=Z,600nm,5.2s					
YSS			pmax	pmax		
	comp=N,400nm,5.1s					
YSS			smax	smax		
	comp=N,1μm,6.9s					
YSS			smax	smax		
	comp=E,600nm,6.7s					
CM31	**Chiang Mai Arr**	**52.28 298**	P	**P**	**10 15 11.8**	**-0.6**
CM31			IAmb	IAmb	10 15 38.9	
	comp=Z,72nm,1.0s					
CMAR	**Chiang Mai Arr**	**52.28 298**	P	**P**	**10 15 11.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**52.28 298**	P	**P**	**10 15 12.2**	**-0.3**
	comp=Z,8.5nm,0.9s,baz=113,slow=5.7,SNR=26					
CMAR			S	**S**	**10 22 31.8**	**-4.1**
	comp=Z,0.6nm,0.4s,baz=117,slow=13,SNR=1.0					
CMAR			LR	LR	10 39 17.0	
	comp=Z,820nm,18.7s,baz=140,slow=38					
CMAR			PKPPKP	P'P'df	10 45 36.9	-8.8
	comp=Z,0.4nm,0.4s,baz=248,slow=4.8,SNR=4.1					
	comp=Z,8.5nm,0.9s					
CN2	**Changchun**	**52.37 341**	⇑P	**P**	**10 15 12.5**	**-0.1**
CN2			*e*S	**S**	**10 22 37.0**	**+0.8**
CN2			pmax	pmax		
	comp=Z,30nm,0.7s					
CN2			pmax	pmax		
	comp=Z,700nm,5.0s					
CN2			LR	LR		
	comp=Z,1μm,16.0s					
CN2			LR	LR		
	comp=Z,600nm,16.0s					
CN2			LR	LR		
	comp=Z,2μm,16.0s					
CHTO	**Chiang Mai**	**52.41 299**	P	**P**	**10 15 12.6**	**-0.8**
CHTO	**Chiang Mai**	**52.41 299**	P	**P**	**10 15 12.6**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,58nm,1.0s					
XAN	**Xi'an**	**52.69 321**	P	**P**	**10 15 14.6**	**-0.6**
XAN			pP	pP	10 15 21.6	-3.0
XAN			S	**S**	**10 22 35.9**	**-5.1**
XAN			pmax	pmax		
	comp=Z,60nm,1.0s					
XAN			pmax	pmax		
	comp=Z,2μm,10.8s					
XAN			LR	LR		
	comp=Z,4μm,19.2s					
XAN			LR	LR		
	comp=Z,3μm,20.6s					
XAN			LR	LR		
	comp=Z,7μm,17.9s					
BJT	**Baijiatuau**	**52.93 331**	IAMs_20	IAMs_20	10 37 57.7	
	comp=Z,5μm,20.0s					
BJT	**Baijiatuau**	**52.93 331**	P	**P**	**10 15 17.5**	**+0.7**
BJI	**Beijing**	**52.95 331**	P	**P**	**10 15 16.2**	**-0.7**
BJI			S	**S**	**10 22 42.5**	**-1.7**
BJI			pmax	pmax		
	comp=Z,21nm,1.4s					
BJI			pmax	pmax		
	comp=Z,420nm,5.2s					
BJI			LR	LR		
	comp=Z,1μm,19.1s					
BJI			LR	LR		
	comp=Z,1μm,19.2s					
BJI			LR	LR		
	comp=Z,2μm,21.8s					
TIY	**Taiyuan**	**53.13 326**	*e*P	**P**	**10 15 18.1**	**-0.3**
TIY			PP	**PP**	**10 17 17.1**	**-1.6**
TIY			S	**S**	**10 22 45.5**	**-1.4**
TIY			SS	**SS**	**10 26 28.7**	**+1.8**
TIY			pmax	pmax		
	comp=Z,45nm,1.1s					
TIY			pmax	pmax		
	comp=Z,1μm,4.2s					
TIY			LR	LR		
	comp=Z,3μm,16.5s					
TIY			LR	LR		
	comp=Z,2μm,17.9s					
TIY			LR	LR		
	comp=Z,4μm,17.3s					
PZH	**PanZhiHua**	**53.46 309**	P	**P**	**10 15 20.2**	**-0.9**
PZH			PcP	**PcP**	**10 16 29.3**	**+1.3**
PZH			S	**S**	**10 22 54.8**	**+2.9**
PZH			ScS	**ScS**	**10 25 10.1**	**+1.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,940nm,10.6s					
PZH			LR	LR		
	comp=Z,2μm,17.6s					
PZH			LR	LR		
	comp=Z,2μm,16.7s					
PZH			LR	LR		
	comp=Z,3μm,19.6s					
BNX	**BinXian**	**53.53 344**	⇑P	**P**	**10 15 21.1**	**-0.1**
BNX			S	**S**	**10 22 56.5**	**+4.5**
BNX			pmax	pmax		
	comp=Z,230nm,1.3s					
BNX			pmax	pmax		
	comp=Z,2μm,3.8s					
BNX			LR	LR		
	comp=Z,2μm,16.3s					
BNX			LR	LR		
	comp=Z,2μm,18.4s					
BNX			LR	LR		
	comp=Z,3μm,16.3s					
CD2	**Chengdu**	**54.27 314**	P	**P**	**10 15 26.4**	**-0.5**
CD2			PP	**PP**	**10 17 29.1**	**0.0**
CD2			S	**S**	**10 23 05.6**	**+3.0**
CD2			pmax	pmax		
	comp=Z,50nm,1.3s					
CD2			pmax	pmax		
	comp=Z,1μm,4.7s					
CD2			LR	LR		
	comp=Z,3μm,14.0s					
CD2			LR	LR		
	comp=Z,6μm,18.4s					
UGL	**Uglegorsk**	**54.28 357**	⇓*i*P	**P**	**10 15 27.8**	**+1.3**
UGL			*e*		10 17 26.4	
UGL			*e*S	**S**	**10 23 05.2**	**+3.2**
UGL			pmax	pmax		
	comp=Z,200nm,1.2s					
UGL			smax	smax		
	comp=E,1μm,11.0s					
UGL			smax	smax		
	comp=N,2μm,9.6s					
RAR	**Rarotonga**	**54.57 112**	LR	LR	10 35 42.6	
	comp=N,1μm,21.5s,baz=276,slow=33					
TNCH	**TengChong**	**55.34 305**	⇑P	**P**	**10 15 34.4**	**-0.5**
TNCH			PP	**PP**	**10 17 39.6**	**+0.7**
TNCH			S	**S**	**10 23 16.7**	**-0.7**
TNCH			ScS	**ScS**	**10 25 20.6**	**-1.7**
TNCH			pmax	pmax		
	comp=N,840nm,10.3s					
TNCH			LR	LR		
	comp=N,1μm,16.6s					
TNCH			LR	LR		
	comp=N,760nm,14.5s					
TNCH			LR	LR		
	comp=N,2μm,23.9s					
KLR	**Kul'dur**	**55.77 349**	P	**P**	**10 15 37.6**	**+0.3**
	comp=N,88nm,1.1s,baz=168,slow=5.2,SNR=143					
KLR			S	**S**	**10 23 20.7**	**-1.2**
	comp=N,1.3nm,1.0s,baz=226,slow=22,SNR=2.1					
KLR			LR	LR	10 38 18.5	
	comp=N,3μm,19.1s,baz=167,slow=35					
	comp=N,88nm,1.1s					
KLR	**Kul'dur**	**55.77 349**	*c iP*	**P**	**10 15 37.7**	**+0.4**
KLR			pmax	pmax		
	comp=Z,104nm,1.3s					
HHC	**Hu-ho-hao-te**	**55.86 329**	*e*P	**P**	**10 15 41.4**	**+3.1**
HHC			sP	pP	10 15 47.2	-0.5
HHC			S	**S**	**10 23 27.2**	**+3.4**
HHC			SS	**SS**	**10 27 10.8**	**+0.7**
HHC			pmax	pmax		
	comp=Z,28nm,1.1s					
HHC			pmax	pmax		
	comp=Z,1μm,4.3s					
HHC			LR	LR		
	comp=Z,2μm,19.1s					
HHC			LR	LR		
	comp=Z,2μm,19.9s					
HHC			LR	LR		
	comp=Z,4μm,18.3s					
XLT	**XiLinHaoTe**	**56.03 334**	*e*P	**P**	**10 15 39.0**	**-0.4**
XLT			sP	pP	10 15 47.8	-1.1
XLT			S	**S**	**10 23 24.5**	**-1.3**
XLT			SS	**SS**	**10 27 10.7**	**-1.9**
XLT			pmax	pmax		
	comp=Z,28nm,1.9s					
XLT			pmax	pmax		
	comp=Z,1μm,3.9s					
XLT			LR	LR		
	comp=Z,420nm,19.2s					
XLT			LR	LR		
	comp=Z,3μm,20.0s					
XLT			LR	LR		
	comp=Z,7μm,20.0s					
TYV	**Tymovskoe**	**56.03 357**	*e*P	**P**	**10 15 40.3**	**+1.2**
TYV			*e*S	**S**	**10 23 25.5**	**+0.1**
TYV			pmax	pmax		
	comp=Z,83nm,1.0s					
TYV			pmax	pmax		
	comp=Z,400nm,3.1s					
TYV			smax	smax		
	comp=N,1μm,6.7s					
TYV			smax	smax		
	comp=E,500nm,6.7s					
SKR	**Severo-Kuril's**	**56.41 8**	*e*P	**P**	**10 15 45.6**	**+3.8**
SKR			*e*S	S	10 23 56.1	+26
SKR			pmax	pmax		
	comp=Z,1μm,6.1s					
SKR			MLR	MLR		
	comp=Z,900nm,16.0s					
GRNR	**Gornyy**	**56.49 353**	⇑*i*P	**P**	**10 15 43.7**	**+1.2**
GRNR			pmax	pmax		
	comp=E,8.0nm,1.0s					
GRNR			pmax	pmax		
	comp=N,30nm,1.2s					
GRNR			pmax	pmax		
	comp=Z,60nm,1.2s					
BTO	**Baotou**	**56.51 327**	*e*P	**P**	**10 15 44.1**	**+1.2**
BTO			pP	**pP**	**10 15 48.3**	**-4.0**
BTO			sP	**pwP**	**10 15 51.6**	**-0.7**
BTO			PP	**PP**	**10 17 51.4**	**+2.4**
BTO			S	**S**	**10 23 36.3**	**+4.0**
BTO			pmax	pmax		
	comp=Z,25nm,0.8s					
BTO			pmax	pmax		
	comp=Z,260nm,3.6s					
BTO			LR	LR		
	comp=Z,5μm,17.5s					
BTO			LR	LR		
	comp=Z,6μm,18.2s					
BTO			LR	LR		
	comp=Z,9μm,18.6s					
LZH	**Lanzhou**	**57.21 319**	P	**P**	**10 15 48.4**	**+0.3**
LZH			sP	pP	10 15 55.6	-1.9
LZH			PP	**PP**	**10 18 00.3**	**+4.9**
LZH			S	**S**	**10 23 41.0**	**-0.9**
LZH			pmax	pmax		
	comp=Z,39nm,1.0s					
LZH			pmax	pmax		
	comp=Z,910nm,6.9s					
LZH			LR	LR		
	comp=Z,3μm,17.2s					
LZH			LR	LR		
	comp=Z,1μm,17.2s					
LZH			LR	LR		
	comp=Z,3μm,18.6s					
HEH	**HeiHe**	**57.69 346**	*e*P	**P**	**10 15 50.6**	**-0.3**
HEH			pP	**pP**	**10 15 59.7**	**-0.7**
HEH			sP	**sP**	**10 16 03.7**	**-0.3**
HEH			S	**S**	**10 23 49.5**	**+2.2**
HEH			sS	**sS**	**10 24 05.2**	**+2.3**
HEH			pmax	pmax		
	comp=Z,130nm,1.2s					
HEH			pmax	pmax		
	comp=Z,2μm,3.9s					
HEH			LR	LR		
	comp=Z,2μm,19.1s					
HEH			LR	LR		
	comp=Z,1μm,16.2s					
HEH			LR	LR		
	comp=Z,3μm,18.4s					
NKL	**Nikolayevsk**	**58.43 356**	*e*P	**P**	**10 15 54.0**	**-2.0**
NKL			*e*S	**S**	**10 23 56.9**	**+0.1**
NKL			pmax	pmax		
	comp=E,229nm,1.3s					
NKL			pmax	pmax		
	comp=N,159nm,1.1s					
NKL			pmax	pmax		
	comp=Z,791nm,1.2s					
NKL			smax	smax		
	comp=N,247nm,8.2s					
NKL			smax	smax		
	comp=E,514nm,8.2s					
NKL			MLR	MLR		
	comp=E,9μm,19.0s					
NKL			MLR	MLR		
	comp=N,4μm,17.0s					
NKL			MLR	MLR		
	comp=Z,8μm,18.0s					
LKP	**Lekhapani**	**58.50 306**	*e*P	**P**	**10 15 53.1**	**-3.9**
PEA0B	**Petropavlovsk-**	**58.99 8**	P	**P**	**10 16 00.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**58.99 8**	*c iP*	**P**	**10 16 01.3**	**+1.3**
PETK	**Petropavlovsk-**	**58.99 8**	P	**P**	**10 16 00.3**	**+0.3**
PETK	**Petropavlovsk-**	**58.99 8**	P	**P**	**10 16 00.8**	**+0.8**
	comp=Z,222nm,1.0s,baz=177,slow=5.2,SNR=99					
PETK			S	**S**	**10 24 03.5**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=275,slow=16,SNR=1.7					
PETK			LR	LR	10 39 34.7	
	comp=Z,3μm,19.8s,baz=193,slow=34					
PETK			PKP2bc		10 45 44.6	
	comp=Z,9.7nm,1.0s,baz=78,slow=10,SNR=4.4					
	comp=Z,222nm,1.0s					
PETK	**Petropavlovsk-**	**58.99 8**	P	**P**	**10 16 00.3**	**+0.3**
IMP	**Imphal**	**59.02 303**	*e*P	**P**	**10 16 00.2**	**-0.6**
PET	**Petropavlovsk**	**59.05 9**	P	**P**	**10 16 00.7**	**+0.4**
PET	**Petropavlovsk**	**59.05 9**	P	**P**	**10 16 01.5**	**+1.2**
PET	**Petropavlovsk**	**59.05 9**	*e*P	**P**	**10 16 01.6**	**+1.2**
PET			*e*		10 16 08.1	
PET			*e*S	**S**	**10 24 10.3**	**+5.4**
PET			*e*SS	**SS**	**10 28 03.3**	**+3.8**
PET			pmax	pmax		
	comp=Z,165nm,1.0s					
PET			pmax	pmax		
	comp=Z,2μm,7.8s					
PET			pmax	pmax		
	comp=Z,800nm,5.9s					
PET			MLR	MLR		
	comp=Z,2μm,15.0s					
PET	**Petropavlovsk**	**59.05 9**	P	**P**	**10 16 00.7**	**+0.4**
	comp=Z,170nm,1.2s					
HIA	**Hailar**	**59.06 340**	P	**P**	**10 16 01.6**	**+1.1**
KOHI	**KOHIMA**	**59.24 304**	*e*P	**P**	**10 16 03.0**	**+0.6**
ZIRO	**ZIRO**	**60.19 306**	*e*P	**P**	**10 16 08.0**	**-1.0**
KIP	**Kipapa**	**60.71 62**	P	**P**	**10 16 12.7**	**+0.3**
KIP	**Kipapa**	**60.71 62**	P	**P**	**10 16 14.1**	**+1.7**
KIP	**Kipapa**	**60.71 62**	⇑*i*P	**P**	**10 16 13.9**	**+1.5**
KIP			pmax	pmax		
	comp=Z,66nm,0.9s					
KIP			MLR	MLR		
	comp=Z,832nm,18.0s					
ZEA	**Zeya**	**60.96 347**	*e*P	**P**	**10 16 14.3**	**+0.8**
ZEA			*e*		10 18 24.8	
ZEA			*e*S	**S**	**10 24 32.4**	**+2.9**
ZEA			*e*PS	**PnS**	**10 24 56.0**	**+10**
ZEA			*e*SS	**SS**	**10 28 32.8**	**+3.3**
ZEA			pmax	pmax		
	comp=N,110nm,1.0s					
ZEA			pmax	pmax		
	comp=E,20nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,210nm,1.0s					
ZEA			pmax	pmax		
	comp=N,300nm,3.5s					
ZEA			pmax	pmax		
	comp=Z,700nm,3.7s					
ZEA			pmax	pmax		
	comp=N,200nm,3.9s					
ZEA			pmax	pmax		
	comp=E,100nm,3.9s					
ZEA			pmax	pmax		
	comp=Z,200nm,3.8s					
ZEA			smax	smax		
	comp=E,400nm,9.5s					
ZEA			smax	smax		
	comp=N,500nm,8.6s					
SHL	**Shillong**	**61.03 303**	P	**P**	**10 16 13.4**	**-1.3**
SHL			IAmb	IAmb	10 16 44.2	
	comp=Z,77nm,1.0s					
SHL	**Shillong**	**61.03 303**	*e*P	**P**	**10 16 14.3**	**-0.5**
SHL			IAmb	IAmb	10 16 43.9	
	comp=Z,65nm,1.1s					
SHL	**Shillong**	**61.03 303**	P	**P**	**10 16 13.4**	**-1.3**
SHL			pmax	pmax		
	comp=Z,77nm,1.0s					
SHL			MLR	MLR		
	comp=Z,2μm,21.0s					
GTA	**Gaotai**	**61.75 320**	*e*P	**P**	**10 16 19.9**	**+0.7**
GTA			sP	pP	10 16 27.3	-1.5
GTA			S	**S**	**10 24 40.6**	**+0.3**
GTA			SS	**SS**	**10 28 42.0**	**-0.6**
GTA			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GTA			pmax	pmax		
	comp=Z,1μm,10.5s					
GTA			LR	LR		
	comp=Z,1μm,17.1s					
GTA			LR	LR		
	comp=Z,520nm,20.0s					
GTA			LR	LR		
	comp=Z,1μm,18.5s					
TAWA	**Tawang**	**61.83 305**	*e*P	**P**	**10 16 17.1**	**-3.2**
KHU	**Kahuku**	**62.17 65**	IAMs_20	IAMs_20	10 41 01.2	
	comp=Z,5μm,20.0s					
MWH	**Mokuaweoweo**	**62.26 65**	IAMs_20	IAMs_20	10 40 26.5	
	comp=Z,5μm,19.0s					
HPAH	**Hawaii Prepara**	**62.33 64**	IAMs_20	IAMs_20	10 42 32.4	
	comp=Z,4μm,18.0s					
HMH	**Humu'ula Sheep**	**62.40 65**	P	**P**	**10 16 25.9**	**+1.7**
POHA	**Pohakuloa**	**62.40 65**	P	**P**	**10 16 23.8**	**-0.4**
POHA	**Pohakuloa**	**62.40 65**	P	**P**	**10 16 25.8**	**+1.7**
MLH	**Mauna Loa**	**62.45 65**	IAMs_20	IAMs_20	10 40 22.6	
	comp=Z,5μm,20.0s					
PUH	**Pauahi**	**62.57 65**	IAMs_20	IAMs_20	10 43 54.8	
	comp=Z,5μm,18.0s					
ULN	**Ulaanbaatar**	**63.16 332**	IAMs_20	IAMs_20	10 44 42.1	
	comp=Z,5μm,19.0s					
ULN	**Ulaanbaatar**	**63.16 332**	*c iP*	**P**	**10 16 28.5**	**0.0**
ULN			pmax	pmax		
	comp=Z,31nm,1.3s					
ULN			MLR	MLR		
	comp=Z,5μm,19.0s					
LSA	**Lhasa**	**63.24 307**	P	**P**	**10 16 30.2**	**+0.3**
LSA			S	**S**	**10 24 58.4**	**-1.7**
LSA			LR	LR		
	comp=Z,630nm,20.2s					
LSA			LR	LR		
	comp=Z,1μm,21.4s					
GOMU	**GeErMu**	**63.39 315**	P	**P**	**10 16 30.3**	**-0.3**
GOMU			sP	pP	10 16 38.5	-1.6
GOMU			S	**S**	**10 24 55.8**	**-5.8**
GOMU			pmax	pmax		
	comp=Z,11nm,1.0s					
GOMU			pmax	pmax		
	comp=Z,610nm,4.8s					
GOMU			LR	LR		
	comp=Z,820nm,16.0s					
GOMU			LR	LR		
	comp=Z,2μm,16.3s					
GOMU			LR	LR		
	comp=Z,4μm,16.2s					
SONM	**Songino Array**	**63.45 331**	P	**P**	**10 16 26.9**	**-3.5**
SONM			IAmb	IAmb	10 16 43.3	
	comp=Z,161nm,1.6s					
SONM	**Songino Array**	**63.45 331**	P	**P**	**10 16 30.5**	**+0.1**
	comp=Z,20nm,1.1s,baz=153,slow=7.7,SNR=30					
SONM			S	**S**	**10 25 00.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=152,slow=6.5,SNR=1.5					
SONM			LR	LR	10 45 11.8	
	comp=Z,6μm,19.0s,baz=138,slow=37					
SONM			PKP2bc		10 45 35.2	
	comp=Z,4.3nm,0.8s,baz=301,slow=2.4,SNR=14					
	comp=Z,20nm,1.1s					
SONM	**Songino Array**	**63.45 331**	P	**P**	**10 16 26.9**	**-3.5**
SONM			pmax	pmax		
	comp=Z,161nm,1.6s					
CIT	**Chita**	**63.55 338**	*e*P	**P**	**10 16 31.8**	**+0.9**
CIT			*e*		10 16 40.4	
CIT			*e*		10 17 06.6	
CIT			*e*		10 18 56.6	
CIT			*e*S	**S**	**10 25 06.6**	**+4.3**
CIT			pmax	pmax		
	comp=Z,1μm,2.3s					
PPT	**Papeete**	**63.79 107**	P	**P**	**10 16 33.5**	**+0.3**
	comp=Z,24nm,0.8s,baz=246,slow=20,SNR=3.7					
PPT			LR	LR	10 40 11.0	
	comp=Z,2μm,21.7s,baz=270,slow=32					
	comp=Z,24nm,0.8s					
PPTF	**Pamatai, Papee**	**63.80 107**	P	**P**	**10 16 34.5**	**+1.2**
GTK	**Tadong**	**64.41 304**	*e*P	**P**	**10 16 33.4**	**-3.8**
MA2	**Magadan**	**64.78 3**	P	**P**	**10 16 39.1**	**+0.4**
MA2			IAMs_20	IAMs_20	10 48 52.3	
	comp=Z,3μm,18.0s					
MA2	**Magadan**	**64.78 3**	P	**P**	**10 16 39.3**	**+0.5**
	comp=Z,134nm,1.0s,baz=170,slow=6.5,SNR=176					
MA2			S	**S**	**10 25 17.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=166,slow=19,SNR=1.0					
MA2			LR	LR	10 47 15.2	

comp=Z,2µm,18.0s,baz=171,slow=38
comp=Z,134nm,1.0s
MA2 Magadan 64.78 3 P **P 10 16 39.2 +0.4**
MA2 Magadan 64.78 3 P **P 10 16 39.1 +0.4**
MA2 pmax pmax
comp=Z,280nm,1.2s
MA2 MLR MLR
comp=Z,3µm,18.0s
MA2 Magadan 64.78 3 P **P 10 16 39.3 +0.5**
comp=Z,4µmcomp=Z,217nm,1.1s
ADK Adak 65.14 24 P **P 10 16 41.4 +0.2**
ADK Adak 65.14 24 P **P 10 16 41.4 +0.2**
ADK pmax pmax
comp=Z,447nm,1.3s
BOK Bokaro 65.55 299 *e*P **P 10 16 43.7 -0.8**
BOK IAmb IAmb 10 17 14.4
comp=Z,39nm,1.1s
CASY Casey 65.73 195 P **P 10 16 45.3 +0.4**
CASY IAMs_20 IAMs_20 10 43 15.5
comp=Z,4µm,19.0s
VIS Vishakhapatnam 66.17 292 *e*P **P 10 16 50.8 +2.2**
RAGD RAYAGADA 66.43 294 *e*P **P 10 16 51.0 +0.7**
RAGD IAmb IAmb 10 17 08.0
comp=Z,42nm,0.9s
PALK Pallekele 66.60 280 P **P 10 16 50.2 -1.3**
PALK IAmb IAmb 10 17 12.4
comp=Z,60nm,1.1s
PALK Pallekele 66.60 280 LR LR 10 48 07.0
comp=Z,1µm,21.0s,baz=114,slow=38
PALK Pallekele 66.60 280⇑ *e*P **P 10 16 49.5 -2.0**
PALK pmax pmax
comp=Z,34nm,1.0s
PALK MLR MLR
comp=Z,3µm,24.0s
ZAK Zakamensk 66.69 332 *e*P **P 10 16 51.1 -0.3**
ZAK pmax pmax
comp=Z,130nm,1.1s
MALK Mahakanadarawa 66.94 281 P **P 10 16 51.8 -1.8**
IRK Irkutsk 67.51 334 *e*P **P 10 16 55.8 -0.6**
IRK pmax pmax
comp=Z,320nm,2.9s
BOD Bodaibo 68.10 342 *e*P **P 10 16 59.4 -0.6**
BOD pmax pmax
comp=Z,214nm,2.2s
SEY Seymchan 68.21 3 LR LR 10 49 59.9
comp=Z,2µm,18.1s,baz=186,slow=39
SEY Seymchan 68.21 3*c i*P **P 10 17 01.4 +0.8**
SEY pmax pmax
comp=Z,128nm,1.1s
SEY MLR MLR
comp=Z,3µm,18.0s
YAK Yakutsk 68.35 352 P **P 10 17 01.4 -0.1**
YAK Yakutsk 68.35 352 LR LR 10 45 23.6
comp=Z,2µm,20.2s,baz=172,slow=35
YAK Yakutsk 68.35 352*c i*P **P 10 17 01.4 -0.1**
YAK *e* 10 17 25.2
YAK *e* 10 19 32.3
YAK *e*S **S 10 26 02.9 +2.6**
YAK *e* 10 26 57.3
YAK pmax pmax
comp=Z,118nm,1.3s
YAK pmax pmax
comp=N,93nm,1.6s
YAK pmax pmax
comp=E,22nm,1.7s
YAK pmax pmax
comp=Z,106nm,1.6s
YAK pmax pmax
comp=E,50nm,2.6s
YAK pmax pmax
comp=N,33nm,1.7s
YAK smax smax
comp=N,1µm,6.8s
YAK smax smax
comp=E,770nm,7.7s
YAK MLR MLR
comp=Z,2µm,22.0s
YAK MLR MLR
comp=E,773nm,19.0s
YAK MLR MLR
comp=N,616nm,24.0s
BLSP Bilaspur 68.38 296 *e*P **P 10 17 04.5 +1.9**
BLSP IAmb IAmb 10 17 31.0
comp=Z,147nm,1.5s
VJD Vijayawada 68.38 290 *e*P **P 10 17 00.7 -1.9**
VJD IAmb IAmb 10 17 17.6
comp=Z,25nm,0.8s
MOY Mondy 68.62 332 *e*P **P 10 17 03.8 +0.2**
MOY pmax pmax
comp=Z,326nm,2.5s
ALBI Allahabad 69.54 299 *e*P **P 10 17 08.5 -1.2**
ALBI IAmb IAmb 10 17 29.4
comp=Z,92nm,0.5s
KOD Kodaikanal 70.23 283 *e*P **P 10 17 13.8 -0.7**
KOD IAmb IAmb 10 17 33.9
comp=Z,92nm,1.1s
TRD Trivandrum 70.45 281 *e*P **P 10 17 17.4 +1.9**
TRD IAmb IAmb 10 17 36.1
comp=Z,101nm,1.1s
HYB Hyderabad 70.54 290 *e*P **P 10 17 15.9 -0.1**
HYB IVmB_BB 10 17 35.5
comp=Z,498nm,1.2s
BNDA BANDA 70.87 299⇑ *e*P **P 10 17 16.8 -1.1**
NGP Nagpur 70.91 294 *e*P P 10 17 25.6 +7.4
NGP IAmb IAmb 10 17 52.2
comp=Z,23nm,1.1s
UNV Unalaska Valle 70.93 27 P **P 10 17 17.5 -0.1**
baz=231
P08K Saint George I 71.44 24 P **P 10 17 20.9 +0.3**
baz=227
SPIA Saint Paul Isl 71.55 23 P **P 10 17 23.0 +1.7**
SPIA Saint Paul Isl 71.55 23 P **P 10 17 21.8 +0.6**
baz=226
WMQ Urumqi 71.79 319 *e*P **P 10 17 22.9 -0.2**
WMQ sP pP 10 17 33.1 +0.3
WMQ S **S 10 26 43.8 +2.3**
WMQ pmax pmax
comp=Z,44nm,1.1s
WMQ pmax pmax
comp=Z,1µm,4.9s
WMQ LR LR
comp=Z,2µm,17.9s
WMQ LR LR
comp=Z,1µm,16.5s
WMQ LR LR
comp=Z,730nm,16.7s
PTH Pithoragarh 72.11 303 *e*P **P 10 17 23.9 -1.6**
PTH IAmb IAmb 10 17 46.6
comp=Z,62nm,1.0s
JHNI Jhansi 72.43 299 *e*P **P 10 17 24.6 -2.6**
JHNI IAmb IAmb 10 17 50.7
comp=Z,59nm,1.1s
VNDA Vanda 72.64 176 P **P 10 17 28.2 +0.7**
VNDA Vanda 72.64 176 P **P 10 17 28.3 +0.7**
comp=Z,159nm,0.8s,baz=328,slow=6.7,SNR=110
VNDA LR LR 10 48 33.3
comp=Z,3µm,18.1s,baz=351,slow=35
comp=Z,159nm,0.8s
VNDA Vanda 72.64 176 P **P 10 17 28.2 +0.7**
VNDA pmax pmax
comp=Z,183nm,0.9s
AKL Akola 72.66 293 *e*P **P 10 17 26.9 -1.8**
AKL IAmb IAmb 10 17 44.0
comp=Z,81nm,1.0s
BHPL Bhopal 72.87 296 *e*P **P 10 17 31.1 +1.2**
BHPL IAmb IAmb 10 17 43.2
comp=Z,32nm,0.9s
JOSI Joshimath 72.95 304 *e*P **P 10 17 29.6 -0.9**
JOSI IAmb IAmb 10 17 57.1
comp=Z,116nm,0.5s
NRDN NARMADA NAGAR 72.98 296 *e*P **P 10 17 30.9 +0.4**
NRDN IAmb IAmb 10 17 54.7
comp=Z,52nm,1.0s
FALS False Pass 72.98 28 P **P 10 17 30.3 +0.5**
baz=233
GUNA GUNA 73.29 298 *e*P **P 10 17 30.6 -1.7**
GUNA IAmb IAmb 10 17 46.8
comp=Z,62nm,1.1s
SBA Scott Base 73.30 176 P **P 10 17 32.7 +1.3**
SBA Scott Base 73.30 176 P **P 10 17 32.7 +1.3**
SBA pmax pmax
comp=Z,271nm,1.4s
HNLY HANLEY 74.08 306 *e*P **P 10 17 36.3 -1.2**
HNLY IAmb IAmb 10 18 13.2
comp=Z,54nm,1.1s
S12K Black Hills 74.11 27 IAMs_20 IAMs_20 10 44 23.6
comp=Z,3µm,20.0s
S12K Black Hills 74.11 27 P **P 10 17 37.4 +0.9**
baz=234
KLP Kalpa 74.31 305 *e*P **P 10 17 37.1 -1.5**
KLP IAmb IAmb 10 18 02.4
comp=Z,114nm,0.9s
SONA Sohna 74.40 301 *e*P **P 10 17 36.9 -1.9**
NPLP NPLP New Delhi 74.42 302 *e*P **P 10 17 38.3 -0.6**
NPLP IAmb IAmb 10 17 53.0
comp=Z,64nm,0.9s
BILL Bilibino 74.53 8 P **P 10 17 39.2 +0.5**
BILL IAmb IAmb 10 17 53.2
comp=Z,91nm,1.2s
BILL Bilibino 74.53 8*c i*P **P 10 17 39.4 +0.7**
BILL pmax pmax
comp=Z,62nm,1.1s
BILL MLR MLR
comp=Z,1µm,18.0s
KAD Karad 74.60 289 *e*P **P 10 17 40.4 +0.2**
KAD IAmb IAmb 10 17 54.4
comp=Z,28nm,0.8s
SDPT Sand Point 74.64 28 P **P 10 17 39.9 +0.3**
SDPT Sand Point 74.64 28 P **P 10 17 40.5 +0.9**
SDPT Sand Point 74.64 28 P **P 10 17 40.1 +0.6**
baz=236
CNBA Chernabura Isl 74.78 29 P **P 10 17 41.5 +1.2**
CHNA Chernabura Isl 74.78 29 P **P 10 17 41.3 +0.9**
baz=237
KUDL Kundal 74.88 301 *e*P **P 10 17 39.3 -2.2**
KUDL IAmb IAmb 10 18 06.2
comp=Z,138nm,1.6s
SMLA Simla 75.09 304 *e*P **P 10 17 41.7 -1.0**
SMLA IAmb IAmb 10 17 59.0
comp=Z,49nm,0.7s
POO Poona 75.14 291 *e*P **P 10 17 44.5 +1.2**
POO IAmb IAmb 10 18 05.8
comp=Z,65nm,1.0s
ZSN Zaisan 75.17 322 *e*P **P 10 17 41.9 -0.9**
ZSN *e*S **S 10 27 21.0 +1.6**
ZSN pmax pmax
comp=Z,52nm,1.3s
ZSN Zaisan 75.17 322 *e*P **P 10 17 41.9 -0.9**
comp=Z,52nm,1.3s
ZSN *e*S **S 10 27 21.0 +1.6**
M11K Mekoryuk 75.28 22 IAMs_20 IAMs_20 10 48 09.0
comp=Z,4µm,20.0s
M11K Mekoryuk 75.28 22 P **P 10 17 43.4 +0.3**
baz=230
S14K Fog Glacier 75.60 28 P **P 10 17 46.3 +1.1**
baz=236
GAMB Gambell 75.74 18 P **P 10 17 46.8 +1.1**
baz=224
AJM Ajmer 76.08 299 *e*P **P 10 17 50.0 +1.5**
AJM IAmb IAmb 10 18 13.2
comp=Z,122nm,1.4s
DHRM DHARAMSHALA 76.10 305 *e*P **P 10 17 47.3 -1.5**
DHRM IAmb IAmb 10 18 04.6
comp=Z,89nm,0.9s
CHGN Chignik 76.14 28 P **P 10 17 48.5 +0.4**
CHGN Chignik 76.14 28 P **P 10 17 48.8 +0.7**
baz=238
M13K Dall Lake 76.39 23 P **P 10 17 49.4 0.0**
baz=232
MK31 Makanchi Array 76.50 321 P **P 10 17 49.6 -0.9**
MK31 Makanchi Array 76.50 321 P **P 10 17 49.6 -0.9**
MK31 pmax pmax
comp=Z,33nm,1.0s
MKAR Makanchi Array 76.50 321 P **P 10 17 49.7 -0.8**
MKAR Makanchi Array 76.50 321 P **P 10 17 49.5 -1.0**
comp=Z,20nm,1.0s,baz=100,slow=4.3,SNR=70
MKAR S **S 10 27 36.4 +2.2**
comp=Z,0.3nm,0.9s,baz=115,slow=2.1,SNR=2.3
MKAR PKPPKP **P'P'df 10 45 08.5 +4.0**
comp=Z,1.2nm,1.0s,baz=232,slow=1.4,SNR=4.7
MKAR LR LR 10 54 44.3
comp=Z,894nm,18.1s,baz=112,slow=38
comp=Z,20nm,1.0s
MKAR Makanchi Array 76.50 321 P **P 10 17 49.7 -0.8**
O14K Tigyukauivet M 76.54 25 P **P 10 17 51.7 +1.4**
baz=234
THN Thein Dam 76.62 305 *e*P **P 10 17 49.8 -1.6**
THN IAmb IAmb 10 18 11.2
comp=Z,68nm,0.8s
MAKZ Makanchi 76.70 321 P **P 10 17 50.9 -0.8**
MAKZ IAmb IAmb 10 18 11.7
comp=Z,54nm,1.1s
MAKZ Makanchi 76.70 321 P **P 10 17 50.9 -0.8**
MAKZ pmax pmax
comp=Z,54nm,1.1s
MAKZ MLR MLR
comp=Z,2µm,18.0s
N14K Kuskokwak Cree 76.76 24 P **P 10 17 52.9 +1.3**
baz=234
K13K Kusilvak Mount 76.85 22 IAMs_20 IAMs_20 10 49 17.4
comp=Z,3µm,20.0s
K13K Kusilvak Mount 76.85 22 P **P 10 17 53.7 +1.7**
baz=231
SHLS Shalkode 77.03 316 *e*P **P 10 17 51.0 -2.7**
SHLS Shalkode 77.03 316 *e*P **P 10 17 51.0 -2.7**
O15K Ungalikthiuk R 77.10 25 P **P 10 17 54.9 +1.3**
baz=236
M14K Bethel 77.14 23 P **P 10 17 54.4 +0.7**
M14K IAMs_20 IAMs_20 10 48 06.4
comp=Z,4µm,22.0s
M14K Bethel 77.14 23 P **P 10 17 55.2 +1.5**
baz=233,SNR=35
R16K Pilot Point 77.21 27 IAMs_20 IAMs_20 10 52 07.5
comp=Z,3µm,20.0s
R16K Pilot Point 77.21 27 P **P 10 17 55.0 +0.9**
baz=238
L14K Kuka Creek 77.22 23 IAMs_20 IAMs_20 10 49 29.2
comp=Z,3µm,20.0s
L14K Kuka Creek 77.22 23 P **P 10 17 55.7 +1.5**
baz=233
CHIR Chirikof Islan 77.23 29 IAmb IAmb 10 17 56.7
comp=Z,97nm,0.9s
CHIR Chirikof Islan 77.23 29 P **P 10 17 54.8 +0.5**
baz=240
UZB Uzynbulak 77.33 316 *e*S **S 10 27 44.6 +0.9**
UZB Uzynbulak 77.33 316 *e*S **S 10 27 44.6 +0.9**
JMU Jammu 77.36 305 *e*P **P 10 17 58.8 +3.2**
JMU IAmb IAmb 10 18 15.5
comp=Z,138nm,1.0s
N15K Kwethluk River 77.55 24 P **P 10 17 56.8 +0.8**
baz=235,SNR=17
M15K Kasigluk River 77.61 24 P **P 10 17 57.5 +1.1**
baz=235
TIXI Tiksi 77.65 354 P **P 10 17 55.2 -1.2**
TIXI IAmb IAmb 10 18 06.8
comp=Z,77nm,1.3s
TIXI Tiksi 77.65 354 LR LR 10 57 56.6
comp=Z,994nm,18.5s,baz=184,slow=40
TIXI Tiksi 77.65 354*ce*P **P 10 17 54.6 -1.8**
TIXI pmax pmax
comp=Z,29nm,1.5s
TIXI MLR MLR
comp=Z,2µm,18.0s
KPKS Kokpek 77.67 316 *e*P **P 10 17 56.1 -1.1**
KPKS Kokpek 77.67 316 *e*P **P 10 17 56.1 -1.1**
SATY Saty 77.73 316 *e*P **P 10 17 56.5 -1.1**
SATY *e*S **S 10 27 49.0 +1.1**
SATY Saty 77.73 316 *e*P **P 10 17 56.5 -1.1**
SATY *e*S **S 10 27 49.0 +1.1**
ZHN Zhinishke 77.74 316 *e*P **P 10 17 56.4 -1.3**
ZHN Zhinishke 77.74 316 *e*P **P 10 17 56.4 -1.3**
J14K Nanvaranak Lak 77.76 21 IAMs_20 IAMs_20 10 49 56.7
comp=Z,3µm,20.0s
J14K Nanvaranak Lak 77.76 21 P **P 10 17 58.6 +1.4**
baz=232
P16K Nushagak River 77.81 26 P **P 10 17 57.7 +0.2**
baz=237
L15K Ungalak Mounta 77.88 23 P **P 10 17 58.3 +0.5**
baz=234
ZAA0 Zalesovo Array 78.04 328 P **P 10 17 57.2 -1.7**
ZAA0 IAmb IAmb 10 18 11.9
comp=Z,51nm,0.9s
ZALV Zalesovo Beam 78.04 328 P **P 10 17 57.2 -1.7**
comp=Z,12nm,0.7s,baz=118,slow=5.7,SNR=26
ZALV S **S 10 27 45.5 -5.0**
comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=1.2
ZALV PKKPbc **PKKPbc 10 37 06.7 +5.2**
comp=Z,2.0nm,0.8s,baz=313,slow=1.7,SNR=5.7
ZALV LR LR 10 52 43.4
comp=Z,3µm,19.1s,baz=118,slow=36
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 78.04 328 *i*P **P 10 17 56.7 -2.2**
ZALV pmax pmax
comp=Z,11nm,0.6s
O16K Kokwok River B 78.07 25 IAMs_20 IAMs_20 10 57 36.0
comp=Z,3µm,19.0s
O16K Kokwok River B 78.07 25 P **P 10 17 59.6 +0.7**
baz=237
TNA Tin City 78.16 18 P **P 10 17 59.5 +0.2**
baz=227
Q16K King Salmon 78.21 27 P **P 10 17 59.2 -0.5**
baz=239
K15K Wolf Creek Mou 78.23 22 IAmb IAmb 10 18 14.7
comp=Z,131nm,1.1s
K15K IAMs_20 IAMs_20 10 49 50.0
comp=Z,3µm,20.0s
K15K Wolf Creek Mou 78.23 22 P **P 10 17 59.7 -0.1**
baz=234
N16K Nishlik Lake 78.27 24 P **P 10 18 01.3 +1.2**
baz=236,SNR=19
KDJ Kajisay 78.29 315 P **P 10 18 00.2 -0.6**
KDJ IAmb IAmb 10 18 34.0
comp=Z,54nm,1.0s
KDJ Kajisay 78.29 315 P **P 10 18 00.2 -0.6**
KDJ pmax pmax
comp=Z,54nm,1.0s
SII Sitkinak Islan 78.30 29 IAmb IAmb 10 18 24.4
comp=Z,100nm,1.0s
SII Sitkinak Islan 78.30 29 P **P 10 18 01.5 +1.2**
SII Sitkinak Islan 78.30 29 P **P 10 18 01.3 +1.0**
baz=241,SNR=13
ANM Nome 78.30 19 IAMs_20 IAMs_20 10 50 39.6
comp=Z,3µm,20.0s
ANM Nome 78.30 19 P **P 10 18 01.1 +0.9**
baz=230
KSH Kashi 78.38 312 P **P 10 18 04.4 +3.1**
KSH sP pP 10 18 11.3 +0.3
KSH S **S 10 27 58.4 +3.4**
KSH pmax pmax
comp=Z,12nm,1.4s
KSH pmax pmax
comp=Z,1µm,10.3s
KSH LR LR
comp=Z,1µm,18.5s
KSH LR LR
comp=Z,1µm,17.9s
KSH LR LR
comp=Z,1µm,18.6s
TDK Taldyqorghan 78.38 318 *e*P **P 10 18 00.0 -1.0**
TDK pmax pmax
comp=Z,44nm,0.8s
TDK Taldyqorghan 78.38 318 *e*P **P 10 18 00.0 -1.0**
comp=Z,44nm,0.8s
TDK LR LR 10 54 38.0
comp=Z,1µm,20.4s
M16K Timber Creek 78.50 24 P **P 10 18 02.6 +1.3**
baz=236
ARXS Arharly 78.50 317 *e*P **P 10 18 01.6 -0.2**
ACHA Angle Creek He 78.57 27 IAmb IAmb 10 18 06.4
comp=Z,82nm,1.0s
P17K Kvichak River 78.57 26 P **P 10 18 01.8 +0.1**
baz=239,SNR=6.4
F14K Arctic Creek 78.59 18 P **P 10 18 02.7 +1.0**
baz=228
O17K Koliganek Bris 78.59 26 P **P 10 18 02.9 +1.1**
baz=238,SNR=50
R18K Karluk 78.66 28 P **P 10 18 02.8 +0.6**
baz=241
L16K Owhat River 78.68 23 IAmb IAmb 10 18 16.8
comp=Z,131nm,1.1s
L16K IAMs_20 IAMs_20 10 48 53.1
comp=Z,3µm,21.0s
L16K Owhat River 78.68 23 P **P 10 18 02.8 +0.6**
baz=236,SNR=13
TNSS Tian-Shan 78.73 316 *e*P **P 10 18 02.1 -1.4**
TNSS Tian-Shan 78.73 316 *e*P **P 10 18 02.1 -1.4**
AAA Alma-Ata 78.81 316 *e*P **P 10 18 02.4 -1.1**
AAA pmax pmax
comp=Z,73nm,1.4s
AAA Alma-Ata 78.81 316 *e*P **P 10 18 02.4 -1.1**
comp=Z,73nm,1.4s
NIL Nilore 78.93 306 P **P 10 18 03.4 -1.0**
NIL IAmb IAmb 10 18 26.6
comp=Z,120nm,0.9s
NIL Nilore 78.93 306 P **P 10 18 03.4 -1.0**
NIL pmax pmax
comp=Z,120nm,0.9s
NIL MLR MLR
comp=Z,1µm,21.0s
Q18K Katmai Hardscr 78.93 27 P **P 10 18 03.8 -0.1**
baz=240,SNR=50
N17K Nushagak Hills 78.95 25 P **P 10 18 04.0 +0.2**
baz=238
ULHL Ulahol 78.99 315 P **P 10 18 04.5 -0.2**
SNR=6.8
G15K Niukluk 79.01 19 P **P 10 18 04.5 +0.5**
baz=231
OHAK Old Harbor 79.04 29 IAmb IAmb 10 18 15.6
comp=Z,133nm,1.5s
OHAK Old Harbor 79.04 29 P **P 10 18 05.3 +1.0**
OHAK Old Harbor 79.04 29 P **P 10 18 04.9 +0.6**
baz=242,SNR=21
J16K Anvik River 79.16 22 IAMs_20 IAMs_20 10 50 19.6
comp=Z,3µm,20.0s
J16K Anvik River 79.16 22 P **P 10 18 06.4 +1.5**
baz=234
P18K Big Mountain, 79.21 26 IAMs_20 IAMs_20 10 48 50.3
comp=Z,2µm,20.0s
P18K Big Mountain, 79.21 26 P **P 10 18 05.4 +0.1**
baz=240,SNR=5.5
BOOM Boomskoye usch 79.27 315 P **P 10 18 05.3 -0.9**
F15K North Star Dit 79.27 19 IAMs_20 IAMs_20 10 48 45.4
comp=Z,3µm,20.0s
F15K North Star Dit 79.27 19 P **P 10 18 06.8 +1.4**
baz=230
M17K Holitna River 79.32 24 IAMs_20 IAMs_20 10 52 06.0
comp=Z,3µm,21.0s
M17K Holitna River 79.32 24 P **P 10 18 06.6 +0.7**
baz=238
L17K Donlin 79.38 23 P **P 10 18 07.6 +1.4**
baz=237
H16K Elim 79.39 20 P **P 10 18 07.2 +1.0**
baz=232,SNR=8.0
O18K Koktuh Hills 79.45 26 P **P 10 18 06.8 +0.2**
baz=240,SNR=9.8
I17K Unalakleet 79.48 21 IAMs_20 IAMs_20 10 48 49.1
comp=Z,3µm,21.0s
I17K Unalakleet 79.48 21 P **P 10 18 08.0 +1.4**
baz=234,SNR=5.6
N18K Kilae Creek 79.58 25 P **P 10 18 08.9 +1.6**
baz=239
KDAK Kodiak Island 79.64 28 P **P 10 18 08.1 +0.5**
KDAK IAmb IAmb 10 18 11.3
comp=Z,88nm,1.1s
KDAK Kodiak Island 79.64 28 LR LR 10 47 39.3
comp=Z,1µm,21.7s,baz=111,slow=31
KDAK Kodiak Island 79.64 28*ce*P **P 10 18 08.2 +0.5**
KDAK pmax pmax
comp=Z,107nm,1.1s
KDAK MLR MLR
comp=Z,2µm,19.0s
KDAK Kodiak Island 79.64 28 P **P 10 18 08.1 +0.5**
baz=242
TKM2 Tokmak 2 79.64 315 P **P 10 18 07.7 -0.6**
SNR=9.2
TKM2 Tokmak 2 79.64 315 P **P 10 18 06.0 -2.3**
Q19K Cape Douglas, 79.69 27 IAMs_20 IAMs_20 10 59 09.1
comp=Z,2µm,18.0s
Q19K Cape Douglas, 79.69 27 P **P 10 18 07.3 -0.6**
baz=241,SNR=8.0
K17K Iditarod 79.70 23 IAMs_20 IAMs_20 10 51 16.9
comp=Z,3µm,20.0s
K17K Iditarod 79.70 23 P **P 10 18 09.4 +1.6**
baz=236
J17K VABM Dome 79.79 22 IAMs_20 IAMs_20 10 51 20.1
comp=Z,3µm,20.0s
J17K VABM Dome 79.79 22 P **P 10 18 09.9 +1.6**
baz=236
G16K Koyuk River 79.82 19 IAMs_20 IAMs_20 10 51 25.8
comp=Z,4µm,20.0s
G16K Koyuk River 79.82 19 P **P 10 18 09.6 +1.2**
baz=232
O19K Port Alsworth 80.01 26 IAmb IAmb 10 18 20.1
comp=Z,194nm,2.0s
O19K IAMs_20 IAMs_20 10 54 51.4
comp=Z,2µm,20.0s
O19K Port Alsworth 80.01 26 P **P 10 18 09.7 +0.2**
baz=241
KBK Karagaybulak 80.02 315 P **P 10 18 09.9 -0.4**

SNR=6.9
M18K Stony River 80.03 24 P **P** 10 18 10.6 +1.0
baz=239,SNR=17
L18K Granite Mounta 80.06 24 IAms_20 IAms_20 10 50 19.5
comp=Z,3µm,21.0s
L18K Granite Mounta 80.06 24 P **P** 10 18 10.5 +0.7
baz=238,SNR=20
Q20K Shuyak Island 80.11 28 P **P** 10 18 10.5 +0.4
baz=243,SNR=6.3
SYI Shuyak Island 80.12 28 IAmb IAmb 10 18 24.6
comp=Z,90nm,1.1s
SYI IAms_20 IAms_20 10 58 45.4
comp=Z,2µm,18.0s
KURK Kurchatov 80.22 323 P **P** 10 18 10.0 -0.9
KURK Kurchatov 80.22 323 IAms_20 IAms_20 10 54 26.6
comp=Z,3µm,20.0s
KURK Kurchatov 80.22 323 P **P** 10 18 10.0 -0.9
KURK pmax pmax
comp=Z,68nm,1.2s
KURK MLR MLR
comp=Z,3µm,20.0s
P19K Oil Pt 80.22 27 IAmb IAmb 10 18 14.9
comp=Z,79nm,0.7s
P19K Oil Pt 80.22 27 P **P** 10 18 10.9 +0.1
baz=242,SNR=15
KURBB Kurchatov Arra 80.24 323 P **P** 10 18 09.6 -1.4
comp=Z,8.5nm,0.8s,baz=113,slow=4.7,SNR=28
KURBB S **SKSac** 10 28 22.8 -3.5
comp=Z,1.1nm,0.3s,baz=123,slow=22,SNR=1.6
KURBB PKKPbc **PKKPbc** 10 36 54.6 -1.8
comp=Z,0.5nm,0.7s,baz=289,slow=3.2,SNR=4.4
KURBB PKPPKP **P'P'df** 10 44 57.1 -0.4
comp=Z,0.5nm,0.5s,baz=309,slow=2.7,SNR=1.7
KURBB LR LR 10 54 51.5
comp=Z,3µm,19.3s,baz=136,slow=37
comp=Z,8.5nm,0.8s
KURBB Kurchatov Arra 80.24 323 P **P** 10 18 08.8 -2.2
N19K Bonanza Creek 80.24 25 P **P** 10 18 11.6 +0.7
baz=240
CHMS Chumysh 80.26 315 P **P** 10 18 10.6 -0.8
SNR=6.6
AAK Ala-Archa 80.34 315 P **P** 10 18 11.1 -0.9
AAK Ala-Archa 80.34 315 LR LR 10 55 34.7
comp=Z,988nm,19.9s,baz=102,slow=37
AAK Ala-Archa 80.34 315 P **P** 10 18 10.1 -1.8
SNR=6.9
AAK Ala-Archa 80.34 315*ce*P **P** 10 18 10.9 -1.1
AAK pmax pmax
comp=Z,18nm,1.3s
AAK MLR MLR
comp=Z,1µm,19.0s
H17K Granite Mounta 80.37 20 IAms_20 IAms_20 10 51 25.5
comp=Z,3µm,20.0s
H17K Granite Mounta 80.37 20 P **P** 10 18 12.2 +0.8
baz=235
ILSW Iliamna Southw 80.42 26 IAmb IAmb 10 18 23.0
comp=Z,199nm,1.7s
G17K Kiwalik Mounta 80.45 20 P **P** 10 18 13.0 +1.1
baz=234
SGDS Sogindy 80.47 316 *e*P **P** 10 18 11.2 -1.3
SGDS Sogindy 80.47 316 *e*P **P** 10 18 11.2 -1.3
USP Ospenovka 80.51 315 P **P** 10 18 12.2 -0.5
SNR=6.5
O20K Slope Mountain 80.70 26 P **P** 10 18 13.3 -0.1
baz=242
TTA Tatalina 80.70 23 IAmb IAmb 10 18 24.9
comp=Z,140nm,1.6s
TTA Tatalina 80.70 23 P **P** 10 18 14.3 +1.0
TTA Tatalina 80.70 23 P **P** 10 18 14.0 +0.6
baz=239,SNR=18
J18K Innoko River 80.71 22 IAms_20 IAms_20 10 50 17.7
comp=Z,3µm,21.0s
J18K Innoko River 80.71 22 P **P** 10 18 13.3 0.0
baz=238
C16K Lisburne Hills 80.74 16 IAms_20 IAms_20 10 53 04.0
comp=Z,3µm,19.0s
C16K Lisburne Hills 80.74 16 P **P** 10 18 13.8 +0.5
baz=229
AML Almayashu 80.77 314 P **P** 10 18 14.1 -0.5
SNR=45
L19K White Mountain 80.78 24 IAms_20 IAms_20 10 50 42.4
comp=Z,3µm,21.0s
L19K White Mountain 80.78 24 P **P** 10 18 14.5 +0.8
baz=240
F17K Baldwin Pennin 80.82 19 IAms_20 IAms_20 10 51 34.2
comp=Z,3µm,20.0s
F17K Baldwin Pennin 80.82 19 P **P** 10 18 14.8 +1.1
baz=233
M19K Big River Lodg 80.83 24 P **P** 10 18 15.4 +1.5
baz=240
EKS2 Erkin-Say 80.85 315 P **P** 10 18 14.5 -0.2
SNR=16
HOM Homer 80.94 27 P **P** 10 18 14.7 +0.1
baz=243
OHH Osh 81.00 312 P **P** 10 18 16.0 +0.5
D17K Noatak River 81.02 17 P **P** 10 18 16.1 +1.3
baz=231,SNR=24
E17K Hotham Inlet 81.02 18 P **P** 10 18 15.9 +1.0
baz=233
H18K Honhosa River 81.04 21 IAms_20 IAms_20 10 51 47.0
comp=Z,3µm,20.0s
H18K Honhosa River 81.04 21 P **P** 10 18 15.7 +0.7
baz=236
RDOG Red Dog Mine 81.30 17 IAmb IAmb 10 18 40.9
comp=Z,114nm,1.0s
RDOG Red Dog Mine 81.30 17 P **P** 10 18 17.5 +1.2
baz=231,SNR=31
L20K Farewell, AK 81.32 24 P **P** 10 18 17.5 +0.9
baz=241
BTLS Baital 81.33 317 *e*P **P** 10 18 15.9 -1.1
BTLS Baital 81.33 317 *e*P **P** 10 18 15.9 -1.1
BRLK Bradley Lake 81.33 27 IAmb IAmb 10 18 29.9
comp=Z,138nm,1.7s
M20K Styx River 81.34 25 IAmb IAmb 10 18 29.2
comp=Z,251nm,1.6s
M20K Styx River 81.34 25 P **P** 10 18 17.5 +0.7
baz=241,SNR=16
GCSA Galena City Sc 81.34 21 P **P** 10 18 16.4 -0.1
baz=238,SNR=21
G18K Tagagawik 81.36 20 P **P** 10 18 17.4 +0.7
baz=236
BRSE Bradley Lake S 81.39 27 P **P** 10 18 17.3 +0.3
baz=244
N20K Mount Spurr 81.40 25 P **P** 10 18 16.7 -0.5
baz=242
SPCR Spurr Chakacha 81.40 25 P **P** 10 18 16.7 -0.5
baz=242
J19K Poorman 81.41 22 IAms_20 IAms_20 10 50 39.0
comp=Z,3µm,20.0s
J19K Poorman 81.41 22 P **P** 10 18 17.7 +0.7
baz=239
F18K Selawik 81.43 19 P **P** 10 18 17.6 +0.6
baz=235,SNR=13
C17K DeLong Mountai 81.48 17 P **P** 10 18 18.1 +0.8
baz=231
E18K Tukpahlearik C 81.61 18 IAms_20 IAms_20 10 54 30.1
comp=Z,2µm,19.0s
E18K Tukpahlearik C 81.61 18 P **P** 10 18 18.7 +0.8
baz=234
CAPN Captain Cook N 81.66 26 P **P** 10 18 19.2 +0.8
baz=243
K20K Telida 81.68 23 IAms_20 IAms_20 10 52 59.2
comp=Z,3µm,20.0s
K20K Telida 81.68 23 P **P** 10 18 19.4 +0.9
baz=240
H19K Roundabout Mou 81.92 21 IAms_20 IAms_20 10 52 14.3
comp=Z,3µm,19.0s
H19K Roundabout Mou 81.92 21 P **P** 10 18 20.5 +0.9
baz=238
G19K Purcell Mounta 82.03 20 P **P** 10 18 21.2 +1.0
baz=237,SNR=35
SKT Skwentna 82.05 25 IAms_20 IAms_20 10 50 17.3
comp=Z,2µm,21.0s
SKT Skwentna 82.05 25 P **P** 10 18 19.7 -0.7
baz=243
J20K Nowinta River 82.06 22 IAms_20 IAms_20 10 52 40.3
comp=Z,3µm,20.0s
J20K Nowinta River 82.06 22 P **P** 10 18 21.2 +0.8
baz=240
SEW Seward 82.13 27 IAmb IAmb 10 18 33.3
comp=Z,78nm,1.1s
SEW Seward 82.13 27 P **P** 10 18 20.8 0.0
baz=245
C18K Utukok River 82.17 17 IAms_20 IAms_20 10 53 33.7
comp=Z,3µm,20.0s
C18K Utukok River 82.17 17 P **P** 10 18 21.5 +0.6
baz=233
O22K Cooper Landing 82.17 27 IAmb IAmb 10 18 44.0
comp=Z,79nm,0.8s
O22K IAms_20 IAms_20 11 00 44.6
comp=Z,3µm,18.0s
O22K Cooper Landing 82.17 27 P **P** 10 18 21.0 0.0
baz=245
F19K Shaleruckik Mo 82.18 19 IAms_20 IAms_20 10 52 47.2
comp=Z,3µm,20.0s
F19K Shaleruckik Mo 82.18 19 P **P** 10 18 21.6 +0.6
baz=236
PPLA Purkeypile 82.20 24 P **P** 10 18 21.6 +0.2
baz=242,SNR=8.4
FIS Fire Island 82.24 26 IAmb IAmb 10 18 29.2
comp=Z,80nm,0.6s
I20K Naaghedeneel 82.25 22 P **P** 10 18 22.3 +1.0
baz=240
RC01 Rabbit Creek A 82.42 26 IAmb IAmb 10 18 34.7
comp=Z,128nm,1.4s
RC01 Rabbit Creek A 82.42 26 P **P** 10 18 22.3 -0.1
baz=245,SNR=24
B18K Kokolik River 82.43 16 P **P** 10 18 23.1 +0.9
baz=232
H20K Anotleneega Mo 82.45 21 P **P** 10 18 22.9 +0.4
baz=239,SNR=18
KBU Kabul Universi 82.45 306 P P 10 18 16.9 -6.5
GAR Garm 82.48 310 IAmb IAmb 10 18 55.0
comp=Z,51nm,0.9s
CAST Castle Rocks 82.49 24 IAmb IAmb 10 18 46.5
comp=Z,43nm,1.0s
CAST IAms_20 IAms_20 10 53 24.9
comp=Z,3µm,20.0s
CAST Castle Rocks 82.49 24 P **P** 10 18 22.3 -0.4
baz=242,SNR=25
KBL Kabul 82.53 306 P **P** 10 18 22.1 -1.7
KBL Kabul 82.53 306 P **P** 10 18 22.1 -1.7
KBL pmax pmax
comp=Z,32nm,0.9s
M22K Willow 82.55 25 P **P** 10 18 22.3 -0.7
M22K IAmb IAmb 10 18 38.7
comp=Z,76nm,1.0s
M22K Willow 82.55 25 P **P** 10 18 22.3 -0.7
baz=244
MAW Mawson 82.60 203 P **P** 10 18 23.6 +0.4
MAW Mawson 82.60 203 P **P** 10 18 23.4 +0.2
comp=Z,125nm,0.9s,baz=92,slow=6.6,SNR=11
MAW LR LR 10 55 34.4
comp=Z,2µm,18.1s,baz=82,slow=36
comp=Z,125nm,0.9s
MAW Mawson 82.60 203 P **P** 10 18 23.6 +0.4
MAW pmax pmax
comp=Z,36nm,1.0s
CHUM Lake Minchumin 82.62 23 P **P** 10 18 24.0 +0.6
baz=242,SNR=29
DZA Taraz 82.65 314 *e*P **P** 10 18 22.8 -1.2
DZA Taraz 82.65 314 *e*P **P** 10 18 22.9 -1.2
E19K Redstone River 82.70 19 IAms_20 IAms_20 10 54 48.8
comp=Z,3µm,19.0s
E19K Redstone River 82.70 19 P **P** 10 18 24.7 +1.0
baz=237
CUT Chulitna 82.77 25 P **P** 10 18 24.3 +0.1
baz=244
PMR Palmer 82.90 26 P **P** 10 18 24.6 -0.2
PMR Palmer 82.90 26 P **P** 10 18 24.5 -0.4
baz=245,SNR=13
PWL Port Wells 82.95 27 IAmb IAmb 10 18 40.8
comp=Z,86nm,1.1s
PWL Port Wells 82.95 27 P **P** 10 18 24.8 -0.3
baz=246,SNR=12
F20K Avaraart Lake 82.97 20 IAms_20 IAms_20 10 53 43.2
comp=Z,3µm,20.0s
F20K Avaraart Lake 82.97 20 P **P** 10 18 25.5 +0.4
baz=238
D19K Kuna River 83.00 18 IAms_20 IAms_20 10 51 04.7
comp=Z,3µm,21.0s
D19K Kuna River 83.00 18 P **P** 10 18 25.8 +0.6
baz=236
KTH Kantishna Hill 83.02 24 IAmb IAmb 10 18 51.8
comp=Z,73nm,1.2s
KTH IAms_20 IAms_20 10 51 39.8
comp=Z,2µm,20.0s
P23K Montague Islan 83.02 28 P **P** 10 18 25.9 +0.4
baz=247
GHO Glory Hole Cre 83.07 26 IAmb IAmb 10 18 48.0
comp=Z,53nm,1.0s
KNK Knik Glacier 83.12 26 P **P** 10 18 26.2 +0.2
baz=246,SNR=22
A19K Wawwright 83.14 16 P **P** 10 18 26.5 +0.6
baz=233
TRF Thorofare Moun 83.23 24 IAmb IAmb 10 18 49.1
comp=Z,62nm,1.2s
TRF Thorofare Moun 83.23 24 P **P** 10 18 26.1 -0.6
baz=244
BPAW Bear Paw Mtn. 83.24 23 P **P** 10 18 26.4 -0.2
BPAW IAms_20 IAms_20 10 53 47.6
comp=Z,3µm,19.0s
BPAW Bear Paw Mtn. 83.24 23 P **P** 10 18 26.5 -0.1
baz=243,SNR=8.7
H21K Melozitna Rive 83.28 21 IAms_20 IAms_20 10 52 57.6
comp=Z,4µm,20.0s
H21K Melozitna Rive 83.28 21 P **P** 10 18 27.2 +0.4
baz=241
KK31 Karatay Array 83.29 314 P **P** 10 18 26.0 -1.3
KK31 IAmb IAmb 10 18 40.6
comp=Z,49nm,1.1s
KK31 Karatay Array 83.29 314 P **P** 10 18 26.0 -1.3
KK31 pmax pmax
comp=Z,49nm,1.1s
KKAR Karatay Array 83.29 314 P **P** 10 18 26.0 -1.3
KKAR Karatay Array 83.29 314 P **P** 10 18 26.0 -1.3
CHGR Chuyangaron 83.29 310 IAms_20 IAms_20 10 54 56.6
comp=Z,3µm,22.0s
Q23K Middleton Isla 83.30 28 P **P** 10 18 27.0 +0.1
baz=248
SML Sawmill 83.34 26 P **P** 10 18 27.3 +0.1
SML Sawmill 83.34 26 P **P** 10 18 27.2 +0.1
baz=246,SNR=29
I21K Tanana 83.36 22 IAmb IAmb 10 18 52.0
comp=Z,76nm,0.9s
I21K IAms_20 IAms_20 10 52 00.7
comp=Z,3µm,19.0s
I21K Tanana 83.36 22 P **P** 10 18 27.9 +0.8
baz=242,SNR=40
IUG Iuzhnay 83.41 313 *e*P **P** 10 18 26.9 -1.2
IUG Iuzhnay 83.41 313 *e*P **P** 10 18 26.9 -1.2
G21K Allakaket 83.46 20 P **P** 10 18 28.2 +0.6
baz=240
E20K Nigu River 83.46 18 P **P** 10 18 28.6 +0.8
baz=238,SNR=40
GLI Glacier Island 83.51 27 IAmb IAmb 10 18 37.3
comp=Z,48nm,0.9s
GLI Glacier Island 83.51 27 P **P** 10 18 27.8 -0.2
baz=247
D20K Etivluk River 83.58 18 P **P** 10 18 28.7 +0.5
baz=237,SNR=32
HIN Hinchinbrook I 83.59 27 IAmb IAmb 10 18 38.0
comp=Z,62nm,1.0s
M23K Glacier View 83.60 26 P **P** 10 18 28.7 +0.2
baz=246,SNR=11
BRZS Berezniki 83.60 321 *e*P **P** 10 18 27.5 -1.2
BRZS Berezniki 83.60 321 *e*P **P** 10 18 27.5 -1.2
BRLS Borolday 83.75 314 *e*P **P** 10 18 28.4 -1.3
BRLS Borolday 83.75 314 *e*P **P** 10 18 28.5 -1.3
SCM Sheep Creek Mo 83.79 26 IAmb IAmb 10 18 42.4
comp=Z,145nm,1.4s
SCM IAms_20 IAms_20 10 57 29.3
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 83.79 26 P **P** 10 18 29.5 0.0
baz=247,SNR=19
RND Reindeer 83.79 24 IAmb IAmb 10 18 52.6
comp=Z,73nm,1.0s
RND IAms_20 IAms_20 10 52 59.1
comp=Z,3µm,20.0s
F21K Alatna River 83.81 20 IAms_20 IAms_20 10 51 58.5
comp=Z,3µm,21.0s
F21K Alatna River 83.81 20 P **P** 10 18 29.7 +0.2
baz=240
MCK McKinley 83.89 24 P **P** 10 18 29.4 -0.6
baz=245,SNR=44
H22K Ishtalitna Cre 83.92 21 P **P** 10 18 30.3 +0.3
baz=243,SNR=18
EYAK Cordova Ski Ar 84.00 27 IAmb IAmb 10 18 42.5
comp=Z,80nm,1.4s
EYAK Cordova Ski Ar 84.00 27 P **P** 10 18 30.5 0.0
EYAK Cordova Ski Ar 84.00 27 P **P** 10 18 30.8 +0.3
baz=248,SNR=10
B20K Meade River 84.12 17 IAms_20 IAms_20 10 55 28.5
comp=Z,3µm,19.0s
B20K Meade River 84.12 17 P **P** 10 18 31.7 +0.7
baz=237,SNR=28
DIV Divide 84.20 27 IAmb IAmb 10 18 55.9
comp=Z,69nm,1.1s
NEA2 Nenana 84.21 23 IAmb IAmb 10 18 54.8
comp=Z,51nm,1.0s
NEA2 IAms_20 IAms_20 10 52 37.2
comp=Z,3µm,20.0s
NEA2 Nenana 84.21 23 P **P** 10 18 31.3 -0.3
baz=245,SNR=9.0
E21K Killik River 84.26 19 IAms_20 IAms_20 10 56 18.3
comp=Z,3µm,19.0s
E21K Killik River 84.26 19 P **P** 10 18 32.5 +0.7
baz=240
KLU Klutina 84.27 27 IAmb IAmb 10 18 41.7
comp=Z,62nm,0.9s
KLU IAms_20 IAms_20 11 02 45.2
comp=Z,2µm,18.0s
KLU Klutina 84.27 27 P **P** 10 18 32.5 +0.5
baz=248,SNR=28
I23K Minto, Yukon-K 84.33 23 IAmb IAmb 10 19 15.6
comp=Z,158nm,2.0s
I23K IAms_20 IAms_20 10 54 20.5
comp=Z,3µm,20.0s
I23K Minto, Yukon-K 84.33 23 P **P** 10 18 31.9 -0.2
baz=244,SNR=8.4
C21K Knifeblade Rid 84.38 18 P **P** 10 18 33.2 +0.9
baz=239,SNR=15
KAIM Kayak Island 84.39 28 IAmb IAmb 10 18 55.5
comp=Z,89nm,1.3s
KAIM Kayak Island 84.39 28 P **P** 10 18 33.0 +0.4
baz=250
F22K John River 84.39 20 P **P** 10 18 32.9 +0.5
baz=242
M24K Tolsona, Glenn 84.39 26 IAmb IAmb 10 18 48.8
comp=Z,71nm,1.1s
M24K IAms_20 IAms_20 10 57 38.4
comp=Z,3µm,20.0s
M24K Tolsona, Glenn 84.39 26 P **P** 10 18 32.6 0.0
baz=248,SNR=18
RAGM Ragged Mountai 84.43 28 IAmb IAmb 10 18 42.6
comp=Z,116nm,1.4s
RAGM IAms_20 IAms_20 10 59 09.6
comp=Z,2µm,19.0s
WRH Wood River Hil 84.54 23 IAmb IAmb 10 18 56.2
comp=Z,83nm,1.0s
WRH IAms_20 IAms_20 10 58 23.0
comp=Z,2µm,19.0s
HMT Hamilton 84.61 28 IAms_20 IAms_20 11 03 16.2
comp=Z,2µm,18.0s
QSPA South Pole Qui 84.66 180 P **P** 10 18 33.7 -0.2
comp=Z,220nm,1.0s,baz=341,slow=1.5,SNR=360
QSPA S **SKSac** 10 28 50.5 -5.1
comp=Z,2.5nm,1.1s,baz=56,slow=7.3,SNR=2.2
QSPA LR LR 10 56 41.4
comp=Z,5µm,18.1s,baz=12,slow=36
comp=Z,220nm,1.0s
B21K Ikpikpuk River 84.67 18 P **P** 10 18 34.4 +0.7
baz=239
BMRM Bremner River 84.67 27 IAmb IAmb 10 18 46.8
comp=Z,77nm,1.1s
BMRM Bremner River 84.67 27 P **P** 10 18 34.5 +0.5
baz=249,SNR=17
CCB Clear Creek Bu 84.72 23 IAmb IAmb 10 18 56.4
comp=Z,76nm,0.9s
CCB IAms_20 IAms_20 10 53 01.9
comp=Z,2µm,20.0s
SUCK Suckling Hills 84.74 28 IAmb IAmb 10 18 46.9
comp=Z,108nm,1.4s
G23K Bananza Creek 84.78 21 IAms_20 IAms_20 10 53 52.9
comp=Z,3µm,20.0s
G23K Bananza Creek 84.78 21 P **P** 10 18 34.6 +0.2
baz=244
COLA College 84.80 23 P **P** 10 18 33.3 -1.1
COLA IAmb IAmb 10 18 57.2
comp=Z,68nm,0.8s
COLA College 84.80 23 IAms_20 IAms_20 10 54 14.7
comp=Z,3µm,20.0s
COLA College 84.80 23 P **P** 10 18 33.5 -1.0
COLA College 84.80 23*c i*P **P** 10 18 33.2 -1.3
COLA pmax pmax
comp=Z,34nm,0.8s
COLA College 84.80 23 P **P** 10 18 33.7 -0.7
baz=246
E22K Anaktuvuk Pass 84.81 19 IAmb IAmb 10 19 02.9
comp=Z,50nm,1.1s
E22K IAms_20 IAms_20 10 54 32.9
comp=Z,3µm,20.0s
E22K Anaktuvuk Pass 84.81 19 P **P** 10 18 35.3 +0.7
baz=242,SNR=40
D22K Ayikyak River 84.89 19 IAmb IAmb 10 18 52.9
comp=Z,67nm,1.0s
D22K IAms_20 IAms_20 10 56 11.8
comp=Z,2µm,20.0s
D22K Ayikyak River 84.89 19 P **P** 10 18 36.0 +1.1
baz=241,SNR=37
N25K Chitina, Valde 84.91 27 IAmb IAmb 10 18 52.6
comp=Z,175nm,1.9s
N25K Chitina, Valde 84.91 27 P **P** 10 18 35.5 +0.3
baz=249,SNR=12
COLD Coldfoot 84.94 20 P **P** 10 18 36.0 +0.8
baz=244,SNR=25
HARP HAARP 84.95 26 P **P** 10 18 35.0 -0.3
baz=249,SNR=6.6
HDA Harding Lake 84.97 24 IAmb IAmb 10 18 42.8
comp=Z,30nm,0.7s
HDA Harding Lake 84.97 24 P **P** 10 18 34.3 -1.1
baz=247,SNR=20
BGLC Bering Glacier 84.99 28 P **P** 10 18 35.1 -0.4
baz=250
A21K Barrow 85.00 16 P **P** 10 18 35.5 +0.2
baz=237
PAX Paxson 85.02 25 IAmb IAmb 10 18 46.3
comp=Z,131nm,1.9s
PAX Paxson 85.02 25 P **P** 10 18 35.6 -0.1
baz=248,SNR=9.9
POKR Poker Plat Res 85.06 23 IAms_20 IAms_20 10 54 31.7
comp=Z,3µm,20.0s
POKR Poker Plat Res 85.06 23 P **P** 10 18 34.7 -1.1
baz=246,SNR=9.8
IL31 85.14 23 P **P** 10 18 34.9 -1.2
IL31 IAmb IAmb 10 18 58.6
comp=Z,66nm,0.8s
ILAR Eielson Array 85.14 23 P **P** 10 18 34.9 -1.3
ILAR Eielson Array 85.14 23 P **P** 10 18 34.6 -1.6
comp=Z,34nm,0.7s,baz=253,slow=4.8,SNR=362
ILAR PKPPKP **P'P'df** 10 44 51.1 +3.4
comp=Z,1.1nm,1.0s,baz=90,slow=2.7,SNR=5.4
ILAR LR LR 10 53 26.4
comp=Z,2µm,20.6s,baz=258,slow=33
comp=Z,34nm,0.7s
ILAR Eielson Array 85.14 23 P **P** 10 18 34.9 -1.3
H24K Noodor Dome 85.19 22 IAms_20 IAms_20 10 53 16.9
comp=Z,3µm,20.0s
H24K Noodor Dome 85.19 22 P **P** 10 18 36.5 0.0
baz=246,SNR=32
GLB Gilahina Butte 85.20 27 IAmb IAmb 10 18 49.4
comp=Z,43nm,1.0s
K24K Donnelly Dome 85.21 24 P **P** 10 18 36.5 -0.2
baz=248
SNH Sunshine Point 85.22 28 IAmb IAmb 10 19 01.5
comp=Z,96nm,1.1s
A22K Sinclair Lake 85.28 16 P **P** 10 18 37.4 +0.6
baz=239,SNR=34
B22K Teshekpuk Lake 85.39 17 IAms_20 IAms_20 10 56 19.8
comp=Z,3µm,20.0s
B22K Teshekpuk Lake 85.39 17 P **P** 10 18 37.9 +0.6
baz=240
E23K Chandalar 85.51 20 IAms_20 IAms_20 10 54 37.4
comp=Z,3µm,20.0s
E23K Chandalar 85.51 20 P **P** 10 18 39.2 +1.1
baz=244
RIDG Independent Ri 85.57 25 IAmb IAmb 10 18 49.8
comp=Z,86nm,1.2s
RIDG IAms_20 IAms_20 11 00 39.3
comp=Z,2µm,18.0s
RIDG Independent Ri 85.57 25 P **P** 10 18 38.3 -0.2
baz=249,SNR=25
D23K Nanushuk River 85.57 19 IAms_20 IAms_20 10 52 46.8
comp=Z,3µm,21.0s
D23K Nanushuk River 85.57 19 P **P** 10 18 39.3 +1.0
baz=243
MESA MESA 85.64 28 IAmb IAmb 10 20 05.2
comp=Z,34nm,0.6s
MESA MESA 85.64 28 P **P** 10 18 39.4 +0.4
baz=252
J25K Salcha River, 85.68 24 IAms_20 IAms_20 10 54 45.0
comp=Z,2µm,20.0s
J25K Salcha River, 85.68 24 P **P** 10 18 38.4 -0.6

	baz=248						
G24K	**Hadweenzic Riv**	**85.69**	**21**	IAMs_20	IAMs_20	10 54 32.1	
	comp=Z,3µm,20.0s						
G24K	**Hadweenzic Riv**	**85.69**	**21**	P	**P**	**10 18 39.2**	**+0.2**
	baz=246						
MENT	**Mentasta**	**85.76**	**26**	IAmb	IAmb	10 18 55.5	
	comp=Z,58nm,1.2s						
MENT				IAMs_20	IAMs_20	10 51 29.4	
	comp=Z,2µm,21.0s						
MENT	**Mentasta**	**85.76**	**26**	P	**P**	**10 18 39.5**	**+0.1**
BVA0	**Borovoye Array**	**85.78**	**324**	P	**P**	**10 18 36.4**	**-3.3**
BVAR	**Borovoye Array**	**85.78**	**324**	P	**P**	**10 18 38.1**	**-1.5**
	comp=Z,11nm,0.7s,baz=104,slow=6.3,SNR=18						
BVAR				S	**SKSac**	**10 29 02.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=1.4						
BVAR				PKKPbc	**PKKPbc**	**10 36 41.5**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=332,slow=2.2,SNR=3.5						
BVAR				LR	LR	10 58 51.3	
	comp=Z,2µm,18.2s,baz=99,slow=37						
	comp=Z,11nm,0.7s						
TOLK	**Toolik Lake Re**	**85.79**	**19**	IAmb	IAmb	10 18 57.2	
	comp=Z,202nm,1.9s						
TOLK				IAMs_20	IAMs_20	10 55 13.6	
	comp=Z,3µm,20.0s						
TOLK	**Toolik Lake Re**	**85.79**	**19**	P	**P**	**10 18 40.2**	**+0.8**
	baz=244,SNR=21						
BRVK	**Borovoye**	**85.85**	**324**	P	**P**	**10 18 39.1**	**-1.0**
BRVK	**Borovoye**	**85.85**	**324**	IAMs_20	IAMs_20	10 58 58.5	
	comp=Z,2µm,19.0s						
BRVK	**Borovoye**	**85.85**	**324⇑**	*e*P	**P**	**10 18 39.0**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
BRVK				MLR	MLR		
	comp=Z,2µm,18.0s						
DOT	**Dot Lake**	**85.86**	**25**	IAmb	IAmb	10 19 03.2	
	comp=Z,76nm,1.0s						
F24K	**Squaw Lake**	**85.88**	**21**	IAMs_20	IAMs_20	10 52 50.0	
	comp=Z,3µm,21.0s						
F24K	**Squaw Lake**	**85.88**	**21**	P	**P**	**10 18 40.7**	**+0.8**
	baz=246						
M26K	**Nabesna, AK**	**85.89**	**26**	IAMs_20	IAMs_20	11 03 47.9	
	comp=Z,2µm,18.0s						
M26K	**Nabesna, AK**	**85.89**	**26**	P	**P**	**10 18 40.3**	**+0.2**
	baz=250						
E24K	**Your Creek**	**85.91**	**20**	IAMs_20	IAMs_20	10 53 28.8	
	comp=Z,2µm,21.0s						
E24K	**Your Creek**	**85.91**	**20**	P	**P**	**10 18 40.3**	**+0.3**
	baz=245						
L26K	**Log Cabin Wild**	**85.95**	**26**	IAMs_20	IAMs_20	10 51 45.4	
	comp=Z,3µm,21.0s						
L26K	**Log Cabin Wild**	**85.95**	**26**	P	**P**	**10 18 40.6**	**+0.3**
	baz=250,SNR=18						
PRP	**Porcupine Dome**	**85.96**	**23**	IAMs_20	IAMs_20	10 55 19.4	
	comp=Z,2µm,20.0s						
PRP	**Porcupine Dome**	**85.96**	**23**	P	**P**	**10 18 40.1**	**-0.3**
	baz=248,SNR=9.0						
C23K	**Itkillik River**	**85.99**	**18**	IAMs_20	IAMs_20	10 55 04.8	
	comp=Z,3µm,20.0s						
C23K	**Itkillik River**	**85.99**	**18**	P	**P**	**10 18 41.2**	**+0.9**
	baz=243,SNR=50						
SCRK	**Sand Creek**	**86.01**	**25**	IAMs_20	IAMs_20	10 59 02.9	
	comp=Z,2µm,19.0s						
SCRK	**Sand Creek**	**86.01**	**25**	P	**P**	**10 18 40.5**	**-0.2**
	baz=250,SNR=26						
H25L	**Birch Creek**	**86.13**	**22**	P	**P**	**10 18 40.7**	**-0.4**
	baz=248,SNR=16						
G25K	**Bearman Lake**	**86.22**	**22**	P	**P**	**10 18 41.6**	**+0.2**
	baz=247						
D24K	**Happy Valley**	**86.25**	**19**	IAMs_20	IAMs_20	10 57 53.9	
	comp=Z,3µm,19.0s						
D24K	**Happy Valley**	**86.25**	**19**	P	**P**	**10 18 42.4**	**+0.7**
	baz=245						
J26L	**Joseph Creek**	**86.37**	**24**	IAMs_20	IAMs_20	10 52 54.3	
	comp=Z,3µm,20.0s						
J26L	**Joseph Creek**	**86.37**	**24**	P	**P**	**10 18 42.6**	**+0.2**
	baz=250						
M27K	**Edge Creek, AK**	**86.37**	**26**	P	**P**	**10 18 43.0**	**+0.4**
	baz=252						
FYU	**Fort Yukon**	**86.46**	**22**	IAmb	IAmb	10 18 55.9	
	comp=Z,106nm,1.2s						
FYU				IAMs_20	IAMs_20	10 55 36.6	
	comp=Z,3µm,19.0s						
C24K	**Franklin Bluff**	**86.54**	**18**	IAMs_20	IAMs_20	10 53 19.2	
	comp=Z,3µm,22.0s						
C24K	**Franklin Bluff**	**86.54**	**18**	P	**P**	**10 18 43.6**	**+0.6**
	baz=245						
L27K	**Beaver Creek,**	**86.61**	**26**	IAMs_20	IAMs_20	10 52 14.9	
	comp=Z,3µm,21.0s						
L27K	**Beaver Creek,**	**86.61**	**26**	P	**P**	**10 18 43.8**	**+0.2**
	baz=252						
BCAR	**Beaver Creek A**	**86.64**	**26**	P	**P**	**10 18 44.2**	**+0.4**
O28M	**Mount Upton**	**86.65**	**28**	P	**P**	**10 18 44.7**	**+0.5**
	baz=253,SNR=21						
F25K	**Christian Rive**	**86.70**	**21**	IAMs_20	IAMs_20	10 53 24.8	
	comp=Z,3µm,21.0s						
F25K	**Christian Rive**	**86.70**	**21**	P	**P**	**10 18 44.3**	**+0.4**
	baz=248						
I26K	**Coal Creek Min**	**86.81**	**23**	IAMs_20	IAMs_20	10 57 35.8	
	comp=Z,2µm,20.0s						
I26K	**Coal Creek Min**	**86.81**	**23**	P	**P**	**10 18 44.1**	**-0.4**
	baz=250						
K27K	**Chicken**	**86.82**	**25**	P	**P**	**10 18 45.3**	**+0.7**
	baz=251						
E25K	**Arctic Village**	**86.93**	**20**	IAmb	IAmb	10 19 01.9	
	comp=Z,135nm,1.7s						
E25K	**Arctic Village**	**86.93**	**20**	P	**P**	**10 18 45.9**	**+0.9**
	baz=248,SNR=13						
YUK8	**Steele Glacier**	**87.00**	**28**	P	**P**	**10 18 46.3**	**+0.5**
	baz=254,SNR=28						
BMAR	**Burnt Mountain**	**87.02**	**21**	P	**P**	**10 18 46.1**	**+0.6**
D25K	**Kavik River**	**87.12**	**19**	P	**P**	**10 18 46.4**	**+0.4**
	baz=247						
G26K	**Porcupine Rive**	**87.14**	**22**	P	**P**	**10 18 46.9**	**+0.9**
	baz=250,SNR=46						
F26K	**Sheenjek River**	**87.27**	**21**	IAMs_20	IAMs_20	10 57 43.8	
	comp=Z,2µm,19.0s						
F26K	**Sheenjek River**	**87.27**	**21**	P	**P**	**10 18 47.8**	**+1.1**
	baz=249						
O29M	**Mount Kennedy**	**87.29**	**29**	P	**P**	**10 18 47.9**	**+0.8**
	baz=255						
I27K	**Kandik River**	**87.51**	**23**	P	**P**	**10 18 48.5**	**+0.5**
	baz=252						
YUK4	**Talbot Arm**	**87.53**	**28**	P	**P**	**10 18 49.4**	**+1.1**
	baz=255,SNR=36						
YUK6	**Outpost Mounta**	**87.56**	**28**	P	**P**	**10 18 49.1**	**+0.6**
	baz=255,SNR=10.0						
H27K	**Steamboat Moun**	**87.75**	**23**	P	**P**	**10 18 49.8**	**+0.8**
	baz=252						
C26K	**Camden Bay**	**87.82**	**19**	P	**P**	**10 18 50.0**	**+0.8**
	baz=248						
S31K	**Pelican**	**87.87**	**31**	IAmb	IAmb	10 19 01.9	
	comp=Z,71nm,1.1s						
S31K				IAMs_20	IAMs_20	11 02 52.9	
	comp=Z,3µm,18.0s						
S31K	**Pelican**	**87.87**	**31**	P	**P**	**10 18 49.8**	**+0.1**
	baz=257,SNR=7.2						
G27K	**Doyon Strip**	**87.88**	**22**	IAmb	IAmb	10 19 16.2	
	comp=Z,93nm,1.9s						
G27K	**Doyon Strip**	**87.88**	**22**	P	**P**	**10 18 50.5**	**+0.8**
	baz=252						
M29M	**Somme Creek**	**87.92**	**27**	P	**P**	**10 18 50.5**	**+0.5**
	baz=255						
HYT	**Haines Junctio**	**87.94**	**28**	IAmb	IAmb	10 19 00.3	
	comp=Z,56nm,1.1s						
HYT	**Haines Junctio**	**87.94**	**28**	P	**P**	**10 18 51.1**	**+0.9**
	baz=256,SNR=39						
DAWY	**Dawson**	**87.96**	**25**	IAmb	IAmb	10 19 00.1	
	comp=Z,82nm,1.1s						
DAWY				IAMs_20	IAMs_20	10 53 00.4	
	comp=Z,2µm,21.0s						
DAWY	**Dawson**	**87.96**	**25**	P	**P**	**10 18 50.6**	**+0.5**
	baz=254,SNR=54						
P30M	**Million Dollar**	**88.02**	**29**	P	**P**	**10 18 51.5**	**+1.0**
	baz=256						
HRA	**Herat**	**88.05**	**305**	IAmb	IAmb	10 19 03.5	
	comp=Z,43nm,1.1s						
C27K	**Jago River**	**88.11**	**19**	IAmb	IAmb	10 19 11.1	
	comp=Z,50nm,0.8s						
C27K				IAMs_20	IAMs_20	10 59 13.7	
	comp=Z,3µm,19.0s						
C27K	**Jago River**	**88.11**	**19**	P	**P**	**10 18 51.5**	**+0.9**
	baz=250,SNR=57						
I28M	**Miner Creek**	**88.13**	**24**	IAmb	IAmb	10 19 01.9	
	comp=Z,43nm,1.1s						
I28M				IAMs_20	IAMs_20	10 56 58.8	
	comp=Z,3µm,20.0s						
I28M	**Miner Creek**	**88.13**	**24**	P	**P**	**10 18 51.1**	**+0.2**
	baz=253,SNR=22						
SIT	**Sitka**	**88.15**	**32**	IAMs_20	IAMs_20	10 50 03.2	
	comp=Z,3µm,22.0s						
SIT	**Sitka**	**88.15**	**32**	P	**P**	**10 18 52.0**	**+1.0**
SIT	**Sitka**	**88.15**	**32**	P	**P**	**10 18 51.5**	**+0.5**
	baz=258						
PLBC	**Pleasant Camp**	**88.16**	**30**	P	**P**	**10 18 51.3**	**+0.3**
	baz=256						
R31K	**City Hall, Gus**	**88.23**	**31**	P	**P**	**10 18 51.5**	**+0.1**
	baz=257						
L29M	**L29M**	**88.24**	**26**	IAmb	IAmb	10 19 01.6	
	comp=Z,76nm,1.2s						
L29M				IAMs_20	IAMs_20	10 53 58.9	
	comp=Z,2µm,20.0s						
L29M	**L29M**	**88.24**	**26**	P	**P**	**10 18 52.1**	**+0.7**
	baz=255,SNR=53						
N30M	**Aishikik Lake**	**88.29**	**28**	P	**P**	**10 18 52.1**	**+0.3**
	baz=256						
E27K	**Coleen River**	**88.34**	**21**	IAmb	IAmb	10 19 09.5	
	comp=Z,61nm,1.1s						
E27K				IAMs_20	IAMs_20	10 56 15.2	
	comp=Z,3µm,20.0s						
E27K	**Coleen River**	**88.34**	**21**	P	**P**	**10 18 52.6**	**+0.8**
	baz=252,SNR=47						
J29N	**Klondike Camp**	**88.56**	**25**	IAMs_20	IAMs_20	10 54 23.3	
	comp=Z,3µm,21.0s						
J29N	**Klondike Camp**	**88.56**	**25**	P	**P**	**10 18 53.6**	**+0.7**
	baz=255						
O30N	**Mendenhall**	**88.59**	**29**	IAmb	IAmb	10 19 10.4	
	comp=Z,48nm,1.1s						
O30N	**Mendenhall**	**88.59**	**29**	P	**P**	**10 18 53.5**	**+0.3**
	baz=257,SNR=26						
S32K	**Killisnoo**	**88.63**	**32**	IAmb	IAmb	10 19 07.5	
	comp=Z,46nm,1.1s						
S32K				IAMs_20	IAMs_20	10 50 40.0	
	comp=Z,3µm,21.0s						
S32K	**Killisnoo**	**88.63**	**32**	P	**P**	**10 18 53.7**	**+0.4**
	baz=258,SNR=5.2						
SKAG	**Skagway**	**88.67**	**30**	IAmb	IAmb	10 19 08.4	
	comp=Z,57nm,1.2s						
SKAG	**Skagway**	**88.67**	**30**	P	**P**	**10 18 54.7**	**+1.3**
SKAG	**Skagway**	**88.67**	**30**	P	**P**	**10 18 53.6**	**+0.2**
	baz=257						
K29M	**Barlow Dome**	**88.69**	**26**	IAMs_20	IAMs_20	11 00 13.8	
	comp=Z,2µm,18.0s						
K29M	**Barlow Dome**	**88.69**	**26**	P	**P**	**10 18 53.8**	**+0.2**
	baz=255,SNR=46						
M30M	**Minto, Yukon**	**88.70**	**27**	IAmb	IAmb	10 19 11.0	
	comp=Z,64nm,1.6s						
M30M				IAMs_20	IAMs_20	11 05 37.2	
	comp=Z,2µm,18.0s						
M30M	**Minto, Yukon**	**88.70**	**27**	P	**P**	**10 18 54.0**	**+0.3**
	baz=256,SNR=24						
BESE	**Bessie Mountai**	**88.72**	**31**	IAmb	IAmb	10 19 07.1	
	comp=Z,54nm,1.1s						
I29M	**Ogilvie Camp,**	**88.76**	**24**	IAMs_20	IAMs_20	10 58 27.6	
	comp=Z,2µm,20.0s						
I29M	**Ogilvie Camp,**	**88.76**	**24**	P	**P**	**10 18 53.8**	**0.0**
	baz=255						
R32K	**Eaglecrest**	**88.83**	**31**	IAMs_20	IAMs_20	11 04 05.1	
	comp=Z,3µm,18.0s						
R32K	**Eaglecrest**	**88.83**	**31**	P	**P**	**10 18 54.6**	**+0.3**
	baz=258						
D27M	**Malcolm River**	**88.89**	**20**	P	**P**	**10 18 54.9**	**+0.4**
	baz=252						
JIS	**Juneau Island**	**88.90**	**31**	P	**P**	**10 18 55.7**	**+1.2**
N31M	**Braeburn, Yuko**	**88.91**	**28**	IAmb	IAmb	10 19 08.6	
	comp=Z,58nm,1.2s						
N31M	**Braeburn, Yuko**	**88.91**	**28**	P	**P**	**10 18 54.9**	**+0.3**
	baz=257,SNR=23						
H29M	**Whitestone**	**88.97**	**23**	IAMs_20	IAMs_20	10 57 25.9	
	comp=Z,2µm,19.0s						
H29M	**Whitestone**	**88.97**	**23**	P	**P**	**10 18 54.6**	**-0.1**
	baz=255						
H02S1	**DAWSON INLET T**	**88.99**	**36**	P	**P**	**10 18 57.1**	**+2.0**
CRAG	**Craig**	**89.03**	**34**	IAMs_20	IAMs_20	10 58 20.7	
	comp=Z,3µm,19.0s						
CRAG	**Craig**	**89.03**	**34**	P	**P**	**10 18 55.2**	**0.0**
	baz=259						
U33K	**Whale Pass**	**89.15**	**34**	IAMs_20	IAMs_20	10 50 41.9	
	comp=Z,3µm,22.0s						
U33K	**Whale Pass**	**89.15**	**34**	P	**P**	**10 18 55.5**	**-0.2**
	baz=259						
WHY	**Whitehorse**	**89.15**	**29**	IAmb	IAmb	10 19 08.3	
	comp=Z,51nm,1.5s						
WHY	**Whitehorse**	**89.15**	**29**	P	**P**	**10 18 56.3**	**+0.5**
	baz=258,SNR=12						
E28M	**Babbage River**	**89.20**	**21**	IAMs_20	IAMs_20	10 56 50.7	
	comp=Z,2µm,20.0s						
E28M	**Babbage River**	**89.20**	**21**	P	**P**	**10 18 56.0**	**+0.2**
	baz=254						
MOBC	**Moresby Island**	**89.28**	**37**	IAMs_20	IAMs_20	10 57 53.7	
	comp=Z,3µm,19.0s						
G29M	**Pine Creek**	**89.28**	**22**	P	**P**	**10 18 56.2**	**0.0**
	baz=255						
MAYO	**Mayo, Yukon**	**89.34**	**26**	IAmb	IAmb	10 19 34.3	
	comp=Z,72nm,0.9s						
MAYO	**Mayo, Yukon**	**89.34**	**26**	P	**P**	**10 18 56.5**	**-0.1**
	baz=257,SNR=13						
J30M	**Hart River**	**89.38**	**25**	IAMs_20	IAMs_20	10 55 21.0	
	comp=Z,3µm,21.0s						
J30M	**Hart River**	**89.38**	**25**	P	**P**	**10 18 57.1**	**+0.3**
	baz=256						
P32M	**Atlin**	**89.50**	**30**	IAMs_20	IAMs_20	10 59 43.8	
	comp=Z,2µm,19.0s						
P32M	**Atlin**	**89.50**	**30**	P	**P**	**10 18 57.9**	**+0.4**
	baz=259						
I30M	**Mount Dempster**	**89.51**	**24**	IAMs_20	IAMs_20	10 56 54.4	
	comp=Z,2µm,21.0s						
I30M	**Mount Dempster**	**89.51**	**24**	P	**P**	**10 18 57.5**	**0.0**
	baz=256,SNR=26						
WRAK	**Wrangell Islan**	**89.63**	**33**	IAMs_20	IAMs_20	10 57 29.5	
	comp=Z,3µm,18.0s						
WRAK	**Wrangell Islan**	**89.63**	**33**	IAmb	IAmb	10 19 51.9	
	comp=Z,90nm,1.7s						
WRAK	**Wrangell Islan**	**89.63**	**33**	P	**P**	**10 18 58.2**	**+0.2**
	baz=260						
D28M	**Stokes Point**	**89.68**	**20**	P	**P**	**10 18 58.4**	**+0.4**
	baz=254						
M31M	**Drury Creek, Y**	**89.70**	**27**	IAMs_20	IAMs_20	10 56 34.9	
	comp=Z,2µm,20.0s						
M31M	**Drury Creek, Y**	**89.70**	**27**	P	**P**	**10 18 58.3**	**0.0**
	baz=258						
E29M	**Blow River**	**89.72**	**21**	IAMs_20	IAMs_20	10 56 48.6	
	comp=Z,2µm,20.0s						
E29M	**Blow River**	**89.72**	**21**	P	**P**	**10 18 57.7**	**-0.5**
	baz=255						
V35K	**Ketchikan**	**89.85**	**34**	IAMs_20	IAMs_20	10 59 02.5	
	comp=Z,2µm,20.0s						
V35K	**Ketchikan**	**89.85**	**34**	P	**P**	**10 18 58.9**	**-0.1**
	baz=261						
G30M	**tAoh Zraii Nji**	**89.99**	**23**	P	**P**	**10 18 58.9**	**-0.6**
	baz=257						
P33M	**Teslin, Yukon**	**90.06**	**30**	IAMs_20	IAMs_20	11 00 05.6	
	comp=Z,2µm,19.0s						
P33M	**Teslin, Yukon**	**90.06**	**30**	P	**P**	**10 19 00.0**	**-0.1**
	baz=260						
N32M	**Quiet Lake**	**90.11**	**29**	P	**P**	**10 19 00.2**	**-0.1**
	baz=259						
Q32M	**Nakina River**	**90.11**	**31**	IAMs_20	IAMs_20	11 05 05.9	
	comp=Z,2µm,18.0s						
Q32M	**Nakina River**	**90.11**	**31**	P	**P**	**10 19 00.5**	**-0.1**
	baz=260						
FARO	**Faro, Yukon**	**90.19**	**28**	IAMs_20	IAMs_20	10 56 59.7	
	comp=Z,2µm,20.0s						
FARO	**Faro, Yukon**	**90.19**	**28**	P	**P**	**10 19 00.2**	**-0.4**
	baz=259,SNR=18						
F30M	**Barrier River**	**90.30**	**22**	P	**P**	**10 19 00.8**	**-0.1**
	baz=257						
H31M	**Peel River**	**90.47**	**24**	P	**P**	**10 19 01.8**	**0.0**
	baz=258						
S34M	**Telegraph Cree**	**90.53**	**32**	IAMs_20	IAMs_20	11 04 04.2	
	comp=Z,3µm,18.0s						
S34M	**Telegraph Cree**	**90.53**	**32**	P	**P**	**10 19 02.3**	**+0.1**
	baz=261,SNR=9.4						
G31M	**Satah River**	**90.73**	**23**	IAmb	IAmb	10 19 10.3	
	comp=Z,39nm,0.9s						
G31M	**Satah River**	**90.73**	**23**	P	**P**	**10 19 02.5**	**-0.3**
	baz=258,SNR=21						
U35K	**Hyder**	**90.83**	**34**	IAMs_20	IAMs_20	10 58 22.4	
	comp=Z,3µm,19.0s						
U35K	**Hyder**	**90.83**	**34**	P	**P**	**10 19 03.7**	**+0.1**
	baz=262						
R33M	**Jennings River**	**90.85**	**31**	IAMs_20	IAMs_20	11 07 46.3	
	comp=Z,2µm,18.0s						
R33M	**Jennings River**	**90.85**	**31**	P	**P**	**10 19 04.2**	**+0.4**
	baz=261						
T35M	**Bob Quinn**	**90.86**	**33**	IAMs_20	IAMs_20	10 51 46.1	
	comp=Z,3µm,22.0s						
T35M	**Bob Quinn**	**90.86**	**33**	P	**P**	**10 19 04.1**	**+0.2**
	baz=262						
SYO	**Syowa Base**	**90.99**	**200⇑**	*i*P	**P**	**10 19 04.2**	**+0.1**
SYO	**Syowa Base**	**90.99**	**200⇑**	*i*PcP	**PcP**	**10 19 05.3**	**+0.2**
SYO	**Syowa Base**	**90.99**	**200⇓**	*i*pP	**P**	**10 19 07.7**	**+3.6**
F31M	**Tsiigehtchic**	**91.03**	**22**	IAmb	IAmb	10 19 20.4	
	comp=Z,70nm,1.4s						
F31M				IAMs_20	IAMs_20	10 57 38.5	
	comp=Z,3µm,20.0s						
F31M	**Tsiigehtchic**	**91.03**	**22**	P	**P**	**10 19 04.2**	**-0.2**
	baz=259,SNR=21						
DLBC	**Dease Lake**	**91.19**	**32**	LR	LR	10 52 32.8	
	comp=Z,2µm,20.8s,baz=276,slow=31						
DLBC	**Dease Lake**	**91.19**	**32**	P	**P**	**10 19 05.1**	**-0.3**
	baz=262,SNR=6.7						
INK	**Inuvik**	**91.28**	**21**	P	**P**	**10 19 04.8**	**-0.7**
INK				IAMs_20	IAMs_20	10 57 08.0	
	comp=Z,3µm,20.0s						
INK	**Inuvik**	**91.28**	**21**	LR	LR	10 56 59.5	
	comp=Z,3µm,20.7s,baz=252,slow=34						
INK	**Inuvik**	**91.28**	**21**	P	**P**	**10 19 04.8**	**-0.7**
INK				pmax	pmax		
	comp=Z,25nm,1.0s						
INK	**Inuvik**	**91.28**	**21**	P	**P**	**10 19 04.7**	**-0.7**
	baz=259,SNR=27						
BBB	**Bella Bella**	**91.47**	**38**	IAMs_20	IAMs_20	10 54 16.6	
	comp=Z,2µm,20.0s						
BBB	**Bella Bella**	**91.47**	**38**	LR	LR	10 53 58.0	
	comp=Z,2µm,19.9s,baz=248,slow=32						
AB31	**Akbulak array**	**91.58**	**319**	*i* P	**P**	**10 19 04.1**	**-3.2**
ABKAR	**Akbulak array**	**91.58**	**319**	P	**P**	**10 19 04.0**	**-3.3**
WTLY	**Watson Lake, Y**	**92.04**	**30**	P	**P**	**10 19 09.4**	**+0.2**
	baz=263,SNR=13						
TGTN	**Hyland Airport**	**92.46**	**29**	P	**P**	**10 19 10.9**	**-0.3**
	baz=264,SNR=8.4						
AKTO	**Aktyubinsk**	**92.93**	**320**	LR	LR	11 02 55.3	
	comp=Z,2µm,18.6s,baz=76,slow=37						
CBB	**Campbell River**	**92.98**	**40**	IAmb	IAmb	10 19 48.4	
	comp=Z,37nm,1.3s						
CBB				IAMs_20	IAMs_20	11 01 34.9	
	comp=Z,2µm,18.0s						
KMPM	**Mount Pierce**	**93.11**	**50**	IAmb	IAmb	10 19 46.6	
	comp=Z,72nm,1.3s						
ARTI	**Arti**	**93.20**	**326**	IAMs_20	IAMs_20	11 02 23.8	
	comp=Z,3µm,19.0s						
ARTI	**Arti**	**93.20**	**326**	PKKPbc	PKKPbc	10 36 24.3	-0.9
	comp=Z,2.1nm,0.7s,baz=302,slow=3.4,SNR=3.7						
ARTI				LR	LR	11 03 05.7	
	comp=Z,2µm,18.8s,baz=94,slow=37						
ARTI	**Arti**	**93.20**	**326**	P	P	10 19 21.5	+6.9
ARTI				MLR	MLR		
	comp=Z,3µm,19.0s						
KHMM	**Horse Mountain**	**93.44**	**49**	IAmb	IAmb	10 19 31.2	
	comp=Z,32nm,1.0s						
KHMM				IAMs_20	IAMs_20	10 59 02.1	
	comp=Z,3µm,19.0s						
CLRS	**Cowichan Lake**	**93.69**	**41**	IAMs_20	IAMs_20	10 58 09.9	
	comp=Z,2µm,19.0s						
HEBO	**Mount Hebo**	**93.71**	**45**	IAMs_20	IAMs_20	11 00 40.9	
	comp=Z,3µm,19.0s						
TOAD	**Toad River Com**	**93.72**	**31**	P	**P**	**10 19 16.6**	**-0.4**
	baz=266						
RADR	**Rader Ridge**	**93.76**	**44**	IAMs_20	IAMs_20	10 59 53.0	
	comp=Z,2µm,20.0s						
WISH	**Wishkah**	**93.82**	**43**	IAMs_20	IAMs_20	11 08 29.6	
	comp=Z,3µm,18.0s						
F03A	**Seaside**	**93.89**	**44**	IAMs_20	IAMs_20	11 00 15.6	
	comp=Z,3µm,19.0s						
I03D	**Drain, OR**	**93.91**	**47**	IAMs_20	IAMs_20	10 59 13.2	
	comp=Z,3µm,18.0s						
MCCM	**Marconi Confer**	**93.91**	**52**	IAMs_20	IAMs_20	10 52 54.0	
	comp=Z,3µm,22.0s						
COR	**Corvallis**	**93.99**	**46**	IAMs_20	IAMs_20	11 02 09.4	
	comp=Z,2µm,19.0s						
GDXM	**Geysers**	**94.02**	**52**	IAmb	IAmb	10 19 27.6	
	comp=Z,34nm,1.2s						
G03D	**McMinnville, O**	**94.06**	**45**	IAMs_20	IAMs_20	11 01 30.0	
	comp=Z,2µm,19.0s						
O02D	**Mt. Diablo Mer**	**94.11**	**50**	IAmb	IAmb	10 19 22.2	
	comp=Z,27nm,0.9s						
PGC	**Sidney**	**94.13**	**42**	IAMs_20	IAMs_20	10 56 49.5	
	comp=Z,2µm,20.0s						
YBH	**Yreka Blue Hor**	**94.26**	**49**	IAMs_20	IAMs_20	10 52 31.8	
	comp=Z,3µm,22.0s						
YBH	**Yreka Blue Hor**	**94.26**	**49**	LR	LR	10 54 41.5	
	comp=Z,1µm,21.5s,baz=270,slow=31						
F04D	**Rainier, OR**	**94.29**	**44**	IAMs_20	IAMs_20	11 00 08.9	
	comp=Z,2µm,20.0s						
KOTAN	**Kotaneelee Air**	**94.40**	**30**	P	**P**	**10 19 20.0**	**0.0**
	baz=267						
A36M	**Sachs Harbour**	**94.54**	**18**	P	**P**	**10 19 19.8**	**-0.7**
	baz=267						
L04D	**Klamath Falls**	**94.59**	**48**	IAMs_20	IAMs_20	11 00 34.4	
	comp=Z,3µm,19.0s						
ELIB	**Princess Elisa**	**94.67**	**195**	*d*P	**P**	**10 19 21.1**	**-0.2**
	comp=Z,34nm,1.1s						
J04A	**Umpqua Nationa**	**94.78**	**47**	IAMs_20	IAMs_20	11 01 27.4	
	comp=Z,3µm,18.0s						
C36M	**Paulatuk**	**94.81**	**21**	IAmb	IAmb	10 19 34.7	
	comp=Z,58nm,1.8s						
C36M				IAMs_20	IAMs_20	11 00 07.1	
	comp=Z,2µm,21.0s						
C36M	**Paulatuk**	**94.81**	**21**	P	**P**	**10 19 20.8**	**-0.9**

E08A Dider Farm, El 97.04 44 IAmb IAmb 10 19 48.7
comp=Z,23nm,1.2s
E08A IAMs_20 IAMs_20 11 01 56.5
comp=Z,2µm,20.0s
G08A Pilot Rock 97.10 45 P **P 10 19 32.6 -0.2**
G08A IAMs_20 IAMs_20 11 07 17.3
comp=Z,2µm,18.0s
D08A Wollman Farm, 97.13 43 IAmb IAmb 10 19 43.8
comp=Z,36nm,1.7s
ISA Isabella, Lake 97.33 55 IAMs_20 IAMs_20 11 04 43.7
comp=Z,2µm,18.0s
RYN Ryan 97.35 52 IAMs_20 IAMs_20 10 54 29.8
comp=Z,2µm,21.0s
LHV Little Huntoon 97.36 52 IAmb IAmb 10 19 50.4
comp=Z,19nm,1.2s
LHV IAMs_20 IAMs_20 10 55 03.0
comp=Z,3µm,22.0s
J08A Circle Bar Ran 97.44 47 IAMs_20 IAMs_20 11 01 45.5
comp=Z,3µm,19.0s
NVAR Mina Array Bea 97.52 52 P Pdif 10 19 35.6 +0.5
comp=Z,4.8nm,0.9s,baz=259,slow=5.9,SNR=26
NVAR PP **PP 10 23 31.1 -1.6**
comp=Z,5.6nm,1.1s,baz=250,slow=9.2,SNR=7.7
NVAR PKPPKP **P'P'df 10 44 29.8 +2.9**
comp=Z,0.2nm,0.3s,baz=64,slow=3.4,SNR=4.5
NVAR LR LR 10 58 57.4
comp=Z,2µm,19.1s,baz=276,slow=32
comp=Z,4.8nm,0.9s
C09A Chrisman Ranch 97.57 43 IAMs_20 IAMs_20 11 08 28.4
comp=Z,2µm,18.0s
E09A Wood Farm, Sta 97.67 44 IAmb IAmb 10 19 38.3
comp=Z,23nm,1.1s
E09A IAMs_20 IAMs_20 11 02 35.2
comp=Z,2µm,19.0s
KIRV Kirov 98.08 328 PP **PP 10 23 36.9 +0.9**
comp=Z,4.4nm,0.4s,baz=97,slow=3.9,SNR=7.7
KIRV LR LR 11 03 16.6
comp=Z,3µm,21.9s,baz=88,slow=35
ELS Elsinore Mount 98.16 57 IAMs_20 IAMs_20 10 57 01.8
comp=Z,2µm,20.0s
F10A Beach Ranch, E 98.31 44 IAmb IAmb 10 19 51.7
comp=Z,14nm,0.9s
NEW Newport 98.34 42 IAMs_20 IAMs_20 11 00 21.6
comp=Z,2µm,19.0s
NEW Newport 98.34 42 LR LR 11 00 33.1
comp=Z,1µm,18.7s,baz=270,slow=33
Q09A Carvers 98.40 52 IAMs_20 IAMs_20 10 55 16.6
comp=Z,2µm,22.0s
WCT Wildcat Mounta 98.84 54 IAMs_20 IAMs_20 11 05 21.4
comp=Z,2µm,21.0s
YKA Yellowknife Ar 98.90 28 P **P 10 19 40.0 -0.4**
comp=Z,8.4nm,1.0s,baz=274,slow=5.0,SNR=54
YKA PP PP 10 23 31.6 -11
comp=Z,0.6nm,1.0s,baz=279,slow=8.7,SNR=3.0
YKA PKKPbc **PKKPbc 10 36 06.5 -3.4**
comp=Z,0.8nm,0.8s,baz=104,slow=2.5,SNR=8.5
YKA LR LR 11 01 50.8
comp=Z,1µm,20.1s,baz=292,slow=34
comp=Z,8.4nm,1.0s
YKA Yellowknife Ar 98.90 28 *i* P **P 10 19 40.0 -0.4**
YKA pmax pmax
comp=Z,9.0nm,1.0s
PFO Pinyon Flats O 98.97 57 IAMs_20 IAMs_20 11 02 05.2
comp=Z,2µm,19.0s
PFO Pinyon Flats O 98.97 57 LR LR 10 58 36.6
comp=Z,1µm,18.7s,baz=258,slow=32
PFO Pinyon Flats O 98.97 57 ⇑*e*P **P 10 19 41.1 -0.5**
PFO pmax pmax
comp=Z,6.0nm,1.0s
PFO MLR MLR
comp=Z,3µm,18.0s
TROLL Troll, Antarti 99.33 191 ⇑P **Pdif 10 19 42.3 -0.1**
comp=Z,426nm,0.8s
TROLL ⇓PP **PP 10 23 44.7 -0.4**
comp=Z,668nm,0.9s
BELG Belogornoye 99.46 322 LR LR 11 05 24.3
comp=Z,1µm,21.5s,baz=84,slow=36
ELK Elko 99.88 50 IAMs_20 IAMs_20 11 02 54.3
comp=Z,2µm,19.0s
ELK Elko 99.88 50 LR LR 10 58 33.8
comp=Z,2µm,20.3s,baz=262,slow=32
MAK Makhachkala 100.00 313 *e*P **Pdif 10 19 40.7 -5.0**
MAK *e* 10 23 50.0
MAK *e*PPP PPP 10 25 54.2
MAK *e* 10 30 16.6
MAK *e*SS SS 10 38 07.5 -4.4
MAK *e*SSS SSS 10 41 54.3
MAK pmax pmax
comp=Z,27nm,0.3s
SFX San Felipe 100.32 60 IAMs_20 IAMs_20 10 59 18.2
comp=Z,2µm,19.0s
MSO Missoula 100.55 43 IAMs_20 IAMs_20 11 04 16.4
comp=Z,2µm,18.0s
SNAA Sanae 100.56 190 ⇑P **Pdif 10 19 46.7 -1.1**
comp=Z,150nm,1.0s
SNAA ⇓PP **PP 10 23 54.0 -0.3**
comp=Z,612nm,1.0s
SNAA Sanae 100.56 190 P **Pdif 10 19 46.9 -0.9**
comp=Z,10.0nm,1.1s,baz=115,slow=5.0,SNR=4.9
SNAA PP **PP 10 23 52.0 -2.2**
comp=Z,30nm,1.0s,baz=142,slow=10,SNR=9.2
SNAA Sanae 100.56 190 *ce*P **Pdif 10 19 46.8 -0.9**
SNAA pmax pmax
comp=Z,19nm,1.3s
SNAA MLR MLR
comp=Z,4µm,18.0s
BLYC Blythe 100.58 57 IAMs_20 IAMs_20 11 03 06.8
comp=Z,2µm,19.0s
SPR3 Spring Creek 3 100.62 51 IAMs_20 IAMs_20 11 00 54.3
comp=Z,2µm,20.0s
PSUT Pine Spring 101.01 52 IAMs_20 IAMs_20 10 57 10.6
comp=Z,2µm,22.0s
BGU Big Grassy Mou 101.54 49 IAMs_20 IAMs_20 11 03 57.4
comp=Z,2µm,18.0s
LCMT Little Creek M 101.55 53 IAMs_20 IAMs_20 11 06 30.0
comp=Z,2µm,19.0s
DUG Dugway, Tooele 101.75 50 IAMs_20 IAMs_20 11 03 04.9
comp=Z,2µm,19.0s
KNB Kanab 101.89 53 IAMs_20 IAMs_20 11 07 26.0
comp=Z,2µm,18.0s
VNA2 Neumayer--Watz 101.92 189 ⇑P **Pdif 10 19 53.9 +0.1**
comp=Z,5.4nm,0.4s,baz=137,slow=4.0
VNA3 Neumayer Olymp 101.96 188 ⇑P **Pdif 10 19 53.5 -0.4**
comp=Z,19nm,0.9s
TCRU Three Creeks R 102.11 52 IAMs_20 IAMs_20 11 02 11.7
comp=Z,2µm,20.0s
BOZ Bozeman (W) 102.24 45 IAMs_20 IAMs_20 11 06 50.3
comp=Z,2µm,19.0s
MTPU Mount Pierson 102.35 52 IAMs_20 IAMs_20 11 09 38.0
comp=Z,2µm,18.0s
MPU Maple Canyon 102.66 50 IAMs_20 IAMs_20 11 07 48.1
comp=Z,2µm,18.0s
KLMR Klimovskoe 102.74 331 *e*P **Pdif 10 19 57.7 +0.2**
KLMR *e* 10 24 09.5
KLMR pmax pmax
comp=Z,11nm,1.3s
TCUT Toone Canyon 102.76 49 IAMs_20 IAMs_20 11 04 56.5
comp=Z,2µm,19.0s
YMR Madison River 102.79 46 IAMs_20 IAMs_20 11 10 42.0
comp=Z,2µm,18.0s
YNM Yellowstone No 102.97 45 IAMs_20 IAMs_20 11 13 14.7
comp=Z,2µm,18.0s
YNR Norris Junctio 102.99 45 IAMs_20 IAMs_20 11 13 05.2
comp=Z,2µm,18.0s
Q16A Castle Valley 103.09 51 IAMs_20 IAMs_20 10 58 19.5
comp=Z,2µm,22.0s
H17A Grant Village 103.09 46 IAMs_20 IAMs_20 11 01 26.0
comp=Z,2µm,20.0s
X16A Lo Mia Camp, P 103.12 56 IAMs_20 IAMs_20 11 00 39.9
comp=Z,2µm,20.0s
WUAZ Wupatki 103.12 55 IAMs_20 IAMs_20 11 04 30.9
comp=Z,2µm,20.0s
BSUT Blindstream Ca 103.29 50 IAMs_20 IAMs_20 11 08 10.6
comp=Z,2µm,19.0s
KBZ Khabaz 103.31 314 PP **PP 10 24 15.0 -1.0**
comp=Z,2.5nm,1.0s,baz=107,slow=6.7,SNR=4.6
KBZ PKKP **PKKPdf 10 36 03.8 -1.0**
comp=Z,0.6nm,0.5s,baz=300,slow=5.1,SNR=4.0
APA Apatity 103.49 339 ⇓*i*P **Pdif 10 20 09.9 +9.2**
APA *i* 10 24 16.3
APA pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael Swe 103.58 51 IAMs_20 IAMs_20 10 58 57.5
comp=Z,2µm,22.0s
HSIG 103.73 62 IAMs_20 IAMs_20 11 04 44.8
comp=Z,2µm,19.0s
P18A Preston Nutter 103.75 51 IAMs_20 IAMs_20 10 59 16.1
comp=Z,2µm,21.0s

PDAR Pinedale Array 103.99 47 Pdiff **Pdif 10 20 03.8 0.0**
comp=Z,1.3nm,0.9s,baz=257,slow=2.1,SNR=9.8
PDAR PP **PP 10 24 20.7 -0.8**
comp=Z,1.9nm,0.9s,baz=266,slow=5.9,SNR=10
PDAR PKKPbc **PKKPbc 10 35 54.1 -0.6**
comp=Z,0.5nm,0.7s,baz=100,slow=5.5,SNR=4.6
PDAR PKPPKP **P'P'df 10 44 17.7 +3.3**
comp=Z,0.2nm,0.7s,baz=96,slow=3.1,SNR=1.7
X18A Snowflake 104.34 56 IAMs_20 IAMs_20 11 05 28.3
comp=Z,2µm,19.0s
319A Douglas 105.08 59 IAMs_20 IAMs_20 11 02 16.3
comp=Z,2µm,19.0s
O20A White River Ci 105.24 50 IAMs_20 IAMs_20 11 06 25.4
comp=Z,2µm,18.0s
ARCES ARCESS Array B 105.38 342 Pdiff **Pdif 10 20 11.4 +2.3**
comp=Z,7.1nm,0.9s,baz=46,slow=5.2,SNR=4.0
ARCES PKKPbc **PKKPbc 10 35 48.4 -2.6**
comp=Z,1.8nm,0.5s,baz=258,slow=2.2,SNR=12
LAO LASA Array 105.84 43 IAMs_20 IAMs_20 11 07 35.2
comp=Z,2µm,19.0s
K22A Casper 106.22 47 IAMs_20 IAMs_20 10 59 26.0
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 106.59 52 IAMs_20 IAMs_20 11 00 24.4
comp=Z,2µm,22.0s
FFC Flin Flon 106.80 34 IAMs_20 IAMs_20 11 09 27.4
comp=Z,2µm,19.0s
DGMT Dagmar 106.87 41 IAMs_20 IAMs_20 11 16 43.1
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 106.88 56 IAMs_20 IAMs_20 11 07 17.5
comp=Z,2µm,18.0s
ANN Anapa 107.06 315 *i* P **Pdif 10 20 18.9 +1.8**
ANN *e* 10 30 58.7
ANN pmax pmax
comp=Z,97nm,1.3s
ANN MLR MLR
comp=Z,1µm,19.0s
EPT El Paso 107.42 58 IAMs_20 IAMs_20 11 07 59.1
comp=Z,2µm,18.0s
SDCO Great Sand Dun 107.64 52 IAMs_20 IAMs_20 11 04 42.1
comp=Z,2µm,20.0s
Q24A Divide 107.76 51 IAMs_20 IAMs_20 11 02 47.0
comp=Z,2µm,20.0s
FINES FINESS Array B 108.73 334 Pdiff **Pdif 10 20 24.6 +0.4**
comp=Z,2.0nm,1.0s,baz=48,slow=2.1,SNR=1.4
FINES PKiKP **PKiKP 10 24 29.7 +0.6**
comp=Z,4.0nm,1.1s,baz=123,slow=5.1,SNR=1.8
FINES PP **PP 10 24 56.2 +0.9**
comp=Z,4.6nm,0.9s,baz=73,slow=6.4,SNR=5.9
KMBO Kilima Mbogo 108.82 267 Pdiff **Pdif 10 20 28.5 +2.5**
comp=Z,1.4nm,0.5s,baz=62,slow=6.7,SNR=4.8
KMBO PP **PP 10 24 56.0 -2.0**
comp=Z,0.9nm,0.3s,baz=102,slow=3.3,SNR=4.5
SIM Simferopol' 109.35 316 *e*P **Pdif 10 20 23.2 -4.1**
SIM pmax pmax
comp=Z,30nm,0.7s
FCC Fort Churchill 109.58 29 IAMs_20 IAMs_20 11 15 52.3
comp=Z,2µm,19.0s
E28A Huff 109.59 42 IAMs_20 IAMs_20 11 08 32.5
comp=Z,2µm,20.0s
MDND Maddock 110.01 41 IAMs_20 IAMs_20 11 19 15.2
comp=Z,2µm,18.0s
TXAR Lajitas Array 110.07 61 PP **PP 10 25 05.3 -1.1**
comp=Z,2.0nm,1.0s,baz=255,slow=4.9,SNR=7.2
TXAR PKKPab **PKKPab 10 35 44.3 -1.5**
comp=Z,2.9nm,0.8s,baz=116,slow=6.0,SNR=10
ILGA Ilgaz 110.42 312 IAMs_20 IAMs_20 11 16 19.7
comp=Z,2µm,22.0s
MNK Minsk 110.53 327 *i* P **Pdif 10 20 30.6 -1.7**
MNK *i* 10 24 31.3
MNK *i* 10 25 07.0
MNK *i* PPP PPP 10 27 26.5
MNK *i* 10 31 43.5
MNK *i* SS SS 10 40 37.0 +2.2
MNK *i* SSS SSS 10 44 44.4
MNK pmax pmax
comp=Z,16nm,0.6s
MNK pmax pmax
comp=E,36nm,1.1s
MNK pmax pmax
comp=N,21nm,0.8s
BR131 Keskin Array S 110.73 310 ⇑*i*PKiKP **PKiKP 10 24 35.0 +1.2**
BRTR Keskin Array B 110.73 310 PKiKP **PKiKP 10 24 34.6 +0.9**
comp=N,0.3nm,0.5s,baz=78,slow=7.8,SNR=2.2
BRTR PP **PP 10 25 09.4 -1.4**
comp=N,1.1nm,0.7s,baz=160,slow=3.9,SNR=4.3
BRTR PKKPab **PKKPab 10 35 43.9 +1.1**
comp=N,1.8nm,0.8s,baz=204,slow=2.7,SNR=5.5
AKASG Malin Array Be 111.03 323 PP **PP 10 25 10.7 -1.6**
comp=N,0.6nm,0.5s,baz=91,slow=1.6,SNR=2.0
AKBB Malin Array Si 111.03 323 ⇑*i*PKiKP **PKiKP 10 24 31.8 -2.0**
AMTX Amarillo 111.08 55 IAMs_20 IAMs_20 11 09 24.6
comp=Z,2µm,19.0s
SUSD Miller 111.29 44 IAMs_20 IAMs_20 11 11 29.6
comp=Z,1µm,20.0s
ULM Lac du Bonnet 111.67 38 PKiKP **PKiKP 10 24 38.7 +3.7**
comp=Z,0.8nm,0.5s,baz=314,slow=5.5,SNR=1.8
ULM PP **PP 10 25 12.5 -4.4**
comp=Z,3.6nm,0.8s,baz=305,slow=7.8,SNR=6.5
ULM PKKPbc **PKKPbc 10 35 30.5 0.0**
comp=Z,2.1nm,0.7s,baz=58,slow=5.9,SNR=3.9
CBKS Cedar Bluff 111.95 50 IAMs_20 IAMs_20 11 07 36.9
comp=Z,2µm,19.0s
AGMN Agassiz Nation 112.29 40 IAMs_20 IAMs_20 11 12 01.6
comp=Z,2µm,19.0s
BGNE Belgrade 112.58 47 IAMs_20 IAMs_20 11 06 00.3
comp=Z,2µm,21.0s
F33A 5 Mile Ranch, 112.74 42 IAMs_20 IAMs_20 11 10 09.6
comp=Z,2µm,19.0s
ECSD EROS Data Cent 113.10 45 IAMs_20 IAMs_20 11 11 34.6
comp=Z,2µm,20.0s
TIRR Tirgusor 113.41 316 IAMs_20 IAMs_20 11 17 11.3
comp=Z,2µm,20.0s
L34A Svendsen Farm, 113.73 46 IAMs_20 IAMs_20 11 13 47.6
comp=Z,2µm,18.0s
CROK Carrier 113.77 52 IAMs_20 IAMs_20 11 11 31.3
comp=Z,2µm,19.0s
833A Chaparral WMA, 113.90 61 IAMs_20 IAMs_20 11 08 53.2
comp=Z,2µm,19.0s
BOSA Boshof 114.03 236 PKP **PKiKP 10 24 42.4 +2.0**
comp=Z,8.6nm,1.1s,baz=84,slow=1.2,SNR=4.7
KSU1 Kansas State U 114.27 49 IAMs_20 IAMs_20 11 14 55.1
comp=Z,2µm,19.0s
BLOK Blackwell 114.32 52 IAMs_20 IAMs_20 11 00 18.9
comp=Z,2µm,21.0s
OK029 Liberty Lake 114.33 53 IAMs_20 IAMs_20 11 07 54.2
comp=Z,2µm,20.0s
FW03 Perrin-Whitt E 114.34 56 IAMs_20 IAMs_20 11 11 48.1
comp=Z,2µm,18.0s
FNO Franklin 114.48 54 IAMs_20 IAMs_20 11 04 23.3
comp=Z,2µm,22.0s
N35A Tabor 114.55 47 IAMs_20 IAMs_20 11 12 10.4
comp=Z,2µm,18.0s
OK048 Pawnee Station 114.60 52 IAMs_20 IAMs_20 11 08 06.5
comp=Z,2µm,21.0s
HFS Hagfors 114.63 336 PKiKP PKPdf 10 24 44.9 +4.5
comp=Z,1.0nm,0.8s,baz=46,slow=8.3,SNR=1.2
FW07 Weatherford 114.63 57 IAMs_20 IAMs_20 11 11 32.8
comp=Z,2µm,19.0s
MLR Muntele Rosu 114.77 318 IAMs_20 IAMs_20 11 15 00.0
comp=Z,2µm,21.0s
OK031 S. Brethren Rd 114.78 53 IAMs_20 IAMs_20 11 08 06.3
comp=Z,2µm,19.0s
OK052 Battle Ridge R 114.80 53 IAMs_20 IAMs_20 11 08 08.9
comp=Z,2µm,20.0s
T35A Sooner Cattle 114.84 52 IAMs_20 IAMs_20 11 07 13.6
comp=Z,2µm,21.0s
QUOK Quay 114.84 53 IAMs_20 IAMs_20 11 06 51.8
comp=Z,2µm,19.0s
NOA NORSAR Array B 115.04 338 PKP **PKPdf 10 24 44.7 +3.5**
comp=Z,1.0nm,0.9s,baz=50,slow=1.6,SNR=2.2
NOA PKKPab **PKKPab 10 35 26.9 +3.8**
comp=Z,1.8nm,0.8s,baz=229,slow=3.9,SNR=5.7
DEOK Depew 115.08 53 IAMs_20 IAMs_20 11 08 38.1
comp=Z,1µm,19.0s
EYMN Ely 115.16 39 IAMs_20 IAMs_20 11 14 58.3
comp=Z,1µm,20.0s
FW14 Alvarado 115.18 57 IAMs_20 IAMs_20 11 17 01.3
comp=Z,2µm,18.0s
SPMN Marine on St. 115.26 42 IAMs_20 IAMs_20 11 13 38.4
comp=Z,2µm,19.0s
MBAR Mbarara 115.35 267 *i* PKiKP **PKiKP 10 24 43.8 +0.5**
MBAR pmax pmax
comp=Z,8.0nm,1.2s
LSZ Lusaka 115.36 250 IAMs_20 IAMs_20 11 13 29.7
comp=Z,2µm,19.0s
SCIA State Center 116.02 46 IAMs_20 IAMs_20 11 13 08.9
comp=Z,2µm,20.0s
N38A Joes South For 116.33 47 IAMs_20 IAMs_20 11 17 12.3
comp=Z,2µm,18.0s

HHAR Hobbs 117.00 52 IAMs_20 IAMs_20 11 09 00.8
comp=Z,2µm,20.0s
COWI Conover 117.35 40 IAMs_20 IAMs_20 11 07 02.4
comp=Z,2µm,22.0s
MIAR Mount Ida 117.70 54 IAMs_20 IAMs_20 11 19 22.6
comp=Z,2µm,18.0s
PSZ Piszkesteto 117.72 322 IAMs_20 IAMs_20 11 21 51.8
comp=Z,2µm,19.0s
JFWS Jewell Farm 117.77 44 IAMs_20 IAMs_20 11 14 38.1
comp=Z,2µm,20.0s
MGMO Mountain Grove 118.07 51 IAMs_20 IAMs_20 11 10 34.0
comp=Z,2µm,20.0s
N41A Harden Midland 118.08 46 IAMs_20 IAMs_20 11 17 15.5
comp=Z,2µm,19.0s
F42A Maple Grove Fa 118.13 40 IAMs_20 IAMs_20 11 17 35.9
comp=Z,2µm,19.0s
WLAR White Oak Lake 118.27 55 IAMs_20 IAMs_20 11 09 21.9
comp=Z,1µm,21.0s
I42A Draeger Farm, 118.33 42 IAMs_20 IAMs_20 11 15 23.7
comp=Z,2µm,20.0s
IDI Anoyia 118.49 307 PKP **PKiKP 10 24 50.5 +1.8**
comp=Z,4.4nm,0.7s,baz=9.5,slow=6.1,SNR=1.7
FCAR Ozark Folk Cen 118.52 52 IAMs_20 IAMs_20 11 08 05.1
comp=Z,2µm,22.0s
WHAR Wooly Hollow 118.54 53 IAMs_20 IAMs_20 11 21 39.8
comp=Z,1µm,18.0s
CCM Cathedral Cave 118.60 49 IAMs_20 IAMs_20 11 08 22.8
comp=Z,2µm,22.0s
LIT Litokhoron 118.92 313 IAMs_20 IAMs_20 11 21 17.4
comp=Z,1µm,21.0s
T42A Van Buren 119.01 50 IAMs_20 IAMs_20 11 11 23.8
comp=Z,2µm,20.0s
K43A Burlington 119.16 43 IAMs_20 IAMs_20 11 20 45.9
comp=Z,2µm,18.0s
LCAR Lake Charles 119.23 51 IAMs_20 IAMs_20 11 10 58.8
comp=Z,2µm,20.0s
FVM French Village 119.24 49 IAMs_20 IAMs_20 11 08 52.6
comp=Z,2µm,21.0s
HDIL Hopedale 119.25 46 IAMs_20 IAMs_20 11 11 26.5
comp=Z,2µm,20.0s
CCAR Cane Creek 119.30 54 IAMs_20 IAMs_20 11 12 30.1
comp=Z,2µm,19.0s
PBMO Poplar Bluff 119.59 51 IAMs_20 IAMs_20 11 21 08.2
comp=Z,2µm,18.0s
BRG Berggiesshubel 119.73 327 SP SP 10 36 06.0 +7.7
HBAR Harrisburg 119.76 52 IAMs_20 IAMs_20 11 10 52.9
comp=Z,2µm,20.0s
M44A Midewin, Midew 119.84 45 IAMs_20 IAMs_20 11 15 12.1
comp=Z,2µm,19.0s
RONA Rosalia, Austr 119.99 323 *e*PKP **PKPdf 10 24 51.3 +0.2**
RONA comp=Z,6.0nm,1.0s *e*PKKP **PKKPab 10 35 02.1 +0.4**
comp=Z,3.7nm,0.8s
CLL Collm 119.99 328 *e*PP PP 10 26 18.0 +2.9
CLL *e*PS **PS 10 36 02.0 -3.5**
PUK Puka 120.08 316 IAMs_20 IAMs_20 11 20 22.8
comp=Z,2µm,22.0s
CONA Conrad Observa 120.14 324 *e*PKiKP **PKiKP 10 24 52.6 +1.1**
comp=Z,5.8nm,1.4s
CONA *e*PKKP **PKKPab 10 35 01.3 +0.3**
comp=Z,4.2nm,1.0s
PARMO Parma 120.14 50 IAMs_20 IAMs_20 11 11 55.8
comp=Z,2µm,20.0s
PEBM Pemiscott Bayo 120.22 51 IAMs_20 IAMs_20 11 10 39.0
comp=Z,2µm,21.0s
SIUC Southern Illin 120.23 49 IAMs_20 IAMs_20 11 12 55.9
comp=Z,1µm,20.0s
E46A Sault Ste Mari 120.28 38 IAMs_20 IAMs_20 11 11 07.6
comp=Z,2µm,20.0s
PDG Podgorica 120.37 317 IAMs_20 IAMs_20 11 20 11.3
comp=Z,2µm,22.0s
MET Memphis--Engin 120.45 52 IAMs_20 IAMs_20 11 09 14.2
comp=Z,2µm,22.0s
HICK Hickman 120.58 50 IAMs_20 IAMs_20 11 20 46.4
comp=Z,2µm,19.0s
KHC Kasperske Hory 120.85 326 *e*PKP PKiKP 10 25 02.0 +9.2
KHC x x 10 26 33.0
KHC Kasperske Hory 120.85 326 *i* PKIKP **PKiKP 10 24 53.0 +0.2**
KHC pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 120.93 325 PKP **PKiKP 10 24 54.7 +1.7**
comp=Z,1.8nm,0.7s,baz=35,slow=3.6,SNR=4.5
GERES PKKPbc **PKKPbc 10 35 01.8 +3.8**
comp=Z,1.3nm,0.6s,baz=272,slow=6.4,SNR=4.6
SOKA Soboth 121.23 323 *e*PKiKP **PKiKP 10 24 55.6 +1.9**
comp=Z,3.6nm,1.0s
SOKA *e*PKKP **PKKPab 10 34 55.7 -0.6**
comp=Z,3.8nm,0.7s
USIN University of 121.31 48 IAMs_20 IAMs_20 11 15 06.4
comp=Z,2µm,20.0s
OBKA Obir 121.61 323 *e*PKiKP **PKiKP 10 24 54.9 +0.4**
comp=Z,3.1nm,0.7s
OBKA *e*PKKP **PKKPbc 10 34 57.3 +1.9**
comp=Z,8.5nm,1.1s
PLAL Pickwick Lake 121.94 52 IAMs_20 IAMs_20 11 10 08.8
comp=Z,2µm,22.0s
KBA Koelnbreinsper 122.04 324 *i* PKiKP **PKiKP 10 24 56.0 +0.5**
comp=Z,7.6nm,1.1s
KBA *e*PKKP **PKKPbc 10 34 54.8 +1.0**
comp=Z,2.6nm,0.7s
MYKA Terra Mystica 122.09 323 *e*PKiKP **PKiKP 10 24 56.1 +0.7**
comp=Z,4.0nm,0.8s
MYKA *e*PKKP **PKKPab 10 34 53.0 +0.4**
comp=Z,2.8nm,0.5s
LESA Schwarzleotal 122.25 324 *e*PKiKP **PKiKP 10 24 56.8 +1.0**
comp=Z,4.0nm,0.7s
LESA *e*PKKP **PKKPab 10 34 49.3 -2.6**
comp=Z,1.1nm,0.5s
O48B Farmland 122.30 45 IAMs_20 IAMs_20 11 18 46.1
comp=Z,1µm,20.0s
HUEH Huehuetenango 122.45 75 IAMs_20 IAMs_20 11 09 45.2
comp=Z,2µm,20.0s
V48A Smith Brothers 122.68 51 IAMs_20 IAMs_20 11 23 07.1
comp=Z,2µm,18.0s
ABTA Abfaltersbach 122.70 324 *i* PKP **PKPdf 10 24 56.2 -0.3**
comp=Z,3.8nm,0.6s
ABTA *e*PKKP **PKKPbc 10 34 51.0 -0.1**
comp=Z,9.0nm,1.0s
N49A Columbus Grove 122.71 44 IAMs_20 IAMs_20 11 19 53.9
comp=Z,1µm,19.0s
P49A Miami Univ. Ec 122.89 46 IAMs_20 IAMs_20 11 23 02.9
comp=Z,1µm,19.0s
WATA Walderalm 122.93 325 *e*PKiKP **PKiKP 10 24 57.6 +0.4**
comp=Z,12nm,1.1s
WTTA Wattenberg 122.94 325 *e*PKiKP **PKiKP 10 24 58.7 +1.5**
comp=Z,13nm,0.9s
SGRT San Giovanni R 123.03 317 IAMs_20 IAMs_20 11 22 04.7
comp=Z,1µm,20.0s
PLCA Paso Flores 123.10 147 **PKiKP 10 24 58.0 +0.4**
PLCA Paso Flores 123.10 147 PKP **PKiKP 10 24 57.8 +0.2**
comp=Z,3.6nm,0.7s,baz=266,slow=2.5,SNR=19
PLCA Paso Flores 123.10 147 PKIKP **PKiKP 10 24 58.0 +0.4**
WIN Windhoek 123.11 239 IAMs_20 IAMs_20 11 14 58.8
comp=Z,2µm,20.0s
MOTA Moosalm 123.20 325 *e*PKiKP **PKiKP 10 24 58.3 +0.6**
comp=Z,5.7nm,0.7s
MOTA *e*PKKP **PKKPab 10 34 48.9 +0.9**
comp=Z,3.9nm,0.7s
SQTA Sankt Quirin 123.21 325 *i* PKiKP **PKiKP 10 24 57.8 +0.1**
comp=Z,5.6nm,0.7s
PAYG Puerto Ayora 123.21 94 IAMs_20 IAMs_20 11 20 26.4
comp=Z,1µm,18.0s
U49A Red Boiling Sp 123.22 49 IAMs_20 IAMs_20 11 20 06.1
comp=Z,1µm,19.0s
RETA Reutte 123.31 325 *e*PKiKP **PKiKP 10 24 58.4 +0.6**
comp=Z,4.4nm,1.0s
RETA *e*PKKP **PKKPab 10 34 47.2 -0.1**
comp=Z,14nm,1.6s
LRAL Lakeview Retre 123.38 54 IAMs_20 IAMs_20 11 26 55.0
comp=Z,1µm,18.0s
VLDQ Val d'Or 123.40 34 IAMs_20 IAMs_20 11 20 00.9
comp=Z,2µm,19.0s
STU Stuttgart 123.45 327 IAMs_20 IAMs_20 11 19 21.9
comp=Z,2µm,21.0s
SWET Sewanee 123.54 51 IAMs_20 IAMs_20 11 20 37.8
comp=Z,2µm,19.0s
FETA Feichten 123.59 325 *i* PKP **PKPdf 10 24 57.4 -0.9**
comp=Z,9.6nm,1.1s
FETA *i* PKKP **PKKPbc 10 34 48.3 +0.5**
comp=Z,9.0nm,1.3s
ACSO Alum Creek Sta 123.83 44 IAMs_20 IAMs_20 11 15 49.5
comp=Z,2µm,20.0s
SCHQ Schefferville 123.89 22 PKP **PKiKP 10 25 00.1 +1.5**
comp=Z,1.3nm,0.7s,baz=299,slow=1.0,SNR=5.2
SCHQ PP **PP 10 26 38.1 -3.2**
comp=Z,6.7nm,1.0s,baz=316,slow=7.9,SNR=3.8
SCHQ PKKPab **PKKPab 10 34 44.5 -0.1**

comp=Z,3.9nm,0.7s,baz=121,slow=3.4,SNR=12
DAVA Damuels 123.92 326 *e*PKiKP **PKiKP 10 25 00.0 +0.9**
comp=Z,20nm,1.4s
DAVA *i* PKKP **PKKPbc 10 34 47.5 +1.1**
comp=Z,11nm,1.0s
TSUM Tsumeb 123.92 243 PKPdf **PKiKP 10 25 00.4 +0.5**
GUMA Gualdo di Mace 124.03 320 IAMs_20 IAMs_20 11 22 51.9
comp=Z,1μm,20.0s
P51A Williamsport 124.09 45 IAMs_20 IAMs_20 11 18 29.4
comp=Z,2μm,19.0s
PAOL Paolisi 124.14 317 IAMs_20 IAMs_20 11 23 23.2
comp=Z,1μm,20.0s
FDMO Fiordimonte 124.20 320 IAMs_20 IAMs_20 11 23 04.4
comp=Z,1μm,20.0s
DAVOX Davos/Dischmat 124.21 325 PKP **PKiKP 10 25 04.6 +4.8**
comp=Z,3.7nm,0.8s,baz=47,slow=3.2,SNR=3.6
DAVOX PKKPbc **PKKPab 10 34 43.3 -0.4**
comp=Z,3.0nm,0.8s,baz=222,slow=4.6,SNR=3.9
CAMP Campotosto 124.23 319 IAMs_20 IAMs_20 11 23 43.3
comp=Z,2μm,21.0s
CEL Celeste 124.36 313 IAMs_20 IAMs_20 11 25 39.5
comp=Z,1μm,21.0s
EKA Eskdalemuir Ar 124.42 339 PKP **PKiKP 10 25 01.4 +1.8**
comp=Z,1.1nm,0.5s,baz=39,slow=3.1,SNR=1.9
MTO3 Montecristo 124.57 76 IAMs_20 IAMs_20 11 09 39.5
comp=Z,2μm,20.0s
P52A Corning 124.68 45 IAMs_20 IAMs_20 11 18 26.9
comp=Z,2μm,19.0s
CESX Cesi 124.73 319 IAMs_20 IAMs_20 11 26 57.5
comp=Z,2μm,19.0s
OSSC Osservatorio P 125.13 321 IAMs_20 IAMs_20 11 22 46.9
comp=Z,1μm,20.0s
BI02 San Fabin de 125.47 143 PKPdf **PKPdf 10 25 02.4 +0.3**
V53A Saluda 125.76 49 IAMs_20 IAMs_20 11 17 17.5
comp=Z,2μm,19.0s
BG3 Lake Jocassee 125.92 50 IAMs_20 IAMs_20 11 26 23.8
comp=Z,1μm,19.0s
GOGA Godfrey 126.07 52 IAMs_20 IAMs_20 11 12 58.9
comp=Z,2μm,20.0s
PAULI Pauline 126.84 50 IAMs_20 IAMs_20 11 15 48.0
comp=Z,2μm,20.0s
LONY Lake Ozonia 127.03 36 IAMs_20 IAMs_20 11 18 32.9
comp=Z,2μm,21.0s
HERN Volcan Telica 127.13 78 IAMs_20 IAMs_20 11 24 12.5
comp=Z,898nm,21.0s
MT01 Popeta 127.32 140 IAMs_20 IAMs_20 11 18 07.8
comp=Z,992nm,18.0s
MT02 Curacav 127.78 140 IAMs_20 IAMs_20 11 11 56.1
comp=Z,2μm,21.0s
MT03 Universidad Ad 128.03 141 IAMs_20 IAMs_20 11 17 55.6
comp=Z,1μm,18.0s
VA06 Catapilco 128.12 139 IAMs_20 IAMs_20 11 10 42.3
comp=Z,1μm,20.0s
PEL Peldehue 128.14 140 IAMs_20 IAMs_20 11 12 40.9
comp=Z,1μm,21.0s
ACON Acoyapa 128.78 79 IAMs_20 IAMs_20 11 18 15.2
comp=Z,1μm,19.0s
CO06 Fray Jorge 129.07 137 IAMs_20 IAMs_20 11 13 54.8
comp=Z,1μm,19.0s
SOR Soroa 129.42 65 IAMs_20 IAMs_20 11 17 10.5
comp=Z,1μm,20.0s
DWPF Disney Wildern 129.43 58 IAMs_20 IAMs_20 11 18 31.8
comp=Z,1μm,20.0s
CO03 El Pedregal 129.61 138 IAMs_20 IAMs_20 11 13 11.8
comp=Z,1μm,20.0s
Y60A Bolivia 129.89 49 IAMs_20 IAMs_20 11 19 10.8
comp=Z,2μm,20.0s
KEST Kesra 130.18 313 PKP **PKiKP 10 25 13.0 +1.1**
comp=Z,1.8nm,0.8s,baz=90,slow=5.1,SNR=1.6
061Z Ochoppi 130.52 60 IAMs_20 IAMs_20 11 28 39.2
comp=Z,1μm,19.0s
CO01 Juntas del Tor 130.55 137 IAMs_20 IAMs_20 11 15 42.8
comp=Z,1μm,21.0s
CFA Coronel Fontan 130.71 140 PKP **PKPdf 10 25 12.8 +0.6**
comp=Z,2.4nm,0.6s,baz=224,slow=4.0,SNR=6.6
LCO Las Campanas 130.73 136 PKPdf **PKiKP 10 25 15.1 +1.6**
LCO Las Campanas 130.73 136 PKIKP **PKiKP 10 25 15.1 +1.6**
AC02 Maricunga 133.16 135 IAMs_20 IAMs_20 11 15 59.2
comp=Z,1μm,20.0s
ATAH Atahualpa 133.75 105 PKP **PKPdf 10 25 18.7 -0.1**
comp=Z,3.4nm,0.7s,baz=301,slow=5.9,SNR=2.2
NNA Nana 133.82 112 PKP **PKiKP 10 25 20.9 +1.2**
comp=Z,3.9nm,0.4s,baz=267,slow=5.6,SNR=1.6
BCIP Isla Barro Col 134.13 82 IAMs_20 IAMs_20 11 12 06.3
comp=Z,2μm,22.0s
OTAV Otavalo 135.07 95 PKPdf **PKPdf 10 25 21.8 +0.4**
OTAV Otavalo 135.07 95 PKIKP **PKPdf 10 25 21.8 +0.4**
OTAV MLR MLR
comp=Z,800nm,18.0s
PB03 IPOC Station P 135.47 129 IAMs_20 IAMs_20 11 15 49.2
comp=Z,980nm,20.0s
PB09 IPOC Station P 136.01 129 IAMs_20 IAMs_20 11 16 05.3
comp=Z,961nm,20.0s
CHIV Chivirico 136.03 67 IAMs_20 IAMs_20 11 20 04.1
comp=Z,1μm,20.0s
AF01 San Pedro de A 136.16 131 IAMs_20 IAMs_20 11 17 12.2
comp=Z,1μm,20.0s
ESDC Sonseca Array 136.51 326 PKP **PKPdf 10 25 23.7 +0.9**
comp=Z,1.0nm,0.8s,baz=22,slow=2.6,SNR=2.2
NMDO Nuevo Mundo 137.19 65 IAMs_20 IAMs_20 11 19 48.6
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 137.24 66 IAMs_20 IAMs_20 11 20 40.9
comp=Z,1μm,22.0s
CZSB Cruzeiro do Su 139.02 108 PKPdf 10 25 26.9 -1.2
ROSC El Rosal 139.58 89 PKP **PKPdf 10 25 29.0 -0.6**
comp=Z,6.5nm,0.4s,baz=270,slow=4.0,SNR=2.0
LPAZ La Paz 139.77 123 PKhKP PKPpre 10 25 21.4
comp=Z,2.5nm,0.8s,baz=256,slow=3.9,SNR=8.3
MESJ Messejana 140.14 328 *e*PP **PP 10 28 26.6 +0.5**
MESJ IAMs_20 IAMs_20 11 34 42.4
comp=Z,2μm,20.8s
MORF Marmelete 140.77 328 *e*PP **PP 10 28 30.5 +0.5**
MORF IAMs_20 IAMs_20 11 34 35.5
comp=Z,1μm,16.7s
RUSC La Rusia 140.84 87 PKPdf **PKPdf 10 25 25.9 -6.1**
CPUP Villa Florida 141.11 145 PKhKP PKPpre 10 25 22.1
comp=Z,3.7nm,0.8s,baz=271,slow=3.5,SNR=7.8
CPUP PKP **PKiKP 10 25 34.0 -0.3**
comp=Z,9.5nm,0.9s,baz=260,slow=2.9,SNR=9.1
ITAB Concordia 143.08 152 PKPdf **PKiKP 10 25 38.2 -0.1**
SDV Santo Domingo 143.22 82 PKPdf PKPab 10 25 32.0 +0.4
SDV IAMs_20 IAMs_20 11 17 40.3
comp=Z,1μm,22.0s
SDV Santo Domingo 143.22 82 *e*P PKPab 10 25 31.5 -0.1
TORD Torodi Ar. Bea 144.21 285 PKP **PKPdf 10 25 37.5 +0.2**
comp=Z,3.4nm,0.3s,baz=48,slow=3.5,SNR=2.0
HATO Hato, Curacao 144.55 77 IAMs_20 IAMs_20 11 18 30.0
comp=Z,1μm,21.0s
OBIP Obispado Ponce 145.49 66 PKPdf **PKPdf 10 25 37.9 -1.5**
CELP Cerrillos 145.50 66 PKPdf **PKPdf 10 25 36.9 -2.6**
SIV San Ignacio 145.65 128 PKPbc **PKPdf 10 25 39.1 -0.7**
comp=Z,126nm,0.9s,baz=229,slow=3.4,SNR=196
BAUV El Baul 145.78 82 PKPdf **PKPdf 10 25 37.6 -2.5**
PGRA Graciosa 146.03 352 *e*PKP **PKiKP 10 25 49.1 +5.2**
HUMP Col San Antoni 146.14 65 PKPdf 10 25 38.9 -1.6
PAGU Agualva, Azore 146.17 351 *e*PKP **PKiKP 10 25 45.7 +1.4**
ROSA Rosais 146.37 352 *e*PKP **PKPdf 10 25 40.6 +0.2**
CALA Caldeira 146.56 353 *e*PKP **PKiKP 10 25 47.6 +2.4**
PICO Pico 146.61 352 *e*PKP **PKiKP 10 25 47.0 +1.7**
ACRG Accra 146.63 272 IAMs_20 IAMs_20 11 34 29.4
comp=Z,1μm,20.0s
BART Pico Bartolome 146.75 348 *e*PKP **PKPab 10 25 44.5 +0.4**
PSET Sete Cidades 146.82 348 *e*PKP **PKPab 10 25 43.8 -0.4**
CMLA Cha da Macela 146.84 348 *e*PKP **PKiKP 10 25 48.6 +2.9**
PTLB Pontes e Lacer 147.47 130 PKPdf 10 25 43.7 +0.9
PTLB IAMs_20 IAMs_20 11 41 04.9
comp=Z,1μm,20.0s
PSMN Pico do Norte, 147.47 347 *e*PKP **PKPbc 10 25 44.5 -0.4**
VILB Vilhena 148.06 125 IAMs_20 IAMs_20 11 42 16.0
comp=Z,912nm,21.0s
SMRT St. Maarten 148.66 64 IAMs_20 IAMs_20 11 26 55.4
comp=Z,891nm,21.0s
SEUS St. Eustatius 148.94 65 IAMs_20 IAMs_20 11 27 08.7
comp=Z,1μm,22.0s
ANWB Willy Bob 149.95 64 IAMs_20 IAMs_20 11 25 55.4
comp=Z,1μm,21.0s
TDBA Terre de Bas, 150.68 67 IAMs_20 IAMs_20 11 28 34.3
comp=Z,1μm,22.0s
GDSD La Dsirade Is 151.06 66 IAMs_20 IAMs_20 11 33 18.0
comp=Z,1μm,20.0s
DBIC Dimbokro 151.25 274 PKPbc **PKPbc 10 25 55.2 +0.3**
comp=Z,20nm,0.8s,baz=110,slow=1.4,SNR=20
DBIC PKPab **sPKPdf 10 26 03.5 +0.9**
comp=Z,60nm,0.8s,baz=84,slow=2.8,SNR=14
DUB01 Friburgo-RJ 151.50 163 *e*P **PKPdf 10 25 50.5 +1.3**
BIM Bigot 151.59 69 IAMs_20 IAMs_20 11 28 54.8
comp=Z,1μm,21.0s
MACA Manacapuru-AM 151.80 107 IAMs_20 IAMs_20 11 48 37.7
comp=Z,1μm,20.0s
MPOM Morne Pois Mar 151.81 69 IAMs_20 IAMs_20 11 29 09.4
comp=Z,1μm,20.0s
CAM01 Campos-RJ 151.94 164 *e*P **PKiKP 10 25 57.0 +0.4**
BOAV Boa Vista 153.12 95 PKPbc 10 25 56.1 -3.1
BOAV IAMs_20 IAMs_20 11 38 58.1
comp=Z,948nm,19.0s
BDFB Brasilia 154.84 146 PKPbc 10 26 00.7 -2.2
BDFB Brasilia 154.84 146 PKPbc **PKPbc 10 26 01.9 -0.9**
comp=Z,14nm,0.8s,baz=185,slow=2.7,SNR=11
BDFB Brasilia 154.84 146 PKIKP **PKPbc 10 26 02.0 -0.9**
BSFB Barra de Sao F 155.01 164 *e*P PKPdf 10 26 03.1 +8.9
SJMB Sao Joao De Ma 155.04 163 *e*P PKPdf 10 26 02.2 +7.9
NBAN Anadia - AL 164.91 170 *e*P **PKPab 10 26 59.9 -1.5**
NBCA Caruaru-PE 166.37 170 *e*P **PKPab 10 27 05.5 -2.4**
RCBR Riachuelo 168.73 169 PKPab 10 27 18.2 -0.1
RCBR Riachuelo 168.73 169 PKPab **PKPab 10 27 17.9 -0.4**
comp=Z,7.3nm,0.9s,baz=200,slow=12,SNR=7.7
RCBR Riachuelo 168.73 169 *e*P **PKPab 10 27 13.8 -4.5**

SOME 04 10:17:42.5, 42°.67N×79°.47E, h0km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.49**	**360**	*e*P	Pb	10 17 53.9	-0.2
	36nm,0.9s						
SHLS				*e*S	Sb	10 18 02.1	+0.2
	430nm,0.2s						
UZB	**Uzynbulak**	**0.58**	**326**	*e*P	Pg	10 17 54.1	+0.5
	2.4nm,0.1s						
UZB				*e*S	Sg	10 18 02.5	+1.4
	3.5nm,0.3s						
UZB	**Uzynbulak**	**0.58**	**326**	*e*P	Pg	10 17 54.3	+0.7
UZB	**Uzynbulak**	**0.58**	**326**	*e*P	Pg	10 17 54.3	+0.7
KPKS	**Kokpek**	**0.98**	**325**	*e*P	Pg	10 18 00.6	-0.8
	12nm,0.6s						
KPKS				*e*S	Sg	10 18 13.5	-0.6
	7.1nm,0.5s						

IDC 04 10:26:22.7±8.0, 5°.14S×146°.10E, h0km, mb3.4/2, mbtmp3.6/4, ML3.0/2, Error ellipse: s-maj=113.1km s-min=52.3km az=37.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.37**	**166**	Pn	Pn	10 27 31.0	+0.6
	7.3nm,0.3s,baz=328,slow=5.8,SNR=13						
PMG				Sn	Sn	10 28 20.5	-1.5
	4.8nm,0.3s,baz=319,slow=22,SNR=5.6						
	16nm,0.3s						
WRA	**Warramunga Arr**	**18.64**	**217**	P	P	10 30 42.3	+0.1
	0.2nm,0.3s,baz=38,slow=11,SNR=10						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**21.85**	**211**	P	P	10 31 16.6	-0.5
	0.3nm,0.6s,baz=38,slow=7.4,SNR=7.9						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**26.93**	**188**	P	P	10 32 06.2	+0.4
	1.8nm,0.7s,baz=12,slow=14,SNR=3.1						
	1.8nm,0.7s						

*MCSM **04** 10:32:07.9±1.1, 39°N±8°×2°6E±°, h10km, mb3.7, MLv3.9*
*ISK **04** 10:32:07.2, 38°.89N×26°.45E, h13km, ML3.3/42*
*AFAD **04** 10:32:07.3, 38°.89N×26°.43E, h7km±3km, ML3.2*
*THE **04** 10:32:08.1, 38°.89N×26°.36E, h7km±2km, ML3.4/3, Error ellipse: s-maj=2.9km s-min=1.1km az=251.0*
*ATH **04** 10:32:08.0, 38°.89N×26°.44E, h14km±3km, ML3.1/9, Manual Solution by A.Moschou First location: 2019/03/04 10:33:19, This location: 2019/03/04 12:08:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*

ISC 04 10:32:07.9±0.9, 38°.89N±0°.02×26°.44E±0°.02, h12km±7km, n109, σ0°59/146, 8C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.23**	**185**	P	**Pg**	**10 32 12.8**	**+0.1**
KARB				S	**Sg**	**10 32 16.6**	**+0.6**
FOCM	**Foa**	**0.29**	**127**	Pg	**Pg**	**10 32 13.3**	**-0.5**
FOCM				Sg	**Sg**	**10 32 17.7**	**0.0**
CAND	**Candarli**	**0.29**	**77**	Pg	**Pg**	**10 32 13.7**	**-0.2**
CAND				Sg	**Sg**	**10 32 18.2**	**+0.3**
PRK	**Paraskevi**	**0.38**	**340**	P	**Pg**	**10 32 15.6**	**+0.1**
PRK				S	**Sg**	**10 32 20.0**	**-0.6**
	7μm,0.3s						
PRK	**Paraskevi**	**0.38**	**340**	P	**Pg**	**10 32 15.8**	**+0.4**
PRK				S	**Sg**	**10 32 20.8**	**+0.2**
IZMD	**zmir-Dikili-**	**0.39**	**76**	P	**Pg**	**10 32 15.4**	**-0.3**
IZMD				S	**Sg**	**10 32 21.0**	**0.0**
DKL	**Dikili**	**0.41**	**63**	Pg	**Pg**	**10 32 15.7**	**-0.3**
DKL				Sg	**Sg**	**10 32 21.7**	**+0.3**
DKL	**Dikili**	**0.41**	**63**	P	**Pg**	**10 32 16.0**	**+0.1**
DKL				S	**Sg**	**10 32 21.7**	**+0.3**
EAG2	**Marmaro, Chios**	**0.43**	**217**	P	**Pg**	**10 32 16.7**	**+0.4**
EAG2				S	**Sg**	**10 32 22.7**	**+0.6**
AYVA	**Ayvalik**	**0.46**	**25**	P	**Pg**	**10 32 16.5**	**-0.5**
AYVA				S	**Sb**	**10 32 24.9**	**+0.2**
ZEDA	**zmir-Bergama**	**0.50**	**81**	P	**Pg**	**10 32 16.7**	**-1.1**
ZEDA				S	**Sg**	**10 32 24.4**	**0.0**
ZEDA				*i* AML	AML	10 32 25.0	
	comp=N,1μm,0.1s						
ZEDA				*i* AML	AML	10 32 25.0	
	comp=E,2μm,0.3s						
URLA	**Izmir**	**0.54**	**167**	P	**Pg**	**10 32 17.3**	**-1.2**
URLA				S	**Sb**	**10 32 26.5**	**-0.5**
URLA				*i* AML	AML	10 32 29.0	
	comp=N,1μm,0.3s						
URLA				*i* AML	AML	10 32 29.0	
	comp=E,2μm,0.4s						
SIGR	**SIGRI**	**0.56**	**306**	Pg	**Pg**	**10 32 18.6**	**-0.2**
SIGR				Sg	**Sb**	**10 32 27.1**	**-0.3**
SIGR	**SIGRI**	**0.56**	**306**	P	**Pg**	**10 32 19.0**	**+0.2**
SIGR				S	**Sg**	**10 32 25.1**	**-1.1**
SIGR	**SIGRI**	**0.56**	**306**	P	**Pg**	**10 32 19.2**	**+0.4**
SIGR				S	**Sg**	**10 32 26.5**	**+0.3**
CESE	**eme**	**0.57**	**191**	Pg	**Pg**	**10 32 18.8**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.61**	**337**	Pg	**Pg**	**10 32 19.8**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.65**	**176**	P	**Pg**	**10 32 20.1**	**-0.4**
ZEYE				S	**Sb**	**10 32 31.0**	**+0.9**
ZEYE				*i* AML	AML	10 32 33.0	
	comp=N,2μm,0.6s						
ZEYE				*i* AML	AML	10 32 33.0	
	comp=E,2μm,0.4s						
KOCA	**Canakkale, Ayv**	**0.66**	**339**	P	**Pg**	**10 32 19.7**	**-1.0**
KOCA				S	**Sb**	**10 32 31.8**	**+1.5**
KOCA				*i* AML	AML	10 32 33.0	
	comp=N,2μm,0.3s						
KOCA				*i* AML	AML	10 32 34.0	
	comp=E,2μm,0.6s						
BLCB	**Balcova**	**0.69**	**137**	Pg	**Pg**	**10 32 21.1**	**-0.1**
BUHA	**Balikesir, Bur**	**0.79**	**39**	P	**Pg**	**10 32 21.3**	**-1.8**
BUHA				S	**Sb**	**10 32 34.8**	**+0.7**
BUHA				*i* AML	AML	10 32 37.0	
	comp=E,926nm,0.8s						
BUHA				*i* AML	AML	10 32 39.0	
	comp=N,614nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.86**	**6**	P	**Pg**	**10 32 23.4**	**-1.1**
BAYC				*i* AML	AML	10 32 37.0	
	comp=E,1μm,0.4s						
BAYC				S	**Sn**	**10 32 37.9**	**-0.3**
BAYC				*i* AML	AML	10 32 39.0	
	comp=N,860nm,0.2s						
EZNE	**Ezine-Canakkal**	**0.87**	**356**	Pg	**Pg**	**10 32 24.5**	**-0.2**
DGB	**zmir**	**0.91**	**157**	P	**Pg**	**10 32 24.4**	**-0.9**
DGB				S	**Sg**	**10 32 37.2**	**+0.1**
DGB				*i* AML	AML	10 32 38.0	
	comp=N,354nm,0.4s						
DGB				*i* AML	AML	10 32 40.0	
	comp=E,429nm,0.2s						
BOZC	**Bozcaada**	**1.00**	**343**	Pg	**Pg**	**10 32 26.7**	**-0.4**
BOZC	**Bozcaada**	**1.00**	**343**	P	**Pg**	**10 32 26.4**	**-0.8**
BOZC				S	**Sb**	**10 32 41.0**	**+0.8**
BOZC				*i* AML	AML	10 32 41.0	
	comp=E,2μm,0.5s						
BOZC				*i* AML	AML	10 32 42.0	
	comp=N,2μm,0.2s						
AKS	**Akhisar**	**1.07**	**90**	Pg	**Pg**	**10 32 28.2**	**-0.3**
AKHS	**Akhisar**	**1.07**	**90**	P	**Pg**	**10 32 28.3**	**-0.2**
AKHS				S	**Sn**	**10 32 43.7**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.11**	**63**	P	**Pb**	**10 32 28.4**	**-0.6**
STEP				S	**Sn**	**10 32 44.8**	**+0.4**
STEP				*i* AML	AML	10 32 46.0	
	comp=N,1μm,0.4s						
STEP				*i* AML	AML	10 32 46.0	
	comp=E,710nm,0.5s						
GOMA	**Golmarmara-Man**	**1.17**	**98**	Pn	**Pb**	**10 32 29.7**	**-0.3**
ECEA	**Canakkale, Ece**	**1.17**	**350**	P	**Pb**	**10 32 30.1**	**+0.1**
ECEA				S	**Sn**	**10 32 46.6**	**+0.7**
ECEA				*i* AML	AML	10 32 50.0	
	comp=E,2μm,0.6s						
ECEA				*i* AML	AML	10 32 53.0	
	comp=N,1μm,0.4s						
CNKL	**anakkale-Mer**	**1.18**	**358**	P	**Pb**	**10 32 29.0**	**-1.1**
CNKL				S	**Sg**	**10 32 46.1**	**+0.3**
CNKL				*i* AML	AML	10 32 48.0	
	comp=E,484nm,0.4s						
CNKL				*i* AML	AML	10 32 49.0	
	comp=N,435nm,0.5s						
COMU	**Canakkale**	**1.21**	**1**	Pn	**Pb**	**10 32 30.3**	**-0.4**
YENI	**Yenice-Canakka**	**1.22**	**30**	Pn	**Pn**	**10 32 30.4**	**-0.3**
CANM	**Can-anakkale**	**1.22**	**23**	Pn	**Pn**	**10 32 30.2**	**-0.5**
SMG	**Samos**	**1.22**	**165**	P	**Pn**	**10 32 30.3**	**-0.4**
SMG				S	**Sn**	**10 32 48.0**	**+0.9**
	1μm,0.4s						
SMG	**Samos**	**1.22**	**165**	P	**Pn**	**10 32 31.0**	**+0.3**
SMG				S	**Sn**	**10 32 47.6**	**+0.5**
BALY	**Balya**	**1.25**	**47**	P	**Pn**	**10 32 29.9**	**-1.2**
BALY				S	**Sn**	**10 32 49.4**	**+1.5**
BALY				*i* AML	AML	10 32 51.0	
	comp=N,361nm,0.4s						
BALY				*i* AML	AML	10 32 52.0	
	comp=E,383nm,0.5s						
GOAD	**anakkale-G¶**	**1.34**	**342**	P	**Pn**	**10 32 31.5**	**-0.8**
GOAD				S	**Sn**	**10 32 50.5**	**+0.5**
GOAD				*i* AML	AML	10 32 51.0	
	comp=N,725nm,0.3s						
GOAD				*i* AML	AML	10 32 53.0	
	comp=E,898nm,0.4s						
GCAM	**G?zelcaml?**	**1.34**	**152**	Pn	**Pn**	**10 32 32.7**	**+0.4**
GCAM	**G?zelcaml?**	**1.34**	**152**	P	**Pn**	**10 32 31.8**	**-0.6**
GCAM				S	**Sn**	**10 32 50.7**	**+0.6**
GCAM				*i* AML	AML	10 32 53.0	
	comp=N,242nm,0.2s						
GCAM				*i* AML	AML	10 32 54.0	
	comp=E,191nm,0.6s						
GORD	**Gordes-Manisa**	**1.36**	**89**	Pn	**Pn**	**10 32 32.5**	**-0.1**
GADA	**Gvkgeada**	**1.37**	**342**	Pn	**Pn**	**10 32 32.6**	**-0.1**
LIA	**Limnos Island**	**1.40**	**316**	P	**Pn**	**10 32 33.0**	**-0.2**
LIA				S	**Sn**	**10 32 50.8**	**-0.8**
	1μm,0.4s						
LIA	**Limnos Island**	**1.40**	**316**	P	**Pn**	**10 32 33.3**	**+0.2**
LIA				S	**Sn**	**10 32 50.8**	**-0.8**
IZMR	**zmir-demi**	**1.40**	**122**	P	**Pn**	**10 32 31.9**	**-1.3**
IZMR				S	**Sg**	**10 32 53.5**	**+0.4**
ODEM	**Odemis-Izmir**	**1.42**	**115**	Pn	**Pn**	**10 32 33.3**	**-0.2**
BKES	**Balkesir-Mer**	**1.43**	**53**	P	**Pn**	**10 32 33.7**	**0.0**
BKES				S	**Sg**	**10 32 54.5**	**+0.6**
BKES				*i* AML	AML	10 32 57.0	
	comp=E,264nm,0.3s						
SKY	**Skiros Island**	**1.48**	**270**	P	**Pn**	**10 32 33.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**129**	Pn	**Pn**	**10 32 34.3**	**-0.1**
LPK	**Lapseki**	**1.50**	**9**	Pn	**Pn**	**10 32 34.5**	**-0.1**
GONE	**Gonen-Balikesi**	**1.51**	**39**	Pn	**Pn**	**10 32 34.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.51**	**1**	Pn	**Pn**	**10 32 34.7**	**0.0**
KRBG	**Karabiga-Canak**	**1.64**	**24**	Pn	**Pn**	**10 32 36.4**	**-0.1**
SUSR	**Susurluk-Balik**	**1.67**	**49**	Pn	**Pn**	**10 32 36.8**	**0.0**
KIRA	**zmir-Kiraz**	**1.69**	**114**	P	**Pb**	**10 32 38.7**	**-0.2**
KIRA				S	**Sg**	**10 33 01.9**	**-0.2**
SMTH	**Samothraki Isl**	**1.73**	**336**	P	**Pn**	**10 32 37.7**	**0.0**
SMTH	**Samothraki Isl**	**1.73**	**336**	P	**Pn**	**10 32 38.8**	**+1.0**
ENZZ	**Sultanice-Enez**	**1.73**	**352**	Pn	**Pn**	**10 32 37.8**	**+0.1**
KULA	**Kula-Manisa**	**1.78**	**101**	Pn	**Pn**	**10 32 38.5**	**+0.1**
ERIK	**Erikli-Kesan**	**1.78**	**2**	Pn	**Pn**	**10 32 38.4**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.81**	**353**	⇑P	**Pn**	**10 32 38.3**	**-0.6**
EDC	**Edincik**	**1.82**	**37**	Pn	**Pn**	**10 32 38.9**	**-0.1**
DST	**Dursunbey**	**1.84**	**66**	Pn	**Pn**	**10 32 39.3**	**+0.1**
ENEZ	**Enez**	**1.86**	**353**	Pn	**Pn**	**10 32 39.6**	**+0.1**
ENEZ	**Enez**	**1.86**	**353**	P	**Pn**	**10 32 38.7**	**-0.8**
ENEZ				S	**Sb**	**10 33 04.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.89**	**17**	Pn	**Pn**	**10 32 39.7**	**-0.2**
BAND	**Balkesir-Ban**	**1.95**	**41**	⇓P	**Pn**	**10 32 40.6**	**-0.1**
APE	**Apeiranthos**	**1.95**	**202**	⇑P	**Pn**	**10 32 39.7**	**-1.1**
APE	**Apeiranthos**	**1.95**	**202**	P	**Pn**	**10 32 40.1**	**-0.7**
SIMA	**Simav-Kutahya**	**1.99**	**84**	Pn	**Pn**	**10 32 41.7**	**+0.3**
KCTX	**Karacabey (Bur**	**2.02**	**47**	Pn	**Pn**	**10 32 41.5**	**-0.2**
ALN	**Alexandroupoli**	**2.03**	**352**	Pn	**Pn**	**10 32 41.9**	**+0.1**
ALN	**Alexandroupoli**	**2.03**	**352**	P	**Pn**	**10 32 41.7**	**-0.1**
THAS	**Thassos island**	**2.17**	**323**	P	**Pn**	**10 32 43.4**	**-0.3**
THAS	**Thassos island**	**2.17**	**323**	P	**Pn**	**10 32 43.5**	**-0.2**
ORLT	**Orhaneli**	**2.23**	**58**	Pn	**Pn**	**10 32 43.9**	**-0.7**
UKOP	**Uzunkopru-Edir**	**2.24**	**4**	Pn	**Pn**	**10 32 44.9**	**+0.2**
RDO	**Rodhopi**	**2.36**	**343**	Pn	**Pn**	**10 32 46.7**	**+0.4**
RDO	**Rodhopi**	**2.36**	**343**	P	**Pn**	**10 32 46.8**	**+0.4**
PAIG	**Paliouri**	**2.38**	**297**	Pn	**Pn**	**10 32 46.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**2.40**	**51**	Pn	**Pn**	**10 32 47.0**	**+0.1**
ARMT	**Armutlu**	**2.51**	**47**	Pn	**Pn**	**10 32 48.3**	**-0.1**
KAVA	**Kavala**	**2.57**	**326**	P	**Pn**	**10 32 49.3**	**0.0**
KOKK	**Kokkinochori,**	**2.69**	**317**	P	**Pn**	**10 32 50.6**	**-0.3**
SLVT	**Silivri**	**2.71**	**30**	Pn	**Pn**	**10 32 51.4**	**+0.3**
YLV	**Yalova**	**2.81**	**53**	Pn	**Pn**	**10 32 53.8**	**+1.1**
CTKS	**Kestanelik-??a**	**2.83**	**33**	Pn	**Pn**	**10 32 52.5**	**-0.3**
KDZ	**Kurdzhali**	**2.87**	**343**	Pn	**Pn**	**10 32 53.8**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.95**	**28**	Pn	**Pn**	**10 32 54.6**	**+0.2**
CTYL	**Yalikoy Yolu**	**2.95**	**28**	Pn	**Pn**	**10 32 55.4**	**+1.0**
CTYL				Sn	**Sn**	**10 33 32.0**	**+2.3**
EDRB	**Edirne**	**2.96**	**4**	Pn	**Pn**	**10 32 55.1**	**+0.4**
BR106	**Keskin Array S**	**5.63**	**79**	P	**Pn**	**10 33 32.5**	**+1.0**
	0.0nm2.3nm,0.8s						
BOVS	**Bovan**	**5.93**	**325**	⇑P	**Pn**	**10 33 35.0**	**-0.4**
ISR	**Istrita**	**6.23**	**1**	⇓P	**Pn**	**10 33 39.4**	**-0.2**
ISR	**Istrita**	**6.23**	**1**	P	**Pn**	**10 33 39.8**	**+0.3**
	0.2nm27nm,0.7s						

YUSH	Yuscaran	1.63	27	P	Pn	10 34 12.6	-0.1
YUSH	Yuscaran	1.63	27	S	Sn	10 34 32.3	-0.4
RCVN	Varilla2	1.75	51	P	Pn	10 34 14.4	+0.1

IDC 04 10:37:04.5±1.8, 5°.06S×146°.28E, h0km, mb3.2/2, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=59.1km s-min=27.3km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.41	169	Pn	Pn	10 38 14.0	+1.3
	6.0nm,0.3s,baz=345,slow=12,SNR=3.7						
PMG				Sn	Sn	10 39 02.9	-1.8
	4.9nm,0.3s,baz=22,slow=19,SNR=1.5						
	17nm,0.3s						
WRA	Warramunga Arr	18.82	217	P	Pn	10 41 26.5	+0.2
	0.2nm,0.3s,baz=38,slow=11,SNR=11						
	0.3nm,0.3s						
ASAR	Alice Springs	22.02	212	P	P	10 42 00.1	-0.6
	0.3nm,0.5s,baz=40,slow=7.7,SNR=7.4						
	0.3nm,0.5s						
ILAR	Eielson Array	84.90	23	P	P	10 49 41.0	-0.1
	0.2nm,0.7s,baz=259,slow=5.3,SNR=4.2						
	0.2nm,0.7s						

*IDC **04** 10:57:50.4±2.8, 5°.25S×146°.34E, h59km±27km, mb3.3/10, mbtmp3.6/13, ML3.1/3, Error ellipse: s-maj=28.5km s-min=16.4km az=78.0*

ISC 04 10:57:48.1±0.8, 5°.16S±0°.08×146°.4E±0°.2, h35km, n13, σ1§27/14, mb3.7/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.28	170	P	Pn	10 58 51.8	+1.0
	9.8nm,0.3s,baz=283,slow=14,SNR=15						
PMG				S	Sn	10 59 41.1	+1.5
	68nm,0.4s,baz=0.0,slow=20,SNR=7.4						
	30nm,0.3s						
JAY	Jayapura	6.28	295	P	Pn	10 59 19.8	+1.4
	0.5nm,0.3s,baz=126,slow=17,SNR=1.2						
	6.1nm,0.9s						
WRA	Warramunga Arr	18.82	218	P	P	11 02 03.6	-1.4
	0.2nm,0.3s,baz=36,slow=11,SNR=8.5						
	0.2nm,0.3s						
ASAR	Alice Springs	22.00	212	P	P	11 02 38.9	-0.6
	0.3nm,0.5s,baz=44,slow=8.5,SNR=9.4						
	0.3nm,0.5s						
FITZ	Fitzroy Crossi	24.04	236	P	P	11 02 59.2	-0.9
	1.4nm,0.5s,baz=56,slow=7.8,SNR=9.0						
	1.4nm,0.5s						
STKA	Stephens Creek	26.96	189	P	P	11 03 25.8	-0.8
	0.9nm,0.5s,baz=15,slow=12,SNR=2.8						
	0.9nm,0.5s						
KSRS	Korea Array	45.77	339	P	P	11 06 05.2	-1.1
	0.7nm,0.9s,baz=158,slow=8.8,SNR=1.6						
	0.7nm,0.9s						
PETK	Petropavlovsk-	58.83	8	P	P	11 07 44.6	+1.6
	0.8nm,0.4s,baz=179,slow=7.2,SNR=1.1						
	0.8nm,0.4s						
MKAR	Makanchi Array	76.49	321	P	P	11 09 34.5	-0.1
	0.1nm,0.3s,baz=108,slow=4.7,SNR=1.4						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	78.00	328	P	P	11 09 44.2	+1.4
	0.4nm,0.4s,baz=113,slow=3.7,SNR=1.7						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	80.22	323	P	P	11 09 54.6	-0.4
	0.1nm,0.3s,baz=103,slow=4.0,SNR=1.3						
	0.1nm,0.3s						
QSPA	South Pole Qui	84.80	180	P	P	11 10 17.4	-1.5
	1.3nm,0.9s,baz=311,slow=2.0,SNR=2.0						
	1.3nm,0.9s						
ILAR	Eielson Array	84.94	23	P	P	11 10 18.5	-0.8
	0.5nm,0.9s,baz=260,slow=5.6,SNR=5.7						
	0.5nm,0.9s						

DJA 04 11:01:22.7±0.6, 2°S±5°×13°9E±°, h25km±5km, M4.0/7, mb4.3/1, MLv3.9/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.28	238	P	Pn	11 01 30.4	-0.9
GENI	Genyem	1.43	122	P	Pn	11 01 47.6	+0.5
GENI				S	Sn	11 02 05.2	+0.2
JAY	Jayapura	1.88	111	P	Pn	11 01 54.0	+0.7
JAY				S	Sn	11 02 15.9	-0.3
WAMI	Wamena	2.04	187	P	Pb	11 01 57.5	-1.7
WAMI				S	Sb	11 02 26.3	+2.1
SRPI	Serui, Papua	2.71	269	P	Pn	11 02 05.2	+0.5
BAKI	Biak	2.91	283	P	Pn	11 02 08.3	+0.8
BAKI				S	Sn	11 02 41.4	-0.4
FAKI	Fak Fak	6.78	261	P	Pn	11 03 00.3	-0.4

*RSNC **04** 11:03:02.7±1.3, 14°S±5°×7°7W±°, h39km±10km, M4.5, mB5.1, mb4.7, ML3.6, Mw(mB)4.5*
*NEIC **04** 11:03:02.2±1.4, 13°.53S±0°.07×76°.5W±0°.1, h41km±8km, mb4.4/28, Error ellipse: s-maj=15.9km s-min=8.4km az=65.0*
*IDC **04** 11:03:05.2±1.6, 13°.29S×76°.50W, h64km±11km, mb3.7/14, mbtmp4.0/19, Error ellipse: s-maj=25.2km s-min=9.6km az=53.0*
*VAO **04** 11:03:08.7±1.2, 13°.26S×76°.28W, h88km±9km, mb4.5*

ISC 04 11:03:00.9±0.5, 13°.50S±0°.06×76°.64W±0°.07, h33km, n108, σ1§24/100, mb4.3/22, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.52	352	Pn	Pn	11 03 27.4	+1.6
NNA				Sn	Sn	11 03 45.2	+0.7
NNA	Nana	1.52	352	P	Pb	11 03 27.7	-0.8
	98nm,0.3s,baz=177,slow=12,SNR=53						
NNA				S	Sn	11 03 44.7	+0.2
	2μm,0.4s,baz=231,slow=18,SNR=31						
ATAH	Atahualpa	6.56	345	P	Pn	11 04 38.8	+3.3
	11nm,0.4s,baz=147,slow=3.7,SNR=20						
ATAH				S	Sn	11 05 49.9	+0.5
	37nm,0.4s,baz=325,slow=8.8,SNR=5.7						
CZSB	Cruzeiro do Su	6.92	34	Pn	Pn	11 04 40.8	+0.8
CZSB	Cruzeiro do Su	6.92	34	eP	Pn	11 04 42.8	+2.7
AP01	Chaculuta	7.75	129	Pn	Pn	11 04 50.9	-0.5
PB12	IPOC Station P	7.91	131	Pn	Pn	11 04 53.0	-0.7
PB18	Visviri	8.00	121	Pn	Pn	11 04 57.0	+1.7
LPAZ	La Paz	8.68	110	Pn	Pn	11 05 04.2	-0.5
LPAZ	La Paz	8.68	110	P	Pn	11 05 08.9	+4.2
	3.4nm,0.5s,baz=300,slow=7.1,SNR=8.0						
LPAZ				S	Sn	11 06 43.8	+2.1
	4.4nm,0.8s,baz=257,slow=7.4,SNR=1.4						
LPAZ	La Paz	8.68	110	P	Pn	11 05 09.7	+5.0
	12nm,0.9s						
PB11	IPOC Station P	9.13	134		Pn	11 05 09.2	-1.4
TA02	Huaiquique	9.17	138	Pn	Pn	11 05 10.3	-0.5
TA01	Diego Aracena	9.35	140	Pn	Pn	11 05 12.2	-1.1
PB08	IPOC Station P	9.74	134		Pn	11 05 18.4	-0.7
PB01	IPOC Station P	10.14	139		Pn	11 05 24.0	-0.3
PB03	IPOC Station P	10.73	143		Pn	11 05 31.6	-0.8
COHC	Cochancay	11.27	346		Pn	11 05 40.9	+1.2
TBTG	Tabatinga, AM	11.39	36	Pn	Pn	11 05 41.1	-0.3
TBTG	Tabatinga, AM	11.39	36	eP	Pn	11 05 42.9	+1.5
OTAV	Otavalo	13.77	352	Pn	Pn	11 06 14.2	-0.1
OTAV	Otavalo	13.77	352	eP	Pn	11 06 16.7	+2.4
FLOC	Florencia	15.02	4	Pn	Pn	11 06 31.5	+0.6
FLOC				IAmb	IAmb	11 06 40.1	
	comp=Z,37nm,0.9s						
SIV	San Ignacio	15.26	101	P	P	11 06 36.7	-1.9
	comp=Z,2.7nm,0.9s,baz=276,slow=16,SNR=8.6						
SIV				S	Sn	11 09 21.7	-0.3
	comp=Z,1.2nm,0.7s,baz=244,slow=23,SNR=1.8						
TEFE	Tefe	15.46	51	eP	Pn	11 06 34.8	-1.9
VILB	Vilhena	16.01	90		P	11 06 46.8	-0.2
VILB				IAmb	IAmb	11 07 01.2	
	comp=Z,17nm,0.9s						
VILB	Vilhena	16.01	90	eP	Pn	11 06 44.6	+0.8
PTLB	Pontes e Lacer	17.06	99	Pn	Pn	11 06 56.0	-0.9
PTLB	Pontes e Lacer	17.06	99	eP	P	11 06 58.5	0.0
ROSC	El Rosal	18.37	7	P	P	11 07 12.8	-0.5
ROSC				IAmb	IAmb	11 07 35.0	
	comp=Z,38nm,1.2s						
ROSC	El Rosal	18.37	7	P	Pn	11 07 14.1	+0.6
	comp=Z,7.8nm,0.4s,baz=105,slow=8.1,SNR=5.0						
MACA	Manacapuru-AM	18.82	58	P	P	11 07 16.6	-1.4
MACA				IAmb	IAmb	11 07 19.7	
	comp=Z,25nm,0.7s						
MACA	Manacapuru-AM	18.82	58	eP	P	11 07 16.6	-1.4
PDRB	Porto dos Gac	19.52	87	eP	P	11 07 25.5	-0.2
RUSC	La Rusia	19.59	11	P	P	11 07 27.2	+0.4
CFA	Coronel Fontan	19.60	158	P	Pn	11 07 30.2	+2.3
	comp=Z,1.3nm,0.8s,baz=334,slow=11,SNR=3.7						
MURT	Porto Murtinho	19.85	117	eP	Pn	11 07 31.9	+0.9
H03N1	Juan Fernandez	19.96	186	T	T	11 27 16.3	
	baz=8.2,slow=74,SNR=44						
H03N2	Juan Fernandez	19.96	186	T	T	11 27 27.5	
	baz=8.2,slow=74,SNR=23						
H03N3	Juan Fernandez	19.97	186	T	T	11 27 16.3	
	baz=8.2,slow=74,SNR=32						
PANT	Pantanal (Braz	19.97	108	eP	Pn	11 07 31.2	-1.2
BDQN	Bodoquena, MS	20.23	113	eP	Pn	11 07 34.3	-1.1
SALV	Santo Antonio	20.40	99	eP	Pn	11 07 36.6	-0.9
CLDB	Colider	20.54	85	eP	P	11 07 36.3	-0.4
AQDB	Aquidauana	21.18	112	P	P	11 07 41.9	-1.7
AQDB	Aquidauana	21.18	112	eP	P	11 07 44.1	+0.5
NPGB	Novo Progresso	21.89	75	eP	P	11 07 50.5	-0.8
CPUP	Villa Florida	22.15	128	P	P	11 07 53.1	-0.9
CPUP	Villa Florida	22.15	128	P	P	11 07 55.4	+1.4
	comp=Z,1.2nm,0.5s,baz=349,slow=8.6,SNR=4.4						
	comp=Z,1.2nm,0.5s						
CPUP	Villa Florida	22.15	128	eP	P	11 07 57.2	+3.2
SJPY	San Joaquin	22.47	124	eP	P	11 07 58.5	+1.0
BOAV	Boa Vista	22.47	47	P	P	11 07 57.3	-0.3
BOAV	Boa Vista	22.47	47	eP	P	11 07 57.5	-0.1
ITTB	Itaituba	22.54	68	eP	P	11 07 57.5	-0.7
RPRD	Ribas do Rio P	22.99	111	eP	P	11 08 04.0	+1.0
SDV	Santo Domingo	23.03	15	P	P	11 08 03.9	+0.4
SDV				IAmb	IAmb	11 08 20.3	
	comp=Z,12nm,0.8s						
SDV	Santo Domingo	23.03	15	P	P	11 08 03.5	-0.1
	comp=Z,6.7nm,0.4s,baz=231,slow=7.0,SNR=12						
	comp=Z,6.7nm,0.4s						
SDV	Santo Domingo	23.03	15	eP	P	11 08 04.6	+1.0
C2SB	Chapadao do Su	23.44	106	eP	P	11 08 07.9	+0.5
BAUV	El Baul	23.88	21	P	P	11 08 11.2	-0.4
ARAG	Araguaiana, MT	24.12	98	eP	P	11 08 13.0	-0.9
SNDB	Serra Nova Dou	24.76	89	eP	P	11 08 19.5	-0.3
MAL2	Monte Alegre,	24.97	65	P	P	11 08 20.8	-0.9
SOCE	Pocosol	25.02	341	P	P	11 08 21.4	-0.7
SOCE				IAmb	IAmb	11 08 22.8	
	comp=Z,11nm,1.0s						
PTGB	Pitanga	25.71	119	eP	P	11 08 30.1	+1.7
ITRB	Iturama	25.91	107	eP	P	11 08 30.1	-0.1
LDASE	Londrina, Braz	26.09	116	eP	P	11 08 32.8	+1.0
PLCA	Paso Flores	27.64	170	P	P	11 08 45.7	0.0
PLCA	Paso Flores	27.64	170	P	P	11 08 49.2	+3.6
	comp=Z,2.3nm,1.0s,baz=17,slow=17,SNR=3.5						
	comp=Z,2.3nm,1.0s						
IPMB	Ipameri, GO	27.70	103	eP	P	11 08 44.9	-1.5
BDFB	Brasilia	27.77	98	P	P	11 08 47.7	+0.5
	comp=Z,1.1nm,0.4s,baz=262,slow=11,SNR=3.3						
	comp=Z,1.1nm,0.4s						
BB19B	Bebedouro	27.84	110	eP	P	11 08 49.5	+1.9
JANB	Januaria	31.35	97	eP	P	11 09 17.3	-1.5
NBLA	Lagarto - SE	38.02	91	eP	P	11 10 14.9	-1.5
NBAN	Anadia - AL	39.69	89	eP	P	11 10 29.5	-0.9
HNDO	Hondo	48.04	333	P	P	11 11 37.6	+0.5
TX31	Lajitas Ar. Si	49.95	329	P	P	11 11 52.5	+0.6
TX31				IAmb	IAmb	11 11 53.3	
	comp=Z,8.3nm,1.4s						
TXAR	Lajitas Array	49.95	329	P	P	11 11 52.3	+0.4
	comp=Z,1.0nm,1.0s,baz=126,slow=8.1,SNR=5.1						
	comp=Z,1.0nm,1.0s						
X16A	Lo Mia Camp, P	58.01	326	P	P	11 12 50.5	-0.4
X16A				IAmb	IAmb	11 12 52.9	
	comp=Z,2.3nm,1.0s						
LDAQ	Lac Daran	61.38	4	P	P	11 13 13.7	+0.1
DUG	Dugway, Tooele	63.11	330	P	P	11 13 26.2	+0.7
DUG				IAmb	IAmb	11 13 27.4	
	comp=Z,2.9nm,0.7s						
ICQ	Pointe Anglais	63.29	7	P	P	11 13 26.5	+0.3
PDAR	Pinedale Array	63.62	333	P	P	11 13 28.9	0.0
	comp=Z,0.3nm,0.6s,baz=133,slow=9.2,SNR=4.6						
	comp=Z,0.3nm,0.6s						
NVAR	Mina Array Bea	64.72	325	P	P	11 13 37.2	+1.0
	comp=Z,1.1nm,0.7s,baz=139,slow=6.1,SNR=9.0						
	comp=Z,1.1nm,0.7s						
YNE	Yellowstone No	65.62	335	IAmb	IAmb	11 13 43.3	
	comp=Z,3.4nm,1.1s						
ULM	Lac du Bonnet	65.69	347	P	P	11 13 41.5	-0.4
	comp=Z,0.9nm,0.5s,baz=46,slow=9.3,SNR=2.0						
	comp=Z,0.9nm,0.5s						
YHL	Hebgen Lake	66.00	334	P	P	11 13 45.2	+0.8
YHL				IAmb	IAmb	11 13 47.2	
	comp=Z,5.9nm,1.2s						
MFID	Camas Ranch	67.02	330	P	P	11 13 51.6	+0.9
MFID				IAmb	IAmb	11 13 53.1	
	comp=Z,6.7nm,1.2s						
SCHQ	Schefferville	68.57	6	P	P	11 13 59.4	-0.7
	comp=Z,3.5nm,0.8s,baz=171,slow=3.1,SNR=6.4						
	comp=Z,3.5nm,0.8s						
DBIC	Dimbokro	74.02	79	P	P	11 14 33.5	-0.4
	comp=Z,2.3nm,0.6s,baz=184,slow=3.1,SNR=3.9						
	comp=Z,2.3nm,0.6s						
QSPA	South Pole Qui	76.64	180	P	P	11 14 48.5	+0.3
QSPA				IAmb	IAmb	11 14 52.5	
	comp=Z,5.9nm,1.4s						
YKA	Yellowknife Ar	81.34	343	P	P	11 15 13.4	-0.3
	comp=Z,0.2nm,0.8s,baz=145,slow=6.2,SNR=5.0						
	comp=Z,0.2nm,0.8s						
ESDC	Sonseca Array	85.64	48	P	P	11 15 36.6	+0.2
	comp=Z,0.7nm,0.7s,baz=257,slow=5.7,SNR=4.1						
	comp=Z,0.7nm,0.7s						
EKA	Eskdalemuir Ar	91.85	33	P	P	11 16 04.4	-1.0
	comp=Z,1.6nm,0.8s,baz=123,slow=5.2,SNR=2.4						
	comp=Z,1.6nm,0.8s						
ILAR	Eielson Array	93.94	336	P	P	11 16 14.0	-0.9
	comp=Z,0.2nm,0.8s,baz=114,slow=6.8,SNR=2.4						
	comp=Z,0.2nm,0.8s						
H11N3	WAKE ISLAND Hyl	19.08	285	T	T	13 31 57.4	
	baz=96,slow=74,SNR=14						
H11N2	WAKE ISLAND Hyl	19.09	285	T	T	13 31 58.9	
	baz=96,slow=74,SNR=16						
H11N1	WAKE ISLAND Hyl	19.10	285	T	T	13 31 59.2	
	baz=96,slow=74,SNR=9.9						
H11S2	WAKE ISLAND Hyl	19.16	284	T	T	13 32 02.0	
	baz=94,slow=74,SNR=6.6						
H11S1	WAKE ISLAND Hyl	19.17	284	T	T	13 32 10.0	
	baz=94,slow=74,SNR=6.2						
H11S3	WAKE ISLAND Hyl	19.18	284	T	T	13 32 04.8	
	baz=94,slow=74,SNR=5.6						
ASAR	Alice Springs	132.49	219	PKP	PKPdf	11 22 11.8	-1.1
	comp=Z,0.3nm,0.8s,baz=123,slow=2.6,SNR=4.6						
WRA	Warramunga Arr	134.90	223	PKP	PKPdf	11 22 16.6	-0.8
	comp=Z,0.8nm,1.0s,baz=125,slow=2.1,SNR=4.6						
ZALV	Zalesovo Beam	137.08	16	PKP	PKPdf	11 22 20.2	-0.2
	comp=Z,0.4nm,0.3s,baz=132,slow=50,SNR=1.4						
KURBB	Kurchatov Arra	137.83	23	PKP	PKPdf	11 22 19.7	-2.2
	comp=Z,0.1nm,0.4s,baz=347,slow=3.8,SNR=1.2						
MKAR	Makanchi Array	142.39	24	PKP	PKPdf	11 22 30.7	+0.4
	comp=Z,0.1nm,0.5s,baz=31,slow=3.4,SNR=2.1						
SONM	Songino Array	145.68	356	PKPbc	PKPdf	11 22 35.8	-0.4
	comp=Z,1.0nm,0.8s,baz=342,slow=2.7,SNR=4.7						
CMAR	Chiang Mai Arr	173.49	40	PKP	PKPdf	11 23 07.5	-0.4
	comp=Z,0.6nm,0.3s,baz=295,slow=3.1,SNR=5.1						

*SNET **04** 11:07:09.1±0.9, 13°.27N×89°.29W, h56km±6km, ML3.0*
*CATAC **04** 11:07:09.0±0.4, 13°N±3°×8°9W±°, h36km±2km, M2.9/19, Mjma2.9/18, ML2.8/19, MLv2.9/19, Error ellipse: s-maj=7.2km s-min=3.4km az=26.5, confirmed*

ISC 04 11:07:07.6±1.8, 13°.16N±0°.09×89°.35W±0°.05, h64km±10km, n78, σ0§82/89, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.33	4	P	Pn	11 07 18.6	+0.2
JAYA	Jayaque - finc	0.50	349	eP	Pn	11 07 20.0	-0.1
JAYA				eS	Sn	11 07 27.9	-1.3
JAYA				IAML		11 07 30.6	
	comp=Z,500nm,0.2s						
JAYA	Jayaque - finc	0.50	349	P	Pn	11 07 20.2	+0.1
JAYA	Jayaque - finc	0.50	349	S	Sn	11 07 28.6	-0.6
JAYA	Jayaque - finc	0.50	349	P	Pn	11 07 20.2	+0.1
LOMA	Loma Larga	0.51	20	eP	Pn	11 07 20.3	+0.1
LOMA				eS	Sn	11 07 28.6	-0.7
LOMA	Loma Larga	0.51	20	P	Pn	11 07 20.5	+0.3
LOMA	Loma Larga	0.51	20	S	Sn	11 07 29.0	-0.3
LOMA	Loma Larga	0.51	20	P	Pn	11 07 24.1	+3.9
ITCA	Escuela Especi	0.52	7	S	Sn	11 07 28.7	-0.7
LFRS	El Faro	0.54	31	eP	Pn	11 07 20.3	-0.2
LFRS				eS	Sn	11 07 28.6	-1.2
PMON	Piamonte	0.55	3	eP	Pn	11 07 20.5	-0.1
PMON				eS	Sn	11 07 29.3	-0.7
PMON	Piamonte	0.55	3	S	Sn	11 07 29.8	-0.2
PMON	Piamonte	0.55	3	P	Pn	11 07 20.8	+0.2
PMON	Piamonte	0.55	3	P	Pn	11 07 20.8	+0.2
SEMO	Seminario San	0.55	12	P	Pn	11 07 21.2	+0.6
SEMO	Seminario San	0.55	12	S	Sn	11 07 29.7	-0.3
UTEC	Universidad Te	0.56	15	P	Pn	11 07 22.1	+1.5
UEES	Universidad Ev	0.56	11	eP	Pn	11 07 20.6	-0.1
UEES				eS	Sn	11 07 29.6	-0.6
UEES				IAML		11 07 32.8	
	comp=Z,798nm,0.3s						
UEES	Universidad Ev	0.56	11	P	Pn	11 07 21.0	+0.2
UEES	Universidad Ev	0.56	11	S	Sn	11 07 30.0	-0.2
UEES	Universidad Ev	0.56	11	P	Pn	11 07 22.1	+1.4
BOQS	Boqueron	0.58	6	eP	Pn	11 07 20.8	-0.2
BOQS				eS	Sn	11 07 30.5	-0.2
PIC2	El Picacho	0.59	9	eP	Pn	11 07 21.5	+0.4
COEG	Centro de Oper	0.65	45	eP	Pn	11 07 21.3	-0.3
COEG				IAML		11 07 35.7	
	comp=Z,224nm,0.3s						
COEG	Centro de Oper	0.65	45	P	Sn	11 07 31.4	-0.4
COEG	Centro de Oper	0.65	45	P	Pn	11 07 21.2	-0.3
COEG	Centro de Oper	0.65	45	S	Sn	11 07 30.8	-0.9
COEG	Centro de Oper	0.65	45	P	Sn	11 07 31.0	-0.8
TECO	Alcaldia de Te	0.67	56	P	Pn	11 07 21.5	-0.2
TECO	Alcaldia de Te	0.67	56	S	Sn	11 07 31.3	-0.9
TECO	Alcaldia de Te	0.67	56	P	Sn	11 07 33.9	+1.8
PAVA	Las Pavas	0.68	36	eP	Pn	11 07 22.1	+0.1
PAVA	Las Pavas	0.68	36	P	Pn	11 07 22.2	+0.1
PAVA	Las Pavas	0.68	36	S	Sn	11 07 32.3	-0.2
PAVA	Las Pavas	0.68	36	P	Sn	11 07 32.7	+0.2
CEVE	Cerro Verde	0.72	338	eP	Pn	11 07 23.0	+0.4
CEVE				eS	Sn	11 07 33.5	0.0
CEVE				IAML		11 07 37.5	
	comp=Z,648nm,0.3s						
CEVE	Cerro Verde	0.72	338	P	Pn	11 07 22.7	+0.1
CEVE	Cerro Verde	0.72	338	S	Sn	11 07 34.3	+0.8
CEVE	Cerro Verde	0.72	338	P	Pn	11 07 23.3	+0.7
UESV	Universidad de	0.72	49	P	Sn	11 07 34.0	+0.7
UESV	Universidad de	0.72	49	P	Pn	11 07 22.5	+0.1
UESV	Universidad de	0.72	49	S	Sn	11 07 32.5	-0.8
SNJE	San Jose	0.75	340	eP	Pn	11 07 23.1	+0.2
ALJI	Alcalda de J	0.77	77	eP	Pn	11 07 23.8	+0.8
ALJI	Alcalda de J	0.77	77	P	Pn	11 07 23.8	+0.6
ALJI	Alcalda de J	0.77	77	S	Sn	11 07 34.5	+0.2
RTR	El Retiro	0.79	338	eP	Pn	11 07 23.9	+0.6
SCLA	Alcaldia de Sa	0.81	48	eP	Pn	11 07 23.4	-0.1
SCLA				eS	Sn	11 07 35.0	-0.1
SCLA	Alcaldia de Sa	0.81	48	P	Pn	11 07 23.6	+0.2
UNIC	Universidad Ca	0.84	347	P	Pn	11 07 23.5	-0.4
UNIC	Universidad Ca	0.84	347	S	Sn	11 07 36.6	+0.7
NUBE	Las Nubes	0.85	330	eP	Pn	11 07 24.4	+0.3
NUBE				eS	Sn	11 07 36.4	+0.1
NUBE	Las Nubes	0.85	330	P	Pn	11 07 24.6	+0.5
NUBE	Las Nubes	0.85	330	P	Pn	11 07 24.7	+0.5
TECA	Tecapa	0.89	68	eP	Pn	11 07 24.8	+0.2
FAME	Alcaldia de Sa	0.94	316	S	Sn	11 07 38.2	+0.2
PACA	Pacayal	1.04	73	eP	Pn	11 07 26.9	+0.4
PACA				eS	Sn	11 07 41.4	+0.9
PACA				IAML		11 07 45.2	
	comp=Z,1μm,0.2s						
PACA	Pacayal	1.04	73	P	Sn	11 07 41.6	+1.1
PACA	Pacayal	1.04	73	P	Pn	11 07 27.8	+1.3
PACA	Pacayal	1.04	73	S	Sn	11 07 41.3	+0.9
LCY	Lacayo	1.06	76	eP	Pn	11 07 27.0	+0.3
RANC	El Ranchito	1.07	75	eP	Pn	11 07 27.0	+0.2
RANC	El Ranchito	1.07	75	P	Pn	11 07 27.5	+0.7
RANC	El Ranchito	1.07	75	S	Sn	11 07 41.7	+0.6
LLGN	La Laguna	1.07	21	P	Pn	11 07 25.8	-1.0
LLGN	La Laguna	1.07	21	S	Sn	11 07 40.5	-0.7
MTO3	Montecristo	1.23	359	eP	Pn	11 07 28.9	-0.1
MTO3	Montecristo	1.23	359	P	Pn	11 07 29.2	+0.1
MTO3	Montecristo	1.23	359	S	Sn	11 07 44.6	-0.5
MTO3	Montecristo	1.23	359	P	Pn	11 07 29.3	+0.1
ESQI	Esquipulas	1.39	0	eP	Pn	11 07 31.6	+0.5
ESQI	Esquipulas	1.39	0	P	Pn	11 07 31.6	+0.5
ESQI	Esquipulas	1.39	0	S	Sn	11 07 48.7	0.0
CNCH	Conchagua	1.48	85	eP	Pn	11 07 32.7	+0.5
CNCH	Conchagua	1.48	85	P	Pn	11 07 32.8	+0.6
CNCH	Conchagua	1.48	85	S	Sn	11 07 51.6	+0.8
CSGN	Cosiguina Volc	1.75	96	P	Pn	11 07 32.6	-3.3
CSGN				S	Sn	11 07 57.2	-0.1

**IDC 04 11:07:43.1±1.4, 12°.16N×143°.84E, h0km, mb3

SHUL			*e*S		**Sn**	**11 20 15.7**	**-0.2**
ETM	**Tongmen**	**0.72 264**	*e*P		**Pn**	**11 20 05.4**	**-1.0**
JYNG	**Yonaguni jima**	**0.74 56**	P		**Pn**	**11 20 06.4**	**-0.3**
JYNG			S		**Sn**	**11 20 16.3**	**-0.5**
ETLH	**Xiulin Townshi**	**0.74 283**	*i* P		**Pn**	**11 20 06.1**	**-0.8**
ETLH			*e*S		**Sn**	**11 20 16.6**	**-0.5**
NDS	**Dongshan**	**0.78 319**	*e*P		**Pn**	**11 20 07.1**	**-0.2**
NDS			*e*S		**Sn**	**11 20 17.7**	**-0.2**
LXIB	**Xiulin Townshi**	**0.79 269**	*e*P		**Pn**	**11 20 06.5**	**-1.0**
YOJ	**Yonaguni jima**	**0.79 58**	*i* P		**Pn**	**11 20 07.6**	**+0.1**
YOJ			*e*S		**Sn**	**11 20 18.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.79 58**	P		**Pn**	**11 20 07.4**	**-0.1**
YOJ			*e*S		**Sn**	**11 20 18.0**	**-0.2**
ESL	**Shilin**	**0.80 254**	*e*P		**Pn**	**11 20 06.6**	**-1.0**
LATG	**Datong**	**0.84 306**	*e*P		**Pn**	**11 20 07.8**	**-0.5**
LATG			*e*S		**Sn**	**11 20 19.9**	**+0.3**
EGFH	**Guangfu**	**0.86 245**	*e*P		**Pn**	**11 20 07.8**	**-0.6**
EGFH			*e*S		**Sn**	**11 20 19.3**	**-0.6**
EGS		**0.86 339**	*e*P		**Pn**	**11 20 08.2**	**-0.2**
EGS			*e*S		**Sn**	**11 20 20.1**	**+0.3**
WARBT	**Fenglin Townsh**	**0.87 249**	P		**Pn**	**11 20 07.6**	**-1.0**
TWE	**Neicheng**	**0.88 321**	*e*P		**Pn**	**11 20 08.6**	**0.0**
TWE			S		**Sn**	**11 20 19.8**	**-0.4**
ENTT	**Nioudou**	**0.88 313**	*e*P		**Pn**	**11 20 08.6**	**-0.1**
ENTT			*e*S		**Sn**	**11 20 20.5**	**+0.1**
NNSB	**Datong**	**0.90 296**	P		**Pn**	**11 20 08.8**	**-0.3**
NNSB			*e*S		**Sn**	**11 20 20.7**	**-0.3**
NNS	**Nan Shan**	**0.91 296**	*e*P		**Pn**	**11 20 09.0**	**-0.3**
NNS			*e*S		**Sn**	**11 20 21.1**	**-0.3**
WHF	**Hehuan Shan**	**0.93 277**	*e*P		**Pn**	**11 20 09.0**	**-0.7**
FUSB	**Fushanzhiwuyua**	**0.95 319**	*e*P		**Pn**	**11 20 09.9**	**+0.1**
FUSB			*i* S		**Sn**	**11 20 22.5**	**+0.3**
HGSD	**Ruisui**	**0.95 235**	*e*P		**Pn**	**11 20 09.1**	**-0.6**
HGSD			*e*S		**Sn**	**11 20 21.4**	**-0.7**
FUSS	**Fushou**	**0.96 283**	*e*P		**Pn**	**11 20 09.9**	**-0.2**
FUSS			*e*S		**Sn**	**11 20 22.6**	**-0.2**
OWD	**Renai**	**1.01 265**	P		**Pn**	**11 20 10.1**	**-0.4**
TIPB	**Shuangxi**	**1.01 336**	*e*P		**Pn**	**11 20 10.4**	**-0.1**
TIPB			*e*S		**Sn**	**11 20 23.4**	**-0.3**
NWLT	**Wulai**	**1.02 316**	*e*P		**Pn**	**11 20 11.0**	**+0.4**
NWLT			S		**Sn**	**11 20 23.9**	**+0.1**
EHY	**Hungye**	**1.02 239**	P		**Pn**	**11 20 10.1**	**-0.5**
EHY			*e*S		**Sn**	**11 20 23.4**	**-0.4**
YHNB	**Yeheng**	**1.03 308**	P		**Pn**	**11 20 10.8**	**0.0**
YHNB			*e*S		**Sn**	**11 20 23.5**	**-0.7**
ECBN	**Changbin**	**1.04 226**	*e*S		**Sn**	**11 20 23.4**	**-0.9**
NSK	**Sanguang**	**1.05 307**	*e*P		**Pn**	**11 20 11.1**	**0.0**
WUSB	**Renai**	**1.06 268**	P		**Pn**	**11 20 11.0**	**-0.3**
VWDT	**VWDT**	**1.07 255**	P		**Pn**	**11 20 11.4**	**0.0**
YULB	**Yu-li**	**1.10 234**	*e*P		**Pn**	**11 20 11.1**	**-0.6**
YULB			*i* S		**Sn**	**11 20 25.2**	**-0.7**
SXI1	**Grass Mountain**	**1.11 341**	*e*P		**Pn**	**11 20 11.4**	**-0.5**
EYUL	**Yuli**	**1.11 232**	*e*P		**Pn**	**11 20 11.9**	**-0.1**
EYUL			*e*S		**Sn**	**11 20 26.3**	**+0.1**
TWF1	**Yuli**	**1.13 233**	*e*P		**Pn**	**11 20 11.6**	**-0.5**
TWF1			*e*S		**Sn**	**11 20 26.2**	**-0.3**
CHKH	**Chenggong**	**1.17 224**	*e*S		**Sn**	**11 20 25.6**	**-1.8**
NFF	**Wufeng Townshi**	**1.21 299**	*e*P		**Pn**	**11 20 14.3**	**+1.0**
NFF			*e*S		**Sn**	**11 20 29.9**	**+1.4**
FULB	**Fuli**	**1.23 227**	*e*P		**Pn**	**11 20 12.7**	**-0.8**
FULB			*e*S		**Sn**	**11 20 28.0**	**-1.1**
SSLB	**Suanglung**	**1.23 259**	*e*P		**Pn**	**11 20 13.6**	**0.0**
WHP	**Taichung City**	**1.24 281**	*e*P		**Pn**	**11 20 14.9**	**+1.3**
WCS	**Beigang Elemen**	**1.25 271**	*e*P		**Pn**	**11 20 14.0**	**+0.3**
CHKT	**Chengkung**	**1.25 222**	*e*P		**Pn**	**11 20 13.7**	**-0.1**
SMLT	**Sun Moon Lake**	**1.27 263**	*e*P		**Pn**	**11 20 13.3**	**-0.8**
LIOB	**Emei**	**1.30 298**	*e*P		**Pn**	**11 20 15.7**	**+1.2**
NSTT	**Nanjuang**	**1.30 297**	*e*P		**Pn**	**11 20 15.3**	**+0.8**
TYC	**Yuchr**	**1.30 264**	*e*P		**Pn**	**11 20 14.6**	**+0.1**
EHD	**Haiduan**	**1.32 228**	*e*P		**Pn**	**11 20 14.5**	**-0.3**
YUS	**Yu-Shan**	**1.33 246**	*e*P		**Pn**	**11 20 13.6**	**-1.8**
YUS			*e*S		**Sn**	**11 20 29.8**	**-2.3**
WHYT	**Xinyi Township**	**1.34 256**	*e*P		**Pn**	**11 20 15.9**	**+0.8**
ECS	**Chishang**	**1.35 226**	*e*P		**Pn**	**11 20 15.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.36 77**	P		**Pn**	**11 20 15.6**	**+0.3**
EDH	**Donghe**	**1.39 220**	*e*P		**Pn**	**11 20 15.2**	**-0.5**
ELDTW	**Lidau**	**1.43 234**	*e*P		**Pn**	**11 20 16.0**	**-0.4**
ELDTW			*e*S		**Sn**	**11 20 32.8**	**-1.3**
ALS	**Alishan**	**1.45 249**	*e*P		**Pn**	**11 20 17.4**	**+0.7**
ALS			S		**Sn**	**11 20 35.5**	**+0.7**
CHN5	**Tsauling**	**1.53 254**	*e*P		**Pn**	**11 20 18.8**	**+1.1**
LONT	**Longtian**	**1.54 223**	*e*P		**Pn**	**11 20 17.6**	**-0.2**
LDUT	**Ludao**	**1.55 209**	*e*P		**Pn**	**11 20 17.7**	**-0.2**
STYH	**Taoyuan**	**1.62 238**	*e*P		**Pn**	**11 20 19.6**	**+0.7**
TWGBT	**Beinan**	**1.64 222**	*e*P		**Pn**	**11 20 19.2**	**+0.1**
TWG	**Pinlang**	**1.64 223**	*e*P		**Pn**	**11 20 19.2**	**+0.1**
WCKO	**Fanlu**	**1.64 249**	*e*P		**Pn**	**11 20 21.0**	**+1.8**
TPUB	**Ta-pu**	**1.68 244**	*e*P		**Pn**	**11 20 21.0**	**+1.3**
CHN4	**Tsaushan**	**1.69 246**	*e*P		**Pn**	**11 20 21.4**	**+1.6**
WTP	**Ta-pu**	**1.71 243**	*e*P		**Pn**	**11 20 21.5**	**+1.2**
JIJ	**Ishigaki jima**	**1.74 79**	P		**Pn**	**11 20 20.6**	**+0.2**
TWK	**Hsinying**	**1.81 245**	*e*P		**Pn**	**11 20 22.7**	**+1.2**
CHN1	**Nanshi**	**1.81 242**	*e*P		**Pn**	**11 20 23.1**	**+1.6**
SNST	**Tainan City**	**1.82 244**	*e*P		**Pn**	**11 20 23.6**	**+2.0**
SNST			*e*S		**Sn**	**11 20 46.3**	**+2.6**
JISG	**Ishigakijimahi**	**1.94 73**	P		**Pn**	**11 20 23.2**	**0.0**
JISG			*e*S		**Sn**	**11 20 46.1**	**-0.4**
WSL	**Shuilin Townsh**	**1.94 255**	*e*P		**Pn**	**11 20 25.0**	**+1.7**
TSMG	**Majia**	**2.00 229**	*e*P		**Pn**	**11 20 26.2**	**+2.1**
MASBT	**Mashibuluo**	**2.07 227**	*e*P		**Pn**	**11 20 26.2**	**+1.1**
EAST	**Anshuo**	**2.11 219**	*e*P		**Pn**	**11 20 27.1**	**+1.4**

BER ***04*** *11:45:02.0±0.4, 71°.54N×11°.15W, h0km±608km, mb(Pn)3.4, Confirmed Earthquake*

DNK ***04*** *11:45:04.9±0.6, 71°.65N×12°.11W, h36km±14km, ML1.1*

ISC 04 11:44:56.9±1.0, 71°.60N±0°.07×11°.59W±0°.06, h10km, n7, σ2s51/12, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.15**	**125**	*e*S	**Sg**	**11 45 33.5**	**-0.2**
JMI				IAML		11 45 34.8	
	comp=Z,59nm,0.3s						
JNW	**Jan Mayen West**	**1.17**	**118**	*e*P	**Pn**	**11 45 20.6**	**+1.3**
JNW				*e*S	**Sg**	**11 45 33.9**	**-0.7**
JNW				IAML		11 45 36.4	
	comp=Z,78nm,0.3s						
JMIC	**Jan Mayen**	**1.17**	**121**	*e*S	**Sg**	**11 45 33.9**	**-0.7**
JMIC				IAML		11 45 35.2	
	comp=Z,84nm,0.4s						
JNE	**Jan Mayen East**	**1.23**	**119**	*e*P	**Pg**	**11 45 21.1**	**+0.6**
JNE				*e*S	**Sb**	**11 45 35.5**	**-0.5**
JNE				IAML		11 45 41.8	
	comp=Z,76nm,0.6s						
SCO	**Scoresbysund**	**3.56**	**257**	*i* P	**Pn**	**11 45 54.3**	**+2.1**
SCO				*i* S	**Sn**	**11 46 31.2**	**-3.0**
SCO				IAML		11 46 34.9	
	comp=Z,0.5nm,0.2s						
DBG	**Daneborg**	**3.72**	**321**	*i* P	**Pn**	**11 45 56.6**	**+2.4**
DBG				*i* S	**Sn**	**11 46 35.1**	**-2.8**
DBG				IAML		11 46 37.2	
	comp=Z,1.5nm,0.3s						
DAG	**Danmarks Havn**	**5.54**	**343**	*i* P	**Pn**	**11 46 22.2**	**+3.0**
DAG				*i* S	**Sn**	**11 47 18.6**	**-4.1**
DAG				IAML		11 47 23.8	
	comp=Z,1.2nm,0.2s						

BJI ***04*** *12:12:56.0, 5°.30S×146°.30E, h10km, mB5.1/11, mb4.4/24, Ms4.6/2, Ms7 4.5/3*

NEIC ***04*** *12:12:58.6±1.6, 5°.23S±0°.06×146°.27E±0°.07, h10km±1km, mb4.8/40, Error ellipse: s-maj=13.8km s-min=6.9km az=309.0*

IDC ***04*** *12:13:03.7±1.6, 5°.39S×146°.41E, h49km±16km, mb3.9/17, mbtmp4.3/21, ML3.8/4, MS3.5/7, Error ellipse: s-maj=14.5km s-min=9.0km az=86.0*

ISC 04 12:13:03.1±0.4, 5°.37S±0°.05×146°.38E±0°.05, h35km, n168, σ1s48/140, mb4.8/42, MS3.5/3, 3C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.45**	**17**	Pn	Pn	12 13 52.4	-1.9
PMG	**Port Moresby**	**4.09**	**169**	P	**Pn**	**12 14 04.5**	**+1.4**
	46nm,0.3s,baz=18,slow=5.8,SNR=125						
PMG				S	**Sn**	**12 14 49.9**	**+0.1**
	297nm,0.8s,baz=0.4,slow=10,SNR=3.3						
PMG				LR	LR	12 15 28.3	
	comp=Z,457nm,19.1s,baz=110,slow=36						
	198nm,0.4s						
TABU	**Tabubil**	**5.13**	**271**	P	Pn	12 14 25.0	+7.4
TABU	**Tabubil**	**5.13**	**271**	S	**Sn**	**12 15 21.4**	**+5.7**
RABL	**Rabaul**	**5.88**	**79**	Pn	Pn	12 14 26.0	-1.8
JAY	**Jayapura**	**6.33**	**296**	P	**Pn**	**12 14 34.5**	**+0.4**
	2.5nm,0.3s,baz=131,slow=12,SNR=7.8						
JAY				S	**Sn**	**12 15 47.4**	**+2.2**
	26nm,0.9s,baz=331,slow=21,SNR=1.8						
	12nm,0.8s						
COEN	**Coen**	**9.10**	**200**	Pn	**Pn**	**12 15 11.5**	**-0.6**
COEN	**Coen**	**9.10**	**200**	P	**Pn**	**12 15 13.4**	**+1.4**
COEN	**Coen**	**9.10**	**200**	S	**Sn**	**12 16 50.5**	**-2.8**
TATA	**Tatamba Isabel**	**13.66**	**103**	P	Pn	12 16 22.2	+7.7
HNR	**Honiara**	**14.05**	**107**	P	**Pn**	**12 16 19.6**	**-0.2**
	1.1nm,0.3s,baz=259,slow=18,SNR=1.0						
HNR				LR	LR	12 20 45.2	
	comp=Z,97nm,20.3s,baz=232,slow=33						
	15nm,0.5s						
ALEG	**Aligegeo Malai**	**14.60**	**104**	P	Pn	12 16 34.1	+6.8
NGOA	**Tingoa Renbel**	**14.86**	**115**	P	Pn	12 16 36.9	+6.1
KDU	**Kakadu**	**15.53**	**241**	P	**Pn**	**12 16 41.3**	**+1.7**
QIS	**Mount Isa**	**16.47**	**203**	P	**Pn**	**12 16 51.6**	**0.0**
MTN	**Manton Dam**	**16.78**	**243**		**Pn**	**12 16 53.3**	**-2.2**
WB0	**Warramunga Arr**	**18.46**	**218**	P	**P**	**12 17 14.5**	**-1.6**
WR0	**Warramunga Arr**	**18.52**	**217**	P	**P**	**12 17 14.6**	**-2.1**
WRAB	**Tennant Creek**	**18.62**	**218**	P	**P**	**12 17 16.0**	**-1.8**
WB2	**Warramunga Arr**	**18.62**	**218**	P	**P**	**12 17 16.5**	**-1.3**
WRA	**Warramunga Arr**	**18.63**	**218**	P	**P**	**12 17 16.7**	**-1.2**
WRA	**Warramunga Arr**	**18.63**	**218**	P	**P**	**12 17 16.3**	**-1.6**
	0.9nm,0.3s,baz=32,slow=11,SNR=46						
WRA				S	**Sn**	**12 20 46.8**	**+1.0**
	0.5nm,0.7s,baz=43,slow=21,SNR=1.0						
WRA				LR	LR	12 25 04.7	
	comp=Z,274nm,18.1s,baz=30,slow=39						
	9.1nm,0.8s						
GUMO	**Guam**	**18.89**	**355**	LR	LR	12 24 06.4	
	comp=Z,121nm,19.9s,baz=150,slow=35						
KNRA	**Kununurra**	**20.10**	**238**	P	**P**	**12 17 31.5**	**-2.5**
EIDS	**Eidsvold**	**20.39**	**168**	P	**P**	**12 17 38.0**	**+0.9**
EIDS				IAmb	IAmb	12 17 41.9	
	comp=Z,18nm,0.8s						
EIDS	**Eidsvold**	**20.39**	**168**	P	**P**	**12 17 37.8**	**+0.7**
QLP	**Quilpie**	**21.20**	**185**	P	**P**	**12 17 46.4**	**+0.7**
AS01	**Alice Springs**	**21.78**	**212**	P	**P**	**12 17 51.6**	**-0.5**
AS31	**Alice Springs**	**21.80**	**212**	P	**P**	**12 17 51.5**	**-0.8**
ASAR	**Alice Springs**	**21.80**	**212**	P	**P**	**12 17 50.6**	**-1.8**
ASAR	**Alice Springs**	**21.80**	**212**	P	**P**	**12 17 50.8**	**-1.6**
	comp=Z,3.3nm,0.5s,baz=50,slow=8.2,SNR=55						
ASAR				S	**S**	**12 21 51.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=29,slow=20,SNR=2.2						
	comp=Z,3.3nm,0.5s						
SOEI	**Soe**	**22.34**	**257**	P	**P**	**12 17 54.1**	**-4.2**
SOEI				IAmb	IAmb	12 18 22.0	
	comp=Z,44nm,0.8s						
INKA	**Innaminka**	**22.89**	**193**	P	**P**	**12 18 03.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.89**	**236**	P	**P**	**12 18 11.2**	**-2.5**
LUWI	**Luwuk**	**23.95**	**280**	P	P	12 18 06.9	-7.5
MMRI	**Maumere**	**24.18**	**261**	P	**P**	**12 18 12.4**	**-4.0**
MMRI				IAmb	IAmb	12 18 28.5	
	comp=Z,38nm,0.7s						
OOD	**Oodnadatta**	**24.51**	**203**	P	**P**	**12 18 18.7**	**-0.6**
ARMA	**Armidale**	**25.40**	**169**	P	**P**	**12 18 27.3**	**-0.2**
ARMA				IAmb	IAmb	12 18 31.9	
	comp=Z,37nm,1.4s						
ARMA	**Armidale**	**25.40**	**169**	P	**P**	**12 18 28.4**	**+0.9**
DZM	**Mont Dzumac**	**25.55**	**132**	P	**P**	**12 18 29.0**	**+0.1**
DZM				IAmb	IAmb	12 18 29.7	
	comp=Z,25nm,0.8s						
DZM	**Mont Dzumac**	**25.55**	**132**	P	**P**	**12 18 29.4**	**+0.5**
ONTNC	**Ouen Toro**	**25.70**	**133**	P	**P**	**12 18 30.3**	**+0.1**
YATNC	**Mamie plateau,**	**25.87**	**132**	P	**P**	**12 18 34.2**	**+2.5**
CMSA	**Cobar Meteorol**	**26.04**	**181**	P	**P**	**12 18 32.6**	**-0.6**
LCRK	**Leigh Creek**	**26.11**	**196**	P	**P**	**12 18 33.3**	**-0.5**
WRKA	**Warakurna**	**26.14**	**220**	P	**P**	**12 18 33.3**	**-0.9**
TOLI2	**Tolitoli**	**26.36**	**283**	P	**P**	**12 18 40.5**	**+4.2**
STKA	**Stephens Creek**	**26.75**	**189**	P	**P**	**12 18 39.3**	**-0.3**
STKA	**Stephens Creek**	**26.75**	**189**	P	**P**	**12 18 38.3**	**-1.3**
	comp=Z,9.7nm,0.7s,baz=354,slow=9.0,SNR=24						
STKA				LR	LR	12 28 53.2	
	comp=Z,134nm,19.6s,baz=5.7,slow=36						
	comp=Z,9.7nm,0.7s						
STKA	**Stephens Creek**	**26.75**	**189**	P	**P**	**12 18 39.5**	**-0.1**
HTT	**Hallett**	**28.77**	**193**	P	**P**	**12 18 57.2**	**-0.5**
YNG	**Young**	**28.85**	**177**	P	**P**	**12 18 58.4**	**+0.1**
BBOO	**Buckleboo**	**28.95**	**198**	P	**P**	**12 18 58.0**	**-1.2**
BBOO				IAmb	IAmb	12 19 15.4	
	comp=Z,8.5nm,0.8s						
BBOO	**Buckleboo**	**28.95**	**198**	P	**P**	**12 18 58.4**	**-0.9**
CAN	**Canberra**	**29.91**	**176**	P	**P**	**12 19 08.3**	**+0.6**
PSA00	**Pilbara Seismi**	**30.33**	**235**	P	**P**	**12 19 10.0**	**-1.6**
PSA00				IAmb	IAmb	12 19 24.1	
	comp=Z,6.9nm,0.8s						
FORT	**Forrest**	**30.59**	**212**	P	**P**	**12 19 12.8**	**-1.0**
FORT				IAmb	IAmb	12 19 21.6	
	comp=Z,22nm,0.8s						
FORT	**Forrest**	**30.59**	**212**	P	**P**	**12 19 13.6**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**31.04**	**40**	T	T	12 51 40.8	
	baz=223,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**31.05**	**40**	T	T	12 51 37.6	
	baz=223,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**31.05**	**40**	T	T	12 51 41.6	
	baz=223,slow=76,SNR=24						
ARPS	**Mount Arapiles**	**31.53**	**187**	P	**P**	**12 19 22.7**	**+0.7**
TOO	**Toolangi**	**32.06**	**181**	P	**P**	**12 19 27.4**	**+0.6**
TOO				IAmb	IAmb	12 19 28.2	
	comp=Z,7.0nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**32.07**	**38**	T	T	12 52 55.2	
	baz=221,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**32.09**	**38**	T	T	12 52 54.8	
	baz=221,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**32.09**	**38**	T	T	12 52 54.9	
	baz=221,slow=76,SNR=18						
JCJ	**Chichijima**	**32.53**	**353**	LR	LR	12 29 22.8	
	comp=Z,51nm,20.6s,baz=350,slow=30						
MGBR	**Mount Gambier**	**32.64**	**189**	P	**P**	**12 19 32.0**	**+0.3**
MEEK	**Meekatharra**	**33.90**	**228**	P	**P**	**12 19 42.1**	**-0.8**
KMBL	**Kambalda**	**34.60**	**219**	P	**P**	**12 19 49.7**	**+0.8**
GIRL	**Giralia**	**35.47**	**238**	P	**P**	**12 19 57.8**	**+1.3**
MORW	**Morawa**	**37.14**	**227**	P	**P**	**12 20 08.8**	**-1.9**
MORW				IAmb	IAmb	12 20 12.1	
	comp=Z,27nm,1.3s						
MORW	**Morawa**	**37.14**	**227**	P	**P**	**12 20 09.9**	**-0.8**
BLDU	**Ballidu**	**37.54**	**224**	P	**P**	**12 20 13.3**	**-0.8**
OUZ	**Omahuta**	**38.89**	**143**	P	**P**	**12 20 27.5**	**+2.1**
OUZ	**Omahuta**	**38.89**	**143**	P	**P**	**12 20 27.2**	**+1.8**
WCZ	**Waipu Caves**	**39.83**	**144**	P	**P**	**12 20 34.8**	**+1.6**
KUZ	**Kuaotunu**	**41.19**	**143**	P	**P**	**12 20 45.9**	**+1.4**
KUZ	**Kuaotunu**	**41.19**	**143**	P	**P**	**12 20 45.7**	**+1.3**
TOZ	**Tahuroa Road**	**41.73**	**145**	P	**P**	**12 20 50.7**	**+1.9**
TOZ				IAmb	IAmb	12 20 51.4	
	comp=Z,20nm,0.8s						
TOZ	**Tahuroa Road**	**41.73**	**145**	P	**P**	**12 20 50.6**	**+1.7**
HIZ	**Hauiti**	**41.91**	**146**	P	**P**	**12 20 51.6**	**+1.3**
HIZ	**Hauiti**	**41.91**	**146**	P	**P**	**12 20 52.7**	**+2.4**
VRZ	**Vera Road**	**42.28**	**147**	P	**P**	**12 20 55.8**	**+2.4**
QRZ	**Quartz Range**	**42.37**	**150**	P	**P**	**12 20 55.9**	**+1.8**
MJAR	**Matsushiro Arr**	**42.39**	**350**	P	**P**	**12 20 54.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=166,slow=4.8,SNR=5.1						
	comp=Z,1.8nm,0.8s						
DSZ	**Denniston Nort**	**42.73**	**152**	P	**P**	**12 20 58.6**	**+1.6**
NGZ	**Ngauruhoe**	**42.79**	**146**	P	**P**	**12 20 60.0**	**+2.3**
URZ	**Urewera**	**43.02**	**144**	P	**P**	**12 20 60.0**	**+0.6**
	comp=Z,8.7nm,0.5s,baz=347,slow=7.2,SNR=5.7						
	comp=Z,8.7nm,0.5s						
URZ	**Urewera**	**43.02**	**144**	P	**P**	**12 21 00.4**	**+1.0**
URZ	**Urewera**	**43.02**	**144**	P	**P**	**12 20 60.0**	**+0.6**
NNZ	**Nelson**	**43.09**	**150**	P	**P**	**12 21 00.5**	**+0.7**
HAZ	**Te Kaha**	**43.09**	**143**	P	**P**	**12 21 01.0**	**+1.1**
RTZ	**Ruatahuna**	**43.19**	**144**	P	**P**	**12 21 01.6**	**+0.7**
THZ	**Tophouse**	**43.27**	**151**	P	**P**	**12 21 02.1**	**+0.7**
BKZ	**Black Stump Fm**	**43.28**	**145**	IAmb	IAmb	12 21 03.1	
	comp=Z,18nm,0.8s						
BKZ	**Black Stump Fm**	**43.28**	**145**	P	**P**	**12 21 02.9**	**+1.4**
BKZ	**Black Stump Fm**	**43.28**	**145**	P	**P**	**12 21 02.5**	**+1.0**
MXZ	**Matakaoa Point**	**43.29**	**142**	P	**P**	**12 21 03.1**	**+1.6**
MXZ	**Matakaoa Point**	**43.29**	**142**	P	**P**	**12 21 02.6**	**+1.1**
JCZ	**Jackson Bay**	**43.29**	**156**	P	**P**	**12 21 03.5**	**+1.9**
JCZ	**Jackson Bay**	**43.29**	**156**	P	**P**	**12 21 03.0**	**+1.5**
WVZ	**Waitaha Valley**	**43.29**	**154**	P	**P**	**12 21 01.2**	**-0.2**
MWZ	**Matawai**	**43.32**	**144**	P	**P**	**12 21 03.1**	**+1.3**
INZ	**Inchbonnie**	**43.33**	**153**	P	**P**	**12 21 02.6**	**+0.9**
PUZ	**Puketiti**	**43.58**	**143**	P	**P**	**12 21 04.7**	**+0.7**
TSZ	**Takapari Road**	**43.60**	**147**	P	**P**	**12 21 05.0**	**+0.9**
LTZ	**Lake Taylor**	**43.75**	**152**	P	**P**	**12 21 05.8**	**+0.6**
MRZ	**Mangatainoka R**	**43.82**	**148**	P	**P**	**12 21 05.8**	**0.0**
MRZ	**Mangatainoka R**	**43.82**	**148**	P	**P**	**12 21 06.2**	**+0.4**
RPZ	**Rata Peaks**	**43.94**	**154**	P	**P**	**12 21 06.9**	**+0.2**
RPZ	**Rata Peaks**	**43.94**	**154**	P	**P**	**12 21 08.3**	**+1.6**
RPZ	**Rata Peaks**	**43.94**	**154**	P	**P**	**12 21 07.5**	**+0.8**
KHZ	**Kahutara**	**44.07**	**151**	P	**P**	**12 21 07.7**	**0.0**
PXZ	**Pawanui**	**44.08**	**146**	P	**P**	**12 21 09.0**	**+1.2**
LBZ	**Lake Benmore**	**44.12**	**155**	P	**P**	**12 21 08.5**	**+0.4**
MLZ	**Mavora Lakes**	**44.12**	**158**	P	**P**	**12 21 09.2**	**+1.1**
BFZ	**Birch Farm**	**44.19**	**147**	P	**P**	**12 21 09.7**	**+0.9**
BFZ	**Birch Farm**	**44.19**	**147**	P	**P**	**12 21 09.2**	**+0.4**
GVZ	**Greta Valley S**	**44.25**	**152**	P	**P**	**12 21 09.7**	**+0.5**
TMZ	**Timaru**	**44.46**	**155**	P	**P**	**12 21 11.0**	**+0.2**
EAZ	**Earnscleugh**	**44.46**	**157**	P	**P**	**12 21 10.8**	**0.0**
WHZ	**Wether Hill Ro**	**44.50**	**159**	P	**P**	**12 21 11.8**	**+0.6**
MOZ	**McQueen's Vall**	**44.65**	**153**	P	**P**	**12 21 12.7**	**+0.3**
NIUE	**Niue**	**44.68**	**112**	P	**P**	**12 21 13.9**	**+0.9**
ODZ	**Otahua Downs**	**44.84**	**156**	P	**P**	**12 21 14.2**	**+0.3**
TUZ	**Tuapeka**	**45.19**	**157**	P	**P**	**12 21 17.6**	**+1.0**
NJ2	**Nanjing**	**45.52**	**327**	*e*P	P	12 21 16.8	-2.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**45.95**	**339**	P	**P**	**12 21 21.6**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=154,slow=9.2,SNR=10.0						
KSRS				LR	LR	12 37 51.8	
	comp=Z,67nm,21.5s,baz=20,slow=32						
	comp=Z,2.8nm,0.9s						
KSAR	**Wonju Array Be**	**45.95**	**339**	P	P	12 21 19.4	-3.3
KS19	**Wonju Array Si**	**46.01**	**339**	P	P	12 21 18.7	-4.5
RPSI	**Rantau Prapat**	**48.07**	**278**	P	P	12 21 35.9	-3.8
RPSI				IAmb	IAmb	12 21 54.1	
	comp=Z,16nm,1.2s						
USRK	**Ussuriysk Ar.**	**51.02**	**347**	P	P	12 21 59.4	-2.2
USRK	**Ussuriysk Ar.**	**51.02**	**347**	P	**P**	**12 22 00.6**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=187,slow=8.0,SNR=8.5						
	comp=Z,2.9nm,0.6s						
HNS	**HongShan**	**51.78**	**328**	⇑P	P	12 22 14.6	+7.1
HNS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.41**	**298**	P	**P**	**12 22 13.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=121,slow=6.1,SNR=7.8						
	comp=Z,0.3nm,0.3s						
CN2	**Changchun**	**52.46**	**341**	*e*P	**P**	**12 22 17.1**	**+4.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH	**PanZhiHua**	**53.58**	**309**	P	**P**	**12 22 20.6**	**-0.6**
PZH

PEIG	Puerto Escondi	3.55 297	eP	Pn	12 21 36.0	+1.4
PEIG			eS	Sn	12 22 12.2	-3.7
NEUV	Arroyo Zacate	3.78 331	eP	Pn	12 21 39.1	+1.2
NEUV			eS	Sn	12 22 18.3	-3.3
YOIG	Yosondua	4.31 305	eP	Pn	12 21 49.3	+3.9
YOIG			eS	Sn	12 22 36.1	+1.1
TXIG	Tlaxiaco	4.71 308	eP	Pn	12 21 54.7	+3.8
TXIG			eS	Sn	12 22 45.1	+0.2
TOIG	Toxpalan	4.79 320	eP	Pn	12 21 52.6	+0.8
TOIG			eS	Sn	12 22 47.0	+0.2
HLIG	Huajuapan de L	5.10 313	eP	Pn	12 22 01.7	+5.5
HLIG			eS	Sn	12 22 52.7	-1.7
FTIG	Fresnillo de T	5.38 311	eP	Pn	12 22 04.8	+4.7
JAUV	Jalcomulco	5.68 331	eP	Pn	12 22 04.5	+0.4
JAUV			eS	Sn	12 23 08.0	-0.6

NEIC ***04*** *12:21:24.0±1.6, 22°.1S±0°.2×169°.91E±0°.05, h10km±2km, mb4.4/9, Error ellipse: s-maj=40.0km s-min=7.1km az=355.0*
IDC ***04*** *12:21:26.8±1.2, 21°.76S×169°.38E, h0km, mb4.0/5, mbtmp3.9/5, Error ellipse: s-maj=44.1km s-min=28.4km az=156.0*
NOU ***04*** *12:21:27.6, 21°.95S×169°.47E, h0km, ML2.9/14, Southeast of Loyalty Islands*

ISC 04 12:21:29.4±1.0, 22°.0S±0°.1×169°.54E±0°.09, h25km, n30, σ1ˢ49/30, mb4.3/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.48	289	P	Pn	12 21 53.6	-0.9
MARNC	Mare, Loyalty	1.48	289	S	Sn	12 22 13.1	0.0
PINNC	Pines Island,	2.04	251		Pn	12 22 02.4	+0.3
PINNC	Pines Island,	2.04	251	P	Pn	12 22 02.5	+0.3
PINNC	Pines Island,	2.04	251	S	Sn	12 22 28.3	+1.4
YATNC	Mamie plateau,	2.46	267	P	Pn	12 22 07.3	-0.7
OUENC	Ouen Island, N	2.54	259	P	Pn	12 22 09.4	+0.3
OUENC	Ouen Island, N	2.54	259	S	Sn	12 22 40.4	+1.2
DZM	Mont Dzumac	2.88	267		Pn	12 22 13.5	-0.3
DZM	Mont Dzumac	2.88	267	P	Pn	12 22 14.1	+0.4
ONTNC	Ouen Toro	2.88	263		Pn	12 22 14.3	+0.6
ONTNC	Ouen Toro	2.88	263	P	Pn	12 22 14.2	+0.5
ONTNC	Ouen Toro	2.88	263	S	Sn	12 22 48.7	+1.1
KOUNC	Koumac, New Ca	5.10	285	P	Pn	12 22 45.3	+1.1
KOUNC	Koumac, New Ca	5.10	285	S	Sn	12 23 43.7	+1.3
WR0	Warramunga Arr	32.70	267	P	P	12 27 58.5	-1.6
WR0				IAmb	IAmb	12 28 26.3	
	comp=Z,5.3nm,1.2s						
AS31	Alice Springs	32.84	260	P	P	12 28 01.8	+0.5
ASAR	Alice Springs	32.84	260	P	P	12 27 58.3	-3.0
ASAR	Alice Springs	32.84	260	P	P	12 28 01.2	-0.2
	comp=Z,1.4nm,0.8s,baz=78,slow=9.0,SNR=14						
	comp=Z,1.4nm,0.8s						
WB0	Warramunga Arr	32.87	267	P	P	12 28 00.9	-0.7
WB2	Warramunga Arr	32.88	267	P	P	12 28 00.6	-1.1
WB2				IAmb	IAmb	12 28 33.1	
	comp=Z,7.1nm,1.3s						
WRAB	Tennant Creek	32.89	267	P	P	12 27 59.2	-2.5
WRAB				IAmb	IAmb	12 28 14.5	
	comp=Z,6.6nm,1.2s						
WRA	Warramunga Arr	32.89	267	P	P	12 28 02.2	+0.4
	comp=Z,0.6nm,0.7s,baz=100,slow=8.4,SNR=7.9						
	comp=Z,0.6nm,0.7s						
FORT	Forrest	38.01	248	P	P	12 28 43.4	-2.2
KNRA	Kununurra	39.02	272	P	P	12 28 52.9	-1.4
KNRA				IAmb	IAmb	12 29 34.8	
	comp=Z,7.1nm,1.1s						
FITZ	Fitzroy Crossi	41.32	267	P	P	12 29 14.0	+0.7
QSPA	South Pole Qui	68.10	180	P	P	12 32 23.4	-3.6
QSPA				IAmb	IAmb	12 33 07.2	
	comp=Z,3.9nm,1.3s						
QSPA	South Pole Qui	68.10	180	P	P	12 32 29.4	+2.5
	comp=Z,2.9nm,0.9s,baz=36,slow=4.3,SNR=4.3						
	comp=Z,2.9nm,0.9s						
NVAR	Mina Array Bea	90.39	48	P	P	12 34 31.2	+2.2
	comp=Z,0.7nm,0.7s,baz=225,slow=7.9,SNR=7.2						
	comp=Z,0.7nm,0.7s						
ILAR	Eielson Array	92.74	17	P	P	12 34 39.0	+0.1
	comp=Z,0.3nm,0.7s,baz=234,slow=5.1,SNR=11						
	comp=Z,0.3nm,0.7s						

WEL ***04*** *12:28:06.5±0.6, 34°.5S±4°.×17°.9W±°, h33km, M4.0/12, mB4.5/6, ML4.3/18, MLv4.2/12, Mw(mB)3.7/6, Error ellipse: s-maj=11.3km s-min=3.8km az=110.1, confirmed*
NOU ***04*** *12:28:11.8, 34°.10S×179°.51W, h259km, mb3.7/11, South of Kermadec Islands*

ISC 04 12:28:05.7±1.5, 33°.77S±0°.06×178°.9W±0°.1, h35km, n37, σ2ˢ20/54, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.42	210	S	Sn	12 30 04.6	+4.2
MXZ	Matakaoa Point	4.42	210	P	Pn	12 29 14.0	+3.8
MXZ	Matakaoa Point	4.42	210	P	Pn	12 29 09.3	-0.9
MXZ				S	Sn	12 30 03.0	+2.6
GLKZ	Green Lake	4.57	11	P	Pn	12 29 12.4	+0.1
GLKZ				S	Sn	12 30 02.6	-1.6
WMGZ	Waiomatatini S	4.59	208	P	Pn	12 29 14.2	+1.6
WMGZ				S	Sn	12 30 06.4	+1.7
PKGZ	Pakihiroa	4.77	210	P	Pn	12 29 16.6	+1.5
PKGZ				S	Sn	12 30 09.5	+0.4
HAZ	Te Kaha	4.81	213	P	Pn	12 29 17.3	+1.7
HAZ				S	Sn	12 30 11.7	+1.7
PUZ	Puketiti	4.88	207	P	Pn	12 29 17.3	+0.7
PUZ				S	Sn	12 30 12.8	+1.0
RUGZ	Raukumara Rang	5.03	213	P	Pn	12 29 19.6	+0.9
RUGZ				S	Sn	12 30 17.3	+1.7
TWGZ	Tauwhareparae	5.08	209	P	Pn	12 29 20.0	+0.7
TWGZ				S	Sn	12 30 18.8	+2.0
CNGZ	Carnagh Statio	5.26	206	P	Pn	12 29 22.8	+1.1
CNGZ				S	Sn	12 30 22.8	+1.7
KUZ	Kuaotunu	5.31	234	P	Pn	12 29 25.4	+2.9
KUZ	Kuaotunu	5.31	234	P	Pn	12 29 25.2	+2.7
MWZ	Matawai	5.40	211	P	Pn	12 29 23.7	-0.1
MWZ				S	Sn	12 30 25.8	+1.1
OPRZ	Ohinepanea	5.49	221	P	Pn	12 29 27.4	+2.3
URZ	Urewera	5.53	215	P	Pn	12 29 26.9	+1.4
URZ	Urewera	5.53	215	S	Sn	12 30 28.7	+1.0
URZ	Urewera	5.53	215	P	Pn	12 29 25.5	+0.1
RIGZ	Rimuhau	5.62	208	P	Pn	12 29 26.9	+0.1
RIGZ				S	Sn	12 30 30.4	+0.4
SNGZ	Shannon Statio	5.85	210	P	Pn	12 29 31.2	+1.2
SNGZ				S	Sn	12 30 36.7	+0.9
RTZ	Ruatahuna	5.87	213	P	Pn	12 29 31.6	+1.3
WCZ	Waipu Caves	5.96	247	P	Pn	12 29 33.6	+2.1
TOZ	Tahuroa Road	6.03	227	P	Pn	12 29 35.8	+3.4
RAHZ	Arahi	6.07	211	P	Pn	12 29 35.0	+2.0
RAHZ				S	Sn	12 30 40.4	-0.9
MTHZ	Maungataniwha	6.13	213	P	Pn	12 29 35.3	+1.4
MTHZ				S	Sn	12 30 44.0	+1.3
MRHZ	Matea Rd	6.31	215	P	Pn	12 29 36.7	+0.4
MRHZ				S	Sn	12 30 45.7	-1.5
OUZ	Omahuta	6.36	255	P	Pn	12 29 38.0	+1.0
OUZ	Omahuta	6.36	255	S	Sn	12 30 45.8	-2.6
OUZ	Omahuta	6.36	255	P	Pn	12 29 38.1	+1.1
OUZ				S	Sn	12 30 44.8	-3.6
BKZ	Black Stump Fm	6.54	213	P	Pn	12 29 39.8	+0.3
BKZ	Black Stump Fm	6.54	213	S	Sn	12 30 51.4	-1.5
BKZ	Black Stump Fm	6.54	213	P	Pn	12 29 40.0	+0.6
BKZ				S	Sn	12 30 51.0	-1.9
KAHZ	Kahuranaki	6.90	208	P	Pn	12 29 43.6	-0.9
PXZ	Pawanui	7.11	207	P	Pn	12 29 45.7	-1.6
PNHZ	Pukenui	7.28	211	P	Pn	12 29 48.4	-1.3
KHZ	Kahutara	10.48	212	P	Pn	12 30 29.1	-4.3
KHZ	Kahutara	10.48	212	S	Sn	12 32 21.3	-8.3

KOLA ***04*** *12:31:09.3, 78°.83N×10°.86E, h0km, ML2.9, Error ellipse: s-maj=14.4km s-min=6.8km az=100.0, Spitsbergen, Greenland sea*
NAO ***04*** *12:31:10.7±2.1, 78°.79N×11°.22E, h12km±14km, ML2.6*
BER ***04*** *12:31:10.4±3.0, 78°.79N×10°.61E, h6km±16km, ML2.6, ML2.6(NAO), Confirmed Earthquake*
FCIAR ***04*** *12:31:11.0, 79°.09N×12°.22E, h10km, station OMEGA has station magnitude of 3.60 station ZFI2 has station magnitude of 3.60*

ISC 04 12:31:08.4±1.3, 78°.92N±0°.06×10°.60E±0°.06, h26km±8km, n26, σ1ˢ78/42, 2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	0.26	88	↓iP	Pb	12 31 15.4	+0.5
KBS				eS	Sb	12 31 19.1	-0.3
KBS				IAML		12 31 19.5	
	comp=Z,2μm,0.2s						
KBS	Kingsbay	0.26	88	Pg	Pb	12 31 15.3	+0.5
KBS				Lg	Lg	12 31 19.0	
KBS	Kingsbay	0.26	88	P	Pb	12 31 14.8	-0.1
KBS				S	Sb	12 31 18.7	-0.7
KBS	Kingsbay	0.26	88	eP	Pb	12 31 15.2	+0.3
KBS				eS	Sb	12 31 17.9	-1.5
BRBB	Barentsburg B	1.10	137	eP	Pn	12 31 28.6	+0.6
BRBB				eS	Sn	12 31 41.3	-1.1
BRBB	Barentsburg B	1.10	137	Pg	Pn	12 31 28.8	+0.7
BRBB				Lg	Lg	12 31 41.1	
BRBB	Barentsburg B	1.10	137	P	Pn	12 31 28.4	+0.3
BRBB				S	Sn	12 31 42.1	-0.2
BRBA	Barentsburg A	1.13	138	eP	Pn	12 31 29.1	+0.7
BRBA				eS	Sn	12 31 42.4	-0.6
BRBA				IAML		12 31 46.6	
	comp=Z,384nm,0.2s						
BRBA	Barentsburg A	1.13	138	Pg	Pn	12 31 28.9	+0.4
BRBA				Lg	Lg	12 31 42.5	
SPA0	Spitsbergen Ar	1.37	120	Pn	Pn	12 31 33.8	+2.0
	baz=284,slow=11						
SPA0				Sg	Sn	12 31 51.0	+2.0
	baz=313,slow=18						
SPA0	Spitsbergen Ar	1.37	120	Pn	Pn	12 31 33.8	+2.0
	baz=284,slow=11						
SPA0				Lg	Lg	12 31 51.0	
	baz=313,slow=18						
SPA0	Spitsbergen Ar	1.37	120	eP	Pn	12 31 32.9	+1.1
SPA0				eS	Sn	12 31 48.6	-0.5
SPITS	Spitsbergen Ar	1.37	120	P	Pn	12 31 33.4	+1.6
SPITS				S	Sn	12 31 51.1	+2.0
HSPB	Hornsund (broa	2.19	149	↓iP	Pn	12 31 43.0	0.0
HSPB				eS	Sn	12 32 08.0	-1.2
HSPB				IAML		12 32 17.2	
	comp=Z,47nm,0.3s						
HSPB	Hornsund (broa	2.19	149	Pn	Pn	12 31 42.9	0.0
HSPB				Lg	Lg	12 32 15.6	
HOPEN	Hopen	3.91	121	eP	Pn	12 32 07.7	+1.1
HOPEN				eS	Sn	12 32 50.6	-0.8
HOPEN				IAML		12 32 53.1	
	comp=Z,19nm,0.2s						
HOPEN	Hopen	3.91	121	Pn	Pn	12 32 07.7	+1.1
HOPEN				Sn	Sn	12 32 51.5	+0.1
HOPEN				Lg	Lg	12 33 08.2	
HOPEN	Hopen	3.91	121	eP	Pn	12 32 07.6	+1.1
HOPEN				eS	Sn	12 32 50.4	-1.1
BJO1	Bjornoya	4.84	152	eP	Pn	12 32 20.7	+1.4
BJO1				eS	Sn	12 33 11.8	-2.6
BJO1				IAML		12 33 45.1	
	comp=Z,11nm,0.4s						
BJO1	Bjornoya	4.84	152	eP	Pn	12 32 20.0	+0.6
BJO1				eS	Sn	12 33 12.7	-1.7
DAG	Danmarks Havn	6.48	265	eP	Pn	12 32 44.4	+2.6
DAG				eS	Sn	12 33 52.8	-2.0
DAG	Danmarks Havn	6.48	265	iP	Pn	12 32 45.0	+3.2
DAG				iS	Sn	12 33 52.1	-2.6
ZFI2	Zemlya Franca-	6.70	56	eP	Pn	12 32 47.0	+2.2
ZFI2				eS	Sn	12 33 55.9	-4.2
	comp=Z,21nm,1.8s						
OMEGA	Omega	6.71	56	eP	Pn	12 32 47.0	+2.0
OMEGA				eS	Sn	12 33 55.9	-4.5
	comp=Z,21nm,1.1s						
DBG	Daneborg	8.39	253	iP	Pn	12 33 17.8	+10
DBG				iS	Sn	12 34 33.0	-8.7
VADS	Vadso	10.08	141	eS	Sn	12 35 15.4	-7.6
VADS				IAML		12 35 20.6	
	comp=Z,4.5nm,0.5s						

IDC 04 12:32:02.8±2.7, 5°.10S×146°.34E, h0km, mb3.2/2, mbtmp3.3/4, ML2.7/2, Error ellipse: s-maj=71.5km s-min=27.8km az=82.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.36	169	Pn	Pn	12 33 11.0	+0.8
	3.4nm,0.3s,baz=348,slow=14,SNR=9.1						
PMG				Sn	Sn	12 34 02.1	+0.4
	5.9nm,0.3s,baz=180,slow=20,SNR=8.3						
	12nm,0.5s						
WRA	Warramunga Arr	18.82	217	P	P	12 36 23.5	-0.7
	0.1nm,0.3s,baz=39,slow=10,SNR=4.7						
	0.6nm,0.8s						
ASAR	Alice Springs	22.01	212	P	P	12 36 58.5	-0.3
	0.4nm,0.7s,baz=43,slow=7.1,SNR=5.1						
	0.4nm,0.7s						
MKAR	Makanchi Array	76.39	321	P	P	12 43 54.5	+0.3
	0.3nm,0.7s,baz=126,slow=3.8,SNR=3.5						
	0.3nm,0.7s						

NEIC ***04*** *12:55:15.1±2.2, 52°.32N±0°.06×113°.9W±0°.1, h5km±1km, mb3.9/64, mb_Lg3.7/54, Mwr3.8/39(SLM), Error ellipse: s-maj=12.3km s-min=10.1km az=245.0*
PGC ***04*** *12:55:17.0±0.5, 52°.22N×114°.07W, h1km, ML4.6/9, 18km west of Red Deer, Alberta Alberta, Canada Induced.*
NEIC ***04*** *12:55:17, 52°.22N×114°.00W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$3.95; $M_{\phi\phi}$-3.95; $M_{r\theta}$0.76; $M_{\theta\phi}$4.70; $M_{\phi r}$2.10; Fault plane solution: $M_0$6.53000×10^{14} NP1:ϕ_s200.00000°, δ90.00000°, λ-160.00000°. NP2:ϕ_s110.00000°, δ70.00000°, λ0.00000°. Principal axes: T 6.5331, Plg14.0000°, Azm333.0000°; N 0.0008, Plg70.0000°, Azm200.0000°; P -6.5339, Plg14.0000°, Azm67.0000°;*
IDC ***04*** *12:55:17.3±0.6, 52°.33N×113°.67W, h0km, mb3.2/3, mbtmp3.6/11, ML3.6/8, MS3.1/3 Error ellipse: s-maj=9.7km s-min=7.4km az=77.0*

ISC 04 12:55:13.1±0.5, 52°.33N±0°.03×113°.68W±0°.04, h0km, n268, σ1ˢ78/274, mb3.9/11, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGPLA	Lodgepole	1.29	308	P	Pn	12 55 39.0	+0.6
LGPLA				S	Sg	12 55 54.4	0.0
BRLDA	Berland Lookou	2.85	310	Pn	Pn	12 56 02.0	+2.0
BRLDA				Pg	Pb	12 56 05.6	+0.7
HSPGA	Hill Springs,	2.98	180	Pn	Pn	12 56 04.3	+2.6
HSPGA				Pg	Pg	12 56 08.9	-1.3
HSPGA				Sn	Sn	12 56 38.3	+0.2
HSPGA				Sg	Sb	12 56 44.8	+0.8
SWHSA	Sweathouse Loo	3.16	326	Pn	Pn	12 56 07.0	+2.9
SWHSA				Pg	Pg	12 56 12.0	-1.6
SWHSA				Sg	Sg	12 56 52.8	-1.7
MKRVA	Milk River, Al	3.41	159	Pn	Pn	12 56 11.1	+3.4
MKRVA				Pg	Pg	12 56 17.9	-0.7
STPRA	Salt Prairie L	3.57	340	P	Pn	12 56 13.4	+3.6
STPRA				Pg	Pg	12 56 20.6	-0.8
STPRA				Sn	Sn	12 56 54.6	+2.0
BDMTA	Bald Mountain	3.99	311	Pn	Pn	12 56 17.4	+1.9
BDMTA				Pg	Pb	12 56 26.1	+1.9
BDMTA				Sn	Sn	12 57 00.8	-2.2
BDMTA				Sg	Sb	12 57 16.2	+3.1
YBMT	Yellow Bay	4.48	183	Pn	Pn	12 56 24.2	+1.9
YBMT				Pg	Pb	12 56 34.3	+1.6
BSMT	Bassoo Peak	4.54	189	Pn	Pn	12 56 24.2	+1.0
BSMT				Pg	Pb	12 56 35.0	+1.2
JTMT	Jette	4.61	185	Pn	Pn	12 56 25.5	+1.4
JTMT				Pg	Pb	12 56 36.5	+1.6
NEW	Newport	4.63	210	Pn	Pn	12 56 23.0	-1.4
NEW				IAmb_Lg		12 57 48.7	
	comp=Z,263nm,1.0s						
NEW	Newport	4.63	210	Pn	Pb	12 56 30.1	-5.1
	comp=Z,2.2nm,0.3s,baz=23,slow=12,SNR=13						
NEW				Lg	Lg	12 57 31.9	
	comp=Z,10nm,0.3s,baz=278,slow=23,SNR=6.4						
	comp=Z,9.6nm,0.5s						
WTMTA	White Mountain	4.70	318	Pn	Pn	12 56 27.6	+2.2
WTMTA				Sn	Sn	12 57 18.6	-2.0
EGMT	Eagleton	5.00	148	Pn	Pn	12 56 32.2	+2.8
LLLB	Lillooet	5.41	255	Pn	Pn	12 56 34.0	-1.1
LLLB				IAmb_Lg		12 58 02.1	
	comp=Z,111nm,0.9s						
LLLB	Lillooet	5.41	255	Pn	Pn	12 56 34.7	-0.3
LLLB				Sg	Sb	12 57 55.7	+1.8
C09A	Chrisman Ranch	5.42	215	Pn	Pn	12 56 35.9	+0.8
LYMT	Lyon Mountain	5.44	170	Pn	Pn	12 56 37.7	+2.0
LYMT	Lyon Mountain	5.44	170	Pn	Pn	12 56 38.1	+2.4
MSO	Missoula	5.51	182	Pn	Pn	12 56 37.6	+1.1
MSO				IAmb_Lg		12 58 16.7	
	comp=Z,212nm,1.1s						
HOPB	Hope	5.72	242	Pg	Pb	12 56 53.6	-0.1
HOPB				Sg	Sb	12 58 06.6	+3.8
BPMT	Black Pine Rid	5.90	178		Pn	12 56 43.8	+1.8
BMTB	Bullhead Mount	6.20	310	Pn	Pn	12 56 47.5	+1.5
WSLR	Whistler	6.21	253	Pn	Pn	12 56 45.0	-1.1
WSLR				Pg	Pb	12 57 02.6	+0.5
D08A	Wollman Farm,	6.28	215	Pn	Pn	12 56 46.9	-0.1
GPW	Glacier Peak	6.38	232	Pn	Pn	12 56 47.8	-0.7
E09A	Wood Farm, Sta	6.51	208	IAmb_Lg		12 58 49.1	
	comp=Z,147nm,0.9s						
WPB	Watts Point	6.59	250	Pg	Pb	12 57 10.9	+2.4
FSJB	Fort St James	6.70	293	Pn	Pn	12 56 52.6	-0.1
JCW	Jim Creek	6.72	235	Pg	Pb	12 57 12.9	+2.1
F10A	Beach Ranch, E	6.78	201	Pn	Pn	12 56 53.2	-0.6
F10A				IAmb_Lg		12 58 47.6	
	comp=Z,179nm,1.1s						
LTY	Liberty	6.80	224	Pn	Pn	12 56 54.4	+0.2
LTY				IAmb_Lg		12 59 04.9	
	comp=Z,138nm,1.0s						
LTY	Liberty	6.80	224	Pn	Pn	12 56 54.2	0.0
BOZ	Bozeman (W)	6.88	168		Pn	12 56 56.5	+1.3
BOZ				IAmb_Lg		12 58 54.5	
	comp=Z,83nm,1.0s						
DLMT	Dillon	7.01	174		Pn	12 56 59.0	+1.8
SNB	Saturna Island	7.02	243	Pg	Pb	12 57 19.2	+3.4
HAWA	Hanford	7.07	215	Pn	Pn	12 56 57.5	-0.2
GOBB	Galiano Island	7.11	245	Pg	Pb	12 57 20.2	+2.9
MXC	Moxie City	7.19	219	Pn	Pn	12 56 59.8	+0.3
NLLB	Nanaimo Lost L	7.24	249	Pg	Pb	12 57 21.9	+2.4
B010	North Saanich	7.24	243	Pg	Pb	12 57 22.7	+3.1
PGC	Sidney	7.24	243	Pn	Pn	12 57 00.1	+0.1
PGC	Sidney	7.24	243	Pn	Pn	12 56 59.7	-0.4
PGC				Pg	Pb	12 57 22.7	+3.1
TXB	Texada	7.28	253	Pn	Pn	12 57 00.4	-0.3
TXB				Pg	Pb	12 57 22.4	+2.1
VGZ	Gonzales	7.31	241	Pg	Pb	12 57 23.1	+2.4
FFC	Flin Flon	7.37	66	Pn	Pn	12 57 05.3	+3.3
PLID	Pearl Lake	7.41	193		Pn	12 57 03.2	+0.5
PLID				IAmb_Lg		12 59 14.6	
	comp=Z,148nm,1.1s						
LAO	LASA Array	7.44	136	Pn	Pn	12 57 06.1	+3.1
D05A	Enumclaw	7.45	230	Pn	Pn	12 57 01.6	-1.4
SYMB	Survey Mountai	7.48	244	Pn	Pn	12 57 03.4	-0.1
CLRS	Cowichan Lake	7.53	246	Pn	Pn	12 57 03.2	-0.8
CLRS	Cowichan Lake	7.53	246	Pn	Pn	12 57 03.5	-0.5
GNW	Green Mountain	7.59	235	Pn	Pn	12 57 03.8	-1.1
F07A	Phinny Hill Vi	7.63	215	Pn	Pn	12 57 05.9	+0.4
F07A				IAmb_Lg		12 59 20.8	
	comp=Z,105nm,0.8s						
HDW	Hoodsport	7.65	236	Pn	Pn	12 57 05.5	-0.2
YHL	Hebgen Lake	7.67	167	Pn	Pn	12 57 08.1	+1.8
YHL				IAmb_Lg		12 59 25.7	
	comp=Z,111nm,0.9s						
LON	Longmire	7.69	227	Pn	Pn	12 57 06.5	+0.1
LON				IAmb_Lg		12 59 25.1	
	comp=Z,57nm,1.0s						
CBB	Campbell River	7.70	257	Pn	Pn	12 57 05.4	-1.0
CBB	Campbell River	7.70	257	Pn	Pn	12 57 06.1	-0.3
YNE	Yellowstone No	7.72	160	Pn	Pn	12 57 08.8	+1.8
YNE				IAmb_Lg		12 59 24.6	
	comp=Z,80nm,1.0s						
MGRB	Mount Grey	7.75	249	Pn	Pn	12 57 06.6	-0.7
YHB	Horse Butte	7.76	167		Pn	12 57 09.7	+2.2
YHB				IAmb_Lg		12 59 26.1	
	comp=Z,63nm,0.9s						
RLMT	Red Lodge	7.78	156		Pn	12 57 10.2	+2.4
G08A	Pilot Rock	7.86	208	Pn	Pn	12 57 08.7	0.0
G08A				IAmb_Lg		12 59 40.7	
	comp=Z,94nm,1.1s						
BMO	Blue Mountains	7.86	199		Pn	12 57 09.3	+0.6
BMO				IAmb_Lg		12 59 25.2	
	comp=Z,67nm,1.0s						
YNM	Yellowstone No	7.86	164	Pn	Pn	12 57 10.6	+1.7
YNM				IAmb_Lg		12 59 29.8	
	comp=Z,44nm,0.9s						
YMR	Madison River	7.88	166	Pn	Pn	12 57 10.3	+1.2
YMR				IAmb_Lg		12 59 26.4	
	comp=Z,68nm,0.8s						
YNR	Norris Junctio	7.88	164	Pn	Pn	12 57 09.4	+0.3
YNR				IAmb_Lg		12 59 46.3	
	comp=Z,91nm,1.3s						
YMP	Mirror Lake Pl	7.95	162	Pn	Pn	12 57 10.8	+0.7
YMP				IAmb_Lg		12 59 33.4	
	comp=Z,122nm,1.1s						
NCSB	Newcastle Ridg	7.99	261	Pn	Pn	12 57 08.2	-2.2
LKWY	Lake	8.07	163	Pn	Pn	12 57 13.3	+1.6
LKWY				IAmb_Lg		12 59 29.7	
	comp=Z,42nm,1.1s						
YFT	Old Faithful	8.11	165		Pn	12 57 13.6	+1.4
GDR	Gold River	8.19	257	Pn	Pn	12 57 13.6	+0.5
GDR				Pg	Pb	12 57 37.6	+1.9
H17A	Grant Village	8.21	164	Pn	Pn	12 57 14.0	+0.4
NLWA	Neilton Lookou	8.23	237	Pn	Pn	12 57 12.2	-1.5
OZB	Mount Ozzard	8.23	250	Pn	Pn	12 57 12.3	-1.5
C03A	Quillayute Air	8.26	242	Pn	Pn	12 57 12.7	-1.3
FNSB	Fort Nelson	8.27	325	Pn	Pn	12 57 15.9	+1.8
WOSB	Woss	8.38	260	Pn	Pn	12 57 15.6	-0.2
WOSB				Pg	Pb	12 57 41.5	+2.5
G06A	Carlson Farm,	8.45	216	IAmb_Lg		12 59 57.4	
	comp=Z,85nm,1.0s						
MAYB	Maynard	8.66	262	Pg	Pg	12 57 48.5	-10
HOOD	Mount Hood Mea	8.76	220	IAmb_Lg		13 00 07.2	
	comp=Z,62nm,0.8s	

WVOR Wild Horse Val 10.46 201 Pn **Pn 12 57 45.5 +1.2**
HVU Hansel Valley 10.57 176 Pn **Pn 12 57 47.1 +1.1**
T35M Bob Quinn 10.66 302 Pn **Pn 12 57 47.4 +0.4**
T35M Bob Quinn 10.66 302 Pn **Pn 12 57 46.0 -1.0**
K22A Casper 10.82 151 Pn **Pn 12 57 50.6 +1.3**
HWUT Hardware Ranch 10.83 172 Pn **Pn 12 57 49.9 +0.4**
V35K Ketchikan 11.01 293 Pn **Pn 12 57 51.0 -0.7**
DLBC Dease Lake 11.11 310 Pn **Pn 12 57 52.8 -0.4**
DLBC Dease Lake 11.11 310 Pn **Pn 12 57 55.8 +2.6**
comp=Z,0.2nm,0.3s,baz=123,slow=6.0,SNR=4.5
DLBC Lg Lg 13 00 57.1
comp=Z,1.2nm,0.3s,baz=346,slow=5.3,SNR=4.8
comp=Z,0.6nm,0.4s
DLBC Dease Lake 11.11 310 Pn **Pn 12 57 53.6 +0.4**
TCUT Toone Canyon 11.33 171 Pn **Pn 12 57 54.7 -1.6**
ULM Lac du Bonnet 11.34 94 Pn **Pn 12 57 57.8 +1.6**
comp=Z,1.7nm,0.3s,baz=295,slow=12,SNR=14
ULM Sn **Sn 13 00 00.0 -3.6**
comp=Z,1.6nm,0.3s,baz=94,slow=1.3,SNR=3.8
ULM Lg Lg 13 01 10.3
comp=Z,4.7nm,0.3s,baz=194,slow=22,SNR=5.5
comp=Z,4.5nm,0.4s
ULM Lac du Bonnet 11.34 94 Pn **Pn 12 57 58.3 +2.0**
WTLY Watson Lake, Y 11.45 319 **Pn 12 57 57.1 -0.6**
WRAK Wrangell Islan 11.62 298 Pn **Pn 12 57 58.0 -2.0**
ELK Elko 11.64 186 Pn **Pn 12 58 03.5 +2.9**
comp=Z,0.1nm,0.3s,baz=346,slow=17,SNR=4.7
ELK Sn **Sn 13 00 04.2 -7.2**
comp=Z,0.1nm,0.3s,baz=354,slow=6.5,SNR=3.9
ELK Lg Lg 13 01 15.7
comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=7.5
comp=Z,0.7nm,0.5s
BSUT Blindstream Ca 11.97 169 Pn **Pn 12 58 04.3 -0.9**
R33M Jennings River 11.99 313 Pn **Pn 12 58 01.9 -3.3**
R33M Jennings River 11.99 313 Pn **Pn 12 58 04.8 -0.4**
WRGLY Wrigley 12.09 338 Pn **Pn 12 58 01.9 -4.5**
TGTN Hyland Airport 12.15 325 Pn **Pn 12 58 06.9 -0.4**
DUG Dugway, Tooele 12.15 177 Pn **Pn 12 58 05.7 -1.9**
Q32M Nakina River 12.39 310 Pn **Pn 12 58 08.7 -2.2**
O20A White River Ci 12.76 161 Pn **Pn 12 58 17.4 +1.5**
FCC Fort Churchill 12.79 52 Pn **Pn 12 58 17.7 +1.7**
FCC Fort Churchill 12.79 52 Pn **Pn 12 58 17.5 +1.5**
EPLO Experimental L 12.84 94 Pn **Pn 12 58 18.2 +1.5**
F33A 5 Mile Ranch, 13.10 113 **Pn 12 58 21.4 +1.1**
P32M Atlin 13.33 311 Pn **Pn 12 58 22.6 -0.8**
K30B Basset 13.53 130 Pn **Pn 12 58 27.0 +0.8**
NV11 Mina Array Sit 14.25 194 Pn **Pn 12 58 34.5 -1.6**
PV23 Carpenter Ridg 14.26 165 **Pn 12 58 36.8 +0.4**
ECSD EROS Data Cent 14.27 120 Pn **Pn 12 58 36.2 -0.1**
NVAR Mina Array Bea 14.27 195 Pn **Pn 12 58 38.1 +1.5**
baz=0.0,slow=12,SNR=4.1
comp=Z,0.4nm,0.8s
WHY Whitehorse 14.32 314 Pn **Pn 12 58 36.6 -0.4**
PV10 Paradox Valley 14.33 165 **Pn 12 58 37.8 +0.4**
KCPM Cahto Peak 14.38 212 Pn **Pn 12 58 35.2 -2.8**
PV16 Nyswonger Mesa 14.41 165 Pn **Pn 12 58 36.1 -2.3**
PV12 Saucer Basin, 14.42 164 Pn **Pn 12 58 36.6 -2.0**
PV11 David Mesa, Pa 14.43 165 **Pn 12 58 37.2 -1.5**
FARO Faro, Yukon 14.47 321 Pn **Pn 12 58 36.9 -2.1**
PV18 Skein Mesa, Pa 14.47 165 Pn **Pn 12 58 36.5 -2.9**
PV03 Paradox Valley 14.48 165 Pn **Pn 12 58 38.1 -1.3**
PV02 Paradox Valley 14.54 164 Pn **Pn 12 58 37.7 -2.6**
PV13 Radium Mtn., P 14.57 165 Pn **Pn 12 58 38.1 -2.7**
PV01 Paradox Valley 14.64 164 Pn **Pn 12 58 39.9 -1.7**
EYMN Ely 14.87 98 Pn **Pn 12 58 44.5 +0.1**
EYMN IAmb IAmb 12 59 09.1
comp=Z,4.0nm,1.1s
M31M Drury Creek, Y 14.87 320 Pn **Pn 12 58 41.5 -2.9**
M31M Drury Creek, Y 14.87 320 Pn **Pn 12 58 44.4 0.0**
O30N Mendenhall 14.90 313 Pn **Pn 12 58 41.3 -3.6**
O30N Mendenhall 14.90 313 Pn **Pn 12 58 45.0 +0.1**
N31M Braeburn, Yuko 15.08 316 Pn **Pn 12 58 44.7 -2.6**
TPNV Topopah Spring 15.49 188 Pn **Pn 12 58 50.8 -2.1**
KUKN Kugluktuk,NWT 15.56 358 Pn **Pn 12 58 52.3 -1.1**
HYT Haines Junctio 15.56 312 Pn **Pn 12 58 50.0 -3.7**
HYT IAmb IAmb 12 58 57.6
comp=Z,6.5nm,1.4s
HYT Haines Junctio 15.56 312 Pn **Pn 12 58 54.8 +1.1**
N30M Aishikik Lake 15.63 315 Pn **Pn 12 58 54.4 -0.1**
N30M IAmb IAmb 12 59 07.4
comp=Z,14nm,1.6s
YUK6 Outpost Mounta 15.99 312 Pn **Pn 12 59 01.1 +1.7**
M30M Minto, Yukon 16.02 319 Pn **Pn 12 58 57.6 -2.0**
M30M IAmb IAmb 12 59 10.8
comp=Z,16nm,2.0s
M30M Minto, Yukon 16.02 319 Pn **Pn 12 58 59.1 -0.5**
YUK4 Talbot Arm 16.27 313 Pn **Pn 12 59 03.5 +0.6**
BRWY Burwash Landin 16.45 313 Pn **Pn 12 59 05.7 +0.5**
M29M Somme Creek 16.64 317 Pn **Pn 12 59 06.1 -1.5**
M29M Somme Creek 16.64 317 Pn **Pn 12 59 08.0 +0.4**
YUK8 Steele Glacier 16.75 313 Pn **P 12 59 10.6 -0.9**
L29M L29M 16.82 319 Pn **Pn 12 59 09.3 -0.4**
L29M L29M 16.82 319 P **Pn 12 59 09.7 -0.1**
J30M Hart River 16.93 325 **Pn 12 59 11.4 +0.2**
J30M Hart River 16.93 325 P **Pn 12 59 12.3 +1.1**
K29M Barlow Dome 16.95 322 P **Pn 12 59 11.7 +0.2**
K29M Barlow Dome 16.95 322 P **Pn 12 59 11.4 -0.1**
H31M Peel River 17.05 330 **Pn 12 59 11.5 -1.2**
H31M Peel River 17.05 330 P **Pn 12 59 13.5 +0.8**
I30M Mount Dempster 17.33 327 **P 12 59 18.6 +0.9**
I30M IAmb IAmb 12 59 27.9
comp=Z,13nm,1.9s
I30M Mount Dempster 17.33 327 P **P 12 59 17.5 -0.2**
RTBA Rita Blanca 17.68 150 P **P 12 59 22.5 +0.8**
RTBA IAmb IAmb 12 59 28.6
comp=Z,28nm,1.9s
C36M Paulatuk 17.76 348 **Pn 12 59 20.3 -1.1**
C36M Paulatuk 17.76 348 P **Pn 12 59 20.3 -1.1**
DAWY Dawson 17.77 321 **P 12 59 22.3 -0.3**
DAWY Dawson 17.77 321 P **P 12 59 22.3 -0.3**
G31M Satah River 17.81 333 P **Pn 12 59 20.3 -1.7**
G31M Satah River 17.81 333 P **Pn 12 59 20.1 -1.9**
SNH Sunshine Point 17.88 308 P **Pn 12 59 21.8 -1.2**
SNH IAmb IAmb 12 59 45.8
comp=Z,18nm,1.3s
F31M Tsiigehtchic 18.04 335 P **Pn 12 59 23.6 -1.3**
F31M IAmb IAmb 12 59 29.8
comp=Z,6.5nm,0.8s
F31M Tsiigehtchic 18.04 335 P **Pn 12 59 23.2 -1.7**
M27K Edge Creek, AK 18.07 315 P **Pn 12 59 25.3 -0.2**
BCAR Beaver Creek A 18.30 317 P **Pn 12 59 27.9 -0.2**
L27K Beaver Creek, 18.31 317 P **P 12 59 29.8 +1.3**
G30M tAoh Zraii Nji 18.41 331 P **Pn 12 59 29.0 -0.4**
G30M IAmb IAmb 12 59 52.8
comp=Z,14nm,1.4s
G30M tAoh Zraii Nji 18.41 331 P **Pn 12 59 28.6 -0.9**
H29M Whitestone 18.59 328 P **Pn 12 59 32.7 +1.1**
H29M Whitestone 18.59 328 P **Pn 12 59 33.1 +1.5**
INK Inuvik 18.64 337 P **P 12 59 31.1 -0.8**
INK Inuvik 18.64 337 P **P 12 59 31.6 -0.3**
comp=Z,2.1nm,0.5s,baz=147,slow=10,SNR=27
INK S **Sn 13 02 53.6 -7.2**
comp=Z,2.6nm,0.6s,baz=334,slow=11,SNR=3.4
INK Inuvik 18.64 337 P **P 12 59 30.7 -1.2**
I28M Miner Creek 18.68 325 P **P 12 59 32.8 +0.1**
I28M IAmb IAmb 12 59 46.4
comp=Z,20nm,1.9s
I28M Miner Creek 18.68 325 P **Pn 12 59 33.9 +1.0**
F30M Barrier River 18.71 333 P **P 12 59 32.5 -0.3**
K27K Chicken 18.81 319 P **P 12 59 34.1 +0.2**
K27K IAmb IAmb 12 59 50.5
comp=Z,16nm,2.0s
G29M Pine Creek 18.90 330 P **Pn 12 59 36.7 +1.2**
G29M Pine Creek 18.90 330 P **Pn 12 59 37.1 +1.7**
N25K Chitina, Valde 19.06 311 P **Pn 12 59 38.2 +0.8**
N25K IAmb IAmb 13 00 04.2
comp=Z,13nm,1.6s
I27K Kandik River 19.36 324 P **Pn 12 59 42.5 +1.4**
DOT Dot Lake 19.47 317 P **Pn 12 59 42.0 -0.3**
DOT IAmb IAmb 12 59 45.5
comp=Z,14nm,1.8s
SNCC San Nicolas Is 19.54 195 P **P 12 59 41.9 -0.2**
SCRK Sand Creek 19.56 318 P **P 12 59 42.9 +0.6**
SCRK IAmb IAmb 12 59 47.7
comp=Z,11nm,1.9s
J26L Joseph Creek 19.60 320 P **P 12 59 42.8 +0.2**
KLU Klutina 19.65 310 P **Pn 12 59 44.4 -0.1**
KLU IAmb IAmb 12 59 59.8
comp=Z,10nm,1.6s
H27K Steamboat Moun 19.66 326 P **Pn 12 59 44.9 +0.4**
I26K Coal Creek Min 19.79 322 P **Pn 12 59 46.1 0.0**
I26K Coal Creek Min 19.79 322 P **Pn 12 59 46.2 +0.1**

RIDG Independent Ri 19.83 317 P **Pn 12 59 47.2 +0.7**
E29M Blow River 19.83 333 P **Pn 12 59 47.7 +1.2**
E29M IAmb IAmb 12 59 51.2
comp=Z,4.5nm,0.7s
E29M Blow River 19.83 333 P **Pn 12 59 47.8 +1.2**
M24K Tolsona, Glenn 19.91 312 P **Pn 12 59 48.2 +0.6**
G27K Doyon Strip 20.01 327 P Pn 12 59 49.3 +0.6
G27K IAmb IAmb 13 00 09.6
comp=Z,12nm,1.9s
G27K Doyon Strip 20.01 327 P Pn 12 59 49.8 +1.1
J25K Salcha River, 20.36 319 P **P 12 59 51.1 +0.2**
J25K IAmb IAmb 13 00 17.7
comp=Z,12nm,1.9s
J25K Salcha River, 20.36 319 P Pn 12 59 53.1 +0.2
A36M Sachs Harbour 20.38 350 Pn 12 59 53.3 +0.4
A36M IAmb IAmb 12 59 59.7
comp=Z,7.2nm,0.8s
A36M Sachs Harbour 20.38 350 P Pn 12 59 53.9 +1.0
E28M Babbage River 20.43 333 Pn 12 59 54.6 +1.0
E28M IAmb IAmb 13 00 05.8
comp=Z,15nm,1.6s
E28M Babbage River 20.43 333 P Pn 12 59 54.5 +0.9
WMOK Wichita Mounta 20.57 143 P Pn 12 59 56.7 +1.3
WMOK IAmb IAmb 12 59 59.5
comp=Z,4.8nm,1.1s
D28M Stokes Point 20.69 335 P Pn 12 59 57.2 +0.7
E27K Coleen River 20.77 330 P Pn 12 59 57.0 -0.6
E27K IAmb IAmb 13 00 02.6
comp=Z,10nm,1.6s
E27K Coleen River 20.77 330 P Pn 12 59 57.3 -0.3
PRP Porcupine Dome 20.77 322 P Pn 12 59 57.8 -0.1
PRP IAmb IAmb 13 00 21.3
comp=Z,10nm,1.7s
G26K Porcupine Rive 20.80 326 P Pn 12 59 57.7 -0.2
KNK Knik Glacier 20.82 309 P Pn 12 59 57.3 -1.0
HDA Harding Lake 20.92 318 P Pn 12 59 58.6 -0.9
IL03 Eielson Array 21.01 319 P **P 12 59 59.0 +1.1**
IL31 21.02 319 P **P 12 59 58.7 +0.7**
IL31 IAmb IAmb 13 00 05.2
comp=Z,12nm,1.9s
ILAR Eielson Array 21.02 319 P **P 12 59 59.0 +1.0**
ILAR Eielson Array 21.02 319 P **P 13 00 00.5 +2.4**
comp=Z,0.6nm,0.6s,baz=110,slow=9.4,SNR=16
ILAR Lg Lg 13 06 25.4
baz=109,slow=27,SNR=6.2
ILAR LR LR 13 08 36.2
comp=Z,109nm,20.1s,baz=60,slow=38
comp=Z,0.6nm,0.6s
GHO Glory Hole Cre 21.11 310 P **P 13 00 00.3 +1.3**
GHO IAmb IAmb 13 00 14.6
comp=Z,12nm,1.6s
PMR Palmer 21.17 310 P **P 13 00 01.5 +1.9**
PMR IAmb IAmb 13 00 05.3
comp=Z,17nm,1.9s
D27M Malcolm River 21.23 333 P **P 13 00 02.6 +2.3**
D27M IAmb IAmb 13 00 07.8
comp=Z,14nm,1.6s
F26K Sheenjek River 21.30 328 P **P 13 00 03.9 +2.9**
F26K IAmb IAmb 13 00 16.5
comp=Z,14nm,1.9s
BMAR Burnt Mountain 21.31 327 P **P 13 00 03.1 +2.0**
CCB Clear Creek Bu 21.35 318 P **P 13 00 03.0 +1.4**
CCB IAmb IAmb 13 00 06.2
comp=Z,7.7nm,1.7s
RND Reindeer 21.43 315 P **P 13 00 04.5 +2.0**
RND IAmb IAmb 13 00 16.0
comp=Z,9.1nm,1.6s
F25K Christian Rive 21.75 327 P **P 13 00 08.9 +3.0**
H24K Noordor Dome 21.80 321 P **P 13 00 08.2 +1.8**
TRF Thorofare Moun 22.07 315 P **P 13 00 11.4 +2.0**
KTH Kantishna Hill 22.37 315 P **P 13 00 12.9 +0.3**
BPAW Bear Paw Mtn. 22.52 316 P **P 13 00 13.8 -0.3**
BPAW IAmb IAmb 13 00 21.0
comp=Z,3.3nm,0.8s
KDAK Kodiak Island 22.70 299 P **P 13 00 17.5 +1.5**
OHAK Old Harbor 23.12 298 P **P 13 00 21.8 +1.4**
RES Resolute Bay 23.71 12 P **P 13 00 29.6 +3.4**
RES IAmb IAmb 13 00 50.5
comp=Z,3.1nm,1.2s
RES Resolute Bay 23.71 12 P **P 13 00 30.1 +3.9**
comp=Z,0.4nm,0.4s,baz=164,slow=17,SNR=7.7
comp=Z,0.4nm,0.4s
RES Resolute Bay 23.71 12 P **P 13 00 29.0 +2.8**
K20K Telida 23.72 313 P **P 13 00 28.9 +2.5**
TXAR Lajitas Array 24.15 158 P **P 13 00 32.0 +1.1**
TXAR Lajitas Array 24.15 158 P **P 13 00 33.0 +2.2**
comp=Z,0.7nm,0.9s,baz=337,slow=7.0,SNR=4.3
comp=Z,0.7nm,0.9s
L18K Granite Mounta 24.80 310 P **P 13 00 37.0 +0.6**
N17K Nushagak Hills 24.99 306 P **P 13 00 37.4 -0.8**
FINES FINESS Array B 62.13 21 P **P 13 05 35.3 0.0**
ABKAR Abkulak array 78.64 4 P **P 13 07 15.4 -1.0**
ABKAR Abkulak array 78.64 4 P **P 13 07 15.7 -0.8**

CATAC 04 12:57:03.8±0.6, 12°N±3°×8°7W±°, h27km±4km, M3.2/19, Mjma3.0/13, ML3.2/19, MLv3.3/19, Error ellipse: s-maj=7.9km s-min=3.5km az=34.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.63**	**67**	P	Pn	12 57 17.7	+0.8
COPN	**Copaltepe**	**0.63**	**67**	P	Pn	12 57 17.8	+0.8
COPN	**Copaltepe**	**0.63**	**67**	P	Pn	12 57 17.7	+0.8
PACN	**Al O del Volca**	**0.69**	**34**	P	Pn	12 57 18.0	+0.3
PACN	**Al O del Volca**	**0.69**	**34**	P	Pn	12 57 17.9	+0.1
PACN				S	Sn	12 57 29.8	+2.3
PACN	**Al O del Volca**	**0.69**	**34**	P	Pn	12 57 17.9	+0.2
BC86	**Nagarote**	**0.69**	**61**	P	Pn	12 57 18.1	+0.3
BC86	**Nagarote**	**0.69**	**61**	S	Sn	12 57 28.0	+0.4
LEVN	**Ruinas Leon Vi**	**0.73**	**50**	P	Pn	12 57 18.4	+0.1
ROCN	**Rota Cerro Neg**	**0.73**	**36**	P	Pb	12 57 10.6	-7.3
CNGA	**Al SSO del Vol**	**0.74**	**40**	P	Pb	12 57 17.7	-0.3
CNGA	**Al SSO del Vol**	**0.74**	**40**	P	Pb	12 57 17.8	-0.2
CNGA	**Al SSO del Vol**	**0.74**	**40**	P	Pn	12 57 19.1	+0.7
QUEN	**Al S del Volca**	**0.74**	**26**	P	Pb	12 57 18.0	0.0
QUEN	**Al S del Volca**	**0.74**	**26**	P	Pb	12 57 18.1	0.0
QUEN				S	Sn	12 57 29.3	+0.5
QUEN	**Al S del Volca**	**0.74**	**26**	P	Pb	12 57 18.2	+0.1
CNGN	**Cerro Negro**	**0.74**	**40**	P	Pb	12 57 17.1	-1.0
CNGN	**Cerro Negro**	**0.74**	**40**	P	Pb	12 57 17.8	-0.4
CNGN	**Cerro Negro**	**0.74**	**40**	P	Pb	12 57 17.9	-0.3
TELN	**Telica**	**0.76**	**27**	P	Pb	12 57 18.1	-0.4
TELN	**Telica**	**0.76**	**27**	P	Pb	12 57 18.4	0.0
TELN				S	Sn	12 57 30.0	+0.6
HERN	**Volcan Telica**	**0.76**	**27**	P	Pb	12 57 18.1	-0.4
HERN	**Volcan Telica**	**0.76**	**27**	S	Sn	12 57 30.7	+1.3
HERN	**Volcan Telica**	**0.76**	**27**	P	Pb	12 57 18.5	0.0
PLRN	**Geotermica Pol**	**0.77**	**32**	P	Pb	12 57 17.9	-0.7
PLRN				S	Sn	12 57 30.5	+0.9
PLRN	**Geotermica Pol**	**0.77**	**32**	P	Pb	12 57 17.8	-0.8
PLRN				S	Sn	12 57 29.6	+0.1
PLRN	**Geotermica Pol**	**0.77**	**32**	P	Pb	12 57 18.0	-0.6
CRIN	**San Cristobal**	**0.78**	**10**	P	Pn	12 57 19.1	0.0
CRIN	**San Cristobal**	**0.78**	**10**	S	Sn	12 57 31.0	+1.1
CRIN	**San Cristobal**	**0.78**	**10**	P	Pn	12 57 19.0	0.0
CRIN	**San Cristobal**	**0.78**	**10**	S	Sn	12 57 31.0	+1.1
CRIN	**San Cristobal**	**0.78**	**10**	P	Pn	12 57 19.1	0.0
BC84	**Volcan Momotom**	**0.78**	**54**	P	Pb	12 57 18.7	-0.1
MOMN	**Momotombo**	**0.79**	**53**	P	Pb	12 57 17.9	-1.1
MOMN	**Momotombo**	**0.79**	**53**	P	Pb	12 57 18.0	-1.0
MOMN				S	Sb	12 57 29.6	+0.3
MOMN	**Momotombo**	**0.79**	**53**	P	Pb	12 57 18.1	-0.9
AMTN	**Mateare**	**0.80**	**67**	S	Sn	12 57 31.1	+0.9
SAPS	**Ciudad Sandino**	**0.80**	**72**	P	Pn	12 57 19.2	0.0
SAPS	**Ciudad Sandino**	**0.80**	**72**	S	Sn	12 57 31.4	+1.1
SAPS	**Ciudad Sandino**	**0.80**	**72**	P	Pn	12 57 19.3	+0.1
SAPS	**Ciudad Sandino**	**0.80**	**72**	P	Pn	12 57 26.7	+7.4
POLN	**Al Sur del Vol**	**0.81**	**27**	P	Pb	12 57 18.5	-0.7
POLN				S	Sn	12 57 30.8	+0.3
ABCN	**Banco Central**	**0.88**	**77**	P	Pb	12 57 21.3	+0.8
ABCN	**Banco Central**	**0.88**	**77**	S	Sn	12 57 33.1	+0.9
APQ2	**Apoyeque**	**0.88**	**72**	P	Pb	12 57 20.5	0.0
APQ2				S	Sn	12 57 32.7	+0.4
UNAN	**Cigeo UNAN**	**0.91**	**78**	P	Pn	12 57 19.8	-1.1
UNAN				S	Sn	12 57 33.4	+0.3
TISN	**Laguna Tiscapa**	**0.92**	**76**	P	Pn	12 57 19.1	-1.8
R4DEC	**Barrio San Lui**	**0.94**	**76**	S	Sb	12 57 33.5	-0.1
R4DEC	**Barrio San Lui**	**0.94**	**76**	P	Pn	12 57 20.9	-0.3
MGAN	**Managua**	**0.94**	**77**	P	Pn	12 57 20.8	-0.4
MGAN	**Managua**	**0.94**	**77**	S	Sb	12 57 33.3	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAS3	**Al N del Volca**	**0.99**	**84**	P	Pn	12 57 22.1	+0.1
MAS3				S	Sn	12 57 35.0	0.0
MASN	**Masaya**	**1.01**	**87**	P	Pb	12 57 23.6	+0.8
MASN				S	Sb	12 57 36.2	+0.5
NANN	**Nandasmo**	**1.04**	**89**	P	Pb	12 57 23.5	+0.4
NANN	**Nandasmo**	**1.04**	**89**	S	Sb	12 57 37.8	+1.3
NANN	**Nandasmo**	**1.04**	**89**	S	Sb	12 57 37.8	+1.3
NANN	**Nandasmo**	**1.04**	**89**	P	Pn	12 57 22.5	-0.1
NANN	**Nandasmo**	**1.04**	**89**	P	Pb	12 57 26.9	+3.7
CSGN	**Cosiguina Volc**	**1.10**	**341**	S	Sn	12 57 38.1	+0.2
CSGN	**Cosiguina Volc**	**1.10**	**341**	P	Pn	12 57 23.4	-0.1
CSGN	**Cosiguina Volc**	**1.10**	**341**	P	Pn	12 57 23.2	-0.3
CSGN				S	Sb	12 57 38.8	+0.4
POTN	**Potosi Cosigui**	**1.11**	**344**	P	Pn	12 57 23.7	+0.1
POTN				S	Sb	12 57 38.2	-0.2
CHOHN	**Orocuina**	**1.54**	**1**	P	Pn	12 57 26.9	-2.7
CHOHN	**Orocuina**	**1.54**	**1**	S	Sn	12 57 44.0	-4.8
BOAB	**BOACO BROADBAN**	**.57**	**71**	P	Pn	12 57 28.4	-1.5
PACA	**Pacayal**	**1.89**	**324**	P	Pn	12 57 35.0	+0.6

IDC 04 13:02:16.7±1.9, 26°09S×70°77E, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/16, Error ellipse: s-maj=53.5km s-min=33.5km az=90.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.41**	**5**	T	T	13 25 28.4	
baz=186,slow=75,SNR=6.7							
H08S2	**Diego Garcia H**	**18.41**	**5**	T	T	13 25 31.4	
baz=186,slow=75,SNR=6.8							
H08S3	**Diego Garcia H**	**18.43**	**5**	T	T	13 25 29.7	
baz=186,slow=75,SNR=11							
H04N2	**CROZET ISLANDS**	**25.11**	**212**	T	T	13 33 46.6	
baz=45,slow=74,SNR=235							
H04N1	**CROZET ISLANDS**	**25.11**	**212**	T	T	13 33 54.1	
baz=45,slow=74,SNR=294							
H04N3	**CROZET ISLANDS**	**25.12**	**212**	T	T	13 33 48.2	
baz=45,slow=74,SNR=267							
PALK	**Pallekele**	**34.53**	**18**	LR	LR	13 19 27.6	
comp=Z,118nm,19.7s,baz=150,slow=30							
H01W2	**Cape Leeuwin H**	**38.14**	**114**	T	T	13 50 14.3	
baz=261							
H01W3	**Cape Leeuwin H**	**38.14**	**114**	T	T	13 50 11.2	
baz=261							
H01W1	**Cape Leeuwin H**	**38.16**	**114**	T	T	13 50 05.6	
baz=261							
PSI	**Prapat**	**39.58**	**48**	LR	LR	13 21 57.5	
comp=Z,100nm,20.6s,baz=31,slow=30							
LEM	**Lembang**	**39.98**	**68**	LR	LR	13 23 55.2	
comp=Z,125nm,19.6s,baz=210,slow=32							
BOSA	**Boshof**	**40.33**	**256**	LR	LR	13 23 38.4	
comp=Z,185nm,18.0s,baz=157,slow=32							
LBTB	**Lobatse**	**40.62**	**261**	LR	LR	13 24 15.4	
comp=Z,151nm,18.6s,baz=118,slow=32							
LSZ	**Lusaka**	**41.10**	**277**	LR	LR	13 25 04.2	
comp=Z,108nm,18.4s,baz=147,slow=33							
MAW	**Mawson**	**41.81**	**185**	LR	LR	13 25 55.2	
comp=Z,181nm,18.3s,baz=84,slow=34							
SUR	**Sutherland**	**43.73**	**250**	LR	LR	13 25 12.9	
comp=Z,136nm,20.3s,baz=128,slow=32							
TSUM	**Tsumeb**	**49.29**	**266**	LR	LR	13 30 50.9	
comp=Z,100nm,18.7s,baz=151,slow=35							
CMAR	**Chiang Mai Arr**	**52.06**	**35**	P	P	13 11 28.3	-0.2
0.4nm,0.3s,baz=220,slow=8.5,SNR=4.6							
CMAR				LR	LR	13 29 08.7	
comp=Z,55nm,21.8s,baz=210,slow=31							
0.4nm,0.3s							
BRDH	**Bariadhala**	**52.52**	**24**	LR	LR	13 34 28.7	
comp=Z,64nm,18.3s,baz=220,slow=37							
ASAR	**Alice Springs**	**56.82**	**102**	P	P	13 12 03.2	0.0
0.6nm,0.8s,baz=248,slow=6.5,SNR=11							
0.6nm,0.8s							
WRA	**Warramunga Arr**	**58.34**	**98**	P	P	13 12 13.9	-0.1
0.7nm,0.8s,baz=254,slow=7.0,SNR=2.8							
0.7nm,0.8s							
QSPA	**South Pole Qui**	**64.04**	**180**	P	P	13 12 52.1	0.0
3.2nm,1.2s,baz=281,slow=6.8,SNR=2.7							
3.2nm,1.2s							
MKAR	**Makanchi Array**	**73.28**	**8**	P	P	13 13 49.8	+0.1
2.8nm,0.9s,baz=203,slow=5.1,SNR=2.0							
2.8nm,0.9s							
BVAR	**Borovoye Array**	**78.78**	**360**	LR	LR	13 46 29.7	
comp=Z,54nm,19.1s,baz=137,slow=34							
DBIC	**Dimbokro**	**80.14**	**282**	LR	LR	13 49 19.7	
comp=Z,37nm,18.2s,baz=67,slow=35							
JNU	**Nakatsue**	**82.05**	**47**	LR	LR	13 51 55.9	
comp=Z,31nm,18.8s,baz=120,slow=36							
PMSA	**Palmer Station**	**82.91**	**198**	LR	LR	13 49 01.0	
comp=Z,83nm,19.0s,baz=172,slow=34							
KSRS	**Korea Array**	**82.91**	**42**	LR	LR	13 50 26.0	
comp=Z,24nm,18.9s,baz=225,slow=35							

*BJI **04** 13:02:44.3, 53°71N×108°85E, h9km, mB4.8/14, mb4.4/55, Ms4.4/36, Ms7 4.2/38*
*IDC **04** 13:02:46.0±0.5, 53°55N×108°79E, h0km, mb4.2/25, mbtmp4.1/32, ML3.8/6, MS3.9/49, Error ellipse: s-maj=10.5km s-min=9.2km az=160.0*
*MOS **04** 13:02:46.1±1.2, 53°55N×108°66E, h11km, mb4.5/17, Error ellipse: s-maj=7.7km s-min=6.4km az=80.3*
MOS Felt (V) at Barguzin;(VI-V) at Ust'-Bargusin, Uro, Suvo; (VI) at Kuitun, Sosnovo-Ozerskoye; (III) at Chita;(II-III) at Novoorlovsk, Onguryen.
*NEIC **04** 13:02:47.4±1.7, 53°57N±0°08×108°7E±0°1, h10km±1km, mb4.6/77, Error ellipse: s-maj=14.3km s-min=12.8km az=175.0*
*BYKL **04** 13:02:48.5±0.1, 53°58N×108°66E, h21km±2km, Mw4.5/9(IEC), #STATIONS AAK PET GNI KBS ENH KEV MAJO TIXI VSU FELT I=V MSK at Barguzin; IV-V at Ust-Barguzin, Uro, Suvo; IV at Khuzhir, Sosnovo-Ozerskoye, Kuytun; III at Chita; II-III at Onguren, Novoorlovsk.*

ISC 04 13:02:47.3±0.7, 53°58N±0°02×108°84E±0°02, h12km±4km, n491, σ1§58/526, mb4.5/75, MS3.9/51, 26C-18D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.33**	**190**	⇑*i*Pg	**Pb**	**13 02 55.6**	**+0.6**
MXMB				*e*Sg	**Sb**	**13 03 00.8**	**+0.6**
GORB	**Goryachinsk**	**0.69**	**209**	⇑*i*Pg	**Pg**	**13 03 00.9**	**+0.3**
GORB				*e*Sg	**Sg**	**13 03 09.9**	**+0.3**
SYVR	**Suvo**	**0.69**	**83**	⇑*i*Pg	**Pn**	**13 03 03.3**	**+0.4**
1μm,0.7s							
SYVR				⇑*i*Pg	**Pn**	**13 03 03.3**	**+0.4**
6μm,0.7s							
SYVR				⇑*i*Pg	**Pn**	**13 03 03.3**	**+0.4**
9μm,0.7s							
SYVR				Pmax		13 03 03.6	
8μm,0.4s							
SYVR				*e*Sg	**Sn**	**13 03 14.1**	**+0.5**
SYVR				Smax		13 03 14.6	
35μm,0.2s							
SYVR	**Suvo**	**0.69**	**83**	*e*PG	**Pn**	**13 03 03.2

TRG	**Tyrgan**	**1.71**	**242**	*e*PN	**Pn**	**13 03 16.5**	**-0.3**
UUDB	**Ulan-Yde**	**1.86**	**203**	⇓*i*Pn	**Pn**	**13 03 19.4**	**+0.4**
UUDB				*e*Pg	**Pb**	**13 03 21.4**	**+0.2**
UUDB				Pmax		13 03 28.1	
	2μm,0.7s						
UUDB				*e*Sg	**Sb**	**13 03 45.7**	**+1.3**
UUDB				Smax		13 03 46.5	
	25μm,0.9s						
YLYR	**Ulyunkhan**	**1.88**	**45**	⇓*i*Pn	**Pb**	**13 03 21.5**	**0.0**
YLYR				*e*Pg	**Pg**	**13 03 23.1**	**-0.3**
YLYR				Pmax		13 03 23.4	
	1μm,0.5s						
YLYR				*e*		13 03 30.7	
YLYR				*e*Sg	**Sg**	**13 03 49.8**	**+2.1**
YLYR				Smax		13 03 50.2	
	9μm,0.6s						
FFNB	**Fofonovo**	**1.99**	**220**	⇓*i*Pn	**Pn**	**13 03 20.5**	**-0.2**
FFNB				*e*Pg	**Pb**	**13 03 23.5**	**+0.1**
FFNB				*e*Sn	**Sn**	**13 03 44.3**	**-1.2**
FFNB				*e*Sg	**Sb**	**13 03 48.8**	**+0.7**
KAB	**Kabansk**	**2.03**	**222**	*e*Pn	**Pn**	**13 03 21.1**	**-0.2**
KAB				max		13 03 21.9	
	701nm,0.6s						
KAB				*e*Sg	**Sb**	**13 03 49.6**	**+0.4**
KAB				Smax		13 04 11.7	
	17μm,0.9s						
STDB	**Stepnoy Dvoret**	**2.06**	**228**	*e*Pn	**Pn**	**13 03 21.9**	**+0.2**
STDB				*e*Pg	**Pb**	**13 03 25.2**	**+0.6**
STDB				*e*Sg	**Sb**	**13 03 51.5**	**+1.3**
NIZB	**Nizh Angarsk**	**2.23**	**10**	⇑*i*Pn	**Pb**	**13 03 26.2**	**-1.3**
NIZB				*e*Pg	**Pg**	**13 03 28.8**	**-1.2**
NIZB				Pmax		13 03 31.7	
	1μm,0.3s						
NIZB				*e*Sn	**Sn**	**13 03 52.1**	**+0.6**
NIZB				*e*Sg	**Sg**	**13 03 57.8**	**-1.1**
NIZB				Smax		13 03 59.4	
	11μm,0.4s						
HRMR	**Khuramsha**	**2.27**	**211**	⇓*i*Pn	**Pn**	**13 03 24.9**	**+0.3**
HRMR				*e*Pg	**Pb**	**13 03 28.4**	**+0.2**
HRMR				Pmax		13 03 38.5	
	3μm,0.6s						
HRMR				*e*Sn	**Sn**	**13 03 51.5**	**-1.0**
HRMR				*e*Sg	**Sb**	**13 03 58.1**	**+1.9**
HRMR				Smax		13 03 59.3	
	31μm,0.5s						
BGT	**Bolshoye Golou**	**2.59**	**235**	⇓*i*Pn	**Pn**	**13 03 28.5**	**-0.5**
BGT				*e*Pg	**Pb**	**13 03 33.5**	**-0.1**
BGT				Pmax		13 03 41.4	
	510nm,0.8s						
BGT				*e*Sn	**Sn**	**13 03 58.4**	**-1.9**
BGT				*e*Sg	**Sb**	**13 04 05.8**	**+0.4**
BGT				*e*		13 04 14.8	
BGT				max		13 04 18.5	
	5μm,1.0s						
KMO	**Kumora**	**2.68**	**30**	⇑*i*Pn	**Pb**	**13 03 32.6**	**-2.6**
KMO				*e*Pg	**Pg**	**13 03 37.2**	**-1.5**
KMO				Pmax		13 03 44.2	
	3μm,0.6s						
KMO				*e*Sg	**Sg**	**13 04 13.3**	**-0.2**
KMO				Smax		13 04 22.3	
	11μm,0.9s						
LSTR	**Listvyanka**	**2.98**	**236**	⇓*i*Pn	**Pn**	**13 03 34.1**	**-0.2**
LSTR				*e*Pg	**Pb**	**13 03 40.0**	**-0.3**
LSTR				*e*		13 03 42.0	
LSTR				Pmax		13 03 42.9	
	277nm,0.8s						
LSTR				*e*Sg	**Sb**	**13 04 17.6**	**+1.0**
LSTR				Smax		13 04 29.3	
	2μm,1.5s						
YOAB	**Uoyan, Buryati**	**3.06**	**32**	Smax		13 03 44.2	
YOAB				*e*Sg	**Sg**	**13 04 25.7**	**+0.3**
YOAB				Smax		13 04 50.8	
	26μm,1.3s						
IRK	**Irkutsk**	**3.08**	**246**	*e*Pg	**Pb**	**13 03 41.0**	**-0.9**
IRK				Pmax		13 03 52.1	
	772nm,0.7s						
IRK				*e*Sg	**Sb**	**13 04 19.4**	**+0.1**
IRK				Smax		13 04 26.8	
	9μm,0.6s						
IRK	**Irkutsk**	**3.08**	**246**	*e*PN	**Pb**	**13 03 42.5**	**+0.6**
IRK				*e*		13 04 19.1	
IRK				pmax	pmax		
	comp=Z,768nm,0.8s						
IRK				smax	smax		
	comp=N,9μm,0.8s						
IVK	**Ivanovka**	**3.23**	**238**	⇓*i*Pn	**Pn**	**13 03 37.4**	**-0.4**
IVK				*e*Pg	**Pb**	**13 03 44.1**	**-0.4**
IVK				*e*		13 03 50.0	
IVK				max		13 03 51.3	
	comp=N,644nm,0.8s						
IVK				*e*Sn	**Sn**	**13 04 14.0**	**-2.1**
IVK				*e*Sg	**Sb**	**13 04 24.9**	**+1.1**
IVK				Smax		13 04 32.2	
	comp=N,6μm,1.4s						
CIT	**Chita**	**3.26**	**117**	*e*Pn	**Pn**	**13 03 39.6**	**+1.4**
CIT				*e*Pg	**Pg**	**13 03 48.9**	**-0.8**
CIT				Pmax		13 03 49.3	
	comp=N,3μm,0.6s						
CIT				*e*Sn	**Sn**	**13 04 18.1**	**+1.2**
CIT				*e*Sg	**Sg**	**13 04 32.0**	**+0.1**
CIT				*e*		13 04 37.2	
CIT				max		13 04 38.7	
	comp=N,15μm,0.3s						
UKT	**Uakit**	**3.38**	**54**	⇓*i*Pn	**Pn**	**13 03 42.3**	**+2.4**
UKT				*e*Pg	**Pg**	**13 03 51.3**	**-0.7**
UKT				Pmax		13 04 01.4	
	comp=N,1μm,1.1s						
UKT				*e*Sg	**Sg**	**13 04 36.6**	**+0.8**
UKT				Smax		13 04 48.5	
	comp=N,3μm,0.9s						
UKT	**Uakit**	**3.38**	**54**	*e*PN	**Pn**	**13 03 42.2**	**+2.4**
TLY	**Talaya**	**3.69**	**241**	⇓*i*Pn	**Pn**	**13 03 43.6**	**-0.6**
TLY				*e*Pg	**Pb**	**13 03 52.4**	**-0.1**
TLY				Pmax		13 03 55.8	
	comp=N,158nm,0.6s						
TLY				*e*Sg	**Sb**	**13 04 39.2**	**+2.0**
TLY				*e*		13 04 44.3	
TLY				max		13 04 45.6	
	comp=N,2μm,1.1s						
SVKR	**Severomuysk**	**3.73**	**45**	*e*Pn	**Pn**	**13 03 47.7**	**+3.1**
SVKR				*e*Pg	**Pg**	**13 03 57.5**	**-1.1**
SVKR				Pmax		13 04 07.1	
	comp=N,1μm,0.6s						
SVKR				*e*Sn	**Sn**	**13 04 30.3**	**+1.9**
SVKR				*e*Sg	**Sg**	**13 04 46.7**	**-0.2**
SVKR				*e*		13 04 53.9	
SVKR				max		13 04 54.3	
	comp=N,10μm,0.7s						
ARS	**Arshan**	**4.24**	**249**	*e*Pn	**Pn**	**13 03 50.9**	**-0.8**
ARS				*e*Pg	**Pb**	**13 04 02.3**	**+0.5**
ARS				Pmax		13 04 04.1	
	comp=N,430nm,0.6s						
ARS				*e*Sn	**Sn**	**13 04 37.9**	**-3.2**
ARS				*e*Sg	**Sb**	**13 04 55.6**	**+2.7**
ARS				Smax		13 05 04.1	
	comp=N,10μm,1.0s						
KPC	**Khapcheranga**	**4.46**	**149**	⇓*i*Pn	**Pn**	**13 03 55.0**	**+0.2**
KPC				*e*Pg	**Pb**	**13 04 09.1**	**+3.5**
KPC				*e*		13 04 12.4	
KPC				max		13 04 12.7	
	comp=N,553nm,0.7s						
KPC				*e*Sn	**Sn**	**13 04 45.4**	**-1.2**
KPC				*e*Sg	**Sg**	**13 05 07.0**	**-3.6**
KPC				Smax		13 05 12.6	
	comp=N,5μm,1.1s						
KPC				*e*		13 05 17.1	
KPC	**Khapcheranga**	**4.46**	**149**	*e*PN	**Pn**	**13 03 54.9**	**+0.2**
ZAK	**Zakamensk**	**4.70**	**229**	⇓*i*Pn	**Pn**	**13 03 58.5**	**+0.5**
ZAK				*e*Pg	**Pb**	**13 04 11.4**	**+1.8**
ZAK				Pmax		13 04 24.5	
	comp=N,113nm,0.8s						
ZAK				*e*Sn	**Sn**	**13 04 49.3**	**-3.1**
ZAK				*e*Sg	**Sb**	**13 05 12.0**	**+5.9**
ZAK				Smax		13 05 30.0	
	comp=N,1μm,1.1s						
ZAK	**Zakamensk**	**4.70**	**229**	*e*PN	**Pn**	**13 03 58.1**	**+0.1**
ZAK				*e*		13 05 13.1	
ZAK				pmax	pmax		
	comp=Z,75nm,0.4s						
ZAK				smax	smax		
	comp=N,1μm,0.8s						
NLYR	**Nelyaty**	**4.91**	**51**	*e*Pn	**Pn**	**13 04 03.1**	**+2.3**
NLYR				*e*Pg	**Pg**	**13 04 18.9**	**-2.3**
NLYR				Pmax		13 04 33.1	
	comp=N,296nm,0.6s						
NLYR				*e*Sg	**Sg**	**13 05 24.4**	**-0.2**
NLYR				Smax		13 05 37.2	
	comp=N,4μm,1.1s						
MOY	**Mondy**	**5.15**	**251**	*e*Pn	**Pn**	**13 04 05.4**	**+1.2**
MOY				*e*		13 04 14.0	
MOY				*e*Pg	**Pb**	**13 04 18.9**	**+1.6**
MOY				Pmax		13 04 34.1	
	comp=N,488nm,1.1s						
MOY				*e*		13 05 02.2	
MOY				*e*		13 05 16.7	
MOY				*e*Sg	**Sb**	**13 05 24.7**	**+5.6**
MOY				Smax		13 05 35.2	
	comp=N,5μm,1.2s						
MOY	**Mondy**	**5.15**	**251**	*e*PN	**Pn**	**13 04 05.1**	**+0.9**
MOY				*e*S	**Sn**	**13 05 02.3**	**-1.3**
MOY				*e*		13 05 22.9	
BOD	**Bodaibo**	**5.15**	**32**	*e*Pn	**Pn**	**13 04 06.1**	**+2.0**
BOD				*e*Pg	**Pg**	**13 04 21.7**	**-4.2**
BOD				Pmax		13 04 34.2	
	comp=N,191nm,0.6s						
BOD				*e*Sn	**Sn**	**13 05 03.3**	**-0.1**
BOD				*e*Sg	**Sg**	**13 05 29.5**	**-3.0**
BOD				Smax		13 05 33.7	
	comp=N,1μm,0.7s						
ORL	**Orlik**	**5.55**	**263**	*e*Pn	**Pn**	**13 04 09.6**	**-0.1**
ORL				*e*		13 04 21.1	
ORL				max		13 04 22.5	
	comp=N,325nm,1.2s						
ORL				*e*		13 05 11.9	
ORL				*e*		13 05 26.1	
ORL				*e*Sg	**Sb**	**13 05 37.2**	**+6.7**
ORL				Smax		13 05 44.2	
	comp=N,2μm,1.5s						
ULN	**Ulaanbaatar**	**5.84**	**192**		**Pn**	**13 04 14.1**	**+0.4**
ULN	**Ulaanbaatar**	**5.84**	**192**	*e*Pn	**Pn**	**13 04 14.5**	**+0.8**
ULN				*e*Pg	Pg	13 04 34.6	-4.4
ULN				Pmax		13 04 52.6	
	comp=N,151nm,1.0s						
ULN				*e*Sg	**Sg**	**13 05 49.6**	**-4.9**
ULN				Smax		13 05 56.6	
	comp=N,6μm,1.5s						
ULN	**Ulaanbaatar**	**5.84**	**192**	*d i*PN	**Pn**	**13 04 14.5**	**+0.8**
SONM	**Songino Array**	**5.96**	**196**	Pn	**Pn**	**13 04 16.0**	**+0.6**
SONM	**Songino Array**	**5.96**	**196**	Pn	**Pn**	**13 04 16.1**	**+0.8**
	comp=N,11nm,0.3s,baz=9.5,slow=13,SNR=302						
SONM				Pg	**Pb**	**13 04 34.3**	**+3.1**
	comp=N,12nm,0.3s,baz=18,slow=15,SNR=8.6						
SONM				Sn	**Sn**	**13 05 24.3**	**+0.7**
	comp=N,16nm,0.3s,baz=0.2,slow=18,SNR=5.0						
SONM				Lg	Lg	13 05 53.9	
	comp=N,54nm,0.3s,baz=13,slow=27,SNR=9.3						
SONM				LR	LR	13 06 46.0	
	comp=N,1μm,18.5s,baz=8.0,slow=40						
	comp=N,41nm,0.5s						
I34MN	**SONGINO INFRAS**	**5.99**	**196**	Lg	Lg	13 05 57.1	
	baz=23,slow=34						
CRS	**Chara**	**6.33**	**55**	*e*Pn	**Pn**	**13 04 23.5**	**+3.1**
CRS				*e*		13 04 47.7	
CRS				max		13 04 58.5	
	comp=N,527nm,1.0s						
CRS				*e*Sg	**Sg**	**13 06 06.5**	**-3.9**
CRS				Smax		13 06 34.4	
	comp=N,2μm,1.4s						
TUP	**Tupik**	**6.61**	**78**	⇓*i*Pn	**Pn**	**13 04 26.1**	**+2.0**
TUP				*e*Pg	Pg	13 04 48.8	-4.9
TUP				Pmax		13 05 00.2	
	comp=N,112nm,0.9s						
TUP				*e*Sg	**Sg**	**13 06 16.3**	**-2.9**
TUP				Smax		13 06 31.5	
	comp=N,4μm,1.2s						
KHNR	**Khani**	**7.19**	**58**	*e*Pn	**Pn**	**13 04 35.4**	**+3.3**
KHNR				*e*Pg	Pg	13 04 58.8	-6.0
KHNR				*e*Sg	**Sg**	**13 06 33.4**	**-4.4**
YKLR	**Yuktali**	**7.95**	**63**	*e*Pn	**Pn**	**13 04 43.7**	**+1.3**
YKLR				*e*Sg	**Sg**	**13 06 57.2**	**-4.8**
HIA	**Hailar**	**8.06**	**118**	Pn	**Pn**	**13 04 43.5**	**-0.6**
HIA	**Hailar**	**8.06**	**118**	*e*	**Pn**	**13 04 43.6**	**-0.5**
HIA				*e*Pg	Pg	13 05 16.2	-5.4
HIA				*e*Sn	**Sn**	**13 06 13.0**	**-2.2**
HIA				*e*Sg	**Sg**	**13 07 01.1**	**-4.8**
HIA	**Hailar**	**8.06**	**118**	PN	**Pn**	**13 04 43.5**	**-0.6**
CLNS	**Chul'man**	**9.73**	**64**	*e*Sg	Sn	13 07 53.1	+57
XLT	**XiLinHaoTe**	**10.80**	**151**	*e*P	Pn	13 05 29.6	+8.0
XLT				pP		13 05 32.3	
XLT				S	Sn	13 07 34.9	+13
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,100nm,3.7s						
XLT				LR	LR		
	comp=N,140nm,7.6s						
XLT				LR	LR		
	comp=E,680nm,4.0s						
XLT				LR	LR		
	comp=Z,2μm,10.5s						
ZEA	**Zeya**	**10.93**	**82**	*e*P	**Pn**	**13 05 26.2**	**+2.9**
ZEA				*e*		13 07 22.7	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HEH	**HeiHe**	**11.94**	**99**	*e*P	**Pn**	**13 05 37.8**	**+0.7**
HEH				S	**Sn**	**13 07 50.6**	**+0.6**
HHC	**Hu-ho-hao-te**	**12.87**	**171**	*e*P	**Pn**	**13 05 51.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
BTO	**Baotou**	**13.01**	**176**	*e*P	**Pn**	**13 05 50.0**	**-1.9**
BTO				pP	P	13 05 53.8	-8.6
BTO				sP		13 05 57.0	
BTO				PP	**PnPn**	**13 06 00.6**	**+1.1**
BTO				S	**Sn**	**13 08 14.1**	**-2.3**
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				LR	LR		
	comp=Z,3μm,8.5s						
BTO				LR	LR		
	comp=Z,850nm,3.4s						
BTO				LR	LR		
	comp=Z,4μm,10.3s						
YAK	**Yakutsk**	**13.90**	**44**	Pn	**Pn**	**13 06 00.6**	**-3.3**
	comp=Z,1.3nm,0.3s,baz=277,slow=0.3,SNR=1.3						
YAK				Sn	Sn	13 08 27.9	-10
	comp=Z,1.5nm,0.3s,baz=207,slow=4.5,SNR=1.5						
YAK				Lg	Lg	13 09 59.4	
	comp=Z,1.6nm,0.3s,baz=146,slow=23,SNR=12						
YAK				LR	LR	13 11 33.2	
	comp=Z,442nm,18.7s,baz=250,slow=38						
	comp=Z,4.7nm,0.3s						
YAK	**Yakutsk**	**13.90**	**44**	*e*P	**Pn**	**13 06 07.4**	**+3.6**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,529nm,9.0s						
ZAA0	**Zalesovo Array**	**14.20**	**281**		**Pn**	**13 06 06.8**	**-1.2**
ZALV	**Zalesovo Beam**	**14.20**	**281**		**Pn**	**13 06 06.4**	**-1.5**
ZALV	**Zalesovo Beam**	**14.20**	**281**	Pn	**Pn**	**13 06 07.4**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=82,slow=12,SNR=9.0						
ZALV				Lg	Lg	13 10 08.5	
	comp=Z,0.4nm,0.3s,baz=83,slow=24,SNR=10						
ZALV				LR	LR	13 11 46.7	
	comp=Z,443nm,19.0s,baz=83,slow=38						
ZALV	**Zalesovo Beam**	**14.20**	**281**	*i* P	**Pn**	**13 06 07.8**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BNX	**BinXian**	**14.33**	**116**	⇑P	**P**	**13 06 18.2**	**+1.4**
BNX				LR	LR		
	comp=N,560nm,1.2s						
BNX				LR	LR		
	comp=E,650nm,1.3s						
BJI	**Beijing**	**14.44**	**157**	P	**Pn**	**13 06 12.1**	**+0.9**
BJI				pmax	pmax		
	comp=E,17nm,0.6s						
BJT	**Baijiatuau**	**14.45**	**157**	Pn	**Pn**	**13 06 11.8**	**+0.3**
BJT	**Baijiatuau**	**14.45**	**157**	P	**Pn**	**13 06 11.8**	**+0.3**
KLR	**Kul'dur**	**14.92**	**98**	Pn	**Pn**	**13 06 17.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=286,slow=10,SNR=4.3						
KLR				Sn	**Sn**	**13 09 04.2**	**+1.3**
	baz=287,slow=10						
KLR				Lg	Lg	13 10 41.2	
	comp=E,1.1nm,0.3s,baz=218,slow=19,SNR=5.7						
KLR				LR	LR	13 12 36.8	
	comp=E,467nm,18.4s,baz=278,slow=40						
	comp=E,0.5nm,0.4s						
KLR	**Kul'dur**	**14.92**	**98**	⇑*e*P	**Pn**	**13 06 19.1**	**+1.3**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KLR				MLR	MLR		
	comp=Z,571nm,13.0s						
GTA	**Gaotai**	**15.46**	**207**	*e*P	**Pn**	**13 06 24.3**	**-0.8**
GTA				pP	P	13 06 29.8	+0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=Z,380nm,11.3s						
GTA				LR	LR		
	comp=Z,350nm,9.1s						
GTA				LR	LR		
	comp=Z,440nm,10.5s						
HNS	**HongShan**	**16.69**	**164**	⇑P	**P**	**13 06 43.9**	**+0.8**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HNS				LR	LR		
	comp=Z,1μm,10.8s						
HNS				LR	LR		
	comp=Z,460nm,9.0s						
HNS				LR	LR		
	comp=Z,1μm,11.0s						
WMQ	**Urumqi**	**16.97**	**243**	*e*P	**Pn**	**13 06 41.9**	**-2.5**
WMQ				sP	sP	13 06 53.7	+2.1
WMQ				pmax	pmax		
	comp=Z,41nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,270nm,5.1s						
WMQ				LR	LR		
	comp=Z,630nm,16.7s						
WMQ				LR	LR		
	comp=Z,160nm,17.3s						
DL2	**Dalian**	**17.09**	**144**	P	**Pn**	**13 06 46.8**	**+0.9**
DL2				S	**Sn**	**13 09 49.3**	**-6.4**
DL2				pmax	pmax		
	comp=Z,21nm,0.8s						
DL2				pmax	pmax		
	comp=Z,310nm,6.6s						
DL2				LR	LR		
	comp=Z,700nm,14.8s						
DL2				LR	LR		
	comp=Z,500nm,14.1s						
DL2				LR	LR		
	comp=Z,890nm,16.2s						
GRNR	**Gornyy**	**17.11**	**88**	⇑*i*P	**P**	**13 06 49.1**	**+1.4**
GRNR				pmax	pmax		
	comp=E,2.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,250nm,11.0s						
GRNR				MLR	MLR		
	comp=Z,480nm,13.0s						
USA0B	**Ussuriysk Arra**	**17.81**	**112**	⇑*e*P	**P**	**13 06 57.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**17.81**	**112**	P	**Pn**	**13 06 54.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=333,slow=2.6,SNR=5.7						
USRK				Lg	Lg	13 12 11.4	
	comp=Z,0.2nm,0.3s,baz=316,slow=24,SNR=8.2						
USRK				LR	LR	13 14 28.4	
	comp=Z,541nm,18.4s,baz=340,slow=39						
	comp=Z,1.3nm,0.6s						
LZH	**Lanzhou**	**17.84**	**193**	*e*P	**Pn**	**13 06 55.2**	**-0.2**
LZH				pP	pP	13 06 58.9	-0.8
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				LR	LR		
	comp=Z,1μm,12.0s						
LZH				LR	LR		
	comp=Z,780nm,10.0s						
LZH				LR	LR		
	comp=Z,1μm,11.7s						
MK31	**Makanchi Array**	**18.24**	**259**	Pn	**Pn**	**13 06 57.6**	**-2.4**
MK31	**Makanchi Array**	**18.24**	**259**	P	**Pn**	**13 06 57.6**	**-2.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**18.24**	**259**		**Pn**	**13 06 58.0**	**-2.0**
MKAR	**Makanchi Array**	**18.24**	**259**	P	**Pn**	**13 06 58.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=70,slow=11,SNR=11						
MKAR				Lg	Lg	13 12 15.8	
	comp=Z,0.1nm,0.3s,baz=61,slow=27,SNR=5.1						
MKAR				LR	LR	13 13 07.9	
	comp=Z,50nm,19.0s,baz=44,slow=34						
	comp=Z,0.9nm,0.7s						
TIA	**Tai'an**	**18.31**	**158**	P	**Pn**	**13 06 58.6**	**-2.3**
TIA				S	**Sn**	**13 10 16.5**	**-8.7**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TIA				pmax	pmax		
	comp=Z,98nm,3.5s						
TIA				LR	LR		
	comp=Z,770nm,12.7s						
TIA				LR	LR		
	comp=Z,540nm,11.3s						
TIA				LR	LR		
	comp=Z,1μm,13.7s						
KURK	**Kurchatov**	**18.70**	**273**	P	**P**	**13 07 02.0**	**-3.2**
KURK	**Kurchatov**	**18.70**	**273**	*ce*P	**P**	**13 07 02.6**	**-2.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK				MLR	MLR		
	comp=Z,202nm,12.0s						
KURBB	**Kurchatov Arra**	**18.78**	**273**	P	**P**	**13 07 04.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=68,slow=11,SNR=13						
KURBB				Lg	Lg	13 12 33.0	
	baz=74,slow=33						
KURBB				LR	LR	13 14 35.4	
	comp=Z,230nm,18.2s,baz=182,slow=38						
	comp=Z,1.3nm,0.6s						
GOMU	**GeErMu**	**19.96**	**215**	P	**P**	**13 07 19.6**	**+0.1**
GOMU				pP	Pn	13 07 22.1	+1.0
GOMU				S	**Sn**	**13 11 05.4**	**0.0**
GOMU				pmax	pmax		
	comp=Z,12nm,0.8s						
GOMU				LR	LR		
	comp=Z,370nm,9.3s						
GOMU				LR	LR		
	comp=Z,440nm,9.4s						
GOMU				LR	LR		
	comp=Z,710nm,9.9s						
TIXI	**Tiksi**	**20.13**	**18**	P	**P**	**13 07 19.9**	**-0.8**
TIXI				IAmb	IAmb	13 07 30.7	
	comp=Z,36nm,0.9s						
TIXI	**Tiksi**	**20.13**	**18**	P	**P**	**13 07 19.5**	**-1.2**
	comp=Z,13nm,0.5s,baz=239,slow=5.2,SNR=32						
TIXI				Sn	**S**	**13 10 55.5**	**-11**
	comp=Z,0.5nm,0.3s,baz=252,slow=3.2,SNR=1.4						
TIXI				Lg	Lg	13 13 17.3	
	comp=Z,0.2nm,0.3s,baz=344,slow=23,SNR=3.8						
TIXI				LR	LR	13 15 38.3	
	comp=Z,409nm,18.6s,baz=200,slow=38						
	comp=Z,13nm,0.5s						
TIXI	**Tiksi**	**20.13**	**18**	⇓*e*P	**P**	**13 07 21.0**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,16nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,519nm,17.0s						
TYV	**Tymovskoe**	**20.78**	**84**	*e*P	Pn	13 07 34.3	+4.0
TYV				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,4.3s						
KSAR	**Wonju Array Be**	**20.84**	**133**	P	**P**	**13 07 27.7**	**-0.9**
KSAR	**Wonju Array Be**	**20.84**	**133**	P	**P**	**13 07 27.7**	**-0.9**
KSRS	**Korea Array**	**20.84**	**133**	P	Pn	13 07 30.8	-0.3
	comp=Z,3.2nm,0.8s,baz=328,slow=10,SNR=12						
KSRS				Lg	Lg	13 13 48.4	
	comp=Z,0.1nm,0.3s,baz=326,slow=28,SNR=4.1						
KSRS				LR	LR	13 17 11.2	
	comp=Z,65nm,18.4s,baz=355,slow=42						
	comp=Z,3.2nm,0.8s						
TJN	**Taejon**	**21.51**	**136**	⇑*e*P	**P**	**13 07 38.4**	**+2.5**
YSS	**Yuzhno-Sakhali**	**22.51**	**93**	P	**P**	**13 07 49.3**	**+2.8**
YSS	**Yuzhno-Sakhali**	**22.51**	**93**	*e*P	**P**	**13 07 49.9**	**+3.4**
YSS				*e*S	**S**	**13 11 57.9**	**+5.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=N,200

comp=N,670nm,9.0s
NJ2 LR LR
comp=N,310nm,8.5s
NJ2 LR LR
comp=N,840nm,9.0s
BVAR Borovoye Array 22.80 284 P **P** **13 07 49.2 -0.3**
comp=N,5.1nm,0.7s,baz=60,slow=8.8,SNR=14
BVAR S **S** **13 12 01.1 +2.9**
comp=N,6.4nm,0.9s,baz=59,slow=23,SNR=5.3
BVAR LR LR 13 17 14.9
comp=N,364nm,20.2s,baz=70,slow=38
comp=N,5.1nm,0.7s
BRVK Borovoye 22.86 284 P **P** **13 07 48.2 -1.9**
BRVK lAmb lAmb 13 08 07.6
comp=Z,21nm,0.7s
BRVK Borovoye 22.86 284⇓ *e*P **P** **13 07 48.2 -1.9**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK MLR MLR
comp=Z,409nm,17.0s
CD2 Chengdu 22.96 191 P **P** **13 07 53.0 +1.6**
CD2 pmax pmax
comp=Z,50nm,0.8s
WUS Wushi 23.38 250 P **P** **13 07 54.7 -1.0**
MA2 Magadan 23.53 58 P **P** **13 07 59.4 +2.4**
MA2 lAmb lAmb 13 08 07.4
comp=Z,13nm,1.1s
MA2 Magadan 23.53 58 P **P** **13 07 58.5 +1.6**
comp=Z,4.8nm,0.8s,baz=276,slow=10,SNR=5.2
MA2 Lg Lg 13 15 03.7
comp=Z,0.3nm,0.3s,baz=190,slow=19,SNR=3.5
MA2 LR LR 13 17 35.2
comp=Z,272nm,19.7s,baz=274,slow=38
comp=Z,4.8nm,0.8s
MA2 Magadan 23.53 58⇓ *e*P **P** **13 07 59.8 +2.9**
MA2 pmax pmax
comp=Z,15nm,1.7s
MA2 MLR MLR
comp=Z,386nm,15.0s
KDJ Kajisay 23.93 254 P **P** **13 07 58.7 -2.4**
KDJ Kajisay 23.93 254 P **P** **13 07 58.7 -2.4**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
SEY Seymchan 24.27 50 Lg Lg 13 15 30.1
baz=179,slow=19,SNR=6.1
SEY LR LR 13 18 04.9
comp=Z,494nm,19.9s,baz=332,slow=38
SEY Seymchan 24.27 50⇑ *e*P **P** **13 08 07.1 +3.2**
SEY pmax pmax
comp=Z,23nm,3.4s
SEY MLR MLR
comp=Z,403nm,19.0s
BOOM Boomskoye usch 24.42 256 P **P** **13 08 04.9 -0.7**
BOOM Boomskoye usch 24.42 256 P **P** **13 08 04.9 -0.7**
BOOM pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 25.17 258 P **P** **13 08 11.0 -1.4**
AAK Ala-Archa 25.17 258 P **P** **13 08 12.1 -0.2**
comp=Z,3.0nm,0.8s,baz=83,slow=5.4,SNR=8.0
AAK Lg Lg 13 16 03.9
comp=Z,0.1nm,0.3s,baz=241,slow=17,SNR=5.4
AAK LR LR 13 18 23.4
comp=Z,273nm,19.0s,baz=39,slow=37
comp=Z,3.0nm,0.8s
AAK Ala-Archa 25.17 258⇑ *e*P **P** **13 08 13.9 +1.5**
AAK pmax pmax
comp=Z,7.0nm,1.6s
AAK MLR MLR
comp=Z,272nm,17.0s
KSH Kashi 26.34 251 P **P** **13 08 28.7 +5.7**
KSH pmax pmax
comp=Z,6.0nm,1.5s
MJAR Matsushiro Arr 26.57 118 LR LR 13 19 34.8
comp=Z,278nm,18.2s,baz=350,slow=38
KKAR Karatay Array 27.23 263 P **P** **13 08 30.2 -0.7**
KKAR Karatay Array 27.23 263 P **P** **13 08 30.2 -0.7**
SVE Sverdlovsk 27.24 296 *e*P **P** **13 08 37.5 +6.7**
PZH PanZhiHua 27.56 194 P **P** **13 08 35.2 +1.2**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,110nm,4.4s
ARTI Arti 28.56 296 P **P** **13 08 44.7 +2.1**
comp=Z,1.7nm,0.7s,baz=90,slow=15,SNR=1.7
ARTI LR LR 13 21 55.7
comp=Z,420nm,18.4s,baz=74,slow=40
comp=Z,1.7nm,0.7s
ARTI Arti 28.56 296 P P 13 08 48.5 +5.9
ARTI 13 09 39.4
ARTI MLR MLR
comp=Z,355nm,14.0s
PETK Petropavlovsk- 28.72 71 P **P** **13 08 46.4 +2.4**
comp=Z,5.2nm,0.9s,baz=293,slow=6.3,SNR=5.7
PETK LR LR 13 21 33.1
comp=Z,161nm,18.2s,baz=275,slow=39
comp=Z,5.2nm,0.9s
KMI Kunming 28.79 192 ⇑P **P** **13 08 45.5 +0.4**
KMI pmax pmax
comp=Z,25nm,0.7s
KMI LR LR
comp=Z,160nm,9.6s
KMI LR LR
comp=Z,420nm,13.6s
KMI LR LR
comp=Z,370nm,18.1s
PET Petropavlovsk 29.29 71⇑ *e*P **P** **13 08 51.3 +2.3**
PET pmax pmax
comp=Z,66nm,2.5s
PET MLR MLR
comp=Z,184nm,16.0s
GAR Garm 29.93 257 P **P** **13 08 54.6 -0.5**
BILL Bilibino 30.16 39⇑ *e*P **P** **13 08 59.2 +2.5**
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,179nm,17.0s
ABKAR Akbulak array 30.31 282 P **P** **13 08 57.2 -0.9**
AKTO Aktyubinsk 30.90 285 LR LR 13 22 23.5
comp=Z,231nm,20.2s,baz=34,slow=38
SIMJ Simiganj 30.92 257 P **P** **13 09 03.3 -0.4**
SIMJ lAmb lAmb 13 09 05.7
comp=Z,10nm,0.9s
SLVN Son La 32.42 189 P **P** **13 09 16.9 -0.1**
SLVN lAmb lAmb 13 09 18.9
comp=Z,10nm,0.9s
KIRV Kirov 32.57 303 LR LR 13 23 13.3
comp=Z,109nm,18.8s,baz=69,slow=38
KIRV Kirov 32.57 303⇑ *e*P **P** **13 09 19.1 +1.2**
CHTO Chiang Mai 35.54 196 P **P** **13 09 43.7 -0.3**
CHTO lAmb lAmb 13 09 45.3
comp=Z,3.9nm,0.7s
CHTO Chiang Mai 35.54 196 P **P** **13 09 43.7 -0.3**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
BELG Belogornoye 35.87 294 LR LR 13 26 01.9
comp=Z,325nm,18.6s,baz=62,slow=39
CMAR Chiang Mai Arr 35.89 196 P **P** **13 09 46.7 -0.3**
CMAR Chiang Mai Arr 35.89 196 P **P** **13 09 47.6 +0.6**
comp=Z,2.2nm,0.7s,baz=359,slow=8.3,SNR=20
comp=Z,2.2nm,0.7s
CMAR Chiang Mai Arr 35.89 196 *ce*P **P** **13 09 47.7 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
JCJ Chichijima 36.12 124 LR LR 13 24 51.6
comp=Z,120nm,19.3s,baz=158,slow=37
KLMR Klimovskoe 36.57 310 *e*P **P** **13 09 50.9 -1.6**
KLMR pmax pmax
comp=Z,10.0nm,1.2s
SHEM Shemya Is, Ala 37.90 64 LR LR 13 25 52.6
comp=Z,160nm,20.4s,baz=332,slow=36
SPITS Spitsbergen Ar 38.72 341 P **P** **13 10 11.8 +1.3**
comp=Z,9.5nm,1.0s,baz=72,slow=14,SNR=1.3
SPITS LR LR 13 29 16.5
comp=Z,272nm,19.2s,baz=22,slow=41
comp=Z,9.5nm,1.0s
ARCES ARCESS Array B 39.12 326 P **P** **13 10 14.4 +0.5**
comp=Z,14nm,1.1s,baz=56,slow=7.6,SNR=3.6
ARCES LR LR 13 30 16.6
comp=Z,91nm,18.5s,baz=16,slow=42
comp=Z,14nm,1.1s
GAMB Gambell 39.85 43 P **P** **13 10 19.9 -0.1**
baz=294
OBN Obninsk 40.41 302 LR LR 13 27 31.7
comp=Z,76nm,20.2s,baz=356,slow=37
C16K Lisburne Hills 40.42 35 P **P** **13 10 23.4 -1.3**
baz=294
TNA Tin City 40.60 39 P **P** **13 10 26.0 -0.2**
baz=295
MAK Makhachkala 40.97 281 *e*P P 13 10 24.2 -5.3
MAK *e*S **S** **13 16 33.9 -7.1**
MAK MLR MLR
comp=Z,261nm,16.0s
A19K Wainwright 41.02 31 P **P** **13 10 29.6 -0.1**
baz=295
C17K DeLong Mountai 41.07 34 P **P** **13 10 30.3 +0.1**
baz=295
B18K Kokolik River 41.15 33 P **P** **13 10 30.4 -0.3**
baz=295,SNR=7.2
F14K Arctic Creek 41.24 39 P **P** **13 10 31.0 -0.5**
baz=296
RDOG Red Dog Mine 41.34 35 P **P** **13 10 32.4 0.0**
baz=296
D17K Noatak River 41.44 35 P **P** **13 10 32.2 -0.9**
baz=296
C18K Utukok River 41.66 33 P **P** **13 10 34.9 -0.1**
baz=296
F15K North Star Dit 41.76 38 P **P** **13 10 36.0 +0.1**
baz=297
A21K Barrow 41.86 29 P **P** **13 10 36.6 +0.1**
baz=297
ANM Nome 42.01 40 P **P** **13 10 37.9 +0.1**
baz=297
E17K Hotham Inlet 42.15 36 P **P** **13 10 39.1 +0.1**
baz=298
FINES FINESS Array B 42.26 315 P **P** **13 10 40.5 +0.7**
FINES FINESS Array B 42.26 315 P **P** **13 10 41.1 +1.3**
comp=Z,2.2nm,0.8s,baz=69,slow=10,SNR=5.6
FINES LR LR 13 30 00.6
comp=Z,405nm,18.2s,baz=47,slow=39
comp=Z,2.2nm,0.8s
B20K Meade River 42.31 31 P **P** **13 10 40.8 +0.6**
baz=298
G15K Niukluk 42.32 39 P **P** **13 10 41.0 +0.7**
baz=298
E18K Tukpahlearik C 42.41 35 P **P** **13 10 40.5 -0.6**
baz=298
A22K Sinclair Lake 42.48 29 P **P** **13 10 40.9 -0.7**
baz=299
F17K Baldwin Pennin 42.65 36 P **P** **13 10 43.0 0.0**
baz=298
D19K Kuna River 42.73 33 P **P** **13 10 43.5 -0.2**
baz=299
G16K Koyuk River 42.76 38 P **P** **13 10 43.8 -0.1**
baz=299
D20K Etivluk River 43.10 32 P **P** **13 10 46.3 -0.4**
baz=300
F18K Selawik 43.14 36 P **P** **13 10 46.9 0.0**
baz=300
H16K Elim 43.17 39 P **P** **13 10 47.1 -0.1**
baz=300
KIV Kislovodsk 43.17 285 *e*P **P** **13 10 46.7 -0.9**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,92nm,16.0s
KBZ Khabaz 43.18 285 LR LR 13 29 38.3
comp=Z,89nm,18.6s,baz=80,slow=37
B22K Teshekpuk Lake 43.26 29 P **P** **13 10 48.3 +0.4**
baz=301
B21K Ikpikpuk River 43.27 31 P **P** **13 10 47.8 -0.2**
baz=300
G17K Kiwalik Mounta 43.33 37 P **P** **13 10 48.4 -0.1**
baz=300
C21K Knifeblade Rid 43.45 31 P **P** **13 10 50.0 +0.5**
baz=301,SNR=7.2
E20K Nigu River 43.47 33 P **P** **13 10 49.1 -0.6**
baz=300
E19K Redstone River 43.53 34 P **P** **13 10 52.1 +1.9**
E19K Redstone River 43.53 34 P **P** **13 10 50.2 0.0**
baz=300,SNR=9.5
SPIA Saint Paul Isl 43.56 51 P **P** **13 10 50.3 -0.2**
baz=301
K13K Kusilvak Mount 43.57 43 P **P** **13 10 51.3 +0.8**
baz=300
J14K Nanvaranak Lak 43.60 42 P **P** **13 10 51.1 +0.4**
baz=300
F19K Shaleruckik Mo 43.67 35 P **P** **13 10 51.9 +0.7**
baz=301,SNR=7.6
G18K Tagagawik 43.84 36 P **P** **13 10 53.3 +0.6**
baz=301
H17K Grante Mounta 43.88 38 P **P** **13 10 52.6 -0.3**
baz=301
E21K Killik River 44.08 32 P **P** **13 10 53.8 -0.7**
baz=302
I17K Unalakleet 44.13 39 P **P** **13 10 54.6 -0.3**
baz=301
P08K Saint George I 44.20 52 P **P** **13 10 55.2 -0.3**
baz=302
D22K Ayikyak River 44.24 31 P **P** **13 10 56.9 +1.0**
D22K lAmb lAmb 13 11 04.3
comp=Z,5.9nm,0.9s
D22K Ayikyak River 44.24 31 P **P** **13 10 56.7 +0.8**
baz=302
F20K Avaraart Lake 44.25 34 P **P** **13 10 56.7 +0.9**
baz=302
G19K Purcell Mounta 44.26 36 P **P** **13 10 56.1 0.0**
baz=302
H18K Honhosa River 44.33 37 P **P** **13 10 56.5 -0.1**
baz=302
GNI Garni 44.34 279 LR LR 13 29 40.2
comp=Z,57nm,19.7s,baz=64,slow=36
C23K Itkillik River 44.34 29 P **P** **13 10 56.5 -0.1**
baz=303
J16K Anvik River 44.48 40 P **P** **13 10 57.8 0.0**
baz=302
K15K Wolf Creek Mou 44.64 42 P **P** **13 10 58.7 -0.4**
baz=302
L14K Kuka Creek 44.68 43 P **P** **13 10 59.0 -0.4**
baz=302
D23K Nanushuk River 44.80 30 P **P** **13 10 60.0 -0.4**
baz=304
H19K Roundabout Mou 44.81 36 P **P** **13 11 00.4 +0.1**
baz=303
F21K Alatna River 44.89 33 P **P** **13 11 00.1 -0.9**
baz=303
M13K Dall Lake 44.90 45 P **P** **13 11 01.7 +0.5**
baz=303
E22K Anaktuvuk Pass 44.92 32 P **P** **13 11 01.0 -0.3**
baz=304,SNR=6.5
C24K Franklin Bluff 44.96 29 P **P** **13 11 01.1 -0.5**
baz=305
L15K Ungalak Mounta 44.99 42 P **P** **13 11 01.3 -0.6**
baz=303
J17K VABM Dome 45.00 40 P **P** **13 11 01.3 -0.6**
baz=303
MNK Minsk 45.03 305 *i* P **P** **13 11 02.0 -0.2**
comp=E,11nm,0.6s
MNK *i* P **P** **13 11 02.0 -0.2**
comp=N,15nm,0.8s
MNK *i* P **P** **13 11 02.0 -0.2**
comp=Z,10.0nm,0.8s,baz=56
MNK *i* PP **PP** **13 12 47.4 +0.2**
MNK *i* PPP PPP 13 13 25.4
MNK *i* S **S** **13 17 41.7 +1.4**
MNK *i* SS **SS** **13 21 05.2 +3.5**
MNK *i* SSS SSS 13 21 49.6
MNK *i* LQ LQ 13 26 37.6
MNK *i* LR LR 13 30 17.6
MNK *i* LRM MLR 13 31 51.5
comp=E,188nm,19.5s
MNK *i* LRM MLR 13 31 53.5
comp=Z,208nm,15.8s
MNK *i* LRM MLR 13 32 01.2
comp=N,95nm,13.7s
MNK Minsk 45.03 305 *i* P **P** **13 11 02.0 -0.2**
MNK *i* 13 12 47.4
MNK *i* PPP PPP 13 13 25.3
MNK *i* S **S** **13 17 41.7 +1.4**
MNK *i* 13 20 59.3
MNK *i* SSS SSS 13 21 49.6
MNK pmax pmax
comp=E,11nm,0.6s
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=E,188nm,20.0s
MNK MLR MLR
comp=Z,208nm,16.0s
MNK MLR MLR
comp=N,95nm,14.0s
GCSA Galena City Sc 45.08 37 P **P** **13 11 02.3 -0.3**
baz=303
F22K John River 45.16 32 P **P** **13 11 02.5 -0.6**
baz=304
D24K Happy Valley 45.25 29 P **P** **13 11 03.3 -0.6**
baz=305
G21K Allakaket 45.28 34 P **P** **13 11 03.4 -0.7**
baz=304
M14K Bethel 45.30 44 P **P** **13 11 04.4 +0.1**
baz=303
TOLK Toolik Lake Re 45.32 30 P **P** **13 11 05.3 +0.8**
TOLK lAmb lAmb 13 11 13.1
comp=Z,9.3nm,0.9s
TOLK Toolik Lake Re 45.32 30 P **P** **13 11 04.3 -0.2**
baz=305
NACGM Naroch 45.34 306 *e*P **P** **13 11 06.5 +1.8**
baz=56
H20K Anotleneega Mo 45.38 36 P **P** **13 11 04.6 -0.4**
baz=304
E23K Chandalar 45.64 31 P **P** **13 11 07.0 -0.2**
baz=305
K17K Iditarod 45.67 40 P **P** **13 11 07.5 +0.3**
baz=304
L16K Owhat River 45.77 42 P **P** **13 11 08.2 +0.1**
baz=304
M15K Kasigluk River 45.85 43 P **P** **13 11 08.7 0.0**
baz=304
J18K Innoko River 45.85 39 P **P** **13 11 08.4 -0.3**
baz=304
D25K Kavik River 45.86 29 P **P** **13 11 09.1 +0.4**
baz=307
N14K Kuskokwak Cree 45.87 45 P **P** **13 11 08.7 -0.1**
baz=304
I20K Naaghedeneel 45.91 36 P **P** **13 11 08.3 -0.7**
baz=305
C26K Camden Bay 45.91 27 P **P** **13 11 09.1 +0.1**
baz=307
COLD Coldfoot 45.95 32 lAmb lAmb 13 11 18.2
comp=Z,12nm,1.2s
COLD Coldfoot 45.95 32 P **P** **13 11 09.0 -0.4**
baz=306,SNR=5.3
J19K Poorman 45.96 38 P **P** **13 11 09.2 -0.3**
baz=304
E24K Your Creek 45.98 31 P **P** **13 11 09.2 -0.5**
baz=306
H21K Melozitna Rive 46.00 35 P **P** **13 11 09.7 -0.2**
baz=305
L17K Donlin 46.00 41 P **P** **13 11 10.1 +0.3**
baz=304
G23K Bananza Creek 46.30 33 P **P** **13 11 12.7 +0.4**
baz=306
H22K Ishtalitna Cre 46.34 34 P **P** **13 11 12.8 +0.3**
baz=306
J20K Nowinta River 46.38 37 P **P** **13 11 12.4 -0.5**
baz=305
N15K Kwethluk River 46.39 44 P **P** **13 11 12.4 -0.6**
baz=305
TTA Tatalina 46.42 39 P **P** **13 11 12.9 -0.3**
baz=305
C27K Jago River 46.42 27 P **P** **13 11 12.5 -0.6**
baz=308
O14K Tigyukauivet M 46.42 45 P **P** **13 11 13.2 0.0**
baz=305
F24K Squaw Lake 46.49 31 P **P** **13 11 13.4 -0.3**
baz=307
AKASG Malin Array Be 46.53 300 LR LR 13 32 32.0
comp=Z,395nm,18.1s,baz=57,slow=38
I21K Tanana 46.56 35 P **P** **13 11 13.4 -0.8**
baz=306
L18K Granite Mounta 46.57 40 P **P** **13 11 14.0 -0.3**
baz=305
M17K Holitna River 46.75 41 P **P** **13 11 15.7 -0.1**
baz=305
N16K Nishlik Lake 46.76 43 P **P** **13 11 15.5 -0.3**
baz=305
E25K Arctic Village 46.83 30 lAmb lAmb 13 11 24.9
comp=Z,9.4nm,1.1s
E25K Arctic Village 46.83 30 P **P** **13 11 16.3 0.0**
baz=308,SNR=5.4
K20K Telida 46.89 38 P **P** **13 11 17.1 +0.2**
baz=306
O15K Ungalikthiuk R 47.08 45 P **P** **13 11 18.2 -0.2**
baz=306
G24K Hadweenzic Riv 47.12 32 P **P** **13 11 18.5 -0.1**
baz=306
F25K Christian Rive 47.13 30 P **P** **13 11 17.4 -1.3**
baz=308
UNV Unalaska Valle 47.19 54 P **P** **13 11 19.1 -0.1**
baz=306
CHUM Lake Minchumin 47.21 37 P **P** **13 11 18.7 -0.6**
baz=307,SNR=5.3
L19K White Mountain 47.29 39 P **P** **13 11 19.8 -0.3**
baz=306
M18K Stony River 47.33 41 P **P** **13 11 20.1 -0.2**
baz=306
N17K Nushagak Hills 47.36 42 P **P** **13 11 20.2 -0.4**
baz=306
D27M Malcolm River 47.41 27 P **P** **13 11 20.6 -0.3**
baz=311
I23K Minto, Yukon-K 47.46 34 P **P** **13 11 21.0 -0.3**
baz=308,SNR=6.6
L20K Farewell, AK 47.48 39 P **P** **13 11 21.3 -0.2**
baz=307
G25K Bearman Lake 47.51 31 P **P** **13 11 20.6 -1.0**
baz=309
F26K Sheenjek River 47.51 30 lAmb lAmb 13 11 30.3
comp=Z,9.8nm,1.1s
F26K Sheenjek River 47.51 30 P **P** **13 11 21.8 +0.1**
baz=310
H24K Noodor Dome 47.53 33 P **P** **13 11 21.1 -0.7**
baz=308
BPAW Bear Paw Mtn. 47.55 36 P **P** **13 11 21.7 -0.3**
baz=307
O16K Kokwok River B 47.55 44 P **P** **13 11 21.0 -1.0**
baz=306
CAST Castle Rocks 47.57 37 P **P** **13 11 21.9 -0.3**
baz=307,SNR=5.9
M19K Big River Lodg 47.63 40 P **P** **13 11 22.0 -0.7**
baz=307
N18K Kilae Creek 47.79 41 P **P** **13 11 23.2 -0.7**
baz=307
O17K Koliganek Bris 47.85 43 P **P** **13 11 23.9 -0.4**
baz=307
PPLA Purkeypile 47.85 38 P **P** **13 11 26.8 +2.2**
PPLA lAmb lAmb 13 11 47.5
comp=Z,7.5nm,1.0s
PPLA Purkeypile 47.85 38 P **P** **13 11 23.3 -1.2**
baz=308
NEA2 Nenana 47.90 35 P **P** **13 11 24.8 0.0**
baz=308
H25L Birch Creek 47.91 32 P **P** **13 11 25.0 +0.3**
baz=309,SNR=6.5
P16K Nushagak River 47.93 44 P **P** **13 11 24.8 -0.1**
baz=307
E27K Coleen River 47.93 28 P **P** **13 11 24.4 -0.6**
baz=311
D28M Stokes Point 47.95 26 P **P** **13 11 25.0 0.0**
baz=312
JMIC Jan Mayen 48.03 337 LR LR 13 35 47.7
comp=Z,82nm,18.1s,baz=344,slow=41
FALS False Pass 48.04 51 P **P** **13 11 26.1 +0.3**
baz=307
HFS Hagfors 48.07 318 P **P** **13 11 27.0 +1.0**
comp=Z,1.1nm,0.5s,baz=81,slow=9.2,SNR=8.1
HFS LR LR 13 33 20.0
comp=Z,170nm,18.5s,baz=34,slow=38
comp=Z,1.1nm,0.5s
G26K Porcupine Rive 48.10 30 P **P** **13 11 26.2 0.0**
baz=310
M20K Styx River 48.12 39 P **P** **13 11 26.5 0.0**
baz=308
POKR Poker Plat Res 48.12 34 P **P** **13 11 25.3 -1.1**
baz=309
COLA College 48.14 34⇑ *e*P **P** **13 11 28.4 +1.9**
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA MLR MLR
comp=Z,133nm,18.0s
COLA College 48.14 34 P **P** **13 11 25.6 -0.9**
baz=309
S12K Black Hills 48.16 49 P **P** **13 11 26.7 0.0**
baz=307
TRF Thorofare Moun 48.19 36 P **P** **13 11 26.9 -0.3**
baz=308
E28M Babbage River 48.23 27 P **P** **13 11 27.2 +0.1**
baz=312
N19K Bonanza Creek 48.26 41 P **P** **13 11 27.6 0.0**
baz=308
P17K Kvichak River 48.47 43 P **P** **13 11 29.2 +0.2**
baz=308

PRP	Porcupine Dome baz=310,SNR=8.0	48.48	32	P	P	13 11 29.5 +0.2
NOA	NORSAR Array B comp=Z,0.5nm,0.6s,baz=82,slow=6.0,SNR=2.3	48.49	320	P	P	13 11 30.7 +1.4
NOA				LR	LR	13 33 39.6
	comp=Z,156nm,18.6s,baz=50,slow=38 comp=Z,0.5nm,0.6s					
MCK	McKinley baz=309	48.49	36	P	P	13 11 29.7 +0.5
ILAR	Eielson Array	48.52	34	P	P	13 11 30.8 +1.3
ILAR	Eielson Array comp=Z,3.0nm,0.9s,baz=307,slow=7.1,SNR=25 comp=Z,3.0nm,0.9s	48.52	34	P	P	13 11 31.1 +1.7
O18K	Koktuh Hills baz=308	48.56	42	P	P	13 11 30.2 +0.3
SKT	Skwentna baz=309	48.66	38	P	P	13 11 30.7 +0.1
Q16K	King Salmon baz=308	48.69	44	P	P	13 11 30.5 -0.3
O19K	Port Alsworth baz=308	48.70	41	P	P	13 11 30.2 -0.7
HDA	Harding Lake baz=310,SNR=5.5	48.73	34	P	P	13 11 31.0 -0.1
E29M	Blow River baz=313	48.82	27	P	P	13 11 31.8 +0.1
G27K	Doyon Strip baz=312	48.83	30	P	P	13 11 31.3 -0.5
P18K	Big Mountain, baz=308	48.84	43	P	P	13 11 32.0 0.0
CUT	Chulitna baz=309	48.85	37	P	P	13 11 31.9 -0.1
N20K	Mount Spurr baz=309	48.89	39	P	P	13 11 32.5 +0.1
SPCR	Spurr Chakacha baz=309	48.89	39	P	P	13 11 32.8 +0.4
S14K	Fog Glacier baz=308	48.92	48	P	P	13 11 32.3 -0.5
R16K	Pilot Point baz=308	48.99	45	P	P	13 11 33.2 +0.1
SDPT	Sand Point baz=308	49.09	49	P	P	13 11 34.3 +0.5
J25K	Salcha River, baz=311	49.12	33	P	P	13 11 34.1 -0.1
A36M	Sachs Harbour baz=320	49.14	19	P	P	13 11 33.9 -0.2
H27K	Steamboat Moun baz=312	49.26	30	P	P	13 11 35.7 +0.6
M22K	Willow baz=310	49.32	38	P	P	13 11 35.5 -0.1
I26K	Coal Creek Min baz=312,SNR=5.6	49.38	32	P	P	13 11 35.8 -0.2
Q18K	Katmai Hardscr baz=309	49.39	43	P	P	13 11 36.0 -0.4
CHGN	Chignik baz=308	49.41	47	P	P	13 11 35.8 -0.6
O20K	Slope Mountain baz=309	49.44	41	P	P	13 11 35.5 -1.1
P19K	Oil Pt baz=309	49.47	41	P	P	13 11 35.3 -1.5
K24K	Donnelly Dome baz=311	49.52	34	P	P	13 11 35.5 -1.6
CAPN	Captain Cook N baz=310	49.56	39	P	P	13 11 35.8 -1.6
I27K	Kandik River baz=313,SNR=7.0	49.65	31	P	P	13 11 37.1 -1.1
Q19K	Cape Douglas, baz=309	49.76	42	P	P	13 11 38.7 -0.4
J26L	Joseph Creek baz=312	49.78	33	P	P	13 11 38.7 -0.6
PMR	Palmer baz=310	49.79	38	P	P	13 11 38.8 -0.4
CHNA	Chernabura Isl baz=309	49.81	49	P	P	13 11 40.0 +0.6
G29M	Pine Creek baz=314	49.81	28	P	P	13 11 38.9 -0.4
RIDG	Independent Ri comp=Z,6.8nm,0.8s	49.87	34	IAmb	IAmb	13 11 47.1
RIDG	Independent Ri baz=312	49.87	34	P	P	13 11 40.2 +0.3
RC01	Rabbit Creek A baz=310	49.89	39	P	P	13 11 40.4 +0.4
F30M	Barrier River baz=315	49.93	27	P	P	13 11 40.2 -0.1
SML	Sawmill baz=311	49.94	37	P	P	13 11 40.5 +0.1
SCRK	Sand Creek baz=312	50.00	33	P	P	13 11 41.1 +0.2
INK	Inuvik baz=317	50.03	25	P	P	13 11 40.9 +0.1
KNK	Knik Glacier baz=311	50.15	38	P	P	13 11 42.3 +0.3
M23K	Glacier View baz=311	50.16	37	P	P	13 11 42.1 0.0
PAX	Paxson comp=Z,6.9nm,0.8s	50.17	35	IAmb	IAmb	13 11 50.3
PAX	Paxson baz=312	50.17	35	P	P	13 11 42.5 +0.2
H29M	Whitestone baz=314	50.20	29	P	P	13 11 42.6 +0.4
G30M	tAoh Zraii Nji baz=316	50.26	28	P	P	13 11 42.8 0.0
I28M	Miner Creek baz=314	50.27	30	P	P	13 11 42.4 -0.5
SCM	Sheep Creek Mo baz=311	50.28	37	P	P	13 11 42.2 -0.9
R18K	Karluk baz=310	50.30	44	P	P	13 11 42.1 -1.0
BRSE	Bradley Lake S baz=311	50.38	40	P	P	13 11 42.4 -1.4
Q20K	Shuyak Island baz=310	50.47	42	P	P	13 11 43.5 -0.9
M24K	Tolsona, Glenn baz=312	50.51	36	P	P	13 11 44.3 -0.4
PWL	Port Wells baz=311	50.56	38	P	P	13 11 43.6 -1.4
K27K	Chicken baz=313	50.58	33	P	P	13 11 44.7 -0.5
F31M	Tsiigehtchic baz=317	50.60	26	P	P	13 11 44.5 -0.7
SEW	Seward baz=311	50.64	39	P	P	13 11 45.7 +0.1
HARP	HAARP baz=312	50.66	35	P	P	13 11 46.3 +0.4
I29M	Ogilvie Camp, baz=315	50.82	30	P	P	13 11 46.7 -0.3
G31M	Satah River baz=317	50.84	27	P	P	13 11 46.9 -0.2
L26K	Log Cabin Wild baz=313	50.85	34	P	P	13 11 46.4 -0.9
CHIR	Chirikof Islan baz=310	50.93	46	P	P	13 11 48.1 +0.3
KDAK	Kodiak Island comp=Z,2.0nm,0.7s,baz=198,slow=6.4,SNR=7.2	50.93	43	P	P	13 11 49.1 +1.3
KDAK				LR	LR	13 35 28.8
	comp=Z,201nm,19.8s,baz=151,slow=38 comp=Z,2.0nm,0.7s					
KDAK	Kodiak Island baz=311	50.93	43	P	P	13 11 47.4 -0.5
GLI	Glacier Island baz=312	51.00	38	P	P	13 11 48.5 +0.1
OHAK	Old Harbor baz=312	51.01	44	P	P	13 11 49.5 +1.1
OHAK				IAmb	IAmb	13 11 56.8
	comp=Z,10nm,0.8s					
OHAK	Old Harbor baz=311	51.01	44	P	P	13 11 47.8 -0.7
KLU	Klutina comp=Z,8.8nm,1.0s	51.01	37	IAmb	IAmb	13 11 57.5
KLU	Klutina baz=312	51.01	37	P	P	13 11 48.3 -0.2
RES	Resolute Bay comp=Z,74nm,18.3s,baz=354,slow=38	51.03	8	LR	LR	13 34 50.5
BR131	Keskin Array S	51.06 287		*e*P	P	13 11 50.3 +1.0
BRTR	Keskin Array B comp=Z,0.9nm,0.8s,baz=60,slow=7.3,SNR=4.5 comp=Z,0.9nm,0.8s	51.06 287		P	P	13 11 50.9 +1.6
SII	Sitkinak Islan baz=311	51.06	45	P	P	13 11 47.4 -1.5
L27K	Beaver Creek, comp=Z,7.9nm,0.9s	51.33	33	IAmb	IAmb	13 11 59.8
L27K	Beaver Creek, baz=314	51.33	33	P	P	13 11 50.3 -0.5
BCAR	Beaver Creek A	51.34	33	P	P	13 11 52.4 +1.4
N25K	Chitina, Valde baz=313,SNR=7.6	51.40	36	P	P	13 11 51.8 +0.3
M26K	Nabesna, AK baz=314	51.40	34	P	P	13 11 50.2 -1.2
DAWY	Dawson comp=Z,4.7nm,1.0s	51.41	31	IAmb	IAmb	13 11 59.8
DAWY	Dawson baz=315	51.41	31	P	P	13 11 50.4 -1.0
C36M	Paulatuk comp=Z,4.8nm,0.7s	51.46	21	IAmb	IAmb	13 11 59.1
C36M	Paulatuk baz=323	51.46	21	P	P	13 11 51.0 -0.6
P23K	Montague Islan baz=312	51.48	39	P	P	13 11 50.7 -1.2
I30M	Mount Dempster baz=316	51.49	29	P	P	13 11 51.8 -0.4
PALK	Pallekele comp=Z,64nm,18.7s,baz=66,slow=40	51.50 217		LR	LR	13 36 36.6
MLR	Muntele Rosu comp=Z,203nm,19.0s,baz=50,slow=39	51.50 297		LR	LR	13 35 58.4
H31M	Peel River baz=317	51.64	28	P	P	13 11 52.8 -0.4
EYAK	Cordova Ski Ar baz=313	51.71	37	P	P	13 11 52.8 -0.9
M27K	Edge Creek, AK baz=314	51.81	34	P	P	13 11 53.6 -1.0
BMRM	Bremner River baz=314	51.83	36	P	P	13 11 53.6 -1.1
J30M	Hart River baz=317	51.97	30	P	P	13 11 54.2 -1.5
K29M	Barlow Dome baz=316	52.14	31	P	P	13 11 56.4 -0.7
Q23K	Middleton Isla baz=313	52.26	39	P	P	13 11 57.4 -0.4
L29M	L29M baz=316	52.49	32	P	P	13 11 59.6 +0.1
KAIM	Kayak Island baz=314	52.62	37	P	P	13 12 00.4 -0.1
M29M	Somme Creek baz=316	52.86	33	P	P	13 12 00.8 -1.6
YUK8	Steele Glacier baz=316	53.28	34	P	P	13 12 04.2 -1.4
M30M	Minto, Yukon baz=318	53.30	32	P	P	13 12 04.5 -0.9
MESA	MESA baz=316	53.32	36	P	P	13 12 05.4 -0.5
O28M	Mount Upton baz=316	53.51	35	P	P	13 12 06.1 -1.2
YUK4	Talbot Arm baz=317	53.61	34	P	P	13 12 06.8 -1.1
VRAC	Vranoy comp=Z,177nm,20.0s,baz=50,slow=39	53.73 306		LR	LR	13 37 31.4
YUK6	Outpost Mounta baz=317	53.99	34	P	P	13 12 09.2 -1.6
N30M	Aishikik Lake comp=Z,9.2nm,1.1s	54.03	33	IAmb	IAmb	13 12 21.0
N30M	Aishikik Lake baz=318	54.03	33	P	P	13 12 09.9 -1.0
M31M	Drury Creek, Y comp=Z,10nm,1.1s	54.32	31	IAmb	IAmb	13 12 21.7
M31M	Drury Creek, Y baz=319,SNR=6.0	54.32	31	P	P	13 12 11.9 -1.1
HYT	Haines Junctio baz=318	54.37	34	P	P	13 12 12.4 -1.0
O29M	Mount Kennedy baz=318	54.40	34	P	P	13 12 12.4 -1.3
N31M	Braeburn, Yuko baz=319,SNR=5.6	54.43	32	P	P	13 12 13.8 0.0
FARO	Faro, Yukon baz=320	54.62	31	P	P	13 12 14.1 -1.1
MMAI	Mount Meron Ar comp=Z,96nm,18.1s,baz=26,slow=39	54.68 279		LR	LR	13 38 36.0
O30N	Mendenhall baz=319,SNR=5.4	54.87	33	P	P	13 12 16.6 -0.4
P30M	Million Dollar baz=319	55.07	34	P	P	13 12 18.4 -0.1
WHY	Whitehorse baz=320	55.34	32	P	P	13 12 19.8 -0.7
N32M	Quiet Lake baz=320	55.53	31	P	P	13 12 21.3 -0.4
RAYN	Ar Rayn	55.66 263		P	P	13 12 22.0 -1.1
RAYN				IAmb	IAmb	13 12 24.1
	comp=Z,7.7nm,0.9s					
RAYN	Ar Rayn	55.66 263		P	P	13 12 22.0 -1.1
RAYN				pmax	pmax	
	comp=Z,8.0nm,0.9s					
BORG	Borgarnes comp=Z,103nm,18.4s,baz=359,slow=38	55.93 337		LR	LR	13 38 29.2
SKAG	Skagway baz=320	56.11	34	P	P	13 12 24.9 -1.0
P33M	Teslin, Yukon baz=321,SNR=6.5	56.34	32	P	P	13 12 26.2 -1.4
P32M	Atlin baz=321	56.54	33	P	P	13 12 28.1 -0.9
TGTN	Hyland Airport baz=323	56.67	29	P	P	13 12 28.7 -1.2
R31K	City Hall, Gus baz=320	56.78	35	P	P	13 12 29.7 -0.8
S31K	Pelican baz=320	56.96	35	P	P	13 12 30.4 -1.4
R32K	Eaglecrest baz=321	57.30	34	P	P	13 12 33.3 -1.0
Q32M	Nakina River baz=322	57.50	33	P	P	13 12 34.3 -1.6
R33M	Jennings River baz=322	57.56	32	P	P	13 12 34.8 -1.6
S32K	Killisnoo baz=321	57.90	35	P	P	13 12 36.4 -2.1
EKA	Eskdalemuir Ar comp=Z,1.5nm,0.7s,baz=28,slow=7.6,SNR=2.5 comp=Z,1.5nm,0.7s	57.91 321		P	P	13 12 39.3 +0.7
SIT	Sitka baz=321	57.97	35	P	P	13 12 37.5 -1.5
DLBC	Dease Lake comp=Z,121nm,19.7s,baz=154,slow=40	58.62	32	LR	LR	13 41 40.4
DLBC	Dease Lake baz=323	58.62	32	P	P	13 12 42.0 -1.7
S34M	Telegraph Cree baz=323	58.69	33	P	P	13 12 42.2 -1.9
DAVOX	Davos/Dischmat comp=Z,266nm,19.8s,baz=92,slow=39	58.71 307		LR	LR	13 40 47.1
KOTAN	Kotaneelee Air baz=326	59.01	28	P	P	13 12 44.3 -1.9
YKA	Yellowknife Ar comp=Z,1.0nm,0.8s,baz=329,slow=6.3,SNR=7.7 comp=Z,1.0nm,0.8s	59.33	22	P	P	13 12 48.3 -0.2
YKA	Yellowknife Ar	59.33	22	*i* P	P	13 12 48.0 -0.4
YKA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
U33K	Whale Pass baz=322	59.47	35	P	P	13 12 48.1 -1.3
WRAK	Wrangell Islan baz=323	59.48	34	P	P	13 12 48.1 -1.4
T35M	Bob Quinn baz=324	59.73	33	P	P	13 12 50.0 -1.3
TOAD	Toad River Com baz=326	59.74	29	P	P	13 12 50.3 -1.1
CRAG	Craig baz=323	59.98	35	P	P	13 12 51.0 -2.0
LEM	Lembang comp=Z,134nm,18.4s,baz=328,slow=40	60.19 181		LR	LR	13 42 40.6
V35K	Ketchikan baz=324	60.61	35	P	P	13 12 54.8 -2.4
U35K	Hyder baz=324	60.66	34	P	P	13 12 55.5 -2.1
BBB	Bella Bella comp=Z,88nm,18.6s,baz=272,slow=38	64.38	35	LR	LR	13 43 45.9
ESDC	Sonseca Array comp=Z,1.1nm,0.8s,baz=23,slow=8.0,SNR=4.3	70.60 311		P	P	13 14 02.6 +0.4
ESDC				LR	LR	13 49 11.9
	comp=Z,200nm,18.9s,baz=78,slow=40 comp=Z,1.1nm,0.8s					
NEW	Newport comp=Z,64nm,18.2s,baz=328,slow=41	71.32	30	LR	LR	13 51 14.9
MXC	Moxie City comp=Z,3.8nm,0.9s	71.81	33	IAmb	IAmb	13 14 12.0
SCHQ	Schefferville comp=Z,2.3nm,0.6s,baz=355,slow=4.1,SNR=2.3 comp=Z,2.3nm,0.6s	71.89 357		P	P	13 14 09.8 +0.1
MSO	Missoula	73.55	29	P	P	13 14 20.0 +0.2
MSO				IAmb	IAmb	13 14 33.4
	comp=Z,6.7nm,1.1s					
I07A	Izee comp=Z,4.5nm,1.1s	74.28	34	IAmb	IAmb	13 14 34.8
BMO	Blue Mountains	74.31	32	P	P	13 14 25.5 +1.2
BMO				IAmb	IAmb	13 14 34.1
	comp=Z,5.7nm,1.0s					
BMO	Blue Mountains	74.31	32	P	P	13 14 25.5 +1.2
BMO				pmax	pmax	
	comp=Z,6.0nm,1.0s					
ULM	Lac du Bonnet comp=Z,67nm,18.3s,baz=344,slow=38	74.47	16	LR	LR	13 50 05.0
J08A	Circle Bar Ran comp=Z,4.6nm,0.9s	75.26	34	IAmb	IAmb	13 14 32.9
DLMT	Dillon comp=Z,5.3nm,1.1s	75.27	29	IAmb	IAmb	13 14 32.4
WVOR	Wild Horse Val comp=Z,5.2nm,1.1s	76.03	34	IAmb	IAmb	13 14 44.3
WB0	Warramunga Arr	76.31 155		P	P	13 14 35.4 -0.4
WRAB	Tennant Creek	76.45 155		P	P	13 14 36.4 -0.2
WRAB	Tennant Creek	76.45 155		P	P	13 14 36.4 -0.2
WRAB				pmax	pmax	
	comp=Z,15nm,0.9s					
WRA	Warramunga Arr comp=Z,11nm,0.8s,baz=347,slow=6.1,SNR=72	76.46 155		P	P	13 14 37.0 +0.3
WRA	Warramunga Arr	76.46 155	*i* P	P	P	13 14 36.9 +0.3
WRA				pmax	pmax	
	comp=Z,11nm,0.8s					
WB2	Warramunga Arr	76.47 155		P	P	13 14 36.6 0.0
MOOW	Moose Ponds comp=Z,3.8nm,1.1s	77.28	28	IAmb	IAmb	13 14 59.0
FXWY	Fox Creek comp=Z,5.7nm,1.1s	77.30	28	IAmb	IAmb	13 14 44.5
TPAW	Teton Pass comp=Z,6.8nm,1.1s	77.46	29	IAmb	IAmb	13 14 52.4
PDAR	Pinedale Array comp=Z,0.3nm,0.5s,baz=38,slow=2.8,SNR=5.5 comp=Z,0.3nm,0.5s	78.52	28	P	P	13 14 48.7 +0.4
ELK	Elko	78.67	33	P	P	13 14 51.4 +2.2
ELK	Elko comp=Z,78nm,18.9s,baz=338,slow=37	78.67	33	LR	LR	13 51 08.3
ELK	Elko	78.67	33	P	P	13 14 51.4 +2.2
ELK				pmax	pmax	
	comp=Z,2.0nm,0.9s					
HWUT	Hardware Ranch comp=Z,5.7nm,0.9s	79.01	30	IAmb	IAmb	13 15 00.2
NVAR	Mina Array Bea comp=Z,1.0nm,0.8s,baz=326,slow=4.1,SNR=11 comp=Z,1.0nm,0.8s	79.72	36	P	P	13 14 56.5 +1.5
AS31	Alice Springs comp=Z,2.9nm,0.7s	79.93 157		IAmb	IAmb	13 14 57.1
ASAR	Alice Springs	79.93 157		P	P	13 14 56.2 +0.4
ASAR	Alice Springs comp=Z,8.6nm,0.8s,baz=353,slow=5.6,SNR=149 comp=Z,8.6nm,0.8s	79.93 157		P	P	13 14 56.4 +0.5
ASAR	Alice Springs	79.93 157		P	P	13 14 56.2 +0.4
WCT	Wildcat Mounta comp=Z,6.5nm,1.1s	81.77	35	IAmb	IAmb	13 15 15.8
SADO	Sadowa comp=Z,59nm,20.1s,baz=3.5,slow=36	81.79	6	LR	LR	13 51 55.2
SHPR	Sheep Range	82.53	34	P	P	13 15 12.6 +2.7
PV23	Carpenter Ridg comp=Z,5.7nm,0.8s	82.67	29	IAmb	IAmb	13 15 18.9
PV10	Paradox Valley comp=Z,6.4nm,1.0s	82.74	29	IAmb	IAmb	13 15 13.6
KNB	Kanab comp=Z,6.0nm,1.0s	82.83	32	IAmb	IAmb	13 15 14.4
Q24A	Divide baz=341	83.26	26	P	P	13 15 11.3 -2.6
S22A	4UR Ranch, Cre baz=340	83.95	28	P	P	13 15 15.0 -2.3
T25A	Trinidad baz=341	85.17	26	P	P	13 15 22.3 -1.2
121A	Cookes Peak, D baz=339	88.54	30	P	P	13 15 39.3 -0.6
TORD	Torodi Ar. Bea	89.42 291		P	P	13 15 43.8 -0.2
TORD				IAmb	IAmb	13 15 44.2
	comp=Z,2.2nm,0.8s					
TORD	Torodi Ar. Bea comp=Z,1.8nm,0.3s,baz=21,slow=4.8,SNR=3.8 comp=Z,1.8nm,0.3s	89.42 291		P	P	13 15 44.1 +0.1
STKA	Stephens Creek comp=Z,2.2nm,0.6s,baz=344,slow=9.8,SNR=5.9 comp=Z,2.2nm,0.6s	89.73 153		P	P	13 15 44.5 -0.4
TKL	Tuckaleechee C comp=Z,41nm,21.1s,baz=357,slow=36	90.45	10	LR	LR	13 57 25.0
435B	Jarrell baz=345	92.91	23	P	P	13 15 59.2 -0.8
LPIG	La Paz	95.54	35	LR	LR	14 01 36.8
QSPA	South Pole Qui comp=Z,2.7nm,1.0s,baz=271,slow=3.4,SNR=10	143.34 180		PKhKP	PKPpre	13 22 15.6
SNAA	Sanae comp=Z,3.1nm,0.8s,baz=216,slow=13,SNR=5.7	146.23 212		PKPbc	PKPdf	13 22 25.3 +0.4
CPUP	Villa Florida comp=Z,3.8nm,0.7s,baz=69,slow=1.5,SNR=4.4	150.90 334		PKP	PKPdf	13 22 33.7 0.0
CPUP				PKPbc	pPKPdf	13 22 38.3 0.0
	comp=Z,3.8nm,0.7s,baz=66,slow=3.2,SNR=6.9					

DJA ***04*** *13:27:13.0±2.0,6°S±5°×14°1E±1°2,h14km±15km,M4.6/6,mb4.9/1,MLv4.4/6*
IDC ***04*** *13:27:13.3±3.4,5°38S×141°26E,h0km,mb3.5/1,mbtmp3.7/5,ML3.9/4,Error ellipse: s-maj=95.3km s-min=20.1km az=97.0*

ISC 04 13:27:15.9±0.7,5°38S±0°04×140°99E±0°09,h10km,n19, σ1§81/23,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	Tabubil	0.26	64	P	Pg	13 27 19.4	-1.8
JAY	Jayapura	2.86	354	Pn	Pn	13 28 02.1	+0.4
	8.9nm,0.3s,baz=183,slow=9.6,SNR=22						
JAY				Sn	Sn	13 28 37.4	+1.1
	9.8nm,0.3s,baz=269,slow=22,SNR=7.5 23nm,0.4s						
JAY	Jayapura	2.86	354	P	Pn	13 28 01.8	+0.1
JAY				S	Sn	13 28 37.4	+1.1
GENI	Genyem	2.89	344	P	Pn	13 28 02.9	+0.8
GENI	Genyem	2.89	344	P	Pn	13 28 03.1	+1.1
GENI				S	Sb	13 28 41.6	-1.5
MMPI	Merauke	3.12	191	P	Pn	13 28 01.9	-3.3
SMPI	Sarmi	4.07	326	P	Pn	13 28 17.4	-0.8
COEN	Coen	8.79	166	P	Pn	13 29 24.8	+1.7
COEN	Coen	8.79	166	S	Sn	13 31 04.5	+2.2
KDU	Kakadu	11.11	229	P	Pn	13 29 55.7	+0.8
MTN	Manton Dam	12.23	232	P	Pn	13 30 11.2	+0.9
MTSU	Mount Surprise	13.08	166	P	Pn	13 30 23.5	+1.5
WRA	Warramunga Arr	15.85	204	Pn	Pn	13 30 57.7	-1.6
	0.6nm,0.3s,baz=23,slow=13,SNR=9.7						
WRA				Lg	Lg	13 35 40.0	
	0.2nm,0.3s,baz=30,slow=27,SNR=2.8 0.9nm,0.7s						
AS01	Alice Springs	19.40	200	P	Pn	13 31 44.1	+0.7
ASAR	Alice Springs	19.42	200	P	Pn	13 31 44.0	+0.4
	0.3nm,0.3s,baz=28,slow=9.9,SNR=36						
ASAR				S	Sn	13 35 16.3	-5.3
	0.3nm,0.7s,baz=24,slow=27,SNR=1.3						
ASAR				Lg	Lg	13 37 33.7	
	baz=17,slow=30,SNR=4.2 2.7nm,0.9s						
FITZ	Fitzroy Crossi	19.61	229	P	Pn	13 31 45.5	-0.4
	0.3nm,0.3s,baz=50,slow=10,SNR=11						
FITZ				Lg	Lg	13 37 41.9	
	0.1nm,0.3s,baz=126,slow=19,SNR=2.3 1.2nm,0.4s						
OOD	Oodnadatta	22.85	192	P	P	13 32 20.3	+0.8
WRKA	Warakurna	23.03	211	P	P	13 32 21.3	-0.1
MKAR	Makanchi Array	73.28	322	P	P	13 38 47.0	-0.7
	0.5nm,1.0s,baz=98,slow=7.4,SNR=5.2 0.5nm,1.0s						

IDC ***04*** *13:29:11.8±1.3,4°77S×146°12E,h0km,mb3.7/6,mbtmp3.7/8,ML3.6/1,Error ellipse: s-maj=43.3km s-min=23.9km az=102.0*

ISC 04 13:29:16.0±1.1,4°9S±0°1×146°2E±0°2,h27km,n8,σ1§35/9, **mb3.7/6,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.56	168	Pn	Pn	13 30 24.2	+0.9
	16nm,0.4s,baz=295,slow=9.0,SNR=10						
PMG				Sn	Sn	13 31 13.4	-2.2
	6.5nm,0.3s,baz=302,slow=23,SNR=6.8						
WRA	Warramunga Arr	18.88	217	P	Pn	13 33 35.1	-0.1
	0.2nm,0.3s,baz=41,slow=12,SNR=4.8 0.8nm,0.5s						
ASAR	Alice Springs	22.09	211	P	P	13 34 09.9	+0.6
	0.6nm,0.7s,baz=47,slow=9.3,SNR=3.0 0.6nm,0.7s						
FITZ	Fitzroy Crossi	23.99	235	P	P	13 34 29.1	+0.5
	2.7nm,0.5s,baz=40,slow=7.5,SNR=6.8 2.7nm,0.5s						
STKA	Stephens Creek	27.17	189	P	P	13 34 57.5	+0.2
	4.5nm,1.2s,baz=13,slow=14,SNR=3.3 4.5nm,1.2s						
MKAR	Makanchi Array	76.16	321	P	P	13 40 59.8	-1.9
	0.4nm,0.9s,baz=108,slow=4.7,SNR=1.0 0.4nm,0.9s						
ILAR	Eielson Array	84.81	23	P	P	13 41 48.4	+0.6

0.2nm,0.6s,baz=256,slow=5.4,SNR=4.6
0.2nm,0.6s
QSPA South Pole Qui 85.05 180 P P 13 41 50.0 +0.8
0.8nm,0.8s,baz=0.0,slow=4.0,SNR=3.5
0.8nm,0.8s

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*DNK **04** 13:37:04.0±0.5, 59°.60N×15°.14E, h0km, ML2.0(UPP), Explosion*

UPP 04 13:37:03.6±0.1, 59°.60N×15°.15E, h0km, ML2.0, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRAU	**Nora**	**0.06**	**240**	P	Pg	13 37 05.0	+0.3
NRAU				S	Sg	13 37 06.0	+0.4
NRAU	**Nora**	**0.06**	**240**	P	Pg	13 37 05.0	+0.3
NRAU				S	Sg	13 37 06.0	+0.4
ASKU	**Askersund**	**0.73**	**193**	P	Pg	13 37 17.3	-0.2
ASKU				S	Sg	13 37 27.1	+0.1
ASKU	**Askersund**	**0.73**	**193**	P	Pg	13 37 17.3	-0.2
ASKU				S	Sg	13 37 27.1	+0.1
ESKU	**Eskilstuna**	**0.74**	**120**	P	Pg	13 37 17.5	-0.3
ESKU				S	Sg	13 37 27.6	+0.3
ESKU	**Eskilstuna**	**0.74**	**120**	P	Pg	13 37 17.5	-0.3
ESKU				S	Sg	13 37 27.6	+0.3
UDD	**Uddeholm**	**0.92**	**303**	P	Pg	13 37 20.6	-0.5
UDD				S	Sg	13 37 33.5	+0.4
UDD	**Uddeholm**	**0.92**	**303**	P	Pg	13 37 20.6	-0.5
UDD				S	Sg	13 37 33.5	+0.4
FALU	**Falun**	**0.96**	**21**	P	Pg	13 37 21.6	-0.3
FALU				S	Sg	13 37 34.7	+0.3
FALU	**Falun**	**0.96**	**21**	P	Pg	13 37 21.6	-0.3
FALU				S	Sg	13 37 34.7	+0.3
BACU	**Backbrunna**	**1.03**	**75**	P	Pg	13 37 22.8	-0.5
BACU				S	Sg	13 37 36.5	0.0
BACU	**Backbrunna**	**1.03**	**75**	P	Pg	13 37 22.8	-0.5
BACU				S	Sg	13 37 36.5	0.0
FIBU	**Brunna**	**1.16**	**74**	P	Pg	13 37 25.1	-0.6
FIBU				S	Sg	13 37 40.6	-0.2
FIBU	**Brunna**	**1.16**	**74**	P	Pg	13 37 25.1	-0.6
FIBU				S	Sg	13 37 40.6	-0.2
OSTU	**Oestervaala**	**1.18**	**57**	P	Pg	13 37 25.4	-0.9
OSTU				S	Sg	13 37 41.8	+0.2
OSTU	**Oestervaala**	**1.18**	**57**	P	Pg	13 37 25.4	-0.9
OSTU				S	Sg	13 37 41.8	+0.2
NASU	**Vaermlandsnaes**	**1.21**	**237**	P	Pg	13 37 25.9	-0.9
NASU				S	Sg	13 37 42.4	0.0
NASU	**Vaermlandsnaes**	**1.21**	**237**	P	Pg	13 37 25.9	-0.9
NASU				S	Sg	13 37 42.4	0.0
UPP	**Uppsala**	**1.28**	**77**	S	Sg	13 37 44.6	-0.1
UPP	**Uppsala**	**1.28**	**77**	S	Sg	13 37 44.6	-0.1
VIKU	**Vikbolandet**	**1.36**	**143**	P	Pg	13 37 28.8	-0.9
VIKU				S	Sg	13 37 47.0	-0.4
VIKU	**Vikbolandet**	**1.36**	**143**	P	Pg	13 37 28.8	-0.9
VIKU				S	Sg	13 37 47.0	-0.4
FINU	**Finntorp**	**1.38**	**263**	P	Pg	13 37 28.5	-1.4
FINU	**Finntorp**	**1.38**	**263**	P	Pg	13 37 28.5	-1.4
NYNU	**Nynaeshamn**	**1.58**	**111**	P	Pn	13 37 32.6	-0.2
NYNU	**Nynaeshamn**	**1.58**	**111**	P	Pn	13 37 32.6	-0.2
IGGU	**Iggoen**	**1.67**	**39**	P	Pn	13 37 34.4	+0.3
IGGU	**Iggoen**	**1.67**	**39**	P	Pn	13 37 34.4	+0.3
FORU	**Forsmark**	**1.72**	**61**	P	Pn	13 37 35.1	+0.4
FORU	**Forsmark**	**1.72**	**61**	P	Pn	13 37 35.1	+0.4
NRTU	**Norrtaelje**	**1.77**	**86**	P	Pn	13 37 35.9	+0.5
NRTU	**Norrtaelje**	**1.77**	**86**	P	Pn	13 37 35.9	+0.5

HEL 04 13:38:58.5±0.4, 67°.81N×20°.11E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.75**	**71**	PG	Pg	13 39 10.5	-2.4
LANU				SB	Sg	13 39 21.5	-1.1
KIF	**Kilpisjarvi**	**1.23**	**12**	*e*P	Pg	13 39 20.7	-1.3
KIF	**Kilpisjarvi**	**1.23**	**12**	PG	Pg	13 39 20.9	-1.1
KIF				MSG		13 39 36.9	
	comp=Z,5.7nm,0.2s						
KIF				SG	Sg	13 39 38.1	+0.2
PAJU	**Pajala**	**1.40**	**123**	PG	Pn	13 39 23.2	-2.1
	baz=308						
PAJU				SB	Sg	13 39 43.0	-0.5
HEF	**Hetta**	**1.46**	**64**	*e*P	Pn	13 39 23.9	-2.2
HEF	**Hetta**	**1.46**	**64**	PG	Pn	13 39 23.9	-2.2
	baz=249						
HEF				MSG		13 39 42.3	
	comp=Z,1.9nm,0.2s						
HEF				SN	Sg	13 39 44.6	-0.7
ERTU	**Ertsjaerv**	**1.50**	**146**	PG	Pn	13 39 25.0	-1.6
	baz=329						
ERTU				SN	Sn	13 39 48.0	+1.2
KLF	**Kolari**	**1.59**	**109**	PG	Pn	13 39 27.1	-0.7
KLF				MSG		13 39 46.2	
	comp=Z,2.4nm,0.2s						
KLF				SN	Sg	13 39 49.4	-0.1
KTK1	**Kautokeino**	**1.67**	**42**	PG	Pn	13 39 28.7	-0.3
KTK1				SN	Sn	13 39 50.9	-0.2
TRO	**Tromso**	**1.88**	**347**	SN	Sb	13 39 58.0	+0.3
KALU	**Kalix**	**2.34**	**145**	PB	Pn	13 39 39.4	+1.3
KALU				SG	Sb	13 40 11.4	+0.6
TOF	**Tornio**	**2.40**	**134**	PN	Pn	13 39 39.7	+0.8
TOF				MSG		13 40 09.5	
	comp=Z,2.0nm,0.2s						
TOF				SG	Sb	13 40 13.0	+0.4
RNF	**Rovaniemi**	**2.59**	**115**	PN	Pn	13 39 42.4	+0.8
RNF				SG	Sb	13 40 17.7	-0.5
ARA0	**ARCESS Array S**	**2.63**	**46**	PB	Pb	13 39 44.4	-2.0
ARA0				SG	Sb	13 40 17.2	-1.9
RAJF	**Raja-Jooseppi**	**3.14**	**74**	PG	Pb	13 39 55.4	+0.3
RAJF				SG	Sb	13 40 33.9	0.0
KEV	**Kevo**	**3.18**	**49**	SB	Sn	13 40 30.1	+1.9
RANF	**Ranua**	**3.19**	**121**	PG	Pb	13 39 57.7	+1.8
RANF				SG	Sb	13 40 37.6	+2.3
BURU	**Burvik**	**3.28**	**170**	SB	Sb	13 40 36.4	-1.5
VRF	**Varrio**	**3.61**	**87**	PG	Pb	13 40 03.9	+0.8
OLKF	**Oulanka, Finla**	**3.93**	**108**	SG	Sb	13 40 58.1	+1.5
KU6	**Riekki**	**4.25**	**110**	PG	Pb	13 40 15.8	+1.8
	baz=296						
KU6				SG	Sg	13 41 10.6	-4.1

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*IDC **04** 13:54:06.4±1.7, 8°.87S×122°.38E, h0km, mb3.5/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=146.0km s-min=26.0km az=60.0*
*DJA **04** 13:54:16.8±0.3, 9°.5±4°.×12°.2E±°, h44km±11km, M3.7/8, mB5.2/1, MLv3.7/8, Mw(mB)4.6/1*

ISC 04 13:54:14.6±0.9, 9°.49S±0°.05×122°.15E±0°.05, h35km, n22, σ2°53/24, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.85**	**6**	P	Pn	13 54 31.0	+0.8
MMRI	**Maumere**	**0.85**	**6**	S	Sn	13 54 42.0	+0.5
MMRI	**Maumere**	**0.85**	**6**	P	Pn	13 54 30.8	+0.6
MMRI				S	Sn	13 54 41.7	+0.2
BASI	**Baing, Sumba**	**1.71**	**245**	P	Pn	13 54 43.8	+1.8
BASI				S	Sn	13 55 04.3	+1.6
SOEI	**Soe**	**2.10**	**97**	P	Pn	13 54 52.6	+5.2
SOEI	**Soe**	**2.10**	**97**	P	Pn	13 54 53.8	+6.4
WBSI	**Waikabubak, Su**	**2.73**	**267**	P	Pn	13 54 56.0	0.0
WBSI				S	Sn	13 55 27.6	-0.2
BSSI	**Bau Bau, Buton**	**3.71**	**334**	P	Pn	13 55 08.4	-1.1
PLAI	**Plampang**	**4.37**	**278**	P	Pn	13 55 19.5	+0.9
PLAI	**Plampang**	**4.37**	**278**	S	Sn	13 56 06.3	-2.0
PLAI	**Plampang**	**4.37**	**278**	P	Pn	13 55 18.2	-0.4
BKSI	**Bulukumba**	**4.61**	**334**	P	Pn	13 55 20.9	-0.9
JAGI	**Jajag, Banyuwa**	**7.97**	**277**	P	Pn	13 56 06.1	-1.9
FITZ	**Fitzroy Crossi**	**9.20**	**159**	Pn	Pn	13 56 27.5	+2.6
	0.4nm,0.3s,baz=360,slow=11,SNR=14						
	1.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**9.20**	**159**	P	Pn	13 56 27.5	+2.6
MTN	**Manton Dam**	**9.42**	**112**	P	Pn	13 56 30.4	+2.5
KDU	**Kakadu**	**10.61**	**108**	P	Pn	13 56 47.4	+3.1
WRA	**Warramunga Arr**	**15.70**	**133**	Pn	Pn	13 57 51.4	-1.9
	0.2nm,0.3s,baz=310,slow=15,SNR=12						
WRA				Sn	Sn	14 00 39.7	-6.6
	0.1nm,0.3s,baz=304,slow=23,SNR=4.5						
	0.5nm,0.7s						
WRKA	**Warakurna**	**16.53**	**160**	P	P	13 58 06.5	+0.3
ASAR	**Alice Springs**	**18.02**	**143**	P	P	13 58 23.7	+1.0
	0.2nm,0.3s,baz=321,slow=12,SNR=19						
ASAR				S	Sn	14 01 36.7	-6.0
	0.3nm,0.6s,baz=319,slow=24,SNR=4.5						
	0.4nm,0.3s						
AS01	**Alice Springs**	**18.05**	**143**	P	P	13 58 25.0	+2.0
MKAR	**Makanchi Array**	**66.34**	**331**	P	P	14 04 54.2	-5.6
	0.4nm,0.7s,baz=138,slow=7.6,SNR=5.9						
	0.4nm,0.7s						

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*NEIC **04** 14:01:55.3±0.8, 5°.02S±0°.06×146°.10E±0°.08, h52km±8km, mb4.4/19, Error ellipse: s-maj=12.7km s-min=8.5km az=111.0*
*DJA **04** 14:01:58.6±1.1, 5°.5±5°.×14°.6E±1°.0, h87km±8km, M5.0/12, mb4.7/12, mB5.4/2, MLv5.1/3, Mw(mB)4.8/2*
*IDC **04** 14:01:59.0±1.7, 5°.34S×146°.27E, h67km±16km, mb3.9/16, mbtmp4.2/20, MS3.4/13, Error ellipse: s-maj=16.4km s-min=9.3km az=80.0*

ISC 04 14:01:54.3±0.4, 5°.16S±0°.05×146°.01E±0°.06, h27km, n134, σ1°43/117, mb4.7/50, MS3.4/10, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.38**	**24**	Pn	Pn	14 02 42.3	-3.0
PMG	**Port Moresby**	**4.37**	**165**	Pn	Pn	14 02 59.1	+0.1
PMG				Sn	Sn	14 03 48.1	-1.0
PMG	**Port Moresby**	**4.37**	**165**	P	Pn	14 02 59.4	+0.4
	77nm,0.3s,baz=358,slow=5.8,SNR=86						
PMG				S	Sn	14 03 48.2	-0.9
	170nm,0.3s,baz=121,slow=23,SNR=12						
PMG				LR	LR	14 04 23.4	
	comp=Z,367nm,20.9s,baz=78,slow=35						
JAY	**Jayapura**	**5.91**	**296**	P	Pb	14 03 27.9	-8.8
	10nm,0.5s,baz=172,slow=7.6,SNR=12						
JAY				S	Sb	14 04 39.6	-7.6
	11nm,0.5s,baz=41,slow=23,SNR=1.0						
JAY	**Jayapura**	**5.91**	**296**	P	Pb	14 03 27.3	-9.4
	0.2nm32nm,1.1s						
RABL	**Rabaul**	**6.20**	**81**	Pn	Pn	14 03 23.0	-1.2
GENI	**Genyem**	**6.37**	**293**	P	Pn	14 03 34.1	+7.7
SMPI	**Sarmi**	**7.94**	**293**	P	Pn	14 03 55.8	+7.8
	33nm,0.6s						
COEN	**Coen**	**9.18**	**198**	Pn	Pn	14 04 06.9	+1.8
COEN	**Coen**	**9.18**	**198**	P	Pn	14 04 07.5	+2.4
	49nm,0.5s						
MTSU	**Mount Surprise**	**13.00**	**187**	P	Pn	14 04 59.4	+2.0
	8.4nm,0.8s						
MTSU	**Mount Surprise**	**13.00**	**187**	S	Sn	14 07 17.2	-4.1
	8.4nm,0.8s						
FAKI	**Fak Fak**	**13.91**	**279**	Pn	Pn	14 05 09.9	+0.1
TV1H	**Townsville Har**	**14.04**	**177**	P	Pn	14 05 12.2	+0.7
	24nm,0.6s						
TATA	**Tatamba Isabel**	**14.06**	**104**	P	P	14 05 17.0	-2.4
	26nm,1.2s						
HNR	**Honiara**	**14.46**	**108**	Pn	Pn	14 05 18.1	+0.8
HNR	**Honiara**	**14.46**	**108**	P	Pn	14 05 17.2	0.0
	10.0nm,0.3s,baz=56,slow=6.7,SNR=1.5						
KDU	**Kakadu**	**15.32**	**240**	P	P	14 05 32.5	-0.9
	109nm,0.9s						
QIS	**Mount Isa**	**16.53**	**202**	P	Pn	14 05 45.1	+0.7
	14nm,1.2s						
MTN	**Manton Dam**	**16.55**	**242**		Pn	14 05 45.7	+0.9
MTN				IAmb	IAmb	14 05 50.4	
	comp=Z,35nm,0.8s						
MTN	**Manton Dam**	**16.55**	**242**	P	P	14 05 48.4	+1.3
	comp=Z,46nm,0.7s						
DRS	**Darwin Rock St**	**16.59**	**243**	P	P	14 05 49.3	+1.9
	comp=Z,45nm,0.7s						
WB0	**Warramunga Arr**	**18.41**	**217**	P	P	14 06 07.5	0.0
WB0				IAmb	IAmb	14 06 20.7	
	comp=Z,19nm,1.2s						
WR0	**Warramunga Arr**	**18.47**	**216**	P	P	14 06 08.2	-0.1
WRAB	**Tennant Creek**	**18.56**	**217**	P	P	14 06 09.4	+0.1
WB2	**Warramunga Arr**	**18.57**	**217**	P	P	14 06 09.6	+0.3
WB2				IAmb	IAmb	14 06 15.3	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**18.58**	**217**	P	P	14 06 09.7	+0.2
	comp=Z,4.6nm,0.5s,baz=34,slow=11,SNR=64						
WRA				LR	LR	14 14 09.8	
	comp=Z,161nm,18.4s,baz=32,slow=39						
GUMO	**Guam**	**18.66**	**357**	LR	LR	14 12 40.5	
	comp=Z,54nm,21.0s,baz=127,slow=34						
KNRA	**Kununurra**	**19.91**	**237**	P	Pn	14 06 25.4	-0.3
KNRA				IAmb	IAmb	14 06 28.0	
	comp=Z,18nm,0.8s						
EIDS	**Eidsvold**	**20.68**	**167**		P	14 06 32.3	+0.1
EIDS				IAmb	IAmb	14 06 52.7	
	comp=Z,36nm,1.4s						
EIDS	**Eidsvold**	**20.68**	**167**	P	P	14 06 32.2	-0.1
	comp=Z,23nm,1.7s						
QLP	**Quilpie**	**21.37**	**184**	P	P	14 06 40.0	+0.2
	comp=Z,30nm,0.9s						
AS01	**Alice Springs**	**21.77**	**211**	P	P	14 06 44.8	+0.7
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**21.79**	**211**	P	P	14 06 44.5	+0.2
ASAR	**Alice Springs**	**21.79**	**211**	P	P	14 06 44.0	-0.3
ASAR	**Alice Springs**	**21.79**	**211**	P	P	14 06 44.1	-0.2
	comp=Z,2.4nm,0.6s,baz=40,slow=7.9,SNR=56						
ASAR				S	S	14 10 44.1	-0.1
	comp=Z,0.5nm,0.8s,baz=40,slow=20,SNR=2.7						
ASAR				LR	LR	14 16 02.7	
	comp=Z,155nm,19.6s,baz=78,slow=39						
	comp=Z,2.4nm,0.6s						
SOEI	**Soe**	**22.04**	**257**	P	P	14 06 48.1	+0.9
	comp=Z,39nm,0.6s						
INKA	**Innaminka**	**23.01**	**192**	P	P	14 06 57.4	+0.2
	comp=Z,78nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.70**	**235**	P	P	14 07 03.6	-0.6
FITZ				IAmb	IAmb	14 07 07.9	
	comp=Z,5.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.70**	**235**	LR	LR	14 17 29.8	
	comp=Z,102nm,18.2s,baz=94,slow=39						
FITZ	**Fitzroy Crossi**	**23.70**	**235**	P	P	14 07 05.8	+1.6
	comp=Z,75nm,0.7s						
MMRI	**Maumere**	**23.85**	**260**	P	P	14 07 03.9	-1.7
OOD	**Oodnadatta**	**24.56**	**202**	P	P	14 07 12.4	+0.4
	comp=Z,36nm,0.6s						
ARMA	**Armidale**	**25.68**	**169**	P	P	14 07 22.2	-0.1
	comp=Z,17nm,1.6s						
DZM	**Mont Dzumac**	**25.95**	**132**	P	P	14 07 25.3	+0.4
	comp=Z,21nm,1.3s						
WRKA	**Warakurna**	**26.07**	**219**	P	P	14 07 26.6	+0.7
	comp=Z,8.6nm,0.7s						
LCRK	**Leigh Creek**	**26.21**	**195**	P	P	14 07 27.3	+0.4
	comp=Z,43nm,0.8s						
CMSA	**Cobar Meteorol**	**26.24**	**181**	P	P	14 07 27.4	+0.2
	comp=Z,14nm,1.9s						
STKA	**Stephens Creek**	**26.90**	**188**	P	P	14 07 31.9	-1.3
STKA	**Stephens Creek**	**26.90**	**188**	P	P	14 07 32.4	-0.8
	comp=Z,7.6nm,0.7s,baz=347,slow=7.7,SNR=18						
STKA				LR	LR	14 19 24.5	
	comp=Z,88nm,19.1s,baz=182,slow=39						
	comp=Z,7.6nm,0.7s						
STKA	**Stephens Creek**	**26.90**	**188**	P	P	14 07 32.9	-0.3
	comp=Z,2.9nm,0.8s						
HTT	**Hallett**	**28.89**	**192**	P	P	14 07 50.9	-0.2
	comp=Z,12nm,2.9s						
BBOO	**Buckleboo**	**29.04**	**197**	P	P	14 07 51.5	-0.8
BBOO				IAmb	IAmb	14 08 00.7	
	comp=Z,21nm,1.4s						
BBOO	**Buckleboo**	**29.04**	**197**	P	P	14 07 52.1	-0.2
	comp=Z,10nm,0.9s						
YNG	**Young**	**29.08**	**176**	P	P	14 07 52.5	-0.1
	comp=Z,27nm,1.3s						
CAN	**Canberra**	**30.14**	**175**	P	P	14 08 00.6	-1.5
CAN				IAmb	IAmb	14 08 33.3	
	comp=Z,15nm,1.3s						
FORT	**Forrest**	**30.58**	**211**	P	P	14 08 06.5	+0.6
	comp=Z,21nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**31.11**	**40**	T	T	14 40 36.4	
	baz=223,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**31.12**	**40**	T	T	14 40 24.5	
	baz=223,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**31.13**	**40**	T	T	14 40 33.6	
	baz=223,slow=75,SNR=14						
TGY	**Tagaytay City**	**31.39**	**308**	LR	LR	14 22 34.2	
	comp=Z,40nm,18.1s,baz=358,slow=39						
ARPS	**Mount Arapiles**	**31.69**	**186**	P	P	14 08 16.1	+0.4
	comp=Z,19nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**32.14**	**39**	T	T	14 41 40.2	
	baz=221,slow=76,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**32.15**	**39**	T	T	14 41 41.5	
	baz=221,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**32.15**	**39**	T	T	14 41 41.0	
	baz=221,slow=76,SNR=9.4						
MSVF	**Nonsavu**	**33.72**	**114**	LR	LR	14 20 35.6	
	comp=Z,65nm,18.5s,baz=165,slow=33						
MEEK	**Meekatharra**	**33.77**	**228**	P	P	14 08 35.4	+1.3
	comp=Z,25nm,2.6s						
KMBL	**Kambalda**	**34.53**	**218**	P	P	14 08 41.4	+0.8
	comp=Z,28nm,0.8s						
GIRL	**Giralia**	**35.28**	**237**	P	P	14 08 49.8	+2.7
	comp=Z,59nm,2.2s						
BLDU	**Ballidu**	**37.44**	**224**	P	P	14 09 06.9	+1.4
	comp=Z,20nm,1.7s						
OUZ	**Omahuta**	**39.28**	**143**	P	P	14 09 21.2	+0.3
	comp=Z,17nm,0.9s						
KUZ	**Kuaotunu**	**41.58**	**143**	P	P	14 09 39.6	-0.3
	comp=Z,36nm,1.4s						
KUZ	**Kuaotunu**	**41.58**	**143**	P	P	14 09 39.5	-0.3
TOZ	**Tahuroa Road**	**42.11**	**144**	P	P	14 09 44.8	+0.6
MJAR	**Matsushiro Arr**	**42.12**	**351**	P	P	14 09 46.0	+1.7
	comp=Z,1.5nm,0.8s,baz=177,slow=9.1,SNR=2.8						
	comp=Z,1.5nm,0.8s						
HIZ	**Hauiti**	**42.28**	**146**	P	P	14 09 46.5	+0.9
	comp=Z,45nm,1.0s						
HIZ	**Hauiti**	**42.28**	**146**	P	P	14 09 46.6	+1.0
VRZ	**Vera Road**	**42.66**	**146**	P	P	14 09 49.9	+1.2
TMVZ	**Te Maari**	**43.18**	**146**	P	P	14 09 54.3	+1.2
URZ	**Urewera**	**43.41**	**144**	P	P	14 09 54.2	-0.5
	comp=Z,13nm,1.1s						
URZ	**Urewera**	**43.41**	**144**	P	P	14 09 53.8	-0.9
HAZ	**Te Kaha**	**43.48**	**143**	P	P	14 09 55.1	-0.2
RTZ	**Ruatahuna**	**43.57**	**144**	P	P	14 09 55.5	-0.6
JCZ	**Jackson Bay**	**43.63**	**156**	P	P	14 09 56.3	-0.3
	comp=Z,48nm,1.1s						
JCZ	**Jackson Bay**	**43.63**	**156**	P	P	14 09 57.2	+0.7
MTHZ	**Maungataniwha**	**43.65**	**145**	P	P	14 09 56.4	-0.3
BKZ	**Black Stump Fm**	**43.66**	**145**	P	P	14 09 56.7	-0.1
	comp=Z,20nm,1.0s						
BKZ	**Black Stump Fm**	**43.66**	**145**	P	P	14 09 56.3	-0.5
MXZ	**Matakaoa Point**	**43.67**	**142**	P	P	14 09 56.8	-0.1
	comp=Z,55nm,1.5s						
MXZ	**Matakaoa Point**	**43.67**	**142**	P	P	14 09 57.0	+0.1
MWZ	**Matawai**	**43.70**	**143**	P	P	14 09 56.3	-0.9
PKGZ	**Pakihiroa**	**43.73**	**143**	P	P	14 09 57.7	+0.3
TWGZ	**Tauwhareparae**	**43.87**	**143**	P	P	14 09 58.8	+0.3
SNGZ	**Shannon Statio**	**43.89**	**144**	P	P	14 09 58.4	-0.3
WMGZ	**Waiomatatini S**	**43.90**	**142**	P	P	14 09 58.6	-0.1
PUZ	**Puketiti**	**43.97**	**143**	P	P	14 09 58.8	-0.5
RIGZ	**Rimuhau**	**44.09**	**144**	P	P	14 09 59.9	-0.4
CNGZ	**Carnagh Statio**	**44.20**	**143**	P	P	14 10 01.0	-0.2
RPZ	**Rata Peaks**	**44.29**	**154**	LR	LR	14 26 34.5	
	comp=Z,63nm,19.1s,baz=288,slow=34						
RPZ	**Rata Peaks**	**44.29**	**154**	P	P	14 10 01.5	-0.3
	comp=Z,26nm,0.8s						
RPZ	**Rata Peaks**	**44.29**	**154**	P	P	14 10 01.4	-0.4
MLZ	**Mavora Lakes**	**44.45**	**158**	P	P	14 10 03.0	-0.1
LBZ	**Lake Benmore**	**44.46**	**155**	P	P	14 10 02.4	-0.7
EAZ	**Earnscleugh**	**44.79**	**157**	P	P	14 10 04.8	-1.0
TMZ	**Timaru**	**44.80**	**155**	P	P	14 10 04.7	-1.2
WHZ	**Wether Hill Ro**	**44.83**	**158**	P	P	14 10 05.4	-0.6
ODZ	**Otahua Downs**	**45.18**	**155**	P	P	14 10 08.6	-0.3
	comp=Z,24nm,2.6s						
TUZ	**Tuapeka**	**45.52**	**157**	P	P	14 10 11.4	-0.1
KSRS	**Korea Array**	**45.62**	**340**	P	P	14 10 13.9	+1.5
	comp=Z,3.0nm,1.0s,baz=163,slow=10,SNR=9.1						
KSRS				LR	LR	14 26 45.6	
	comp=Z,29nm,21.1s,baz=125,slow=32						
	comp=Z,3.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**50.73**	**347**	P	P	14 10 54.1	+2.3
	comp=Z,3.9nm,0.7s,baz=167,slow=7.2,SNR=6.9						
	comp=Z,3.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**51.99**	**298**	P	P	14 11 04.2	+2.5
	comp=Z,0.4nm,0.3s,baz=114,slow=7.1,SNR=5.0						
	comp=Z,0.4nm,0.3s						
PZH	**PanZhiHua**	**53.17**	**309**	P	P	14 11 11.2	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
BNX	**BinXian**	**53.32**	**344**	⇑P	P	14 11 13.6	+2.6
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**55.61**	**329**	*e*P	P	14 11 29.7	+1.8
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
PETK	**Petropavlovsk-**	**58.88**	**8**	P	P	14 11 52.3	+1.6
	comp=Z,6.7nm,0.8s,baz=162,slow=5.7,SNR=22						
PETK				LR	LR	14 35 04.3	
	comp=Z,30nm,19.6s,baz=199,slow=34						
	comp=Z,6.7nm,0.8s						
SONM	**Songino Array**	**63.20**	**331**	P	P	14 12 22.1	+1.8
	comp=Z,0.7nm,1.0s,baz=165,slow=5.4,SNR=4.1						
	comp=Z,0.7nm,1.0s						
MA2	**Magadan**	**64.64**	**3**	LR	LR	14 38 12.6	
	comp=Z,18nm,21.6s,baz=146,slow=34						
PALK	**Pallekele**	**66.33**	**280**	LR	LR	14 44 58.3	
	comp=Z,37nm,18.3s,baz=160,slow=39						
WMQ	**Urumqi**	**71.52**	**319**	*e*P	P	14 13 13.4	+0.4
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
VNDA	**Vanda**	**72.81**	**176**		P	14 13 18.6	-1.4
VNDA	**Vanda**	**72.81**	**176**	P	P	14 13 19.5	-0.5
	comp=Z,6.4nm

comp=Z,99nm,0.4s
FRAZ Fraserburg 4.87 145 *e*P **Pn 14 08 22.1 +2.0**
FRAZ *e*S **Sn 14 09 15.4 -1.2**
FRAZ IAML 14 09 41.7
comp=Z,81nm,0.4s
KOOLE Kule 5.31 21 *i* P **Pn 14 08 29.5 +3.2**
KOOLE *i* S **Sn 14 09 24.4 -3.3**
KOOLE IAML 14 10 02.4
comp=E,112nm,1.0s
CER Ceres 5.46 170 *e*P **Pn 14 08 29.8 +1.6**
CER *e*S **Sn 14 09 29.6 -1.5**
GRAN Grantham 5.56 142 *e*P **Pn 14 08 31.3 +1.6**
GRAN *e*S **Sn 14 09 31.5 -2.2**
GRAN IAML 14 10 14.3
comp=Z,60nm,0.3s
BRAK Brakfontein 5.62 134 *e*P **Pn 14 08 32.3 +1.9**
BRAK *e*S **Sn 14 09 33.7 -1.5**
BRAK IAML 14 10 06.7
comp=Z,55nm,0.4s
BFON Badsfontein, M 6.16 130 *e*P **Pn 14 08 39.8 +1.9**
BFON *e*S **Sn 14 09 46.5 -2.0**
BFON IAML 14 10 28.4
comp=Z,53nm,0.5s
KGCAE Kacgae 6.30 37 *i* P **Pn 14 08 41.7 +1.8**
KGCAE *i* S **Sn 14 09 47.5 -4.7**
KGCAE IAML 14 10 37.2
comp=E,49nm,0.8s
BOSA Boshof 6.33 97 *e*P **Pn 14 08 42.7 +2.4**
BOSA *e*S **Sn 14 09 51.5 -1.2**
BOSA IAML 14 10 46.2
comp=Z,19nm,0.4s
MAKGR Makgori 6.35 72 *i* P **Pn 14 08 41.7 +1.1**
MAKGR *i* S **Sn 14 09 47.3 -5.9**
MAKGR IAML 14 10 37.5
comp=N,136nm,0.4s
ELIM Elim 6.74 168 *e*P **Pn 14 08 47.6 +1.8**
ELIM *e*S **Sn 14 09 59.9 -2.8**
ELIM IAML 14 10 53.1
comp=Z,26nm,0.6s
HVD Gariep Dam 6.96 114 *e*P **Pn 14 08 51.2 +2.3**
HVD *e*S **Sn 14 10 05.8 -2.5**
GRAF Camdeboo Natio 6.99 129 *e*P **Pn 14 08 51.4 +2.1**
GRAF *e*S **Sn 14 10 06.2 -2.7**
GRAF IAML 14 10 44.1
comp=Z,43nm,0.4s

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*IDC **04** 14:19:15.9±2.0, 52°.15N×170°.54W, h0km, mb3.9/8, mbtmp3.8/10, ML3.1/2, MS3.1/1, Error ellipse: s-maj=57.1km s-min=21.6km az=174.0*
*NEIC **04** 14:19:17.6±1.4, 52°.01N±0°.09×170°.4W±0°.1, h18km±7km, mb3.8/27, ML3.3(AEIC), Error ellipse: s-maj=16.0km s-min=3.3km az=145.0*
*AEIC **04** 14:19:19.0±2.6, 51°.9N±0°.1×170°.4W±0°.1, h26km±6km, Error ellipse: s-maj=22.1km s-min=5.8km az=161.0*
ISC 04 14:19:19.7±0.9, 52°.1N±0°.1×170°.36W±0°.06, h31km, n71, σ1§41/70, mb3.9/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.69**	**47**		**Pb**	**14 19 49.2**	**-0.9**
OKSP					**Sb**	**14 20 12.8**	**+1.8**
OKWE	**Okmok W'ng Wal**	**1.86**	**43**		**Pb**	**14 19 52.3**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**1.89**	**47**		**Pb**	**14 19 52.6**	**-0.9**
OKFG	**Magazine Ridge**	**1.96**	**48**		**Pb**	**14 19 53.5**	**-1.3**
OKFG					**Sb**	**14 20 20.1**	**+1.3**
ATKA	**Atka Island**	**2.37**	**273**	Pn	**Pn**	**14 19 55.6**	**-0.8**
ATKA	**Atka Island**	**2.37**	**273**		**Sn**	**14 20 24.9**	**+0.6**
MAPS	**Pakushin South**	**2.66**	**50**		**Pn**	**14 20 02.7**	**+2.3**
MAPS					**Sb**	**14 20 36.4**	**-2.5**
MGOD	**Makushin Gods**	**2.69**	**50**		**Pn**	**14 20 03.2**	**+2.4**
MREP	**Makushin Rep't**	**2.76**	**51**		**Pb**	**14 20 04.8**	**-3.5**
MSW	**Makushin Switc**	**2.80**	**49**		**Pb**	**14 20 05.2**	**-3.8**
MSW					**Sb**	**14 20 42.4**	**-0.6**
UNV	**Unalaska Valle**	**2.89**	**52**	Pn	**Pn**	**14 20 03.9**	**+0.3**
UNV	**Unalaska Valle**	**2.89**	**52**		**Sb**	**14 20 42.2**	**-3.3**
ZRO	**Akutan Zero**	**3.29**	**52**		**Sb**	**14 20 52.5**	**-4.4**
AKGG	**Akutan Green G**	**3.35**	**50**		**Pn**	**14 20 13.1**	**+3.2**
GSTR	**Great Sitkin T**	**3.52**	**272**	Pn	**Pn**	**14 20 09.9**	**-2.3**
ADAG	**Mount Adagdak**	**3.86**	**270**		**Pn**	**14 20 17.1**	**+0.3**
ADK	**Adak**	**3.92**	**269**	Pn	**Pn**	**14 20 17.1**	**-0.6**
KIWB	**Kanaga Island**	**4.21**	**269**	Pn	**Pn**	**14 20 21.6**	**-0.1**
GANE	**Gareloi Northe**	**5.21**	**270**		**Pn**	**14 20 35.4**	**-0.1**
CNBA	**Chernabura Isl**	**6.97**	**63**	Pn	**Pn**	**14 20 58.6**	**-1.0**
CHIR	**Chirikof Islan**	**9.43**	**61**	Pn	**Pn**	**14 21 34.7**	**+1.4**
N15K	**Kwethluk River**	**9.87**	**31**	Pn	**Pn**	**14 21 40.8**	**+1.5**
OHAK	**Old Harbor**	**11.11**	**56**	Pn	**Pn**	**14 21 56.1**	**-0.1**
KDAK	**Kodiak Island**	**11.66**	**54**	Pn	**Pn**	**14 22 03.9**	**+0.1**
KDAK	**Kodiak Island**	**11.66**	**54**	Pn	**Pn**	**14 22 02.9**	**-0.9**
	0.2nm,0.3s,baz=196,slow=20,SNR=14						
SYI	**Shuyak Island**	**12.08**	**50**	Pn	**Pn**	**14 22 09.6**	**0.0**
RC01	**Rabbit Creek A**	**14.41**	**43**	Pn	**Pn**	**14 22 40.6**	**-0.7**
GHO	**Glory Hole Cre**	**15.09**	**42**	Pn	**Pn**	**14 22 49.8**	**-0.6**
GHO				IAmb	IAmb	14 23 31.7	
	comp=Z,5.7nm,1.2s						
SML	**Sawmill**	**15.35**	**42**	Pn	**Pn**	**14 22 53.4**	**-0.4**
SML				IAmb	IAmb	14 23 27.6	
	comp=Z,8.9nm,1.4s						
HIN	**Hinchinbrook I**	**15.55**	**49**	Pn	**Pn**	**14 22 56.4**	**0.0**
HIN				IAmb	IAmb	14 23 02.0	
	comp=Z,9.4nm,1.0s						
FID	**Port Fidalgo**	**15.69**	**47**	Pn	**Pn**	**14 22 57.0**	**-1.3**
SCM	**Sheep Creek Mo**	**15.78**	**43**	Pn	**Pn**	**14 22 59.5**	**0.0**
SCM				IAmb	IAmb	14 23 09.1	
	comp=Z,12nm,1.2s						
KLU	**Klutina**	**16.23**	**45**	Pn	**Pn**	**14 23 05.2**	**-0.1**
KLU				IAmb	IAmb	14 23 43.0	
	comp=Z,6.4nm,1.4s						
HMT	**Hamilton**	**16.57**	**50**	Pn	**P**	**14 23 10.0**	**-1.8**
HMT				IAmb	IAmb	14 23 40.4	
	comp=Z,15nm,1.4s						
BERG	**Berg Lake**	**16.86**	**50**	Pn	**P**	**14 23 13.2**	**-1.8**
BERG				IAmb	IAmb	14 23 23.3	
	comp=Z,16nm,1.4s						
GLB	**Gilahina Butte**	**17.15**	**47**	Pn	**Pn**	**14 23 16.7**	**-0.2**
VRDI	**Verde Repeater**	**17.24**	**48**	Pn	**P**	**14 23 18.1**	**-1.2**
ILAR	**Eielson Array**	**17.49**	**35**	P	**P**	**14 23 21.4**	**-0.5**
	baz=231,slow=11,SNR=4.9						
	comp=Z,0.1nm,0.4s						
H24K	**Noodor Dome**	**17.81**	**31**	P	**P**	**14 23 25.4**	**-0.1**
J25K	**Salcha River,**	**17.95**	**36**	P	**P**	**14 23 26.9**	**-0.1**
J25K				IAmb	IAmb	14 23 59.0	
	comp=Z,7.8nm,1.4s						
J26L	**Joseph Creek**	**18.56**	**38**	P	**Pn**	**14 23 34.5**	**+0.4**
J26L				IAmb	IAmb	14 23 45.7	
	comp=Z,2.6nm,0.5s						
L27K	**Beaver Creek,**	**18.62**	**43**	P	**Pn**	**14 23 34.9**	**+0.1**
I26K	**Coal Creek Min**	**19.11**	**36**	P	**Pn**	**14 23 39.6**	**-1.1**
PETK	**Petropavlovsk-**	**19.34**	**286**	P	**Pn**	**14 23 42.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=84,slow=14,SNR=8.3						
	comp=Z,2.1nm,0.6s						
BMAR	**Burnt Mountain**	**19.84**	**30**	P	**P**	**14 23 47.4**	**-0.2**
M29M	**Somme Creek**	**19.87**	**46**	P	**Pn**	**14 23 49.4**	**-0.5**
M29M				IAmb	IAmb	14 23 56.9	
	comp=Z,2.6nm,0.7s						
I28M	**Miner Creek**	**20.37**	**37**	P	Pn	14 23 53.9	-1.7
K29M	**Barlow Dome**	**20.71**	**43**	P	**P**	**14 23 57.6**	**+0.4**
K29M				IAmb	IAmb	14 24 24.9	
	comp=Z,3.8nm,1.3s						
H29M	**Whitestone**	**21.29**	**36**	P	**P**	**14 24 04.0**	**+0.7**
H29M				IAmb	IAmb	14 24 39.6	
	comp=Z,7.3nm,1.4s						
G29M	**Pine Creek**	**21.72**	**35**	P	**P**	**14 24 07.9**	**0.0**
G29M				IAmb	IAmb	14 24 25.2	
	comp=Z,1.8nm,0.8s						
G31M	**Satah River**	**23.07**	**36**	P	**P**	**14 24 23.0**	**+0.8**
G31M				IAmb	IAmb	14 24 51.3	
	comp=Z,4.4nm,1.5s						
INK	**Inuvik**	**23.88**	**33**	P	**P**	**14 24 30.7**	**+0.6**
INK				IAmb	IAmb	14 24 32.8	
	comp=Z,7.7nm,1.5s						
YKA	**Yellowknife Ar**	**30.86**	**48**	P	**P**	**14 25 34.4**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=274,slow=8.6,SNR=12						
	comp=Z,0.4nm,0.6s						
YAK	**Yakutsk**	**32.87**	**311**	LR	LR	14 39 14.9	
	comp=Z,28nm,19.3s,baz=271,slow=37						
PNTR	**Pine Nut**	**37.06**	**90**	P	**P**	**14 26 26.2**	**-0.8**
LYMT	**Lyon Mountain**	**37.15**	**74**	P	**P**	**14 26 27.1**	**-0.6**
H11S1	**WAKE ISLAND Hy**	**38.08**	**217**	T	T	15 07 20.2	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.10**	**217**	T	T	15 07 19.8	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.10**	**217**	T	T	15 07 20.4	
	baz=22						
PDAR	**Pinedale Array**	**41.05**	**78**	P	**P**	**14 27 01.6**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=339,slow=4.8,SNR=3.8						
	comp=Z,0.2nm,0.5s						
FCC	**Fort Churchill**	**41.56**	**50**	P	**P**	**14 27 05.2**	**+1.3**
ICQ	**Pointe Anglais**	**59.58**	**47**	P	**P**	**14 29 20.8**	**+0.8**
KURBB	**Kurchatov Arra**	**62.25**	**318**	P	**P**	**14 29 37.9**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=44,slow=6.6,SNR=5.4						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**63.53**	**313**	P	**P**	**14 29 46.5**	**-0.3**
MKAR	**Makanchi Array**	**63.53**	**313**	P	**P**	**14 29 46.6**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=39,slow=7.8,SNR=7.1						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**63.54**	**324**	P	**P**	**14 29 47.5**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=55,slow=5.9,SNR=12						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	**66.02**	**351**	P	**P**	**14 30 03.6**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=349,slow=7.8,SNR=3.5						
	comp=Z,3.0nm,1.0s						
HFS	**Hagfors**	**68.04**	**358**	P	**P**	**14 30 16.3**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=20,slow=5.1,SNR=6.6						
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**70.31**	**328**	P	**P**	**14 30 30.2**	**+0.4**
GAR	**Garm**	**75.03**	**315**	P	**P**	**14 30 58.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**76.08**	**282**	P	**P**	**14 31 04.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=24,slow=7.0,SNR=5.3						
	comp=Z,0.4nm,0.3s						

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*NEIC **04** 14:47:31.5±1.0, 35°.83N±0°.01×98°.24W±0°.01, h6km±2km, Error ellipse: s-maj=1.8km s-min=1.3km az=51.0*
NEIC 04 14:47:31.4±0.8, 35°.839N±0°.008×98°.21W±0°.01, h5km±1km, mb_Lg2.0/6, ML2.5/33, ML2.2/52, Error ellipse: s-maj=2.6km s-min=1.9km az=30.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.43**	**244**		Pg	14 47 39.7	-0.1
OK029	**Liberty Lake**	**0.62**	**94**	Pg	Pg	14 47 43.5	+0.3
OK029				IAML		14 47 53.1	
	107nm,0.2s						
CROK	**Carrier**	**0.69**	**15**		Pg	14 47 45.0	+0.3
CROK					Sb	14 47 54.8	-1.0
CROK				IAML		14 48 01.8	
	comp=N,123nm,0.2s						
OK038	**West end E0370**	**0.77**	**326**		Pg	14 47 46.1	-0.1
OK038					Sg	14 47 56.7	+0.4
OK038				IAML		14 48 07.4	
	comp=N,142nm,0.3s						
FNO	**Franklin**	**0.88**	**131**		Pg	14 47 47.2	-1.1
FNO					Sg	14 48 00.5	+0.7
FNO				IAML		14 48 03.7	
	comp=E,55nm,0.4s						
NOKA	**Waynoka**	**0.98**	**324**		Pg	14 47 49.9	-0.4
NOKA					Sg	14 48 03.6	+0.5
NOKA				IAML		14 48 12.7	
	comp=E,82nm,0.3s						
NOKA				IAML		14 48 12.7	
	comp=N,84nm,0.3s						
ELIS	**Ellis County**	**1.00**	**283**	Pg	Pg	14 47 50.4	-0.3
ELIS				IAML		14 48 05.5	
	comp=N,92nm,0.3s						
ELIS				IAML		14 48 12.4	
	comp=E,59nm,0.3s						
GC02	**Grant County #**	**1.05**	**16**		Pg	14 47 51.4	-0.2
GC02					Sb	14 48 05.8	-0.4
OK031	**S. Brethren Rd**	**1.12**	**84**	Pg	Pg	14 47 52.7	-0.2
OK031					Sb	14 48 08.6	+0.4
OK031				IAML		14 48 09.1	
	comp=E,67nm,0.3s						
OK031				IAML		14 48 09.9	
	comp=E,43nm,0.2s						
KAN14	**Manchester OK**	**1.13**	**10**		Pg	14 47 52.8	-0.4
KAN14					Sb	14 48 08.4	-0.2
OK052	**Battle Ridge R**	**1.15**	**82**		Pg	14 47 53.2	-0.4
OK052					Pb	14 47 53.5	-0.4
OK052					Sb	14 48 09.3	+0.1
OK052				IAML		14 48 10.2	
	comp=E,53nm,0.4s						
OK052				IAML		14 48 11.1	
	comp=E,52nm,0.2s						
OK048	**Pawnee Station**	**1.18**	**60**		Pg	14 47 53.6	-0.4
OK048					Sb	14 48 09.8	0.0
OK048				IAML		14 48 13.8	
	comp=E,64nm,0.2s						
OK048				IAML		14 48 14.8	
	comp=E,59nm,0.2s						
WMOK	**Wichita Mounta**	**1.19**	**203**		Pg	14 47 53.0	-1.3
WMOK					Sg	14 48 08.9	-0.9
BLOK	**Blackwell**	**1.22**	**41**	IAmb_Lg		14 48 11.1	
	comp=Z,6.1nm,0.9s						
QUOK	**Quay**	**1.26**	**74**		Pg	14 47 55.0	-0.7
QUOK					Sn	14 48 13.0	-0.1
X34A	**Smith Ranch, M**	**1.27**	**166**		Pg	14 47 55.5	-0.4
X34A				IAML		14 48 00.7	
	comp=E,39nm,3.5s						
X34A				IAML		14 48 32.1	
	comp=N,31nm,3.1s						
W35A	**Tecumseh**	**1.29**	**122**		Pn	14 47 55.2	-0.9
W35A					Sb	14 48 13.0	0.0
OK051	**E0350 and S346**	**1.30**	**59**		Pn	14 47 55.6	-0.6
OK051				IAmb_Lg		14 48 13.3	
	comp=Z,11nm,0.9s						
OK051					Sn	14 48 13.9	-0.1
KAN01	**Argonia South**	**1.36**	**15**		Pn	14 47 56.8	-0.4
KAN09	**Caldwell North**	**1.38**	**20**		Pn	14 47 56.9	-0.5
DEOK	**Depew**	**1.39**	**89**		Pn	14 47 56.3	-1.2
KAN08	**Anthony NE Sta**	**1.40**	**8**		Pn	14 47 57.2	-0.5
T35A	**Sooner Cattle**	**1.74**	**51**	Pn	Pn	14 48 02.3	-0.1
SMWD	**Samnorwood**	**1.81**	**247**		Pn	14 48 02.9	-0.4
SMWD				IAmb_Lg		14 48 29.8	
	comp=Z,7.1nm,0.7s						
AMTX	**Amarillo**	**2.99**	**252**	IAmb_Lg		14 49 04.0	
	comp=Z,7.3nm,0.8s						

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*IDC **04** 14:53:02.4±1.1, 15°.46N×98°.51W, h0km, mb3.9/8, mbtmp3.9/11, ML3.4/4, MS3.2/10, Error ellipse: s-maj=31.9km s-min=16.9km az=43.0*
*MEX **04** 14:53:05.6±0.7, 15°.57N×98°.64W, h16km±13km, MD4.4*
*NEIC **04** 14:53:07.4±1.6, 15°.75N±0°.03×98°.37W±0°.05, h10km±1km, mb4.2/32, Md4.4/29(MEX), Error ellipse: s-maj=8.3km s-min=5.2km az=270.0*
ISC 04 14:53:04.9±2.9, 15°.60N±0°.05×98°.61W±0°.04, h16km±18km, n94, σ2§83/119, mb4.1/19, MS3.1/7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.91**	**30**		**Pb**	**14 53 20.0**	**-2.4**
PNIG					**Sb**	**14 53 31.9**	**-2.4**
PNIG	**Pinotepa**	**0.91**	**30**	*e*P	**Pb**	**14 53 20.0**	**-2.4**
PNIG				*e*S	**Sb**	**14 53 31.9**	**-2.4**
CRIG	**Cruz Grande**	**1.23**	**336**		**Pn**	**14 53 24.4**	**-3.1**
CRIG					**Sb**	**14 53 38.5**	**-5.0**
CRIG	**Cruz Grande**	**1.23**	**336**	*e*P	**Pn**	**14 53 24.4**	**-3.1**
CRIG				*i* S	**Sb**	**14 53 38.5**	**-5.0**
PEIG	**Puerto Escondi**	**1.46**	**74**		**Pn**	**14 53 28.2**	**-2.5**
PEIG					**Sn**	**14 53 45.5**	**-3.9**
PEIG	**Puerto Escondi**	**1.46**	**74**	*i* P	**Pn**	**14 53 28.2**	**-2.5**
PEIG				*e*S	**Sn**	**14 53 45.5**	**-3.9**
YOIG	**Yosondua**	**1.61**	**39**		**Pn**	**14 53 30.7**	**-2.3**
YOIG					**Sn**	**14 53 51.2**	**-2.4**
YOIG	**Yosondua**	**1.61**	**39**	*e*P	**Pn**	**14 53 30.7**	**-2.3**
YOIG				*e*S	**Sn**	**14 53 51.2**	**-2.4**
MGIG	**Malinaltepec**	**1.62**	**359**		**Pn**	**14 53 31.0**	**-2.0**
MGIG					**Sn**	**14 53 48.2**	**-5.5**
MGIG	**Malinaltepec**	**1.62**	**359**	*e*P	**Pn**	**14 53 31.0**	**-2.0**
MGIG				*i* S	**Sn**	**14 53 48.2**	**-5.5**
DAIG	**Los Arroyos**	**1.73**	**325**	*e*P	**Pn**	**14 53 30.7**	**-3.7**
DAIG				*i* S	**Sn**	**14 53 50.2**	**-5.9**
ACP2	**Acapulco**	**1.76**	**316**	*e*P	**Pb**	**14 53 37.3**	**+0.4**
ACP2				*e*S	**Sn**	**14 53 50.8**	**-6.1**
TXIG	**Tlaxiaco**	**1.83**	**26**		**Pn**	**14 53 34.4**	**-1.5**
TXIG					**Sn**	**14 53 57.8**	**-1.2**
TXIG	**Tlaxiaco**	**1.83**	**26**	*e*P	**Pn**	**14 53 34.4**	**-1.5**
TXIG				*i* S	**Sn**	**14 53 57.8**	**-1.2**
TLIG	**Tlapa**	**1.95**	**1**	Pn	**Pn**	**14 53 36.3**	**-1.2**
TLIG				Sn	**Sn**	**14 53 58.8**	**-2.9**
TLIG	**Tlapa**	**1.95**	**1**	*e*P	**Pn**	**14 53 36.1**	**-1.4**
TLIG				*e*S	**Sn**	**14 53 58.9**	**-2.8**
CAIG	**El Cayaco**	**2.15**	**312**	*e*P	**Pn**	**14 53 37.5**	**-2.5**
CAIG				*e*S	**Sn**	**14 53 59.8**	**-6.6**
HMTT	**Tlapaneco**	**2.18**	**1**	*i* S	**Sn**	**14 54 04.3**	**-3.2**
VHO	**Vista Hermosa**	**2.32**	**51**	*e*P	**Pn**	**14 53 41.0**	**-1.6**
VHO				*i* S	**Sn**	**14 54 06.2**	**-4.8**
OXIG	**Oaxaca**	**2.32**	**51**		**Pn**	**14 53 41.0**	**-1.6**
OXIG					**Sn**	**14 54 06.2**	**-4.8**
FTIG	**Fresnillo de T**	**2.34**	**11**		**Pn**	**14 53 41.9**	**-0.9**
FTIG					**Sn**	**14 54 08.3**	**-3.0**
FTIG	**Fresnillo de T**	**2.34**	**11**	*e*P	**Pn**	**14 53 41.9**	**-0.9**
FTIG				*i* S	**Sn**	**14 54 08.3**	**-3.0**
HLIG	**Huajuapan de L**	**2.34**	**19**		**Pn**	**14 53 41.8**	**-1.2**
HLIG					**Sn**	**14 54 08.8**	**-2.8**
HLIG	**Huajuapan de L**	**2.34**	**19**	*e*P	**Pn**	**14 53 41.8**	**-1.2**
HLIG				*e*S	**Sn**	**14 54 08.8**	**-2.8**
HUIG	**Huatulco**	**2.41**	**86**		**Pn**	**14 53 41.4**	**-2.4**
HUIG					Sn	14 54 04.0	-9.0
HUIG	**Huatulco**	**2.41**	**86**	*e*P	**Pn**	**14 53 41.4**	**-2.4**
HUIG				*e*S	Sn	14 54 04.0	-9.0
TOIG	**Toxpalan**	**2.89**	**31**		**Pn**	**14 53 49.6**	**-0.8**
TOIG					**Sn**	**14 54 20.3**	**-4.6**
TOIG	**Toxpalan**	**2.89**	**31**	*e*P	**Pn**	**14 53 49.6**	**-0.8**
TOIG				*i* S	**Sn**	**14 54 20.3**	**-4.6**
PLIG	**Platanillo**	**2.90**	**343**	*e*P	**Pn**	**14 53 50.1**	**-0.5**
PLIG				*e*S	**Sn**	**14 54 20.3**	**-4.9**
TPIG	**Tehuac#an**	**3.04**	**23**		**Pn**	**14 53 52.5**	**-0.1**
TPIG					**Sn**	**14 54 29.6**	**+0.7**
TPIG	**Tehuac#an**	**3.04**	**23**	*i* P	**Pn**	**14 53 52.5**	**-0.1**
TPIG				*e*S	**Sn**	**14 54 29.6**	**+0.7**
ARIG	**Puente Sto Nin**	**3.14**	**328**	*e*P	**Pn**	**14 53 53.9**	**+0.1**
ARIG				*i* S	**Sn**	**14 54 26.5**	**-4.5**
YAIG	**Yautepec**	**3.27**	**352**	*e*P	**Pn**	**14 53 55.5**	**-0.2**
YAIG				*i* S	**Sn**	**14 54 30.8**	**-3.6**
ZIIG	**Zihuatanejo**	**3.39**	**306**	*e*P	**Pn**	**14 53 55.5**	**-1.7**
ZIIG				*i* S	**Sn**	**14 54 29.9**	**-7.1**
NEUV	**Arroyo Zacate**	**3.41**	**52**	*e*P	**Pn**	**14 53 55.9**	**-1.6**
NEUV				*i* S	**Sn**	**14 54 38.6**	**+1.0**
PPM	**Popocatepetl**	**3.44**	**360**	*e*P	**Pn**	**14 53 58.4**	**0.0**
PPM				*e*S	**Sn**	**14 54 36.9**	**-2.3**
CMIG	**Matias Romero**	**3.87**	**67**	Pn	**Pn**	**14 54 02.0**	**-1.8**
	15nm,0.3s,baz=248,slow=11,SNR=50						
CMIG				Sn	**Sn**	**14 54 46.4**	**-2.6**
	40nm,0.3s,baz=233,slow=20,SNR=10						
CMIG				LR	LR	14 55 37.5	
	comp=Z,527nm,19.7s,baz=280,slow=40						
	32nm,0.3s						
CARR	**Arriaga**	**4.56**	**81**	*e*P	Pn	14 54 03.9	-9.5
CARR				*i* S	**Sn**	**14 55 00.5**	**-5.5**
UXUV	**UXUV**	**4.61**	**68**	*e*P	**Pn**	**14 54 12.3**	**-1.6**
UXUV				*i* S	**Sn**	**14 55 04.4**	**-2.8**
DEIG	**Demacu**	**4.69**	**355**	*e*P	Pn	14 54 20.6	+5.3
DEIG				*i* S	**Sn**	**14 55 12.4**	**+2.8**
TGIG		**5.40**	**77**	*e*P	**Pn**	**14 54 25.7**	**+0.8**
TGIG				*e*S	**Sn**	**14 55 24.2**	**-2.6**
CCIG	**Comitan**	**6.26**	**83**	Pn	**Pn**	**14 54 36.7**	**-0.2**
CCIG	**Comitan**	**6.26**	**83**	*e*P	**Pn**	**14 54 39.4**	**+2.5**
CCIG				*i* S	**Sn**	**14 55 46.2**	**-2.0**
APG	**El Apazote**	**7.88**	**93**	Pn	**Pn**	**14 54 58.9**	**-0.2**
	0.1nm,0.3s,baz=242,slow=24,SNR=5.5						
APG				Sn	**Sn**	**14 56 24.1**	**-4.1**
	0.2nm,0.3s,baz=232,slow=19,SNR=8.4						
ZAIG	**Zacatecas**	**8.05**	**333**	Pn	**Pn**	**14 55 04.6**	**+3.1**
PETF	**Flores**	**8.50**	**80**	Pn	**Pn**	**14 55 06.9**	**-0.5**
MTO3	**Montecristo**	**9.02**	**96**	Pn	**Pn**	**14 55 15.4**	**+0.6**
TEIG	**Tepich**	**10.85**	**63**	Pn	**Pn**	**14 55 37.7**	**-2.0**
TEIG	**Tepich**	**10.85**	**63**	Pn	**Pn**	**14 55 38.0**	**-1.7**
	baz=252,slow=19						
TEIG				Sn	Sn	14 57 33.4	-7.5
	baz=233,slow=20						
BOAB	**BOACO BROADBAN**	**12.94**	**102**	Pn	**Pn**	**14 56 08.2**	**-0.1**
LPIG	**La Paz**	**13.87**	**309**	LR	LR	15 00 33.6	
	comp=Z,36nm,20.3s,baz=146,slow=32						
JTS	**Las Juntas de**	**14.31**	**110**	Pn	Pn	14 56 23.3	-3.9
	0.3nm,0.3s,baz=323,slow=22,SNR=1.0						
	1.4nm,0.4s						
TXAR	**Lajitas Array**	**14.44**	**342**	Pn	**Pn**	**14 56 31.1**	**+2.3**
	baz=160,slow=14,SNR=2.2						
TXAR				LR	LR	15 01 48.7	
	comp=Z,55nm,19.3s,baz=151,slow=36						
	0.7nm,0.9s						
SAND	**Sanderson**	**14.65**	**348**	P	**P**	**14 56 40.9**	**+3.0**
VHRN	**Van Horn**	**16.20**	**340**	Pn	**P**	**14 56 55.3**	**0.0**
PECS	**Pecos**	**16.41**	**344**	Pn	**Pn**	**14 56 57.1**	**+2.3**
PLPT	**Palo Pinto**	**17.14**	**1**	P	**P**	**14 57 07.9**	**+2.5**
DKNS	**Dickens**	**18.11**	**354**	P	**P**	**14 57 19.0**	**+2.8**
ANMO	**Albuquerque**	**20.51**	**341**	P	Pn	14 57 45.3	+0.5
ANMO				IAmb	IAmb	14 57 46.2	
	comp=Z,5.7nm,0.8s						
ANMO	**Albuquerque**	**20.51**	**341**	P	Pn	14 57 45.6	+0.7
	comp=Z,4.4nm,0.7s,baz=103,slow=7.1,SNR=13						
ANMO				LR	LR	15 06 03.5	
	comp=Z,98nm,21.7s,baz=322,slow=38						
	comp=Z,4.4nm,0.7s						
RTBA	**Rita Blanca**	**21.07**	**351**	P	**P**	**14 57 50.6**	**+1.9**
RTBA				IAmb	IAmb	14 58 00.4	
	comp=Z,14nm,1.2s						
**X16A

comp=Z,3.3nm,0.9s
BDFB Brasilia 58.82 120 P P 15 03 02.5 -0.7
comp=Z,1.7nm,0.6s,baz=270,slow=9.3,SNR=3.5
comp=Z,1.7nm,0.6s
ILAR Eielson Array 58.91 338 P P 15 03 04.4 +1.4
comp=Z,0.6nm,0.8s,baz=147,slow=5.5,SNR=10
comp=Z,0.6nm,0.8s
WRA Warrumunga Arr 129.56 257 PKP PKPdf 15 12 13.8 -0.1
comp=Z,0.4nm,0.8s,baz=79,slow=3.3,SNR=3.2

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*JMA **04** 14:58:15.3±0.2,29°N±2°×14°0E±°, h486km, MV4.0/16, W OFF OGASAWARA*
*NEIC **04** 14:58:16.8±1.1,28°9N±0°1×139°4E±0°1, h461km±8km, mb4.0/42, Error ellipse: s-maj=18.6km s-min=14.3km az=110.0*
*IDC **04** 14:58:17.1±1.5,28°90N×139°42E, h467km±16km, mb3.3/20, mbtmp4.1/26, Error ellipse: s-maj=15.6km s-min=11.0km az=89.0*
ISC 04 14:58:15.7±0.4,28°86N±0°06×139°42E±0°07, h450km, n105, σ1°40/112, mb3.9/42, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.01**	**125**	P	**P**	**14 59 24.4**	**+1.5**
CBIJ				S	**S**	**15 00 18.2**	**+0.9**
JCJ	**Chichijima**	**3.01**	**125**	P	**P**	**14 59 24.1**	**+1.3**
JCJ				S	**S**	**15 00 18.0**	**+0.7**
JCJ	**Chichijima**	**3.01**	**125**	P	P	14 59 18.2	-4.7
	143nm,0.4s,baz=282,slow=22,SNR=34						
JCJ				S	**S**	**15 00 11.7**	**-5.6**
	784nm,0.5s,baz=291,slow=22,SNR=27						
JCJ	**Chichijima**	**3.01**	**125**	P	**P**	**14 59 24.5**	**+1.6**
JCJ	**Chichijima**	**3.01**	**125**	S	**S**	**15 00 19.1**	**+1.8**
JHH2	**Haha-jima-NKT2**	**3.30**	**132**	P	**P**	**14 59 26.8**	**+1.7**
JHH2				S	**S**	**15 00 23.0**	**+1.6**
JHJ	**Hachijo jima 2**	**4.26**	**4**	P	**P**	**14 59 30.8**	**-2.2**
	250nm,0.8s,baz=246,slow=20,SNR=2.0						
BSO1	**Boso 1**	**5.93**	**13**	*e*S	**S**	**15 01 05.0**	**+0.5**
JKN2	**Mekihoku**	**6.00**	**334**	*e*P	**P**	**14 59 53.5**	**+3.7**
JOD2	**Odawara 2**	**6.39**	**358**	P	**P**	**14 59 55.9**	**+2.0**
INU	**Inuyama**	**6.78**	**343**	P	**P**	**15 00 01.8**	**+3.8**
JMN	**Monobe**	**6.78**	**317**	P	P	15 00 03.3	+5.2
JGF	**Kuroka**	**6.94**	**346**	P	**P**	**15 00 01.0**	**+1.3**
JGF	**Kuroka**	**6.94**	**346**	P	**P**	**15 00 02.4**	**+2.7**
JRY	**Ryogami san**	**7.15**	**357**	P	**P**	**15 00 02.9**	**+1.1**
MJAR	**Matsushiro Arr**	**7.73**	**353**	P	**P**	**15 00 07.9**	**-0.1**
	1.9nm,0.3s,baz=157,slow=16,SNR=14						
MJAR				S	**S**	**15 01 38.6**	**-1.6**
	1.0nm,0.5s,baz=181,slow=12,SNR=2.2						
MAJO	**Matsushiro**	**7.73**	**353**	P	**P**	**15 00 08.8**	**+0.8**
MAJO	**Matsushiro**	**7.73**	**353**	P	**P**	**15 00 09.1**	**+1.0**
JNU	**Nakatsue**	**8.47**	**302**	P	**P**	**15 00 18.1**	**+1.9**
	9.7nm,0.8s,baz=213,slow=7.6,SNR=5.6						
JNU	**Nakatsue**	**8.47**	**302**	P	**P**	**15 00 20.0**	**+3.8**
JSJ	**Shimokoshiki**	**8.85**	**291**	*e*P	**P**	**15 00 22.8**	**+2.6**
JAMN	**Amaminishikomi**	**9.03**	**269**	P	**P**	**15 00 25.7**	**+3.5**
JMM	**Marumori**	**9.05**	**7**	P	**P**	**15 00 24.0**	**+1.6**
JMM	**Marumori**	**9.05**	**7**	P	**P**	**15 00 24.3**	**+2.0**
JOW	**Kunigami**	**10.07**	**261**	P	**P**	**15 00 36.8**	**+3.2**
	42nm,0.5s,baz=90,slow=9.9,SNR=18						
JOW	**Kunigami**	**10.07**	**261**	P	**P**	**15 00 37.2**	**+3.6**
JOW	**Kunigami**	**10.07**	**261**	*e*P	**P**	**15 00 37.1**	**+3.5**
JTM	**Tenmabayashi**	**11.97**	**6**	P	**P**	**15 00 54.6**	**+0.6**
JTM	**Tenmabayashi**	**11.97**	**6**	P	**P**	**15 00 54.7**	**+0.6**
KSRS	**Korea Array**	**12.88**	**315**	P	**P**	**15 01 05.1**	**+1.2**
	1.0nm,0.4s,baz=129,slow=10,SNR=5.9						
JOSM	**Okushiri--Mats**	**13.19**	**0**	*e*P	**P**	**15 01 08.8**	**+1.5**
ASAJ	**Asahikawa**	**15.44**	**9**	P	**P**	**15 01 31.6**	**+0.3**
	2.0nm,0.6s,baz=214,slow=13,SNR=6.7						
JKA	**Kamikawa-asahi**	**15.44**	**9**	P	**P**	**15 01 31.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**16.42**	**341**	P	**P**	**15 01 40.5**	**-1.1**
USA0B				IAmb	IAmb	15 01 45.5	
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**16.42**	**341**	P	**P**	**15 01 40.7**	**-0.9**
USRK	**Ussuriysk Ar.**	**16.42**	**341**	P	**P**	**15 01 42.6**	**+1.0**
	comp=Z,8.4nm,0.7s,baz=144,slow=8.7,SNR=22						
YULB	**Yu-li**	**17.16**	**256**	P	**P**	**15 01 49.1**	**-0.7**
YULB	**Yu-li**	**17.16**	**256**	P	**P**	**15 01 50.0**	**+0.3**
BNX	**BinXian**	**19.33**	**334**	⇑P	**P**	**15 02 12.1**	**+1.3**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**21.17**	**346**	P	**P**	**15 02 28.2**	**+0.7**
	comp=Z,7.4nm,0.6s,baz=166,slow=8.0,SNR=46						
	comp=Z,7.4nm,0.6s						
HEH	**HeiHe**	**23.23**	**340**	*e*P	**P**	**15 02 46.5**	**+0.5**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**26.04**	**280**	P	**P**	**15 03 11.1**	**-0.4**
PETK	**Petropavlovsk-**	**27.72**	**24**	P	**P**	**15 03 26.6**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=193,slow=5.2,SNR=6.4						
	comp=Z,1.4nm,0.8s						
MA2	**Magadan**	**31.67**	**11**	P	**P**	**15 04 00.1**	**0.0**
MA2				IAmb	IAmb	15 04 01.5	
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**31.75**	**316**	P	**P**	**15 04 01.4**	**+0.2**
SONM	**Songino Array**	**31.75**	**316**	P	**P**	**15 04 01.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=118,slow=8.6,SNR=8.7						
	comp=Z,0.9nm,0.3s						
LUWI	**Luwuk**	**33.74**	**211**	P	**P**	**15 04 17.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**38.33**	**263**	P	**P**	**15 04 54.0**	**-2.7**
BILL	**Bilibino**	**42.33**	**15**	P	**P**	**15 05 28.4**	**+0.2**
BILL				IAmb	IAmb	15 05 29.9	
	comp=Z,8.0nm,0.8s						
TIXI	**Tiksi**	**43.23**	**355**	P	**P**	**15 05 34.7**	**-0.5**
TIXI				IAmb	IAmb	15 05 35.3	
	comp=Z,2.9nm,0.8s						
KULM	**Kulim**	**43.53**	**245**	P	**P**	**15 05 38.5**	**+0.1**
KULM				IAmb	IAmb	15 05 39.9	
	comp=Z,5.3nm,0.6s						
ZALV	**Zalesovo Beam**	**46.55**	**318**	P	**P**	**15 06 00.9**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=107,slow=7.2,SNR=2.6						
ZALV				PcP	**pP**	**15 07 25.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=81,slow=4.5,SNR=2.5						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**47.47**	**308**	P	**P**	**15 06 07.9**	**-0.4**
MKAR	**Makanchi Array**	**47.47**	**308**	P	**P**	**15 06 07.7**	**-0.6**
MKAR	**Makanchi Array**	**47.47**	**308**	P	**P**	**15 06 08.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=91,slow=9.0,SNR=11						
MKAR				PcP	**PcP**	**15 07 29.2**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=85,slow=4.6,SNR=3.3						
	comp=Z,0.9nm,0.7s						
MAKZ	**Makanchi**	**47.68**	**308**	P	**P**	**15 06 09.5**	**-0.3**
GSI	**Gunungsitoli**	**48.38**	**243**	P	**P**	**15 06 15.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**48.55**	**198**	P	**P**	**15 06 17.0**	**+0.4**
WB0	**Warramunga Arr**	**48.59**	**186**	P	**P**	**15 06 16.7**	**-0.2**
WB0				IAmb	IAmb	15 06 40.9	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	**48.76**	**186**	P	**P**	**15 06 18.0**	**-0.2**
WR0				IAmb	IAmb	15 06 54.8	
	comp=Z,4.6nm,1.2s						
WB2	**Warramunga Arr**	**48.76**	**186**	P	**P**	**15 06 18.1**	**-0.1**
WB2				IAmb	IAmb	15 06 54.2	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**48.77**	**186**	P	**P**	**15 06 18.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=1.4,slow=7.7,SNR=14						
WRA				PcP	**PcP**	**15 07 34.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=2.9,slow=4.0,SNR=1.4						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**50.01**	**314**	P	**P**	**15 06 26.7**	**-0.4**
KURBB	**Kurchatov Arra**	**50.06**	**313**	P	**P**	**15 06 27.3**	**-0.2**
	comp=Z,5.7nm,0.2s,baz=91,slow=7.8,SNR=10.0						
	comp=Z,5.7nm,0.2s						
BOOM	**Boomskoye usch**	**52.20**	**303**	P	**P**	**15 06 43.5**	**0.0**
C18K	**Utukok River**	**52.38**	**23**	P	**P**	**15 06 44.4**	**+0.2**
C18K				IAmb	IAmb	15 07 12.9	
	comp=Z,8.9nm,1.5s						
ASAR	**Alice Springs**	**52.49**	**186**	P	**P**	**15 06 45.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=0.8,slow=7.0,SNR=9.8						
	comp=Z,0.2nm,0.5s						
H18K	**Honhosa River**	**52.56**	**28**	P	**P**	**15 06 46.0**	**+0.5**
H18K				IAmb	IAmb	15 07 13.3	
	comp=Z,15nm,1.4s						
D19K	**Kuna River**	**53.42**	**24**	P	**P**	**15 06 52.0**	**+0.4**
E19K	**Redstone River**	**53.50**	**25**	P	**P**	**15 06 52.6**	**+0.4**
E19K				IAmb	IAmb	15 06 53.9	
	comp=Z,5.1nm,0.7s						
OHAK	**Old Harbor**	**54.05**	**38**	P	**P**	**15 06 56.1**	**-0.1**
OHAK				IAmb	IAmb	15 07 09.0	
	comp=Z,7.5nm,1.4s						
KDAK	**Kodiak Island**	**54.44**	**38**	P	**P**	**15 06 59.1**	**+0.1**
KDAK				IAmb	IAmb	15 07 14.9	
	comp=Z,12nm,1.5s						
ARSB	**Arslanbob**	**54.55**	**302**	P	**P**	**15 07 00.7**	**+0.4**
B21K	**Ikpikpuk River**	**54.91**	**23**	P	**P**	**15 07 02.9**	**+0.8**
B21K				IAmb	IAmb	15 07 04.3	
	comp=Z,4.5nm,1.1s						
BVAR	**Borovoye Array**	**55.09**	**317**	P	**P**	**15 07 03.4**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=88,slow=7.2,SNR=18						
BVAR				PcP	**PcP**	**15 07 58.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=82,slow=5.3,SNR=4.5						
	comp=Z,2.3nm,0.5s						
BRVK	**Borovoye**	**55.15**	**317**	P	**P**	**15 07 04.0**	**-0.1**
KKAR	**Karatay Array**	**56.07**	**305**	P	**P**	**15 07 10.4**	**-0.4**
C24K	**Franklin Bluff**	**56.96**	**23**	P	**P**	**15 07 16.9**	**+0.5**
C24K				IAmb	IAmb	15 07 18.0	
	comp=Z,4.0nm,0.7s						
D27M	**Malcolm River**	**59.67**	**24**	P	**P**	**15 07 35.8**	**+0.8**
E28M	**Babbage River**	**60.21**	**25**	P	**P**	**15 07 38.8**	**+0.3**
ARTI	**Arti**	**61.63**	**321**	P	**P**	**15 07 47.4**	**-0.7**
ARTI				IAmb	IAmb	15 07 48.1	
	comp=Z,3.8nm,0.7s						
ABKAR	**Abkulak array**	**62.11**	**313**	P	**P**	**15 07 50.6**	**-0.7**
ABKAR				IAmb	IAmb	15 07 51.5	
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**62.45**	**25**	P	**P**	**15 07 53.0**	**-0.2**
INK				IAmb	IAmb	15 07 53.6	
	comp=Z,3.7nm,1.2s						
A36M	**Sachs Harbour**	**64.47**	**20**	P	**P**	**15 08 06.5**	**+0.4**
A36M				IAmb	IAmb	15 08 07.8	
	comp=Z,3.4nm,0.8s						
SPB2	**Spitsbergen Ar**	**68.21**	**349**	P	**P**	**15 08 29.9**	**+0.5**
SPITS	**Spitsbergen Ar**	**68.21**	**349**	P	**P**	**15 08 29.5**	**0.0**
	comp=Z,7.1nm,1.0s,baz=96,slow=2.9,SNR=1.3						
	comp=Z,7.1nm,1.0s						
RES	**Resolute Bay**	**70.92**	**13**	P	**P**	**15 08 45.6**	**-0.1**
RES				IAmb	IAmb	15 08 46.6	
	comp=Z,2.7nm,0.9s						
ARCES	**ARCESS Array B**	**71.07**	**340**	P	**P**	**15 08 46.5**	**-0.2**
ARCES	**ARCESS Array B**	**71.07**	**340**	P	**P**	**15 08 46.6**	**-0.2**
	comp=Z,7.8nm,1.0s,baz=71,slow=7.8,SNR=7.4						
	comp=Z,7.8nm,1.0s						
YKA	**Yellowknife Ar**	**71.75**	**28**	P	**P**	**15 08 50.2**	**-0.6**
YKA	**Yellowknife Ar**	**71.75**	**28**	P	**P**	**15 08 50.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=293,slow=6.2,SNR=15						
	comp=Z,0.8nm,0.6s						
KBZ	**Khabaz**	**75.02**	**312**	P	**P**	**15 09 09.9**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=60,slow=3.0,SNR=6.6						
	comp=Z,2.5nm,0.8s						
FIA1	**FINESS Array S**	**75.28**	**333**	P	**P**	**15 09 10.3**	**-0.8**
FINES	**FINESS Array B**	**75.28**	**333**	P	**P**	**15 09 10.4**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=69,slow=4.9,SNR=29						
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**80.83**	**336**	P	**P**	**15 09 40.0**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=116,slow=3.4,SNR=12						
	comp=Z,0.8nm,0.3s						
NC405	**NORSAR Array S**	**80.83**	**337**	P	**P**	**15 09 40.2**	**-1.0**
NB201	**NORSAR Array S**	**81.02**	**337**	P	**P**	**15 09 40.9**	**-1.3**
NB201				IAmb	IAmb	15 09 52.1	
	comp=Z,5.6nm,1.1s						
NB2	**NORSAR Subarra**	**81.06**	**337**	P	**P**	**15 09 41.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**81.06**	**337**	P	**P**	**15 09 41.2**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=54,slow=6.7,SNR=4.0						
	comp=Z,0.6nm,0.5s						
NVAR	**Mina Array Bea**	**81.33**	**51**	P	**P**	**15 09 44.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=296,slow=6.2,SNR=7.8						
	comp=Z,1.0nm,0.6s						
RAYN	**Ar Rayn**	**82.21**	**292**	P	**P**	**15 09 48.7**	**-0.3**
RAYN				IAmb	IAmb	15 09 49.8	
	comp=Z,2.5nm,0.8s						
BRTR	**Keskin Array B**	**83.01**	**312**	P	**P**	**15 09 52.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=80,slow=1.8,SNR=2.4						
	comp=Z,0.4nm,0.6s						
BURAR	**Bucovina Array**	**83.67**	**322**	P	**P**	**15 09 55.4**	**-0.6**
PDAR	**Pinedale Array**	**84.65**	**44**	P	**P**	**15 10 01.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=315,slow=6.9,SNR=2.5						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**96.47**	**52**	P	**P**	**15 10 55.7**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=312,slow=7.0,SNR=3.4						
	comp=Z,0.5nm,0.7s						

NNC 04 15:00:58.2±5.8, 36°72N×69°64E, h0km, mb3.6, mpv3.1, 3C-4D, Error ellipse: s-maj=46.7km s-min=32.8km az=171.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.41**	**6**	⇑P	Pn	15 02 34.5	+0.7
	1.1nm,0.5s,baz=190,slow=17,SNR=9.7						
KK31				⇓S	Sn	15 03 48.3	+0.5
	0.7nm,0.4s,baz=192,slow=25						
AAK	**Ala-Archa**	**6.99**	**31**	⇓P	Pn	15 02 40.6	-1.4
	0.5nm,0.4s						
AAK				⇑S	Sn	15 04 03.7	+1.3
	1.2nm,0.8s						
AB31	**Akbulak array**	**14.38**	**334**	P	Pn	15 04 23.3	+0.4
	1.2nm,0.8s,baz=167,slow=12,SNR=17						
AB31				⇑S	Sn	15 07 05.0	+2.0
	0.3nm,0.5s,baz=154,slow=23,SNR=2.8						
AKTO	**Aktyubinsk**	**16.06**	**332**	⇓P	Pn	15 04 45.8	+0.5
	0.8nm,0.8s						
AKTO				⇓S	Sn	15 07 49.0	+5.1
	2.2nm,0.9s						

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*IDC **04** 15:04:06.4±2.7, 5°35S×146°36E, h85km±25km, mb3.2/3, mbtmp3.6/6, Error ellipse: s-maj=32.7km s-min=13.8km az=57.0*
ISC 04 15:04:07.2±1.3, 5°4S±0°1×146°3E±0°2, h100km, n6, σ1°62/8, mb3.4/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.06**	**169**	P	**Pn**	**15 05 05.9**	**-1.5**
	14nm,0.3s,baz=330,slow=20,SNR=26						
PMG				S	**Sn**	**15 05 54.3**	**+0.4**
	36nm,0.4s,baz=343,slow=19,SNR=8.4						
JAY	**Jayapura**	**6.31**	**297**	P	**Pn**	**15 05 36.1**	**-1.8**
	7.3nm,0.7s,baz=168,slow=23,SNR=2.8						
JAY				S	**Sn**	**15 06 50.0**	**+1.4**
	9.8nm,0.9s,baz=138,slow=17,SNR=2.0						
WRA	**Warramunga Arr**	**18.59**	**218**	P	**P**	**15 08 16.1**	**-0.6**
	0.5nm,0.5s,baz=33,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.76**	**212**	P	**P**	**15 08 52.9**	**+1.9**
	0.3nm,0.5s,baz=40,slow=7.8,SNR=14						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**84.56**	**180**	P	**P**	**15 16 30.4**	**+1.2**
	1.5nm,1.1s,baz=39,slow=13,SNR=1.9						
	1.5nm,1.1s						
ILAR	**Eielson Array**	**85.19**	**23**	P	**P**	**15 16 32.5**	**+0.4**
	0.3nm,0.6s,baz=254,slow=4.8,SNR=7.2						
	0.3nm,0.6s						

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*WEL **04** 15:19:26.2±0.6, 32°S±10°×17°9W±2°5, h33km, M4.0/3, mB4.1/2, ML4.4/8, MLv4.0/3, Mw(mB)3.2/2, Error ellipse: s-maj=34.3km s-min=5.2km az=111.6, confirmed*
*IDC **04** 15:19:27.9±2.2, 31°05S×178°53W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=62.3km s-min=41.2km az=39.0*
ISC 04 15:19:23.5±1.1, 31°7S±0°1×179°0W±0°2, h10km, n14, σ0°85/13, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.59**	**22**	P	**Pn**	**15 20 04.7**	**-0.8**
GLKZ				S	**Sn**	**15 20 37.4**	**+0.4**
WMGZ	**Waiomatatini S**	**6.48**	**198**	P	**Pn**	**15 21 00.5**	**+1.6**
HAZ	**Te Kaha**	**6.61**	**202**	P	**Pn**	**15 21 01.7**	**+0.9**
PKGZ	**Pakihiroa**	**6.62**	**200**	P	**Pn**	**15 21 00.5**	**-0.3**
PUZ	**Puketiti**	**6.76**	**198**	P	**Pn**	**15 21 03.5**	**+0.7**
PUZ				S	**Sn**	**15 22 18.8**	**-1.1**
WCZ	**Waipu Caves**	**6.96**	**231**	P	**Pn**	**15 21 05.9**	**+0.3**
CNGZ	**Carnagh Statio**	**7.16**	**198**	P	**Pn**	**15 21 08.8**	**+0.5**
MWZ	**Matawai**	**7.22**	**202**	P	**Pn**	**15 21 08.9**	**-0.2**
URZ	**Urewera**	**7.29**	**205**	P	**Pn**	**15 21 10.8**	**+0.7**
SNGZ	**Shannon Statio**	**7.69**	**202**	P	**Pn**	**15 21 15.2**	**-0.3**
ASAR	**Alice Springs**	**42.17**	**269**	P	P	15 27 25.8	+9.2
	0.3nm,0.7s,baz=107,slow=7.9,SNR=6.8						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.27**	**274**	P	P	15 27 34.9	+9.3
	0.3nm,0.3s,baz=107,slow=8.1,SNR=32						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**58.44**	**180**	P	P	15 29 29.6	+10
	2.4nm,1.1s,baz=78,slow=0.4,SNR=2.5						
	2.4nm,1.1s						
FINES	**FINESS Array B**	**146.01**	**339**	PKPbc	**PKiKP**	**15 39 06.8**	**+0.6**
	1.4nm,0.8s,baz=38,slow=3.4,SNR=5.6						

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*TAP **04** 15:40:12.1,24°77N×122°89E, h13km, ML2.5, C*
*JMA **04** 15:40:12.3±0.2,25°N±1°×122°9E±1°0, h18km±3km, MV2.1/10, NW OFF ISHIGAKIJIMA IS*
ISC 04 15:40:11.2±1.6, 24°84N±0°08×122°92E±0°03, h15km±11km, n29, σ0°44/43, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.39**	**167**	⇑*e*P	**Pg**	**15 40 19.1**	**+0.1**
YOJ				S	**Sg**	**15 40 23.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.39**	**167**	P	**Pg**	**15 40 19.1**	**+0.1**
YOJ				S	**Sg**	**15 40 24.0**	**-0.4**
JYNG	**Yonagunijimaku**	**0.39**	**176**	P	**Pg**	**15 40 19.2**	**+0.2**
JYNG				S	**Sg**	**15 40 24.1**	**-0.3**
EOS3	**EOS3**	**0.77**	**225**	*e*P	**Pb**	**15 40 26.6**	**+0.3**
IRIF	**Iriomote-Funau**	**0.90**	**124**	*e*P	**Pb**	**15 40 28.6**	**+0.2**
IRIF				*e*S	**Sg**	**15 40 41.1**	**+0.8**
EOS4	**EOS4**	**0.90**	**217**	*e*P	**Pg**	**15 40 28.7**	**+0.1**
SXI1	**Grass Mountain**	**0.98**	**285**	*e*P	**Pb**	**15 40 30.3**	**+0.3**
TWC	**Suao**	**1.00**	**257**	*e*P	**Pb**	**15 40 30.1**	**-0.1**
TWC				*e*S	**Sb**	**15 40 42.1**	**-1.0**
TIPB	**Shuangxi**	**1.00**	**278**	*e*P	**Pb**	**15 40 30.4**	**+0.1**
ESAO	**Su ao**	**1.01**	**255**	*e*P	**Pb**	**15 40 30.3**	**-0.2**
EWUT	**Wuta**	**1.11**	**250**	*e*P	**Pb**	**15 40 31.9**	**-0.2**
NDS	**Dongshan**	**1.11**	**260**	*e*P	**Pb**	**15 40 32.1**	**0.0**
NDS				*e*S	**Sb**	**15 40 46.0**	**-0.4**
TWE	**Neicheng**	**1.14**	**264**	*e*P	**Pb**	**15 40 32.5**	**-0.1**
TWE				*e*S	**Sb**	**15 40 47.4**	**+0.1**
ENA	**Nanau**	**1.15**	**249**	*e*P	**Pb**	**15 40 32.6**	**-0.2**
JKRS	**Kuro-shima**	**1.16**	**121**	*e*P	**Pn**	**15 40 32.7**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.21**	**267**	*e*P	**Pn**	**15 40 33.6**	**-0.1**
JIJ	**Ishigaki jima**	**1.21**	**113**	*e*P	**Pn**	**15 40 33.9**	**+0.2**
JIJ				*e*S	**Sb**	**15 40 49.5**	**+0.1**
ENTT	**Nioudou**	**1.24**	**261**	*e*P	**Pn**	**15 40 34.7**	**+0.6**
ENTT				*e*S	**Sb**	**15 40 50.5**	**+0.2**
NWLT	**Wulai**	**1.29**	**268**	*e*P	**Pn**	**15 40 35.4**	**+0.7**
NWLT				*e*S	**Sb**	**15 40 51.3**	**-0.3**
JISG	**Ishigakijimahi**	**1.29**	**101**	*e*P	**Pn**	**15 40 34.3**	**-0.4**
LATG	**Datong**	**1.30**	**257**	*e*P	**Pn**	**15 40 35.4**	**+0.4**
LATG				*e*S	**Sb**	**15 40 51.5**	**-0.5**
NACB	**Ninganchiao**	**1.37**	**241**	*e*P	**Pb**	**15 40 36.6**	**0.0**
YHNB	**Yeheng**	**1.41**	**263**	*e*P	**Pn**	**15 40 36.7**	**+0.3**
YHNB				*e*S	**Sn**	**15 40 54.2**	**-0.7**
NSK	**Sanguang**	**1.43**	**264**	*e*P	**Pn**	**15 40 37.3**	**+0.6**
NSK				*e*S	**Sn**	**15 40 54.8**	**-0.4**
ETLH	**Xiulin Townshi**	**1.45**	**245**	*e*P	**Pb**	**15 40 38.1**	**+0.1**
NNSB	**Datong**	**1.45**	**254**	*e*P	**Pn**	**15 40 37.8**	**+0.7**
NNS	**Nan Shan**	**1.46**	**255**	*e*P	**Pn**	**15 40 38.1**	**+1.0**
NNS				*e*S	**Sn**	**15 40 56.4**	**+0.3**
LXIB	**Xiulin Townshi**	**1.59**	**240**	*e*P	**Pb**	**15 40 41.0**	**+0.5**
FUSS	**Fushou**	**1.63**	**249**	*e*P	**Pg**	**15 40 42.3**	**-0.3**

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*IDC **04** 15:43:59.5±1.0, 0°20S×125°31E, h0km, mb3.7/7, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=102.3km s-min=16.3km az=67.0*
*DJA **04** 15:44:03.8±1.3, 0°S±3°×12°6E±°, h19km±11km, M3.5/8, mb3.8/1, MLv3.4/8*
ISC 04 15:44:05.9±0.8, 0°00N±0°08×125°74E±0°07, h49km, n12, σ1°65/13, mb3.6/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.80**	**65**	P	**Pn**	**15 44 34.7**	**+0.2**
KMSI	**Cibinong**	**1.85**	**288**	P	**Pn**	**15 44 32.9**	**-2.3**
KMSI				S	**Sn**	**15 44 57.4**	**0.0**
SANI	**Sanana**	**2.05**	**173**	P	**Pn**	**15 44 38.1**	**+0.1**
LUWI	**Luwuk**	**3.14**	**251**	P	**Pn**	**15 44 55.3**	**+2.3**
FITZ	**Fitzroy Crossi**	**17.99**	**180**	P	**P**	**15 48 10.2**	**-2.3**
	0.2nm,0.3s,baz=14,slow=10,SNR=8.7						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**21.54**

SOEI				IAmb	IAmb	15 52 35.2
	comp=Z,31nm,0.7s					
SOEI	**Soe**	**22.16**	**257**	P	**P**	**15 52 15.9 +5.0**
INKA	**Innaminka**	**22.95**	**192**	P	**P**	**15 52 19.1 +0.2**
FITZ	**Fitzroy Crossi**	**23.77**	**236**	P	**P**	**15 52 26.4 -0.4**
FITZ	**Fitzroy Crossi**	**23.77**	**236**	P	**P**	**15 52 27.3 +0.6**
	comp=Z,11nm,0.6s,baz=51,slow=12,SNR=42 comp=Z,11nm,0.6s					
FITZ	**Fitzroy Crossi**	**23.77**	**236**	P	**P**	**15 52 28.7 +2.0**
OOD	**Oodnadatta**	**24.53**	**203**	P	**P**	**15 52 34.5 +1.0**
ARMA	**Armidale**	**25.55**	**169**	P	**P**	**15 52 43.9 +0.9**
ARMA				IAmb	IAmb	15 52 45.0
	comp=Z,12nm,1.1s					
DZM	**Mont Dzumac**	**25.78**	**132**	P	**P**	**15 52 45.0 0.0**
DZM				IAmb	IAmb	15 52 47.9
	comp=Z,26nm,1.1s					
DZM	**Mont Dzumac**	**25.78**	**132**	P	**P**	**15 52 46.8 +1.8**
WRKA	**Warakurna**	**26.09**	**219**	P	**P**	**15 52 48.3 +0.5**
LCRK	**Leigh Creek**	**26.15**	**196**	P	**P**	**15 52 49.2 +1.0**
STKA	**Stephens Creek**	**26.82**	**189**	P	**P**	**15 52 54.5 +0.3**
STKA				IAmb	IAmb	15 53 05.8
	comp=Z,22nm,0.8s					
STKA	**Stephens Creek**	**26.82**	**189**	P	**P**	**15 52 53.6 -0.7**
	comp=Z,2.2nm,0.6s,baz=31,slow=14,SNR=6.3 comp=Z,2.2nm,0.6s					
STKA	**Stephens Creek**	**26.82**	**189**	P	**P**	**15 52 54.9 +0.6**
HTT	**Hallett**	**28.83**	**193**	P	**P**	**15 53 12.9 +0.7**
BBOO	**Buckleboo**	**28.99**	**198**	P	**P**	**15 53 14.1 +0.5**
BBOO				IAmb	IAmb	15 53 23.2
	comp=Z,22nm,1.4s					
FORT	**Forrest**	**30.57**	**212**	P	**P**	**15 53 28.4 +0.8**
FORT				IAmb	IAmb	15 53 32.8
	comp=Z,20nm,1.1s					
FORT	**Forrest**	**30.57**	**212**	P	**P**	**15 53 29.3 +1.7**
MEEK	**Meekatharra**	**33.81**	**228**	P	**P**	**15 53 58.1 +2.0**
OUZ	**Omahuta**	**39.11**	**143**	P	**P**	**15 54 43.0 +2.0**
KUZ	**Kuaotunu**	**41.41**	**143**	P	**P**	**15 55 01.8 +1.8**
TOZ	**Tahuroa Road**	**41.94**	**144**	P	**P**	**15 55 06.3 +1.9**
TOZ				IAmb	IAmb	15 55 07.2
	comp=Z,11nm,0.8s					
HIZ	**Hauiti**	**42.12**	**146**	P	**P**	**15 55 08.2 +2.3**
QRZ	**Quartz Range**	**42.57**	**150**	P	**P**	**15 55 11.5 +2.0**
URZ	**Urewera**	**43.24**	**144**	P	**P**	**15 55 16.4 +1.5**
RTZ	**Ruatahuna**	**43.40**	**144**	P	**P**	**15 55 17.2 +0.9**
JCZ	**Jackson Bay**	**43.48**	**156**	P	**P**	**15 55 18.1 +1.3**
BKZ	**Black Stump Fm**	**43.49**	**145**	P	**P**	**15 55 18.5 +1.5**
TCW	**Tory Channel**	**43.74**	**149**	P	**P**	**15 55 20.2 +1.3**
BFZ	**Birch Farm**	**44.40**	**147**	P	**P**	**15 55 25.2 +1.0**
MQZ	**McQueen's Vall**	**44.84**	**153**	P	**P**	**15 55 28.5 +0.9**
KSRS	**Korea Array**	**45.77**	**340**	P	**P**	**15 55 36.3 +1.3**
	comp=Z,4.9nm,1.0s,baz=157,slow=9.9,SNR=15					
KSRS				LR	LR	16 13 35.7
	comp=Z,25nm,20.2s,baz=10.0,slow=34 comp=Z,4.9nm,1.0s					
USRK	**Ussuriysk Ar.**	**50.86**	**347**	P	**P**	**15 56 15.6 +1.4**
	comp=Z,4.1nm,0.7s,baz=177,slow=6.7,SNR=7.6 comp=Z,4.1nm,0.7s					
PZH	**PanZhiHua**	**53.35**	**309**	P	**P**	**15 56 32.6 -0.5**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,100nm,4.8s					
BNX	**BinXian**	**53.46**	**344**	⇓P	**P**	**15 56 34.4 +1.0**
BNX				pmax	pmax	
	comp=Z,6.0nm,1.1s					
HHC	**Hu-ho-hao-te**	**55.77**	**329**	*e*P	**P**	**15 56 50.7 +0.3**
HHC				pmax	pmax	
	comp=Z,16nm,0.7s					
HEH	**HeiHe**	**57.62**	**346**	*e*P	**P**	**15 57 04.0 +0.9**
PETK	**Petropavlovsk-**	**58.96**	**8**	P	**P**	**15 57 14.3 +1.9**
	comp=Z,5.0nm,0.8s,baz=152,slow=4.6,SNR=8.7 comp=Z,5.0nm,0.8s					
SONM	**Songino Array**	**63.36**	**331**	P	**P**	**15 57 44.0 +1.6**
	comp=Z,0.8nm,0.8s,baz=169,slow=5.6,SNR=3.7 comp=Z,0.8nm,0.8s					
VNDA	**Vanda**	**72.70**	**176**	P	**P**	**15 58 41.9 +1.6**
MKAR	**Makanchi Array**	**76.40**	**321**	P	**P**	**15 58 59.9 -2.5**
MKAR	**Makanchi Array**	**76.40**	**321**	P	**P**	**15 59 03.9 +1.5**
	comp=Z,0.9nm,0.7s,baz=108,slow=6.6,SNR=12 comp=Z,0.9nm,0.7s					
ZALV	**Zalesovo Beam**	**77.95**	**328**	P	**P**	**15 59 11.4 +0.6**
	comp=Z,0.5nm,0.3s,baz=108,slow=4.8,SNR=3.9					
ZALV				LR	LR	16 32 19.0
	comp=Z,20nm,21.1s,baz=72,slow=34 comp=Z,0.5nm,0.3s					
KDAK	**Kodiak Island**	**79.65**	**29**	LR	LR	16 30 01.4
	comp=Z,24nm,20.5s,baz=226,slow=32					
KURBB	**Kurchatov Arra**	**80.14**	**323**	P	**P**	**15 59 23.9 +1.0**
	comp=Z,0.7nm,1.0s,baz=116,slow=4.2,SNR=5.2 comp=Z,0.7nm,1.0s					
MAW	**Mawson**	**82.61**	**203**	P	**P**	**15 59 36.5 +0.9**
MAW				IAmb	IAmb	16 00 18.5
	comp=Z,12nm,1.1s					
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**15 59 47.1 +0.5**
QSPA				IAmb	IAmb	15 59 57.6
	comp=Z,3.3nm,0.8s					
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**15 59 46.1 -0.5**
	comp=Z,3.5nm,1.0s,baz=277,slow=1.4,SNR=11 comp=Z,3.5nm,1.0s					
CCB	**Clear Creek Bu**	**84.72**	**23**	P	**P**	**15 59 45.8 -0.7**
CCB				IAmb	IAmb	16 00 18.8
	comp=Z,4.3nm,1.4s					
IL31		**85.13**	**23**	P	**P**	**15 59 48.0 -0.5**
IL31				IAmb	IAmb	16 00 08.9
	comp=Z,2.1nm,0.8s					
ILAR	**Eielson Array**	**85.13**	**23**	P	**P**	**15 59 48.1 -0.5**
ILAR	**Eielson Array**	**85.13**	**23**	P	**P**	**15 59 48.2 -0.4**
	comp=Z,1.6nm,0.6s,baz=252,slow=5.0,SNR=52 comp=Z,1.6nm,0.6s					
BVAR	**Borovoye Array**	**85.69**	**324**	P	**P**	**15 59 52.6 +1.0**
	comp=Z,0.7nm,0.7s,baz=96,slow=4.5,SNR=3.9 comp=Z,0.7nm,0.7s					
TOLK	**Toolik Lake Re**	**85.77**	**19**	P	**P**	**15 59 51.1 -0.7**
TOLK				IAmb	IAmb	16 00 05.4
	comp=Z,3.2nm,1.1s					
SYO	**Syowa Base**	**91.00**	**200⇑**	*e*P	**P**	**16 00 13.9 -2.6**
YKA	**Yellowknife Ar**	**98.91**	**28**	P	**P**	**16 00 51.3 -1.4**
	comp=Z,0.3nm,0.8s,baz=270,slow=4.8,SNR=4.2 comp=Z,0.3nm,0.8s					
TORD	**Torodi Ar. Bea**	**144.10**	**285**	PKP	**PKPdf**	**16 06 48.0 -1.3**
	comp=Z,1.0nm,0.4s,baz=59,slow=3.6,SNR=1.7					

AUST 04 15:58:37.5±0.4,29°S±4′×12°2E±′,h10km,mb3.8/5, ML2.8/3,Error ellipse: s-maj=9.8km s-min=8.0km az=159.5,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBL	**Kambalda**	**2.57**	**187**	P	Pn	15 59 20.0	+0.6
MEEK	**Meekatharra**	**3.86**	**303**	P	Pn	15 59 38.2	+1.1
KLBR	**Kellerberrin**	**4.77**	**233**	P	Pn	15 59 49.6	+0.2
BLDU	**Ballidu**	**5.13**	**248**	P	Pn	15 59 53.5	-0.9
	comp=Z,18nm,1.9s,comp=Z,0.1nm						
MORW	**Morawa**	**5.43**	**266**	P	Pn	15 59 57.7	-0.9
FORT	**Forrest**	**5.44**	**113**	P	Pn	15 59 57.7	-1.0
	comp=Z,21nm,1.2s,comp=Z,0.1nm						
NWAO	**Narrogin (SRO)**	**5.94**	**225**	P	Pn	16 00 03.4	-2.3
MUN	**Mundaring**	**6.09**	**237**	P	Pn	16 00 08.2	+0.6
	comp=Z,0.1nmcomp=Z,24nm,2.0s						
WRKA	**Warakurna**	**6.59**	**57**	P	Pn	16 00 15.3	+0.7
	comp=Z,0.0nmcomp=Z,11nm,2.7s						
PSAD3	**Pilbara Seismi**	**7.46**	**342**	P	Pn	16 00 25.8	-0.8
	comp=Z,9.5nm,1.6s,comp=Z,0.1nm						

IGIL ***04*** *15:59:15.6,36°.70N×9°.81W,h12km,ML1.3*
INMG ***04*** *15:59:15.7±1.6,36°.70N×9°.81W,h10km±9km,ML1.8,Error ellipse: s-maj=11.2km s-min=7.5km az=35.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
CNRM ***04*** *15:59:22.6,36°.07N×9°.17W,h51km,ML3.1*

ISC 04 15:59:16.0±3.1,36°.8N±0°.1×9.73W±0°.10,h17km±10km,n26, σ0°35/27,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.81**	**63**	*e*P	**Pg**	**15 59 31.8**	**0.0**
PFVI				*e*S	**Sn**	**15 59 44.6**	**+0.3**
PFVI				*i* AML	AML	15 59 50.5	
PFVI				*i* AML	AML	15 59 53.5	
PFVI				*i* AML	AML	15 59 54.8	
MORF	**Marmelete**	**1.01**	**58**	*e*P	**Pb**	**15 59 35.0**	**-0.1**
MORF	**Marmelete**	**1.01**	**58**	*e*P	**Pb**	**15 59 35.0**	**-0.1**
MORF				*e*S	**Sg**	**15 59 48.9**	**-0.1**
MORF				*i* AML	AML	15 59 51.3	
MORF				*i* AML	AML	15 59 54.4	
MORF				*i* AML	AML	15 59 55.5	
PTEO	**Sao Teotonio**	**1.12**	**46**	*e*S	**Sg**	**15 59 52.7**	**+0.4**
PBDV	**Barranco-do-Ve**	**1.52**	**71**	*e*S	**Sb**	**16 00 02.6**	**-0.1**
PBDV				*i* AML	AML	16 00 12.6	
PBDV				*i* AML	AML	16 00 20.4	
PCVE	**Castro Verde**	**1.60**	**57**	*e*P	**Pn**	**15 59 43.9**	**+0.4**
PCVE				*e*S	**Sb**	**16 00 04.8**	**-0.2**
PCVE				*i* AML	AML	16 00 14.9	
PCVE				*i* AML	AML	16 00 15.3	
PCVE				*i* AML	AML	16 00 17.6	
MESJ	**Messejana**	**1.61**	**48**	*e*P	**Pn**	**15 59 43.5**	**-0.2**
MESJ				*e*S	**Sn**	**16 00 03.6**	**-0.4**
MESJ				IAML		16 00 05.7	
	comp=N,2.5nm,0.1s						
MESJ	**Messejana**	**1.61**	**48**	*e*P	**Pn**	**15 59 43.6**	**0.0**
MESJ				*e*S	**Sn**	**16 00 04.3**	**+0.3**
MESJ				*i* AML	AML	16 00 16.9	
MESJ				*i* AML	AML	16 00 17.4	
MESJ				*i* AML	AML	16 00 19.2	
PVAQ	**Vaqueiros**	**1.73**	**68**	*e*S	**Sb**	**16 00 08.2**	**-0.6**
PVAQ				*i* AML	AML	16 00 10.1	
PMAFR	**Mafra**	**2.21**	**9**	*e*P	**Pn**	**15 59 51.3**	**-0.6**
PMAFR				*e*S	**Sn**	**16 00 19.0**	**+0.2**
PMAFR				*i* AML	AML	16 00 21.3	
PMAFR				*i* AML	AML	16 00 21.5	
PMAFR				*i* AML	AML	16 00 22.9	
EVO	**Evora**	**2.23**	**37**	*e*S	**Sn**	**16 00 19.0**	**-0.2**
EVO				*i* AML	AML	16 00 21.2	
EVO				*i* AML	AML	16 00 21.2	
EVO				*i* AML	AML	16 00 29.1	
PBAR	**Barrancos**	**2.56**	**56**	*e*P	**Pn**	**15 59 56.9**	**+0.2**
PBAR				*e*S	**Sn**	**16 00 27.8**	**+0.3**
PBAR				*i* AML	AML	16 00 30.0	
PBAR				*i* AML	AML	16 00 30.4	
PBAR				*i* AML	AML	16 00 47.9	
PMTG	**Montargil**	**2.59**	**27**	*e*P	**Pn**	**15 59 57.3**	**+0.2**
PMTG				*e*S	**Sn**	**16 00 28.0**	**0.0**
PMTG				*i* AML	AML	16 00 29.8	
PMTG				*i* AML	AML	16 00 30.2	
PMTG				*i* AML	AML	16 00 30.9	
PSBE	**So Bento**	**2.84**	**15**	*e*P	**Pn**	**16 00 00.7**	**+0.1**
PSBE				*e*S	**Sn**	**16 00 34.4**	**+0.1**
PMRV	**Marv??o**	**3.23**	**34**	*e*P	**Pn**	**16 00 06.2**	**+0.3**
PMRV				*e*S	**Sn**	**16 00 43.7**	**-0.3**
PMRV				*i* AML	AML	16 00 44.2	
PMRV				*i* AML	AML	16 00 44.6	
PMRV				*i* AML	AML	16 00 44.7	
PCAS	**Casmilo, Conde**	**3.42**	**16**	*e*P	**Pn**	**16 00 08.7**	**+0.2**
PCAS				*e*S	**Sn**	**16 00 49.5**	**+0.9**
PCAS				*i* AML	AML	16 00 50.7	
PCAS				*i* AML	AML	16 00 52.2	
MD31	**MD31**	**5.65**	**132**	P	Pn	16 00 33.2	-6.0
MD31	**MD31**	**5.65**	**132**	S	Sn	16 01 29.2	-15
OUK	**Oukaimeden**	**5.76**	**164**	P	Pn	16 00 35.1	-5.9
OUK	**Oukaimeden**	**5.76**	**164**	S	Sn	16 01 32.2	-15
MDT	**Midelt**	**5.78**	**132**	P	Pn	16 00 35.0	-5.9
MDT	**Midelt**	**5.78**	**132**	S	Sn	16 01 31.0	-16
TIO	**Tiouine**	**6.18**	**160**	P	Pn	16 00 40.4	-6.2
TIO	**Tiouine**	**6.18**	**160**	S	Sn	16 01 42.2	-15
OUZM	**OUZ**	**6.35**	**156**	P	Pn	16 00 43.2	-5.7
OUZM	**OUZ**	**6.35**	**156**	S	Sn	16 01 47.1	-14

NOU ***04*** *16:43:55.1,22°.08S×169°.43E,h0km,MLv4.0/13, Southeast of Loyalty Islands*
NEIC ***04*** *16:43:56.4±0.9,22°.3S±0°.2×169°.4E±0°.1,h8km±8km, mb4.7/12,Error ellipse: s-maj=31.4km s-min=14.6km az=181.0*
IDC ***04*** *16:44:00.4±4.0,22°.16S×169°.42E,h43km±39km,mb4.0/6, mbtmp4.2/7,ML4.8/1,MS3.6/9,Error ellipse: s-maj=33.3km s-min=21.8km az=162.0*

ISC 04 16:43:58.2±0.8,22°.1S±0°.1×169°.43E±0°.07,h25km,n42, σ0°96/36,mb4.5/11,MS3.6/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.45**	**297**	P	**Pn**	**16 44 21.5**	**-1.4**
MARNC	**Mare, Loyalty**	**1.45**	**297**	S	**Sn**	**16 44 40.6**	**-0.6**
PINNC	**Pines Island,**	**1.89**	**255**		**Pn**	**16 44 28.6**	**-0.3**
PINNC	**Pines Island,**	**1.89**	**255**	P	**Pn**	**16 44 29.1**	**+0.2**
YATNC	**Mamie plateau,**	**2.35**	**272**	P	**Pn**	**16 44 34.3**	**-1.0**
OUENC	**Ouen Island, N**	**2.41**	**263**	P	**Pn**	**16 44 35.8**	**-0.3**
OUENC	**Ouen Island, N**	**2.41**	**263**	S	**Sn**	**16 45 06.9**	**+2.1**
ONTNC	**Ouen Toro**	**2.76**	**266**		**Pn**	**16 44 40.5**	**-0.3**
ONTNC	**Ouen Toro**	**2.76**	**266**	P	**Pn**	**16 44 41.1**	**+0.2**
ONTNC	**Ouen Toro**	**2.76**	**266**	S	**Sn**	**16 45 13.9**	**+0.5**
DZM	**Mont Dzumac**	**2.77**	**271**		**Pn**	**16 44 40.7**	**-0.3**
DZM	**Mont Dzumac**	**2.77**	**271**	P	**Pn**	**16 44 41.1**	**0.0**
DZM	**Mont Dzumac**	**2.77**	**271**	S	**Sn**	**16 45 14.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.05**	**287**	P	**Pn**	**16 45 12.9**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.05**	**287**	S	**Sn**	**16 46 12.3**	**+2.4**
MSVF	**Nonsavu**	**9.22**	**63**	P	**Pn**	**16 46 11.7**	**+2.0**
	0.3nm,0.3s,baz=231,slow=11,SNR=5.6						
MSVF				LR	LR	16 49 10.6	
	comp=Z,730nm,18.3s,baz=247,slow=34 18nm,1.0s						
HNR	**Honiara**	**15.57**	**323**	LR	LR	16 53 05.3	
	comp=Z,72nm,18.1s,baz=193,slow=35						
URZ	**Urewera**	**17.37**	**159**	LR	LR	16 53 47.9	
	comp=Z,59nm,18.3s,baz=218,slow=34						
STKA	**Stephens Creek**	**26.56**	**243**	P	**P**	**16 49 34.9**	**+0.6**
STKA				IAmb	IAmb	16 49 47.6	
	comp=Z,39nm,1.3s						
STKA	**Stephens Creek**	**26.56**	**243**	P	**P**	**16 49 35.0**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=94,slow=12,SNR=4.9						
STKA				LR	LR	16 59 34.4	
	comp=Z,151nm,19.6s,baz=46,slow=35 comp=Z,2.0nm,0.8s						
MGBR	**Mount Gambier**	**29.28**	**231**	P	**P**	**16 49 57.6**	**-1.0**
WR0	**Warramunga Arr**	**32.59**	**267**	P	**P**	**16 50 27.0**	**-1.0**
WR0				IAmb	IAmb	16 50 28.9	
	comp=Z,5.4nm,0.9s						
AS31	**Alice Springs**	**32.70**	**260**	P	**P**	**16 50 28.7**	**-0.3**
ASAR	**Alice Springs**	**32.71**	**260**	P	**P**	**16 50 28.6**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=82,slow=9.0,SNR=42						
ASAR				LR	LR	17 03 08.0	
	comp=Z,121nm,20.0s,baz=91,slow=35 comp=Z,4.2nm,0.9s						
WB0	**Warramunga Arr**	**32.76**	**268**	P	**P**	**16 50 28.4**	**-1.1**
WB0				IAmb	IAmb	16 50 30.0	
	comp=Z,5.7nm,0.9s						
WB2	**Warramunga Arr**	**32.77**	**267**	P	**P**	**16 50 28.5**	**-1.0**
WB2				IAmb	IAmb	16 50 29.5	
	comp=Z,9.7nm,1.2s						
WRAB	**Tennant Creek**	**32.77**	**267**	P	**P**	**16 50 28.5**	**-1.0**
WRAB				IAmb	IAmb	16 50 30.2	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**32.78**	**267**	P	**P**	**16 50 28.3**	**-1.4**
	comp=Z,3.4nm,0.9s,baz=97,slow=8.0,SNR=14 comp=Z,3.4nm,0.9s						
JAY	**Jayapura**	**34.04**	**301**	LR	LR	17 03 56.4	
	comp=Z,67nm,19.4s,baz=318,slow=35						
KNRA	**Kununurra**	**38.91**	**272**	P	**P**	**16 51 21.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.21**	**267**	P	**P**	**16 51 41.5**	**+0.3**
PSA00	**Pilbara Seismi**	**45.85**	**261**	P	**P**	**16 52 18.6**	**-0.1**
PSA00				IAmb	IAmb	16 54 04.9	
	comp=Z,14nm,1.2s						
MBWA	**Marble Bar**	**46.03**	**261**	P	**P**	**16 52 19.9**	**-0.2**
MORW	**Morawa**	**48.30**	**250**	P	**P**	**16 52 37.5**	**-0.3**
KAPI	**Kappang**	**50.93**	**282**	LR	LR	17 16 20.2	
	comp=Z,28nm,18.4s,baz=112,slow=38						
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**16 54 54.5**	**-0.2**
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**16 54 54.4**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=23,slow=7.7,SNR=13 comp=Z,2.8nm,0.8s						
PSI	**Prapat**	**73.09**	**280**	LR	LR	17 31 24.3	
	comp=Z,31nm,19.2s,baz=148,slow=39						
CMAR	**Chiang Mai Arr**	**79.86**	**295**	P	**P**	**16 56 06.0**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=128,slow=3.6,SNR=5.8 comp=Z,0.8nm,0.9s						
PFO	**Pinyon Flats O**	**89.70**	**53**	LR	LR	17 27 49.9	
	comp=Z,219nm,21.9s,baz=10,slow=29						
NVAR	**Mina Array Bea**	**90.59**	**48**	P	**P**	**16 56 57.3**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=223,slow=8.6,SNR=7.9 comp=Z,1.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**146.39**	**352**	PKPbc	**PKPbc**	**17 03 36.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=7.5,slow=3.0,SNR=3.5						

IDC ***04*** *17:01:19.9±18.0,36°.55N×69°.86E,h126km±141km, mb3.7/3,mbtmp3.8/6,ML3.0/3,Error ellipse: s-maj=151.3km s-min=71.4km az=173.0*
NNC ***04*** *17:01:20.2±6.3,36°.61N×69°.47E,h95km±152km,mb3.6, mpv4.1,Error ellipse: s-maj=49.0km s-min=42.7km az=160.0*

ISC 04 17:01:17.8±1.9,36°.5N±0°.1×69°.67E±0°.10,h100km,n18, σ2°21/25,7C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.45**	**28**	P	**Pn**	**17 02 51.9**	**+1.4**
	SNR=39						
KK31	**Karatay Array**	**6.65**	**5**	⇑P	**Pn**	**17 02 56.3**	**+3.5**
	4.7nm,0.3s,baz=191,slow=14,SNR=94						
KK31				⇓S	**Sn**	**17 04 09.6**	**+2.6**
	11nm,0.5s,baz=198,slow=24,SNR=20						
EKS2	**Erkin-Say**	**6.94**	**26**	P	**Pn**	**17 02 59.2**	**+2.3**
	SNR=11						
AAK	**Ala-Archa**	**7.19**	**30**	P	**Pn**	**17 03 02.0**	**+1.7**
	SNR=11						
AAK	**Ala-Archa**	**7.19**	**30**	⇓P	**Pn**	**17 03 01.7**	**+1.4**
	4.6nm,0.6s						
AAK				⇓S	**Sn**	**17 04 21.4**	**+1.0**
	8.0nm,0.7s						
CHMS	**Chumysh**	**7.59**	**29**	P	**Pn**	**17 03 07.2**	**+1.5**
	SNR=9.7						
CHMS	**Chumysh**	**7.59**	**29**	⇑P	**Pn**	**17 03 07.1**	**+1.4**
	6.0nm,0.5s						
CHMS				⇓S	**Sn**	**17 04 31.7**	**+1.6**
	12nm,0.8s						
USP	**Ospenovka**	**7.73**	**27**	P	**Pn**	**17 03 09.4**	**+1.9**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.89**	**34**	P	**Pn**	**17 03 11.2**	**+1.4**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.89**	**34**	⇑P	**Pn**	**17 03 10.5**	**+0.7**
	5.6nm,0.6s						
TKM2				⇑S	**Sn**	**17 04 39.6**	**+2.1**
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**13.95**	**38**	P	**Pn**	**17 04 29.2**	**-1.8**
	0.1nm,0.3s,baz=225,slow=14,SNR=5.9						
MKAR				S	**Sn**	**17 06 59.3**	**-5.2**
	0.2nm,0.3s,baz=183,slow=23,SNR=5.8 0.4nm,0.7s						
AB31	**Akbulak array**	**14.61**	**334**	⇓P	**Pn**	**17 04 40.7**	**+1.4**
	1.2nm,0.6s,baz=148,slow=10,SNR=32						
AB31				⇑S	**Sn**	**17 07 15.9**	**-4.3**
	1.0nm,0.5s,baz=156,slow=24,SNR=13						
KURBB	**Kurchatov Arra**	**15.51**	**22**	P	**Pn**	**17 04 51.9**	**+1.2**
	0.1nm,0.3s,baz=208,slow=11,SNR=12 0.9nm,0.7s						
AKTO	**Aktyubinsk**	**16.29**	**333**	⇑P	**P**	**17 05 02.3**	**+0.8**
	4.0nm,0.8s						
AKTO				⇑S	**Sn**	**17 07 58.9**	**-1.8**
	2.5nm,1.1s						
BVAR	**Borovoye Array**	**16.55**	**2**	P	**Pn**	**17 05 04.3**	**+0.6**
	0.1nm,0.3s,baz=173,slow=13,SNR=19 1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.39**	**26**	P	**P**	**17 05 45.8**	**-0.6**
	3.1nm,0.5s,baz=221,slow=10,SNR=18 3.1nm,0.5s						
ARCES	**ARCESS Array B**	**40.76**	**338**	P	**P**	**17 08 47.8**	**-0.7**
	4.2nm,0.9s,baz=111,slow=6.8,SNR=4.7 4.2nm,0.9s						
HFS	**Hagfors**	**42.42**	**322**	P	**P**	**17 09 01.6**	**-0.6**
	0.9nm,0.4s,baz=104,slow=10,SNR=6.5 0.9nm,0.4s						

NEIC ***04*** *17:06:10.0±1.4,56°.0S±0°.1×27°.3W±0°.1,h68km±8km, mb4.7/15,Error ellipse: s-maj=17.8km s-min=12.2km az=176.0*
IDC ***04*** *17:06:13.6±5.7,55°.97S×27°.31W,h105km±51km,mb4.0/7, mbtmp4.4/8,MS3.4/2,Error ellipse: s-maj=25.3km s-min=17.8km az=73.0*

ISC 04 17:06:13.5±0.5,56°.08S±0°.08×27°.55W±0°.10,h112km,n45, σ1°41/41,mb4.6/12,6C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.43**	**286**	Pn	**Pn**	**17 07 29.7**	**-2.3**
HOPE				Sn	Sn	17 08 22.7	-11
ESPZ	**Base Esperanza**	**16.43**	**232**	Pn	**Pn**	**17 09 54.4**	**-2.6**
VNA1	**Neumayer--Stat**	**16.84**	**158**	⇑P	**P**	**17 10 04.0**	**+1.7**
	comp=Z,38nm,0.5s						
VNA3	**Neumayer Olymp**	**17.03**	**160**	⇑P	**Pn**	**17 10 05.0**	**+0.6**
	comp=Z,49nm,0.8s						
VNA2	**Neumayer--Watz**	**17.24**	**158**	⇑P	**Pn**	**17 10 07.8**	**+0.9**
	comp=Z,15nm,0.2s,baz=312,slow=13						
SNAA	**Sanae**	**18.80**	**156**	P	**P**	**17 10 23.1**	**-0.7**
SNAA				IAmb	IAmb	17 10 25.7	
	comp=Z,29nm,0.6s						
SNAA	**Sanae**	**18.80**	**156**	⇑P	**P**	**17 10 24.4**	**+0.6**
	comp=Z,700nm,0.5s						
SNAA	**Sanae**	**18.80**	**156**	P	**P**	**17 10 24.5**	**+0.8**
	comp=Z,28nm,0.5s,baz=303,slow=10,SNR=176						
SNAA				S	**S**	**17 13 47.7**	**-3.7**
	comp=Z,1.5nm,0.9s,baz=198,slow=20,SNR=1.7						
TROLL	**Troll, Antarti**	**20.31**	**153**	⇑P	**P**	**17 10 40.8**	**+0.6**
	comp=Z,2μm,0.5s						
BELA	**Belgrano 2**	**22.03**	**184**	P	**P**	**17 10 58.6**	**+0.2**
BELA				IAmb	IAmb	17 11 01.6	
	comp=Z,22n

BVAR Borovoye Array 134.97 58 PKP PKPdf 17 25 18.6 +0.6
comp=Z,0.6nm,0.5s,baz=234,slow=2.1,SNR=5.7
YKA Yellowknife Ar 136.06 318 PKP PKPdf 17 25 20.2 +0.5
comp=Z,0.3nm,0.6s,baz=139,slow=2.1,SNR=2.6
MKAR Makanchi Array 137.09 72 PKP PKPdf 17 25 22.9 +0.7
comp=Z,0.2nm,0.5s,baz=252,slow=4.2,SNR=2.1
KURBB Kurchatov Arra 137.50 65 PKP PKPdf 17 25 22.1 -0.7
comp=Z,0.2nm,0.3s,baz=232,slow=2.4,SNR=4.7
ZALV Zalesovo Beam 142.56 64 PKP PKPdf 17 25 32.4 +0.5
comp=Z,0.5nm,0.5s,baz=251,slow=4.4,SNR=2.0
ILAR Eielson Array 149.99 312 PKPbc PKPbc 17 25 49.8 +0.6
comp=Z,3.3nm,0.8s,baz=138,slow=1.8,SNR=36
SONM Songino Array 150.93 87 PKPbc PKPbc 17 25 52.5 +0.4
comp=Z,2.6nm,0.6s,baz=217,slow=3.3,SNR=22

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*UUSS **04** 17:16:43.8±0.8, 44°.69N±0°.01×110°.08W±0°.03, h6km±4km, ML3.3/14, ML3.1/40(NEIC), Error ellipse: s-maj=2.9km s-min=1.3km az=121.0*
*IDC **04** 17:16:44.3±0.8, 44°.73N×109°.67W, h0km, mb3.6/1, mbtmp3.3/5, ML2.7/3, Error ellipse: s-maj=13.0km s-min=6.4km az=96.0*
*NEIC **04** 17:16:44.9±0.5, 44°.70N±0°.01×110°.07W±0°.02, h4km±4km, Error ellipse: s-maj=2.8km s-min=1.3km az=123.0*
ISC 04 17:16:44.5±1.0, 44°.66N±0°.02×110°.08W±0°.03, h8km±8km, n77, σ1§45/70, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
YPPC	**Pelican Cone**	**0.08**	**259**		**Pg**	**17 16 47.5**	**+0.6**
YMP	**Mirror Lake Pl**	**0.09**	**325**		**Pg**	**17 16 46.8**	**-0.3**
YMP				IAML		17 16 47.8	
comp=N,10μm,0.4s							
YPK	**Parker Peak, Y**	**0.13**	**59**		**Pg**	**17 16 48.1**	**+0.6**
YPLA	**Lake Butte**	**0.20**	**222**		**Pg**	**17 16 49.8**	**+1.1**
YJC	**Joseph's Coat**	**0.21**	**296**		**Pg**	**17 16 49.6**	**+0.7**
YPSB	**Soda Butte**	**0.23**	**347**		**Pg**	**17 16 49.2**	**+0.1**
LKWY	**Lake**	**0.25**	**247**		**Pg**	**17 16 50.6**	**+1.0**
LKWY	**Lake**	**0.25**	**247**	IAML		17 16 57.0	
comp=N,24μm,0.8s							
LKWY				IAML		17 16 58.3	
comp=N,10μm,0.8s							
YTP	**The Promontory**	**0.31**	**208**		**Pg**	**17 16 51.8**	**+1.1**
YUF	**Upper Falls**	**0.31**	**279**		**Pg**	**17 16 51.5**	**+0.7**
YNE	**Yellowstone No**	**0.35**	**8**		**Pg**	**17 16 51.5**	**0.0**
YNE					**Sg**	**17 16 56.2**	**+0.1**
YNE	**Yellowstone No**	**0.35**	**8**	IAML		17 16 56.3	
comp=E,7μm,0.5s							
YNE				IAML		17 17 00.3	
comp=N,6μm,0.4s							
YML	**Mary Lake**	**0.41**	**262**		**Pb**	**17 16 54.0**	**-0.2**
YLT	**Little Thumb C**	**0.43**	**238**		**Pb**	**17 16 54.3**	**-0.2**
YNR	**Norris Junctio**	**0.43**	**277**		**Pb**	**17 16 53.9**	**-0.7**
YNR	**Norris Junctio**	**0.43**	**277**	IAML		17 17 01.9	
comp=E,3μm,0.5s							
YNR				IAML		17 17 06.9	
comp=N,3μm,0.9s							
H17A	**Grant Village**	**0.45**	**233**		**Pb**	**17 16 54.6**	**-0.2**
H17A	**Grant Village**	**0.45**	**233**	IAML		17 17 05.4	
comp=E,846nm,0.7s							
YNM	**Yellowstone No**	**0.45**	**278**	Pg	**Pg**	**17 16 53.4**	**+0.1**
YNM				IAML		17 17 01.9	
comp=N,1μm,0.6s							
YNM				IAML		17 17 03.7	
comp=E,2μm,1.0s							
YHH	**Holmes Hill**	**0.56**	**283**		**Pb**	**17 16 56.4**	**-0.4**
YPM	**Purple Mountai**	**0.56**	**270**		**Pb**	**17 16 57.5**	**+0.6**
YFT	**Old Faithful**	**0.58**	**249**		**Pb**	**17 16 57.3**	**+0.2**
YFT	**Old Faithful**	**0.58**	**249**	IAML		17 17 05.0	
comp=E,1μm,0.7s							
YFT				IAML		17 17 15.7	
comp=N,823nm,1.3s							
YMR	**Madison River**	**0.63**	**271**		**Pb**	**17 16 58.2**	**+0.2**
YMR	**Madison River**	**0.63**	**271**	IAML		17 17 08.2	
comp=N,2μm,0.8s							
YMC	**Maple Creek**	**0.67**	**279**		**Pb**	**17 16 58.8**	**+0.2**
RLMT	**Red Lodge**	**0.74**	**51**		**Pb**	**17 16 58.8**	**-1.1**
RLMT				IAML		17 17 09.7	
comp=N,1μm,0.4s							
YHB	**Horse Butte**	**0.80**	**277**		**Pb**	**17 17 00.7**	**-0.2**
YHL	**Hebgen Lake**	**0.81**	**284**	Pg	**Pb**	**17 17 00.7**	**-0.3**
YHL				IAML		17 17 27.0	
comp=E,477nm,1.7s							
MOOW	**Moose Ponds**	**1.03**	**208**		**Pg**	**17 17 04.8**	**+0.4**
LOHW	**Long Hollow**	**1.12**	**200**		**Pg**	**17 17 06.5**	**+0.5**
LOHW				IAML		17 17 10.4	
comp=E,285nm,1.0s							
LOHW				IAML		17 17 26.4	
comp=E,299nm,1.2s							
FXWY	**Fox Creek**	**1.23**	**214**		**Pg**	**17 17 08.3**	**+0.2**
SNOW	**Snow King Moun**	**1.30**	**202**		**Pb**	**17 17 10.4**	**+1.1**
SNOW				IAML		17 17 16.9	
comp=E,302nm,0.5s							
SNOW				IAML		17 17 38.7	
comp=E,308nm,1.0s							
TPAW	**Teton Pass**	**1.33**	**208**		**Pn**	**17 17 09.5**	**-0.2**
TPAW				IAML		17 17 31.3	
comp=E,260nm,0.9s							
TPAW				IAML		17 17 39.9	
comp=E,427nm,0.8s							
BOZ	**Bozeman (W)**	**1.44**	**311**		**Pb**	**17 17 11.5**	**-0.3**
DLMT	**Dillon**	**1.92**	**292**	Pn	**Pb**	**17 17 19.5**	**-0.3**
DLMT				IAML		17 17 51.3	
comp=E,214nm,0.3s							
DLMT				IAML		17 17 51.9	
comp=E,195nm,0.6s							
BW06	**Boulder Array**	**1.93**	**169**		**Pb**	**17 17 20.5**	**+0.3**
PD31	**Pinedale Array**	**1.93**	**169**	Pn	**Pb**	**17 17 20.6**	**+0.4**
PDAR	**Pinedale Array**	**1.93**	**169**	Pn	**Pb**	**17 17 20.9**	**+0.7**
comp=E,54nm,0.3s,baz=354,slow=19,SNR=754							
PDAR				Lg	Lg	17 17 45.3	
comp=E,17nm,0.3s,baz=1.0,slow=25,SNR=13							
GRRI	**Grays Lake**	**1.98**	**210**		**Pg**	**17 17 22.5**	**0.0**
AHID	**Auburn Hatcher**	**2.04**	**202**		**Pb**	**17 17 21.9**	**0.0**
AHID				IAML		17 17 31.0	
comp=E,142nm,0.9s							
AHID				IAML		17 17 35.0	
comp=E,84nm,0.7s							
LYMT	**Lyon Mountain**	**2.78**	**327**		**Pn**	**17 17 30.6**	**+1.0**
BPMT	**Black Pine Rid**	**2.96**	**308**		**Pn**	**17 17 33.3**	**+1.3**
HWUT	**Hardware Ranch**	**3.24**	**200**	Pn	**Pn**	**17 17 35.0**	**-1.0**
K22A	**Casper**	**3.27**	**127**	Pn	**Pn**	**17 17 37.0**	**+0.7**
HLID	**Hailey**	**3.31**	**252**	Pn	**Pn**	**17 17 38.0**	**+1.1**
EGMT	**Eagleton**	**3.37**	**4**	Pn	**Pn**	**17 17 37.3**	**-0.2**
LAO	**LASA Array**	**3.38**	**52**	Pn	**Pn**	**17 17 36.3**	**-1.4**
MSO	**Missoula**	**3.46**	**310**	Pn	**Pn**	**17 17 39.7**	**+0.8**
HVU	**Hansel Valley**	**3.49**	**215**		**Pn**	**17 17 38.0**	**-1.4**
TCUT	**Toone Canyon**	**3.68**	**196**		**Pn**	**17 17 41.3**	**-0.7**
BSUT	**Blindstream Ca**	**4.16**	**187**	Pn	**Pn**	**17 17 46.7**	**-2.0**
PLID	**Pearl Lake**	**4.23**	**278**	Pn	**Pn**	**17 17 48.3**	**-1.2**
BGU	**Big Grassy Mou**	**4.32**	**211**		**Pn**	**17 17 48.4**	**-2.4**
MFID	**Camas Ranch**	**4.33**	**255**		**Pn**	**17 17 50.0**	**-0.7**
O20A	**White River Ci**	**4.73**	**163**	Pn	**Pn**	**17 17 53.2**	**-3.1**
DUG	**Dugway, Tooele**	**4.90**	**205**	Pn	**Pn**	**17 17 56.2**	**-2.5**
P18A	**Preston Nutter**	**5.03**	**181**	Pn	**Pn**	**17 17 58.6**	**-2.0**
BMO	**Blue Mountains**	**5.15**	**275**	Pn	**Pn**	**17 17 59.9**	**-2.1**
F10A	**Beach Ranch, E**	**5.21**	**287**	Pn	**Pn**	**17 17 59.9**	**-2.9**
TMUT	**Trail Mountain**	**5.43**	**189**	Pn	**Pn**	**17 18 04.2**	**-1.9**
ELK	**Elko**	**5.46**	**226**	Pn	**Pn**	**17 18 05.2**	**-1.3**
ELK	**Elko**	**5.46**	**226**	Pn	Pb	17 18 14.1	-6.1
comp=E,0.1nm,0.3s,baz=46,slow=15,SNR=4.3							
ELK				Pg	Pg	17 18 23.2	-5.9
comp=E,0.2nm,0.3s,baz=44,slow=14,SNR=5.0							
ELK				Lg	Lg	17 19 41.1	
baz=28,slow=20							
comp=E,0.9nm,0.6s							
NEW	**Newport**	**6.05**	**309**	Pn	**Pn**	**17 18 11.2**	**-3.1**
NEW	**Newport**	**6.05**	**309**	Pn	**Pn**	**17 18 16.1**	**+1.7**
comp=E,0.3nm,0.3s,baz=120,slow=15,SNR=5.2							
NEW				Lg	Lg	17 19 53.4	
comp=E,1.5nm,0.3s,baz=114,slow=20,SNR=3.6							
PV23	**Carpenter Ridg**	**6.26**	**172**	Pn	**Pn**	**17 18 16.5**	**-0.9**
PV07	**Paradox Valley**	**6.31**	**170**	Pn	**Pn**	**17 18 15.9**	**-2.2**
G08A	**Pilot Rock**	**6.33**	**279**		**Pn**	**17 18 16.8**	**-1.5**
PV15	**Paradox Valley**	**6.43**	**169**	Pn	**Pn**	**17 18 17.7**	**-2.1**
WVOR	**Wild Horse Val**	**6.61**	**253**	Pn	**Pn**	**17 18 20.4**	**-1.7**
PSUT	**Pine Spring**	**6.75**	**206**	Pn	**Pn**	**17 18 20.4**	**-3.6**
OGNE	**Ogallala**	**6.99**	**119**		**Pn**	**17 18 23.8**	**-3.5**
B08A	**Colville Reser**	**7.38**	**303**	Pn	**Pn**	**17 18 30.0**	**-2.5**
NVAR	**Mina Array Bea**	**8.76**	**228**	Pn	Pn	17 19 00.1	+8.4
comp=E,0.6nm,0.8s,baz=52,slow=7.1,SNR=1.2							
ULM	**Lac du Bonnet**	**11.12**	**55**	Pn	Pn	17 19 18.6	-5.1
comp=E,0.4nm,0.3s,baz=247,slow=7.7,SNR=6.0							
ULM				Lg	Lg	17 22 18.0	
comp=E,0.7nm,0.3s,baz=195,slow=17,SNR=2.2							
comp=E,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**18.06**	**353**	P	**Pn**	**17 20 55.0**	**-0.5**
comp=E,0.1nm,0.3s,baz=169,slow=12,SNR=7.3							
YKA				S	**Sn**	**17 24 17.1**	**+0.1**
comp=E,0.3nm,0.7s,baz=170,slow=22,SNR=3.8							
YKA				Lg	Lg	17 25 59.5	
comp=E,0.1nm,0.3s,baz=169,slow=27,SNR=5.9							
comp=E,0.6nm,0.7s							
ILAR	**Eielson Array**	**28.62**	**328**	P	**P**	**17 22 44.1**	**+3.1**
comp=E,0.6nm,0.8s,baz=126,slow=7.9,SNR=4.6							
comp=E,0.6nm,0.8s							

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*IDC **04** 17:20:02.4±55.0, 17°.65S×176°.83W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=1024.0km s-min=163.7km az=79.0*
*NEIC **04** 17:20:51.4±1.5, 18°.2S±0°.2×176°.4W±0°.2, h558km±15km, mb4.3/16, Error ellipse: s-maj=31.9km s-min=21.2km az=193.0*
ISC 04 17:20:50.7±1.3, 18°.2S±0°.2×176°.4W±0°.1, h550km, n21, σ0§78/21, mb4.3/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.29**	**274**	P	**P**	**17 22 23.5**	**+0.3**
NIUE	**Niue**	**6.21**	**99**	P	**P**	**17 22 31.4**	**+0.1**
BKZ	**Black Stump Fm**	**21.76**	**195**	P	**P**	**17 25 03.9**	**+1.3**
BKZ				IAmb	IAmb	17 25 07.8	
comp=Z,9.6nm,1.0s							
TOO	**Toolangi**	**38.46**	**232**	P	**P**	**17 27 25.5**	**-0.4**
COEN	**Coen**	**39.00**	**270**	P	**P**	**17 27 31.9**	**+1.3**
COEN				IAmb	IAmb	17 28 03.8	
comp=Z,12nm,1.1s							
STKA	**Stephens Creek**	**40.15**	**242**	P	**P**	**17 27 39.7**	**+0.1**
STKA	**Stephens Creek**	**40.15**	**242**	P	**P**	**17 27 40.3**	**+0.7**
comp=Z,2.5nm,0.9s,baz=74,slow=7.4,SNR=5.0							
comp=Z,2.5nm,0.9s							
BBOO	**Buckleboo**	**44.92**	**242**	P	**P**	**17 28 17.0**	**0.0**
BBOO				IAmb	IAmb	17 28 28.1	
comp=Z,22nm,1.4s							
WB0	**Warramunga Arr**	**46.41**	**260**	P	**P**	**17 28 28.4**	**-0.1**
WB0				IAmb	IAmb	17 28 29.2	
comp=Z,3.3nm,0.5s							
WRA	**Warramunga Arr**	**46.44**	**260**	P	**P**	**17 28 28.5**	**-0.2**
WRA	**Warramunga Arr**	**46.44**	**260**	P	**P**	**17 28 29.0**	**+0.2**
comp=Z,1.5nm,0.4s,baz=96,slow=8.2,SNR=55							
comp=Z,1.5nm,0.4s							
AS31	**Alice Springs**	**46.53**	**254**	P	**P**	**17 28 29.2**	**-0.2**
ASAR	**Alice Springs**	**46.53**	**254**	P	**P**	**17 28 29.8**	**+0.3**
comp=Z,2.6nm,0.7s,baz=88,slow=7.9,SNR=99							
comp=Z,2.6nm,0.7s							
FORT	**Forrest**	**51.59**	**245**	P	**P**	**17 29 06.1**	**-0.5**
FORT				IAmb	IAmb	17 29 24.7	
comp=Z,18nm,1.2s							
KNRA	**Kununurra**	**52.34**	**264**	P	**P**	**17 29 10.9**	**-1.3**
KNRA				IAmb	IAmb	17 29 30.6	
comp=Z,19nm,1.5s							
FITZ	**Fitzroy Crossi**	**54.85**	**260**	P	**P**	**17 29 30.0**	**+0.1**
VNDA	**Vanda**	**60.30**	**185**	P	**P**	**17 30 05.3**	**-0.6**
VNDA				IAmb	IAmb	17 30 08.9	
comp=Z,22nm,1.4s							
NWAO	**Narrogin (SRO)**	**60.74**	**242**	P	**P**	**17 30 08.2**	**-1.4**
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**17 31 19.0**	**+1.1**
QSPA				IAmb	IAmb	17 31 48.7	
comp=Z,5.9nm,1.4s							
PMSA	**Palmer Station**	**82.77**	**156**	P	**P**	**17 32 17.1**	**+0.1**
SNAA	**Sanae**	**90.23**	**178**	P	**P**	**17 32 51.6**	**-0.9**

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*IDC **04** 17:22:50.7±0.4, 38°.37N×108°.85W, h0km, mb4.4/30, mbtmp4.4/40, ML3.7/8, MS4.0/46, Error ellipse: s-maj=7.8km s-min=6.3km az=51.0*
*RSNC **04** 17:22:51.0±0.0, 38°.28N×108°.91W, h1km*
*UUSS **04** 17:22:51.7±1.0, 38°.28N±0°.03×108°.91W±0°.03, h1km±1km, Mwr4.5/21, mb4.6/50(NEIC), ML5.0/125(NEIC), Mwr4.4/41(NEIC), Mww4.6/31(NEIC), Error ellipse: s-maj=4.4km s-min=3.2km az=213.0*
*NEIC **04** 17:22:51.6±1.0, 38°.28N±0°.03×108°.90W±0°.05, h4km±3km, Error ellipse: s-maj=6.3km s-min=4.5km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.58; $M_{\theta\theta}$2.52; $M_{\phi\phi}$-4.10; $M_{r\theta}$-1.48; $M_{\theta\phi}$-2.77; $M_{\phi r}$1.28; Fault plane solution: $M_0$4.93000×10^{15} NP1: ϕ_s339.58000°, δ73.11000°, λ27.64000°. NP2: ϕ_s240.93000°, δ63.64000°, λ161.08000°. Principal axes: T 4.6389, Plg31.0000°, Azm202.0000°; N 0.5441, Plg58.0000°, Azm9.0000°; P -5.1829, Plg6.0000°, Azm109.0000°;*
*NEIC **04** 17:22:51.7, 38°.28N×108°.91W, h1km*
*NEIC **04** 17:22:51.7, 38°.28N×108°.91W, h12km*
*NEIC **04** 17:22:51.7, 38°.48N×108°.78W, h12km, Moment Tensor Solution. Duration: 1§1 Moment tensor: Scale 10^{16}Nm; M_{rr}0.33; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-0.86; $M_{r\theta}$0.27; $M_{\theta\phi}$-0.57; $M_{\phi r}$-0.27; Fault plane solution: $M_0$1.01000×10^{16} NP1: ϕ_s61.03000°, δ63.74000°, λ162.45000°. NP2: ϕ_s159.00000°, δ74.31000°, λ27.36000°. Principal axes: T 0.9309, Plg30.0000°, Azm22.0000°; N 0.1519, Plg59.0000°, Azm187.0000°; P -1.0828, Plg7.0000°, Azm288.0000°;*
*GCMT **04** 17:22:54.7±0.3, 38°.32N±0°.02×108°.88W±0°.03, h20km±1km, MW4.7/81, Moment Tensor Solution. s7,c7; s81,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.19±.08; $M_{\theta\theta}$0.79±.06; $M_{\phi\phi}$-0.98±.07; $M_{r\theta}$0.22±.12; $M_{\theta\phi}$-0.90±.06; $M_{\phi r}$0.16±.12; Best double couple: $M_0$1.29000×10^{16} NP1: ϕ_s158.00000°, δ78.00000°, λ0.00000°. NP2: ϕ_s248.00000°, δ90.00000°, λ-168.00000°. Principal axes: T 1.1870, Plg8.0000°, Azm22.0000°; N 0.2050, Plg78.0000°, Azm249.0000°; P -1.3920, Plg8.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 17:22:51.2±0.8, 38°.23N±0°.02×108°.97W±0°.02, h6km±5km, n444, σ1§32/413, mb4.6/69, MS4.0/43, 7C-4D, Colorado

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PV17	**East Wray Mesa**	**0.05**	**8**	Pg	**Pg**	**17 22 53.0**	**+0.2**
PV18	**Skein Mesa, Pa**	**0.05**	**74**	Pg	**Pg**	**17 22 52.9**	**+0.1**
PV19	**Morning Glory**	**0.08**	**351**	Pg	**Pg**	**17 22 53.4**	**+0.2**
PV16	**Nyswonger Mesa**	**0.09**	**28**	Pg	**Pg**	**17 22 52.8**	**-0.5**
PV03	**Paradox Valley**	**0.10**	**77**	Pg	**Pg**	**17 22 53.0**	**-0.5**
PV11	**David Mesa, Pa**	**0.10**	**49**		**Pg**	**17 22 52.8**	**-0.7**
PV20	**West Nyswonger**	**0.11**	**0**	Pg	**Pg**	**17 22 53.5**	**-0.2**
PV13	**Radium Mtn., P**	**0.14**	**122**		**Pg**	**17 22 54.7**	**+0.6**
PV13				Sg	**Sg**	**17 22 56.8**	**+0.7**
PV13				IAML		17 22 57.4	
comp=E,494μm,0.5s							
PV13				IAML		17 22 58.3	
comp=N,429μm,0.5s							
PV10	**Paradox Valley**	**0.15**	**339**		**Pg**	**17 22 54.2**	**-0.2**
PV10				IAML		17 22 57.1	
comp=E,442μm,0.5s							
PV10				IAML		17 22 57.1	
comp=N,389μm,0.5s							
PV12	**Saucer Basin,**	**0.15**	**57**	Pg	**Pg**	**17 22 52.9**	**-1.5**
PV12				IAML		17 22 55.9	
comp=N,567μm,0.6s							
PV12				IAML		17 22 56.4	
comp=E,617μm,1.1s							
PV04	**Paradox Valley**	**0.17**	**17**	Pg	**Pg**	**17 22 54.5**	**-0.2**
PV04				IAML		17 22 57.0	
comp=E,428μm,0.6s							
PV04				IAML		17 22 57.3	
comp=N,544μm,0.6s							
PV02	**Paradox Valley**	**0.18**	**98**	Pg	**Pg**	**17 22 54.9**	**-0.1**
PV02				IAML		17 22 58.3	
comp=N,483μm,0.9s							
PV02				IAML		17 22 58.7	
comp=E,424μm,0.6s							
PV05	**Paradox Valley**	**0.19**	**214**		**Pg**	**17 22 54.9**	**0.0**
PV05					**Sg**	**17 22 57.1**	**-0.3**
PV05				IAML		17 22 57.8	
comp=E,340μm,0.3s							
PV05				IAML		17 22 58.2	
comp=N,363μm,0.6s							
PV23	**Carpenter Ridg**	**0.22**	**351**	Pg	**Pg**	**17 22 56.0**	**+0.3**
PV23				IAML		17 23 00.6	
comp=E,495μm,0.7s							
PV07	**Paradox Valley**	**0.33**	**51**		**Pg**	**17 22 56.9**	**-0.8**
PV07				Sg	**Sg**	**17 23 00.9**	**-1.0**
PV07				IAML		17 23 01.4	
comp=N,128μm,0.7s							
PV07				IAML		17 23 03.7	
comp=E,182μm,0.7s							
PV01	**Paradox Valley**	**0.33**	**107**	Pg	**Pg**	**17 22 57.5**	**-0.1**
PV22	**Blue Mesa, Par**	**0.33**	**25**	Pg	**Pg**	**17 22 57.2**	**-0.6**
PV22				IAML		17 23 05.1	
comp=E,117μm,0.7s							
PV15	**Paradox Valley**	**0.40**	**74**		**Pg**	**17 22 58.4**	**-0.6**
PV15					**Sg**	**17 23 03.6**	**-0.6**
PV15				IAML		17 23 04.5	
comp=N,213μm,0.8s							
PV15				IAML		17 23 05.7	
comp=E,230μm,1.0s							
MVCO	**Mesa Verde**	**1.09**	**160**		**Pb**	**17 23 12.6**	**+0.1**
MVCO				Sg	**Sb**	**17 23 27.3**	**+0.2**
MVCO				IAML		17 23 28.2	
comp=E,21μm,0.3s							
MVCO				IAML		17 23 35.9	
comp=E,21μm,0.5s							
HMU	**Henry Mountain**	**1.43**	**259**		**Pg**	**17 23 18.9**	**+0.3**
SRU	**San Rafael Swe**	**1.50**	**306**		**Pb**	**17 23 19.5**	**-0.1**
P18A	**Preston Nutter**	**1.71**	**325**		**Pb**	**17 23 23.1**	**-0.2**
S22A	**4UR Ranch, Cre**	**1.76**	**105**		**Pn**	**17 23 23.1**	**+0.7**
S22A	**4UR Ranch, Cre**	**1.76**	**105**	P	**Pn**	**17 23 23.4**	**+0.9**
baz=289,SNR=1000							
S22A				S	**Sb**	**17 23 47.8**	**+1.4**
baz=289							
BCE	**Book Cliffs Ea**	**1.78**	**321**		**Pb**	**17 23 24.3**	**-0.1**
ROA	**Roan Cliffs**	**1.79**	**323**		**Pb**	**17 23 24.7**	**0.0**
MMU	**Miners Mountai**	**1.83**	**270**		**Pb**	**17 23 25.6**	**+0.4**
Q16A	**Castle Valley**	**1.86**	**292**	Pn	**Pb**	**17 23 25.9**	**+0.3**
DCM	**Dugout Coal Mi**	**1.93**	**320**		**Pb**	**17 23 26.9**	**0.0**
DBD	**Des Bee Dove**	**1.98**	**304**		**Pb**	**17 23 27.7**	**-0.1**
O20A	**White River Ci**	**1.98**	**16**		**Pn**	**17 23 26.9**	**+1.5**
O20A				IAML		17 24 00.8	
comp=N,10μm,0.8s							
O20A				IAML		17 24 09.7	
comp=E,8μm,1.0s							
ARGU	**Argyle Ridge**	**2.01**	**323**		**Pb**	**17 23 28.1**	**-0.2**
TMUT	**Trail Mountain**	**2.05**	**302**		**Pb**	**17 23 28.5**	**-0.5**
RDMU	**Red Mountain**	**2.38**	**349**		**Pn**	**17 23 32.8**	**+1.9**
PGAZ	**Page**	**2.38**	**237**		**Pb**	**17 23 34.1**	**-0.5**
MSU	**Marysvale**	**2.54**	**277**		**Pb**	**17 23 35.5**	**-1.8**
MTPU	**Mount Pierson**	**2.54**	**267**		**Pb**	**17 23 36.2**	**-1.2**
MTPU				IAML		17 24 17.6	
comp=N,9μm,0.8s							
WCU	**Willow Creek**	**2.55**	**288**		**Pb**	**17 23 36.2**	**-1.4**
BSUT	**Blindstream Ca**	**2.69**	**329**		**Pn**	**17 23 37.1**	**+1.8**
BSUT				IAML		17 24 15.6	
comp=E,7μm,0.6s							
BSUT				IAML		17 24 19.0	
comp=N,6μm,1.3s							
MPU	**Maple Canyon**	**2.73**	**311**		**Pn**	**17 23 36.7**	**+0.9**
MPU				IAML		17 24 16.3	
comp=E,3μm,0.5s							
MPU				IAML		17 24 18.6	
comp=N,4μm,0.7s							
TCRU	**Three Creeks R**	**2.76**	**279**		**Pn**	**17 23 37.4**	**+1.2**
TCRU				IAML		17 24 30.1	
comp=E,9μm,1.0s							
PKCU	**Pink Cliffs**	**2.76**	**254**	Pn	**Pb**	**17 23 39.3**	**-1.9**
SDCO	**Great Sand Dun**	**2.78**	**99**		**Pn**	**17 23 38.2**	**+1.7**
HTU	**Hoyt Peak**	**3.00**	**325**		**Pn**	**17 23 41.7**	**+2.2**
Q24A	**Divide**	**3.08**	**75**	Pn	**Pn**	**17 23 41.9**	**+1.3**
Q24A	**Divide**	**3.08**	**75**	P	**Pn**	**17 23 42.3**	**+1.7**
baz=258,SNR=237							
Q24A				S	**Sn**	**17 24 20.4**	**+2.5**
baz=258							
U15A	**North Rim**	**3.20**	**237**	IAML		17 24 34.8	
comp=E,5μm,0.7s							
KNB	**Kanab**	**3.29**	**250**		**Pn**	**17 23 46.2**	**+2.8**
KNB				IAML		17 24 40.8	
comp=E,6μm,0.7s							
KNB				IAML		17 24 45.6	
comp=N,5μm,1.3s							
WUAZ	**Wupatki**	**3.33**	**216**		**Pb**	**17 23 47.1**	**-3.6**
DUG	**Dugway, Tooele**	**3.57**	**304**		**Pn**	**17 23 48.4**	**+1.1**
DUG				IAML		17 24 49.7	
comp=N,2μm,0.5s							
DUG				IAML		17 24 52.6	
comp=N,2μm,0.6s							
LCMT	**Little Creek M**	**3.61**	**252**	IAML		17 24 50.1	
comp=E,3μm,0.7s							
LCMT				IAML		17 24 56.4	
comp=N,4μm,1.2s							
T25A	**Trinidad**	**3.78**	**105**	P	**Pn**	**17 23 51.9**	**+1.8**
baz=289,SNR=21							
T25A				S	**Sn**	**17 24 36.2**	**+1.2**
baz=289							
X18A	**Snowflake**	**3.78**	**192**	IAML		17 24 55.1	
comp=N,4μm,0.9s							
X18A				IAML		17 24 57.0	
comp=E,4μm,0.6s							
ANMO	**Albuquerque**	**3.85**	**148**	IAML		17 24 54.4	
comp=E,2μm,1.0s							
ANMO	**Albuquerque**	**3.85**	**148**	Pn	**Pn**	**17 23 53.4**	**+2.3**
comp=E,5.9nm,0.3s,baz=135,slow=14,SNR=58							
ANMO				Pg	**Pb**	**17 24 02.5**	**+2.8**
comp=E,139nm,0.3s,baz=141,slow=14,SNR=72							
ANMO				Lg	Lg	17 24 50.5	
comp=E,214nm,0.3s,baz=57,slow=20,SNR=16							
comp=E,26nm,0.5s							
**BG

MFID **Camas Ranch** 7.34 317 Pn **Pn** 17 24 42.3 +3.3
NVAR **Mina Array Bea** 7.34 274 Pn **Pn** 17 24 41.8 +2.6
comp=E,1.8nm,0.3s,baz=102,slow=13,SNR=23
NVAR Pg **Pb** 17 24 57.4 -1.7
comp=E,3.6nm,0.3s,baz=77,slow=17,SNR=6.8
NVAR Lg Lg 17 26 40.5
comp=E,1.9nm,0.3s,baz=87,slow=30,SNR=2.1
comp=E,4.8nm,0.6s
PFO **Pinyon Flats O** 7.63 235 Pn **Pn** 17 24 46.9 +4.0
comp=E,2.3nm,0.3s,baz=45,slow=12,SNR=13
PFO Lg Lg 17 26 50.2
comp=E,5.7nm,0.3s,baz=214,slow=5.5,SNR=4.5
comp=E,6.1nm,0.4s
K30B **Basset** 8.40 55 Pn **Pn** 17 24 54.9 +1.5
LAO **LASA Array** 8.69 13 Pn **Pn** 17 24 56.5 -0.9
BPMT **Black Pine Rid** 8.84 339 Pn **Pn** 17 25 01.9 +2.2
TXAR **Lajitas Array** 9.91 152 Pn **Pn** 17 25 18.2 +4.0
comp=E,0.4nm,0.3s,baz=334,slow=11,SNR=16
TXAR Pg 17 25 51.9
comp=E,1.3nm,0.3s,baz=347,slow=14,SNR=7.2
TXAR Lg Lg 17 28 01.1
comp=E,3.4nm,0.3s,baz=337,slow=26,SNR=12
comp=E,3.7nm,0.9s
YBH **Yreka Blue Hor** 11.11 293 Pn Pn 17 25 35.3 +4.7
comp=E,0.1nm,0.3s,baz=134,slow=8.0,SNR=5.0
YBH Lg Lg 17 28 40.6
comp=E,0.1nm,0.3s,baz=210,slow=20,SNR=4.2
comp=E,3.3nm,1.0s
NEW **Newport** 11.65 332 Pn **Pn** 17 25 40.3 +2.3
comp=E,0.2nm,0.3s,baz=151,slow=16,SNR=2.5
NEW Lg Lg 17 28 55.0
comp=E,0.6nm,0.3s,baz=61,slow=19,SNR=7.6
comp=E,1.4nm,0.5s
833A **Chaparral WMA,** 12.71 138 P **Pn** 17 25 53.9 +1.4
baz=324
LPIG **La Paz** 14.13 185 Pn **Pn** 17 26 15.0 +3.1
comp=E,30nm,0.3s,baz=73,slow=19,SNR=1.4
LPIG LR LR 17 31 39.3
comp=E,357nm,18.8s,baz=37,slow=37
ULM **Lac du Bonnet** 15.21 34 IAmb IAmb 17 26 33.4
comp=Z,42nm,1.4s
ULM **Lac du Bonnet** 15.21 34 Pn **Pn** 17 26 22.1 -4.3
comp=Z,1.4nm,0.3s,baz=227,slow=12,SNR=11
ULM Lg Lg 17 30 39.9
comp=Z,0.5nm,0.3s,baz=133,slow=19,SNR=4.3
comp=Z,11nm,0.6s
L42A **Oliver, Polo** 15.24 70 IAmb IAmb 17 26 26.7
comp=Z,20nm,0.8s
E38A **The Farm, Brul** 15.32 51 IAmb IAmb 17 26 39.2
comp=Z,21nm,0.9s
HDIL **Hopedale** 15.39 75 IAmb IAmb 17 26 35.4
comp=Z,29nm,0.7s
L44A **Lake County Fo** 16.55 70 P **Pn** 17 26 43.5 -0.4
baz=263
COWI **Conover** 16.64 56 IAmb IAmb 17 26 48.8
comp=Z,67nm,0.8s
FFC **Flin Flon** 17.17 14 IAmb IAmb 17 26 55.6
comp=Z,47nm,1.1s
BBB **Bella Bella** 19.32 322 LR LR 17 34 09.0
comp=Z,194nm,21.4s,baz=58,slow=35
TKL **Tuckaleechee C** 20.28 90 P **P** 17 27 25.7 -1.9
comp=Z,7.5nm,1.0s,baz=255,slow=5.2,SNR=3.7
TKL Lg Lg 17 33 24.3
comp=Z,0.4nm,0.3s,baz=254,slow=19,SNR=3.7
TKL LR LR 17 35 34.8
comp=Z,507nm,21.2s,baz=287,slow=38
comp=Z,7.5nm,1.0s
N51A **Ashland** 20.65 74 P **P** 17 27 32.8 +1.3
N51A IAmb IAmb 17 27 33.2
comp=Z,47nm,1.0s
FCC **Fort Churchill** 22.69 20 P **P** 17 27 52.3 -0.9
V35K **Ketchikan** 22.91 326 P **P** 17 27 56.7 +1.1
baz=129
TOAD **Toad River Com** 23.15 338 P **P** 17 27 58.3 +0.2
baz=146,SNR=6.9
SADO **Sadowa** 23.19 64 P **P** 17 27 56.2 -2.4
comp=Z,5.0nm,0.7s,baz=277,slow=7.8,SNR=5.6
comp=Z,5.0nm,0.7s
T35M **Bob Quinn** 23.44 330 P **P** 17 28 01.3 +0.3
baz=134
CRAG **Craig** 23.68 325 P **P** 17 28 03.9 +0.5
baz=126
KOTAN **Kotaneelee Air** 23.92 341 P **P** 17 28 05.2 -0.4
baz=150,SNR=11
WRAK **Wrangell Islan** 23.93 327 P **P** 17 28 05.2 -0.5
baz=130
MMNY **Mt. Morris Dam** 23.97 69 P **P** 17 28 05.7 -0.6
U33K **Whale Pass** 24.07 326 P **P** 17 28 07.4 +0.3
baz=128
DELO **Deloro Mine** 24.25 65 P **P** 17 28 08.8 -0.1
DELO IAmb IAmb 17 28 10.0
comp=Z,18nm,0.7s
DLBC **Dease Lake** 24.40 333 P **P** 17 28 09.5 -0.6
comp=Z,3.0nm,0.6s,baz=129,slow=11,SNR=5.8
DLBC LR LR 17 36 59.6
comp=Z,430nm,18.3s,baz=340,slow=35
comp=Z,3.0nm,0.6s
DLBC **Dease Lake** 24.40 333 P **P** 17 28 09.4 -0.8
baz=137
CMIG **Matias Romero** 24.42 146 P **P** 17 28 11.6 +1.0
comp=Z,5.5nm,0.9s,baz=340,slow=8.7,SNR=7.8
comp=Z,5.5nm,0.9s
S34M **Telegraph Cree** 24.43 331 P **P** 17 28 10.3 -0.1
baz=134
YKAB2 **New Yellowknif** 24.47 354 P **P** 17 28 10.5 -0.1
YKA **Yellowknife Ar** 24.54 354 P **P** 17 28 10.5 -0.7
comp=Z,12nm,0.8s,baz=170,slow=9.7,SNR=67
YKA LR LR 17 37 55.6
comp=Z,432nm,18.6s,baz=290,slow=37
comp=Z,12nm,0.8s
VLDQ **Val d'Or** 24.86 56 P **P** 17 28 13.5 -0.8
WTLY **Watson Lake, Y** 25.25 337 P **P** 17 28 18.6 +0.8
baz=141,SNR=7.4
R33M **Jennings River** 25.43 333 P **P** 17 28 20.2 +0.7
baz=136
Q32M **Nakina River** 25.59 332 P **P** 17 28 22.1 +1.0
baz=134
TGTN **Hyland Airport** 26.22 339 P **P** 17 28 27.4 +0.8
baz=144,SNR=8.8
WRGLY **Wrigley** 26.52 345 P **P** 17 28 29.6 +0.4
baz=154
P33M **Teslin, Yukon** 26.67 333 IAmb IAmb 17 28 33.0
comp=Z,13nm,1.4s
P33M **Teslin, Yukon** 26.67 333 P **P** 17 28 30.4 -0.3
baz=135
MMPY **Sheldon Lake,** 27.95 338 IAmb IAmb 17 28 52.5
comp=Z,9.9nm,1.1s
MMPY **Sheldon Lake,** 27.95 338 P **P** 17 28 41.9 -0.3
baz=140,SNR=8.0
O30N **Mendenhall** 28.24 332 P **P** 17 28 44.1 -0.7
baz=131
FARO **Faro, Yukon** 28.30 336 P **P** 17 28 44.4 -0.9
baz=137
N31M **Braeburn, Yuko** 28.60 333 P **P** 17 28 47.4 -0.5
baz=132
M31M **Drury Creek, Y** 28.62 335 P **P** 17 28 48.3 +0.2
baz=135
HYT **Haines Junctio** 28.81 331 P **P** 17 28 49.1 -0.8
baz=129
O29M **Mount Kennedy** 28.91 329 P **P** 17 28 50.2 -0.6
baz=126
N30M **Aishikik Lake** 29.06 332 P **P** 17 28 51.8 -0.2
baz=130
M30M **Minto, Yukon** 29.69 334 P **P** 17 28 57.2 -0.4
baz=132
YUK8 **Steele Glacier** 29.96 330 P **P** 17 28 59.3 -1.0
baz=126
M29M **Somme Creek** 30.19 333 P **P** 17 29 01.0 -1.1
baz=130
L29M **L29M** 30.50 334 P **P** 17 29 04.5 -0.3
baz=131
K29M **Barlow Dome** 30.79 336 P **P** 17 29 09.5 +2.1
K29M IAmb IAmb 17 29 10.3
comp=Z,9.7nm,0.9s
K29M **Barlow Dome** 30.79 336 P **P** 17 29 08.0 +0.6
baz=133
J30M **Hart River** 30.93 337 P **P** 17 29 10.8 +2.2
J30M IAmb IAmb 17 29 11.7
comp=Z,6.1nm,0.8s
J30M **Hart River** 30.93 337 P **P** 17 29 08.4 -0.2
baz=135
I30M **Mount Dempster** 31.40 338 IAmb IAmb 17 29 15.4
comp=Z,5.6nm,0.8s
I30M **Mount Dempster** 31.40 338 P **P** 17 29 11.8 -1.0
baz=136,SNR=7.8
M27K **Edge Creek, AK** 31.41 331 P **P** 17 29 12.3 -0.6
baz=125
DAWY **Dawson** 31.56 335 P **P** 17 29 13.7 -0.4
baz=130
BMRM **Bremner River** 31.77 327 P **P** 17 29 15.2 -0.7
baz=119
L27K **Beaver Creek,** 31.79 332 P **P** 17 29 15.2 -0.9
baz=126
M26K **Nabesna, AK** 31.86 330 P **P** 17 29 16.7 -0.1
baz=123
EYAK **Cordova Ski Ar** 32.06 326 P **P** 17 29 17.5 -1.0
baz=117
I29M **Ogilvie Camp,** 32.08 337 P **P** 17 29 19.9 +1.3
I29M IAmb IAmb 17 29 20.6
comp=Z,6.7nm,0.9s
I29M **Ogilvie Camp,** 32.08 337 P **P** 17 29 18.1 -0.5
baz=133
N25K **Chitina, Valde** 32.08 328 P **P** 17 29 17.8 -1.0
baz=120
G31M **Satah River** 32.11 342 P **P** 17 29 18.3 -0.5
baz=141
L26K **Log Cabin Wild** 32.34 331 P **P** 17 29 21.0 0.0
baz=124
K27K **Chicken** 32.46 333 P **P** 17 29 22.0 +0.1
baz=127
P23K **Montague Islan** 32.56 325 P **P** 17 29 22.4 -0.5
baz=114
I28M **Miner Creek** 32.64 337 P **P** 17 29 24.7 +1.1
I28M IAmb IAmb 17 29 25.5
comp=Z,6.7nm,0.7s
I28M **Miner Creek** 32.64 337 P **P** 17 29 22.1 -1.5
baz=131,SNR=8.4
G30M **tAoh Zraii Nji** 32.65 341 P **P** 17 29 22.9 -0.7
baz=138
H29M **Whitestone** 32.69 338 P **P** 17 29 23.5 -0.5
baz=134
HARP **HAARP** 32.71 329 P **P** 17 29 22.8 -1.4
baz=121
SCHQ **Schefferville** 32.80 46 P **P** 17 29 24.1 -0.9
comp=Z,7.1nm,0.9s,baz=264,slow=10,SNR=9.1
SCHQ LR LR 17 42 44.4
comp=Z,461nm,19.1s,baz=358,slow=37
comp=Z,7.1nm,0.9s
GLI **Glacier Island** 32.80 326 P **P** 17 29 23.6 -1.4
baz=116
M24K **Tolsona, Glenn** 32.98 329 P **P** 17 29 27.5 +0.9
baz=119
F30M **Barrier River** 33.02 342 P **P** 17 29 27.1 +0.3
baz=139
INK **Inuvik** 33.03 344 LR LR 17 43 54.8
comp=Z,156nm,19.8s,baz=278,slow=38
SCRK **Sand Creek** 33.11 332 P **P** 17 29 27.2 -0.6
baz=124
J26L **Joseph Creek** 33.26 333 P **P** 17 29 31.5 +2.4
J26L IAmb IAmb 17 29 32.3
comp=Z,10nm,0.9s
J26L **Joseph Creek** 33.26 333 P **P** 17 29 28.8 -0.3
baz=125
I27K **Kandik River** 33.28 336 P **P** 17 29 28.2 -0.9
baz=129
RIDG **Independent Ri** 33.30 332 P **P** 17 29 29.2 -0.2
baz=123
SCM **Sheep Creek Mo** 33.33 328 P **P** 17 29 29.8 +0.1
baz=117
PWL **Port Wells** 33.34 326 P **P** 17 29 28.7 -1.0
baz=115
M23K **Glacier View** 33.48 327 P **P** 17 29 30.3 -0.7
baz=117
SEW **Seward** 33.55 324 P **P** 17 29 31.8 +0.3
baz=112
I26K **Coal Creek Min** 33.60 335 P **P** 17 29 32.2 +0.3
baz=127
KNK **Knik Glacier** 33.63 326 P **P** 17 29 31.6 -0.6
baz=115
H27K **Steamboat Moun** 33.65 337 P **P** 17 29 31.5 -0.9
baz=130
K24K **Donnelly Dome** 33.68 331 P **P** 17 29 31.4 -1.3
baz=122
SML **Sawmill** 33.75 327 P **P** 17 29 32.2 -1.0
baz=116
J25K **Salcha River,** 33.97 333 P **P** 17 29 34.9 -0.3
baz=123
PMR **Palmer** 34.00 327 P **P** 17 29 35.5 +0.1
baz=115
BRSE **Bradley Lake S** 34.02 323 P **P** 17 29 35.5 -0.1
RC01 **Rabbit Creek A** 34.06 325 P **P** 17 29 36.7 +0.8
baz=113
G27K **Doyon Strip** 34.07 338 P **P** 17 29 34.9 -1.1
baz=130
E29M **Blow River** 34.13 341 P **P** 17 29 35.8 -0.6
baz=137
KDAK **Kodiak Island** 34.33 319 LR LR 17 42 10.4
comp=Z,214nm,20.6s,baz=307,slow=34
KDAK **Kodiak Island** 34.33 319 P **P** 17 29 37.6 -0.7
baz=106
HDA **Harding Lake** 34.44 332 P **P** 17 29 37.7 -1.5
baz=121
M22K **Willow** 34.49 326 P **P** 17 29 38.7 -1.0
baz=114
PRP **Porcupine Dome** 34.53 334 P **P** 17 29 39.3 -0.8
baz=124
OHAK **Old Harbor** 34.55 318 P **P** 17 29 39.4 -0.8
baz=104
CAPN **Captain Cook N** 34.58 324 P **P** 17 29 39.1 -1.3
baz=111
ILAR **Eielson Array** 34.61 332 P **P** 17 29 42.1 +1.5
comp=Z,1.3nm,0.7s,baz=123,slow=7.1,SNR=15
ILAR PcP **PcP** 17 32 15.6 +0.7
comp=Z,1.0nm,0.9s,baz=145,slow=2.2,SNR=5.3
ILAR LR LR 17 44 37.7
comp=Z,240nm,18.1s,baz=78,slow=38
comp=Z,1.3nm,0.7s
RND **Reindeer** 34.68 330 P **P** 17 29 44.0 +2.6
E28M **Babbage River** 34.70 341 P **P** 17 29 42.9 +1.5
E28M IAmb IAmb 17 29 43.7
comp=Z,6.3nm,0.9s
E28M **Babbage River** 34.70 341 P **P** 17 29 40.3 -1.1
baz=135
G26K **Porcupine Rive** 34.81 337 P **P** 17 29 41.8 -0.5
baz=128,SNR=5.4
A36M **Sachs Harbour** 34.83 351 P **P** 17 29 41.9 -0.5
baz=157
CUT **Chulitna** 34.83 327 P **P** 17 29 42.5 -0.1
baz=114
MCK **McKinley** 34.87 330 P **P** 17 29 42.2 -0.7
baz=118
SII **Sitkinak Islan** 34.88 317 P **P** 17 29 41.9 -1.2
baz=102
E27K **Coleen River** 34.96 339 P **P** 17 29 45.7 +2.0
E27K **Coleen River** 34.96 339 P **P** 17 29 42.6 -1.1
baz=132
POKR **Poker Plat Res** 34.98 333 P **P** 17 29 43.1 -0.8
baz=121
O20K **Slope Mountain** 35.03 323 P **P** 17 29 43.1 -1.3
baz=109
FRB **Frobisher Bay** 35.05 30 LR LR 17 45 43.8
comp=Z,91nm,20.1s,baz=289,slow=39
H25L **Birch Creek** 35.05 335 P **P** 17 29 42.4 -2.0
baz=125
SKT **Skwentna** 35.20 326 P **P** 17 29 44.4 -1.4
baz=112
N20K **Mount Spurr** 35.21 325 P **P** 17 29 44.5 -1.5
baz=111
SPCR **Spurr Chakacha** 35.21 325 P **P** 17 29 44.7 -1.2
baz=111
R18K **Karluk** 35.25 318 P **P** 17 29 44.6 -1.5
baz=103
TRF **Thorofare Moun** 35.28 329 P **P** 17 29 45.8 -0.8
baz=116
F26K **Sheenjek River** 35.38 338 P **P** 17 29 46.6 -0.7
baz=128
G25K **Bearman Lake** 35.43 336 P **P** 17 29 47.3 -0.4
baz=125
H24K **Noodor Dome** 35.52 334 P **P** 17 29 50.9 +2.3
H24K IAmb IAmb 17 29 51.7
comp=Z,14nm,1.0s
H24K **Noodor Dome** 35.52 334 P **P** 17 29 47.7 -0.9
baz=122
D27M **Malcolm River** 35.52 341 P **P** 17 29 48.3 -0.3
baz=134
I23K **Minto, Yukon-K** 35.70 332 P **P** 17 29 49.2 -0.9
baz=119
F25K **Christian Rive** 35.77 337 P **P** 17 29 49.4 -1.3
baz=126
Q18K **Katmai Hardscr** 35.79 320 P **P** 17 29 48.5 -2.5
baz=104
PPLA **Purkeypile** 35.84 328 P **P** 17 29 49.4 -2.0
baz=113
BPAW **Bear Paw Mtn.** 35.84 330 P **P** 17 29 50.4 -0.9
baz=116
G24K **Hadweenzic Riv** 35.85 335 P **P** 17 29 50.2 -1.2
baz=123
M20K **Styx River** 35.87 326 P **P** 17 29 51.0 -0.7
baz=110
O19K **Port Alsworth** 35.87 323 P **P** 17 29 50.6 -0.9
baz=107
CAST **Castle Rocks** 36.00 328 P **P** 17 29 54.1 +1.5
CAST **Castle Rocks** 36.00 328 P **P** 17 29 52.2 -0.5
baz=114
E25K **Arctic Village** 36.07 338 P **P** 17 29 53.6 +0.4
baz=127,SNR=8.5
P18K **Big Mountain,** 36.09 321 P **P** 17 29 53.7 +0.2
baz=105
N19K **Bonanza Creek** 36.13 324 P **P** 17 29 54.2 +0.3
baz=108
CHUM **Lake Minchumin** 36.28 329 P **P** 17 29 55.0 0.0
baz=114
L20K **Farewell, AK** 36.41 326 P **P** 17 29 56.5 +0.3
baz=110
F24K **Squaw Lake** 36.44 336 P **P** 17 29 55.2 -1.1
baz=124
M19K **Big River Lodg** 36.44 325 P **P** 17 29 56.0 -0.4
baz=109
C27K **Jago River** 36.50 340 **P** 17 29 58.7 +1.9
C27K IAmb IAmb 17 29 59.2
comp=Z,12nm,1.2s
C27K **Jago River** 36.50 340 P **P** 17 29 56.5 -0.3
baz=131,SNR=7.2
P17K **Kvichak River** 36.64 321 P **P** 17 29 57.2 -1.0
baz=103
I21K **Tanana** 36.70 331 P **P** 17 29 57.5 -1.1
baz=116
G23K **Bananza Creek** 36.72 334 P **P** 17 29 58.6 -0.2
baz=120
L19K **White Mountain** 36.73 326 IAmb IAmb 17 30 02.1
comp=Z,12nm,1.1s
L19K **White Mountain** 36.73 326 P **P** 17 29 58.0 -0.9
baz=109
N18K **Kilae Creek** 36.75 323 P **P** 17 29 58.2 -0.9
baz=106
H22K **Ishtalitna Cre** 36.80 332 P **P** 17 29 59.2 -0.3
baz=118
K20K **Telida** 36.80 328 P **P** 17 29 59.1 -0.4
baz=111
E24K **Your Creek** 36.93 337 P **P** 17 29 60.0 -0.6
baz=123
M18K **Stony River** 36.96 324 P **P** 17 29 59.9 -0.9
baz=107
C26K **Camden Bay** 37.01 340 P **P** 17 30 00.7 -0.4
baz=130
D25K **Kavik River** 37.03 339 **P** 17 30 03.4 +2.0
D25K IAmb IAmb 17 30 04.3
comp=Z,12nm,0.9s
D25K **Kavik River** 37.03 339 P **P** 17 30 00.4 -1.0
baz=127,SNR=15
COLD **Coldfoot** 37.04 335 **P** 17 30 04.2 +2.7
COLD IAmb IAmb 17 30 05.0
comp=Z,8.9nm,1.0s
COLD **Coldfoot** 37.04 335 P **P** 17 30 01.1 -0.3
baz=120,SNR=8.5
O17K **Koliganek Bris** 37.10 321 P **P** 17 30 01.6 -0.5
baz=104
J20K **Nowinta River** 37.14 329 P **P** 17 30 02.1 -0.3
baz=112
RES **Resolute Bay** 37.14 6 LR LR 17 45 27.6
comp=Z,286nm,19.8s,baz=9.5,slow=37
H21K **Melozitna Rive** 37.22 332 P **P** 17 30 03.5 +0.5
baz=116
E23K **Chandalar** 37.28 336 P **P** 17 30 03.3 -0.4
baz=122
N17K **Nushagak Hills** 37.33 323 P **P** 17 30 03.6 -0.4
baz=104
TTA **Tatalina** 37.48 327 P **P** 17 30 06.4 +1.0
TTA **Tatalina** 37.48 327 P **P** 17 30 03.6 -1.7
baz=109
O16K **Kokwok River B** 37.56 321 P **P** 17 30 05.2 -0.7
baz=102
L18K **Granite Mounta** 37.56 325 P **P** 17 30 05.5 -0.4
baz=107
TOLK **Toolik Lake Re** 37.58 337 P **P** 17 30 05.0 -1.1
baz=123
D24K **Happy Valley** 37.64 338 **P** 17 30 08.5 +2.0
D24K **Happy Valley** 37.64 338 P **P** 17 30 05.8 -0.7
baz=124
M17K **Holitna River** 37.67 324 P **P** 17 30 06.3 -0.6
baz=105
J19K **Poorman** 37.68 328 P **P** 17 30 06.1 -0.8
baz=110
F22K **John River** 37.84 335 P **P** 17 30 07.5 -0.8
baz=118
G21K **Allakaket** 37.85 333 P **P** 17 30 07.0 -1.3
baz=116
C24K **Franklin Bluff** 37.93 339 P **P** 17 30 08.4 -0.5
baz=125
H20K **Anotleneega Mo** 37.94 331 P **P** 17 30 09.1 0.0
baz=113,SNR=8.1
J18K **Innoko River** 37.96 327 P **P** 17 30 09.4 +0.1
baz=108
E22K **Anaktuvuk Pass** 38.03 336 P **P** 17 30 09.3 -0.6
baz=120,SNR=8.9
N16K **Nishlik Lake** 38.08 322 P **P** 17 30 10.2 -0.1
baz=103
D23K **Nanushuk River** 38.10 337 P **P** 17 30 09.8 -0.6
baz=122
F21K **Alatna River** 38.16 334 P **P** 17 30 11.1 +0.1
baz=117
L17K **Donlin** 38.26 325 P **P** 17 30 10.3 -1.6
baz=105
M16K **Timber Creek** 38.30 323 P **P** 17 30 11.7 -0.4
baz=103
O15K **Ungalikthiuk R** 38.34 320 P **P** 17 30 12.4 -0.2
baz=100
K17K **Iditarod** 38.42 326 P **P** 17 30 11.7 -1.5
baz=106
GCSA **Galena City Sc** 38.45 329 P **P** 17 30 12.8 -0.6
baz=110
C23K **Itkillik River** 38.55 338 P **P** 17 30 13.0 -1.1
baz=123
H19K **Roundabout Mou** 38.56 330 P **P** 17 30 13.3 -1.0
baz=111
N15K **Kwethluk River** 38.66 321 P **P** 17 30 13.4 -1.8
baz=101
D22K **Ayikyak River** 38.68 336 **P** 17 30 17.5 +2.2
D22K **Ayikyak River** 38.68 336 P **P** 17 30 14.3 -1.0
baz=119
L16K **Owhat River** 38.70 324 P **P** 17 30 15.3 -0.2
baz=104
F20K **Avaraart Lake** 38.88 333 P **P** 17 30 16.1 -0.8
baz=114
M15K **Kasigluk River** 39.05 322 P **P** 17 30 17.1 -1.4
baz=101
C21K **Knifeblade Rid** 39.47 336 P **P** 17 30 21.1 -0.9
baz=117
E20K **Nigu River** 39.54 335 P **P** 17 30 21.2 -1.4
baz=115
G18K **Tagagawik** 39.54 331 P **P** 17 30 21.0 -1.5
baz=109
E19K **Redstone River** 39.58 333 P **P** 17 30 21.8 -1.0
baz=113
J16K **Anvik River** 39.59 326 P **P** 17 30 21.6 -1.3
baz=104
L15K **Ungalak Mounta** 39.63 324 P **P** 17 30 22.2 -1.1
baz=101
B22K **Teshekpuk Lake** 39.63 338 P **P** 17 30 24.7 +1.5
B22K **Teshekpuk Lake** 39.63 338 P **P** 17 30 22.5 -0.7
baz=120
B21K **Ikpikpuk River** 39.64 337 P **P** 17 30 22.0 -1.2
baz=118
M14K **Bethel** 39.68 322 P **P** 17 30 22.3 -1.4
baz=100
K15K **Wolf Creek Mou** 39.77 325 P **P** 17 30 22.2 -2.3
baz=102
D20K **Etivluk River** 39.87 335 P **P** 17 30 23.4 -1.8
baz=115,SNR=6.4
L14K **Kuka Creek** 40.13 323 P **P** 17 30 27.2 -0.2
baz=100
F18K **Selawik** 40.16 331 P **P** 17 30 27.7 +0.1
baz=109
D19K **Kuna River** 40.29 334 P **P** 17 30 30.8 +2.1
D19K IAmb IAmb 17 30 31.5
comp=Z,15nm,0.8s
D19K **Kuna River** 40.29 334 P **P** 17 30 28.8 0.0
baz=113
A22K **Sinclair Lake** 40.41 339 P **P** 17 30 29.2 -0.4
baz=119,SNR=9.2
B20K **Meade River** 40.60 337 P **P** 17 30 32.3 +1.1
B20K IAmb IAmb 17 30 34.1
comp=Z,12nm,0.9s

B20K Meade River 40.60 337 P **P** **17 30 31.3 +0.1**
baz=116
F17K Baldwin Pennin 40.72 331 P **P** **17 30 31.6 -0.7**
baz=107
E18K Tukpahlearik C 40.78 332 P **P** **17 30 31.7 -1.1**
baz=109
G16K Koyuk River 40.86 329 P **P** **17 30 33.1 -0.4**
baz=105
E17K Hotham Inlet 41.12 332 P **P** **17 30 35.2 -0.4**
baz=107
C18K Utukok River 41.40 334 P **P** **17 30 38.1 +0.2**
baz=110
M11K Mekoryuk 41.70 321 P **P** **17 30 40.2 -0.2**
baz=95
D17K Noatak River 41.77 332 P **P** **17 30 40.6 -0.3**
baz=107
B18K Kokolik River 41.85 335 P **P** **17 30 41.2 -0.3**
baz=110
F15K North Star Dit 41.86 329 P **P** **17 30 41.0 -0.6**
baz=103
A19K Wainwright 41.91 336 P **P** **17 30 41.2 -0.8**
baz=111
ANM Nome 41.92 327 P **P** **17 30 41.4 -0.8**
baz=101
C17K DeLong Mountai 42.03 333 P **P** **17 30 42.3 -0.8**
baz=107
SFJD Kangerlussuaq 43.19 29 LR LR 17 49 01.3
comp=Z,335nm,18.0s,baz=264,slow=36
SDV Santo Domingo 45.17 120 P **P** **17 31 10.9 +1.8**
comp=Z,4.0nm,0.7s,baz=5.3,slow=6.0,SNR=4.7
SDV LR LR 17 53 12.4
comp=Z,88nm,19.6s,baz=272,slow=40
comp=Z,4.0nm,0.7s
PCRV Puerto La Cruz 48.49 113 LR LR 17 54 00.3
comp=Z,106nm,18.7s,slow=38
BILL Bilibino 53.27 332 P **P** **17 32 10.9 +0.7**
ATAH Atahualpa 53.36 141 LR LR 17 54 36.1
comp=Z,86nm,19.5s,baz=346,slow=36
JMIC Jan Mayen 57.63 22 LR LR 17 57 24.1
comp=Z,178nm,18.4s,baz=314,slow=36
SPITS Spitsbergen Ar 59.40 11 P **P** **17 32 53.6 -0.3**
comp=Z,14nm,0.9s,baz=350,slow=2.5,SNR=7.0
SPITS LR LR 17 58 54.0
comp=Z,266nm,18.2s,baz=291,slow=36
comp=Z,14nm,0.9s
PETK Petropavlovsk- 62.35 317 P **P** **17 33 15.4 +1.2**
comp=Z,5.9nm,0.9s,baz=73,slow=9.2,SNR=17
PETK LR LR 18 00 19.4
comp=Z,40nm,18.1s,baz=34,slow=36
comp=Z,5.9nm,0.9s
MA2 Magadan 62.67 326 P **P** **17 33 17.6 +1.2**
MA2 Magadan 62.67 326 LR LR 18 00 06.8
comp=Z,102nm,20.4s,baz=54,slow=36
MA2 Magadan 62.67 326 P **P** **17 33 17.2 +0.9**
comp=Z,14nm,1.4s
TIXI Tiksi 63.14 343 P **P** **17 33 19.1 -0.2**
comp=Z,2.2nm,0.4s,baz=54,slow=6.9,SNR=14
comp=Z,2.2nm,0.4s
LPAZ La Paz 66.39 137 P **P** **17 33 43.2 +1.3**
comp=Z,0.6nm,0.5s,baz=330,slow=0.7,SNR=3.5
comp=Z,0.6nm,0.5s
EKA Eskdalemuir Ar 67.47 37 P **P** **17 33 46.7 -0.9**
comp=Z,4.9nm,0.7s,baz=296,slow=5.3,SNR=9.7
comp=Z,4.9nm,0.7s
ARCES ARCESS Array B 67.49 16 P **P** **17 33 46.2 -1.2**
comp=Z,3.6nm,0.7s,baz=333,slow=5.2,SNR=12
ARCES LR LR 18 05 16.3
comp=Z,54nm,18.4s,baz=294,slow=38
comp=Z,3.6nm,0.7s
YAK Yakutsk 69.49 335 LR LR 18 06 06.5
comp=Z,122nm,18.8s,baz=48,slow=37
NB2 NORSAR Subarra 69.78 27 P **P** **17 34 02.0 +0.1**
comp=Z,2.6nm,0.7s,baz=314,slow=6.5
NOA NORSAR Array B 69.78 27 P **P** **17 34 01.5 -0.4**
comp=Z,3.0nm,0.8s,baz=312,slow=6.6,SNR=5.9
NOA LR LR 18 03 27.4
comp=Z,71nm,19.5s,baz=310,slow=35
comp=Z,3.0nm,0.8s
HFS Hagfors 71.29 26 P **P** **17 34 10.4 -0.7**
comp=Z,4.6nm,0.8s,baz=286,slow=5.5,SNR=5.0
HFS LR LR 18 04 23.9
comp=Z,87nm,18.1s,baz=318,slow=35
comp=Z,4.6nm,0.8s
FINES FINESS Array B 74.17 21 P **P** **17 34 27.5 -0.7**
comp=Z,4.8nm,0.8s,baz=322,slow=5.8,SNR=13
FINES LR LR 18 06 38.3
comp=Z,200nm,18.1s,baz=326,slow=36
comp=Z,4.8nm,0.8s
ASAJ Asahikawa 75.63 315 LR LR 18 10 17.8
comp=Z,32nm,18.2s,baz=88,slow=38
RAR Rarotonga 75.96 228 LR LR 18 00 22.7
comp=Z,91nm,21.6s,baz=222,slow=30
ESDC Sonseca Array 76.44 50 P **P** **17 34 41.3 -0.5**
comp=Z,2.7nm,0.8s,baz=304,slow=5.9,SNR=12
comp=Z,2.7nm,0.8s
CLL Collm 77.41 33 P **P** **17 34 47.2 +0.3**
comp=Z,16nm,1.0s
CLL Collm 77.41 33 *i* P **P** **17 34 47.5 +0.6**
comp=Z,12nm,0.7s
CLL *i* x x 17 34 53.0
comp=Z,7.0nm,0.9s
KLR Kul'dur 77.71 324 LR LR 18 10 16.3
comp=Z,73nm,19.2s,baz=24,slow=37
BRG Berggiesshubel 78.13 33 *e*P **P** **17 34 51.3 +0.4**
BRG Amp 17 34 52.3
comp=Z,7.6nm,0.9s
BDFB Brasilia 78.27 121 LR LR 18 12 45.7
comp=Z,110nm,18.9s,baz=313,slow=38
PRU Pruhonice 79.04 33 *e*P **P** **17 34 57.4 +1.4**
KSP Ksiaz 79.14 32 P **P** **17 34 56.4 -0.1**
comp=Z,13nm,2.5s
RETA Reutte 79.16 37 *e*pP **P** **17 34 56.9 +0.1**
comp=Z,9.2nm,1.2s
DAVOX Davos/Dischmat 79.25 38 LR LR 18 07 48.9
comp=Z,114nm,19.9s,baz=263,slow=34
KHC Kasperske Hory 79.26 34 *e*P **P** **17 34 58.0 +0.7**
ZVC Zvikov 79.30 34 *e*P **P** **17 34 58.7 +1.3**
MOTA Moosalm 79.43 37 *e*pP **P** **17 34 58.1 -0.2**
comp=Z,14nm,1.7s
GERES GERESS Array B 79.52 34 **P** **17 34 59.4 +0.6**
GERES GERESS Array B 79.52 34 P **P** **17 34 58.4 -0.4**
comp=Z,2.5nm,0.7s,baz=335,slow=9.0,SNR=6.8
GERES LR LR 18 09 48.7
comp=Z,132nm,18.0s,baz=315,slow=36
comp=Z,2.5nm,0.7s
DPC Dobruska-Polom 79.53 32 *e*P **P** **17 34 59.7 +1.0**
DPC Dobruska-Polom 79.53 32 P **P** **17 34 59.7 +1.0**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 79.57 37 *i* P **P** **17 34 58.4 -0.7**
comp=Z,8.3nm,1.1s
WATA Walderalm 79.66 37 *e*pP **P** **17 35 00.0 +0.4**
comp=Z,7.2nm,1.1s
WTTA Wattenberg 79.74 37 *e*pP **P** **17 35 01.2 +1.2**
comp=Z,10nm,1.3s
LESA Schwarzleotal 80.10 36 *e*P **P** **17 35 01.5 -0.5**
comp=Z,6.6nm,1.3s
BIOA Bad Ischl, Aus 80.35 35 *e*pP **P** **17 35 04.5 +1.3**
comp=Z,10nm,1.3s
CPUP Villa Florida 80.40 134 P **P** **17 35 04.5 +1.0**
comp=Z,1.4nm,0.5s,baz=304,slow=7.9,SNR=3.3
CPUP LR LR 18 15 44.6
comp=Z,48nm,18.4s,baz=32,slow=40
comp=Z,1.4nm,0.5s
VRAC Vranov 80.43 33 LR LR 18 10 44.3
comp=Z,118nm,19.1s,baz=327,slow=36
VRAC Vranov 80.43 33 *e*P **P** **17 35 03.9 +0.3**
MORC Moravsky Berou 80.47 32 P **P** **17 35 04.8 +0.9**
MORC IAmb IAmb 17 35 05.7
comp=Z,6.4nm,0.9s
MORC Moravsky Berou 80.47 32 *e*P **P** **17 35 04.3 +0.4**
MORC Moravsky Berou 80.47 32 ⇑P **P** **17 35 04.7 +0.9**
ABTA Abfaltersbach 80.52 36 *e*pP **P** **17 35 04.2 -0.1**
comp=Z,8.2nm,1.2s
KRUC Moravsky 80.54 33 *e*P **P** **17 35 04.3 +0.2**
KBA Koelnbreinsper 80.67 36 *i* pP **P** **17 35 05.0 -0.1**
comp=Z,9.3nm,1.3s
CONA Conrad Observa 81.16 34 *e*pP **P** **17 35 08.5 +0.8**
comp=Z,5.2nm,1.0s
ARSA Arzberg 81.53 35 *i* pP **P** **17 35 10.0 +0.5**
comp=Z,5.3nm,1.4s
RONA Rosalia, Austr 81.53 34 *i* pP **P** **17 35 09.5 0.0**
comp=Z,13nm,1.1s
OBKA Obir 81.64 36 *e*pP **P** **17 35 10.2 0.0**
comp=Z,8.5nm,0.8s
SOKA Soboth 81.74 35 *i* pP **P** **17 35 10.8 +0.2**
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 81.75 31 *e*P **P** **17 35 12.5 +1.8**
KIRV Kirov 81.86 11 LR LR 18 13 31.0
comp=Z,115nm,18.6s,baz=350,slow=37
RNPP9 Sopachiv 82.38 27 P **P** **17 35 13.7 -0.1**
RNPP1 Kostyukhnivka 82.39 27 P **P** **17 35 13.8 -0.1**
RNPP8 Varash 82.43 27 P **P** **17 35 14.1 0.0**
OBN Obninsk 82.45 19 LR LR 18 11 47.2
comp=Z,150nm,18.9s,baz=344,slow=36
MPLH Magyarpolny 82.48 34 P **P** **17 35 15.3 +0.9**
comp=Z,36nm,1.4s
RNPPS Staryi Chortor 82.53 27 P **P** **17 35 15.0 +0.4**
KOLS Kolonicke sedl 83.05 30 *e*P **P** **17 35 18.9 +1.5**
MJAR Matsushiro Arr 83.14 312 P **P** **17 35 19.1 +0.9**
comp=Z,1.4nm,0.7s,baz=42,slow=6.1,SNR=2.9
comp=Z,1.4nm,0.7s
MI28 Mi28,Pidlybu 83.40 26 P **P** **17 35 19.1 0.0**
MORH Mrgy, Hungar 83.70 34 ⇑P **P** **17 35 20.3 -0.4**
BRIU Brid 83.83 30 P **P** **17 35 21.8 +0.4**
MI29 MI29, Kamyanyy 83.90 26 P **P** **17 35 21.1 -0.6**
comp=Z,199nm,0.9s
AK17 Malin Array Si 84.08 25 P **P** **17 35 22.1 -0.5**
AK04 Malin Array Si 84.09 25 P **P** **17 35 22.1 -0.6**
AK15 Malin Array Si 84.10 25 P **P** **17 35 22.2 -0.5**
AK03 Malin Array Si 84.10 25 P **P** **17 35 22.2 -0.5**
AK11 Malin Array Si 84.13 25 P **P** **17 35 22.3 -0.5**
AKASG Malin Array Be 84.13 25 P **P** **17 35 22.3 -0.5**
comp=Z,3.1nm,0.3s,baz=326,slow=4.3,SNR=21
AKASG LR LR 18 11 59.6
comp=Z,133nm,18.1s,baz=344,slow=35
comp=Z,3.1nm,0.3s
AKBB Malin Array Si 84.13 25 P **P** **17 35 22.8 0.0**
AKBB Malin Array Si 84.13 25 P **P** **17 35 22.3 -0.5**
KIEV Kiev 84.13 25 P **P** **17 35 22.6 -0.2**
KIEV Kiev 84.13 25 ⇓P **P** **17 35 22.4 -0.4**
KIEV Kiev 84.13 25 P **P** **17 35 22.4 -0.4**
comp=Z,93nm,0.9s
AK01 Malin Array Si 84.13 25 P **P** **17 35 22.4 -0.5**
AK13 Malin Array Si 84.15 25 P **P** **17 35 22.4 -0.6**
LUBAR Lubar, Ukraine 84.28 26 P **P** **17 35 23.1 -0.6**
BMR Baia Mare 84.55 30 ⇓P **P** **17 35 25.9 +0.8**
DRGR 84.95 31 ⇓P **P** **17 35 26.6 -0.7**
ARTI Arti 85.13 7 P **P** **17 35 28.0 +0.1**
ARTI Arti 85.13 7 LR LR 18 15 06.6
comp=Z,78nm,21.9s,baz=354,slow=37
NDNU Novodnistrovsk 85.26 27 P **P** **17 35 28.3 -0.3**
BURAR Bucovina Array 85.27 29 P **P** **17 35 29.1 +0.2**
BURAR Bucovina Array 85.27 29 ⇑P **P** **17 35 29.3 +0.5**
ARCR ARCALIA 85.37 30 ⇑P **P** **17 35 29.8 +0.6**
BZS Buzias 85.44 32 ⇑P **P** **17 35 29.6 0.0**
SURR Surduc 85.55 32 ⇑P **P** **17 35 31.1 +1.0**
SORM Soroca 86.00 27 ⇓P **P** **17 35 32.1 -0.2**
SORM Soroca 86.00 27 P **P** **17 35 31.6 -0.7**
KEST Kesra 86.88 46 P **P** **17 35 37.7 +0.7**
comp=Z,4.8nm,0.8s,baz=228,slow=8.2,SNR=5.2
comp=Z,4.8nm,0.8s
JCJ Chichijima 87.00 302 LR LR 18 08 52.4
comp=Z,52nm,19.5s,baz=110,slow=32
MLR Muntele Rosu 87.31 30 LR LR 18 20 36.8
comp=Z,59nm,18.1s,baz=342,slow=40
MLR Muntele Rosu 87.31 30 ⇑P **P** **17 35 35.9 -3.1**
ZALV Zalesovo Beam 87.42 352 P **P** **17 35 39.2 +0.1**
ZALV Zalesovo Beam 87.42 352 P **P** **17 35 38.6 -0.5**
comp=Z,2.4nm,0.7s,baz=5.8,slow=5.0,SNR=11
ZALV LR LR 18 17 57.5
comp=Z,20nm,18.8s,baz=28,slow=38
comp=Z,2.4nm,0.7s
BELG Belogornoye 87.47 14 LR LR 18 15 24.5
comp=Z,76nm,19.1s,baz=348,slow=36
SONM Songino Array 88.70 337 P **P** **17 35 46.3 +0.7**
comp=Z,1.1nm,0.7s,baz=30,slow=4.3,SNR=6.6
comp=Z,1.1nm,0.7s
BRVK Borovoye 89.08 0 P **P** **17 35 47.8 +0.8**
BVAR Borovoye Array 89.11 0 P **P** **17 35 48.2 +1.0**
comp=Z,9.5nm,0.8s,baz=351,slow=3.8,SNR=43
BVAR LR LR 18 18 41.4
comp=Z,65nm,20.4s,baz=6.2,slow=38
comp=Z,9.5nm,0.8s
KURBB Kurchatov Arra 91.28 355 P **P** **17 35 57.5 +0.2**
comp=Z,0.8nm,0.7s,baz=3.0,slow=5.0,SNR=8.6
comp=Z,0.8nm,0.7s
ABKAR Abkulak array 92.34 7 P **P** **17 36 02.7 +0.4**
ABKAR Abkulak array 92.34 7 P **P** **17 36 03.2 +1.0**
ABKAR IAmb IAmb 17 36 03.9
comp=Z,5.8nm,0.9s
HHC Hu-ho-hao-te 93.01 330 *e*P **P** **17 36 03.3 -2.4**
HHC pmax pmax
comp=Z,3.0nm,0.7s
GUMO Guam 93.97 291 LR LR 18 09 53.3
comp=Z,40nm,20.9s,baz=44,slow=30
KBZ Khabaz 94.53 20 P **P** **17 36 12.5 +0.1**
comp=Z,4.8nm,0.9s,baz=335,slow=5.4,SNR=12
KBZ LR LR 18 19 37.3
comp=Z,138nm,19.7s,baz=346,slow=36
comp=Z,4.8nm,0.9s
MKAR Makanchi Array 94.75 352 P **P** **17 36 12.8 -0.7**
comp=Z,0.5nm,0.7s,baz=355,slow=4.6,SNR=5.1
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 95.18 28 P **P** **17 36 14.2 -1.5**
comp=Z,1.1nm,0.8s,baz=2.9,slow=4.9,SNR=6.4
comp=Z,1.1nm,0.8s
DBIC Dimbokro 96.87 76 LR LR 18 13 49.4
comp=Z,64nm,21.9s,baz=315,slow=32
GNI Garni 98.36 20 LR LR 18 20 36.3
comp=Z,83nm,19.6s,baz=354,slow=35
LZH Lanzhou 100.06 334 *e*P **Pdif** **17 36 26.5 -11**
LZH pP pPdif 17 36 40.9 +0.5
LZH pmax pmax
comp=Z,27nm,0.8s
WRA Warramunga Arr 122.80 270 PKP **PKiKP** **17 41 48.5 -0.2**
comp=Z,0.9nm,0.8s,baz=56,slow=2.2,SNR=6.4
ASAR Alice Springs 125.12 266 PKP **PKPdf** **17 41 52.4 -0.5**
comp=Z,0.5nm,0.8s,baz=74,slow=1.5,SNR=6.2
QSPA South Pole Qui 128.07 180 PKP **PKiKP** **17 41 57.4 -0.4**
comp=Z,2.3nm,1.0s,baz=117,slow=2.6,SNR=15

*IDC **04** 17:29:46.6±2.7, 13°.65N×92°.44W, h0km, mb4.0/3, mbtmp4.0/3, ML1.9/3, MS3.9/6, Error ellipse: s-maj=54.3km s-min=25.2km az=164.0*
*NEIC **04** 17:29:50.1±2.5, 13°.78N±0°.08×92°.39W±0°.07, h24km±8km, mb4.6/15, Md4.3/28(MEX), Error ellipse: s-maj=12.5km s-min=8.2km az=206.0*
*MEX **04** 17:29:52.9±0.7, 13°.87N×92°.54W, h16km±29km, MD4.3*
ISC 04 17:29:48.1±1.9, **13°.82N**±0°.06×**92°.45W**±0°.04, **h11**km±11km, **n59**, σ1$85/77, **mb4.6**/10, **MS3.9/6**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.02**	**46**	Pn	**Pb**	**17 30 08.0**	**+0.2**
RTAL	**Retalhuleu**	**1.02**	**46**	*e*P	**Pg**	**17 30 08.4**	**+0.6**
RTAL				*i* S	**Sn**	**17 30 21.6**	**-1.2**
PATR	**El Naranjo**	**1.31**	**9**	*e*P	**Pn**	**17 30 12.6**	**0.0**
PATR				*e*S	**Sb**	**17 30 27.2**	**-2.7**
PAVE	**Pavencul**	**1.39**	**11**	*e*P	**Pn**	**17 30 14.0**	**+0.2**
PAVE				*e*S	**Sn**	**17 30 30.3**	**-2.0**
HUEH	**Huehuetenango**	**1.75**	**32**	Pn	**Pn**	**17 30 19.5**	**+0.7**
HUEH	**Huehuetenango**	**1.75**	**32**	*e*P	**Pn**	**17 30 18.7**	**-0.1**
HUEH				*e*S	**Sn**	**17 30 39.5**	**-1.7**
PCIG		**2.02**	**339**		**Pn**	**17 30 22.3**	**+0.1**
PCIG					**Sn**	**17 30 43.6**	**-3.8**
PCIG		**2.02**	**339**	*e*P	**Pn**	**17 30 22.3**	**+0.1**
PCIG				*e*S	**Sn**	**17 30 43.6**	**-3.8**
APG	**El Apazote**	**2.26**	**58**	Pn	**Pn**	**17 30 27.0**	**+1.3**
	0.3nm,0.3s,baz=216,slow=17,SNR=121						
APG				LR	LR	17 30 48.6	
	comp=Z,10nm,18.3s,baz=324,slow=26						
APG				Sn	**Sg**	**17 30 59.0**	**-1.8**
	1.1nm,0.3s,baz=85,slow=16,SNR=5.3						
CCIG	**Comitan**	**2.47**	**7**		**Pn**	**17 30 29.4**	**+0.9**
CCIG	**Comitan**	**2.47**	**7**	*e*P	**Pb**	**17 30 31.7**	**-1.0**
CCIG				*i* S	**Sg**	**17 31 07.1**	**-0.4**
TGIG		**3.01**	**348**		**Pn**	**17 30 38.6**	**+2.6**
TGIG					**Sn**	**17 31 09.6**	**-2.6**
TGIG		**3.01**	**348**	*e*P	**Pn**	**17 30 38.6**	**+2.6**
TGIG				*i* S	**Sn**	**17 31 09.6**	**-2.6**
MTO3	**Montecristo**	**3.06**	**79**	Pn	**Pn**	**17 30 35.3**	**-1.4**
ESQI	**Esquipulas**	**3.11**	**76**	Pn	**Pn**	**17 30 35.8**	**-1.5**
UXUV	**UXUV**	**3.84**	**335**	*e*P	**Pn**	**17 30 50.4**	**+3.1**
UXUV				*i* S	**Sn**	**17 31 31.1**	**-1.4**
PETF	**Flores**	**3.96**	**39**		**Pn**	**17 30 49.6**	**+0.6**
CMIG	**Matias Romero**	**4.01**	**325**	Pn	**Pn**	**17 30 51.2**	**+1.6**
	0.4nm,0.3s,baz=154,slow=13,SNR=5.6						
CMIG				Sn	**Sn**	**17 31 37.8**	**+1.1**
	2.2nm,0.3s,baz=122,slow=16,SNR=6.3						
PEIG	**Puerto Escondi**	**5.03**	**296**		**Pn**	**17 31 05.0**	**+1.4**
PEIG				*i* S	**Sn**	**17 31 58.4**	**-3.4**
PEIG	**Puerto Escondi**	**5.03**	**296**	*i* P	**Pn**	**17 31 05.0**	**+1.4**
PEIG				*i* S	**Sn**	**17 31 58.4**	**-3.4**
TGUH	**Tegucigalpa,Un**	**5.04**	**87**	Pn	**Pn**	**17 31 02.8**	**-1.0**
NEUV	**Arroyo Zacate**	**5.04**	**321**	*e*P	**Pn**	**17 31 03.3**	**-0.4**
NEUV				*i* S	**Sn**	**17 32 00.2**	**-1.8**
CRIN	**San Cristobal**	**5.38**	**101**	Pn	**Pn**	**17 31 06.8**	**-1.7**
HERN	**Volcan Telica**	**5.61**	**102**	Pn	**Pn**	**17 31 10.7**	**-0.9**
CNGN	**Cerro Negro**	**5.76**	**102**	Pn	**Pn**	**17 31 11.7**	**-2.0**
YOIG	**Yosondua**	**5.77**	**302**		**Pn**	**17 31 12.3**	**-1.8**
YOIG					**Sn**	**17 32 19.4**	**-1.0**
YOIG	**Yosondua**	**5.77**	**302**	*e*P	**Pn**	**17 31 12.3**	**-1.8**
YOIG				*i* S	**Sn**	**17 32 19.4**	**-1.0**
PNIG	**Pinotepa**	**6.05**	**296**		**Pn**	**17 31 18.7**	**+1.1**
PNIG					**Sn**	**17 32 23.2**	**-3.8**
PNIG	**Pinotepa**	**6.05**	**296**	*e*P	**Pn**	**17 31 18.7**	**+1.1**
PNIG				*i* S	**Sn**	**17 32 23.2**	**-3.8**
TOIG	**Toxpalan**	**6.14**	**314**		**Pn**	**17 31 22.1**	**+3.0**
TOIG					**Sn**	**17 32 27.1**	**-2.4**
TOIG	**Toxpalan**	**6.14**	**314**	*e*P	**Pn**	**17 31 22.1**	**+3.0**
TOIG				*i* S	**Sn**	**17 32 27.1**	**-2.4**
TXIG	**Tlaxiaco**	**6.16**	**304**		**Pn**	**17 31 20.8**	**+1.4**
TXIG					**Sn**	**17 32 28.4**	**-1.6**
TXIG	**Tlaxiaco**	**6.16**	**304**	*e*P	**Pn**	**17 31 20.8**	**+1.4**
TXIG				*i* S	**Sn**	**17 32 28.4**	**-1.6**
BOAB	**BOACO BROADBAN**	**6.75**	**101**	Pn	**Pn**	**17 31 25.5**	**-1.8**
TEIG	**Tepich**	**7.52**	**32**		**Pn**	**17 31 38.2**	**+0.4**
TEIG	**Tepich**	**7.52**	**32**	Pn	**Pn**	**17 31 39.5**	**+1.7**
	baz=218,slow=19,SNR=6.1						
TEIG				Sn	**Sn**	**17 33 06.3**	**+3.1**
	baz=249,slow=24,SNR=1.7						
JTS	**Las Juntas de**	**8.13**	**115**	Pn	**Pn**	**17 31 47.0**	**+0.7**
MNHN	**Monahans**	**19.84**	**333**	P	**P**	**17 34 19.1**	**-0.2**
ODSA	**Odessa**	**20.43**	**335**	P	**P**	**17 34 26.8**	**+1.2**
ODSA				IAmb	IAmb	17 34 29.1	
	comp=Z,17nm,0.7s						
RUSC	**La Rusia**	**20.63**	**111**	P	**P**	**17 34 28.2**	**-0.2**
RUSC				IAmb	IAmb	17 34 34.0	
	comp=Z,20nm,1.3s						
SMWD	**Samnorwood**	**22.33**	**343**	P	**P**	**17 34 46.7**	**+0.6**
SMWD				IAmb	IAmb	17 34 50.1	
	comp=Z,24nm,0.8s						
AMTX	**Amarillo**	**22.57**	**340**	IAmb	IAmb	17 34 51.9	
	comp=Z,17nm,0.8s						
TKL	**Tuckaleechee C**	**23.11**	**18**	LR	LR	17 45 24.6	
	comp=Z,166nm,18.1s,baz=294,slow=40						
N58A	**Sunbury**	**30.23**	**24**	P	**P**	**17 35 58.9**	**0.0**
SADO	**Sadowa**	**32.87**	**18**	LR	LR	17 51 15.2	
	comp=Z,165nm,18.1s,baz=260,slow=39						
NVAR	**Mina Array Bea**	**33.54**	**322**	P	**P**	**17 36 31.6**	**+3.2**
	comp=Z,1.7nm,0.8s,baz=126,slow=5.4,SNR=6.4						
NVAR				LR	LR	17 51 57.4	
	comp=Z,81nm,18.3s,baz=132,slow=40						
	comp=Z,1.7nm,0.8s						
HLID	**Hailey**	**35.12**	**332**	P	**P**	**17 36 42.4**	**+0.5**
F10A	**Beach Ranch, E**	**38.26**	**332**	P	**P**	**17 37 09.1**	**+0.5**
SCHQ	**Schefferville**	**45.54**	**21**	LR	LR	17 58 00.5	
	comp=Z,170nm,18.1s,baz=20,slow=37						
YKA	**Yellowknife Ar**	**51.10**	**347**	P	**P**	**17 38 51.2**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=157,slow=7.5,SNR=15						
	comp=Z,2.4nm,0.8s						
FRB	**Frobisher Bay**	**52.59**	**13**	LR	LR	18 03 07.0	
	comp=Z,184nm,18.7s,baz=288,slow=38						
DLBC	**Dease Lake**	**52.64**	**336**	P	**P**	**17 39 02.8**	**+0.5**
DLBC				IAmb	IAmb	17 39 07.2	
	comp=Z,5.6nm,1.0s						
M29M	**Somme Creek**	**58.41**	**337**	P	**P**	**17 39 44.5**	**+0.8**
M29M				IAmb	IAmb	17 39 47.4	
	comp=Z,5.4nm,0.9s						
SFJD	**Kangerlussuaq**	**59.82**	**18**	LR	LR	18 06 29.8	
	comp=Z,113nm,19.2s,baz=295,slow=37						
L27K	**Beaver Creek,**	**60.04**	**336**	P	**P**	**17 39 55.8**	**+0.8**
L27K				IAmb	IAmb	17 40 07.4	
	comp=Z,7.0nm,1.4s						
ILAR	**Eielson Array**	**62.83**	**337**	P	**P**	**17 40 14.6**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=122,slow=6.0,SNR=11						
	comp=Z,1.7nm,1.0s						
RND	**Reindeer**	**63.01**	**335**	P	**P**	**17 40 15.5**	**+0.5**
RND				IAmb	IAmb	17 40 17.7	
	comp=Z,6.7nm,1.0s						
F21K	**Alatna River**	**66.31**	**338**	P	**P**	**17 40 37.3**	**+0.8**
F21K				IAmb	IAmb	17 40 39.3	
	comp=Z,4.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**146.02**	**340**	PKPbc	**PKPdf**	**17 49 28.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=13,slow=3.0,SNR=14						

TAP 04 17:33:44.3, 22°.63N×120°.81E, h15km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.14**	**104**	P	Pb	17 33 48.4	-0.2
ECL				S	Sb	17 33 51.1	-0.4
MASBT	**Mashibuluo**	**0.16**	**264**	P	Pg	17 33 48.7	+0.3
MASBT				*e*S	Sg	17 33 51.0	-0.1
TSMG	**Majia**	**0.17**	**297**	*e*P	Pb	17 33 48.9	-0.2
TSMG				*e*S	Sg	17 33 51.6	+0.4

*TAP **04** 17:33:57.0, 23°.84N×121°.74E, h44km, ML2.3, C*
ISC 04 17:33:56.0±0.9, **23°.83N**±0°.02×**121°.76E**±0°.03, **h14**km, **n71**, σ1$**52**/120, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.16**	**284**	*e*P	**Pb**	**17 34 02.8**	**+2.1**
TEYL				*e*S	**Sb**	**17 34 09.3**	**+5.4**
SHUL	**Shoufeng**	**0.19**	**257**	*e*P	Pb	17 34 04.9	+3.6
SHUL				*e*S	Sb	17 34 11.5	+6.7
TEGC	**Jichi Village**	**0.24**	**240**	*e*P	Pb	17 34 05.1	+2.9
TEGC				*e*S	**Sb**	**17 34 11.8**	**+5.6**
ETM	**Tongmen**	**0.28**	**299**	P	**Pn**	**17 34 05.3**	**-0.5**
ETM				*e*S	**Sn**	**17 34 11.7**	**-0.2**
TWD	**Chiawan**	**0.29**	**328**	P	**Pn**	**17 34 05.3**	**-0.6**
TWD				S	**Sn**	**17 34 11.4**	**-0.7**
ESL	**Shilin**	**0.30**	**267**	P	**Pn**	**17 34 05.5**	**-0.6**
ESL				*e*S	**Sn**	**17 34 11.4**	**-1.0**
EGFH	**Guangfu**	**0.35**	**243**	*e*P	**Pn**	**17 34 05.9**	**-0.7**
EGFH				*e*S	**Sn**	**17 34 12.5**	**-1.0**
ETL	**Fush Village**	**0.35**	**339**	*e*P	**Pn**	**17 34 05.9**	**-0.9**
ETL				*e*S	**Sn**	**17 34 12.7**	**-1.0**
WARBT	**Fenglin Townsh**	**0.36**	**252**	*i* P	**Pn**	**17 34 05.8**	**-1.1**
WARBT				S	**Sn**	**17 34 12.3**	**-1.6**
LXIB	**Xiulin Townshi**	**0.37**	**301**	*i* P	**Pn**	**17 34 06.1**	**-1.1**
LXIB				*e*S	**Sn**	**17 34 13.4**	**-0.9**
NACB	**Ninganchiao**	**0.38**	**336**	P	**Pn**	**17 34 06.2**	**-0.9**
NACB	**Ninganchiao**	**0.38**	**336**	S	**Sn**	**17 34 13.4**	**-0.8**
NACB	**Ninganchiao**	**0.38**	**336**	P	**Pn**	**17 34 06.1**	**-1.0**
NACB				S	**Sn**	**17 34 12.4**	**-1.7**
ETLH	**Xiulin Townshi**	**0.46**	**326**	P	**Pn**	**17 34 07.0**	**-1.3**
ETLH				*e*S	**Sn**	**17 34 14.2**	**-2.1**
HGSD	**Ruisui**	**0.46**	**223**	*e*P	**Pn**	**17 34 07.6**	**-0.6**
HGSD				*e*S	**Sn**	**17 34 16.0**	**-0.2**
EAHA	**Aohua**	**0.50**	**357**	*e*S	**Sn**	**17 34 15.6**	**-1.6**
EHYH	**Wanrong**	**0.51**	**229**	*e*S	**Sn**	**17 34 16.0**	**-1.5**
EHY	**Hungye**	**0.52**	**232**	P	**Pn**	**17 34 07.6**	**-1.4**
EHY				*e*S	**Sn**	**17 34 15.5**	**-2.2**
OWD	**Renai**	**0.55**	**283**	*i* P	**Pn**	**17 34 08.6**	**-1.1**
OWD				*e*S	**Sn**	**17 34 16.6**	**-2.1**
WHF	**Hehuan Shan**	**0.55**	**305**	*e*P	**Pn**	**17 34 08.6**	**-1.4**
WHF				*e*S	**Sn**	**17 34 17.4**	**-1.8**
VWDT	**VWDT**	**0.58**	**263**	P	**P

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
TDCB				eS	Sn	17 34 19.9	-2.4
NNS	**Nan Shan**	**0.70**	**330**	eP	Pn	17 34 10.4	-1.3
NNS				eS	Sn	17 34 20.3	-2.2
EOS2	**EOS2**	**0.72**	**36**	eP	Pn	17 34 11.7	-0.1
LATG	**Datong**	**0.73**	**343**	P	Pn	17 34 10.5	-1.6
LATG				eS	Sn	17 34 21.3	-1.9
SSLB	**Suanglung**	**0.74**	**267**	P	Pn	17 34 11.2	-0.9
SSLB	**Suanglung**	**0.74**	**267**	S	Sn	17 34 21.5	-1.8
SSLB	**Suanglung**	**0.74**	**267**	eP	Pn	17 34 11.3	-0.9
SSLB				S	Sn	17 34 21.5	-1.8
FULB	**Fuli**	**0.76**	**215**	eP	Pn	17 34 12.1	-0.3
FULB				i S	Sn	17 34 23.6	-0.2
TWC	**Suao**	**0.78**	**6**	i P	Pn	17 34 12.1	-0.5
TWC				i S	Sn	17 34 22.7	-1.4
SMLT	**Sun Moon Lake**	**0.79**	**274**	eP	Pn	17 34 11.3	-1.6
SMLT				eS	Sn	17 34 22.4	-2.2
WCS	**Beigang Elemen**	**0.81**	**286**	eP	Pn	17 34 12.3	-0.7
YUS	**Yu-Shan**	**0.82**	**246**	eP	Pn	17 34 10.7	-2.9
YUS				eS	Sb	17 34 21.6	-1.9
ENTT	**Nioudou**	**0.83**	**347**	eP	Pn	17 34 12.1	-1.2
TYC	**Yuchr**	**0.83**	**275**	eP	Pn	17 34 12.5	-0.8
WHYT	**Xinyi Township**	**0.84**	**261**	eP	Pn	17 34 13.3	-0.2
WHYT				eS	Sn	17 34 25.0	-0.8
WHP	**Taichung City**	**0.87**	**301**	P	Pn	17 34 13.5	-0.5
WHP				eS	Sn	17 34 25.2	-1.3
TWE	**Neicheng**	**0.89**	**354**	eP	Pn	17 34 13.4	-0.8
TWE				eS	Sn	17 34 25.4	-1.5
YHNB	**Yeheng**	**0.91**	**337**	P	Pn	17 34 13.6	-0.8
YHNB	**Yeheng**	**0.91**	**337**	S	Sn	17 34 25.4	-2.0
YHNB	**Yeheng**	**0.91**	**337**	i P	Pn	17 34 13.7	-0.8
YHNB				eS	Sn	17 34 24.7	-2.7
NSK	**Sanguang**	**0.92**	**336**	eP	Pn	17 34 13.7	-1.0
NSK				eS	Sn	17 34 25.2	-2.5
ALS	**Alishan**	**0.94**	**250**	eP	Pn	17 34 14.5	-0.6
ALS				eS	Sn	17 34 26.9	-1.5
ELDTW	**Lidau**	**0.94**	**227**	P	Pn	17 34 13.1	-1.8
ELDTW				eS	Sn	17 34 25.5	-2.7
FUSB	**Fushanzhiwuyua**	**0.94**	**350**	eP	Pn	17 34 13.9	-1.0
NWLT	**Wulai**	**0.97**	**346**	eP	Pn	17 34 14.4	-0.9
NWLT				eS	Sn	17 34 26.2	-2.7
WNT	**Mingjian**	**0.99**	**273**	eP	Pn	17 34 15.5	0.0
WNT				eS	Sn	17 34 28.9	-0.4
NFF	**Wufeng Townshi**	**0.99**	**324**	eP	Pn	17 34 14.8	-0.8
CHN5	**Tsauling**	**1.02**	**257**	eP	Pn	17 34 16.3	+0.3
CHN5				eS	Sn	17 34 29.8	-0.5
TWQ1	**Liyutan**	**1.04**	**300**	eS	Sn	17 34 30.1	-0.6
NSTT	**Nanjuang**	**1.06**	**319**	eP	Pn	17 34 16.5	0.0
NSTT				eS	Sn	17 34 30.6	-0.5
LIOB	**Emei**	**1.06**	**320**	eP	Pn	17 34 16.9	+0.4
LIOB				eS	Sn	17 34 30.7	-0.4
STYH	**Taoyuan**	**1.12**	**234**	eP	Pg	17 34 16.9	-0.8
STYH				eS	Sn	17 34 31.5	-1.0
WCKO	**Fanlu**	**1.13**	**250**	eP	Pg	17 34 17.6	-0.3
WCKO				eS	Sn	17 34 32.5	-0.3
TIPB	**Shuangxi**	**1.14**	**3**	eP	Pg	17 34 17.3	-0.7
TIPB				eS	Sn	17 34 31.9	-1.2
TPUB	**Ta-pu**	**1.17**	**243**	P	Pg	17 34 17.0	-1.5
TPUB	**Ta-pu**	**1.17**	**243**	S	Sn	17 34 33.9	+0.2
TPUB	**Ta-pu**	**1.17**	**243**	eP	Pg	17 34 18.0	-0.5
TPUB				eS	Sn	17 34 33.6	-0.1
CHN4	**Tsaushan**	**1.18**	**246**	eP	Pg	17 34 18.2	-0.5
CHN4				eS	Sg	17 34 33.6	-0.4
WTP	**Ta-pu**	**1.21**	**241**	eP	Pg	17 34 18.3	-1.0
WTP				eS	Sg	17 34 34.9	-0.1

*GCG **04** 17:46:17.9±3.1, 15°.66N×94°.51W, h3km±999km, MD4.3*
*MEX **04** 17:46:22.8±0.8, 15°.64N×94°.51W, h24km±19km, MD4.2*
ISC 04 17:46:20.0±1.6,**15°.63N**±0°.05×**94°.51W**±0°.03,**h24**km±15km,
n24,σ1♀**81**/46,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARR	**Arriaga**	**0.84**	**43**	eP	Pb	17 46 36.2	+0.1
CARR				eS	Sb	17 46 46.8	-0.2
NILT	**Santiago Nilte**	**0.94**	**354**	eP	Pb	17 46 37.3	-0.4
NILT				eS	Sb	17 46 48.8	-0.9
PCIG		**1.25**	**86**	eP	Pn	17 46 41.9	-0.1
PCIG				eS	Sn	17 46 56.5	-1.5
CMIG	**Matias Romero**	**1.50**	**346**	eP	Pn	17 46 45.3	-0.1
CMIG				eS	Sn	17 47 02.1	-2.1
HUIG	**Huatulco**	**1.54**	**275**	eP	Pn	17 46 46.5	+0.4
HUIG				i S	Sn	17 47 03.8	-1.5
HUIG	**Huatulco**	**1.54**	**275**	i P	Pn	17 46 46.3	+0.3
HUIG	**Huatulco**	**1.54**	**275**	i P		17 46 46.3	
UXUV	**UXUV**	**1.72**	**12**	eP	Pn	17 46 49.4	+0.9
UXUV				eS	Sn	17 47 08.8	-0.9
TGIG		**1.76**	**49**	i P	Pn	17 46 49.2	+0.1
TGIG				i S	Sn	17 47 09.0	-1.7
TGIG		**1.76**	**49**	eP	Pn	17 46 49.0	-0.1
TGIG				eS	Sn	17 47 09.2	-1.6
TGIG		**1.76**	**49**	eP		17 46 49.0	
TGIG				eS		17 47 09.2	
PATR	**El Naranjo**	**2.25**	**103**	eP	Pn	17 46 56.3	+0.3
PATR				i S	Sn	17 47 22.3	-0.9
PAVE	**Pavencul**	**2.29**	**101**	eP	Pn	17 46 57.4	+0.8
PAVE				eS	Sn	17 47 24.0	-0.2
CCIG	**Comitan**	**2.38**	**74**	eP	Pn	17 47 00.1	+2.4
CCIG				i S	Sn	17 47 28.8	+2.6
CCIG	**Comitan**	**2.38**	**74**	eP	Pn	17 46 59.1	+1.4
CCIG	**Comitan**	**2.38**	**74**	eP		17 46 59.1	
NEUV	**Arroyo Zacate**	**2.41**	**329**	eP	Pn	17 46 58.7	+0.7
NEUV				i S	Sn	17 47 28.3	+1.4
PEIG	**Puerto Escondi**	**2.56**	**279**	eP	Pn	17 47 00.6	+0.5
PEIG				i S	Sn	17 47 27.3	-3.3
VHO	**Vista Hermosa**	**2.57**	**304**	eP	Pn	17 47 03.3	+2.9
VHO				eS	Sn	17 47 33.4	+2.4
YOIG	**Yosondua**	**3.16**	**293**	eP	Pn	17 47 10.8	+2.2
YOIG				eS	Sn	17 47 45.8	+0.1
STG8	**El Palmar, Qui**	**3.27**	**111**	eP		17 47 06.5	
STG0	**El Palmar, Qui**	**3.29**	**111**	eP		17 47 06.5	
TOIG	**Toxpalan**	**3.46**	**315**	eP	Pn	17 47 14.9	+2.4
TOIG				eS	Sn	17 47 53.5	+0.6
TXIG	**Tlaxiaco**	**3.52**	**298**	eP	Pn	17 47 16.1	+2.6
TXIG				i S	Sn	17 47 53.0	-1.5
PNIG	**Pinotepa**	**3.56**	**283**	eP	Pn	17 47 14.9	+1.1
PNIG				eS	Sn	17 47 50.2	-5.0
HLIG	**Huajuapan de L**	**3.84**	**305**	eP	Pn	17 47 20.1	+2.3
HLIG				eS	Sn	17 48 00.3	-2.1
FTIG	**Fresnillo de T**	**4.14**	**304**	eP	Pn	17 47 25.0	+3.0
FTIG				i S	Sn	17 48 09.1	-0.7
MGIG	**Malinaltepec**	**4.27**	**293**	i P	Pn	17 47 26.5	+2.8
MGIG				i S	Sn	17 48 12.4	-0.4
JAUV	**Jalcomulco**	**4.31**	**330**	eP	Pn	17 47 23.1	-1.1
JAUV				i S	Sn	17 48 12.6	-1.2

*JMA **04** 17:53:04.0±0.1, 23°.9N±0°.6×122°.0E±0°.7, h30km±2km,*
MV2.2/11, TAIWAN REGION
*TAP **04** 17:53:04.8, 23°.96N×121°.94E, h38km, ML2.6, C*
ISC 04 17:53:04.4±1.0,**23°.93N**±0°.02×**121°.96E**±0°.02,**h33**km±4km,
n80,σ0♀**49**/135,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.33**	**279**	eP	Pn	17 53 13.2	+0.3
HWA				eS	Sb	17 53 19.2	+1.2
TEYL	**Yanliau Villag**	**0.34**	**260**	eP	Pb	17 53 11.5	-1.1
TEYL				eS	Sb	17 53 18.5	+0.3
TWD	**Chiawan**	**0.36**	**295**	i P	Pb	17 53 13.2	+0.2
TWD				i S	Sb	17 53 19.3	+0.4
EOS4	**EOS4**	**0.38**	**60**	i P	Pn	17 53 13.3	0.0
EOS4				eS	Sn	17 53 19.5	+0.2
ETL	**Fush Village**	**0.38**	**307**	i P	Pb	17 53 13.5	+0.2
ETL				eS	Sb	17 53 19.8	+0.4
SHUL	**Shoufeng**	**0.39**	**249**	P	Pn	17 53 14.2	+0.4
SHUL				eS	Sn	17 53 21.0	+1.0
NACB	**Ninganchiao**	**0.41**	**306**	P	Pb	17 53 13.8	+0.1
NACB	**Ninganchiao**	**0.41**	**306**	S	Sn	17 53 20.6	0.0
NACB	**Ninganchiao**	**0.41**	**306**	P	Pb	17 53 13.6	-0.2
NACB				i S	Sn	17 53 20.5	-0.1
ETM	**Tongmen**	**0.43**	**275**	eP	Pb	17 53 14.2	+0.2
ETM				eS	Sn	17 53 21.3	+0.2
TEGC	**Jichi Village**	**0.44**	**240**	eP	Pn	17 53 14.9	+0.5
TEGC				eS	Sn	17 53 22.7	+1.4
EAHA	**Aohua**	**0.45**	**333**	eP	Pb	17 53 14.4	+0.2
EAHA				eS	Sn	17 53 21.2	-0.3
EOS3	**EOS3**	**0.48**	**42**	eP	Pn	17 53 15.0	+0.1
EOS3				S	Sn	17 53 22.9	+0.7
ESL	**Shilin**	**0.49**	**257**	P	Pb	17 53 14.9	-0.1
ESL				eS	Sn	17 53 23.2	+0.5
LXIB	**Xiulin Townshi**	**0.51**	**281**	P	Pb	17 53 15.2	0.0
LXIB				S	Sn	17 53 23.1	-0.1
ETLH	**Xiulin Townshi**	**0.52**	**303**	eP	Pn	17 53 15.2	-0.4
ETLH				eS	Sb	17 53 23.1	+0.3
ENA	**Nanau**	**0.54**	**338**	P	Pn	17 53 15.5	-0.3
ENA				S	Sn	17 53 23.7	0.0
EWUT	**Wuta**	**0.54**	**342**	eP	Pn	17 53 15.5	-0.4
EWUT				eS	Sn	17 53 23.8	0.0
EOS2	**EOS2**	**0.55**	**27**	eP	Pb	17 53 16.1	+0.4
EOS2				eS	Sn	17 53 25.0	+1.2
EGFH	**Guangfu**	**0.55**	**242**	eP	Pb	17 53 16.0	+0.2
EGFH				eS	Sn	17 53 24.0	-0.1
WARBT	**Fenglin Townsh**	**0.56**	**248**	eP	Pn	17 53 15.9	-0.2
WARBT				eS	Sn	17 53 24.0	-0.4
ESAO	**Su ao**	**0.65**	**351**	eP	Pb	17 53 17.6	+0.1
ESAO				eS	Sb	17 53 26.8	+0.4
HGSD	**Ruisui**	**0.66**	**229**	eP	Pb	17 53 17.3	-0.1
WHF	**Hehuan Shan**	**0.67**	**289**	eP	Pn	17 53 17.6	-0.4
WHF				eS	Sn	17 53 27.2	-0.4
TWC	**Suao**	**0.69**	**352**	eP	Pb	17 53 18.0	-0.1
TWC				eS	Sb	17 53 27.4	+0.1
OWD	**Renai**	**0.72**	**272**	P	Pn	17 53 18.5	+0.1
OWD				eS	Sn	17 53 28.1	-0.2
EHY	**Hungye**	**0.72**	**234**	eP	Pn	17 53 17.9	-0.4
LATG	**Datong**	**0.72**	**327**	eP	Pn	17 53 18.4	-0.1
LATG				eS	Sn	17 53 28.0	-0.4
NNSB	**Datong**	**0.72**	**314**	eP	Pn	17 53 18.3	-0.2
NNSB				eS	Sn	17 53 28.2	-0.3
FUSS	**Fushou**	**0.73**	**296**	P	Pn	17 53 18.7	0.0
FUSS				eS	Sb	17 53 28.9	+0.1
NDS	**Dongshan**	**0.74**	**343**	eP	Pb	17 53 18.8	-0.2
NNS	**Nan Shan**	**0.74**	**314**	eP	Pn	17 53 18.6	-0.1
NNS				eS	Sb	17 53 28.9	-0.1
ECBN	**Changbin**	**0.77**	**218**	eS	Sn	17 53 29.1	-0.2
VWDT	**VWDT**	**0.77**	**257**	P	Pn	17 53 19.2	+0.2
VWDT				eS	Sn	17 53 29.4	0.0
WUSB	**Renai**	**0.77**	**275**	P	Pn	17 53 19.2	+0.1
WUSB				eS	Sb	17 53 30.1	+0.3
ENTT	**Nioudou**	**0.79**	**333**	eP	Pb	17 53 19.6	-0.3
ENTT				eS	Sb	17 53 30.4	0.0
YULB	**Yu-li**	**0.81**	**229**	P	Pn	17 53 19.5	0.0
YULB	**Yu-li**	**0.81**	**229**	S	Sn	17 53 30.6	+0.2
YULB	**Yu-li**	**0.81**	**229**	eP	Pn	17 53 19.2	-0.3
YULB				eS	Sn	17 53 30.0	-0.4
EYUL	**Yuli**	**0.82**	**226**	eS	Sb	17 53 32.1	+0.9
TWE	**Neicheng**	**0.83**	**341**	eP	Pb	17 53 20.2	-0.3
TWE				eS	Sb	17 53 31.3	-0.1
TWF1	**Yuli**	**0.83**	**227**	eP	Pn	17 53 19.6	-0.3
TWF1				eS	Sn	17 53 31.3	+0.2
FUSB	**Fushanzhiwuyua**	**0.89**	**338**	eP	Pn	17 53 21.0	+0.3
FUSB				eS	Sb	17 53 33.3	0.0
YHNB	**Yeheng**	**0.91**	**324**	P	Pb	17 53 21.4	-0.4
YHNB	**Yeheng**	**0.91**	**324**	S	Sb	17 53 34.3	+0.6
YHNB	**Yeheng**	**0.91**	**324**	P	Pn	17 53 21.0	0.0
YHNB				eS	Sn	17 53 32.8	-0.3
NSK	**Sanguang**	**0.93**	**324**	eP	Pb	17 53 21.6	-0.4
NSK				eS	Sn	17 53 33.5	+0.1
SSLB	**Suanglung**	**0.93**	**262**	P	Pn	17 53 21.6	+0.4
SSLB	**Suanglung**	**0.93**	**262**	S	Sn	17 53 33.6	+0.1
SSLB	**Suanglung**	**0.93**	**262**	eP	Pb	17 53 21.8	-0.3
SSLB				eS	Sn	17 53 33.9	+0.4
NWLT	**Wulai**	**0.94**	**334**	eP	Pb	17 53 23.0	+0.7
NWLT				eS	Sn	17 53 33.8	0.0
FULB	**Fuli**	**0.95**	**220**	eP	Pb	17 53 22.8	+0.3
FULB				eS	Sn	17 53 34.0	+0.1
WCS	**Beigang Elemen**	**0.97**	**278**	eP	Pb	17 53 22.4	-0.3
SMLT	**Sun Moon Lake**	**0.97**	**268**	eP	Pn	17 53 21.6	-0.3
SMLT				eS	Sn	17 53 34.9	+0.3
CHKT	**Chengkung**	**0.99**	**214**	eS	Sn	17 53 33.4	-1.4
WHP	**Taichung City**	**0.99**	**291**	eP	Pb	17 53 23.1	0.0
WHP				eS	Sb	17 53 36.2	+0.3
TYC	**Yuchr**	**1.01**	**269**	eP	Pb	17 53 23.0	-0.4
NFF	**Wufeng Townshi**	**1.04**	**313**	eP	Pb	17 53 23.7	-0.3
NFF				eS	Sb	17 53 36.9	-0.4
WHYT	**Xinyi Township**	**1.04**	**257**	eP	Pb	17 53 23.9	-0.1
WHYT				eS	Sb	17 53 37.5	+0.2
TIPB	**Shuangxi**	**1.05**	**353**	eP	Pb	17 53 23.8	-0.3
TIPB				eS	Sb	17 53 37.0	-0.5
YOJ	**Yonaguni jima**	**1.10**	**61**	eP	Pn	17 53 23.6	+0.1
KSHI	**Guanxi Townshi**	**1.11**	**320**	eP	Pb	17 53 25.2	+0.1
KSHI				eS	Sb	17 53 40.9	+1.7
LIOB	**Emei**	**1.12**	**310**	eP	Pb	17 53 25.4	+0.1
LIOB				eS	Sb	17 53 39.5	0.0
NSTT	**Nanjuang**	**1.12**	**309**	eP	Pb	17 53 24.9	-0.4
NSTT				eS	Sb	17 53 39.2	-0.4
ELDTW	**Lidau**	**1.14**	**230**	eP	Pn	17 53 23.8	-0.4
ALS	**Alishan**	**1.14**	**249**	eP	Pb	17 53 25.5	-0.2
ALS				eS	Sb	17 53 39.9	-0.5
WNT	**Mingjian**	**1.17**	**268**	eP	Pb	17 53 26.6	+0.5
CHN5	**Tsauling**	**1.22**	**255**	eP	Pb	17 53 26.9	-0.1
CHN5				eS	Sb	17 53 43.0	+0.5
ZUZH	**Zhuzihu**	**1.28**	**343**	eS	Sn	17 53 42.6	+0.3
STYH	**Taoyuan**	**1.32**	**235**	eP	Pn	17 53 27.7	+1.1
STYH				eS	Sb	17 53 44.5	-0.8
WCKO	**Fanlu**	**1.33**	**249**	eP	Pb	17 53 28.9	0.0
WCKO				eS	Sb	17 53 46.6	+1.0
TPUB	**Ta-pu**	**1.37**	**243**	P	Pb	17 53 29.3	-0.2
TPUB	**Ta-pu**	**1.37**	**243**	S	Sb	17 53 47.6	+0.9
TPUB	**Ta-pu**	**1.37**	**243**	eP	Pb	17 53 28.7	-0.8
TPUB				eS	Sb	17 53 46.9	+0.2
SGST	**Jiashian**	**1.52**	**237**	eP	Pb	17 53 30.8	-1.3
SGST				eS	Sb	17 53 50.6	-0.3
IRIF	**Iriomote-Funau**	**1.67**	**76**	eP	Pb	17 53 31.7	+0.4
MASBT	**Mashibuluo**	**1.79**	**223**	eP	Pn	17 53 34.2	+1.2
MASBT				eS	Sb	17 53 58.2	-0.5
JKRS	**Kuro-shima**	**1.90**	**80**	eP	Pn	17 53 35.2	+0.7
JIJ	**Ishigaki jima**	**2.04**	**77**	eP	Pn	17 53 36.0	-0.5
JISG	**Ishigakijimahi**	**2.24**	**73**	eP	Pn	17 53 39.1	-0.2
JISG				eS	Sn	17 54 04.8	-1.0

IDC 04 18:02:54.7±1.9,**5°.27S**×**145°.91E**,**h0**km,**mb3.1**/2,
mbtmp3.4/4,**ML2.9/2**,**Error ellipse: s-maj=44.8km**
s-min=22.9km az=85.0,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.29**	**163**	Pn	Pn	18 04 01.7	+0.4
PMG	5.3nm,0.3s,baz=21,slow=6.2,SNR=20			Sn	Sn	18 04 51.0	-1.1
PMG	7.5nm,0.3s,baz=110,slow=22,SNR=8.4			Lg	Lg	18 05 11.5	
WRA	3.9nm,0.3s,baz=209,slow=12,SNR=4.0 12nm,0.3s **Warramunga Arr**	**18.43**	**217**	P	P	18 07 12.3	+0.5
ASAR	0.1nm,0.3s,baz=38,slow=11,SNR=7.7 0.6nm,0.7s **Alice Springs**	**21.64**	**211**	P	P	18 07 46.1	-0.7
ILAR	0.2nm,0.5s,baz=38,slow=7.6,SNR=8.1 0.2nm,0.5s **Eielson Array**	**85.24**	**23**	P	P	18 15 33.1	+0.2
	0.2nm,0.6s,baz=250,slow=5.9,SNR=2.1 0.2nm,0.6s						

*IDC **04** 18:12:59.9±0.6, 2°.34S×121°.40E, h0km, mb4.1/14,*
mbtmp4.2/15, ML4.7/1, MS3.8/38, Error ellipse:
s-maj=28.3km s-min=13.3km az=75.0
*BJI **04** 18:13:01.1±2.7, 6°S×121°.49E, h22km, mB5.0/9, mb4.5/46,*
Ms4.3/4, Ms7 4.1/5
*NEIC **04** 18:13:02.9±1.8, 2°.44S±0°.06×121°.44E±0°.06, h10km±1km,*
mb4.8/46, Error ellipse: s-maj=10.5km s-min=8.7km
az=129.0
*DJA **04** 18:13:03.8±0.3, 3°S±1°×12°1E±°, h13km±2km, M4.7/52,*
mb4.9/52, mB5.2/19, MLv5.0/28, Mw(mB)4.6/19,
MwMwp4.4/4, Mwp4.8/4
*GCMT **04** 18:13:03.9±0.3, 2°.43S±0°.02×121°.47E±0°.02, h17km±1km,*
MW4.7/82, Moment Tensor Solution. s16,c19; s82,c111;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.40±.08;
Mθθ 1.16±.07; Mφφ=0.76±.06; Mrθ 0.28±.15; Mφφ 0.85±.05;
Mφr 0.89±.20; Best double couple: M0 1.62200×10^16
NP1:ϕs=209.00000°, δ79.00000°, λ-142.00000°. Principal axes:
T 1.6570, Plg17.0000°, Azm335.0000°; N -0.0700,
Plg51.0000°, Azm222.0000°; P -1.5870, Plg34.0000°,
Azm77.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function

ISC 04 18:13:04.7±0.3,**2°.46S**±0°.04×**121°.51E**±0°.04,**h22**km,**n203**,
σ1♀**71**/182,**mb4.7**/54,**MS3.8**/36,**1C-3D**,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ambon**	**1.54**	**5**	P	Pn	18 13 31.5	+0.6
TTSI	**Tana Toraja**	**1.78**	**251**	P	Pn	18 13 31.6	-2.6
KDI	**Kendari**	**1.86**	**143**	P	Pn	18 13 34.4	-0.8
LUWI	**Luwuk**	**1.89**	**42**	Pn	Pn	18 13 35.9	+0.3
LUWI	**Luwuk**	**1.89**	**42**	P	Pn	18 13 36.0	+0.3
LUWI	**Luwuk**	**1.89**	**42**	S	Sb	18 14 02.5	+0.8
LUWI	**Luwuk**	**1.89**	**42**	P	Pn	18 13 35.9	+0.3
PCI	**Palu**	**2.27**	**313**	P	Pn	18 13 41.6	+0.7
SPSI	**Sidrap Palu**	**2.29**	**229**	P	Pn	18 13 40.6	-0.6
MRSI	**Marisa**	**2.95**	**8**	P	Pn	18 13 50.6	+0.4
KAPI	**Kappang**	**3.08**	**215**	Pn	Pn	18 13 52.1	0.0
KAPI	92nm,0.3s,baz=356,slow=5.2,SNR=95 39nm,0.3s,baz=357,slow=23,SNR=7.6			Sn	Sn	18 14 29.3	+1.0
KAPI	comp=Z,3μm,19.6s,baz=42,slow=45 282nm,0.4s			LR	LR	18 15 19.8	
KAPI	**Kappang**	**3.08**	**215**	P	Pn	18 13 52.7	+0.6
BKSI	**Bulukumba**	**3.16**	**206**	P	Pn	18 13 52.5	-0.7
BBSI	**Bau Bau**	**3.19**	**161**	P	Pn	18 13 53.7	+0.1
TOLI2	**Tolitoli**	**3.62**	**348**		Pn	18 14 00.5	+1.0
TOLI2	**Tolitoli**	**3.62**	**348**	P	Pn	18 14 01.6	+2.1
TOLI2	**Tolitoli**	**3.62**	**348**	S	Sn	18 14 45.4	+3.9
BSSI	**Bau Bau, Buton**	**3.80**	**195**	P	Pn	18 14 01.2	-0.7
KMSI	**Cibinong**	**3.90**	**39**	P	Pn	18 14 05.3	+2.0
SANI	**Sanana**	**4.50**	**85**	S	Sn	18 15 04.0	+0.8
SANI	**Sanana**	**4.50**	**85**	P	Pn	18 14 10.9	-0.6
SANI	**Sanana**	**4.50**	**85**	P	Pn	18 14 09.4	-2.1
SMKI	**Samarinda**	**4.74**	**295**	P	Pn	18 14 13.4	-1.5
BKB	**Balikpapan**	**4.76**	**284**		Pn	18 14 13.9	-1.3
BKB	**Balikpapan**	**4.76**	**284**	P	Pn	18 14 16.5	+1.4
BKB	**Balikpapan**	**4.76**	**284**	S	Sn	18 15 14.1	+4.4
BKB	**Balikpapan**	**4.76**	**284**	P	Pn	18 14 15.6	+0.5
NLAI	**Namlea**	**5.64**	**98**	P	Pn	18 14 28.4	+1.1
MMRI	1μm87nm,0.7s **Maumere**	**6.18**	**173**	Pn	Pn	18 14 34.5	-0.2
MMRI	**Maumere**	**6.18**	**173**	P	Pn	18 14 35.0	+0.3
MMRI	**Maumere**	**6.18**	**173**	P	Pn	18 14 34.5	-0.2
TNTI	0.6nm1μm3μm166nm,1.3s **Ternate**	**6.68**	**61**	Pn	Pn	18 14 42.2	+0.6
TNTI	**Ternate**	**6.68**	**61**	P	Pn	18 14 43.2	+1.6
TNTI	**Ternate**	**6.68**	**61**	S	Sn	18 15 59.3	+2.2
TNTI	**Ternate**	**6.68**	**61**	P	Pn	18 14 42.1	+0.5
AAI	0.4nm715nm1μm120nm,0.8s **Ambon**	**6.79**	**101**	P	Pn	18 14 44.7	+1.6
PLAI	0.3nm51nm,1.1s **Plampang**	**7.33**	**210**	P	Pn	18 14 52.9	+2.3
PLAI	**Plampang**	**7.33**	**210**	P	Pn	18 14 49.4	-1.2
WBSI	55nm,0.8s **Waikabubak, Su**	**7.44**	**196**	P	Pn	18 14 52.2	+0.2
MSAI	0.3nm93nm,0.8s **Masohi**	**7.46**	**97**	P	Pn	18 14 50.7	-1.7
SOEI	0.4nm1μm80nm,0.5s **Soe**	**7.75**	**159**	Pn	Pn	18 14 57.1	+0.7
SOEI	**Soe**	**7.75**	**159**	P	Pn	18 14 58.5	+2.1
SOEI	**Soe**	**7.75**	**159**	P	Pn	18 14 57.7	+1.3
TWSI	**Taliwang, Sumb**	**7.75**	**216**	P	Pn	18 14 55.0	-1.3
SRBI	0.2nm34nm,0.8s **Singaraja**	**8.40**	**228**	P	Pn	18 15 03.9	-1.2
KMMI	34nm,0.6s **Kalianget**	**8.79**	**238**	P	Pn	18 15 11.1	+0.6
JAGI	36nm,0.9s **Jajag, Banyuwa**	**9.45**	**230**		Pn	18 15 18.2	-1.4
JAGI	**Jajag, Banyuwa**	**9.45**	**230**	P	Pn	18 15 22.5	+2.9
JAGI	**Jajag, Banyuwa**	**9.45**	**230**	P	Pn	18 15 20.5	+0.9
SWI	38nm,0.8s **Sorong**	**9.88**	**81**	P	Pn	18 15 26.2	+0.7
KKM	622nm69nm,1.1s **Kota Kinabalu**	**9.96**	**328**		Pn	18 15 26.3	-0.4
KKM	**Kota Kinabalu**	**9.96**	**328**	P	Pn	18 15 29.5	+2.8
DAV	**Davao City (W)**	**10.30**	**23**	Pn	Pn	18 15 41.5	+10
DAV	27nm,0.3s,baz=347,slow=3.4,SNR=3.8			LR	LR	18 20 14.9	
STKI	comp=Z,714nm,20.2s,baz=226,slow=42 **Sintang**	**10.34**	**284**	P

comp=Z,320nm,23.8s
ASAR Alice Springs 24.26 151 P P 18 18 19.9 -0.6
comp=Z,9.6nm,0.8s,baz=343,slow=13,SNR=59
ASAR LR LR 18 28 14.9
comp=Z,333nm,18.7s,baz=320,slow=38
comp=Z,9.6nm,0.8s
COEN Coen 24.27 119 P P 18 18 19.9 -0.7
COEN IAmb IAmb 18 18 24.3
comp=Z,37nm,1.1s
COEN Coen 24.27 119 P P 18 18 23.0 +2.4
AS01 Alice Springs 24.28 151 P P 18 18 22.5 +1.9
comp=Z,39nm,1.5s
SRIT Nakonsritamara 24.44 297 P P 18 18 25.1 +2.9
QIS Mount Isa 25.20 137 P P 18 18 29.2 +0.2
YULB Yu-li 25.70 360 P P 18 18 32.1 -1.3
YULB Yu-li 25.70 360 P P 18 18 34.7 +1.3
SSLB Suanglung 26.09 359 P P 18 18 36.2 -0.8
SSLB Suanglung 26.09 359 P P 18 18 39.5 +2.5
PMG Port Moresby 26.42 106 LR LR 18 31 53.9
comp=Z,109nm,19.6s,baz=254,slow=43
MTSU Mount Surprise 27.26 126 P P 18 18 49.8 +2.2
NONG Nongkai 27.26 319 P P 18 18 51.0 +3.4
SRDT SRDT 27.77 308 P P 18 18 55.8 +3.6
OOD Oodnadatta 28.61 153 P P 18 19 02.1 +2.5
FORT Forrest 28.84 168 P P 18 19 00.9 -0.7
SLVN Son La 29.26 325 P P 18 19 08.0 +2.5
JOW Kunigami 29.84 12 LR LR 18 30 21.4
comp=Z,99nm,21.4s,baz=167,slow=35
CMAR Chiang Mai Arr 30.42 314 P P 18 19 13.9 -1.8
CMAR Chiang Mai Arr 30.42 314 P P 18 19 15.7 0.0
comp=Z,3.6nm,0.9s,baz=140,slow=7.4,SNR=18
CMAR LR LR 18 33 49.5
comp=Z,133nm,19.6s,baz=120,slow=41
NWAO Narrogin (SRO) 30.57 187 LR LR 18 33 00.1
comp=Z,157nm,18.9s,baz=48,slow=39
CHTO Chiang Mai 30.65 315 P P 18 19 17.4 -0.4
INKA Innaminka 31.15 146 P P 18 19 24.6 +2.5
LCRK Leigh Creek 32.02 152 P P 18 19 32.1 +2.4
QLP Quilpie 32.42 140 P P 18 19 35.0 +1.8
BBOO Buckleboo 33.14 157 P P 18 19 39.7 +0.2
BBOO IAmb IAmb 18 19 43.0
comp=Z,14nm,0.8s
BBOO Buckleboo 33.14 157 P P 18 19 39.4 -0.1
NJ2 Nanjing 34.41 356 *eP* **P 18 19 52.6 +2.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ENH Enshi 34.51 341 P P 18 19 50.3 -1.2
ENH IAmb IAmb 18 20 34.1
comp=Z,19nm,1.2s
ENH Enshi 34.51 341 P P 18 19 54.5 +3.0
PZH PanZhiHua 34.55 328 P P 18 19 52.8 +0.8
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.3s
STKA Stephens Creek 34.85 149 P P 18 19 54.5 +0.2
STKA Stephens Creek 34.85 149 P P 18 19 54.4 0.0
comp=Z,21nm,0.8s,baz=316,slow=9.8,SNR=20
STKA LR LR 18 35 07.2
comp=Z,243nm,18.5s,baz=323,slow=38
comp=Z,21nm,0.8s
STKA Stephens Creek 34.85 149 P P 18 19 54.7 +0.4
HTT Hallett 34.86 154 P P 18 19 55.0 +0.5
TNCH TengChong 35.27 322 ⇓P **P 18 19 59.4 +1.1**
TNCH pP sP 18 20 11.2 +3.2
TNCH S **S 18 25 29.7 -1.5**
TNCH SS **SnSn 18 27 49.1 -0.7**
TNCH pmax pmax
comp=Z,12nm,1.1s
TNCH LR LR
comp=Z,230nm,18.0s
TNCH LR LR
comp=Z,180nm,18.1s
TNCH LR LR
comp=Z,270nm,16.4s
JNU Nakatsue 36.48 13 LR LR 18 34 47.4
comp=Z,53nm,21.5s,baz=207,slow=36
CMSA Cobar Meteorol 36.83 144 P P 18 20 12.2 +0.8
CD2 Chengdu 37.24 334 P P 18 20 14.9 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 LR LR
comp=Z,170nm,12.1s
XAN Xi'an 38.19 343 ⇓P **P 18 20 23.5 +0.6**
XAN pP pP 18 20 30.7 +0.9
XAN pmax pmax
comp=Z,8.0nm,0.3s
BRDH Bariadhala 38.38 312 LR LR 18 40 43.9
comp=Z,174nm,18.1s,baz=146,slow=44
HNR Honiara 38.83 102 LR LR 18 37 11.9
comp=Z,79nm,19.8s,baz=174,slow=37
ARPS Mount Arapiles 38.95 154 P P 18 20 30.1 +0.9
SHL Shillong 39.99 316 P P 18 20 37.0 -1.2
SHL IAmb IAmb 18 20 46.2
comp=Z,21nm,1.0s
KSRS Korea Array 40.15 8 P P 18 20 38.0 -1.2
comp=Z,0.3nm,0.4s,baz=188,slow=9.5,SNR=2.0
KSRS LR LR 18 39 11.8
comp=Z,48nm,19.1s,baz=195,slow=39
comp=Z,0.3nm,0.4s
TOO Toolangi 41.31 151 P P 18 20 48.8 0.0
LZH Lanzhou 41.74 338 *eP* **P 18 20 54.5 +2.0**
LZH pmax pmax
comp=Z,15nm,1.1s
MJAR Matsushiro Arr 41.81 20 P P 18 20 51.8 -1.1
comp=Z,1.8nm,0.8s,baz=190,slow=9.0,SNR=4.2
comp=Z,1.8nm,0.8s
PALK Pallekele 41.85 284 LR LR 18 39 43.0
comp=Z,135nm,19.4s,baz=84,slow=38
LSA Lhasa 43.19 320 P P 18 21 04.3 -0.4
LSA IAmb IAmb 18 21 11.3
comp=Z,12nm,0.7s
LSA Lhasa 43.19 320 P P 18 21 05.8 +1.1
HHC Hu-ho-hao-te 44.05 349 *eP* **P 18 21 13.5 +2.5**
HHC pmax pmax
comp=Z,16nm,0.8s
CN2 Changchun 46.19 4 *eP* **P 18 21 30.7 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 47.39 10 P P 18 21 36.7 -0.5
USRK Ussuriysk Ar. 47.39 10 P P 18 21 35.0 -2.3
comp=Z,1.7nm,0.7s,baz=196,slow=9.0,SNR=5.0
comp=Z,1.7nm,0.7s
MDJ Mudanjiang 47.42 8 P P 18 21 37.9 +0.4
MDJ pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 51.69 348 P P 18 22 10.2 0.0
SONM Songino Array 51.80 347 P P 18 22 10.2 -0.9
SONM Songino Array 51.80 347 P P 18 22 08.5 -2.6
comp=Z,0.6nm,0.6s,baz=173,slow=8.0,SNR=6.3
SONM LR LR 18 45 31.9
comp=Z,73nm,20.7s,baz=169,slow=38
comp=Z,0.6nm,0.6s
KLR Kul'dur 52.24 8 LR LR 18 45 26.5
comp=Z,44nm,19.2s,baz=200,slow=37
HEH HeiHe 52.75 5 *eP* **P 18 22 17.6 -0.2**
HEH pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 55.15 331 *eP* **P 18 22 36.5 +0.9**
WMQ pmax pmax
comp=Z,16nm,0.7s
WUS Wushi 58.01 323 P P 18 22 54.1 -2.0
KSH Kashi 59.05 320 P P 18 23 03.2 -0.2
KSH pmax pmax
comp=Z,4.0nm,1.6s
MK31 Makanchi Array 59.94 330 P P 18 23 06.9 -2.4
MKAR Makanchi Array 59.94 330 P P 18 23 06.5 -2.8
comp=Z,1.6nm,0.7s,baz=132,slow=7.2,SNR=16
MKAR LR LR 18 49 56.6
comp=Z,75nm,21.9s,baz=164,slow=37
comp=Z,1.6nm,0.7s
RPZ Rata Peaks 60.04 140 P P 18 23 09.1 -1.0
RPZ Rata Peaks 60.04 140 LR LR 18 50 00.5
comp=Z,105nm,19.0s,baz=310,slow=37
MAKZ Makanchi 60.11 330 P P 18 23 09.7 -0.8
MAKZ IAmb IAmb 18 23 59.6
comp=Z,6.8nm,1.2s
KBL Kabul 61.42 312 P P 18 23 17.8 -2.0
KBL IAmb IAmb 18 24 04.4
comp=Z,8.3nm,0.8s
AAK Ala-Archa 61.71 322 LR LR 18 52 32.2
comp=Z,129nm,20.3s,baz=93,slow=38
URZ Urewera 61.93 133 LR LR 18 50 55.1
comp=Z,168nm,19.6s,baz=9.0,slow=37
ARSB Arslanbob 61.94 320 P P 18 23 19.1 -4.0
ZAA0 Zalesovo Array 63.95 337 P P 18 23 33.1 -2.9
ZAA0 IAmb IAmb 18 23 52.6
comp=Z,6.7nm,1.1s
ZALV Zalesovo Beam 63.95 337 P P 18 23 33.8 -2.2
ZALV Zalesovo Beam 63.95 337 P P 18 23 33.3 -2.7
comp=Z,4.9nm,1.0s,baz=130,slow=4.6,SNR=8.7
ZALV LR LR 18 52 20.5
comp=Z,54nm,20.8s,baz=121,slow=37
comp=Z,4.9nm,1.0s
KURBB Kurchatov Arra 64.36 331 P P 18 23 36.2 -2.5
comp=Z,0.8nm,0.5s,baz=142,slow=5.8,SNR=11
comp=Z,0.8nm,0.5s
KURK Kurchatov 64.37 331 P P 18 23 37.4 -1.5
KURK IAmb IAmb 18 24 15.3
comp=Z,7.0nm,0.8s
KK31 Karatay Array 64.43 321 P P 18 23 38.4 -1.1
KK31 IAmb IAmb 18 24 49.1
comp=Z,13nm,1.8s
KKAR Karatay Array 64.43 321 P P 18 23 38.4 -1.1
YAK Yakutsk 64.62 4 P P 18 23 36.8 -3.4
YAK IAmb IAmb 18 23 47.3
comp=Z,6.5nm,0.8s
MA2 Magadan 65.99 16 P P 18 23 48.4 -0.8
MA2 IAmb IAmb 18 24 21.1
comp=Z,4.2nm,0.9s
BVAR Borovoye Array 69.83 330 P P 18 24 10.8 -2.7
comp=Z,0.6nm,0.7s,baz=125,slow=7.4,SNR=7.7
BVAR LR LR 18 57 34.8
comp=Z,49nm,18.5s,baz=133,slow=38
comp=Z,0.6nm,0.7s
BRVK Borovoye 69.90 330 P P 18 24 13.0 -0.9
BRVK IAmb IAmb 18 24 38.3
comp=Z,5.8nm,1.1s
ABKAR Akbulak array 73.77 323 P P 18 24 35.5 -1.7
AKTO Aktyubinsk 75.38 324 LR LR 19 02 40.0
comp=Z,37nm,20.1s,baz=15,slow=40
VNDA Vanda 78.04 172 P P 18 24 59.2 -1.9
VNDA Vanda 78.04 172 LR LR 18 58 28.7
comp=Z,197nm,20.5s,baz=309,slow=35
GNI Garni 81.49 311 LR LR 19 09 26.6
comp=Z,30nm,18.2s,baz=110,slow=42
BELG Belogornoye 82.17 324 LR LR 19 04 55.0
comp=Z,49nm,18.8s,baz=83,slow=38
GEVA Gevas 82.47 309 P P 18 25 23.6 -2.4
GEVA IAmb IAmb 18 25 40.3
comp=Z,8.5nm,1.1s
GURO Guroymak-BITLI 83.30 309 P P 18 25 30.2 -0.1
GURO IAmb IAmb 18 25 37.0
comp=Z,14nm,1.5s
KIBK Kibwezi 83.37 268 P P 18 25 30.1 -1.0
KIBK IAmb IAmb 18 25 43.8
comp=Z,7.6nm,1.1s
KBZ Khabaz 83.47 314 P P 18 25 29.8 -1.1
comp=Z,0.9nm,0.8s,baz=90,slow=6.1,SNR=5.3
KBZ LR LR 19 10 05.7
comp=Z,37nm,18.6s,baz=76,slow=41
comp=Z,0.9nm,0.8s
KMBO Kilima Mbogo 84.21 269 P P 18 25 34.3 -1.3
KMBO IAmb IAmb 18 25 39.0
comp=Z,15nm,1.6s
SYO Syowa Base 84.81 201⇑*e*PcP **P 18 25 40.0 +2.9**
SYO Syowa Base 84.81 201⇓*e*PP PP 18 28 54.4 +1.0
QSPA South Pole Qui 87.49 180 P P 18 25 51.6 +1.0
QSPA South Pole Qui 87.49 180 P P 18 25 50.8 +0.2
comp=Z,3.7nm,0.8s,baz=11,slow=5.2,SNR=7.7
comp=Z,3.7nm,0.8s
MMAI Mount Meron Ar 88.06 303 LR LR 19 11 05.6
comp=Z,38nm,19.8s,baz=108,slow=40
BRTR Keskin Array B 89.91 310 P P 18 26 00.5 -2.1
comp=Z,1.1nm,1.0s,baz=108,slow=4.7,SNR=4.7
comp=Z,1.1nm,1.0s
LSZ Lusaka 92.56 255 LR LR 19 05 10.8
comp=Z,81nm,19.9s,baz=127,slow=34
AKASG Malin Array Be 93.33 320 LR LR 19 12 29.4
comp=Z,39nm,21.0s,baz=72,slow=38
BOSA Boshof 94.32 241 LR LR 19 04 26.8
comp=Z,64nm,19.3s,baz=160,slow=33
ARCES ARCESS Array B 94.39 339 LR LR 19 14 55.1
comp=Z,75nm,18.7s,baz=74,slow=39
SPITS Spitsbergen Ar 95.48 348 LR LR 19 14 19.5
comp=Z,51nm,19.6s,baz=30,slow=39
MLR Muntele Rosu 95.65 315 LR LR 19 19 32.4
comp=Z,52nm,19.4s,baz=60,slow=42

NEIC ***04*** *18:13:07.7±0.9, 15°.01S±0°.07×172°.71W±0°.08, h10km±1km, mb4.7/35, Error ellipse: s-maj=17.1km s-min=6.5km az=313.0*
IDC ***04*** *18:13:21.3±5.0, 15°.02S×173°.59W, h125km±43km, mb3.7/7, mbtmp4.1/8, MS3.8/20, Error ellipse: s-maj=35.7km s-min=21.7km az=124.0*
ISC 04 18:13:07.0±0.6, 15°.05S±0°.08×172°.7W±0°.1, h10km, n66, σ1§36/37, mb4.6/25, MS3.9/19, 1C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.43**	**38**		**Pn**	**18 13 33.5**	**+0.5**
AFI				Sn	**Sn**	**18 13 50.2**	**-1.7**
NIUE	**Niue**	**4.79**	**147**		**Pn**	**18 14 20.7**	**+1.5**
MSVF	**Nonsavu**	**9.29**	**252**	Pn	**Pn**	**18 15 20.9**	**-0.3**
MSVF	**Nonsavu**	**9.29**	**252**	P	**Pn**	**18 15 22.7**	**+1.5**
MSVF				LR	LR	18 18 18.3	
	comp=Z,496nm,18.0s,baz=82,slow=35						
URZ	**Urewera**	**24.82**	**199**	LR	LR	18 26 49.9	
	comp=Z,134nm,21.7s,baz=126,slow=33						
RTZ	**Ruatahuna**	**25.19**	**199**	P	**P**	**18 18 31.3**	**-1.5**
RTZ				IAmb	IAmb	18 18 39.5	
	comp=Z,15nm,1.1s						
INZ	**Inchbonnie**	**30.78**	**203**	P	**P**	**18 19 19.1**	**-3.5**
RPZ	**Rata Peaks**	**31.77**	**203**	LR	LR	18 31 17.9	
	comp=Z,149nm,19.5s,baz=6.0,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.03**	**328**	T	T	19 01 49.1	
	baz=147,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.04**	**328**	T	T	19 01 53.7	
	baz=147,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.05**	**328**	T	T	19 02 06.3	
	baz=147,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.96**	**329**	T	T	19 03 01.4	
	baz=146,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.96**	**329**	T	T	19 03 16.9	
	baz=146,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.98**	**329**	T	T	19 03 09.7	
	baz=146,slow=76						
WRA	**Warramunga Arr**	**50.60**	**256**	P	P	18 22 00.3	-6.2
	comp=Z,1.3nm,0.8s,baz=97,slow=7.8,SNR=7.8						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**50.88**	**252**	P	P	18 22 02.9	-5.7
	comp=Z,2.0nm,0.6s,baz=86,slow=8.2,SNR=17						
	comp=Z,2.0nm,0.6s						
SHEM	**Shemya Is, Ala**	**68.46**	**351**	LR	LR	18 48 39.8	
	comp=Z,70nm,20.5s,baz=256,slow=31						
MJAR	**Matsushiro Arr**	**69.12**	**319**	LR	LR	18 48 32.3	
	comp=Z,46nm,21.0s,baz=186,slow=31						
PFO	**Pinyon Flats O**	**72.17**	**47**	LR	LR	18 48 58.4	
	comp=Z,82nm,19.7s,baz=256,slow=29						
LPIG	**La Paz**	**72.26**	**58**	LR	LR	18 48 05.9	
	comp=Z,36nm,19.1s,baz=257,slow=29						
YBH	**Yreka Blue Hor**	**72.90**	**37**	LR	LR	18 48 16.5	
	comp=Z,63nm,20.2s,baz=227,slow=28						
NVAR	**Mina Array Bea**	**73.60**	**42**	P	**P**	**18 24 43.8**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=228,slow=6.4,SNR=2.5						
NVAR				LR	LR	18 50 00.9	
	comp=Z,77nm,18.9s,baz=300,slow=30						
	comp=Z,0.7nm,0.8s						
KDAK	**Kodiak Island**	**74.44**	**11**	LR	LR	18 49 28.2	
	comp=Z,79nm,21.0s,baz=50,slow=29						
QSPA	**South Pole Qui**	**75.00**	**180**	P	**P**	**18 24 49.5**	**+1.0**
QSPA				IAmb	IAmb	18 24 50.4	
	comp=Z,10nm,1.0s						
QSPA	**South Pole Qui**	**75.00**	**180**	P	**P**	**18 24 49.2**	**+0.7**
	comp=Z,4.7nm,0.8s,baz=66,slow=4.9,SNR=12						
	comp=Z,4.7nm,0.8s						
KSRS	**Korea Array**	**76.40**	**315**	LR	LR	18 53 11.2	
	comp=Z,21nm,21.9s,baz=285,slow=32						
BBB	**Bella Bella**	**77.26**	**26**	LR	LR	18 53 09.7	
	comp=Z,32nm,18.6s,baz=232,slow=31						
BMRM	**Bremner River**	**79.01**	**14**	P	**P**	**18 25 11.5**	**+0.6**
BMRM				IAmb	IAmb	18 25 12.9	
	comp=Z,9.0nm,1.0s						
NEW	**Newport**	**80.03**	**34**	LR	LR	18 55 14.9	
	comp=Z,50nm,19.3s,baz=196,slow=31						
ANMO	**Albuquerque**	**80.04**	**50**	LR	LR	18 51 43.7	
	comp=Z,54nm,20.3s,baz=82,slow=28						
M26K	**Nabesna, AK**	**80.64**	**14**	P	**P**	**18 25 20.2**	**+0.5**
M26K				IAmb	IAmb	18 25 21.9	
	comp=Z,7.9nm,1.2s						
MCK	**McKinley**	**80.65**	**10**	P	**P**	**18 25 20.4**	**+0.7**
MCK				IAmb	IAmb	18 25 21.8	
	comp=Z,7.6nm,0.9s						
M27K	**Edge Creek, AK**	**80.86**	**14**	P	**P**	**18 25 22.6**	**+1.6**
O30N	**Mendenhall**	**81.03**	**17**	P	**P**	**18 25 23.4**	**+1.6**
DLBC	**Dease Lake**	**81.12**	**21**	LR	LR	18 56 53.9	
	comp=Z,38nm,18.2s,baz=312,slow=32						
WRH	**Wood River Hil**	**81.48**	**11**	P	**P**	**18 25 24.8**	**+0.7**
WRH				IAmb	IAmb	18 25 25.8	
	comp=Z,8.5nm,1.0s						
DOT	**Dot Lake**	**81.51**	**12**	P	**P**	**18 25 24.9**	**+0.7**
DOT				IAmb	IAmb	18 25 26.2	
	comp=Z,6.9nm,1.2s						
PDAR	**Pinedale Array**	**81.54**	**42**	LR	LR	18 56 31.8	
	comp=Z,40nm,20.1s,baz=263,slow=32						
HDA	**Harding Lake**	**81.63**	**11**	P	**P**	**18 25 25.7**	**+0.8**
HDA				IAmb	IAmb	18 25 26.6	
	comp=Z,4.9nm,1.0s						
CCB	**Clear Creek Bu**	**81.69**	**11**	P	**P**	**18 25 25.8**	**+0.7**
CCB				IAmb	IAmb	18 25 26.7	
	comp=Z,6.3nm,0.9s						
I23K	**Minto, Yukon-K**	**81.89**	**10**	P	**P**	**18 25 26.4**	**+0.2**
COLA	**College**	**81.89**	**10**	P	**P**	**18 25 26.5**	**+0.3**
IL31		**81.97**	**11**	P	**P**	**18 25 26.4**	**-0.1**
ILAR	**Eielson Array**	**81.97**	**11**	P	**P**	**18 25 26.6**	**-0.1**
ILAR	**Eielson Array**	**81.97**	**11**	P	**P**	**18 25 27.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=230,slow=6.4,SNR=12						
ILAR				LR	LR	18 54 09.4	
	comp=Z,47nm,20.5s,baz=159,slow=30						
	comp=Z,0.8nm,0.7s						
J25K	**Salcha River,**	**82.11**	**12**	P	**P**	**18 25 28.0**	**+0.5**
J25K				IAmb	IAmb	18 25 29.4	
	comp=Z,7.1nm,1.1s						
POKR	**Poker Plat Res**	**82.18**	**10**	P	**P**	**18 25 28.3**	**+0.5**
M30M	**Minto, Yukon**	**82.31**	**16**	P	**P**	**18 25 29.8**	**+1.3**
F19K	**Shaleruckik Mo**	**82.39**	**6**	IAmb	IAmb	18 25 30.8	
	comp=Z,5.8nm,0.8s						
L29M	**L29M**	**82.41**	**15**	P	**P**	**18 25 30.6**	**+1.5**
L29M				IAmb	IAmb	18 25 31.6	
	comp=Z,6.2nm,0.9s						
PRP	**Porcupine Dome**	**82.89**	**11**	P	**P**	**18 25 32.5**	**+0.8**
PRP				IAmb	IAmb	18 25 33.7	
	comp=Z,6.4nm,1.0s						
E19K	**Redstone River**	**83.05**	**6**	IAmb	IAmb	18 25 34.5	
	comp=Z,3.6nm,0.8s						
BELA	**Belgrano 2**	**84.25**	**172**	P	**P**	**18 25 39.0**	**+0.6**
BELA				IAmb	IAmb	18 25 51.3	
	comp=Z,4.5nm,1.3s						
E22K	**Anaktuvuk Pass**	**84.32**	**8**	IAmb	IAmb	18 25 40.7	
	comp=Z,5.4nm,0.9s						
E23K	**Chandalar**	**84.55**	**9**	IAmb	IAmb	18 25 42.5	
	comp=Z,3.5nm,0.9s						
I30M	**Mount Dempster**	**84.59**	**15**	IAmb	IAmb	18 25 46.1	
	comp=Z,5.6nm,1.2s						
E25K	**Arctic Village**	**85.23**	**10**	IAmb	IAmb	18 25 46.2	
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**87.76**	**14**	P	**P**	**18 25 56.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=234,slow=3.9,SNR=5.1						
INK				LR	LR	18 57 19.8	
	comp=Z,60nm,21.5s,baz=242,slow=30						
	comp=Z,1.5nm,0.9s						
YKA	**Yellowknife Ar**	**89.50**	**23**	P	**P**	**18 26 05.0**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=235,slow=4.8,SNR=11						
	comp=Z,1.0nm,0.9s						
SOCE	**Pocosol**	**90.80**	**80**	P	**P**	**18 26 07.6**	**-3.7**
SYO	**Syowa Base**	**93.08 191**⇑*e*P			**P**	**18 26 20.3**	**-0.4**
ULM	**Lac du Bonnet**	**93.22**	**39**	LR	LR	19 03 09.9	
	comp=Z,75nm,19.2s,baz=316,slow=32						
TKL	**Tuckaleechee C**	**97.74**	**55**	LR	LR	19 06 44.3	
	comp=Z,42nm,18.7s,baz=329,slow=32						
BVAR	**Borovoye Array**	**116.03 322**		PKP	**PKPdf**	**18 31 53.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=29,slow=3.3,SNR=4.4						
GERES	**GERESS Array B 145.89 352**			PKPbc	**PKPdf**	**18 32 46.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=66,slow=2.4,SNR=4.2						
BRTR	**Keskin Array B**	**146.32**	**322**	PKPbc	**PKPdf**	**18 32 47.0**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=112,slow=1.9,SNR=26						

IDC ***04*** *18:33:58.6±1.5, 5°.24S×146°.22E, h0km, mb3.6/5, mbtmp3.7/7, ML3.0/2, Error ellipse: s-maj=36.7km s-min=18.6km az=85.0*
ISC 04 18:34:02.9±1.2, 5°.2S±0°.1×146°.1E±0°.2, h27km, n7, σ1§21/8, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.28**	**166**	Pn	**Pn**	**18 35 06.5**	**+0.2**
	9.4nm,0.3s,baz=9.5,slow=6.1,SNR=37						
PMG				Sn	**Sn**	**18 35 56.1**	**+0.7**
	20nm,0.3s,baz=123,slow=22,SNR=11						
PMG				Lg	Lg	18 36 14.0	
	12nm,0.3s,baz=10,slow=23,SNR=4.8						
	31nm,0.4s						
WRA	**Warramunga Arr**	**18.58**	**217**	P	**Pn**	**18 38 18.1**	**-0.3**
	0.2nm,0.3s,baz=42,slow=12,SNR=8.6						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**21.78**	**211**	P	**P**	**18 38 51.9**	**-1.0**
	0.4nm,0.4s,baz=50,slow=8.9,SNR=12						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.74**	**236**	P	**P**	**18 39 12.8**	**-0.3**
	2.6nm,0.6s,baz=78,slow=7.9,SNR=14						
	2.6nm,0.6s						
STKA	**Stephens Creek**	**26.85**	**189**	P	**P**	**18 39 41.3**	**0.0**
	1.9nm,0.8s,baz=0.1,slow=12,SNR=3.9						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**76.34**	**321**	P	**P**	**18 45 51.6**	**+1.9**
	0.1nm,0.6s,baz=106,slow=4.7,SNR=3.5						
	0.1nm,0.6s						
ILAR	**Eielson Array**	**85.13**	**23**	P	**P**	**18 46 34.8**	**-1.4**
	0.3nm,0.6s,baz=256,slow=3.6,SNR=1.7						
	0.3nm,0.6s						

NEIC ***04*** *18:43:03.6±1.1, 61°.34N±0°.02×149°.89W±0°.06, h41km±3km, Error ellipse: s-maj=3.8km s-min=2.9km az=84.0*
AEIC 04 18:43:04.9±1.4, 61°.33N±0°.02×149°.92W±0°.05, h39km±5km, ML2.5, ML2.6/140(NEIC), Error ellipse: s-maj=4.2km s-min=2.6km az=120.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.24**	**217**		Pn	18 43 12.1	-0.6
FIS				IAML		18 43 20.0	
	comp=N,1μm,0.7s						
FIS				IAML		18 43 20.4	
	comp=E,1μm,0.4s						
RC01	**Rabbit Creek A**	**0.26**	**160**		Sn	18 43 17.7	-1.2
RC01	**Rabbit Creek A**	**0.26**	**160**		Pn	18 43 11.4	-1.5
RC01	**Rabbit Creek A**	**0.26**	**160**	IAML		18 43 18.6	
	comp=N,1μm,0.2s						
RC01				IAML		18 43 18.6	
	comp=E,670nm,0.2s						
M22K	**Willow**	**0.43**	**347**		Pn	18 43 12.9	-1.8
M22K	**Willow**	**0.43**	**347**		Sn	18 43 20.8	-0.8
M22K	**Willow**	**0.43**	**347**	IAML		18 43 21.2	
	comp=N,557nm,0.5s						
M22K				IAML		18 43 21.6	
	comp=E,646nm,0.5s						
PMR	**Palmer**	**0.46**	**55**		Sn	18 43 21.1	-1.1
PMR	**Palmer**	**0.46**	**55**		Pn	18 43 13.4	-1.7
PMR	**Palmer**	**0.46**	**55**	IAML		18 43 21.6	
	comp=N,561nm,0.3s						
PMR				IAML		18 43 22.2	
	comp=E,465nm,0.4s						
GHO	**Glory Hole Cre**	**0.65**	**47**		Pn	18 43 16.0	-1.8
GHO				IAML		18 43 27.5	
	comp=N,319nm,0.2s						
GHO	**Glory Hole Cre**	**0.65**	**47**		Sn	18 43 26.2	-0.7
KNK	**Knik Glacier**	**0.71**	**83**		Pn	18 43 17.0	-1.5
KNK	**Knik Glacier**	**0.71**	**83**		Sn	18 43 28.3	0.0
KNK	**Knik Glacier**	**0.71**	**83**	IAML		18 43 30.6	
	comp=N,353nm,0.2s						
KNK				IAML		18 43 32.6	
	comp=E,270nm,0.3s						
SLKM	**Skilak Lake**	**0.84**	**190**		Pn	18 43 18.5	-1.8
SLKM				IAML		18 43 32.4	
	comp=E,269nm,0.4s						
O22K	**Cooper Landing**	**0.86**	**173**		Pn	18 43 18.4	-2.1
O22K	**Cooper Landing**	**0.86**	**173**		Sn	18 43 31.9	0.0
SML	**Sawmill**	**0.90**	**57**		Pn	18 43 19.4	-1.8
SML				IAML		18 43 34.9	
	comp=E,258nm,0.6s						
SML				IAML		18 43 35.0	
	comp=N,304nm,0.4s						
PWL	**Port Wells**	**0.91**	**121**		Sn	18 43 33.1	0.0
PWL	**Port Wells**	**0.91**	**121**		Pn	18 43 19.8	-1.4
PWL	**Port Wells**	**0.91**	**121**	IAML		18 43 35.0	

comp=E,751nm,0.4s
PWL IAML 18 43 35.5
comp=N,830nm,0.5s
STLK Strandline Lak 0.93 281 Pn 18 43 20.7 -0.9
STLK IAML 18 43 34.6
comp=N,299nm,0.4s
STLK Strandline Lak 0.93 281 Sn 18 43 33.3 -0.5
SKT Skwentna 1.01 311 Sn 18 43 35.3 -0.2
SKT Skwentna 1.01 311 Pn 18 43 21.4 -1.2
SKT Skwentna 1.01 311 IAML 18 43 36.0
comp=E,287nm,0.4s
SKT IAML 18 43 36.0
comp=N,518nm,0.4s
SPU Mount Spurr 1.04 263 Pn 18 43 21.6 -1.5
CUT Chulitna 1.09 351 Pn 18 43 22.6 -1.0
SPCR Spurr Chakacha 1.11 264 Pn 18 43 23.1 -1.0
SPCR Spurr Chakacha 1.11 264 Pn 18 43 23.0 -1.1
M23K Glacier View 1.15 65 Sn 18 43 39.8 +0.8
SEW Seward 1.25 169 Pn 18 43 24.3 -1.6
SCM Sheep Creek Mo 1.34 67 Pn 18 43 26.3 -0.8
GLI Glacier Island 1.45 107 Pn Pn 18 43 27.1 -1.5
RDJH Redoubt Jeurge 1.59 243 Pn 18 43 29.9 -0.8
REF Redoubt East F 1.60 239 Pn 18 43 30.0 -0.9
M20K Styx River 1.63 291 Pn 18 43 31.0 -0.1
BRLK Bradley Lake 1.64 197 Pn 18 43 30.1 -1.2
BRLK IAML 18 43 53.7
comp=E,109nm,0.4s
BRLK IAML 18 43 54.8
comp=N,61nm,0.6s
BRSE Bradley Lake S 1.65 195 Pn 18 43 30.3 -1.0
NCT North Crescent 1.66 244 Pn 18 43 30.8 -0.8
FID Port Fidalgo 1.77 108 Pn 18 43 31.0 -2.1
FID IAML 18 43 55.8
comp=E,83nm,0.4s
FID IAML 18 43 59.2
comp=N,75nm,0.5s
P23K Montague Islan 1.83 136 Pn 18 43 31.6 -2.1
PPLA Purkeypile 1.90 327 Pn 18 43 34.3 -0.6
HIN Hinchinbrook I 1.92 118 Pn 18 43 33.6 -1.5
KLU Klutina 1.93 83 IAML 18 43 59.3
comp=E,68nm,0.3s
KLU IAML 18 44 00.1
comp=N,85nm,0.3s
DIV Divide 2.02 94 Pn 18 43 35.2 -1.3
ILS Iliamna Low So 2.08 230 Pn 18 43 36.8 -0.5
ILSW Iliamna Southw 2.08 231 Pn 18 43 36.6 -0.9
ILSW IAML 18 44 10.5
comp=N,25nm,0.8s
TRF Thorofare Moun 2.13 356 Pn 18 43 38.0 -0.2
TRF IAML 18 44 08.2
comp=N,39nm,0.7s
TRF IAML 18 44 16.7
comp=E,30nm,0.6s
RND Reindeer 2.14 13 Pn 18 43 38.0 -0.1
EYAK Cordova Ski Ar 2.18 109 Pn 18 43 38.3 -0.3
L20K Farewell, AK 2.20 303 Pn 18 43 38.5 -0.4
M19K Big River Lodg 2.21 287 Pn 18 43 38.7 -0.3
M19K Big River Lodg 2.21 287 IAML 18 44 21.4
comp=N,21nm,0.5s
KTH Kantishna Hill 2.28 349 Pn 18 43 40.6 +0.6
KTH IAML 18 44 11.3
comp=N,33nm,0.5s
KTH IAML 18 44 28.9
comp=E,26nm,0.8s
N19K Bonanza Creek 2.28 259 Pn 18 43 39.5 -0.6
CAST Castle Rocks 2.32 335 Pn 18 43 40.5 -0.2
CAST IAML 18 44 24.0
comp=E,26nm,0.8s
P19K Oil Pt 2.35 226 Pn 18 43 40.9 -0.1
O19K Port Alsworth 2.44 244 Pn 18 43 40.8 -1.4
O19K IAML 18 44 34.3
comp=E,47nm,0.5s
MCK McKinley 2.45 10 Pn 18 43 41.8 -0.5
N25K Chitina, Valde 2.57 82 Pn 18 43 43.8 -0.2
N25K IAML 18 44 25.0
comp=N,34nm,0.6s
N25K IAML 18 44 26.9
comp=E,20nm,0.7s
BMRM Bremner River 2.60 96 Pn 18 43 45.2 +0.7
GOAT Goat Mountain 2.64 104 Pn 18 43 43.5 -1.6
PAX Paxson 2.66 50 Pn 18 43 45.7 +0.4
RAGM Ragged Mountai 2.74 108 Pn 18 43 44.6 -1.7
WACK Wrangell Chich 2.75 74 Pn 18 43 46.2 -0.4
CHUM Lake Minchumin 2.79 338 Pn 18 43 47.3 +0.4
K20K Telida 2.81 318 Pn 18 43 46.7 -0.5
K20K Telida 2.81 318 IAML 18 44 39.0
comp=E,16nm,0.9s
WASW Wrangell South 2.81 75 Pn 18 43 47.1 -0.4
BPAW Bear Paw Mtn. 2.82 350 Pn 18 43 47.7 +0.3
WAZA Wrangell Mount 2.85 72 Pn 18 43 48.4 +0.4
GLB Gilahina Butte 2.94 85 IAML 18 44 37.8
comp=E,14nm,0.9s
GLB IAML 18 44 37.9
comp=N,20nm,0.6s
N18K Kilae Creek 2.98 260 Pn Pn 18 43 48.8 -0.8
O18K Koktuh Hills 3.00 243 Pn 18 43 49.0 -1.0
O18K IAML 18 44 51.6
comp=N,18nm,0.9s
SYI Shuyak Island 3.00 206 Pn Pn 18 43 50.5 +0.6
Q19K Cape Douglas, 3.05 219 Pn Pn 18 43 50.3 -0.2
VRDI Verde Repeater 3.13 89 IAML 18 44 44.2
comp=N,16nm,0.8s
WRH Wood River Hil 3.26 14 Pn 18 43 53.1 -0.3
WRH IAML 18 44 53.3
comp=E,11nm,0.9s
TTA Tatalina 3.28 302 Pn 18 43 53.1 -0.7
TTA IAML 18 44 56.5
comp=E,8.6nm,0.7s
TTA IAML 18 44 57.6
comp=N,9.1nm,0.8s
MENT Mentasta 3.33 58 Pn 18 43 53.9 -0.5
L18K Granite Mounta 3.33 288 Pn Pn 18 43 53.9 -0.6
L18K IAML 18 44 54.1
comp=N,12nm,1.0s
RIDG Independent Ri 3.37 42 Pn 18 43 55.0 0.0
RIDG IAML 18 44 45.6
comp=E,20nm,0.6s
RIDG IAML 18 44 50.8
comp=N,21nm,0.6s
J20K Nowinta River 3.45 328 IAML 18 44 55.3
comp=N,12nm,0.6s
J20K IAML 18 45 05.1
comp=E,9.7nm,0.8s
CCB Clear Creek Bu 3.46 15 IAML 18 44 55.2
comp=E,8.1nm,0.8s
L26K Log Cabin Wild 3.52 58 IAML 18 44 57.2
comp=N,17nm,0.4s
L26K IAML 18 44 58.9
comp=E,16nm,0.5s
M17K Holitna River 3.62 274 Pn Pn 18 43 57.9 -0.5
M17K IAML 18 44 57.2
comp=N,13nm,1.2s
M17K IAML 18 45 08.9
comp=E,17nm,1.1s
N17K Nushagak Hills 3.64 260 Pn Pn 18 43 57.9 -0.7
N17K IAML 18 44 57.8
comp=N,7.2nm,1.0s
J19K Poorman 3.75 318 Pn Pn 18 43 59.8 -0.3
J19K IAML 18 45 15.8
comp=E,5.9nm,0.9s
J19K IAML 18 45 19.0
comp=N,6.4nm,0.9s
SCRK Sand Creek 3.81 43 Pn 18 44 01.6 +0.4
SCRK IAML 18 45 02.9
comp=E,11nm,1.0s
SCRK IAML 18 45 03.7
comp=N,7.1nm,0.5s
J18K Innoko River 3.82 307 Pn 18 44 00.2 -0.9
I23K Minto, Yukon-K 3.84 4 IAML 18 45 05.5
comp=E,6.7nm,1.0s
J25K Salcha River, 3.89 30 IAML 18 44 57.8
comp=N,7.6nm,0.5s
J25K IAML 18 45 08.5
comp=E,9.2nm,0.7s
I21K Tanana 3.97 347 Pn Pn 18 44 03.3 +0.1
L27K Beaver Creek, 4.17 62 Pn 18 44 05.5 -0.5
K17K Iditarod 4.18 293 Pn Pn 18 44 05.7 -0.4
K17K IAML 18 45 23.6
comp=N,7.3nm,1.1s
K17K IAML 18 45 26.1
comp=E,11nm,1.1s
J26L Joseph Creek 4.31 40 Pn 18 44 08.0 0.0
J26L Joseph Creek 4.31 40 IAML 18 45 02.8
comp=E,7.2nm,0.8s
J26L IAML 18 45 04.2
comp=N,5.3nm,0.5s
M16K Timber Creek 4.39 270 Pn Pn 18 44 08.6 -0.3
M16K IAML 18 46 51.2
comp=N,4.9nm,1.2s
H21K Melozitna Rive 4.53 345 Pn Pn 18 44 11.0 +0.1
L16K Owhat River 4.59 279 Pn Pn 18 44 11.2 -0.5
L16K IAML 18 45 45.6
comp=N,3.2nm,1.1s
J17K VABM Dome 4.74 300 Pn Pn 18 44 12.9 -0.8
J17K IAML 18 45 55.8
comp=E,3.1nm,1.2s
J17K IAML 18 46 03.7
comp=N,3.7nm,1.0s
I26K Coal Creek Min 5.02 34 Pn 18 44 16.7 -0.9
I26K Coal Creek Min 5.02 34 IAML 18 45 40.9
comp=E,5.1nm,0.5s
I26K IAML 18 45 50.5
comp=N,4.9nm,1.1s
N15K Kwethluk River 5.12 261 Pn Pn 18 44 19.0 -0.1
N15K IAML 18 46 13.6
comp=N,6.3nm,0.9s
J16K Anvik River 5.35 296 Pn Pn 18 44 21.8 -0.4
K15K Wolf Creek Mou 5.59 285 Pn Pn 18 44 25.1 -0.2
M14K Bethel 5.88 270 Pn Pn 18 44 29.0 -0.3
L14K Kuka Creek 6.14 276 Pn Pn 18 44 33.5 +0.5
BMAR Burnt Mountain 6.54 18 Pn Pn 18 44 39.3 +0.8
F26K Sheenjek River 6.85 19 Pn Pn 18 44 42.8 0.0

UCR 04 19:12:01.1±1.1, 29.°60N×84.°86W, h21km±3km, MW3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.23**	**267**	*eP*	Pb	19 12 06.1	-1.0
CBL1				*eS*	Sb	19 12 10.6	-0.7
BITO	**Garabito Jaco**	**0.23**	**85**	*eP*	Pb	19 12 06.4	-0.7
BITO				*eS*	Sb	19 12 10.9	-0.3
NYURE	**Nandayure**	**0.56**	**315**	*eP*	Pb	19 12 11.7	-0.5
PICV	**PH. Pirrs**	**0.65**	**88**	*eP*	Pb	19 12 14.6	+0.6
JTS	**Las Juntas de**	**0.69**	**352**	*eP*	Pb	19 12 13.8	-0.8
ACOS	**Acosta**	**0.71**	**74**	*eP*	Pb	19 12 14.1	-0.8
LLNJ	**Naranjito**	**0.76**	**99**	*eP*	Pb	19 12 15.4	-0.1
ABE2	**San Pablo**	**0.80**	**82**	*eP*	Pb	19 12 15.6	-0.8
SOCE	**Pocosol**	**0.81**	**17**	*eP*	Pb	19 12 16.4	-0.2
LCR2	**La Lucha 2**	**0.85**	**80**	*eP*	Pb	19 12 16.2	-1.1
ARE1	**Arenal 1**	**0.87**	**9**	*eP*	Pb	19 12 17.5	0.0
FORC	**Fortuna**	**0.88**	**12**	*eP*	Pb	19 12 17.6	-0.2
PLVR	**Palo Verde**	**0.89**	**327**	*eP*	Pb	19 12 17.2	-0.8
VICA	**Volcano Irazu**	**1.07**	**69**	*eP*	Pb	19 12 20.4	-0.8
CUI	**Cuipilapa**	**1.09**	**344**	*eP*	Pb	19 12 21.5	+0.1
TENO	**El Achiote**	**1.10**	**354**	*eP*	Pn	19 12 20.5	-1.0
COLC	**Colonia**	**1.11**	**342**	*eP*	Pb	19 12 21.9	+0.3
HORNC	**Hornillas**	**1.15**	**344**	*eP*	Pb	19 12 22.3	-0.1
CVTV	**Tajo**	**1.16**	**70**	*eP*	Pb	19 12 22.7	0.0
VTCV	**VTCV, Calle Va**	**1.18**	**71**	*eP*	Pn	19 12 22.4	-0.1
VERB	**Verbena**	**1.20**	**73**	*eP*	Pn	19 12 22.9	+0.2
CVTG	**V. Turrialba,**	**1.20**	**63**	*eP*	Pn	19 12 22.7	0.0
VRLE	**La Escondida,**	**1.28**	**337**	*eP*	Pb	19 12 24.4	-0.2
DRK0	**Durika**	**1.62**	**102**	*eP*	Pn	19 12 27.7	-1.0

NEIC 04 19:16:13.1±1.0, 29.°03N±0.°04×97.°21W±0.°03, h5km±2km, mb_Lg3.0/39, Error ellipse: s-maj=6.8km s-min=3.1km az=331.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLDN	**Muldoon**	**0.76**	**9**		Pg	19 16 26.8	-1.0
MLDN				Sg	Sg	19 16 37.1	-0.6
HKT	**Hockley**	**1.51**	**52**		Pb	19 16 41.6	+0.1
435B	**Jarrell**	**1.78**	**349**	Pn	Pn	19 16 43.7	-0.9
435B				Sg	Sn	19 17 04.5	-3.0
HNDO	**Hondo**	**1.88**	**286**	Pn	Pb	19 16 48.2	+0.3
HNDO					Sb	19 17 12.0	+0.3
HNDO				IAmb_Lg		19 17 14.7	
comp=Z,68nm,0.8s							
833A	**Chaparral WMA,**	**2.04**	**251**	Pn	Pn	19 16 49.1	+1.0
HNVL	**Huntsville, TX**	**2.29**	**41**	Pn	Pn	19 16 51.3	-0.2
JCT	**Junction City**	**2.68**	**303**	Pg	Pn	19 16 58.5	+1.6
JCT				Sg	Sn	19 17 29.3	-0.5
JCT				IAmb_Lg		19 17 41.0	
comp=Z,74nm,0.8s							
BRDY	**Brady**	**2.74**	**326**	Pn	Pn	19 16 57.4	-0.3
DRIO	**Del Rio**	**3.01**	**278**	Pg	Pb	19 17 06.8	-0.3
DRIO				IAmb_Lg		19 17 49.8	
comp=Z,41nm,0.8s							
FW13	**Cleburne**	**3.32**	**357**	Pn	Pn	19 17 05.3	-0.4
FW13				IAmb_Lg		19 18 06.7	
comp=Z,38nm,0.9s							
FW07	**Weatherford**	**3.70**	**352**		Pn	19 17 09.8	-1.1
FW07				IAmb_Lg		19 18 20.1	
comp=Z,36nm,0.9s							
OZNA	**Ozona**	**3.89**	**300**	Pn	Pn	19 17 15.4	+1.8
OZNA				IAmb_Lg		19 18 26.1	
comp=Z,49nm,0.8s							
PLPT	**Palo Pinto**	**3.89**	**346**	Pn	Pn	19 17 11.6	-2.0
FW03	**Perrin-Whitt E**	**4.07**	**350**	Pn	Pn	19 17 15.1	-0.8
FW03				IAmb_Lg		19 18 29.0	
comp=Z,33nm,0.8s							
SAND	**Sanderson**	**4.38**	**283**	Pn	Pn	19 17 23.4	+3.0
SAND				IAmb_Lg		19 18 39.1	
comp=Z,35nm,0.8s							
SGCY	**Sterling City**	**4.44**	**311**		Pn	19 17 19.7	-1.4
WTFS	**Witchita Falls**	**4.85**	**348**		Pn	19 17 24.1	-2.6
APMT	**Aspermont**	**4.96**	**331**	Pn	Pn	19 17 25.2	-3.1
APMT				IAmb_Lg		19 19 00.6	
comp=Z,25nm,0.9s							
SN05	**Snyder 5**	**4.97**	**321**		Pn	19 17 27.9	-0.6
SN05				IAmb_Lg		19 18 57.3	
comp=Z,28nm,0.8s							
SN07	**Snyder 07**	**5.14**	**323**		Pn	19 17 29.5	-1.2
SN07				IAmb_Lg		19 19 08.1	
comp=Z,25nm,0.8s							
MNHN	**Monahans**	**5.33**	**297**		Pn	19 17 34.3	+0.9
MNHN				IAmb_Lg		19 19 01.9	
comp=Z,30nm,0.9s							
POST	**Post**	**5.46**	**319**		Pn	19 17 30.6	-4.6
ODSA	**Odessa**	**5.54**	**305**	Pn	Pn	19 17 35.8	-0.5
X34A	**Smith Ranch, M**	**5.58**	**355**	Pn	Pn	19 17 36.1	-0.7
DKNS	**Dickens**	**5.61**	**326**		Pn	19 17 37.3	0.0
TXAR	**Lajitas Array**	**5.66**	**275**		Pn	19 17 37.0	-0.9
TX31	**Lajitas Ar. Si**	**5.66**	**275**		Pn	19 17 38.4	+0.5
ALPN	**Alpine**	**5.75**	**285**	Pn	Pn	19 17 38.1	-1.1
WMOK	**Wichita Mounta**	**5.85**	**347**		Pn	19 17 36.3	-4.1
W35A	**Tecumseh**	**6.12**	**3**	Pn	Pn	19 17 40.2	-3.9
FNO	**Franklin**	**6.21**	**359**	Pn	Pn	19 17 42.6	-2.8
PECS	**Pecos**	**6.22**	**294**	IAmb_Lg		19 19 46.7	
comp=Z,16nm,0.9s							
SMWD	**Samnorwood**	**6.58**	**338**	Pn	Pn	19 17 47.6	-2.9
CLN7	**Carlsbad 7**	**6.61**	**302**	Pn	Pn	19 17 50.3	-0.7
CSTR	**Hydro, Custer**	**6.72**	**350**	Pn	Pn	19 17 47.5	-4.9
AMTX	**Amarillo**	**6.97**	**328**	Pn	Pn	19 17 56.1	+0.2
CPRX	**Cap Rock**	**6.97**	**307**	Pn	Pn	19 17 57.1	+1.2
VHRN	**Van Horn**	**6.98**	**286**	Pn	Pn	19 17 57.3	+1.2
ELIS	**Ellis County**	**7.26**	**346**	IAmb_Lg		19 19 57.6	
comp=Z,19nm,0.9s							
BLOK	**Blackwell**	**7.71**	**360**	IAmb_Lg		19 20 25.7	
comp=Z,12nm,1.1s							

*DJA **04** 19:41:41.9±0.3, 3.°S±3.°×12.°0E±.°, h10km, M3.8/10, mb3.8/1, MLv3.8/10*
*IDC **04** 19:41:41.1±1.7, 2.°31S×120.°41E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=181.1km s-min=22.5km az=62.0*
ISC 04 19:41:41.3±1.0, 2.°92S±0.°08×119.°51E±0.°10, h10km, n13, σ1§15/13, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.34**	**111**	P	**Pg**	**19 41 47.8**	**-0.2**
SPSI	**Sidrap Palu**	**1.07**	**166**	P	**Pg**	**19 42 01.1**	**-0.8**
BKSI	**Bulukumba**	**2.46**	**166**	P	**Pn**	**19 42 23.6**	**+2.1**
APSI	**Ampana**	**2.93**	**47**	P	**Pn**	**19 42 29.0**	**+1.0**
BSSI	**Bau Bau, Buton**	**3.35**	**163**	P	**Pn**	**19 42 34.6**	**+0.9**
LUWI	**Luwuk**	**3.76**	**60**	P	**Pn**	**19 42 39.7**	**+0.3**
BBSI	**Bau Bau**	**3.98**	**130**	P	**Pn**	**19 42 41.6**	**-0.9**
MRSI	**Marisa**	**4.16**	**36**	P	**Pn**	**19 42 45.0**	**0.0**
SRBI	**Singaraja**	**6.67**	**220**	P	**Pn**	**19 43 18.4**	**-1.1**
WRA	**Warramunga Arr**	**22.27**	**141**	P	**P**	**19 46 39.0**	**+0.1**
1.3nm,1.1s,baz=320,slow=11,SNR=4.2							
1.3nm,1.1s							
ASAR	**Alice Springs**	**24.88**	**147**	P	**P**	**19 47 06.4**	**+1.9**
0.6nm,0.8s,baz=334,slow=10,SNR=8.0							
0.6nm,0.8s							
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**19 50 48.8**	**-1.0**
0.5nm,0.6s,baz=146,slow=8.7,SNR=4.5							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**59.36**	**331**	P	**P**	**19 51 43.9**	**+0.1**
0.3nm,0.6s,baz=134,slow=8.3,SNR=5.4							
0.3nm,0.6s							

NEIC 04 20:00:46.2±1.2, 37.°04N±0.°01×104.°97W±0.°01, h6km±2km, mb_Lg2.5/15, ML2.0/12, Error ellipse: s-maj=1.8km s-min=1.5km az=184.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.46**	**77**	Pg	Pg	20 00 55.6	+0.5
T25A				Sg	Sg	20 01 01.7	+0.6
SDCO	**Great Sand Dun**	**0.83**	**329**	Pg	Pg	20 01 01.7	-0.4
SDCO				Sg	Sg	20 01 12.9	+0.1
SDCO				IAML		20 01 14.0	
36nm,0.3s							
S22A	**4UR Ranch, Cre**	**1.64**	**296**		Pg	20 01 17.6	-0.2
S22A				IAML		20 01 46.9	
comp=E,22nm,0.8s							
S22A				IAML		20 01 49.3	
comp=N,14nm,0.7s							
RTBA	**Rita Blanca**	**1.89**	**108**	Pn	Pn	20 01 18.3	-0.8
RTBA				IAmb_Lg		20 01 47.0	
comp=Z,19nm,1.2s							
Q24A	**Divide**	**1.93**	**356**	Pn	Pn	20 01 20.6	+0.8
Q24A				IAML		20 01 51.3	
comp=N,17nm,0.2s							
ANMO	**Albuquerque**	**2.41**	**211**	Pn	Pn	20 01 26.4	0.0
MVCO	**Mesa Verde**	**2.83**	**275**	Pg	Pg	20 01 39.0	-1.4
BNM	**Barren Site**	**3.18**	**206**	Pn	Pn	20 01 37.8	+0.8
PV07	**Paradox Valley**	**3.24**	**297**	Pn	Pn	20 01 37.4	-0.3
PV13	**Radium Mtn., P**	**3.26**	**291**	Pg	Pg	20 01 47.4	-1.3
LENM	**Lemitar**	**3.30**	**210**	Pn	Pn	20 01 37.8	-0.7
AMTX	**Amarillo**	**3.42**	**128**	Pn	Pn	20 01 39.3	-0.8
AMTX				Pg	Pg	20 01 50.8	-1.0
PV10	**Paradox Valley**	**3.50**	**294**	Pn	Pn	20 01 40.8	-0.6
SMWD	**Samnorwood**	**4.28**	**115**	Pn	Pn	20 01 51.0	-1.0
DKNS	**Dickens**	**4.71**	**134**	IAmb_Lg		20 03 21.4	
comp=Z,11nm,0.9s							
ODSA	**Odessa**	**5.29**	**157**	IAmb_Lg		20 03 48.5	
comp=Z,6.5nm,0.8s							
MNHN	**Monahans**	**5.97**	**162**	IAmb_Lg		20 04 03.5	
comp=Z,7.8nm,1.1s							

*NEIC **04** 20:07:12.3±1.1, 18.°6S±0.°2×169.°3E±0.°2, h221km±7km, mb4.4/27, Error ellipse: s-maj=28.6km s-min=10.9km az=136.0*
*IDC **04** 20:07:15.6±2.3, 19.°17S×169.°49E, h276km±22km, mb3.6/10, mbtmp4.2/11, Error ellipse: s-maj=21.0km s-min=13.6km az=153.0*
*NOU **04** 20:07:18.2, 19.°25S×169.°48E, h205km, MLv3.9/11, Vanuatu Islands*
ISC 04 20:07:12.9±0.5, 19.°06S±0.°07×169.°49E±0.°07, h246km, n62, σ1§44/66, mb4.2/23, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.81**	**317**	P	**Pn**	**20 07 55.0**	**+1.6**
DVP	**Devils Point**	**1.81**	**317**	P	**S**	**20 08 27.3**	**+2.0**
MARNC	**Mare, Loyalty**	**2.77**	**209**	P	**Pn**	**20 08 03.4**	**+0.8**
YATNC	**Mamie plateau,**	**3.85**	**219**	P	**Pn**	**20 08 17.3**	**+2.6**
PINNC	**Pines Island,**	**4.01**	**208**		**Pn**	**20 08 19.1**	**+2.5**
DZM	**Mont Dzumac**	**4.13**	**223**		**Pn**	**20 08 20.5**	**+2.3**
DZM	**Mont Dzumac**	**4.13**	**223**	P	**Pn**	**20 08 20.4**	**+2.3**
OUENC	**Ouen Island, N**	**4.16**	**216**	P	**Pn**	**20 08 21.0**	**+2.7**
OUENC	**Ouen Island, N**	**4.16**	**216**	S	**S**	**20 09 08.5**	**-1.8**
ONTNC	**Ouen Toro**	**4.30**	**221**		**Pn**	**20 08 22.2**	**+2.2**
ONTNC	**Ouen Toro**	**4.30**	**221**	P	**Pn**	**20 08 22.5**	**+2.5**
KOUNC	**Koumac, New Ca**	**5.11**	**252**	P	**Pn**	**20 08 33.2**	**+3.3**
MSVF	**Nonsavu**	**8.24**	**82**		**Pn**	**20 09 11.7**	**+2.4**
MSVF	**Nonsavu**	**8.24**	**82**	P	**Pn**	**20 09 11.9**	**+2.5**
34nm,0.7s,baz=269,slow=14,SNR=26							
FUNA	**Funafuti**	**14.09**	**43**	Pn	**Pn**	**20 10 19.4**	**-2.9**
ARMA	**Armidale**	**19.74**	**232**	P	**P**	**20 11 25.2**	**+0.7**
ARMA				IAmb	IAmb	20 11 46.2	
comp=Z,25nm,1.5s							
STKA	**Stephens Creek**	**28.14**	**238**	P	**P**	**20 12 43.4**	**+0.9**
WR0	**Warramunga Arr**	**32.92**	**263**	P	**P**	**20 13 24.2**	**-0.3**
WB0	**Warramunga Arr**	**33.07**	**263**	P	**P**	**20 13 25.3**	**-0.5**
WB2	**Warramunga Arr**	**33.10**	**263**	P	**P**	**20 13 24.9**	**-1.2**
WB2				IAmb	IAmb	20 13 37.0	
comp=Z,10nm,1.5s							
WRA	**Warramunga Arr**	**33.11**	**263**	P	**P**	**20 13 25.6**	**-0.6**
comp=Z,0.5nm,0.5s,baz=85,slow=6.2,SNR=14							
WRA				PcP	**PcP**	**20 16 02.7**	**-0.7**
comp=Z,0.6nm,0.7s,baz=84,slow=2.4,SNR=2.9							
WRA				S	**S**	**20 18 24.8**	**-2.2**
comp=Z,0.4nm,0.8s,baz=76,slow=14,SNR=1.5							
comp=Z,0.5nm,0.5s							
AS31	**Alice Springs**	**33.40**	**256**	P	**P**	**20 13 27.9**	**-0.8**
ASAR	**Alice Springs**	**33.40**	**256**	P	**P**	**20 13 28.3**	**-0.3**
ASAR	**Alice Springs**	**33.40**	**256**	P	**P**	**20 13 28.6**	**-0.1**
comp=Z,3.1nm,0.6s,baz=83,slow=9.0,SNR=70							
ASAR				PcP	**PcP**	**20 16 03.4**	**-0.8**
comp=Z,0.6nm,0.8s,baz=116,slow=2.3,SNR=5.0							
ASAR				S	**S**	**20 18 29.2**	**-2.2**
comp=Z,0.3nm,0.9s,baz=88,slow=16,SNR=4.3							
comp=Z,3.1nm,0.6s							
MTN	**Manton Dam**	**37.33**	**274**	P	**P**	**20 14 00.9**	**-1.3**
MTN				IAmb	IAmb	20 14 38.5	
comp=Z,14nm,1.2s							
KNRA	**Kununurra**	**38.95**	**268**	P	**P**	**20 14 14.9**	**-0.7**
KNRA				IAmb	IAmb	20 14 28.7	
comp=Z,12nm,1.3s							
FITZ	**Fitzroy Crossi**	**41.49**	**264**	P	**P**	**20 14 36.8**	**+0.4**
MBWA	**Marble Bar**	**46.62**	**259**	P	**P**	**20 15 17.3**	**+0.3**
MBWA				IAmb	IAmb	20 15 47.3	
comp=Z,23nm,1.3s							
MJAR	**Matsushiro Arr**	**62.71**	**332**	P	**P**	**20 17 11.5**	**-0.4**
comp=Z,3.1nm,1.0s,baz=173,slow=6.1,SNR=4.8							
comp=Z,3.1nm,1.0s							
QSPA	**South Pole Qui**	**70.99**	**180**	P	**P**	**20 18 03.3**	**-0.4**
comp=Z,1.4nm,0.5s,baz=338,slow=5.4,SNR=6.0							
comp=Z,1.4nm,0.5s							
PETK	**Petropavlovsk-**	**72.59**	**353**	P	**P**	**20 18 13.8**	**+0.7**
comp=Z,4.1nm,0.8s,baz=161,slow=5.7,SNR=4.8							
comp=Z,4.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**78.65**	**294**	P	**P**	**20 18 48.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**78.65**	**294**	P	**P**	**20 18 49.5**	**+1.3**
comp=Z,1.0nm,0.7s,baz=127,slow=4.4,SNR=10							
comp=Z,1.0nm,0.7s							
O16K	**Kokwok River B**	**82.73**	**16**	P	**P**	**20 19 07.9**	**-0.9**
L14K	**Kuka Creek**	**83.18**	**13**	P	**P**	**20 19 11.1**	**+0.1**
Q19K	**Cape Douglas,**	**83.40**	**18**	P	**P**	**20 19 12.1**	**-0.2**
SYI	**Shuyak Island**	**83.52**	**19**	P	**P**	**20 19 11.4**	**-1.5**
M16K	**Timber Creek**	**83.75**	**15**	P	**P**	**20 19 13.0**	**-1.0**
M16K				IAmb	IAmb	20 19 48.7	
comp=Z,17nm,1.4s							
K15K	**Wolf Creek Mou**	**84.28**	**13**	P	**P**	**20 19 17.5**	**+0.9**
M17K	**Holitna River**	**84.45**	**15**	P	**P**	**20 19 18.8**	**+1.3**
M17K				IAmb	IAmb	20 19 46.7	
comp=Z,16nm,1.4s							
ULN	**Ulaanbaatar**	**86.86**	**323**	P	**P**	**20 19 29.3**	**-0.6**
YBH	**Yreka Blue Hor**	**87.01**	**44**	P	**P**	**20 19 31.1**	**+0.5**
comp=Z,1.4nm,0.7s,baz=126,slow=14,SNR=3.9							
comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**87.22**	**323**	P	**P**	**20 19 31.0**	**-0.6**
SONM	**Songino Array**	**87.22**	**323**	P	**P**	**20 19 31.6**	**+0.1**
comp=Z,2.3nm,0.9s,baz=138,slow=5.0,SNR=14							
comp=Z,2.3nm,0.9s							
CAST	**Castle Rocks**	**87.51**	**16**	P	**P**	**20 19 30.7**	**-1.7**
CAST				IAmb	IAmb	20 19 34.1	
comp=Z,6.1nm,1.2s							
J05D	**Fort Rock, OR**	**88.71**	**43**	P	**P**	**20 19 39.4**	**+0.7**
J05D				IAmb

comp=Z,2.7nm,0.9s
PRN Pahroc Range 90.42 50 P P 20 19 48.0 +1.2
PRN IAmb IAmb 20 19 48.5
comp=Z,4.5nm,0.8s
G08A Pilot Rock 91.07 42 P P 20 19 50.2 +0.6
G08A IAmb IAmb 20 19 51.3
comp=Z,2.9nm,1.0s
TUC Tucson 91.71 56 P P 20 19 53.5 +0.6
TUC IAmb IAmb 20 19 55.6
comp=Z,3.6nm,1.2s
YKA Yellowknife Ar 100.41 27 P Pdif 20 20 32.0 +0.6
comp=Z,0.4nm,0.7s,baz=256,slow=5.1,SNR=5.8
MKAR Makanchi Array 101.78 315 P Pdif 20 20 38.9 +1.0
comp=Z,0.4nm,0.7s,baz=99,slow=6.3,SNR=5.7
ARCES ARCESS Array B 124.96 345 PKP PKPdf 20 25 41.7 -1.3
comp=Z,4.9nm,0.9s,baz=58,slow=1.5,SNR=9.3
GERES GERESS Array B 144.45 332 PKP PKPab 20 26 18.2 -0.6
comp=Z,1.7nm,0.6s,baz=35,slow=4.9,SNR=6.1
LESA Schwarzleotal 145.96 331 *i* PKP **PKPdf 20 26 23.0 +0.5**
comp=Z,1.5nm,0.3s
ABTA Abfaltersbach 146.54 331 *i* PKP **PKPdf 20 26 24.1 +0.6**
comp=Z,2.4nm,0.5s
MOTA Moosalm 146.72 333 *i* PKP **PKPbc 20 26 25.0 -0.9**
comp=Z,1.5nm,0.4s
SQTA Sankt Quirin 146.77 333 *i* PKP **PKPbc 20 26 25.4 -0.7**
comp=Z,3.0nm,0.4s
FETA Feichten 147.13 333 *i* PKP **PKPbc 20 26 26.5 -0.7**
comp=Z,2.1nm,0.5s

TAP ***04*** *20:16:26.7,24°.90N×122°.02E,h107km,ML3.2,C*
JMA ***04*** *20:16:27.4±0.2,24°.8N±0°.8×122°.0E±0°.5,h106km±2km,*
MVE2.2/11,TAIWAN REGION
ISC 04 20:16:27.0±1.4,24°.90N±0°.04×122°.03E±0°.03,h106km±7km,
n131,σ0°62/203,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.11**	**239**	*i* P	**Pn**	**20 16 41.3**	**-0.4**
EGS				S	**Sn**	**20 16 52.9**	**+0.2**
TWB1	**Santiao Chiao**	**0.11**	**339**	*i* P	**Pn**	**20 16 41.8**	**+0.1**
TWB1				*i* S	**Sn**	**20 16 52.5**	**-0.3**
TIPB	**Shuangxi**	**0.20**	**291**	P	**Pn**	**20 16 42.1**	**+0.1**
TIPB				S	**Sn**	**20 16 52.8**	**-0.5**
SXI1	**Grass Mountain**	**0.24**	**323**	P	**Pn**	**20 16 42.1**	**-0.1**
SXI1				S	**Sn**	**20 16 53.1**	**-0.5**
WFSB	**Wu-fen Shan**	**0.28**	**307**	*eP*	**Pn**	**20 16 42.5**	**+0.3**
WFSB				*eS*	**Sn**	**20 16 53.5**	**-0.2**
ILA	**Ilan**	**0.29**	**243**	*eS*	**Sn**	**20 16 53.9**	**+0.1**
TWC	**Suao**	**0.34**	**210**	*i* P	**Pn**	**20 16 42.1**	**-0.4**
TWC				*i* S	**Sn**	**20 16 53.2**	**-0.8**
ESAO	**Su ao**	**0.37**	**208**	*eP*	**Pn**	**20 16 42.8**	**+0.2**
ESAO				*i* S	**Sn**	**20 16 54.0**	**-0.4**
TWE	**Neicheng**	**0.38**	**242**	P	**Pn**	**20 16 43.1**	**+0.4**
TWE				S	**Sn**	**20 16 54.7**	**+0.3**
NDS	**Dongshan**	**0.39**	**227**	*eP*	**Pn**	**20 16 43.3**	**+0.5**
NDS				*eS*	**Sn**	**20 16 55.4**	**+0.8**
FUSB	**Fushanzhiwuyua**	**0.43**	**251**	P	**Pn**	**20 16 43.4**	**-0.3**
FUSB				S	**Sn**	**20 16 55.6**	**+0.4**
NHY	**Taipei**	**0.44**	**288**	*eP*	**Pn**	**20 16 43.9**	**+0.8**
NHY				*eS*	**Sn**	**20 16 54.2**	**-1.0**
YM01	**YM01**	**0.49**	**300**	P	**Pn**	**20 16 43.4**	**0.0**
YM01				S	**Sn**	**20 16 54.8**	**-0.9**
YM08	**YM08**	**0.49**	**305**	*eP*	**Pn**	**20 16 43.5**	**0.0**
YM08				*eS*	**Sn**	**20 16 54.5**	**-1.3**
ENTT	**Nioudou**	**0.50**	**239**	*i* P	**Pn**	**20 16 44.0**	**+0.5**
ENTT				*i* S	**Sn**	**20 16 57.0**	**+1.2**
NWLT	**Wulai**	**0.50**	**256**	*eP*	**Pn**	**20 16 43.2**	**-0.3**
NWLT				S	**Sn**	**20 16 55.2**	**-0.7**
TAP	**Taipei**	**0.50**	**286**	*eP*	**Pn**	**20 16 44.0**	**+0.6**
TAP				S	**Sn**	**20 16 57.2**	**+1.5**
TATO	**Taipei**	**0.50**	**279**	P	**Pn**	**20 16 43.8**	**+0.3**
TATO	**Taipei**	**0.50**	**279**	S	**Sn**	**20 16 55.6**	**-0.2**
EWUT	**Wuta**	**0.51**	**207**	P	**Pn**	**20 16 44.1**	**+0.6**
EWUT				S	**Sn**	**20 16 56.6**	**+0.7**
EOS2	**EOS2**	**0.51**	**159**	*eP*	**Pn**	**20 16 44.3**	**+0.9**
ZUZH	**Zhuzihu**	**0.51**	**301**	*eP*	**Pn**	**20 16 43.8**	**+0.2**
ZUZH				*i* S	**Sn**	**20 16 54.9**	**-1.1**
ENA	**Nanau**	**0.54**	**210**	P	**Pn**	**20 16 44.4**	**+0.6**
ENA				S	**Sn**	**20 16 56.5**	**+0.2**
TWY	**Chenhua**	**0.54**	**314**	P	**Pn**	**20 16 43.7**	**0.0**
TWY				S	**Sn**	**20 16 55.7**	**-0.6**
TWY	**Chenhua**	**0.54**	**314**	*i* S	**Sn**	**20 16 55.4**	**-0.9**
ANP	**Anpu**	**0.55**	**302**	*eP*	**Pn**	**20 16 44.0**	**+0.1**
ANP				*eS*	**Sn**	**20 16 56.3**	**-0.3**
LATG	**Datong**	**0.59**	**232**	P	**Pn**	**20 16 44.7**	**+0.5**
LATG				S	**Sn**	**20 16 57.4**	**+0.3**
NTST	**Danshui**	**0.59**	**296**	*eP*	**Pn**	**20 16 44.8**	**+0.7**
NTST				*eS*	**Sn**	**20 16 57.7**	**+0.8**
TWS1	**Kuangyinshan**	**0.59**	**290**	P	**Pn**	**20 16 44.3**	**+0.1**
TWS1				S	**Sn**	**20 16 56.8**	**-0.2**
EAHA	**Aohua**	**0.63**	**205**	*eP*	**Pn**	**20 16 44.8**	**+0.4**
EAHA				*eS*	**Sn**	**20 16 58.2**	**+0.7**
YHNB	**Yeheng**	**0.64**	**249**	P	**Pn**	**20 16 44.6**	**0.0**
YHNB	**Yeheng**	**0.64**	**249**	S	**Sn**	**20 16 57.2**	**-0.6**
YHNB	**Yeheng**	**0.64**	**249**	P	**Pn**	**20 16 44.3**	**-0.3**
YHNB				S	**Sn**	**20 16 56.8**	**-1.0**
NSK	**Sanguang**	**0.65**	**250**	*i* P	**Pn**	**20 16 45.2**	**+0.5**
NSK				*i* S	**Sn**	**20 16 57.5**	**-0.5**
EOS3	**EOS3**	**0.66**	**157**	*eP*	**Pn**	**20 16 45.5**	**+1.0**
PCYT	**Pengchaiyu**	**0.73**	**3**	*eP*	**Pn**	**20 16 45.9**	**+0.6**
NNS	**Nan Shan**	**0.76**	**233**	*i* P	**Pn**	**20 16 45.9**	**+0.2**
NNS				*i* S	**Sn**	**20 16 59.5**	**-0.2**
NNSB	**Datong**	**0.76**	**232**	*i* P	**Pn**	**20 16 45.8**	**+0.1**
NNSB				S	**Sn**	**20 16 59.8**	**+0.1**
NCUH	**Zhongli**	**0.77**	**275**	*i* P	**Pn**	**20 16 46.3**	**+0.6**
NCUH				*i* S	**Sn**	**20 17 00.3**	**+0.7**
KSHI	**Guanxi Townshi**	**0.79**	**261**	P	**Pn**	**20 16 46.1**	**+0.3**
KSHI				S	**Sn**	**20 17 00.7**	**+0.7**
NACB	**Ninganchiao**	**0.83**	**209**	P	**Pn**	**20 16 45.9**	**-0.3**
NACB	**Ninganchiao**	**0.83**	**209**	P	**Sn**	**20 16 59.9**	**-0.7**
NACB	**Ninganchiao**	**0.83**	**209**	*i* P	**Pn**	**20 16 45.8**	**-0.5**
NACB				*i* S	**Sn**	**20 17 00.2**	**-0.4**
ETL	**Fush Village**	**0.83**	**207**	*eP*	**Pn**	**20 16 46.2**	**-0.1**
ETL				*eS*	**Sn**	**20 17 00.4**	**-0.3**
ETLH	**Xiulin Townshi**	**0.85**	**216**	P	**Pn**	**20 16 46.1**	**-0.4**
ETLH				*eS*	**Sn**	**20 17 00.4**	**-0.9**
NFF	**Wufeng Townshi**	**0.87**	**252**	P	**Pn**	**20 16 46.6**	**-0.1**
NFF				*i* S	**Sn**	**20 17 00.9**	**-0.6**
TWD	**Chiawan**	**0.91**	**206**	P	**Pn**	**20 16 46.8**	**-0.3**
TWD				S	**Sn**	**20 17 01.0**	**-1.0**
JYNG	**Yonagunijimaku**	**0.94**	**118**	P	**Pn**	**20 16 47.6**	**+0.3**
SBCB	**Hsinchu**	**0.96**	**264**	*eP*	**Pn**	**20 16 49.3**	**+1.9**
SBCB				*eS*	**Sn**	**20 17 03.5**	**+0.6**
LIOB	**Emei**	**0.96**	**255**	P	**Pn**	**20 16 47.8**	**+0.2**
LIOB				S	**Sn**	**20 17 02.3**	**-0.7**
FUSS	**Fushou**	**0.97**	**228**	P	**Pn**	**20 16 48.5**	**+0.6**
FUSS				S	**Sn**	**20 17 03.9**	**+0.3**
NSTT	**Nanjuang**	**0.98**	**254**	*i* P	**Pn**	**20 16 47.6**	**-0.1**
NSTT				*i* S	**Sn**	**20 17 02.3**	**-0.9**
HWA	**Hwalien**	**1.00**	**203**	*eP*	**Pn**	**20 16 48.2**	**+0.3**
HWA				*eS*	**Sn**	**20 17 04.7**	**+1.1**
TWT	**Tachien**	**1.01**	**231**	P	**Pn**	**20 16 49.0**	**+0.8**
TWT				S	**Sn**	**20 17 04.8**	**+0.6**
TDCB	**Techi**	**1.02**	**231**	P	**Pn**	**20 16 48.6**	**+0.3**
TDCB				*i* S	**Sn**	**20 17 04.9**	**+0.5**
WHF	**Hehuan Shan**	**1.03**	**223**	*i* P	**Pn**	**20 16 49.0**	**+0.3**
WHF				*i* S	**Sn**	**20 17 04.4**	**-0.6**
LXIB	**Xiulin Townshi**	**1.04**	**213**	*eP*	**Pn**	**20 16 47.9**	**-0.6**
LXIB				*eS*	**Sn**	**20 17 04.1**	**-0.7**
ETM	**Tongmen**	**1.05**	**208**	*eP*	**Pn**	**20 16 48.1**	**-0.4**
ETM				*eS*	**Sn**	**20 17 03.1**	**-1.6**
TEYL	**Yanliau Villag**	**1.10**	**201**	*eP*	**Pn**	**20 16 48.1**	**-1.0**
TEYL				S	**Sn**	**20 17 04.0**	**-1.7**
WHP	**Taichung City**	**1.17**	**238**	*i* P	**Pn**	**20 16 50.0**	**+0.2**
WHP				*i* S	**Sn**	**20 17 06.7**	**-0.3**
NMLH	**Miaoli**	**1.19**	**252**	*eP*	**Pn**	**20 16 50.4**	**+0.5**
NMLH				*eS*	**Sn**	**20 17 07.1**	**-0.2**
SHUL	**Shoufeng**	**1.19**	**201**	*eP*	**Pn**	**20 16 50.0**	**0.0**
SHUL				*i* S	**Sn**	**20 17 07.7**	**+0.4**
ESL	**Shilin**	**1.21**	**207**	*eP*	**Pn**	**20 16 49.3**	**-1.0**
OWD	**Renai**	**1.22**	**220**	*i* P	**Pn**	**20 16 51.0**	**+0.5**
OWD				*eS*	**Sn**	**20 17 08.2**	**-0.2**
WUSB	**Renai**	**1.23**	**223**	P	**Pn**	**20 16 51.0**	**+0.4**
WUSB				*eS*	**Sn**	**20 17 08.6**	**+0.2**
NSY	**Sanyi**	**1.25**	**248**	P	**Pn**	**20 16 50.5**	**-0.2**
NSY				S	**Sn**	**20 17 08.1**	**-0.6**
TEGC	**Jichi Village**	**1.27**	**201**	*eP*	**Pn**	**20 16 51.1**	**+0.2**
TWQ1	**Liyutan**	**1.27**	**245**	P	**Pn**	**20 16 51.0**	**0.0**
TWQ1				S	**Sn**	**20 17 08.8**	**-0.3**
WCS	**Beigang Elemen**	**1.32**	**231**	*i* P	**Pn**	**20 16 52.0**	**+0.5**
WCS				*i* S	**Sn**	**20 17 10.6**	**+0.6**
EGFH	**Guangfu**	**1.34**	**204**	*eP*	**Pn**	**20 16 51.1**	**-0.7**
EGFH				S	**Sn**	**20 17 09.1**	**-1.4**
WDJ	**Dajia District**	**1.38**	**247**	*eP*	**Pn**	**20 16 52.6**	**+0.4**
WDJ				*eS*	**Sn**	**20 17 11.2**	**0.0**
VWDT	**VWDT**	**1.40**	**216**	*eP*	**Pn**	**20 16 53.2**	**+0.7**
VWDT				*eS*	**Sn**	**20 17 12.3**	**+0.6**
TCU	**Taichung**	**1.45**	**239**	*eP*	**Pn**	**20 16 53.1**	**+0.1**
SMLT	**Sun Moon Lake**	**1.45**	**226**	*eP*	**Pn**	**20 16 52.8**	**-0.4**
SMLT				*eS*	**Sn**	**20 17 13.4**	**+0.5**
TYC	**Yuchr**	**1.46**	**227**	*i* P	**Pn**	**20 16 53.0**	**-0.2**
TYC				S	**Sn**	**20 17 13.8**	**+0.9**
SSLB	**Suanglung**	**1.48**	**222**	P	**Pn**	**20 16 53.8**	**+0.3**
SSLB	**Suanglung**	**1.48**	**222**	S	**Sn**	**20 17 14.2**	**+0.7**
SSLB	**Suanglung**	**1.48**	**222**	P	**Pn**	**20 16 54.0**	**+0.5**
SSLB				*i* S	**Sn**	**20 17 14.3**	**+0.7**
HGSD	**Ruisui**	**1.51**	**202**	*eP*	**Pn**	**20 16 54.0**	**+0.2**
HGSD				*eS*	**Sn**	**20 17 14.3**	**+0.3**
EHY	**Hungye**	**1.53**	**205**	*eP*	**Pn**	**20 16 53.1**	**-0.9**
WCH1	**Changhua City**	**1.59**	**239**	*eP*	**Pn**	**20 16 55.0**	**+0.4**
WNT	**Mingjian**	**1.60**	**231**	*eP*	**Pn**	**20 16 55.4**	**+0.5**
WJS	**Zhushan**	**1.60**	**228**	P	**Pn**	**20 16 56.0**	**+1.1**
WJS				*eS*	**Sn**	**20 17 17.4**	**+1.3**
WHYT	**Xinyi Township**	**1.61**	**222**	*i* P	**Pn**	**20 16 55.6**	**+0.6**
WHYT				*i* S	**Sn**	**20 17 17.1**	**+0.8**
IRIF	**Iriomote-Funau**	**1.64**	**110**	P	**Pn**	**20 16 55.7**	**+0.4**
IRIF				S	**Sn**	**20 17 16.2**	**-0.7**
YULB	**Yu-li**	**1.65**	**204**	P	**Pn**	**20 16 55.0**	**-0.5**
YULB	**Yu-li**	**1.65**	**204**	S	**Sn**	**20 17 15.9**	**-1.1**
YULB	**Yu-li**	**1.65**	**204**	P	**Pn**	**20 16 54.8**	**-0.6**
ECBN	**Changbin**	**1.67**	**199**	*eP*	**Pn**	**20 16 55.5**	**-0.2**
ECBN				*eS*	**Sn**	**20 17 16.9**	**-0.5**
EYUL	**Yuli**	**1.68**	**203**	*eP*	**Pn**	**20 16 55.6**	**-0.3**
TWF1	**Yuli**	**1.68**	**204**	*eP*	**Pn**	**20 16 54.8**	**-1.1**
YUS	**Yu-Shan**	**1.72**	**215**	*eP*	**Pn**	**20 16 56.3**	**-0.5**
ALS	**Alishan**	**1.78**	**219**	*eP*	**Pn**	**20 16 58.4**	**+1.0**
CHN5	**Tsauling**	**1.79**	**224**	P	**Pn**	**20 16 57.8**	**+0.5**
CHKH	**Chenggong**	**1.80**	**199**	P	**Pn**	**20 16 57.4**	**+0.1**
CHKH				S	**Sn**	**20 17 19.7**	**-0.7**
WGK	**Gukeng**	**1.81**	**228**	*eP*	**Pn**	**20 16 57.8**	**+0.4**
WDLH	**Douliu**	**1.82**	**229**	*i* P	**Pn**	**20 16 58.2**	**+0.6**
WDLH				S	**Sn**	**20 17 21.6**	**+0.7**
FULB	**Fuli**	**1.82**	**202**	*eP*	**Pn**	**20 16 58.1**	**+0.4**
EHD	**Haiduan**	**1.90**	**204**	*eP*	**Pn**	**20 16 59.5**	**+0.9**
JKRS	**Kuro-shima**	**1.92**	**110**	P	**Pn**	**20 16 59.4**	**+0.6**
JKRS				S	**Sn**	**20 17 23.0**	**0.0**
WTK	**Tuku**	**1.93**	**232**	*eP*	**Pn**	**20 16 59.1**	**+0.1**
ELDTW	**Lidau**	**1.94**	**209**	*eP*	**Pn**	**20 16 58.8**	**-0.4**
ECS	**Chishang**	**1.95**	**203**	*eP*	**Pn**	**20 16 59.8**	**+0.6**
WCKO	**Fanlu**	**1.96**	**222**	*eP*	**Pn**	**20 17 00.0**	**+0.7**
WCKO				S	**Sn**	**20 17 24.4**	**+0.4**
JIJ	**Ishigaki jima**	**1.99**	**105**	P	**Pn**	**20 16 59.9**	**+0.2**
JIJ				S	**Sn**	**20 17 24.5**	**-0.3**
CHN4	**Tsaushan**	**2.03**	**221**	*eP*	**Pn**	**20 17 01.2**	**+0.9**
CHY	**Chiayi**	**2.03**	**227**	*i* P	**Pn**	**20 17 00.5**	**+0.2**
EDH	**Donghe**	**2.03**	**199**	*eP*	**Pn**	**20 17 00.8**	**+0.5**
TPUB	**Ta-pu**	**2.04**	**219**	P	**Pn**	**20 17 00.8**	**+0.3**
TPUB	**Ta-pu**	**2.04**	**219**	S	**Sn**	**20 17 26.7**	**+0.7**
TPUB	**Ta-pu**	**2.04**	**219**	*eP*	**Pn**	**20 17 01.0**	**+0.5**
STYH	**Taoyuan**	**2.07**	**214**	*eP*	**Pn**	**20 17 01.3**	**+0.6**
JISG	**Ishigakijimahi**	**2.09**	**98**	P	**Pn**	**20 17 01.8**	**+0.8**
JISG				S	**Sn**	**20 17 27.4**	**+0.3**
WTP	**Ta-pu**	**2.10**	**219**	*eP*	**Pn**	**20 17 01.3**	**+0.2**
WSL	**Shuilin Townsh**	**2.15**	**231**	*eP*	**Pn**	**20 17 01.7**	**0.0**
TWK	**Hsinying**	**2.15**	**221**	*eP*	**Pn**	**20 17 02.1**	**+0.2**
SNST	**Tainan City**	**2.19**	**220**	*eP*	**Pn**	**20 17 03.0**	**+0.7**
CHN1	**Nanshi**	**2.19**	**219**	P	**Pn**	**20 17 02.8**	**+0.4**
ICHU	**Yijhu**	**2.22**	**227**	*eP*	**Pn**	**20 17 03.8**	**+0.9**
SGST	**Jiashian**	**2.25**	**217**	*eP*	**Pn**	**20 17 02.7**	**-0.4**
MATB	**Ma-tsu**	**2.26**	**304**	*eP*	**Pn**	**20 17 02.6**	**-0.6**
VWUC	**VWUC**	**2.35**	**273**	*i* P	**Pn**	**20 17 04.0**	**-0.4**
TSCK	**Chigu Township**	**2.49**	**226**	*eP*	**Pn**	**20 17 05.9**	**-0.4**
ECL	**Taimali**	**2.50**	**204**	*eP*	**Pn**	**20 17 06.7**	**+0.3**
MASBT	**Mashibuluo**	**2.62**	**210**	*eP*	**Pn**	**20 17 08.4**	**+0.5**
PHUB	**P'eng-hu**	**2.64**	**239**	*i* P	**Pn**	**20 17 07.3**	**-0.8**
PTMZ	**Houxiangcun**	**2.65**	**274**	*eP*	**Pn**	**20 17 08.4**	**+0.2**
WDGT	**Dungji**	**2.71**	**234**	*eP*	**Pn**	**20 17 08.7**	**-0.5**
EAST	**Anshuo**	**2.73**	**204**	*eP*	**Pn**	**20 17 09.9**	**+0.5**
LAY	**Lan-yu**	**2.88**	**189**	*eP*	**Pn**	**20 17 10.2**	**-1.3**
SLIU	**Shizi**	**2.90**	**203**	*eP*	**Pn**	**20 17 11.1**	**-0.6**

TAP 04 20:16:34.3,25°.73N×121°.98E,h20km±1km,ML2.9,C,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.13**	**140**	P	Pg	20 16 39.0	+0.5
TWY	**Chenhua**	**0.57**	**217**	P	Pg	20 16 46.1	+0.4
SXI1	**Grass Mountain**	**0.64**	**188**	*eP*	Pb	20 16 46.6	-0.2
SXI1				S	Sg	20 16 56.2	+0.5
YM08	**YM08**	**0.64**	**213**	*eP*	Pg	20 16 47.7	+0.6
YM08				*eS*	Sn	20 16 57.0	-1.1
WFSB	**Wu-fen Shan**	**0.68**	**195**	*eP*	Pb	20 16 47.5	0.0
WFSB				S	Sg	20 16 57.5	+0.6
ANP	**Anpu**	**0.68**	**218**	*eP*	Pn	20 16 48.9	0.0
YM01	**YM01**	**0.69**	**212**	*eP*	Pg	20 16 48.2	+0.2
YM01				*eS*	Sg	20 16 57.9	+0.7
TWB1	**Santiao Chiao**	**0.72**	**179**	P	Pb	20 16 48.3	+0.1
TWB1				*i* S	Sg	20 16 58.2	+0.1
NTST	**Danshui**	**0.74**	**220**	*eP*	Pg	20 16 49.2	+0.3
TIPB	**Shuangxi**	**0.77**	**190**	*eP*	Pb	20 16 47.5	-1.5
TWS1	**Kuangyinshan**	**0.81**	**219**	*eP*	Pb	20 16 49.6	0.0

TIF ***04*** *20:21:42.9,41°.77N×42°.05E,h12km*
MOS ***04*** *20:21:43.1,41°.57N×41°.81E,h8km,MPVA4.5*
NORS ***04*** *20:21:43.7,41°.84N×42°.26E,h4km,MPVA4.6*
ISK ***04*** *20:21:44.3,41°.77N×41°.92E,h18km,ML3.7/21*
NSSP ***04*** *20:21:44.7,41°.62N×42°.13E,h10km,Ms3.6*
AFAD ***04*** *20:21:44.4,41°.70N×42°.06E,h7km±2km,MW3.5*
CFUSG ***04*** *20:21:44.4,41°.90N×41°.60E,h5km,mb3.1/4,Georgia*
Magtype MSH 3.3 from 4 stations
ISC 04 20:21:43.8±0.8,41°.77N±0°.01×41°.98E±0°.02,h6km±5km,
n141,σ1°34/230,20C-10D,Turkey-Georgia-Armenia
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**0.42**	**220**	Pg	**Pg**	**20 20 52.7**	**+0.8**
BCA				Sg	**Sb**	**20 21 59.2**	**-1.0**
DBOC	**Borcka**	**0.48**	**209**	P	**Pg**	**20 21 53.8**	**+0.7**
DBOC				S	**Sb**	**20 22 01.1**	**-1.0**
DBOC				*i* AML	AML	20 22 02.0
comp=E,1μm,0.2s						
HOPA	**Hopa-Artvin**	**0.55**	**227**	Pg	**Pg**	**20 21 55.0**	**+0.6**
HOPA				Sg	**Sg**	**20 22 02.8**	**+1.2**
EPOS	**Posof**	**0.62**	**115**	P	**Pg**	**20 21 54.7**	**-1.1**
EPOS				S	**Sg**	**20 22 02.8**	**-1.1**
EPOS				*i* AML	AML	20 22 03.0
comp=N,1μm,0.3s						
EPOS				*i* AML	AML	20 22 03.0
comp=E,7μm,0.5s						
DAGI	**Agillar**	**0.69**	**184**	P	**Pg**	**20 21 57.1**	**0.0**
DAGI				S	**Sg**	**20 22 06.7**	**+0.6**
DAGI				*i* AML	AML	20 22 07.0
comp=N,6μm,0.3s						
DAGI				*i* AML	AML	20 22 07.0
comp=E,8μm,0.5s						
AHAN	**Ardahan-Merkez**	**0.77**	**141**	P	**Pg**	**20 21 58.4**	**-0.3**
AHAN				*i* AML	AML	20 22 10.0
comp=E,2μm,0.5s						
AHAN				*i* AML	AML	20 22 11.0
comp=N,2μm,0.2s						
DBAD	**Bademkaya**	**0.78**	**196**	P	**Pg**	**20 21 58.8**	**+0.1**
DBAD				S	**Sg**	**20 22 09.2**	**+0.3**
DBAD				*i* AML	AML	20 22 10.0
comp=E,8μm,0.4s						
DBAD				*i* AML	AML	20 22 11.0
comp=N,8μm,0.6s						
DDEM	**Demirkent**	**0.89**	**191**	P	**Pg**	**20 22 00.6**	**-0.3**
DDEM				S	**Sg**	**20 22 12.7**	**+0.2**
DDEM				*i* AML	AML	20 22 14.0
comp=N,9μm,0.6s						
DDEM				*i* AML	AML	20 22 14.0
comp=E,8μm,0.5s						
TKB	**Tkibuli**	**0.95**	**52**	P	**Pg**	**20 22 00.6**	**-1.5**
TKB	**Tkibuli**	**0.95**	**52**	PG	**Pg**	**20 22 00.6**	**-1.5**
GOLE	**Ardahan-G¶le**	**1.04**	**153**	P	**Pg**	**20 22 03.1**	**-0.7**
GOLE				S	**Sb**	**20 22 18.3**	**0.0**
GOLE				*i* AML	AML	20 22 21.0
comp=N,927nm,0.2s						
GOLE				*i* AML	AML	20 22 22.0
comp=E,682nm,0.2s						
CHOM	**Cayeli-Rize**	**1.14**	**234**	Pn	**Pg**	**20 22 05.6**	**0.0**
CHOM				Sn	**Sg**	**20 22 20.8**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.24**	**167**	Pn	**Pg**	**20 22 06.6**	**-1.0**
SENK				Sn	**Sb**	**20 22 24.1**	**+0.1**
GARIG	**Gari**	**1.39**	**52**	P	**Pn**	**20 22 08.0**	**-1.8**
GARIG				S	**Sb**	**20 22 26.5**	**-1.7**
BOZK	**Kars-Merkez-Bo**	**1.40**	**147**	P	**Pn**	**20 22 09.8**	**-0.2**
BOZK				S	**Sn**	**20 22 30.7**	**+1.9**
BOZK				*i* AML	AML	20 22 32.0
comp=N,357nm,0.7s						
BOZK				*i* AML	AML	20 22 39.0
comp=E,395nm,0.8s						
KARS	**Kars**	**1.41**	**144**	Pn	**Pb**	**20 22 10.2**	**-0.4**
IZDR	**Rize**	**1.45**	**228**	P	**Pn**	**20 22 10.2**	**-0.4**
IZDR				S	**Sb**	**20 22 29.6**	**-0.3**
DOMR	**Dombai**	**1.54**	**350**	*i* Pg	**Pn**	**20 22 12.1**	**0.0**
DOMR				*e*Sg	**Sn**	**20 22 33.2**	**+0.8**
DOMR	**Dombai**	**1.54**	**350**	*d i* PG	**Pn**	**20 22 11.6**	**-0.4**
TRLG	**Trialeti**	**1.61**	**97**	P	**Pn**	**20 22 11.5**	**-1.4**
TRLG				S	**Sn**	**20 22 31.9**	**-2.1**
TRLG	**Trialeti**	**1.61**	**97**	PN	**Pn**	**20 22 11.5**	**-1.4**
KRIK	**Erzurum-spir**	**1.64**	**209**	P	**Pb**	**20 22 14.8**	**+0.3**
KRIK				S	**Sg**	**20 22 36.8**	**+0.4**
KRIK				*i* AML	AML	20 22 41.0
comp=N,239nm,0.2s						
KRIK				*i* AML	AML	20 22 41.0
comp=E,370nm,0.5s						
DIGR	**Digorskoe uzhe**	**1.64**	**46**	*e*Pg	**Pn**	**20 22 12.8**	**-0.6**
DIGR				*e*Sg	**Sn**	**20 22 34.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.64**	**46**	*e*PN	**Pn**	**20 22 12.5**	**-0.8**
KMOZ	**Kamo**	**1.76**	**122**	⇑*i* P	**Pn**	**20 22 15.4**	**+0.5**
KMOZ				⇓*i* S	**Sn**	**20 22 37.6**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**1.78**	**183**	Pn	**Pn**	**20 22 15.3**	**+0.1**
KTUT	**Trabzon**	**1.84**	**246**	Pn	**Pn**	**20 22 14.8**	**-1.1**
KZRT	**Kazreti**	**1.85**	**101**	P	**Pn**	**20 22 15.3**	**-0.9**
KZRT				S	**Sn**	**20 22 37.7**	**-2.2**
KZRT	**Kazreti**	**1.85**	**101**	*e*Pg	**Pn**	**20 22 15.3**	**-0.9**
KZRT				*e*Sg	**Sn**	**20 22 37.7**	**-2.2**
KZRT	**Kazreti**	**1.85**	**101**	PN	**Pn**	**20 22 15.3**	**-0.9**
ARXR	**Arkhyz**	**1.87**	**344**	*i* Pg	**Pn**	**20 22 17.7**	**+1.3**
ARXR				*e*Sg	**Sn**	**20 22 41.7**	**+1.3**
ARXR	**Arkhyz**	**1.87**	**344**	*ce*PN	**Pn**	**20 22 15.9**	**-0.5**
SRTK	**Saratovka**	**1.90**	**111**	⇑*i* P	**Pn**	**20 22 16.8**	**0.0**
SRTK				⇑*i* S	**Sn**	**20 22 40.4**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**1.95**	**226**	Pn	**Pn**	**20 22 16.9**	**-0.7**
GUDG	**Gudauri**	**1.98**	**69**	P	**Pn**	**20 22 17.8**	**-0.3**
GUDG				S	**Sb**	**20 22 44.6**	**-0.9**
GUDG	**Gudauri**	**1.98**	**69**	*e*Pg	**Pn**	**20 22 18.1**	**0.0**
GUDG				*e*Sg	**Sb**	**20 22 45.4**	**-0.1**
GUDG	**Gudauri**	**1.98**	**69**	*e*PN	**Pn**	**20 22 18.1**	**0.0**
GUDG				pmax	pmax	
comp=Z,461nm,0.4s						
LACR	**Lac**	**

MRNR	**Maryino**	**2.84**	**321**	*e*Pn	**Pn**	**20 22 29.6**	**-0.1**
MRNR				*e*Sn	**Sn**	**20 23 03.1**	**-1.1**
BNGB	**Bingl**	**2.95**	**200**	Pn	**Pn**	**20 22 31.7**	**+0.5**
LABN	**Labinsk**	**3.02**	**343**	*e*PN	**Pg**	**20 22 41.0**	**-0.6**
LABN				*e*S	**Sg**	**20 23 21.0**	**+0.4**
LABN				pmax	pmax		
	comp=Z,52nm,0.5s						
ALER	**Alexandrovskoy**	**3.07**	**13**	*i* Pn	**Pn**	**20 22 33.4**	**+0.5**
ALER				*e*Sn	**Sn**	**20 23 10.3**	**+0.5**
GOYR	**Goytkh**	**3.13**	**323**	*e*Pn	**Pn**	**20 22 31.2**	**-2.4**
GOYR				*e*Sn	**Sn**	**20 23 10.0**	**-1.2**
GOYR	**Goytkh**	**3.13**	**323**	*de*PN	**Pn**	**20 22 30.1**	**-3.5**
GROC	**Groznyy**	**3.17**	**62**	*i* Pn	**Pn**	**20 22 34.8**	**+0.7**
GROC				*e*Sn	**Sn**	**20 23 14.1**	**+1.9**
LGD	**Lagodekhi**	**3.19**	**87**	P	**Pn**	**20 22 35.3**	**+0.9**
LGD	**Lagodekhi**	**3.19**	**87**	PN	**Pn**	**20 22 35.3**	**+0.9**
GURO	**Guroymak-BITLI**	**3.21**	**179**	Pn	**Pn**	**20 22 35.7**	**+0.8**
BTLR	**Botlikh**	**3.28**	**73**	*e*Pn	**Pn**	**20 22 37.5**	**+1.7**
BTLR				*e*Sn	**Sn**	**20 23 16.2**	**+1.2**
BTLR	**Botlikh**	**3.28**	**73**	*ce*PN	**Pn**	**20 22 37.4**	**+1.7**
DVE	**Vedeno**	**3.29**	**67**	*e*Pn	**Pn**	**20 22 37.1**	**+1.1**
DVE				*e*Sn	**Sn**	**20 23 18.4**	**+2.9**
DVE	**Vedeno**	**3.29**	**67**	*ce*PN	**Pn**	**20 22 36.8**	**+0.8**
AYRK	**Ayrk**	**3.32**	**119**	*e*P	**Pb**	**20 22 43.0**	**-0.3**
AYRK				*e*S	**Sb**	**20 23 25.9**	**+1.9**
VAYK	**Vayk**	**3.34**	**127⇓**	*e*P	**Pb**	**20 22 43.3**	**-0.2**
VAYK			⇓	*e*S	**Sb**	**20 23 26.1**	**+1.8**
VSHL	**Vashlovani**	**3.36**	**98**	P	**Pn**	**20 22 38.3**	**+1.5**
GOF	**Gofitskoye**	**3.38**	**13**	*i* Pn	**Pn**	**20 22 40.5**	**+3.5**
GOF				*e*Sn	**Sn**	**20 23 18.6**	**+1.2**
GOF	**Gofitskoye**	**3.38**	**13**	*ce*PN	**Pb**	**20 22 45.5**	**+1.4**
GOF				*e*S	**Sg**	**20 23 33.1**	**+0.8**
GANJ	**Ganja**	**3.46**	**107**	PN	**Pb**	**20 22 44.9**	**-0.6**
PTK	**Pertek**	**3.49**	**215**	Pn	**Pn**	**20 22 39.3**	**+0.6**
UNCR	**Uncukul**	**3.70**	**74**	*e*Pn	**Pn**	**20 22 43.4**	**+1.9**
UNCR				*e*Sn	**Sn**	**20 23 25.5**	**+0.1**
GNBR	**Gunib**	**3.76**	**79**	*de*PN	**Pn**	**20 22 42.4**	**0.0**
RSDY	**Resadiye-TOKAT**	**3.77**	**250**	Pn	**Pn**	**20 22 42.9**	**+0.4**
DBC	**Dubki**	**3.80**	**69**	*e*Pn	**Pn**	**20 22 44.3**	**+1.4**
DBC				*e*Sn	**Sn**	**20 23 30.0**	**+2.0**
DBC	**Dubki**	**3.80**	**69**	*de*PN	**Pn**	**20 22 44.8**	**+1.8**
ARKR	**Arakani**	**3.82**	**76**	*i* Pn	**Pn**	**20 22 44.4**	**+1.2**
ARKR				*e*Sn	**Sn**	**20 23 28.3**	**-0.1**
SEKA	**Sheki**	**3.96**	**96**	PN	**Pb**	**20 22 52.9**	**-1.1**
MNGR	**Mingechevir, A**	**3.97**	**103**	PN	**Pb**	**20 22 52.7**	**-1.5**
SGKR	**Sergokala**	**4.28**	**79**	*e*Pn	**Pn**	**20 22 51.0**	**+1.5**
SGKR				*e*Sn	**Sn**	**20 23 42.0**	**+2.3**
AKT	**Akhty**	**4.32**	**92**	*e*PN	**Pn**	**20 22 53.0**	**+2.9**
AKT				*e*S	**Sn**	**20 23 46.3**	**+5.5**
AKT				*e*SS	**SbSb**	**20 23 58.1**	**+0.4**
AKT				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKT				smax	smax		
	comp=N,15nm,0.6s						
AKT				smax	smax		
	comp=E,17nm,0.6s						
AKT				smax	smax		
	comp=E,17nm,0.4s						
AKT				MLR	MLR		
	comp=Z,34nm,6.0s						
ANN	**Anapa**	**4.49**	**314**	*e*PN	**Pn**	**20 22 53.4**	**+1.1**
ANN				*e*S	**Sn**	**20 23 45.7**	**+0.8**
ANN				pmax	pmax		
	comp=Z,107nm,1.0s						
SUKR	**Sukko**	**4.50**	**314**	*e*Pn	**Pn**	**20 22 52.5**	**+0.2**
SUKR				*e*Sn	**Sn**	**20 23 43.0**	**-1.9**
SUDU	**Sudak**	**5.97**	**304**	*e*P	Pn	20 23 06.4	-6.2
SUDU				*e*S	Sn	20 24 11.2	-10
SUDU				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SUDU				smax	smax		
	comp=N,9.0nm,0.4s						
SUDU				smax	smax		
	comp=E,10.0nm,0.4s						
SUDU	**Sudak**	**5.97**	**304**	*e*P	Pn	20 23 06.4	-6.2
SUDU				Pm		20 23 07.2	
	comp=Z,5.0nm,0.4s						
SUDU				*e*S	Sn	20 24 11.2	-10
SUDU				Sm		20 24 13.5	
	comp=N,9.0nm,0.4s						
SUDU				Sm		20 24 13.5	
	comp=E,10.0nm,0.4s						
ALU	**Alushta**	**6.25**	**300**	*e*P	**Pn**	**20 23 15.8**	**-0.7**
ALU				*e*S	**Sn**	**20 24 24.5**	**-3.7**
ALU				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ALU				smax	smax		
	comp=N,10.0nm,0.2s						
ALU				smax	smax		
	comp=E,7.0nm,0.3s						
ALU	**Alushta**	**6.25**	**300**	*e*P	**Pn**	**20 23 15.8**	**-0.7**
ALU				Pm		20 23 17.4	
	comp=Z,9.0nm,0.3s						
ALU				*e*S	**Sn**	**20 24 24.5**	**-3.7**
ALU				Sm		20 24 29.2	
	comp=N,10.0nm,0.2s						
ALU				Sm		20 24 29.2	
	comp=E,7.0nm,0.3s						
YAL	**Yalta**	**6.34**	**298**	*e*P	**Pn**	**20 23 16.8**	**-0.9**
YAL				*e*S	**Sn**	**20 24 26.9**	**-3.4**
YAL				pmax	pmax		
	comp=Z,11nm,0.4s						
YAL				smax	smax		
	comp=N,17nm,0.2s						
YAL				smax	smax		
	comp=E,30nm,0.5s						
YAL	**Yalta**	**6.34**	**298**	*e*P	**Pn**	**20 23 16.8**	**-0.9**
YAL				Pm		20 23 17.9	
	comp=Z,11nm,0.4s						
YAL				*e*S	**Sn**	**20 24 26.9**	**-3.4**
YAL				Sm		20 24 30.8	
	comp=N,17nm,0.2s						
YAL				Sm		20 24 30.8	
	comp=E,30nm,0.5s						
SEV	**Sevastopol'**	**6.68**	**297**	*e*P	**Pn**	**20 23 21.1**	**-1.3**
SEV				*e*S	**Sn**	**20 24 34.0**	**-4.8**
SEV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SEV				smax	smax		
	comp=N,4.0nm,0.2s						
SEV				smax	smax		
	comp=E,4.0nm,0.3s						
SEV	**Sevastopol'**	**6.68**	**297**	*e*P	**Pn**	**20 23 21.1**	**-1.3**
SEV				Pm		20 23 28.1	
	comp=Z,4.0nm,0.3s						
SEV				*e*S	**Sn**	**20 24 34.0**	**-4.8**
SEV				Sm		20 24 38.6	
	comp=N,4.0nm,0.2s						
SEV				Sm		20 24 38.6	
	comp=E,4.0nm,0.3s						
MNK	**Minsk**	**15.80**	**329**	*i* P	**Pn**	**20 25 25.2**	**-1.4**
	comp=E,13nm,0.8s						
MNK				*i* P	**Pn**	**20 25 25.2**	**-1.4**
	comp=N,14nm,0.9s						
MNK				*i* P	**Pn**	**20 25 25.2**	**-1.4**
	comp=Z,6.0nm,0.6s,baz=138						
MNK				*i* PP	**sP**	**20 25 33.7**	**+0.3**
MNK				*i* PPP	PPP	20 25 41.3	
MNK				*i* S	**Sn**	**20 28 20.5**	**-1.4**
MNK				*i* SS	**SnSn**	**20 28 34.6**	**+0.1**
MNK				*i* SSS	SSS	20 28 47.2	
MNK				*i* LQ	LQ	20 29 55.2	
MNK				*i* LR	LR	20 31 14.9	
MNK				*i* LRM	MLR	20 32 39.9	
	comp=E,167nm,17.9s						
MNK				*i* LRM	MLR	20 32 41.8	
	comp=Z,75nm,17.7s						
MNK				*i* LRM	MLR	20 33 02.2	
	comp=N,243nm,20.1s						
MNK	**Minsk**	**15.80**	**329**	*i* P	**Pn**	**20 25 25.2**	**-1.4**
MNK				*i* S	**Sn**	**20 28 20.4**	**-1.4**
MNK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,13nm,0.8s						
MNK				pmax	pmax		
	comp=N,14nm,0.9s						
MNK				MLR	MLR		
	comp=E,167nm,18.0s						
MNK				MLR	MLR		
	comp=Z,75nm,18.0s						
MNK				MLR	MLR		
	comp=N,243nm,20.0s						
BRVK	**Borovoye**	**22.08**	**50⇓**	*e*P	**P**	**20 26 39.8**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**24.03**	**77⇑**	*e*P	**P**	**20 27 03.1**	**+3.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SHEL	**Horse Pasture**	**72.38**	**228**	*i* P	**P**	**20 33 11.8**	**+1.0**

NEIC ***04*** *20:26:11.6±2.4, 43°.59N±0°.05×105°.18W±0°.08, h0km±1km, ML3.3/75, Error ellipse: s-maj=10.2km s-min=8.5km az=83.0*
IDC ***04*** *20:26:12.4±2.5, 43°.33N×105°.22W, h0km, mbtmp3.0/3, ML3.3/2, Error ellipse: s-maj=48.6km s-min=10.6km az=153.0*

ISC 04 20:26:12.9±1.0, 43°.54N±0°.05×105°.26W±0°.06, h0km, n31, σ1§64/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.28**	**227**		**Pg**	**20 26 37.6**	**+0.1**
BRIGG	**Briggsdale**	**3.04**	**166**		**Pn**	**20 27 03.8**	**+1.4**
BRIGG				IAML		20 28 01.2	
	comp=N,92nm,2.3s						
BRIGG				IAML		20 28 04.9	
	comp=E,78nm,0.8s						
LAO	**LASA Array**	**3.22**	**348**		**Pg**	**20 27 14.1**	**-0.6**
LAO				IAML		20 28 03.1	
	comp=E,91nm,0.7s						
LAO				IAML		20 28 10.5	
	comp=E,87nm,1.0s						
PD31	**Pinedale Array**	**3.24**	**258**	Pn	**Pn**	**20 27 05.1**	**-0.1**
PDAR	**Pinedale Array**	**3.24**	**258**	Pn	**Pn**	**20 27 06.2**	**+1.0**
PDAR	**Pinedale Array**	**3.24**	**258**	Pn	**Pn**	**20 27 07.7**	**+2.4**
	comp=E,3.8nm,0.3s,baz=63,slow=16,SNR=46						
PDAR				Lg	Lg	20 27 53.1	
	comp=E,5.7nm,0.3s,baz=77,slow=32,SNR=3.8						
	comp=E,2.3nm,0.3s						
RLMT	**Red Lodge**	**3.29**	**300**	Pn	**Pb**	**20 27 12.7**	**+0.5**
RLMT				IAML		20 29 05.4	
	comp=E,51nm,4.8s						
OGNE	**Ogallala**	**3.53**	**136**		**Pn**	**20 27 10.4**	**+1.4**
YNE	**Yellowstone No**	**3.72**	**295**	Pn	**Pn**	**20 27 13.4**	**+1.6**
YNE				IAML		20 28 15.1	
	comp=E,38nm,0.4s						
YNE				IAML		20 28 17.8	
	comp=N,42nm,0.7s						
YMP	**Mirror Lake Pl**	**3.73**	**290**	Pn	**Pb**	**20 27 18.8**	**-1.0**
YMP				IAML		20 28 23.8	
	comp=N,72nm,0.8s						
LKWY	**Lake**	**3.85**	**287**		**Pb**	**20 27 20.5**	**-1.3**
LKWY				IAML		20 28 31.6	
	comp=N,35nm,2.2s						
LKWY				IAML		20 28 40.1	
	comp=N,40nm,1.7s						
LOHW	**Long Hollow**	**3.89**	**273**		**Pb**	**20 27 19.2**	**-3.3**
H17A	**Grant Village**	**3.94**	**284**		**Pn**	**20 27 17.6**	**+2.7**
MOOW	**Moose Ponds**	**3.99**	**275**		**Pb**	**20 27 23.5**	**-0.7**
SNOW	**Snow King Moun**	**4.00**	**271**		**Pb**	**20 27 20.6**	**-3.8**
SNOW				IAML		20 28 43.1	
	comp=N,57nm,2.2s						
O20A	**White River Ci**	**4.07**	**214**		**Pn**	**20 27 18.0**	**+1.4**
O20A				IAML		20 28 50.7	
	comp=N,52nm,3.3s						
YNR	**Norris Junctio**	**4.08**	**289**		**Pb**	**20 27 25.5**	**-0.3**
YFT	**Old Faithful**	**4.13**	**285**		**Pb**	**20 27 25.8**	**-0.8**
TPAW	**Teton Pass**	**4.14**	**271**		**Pb**	**20 27 27.0**	**+0.1**
TPAW				IAML		20 28 55.3	
	comp=N,45nm,1.3s						
FXWY	**Fox Creek**	**4.19**	**273**		**Pb**	**20 27 26.3**	**-1.4**
YMR	**Madison River**	**4.26**	**287**		**Pb**	**20 27 28.6**	**-0.3**
YMR				IAML		20 28 43.2	
	comp=N,39nm,1.5s						
YMR				IAML		20 29 09.6	
	comp=E,31nm,1.2s						
AHID	**Auburn Hatcher**	**4.35**	**262**		**Pb**	**20 27 29.8**	**-0.5**
AHID				IAML		20 28 54.8	
	comp=E,25nm,1.2s						
AHID				IAML		20 29 09.5	
	comp=E,25nm,1.5s						
RDMU	**Red Mountain**	**4.37**	**229**	IAML		20 28 58.8	
	comp=E,31nm,1.1s						
RDMU				IAML		20 29 30.1	
	comp=N,24nm,2.9s						
YHL	**Hebgen Lake**	**4.46**	**289**	IAML		20 28 51.5	
	comp=E,33nm,1.1s						
YHL				IAML		20 28 52.6	
	comp=N,34nm,1.0s						
Q24A	**Divide**	**4.57**	**179**	IAML		20 28 57.2	
	comp=E,19nm,1.0s						
BOZ	**Bozeman (W)**	**5.00**	**297**	IAML		20 30 30.8	
	comp=E,17nm,4.3s						
BOZ				IAML		20 30 41.5	
	comp=E,22nm,4.3s						
HWUT	**Hardware Ranch**	**5.04**	**250**	IAML		20 29 06.4	
	comp=E,22nm,1.5s						
BSUT	**Blindstream Ca**	**5.08**	**236**	IAML		20 29 42.5	
	comp=E,17nm,2.0s						
BSUT				IAML		20 30 43.4	
	comp=N,19nm,4.2s						
I10CA	**LAC DU BONNET**	**9.18**	**40**	I	I	21 23 20.0	
	comp=N,0.1nm,1.8s,baz=218,slow=342,SNR=2.2						
ULM	**Lac du Bonnet**	**9.28**	**40**	Pn	**Pn**	**20 28 27.1**	**-0.9**
	comp=N,0.5nm,0.3s,baz=226,slow=12,SNR=3.6						
ULM				Lg	Lg	20 31 03.8	
	comp=N,0.2nm,0.3s,baz=135,slow=22,SNR=3.9						
	comp=N,0.8nm,0.3s						
YKA	**Yellowknife Ar**	**19.76**	**347**	P	**Pn**	**20 30 45.9**	**+0.3**
	comp=N,0.1nm,0.5s,baz=161,slow=12,SNR=2.2						

IDC ***04*** *20:36:47.8±1.4, 20°.25S×172°.50E, h0km, mb3.9/9, mbtmp3.9/9, MS3.5/33, Error ellipse: s-maj=73.5km s-min=22.0km az=154.0*
NEIC ***04*** *20:36:47.5±0.9, 20°.8S±0°.2×172°.8E±0°.1, h10km±1km, mb4.8/36, Error ellipse: s-maj=27.5km s-min=18.7km az=154.0*

ISC 04 20:36:47.6±0.6, 20°.7S±0°.2×172°.7E±0°.1, h10km, n101, σ1§16/64, mb4.7/23, MS3.6/30, 11C-1D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**5.28**	**248**		**Pn**	**20 38 07.8**	**+1.2**
MSVF	**Nonsavu**	**5.82**	**60**	LR	LR	20 39 42.5	
	comp=Z,79nm,21.3s,baz=246,slow=30						
DZM	**Mont Dzumac**	**6.03**	**256**	Pn	**Pn**	**20 38 18.0**	**+1.0**
ONTNC	**Ouen Toro**	**6.07**	**254**	Pn	**Pn**	**20 38 18.6**	**+1.1**
HNR	**Honiara**	**16.66**	**310**	LR	LR	20 46 04.7	
	comp=Z,150nm,20.0s,baz=98,slow=34						
URZ	**Urewera**	**17.90**	**169**	LR	LR	20 46 19.6	
	comp=Z,289nm,19.7s,baz=78,slow=31						
EIDS	**Eidsvold**	**20.46**	**253**	P	**P**	**20 41 25.4**	**-0.1**
EIDS				IAmb	IAmb	20 41 32.2	
	comp=Z,66nm,1.8s						
RAR	**Rarotonga**	**25.66**	**96**	LR	LR	20 50 26.8	
	comp=Z,57nm,20.5s,baz=264,slow=32						
PMG	**Port Moresby**	**27.09**	**291**	LR	LR	20 51 27.2	
	comp=Z,101nm,20.2s,baz=148,slow=33						
STKA	**Stephens Creek**	**29.96**	**242**	P	**P**	**20 42 55.6**	**-0.7**
STKA				IAmb	IAmb	20 43 00.8	
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**29.96**	**242**	P	**P**	**20 42 58.5**	**+2.2**
	comp=Z,3.4nm,0.8s,baz=83,slow=6.8,SNR=7.4						
STKA				LR	LR	20 53 32.6	
	comp=Z,87nm,20.0s,baz=199,slow=34						
	comp=Z,3.4nm,0.8s						
PPT	**Papeete**	**35.68**	**92**	LR	LR	20 54 44.1	
	comp=Z,116nm,19.8s,baz=192,slow=30						
WB0	**Warramunga Arr**	**35.94**	**265**	P	**P**	**20 43 48.4**	**-0.3**
WRA	**Warramunga Arr**	**35.97**	**264**	P	**P**	**20 43 47.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=91,slow=8.5,SNR=3.1						
WRA				LR	LR	20 58 17.2	
	comp=Z,72nm,18.8s,baz=282,slow=36						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**36.01**	**258**	P	**P**	**20 43 49.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=99,slow=8.4,SNR=4.5						
ASAR				LR	LR	20 57 29.9	
	comp=Z,116nm,19.4s,baz=94,slow=35						
	comp=Z,0.7nm,0.9s						
KNRA	**Kununurra**	**41.99**	**269**	P	**P**	**20 44 39.8**	**+0.5**
GUMO	**Guam**	**43.72**	**319**	LR	LR	21 01 11.0	
	comp=Z,88nm,20.0s,baz=128,slow=34						
FITZ	**Fitzroy Crossi**	**44.39**	**265**	P	**P**	**20 44 57.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**44.39**	**265**	LR	LR	21 03 17.7	
	comp=Z,91nm,18.1s,baz=117,slow=36						
NWAO	**Narrogin (SRO)**	**50.51**	**244**	P	**P**	**20 45 44.5**	**-1.7**
NWAO	**Narrogin (SRO)**	**50.51**	**244**	LR	LR	21 06 13.2	
	comp=Z,146nm,20.2s,baz=88,slow=35						
KAPI	**Kappang**	**53.71**	**279**	LR	LR	21 09 34.4	
	comp=Z,32nm,19.7s,baz=139,slow=37						
DAV	**Davao City (W)**	**53.93**	**296**	LR	LR	21 07 12.3	
	comp=Z,26nm,21.6s,baz=43,slow=34						
VNDA	**Vanda**	**57.11**	**183**	P	**P**	**20 46 33.4**	**-0.5**
JHJ	**Hachijo jima 2**	**62.09**	**329**	LR	LR	21 11 23.3	
	comp=Z,73nm,20.1s,baz=138,slow=34						
JOW	**Kunigami**	**63.95**	**316**	LR	LR	21 10 55.9	
	comp=Z,31nm,21.4s,baz=116,slow=32						
MJAR	**Matsushiro Arr**	**65.62**	**330**	LR	LR	21 12 42.2	
	comp=Z,26nm,20.9s,baz=140,slow=33						
JNU	**Nakatsue**	**66.80**	**322**	LR	LR	21 12 29.6	
	comp=Z,9.6nm,21.1s,baz=84,slow=32						
JTM	**Tenmabayashi**	**67.89**	**335**	P	**P**	**20 47 46.5**	**+0.2**
QSPA	**South Pole Qui**	**69.36**	**180**	LR	LR	21 15 02.2	
	comp=Z,81nm,18.9s,baz=358,slow=33						
ASAJ	**Asahikawa**	**70.16**	**337**	LR	LR	21 12 23.1	
	comp=Z,51nm,22.0s,baz=168,slow=31						
KSRS	**Korea Array**	**71.60**	**324**	LR	LR	21 14 01.0	
	comp=Z,10nm,21.7s,baz=135,slow=31						
PETK	**Petropavlovsk-**	**74.65**	**351**	LR	LR	21 18 32.5	
	comp=Z,18nm,20.2s,baz=121,slow=34						
KLR	**Kul'dur**	**78.59**	**334**	LR	LR	21 17 41.3	
	comp=Z,14nm,20.8s,baz=152,slow=31						
MA2	**Magadan**	**81.99**	**349**	LR	LR	21 19 58.9	
	comp=Z,48nm,19.5s,baz=148,slow=32						
CMAR	**Chiang Mai Arr**	**82.11**	**293**	P	**P**	**20 49 10.0**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=131,slow=3.5,SNR=6.9						
CMAR				LR	LR	21 26 00.9	
	comp=Z,4.8nm,19.8s,baz=30,slow=36						
	comp=Z,0.9nm,0.8s						
CHTO	**Chiang Mai**	**82.25**	**293**	P	**P**	**20 49 06.8**	**-2.9**
KDAK	**Kodiak Island**	**83.35**	**18**	LR	LR	21 19 00.5	
	comp=Z,32nm,21.2s,baz=46,slow=30						
DSP	**Deep Springs**	**87.05**	**48**	P	**P**	**20 49 32.5**	**-1.0**
DSP				IAmb	IAmb	20 49 36.6	
	comp=Z,9.2nm,1.4s						
LPIG	**La Paz**	**87.10**	**63**	LR	LR	21 22 48.0	
	comp=Z,24nm,20.2s,baz=32,slow=32						
LHV	**Little Huntoon**	**87.11**	**47**	P	**P**	**20 49 34.0**	**+0.2**
LHV				IAmb	IAmb	20 49 57.5	
	comp=Z,11nm,1.5s						
NVAR	**Mina Array Bea**	**87.33**	**47**	P	**P**	**20 49 36.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=232,slow=8.0,SNR=5.4						
	comp=Z,0.6nm,0.6s						
WCT	**Wildcat Mounta**	**87.72**	**49**	P	**P**	**20 49 36.6**	**-0.4**
SNAA	**Sanae**	**87.82**	**181**	P	**P**	**20 49 36.6**	**-0.3**
SNAA				IAmb	IAmb	20 51 36.7	
	comp=Z,13nm,1.4s						
BBB	**Bella Bella**	**88.93**	**32**	LR	LR	21 24 06.7	
	comp=Z,26nm,18.6s,baz=354,slow=32						
WVOR	**Wild Horse Val**	**89.06**	**44**	P	**P**	**20 49 42.8**	**-0.4**
WVOR				IAmb	IAmb	20 49 45.9	
	comp=Z,12nm,1.4s						
PRN	**Pahroc Range**	**89.12**	**49**	IAmb	IAmb	20 49 47.5	
	comp=Z,8.2nm,1.4s						
YAK	**Yakutsk**	**89.28**	**341**	LR	LR	21 23 02.2	
	comp=Z,38nm,20.8s,baz=107,slow=31						
I07A	**Izee**	**89.32**	**42**	P	**P**	**20 49 43.4**	**-0.9**
I07A				IAmb	IAmb	20 49 53.2	
	comp=Z,7.8nm,1.4s						
SPR3	**Spring Creek 3**	**90.34**	**48**		**P**	**20 49 48.7**	**-0.8**
SPR3				IAmb	IAmb	20 49 52.0	
	comp=Z,9.9nm,1.4s						
SONM	**Songino Array**	**90.38**	**322**	P	**P**	**20 49 48.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=131,slow=4.0,SNR=3.0						
SONM				LR	LR	21 28 39.2	
	comp=Z,17nm,18.8s,baz=101,slow=35						
	comp=Z,0.5nm,0.9s						
HAWA	**Hanford**	**90.46**	**40**	P	**P**	**20 49 48.9**	**-0.5**
PSUT	**Pine Spring**	**90.47**	**49**	IAmb	IAmb	20 49 55.0	
	comp=Z,4.9nm,1.1s						
ELK	**Elko**	**90.51**	**46**		**P**	**20 49 48.4**	**-1.8**
ILAR	**Eielson Array**	**90.67**	**16**	P	**P**	**20 49 49.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=235,slow=5.2,SNR=8.1						
	comp=Z,0.6nm,0.7s						
U15A	**North Rim**	**90.68**	**51**		**P**	**20 49 50.5**	**-0.6**
U15A				IAmb	IAmb	20 49 54.4	
	comp=Z,6.2nm,1.0s						
BCAR	**Beaver Creek A**	**90.79**	**19**	P	**P**	**20 49 50.4**	**-0.3**
MTPU	**Mount Pierson**	**91.44**	**50**	IAmb	IAmb	20 50 00.1	
	comp=Z,4.9nm,1.1s						
L29M	**L29M**	**91.97**	**20**	P	**P**	**20 49 56.2**	**0.0**
L29M				IAmb	IAmb	20 49 57.6	
	comp=Z,3.8nm,0.9s						
M30M	**Minto, Yukon**	**92.03**	**21**	P	**P**	**20 49 56.2**	**-0.3**
M30M				IAmb	IAmb	20 49 57.5	
	comp=Z,3.9nm,0.9s						
I26K	**Coal Creek Min**	**92.09**	**17**	P	**P**	**20 49 56.8**	**+0.2**
DAWY	**Dawson**	**92.26**	**19**	P	**P**	**20 49 57.4**	**-0.1**
DAWY				IAmb	IAmb	20 49 58.6	
	comp=Z,3.7nm,1.1s						
HVU	**Hansel Valley**	**92.63**	**46**	P	**P**	**20 49 57.5**	**-2.3**
HVU				IAmb	IAmb	20 50 02.4	
	comp=Z,2.7nm,0.9s						
K29M	**Barlow Dome**	**92.68**	**20**	P	**P**	**20 49 59.8**	**+0.2**
TXAR	**Lajitas Array**	**94.59**	**61**	P	**P**	**20 50 11.1**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=245,slow=4.1,SNR=5.4						
	comp=Z,0.8nm,0.8s						
MOOW	**Moose Ponds**	**94.81**	**45**	P	**P**	**20 50 07.4**	**-2.5**
PDAR	**Pinedale Array**	**95.21**	**46**	P	**P**	**20 50 13.6**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=267,slow=5.7,SNR=4.4						
	comp=Z,0.4nm,0.7s						
PLCA	**Paso Flores**	**95.24**	**137**	LR	LR	21 23 02.2	
	comp=Z,41nm,20.1s,baz=187,slow=29						
G30M	**tAoh Zraii Nji**	**95.25**	**18**	P	**P**	**20 50 11.1**	**0.0**
D27M	**Malcolm River**	**95.61**	**15**	P	**P**	**20 50 10.9**	**-1.8**
TIXI	**Tiksi**	**96.87**	**347**	LR	LR	21 26 57.1	
	comp=Z,26nm,21.1s,baz=6.0,slow=31						
CMIG	**Matias Romero**	**98.03**	**75**	LR	LR	21 27 54.1	
	comp=Z,19nm,18.5s,baz=174,slow=31					

DOSS AML AML
comp=E,118μm,0.1s
DOSS AML AML
comp=N,218μm,1.4s
MARN Marana (Italy) 0.15 173⇑ ePg Pb 20 55 23.8 -0.4
MARN eSg Sg 20 55 26.4 +0.9
VARA Varagna 0.20 282 ePg Pb 20 55 25.1 -0.3
VARA eSg Sg 20 55 28.1 +1.0
VARA Varagna 0.20 282 P Pg 20 55 24.6 +0.6
VARA S Sg 20 55 28.0 +0.9
VARA AML AML
comp=E,107μm,1.4s
VARA AML AML
comp=N,94μm,0.7s
VARA AML AML
comp=N,94μm,1.3s
LUSI Trento, Gardas 0.24 316 P Pg 20 55 25.2 +0.6
LUSI S Sg 20 55 28.7 +0.7
MBAL Monte Baldo - 0.24 249 P Pg 20 55 25.0 +0.4
MBAL S Sg 20 55 29.0 +0.9
TREG Tregnago 0.26 183 P Pg 20 55 25.4 +0.5
PANI Panarotta 0.29 22⇓ ePg Pg 20 55 25.7 +0.3
PANI eSg Sg 20 55 29.4 -0.1
PANI Panarotta 0.29 22 P Pg 20 55 25.7 +0.3
GAGG Gaggia 0.34 332⇓ ePg Pg 20 55 26.7 +0.4
GAGG eSg Sg 20 55 31.7 +0.7
GAGG Gaggia 0.34 332 P Pg 20 55 26.8 +0.4
GAGG S Sg 20 55 31.8 +0.8
ZOVE Zovencedo 0.39 147 P Pg 20 55 27.6 +0.3
ZOVE S Sg 20 55 33.5 +0.9
CTI Castel Tesino 0.42 51 P Pg 20 55 27.9 +0.1
CGRP Cima Grappa 0.44 77 P Pg 20 55 28.4 +0.1
ASOL Asolo 0.50 88 P Pg 20 55 29.7 +0.4
ZIAN Ziano 0.56 28 P Pg 20 55 30.4 0.0
OZOL Ozolo 0.63 352 P Pg 20 55 31.9 +0.2
VARN Col Varnada, M 0.68 72 P Pg 20 55 32.6 0.0

*NEIC **04** 21:06:05.0±0.7, 36°.88N±0°.01×97°.44W±0°.01, h8km±4km,*
Error ellipse: s-maj=1.9km s-min=0.8km az=211.0
NEIC 04 21:06:04.7±0.8, **36°.88N**±0°.01×**97°.44W**±0°.01, **h4**km±2km,
ML2.3/52, **ML2.6**/33, **Error ellipse: s-maj=1.9km**
s-min=1.2km az=215.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.14**	**348**		Pg	21 06 08.4	+1.0
KAN13					Sg	21 06 10.7	+1.3
KAN13				IAML		21 06 11.6	
comp=N,2μm,0.3s							
BLOK	**Blackwell**	**0.21**	**122**		Pg	21 06 09.5	+0.6
BLOK					Sg	21 06 12.6	+0.9
BLOK				IAML		21 06 14.6	
comp=N,855nm,0.2s							
KAN09	**Caldwell North**	**0.30**	**331**		Pg	21 06 11.2	+0.8
KAN09					Sg	21 06 15.4	+1.1
KAN17	**Caldwell West**	**0.31**	**303**		Pg	21 06 11.4	+0.8
KAN17					Sg	21 06 15.9	+1.2
KAN17				IAML		21 06 16.2	
comp=N,536nm,0.2s							
KAN17				IAML		21 06 16.3	
comp=E,453nm,0.3s							
GC02	**Grant County #**	**0.34**	**266**		Pg	21 06 11.9	+0.7
GC02					Sg	21 06 16.5	+0.9
KAN01	**Argonia South**	**0.38**	**317**		Pg	21 06 12.6	+0.7
KAN01					Sg	21 06 18.1	+1.3
KAN01				IAML		21 06 18.3	
comp=E,314nm,0.3s							
KAN01				IAML		21 06 20.0	
comp=N,286nm,0.3s							
KAN05	**Bluff City Nor**	**0.42**	**304**		Pg	21 06 13.4	+0.7
KAN05					Sg	21 06 19.2	+1.1
KAN05				IAML		21 06 20.6	
comp=E,245nm,0.2s							
KAN05				IAML		21 06 21.2	
comp=N,336nm,0.3s							
KAN14	**Manchester OK**	**0.43**	**281**		Pg	21 06 13.6	+0.7
KAN14					Sg	21 06 19.1	+0.7
KAN14				IAML		21 06 21.1	
comp=E,261nm,0.1s							
KAN08	**Anthony NE Sta**	**0.55**	**310**		Pg	21 06 15.9	+0.7
KAN08					Sg	21 06 23.6	+1.2
KAN08				IAML		21 06 25.3	
comp=N,265nm,0.4s							
CROK	**Carrier**	**0.57**	**230**		Pg	21 06 16.1	+0.4
CROK					Sg	21 06 23.7	+0.7
CROK				IAML		21 06 28.1	
comp=E,229nm,0.3s							
KAN10	**Anthony SW Sta**	**0.58**	**295**		Pb	21 06 16.6	-0.8
KAN10					Sg	21 06 24.6	+1.3
OK048	**Pawnee Station**	**0.61**	**139**		Pg	21 06 16.8	+0.4
OK048					Sg	21 06 24.7	+0.5
OK051	**E0350 and S346**	**0.61**	**127**		Pg	21 06 16.7	+0.3
OK051					Sg	21 06 24.9	+0.6
OK051				IAML		21 06 30.1	
comp=E,130nm,0.2s							
KAN12	**Harper NE Stat**	**0.61**	**314**		Pg	21 06 16.9	+0.5
KAN12				Sg	Sg	21 06 24.5	+0.1
OK032	**Salt Plains WL**	**0.62**	**264**		Pg	21 06 16.9	+0.3
OK032					Sg	21 06 25.2	+0.5
OK032				IAML		21 06 32.4	
comp=E,218nm,0.2s							
OK032				IAML		21 06 32.7	
comp=E,200nm,0.2s							
T35A	**Sooner Cattle**	**0.75**	**87**	Pg	Pg	21 06 19.1	+0.1
QUOK	**Quay**	**0.92**	**140**		Pg	21 06 21.9	-0.3
QUOK				Sg	Sg	21 06 33.9	-0.3
QUOK				IAML		21 06 36.4	
comp=N,75nm,0.2s							
QUOK				IAML		21 06 41.6	
comp=E,106nm,0.2s							
OK052	**Battle Ridge R**	**1.02**	**150**	Pg	Pg	21 06 23.9	-0.3
OK052				Sg	Sg	21 06 37.4	-0.1
OK052				IAML		21 06 45.7	
comp=E,83nm,0.2s							
OK038	**West end E0370**	**1.12**	**250**	Pg	Pg	21 06 25.5	-0.6
OK038				Sg	Sg	21 06 40.6	0.0
ADOK	**Arcadia Dam**	**1.22**	**177**	Pg	Pg	21 06 27.7	-0.4
DEOK	**Depew**	**1.28**	**143**	Pg	Pg	21 06 28.4	-0.8
DEOK				Sg	Sg	21 06 45.6	-0.3
DEOK				IAML		21 06 48.4	
comp=N,51nm,0.2s							
DEOK				IAML		21 06 49.5	
comp=E,68nm,0.5s							
FNO	**Franklin**	**1.62**	**179**		Pn	21 06 33.4	-0.6
W35A	**Tecumseh**	**1.78**	**165**		Pn	21 06 36.1	-0.1
W35A					Sn	21 06 59.3	-0.1
ELIS	**Ellis County**	**1.79**	**244**		Sb	21 07 01.3	+0.5
WMOK	**Wichita Mounta**	**2.40**	**207**		Pn	21 06 45.5	+0.8
WMOK	**Wichita Mounta**	**2.40**	**207**	Pn	Pn	21 06 45.0	+0.2
HHAR	**Hobbs**	**2.88**	**101**		Pn	21 06 52.2	+0.8

*SOF **04** 21:07:17.6, 39°.80N±0°.05×28°.94E±0°.04, h10km±5km,*
MD4.5/5
*THE **04** 21:07:25.2, 40°.43N×28°.72E, h0km±2km, ML4.3/4, Error*
ellipse: s-maj=5.9km s-min=1.1km az=93.0
*ISK **04** 21:07:27.6, 40°.45N×28°.47E, h14km±1km, ML4.2/47*
*AFAD **04** 21:07:27.7, 40°.46N×28°.45E, h14km±1km, MW4.0*
*MCSM **04** 21:07:28.2±0.5, 40°.N±5°×2°.8E±°, h10km, mb4.4, MLv4.2*
*IDC **04** 21:07:29.0±3.6, 40°.35N×28°.51E, h19km±24km, mb3.5/11,*
mbtmp3.6/16, ML3.1/4, MS3.0/8, Error ellipse:
s-maj=16.4km s-min=9.9km az=23.0
*CFUSG **04** 21:07:29.6, 40°.60N×28°.60E, h10km, mb3.6/7, Western*
Turkey Magtype MSH 3.4 from 6 stations
ISC 04 21:07:28.1±0.9, **40°.44N**±0°.02×**28°.50E**±0°.01, **h12**km±6km,
n224, σ1§**44**/269, **mb3.6**/12, **24C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	**Karacabey (Bur**	**0.20**	**212**	Pg	Pg	21 07 32.9	+0.4
KCTX				Sg	Sg	21 07 35.9	+0.4
YYLC	**Yaylacik**	**0.28**	**118**	P	Pb	21 07 34.6	-0.4
YYLC				S	Sb	21 07 39.8	+0.1
MDNY	**Mudanya-Bursa**	**0.30**	**102**	Pg	Pb	21 07 35.0	-0.5
MDNY				Sg	Sb	21 07 40.1	-0.3
ARMT	**Armutlu**	**0.31**	**65**	Pg	Pb	21 07 34.8	-0.8
ARMT				Sg	Sb	21 07 39.9	-0.7
BAND	**Balkesir-Ban**	**0.31**	**255**	P	Pg	21 07 34.4	-0.2
BAND				S	Sg	21 07 38.9	+0.2
BAND				*i* AML	AML	21 07 39.0	
comp=N,6μm,0.2s							
BAND				*i* AML	AML	21 07 39.0	
comp=E,6μm,0.2s							
BAND	**Balkesir-Ban**	**0.31**	**255**	⇑P	Pg	21 07 34.3	-0.2
BAND				⇓S	Sg	21 07 39.0	+0.2
EDC	**Edincik**	**0.49**	**260**	Pg	Pg	21 07 37.3	-0.5
EDC				Sg	Sg	21 07 44.4	+0.1
ORLT	**Orhaneli**	**0.49**	**142**	Pg	Pb	21 07 38.4	-0.4
ORLT				Sg	Sb	21 07 46.3	+0.3
KURT	**Yalova, Merkez**	**0.56**	**74**	P	Pb	21 07 39.4	-0.6
KURT				S	Sb	21 07 47.2	-0.7
IGD	**Bursa**	**0.56**	**107**	P	Pb	21 07 39.7	-0.3
IGD				S	Sb	21 07 47.6	-0.4
SUSR	**Susurluk-Balik**	**0.57**	**214**	Pg	Pg	21 07 39.1	-0.1
ULDT	**Uludag**	**0.57**	**121**	P	Pb	21 07 39.7	-0.4
ULDT				S	Sb	21 07 47.4	-0.9
ULDT				*i* AML	AML	21 07 49.0	
comp=E,3μm,0.8s							
KRSK	**Karsak**	**0.58**	**93**	P	Pb	21 07 40.1	-0.2
KRSK				S	Sb	21 07 49.2	+0.7
AVCI	**Avcilar-stanb**	**0.59**	**17**	Pg	Pb	21 07 39.9	-0.4
AVCI				Sg	Sb	21 07 48.1	-0.5
YLV	**Yalova**	**0.68**	**79**	Pg	Pb	21 07 41.3	-0.7
YLV				Sg	Sb	21 07 51.5	+0.1
YLV	**Yalova**	**0.68**	**79**	P	Pb	21 07 41.5	-0.5
ELBA	**Catalca**	**0.71**	**356**	P	Pg	21 07 41.5	-0.5
ELBA				S	Sg	21 07 50.5	-0.9
GONE	**Gonen-Balikesi**	**0.73**	**238**	Pg	Pg	21 07 41.8	-0.5
KAVV	**Kandilli-Istan**	**0.76**	**34**	Pg	Pb	21 07 43.2	-0.1
ISK	**Istanbul-Kandi**	**0.76**	**34**	Pg	Pb	21 07 42.7	-0.6
ISK				Sg	Sb	21 07 53.0	-0.6
BGKT	**Bogazkoy**	**0.77**	**16**	Pg	Pg	21 07 42.8	-0.3
CTKS	**Kestanelik-??a**	**0.80**	**0**	Pg	Pg	21 07 43.2	-0.4
SLVT	**Silivri**	**0.82**	**345**	Pg	Pb	21 07 43.9	-0.5
BKES	**Balkesir-Mer**	**0.83**	**212**	P	Pb	21 07 44.0	-0.4
BKES				S	Sb	21 07 55.9	+0.4
BKES				*i* AML	AML	21 07 58.0	
comp=N,2μm,0.3s							
BKES				*i* AML	AML	21 07 58.0	
comp=E,5μm,0.5s							
DURS	**Dursunbey**	**0.83**	**181**	P	Pb	21 07 44.6	0.0
DURS				S	Sb	21 07 55.2	-0.6
DURS				*i* AML	AML	21 07 58.0	
comp=N,3μm,0.4s							
DURS				*i* AML	AML	21 07 59.0	
comp=E,4μm,0.3s							
DST	**Dursunbey**	**0.83**	**174**	Pg	Pb	21 07 44.8	+0.2
CRLT	**Corlu**	**0.90**	**320**	Pg	Pb	21 07 45.7	-0.1
KLYT	**Kilyos**	**0.92**	**27**	Pg	Pb	21 07 45.6	-0.4
KLYT	**Kilyos**	**0.92**	**27**	P	Pb	21 07 45.5	-0.4
KRBG	**Karabiga-Canak**	**0.92**	**268**	Pg	Pg	21 07 44.6	-1.2
TKR	**Tekirdag**	**0.92**	**307**	Pg	Pb	21 07 45.9	-0.1
OSMT	**Osmaniye**	**0.93**	**79**	Pg	Pg	21 07 45.5	-0.6
ADVT	**Abdulvahap**	**0.95**	**90**	Pg	Pb	21 07 46.1	-0.4
BALY	**Balya**	**0.97**	**224**	P	Pb	21 07 46.5	-0.3
BALY				S	Sb	21 08 00.2	+0.5
BALY				*i* AML	AML	21 08 02.0	
comp=N,3μm,0.4s							
BALY				*i* AML	AML	21 08 02.0	
comp=E,1μm,0.5s							
HRT	**Hereke**	**0.97**	**66**	Pg	Pg	21 07 46.3	-0.6
SART	**Tekirdag**	**1.03**	**285**	P	Pg	21 07 47.4	-0.7
SART				S	Sg	21 08 01.3	-0.3
SART				*i* AML	AML	21 08 02.0	
comp=N,1μm,0.3s							
SART				*i* AML	AML	21 08 02.0	
comp=E,8μm,0.3s							
RKY	**Sarkoy-Tekirda**	**1.04**	**285**	Pg	Pg	21 07 45.7	-2.4
SEMS	**Kocaeli-K¶rfe**	**1.04**	**65**	P	Pg	21 07 47.2	-0.9
SEMS				S	Sn	21 08 02.5	-0.5
CTYL	**Yalikoy Yolu**	**1.05**	**351**	Pg	Pg	21 07 47.5	-0.9
CTYL	**Yalikoy Yolu**	**1.05**	**351**	P	Pg	21 07 47.7	-0.7
CAVI	**Cavuskoy**	**1.05**	**102**	Pg	Pg	21 07 47.9	-0.6
YENI	**Yenice-Canakka**	**1.08**	**243**	Pg	Pg	21 07 47.8	-1.2
HISA	**Bilecik-Osmane**	**1.09**	**88**	P	Pn	21 07 49.0	-0.3
HISA				S	Sn	21 08 05.0	+0.7
BILE	**Bilecik/Merkez**	**1.09**	**104**	P	Pn	21 07 48.9	-0.4
BILE				S	Sn	21 08 06.0	+1.7
BILE				*i* AML	AML	21 08 08.0	
comp=N,2μm,1.1s							
BILE				*i* AML	AML	21 08 14.0	
comp=E,2μm,0.8s							
DOMA	**Ktahya-Doman**	**1.12**	**125**	P	Pn	21 07 49.9	+0.1
DOMA				*i* AML	AML	21 08 07.0	
comp=E,5μm,0.6s							
DOMA				S	Sn	21 08 07.5	+2.3
DOMA				*i* AML	AML	21 08 08.0	
comp=N,2μm,0.7s							
CANM	**Can-anakkale**	**1.18**	**250**	Pn	Pb	21 07 49.7	-0.8
STEP	**BALIKESIR_Sava**	**1.22**	**210**	P	Pn	21 07 50.8	-0.2
STEP				S	Sn	21 08 07.9	+0.5
STEP				*i* AML	AML	21 08 12.0	
comp=E,8μm,0.4s							
STEP				*i* AML	AML	21 08 16.0	
comp=N,8μm,0.8s							
TVSB	**Tavsanli**	**1.23**	**143**	Pn	Pg	21 07 51.6	-0.2
EMET	**Ktahya-Emet**	**1.23**	**149**	P	Pg	21 07 52.0	+0.1
EMET				S	Sn	21 08 09.2	+1.2
EMET				*i* AML	AML	21 08 12.0	
comp=E,4μm,0.6s							
EMET				*i* AML	AML	21 08 16.0	
comp=N,4μm,0.6s							
VIZE	**Kirklareli, Vi**	**1.25**	**337**	P	Pn	21 07 50.7	-0.7
VIZE				S	Sb	21 08 06.8	-0.8
AUBOZ	**BOZOYUK**	**1.29**	**114**	P	Pn	21 07 51.8	-0.2
AUBOZ				S	Sn	21 08 09.7	+0.4
LPK	**Lapseki**	**1.33**	**268**	Pn	Pn	21 07 51.9	-0.6
GEYV	**SAKARYA_Geyve**	**1.37**	**87**	P	Pb	21 07 53.2	-0.5
GEYV				S	Sg	21 08 12.2	-0.2
SMAA	**Simav-Kutahya**	**1.38**	**164**	Pn	Pn	21 07 53.2	-0.1
GPA	**Golpazari**	**1.39**	**95**	Pn	Pn	21 07 53.4	0.0
DEMI	**Demirci**	**1.40**	**173**	P	Pb	21 07 53.8	-0.5
SIMA	**Simav-Kutahya**	**1.40**	**164**	Pn	Pb	21 07 54.1	-0.2
PHSR	**Pinarhisar**	**1.40**	**329**	Pn	Pn	21 07 52.8	-0.8
ANDZ	**Kutahya, Merke**	**1.42**	**130**	P	Pn	21 07 53.3	-0.6
SAUV	**Serdivan-Sakar**	**1.43**	**77**	Pn	Pn	21 07 53.7	-0.2
BUHA	**Balikesir, Bur**	**1.44**	**230**	P	Pn	21 07 53.6	-0.4
BUHA				S	Sn	21 08 12.8	0.0
KAND	**Kocaeli-Kandir**	**1.45**	**62**	P	Pn	21 07 54.2	+0.1
KAYN	**Sakarya, Kayna**	**1.50**	**69**	P	Pn	21 07 55.0	+0.2
SHAP	**Saphane-Kutahy**	**1.52**	**158**	Pn	Pb	21 07 55.7	-0.6
ERIK	**Erikli-Kesan**	**1.53**	**279**	Pn	Pn	21 07 54.5	-0.8
GULT	**Gulveren**	**1.54**	**89**	Pn	Pb	21 07 55.9	-0.8
GORD	**Gordes-Manisa**	**1.54**	**189**	Pn	Pb	21 07 55.9	-0.8
GELI	**Tayfur-Gelibol**	**1.54**	**269**	Pn	Pn	21 07 54.7	-0.8
GEDZ	**Gediz**	**1.56**	**153**	Pn	Pb	21 07 56.2	-0.7
UKOP	**Uzunkopru-Edir**	**1.58**	**297**	Pn	Pn	21 07 55.5	-0.4
COMU	**Canakkale**	**1.58**	**258**	Pn	Pn	21 07 55.7	-0.4
BORA	**Eskisehir**	**1.60**	**110**	P	Pn	21 07 56.3	0.0
ARMN	**Kirklareli, Me**	**1.64**	**331**	P	Pn	21 07 56.1	-0.7
AKHS	**Akhisar**	**1.64**	**199**	P	Pn	21 07 56.1	-0.7
AKS	**Akhisar**	**1.64**	**199**	Pn	Pn	21 07 56.6	-0.2
BAYC	**CANAKKALE_Bayr**	**1.65**	**246**	P	Pn	21 07 56.4	-0.5
KIRK	**Kırklareli**	**1.71**	**322**	P	Pn	21 07 56.8	-1.0
USAK	**Uak-Merkez**	**1.77**	**167**	P	Pb	21 08 00.2	-0.3
EZNE	**Ezine-Canakkal**	**1.77**	**248**	Pn	Pn	21 07 58.1	-0.5
GOMA	**Golmarmara-Man**	**1.78**	**195**	Pn	Pn	21 07 58.6	-0.1
AYVA	**Ayvalik**	**1.79**	**232**	P	Pn	21 07 58.2	-0.7
CAVK	**Edirne/Enez-Ca**	**1.79**	**279**	P	Pn	21 07 58.2	-0.7
CAVK	**Edirne/Enez-Ca**	**1.79**	**279**	⇑P	Pn	21 07 58.3	-0.6
ENZZ	**Sultanice-Enez**	**1.81**	**276**	Pn	Pn	21 07 58.5	-0.5
ENEZ	**Enez**	**1.81**	**280**	Pn	Pn	21 07 58.4	-0.7
ENEZ	**Enez**	**1.81**	**280**	P	Pn	21 07 58.7	-0.4
ENEZ				S	Sb	21 08 24.7	+0.9
11μm,0.4s							
ECEA	**Canakkale, Ece**	**1.82**	**258**	P	Pn	21 07 58.9	-0.4
ZEDA	**zmir-Bergama**	**1.83**	**217**	P	Pn	21 07 59.0	-0.4
DKL	**Dikili**	**1.83**	**223**	Pn	Pn	21 07 59.4	0.0
IZMD	**zmir-Dikili-**	**1.89**	**220**	P	Pn	21 07 59.5	-0.8
ALN	**Alexandroupoli**	**1.92**	**285**	Pn	Pn	21 07 59.7	-1.0
ALN	**Alexandroupoli**	**1.92**	**285**	P	Pn	21 07 59.7	-1.0
ALN				S	Sb	21 08 27.8	+0.8
2μm,0.4s							
KULA	**Kula-Manisa**	**1.92**	**176**	Pn	Pn	21 08 00.7	-0.1
EDRB	**Edirne**	**1.94**	**317**	Pn	Pn	21 08 00.3	-0.6
EDRB	**Edirne**	**1.94**	**317**	P	Pn	21 08 00.3	-0.6
EDRB				S	Sb	21 08 27.4	0.0
MANT	**Manisa**	**1.94**	**179**	P	Pn	21 08 01.4	+0.2
AUKIR	**Kırka- Seyitga**	**1.95**	**126**	P	Pn	21 08 00.5	-0.6
BOZC	**Bozcaada**	**1.96**	**253**	Pn	Pn	21 08 00.9	-0.4
BOZC	**Bozcaada**	**1.96**	**253**	P	Pn	21 08 00.6	-0.7
CAND	**Candarli**	**1.97**	**222**	Pn	Pn	21 08 00.9	-0.5
GOKC	**Gokceada-Canak**	**1.99**	**264**	Pn	Pn	21 08 01.3	-0.2
GOAD	**anakkale-G¶**	**2.00**	**263**	P	Pn	21 08 01.4	-0.3
GADA	**Gvkgeada**	**2.00**	**264**	Pn	Pn	21 08 01.5	-0.3
KOCA	**Canakkale, Ayv**	**2.04**	**244**	P	Pn	21 08 01.8	-0.5
MDUB	**Mudurnu**	**2.06**	**88**	Pn	Pn	21 08 02.8	+0.1
GPNR	**Gulpinar-Canak**	**2.06**	**242**	Pn	Pn	21 08 02.3	-0.3
PRK	**Paraskevi**	**2.08**	**236**	P	Pn	21 08 02.9	0.0
ODEM	**Odemis-Izmir**	**2.18**	**189**	Pn	Pn	21 08 04.3	0.0
FOCM	**Foa**	**2.20**	**219**	Pn	Pn	21 08 04.3	-0.1
CIFT	**Cifteler, Eski**	**2.25**	**118**	Pn	Pn	21 08 05.9	+0.7
SMTH	**Samothraki Isl**	**2.26**	**272**	P	Pn	21 08 04.4	-1.0
SMTH				S	Sb	21 08 36.4	-0.5
3μm,0.5s							
BLCB	**Balcova**	**2.34**	**209**	Pn	Pn	21 08 05.7	-0.7
RDO	**Rodhopi**	**2.36**	**289**	Pn	Pn	21 08 06.2	-0.4
RDO	**Rodhopi**	**2.36**	**289**	P	Pn	21 08 06.2	-0.4
SIGR	**SIGRI**	**2.37**	**240**	Pn	Pn	21 08 06.6	-0.3
SIGR	**SIGRI**	**2.37**	**240**	P	Pn	21 08 06.5	-0.3
SIGR				S	Sb	21 08 38.9	-1.1
3μm,0.5s							
KDZE	**Karadeniz Ereo**	**2.40**	**68**	⇑P	Pn	21 08 08.6	+1.3
YUVA	**Yuva-Kibriscik**	**2.44**	**90**	Pn	Pn	21 08 08.0	+0.1
SHUT	**Suhut-Afyon**	**2.46**	**139**	Pn	Pn	21 08 08.3	+0.1
NAZL	**Nazilli-Aydin**	**2.47**	**184**	Pn	Pn	21 08 08.3	0.0
AYDB	**Zeytinkoy-Aydi**	**2.53**	**191**	Pn	Pn	21 08 08.7	-0.4
JMB	**Yambol**	**2.53**	**325**	P	Pn	21 08 09.4	+0.4
JMB				S	Sg	21 08 47.1	-2.4
LIA	**Limnos Island**	**2.60**	**259**	P	Pn	21 08 09.7	-0.2
KDZ	**Kurdzhali**	**2.67**	**298**	Pn	Pn	21 08 10.5	-0.5
KDZ	**Kurdzhali**	**2.67**	**298**	P	Pn	21 08 10.9	-0.1
KDZ				S	Sb	21 08 50.1	+1.5
DIM	**Dimitrovgrad**	**2.73**	**307**	P	Pn	21 08 12.6	+0.9
DIM				S	Sg	21 08 54.0	-1.7
BASM	**Basmaki-Afyon**	**2.79**	**154**	Pn	Pn	21 08 12.9	+0.3
PRD	**Provadia**	**2.84**	**344**	P	Pn	21 08 15.2	+1.9
PRD				S	Sg	21 08 57.0	-2.4
SMG	**Samos**	**3.01**	**206**	P	Pn	21 08 14.5	-1.2
KAVA	**Kavala**	**3.08**	**282**	P	Pn	21 08 16.1	-0.5
RZN	**Rozhen**	**3.11**	**295**	P	Pn	21 08 16.9	-0.3
RZN				S	Sb	21 09 03.8	+2.4
PSN	**Preselentsi**	**3.21**	**355**	P	Pn	21 08 18.6	+0.2
PLD	**Plovdiv**	**3.30**	**302**	P	Pn	21 08 17.4	-2.2
ANTO	**Ankara**	**3.34**	**98**	⇑P	Pn	21 08 20.7	+0.5
ANTO	**Ankara**	**3.34**	**98**	P	Pn	21 08 19.0	-1.3
SZH	**Strazhitsa**	**3.40**	**327**	P	Pn	21 08 21.5	+0.5
PVL	**Pavlikeni**	**3.66**	**318**	P	Pn	21 08 25.4	+0.8
MMB	**Musomishta**	**3.76**	**289**	P	Pn	21 08 26.2	+0.2
BR106	**Keskin Array S**	**3.99**	**98**	P	Pn	21 08 29.6	+0.4
BR105	**Keskin Array S**	**3.99**	**99**	P	Pn	21 08 29.7	+0.4
BRTR	**Keskin Array B**	**4.01**	**99**	Pn	Pn	21 08 29.8	+0.3
1.3nm,0.3s,baz=268,slow=12,SNR=48							
BRTR				Sn	Sn	21 09 14.9	-1.6
2.0nm,0.3s,baz=282,slow=17,SNR=3.5							
BRTR				Lg	Lg	21 09 36.9	
1.6nm,0.3s,baz=274,slow=22,SNR=13							
BRTR				LR	LR	21 10 37.0	
comp=Z,135nm,21.7s,baz=249,slow=47							
5.8nm,0.5s							
BR104	**Keskin Array S**	**4.01**	**99**	P	Pn	21 08 29.9	+0.3
TIRR	**Tirgusor**	**4.02**	**359**	⇓P	Pn	21 08 30.6	+1.1
TIRR	**Tirgusor**	**4.02**	**359**	P	Pn	21 08 31.3	+1.8
APE	**Apeiranthos**	**4.08**	**216**	⇓P	Pn	21 08 29.3	-1.1
TLBR	**Topalu**	**4.12**	**356**	⇑P	Pn	21 08 32.5	+1.7
SGRR	**Singureni**	**4.22**	**335**	⇑P	Pn	21 08 33.8	+1.5
KIRS	**Kirsehir-Merke**	**4.37**	**106**	⇑P	Pn	21 08 35.1	+0.7
TPGR	**Topolog**	**4.42**	**359**	⇑P	Pn	21 08 35.7	+0.7
BZK	**Bozkurt**	**4.42**	**68**	⇓P	Pn	21 08 36.9	+1.8
BZK	**Bozkurt**	**4.42**	**68**	P	Pn	21 08 37.2	+2.1
VAY	**Valandovo**	**4.58**	**283**	*i* Pn	Pn	21 08 40.7	+3.5
TLCR		**4.75**	**3**	⇑P	Pn	21 08 40.3	+0.8
ISR	**Istrita**	**4.90**	**344**	P	Pn	21 08 43.1	+1.5
NEHR	**Nehoiu**	**5.25**	**343**	⇑P	Pn	21 08 48.5	+2.1
MLR	**Muntele Rosu**	**5.39**	**341**	Pn	Pn	21 08 50.3	+1.9
MLR				Lg	Lg	21 10 21.8	
2.3nm,0.3s,baz=269,slow=23,SNR=4.0							
MLR				LR	LR	21 10 45.8	
comp=Z,49nm,21.7s,baz=174,slow=36							
MLR	**Muntele Rosu**	**5.39**	**341**	⇑P	Pn	21 08 50.5	+2.1
MLR	**Muntele Rosu**	**5.39**	**341**	P	Pn	21 08 49.9	+1.5
0.5nm55nm,0.6s							
ODBI	**Odobesti**	**5.43**	**349**	P	Pn	21 08 50.3	+1.4
0.2nm27nm,0.5s							
SPBR	**Spulber**	**5.46**	**347**	⇑P	Pn	21 08 51.4	+2.0
PLOR5	**Plostina Array**	**5.57**	**347**	P	Pn	21 08 52.5	+1.6
0.3nm41nm,0.4s							
PLOR	**Plostina**	**5.58**	**347**

DEV	Deva	6.81	325	⇑P	Pn	21 09 08.7	+0.9
SURR	Surduc	7.07	321	⇑P	Pn	21 09 11.6	+0.2
CJR	Cluj-Napoca	7.21	332	⇑P	Pn	21 09 15.0	+1.6
BZS	Buzias	7.22	318	⇑P	Pn	21 09 13.4	-0.1
DRGR		7.61	328	⇑P	Pn	21 09 20.9	+2.0
RAKU	Rahkiv	8.20	339	P	Pn	21 09 30.6	+3.7
KMPD	K-Podol'skiy	8.26	351	P	Pn	21 09 29.6	+2.0
BRIU	Brid	8.82	335	P	Pn	21 09 37.1	+1.8
HORU	Horodok	8.90	351	P	Pn	21 09 38.2	+1.7
HOLU	Holmets	9.19	334	P	Pn	21 09 42.8	+2.3
MORH	Mrgy, Hungar comp=E,5.5nm,0.6s	9.21	312	P	Pn	21 09 41.4	+0.6
MMAI	Mount Meron Ar comp=E,0.7nm,0.3s,baz=337,slow=14,SNR=5.9 comp=E,4.6nm,0.8s	9.25	141	Pn	Pn	21 09 41.3	-0.1
LUBAR	Lubar, Ukraine	9.50	357	P	Pn	21 09 45.4	+0.7
KOLS	Kolonicke sedl	9.58	335	*e*PN	Pn	21 09 50.1	+4.3
KECS	Kecovo	9.87	327	*e*PN	Pn	21 09 53.7	+3.9
AK10	Malin Array Si	10.18	3	P	Pn	21 09 53.7	-0.3
AK01	Malin Array Si	10.27	3	P	Pn	21 09 57.3	+2.1
AKASG	Malin Array Be comp=E,90nm,18.7s,baz=202,slow=38	10.28	3	LR	LR	21 14 00.8	
AK03	Malin Array Si	10.30	3	P	Pn	21 09 57.4	+1.7
VYHS	Vyhne	10.60	323	*e*PN	Pn	21 10 03.1	+3.3
RNPP9	Sopachiv	11.13	352	P	Pn	21 10 08.1	+1.2
KBZ	Khabaz baz=248,slow=11,SNR=2.7 comp=E,1.5nm,1.0s	11.20	68	Pn	Pn	21 10 11.3	+3.4
GERES	GERESS Array B comp=E,99nm,18.9s,baz=278,slow=42	13.46	314	LR	LR	21 16 51.4	
DAVOX	Davos/Dischmat comp=E,70nm,18.3s,baz=253,slow=43	14.89	301	LR	LR	21 18 05.4	
KEST	Kesra comp=E,0.1nm,0.3s,baz=46,slow=14,SNR=1.8 comp=E,1.8nm,1.0s	15.79	259	Pn	Pn	21 11 09.4	-0.9
BELG	Belogornoye comp=E,72nm,18.2s,baz=228,slow=37	17.74	41	LR	LR	21 18 25.7	
FINES	FINESS Array B comp=E,3.2nm,0.9s,baz=164,slow=9.3,SNR=5.7 comp=E,3.2nm,0.9s	21.09	357	P	P	21 12 12.1	0.0
HFS	Hagfors comp=E,2.5nm,0.9s,baz=153,slow=9.7,SNR=4.2 comp=E,2.5nm,0.9s	21.77	340	P	P	21 12 19.9	+0.4
NOA	NORSAR Array B comp=E,0.9nm,1.0s,baz=145,slow=11,SNR=1.0	23.21	338	P	P	21 12 35.0	+0.3
NOA				LR	LR	21 23 38.1	
ESDC	Sonseca Array comp=E,1.2nm,0.9s,baz=70,slow=9.0,SNR=6.0 comp=E,1.2nm,0.9s	24.79	279	P	P	21 12 49.6	-0.3
ARTI	Arti comp=E,42nm,18.3s,baz=199,slow=38	25.18	41	LR	LR	21 23 28.6	
EKA	Eskdalemuir Ar comp=E,0.8nm,0.5s,baz=111,slow=10,SNR=2.3 comp=E,0.8nm,0.5s	25.65	316	P	P	21 12 59.0	+1.5
KURBB	Kurchatov Arra comp=E,2.1nm,0.9s,baz=276,slow=8.9,SNR=8.1 comp=E,2.1nm,0.9s	35.87	56	P	P	21 14 28.8	+1.1
TORD	Torodi Ar. Bea comp=E,43nm,0.3s,baz=28,slow=11,SNR=2.2	35.94	228	P	P	21 14 28.0	-0.5
MKAR	Makanchi Array comp=E,1.3nm,0.6s,baz=282,slow=6.8,SNR=23 comp=E,1.3nm,0.6s	38.81	62	P	P	21 14 53.4	+0.7
ZALV	Zalesovo Beam comp=E,0.3nm,0.4s,baz=292,slow=9.2,SNR=1.8 comp=E,0.3nm,0.4s	39.53	51	P	P	21 14 59.0	+0.4
SONM	Songino Array comp=E,0.2nm,0.5s,baz=295,slow=6.9,SNR=2.4 comp=E,0.2nm,0.5s	54.18	54	P	P	21 16 53.3	-0.1
CMAR	Chiang Mai Arr comp=E,0.7nm,0.7s,baz=311,slow=7.8,SNR=5.3 comp=E,0.7nm,0.7s	63.52	88	P	P	21 17 57.9	-0.6
YKA	Yellowknife Ar comp=E,0.1nm,0.3s,baz=30,slow=5.6,SNR=1.4 comp=E,0.1nm,0.3s	73.21	343	P	P	21 18 58.8	+0.3

UCR 04 21:13:40.5±0.5, 8°.92N×84°.24W, h0km±4km, MW3.5, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPE	Pejibaye, P	0.70	70	*e*P	Pg	21 13 54.7	+0.7
PICV	PH. Pirrs	0.71	4	*e*P	Pg	21 13 54.9	+0.8
PISJ	San Jernim	0.72	9	*e*P	Pb	21 13 55.5	-0.6
ABE2	San Pablo	0.81	13	*e*P	Pb	21 13 57.1	-0.4
LCR2	La Lucha 2	0.85	16	*e*P	Pg	21 13 57.2	+0.3
FIMO	Fila Mora	0.88	85	*e*P	Pb	21 13 58.1	-0.6
FIMO				*e*S	Sb	21 14 10.7	-0.3
DRK0	Durika	1.04	71	*e*P	Pg	21 13 59.8	-0.6
VICA	Volcano Irazu	1.13	20	*e*P	Pg	21 14 02.1	-0.2
VERB	Verbena	1.16	28	*e*P	Pg	21 14 02.7	0.0
VTLA	Turrialba Volc	1.17	23	*e*P	Pg	21 14 02.9	-0.1
CVTV	Tajo	1.19	24	*e*P	Pg	21 14 03.3	0.0
VTR0	Volcan Turrial	1.19	23	*e*P	Pg	21 14 03.5	+0.1
CVTR	Volcan Turrial	1.20	23	*e*P	Pg	21 14 03.3	-0.1
VBV1	V. Barva	1.20	7	*e*P	Pg	21 14 03.7	+0.1
CVTG	V. Turrialba,	1.31	21	*e*P	Pg	21 14 05.5	-0.1

NNC 04 21:18:18.1±2.9, 37°.96N×71°.65E, h327km±174km, mb2.2, mpv3.6, 5C-3D, Error ellipse: s-maj=109.3km s-min=18.3km az=179.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu SNR=23	4.45	20	P	Pn	21 19 29.4	-1.6
EKS2	Erkin-Say SNR=7.8	4.97	18	P	Pn	21 19 36.6	+0.2
AAK	Ala-Archa SNR=12	5.15	24	P	Pn	21 19 38.8	+0.3
AAK	Ala-Archa 4.3nm,0.5s	5.15	24	⇑P	Pn	21 19 38.3	-0.3
AAK	1.4nm,0.5s			⇓S	S	21 20 44.0	+0.7
KK31	Karatay Array 2.7nm,0.2s,baz=174,slow=13,SNR=58	5.21	351	⇓P	Pn	21 19 39.0	0.0
KK31	0.5nm,0.3s,baz=170,slow=21,SNR=4.0			⇑S	S	21 20 44.9	+0.6
CHMS	Chumysh SNR=6.9	5.56	24	P	Pn	21 19 43.9	+0.9
CHMS	Chumysh 6.0nm,0.7s	5.56	24	⇑P	Pn	21 19 43.7	+0.7
CHMS	2.8nm,0.9s			⇓S	S	21 20 52.3	+0.7
TKM2	Tokmak 2 SNR=6.6	5.79	30	P	Pn	21 19 47.2	+1.3
TKM2	Tokmak 2 2.9nm,0.5s	5.79	30	⇑P	Pn	21 19 45.8	-0.1
TKM2	1.0nm,0.6s			⇑S	S	21 20 56.4	-0.5

KRNET ***04*** *21:23:39.5±0.1, 39°.70N×73°.50E, h18km, mb3.0*
SOME ***04*** *21:23:41.7, 39°.90N×73°.50E, h10km*
NNC ***04*** *21:23:44.4±1.1, 40°.02N×73°.53E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=8.2km s-min=4.1km az=171.0*
ISC 04 21:23:40.0±1.2, 39°.68N±0°.05×73°.47E±0°.03, h10km, n48, σ1°76/82, 36C-20D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.33	4	⇓*i*P	Pg	21 23 46.3	-0.4
SFK				⇓*i*S	Sg	21 23 51.0	-0.2
OHH	Osh	0.99	328	⇑*i*P	Pg	21 23 57.9	-1.2
OHH				⇑*i*S	Sg	21 24 11.7	-0.3
SALK	Salom-Alik	1.23	12	⇓*e*P	Pn	21 24 01.5	-1.9
SALK				⇓*e*S	Sb	21 24 17.6	-1.8
DRK	Karamyk	1.31	262	⇑*e*P	Pn	21 24 03.9	-0.7
DRK				⇑*e*S	Sn	21 24 22.2	-0.1
ARSB	Arslanbob	1.68	347	⇑*i*P	Pb	21 24 10.1	-1.1
ARSB				⇑*i*S	Sg	21 24 32.6	-1.5
BTK	Batken	2.08	281	⇑*i*P	Pb	21 24 16.3	-1.6
BTK				⇑*i*S	Sb	21 24 43.2	-0.6
ARLS	Aral	2.27	16	⇑*e*P	Pn	21 24 18.4	+0.7
ARLS				⇑*e*S	Sn	21 24 46.5	+0.6
ARK	Arkit	2.40	332	⇑*i*P	Pn	21 24 20.6	+1.1
ARK				⇑*i*S	Sb	21 24 50.7	-2.5
AML	Almayashu	2.45	4	⇓*i*P	Pn	21 24 21.3	+0.9
AML				⇓*i*S	Sn	21 24 51.8	+1.1
GAR	Garm	2.54	255	⇑*i*P	Pn	21 24 22.7	+1.3
GAR				⇑*i*S	Sn	21 24 54.3	+1.8
TRKS	Terek-Say	2.56	317	⇑*i*P	Pn	21 24 22.0	+0.3
TRKS				⇑*i*S	Sn	21 24 53.3	+0.3
UCH	Uchtor	2.66	17	⇑*i*P	Pn	21 24 24.1	+0.7
UCH				⇑*i*S	Sn	21 24 56.8	+0.9
MNAS	Manas	2.90	346	⇑*i*P	Pn	21 24 27.4	+1.1
MNAS				⇑*i*S	Sn	21 25 02.3	+1.0
EKS2	Erkin-Say	2.98	4	⇑*i*P	Pn	21 24 28.5	+1.0
EKS2				⇑*i*S	Sn	21 25 04.0	+0.6
AAK	Ala-Archa 3.5nm,0.4s	3.05	14	Pn	Pn	21 24 30.2	+1.8
AAK	11nm,0.5s			Lg	Lg	21 25 07.4	
AAK	Ala-Archa	3.05	14	⇑*i*P	Pn	21 24 29.5	+1.0
AAK				⇑*i*S	Sn	21 25 05.9	+0.8
MRKS	Merke 3.4nm,0.2s	3.06	357	Pg	Pb	21 24 33.0	-1.7
MRKS	12nm,0.3s			Lg	Lg	21 25 10.5	
MRKS	Merke 5.2nm,0.2s	3.06	357	*e*P	Pb	21 24 34.5	-0.2
MRKS	23nm,0.2s			*e*S	Sb	21 25 12.2	0.0
KBK	Karagaybulak	3.17	20	⇓*i*P	Pn	21 24 31.1	+0.9
KBK				⇓*i*S	Sn	21 25 08.6	+0.5
FRU1	Bishkek	3.24	15	⇓*i*P	Pn	21 24 32.3	+1.3
FRU1				⇓*i*S	Sn	21 25 10.8	+1.1
ULHL	Ulahol	3.31	38	⇓*i*P	Pn	21 24 32.9	+0.8
ULHL				⇓*i*S	Sn	21 25 12.0	+0.4
BOOM	Boomskoye usch	3.37	33	⇑*i*P	Pn	21 24 33.8	+1.0
BOOM				⇑*i*S	Sn	21 25 13.5	+0.6
CHMS	Chumysh 1.8nm,0.4s	3.45	16	⇑Pg	Pb	21 24 41.0	-0.2
CHMS	16nm,0.6s			⇓Lg	Lg	21 25 25.6	
CHMS	Chumysh	3.45	16	⇓*i*P	Pn	21 24 34.8	+1.0
CHMS				⇓*i*S	Sn	21 25 15.3	+0.5
IUG	Iuzhnay 6.5nm,0.1s	3.59	314	Pg	Pb	21 24 45.5	+1.9
IUG	20nm,0.4s			Lg	Lg	21 25 31.7	
TKM2	Tokmak 2 1.3nm,0.3s	3.61	26	⇓Pg	Pb	21 24 43.7	-0.3
TKM2	7.9nm,0.6s			⇑Lg	Lg	21 25 30.3	
TKM2	Tokmak 2	3.61	26	⇑*i*P	Pn	21 24 37.2	+1.0
TKM2				⇑*i*S	Sn	21 25 19.3	+0.4
USP	Ospenovka	3.66	12	⇓*i*P	Pn	21 24 37.7	+0.9
USP				⇓*i*S	Sn	21 25 20.4	+0.3
KDJ	Kajisay	3.72	48	⇑*e*P	Pn	21 24 38.7	+1.0
KDJ				⇑*e*S	Sn	21 25 22.0	+0.3
KST	Kastek 3.4nm,0.4s	3.84	28	Pg	Pb	21 24 49.1	+1.1
KST	20nm,0.6s			Lg	Lg	21 25 37.2	
KST	Kastek 3.4nm,0.4s	3.84	28	*e*P	Pb	21 24 49.1	+1.1
KST	20nm,0.6s			*e*S	Sb	21 25 37.2	+2.6
SGDS	Sogindy 2.8nm,0.6s	3.87	13	Pg	Pb	21 24 49.3	+1.0
SGDS	9.5nm,0.7s			Lg	Lg	21 25 37.7	
DGS	Degeres 5.4nm,0.4s	3.95	25	Pg	Pb	21 24 51.0	+1.2
DGS	11nm,0.5s			Lg	Lg	21 25 40.7	
KK31	Karatay Array 0.5nm,0.3s,baz=140,slow=12,SNR=7.9	4.08	328	⇓Pn	Pn	21 24 44.4	+1.9
KK31	1.2nm,0.4s,baz=143,slow=15,SNR=13			⇑Pg	Pb	21 24 53.6	+1.7
KK31	1.6nm,0.3s,baz=135,slow=27,SNR=5.5			⇓Sn	Sn	21 25 32.2	+1.9
KK31	5.0nm,0.5s,baz=141,slow=29,SNR=3.9			⇑Lg	Lg	21 25 46.5	
KKAR	Karatay Array	4.08	328	⇑*i*P	Pn	21 24 43.7	+1.2
KKAR				⇑*i*S	Sn	21 25 30.8	+0.5
MTBS	Maitube 1.6nm,0.3s	4.10	32	Pg	Pb	21 24 53.8	+1.5
MTBS	5.6nm,0.4s			Lg	Lg	21 25 45.4	
MTBS	Maitube 1.6nm,0.3s	4.10	32	*e*P	Pb	21 24 53.8	+1.5
MTBS	5.6nm,0.4s			*e*S	Sb	21 25 45.4	+3.5
TNSS	Tian-Shan 2.5nm,0.3s	4.25	37	Pg	Pb	21 24 57.0	+1.9
TNSS	4.3nm,0.3s			Lg	Lg	21 25 50.6	
TNSS	Tian-Shan 2.5nm,0.3s	4.25	37	*e*P	Pb	21 24 57.0	+1.9
TNSS	4.3nm,0.3s			*e*S	Sg	21 25 50.6	-5.9
BRLS	Borolday 1.1nm,0.2s	4.32	322	Pg	Pb	21 24 57.8	+1.7
BRLS	7.3nm,0.2s			Lg	Lg	21 25 52.7	
BRLS	Borolday 0.6nm,0.1s	4.32	322	*e*P	Pb	21 24 57.1	+1.0
BRLS	7.3nm,0.2s			*e*S	Sb	21 25 50.8	+2.5
KRBS	Karabastau 6.7nm,0.3s	4.33	22	Pg	Pb	21 24 58.3	+2.0
KRBS	3.2nm,0.3s			Lg	Lg	21 25 54.1	
KOTS	Kotyrbulak 2.0nm,0.2s	4.48	36	Pg	Pb	21 25 00.7	+1.9
KOTS	13nm,0.5s			Lg	Lg	21 25 57.1	
KOTS	Kotyrbulak 2.0nm,0.2s	4.48	36	*e*P	Pb	21 25 00.7	+1.9
KOTS	13nm,0.5s			*e*S	Sb	21 25 57.1	+4.2
KTBS	Karatobe 1.6nm,0.5s	4.69	30	Pg	Pb	21 25 04.0	+1.7
KTBS	12nm,0.5s			Lg	Lg	21 26 03.8	
CHKK	Chushkaly 8.0nm,0.3s	4.93	31	Pg	Pb	21 25 08.9	+2.5
CHKK	8.0nm,0.4s			Lg	Lg	21 26 11.4	
CHKK	Chushkaly 8.0nm,0.3s	4.93	31	*e*P	Pb	21 25 08.9	+2.5
CHKK	8.0nm,0.4s			*e*S	Sg	21 26 11.4	-6.7
KURS	Kuram 8.0nm,0.3s	5.18	41	*e*P	Pb	21 25 08.9	-1.9
KURS	8.0nm,0.4s			*e*S	Sb	21 26 11.4	-1.6

SSNC ***04*** *21:28:11.6±1.6, 19°.65N×70°.81W, h6km±13km, MD3.5, ML3.7, MW2.6*
SDD ***04*** *21:28:11.1±2.7, 19°.75N×70°.82W, h7km±26km, MD3.4, ML3.3, MW3.6*
OSPL ***04*** *21:28:12.7±3.4, 19°.73N×70°.89W, h0km±13km, ML2.9*
ISC 04 21:28:09.0±1.1, 19°.76N±0°.02×70°.83W±0°.02, h12km±9km, n37, σ1°22/63, 18C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	Sosua Marina B	0.23	91	⇑*e*Pg	Pb	21 28 16.8	+1.5
SODR				IAML		21 28 32.9	
SC01	comp=N,5μm,0.7s Santiago de lo	0.34	164	⇑*e*Pg	Pn	21 28 18.2	-1.6
SC01				IAML		21 28 31.1	
SC01	comp=N,2μm,0.5s Santiago de lo	0.34	164	*i* P	Pn	21 28 18.2	-1.6
SC01				*e*S	Sb	21 28 23.5	+1.1
SC01				IAML		21 28 34.1	
LOPP1	comp=Z,1μm,0.6s Punta Rusia, P	0.36	286	*i* P	Pg	21 28 00.2	-16
LOPP1				*e*S	Sg	21 28 06.7	-15
LOPP1				IAML		21 28 10.1	
MCDR	comp=Z,1μm,0.9s Montecristi	0.79	280	⇓*e*Pg	Pn	21 28 27.0	+1.0
MCDR				IAML		21 28 44.2	
REDR	comp=N,789nm,0.1s Restauracion	0.79	223	⇓*e*Pg	Pn	21 28 28.2	+2.2
REDR				⇑*e*Sg	Sn	21 28 42.0	+4.1
REDR				IAML		21 28 43.7	
CADR	comp=N,1μm,0.1s Cabrera	0.84	96	⇑*e*Pg	Pb	21 28 25.3	-0.3
CADR				⇑*e*Sg	Sn	21 28 39.5	+0.5
CADR				IAML		21 28 42.8	
LODA1	comp=N,1μm,0.5s ITESIL, Dajabo	0.85	256	*i* P	Pg	21 28 14.1	-11
LODA1				*e*S	Sg	21 28 25.7	-11
LODA1				IAML		21 28 28.1	
SDDR	comp=Z,982nm,2.0s Presa de Saban	0.88	210	*e*P	Pb	21 28 26.4	0.0
SDDR				*e*S	Sg	21 28 36.1	-1.5
SDDR				*e*Sg	Sb	21 28 38.4	+0.2
SDDR				IAML		21 28 40.2	
SDDR	comp=Z,688nm,0.4s IAML					21 28 40.8	
SDDR	comp=Z,804nm,0.5s Presa de Saban	0.88	210	*e*Pg	Pn	21 28 26.6	-0.8
SDDR				⇑*e*Sg	Sn	21 28 39.1	-1.0
SDDR				IAML		21 28 40.6	
SDDR	comp=N,823nm,0.5s Presa de Saban	0.88	210	*i* P	Pn	21 28 26.7	-0.7
SDDR				*e*S	Sg	21 28 35.9	-1.8
SDDR				IAML		21 28 40.0	
SDDR	comp=Z,523nm,0.6s Alto Bandera	0.96	169	⇓*e*Pg	Pb	21 28 27.7	-0.1
ABDR				⇑*e*Sg	Sn	21 28 41.1	-1.3
ABDR				IAML		21 28 42.3	
DR08	comp=N,593nm,0.4s Loma La Naviza	1.09	136	⇓*e*Pg	Pn	21 28 30.5	+0.3
DR08				⇑*e*Sg	Sn	21 28 45.8	+0.4
DR08				IAML		21 28 50.0	
LONE3	comp=N,4μm,0.1s El Aguacate, B	1.29	208	*i* P	Pg	21 28 34.1	+0.3
LONE3				*e*S	Sg	21 28 52.1	+1.4
LONE3				IAML		21 28 54.1	
BANI	comp=Z,339nm,0.9s BANI	1.43	162	⇓*e*Pg	Pg	21 28 36.1	-0.4
BANI				⇑*e*Sg	Sg	21 28 56.6	+1.6
BANI				IAML		21 29 05.1	
LODU1	comp=N,713nm,0.4s El Espartillar	1.52	204	*i* P	Pg	21 28 39.0	+0.7
LODU1				*e*S	Sg	21 28 59.6	+1.5
LODU1				IAML		21 29 05.1	
JIDR	comp=Z,1.5nm,0.0s Jimani	1.59	218	⇑*e*Pg	Pg	21 28 39.2	-0.3
JIDR				⇑*e*Sg	Sg	21 29 02.0	+1.9
JIDR				IAML		21 29 10.2	
PODR	comp=N,302nm,0.9s Polo	1.64	195	⇑*e*Pg	Pg	21 28 40.1	-0.4
PODR				⇑*e*Sg	Sg	21 29 02.8	+1.0
PODR				IAML		21 29 07.8	
PODR	comp=N,282nm,0.6s Polo	1.64	195	*i* P	Pg	21 28 40.1	-0.4
PODR				*e*S	Sg	21 29 02.6	+0.8
HATOM	Hato Mayor del	1.67	125	⇓*e*Pg	Pb	21 28 39.5	-0.2
HATOM				⇑*e*Sg	Sg	21 29 02.6	-0.2
HATOM				IAML		21 29 04.2	
LOBA2	comp=N,262nm,0.4s Hotel Casa Bon	1.68	189	⇑*e*Pg	Pg	21 28 40.9	-0.5
GRTK	Grand Turk	1.77	351	*e*P	Pb	21 28 41.6	+0.2
GRTK				*e*S	Sb	21 29 03.9	+0.3
GRTK				IAML		21 29 08.2	
GRTK	comp=N,20μm,0.2s IAML					21 29 08.5	
GRTK	comp=N,35μm,0.2s Grand Turk	1.77	351	*e*Pg	Pb	21 28 41.8	+0.4
GRTK				⇑*e*Sg	Sg	21 29 06.6	+0.6
GRTK				IAML		21 29 07.9	
GRTK	comp=N,304nm,0.6s Grand Turk	1.77	351	*i* P	Pb	21 28 41.9	+0.4
GRTK				*e*S	Sg	21 29 05.8	-0.2
GRTK				IAML		21 29 13.8	
MIDR	comp=Z,74nm,1.0s Miches	1.84	114	⇑*e*Pg	Pb	21 28 42.4	-0.3
MIDR				⇑*e*Sg	Sg	21 29 07.2	-1.2
MIDR				IAML		21 29 10.4	
PAPH	comp=N,98nm,0.4s Port-au-Prince	1.86	229	*e*P	Pn	21 28 41.2	+0.5
PAPH				*e*S	Sb	21 29 06.2	+0.1
PAPH				IAML		21 29 10.3	
PAPH	comp=E,2μm,0.2s IAML					21 29 10.7	
PAPH	comp=N,2μm,0.2s Port-au-Prince	1.86	229	*i* P	Pb	21 28 43.1	+0.2
PAPH				IAML		21 29 13.3	
LOVI	comp=Z,90nm,0.6s El Cajuil, Ovi	2.01	195	*i* P	Pg	21 28 46.8	-0.9
LOBH	Bahia de las A	2.03	202	*i* P	Pg	21 28 47.3	-0.8
LOBH				IAML		21 29 27.3	
PCDR	comp=Z,136nm,0.7s Punta Cana, DR	2.62	118	*i* P	Pb	21 28 54.7	-1.3
PCDR				*e*S	Sb	21 29 26.5	-1.6
PCDR				IAML		21 29 38.2	
MASC	comp=Z,82nm,0.5s Masc	3.23	278	*e*P	Pn	21 28 59.8	+0.3
MASC				*e*S	Sn	21 29 38.0	0.0
MASC				IAML		21 29 53.7	
MASC	comp=N,44nm,0.4s IAML					21 29 54.0	
MASC	comp=E,55nm,0.5s Quimbuelo	3.77	277	*e*P	Pn	21 29 05.8	-1.4
QMBU				*e*S	Sn	21 29 49.2	-2.4
QMBU				IAML		21 30 04.5	
QMBU	comp=E,36nm,0.4s IAML					21 30 09.3	
CRPR	comp=N,32nm,0.5s Cabo Rojo, PR	3.92	116	*i* P	Pn	21 29 12.5	+3.4
CRPR				IAML		21 30 21.8	
MOAC	comp=Z,58nm,2.0s Moa	3.98	284	*e*P	Pn	21 29 09.2	-0.8
MOAC				*e*S	Sn	21 29 56.0	-0.7
MOAC				IAML		21 29 57.5	
MOAC	comp=N,13nm,0.5s IAML					21 29 57.6	
GTBY	comp=E,12nm,0.1s Guantanamo Bay	4.04	273	*e*P	Pn	21 29 11.0	+0.3
GTBY				⇓*e*S	Sn	21 29 56.7	-1.3
GTBY				IAML		21 29 59.7	
GTBY	comp=N,403nm,0.1s IAML					21 30 00.2	
PINC	comp=N,428nm,0.1s Pinares de May	4.72	280	*e*P	Pn	21 29 19.0	-1.1
PINC				*e*S	Sn	21 30 13.8	-1.0
PINC				IAML		21 30 15.1	
PINC	comp=E,368nm,0.1s IAML					21 30 15.3	
PINC	comp=N,376nm,0.1s						

IDC ***04*** *21:48:31.1±1.5, 2°.71S×130°.09E, h0km, mb3.9/7, mbtmp3.9/9, ML3.9/2, MS2.8/1, Error ellipse: s-maj=80.8km s-min=20.3km az=74.0*
DJA ***04*** *21:48:36.6±1.2, 3°.5±3°×13°.0E±°, h19km±11km, M4.3/11, mb4.6/2, MLv4.1/11*
ISC 04 21:48:36.3±0.6, 2°.84S±0°.05×129°.54E±0°.05, h28km, n31, σ2°20/35, mb4.1/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.71	168	P	Pb	21 49 06.6	-0.5
BNDI	Bandanaira	1.71	168	P	Pb	21 49 08.0	+0.9
BNDI				S	Sb	21 49 31.7	+3.5
NLAI	Namlea	2.47	261	P	Pn	21 49 16.7	+2.0
SWI	Sorong	2.61	41	P	Pn	21 49 16.1	-0.6
SWI				S	Sn	21 49 47.0	-0.4
FAKI	Fak Fak	2.71	92	P	Pn	21 49 18.1	+0.1
FAKI	Fak Fak	2.71	92	P	Pn	21 49 18.9	+0.9
SANI	Sanana	3.64	282	P	Pn	21 49 31.9	+1.1
SANI	Sanana	3.64	282	S	Sn	21 50 11.2	-1.6
SANI	Sanana	3.64	282	P	Pn	21 49 30.4	-0.4
SANI				S	Sn	21 50 10.8	-2.0
KMPI	Kaimana, Papua	4.24	101	P	Pn	21 49 40.6	+1.6
RKPI	Ransiki, Papua	4.82	74	P	Pn	21 49 46.6	-0.5
RKPI				S	Sn	21 50 38.5	-3.5
BAKI	Biak 0.1nm27nm,0.5s	6.76	76	P	Pn	21 50 14.1	+0.3
LUWI	Luwuk	7.00	285	P	Pn	21 50 16.3	-0.7
MTN	Manton Dam	10.06	171	P	Pn	21 51 00.7	+1.6
KDU	Kakadu	10.21	164	P	Pn	21 51 01.8	+0.8
DAV	Davao City (W) comp=Z,51nm,21.0s,baz=30,slow=41	10.61	338	LR	LR	21 55 51.2	
FITZ	Fitzroy Crossi 0.3nm,0.3s,baz=12,slow=9.4,SNR=

WRA Warramunga Arr 17.63 165 P Pn 21 52 37.2 -3.0
0.6nm,0.3s,baz=346,slow=12,SNR=23
WRA S Sn 21 55 43.4 -12
0.4nm,0.8s,baz=348,slow=23,SNR=1.6
1.4nm,0.4s
STKI Sintang 18.29 279 P Pn 21 52 56.3 +8.1
QIS Mount Isa 20.16 152 P **P** **21 53 09.4 +0.7**
ASAR Alice Springs 21.13 169 P **P** **21 53 19.2 0.0**
7.3nm,0.5s,baz=344,slow=9.9,SNR=139
ASAR S **S** **21 57 04.5 -8.5**
0.3nm,0.5s,baz=347,slow=19,SNR=2.9
7.3nm,0.5s
AS01 Alice Springs 21.14 169 P **P** **21 53 19.8 +0.6**
13nm,0.8s
WRKA Warakurna 22.10 183 P **P** **21 53 29.2 -0.4**
TNG Tangerang 23.06 261 P **P** **21 53 37.2 -2.6**
TNG P **P** **21 53 37.1 -2.7**
CMAR Chiang Mai Arr 36.82 306 P **P** **21 55 44.8 +2.5**
0.5nm,0.3s,baz=136,slow=7.7,SNR=5.4
0.5nm,0.3s
CN2 Changchun 46.58 356 *e*P **P** **21 57 04.4 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 54.38 341 P **P** **21 58 00.8 -0.1**
comp=Z,0.2nm,0.8s,baz=150,slow=9.6,SNR=3.6
comp=Z,0.2nm,0.8s
MKAR Makanchi Array 64.53 326 P **P** **21 59 11.0 +0.1**
comp=Z,1.0nm,0.6s,baz=123,slow=8.0,SNR=15
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 67.68 333 P **P** **21 59 30.7 -0.2**
comp=Z,0.7nm,0.4s,baz=123,slow=5.3,SNR=7.0
comp=Z,0.7nm,0.4s
KURBB Kurchatov Arra 68.76 328 P **P** **21 59 38.2 +0.5**
comp=Z,2.3nm,0.6s,baz=129,slow=5.6,SNR=24
comp=Z,2.3nm,0.6s
BVAR Borovoye Array 74.33 327 P **P** **22 00 11.4 +0.2**
comp=Z,0.8nm,0.8s,baz=130,slow=6.2,SNR=3.6
comp=Z,0.8nm,0.8s

WEL 04 22:03:39.5±0.6, 32°S±20°×17°9W±4°8, h33km, M4.2/6, ML4.5/9, MLv4.2/6, Error ellipse: s-maj=67.3km s-min=4.3km az=112.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.36**	**24**	P	Pn	22 04 30.4	+0.8
GLKZ				S	Sn	22 05 07.7	-0.7
MXZ	**Matakaoa Point**	**5.51**	**199**	P	Pn	22 05 00.1	+0.9
MXZ				S	Sn	22 06 01.7	+0.3
WMGZ	**Waiomatatini S**	**5.72**	**197**	P	Pn	22 05 03.0	+0.9
HAZ	**Te Kaha**	**5.84**	**202**	P	Pn	22 05 05.1	+1.4
PKGZ	**Pakihiroa**	**5.86**	**199**	P	Pn	22 05 05.1	+1.1
RUGZ	**Raukumara Rang**	**6.07**	**202**	P	Pn	22 05 07.4	+0.4
RUGZ				S	Sn	22 06 15.4	+0.1
TWGZ	**Tauwhareparae**	**6.17**	**199**	P	Pn	22 05 08.5	+0.2
TWGZ				S	Sn	22 06 18.4	+0.5
CNGZ	**Carnagh Statio**	**6.41**	**196**	P	Pn	22 05 11.3	-0.2
URZ	**Urewera**	**6.52**	**204**	P	Pn	22 05 13.5	+0.4
URZ				S	Sn	22 06 26.4	+0.1
RAGZ	**Rawiri**	**6.63**	**201**	S	Sn	22 06 29.5	+0.3
MUGZ	**Murupara**	**6.83**	**205**	P	Pn	22 05 17.3	-0.1
MUGZ				S	Sn	22 06 35.2	+1.2
RTZ	**Ruatahuna**	**6.88**	**204**	P	Pn	22 05 17.7	-0.5
SNGZ	**Shannon Statio**	**6.92**	**201**	S	Sn	22 06 35.9	-0.3
RAHZ	**Arahi**	**7.12**	**202**	S	Sn	22 06 41.3	+0.1
MTHZ	**Maungataniwha**	**7.14**	**204**	S	Sn	22 06 41.5	-0.3
NMHZ	**Naumai**	**7.38**	**203**	S	Sn	22 06 48.6	+1.1

DJA 04 22:16:50.6±0.5, 10°S±2°×10°6E±°, h10km, M4.2/11, mB5.3/1, mb4.2/3, MLv4.2/11, Mw(mB)4.7/1
IDC 04 22:16:52.7±3.4, 9°19S×106°40E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=113.9km s-min=33.3km az=47.0
ISC 04 22:16:51.0±0.9, 10°30S±0°05×105°55E±0°09, h35km, n25, σ1§62/26, mb3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**0.20**	**137**	P	**Pn**	**22 16 58.7**	**+0.8**
XMI	**Christmas Isla**	**0.20**	**137**	S	**Sn**	**22 17 02.8**	**+0.2**
XMIS	**Christmas Isla**	**0.21**	**151**	P	**Pn**	**22 16 58.2**	**+0.3**
XMIS	**Christmas Isla**	**0.21**	**151**	S	**Sn**	**22 17 01.9**	**-0.8**
CNJI	**Cibinong**	**3.36**	**28**	P	**Pn**	**22 17 40.9**	**-0.1**
SKJI	**Sukabumi**	**3.42**	**17**	P	**Pn**	**22 17 42.5**	**+0.6**
SKJI				S	**Sn**	**22 18 20.5**	**-0.8**
BBJI	**Bungbulang**	**3.50**	**37**	P	**Pn**	**22 17 42.7**	**-0.3**
CGJI	**Cibinong**	**3.67**	**2**	P	**Pn**	**22 17 45.9**	**+0.7**
CGJI				S	**Sn**	**22 18 27.7**	**+0.4**
CMJI	**Cimerak**	**3.80**	**49**	P	**Pn**	**22 17 46.9**	**-0.2**
LEM	**Lembang**	**4.01**	**31**	P	**Pn**	**22 17 50.2**	**0.0**
LWLI	**Liwa**	**5.45**	**344**	P	**Pn**	**22 18 10.8**	**+0.9**
UGM	**Wanagama**	**5.46**	**65**	P	**Pn**	**22 18 10.7**	**+0.8**
UGM	**Wanagama**	**5.46**	**65**	S	**Sn**	**22 19 11.8**	**+0.3**
MDSI	**Maura Dua**	**5.93**	**347**	P	**Pn**	**22 18 16.3**	**-0.1**
0.1nm12nm,1.1s
PCJI Pacitan 5.94 70 P **Pn** **22 18 17.9 +1.4**
0.7nm35nm,1.6s
JAGI Jajag, Banyuwa 8.68 79 P **Pn** **22 18 54.5 +0.3**
GIRL Giralia 14.82 147 P **Pn** **22 20 15.4 -2.7**
comp=Z,42nm,2.0s
GIRL Giralia 14.82 147 P **Pn** **22 20 15.9 -2.2**
TOLI2 Tolitoli 18.93 54 P **Pn** **22 21 09.2 -0.7**
CMAR Chiang Mai Arr 29.31 347 P P 22 23 00.5 +10
comp=Z,1.6nm,0.3s,baz=171,slow=8.7,SNR=5.1
WRA Warramunga Arr 29.36 112 P **P** **22 22 55.2 +4.2**
comp=Z,0.7nm,1.0s,baz=289,slow=7.8,SNR=2.1
comp=Z,0.7nm,1.0s
SONM Songino Array 57.88 1 P **P** **22 26 38.1 -1.4**
comp=Z,0.3nm,0.5s,baz=180,slow=7.1,SNR=3.7
comp=Z,0.3nm,0.5s
USRK Ussuriysk Ar. 59.31 22 P **P** **22 26 46.1 -3.2**
comp=Z,0.4nm,0.7s,baz=193,slow=5.9,SNR=1.8
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 60.52 342 P **P** **22 26 59.9 +2.3**
comp=Z,0.3nm,0.6s,baz=147,slow=7.1,SNR=3.6
comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 65.07 341 P **P** **22 27 30.2 +2.4**
comp=Z,0.2nm,0.6s,baz=164,slow=4.7,SNR=3.2
comp=Z,0.2nm,0.6s

IDC 04 22:28:06.9±0.8, 42°30N×86°92E, h0km, mb4.0/13, mbtmp4.0/18, ML3.4/6, MS3.3/4, Error ellipse: s-maj=20.9km s-min=12.8km az=35.0
MOS 04 22:28:07.4±1.1, 42°37N×86°85E, h12km, mb4.4/9, Error ellipse: s-maj=9.0km s-min=5.9km az=42.7
NEIC 04 22:28:10.7±1.3, 42°48N±0°09×86°79E±0°03, h10km±1km, mb4.4/43, Error ellipse: s-maj=15.7km s-min=3.2km az=171.0
NNC 04 22:28:11.3±1.7, 42°43N×86°72E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=14.6km s-min=10.4km az=133.0
ISC 04 22:28:10.4±0.6, 42°32N±0°06×86°94E±0°05, h20km, n139, σ1§51/144, mb4.3/45, 16C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**5.34**	**345**	Pg	**Pb**	**22 29 47.2**	**+4.2**
15nm,0.3s
ZSN Lg Lg 22 30 59.1
84nm,0.6s
MK31 Makanchi Array 5.57 325 Pn **Pn** **22 29 33.1 +1.0**
MK31 Makanchi Array 5.57 325 ⇓Pn **Pn** **22 29 34.1 +2.0**
2.3nm,0.3s,baz=144,slow=14,SNR=555
MK31 ⇓Lg Lg 22 31 00.6
53nm,0.6s,baz=138,slow=30,SNR=6.2
MK31 Makanchi Array 5.57 325 P **Pn** **22 29 33.1 +1.0**
MKAR Makanchi Array 5.57 325 Pn **Pn** **22 29 33.3 +1.1**
MKAR Makanchi Array 5.57 325 Pn **Pn** **22 29 33.0 +0.9**
3.2nm,0.3s,baz=146,slow=13,SNR=222
MKAR Sn **Sn** **22 30 35.4 -0.2**
6.7nm,0.3s,baz=202,slow=28,SNR=5.8
MKAR Lg Lg 22 30 59.1
13nm,0.3s,baz=119,slow=24,SNR=4.2
4.5nm,0.4s
SHLS Shalkode 5.57 281 Pg **Pb** **22 29 44.5 -2.5**
36nm,0.2s
SHLS Lg Lg 22 30 55.0
236nm,0.4s
MAKZ Makanchi 5.72 323 Pn **Pn** **22 29 35.6 +1.5**
MAKZ Makanchi 5.72 323 ⇑Pn **Pn** **22 29 35.7 +1.5**
5.5nm,0.4s
MAKZ ⇑Lg Lg 22 31 06.3
47nm,0.7s
MAKZ Makanchi 5.72 323 P **Pn** **22 29 35.6 +1.5**
WUS Wushi 5.88 262 **Pn** **22 29 37.0 +0.5**
UZB Uzynbulak 5.89 281 Pg **Pb** **22 29 54.7 +2.2**
13nm,0.3s
UZB Lg Lg 22 31 12.4
77nm,0.4s
KPKS Kokpek 6.17 283 Pg **Pb** **22 29 59.9 +2.6**
17nm,0.3s
KPKS Lg Lg 22 31 21.7
122nm,0.5s
KAPS Kapalarasan 6.24 301 Pg **Pb** **22 30 01.9 +3.6**
6.2nm,0.1s
KAPS Lg Lg 22 31 24.6
54nm,0.5s
TARG Taragay, Kyrgy 6.83 268 Pn **Pn** **22 29 48.7 -1.1**
TARG Taragay, Kyrgy 6.83 268 P **Pn** **22 29 48.7 -1.1**
ARXS Arharly 6.92 289 *e*P **Pn** **22 29 51.0 +0.3**
KDJ Kajisay 7.25 272 Pn **Pn** **22 29 54.3 -1.0**
KDJ Kajisay 7.25 272 P **Pn** **22 29 54.3 -1.0**
KNDC Almaty 7.40 280 ⇑Pn **Pn** **22 29 56.4 -0.9**
16nm,0.5s
KNDC ⇓Lg Lg 22 32 01.7
197nm,1.2s
BOOM Boomskoye usch 8.14 275 **Pn** **22 30 07.3 -0.3**
BOOM Boomskoye usch 8.14 275 P **Pn** **22 30 07.3 -0.3**
TKM2 Tokmak 2 8.39 278 ⇑Pn **Pn** **22 30 11.6 +0.7**
5.0nm,0.3s
TKM2 ⇑Lg Lg 22 32 33.2
22nm,0.8s
CHMS Chumysh 9.01 278 ⇑Pn **Pn** **22 30 23.3 +4.0**
0.8nm,0.5s
CHMS ⇑Lg Lg 22 32 53.9
11nm,0.9s
FRU1 Bishkek 9.10 277 Pn **Pn** **22 30 19.7 -0.9**
FRU1 Bishkek 9.10 277 P **Pn** **22 30 19.7 -0.9**
AAK Ala-Archa 9.21 276 Pn **Pn** **22 30 21.6 -0.5**
AAK Ala-Archa 9.21 276 Pn **Pn** **22 30 20.8 -1.3**
0.7nm,0.3s,baz=120,slow=6.6,SNR=14
AAK Sn **Sn** **22 32 05.5 +0.4**
0.9nm,0.3s,baz=128,slow=18,SNR=1.9
AAK Lg Lg 22 32 57.8
1.0nm,0.3s,baz=162,slow=20,SNR=4.8
1.9nm,0.3s
AAK Ala-Archa 9.21 276 ⇑Pn **Pn** **22 30 20.8 -1.3**
0.8nm,0.3s
AAK ⇓Lg Lg 22 32 58.4
18nm,0.8s
AAK Ala-Archa 9.21 276 P **Pn** **22 30 21.6 -0.5**
KURBB Kurchatov Arra 10.12 328 Pn **Pn** **22 30 33.1 -1.4**
0.2nm,0.3s,baz=139,slow=14,SNR=25
KURBB Sn **Sn** **22 32 23.8 -3.6**
0.2nm,0.3s,baz=144,slow=19,SNR=2.0
KURBB Lg Lg 22 33 28.2
0.4nm,0.3s,baz=142,slow=30,SNR=7.7
1.5nm,0.4s
KURBB Kurchatov Arra 10.12 328 ⇓Pn **Pn** **22 30 35.0 +0.5**
2.6nm,0.5s
KURBB ⇑Lg Lg 22 33 26.1
50nm,0.8s
KURK Kurchatov 10.16 329 Pn **Pn** **22 30 33.9 -1.1**
KURK Kurchatov 10.16 329 ⇑Pn **Pn** **22 30 35.5 +0.5**
1.8nm,0.5s
KURK ⇓Lg Lg 22 33 26.1
42nm,0.7s
KURK Kurchatov 10.16 329*ce*P **Pn** **22 30 34.9 -0.1**
KURK pmax pmax
comp=Z,3.0nm,1.0s
ZAA0 Zalesovo Array 11.72 354 Pn **Pn** **22 30 54.5 -1.9**
ZALV Zalesovo Beam 11.72 354 Pn **Pn** **22 30 55.9 -0.5**
ZALV Zalesovo Beam 11.72 354 Pn **Pn** **22 30 54.8 -1.6**
comp=Z,1.2nm,0.3s,baz=174,slow=13,SNR=22
ZALV Sn **Sn** **22 33 02.1 -4.4**
comp=Z,3.9nm,0.3s,baz=165,slow=26,SNR=20
ZALV LR LR 22 35 56.9
comp=Z,60nm,20.6s,baz=100,slow=40
comp=Z,3.4nm,0.4s
ZALV Zalesovo Beam 11.72 354 *i*P **Pn** **22 30 56.7 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
KK31 Karatay Array 12.12 279 Pn **Pn** **22 31 00.3 -1.5**
KK31 Karatay Array 12.12 279 P **Pn** **22 31 00.3 -1.5**
KKAR Karatay Array 12.12 279 Pn **Pn** **22 31 00.6 -1.2**
KKAR Karatay Array 12.12 279 Pn **Pn** **22 31 00.0 -1.8**
KKAR Karatay Array 12.12 279 P **Pn** **22 31 00.0 -1.8**
NIL Nilore 13.82 236 Pn **Pn** **22 31 25.8 +0.6**
NIL Nilore 13.82 236 P **Pn** **22 31 25.8 +0.6**
CHGR Chuyangaron 14.02 261 Pn **Pn** **22 31 25.9 -2.0**
CHGR Chuyangaron 14.02 261 P **Pn** **22 31 25.9 -2.0**
SIMJ Simiganj 14.13 261 Pn **Pn** **22 31 27.8 -1.7**
SONM Songino Array 14.79 61 Pn **Pn** **22 31 38.2 -0.3**
comp=Z,0.1nm,0.3s,baz=251,slow=12,SNR=4.2
SONM Sn **Sn** **22 34 18.9 -2.9**
comp=Z,0.2nm,0.3s,baz=249,slow=12,SNR=5.6
SONM Lg Lg 22 35 54.4
comp=Z,0.1nm,0.3s,baz=258,slow=29,SNR=5.9
BVAR Borovoye Array 15.42 320 Pn **Pn** **22 31 42.7 -3.9**
comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=11
BVAR LR LR 22 37 42.7
comp=Z,57nm,20.6s,baz=147,slow=37
comp=Z,1.5nm,0.6s
BRVK Borovoye 15.49 320 **Pn** **22 31 47.0 -0.5**
BRVK Borovoye 15.49 320⇓*e*P **Pn** **22 31 46.4 -1.1**
BRVK pmax pmax
comp=Z,1.0nm,0.4s
KBL Kabul 16.02 247 **Pn** **22 31 55.3 +0.7**
KBL Kabul 16.02 247 P **Pn** **22 31 55.3 +0.7**
KBL pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 20.00 300 P **P** **22 32 40.6 -0.8**
AKTO Aktyubinsk 21.44 302 P **P** **22 32 54.8 -2.3**
comp=Z,2.6nm,0.4s,baz=110,slow=18,SNR=13
comp=Z,2.6nm,0.4s
ARTI Arti 23.11 317 P **P** **22 33 14.3 -0.5**
ARTI IAmb IAmb 22 33 20.6
comp=Z,6.6nm,0.7s
ARTI Arti 23.11 317*d i*P **P** **22 33 14.4 -0.4**
ARTI 22 33 39.1
ARTI SS **SnSn** **22 38 05.8 +7.9**
ARTI pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 25.89 153 P **P** **22 33 43.0 +2.1**
comp=Z,1.8nm,0.6s,baz=333,slow=8.7,SNR=10
KIRV Kirov 28.42 318⇑*e*P **P** **22 34 03.1 -0.2**
KLR Kul'dur 31.63 62⇑*e*P **P** **22 34 32.5 +0.7**
KLR pmax pmax
comp=Z,9.0nm,2.5s
YAK Yakutsk 31.96 37⇑*e*P **P** **22 34 34.3 -0.3**
YAK pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 32.05 288 *e*P **P** **22 34 35.8 +0.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
MARD Mardin 35.47 278 P **P** **22 35 06.5 +1.0**
MARD IAmb IAmb 22 35 07.3
comp=Z,9.1nm,0.6s
BR131 Keskin Array S 39.75 285 P **P** **22 35 41.8 0.0**
BR131 Keskin Array S 39.75 285 P **P** **22 35 41.8 0.0**
BR131 pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 39.75 285 P **P** **22 35 42.6 +0.8**
BRTR Keskin Array B 39.75 285 P **P** **22 35 41.9 +0.1**
comp=Z,1.7nm,0.9s,baz=115,slow=9.6,SNR=10
comp=Z,1.7nm,0.9s
BRTR Keskin Array B 39.75 285*ce*P **P** **22 35 42.4 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ANTO Ankara 40.31 285 P **P** **22 35 45.5 -0.8**
ANTO IAmb IAmb 22 36 00.4
comp=Z,5.8nm,0.5s
ANTO Ankara 40.31 285 P **P** **22 35 45.5 -0.8**
ANTO pmax pmax
comp=Z,6.0nm,0.5s
FIA1 FINESS Array S 40.38 320 P **P** **22 35 47.3 +0.8**
FINES FINESS Array B 40.38 320 P **P** **22 35 46.6 +0.1**
comp=Z,0.7nm,0.4s,baz=72,slow=9.4,SNR=11
comp=Z,0.7nm,0.4s
TGY Tagaytay City 40.62 124 LR LR 22 52 56.8
comp=Z,149nm,21.2s,baz=299,slow=37
ARCES ARCESS Array B 41.18 332 P **P** **22 35 52.9 -0.1**
comp=Z,3.5nm,0.9s,baz=92,slow=7.7,SNR=11
comp=Z,3.5nm,0.9s
ARCES ARCESS Array B 41.18 332 P **P** **22 35 53.5 +0.5**
ARCES pmax pmax
comp=Z,43nm,1.5s

BORA Eskisehir 41.97 286 P **P** **22 35 59.2 -0.8**
BURAR Bucovina Array 42.98 299 P **P** **22 36 07.7 -0.4**
BUR08 Bucovina Ar. S 42.98 299 P **P** **22 36 08.5 +0.4**
MLR Muntele Rosu 43.14 296 P **P** **22 36 10.2 +0.8**
MLR IAmb IAmb 22 36 35.6
comp=Z,10nm,1.5s
MLR Muntele Rosu 43.14 296 P **P** **22 36 10.2 +0.8**
MLR pmax pmax
comp=Z,10.0nm,1.5s
ELL Elmali 43.64 282 P **P** **22 36 13.9 +0.3**
ELL Elmali 43.64 282 P **P** **22 36 13.9 +0.3**
ELL pmax pmax
comp=Z,51nm,1.5s
HFS Hagfors 46.55 319 P **P** **22 36 35.2 -1.0**
comp=Z,1.3nm,0.5s,baz=78,slow=7.9,SNR=10
comp=Z,1.3nm,0.5s
VYHS Vyhne 46.78 302 *e*P **P** **22 36 38.2 0.0**
VYHS Vyhne 46.78 302 *e*P **P** **22 36 38.2 0.0**
NC405 NORSAR Array S 47.30 320 P **P** **22 36 40.2 -1.9**
NB2 NORSAR Subarra 47.55 320 P **P** **22 36 43.8 -0.3**
comp=Z,3.7nm,0.7s,baz=78,slow=7.9
NB2 NORSAR Subarra 47.55 320 P **P** **22 36 43.6 -0.5**
NOA NORSAR Array B 47.55 320 P **P** **22 36 43.2 -0.9**
comp=Z,2.0nm,0.6s,baz=77,slow=8.0,SNR=12
comp=Z,2.0nm,0.6s
MODS Modra-Piesok 47.80 302 *e*P **P** **22 36 45.2 -1.0**
MODS Modra-Piesok 47.80 302 *e*P **P** **22 36 45.2 -1.0**
IDI Anoyia 47.92 283 P **P** **22 36 46.4 -1.0**
PUK Puka 48.47 294 P **P** **22 36 51.8 +0.2**
PUK IAmb IAmb 22 37 29.5
comp=Z,13nm,1.2s
CUC Castrocucco 52.14 293 P **P** **22 37 19.6 +0.2**
CUC IAmb IAmb 22 37 21.0
comp=Z,5.0nm,0.9s
FUORN Ofenpass-Fuorn 52.86 303 P **P** **22 37 25.1 +0.4**
FUORN IAmb IAmb 22 37 25.7
comp=Z,4.4nm,1.1s
TUE Stuetta 53.49 303 P **P** **22 37 28.8 -0.7**
TUE IAmb IAmb 22 37 34.4
comp=Z,10nm,1.1s
WLF Walferdange 54.05 308 P **P** **22 37 32.0 -1.2**
WLF Walferdange 54.05 308 P **P** **22 37 32.0 -1.2**
WLF pmax pmax
comp=Z,28nm,1.2s
BNI Bardonecchia 55.80 302 P **P** **22 37 45.9 -0.2**
BNI Bardonecchia 55.80 302 P **P** **22 37 45.9 -0.2**
BNI pmax pmax
comp=Z,20nm,1.4s
EKA Eskdalemuir Ar 56.65 317 P **P** **22 37 51.5 -0.2**
comp=Z,1.3nm,0.5s,baz=59,slow=6.3,SNR=6.3
comp=Z,1.3nm,0.5s
B22K Teshekpuk Lake 59.53 20 P **P** **22 38 12.0 +0.3**
B22K IAmb IAmb 22 38 33.5
comp=Z,4.2nm,1.1s
F21K Alatna River 61.62 23 P **P** **22 38 27.2 +1.2**
TOLK Toolik Lake Re 61.69 20 P **P** **22 38 27.3 +0.8**
TOLK IAmb IAmb 22 39 07.4
comp=Z,2.8nm,1.1s
E23K Chandalar 62.09 21 P **P** **22 38 30.6 +1.3**
E23K IAmb IAmb 22 38 42.2
comp=Z,1.2nm,0.6s
E24K Your Creek 62.38 20 P **P** **22 38 32.4 +1.2**
E24K IAmb IAmb 22 38 34.7
comp=Z,3.9nm,1.4s
F24K Squaw Lake 62.94 21 P **P** **22 38 36.6 +1.6**
F24K IAmb IAmb 22 39 19.2
comp=Z,2.3nm,1.3s
E25K Arctic Village 63.08 19 P **P** **22 38 36.6 +0.8**
E25K IAmb IAmb 22 38 48.9
comp=Z,3.6nm,1.5s
K17K Iditarod 63.12 28 P **P** **22 38 37.5 +1.5**
J20K Nowinta River 63.51 25 P **P** **22 38 40.2 +1.5**
J20K IAmb IAmb 22 38 52.3
comp=Z,2.2nm,0.8s
G24K Hadweenzic Riv 63.66 21 P **P** **22 38 41.0 +1.4**
G24K IAmb IAmb 22 39 19.3
comp=Z,3.6nm,1.2s
F26K Sheenjek River 63.76 19 P **P** **22 38 41.7 +1.3**
BMAR Burnt Mountain 63.85 20 P **P** **22 38 43.0 +2.0**
H24K Noodor Dome 64.19 22 P **P** **22 38 44.7 +1.5**
H24K IAmb IAmb 22 38 47.6
comp=Z,4.6nm,1.5s
E29M Blow River 64.64 17 P **P** **22 38 47.5 +1.5**
E29M IAmb IAmb 22 39 00.6
comp=Z,6.1nm,1.5s
KTH Kantishna Hill 64.97 25 P **P** **22 38 49.3 +1.0**
KTH IAmb IAmb 22 38 57.2
comp=Z,3.4nm,1.2s
PPLA Purkeypile 65.04 26 P **P** **22 38 50.3 +1.4**
PPLA IAmb IAmb 22 39 12.3
comp=Z,12nm,1.4s
ILAR Eielson Array 65.26 22 P **P** **22 38 50.9 +0.7**
ILAR Eielson Array 65.26 22 P **P** **22 38 50.0 -0.1**
comp=Z,0.4nm,0.8s,baz=306,slow=5.3,SNR=5.2
comp=Z,0.4nm,0.8s
ESDC Sonseca Array 65.32 302 P **P** **22 38 51.0 0.0**
comp=Z,0.7nm,0.4s,baz=52,slow=6.3,SNR=12
comp=Z,0.7nm,0.4s
SFJD Kangerlussuaq 66.32 343 P **P** **22 38 55.8 -1.1**
SFJD Kangerlussuaq 66.32 343 P **P** **22 38 55.8 -1.1**
SFJD pmax pmax
comp=Z,15nm,1.4s
H29M Whitestone 66.32 18 P **P** **22 38 58.1 +1.2**
H29M IAmb IAmb 22 39 10.6
comp=Z,1.6nm,0.9s
G31M Satah River 66.64 16 P **P** **22 38 59.3 +0.4**
G31M IAmb IAmb 22 39 11.8
comp=Z,2.7nm,0.8s
KDAK Kodiak Island 68.60 30 P **P** **22 39 11.7 +0.3**
KDAK Kodiak Island 68.60 30 P **P** **22 39 11.0 -0.5**
comp=Z,3.0nm,0.8s,baz=254,slow=7.4,SNR=2.2
comp=Z,3.0nm,0.8s
KDAK Kodiak Island 68.60 30 P **P** **22 39 11.7 +0.3**
KDAK pmax pmax
comp=Z,14nm,1.2s
M29M Somme Creek 69.41 21 P **P** **22 39 18.1 +1.5**
M29M IAmb IAmb 22 39 24.6
comp=Z,4.1nm,1.4s
M31M Drury Creek, Y 70.64 19 P **P** **22 39 24.7 +0.7**
YKA Yellowknife Ar 74.11 10 P **P** **22 39 44.5 -0.1**
comp=Z,0.6nm,0.8s,baz=335,slow=5.7,SNR=8.9
YKA PKKPbc **PKKPbc** **22 59 15.9 +1.5**
comp=Z,0.1nm,0.6s,baz=87,slow=4.7,SNR=3.7
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 74.11 10*ce*P **P** **22 39 45.0 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.8s
WRAB Tennant Creek 75.82 134⇓*e*P **P** **22 39 57.5 +2.4**
WRAB pmax pmax
comp=Z,3.0nm,1.2s
WRA Warramunga Arr 75.83 134 P **P** **22 39 55.3 +0.2**
comp=Z,1.3nm,0.7s,baz=334,slow=5.4,SNR=15
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 75.83 134 *i*P **P** **22 39 55.5 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 77.79 277 P **P** **22 40 05.4 -1.0**
ASAR Alice Springs 78.68 137 P **P** **22 40 10.8 -0.3**
comp=Z,0.7nm,0.7s,baz=332,slow=5.6,SNR=7.0
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 94.00 12 LR LR 23 29 37.6
comp=Z,28nm,18.8s,baz=168,slow=39

NEIC 04 22:36:30.5±1.6, 19°44N±0°03×154°97W±0°04, h5km±2km, Error ellipse: s-maj=8.2km s-min=3.2km az=313.0
HVO 04 22:36:29.0±1.2, 19°43N±0°02×154°89W±0°03, h6km±2km, ML2.1/18, ML2.3/36(NEIC), Error ellipse: s-maj=4.7km s-min=1.5km az=118.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.11**	**270**	Pg	Pg	22 36 31.3	-0.2
JOKA				Sg	Sg	22 36 33.6	+0.5
JOKA				IAML		22 36 34.5	
comp=N,926nm,0.4s
STCH Steam Cracks 0.23 258 Pg 22 36 33.8 +0.1
KNHH Kane Nui o Ham 0.27 259 Pg 22 36 34.7 +0.3
PUH Pauahi 0.32 259 Pg Pg 22 36 35.0 -0.3
PUH Sg Sg 22 36 38.9 -0.6
BYL Byron's Ledge 0.35 266 Pg Pg 22 36 35.9 0.0
BYL IAML 22 36 43.0
comp=E,240nm,0.2s
HATHI Halema'uma'u T 0.35 268 Pg Pg 22 36 35.4 -0.6
SBLHI Steaming Bluff 0.36 269 Pg 22 36 36.0 -0.1

UWB	Uwekahuna Bluf	0.37 269		Pg	22 36 36.3	+0.1
RSD	Rainshed	0.37 275	Pg	Pg	22 36 37.2	+0.9
UWE	Uwekahuna	0.38 268	Pg	Pg	22 36 36.5	-0.1
UWE			IAML		22 36 39.0	
	comp=E,354nm,2.2s					
UWE			IAML		22 36 43.3	
	comp=N,380nm,3.1s					
WRMHI	West Rim	0.39 266		Pg	22 36 36.7	0.0
HLP	Hilina Pali	0.42 251	Pg	Pg	22 36 36.8	-0.4
HLP			IAML		22 36 44.9	
	comp=N,359nm,0.3s					
MLH	Mauna Loa	0.47 277	Pg	Pg	22 36 37.6	-0.7
MLH			IAML		22 36 51.5	
	comp=E,211nm,1.9s					
MLH			IAML		22 36 55.3	
	comp=N,196nm,1.2s					
HTC	Hot Caves	0.52 248		Pg	22 36 38.8	-0.3
HMH	Humu'ula Sheep	0.59 287	Pg	Pg	22 36 39.8	-0.6
MWH	Mokuaweoweo	0.67 274	Pg	Pg	22 36 40.5	-1.5
MWH			IAML		22 36 53.8	
	comp=N,272nm,3.0s					
POHA	Pohakuloa	0.69 298	Pg	Pg	22 36 41.1	-1.2
POHA			IAML		22 36 55.5	
	comp=N,150nm,3.5s					
POHA			IAML		22 37 05.1	
	comp=N,120nm,2.6s					
ALEP	Alea Permanent	0.72 279		Pg	22 36 41.6	-1.4
HUH	Hualalai	0.93 286	Pg	Pb	22 36 47.9	+0.2

*IDC **04** 22:45:17.9±7.2, 19°.90N×145°.77E, h132km±64km, mb3.8/14, mbtmp4.1/15, Error ellipse: s-maj=34.6km s-min=14.5km az=82.0*
*NEIC **04** 22:45:17.5±1.8, 19°.9N±0°.1×145°.6E±0°.2, h110km±9km, mb4.3/27, Error ellipse: s-maj=21.5km s-min=14.7km az=94.0*

ISC 04 22:45:14.9±0.8, 19°.9N±0°.1×145°.8E±0°.2, h100km, n51, σ1§03/46, mb4.3/27, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	17.91	340	P	P	22 49 15.9	-0.9
	0.6nm,0.4s,baz=111,slow=10,SNR=4.3						
MAJO	Matsushiro	17.91	340		P	22 49 17.8	+1.0
MAJO				IAmb	IAmb	22 49 43.1	
	comp=Z,20nm,1.4s						
MJB9	Matsu-Tunnel	17.91	340		Pn	22 49 18.4	+0.8
MJB9				IAmb	IAmb	22 49 44.1	
	comp=Z,20nm,1.4s						
JMM	Marumori	18.47	347	P	P	22 49 21.6	-1.3
H11S3	WAKE ISLAND Hy	19.79	90	T	T	23 10 32.6	
	baz=275,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	19.80	90	T	T	23 10 29.6	
	baz=275,slow=74,SNR=5.8						
H11S2	WAKE ISLAND Hy	19.81	90	T	T	23 10 30.7	
	baz=275,slow=74,SNR=11						
H11N1	WAKE ISLAND Hy	19.86	87	T	T	23 10 39.8	
	baz=275,slow=75,SNR=5.0						
H11N2	WAKE ISLAND Hy	19.87	87	T	T	23 10 49.9	
	baz=275,slow=75,SNR=5.8						
H11N3	WAKE ISLAND Hy	19.88	87	T	T	23 10 39.8	
	baz=275,slow=75,SNR=6.9						
KSRS	Korea Array	23.45	322	P	P	22 50 14.6	-0.8
	comp=Z,3.6nm,0.7s,baz=148,slow=8.8,SNR=18						
	comp=Z,3.6nm,0.7s						
SBUM	Sibu	37.06	246	P	P	22 52 16.5	+0.8
SBUM				IAmb	IAmb	22 52 19.0	
	comp=Z,4.6nm,1.5s						
KNRA	Kununurra	39.07	207	P	P	22 52 33.7	+1.3
KNRA				IAmb	IAmb	22 52 58.4	
	comp=Z,9.4nm,1.1s						
WB0	Warramunga Arr	40.92	196	P	P	22 52 47.9	+0.3
WB0				IAmb	IAmb	22 53 11.1	
	comp=Z,3.7nm,1.1s						
WR0	Warramunga Arr	41.07	196	P	P	22 52 48.3	-0.6
WR0				IAmb	IAmb	22 52 54.7	
	comp=Z,5.9nm,1.2s						
WRAB	Tennant Creek	41.09	196	P	P	22 52 49.3	+0.2
WRAB				IAmb	IAmb	22 52 51.1	
	comp=Z,3.3nm,0.6s						
WB2	Warramunga Arr	41.10	196	P	P	22 52 49.5	+0.4
WB2				IAmb	IAmb	22 53 08.8	
	comp=Z,8.3nm,1.3s						
WRA	Warramunga Arr	41.10	196	P	P	22 52 48.9	-0.3
WRA	Warramunga Arr	41.10	196	P	P	22 52 49.3	+0.2
	comp=Z,2.0nm,0.5s,baz=19,slow=8.9,SNR=26						
WRA				PcP	PcP	22 54 44.6	-2.4
	comp=Z,0.3nm,0.7s,baz=32,slow=4.0,SNR=1.9						
	comp=Z,2.0nm,0.5s						
SONM	Songino Array	42.31	321	P	P	22 52 59.2	+0.4
SONM	Songino Array	42.31	321	P	P	22 52 59.3	+0.4
	comp=Z,1.3nm,0.5s,baz=129,slow=5.9,SNR=26						
	comp=Z,1.3nm,0.5s						
FITZ	Fitzroy Crossi	42.58	209	P	P	22 53 01.7	+0.6
CMAR	Chiang Mai Arr	44.16	276	P	P	22 53 14.5	+0.5
	comp=Z,0.6nm,0.3s,baz=58,slow=6.7,SNR=6.2						
	comp=Z,0.6nm,0.3s						
ASAR	Alice Springs	44.77	196	P	P	22 53 18.5	-0.3
	comp=Z,0.3nm,0.4s,baz=16,slow=7.3,SNR=6.2						
	comp=Z,0.3nm,0.4s						
LSA	Lhasa	50.18	293	P	P	22 54 01.4	+0.2
LSA				IAmb	IAmb	22 54 03.6	
	comp=Z,3.3nm,0.6s						
ZALV	Zalesovo Beam	57.16	322	P	P	22 54 50.6	-0.6
ZALV	Zalesovo Beam	57.16	322	P	P	22 54 49.2	-2.0
	comp=Z,0.9nm,0.5s,baz=109,slow=8.1,SNR=6.4						
	comp=Z,0.9nm,0.5s						
MK31	Makanchi Array	57.73	313	P	P	22 54 55.4	0.0
MK31				IAmb	IAmb	22 54 57.3	
	comp=Z,2.1nm,0.7s						
MKAR	Makanchi Array	57.73	313	P	P	22 54 54.9	-0.5
MKAR	Makanchi Array	57.73	313	P	P	22 54 54.7	-0.7
	comp=Z,2.8nm,0.6s,baz=90,slow=9.1,SNR=45						
MKAR				PcP	PcP	22 55 46.5	-0.7
	comp=Z,0.3nm,0.6s,baz=77,slow=6.5,SNR=1.2						
	comp=Z,2.8nm,0.6s						
MAKZ	Makanchi	57.95	313	P	P	22 54 56.5	-0.4
MAKZ				IAmb	IAmb	22 54 58.6	
	comp=Z,4.1nm,0.6s						
KURBB	Kurchatov Arra	60.53	318	P	P	22 55 14.0	-0.6
	comp=Z,2.1nm,0.5s,baz=93,slow=7.7,SNR=18						
	comp=Z,2.1nm,0.5s						
BOOM	Boomskoye usch	62.16	308	P	P	22 55 27.3	+1.3
C23K	Itkillik River	62.51	20	P	P	22 55 28.9	+1.3
C23K				IAmb	IAmb	22 55 36.6	
	comp=Z,5.8nm,1.4s						
AAK	Ala-Archa	63.22	308	P	P	22 55 33.7	+0.7
BMAR	Burnt Mountain	64.04	24	P	P	22 55 39.2	+1.4
BVAR	Borovoye Array	65.65	320	P	P	22 55 46.8	-1.6
	comp=Z,3.2nm,0.4s,baz=97,slow=8.5,SNR=26						
	comp=Z,3.2nm,0.4s						
BRVK	Borovoye	65.71	320	P	P	22 55 50.0	+1.2
KK31	Karatay Array	66.11	309	P	P	22 55 52.1	+0.6
KK31				IAmb	IAmb	22 55 53.9	
	comp=Z,5.7nm,1.2s						
KKAR	Karatay Array	66.11	309	P	P	22 55 51.8	+0.3
KKAR				IAmb	IAmb	22 55 53.9	
	comp=Z,3.7nm,1.2s						
GAR	Garm	66.70	305	P	P	22 55 55.9	+0.4
CHGR	Chuyangaron	67.64	305	P	P	22 55 59.8	-1.6
SIMJ	Simiganj	67.75	305	P	P	22 56 01.0	-1.3
SIMJ				IAmb	IAmb	22 56 04.1	
	comp=Z,4.9nm,1.2s						
ABKAR	Akbulak array	72.56	317	P	P	22 56 32.3	+1.1
YKA	Yellowknife Ar	76.94	28	P	P	22 56 56.5	+0.4
	comp=Z,0.2nm,0.5s,baz=290,slow=5.9,SNR=6.5						
	comp=Z,0.2nm,0.5s						
ARCES	ARCESS Array B	81.43	342	P	P	22 57 19.6	-0.9
	comp=Z,6.3nm,1.1s,baz=64,slow=5.5,SNR=3.9						
	comp=Z,6.3nm,1.1s						
KBZ	Khabaz	85.39	315	P	P	22 57 42.1	+0.8
	comp=Z,0.5nm,0.6s,baz=137,slow=4.2,SNR=4.3						
	comp=Z,0.5nm,0.6s						
FINES	FINESS Array B	85.88	335	P	P	22 57 41.1	-2.3
	comp=Z,2.3nm,0.4s,baz=66,slow=4.4,SNR=19						
	comp=Z,2.3nm,0.4s						
HFS	Hagfors	91.35	338	P	P	22 58 08.0	-1.3
	comp=Z,1.7nm,0.8s,baz=87,slow=6.5,SNR=6.4						
	comp=Z,1.7nm,0.8s						
BI02	San Fabin de	143.58	125	PKPdf	PKPdf	23 04 39.1	+0.7
BO02	Sierra Bellavi	144.48	122	PKPdf	PKPbc	23 04 40.3	+1.4

*TIR **04** 22:47:52.6, 41°.90N×20°.43E, h7km±1km, Md2.7/3, MI1.6/3*
*BEO **04** 22:47:53.1±1.2, 41°.85N×20°.44E, h0km, ML1.5/3*

ISC 04 22:47:53.0±1.3, 41°.89N±0°.05×20°.45E±0°.06, h4km±14km, n10, σ0§63/16, 2C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.20	181	↑iPg	Pg	22 47 56.9	-0.1
PHP				Sg	Sg	22 48 00.3	+0.7
PHP				AML	AML	22 48 00.5	
	0.4nm,0.1s						
PHP				AMd		22 48 44.1	
PUK	Puka	0.44	291	↓iPg	Pg	22 48 00.8	-0.7
PUK				Sg	Sg	22 48 07.6	+0.3
PUK				AML	AML	22 48 11.6	
	0.3nm,0.2s						
PUK				AMd		22 48 50.8	
BCI	Bajram Curri	0.56	330	↑ePg	Pg	22 48 03.4	-0.3
BCI				Sg	Sg	22 48 12.1	+1.1
BCI				AML	AML	22 48 13.6	
	0.3nm,0.1s						
BCI				AMd		22 48 42.9	
ULC	Ulcinj	0.90	275	P	Pg	22 48 10.0	-0.2
BEY	Berane	1.07	338	P	Pg	22 48 13.2	-0.2
CEME	Cevo	1.31	301	P	Pg	22 48 17.9	-0.3
BARS	Barje	1.38	47	ePg	Pn	22 48 18.3	-0.7
BARS				eSg	Sn	22 48 37.8	+0.2
SJES	Sjenica	1.42	346	ePg	Pn	22 48 19.4	-0.2
SJES				eSg	Sn	22 48 39.9	+1.1
SELS	Selova	1.42	20	ePg	Pn	22 48 19.4	-0.2
SELS				eSg	Sn	22 48 39.1	+0.3
HCY	Herceg Novi	1.56	292	P	Pb	22 48 22.2	-0.2

*IDC **04** 22:48:09.0±0.8, 22°.84S×114°.56W, h0km, mb3.8/6, mbtmp3.8/6, MS3.9/25, Error ellipse: s-maj=41.7km s-min=27.2km az=87.0*
*GCMT **04** 22:48:16.0±0.2, 23°.13S±0°.01×114°.57W±0°.01, h16km±1km, MW4.9/124, Moment Tensor Solution. s42,c48; s124,c165; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=0.94±.10; $M_{\theta\theta}$=1.09±.09; $M_{\phi\phi}$=2.02±.10; $M_{r\theta}$=0.26±.25; $M_{\theta\phi}$=2.76±.07; $M_{\phi r}$=0.02±.25; Best double couple: M_0=3.18400×10^16 NP1:ϕ_s=165.00000°, δ=84.00000°, λ=-176.00000°. NP2:ϕ_s=75.00000°, δ=86.00000°, λ=-6.00000°. Principal axes: T 3.6380, Plg2.0000°, Azm120.0000°; N -0.9150, Plg83.0000°, Azm225.0000°; P -2.7300, Plg7.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 04 22:48:09.9±0.9, 22°.8S±0°.2×114°.7W±0°.3, h10km, n45, σ0§67/14, mb3.9/6, MS4.0/25, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	33.08	117	T	T	23 29 30.2	
	baz=283,slow=75,SNR=31						
H03N3	Juan Fernandez	33.09	117	T	T	23 29 31.6	
	baz=283,slow=75,SNR=43						
H03N1	Juan Fernandez	33.10	117	T	T	23 29 32.0	
	baz=283,slow=75,SNR=50						
PPT	Papeete	33.13	273	LR	LR	23 04 00.7	
	comp=Z,289nm,21.0s,baz=34,slow=29						
NNA	Nana	37.56	80	LR	LR	23 06 51.0	
	comp=Z,250nm,18.9s,baz=248,slow=30						
ATAH	Atahualpa	38.21	72	LR	LR	23 07 03.9	
	comp=Z,247nm,19.5s,baz=238,slow=30						
PLCA	Paso Flores	41.04	126	LR	LR	23 08 26.7	
	comp=Z,476nm,21.4s,baz=262,slow=30						
RAR	Rarotonga	41.73	263	LR	LR	23 08 40.3	
	comp=Z,126nm,21.1s,baz=96,slow=29						
JTS	Las Juntas de	43.94	45	LR	LR	23 09 52.8	
	comp=Z,167nm,20.9s,baz=111,slow=30						
CMIG	Matias Romero	44.15	28	LR	LR	23 09 50.1	
	comp=Z,46nm,18.4s,baz=179,slow=30						
LPAZ	La Paz	44.19	90	P	P	22 56 19.9	-0.2
	2.5nm,1.1s,baz=276,slow=8.3,SNR=4.2						
LPAZ				LR	LR	23 10 24.6	
	comp=Z,203nm,20.1s,baz=250,slow=30						
	2.5nm,1.1s						
LPIG	La Paz	46.85	5	LR	LR	23 10 58.1	
	comp=Z,56nm,19.6s,baz=193,slow=29						
ROSC	El Rosal	48.06	60	LR	LR	23 12 38.8	
	comp=Z,175nm,19.6s,baz=234,slow=31						
SIV	San Ignacio	50.78	92	LR	LR	23 14 37.1	
	comp=Z,118nm,18.5s,baz=290,slow=31						
CPUP	Villa Florida	51.89	106	LR	LR	23 15 05.7	
	comp=Z,191nm,21.6s,baz=258,slow=31						
TXAR	Lajitas Array	52.94	12	P	P	22 57 26.6	-0.1
	0.4nm,0.9s,baz=169,slow=7.5,SNR=3.7						
TXAR				LR	LR	23 15 54.2	
	comp=Z,44nm,18.9s,baz=195,slow=32						
	0.4nm,0.9s						
PMSA	Palmer Station	53.16	156	LR	LR	23 15 00.5	
	comp=Z,181nm,19.9s,baz=306,slow=30						
SDV	Santo Domingo	53.40	59	LR	LR	23 16 20.0	
	comp=Z,115nm,20.2s,baz=258,slow=32						
ANMO	Albuquerque	58.00	8	LR	LR	23 18 04.6	
	comp=Z,81nm,21.6s,baz=358,slow=31						
PCRV	Puerto La Cruz	58.95	62	LR	LR	23 20 05.2	
	comp=Z,54nm,20.7s,slow=32						
NVAR	Mina Array Bea	61.04	357	P	P	22 58 23.4	-0.7
	0.6nm,0.7s,baz=184,slow=6.6,SNR=2.0						
	0.6nm,0.7s						
BDFB	Brasilia	62.89	96	LR	LR	23 22 35.7	
	comp=Z,139nm,20.9s,baz=303,slow=33						
TKL	Tuckaleechee C	65.12	27	LR	LR	23 23 40.3	
	comp=Z,75nm,21.5s,baz=171,slow=33						
PDAR	Pinedale Array	65.45	4	P	P	22 58 54.3	+1.1
	0.4nm,0.7s,baz=178,slow=4.5,SNR=4.0						
	0.4nm,0.7s						
VNDA	Vanda	66.45	194	LR	LR	23 20 09.9	
	comp=Z,210nm,21.4s,baz=321,slow=29						
MDP	Montagnes des	66.61	73	LR	LR	23 23 59.1	
	comp=Z,98nm,20.5s,baz=325,slow=32						
QSPA	South Pole Qui	67.31	180	P	P	22 59 04.7	-0.1
	3.0nm,1.1s,baz=101,slow=3.2,SNR=5.1						
	3.0nm,1.1s						
SADO	Sadowa	74.70	25	LR	LR	23 30 40.2	
	comp=Z,29nm,18.1s,baz=276,slow=34						
YKA	Yellowknife Ar	85.04	0	P	P	23 00 44.3	-0.9
	0.9nm,1.1s,baz=182,slow=5.4,SNR=8.3						
	0.9nm,1.1s						
H11S2	WAKE ISLAND Hy	87.08	291	T	T	00 37 22.0	
	baz=116,slow=75,SNR=94						
H11S1	WAKE ISLAND Hy	87.10	291	T	T	00 37 23.3	
	baz=116,slow=75,SNR=33						
H11S3	WAKE ISLAND Hy	87.10	291	T	T	00 37 19.0	
	baz=116,slow=75,SNR=46						
H11N3	WAKE ISLAND Hy	87.43	293	T	T	00 37 46.7	
	baz=117,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	87.44	292	T	T	00 37 48.4	
	baz=117,slow=75,SNR=7.3						
H11N2	WAKE ISLAND Hy	87.44	293	T	T	00 37 48.7	
	baz=117,slow=75,SNR=32						
SCHQ	Schefferville	87.51	25	LR	LR	23 39 28.6	
	comp=Z,53nm,18.5s,baz=224,slow=35						
FRB	Frobisher Bay	93.52	19	LR	LR	23 39 37.9	
	comp=Z,87nm,21.8s,baz=267,slow=33						
RES	Resolute Bay	98.13	5	LR	LR	23 43 13.5	
	comp=Z,57nm,18.2s,baz=14,slow=34						
ZALV	Zalesovo Beam	145.63	340	PKPbc	PKPab	23 07 49.8	+1.1
	0.7nm,0.7s,baz=46,slow=4.4,SNR=1.8						
CMAR	Chiang Mai Arr	148.29	268	PKPbc	PKPbc	23 07 57.3	+0.1
	1.0nm,0.3s,baz=46,slow=2.4,SNR=4.5						
BRTR	Keskin Array B	148.32	51	PKPbc	PKPbc	23 07 57.6	+0.8
	1.1nm,0.9s,baz=256,slow=5.8,SNR=4.9						
BVAR	Borovoye Array	149.62	354	PKPbc	PKiKP	23 08 00.9	+0.4
	2.0nm,0.8s,baz=317,slow=1.3,SNR=7.3						
KURBB	Kurchatov Arra	150.42	343	PKPbc	PKiKP	23 08 02.4	+0.1
	1.4nm,0.9s,baz=24,slow=2.2,SNR=9.5						
KBZ	Khabaz	152.13	36	PKPbc	PKiKP	23 08 06.1	+0.1
	2.0nm,0.9s,baz=218,slow=4.3,SNR=4.1						
MKAR	Makanchi Array	152.47	334	PKP	PKPdf	23 07 58.8	-0.7
	0.5nm,1.0s,baz=91,slow=4.9,SNR=4.3						
MKAR				PKPbc	pPKPbc	23 08 08.6	-0.2
	0.4nm,0.7s,baz=46,slow=5.2,SNR=3.8						

*IDC **04** 22:53:13.4±3.8, 4°.81S×154°.17E, h639km±41km, mb3.1/10, mbtmp4.1/11, Error ellipse: s-maj=54.5km s-min=22.0km az=96.0*

ISC 04 22:53:09.7±1.5, 4°.8S±0°.2×154°.8E±0°.3, h600km, n11, σ1§81/10, mb3.5/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.81	238	P	P	22 55 19.0	+2.1
	14nm,0.6s,baz=7.6,slow=20,SNR=4.2						
WRA	Warramunga Arr	24.93	231	P	P	22 57 43.8	-3.6
	4.0nm,0.5s,baz=53,slow=9.5,SNR=44						
	4.0nm,0.5s						
ASAR	Alice Springs	27.49	225	P	P	22 58 09.3	-0.6
	1.9nm,0.3s,baz=49,slow=8.4,SNR=22						
	1.9nm,0.3s						
PETK	Petropavlovsk-	57.75	2	P	P	23 02 04.9	+0.6
	2.4nm,0.8s,baz=186,slow=6.9,SNR=1.7						
	2.4nm,0.8s						
SONM	Songino Array	67.37	327	P	P	23 03 03.6	-2.9
	0.3nm,0.4s,baz=131,slow=5.1,SNR=2.8						
	0.3nm,0.4s						
MKAR	Makanchi Array	81.61	319	P	P	23 04 24.7	-1.4
	0.6nm,0.8s,baz=123,slow=4.5,SNR=5.3						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	82.24	326	P	P	23 04 28.3	-0.8
	0.7nm,0.5s,baz=116,slow=6.6,SNR=3.9						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	85.00	322	P	P	23 04 41.4	-1.4
	0.8nm,0.8s,baz=110,slow=3.8,SNR=8.0						
	0.8nm,0.8s						
QSPA	South Pole Qui	85.16	180	P	P	23 04 43.7	+0.2
	0.7nm,0.6s,baz=342,slow=6.4,SNR=7.0						
	0.7nm,0.6s						
AAK	Ala-Archa	86.08	313	P	P	23 04 48.2	-0.2
	0.6nm,0.6s,baz=160,slow=12,SNR=4.0						
	0.6nm,0.6s						
BVAR	Borovoye Array	90.41	323	P	P	23 05 08.1	0.0
	1.8nm,0.8s,baz=90,slow=7.2,SNR=8.3						
	1.8nm,0.8s						

IDC 04 22:55:44.2±2.0, 4°.94S×152°.14E, h0km, mb3.6/4, mbtmp3.7/5, ML1.9/1, Error ellipse: s-maj=83.7km s-min=24.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.64	228	Pn	Pn	22 57 24.9	+1.7
	1.4nm,0.3s,baz=51,slow=6.5,SNR=3.6						
PMG				Sn	Sn	22 58 38.5	-1.2
	7.7nm,0.3s,baz=144,slow=22,SNR=8.8						
	6.5nm,0.2s						
WRA	Warramunga Arr	22.87	228	P	P	23 00 49.1	-0.3
	0.9nm,0.6s,baz=54,slow=9.9,SNR=7.7						
WRA				S	S	23 04 55.6	-4.7
	0.6nm,1.0s,baz=60,slow=16,SNR=3.4						
	0.9nm,0.6s						
ASAR	Alice Springs	25.61	222	P	P	23 01 15.1	-0.4
	1.1nm,0.8s,baz=55,slow=9.1,SNR=10						
	1.1nm,0.8s						
SONM	Songino Array	66.09	328	P	P	23 06 32.9	-0.5
	0.3nm,0.6s,baz=142,slow=7.3,SNR=2.5						
	0.3nm,0.6s						
ILAR	Eielson Array	82.53	22	P	P	23 08 09.2	+0.5
	0.7nm,0.7s,baz=258,slow=5.7,SNR=7.0						
	0.7nm,0.7s						

*ISK **04** 23:05:08.6, 38°.88N×26°.44E, h12km, ML2.6/36*
*THE **04** 23:05:09.6, 38°.87N×26°.39E, h9km±2km, ML2.5/5, Error ellipse: s-maj=3.0km s-min=1.0km az=66.0*
*AFAD **04** 23:05:09.0, 38°.88N×26°.45E, h7km±2km, ML2.3*
*ATH **04** 23:05:09.0, 38°.88N×26°.46E, h15km±4km, ML2.5/7, Manual Solution by E.Daskalaki First location: 2019/03/04 23:06:29, This location: 2019/03/05 12:48:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*

ISC 04 23:05:09.3±0.8, 38°.87N±0°.02×26°.44E±0°.02, h15km±7km, n69, σ0§50/91, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	zmir-Karabur	0.21	187	P	Pg	23 05 14.2	+0.2
KARB				S	Sg	23 05 17.8	+0.6
KARB				*i* AML	AML	23 05 18.0	
	comp=N,610nm,0.2s						
KARB				*i* AML	AML	23 05 18.0	
	comp=E,400nm,0.2s						
FOCM	Foa	0.28	125	Pg	Pg	23 05 14.7	-0.4
FOCM				Sg	Sg	23 05 18.8	-0.3
CAND	Candarli	0.29	73	Pg	Pg	23 05 15.3	-0.1
CAND				Sg	Sb	23 05 19.9	-1.1
IZMD	zmir-Dikili-	0.40	73	P	Pg	23 05 17.0	-0.3
IZMD				S	Sg	23 05 22.2	-0.5
IZMD				*i* AML	AML	23 05 23.0	
	comp=N,118nm,0.3s						
IZMD				*i* AML	AML	23 05 23.0	
	comp=E,152nm,0.2s						
PRK	Paraskevi	0.40	340	P	Pg	23 05 17.0	-0.3
PRK				S	Sg	23 05 22.8	0.0
	1μm,0.3s						
PRK	Paraskevi	0.40	340	P	Pg	23 05 17.0	-0.3
PRK				S	Sg	23 05 22.9	+0.1
DKL	Dikili	0.41	61	Pg	Pg	23 05 17.3	-0.3
DKL				Sg	Sg	23 05 23.0	-0.2
DKL	Dikili	0.41	61	P	Pg	23 05 17.1	-0.4
DKL				S	Sg	23 05 23.2	0.0
EAG2	Marmaro, Chios	0.42	219	P	Pg	23 05 17.8	+0.2
EAG2				S	Sg	23 05 23.2	-0.1
AYVA	Ayvalik	0.48	24	P	Pg	23 05 18.1	-0.7
AYVA				*i* AML	AML	23 05 26.0	
	comp=N,249nm,0.3s						
AYVA				*i* AML	AML	23 05 30.0	
	comp=E,148nm,0.6s						
ZEDA	zmir-Bergama	0.50	79	P	Pg	23 05 18.9	-0.4
ZEDA				*i* AML	AML	23 05 26.0	
	comp=N,290nm,0.3s						
ZEDA				*i* AML	AML	23 05 26.0	
	comp=E,346nm,0.3s						
ZEDA				S	Sg	23 05 26.1	+0.1
URLA	Izmir	0.52	167	P	Pg	23 05 19.5	-0.1
URLA				S	Sb	23 05 27.6	-0.1
URLA				*i* AML	AML	23 05 29.0	
	comp=E,289nm,0.3s						
URLA				*i* AML	AML	23 05 31.0	
	comp=N,239nm,0.3s						
CESE	eme	0.55	192	Pg	Pg	23 05 20.2	+0.1
SIGR	SIGRI	0.57	307	Pg	Pg	23 05 20.4	0.0
SIGR				Sg	Sg	23 05 28.3	+0.1
SIGR	SIGRI	0.57	307	P	Pg	23 05 20.5	0.0
SIGR				S	Sg	23 05 28.2	+0.1
	435nm,0.3s						
SIGR	SIGRI	0.57	307	P	Pg	23 05 20.5	0.0
SIGR				S	Sg	23 05 28.2	+0.1
GPNR	Gulpinar-Canak	0.63	338	Pg	Pg	23 05 21.5	-0

242nm,0.5s
LIA Limnos Island 1.42 317 P Pn 23 05 34.6 0.0
LIA S Sn 23 05 52.4 -0.6
AYDB Zeytinkoy-Aydi 1.47 129 Pn Pn 23 05 35.7 +0.4
GONE Gonen-Balikesi 1.52 39 Pn Pn 23 05 36.3 +0.3
LPK Lapseki 1.52 9 Pn Pn 23 05 36.2 +0.2
GELI Tayfur-Gelibol 1.52 1 Pn Pn 23 05 36.4 +0.3
KRBG Karabiga-Canak 1.66 23 Pn Pn 23 05 38.4 +0.5
SUSR Susurluk-Balik 1.68 49 Pn Pn 23 05 38.6 +0.5
NAZL Nazilli-Aydin 1.71 121 Pn Pn 23 05 39.2 +0.5
SMTH Samothraki Isl 1.75 337 P Pn 23 05 39.5 +0.4
SMTH S Sn 23 06 02.0 +0.9
32nm,0.3s
SMTH Samothraki Isl 1.75 337 P Pn 23 05 39.2 +0.1
KULA Kula-Manisa 1.77 101 Pn Pn 23 05 39.6 +0.1
KARY Karystos 1.78 243 P Pn 23 05 39.4 -0.2
ERIK Erikli-Kesan 1.80 2 Pn Pn 23 05 40.1 +0.3
EDC Edincik 1.84 36 Pn Pn 23 05 40.7 +0.3
KYMI Kymi, Euboea I 1.85 263 P Pn 23 05 40.1 -0.3
ENEZ Enez 1.88 353 Pn Pn 23 05 41.3 +0.4
MLSB Milas 1.89 146 Pn Pn 23 05 41.7 +0.6
RKY Sarkoy-Tekirda 1.90 17 Pn Pn 23 05 41.7 +0.4
BODT Bodrum 1.93 159 Pn Pn 23 05 42.3 +0.6
APE Apeiranthos 1.94 202 Pn Pn 23 05 41.6 -0.2
APE Apeiranthos 1.94 202 P Pn 23 05 41.0 -0.8
APE Apeiranthos 1.94 202 P Pn 23 05 41.0 -0.8
SIMA Simav-Kutahya 1.99 83 Pn Pn 23 05 43.2 +0.7
KCTX Karacabey (Bur 2.03 46 Pn Pn 23 05 43.3 +0.3
ALN Alexandroupoli 2.05 352 Pn Pn 23 05 43.7 +0.5
ALN Alexandroupoli 2.05 352 P Pn 23 05 43.2 0.0
DION Dionisos Attik 2.12 249 P Pn 23 05 44.1 -0.2
UKOP Uzunkopru-Edir 2.26 4 Pn Pn 23 05 46.9 +0.8
RDO Rodhopi 2.38 343 P Pn 23 05 48.4 +0.7
RDO Rodhopi 2.38 343 P Pn 23 05 48.2 +0.5
TVSB Tavsanli 2.42 75 Pn Pn 23 05 49.1 +0.7
KAVA Kavala 2.59 326 P Pn 23 05 51.0 +0.3
KOKK Kokkinochori, 2.71 317 P Pn 23 05 52.3 0.0

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*ISK **04** 23:12:41.9, 35°.97N×35°.48E, h11km, ML2.9/19*
*GII **04** 23:12:41.7±0.0, 35°.996N±0°.003×35°.472E±0°.001, h10km, Mws3.0, confirmed*
*GRAL **04** 23:12:42.1±0.6, 36°.09N×35°.54E, h23km±340km, MD3.5*
*NIC **04** 23:12:42.5, 35°.95N×35°.67E, h16km±3km, Ml2.9/12*
ISC 04 23:12:41.6±1.4,**35°.98N**±0°.03×**35°.57E**±0°.04,**h10**km±11km,
n100, σ0**70**/126,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**1.04**	**8**	Pg	**Pg**	**23 13 02.8**	**+1.2**
CEYT				Sg	**Sn**	**23 13 17.8**	**+1.1**
EREN	**Erenkoy**	**1.23 249**		Pn	**Pb**	**23 13 04.7**	**-0.1**
KIZK	**Mersin**	**1.26 294**		Pn	**Pb**	**23 13 04.9**	**-0.5**
KIZK				Sn	**Sg**	**23 13 22.2**	**0.0**
KARA	**Karaisali**	**1.34 342**		Pn	**Pg**	**23 13 07.1**	**-0.3**
KARA				Sn	**Sg**	**23 13 25.4**	**+0.5**
SILI	**Silifke-Mersin**	**1.39 287**		Pn	**Pb**	**23 13 07.0**	**-0.6**
SILI				Sn	**Sg**	**23 13 25.5**	**-0.8**
BEIL	**Beino**	**1.52 161**		*e*P	**Pn**	**23 13 08.4**	**-0.5**
BEIL				*e*S	**Sn**	**23 13 27.9**	**-0.8**
KARG	**Kargicak-Mersi**	**1.53 279**		Pn	**Pb**	**23 13 09.9**	**-0.1**
TISA	**Tisan-Mersin**	**1.55 277**		Pn	**Pb**	**23 13 09.2**	**+0.1**
IKL	**Isikli**	**1.55 280**		Pn	**Pn**	**23 13 08.6**	**-0.6**
KEBE	**Keben-Mersin**	**1.57 288**		Pn	**Pb**	**23 13 09.4**	**-0.2**
YESI	**Yesilovacik-Me**	**1.58 278**		Pn	**Pb**	**23 13 10.5**	**-0.3**
PARAL	**Paralimni**	**1.59 232**		P	**Pn**	**23 13 09.8**	**0.0**
PARAL				S	**Sg**	**23 13 32.0**	**-0.8**
PARAL				AML	AML	23 13 44.3	
0.5nm,0.8s							
PARAL				AML	AML	23 13 46.3	
0.3nm,0.7s							
AKKU	**Akkuyu-Mersin**	**1.65 277**		Pn	**Pn**	**23 13 09.9**	**-0.7**
AKK1	**Akkuyu-Mersin**	**1.66 276**		Pn	**Pn**	**23 13 10.7**	**+0.1**
HWQ	**Hawqa**	**1.73 170**		*e*P	**Pn**	**23 13 11.2**	**-0.6**
HWQ				*e*S	**Sn**	**23 13 33.4**	**-0.5**
OREN	**Orenkoy-Mersin**	**1.73 278**		Pn	**Pb**	**23 13 12.2**	**-1.2**
CMRD	**Camardi-Nigde**	**1.74 345**		Pn	**Pb**	**23 13 12.8**	**-0.9**
YORU	**Yoruktepe-Mers**	**1.77 276**		Pn	**Pn**	**23 13 12.2**	**0.0**
GAZ	**Gaziantep**	**1.77 47**		P	**Pn**	**23 13 12.2**	**-0.2**
GAZ				S	**Sn**	**23 13 34.6**	**-0.4**
GAZ				AML	AML	23 13 40.9	
0.6nm,0.4s							
GAZ				AML	AML	23 13 42.7	
0.7nm,0.7s							
TEVE	**Tevekalti-Mers**	**1.78 285**		Pn	**Pn**	**23 13 12.6**	**+0.1**
LFK	**Lefkose**	**1.80 248**		Pn	**Pn**	**23 13 12.9**	**+0.1**
MVOU	**Mavrovouni**	**1.85 239**		P	**Pn**	**23 13 13.8**	**+0.4**
MVOU				S	**Sb**	**23 13 39.5**	**+0.8**
MVOU				AML	AML	23 13 49.9	
0.3nm,0.8s							
MVOU				AML	AML	23 13 52.5	
0.3nm,0.9s							
FKH	**Fakeheh**	**1.86 158**		*e*P	**Pn**	**23 13 13.6**	**0.0**
FKH				*e*S	**Sn**	**23 13 36.5**	**-0.7**
BERE	**Bereket-Mersin**	**1.94 282**		Pn	**Pn**	**23 13 15.2**	**+0.5**
ATHAL	**Athalassa**	**1.96 245**		P	**Pn**	**23 13 15.5**	**+0.6**
ATHAL				S	**Sb**	**23 13 40.8**	**-1.2**
ATHAL				AML	AML	23 13 44.4	
0.5nm,0.7s							
ATHAL				AML	AML	23 14 03.3	
0.6nm,0.6s							
BHL	**Bhannes**	**2.07 178**		*e*P	**Pn**	**23 13 15.9**	**-0.6**
CSS	**Mathiatis**	**2.09 242**		Pn	**Pn**	**23 13 17.1**	**+0.4**
CSS	**Mathiatis**	**2.09 242**		P	**Pn**	**23 13 16.3**	**-0.4**
CSS	**Mathiatis**	**2.09 242**		P	**Pn**	**23 13 17.1**	**+0.4**
CSS				S	**Sb**	**23 13 44.5**	**-1.2**
CSS				AML	AML	23 13 59.3	
0.2nm,0.6s							
CSS				AML	AML	23 14 02.6	
0.2nm,0.8s							
CSS	**Mathiatis**	**2.09 242**		P	**Pb**	**23 13 19.9**	**+0.3**
ZAHL	**Zahle**	**2.13 173**		*e*P	**Pn**	**23 13 17.4**	**0.0**
AKDN	**Akdeniz- Kıbrı**	**2.23 253**		Pn	**Pn**	**23 13 18.9**	**+0.4**
ASGA	**Asgata**	**2.24 239**		P	**Pn**	**23 13 19.7**	**+1.0**
ASGA				S	**Sb**	**23 13 49.3**	**-0.6**
ASGA				AML	AML	23 14 03.3	
0.2nm,0.6s							
ASGA				AML	AML	23 14 05.3	
0.2nm,0.9s							
DQRL	**Deir Qamar**	**2.27 180**		*e*P	**Pn**	**23 13 18.8**	**-0.4**
LEF	**Lefka**	**2.35 249**		Pn	**Pn**	**23 13 20.5**	**+0.3**
QRWL	**Qaraoun**	**2.43 178**		*e*P	**Pn**	**23 13 21.7**	**+0.4**
RCY	**Rachaya**	**2.49 175**		*e*P	**Pn**	**23 13 22.1**	**-0.2**
ALFC	**Alefka**	**2.56 252**		P	**Pn**	**23 13 23.1**	**-0.1**
ALFC				AML	AML	23 14 05.3	
0.2nm,0.9s							
ALFC				AML	AML	23 14 12.1	
0.3nm,0.9s							
APOL	**The Sanctuary**	**2.57 240**		P	**Pn**	**23 13 25.1**	**+1.9**
APOL				AML	AML	23 14 11.2	
0.2nm,1.4s							
APOL				AML	AML	23 14 12.3	
0.3nm,0.9s							
SHBL	**Chebaa**	**2.63 177**		*e*P	**Pn**	**23 13 24.1**	**-0.1**
GAZI	**Gazipasa**	**2.65 276**		Pn	**Pn**	**23 13 25.1**	**+0.7**
HDMB	**Hadim**	**2.68 292**		Pn	**Pn**	**23 13 25.9**	**+1.0**
NATI	**Neve Ativ**	**2.71 177**		P	**Pn**	**23 13 25.1**	**-0.1**
NATI	**Neve Ativ**	**2.71 177**		S	**Sn**	**23 13 59.7**	**+1.6**
NATI	**Neve Ativ**	**2.71 177**		P	**Pn**	**23 13 25.3**	**+0.1**
NATA	**Nata**	**2.73 245**		P	**Pn**	**23 13 27.3**	**+1.8**
NATA				AML	AML	23 14 16.8	
0.6nm,0.6s							
NATA				AML	AML	23 14 18.6	
0.6nm,0.5s							
GEM	**Giv'at Ha'Em**	**2.76 178**		P	**Pn**	**23 13 25.9**	**0.0**
GEM	**Giv'at Ha'Em**	**2.76 178**		S	**Sn**	**23 14 00.4**	**+1.1**
GEM	**Giv'at Ha'Em**	**2.76 178**		P	**Pn**	**23 13 25.9**	**0.0**
HNTI	**Hanita**	**2.91 187**		P	**Pn**	**23 13 28.0**	**0.0**
HNTI	**Hanita**	**2.91 187**		S	**Sn**	**23 14 03.5**	**+0.6**
MMC1	**Mount Meron ar**	**2.95 183**		P	**Pn**	**23 13 28.3**	**-0.2**
MMC1				S	**Sn**	**23 14 03.7**	**-0.2**
MMA0B	**Mount Meron ar**	**2.96 183**		P	**Pn**	**23 13 28.5**	**-0.2**
MMA0B	**Mount Meron ar**	**2.96 183**		S	**Sn**	**23 14 04.0**	**-0.3**
MMB1	**Mount Meron ar**	**2.96 183**		P	**Pn**	**23 13 28.6**	**-0.1**
MMB1				S	**Sn**	**23 14 04.3**	**0.0**
SHMJ	**Saham**	**3.25 177**		P	**Pn**	**23 13 33.6**	**+1.0**
SHMJ				S	**Sn**	**23 14 11.5**	**+0.2**
BLGI	**Bet Lehem HaGe**	**3.25 186**		P	**Pn**	**23 13 32.9**	**+0.2**
BLGI	**Bet Lehem HaGe**	**3.25 186**		S	**Sn**	**23 14 10.7**	**-0.7**
BLGI	**Bet Lehem HaGe**	**3.25 186**		P	**Pn**	**23 13 32.9**	**+0.2**
BLGI				S	**Sn**	**23 14 11.7**	**+0.3**
OFRI	**`Ofer**	**3.39 188**		P	**Pn**	**23 13 34.0**	**-0.5**
OFRI	**`Ofer**	**3.39 188**		S	**Sn**	**23 14 13.8**	**-0.9**
OFRI	**`Ofer**	**3.39 188**		P	**Pn**	**23 13 34.3**	**-0.2**
OFRI				S	**Sn**	**23 14 14.9**	**+0.2**
MMLI	**Mount Malkishu**	**3.54 182**		P	**Pn**	**23 13 36.8**	**+0.3**
MMLI				AML	AML	23 14 18.4	
0.1nm,0.7s							
MMLI				S	**Sn**	**23 14 18.6**	**+0.2**
MMLI				AML	AML	23 14 20.3	
0.1nm,0.5s							
MMLI	**Mount Malkishu**	**3.54 182**		P	**Pn**	**23 13 37.0**	**+0.4**
QRNJ	**Al-Qirein**	**3.64 180**		P	**Pn**	**23 13 38.6**	**+0.7**
HMDT	**Nahal Hemdat**	**3.72 181**		P	**Pn**	**23 13 39.4**	**+0.4**
HMDT	**Nahal Hemdat**	**3.72 181**		S	**Sn**	**23 14 23.8**	**+0.9**
HMDT	**Nahal Hemdat**	**3.72 181**		P	**Pn**	**23 13 39.4**	**+0.4**
SALP	**Salfit**	**3.92 185**		P	**Pn**	**23 13 42.0**	**+0.3**
SALP	**Salfit**	**3.92 185**		S	**Sn**	**23 14 28.5**	**+0.7**
SALP	**Salfit**	**3.92 185**		P	**Pn**	**23 13 42.3**	**+0.5**
ASF	**Jabal al Asfar**	**3.95 164**		P	**Pn**	**23 13 43.7**	**+1.3**
UJAP	**Al Uja**	**4.02 181**		P	**Pn**	**23 13 42.8**	**-0.3**
UJAP	**Al Uja**	**4.02 181**		P	**Pn**	**23 13 42.8**	**-0.3**
UJAP				S	**Sn**	**23 14 30.2**	**0.0**
DSI	**Dead Sea**	**4.40 182**		P	**Pn**	**23 13 48.5**	**+0.1**
DSI	**Dead Sea**	**4.40 182**		S	**Sn**	**23 14 40.1**	**+0.4**
DSI	**Dead Sea**	**4.40 182**		P	**Pn**	**23 13 48.8**	**+0.4**
DSI				S	**Sn**	**23 14 38.6**	**-1.1**
AMAZ	**Amatzia**	**4.47 187**		P	**Pn**	**23 13 50.0**	**+0.6**
AMAZ	**Amatzia**	**4.47 187**		P	**Pn**	**23 13 50.1**	**+0.6**
AMAZ				S	**Sn**	**23 14 42.5**	**+1.0**
AMAZ				AML	AML	23 14 45.2	
0.1nm,0.4s							
AMAZ				AML	AML	23 14 46.6	
0.2nm,0.5s							
AMAZ	**Amatzia**	**4.47 187**		P	**Pn**	**23 13 50.6**	**+1.2**
AMAZ				S	**Sn**	**23 14 41.7**	**+0.2**
YTIR	**Yattir**	**4.62 185**		P	**Pn**	**23 13 52.0**	**+0.5**
YTIR	**Yattir**	**4.62 185**		S	**Sn**	**23 14 46.3**	**+1.0**
YTIR	**Yattir**	**4.62 185**		P	**Pn**	**23 13 52.5**	**+1.0**
YTIR				S	**Sn**	**23 14 45.3**	**0.0**
GHAJ	**Ghor Haditha**	**4.67 180**		P	**Pn**	**23 13 52.5**	**+0.5**
GHAJ	**Ghor Haditha**	**4.67 180**		S	**Sn**	**23 14 47.2**	**+1.0**
GHAJ	**Ghor Haditha**	**4.67 180**		P	**Pn**	**23 13 53.1**	**+1.1**
LISJ	**El Lisan**	**4.73 181**		P	**Pn**	**23 13 54.9**	**+2.0**
KZIT	**Kziot**	**5.16 191**		P	**Pn**	**23 13 59.3**	**+0.5**
KZIT	**Kziot**	**5.16 191**		S	**Sn**	**23 14 57.3**	**-1.0**
KZIT	**Kziot**	**5.16 191**		P	**Pn**	**23 13 59.0**	**+0.2**
KZIT				AML	AML	23 14 59.0	
0.1nm,0.6s							
KZIT				AML	AML	23 15 00.0	
KZIT	**Kziot**	**5.16 191**		P	**Pn**	**23 13 59.3**	**+0.5**
PRNI	**Paran**	**5.63 185**		P	**Pn**	**23 14 06.1**	**+0.7**
PRNI	**Paran**	**5.63 185**		P	**Pn**	**23 14 05.8**	**+0.4**
PRNI				S	**Sn**	**23 15 10.2**	**0.0**
HRFI	**Mount Harif**	**5.95 185**		P	**Pn**	**23 14 10.2**	**+0.6**
HRFI	**Mount Harif**	**5.95 185**		S	**Sn**	**23 15 18.7**	**+0.8**
HRFI	**Mount Harif**	**5.95 185**		P	**Pn**	**23 14 10.4**	**+0.7**
HRFI				S	**Sn**	**23 15 17.0**	**-0.8**
MBRI	**Mt Berech**	**6.19 185**		P	**Pn**	**23 14 13.8**	**+0.7**
MBRI	**Mt Berech**	**6.19 185**		S	**Sn**	**23 15 25.2**	**+1.2**
EIL	**Elat**	**6.31 185**		P	**Pn**	**23 14 15.3**	**+0.6**
EIL	**Elat**	**6.31 185**		S	**Sn**	**23 15 27.9**	**+0.9**

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*IDC **04** 23:13:28.8±0.8, 2°.52S×121°.48E, h0km, mb3.9/11, mbtmp3.9/13, ML4.2/2, MS3.5/10, Error ellipse: s-maj=29.7km s-min=14.0km az=65.0*
*NEIC **04** 23:13:30.5±1.8, 2°.45S±0°.06×121°.58E±0°.07, h10km±2km, mb4.4/14, Error ellipse: s-maj=13.0km s-min=9.2km az=123.0*
*DJA **04** 23:13:32.7±0.9, 2°.S±2°×12°2E±°, h22km±8km, M4.8/21, mB5.3/7, mb4.8/13, MLv4.8/21, Mw(mB)4.7/7*
ISC 04 23:13:32.5±0.5,**2°.45S**±0°.04×**121°.55E**±0°.04,**h22**km,**n73,**
σ1**970**/74,**mb4.3**/22,**MS3.5**/7,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.53**	**4**	P	**Pn**	**23 13 59.4**	**+0.9**
TTSI	**Tana Toraja**	**1.83 251**		P	**Pn**	**23 13 59.8**	**-2.8**
KDI	**Kendari**	**1.84 145**		P	**Pb**	**23 14 05.3**	**-0.1**
KDI				S	**Sb**	**23 14 35.0**	**+7.0**
LUWI	**Luwuk**	**1.85**	**41**		**Pn**	**23 14 02.8**	**-0.2**
LUWI	**Luwuk**	**1.85**	**41**	P	**Pn**	**23 14 03.7**	**+0.7**
LUWI	**Luwuk**	**1.85**	**41**	S	**Sb**	**23 14 28.0**	**-0.5**
LUWI	**Luwuk**	**1.85**	**41**	P	**Pn**	**23 14 03.5**	**+0.5**
SPSI	**Sidrap Palu**	**2.33 230**		P	**Pn**	**23 14 09.3**	**-0.2**
SPSI				S	**Sn**	**23 14 39.2**	**+1.7**
MRSI	**Marisa**	**2.93**	**8**	P	**Pn**	**23 14 18.5**	**+0.7**
MRSI				S	**Sn**	**23 14 53.9**	**+1.6**
KAPI	**Kappang**	**3.12 215**		Pn	**Pn**	**23 14 19.6**	**-0.7**
KAPI	**Kappang**	**3.12 215**		Pn	**Pn**	**23 14 17.6**	**-2.8**
44nm,0.3s,baz=17,slow=5.1,SNR=56							
KAPI				Sn	**Sn**	**23 14 56.5**	**-0.4**
17nm,0.3s,baz=63,slow=18,SNR=9.3							
KAPI				LR	LR	23 15 47.2	
comp=Z,1μm,19.4s,baz=42,slow=46							
97nm,0.4s							
KAPI	**Kappang**	**3.12 215**		P	**Pn**	**23 14 20.5**	**+0.2**
BBSI	**Bau Bau**	**3.19 161**		P	**Pn**	**23 14 22.6**	**+1.3**
BKSI	**Bulukumba**	**3.19 207**		P	**Pn**	**23 14 20.5**	**-0.8**
TOLI2	**Tolitoli**	**3.62 348**			**Pn**	**23 14 28.1**	**+0.8**
TOLI2	**Tolitoli**	**3.62 348**		P	**Pn**	**23 14 29.0**	**+1.8**
TOLI2	**Tolitoli**	**3.62 348**		S	**Sn**	**23 15 13.7**	**+4.4**
BSSI	**Bau Bau, Buton**	**3.82 196**		P	**Pn**	**23 14 29.5**	**-0.5**
KMSI	**Cibinong**	**3.86**	**39**	P	**Pn**	**23 14 33.3**	**+2.7**
SANI	**Sanana**	**4.45**	**85**	P	**Pn**	**23 14 37.1**	**-1.6**
SANI	**Sanana**	**4.45**	**85**	S	**Sn**	**23 15 29.5**	**-0.4**
SANI	**Sanana**	**4.45**	**85**	P	**Pn**	**23 14 37.0**	**-1.6**
SANI				S	**Sn**	**23 15 28.2**	**-1.7**
SMKI	**Samarinda**	**4.78 295**		P	**Pn**	**23 14 44.0**	**+0.8**
NLAI	**Namlea**	**5.60**	**98**	P	**Pn**	**23 14 55.7**	**+1.3**
0.3nm2μm65nm,0.7s							
MMRI	**Maumere**	**6.18 174**		Pn	**Pn**	**23 15 01.5**	**-1.0**
MMRI	**Maumere**	**6.18 174**		P	**Pn**	**23 15 01.2**	**-1.3**
TNTI	**Ternate**	**6.63**	**61**	Pn	**Pn**	**23 15 07.0**	**-1.7**
TNTI	**Ternate**	**6.63**	**61**	P	**Pn**	**23 15 08.0**	**-0.7**
0.9nm49nm,0.8s							
SOEI	**Soe**	**7.74 160**		Pn	**Pn**	**23 15 25.3**	**+1.2**
SOEI	**Soe**	**7.74 160**		P	**Pn**	**23 15 24.2**	**+0.1**
SOEI	**Soe**	**7.74 160**		P	**Pn**	**23 15 26.9**	**+2.8**
0.3nm1μm61nm,0.7s							
JAGI	**Jajag, Banyuwa**	**9.49 231**		Pn	**Pn**	**23 15 47.0**	**-0.9**
SWI	**Sorong**	**9.83**	**81**	P	**Pn**	**23 15 51.5**	**-1.1**
LEM	**Lembang**	**14.55 252**		LR	LR	23 22 39.4	
comp=Z,170nm,20.9s,baz=58,slow=38							
KNRA	**Kununurra**	**14.94 152**		Pn	**Pn**	**23 17 01.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**16.06 166**		Pn	**Pn**	**23 17 15.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**16.06 166**		Pn	**Pn**	**23 17 16.8**	**-0.3**
0.5nm,0.3s,baz=8.3,slow=9.4,SNR=12							
FITZ				LR	LR	23 23 30.3	
comp=Z,114nm,19.5s,baz=336,slow=38							
2.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**16.06 166**		P	**Pn**	**23 17 17.0**	**-0.1**
WB0	**Warramunga Arr**	**21.30 145**		P	**P**	**23 18 16.4**	**-1.5**
WB0				IAmb	IAmb	23 18 25.2	
comp=Z,38nm,1.4s							
WRAB	**Tennant Creek**	**21.41 145**		P	**P**	**23 18 17.4**	**-1.7**
WRAB				IAmb	IAmb	23 18 23.1	
comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**21.41 145**		P	**P**	**23 18 17.1**	**-2.0**
WRA	**Warramunga Arr**	**21.41 145**		P	**P**	**23 18 17.4**	**-1.6**
comp=Z,4.3nm,0.9s,baz=312,slow=13,SNR=14							
WRA				LR	LR	23 28 35.8	
comp=Z,185nm,18.5s,baz=338,slow=42							
comp=Z,4.3nm,0.9s							
WB2	**Warramunga Arr**	**21.42 145**		P	**P**	**23 18 17.3**	**-1.8**
WB2				IAmb	IAmb	23 18 27.4	
comp=Z,14nm,1.1s							
WR0	**Warramunga Arr**	**21.54 145**		P	**P**	**23 18 18.6**	**-1.8**
WR0				IAmb	IAmb	23 18 26.3	
comp=Z,33nm,1.4s							
IPM	**Ipoh**	**21.63 289**		P	**P**	**23 18 21.3**	**-0.2**
IPM				IAmb	IAmb	23 18 26.4	
comp=Z,14nm,0.9s							
KULM	**Kulim**	**22.25 290**		P	**P**	**23 18 26.7**	**-1.4**
KULM				IAmb	IAmb	23 18 39.5	
comp=Z,13nm,1.1s							
RPSI	**Rantau Prapat**	**23.19 283**		P	**P**	**23 18 36.4**	**-1.6**
RPSI				IAmb	IAmb	23 18 49.2	
comp=Z,20nm,1.1s							
PSI	**Prapat**	**23.21 283**		P	**P**	**23 18 36.1**	**-2.3**
comp=Z,3.3nm,0.5s,baz=149,slow=2.2,SNR=3.9							
PSI				LR	LR	23 29 21.0	
comp=Z,193nm,18.3s,baz=104,slow=41							
comp=Z,3.3nm,0.5s							
WRKA	**Warakurna**	**23.38 164**		P	**P**	**23 18 40.5**	**+0.7**
COEN	**Coen**	**24.23 119**		P	**P**	**23 18 45.9**	**-2.1**
AS31	**Alice Springs**	**24.25 151**		P	**P**	**23 18 47.5**	**-0.5**
ASAR	**Alice Springs**	**24.25 151**		P	**P**	**23 18 46.9**	**-1.2**
ASAR	**Alice Springs**	**24.25 151**		P	**P**	**23 18 46.6**	**-1.5**
comp=Z,2.7nm,0.8s,baz=323,slow=7.8,SNR=21							
ASAR				PcP	**PcP**	**23 22 29.7**	**+1.4**
comp=Z,0.4nm,0.6s,baz=331,slow=2.4,SNR=2.7							
ASAR				LR	LR	23 28 22.2	
comp=Z,156nm,20.6s,baz=284,slow=37							
comp=Z,2.7nm,0.8s							
GSI	**Gunungsitoli**	**24.26 279**		P	**P**	**23 18 48.1**	**-0.2**
QIS	**Mount Isa**	**25.18 137**		P	**P**	**23 18 57.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.45 314**		P	**P**	**23 19 44.7**	**+0.9**
comp=Z,0.7nm,0.3s,baz=144,slow=7.3,SNR=6.6							
CMAR				LR	LR	23 33 15.1	
comp=Z,48nm,19.1s,baz=140,slow=39							
comp=Z,0.7nm,0.3s							
PZH	**PanZhiHua**	**34.56 328**		P	**P**	**23 20 22.2**	**+2.3**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
STKA	**Stephens Creek**	**34.83 149**		P	**P**	**23 20 22.0**	**0.0**
STKA	**Stephens Creek**	**34.83 149**		P	**P**	**23 20 21.8**	**-0.2**
comp=Z,3.3nm,0.8s,baz=316,slow=10,SNR=9.6							
comp=Z,3.3nm,0.8s							
BRDH	**Bariadhala**	**38.41 312**		LR	LR	23 40 27.9	
comp=Z,60nm,18.5s,baz=141,slow=42							
TIA	**Tai'an**	**38.68 354**		P	P	23 20 50.1	-4.6
TIA				pmax	pmax		
comp=Z,2.0nm,0.4s							
LZH	**Lanzhou**	**41.75 338**		*e*P	**P**	**23 21 24.3**	**+4.0**
LZH				sP	sP	23 21 32.8	+2.6
LZH				pmax	pmax		
comp=Z,15nm,1.0s							
PALK	**Pallekele**	**41.89 284**		LR	LR	23 37 44.0	
comp=Z,52nm,22.0s,baz=102,slow=35							
HHC	**Hu-ho-hao-te**	**44.05 349**		*e*P	**P**	**23 21 40.3**	**+1.5**
SONM	**Songino Array**	**51.80 347**		P	**P**	**23 22 38.9**	**+0.1**
comp=Z,0.3nm,0.6s,baz=146,slow=8.2,SNR=2.1							
comp=Z,0.3nm,0.6s							
MK31	**Makanchi Array**	**59.96 330**		P	**P**	**23 23 36.6**	**-0.6**
MK31				IAmb	IAmb	23 23 54.2	
comp=Z,3.4nm,1.3s							
MKAR	**Makanchi Array**	**59.96 330**		P	**P**	**23 23 35.6**	**-1.6**
MKAR	**Makanchi Array**	**59.96 330**		P	**P**	**23 23 36.9**	**-0.3**
comp=Z,0.5nm,0.7s,baz=128,slow=7.9,SNR=7.0							
comp=Z,0.5nm,0.7s							
ZALV	**Zalesovo Beam**	**63.95 337**		P	**P**	**23 24 03.2**	**-0.7**
comp=Z,2.2nm,1.0s,baz=123,slow=5.5,SNR=5.4							
comp=Z,2.2nm,1.0s							
KURBB	**Kurchatov Arra**	**64.37 331**		P	**P**	**23 24 07.8**	**+1.2**
comp=Z,0.9nm,0.9s,baz=133,slow=6.1,SNR=7.7							
comp=Z,0.9nm,0.9s							
YAK	**Yakutsk**	**64.60**	**4**	LR	LR	23 54 49.4	
comp=Z,55nm,18.9s,baz=88,slow=38							
BVAR	**Borovoye Array**	**69.84 330**		P	**P**	**23 24 40.6**	**-0.7**
comp=Z,0.2nm,0.4s,baz=160,slow=10,SNR=3.8							
comp=Z,0.2nm,0.4s							
AKTO	**Aktyubinsk**	**75.40 324**		P	**P**	**23 25 13.6**	**-0.9**
comp=Z,0.8nm,0.6s,baz=125,slow=2.0,SNR=4.2							
comp=Z,0.8nm,0.6s							

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*IDC **04** 23:17:40.0±0.8, 23°.21S×114°.90W, h0km, mb4.1/9, mbtmp4.1/9, MS4.0/33, Error ellipse: s-maj=33.5km s-min=23.7km az=68.0*
*GCMT **04** 23:17:48.0±0.2, 23°.16S±0°.02×114°.64W±0°.01, h12km±1km, MW4.9/112, Moment Tensor Solution. s36,c40; s112,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.21±.11; $M_{\theta\theta}$-1.12±.09; $M_{\phi\phi}$2.33±.11; $M_{r\theta}$-0.23±.24; $M_{\theta\phi}$2.29±.08; $M_{\phi r}$0.96±.26; Best double couple: $M_0$3.08400×10^{16} NP1:ϕ_s70.

SADO	Sadowa	75.17	26	LR	LR	23 59 08.0	
	comp=Z,37nm,21.8s,baz=260,slow=33						
RCBR	Riachuelo	77.73	91	LR	LR	00 01 49.8	
	comp=Z,75nm,18.1s,baz=254,slow=34						
HNR	Honiara	81.83	263	LR	LR	23 58 43.6	
	comp=Z,77nm,18.5s,baz=106,slow=30						
YKA	Yellowknife Ar	85.41	0	P	P	23 30 18.9	+0.3
	1.8nm,0.9s,baz=182,slow=5.1,SNR=15						
	1.8nm,0.9s						
H11S2	WAKE ISLAND Hy 86.92 291			T	T	01 06 51.5	
	baz=116,slow=75,SNR=98						
H11S1	WAKE ISLAND Hy 86.94 291			T	T	01 06 52.5	
	baz=116,slow=75,SNR=41						
H11S3	WAKE ISLAND Hy 86.94 291			T	T	01 06 55.4	
	baz=116,slow=75,SNR=43						
H11N3	WAKE ISLAND Hy 87.28 293			T	T	01 07 19.8	
	baz=117,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy 87.29 293			T	T	01 07 20.9	
	baz=117,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy 87.29 293			T	T	01 07 19.9	
	baz=117,slow=75,SNR=37						
SCHQ	Schefferville	87.98	26	LR	LR	00 08 44.5	
	comp=Z,58nm,18.0s,baz=23,slow=35						
ILAR	Eielson Array	91.11	347	LR	LR	00 04 10.5	
	comp=Z,38nm,18.3s,baz=152,slow=31						
PMG	Port Moresby	93.45	258	LR	LR	00 09 48.2	
	comp=Z,91nm,18.3s,baz=126,slow=33						
FRB	Frobisher Bay	93.97	19	LR	LR	00 09 35.1	
	comp=Z,71nm,21.5s,baz=272,slow=33						
SHEM	Shemya Is, Ala	97.35	325	LR	LR	00 07 08.6	
	comp=Z,107nm,19.0s,baz=128,slow=30						
RES	Resolute Bay	98.53	5	LR	LR	00 12 29.3	
	comp=Z,50nm,18.7s,baz=4.0,slow=33						
FINES	FINESS Array B	133.45	25	PKP	PKPdf	23 36 57.0	-0.5
	2.1nm,0.9s,baz=274,slow=7.5,SNR=3.4						
AKASG	Malin Array Be	141.00	36	PKP	PKPdf	23 37 12.6	+0.8
	0.3nm,0.5s,baz=316,slow=2.6,SNR=2.6						
ZALV	Zalesovo Beam	145.87	339	PKPbc	PKPbc	23 37 20.4	-0.5
	1.4nm,0.8s,baz=46,slow=4.3,SNR=5.5						
ARTI	Arti	146.51	7	PKPbc	PKPdf	23 37 20.8	-0.5
	2.4nm,0.7s,baz=73,slow=4.3,SNR=6.0						
CMAR	Chiang Mai Arr	147.97	268	PKPbc	PKiKP	23 37 28.7	-1.1
	0.8nm,0.4s,baz=70,slow=0.8,SNR=8.5						
BELG	Belogornoye	147.97	20	PKPbc	PKPbc	23 37 25.7	-1.2
	14nm,0.9s,baz=256,slow=2.0,SNR=4.8						
BRTR	Keskin Array B	148.80	51	PKPbc	PKPdf	23 37 27.4	+1.5
	3.0nm,0.9s,baz=251,slow=2.1,SNR=13						
BVAR	Borovoye Array	149.95	353	PKPbc	PKPbc	23 37 31.2	-0.7
	4.3nm,1.0s,baz=12,slow=2.1,SNR=12						
KURBB	Kurchatov Arra	150.68	342	PKPbc	PKPbc	23 37 33.4	-0.3
	1.4nm,0.9s,baz=24,slow=1.9,SNR=11						
KBZ	Khabaz	152.61	36	PKPbc	PKiKP	23 37 38.3	-0.3
	3.6nm,0.9s,baz=258,slow=2.9,SNR=9.1						
MKAR	Makanchi Array	152.66	334	PKPbc	PKiKP	23 37 39.1	+0.4
	0.9nm,0.7s,baz=42,slow=2.0,SNR=11						

IDC 04 23:24:33.9±1.7, 7°.81S×123°.29E, h0km, mb3.3/1, mbtmp3.3/4, ML3.5/3, MS3.4/4, Error ellipse: s-maj=112.2km s-min=24.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.48	168	Pn	Pn	23 27 06.1	+0.5
	0.1nm,0.3s,baz=342,slow=16,SNR=2.8						
FITZ				Sn	Sn	23 29 03.1	-0.7
	0.2nm,0.3s,baz=348,slow=20,SNR=6.1						
	2.1nm,0.9s						
WRA	Warramunga Arr	16.13	140	Pn	P	23 28 24.1	-1.5
	0.3nm,0.3s,baz=318,slow=12,SNR=31						
	0.3nm,0.4s						
ASAR	Alice Springs	18.77	148	P	P	23 28 53.8	-1.1
	0.1nm,0.3s,baz=318,slow=10,SNR=6.1						
	0.2nm,0.4s						
NWAO	Narrogin (SRO)	25.62	192	LR	LR	23 39 46.7	
	comp=Z,161nm,21.9s,baz=131,slow=36						
JNU	Nakatsue	41.34	10	LR	LR	23 50 31.2	
	comp=Z,48nm,21.7s,baz=104,slow=38						
KSRS	Korea Array	45.23	5	LR	LR	23 50 51.9	
	comp=Z,20nm,21.9s,baz=90,slow=35						
SONM	Songino Array	57.38	347	LR	LR	00 01 12.2	
	comp=Z,72nm,21.3s,baz=90,slow=38						
MKAR	Makanchi Array	65.43	330	P	P	23 35 18.6	0.0
	0.2nm,0.4s,baz=129,slow=6.1,SNR=5.8						
	0.2nm,0.4s						

DJA 04 23:28:28.9±0.4, 9°.S±4°.×11°.8E±°, h122km±6km, M4.1/12, mb4.5/1, MLv3.9/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.57	253	P	Pn	23 28 49.4	+1.9
PLAI				S	Sn	23 29 03.1	+1.5
WBSI	Waikabubak, Su	1.43	133	P	Pn	23 28 56.9	+1.2
WBSI				S	Sn	23 29 16.2	+0.1
BASI	Baing, Sumba	2.71	125	P	Pn	23 29 12.3	+0.9
SRBI	Singaraja	3.14	280	P	Pn	23 29 16.6	-0.5
BSSI	Bau Bau, Buton	3.29	41	P	Pn	23 29 19.4	+0.3
BKSI	Bulukumba	3.76	28	P	Pn	23 29 25.9	+0.5
MMRI	Maumere	3.86	90	P	Pn	23 29 26.9	+0.2
JAGI	Jajag, Banyuwa	4.14	272	P	Pn	23 29 30.3	0.0
JAGI				S	Sn	23 30 17.5	-0.5
GMJI	Gumukmas	4.85	274	P	Pn	23 29 40.0	+0.1
SPSI	Sidrap Palu	4.88	17	P	Pn	23 29 39.1	-1.2
SOEI	Soe	5.96	101	P	Pn	23 29 54.3	-0.7

*IDC **04** 23:39:46.3±19.0, 27°.89N×51°.79E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=397.0km s-min=33.7km az=3.0*
*TEH **04** 23:39:48.7, 27°.81N×51°.81E, h20km±68km*
*OMAN **04** 23:39:49.9±0.2, 27°.68N×51°.88E, h10km, ml3.3/8, Error ellipse: s-maj=5.8km s-min=1.0km az=350.0*

ISC 04 23:39:49.9±0.8, 27°.84N±0°.05×51°.86E±0°.05, h26km, n47, σ1°18/56, mb3.7/6, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.74	315	Pg	Pb	23 40 03.0	-1.2
QIR1	Qir	1.22	59	Pg	Pn	23 40 12.4	+1.0
LMD1	Lamerd	1.26	113	Pg	Pn	23 40 13.6	+1.7
JHRM	Jahrom	1.65	66	Pg	Pn	23 40 19.1	+1.7
KAZ2	Kazeron-Fars-I	1.77	354	Pn	Pn	23 40 20.1	+1.1
SHI	Shiraz	1.88	18	Pn	Pn	23 40 22.2	+1.6
SHMA	Al-Shehemyia	2.13	202	P	Pn	23 40 24.0	+0.2
SHMA				S	Sn	23 40 51.2	+1.7
SAKB	Bahrain	2.20	213	P	Pn	23 40 24.8	0.0
TRNA	Turayna	3.15	191	P	Pn	23 40 38.5	+0.7
TRNA				S	Sn	23 41 16.7	+2.2
SMRA	Abu-Samra	3.22	197	P	Pn	23 40 39.4	+0.6
SLWR	Sila	3.76	182	P	Pn	23 40 47.1	+0.9
SLWR				S	Sn	23 41 30.3	+0.7
IMEH	Mehriz	4.27	33	Pn	Pn	23 40 56.3	+2.8
NAZ	Nazwa, Dubai	4.44	129	P	Pn	23 40 56.6	+1.1
NAZ				S	Sn	23 41 46.8	+0.4
ASUD	Al Ashush, Dub	4.47	135	P	Pn	23 40 56.8	+0.8
	SNR=19						
ASUD				S	Sn	23 41 47.8	+0.7
MASF	Masafi	4.57	122	P	Pn	23 40 57.8	+0.4
MASF				S	Sn	23 41 48.3	-1.4
NGRK	Negar Kerman	4.64	66	Pn	Pn	23 40 59.8	+1.1
MDH	Madha	4.71	122	P	Pn	23 40 59.8	+0.4
MDH				S	Sn	23 41 51.0	-2.2
KHGB	Koh Gabri	4.76	57	Pn	Pn	23 41 02.1	+1.9
UOSS	Minazif	4.85	126	P	Pn	23 41 01.4	+0.2
HATD	Hatta, Dubai	4.87	127	P	Pn	23 41 01.8	+0.2
HATD				S	Sn	23 41 56.5	-0.6
IPIR	Pirpir	4.90	350	Pn	Pn	23 41 03.6	+1.5
ASHO	Ashiyiah	4.91	129	P	Pn	23 41 02.6	+0.6
	SNR=12						
ASHO				S	Sn	23 41 58.4	+0.3
MZR	Muzera	5.04	163	P	Pn	23 41 04.0	+0.2
	SNR=6.5						
IZEF	Zefreh	5.05	4	Pn	Pn	23 41 05.7	+1.5
ALNE	Al Ain	5.15	136	P	Pn	23 41 06.8	+1.5
CHMN	Cheshme madani	5.37	67	Pn	Pn	23 41 10.6	+1.8
KRM1	Kerman Provinc	5.42	59	Pn	Pn	23 41 10.7	+1.4
IKLH	Kolahrood	5.46	358	Pn	Pn	23 41 11.6	+1.7
SOHO	SOHO	5.60	130	P	Pn	23 41 11.7	+0.2
JASK	Jask - Hormozg	5.71	109	Pn	Pn	23 41 13.8	+0.7
ARQ	Araqi	6.15	136	P	Pn	23 41 20.0	+0.8
	SNR=7.5						
HOQ	Hoqain	6.49	130	P	Pn	23 41 23.9	+0.1
	SNR=6.5						
HSAM	Samen	6.94	337	Pn	Pn	23 41 31.2	+1.1
BSY	Bisya	7.01	135	P	Pn	23 41 31.0	+0.1
	SNR=13						
SMDO	Samad	7.35	129	P	Pn	23 41 36.3	+0.7
JMDO	Jabal Madar	7.86	133	P	Pn	23 41 43.8	+1.3
MHTO	MHTO	8.81	139	P	Pn	23 41 54.9	-0.7
JLN	Jalan Bani Buh	8.89	128	P	Pn	23 41 55.4	-1.3
DOK	Doka	9.42	167	P	Pn	23 42 02.6	-1.4
WHFO	Wadi Hawf	10.03	169	P	Pn	23 42 10.5	-1.9
KURBB	Kurchatov Arra	30.44	34	P	P	23 46 00.6	+0.5
	0.2nm,0.5s,baz=230,slow=9.3,SNR=3.0						
	0.2nm,0.5s						
MKAR	Makanchi Array	30.44	43	P	P	23 46 00.8	+0.5
	0.1nm,0.4s,baz=244,slow=8.6,SNR=4.6						
	0.1nm,0.4s						
ZALV	Zalesovo Beam	35.52	34	P	P	23 46 44.2	-0.2
	0.7nm,0.4s,baz=244,slow=10.0,SNR=4.8						
	0.7nm,0.4s						
FINES	FINESS Array B	37.76	340	P	P	23 47 03.2	-0.2
	0.8nm,0.5s,baz=137,slow=9.4,SNR=8.7						
	0.8nm,0.5s						
HFS	Hagfors	41.35	332	P	P	23 47 33.3	-0.1
	1.3nm,0.3s,baz=120,slow=8.8,SNR=17						
	1.3nm,0.3s						
NB2	NORSAR Subarra	42.87	332	P	P	23 47 45.1	-0.7
	comp=Z,0.5nm,0.3s,baz=122,slow=8.6						
NOA	NORSAR Array B	42.87	332	P	P	23 47 45.0	-0.7
	comp=Z,0.4nm,0.4s,baz=124,slow=7.0,SNR=4.4						
	comp=Z,0.4nm,0.4s						

IDC 04 23:41:35.7±12.0, 18°.71S×177°.39W, h615km±53km, mb2.3/3, mbtmp3.3/4, Error ellipse: s-maj=356.8km s-min=35.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.45	282	P	P	23 43 05.4	-0.1
	3.5nm,0.4s,baz=106,slow=6.3,SNR=7.7						
WRA	Warramunga Arr	45.45	260	P	P	23 49 01.4	-0.4
	0.3nm,0.7s,baz=97,slow=7.1,SNR=5.4						
	0.3nm,0.7s						
ASAR	Alice Springs	45.52	255	P	P	23 49 02.7	+0.4
	0.1nm,0.3s,baz=94,slow=8.0,SNR=1.1						
	0.1nm,0.3s						
ILAR	Eielson Array	86.44	13	P	P	23 53 13.9	0.0
	0.1nm,0.4s,baz=222,slow=4.4,SNR=4.3						
	0.1nm,0.4s						

*IDC **05** 00:16:59.2±1.1, 27°.70N×51°.84E, h0km, mb3.9/11, mbtmp3.8/15, ML3.2/4, MS3.7/2, Error ellipse: s-maj=28.2km s-min=19.2km az=31.0*
*NEIC **05** 00:17:01.5±1.5, 27°.73N±0°.04×51°.74E±0°.08, h10km±1km, mb4.3/32, Error ellipse: s-maj=12.9km s-min=6.5km az=281.0*
*TEH **05** 00:17:03.2, 27°.89N×51°.82E, h18km±15km*
*DSN **05** 00:17:09.9±1.9, 28°.10N×52°.85E, h15km, ML3.1/5, Error ellipse: s-maj=23.3km s-min=14.0km az=6.0*

ISC 05 00:17:01.1±0.6, 27°.71N±0°.06×51°.75E±0°.06, h10km, n76, σ0°84/74, mb4.3/26, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.78	327	Pg	Pg	00 17 16.8	+0.6
LMD1	Lamerd	1.31	106	Pg	Pb	00 17 27.8	+1.9
QIR1	Qir	1.38	56	Pg	Pb	00 17 26.6	-0.4
JHRM	Jahrom	1.80	63	Pg	Pb	00 17 34.1	-0.2
KAZ2	Kazeron-Fars-I	1.90	358	Pg	Pb	00 17 35.2	-0.7
SHI	Shiraz	2.04	19	Pn	Pn	00 17 36.1	+0.3
KLNJ	Kolanjah	3.29	358	Pn	Pn	00 17 53.7	+0.6
IRAM	Ramesheh	4.12	8	Pn	Pn	00 18 05.1	+0.7
SHME	Shamm	4.26	112	P	Pn	00 18 06.7	+0.7
ZNGN	Zangian	4.46	350	Pn	Pn	00 18 10.1	+0.9
MDH	Madha	4.73	119	P	Pn	00 18 13.1	+0.6
UOSS	Minazif	4.85	124	Pn	Pn	00 18 14.8	+0.6
UOSS	Minazif	4.85	124	P	Pn	00 18 14.7	+0.4
HATD	Hatta, Dubai	4.87	125	P	Pn	00 18 15.2	+0.7
ASHO	Ashiyiah	4.90	127	P	Pn	00 18 16.1	+1.1
ASHO				S	Sn	00 19 10.2	-1.7
IZEF	Zefreh	5.20	5	Pn	Pn	00 18 19.9	+0.8
ZRDN	Zarand Kerman	5.29	51	Pn	Pn	00 18 21.5	+1.0
ANAR	Anarak	5.72	17	Pn	Pn	00 18 26.6	+0.3
TPRV	Paraadeh(Tabas	6.80	38	Pn	Pn	00 18 41.0	-0.1
RAYN	Ar Rayn	7.01	235	Pn	Pn	00 18 45.0	+1.1
HSAM	Samen	7.02	338	Pn	Pn	00 18 45.3	+1.0
WSAR	Wadi Sarin	7.64	124	Pn	Pn	00 18 52.6	0.0
	1.6nm,0.3s,baz=306,slow=9.2,SNR=12						
WSAR				Sn	Sn	00 20 13.4	-5.9
	1.2nm,0.3s,baz=87,slow=16,SNR=5.5						
	4.0nm,0.5s						
SNQR	Sonqor, Kerman	7.95	335	Pn	Pn	00 18 58.2	+1.2
ITEG	Tejag	7.96	48	Pn	Pn	00 18 58.6	+1.6
TAPT	Tabas- Tapeh t	8.52	32	Pn	Pn	00 19 05.6	+0.9
GEVA	Gevas	12.84	328		Sn	00 22 28.3	+1.4
MARD	Mardin	13.31	319	Pn	Pn	00 20 08.4	-1.8
KBL	Kabul	16.29	61	Pn	Pn	00 20 51.1	+0.9
KBZ	Khabaz	17.51	338	P	P	00 21 06.7	+0.3
	baz=149,slow=12,SNR=2.3						
	0.8nm,0.7s						
KVAR	Kislovodsk Arr	17.78	338	P	Pn	00 21 08.8	+0.1
	baz=112,slow=7.3						
	1.3nm,0.8s						
KIV	Kislovodsk	17.78	338		P	00 21 10.2	+0.6
SIMJ	Simiganj	18.08	48	P	P	00 21 13.3	+0.4
CHGR	Chuyangaron	18.18	49	P	P	00 21 14.4	+0.4
GAR	Garm	19.13	49	P	P	00 21 24.4	-0.1
BRTR	Keskin Array B	19.21	313	P	P	00 21 25.7	+0.3
	baz=139,slow=11,SNR=6.8						
	0.6nm,0.7s						
NIL	Nilore	19.41	67	P	P	00 21 28.1	+0.6
NIL				IAmb	IAmb	00 21 35.9	
	comp=Z,8.0nm,0.8s						
KURBB	Kurchatov Arra	30.60	34	P	P	00 23 14.3	-0.8
	comp=Z,0.4nm,0.4s,baz=233,slow=8.8,SNR=5.2						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	30.60	43	P	P	00 23 14.9	-0.4
MKAR	Makanchi Array	30.60	43	P	P	00 23 14.8	-0.5
	comp=Z,0.6nm,0.7s,baz=226,slow=7.6,SNR=6.9						
	comp=Z,0.6nm,0.7s						
KWP	Kalwaria Pacla	31.20	322	P	P	00 23 16.1	-4.3
VAE	Valguarnera	32.75	297	LR	LR	00 42 40.4	
	comp=Z,154nm,18.0s,baz=318,slow=47						
ZALV	Zalesovo Beam	35.69	34	P	P	00 23 58.9	-0.5
	comp=Z,2.0nm,0.6s,baz=240,slow=8.9,SNR=9.2						
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	37.85	340	P	P	00 24 17.4	-0.4
	comp=Z,5.7nm,0.9s,baz=157,slow=12,SNR=5.8						
	comp=Z,5.7nm,0.9s						
HFS	Hagfors	41.42	332	P	P	00 24 47.2	-0.4
	comp=Z,2.9nm,0.7s,baz=126,slow=10,SNR=8.2						
	comp=Z,2.9nm,0.7s						
NB2	NORSAR Subarra	42.95	332	P	P	00 24 58.6	-1.4
	comp=Z,5.5nm,0.5s,baz=121,slow=8.6						
NOA	NORSAR Array B	42.95	332	P	P	00 24 59.6	-0.4
	comp=Z,1.4nm,0.7s,baz=121,slow=8.1,SNR=5.3						
	comp=Z,1.4nm,0.7s						
EKA	Eskdalemuir Ar	47.87	321	P	P	00 25 39.7	+0.6
	comp=Z,0.9nm,0.8s,baz=83,slow=8.9,SNR=1.1						
	comp=Z,0.9nm,0.8s						
TORD	Torodi Ar. Bea	48.77	263	P	P	00 25 47.1	+0.5
	comp=Z,61nm,0.4s,baz=53,slow=7.6,SNR=1.5						
KLR	Kul'dur	63.24	46	LR	LR	00 56 30.3	
	comp=Z,38nm,19.0s,baz=242,slow=38						
A36M	Sachs Harbour	80.56	359	P	P	00 29 13.6	+0.4
A36M				IAmb	IAmb	00 29 16.9	
	comp=Z,3.4nm,0.8s						
B22K	Teshekpuk Lake	80.58	8	P	P	00 29 13.8	+0.4
B22K				IAmb	IAmb	00 29 17.4	
	comp=Z,4.9nm,1.1s						
DRLN	Deer Lake	80.92	321	P	P	00 29 15.1	-0.5
B21K	Ikpikpuk River	81.09	9	P	P	00 29 16.5	+0.4
B21K				IAmb	IAmb	00 29 19.5	
	comp=Z,3.5nm,1.1s						
C23K	Itkillik River	81.40	8	P	P	00 29 17.9	+0.1
C23K				IAmb	IAmb	00 29 20.4	
	comp=Z,7.3nm,1.4s						
SCHQ	Schefferville	82.42	329	P	P	00 29 23.7	+0.2
E19K	Redstone River	82.66	11	P	P	00 29 23.9	-0.6
E19K				IAmb	IAmb	00 29 53.5	
	comp=Z,2.7nm,1.1s						
E25K	Arctic Village	83.60	6	P	P	00 29 28.8	-0.5
E25K				IAmb	IAmb	00 29 38.0	
	comp=Z,2.9nm,1.4s						
BMAR	Burnt Mountain	84.36	6	P	P	00 29 33.8	+0.5
FITZ	Fitzroy Crossi	84.77	113	P	P	00 29 35.6	-0.4
G27K	Doyon Strip	85.23	5	P	P	00 29 37.7	+0.1
G27K				IAmb	IAmb	00 29 43.0	
	comp=Z,1.7nm,1.1s						
G31M	Satah River	85.56	2	P	P	00 29 40.7	+1.5
H29M	Whitestone	86.05	4	P	P	00 29 41.6	0.0
H29M				IAmb	IAmb	00 29 43.0	
	comp=Z,3.3nm,1.3s						
H31M	Peel River	86.67	3	P	P	00 29 44.9	+0.1
H31M				IAmb	IAmb	00 30 23.2	
	comp=Z,6.6nm,1.5s						
ILAR	Eielson Array	86.69	8	P	P	00 29 43.5	-1.4
	comp=Z,0.3nm,0.8s,baz=302,slow=4.7,SNR=5.2						
	comp=Z,0.3nm,0.8s						
BPAW	Bear Paw Mtn.	86.77	10	P	P	00 29 45.3	0.0
BPAW				IAmb	IAmb	00 29 48.8	
	comp=Z,3.8nm,1.1s						
M11K	Mekoryuk	86.89	18	P	P	00 29 44.0	-1.9
I30M	Mount Dempster	87.16	3	P	P	00 29 47.3	0.0
I30M				IAmb	IAmb	00 29 50.0	
	comp=Z,1.9nm,0.8s						
CAST	Castle Rocks	87.24	10	P	P	00 29 47.2	-0.3
CAST				IAmb	IAmb	00 29 54.4	
	comp=Z,1.6nm,1.0s						
DOT	Dot Lake	88.10	7	P	P	00 29 51.4	-0.3
K29M	Barlow Dome	88.47	4	P	P	00 29 52.6	-1.0
K29M				IAmb	IAmb	00 29 59.4	
	comp=Z,0.6nm,0.8s						
LMQ	La Malbaie	88.78	325	P	P	00 29 53.7	-1.5
SUA	Susitna One	89.29	11	P	P	00 29 58.2	+0.8
SUA				IAmb	IAmb	00 30 09.3	
	comp=Z,3.2nm,1.3s						
SML	Sawmill	89.34	9	P	P	00 29 58.2	+0.6
YKA	Yellowknife Ar	89.45	354	P	P	00 29 58.4	+0.4
	comp=Z,0.6nm,0.7s,baz=11,slow=4.0,SNR=10						
	comp=Z,0.6nm,0.7s						
WRA	Warramunga Arr	92.82	111	P	P	00 30 13.2	-1.2
	comp=Z,0.1nm,0.5s,baz=301,slow=4.7,SNR=1.2						
	comp=Z,0.1nm,0.5s						
ASAR	Alice Springs	94.22	114	P	P	00 30 19.5	-1.4
	comp=Z,0.5nm,0.8s,baz=310,slow=4.3,SNR=5.1						
	comp=Z,0.5nm,0.8s						

*IDC **05** 00:21:39.8±1.2, 27°.69N×51°.76E, h0km, mb3.8/10, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=31.0km s-min=20.0km az=24.0*
*NEIC **05** 00:21:42.1±1.9, 27°.7N±0°.1×51°.81E±0°.06, h10km±1km, mb4.2/18, Error ellipse: s-maj=22.9km s-min=7.2km az=191.0*
*OMAN **05** 00:21:43.3±1.8, 28°.30N×52°.36E, h10km, mb4.5/3, ml3.5/9, Error ellipse: s-maj=18.9km s-min=3.1km az=145.0*
*TEH **05** 00:21:44.2, 27°.85N×51°.81E, h20km±17km*

ISC 05 00:21:44.9±0.5, 27°.85N±0°.04×51°.85E±0°.04, h26km, n69, σ1°56/77, mb4.0/19, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.73	315	Pg	Pb	00 21 58.0	-1.0
QIR1	Qir	1.23	59	Pg	Pn	00 22 07.7	+1.3
LMD1	Lamerd	1.27	113	Pg	Pb	00 22 08.9	+0.7
JHRM	Jahrom	1.66	66	Pg	Pb	00 22 15.7	+0.9
KAZ2	Kazeron-Fars-I	1.77	355	Pg	Pn	00 22 15.6	+1.7
SHI	Shiraz	1.88	18	Pn	Pn	00 22 17.5	+2.0
SHMA	Al-Shehemyia	2.14	202	P	Pb	00 22 24.4	+1.5
SAKB	Bahrain	2.20	213	P	Pb	00 22 25.2	+1.2
JRN	Qarnain Island	3.03	163	P	Pb	00 22 36.9	-1.2
JRN				S	Sb	00 23 18.6	+4.0
TRNA	Turayna	3.15	191	P	Pb	00 22 41.1	+0.9
TRNA				S	Sb	00 23 22.1	+4.0
KLNJ	Kolanjah	3.16	356	Pn	Pn	00 22 35.1	+1.9
SMRA	Abu-Samra	3.23	197	P	Pb	00 22 42.4	+1.0
SMRA				S	Sb	00 23 28.0	+7.7
SLWR	Sila	3.77	182	P	Pb	00 22 48.6	-2.0
IRAM	Ramesheh	3.97	7	Pn	Pn	00 22 46.1	+1.8
SHME	Shamm	4.23	114	P	Pn	00 22 47.4	-0.2
SHME				S	Sn	00 23 34.7	-1.4
NAZ	Nazwa, Dubai	4.45	129	P	Pn	00 22 50.8	+0.1
NAZ				S	Sn	00 23 41.8	+0.2
MASF	Masafi	4.58	122	P	Pn	00 22 50.4	-2.1
MASF				S	Sn	00 23 44.1	-0.8
MDH	Madha	4.72	122	P	Pn	00 22 52.5	-1.9
KHGB	Koh Gabri	4.77	57	Pn	Pn	00 22 57.5	+2.3
UOSS	Minazif	4.86	126	Pn	Pn	00 22 54.6	-1.7
UOSS				Sn	Sn	00 23 48.9	-2.8
UOSS	Minazif	4.86	126	P	Pn	00 22 55.5	-0.8
UOSS				S	Sn	00 23 53.6	+1.8
HATD	Hatta, Dubai	4.88	127	P	Pn	00 22 56.7	+0.1
HATD				S	Sn	00 23 53.8	+1.5
ASHO	Ashiyiah	4.92	129	P	Pn	00 22 56.9	-0.3
	SNR=5.8						
ASHO				S	Sn	00 23 55.7	+2.4
MZR	Muzera	5.04	163	P	Pn	00 23 03.0	+4.1
IZEF	Zefreh	5.05	5	Pn	Pn	00 23 01.2	+2.1
ZRDN	Zarand Kerman	5.13	52	Pn	Pn	00 23 02.4	+2.1
CHMN	Cheshme madani	5.38	67	Pn	Pn	00 23 05.6	+1.9
SOH

comp=Z,0.5nm,0.4s
TORD Torodi Ar. Bea 48.88 263 P P 00 30 26.9 -1.8
comp=Z,44nm,0.3s,baz=60,slow=8.7,SNR=1.7
B20K Meade River 80.21 10 P P 00 33 53.2 +0.6
B20K IAmb IAmb 00 34 27.1
comp=Z,5.9nm,1.5s
A36M Sachs Harbour 80.42 359 P P 00 33 53.2 -0.4
A36M IAmb IAmb 00 33 58.2
comp=Z,3.3nm,0.9s
B22K Teshekpuk Lake 80.43 8 P P 00 33 53.9 +0.1
B22K IAmb IAmb 00 33 55.1
comp=Z,0.9nm,0.7s
B21K Ikpikpuk River 80.93 9 P P 00 33 55.9 -0.6
B21K IAmb IAmb 00 34 09.1
comp=Z,2.5nm,1.3s
ILAR Eielson Array 86.53 8 P P 00 34 25.2 -0.1
comp=Z,0.3nm,0.8s,baz=346,slow=5.7,SNR=2.6
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 89.32 354 P P 00 34 38.9 +0.3
comp=Z,0.3nm,0.7s,baz=8.2,slow=4.1,SNR=8.2
comp=Z,0.3nm,0.7s
ASAR Alice Springs 94.20 114 P P 00 34 59.9 -2.0
comp=Z,0.2nm,0.4s,baz=296,slow=3.0,SNR=1.8
comp=Z,0.2nm,0.4s

IDC 05 00:33:28.4±11.0, 5°.64S×128°.82E, h220km±128km, mb2.8/1, mbtmp3.7/4, Error ellipse: s-maj=93.0km s-min=41.8km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.77**	**194**	P	Pn	00 36 22.8	+0.4
	1.2nm,0.6s,baz=10,slow=11,SNR=6.8						
FITZ				S	S	00 38 41.9	-1.9
	1.3nm,0.8s,baz=32,slow=21,SNR=2.1						
WRA	**Warramunga Arr**	**15.20**	**160**	P	Pn	00 36 51.9	-0.4
	1.0nm,0.4s,baz=341,slow=12,SNR=27						
WRA				S	S	00 39 42.2	+1.8
	0.2nm,0.6s,baz=330,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**18.59**	**165**	P	P	00 37 29.1	-0.2
	1.4nm,0.6s,baz=343,slow=12,SNR=18						
MKAR	**Makanchi Array**	**66.45**	**327**	P	P	00 43 54.3	+0.1
	0.3nm,0.7s,baz=111,slow=7.9,SNR=3.3						
	0.3nm,0.7s						

*BUT **05** 00:49:41.6±1.5, 45°.86N±0°.01×111°.35W±0°.02, h2km±3km, Error ellipse: s-maj=2.3km s-min=1.5km az=105.0*
NEIC 05 00:49:40.9±1.6, 45°.87N±0°.01×111°.35W±0°.03, h2km±4km, ML2.6/52, ML2.8/21(BUT), Error ellipse: s-maj=3.0km s-min=1.6km az=70.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin Ridge**	**0.04**	**19**		Pg	00 49 42.7	+0.9
BOZ	**Bozeman (W)**	**0.33**	**216**		Pg	00 49 48.0	+0.7
BOZ					Sg	00 49 52.3	+0.6
BOZ				IAML		00 49 52.7	
	1μm,0.2s						
BOZ				IAML		00 49 53.0	
	1μm,0.2s						
LRM	**Limekiln Ridge**	**0.77**	**267**	Pg	Pg	00 49 56.0	+0.3
HRY	**Holter Researc**	**0.91**	**339**		Pg	00 49 58.8	+0.4
HRY				Sg	Sg	00 50 10.4	+0.3
DLMT	**Dillon**	**1.01**	**240**		Pg	00 50 00.2	0.0
DLMT				Sg	Sg	00 50 13.2	-0.1
DLMT				IAML		00 50 17.5	
	192nm,0.5s						
DLMT				IAML		00 50 17.5	
	178nm,0.4s						
YHL	**Hebgen Lake**	**1.02**	**173**		Pg	00 50 00.5	0.0
YHL				Sg	Sg	00 50 14.4	+0.6
YHL				IAML		00 50 18.7	
	comp=E,219nm,0.4s						
YHL				IAML		00 50 18.8	
	comp=N,180nm,0.6s						
QLMT	**Earthquake Lak**	**1.04**	**183**		Pg	00 50 00.6	-0.3
YHB	**Horse Butte**	**1.12**	**174**		Pg	00 50 02.4	-0.1
YHB	**Horse Butte**	**1.12**	**174**	Sg	Sg	00 50 17.5	+0.6
YHB				IAML		00 50 20.3	
	comp=E,118nm,0.5s						
YHB				IAML		00 50 20.9	
	comp=N,136nm,0.4s						
YHH	**Holmes Hill**	**1.14**	**162**		Pg	00 50 02.4	-0.3
YMC	**Maple Creek**	**1.14**	**167**		Pg	00 50 02.6	-0.1
GCMT	**Greycliff**	**1.18**	**93**		Pg	00 50 03.5	0.0
YMR	**Madison River**	**1.23**	**167**		Pg	00 50 04.1	-0.4
YMR				IAML		00 50 24.9	
	comp=E,134nm,0.5s						
YMR				IAML		00 50 25.6	
	comp=N,190nm,0.6s						
YNM	**Yellowstone No**	**1.23**	**158**	Pg	Pn	00 50 05.3	0.0
YNM				IAML		00 50 24.4	
	comp=E,136nm,0.3s						
YNM				IAML		00 50 24.9	
	comp=N,93nm,0.2s						
YNR	**Norris Junctio**	**1.25**	**157**		Pg	00 50 04.6	-0.2
YNR				IAML		00 50 25.1	
	comp=N,62nm,0.4s						
YNR				IAML		00 50 25.7	
	comp=E,86nm,0.3s						
YPM	**Purple Mountai**	**1.26**	**164**		Pn	00 50 05.8	0.0
YNE	**Yellowstone No**	**1.28**	**132**		Pg	00 50 05.0	-0.4
LYMT	**Lyon Mountain**	**1.28**	**330**		Pb	00 50 05.8	-0.1
YUF	**Upper Falls**	**1.30**	**153**		Pg	00 50 05.9	+0.1
YMP	**Mirror Lake Pl**	**1.41**	**143**		Pg	00 50 07.9	0.0
YMP				IAML		00 50 30.5	
	comp=E,161nm,0.3s						
YFT	**Old Faithful**	**1.46**	**165**		Pn	00 50 08.7	+0.1
LKWY	**Lake**	**1.47**	**152**		Pb	00 50 09.9	+0.8
MCMT	**McKenzie Canyo**	**1.48**	**226**		Pb	00 50 09.6	+0.3
BPMT	**Black Pine Rid**	**1.56**	**292**		Pg	00 50 10.9	0.0
H17A	**Grant Village**	**1.57**	**159**		Pg	00 50 11.3	+0.3
RLMT	**Red Lodge**	**1.64**	**116**		Pb	00 50 11.9	-0.2
RLMT				IAML		00 50 35.6	
	comp=E,104nm,0.3s						
RLMT				IAML		00 50 37.6	
	comp=E,66nm,0.3s						
OVMT	**Ovando**	**1.65**	**317**		Pg	00 50 12.5	-0.1
MCID	**Moose Creek**	**1.68**	**176**		Pb	00 50 12.8	0.0
MSO	**Missoula**	**2.04**	**299**		Pn	00 50 17.0	+0.7
MSO				IAML		00 50 48.2	
	comp=E,44nm,0.5s						
MSO				IAML		00 50 48.3	
	comp=E,41nm,0.5s						
MOOW	**Moose Ponds**	**2.16**	**168**		Pn	00 50 18.7	+0.6
FXWY	**Fox Creek**	**2.24**	**174**		Pn	00 50 20.4	+1.1
LOHW	**Long Hollow**	**2.32**	**166**		Pn	00 50 20.7	+0.4
TPAW	**Teton Pass**	**2.39**	**173**		Pn	00 50 21.5	+0.1
TPAW				IAML		00 51 22.3	
	comp=E,17nm,3.6s						
EGMT	**Eagleton**	**2.42**	**26**		Pn	00 50 21.5	-0.1
AHID	**Auburn Hatcher**	**3.11**	**177**		Pn	00 50 30.4	-0.7
HLID	**Hailey**	**3.17**	**225**		Pn	00 50 31.9	-0.1
HLID				Pg	Pg	00 50 40.3	-1.4
HLID				IAML		00 51 20.5	
	comp=E,28nm,0.5s						
HLID				IAML		00 51 22.4	
	comp=E,23nm,0.4s						
MKRVA	**Milk River, Al**	**3.29**	**355**		Pb	00 50 41.5	+1.5
PD31	**Pinedale Array**	**3.36**	**157**	Pn	Pn	00 50 35.0	+0.4
PDAR	**Pinedale Array**	**3.36**	**157**	Pn	Pn	00 50 34.5	-0.1
PLID	**Pearl Lake**	**3.36**	**258**	Pn	Pn	00 50 34.6	-0.1
PLID					Pb	00 50 43.0	+1.7
PLID				IAML		00 51 30.4	
	comp=E,12nm,0.4s						
PLID				IAML		00 51 30.5	
	comp=E,11nm,0.8s						
LAO	**LASA Array**	**3.65**	**75**	Pn	Pn	00 50 37.9	-0.6
MFID	**Camas Ranch**	**4.03**	**234**		Pn	00 50 42.6	-1.1
BMO	**Blue Mountains**	**4.32**	**259**	IAML		00 51 32.0	
	comp=E,6.3nm,4.7s						
BMO				IAML		00 52 07.4	
	comp=E,7.9nm,4.0s						

IDC 05 00:51:24.1±2.7, 4°.21S×134°.37E, h0km, mb3.4/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=101.5km s-min=29.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.64**	**180**	Pn	Pn	00 55 04.9	-1.2
	0.2nm,0.3s,baz=0.7,slow=13,SNR=11						
WRA				Sn	Sn	00 57 45.2	-15
	baz=351,slow=25,SNR=1.2						
	0.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**16.24**	**211**	Pn	Pn	00 55 11.7	-2.0
	0.2nm,0.3s,baz=36,slow=9.0,SNR=11						
FITZ				Sn	Sn	00 57 59.8	-15
	0.1nm,0.3s,baz=204,slow=17,SNR=6.3						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**19.35**	**181**	P	Pn	00 55 52.9	+0.4
	0.1nm,0.3s,baz=5.5,slow=12,SNR=9.6						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**68.39**	**324**	P	P	01 02 27.7	0.0
	0.2nm,0.5s,baz=112,slow=7.3,SNR=5.5						
	0.2nm,0.5s						

*NAO **05** 00:57:16.2±2.2, 71°.55N×11°.72W, ML4.3*
*DNK **05** 00:57:17.8±5.0, 71°.73N±0°.73W, h0km±40km, ML3.0*
*IDC **05** 00:57:17.6±0.6, 71°.65N×11°.92W, h0km, mb3.9/19, mbtmp4.0/26, ML2.9/4, MS3.6/59, Error ellipse: s-maj=17.1km s-min=10.1km az=24.0*
*NEIC **05** 00:57:19.6±1.2, 71°.73N±0°.07×12°.1W±0°.1, h10km±1km, mb4.5/110, Error ellipse: s-maj=12.3km s-min=6.7km az=189.0*
*FCIAR **05** 00:57:19.0, 71°.75N×13°.07W, h10km*
*GCMT **05** 00:57:20.6±0.3, 71°.62N±0°.02×11°.89W±0°.05, h24km±1km, MW4.8/95, Moment Tensor Solution. s12,c12; s95,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12±.09; $M_{\theta\theta}$1.08±.10; $M_{\phi\phi}$-1.20±.08; $M_{r\theta}$0.20±.15; $M_{\theta\phi}$1.25±.06; $M_{r\phi}$0.88±.16; Best double couple: $M_0$1.91300×10^{16} NP1:ϕ_s111.00000°, δ62.00000°, λ0.00000°. NP2: ϕ_s201.00000°, δ90.00000°, λ-152.00000°. Principal axes: T 1.8190, Plg19.0000°, Azm332.0000°; N 0.1860, Plg62.0000°, Azm201.0000°; P -2.0080, Plg19.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BER **05** 00:57:20.5±3.9, 71°.48N×11°.97W, h29km±47km, mb(Pn)4.6, ML4.3(NAO), Confirmed Earthquake*
ISC 05 00:57:17.8±0.3, 71°.69N±0°.04×11°.75W±0°.04, h10km, n590, σ1ⱣⱣ77/568, mb4.5/82, MS3.6/56, 2C-3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.24**	**127**	⇑*i*P	**Pn**	**00 57 38.3**	**-2.8**
JMI				*e*S	**Sb**	**00 57 52.7**	**-4.5**
JMI				IAML		00 58 01.8	
	comp=Z,1μm,0.8s						
JMI	**Jan Mayen**	**1.24**	**127**	Pg	**Pn**	**00 57 38.1**	**-2.9**
JMI				Lg	Lg	00 57 52.6	
JNW	**Jan Mayen West**	**1.26**	**120**	*e*P	**Pn**	**00 57 38.5**	**-2.9**
JNW				*e*S	**Sb**	**00 57 53.5**	**-4.2**
JNW				IAML		00 57 55.7	
	comp=Z,2μm,0.3s						
JMIC	**Jan Mayen**	**1.26**	**123**	⇑*i*P	**Pn**	**00 57 38.6**	**-2.8**
JMIC				*e*S	**Sb**	**00 57 53.2**	**-4.6**
JMIC				IAML		00 57 54.9	
	comp=Z,2μm,0.4s						
JMIC	**Jan Mayen**	**1.26**	**123**	Pg	**Pn**	**00 57 38.6**	**-2.8**
JMIC				Lg	Lg	00 57 52.9	
JMIC	**Jan Mayen**	**1.26**	**123**	Pn	**Pn**	**00 57 38.6**	**-2.8**
	comp=Z,118nm,0.3s,baz=169,slow=2.8,SNR=52						
JMIC				Sn	**Sb**	**00 57 52.2**	**-5.6**
	comp=Z,973nm,0.3s,baz=18,slow=22,SNR=25						
JMIC				LR	LR	00 58 16.2	
	comp=Z,1μm,20.0s,baz=320,slow=46						
JMIC	**Jan Mayen**	**1.26**	**123**	*i*P	**Pn**	**00 57 38.5**	**-3.0**
JMIC				*i*S	**Sb**	**00 57 52.4**	**-5.4**
JNE	**Jan Mayen East**	**1.31**	**121**	*e*P	**Pn**	**00 57 39.3**	**-2.8**
JNE				*e*S	**Sb**	**00 57 54.4**	**-4.9**
JNE				IAML		00 58 03.0	
	comp=Z,2μm,0.6s						
SCO	**Scoresbysund**	**3.54**	**255**	Pn	**Pn**	**00 58 09.8**	**-2.9**
SCO	**Scoresbysund**	**3.54**	**255**	*i*P	**Pn**	**00 58 09.9**	**-2.8**
SCO				*i*S	**Sn**	**00 58 46.8**	**-7.7**
SCO				IAML		00 58 48.2	
	comp=Z,121nm,0.6s						
SCO	**Scoresbysund**	**3.54**	**255**	*i*P	**Pn**	**00 58 10.2**	**-2.4**
SCO				*i*S	**Sn**	**00 58 46.8**	**-7.7**
SCO				IAML		00 58 48.2	
	comp=Z,121nm,0.6s						
DBG	**Daneborg**	**3.62**	**321**	*i*P	**Pn**	**00 58 12.6**	**-1.2**
DBG				*i*S	**Sn**	**00 58 50.4**	**-6.1**
DBG				IAML		00 58 53.1	
	comp=Z,246nm,0.5s						
DBG	**Daneborg**	**3.62**	**321**	Pn	**Pn**	**00 58 12.4**	**-1.4**
DBG				Sn	**Sn**	**00 58 51.4**	**-5.1**
DBG	**Daneborg**	**3.62**	**321**	*i*P	**Pn**	**00 58 12.6**	**-1.2**
DBG				*i*S	**Sn**	**00 58 50.4**	**-6.1**
DBG				IAML		00 58 53.1	
	comp=Z,246nm,0.5s						
DAG	**Danmarks Havn**	**5.44**	**343**	*i*P	**Pn**	**00 58 38.4**	**-0.4**
DAG	**Danmarks Havn**	**5.44**	**343**	*i*P	**Pn**	**00 58 38.4**	**-0.4**
DAG				*i*S	Sn	00 59 34.6	-6.7
BORG	**Borgarnes**	**7.82**	**212**	Pn	**Pn**	**00 59 13.2**	**+1.8**
BORG	**Borgarnes**	**7.82**	**212**	*e*P	**Pn**	**00 59 14.0**	**+2.6**
BORG	**Borgarnes**	**7.82**	**212**	Pn	**Pn**	**00 59 11.7**	**+0.3**
	comp=Z,6.5nm,0.4s,baz=22,slow=8.8,SNR=14						
BORG				Sn	**Sn**	**01 00 42.4**	**+2.6**
	baz=333,slow=13						
BORG	**Borgarnes**	**7.82**	**212**	*e*P	**Pn**	**00 59 14.0**	**+2.6**
SUMG	**Summit**	**8.22**	**289**	Pn	**Pn**	**00 59 17.3**	**0.0**
SUMG	**Summit**	**8.22**	**289**	*i*P	**Pn**	**00 59 17.9**	**+0.6**
SUMG				IAML		01 01 04.3	
	comp=Z,42nm,0.7s						
SUMG	**Summit**	**8.22**	**289**	*i*P	**Pn**	**00 59 17.9**	**+0.6**
SUMG				*i*S	**Sn**	**01 00 43.8**	**-6.5**
SUMG				IAML		01 01 04.3	
	comp=Z,42nm,0.7s						
HSPB	**Hornsund (broa**	**9.00**	**42**	*e*P	**Pn**	**00 59 26.9**	**-0.6**
HSPB	**Hornsund (broa**	**9.00**	**42**	*e*P	**Pn**	**00 59 27.9**	**+0.4**
HSPB				IAML		00 59 28.5	
	comp=Z,32nm,0.5s						
HSPB				*e*S	Sn	01 01 00.2	-8.4
HSPB	**Hornsund (broa**	**9.00**	**42**	Pn	**Pn**	**00 59 27.7**	**+0.2**
BRBA	**Barentsburg A**	**9.21**	**35**	*e*P	**Pn**	**00 59 31.0**	**+0.6**
BRBA				*i*		00 59 33.4	
BRBA				*e*S	Sn	01 01 06.8	-7.1
BRBA				IAML		01 01 10.5	
	comp=Z,8.1nm,0.3s						
BRBA	**Barentsburg A**	**9.21**	**35**	Pn	**Pn**	**00 59 30.7**	**+0.3**
BRBB	**Barentsburg B**	**9.22**	**35**	*e*P	**Pn**	**00 59 31.0**	**+0.4**
BRBB				*i*		00 59 33.4	
BRBB				*e*S	Sn	01 01 06.7	-7.5
BRBB	**Barentsburg B**	**9.22**	**35**	Pn	**Pn**	**00 59 30.8**	**+0.2**
BJO1	**Bjornoya**	**9.31**	**58**	*e*P	**Pn**	**00 59 31.5**	**-0.2**
BJO1				IAML		00 59 34.7	
	comp=Z,25nm,0.4s						
BJO1	**Bjornoya**	**9.31**	**58**	Pn	**Pn**	**00 59 33.5**	**+1.8**
BJO1	**Bjornoya**	**9.31**	**58**	*e*P	**Pn**	**00 59 32.6**	**+0.9**
BJO1				*e*S	**Sn**	**01 01 12.9**	**-3.4**
KBS	**Kingsbay**	**9.32**	**29**	Pn	**Pn**	**00 59 32.6**	**+0.6**
KBS	**Kingsbay**	**9.32**	**29**	*e*P	**Pn**	**00 59 32.0**	**0.0**
KBS				*e*S	Sn	01 01 08.4	-8.3
KBS				IAML		01 01 15.1	
	comp=Z,26nm,0.7s						
KBS	**Kingsbay**	**9.32**	**29**	Pn	**Pn**	**00 59 32.3**	**+0.3**
KBS				Sn	Sn	01 01 07.8	-8.8
KBS	**Kingsbay**	**9.32**	**29**	*e*P	**Pn**	**00 59 32.6**	**+0.6**
KBS				*e*S	Sn	01 01 07.7	-9.0
KBS	**Kingsbay**	**9.32**	**29**	*i*P	**Pn**	**00 59 31.9**	**-0.1**
KBS				*e*S	Sn	01 01 06.5	-10
LOF	**Lofoten**	**9.35**	**100**	*e*P	**Pn**	**00 59 31.7**	**-0.7**
LOF				*e*S	Sn	01 01 06.5	-11
LOF	**Lofoten**	**9.35**	**100**	Pn	**Pn**	**00 59 31.2**	**-1.2**
SPA0	**Spitsbergen Ar**	**9.66**	**35**	Pn	**Pn**	**00 59 37.9**	**+1.4**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**9.66**	**35**	Pn	**Pn**	**00 59 37.9**	**+1.4**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**9.66**	**35**	*e*P	**Pn**	**00 59 36.9**	**+0.3**
SPA0				*e*S	**Sn**	**01 01 21.0**	**-3.9**
SPITS	**Spitsbergen Ar**	**9.66**	**35**	Pn	**Pn**	**00 59 38.0**	**+1.4**
	comp=Z,31nm,0.6s,baz=222,slow=15,SNR=270						
SPITS				Sn	**Sn**	**01 01 20.0**	**-4.9**
	baz=239,slow=11						
ICESG	**Greenland Ices**	**9.68**	**268**	*i*P	**Pn**	**00 59 36.0**	**-1.2**
ICESG	**Greenland Ices**	**9.68**	**268**	*i*P	**Pn**	**00 59 36.0**	**-1.2**
ICESG				*e*S	Sn	01 01 16.3	-10
SOFL	**Sornfelli, Far**	**9.84**	**167**	*e*P	**Pn**	**00 59 41.1**	**+2.0**
STEI	**Steigen**	**10.00**	**99**	*e*P	**Pn**	**00 59 41.3**	**+0.1**
STEI				*e*S	Sn	01 01 19.4	-14
STEI				IAML		01 01 35.8	
	comp=Z,4.3nm,0.7s						
STEI	**Steigen**	**10.00**	**99**	Pn	**Pn**	**00 59 41.7**	**+0.5**
NOR	**Nord**	**10.03**	**356**	*i*P	**Pn**	**00 59 41.2**	**-0.5**
NOR	**Nord**	**10.03**	**356**	Pn	**Pn**	**00 59 41.1**	**-0.5**
NOR				Sn	Sn	01 01 24.5	-9.4
KONS	**Konsvik**	**10.23**	**108**	*e*P	**Pn**	**00 59 44.4**	**0.0**
KONS				*e*S	Sn	01 01 26.1	-13
KONS				IAML		01 01 36.2	
	comp=Z,6.7nm,0.5s						
KONS	**Konsvik**	**10.23**	**108**	Pn	**Pn**	**00 59 44.6**	**+0.2**
KONS				Sn	**Sn**	**01 01 31.2**	**-7.6**
TRO	**Tromso**	**10.31**	**87**	*e*P	**Pn**	**00 59 45.6**	**+0.2**
TRO				IAML		00 59 49.2	
	comp=Z,6.1nm,0.5s						
TRO	**Tromso**	**10.31**	**87**	Pn	**Pn**	**00 59 45.8**	**+0.4**
STOK	**Stokkvaagen**	**10.31**	**109**	*e*P	**Pn**	**00 59 45.0**	**-0.5**
STOK				IAML		00 59 50.1	
	comp=Z,9.1nm,0.3s						
STOK				*e*S	Sn	01 01 30.2	-11
STOK	**Stokkvaagen**	**10.31**	**109**	Pn	**Pn**	**00 59 45.2**	**-0.3**
STOK				Sn	Sn	01 01 31.6	-9.3
FAUS	**Fauske**	**10.33**	**101**	*e*P	**Pn**	**00 59 46.4**	**+0.6**
LEIR	**Leirfjorden**	**10.49**	**110**	*e*P	**Pn**	**00 59 46.7**	**-1.2**
LEIR				IAML		01 00 01.5	
	comp=Z,8.1nm,0.5s						
LEIR				*e*S	Sn	01 01 34.5	-11
JETT	**Jettan, Norway**	**10.81**	**86**	Pn	**Pn**	**00 59 53.0**	**+0.7**
JETT	**Jettan, Norway**	**10.81**	**86**	Pn	**Pn**	**00 59 53.0**	**+0.7**
MOR8	**Moi Rana**	**10.85**	**108**	*e*P	**Pn**	**00 59 53.1**	**+0.2**
MOR8				IAML		01 01 56.5	
	comp=Z,8.6nm,0.8s						
HOPEN	**Hopen**	**10.99**	**47**	*e*P	**Pn**	**00 59 55.4**	**+0.7**
HOPEN				IAML		00 59 58.1	
	comp=Z,30nm,0.2s						
HOPEN	**Hopen**	**10.99**	**47**	Pn	**Pn**	**00 59 55.6**	**+0.9**
HOPEN	**Hopen**	**10.99**	**47**	*e*P	**Pn**	**00 59 54.0**	**-0.7**
HOPEN				*e*S	**Sn**	**01 01 55.2**	**-2.3**
ANGG	**Ammassalik, Gr**	**11.14**	**250**	Pn	**Pn**	**00 59 56.9**	**+0.1**
KIF	**Kilpisjarvi**	**11.19**	**88**	*e*P	**Pn**	**00 59 58.4**	**+0.9**
KIF	**Kilpisjarvi**	**11.19**	**88**	Pn	**Pn**	**00 59 58.3**	**+0.9**
NSS	**Namsos**	**11.31**	**118**	*e*P	**Pn**	**00 59 58.4**	**-0.8**
NSS				*e*S	Sn	01 01 51.1	-14
NSS				IAML		01 02 04.1	
	comp=Z,6.5nm,0.4s						
HAMF	**Hammerfest**	**11.39**	**78**	*e*P	**Pn**	**01 00 00.4**	**+0.2**
HAMF	**Hammerfest**	**11.39**	**78**	Pn	**Pn**	**01 00 00.6**	**+0.4**
NEEM	**North Greenlan**	**11.69**	**317**	*i*P	**Pn**	**01 00 01.1**	**-3.5**
NEEM	**North Greenlan**	**11.69**	**317**	*i*P	**Pn**	**01 00 01.1**	**-3.5**
NEEM				*e*S	Sn	01 02 03.1	-12
NEEM				IAML		01 02 08.0	
	comp=Z,7.0nm,0.3s						
KTK1	**Kautokeino**	**11.95**	**86**	*e*P	**Pn**	**01 00 09.2**	**+1.3**
AKN	**Aaknes**	**11.97**	**133**	Pn	**Pn**	**01 00 06.7**	**-1.5**
AKN				Sn	**Sn**	**01 02 13.4**	**-8.1**
AKN	**Aaknes**	**11.97**	**133**	Pn	**Pn**	**01 00 06.7**	**-1.5**
AKN				Sn	**Sn**	**01 02 13.4**	**-8.1**
FOO	**Floro**	**12.05**	**139**	*e*P	**Pn**	**01 00 06.9**	**-2.5**
LRW	**Lerwick**	**12.35**	**155**	*e*P	**Pn**	**01 00 12.1**	**-1.2**
LRW	**Lerwick**	**12.35**	**155**	Pn	**Pn**	**01 00 13.2**	**-0.2**
HEF	**Hetta**	**12.39**	**88**	*e*P	**Pn**	**01 00 13.7**	**-0.2**
HEF	**Hetta**	**12.39**	**88**	Pn	**Pn**	**01 00 15.2**	**+1.2**
ARA0	**ARCESS Array S**	**12.42**	**82**	Pn	**Pn**	**01 00 15.4**	**+1.1**
	baz=294,slow=12						
ARA0	**ARCESS Array S**	**12.42**	**82**	Pn	**Pn**	**01 00 15.4**	**+1.1**
	baz=294,slow=12						
ARCES	**ARCESS Array B**	**12.42**	**82**	Pn	**Pn**	**01 00 14.9**	**+0.6**
ARCES	**ARCESS Array B**	**12.42**	**82**	Pn	**Pn**	**01 00 15.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=305,slow=12,SNR=30						
ARCES				LR	LR	01 04 16.0	
	comp=Z,137nm,21.4s,baz=306,slow=34						
	comp=Z,1.1nm,0.3s						
SUE	**Sulen**	**12.49**	**140**	*e*P	**Pn**	**01 00 13.4**	**-1.9**
HYA	**Hoyanger**	**12.69**	**137**	*e*P	**Pn**	**01 00 15.1**	**-2.9**
HYA				IAML		01 03 32.7	
	comp=Z,4.3nm,0.7s						
KEV	**Kevo**	**12.79**	**80**	Pn	**Pn**	**01 00 20.9**	**+1.6**
KEV	**Kevo**	**12.79**	**80**	*e*P	**Pn**	**01 00 20.3**	**+1.0**
KEV	**Kevo**	**12.79**	**80**	Pn	**Pn**	**01 00 20.9**	**+1.6**
ASK	**Askoy**	**13.10**	**140**	*e*P	**Pn**	**01 00 20.7**	**-2.9**
ILULI	**Ilulissat**	**13.23**	**278**	Pn	**Pn**	**01 00 23.4**	**-1.9**
VADS	**Vadso**	**13.35**	**77**	*e*P	**Pn**	**01 00 26.1**	**-0.9**
UPNV	**Upernavik**	**13.36**	**296**	IAmb	IAmb	01 00 29.9	
	comp=Z,12nm,0.7s						
UPNV	**Upernavik**	**13.36**	**296**	IAmb	IAmb	01 00 29.9	
	comp=Z,12nm,0.7s						
SKAR	**Skarslia**	**13.59**	**134**	*e*P	**Pn**	**01 00 29.9**	**-0.5**
BIGH	**Upper Bighouse**	**13.63**	**162**	*e*P	**Pn**	**01 00 31.4**	**+0.5**
NC204	**NORSAR Array S**	**13.65**	**128**	Pn	**Pn**	**01 00 30.8**	**-0.4**
NC303	**NORSAR Array S**	**13.85**	**127**	Pn	**Pn**	**01 00 36.9**	**+3.0**
NOA	**NORSAR Array B**	**13.97**	**128**	Pn	**Pn**	**01 00 34.9**	**-0.6**
	baz=327,slow=13,SNR=3.4						
NOA				Sn	**Sn**	**01 03 09.6**	**-0.8**
	baz=34,slow=12,SNR=1.9						
NOA				LR	LR	01 05 32.9	
	comp=Z,160nm,18.4s,baz=330,slow=35						
	comp=Z,1.0nm,0.9s						
NB201	**NORSAR Array S**	**13.98**	**128**	Pn	**P**	**01 00 40.9**	**-2.8**
NAO01	**NORSAR Array S**	**14.06**	**129**	Pn	**P**	**01 00 43.0**	**-1.6**
SFJD	**Kangerlussuaq**	**14.28**	**270**		**Pn**	**01 00 36.5**	**-3.2**
SFJD	**Kangerlussuaq**	**14.28**	**270**	Pn	**

CLL IAmb IAmb 01 02 28.1
comp=Z,13nm,1.1s
CLL Collm 23.26 138 P **P 01 02 27.4 +2.4**
CLL Collm 23.26 138 *i* P **P 01 02 27.4 +2.4**
comp=Z,12nm,1.0s
CLL L L 01 10 00.0
comp=Z,100nm,19.8s
NACGM Naroch 23.46 115 *eP* **P 01 02 31.9 +4.9**
comp=Z,1µm,0.9s,baz=330
BRG Berggiesshubel 23.87 137 *eP* **P 01 02 32.3 +1.3**
BRG Amp 01 02 33.8
comp=Z,27nm,1.9s
BRG Berggiesshubel 23.87 137 P P 01 02 40.0 +9.1
BRG Amp 01 02 42.2
comp=Z,6.8nm,1.1s
KSP Ksiaz 24.42 134 *eP* **P 01 02 37.4 +1.3**
KSP Ksiaz 24.42 134 P **P 01 02 38.0 +1.9**
comp=Z,28nm,1.3s
CHVC Chvalec 24.60 134 *eP* **P 01 02 40.9 +3.1**
OSTC Ostas 24.67 134 *eP* **P 01 02 40.4 +2.0**
PRU Pruhonice 24.83 137 *eP* **P 01 02 42.2 +2.4**
DPC Dobruska-Polom 24.89 134 *eP* **P 01 02 42.5 +2.1**
ECH Echery 25.13 149 P **P 01 02 45.5 +2.9**
ECH IAmb IAmb 01 02 52.8
comp=Z,16nm,1.2s
KHC Kasperske Hory 25.44 139 *eP* **P 01 02 47.8 +2.4**
KHC Kasperske Hory 25.44 139 P **P 01 02 47.5 +2.1**
comp=Z,10nm,2.2s
MORC Moravsky Berou 25.70 133 P **P 01 02 49.0 +1.3**
MORC IAmb IAmb 01 02 56.6
comp=Z,19nm,1.5s
MORC Moravsky Berou 25.70 133 *eP* **P 01 02 49.3 +1.6**
GEC2 GERESS Array S 25.74 139 P **P 01 02 51.0 +2.8**
GEC2 IAmb IAmb 01 02 53.5
comp=Z,12nm,1.2s
GERES GERESS Array B 25.74 139 P **P 01 02 50.6 +2.4**
GERES GERESS Array B 25.74 139 P **P 01 02 49.2 +1.0**
comp=Z,3.8nm,0.9s,baz=342,slow=8.4,SNR=8.1
GERES LR LR 01 11 57.9
comp=Z,101nm,19.3s,baz=278,slow=34
comp=Z,3.8nm,0.9s
OJC Ojcow 25.82 130 *eP* **P 01 02 52.6 +3.8**
OJC Ojcow 25.82 130 P **P 01 02 50.5 +1.7**
OJC Ojcow 25.82 130 P **P 01 02 51.0 +2.2**
comp=Z,14nm,1.5s
VRAC Vranov 25.92 135 LR LR 01 12 58.3
comp=Z,88nm,19.1s,baz=340,slow=36
VRAC Vranov 25.92 135 *eP* **P 01 02 52.1 +2.4**
KRUC Moravsky 26.11 135 *eP* **P 01 02 53.6 +2.2**
OBN Obninsk 26.20 104 P **P 01 02 53.6 +1.6**
OBN IAmb IAmb 01 02 58.6
comp=Z,11nm,0.6s
OBN Obninsk 26.20 104 P **P 01 02 54.5 +2.4**
comp=Z,18nm,1.5s
RNPP8 Varash 26.37 120 P **P 01 02 56.3 +2.6**
RNPP5 Staryi Chortor 26.48 121 P **P 01 02 57.3 +2.6**
NIE Niedzica 26.69 130 *eP* **P 01 03 02.2 +5.5**
NIE Niedzica 26.69 130 P **P 01 02 58.6 +1.9**
comp=Z,7.2nm,1.3s
LANS Liptovska Anna 26.74 131 *eP* **P 01 02 58.5 +1.4**
MODS Modra-Piesok 26.96 134 *eP* **P 01 03 01.6 +2.5**
DAVOX Davos/Dischmat 26.98 146 LR LR 01 13 32.6
comp=Z,169nm,19.3s,baz=346,slow=36
VYHS Vyhne 27.20 132 *eP* **P 01 03 02.9 +1.6**
KIRV Kirov 27.37 86 LR LR 01 12 52.6
comp=Z,83nm,19.7s,baz=322,slow=34
KOLS Kolonicke sedl 27.63 127 *eP* **P 01 03 10.7 +5.6**
AK19 Malin Array Si 27.80 117 P **P 01 03 08.6 +2.1**
AK16 Malin Array Si 27.87 117 P **P 01 03 09.7 +2.5**
AKASG Malin Array Be 27.88 117 P **P 01 03 09.2 +2.0**
comp=Z,0.8nm,0.6s,baz=331,slow=9.3,SNR=4.1
AKASG LR LR 01 13 24.5
comp=Z,101nm,18.6s,baz=332,slow=35
comp=Z,0.8nm,0.6s
AKBB Malin Array Si 27.88 117 P **P 01 03 10.5 +3.2**
AKBB Malin Array Si 27.88 117 P **P 01 03 09.3 +2.1**
KIEV Kiev 27.88 117 P **P 01 03 09.3 +2.1**
comp=Z,40nm,2.4s
AK14 Malin Array Si 27.91 117 P **P 01 03 09.8 +2.3**
PSZ Piszkesteto 27.99 131 P **P 01 03 10.8 +2.4**
PSZ IAmb IAmb 01 03 18.5
comp=Z,17nm,1.4s
HOLU Holmets 28.03 127 P **P 01 03 09.9 +1.3**
LUBAR Lubar, Ukraine 28.17 119 P **P 01 03 11.9 +2.0**
HORU Horodok 28.45 122 P **P 01 03 13.9 +1.5**
SCHQ Schefferville 28.54 263 LR LR 01 13 21.5
comp=Z,177nm,20.3s,baz=34,slow=34
TEOL Teolo 28.68 144 P **P 01 03 16.8 +2.4**
KSV Kosov 28.91 124 P **P 01 03 18.5 +1.9**
BURAR Bucovina Array 29.60 125 P **P 01 03 25.3 +2.5**
SORM Soroca 29.96 120 P **P 01 03 28.0 +2.3**
comp=Z,17nm,1.9s
A36M Sachs Harbour 30.41 326 P **P 01 03 30.6 +1.1**
A36M Sachs Harbour 30.41 326 P **P 01 03 29.7 +0.2**
baz=35
VOIR 31.58 126 P **P 01 03 42.0 +1.8**
MLR Muntele Rosu 31.76 125 LR LR 01 17 13.4
comp=Z,363nm,18.3s,baz=342,slow=38
BELG Belogornoye 31.96 95 LR LR 01 16 13.9
comp=Z,79nm,18.1s,baz=336,slow=36
ARTI Arti 31.98 81 P **P 01 03 45.3 +1.8**
ARTI IAmb IAmb 01 03 54.6
comp=Z,7.8nm,1.0s
ARTI Arti 31.98 81 LR LR 01 15 52.2
comp=Z,106nm,20.6s,baz=317,slow=35
ESDC Sonseca Array 32.33 169 LR LR 01 16 56.5
comp=Z,103nm,18.1s,baz=347,slow=36
C36M Paulatuk 32.39 322 P **P 01 03 47.7 +0.7**
C36M IAmb IAmb 01 03 49.5
comp=Z,9.7nm,1.2s
C36M Paulatuk 32.39 322 P **P 01 03 47.6 +0.7**
baz=33,SNR=6.0
TIRR Tirgusor 33.36 123 P **P 01 03 57.4 +1.7**
TIXI Tiksi 34.66 21 LR LR 01 16 53.4
comp=Z,34nm,19.2s,baz=11,slow=34
D28M Stokes Point 34.98 330 P **P 01 04 10.5 +1.1**
baz=26
INK Inuvik 35.03 327 P **P 01 04 10.4 +0.5**
INK IAmb IAmb 01 04 12.1
comp=Z,11nm,1.2s
INK Inuvik 35.03 327 LR LR 01 18 54.4
comp=Z,163nm,21.9s,baz=312,slow=37
INK Inuvik 35.03 327 P **P 01 04 10.4 +0.5**
baz=28,SNR=7.1
KBN Korca 35.10 135 P **P 01 04 13.5 +2.6**
C26K Camden Bay 35.35 334 P **P 01 04 13.1 +0.4**
baz=24
D27M Malcolm River 35.40 332 P **P 01 04 12.2 -1.0**
baz=25
A21K Barrow 35.43 341 P **P 01 04 13.6 +0.3**
baz=18
C27K Jago River 35.45 333 P **P 01 04 14.2 +0.6**
baz=24
A22K Sinclair Lake 35.56 340 P **P 01 04 15.2 +0.8**
baz=19
E29M Blow River 35.69 329 P **P 01 04 15.9 +0.2**
baz=26
RDO Rodhopi 35.73 128 P **P 01 04 19.3 +3.2**
E28M Babbage River 35.76 330 P **P 01 04 17.1 +0.9**
baz=25
F31M Tsiigehtchic 35.84 326 P **P 01 04 17.4 +0.6**
F31M IAmb IAmb 01 04 19.2
comp=Z,16nm,1.4s
F31M Tsiigehtchic 35.84 326 P **P 01 04 16.3 -0.5**
baz=27
B22K Teshekpuk Lake 36.02 339 P **P 01 04 18.6 +0.3**
baz=20
C24K Franklin Bluff 36.03 336 P **P 01 04 19.1 +0.6**
baz=22
F30M Barrier River 36.04 327 P **P 01 04 18.6 0.0**
baz=26
D25K Kavik River 36.10 335 P **P 01 04 18.8 -0.4**
baz=23
YKA Yellowknife Ar 36.14 310 P **P 01 04 20.1 +0.6**
comp=Z,2.3nm,1.0s,baz=33,slow=8.6,SNR=21
YKA LR LR 01 18 51.2
comp=Z,202nm,20.7s,baz=358,slow=36
comp=Z,2.3nm,1.0s
C23K Itkillik River 36.16 337 P **P 01 04 19.9 +0.2**
baz=21
G31M Satah River 36.40 326 P **P 01 04 22.1 +0.5**
G31M Satah River 36.40 326 P **P 01 04 22.1 +0.5**
baz=27,SNR=9.1
E27K Coleen River 36.46 331 P **P 01 04 22.5 +0.3**
baz=24
D24K Happy Valley 36.58 336 P **P 01 04 24.6 +1.4**
D24K IAmb IAmb 01 05 04.0
comp=Z,11nm,1.5s
D24K Happy Valley 36.58 336 P **P 01 04 22.8 -0.4**
baz=21
G30M tAoh Zraii Nji 36.69 327 P **P 01 04 23.6 -0.6**
baz=26
B20K Meade River 36.74 341 P **P 01 04 24.2 -0.3**
baz=18
VAE Valguarnera 36.82 144 LR LR 01 21 02.2
comp=Z,128nm,18.6s,baz=342,slow=39
B21K Ikpikpuk River 36.84 339 P **P 01 04 26.4 +1.1**
B21K Ikpikpuk River 36.84 339 P **P 01 04 24.9 -0.5**
baz=19
A19K Wainwright 36.93 343 P **P 01 04 26.1 -0.1**
baz=16
AKTO Aktyubinsk 36.94 87 LR LR 01 18 57.8
comp=Z,82nm,20.4s,baz=42,slow=35
D23K Nanushuk River 36.99 337 P **P 01 04 26.8 0.0**
baz=20
G29M Pine Creek 37.05 328 P **P 01 04 27.9 +0.6**
baz=25
E25K Arctic Village 37.10 333 P **P 01 04 29.0 +1.3**
E25K Arctic Village 37.10 333 P **P 01 04 28.8 +1.1**
baz=22
TOLK Toolik Lake Re 37.16 336 P **P 01 04 30.1 +1.9**
TOLK IAmb IAmb 01 04 32.4
comp=Z,9.9nm,1.4s
TOLK Toolik Lake Re 37.16 336 P **P 01 04 28.3 +0.1**
baz=21
BZK Bozkurt 37.20 118 P **P 01 04 31.6 +2.9**
F26K Sheenjek River 37.30 332 P **P 01 04 28.9 -0.4**
baz=23
C21K Knifeblade Rid 37.30 339 P **P 01 04 29.6 +0.3**
baz=18
D22K Ayikyak River 37.32 338 P **P 01 04 29.0 -0.5**
baz=19
H31M Peel River 37.42 325 P **P 01 04 29.6 -0.8**
baz=26
WRGLY Wrigley 37.54 316 P **P 01 04 31.1 -0.3**
baz=29
E24K Your Creek 37.55 335 P **P 01 04 31.4 -0.1**
baz=21
BMAR Burnt Mountain 37.60 332 P **P 01 04 33.1 +1.1**
F25K Christian Rive 37.61 333 P **P 01 04 32.1 +0.1**
baz=22
KEST Kesra 37.67 151 P **P 01 04 33.9 +1.0**
comp=Z,2.2nm,0.8s,baz=337,slow=7.7,SNR=2.2
KEST LR LR 01 19 53.3
comp=Z,89nm,19.2s,baz=359,slow=36
comp=Z,2.2nm,0.8s
E23K Chandalar 37.71 336 P **P 01 04 33.3 +0.4**
baz=20
G27K Doyon Strip 37.73 330 P **P 01 04 33.4 +0.4**
baz=23
H29M Whitestone 37.74 328 P **P 01 04 33.0 -0.1**
baz=25
B18K Kokolik River 37.81 343 P **P 01 04 33.4 -0.2**
baz=15
E21K Killik River 37.89 338 P **P 01 04 34.5 +0.2**
baz=18
E22K Anaktuvuk Pass 37.92 337 P **P 01 04 34.1 -0.5**
baz=19,SNR=5.3
D20K Etivluk River 37.92 340 P **P 01 04 34.9 +0.2**
baz=17
G26K Porcupine Rive 37.93 332 P **P 01 04 34.5 -0.1**
baz=23
F24K Squaw Lake 37.99 334 P **P 01 04 36.6 +1.4**
F24K Squaw Lake 37.99 334 P **P 01 04 34.6 -0.6**
baz=21
KBZ Khabaz 38.18 107 P **P 01 04 38.9 +1.9**
comp=Z,0.9nm,0.9s,baz=320,slow=6.6,SNR=5.2
comp=Z,0.9nm,0.9s
H27K Steamboat Moun 38.25 330 P **P 01 04 37.4 0.0**
baz=23
D19K Kuna River 38.29 341 P **P 01 04 37.7 -0.1**
baz=16
I30M Mount Dempster 38.31 326 P **P 01 04 37.3 -0.7**
baz=25
E20K Nigu River 38.31 340 P **P 01 04 38.2 +0.2**
baz=17
G25K Bearman Lake 38.45 333 P **P 01 04 37.8 -1.1**
baz=21
C18K Utukok River 38.45 343 P **P 01 04 37.9 -1.3**
baz=15
FYU Fort Yukon 38.51 332 P **P 01 04 41.2 +1.8**
I29M Ogilvie Camp, 38.52 327 P **P 01 04 39.8 +0.1**
I29M IAmb IAmb 01 04 41.6
comp=Z,8.7nm,1.1s
I29M Ogilvie Camp, 38.52 327 P **P 01 04 38.9 -0.8**
baz=24,SNR=5.8
BVAR Borovoye Array 38.54 74 P **P 01 04 42.1 +2.2**
comp=Z,0.7nm,0.5s,baz=338,slow=10.0,SNR=5.3
BVAR LR LR 01 20 38.3
comp=Z,70nm,21.4s,baz=332,slow=36
comp=Z,0.7nm,0.5s
F22K John River 38.56 337 P **P 01 04 38.9 -1.1**
baz=19
ABKAR Akbulak array 38.58 86 P **P 01 04 42.2 +2.0**
G24K Hadweenzic Riv 38.70 334 P **P 01 04 43.0 +1.9**
G24K IAmb IAmb 01 04 45.8
comp=Z,16nm,1.4s
G24K Hadweenzic Riv 38.70 334 P **P 01 04 40.0 -1.2**
baz=21,SNR=5.9
I28M Miner Creek 38.71 328 P **P 01 04 40.2 -1.2**
baz=24
C17K DeLong Mountai 38.80 344 P **P 01 04 41.1 -0.9**
baz=14
I27K Kandik River 38.84 329 P **P 01 04 41.8 -0.6**
baz=23
H25L Birch Creek 38.87 332 P **P 01 04 42.1 -0.5**
baz=21,SNR=6.2
J30M Hart River 38.89 326 P **P 01 04 42.0 -1.0**
baz=25
F21K Alatna River 38.99 337 P **P 01 04 43.0 -0.6**
baz=18
G23K Bananza Creek 39.04 335 P **P 01 04 43.4 -0.7**
baz=20
MDT Midelt 39.12 170 LR LR 01 19 40.4
comp=Z,110nm,21.0s,baz=2.0,slow=34
BRTR Keskin Array B 39.18 120 P **P 01 04 46.9 +1.3**
comp=Z,0.4nm,0.8s,baz=328,slow=7.3,SNR=4.7
comp=Z,0.4nm,0.8s
C16K Lisburne Hills 39.18 345 P **P 01 04 45.4 +0.2**
baz=13
RDOG Red Dog Mine 39.19 343 P **P 01 04 45.5 +0.3**
baz=14
E19K Redstone River 39.20 340 P **P 01 04 45.0 -0.3**
baz=17
J29N Klondike Camp 39.34 327 P **P 01 04 46.2 -0.4**
baz=24
I26K Coal Creek Min 39.36 330 P **P 01 04 48.0 +1.3**
I26K IAmb IAmb 01 04 50.2
comp=Z,16nm,1.1s
I26K Coal Creek Min 39.36 330 P **P 01 04 46.9 +0.2**
baz=22,SNR=12
F20K Avaraart Lake 39.42 339 P **P 01 04 47.2 0.0**
baz=17
FFC Flin Flon 39.46 294 P **P 01 04 49.0 +1.4**
PRP Porcupine Dome 39.53 332 P **P 01 04 49.4 +1.2**
PRP IAmb IAmb 01 04 52.0
comp=Z,9.5nm,0.9s
PRP Porcupine Dome 39.53 332 P **P 01 04 48.8 +0.6**
baz=21,SNR=10
D17K Noatak River 39.55 343 P **P 01 04 48.5 +0.3**
baz=14
H24K Noodor Dome 39.57 333 P **P 01 04 47.9 -0.6**
baz=20
E18K Tukpahlearik C 39.59 342 P **P 01 04 49.1 +0.6**
baz=15
G21K Allakaket 39.67 337 P **P 01 04 49.6 +0.3**
baz=18
MMPY Sheldon Lake, 39.71 321 P **P 01 04 51.9 +2.2**
MMPY IAmb IAmb 01 04 54.5
comp=Z,14nm,1.2s
MMPY Sheldon Lake, 39.71 321 P **P 01 04 50.5 +0.8**
baz=26,SNR=11
K29M Barlow Dome 39.77 326 P **P 01 04 48.8 -1.5**
baz=24
F19K Shaleruckik Mo 39.86 340 P **P 01 04 51.4 +0.6**
baz=16
DAWY Dawson 39.90 327 P **P 01 04 52.3 +1.1**
DAWY Dawson 39.90 327 P **P 01 04 51.2 -0.1**
baz=23,SNR=5.4
H22K Ishtalitna Cre 39.99 336 P **P 01 04 52.2 +0.3**
baz=19
TGTN Hyland Airport 40.09 318 P **P 01 04 53.0 +0.1**
baz=26
J26L Joseph Creek 40.18 330 P **P 01 04 52.9 -0.7**
baz=22
POKR Poker Plat Res 40.19 333 P **P 01 04 55.7 +2.1**
POKR IAmb IAmb 01 04 57.4
comp=Z,8.7nm,1.1s
POKR Poker Plat Res 40.19 333 P **P 01 04 53.4 -0.2**
baz=20
F18K Selawik 40.29 341 P **P 01 04 53.9 -0.4**
baz=15
J25K Salcha River, 40.35 331 P **P 01 04 55.0 -0.1**
baz=21
K27K Chicken 40.38 329 P **P 01 04 56.8 +1.6**
K27K IAmb IAmb 01 04 58.3
comp=Z,17nm,1.1s
K27K Chicken 40.38 329 P **P 01 04 55.1 -0.1**
baz=22,SNR=14
H21K Melozitna Rive 40.40 336 P **P 01 04 55.0 -0.4**
baz=18
KOTAN Kotaneelee Air 40.42 314 P **P 01 04 55.3 -0.3**
baz=27
I23K Minto, Yukon-K 40.43 334 P **P 01 04 57.6 +2.1**
I23K IAmb IAmb 01 04 59.3
comp=Z,9.8nm,1.1s
I23K Minto, Yukon-K 40.43 334 P **P 01 04 55.0 -0.5**
baz=19,SNR=5.2
IL31 40.43 332 P **P 01 04 56.7 +1.1**
IL31 IAmb IAmb 01 04 58.8
comp=Z,9.6nm,1.1s
ILAR Eielson Array 40.43 332 P **P 01 04 57.0 +1.4**
ILAR Eielson Array 40.43 332 P **P 01 04 57.6 +2.0**
comp=Z,3.4nm,0.9s,baz=14,slow=7.2,SNR=37
ILAR LR LR 01 24 46.6
comp=Z,80nm,18.9s,baz=30,slow=41
comp=Z,3.4nm,0.9s
G19K Purcell Mounta 40.45 339 P **P 01 04 56.3 +0.6**
baz=16
FARO Faro, Yukon 40.48 322 P **P 01 04 57.6 +1.6**
FARO Faro, Yukon 40.48 322 P **P 01 04 56.1 0.0**
baz=25
BILL Bilibino 40.52 1 P **P 01 04 57.8 +1.5**
BILL IAmb IAmb 01 05 01.1
comp=Z,13nm,1.4s
L29M L29M 40.56 326 P **P 01 04 56.6 -0.1**
baz=23
F17K Baldwin Pennin 40.60 342 P **P 01 04 56.4 -0.5**
baz=14
CCB Clear Creek Bu 40.69 333 P **P 01 04 58.8 +1.1**
M31M Drury Creek, Y 40.70 323 P **P 01 04 58.5 +0.6**
baz=24
SCRK Sand Creek 40.74 330 P **P 01 04 59.6 +1.3**
SCRK Sand Creek 40.74 330 P **P 01 04 58.8 +0.5**
baz=21
I21K Tanana 40.75 336 P **P 01 04 58.4 +0.2**
baz=18
HDA Harding Lake 40.78 332 P **P 01 05 00.3 +1.8**
HDA IAmb IAmb 01 05 01.5
comp=Z,12nm,0.9s
HDA Harding Lake 40.78 332 P **P 01 04 58.7 +0.2**
baz=20,SNR=11
M30M Minto, Yukon 40.81 325 P **P 01 05 00.6 +1.8**
M30M IAmb IAmb 01 05 02.0
comp=Z,8.9nm,1.0s
M30M Minto, Yukon 40.81 325 P **P 01 04 57.7 -1.1**
baz=23,SNR=10
H20K Anotleneega Mo 40.82 337 P **P 01 04 59.1 +0.3**
baz=17
G18K Tagagawik 40.86 340 P **P 01 04 59.8 +0.7**
baz=15
WRH Wood River Hil 40.89 333 P **P 01 04 59.8 +0.4**
NEA2 Nenana 40.92 333 P **P 01 05 01.1 +1.5**
NEA2 IAmb IAmb 01 05 02.8
comp=Z,11nm,1.0s
NEA2 Nenana 40.92 333 P **P 01 04 59.1 -0.5**
baz=19
H19K Roundabout Mou 40.97 338 P **P 01 05 00.2 +0.2**
baz=16
ARG Arkhangelos 41.04 128 P **P 01 05 03.0 +2.2**
DOT Dot Lake 41.06 330 P **P 01 05 01.8 +1.0**
DOT IAmb IAmb 01 05 03.6
comp=Z,6.3nm,0.8s
RIDG Independent Ri 41.09 330 P **P 01 05 02.1 +1.0**
RIDG IAmb IAmb 01 05 04.6
comp=Z,11nm,1.2s
RIDG Independent Ri 41.09 330 P **P 01 05 00.6 -0.5**
baz=21
K24K Donnelly Dome 41.18 331 P **P 01 05 01.9 +0.1**
baz=20
SADO Sadowa 41.20 267 LR LR 01 21 17.3
comp=Z,84nm,18.4s,baz=236,slow=35
BCAR Beaver Creek A 41.23 328 P **P 01 05 04.0 +1.8**
M29M Somme Creek 41.24 326 P **P 01 05 01.2 -1.2**
baz=23
L27K Beaver Creek, 41.24 328 P **P 01 05 03.7 +1.3**
L27K IAmb IAmb 01 05 05.9
comp=Z,14nm,1.1s
L27K Beaver Creek, 41.24 328 P **P 01 05 01.6 -0.8**
baz=22,SNR=15
L61B Northampton 41.27 259 P **P 01 05 03.1 +0.4**
baz=25
N32M Quiet Lake 41.41 321 P **P 01 05 03.3 -0.5**
baz=24
I20K Naaghedeneel 41.44 337 P **P 01 05 03.5 -0.3**
baz=17
M65A Busby, Falmout 41.45 256 P **P 01 05 03.3 -0.9**
baz=24
G17K Kiwalik Mounta 41.46 341 P **P 01 05 03.7 -0.3**
baz=14
WTLY Watson Lake, Y 41.48 318 P **P 01 05 04.2 -0.1**
baz=25
L26K Log Cabin Wild 41.53 329 P **P 01 05 06.2 +1.6**
L26K Log Cabin Wild 41.53 329 P **P 01 05 04.1 -0.5**
baz=21
H18K Honhosa River 41.55 339 P **P 01 05 03.6 -1.2**
baz=15
ULM Lac du Bonnet 41.57 286 P **P 01 05 05.8 +0.7**
comp=Z,3.1nm,0.9s,baz=28,slow=9.2,SNR=4.9
ULM LR LR 01 21 24.2
comp=Z,59nm,18.9s,baz=326,slow=35
comp=Z,3.1nm,0.9s
N31M Braeburn, Yuko 41.63 323 P **P 01 05 06.5 +1.1**
N31M IAmb IAmb 01 05 09.1
comp=Z,12nm,0.9s
N31M Braeburn, Yuko 41.63 323 P **P 01 05 05.9 +0.4**
baz=23,SNR=8.2
F15K North Star Dit 41.64 344 P **P 01 05 05.4 -0.1**
baz=13
BPAW Bear Paw Mtn. 41.65 334 P **P 01 05 06.7 +1.1**
BPAW IAmb IAmb 01 05 08.8
comp=Z,9.2nm,1.0s
BPAW Bear Paw Mtn. 41.65 334 P **P 01 05 06.2 +0.6**
baz=18,SNR=6.6
MENT Mentasta 41.67 329 P **P 01 05 07.1 +1.3**
MENT IAmb IAmb 01 05 09.3
comp=Z,9.3nm,1.1s
MCK McKinley 41.72 333 P **P 01 05 07.5 +1.3**
MCK IAmb IAmb 01 05 09.3
comp=Z,15nm,1.2s
MCK McKinley 41.72 333 P **P 01 05 06.3 +0.1**
baz=19,SNR=6.6
G16K Koyuk River 41.73 342 P **P 01 05 05.7 -0.5**
baz=14
GCSA Galena City Sc 41.78 338 P **P 01 05 06.8 +0.2**
baz=16
TOAD Toad River Com 41.84 314 P **P 01 05 07.6 +0.3**
baz=26
N30M Aishikik Lake 41.90 324 P **P 01 05 07.4 -0.4**
baz=23
M27K Edge Creek, AK 41.91 328 P **P 01 05 07.0 -0.9**
baz=21
PAX Paxson 41.92 330 P **P 01 05 09.0 +1.1**
PAX Paxson 41.92 330 P **P 01 05 07.6 -0.4**
baz=20,SNR=5.9
H17K Granite Mounta 41.93 340 P **P 01 05 07.4 -0.5**
baz=15
ZALV Zalesovo Beam 41.94 61 P **P 01 05 10.0 +1.9**
comp=Z,0.4nm,0.2s,baz=312,slow=9.6,SNR=4.3
ZALV LR LR 01 24 00.5
comp=Z,64nm,21.9s,baz=56,slow=38
comp=Z,0.4nm,0.2s
J20K Nowinta River 41.99 336 P **P 01 05 07.8 -0.6**
baz=17
RND Reindeer 42.01 333 P **P 01 05 10.7 +2.0**
F14K Arctic Creek 42.02 344 P **P 01 05 08.8 +0.3**
baz=12
CHUM Lake Minchumin 42.04 335 P **P 01 05 09.2 +0.4**
baz=18
M26K Nabesna, AK 42.05 328 P **P 01 05 08.5 -0.6**
baz=21

TNA	Tin City	42.06 345	P	P	01 05 09.4 +0.5
	baz=11				
TRF	Thorofare Moun	42.18 334	P	P	01 05 10.2 0.0
	baz=18				
WHY	Whitehorse	42.22 322	P	P	01 05 10.8 +0.4
WHY	Whitehorse	42.22 322	P	P	01 05 10.6 +0.1
	baz=23				
P33M	Teslin, Yukon	42.22 320	P	P	01 05 11.2 +0.8
P33M	Teslin, Yukon	42.22 320	P	P	01 05 09.7 -0.7
	baz=24				
G15K	Niukluk	42.28 343	P	P	01 05 10.7 -0.1
	baz=13				
YUK4	Talbot Arm	42.29 325	P	P	01 05 10.2 -0.9
	baz=22				
O30N	Mendenhall	42.35 323	P	P	01 05 11.9 +0.5
O30N	Mendenhall	42.35 323	P	P	01 05 11.8 +0.5
	baz=23				
J19K	Poorman	42.35 337	P	P	01 05 11.7 +0.4
	baz=16				
HARP	HAARP	42.41 330	P	P	01 05 11.8 -0.1
	baz=20				
CAST	Castle Rocks	42.45 335	P	P	01 05 13.1 +0.9
CAST			IAmb	IAmb	01 05 15.3
	comp=Z,8.3nm,1.0s				
CAST	Castle Rocks	42.45 335	P	P	01 05 12.6 +0.4
	baz=18,SNR=9.5				
H16K	Elim	42.46 342	P	P	01 05 12.6 +0.4
	baz=13				
BINY	Binghamton	42.52 262	P	P	01 05 14.0 +1.0
BINY			IAmb	IAmb	01 05 49.9
	comp=Z,8.3nm,1.1s				
YUK8	Steele Glacier	42.55 326	P	P	01 05 13.5 +0.2
	baz=22				
HYT	Haines Junctio	42.56 324	P	P	01 05 14.2 +0.9
HYT			IAmb	IAmb	01 05 16.5
	comp=Z,6.9nm,0.9s				
HYT	Haines Junctio	42.56 324	P	P	01 05 13.5 +0.2
	baz=22,SNR=8.8				
R33M	Jennings River	42.59 319	P	P	01 05 13.8 +0.3
	baz=24				
YUK6	Outpost Mounta	42.61 325	P	P	01 05 13.8 0.0
	baz=22				
K20K	Telida	42.77 336	P	P	01 05 15.6 +0.8
	baz=17				
ANM	Nome	42.83 344	P	P	01 05 16.2 +1.0
	baz=12				
M24K	Tolsona, Glenn	42.84 330	P	P	01 05 15.3 -0.1
	baz=20				
PPLA	Purkeypile	42.97 335	P	P	01 05 16.1 -0.4
	baz=17				
P32M	Atlin	42.97 321	P	P	01 05 16.4 -0.1
	baz=23				
J18K	Innoko River	43.00 338	P	P	01 05 17.0 +0.4
	baz=16				
I17K	Unalakleet	43.03 340	P	P	01 05 15.7 -1.1
	baz=14				
N25K	Chitina, Valde	43.07 329	P	P	01 05 18.8 +1.5
N25K			IAmb	IAmb	01 05 20.4
	comp=Z,8.4nm,1.0s				
N25K	Chitina, Valde	43.07 329	P	P	01 05 16.4 -0.8
	baz=20,SNR=7.7				
KURBB	Kurchatov Arra	43.08 69	P	P	01 05 18.4 +1.0
	comp=Z,0.9nm,0.7s,baz=331,slow=7.7,SNR=8.1				
KURBB			LR	LR	01 26 20.3
	comp=Z,104nm,18.5s,baz=171,slow=40				
	comp=Z,0.9nm,0.7s				
GLB	Gilahina Butte	43.09 329	P	P	01 05 19.0 +1.5
GLB			IAmb	IAmb	01 05 20.5
	comp=Z,9.6nm,1.2s				
O28M	Mount Upton	43.10 326	P	P	01 05 16.9 -0.9
	baz=21				
P30M	Million Dollar	43.11 323	P	P	01 05 17.1 -0.5
	baz=22				
CUT	Chulitna	43.17 333	P	P	01 05 17.8 -0.2
	baz=18				
O29M	Mount Kennedy	43.25 324	P	P	01 05 18.5 -0.3
	baz=22				
Q32M	Nakina River	43.26 319	P	P	01 05 18.8 -0.2
	baz=23				
DLBC	Dease Lake	43.27 317	P	P	01 05 20.3 +1.4
DLBC	Dease Lake	43.27 317	P	P	01 05 20.0 +1.1
	comp=Z,3.3nm,0.9s,baz=26,slow=6.4,SNR=6.1				
DLBC			LR	LR	01 22 59.3
	comp=Z,146nm,19.1s,baz=24,slow=36				
	comp=Z,3.3nm,0.9s				
DLBC	Dease Lake	43.27 317	P	P	01 05 18.2 -0.8
	baz=24				
SCM	Sheep Creek Mo	43.28 331	P	P	01 05 19.3 +0.3
SCM	Sheep Creek Mo	43.28 331	P	P	01 05 18.5 -0.4
	baz=19				
J17K	VABM Dome	43.34 339	P	P	01 05 18.1 -1.2
	baz=14				
M23K	Glacier View	43.38 331	P	P	01 05 18.3 -1.4
	baz=19				
KLU	Klutina	43.39 330	P	P	01 05 21.2 +1.4
KLU	Klutina	43.39 330	P	P	01 05 19.5 -0.4
	baz=19				
SKAG	Skagway	43.41 322	P	P	01 05 19.5 -0.5
	baz=23				
TTA	Tatalina	43.43 337	P	P	01 05 20.2 +0.1
	baz=16				
SML	Sawmill	43.46 332	P	P	01 05 21.5 +1.2
SML			IAmb	IAmb	01 05 23.1
	comp=Z,13nm,1.2s				
SML	Sawmill	43.46 332	P	P	01 05 20.1 -0.3
	baz=18				
L20K	Farewell, AK	43.59 336	P	P	01 05 20.6 -0.8
	baz=16				
J16K	Anvik River	43.61 340	P	P	01 05 21.5 0.0
	baz=14				
BMRM	Bremner River	43.67 329	P	P	01 05 21.8 -0.3
	baz=20				
SKT	Skwentna	43.76 334	P	P	01 05 22.6 -0.1
	baz=17				
M22K	Willow	43.77 333	P	P	01 05 22.7 -0.1
	baz=18				
PMR	Palmer	43.78 332	P	P	01 05 22.1 -0.8
	baz=18				
KNK	Knik Glacier	43.85 332	P	P	01 05 24.9 +1.3
KNK			IAmb	IAmb	01 05 26.1
	comp=Z,17nm,1.3s				
KNK	Knik Glacier	43.85 332	P	P	01 05 23.1 -0.4
	baz=18				
K17K	Iditarod	43.91 339	P	P	01 05 23.5 -0.4
	baz=15				
YAK	Yakutsk	43.93 25	LR	LR	01 23 54.7
	comp=Z,48nm,20.9s,baz=308,slow=36				
MESA	MESA	43.97 327	P	P	01 05 24.1 -0.5
	baz=20				
S34M	Telegraph Cree	43.99 318	P	P	01 05 25.8 +1.2
S34M			IAmb	IAmb	01 05 28.6
	comp=Z,7.9nm,1.0s				
S34M	Telegraph Cree	43.99 318	P	P	01 05 24.2 -0.4
	baz=23,SNR=6.2				
L19K	White Mountain	44.01 336	P	P	01 05 24.1 -0.7
	baz=16				
M20K	Styx River	44.07 335	P	P	01 05 24.0 -1.4
	baz=17				
GAMB	Gambell	44.11 347	P	P	01 05 24.2 -1.3
	baz=9.1				
SNH	Sunshine Point	44.12 327	P	P	01 05 27.4 +1.7
BESE	Bessie Mountai	44.14 321	P	P	01 05 27.7 +1.9
SUA	Susitna One	44.14 333	P	P	01 05 27.0 +1.1
SUA			IAmb	IAmb	01 05 28.5
	comp=Z,10nm,0.8s				
SUA	Susitna One	44.14 333	P	P	01 05 24.9 -1.1
	baz=17,SNR=5.8				
GLI	Glacier Island	44.15 330	P	P	01 05 24.6 -1.3
	baz=19				
L18K	Granite Mounta	44.20 337	P	P	01 05 25.9 -0.3
	baz=15				
HMT	Hamilton	44.21 328	P	P	01 05 27.4 +1.0
M19K	Big River Lodg	44.22 336	P	P	01 05 25.8 -0.6
	baz=16				
RAGM	Ragged Mountai	44.23 329	P	P	01 05 27.9 +1.3
EYAK	Cordova Ski Ar	44.25 329	P	P	01 05 28.7 +2.1
EYAK			IAmb	IAmb	01 05 37.6
	comp=Z,8.0nm,1.1s				
EYAK	Cordova Ski Ar	44.25 329	P	P	01 05 25.5 -1.1
	baz=19				
R32K	Eaglecrest	44.35 321	P	P	01 05 27.1 -0.5
	baz=22				
RC01	Rabbit Creek A	44.35 332	P	P	01 05 29.3 +1.8
RC01	Rabbit Creek A	44.35 332	P	P	01 05 27.8 +0.3
	baz=18,SNR=6.7				
PWL	Port Wells	44.36 331	P	P	01 05 29.2 +1.6
PWL			IAmb	IAmb	01 05 30.7
	comp=Z,10nm,0.9s				
PWL	Port Wells	44.36 331	P	P	01 05 27.4 -0.2
	baz=18				
J14K	Nanvaranak Lak	44.44 342	P	P	01 05 28.7 +0.6
	baz=12				
L17K	Donlin	44.47 338	P	P	01 05 27.9 -0.5
	baz=14				
N20K	Mount Spurr	44.60 334	P	P	01 05 29.6 0.0
	baz=17				
SPCR	Spurr Chakacha	44.60 334	P	P	01 05 29.6 0.0
	baz=17				
KAIM	Kayak Island	44.62 328	P	P	01 05 28.6 -1.1
	baz=19				
T35M	Bob Quinn	44.66 317	P	P	01 05 30.1 +0.1
	baz=23				
K15K	Wolf Creek Mou	44.68 340	P	P	01 05 29.8 -0.3
	baz=13				
M18K	Stony River	44.80 336	P	P	01 05 31.4 +0.4
	baz=15				
CAPN	Captain Cook N	44.87 333	P	P	01 05 31.2 -0.3
	baz=17				
SLKM	Skilak Lake	44.98 332	P	P	01 05 33.6 +1.0
S31K	Pelican	44.98 322	P	P	01 05 32.3 -0.3
	baz=22				
P23K	Montague Islan	45.04 330	P	P	01 05 32.8 -0.1
	baz=18				
M17K	Holitna River	45.08 337	P	P	01 05 32.2 -1.1
	baz=15				
S32K	Killisnoo	45.11 320	P	P	01 05 33.4 -0.2
	baz=22				
SEW	Seward	45.25 332	P	P	01 05 33.7 -0.9
	baz=18				
L15K	Ungalak Mounta	45.28 340	P	P	01 05 34.7 -0.2
	baz=13				
N19K	Bonanza Creek	45.28 335	P	P	01 05 34.4 -0.6
	baz=16				
K13K	Kusilvak Mount	45.35 342	P	P	01 05 35.5 +0.2
	baz=12				
Q23K	Middleton Isla	45.41 329	P	P	01 05 36.0 +0.1
	baz=18				
N18K	Kilae Creek	45.59 336	P	P	01 05 36.8 -0.6
	baz=15				
WRAK	Wrangell Islan	45.62 318	P	P	01 05 37.7 +0.1
	baz=22				
M16K	Timber Creek	45.63 338	P	P	01 05 37.8 +0.1
	baz=14				
SIT	Sitka	45.65 320	P	P	01 05 37.2 -0.6
	baz=22				
L14K	Kuka Creek	45.73 341	P	P	01 05 37.9 -0.5
	baz=12				
O20K	Slope Mountain	45.73 334	P	P	01 05 37.7 -0.9
	baz=16				
BRSE	Bradley Lake S	45.79 332	P	P	01 05 38.6 -0.4
	baz=17				
O19K	Port Alsworth	45.86 335	P	P	01 05 39.2 -0.2
	baz=16				
N17K	Nushagak Hills	45.90 337	P	P	01 05 38.8 -1.0
	baz=15				
MMAI	Mount Meron Ar	45.97 121	LR	LR	01 25 43.2
	comp=Z,62nm,20.9s,baz=342,slow=37				
HOM	Homer	46.00 333	P	P	01 05 39.4 -1.2
	baz=16				
N16K	Nishlik Lake	46.15 338	P	P	01 05 40.7 -1.0
	baz=14				
M15K	Kasigluk River	46.15 339	P	P	01 05 41.0 -0.7
	baz=13				
P19K	Oil Pt	46.23 334	P	P	01 05 41.6 -0.8
	baz=16				
M14K	Bethel	46.23 340	P	P	01 05 41.7 -0.7
	baz=13				
L44A	Lake County Fo	46.30 273	P	P	01 05 42.9 -0.3
	baz=25				
O18K	Kotuh Hills	46.30 335	P	P	01 05 42.3 -0.7
	baz=15				
V35K	Ketchikan	46.48 317	P	P	01 05 43.3 -1.1
	baz=22				
N15K	Kwethluk River	46.60 339	P	P	01 05 43.2 -2.1
	baz=13				
O17K	Koliganek Bris	46.62 337	P	P	01 05 44.5 -1.0
	baz=14				
CRAG	Craig	46.67 318	P	P	01 05 44.8 -1.1
	baz=22				
M13K	Dall Lake	46.71 341	P	P	01 05 44.8 -1.3
	baz=12				
P18K	Big Mountain,	46.75 335	P	P	01 05 45.5 -1.1
	baz=15				
O16K	Kokwok River B	46.92 337	P	P	01 05 46.8 -1.0
	baz=14				
Q19K	Cape Douglas,	46.99 334	P	P	01 05 46.5 -1.9
	baz=16				
N14K	Kuskokwak Cree	47.02 340	P	P	01 05 46.6 -1.8
	baz=13				
M11K	Mekoryuk	47.02 343	P	P	01 05 47.0 -1.5
	baz=11				
P17K	Kvichak River	47.10 336	P	P	01 05 48.3 -0.9
	baz=14				
Q20K	Shuyak Island	47.12 333	P	P	01 05 48.3 -1.0
	baz=16				
ASF	Jabal al Asfar	47.17 120	P	P	01 05 52.0 +1.8
	comp=Z,3.1nm,0.9s,baz=23,slow=4.7,SNR=5.0				
	comp=Z,3.1nm,0.9s				
Q18K	Katmai Hardscr	47.45 335	P	P	01 05 51.2 -0.8
	baz=15				
O15K	Ungalikthiuk R	47.53 338	P	P	01 05 51.8 -0.8
	baz=13				
MK31	Makanchi Array	47.62 68	P	P	01 05 55.4 +1.9
MKAR	Makanchi Array	47.62 68	P	P	01 05 56.9 +3.5
MKAR	Makanchi Array	47.62 68	P	P	01 05 55.8 +2.4
	comp=Z,0.7nm,0.8s,baz=335,slow=6.5,SNR=8.4				
MKAR			LR	LR	01 28 54.8
	comp=Z,57nm,19.4s,baz=330,slow=40				
	comp=Z,0.7nm,0.8s				
O14K	Tigyukauivet M	47.62 339	P	P	01 05 52.4 -0.8
	baz=13				
EGMT	Eagleton	47.65 296	P	P	01 05 54.3 +0.6
KDAK	Kodiak Island	47.95 333	P	P	01 05 57.0 +1.3
KDAK	Kodiak Island	47.95 333	LR	LR	01 29 06.4
	comp=Z,91nm,19.4s,baz=246,slow=40				
KDAK	Kodiak Island	47.95 333	P	P	01 05 54.4 -1.4
	baz=16				
R18K	Karluk	48.42 334	P	P	01 05 58.2 -1.2
	baz=15				
MA2	Magadan	48.45 12	P	P	01 06 01.1 +1.5
LLLB	Lilloоet	48.55 307	P	P	01 06 01.2 +0.5
OHAK	Old Harbor	48.59 333	P	P	01 05 59.0 -1.7
	baz=15				
BBB	Bella Bella	48.61 313	LR	LR	01 26 29.1
	comp=Z,84nm,19.3s,baz=27,slow=36				
R16K	Pilot Point	48.83 336	P	P	01 06 00.4 -2.2
	baz=14				
EIL	Elat	49.01 123	LR	LR	01 28 20.1
	comp=Z,43nm,19.3s,baz=253,slow=38				
AAK	Ala-Archa	49.04 77	P	P	01 06 07.4 +2.8
AAK	Ala-Archa	49.04 77	LR	LR	01 25 59.2
	comp=Z,76nm,21.9s,baz=338,slow=35				
OVMT	Ovando	49.44 298	P	P	01 06 08.1 +0.5
NEW	Newport	49.47 302	LR	LR	01 26 26.3
	comp=Z,111nm,19.6s,baz=24,slow=35				
GCMT	Greycliff	49.66 295	P	P	01 06 10.0 +0.7
MSO	Missoula	49.92 299	P	P	01 06 11.9 +0.7
CBB	Campbell River	49.95 309	P	P	01 06 13.1 +1.9
B08A	Colville Reser	49.97 304	P	P	01 06 12.4 +0.9
B08A			IAmb	IAmb	01 06 14.9
	comp=Z,5.4nm,1.2s				
BPMT	Black Pine Rid	50.14 298	P	P	01 06 13.5 +0.5
CHIR	Chirikof Islan	50.27 334	P	P	01 06 12.0 -1.6
	baz=14				
S14K	Fog Glacier	50.33 337	P	P	01 06 12.6 -1.6
	baz=13				
LRM	Limekiln Ridge	50.42 297	P	P	01 06 15.6 +0.4
YNE	Yellowstone No	50.47 294	P	P	01 06 15.4 -0.2
YNE			IAmb	IAmb	01 06 18.2
	comp=Z,6.7nm,1.3s				
SPIA	Saint Paul Isl	50.54 345	P	P	01 06 14.5 -1.1
	baz=8.7				
TKL	Tuckaleechee C	50.95 266	LR	LR	01 27 01.9
	comp=Z,94nm,18.2s,baz=18,slow=35				
YHL	Hebgen Lake	50.95 295	P	P	01 06 20.6 +1.3
YHL			IAmb	IAmb	01 06 22.8
	comp=Z,7.2nm,1.1s				
P08K	Saint George I	51.05 344	P	P	01 06 18.2 -1.2
	baz=8.9				
S12K	Black Hills	51.20 339	P	P	01 06 18.9 -1.7
	baz=12				
SDPT	Sand Point	51.36 338	P	P	01 06 20.6 -1.2
	baz=12				
CHNA	Chernabura Isl	51.76 337	P	P	01 06 23.4 -1.4
	baz=12				
WMQ	Urumqi	51.90 65	*e*P	P	01 06 33.4 +7.3
WMQ			pmax	pmax	
	comp=Z,11nm,1.1s				
WMQ			LR	LR	
	comp=Z,100nm,24.2s				
PD31	Pinedale Array	52.39 293	P	P	01 06 30.4 +0.4
PDAR	Pinedale Array	52.39 293	P	P	01 06 29.9 -0.1
PDAR	Pinedale Array	52.39 293	P	P	01 06 30.8 +0.8
	comp=Z,1.0nm,0.9s,baz=46,slow=4.5,SNR=6.0				
PDAR			LR	LR	01 28 56.0
	comp=Z,84nm,18.1s,baz=12,slow=36				
	comp=Z,1.0nm,0.9s				
F07A	Phinny Hill Vi	52.40 303	P	P	01 06 31.0 +1.3
BMO	Blue Mountains	52.66 300	P	P	01 06 31.9 +0.2
G08A	Pilot Rock	52.70 302	P	P	01 06 33.3 +1.2
G08A			IAmb	IAmb	01 06 35.5
	comp=Z,6.9nm,1.2s				
HLID	Hailey	53.05 297	P	P	01 06 35.1 +0.3
HLID			IAmb	IAmb	01 06 37.2
	comp=Z,5.6nm,1.1s				
SONM	Songino Array	53.09 48	LR	LR	01 33 43.6
	comp=Z,53nm,18.3s,baz=0.5,slow=41				
HOOD	Mount Hood Mea	53.38 304	P	P	01 06 38.4 +1.2
UNV	Unalaska Valle	53.50 342	P	P	01 06 36.3 -1.3
	baz=9.7				
Q24A	Divide	54.58 287	P	P	01 06 44.9 -1.3
	baz=23				
J05D	Fort Rock, OR	55.17 303	P	P	01 06 51.2 +1.0
PETK	Petropavlovsk-	55.28 8	LR	LR	01 30 18.0
	comp=Z,42nm,19.6s,baz=355,slow=36				
DUG	Dugway, Tooele	55.71 295	P	P	01 06 54.9 +0.8
DUG			IAmb	IAmb	01 07 00.8
	comp=Z,4.9nm,1.1s				
ELK	Elko	55.89 297	LR	LR	01 29 36.5
	comp=Z,42nm,19.1s,baz=22,slow=35				
T25A	Trinidad	56.04 286	P	P	01 06 56.1 -0.5
	baz=22				
TMUT	Trail Mountain	56.07 293	P	P	01 06 57.1 +0.2
TMUT			IAmb	IAmb	01 07 00.1
	comp=Z,4.2nm,0.8s				
S22A	4UR Ranch, Cre	56.21 288	P	P	01 06 57.2 -0.7
	baz=22				
KLR	Kul'dur	56.64 28	LR	LR	01 30 48.3
	comp=Z,27nm,18.2s,baz=358,slow=36				
YBH	Yreka Blue Hor	57.01 304	LR	LR	01 30 57.4
	comp=Z,102nm,18.4s,baz=11,slow=35				
MVCO	Mesa Verde	57.21 289	P	P	01 07 05.8 +0.8
SPR3	Spring Creek 3	57.25 295	P	P	01 07 05.9 +0.5
SPR3			IAmb	IAmb	01 07 19.5
	comp=Z,7.9nm,1.4s				
PSUT	Pine Spring	57.55 295	P	P	01 07 08.5 +1.2
PSUT			IAmb	IAmb	01 07 29.5
	comp=Z,4.5nm,1.0s				
R11B	Troy Canyon, C	58.21 296	P	P	01 07 12.8 +0.9
ANMO	Albuquerque	58.69 287	LR	LR	01 32 59.1
	comp=Z,56nm,19.7s,baz=190,slow=36				
NVAR	Mina Array Bea	58.90 298	LR	LR	01 32 30.5
	comp=Z,97nm,18.6s,baz=360,slow=36				
TORD	Torodi Ar. Bea	59.08 165	P	P	01 07 18.8 +1.0
435B	Jarrell	59.81 277	P	P	01 07 23.3 +0.5
	baz=21				
HHC	Hu-ho-hao-te	60.89 47	*e*P	P	01 07 31.6 +1.3
HHC			pmax	pmax	
	comp=Z,7.0nm,0.7s				
HHC			pmax	pmax	
	comp=Z,140nm,4.3s				
121A	Cookes Peak, D	61.34 287	P	P	01 07 33.9 +0.5
	baz=21				
SJG	San Juan	62.09 241	LR	LR	01 33 09.0
	comp=Z,19nm,19.0s,baz=166,slow=35				
833A	Chaparral WMA,	62.66 277	P	P	01 07 42.3 +0.1
	baz=21				
TXAR	Lajitas Array	63.05 282	P	P	01 07 45.9 +1.0
	comp=Z,0.4nm,0.9s,baz=22,slow=8.3,SNR=7.2				
	comp=Z,0.4nm,0.9s				
ASAJ	Asahikawa	63.07 20	LR	LR	01 35 42.2
	comp=Z,19nm,20.5s,baz=133,slow=36				
LZH	Lanzhou	63.53 55	*e*P	P	01 07 50.9 +2.8
LZH			sP	pwP	01 07 58.6 +5.0
LZH			pmax	pmax	
	comp=Z,28nm,0.5s				
DBIC	Dimbokro	65.09 172	LR	LR	01 35 34.1
	comp=Z,40nm,20.8s,baz=324,slow=35				
KSRS	Korea Array	67.50 34	LR	LR	01 38 45.9
	comp=Z,26nm,18.0s,baz=25,slow=37				
LPIG	La Paz	69.98 286	LR	LR	01 38 00.3
	comp=Z,67nm,18.6s,baz=360,slow=35				
NJ2	Nanjing	70.95 43	*e*P	P	01 08 35.9 +1.0
NJ2			pmax	pmax	
	comp=Z,7.0nm,0.5s				
SDV	Santo Domingo	72.12 243	LR	LR	01 39 41.0
	comp=Z,32nm,19.0s,baz=85,slow=35				
APG	El Apazote	72.31 264	LR	LR	01 40 24.7
	comp=Z,7.9nm,20.8s,baz=264,slow=36				
CMAR	Chiang Mai Arr	78.90 65	P	P	01 09 23.5 +2.4
	comp=Z,1.0nm,0.3s,baz=329,slow=4.0,SNR=4.7				
CMAR			LR	LR	01 50 04.6
	comp=Z,22nm,18.9s,baz=0.0,slow=40				
	comp=Z,1.0nm,0.3s				
KMBO	Kilima Mbogo	79.12 130	LR	LR	01 46 12.3
	comp=Z,27nm,18.6s,baz=90,slow=37				
PSI	Prapat	93.75 69	LR	LR	02 00 10.4
	comp=Z,30nm,18.9s,baz=301,slow=40				
LPAZ	La Paz	95.53 233	LR	LR	01 51 33.5
	comp=Z,22nm,19.8s,baz=66,slow=34				
LBTB	Lobatse	99.84 146	LR	LR	01 58 39.4
	comp=Z,41nm,20.6s,baz=168,slow=37				

ATH ***05*** *01:33:12.9, 38.°48N×26.°89E, h5km±1km, ML2.3/6, Manual Solution by A.Papageorgiou First location: 2019/03/05 01:34:42, This location: 2020/07/09 15:53:17 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISK ***05*** *01:33:12.7, 38.°46N×26.°87E, h5km, ML2.5/34*

AFAD ***05*** *01:33:13.0, 38.°45N×26.°88E, h7km±1km, ML2.3*

ISC 05 01:33:13.2±0.9, 38.°46N±0.°02×26.°87E±0.°02, h9km±7km, n53, σ0.9 69/78, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.16	120	Pg	Pg	01 33 16.7	+0.1
BLCB				Sg	Sg	01 33 19.1	+0.1
URLA	Izmir	0.24	244	P	Pg	01 33 18.3	+0.1
URLA				*i* AML	AML	01 33 22.0	
	comp=N,716nm,0.2s						
URLA				*i* AML	AML	01 33 22.0	
	comp=E,963nm,0.3s						
URLA				S	Sg	01 33 22.3	+0.9
FOCM	Foa	0.27	336	Pg	Pg	01 33 18.2	-0.5
FOCM				Sg	Sg	01 33 22.5	+0.1
ZEYE	Izmir, Urla-Ze	0.36	232	P	Pg	01 33 20.3	-0.1
ZEYE				S	Sb	01 33 26.3	-1.3
ZEYE				*i* AML	AML	01 33 27.0	
	comp=N,364nm,0.3s						
ZEYE				*i* AML	AML	01 33 27.0	
	comp=E,268nm,0.2s						
GMLD	Gumuldur	0.39	175	Pg	Pg	01 33 20.9	0.0
GMLD				Sg	Sg	01 33 26.5	+0.5
DGB	zmir	0.41	179	P	Pg	01 33 21.0	-0.3
DGB				S	Sg	01 33 26.8	+0.1
DGB				*i* AML	AML	01 33 27.0	
	comp=N,167nm,0.2s						
DGB				*i* AML	AML	01 33 27.0	
	comp=E,239nm,0.2s						
CAND	Candarli	0.49	354	Pg	Pb	01 33 23.4	-0.7
CAND				Sg	Sb	01 33 31.0	-0.4
EAG2	Marmaro, Chios	0.60	278	P	Pg	01 33 24.7	-0.2
EAG2				S	Sg	01 33 33.0	+0.2
DKL	Dikili	0.61	3	Pg	Pg	01 33 24.6	-0.4
DKL				Sg	Sb	01 33 33.9	-0.8
DKL	Dikili	0.61	3	P	Pg	01 33 24.4	-0.6
DKL				S	Sg	01 33 32.2	-0.8
SMG	Samos	0.75	182	P	Pb	01 33 27.9	-0.6
SMG				S	Sb	01 33 38.5	-0.4
GCAM	G?zelcaml?	0.81	159	Pg	Pg	01 33 28.7	-0.2
GCAM				Sg	Sb	01 33 39.7	-0.8
GCAM	G?zelcaml?	0.81	159	P	Pg	01 33 28.7	-0.2
GCAM				S	Sb	01 33 39.7	-0.8
GCAM				*i* AML	AML	01 33 40.0	
	comp=N,180nm,0.3s						
GCAM				*i* AML	AML	01 33 42.0	
	comp=E,130nm,0.5s						
AKHS	Akhisar	0.85	60	P	Pg	01 33 29.3	-0.3

AKHS S **Sb** **01 33 41.4 -0.2**
AKHS *i* AML AML 01 33 43.0
comp=E,228nm,0.4s
AKS Akhisar 0.85 60 Pg **Pb** **01 33 30.1 0.0**
GOMA Golmarmara-Man 0.86 73 Pg **Pb** **01 33 29.9 -0.3**
GOMA Sg **Sb** **01 33 41.8 0.0**
PRK Paraskevi 0.91 329 P **Pg** **01 33 30.5 -0.2**
PRK S **Sg** **01 33 42.9 +0.2**
IZMR zmir-demi 0.91 111 P **Pg** **01 33 30.5 -0.3**
IZMR S **Sg** **01 33 41.8 -0.9**
IZMR *i* AML AML 01 33 44.0
comp=N,40nm,0.6s
IZMR *i* AML AML 01 33 45.0
comp=E,40nm,0.4s
AYDB Zeytinkoy-Aydi 0.96 122 Pg **Pg** **01 33 31.3 -0.3**
AYDB Sg **Sb** **01 33 44.5 -0.3**
ODEM Odemis-Izmir 0.96 101 Pg **Pb** **01 33 31.9 -0.2**
SIGR SIGRI 1.09 314 Pn **Pg** **01 33 33.9 -0.3**
SIGR SIGRI 1.09 314 P **Pg** **01 33 33.7 -0.4**
SIGR S **Sg** **01 33 47.9 -0.4**
GORD Gordes-Manisa 1.11 66 Pn **Pg** **01 33 34.0 -0.7**
AYDN Tasoluk 1.13 135 P **Pg** **01 33 34.2 -0.7**
AYDN S **Sg** **01 33 49.1 -0.5**
AYDN *i* AML AML 01 33 51.0
comp=E,73nm,0.3s
AYDN *i* AML AML 01 33 52.0
comp=N,60nm,0.3s
GPNR Gulpinar-Canak 1.15 330 Pn **Pg** **01 33 34.8 -0.4**
NAZL Nazilli-Aydin 1.23 114 Pn **Pg** **01 33 36.3 -0.5**
MLSB Milas 1.37 148 Pn **Pn** **01 33 38.2 -0.3**
KULA Kula-Manisa 1.41 87 Pn **Pg** **01 33 40.4 +0.2**
BODT Bodrum 1.44 166 Pn **Pg** **01 33 40.8 -0.1**
YENI Yenice-Canakka 1.50 11 Pn **Pb** **01 33 41.2 0.0**
KLNA Kalymnos 1.51 177 P **Pb** **01 33 40.8 -0.5**
KLNA S **Sg** **01 34 01.3 -0.3**
BOZC Bozcaada 1.52 335 Pn **Pb** **01 33 41.3 -0.2**
CANM Can-anakkale 1.55 5 Pn **Pn** **01 33 41.6 +0.6**
COMU Canakkale 1.66 349 Pn **Pn** **01 33 43.3 +0.8**
GONE Gonen-Balikesi 1.70 22 Pn **Pn** **01 33 43.9 +0.8**
YER Yerkesik 1.74 139 Pn **Pn** **01 33 44.3 +0.7**
APE Apeiranthos 1.75 218 P **Pn** **01 33 44.7 +0.9**
APE S **Sb** **01 34 07.5 -0.1**
SIMA Simav-Kutahya 1.76 69 Pn **Pn** **01 33 44.8 +0.8**
SUSR Susurluk-Balik 1.77 32 Pn **Pb** **01 33 45.4 -0.4**
GADA Gvkgeada 1.88 337 Pn **Pn** **01 33 46.2 +0.7**
LPK Lapseki 1.91 357 Pn **Pb** **01 33 47.5 -0.7**
LIA Limnos Island 1.94 318 P **Pn** **01 33 45.8 -0.6**
LIA S **Sn** **01 34 11.2 +0.4**
KRBG Karabiga-Canak 1.96 10 Pn **Pb** **01 33 48.3 -0.7**
GELI Tayfur-Gelibol 1.96 351 Pn **Pn** **01 33 46.9 +0.4**
KARY Karystos 1.96 258 P **Pn** **01 33 47.7 +1.0**
KARY S **Sb** **01 34 12.9 -0.7**
EDC Edincik 2.03 22 Pn **Pn** **01 33 48.9 +1.3**
KCTX Karacabey (Bur 2.14 32 Pn **Pn** **01 33 49.6 +0.5**
ERIK Erikli-Kesan 2.22 353 Pn **Pn** **01 33 51.5 +1.3**
TVSB Tavsanli 2.25 63 Pn **Pn** **01 33 52.3 +1.6**
SMTH Samothraki Isl 2.26 333 P **Pn** **01 33 50.6 -0.1**
SMTH S **Sn** **01 34 19.9 +1.2**
MDNY Mudanya-Bursa 2.46 39 Pn **Pn** **01 33 55.2 +1.7**
ALN Alexandroupoli 2.51 346 Pn **Pn** **01 33 56.3 +2.1**
ARMT Armutlu 2.60 36 Pn **Pn** **01 33 56.5 +1.0**

*NEIC **05** 01:41:43.3±1.2, 35°.92N±0°.01×98°.19W±0°.02, h5km±1km, ML2.5/8, ML2.3/42, Error ellipse: s-maj=2.8km s-min=2.4km az=257.0*

NEIC 05 01:41:43.8±1.3, 35°.93N±0°.01×98°.18W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.4km az=245.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.60**	**15**	Pg	Pg	01 41 54.9	-0.4
CROK				Sg	Sb	01 42 04.8	-0.8
CROK				IAML		01 42 09.8	
	comp=E,128nm,0.2s						
CROK				IAML		01 42 09.9	
	comp=N,115nm,0.2s						
OK038	**West end E0370**	**0.71**	**321**	Pg	Pg	01 41 56.2	-1.3
OK038				IAML		01 42 07.9	
	comp=N,183nm,0.4s						
OK038				IAML		01 42 20.4	
	comp=N,152nm,0.3s						
OK032	**Salt Plains WL**	**0.88**	**358**	Pg	Pg	01 42 00.6	-0.1
FNO	**Franklin**	**0.92**	**136**	Pg	Pg	01 42 00.7	-0.8
FNO				IAML		01 42 17.1	
	comp=N,57nm,0.6s						
NOKA	**Waynoka**	**0.93**	**320**	Pg	Pg	01 42 01.0	-0.6
NOKA				IAML		01 42 23.1	
	comp=E,103nm,0.3s						
NOKA				IAML		01 42 23.4	
	comp=N,91nm,0.3s						
GC02	**Grant County #**	**0.96**	**16**	Pg	Pg	01 42 02.0	-0.2
ELIS	**Ellis County**	**1.01**	**278**	Pg	Pg	01 42 03.0	-0.2
ELIS				IAML		01 42 24.7	
	comp=N,68nm,0.3s						
ELIS				IAML		01 42 25.3	
	comp=E,59nm,0.3s						
KAN14	**Manchester OK**	**1.04**	**10**	Pg	Pg	01 42 03.7	-0.1
KAN14				IAML		01 42 19.5	
	comp=E,105nm,0.1s						
KAN14				IAML		01 42 19.9	
	comp=N,88nm,0.1s						
OK048	**Pawnee Station**	**1.11**	**64**	Pg	Pg	01 42 04.6	-0.6
OK048				IAML		01 42 25.7	
	comp=N,56nm,0.2s						
OK048				IAML		01 42 26.7	
	comp=N,48nm,0.2s						
OK052	**Battle Ridge R**	**1.12**	**86**	Pg	Pg	01 42 04.1	-1.1
OK052				IAML		01 42 24.6	
	comp=N,44nm,0.2s						
OK052				IAML		01 42 29.4	
	comp=N,62nm,0.2s						
QUOK	**Quay**	**1.22**	**78**	Pg	Pg	01 42 06.1	-1.1
KAN13	**South Haven SW**	**1.22**	**27**	Pg	Pg	01 42 06.7	-0.6
OK051	**E0350 and S346**	**1.23**	**62**	Pg	Pg	01 42 06.7	-0.7
KAN01	**Argonia South**	**1.27**	**15**	Pg	Pg	01 42 07.4	-0.8
KAN01				IAML		01 42 28.4	
	comp=E,74nm,0.4s						
KAN01				IAML		01 42 28.6	
	comp=N,53nm,0.2s						
WMOK	**Wichita Mounta**	**1.28**	**203**	Pn	Pg	01 42 08.2	-0.1
WMOK	**Wichita Mounta**	**1.28**	**203**		Pg	01 42 08.1	-0.3
DEOK	**Depew**	**1.37**	**93**		Pn	01 42 08.8	-0.8
T35A	**Sooner Cattle**	**1.67**	**53**		Pn	01 42 13.8	+0.1
SMWD	**Samnorwood**	**1.87**	**245**		Pn	01 42 15.2	-1.3
LOOK	**Love County**	**2.10**	**157**	Pn	Pn	01 42 19.1	-0.5
FW06	**Azle**	**2.99**	**170**	Pn	Pn	01 42 31.9	+0.1

*NEIC **05** 01:46:13.7±1.7, 53°.63S±0°.04×160°.0E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=10.4km s-min=6.6km az=76.0*

*IDC **05** 01:46:14.8±1.5, 53°.35S×159°.41E, h0km, mb4.3/5, mbtmp4.3/6, ML4.3/1, MS3.5/9, Error ellipse: s-maj=47.8km s-min=26.0km az=73.0*

ISC 05 01:46:13.4±0.7, 53°.63S±0°.08×160°.0E±0°.1, h10km, n57, σ1°.20/33, mb4.3/10, MS3.4/7, 1C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**1.05**	**214**		**Pn**	**01 46 34.1**	**-0.1**
MCQ				Sn	**Sn**	**01 46 48.9**	**+0.1**
PYZ	**Puysegur Point**	**8.64**	**33**	Pn	**Pn**	**01 48 17.3**	**-1.0**
WHZ	**Wether Hill Ro**	**9.31**	**37**		**Pn**	**01 48 25.9**	**-1.6**
DCZ	**Deep Cove**	**9.41**	**33**	Pn	**Pn**	**01 48 28.9**	**-0.1**
MLZ	**Mavora Lakes**	**9.82**	**36**	Pn	**Pn**	**01 48 34.7**	**+0.1**
WKZ	**Wanaka**	**10.61**	**37**	Pn	**Pn**	**01 48 46.0**	**+0.6**
ODZ	**Otahua Downs**	**11.05**	**43**	Pn	**Pn**	**01 48 51.5**	**+0.1**
LBZ	**Lake Benmore**	**11.42**	**40**	Pn	**Pn**	**01 48 55.9**	**-0.5**
RPZ	**Rata Peaks**	**12.32**	**41**	Pn	**Pn**	**01 49 11.2**	**+2.5**
	1.7nm,0.3s,baz=174,slow=2.7,SNR=8.8						
RPZ				LR	LR	01 52 27.2	
	comp=Z,102nm,20.6s,baz=182,slow=30 3.3nm,0.3s						
LTZ	**Lake Taylor**	**13.59**	**42**	Pn	**Pn**	**01 49 24.8**	**-1.3**
TAU	**Tasmania Unive**	**13.61**	**317**	Pn	Pn	01 49 21.6	-4.8
THZ	**Tophouse**	**14.70**	**41**	Pn	**Pn**	**01 49 42.1**	**+0.8**
CTZ	**Chatham Island**	**18.28**	**67**		**Pn**	**01 50 25.8**	**-1.1**
CTZ				IAmb	IAmb	01 50 26.6	
	comp=Z,115nm,1.5s						

TOO	**Toolangi**	**18.92**	**322**	P	**P**	**01 50 35.0**	**+0.8**
URZ	**Urewera**	**19.38**	**44**	LR	LR	01 57 26.2	
	comp=Z,214nm,20.5s,baz=310,slow=35						
CAN	**Canberra**	**19.86**	**333**	P	**P**	**01 50 44.8**	**+0.3**
VNDA	**Vanda**	**24.00**	**179**	LR	LR	01 59 21.7	
	comp=Z,131nm,19.0s,baz=314,slow=32						
STKA	**Stephens Creek**	**25.44**	**321**	P	**P**	**01 51 42.1**	**+1.0**
STKA	**Stephens Creek**	**25.44**	**321**	P	**P**	**01 51 41.9**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=150,slow=13,SNR=6.9						
	comp=Z,4.1nm,0.7s						
BBOO	**Buckleboo**	**26.91**	**311**	P	**P**	**01 51 55.0**	**+0.5**
BBOO				IAmb	IAmb	01 52 12.2	
	comp=Z,24nm,1.4s						
FORT	**Forrest**	**32.41**	**302**	P	**P**	**01 52 43.5**	**+0.2**
AS31	**Alice Springs**	**35.79**	**316**	P	**P**	**01 53 12.4**	**-0.2**
ASAR	**Alice Springs**	**35.79**	**316**	P	**P**	**01 53 12.9**	**+0.2**
ASAR	**Alice Springs**	**35.79**	**316**	P	**P**	**01 53 12.0**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=153,slow=8.2,SNR=22						
	comp=Z,3.5nm,0.8s						
QSPA	**South Pole Qui**	**36.48**	**180**	P	**P**	**01 53 18.7**	**+0.3**
QSPA				IAmb	IAmb	01 53 35.7	
	comp=Z,6.8nm,1.1s						
QSPA	**South Pole Qui**	**36.48**	**180**	P	P	01 53 23.9	+5.6
	comp=Z,2.6nm,0.8s,baz=261,slow=9.5,SNR=3.6						
	comp=Z,2.6nm,0.8s						
H01W1	**Cape Leeuwin H**	**36.99**	**282**	T	T	02 32 04.5	
	baz=134,slow=75,SNR=204						
H01W2	**Cape Leeuwin H**	**37.00**	**282**	T	T	02 32 05.1	
	baz=134,slow=75,SNR=160						
H01W3	**Cape Leeuwin H**	**37.01**	**282**	T	T	02 32 05.8	
	baz=134,slow=75,SNR=221						
WR0	**Warramunga Arr**	**38.87**	**320**	P	**P**	**01 53 37.0**	**-1.8**
WR0				IAmb	IAmb	01 53 40.2	
	comp=Z,6.1nm,1.1s						
WB2	**Warramunga Arr**	**38.96**	**320**	P	**P**	**01 53 37.7**	**-1.8**
WB2				IAmb	IAmb	01 53 45.2	
	comp=Z,8.6nm,1.2s						
WRA	**Warramunga Arr**	**38.96**	**320**	P	**P**	**01 53 37.3**	**-2.3**
	comp=Z,2.1nm,0.9s,baz=152,slow=7.5,SNR=9.9						
	comp=Z,2.1nm,0.9s						
MORW	**Morawa**	**40.20**	**290**	P	**P**	**01 53 50.0**	**+0.2**
MORW				IAmb	IAmb	01 53 50.3	
	comp=Z,32nm,1.3s						
COEN	**Coen**	**41.75**	**335**	P	**P**	**01 54 01.5**	**-1.1**
COEN				IAmb	IAmb	01 54 06.8	
	comp=Z,22nm,1.4s						
HNR	**Honiara**	**44.08**	**360**	LR	LR	02 10 10.4	
	comp=Z,80nm,18.2s,baz=5.0,slow=33						
PMG	**Port Moresby**	**45.29**	**342**	LR	LR	02 10 34.9	
	comp=Z,38nm,20.2s,baz=178,slow=32						
SYO	**Syowa Base**	**50.14**	**204**	⇑*eP*	**P**	**01 55 06.2**	**-2.0**
PPT	**Papeete**	**52.94**	**67**	LR	LR	02 13 50.1	
	comp=Z,36nm,20.1s,baz=168,slow=31						
H04S2	**CROZET ISLANDS**	**62.77**	**227**	T	T	03 05 44.4	
	baz=139,slow=75,SNR=18						
H04S1	**CROZET ISLANDS**	**62.77**	**227**	T	T	03 05 45.3	
	baz=139,slow=75,SNR=16						
H04S3	**CROZET ISLANDS**	**62.79**	**227**	T	T	03 05 43.9	
	baz=139,slow=75,SNR=15						
MG03	**Isla Dawson**	**65.02**	**150**	P	**P**	**01 56 53.7**	**+0.6**
PLCA	**Paso Flores**	**76.45**	**143**	LR	LR	02 25 26.4	
	comp=Z,64nm,20.7s,baz=190,slow=31						
H03S2	**Juan Fernandez**	**79.10**	**133**	T	T	03 26 34.9	
	baz=209,slow=74,SNR=83						
H03S1	**Juan Fernandez**	**79.10**	**133**	T	T	03 26 36.2	
	baz=209,slow=74,SNR=86						
H03S3	**Juan Fernandez**	**79.12**	**133**	T	T	03 26 35.1	
	baz=209,slow=74,SNR=87						
H03N3	**Juan Fernandez**	**79.43**	**133**	T	T	03 26 52.1	
	baz=217,slow=77,SNR=39						
H03N2	**Juan Fernandez**	**79.44**	**133**	T	T	03 26 58.3	
	baz=217,slow=77,SNR=50						
H03N1	**Juan Fernandez**	**79.44**	**133**	T	T	03 26 51.4	
	baz=217,slow=77,SNR=41						
H08S2	**Diego Garcia H**	**82.40**	**267**	T	T	03 28 55.1	
	baz=142,slow=76,SNR=19						
H08S1	**Diego Garcia H**	**82.41**	**267**	T	T	03 28 56.3	
	baz=142,slow=76,SNR=7.3						
H08S3	**Diego Garcia H**	**82.42**	**267**	T	T	03 28 56.6	
	baz=142,slow=76,SNR=25						
CMAR	**Chiang Mai Arr**	**88.79**	**304**	P	**P**	**01 59 10.1**	**+2.9**
	comp=Z,1.8nm,0.3s,baz=145,slow=3.9,SNR=1.8						
	comp=Z,1.8nm,0.3s						
JNU	**Nakatsue**	**90.01**	**336**	LR	LR	02 37 18.4	
	comp=Z,21nm,18.9s,baz=124,slow=34						
KSRS	**Korea Array**	**94.86**	**335**	LR	LR	02 39 00.8	
	comp=Z,9.4nm,20.7s,baz=155,slow=34						
AKASG	**Malin Array Be**	**150.12**	**285**	PKPbc	**PKiKP**	**02 06 04.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=94,slow=1.5,SNR=1.7						
GERES	**GERESS Array B**	**158.47**	**271**	PKPab	**PKPab**	**02 06 44.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=115,slow=6.9,SNR=2.0						

*HEL **05** 01:50:30.6±0.1, 64°.34N×20°.77E, h21km, ML1.5, ML1.6(UPP), Confirmed Earthquake*

UPP 05 01:50:30.1±0.0, 64°.34N×20°.74E, h23km, ML1.6, 9C, Confirmed Earthquake, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODEU	**Stanfors**	**0.07**	**352**	⇑P	Pb	01 50 34.2	-0.1
ODEU				S	Sb	01 50 37.0	-0.1
ODEU	**Stanfors**	**0.07**	**352**	⇑*i*P	Pb	01 50 34.2	-0.1
ODEU				*i* S	Sb	01 50 37.0	-0.1
BURU	**Burvik**	**0.37**	**48**	⇑P	Pb	01 50 37.8	-0.3
BURU				S	Sb	01 50 43.3	-0.2
BURU	**Burvik**	**0.37**	**48**	*e*P	Pb	01 50 37.7	-0.3
BURU				*e*S	Sb	01 50 43.1	-0.3
UMAU	**Umeaa**	**0.46**	**183**	P	Pb	01 50 39.2	-0.3
UMAU				S	Sb	01 50 45.8	0.0
UMAU	**Umeaa**	**0.46**	**183**	*i* P	Pb	01 50 39.2	-0.3
UMAU				*i* S	Sb	01 50 45.8	0.0
SVAU	**Svanoeiden**	**0.53**	**287**	⇑P	Pb	01 50 40.4	-0.3
SVAU				S	Sb	01 50 47.9	0.0
SVAU	**Svanoeiden**	**0.53**	**287**	⇑*i*P	Pb	01 50 40.4	-0.3
SVAU				*i* S	Sb	01 50 47.9	0.0
LILU	**Lilltraesk**	**1.03**	**339**	⇑P	Pn	01 50 48.5	-0.5
LILU				S	Sb	01 51 02.2	0.0
LILU	**Lilltraesk**	**1.03**	**339**	⇑*e*P	Pn	01 50 48.5	-0.5
LILU				*e*S	Sb	01 51 02.2	0.0
BREU	**Bredtraesk**	**1.05**	**246**	⇑P	Pn	01 50 49.0	-0.3
BREU				S	Sn	01 51 03.1	-0.1
BREU	**Bredtraesk**	**1.05**	**246**	⇑*e*P	Pn	01 50 49.0	-0.3
BREU				*e*S	Sn	01 51 03.1	-0.1
HUSU	**Husum**	**1.21**	**215**	P	Pn	01 50 51.6	+0.1
HUSU				S	Sb	01 51 07.5	+0.2
HUSU	**Husum**	**1.21**	**215**	*e*P	Pn	01 50 51.6	+0.1
HUSU				*e*S	Sb	01 51 06.8	-0.2
SJUU	**Sjulsmark**	**1.23**	**17**	P	Pn	01 50 52.0	+0.1
SJUU				S	Sb	01 51 09.0	+0.9
SJUU	**Sjulsmark**	**1.23**	**17**	*e*P	Pn	01 50 52.0	+0.1
SJUU				*e*S	Sb	01 51 09.0	+0.9
OBF0	**Syolatti, Pyha**	**1.53**	**82**	*e*P	Pn	01 50 56.3	+0.4
OBF0				*e*S	Sb	01 51 16.3	-0.2
OBF0				MSG		01 51 17.2	
	comp=Z,4.2nm,0.1s						
VAF	**Ylistaro**	**1.56**	**146**	*e*P	Pn	01 50 57.2	+0.9
VAF				*e*S	Sb	01 51 17.1	-0.4
VAF				MSG		01 51 18.0	
	comp=Z,7.6nm,0.1s						
OUF	**Merijarvi**	**1.74**	**87**	*e*P	Pn	01 50 58.8	0.0
OUF				*e*S	Sb	01 51 21.6	-1.0
OUF				MSG		01 51 23.9	
	comp=Z,1.5nm,0.1s						
OBF4	**Vikkela, Lumij**	**1.94**	**74**	*e*P	Pn	01 51 01.8	+0.2
OBF4				*e*S	Sn	01 51 25.7	+0.5
ERTU	**Ertsjaerv**	**2.31**	**15**	*e*P	Pn	01 51 08.0	+1.4
ERTU				*e*S	Sn	01 51 36.3	+2.0
TOF	**Tornio**	**2.31**	**39**	*e*S	Sn	01 51 35.6	+1.3
OUL	**Oulu**	**2.34**	**69**	*e*P	Pn	01 51 07.3	+0.3
OUL				*e*S	Sn	01 51 36.2	+1.3
KEF	**Keuruu**	**2.87**	**138**	*e*S	Sn	01 51 49.7	+1.6
RANF	**Ranua**	**3.06**	**54**	*e*S	Sn	01 51 51.9	-0.8
RNF	**Rovaniemi**	**3.17**	**42**	*e*P	Pn	01 51 18.6	+0.2
RNF				*e*S	Sn	01 51 55.2	-0.3

*IDC **05** 02:20:41.6±2.3, 33°.64S×56°.62E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/1, Error ellipse: s-maj=96.7km s-min=35.2km az=38.0*

*NEIC **05** 02:20:44.3±2.0, 34°.1S±0°.1×56°.3E±0°.2, h10km±1km, mb4.5/8, Error ellipse: s-maj=25.7km s-min=17.6km az=247.0*

ISC 05 02:20:43.3±0.6, 34°.05±0°.1×56°.4E±0°.1, h12km, n43, σ1°.01/36, mb4.4/8, 2D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**12.15**	**315**	Pn	**Pn**	**02 23 36.8**	**+0.6**
H04N2	**CROZET ISLANDS**	**12.67**	**195**	T	T	02 36 34.9	
	baz=18,slow=75,SNR=417						
H04N1	**CROZET ISLANDS**	**12.68**	**195**	T	T	02 36 36.1	
	baz=18,slow=75,SNR=453						
H04N3	**CROZET ISLANDS**	**12.69**	**195**	T	T	02 36 34.9	
	baz=18,slow=75,SNR=413						
VOI	**Vohitsoka**	**14.71**	**322**	Pn	**Pn**	**02 24 11.5**	**+0.2**
POGA	**Pongola**	**22.22**	**281**	P	**P**	**02 25 39.8**	**0.0**
POGA				IAmb	IAmb	02 25 45.9	
	comp=Z,48nm,1.4s						
GRHM	**Grahamstown, E**	**24.97**	**263**	P	**P**	**02 26 07.2**	**+0.4**
SUR	**Sutherland**	**29.74**	**263**	P	**P**	**02 26 48.3**	**-1.5**
H08S1	**Diego Carcia H**	**30.11**	**33**	T	T	02 58 15.6	
	baz=207,slow=75,SNR=4.4						
H08S2	**Diego Garcia H**	**30.13**	**33**	T	T	02 58 15.8	
	baz=207,slow=75,SNR=2.8						
H08S3	**Diego Garcia H**	**30.13**	**33**	T	T	02 58 12.3	
	baz=207,slow=75,SNR=6.8						
SYO	**Syowa Base**	**36.34**	**190**	‖*e*P	**P**	**02 27 45.0**	**-1.6**
SYO	**Syowa Base**	**36.34**	**190**	‖*e*pP	**P**	**02 27 49.0**	**+2.4**
KMBO	**Kilima Mbogo**	**37.27**	**327**	LR	LR	02 41 44.6	
	comp=Z,29nm,18.1s,baz=100,slow=34						
QSPA	**South Pole Qui**	**56.20**	**180**	P	**P**	**02 30 23.6**	**+0.7**
QSPA				IAmb	IAmb	02 30 38.5	
	comp=Z,5.9nm,1.4s						
CMAR	**Chiang Mai Arr**	**66.04**	**45**	P	**P**	**02 31 28.0**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=219,slow=6.1,SNR=1.6						
	comp=Z,1.3nm,0.3s						
ASAR	**Alice Springs**	**67.24**	**104**	P	**P**	**02 31 37.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=239,slow=6.5,SNR=5.5						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**69.39**	**101**	P	**P**	**02 31 50.9**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=243,slow=6.2,SNR=4.2						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**69.40**	**101**	P	**P**	**02 31 51.2**	**-0.2**
WB2				IAmb	IAmb	02 32 09.5	
	comp=Z,2.7nm,1.1s						
WB0	**Warramunga Arr**	**69.52**	**100**	P	**P**	**02 31 52.1**	**-0.1**
WB0				IAmb	IAmb	02 31 55.2	
	comp=Z,4.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.00**	**302**	P	**P**	**02 31 54.8**	**-0.2**
BRTR	**Keskin Array B**	**76.29**	**342**	P	**P**	**02 32 30.7**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=168,slow=7.4,SNR=3.8						
	comp=Z,0.3nm,0.8s						
ABKAR	**Akbulak array**	**82.92**	**2**	P	**P**	**02 33 09.8**	**+2.4**
MK31	**Makanchi Array**	**83.71**	**18**	P	**P**	**02 33 13.6**	**+1.9**
E29M	**Blow River**	**144.58**	**9**		**PKPab**	**02 40 16.6**	**-0.6**
INK	**Inuvik**	**145.15**	**6**		**PKPbc**	**02 40 18.9**	**-0.3**
G27K	**Doyon Strip**	**145.45**	**13**		**PKPdf**	**02 40 20.8**	**+0.5**
ILAR	**Eielson Array**	**146.07**	**18**	PKPbc	**PKPdf**	**02 40 20.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=314,slow=3.2,SNR=10						
M20K	**Styx River**	**146.34**	**25**	PKPdf	**PKPbc**	**02 40 23.0**	**-0.3**
G31M	**Satah River**	**146.42**	**8**	PKPdf	**PKPdf**	**02 40 22.0**	**+0.1**
I26K	**Coal Creek Min**	**146.48**	**15**		**PKPbc**	**02 40 22.9**	**-0.6**
H29M	**Whitestone**	**146.54**	**11**	PKPdf	**PKPbc**	**02 40 23.3**	**-0.4**
N19K	**Bonanza Creek**	**146.55**	**27**	PKPdf	**PKPdf**	**02 40 22.9**	**+0.5**
J25K	**Salcha River,**	**146.57**	**17**	PKPdf	**PKPdf**	**02 40 22.9**	**+0.6**
SKT	**Skwentna**	**146.82**	**24**	PKPdf	**PKPdf**	**02 40 22.9**	**+0.1**
I28M	**Miner Creek**	**146.99**	**12**	PKPdf	**PKPbc**	**02 40 24.4**	**-0.7**
J26L	**Joseph Creek**	**147.09**	**16**	PKPdf	**PKPbc**	**02 40 24.8**	**-0.5**
P18K	**Big Mountain,**	**147.13**	**30**	PKPbc	**PKPbc**	**02 40 25.1**	**-0.4**
SUA	**Susitna One**	**147.46**	**24**	PKPdf	**PKPdf**	**02 40 24.9**	**+1.0**
H31M	**Peel River**	**147.49**	**8**	PKPdf	**PKPbc**	**02 40 25.4**	**-0.9**
I30M	**Mount Dempster**	**147.77**	**10**	PKPdf	**PKPdf**	**02 40 25.6**	**+1.3**
CAPN	**Captain Cook N**	**147.80**	**25**	PKPdf	**PKPdf**	**02 40 24.3**	**0.0**
YKA	**Yellowknife Ar**	**150.90**	**351**	PKPbc	**PKPbc**	**02 40 34.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=0.9,slow=1.9,SNR=18						

IDC 05 02:51:43.9±8.2, 10°.82S×161°.66E, h72km±56km, mb3.2/4, mbtmp3.6/5, ML3.6/1, MS3.1/3, Error ellipse: s-maj=70.0km s-min=41.4km az=96.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.18**	**309**	P	Pn	02 52 17.3	-0.8
	17nm,0.3s,baz=191,slow=6.4,SNR=1.4						
HNR				S	Sn	02 52 45.0	+0.8
	182nm,0.3s,baz=244,slow=15,SNR=4.3						
HNR				LR	LR	02 53 22.4	
	comp=Z,155nm,22.0s,baz=148,slow=45 104nm,0.4s						
PMG	**Port Moresby**	**14.35**	**274**	LR	LR	03 00 11.1	
	comp=Z,84nm,19.0s,baz=150,slow=35						
WRA	**Warramunga Arr**	**27.82**	**248**	P	P	02 57 27.0	+0.2
	0.3nm,0.4s,baz=76,slow=9.7,SNR=5.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**29.36**	**241**	P	P	02 57 40.0	-0.4
	0.2nm,0.5s,baz=66,slow=10.0,SNR=5.0						
ASAR				LR	LR	03 09 15.3	
	comp=Z,103nm,18.1s,baz=252,slow=36 0.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**35.57**	**254**	P	P	02 58 34.5	-0.2
	1.2nm,0.9s,baz=66,slow=7.1,SNR=1.3						
	1.2nm,0.9s						
MKAR	**Makanchi Array**	**90.

WRA	Warramunga Arr	43.75	193	P		P	03 37 03.1	+0.1
	0.5nm,0.4s,baz=18,slow=8.9,SNR=8.2							
	0.5nm,0.4s							
ASAR	Alice Springs	47.46	192	P		P	03 37 32.1	-0.2
	0.2nm,0.4s,baz=3.5,slow=8.5,SNR=6.0							
	0.2nm,0.4s							
ZALV	Zalesovo Beam	53.43	321	P		P	03 38 16.3	-0.7
	0.3nm,0.3s,baz=106,slow=5.1,SNR=2.0							
	0.3nm,0.3s							
MKAR	Makanchi Array	54.12	312	P		P	03 38 23.3	+1.0
	0.4nm,0.4s,baz=90,slow=11,SNR=7.1							
	0.4nm,0.4s							
KURBB	Kurchatov Arra	56.85	316	P		P	03 38 42.3	+0.5
	0.5nm,0.6s,baz=92,slow=7.7,SNR=7.5							
	0.5nm,0.6s							
ILAR	Eielson Array	60.57	27	P		P	03 39 06.8	-0.6
	0.8nm,0.7s,baz=258,slow=5.7,SNR=12							
	0.8nm,0.7s							
BVAR	Borovoye Array	61.93	319	P		P	03 39 17.6	+0.7
	2.1nm,0.5s,baz=85,slow=6.8,SNR=11							
	2.1nm,0.5s							
YKA	Yellowknife Ar	74.99	28	P		P	03 40 38.4	+0.2
	0.6nm,0.6s,baz=290,slow=5.9,SNR=9.4							
	0.6nm,0.6s							
NVAR	Mina Array Bea	81.89	52	P		P	03 41 18.3	+1.2
	0.6nm,0.7s,baz=276,slow=5.3,SNR=5.5							
	0.6nm,0.7s							
FINES	FINESS Array B	82.13	335	P		P	03 41 16.7	-0.9
	0.6nm,0.5s,baz=66,slow=3.4,SNR=7.7							
	0.6nm,0.5s							
PLCA	Paso Flores	146.29	130	PKPbc		PKPab	03 48 38.6	-0.2
	0.8nm,0.4s,baz=253,slow=2.8,SNR=8.3							
LPAZ	La Paz	149.30	83	PKPbc		PKiKP	03 48 48.0	-0.6
	1.0nm,0.6s,baz=248,slow=0.6,SNR=8.3							

*IDC **05** 03:29:22.5±1.3,27.°76N×51.°79E, h0km, mb4.0/11, mbtmp3.9/13, ML3.4/2, MS3.4/2, Error ellipse: s-maj=32.1km s-min=19.2km az=16.0*
*TEH **05** 03:29:25.8,27.°81N×51.°83E, h20km±25km*
*OMAN **05** 03:29:30.8±0.1,27.°61N×52.°20E, h10km, mb4.6/6, ml3.8/13, Error ellipse: s-maj=1.4km s-min=0.6km az=356.0*
*DSN **05** 03:29:30.0±1.1,27.°64N×52.°14E, h15km, ML3.4/8, Error ellipse: s-maj=13.0km s-min=10.2km az=15.0*

ISC 05 03:29:26.8±0.5,27.°84N±0.°04×51.°88E±0.°04, h26km, n74, σ1º56/100, mb4.1/12, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.76	313	Pg	Pb	03 29 40.0	-1.4
AHBU	AHRAM	1.14	333	Pg	Pn	03 29 47.7	+0.6
QIR1	Qir	1.21	58	Pg	Pb	03 29 49.7	+0.7
LMD1	Lamerd	1.24	113	Pg	Pb	03 29 50.2	+0.5
JHRM	Jahrom	1.64	66	Pg	Pb	03 29 57.3	+0.9
KAZ2	Kazeron-Fars-I	1.78	354	Pn	Pn	03 29 57.7	+1.8
SHI	Shiraz	1.88	17	Pn	Pn	03 29 59.8	+2.4
SHMA	Al-Shehemyia	2.14	203	P	Pb	03 30 05.6	+0.7
	SNR=16						
SHMA				S	Sb	03 30 31.8	+0.8
SAKB	Bahrain	2.21	213	P	Pb	03 30 07.3	+1.1
SAKB				S	Sb	03 30 36.1	+3.0
TRNA	Turayna	3.15	191	P	Pn	03 30 18.7	+3.9
KLNJ	Kolanjah	3.17	355	Pn	Pn	03 30 17.0	+1.7
SMRA	Abu-Samra	3.23	197	P	Pb	03 30 20.7	-2.7
SLWR	Sila	3.76	183	P	Pn	03 30 25.4	+2.3
IRAM	Ramesheh	3.98	6	Pn	Pn	03 30 28.0	+1.6
SHME	Shamm	4.20	114	P	Pn	03 30 29.9	+0.7
SHME				S	Sn	03 31 17.3	-0.1
SHME	Shamm	4.20	114	P	Pn	03 30 29.6	+0.4
IMEH	Mehriz	4.26	33	Pn	Pn	03 30 33.5	+3.2
AJN	Ajban	4.29	139	P	Pn	03 30 31.6	+1.1
AJN				S	Sn	03 31 20.8	+1.1
ISAD	Sadrabad	4.35	21	Pn	Pn	03 30 33.9	+2.3
ZNGN	Zangian	4.36	348	Pn	Pn	03 30 32.9	+1.2
NAZ	Nazwa, Dubai	4.42	129	P	Pn	03 30 33.8	+1.5
NAZ				S	Sn	03 31 23.8	+0.9
NAZ	Nazwa, Dubai	4.42	129	P	Pn	03 30 33.4	+1.1
ASUD	Al Ashush, Dub	4.45	135	P	Pn	03 30 33.4	+0.7
ASUD				S	Sn	03 31 23.2	-0.5
FAQ	Al Faqa, Dubai	4.54	132	P	Pn	03 30 34.3	+0.4
FAQ				S	Sn	03 31 26.2	+0.4
MASF	Masafi	4.55	122	P	Pn	03 30 35.2	+1.2
MASF				S	Sn	03 31 25.4	-0.7
MSFE	Esma-Masafi	4.56	122	P	Pn	03 30 34.8	+0.7
NGRK	Negar Kerman	4.62	66	Pn	Pn	03 30 36.9	+1.6
MDH	Madha	4.69	122	P	Pn	03 30 36.9	+0.9
MDH				S	Sn	03 31 28.3	-1.3
MDH	Madha	4.69	122	P	Pn	03 30 36.3	+0.3
KHGB	Koh Gabri	4.75	57	Pn	Pn	03 30 39.0	+2.1
UOSS	Minazif	4.83	126	P	Pn	03 30 38.6	+0.7
UOSS				S	Sn	03 31 31.3	-1.7
UOSS	Minazif	4.83	126	P	Pn	03 30 37.6	-0.3
HATD	Hatta, Dubai	4.85	127	P	Pn	03 30 39.2	+1.0
HATD				S	Sn	03 31 32.9	-0.6
HATD	Hatta, Dubai	4.85	127	P	Pn	03 30 37.4	-0.8
ASHO	Ashiyiah	4.89	129	P	Pn	03 30 39.4	+0.6
	SNR=18						
ASHO				S	Sn	03 31 33.9	-0.7
ASHO	Ashiyiah	4.89	129	P	Pn	03 30 39.2	+0.4
ASHO				S	Sn	03 31 33.2	-1.4
IPIR	Pirpir	4.90	350	Pn	Pn	03 30 40.8	+1.6
MZR	Muzera	5.03	163	P	Pn	03 30 42.8	+2.1
MZR				S	Sn	03 31 39.7	+1.7
MZR	Muzera	5.03	163	P	Pn	03 30 41.7	+1.1
IZEF	Zefreh	5.05	4	Pn	Pn	03 30 43.2	+2.0
ALNE	Al Ain	5.13	136	P	Pn	03 30 43.1	+1.0
ALNE				S	Sn	03 31 40.2	-0.3
CHMN	Cheshme madani	5.35	67	Pn	Pn	03 30 47.9	+2.5
IKLH	Kolahrood	5.47	357	Pn	Pn	03 30 48.2	+1.4
SOHO	SOHO	5.58	130	P	Pn	03 30 48.6	+0.4
SOHO				S	Sn	03 31 51.1	-0.4
SOHO	SOHO	5.58	130	P	Pn	03 30 48.5	+0.3
ARQ	Araqi	6.13	136	P	Pn	03 30 56.1	+0.3
ARQ				S	Sn	03 32 03.7	-1.5
HOQ	Hoqain	6.47	130	P	Pn	03 31 00.6	+0.1
	SNR=14						
HOQ				S	Sn	03 32 11.4	-2.2
IKFM	Kafar-mosalman	6.65	329	Pn	Pn	03 31 03.7	+0.9
HSAM	Samen	6.95	337	Pn	Pn	03 31 07.9	+0.7
BSY	Bisya	6.99	135	P	Pn	03 31 08.9	+1.3
BSY				S	Sn	03 32 22.7	-3.6
BIDO	Bidbid	7.09	126	P	Pn	03 31 09.8	+0.9
BIDO				S	Sn	03 32 25.2	-3.4
SMDO	Samad	7.33	129	P	Pn	03 31 13.2	+0.9
SMDO				S	Sn	03 32 32.8	-1.9
WSAR	Wadi Sarin	7.62	125	Pn	Pn	03 31 15.9	-0.4
	1.3nm,0.3s,baz=324,slow=9.8,SNR=15						
WSAR				Sn	Sn	03 32 37.7	-4.2
	1.3nm,0.3s,baz=85,slow=22,SNR=8.7						
	4.1nm,0.4s						
JMDO	Jabal Madar	7.84	133	P	Pn	03 31 19.4	+0.2
JMDO				S	Sn	03 32 44.4	-2.8
SNQR	Sonqor, Kerman	7.88	334	Pn	Pn	03 31 20.6	+0.5
ILIN	Lien	8.21	330	Pn	Pn	03 31 24.7	+0.2
WBK	Wadi Bani Khal	8.26	128	P	Pn	03 31 24.9	-0.2
WBK				S	Sn	03 32 54.5	-3.2
MHTO	MHTO	8.79	140	P	Pn	03 31 32.0	-0.3
MHTO				S	Sn	03 33 07.1	-3.5
JLN	Jalan Bani Buh	8.87	128	P	Pn	03 31 32.2	-1.2
JLN				S	Sn	03 33 09.3	-3.2
SRVN	Saravan	9.34	90	Pn	Pn	03 31 41.5	+1.6
BRTR	Keskin Array B	19.21	313	P	P	03 33 50.0	+1.1
	0.1nm,0.3s,baz=138,slow=15,SNR=3.5						
	0.5nm,0.7s						
MKAR	Makanchi Array	30.43	43	P	P	03 35 38.1	+1.1
	0.5nm,0.5s,baz=226,slow=7.5,SNR=8.7						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	30.43	34	P	P	03 35 37.6	+0.7
	0.5nm,0.5s,baz=234,slow=8.9,SNR=5.4						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	35.51	34	P	P	03 36 21.8	+0.5
	1.8nm,0.5s,baz=242,slow=9.7,SNR=8.8						
ZALV				LR	LR	03 52 28.3	
	comp=Z,30nm,18.0s,baz=9.0,slow=39						
	1.8nm,0.5s						
FINES	FINESS Array B	37.77	340	P	P	03 36 40.0	-0.4
	2.1nm,0.6s,baz=142,slow=9.0,SNR=13						
FINES				LR	LR	03 55 00.4	
	comp=Z,76nm,18.3s,baz=196,slow=41						
	2.1nm,0.6s						
HFS	Hagfors	41.36	332	P	P	03 37 10.5	+0.1
	2.6nm,0.4s,baz=120,slow=8.8,SNR=25						
	2.6nm,0.4s						
NB2	NORSAR Subarra	42.88	332	P	P	03 37 22.2	-0.7
	comp=Z,1.1nm,0.5s,baz=122,slow=8.6						
NOA	NORSAR Array B	42.88	332	P	P	03 37 22.1	-0.8
	comp=Z,0.9nm,0.5s,baz=128,slow=9.0,SNR=7.4						
	comp=Z,0.9nm,0.5s						
CMAR	Chiang Mai Arr	44.04	92	P	P	03 37 32.7	0.0
	comp=Z,1.7nm,0.3s,baz=286,slow=5.7,SNR=4.1						
	comp=Z,1.7nm,0.3s						
EKA	Eskdalemuir Ar	47.84	321	P	P	03 38 01.8	-0.4
	comp=Z,1.0nm,0.6s,baz=105,slow=8.3,SNR=3.7						
	comp=Z,1.0nm,0.6s						
TORD	Torodi Ar. Bea	48.91	263	P	P	03 38 09.7	-1.2
	comp=Z,48nm,0.3s,baz=56,slow=8.0,SNR=1.4						
SCHQ	Schefferville	82.37	329	P	P	03 41 46.3	-0.1
	comp=Z,1.5nm,0.5s,baz=16,slow=3.8,SNR=4.4						
	comp=Z,1.5nm,0.5s						
ILAR	Eielson Array	86.54	8	P	P	03 42 07.1	-0.1
	comp=Z,0.2nm,0.9s,baz=335,slow=6.1,SNR=2.2						
	comp=Z,0.2nm,0.9s						
YKA	Yellowknife Ar	89.33	354	P	P	03 42 20.7	+0.1
	comp=Z,0.2nm,0.7s,baz=6.1,slow=4.9,SNR=6.3						
	comp=Z,0.2nm,0.7s						

*NEIC **05** 03:34:47.7±2.0,20.°7S±0.°1×178.°8W±0.°2, h570km±7km, mb4.2/38, Error ellipse: s-maj=25.5km s-min=16.3km az=107.0*
*IDC **05** 03:34:50.0±3.9,21.°02S×178.°60W, h601km±47km, mb3.3/7, mbtmp4.3/8, Error ellipse: s-maj=41.5km s-min=19.3km az=162.0*

ISC 05 03:34:48.0±0.5,20.°9S±0.°1×178.°7W±0.°1, h579km, n77, σ1º27/76, mb4.1/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.69	191	P	P	03 38 20.8	-0.7
	2.7nm,0.3s,baz=75,slow=8.6,SNR=3.9						
URZ				S	S	03 41 09.7	-5.4
	3.7nm,0.8s,baz=248,slow=6.4,SNR=1.9						
BKZ	Black Stump Fm	18.69	192	P	P	03 38 31.9	+1.3
BKZ				IAmb	IAmb	03 38 41.0	
	comp=Z,12nm,1.4s						
TCW	Tory Channel	21.12	195	P	P	03 38 54.2	+1.7
MGBR	Mount Gambier	38.95	235	P	P	03 41 25.6	+0.4
BBOO	Buckleboo	41.80	244	P	P	03 41 47.7	-0.3
ASAR	Alice Springs	43.80	257	P	P	03 42 05.0	+1.1
	comp=Z,2.5nm,0.6s,baz=99,slow=7.5,SNR=31						
ASAR				PcP	PcP	03 43 37.5	+0.1
	comp=Z,0.8nm,0.6s,baz=103,slow=3.4,SNR=5.6						
	comp=Z,2.5nm,0.6s						
WB0	Warramunga Arr	43.89	263	P	P	03 42 05.2	+0.7
WB0				IAmb	IAmb	03 42 05.7	
	comp=Z,3.4nm,0.5s						
WB2	Warramunga Arr	43.90	263	P	P	03 42 05.0	+0.5
WB2				IAmb	IAmb	03 42 05.8	
	comp=Z,5.3nm,1.1s						
WRA	Warramunga Arr	43.91	263	P	P	03 42 04.8	+0.2
WRA	Warramunga Arr	43.91	263	P	P	03 42 05.3	+0.7
	comp=Z,1.6nm,0.6s,baz=98,slow=7.8,SNR=27						
WRA				PcP	PcP	03 43 37.9	+0.1
	comp=Z,0.4nm,0.7s,baz=99,slow=4.0,SNR=2.2						
	comp=Z,1.6nm,0.6s						
KNRA	Kununurra	49.99	267	P	P	03 42 51.0	+0.7
FITZ	Fitzroy Crossi	52.34	263	P	P	03 43 07.3	+0.1
VNDA	Vanda	57.47	185	P	P	03 43 44.2	+2.2
VNDA				IAmb	IAmb	03 44 23.9	
	comp=Z,15nm,1.4s						
QSPA	South Pole Qui	69.19	180	P	P	03 44 58.8	+1.7
GSTR	Great Sitkin T	72.70	2	P	P	03 45 17.1	-0.5
NVAR	Mina Array Bea	81.75	44	P	P	03 46 08.1	+0.9
	comp=Z,0.8nm,0.5s,baz=223,slow=8.0,SNR=9.3						
	comp=Z,0.8nm,0.5s						
J05D	Fort Rock, OR	82.81	38	P	P	03 46 13.8	+1.4
J05D				IAmb	IAmb	03 46 14.3	
	comp=Z,4.8nm,0.7s						
PINE	Pine Mountain	83.28	38	P	P	03 46 16.0	+1.2
PINE				IAmb	IAmb	03 46 16.9	
	comp=Z,4.2nm,0.8s						
RND	Reindeer	87.21	13	P	P	03 46 33.0	-0.1
TXAR	Lajitas Array	87.81	58	P	P	03 46 38.3	+1.6
	comp=Z,1.2nm,0.9s,baz=248,slow=5.0,SNR=7.3						
	comp=Z,1.2nm,0.9s						
M27K	Edge Creek, AK	87.95	16	P	P	03 46 37.4	+0.8
M27K				IAmb	IAmb	03 46 58.9	
	comp=Z,6.9nm,1.4s						
WRH	Wood River Hil	88.32	13	P	P	03 46 37.4	-0.7
H21K	Melozitna Rive	88.50	10	P	P	03 46 38.8	-0.1
H21K				IAmb	IAmb	03 46 47.6	
	comp=Z,4.4nm,1.5s						
CCB	Clear Creek Bu	88.53	13	P	P	03 46 38.1	-1.0
CCB				IAmb	IAmb	03 46 38.9	
	comp=Z,2.6nm,0.8s						
IL31		88.83	13	P	P	03 46 39.6	-0.8
IL31				IAmb	IAmb	03 46 48.8	
	comp=Z,3.1nm,1.3s						
ILAR	Eielson Array	88.83	13	P	P	03 46 39.5	-1.0
	comp=Z,0.7nm,0.6s,baz=218,slow=5.1,SNR=16						
	comp=Z,0.7nm,0.6s						
M29M	Somme Creek	88.95	17	P	P	03 46 41.7	+0.5
M29M				IAmb	IAmb	03 47 14.1	
	comp=Z,3.8nm,1.4s						
J25K	Salcha River,	89.02	14	P	P	03 46 41.4	-0.1
J25K				IAmb	IAmb	03 46 48.7	
	comp=Z,5.5nm,1.4s						
G21K	Allakaket	89.17	10	P	P	03 46 41.3	-0.8
G21K				IAmb	IAmb	03 47 07.8	
	comp=Z,4.9nm,1.4s						
K27K	Chicken	89.30	15	P	P	03 46 43.5	+0.8
J26L	Joseph Creek	89.34	14	P	P	03 46 43.0	0.0
J26L				IAmb	IAmb	03 46 44.2	
	comp=Z,3.4nm,0.9s						
LOHW	Long Hollow	89.43	42	P	P	03 46 45.0	+0.9
E19K	Redstone River	89.51	8	P	P	03 46 43.2	-0.4
E19K				IAmb	IAmb	03 46 44.1	
	comp=Z,1.8nm,0.8s						
M30M	Minto, Yukon	89.53	18	P	P	03 46 44.0	+0.1
M30M				IAmb	IAmb	03 46 49.4	
	comp=Z,3.4nm,1.5s						
L29M	L29M	89.58	17	P	P	03 46 44.2	+0.2
CMAR	Chiang Mai Arr	89.64	290	P	P	03 46 47.6	+2.3
	comp=Z,1.4nm,0.3s,baz=109,slow=5.8,SNR=4.4						
	comp=Z,1.4nm,0.3s						
PD31	Pinedale Array	89.68	43	P	P	03 46 46.0	+0.7
PDAR	Pinedale Array	89.68	43	P	P	03 46 45.5	+0.3
PDAR	Pinedale Array	89.68	43	P	P	03 46 45.4	+0.1
	comp=Z,1.0nm,0.6s,baz=203,slow=3.5,SNR=12						
	comp=Z,1.0nm,0.6s						
DAWY	Dawson	90.00	16	P	P	03 46 46.2	+0.2
K29M	Barlow Dome	90.33	17	P	P	03 46 48.3	+0.7
K29M				IAmb	IAmb	03 46 48.8	
	comp=Z,3.6nm,1.1s						
I28M	Miner Creek	90.99	15	P	P	03 46 50.3	-0.3
I28M				IAmb	IAmb	03 46 50.6	
	comp=Z,4.1nm,1.4s						
MMPY	Sheldon Lake,	91.25	20	P	P	03 46 52.7	+0.9
BMAR	Burnt Mountain	91.61	13	P	P	03 46 53.7	+0.4
B20K	Meade River	91.93	7	P	P	03 46 54.8	+0.2
H29M	Whitestone	92.00	15	P	P	03 46 54.9	-0.2
G29M	Pine Creek	92.63	15	P	P	03 46 58.3	+0.2
C23K	Itkillik River	92.65	9	P	P	03 46 58.5	+0.5
C23K				IAmb	IAmb	03 47 10.9	
	comp=Z,4.6nm,1.5s						
G30M	tAoh Zraii Nji	93.13	15	P	P	03 46 59.6	-0.7
G31M	Satah River	93.58	16	P	P	03 47 01.9	-0.3
G31M				IAmb	IAmb	03 47 40.5	
	comp=Z,3.0nm,1.3s						
F31M	Tsiigehtchic	94.11	16	P	P	03 47 04.5	-0.1
MKAR	Makanchi Array	110.99	313	PKiKP	PKiKP	03 52 15.9	-0.2
	comp=Z,0.3nm,0.6s,baz=73,slow=2.0,SNR=2.8						
BOOM	Boomskoye usch	114.95	308	PKPdf	PKPdf	03 52 23.7	-0.3
OBIP	Obispado Ponce	116.33	80	PKPdf	PKPdf	03 52 25.8	-1.3
M65A	Busby, Falmout	116.84	53	PKPdf	PKiKP	03 52 27.8	+0.4
BVAR	Borovoye Array	118.95	320	PKP	PKPdf	03 52 30.4	-0.7
	comp=Z,1.2nm,0.4s,baz=251,slow=1.0,SNR=6.0						
KKAR	Karatay Array	118.98	308	PKPdf	PKPdf	03 52 29.1	-2.4
SABA	Saba	119.33	81	PKPdf	PKPdf	03 52 31.9	-1.0
BBSR	BB Station	120.70	64	PKPdf	PKPdf	03 52 34.5	-0.6
SPITS	Spitsbergen Ar	122.21	356	PKP	PKPdf	03 52 36.2	-0.6
	comp=Z,5.8nm,0.9s,baz=222,slow=1.9,SNR=1.6						
ARCES	ARCESS Array B	129.18	349	PKP	PKPdf	03 52 49.5	-0.8
	comp=Z,3.2nm,0.9s,baz=49,slow=2.6,SNR=4.6						
FINES	FINESS Array B	135.95	343	PKP	PKPdf	03 53 02.9	-0.3
	comp=Z,3.9nm,0.9s,baz=282,slow=2.7,SNR=3.7						
GNI	Garni	138.43	307	PKPdf	PKPdf	03 53 03.9	-4.8
NC303	NORSAR Array S	139.08	353	PKPdf	PKPdf	03 53 08.2	-0.7
NBO00	NORSAR Array S	139.34	353	PKPdf	PKPdf	03 53 07.6	-1.8
NC602	NORSAR Array S	139.53	352	PKPdf	PKPdf	03 53 06.5	-3.3
HFS	Hagfors	139.81	350	PKhKP	PKPpre	03 53 03.1	
	comp=Z,1.1nm,0.4s,baz=72,slow=4.8,SNR=12						
AKASG	Malin Array Be	143.03	330	PKP	PKPab	03 53 13.3	-0.7
	comp=Z,2.9nm,0.4s,baz=44,slow=4.2,SNR=33						
AKBB	Malin Array Si	143.03	330	PKPdf	PKPab	03 53 13.5	-0.5
KIEV	Kiev	143.04	330	PKPdf	PKPab	03 53 13.5	-0.5
ESK	Eskdalemuir	145.45	5	PKPbc	PKPbc	03 53 21.3	-0.4
BR131	Keskin Array S	146.61	311		PKPbc	03 53 25.6	-0.1
BRTR	Keskin Array B	146.61	311	PKPbc	PKPbc	03 53 25.3	-0.4
	comp=Z,1.2nm,0.6s,baz=136,slow=5.2,SNR=8.3						
BURAR	Bucovina Array	147.07	330	PKPab	PKPbc	03 53 27.0	+0.4
ANTO	Ankara	147.14	312	PKPab	PKiKP	03 53 29.6	+0.8
MMAI	Mount Meron Ar	147.44	299	PKPbc	PKPbc	03 53 28.8	+0.8
	comp=Z,2.7nm,0.5s,baz=62,slow=5.7,SNR=7.6						
GERES	GERESS Array B	150.39	343	PKPbc	PKPbc	03 53 34.1	-0.6
	comp=Z,1.1nm,0.7s,baz=20,slow=5.1,SNR=2.2						

*NNC **05** 03:36:35.6±4.2,38.°73N×73.°57E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=32.0km s-min=23.9km az=152.0*
*IDC **05** 03:36:35.1±8.0,38.°48N×73.°97E, h144km±54km, mb3.4/4, mbtmp3.7/7, Error ellipse: s-maj=70.2km s-min=28.2km az=13.0*

ISC 05 03:36:31.6±1.8,38.°3N±0.°1×73.°8E±0.°1, h124km, n12, σ1º36/16, mb3.8/4, 6C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.38	7	P	Pn	03 37 38.2	+1.8
	1.1nm,0.3s,baz=163,slow=14,SNR=6.2						
AAK				S	Sn	03 38 26.7	-0.1
	4.4nm,0.4s,baz=340,slow=20,SNR=6.9						
AAK	Ala-Archa	4.38	7	⇑Pn	Pn	03 37 38.3	+1.8
	1.9nm,0.9s						
AAK				⇑Sn	Sn	03 38 27.4	+0.6
	6.0nm,0.6s						
AAK				⇑Lg	Lg	03 38 43.4	
	14nm,1.4s						
TKM2	Tokmak 2	4.83	16	⇑Pn	Pn	03 37 44.3	+1.8
	1.8nm,0.7s						
TKM2				⇑Sn	Sn	03 38 36.7	-0.9
	8.2nm,0.6s						
TKM2				⇓Lg	Lg	03 38 58.4	
	6.4nm,0.6s						
KK31	Karatay Array	5.43	334	⇓Pn	Pn	03 37 51.7	+1.4
	0.6nm,0.2s,baz=125,slow=12,SNR=14						
KK31				⇑Sn	Sn	03 38 49.3	-2.5
	8.3nm,0.4s,baz=157,slow=24,SNR=16						
MKAR	Makanchi Array	10.55	34	P	Pn	03 38 58.5	-0.9
	0.6nm,0.8s,baz=212,slow=13,SNR=4.8						
KURBB	Kurchatov Arra	12.79	14	P	P	03 39 33.7	-1.2
	2.9nm,0.8s,baz=207,slow=9.7,SNR=12						
BVAR	Borovoye Array	14.94	352	P	P	03 39 59.2	+0.5
	2.6nm,0.5s,baz=153,slow=9.9,SNR=9.3						
ZALV	Zalesovo Beam	17.39	22	P	P	03 40 24.8	-1.0
	1.3nm,0.3s,baz=216,slow=7.7,SNR=7.6						
SONM	Songino Array	25.49	57	P	P	03 41 48.3	0.0
	0.3nm,0.3s,baz=264,slow=8.5,SNR=4.2						
	0.3nm,0.3s						
FINES	FINESS Array B	37.31	324	P	P	03 43 32.2	+0.9
	1.0nm,0.7s,baz=103,slow=8.1,SNR=3.7						
	1.0nm,0.7s						
ARCES	ARCESS Array B	40.39	336	P	P	03 43 58.0	+1.0
	2.5nm,0.8s,baz=117,slow=9.4,SNR=4.0						
	2.5nm,0.8s						
HFS	Hagfors	43.09	321	P	P	03 44 18.8	-0.2
	1.2nm,0.6s,baz=80,slow=10,SNR=1.6						
	1.2nm,0.6s						

*THE **05** 03:37:15.2,37.°26N×20.°62E, h0km±1km, ML3.3/10, Error ellipse: s-maj=2.2km s-min=0.8km az=218.0*
*ATH **05** 03:37:15.4,37.°28N×20.°55E, h14km±5km, ML3.6/8, Manual Solution by A.Moschou First location: 2019/03/05 03:38:13, This location: 2019/03/05 07:02:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*

ISC 05 03:37:15.4±2.1,37.°27N±0.°07×20.°59E±0.°06, h7km±10km, n32, σ0º67/58, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.48	24	P	Pg	03 37 24.9	+0.2
LTHK				S	Sg	03 37 31.3	+0.2
	13μm,0.3s						
LTHK	Lithakia	0.48	24	P	Pg	03 37 24.9	+0.2
LTHK				S	Sg	03 37 31.0	-0.1
KYPS	Kipseli, Zakin	0.58	19	P	Pg	03 37 27.1	+0.5
KYPS				S	Sb	03 37 35.3	-1.1
ORTH	Orthonies,Zaky	0.59	8	P	Pg	03 37 27.1	+0.3
ORTH				S	Sg	03 37 35.0	+0.6
CLEM	Kyllini,

ISC 05 03:39:59.2±1.2, 10.4S±0.1×119.04E±0.07, h41km, n11, σ0$85/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.86**	**24**	P	**Pn**	**03 40 14.4**	**-0.5**
BASI	**Baing, Sumba**	**1.52**	**82**	P	**Pn**	**03 40 23.9**	**-0.1**
BASI				S	**Sn**	**03 40 43.1**	**+0.5**
PLAI	**Plampang**	**2.03**	**322**	P	**Pn**	**03 40 30.8**	**-0.1**
TWSI	**Taliwang, Sumb**	**2.72**	**308**	P	Pn	03 40 30.6	-10
SRBI	**Singaraja**	**4.44**	**301**	P	**Pn**	**03 41 04.2**	**0.0**
BSSI	**Bau Bau, Buton**	**4.50**	**19**	P	**Pn**	**03 41 03.7**	**-1.2**
BKSI	**Bulukumba**	**5.19**	**12**	P	**Pn**	**03 41 16.0**	**+1.6**
LEM	**Lembang**	**11.85**	**287**	LR	LR	03 47 23.9	
	comp=Z,79nm,20.7s,baz=95,slow=38						
ASAR	**Alice Springs**	**19.34**	**135**	P	**Pn**	**03 44 22.8**	**0.0**
	0.6nm,0.8s,baz=327,slow=13,SNR=4.9						
SONM	**Songino Array**	**59.09**	**350**	P	**P**	**03 49 55.9**	**+0.4**
	0.4nm,0.5s,baz=163,slow=5.4,SNR=3.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**65.75**	**333**	P	**P**	**03 50 39.3**	**-0.6**
	0.3nm,0.7s,baz=156,slow=7.6,SNR=3.6						
	0.3nm,0.7s						

*NNC **05** 04:02:19.8±3.6, 37.88N×71.45E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=28.5km s-min=21.6km az=165.0*
*IDC **05** 04:02:22.4±5.5, 37.59N×71.96E, h156km±38km, mb3.3/4, mbtmp3.7/8, Error ellipse: s-maj=58.6km s-min=32.3km az=152.0*

ISC 05 04:02:17.7±1.3, 37.5N±0.1×71.6E±0.1, h109km, n20, σ1$51/26, mb3.9/5, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.94**	**19**	P	**Pn**	**04 03 31.9**	**+1.8**
	SNR=141						
UCH	**Uchtor**	**5.27**	**25**	P	**Sn**	**04 04 34.1**	**-0.3**
	SNR=12						
EKS2	**Erkin-Say**	**5.46**	**17**	P	**Pn**	**04 03 39.2**	**+2.4**
	SNR=45						
AAK	**Ala-Archa**	**5.64**	**23**	P	**Pn**	**04 03 41.2**	**+2.0**
	16nm,0.3s,baz=176,slow=4.4,SNR=62						
AAK				S	**Sn**	**04 04 43.3**	**+0.5**
	9.2nm,0.6s,baz=358,slow=18,SNR=8.0						
AAK	**Ala-Archa**	**5.64**	**23**	P	**Pn**	**04 03 41.3**	**+2.0**
	SNR=34						
AAK	**Ala-Archa**	**5.64**	**23**	⇑P	**Pn**	**04 03 40.5**	**+1.3**
	10.0nm,0.4s						
AAK				S	**Sn**	**04 04 43.8**	**+1.0**
	11nm,0.6s						
KK31	**Karatay Array**	**5.69**	**352**	P	**Pn**	**04 03 42.0**	**+2.1**
	5.5nm,0.4s,baz=171,slow=9.7,SNR=45						
KK31				⇓S	**Sn**	**04 04 43.0**	**-0.8**
	5.5nm,0.3s,baz=172,slow=19,SNR=11						
CHMS	**Chumysh**	**6.04**	**23**	P	**Pn**	**04 03 46.5**	**+1.9**
	SNR=9.5						
CHMS	**Chumysh**	**6.04**	**23**	P	**Pn**	**04 03 45.8**	**+1.2**
	13nm,0.6s						
CHMS				⇑S	**Sn**	**04 04 52.1**	**-0.4**
	10nm,0.7s						
TKM2	**Tokmak 2**	**6.26**	**28**	P	**Pn**	**04 03 49.4**	**+1.6**
	SNR=11						
TKM2	**Tokmak 2**	**6.26**	**28**	P	**Pn**	**04 03 48.7**	**+0.9**
	6.6nm,0.5s						
TKM2				⇑S	**Sn**	**04 04 59.1**	**+1.0**
	9.2nm,1.0s						
MKAR	**Makanchi Array**	**12.25**	**37**	P	**Pn**	**04 05 07.1**	**-1.3**
	0.5nm,0.7s,baz=202,slow=15,SNR=6.3						
KURBB	**Kurchatov Arra**	**14.07**	**19**	P	**Pn**	**04 05 33.7**	**+1.7**
	0.5nm,0.2s,baz=203,slow=12,SNR=1.5						
AB31	**Akbulak array**	**14.48**	**328**	⇑P	**Pn**	**04 05 36.8**	**-0.5**
	0.3nm,0.3s,baz=140,slow=14,SNR=5.9						
AB31				S	**Sn**	**04 08 15.2**	**-1.7**
	1.0nm,0.5s,baz=148,slow=23,SNR=7.3						
ZALV	**Zalesovo Beam**	**18.85**	**25**	P	**P**	**04 06 28.5**	**-0.5**
	0.6nm,0.4s,baz=210,slow=9.4,SNR=3.1						
FINES	**FINESS Array B**	**36.94**	**325**	P	**P**	**04 09 16.4**	**+0.6**
	2.9nm,1.0s,baz=108,slow=8.5,SNR=1.5						
	2.9nm,1.0s						
HFS	**Hagfors**	**42.59**	**321**	P	**P**	**04 10 03.1**	**+0.5**
	1.6nm,0.8s,baz=88,slow=10,SNR=1.2						
	1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.19**	**269**	P	**P**	**04 12 55.8**	**+1.7**
	44nm,0.3s,baz=45,slow=7.4,SNR=0.9						
ILAR	**Eielson Array**	**73.73**	**16**	P	**P**	**04 13 37.4**	**-2.0**
	0.5nm,1.1s,baz=336,slow=5.6,SNR=2.4						
	0.5nm,1.1s						
YKA	**Yellowknife Ar**	**80.26**	**3**	P	**P**	**04 14 14.4**	**-1.6**
	0.2nm,0.5s,baz=349,slow=5.3,SNR=5.4						
	0.2nm,0.5s						

*TEH **05** 04:05:50.7, 28.05N×51.93E, h9km*
*IDC **05** 04:05:53.5±6.8, 28.91N×51.78E, h0km, mb4.0/6, mbtmp4.0/6, MS3.2/2, Error ellipse: s-maj=145.6km s-min=38.2km az=5.0*

ISC 05 04:05:49.4±1.1, 28.00N±0.08×51.85E±0.06, h10km, n12, σ1$25/12, mb3.9/6, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.64**	**305**	Pg	**Pb**	**04 06 03.1**	**+0.5**
DSBU				Sg	**Sn**	**04 06 14.0**	**-0.8**
QIR1	**Qir**	**1.16**	**65**	Pg	**Pb**	**04 06 11.2**	**-0.4**
LMD1	**Lamerd**	**1.34**	**119**	Pg	**Pg**	**04 06 16.1**	**+1.0**
KAZ2	**Kazeron-Fars-I**	**1.62**	**354**	Pg	**Pg**	**04 06 21.6**	**+1.1**
SHI	**Shiraz**	**1.74**	**19**	Pg	**Pb**	**04 06 22.1**	**+0.5**
BELG	**Belogornoye**	**24.57**	**354**	LR	LR	04 23 37.3	
	comp=Z,24nm,18.1s,baz=87,slow=45						
KURBB	**Kurchatov Arra**	**30.32**	**35**	P	**P**	**04 12 00.0**	**-0.9**
	2.9nm,0.2s,baz=238,slow=7.0,SNR=1.3						
	2.9nm,0.2s						
MKAR	**Makanchi Array**	**30.34**	**44**	P	**P**	**04 12 01.4**	**+0.3**
	0.4nm,0.8s,baz=235,slow=8.1,SNR=4.0						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**37.61**	**340**	P	**P**	**04 13 02.2**	**-1.8**
	3.8nm,0.9s,baz=134,slow=8.2,SNR=4.2						
	3.8nm,0.9s						
HFS	**Hagfors**	**41.21**	**332**	P	**P**	**04 13 32.9**	**-1.2**
	3.8nm,0.9s,baz=116,slow=10,SNR=7.4						
	3.8nm,0.9s						
NOA	**NORSAR Array B**	**42.73**	**332**	P	**P**	**04 13 45.0**	**-1.6**
	0.4nm,0.6s,baz=118,slow=6.7,SNR=1.7						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**89.17**	**354**	P	**P**	**04 18 46.5**	**+1.5**
	0.3nm,0.8s,baz=11,slow=4.9,SNR=5.3						
YKA				LR	LR	05 05 06.3	
	comp=Z,25nm,18.1s,baz=334,slow=40						
	0.3nm,0.8s						

*IDC **05** 04:12:47.4±1.3, 2.74N×89.17E, h0km, mb4.0/8, mbtmp4.0/11, ML4.1/3, MS3.2/10, Error ellipse: s-maj=38.1km s-min=19.0km az=44.0*
*NEIC **05** 04:12:48.8±1.9, 2.7N±0.1×89.24E±0.08, h10km±1km, mb4.5/17, Error ellipse: s-maj=20.0km s-min=12.7km az=203.0*

ISC 05 04:12:48.2±0.6, 2.76N±0.07×89.41E±0.07, h10km, n75, σ1$79/59, mb4.5/16, MS3.2/8, 1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**6.17**	**47**	*e*P	**Pn**	**04 14 21.2**	**+1.8**
CMBY				*e*S	**Sn**	**04 15 27.2**	**-2.9**
CMBY				IAML		04 15 39.9	
	comp=N,398nm,0.2s						
CMBY				IAML		04 15 47.5	
	comp=E,416nm,0.3s						
BSI	**Banda Aceh**	**6.47**	**65**	P	**Pn**	**04 14 23.8**	**+0.2**
	comp=E,0.8nmcomp=E,85nm,0.6s						
BSI				S	**Sn**	**04 15 30.7**	**-6.9**
	comp=E,0.8nmcomp=E,85nm,0.6s						
SNSI	**Sinabang, Aceh**	**6.92**	**93**	P	**Pn**	**04 14 29.8**	**+0.1**
	comp=E,0.7nmcomp=E,147nm,0.8s						
MLSI	**Meulaboh, Aceh**	**7.14**	**78**	P	**Pn**	**04 14 33.7**	**+0.9**
	comp=E,0.7nmcomp=E,129nm,1.3s						
GSI	**Gunungsitoli**	**8.29**	**100**	Pn	**Pn**	**04 14 49.8**	**+1.3**
GSI	**Gunungsitoli**	**8.29**	**100**	P	**Pn**	**04 14 48.1**	**-0.5**
PBSI	**Pulau Batu**	**9.30**	**107**	P	**Pn**	**04 15 04.3**	**+1.9**
PSI	**Prapat**	**9.50**	**90**	Pn	**Pn**	**04 15 09.7**	**+4.3**
	comp=E,1.9nm,0.3s,baz=255,slow=3.9,SNR=6.8						
PSI				LR	LR	04 18 40.0	
	comp=E,142nm,21.6s,baz=250,slow=36						
	comp=E,3.0nm,0.3s						
RPSI	**Rantau Prapat**	**9.50**	**90**		**Pn**	**04 15 08.6**	**+3.4**
PALK	**Pallekele**	**9.76**	**298**		**Pn**	**04 15 06.9**	**-2.0**
PALK	**Pallekele**	**9.76**	**298**	Pn	**Pn**	**04 15 06.5**	**-2.4**
	comp=E,3.0nm,0.3s,baz=121,slow=11,SNR=11						
PALK				Sn	Sn	04 16 46.4	-12
	comp=E,8.5nm,0.3s,baz=58,slow=3.9,SNR=8.4						
PALK				LR	LR	04 18 31.8	
	comp=E,92nm,18.7s,baz=116,slow=36						
	comp=E,2.8nm,0.3s						
MNSI	**Maldailing Nat**	**10.35**	**101**	P	**Pn**	**04 15 15.1**	**-1.8**
DGPR	**DIGLIPUR**	**10.92**	**18**	*e*P	**Pn**	**04 15 25.6**	**+0.9**
DGPR				*e*S	Sn	04 17 16.9	-10
DGPR				IAML		04 17 17.0	
	comp=N,94nm,0.1s						
DGPR				IAML		04 17 17.1	
	comp=E,94nm,0.1s						
KULM	**Kulim**	**11.49**	**77**	Pn	**Pn**	**04 15 34.7**	**+2.2**
SRIT	**Nakonsritamara**	**11.68**	**60**		**Pn**	**04 15 35.5**	**+0.4**
IPM	**Ipoh**	**11.72**	**81**		**Pn**	**04 15 36.7**	**+1.1**
KOD	**Kodaikanal**	**13.99**	**303**	*e*P	**Pn**	**04 16 06.2**	**-0.8**
KOD				IAmb	IAmb	04 16 29.3	
	comp=Z,11nm,1.0s						
KOD				*e*S	Sn	04 18 28.5	-14
SALM	**Salem**	**14.20**	**309**	*e*P	**Pn**	**04 16 09.2**	**-0.3**
SALM				IAmb	IAmb	04 16 20.0	
	comp=Z,24nm,1.1s						
VIS	**Vishakhapatnam**	**16.02**	**339**	*e*P	**Pn**	**04 16 31.8**	**-2.0**
VIS				IAmb	IAmb	04 16 51.3	
	comp=Z,33nm,0.9s						
VIS				*e*S	Sn	04 19 18.9	-13
RAGD	**RAYAGADA**	**17.39**	**341**	*e*P	**Pn**	**04 16 51.1**	**0.0**
RAGD				IAmb	IAmb	04 16 59.5	
	comp=Z,25nm,1.2s						
RAGD				*e*S	Sn	04 19 51.6	-13
CMAR	**Chiang Mai Arr**	**18.18**	**30**	P	**P**	**04 17 03.9**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=214,slow=10.0,SNR=1.5						
	comp=Z,1.0nm,0.4s						
H08S3	**Diego Garcia H**	**19.79**	**238**	T	T	04 37 30.4	
	baz=58,slow=75,SNR=71						
H08S2	**Diego Garcia H**	**19.79**	**238**	T	T	04 37 33.1	
	baz=58,slow=75,SNR=52						
H08S1	**Diego Garcia H**	**19.81**	**238**	T	T	04 37 31.7	
	baz=58,slow=75,SNR=34						
AZL	**Aizawl**	**21.10**	**8**	*e*P	P	04 17 42.4	+9.2
SHL	**Shillong**	**22.80**	**6**	P	**P**	**04 17 51.3**	**-0.1**
SHL				IAmb	IAmb	04 18 31.8	
	comp=Z,14nm,0.9s						
LSA	**Lhasa**	**26.85**	**3**	P	**P**	**04 18 29.7**	**+0.1**
LSA				IAmb	IAmb	04 18 35.2	
	comp=Z,8.5nm,0.7s						
KAPI	**Kappang**	**31.28**	**104**	LR	LR	04 31 54.1	
	comp=Z,59nm,18.8s,baz=230,slow=36						
NIL	**Nilore**	**34.24**	**336**	P	**P**	**04 19 34.7**	**+0.3**
KSH	**Kashi**	**38.58**	**343**	P	**P**	**04 20 11.4**	**-0.1**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARSB	**Arslanbob**	**41.15**	**341**	P	**P**	**04 20 32.8**	**-0.1**
ARSB				IAmb	IAmb	04 20 35.3	
	comp=Z,6.2nm,0.6s						
AAK	**Ala-Archa**	**41.88**	**343**	LR	LR	04 38 57.1	
	comp=Z,22nm,19.3s,baz=183,slow=38						
KK31	**Karatay Array**	**43.56**	**340**	P	**P**	**04 20 52.2**	**-0.1**
KKAR	**Karatay Array**	**43.56**	**340**	P	**P**	**04 20 52.7**	**+0.3**
KKAR	**Karatay Array**	**43.56**	**340**	P	**P**	**04 20 52.7**	**+0.3**
KKAR				IAmb	IAmb	04 20 54.3	
	comp=Z,3.1nm,0.8s						
H01W3	**Cape Leeuwin H**	**44.05**	**150**	T	T	05 07 57.9	
	baz=325,slow=75,SNR=7.4						
H01W2	**Cape Leeuwin H**	**44.07**	**150**	T	T	05 08 02.2	
	baz=325,slow=75,SNR=7.8						
H01W1	**Cape Leeuwin H**	**44.07**	**150**	T	T	05 07 56.2	
	baz=325,slow=75,SNR=7.5						
JOW	**Kunigami**	**44.24**	**53**	LR	LR	04 40 19.4	
	comp=Z,32nm,19.1s,baz=260,slow=37						
MK31	**Makanchi Array**	**44.30**	**353**	P	**P**	**04 20 58.6**	**+0.3**
MKAR	**Makanchi Array**	**44.30**	**353**	P	**P**	**04 20 57.9**	**-0.4**
MKAR	**Makanchi Array**	**44.30**	**353**	P	**P**	**04 20 58.4**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=172,slow=9.2,SNR=11						
	comp=Z,0.9nm,0.6s						
ATD	**Arta Tunnel**	**46.95**	**283**	P	**P**	**04 21 18.2**	**-1.6**
SONM	**Songino Array**	**47.24**	**16**	P	**P**	**04 21 23.1**	**+1.5**
SONM				IAmb	IAmb	04 21 24.0	
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**47.24**	**16**	P	**P**	**04 21 22.9**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=194,slow=9.2,SNR=19						
	comp=Z,3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**48.57**	**351**	P	**P**	**04 21 32.2**	**+0.5**
	comp=Z,1.3nm,0.2s,baz=176,slow=6.3,SNR=8.7						
	comp=Z,1.3nm,0.2s						
KSAR	**Wonju Array Be**	**49.36**	**41**	P	**P**	**04 21 39.1**	**+1.1**
KSRS	**Korea Array**	**49.39**	**41**	LR	LR	04 43 59.5	
	comp=Z,19nm,18.9s,baz=120,slow=38						
WB0	**Warramunga Arr**	**49.51**	**119**	P	**P**	**04 21 41.3**	**+1.8**
WB0				IAmb	IAmb	04 21 42.2	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**49.53**	**119**	P	**P**	**04 21 41.5**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=297,slow=8.6,SNR=7.9						
	comp=Z,1.6nm,0.8s						
WB2	**Warramunga Arr**	**49.54**	**119**	P	**P**	**04 21 41.1**	**+1.4**
WB2				IAmb	IAmb	04 21 51.3	
	comp=Z,11nm,1.5s						
ASAR	**Alice Springs**	**50.64**	**124**	P	**P**	**04 21 49.7**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=296,slow=6.7,SNR=4.8						
	comp=Z,0.5nm,0.5s						
ZAA0	**Zalesovo Array**	**51.16**	**357**	P	**P**	**04 21 51.5**	**+0.1**
ZALV	**Zalesovo Beam**	**51.16**	**357**	P	**P**	**04 21 51.3**	**-0.1**
ZALV	**Zalesovo Beam**	**51.16**	**357**	P	**P**	**04 21 51.1**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=171,slow=7.2,SNR=8.2						
	comp=Z,1.6nm,0.5s						
BVAR	**Borovoye Array**	**52.52**	**346**	LR	LR	04 45 11.6	
	comp=Z,20nm,19.5s,baz=181,slow=37						
ABKAR	**Akbulak array**	**52.71**	**336**	P	**P**	**04 22 03.7**	**+0.7**
ABKAR				IAmb	IAmb	04 22 04.8	
	comp=Z,4.9nm,0.7s						
ABKAR	**Akbulak array**	**52.71**	**336**	P	**P**	**04 22 04.0**	**+1.1**
MJAR	**Matsushiro Arr**	**56.07**	**47**	LR	LR	04 47 06.3	
	comp=Z,21nm,19.6s,baz=273,slow=37						
ASF	**Jabal al Asfar**	**57.26**	**307**	LR	LR	04 49 08.9	
	comp=Z,30nm,18.4s,baz=190,slow=38						
ARTI	**Arti**	**58.95**	**340**	LR	LR	04 47 46.7	
	comp=Z,23nm,18.8s,baz=360,slow=36						
H04N2	**CROZET ISLANDS**	**58.96**	**210**	T	T	05 26 44.0	
	baz=46,slow=74,SNR=42						
H04N1	**CROZET ISLANDS**	**58.97**	**210**	T	T	05 26 41.3	
	baz=46,slow=74,SNR=33						
H04N3	**CROZET ISLANDS**	**58.98**	**210**	T	T	05 26 44.2	
	baz=46,slow=74,SNR=41						
BRTR	**Keskin Array B**	**62.37**	**314**	P	**P**	**04 23 11.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=143,slow=6.8,SNR=2.3						
	comp=Z,0.3nm,0.5s						
TOO	**Toolangi**	**65.55**	**134**	P	**P**	**04 23 28.9**	**-3.4**
TOO				IAmb	IAmb	04 23 34.2	
	comp=Z,6.1nm,1.4s						
ARMA	**Armidale**	**67.78**	**124**	P	**P**	**04 23 47.8**	**+1.0**
CASY	**Casey**	**70.54**	**171**	P	**P**	**04 24 01.9**	**-1.1**
BURAR	**Bucovina Array**	**70.77**	**320**	P	**P**	**04 24 04.3**	**-0.7**
FINES	**FINESS Array B**	**75.09**	**334**	P	**P**	**04 24 30.1**	**0.0**
	comp=Z,3.1nm,0.9s,baz=91,slow=9.0,SNR=1.7						
	comp=Z,3.1nm,0.9s						
SYO	**Syowa Base**	**79.19**	**196**	⇓*e*P	**P**	**04 24 55.2**	**+2.2**
TX31	**Lajitas Ar. Si**	**145.72**	**21**	PKPdf	**PKPdf**	**04 32 26.1**	**-1.9**
TXAR	**Lajitas Array**	**145.72**	**21**	PKPdf	**PKPdf**	**04 32 26.8**	**-1.2**
TXAR	**Lajitas Array**	**145.72**	**21**	PKPbc	**PKPab**	**04 32 30.1**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=322,slow=3.7,SNR=4.4						
CO06	**Fray Jorge**	**146.95**	**211**	PKPdf	**PKPdf**	**04 32 28.1**	**-1.8**

*IDC **05** 04:33:14.8±0.7, 5.96N×125.98E, h146km±5km, mb4.0/11, mbtmp4.4/12, MS3.7/1, Error ellipse: s-maj=35.8km s-min=10.4km az=75.0*
*DJA **05** 04:33:14.1±0.4, 6°N±3°×12°6E±°, h10km, M4.8/10, mB5.1/2, mb4.7/8, MLv4.8/10, Mw(mB)4.5/2*
*NEIC **05** 04:33:14.9±1.1, 5.89N±0.06×126.03E±0.09, h132km±3km, mb4.5/34, Error ellipse: s-maj=12.8km s-min=8.0km az=71.0*

ISC 05 04:33:13.3±0.4, 5.92N±0.04×126.08E±0.07, h127km, n84, σ1$56/89, mb4.4/22, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.25**	**336**		**Pn**	**04 33 40.6**	**+2.1**
DAV				Sn	**Sn**	**04 33 59.1**	**+1.5**
DAV	**Davao City (W)**	**1.25**	**336**	P	**Pn**	**04 33 40.7**	**+2.3**
	638nm,0.3s,baz=224,slow=2.3,SNR=10.0						
DAV				S	**Sn**	**04 34 00.8**	**+3.1**
	2μm,0.4s,baz=165,slow=18,SNR=26						
DAV				LR	LR	04 34 05.0	
	comp=Z,74nm,21.4s,baz=170,slow=43						
SGSI	**Sangihe**	**2.28**	**194**	P	**Pn**	**04 33 52.7**	**+2.1**
SGSI				S	**Sn**	**04 34 21.4**	**+2.1**
TNTI	**Ternate**	**5.27**	**166**		**Pn**	**04 34 31.1**	**+1.2**
TNTI					**Sn**	**04 35 29.9**	**+0.3**
TNTI	**Ternate**	**5.27**	**166**	P	**Pn**	**04 34 30.7**	**+0.8**
	0.8nm124nm,0.6s						
MRSI	**Marisa**	**6.80**	**218**	P	**Pn**	**04 34 52.7**	**+2.1**
	0.2nm1μm55nm,0.8s						
TOLI2	**Tolitoli**	**7.12**	**228**		**Pn**	**04 34 56.0**	**+1.0**
TOLI2					**Sn**	**04 36 14.4**	**-0.1**
TOLI2	**Tolitoli**	**7.12**	**228**	P	**Pn**	**04 34 56.0**	**+1.0**
TOLI2	**Tolitoli**	**7.12**	**228**	S	**Sn**	**04 36 12.6**	**-1.9**
MYLDM	**Lahad Datu**	**7.58**	**265**	Pn	**Pn**	**04 35 03.5**	**+2.4**
MYLDM	**Lahad Datu**	**7.58**	**265**	P	Pn	04 35 06.1	+5.0
LUWI	**Luwuk**	**7.66**	**206**	P	**Pn**	**04 35 03.7**	**+1.5**
	0.4nm89nm,0.8s						
SANI	**Sanana**	**7.91**	**181**	P	**Pn**	**04 35 03.9**	**-1.7**
SANI	**Sanana**	**7.91**	**181**	S	**Sn**	**04 36 25.7**	**-7.9**
SANI	**Sanana**	**7.91**	**181**	P	**Pn**	**04 35 03.8**	**-1.8**
APSI	**Ampana**	**8.10**	**213**	P	**Pn**	**04 35 10.8**	**+2.7**
	0.2nm62nm,1.0s						
FAKI	**Fak Fak**	**10.72**	**145**	Pn	**Pn**	**04 35 44.5**	**+1.1**
FAKI	**Fak Fak**	**10.72**	**145**	P	**Pn**	**04 35 44.4**	**+1.1**
FAKI	**Fak Fak**	**10.72**	**145**	P	**Pn**	**04 35 44.1**	**+0.7**
	35nm,0.9s						
TTSI	**Tana Toraja**	**10.88**	**215**	P	**Pn**	**04 35 48.2**	**+2.7**
KAPI	**Kappang**	**12.56**	**210**	Pn	**Pn**	**04 36 08.0**	**+0.3**
KAPI	**Kappang**	**12.56**	**210**	P	**Pn**	**04 36 08.5**	**+0.9**
	6.6nm,0.7s,baz=45,slow=10,SNR=5.0						
BKSI	**Bulukumba**	**12.65**	**208**	P	**Pn**	**04 36 10.9**	**+2.1**
SBUM	**Sibu**	**14.25**	**257**	Pn	**Pn**	**04 36 28.1**	**-1.2**
SOEI	**Soe**	**15.67**	**187**	Pn	**Pn**	**04 36 46.7**	**-0.7**
SOEI				IAmb	IAmb	04 37 06.3	
	comp=Z,36nm,0.6s						
SOEI	**Soe**	**15.67**	**187**	P	**Pn**	**04 36 47.0**	**-0.3**
PLAI	**Plampang**	**16.82**	**210**	P	**P**	**04 37 03.2**	**+1.8**
PLAI	**Plampang**	**16.82**	**210**	P	**Pn**	**04 37 01.3**	**-0.1**
YULB	**Yu-li**	**17.98**	**346**	P	**P**	**04 37 12.6**	**-1.4**
YULB				IAmb	IAmb	04 37 29.1	
	comp=Z,37nm,1.2s						
DLV	**Lat**	**18.38**	**290**	Pn	**Pn**	**04 37 20.6**	**+0.3**
DLV				IAmb	IAmb	04 37 21.4	
	comp=Z,15nm,0.7s						
JAGI	**Jajag, Banyuwa**	**18.59**	**220**	P	**P**	**04 37 21.3**	**+0.4**
JAGI				IAmb	IAmb	04 37 26.1	
	comp=Z,17nm,0.6s						
JAGI	**Jajag, Banyuwa**	**18.59**	**220**	P	**Pn**	**04 37 24.4**	**+1.8**
MTN	**Manton Dam**	**19.30**	**165**	P	**Pn**	**04 37 29.8**	**-0.9**
MTN				IAmb	IAmb	04 37 31.1	
	comp=Z,26nm,1.3s						
MTN	**Manton Dam**	**19.30**	**165**	P	**Pn**	**04 37 29.9**	**-0.9**
KDU	**Kakadu**	**19.54**	**161**	P	**Pn**	**04 37 32.5**	**-1.1**
JOW	**Kunigami**	**20.91**	**5**	P	**P**	**04 37 45.0**	**-0.7**
JOW				IAmb	IAmb	04 38 14.0	
	comp=Z,37nm,1.1s						
KNRA	**Kununurra**	**21.62**	**173**	P	**P**	**04 37 54.0**	**+0.7**
KNRA				IAmb	IAmb	04 37 59.9	
	comp=Z,17nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.86**	**181**	P	**P**	**04 38 15.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**23.86**	**181**	P	**P**	**04 38 15.4**	**+0.3**
	comp=Z,5.2nm,0.4s,baz=7.0,slow=7.9,SNR=53						
	comp=Z,5.2nm,0.4s						
KULM	**Kulim**	**25.32**	**270**	P	**P**	**04 38 29.9**	**+1.4**
COEN	**Coen**	**26.03**	**139**	P	**P**	**04 38 35.5**	**+0.7**
COEN				IAmb	IAmb	04 38 38.4	
	comp=Z,9.6nm,1.0s						
WB0	**Warramunga Arr**	**26.80**	**162**	P	**P**	**04 38 41.5**	**-0.1**
WB0				IAmb	IAmb	04 39 05.6	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**26.95**	**163**	P	**P**	**04 38 43.1**	**+0.1**
WRA	**Warramunga Arr**	**26.95**	**163**	P	**P**	**04 38 42.5**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=330,slow=10.0,SNR=19						
	comp=Z,1.7nm,0.5s						
WB2	**Warramunga Arr**	**26.95**	**163**	P	**P**	**04 38 43.2**	**+0.1**
WB2				IAmb	IAmb	04 38 55.0	
	comp=Z,15nm,1.5s						
MBWA	**Marble Bar**	**27.62**	**193**	P	**P**	**04 38 48.9**	**-0.1**
MBWA				IAmb	IAmb	04 39 05.3	
	comp=Z,8.5nm,1.1s						
PSA00	**Pilbara Seismi**	**27.99**	**192**	P	**P**	**04 38 52.1**	**-0.2**
PSA00				IAmb	IAmb	04 38 52.9	
	comp=Z,30nm,1.4s						
PSA00	**

az=87.0
*SJA **05** 04:38:13.2±0.6,28°.00S×66°.72W,h184km±3km,ML3.8, MW3.8*
*IDC **05** 04:38:14.3±0.7,27°.87S×66°.59W,h170km±5km,mb3.6/5, mbtmp4.1/9,Error ellipse: s-maj=22.3km s-min=13.8km az=108.0*
*VAO **05** 04:38:19.9±1.6,27°.45S×66°.37W,h193km±10km,mb4.4*
ISC 05 04:38:12.7±0.6,27°.90S±0°.04×66°.71W±0°.05,h165km±6km, n121,σ1°47/137,mb4.3/12,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.97**	**124**	*i* P	Pn	04 38 41.1	+2.4
CYA				*i* S	Sn	**04 39 01.6**	**+2.9**
CYA				IAML		04 39 03.5	
	comp=Z,420nm,0.6s						
ACLC	**CERRO LA CRUZ**	**1.54**	**188**	*i* P	Pn	**04 38 46.1**	**+2.1**
ACLC				*i* S	Sn	**04 39 09.8**	**+1.6**
ACLC				IAML		04 39 10.5	
	comp=Z,463nm,1.3s						
VCA	**Vinchina**	**1.56**	**237**	*i* P	Pn	**04 38 46.2**	**+2.0**
VCA				*i* S	Sn	**04 39 10.6**	**+2.1**
VCA				IAML		04 39 13.9	
	comp=Z,2μm,0.4s						
AGUA	**GUANDACOL**	**2.23**	**224**	*i* P	Pn	**04 38 53.0**	**+1.5**
AGUA				*i* S	Sn	**04 39 22.4**	**+0.9**
AGUA				IAML		04 39 25.4	
	comp=Z,783nm,0.4s						
AC02	**Maricunga**	**2.40**	**296**		Pn	**04 38 54.9**	**+1.1**
AC02				Sn	Sn	**04 39 30.5**	**+4.9**
AC02	**Maricunga**	**2.40**	**296**	*i* P	Pn	**04 38 55.6**	**+1.7**
AC02				IAML		04 39 38.1	
	comp=Z,73nm,0.5s						
APLL	**PUNTA DE LOS L**	**2.50**	**176**	*i* P	Pn	**04 38 55.9**	**+1.4**
APLL				*i* S	Sn	**04 39 27.0**	**0.0**
APLL				IAML		04 39 28.7	
	comp=Z,166nm,1.0s						
AVFE	**Valle Fertil**	**2.83**	**193**	*i* P	Pn	**04 38 59.7**	**+1.0**
AVFE				*i* S	Sn	**04 39 33.6**	**-0.7**
AVFE				IAML		04 39 35.3	
	comp=Z,351nm,0.9s						
ACDV	**Cuesta del Vie**	**3.10**	**222**	*i* P	Pn	**04 39 03.2**	**+1.2**
ACDV				*i* S	Sn	**04 39 40.7**	**+0.3**
ACDV				IAML		04 39 43.4	
	comp=Z,309nm,0.5s						
ACHE	**Chepes**	**3.25**	**179**	*i* P	Pn	**04 39 05.1**	**+1.1**
ACHE				*i* S	Sn	**04 39 43.4**	**-0.5**
AROD	**Rodeo**	**3.31**	**226**	*i* P	Pn	**04 39 06.4**	**+1.5**
ACCO	**Cerro Coronel**	**3.38**	**217**	*i* P	Pn	**04 39 07.0**	**+1.3**
ACCO				*i* S	Sn	**04 39 46.9**	**-0.1**
CO01	**Juntas del Tor**	**3.62**	**234**		Pn	**04 39 10.2**	**+1.5**
CO01				Sn	Sn	**04 39 54.2**	**+2.0**
LCO	**Las Campanas**	**3.69**	**252**	Pn	Pn	**04 39 09.9**	**+0.3**
RTLL	**Cerro Villicun**	**3.75**	**204**	*i* P	Pn	**04 39 10.7**	**+0.5**
RTLL				*i* S	Sn	**04 39 53.5**	**-1.5**
GO02	**Mina Guanaco**	**3.75**	**316**	Pn	Pn	**04 39 12.2**	**+1.7**
AC04	**Llanos de Chal**	**3.87**	**264**	Pn	Pn	**04 39 11.4**	**-0.2**
AC01	**Pan de Azucar**	**3.88**	**296**	Pn	Pn	**04 39 11.8**	**-0.1**
CFA	**Coronel Fontan**	**3.93**	**199**	P	Pn	**04 39 13.2**	**+0.8**
	comp=Z,81nm,0.3s,baz=22,slow=13,SNR=654						
CFA				S	Sn	**04 39 57.5**	**-1.6**
	comp=Z,158nm,0.5s,baz=199,slow=18,SNR=30						
GO04	**Tololo Observa**	**4.24**	**237**		Pn	**04 39 16.6**	**0.0**
CO03	**El Pedregal**	**4.55**	**229**	Pn	Pn	**04 39 21.0**	**+0.5**
PB14	**IPOC Station P**	**4.65**	**314**	Pn	Pn	**04 39 22.3**	**+0.2**
AUSP	**Uspallata**	**4.90**	**208**	*i* P	Pn	**04 39 26.0**	**+0.8**
AUSP				*i* S	Sn	**04 40 19.8**	**-2.2**
AF01	**San Pedro de A**	**5.10**	**345**	Pn	Pn	**04 39 27.4**	**-0.6**
CO06	**Fray Jorge**	**5.12**	**236**		Pn	**04 39 26.3**	**-1.6**
ARCO	**CERRO ARCO**	**5.29**	**201**	*i* P	Pn	**04 39 29.8**	**-0.5**
ARCO				IAML		04 40 32.1	
	comp=Z,102nm,1.0s						
VA03	**San Esteban**	**5.88**	**213**		Pn	**04 39 38.0**	**0.0**
VA06	**Catapilco**	**6.11**	**219**	Pn	Pn	**04 39 38.8**	**-2.2**
MT08	**Bocatoma Ro**	**6.22**	**206**		Pn	**04 39 43.2**	**+0.5**
PEL	**Peldehue**	**6.25**	**212**		Pn	**04 39 42.3**	**-0.6**
MT16	**CCHEN**	**6.42**	**210**		Pn	**04 39 45.2**	**+0.1**
PB03	**IPOC Station P**	**6.44**	**334**	Pn	Pn	**04 39 45.3**	**-0.4**
MT03	**Universidad Ad**	**6.47**	**209**		Pn	**04 39 46.0**	**+0.2**
MT05	**Renca**	**6.48**	**211**	Pn	Pn	**04 39 45.8**	**-0.2**
PB09	**IPOC Station P**	**6.49**	**339**		Pn	**04 39 46.6**	**+0.3**
MT02	**Curacav**	**6.57**	**214**	Pn	Pn	**04 39 46.4**	**-0.7**
MT13	**San Alfonso**	**6.59**	**207**		Pn	**04 39 47.9**	**+0.5**
LMEL	**Las Melosas**	**6.65**	**206**		Pn	**04 39 48.7**	**+0.5**
VA01	**Torpederas**	**6.65**	**219**	Pn	Pn	**04 39 46.1**	**-2.0**
MT09	**Talagante**	**6.92**	**211**		Pn	**04 39 50.6**	**-1.2**
BO04	**La Punta**	**6.94**	**208**		Pn	**04 39 51.4**	**-0.5**
MT01	**Popeta**	**7.11**	**212**		Pn	**04 39 52.2**	**-2.0**
VA05	**Santo Domingo**	**7.12**	**215**	Pn	Pn	**04 39 53.0**	**-1.3**
PB01	**IPOC Station P**	**7.28**	**339**		Pn	**04 39 56.0**	**-0.6**
BO01	**Tunca**	**7.48**	**209**	Pn	Pn	**04 39 57.1**	**-2.0**
BO02	**Sierra Bellavi**	**7.71**	**206**		Pn	**04 40 01.3**	**-0.9**
TA01	**Diego Aracena**	**7.96**	**336**	Pn	Pn	**04 40 05.2**	**-0.3**
PB08	**IPOC Station P**	**8.04**	**343**	Pn	Pn	**04 40 06.2**	**-0.7**
TA02	**Huaiquique**	**8.21**	**337**	Pn	Pn	**04 40 06.6**	**-2.3**
CPUP	**Villa Florida**	**8.50**	**82**	Pn	Pn	**04 40 12.7**	**0.0**
CPUP	**Villa Florida**	**8.50**	**82**	P	Pn	**04 40 12.3**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=258,slow=12,SNR=17						
PB11	**IPOC Station P**	**8.54**	**341**	Pn	Pn	**04 40 10.7**	**-2.7**
ML02	**Panimavida**	**8.80**	**206**	Pn	Pn	**04 40 14.5**	**-2.1**
BI02	**San Fabin de**	**9.55**	**203**		Pn	**04 40 25.1**	**-1.5**
PB12	**IPOC Station P**	**9.82**	**339**	Pn	Pn	**04 40 27.6**	**-2.6**
SJPY	**San Joaquin**	**9.93**	**76**	*eP*	Pn	**04 40 32.2**	**+0.6**
MURT	**Porto Murtinho**	**10.34**	**55**	*eP*	Pn	**04 40 36.5**	**-0.4**
BI05	**Punta Hualpn**	**10.39**	**210**	Pn	Pn	**04 40 35.4**	**-2.1**
TRQA	**Tornquist**	**10.88**	**160**	Pn	Pn	**04 40 43.1**	**-0.9**
LPAZ	**La Paz**	**11.63**	**353**	Pn	Pn	**04 40 53.3**	**-1.1**
LPAZ	**La Paz**	**11.63**	**353**	P	Pn	**04 40 53.0**	**-1.4**
	comp=Z,2.9nm,0.4s,baz=157,slow=6.3,SNR=32						
LPAZ				S	Sn	**04 42 55.9**	**-7.7**
	comp=Z,1.0nm,0.5s,baz=257,slow=4.8,SNR=1.0						
LPAZ	**La Paz**	**11.63**	**353**	*eP*	Pn	**04 40 53.7**	**-0.7**
BDQN	**Bodoquena, MS**	**11.72**	**53**	*eP*	Pn	**04 40 54.5**	**-0.5**
PLTB	**Pedras Altas**	**12.01**	**112**	Pn	Pn	**04 40 58.1**	**-0.6**
AQDB	**Aquidauana**	**12.46**	**56**	Pn	Pn	**04 41 03.8**	**-0.9**
AQDB	**Aquidauana**	**12.46**	**56**	*eP*	Pn	**04 41 04.7**	**+0.1**
SIV	**San Ignacio**	**12.95**	**25**	P	Pn	**04 41 09.6**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=206,slow=13,SNR=31						
ITAB	**Concordia**	**12.95**	**90**	Pn	Pn	**04 41 10.5**	**-0.2**
ITAB	**Concordia**	**12.95**	**90**	*eP*	P	**04 41 16.4**	**+1.2**
PLCA	**Paso Flores**	**13.19**	**193**	Pn	Pn	**04 41 11.5**	**-2.3**
PLCA	**Paso Flores**	**13.19**	**193**	P	Pn	**04 41 14.6**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=16,slow=11,SNR=10						
PTGB	**Pitanga**	**13.51**	**80**	*eP*	P	**04 41 19.0**	**-2.5**
RPRD	**Ribas do Rio P**	**13.97**	**61**	*eP*	P	**04 41 25.2**	**-1.4**
PTLB	**Pontes e Lacer**	**14.24**	**31**	Pn	Pn	**04 41 26.9**	**-0.2**
LDASE	**Londrina, Braz**	**14.76**	**76**	*eP*	P	**04 41 33.6**	**-1.6**
C2SB	**Chapadao do Su**	**15.63**	**57**	*eP*	P	**04 41 45.1**	**+0.1**
SALV	**Santo Antonio**	**15.70**	**43**	*eP*	P	**04 41 45.0**	**-0.7**
VILB	**Vilhena**	**16.06**	**24**		P	**04 41 49.5**	**-0.3**
VILB	**Vilhena**	**16.06**	**24**	*eP*	P	**04 41 49.5**	**-0.3**
FRTB	**Fartura**	**16.11**	**78**	*eP*	P	**04 41 51.1**	**+0.8**
ITRB	**Iturama**	**17.03**	**65**	*eP*	Pn	**04 42 01.4**	**+0.1**
BB19B	**Bebedouro**	**17.88**	**72**	*eP*	P	**04 42 09.7**	**-0.1**
ARAG	**Araguaiana, MT**	**18.37**	**52**	*eP*	P	**04 42 15.3**	**+0.2**
VAO	**Valinhos**	**18.48**	**79**	P	P	**04 42 15.5**	**-0.8**
VAO	**Valinhos**	**18.48**	**79**	*eP*	Pn	**04 42 17.1**	**-1.3**
PDRB	**Porto dos Gac**	**18.71**	**32**	*eP*	P	**04 42 17.8**	**-0.9**
PARB	**Paraibuna**	**19.54**	**81**	*eP*	P	**04 42 28.3**	**+0.5**
IPMB	**Ipameri, GO**	**19.66**	**64**	*eP*	P	**04 42 29.3**	**+0.2**
CZSB	**Cruzeiro do Su**	**20.85**	**343**	P	P	**04 42 41.6**	**-0.1**
CZSB				IAmb	IAmb	04 42 45.7	
	comp=Z,11nm,0.8s						
CZSB	**Cruzeiro do Su**	**20.85**	**343**	*eP*	P	**04 42 44.3**	**+2.6**
BDFB	**Brasilia**	**21.18**	**59**	P	P	**04 42 45.1**	**-0.3**
BDFB				IAmb	IAmb	04 42 46.1	
	comp=Z,8.4nm,0.9s						
BDFB	**Brasilia**	**21.18**	**59**	P	P	**04 42 44.4**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=226,slow=10,SNR=15						
	comp=Z,6.1nm,0.6s						
SNDB	**Serra Nova Dou**	**21.43**	**45**	*eP*	P	**04 42 46.3**	**-1.7**
DIAM	**Diamantina, MG**	**23.21**	**71**	*eP*	P	**04 43 06.2**	**+0.8**
TBTG	**Tabatinga, AM**	**23.77**	**352**	P	P	**04 43 09.7**	**-0.6**
TBTG				IAmb	IAmb	04 43 20.9	
	comp=Z,8.7nm,0.6s						
TEFE	**Tefe**	**24.33**	**5**	*eP*	P	**04 43 16.5**	**+1.1**
JANB	**Januaria**	**24.39**	**63**	*eP*	P	**04 43 15.1**	**-0.9**
MACA	**Manacapuru-AM**	**25.26**	**14**	P	P	**04 43 24.2**	**+0.5**
BOAV	**Boa Vista**	**30.70**	**12**	P	P	**04 44 12.8**	**+0.7**
BOAV				IAmb	IAmb	04 44 14.1	
	comp=Z,8.6nm,1.0s						
BOAV	**Boa Vista**	**30.70**	**12**	*eP*	P	**04 44 12.8**	**+0.7**
RUSC	**La Rusia**	**34.15**	**349**	P	P	**04 44 43.3**	**+0.5**
RUSC				IAmb	IAmb	04 44 52.4	
	comp=Z,8.6nm,1.2s						
SNAA	**Sanae**	**55.61**	**160**	P	P	**04 47 32.1**	**+1.2**
	comp=Z,5.1nm,1.1s,baz=272,slow=10,SNR=7.1						
	comp=Z,5.1nm,1.1s						
QSPA	**South Pole Qui**	**62.32**	**180**	P	P	**04 48 18.5**	**+1.2**
QSPA				IAmb	IAmb	04 48 21.7	
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**62.32**	**180**	P	P	**04 48 18.9**	**+1.5**
	comp=Z,3.5nm,0.7s,baz=152,slow=1.6,SNR=22						
	comp=Z,3.5nm,0.7s						
HNDO	**Hondo**	**65.05**	**329**	P	P	**04 48 36.5**	**+1.0**
BRDY	**Brady**	**66.42**	**330**	P	P	**04 48 44.6**	**+0.4**
WVT	**Waverly**	**66.72**	**341**	P	P	**04 48 45.8**	**-0.1**
WVT				IAmb	IAmb	04 48 46.6	
	comp=Z,4.5nm,0.8s						
SAND	**Sanderson**	**66.75**	**327**	P	P	**04 48 48.0**	**+1.7**
SAND				IAmb	IAmb	04 48 48.6	
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**67.00**	**325**	P	P	**04 48 49.1**	**+1.1**
TXAR	**Lajitas Array**	**67.00**	**325**	P	P	**04 48 49.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=127,slow=4.8,SNR=3.9						
	comp=Z,0.4nm,0.7s						
OZNA	**Ozona**	**67.08**	**328**	P	P	**04 48 49.0**	**+0.6**
FCAR	**Ozark Folk Cen**	**67.82**	**338**	P	P	**04 48 53.5**	**+0.7**
FCAR				IAmb	IAmb	04 49 07.7	
	comp=Z,6.0nm,1.3s						
APMT	**Aspermont**	**68.65**	**330**	P	P	**04 48 58.7**	**+0.6**
VHRN	**Van Horn**	**68.84**	**325**	P	P	**04 48 59.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**77.75**	**68**	P	P	**04 49 51.7**	**-0.1**
	comp=Z,80nm,0.3s,baz=263,slow=4.5,SNR=4.0						
PDAR	**Pinedale Array**	**80.62**	**329**	P	P	**04 50 07.6**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=101,slow=5.8,SNR=5.6						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**125.02**	**203**	PKP	**PKPdf**	**04 56 54.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=132,slow=1.9,SNR=6.2						
WRA	**Warramunga Arr**	**128.26**	**205**	PKP	**PKPdf**	**04 57 00.3**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=153,slow=1.5,SNR=5.7						
KURBB	**Kurchatov Arra**	**145.28**	**40**	PKPbc	**PKPab**	**04 57 32.0**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=299,slow=3.4,SNR=14						
KURBB				pPKPbc	**pPKPdf**	**04 58 14.8**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=295,slow=3.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**146.65**	**31**	PKPbc	**PKPdf**	**04 57 34.5**	**+1.9**
	comp=Z,2.2nm,0.7s,baz=289,slow=4.5,SNR=7.8						
ZALV				pPKPbc	pPKPab	04 58 19.7	+1.1
	comp=Z,1.7nm,0.7s,baz=311,slow=6.3,SNR=4.2						
MKAR	**Makanchi Array**	**149.25**	**44**	PKPbc	**PKPbc**	**04 57 42.8**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=316,slow=2.5,SNR=14						
MKAR				pPKPbc	**pPKPab**	**04 58 25.1**	**-4.1**
	comp=Z,0.6nm,0.6s,baz=305,slow=2.8,SNR=4.8						

DJA 05 05:17:49.8±0.7,8°S±4°×10°8E±°,h15km±5km,M4.1/16, mb4.2/1,MLv4.0/16,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.67**	**55**	P	Pn	05 18 04.3	-0.5
CMJI				S	Sb	05 18 13.2	+0.8
CNJI	**Cibinong**	**1.14**	**319**	P	Pb	05 18 10.7	-0.5
LEM	**Lembang**	**1.36**	**349**	P	Pn	05 18 14.7	+0.3
SKJI	**Sukabumi**	**1.76**	**311**	P	Pn	05 18 20.1	+0.4
YOGI	**Yogyakarta**	**2.41**	**82**	P	Pn	05 18 28.3	-0.4
UGM	**Wanagama**	**2.62**	**85**	P	Pn	05 18 31.3	-0.3
CGJI	**Cibinong**	**2.67**	**305**	P	Pn	05 18 31.8	-0.5
SMRI	**Semarang**	**2.76**	**66**	P	Pn	05 18 34.2	+0.6
PCJI	**Pacitan**	**3.25**	**91**	P	Pn	05 18 40.6	+0.3
NGJI	**Ngawi**	**3.63**	**78**	P	Pn	05 18 46.0	+0.5
GRJI	**Gresik**	**4.72**	**75**	P	Pn	05 18 59.8	-0.7
GMJI	**Gumukmas**	**5.50**	**91**	P	Pn	05 19 11.3	+0.1

IDC 05 05:30:42.3±31.0,12°.84N×121°.91E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=557.8km s-min=291.2km az=150.0,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.80**	**159**	P	P	05 37 34.0	-0.9
	0.3nm,0.6s,baz=339,slow=8.9,SNR=1.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**38.13**	**162**	P	P	05 38 03.6	+0.2
	0.8nm,0.7s,baz=341,slow=7.1,SNR=7.1						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**48.30**	**157**	P	P	05 39 25.7	+0.2
	2.6nm,1.0s,baz=333,slow=6.8,SNR=3.5						
	2.6nm,1.0s						

*MDD **05** 05:32:59.2±0.5,36°.60N×9°.86W,h19km±4km,mb_Lg3.7/42, Error ellipse: s-maj=4.6km s-min=2.9km az=59.0*
*SFS **05** 05:33:00.4,36°.60N×9°.79W,h24km,ML3.8/12,ML3.6/12, MLv3.3/12*
*INMG **05** 05:33:01.9±1.2,36°.58N×9°.77W,h31km±7km,ML3.0,Error ellipse: s-maj=3.7km s-min=3.1km az=63.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
*IGIL **05** 05:33:02.5,36°.64N×9°.68W,h24km,ML3.1*
*CNRM **05** 05:33:05.8,36°.05N×9°.66W,h36km*
ISC 05 05:32:59.8±1.4,36°.61N±0°.04×9°.73W±0°.06,h35km,n115, σ2°02/186,6C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.89**	**54**	⇑*i*P	**Pn**	**05 33 17.4**	**+1.5**
PFVI				*eS*	**Sn**	**05 33 28.8**	**+1.2**
PFVI				*i* AML	AML	05 33 29.2	
PFVI				*i* AML	AML	05 33 29.5	
PFVI				*i* AML	AML	05 33 30.1	
PFVI	**Vila Bisbo**	**0.89**	**54**	Sg	**Sn**	**05 33 28.6**	**+1.0**
PFVI				Pg	**Pn**	**05 33 17.4**	**+1.5**
MORF	**Marmelete**	**1.11**	**51**	*eP*	**Pn**	**05 33 20.4**	**+1.5**
MORF				*eS*	**Sn**	**05 33 33.6**	**+0.7**
MORF				IAML		05 33 34.5	
	comp=N,376nm,0.3s						
MORF	**Marmelete**	**1.11**	**51**	⇑*eP*	**Pn**	**05 33 20.4**	**+1.5**
MORF				*eS*	**Sn**	**05 33 34.3**	**+1.3**
MORF				*i* AML	AML	05 33 34.5	
MORF				*i* AML	AML	05 33 34.8	
MORF				*i* AML	AML	05 33 35.9	
PTEO	**Sao Teotonio**	**1.23**	**41**	⇑*eP*	**Pn**	**05 33 22.1**	**+1.5**
PTEO				*eS*	**Sn**	**05 33 37.2**	**+1.3**
PTEO				*i* AML	AML	05 33 37.5	
PTEO				*i* AML	AML	05 33 37.9	
PTEO				*i* AML	AML	05 33 38.8	
PBDV	**Barranco-do-Ve**	**1.57**	**66**	⇑*i*P	**Pn**	**05 33 27.0**	**+1.7**
PBDV				*eS*	**Sn**	**05 33 45.3**	**+0.8**
PBDV				*i* AML	AML	05 33 45.9	
PBDV				*i* AML	AML	05 33 46.6	
PBDV				*i* AML	AML	05 33 48.1	
PCVE	**Castro Verde**	**1.69**	**53**	⇑*eP*	**Pn**	**05 33 28.7**	**+1.8**
PCVE				*eS*	**Sn**	**05 33 48.7**	**+1.4**
PCVE				*i* AML	AML	05 33 50.1	
PCVE				*i* AML	AML	05 33 50.4	
PCVE				*i* AML	AML	05 33 50.5	
PCVE	**Castro Verde**	**1.69**	**53**	Sn	**Sn**	**05 33 48.7**	**+1.4**
PCVE				Pn	**Pn**	**05 33 28.7**	**+1.8**
MESJ	**Messejana**	**1.72**	**44**	*eP*	**Pn**	**05 33 28.7**	**+1.5**
MESJ				*eS*	**Sn**	**05 33 48.1**	**+0.1**
MESJ				IAML		05 33 50.9	
	comp=N,105nm,0.2s						
MESJ	**Messejana**	**1.72**	**44**	*eP*	**Pn**	**05 33 28.8**	**+1.5**
MESJ				*eS*	**Sn**	**05 33 48.7**	**+0.7**
MESJ				*i* AML	AML	05 33 50.9	
MESJ				*i* AML	AML	05 33 51.0	
MESJ				*i* AML	AML	05 33 51.1	
PVAQ	**Vaqueiros**	**1.79**	**63**	⇑*i*P	**Pn**	**05 33 29.9**	**+1.6**
PVAQ				*i* AML	AML	05 33 54.0	
PVAQ	**Vaqueiros**	**1.79**	**63**	Pn	**Pn**	**05 33 29.9**	**+1.6**
EGRO	**El Granado**	**2.02**	**62**	Sn	**Sn**	**05 33 56.0**	**+0.6**
EGRO				Pn	**Pn**	**05 33 32.9**	**+1.5**
EGRO	**El Granado**	**2.02**	**62**	Pn	**Pn**	**05 33 32.9**	**+1.5**
EGRO				Sn	**Sn**	**05 33 56.1**	**+0.8**
EGRO				*i* Vmb_Lg		05 33 58.4	
PBEJ	**Beja**	**2.05**	**46**	*eP*	**Pn**	**05 33 33.0**	**+1.2**
PBEJ				*eS*	**Sn**	**05 33 56.5**	**+0.3**
PBEJ				*i* AML	AML	05 33 57.6	
PBEJ				*i* AML	AML	05 33 58.4	
PBEJ				*i* AML	AML	05 33 58.5	
LIS	**Lisbon**	**2.15**	**12**	*eS*	**Sn**	**05 33 58.4**	**-0.3**
LIS				IAML		05 34 00.7	
	comp=E,134nm,0.1s						
LIS	**Lisbon**	**2.15**	**12**	*eS*	**Sn**	**05 33 59.5**	**+0.9**
LIS				*i* AML	AML	05 34 01.6	
LIS				*i* AML	AML	05 34 02.1	
LIS				*i* AML	AML	05 34 02.6	
EVO	**Evora**	**2.35**	**35**	*eP*	**Pn**	**05 33 37.1**	**+1.1**
EVO				*eS*	**Sn**	**05 34 03.7**	**0.0**
EVO				*i* AML	AML	05 34 04.6	
EVO				*i* AML	AML	05 34 04.7	
EVO				*i* AML	AML	05 34 05.7	
EVO	**Evora**	**2.35**	**35**	Sn	**Sn**	**05 34 03.6**	**-0.1**
EVO				Pn	**Pn**	**05 33 37.1**	**+1.1**
PMAFR	**Mafra**	**2.37**	**8**	*eP*	**Pn**	**05 33 37.3**	**+1.1**
PMAFR				*eS*	**Sn**	**05 34 04.7**	**+0.7**
PMAFR				*i* AML	AML	05 34 06.3	
PMAFR				*i* AML	AML	05 34 06.5	
PMAFR				*i* AML	AML	05 34 06.8	
PMAFR	**Mafra**	**2.37**	**8**	Pn	**Pn**	**05 33 37.3**	**+1.1**
PBAR	**Barrancos**	**2.65**	**53**	*eP*	**Pn**	**05 33 41.4**	**+1.3**
PBAR				*eS*	**Sn**	**05 34 11.3**	**+0.4**
PBAR				*i* AML	AML	05 34 12.9	
PBAR				*i* AML	AML	05 34 13.0	
PBAR				*i* AML	AML	05 34 13.0	
PBAR	**Barrancos**	**2.65**	**53**	Pn	**Pn**	**05 33 41.3**	**+1.3**
PBAR				Sn	**Sn**	**05 34 11.9**	**+0.9**
EMIN	**Mina Concepcio**	**2.70**	**64**	Pn	**Pn**	**05 33 41.9**	**+1.1**
EMIN				Sn	**Sn**	**05 34 12.7**	**+0.5**
EMIN	**Mina Concepcio**	**2.70**	**64**	Pn	**Pn**	**05 33 41.8**	**+1.1**
EMIN				Sn	**Sn**	**05 34 12.7**	**+0.5**
EMIN				*i* Vmb_Lg		05 34 16.1	
PMTG	**Montargil**	**2.73**	**25**	*eP*	**Pn**	**05 33 42.5**	**+1.4**
PMTG				*eS*	**Sn**	**05 34 12.9**	**+0.1**
PMTG				*i* AML	AML	05 34 14.3	
PMTG				*i* AML	AML	05 34 14.6	
PMTG				*i* AML	AML	05 34 15.1	
PSBE	**So Bento**	**2.99**	**14**	*eP*	**Pn**	**05 33 46.1**	**+1.3**
PSBE				*i* AML	AML	05 34 22.2	
EBAD	**Badajoz**	**3.04**	**44**	Sn	**Sn**	**05 34 19.7**	**-0.8**
EBAD				Pn	**Pn**	**05 33 46.3**	**+0.8**
EBAD	**Badajoz**	**3.04**	**44**	Pn	**Pn**	**05 33 46.2**	**+0.8**
EBAD				Sn	**Sn**	**05 34 20.0**	**-0.5**
EBAD				*i* Vmb_Lg		05 34 23.8	
ESPR	**Espera**	**3.12**	**84**	Pn	**Pn**	**05 33 47.9**	**+1.4**
ESPR				Sn	**Sn**	**05 34 22.2**	**-0.4**
ESPR				*i* Vmb_Lg		05 34 24.6	
PMRV	**Marv??o**	**3.36**	**33**	*eP*	**Pn**	**05 33 51.0**	**+1.1**
PMRV				*eS*	**Sn**	**05 34 27.8**	**-0.8**
PMRV				*i* AML	AML	05 34 29.8	
PMRV				*i* AML	AML	05 34 29.9	
PMRV				*i* AML	AML	05 34 30.1	
EJIF	**Jimena Fronter**	**3.44**	**91**	Pn	**Pn**	**05 33 52.7**	**+1.8**
EJIF				Sn	**Sn**	**05 34 32.3**	**+2.0**
PCAS	**Casmilo, Conde**	**3.57**	**15**	*eP*	**Pn**	**05 33 54.1**	**+1.4**
PCAS				*eS*	**Sn**	**05 34 33.3**	**-0.3**
PCAS				*i* AML	AML	05 34 35.3	
PCAS				*i* AML	AML	05 34 35.6	
PCAS				*i* AML	AML	05 34 36.8	
SMIR	**Smir Dam**	**3.64**	**103**	P	**Pn**	**05 33 57.2**	**+3.6**
SMIR	**Smir Dam**	**3.64**	**103**	S	**Sn**	**05 34 37.5**	**+2.1**
PCBR	**Castelo Branco**	**3.68**	**28**	*eP*	**Pn**	**05 33 55.6**	**+1.4**
PCBR				*eS*	**Sn**	**05 34 35.5**	**-0.8**
PCBR				*i* AML	AML	05 34 38.1	
PCBR				*i* AML	AML	05 34 38.2	
PCBR				*i* AML	AML	05 34 38.4	
ECAB	**El Cabril**	**3.73**	**66**	Pn	**Pn**	**05 33 56.0**	**+1.0**
ECAB				Sn	**Sn**	**05 34 37.4**	**-0.3**
ECAB	**El Cabril**	**3.73**	**66**	Pn	**Pn**	**05 33 56.2**	**+1.2**
ECAB				Sn	**Sn**	**05 34 36.5**	**-1.3**
ECAB				*i* Vmb_Lg		05 34 38.8	
COI	**Co

ESDC	**Sonseca Array**	**5.48**	**54**	Pn	**Pn**	**05 34 20.0**	**+1.0**
ESDC				Sn	**Sn**	**05 35 18.9**	**-1.9**
ESBB	**Sonseca Array**	**5.48**	**54**	Pn	**Pn**	**05 34 19.8**	**+0.8**
ESBB				Sn	**Sn**	**05 35 19.2**	**-1.6**
MD31	**MD31**	**5.54**	**131**	P	**Pn**	**05 34 20.2**	**+0.3**
MD31	**MD31**	**5.54**	**131**	S	**Sn**	**05 35 19.7**	**-2.7**
EZAM	**Zamans**	**5.59**	**8**	Pn	**Pn**	**05 34 20.8**	**+0.3**
EZAM				Sn	**Sn**	**05 35 21.4**	**-2.0**
EZAM				*i* Vmb_Lg		05 35 25.6	
GOG	**Mont Gurugu**	**5.64**	**102**	P	**Pn**	**05 34 24.4**	**+3.1**
GOG	**Mont Gurugu**	**5.64**	**102**	S	**Sn**	**05 35 28.0**	**+3.2**
MDT	**Midelt**	**5.67**	**130**	P	**Pn**	**05 34 21.6**	**-0.1**
MDT	**Midelt**	**5.67**	**130**	S	**Sn**	**05 35 22.5**	**-3.2**
PBRG	**Braganca**	**5.68**	**23**	*eP*	**Pn**	**05 34 23.4**	**+1.6**
PBRG				*eS*	**Sn**	**05 35 22.7**	**-3.1**
PBRG				*i* AML	AML	05 35 25.3	
PBRG				*i* AML	AML	05 35 27.0	
PBRG				*i* AML	AML	05 35 27.1	
GUD	**Guadarrama**	**5.94**	**46**	Pn	**Pn**	**05 34 26.4**	**+1.1**
GUD				Sn	**Sn**	**05 35 29.2**	**-3.0**
GUD				*i* Vmb_Lg		05 35 32.5	
TIO	**Tiouine**	**6.03**	**159**	P	**Pn**	**05 34 25.8**	**-0.9**
TIO	**Tiouine**	**6.03**	**159**	S	**Sn**	**05 35 28.4**	**-6.2**
TTIG	**Tnine Tigouga,**	**6.14**	**170**	P	**Pn**	**05 34 24.4**	**-3.9**
TTIG	**Tnine Tigouga,**	**6.14**	**170**	S	**Sn**	**05 35 29.6**	**-7.7**
OUZM	**OUZ**	**6.20**	**156**	P	**Pn**	**05 34 28.9**	**-0.1**
OUZM	**OUZ**	**6.20**	**156**	S	**Sn**	**05 35 34.2**	**-4.6**
JBK	**JBK**	**6.27**	**109**	P	**Pn**	**05 34 31.3**	**+1.3**
JBK	**JBK**	**6.27**	**109**	S	**Sn**	**05 35 39.8**	**-0.8**
GOLM	**Goulmima**	**6.30**	**140**	P	**Pn**	**05 34 31.3**	**+1.0**
GOLM	**Goulmima**	**6.30**	**140**	S	**Sn**	**05 35 38.9**	**-2.2**
EAGO	**Agolada(Pontev**	**6.31**	**11**	Pn	**Pn**	**05 34 30.8**	**+0.4**
EAGO				Sn	**Sn**	**05 35 37.2**	**-4.0**
EAGO				*i* Vmb_Lg		05 35 43.7	
EMAZ	**Mazaricos**	**6.36**	**5**	Pn	**Pn**	**05 34 30.5**	**-0.4**
EMAZ				Sn	**Sn**	**05 35 37.9**	**-4.5**
EMAZ				*i* Vmb_Lg		05 35 40.8	
EZAR	**Zarzadilla de**	**6.53**	**76**	Pn	**Pn**	**05 34 34.7**	**+1.2**
EZAR				Sn	**Sn**	**05 35 46.2**	**-0.6**
EZAR				*i* Vmb_Lg		05 35 47.7	
TZRR	**Tazzarine**	**6.77**	**148**	P	**Pn**	**05 34 37.1**	**+0.3**
TZRR	**Tazzarine**	**6.77**	**148**	S	**Sn**	**05 35 47.5**	**-5.2**
ARF	**Arif**	**6.90**	**137**	P	**Pn**	**05 34 38.2**	**-0.4**
ARF	**Arif**	**6.90**	**137**	S	**Sn**	**05 35 51.9**	**-4.0**
EPON	**Pontenova**	**6.99**	**16**	Pn	**Pn**	**05 34 40.3**	**+0.6**
EPON				Sn	**Sn**	**05 35 54.7**	**-3.3**
EPON				*i* Vmb_Lg		05 36 00.3	
EVIV	**Cofrentes, Val**	**7.30**	**66**	Pn	**Pn**	**05 34 44.6**	**+0.5**
EVIV				Sn	**Sn**	**05 36 03.5**	**-2.3**
EVIV				*i* Vmb_Lg		05 36 08.8	
ETOR	**Torete**	**7.32**	**53**	Pn	**Pn**	**05 34 45.2**	**+0.9**
ETOR				Sn	**Sn**	**05 36 02.4**	**-3.8**
ZGR	**Zagora**	**7.33**	**151**	P	**Pn**	**05 34 44.2**	**-0.3**
ZGR	**Zagora**	**7.33**	**151**	S	**Sn**	**05 36 00.3**	**-6.2**
ECHE	**Chera**	**7.52**	**64**	Pn	**Pn**	**05 34 48.8**	**+1.7**
ECHE	**Chera**	**7.52**	**64**	Pn	**Pn**	**05 34 48.3**	**+1.3**
ECHE				Sn	**Sn**	**05 36 09.9**	**-1.2**
ECHE				*i* Vmb_Lg		05 36 15.2	
E0901	**Celadas (Terue**	**7.77**	**58**	Pn	**Pn**	**05 34 51.4**	**+0.9**
E0901				Sn	**Sn**	**05 36 18.0**	**+0.8**
E0901				*i* Vmb_Lg		05 36 22.8	
EMOS	**Mosqueruela**	**8.17**	**60**	Pn	**Pn**	**05 34 58.6**	**+2.6**
EMOS				Sn	**Sn**	**05 36 23.8**	**-3.4**
EMOS				*i* Vmb_Lg		05 36 28.6	
ELAN	**Lanestosa**	**8.19**	**34**	Pn	**Pn**	**05 34 58.2**	**+2.0**
ELAN				Sn	**Sn**	**05 36 24.5**	**-3.0**
ECHI	**Chisagues Biel**	**9.75**	**49**	Pn	**Pn**	**05 35 18.4**	**+0.8**
ECHI				Sn	**Sn**	**05 37 01.0**	**-5.0**

*SNET **05** 05:33:34.6±5.2, 12°.82N×87°.72W, h29km, ML3.3*
CATAC 05 05:33:31.7±0.7, 12°.N±5°×8°.8W±°, h33km±6km, M3.4/12, MLv3.4/12, Error ellipse: s-maj=12.3km s-min=4.7km az=30.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.54**	**29**	P	Pn	05 33 43.4	+0.2
CSGN				S	Sn	05 33 52.7	+1.5
CSGN	**Cosiguina Volc**	**0.54**	**29**	P	Pn	05 33 43.7	+0.5
POTN	**Potosi Cosigui**	**0.59**	**32**	P	Pb	05 33 44.3	+0.5
POTN				S	Sn	05 33 54.1	+2.0
POTN	**Potosi Cosigui**	**0.59**	**32**	P	Pb	05 33 44.3	+0.6
CNCH	**Conchagua**	**0.77**	**359**	*eP*	Pb	05 33 46.7	-0.2
CNCH				*eS*	Sb	05 33 58.8	+1.6
CNCH	**Conchagua**	**0.77**	**359**	P	Pb	05 33 46.8	-0.1
CNCH	**Conchagua**	**0.77**	**359**	S	Sb	05 33 58.2	+1.0
CNCH	**Conchagua**	**0.77**	**359**	P	Pb	05 33 46.7	-0.2
CRIN	**San Cristobal**	**0.78**	**75**	P	Pb	05 33 48.0	+1.0
CRIN	**San Cristobal**	**0.78**	**75**	S	Sb	05 34 00.0	+2.6
CRIN	**San Cristobal**	**0.78**	**75**	P	Pb	05 33 47.9	+0.8
LCND	**La Caada**	**0.81**	**356**	*eP*	Pn	05 33 47.0	+0.2
LCND	**La Caada**	**0.81**	**356**	P	Pn	05 33 47.0	+0.2
LCND	**La Caada**	**0.81**	**356**	P	Pn	05 33 47.1	+0.3
LCND				P	Pb	05 33 47.3	-0.1
QUEN	**Al S del Volca**	**0.96**	**84**	P	Pn	05 33 49.3	+0.4
QUEN				S	Sb	05 34 02.5	+0.3
QUEN	**Al S del Volca**	**0.96**	**84**	P	Pb	05 33 49.4	-0.5
POLN	**Al Sur del Vol**	**1.00**	**81**	P	Pn	05 33 48.8	-0.7
POLN				S	Sn	05 34 02.1	-0.4
POLN	**Al Sur del Vol**	**1.00**	**81**	P	Pn	05 33 48.8	-0.6
PACN	**Al O del Volca**	**1.01**	**90**	P	Pn	05 33 49.7	+0.2
PACN				S	Sb	05 34 04.0	+0.2
PACN	**Al O del Volca**	**1.01**	**90**	P	Pn	05 33 50.0	+0.4
BLLM	**Bellamira**	**1.02**	**337**	*eP*	Pn	05 33 49.9	+0.1
LCY	**Lacayo**	**1.02**	**334**	*eP*	Pn	05 33 50.2	+0.3
CNRM	**Centro Naciona**	**1.03**	**341**	P	Sn	05 34 06.0	+3.0
PLRN	**Geotermica Pol**	**1.04**	**85**	P	Pn	05 33 49.2	-0.7
PLRN				S	Sn	05 34 02.7	-0.6
PLRN	**Geotermica Pol**	**1.04**	**85**	P	Pn	05 33 49.4	-0.5
ROCN	**Rota Cerro Neg**	**1.06**	**89**	P	Pn	05 33 45.5	-4.8
ROCN				S	Sn	05 33 59.5	-4.4
ROCN	**Rota Cerro Neg**	**1.06**	**89**	P	Pn	05 33 45.6	-4.6
PACA	**Pacayal**	**1.08**	**333**	*eP*	Pn	05 33 50.8	+0.1
PACA				*eS*	Sn	05 34 05.0	+0.5
PACA	**Pacayal**	**1.08**	**333**	S	Sn	05 34 05.1	+0.6
PACA	**Pacayal**	**1.08**	**333**	P	Pn	05 33 51.0	+0.4
ALJI	**Alcalda de J**	**1.10**	**319**	*eP*	Pn	05 33 50.5	-0.2
ALJI				*eS*	Sn	05 34 03.9	-0.8
CNGA	**Al SSO del Vol**	**1.10**	**90**	S	Sn	05 34 05.3	+0.4
CNGA	**Al SSO del Vol**	**1.10**	**90**	P	Pn	05 33 51.1	+0.3
CNGN	**Cerro Negro**	**1.10**	**90**	P	Pn	05 33 51.4	+0.5
ILCN	**San Idelfonso**	**1.10**	**86**	P	Pn	05 33 50.7	-0.2
ILCN				S	Sn	05 34 05.2	+0.2
ILCN	**San Idelfonso**	**1.10**	**86**	P	Pn	05 33 51.1	+0.2
LEVN	**Ruinas Leon Vi**	**1.19**	**95**	P	Sn	05 34 08.1	+1.1
COPN	**Copaltepe**	**1.25**	**105**	P	Pn	05 33 52.9	0.0
COPN				P	Pb	05 33 53.3	-1.5
MOMN	**Momotombo**	**1.26**	**94**	P	Pn	05 33 53.1	+0.1
MOMN				S	Sn	05 34 08.9	0.0
MOMN	**Momotombo**	**1.26**	**94**	P	Pn	05 33 53.2	+0.2
PQSS	**Presa 15 de Se**	**1.33**	**327**	*eP*	Pn	05 33 54.0	+0.1
PQSS				*eS*	Sn	05 34 10.9	+0.4
PQSS	**Presa 15 de Se**	**1.33**	**327**	P	Sn	05 34 11.1	+0.6
PQSS	**Presa 15 de Se**	**1.33**	**327**	P	Pb	05 33 55.1	-1.0
SAPS	**Ciudad Sandino**	**1.43**	**103**	P	Pb	05 34 00.4	+2.6
SCLA	**Alcaldia de Sa**	**1.48**	**324**	P	Pn	05 33 56.4	+0.3
COEG	**Centro de Oper**	**1.52**	**317**	*eP*	Pn	05 33 56.7	+0.1
COEG				*eS*	Sn	05 34 14.4	-0.8
COEG	**Centro de Oper**	**1.52**	**317**	P	Pb	05 34 00.8	+1.5
LIMN	**Finca el Limon**	**1.53**	**68**	P	Pn	05 33 56.9	+0.1
LIMN	**Finca el Limon**	**1.53**	**68**	P	Pn	05 33 57.1	+0.2
TISN	**Laguna Tiscapa**	**1.56**	**103**	P	Pn	05 33 57.6	+0.4
PAVA	**Las Pavas**	**1.62**	**318**	P	Pn	05 33 58.7	+0.6
NANN	**Nandasmo**	**1.76**	**108**	P	Pb	05 34 03.8	+0.4
PMON	**Piamonte**	**1.89**	**310**	P	Pb	05 34 05.7	+0.1
RCVN	**Varillal2**	**1.92**	**56**	P	Pn	05 34 03.0	+0.7
JAYA	**Jayaque - finc**	**1.95**	**306**	*eP*	Pn	05 34 02.4	-0.4
JAYA				*eS*	Sn	05 34 25.0	-1.2
JAYA	**Jayaque - finc**	**1.95**	**306**	P	Pn	05 34 04.2	+1.5
RCPN	**Sur Rio San Ju**	**1.97**	**59**	P	Pn	05 34 03.8	+0.8
RCPN	**Sur Rio San Ju**	**1.97**	**59**	P	Pn	05 34 04.0	+1.0
NUBE	**Las Nubes**	**2.36**	**306**	P	Pn	05 34 08.7	+0.4
ESQI	**Esquipulas**	**2.52**	**324**	P	Pb	05 34 14.8	-1.7

*IDC **05** 05:33:25.1±24.0, 35°.91N×71°.16E, h188km±145km, mb3.4/6, mbtmp3.8/7, Error ellipse: s-maj=227.8km s-min=41.1km az=180.0*

*NNC **05** 05:33:40.8±2.4, 37°.36N×71°.38E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=18.4km s-min=17.1km az=161.0*
ISC 05 05:33:31.7±1.8, 36°.7N±0°.2×71°.1E±0°.1, h200km, n10, σ2§42/13, mb3.8/5, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.39**	**356**	P	**Pn**	**05 35 07.1**	**+3.1**
KK31	1.6nm,0.3s,baz=180,slow=12,SNR=41			⇑S	**Sn**	**05 36 16.3**	**-0.8**
	9.4nm,0.6s,baz=189,slow=20,SNR=16						
AAK	**Ala-Archa**	**6.45**	**23**	⇓P	**Pn**	**05 35 08.6**	**+3.8**
AAK	2.8nm,0.5s			S	**Sn**	**05 36 16.1**	**-2.5**
	13nm,0.8s						
TKM2	**Tokmak 2**	**7.07**	**28**	⇑P	**Pn**	**05 35 17.1**	**+4.1**
TKM2	3.2nm,0.8s			⇓S	**Sn**	**05 36 32.2**	**-1.2**
	8.9nm,0.8s						
MKAR	**Makanchi Array**	**13.04**	**36**	P	**P**	**05 36 32.0**	**-0.7**
	0.5nm,0.5s,baz=221,slow=13,SNR=9.2						
ZALV	**Zalesovo Beam**	**19.66**	**25**	P	**Pn**	**05 37 46.8**	**-2.3**
	0.9nm,0.4s,baz=225,slow=10,SNR=2.6						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**05 40 25.1**	**+0.4**
	7.2nm,1.1s,baz=115,slow=8.6,SNR=5.8						
	7.2nm,1.1s						
ARCES	**ARCESS Array B**	**40.98**	**337**	P	**P**	**05 40 55.3**	**+0.7**
	3.8nm,1.0s,baz=116,slow=8.3,SNR=4.4						
	3.8nm,1.0s						
HFS	**Hagfors**	**42.96**	**322**	P	**P**	**05 41 10.0**	**-0.7**
	1.8nm,0.6s,baz=94,slow=13,SNR=1.9						
	1.8nm,0.6s						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**05 41 20.2**	**-1.0**
	1.1nm,0.9s,baz=96,slow=7.8,SNR=2.2						
	1.1nm,0.9s						
YKA	**Yellowknife Ar**	**81.02**	**3**	P	**P**	**05 45 22.8**	**-1.0**
	0.2nm,0.8s,baz=354,slow=5.4,SNR=6.3						
	0.2nm,0.8s						

*IDC **05** 05:46:20.0±0.9, 49°.36S×116°.26W, h0km, mb4.1/5, mbtmp4.1/5, MS4.0/31, Error ellipse: s-maj=37.3km s-min=26.1km az=147.0*
*GCMT **05** 05:46:25.0±0.3, 49°.66S±0°.02×116°.11W±0°.03, h16km±2km, MW4.8/77, Moment Tensor Solution. s19,c21; s77,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.45±.12; $M_{\theta\theta}$1.31±.12; $M_{\phi\phi}$-0.85±.10; $M_{r\theta}$0.24±.29; $M_{\phi\phi}$1.97±.08; $M_{\phi r}$0.77±.29; Best double couple: $M_0$2.39400×10^{16} NP1:ϕ_s104.00000°, δ69.00000°, λ-5.00000°. NP2: ϕ_s196.00000°, δ86.00000°, λ-159.00000°. Principal axes: T 2.5950, Plg11.0000°, Azm328.0000°; N -0.4000, Plg69.0000°, Azm207.0000°; P -2.1930, Plg18.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 05 05:46:21.4±0.9, 49°.4S±0°.2×116°.2W±0°.2, h10km, n48, σ1§17/8, mb4.1/5, MS4.0/31, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**31.19**	**139**	LR	LR	06 01 45.3	
	comp=Z,346nm,18.8s,baz=295,slow=30						
H03S2	**Juan Fernandez**	**31.54**	**75**	T	T	06 25 54.1	
	baz=227,slow=74,SNR=18						
H03S1	**Juan Fernandez**	**31.55**	**75**	T	T	06 25 55.4	
	baz=227,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**31.56**	**75**	T	T	06 25 54.4	
	baz=227,slow=74,SNR=24						
H03N3	**Juan Fernandez**	**31.79**	**74**	T	T	06 26 09.0	
	baz=230,slow=72,SNR=79						
H03N2	**Juan Fernandez**	**31.80**	**74**	T	T	06 26 07.3	
	baz=230,slow=72,SNR=91						
H03N1	**Juan Fernandez**	**31.81**	**74**	T	T	06 26 07.5	
	baz=230,slow=72,SNR=116						
PLCA	**Paso Flores**	**32.97**	**92**	LR	LR	06 02 32.4	
	comp=Z,188nm,20.5s,baz=236,slow=30						
VNDA	**Vanda**	**40.67**	**199**	LR	LR	06 06 40.8	
	comp=Z,192nm,19.2s,baz=85,slow=30						
QSPA	**South Pole Qui**	**40.85**	**180**	P	**P**	**05 54 03.4**	**+0.4**
	10.0nm,1.0s,baz=110,slow=4.8,SNR=14						
QSPA				LR	LR	06 08 46.6	
	comp=Z,179nm,20.2s,baz=86,slow=33						
	10.0nm,1.0s						
PPT	**Papeete**	**41.58**	**308**	LR	LR	06 06 34.7	
	comp=Z,263nm,18.6s,baz=128,slow=29						
RAR	**Rarotonga**	**44.41**	**293**	LR	LR	06 07 40.1	
	comp=Z,75nm,21.2s,baz=114,slow=29						
URZ	**Urewera**	**47.90**	**257**	LR	LR	06 10 43.7	
	comp=Z,165nm,19.0s,baz=232,slow=31						
RPZ	**Rata Peaks**	**48.56**	**247**	LR	LR	06 12 01.6	
	comp=Z,122nm,19.8s,baz=168,slow=32						
NNA	**Nana**	**49.41**	**55**	LR	LR	06 10 48.5	
	comp=Z,264nm,18.8s,baz=202,slow=30						
CPUP	**Villa Florida**	**50.44**	**85**	P	**P**	**05 55 17.8**	**-1.3**
	1.8nm,0.9s,baz=203,slow=7.7,SNR=3.5						
CPUP				LR	LR	06 13 00.5	
	comp=Z,166nm,21.1s,baz=230,slow=32						
	1.8nm,0.9s						
SNAA	**Sanae**	**50.53**	**158**	LR	LR	06 13 52.0	
	comp=Z,274nm,21.4s,baz=277,slow=33						
LPAZ	**La Paz**	**50.93**	**67**	P	**P**	**05 55 24.2**	**+0.7**
	3.9nm,1.0s,baz=214,slow=11,SNR=10						
LPAZ				LR	LR	06 11 54.2	
	comp=Z,82nm,19.9s,baz=229,slow=30						
	3.9nm,1.0s						
ATAH	**Atahualpa**	**52.71**	**50**	LR	LR	06 12 59.4	
	comp=Z,158nm,18.1s,baz=229,slow=30						
SIV	**San Ignacio**	**55.49**	**73**	LR	LR	06 15 35.8	
	comp=Z,136nm,21.1s,baz=290,slow=32						
MAW	**Mawson**	**63.37**	**180**	LR	LR	06 21 22.0	
	comp=Z,144nm,21.1s,baz=158,slow=33						
BDFB	**Brasilia**	**64.12**	**84**	LR	LR	06 21 56.9	
	comp=Z,96nm,19.7s,baz=216,slow=33						
ROSC	**El Rosal**	**65.07**	**47**	LR	LR	06 21 16.8	
	comp=Z,134nm,18.4s,baz=211,slow=32						
JTS	**Las Juntas de**	**65.44**	**34**	LR	LR	06 18 04.5	
	comp=Z,81nm,18.9s,baz=181,slow=29						
CMIG	**Matias Romero**	**68.81**	**22**	LR	LR	06 21 22.2	
	comp=Z,21nm,20.7s,baz=190,slow=30						
SDV	**Santo Domingo**	**70.36**	**49**	LR	LR	06 25 33.4	
	comp=Z,135nm,18.1s,baz=257,slow=33						
LPIG	**La Paz**	**73.31**	**6**	LR	LR	06 22 29.8	
	comp=Z,40nm,20.7s,baz=201,slow=30						
STKA	**Stephens Creek**	**73.72**	**240**	LR	LR	06 26 11.3	
	comp=Z,80nm,19.0s,baz=209,slow=32						
PCRV	**Puerto La Cruz**	**74.51**	**53**	LR	LR	06 27 13.1	
	comp=Z,301nm,19.7s,slow=33						
MDP	**Montagnes des**	**77.12**	**66**	LR	LR	06 27 43.8	
	comp=Z,68nm,19.2s,baz=102,slow=32						
PFO	**Pinyon Flats O**	**82.60**	**360**	LR	LR	06 26 26.9	
	comp=Z,98nm,21.8s,baz=267,slow=29						
ASAR	**Alice Springs**	**84.36**	**240**	P	**P**	**05 58 52.9**	**-1.0**
	0.9nm,0.8s,baz=150,slow=5.5,SNR=8.4						
	0.9nm,0.8s						
PMG	**Port Moresby**	**87.22**	**259**	LR	LR	06 35 54.6	
	comp=Z,80nm,18.1s,baz=195,slow=34						
NVAR	**Mina Array Bea**	**87.43**	**358**	LR	LR	06 30 33.5	
	comp=Z,124nm,18.4s,baz=172,slow=30						
YBH	**Yreka Blue Hor**	**90.89**	**355**	LR	LR	06 30 45.1	
	comp=Z,101nm,20.6s,baz=180,slow=29						
PDAR	**Pinedale Array**	**91.93**	**5**	P	**P**	**05 59 29.7**	**0.0**
	0.4nm,0.9s,baz=188,slow=3.7,SNR=2.3						
	0.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**93.42**	**237**	LR	LR	06 37 52.1	
	comp=Z,74nm,20.4s,baz=164,slow=33						
H11S2	**WAKE ISLAND Hy**	**95.72**	**292**	T	T	07 46 11.6	
	baz=140,slow=76,SNR=192						
H11S3	**WAKE ISLAND Hy**	**95.73**	**292**	T	T	07 46 12.6	
	baz=140,slow=76,SNR=131						
H11S1	**WAKE ISLAND Hy**	**95.73**	**292**	T	T	07 46 12.4	
	baz=140,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**96.53**	**293**	T	T	07 47 06.6	
	baz=142,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**96.54**	**293**	T	T	07 47 08.8	
	baz=142,slow=75,SNR=46						
H11N2	**WAKE ISLAND Hy**	**96.55**	**293**	T	T	07 47 09.4	
	baz=142,slow=75,SNR=27						
NEW	**Newport**	**97.24**	**359**	LR	LR	06 36 31.6	
	comp=Z,80nm,18.2s,baz=146,slow=31						
LBTB	**Lobatse**	**98.52**	**145**	LR	LR	06 37 25.1	
	comp=Z,107nm,19.0s,baz=205,slow=31						
SONM	**Songino Array**	**152.04**	**283**	PKPbc	**PKiKP**	**06 06 18.3**	**+1.8**
	0.6nm,0.8s,baz=86,slow=2.9,SNR=2.0						
BRTR	**Keskin Array B**	**156.60**	**103**	PKPab	**PKPab**	**06 06 46.0**	**+0.6**
	2.2nm,1.0s,baz=208,slow=5.9,SNR=7.0						
KURBB	**Kurchatov Arra**	**170.41**	**283**	PKPab	**PKPab**	**06 07 45.0**	**-0.4**
	0.1nm,0.4s,baz=223,slow=17,SNR=2.3						

*CATAC **05** 05:46:48.8±0.6, 14°N±3°×9°2W±°, h17km±3km, M4.1/19, mb4.3/1, mB4.4/1, MLv4.0/19, Mw(mB)3.6/1, Error ellipse: s-maj=7.6km s-min=4.7km az=59.5, confirmed*
*IDC **05** 05:46:49.1±3.6, 14°.18N×92°.31W, h55km±24km, mb3.2/2, mbtmp3.4/4, ML3.6/2, MS2.3/2, Error ellipse: s-maj=35.9km s-min=10.1km az=12.0*
*GCG **05** 05:46:49.8±1.9, 14°.25N×92°.15W, h31km±9km, MD4.4*
*MEX **05** 05:46:50.2±1.0, 14°.23N×92°.31W, h54km±26km, MD4.3*
*SNET **05** 05:46:50.7±3.1, 14°.35N×91°.99W, h10km, ML4.0*
ISC 05 05:46:47.1±1.4, 14°.16N±0°.05×92°.34W±0°.03, h32km±10km, n117, σ1§76/143, 2C-7D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.72**	**59**	*eP*	**Pn**	**05 47 01.7**	**+0.7**
RTAL				*eS*	**Sn**	**05 47 11.7**	**+0.7**
RTAL	**Retalhuleu**	**0.72**	**59**	*eP*	**Pn**	**05 47 01.8**	**+0.7**
RTAL	**Retalhuleu**	**0.72**	**59**	⇓P	**Pn**	**05 47 01.8**	**+0.7**
RTAL	**Retalhuleu**	**0.72**	**59**	P	**Pn**	**05 47 01.6**	**+0.6**
RTAL				S	**Sn**	**05 47 11.5**	**+0.5**
RTAL	**Retalhuleu**	**0.72**	**59**	P	**Pn**	**05 47 01.8**	**+0.7**
SMCA	**Catarina**	**0.74**	**20**	*i* P	**Pb**	**05 47 01.6**	**0.0**
SMCA				*eS*	**Sb**	**05 47 10.5**	**-0.9**
SMCA	**Catarina**	**0.74**	**20**	*i* P		05 47 01.6	
SMCA				*eS*		05 47 10.5	
THIG		**0.75**	**5**	*eP*	**Pb**	**05 47 02.3**	**+0.5**
THIG				*eS*	**Sn**	**05 47 12.9**	**+1.2**
THIG		**0.75**	**5**	*eP*	**Pb**	**05 47 02.1**	**+0.3**
THIG		**0.75**	**5**	*eP*		05 47 02.1	
PATR	**El Naranjo**	**0.96**	**6**	*eP*	**Pn**	**05 47 04.6**	**0.0**
PATR				*eS*	**Sn**	**05 47 16.4**	**-0.9**
STG8	**El Palmar, Qui**	**1.00**	**73**	*i* P		05 47 04.1	
STG8				*eS*		05 47 15.9	
STG0	**El Palmar, Qui**	**1.00**	**74**	*i* P		05 47 03.9	
PAVE	**Pavencul**	**1.04**	**8**	*eP*	**Pn**	**05 47 05.7**	**0.0**
PAVE				*eS*	**Sn**	**05 47 18.6**	**-0.6**
SOKI	**Kika Raxquin**	**1.12**	**54**	*i* P	**Pn**	**05 47 07.3**	**+0.4**
SOKI	**Kika Raxquin**	**1.12**	**54**	*i* P		05 47 07.3	
HUEH	**Huehuetenango**	**1.41**	**35**	*eP*	**Pn**	**05 47 12.0**	**+1.4**
HUEH				*eS*	**Sb**	**05 47 30.0**	**-0.6**
HUEH	**Huehuetenango**	**1.41**	**35**	*eP*	**Pn**	**05 47 12.3**	**+1.6**
HUEH	**Huehuetenango**	**1.41**	**35**	⇓P	**Pn**	**05 47 12.3**	**+1.6**
HUEH	**Huehuetenango**	**1.41**	**35**	P	**Pn**	**05 47 12.1**	**+1.4**
HUEH	**Huehuetenango**	**1.41**	**35**	S	**Sb**	**05 47 31.0**	**+0.3**
HUEH	**Huehuetenango**	**1.41**	**35**	P	**Pn**	**05 47 12.4**	**+1.6**
HUEH	**Huehuetenango**	**1.41**	**35**	*eP*	**Pn**	**05 47 12.1**	**+1.4**
HUEH	**Huehuetenango**	**1.41**	**35**	*eP*		05 47 12.1	
ESSG	**Sabana Grande**	**1.48**	**81**	*eP*	**Pn**	**05 47 11.4**	**-0.1**
ESSG	**Sabana Grande**	**1.48**	**81**	*eP*		05 47 11.4	
PCIG		**1.76**	**331**	*eP*	**Pn**	**05 47 16.4**	**+1.1**
PCIG				*eS*	**Sn**	**05 47 36.5**	**-0.1**
APG	**El Apazote**	**2.00**	**65**	P	**Pn**	**05 47 20.1**	**+1.3**
	6.7nm,0.4s,baz=209,slow=16,SNR=65						
APG				S	**Sb**	**05 47 44.5**	**-3.0**
	9.2nm,0.3s,baz=235,slow=22,SNR=15						
APG	**El Apazote**	**2.00**	**65**	*i* P	**Pn**	**05 47 20.4**	**+1.6**
APG	**El Apazote**	**2.00**	**65**	*i* P		05 47 20.4	
CCIG	**Comitan**	**2.12**	**5**	*eP*	**Pn**	**05 47 23.7**	**+3.2**
CCIG				*eS*	**Sb**	**05 47 49.8**	**-1.2**
CCIG	**Comitan**	**2.12**	**5**

PEIG eS Sn 05 48 52.8 -3.7
PMUV Sontecomapan 5.12 329 eS **Sn 05 48 56.0 -3.7**
VHO Vista Hermosa 5.13 305 eP **Pn 05 48 04.3 +2.4**
VHO eS **Sn 05 48 58.9 -1.3**
YUSH Yuscaran 5.33 92 ⇓P **Pn 05 48 05.9 +1.3**
YOIG Yosondua 5.69 299 eP **Pn 05 48 14.0 +4.3**
YOIG eS **Sn 05 49 14.7 +0.6**
LIMN Finca el Limon 5.91 100 P **Pn 05 48 13.9 +1.4**
LIMN Finca el Limon 5.91 100 P Pn 05 48 19.5 +7.0
COPN Copaltepe 5.93 109 P **Pn 05 48 15.1 +2.4**
COPN Copaltepe 5.93 109 P **Pn 05 48 15.3 +2.6**
TOIG Toxpalan 6.00 311 eP **Pn 05 48 14.6 +0.8**
TOIG eS **Sn 05 49 20.6 -0.8**
PNIG Pinotepa 6.01 292 eP **Pn 05 48 17.6 +3.7**
PNIG eS Sn 05 49 16.5 -5.2
TXIG Tlaxiaco 6.07 301 eP **Pn 05 48 19.5 +4.6**
TXIG eS **Sn 05 49 21.1 -2.3**
HLIG Huajuapan de L 6.40 306 eP Pn 05 48 18.1 -1.3
HLIG eS **Sn 05 49 32.7 +1.2**
FTIG Fresnillo de T 6.71 305 eP Pn 05 48 18.5 -5.0
FTIG eS **Sn 05 49 35.7 -3.1**
JAUV Jalcomulco 6.72 321 eP **Pn 05 48 23.7 +0.1**
JAUV eS **Sn 05 49 35.4 -3.7**
POHV Veracruz 6.80 317 eS **Sn 05 49 40.0 -1.9**
TEIG Tepich 7.17 32 P **Pn 05 48 31.0 +1.2**
TEIG S **Sn 05 49 49.2 -1.0**
baz=226,slow=24,SNR=3.2
CXUV Coxquihui 7.81 321 eS **Sn 05 50 03.7 -2.2**
JTS Las Juntas de 8.18 117 LR LR 05 51 29.0
comp=Z,36nm,21.5s,baz=304,slow=34
TXAR Lajitas Array 18.39 327 P **P 05 51 01.1 +1.5**
baz=138,slow=10,SNR=3.9
0.3nm,0.6s
YKA Yellowknife Ar 50.80 347 P **P 05 55 43.0 -1.1**
0.3nm,0.6s,baz=158,slow=7.5,SNR=7.7
0.3nm,0.6s
ILAR Eielson Array 62.57 337 P **P 05 57 06.7 -1.0**
0.6nm,0.9s,baz=108,slow=8.2,SNR=4.4
0.6nm,0.9s
CMAR Chiang Mai Arr 145.74 341 PKPbc **PKPdf 06 06 22.9 -0.4**
0.9nm,0.3s,baz=334,slow=3.0,SNR=4.3

*IDC **05** 06:41:25.0±0.9, 1°.01S×22°.97W, h0km, mb4.0/7, mbtmp4.1/9, ML4.2/2, MS3.6/20, Error ellipse: s-maj=34.8km s-min=22.8km az=146.0*
ISC 05 06:41:26.2±0.8, 1°.1S±0°.2×23°.0W±0°.1, h10km, n31, σ0s99/10, mb4.2/7, MS3.7/18, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**10.85 129**		T	T	06 55 12.1	
	baz=308,slow=73,SNR=42						
H10N2	**ASCENSION HYDR**	**10.85 129**		T	T	06 55 08.8	
	baz=308,slow=73,SNR=61						
H10N1	**ASCENSION HYDR**	**10.87 129**		T	T	06 55 09.6	
	baz=308,slow=73,SNR=69						
H10S3	**ASCENSION HYDR**	**11.44 134**		T	T	06 55 47.1	
	baz=266,slow=74,SNR=28						
H10S2	**ASCENSION HYDR**	**11.46 134**		T	T	06 55 40.5	
	baz=314,slow=74,SNR=31						
RCBR	**Riachuelo**	**13.70 249**		Pn	**Pn**	**06 44 39.5**	**-1.2**
	0.9nm,0.3s,baz=88,slow=18,SNR=24						
RCBR				Sn	Sn	06 47 00.2	-13
	0.9nm,0.3s,baz=172,slow=22,SNR=9.1						
RCBR				LR	LR	06 48 35.9	
	comp=Z,71nm,18.6s,baz=64,slow=31						
	2.3nm,0.3s						
DBIC	**Dimbokro**	**19.69 67**		P	**P**	**06 45 54.0**	**-1.7**
	0.7nm,0.3s,baz=246,slow=12,SNR=8.4						
DBIC				LR	LR	06 52 18.1	
	comp=Z,119nm,18.1s,baz=210,slow=33						
	9.5nm,0.8s						
BDFB	**Brasilia**	**28.60 238**		LR	LR	06 58 13.2	
	comp=Z,167nm,18.3s,baz=109,slow=35						
MDP	**Montagnes des**	**30.21 282**		LR	LR	06 56 57.2	
	comp=Z,71nm,20.3s,baz=84,slow=31						
MDT	**Midelt**	**37.91 26**		LR	LR	07 03 15.9	
	comp=Z,128nm,19.9s,baz=238,slow=35						
SIV	**San Ignacio**	**40.34 246**		LR	LR	07 05 24.5	
	comp=Z,68nm,18.9s,baz=110,slow=36						
CPUP	**Villa Florida**	**41.48 230**		LR	LR	07 05 54.6	
	comp=Z,85nm,19.6s,baz=50,slow=35						
ESDC	**Sonseca Array**	**44.13 21**		P	**P**	**06 49 35.4**	**+0.4**
	0.9nm,0.9s,baz=199,slow=9.5,SNR=4.2						
	0.9nm,0.9s						
SJG	**San Juan**	**46.50 296**		LR	LR	07 05 58.5	
	comp=Z,33nm,19.6s,baz=168,slow=32						
LPAZ	**La Paz**	**46.94 249**		P	**P**	**06 49 59.5**	**+1.2**
	1.2nm,0.9s,baz=62,slow=12,SNR=4.7						
LPAZ				LR	LR	07 09 36.1	
	comp=Z,56nm,18.9s,baz=98,slow=36						
	1.2nm,0.9s						
KEST	**Kesra**	**47.43 36**		LR	LR	07 11 19.6	
	comp=Z,88nm,18.1s,baz=267,slow=38						
SUR	**Sutherland**	**51.69 132**		LR	LR	07 07 44.4	
	comp=Z,83nm,20.2s,baz=290,slow=31						
LBTB	**Lobatse**	**52.60 121**		LR	LR	07 09 03.7	
	comp=Z,67nm,19.6s,baz=234,slow=32						
BOSA	**Boshof**	**53.58 125**		P	**P**	**06 50 48.6**	**+0.6**
	3.5nm,1.0s,baz=297,slow=6.8,SNR=3.1						
BOSA				LR	LR	07 08 04.1	
	comp=Z,52nm,21.6s,baz=202,slow=30						
	3.5nm,1.0s						
NNA	**Nana**	**54.46 256**		LR	LR	07 13 15.8	
	comp=Z,74nm,19.6s,baz=64,slow=35						
PLCA	**Paso Flores**	**58.34 221**		LR	LR	07 15 35.4	
	comp=Z,36nm,19.3s,baz=116,slow=35						
BRTR	**Keskin Array B**	**65.66 45**		P	**P**	**06 52 10.9**	**-0.1**
	1.2nm,0.7s,baz=233,slow=6.0,SNR=5.9						
	1.2nm,0.7s						
TKL	**Tuckaleechee C**	**67.21 310**		LR	LR	07 16 02.7	
	comp=Z,17nm,21.3s,baz=28,slow=31						
HFS	**Hagfors**	**67.33 19**		LR	LR	07 21 12.7	
	comp=Z,39nm,18.8s,baz=331,slow=36						
FINES	**FINESS Array B**	**72.63 22**		P	**P**	**06 52 54.0**	**+0.3**
	3.1nm,0.9s,baz=217,slow=4.8,SNR=5.2						
	3.1nm,0.9s						
KBZ	**Khabaz**	**73.55 44**		P	**P**	**06 52 59.8**	**+0.3**
	2.0nm,0.9s,baz=301,slow=2.8,SNR=4.8						
	2.0nm,0.9s						
PDAR	**Pinedale Array**	**88.16 313**		LR	LR	07 28 03.0	
	comp=Z,35nm,20.7s,baz=20,slow=32						
YKA	**Yellowknife Ar**	**91.66 332**		P	**P**	**06 54 33.5**	**0.0**
	0.4nm,1.0s,baz=92,slow=4.8,SNR=4.6						
	0.4nm,1.0s						
ELK	**Elko**	**92.36 311**		LR	LR	07 30 13.6	
	comp=Z,34nm,21.8s,baz=42,slow=32						
NVAR	**Mina Array Bea**	**94.79 308**		LR	LR	07 31 55.8	
	comp=Z,45nm,21.9s,baz=175,slow=32						
ASAR	**Alice Springs**	**146.74 139**		PKPbc	**PKPbc**	**07 01 09.0**	**-0.4**
	0.6nm,0.5s,baz=211,slow=2.2,SNR=10						

*IDC **05** 06:56:56.0±1.1, 21°.86S×169°.35E, h0km, mb4.1/5, mbtmp4.1/5, MS3.6/3, Error ellipse: s-maj=37.6km s-min=28.8km az=159.0*
*NOU **05** 06:56:57.6, 22°.04S×169°.30E, h0km, MLv4.0/12, Southeast of Loyalty Islands*
ISC 05 06:56:59.8±1.1, 21°.9S±0°.1×169°.36E±0°.09, h25km, n20, σ0s74/17, mb4.1/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.31 289**		P	**Pn**	**06 57 21.7**	**-0.8**
MARNC	**Mare, Loyalty**	**1.31 289**		S	**Sn**	**06 57 39.1**	**0.0**
PINNC	**Pines Island,**	**1.91 248**		P	**Pn**	**06 57 30.0**	**-0.7**
PINNC	**Pines Island,**	**1.91 248**		S	**Sn**	**06 57 53.4**	**-0.5**
YATNC	**Mamie plateau,**	**2.30 266**		P	**Pn**	**06 57 35.6**	**-0.5**
YATNC	**Mamie plateau,**	**2.30 266**		S	**Sn**	**06 58 03.7**	**+0.1**
OUENC	**Ouen Island, N**	**2.39 257**		P	**Pn**	**06 57 36.6**	**-0.8**
OUENC	**Ouen Island, N**	**2.39 257**		S	**Sn**	**06 58 06.4**	**+0.5**
DZM	**Mont Dzumac**	**2.71 266**		P	**Pn**	**06 57 41.5**	**-0.4**
DZM	**Mont Dzumac**	**2.71 266**		S	**Sn**	**06 58 15.7**	**+1.7**
ONTNC	**Ouen Toro**	**2.72 261**		P	**Pn**	**06 57 41.5**	**-0.5**
ONTNC	**Ouen Toro**	**2.72 261**		S	**Sn**	**06 58 15.2**	**+1.1**
URZ	**Urewera**	**17.61 159**		LR	LR	07 06 06.9	
	comp=Z,102nm,19.3s,baz=143,slow=31						
STKA	**Stephens Creek**	**26.61 242**		LR	LR	07 12 50.8	
	comp=Z,83nm,18.0s,baz=203,slow=36						
ASAR	**Alice Springs**	**32.69 260**		P	**P**	**07 03 30.2**	**-0.1**
	2.3nm,0.8s,baz=77,slow=9.0,SNR=26						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**32.73 267**		P	**P**	**07 03 30.7**	**-0.1**
	1.4nm,0.7s,baz=99,slow=8.1,SNR=9.6						
	1.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**47.14 245**		LR	LR	07 26 22.8	
	comp=Z,148nm,18.3s,baz=251,slow=38						
QSPA	**South Pole Qui**	**68.16 180**		P	**P**	**07 07 58.0**	**+0.2**
	6.1nm,0.8s,baz=12,slow=1.5,SNR=21						
	6.1nm,0.8s						
NVAR	**Mina Array Bea**	**90.48 48**		P	**P**	**07 10 00.4**	**+0.7**
	0.9nm,0.8s,baz=224,slow=8.3,SNR=6.7						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**92.73 17**		P	**P**	**07 10 09.0**	**-0.4**
	0.2nm,0.6s,baz=232,slow=4.9,SNR=5.3						
	0.2nm,0.6s						

*IDC **05** 07:07:25.6±0.9, 53°.12N×162°.51E, h0km, mb3.8/6, mbtmp3.8/9, ML3.9/3, MS2.6/5, Error ellipse: s-maj=22.0km s-min=16.9km az=15.0*
*KRSC **05** 07:07:27.9±1.6, 53°.04N×162°.55E, h48km±29km, Ml4.2*
ISC 05 07:07:28.8±0.7, 53°.08N±0°.04×162°.47E±0°.04, h27km, n45, σ2s90/53, mb3.9/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.47 272**		eP	**Pb**	**07 07 55.1**	**-0.4**
SPN				eS	**Sb**	**07 08 13.5**	**-0.3**
MKZ	**Mys Kozlova**	**1.54 344**		eP	**Pb**	**07 07 56.0**	**-0.7**
MKZ				eS	**Sb**	**07 08 15.4**	**-0.4**
NLC	**Nalytchevo**	**1.88 274**		eP	**Pb**	**07 08 01.1**	**-1.4**
NLC				eS	**Sb**	**07 08 23.9**	**-1.6**
SDLR	**Sedlovina**	**2.17 277**		eP	**Pb**	**07 08 05.6**	**-1.8**
UGLR	**Uglovaya**	**2.20 275**		eP	**Pb**	**07 08 05.9**	**-2.0**
UGLR				eS	**Sb**	**07 08 33.1**	**-1.7**
DALK	**Dalny**	**2.24 270**		eP	**Pb**	**07 08 05.8**	**-2.7**
DALK				eS	**Sb**	**07 08 32.3**	**-3.6**
KRER	**Koryakskii**	**2.25 277**		eP	**Pb**	**07 08 07.1**	**-1.7**
AVH	**Avacha**	**2.25 276**		eP	**Pb**	**07 08 07.0**	**-1.8**
PET	**Petropavlovsk**	**2.30 270**		eP	**Pb**	**07 08 06.9**	**-2.7**
PET				eS	**Sb**	**07 08 34.1**	**-3.5**
KRX	**Arik**	**2.31 279**		eP	**Pb**	**07 08 07.5**	**-2.4**
KOK	**Koryaka**	**2.31 277**		eP	**Pb**	**07 08 07.7**	**-2.2**
INSR	**Institute**	**2.33 271**		eS	**Sb**	**07 08 35.0**	**-3.4**
TUMD	**Tumrok D**	**2.45 331**		eP	**Pb**	**07 08 09.3**	**-2.9**
TUMD				eS	**Sb**	**07 08 38.8**	**-3.1**
RUS	**Russkaya**	**2.49 257**		eP	**Pb**	**07 08 08.6**	**-4.1**
RUS				eS	**Sn**	**07 08 37.6**	**+0.7**
KRMR	**Karymshinskiy**	**2.63 266**		eP	**Pb**	**07 08 11.3**	**-3.9**
KRMR				eS	**Sb**	**07 08 42.4**	**-4.8**
GRL	**Gorelyy**	**2.72 261**		eP	**Pb**	**07 08 13.0**	**-3.7**
GNL	**Ganaly**	**2.78 285**		eP	**Pb**	**07 08 15.0**	**-2.8**
PETK	**Petropavlovsk-**	**2.88 273**		Pn	**Pb**	**07 08 15.0**	**-4.3**
	35nm,0.3s,baz=89,slow=18,SNR=353						
PETK				Sn	**Sb**	**07 08 49.4**	**-4.6**
	32nm,0.3s,baz=244,slow=16,SNR=14						
PETK				LR	LR	07 09 34.5	
	comp=Z,139nm,20.4s,baz=143,slow=44						
	123nm,0.5s						
BKI	**Bering**	**2.96 43**		eP	**Pn**	**07 08 13.3**	**-0.7**
KDTR	**Khodutka, Kamc**	**2.97 246**		eP	**Pn**	**07 08 15.0**	**+0.9**
KMNR	**Kamenistaya**	**2.98 335**		eP	**Pb**	**07 08 18.3**	**-3.0**
BZGR	**Bezymyannyi-Gr**	**3.05 341**		eP	Pb	07 08 17.2	-5.2
ZLN	**Zelenaya**	**3.10 342**		eP	Pb	07 08 17.9	-5.4
BZWR	**Bezymyannyi-We**	**3.11 339**		eP	**Pn**	**07 08 17.2**	**+0.9**
KIRR	**Kirishev**	**3.14 338**		eP	**Pb**	**07 08 20.5**	**-3.4**
KBTR	**Krutoberegovo**	**3.14 4**		eP	**Pn**	**07 08 17.5**	**+1.0**
KPT	**Kopyto**	**3.18 337**		eP	**Pb**	**07 08 21.0**	**-3.5**
KBG	**Krutoberegovo**	**3.19 2**		eP	**Pn**	**07 08 17.8**	**+0.7**
CIRR	**Tsirk**	**3.20 343**		eP	**Pb**	**07 08 20.7**	**-4.3**
APC	**Apacha**	**3.21 269**		eP	**Pb**	**07 08 20.8**	**-4.3**
APC				eS	**Sb**	**07 08 59.3**	**-4.4**
KRSR	**Krestovskiy**	**3.33 341**		eP	Pb	07 08 22.3	-4.9
KOZ	**Kozyrevsk**	**3.35 334**		eP	**Pb**	**07 08 23.4**	**-4.0**
KLY	**Klyuchi**	**3.41 343**		eP	**Pb**	**07 08 23.9**	**-4.5**
ESO	**Esso**	**3.60 324**		eP	Pb	07 08 26.0	-5.7
ESO				eS	**Sn**	**07 09 07.1**	**+2.7**
SRDR	**Sredinnyy**	**3.62 335**		eP	Pb	07 08 25.6	-6.4
PAU	**Pauzhetka**	**3.83 247**		eP	**Pn**	**07 08 27.9**	**+2.0**
SHEM	**Shemya Is, Ala**	**7.05 88**		Pn	**Pn**	**07 09 09.3**	**-0.8**
	41nm,0.3s,baz=276,slow=19,SNR=70						
SHEM				Sn	**Sn**	**07 10 22.5**	**-6.7**
	baz=249,slow=23						
SHEM				LR	LR	07 11 59.8	
	comp=Z,11nm,18.8s,baz=282,slow=39						
MA2	**Magadan**	**9.19 320**		Pn	**Pn**	**07 09 41.3**	**+1.9**
	0.3nm,0.3s,baz=118,slow=10.0,SNR=4.9						
MA2				LR	LR	07 13 19.7	
	comp=Z,28nm,20.7s,baz=109,slow=39						
	5.9nm,0.8s						
KLR	**Kul'dur**	**19.57 271**		P	**Pn**	**07 11 55.5**	**-0.2**
	0.1nm,0.3s,baz=94,slow=15,SNR=2.1						
KLR				LR	LR	07 20 21.8	
	comp=Z,30nm,18.0s,baz=253,slow=40						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**42.20 43**		P	**P**	**07 15 19.8**	**+1.0**
	0.1nm,0.4s,baz=294,slow=8.3,SNR=5.3						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**49.44 297**		P	**P**	**07 16 18.2**	**+2.0**
	0.4nm,0.6s,baz=51,slow=7.3,SNR=2.2						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**51.51 310**		P	**P**	**07 16 33.5**	**+1.8**
	1.0nm,0.4s,baz=51,slow=6.9,SNR=4.5						
	1.0nm,0.4s						
TXAR	**Lajitas Array**	**69.32 69**		P	**P**	**07 18 34.7**	**+1.0**
	0.2nm,0.6s,baz=316,slow=3.5,SNR=4.1						
TXAR				LR	LR	07 45 46.6	
	comp=Z,16nm,21.8s,baz=351,slow=33						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**76.69 207**		P	**P**	**07 19 17.9**	**+0.7**
	1.5nm,0.6s,baz=21,slow=6.2,SNR=9.4						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**80.36 206**		P	**P**	**07 19 38.5**	**+1.1**
	1.5nm,0.6s,baz=18,slow=5.5,SNR=25						
	1.5nm,0.6s						

DJA 05 07:08:02.6±0.5, 10°.5S±6°.5×11°.8E±°, h10km, M3.8/6, mb4.4/1, MLv3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.10 355**		P	Pb	07 08 22.5	-1.2
WBSI	**Waikabubak, Su**	**1.52 79**		P	Pn	07 08 29.5	-0.4
WBSI				S	Sn	07 08 49.7	0.0
TWSI	**Taliwang, Sumb**	**1.54 320**		P	Pn	07 08 30.0	-0.1
TWSI				S	Sb	07 08 51.0	+0.2
BASI	**Baing, Sumba**	**2.67 96**		P	Pn	07 08 45.7	0.0
JAGI	**Jajag, Banyuwa**	**3.96 291**		P	Pn	07 09 03.2	-0.2
GMJI	**Gumukmas**	**4.68 290**		P	Pn	07 09 13.6	+0.3
BKSI	**Bulukumba**	**5.09 26**		P	Pn	07 08 58.8	-20
PCJI	**Pacitan**	**6.84 284**		P	Pn	07 09 43.3	+0.2

*ASRS **05** 07:09:16.0±2.1, 53°.74N×90°.98E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **05** 07:09:16.7±3.8, 53°.78N×91°.39E, h0km, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=34.3km s-min=31.5km az=80.0*
*NNC **05** 07:09:23.6±2.4, 53°.63N×90°.33E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=18.1km s-min=12.9km az=60.0, Suspected Mining explosion.*
ISC 05 07:09:21.1±3.9, 53.7N±0°.1×90.7E±0°.2, h0km, n9, σ2s02/15, 11C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.50 277**	⇑Pg		**Pb**	**07 10 22.0**	**-1.9**
	1.2nm,0.7s						
ZAA0			⇓Lg		Lg	07 11 09.1	
	5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**3.50 277**		Pn	**Pn**	**07 10 18.2**	**+1.5**
	0.4nm,0.3s,baz=92,slow=12,SNR=4.5						
ZALV				Pg	**Pb**	**07 10 22.9**	**-0.9**
	1.9nm,0.3s,baz=95,slow=16,SNR=16						
ZALV				Lg	Lg	07 11 13.9	
	3.6nm,0.3s,baz=95,slow=30,SNR=6.7						
	3.4nm,0.5s						
KURK	**Kurchatov**	**7.99 253**	⇑Pn		**Pn**	**07 11 18.3**	**-0.1**
	5.2nm,1.5s						
KURK			⇑Sn		**Sn**	**07 12 47.7**	**-1.7**
	6.8nm,0.9s						
KURK			⇑Lg		Lg	07 13 31.8	
	50nm,1.2s						
KURBB	**Kurchatov Arra**	**8.08 253**		Pn	**Pn**	**07 11 20.5**	**+0.9**
	0.2nm,0.3s,baz=66,slow=15,SNR=12						
KURBB				Sn	**Sn**	**07 12 55.9**	**+4.3**
	0.1nm,0.3s,baz=64,slow=25,SNR=8.1						
KURBB				Lg	Lg	07 13 40.8	
	0.1nm,0.3s,baz=60,slow=33,SNR=7.0						
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**8.08 253**	⇑Pn		**Pn**	**07 11 21.2**	**+1.6**
	3.0nm,0.6s						
KURBB			⇑Sn		**Sn**	**07 12 50.2**	**-1.4**
	19nm,0.8s						
KURBB			⇑Lg		Lg	07 13 31.3	
	86nm,1.4s						
MK31	**Makanchi Array**	**8.73 221**	⇑Pn		**Pn**	**07 11 29.5**	**+0.9**
	1.1nm,0.7s,baz=45,slow=12,SNR=14						
MK31			⇑Sn		**Sn**	**07 13 06.4**	**-1.4**
	2.0nm,0.7s,baz=34,slow=22,SNR=4.9						
MK31			⇓Lg		Lg	07 13 54.5	
	26nm,1.1s,baz=43,slow=24,SNR=4.7						
MKAR	**Makanchi Array**	**8.73 221**	Pn		**Pn**	**07 11 30.0**	**+1.4**
	0.2nm,0.3s,baz=42,slow=14,SNR=14						
MKAR				Sn	**Sn**	**07 13 10.8**	**+3.1**
	0.3nm,0.3s,baz=37,slow=23,SNR=4.5						
MKAR				Lg	Lg	07 13 57.9	
	0.1nm,0.3s,baz=30,slow=32,SNR=7.1						
	0.6nm,0.4s						
MAKZ	**Makanchi**	**8.85 223**	⇓Pn		**Pn**	**07 11 29.1**	**-1.0**
	4.5nm,1.6s						
MAKZ			⇑Sn		**Sn**	**07 13 09.7**	**-0.9**
	5.4nm,1.4s						
MAKZ			⇑Lg		Lg	07 13 59.6	
	15nm,1.4s						
I34MN	**SONGINO INFRAS**	**11.54 114**		I	I	08 18 10.0	
	baz=309,slow=325,SNR=0.8						

*IDC **05** 07:26:56.7±0.6, 5°.14N×94°.15E, h0km, mb4.4/20, mbtmp4.4/21, ML4.2/1, MS3.5/16, Error ellipse: s-maj=26.3km s-min=13.5km az=51.0*
*BJI **05** 07:26:59.6, 5°.22N×94°.18E, h24km, mb5.0/10, mb4.7/40, Ms4.5/2, Ms7 4.1/2*
*DJA **05** 07:27:00.2±0.3, 5°.N±3°.×9°.4E±°, h10km, M4.8/12, mb4.8/12, mB5.2/2, MLv4.9/12, Mw(mB)4.7/2*
*NEIC **05** 07:27:02.3±1.1, 5°.15N±0°.05×94°.25E±0°.07, h35km±2km, mb4.6/41, Error ellipse: s-maj=15.4km s-min=3.0km az=233.0*
ISC 05 07:27:01.5±0.4, 5°.12N±0°.06×94°.23E±0°.05, h34km, n131, σ1s06/115, mb4.5/49, MS3.5/13, 4C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.12 71**		P	**Pb**	**07 27 21.8**	**-0.7**
BSI				S	**Sb**	**07 27 36.8**	**0.0**
MLSI	**Meulaboh, Aceh**	**2.33 111**		P	**Pn**	**07 27 38.6**	**+1.2**
SNSI	**Sinabang, Aceh**	**3.41 142**		P	**Pn**	**07 27 52.8**	**+0.5**
TSI	**Tuntungan**	**4.61 110**		P	**Pn**	**07 28 10.1**	**+1.3**
GSI	**Gunungsitoli**	**5.05 139**			**Pn**	**07 28 14.9**	**0.0**
GSI	**Gunungsitoli**	**5.05 139**		P	**Pn**	**07 28 15.5**	**+0.6**
	0.4nm58nm,0.6s						
PSI	**Prapat**	**5.22 116**		Pn	**Pn**	**07 28 19.8**	**+2.5**
	8.2nm,0.3s,baz=304,slow=9.8,SNR=22						
PSI				Sn	**Sn**	**07 29 16.1**	**-0.4**
	8.4nm,0.3s,baz=350,slow=19,SNR=4.0						
PSI				LR	LR	07 30 46.6	
	comp=Z,528nm,18.6s,baz=288,slow=43						
	26nm,0.4s						
RPSI	**Rantau Prapat**	**5.27 117**		Pn	**Pn**	**07 28 17.5**	**-0.3**
RPSI	**Rantau Prapat**	**5.27 117**			**Pn**	**07 28 19.8**	**+1.9**
SRIT	**Nakonsritamara**	**6.35 57**		Pn	**Pn**	**07 28 33.0**	**+0.2**
KULM	**Kulim**	**6.40 88**		Pn	**Pn**	**07 28 34.2**	**+0.9**
PBSI	**Pulau Batu**	**6.54 142**		P	**Pn**	**07 28 35.6**	**+0.2**
	332nm,1.2s						
IPM	**Ipoh**	**6.80 95**		Pn	**Pn**	**07 28 39.8**	**+0.9**
MNSI	**Mandailing Nat**	**6.86 129**		P	**Pn**	**07 28 40.8**	**+1.1**
	0.6nm8µm58nm,0.4s						
PPI	**Padang Panjang**	**8.29 132**		P	**Pn**	**07 29 00.3**	**+1.0**
	29nm,0.7s						
BKNI	**Bangkinang**	**8.30 125**		Pn	**Pn**	**07 28 59.0**	**-0.6**
PALK	**Pallekele**	**13.62 280**		Pn	**Pn**	**07 30 13.3**	**+0.9**
	0.8nm,0.3s,baz=86,slow=15,SNR=4.8						
PALK				Sn	Sn	07 32 29.4	-13
	2.6nm,0.3s,baz=200,slow=20,SNR=10						
PALK				LR	LR	07 35 06.8	
	comp=Z,254nm,19.5s,baz=108,slow=36						
CM31	**Chiang Mai Arr**	**14.03 19**			**Pn**	**07 30 18.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**14.03 19**		Pn	**Pn**	**07 30 17.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.03 19**		Pn	**Pn**	**07 30 19.9**	**+1.9**
	2.0nm,0.3s,baz=213,slow=13,SNR=27						
CMAR				LR	LR	07 35 47.1	
	comp=Z,59nm,18.7s,baz=195,slow=38						
CHTO	**Chiang Mai**	**14.37 18**		Pn	**Pn**	**07 30 23.1**	**+0.6**
UBPT	**Khong Chiam**	**14.96 47**			**Pn**	**07 30 30.1**	**-0.6**
SHL	**Shillong**	**20.45 354**		P	**P**	**07 31 33.4**	**-3.0**
SHL				IAmb	IAmb	07 31 40.8	
	comp=Z,10nm,0.6s						
PZH	**PanZhiHua**	**22.44 18**		P	**P**	**07 32 00.6**	**+2.9**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
GYA	**Guiyang**	**24.32 28**	⇑P		**P**	**07 32 16.7**	**+0.5**
GYA				pmax	pmax		
	comp=Z,48nm,0.6s						
H08S3	**Diego Garcia H**	**25.12 240**		T	T	07 58 18.1	
	baz=60,slow=76,SNR=423						
H08S2	**Diego Garcia H**	**25.12 240**		T	T	07 58 19.9	
	baz=60,slow=76,SNR=263						
**H08S1

comp=Z,7.5nm,0.7s
MTN Manton Dam 40.78 116 P **P 07 34 38.9 -1.0**
AAK Ala-Archa 41.26 338 P **P 07 34 43.6 -0.1**
AAK Ala-Archa 41.26 338 P **P 07 34 44.3 +0.7**
comp=Z,1.1nm,0.4s,baz=210,slow=9.8,SNR=3.7
AAK LR LR 07 52 57.8
comp=Z,51nm,20.6s,baz=170,slow=38
comp=Z,1.1nm,0.4s
MK31 Makanchi Array 42.78 348 P **P 07 34 55.6 -0.2**
MK31 IAmb IAmb 07 34 57.0
comp=Z,5.4nm,0.7s
MKAR Makanchi Array 42.78 348 P **P 07 34 55.8 0.0**
MKAR Makanchi Array 42.78 348 P **P 07 34 56.1 +0.3**
comp=Z,6.3nm,0.6s,baz=167,slow=8.2,SNR=85
comp=Z,6.3nm,0.6s
MAKZ Makanchi 42.86 348 P **P 07 34 56.3 -0.1**
MAKZ IAmb IAmb 07 34 57.5
comp=Z,6.0nm,0.8s
XLT XiLinHaoTe 43.15 23 *eP* **P 07 34 59.5 +0.6**
XLT pP pP 07 35 08.1 -0.1
XLT sP sP 07 35 11.7 -0.6
XLT pmax pmax
comp=Z,5.0nm,0.7s
XLT pmax pmax
comp=Z,81nm,4.3s
KK31 Karatay Array 43.26 335 P **P 07 34 59.5 -0.2**
KKAR Karatay Array 43.26 335 P **P 07 34 59.5 -0.2**
KKAR Karatay Array 43.26 335 P **P 07 34 59.6 -0.1**
SONM Songino Array 43.82 12 P **P 07 35 03.9 -0.3**
SONM Songino Array 43.82 12 P **P 07 35 04.0 -0.3**
comp=Z,5.1nm,0.7s,baz=192,slow=8.4,SNR=32
SONM PcP **PcP 07 36 50.9 +0.5**
comp=Z,1.6nm,0.6s,baz=206,slow=4.2,SNR=4.8
comp=Z,5.1nm,0.7s
ULN Ulaanbaatar 43.98 12 P **P 07 35 05.2 -0.5**
ULN IAmb IAmb 07 35 05.8
comp=Z,4.3nm,0.6s
H01W3 Cape Leeuwin H 43.99 156 T T 08 22 09.4
baz=329
H01W2 Cape Leeuwin H 44.00 156 T T 08 22 07.7
baz=329
H01W1 Cape Leeuwin H 44.01 156 T T 08 22 06.6
baz=329
JNU Nakatsue 44.04 46 P **P 07 35 06.0 -0.2**
JNU IAmb IAmb 07 35 49.0
comp=Z,22nm,1.3s
JNU Nakatsue 44.04 46 LR LR 07 53 37.2
comp=Z,53nm,21.6s,baz=222,slow=36
KSRS Korea Array 44.50 39 P **P 07 35 11.0 +1.2**
comp=Z,0.6nm,0.3s,baz=215,slow=8.6,SNR=4.1
KSRS LR LR 07 55 47.0
comp=Z,36nm,18.2s,baz=225,slow=39
comp=Z,0.6nm,0.3s
WB0 Warramunga Arr 46.60 123 P **P 07 35 26.9 +0.2**
WRA Warramunga Arr 46.64 124 P **P 07 35 27.5 +0.5**
comp=Z,5.0nm,0.6s,baz=302,slow=9.2,SNR=50
WRA LR LR 07 56 26.0
comp=Z,60nm,18.2s,baz=215,slow=38
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 47.22 346 LR LR 07 57 35.0
comp=Z,42nm,20.3s,baz=164,slow=39
KURK Kurchatov 47.29 347 P **P 07 35 32.0 +0.5**
ASAR Alice Springs 48.12 128 P **P 07 35 38.5 0.0**
ASAR Alice Springs 48.12 128 P **P 07 35 39.0 +0.5**
comp=Z,2.7nm,0.6s,baz=297,slow=7.8,SNR=38
ASAR LR LR 07 57 24.0
comp=Z,96nm,19.1s,baz=268,slow=38
comp=Z,2.7nm,0.6s
AS31 Alice Springs 48.12 128 P **P 07 35 38.5 0.0**
ZAA0 Zalesovo Array 49.28 353 P **P 07 35 46.9 0.0**
ZAA0 IAmb IAmb 07 35 47.6
comp=Z,5.9nm,0.7s
ZALV Zalesovo Beam 49.28 353 P **P 07 35 47.5 +0.7**
ZALV Zalesovo Beam 49.28 353 P **P 07 35 47.1 +0.3**
comp=Z,5.9nm,0.5s,baz=191,slow=7.3,SNR=23
comp=Z,5.9nm,0.5s
MDJ Mudanjiang 50.04 33 P **P 07 35 53.1 +0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 50.96 46 LR LR 08 00 51.8
comp=Z,31nm,18.5s,baz=252,slow=40
BVAR Borovoye Array 51.61 342 P **P 07 36 04.4 -0.1**
comp=Z,3.8nm,0.6s,baz=137,slow=9.4,SNR=20
comp=Z,3.8nm,0.6s
BRVK Borovoye 51.67 342 P **P 07 36 04.7 -0.3**
BRVK IAmb IAmb 07 36 05.3
comp=Z,3.6nm,0.8s
COEN Coen 52.13 112 P **P 07 36 08.1 -0.9**
COEN IAmb IAmb 07 36 42.2
comp=Z,10nm,1.3s
ABKAR Akbulak array 52.68 332 P **P 07 36 12.3 -0.2**
ABKAR Akbulak array 52.68 332 P **P 07 36 12.5 -0.1**
ABKAR IAmb IAmb 07 36 17.6
comp=Z,4.2nm,0.7s
KLR Kul'dur 54.21 29 LR LR 08 02 53.5
comp=Z,39nm,18.8s,baz=253,slow=40
AKTO Aktyubinsk 54.40 332 P **P 07 36 25.1 -0.1**
comp=Z,1.9nm,0.7s,baz=107,slow=7.6,SNR=3.7
AKTO PcP **PcP 07 37 29.4 +0.8**
comp=Z,2.4nm,0.6s,baz=172,slow=3.5,SNR=2.6
comp=Z,1.9nm,0.7s
ASAJ Asahikawa 57.44 40 LR LR 08 03 05.3
comp=Z,42nm,18.6s,baz=64,slow=38
STKA Stephens Creek 58.17 133 P **P 07 36 52.3 -0.1**
STKA Stephens Creek 58.17 133 P **P 07 36 52.7 +0.4**
comp=Z,1.6nm,0.7s,baz=335,slow=3.8,SNR=4.3
comp=Z,1.6nm,0.7s
ARTI Arti 58.48 338 P **P 07 36 53.6 -0.5**
ARTI IAmb IAmb 07 36 54.6
comp=Z,5.1nm,0.8s
ARTI Arti 58.48 338 P **P 07 36 53.9 -0.2**
comp=Z,4.0nm,0.5s,baz=136,slow=4.9,SNR=4.6
comp=Z,4.0nm,0.5s
KBZ Khabaz 59.19 319 P **P 07 36 59.0 -0.2**
comp=Z,1.9nm,0.8s,baz=151,slow=4.7,SNR=5.1
comp=Z,1.9nm,0.8s
MMAI Mount Meron Ar 61.23 305 LR LR 08 06 44.7
comp=Z,46nm,18.4s,baz=142,slow=39
YAK Yakutsk 62.56 18 LR LR 08 05 10.1
comp=Z,35nm,22.0s,baz=156,slow=37
H04N2 CROZET ISLANDS 63.44 212 T T 08 46 26.1
baz=48,slow=75,SNR=248
H04N1 CROZET ISLANDS 63.44 212 T T 08 46 26.8
baz=48,slow=75,SNR=247
H04N3 CROZET ISLANDS 63.45 212 T T 08 46 25.5
baz=48,slow=75,SNR=197
H04S1 CROZET ISLANDS 63.83 211 T T 08 46 43.7
baz=47,slow=76,SNR=2.2
H04S3 CROZET ISLANDS 63.84 211 T T 08 46 42.9
baz=47,slow=76,SNR=12
H04S2 CROZET ISLANDS 63.84 211 T T 08 46 43.0
baz=47,slow=76,SNR=3.3
BR131 Keskin Array S 64.30 312 P **P 07 37 33.0 -0.9**
BR131 IAmb IAmb 07 37 34.5
comp=Z,3.9nm,0.6s
BRTR Keskin Array B 64.30 312 P **P 07 37 33.4 -0.5**
BRTR Keskin Array B 64.30 312 P **P 07 37 33.9 0.0**
comp=Z,2.8nm,0.6s,baz=127,slow=7.0,SNR=16
comp=Z,2.8nm,0.6s
CAN Canberra 65.24 133 P **P 07 37 39.4 -0.6**
MA2 Magadan 69.15 27 P **P 07 38 03.7 -0.6**
MA2 IAmb IAmb 07 38 04.7
comp=Z,8.1nm,0.8s
TIXI Tiksi 69.90 11 P **P 07 38 07.5 -1.1**
BURAR Bucovina Array 72.14 318 P **P 07 38 23.0 +0.1**
BUR08 Bucovina Ar. S 72.16 318 P **P 07 38 23.1 +0.1**
BUR08 IAmb IAmb 07 39 06.6
comp=Z,6.4nm,1.4s
BOSA Boshof 74.22 239 P **P 07 38 36.6 +1.1**
BOSA IAmb IAmb 07 38 50.5
comp=Z,9.7nm,1.2s
BOSA Boshof 74.22 239 P **P 07 38 37.0 +1.5**
comp=Z,1.1nm,0.7s,baz=108,slow=6.4,SNR=1.2
comp=Z,1.1nm,0.7s
FIA1 FINESS Array S 75.17 333 P **P 07 38 39.5 -0.7**
FINES FINESS Array B 75.17 333 P **P 07 38 40.0 -0.2**
FINES FINESS Array B 75.17 333 P **P 07 38 40.0 -0.2**
comp=Z,3.2nm,0.4s,baz=95,slow=5.0,SNR=28
comp=Z,3.2nm,0.4s
ARCES ARCESS Array B 77.87 340 P **P 07 38 55.4 0.0**
comp=Z,3.7nm,0.8s,baz=94,slow=6.4,SNR=6.9
comp=Z,3.7nm,0.8s
GERES GERESS Array B 79.93 319 P **P 07 39 08.0 +0.8**
GERES GERESS Array B 79.93 319 P **P 07 39 07.8 +0.6**
comp=Z,2.2nm,0.7s,baz=103,slow=5.8,SNR=5.9
comp=Z,2.2nm,0.7s
HFS Hagfors 80.86 330 P **P 07 39 11.7 -0.2**
comp=Z,3.0nm,0.7s,baz=122,slow=5.4,SNR=12
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 82.16 331 P **P 07 39 18.5 -0.3**
comp=Z,1.1nm,0.7s,baz=98,slow=4.8
NOA NORSAR Array B 82.16 331 P **P 07 39 18.0 -0.8**
comp=Z,1.3nm,0.7s,baz=94,slow=5.6,SNR=4.8
NOA LR LR 08 19 00.5
comp=Z,21nm,18.8s,baz=75,slow=38
comp=Z,1.3nm,0.7s
SYO Syowa Base 82.82 197 *eP* **P 07 39 22.0 +0.1**
EKA Eskdalemuir Ar 90.02 325 P **P 07 39 58.1 +0.5**
comp=Z,1.5nm,0.6s,baz=92,slow=5.8,SNR=5.1
comp=Z,1.5nm,0.6s
QSPA South Pole Qui 95.04 180 LR LR 08 19 08.0
comp=Z,131nm,18.1s,baz=360,slow=33
YKA Yellowknife Ar 109.06 14 PP **PP 07 45 50.0 -4.9**
comp=Z,0.2nm,0.7s,baz=334,slow=7.7,SNR=5.7
ULM Lac du Bonnet 124.16 8 PKP **PKPdf 07 45 56.0 -0.7**
comp=Z,0.7nm,0.3s,baz=322,slow=1.9,SNR=3.1
NVAR Mina Array Bea 127.20 32 PKP **PKiKP 07 46 04.2 +0.5**
comp=Z,0.2nm,0.5s,baz=293,slow=2.3,SNR=3.7
PDAR Pinedale Array 127.67 22 PKP **PKiKP 07 46 04.2 -0.3**
comp=Z,0.3nm,0.7s,baz=90,slow=1.5,SNR=4.1
TXAR Lajitas Array 141.67 26 PKhKP PKPpre 07 46 23.8
comp=Z,0.5nm,0.8s,baz=90,slow=1.3,SNR=4.7
CPUP Villa Florida 145.60 229 PKPbc **PKPab 07 46 37.2 -0.4**
comp=Z,1.6nm,0.6s,baz=126,slow=2.6,SNR=7.1

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*NEIC **05** 08:01:29.6±2.2,51°.48N±0°.09×170°.24W±0°.10, h10km±1km, mb3.9/64, ML3.8/6, ML3.4(AEIC), Error ellipse: s-maj=15.4km s-min=8.6km az=156.0*
*IDC **05** 08:01:31.3±1.4,52°.03N×170°.49W, h0km, mb4.1/15, mbtmp4.0/17, ML3.4/2, MS3.3/9, Error ellipse: s-maj=40.3km s-min=16.2km az=1.0*
*AEIC **05** 08:01:35.3±2.5,51°.61N±0°.10×170°.3W±0°.1, h2km±5km, Error ellipse: s-maj=15.1km s-min=7.9km az=153.0*
ISC 05 08:01:31.3±0.8,51°.7N±0°.1×170°.31W±0°.07,h10km,n143,σ1§11/127,mb4.0/24,MS3.3/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**2.00**	**37**		**Pn**	**08 02 05.4**	**+0.2**
OKSP					**Sn**	**08 02 29.3**	**-1.1**
OKWE	**Okmok W'ng Wal**	**2.20**	**34**		**Pn**	**08 02 09.0**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**2.20**	**38**		**Pn**	**08 02 08.7**	**+0.8**
OKRE	**Okmok R'deer P**	**2.26**	**34**		**Pn**	**08 02 09.9**	**+1.2**
OKFG	**Magazine Ridge**	**2.27**	**39**		**Pn**	**08 02 09.5**	**+0.7**
OKFG					**Sn**	**08 02 37.4**	**+0.5**
ATKA	**Atka Island**	**2.46**	**284**		**Pn**	**08 02 11.3**	**-0.2**
ATKA				IAML		08 02 42.6	
comp=N,147nm,0.7s							
MAPS	**Pakushin South**	**2.96**	**42**		**Pn**	**08 02 19.2**	**+0.9**
MAPS					**Sn**	**08 02 53.8**	**0.0**
MGOD	**Makushin Gods**	**2.98**	**43**		**Pn**	**08 02 19.6**	**+1.0**
MSW	**Makushin Switc**	**3.10**	**42**		**Pn**	**08 02 21.1**	**+0.8**
UNV	**Unalaska Valle**	**3.17**	**45**		**Pn**	**08 02 22.2**	**+1.0**
AKMO	**Akutan Morgan**	**3.55**	**45**		**Pn**	**08 02 28.2**	**+1.8**
ZRO	**Akutan Zero**	**3.57**	**46**		**Pn**	**08 02 28.7**	**+2.0**
GSTR	**Great Sitkin T**	**3.59**	**279**	Pn	**Pn**	**08 02 26.6**	**-0.4**
LVA	**Lava Point**	**3.59**	**44**	Pn	**Pn**	**08 02 26.0**	**-1.0**
LVA				IAML		08 03 37.7	
comp=E,218nm,0.9s							
AHB	**Akutan Harbor**	**3.66**	**46**		**Pn**	**08 02 30.0**	**+2.1**
ADAG	**Mount Adagdak**	**3.92**	**277**		**Pn**	**08 02 32.8**	**+1.4**
ADK	**Adak**	**3.96**	**275**		**Pn**	**08 02 31.5**	**-0.6**
ADK				IAML		08 03 22.7	
comp=E,128nm,0.4s							
ADK				IAML		08 03 24.7	
comp=E,143nm,0.6s							
KIWB	**Kanaga Island**	**4.25**	**275**		Pn	08 02 34.5	-1.5
FALS	**False Pass**	**5.22**	**50**	Pn	**Pn**	**08 02 50.9**	**+1.6**
SPIA	**Saint Paul Isl**	**5.51**	**0**	Pn	**Pn**	**08 02 55.2**	**+1.9**
S12K	**Black Hills**	**6.34**	**47**	Pn	**Pn**	**08 03 05.5**	**+0.8**
SDPT	**Sand Point**	**6.92**	**54**	Pn	**Pn**	**08 03 13.4**	**+0.7**
CHGN	**Chignik**	**8.40**	**52**	Pn	**Pn**	**08 03 32.1**	**-0.8**
M13K	**Dall Lake**	**9.58**	**21**	Pn	**Pn**	**08 03 51.6**	**+2.6**
M14K	**Bethel**	**10.21**	**24**	Pn	**Pn**	**08 03 56.9**	**-0.7**
O16K	**Kokwok River B**	**10.50**	**36**	Pn	**Pn**	**08 04 01.1**	**-0.6**
L14K	**Kuka Creek**	**10.55**	**20**	Pn	**Pn**	**08 04 03.7**	**+1.3**
OHAK	**Old Harbor**	**11.34**	**54**	Pn	**Pn**	**08 04 12.6**	**-0.7**
P18K	**Big Mountain,**	**11.50**	**42**	Pn	**Pn**	**08 04 14.3**	**-1.1**
K15K	**Wolf Creek Mou**	**11.65**	**21**	Pn	**Pn**	**08 04 18.6**	**+1.1**
KDAK	**Kodiak Island**	**11.91**	**52**	Pn	**Pn**	**08 04 20.9**	**-0.1**
KDAK	**Kodiak Island**	**11.91**	**52**	Pn	**Pn**	**08 04 19.2**	**-1.8**
comp=E,0.4nm,0.3s,baz=294,slow=0.8,SNR=13							
KDAK				Sn	Sn	08 06 24.5	-9.3
baz=27,slow=7.6,SNR=1.8							
Q19K	**Cape Douglas,**	**11.93**	**46**	Pn	**Pn**	**08 04 20.8**	**-0.5**
SYI	**Shuyak Island**	**12.35**	**49**	Pn	**Pn**	**08 04 25.9**	**-1.2**
N19K	**Bonanza Creek**	**12.66**	**38**	Pn	**Pn**	**08 04 30.6**	**-0.8**
K17K	**Iditarod**	**12.81**	**26**	Pn	**Pn**	**08 04 33.5**	**+0.3**
M19K	**Big River Lodg**	**13.41**	**34**	Pn	**Pn**	**08 04 42.4**	**+0.9**
L19K	**White Mountain**	**13.45**	**33**	Pn	**Pn**	**08 04 44.0**	**+2.1**
BRLK	**Bradley Lake**	**13.57**	**46**	Pn	**Pn**	**08 04 43.4**	**-0.3**
J18K	**Innoko River**	**13.84**	**26**	Pn	**Pn**	**08 04 48.1**	**+0.8**
M20K	**Styx River**	**13.85**	**36**	Pn	**Pn**	**08 04 49.2**	**+1.7**
SLKM	**Skilak Lake**	**14.22**	**44**	Pn	**Pn**	**08 04 52.0**	**-0.6**
SUA	**Susitna One**	**14.51**	**40**	Pn	**Pn**	**08 04 56.6**	**+0.1**
H18K	**Honhosa River**	**14.85**	**20**	P	Pn	08 05 06.0	+5.0
J20K	**Nowinta River**	**15.12**	**28**	Pn	**Pn**	**08 05 06.4**	**+1.7**
J20K				IAmb	IAmb	08 05 11.6	
comp=Z,7.8nm,1.1s							
CAST	**Castle Rocks**	**15.22**	**32**		**Pn**	**08 05 06.6**	**+0.5**
CAST				IAmb	IAmb	08 05 26.9	
comp=Z,4.9nm,0.9s							
GHO	**Glory Hole Cre**	**15.41**	**41**	Pn	**Pn**	**08 05 09.1**	**+0.5**
GHO				IAmb	IAmb	08 05 25.5	
comp=Z,9.8nm,1.4s							
KTH	**Kantishna Hill**	**15.71**	**33**	Pn	**Pn**	**08 05 13.6**	**+1.2**
KTH				IAmb	IAmb	08 05 51.7	
comp=Z,16nm,1.5s							
BPAW	**Bear Paw Mtn.**	**16.04**	**32**		**Pn**	**08 05 17.0**	**+0.3**
BPAW				IAmb	IAmb	08 05 25.6	
comp=Z,6.0nm,0.7s							
SCM	**Sheep Creek Mo**	**16.10**	**42**		**Pn**	**08 05 16.6**	**-0.9**
SCM				IAmb	IAmb	08 05 34.5	
comp=Z,8.6nm,0.9s							
DIV	**Divide**	**16.45**	**45**	Pn	**Pn**	**08 05 21.6**	**-0.5**
KLU	**Klutina**	**16.54**	**44**	Pn	**Pn**	**08 05 21.9**	**-1.2**
KLU				IAmb	IAmb	08 05 30.3	
comp=Z,8.2nm,1.2s							
H21K	**Melozitna Rive**	**16.61**	**26**	Pn	**Pn**	**08 05 24.3**	**+0.3**
RAGM	**Ragged Mountai**	**16.67**	**49**	Pn	**Pn**	**08 05 23.3**	**-1.4**
RAGM				IAmb	IAmb	08 05 46.8	
comp=Z,12nm,1.1s							
M24K	**Tolsona, Glenn**	**16.70**	**42**		**Pn**	**08 05 24.0**	**-1.3**
HMT	**Hamilton**	**16.85**	**49**	Pn	**Pn**	**08 05 25.4**	**-1.6**
BMRM	**Bremner River**	**16.91**	**47**		**Pn**	**08 05 26.2**	**-1.6**
BMRM				IAmb	IAmb	08 05 39.4	
comp=Z,6.4nm,0.8s							
N25K	**Chitina, Valde**	**17.16**	**45**		**Pn**	**08 05 28.6**	**-2.4**
I23K	**Minto, Yukon-K**	**17.27**	**31**	P	**Pn**	**08 05 33.0**	**+0.8**
I23K				IAmb	IAmb	08 05 44.2	
comp=Z,4.7nm,0.8s							
GLB	**Gilahina Butte**	**17.45**	**46**	P	**Pn**	**08 05 33.8**	**-0.8**
CCB	**Clear Creek Bu**	**17.46**	**33**	Pn	**Pn**	**08 05 32.9**	**-1.7**
VRDI	**Verde Repeater**	**17.53**	**47**	P	**Pn**	**08 05 35.1**	**-0.5**
IL31		**17.85**	**34**		**Pn**	**08 05 38.0**	**-1.4**
ILAR	**Eielson Array**	**17.85**	**34**	P	**Pn**	**08 05 38.7**	**-0.8**
comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=15							
comp=Z,0.3nm,0.4s							
POKR	**Poker Plat Res**	**17.87**	**32**	Pn	**Pn**	**08 05 38.1**	**-1.7**
POKR				IAmb	IAmb	08 05 56.2	
comp=Z,7.4nm,1.2s							
MESA	**MESA**	**17.90**	**51**	Pn	**Pn**	**08 05 37.8**	**-2.5**
MESA				IAmb	IAmb	08 05 52.4	
comp=Z,11nm,1.0s							
H24K	**Noodor Dome**	**18.19**	**30**	P	**Pn**	**08 05 43.4**	**-0.3**
H24K				IAmb	IAmb	08 05 55.1	
comp=Z,11nm,1.4s							
L26K	**Log Cabin Wild**	**18.29**	**41**	P	**Pn**	**08 05 44.0**	**-0.9**
J25K	**Salcha River,**	**18.30**	**35**	P	**Pn**	**08 05 43.1**	**-1.9**
M27K	**Edge Creek, AK**	**18.64**	**44**	P	**Pn**	**08 05 48.9**	**-0.1**
M27K				IAmb	IAmb	08 06 11.1	
comp=Z,5.7nm,1.0s							
J26L	**Joseph Creek**	**18.90**	**37**	P	**Pn**	**08 05 49.6**	**-2.2**
J26L				IAmb	IAmb	08 05 60.0	
comp=Z,5.2nm,0.7s							
L27K	**Beaver Creek,**	**18.93**	**42**	P	**Pn**	**08 05 49.9**	**-2.2**
D22K	**Ayikyak River**	**19.20**	**19**	P	**Pn**	**08 05 54.8**	**-0.2**
D22K				IAmb	IAmb	08 06 00.6	
comp=Z,4.7nm,0.9s							
E23K	**Chandalar**	**19.26**	**24**	P	**Pn**	**08 05 55.8**	**+0.1**
F24K	**Squaw Lake**	**19.32**	**26**	P	**Pn**	**08 05 57.6**	**+1.3**
B20K	**Meade River**	**19.39**	**14**	P	**Pn**	**08 05 57.5**	**+0.5**
B20K				IAmb	IAmb	08 06 19.6	
comp=Z,7.2nm,1.3s							
B21K	**Ikpikpuk River**	**19.46**	**17**	P	**Pn**	**08 05 57.1**	**-0.6**
PETK	**Petropavlovsk-**	**19.49**	**287**	P	**Pn**	**08 05 58.0**	**-0.2**
comp=Z,0.5nm,0.3s,baz=81,slow=13,SNR=15							
comp=Z,5.0nm,0.6s							
E24K	**Your Creek**	**19.56**	**25**	P	**Pn**	**08 05 59.7**	**+0.8**
E24K				IAmb	IAmb	08 06 18.1	
comp=Z,7.1nm,1.4s							
D23K	**Nanushuk River**	**19.70**	**21**	P	**Pn**	**08 06 00.6**	**+0.1**
TOLK	**Toolik Lake Re**	**19.71**	**23**	P	**Pn**	**08 06 00.6**	**+0.1**
TOLK				IAmb	IAmb	08 06 19.4	
comp=Z,13nm,1.5s							
F25K	**Christian Rive**	**20.01**	**28**	P	**Pn**	**08 06 04.0**	**+0.1**
F25K				IAmb	IAmb	08 06 05.8	
comp=Z,6.3nm,1.2s							
M29M	**Somme Creek**	**20.16**	**45**	P	**Pn**	**08 06 06.4**	**+0.8**
M29M				IAmb	IAmb	08 06 12.9	
comp=Z,4.4nm,0.8s							
DAWY	**Dawson**	**20.34**	**41**	P	**Pn**	**08 06 07.0**	**-0.4**
DAWY				IAmb	IAmb	08 06 28.0	
comp=Z,4.3nm,1.1s							
E25K	**Arctic Village**	**20.38**	**27**	P	**Pn**	**08 06 08.4**	**+0.6**
F26K	**Sheenjek River**	**20.52**	**29**	P	**Pn**	**08 06 09.2**	**-0.2**
I28M	**Miner Creek**	**20.71**	**37**	P	**Pn**	**08 06 10.4**	**-1.1**
I28M				IAmb	IAmb	08 06 32.7	
comp=Z,5.3nm,1.2s							
D25K	**Kavik River**	**20.99**	**24**	P	**Pn**	**08 06 14.1**	**-0.4**
D25K				IAmb	IAmb	08 06 18.5	
comp=Z,4.1nm,0.8s							
K29M	**Barlow Dome**	**21.02**	**42**	P	**Pn**	**08 06 13.4**	**-1.6**
K29M				IAmb	IAmb	08 06 21.0	
comp=Z,2.6nm,0.6s							
E27K	**Coleen River**	**21.58**	**29**	P	**Pn**	**08 06 21.5**	**+0.7**
E27K				IAmb	IAmb	08 06 25.4	
comp=Z,5.4nm,1.2s							
H29M	**Whitestone**	**21.64**	**36**	P	**Pn**	**08 06 20.8**	**-0.6**
G29M	**Pine Creek**	**22.08**	**34**	P	**Pn**	**08 06 24.7**	**-1.4**
D27M	**Malcolm River**	**22.39**	**27**	P	**Pn**	**08 06 29.3**	**-0.3**
D27M				IAmb	IAmb	08 06 32.6	
comp=Z,5.0nm,0.8s							
G30M	**tAoh Zraii Nji**	**22.74**	**35**	P	**Pn**	**08 06 32.7**	**-0.6**
G30M				IAmb	IAmb	08 07 08.7	
comp=Z,3.5nm,0.8s							
E29M	**Blow River**	**22.85**	**31**	P	**Pn**	**08 06 33.4**	**-0.9**
E29M				IAmb	IAmb	08 06 38.6	
comp=Z,2.4nm,0.7s							
MA2	**Magadan**	**23.06**	**305**	LR	LR	08 15 41.0	
comp=Z,30nm,19.9s,baz=112,slow=37							
G31M	**Satah River**	**23.42**	**36**	P	**Pn**	**08 06 38.6**	**-1.5**
G31M				IAmb	IAmb	08 07 16.8	
comp=Z,4.4nm,1.1s							
INK	**Inuvik**	**24.24**	**33**	P	**Pn**	**08 06 46.5**	**-1.4**
C36M	**Paulatuk**	**27.82**	**33**	P	**Pn**	**08 07 20.1**	**-0.2**
C36M				IAmb	IAmb	08 07 22.9	
comp=Z,2.1nm,0.7s							
A36M	**Sachs Harbour**	**28.30**	**28**	P	**Pn**	**08 07 25.0**	**+0.5**
A36M				IAmb	IAmb	08 07 26.0	
comp=Z,2.6nm,0.9s							
YKA	**Yellowknife Ar**	**31.14**	**48**	P	**Pn**	**08 07 49.5**	**-0.1**
YKA	**Yellowknife Ar**	**31.14**	**48**	P	**Pn**	**08 07 50.6**	**+1.0**
comp=Z,0.7nm,0.6s,baz=273,slow=8.3,SNR=25							
comp=Z,0.7nm,0.6s							
KLR	**Kul'dur**	**36.14**	**290**	LR	LR	08 24 37.7	
comp=Z,34nm,18.5s,baz=23,slow=39							
H11N2	**WAKE ISLAND Hy**	**36.55**	**218**	T	T	08 47 46.9	
baz=24							
H11N3	**WAKE ISLAND Hy**	**36.56**	**218**	T	T	08 48 02.9	
baz=24							
H11N1	**WAKE ISLAND Hy**	**36.57**	**218**	T	T	08 47 46.3	
baz=24							
RES	**Resolute Bay**	**37.25**	**25**	LR	LR	08 26 21.8	
comp=Z,44nm,18.4s,baz=7.0,slow=40							
H11S1	**WAKE ISLAND Hy**	**37.74**	**217**	T	T	08 49 45.8	
baz=23,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**37.75**	**217**	T	T	08 49 37.3	
baz=23,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**37.76**	**217**	T	T	08 49 48.1	
baz=23,slow=76,SNR=6.4							
EUNU	**Eureka**	**38.55**	**16**	P	**Pn**	**08 08 54.0**	**+0.5**
PDAR	**Pinedale Array**	**41.11**	**78**	P	**Pn**	**08 09 17.4**	**+1.9**
comp=Z,0.3nm,0.5s,baz=287,slow=8.1,SNR=2.2							
comp=Z,0.3nm,0.5s							
PFO	**Pinyon Flats O**	**42.47**	**94**	LR	LR	08 23 10.5	
comp=Z,33nm,20.4s,baz=167,slow=30							
ILON	**Igloolik, Nuna**	**42.48**	**32**	P	**Pn**	**08 09 26.0**	**0.0**
ULM	**Lac du Bonnet**	**44.99**	**61**	P	**Pn**	**08 09 47.1**	**+0.7**
comp=Z,1.3nm,0.6s,baz=287,slow=6.1,SNR=3.7							
comp=Z,1.3nm,0.6s							
SPITS	**Spitsbergen Ar**	**50.34**	**358**	P	**Pn**	**08 10 26.4**	**-1.3**
comp=Z,5.7nm,0.9s,baz=27,slow=6.6,SNR=6.3							
comp=Z,5.7nm,0.9s							
SONM	**Songino Array**	**51.16**	**301**	P	**Pn**	**08 10 34.1**	**-0.2**
comp=Z,0.6nm,0.6s,baz=46,slow=4.6,SNR=3.8							
SONM				LR	LR	08 34 43.9	
comp=Z,42nm,18.1s,baz=31,slow=39							
comp=Z,0.6nm,0.6s							
SFJD	**Kangerlussuaq**	**53.25**	**25**	LR	LR	08 35 27.8	
comp=Z,33nm,19.3s,baz=76,slow=38							
TXAR	**Lajitas Array**	**53.35**	**88**	P	P	08 10 48.4	-2.4
TXAR	**Lajitas Array**	**53.35**	**88**	P	**P**	**08 10 52.5**	**+1.8**
comp=Z,0.5nm,0.7s,baz=298,slow=5.3,SNR=5.4							
comp=Z,0.5nm,0.7s							
SCHQ	**Schefferville**	**56.34**	**43**	P	P	08 11 09.1	-2.9
SCHQ	**Schefferville**	**56.34**	**43**	P	**P**	**08 11 12.0**	**0.0**
comp=Z,1.7nm,0.5s,baz=354,slow=7.2,SNR=5.0							
comp=Z,1.7nm,0.5s							
ARCES	**ARCESS Array B**	**58.55**	**354**	LR	LR	08 35 38.9	
comp=Z,26nm,21.7s,baz=78,slow=35							
KURK	**Kurchatov**	**62.50**	**318**	P	**P**	**08 11 54.1**	**-0.5**
KURBB	**Kurchatov Arra**	**62.61**	**318**	P	**P**	**08 11 54.6**	**-0.7**
comp=Z,1.8nm,0.9s,baz=44,slow=6.9,SNR=10							
comp=Z,1.8nm,0.9s							
MK31	**Makanchi Array**	**63.86**	**313**	P	**P**	**08 12 02.9**	**-0.8**
MKAR	**Makanchi Array**	**63.86**	**313**	P	P	08 12 00.2	-3.5
MKAR	**

GMU					Sg	08 04 40.4	+0.2
MHD	**Mile High Driv**	**0.22**	**30**		Pg	08 04 38.7	+0.1
NOQ	**North Oquirrh**	**0.23**	**324**		Pg	08 04 39.1	+0.4
AAU	**Alta**	**0.26**	**62**		Pg	08 04 39.5	+0.1
HRU	**Hogsback Ridge**	**0.32**	**8**		Pg	08 04 40.8	+0.3
DCU	**Deer Creek Res**	**0.32**	**100**		Pg	08 04 40.7	+0.2
RBU	**Red Butte Cany**	**0.33**	**18**		Pg	08 04 40.6	0.0
JLU	**Jordanelle**	**0.40**	**70**		Pg	08 04 41.9	0.0
JLU				IAML		08 04 47.8	
	comp=N,332nm,0.4s						
WMUT	**West Mountain**	**0.40**	**168**		Pg	08 04 42.6	+0.6
LDJ	**Lady**	**0.42**	**75**		Pg	08 04 42.9	+0.6
SAIU	**Southern Antel**	**0.42**	**335**		Pg	08 04 42.5	+0.1
RCJ	**Ross Creek**	**0.43**	**64**		Pg	08 04 42.7	+0.2
HLJ	**Hailstone**	**0.44**	**71**		Pg	08 04 42.9	+0.3
KLJ	**Keetly**	**0.44**	**68**		Pg	08 04 43.0	+0.3
HEB	**Heber**	**0.47**	**86**		Pg	08 04 43.7	+0.6
MPU	**Maple Canyon**	**0.51**	**152**		Pg	08 04 44.0	0.0
DAU	**Daniels Canyon**	**0.53**	**96**		Pg	08 04 44.9	+0.5
FPU	**Francis Peak**	**0.56**	**8**		Pg	08 04 45.0	0.0
N16A	**Rees Ranch, Co**	**0.57**	**43**		Pg	08 04 45.8	+0.7
NAIU	**Northern Antel**	**0.59**	**339**		Pg	08 04 45.4	-0.1
HTU	**Hoyt Peak**	**0.59**	**69**		Pg	08 04 46.0	+0.5
SNUT	**Stansbury Nort**	**0.60**	**314**		Pg	08 04 46.1	+0.4
DUG	**Dugway, Tooele**	**0.72**	**248**	Pg	Pg	08 04 47.5	-0.5
TCUT	**Toone Canyon**	**0.76**	**32**		Pg	08 04 49.2	+0.4
TCUT	**Toone Canyon**	**0.76**	**32**		Pg	08 04 48.6	-0.2
TCUT				IAML		08 05 02.6	
	comp=N,921nm,0.3s						
TCUT				IAML		08 05 04.5	
	comp=E,616nm,0.7s						
LHUT	**Little Humpy P**	**0.83**	**59**		Pb	08 04 50.9	-0.2
BSUT	**Blindstream Ca**	**0.90**	**85**		Pg	08 04 51.1	-0.4
BGU	**Big Grassy Mou**	**0.94**	**299**		Pg	08 04 51.7	-0.5
BGU				IAML		08 05 07.1	
	comp=N,160nm,0.3s						
EPU	**East Promontor**	**0.99**	**339**		Pg	08 04 52.8	-0.2
MCU	**Monte Cristo P**	**1.04**	**18**		Pg	08 04 53.9	-0.3
FLU	**Fool Peak**	**1.10**	**189**		Pg	08 04 55.2	-0.1
WVUT	**Wellsville**	**1.14**	**359**		Pg	08 04 55.7	-0.3
HWUT	**Hardware Ranch**	**1.17**	**14**		Pg	08 04 55.6	-1.0
HWUT				IAML		08 05 13.2	
	comp=N,145nm,0.3s						
HWUT				IAML		08 05 15.7	
	comp=N,106nm,0.6s						
SNO	**Snow College**	**1.20**	**165**		Pn	08 04 57.4	0.0
ARGU	**Argyle Ridge**	**1.25**	**121**		Pn	08 04 58.3	+0.1
DCM	**Dugout Coal Mi**	**1.30**	**126**		Pn	08 04 58.8	0.0
TMUT	**Trail Mountain**	**1.30**	**154**		Pn	08 04 58.7	-0.2
TMUT				IAML		08 05 18.4	
	comp=E,61nm,0.5s						
TMUT				IAML		08 05 23.9	
	comp=N,64nm,0.7s						
SGU	**Sterling**	**1.31**	**170**		Pn	08 04 59.0	+0.1
FSU	**Fish Springs**	**1.34**	**237**		Pn	08 04 59.1	-0.2
HDU	**Hyde Park**	**1.34**	**6**		Pn	08 04 59.0	-0.4
HVU	**Hansel Valley**	**1.45**	**335**		Pn	08 04 59.6	-1.3
HVU				IAML		08 05 24.6	
	comp=N,90nm,0.6s						
HVU				IAML		08 05 26.2	
	comp=E,85nm,0.4s						
ROA	**Roan Cliffs**	**1.46**	**123**		Pb	08 05 01.6	0.0
PTU	**Portage**	**1.49**	**349**		Pn	08 05 00.6	-0.8
P18A	**Preston Nutter**	**1.55**	**122**		Pn	08 05 02.2	-0.1
P18A				IAML		08 05 26.4	
	comp=N,42nm,0.4s						
P18A				IAML		08 05 30.1	
	comp=E,40nm,1.1s						
MLI	**Malad Range**	**1.56**	**355**		Pn	08 05 01.9	-0.6
BMUT	**Black Mountain**	**1.58**	**20**		Pb	08 05 03.6	-0.2
BEI	**Bear River Ran**	**1.65**	**4**		Pn	08 05 03.7	+0.1
Q16A	**Castle Valley**	**1.66**	**159**		Pn	08 05 04.3	+0.6
SRU	**San Rafael Swe**	**1.74**	**141**		Pn	08 05 05.2	+0.3
SRU				IAML		08 05 33.4	
	comp=N,43nm,0.6s						
SRU				IAML		08 05 37.0	
	comp=E,41nm,0.8s						
TCRU	**Three Creeks R**	**1.90**	**192**		Pn	08 05 06.7	-0.4
TCRU				IAML		08 05 44.8	
	comp=E,28nm,0.9s						
MSU	**Marysvale**	**1.96**	**185**		Pn	08 05 08.1	+0.2
SPR3	**Spring Creek 3**	**2.35**	**232**		Pn	08 05 15.2	+1.7
SPR3				IAML		08 05 55.2	
	comp=E,19nm,0.7s						
SPR3				IAML		08 05 58.8	
	comp=N,21nm,0.6s						
AHID	**Auburn Hatcher**	**2.38**	**15**		Pn	08 05 14.5	+0.8
PSUT	**Pine Spring**	**2.43**	**218**		Pn	08 05 14.2	-0.2
PSUT				IAML		08 05 54.5	
	comp=E,18nm,0.7s						
ELK	**Elko**	**2.52**	**277**		Pn	08 05 17.6	+1.9
ELK				IAML		08 05 55.3	
	comp=E,22nm,0.3s						
ELK				IAML		08 05 58.0	
	comp=E,15nm,0.5s						
PD31	**Pinedale Array**	**2.91**	**37**	Pn	Pn	08 05 21.2	+0.2
PDAR	**Pinedale Array**	**2.91**	**37**		Pn	08 05 21.5	+0.5
TPAW	**Teton Pass**	**3.11**	**13**		Pn	08 05 22.8	-0.9
TPAW				IAML		08 06 19.6	
	comp=E,28nm,0.7s						
TPAW				IAML		08 06 20.8	
	comp=E,16nm,0.5s						
FXWY	**Fox Creek**	**3.24**	**12**		Pn	08 05 26.4	+0.9
FXWY				IAML		08 06 25.2	
	comp=E,8.8nm,2.2s						
LOHW	**Long Hollow**	**3.29**	**17**		Pn	08 05 26.2	0.0
LOHW				IAML		08 06 19.2	
	comp=E,20nm,0.3s						
PV13	**Radium Mtn., P**	**3.35**	**133**		Pn	08 05 28.0	+1.1
PV13				IAML		08 06 19.1	
	comp=N,16nm,0.8s						
MOOW	**Moose Ponds**	**3.40**	**15**		Pn	08 05 27.9	+0.3
MOOW				IAML		08 06 27.2	
	comp=N,7.6nm,2.6s						
HLID	**Hailey**	**3.60**	**330**		Pn	08 05 30.7	+0.4
HLID				IAML		08 06 32.1	
	comp=N,6.1nm,1.9s						
LKWY	**Lake**	**4.25**	**15**		Pn	08 05 40.9	+1.5
YHL	**Hebgen Lake**	**4.41**	**7**		Pn	08 05 42.6	+0.9
YHL				IAML		08 07 10.4	
	comp=N,10nm,4.9s						

HEL 05 08:06:27.5±0.1, 66°.14N×23°.96E, h0km, ML0.9,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.16**	**111**	PG	Pg	08 06 30.0	-0.5
	baz=293						
KALU	**Kalix**	**0.37**	**222**	PG	Pg	08 06 34.2	-0.4
	baz=44						
KALU				SG	Sg	08 06 39.2	-0.2
ERTU	**Ertsjaerv**	**0.83**	**301**	PG	Pg	08 06 42.5	-0.8
ERTU				SG	Sg	08 06 53.0	-1.0
PAJU	**Pajala**	**0.95**	**340**	PG	Pg	08 06 44.5	-1.2
PAJU				SG	Sg	08 06 57.1	-1.0
RNF	**Rovaniemi**	**0.95**	**59**	PG	Pg	08 06 45.2	-0.5
	baz=241						
KLF	**Kolari**	**1.10**	**0**	PG	Pg	08 06 47.1	-1.5
KLF				MSG		08 07 00.9	
	comp=Z,0.8nm,0.2s						
KLF				SG	Sg	08 07 01.2	-1.6
RANF	**Ranua**	**1.16**	**95**	PG	Pg	08 06 48.6	-1.1
	baz=279						
RANF				SN	Sn	08 07 07.0	-0.5
KU2	**Taivalkoski**	**1.80**	**102**	PG	Pn	08 06 60.0	+0.2
	baz=289						
BURU	**Burvik**	**1.90**	**216**	SG	Sg	08 07 28.0	-0.4
LANU	**Lannavaara**	**2.07**	**339**	SG	Sb	08 07 31.8	-0.3
HEF	**Hetta**	**2.29**	**357**	MSG		08 07 35.1	
	comp=Z,0.5nm,0.2s						
HEF				SG	Sb	08 07 37.2	-1.1
KTK1	**Kautokeino**	**2.90**	**355**	PB	Pn	08 07 16.5	+1.6

*LVSN **05** 08:06:46.9±1.6, 59°.17N×28°.02E, h0km±143km, MD2.8, ML2.1*
*EST **05** 08:06:47.1±0.1, 59°.23N×27°.76E, h0km, ML1.7(HEL), Explosion*
HEL 05 08:06:44.9±0.6, 59°.23N×27°.99E, h0km, ML1.8,
Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.16**	**338**	*e*P	Pg	08 06 49.7	+1.7
EE04				*e*S	Sg	08 06 52.1	+2.1
EE03	**Tooma soojaam,**	**0.96**	**249**	*e*P	Pg	08 07 02.3	-0.9
EE03				*e*S	Sg	08 07 13.2	-2.4
VSU	**Vasula**	**1.01**	**221**	*e*P	Pg	08 07 03.4	-0.8
VSU				*e*S	Sg	08 07 16.5	-0.7
VSU				AML	AML	08 07 20.9	
	comp=E,34nm,0.4s						
VSU				AML	AML	08 07 24.7	
	comp=Z,16nm,0.3s						
VSU				AML	AML	08 07 25.4	
	comp=N,34nm,0.2s						
VSU	**Vasula**	**1.01**	**221**	*e*P	Pg	08 07 03.1	-1.1
VSU				*e*S	Sg	08 07 15.3	-2.0
ARBE	**Arbavere**	**1.05**	**282**	*e*P	Pn	08 07 06.8	-0.1
ARBE	**Arbavere**	**1.05**	**282**	AML	AML	08 07 25.6	
	comp=N,182nm,0.1s						
ARBE				AML	AML	08 07 29.2	
	comp=E,102nm,0.1s						
ARBE				AML	AML	08 07 39.3	
	comp=Z,60nm,0.7s						
ARBE	**Arbavere**	**1.05**	**282**	*e*P	Pg	08 07 04.0	-1.0
ARBE				*e*S	Sg	08 07 15.6	-3.0
VJF	**Virojoki**	**1.33**	**351**	*e*P	Pg	08 07 10.3	-0.1
VJF				MSG		08 07 25.1	
	comp=Z,7.0nm,0.2s						
VJF				*e*SB	Sg	08 07 27.9	+0.2
EE07	**Piusa Caves, O**	**1.42**	**191**	*e*P	Pb	08 07 12.6	+0.5
EE07				*e*S	Sg	08 07 30.1	-0.2
EE08	**Sarghaua, Vand**	**1.54**	**249**	*e*P	Pn	08 07 12.7	-0.8
EE08				*e*PN	Pb	08 07 14.0	-0.2
EE08				*e*S	Sn	08 07 30.8	-3.3
EE02	**Kiisa, Saku**	**1.69**	**270**	*e*P	Pn	08 07 15.6	-0.1
EE02				*e*S	Sn	08 07 34.9	-3.2
PVF	**Pernaja**	**1.70**	**322**	*e*PG	Pb	08 07 16.5	-0.6
PVF				MSG		08 07 35.7	
	comp=Z,5.3nm,0.2s						
PVF				*e*SG	Sn	08 07 37.5	-0.8
HEL1	**Helsinki**	**1.84**	**302**	*e*SN	Sn	08 07 41.0	-0.7
MEF	**Metsahovi**	**2.08**	**300**	*e*P	Pb	08 07 22.7	-0.7
MEF	**Metsahovi**	**2.08**	**300**	*e*P	Pb	08 07 22.7	-0.7
MEF				*e*S	Sn	08 07 47.5	+0.1
MEF				AML	AML	08 07 48.5	
	comp=Z,12nm,0.3s						
MEF				AML	AML	08 07 48.9	
	comp=E,13nm,0.2s						
MEF				AML	AML	08 07 48.9	
	comp=N,28nm,0.3s						
MEF	**Metsahovi**	**2.08**	**300**	*e*PG	Pb	08 07 22.6	-0.7
MEF				*e*SG	Sn	08 07 47.7	+0.3
MEF				MSG		08 07 48.3	
	comp=Z,5.6nm,0.1s						
NUR	**Nurmijarvi**	**2.12**	**309**	*e*PG	Pb	08 07 23.5	-0.7
NUR				*e*SG	Sn	08 07 49.2	+0.6
NUR				MSG		08 07 51.2	
	comp=Z,3.8nm,0.1s						
MTSE	**Matsula**	**2.22**	**258**	*e*P	Pb	08 07 24.7	-1.2
MTSE	**Matsula**	**2.22**	**258**	*e*P	Pb	08 07 24.7	-1.2
MTSE				*e*S	Sn	08 07 51.6	+0.6
MTSE	**Matsula**	**2.22**	**258**	*e*PG	Pn	08 07 24.4	+1.5
MTSE				*e*SG	Sn	08 07 51.9	+0.8
RUF	**Ruokolahti**	**2.26**	**12**	*e*P	Pb	08 07 25.7	-0.7
RUF				MSG		08 07 51.8	
	comp=Z,2.3nm,0.2s						
RUF				*e*SG	Sg	08 07 56.5	-0.8
FIA0	**FINESS Array S**	**2.42**	**338**	*e*P	Pn	08 07 27.1	+1.4
FIA0				*e*PB	Pb	08 07 28.4	-0.8
FIA0				MSG		08 07 56.4	
	comp=Z,3.3nm,0.2s						
FIA0				*e*SG	Sb	08 07 59.7	+0.1
FIA1	**FINESS Array S**	**2.42**	**338**	*e*P	Pn	08 07 27.1	+1.4
FIA1				*e*PB	Pb	08 07 28.4	-0.9
FIA1				*e*SG	Sb	08 08 00.3	+0.7
FIA1				MSG		08 08 02.1	
	comp=Z,1.7nm,0.1s						
EE06	**Soera, Palade,**	**2.67**	**267**	*e*SG	Sb	08 08 05.0	-1.7
KAF	**Kangasniemi**	**3.01**	**345**	PB	Pb	08 07 38.4	-0.9
KAF				SN	Sb	08 08 18.5	+1.9
KAF	**Kangasniemi**	**3.01**	**345**	*e*PB	Pb	08 07 38.4	-0.9
KAF				MSG		08 08 13.5	
	comp=Z,2.1nm,0.2s						
KAF				*e*SG	Sb	08 08 18.5	+1.9
KEF	**Keuruu**	**3.33**	**334**	*e*P	Pn	08 07 41.0	+2.9
SLIT	**Slitere, Latvi**	**3.40**	**244**	AML	AML	08 07 48.0	
	comp=Z,94nm,0.6s						
SLIT				AML	AML	08 08 34.9	
	comp=E,113nm,0.7s						
SLIT				AML	AML	08 08 38.3	
	comp=N,115nm,0.8s						
RAF	**Rauma**	**3.60**	**303**	*e*P	Pn	08 07 43.8	+2.0
RAF	**Rauma**	**3.60**	**303**	*e*P	Pn	08 07 43.7	+1.9
RAF				*e*S	Sn	08 08 25.6	+0.6
RAF				AML	AML	08 08 40.5	
	comp=N,3.4nm,0.3s						
RAF				AML	AML	08 08 55.1	
	comp=E,3.7nm,0.7s						
RAF				AML	AML	08 08 55.2	
	comp=Z,6.2nm,0.8s						
RAF	**Rauma**	**3.60**	**303**	*e*P	Pn	08 07 43.7	+1.8
KPF	**Kankaanpaa**	**3.92**	**314**	*e*P	Pn	08 07 48.4	+2.1
JOF	**Joensuu**	**4.04**	**22**	*e*P	Pn	08 07 50.8	+2.9
JOF	**Joensuu**	**4.04**	**22**	SB	Sb	08 08 41.9	-4.3
JOF	**Joensuu**	**4.04**	**22**	*e*P	Pn	08 07 50.8	+2.9
VAF	**Ylistaro**	**4.62**	**328**	*e*P	Pn	08 07 58.7	+2.9
VAF	**Ylistaro**	**4.62**	**328**	SB	Pn	08 07 58.9	+3.1

IDC 05 08:13:07.1±58.0, 21°.17S×177°.40W, h0km, mb3.9/3,
mbtmp3.9/3, Error ellipse: s-maj=1069.0km
s-min=173.4km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.01**	**245**	P	P	08 20 25.9	-1.3
	1.0nm,0.5s,baz=107,slow=8.9,SNR=2.9						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**44.92**	**257**	P	P	08 21 23.9	-0.2
	0.5nm,0.4s,baz=105,slow=7.7,SNR=16						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**45.07**	**263**	P	P	08 21 25.9	+0.6
	0.8nm,0.4s,baz=92,slow=8.1,SNR=35						
	0.8nm,0.4s						

ISC 05 08:44:41.0±1.2, 48°.96N±0°.07×18°.12E±0°.05, h10km, n5,
σ1°27/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.31**	**252**	*e*PG	**Pg**	**08 44 47.3**	**0.0**
JAVC				*e*SG	**Sb**	**08 44 53.3**	**-0.7**
VYHS	**Vyhne**	**0.66**	**134**	*e*PG	**Pg**	**08 44 54.0**	**+0.2**
VYHS				*e*SG	**Sn**	**08 45 06.5**	**-0.4**
MODS	**Modra-Piesok**	**0.81**	**224**	*e*PG	**Pg**	**08 44 55.4**	**-1.2**
MODS				*e*SG	**Sn**	**08 45 13.3**	**+2.7**
MORC	**Moravsky Berou**	**0.91**	**335**	*e*PG	**Pb**	**08 44 58.8**	**-0.1**
VRAC	**Vranov**	**1.06**	**290**	*e*PG	**Pg**	**08 45 01.4**	**-0.1**
VRAC				*e*SG	**Sg**	**08 45 15.1**	**-0.2**

*JMA **05** 08:58:35.2±0.9, 46°N±7°×15°2E±°, h163km, MV3.6/10, KURILE ISLANDS REGION*
SKHL 05 08:58:29.6±0.2, 45°.50N×153°.30E, h40km±5km, mb4.4/4,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.84**	**268**	*e*S	Sn	09 00 09.0	-0.9
KUR				*e*P	Pn	08 59 26.9	+0.8
KUR				AMB	AMB	08 59 27.2	
	30nm,0.4s						
KUR				A	A	09 00 11.0	
	40nm,0.3s						
KUR				A	A	09 00 11.0	
	30nm,0.3s						
SHO	**Shikotan**	**4.89**	**253**	*e*S	Sn	09 00 34.4	-1.5
SHO				*e*P	Pn	08 59 42.1	+1.5
SHO				AMB	AMB	08 59 42.5	
	10.0nm,0.2s						
SHO				A	A	09 00 42.0	
	20nm,0.2s						
SHO				A	A	09 00 42.0	
	20nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**257**	*e*S	Sn	09 00 49.0	-1.7
YUK				*i* P	Pn	08 59 49.9	+1.1
YUK				AMB	AMB	08 59 50.5	
	80nm,0.4s						
YUK				A	A	09 00 51.6	
	50nm,0.3s						
YUK				A	A	09 00 51.6	
	40nm,0.3s						
NEM2	**Nemuro 2**	**5.82**	**251**	P	Pn	08 59 54.4	+1.1
NEM2				*e*S	Sn	09 00 56.3	-2.3
NMR	**Nemuro--Hokkai**	**5.83**	**251**	*e*S	Sn	09 00 56.9	-2.0
NMR				*i* P	Pn	08 59 54.4	+1.0
JRA	**Rausu**	**6.03**	**258**	*e*P	Pn	08 59 56.6	+0.4
JNK	**Nakash**	**6.42**	**256**	P	Pn	09 00 02.2	+0.6
AKK	**Akkeshi**	**6.56**	**251**	*e*P	Pn	09 00 04.4	+0.9
JAK	**Akkeshi**	**6.67**	**251**	*e*P	Pn	09 00 04.9	0.0
JTKR	**Abashiri--Toko**	**6.86**	**260**	*e*P	Pn	09 00 06.6	-1.0
JAR	**Ashorobuto**	**7.17**	**255**	*e*P	Pn	09 00 12.3	+0.4
JAR				*e*S	Sn	09 01 27.8	-4.3
JOB	**Onbets**	**7.28**	**252**	*e*P	Pn	09 00 13.5	+0.1
JOB				*e*S	Sn	09 01 30.3	-4.4
JKK2	**Kamakawa 2**	**7.70**	**262**	P	Pn	09 00 17.7	-1.3
JCH	**Churui**	**7.72**	**252**	*e*P	Pn	09 00 19.0	-0.4
JCH				*e*S	Sn	09 01 39.5	-6.0
JNBK	**Urakawa-nobuka**	**8.27**	**251**	*e*P	Pn	09 00 25.6	-1.3
JNBK				*e*S	Sn	09 01 51.9	-7.1
JANG	**Nango**	**10.04**	**243**	*e*P	Pn	09 00 49.9	-1.4

*JMA **05** 09:08:32.2±0.1, 29°N±1°×14°0E±°, h433km, MV3.7/32, NEAR TORISHIMA IS*
*MOS **05** 09:08:33.5±0.9, 29°.41N×139°.23E, h408km, mb4.0/28, Error ellipse: s-maj=11.1km s-min=6.1km az=107.9*
*NEIC **05** 09:08:34.2±1.5, 29°.27N±0°.09×139°.46E±0°.1, h403km±7km, mb4.0/96, Error ellipse: s-maj=14.4km s-min=11.8km az=63.0*
*IDC **05** 09:08:36.0±1.6, 29°.35N×139°.32E, h425km±16km, mb3.4/24, mbtmp4.2/28, Error ellipse: s-maj=12.7km s-min=10.9km az=83.0*
ISC 05 09:08:33.5±0.4, 29°.28N±0°.05×139°.45E±0°.06, h400km,
n462, σ0°89/467, mb4.0/87, 14C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.25**	**131**	P	**Pn**	**09 09 39.0**	**+0.2**
CBIJ				*e*S	**S**	**09 10 30.5**	**-1.1**
JCJ	**Chichijima**	**3.25**	**131**		**Pn**	**09 09 39.3**	**+0.5**
JCJ	**Chichijima**	**3.25**	**131**	P	Pn	09 09 33.1	-5.7
	339nm,0.5s,baz=276,slow=20,SNR=18						
JCJ				S	**S**	**09 10 24.4**	**-7.3**
	811nm,0.3s,baz=305,slow=22,SNR=25						
JCJ	**Chichijima**	**3.25**	**131**	P	**Pn**	**09 09 39.5**	**+0.7**
JCJ	**Chichijima**	**3.25**	**131**	S	**S**	**09 10 30.9**	**-0.7**
JHH2	**Haha-jima-NKT2**	**3.57**	**137**	P	**Pn**	**09 09 41.8**	**+0.1**
JHH2				*e*S	**S**	**09 10 36.2**	**-0.6**
JHJ2	**Mitsune**	**3.83**	**5**		**Pn**	**09 09 45.0**	**+1.1**
JHJ	**Hachijo jima 2**	**3.84**	**4**	S	**S**	**09 10 40.0**	**-1.1**
	147nm,0.4s,baz=73,slow=20,SNR=2.0						
BSO1	**Boso 1**	**5.51**	**13**	*e*S	**S**	**09 11 08.8**	**-2.1**
BSO3	**Boso 3**	**5.58**	**9**	*e*S	**S**	**09 11 10.4**	**-2.2**
JIE	**Ise**	**5.61**	**336**	P	**Pn**	**09 10 03.6**	**+1.9**
BSO4	**Boso 4**	**5.74**	**7**	*e*S	**S**	**09 11 14.1**	**-2.1**
JOD2	**Odawara 2**	**5.97**	**357**	*e*P	**Pn**	**09 10 05.5**	**-0.2**
INU	**Inuyama**	**6.39**	**342**		**Pn**	**09 10 11.6**	**+1.4**
INU	**Inuyama**	**6.39**	**342**	P	**Pn**	**09 10 11.7**	**+1.4**
JMN	**Monobe**	**6.51**	**314**		**Pn**	**09 10 13.9**	**+2.2**
JMN	**Monobe**	**6.51**	**314**	P	**Pn**	**09 10 13.8**	**+2.2**
JGF	**Kuroka**	**6.55**	**345**		**Pn**	**09 10 12.2**	**+0.2**
JGF	**Kuroka**	**6.55**	**345**	P	**Pn**	**09 10 12.7**	**+0.7**
JTO	**Tosashimizu**	**6.73**	**304**	*e*P	**P**	**09 10 16.2**	**+1.5**
JAG	**Ashikaga**	**7.13**	**360**	P	**Pn**	**09 10 16.6**	**-1.9**
MJAR	**Matsushiro Arr**	**7.32**	**352**	P	**Pn**	**09 10 18.6**	**-2.0**
	3.3nm,0.5s,baz=171,slow=10,SNR=14						
MAJO	**Matsushiro**	**7.32**	**352**		**Pn**	**09 10 19.9**	**-0.7**
MAJO	**Matsushiro**	**7.32**	**352**	*i* P	**Pn**	**09 10 19.5**	**-1.1**
MJB9	**Matsu-Tunnel**	**7.32**	**352**		**Pn**	**09 10 20.8**	**+0.2**
JHS	**Saijyo**	**7.83**	**318**	P	**P**	**09 10 28.1**	**+1.1**
JNU	**Nakatsue**	**8.28**	**300**	P	**Pn**	**09 10 31.5**	**-0.2**
JNU	**Nakatsue**	**8.28**	**300**	P	**P**	**09 10 33.8**	**+1.9**
	13nm,0.6s,baz=118,slow=4.4,SNR=19						
JNU	**Nakatsue**	**8.28**	**300**	P	**P**	**09 10 34.0**	**+2.0**
JMM	**Marumori**	**8.64**	**7**		**Pn**	**09 10 35.4**	**-0.1**
JMM	**Marumori**	**8.64**	**7**	P	**Pn**	**09 10 35.5**	**-0.1**
JSJ	**Shimokoshiki**	**8.74**	**288**	P	**P**	**09 10 38.5**	**+1.5**
JSD	**Sado**	**8.79**	**354**	P	**Pn**	**09 10 36.0**	**-1.4**
JMK	**Ichinoseki**	**9.76**	**8**	P	**P**	**09 10 48.6**	**+0.4**
JTU	**Tsushima**	**10.02**	**304**	P	**Pn**	**09 10 52.9**	**+1.3**
JTU	**Tsushima**	**10.02**	**304**	*e*P	**Pn**	**09 10 52.7**	**+1.2**
JOW	**Kunigami**	**10.17**	**259**	P	**P**	**09 10 50.5**	**-2.5**
JTM	**Tenmabayashi**	**11.56**	**6**	P	**P**	**09 11 08.8**	**+0.7**
JTM	**Tenmabayashi**	**11.56**	**6**	P	**P**	**09 11 09.0**	**+0.9**
TJN	**Taejon**	**12.38**	**308**	P	**P**	**09 11 17.3**	**+0.1**
TJN	**Taejon**	**12.38**	**308**	P	**P**	**09 11 17.3**	**+0.1**
KSRS	**Korea Array**	**12.62**	**313**	P	**P**	**09 11 20.7**	**+0.9**
	6.9nm,0.5s,baz=130,slow=11,SNR=27						
KSAR	**Wonju Array Be**	**12.63**	**313**	P	**P**	**09 11 17.6**	**-2.4**
KSAR	**Wonju Array Be**	**12.63**	**313**	P	**P**	**09 11 17.6**	**-2.4**
KS19	**Wonju Array Si**	**12.68**	**313**	P	**P**	**09 11 20.6**	**0.0**
JOSM	**Okushiri--Mats**	**12.78**	**0**	*e*P	**P**	**09 11 22.2**	**+0.7**
ERM	**Erimo**	**13.06**	**12**	P	**Pn**	**09 11 26.9**	**+0.2**
JHR	**Hokuryu**	**14.55**	**7**	P	**P**	**09 11 42.4**	**+1.5**
MSHR	**Mys Shultsa**	**14.87**	**335**	*i* P	**P**	**09 11 44.1**	**-0.2**
MSHR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASAJ	**Asahikawa**	**15.02**	**9**	P	**P**	**

comp=Z,7.6nm,0.8s
MA2 Magadan 31.26 11*ce*P P 09 14 18.1 +0.3
MA2 pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 31.47 315 P P 09 14 19.6 -0.4
SONM Songino Array 31.47 315 P P 09 14 19.8 -0.1
comp=Z,2.7nm,0.6s,baz=124,slow=8.6,SNR=14
comp=Z,2.7nm,0.6s
SONM Songino Array 31.47 315 P P 09 14 19.6 -0.4
SONM pmax pmax
comp=Z,6.0nm,1.4s
YAK Yakutsk 33.38 352 *i* P P 09 14 36.1 +0.2
YAK pmax pmax
comp=Z,9.0nm,0.8s
GTA Gaotai 34.02 298 *e*P P 09 14 41.8 -0.1
GTA sP pP 09 15 15.8 -39
GTA pmax pmax
comp=Z,9.0nm,0.9s
ZAK Zakamensk 34.38 318 *e*P P 09 14 44.1 -0.7
ZAK pmax pmax
comp=Z,4.0nm,1.1s
SEY Seymchan 34.70 10*ce*P P 09 14 47.2 +0.1
SEY pmax pmax
comp=Z,8.0nm,2.5s
CMAR Chiang Mai Arr 38.41 263 P P 09 15 18.6 -0.1
comp=Z,3.0nm,0.3s,baz=37,slow=9.1,SNR=8.6
comp=Z,3.0nm,0.3s
CMAR Chiang Mai Arr 38.41 263*ce*P P 09 15 20.2 +1.5
CMAR pmax pmax
comp=Z,3.0nm,0.3s
ADK Adak 39.44 43 P P 09 15 27.2 +0.6
ADK Adak 39.44 43 P P 09 15 27.2 +0.6
ADK pmax pmax
comp=Z,46nm,1.1s
ATKA Atka Island 41.01 43 P P 09 15 40.3 +1.0
BILL Bilibino 41.92 15 IAmb IAmb 09 15 47.5
comp=Z,5.1nm,0.8s
BILL P **P 09 15 47.5 +1.1**
BILL Bilibino 41.92 15*ce*P P 09 15 46.3 -0.1
BILL pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 42.82 355 P P 09 15 53.0 -0.5
TIXI Tiksi 42.82 355 P P 09 15 53.0 -0.5
TIXI pmax pmax
comp=Z,6.0nm,1.4s
SPIA Saint Paul Isl 44.60 37 P P 09 16 07.4 -0.3
baz=253
P08K Saint George I 44.81 38 P P 09 16 08.8 -0.4
baz=254
ZAA0 Zalesovo Array 46.26 318 P P 09 16 20.1 -0.5
ZALV Zalesovo Beam 46.26 318 P P 09 16 19.5 -1.0
ZALV Zalesovo Beam 46.26 318 P P 09 16 19.6 -0.9
comp=Z,1.5nm,0.4s,baz=86,slow=8.5,SNR=6.6
ZALV ScP **ScP 09 20 59.4 -3.4**
comp=Z,0.8nm,0.5s,baz=120,slow=5.3,SNR=4.4
comp=Z,1.5nm,0.4s
MK31 Makanchi Array 47.23 308 P P 09 16 27.4 -0.7
MK31 Makanchi Array 47.23 308*ce*P P 09 16 27.1 -1.1
MKAR Makanchi Array 47.23 308 P P 09 16 27.4 -0.7
comp=Z,1.6nm,0.4s,baz=86,slow=10.0,SNR=36
MKAR ScP **ScP 09 21 04.2 -2.8**
comp=Z,0.3nm,0.7s,baz=76,slow=6.1,SNR=3.0
comp=Z,1.6nm,0.4s
MAKZ Makanchi 47.45 308 P P 09 16 29.2 -0.6
MAKZ Makanchi 47.45 308 P P 09 16 29.2 -0.6
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
M11K Mekoryuk 47.53 33 P P 09 16 30.2 +0.1
baz=254
TNA Tin City 48.46 26 P P 09 16 37.5 +0.4
baz=248
K13K Kusilvak Mount 48.67 31 P P 09 16 38.3 -0.4
baz=254
S12K Black Hills 48.73 40 P P 09 16 38.7 -0.6
baz=262
M13K Dall Lake 48.91 34 P P 09 16 41.0 +0.5
baz=257
WB0 Warramunga Arr 49.00 186 P P 09 16 41.3 -0.5
WB0 IAmb IAmb 09 17 19.0
comp=Z,7.8nm,1.3s
F14K Arctic Creek 49.05 27 P P 09 16 42.0 +0.5
baz=250
ANM Nome 49.13 28 P P 09 16 41.7 -0.4
baz=252
WB2 Warramunga Arr 49.18 186 P P 09 16 43.3 +0.3
WB2 IAmb IAmb 09 16 52.8
comp=Z,9.6nm,1.5s
WRA Warramunga Arr 49.18 186 P P 09 16 43.0 -0.1
WRA Warramunga Arr 49.18 186 P P 09 16 43.6 +0.5
comp=Z,0.7nm,0.4s,baz=6.4,slow=7.7,SNR=14
comp=Z,0.7nm,0.4s
WRA Warramunga Arr 49.18 186*ce*P P 09 16 45.2 +2.1
J14K Nanvaranak Lak 49.38 31 P P 09 16 43.8 -0.2
baz=255
L14K Kuka Creek 49.43 33 P P 09 16 44.6 +0.2
baz=257
SDPT Sand Point 49.58 41 P P 09 16 45.5 -0.1
baz=264
N14K Kuskokwak Cree 49.62 34 P P 09 16 45.2 -0.5
baz=259
M14K Bethel 49.65 33 P P 09 16 45.0 -1.0
baz=258
O14K Tigyukauivet M 49.71 35 P P 09 16 45.7 -0.8
baz=260
KURK Kurchatov 49.74 313 P P 09 16 46.0 -0.8
KURK IAmb IAmb 09 16 47.4
comp=Z,12nm,1.3s
KURK Kurchatov 49.74 313*ce*P P 09 16 45.5 -1.4
KURK pmax pmax
comp=Z,9.0nm,1.3s
F15K North Star Dit 49.79 27 P P 09 16 48.3 +1.3
F15K IAmb IAmb 09 17 04.5
comp=Z,14nm,1.4s
F15K North Star Dit 49.79 27 P P 09 16 46.2 -0.8
baz=251
KURBB Kurchatov Arra 49.80 313 P P 09 16 46.7 -0.6
comp=Z,2.7nm,0.5s,baz=93,slow=7.2,SNR=14
comp=Z,2.7nm,0.5s
G15K Niukluk 49.81 28 P P 09 16 46.2 -1.0
baz=253
CHNA Chernabura Isl 50.04 41 P P 09 16 48.0 -1.1
baz=265
L15K Ungalak Mounta 50.07 32 P P 09 16 49.4 +0.2
baz=258
K15K Wolf Creek Mou 50.18 31 P P 09 16 51.5 +1.5
K15K IAmb IAmb 09 17 25.2
comp=Z,14nm,1.2s
K15K Wolf Creek Mou 50.18 31 P P 09 16 49.9 -0.1
baz=257
M15K Kasigluk River 50.25 34 P P 09 16 50.1 -0.3
baz=259
C16K Lisburne Hills 50.42 23 P P 09 16 52.1 +0.5
C16K Lisburne Hills 50.42 23 P P 09 16 51.3 -0.3
baz=249
O15K Ungalikthiuk R 50.42 36 P P 09 16 51.2 -0.6
baz=261
H16K Elim 50.45 28 P P 09 16 51.7 -0.2
baz=255
N15K Kwethluk River 50.45 34 P P 09 16 51.6 -0.4
baz=260
G16K Koyuk River 50.60 27 P P 09 16 52.9 -0.1
baz=254
CHGN Chignik 50.83 39 P P 09 16 56.7 +1.9
CHGN Chignik 50.83 39 P P 09 16 54.7 -0.2
baz=265
I17K Unalakleet 50.91 30 P P 09 16 55.2 -0.1
baz=257
L16K Owhat River 51.01 32 P P 09 16 55.6 -0.5
baz=260
D17K Noatak River 51.02 24 P P 09 16 55.8 -0.2
baz=251
M16K Timber Creek 51.14 33 P P 09 16 56.8 -0.3
baz=261
N16K Nishlik Lake 51.15 34 P P 09 16 56.6 -0.6
baz=261
RDOG Red Dog Mine 51.20 24 P P 09 16 56.9 -0.5
baz=251
C17K DeLong Mountai 51.24 23 P P 09 16 57.2 -0.5
baz=251
E17K Hotham Inlet 51.29 25 P P 09 16 57.3 -0.8
baz=253
G17K Kiwalik Mounta 51.32 28 P P 09 16 57.6 -0.7
baz=256
F17K Baldwin Pennin 51.33 26 P P 09 16 59.5 +1.2
F17K IAmb IAmb 09 17 19.2
comp=Z,13nm,1.3s
F17K Baldwin Pennin 51.33 26 P P 09 16 57.8 -0.5
baz=254
P16K Nushagak River 51.34 36 P P 09 16 58.1 -0.4
baz=263
O16K Kokwok River B 51.36 35 P P 09 16 59.9 +1.3
O16K IAmb IAmb 09 17 18.2
comp=Z,13nm,1.2s
O16K Kokwok River B 51.36 35 P P 09 16 58.0 -0.6
baz=263
R16K Pilot Point 51.41 38 P P 09 16 58.2 -0.8
baz=265
J17K VABM Dome 51.51 30 P P 09 17 01.2 +1.4
J17K IAmb IAmb 09 17 29.5
comp=Z,8.4nm,1.2s
J17K VABM Dome 51.51 30 P P 09 16 59.4 -0.4
baz=259
L17K Donlin 51.64 32 P P 09 17 00.8 +0.2
baz=260
K17K Iditarod 51.73 31 P P 09 17 02.4 +1.0
K17K IAmb IAmb 09 17 34.5
comp=Z,11nm,1.2s
K17K Iditarod 51.73 31 P P 09 17 01.8 +0.4
baz=260
E18K Tukpahlearik C 51.84 25 P P 09 17 02.3 +0.2
baz=254
O17K Koliganek Bris 51.88 35 P P 09 17 02.5 +0.1
baz=263
M17K Holitna River 51.93 33 P P 09 17 04.3 +1.5
M17K Holitna River 51.93 33 P P 09 17 03.0 +0.1
baz=262
N17K Nushagak Hills 51.93 34 P P 09 17 03.0 +0.1
baz=263
C18K Utukok River 51.99 24 P P 09 17 03.0 -0.2
baz=253
F18K Selawik 51.99 26 P P 09 17 02.0 -1.1
baz=256
Q16K King Salmon 51.99 37 P P 09 17 03.6 +0.3
baz=265
B18K Kokilik River 52.00 23 P P 09 17 02.5 -0.7
baz=252
BOOM Boomskoye usch 52.00 303 P P 09 17 03.8 -0.1
BOOM Boomskoye usch 52.00 303 P P 09 17 03.8 -0.1
BOOM pmax pmax
comp=Z,3.0nm,1.1s
P17K Kvichak River 52.16 36 P P 09 17 04.7 +0.3
baz=264
H18K Honhosa River 52.17 28 P P 09 17 03.8 -0.8
baz=258
G18K Tagagawik 52.22 27 P P 09 17 05.2 +0.3
G18K Tagagawik 52.22 27 P P 09 17 04.9 0.0
baz=257
CHIR Chirikof Islan 52.36 40 P P 09 17 05.8 -0.2
baz=268
L18K Granite Mounta 52.40 32 P P 09 17 05.8 -0.3
L18K Granite Mounta 52.40 32 P P 09 17 05.9 -0.3
baz=262
A19K Wainwright 52.51 22 P P 09 17 06.4 -0.4
baz=252
J18K Innoko River 52.57 31 P P 09 17 07.0 -0.4
baz=261
M18K Stony River 52.71 33 P P 09 17 08.6 +0.1
baz=263
GCSA Galena City Sc 52.72 29 P P 09 17 08.7 +0.3
baz=260
F19K Shaleruckik Mo 52.77 26 P P 09 17 09.1 +0.3
F19K IAmb IAmb 09 17 31.5
comp=Z,9.3nm,1.5s
F19K Shaleruckik Mo 52.77 26 P P 09 17 08.8 0.0
baz=257
P18K Big Mountain, 52.79 36 P P 09 17 09.2 +0.1
baz=265
TTA Tatalina 52.81 31 P P 09 17 08.8 -0.4
TTA Tatalina 52.81 31 P P 09 17 08.8 -0.4
TTA pmax pmax
comp=Z,4.0nm,1.2s
TTA Tatalina 52.81 31 P P 09 17 09.4 +0.1
baz=262
O18K Koktuh Hills 52.84 35 P P 09 17 08.9 -0.6
baz=265
Q18K Katmai Hardscr 52.85 37 P P 09 17 08.4 -1.3
baz=266
G19K Purcell Mounta 52.90 27 P P 09 17 09.3 -0.4
baz=259
ASAR Alice Springs 52.91 186 P P 09 17 11.0 +0.6
comp=Z,0.2nm,0.6s,baz=18,slow=11,SNR=8.1
comp=Z,0.2nm,0.6s
D19K Kuna River 53.03 24 P P 09 17 10.2 -0.6
baz=256
H19K Roundabout Mou 53.03 28 P P 09 17 10.3 -0.4
baz=260
R18K Karluk 53.08 38 P P 09 17 10.6 -0.6
baz=268
E19K Redstone River 53.11 26 P P 09 17 12.1 +0.8
E19K IAmb IAmb 09 17 12.8
comp=Z,6.4nm,0.8s
E19K Redstone River 53.11 26 P P 09 17 10.9 -0.4
baz=258
J19K Poorman 53.13 30 P P 09 17 10.9 -0.6
baz=262
SII Sitkinak Islan 53.19 39 P P 09 17 11.7 -0.4
baz=268
L19K White Mountain 53.24 32 P P 09 17 12.3 0.0
baz=264
N19K Bonanza Creek 53.28 34 P P 09 17 12.7 0.0
baz=265
O19K Port Alsworth 53.31 35 P P 09 17 12.5 -0.3
baz=266
M19K Big River Lodg 53.43 33 P P 09 17 13.9 +0.2
baz=264
F20K Avaraart Lake 53.60 26 P P 09 17 15.3 +0.5
baz=259
D20K Etivluk River 53.62 24 P P 09 17 15.1 +0.1
baz=257
E20K Nigu River 53.67 25 P P 09 17 15.0 -0.4
baz=258
H20K Anotlineenga Mo 53.67 28 P P 09 17 15.2 -0.1
baz=261
OHAK Old Harbor 53.70 38 P P 09 17 15.7 +0.1
baz=269
L20K Farewell, AK 53.73 32 P P 09 17 16.0 +0.2
baz=264
K20K Telida 53.73 31 P P 09 17 17.3 +1.4
K20K IAmb IAmb 09 17 18.0
comp=Z,7.7nm,0.8s
K20K Telida 53.73 31 P P 09 17 15.9 +0.1
baz=264,SNR=5.3
B20K Meade River 53.74 22 P P 09 17 16.2 +0.5
baz=256
I20K Naaghedeneel 53.74 29 P P 09 17 15.9 +0.2
baz=262
J20K Nowinta River 53.80 30 P P 09 17 17.6 +1.3
J20K IAmb IAmb 09 17 18.3
comp=Z,7.4nm,0.7s
J20K Nowinta River 53.80 30 P P 09 17 16.3 0.0
baz=263
M20K Styx River 54.02 33 P P 09 17 17.6 -0.4
baz=266
KDAK Kodiak Island 54.09 38 P P 09 17 18.6 +0.2
baz=269
Q20K Shuyak Island 54.21 37 P P 09 17 19.8 +0.5
baz=268
C21K Knifeblade Rid 54.36 24 P P 09 17 21.1 +0.9
baz=259
G21K Allakaket 54.38 27 P P 09 17 20.8 +0.4
baz=262
N20K Mount Spurr 54.42 34 P P 09 17 21.3 +0.5
baz=267
SPCR Spurr Chakacha 54.42 34 P P 09 17 21.5 +0.7
baz=267
F21K Alatna River 54.50 26 P P 09 17 21.6 +0.4
baz=261
B21K Ikpikpuk River 54.51 23 P P 09 17 22.2 +1.0
B21K IAmb IAmb 09 17 22.8
comp=Z,4.7nm,0.7s
B21K Ikpikpuk River 54.51 23 P P 09 17 21.6 +0.4
baz=258
E21K Killik River 54.52 25 P P 09 17 21.8 +0.4
baz=260
PPLA Purkeypile 54.54 32 P P 09 17 22.0 +0.2
baz=266
H21K Melozitna Rive 54.55 28 P P 09 17 22.1 +0.5
H21K IAmb IAmb 09 17 23.6
comp=Z,6.0nm,1.0s
H21K Melozitna Rive 54.55 28 P P 09 17 21.8 +0.2
baz=263
CHUM Lake Minchumin 54.57 30 P P 09 17 22.4 +0.7
baz=265
CAST Castle Rocks 54.63 31 P P 09 17 21.7 -0.5
baz=265,SNR=6.2
HOM Homer 54.63 36 P P 09 17 22.2 -0.1
baz=268
A22K Sinclair Lake 54.69 21 P P 09 17 22.0 -0.4
baz=257
SKT Skwentna 54.78 33 P P 09 17 22.9 -0.4
baz=267
BVAR Borovoye Array 54.81 316 P P 09 17 23.0 -0.6
comp=Z,4.9nm,0.4s,baz=90,slow=7.0,SNR=29
comp=Z,4.9nm,0.4s
I21K Tanana 54.84 29 P P 09 17 23.4 -0.2
baz=264
BRVK Borovoye 54.87 316*ce*P P 09 17 22.9 -1.2
BRVK pmax pmax
comp=Z,19nm,3.4s
CAPN Captain Cook N 54.91 34 P P 09 17 24.0 -0.1
baz=268
F22K John River 55.04 26 P P 09 17 25.0 0.0
baz=262
D22K Ayikyak River 55.05 24 P P 09 17 25.3 +0.2
baz=261
B22K Teshekpuk Lake 55.06 22 P P 09 17 25.8 +0.7
B22K Teshekpuk Lake 55.06 22 P P 09 17 24.2 -0.9
baz=259
SUA Susitna One 55.13 33 P P 09 17 25.1 -0.8
baz=268
H22K Ishtalitna Cre 55.16 28 P P 09 17 25.7 -0.3
baz=264
BPAW Bear Paw Mtn. 55.17 30 P P 09 17 25.8 -0.2
baz=266
E22K Anaktuvuk Pass 55.26 25 P P 09 17 27.6 +1.0
E22K Anaktuvuk Pass 55.26 25 P P 09 17 27.1 +0.5
baz=262
SLKM Skilak Lake 55.36 34 P P 09 17 28.0 +0.5
CUT Chulitna 55.40 32 P P 09 17 27.6 0.0
baz=268
TRF Thorofare Moun 55.44 31 P P 09 17 28.7 +0.6
TRF IAmb IAmb 09 17 33.9
comp=Z,15nm,1.5s
TRF Thorofare Moun 55.44 31 P P 09 17 26.9 -1.2
baz=267
M22K Willow 55.44 33 P P 09 17 27.4 -0.5
baz=268
O22K Cooper Landing 55.61 35 P P 09 17 28.6 -0.5
baz=270
RC01 Rabbit Creek A 55.61 34 P P 09 17 28.7 -0.4
baz=269
SEW Seward 55.74 35 P P 09 17 29.4 -0.6
baz=270
COLD Coldfoot 55.77 26 P P 09 17 29.9 -0.3
baz=264
D23K Nanushuk River 55.78 24 P P 09 17 31.7 +1.5
D23K IAmb IAmb 09 17 32.7
comp=Z,16nm,1.5s
D23K Nanushuk River 55.78 24 P P 09 17 29.9 -0.4
baz=263
G23K Bananza Creek 55.79 27 P P 09 17 31.3 +0.9
G23K Bananza Creek 55.79 27 P P 09 17 29.8 -0.6
baz=265
KK31 Karatay Array 55.86 304 P P 09 17 30.2 -1.0
KK31 IAmb IAmb 09 17 31.5
comp=Z,5.1nm,0.7s
KK31 Karatay Array 55.86 304 P P 09 17 30.2 -1.0
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 55.86 304 P P 09 17 30.2 -1.0
KKAR Karatay Array 55.86 304 P P 09 17 30.2 -1.0
PMR Palmer 55.91 33 P P 09 17 31.4 +0.2
baz=269
C23K Itkillik River 55.92 23 P P 09 17 32.1 +0.9
C23K IAmb IAmb 09 17 32.7
comp=Z,4.7nm,0.8s
C23K Itkillik River 55.92 23 P P 09 17 31.0 -0.1
baz=262
I23K Minto, Yukon-K 55.94 29 P P 09 17 30.9 -0.5
baz=267
NEA2 Nenana 56.03 30 P P 09 17 32.2 +0.1
baz=267
MCK McKinley 56.06 31 P P 09 17 32.2 0.0
baz=268
E23K Chandalar 56.07 25 P P 09 17 32.4 +0.1
baz=264
TOLK Toolik Lake Re 56.15 25 P P 09 17 32.8 0.0
baz=264
KNK Knik Glacier 56.23 33 P P 09 17 33.8 +0.3
baz=270
PWL Port Wells 56.29 34 P P 09 17 34.3 +0.3
baz=270
SML Sawmill 56.29 33 P P 09 17 34.2 +0.2
baz=270
D24K Happy Valley 56.47 24 P P 09 17 35.1 +0.1
baz=264
E24K Your Creek 56.49 25 P P 09 17 35.1 -0.1
baz=266
C24K Franklin Bluff 56.57 23 P P 09 17 35.4 -0.2
baz=264
COLA College 56.57 29 P P 09 17 35.7 -0.1
baz=268
M23K Glacier View 56.58 33 P P 09 17 35.6 -0.4
baz=270
H24K Noodor Dome 56.59 28 P P 09 17 35.9 -0.1
baz=268
F24K Squaw Lake 56.68 26 P P 09 17 35.9 -0.7
baz=266
POKR Poker Plat Res 56.75 29 P P 09 17 36.8 -0.2
baz=268
SCM Sheep Creek Mo 56.77 33 P P 09 17 37.6 +0.2
baz=271
P23K Montague Islan 56.77 35 P P 09 17 37.1 -0.1
baz=272
G24K Hadweenzic Riv 56.80 27 P P 09 17 37.0 -0.3
baz=267
GLI Glacier Island 56.90 34 P P 09 17 37.4 -0.7
baz=272
HDA Harding Lake 56.95 30 P P 09 17 37.6 -0.8
baz=269
ILAR Eielson Array 56.98 29 P P 09 17 38.1 -0.5
comp=Z,1.5nm,0.8s,baz=270,slow=7.6,SNR=9.0
comp=Z,1.5nm,0.8s
M24K Tolsona, Glenn 57.31 33 P P 09 17 40.3 -0.8
baz=272
Q23K Middleton Isla 57.33 36 P P 09 17 40.7 -0.4
baz=273
G25K Bearman Lake 57.34 27 P P 09 17 41.0 -0.1
baz=269
D25K Kavik River 57.35 24 P P 09 17 41.7 +0.5
D25K IAmb IAmb 09 17 42.6
comp=Z,3.6nm,0.7s
D25K Kavik River 57.35 24 P P 09 17 40.7 -0.5
baz=267
H25L Birch Creek 57.45 28 P P 09 17 41.5 -0.3
baz=269
KLU Klutina 57.45 33 P P 09 17 41.4 -0.6
baz=272
K24K Donnelly Dome 57.46 31 P P 09 17 41.3 -0.7
baz=271
F25K Christian Rive 57.55 26 P P 09 17 42.0 -0.5
baz=268
PRP Porcupine Dome 57.56 28 P P 09 17 42.4 -0.4
baz=270
EYAK Cordova Ski Ar 57.57 34 P P 09 17 42.3 -0.4
baz=273
E25K Arctic Village 57.59 25 P P 09 17 42.5 -0.4
baz=268
PAX Paxson 57.62 32 P P 09 17 43.0 -0.1
baz=272
J25K Salcha River, 57.63 30 P P 09 17 42.8 -0.4
baz=271
HARP HAARP 57.78 32 P P 09 17 44.4 +0.2
baz=272,SNR=5.1
RIDG Independent Ri 57.88 31 P P 09 17 45.0 +0.1
baz=272
C26K Camden Bay 57.89 23 P P 09 17 44.9 +0.1
baz=268
N25K Chitina, Valde 58.08 33 P P 09 17 46.2 -0.1
baz=273
BMRM Bremner River 58.11 34 P P 09 17 47.1 +0.6
baz=274
F26K Sheenjek River 58.12 26 P P 09 17 47.4 +0.9
F26K Sheenjek River 58.12 26 P P 09 17 47.3 +0.9
baz=270
SCRK Sand Creek 58.25 30 P P 09 17 47.4 -0.1
baz=272
G26K Porcupine Rive 58.26 27 P P 09 17 47.2 -0.2
baz=271
KAIM Kayak Island 58.27 35 P P 09 17 47.9 +0.3
baz=274
C27K Jago River 58.30 24 P P 09 17 47.3 -0.3
baz=269

J26L	Joseph Creek	58.41	30	P	P	09 17 48.4	-0.1
	baz=272						
I26K	Coal Creek Min	58.56	29	P	P	09 17 48.6	-0.8
	baz=272						
L26K	Log Cabin Wild	58.58	31	P	P	09 17 49.4	-0.3
	baz=273,SNR=8.5						
M26K	Nabesna, AK	58.78	32	P	P	09 17 51.9	+0.8
	baz=274						
BGLC	Bering Glacier	58.83	35	P	P	09 17 51.3	0.0
	baz=275						
E27K	Coleen River	59.08	25	P	P	09 17 52.6	-0.4
	baz=272						
K27K	Chicken	59.09	30	P	P	09 17 53.9	+0.9
	baz=274						
G27K	Doyon Strip	59.11	27	P	P	09 17 53.3	+0.2
	baz=273						
I27K	Kandik River	59.18	28	P	P	09 17 53.9	+0.1
	baz=273						
H27K	Steamboat Moun	59.19	28	P	P	09 17 54.5	+0.7
	baz=273						
L27K	Beaver Creek,	59.27	31	P	P	09 17 54.9	+0.6
	baz=275						
D27M	Malcolm River	59.27	24	P	P	09 17 55.0	+0.7
	baz=272						
M27K	Edge Creek, AK	59.30	32	P	P	09 17 54.3	-0.5
	baz=275						
MESA	MESA	59.48	35	P	P	09 17 55.3	-0.8
	baz=276						
E28M	Babbage River	59.82	25	P	P	09 17 58.4	+0.5
E28M				IAmb	IAmb	09 17 59.8	
	comp=Z,4.3nm,0.7s						
E28M	Babbage River	59.82	25	P	P	09 17 58.5	+0.5
	baz=274						
I28M	Miner Creek	59.89	28	P	P	09 17 58.3	-0.3
	baz=275						
D28M	Stokes Point	60.06	24	P	P	09 17 59.8	+0.4
	baz=274						
DAWY	Dawson	60.26	30	P	P	09 18 00.8	-0.3
	baz=276						
O28M	Mount Upton	60.28	34	P	P	09 18 01.8	+0.3
	baz=277						
YUK8	Steele Glacier	60.42	33	P	P	09 18 02.9	+0.5
	baz=278						
E29M	Blow River	60.44	25	P	P	09 18 02.9	+0.9
	baz=275						
H29M	Whitesone	60.46	28	P	P	09 18 03.0	+0.7
	baz=276						
G29M	Pine Creek	60.53	27	P	P	09 18 03.6	+0.8
G29M	Pine Creek	60.53	27	P	P	09 18 03.6	+0.8
	baz=276						
I29M	Ogilvie Camp,	60.58	28	P	P	09 18 03.9	+0.8
	baz=276						
J29N	Klondike Camp	60.73	30	P	P	09 18 05.1	+1.0
	baz=277						
M29M	Somme Creek	60.88	32	P	P	09 18 06.5	+1.2
	baz=278						
L29M	L29M	60.94	31	P	P	09 18 06.7	+1.2
L29M				IAmb	IAmb	09 18 07.9	
	comp=Z,5.9nm,1.0s						
L29M	L29M	60.94	31	P	P	09 18 06.8	+1.2
	baz=278						
YUK4	Talbot Arm	60.95	33	P	P	09 18 07.4	+1.5
	baz=278,SNR=5.3						
K29M	Barlow Dome	61.11	30	P	P	09 18 07.0	+0.2
K29M				IAmb	IAmb	09 18 08.3	
	comp=Z,4.8nm,0.9s						
K29M	Barlow Dome	61.11	30	P	P	09 18 06.7	0.0
	baz=278						
O29M	Mount Kennedy	61.14	34	P	P	09 18 07.5	+0.5
	baz=279						
YUK6	Outpost Mounta	61.14	34	P	P	09 18 07.4	+0.3
	baz=279						
G30M	tAoh Zraii Nji	61.23	27	P	P	09 18 07.3	-0.1
	baz=277						
F30M	Barrier River	61.31	26	P	P	09 18 07.8	-0.1
	baz=278						
ARTI	Arti	61.33	321	P	P	09 18 07.0	-1.2
	comp=Z,2.9nm,0.4s,baz=137,slow=2.8,SNR=5.3						
	comp=Z,2.9nm,0.4s						
ARTI	Arti	61.33	321	P	P	09 18 07.0	-1.2
I30M	Mount Dempster	61.40	29	P	P	09 18 09.5	+0.8
	baz=278						
J30M	Hart River	61.52	29	P	P	09 18 09.4	0.0
	baz=279						
HYT	Haines Junctio	61.58	34	P	P	09 18 09.4	-0.5
	baz=280,SNR=5.6						
M30M	Minto, Yukon	61.62	32	P	P	09 18 09.7	-0.4
	baz=279,SNR=7.0						
N30M	Aishikik Lake	61.67	33	P	P	09 18 09.8	-0.7
	baz=280						
ABKAR	Akbulak array	61.85	313	P	P	09 18 10.8	-1.0
P30M	Million Dollar	61.96	34	P	P	09 18 11.8	-0.6
	baz=280						
G31M	Satah River	62.00	26	P	P	09 18 11.7	-0.6
	baz=279						
INK	Inuvik	62.06	25	P	P	09 18 12.7	0.0
	baz=279						
F31M	Tsiigehtchic	62.12	26	P	P	09 18 13.1	0.0
	baz=279						
H31M	Peel River	62.15	28	P	P	09 18 13.8	+0.3
H31M				IAmb	IAmb	09 18 14.7	
	comp=Z,4.5nm,0.6s						
H31M	Peel River	62.15	28	P	P	09 18 12.6	-0.8
	baz=280						
O30N	Mendenhall	62.27	33	P	P	09 18 13.7	-0.7
	baz=281						
N31M	Braeburn, Yuko	62.28	33	P	P	09 18 14.0	-0.4
	baz=281,SNR=7.4						
PLBC	Pleasant Camp	62.38	35	P	P	09 18 14.1	-0.9
	baz=281						
AKTO	Aktyubinsk	62.79	315	P	P	09 18 16.9	-0.9
	comp=Z,3.0nm,0.7s,baz=76,slow=11,SNR=7.8						
	comp=Z,3.0nm,0.7s						
AKTO	Aktyubinsk	62.79	315	P	P	09 18 17.0	-0.9
M31M	Drury Creek, Y	62.79	32	P	P	09 18 17.2	-0.5
	baz=282						
WHY	Whitehorse	62.87	33	P	P	09 18 18.0	-0.4
	baz=282,SNR=5.7						
FARO	Faro, Yukon	63.26	32	P	P	09 18 19.8	-1.0
	baz=282,SNR=5.6						
SIT	Sitka	63.43	38	P	P	09 18 21.2	-0.7
	baz=283						
R32K	Eaglecrest	63.57	36	P	P	09 18 21.7	-1.1
	baz=283						
N32M	Quiet Lake	63.62	33	P	P	09 18 22.8	-0.3
	baz=283						
P32M	Atlin	63.67	35	P	P	09 18 22.9	-0.6
	baz=283						
S32K	Killisnoo	63.73	37	P	P	09 18 23.6	-0.2
	baz=284						
P33M	Teslin, Yukon	63.97	34	P	P	09 18 24.4	-1.1
	baz=284						
A36M	Sachs Harbour	64.07	20	P	P	09 18 26.1	+0.4
A36M				IAmb	IAmb	09 18 26.9	
	comp=Z,5.1nm,0.8s						
A36M	Sachs Harbour	64.07	20	P	P	09 18 25.6	-0.1
	baz=285						
Q32M	Nakina River	64.55	35	P	P	09 18 30.7	+1.3
Q32M				IAmb	IAmb	09 18 58.6	
	comp=Z,6.2nm,1.5s						
CRAG	Craig	65.02	39	P	P	09 18 32.0	-0.1
	baz=286						
R33M	Jennings River	65.08	34	P	P	09 18 32.3	-0.4
	baz=286						
C36M	Paulatuk	65.17	23	P	P	09 18 32.8	0.0
C36M	Paulatuk	65.17	23	P	P	09 18 32.4	-0.3
	baz=287						
S34M	Telegraph Cree	65.40	36	P	P	09 18 34.3	-0.2
	baz=286						
DLBC	Dease Lake	65.82	35	P	P	09 18 36.6	-0.7
	baz=287						
V35K	Ketchikan	65.88	39	P	P	09 18 37.7	+0.2
	baz=287						
DIB	Dawson Inlet,	66.02	41	P	P	09 18 39.0	+0.5
T35M	Bob Quinn	66.13	37	P	P	09 18 39.7	+0.5
	baz=287						
WRGLY	Wrigley	67.36	29	P	P	09 18 46.6	0.0
	baz=290						
SPITS	Spitsbergen Ar	67.80	349	P	P	09 18 49.9	+0.7
SPITS				pmax	pmax		
	comp=Z,53nm,1.5s						
TOAD	Toad River Com	68.06	34	P	P	09 18 51.6	+0.5
	baz=290						
EUNU	Eureka	68.08	8	P	P	09 18 51.1	+0.2
RES	Resolute Bay	70.50	13	P	P	09 19 05.9	+0.3
RES				IAmb	IAmb	09 19 06.4	
	comp=Z,4.2nm,0.8s						
RES	Resolute Bay	70.50	13	P	P	09 19 05.9	+0.3
				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	ARCESS Array B	70.69	340	P	P	09 19 06.6	-0.2
	comp=Z,2.6nm,0.8s,baz=70,slow=8.0,SNR=8.9						
	comp=Z,2.6nm,0.8s						
YKA	Yellowknife Ar	71.36	28	P	P	09 19 10.5	-0.4
	comp=Z,1.5nm,0.7s,baz=294,slow=6.1,SNR=29						
	comp=Z,1.5nm,0.7s						
YKAB2	New Yellowknif	71.40	28	P	P	09 19 11.1	0.0
OBN	Obninsk	73.36	324	eP	P	09 19 22.4	-0.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	Khabaz	74.76	312	P	P	09 19 30.5	-0.4
	comp=Z,4.0nm,1.0s,baz=47,slow=1.9,SNR=8.0						
	comp=Z,4.0nm,1.0s						
KBZ	Khabaz	74.76	312	ceP	P	09 19 30.2	-0.7
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	Kislovodsk	74.80	312	eP	P	09 19 30.0	-1.3
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FIA1	FINESS Array S	74.92	333	P	P	09 19 31.1	-0.3
FINES	FINESS Array B	74.92	333	P	P	09 19 31.1	-0.3
FINES	FINESS Array B	74.92	333	P	P	09 19 30.9	-0.6
	comp=Z,1.1nm,0.4s,baz=70,slow=5.3,SNR=11						
	comp=Z,1.1nm,0.4s						
FINES	FINESS Array B	74.92	333	ceP	P	09 19 30.8	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
I03D	Drain, OR	75.19	48	P	P	09 19 32.5	-0.8
LTY	Liberty	75.28	44	P	P	09 19 33.9	0.0
LTY				IAmb	IAmb	09 19 59.6	
	comp=Z,7.1nm,1.4s						
B08A	Colville Reser	75.57	42	P	P	09 19 36.2	+0.8
B08A				IAmb	IAmb	09 19 37.0	
	comp=Z,4.2nm,0.9s						
MXC	Moxie City	75.82	44	P	P	09 19 38.1	+1.3
MXC				IAmb	IAmb	09 19 38.6	
	comp=Z,4.1nm,1.0s						
C09A	Chrisman Ranch	76.46	43	P	P	09 19 41.2	+0.8
PINE	Pine Mountain	76.70	47	P	P	09 19 43.0	+0.9
NEW	Newport	76.91	42	P	P	09 19 43.2	+0.3
NEW				IAmb	IAmb	09 19 44.4	
	comp=Z,3.6nm,0.9s						
NEW	Newport	76.91	42	P	P	09 19 43.2	+0.3
NEW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ILON	Igloolik, Nuna	77.16	14	P	P	09 19 43.4	-0.3
ILON				IAmb	IAmb	09 19 44.2	
	comp=Z,2.7nm,0.8s						
G08A	Pilot Rock	77.25	45	P	P	09 19 45.6	+0.6
BMO	Blue Mountains	78.48	45	P	P	09 19 52.0	+0.3
BMO				IAmb	IAmb	09 19 53.1	
	comp=Z,2.9nm,0.8s						
BMO	Blue Mountains	78.48	45	P	P	09 19 52.0	+0.3
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
J08A	Circle Bar Ran	78.49	47	P	P	09 19 52.7	+1.0
J08A				IAmb	IAmb	09 19 53.6	
	comp=Z,6.7nm,1.2s						
WVOR	Wild Horse Val	78.83	48	P	P	09 19 54.4	+0.8
WVOR	Wild Horse Val	78.83	48	P	P	09 19 54.4	+0.8
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	Malin Array Be	79.43	323	P	P	09 19 55.5	-0.9
	comp=Z,0.5nm,0.4s,baz=58,slow=4.5,SNR=4.4						
	comp=Z,0.5nm,0.4s						
AKASG	Malin Array Be	79.43	323	ceP	P	09 19 56.7	+0.3
PNTR	Pine Nut	79.84	51	P	P	09 19 59.6	+0.5
PNTR				IAmb	IAmb	09 20 01.8	
	comp=Z,3.5nm,0.7s						
MFID	Camas Ranch	80.13	46	P	P	09 19 59.6	-0.9
MFID				IAmb	IAmb	09 20 01.8	
	comp=Z,2.2nm,0.6s						
WAKR	Walker	80.23	51	P	P	09 20 02.0	+0.8
WAKR				IAmb	IAmb	09 20 02.6	
	comp=Z,2.4nm,0.6s						
HFS	Hagfors	80.46	336	P	P	09 20 00.9	-0.8
	comp=Z,1.1nm,0.5s,baz=99,slow=9.2,SNR=7.1						
	comp=Z,1.1nm,0.5s						
NC405	NORSAR Array S	80.46	337	P	P	09 20 01.4	-0.4
NOA	NORSAR Array B	80.68	337	P	P	09 20 02.1	-0.8
	comp=Z,0.4nm,0.5s,baz=28,slow=5.5,SNR=4.2						
	comp=Z,0.4nm,0.5s						
RYN	Ryan	80.80	51	P	P	09 20 05.2	+1.0
RYN				IAmb	IAmb	09 20 05.7	
	comp=Z,2.0nm,0.7s						
NVAR	Mina Array Bea	81.04	51	P	P	09 20 06.3	+0.8
	comp=Z,1.4nm,0.5s,baz=285,slow=5.8,SNR=18						
	comp=Z,1.4nm,0.5s						
DLMT	Dillon	81.07	43	P	P	09 20 06.4	+1.0
DLMT				IAmb	IAmb	09 20 06.8	
	comp=Z,3.0nm,1.1s						
BOZ	Bozeman (W)	81.51	42	P	P	09 20 08.4	+0.7
BOZ	Bozeman (W)	81.51	42	P	P	09 20 08.4	+0.7
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ELK	Elko	81.89	48	P	P	09 20 10.8	+0.9
ELK				IAmb	IAmb	09 20 11.2	
	comp=Z,1.6nm,0.6s						
ELK	Elko	81.89	48	P	P	09 20 10.8	+0.9
ELK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GMN	Gold Mountain	82.33	52	P	P	09 20 13.2	+1.0
GMN				IAmb	IAmb	09 20 13.2	
	comp=Z,2.9nm,1.1s						
BRTR	Keskin Array B	82.76	312	P	P	09 20 13.8	-0.4
	comp=Z,0.8nm,0.6s,baz=107,slow=6.6,SNR=4.5						
	comp=Z,0.8nm,0.6s						
BRTR	Keskin Array B	82.76	312	ceP	P	09 20 14.3	+0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
R11B	Troy Canyon, C	82.92	50	P	P	09 20 16.3	+1.2
TPNV	Topopah Spring	83.20	51	P	P	09 20 17.4	+0.9
TPNV	Topopah Spring	83.20	51	P	P	09 20 17.5	+0.9
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	Dugway, Tooele	83.74	47	P	P	09 20 20.3	+1.1
DUG	Dugway, Tooele	83.74	47	P	P	09 20 20.3	+1.1
DUG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SHPR	Sheep Range	84.18	51	P	P	09 20 22.6	+1.2
PD31	Pinedale Array	84.33	44	P	P	09 20 22.4	+0.2
PDAR	Pinedale Array	84.33	44	P	P	09 20 21.6	-0.6
PDAR	Pinedale Array	84.33	44	P	P	09 20 22.6	+0.4
	comp=Z,1.5nm,1.0s,baz=199,slow=1.0,SNR=6.9						
	comp=Z,1.5nm,1.0s						
PFO	Pinyon Flats O	84.80	54	P	P	09 20 24.6	+0.1
PFO	Pinyon Flats O	84.80	54	P	P	09 20 24.6	+0.1
PFO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MSU	Marysvale	85.08	48	P	P	09 20 27.6	+1.6
MSU	Marysvale	85.08	48	P	P	09 20 27.6	+1.6
S22A	4UR Ranch, Cre	88.97	47	P	P	09 20 43.5	-1.0
	baz=307						
VHRN	Van Horn	94.39	51	P	P	09 21 11.1	+1.6
VHRN				IAmb	IAmb	09 21 44.4	
	comp=Z,2.2nm,1.4s						
TXAR	Lajitas Array	96.19	52	P	P	09 21 19.2	+1.6
	comp=Z,0.4nm,0.5s,baz=317,slow=3.3,SNR=7.3						
	comp=Z,0.4nm,0.5s						
QSPA	South Pole Qui	119.04	180	PKPdf	PKPdf	09 26 34.8	+0.1
LPAZ	La Paz	151.55	69	PKPbc	PKPbc	09 27 43.2	+0.8
LPAZ	La Paz	151.55	69	PKPbc	PKPbc	09 27 42.9	+0.4
	comp=Z,1.1nm,0.5s,baz=228,slow=3.1,SNR=9.0						
PB11	IPOC Station P	151.94	77	PKPbc	PKPbc	09 27 42.8	+0.2
PB11				PKPab	PKPab	09 27 54.6	+0.9

HEL ***05*** *10:00:22.1±0.2, 64°.67N×30°.79E, h0km, ML2.2, Suspected explosion*
MOS ***05*** *10:00:23.0±0.8, 64°.67N±0°.06×30°.87E±0°.04, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***05*** *10:00:23.6±2.7, 64°.53N×31°.57E, h0km, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=39.6km s-min=10.3km az=107.0*
BER ***05*** *10:00:24.0±2.7, 64°.61N×30°.61E, h0km, ML1.9, ML2.2(HEL), Suspected explosion*
KOLA ***05*** *10:00:25.3, 64°.71N×30°.76E, h0km, ML2.5, Error ellipse: s-maj=17.0km s-min=9.5km az=150.0, Kostomuksha, Karelia*
ISC 05 10:00:23.8±0.8**, 64°.69N**±0°.02×**30°.53E**±0°.04**, h0km, n63,**

σ1§90/99, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.54**	**209**	PG	**Pg**	**10 00 32.8**	**-1.3**
RMF				MSG		10 00 40.8	
	comp=Z,71nm,0.2s						
RMF	**Romuvaara**	**0.54**	**209**	PG	**Pg**	**10 00 32.8**	**-1.3**
RMF				MSG		10 00 40.8	
	comp=Z,71nm,0.2s						
RMF				SG	**Sg**	**10 00 42.3**	**+1.2**
KU1	**Kurvinen**	**0.97**	**335**	PG	**Pg**	**10 00 40.9**	**-1.5**
KU1				SG	**Sg**	**10 00 55.9**	**+1.0**
KU1	**Kurvinen**	**0.97**	**335**	PG	**Pg**	**10 00 40.9**	**-1.5**
KU1				SG	**Sg**	**10 00 55.9**	**+1.0**
KU6	**Riekki**	**1.37**	**349**	PN	**Pg**	**10 00 49.4**	**-0.5**
	baz=165						
KU6				MSG		10 01 04.9	
	comp=Z,27nm,0.2s						
KU6				SN	**Sg**	**10 01 08.2**	**+0.5**
KU6	**Riekki**	**1.37**	**349**	PN	**Pg**	**10 00 49.4**	**-0.5**
	baz=165						
KU6				MSG		10 01 04.9	
	comp=Z,27nm,0.2s						
KU6				SN	**Sg**	**10 01 08.2**	**+0.5**
MSF	**Maaselka**	**1.38**	**334**	PG	**Pn**	**10 00 48.0**	**-2.3**
	baz=151						
MSF				SN	**Sg**	**10 01 08.6**	**+0.6**
MSF	**Maaselka**	**1.38**	**334**	PG	**Pn**	**10 00 48.0**	**-2.3**
	baz=151						
MSF				SN	**Sg**	**10 01 08.6**	**+0.6**
KU2	**Taivalkoski**	**1.41**	**318**	PG	**Pn**	**10 00 49.4**	**-1.3**
KU2				SN	**Sg**	**10 01 10.4**	**+1.3**
KU2	**Taivalkoski**	**1.41**	**318**	PG	**Pn**	**10 00 49.4**	**-1.3**
KU2				SN	**Sg**	**10 01 10.4**	**+1.3**
OLKF	**Oulanka, Finla**	**1.71**	**344**	PG	**Pn**	**10 00 53.6**	**-1.1**
OLKF				MSG		10 01 14.7	
	comp=Z,22nm,0.2s						
OLKF				SG	**Sb**	**10 01 18.7**	**+0.7**
OLKF	**Oulanka, Finla**	**1.71**	**344**	PG	**Pn**	**10 00 53.6**	**-1.1**
OLKF				MSG		10 01 14.7	
	comp=Z,22nm,0.2s						
OLKF				SG	**Sb**	**10 01 18.7**	**+0.7**
NIF	**Nilsia**	**1.77**	**224**	PG	**Pn**	**10 00 54.8**	**-0.8**
NIF	**Nilsia**	**1.77**	**224**	PG	**Pn**	**10 00 54.8**	**-0.8**
NIF				SN	**Sb**	**10 01 20.6**	**+0.9**
JOF	**Joensuu**	**1.81**	**169**	PG	**Pn**	**10 00 53.8**	**-2.4**
JOF	**Joensuu**	**1.81**	**169**	eP	**Pn**	**10 00 55.9**	**-0.3**
JOF	**Joensuu**	**1.81**	**169**	PG	**Pn**	**10 00 53.8**	**-2.4**
JOF				SN	**Sn**	**10 01 19.4**	**-0.4**
OUL	**Oulu**	**2.02**	**283**	PG	**Pn**	**10 01 00.0**	**+1.0**
OUL				SG	**Sb**	**10 01 28.4**	**+1.6**
OUL	**Oulu**	**2.02**	**283**	PG	**Pn**	**10 01 00.0**	**+1.0**
OUL				SG	**Sb**	**10 01 28.4**	**+1.6**
RANF	**Ranua**	**2.06**	**312**	PG	**Pn**	**10 00 60.0**	**+0.4**
	baz=124						
RANF				SG	**Sb**	**10 01 29.1**	**+1.0**
KVDA	**Kovda**	**2.23**	**25**	P	**Pn**	**10 01 01.9**	**-0.1**
KVDA				S	**Sn**	**10 01 30.3**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.33**	**276**	PB	**Pn**	**10 01 04.6**	**+1.3**
	baz=94						
OBF4				MSG		10 01 34.4	
	comp=Z,14nm,0.2s						
OBF4				SG	**Sb**	**10 01 37.9**	**+2.0**
OUF	**Merijarvi**	**2.53**	**265**	PB	**Pn**	**10 01 06.4**	**+0.4**
OUF				MSG		10 01 39.8	
	comp=Z,17nm,0.2s						
OUF				SG	**Sb**	**10 01 43.2**	**+1.6**
RNF	**Rovaniemi**	**2.69**	**318**	PG	**Pn**	**10 01 11.2**	**+3.0**
RNF				SG	**Sb**	**10 01 47.0**	**+0.9**
OBF0	**Syolatti, Pyha**	**2.72**	**269**	PB	**Pn**	**10 01 11.2**	**+2.6**
OBF0				MSG		10 01 45.5	
	comp=Z,9.3nm,0.2s						
OBF0				SG	**Sb**	**10 01 50.2**	**+3.1**
SUF	**Sumiainen**	**2.78**	**227**	PB	**Pn**	**10 01 11.6**	**+2.1**
SUF				MSG		10 01 45.8	
	comp=Z,7.1nm,0.2s						
SUF				SG	**Sb**	**10 01 49.5**	**+0.8**
TOF	**Tornio**	**2.95**	**301**	PB	**Pn**	**10 01 15.0**	**+3.2**
TOF				MSG		10 01 52.0	
	comp=Z,4.6nm,0.2s						
TOF				SB	**Sb**	**10 01 54.2**	**+0.5**
VRF	**Varrio**	**3.10**	**353**	PB	**Pn**	**10 01 15.1**	**+1.3**
VRF				MSG		10 01 54.1	
	comp=Z,7.0nm,0.2s						
APA0	**Apatity Array**	**3.10**	**18**	P	**Pn**	**10 01 14.6**	**+0.8**
APA0				S	**Sn**	**10 01 50.8**	**-0.7**
APA	**Apatity**	**3.12**	**21**	P	**Pn**	**10 01 14.4**	**+0.2**
APA				S	**Sn**	**10 01 51.2**	**-0.8**
KAF	**Kangasniemi**	**3.21**	**218**	PB	**Pn**	**10 01 17.7**	**+2.3**
KAF				SG	**Sb**	**10 02 04.0**	**+2.8**
KALU	**Kalix**	**3.24**	**295**	PB	**Pn**	**10 01 18.1**	**+2.4**
	baz=105						
KALU				SG	**Sb**	**10 02 04.9**	**+3.0**
RUF	**Ruokolahti**	**3.36**	**193**	PB	**Pn**	**10 01 18.5**	**+1.1**
KEF	**Keuruu**	**3.59**	**228**	eP	**Pn**	**10 01 22.6**	**+2.1**
KEF	**Keuruu**	**3.59**	**228**	PB	**Pn**	**10 01 23.2**	**+2.6**
LVZ	**Lovozero**	**3.63**	**25**	S	**Sn**	**10 02 02.4**	**-2.2**
LVZ	**Lovozero**	**3.63**	**25**	PB	**Pn**	**10 01 21.7**	**+0.6**
KLF	**Kolari**	**3.71**	**317**	PN	**Pn**	**10 01 23.6**	**+1.4**
	baz=131						
KLF				SG	**Sg**	**10 02 21.0**	**-1.7**
FIA0	**FINESS Array S**	**3.84**	**214**	PG	**Pb**	**10 01 32.9**	**+0.7**
FINES	**FINESS Array B**	**3.84**	**214**	Pn	**Pn**	**10 01 25.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=12						
FINES				Pg	**Pb**	**10 01 33.4**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=39,slow=16,SNR=16						
FINES				Lg	Lg	10 02 26.0	
	comp=Z,1.5nm,0.3s,baz=40,slow=26,SNR=10						
	comp=Z,0.5nm,0.3s						
PAJU	**Pajala**	**3.84**	**311**	PB	**Pn**	**10 01 28.3**	**+4.1**
	baz=124						
PAJU				SG	**Sb**	**10 02 24.3**	**+4.8**
VAF	**Ylistaro**	**3.85**	**248**	eP	**Pn**	**10 01 25.8**	**+1.7**
VAF	**Ylistaro**	**3.85**	**248**	PN	**Pn**	**10 01 25.4**	**+1.3**
RAJF	**Raja-Jooseppi**	**3.91**	**348**	PB	**Pn**	**10 01 28.3**	**+3.4**
ERTU	**Ertsjaerv**	**3.93**	**302**	PB	**Pb**	**10 01 31.9**	**-2.0**
BURU	**Burvik**	**3.94**	**273**	PN	**Pn**	**10 01 26.3**	**+0.9**
HEF	**Hetta**	**4.63**	**327**	eP	**Pn**	**10 01 35.7**	**+0.7**
HEF	**Hetta**	**4.63**	**327**	SG	**Sb**	**10 02 48.4**	**+6.3**
TERR	**Teriberka**	**4.88**	**20**	S	**Sn**	**10 02 32.6**	**-2.7**
KTK1	**Kautokeino**	**5.21**	**330**	eP	**Pn**	**10 01 43.0**	**+0.2**
KTK1				IAML		10 03 05.5	
	comp=Z,3.8nm,0.6s						
ARA0	**ARCESS Array S**	**5.25**	**340**	eP	**Pn**	**10 01 42.6**	**-0.7**
ARA0				eS	**Sn**	**10 02 41.0**	**-3.5**
ARA0				IAML		10 02 49.0	
	comp=Z,3.2nm,0.7s						
ARCES	**ARCESS Array B**	**5.25**	**340**	Pn	**Pn**	**10 01 44.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SN

AEIC 05 10:06:45.3±1.0,59°.97N±0°.04×153°.55W±0°.08, h150km±4km,ML2.9,ML3.2/152(NEIC),**Error ellipse: s-maj=6.5km s-min=5.7km az=144.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.21**	**86**		Pn	10 07 04.7	-1.0
ILSW					Sn	10 07 20.4	-0.8
ILSW				IAML		10 07 22.1	
	comp=E,72nm,0.9s						
ILS	**Iliamna Low So**	**0.24**	**93**		Pn	10 07 04.8	-0.9
ILS					Sn	10 07 21.0	-0.2
P19K	**Oil Pt**	**0.36**	**153**		Pn	10 07 05.7	-0.4
P19K					Sn	10 07 21.6	-0.2
P19K				IAML		10 07 22.4	
	comp=N,928nm,0.5s						
O19K	**Port Alsworth**	**0.45**	**301**	Pn	Pn	10 07 05.2	-1.1
O19K					Sn	10 07 21.1	-1.1
O19K				IAML		10 07 21.4	
	comp=N,271nm,0.5s						
O19K				IAML		10 07 21.7	
	comp=E,371nm,0.5s						
O20K	**Slope Mountain**	**0.48**	**76**		Pn	10 07 06.1	-0.4
O20K					Sn	10 07 22.6	-0.1
AUL	**Augustine Lava**	**0.59**	**174**		Pn	10 07 06.7	-0.4
AUL					Sn	10 07 23.6	-0.1
RED	**Redoubt Volcan**	**0.59**	**41**		Pn	10 07 06.4	-0.8
AU22	**Augustine Moun**	**0.61**	**171**		Pn	10 07 06.6	-0.5
AUCH	**Augustine Cone**	**0.61**	**175**		Pn	10 07 06.9	-0.4
RDWB	**Redoubt West**	**0.63**	**34**		Pn	10 07 06.6	-0.8
RDWB					Sn	10 07 23.1	-1.3
NCT	**North Crescent**	**0.67**	**27**		Pn	10 07 06.9	-0.7
REF	**Redoubt East F**	**0.67**	**39**		Pn	10 07 07.0	-0.7
RDJH	**Redoubt Jeurge**	**0.73**	**31**		Pn	10 07 07.4	-0.7
RDT	**Redoubt**	**0.83**	**43**		Pn	10 07 08.0	-0.8
O18K	**Koktuh Hills**	**0.84**	**263**	Pn	Pn	10 07 08.0	-0.8
O18K					Sn	10 07 25.3	-1.4
O18K				IAML		10 07 26.0	
	comp=E,64nm,0.7s						
N19K	**Bonanza Creek**	**0.96**	**332**		Pn	10 07 09.0	-0.8
N19K				IAML		10 07 27.9	
	comp=N,128nm,0.6s						
HOM	**Homer**	**1.01**	**107**		Pn	10 07 09.7	-0.4
HOM					Sn	10 07 29.4	+0.4
HOM				IAML		10 07 30.1	
	comp=E,459nm,0.8s						
HOM				IAML		10 07 30.2	
	comp=N,390nm,0.4s						
P18K	**Big Mountain,**	**1.03**	**236**		Pn	10 07 09.4	-0.9
P18K					Sn	10 07 27.8	-1.5
Q19K	**Cape Douglas,**	**1.05**	**183**		Pn	10 07 09.7	-0.7
Q19K				IAML		10 07 34.4	
	comp=N,530nm,0.9s						
Q19K				IAML		10 07 37.3	
	comp=E,550nm,1.0s						
BRLK	**Bradley Lake**	**1.36**	**98**	Pn	Pn	10 07 12.8	-0.6
BRLK					Sn	10 07 33.3	-1.6
N18K	**Kilae Creek**	**1.36**	**302**		Pn	10 07 12.7	-0.6
SPCR	**Spurr Chakacha**	**1.40**	**28**		Pn	10 07 13.3	-0.5
SPBG	**Spurr Blockage**	**1.42**	**24**		Sn	10 07 36.3	+0.2
SPU	**Mount Spurr**	**1.42**	**31**		Pn	10 07 13.4	-0.6
SPU				IAML		10 07 35.8	
	comp=N,48nm,0.9s						
SPU				IAML		10 07 36.2	
	comp=E,56nm,1.1s						
CAPN	**Captain Cook N**	**1.44**	**55**	Pn	Pn	10 07 15.1	+1.0
BRSE	**Bradley Lake S**	**1.44**	**98**		Sn	10 07 34.5	-1.7
SYI	**Shuyak Island**	**1.49**	**156**		Pn	10 07 13.7	-1.0
SYI				IAML		10 07 36.3	
	comp=E,366nm,0.4s						
KAHC	**Katmai Hardscr**	**1.52**	**210**		Pn	10 07 14.1	-1.1
KAHC					Sn	10 07 36.5	-1.5
KAHG	**Katmai Hook Gl**	**1.57**	**199**		Pn	10 07 14.8	-0.8
P17K	**Kvichak River**	**1.66**	**243**		Pn	10 07 16.3	-0.2
SLKM	**Skilak Lake**	**1.75**	**71**	Pn	Pn	10 07 16.6	-0.8
SLKM					Sn	10 07 40.1	-2.1
SLKM				IAML		10 07 42.1	
	comp=E,414nm,0.2s						
STLK	**Strandline Lak**	**1.75**	**28**		Pn	10 07 17.0	-0.6
STLK				IAML		10 07 44.6	
	comp=E,29nm,0.6s						
O17K	**Koliganek Bris**	**1.80**	**265**		Pn	10 07 17.2	-0.8
KAKN	**Katmai Knife C**	**1.85**	**206**		Pn	10 07 17.9	-0.8
M18K	**Stony River**	**1.89**	**325**		Pn	10 07 17.9	-1.1
M18K					Sn	10 07 43.7	-1.3
M20K	**Styx River**	**1.93**	**6**		Pn	10 07 19.0	-0.5
O22K	**Cooper Landing**	**1.98**	**73**		Pn	10 07 19.3	-0.7
O22K					Sn	10 07 44.3	-2.5
M19K	**Big River Lodg**	**1.98**	**348**		Pn	10 07 19.2	-0.9
ACHA	**Angle Creek He**	**1.99**	**208**		Pn	10 07 19.6	-0.7
FIS	**Fire Island**	**2.02**	**53**	Pn	Pn	10 07 20.3	-0.2
SUA	**Susitna One**	**2.04**	**41**		Pn	10 07 20.0	-0.8
SUA				IAML		10 07 48.4	
	comp=E,187nm,0.6s						
SUA				IAML		10 07 49.3	
	comp=N,156nm,0.4s						
ANCK	**Angle Creek**	**2.04**	**210**		Pn	10 07 20.3	-0.6
ANCK					Sn	10 07 47.6	-0.6
Q16K	**King Salmon**	**2.05**	**232**		Pn	10 07 20.6	-0.3
SEW	**Seward**	**2.06**	**85**	Pn	Pn	10 07 20.4	-0.6
RC01	**Rabbit Creek A**	**2.19**	**58**		Pn	10 07 21.1	-1.5
RC01					Sn	10 07 49.6	-1.8
RC01				IAML		10 07 50.4	
	comp=E,294nm,0.2s						
RC01				IAML		10 07 50.7	
	comp=N,266nm,0.2s						
SKT	**Skwentna**	**2.24**	**25**		Pn	10 07 22.4	-0.8
SKT				IAML		10 07 53.0	
	comp=N,25nm,0.5s						
SKT				IAML		10 07 53.8	
	comp=E,32nm,0.4s						
KDAK	**Kodiak Island**	**2.25**	**167**	Pn	Pn	10 07 21.2	-2.1
KDAK				IAML		10 07 50.5	
	comp=E,143nm,0.4s						
KDAK				IAML		10 07 51.2	
	comp=E,138nm,0.5s						
KDAK	**Kodiak Island**	**2.25**	**167**		Sn	10 07 49.6	-2.9
L19K	**White Mountain**	**2.31**	**345**		Pn	10 07 22.9	-1.1
O16K	**Kokwok River B**	**2.33**	**263**	Pn	Pn	10 07 24.0	-0.2
M17K	**Holitna River**	**2.39**	**309**	Pn	Pn	10 07 24.6	-0.3
M17K				IAML		10 07 57.1	
	comp=E,22nm,1.0s						
P16K	**Nushagak River**	**2.45**	**249**		Pn	10 07 25.7	0.0
M22K	**Willow**	**2.45**	**42**		Pn	10 07 24.7	-1.0
R18K	**Karluk**	**2.46**	**191**		Pn	10 07 23.7	-2.1
R18K				IAML		10 07 55.8	
	comp=E,248nm,0.4s						
R18K				IAML		10 07 56.1	
	comp=N,250nm,0.5s						
PMR	**Palmer**	**2.71**	**51**		Pn	10 07 26.5	-2.3
PMR				IAML		10 08 00.8	
	comp=N,60nm,0.2s						
PMR				IAML		10 08 01.3	
	comp=E,43nm,0.4s						
L18K	**Granite Mounta**	**2.72**	**327**	Pn	Pn	10 07 28.1	-1.0
PWL	**Port Wells**	**2.74**	**69**	Pn	Pn	10 07 27.4	-1.9
PWL				IAML		10 08 00.9	
	comp=E,141nm,0.3s						
PWL				IAML		10 08 01.8	
	comp=N,204nm,0.4s						
OHAK	**Old Harbor**	**2.76**	**177**	Pn	Pn	10 07 27.1	-2.4
OHAK				IAML		10 08 01.7	
	comp=N,114nm,0.5s						
OHAK				IAML		10 08 02.9	
	comp=E,60nm,0.7s						
M16K	**Timber Creek**	**2.88**	**294**	Pn	Pn	10 07 30.9	-0.1
KNK	**Knik Glacier**	**2.89**	**58**		Pn	10 07 28.7	-2.5
KNK				IAML		10 08 05.4	
	comp=E,123nm,0.6s						
KNK				IAML		10 08 06.7	
	comp=N,104nm,0.5s						
GHO	**Glory Hole Cre**	**2.90**	**49**		Pn	10 07 29.2	-2.1
GHO				IAML		10 08 06.2	
	comp=E,92nm,0.6s						
GHO				IAML		10 08 07.2	
	comp=N,95nm,0.5s						
CUT	**Chulitna**	**2.91**	**32**		Pn	10 07 30.3	-1.1
PPLA	**Purkeypile**	**3.01**	**12**		Pn	10 07 32.9	+0.1
SML	**Sawmill**	**3.15**	**52**	Pn	Pn	10 07 32.2	-2.2
SML				IAML		10 08 10.8	
	comp=E,54nm,0.5s						
SML				IAML		10 08 20.0	
	comp=N,44nm,0.6s						
L17K	**Donlin**	**3.17**	**315**		Pn	10 07 33.9	-0.8
TTA	**Tatalina**	**3.20**	**339**		Pn	10 07 33.7	-1.4
GLI	**Glacier Island**	**3.33**	**71**	Pn	Pn	10 07 35.8	-0.9
GLI				IAML		10 08 16.5	
	comp=N,99nm,0.2s						
GLI				IAML		10 08 18.1	
	comp=E,94nm,0.3s						
K20K	**Telida**	**3.41**	**356**		Pn	10 07 37.1	-0.6
CAST	**Castle Rocks**	**3.53**	**11**	Pn	Pn	10 07 38.8	-0.5
HIN	**Hinchinbrook I**	**3.55**	**80**	Pn	Pn	10 07 38.6	-1.0
HIN				IAML		10 08 20.4	
	comp=N,96nm,1.0s						
HIN				IAML		10 08 20.7	
	comp=E,97nm,0.9s						
SCM	**Sheep Creek Mo**	**3.57**	**56**		Pn	10 07 38.0	-1.9
SCM				IAML		10 08 22.1	
	comp=E,109nm,0.5s						
SCM				IAML		10 08 22.9	
	comp=N,90nm,0.7s						
K17K	**Iditarod**	**3.58**	**322**	Pn	Pn	10 07 39.5	-0.5
K17K				IAML		10 08 22.4	
	comp=N,8.8nm,0.9s						
K17K				IAML		10 08 23.1	
	comp=E,7.3nm,0.8s						
FID	**Port Fidalgo**	**3.60**	**74**	Pn	Pn	10 07 38.9	-1.4
Q23K	**Middleton Isla**	**3.69**	**95**	Pn	Pn	10 07 41.3	0.0
Q23K				IAML		10 08 26.9	
	comp=N,54nm,1.0s						
Q23K				IAML		10 08 31.9	
	comp=E,67nm,1.1s						
KTH	**Kantishna Hill**	**3.81**	**18**		Pn	10 07 41.9	-1.0
KTH				IAML		10 08 36.2	
	comp=E,9.0nm,0.9s						
KTH				IAML		10 09 12.4	
	comp=N,8.6nm,1.2s						
J18K	**Innoko River**	**3.82**	**338**		Pn	10 07 42.2	-0.8
TRF	**Thorofare Moun**	**3.82**	**23**		Pn	10 07 42.3	-0.9
TRF				IAML		10 08 30.1	
	comp=E,15nm,0.8s						
TRF				IAML		10 08 30.6	
	comp=N,17nm,1.1s						
EYAK	**Cordova Ski Ar**	**3.93**	**78**	Pn	Pn	10 07 43.6	-0.9
CHUM	**Lake Minchumin**	**3.97**	**8**		Pn	10 07 44.3	-0.7
DIV	**Divide**	**4.01**	**70**	Pn	Pn	10 07 45.2	-0.5
KLU	**Klutina**	**4.04**	**65**		Pn	10 07 44.4	-1.7
RND	**Reindeer**	**4.11**	**31**	Pn	Pn	10 07 45.7	-1.2
RND				IAML		10 08 34.8	
	comp=E,11nm,0.3s						
RND				IAML		10 08 38.2	
	comp=N,9.5nm,0.3s						
J19K	**Poorman**	**4.15**	**347**	Pn	Pn	10 07 46.6	-0.8
M24K	**Tolsona, Glenn**	**4.18**	**56**		Pn	10 07 46.7	-1.1
M24K				IAML		10 08 51.2	
	comp=E,53nm,0.9s						
J20K	**Nowinta River**	**4.23**	**356**		Pn	10 07 47.9	-0.5
M14K	**Bethel**	**4.25**	**284**	Pn	Pn	10 07 48.4	-0.3
M14K				IAML		10 08 53.8	
	comp=N,11nm,1.0s						
M14K				IAML		10 09 37.4	
	comp=E,10nm,0.9s						
BPAW	**Bear Paw Mtn.**	**4.32**	**15**	Pn	Pn	10 07 48.5	-1.1
BPAW				IAML		10 09 27.0	
	comp=N,4.1nm,1.2s						
J17K	**VABM Dome**	**4.33**	**325**	Pn	Pn	10 07 48.6	-1.1
MCK	**McKinley**	**4.36**	**28**	Pn	Pn	10 07 49.2	-0.9
GOAT	**Goat Mountain**	**4.44**	**78**		Pn	10 07 49.6	-1.6
RAGM	**Ragged Mountai**	**4.45**	**81**	Pn	Pn	10 07 50.7	-0.7
CHGN	**Chignik**	**4.49**	**217**	Pn	Pn	10 07 50.5	-1.4
BMRM	**Bremner River**	**4.54**	**73**	Pn	Pn	10 07 52.2	-0.3
KAIM	**Kayak Island**	**4.59**	**87**	Pn	Pn	10 07 53.2	0.0
KAIM				IAML		10 08 46.9	
	comp=N,42nm,1.0s						
KAIM				IAML		10 08 50.5	
	comp=E,45nm,1.1s						
HMT	**Hamilton**	**4.66**	**81**	Pn	Pn	10 07 54.2	+0.1
N25K	**Chitina, Valde**	**4.68**	**66**	Pn	Pn	10 07 53.1	-1.4
N25K				IAML		10 08 49.6	
	comp=N,42nm,0.5s						
J16K	**Anvik River**	**4.73**	**318**	Pn	Pn	10 07 54.7	-0.2
J16K				IAML		10 08 54.7	
	comp=N,5.5nm,1.1s						
J16K				IAML		10 10 05.1	
	comp=E,5.1nm,1.1s						
HARP	**HAARP**	**4.74**	**55**		Pn	10 07 53.6	-1.5
PAX	**Paxson**	**4.91**	**49**	Pn	Pn	10 07 56.0	-1.4
SUCK	**Suckling Hills**	**4.91**	**85**	Pn	Pn	10 07 57.2	-0.2
SUCK				IAML		10 08 54.7	
	comp=N,30nm,0.5s						
SUCK				IAML		10 09 00.2	
	comp=E,20nm,0.8s						
WACK	**Wrangell Chich**	**4.93**	**62**		Pn	10 07 57.1	-0.7
BERG	**Berg Lake**	**4.94**	**81**	Pn	Pn	10 07 57.2	-0.5
GLB	**Gilahina Butte**	**5.01**	**69**		Pn	10 07 57.7	-1.0
GLB				IAML		10 08 56.0	
	comp=E,19nm,0.5s						
NEA2	**Nenana**	**5.09**	**22**		Pn	10 07 57.9	-1.8
NEA2				IAML		10 08 56.4	
	comp=E,2.6nm,0.6s						
NEA2				IAML		10 08 57.0	
	comp=N,3.5nm,1.0s						
VRDI	**Verde Repeater**	**5.13**	**71**	Pn	Pn	10 07 59.2	-1.3
VRDI				IAML		10 08 58.4	
	comp=N,27nm,0.5s						
VRDI				IAML		10 08 59.2	
	comp=E,25nm,0.4s						
WRH	**Wood River Hil**	**5.19**	**27**	Pn	Pn	10 07 59.2	-1.9
WRH				IAML		10 08 53.2	
	comp=N,3.4nm,1.0s						
WRH				IAML		10 08 58.5	
	comp=E,4.9nm,1.1s						
I21K	**Tanana**	**5.28**	**7**		Pn	10 08 00.5	-1.7
I21K				IAML		10 09 01.1	
	comp=N,2.8nm,0.8s						
I21K				IAML		10 11 06.4	
	comp=E,5.0nm,1.1s						
SNH	**Sunshine Point**	**5.37**	**83**	Pn	Pn	10 08 01.1	-2.4
SNH				IAML		10 09 04.6	
	comp=N,22nm,0.9s						
SNH				IAML		10 09 05.5	
	comp=E,21nm,0.7s						
CCB	**Clear Creek Bu**	**5.40**	**27**	Pn	Pn	10 08 01.9	-1.9
HDA	**Harding Lake**	**5.42**	**32**		Pn	10 08 02.4	-1.7
I23K	**Minto, Yukon-K**	**5.54**	**19**		Pn	10 08 04.0	-1.7
MENT	**Mentasta**	**5.58**	**54**		Pn	10 08 05.5	-0.7
COLA	**College**	**5.59**	**26**		Pn	10 08 04.7	-1.5
RIDG	**Independent Ri**	**5.59**	**44**	Pn	Pn	10 08 05.6	-0.8
KIAG	**Kiagna River**	**5.62**	**75**		Pn	10 08 06.1	-0.9
BALM	**Baldy**	**5.64**	**74**		Pn	10 08 06.4	-0.7
H18K	**Honhosa River**	**5.66**	**339**	Pn	Pn	10 08 06.4	-0.8
M26K	**Nabesna, AK**	**5.66**	**60**		Pn	10 08 07.0	-0.3
H21K	**Melozitna Rive**	**5.72**	**3**		Pn	10 08 07.4	-0.7
IL31		**5.73**	**30**		Pn	10 08 06.4	-1.7
ILAR	**Eielson Array**	**5.73**	**30**	Pn	Pn	10 08 06.5	-1.7
L26K	**Log Cabin Wild**	**5.77**	**54**		Pn	10 08 08.5	-0.3
DOT	**Dot Lake**	**5.82**	**47**		Pn	10 08 07.8	-1.6
POKR	**Poker Plat Res**	**5.89**	**26**		Pn	10 08 08.8	-1.5
J25K	**Salcha River,**	**6.02**	**36**		Pn	10 08 10.5	-1.6
SCRK	**Sand Creek**	**6.04**	**44**	Pn	Pn	10 08 10.6	-1.8
RKAV	**Rock Avalanche**	**6.11**	**82**		Pn	10 08 13.0	-0.4
M27K	**Edge Creek, AK**	**6.13**	**62**	Pn	Pn	10 08 13.8	0.0
G19K	**Purcell Mounta**	**6.40**	**347**	Pn	Pn	10 08 16.9	-0.2
L27K	**Beaver Creek,**	**6.41**	**56**	Pn	Pn	10 08 17.0	-0.3
H24K	**Noodor Dome**	**6.43**	**21**		Pn	10 08 16.1	-1.5

*IDC **05** 10:21:20.2±1.9,5°.00S×150°.85E,h230km±16km,mb3.5/8, mbtmp4.1/9,Error ellipse: s-maj=45.9km s-min=13.0km az=124.0*
*NEIC **05** 10:21:20.7±1.3,5°.02S±0°.08×150°.95E±0°.07,h223km±8km, mb4.4/35,Error ellipse: s-maj=12.2km s-min=10.0km az=184.0*

ISC 05 10:21:20.1±0.5,5°.04S±0°.06×150°.94E±0°.07,h223km,n60, σ0°76/65,mb4.3/25,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.48**	**56**	Pn	**Pn**	**10 21 56.1**	**+0.3**
RABL				Sn	**S**	**10 22 24.1**	**+0.5**
MANU	**Manus Island**	**4.64**	**310**	Pn	**Pn**	**10 22 31.0**	**+0.3**
MANU				Sn	**S**	**10 23 27.4**	**+1.1**
PMG	**Port Moresby**	**5.74**	**221**	Pn	**Pn**	**10 22 44.7**	**+0.3**
PMG	**Port Moresby**	**5.74**	**221**	P	**Pn**	**10 22 44.4**	**0.0**
	131nm,0.8s,baz=30,slow=10,SNR=24						
PMG				S	**S**	**10 23 51.8**	**+0.5**
	24nm,0.9s,baz=198,slow=21,SNR=1.4						
COEN	**Coen**	**11.71**	**220**	Pn	**Pn**	**10 24 02.3**	**+1.5**
COEN	**Coen**	**11.71**	**220**	P	**Pn**	**10 24 00.7**	**-0.1**
MTSU	**Mount Surprise**	**14.54**	**206**	P	**Pn**	**10 24 36.0**	**+0.1**
QIS	**Mount Isa**	**18.96**	**215**	P	**P**	**10 25 24.2**	**-0.7**
KDU	**Kakadu**	**19.75**	**246**	P	**P**	**10 25 32.9**	**-0.5**
EIDS	**Eidsvold**	**20.22**	**180**	P	**P**	**10 25 38.8**	**+0.5**
EIDS				IAmb	IAmb	10 25 39.0	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**21.91**	**226**	P	**P**	**10 25 55.2**	**-0.5**
WRAB				IAmb	IAmb	10 25 56.3	
	comp=Z,7.3nm,0.6s						
WB2	**Warramunga Arr**	**21.91**	**226**	P	**P**	**10 25 55.2**	**-0.6**
WB2				IAmb	IAmb	10 25 55.6	
	comp=Z,8.5nm,0.6s						
WRA	**Warramunga Arr**	**21.92**	**226**	P	**P**	**10 25 54.1**	**-1.7**
WRA	**Warramunga Arr**	**21.92**	**226**	P	**P**	**10 25 55.1**	**-0.7**
	comp=Z,5.0nm,0.5s,baz=51,slow=10,SNR=82						
WRA				S	**S**	**10 29 40.5**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=43,slow=17,SNR=3.0						
WRA				ScP	**ScP**	**10 33 01.3**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=50,slow=2.8,SNR=5.9						
	comp=Z,5.0nm,0.5s						
QLP	**Quilpie**	**22.36**	**196**	P	**P**	**10 26 00.6**	**+0.8**
DZM	**Mont Dzumac**	**22.63**	**140**	P	**P**	**10 26 02.9**	**+0.5**
KNRA	**Kununurra**	**24.21**	**242**	P	**P**	**10 26 18.0**	**+1.3**
KNRA				IAmb	IAmb	10 26 33.8	
	comp=Z,17nm,1.3s						
INKA	**Innaminka**	**24.58**	**202**	P	**P**	**10 26 20.6**	**+0.8**
AS01	**Alice Springs**	**24.72**	**220**	P	**P**	**10 26 20.9**	**-0.4**
AS31	**Alice Springs**	**24.75**	**220**	P	**P**	**10 26 21.4**	**-0.2**
ASAR	**Alice Springs**	**24.75**	**220**	P	**P**	**10 26 21.1**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=52,slow=8.9,SNR=53						
	comp=Z,1.4nm,0.4s						
ARMA	**Armidale**	**25.26**	**179**	P	**P**	**10 26 26.1**	**0.0**
ARMA				IAmb	IAmb	10 27 02.1	
	comp=Z,22nm,1.5s						
FITZ	**Fitzroy Crossi**	**27.92**	**240**	P	**P**	**10 26 49.5**	**-0.4**
STKA	**Stephens Creek**	**28.10**	**197**	P	**P**	**10 26 50.6**	**-0.7**
STKA	**Stephens Creek**	**28.10**	**197**	P	**P**	**10 26 50.3**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=26,slow=14,SNR=7.5						
	comp=Z,2.6nm,0.6s						
CAN	**Canberra**	**30.19**	**183**	P	**P**	**10 27 09.8**	**0.0**
MORW	**Morawa**	**40.76**	**230**	P	**P**	**10 28 39.0**	**-0.8**
MORW				IAmb	IAmb	10 29 20.9	
	comp=Z,29nm,1.4s						
TKNZ	**Takaka Hill**	**40.92**	**154**	P	**P**	**10 28 41.7**	**+0.9**
RTZ	**Ruatahuna**	**40.94**	**148**	P	**P**	**10 28 42.4**	**+1.3**
RTZ				IAmb	IAmb	10 28 42.9	
	comp=Z,24nm,1.4s						
BKZ	**Black Stump Fm**	**41.10**	**149**	P	**P**	**10 28 43.2**	**+0.8**
BKZ				IAmb	IAmb	10 29 22.0	
	comp=Z,10nm,1.3s						
TCW	**Tory Channel**	**41.64**	**153**	P	**P**	**10 28 47.5**	**+0.8**
TUWZ	**Tuamarina**	**41.67**	**154**	P	**P**	**10 28 48.2**	**+1.3**
GVZ	**Greta Valley S**	**42.55**	**156**	P	**P**	**10 28 53.9**	**0.0**
UWE	**Uwekahuna**	**58.20**	**64**	P	**P**	**10 30 50.6**	**-1.0**
PEA0B	**Petropavlovsk-**	**58.21**	**5**	P	**P**	**10 30 50.8**	**0.0**
PETK	**Petropavlovsk-**	**58.21**	**5**	P	**P**	**10 30 51.1**	**+0.3**
PETK	**Petropavlovsk-**	**58.21**	**5**	P	**P**	**10 30 50.0**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=183,slow=6.8,SNR=2.0						
	comp=Z,1.0nm,0.5s						
BYL	**Byron's Ledge**	**58.23**	**64**	P	**P**	**10 30 50.8**	**-1.0**
M14K	**Bethel**	**75.10**	**22**	P	**P**	**10 32 38.2**	**+0.9**
K15K	**Wolf Creek Mou**	**76.27**	**21**	P	**P**	**10 32 44.9**	**+1.0**
K15K				IAmb	IAmb	10 32 52.3	
	comp=Z,20nm,1.4s						
OHAK	**Old Harbor**	**76.61**	**28**	P	**P**	**10 32 46.1**	**+0.2**
OHAK				IAmb	IAmb	10 33 03.2	
	comp=Z,24nm,1.4s						
L18K	**Granite Mounta**	**78.00**	**22**	P	**P**	**10 32 54.4**	**+0.9**
L18K				IAmb	IAmb	10 33 19.6	
	comp=Z,6.1nm,1.2s						
L19K	**White Mountain**	**78.68**	**23**	P	**P**	**10 32 58.1**	**+0.8**
L19K				IAmb	IAmb	10 33 02.0	
	comp=Z,13nm,1.4s						
G18K	**Tagagawik**	**79.56**	**19**	P	**P**	**10 33 02.2**	**+0.2**
SUA	**Susitna One**	**79.93**	**25**	P	**P**	**10 33 04.8**	**+0.5**
SUA				IAmb	IAmb	10 33 24.3	
	comp=Z,8.2nm,1.3s						
G19K	**Purcell Mounta**	**80.22**	**19**	P	**P**	**10 33 05.6**	**+0.1**
G19K				IAmb	IAmb	10 33 47.2	
	comp=Z,7.6nm,1.5s						
CAST	**Castle Rocks**	**80.42**	**22**	P	**P**	**10 33 06.3**	**-0.4**
E19K	**Redstone River**	**80.97**	**18**	P	**P**	**10 33 10.0**	**+0.6**
SML	**Sawmill**	**81.11**	**25**	P	**P**	**10 33 10.3**	**-0.1**
SML				IAmb	IAmb	10 33 27.9	
	comp=Z,12nm,1.3s						
M24K	**Tolsona, Glenn**	**82.15**	**25**	P	**P**	**10 33 16.1**	**+0.3**
M24K				IAmb	IAmb	10 33 17.0	
	comp=Z,13nm,1.3s						
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**10 33 19.1**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=256,slow=5.2,SNR=13						
	comp=Z,0.6nm,0.7s						
J25K	**Salcha River,**	**83.59**	**23**	P	**P**	**10 33 22.9**	**-0.3**
G24K	**Hadweenzic Riv**	**83.77**	**21**	P	**P**	**10 33 24.2**	**+0.2**
G24K				IAmb	IAmb	10 34 04.4	
	comp=Z,6.9nm,1.5s						
D23K	**Nanushuk River**	**83.84**	**18**	P	**P**	**10 33 25.4**	**+1.2**
M27K	**Edge Creek, AK**	**84.09**	**26**	P	**P**	**10 33 26.3**	**+0.5**
M27K				IAmb	IAmb	10 33 34.4	
	comp=Z,7.8nm,1.4s						
BCAR	**Beaver Creek A**	**84.40**	**25**	P	**P**	**10 33 28.3**	**+1.0**
QSPA	**South Pole Qui**	**84.93**	**180**	P	**P**	**10 33 30.3**	**+0.3**
QSPA				IAmb	IAmb	10 34 06.4	
	comp=Z,7.1nm,1.5s						
QSPA	**South Pole Qui**	**84.93**	**180**	P	**P**	**10 33 29.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz

1.9nm,0.3s,baz=351,slow=13,SNR=79
WRA Sn Sn 10 38 59.5 -17
2.9nm,0.3s,baz=356,slow=22,SNR=8.0
1.8nm,0.3s
COEN Coen 14.57 124 P **Pn 10 36 38.8 +0.1**
QIS Mount Isa 16.91 151 P **Pn 10 37 07.2 -0.1**
ASAR Alice Springs 17.94 171 P **Pn 10 37 19.3 -0.3**
0.9nm,0.3s,baz=348,slow=10,SNR=68
ASAR S **S 10 40 29.3 -7.2**
2.1nm,0.7s,baz=341,slow=21,SNR=5.1
2.7nm,0.5s
AS01 Alice Springs 17.95 171 P **Pn 10 37 19.7 0.0**
MTSU Mount Surprise 17.95 134 P **Pn 10 37 20.5 +0.8**
MTSU Mount Surprise 17.95 134 S **Sn 10 40 39.6 -1.7**
PSA00 Pilbara Seismi 18.88 213 P **Pn 10 37 29.9 -0.8**
WRKA Warakurna 19.21 187 P **Pn 10 37 33.8 -0.7**
OOD Oodnadatta 22.29 169 P **P 10 38 06.2 +1.7**
INKA Innaminka 23.71 158 P **P 10 38 20.3 +2.6**
LCRK Leigh Creek 25.42 165 P **P 10 38 35.6 +2.4**
MGCD Mangrove Creek 33.10 148 P **P 10 39 44.5 +3.3**
CMAR Chiang Mai Arr 39.66 308 P **P 10 40 38.3 +1.3**
0.8nm,0.5s,baz=133,slow=7.7,SNR=6.3
0.8nm,0.5s
USRK Ussuriysk Ar. 49.85 1 P **P 10 41 58.4 +1.2**
1.1nm,0.5s,baz=174,slow=12,SNR=4.7
1.1nm,0.5s
XLT XiLinHaoTe 51.30 346 *e*P **P 10 42 10.2 +2.0**
XLT pP pP 10 42 37.9 -2.9
XLT PcP **PcP 10 43 26.1 +5.0**
XLT PP **PP 10 44 06.4 -0.5**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,140nm,5.9s
MKAR Makanchi Array 67.74 326 P **P 10 44 03.2 +2.3**
comp=Z,1.3nm,0.4s,baz=114,slow=7.7,SNR=29
comp=Z,1.3nm,0.4s
KURBB Kurchatov Arra 71.99 328 P **P 10 44 28.8 +2.1**
comp=Z,0.7nm,0.6s,baz=126,slow=4.9,SNR=9.1
comp=Z,0.7nm,0.6s

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*SJA **05** 10:34:12.9±0.6, 33.°90S×73.°74W, h24km±53km, ML3.6, MW3.9*
*GUC **05** 10:34:27.5±0.9, 33.°74S×72.°39W, h44km±5km, ML3.2*
ISC 05 10:34:27.5±1.9, 33.°72S±0.°05×72.°58W±0.°10, h35km, n38, σ1§37/40, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.81**	**86**	⇓ *i*P	**Pn**	**10 34 41.1**	**-1.3**
VA05				*e*S	**Sn**	**10 34 51.4**	**-1.8**
VA05				IAML		10 34 52.8	
comp=N,4μm,0.3s							
BO03	**Pichilemu**	**0.93**	**147**	*e*P	**Pn**	**10 34 44.1**	**-0.1**
BO03				*e*S	**Sn**	**10 34 56.1**	**-0.2**
BO03				IAML		10 35 02.1	
comp=E,2μm,0.4s							
MT01	**Popeta**	**1.12**	**98**	⇑ *i*P	**Pn**	**10 34 45.7**	**-1.0**
MT01				*e*S	**Sn**	**10 34 59.7**	**-1.2**
MT01				IAML		10 35 01.1	
comp=N,1μm,0.2s							
MT01				*e*		10 35 18.4	
MT02	**Curacav**	**1.29**	**70**	⇑ *i*P	**Pn**	**10 34 48.1**	**-1.0**
MT09	**Talagante**	**1.33**	**93**	*e*P	**Pn**	**10 34 48.7**	**-1.0**
MT09				IAML		10 35 10.2	
comp=N,947nm,0.3s							
GO05	**Hualane**	**1.40**	**157**	*e*P	**Pn**	**10 34 51.2**	**+0.6**
GO05				IAML		10 35 16.9	
comp=E,513nm,0.3s							
BO01	**Tunca**	**1.41**	**119**	*e*P	**Pn**	**10 34 50.0**	**-0.7**
ROCH	**El Roble**	**1.51**	**61**	*e*P	**Pn**	**10 34 51.6**	**-0.7**
ROCH				IAML		10 35 16.6	
comp=N,737nm,0.6s							
MT05	**Renca**	**1.57**	**79**	*e*P	**Pn**	**10 34 53.4**	**+0.3**
MT05				IAML		10 35 20.9	
comp=N,374nm,0.3s							
VA06	**Catapilco**	**1.58**	**43**	*e*P	**Pn**	**10 34 52.1**	**-0.9**
VA06				IAML		10 35 22.0	
comp=E,2μm,0.5s							
BO04	**La Punta**	**1.67**	**100**	*e*P	**Pn**	**10 34 54.1**	**-0.1**
BO04				IAML		10 35 18.8	
comp=E,330nm,0.4s							
PEL	**Peldehue**	**1.69**	**71**	*e*P	**Pn**	**10 34 54.7**	**+0.1**
PEL				IAML		10 35 24.8	
comp=N,556nm,0.6s							
MT15	**Las Vizcachas**	**1.74**	**87**	*e*P	**Pn**	**10 34 54.9**	**-0.4**
MT15				IAML		10 35 23.9	
comp=E,614nm,0.3s							
MT14	**Cerro Calan**	**1.74**	**80**	*e*P	**Pn**	**10 34 55.6**	**+0.2**
MT14				IAML		10 35 29.2	
comp=E,513nm,0.5s							
MT16	**CCHEN**	**1.74**	**81**	*e*P	**Pn**	**10 34 55.6**	**+0.2**
MT16				IAML		10 35 27.1	
comp=N,300nm,0.5s							
MT03	**Universidad Ad**	**1.75**	**83**	*e*P	**Pn**	**10 34 55.1**	**-0.3**
MT03				IAML		10 35 28.1	
comp=E,498nm,0.2s							
MT10	**Hacienda Santa**	**1.77**	**76**	⇑ *i*P	**Pn**	**10 34 56.2**	**+0.4**
BO02	**Sierra Bellavi**	**1.84**	**126**	*e*P	**Pn**	**10 34 57.2**	**+0.5**
BO02				IAML		10 35 29.5	
comp=E,636nm,0.4s							
MT13	**San Alfonso**	**1.92**	**91**	*e*P	**Pn**	**10 34 57.7**	**-0.1**
MT13				IAML		10 35 26.7	
comp=E,502nm,0.3s							
VA03	**San Esteban**	**1.95**	**61**	*e*P	**Pn**	**10 34 58.1**	**-0.1**
VA03				IAML		10 35 34.5	
comp=E,583nm,0.4s							
VA03	**San Esteban**	**1.95**	**61**	*i* P	**Pn**	**10 34 58.3**	**0.0**
VA03				*i* S	Sn	10 35 34.4	+13
VA03				IAML		10 35 34.6	
comp=Z,357nm,0.5s							
FCH	**Farellones**	**1.96**	**79**	⇑ *i*P	**Pn**	**10 34 58.7**	**+0.2**
FCH				IAML		10 35 29.9	
comp=N,231nm,0.4s							
LMEL	**Las Melosas**	**1.99**	**94**	*e*P	**Pn**	**10 34 58.8**	**0.0**
LMEL				IAML		10 35 35.5	
comp=N,316nm,0.5s							
MT04	**Ro Olivares**	**2.07**	**82**	*e*P	**Pn**	**10 35 00.1**	**+0.1**
MT04				IAML		10 35 33.6	
comp=E,208nm,0.3s							
MT08	**Bocatoma Ro**	**2.16**	**83**	*e*P	**Pn**	**10 35 01.9**	**+0.6**
MT08				IAML		10 35 44.2	
comp=E,283nm,0.9s							
ML02	**Panimavida**	**2.25**	**155**	IAML		10 35 47.4	
comp=E,535nm,0.5s							
AUSP	**Uspallata**	**3.07**	**62**	*i* P	**Pn**	**10 35 17.4**	**+3.6**
AUSP				*i* S	Sn	10 36 04.1	+15
CO06	**Fray Jorge**	**3.14**	**15**	*e*P	**Pn**	**10 35 13.7**	**-0.9**
ARCO	**CERRO ARCO**	**3.18**	**75**	*i* P	**Pn**	**10 35 18.3**	**+3.1**
AAGR	**Agrelo**	**3.20**	**80**	*i* P	**Pn**	**10 35 18.3**	**+2.8**
AAGR				IAML		10 36 28.4	
comp=Z,30nm,4.5s							
CO03	**El Pedregal**	**3.29**	**30**	*e*P	**Pn**	**10 35 16.6**	**0.0**
ASAL	**Salagasta**	**3.34**	**71**	*i* P	**Pn**	**10 35 20.6**	**+3.3**
ASAL				*i* S	Sn	10 36 11.0	+15
ASAL				IAML		10 36 18.9	
comp=Z,32nm,1.2s							
RTLS	**Leoncito**	**3.37**	**56**	*i* P	**Pn**	**10 35 20.6**	**+2.6**
RTLS				*i* S	Sn	10 36 10.7	+14
RTLS				IAML		10 36 21.6	
comp=Z,169nm,0.6s							
ACCO	**Cerro Coronel**	**4.32**	**45**	*i* P	**Pn**	**10 35 33.0**	**+2.0**
AROD	**Rodeo**	**4.42**	**38**	*i* P	**Pn**	**10 35 33.6**	**+1.2**
ACDV	**Cuesta del Vie**	**4.60**	**41**	*i* P	**Pn**	**10 35 35.8**	**+1.0**
ACDV				IAML		10 37 05.6	
comp=Z,22nm,1.0s							
AGUA	**GUANDACOL**	**5.48**	**41**	*i* P	**Pn**	**10 35 47.6**	**+0.8**
AGUA				IAML		10 37 34.5	
comp=Z,23nm,2.8s							
ACHE	**Chepes**	**5.62**	**65**	*i* P	**Pn**	**10 35 49.3**	**+0.6**

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*IDC **05** 10:39:11.5±1.8, 5.°88S×130.°33E, h0km, mb4.1/2, mbtmp4.2/5, ML4.4/3, Error ellipse: s-maj=85.6km s-min=25.5km az=78.0*
ISC 05 10:39:22.8±0.9, 6.°35S±0.°05×130.°27E±0.°10, h100km, n16, σ4§06/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.85**	**349**	P	**Pn**	**10 39 56.4**	**+2.9**
SAUI	**Saumlaki**	**1.92**	**148**	P	**Sn**	**10 40 24.1**	**+5.7**
FAKI	**Fak Fak**	**3.94**	**30**	P	**Pn**	**10 40 21.5**	**+0.3**
FAKI	**Fak Fak**	**3.94**	**30**	S	**Sn**	**10 41 04.2**	**-2.3**
DRS	**Darwin Rock St**	**6.07**	**174**	P	**Pn**	**10 40 54.0**	**+3.9**
DRS	**Darwin Rock St**	**6.07**	**174**	S	**Sn**	**10 42 00.7**	**+2.4**
MTN	**Manton Dam**	**6.51**	**173**	P	**Pn**	**10 40 59.4**	**+3.4**
MTN	**Manton Dam**	**6.51**	**173**	S	**Sn**	**10 42 12.6**	**+3.8**
KDU	**Kakadu**	**6.66**	**161**	P	**Pn**	**10 41 00.7**	**+2.6**
KDU	**Kakadu**	**6.66**	**161**	S	**Sn**	**10 42 13.0**	**+0.4**
SOEI	**Soe**	**6.83**	**240**	P	**Pn**	**10 41 04.7**	**+4.1**
FITZ	**Fitzroy Crossi**	**12.52**	**201**	Pn	**Pn**	**10 42 17.0**	**-0.4**
1.8nm,0.3s,baz=19,slow=9.1,SNR=10							
FITZ				Sn	**Sn**	**10 44 28.4**	**-6.7**
1.4nm,0.3s,baz=110,slow=23,SNR=3.3							
4.3nm,0.3s							
WRA	**Warramunga Arr**	**14.08**	**164**	Pn	**Pn**	**10 42 38.2**	**+0.4**
1.6nm,0.3s,baz=345,slow=11,SNR=5.7							
WRA				Sn	**Sn**	**10 45 05.8**	**-7.1**
1.9nm,0.3s,baz=335,slow=20,SNR=7.5							
2.5nm,0.5s							
ASAR	**Alice Springs**	**17.57**	**169**	P	**Pn**	**10 43 23.9**	**+2.4**
1.0nm,0.3s,baz=342,slow=9.0,SNR=8.0							
ASAR				S	**Sn**	**10 46 30.6**	**-6.6**
2.5nm,0.8s,baz=349,slow=26,SNR=5.9							
2.7nm,0.5s							
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**10 50 09.6**	**-0.7**
1.6nm,0.6s,baz=122,slow=7.8,SNR=25							
1.6nm,0.6s							
KURBB	**Kurchatov Arra**	**72.10**	**328**	P	**P**	**10 50 35.1**	**-1.1**
0.7nm,0.5s,baz=127,slow=4.9,SNR=7.1							
0.7nm,0.5s							

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*NEIC **05** 10:48:10.4±1.6, 39.°22N±0.°02×114.°97W±0.°03, h3km±5km, Error ellipse: s-maj=3.1km s-min=2.9km az=225.0*
REN 05 10:48:11.6±2.0, 39.°22N±0.°02×114.°98W±0.°03, h2km±2km, ML2.9/4, ML2.6/88(NEIC), Error ellipse: s-maj=3.1km s-min=3.0km az=182.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q12A	**Willow Creek R**	**0.21**	**146**		Pg	10 48 16.0	+0.3
Q12A					Sg	10 48 19.0	+0.5
SPR3	**Spring Creek 3**	**0.55**	**113**		Pb	10 48 23.3	-0.9
SPR3				IAML		10 48 33.7	
comp=E,360nm,0.1s							
R11B	**Troy Canyon, C**	**0.99**	**209**		Pg	10 48 30.0	-0.5
PSUT	**Pine Spring**	**1.11**	**128**		Sg	10 48 46.6	-0.8
PSUT	**Pine Spring**	**1.11**	**128**		Pg	10 48 32.2	-0.7
PSUT	**Pine Spring**	**1.11**	**128**	IAML		10 48 47.4	
comp=N,317nm,0.5s							
PSUT				IAML		10 48 47.6	
comp=E,219nm,0.3s							
ELK	**Elko**	**1.54**	**353**		Pn	10 48 39.2	-1.1
ELK					Sn	10 49 00.1	-0.9
S11A	**Rachel**	**1.68**	**201**		Pn	10 48 41.1	-1.1
S11A					Sn	10 49 04.0	-0.4
Q09A	**Carvers**	**1.75**	**258**		Sg	10 49 07.8	-0.1
PRN	**Pahroc Range**	**1.81**	**182**		Pn	10 48 43.1	-0.8
ARUT	**Antelope Range**	**1.87**	**139**		Pb	10 48 45.8	-0.8
DUG	**Dugway, Tooele**	**1.94**	**59**	Pn	Pn	10 48 44.8	-0.9
DUG				IAML		10 49 14.0	
comp=E,40nm,0.7s							
DUG				IAML		10 49 16.3	
comp=E,46nm,0.7s							
TCRU	**Three Creeks R**	**2.07**	**106**	Pn	Pn	10 48 46.8	-0.8
TCRU				IAML		10 49 19.7	
comp=N,44nm,0.6s							
TCRU				IAML		10 49 34.1	
comp=E,39nm,0.9s							
MSU	**Marysvale**	**2.30**	**107**	Pn	Pn	10 48 49.7	-1.0
MZP	**Montezuma Peak**	**2.42**	**232**	Pn	Pn	10 48 51.8	-0.7
MZP				IAML		10 49 28.7	
comp=E,22nm,0.6s							
MZP				IAML		10 49 29.4	
comp=N,22nm,0.7s							
CPY	**CP-1**	**2.44**	**201**		Pn	10 48 52.4	-0.1
TPNV	**Topopah Spring**	**2.48**	**204**	Pn	Pn	10 48 52.5	-0.6
TPNV				IAML		10 49 32.8	
comp=N,40nm,0.4s							
MTPU	**Mount Pierson**	**2.49**	**117**	Pn	Pn	10 48 52.3	-1.2
LCMT	**Little Creek M**	**2.60**	**148**	Pn	Pn	10 48 54.4	-0.3
LCMT				IAML		10 49 38.3	
comp=N,22nm,0.3s							
LCMT				IAML		10 49 39.0	
comp=E,22nm,0.2s							
NV11	**Mina Array Sit**	**2.60**	**253**		Pn	10 48 54.5	-0.3
GMN	**Gold Mountain**	**2.62**	**224**	Pn	Pn	10 48 54.9	-0.3
GMN				IAML		10 49 37.1	
comp=N,36nm,0.6s							
GMN				IAML		10 49 37.2	
comp=E,25nm,0.5s							
NSP	**Numbskull Pass**	**2.67**	**202**		Pn	10 48 55.9	+0.2
MPU	**Maple Canyon**	**2.71**	**72**	Pn	Pn	10 48 55.5	-0.8
MPU					LR	10 49 38.5	
NVAR	**Mina Array Bea**	**2.71**	**254**		Pn	10 48 55.7	-0.7
SHPR	**Sheep Range**	**2.71**	**183**	Pn	Pn	10 48 55.8	-0.6
SHPR				IAML		10 49 48.0	
comp=E,20nm,0.6s							
NV08	**Mina Array Sit**	**2.73**	**254**		Pn	10 48 56.1	-0.5
NV09	**Mina Array Sit**	**2.73**	**254**		Pn	10 48 56.4	-0.3
WCT	**Wildcat Mounta**	**2.75**	**209**	Pn	Pn	10 48 56.5	-0.3
WCT				IAML		10 49 46.4	
comp=E,21nm,0.5s							
PKCU	**Pink Cliffs**	**2.75**	**129**		Pn	10 48 57.2	+0.2
KNB	**Kanab**	**2.78**	**142**		Pn	10 48 57.6	+0.2
KNB				IAML		10 49 39.8	
comp=E,21nm,0.6s							
KNB				IAML		10 49 40.0	
comp=N,18nm,0.9s							
SDH	**Striped Hills**	**2.78**	**203**		Pg	10 49 03.6	-1.3
RYN	**Ryan**	**2.82**	**259**		Pn	10 48 57.6	-0.2
LCH	**Last Change Ra**	**2.89**	**227**		Pn	10 48 58.5	-0.3
LHV	**Little Huntoon**	**2.92**	**252**		Pn	10 48 59.0	0.0
LHV				IAML		10 49 46.6	
comp=E,27nm,0.4s							
LHV				IAML		10 49 49.2	
comp=N,30nm,0.4s							
TMUT	**Trail Mountain**	**2.93**	**87**	Pn	Pn	10 48 59.6	+0.1
TMUT				IAML		10 49 54.8	
comp=E,18nm,0.5s							
AMDNV	**Amargosa**	**2.95**	**201**		Pb	10 49 05.8	+1.0
Q16A	**Castle Valley**	**2.98**	**95**	Pn	Pn	10 49 00.0	-0.1
DSP	**Deep Springs**	**2.99**	**233**		Pn	10 49 00.3	+0.3
HVU	**Hansel Valley**	**3.06**	**33**	Pn	Pn	10 49 00.9	-0.3
HVU				IAML		10 49 54.2	
comp=E,24nm,0.5s							
GWY	**Greenwater Val**	**3.31**	**204**	Pn	Pn	10 49 04.8	+0.2
GWY				IAML		10 50 03.2	
comp=N,22nm,0.4s							
TCUT	**Toone Canyon**	**3.33**	**54**	Pn	Pn	10 49 04.6	-0.3
PAHR	**Pah Rah Range**	**3.44**	**280**		Pn	10 49 06.6	+0.2
PAHR				IAML		10 50 03.6	
comp=E,13nm,0.9s							
PAHR				IAML		10 50 05.1	
comp=N,12nm,0.9s							
SRU	**San Rafael Swe**	**3.47**	**90**	Pn	Pn	10 49 07.1	+0.3
SRU				IAML		10 50 01.7	
comp=N,10nm,0.4s							
SRU				IAML		10 50 03.2	
comp=E,18nm,0.5s							
V12A	**Nelson**	**3.49**	**178**		Pn	10 49 06.3	-0.7
V12A				IAML		10 50 03.9	
comp=N,19nm,0.7s							
V12A				IAML		10 50 04.3	
comp=E,17nm,0.7s							
BSUT	**Blindstream Ca**	**3.50**	**67**	Pn	Pn	10 49 07.3	-0.1
BSUT				IAML		10 49 54.0	
comp=E,9.3nm,4.5s							
U15A	**North Rim**	**3.51**	**142**	Pn	Pn	10 49 08.8	+1.4
U15A				IAML		10 50 16.9	
comp=E,12nm,0.7s							
U15A				IAML		10 50 24.2	
comp=N,13nm,4.3s							
WAKR	**Walker**	**3.55**	**260**		Pn	10 49 07.5	-0.4
WAKR				IAML		10 50 07.8	
comp=N,11nm,2.1s							
WAKR				IAML		10 50 15.9	
comp=E,10nm,3.6s							
HMU	**Henry Mountain**	**3.56**	**110**	Pn	Pn	10 49 07.3	-0.8
HMU				IAML		10 50 09.5	
comp=N,11nm,0.9s							
HMU				IAML		10 50 22.4	
comp=E,10nm,0.9s							
PNTR	**Pine Nut**	**3.59**	**269**		Pn	10 49 08.1	-0.4
PNTR				IAML		10 50 07.2	
comp=E,14nm,0.7s							
PNTR				IAML		10 50 10.9	
P18A	**Preston Nutter**	**3.69**	**82**	Pn	Pn	10 49 09.1	-0.9
P18A				IAML		10 50 14.8	
comp=E,12nm,3.5s							
P18A				IAML		10 50 25.7	
comp=N,9.0nm,4.1s							
PEAR	**Peavine Mounta**	**3.88**	**277**		Pn	10 49 13.3	+0.9
W13A	**Hualapai Mount**	**4.21**	**168**	Pn	Pn	10 49 16.0	-0.9
W13A				IAML		10 50 26.2	
comp=N,6.1nm,3.5s							
W13A				IAML		10 50 39.6	
comp=E,7.8nm,4.4s							
BEKR	**Beckworth**	**4.21**	**281**		Pn	10 49 18.5	+1.6

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*IDC **05** 11:05:12.1±0.9, 9.°29S×158.°83E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=28.0km s-min=16.3km az=175.0*
*NEIC **05** 11:05:12.6±1.7, 9.°0S±0.°2×158.°77E±0.°05, h10km±2km, mb4.1/9, Error ellipse: s-maj=35.6km s-min=5.8km az=9.0*
ISC 05 11:05:13.6±0.7, 9.°3S±0.°1×158.°77E±0.°07, h10km, n17, σ0§82/18, mb3.9/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.17**	**96**	Pn	**Pn**	**11 05 35.6**	**-0.5**
142nm,0.3s,baz=196,slow=8.8,SNR=40							
HNR				Sn	**Sb**	**11 05 51.2**	**+0.1**
410nm,0.3s,baz=163,slow=12,SNR=26							
COEN	**Coen**	**15.95**	**252**	Pn	**Pn**	**11 08 57.1**	**-1.3**
WR0	**Warramunga Arr**	**25.68**	**243**	P	**P**	**11 10 43.5**	**-0.6**
WR0				IAmb	IAmb	11 10 47.9	
comp=Z,3.4nm,0.8s							
WB0	**Warramunga Arr**	**25.75**	**243**	P	**P**	**11 10 43.9**	**-0.7**
WB0				IAmb	IAmb	11 10 52.5	
comp=Z,7.9nm,1.1s							
WB2	**Warramunga Arr**	**25.84**	**243**	P	**P**	**11 10 45.6**	**+0.1**
WB2				IAmb	IAmb	11 10 53.3	
comp=Z,2.3nm,0.8s							
WRA	**Warramunga Arr**	**25.85**	**243**	P	**P**	**11 10 45.2**	**-0.5**
WRA	**Warramunga Arr**	**25.85**	**243**	P	**P**	**11 10 46.0**	**+0.3**
comp=Z,2.1nm,0.9s,baz=70,slow=9.6,SNR=6.4							
comp=Z,2.1nm,0.9s							
STKA	**Stephens Creek**	**27.53**	**213**	P	**P**	**11 11 00.1**	**-0.6**
STKA	**Stephens Creek**	**27.53**	**213**	P	**P**	**11 11 01.5**	**+0.8**
comp=Z,1.3nm,0.5s,baz=55,slow=16,SNR=4.8							
comp=Z,1.3nm,0.5s							
ASAR	**Alice Springs**	**27.72**	**236**	P	**P**	**11 11 02.0**	**-0.5**
comp=Z,0.7nm,0.8s,baz=71,slow=9.2,SNR=5.3							
comp=Z,0.7nm,0.8s							
BBOO	**Buckleboo**	**31.41**	**219**	P	**P**	**11 11 36.0**	**+0.8**
BKZ	**Black Stump Fm**	**33.70**	**155**	P	**P**	**11 11 56.1**	**+1.1**
BKZ				IAmb	IAmb	11 12 03.9	
comp=Z,4.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**65.15**	**295**	P	**P**	**11 15 57.0**	**+1.6**
comp=Z,0.5nm,0.3s,baz=119,slow=9.5,SNR=1.9							
comp=Z,0.5nm,0.3s							
SONM	**Songino Array**	**73.31**	**326**	P	**P**	**11 16 46.0**	**+0.4**
comp=Z,0.8nm,0.6s,baz=123,slow=5.5,SNR=4.1							
comp=Z,0.8nm,0.6s							
QSPA	**South Pole Qui**	**80.68**	**180**	P	**P**	**11 17 26.2**	**-0.6**
QSPA				IAmb	IAmb	11 17 34.6	
comp=Z,1.7nm,1.1s							
ILAR	**Eielson Array**	**84.19**	**20**	P	**P**	**11 17 44.0**	**-0.9**
comp=Z,0.3nm,0.5s,baz=243,slow=5.1,SNR=9.1							
comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**87.61**	**318**	P	**P**	**11 18 02.2**	**-0.1**
comp=Z,0.2nm,0.5s,baz=96,slow=6.0,SNR=2.4							
comp=Z,0.2nm,0.5s							

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*IDC **05** 11:06:33.0±3.1, 8.°24S×111.°52E, h0km, mb3.5/3, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=177.7km s-min=25.8km az=49.0*
*DJA **05** 11:06:47.7±0.3, 9.°S±7.°×11.°2E±.°, h102km±5km, M3.9/18, mB4.9/1, mb4.3/5, MLv3.7/18, Mw(mB)4.2/1*
ISC 05 11:06:47.3±1.0, 8.°8S±0.°1×111.°87E±0.°06, h100km, n18, σ1§91/20, mb3.2/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.88**	**309**	P	**Pn**	**11 07 07.8**	**+1.3**
PCJI				S	**Sn**	**11 07 21.6**	**+0.8**
NGJI	**Ngawi**	**1.43**	**344**	P	**Pn**	**11 07 12.0**	**-0.7**
UGM	**Wanagama**	**1.57**	**302**	P	**Pn**	**11 07 14.5**	**0.0**
UGM				S	**Sn**	**11 07 34.5**	**-0.6**
GMJI	**Gumukmas**	**1.63**	**73**	P	**Pn**	**11 07 16.3**	**+1.1**
YOGI	**Yogyakarta**	**1.81**	**301**	P	**Pn**	**11 07 16.3**	**-1.2**
JAGI	**Jajag, Banyuwa**	**2.27**	**83**	P	**Pn**	**11 07 24.8**	**+1.3**
ABJI	**Asem Bagus**	**2.52**	**68**	P	**Pn**	**11 07 26.8**	**0.0**
KMMI	**Kalianget**	**2.68**	**51**	P	**Pn**	**11 07 28.5**	**-0.3**
SRBI	**Singaraja**	**3.37**	**79**	P	**Pn**	**11 07 37.9**	**-0.2**
CMJI	**Cimerak**	**3.52**	**286**	P	**Pn**	**11 07 39.7**	**-0.3**
CNJI	**Cibinong**	**4.91**	**287**	P	**Pn**	**11 07 58.6**	**-0.2**
PLAI	**Plampang**	**5.84**	**91**	P	**Pn**	**11 08 12.4**	**+0.9**
CGJI	**Cibinong**	**6.48**	**289**	P	**Pn**	**11 08 20.4**	**+0.3**
WBSI	**Waikabubak, Su**	**7.48**	**97**	P	**Pn**	**11 08 34.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**16.29**	**126**	Pn	**P**	**11 10 32.6**	**+1.1**
0.2nm,0.3s,baz=293,slow=11,SNR=6.2							
FITZ				Sn	**Sn**	**11 13 24.2**	**-6.8**
0.1nm,0.3s,baz=158,slow=19,SNR=2.8							
1.6nm,0.9s							
WRA	**Warramunga Arr**	**24.41**	**120**	P	**P**	**11 11 58.3**	**+1.6**
0.6nm,0.8s,baz=297,slow=9.6,SNR=6.1							
0.6nm,0.8s							
ASAR	**Alice Springs**	**25.78**	**128**	P	**P**	**11 12 10.9**	**+1.7**
0.5nm,0.5s,baz=304,slow=9.6,SNR=8.2							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**61.26**	**337**	P	P	11 16 45.9	-6.1
0.3nm,0.5s,baz=152,slow=7.4,SNR=5.8							
0.3nm,0.5s							

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*MOS **05** 11:16:44.9±1.2, 46.°22N×148.°74E, h41km, mb4.5/7, Error ellipse: s-maj=11.3km s-min=6.6km az=69.5*
*SKHL **05** 11:16:44.0±0.4, 46.°30N×149.°00E, h37km±5km, mb4.9/3*
*IDC **05** 11:16:48.3±4.1, 46.°27N×148.°79E, h54km±37km, mb3.6/15, mbtmp3.9/16, ML3.2/1, MS2.8/9, Error ellipse: s-maj=20.3km s-min=15.1km az=146.0*
*NEIC **05** 11:16:48.9±0.8, 46.°3N±0.°1×148.°6E±0.°1, h58km±11km, mb4.4/70, Error ellipse: s-maj=18.0km s-min=13.1km az=153.0*
ISC 05 11:16:46.4±0.4, 46.°22N±0.°04×148.°86E±0.°05, h35km, n369, σ1§06/367, mb4.4/59, MS3.0/3, 2C-1D, Northwest of Kuril Islands

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

SHO				A	A	11 18 08.0	
	comp=E,330nm,0.4s						
SHO				A	A	11 18 08.0	
	comp=E,290nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.05**	**225**	*e*PN	**Pn**	**11 17 30.8**	**-1.3**
YUK				*i* S	**Sn**	**11 18 08.1**	**+0.8**
YUK				pmax	pmax		
	comp=Z,58nm,0.2s						
YUK				smax	smax		
	comp=E,274nm,0.4s						
YUK				smax	smax		
	comp=N,83nm,0.3s						
YUK				smax	smax		
	comp=N,495nm,0.7s						
YUK				smax	smax		
	comp=E,751nm,1.2s						
YUK	**Yuzh-Kuril'sk**	**3.05**	**225**	*e*P	**Pn**	**11 17 31.6**	**-0.5**
YUK				AMB	AMB	11 17 37.4	
	comp=E,100nm,0.2s						
YUK				*e*S	**Sn**	**11 18 07.4**	**+0.1**
YUK				A	A	11 18 09.1	
	comp=E,80nm,0.3s						
YUK				A	A	11 18 09.1	
	comp=E,270nm,0.3s						
YUK				A	A	11 18 09.8	
	comp=E,500nm,1.0s						
YUK				A	A	11 18 09.8	
	comp=E,800nm,1.0s						
RUSJ	**Misakicho**	**3.32**	**232**	*e*PN	**Pn**	**11 17 34.3**	**-1.5**
RUSJ				*e*S	**Sn**	**11 18 11.8**	**-2.2**
NMR	**Nemuro--Hokkai**	**3.62**	**219**	*e*PN	**Pn**	**11 17 38.9**	**-1.0**
NMR				S	**Sn**	**11 18 21.9**	**+0.6**
NMR	**Nemuro--Hokkai**	**3.62**	**219**	*e*P	**Pn**	**11 17 39.7**	**-0.2**
NMR				*e*S	**Sn**	**11 18 22.0**	**+0.6**
YSS	**Yuzhno-Sakhali**	**4.28**	**282**	Pn	**Pn**	**11 17 48.6**	**-0.4**
YSS				Sn	**Sn**	**11 18 37.1**	**-0.4**
YSS	**Yuzhno-Sakhali**	**4.28**	**282**	*e*PN	**Pn**	**11 17 48.3**	**-0.6**
YSS				*e*S	**Sn**	**11 18 38.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=N,70nm,0.5s						
YSS				smax	smax		
	comp=E,70nm,0.5s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
YSS	**Yuzhno-Sakhali**	**4.28**	**282**	*e*P	**Pn**	**11 17 48.6**	**-0.4**
YSS				AMB	AMB	11 17 50.0	
	comp=Z,40nm,0.2s						
YSS				*e*S	**Sn**	**11 18 36.7**	**-0.8**
YSS				A	A	11 18 39.0	
	comp=Z,70nm,0.5s						
YSS				A	A	11 18 39.0	
	comp=Z,70nm,0.5s						
AKK	**Akkeshi**	**4.30**	**223**	*e*P	**Pn**	**11 17 49.9**	**+0.6**
AKK				*e*S	**Sn**	**11 18 38.2**	**0.0**
JKA	**Kamikawa-asahi**	**4.90**	**247**	Pn	**Pn**	**11 17 58.2**	**+0.7**
JKA	**Kamikawa-asahi**	**4.90**	**247**	*e*P	**Pn**	**11 17 59.7**	**+2.1**
ASAJ	**Asahikawa**	**4.91**	**247**	P	**Pn**	**11 17 59.7**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=106,slow=15,SNR=3.8						
ASAJ				S	**Sn**	**11 18 48.6**	**-4.5**
	comp=Z,6.2nm,0.5s,baz=95,slow=15,SNR=4.8						
	comp=Z,2.2nm,0.3s						
ERM	**Erimo**	**5.88**	**226**	Pn	**Pn**	**11 18 14.5**	**+3.6**
ERM	**Erimo**	**5.88**	**226**	*i* PN	**Pn**	**11 18 13.0**	**+2.1**
TYV	**Tymovskoe**	**6.21**	**321**	*e*PN	**Pn**	**11 18 14.8**	**-0.7**
TYV				pmax	pmax		
	comp=Z,22nm,0.4s						
TYV				pmax	pmax		
	comp=Z,200nm,3.9s						
TYV	**Tymovskoe**	**6.21**	**321**	*e*P	**Pn**	**11 18 14.8**	**-0.7**
TYV				AMB	AMB	11 18 15.4	
	comp=Z,20nm,0.4s						
TYV				AMB	AMB	11 18 22.1	
	comp=Z,200nm,3.9s						
TYV				*e*S	**Sn**	**11 19 22.3**	**-2.9**
TYV				A	A	11 19 27.2	
	comp=Z,10.0nm,0.7s						
TYV				A	A	11 19 27.2	
	comp=Z,20nm,0.7s						
SKR	**Severo-Kuril's**	**6.57**	**45**	*e*P	**Pn**	**11 18 18.4**	**-2.0**
PAU	**Pauzhetka**	**7.42**	**42**	*e*P	**Pn**	**11 18 30.0**	**-2.1**
PAU				AMB	AMB	11 18 31.7	
	comp=Z,10.0nm,0.3s						
JTM	**Tenmabayashi**	**7.85**	**229**	Pn	**Pn**	**11 18 39.5**	**+1.5**
TEY	**Ternei**	**8.68**	**267**	*e*PN	**Pn**	**11 18 48.0**	**-1.3**
TEY	**Ternei**	**8.68**	**267**	*e*P	**Pn**	**11 18 51.6**	**+2.3**
PEA0B	**Petropavlovsk-**	**8.96**	**36**	Pn	**Pn**	**11 18 55.9**	**+2.7**
PEA0B	**Petropavlovsk-**	**8.96**	**36**	PN	**Pn**	**11 18 55.9**	**+2.7**
PETK	**Petropavlovsk-**	**8.96**	**36**	Pn	**Pn**	**11 18 55.7**	**+2.5**
PETK	**Petropavlovsk-**	**8.96**	**36**	LR	LR	11 22 58.2	
	comp=Z,27nm,20.6s,baz=101,slow=41						
PETK	**Petropavlovsk-**	**8.96**	**36**	PN	**Pn**	**11 18 55.7**	**+2.5**
GRNR	**Gornyy**	**9.43**	**303**	*e*P	**Pn**	**11 18 59.9**	**+0.3**
KLR	**Kul'dur**	**11.91**	**291**	LR	LR	11 23 46.4	
	comp=Z,24nm,21.8s,baz=40,slow=35						
MJB9	**Matsu-Tunnel**	**12.54**	**223**	Pn	**Pn**	**11 19 41.5**	**-0.8**
MAJO	**Matsushiro**	**12.54**	**223**	Pn	**Pn**	**11 19 40.5**	**-1.8**
MAJO	**Matsushiro**	**12.54**	**223**	PN	**Pn**	**11 19 40.5**	**-1.8**
MJAR	**Matsushiro Arr**	**12.54**	**223**	LR	LR	11 24 23.8	
	comp=Z,52nm,20.9s,baz=335,slow=36						
MA2	**Magadan**	**13.43**	**4**	LR	LR	11 24 43.8	
	comp=Z,31nm,18.9s,baz=210,slow=36						
MA2	**Magadan**	**13.43**	**4**	*i* PN	**Pn**	**11 19 55.5**	**+1.3**
HEH	**HeiHe**	**14.84**	**294**	*e*P	**P**	**11 20 21.6**	**+2.7**
HEH				pmax	pmax		
	comp=Z,16nm,0.9s						
SEY	**Seymchan**	**16.87**	**6**	*ce*P	**Pn**	**11 20 39.6**	**+0.1**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.3s						
JNU	**Nakatsue**	**18.99**	**233**	LR	LR	11 28 49.8	
	comp=Z,37nm,19.8s,baz=51,slow=38						
YAK	**Yakutsk**	**19.29**	**332**	LR	LR	11 28 51.0	
	comp=Z,34nm,18.6s,baz=105,slow=38						
YAK	**Yakutsk**	**19.29**	**332**	*ce*P	**P**	**11 21 06.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,20nm,0.8s						
XLT	**XiLinHaoTe**	**23.18**	**276**	*e*P	**P**	**11 21 47.4**	**-2.5**
XLT				pP	pP	11 21 59.0	+0.6
XLT				sP	pwP	11 22 04.5	+1.7
XLT				PP	**PnPn**	**11 22 20.1**	**+4.2**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
JOW	**Kunigami**	**25.33**	**227**	LR	LR	11 33 17.3	
	comp=Z,55nm,18.1s,baz=189,slow=39						
SPIA	**Saint Paul Isl**	**27.20**	**51**	P	**P**	**11 22 26.4**	**0.0**
	baz=264						
TIXI	**Tiksi**	**27.22**	**346**	LR	LR	11 33 33.1	
	comp=Z,32nm,19.6s,baz=190,slow=37						
P08K	**Saint George I**	**27.53**	**53**	P	**P**	**11 22 29.0**	**-0.4**
	baz=266						
ULN	**Ulaanbaatar**	**28.29**	**289**	*i* P	**P**	**11 22 37.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.29**	**289**	*i* P	**P**	**11 22 37.3**	**+0.7**
SONM	**Songino Array**	**28.73**	**289**	P	**P**	**11 22 40.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=88,slow=8.8,SNR=4.2						
	comp=Z,0.6nm,0.8s						
UNV	**Unalaska Valle**	**29.25**	**58**	P	**P**	**11 22 44.8**	**+0.1**
	baz=274						
TNA	**Tin City**	**30.12**	**35**	P	**P**	**11 22 52.6**	**+0.3**
	baz=252						
H11N2	**WAKE ISLAND Hy**	**30.30**	**145**	T	T	11 53 44.2	
	baz=335,slow=76,SNR=91						
H11N1	**WAKE ISLAND Hy**	**30.31**	**145**	T	T	11 53 47.3	
	baz=335,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	**30.31**	**145**	T	T	11 53 51.5	
	baz=335,slow=76,SNR=100						
K13K	**Kusilvak Mount**	**30.66**	**42**	P	**P**	**11 22 57.1**	**-0.1**
	baz=261						
F14K	**Arctic Creek**	**30.73**	**35**	P	**P**	**11 22 57.1**	**-0.7**
	baz=254						
ANM	**Nome**	**30.88**	**37**	P	**P**	**11 22 58.6**	**-0.4**
	baz=256						
M13K	**Dall Lake**	**31.10**	**45**	P	**P**	**11 22 58.4**	**-2.5**
	baz=265						
J14K	**Nanvaranak Lak**	**31.30**	**41**	P	**P**	**11 23 02.0**	**-0.8**
	baz=261						
H11S1	**WAKE ISLAND Hy**	**31.32**	**146**	T	T	11 55 06.0	
	baz=336,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy**	**31.33**	**146**	T	T	11 55 06.5	
	baz=336,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**31.34**	**146**	T	T	11 55 06.3	
	baz=336,slow=76,SNR=55						
F15K	**North Star Dit**	**31.46**	**35**	P	**P**	**11 23 03.3**	**-0.9**
	baz=255						
L14K	**Kuka Creek**	**31.51**	**44**	P	**P**	**11 23 03.2**	**-1.4**
	baz=264						
G15K	**Niukluk**	**31.54**	**37**	P	**P**	**11 23 05.2**	**+0.4**
	baz=257						
S12K	**Black Hills**	**31.71**	**54**	P	**P**	**11 23 06.7**	**+0.2**
	baz=274						
M14K	**Bethel**	**31.81**	**45**	P	**P**	**11 23 05.0**	**-2.3**
	baz=266						
N14K	**Kuskokwak Cree**	**31.89**	**46**	P	**P**	**11 23 06.4**	**-1.6**
	baz=267						
C16K	**Lisburne Hills**	**31.99**	**30**	P	**P**	**11 23 08.4**	**-0.3**
C16K				IAmb	IAmb	11 23 08.9	
	comp=Z,7.8nm,1.1s						
C16K	**Lisburne Hills**	**31.99**	**30**	P	**P**	**11 23 07.1**	**-1.6**
	baz=250						
O14K	**Tigyukauivet M**	**32.08**	**48**	P	**P**	**11 23 08.3**	**-1.4**
	baz=269						
L15K	**Ungalak Mounta**	**32.12**	**43**	P	**P**	**11 23 09.4**	**-0.6**
	baz=265						
K15K	**Wolf Creek Mou**	**32.16**	**42**	P	**P**	**11 23 09.1**	**-1.3**
	baz=264						
G16K	**Koyuk River**	**32.32**	**36**	P	**P**	**11 23 12.5**	**+0.8**
	baz=258						
M15K	**Kasigluk River**	**32.43**	**45**	P	**P**	**11 23 12.8**	**+0.1**
	baz=267						
D17K	**Noatak River**	**32.61**	**32**	P	**P**	**11 23 14.1**	**-0.2**
	baz=254						
C17K	**DeLong Mountai**	**32.81**	**30**	P	**P**	**11 23 14.9**	**-1.2**
	baz=252						
O15K	**Ungalikthiuk R**	**32.82**	**48**	P	**P**	**11 23 15.0**	**-1.2**
	baz=270						
E17K	**Hotham Inlet**	**32.92**	**33**	P	**P**	**11 23 16.8**	**-0.2**
	baz=256						
F17K	**Baldwin Pennin**	**32.99**	**34**	P	**P**	**11 23 17.9**	**+0.4**
F17K	**Baldwin Pennin**	**32.99**	**34**	P	**P**	**11 23 17.4**	**-0.1**
	baz=258						
G17K	**Kiwalik Mounta**	**33.04**	**36**	P	**P**	**11 23 18.5**	**+0.5**
	baz=260						
S14K	**Fog Glacier**	**33.07**	**53**	P	**P**	**11 23 20.3**	**+1.8**
	baz=275						
CHNA	**Chernabura Isl**	**33.20**	**56**	P	**P**	**11 23 17.1**	**-2.4**
	baz=277						
H17K	**Granite Mounta**	**33.24**	**37**	P	**P**	**11 23 22.3**	**+2.5**
	baz=261						
N16K	**Nishlik Lake**	**33.37**	**45**	P	**P**	**11 23 21.8**	**+0.8**
	baz=269						
J17K	**VABM Dome**	**33.40**	**40**	P	**P**	**11 23 20.5**	**-0.7**
	baz=264						
E18K	**Tukpahlearik C**	**33.46**	**33**	P	**P**	**11 23 21.9**	**+0.2**
	baz=257						
B18K	**Kokolik River**	**33.56**	**29**	P	**P**	**11 23 22.6**	**+0.1**
	baz=253						
C18K	**Utukok River**	**33.56**	**30**	P	**P**	**11 23 22.3**	**-0.3**
C18K				IAmb	IAmb	11 23 37.5	
	comp=Z,8.9nm,1.4s						
C18K	**Utukok River**	**33.56**	**30**	P	**P**	**11 23 21.2**	**-1.4**
	baz=254						
F18K	**Selawik**	**33.65**	**34**	P	**P**	**11 23 21.8**	**-1.5**
	baz=259						
L17K	**Donlin**	**33.66**	**42**	P	**P**	**11 23 22.7**	**-0.7**
	baz=267						
K17K	**Iditarod**	**33.70**	**41**	P	**P**	**11 23 23.9**	**+0.1**
	baz=266						
O16K	**Kokwok River B**	**33.70**	**47**	P	**P**	**11 23 23.1**	**-0.8**
	baz=271						
G18K	**Tagagawik**	**33.92**	**36**	P	**P**	**11 23 25.9**	**+0.2**
G18K				IAmb	IAmb	11 23 26.5	
	comp=Z,5.1nm,0.9s						
G18K	**Tagagawik**	**33.92**	**36**	P	**P**	**11 23 26.6**	**+0.9**
	baz=261						
H18K	**Honhosa River**	**33.93**	**37**	P	**P**	**11 23 26.8**	**+1.1**
H18K	**Honhosa River**	**33.93**	**37**	P	**P**	**11 23 25.8**	**0.0**
	baz=262						
M17K	**Holitna River**	**34.04**	**44**	P	**P**	**11 23 26.6**	**-0.1**
M17K	**Holitna River**	**34.04**	**44**	P	**P**	**11 23 25.6**	**-1.2**
	baz=269						
A19K	**Wainwright**	**34.06**	**28**	P	**P**	**11 23 27.4**	**+0.6**
	baz=252						
R16K	**Pilot Point**	**34.06**	**51**	P	**P**	**11 23 26.7**	**-0.3**
R16K	**Pilot Point**	**34.06**	**51**	P	**P**	**11 23 26.4**	**-0.6**
	baz=274						
N17K	**Nushagak Hills**	**34.15**	**45**	P	**P**	**11 23 26.8**	**-0.9**
	baz=270						
O17K	**Koliganek Bris**	**34.20**	**47**	P	**P**	**11 23 27.7**	**-0.4**
	baz=272						
L18K	**Granite Mounta**	**34.42**	**42**	P	**P**	**11 23 31.4**	**+1.4**
L18K	**Granite Mounta**	**34.42**	**42**	P	**P**	**11 23 29.0**	**-1.0**
	baz=268						
F19K	**Shaleruckik Mo**	**34.42**	**34**	P	**P**	**11 23 29.9**	**-0.1**
F19K	**Shaleruckik Mo**	**34.42**	**34**	P	**P**	**11 23 28.9**	**-1.1**
	baz=260						
J18K	**Innoko River**	**34.47**	**40**	P	**P**	**11 23 31.1**	**+0.7**
J18K	**Innoko River**	**34.47**	**40**	P	**P**	**11 23 29.4**	**-1.1**
	baz=266						
Q16K	**King Salmon**	**34.47**	**49**	P	**P**	**11 23 30.4**	**-0.1**
	baz=274						
GCSA	**Galena City Sc**	**34.51**	**38**	P	**P**	**11 23 30.1**	**-0.6**
	baz=264						
P17K	**Kvichak River**	**34.56**	**48**	P	**P**	**11 23 31.3**	**0.0**
	baz=273						
G19K	**Purcell Mounta**	**34.59**	**35**	P	**P**	**11 23 31.4**	**-0.1**
G19K	**Purcell Mounta**	**34.59**	**35**	P	**P**	**11 23 31.0**	**-0.5**
	baz=262						
D19K	**Kuna River**	**34.62**	**31**	P	**P**	**11 23 31.8**	**+0.1**
	baz=258						
E19K	**Redstone River**	**34.74**	**33**	P	**P**	**11 23 33.2**	**+0.4**
E19K				IAmb	IAmb	11 23 33.4	
	comp=Z,4.7nm,0.7s						
E19K	**Redstone River**	**34.74**	**33**	P	**P**	**11 23 32.5**	**-0.3**
	baz=260						
TTA	**Tatalina**	**34.76**	**41**	P	**P**	**11 23 34.1**	**+1.0**
TTA				IAmb	IAmb	11 23 39.4	
	comp=Z,8.0nm,1.4s						
TTA	**Tatalina**	**34.76**	**41**	P	**P**	**11 23 34.1**	**+1.0**
TTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TTA	**Tatalina**	**34.76**	**41**	P	**P**	**11 23 32.8**	**-0.3**
	baz=268						
H19K	**Roundabout Mou**	**34.77**	**37**	P	**P**	**11 23 33.5**	**+0.5**
H19K				IAmb	IAmb	11 23 34.6	
	comp=Z,6.1nm,0.8s						
H19K	**Roundabout Mou**	**34.77**	**37**	P	**P**	**11 23 33.0**	**0.0**
	baz=264						
N18K	**Kilae Creek**	**34.79**	**45**	P	**P**	**11 23 32.5**	**-0.8**
	baz=271						
M18K	**Stony River**	**34.81**	**44**	P	**P**	**11 23 30.9**	**-2.5**
	baz=270						
J19K	**Poorman**	**34.99**	**39**	P	**P**	**11 23 35.6**	**+0.7**
J19K	**Poorman**	**34.99**	**39**	P	**P**	**11 23 33.9**	**-1.1**
	baz=267						
O18K	**Koktuh Hills**	**35.16**	**47**	P	**P**	**11 23 36.5**	**+0.1**
	baz=273						
P18K	**Big Mountain,**	**35.17**	**47**	P	**P**	**11 23 35.1**	**-1.5**
	baz=274						
D20K	**Etivluk River**	**35.20**	**31**	P	**P**	**11 23 36.2**	**-0.6**
	baz=259						
F20K	**Avaraart Lake**	**35.26**	**34**	P	**P**	**11 23 35.6**	**-1.6**
	baz=262						
E20K	**Nigu River**	**35.27**	**32**	P	**P**	**11 23 36.5**	**-0.9**
	baz=260,SNR=5.3						
L19K	**White Mountain**	**35.28**	**43**	P	**P**	**11 23 36.4**	**-1.1**
	baz=270						
B20K	**Meade River**	**35.29**	**29**	P	**P**	**11 23 37.2**	**-0.3**
B20K	**Meade River**	**35.29**	**29**	P	**P**	**11 23 37.4**	**0.0**
	baz=257						
Q18K	**Katmai Hardscr**	**35.33**	**49**	P	**P**	**11 23 38.6**	**+0.5**
	baz=275						
H20K	**Anotleneega Mo**	**35.42**	**37**	P	**P**	**11 23 38.6**	**-0.1**
	baz=265						
N19K	**Bonanza Creek**	**35.48**	**45**	P	**P**	**11 23 36.9**	**-2.4**
	baz=272						
M19K	**Big River Lodg**	**35.49**	**43**	P	**P**	**11 23 40.1**	**+0.7**
M19K	**Big River Lodg**	**35.49**	**43**	P	**P**	**11 23 39.6**	**+0.2**
	baz=271						
I20K	**Naaghedeneel**	**35.53**	**38**	P	**P**	**11 23 39.8**	**+0.2**
	baz=267						
O19K	**Port Alsworth**	**35.58**	**46**	P	**P**	**11 23 40.2**	**+0.1**
	baz=273						
J20K	**Nowinta River**	**35.65**	**39**	P	**P**	**11 23 41.0**	**+0.5**
J20K	**Nowinta River**	**35.65**	**39**	P	**P**	**11 23 40.3**	**-0.2**
	baz=268						
K20K	**Telida**	**35.65**	**40**	P	**P**	**11 23 40.4**	**-0.2**
	baz=269						
L20K	**Farewell, AK**	**35.73**	**42**	P	**P**	**11 23 41.4**	**0.0**
	baz=270						
R18K	**Karluk**	**35.73**	**50**	P	**P**	**11 23 40.7**	**-0.7**
	baz=277						
C21K	**Knifeblade Rid**	**35.94**	**31**	P	**P**	**11 23 42.2**	**-0.9**
	baz=260						
SII	**Sitkinak Islan**	**36.01**	**52**	P	**P**	**11 23 43.7**	**-0.1**
	baz=278						
G21K	**Allakaket**	**36.07**	**35**		**P**	**11 23 44.7**	**+0.5**
G21K				IAmb	IAmb	11 23 45.3	
	comp=Z,5.1nm,0.8s						
G21K	**Allakaket**	**36.07**	**35**	P	**P**	**11 23 44.7**	**+0.5**
	baz=265						
B21K	**Ikpikpuk River**	**36.08**	**30**	P	**P**	**11 23 44.4**	**+0.2**
B21K	**Ikpikpuk River**	**36.08**	**30**	P	**P**	**11 23 43.6**	**-0.5**
	baz=260						
M20K	**Styx River**	**36.09**	**43**	P	**P**	**11 23 44.0**	**-0.5**
	baz=272						
E21K	**Killik River**	**36.11**	**32**	P	**P**	**11 23 44.8**	**+0.2**
	baz=262						
F21K	**Alatna River**	**36.15**	**34**	P	**P**	**11 23 45.1**	**+0.2**
F21K	**Alatna River**	**36.15**	**34**	P	**P**	**11 23 45.1**	**+0.2**
	baz=264						
P19K	**Oil Pt**	**36.17**	**47**	P	**P**	**11 23 43.8**	**-1.3**
	baz=275						
A22K	**Sinclair Lake**	**36.23**	**27**	P	**P**	**11 23 45.5**	**0.0**
	baz=258						
H21K	**Melozitna Rive**	**36.29**	**37**	P	**P**	**11 23 46.2**	**+0.1**
H21K				IAmb	IAmb	11 24 20.9	
	comp=Z,8.5nm,1.5s						
H21K	**Melozitna Rive**	**36.29**	**37**	P	**P**	**11 23 45.8**	**-0.3**
	baz=267						
OHAK	**Old Harbor**	**36.40**	**51**	P	**P**	**11 23 47.1**	**0.0**
	baz=278						
O20K	**Slope Mountain**	**36.44**	**46**	P	**P**	**11 23 47.7**	**+0.2**
	baz=275						
CHUM	**Lake Minchumin**	**36.44**	**40**	P	**P**	**11 23 47.1**	**-0.3**
	baz=270						
PPLA	**Purkeypile**	**36.51**	**41**	P	**P**	**11 23 48.1**	**0.0**
	baz=271						
CAST	**Castle Rocks**	**36.55**	**40**	P	**P**	**11 23 47.8**	**-0.5**
	baz=271						
N20K	**Mount Spurr**	**36.56**	**44**	P	**P**	**11 23 48.0**	**-0.5**
	baz=274						
SPCR	**Spurr Chakacha**	**36.56**	**44**	P	**P**	**11 23 48.7**	**+0.1**
	baz=274						
B22K	**Teshekpuk Lake**	**36.61**	**29**	P	**P**	**11 23 48.5**	**-0.3**
B22K				IAmb	IAmb	11 23 48.9	
	comp=Z,4.9nm,0.9s						
B22K	**Teshekpuk Lake**	**36.61**	**29**	P	**P**	**11 23 48.4**	**-0.3**
	baz=260						
I21K	**Tanana**	**36.61**	**37**	P	**P**	**11 23 49.2**	**+0.3**
	baz=268						
D22K	**Ayikyak River**	**36.64**	**31**	P	**P**	**11 23 49.3**	**+0.2**
D22K				IAmb	IAmb	11 23 52.5	
	comp=Z,8.1nm,1.4s						
D22K	**Ayikyak River**	**36.64**	**31**	P	**P**	**11 23 48.8**	**-0.2**
	baz=263						
F22K	**John River**	**36.68**	**33**	P	**P**	**11 23 49.6**	**+0.2**
	baz=265						
Q20K	**Shuyak Island**	**36.70**	**48**	P	**P**	**11 23 50.5**	**+0.9**
	baz=277						
KDAK	**Kodiak Island**	**36.70**	**50**	P	**P**	**11 23 49.0**	**-0.6**
KDAK	**Kodiak Island**	**36.70**	**50**	P	**P**	**11 23 49.0**	**-0.6**
KDAK				pmax	pmax		
	comp=Z,35nm,1.3s						
KDAK	**Kodiak Island**	**36.70**	**50**	P	**P**	**11 23 49.4**	**-0.3**
	baz=278						
STLK	**Strandline Lak**	**36.73**	**44**	P	**P**	**11 23 50.8**	**+0.8**
STLK				IAmb	IAmb	11 23 51.3	
	comp=Z,4.7nm,0.9s						
SKT	**Skwentna**	**36.84**	**43**	P	**P**	**11 23 50.6**	**-0.3**
	baz=273						
E22K	**Anaktuvuk Pass**	**36.87**	**32**	P	**P**	**11 23 51.3**	**+0.2**
E22K				IAmb	IAmb	11 23 59.9	
	comp=Z,5.4nm,1.1s						
E22K	**Anaktuvuk Pass**	**36.87**	**32**	P	**P**	**11 23 50.8**	**-0.3**
	baz=265						
H22K	**Ishtalitna Cre**	**36.89**	**36**	P	**P**	**11 23 50.0**	**-1.3**
	baz=268						
HOM	**Homer**	**36.97**	**47**	P	**P**	**11 23 51.5**	**-0.4**
	baz=276						
BPAW	**Bear Paw Mtn.**	**37.03**	**39**	P	**P**	**11 23 51.9**	**-0.6**
	baz=271						
KTH	**Kantishna Hill**	**37.07**	**40**	P	**P**	**11 23 53.8**	**+1.0**
CAPN	**Captain Cook N**	**37.11**	**45**	P	**P**	**11 23 51.6**	**-1.4**
	baz=275						
SUA	**Susitna One**	**37.25**	**44**	P	**P**	**11 23 52.4**	**-2.0**
	baz=274						
TRF	**Thorofare Moun**	**37.35**	**40**	P	**P**	**11 23 55.7**	**+0.4**
TRF				IAmb	IAmb	11 24 11.0	
	comp=Z,11nm,1.5s						
TRF	**Thorofare Moun**	**37.35**	**40**	P	**P**	**11 23 55.3**	**-0.1**
	baz=272						
D23K	**Nanushuk River**	**37.37**	**31**	P	**P**	**11 23 55.5**	**+0.2**
D23K	**Nanushuk River**	**37.37**	**31**	P	**P**	**11 23 54.0**	**-1.2**
	baz=265						
CUT	**Chulitna**	**37.41**	**42**	P	**P**	**11 23 56.7**	**+1.1**
	baz=274						
COLD	**Coldfoot**	**37.42**	**34**	P	**P**	**11 23 55.8**	**+0.2**
COLD	**Coldfoot**	**37.42**	**34**	P	**P**	**11 23 55.4**	**-0.2**
	baz=267						
G23K	**Bananza Creek**	**37.47**	**35**	P	**P**	**11 23 56.7**	**+0.6**
	baz=268						
C23K	**Itkillik River**	**37.49**	**30**	P	**P**	**11 23 56.3**	**+0.1**
C23K				IAmb	IAmb	11 23 56.9	
	comp=Z,6.6nm,0.9s						
C23K	**Itkillik River**	**37.49**	**30**	P	**P**	**11 23 55.1**	**-1.1**
	baz=264						
E23K	**Chandalar**	**37.69**	**33**	P	**P**	**11 23 58.6**	**+0.6**
E23K	**Chandalar**	**37.69**	**33**	P	**P**	**11 23 58.3**	**+0.3**
	baz=267						
I23K	**Minto, Yukon-K**	**37.72**	**37**	P	**P**	**11 23 59.5**	**+1.3**
I23K				IAmb	IAmb	11 23 59.8	
	comp=Z,7.7nm,1.4s						
I23K	**Minto, Yukon-K**	**37.72**	**37**	P	**P**	**11 23 58.3**	**+0.1**
	baz=271						
TOLK	**Toolik Lake Re**	**37.74**	**32**	P	**P**	**11 23 58.6**	**+0.2**
TOLK	**Toolik Lake Re**	**37.74**	**32**	P	**P**	**11 23 57.7**	**-0.8**
	baz=266						
NEA2	**Nenana**	**37.85**	**38**	P	**P**	**11 23 59.6**	**+0.3**
	baz=272						
MCK	**McKinley**	**37.95**	**40**	P	**P**	**11 23 59.8**	**-0.4**
	baz=273						
PMR	**Palmer**	**38.01**	**43**	P	**P**	**11 24 01.1**	**+0.4**
	baz=276				

comp=Z,6.7nm,1.4s
ILAR Eielson Array 38.78 38 P P 11 24 07.0 -0.2
comp=Z,2.3nm,0.9s,baz=270,slow=7.4,SNR=27
comp=Z,2.3nm,0.9s
D25K Kavik River 38.93 31 IAmb IAmb 11 24 08.9
comp=Z,4.2nm,0.8s
D25K Kavik River 38.93 31 P P 11 24 08.1 -0.3
baz=268,SNR=5.5
G25K Bearman Lake 39.02 35 P P 11 24 09.1 0.0
baz=272
P23K Montague Islan 39.05 46 P P 11 24 07.4 -2.0
baz=279
GLI Glacier Island 39.07 44 P P 11 24 09.9 +0.3
baz=278
H25L Birch Creek 39.16 36 P P 11 24 10.6 +0.4
baz=273
F25K Christian Rive 39.19 34 P P 11 24 09.4 -1.2
baz=271
E25K Arctic Village 39.21 33 P P 11 24 10.4 -0.4
baz=271
PRP Porcupine Dome 39.31 37 P P 11 24 12.1 +0.4
PRP IAmb IAmb 11 24 13.1
comp=Z,4.7nm,0.8s
PRP Porcupine Dome 39.31 37 P P 11 24 12.7 +0.9
baz=274,SNR=7.3
K24K Donnelly Dome 39.34 40 P P 11 24 11.2 -0.7
baz=276
J25K Salcha River, 39.45 38 P P 11 24 11.4 -1.4
baz=275
C26K Camden Bay 39.46 30 P P 11 24 12.4 -0.3
baz=269
KLU Klutina 39.55 43 P P 11 24 12.5 -1.2
baz=278
PAX Paxson 39.57 41 P P 11 24 12.0 -1.9
baz=277
Q23K Middleton Isla 39.67 46 P P 11 24 15.3 +0.7
baz=280
F26K Sheenjek River 39.76 33 P P 11 24 13.9 -1.4
baz=272
RIDG Independent Ri 39.76 40 P P 11 24 13.4 -2.0
baz=277
EYAK Cordova Ski Ar 39.77 45 P P 11 24 15.1 -0.4
baz=280
HARP HAARP 39.78 42 P P 11 24 13.5 -2.0
baz=278
C27K Jago River 39.88 30 P P 11 24 16.2 0.0
baz=270,SNR=5.0
G26K Porcupine Rive 39.93 34 P P 11 24 15.1 -1.6
baz=274
SCRK Sand Creek 40.11 39 P P 11 24 16.2 -2.2
baz=277
N25K Chitina, Valde 40.16 43 P P 11 24 17.5 -1.3
baz=279
J26L Joseph Creek 40.23 38 P P 11 24 17.6 -1.8
baz=277
BMRM Bremner River 40.26 44 P P 11 24 18.3 -1.3
baz=280
I26K Coal Creek Min 40.32 37 P P 11 24 17.8 -2.1
baz=276
L26K Log Cabin Wild 40.52 41 P P 11 24 20.0 -1.7
baz=279
ZALV Zalesovo Beam 40.53 305 LR LR 11 41 04.9
comp=Z,21nm,18.7s,baz=90,slow=36
KAIM Kayak Island 40.54 45 P P 11 24 21.8 0.0
baz=281
E27K Coleen River 40.69 32 P P 11 24 22.2 -0.9
baz=274
M26K Nabesna, AK 40.78 41 IAmb IAmb 11 24 25.7
comp=Z,5.8nm,0.9s
M26K Nabesna, AK 40.78 41 P P 11 24 22.8 -1.1
baz=280
G27K Doyon Strip 40.78 35 P P 11 24 23.4 -0.4
baz=276
D27M Malcolm River 40.86 31 P P 11 24 25.4 +1.0
baz=274
H27K Steamboat Moun 40.89 35 P P 11 24 23.2 -1.5
baz=276
K27K Chicken 40.94 39 IAmb IAmb 11 24 26.4
comp=Z,6.1nm,0.9s
K27K Chicken 40.94 39 P P 11 24 24.6 -0.5
baz=278
L27K Beaver Creek, 41.20 40 IAmb IAmb 11 24 28.7
comp=Z,4.8nm,0.7s
L27K Beaver Creek, 41.20 40 P P 11 24 27.4 +0.1
baz=280
BCAR Beaver Creek A 41.22 40 P P 11 24 28.1 +0.7
M27K Edge Creek, AK 41.30 41 P P 11 24 29.3 +1.1
M27K IAmb IAmb 11 24 30.0
comp=Z,5.5nm,0.8s
M27K Edge Creek, AK 41.30 41 P P 11 24 28.0 -0.2
baz=281
E28M Babbage River 41.42 32 P P 11 24 29.2 +0.2
baz=276
D28M Stokes Point 41.64 31 P P 11 24 30.5 -0.2
baz=275
I28M Miner Creek 41.64 37 P P 11 24 31.6 +0.6
I28M IAmb IAmb 11 24 32.3
comp=Z,5.9nm,0.8s
I28M Miner Creek 41.64 37 P P 11 24 31.5 +0.6
baz=279
E29M Blow River 42.04 32 P P 11 24 34.7 +0.7
baz=277
DAWY Dawson 42.10 39 P P 11 24 33.6 -1.0
baz=281
H29M Whitestone 42.16 35 P P 11 24 34.7 -0.4
baz=279
G29M Pine Creek 42.19 34 P P 11 24 35.9 +0.5
baz=279
I29M Ogilvie Camp, 42.33 36 P P 11 24 36.3 -0.1
baz=280,SNR=8.3
O28M Mount Upton 42.41 43 P P 11 24 37.4 -0.2
baz=284
YUK8 Steele Glacier 42.50 43 P P 11 24 38.9 +0.7
baz=283
J29N Klondike Camp 42.53 38 P P 11 24 37.4 -0.8
baz=281
M29M Somme Creek 42.84 41 P P 11 24 41.3 +0.5
baz=283
L29M L29M 42.84 40 P 11 24 42.0 +1.3
L29M IAmb IAmb 11 24 42.8
comp=Z,6.3nm,1.0s
L29M L29M 42.84 40 P P 11 24 41.3 +0.6
baz=283,SNR=5.8
G30M tAoh Zraii Nji 42.88 34 P P 11 24 41.4 +0.4
baz=280
F30M Barrier River 42.94 33 P P 11 24 42.2 +0.8
baz=280
K29M Barlow Dome 42.95 39 P P 11 24 42.2 +0.5
baz=282
YUK4 Talbot Arm 43.01 42 P P 11 24 42.6 +0.4
baz=284
I30M Mount Dempster 43.15 36 P P 11 24 43.6 +0.4
I30M IAmb IAmb 11 24 44.6
comp=Z,8.2nm,0.8s
I30M Mount Dempster 43.15 36 P P 11 24 43.5 +0.2
baz=282,SNR=14
YUK6 Outpost Mounta 43.24 43 P P 11 24 44.4 +0.2
baz=285
J30M Hart River 43.30 37 P P 11 24 44.8 +0.3
baz=283
O29M Mount Kennedy 43.30 44 P P 11 24 45.4 +0.8
baz=285
M30M Minto, Yukon 43.56 40 P P 11 24 47.9 +1.4
M30M Minto, Yukon 43.56 40 P P 11 24 46.5 0.0
baz=284
G31M Satah River 43.65 34 P P 11 24 47.2 +0.2
baz=282
INK Inuvik 43.66 32 P P 11 24 47.0 -0.1
baz=281
HYT Haines Junctio 43.68 43 P 11 24 49.1 +1.6
HYT IAmb IAmb 11 24 50.3
comp=Z,7.5nm,0.9s
HYT Haines Junctio 43.68 43 P P 11 24 48.1 +0.5
baz=286
N30M Aishikik Lake 43.71 42 P P 11 24 47.4 -0.3
baz=285
F31M Tsiigehtchic 43.75 33 P P 11 24 48.8 +0.9
baz=282
H31M Peel River 43.86 35 P P 11 24 48.3 -0.5
baz=283
P30M Million Dollar 44.13 44 P P 11 24 51.5 +0.4
baz=287,SNR=5.2
N31M Braeburn, Yuko 44.30 42 P P 11 24 52.6 +0.1
baz=286
O30N Mendenhall 44.36 43 P P 11 24 53.1 +0.1
baz=287
MKAR Makanchi Array 44.56 296 P P 11 24 54.0 -0.7
comp=Z,0.3nm,0.7s,baz=72,slow=9.1,SNR=3.3
MKAR PcP **PcP 11 26 37.3 0.0**
comp=Z,0.7nm,0.7s,baz=63,slow=3.9,SNR=5.4
comp=Z,0.3nm,0.7s
MKAR Makanchi Array 44.56 296 *e*P **P 11 24 54.0 -0.7**
M31M Drury Creek, Y 44.74 40 P **P 11 24 54.2 -1.8**
baz=286
WHY Whitehorse 44.96 43 P P 11 24 58.8 +1.0
baz=288
SKAG Skagway 45.12 44 P P 11 25 00.2 +1.4
baz=288
S31K Pelican 45.15 47 P P 11 25 00.3 +1.2
baz=289
KURK Kurchatov 45.19 303 *i* P **P 11 24 58.5 -1.1**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 45.19 303 *i* P **P 11 24 58.5 -1.1**
FARO Faro, Yukon 45.20 40 P **P 11 25 01.0 +1.4**
baz=287
R31K City Hall, Gus 45.25 46 P P 11 25 01.3 +1.4
baz=289
KURBB Kurchatov Arra 45.28 302 P P 11 24 59.6 -0.7
comp=Z,0.5nm,0.8s,baz=68,slow=8.3,SNR=4.0
KURBB PcP **PcP 11 26 39.7 +0.1**
comp=Z,0.6nm,0.7s,baz=52,slow=3.6,SNR=6.3
comp=Z,0.5nm,0.8s
A36M Sachs Harbour 45.62 26 P **P 11 25 02.2 -0.4**
A36M IAmb IAmb 11 25 03.6
comp=Z,4.6nm,0.9s
A36M Sachs Harbour 45.62 26 P P 11 25 02.2 -0.4
baz=285
N32M Quiet Lake 45.65 42 P P 11 25 03.3 +0.1
N32M IAmb IAmb 11 25 22.8
comp=Z,12nm,1.5s
N32M Quiet Lake 45.65 42 P P 11 25 03.9 +0.8
baz=288
P32M Atlin 45.85 44 P P 11 25 04.7 0.0
baz=289
SIT Sitka 45.91 48 P P 11 25 04.5 -0.7
baz=291
P33M Teslin, Yukon 46.07 43 P P 11 25 07.5 +1.0
P33M Teslin, Yukon 46.07 43 P P 11 25 07.5 +1.0
baz=290
C36M Paulatuk 46.73 29 P P 11 25 10.8 -0.7
baz=288
Q32M Nakina River 46.77 44 P P 11 25 11.9 -0.3
baz=291
R33M Jennings River 47.23 43 P P 11 25 15.5 -0.2
baz=292
U33K Whale Pass 47.40 48 P P 11 25 16.5 -0.3
baz=293
CRAG Craig 47.65 49 P P 11 25 18.0 -0.8
baz=294
S34M Telegraph Cree 47.71 45 P P 11 25 18.4 -0.9
baz=293
BRVK Borovoye 48.95 308 *i* P **P 11 25 29.6 +0.7**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
BRVK Borovoye 48.95 308 *i* P **P 11 25 29.6 +0.7**
CMAR Chiang Mai Arr 49.40 253 P P 11 25 32.8 +0.1
comp=Z,0.5nm,0.4s,baz=34,slow=7.0,SNR=4.9
comp=Z,0.5nm,0.4s
TOAD Toad River Com 50.16 42 P P 11 25 38.0 -0.1
baz=296
YKA Yellowknife Ar 53.08 35 P P 11 25 59.6 -0.1
comp=Z,3.9nm,1.1s,baz=300,slow=7.2,SNR=22
comp=Z,3.9nm,1.1s
PLID Pearl Lake 62.36 53 P P 11 27 05.7 +0.2
MSO Missoula 62.39 50 P P 11 27 05.1 -0.4
MSO IAmb IAmb 11 27 06.5
comp=Z,4.6nm,1.0s
FINES FINESS Array B 63.23 333 P P 11 27 09.5 -1.2
comp=Z,2.7nm,0.8s,baz=52,slow=7.5,SNR=5.5
comp=Z,2.7nm,0.8s
FINES FINESS Array B 63.23 333 *e*P **P 11 27 07.8 -2.9**
FINES pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 64.04 324‖ *e*P **P 11 27 17.4 +1.3**
OBN *e* 11 29 40.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 64.41 50 P P 11 27 19.1 +0.1
BOZ IAmb IAmb 11 27 20.1
comp=Z,2.8nm,0.8s
BOZ Bozeman (W) 64.41 50 P P 11 27 19.1 +0.1
BOZ pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 65.26 60 P P 11 27 24.9 +0.2
comp=Z,1.2nm,0.7s,baz=292,slow=7.0,SNR=6.4
comp=Z,1.2nm,0.7s
WRA Warramunga Arr 67.15 195 P P 11 27 35.6 -0.9
comp=Z,0.4nm,0.6s,baz=9.9,slow=6.7,SNR=7.1
comp=Z,0.4nm,0.6s
PD31 Pinedale Array 67.40 51 P P 11 27 37.5 -0.8
PDAR Pinedale Array 67.40 51 P P 11 27 38.2 -0.1
comp=Z,1.3nm,0.6s,baz=286,slow=1.8,SNR=17
comp=Z,1.3nm,0.6s
NOA NORSAR Array B 67.73 339 P P 11 27 38.7 -1.2
comp=Z,0.9nm,0.6s,baz=32,slow=8.4,SNR=1.9
comp=Z,0.9nm,0.6s
HFS Hagfors 67.88 338 P P 11 27 39.4 -1.3
comp=Z,2.8nm,0.7s,baz=45,slow=6.3,SNR=2.2
comp=Z,2.8nm,0.7s
KIV Kislovodsk 69.02 312 *e*P **P 11 27 50.1 +1.8**
KIV pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 70.30 324 P P 11 27 55.0 -1.0
comp=Z,0.3nm,0.4s,baz=35,slow=7.4,SNR=4.1
comp=Z,0.3nm,0.4s
PV10 Paradox Valley 70.70 55 P P 11 27 59.3 +0.4
ASAR Alice Springs 70.87 195 P P 11 27 59.6 0.0
comp=Z,1.8nm,1.2s,baz=10.0,slow=5.4,SNR=6.2
comp=Z,1.8nm,1.2s
S22A 4UR Ranch, Cre 72.38 54 P P 11 28 08.3 -0.8
baz=315
Q24A Divide 72.44 52 P P 11 28 08.1 -1.4
baz=316
T25A Trinidad 74.16 53 P P 11 28 17.9 -1.7
baz=317
319A Douglas 75.47 60 P P 11 28 27.2 +0.1
319A IAmb IAmb 11 28 28.6
comp=Z,5.1nm,0.9s
TX31 Lajitas Ar. Si 80.28 58 P P 11 28 53.7 -0.1
TXAR Lajitas Array 80.28 58 P P 11 28 53.7 -0.1
comp=Z,1.4nm,0.6s,baz=296,slow=4.0,SNR=18
comp=Z,1.4nm,0.6s
LCAR Lake Charles 81.91 45 P P 11 29 01.9 -0.3
LCAR IAmb IAmb 11 29 03.6
comp=Z,6.9nm,1.4s
WHAR Wooly Hollow 81.96 46 P P 11 29 02.5 0.0
DRIO Del Rio 81.98 56 P P 11 29 02.5 -0.2
PLCA Paso Flores 151.09 93 PKPbc **PKPbc 11 36 35.0 -0.3**
comp=Z,1.7nm,0.7s,baz=261,slow=3.5,SNR=7.7

NEIC ***05*** *11:24:44.1±1.2,59°.78N±0°.03×151°.01W±0°.06,h66km±3km, Error ellipse: s-maj=5.4km s-min=3.6km az=147.0*
AEIC 05 11:24:45.1±1.4,59°.80N±0°.04×151°.04W±0°.02,h60km±6km, ML2.1,ML2.3/128(NEIC),**Error ellipse: s-maj=5.2km s-min=1.6km az=178.0,Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.08**	**112**		Pn	11 24 53.7	-0.4
BRLK					Sn	11 25 00.3	-0.3
BRSE	**Bradley Lake S**	**0.16**	**110**		Pn	11 24 53.9	-0.4
BRSE					Sn	11 25 00.7	-0.2
HOM	**Homer**	**0.34**	**246**		Pn	11 24 55.4	0.0
HOM					Sn	11 25 03.5	+0.6
SLKM	**Skilak Lake**	**0.82**	**29**		Pn	11 25 00.1	-0.7
SLKM					Sn	11 25 11.4	-1.0
SLKM				IAML		11 25 14.0	
comp=E,146nm,0.2s							
O20K	**Slope Mountain**	**0.85**	**290**		Pn	11 25 00.9	-0.3
O20K					Sn	11 25 13.1	0.0
SEW	**Seward**	**0.85**	**68**		Pn	11 25 00.3	-0.9
SEW	**Seward**	**0.85**	**68**		Sn	11 25 12.0	-1.0
O22K	**Cooper Landing**	**0.95**	**43**		Pn	11 25 01.8	-0.6
O22K				IAML		11 25 20.2	
comp=E,125nm,0.3s							
CAPN	**Captain Cook N**	**0.98**	**357**		Pn	11 25 03.5	+0.8
ILS	**Iliamna Low So**	**1.04**	**280**		Pn	11 25 03.0	-0.7
ILS					Sn	11 25 16.1	-1.3
RDT	**Redoubt**	**1.04**	**319**		Pn	11 25 02.6	-1.1
ILSW	**Iliamna Southw**	**1.08**	**281**		Pn	11 25 03.4	-0.8
ILSW					Sn	11 25 17.7	-0.7
ILSW				IAML		11 25 17.9	
comp=N,43nm,1.0s							
ILSW				IAML		11 25 23.4	
comp=E,34nm,0.6s							
P19K	**Oil Pt**	**1.12**	**264**		Pn	11 25 04.4	-0.3
P19K					Sn	11 25 19.4	+0.1
RDWB	**Redoubt West**	**1.14**	**308**		Pn	11 25 03.9	-1.2
RDWB					Sn	11 25 18.5	-1.3
DFR	**Drift River**	**1.15**	**315**		Pn	11 25 03.9	-1.2
NCT	**North Crescent**	**1.22**	**310**		Pn	11 25 05.1	-0.9
AUCH	**Augustine Cone**	**1.30**	**252**		Pn	11 25 07.2	+0.1
SYI	**Shuyak Island**	**1.38**	**211**		Pn	11 25 08.0	0.0
SYI				IAML		11 25 26.0	
comp=E,43nm,0.5s							
SYI				IAML		11 25 26.6	
comp=N,31nm,1.1s							
FIS	**Fire Island**	**1.41**	**16**	Pn	Pn	11 25 08.9	+0.4
FIS				IAML		11 25 41.0	
comp=E,61nm,0.5s							
RC01	**Rabbit Creek A**	**1.45**	**26**		Pn	11 25 08.7	-0.3
RC01				IAML		11 25 27.9	
comp=N,32nm,0.2s							
RC01				IAML		11 25 28.4	
comp=E,32nm,0.3s							
SPU	**Mount Spurr**	**1.48**	**341**	Pn	Pn	11 25 09.0	-0.5
SPU					Sn	11 25 27.2	-0.7
SPU				IAML		11 25 27.6	
comp=N,25nm,0.4s							
SPCR	**Spurr Chakacha**	**1.52**	**338**		Pn	11 25 09.4	-0.7
SPCG	**Spurr Capps Gl**	**1.58**	**342**		Pn	11 25 10.6	-0.3
Q19K	**Cape Douglas,**	**1.59**	**238**		Pn	11 25 10.9	-0.1
SPBG	**Spurr Blockage**	**1.61**	**336**		Pn	11 25 10.9	-0.4
SPBG					Sn	11 25 30.6	-0.4
SUA	**Susitna One**	**1.68**	**5**		Pn	11 25 11.9	-0.4
SUA				IAML		11 25 33.0	
comp=E,19nm,0.7s							
O19K	**Port Alsworth**	**1.70**	**285**		Pn	11 25 12.0	-0.3
O19K				IAML		11 25 35.4	
comp=N,51nm,0.4s							
PWL	**Port Wells**	**1.72**	**50**		Pn	11 25 12.2	-0.5
PWL				IAML		11 25 32.9	
comp=E,36nm,0.4s							
PWL				IAML		11 25 33.3	
comp=N,32nm,0.4s							
STLK	**Strandline Lak**	**1.75**	**347**		Pn	11 25 12.5	-0.7
STLK					Sn	11 25 34.4	-0.2
STLK				IAML		11 25 34.8	
comp=E,30nm,0.5s							
STLK				IAML		11 25 35.9	
comp=N,19nm,0.8s							
P23K	**Montague Islan**	**1.84**	**82**		Pn	11 25 13.3	-1.0
N19K	**Bonanza Creek**	**2.00**	**302**		Pn	11 25 15.3	-1.2
M22K	**Willow**	**2.02**	**12**		Pn	11 25 15.4	-1.2
M22K					Sn	11 25 40.3	-0.3
M22K				IAML		11 25 42.0	
comp=E,35nm,0.4s							
M22K				IAML		11 25 44.2	
comp=N,41nm,1.1s							
PMR	**Palmer**	**2.03**	**27**		Pn	11 25 15.8	-1.1
KNK	**Knik Glacier**	**2.06**	**37**		Pn	11 25 16.7	-0.7
KNK				IAML		11 25 50.0	
comp=E,13nm,0.8s							
KNK				IAML		11 25 51.4	
comp=N,15nm,0.5s							
O18K	**Koktuh Hills**	**2.11**	**273**		Pn	11 25 16.6	-1.4
O18K				IAML		11 25 45.6	
comp=E,14nm,0.9s							
O18K				IAML		11 25 46.9	
comp=N,18nm,1.1s							
P18K	**Big Mountain,**	**2.17**	**261**	Pn	Pn	11 25 19.3	+0.5
KDAK	**Kodiak Island**	**2.17**	**202**		Pn	11 25 17.9	-0.9
KDAK					Sn	11 25 42.5	-2.1
KDAK				IAML		11 25 43.4	
comp=N,13nm,0.6s							
KDAK				IAML		11 25 44.1	
comp=N,18nm,1.1s							
SKT	**Skwentna**	**2.21**	**354**		Pn	11 25 19.5	+0.2
SKT				IAML		11 25 46.5	
comp=N,17nm,0.2s							
SKT				IAML		11 25 47.1	
comp=E,20nm,0.6s							
GHO	**Glory Hole Cre**	**2.24**	**27**		Pn	11 25 19.3	-0.4
GHO				IAML		11 25 45.8	
comp=N,24nm,0.4s							
GHO				IAML		11 25 46.6	
comp=E,19nm,0.4s							
GLI	**Glacier Island**	**2.24**	**59**		Pn	11 25 18.0	-1.7
GLI				IAML		11 25 45.7	
comp=E,23nm,0.7s							
GLI				IAML		11 25 45.7	
comp=N,17nm,0.3s							
M20K	**Styx River**	**2.33**	**335**		Pn	11 25 20.8	-0.3
HIN	**Hinchinbrook I**	**2.35**	**73**		Pn	11 25 20.1	-1.2
HIN					Sn	11 25 47.1	-1.9
HIN				IAML		11 25 48.5	
comp=N,25nm,0.7s							
HIN				IAML		11 25 49.6	
comp=E,24nm,1.1s							
SML	**Sawmill**	**2.42**	**32**		Pn	11 25 21.1	-1.0
FID	**Port Fidalgo**	**2.46**	**65**		Pn	11 25 20.9	-1.9
FID					Sn	11 25 48.9	-2.9
FID				IAML		11 25 49.7	
comp=E,14nm,0.4s							
FID				IAML		11 25 50.2	
comp=N,14nm,0.2s							
M23K	**Glacier View**	**2.58**	**38**		Pn	11 25 24.0	-0.3
CUT	**Chulitna**	**2.65**	**8**	Pn	Pn	11 25 26.3	+1.1
CUT				IAML		11 26 06.4	
comp=E,22nm,1.2s							
CUT				IAML		11 26 07.4	
comp=N,14nm,1.2s							
M19K	**Big River Lodg**	**2.68**	**324**		Pn	11 25 25.2	-0.5
SCM	**Sheep Creek Mo**	**2.73**	**40**		Pn	11 25 26.4	-0.1
SCM				IAML		11 25 59.5	
comp=N,8.2nm,0.4s							
SCM				IAML		11 26 00.2	
comp=E,13nm,0.3s							
EYAK	**Cordova Ski Ar**	**2.75**	**72**		Pn	11 25 25.2	-1.4
OHAK	**Old Harbor**	**2.84**	**206**		Pn	11 25 26.6	-1.3
OHAK				IAML		11 25 58.3	
comp=N,8.6nm,0.7s							
OHAK				IAML		11 26 14.6	
comp=E,5.5nm,1.2s							
M18K	**Stony River**	**2.91**	**308**		Pn	11 25 27.7	-1.1
M18K					Sn	11 25 60.0	-2.6
DIV	**Divide**	**2.93**	**61**		Pn	11 25 28.3	-1.0
L19K	**White Mountain**	**3.03**	**324**		Pn	11 25 30.2	-0.3
KLU	**Klutina**	**3.04**	**54**		Pn	11 25 30.2	-0.5
KLU				IAML		11 26 04.9	
comp=N,10.0nm,1.2s							
KLU				IAML		11 26 05.9	
comp=E,8.3nm,0.3s							
PPLA	**Purkeypile**	**3.16**	**350**	Pn	Pn	11 25 31.5	-0.9
RAGM	**Ragged Mountai**	**3.24**	**77**		Pn	11 25 31.9	-1.5
GOAT	**Goat Mountain**	**3.25**	**73**		Pn	11 25 32.0	-1.5
M24K	**Tolsona, Glenn**	**3.32**	**44**	Pn	Pn	11 25 34.4	-0.1
KAIM	**Kayak Island**	**3.34**	**85**		Pn	11 25 35.0	+0.3
BMRM	**Bremner River**	**3.40**	**67**		Pn	11 25 34.0	-1.6
HMT	**Hamilton**	**3.44**	**78**	Pn	Pn	11 25 34.6	-1.5
M17K	**Holitna River**	**3.54**	**300**		Pn	11 25 36.9	-0.7
M17K				IAML		11 27 25.6	
comp=E,4.2nm,0.9s							
M17K				IAML		11 27 56.1	
comp=N,6.3nm,0.9s							
N25K	**Chitina, Valde**	**3.65**	**57**		Pn	11 25 38.4	-0.6
CAST	**Castle Rocks**	**3.67**	**353**	Pn	Pn	11 25 40.4	+1.1
L18K	**Granite Mounta**	**3.67**	**314**		Pn	11 25 38.3	-0.9
L18K				IAML		11 26 21.7	
comp=N,3.4nm,1.1s							
TRF	**Thorofare Moun**	**3.69**	**5**		Pn	11 25 40.3	+0.7
TRF				IAML		11 26 28.7	
comp=E,4.1nm,1.2s							
TRF				IAML		11 26 48.6	
comp=N,3.7nm,1.1s							
BERG	**Berg Lake**	**3.72**	**78**	Pn	Pn	11 25 38.2	-1.8
RND	**Reindeer**	**3.77**	**15**		Pn	11 25 41.5	+0.8
RND				IAML		11 26 24.8	
comp=N,4.2nm,0.4s							
RND				IAML		11 26 25.3	
comp=E,4.6nm,1.2s							
KTH	**Kantishna Hill**	**3.77**	**1**		Pn	11 25 41.6	+0.9
KTH				IAML		11 27 43.4	
comp=N,3.0nm,0.7s							
K20K	**Telida**	**3.86**	**339**	Pn	Pn	11 25 41.2	-0.6
HARP	**HAARP**	**3.87**	**45**		Pn	11 25 42.3	+0.3

GLB	**Gilahina Butte**	**3.92**	**62**		Pn	11 25 41.8	-1.0
VRDI	**Verde Repeater**	**4.01**	**66**		Pn	11 25 43.1	-1.0
VRDI				IAML		11 26 29.5	
	comp=N,2.8nm,1.1s						
VRDI				IAML		11 26 29.7	
	comp=E,2.4nm,1.1s						
MCK	**McKinley**	**4.08**	**13**		Pn	11 25 45.9	+1.1
SNH	**Sunshine Point**	**4.14**	**81**	Pn	Pn	11 25 44.3	-1.4
PAX	**Paxson**	**4.16**	**38**		Pn	11 25 46.3	+0.3
BPAW	**Bear Paw Mtn.**	**4.32**	**0**		Pn	11 25 48.4	+0.2
BPAW				IAML		11 26 37.9	
	comp=E,2.4nm,0.3s						
BPAW				IAML		11 26 40.3	
	comp=N,1.9nm,0.9s						
KIAG	**Kiagna River**	**4.46**	**72**		Pn	11 25 49.6	-0.6
K17K	**Iditarod**	**4.57**	**313**	Pn	Pn	11 25 51.0	-0.5
K17K				IAML		11 27 53.1	
	comp=E,4.8nm,1.1s						
K17K				IAML		11 28 20.0	
	comp=N,3.4nm,1.0s						
CHIR	**Chirikof Islan**	**4.68**	**214**	Pn	Pn	11 25 52.2	-0.8
M26K	**Nabesna, AK**	**4.70**	**53**	Pn	Pn	11 25 53.4	0.0
J19K	**Poorman**	**4.74**	**335**	Pn	Pn	11 25 54.2	+0.3
J19K				IAML		11 26 46.7	
	comp=E,1.5nm,1.1s						
J19K				IAML		11 26 49.8	
	comp=N,2.2nm,1.1s						
RIDG	**Independent Ri**	**4.93**	**34**	Pn	Pn	11 25 56.9	+0.3
RIDG				IAML		11 28 07.8	
	comp=E,2.4nm,1.1s						
RIDG				IAML		11 28 27.8	
	comp=N,2.3nm,1.2s						
CCB	**Clear Creek Bu**	**5.10**	**16**		Pn	11 25 58.8	0.0
CCB				IAML		11 26 54.8	
	comp=E,1.0nm,0.2s						
CCB				IAML		11 29 09.0	
	comp=N,1.1nm,0.2s						
M27K	**Edge Creek, AK**	**5.13**	**56**	Pn	Pn	11 25 59.3	-0.1
IL31		**5.36**	**19**		Pn	11 26 02.4	+0.1

GCG ***05*** *11:41:07.4±1.9, 14°.10N×93°.09W, h12km±19km, MD5.3, ML4.6, MW4.4*

MEX ***05*** *11:41:08.9±1.0, 14°.11N×93°.21W, h15km±70km, MD4.9*

CATAC ***05*** *11:41:09.2±0.4, 14°N±3°×9°3W±°, h1km, M4.9/20, mb5.1/6, mB5.2/6, MLv5.1/20, Mw(mB)4.5/6, Error ellipse: s-maj=5.7km s-min=5.0km az=35.1, confirmed*

NEIC ***05*** *11:41:10.3±2.2, 14°.40N±0°.05×92°.92W±0°.04, h10km±1km, mb4.8/352, Md4.9/150(MEX), Error ellipse: s-maj=9.5km s-min=6.2km az=210.0*

GCMT ***05*** *11:41:11.3±0.3, 14°.35N±0°.02×93°.13W±0°.02, h18km, MW5.0/86, Moment Tensor Solution. s57,c74; s86,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.13; $M_{\theta\theta}$-2.09±.08; $M_{\phi\phi}$-0.89±.09; $M_{r\theta}$1.41±.17; $M_{r\phi}$0.88±.05; $M_{\theta\phi}$-2.28±.22; Best double couple: $M_0$3.82700×10^{16} NP1:ϕ_s288.00000°, δ26.00000°, λ63.00000°. NP2: ϕ_s137.00000°, δ67.00000°, λ102.00000°. Principal axes: T 4.1810, Plg66.0000°, Azm68.0000°; N -0.7080, Plg11.0000°, Azm312.0000°; P -3.4720, Plg21.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

RSNC ***05*** *11:41:13.1±1.7, 14°N±5°×9°3W±°, h35km±13km, M4.5, mb4.6, mB5.2, ML4.3, Mw(mB)4.8, MwMwp5.0, Mwp5.3*

IDC ***05*** *11:41:17.4±2.2, 14°.50N×92°.60W, h81km±18km, mb4.1/15, mbtmp4.4/19, MS4.1/35, Error ellipse: s-maj=20.1km s-min=12.0km az=48.0*

ISC 05 11:41:08.6±1.4, 14°26N±0°.03×93°00W±0°.03, h13km±8km, n767, σ2$01/760, mb4.8/148, MS4.2/32, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.96**	**47**		**Pg**	**11 41 27.4**	**+0.3**
THIG					**Sn**	**11 41 41.8**	**+0.4**
THIG		**0.96**	**47**	*eP*	**Pg**	**11 41 27.4**	**+0.3**
THIG				*eS*	**Sn**	**11 41 41.8**	**+0.4**
THIG		**0.96**	**47**	*i P*	**Pg**	**11 41 27.4**	**+0.3**
	comp=Z,13μm,0.7s						
THIG				IAML		11 41 49.1	
	comp=Z,13μm,0.7s						
THIG		**0.96**	**47**	*i P*		11 41 27.4	
	comp=Z,13μm,0.7s						
THIG				IAML		11 41 49.1	
	comp=Z,13μm,0.7s						
SMCA	**Catarina**	**1.07**	**56**	*eP*	**Pb**	**11 41 28.8**	**-0.3**
	comp=Z,10μm,0.6s						
SMCA				IAML		11 41 47.2	
	comp=Z,10μm,0.6s						
SMCA	**Catarina**	**1.07**	**56**	*eP*		11 41 28.8	
	comp=Z,10μm,0.6s						
SMCA				IAML		11 41 47.2	
	comp=Z,10μm,0.6s						
PATR	**El Naranjo**	**1.13**	**41**	*eP*	**Pb**	**11 41 29.8**	**-0.4**
PATR				*eS*	**Sn**	**11 41 45.8**	**0.0**
PAVE	**Pavencul**	**1.23**	**40**	*eP*	**Pn**	**11 41 31.3**	**-0.3**
PAVE				*eS*	**Sb**	**11 41 47.4**	**-0.2**
RTAL	**Retalhuleu**	**1.29**	**78**		**Pb**	**11 41 32.7**	**0.0**
RTAL				Sn	**Sg**	**11 41 50.2**	**0.0**
RTAL	**Retalhuleu**	**1.29**	**78**	*eP*	**Pn**	**11 41 32.5**	**+0.2**
RTAL				*eS*	**Sg**	**11 41 49.9**	**-0.4**
RTAL	**Retalhuleu**	**1.29**	**78**	P	**Pb**	**11 41 32.7**	**0.0**
RTAL	**Retalhuleu**	**1.29**	**78**	P	**Pb**	**11 41 32.8**	**0.0**
RTAL	**Retalhuleu**	**1.29**	**78**	S	**Sg**	**11 41 50.5**	**+0.2**
RTAL	**Retalhuleu**	**1.29**	**78**	P	**Pb**	**11 41 32.8**	**0.0**
PCIG		**1.46**	**352**		**Pn**	**11 41 33.0**	**-1.6**
PCIG					**Sn**	**11 41 49.2**	**-4.4**
PCIG		**1.46**	**352**	*eP*	**Pn**	**11 41 33.0**	**-1.6**
PCIG				*eS*	**Sn**	**11 41 49.2**	**-4.4**
STG8	**El Palmar, Qui**	**1.61**	**83**	*eP*		11 41 34.4	
STG0	**El Palmar, Qui**	**1.61**	**84**	*i P*		11 41 34.5	
STG0				*eS*		11 41 54.8	
SOKI	**Kika Raxquin**	**1.64**	**70**	*eP*	**Pb**	**11 41 38.4**	**-0.6**
	comp=Z,4μm,1.0s						
SOKI				IAML		11 42 12.4	
	comp=Z,4μm,1.0s						
SOKI	**Kika Raxquin**	**1.64**	**70**	*eP*		11 41 38.4	
	comp=Z,4μm,1.0s						
SOKI				IAML		11 42 12.4	
	comp=Z,4μm,1.0s						
HUEH	**Huehuetenango**	**1.79**	**54**		**Pb**	**11 41 40.9**	**-0.5**
HUEH				Sn	**Sn**	**11 42 00.6**	**-1.6**
HUEH	**Huehuetenango**	**1.79**	**54**	*eP*	**Pb**	**11 41 41.0**	**-0.5**
HUEH				*eS*	**Sg**	**11 42 05.2**	**-1.1**
HUEH	**Huehuetenango**	**1.79**	**54**	P	**Pb**	**11 41 41.1**	**-0.3**
HUEH	**Huehuetenango**	**1.79**	**54**	S	**Sg**	**11 42 06.2**	**-0.1**
HUEH	**Huehuetenango**	**1.79**	**54**	P	**Pb**	**11 41 41.2**	**-0.2**
HUEH	**Huehuetenango**	**1.79**	**54**	P	**Pb**	**11 41 41.6**	**+0.2**
HUEH	**Huehuetenango**	**1.79**	**54**	*eP*	**Pb**	**11 41 40.9**	**-0.5**
	comp=Z,16μm,0.4s						
HUEH				*i S*	**Sg**	**11 42 07.4**	**+1.1**
HUEH				IAML		11 42 18.9	
	comp=Z,16μm,0.4s						
HUEH	**Huehuetenango**	**1.79**	**54**	*eP*		11 41 40.9	
	comp=Z,16μm,0.4s						
HUEH				*i S*		11 42 07.4	
HUEH				IAML		11 42 18.9	
	comp=Z,16μm,0.4s						
ESSG	**Sabana Grande**	**2.10**	**86**	*eP*	**Pn**	**11 41 43.2**	**-0.4**
	comp=Z,2μm,0.6s						
ESSG				IAML		11 42 33.8	
	comp=Z,2μm,0.6s						
ESSG	**Sabana Grande**	**2.10**	**86**	*eP*		11 41 43.2	
	comp=Z,2μm,0.6s						
ESSG				IAML		11 42 33.8	
	comp=Z,2μm,0.6s						
CARR	**Arriaga**	**2.17**	**336**	*eP*	**Pn**	**11 41 44.1**	**-0.3**
CARR				*eS*	**Sn**	**11 42 11.4**	**+0.3**
CCIG	**Comitan**	**2.18**	**22**		**Pb**	**11 41 46.6**	**-1.4**
CCIG				Sn	**Sn**	**11 42 08.0**	**-3.7**
CCIG	**Comitan**	**2.18**	**22**	*eP*	**Pb**	**11 41 46.5**	**-1.4**
CCIG				*eS*	**Sb**	**11 42 14.5**	**-0.5**
CCIG	**Comitan**	**2.18**	**22**	||P	**Pb**	**11 41 46.8**	**-1.2**
CCIG	**Comitan**	**2.18**	**22**	P	**Pb**	**11 41 47.4**	**-0.7**
CCIG	**Comitan**	**2.18**	**22**	S	**Sg**	**11 42 17.2**	**-1.5**
CCIG	**Comitan**	**2.18**	**22**	P	**Pb**	**11 41 47.7**	**-0.3**
CCIG	**Comitan**	**2.18**	**22**	P	**Pb**	**11 41 47.3**	**-0.7**
CCIG	**Comitan**	**2.18**	**22**	*i P*	**Pb**	**11 41 46.7**	**-1.4**
	comp=Z,4μm,0.5s						
CCIG				*i S*	**Sg**	**11 42 16.9**	**-1.9**
CCIG				IAML		11 42 23.3	
	comp=Z,4μm,0.5s						
CCIG	**Comitan**	**2.18**	**22**	*i P*		11 41 46.7	
	comp=Z,4μm,0.5s						
CCIG				*i S*		11 42 16.9	
CCIG				IAML		11 42 23.3	
	comp=Z,4μm,0.5s						
FG8	**Yepocapa, Chim**	**2.36**	**90**	*eP*		11 41 42.2	
GCG4	**OSOP**	**2.41**	**82**	*eP*	**Pn**	**11 41 49.4**	**+1.5**
GCG4	**OSOP**	**2.41**	**82**	*eP*		11 41 49.4	
TGBT	**Tuxtla Gutierr**	**2.51**	**358**		**Pn**	**11 41 49.5**	**+0.4**
TGBT					**Sn**	**11 42 20.7**	**+1.1**
TGBT	**Tuxtla Gutierr**	**2.51**	**358**	*eP*	**Pn**	**11 41 49.5**	**+0.4**
TGBT				*eS*	**Sn**	**11 42 20.7**	**+1.1**
TGIG		**2.51**	**357**		**Pn**	**11 41 50.0**	**+0.8**
TGIG					**Sn**	**11 42 19.9**	**+0.2**
TGIG		**2.51**	**357**	*eP*	**Pn**	**11 41 50.0**	**+0.8**
TGIG				*eS*	**Sn**	**11 42 19.9**	**+0.2**
TGIG		**2.51**	**357**	*i P*	**Pn**	**11 41 50.2**	**+1.0**
	comp=Z,4μm,0.6s						
TGIG				IAML		11 42 49.1	
	comp=Z,4μm,0.6s						
TGIG		**2.51**	**357**	*i P*		11 41 50.2	
	comp=Z,4μm,0.6s						
TGIG				IAML		11 42 49.1	
	comp=Z,4μm,0.6s						
ESSJ	**San Jos, E**	**2.52**	**106**	*eP*		11 41 44.8	
APG	**El Apazote**	**2.56**	**73**	P	**Pn**	**11 41 51.7**	**+1.7**
	comp=Z,40nm,0.6s,baz=196,slow=12,SNR=152						
APG				S	**Sn**	**11 42 17.9**	**-3.3**
	comp=Z,68nm,0.6s,baz=195,slow=13,SNR=5.1						
APG	**El Apazote**	**2.56**	**73**	*i P*	**Pn**	**11 41 51.7**	**+1.7**
APG	**El Apazote**	**2.56**	**73**	*i P*		11 41 51.7	
NILT	**Santiago Nilte**	**2.78**	**326**	*eP*	**Pn**	**11 41 52.6**	**-0.2**
NILT				*eS*	**Sn**	**11 42 24.8**	**-1.4**
SLOZ	**Alcaldia de Sa**	**3.13**	**94**	P	**Pn**	**11 41 58.4**	**+0.8**
SLOZ	**Alcaldia de Sa**	**3.13**	**94**	P	**Pn**	**11 41 59.6**	**+2.0**
SLOZ	**Alcaldia de Sa**	**3.13**	**94**	P	**Pn**	**11 41 59.9**	**+2.3**
LOAL	**Lomas de Alarc**	**3.13**	**94**	P	**Pn**	**11 41 58.8**	**+1.1**
LOAL	**Lomas de Alarc**	**3.13**	**94**	P	**Pn**	**11 41 59.0**	**+1.3**
LOAL	**Lomas de Alarc**	**3.13**	**94**	P	**Pn**	**11 41 59.1**	**+1.3**
NUBE	**Las Nubes**	**3.14**	**96**	P	**Pn**	**11 41 58.6**	**+0.6**
NUBE	**Las Nubes**	**3.14**	**96**	P	**Pn**	**11 41 58.5**	**+0.6**
NUBE	**Las Nubes**	**3.14**	**96**	P	**Pn**	**11 41 58.2**	**+0.3**
NUBE	**Las Nubes**	**3.14**	**96**	*eP*	**Pn**	**11 41 58.6**	**+0.6**
NUBE	**Las Nubes**	**3.14**	**96**	*eP*		11 41 58.6	
UXUV	**UXUV**	**3.24**	**340**	*eP*	**Pn**	**11 42 00.1**	**+0.9**
UXUV				*eS*	**Sn**	**11 42 35.8**	**-1.8**
CEVE	**Cerro Verde**	**3.30**	**97**	P	**Pn**	**11 42 01.3**	**+1.1**
CEVE	**Cerro Verde**	**3.30**	**97**	P	**Pn**	**11 42 01.5**	**+1.3**
CEVE	**Cerro Verde**	**3.30**	**97**	S	**Sn**	**11 42 43.0**	**+3.5**
CEVE	**Cerro Verde**	**3.30**	**97**	P	**Pn**	**11 42 02.0**	**+1.8**
CMIG	**Matias Romero**	**3.35**	**327**		**Pn**	**11 42 00.3**	**-0.4**
CMIG					**Sn**	**11 42 36.4**	**-4.1**
CMIG	**Matias Romero**	**3.35**	**327**	P	**Pn**	**11 42 00.6**	**-0.1**
	comp=Z,96nm,0.3s,baz=168,slow=12,SNR=502						
CMIG				S	**Sn**	**11 42 38.5**	**-2.0**
	comp=Z,671nm,0.4s,baz=80,slow=12,SNR=12						
CMIG				LR	LR	11 43 23.4	
	comp=Z,1μm,18.1s,baz=144,slow=37						
CMIG	**Matias Romero**	**3.35**	**327**	*eP*	**Pn**	**11 42 00.3**	**-0.4**
CMIG				*eS*	**Sn**	**11 42 36.4**	**-4.1**
HUIG	**Huatulco**	**3.36**	**297**		**Pn**	**11 41 59.9**	**-0.9**
HUIG					**Sn**	**11 42 33.6**	**-7.0**
HUIG	**Huatulco**	**3.36**	**297**	*eP*	**Pn**	**11 41 59.9**	**-0.9**
HUIG				*eS*	**Sn**	**11 42 33.6**	**-7.0**
HUIG	**Huatulco**	**3.36**	**297**	*eP*	**Pn**	**11 41 59.3**	**-1.5**
	comp=Z,553nm,1.6s						
HUIG				IAML		11 43 21.9	
	comp=Z,553nm,1.6s						
HUIG	**Huatulco**	**3.36**	**297**	*eP*		11 41 59.3	
	comp=Z,553nm,1.6s						
HUIG				IAML		11 43 21.9	
	comp=Z,553nm,1.6s						
JAYA	**Jayaque - finc**	**3.50**	**99**	P	**Pn**	**11 42 03.4**	**+0.6**
JAYA	**Jayaque - finc**	**3.50**	**99**	P	**Pn**	**11 42 03.6**	**+0.8**
JAYA	**Jayaque - finc**	**3.50**	**99**	P	**Pn**	**11 42 03.5**	**+0.6**
JAYA	**Jayaque - finc**	**3.50**	**99**	*eP*	**Pn**	**11 42 03.2**	**+0.4**
JAYA	**Jayaque - finc**	**3.50**	**99**	*eP*		11 42 03.2	
MTO3	**Montecristo**	**3.53**	**87**		**Pn**	**11 42 03.5**	**+0.2**
MTO3	**Montecristo**	**3.53**	**87**	P	**Pn**	**11 42 05.5**	**+2.2**
ESQI	**Esquipulas**	**3.56**	**85**		**Pn**	**11 42 04.3**	**+0.7**
ESQI	**Esquipulas**	**3.56**	**85**	P	**Pn**	**11 42 04.5**	**+0.9**
ESQI	**Esquipulas**	**3.56**	**85**	P	**Pn**	**11 42 04.6**	**+1.0**
ESQI	**Esquipulas**	**3.56**	**85**	S	**Sn**	**11 42 47.9**	**+2.4**
ESQI	**Esquipulas**	**3.56**	**85**	P	**Pn**	**11 42 06.5**	**+2.9**
PMON	**Piamonte**	**3.62**	**98**	P	**Pn**	**11 42 05.0**	**+0.6**
PMON	**Piamonte**	**3.62**	**98**	P	**Pn**	**11 42 05.1**	**+0.6**
PMON	**Piamonte**	**3.62**	**98**	P	**Pn**	**11 42 06.4**	**+2.0**
VHSA	**Villahermosa**	**3.71**	**1**	*eP*	**Pn**	**11 42 08.4**	**+2.9**
VHSA				*eS*	**Sn**	**11 42 50.5**	**+1.4**
LOMA	**Loma Larga**	**3.76**	**99**	P	**Pn**	**11 42 07.0**	**+0.5**
LOMA	**Loma Larga**	**3.76**	**99**	P	**Pb**	**11 42 11.6**	**-3.4**
PAVA	**Las Pavas**	**3.98**	**97**	P	**Pn**	**11 42 10.1**	**+0.7**
PAVA	**Las Pavas**	**3.98**	**97**	S	**Sn**	**11 42 58.1**	**+2.1**
PAVA	**Las Pavas**	**3.98**	**97**	P	**Pb**	**11 42 16.7**	**-2.0**
TUIG	**Tuzandepetl**	**4.00**	**340**	*eP*	**Pn**	**11 42 11.3**	**+1.8**
TUIG				*eS*	**Sn**	**11 42 56.1**	**-0.2**
PETF	**Flores**	**4.01**	**48**		**Pn**	**11 42 11.6**	**+1.9**
PETF	**Flores**	**4.01**	**48**	*eP*	**Pn**	**11 42 11.7**	**+1.9**
PETF				*eS*	**Sn**	**11 42 59.2**	**+2.5**
PETF	**Flores**	**4.01**	**48**	*eP*	**Pn**	**11 42 11.4**	**+1.7**
	comp=Z,773nm,1.0s						
PETF				IAML		11 43 29.2	
	comp=Z,773nm,1.0s						
PETF	**Flores**	**4.01**	**48**	*eP*		11 42 11.4	
	comp=Z,773nm,1.0s						
PETF				IAML		11 43 29.2	
	comp=Z,773nm,1.0s						
COEG	**Centro de Oper**	**4.05**	**98**	P	**Pn**	**11 42 12.5**	**+2.2**
COEG	**Centro de Oper**	**4.05**	**98**	S	**Sn**	**11 43 02.8**	**+5.1**
COEG	**Centro de Oper**	**4.05**	**98**	P	**Pn**	**11 42 12.9**	**+2.5**
SCLA	**Alcaldia de Sa**	**4.18**	**97**	P	**Pn**	**11 42 12.9**	**+0.8**
SCLA	**Alcaldia de Sa**	**4.18**	**97**	P	**Pn**	**11 42 12.7**	**+0.5**
SCLA	**Alcaldia de Sa**	**4.18**	**97**	S	**Sn**	**11 43 04.5**	**+3.6**
SCLA	**Alcaldia de Sa**	**4.18**	**97**	P	**Pn**	**11 42 13.2**	**+1.0**
PEIG	**Puerto Escondi**	**4.37**	**294**		**Pn**	**11 42 13.8**	**-0.8**
PEIG					Sn	11 42 56.4	-9.1
PEIG	**Puerto Escondi**	**4.37**	**294**	*eP*	**Pn**	**11 42 13.8**	**-0.8**
PEIG				*eS*	Sn	11 42 56.4	-9.1
NEUV	**Arroyo Zacate**	**4.37**	**322**	*eP*	**Pn**	**11 42 12.6**	**-2.1**
NEUV				*eS*	**Sn**	**11 42 59.7**	**-5.8**
OXBJ	**Oaxaca**	**4.55**	**308**		**Sn**	**11 43 14.5**	**+4.3**
OXBJ	**Oaxaca**	**4.55**	**308**	*eS*	**Sn**	**11 43 14.5**	**+4.3**
OXIG	**Oaxaca**	**4.56**	**308**		**Pn**	**11 42 18.9**	**+1.4**
OXIG					**Sn**	**11 43 13.3**	**+2.8**
VHO	**Vista Hermosa**	**4.56**	**308**	*eP*	**Pn**	**11 42 18.9**	**+1.4**
VHO				*eS*	**Sn**	**11 43 13.3**	**+2.8**
PACA	**Pacayal**	**4.61**	**99**	P	**Pn**	**11 42 20.6**	**+2.5**
PACA	**Pacayal**	**4.61**	**99**	P	**Pn**	**11 42 20.5**	**+2.4**
PACA	**Pacayal**	**4.61**	**99**	S	**Sn**	**11 43 16.2**	**+4.6**
PACA	**Pacayal**	**4.61**	**99**	P	**Pn**	**11 42 22.5**	**+4.5**
PMUV	**Sontecomapan**	**4.73**	**335**	*eP*	**Pn**	**11 42 18.3**	**-1.4**
PMUV				*eS*	**Sn**	**11 43 12.2**	**-2.3**
SCIG	**Sabancuy**	**5.00**	**20**	*eP*	**Pn**	**11 42 23.7**	**+0.4**
SCIG				*eS*	**Sn**	**11 43 20.3**	**-0.7**
SCIG	**Sabancuy**	**5.00**	**20**	*eP*	**Pn**	**11 42 24.1**	**+0.8**
	comp=Z,601nm,1.1s						
SCIG				IAML		11 44 11.3	
	comp=Z,601nm,1.1s						
SCIG	**Sabancuy**	**5.00**	**20**	*eP*		11 42 24.1	
	comp=Z,601nm,1.1s						
SCIG				IAML		11 44 11.3	
	comp=Z,601nm,1.1s						
YOIG	**Yosondua**	**5.09**	**301**		**Pn**	**11 42 27.3**	**+2.4**
YOIG					**Sn**	**11 43 19.2**	**-4.4**
YOIG	**Yosondua**	**5.09**	**301**	*eP*	**Pn**	**11 42 27.3**	**+2.4**
YOIG				*eS*	**Sn**	**11 43 19.2**	**-4.4**
CNCH	**Conchagua**	**5.11**	**100**	P	**Pn**	**11 42 26.6**	**+1.6**
CNCH	**Conchagua**	**5.11**	**100**	S	**Sn**	**11 43 28.3**	**+4.3**
CNCH	**Conchagua**	**5.11**	**100**	P	**Pn**	**11 42 27.8**	**+2.7**
NISHN	**Nisperales Com**	**5.17**	**72**	*eP*	**Pn**	**11 42 26.2**	**+0.5**
NISHN	**Nisperales Com**	**5.17**	**72**	*eP*		11 42 26.2	
PNIG	**Pinotepa**	**5.39**	**294**		**Pn**	**11 42 28.8**	**+0.1**
PNIG					**Sn**	**11 43 23.1**	**-7.5**
PNIG	**Pinotepa**	**5.39**	**294**	*eP*	**Pn**	**11 42 28.8**	**+0.1**
PNIG				*eS*	**Sn**	**11 43 23.1**	**-7.5**
CSGN	**Cosiguina Volc**	**5.44**	**103**	P	**Pn**	**11 42 31.3**	**+1.8**
CSGN	**Cosiguina Volc**	**5.44**	**103**	P	**Pn**	**11 42 31.1**	**+1.6**
CSGN	**Cosiguina Volc**	**5.44**	**103**	P	**Pb**	**11 42 40.3**	**-3.2**
TOIG	**Toxpalan**	**5.46**	**315**		**Pn**	**11 42 30.2**	**+0.4**
TOIG					**Sn**	**11 43 26.9**	**-5.8**
TOIG	**Toxpalan**	**5.46**	**315**	*eP*	**Pn**	**11 42 30.2**	**+0.4**
TOIG				*eS*	**Sn**	**11 43 26.9**	**-5.8**
TXIG	**Tlaxiaco**	**5.47**	**304**		**Pn**	**11 42 32.3**	**+2.1**
TXIG					**Sn**	**11 43 31.4**	**-1.8**
TXIG	**Tlaxiaco**	**5.47**	**304**	*eP*	**Pn**	**11 42 32.3**	**+2.1**
TXIG				*eS*	**Sn**	**11 43 31.4**	**-1.8**
POTN	**Potosi Cosigui**	**5.48**	**103**	P	**Pn**	**11 42 30.7**	**+0.7**
POTN				S	**Sn**	**11 43 40.8**	**+7.8**
POTN	**Potosi Cosigui**	**5.48**	**103**	P	Pb	11 42 39.1	-5.1
TGUH	**Tegucigalpa,Un**	**5.56**	**91**	Pn	**Pn**	**11 42 31.6**	**+0.5**
HLIG	**Huajuapan de L**	**5.83**	**308**		Pn	11 42 29.4	-5.5
HLIG					**Sn**	**11 43 40.6**	**-1.2**
HLIG	**Huajuapan de L**	**5.83**	**308**	*eP*	Pn	11 42 29.4	-5.5
HLIG				*eS*	**Sn**	**11 43 40.6**	**-1.2**
TPIG	**Tehuac#an**	**5.89**	**315**		**Pn**	**11 42 34.8**	**-1.0**
TPIG					**Sn**	**11 43 45.0**	**+1.7**
TPIG	**Tehuac#an**	**5.89**	**315**	*eP*	**Pn**	**11 42 34.8**	**-1.0**
TPIG				*eS*	**Sn**	**11 43 45.0**	**+1.7**
CRIN	**San Cristobal**	**5.99**	**104**		**Pn**	**11 42 39.0**	**+2.0**
CRIN	**San Cristobal**	**5.99**	**104**	P	**Pn**	**11 42 40.3**	**+3.3**
	comp=Z,7μmcomp=Z,655nm,1.0s						
CRIN				S	**Sn**	**11 43 49.4**	**+3.8**
	comp=Z,7μmcomp=Z,655nm,1.0s						
FTIG	**Fresnillo de T**	**6.13**	**307**		**Pn**	**11 42 41.5**	**+2.5**
FTIG					**Sn**	**11 43 53.1**	**+4.1**
FTIG	**Fresnillo de T**	**6.13**	**307**	*eP*	**Pn**	**11 42 41.5**	**+2.5**
FTIG				*eS*	**Sn**	**11 43 53.1**	**+4.1**
HERN	**Volcan Telica**	**6.22**	**105**	Pn	**Pn**	**11 42 42.6**	**+2.4**
JAUV	**Jalcomulco**	**6.25**	**325**	*eP*	**Pn**	**11 42 38.8**	**-1.8**
JAUV				*eS*	**Sn**	**11 43 47.0**	**-5.1**
PACN	**Al O del Volca**	**6.29**	**105**	P	**Pn**	**11 42 42.1**	**+1.0**
PACN				S	**Sn**	**11 43 57.9**	**+5.1**
PACN	**Al O del Volca**	**6.29**	**105**	P	Pb	11 42 52.7	-5.2
TLIG	**Tlapa**	**6.29**	**302**	Pn	**Pn**	**11 42 43.3**	**+2.1**
TLIG	**Tlapa**	**6.29**	**302**	*eP*	**Pn**	**11 42 43.3**	**+2.1**
TLIG				*eS*	**Sn**	**11 43 53.2**	**+0.3**
TLIG	**Tlapa**	**6.29**	**302**	P	**Pn**	**11 42 44.2**	**+3.1**
TLIG	**Tlapa**	**6.29**	**302**	P	**Pn**	**11 42 44.7**	**+3.5**
TLIG	**Tlapa**	**6.29**	**302**	P	**Pn**	**11 42 44.2**	**+3.1**
POHV	**Veracruz**	**6.30**	**320**		**Pn**	**11 42 40.6**	**-1.2**
POHV					**Sn**	**11 43 53.2**	**-0.8**
POHV	**Veracruz**	**6.30**	**320**	*eP*	**Pn**	**11 42 40.6**	**-1.2**
POHV				*eS*	**Sn**	**11 43 53.2**	**-0.8**
ROCN	**Rota Cerro Neg**	**6.33**	**105**	P	**Pn**	**11 42 42.1**	**+0.5**
ROCN				S	**Sn**	**11 43 57.8**	**+4.0**
ROCN	**Rota Cerro Neg**	**6.33**	**105**	P	Pb	11 42 52.7	-6.0
LVIG	**Laguna Verde**	**6.34**	**329**	*eP*	**Pn**	**11 42 41.2**	**-0.7**
LVIG				*eS*	**Sn**	**11 43 48.6**	**-5.6**
CNGN	**Cerro Negro**	**6.37**	**105**		**Pn**	**11 42 44.6**	**+2.3**
CNGN	**Cerro Negro**	**6.37**	**105**	P	**Pb**	**11 42 59.5**	**+0.1**
HMTT	**Tlapaneco**	**6.40**	**304**		**Sn**	**11 43 47.7**	**-8.1**
HMTT	**Tlapaneco**	**6.40**	**304**	*eS*	**Sn**	**11 43 47.7**	**-8.1**
CRIG	**Cruz Grande**	**6.41**	**293**		**Pn**	**11 42 43.3**	**+0.6**
CRIG					Sn	11 43 45.1	-11
CRIG	**Cruz Grande**	**6.41**	**293**	*eP*	**Pn**	**11 42 43.3**	**+0.6**
CRIG				*eS*	Sn	11 43 45.1	-11
XALA	**Xalapa**	**6.44**	**325**	*eP*	**Pn**	**11 42 41.5**	**-1.8**
XALA				*eS*	**Sn**	**11 43 49.9**	**-6.9**
MOMN	**Momotombo**	**6.55**	**106**	P	**Pn**	**11 42 44.8**	**+0.1**
MOMN	**Momotombo**	**6.55**	**106**	P	Pn	11 42 53.1	+8.4
MOMN	**Momotombo**	**6.55**	**106**	P	Pb	11 42 53.8	-8.7
LIMN	**Finca el Limon**	**6.55**	**100**	P	**Pn**	**11

RPIG Rio Verde 10.08 320 eP **Pn 11 43 36.5 +3.3**
RPIG eS **Sn 11 45 32.9 +6.5**
MMIG Aquila 10.71 293 Pn 11 43 40.0 -1.8
MMIG **Sn 11 45 41.6 -0.2**
MMIG Aquila 10.71 293 eP **Pn 11 43 40.0 -1.8**
MMIG eS **Sn 11 45 41.6 -0.2**
EZ5V 11.40 299 Pn 11 43 55.6 +4.1
EZ5V 11.40 299 eP **Pn 11 43 55.6 +4.1**
EZ5V eS **Sn 11 45 56.1 -2.8**
MNGA Volcan de Coli 11.41 298 eP **Pn 11 43 55.1 +3.5**
MNGA eS **Sn 11 45 59.2 +0.1**
INCO Volcan de Coli 11.42 299 eP **Pn 11 43 55.2 +3.3**
INCO eS **Sn 11 45 55.4 -4.2**
SOMAC Volcano de Col 11.44 299 eP **Pn 11 43 55.8 +3.6**
SOMAC eS **Sn 11 45 52.2 -8.0**
CDAR Ciudad de Arme 11.54 295 eP Pn 11 43 58.2 +5.1
CDAR eS Sn 11 45 52.2 -10
CEGR Campo Tres 11.58 298 eP **Pn 11 43 58.2 +4.3**
CEGR eS Sn 11 45 53.5 -10
LNIG Linares 12.21 331 eP **Pn 11 44 06.5 +4.1**
LNIG eS **Sn 11 46 11.3 -7.1**
CIHU Emiliano Zapat 12.29 295 eP **Pn 11 44 03.9 +0.4**
CIHU eS **Sn 11 46 13.5 -7.0**
ZAIG Zacatecas 12.41 314 Pn **Pn 11 44 04.6 -0.6**
ZAIG Zacatecas 12.41 314 eP **Pn 11 44 05.7 +0.4**
CJM Chamela 12.65 296 eP **Pn 11 44 12.0 +3.6**
SOR Soroa 12.71 47 Pn **Pn 11 44 08.6 -0.6**
ANIG Ahuacatlan 12.89 303 P 11 44 17.3 -5.2
ANIG Ahuacatlan 12.89 303 eP P 11 44 17.3 -5.2
MNIG Monterrey 13.21 330 Pn 11 44 19.1 +3.2
MNIG Monterrey 13.21 330 eP **Pn 11 44 19.1 +3.2**
HBVL Hebbronville 13.80 338 Pn **Pn 11 44 24.0 0.0**
833A Chaparral WMA, 15.21 338 Pn 11 44 43.8 +0.7
833A IAmb IAmb 11 44 48.6
comp=Z,48nm,1.1s
833A Chaparral WMA, 15.21 338 P **Pn 11 44 44.9 +1.7**
baz=155,SNR=8.2
MTDJ Mount Denham 15.36 73 Pn **Pn 11 44 44.9 -0.5**
MTDJ IAmb IAmb 11 44 52.9
comp=Z,67nm,1.1s
MCIG Muzquiz 15.69 331 P **Pn 11 44 50.8 +1.3**
MCIG Muzquiz 15.69 331 eP **Pn 11 44 50.8 +1.3**
HKT Hockley 15.84 351 Pn **Pn 11 44 51.3 0.0**
HKT Hockley 15.84 351 Pn 11 44 52.0 +0.7
HKT IAmb IAmb 11 44 55.0
comp=Z,94nm,1.6s
PDIG Papasquiaro 15.84 314 P **P 11 44 55.3 -0.1**
PDIG Papasquiaro 15.84 314 eP **P 11 44 55.3 -0.1**
MLDN Muldoon 15.90 347 Pn **Pn 11 44 52.9 +0.7**
MLDN IAmb IAmb 11 44 56.9
comp=Z,128nm,1.4s
061Z Ochoppi 16.18 43 Pn 11 44 54.7 -1.1
HNDO Hondo 16.27 340 Pn 11 44 57.2 +0.2
DRIO Del Rio 16.66 336 Pn **Pn 11 45 02.5 +0.7**
CHIV Chivirico 16.83 68 Pn **Pn 11 45 04.6 +0.4**
CHIV IAmb IAmb 11 45 12.3
comp=Z,18nm,1.0s
435B Jarrell 16.98 346 Pn 11 45 06.1 +0.2
435B Jarrell 16.98 346 P **P 11 45 06.9 -0.9**
baz=164
JCT Junction City 17.32 340 P **Pn 11 45 10.8 +0.6**
DWPF Disney Wildern 17.48 36 Pn **Pn 11 45 11.6 -0.6**
DWPF IAmb IAmb 11 45 13.3
comp=Z,53nm,0.9s
BRAL Brewton 17.70 17 Pn **Pn 11 45 13.9 -0.9**
SAND Sanderson 17.75 333 P 11 45 17.5 +1.2
SAND IAmb IAmb 11 45 21.1
comp=Z,100nm,1.4s
BRDY Brady 17.82 343 Pn **Pn 11 45 15.4 -1.0**
TX31 Lajitas Ar. Si 17.96 328 P 11 45 20.8 +2.0
TXAR Lajitas Array 17.96 328 P **P 11 45 19.5 +0.7**
TXAR Lajitas Array 17.96 328 P **P 11 45 21.1 +2.4**
comp=Z,23nm,1.0s,baz=151,slow=11,SNR=52
TXAR LR LR 11 53 16.0
comp=Z,205nm,18.6s,baz=130,slow=40
GTBY Guantanamo Bay 18.00 69 P 11 45 19.4 +0.3
VBMS Vicksburg 18.02 7 Pn 11 45 18.8 0.0
OZNA Ozona 18.19 337 P 11 45 23.0 +1.7
NMDO Nuevo Mundo 18.29 67 P **P 11 45 22.3 -0.1**
NMDO IAmb IAmb 11 45 30.2
comp=Z,33nm,1.3s
FW14 Alvarado 18.46 349 P 11 45 23.9 -0.2
CBOC Ciudad Bolivar 18.68 115 P **Pn 11 45 28.2 +1.1**
comp=Z,1µmcomp=Z,21nm,1.2s
ALPN Alpine 18.80 330 P **Pn 11 45 30.3 +1.8**
FW07 Weatherford 18.88 347 P **P 11 45 28.0 -0.7**
Z41A Richland Creek 18.92 1 P **P 11 45 29.0 -0.1**
Z41A IAmb IAmb 11 45 37.5
comp=Z,45nm,0.9s
LPIG La Paz 19.04 304 P **Pn 11 45 34.7 +3.4**
comp=Z,16nm,0.3s,baz=184,slow=1.0,SNR=4.8
LPIG LR LR 11 53 02.9
comp=Z,500nm,18.5s,baz=124,slow=37
SGCY Sterling City 19.09 338 P **Pn 11 45 31.9 0.0**
SGCY IAmb IAmb 11 45 35.5
comp=Z,58nm,0.9s
FW06 Azle 19.09 348 P **P 11 45 30.9 -0.1**
PLPT Palo Pinto 19.10 346 P **P 11 45 31.2 +0.1**
MNHN Monahans 19.22 334 P **Pn 11 45 34.4 +0.9**
FW03 Perrin-Whitt E 19.26 347 P **Pn 11 45 34.2 +0.3**
WLAR White Oak Lake 19.35 360 P **Pn 11 45 35.3 +0.4**
WLAR IAmb IAmb 11 45 37.7
comp=Z,52nm,1.0s
LRAL Lakeview Retre 19.48 15 P **Pn 11 45 36.1 -0.3**
JAMC Jamundi, Valle 19.49 123 P **Pn 11 45 36.7 -0.3**
comp=Z,11nm,1.1s
PECS Pecos 19.74 331 P **Pn 11 45 39.3 -0.4**
BBAC Balboa, Cauca 19.75 127 P **Pn 11 45 39.7 -0.4**
comp=Z,10nm,1.0s
PTBC PUERTO BERRIO, 19.77 111 P **P 11 45 39.1 +0.5**
comp=Z,109nmcomp=Z,9.9nm,0.9s
VHRN Van Horn 19.80 328 P **Pn 11 45 40.1 -0.5**
ODSA Odessa 19.81 335 P **P 11 45 39.7 +0.7**
ODSA IAmb IAmb 11 45 42.3
comp=Z,56nm,0.8s
POPC Popayan, Colom 19.88 124 P **P 11 45 40.9 +0.8**
comp=Z,386nmcomp=Z,20nm,1.0s
SN05 Snyder 5 19.88 340 P **Pn 11 45 40.9 -0.5**
SN05 IAmb IAmb 11 45 48.0
comp=Z,45nm,0.7s
LOOK Love County 20.01 350 P **P 11 45 41.3 +0.2**
OTAV Otavalo 20.03 133 P **P 11 45 42.9 +1.0**
OTAV Otavalo 20.03 133 P Pn 11 45 43.1 -0.6
comp=Z,5.5nm,1.3s
WTFS Witchita Falls 20.05 347 P **P 11 45 41.8 +0.3**
WTFS IAmb IAmb 11 45 52.0
comp=Z,36nm,1.1s
APMT Aspermont 20.06 342 P Pn 11 45 42.6 -0.9
APMT IAmb IAmb 11 45 49.6
comp=Z,38nm,0.7s
SN07 Snyder 07 20.08 340 P **P 11 45 42.2 +0.3**
SN07 IAmb IAmb 11 45 45.0
comp=Z,26nm,0.8s
MIAR Mount Ida 20.21 359 P **P 11 45 43.4 +0.2**
MIAR IAmb IAmb 11 45 48.7
comp=Z,52nm,0.9s
POST Post 20.26 339 P **P 11 45 44.6 +0.6**
POST IAmb IAmb 11 45 52.6
comp=Z,28nm,0.8s
ORTC Ortega, Tolima 20.30 119 P **P 11 45 45.5 +1.1**
comp=Z,692nmcomp=Z,44nm,0.9s
UALR University of 20.44 2 P **P 11 45 46.5 +0.7**
SPBC San Pablo de B 20.49 113 P **P 11 45 47.7 +1.1**
comp=Z,760nmcomp=Z,15nm,0.8s
CLNB Carlsbad 20.50 333 P Pn 11 45 48.4 -0.3
HTMS Hat Mesa 20.57 334 P Pn 11 45 49.1 -0.4
CLN7 Carlsbad 7 20.59 333 P Pn 11 45 48.9 -0.9
DKNS Dickens 20.62 341 P Pn 11 45 49.1 -1.0
URIC Uribia, Colomb 20.62 95 P Pn 11 45 51.4 +1.2
comp=Z,15nm,1.1s
ROSC El Rosal 20.64 115 IAmb IAmb 11 45 54.3
comp=Z,66nm,1.1s
ROSC El Rosal 20.64 115 P Pn 11 45 51.6 +0.8
comp=Z,45nm,1.0s,baz=303,slow=3.2,SNR=19
ROSC LR LR 11 55 06.5
comp=Z,302nm,19.9s,baz=326,slow=41
PRAC Prado 20.71 119 P Pn 11 45 52.1 +0.9
comp=Z,7µmcomp=Z,651nmcomp=Z,46nm,1.5s
X34A Smith Ranch, M 20.72 349 P **P 11 45 48.5 -0.3**
X34A IAmb IAmb 11 45 58.8
comp=Z,50nm,1.2s
BARC Barichara 20.91 109 P **P 11 45 51.8 +0.5**
GOGA Godfrey 20.95 23 P **P 11 45 50.5 -0.7**
GOGA IAmb IAmb 11 46 03.8
comp=Z,35nm,1.1s
CVER Cruz Verde, Cu 21.01 116 P **P 11 45 55.0 +2.4**
PIAT Ana Tenorio 21.04 135 P **P 11 45 55.0 +2.2**
comp=Z,7.7nm,1.7s
WMOK Wichita Mounta 21.05 347 P **P 11 45 52.7 +0.3**
W35A Tecumseh 21.10 351 P **P 11 45 54.0 +1.2**
W35A IAmb IAmb 11 46 04.0
comp=Z,34nm,0.9s
PLAL Pickwick Lake 21.11 11 P **P 11 45 53.0 0.0**
PLAL IAmb IAmb 11 46 05.5
comp=Z,61nm,1.6s
FLOC Florencia 21.27 125 P **P 11 45 56.5 +1.6**
FLOC IAmb IAmb 11 46 06.3
comp=Z,64nm,1.3s
FLOC Florencia 21.27 125 P **P 11 45 57.0 +2.1**
comp=Z,36nm,1.2s
FPAL Fort Paine 21.27 17 P **P 11 45 54.4 -0.4**
RUSC La Rusia 21.28 111 P **P 11 45 56.8 +1.3**
RUSC IAmb IAmb 11 46 00.5
comp=Z,62nm,1.1s
RUSC La Rusia 21.28 111 P **P 11 45 56.4 +0.9**
comp=Z,769nmcomp=Z,53nm,1.2s
FNO Franklin 21.28 350 P **P 11 45 54.6 -0.3**
FNO IAmb IAmb 11 46 00.2
comp=Z,48nm,0.7s
HBAR Harrisburg 21.31 5 P **P 11 45 54.5 -0.6**
HBAR IAmb IAmb 11 46 10.3
comp=Z,75nm,1.3s
SDDR Presa de Saban 21.32 74 P **P 11 45 54.0 -1.4**
SDDR IAmb IAmb 11 46 14.8
comp=Z,26nm,0.9s
URMC La Uribe, Meta 21.38 119 P **P 11 45 57.2 +1.0**
comp=Z,24nm,0.8s
COHC Cochancay 21.48 140 P **P 11 45 58.6 +1.4**
COHC Cochancay 21.48 140 P **P 11 45 55.6 -1.6**
comp=Z,576nmcomp=Z,10nm,1.3s
DEOK Depew 21.73 352 P **P 11 45 59.6 +0.1**
DEOK IAmb IAmb 11 46 02.1
comp=Z,41nm,1.3s
SMWD Samnorwood 21.76 344 P **P 11 45 59.9 -0.2**
LCAR Lake Charles 21.79 4 P **P 11 45 59.4 -0.8**
LCAR IAmb IAmb 11 46 16.0
comp=Z,52nm,1.7s
SWET Sewanee 21.82 16 P **P 11 45 59.9 -0.8**
SWET IAmb IAmb 11 46 13.1
comp=Z,38nm,1.3s
OK031 S. Brethren Rd 21.88 352 IAmb IAmb 11 46 03.6
comp=Z,44nm,1.1s
CSTR Hydro, Custer 21.91 347 P **P 11 46 01.4 -0.1**
OK052 Battle Ridge R 21.91 352 IAmb IAmb 11 46 03.9
comp=Z,66nm,1.2s
QUOK Quay 22.08 352 IAmb IAmb 11 46 05.5
comp=Z,62nm,1.3s
BANI BANI 22.11 76 P **P 11 46 03.6 -0.4**
BANI IAmb IAmb 11 46 17.5
comp=Z,47nm,1.1s
HSIG 22.19 314 P **P 11 46 06.4 +1.8**
HSIG IAmb IAmb 11 46 09.9
comp=Z,31nm,1.4s
WVT Waverly 22.27 11 P **P 11 46 04.6 -0.8**
OK048 Pawnee Station 22.35 352 P **P 11 46 05.6 -0.7**
OK048 IAmb IAmb 11 46 08.2
comp=Z,58nm,1.0s
OK051 E0350 and S346 22.42 352 P **P 11 46 07.6 +0.6**
CPCT Cooper Cave 22.44 18 P **P 11 46 05.4 -1.9**
CPCT IAmb IAmb 11 46 27.2
comp=Z,30nm,1.3s
ELIS Ellis County 22.47 346 IAmb IAmb 11 46 10.9
comp=Z,29nm,1.0s
SDV Santo Domingo 22.54 101 P **P 11 46 08.3 -0.5**
SDV Santo Domingo 22.54 101 LR LR 11 55 47.9
comp=Z,314nm,20.2s,baz=270,slow=39
PBMO Poplar Bluff 22.55 5 P **P 11 46 07.3 -1.1**
BG3 Lake Jocassee 22.55 22 P **P 11 46 07.7 -0.8**
JSC Jenkinsville 22.59 26 P **P 11 46 07.7 -1.2**
JSC IAmb IAmb 11 46 18.1
comp=Z,28nm,1.2s
CROK Carrier 22.60 350 P **P 11 46 07.9 -1.1**
CROK IAmb IAmb 11 46 11.1
comp=Z,28nm,0.7s
121A Cookes Peak, D 22.65 326 P **P 11 46 11.9 +2.2**
121A IAmb IAmb 11 46 13.4
comp=Z,55nm,1.0s
121A Cookes Peak, D 22.65 326 P **P 11 46 12.1 +2.3**
baz=140,SNR=46
319A Douglas 22.66 321 P **P 11 46 12.2 +2.4**
319A IAmb IAmb 11 46 32.2
comp=Z,40nm,1.1s
BLOK Blackwell 22.73 351 IAmb IAmb 11 46 11.8
comp=Z,54nm,1.2s
T35A Sooner Cattle 22.78 353 P **P 11 46 09.9 -1.0**
T35A IAmb IAmb 11 46 11.6
comp=Z,33nm,1.0s
TKL Tuckaleechee C 22.87 20 IAmb IAmb 11 46 31.7
comp=Z,28nm,1.1s
TKL Tuckaleechee C 22.87 20 LR LR 11 56 48.0
comp=Z,379nm,18.1s,baz=197,slow=41
NOKA Waynoka 22.91 348 P **P 11 46 13.1 +0.9**
NOKA IAmb IAmb 11 46 13.7
comp=Z,40nm,0.9s
GC02 Grant County # 22.92 350 P **P 11 46 12.5 +0.1**
OK032 Salt Plains WL 22.93 349 P **P 11 46 12.3 -0.2**
OK032 IAmb IAmb 11 46 14.3
comp=Z,23nm,0.6s
KAN13 South Haven SW 23.01 351 P **P 11 46 12.9 -0.4**
KAN13 IAmb IAmb 11 46 24.5
comp=Z,46nm,1.1s
KAN14 Manchester OK 23.04 350 P **P 11 46 13.8 +0.2**
KAN14 IAmb IAmb 11 46 14.7
comp=Z,27nm,1.1s
U49A Red Boiling Sp 23.09 15 P **P 11 46 12.5 -1.6**
U49A IAmb IAmb 11 46 34.2
comp=Z,27nm,1.1s
KAN17 Caldwell West 23.09 350 P **P 11 46 13.8 -0.4**
KAN09 Caldwell North 23.16 351 IAmb IAmb 11 46 15.8
comp=Z,44nm,1.1s
KAN05 Bluff City Nor 23.17 350 P **P 11 46 14.3 -0.6**
KAN01 Argonia South 23.20 350 IAmb IAmb 11 46 16.3
comp=Z,60nm,1.2s
V53A Saluda 23.20 21 IAmb IAmb 11 46 36.8
comp=Z,53nm,1.2s
KMSC Kings Mountain 23.30 25 P **P 11 46 14.4 -1.9**
KMSC IAmb IAmb 11 46 33.9
comp=Z,36nm,1.4s
BNM Barren Site 23.34 330 P **P 11 46 18.5 +1.6**
KAN12 Harper NE Stat 23.38 350 P **P 11 46 17.4 +0.3**
DUN6 Lazy B Ranch 23.39 324 P **P 11 46 19.7 +2.4**
SBM South Baldy 23.46 329 P **P 11 46 20.3 +2.0**
SIUC Southern Illin 23.61 8 P **P 11 46 17.9 -1.3**
SIUC IAmb IAmb 11 46 42.8
comp=Z,33nm,0.9s
TZTN Tazewell 23.75 19 P **P 11 46 18.9 -1.8**
TZTN IAmb IAmb 11 46 46.2
comp=Z,33nm,1.0s
CCM Cathedral Cave 23.76 3 P **P 11 46 19.2 -1.5**
W57A Gilead 23.88 27 IAmb IAmb 11 46 47.5
comp=Z,38nm,1.4s
ANMO Albuquerque 23.91 332 P **P 11 46 23.6 +1.2**
TUC Tucson 24.22 321 P **P 11 46 26.8 +1.5**
TUC IAmb IAmb 11 46 29.2
comp=Z,28nm,1.1s
U54A Nelsons Funny 24.32 22 P **P 11 46 24.9 -1.3**
U54A IAmb IAmb 11 46 46.9
comp=Z,43nm,1.1s
U56A King 24.73 25 IAmb IAmb 11 46 30.2
comp=Z,32nm,1.2s
OLIL Olney 24.76 9 P **P 11 46 28.4 -1.6**
OLIL IAmb IAmb 11 46 58.1
comp=Z,42nm,1.2s
V58A Windy Hill, Pi 24.81 28 P **P 11 46 28.5 -1.9**
V58A IAmb IAmb 11 46 29.2
comp=Z,32nm,1.1s
KSU1 Kansas State U 24.95 353 P **P 11 46 30.7 -1.1**
T25A Trinidad 24.96 338 P **P 11 46 32.9 +0.9**
T25A Trinidad 24.96 338 P **P 11 46 33.2 +1.2**
baz=153,SNR=80
BAUV El Baul 25.00 99 P **P 11 46 30.6 -1.8**
CBKS Cedar Bluff 25.18 348 IAmb IAmb 11 46 35.5
comp=Z,32nm,1.0s
PIX Pinacate 25.45 316 P **P 11 46 37.2 +0.8**
ATAH Atahualpa 25.72 145 LR LR 11 55 17.3
comp=Z,469nm,19.1s,baz=313,slow=33
SDCO Great Sand Dun 25.90 337 IAmb IAmb 11 46 44.6
comp=Z,22nm,0.8s
SJG San Juan 26.06 78 LR LR 11 56 57.2
comp=Z,504nm,21.9s,baz=256,slow=37
113A Mohawk Valley, 26.41 318 P **P 11 46 46.7 +1.7**
S22A 4UR Ranch, Cre 26.43 335 IAmb IAmb 11 46 50.3
comp=Z,26nm,0.9s
S22A 4UR Ranch, Cre 26.43 335 P **P 11 46 47.0 +1.5**
baz=148,SNR=42
N38A Joes South For 26.44 360 P **P 11 46 44.2 -1.0**
T59A Double "B" Far 26.49 29 IAmb IAmb 11 46 46.1
comp=Z,19nm,0.8s
Q24A Divide 26.85 339 P **P 11 46 50.4 +1.2**
baz=153
WUAZ Wupatki 26.85 325 IAmb IAmb 11 47 25.1
comp=Z,15nm,1.1s
Q56A Snyder Ridge, 27.53 24 P **P 11 46 53.6 -1.4**
Q56A IAmb IAmb 11 47 23.5
comp=Z,25nm,1.4s
PV13 Radium Mtn., P 27.63 332 IAmb IAmb 11 47 01.4
comp=Z,27nm,1.0s
PV15 Paradox Valley 27.63 333 IAmb IAmb 11 47 02.3
comp=Z,32nm,1.0s
L40A Anamosa 27.75 3 P **P 11 46 56.5 -0.5**
L40A IAmb IAmb 11 47 29.7
comp=Z,27nm,1.2s
YUH Yuha Desert 27.78 315 P **P 11 46 59.2 +1.9**
YUH IAmb IAmb 11 47 00.8
comp=Z,31nm,1.8s
PV23 Carpenter Ridg 27.96 332 P **P 11 47 00.4 +1.2**
PCRV Puerto La Cruz 28.00 95 LR LR 11 59 02.7
comp=Z,307nm,20.1s,slow=38
W13A Hualapai Mount 28.01 322 IAmb IAmb 11 47 03.1
comp=Z,14nm,1.2s
HMU Henry Mountain 28.36 330 IAmb IAmb 11 47 14.3
comp=Z,22nm,1.2s
PFO Pinyon Flats O 28.71 316 LR LR 12 00 14.0
comp=Z,288nm,18.3s,baz=130,slow=40
PKCU Pink Cliffs 28.79 327 IAmb IAmb 11 47 10.3
comp=Z,54nm,1.9s
K30B Basset 28.89 350 IAmb IAmb 11 47 11.1
comp=Z,29nm,1.0s
V12A Nelson 29.02 321 IAmb IAmb 11 47 11.6
comp=Z,21nm,1.1s
O20A White River Ci 29.04 335 IAmb IAmb 11 47 18.6
comp=Z,21nm,1.1s
Q16A Castle Valley 29.34 330 IAmb IAmb 11 47 14.5
comp=Z,15nm,1.3s
P18A Preston Nutter 29.47 332 P **P 11 47 14.2 +1.5**
P18A IAmb IAmb 11 47 19.3
comp=Z,9.6nm,1.0s
ECSD EROS Data Cent 29.54 355 P **P 11 47 11.0 -1.9**
ECSD IAmb IAmb 11 47 14.4
comp=Z,11nm,0.9s
PSUT Pine Spring 30.41 327 P **P 11 47 22.1 +1.2**
MPU Maple Canyon 30.42 331 P **P 11 47 22.3 +1.4**
MPU IAmb IAmb 11 47 26.6
comp=Z,12nm,1.0s
BSUT Blindstream Ca 30.44 333 P **P 11 47 22.6 +1.2**
BSUT IAmb IAmb 11 47 28.5
comp=Z,11nm,1.0s
NNA Nana 30.60 148 LR LR 11 57 29.9
comp=Z,309nm,21.1s,baz=332,slow=32
K22A Casper 30.61 340 IAmb IAmb 11 47 25.5
comp=Z,11nm,0.7s
S11A Rachel 30.84 323 IAmb IAmb 11 47 28.1
comp=Z,23nm,1.2s
SPMN Marine on St. 30.87 0 P **P 11 47 23.1 -1.5**
SPMN IAmb IAmb 11 47 24.7
comp=Z,18nm,1.2s
SPR3 Spring Creek 3 31.00 327 P **P 11 47 27.8 +1.5**
SPR3 IAmb IAmb 11 47 28.9
comp=Z,9.6nm,1.1s
SPR3 **PcP 11 50 22.9 +0.7**
DUG Dugway, Tooele 31.13 330 IAmb IAmb 11 47 29.8
comp=Z,14nm,1.6s
HWUT Hardware Ranch 31.66 333 P **P 11 47 32.9 +1.0**
HWUT IAmb IAmb 11 47 37.2
comp=Z,13nm,1.1s
HWUT **PcP 11 50 23.5 -0.3**
PD31 Pinedale Array 31.80 337 IAmb IAmb 11 47 36.5
comp=Z,13nm,1.1s
PDAR Pinedale Array 31.80 337 P **P 11 47 33.5 +0.5**
PDAR Pinedale Array 31.80 337 P **P 11 47 33.9 +0.8**
comp=Z,12nm,1.1s,baz=132,slow=7.9,SNR=28
PDAR PcP **PcP 11 50 23.8 -0.4**
comp=Z,0.7nm,0.8s,baz=121,slow=3.5,SNR=3.8
PDAR LR LR 12 01 46.2
comp=Z,164nm,18.1s,baz=143,slow=39
comp=Z,12nm,1.1s
BGU Big Grassy Mou 31.80 330 P **P 11 47 34.3 +1.3**
HVU Hansel Valley 32.34 332 IAmb IAmb 11 47 43.6
comp=Z,11nm,1.0s
ELK Elko 32.76 328 IAmb IAmb 11 47 44.1
comp=Z,8.3nm,1.1s
ELK Elko 32.76 328 LR LR 12 03 09.5
comp=Z,418nm,18.8s,baz=156,slow=40
NV11 Mina Array Sit 32.78 322 IAmb IAmb 11 47 45.4
comp=Z,20nm,1.1s
NVAR Mina Array Bea 32.87 322 P **P 11 47 45.0 +2.5**
NVAR Mina Array Bea 32.87 322 P **P 11 47 45.0 +2.5**
comp=Z,12nm,0.9s,baz=140,slow=8.7,SNR=75
NVAR PcP **PcP 11 50 27.6 +0.4**
comp=Z,1.2nm,0.8s,baz=127,slow=4.8,SNR=4.2
NVAR LR LR 12 02 48.9
comp=Z,641nm,18.6s,baz=154,slow=39
comp=Z,12nm,0.9s
LHV Little Huntoon 32.88 321 IAmb IAmb 11 47 46.3
comp=Z,14nm,1.1s
TPAW Teton Pass 32.95 336 P **P 11 47 43.7 +0.4**
FXWY Fox Creek 33.11 336 IAmb IAmb 11 47 48.8
comp=Z,16nm,0.8s
H17A Grant Village 33.57 337 IAmb IAmb 11 48 00.4
comp=Z,12nm,1.0s
WAKR Walker 33.60 321 IAmb IAmb 11 47 52.7
comp=Z,14nm,1.4s
LKWY Lake 33.65 337 IAmb IAmb 11 47 54.9
comp=Z,16nm,0.8s
YMP Mirror Lake Pl 33.70 338 P **P 11 47 50.7 +0.8**
YFT Old Faithful 33.72 337 IAmb IAmb 11 47 55.3
comp=Z,20nm,1.0s
RLMT Red Lodge 33.72 339 P **P 11 47 49.0 -0.9**
RLMT IAmb IAmb 11 47 52.2
comp=Z,17nm,1.6s
YNR Norris Junctio 33.88 337 IAmb IAmb 11 47 55.2
comp=Z,12nm,0.9s
CMB Columbia Colle 33.91 319 P **P 11 47 52.8 +1.4**
PNTR Pine Nut 34.07 322 IAmb IAmb 11 47 56.5
comp=Z,13nm,1.0s
YHL Hebgen Lake 34.19 337 IAmb IAmb 11 48 00.3
comp=Z,18nm,1.0s
PAHR Pah Rah Range 34.34 323 IAmb IAmb 11 47 57.9
comp=Z,10.0nm,1.1s
BOZ Bozeman (W) 34.98 337 IAmb IAmb 11 48 05.5
comp=Z,13nm,1.1s
MFID Camas Ranch 35.04 330 IAmb IAmb 11 48 06.2
comp=Z,13nm,1.4s
DLMT Dillon 35.16 336 P **P 11 48 03.9 +1.6**
DGMT Dagmar 35.35 347 P **P 11 48 03.7 0.0**
DGMT IAmb IAmb 11 48 06.9
comp=Z,9.5nm,0.8s
WVOR Wild Horse Val 35.74 327 IAmb IAmb 11 48 10.0
comp=Z,19nm,1.2s
ULM Lac du Bonnet 35.97 357 IAmb IAmb 11 48 47.9
comp=Z,25nm,1.8s
ULM Lac du Bonnet 35.97 357 P **P 11 48 06.9 -2.1**
comp=Z,2.1nm,0.5s,baz=165,slow=8.7,SNR=6.1
ULM LR LR 12 06 57.1
comp=Z,226nm,18.0s,baz=178,slow=43
comp=Z,2.1nm,0.5s
J08A Circle Bar Ran 36.31 328 P **P 11 48 13.0 +0.9**
BPMT Black Pine Rid 36.39 336 P **P 11 48 13.8 +0.9**
PLID Pearl Lake 36.39 332 P **P 11 48 13.6 +0.7**
PLID IAmb IAmb 11 48 15.1
comp=Z,21nm,1.2s
EGMT Eagleton 36.43 341 P **P 11 48 13.6 +0.6**
MSO Missoula 36.90 336 IAmb IAmb 11 48 19.1
comp=Z,13nm,1.0s
I07A Izee 37.35 328 P **P 11 48 21.9 +1.0**
YBH Yreka Blue Hor 37.57 323 LR LR 12 05 37.0
comp=Z,462nm,18.0s,baz=150,slow=39
K04D Chiloquin, OR 37.58 324 P **P 11 48 23.5 +0.5**
K04D IAmb IAmb 11 48 25.0
comp=Z,37nm,1.5s
L04D Klamath Falls 37.64 323 IAmb IAmb 11 48 45.2
comp=Z,23nm,1.5s
PINE Pine Mountain 37.90 326 P **P 11 48 26.1 +0.3**
G08A Pilot Rock 37.94 330 P **P 11 48 25.9 -0.1**
G08A **PcP 11 50 42.6 +0.8**

I04A	Tendick Farm,	38.70 325	P	P	11 48 33.3	+1.0
I04A			IAmb	IAmb	11 48 34.2	
	comp=Z,36nm,1.7s					
LPAZ	La Paz	39.05 140	P	P	11 48 35.5	-0.6
	comp=Z,1.6nm,0.8s,baz=320,slow=6.9,SNR=6.1					
LPAZ			LR	LR	12 03 14.6	
	comp=Z,240nm,21.0s,baz=318,slow=34					
	comp=Z,1.6nm,0.8s					
H04A	Detroit Lake	39.16 327	IAmb	IAmb	11 48 38.2	
	comp=Z,28nm,1.1s					
I03D	Drain, OR	39.16 325	IAmb	IAmb	11 48 38.2	
	comp=Z,21nm,1.2s					
BUCK	Buck Mountain	39.28 325	IAmb	IAmb	11 48 38.9	
	comp=Z,19nm,1.1s					
NEW	Newport	39.34 334	P	P	11 48 37.7	0.0
NEW	Newport	39.34 334	LR	LR	12 07 09.9	
	comp=Z,368nm,18.2s,baz=136,slow=40					
H04D	Lebanon	39.36 326	IAmb	IAmb	11 48 39.1	
	comp=Z,15nm,1.0s					
C09A	Chrisman Ranch	39.48 333	IAmb	IAmb	11 48 40.8	
	comp=Z,20nm,1.4s					
MDP	Montagnes des	40.75 99	LR	LR	12 06 21.2	
	comp=Z,367nm,22.0s,baz=296,slow=37					
D05A	Enumclaw	40.77 330	IAmb	IAmb	11 49 08.7	
	comp=Z,12nm,1.0s					
FFC	Flin Flon	40.98 352	P	P	11 48 50.2	-0.8
SIV	San Ignacio	43.57 132	LR	LR	12 06 38.8	
	comp=Z,293nm,18.5s,baz=292,slow=35					
CBB	Campbell River	44.34 330	P	P	11 49 19.6	+1.1
CBB			IAmb	IAmb	11 49 21.0	
	comp=Z,22nm,1.3s					
FCC	Fort Churchill	44.43 359	IAmb	IAmb	11 49 18.4	
	comp=Z,38nm,2.0s					
SCHQ	Schefferville	45.33 21	P	P	11 49 23.9	-2.3
	comp=Z,5.2nm,1.1s,baz=200,slow=7.4,SNR=3.7					
SCHQ			PcP	PcP	11 51 05.0	-0.7
	comp=Z,3.2nm,0.8s,baz=231,slow=5.6,SNR=5.9					
SCHQ			LR	LR	12 10 38.6	
	comp=Z,856nm,18.1s,baz=206,slow=39					
	comp=Z,5.2nm,1.1s					
TOAD	Toad River Com	50.55 339	P	P	11 50 08.0	+1.4
	baz=138					
YKA	Yellowknife Ar	50.56 347	P	P	11 50 06.3	-0.3
	comp=Z,17nm,1.0s,baz=155,slow=7.6,SNR=160					
	comp=Z,17nm,1.0s					
V35K	Ketchikan	50.67 333	P	P	11 50 09.1	+1.6
	baz=128					
KOTAN	Kotaneelee Air	51.13 341	P	P	11 50 11.3	+0.4
	baz=140,SNR=11					
T35M	Bob Quinn	51.15 335	P	P	11 50 12.2	+1.0
	baz=131					
CRAG	Craig	51.44 332	P	P	11 50 14.7	+1.4
	baz=127					
U33K	Whale Pass	51.83 333	P	P	11 50 17.4	+1.2
	baz=127					
DLBC	Dease Lake	52.03 336	IAmb	IAmb	11 50 21.1	
	comp=Z,22nm,1.2s					
DLBC	Dease Lake	52.03 336	P	P	11 50 19.2	+1.4
	baz=132,SNR=14					
S34M	Telegraph Cree	52.12 335	P	P	11 50 19.8	+1.4
	baz=130,SNR=6.1					
T33K	Petersburg	52.19 333	P	P	11 50 20.6	+1.8
	baz=128					
WTLY	Watson Lake, Y	52.73 338	P	P	11 50 24.0	+1.1
	baz=134,SNR=6.5					
R33M	Jennings River	53.03 337	P	P	11 50 26.6	+1.3
	baz=132					
CPUP	Villa Florida	53.20 139	LR	LR	12 14 36.3	
	comp=Z,136nm,18.8s,baz=337,slow=38					
Q32M	Nakina River	53.26 336	P	P	11 50 28.8	+1.8
	baz=130					
S32K	Killisnoo	53.29 333	P	P	11 50 27.9	+1.0
	baz=126					
WRGLY	Wrigley	53.37 343	P	P	11 50 28.1	+0.6
	baz=142,SNR=9.2					
SIT	Sitka	53.37 333	P	P	11 50 29.1	+1.5
	baz=125					
BDFB	Brasilia	53.48 122	P	P	11 50 28.4	-0.7
	comp=Z,3.6nm,0.7s,baz=274,slow=8.3,SNR=6.6					
BDFB			LR	LR	12 13 05.1	
	comp=Z,148nm,19.1s,baz=336,slow=36					
	comp=Z,3.6nm,0.7s					
R32K	Eaglecrest	53.75 334	P	P	11 50 31.5	+1.1
	baz=127					
P32M	Atlin	54.23 336	P	P	11 50 35.3	+1.4
P32M			IAmb	IAmb	11 50 39.7	
	comp=Z,7.5nm,0.9s					
P32M	Atlin	54.23 336	P	P	11 50 35.1	+1.2
	baz=129					
P33M	Teslin, Yukon	54.28 337	P	P	11 50 35.5	+1.2
P33M			IAmb	IAmb	11 50 45.0	
	comp=Z,18nm,1.6s					
P33M	Teslin, Yukon	54.28 337	P	P	11 50 35.5	+1.2
	baz=130					
S31K	Pelican	54.30 333	P	P	11 50 35.5	+1.2
	baz=125					
N32M	Quiet Lake	54.99 338	P	P	11 50 40.3	+0.9
	baz=130					
WHY	Whitehorse	55.35 336	P	P	11 50 42.8	+0.6
	baz=128					
FARO	Faro, Yukon	55.78 338	P	P	11 50 46.0	+0.9
	baz=130,SNR=6.7					
P30M	Million Dollar	55.86 335	P	P	11 50 47.2	+1.5
	baz=126,SNR=6.6					
O30N	Mendenhall	55.90 336	IAmb	IAmb	11 50 48.4	
	comp=Z,10nm,1.2s					
O30N	Mendenhall	55.90 336	P	P	11 50 47.1	+1.1
	baz=127,SNR=7.3					
M31M	Drury Creek, Y	56.14 338	P	P	11 50 47.5	-0.2
M31M			IAmb	IAmb	11 50 53.8	
	comp=Z,12nm,1.4s					
M31M	Drury Creek, Y	56.14 338	P	P	11 50 48.7	+1.0
	baz=129					
N31M	Braeburn, Yuko	56.21 337	P	P	11 50 48.8	+0.6
N31M			IAmb	IAmb	11 50 50.4	
	comp=Z,15nm,1.1s					
N31M	Braeburn, Yuko	56.21 337	P	P	11 50 49.3	+1.1
	baz=128,SNR=7.7					
HYT	Haines Junctio	56.49 336	P	P	11 50 51.2	+0.9
	baz=125					
O29M	Mount Kennedy	56.62 335	P	P	11 50 52.2	+0.9
	baz=124,SNR=5.7					
N30M	Aishikik Lake	56.70 336	P	P	11 50 52.8	+1.1
	baz=126					
YUK6	Outpost Mounta	56.90 336	P	P	11 50 53.7	+0.3
	baz=124					
YUK4	Talbot Arm	57.24 336	P	P	11 50 56.8	+1.1
	baz=124					
M30M	Minto, Yukon	57.25 338	IAmb	IAmb	11 51 05.8	
	comp=Z,20nm,1.5s					
M30M	Minto, Yukon	57.25 338	P	P	11 50 56.4	+0.8
	baz=127,SNR=12					
O28M	Mount Upton	57.55 335	P	P	11 50 59.2	+1.1
	baz=122					
MAYO	Mayo, Yukon	57.56 339	P	P	11 50 59.1	+1.4
	baz=128,SNR=5.5					
YUK8	Steele Glacier	57.66 335	P	P	11 50 59.4	+0.7
	baz=123,SNR=7.6					
M29M	Somme Creek	57.80 337	P	P	11 51 00.4	+0.9
	baz=125,SNR=27					
L29M	L29M	58.06 338	P	P	11 51 01.8	+0.5
	baz=126					
K29M	Barlow Dome	58.28 339	P	P	11 51 03.9	+1.0
	baz=127					
J30M	Hart River	58.32 340	P	P	11 51 03.9	+0.8
	baz=128					
C36M	Paulatuk	58.44 348	P	P	11 51 04.5	+0.7
	baz=144					
H31M	Peel River	58.47 341	P	P	11 51 05.1	+1.0
	baz=131					
PLCA	Paso Flores	58.54 160	P	P	11 51 06.3	+1.4
	comp=Z,2.4nm,1.1s,baz=309,slow=6.5,SNR=2.9					
PLCA			LR	LR	12 11 23.6	
	comp=Z,185nm,18.2s,baz=354,slow=31					
	comp=Z,2.4nm,1.1s					
I30M	Mount Dempster	58.74 340	P	P	11 51 06.2	+0.1
	baz=129					
J29N	Klondike Camp	58.89 339	IAmb	IAmb	11 52 01.4	
	comp=Z,7.7nm,1.2s					
J29N	Klondike Camp	58.89 339	P	P	11 51 07.5	+0.4
	baz=126					
M27K	Edge Creek, AK	59.08 336	P	P	11 51 09.5	+1.0
	baz=122					
DAWY	Dawson	59.08 338	P	P	11 51 08.6	+0.2
DAWY			IAmb	IAmb	11 52 02.2	
	comp=Z,5.1nm,1.1s					
DAWY	Dawson	59.08 338	P	P	11 51 08.6	+0.2
	baz=125					
VRDI	Verde Repeater	59.15 334	IAmb	IAmb	11 51 11.4	
	comp=Z,14nm,1.2s					
F31M	Tsiigehtchic	59.39 343	P	P	11 51 10.6	+0.3
	baz=132,SNR=8.0					
GLB	Gilahina Butte	59.40 334	IAmb	IAmb	11 51 13.1	
	comp=Z,14nm,1.1s					
BCAR	Beaver Creek A	59.42 337	P	P	11 51 11.6	+0.8
L27K	Beaver Creek,	59.43 337	P	P	11 51 11.7	+0.8
	baz=122					
I29M	Ogilvie Camp,	59.47 340	P	P	11 51 10.8	-0.2
I29M			IAmb	IAmb	11 51 21.5	
	comp=Z,15nm,1.4s					
I29M	Ogilvie Camp,	59.47 340	P	P	11 51 12.0	+1.0
	baz=127,SNR=5.4					
BMRM	Bremner River	59.51 334	P	P	11 51 12.5	+1.1
BMRM	Bremner River	59.51 334	P	P	11 51 12.7	+1.3
	baz=118,SNR=5.0					
M26K	Nabesna, AK	59.55 336	IAmb	IAmb	11 51 14.4	
	comp=Z,13nm,1.3s					
M26K	Nabesna, AK	59.55 336	P	P	11 51 12.7	+1.0
	baz=120,SNR=7.0					
GO07	Milladeo Hill,	59.78 164	P	P	11 51 15.4	+2.1
G30M	tAoh Zraii Nji	59.81 342	P	P	11 51 14.0	+0.6
	baz=130					
N25K	Chitina, Valde	59.81 334	P	P	11 51 14.4	+0.9
	baz=118,SNR=7.9					
EYAK	Cordova Ski Ar	59.82 333	P	P	11 51 14.5	+1.1
EYAK	Cordova Ski Ar	59.82 333	P	P	11 51 14.9	+1.5
	baz=117					
INK	Inuvik	59.92 344	P	P	11 51 14.3	+0.2
INK			IAmb	IAmb	11 51 17.6	
	comp=Z,14nm,1.0s					
INK	Inuvik	59.92 344	LR	LR	12 20 12.1	
	comp=Z,412nm,18.9s,baz=236,slow=39					
INK	Inuvik	59.92 344	P	P	11 51 14.2	+0.2
	baz=133,SNR=18					
L26K	Log Cabin Wild	60.01 336	IAmb	IAmb	11 51 16.7	
	comp=Z,11nm,1.3s					
L26K	Log Cabin Wild	60.01 336	P	P	11 51 15.7	+1.0
	baz=120,SNR=6.3					
H29M	Whitestone	60.01 341	P	P	11 51 14.4	-0.3
	baz=127					
K27K	Chicken	60.04 337	P	P	11 51 15.7	+0.8
	baz=122					
RCBR	Riachuelo	60.04 105	LR	LR	12 18 08.0	
	comp=Z,67nm,21.3s,baz=276,slow=37					
I28M	Miner Creek	60.07 339	P	P	11 51 15.7	+0.4
	baz=125					
F30M	Barrier River	60.09 343	P	P	11 51 15.7	+0.4
	baz=130					
MENT	Mentasta	60.11 336	IAmb	IAmb	11 51 16.8	
	comp=Z,8.4nm,1.1s					
P23K	Montague Islan	60.32 332	P	P	11 51 17.8	+0.9
	baz=115					
G29M	Pine Creek	60.32 341	P	P	11 51 17.5	+0.6
	baz=128,SNR=8.7					
KLU	Klutina	60.32 334	P	P	11 51 17.9	+0.9
	baz=117,SNR=7.4					
HARP	HAARP	60.42 335	P	P	11 51 19.1	+1.5
	baz=118,SNR=7.7					
RES	Resolute Bay	60.43 359	IAmb	IAmb	11 51 17.6	
	comp=Z,7.6nm,0.9s					
M24K	Tolsona, Glenn	60.71 334	P	P	11 51 20.4	+0.8
	baz=117					
I27K	Kandik River	60.74 339	P	P	11 51 20.6	+0.8
	baz=123					
SCRK	Sand Creek	60.74 337	IAmb	IAmb	11 51 21.9	
	comp=Z,9.5nm,1.2s					
SCRK	Sand Creek	60.74 337	P	P	11 51 20.5	+0.6
	baz=120					
A36M	Sachs Harbour	60.81 349	P	P	11 51 19.4	-0.6
A36M	Sachs Harbour	60.81 349	P	P	11 51 19.5	-0.5
	baz=144,SNR=17					
PAX	Paxson	60.82 335	P	P	11 51 20.9	+0.5
PAX			IAmb	IAmb	11 51 21.9	
	comp=Z,13nm,1.0s					
PAX	Paxson	60.82 335	P	P	11 51 21.0	+0.5
	baz=118,SNR=10					
J26L	Joseph Creek	60.84 337	P	P	11 51 21.5	+1.0
	baz=121,SNR=15					
RIDG	Independent Ri	60.95 336	P	P	11 51 22.3	+1.1
RIDG	Independent Ri	60.95 336	P	P	11 51 21.8	+0.6
	baz=119,SNR=9.1					
H27K	Steamboat Moun	61.05 340	P	P	11 51 22.1	+0.2
	baz=124,SNR=8.3					
SCM	Sheep Creek Mo	61.07 334	P	P	11 51 22.7	+0.5
	baz=116					
PWL	Port Wells	61.10 333	P	P	11 51 22.6	+0.4
	baz=114					
I26K	Coal Creek Min	61.12 338	P	P	11 51 22.7	+0.4
	baz=122					
E29M	Blow River	61.20 343	P	P	11 51 23.2	+0.4
	baz=128,SNR=11					
M23K	Glacier View	61.23 334	P	P	11 51 23.7	+0.6
	baz=115					
SEW	Seward	61.30 332	P	P	11 51 24.1	+0.6
	baz=113					
K24K	Donnelly Dome	61.34 336	P	P	11 51 24.8	+0.9
	baz=118					
KNK	Knik Glacier	61.38 333	P	P	11 51 24.8	+0.6
	baz=114					
G27K	Doyon Strip	61.42 340	P	P	11 51 25.0	+0.6
	baz=124					
SML	Sawmill	61.49 334	P	P	11 51 25.5	+0.6
	baz=115					
O22K	Cooper Landing	61.57 332	P	P	11 51 25.3	-0.1
	baz=113					
J25K	Salcha River,	61.58 337	P	P	11 51 26.0	+0.6
	baz=119,SNR=7.5					
PMR	Palmer	61.75 333	P	P	11 51 27.0	+0.4
	baz=114					
E28M	Babbage River	61.81 342	P	P	11 51 27.3	+0.4
	baz=127					
RC01	Rabbit Creek A	61.82 333	P	P	11 51 28.0	+0.9
RC01			IAmb	IAmb	11 51 38.2	
	comp=Z,9.8nm,0.8s					
RC01	Rabbit Creek A	61.82 333	P	P	11 51 27.5	+0.4
	baz=113					
KDAK	Kodiak Island	61.99 328	P	P	11 51 28.6	+0.3
	baz=109					
D28M	Stokes Point	62.03 343	P	P	11 51 29.1	+0.8
	baz=128					
PRP	Porcupine Dome	62.08 338	IAmb	IAmb	11 51 40.8	
	comp=Z,10nm,0.9s					
PRP	Porcupine Dome	62.08 338	P	P	11 51 29.2	+0.2
	baz=119,SNR=9.2					
OHAK	Old Harbor	62.18 328	P	P	11 51 30.3	+0.8
	baz=108					
E27K	Coleen River	62.18 342	P	P	11 51 30.1	+0.6
	baz=124					
G26K	Porcupine Rive	62.20 340	P	P	11 51 30.4	+0.9
	baz=122					
ILAR	Eielson Array	62.23 337	P	P	11 51 29.6	-0.2
	comp=Z,8.7nm,1.1s,baz=135,slow=4.5,SNR=48					
	comp=Z,8.7nm,1.1s					
M22K	Willow	62.25 333	P	P	11 51 30.7	+0.8
	baz=113					
CAPN	Captain Cook N	62.34 332	P	P	11 51 31.5	+1.0
	baz=111					
RND	Reindeer	62.39 335	P	P	11 51 32.0	+1.1
SUA	Susitna One	62.41 333	P	P	11 51 31.8	+0.6
	baz=112					
SII	Sitkinak Islan	62.45 327	P	P	11 51 32.1	+0.7
	baz=106					
H25L	Birch Creek	62.55 339	P	P	11 51 32.6	+0.7
	baz=119,SNR=7.5					
MCK	McKinley	62.56 335	P	P	11 51 32.7	+0.6
	baz=115,SNR=10					
CUT	Chulitna	62.57 334	P	P	11 51 32.5	+0.4
	baz=113,SNR=5.4					
POKR	Poker Plat Res	62.59 337	P	P	11 51 32.8	+0.6
	baz=117					
D27M	Malcolm River	62.61 343	P	P	11 51 32.9	+0.5
	baz=126					
COLA	College	62.64 337	P	P	11 51 32.7	+0.2
	baz=117					
F26K	Sheenjek River	62.72 340	P	P	11 51 33.6	+0.6
	baz=122					
BMAR	Burnt Mountain	62.72 340	P	P	11 51 33.7	+0.6
O20K	Slope Mountain	62.77 331	P	P	11 51 33.9	+0.3
	baz=110					
SPU	Mount Spurr	62.90 332	P	P	11 51 34.7	+0.3
SPU			IAmb	IAmb	11 51 35.2	
	comp=Z,6.5nm,1.0s					
G25K	Bearman Lake	62.90 339	P	P	11 51 34.8	+0.7
	baz=119					
P19K	Oil Pt	62.92 330	P	P	11 51 35.0	+0.4
	baz=109					
SKT	Skwentna	62.95 333	P	P	11 51 34.8	+0.1
	baz=112					
N20K	Mount Spurr	62.97 332	P	P	11 51 35.2	+0.3
	baz=111					
TRF	Thorofare Moun	63.00 335	P	P	11 51 35.3	+0.2
	baz=114,SNR=7.4					
H24K	Noodor Dome	63.09 338	P	P	11 51 35.7	+0.2
	baz=117,SNR=14					
F25K	Christian Rive	63.16 340	IAmb	IAmb	11 51 38.2	
	comp=Z,11nm,1.1s					
F25K	Christian Rive	63.16 340	P	P	11 51 36.6	+0.7
	baz=120,SNR=10					
I23K	Minto, Yukon-K	63.34 337	P	P	11 51 37.4	+0.3
	baz=115,SNR=14					
G24K	Hadweenzic Riv	63.35 339	P	P	11 51 37.9	+0.6
	baz=118,SNR=7.7					
E25K	Arctic Village	63.40 341	P	P	11 51 38.0	+0.5
	baz=120,SNR=11					
Q18K	Katmai Hardscr	63.48 329	P	P	11 51 38.1	-0.2
	baz=107					
BPAW	Bear Paw Mtn.	63.54 335	P	P	11 51 38.0	-0.5
BPAW			IAmb	IAmb	11 51 39.5	
	comp=Z,11nm,1.0s					
BPAW	Bear Paw Mtn.	63.54 335	P	P	11 51 38.3	-0.2
	baz=113,SNR=7.6					
PPLA	Purkeypile	63.58 334	P	P	11 51 39.0	+0.1
	baz=111					
M20K	Styx River	63.62 333	P	P	11 51 39.5	+0.2
	baz=110					
C27K	Jago River	63.63 342	P	P	11 51 39.7	+0.7
	baz=123					
CAST	Castle Rocks	63.73 335	P	P	11 51 39.5	-0.3
	baz=112,SNR=10					
P18K	Big Mountain,	63.81 330	P	P	11 51 40.6	+0.2
	baz=107					
F24K	Squaw Lake	63.87 339	P	P	11 51 41.9	+1.1
F24K	Squaw Lake	63.87 339	P	P	11 51 41.5	+0.8
	baz=116					
N19K	Bonanza Creek	63.89 331	P	P	11 51 40.9	-0.1
N19K	Bonanza Creek	63.89 331	P	P	11 51 41.1	+0.1
	baz=108					
CHUM	Lake Minchumin	64.00 335	P	P	11 51 41.6	+0.1
	baz=112					
C26K	Camden Bay	64.14 342	P	P	11 51 42.9	+0.6
	baz=122					
L20K	Farewell, AK	64.16 333	P	P	11 51 42.5	-0.1
	baz=110					
M19K	Big River Lodg	64.19 333	P	P	11 51 43.4	+0.6
	baz=109					
G23K	Bananza Creek	64.26 338	P	P	11 51 43.5	+0.3
	baz=115					
D25K	Kavik River	64.27 342	P	P	11 51 43.6	+0.3
	baz=120					
E24K	Your Creek	64.34 340	P	P	11 51 44.5	+0.7
	baz=117					
I21K	Tanana	64.36 336	P	P	11 51 43.9	0.0
	baz=113					
H22K	Ishtalitna Cre	64.41 337	P	P	11 51 44.4	+0.1
	baz=114					
L19K	White Mountain	64.49 333	P	P	11 51 44.9	+0.1
	baz=108					
N18K	Kilae Creek	64.50 331	P	P	11 51 45.2	+0.3
	baz=107					
K20K	Telida	64.54 334	P	P	11 51 45.3	+0.2
	baz=110					
COLD	Coldfoot	64.54 339	IAmb	IAmb	11 51 47.4	
	comp=Z,14nm,1.2s					
COLD	Coldfoot	64.54 339	P	P	11 51 46.2	+1.1
	baz=115,SNR=9.3					
E23K	Chandalar	64.71 340	P	P	11 51 47.0	+0.8
	baz=116,SNR=13					
M18K	Stony River	64.71 332	P	P	11 51 46.5	+0.2
	baz=107					
J20K	Nowinta River	64.86 335	P	P	11 51 47.2	+0.1
	baz=110,SNR=5.8					
H21K	Melozitna Rive	64.86 337	P	P	11 51 47.3	+0.1
	baz=112					
D24K	Happy Valley	64.95 341	P	P	11 51 48.5	+0.8
	baz=118					
TOLK	Toolik Lake Re	64.95 340	P	P	11 51 48.2	+0.4
TOLK			IAmb	IAmb	11 51 48.9	
	comp=Z,6.5nm,0.8s					
TOLK	Toolik Lake Re	64.95 340	P	P	11 51 47.8	+0.1
	baz=117,SNR=7.6					
C24K	Franklin Bluff	65.18 341	P	P	11 51 49.8	+0.7
	baz=118					
I20K	Naaghedeneel	65.21 336	P	P	11 51 50.1	+0.7
	baz=110					
TTA	Tatalina	65.24 333	P	P	11 51 49.9	+0.1
TTA	Tatalina	65.24 333	P	P	11 51 49.6	-0.1
	baz=108					
O16K	Kokwok River B	65.27 329	P	P	11 51 49.9	0.0
	baz=104					
L18K	Granite Mounta	65.32 332	P	P	11 51 50.4	+0.2
	baz=107					
F22K	John River	65.36 339	P	P	11 51 51.0	+0.7
	baz=114					
J19K	Poorman	65.41 334	P	P	11 51 50.7	0.0
	baz=109,SNR=5.1					
G21K	Allakaket	65.45 337	P	P	11 51 51.1	+0.1
G21K			IAmb	IAmb	11 51 52.2	
	comp=Z,11nm,1.1s					
G21K	Allakaket	65.45 337	P	P	11 51 51.1	+0.1
	baz=112					
D23K	Nanushuk River	65.46 340	P	P	11 51 52.0	+1.0
	baz=116,SNR=11					
E22K	Anaktuvuk Pass	65.48 339	P	P	11 51 52.3	+1.1
E22K	Anaktuvuk Pass	65.48 339	P	P	11 51 51.4	+0.2
	baz=114,SNR=13					
H20K	Anotleneega Mo	65.61 336	P	P	11 51 52.4	+0.4
	baz=110					
SDPT	Sand Point	65.61 325	P	P	11 51 52.7	+0.6
	baz=100					
J18K	Innoko River	65.70 334	P	P	11 51 53.0	+0.3
	baz=107					
F21K	Alatna River	65.71 338	P	P	11 51 53.5	+0.8
F21K	Alatna River	65.71 338	P	P	11 51 53.3	+0.6
	baz=112,SNR=31					
N16K	Nishlik Lake	65.82 330	P	P	11 51 54.1	+0.6
	baz=104					
C23K	Itkillik River	65.82 341	P	P	11 51 54.0	+0.7
	baz=116					
EUNU	Eureka	65.89 1	P	P	11 51 53.6	-0.1
O15K	Ungalikthiuk R	66.03 329	P	P	11 51 55.8	+1.0
	baz=103					
M16K	Timber Creek	66.04 331	P	P	11 51 55.8	+0.9
	baz=104					
D22K	Ayikyak River	66.08 340	P	P	11 51 55.4	+0.4
	baz=114					
GCSA	Galena City Sc	66.16 335	P	P	11 51 55.9	+0.4
	baz=108					
H19K	Roundabout Mou	66.23 336	P	P	11 51 56.2	+0.3
	baz=108					
N15K	Kwethluk River	66.38 330	P	P	11 51 57.8	+0.7
	baz=103					
L16K	Owhat River	66.45 332	P	P	11 51 58.1	+0.7
	baz=104					
F20K	Avaraart Lake	66.46 338	P	P	11 51 57.8	+0.4
	baz=110					
G19K	Purcell Mounta	66.68 337	P	P	11 51 59.1	+0.2
	baz=108					
M15K	Kasigluk River	66.79 330	P	P	11 52 00.3	+0.7
	baz=102					
C21K	Knifeblade Rid	66.89 340	P	P	11 52 00.6	+0.4
	baz=112					
H18K	Honhosa River	66.89 335	P	P	11 52 00.7	+0.5
	baz=106					
B22K	Teshekpuk Lake	66.91 341	P	P	11 52 00.5	+0.2
	baz=113,SNR=13					
B21K	Ikpikpuk River	67.00 340	P	P	11 52 01.5	+0.7
	baz=112					
E20K	Nigu River	67.04 339	P	P	11 52 01.7	+0.5
	baz=110					
N14K	Kuskokwak Cree	67.11 329	P	P	11 52 01.5	-0.2
	baz=101					
E19K	Redstone River	67.15 338	P	P	11 52 02.2	+0.3
	baz=108					
F19K	Shaleruckik Mo	67.16 337	P	P	11 52 02.1	+0.2
	baz=108					
G18K	Tagagawik	67.22 336	P	P	11 52 02.6	+0.3
	baz=106					
J16K	Anvik River	67.34 333	P	P	11 52 03.1	0.0
	baz=104					
D20K	Etivluk River	67.35 339	P	P	11 52 03.7	+0.6
	baz=110,SNR=11					
L15K	Ungalak Mounta	67.38 331	P	P	11 52 03.7	+0.3
	baz=102					
M14K	Bethel	67.41 330	P	P	11 52 03.9	+0.3

	baz=101						
H17K	**Granite Mounta**	**67.46**	**335**	P	**P**	**11 52**	**04.3 +0.4**
	baz=105						
I17K	**Unalakleet**	**67.53**	**334**	P	**P**	**11 52**	**04.5 +0.2**
	baz=104						
K15K	**Wolf Creek Mou**	**67.53**	**332**	P	**P**	**11 52**	**04.4 +0.1**
	baz=102						
A22K	**Sinclair Lake**	**67.64**	**342**	P	**P**	**11 52**	**05.0 +0.1**
	baz=112						
D19K	**Kuna River**	**67.80**	**339**	P	**P**	**11 52**	**06.2 +0.2**
	baz=108						
F18K	**Selawik**	**67.80**	**337**	P	**P**	**11 52**	**06.2 +0.2**
	baz=106						
L14K	**Kuka Creek**	**67.87**	**331**	P	**P**	**11 52**	**07.1 +0.7**
	baz=101						
G17K	**Kiwalik Mounta**	**67.91**	**335**	P	**P**	**11 52**	**07.5 +0.9**
	baz=104						
B20K	**Meade River**	**67.97**	**340**	P	**P**	**11 52**	**07.6 +0.7**
	baz=110						
M13K	**Dall Lake**	**68.02**	**330**	P	**P**	**11 52**	**08.5 +1.1**
	baz=100						
H16K	**Elim**	**68.36**	**334**	P	**P**	**11 52**	**10.2 +0.8**
	baz=103						
F17K	**Baldwin Pennin**	**68.38**	**336**	P	**P**	**11 52**	**10.8 +1.2**
	baz=104						
E18K	**Tukpahlearik C**	**68.39**	**337**	P	**P**	**11 52**	**10.6 +1.0**
	baz=105						
J14K	**Nanvaranak Lak**	**68.54**	**332**	P	**P**	**11 52**	**11.3 +0.7**
	baz=101						
G16K	**Koyuk River**	**68.57**	**335**	P	**P**	**11 52**	**11.4 +0.6**
	baz=103						
E17K	**Hotham Inlet**	**68.76**	**337**	P	**P**	**11 52**	**12.2 +0.3**
	baz=104						
UNV	**Unalaska Valle**	**68.89**	**322**	P	**P**	**11 52**	**13.9 +1.0**
	baz=95						
C18K	**Utukok River**	**68.92**	**339**	P	**P**	**11 52**	**13.0 0.0**
	baz=105						
A19K	**Wainwright**	**69.30**	**340**	P	**P**	**11 52**	**16.0 +0.8**
	baz=106						
B18K	**Kokolik River**	**69.32**	**339**	P	**P**	**11 52**	**16.3 +0.9**
	baz=105,SNR=8.4						
D17K	**Noatak River**	**69.38**	**337**	P	**P**	**11 52**	**15.9 +0.2**
	baz=103						
BORG	**Borgarnes**	**69.40**	**26**	LR	LR	12 22 54.1	
	comp=Z,124nm,18.2s,baz=284,slow=36						
F15K	**North Star Dit**	**69.57**	**335**	P	**P**	**11 52**	**17.2 +0.1**
	baz=101						
C17K	**DeLong Mountai**	**69.59**	**338**	P	**P**	**11 52**	**17.0 -0.1**
	baz=103						
ANM	**Nome**	**69.67**	**334**	P	**P**	**11 52**	**17.5 -0.1**
	baz=100						
F14K	**Arctic Creek**	**70.22**	**335**	P	**P**	**11 52**	**20.7 -0.3**
	baz=99						
C16K	**Lisburne Hills**	**70.33**	**338**	P	**P**	**11 52**	**21.8 +0.2**
	baz=101						
TNA	**Tin City**	**70.89**	**335**	P	**P**	**11 52**	**25.4 +0.4**
	baz=98						
SPIA	**Saint Paul Isl**	**71.23**	**326**	P	**P**	**11 52**	**27.9 +0.6**
	baz=93						
GAMB	**Gambell**	**72.33**	**333**	P	**P**	**11 52**	**34.6 +0.8**
	baz=94						
JMIC	**Jan Mayen**	**74.83**	**20**	LR	LR	12 26 58.7	
	comp=Z,252nm,18.3s,baz=262,slow=37						
EKA	**Eskdalemuir Ar**	**78.32**	**36**	P	**P**	**11 53**	**05.6 -2.9**
	comp=Z,3.1nm,0.7s,baz=273,slow=4.9,SNR=5.5						
	comp=Z,3.1nm,0.7s						
ESDC	**Sonseca Array**	**80.32**	**52**	P	**P**	**11 53**	**17.1 -2.7**
	comp=Z,1.5nm,0.9s,baz=282,slow=6.4,SNR=5.9						
ESDC				LR	LR	12 23 33.3	
	comp=Z,165nm,19.1s,baz=288,slow=32						
	comp=Z,1.5nm,0.9s						
BILL	**Bilibino**	**80.86**	**338**	P	**P**	**11 53**	**22.5 +0.5**
BILL				IAmb	IAmb	11 53 23.7	
	comp=Z,16nm,1.1s						
MDT	**Midelt**	**81.09**	**58**	LR	LR	12 25 20.8	
	comp=Z,125nm,19.5s,baz=323,slow=33						
NOA	**NORSAR Array B**	**84.38**	**28**	P	**P**	**11 53**	**38.8 -1.7**
	comp=Z,1.8nm,0.9s,baz=290,slow=5.0,SNR=3.4						
NOA				LR	LR	12 29 11.7	
	comp=Z,180nm,21.6s,baz=295,slow=34						
	comp=Z,1.8nm,0.9s						
HFS	**Hagfors**	**85.84**	**29**	LR	LR	12 29 43.1	
	comp=Z,198nm,21.8s,baz=303,slow=34						
ARCES	**ARCESS Array B**	**86.20**	**18**	P	**P**	**11 53**	**48.4 -1.1**
	comp=Z,2.9nm,0.9s,baz=318,slow=3.3,SNR=4.6						
	comp=Z,2.9nm,0.9s						
DBIC	**Dimbokro**	**86.59**	**84**	P	**P**	**11 53**	**51.1 -1.3**
	comp=Z,3.5nm,0.7s,baz=240,slow=5.1,SNR=4.2						
DBIC				LR	LR	12 29 31.2	
	comp=Z,80nm,20.7s,baz=276,slow=34						
	comp=Z,3.5nm,0.7s						
TIXI	**Tiksi**	**89.81**	**348**	P	**P**	**11 54**	**06.0 -0.6**
TIXI				IAmb	IAmb	11 54 07.3	
	comp=Z,10nm,1.1s						
GERES	**GERESS Array B**	**90.02**	**39**	LR	LR	12 30 27.8	
	comp=Z,118nm,19.8s,baz=286,slow=33						
MA2	**Magadan**	**90.43**	**333**	P	**P**	**11 54**	**10.4 +0.7**
MA2				IAmb	IAmb	11 54 13.8	
	comp=Z,5.7nm,0.8s						
FINES	**FINESS Array B**	**90.68**	**25**	P	**P**	**11 54**	**09.2 -1.6**
	comp=Z,1.8nm,0.8s,baz=354,slow=5.7,SNR=4.0						
FINES				LR	LR	12 36 31.4	
	comp=Z,117nm,18.2s,baz=20,slow=37						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**114.97**	**6**	PKP	**PKiKP**	**11 59**	**48.6 -0.8**
	comp=Z,0.2nm,0.3s,baz=354,slow=2.1,SNR=5.7						
MKAR	**Makanchi Array**	**119.09**	**4**	PKP	**PKPdf**	**11 59**	**56.4 -1.1**
	comp=Z,0.3nm,0.5s,baz=0.0,slow=2.4,SNR=3.6						
EIDS	**Eidsvold**	**119.19**	**249**	PKPdf	**PKPdf**	**11 59**	**57.6 -0.5**
HHC	**Hu-ho-hao-te**	**120.63**	**339**	*e*P	**PKPdf**	**12 00**	**00.6 -0.1**
BOSA	**Boshof**	**121.34**	**115**	PKP	**PKiKP**	**12 00**	**05.0 +2.5**
	comp=Z,3.1nm,0.8s,baz=263,slow=4.3,SNR=4.9						
NJ2	**Nanjing**	**124.76**	**327**	*e*P	**PKPdf**	**12 00**	**08.9 +0.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LZH	**Lanzhou**	**127.46**	**343**	*e*P	**PKPdf**	**12 00**	**11.3 -2.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**134.52**	**256**	PKP	**PKPdf**	**12 00**	**27.7 +0.2**
	comp=Z,0.8nm,0.8s,baz=7.0,slow=0.8,SNR=5.0						
ASAR	**Alice Springs**	**134.84**	**251**	PKP	**PKPdf**	**12 00**	**28.8 +0.7**
	comp=Z,0.5nm,0.8s,baz=100,slow=1.9,SNR=2.8						
PZH	**PanZhiHua**	**137.03**	**340**	PKP	**PKPdf**	**12 00**	**31.7 -0.6**
CHTO	**Chiang Mai**	**145.10**	**340**		**PKPbc**	**12 00**	**44.9 -1.3**
CM31	**Chiang Mai Arr**	**145.43**	**340**	PKPbc	**PKPbc**	**12 00**	**47.0 -0.2**
CMAR	**Chiang Mai Arr**	**145.43**	**340**	PKPbc	**PKPbc**	**12 00**	**46.8 -0.5**
	comp=Z,4.8nm,0.8s,baz=351,slow=4.3,SNR=39						
UBPT	**Khong Chiam**	**145.44**	**327**		**PKPbc**	**12 00**	**47.3 0.0**
KAPI	**Kappang**	**146.47**	**283**	PKPbc	**PKPbc**	**12 00**	**50.3 -0.3**
GSI	**Gunungsitoli**	**161.33**	**325**	PKPdf	**PKPdf**	**12 01**	**07.1 -3.0**
GSI				PKPab	**PKPab**	**12 01**	**53.0 -0.8**

*SDD **05** 11:45:40.8±2.9, 20°.02N×70°.48W, h12km±28km, MD3.5, ML3.0, MW3.5*
*OSPL **05** 11:45:42.7±2.6, 19°.94N×70°.45W, h2km±11km, ML2.4*
ISC 05 11:45:39.5±1.1, 20°.03N±0°.03×70°.41W±0°.02, h18km±6km, n29, σ0$97/52, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.31**	**209**	*e*Pg	**Pg**	**11 45 45.7**	**-0.5**
SODR				*e*Sg	**Sg**	**11 45 50.9**	**+0.1**
SODR				IAML		11 45 51.4	
	comp=N,4μm,0.6s						
CADR	**Cabrera**	**0.57**	**128**	*e*Pg	**Pn**	**11 45 52.9**	**+0.1**
CADR				*e*Sg	**Sn**	**11 46 00.1**	**-1.6**
CADR				IAML		11 46 09.0	
	comp=N,243nm,0.5s						
SC01	**Santiago de lo**	**0.66**	**207**	*e*Pg	**Pg**	**11 45 53.2**	**+0.6**
SC01				*e*Sg	**Sb**	**11 46 02.7**	**+1.2**
SC01				IAML		11 46 15.4	
	comp=N,266nm,0.3s						
SC01	**Santiago de lo**	**0.66**	**207**	*i* P	**Pg**	**11 45 53.0**	**+0.4**
SC01				*e*S	**Sg**	**11 46 01.3**	**-0.2**
SC01				IAML		11 46 18.9	
	comp=Z,193nm,0.6s						
SFDR	**San Fco. de Ma**	**0.75**	**168**	*e*Pg	**Pb**	**11 45 53.8**	**-0.3**
SFDR				*e*Sg	**Sn**	**11 46 06.3**	**+0.1**
SFDR				IAML		11 46 06.7	
	comp=N,1μm,0.6s						
MADR	**Mao Valverde**	**0.79**	**235**	*e*Pg	**Pn**	**11 45 56.0**	**+0.1**
MADR				*e*Sg	**Sg**	**11 46 05.5**	**-0.1**
MADR				IAML		11 46 16.8	
	comp=N,279nm,0.7s						
NADR	**Nagua**	**0.85**	**142**	*e*Pg	**Pn**	**11 45 58.5**	**+1.9**
NADR				*e*Sg	**Sn**	**11 46 10.2**	**+1.6**
NADR				IAML		11 46 14.5	
	comp=N,469nm,0.2s						
DR08	**Loma La Naviza**	**1.12**	**161**	*e*Pg	**Pb**	**11 46 00.3**	**-0.1**
DR08				*e*Sg	**Sg**	**11 46 16.2**	**+0.3**
DR08				IAML		11 46 16.9	
	comp=N,3μm,0.2s						
MCDR	**Montecristi**	**1.18**	**264**	*e*Pg	**Pb**	**11 46 01.3**	**-0.1**
MCDR				*e*Sg	**Sb**	**11 46 15.5**	**-0.8**
MCDR				IAML		11 46 23.6	
	comp=N,208nm,0.1s						
ABDR	**Alto Bandera**	**1.22**	**189**	*e*Pg	**Pn**	**11 46 01.2**	**-0.9**
ABDR				*e*Sg	**Sn**	**11 46 18.3**	**-0.1**
ABDR				IAML		11 46 19.4	
	comp=N,477nm,0.3s						
REDR	**Restauracion**	**1.26**	**227**	*e*Pg	**Pg**	**11 46 04.6**	**+0.8**
REDR				*e*Sg	**Sg**	**11 46 22.7**	**+2.4**
REDR				IAML		11 46 23.4	
	comp=N,470nm,0.1s						
LODA1	**ITESIL, Dajabo**	**1.31**	**249**	*i* P	Pn	11 45 40.4	-23
LODA1				*e*S	Sn	11 45 55.3	-25
SDDR	**Presa de Saban**	**1.32**	**219**	*e*Pg	**Pn**	**11 46 02.8**	**-0.5**
SDDR				*e*Sg	**Sb**	**11 46 20.7**	**+0.1**
SDDR				IAML		11 46 24.1	
	comp=N,158nm,0.5s						
SDDR	**Presa de Saban**	**1.32**	**219**	*i* P	**Pn**	**11 46 02.9**	**-0.3**
SDDR				IAML		11 46 20.1	
	comp=Z,62nm,0.8s						
SMDR	**Samana, DR**	**1.37**	**122**	*e*Pg	**Pg**	**11 46 06.5**	**+0.6**
SMDR				*e*Sg	**Sg**	**11 46 25.7**	**+2.0**
SMDR				IAML		11 46 29.3	
	comp=N,124nm,0.6s						
HATOM	**Hato Mayor del**	**1.57**	**141**	*e*Pg	**Pb**	**11 46 08.1**	**0.0**
HATOM				*e*Sg	**Sg**	**11 46 31.1**	**+0.8**
HATOM				IAML		11 46 31.8	
	comp=N,83nm,0.2s						
BANI	**BANI**	**1.62**	**178**	*e*Pg	**Pb**	**11 46 09.2**	**+0.2**
BANI				*e*Sg	**Sg**	**11 46 33.1**	**+1.1**
BANI				IAML		11 46 34.3	
	comp=N,174nm,0.3s						
GRTK	**Grand Turk**	**1.62**	**336**	*e*Pg	**Pg**	**11 46 10.5**	**-0.3**
GRTK				*e*Sg	**Sg**	**11 46 32.0**	**0.0**
GRTK				IAML		11 46 36.0	
	comp=N,153nm,0.2s						
GRTK	**Grand Turk**	**1.62**	**336**	*i* P	**Pg**	**11 46 10.7**	**-0.1**
GRTK				*e*S	**Sg**	**11 46 33.0**	**+0.9**
GRTK				IAML		11 46 36.1	
	comp=Z,43nm,0.7s						
SDD	**Santo Domingo**	**1.63**	**163**	*i* P	**Pb**	**11 46 08.6**	**-0.5**
SDD				*e*S	**Sb**	**11 46 29.4**	**+0.1**
MIDR	**Miches**	**1.65**	**129**	*e*Pg	**Pb**	**11 46 09.5**	**0.0**
MIDR				IAML		11 46 32.4	
	comp=N,30nm,0.7s						
MIDR				*e*Sg	**Sg**	**11 46 32.7**	**-0.1**
LONE3	**El Aguacate, B**	**1.72**	**215**	*i* P	**Pb**	**11 46 09.9**	**-0.8**
LONE3				*e*S	**Sb**	**11 46 32.2**	**0.0**
LONE3				IAML		11 46 36.6	
	comp=Z,92nm,0.3s						
PODR	**Polo**	**2.02**	**204**	*e*Pg	**Pb**	**11 46 15.3**	**-0.6**
PODR				*e*Sg	**Sg**	**11 46 42.8**	**-1.9**
PODR				IAML		11 46 49.3	
	comp=N,68nm,0.3s						
PODR	**Polo**	**2.02**	**204**	*i* P	**Pb**	**11 46 15.5**	**-0.4**
PODR				*e*S	**Sn**	**11 46 38.8**	**+0.9**
LOBA2	**Hotel Casa Bon**	**2.04**	**199**	*e*Pg	**Pb**	**11 46 15.6**	**-0.5**
LOBA2				*e*Sg	**Sg**	**11 46 44.1**	**-1.1**
JIDR	**Jimani**	**2.04**	**222**	*e*Pg	**Pb**	**11 46 15.4**	**-0.7**
JIDR				*e*Sg	**Sb**	**11 46 42.5**	**+1.3**
JIDR				IAML		11 46 43.6	
	comp=N,105nm,0.8s						
SADR	**Isla Saona**	**2.39**	**139**	*e*Pg	**Pg**	**11 46 24.2**	**-1.2**
SADR				IAML		11 47 32.0	
	comp=N,145nm,1.5s						
LOBH	**Bahia de las A**	**2.44**	**209**	*i* P	**Pb**	**11 46 22.1**	**-0.9**
LOBH				IAML		11 47 04.9	
	comp=Z,58nm,1.9s						
PRSN	**Puerto Rico Se**	**3.58**	**120**	*e*Pg	**Pg**	**11 46 45.5**	**-2.6**
PRSN				IAML		11 47 55.2	
	comp=N,170nm,0.1s						

*IDC **05** 11:45:32.5±12.0, 22°.91S×179°.87E, h431km±101km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=125.9km s-min=25.1km az=38.0*
*NEIC **05** 11:45:47.6±1.4, 23°.7S±0°.1×179°.2E±0°.1, h556km±9km, mb4.3/22, Error ellipse: s-maj=20.3km s-min=14.5km az=217.0*
ISC 05 11:45:46.2±0.7, 23°.9S±0°.1×179°.3E±0°.1, h548km, n35, σ1$27/36, mb4.2/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**10.92**	**274**	P	**P**	**11 48 14.3**	**+0.6**
NIUE	**Niue**	**11.15**	**67**	P	**P**	**11 48 16.5**	**+0.4**
URZ	**Urewera**	**14.45**	**187**	P	**P**	**11 48 49.1**	**-0.7**
	9.1nm,0.4s,baz=353,slow=4.2,SNR=14						
URZ				S	**S**	**11 51 18.1**	**-3.1**
	12nm,0.9s,baz=149,slow=18,SNR=5.8						
CAN	**Canberra**	**28.55**	**240**	P	**P**	**11 51 00.1**	**+1.8**
TOO	**Toolangi**	**31.88**	**237**	P	**P**	**11 51 27.7**	**+0.9**
PMG	**Port Moresby**	**33.84**	**290**	P	**P**	**11 51 43.5**	**-0.2**
PMG				IAmb	IAmb	11 51 43.5	
	comp=Z,9.7nm,0.7s						
STKA	**Stephens Creek**	**34.09**	**248**	P	**P**	**11 51 46.8**	**+1.3**
STKA	**Stephens Creek**	**34.09**	**248**	P	**P**	**11 51 46.8**	**+1.3**
	comp=Z,2.7nm,0.5s,baz=107,slow=11,SNR=7.3						
	comp=Z,2.7nm,0.5s						
COEN	**Coen**	**35.43**	**280**	P	**P**	**11 51 56.6**	**-0.4**
COEN				IAmb	IAmb	11 51 58.1	
	comp=Z,4.2nm,0.8s						
BBOO	**Buckleboo**	**38.82**	**247**	P	**P**	**11 52 24.7**	**+0.2**
AS31	**Alice Springs**	**41.36**	**261**	P	**P**	**11 52 45.2**	**+0.2**
ASAR	**Alice Springs**	**41.36**	**261**	P	**P**	**11 52 45.1**	**+0.2**
ASAR	**Alice Springs**	**41.36**	**261**	P	**P**	**11 52 45.0**	**0.0**
	comp=Z,3.8nm,0.8s,baz=90,slow=7.2,SNR=36						
	comp=Z,3.8nm,0.8s						
WB0	**Warramunga Arr**	**41.71**	**267**	P	**P**	**11 52 46.7**	**-1.0**
WB0				IAmb	IAmb	11 52 47.7	
	comp=Z,6.9nm,0.8s						
WRAB	**Tennant Creek**	**41.71**	**266**	P	**P**	**11 52 47.4**	**-0.4**
WRAB				IAmb	IAmb	11 52 48.1	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**41.72**	**266**	P	**P**	**11 52 47.3**	**-0.6**
WRA	**Warramunga Arr**	**41.72**	**266**	P	**P**	**11 52 47.2**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=103,slow=8.0,SNR=197						
	comp=Z,2.6nm,0.4s						
FORT	**Forrest**	**45.67**	**250**	P	**P**	**11 53 18.2**	**-0.1**
MTN	**Manton Dam**	**46.77**	**275**	P	**P**	**11 53 26.0**	**-0.8**
MTN				IAmb	IAmb	11 53 58.9	
	comp=Z,19nm,1.4s						
KNRA	**Kununurra**	**48.00**	**270**	P	**P**	**11 53 35.8**	**-0.2**
KNRA				IAmb	IAmb	11 53 45.3	
	comp=Z,13nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.14**	**266**	P	**P**	**11 53 52.2**	**+0.4**
PSA00	**Pilbara Seismi**	**54.49**	**260**	P	**P**	**11 54 22.6**	**-0.4**
PSA00				IAmb	IAmb	11 54 59.4	
	comp=Z,8.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**54.62**	**246**	P	**P**	**11 54 23.6**	**-0.1**
NWAO				IAmb	IAmb	11 54 30.1	
	comp=Z,22nm,1.1s						
MBWA	**Marble Bar**	**54.70**	**260**	P	**P**	**11 54 23.2**	**-1.1**
MBWA				IAmb	IAmb	11 54 41.9	
	comp=Z,26nm,1.5s						
MORW	**Morawa**	**56.23**	**250**	P	**P**	**11 54 34.6**	**-0.4**
MORW				IAmb	IAmb	11 54 46.1	
	comp=Z,21nm,1.3s						
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**11 55 42.4**	**+2.7**
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**11 55 42.0**	**+2.3**
	comp=Z,1.7nm,1.0s,baz=214,slow=2.4,SNR=7.3						
	comp=Z,1.7nm,1.0s						
SNAA	**Sanae**	**84.69**	**179**	P	**P**	**11 57 23.4**	**+1.3**
SNAA				IAmb	IAmb	11 57 53.8	
	comp=Z,9.8nm,1.4s						
GHO	**Glory Hole Cre**	**89.11**	**15**	P	**P**	**11 57 42.1**	**-0.8**
M29M	**Somme Creek**	**92.38**	**18**	P	**P**	**11 57 57.9**	**-0.2**
M29M				IAmb	IAmb	11 58 12.0	
	comp=Z,2.3nm,1.3s						
RAYN	**Ar Rayn**	**137.79**	**279**	PKPdf	**PKPdf**	**12 04 08.1**	**-1.0**
NC602	**NORSAR Array S**	**142.19**	**350**	PKPdf	**PKPdf**	**12 04 16.0**	**+0.2**
HFS	**Hagfors**	**142.39**	**348**	PKP	**PKPdf**	**12 04 12.3**	**-3.9**
	comp=Z,2.8nm,0.9s,baz=67,slow=4.8,SNR=6.4						
AKBB	**Malin Array Si**	**144.58**	**327**		**PKPdf**	**12 04 19.9**	**-0.4**
KIEV	**Kiev**	**144.59**	**327**		**PKPdf**	**12 04 19.9**	**-0.4**

*CATAC **05** 11:52:49.9±0.8, 14°.N±4°.×9°.3W±°, h0km, M4.3/6, MLv4.3/6, Error ellipse: s-maj=9.5km s-min=7.6km az=64.3, confirmed*
*GCG **05** 11:52:50.6±1.9, 14°.10N×93°.08W, h20km±13km, MD4.9, ML3.7, MW3.7*
*IDC **05** 11:52:50.2±4.3, 14°.23N×93°.01W, h0km, mb3.7/4, mbtmp3.7/6, ML0.2/1, Error ellipse: s-maj=82.5km s-min=23.7km az=6.0*
*MEX **05** 11:52:51.2±0.8, 14°.08N×93°.25W, h20km±73km, MD4.3*
*NEIC **05** 11:52:54.0±1.8, 14°.51N±0°.04×93°.05W±0°.04, h14km±3km, mb4.3/55, Md4.3/66(MEX), Error ellipse: s-maj=6.3km s-min=4.2km az=47.0*
ISC 05 11:52:51.3±1.5, 14°.33N±0°.04×93°.05W±0°.03, h6km±9km, n163, σ1$57/203, mb4.3/31, 2C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.95**	**53**	*e*P		11 53 10.1	
	comp=Z,2μm,0.9s						
THIG				*e*S		11 53 25.3	
THIG				IAML		11 53 31.7	
	comp=Z,2μm,0.9s						
THIG		**0.95**	**53**		**Pb**	**11 53 10.1**	**0.0**
THIG					**Sn**	**11 53 25.3**	**+0.4**
THIG		**0.95**	**53**	*e*P	**Pb**	**11 53 10.1**	**0.0**
THIG				*e*S	**Sn**	**11 53 25.3**	**+0.4**
THIG		**0.95**	**53**	*e*P	**Pb**	**11 53 10.1**	**0.0**
	comp=Z,2μm,0.9s						
THIG				*e*S	**Sn**	**11 53 25.3**	**+0.4**
THIG				IAML		11 53 31.7	
	comp=Z,2μm,0.9s						
SMCA	**Catarina**	**1.07**	**61**	*e*P	**Pb**	**11 53 11.8**	**-0.5**
	comp=Z,808nm,0.5s						
SMCA				IAML		11 53 41.6	
	comp=Z,808nm,0.5s						
SMCA	**Catarina**	**1.07**	**61**	*e*P		11 53 11.8	
	comp=Z,808nm,0.5s						
SMCA				IAML		11 53 41.6	
	comp=Z,808nm,0.5s						
PATR	**El Naranjo**	**1.11**	**45**	*e*P	**Pg**	**11 53 12.4**	**-0.2**
PATR				*e*S	**Sn**	**11 53 29.3**	**+0.1**
PAVE	**Pavencul**	**1.20**	**44**	*e*P	**Pg**	**11 53 13.8**	**-0.6**
PAVE				*e*S	**Sg**	**11 53 29.9**	**-0.1**
RTAL	**Retalhuleu**	**1.32**	**82**	Pn	**Pg**	**11 53 15.5**	**-1.2**
RTAL				Sn	**Sn**	**11 53 34.5**	**+0.3**
RTAL	**Retalhuleu**	**1.32**	**82**	*e*P	**Pn**	**11 53 15.4**	**-1.0**
RTAL				*e*S	**Sn**	**11 53 32.7**	**-1.5**
RTAL	**Retalhuleu**	**1.32**	**82**	P	**Pg**	**11 53 15.5**	**-1.2**
RTAL	**Retalhuleu**	**1.32**	**82**	⇓P	**Pn**	**11 53 15.3**	**-1.0**
RTAL	**Retalhuleu**	**1.32**	**82**	S	**Sn**	**11 53 34.4**	**+0.2**
RTAL	**Retalhuleu**	**1.32**	**82**	P	**Pn**	**11 53 15.4**	**-1.0**
PCIG		**1.37**	**353**		**Pn**	**11 53 15.9**	**-1.1**
PCIG					**Sn**	**11 53 31.4**	**-4.1**
PCIG		**1.37**	**353**	*e*P	**Pn**	**11 53 15.7**	**-1.3**
PCIG				*e*P	**Pn**	**11 53 15.9**	**-1.1**
PCIG				*e*S	**Sn**	**11 53 31.4**	**-4.1**
STG8	**El Palmar, Qui**	**1.65**	**86**	*e*P		11 53 17.1	
STG0	**El Palmar, Qui**	**1.66**	**87**	*e*P		11 53 17.2	
SOKI	**Kika Raxquin**	**1.66**	**73**	*e*P	**Pn**	**11 53 21.1**	**-0.3**
	comp=Z,425nm,1.7s						
SOKI				IAML		11 54 20.1	
	comp=Z,425nm,1.7s						
SOKI	**Kika Raxquin**	**1.66**	**73**	*e*P		11 53 21.1	
	comp=Z,425nm,1.7s						
SOKI				IAML		11 54 20.1	
	comp=Z,425nm,1.7s						
HUEH	**Huehuetenango**	**1.79**	**57**	*e*P		11 53 23.7	
	comp=Z,2μm,0.5s						
HUEH				*e*S		11 53 50.2	
HUEH				IAML		11 54 01.5	
	comp=Z,2μm,0.5s						
HUEH	**Huehuetenango**	**1.79**	**57**		**Pb**	**11 53 23.9**	**-0.6**
HUEH	**Huehuetenango**	**1.79**	**57**	*e*P	**Pb**	**11 53 23.9**	**-0.6**
HUEH				*e*S	**Sb**	**11 53 47.3**	**0.0**
HUEH	**Huehuetenango**	**1.79**	**57**	P	**Pb**	**11 53 24.2**	**-0.4**
HUEH	**Huehuetenango**	**1.79**	**57**	⇑P	**Pb**	**11 53 24.0**	**-0.6**
HUEH	**Huehuetenango**	**1.79**	**57**	P	**Pb**	**11 53 23.6**	**-0.9**
HUEH	**Huehuetenango**	**1.79**	**57**	S	**Sg**	**11 53 49.8**	**+1.0**
HUEH	**Huehuetenango**	**1.79**	**57**	*e*P	**Pb**	**11 53 23.7**	**-0.9**
	comp=Z,2μm,0.5s						
HUEH				*e*S	**Sg**	**11 53 50.2**	**+1.4**
HUEH				IAML		11 54 01.5	
	comp=Z,2μm,0.5s						
CARR	**Arriaga**	**2.08**	**336**	*e*P	**Pn**	**11 53 26.9**	**+0.3**
CARR				*e*S	**Sn**	**11 53 52.2**	**-0.6**
CCIG	**Comitan**	**2.13**	**24**	Pn	**Pn**	**11 53 26.7**	**-0.8**
CCIG	**Comitan**	**2.13**	**24**	*e*P	**Pb**	**11 53 30.0**	**-0.4**
CCIG				*e*S	**Sg**	**11 53 59.5**	**-0.3**
CCIG	**Comitan**	**2.13**	**24**	P	**Pb**	**11 53 31.0**	**+0.7**
CCIG	**Comitan**	**2.13**	**24**	⇓P	**Pb**	**11 53 30.3**	**-0.1**
CCIG	**Comitan**	**2.13**	**24**	P	**Pb**	**11 53 30.3**	**-0.1**
CCIG	**Comitan**	**2.13**	**24**	S	**Sg**	**11 54 00.9**	**+1.1**
CCIG	**Comitan**	**2.13**	**24**	*e*P	**Pb**	**11 53 30.2**	**-0.1**
	comp=Z,507nm,0.6s						
CCIG				*e*S	**Sg**	**11 53 59.9**

PETF	Flores	4.00	50	eP			11 53 55.1
NEUV	Arroyo Zacate	4.28	322	eP		Pn	11 53 57.2 +0.3
NEUV				eS		Sn	11 54 49.2 +2.0
PEIG	Puerto Escondi	4.29	293			Pn	11 53 56.7 -0.5
PEIG						Sn	11 54 39.7 -7.8
PEIG	Puerto Escondi	4.29	293	eP		Pn	11 53 56.7 -0.5
PEIG				eS		Sn	11 54 39.7 -7.8
OXIG	Oaxaca	4.47	308			Pn	11 54 00.9 +1.0
OXIG						Sn	11 54 51.6 -0.7
VHO	Vista Hermosa	4.47	308	eP		Pn	11 54 00.9 +1.0
VHO				eS		Sn	11 54 51.6 -0.7
PMUV	Sontecomapan	4.64	335	eP		Pn	11 53 53.4 -8.6
PMUV				eS		Sn	11 54 54.9 -1.3
PACA	Pacayal	4.67	100	P		Pb	11 54 07.3 -6.4
YOIG	Yosondua	5.01	301			Pn	11 54 09.4 +2.1
YOIG						Sn	11 55 01.8 -3.8
YOIG	Yosondua	5.01	301	eP		Pn	11 54 09.4 +2.1
YOIG				eS		Sn	11 55 01.8 -3.8
PNIG	Pinotepa	5.31	293			Pn	11 54 11.1 -0.1
PNIG						Sn	11 55 05.0 -7.8
PNIG	Pinotepa	5.31	293	eP		Pn	11 54 11.1 -0.1
PNIG				eS		Sn	11 55 05.0 -7.8
TOIG	Toxpalan	5.37	315			Pn	11 54 13.2 +1.0
TOIG						Sn	11 55 10.6 -3.8
TOIG	Toxpalan	5.37	315	eP		Pn	11 54 13.2 +1.0
TOIG				eS		Sn	11 55 10.6 -3.8
TXIG	Tlaxiaco	5.39	303			Pn	11 54 15.4 +2.9
TXIG						Sn	11 55 13.5 -1.6
TXIG	Tlaxiaco	5.39	303	eP		Pn	11 54 15.4 +2.9
TXIG				eS		Sn	11 55 13.5 -1.6
HLIG	Huajuapan de L	5.74	308			Pn	11 54 19.3 +2.0
HLIG						Sn	11 55 22.2 -1.5
HLIG	Huajuapan de L	5.74	308	eP		Pn	11 54 19.3 +2.0
HLIG				eS		Sn	11 55 22.2 -1.5
TPIG	Tehuac#an	5.80	315			Pn	11 54 17.3 -0.7
TPIG						Sn	11 55 29.3 +4.2
TPIG	Tehuac#an	5.80	315	eP		Pn	11 54 17.3 -0.7
TPIG				eS		Sn	11 55 29.3 +4.2
FTIG	Fresnillo de T	6.04	307			Pn	11 54 24.4 +3.0
FTIG	Fresnillo de T	6.04	307	eP		Pn	11 54 24.4 +3.0
JAUV	Jalcomulco	6.16	325	eP		Pn	11 54 22.3 -0.6
JAUV				eS		Sn	11 55 29.3 -4.5
TLIG	Tlapa	6.20	302	eP		Pn	11 54 22.6 -0.9
POHV	Veracruz	6.21	320			Pn	11 54 25.8 +1.7
POHV	Veracruz	6.21	320	eP		Pn	11 54 25.8 +1.7
HERN	Volcan Telica	6.29	105	Pn		Pn	11 54 28.9 +4.3
CRIG	Cruz Grande	6.33	293			Pn	11 54 26.0 +0.8
CRIG						Sn	11 55 27.1 -11
CRIG	Cruz Grande	6.33	293	eP		Pn	11 54 26.0 +0.8
CRIG				eS		Sn	11 55 27.1 -11
CXUV	Coxquihui	7.25	324	eP		Pn	11 54 34.4 -3.4
CXUV				eS		Sn	11 56 01.0 +0.5
PLIG	Platanillo	7.39	304			Pn	11 54 43.2 +3.3
PLIG	Platanillo	7.39	304	eP		Pn	11 54 43.2 +3.3
TEIG	Tepich	7.42	37			Pn	11 54 40.8 +0.6
TEIG	Tepich	7.42	37	Pn		Pn	11 54 40.6 +0.5
	baz=322,slow=19,SNR=1.3						
TEIG				Sn		Sn	11 55 58.3 -6.4
	baz=197,slow=19						
CAIG	El Cayaco	7.46	292			Pn	11 54 41.8 +1.1
CAIG						Sn	11 55 55.4 -10
CAIG	El Cayaco	7.46	292	eP		Pn	11 54 41.8 +1.1
CAIG				eS		Sn	11 55 55.4 -10
ARIG	Puente Sto Nin	8.03	300			Pn	11 54 52.3 +3.7
ARIG	Puente Sto Nin	8.03	300	eP		Pn	11 54 52.3 +3.7
SOR	Soroa	12.70	47	Pn		Pn	11 55 52.6 +0.2
TXAR	Lajitas Array	17.87	328			Pn	11 56 60.0 -0.7
TXAR	Lajitas Array	17.87	328	P		P	11 57 03.4 +1.9
	comp=Z,1.1nm,0.9s,baz=150,slow=13,SNR=6.8						
SGCY	Sterling City	19.00	338	P		Pn	11 57 14.6 +0.2
MNHN	Monahans	19.13	334	P		P	11 57 14.3 -0.9
APMT	Aspermont	19.97	342	P		P	11 57 24.2 -0.2
APMT				IAmb		IAmb	11 57 32.0
	comp=Z,8.1nm,0.7s						
MIAR	Mount Ida	20.13	359	P		P	11 57 26.2 +0.1
CLNB	Carlsbad	20.41	333	P		P	11 57 28.8 -0.4
HTMS	Hat Mesa	20.48	334	P		P	11 57 28.8 -1.2
FNO	Franklin	21.20	350	P		P	11 57 36.7 -1.0
COHC	Cochancay	21.57	140	P		P	11 57 43.3 +1.5
SMWD	Samnorwood	21.67	344	P		P	11 57 41.3 -1.5
SMWD				IAmb		IAmb	11 57 47.5
	comp=Z,8.9nm,0.7s						
HHAR	Hobbs	21.87	358	P		P	11 57 43.9 -1.0
RTBA	Rita Blanca	23.66	340	P		P	11 58 04.4 +0.8
RTBA				IAmb		IAmb	11 58 07.7
	comp=Z,9.2nm,1.0s						
ANMO	Albuquerque	23.82	332	P		P	11 58 05.2 -0.1
KSU1	Kansas State U	24.87	353	P		P	11 58 14.1 -0.7
KSU1				IAmb		IAmb	11 58 15.5
	comp=Z,8.3nm,0.9s						
SDCO	Great Sand Dun	25.81	337	P		P	11 58 23.8 +0.2
PV10	Paradox Valley	27.82	332	P		P	11 58 41.2 -0.5
PV10				IAmb		IAmb	11 58 45.6
	comp=Z,4.9nm,0.9s						
PV23	Carpenter Ridg	27.87	332	P		P	11 58 43.1 +1.0
PDAR	Pinedale Array	31.70	337	P		P	11 59 16.8 +0.8
PDAR	Pinedale Array	31.70	337	P		P	11 59 17.2 +1.2
	comp=Z,0.4nm,0.6s,baz=142,slow=9.0,SNR=3.9						
	comp=Z,0.4nm,0.6s						
NVAR	Mina Array Bea	32.78	322	P		P	11 59 27.5 +2.0
	comp=Z,1.1nm,0.7s,baz=131,slow=6.8,SNR=9.8						
	comp=Z,1.1nm,0.7s						
LOHW	Long Hollow	32.83	336	P		P	11 59 23.7 -2.2
LOHW				IAmb		IAmb	11 59 29.4
	comp=Z,3.0nm,0.7s						
TPAW	Teton Pass	32.86	336	P		P	11 59 24.8 -1.4
TPAW				IAmb		IAmb	11 59 32.4
	comp=Z,4.4nm,1.1s						
MOOW	Moose Ponds	33.00	336	P		P	11 59 27.1 -0.3
MOOW				IAmb		IAmb	12 00 02.0
	comp=Z,1.7nm,0.6s						
YNE	Yellowstone No	33.79	338	P		P	11 59 33.4 -0.9
YNE				IAmb		IAmb	11 59 41.1
	comp=Z,2.6nm,0.9s						
MCMT	McKenzie Canyo	34.74	335	P		P	11 59 41.0 -1.5
PB12	IPOC Station P	39.66	145	P		P	12 00 26.1 +1.7
PB12				IAmb		IAmb	12 00 36.2
	comp=Z,7.0nm,1.0s						
PB11	IPOC Station P	40.96	145	P		P	12 00 38.4 +3.2
PB11				IAmb		IAmb	12 01 06.1
	comp=Z,8.8nm,1.1s						
PB01	IPOC Station P	42.09	146	P		P	12 00 46.0 +1.6
PB01				IAmb		IAmb	12 00 53.4
	comp=Z,8.1nm,1.3s						
FCC	Fort Churchill	44.36	359	P		P	12 01 00.8 -1.3
GO02	Mina Guanaco	45.43	150	P		P	12 01 12.8 +1.3
YKA	Yellowknife Ar	50.47	347	P		P	12 01 49.1 -0.6
YKA	Yellowknife Ar	50.47	347	P		P	12 01 49.2 -0.5
	comp=Z,1.2nm,0.7s,baz=157,slow=7.6,SNR=30						
	comp=Z,1.2nm,0.7s						
DLBC	Dease Lake	51.94	336	P		P	12 02 02.0 +1.1
PTCN	Pitcairn Islan	53.28	223	P		P	12 02 12.7 +1.5
M29M	Somme Creek	57.71	337	P		P	12 02 43.2 +0.6
M29M				IAmb		IAmb	12 03 05.2
	comp=Z,4.4nm,1.4s						
K29M	Barlow Dome	58.19	339	P		P	12 02 47.0 +0.9
K29M				IAmb		IAmb	12 02 59.5
	comp=Z,3.3nm,1.4s						
F31M	Tsiigehtchic	59.30	343	P		P	12 02 53.3 -0.3
F31M				IAmb		IAmb	12 02 54.6
	comp=Z,2.6nm,1.1s						
BCAR	Beaver Creek A	59.33	337	P		P	12 02 54.2 +0.3
L27K	Beaver Creek,	59.34	337	P		P	12 02 53.5 -0.5
INK	Inuvik	59.84	344	P		P	12 02 56.7 -0.5
K27K	Chicken	59.95	337	P		P	12 02 58.1 0.0
RES	Resolute Bay	60.35	359	P		P	12 02 59.6 -1.1
A36M	Sachs Harbour	60.73	349	P		P	12 02 02.7 -0.6
A36M				IAmb		IAmb	12 03 03.1
	comp=Z,2.7nm,1.0s						
E29M	Blow River	61.11	343	P		P	12 03 06.6 +0.6
E29M				IAmb		IAmb	12 03 15.2
	comp=Z,2.0nm,1.1s						
E27K	Coleen River	62.09	342	P		P	12 03 12.8 +0.1
E27K				IAmb		IAmb	12 03 23.3
	comp=Z,2.8nm,1.4s						
ILAR	Eielson Array	62.13	337	P		P	12 03 13.5 +0.5
ILAR	Eielson Array	62.13	337	P		P	12 03 13.0 +0.1
	comp=Z,0.5nm,0.8s,baz=153,slow=4.5,SNR=6.8						
	comp=Z,0.5nm,0.8s						
RND	Reindeer	62.30	335	P		P	12 03 14.9 +0.8
RND				IAmb		IAmb	12 03 15.4
	comp=Z,2.1nm,0.8s						
D27M	Malcolm River	62.52	343	P		P	12 03 15.3 -0.2
D27M				IAmb		IAmb	12 03 47.8
	comp=Z,4.0nm,1.4s						
BMAR	Burnt Mountain	62.63	340	P		P	12 03 16.4 +0.1
TRF	Thorofare Moun	62.91	335	P		P	12 03 18.9 +0.6
CHIR	Chirikof Islan	62.93	326	P		P	12 03 17.9 -0.6
H24K	Noodor Dome	63.00	338	P		P	12 03 18.9 +0.1
F25K	Christian Rive	63.07	340	P		P	12 03 19.6 +0.4
F25K				IAmb		IAmb	12 03 39.3
	comp=Z,2.6nm,1.4s						
E25K	Arctic Village	63.31	341	P		P	12 03 21.4 +0.6
E25K				IAmb		IAmb	12 03 24.6
	comp=Z,3.0nm,1.4s						
M20K	Styx River	63.53	333	P		P	12 03 22.7 +0.2
C27K	Jago River	63.54	342	P		P	12 03 23.1 +0.9
C27K				IAmb		IAmb	12 03 23.2
	comp=Z,2.2nm,1.0s						
N19K	Bonanza Creek	63.79	331	P		P	12 03 24.3 +0.2
D25K	Kavik River	64.18	342	P		P	12 03 26.8 +0.3
D25K				IAmb		IAmb	12 03 32.8
	comp=Z,1.5nm,0.9s						
C24K	Franklin Bluff	65.09	341	P		P	12 03 32.9 +0.5
C24K				IAmb		IAmb	12 03 33.2
	comp=Z,3.1nm,1.1s						
C23K	Itkillik River	65.73	341	P		P	12 03 36.5 0.0
EUNU	Eureka	65.82	1	P		P	12 03 35.5 -1.5
EUNU				IAmb		IAmb	12 04 00.8
	comp=Z,4.3nm,1.4s						
F20K	Avaraart Lake	66.37	338	P		P	12 03 40.7 +0.1
F20K				IAmb		IAmb	12 03 48.9
	comp=Z,2.9nm,1.1s						
B22K	Teshekpuk Lake	66.82	341	P		P	12 03 43.5 +0.1
B21K	Ikpikpuk River	66.92	340	P		P	12 03 44.6 +0.5
B20K	Meade River	67.88	340	P		P	12 03 50.4 +0.2
B20K				IAmb		IAmb	12 04 06.9
	comp=Z,2.9nm,1.1s						

MOS ***05*** *12:01:21.9±1.0,52°.00N×175°.17E,h35km,mb5.2/77, MS4.1/7, Error ellipse: s-maj=5.7km s-min=3.5km az=132.7*

IDC ***05*** *12:01:22.7±2.8,52°.06N×175°.31E,h28km±18km,mb4.7/34, mbtmp4.9/37,ML4.8/3,MS4.2/77, Error ellipse: s-maj=13.7km s-min=9.5km az=175.0*

NEIC ***05*** *12:01:22.2,51°.54N×175°.00E,h30km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16Nm; Mrr-3.03; Mθθ-1.13; Mφφ4.17; Mrθ2.01; Mθφ-0.72; Mφr-0.20; Fault plane solution: M0 4.30000×10^16 NP1: φs200.73000°, δ49.85000°, λ-45.63000°. NP2: φs324.13000°, δ56.88000°, λ-129.65000°. Principal axes: T 4.2934, Plg4.0000°, Azm81.0000°; N 0.0145, Plg32.0000°, Azm348.0000°; P -4.3079, Plg57.0000°, Azm177.0000°;*

AEIC ***05*** *12:01:22.8±2.5,52°.43N±0°.08×175°.18E±0°.08,h35km±4km Error ellipse: s-maj=11.9km s-min=6.1km az=194.0*

NEIC ***05*** *12:01:22.2,52°.04N×175°.19E,h30km*

NEIC ***05*** *12:01:23.2±1.8,52°.07N±0°.07×175°.14E±0°.09,h30km±3km, mb5.2/693,Mww5.0/40, Error ellipse: s-maj=11.1km s-min=6.7km az=205.0*

KRSC ***05*** *12:01:23.4±2.3,51°.91N×174°.78E,h62km±56km,Ml5.4*

BJI ***05*** *12:01:23.5,52°.30N×174°.95E,h40km,mB5.1/30,mb5.1/70, Ms4.8/55,Ms7 4.4/55*

PMR ***05*** *12:01:25.0,52°.01N×175°.16E,h49km*

GCMT ***05*** *12:01:26.2±0.2,52°.06N±0°.02×175°.16E±0°.02,h32km, MW5.0/103,Moment Tensor Solution. s68,c104; s103,c164; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.29±.14; Mθθ-1.36±.11; Mφφ4.65±.09; Mrθ2.25±.15; Mθφ-0.41±.08; Mφr-0.04±.10; Best double couple: M0 4.73000×10^16 NP1:φs205.00000°,δ53.00000°, λ-46.00000°. NP2:φs327.00000°,δ55.00000°, λ-132.00000°. Principal axes: T 4.6830, Plg2.0000°, Azm86.0000°; N 0.0940, Plg33.0000°, Azm355.0000°; P -4.7770, Plg56.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 12:01:23.6±0.3,51°.98N±0°.05×175°.18E±0°.03,h34km±1km, h35km:pP-P,n1335,σ1=08/1188,mb5.2/427,MS4.3/97, 25C-22D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	1.00	319	Pn	Pn	12 01 40.4	-0.7
	6μm,0.3s,baz=155,slow=3.1,SNR=5815						
SHEM				Sn	Sn	12 01 53.5	-0.5
	14μm,0.3s,baz=263,slow=20,SNR=23						
SHEM				LR	LR	12 02 06.9	
	comp=Z,3μm,19.8s,baz=174,slow=44						
GASW	Gareloi Southw	3.70	91		Pn	12 02 20.1	+1.8
GANO	Gareloi North	3.73	90		Pn	12 02 19.9	+1.2
GANE	Gareloi Northe	3.75	90		Pn	12 02 20.1	+1.2
GALAA	Gareloi Lava P	3.76	91		Pn	12 02 21.3	+2.3
TASE	Tanaga Southea	4.20	89		Pn	12 02 26.9	+1.6
TAFP	Tanaga Falls P	4.23	88		Pn	12 02 26.6	+1.0
KICM	Kanaga Island	4.72	88		Pn	12 02 33.4	+1.2
KIKV	Kanaga Island	4.74	88		Pn	12 02 33.7	+1.3
KIWB	Kanaga Island	4.75	89		Pn	12 02 33.9	+1.2
KINC	Kanaga Island	4.76	88		Pn	12 02 33.5	+0.7
KIRH	Kanaga Island	4.78	88		Pn	12 02 34.5	+1.3
ADK	Adak	5.04	88	Pn	Pn	12 02 37.6	+1.0
ADK	Adak	5.04	88	P	Pn	12 02 37.6	+1.0
GSCK	Great Sitkin C	5.35	86		Pn	12 02 41.6	+0.7
GSTR	Great Sitkin T	5.41	85		Pn	12 02 42.5	+0.7
BKI	Bering	6.36	304	P	Pn	12 02 56.7	+2.0
BKI				S	Sn	12 04 06.7	+0.7
BKI	Bering	6.36	304	eP	Pn	12 02 56.8	+2.0
BKI				eS	Sn	12 04 06.8	+0.7
ATKA	Atka Island	6.55	84	Pn	Pn	12 02 58.6	+1.2
ATKA					Sn	12 04 08.1	-2.7
ATKA	Atka Island	6.55	84	P	Pn	12 02 58.4	+1.0
KBTR	Krutoberegovo	8.40	305	P	Pn	12 03 23.4	+0.6
KBTR	Krutoberegovo	8.40	305	eP	Pn	12 03 23.4	+0.6
MKZ	Mys Kozlova	8.46	293	P	Pn	12 03 23.8	+0.2
MKZ	Mys Kozlova	8.46	293	eP	Pn	12 03 23.8	+0.2
KBG	Krutoberegovo	8.48	305	P	Pn	12 03 24.6	+0.8
KBG	Krutoberegovo	8.48	305	eP	Pn	12 03 24.6	+0.8
SMKR	Semkarok	9.24	305	P	Pn	12 03 36.0	+1.7
SMKR	Semkarok	9.24	305	eP	Pn	12 03 36.0	+1.7
SPN	Mys Shipunski	9.31	283	P	Pn	12 03 35.7	+0.6
SPN	Mys Shipunski	9.31	283	eP	Pn	12 03 35.7	+0.6
TUMD	Tumrok D	9.36	296	P	Pn	12 03 36.7	+0.8
TUMD	Tumrok D	9.36	296	eP	Pn	12 03 36.7	+0.8
ZLN	Zelenaya	9.38	301	P	Pn	12 03 37.9	+1.7
ZLN	Zelenaya	9.38	301	eP	Pn	12 03 37.9	+1.7
BZGR	Bezymyannyi-Gr	9.41	301	P	Pn	12 03 37.0	+0.4
BZGR	Bezymyannyi-Gr	9.41	301	eP	Pn	12 03 37.1	+0.4
CIRR	Tsirk	9.44	302	P	Pn	12 03 39.0	+1.9
CIRR	Tsirk	9.44	302	eP	Pn	12 03 39.0	+1.9
BZWR	Bezymyannyi-We	9.52	301	P	Pn	12 03 39.7	+1.4
BZWR	Bezymyannyi-We	9.52	301	eP	Pn	12 03 39.7	+1.4
KLY	Klyuchi	9.56	303	P	Pn	12 03 37.4	-1.1
KLY	Klyuchi	9.56	303	eP	Pn	12 03 37.5	-1.1
KRSR	Krestovskiy	9.57	302	P	Pn	12 03 40.3	+1.5
KRSR	Krestovskiy	9.57	302	eP	Pn	12 03 40.3	+1.5
KMNR	Kamenistaya	9.60	299	P	Pn	12 03 40.7	+1.5
KMNR	Kamenistaya	9.60	299	eP	Pn	12 03 40.8	+1.5
KIRR	Kirishev	9.60	300	P	Pn	12 03 40.6	+1.3
KIRR	Kirishev	9.60	300	eP	Pn	12 03 40.6	+1.3
KPT	Kopyto	9.67	300	P	Pn	12 03 42.1	+1.9
KPT	Kopyto	9.67	300	eP	Pn	12 03 42.2	+1.9
KII	Karymskiy	9.70	288	P	Pn	12 03 40.6	0.0
KII	Karymskiy	9.70	288	eP	Pn	12 03 40.7	0.0
NLC	Nalytchevo	9.72	283	P	Pn	12 03 41.3	+0.6
NLC	Nalytchevo	9.72	283	eP	Pn	12 03 41.3	+0.6
TILK	Tilichiki	9.85	333	P	Pn	12 03 44.6	+2.0
TILK	Tilichiki	9.85	333	eP	Pn	12 03 44.6	+2.0
KOZ	Kozyrevsk	9.88	300	P	Pn	12 03 45.3	+2.3
KOZ	Kozyrevsk	9.88	300	eP	Pn	12 03 45.4	+2.3
SPIA	Saint Paul Isl	9.92	53	Pn	Pn	12 03 43.5	-0.1
SPIA	Saint Paul Isl	9.92	53	P	Pn	12 03 43.9	+0.4
	baz=245						
OSSR	Ossora	9.99	322	P	Pn	12 03 45.9	+1.5
OSSR	Ossora	9.99	322	eP	Pn	12 03 45.9	+1.5
SDLR	Sedlovina	9.99	284	P	Pn	12 03 45.0	+0.4
SDLR	Sedlovina	9.99	284	eP	Pn	12 03 45.1	+0.4
UGLR	Uglovaya	10.03	283	P	Pn	12 03 45.8	+0.7
UGLR	Uglovaya	10.03	283	eP	Pn	12 03 45.9	+0.7
P08K	Saint George I	10.05	57	Pn	Pn	12 03 45.1	-0.1
P08K	Saint George I	10.05	57	P	Pn	12 03 44.6	-0.7
	baz=249						
SRDR	Sredinnyy	10.05	302	P	Pn	12 03 47.1	+1.8
SRDR	Sredinnyy	10.05	302	eP	Pn	12 03 47.2	+1.8
DALK	Dalny	10.07	282	P	Pn	12 03 46.0	+0.4
DALK	Dalny	10.07	282	eP	Pn	12 03 46.1	+0.4
KRER	Koryakskii	10.08	284	P	Pn	12 03 46.5	+0.6
KRER	Koryakskii	10.08	284	eP	Pn	12 03 46.5	+0.6
AVH	Avacha	10.08	284	P	Pn	12 03 46.2	+0.4
AVH	Avacha	10.08	284	eP	Pn	12 03 46.3	+0.4
PET	Petropavlovsk	10.13	282		Pn	12 03 47.2	+0.8
PET	Petropavlovsk	10.13	282	P	Pn	12 03 47.3	+0.8
PET	Petropavlovsk	10.13	282	||iP	Pn	12 03 46.7	+0.3
PET				eS	Sn	12 05 33.5	-5.2
PET				pmax	pmax		
	comp=Z,66nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,5.2s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET	Petropavlovsk	10.13	282	eP	Pn	12 03 46.6	+0.1
PET	Petropavlovsk	10.13	282	P	Pn	12 03 46.7	+0.3
	comp=Z,2μmcomp=Z,88nm,0.9s						
KRX	Arik	10.14	284	P	Pn	12 03 46.8	+0.2
KRX	Arik	10.14	284	eP	Pn	12 03 46.8	+0.2
KOK	Koryaka	10.14	284	P	Pn	12 03 47.0	+0.3
KOK	Koryaka	10.14	284	eP	Pn	12 03 47.1	+0.3
RUS	Russkaya	10.24	279	P	Pn	12 03 47.7	-0.2
RUS	Russkaya	10.24	279	eP	Pn	12 03 47.8	-0.2
KRMR	Karymshinskiy	10.46	281	P	Pn	12 03 50.6	-0.2
KRMR	Karymshinskiy	10.46	281	eP	Pn	12 03 50.6	-0.2
ESO	Esso	10.48	299	P	Pn	12 03 51.8	+0.6
ESO	Esso	10.48	299	eP	Pn	12 03 51.9	+0.6
GRL	Gorelyy	10.50	280	P	Pn	12 03 53.3	+1.7
GRL	Gorelyy	10.50	280	eP	Pn	12 03 53.4	+1.7
GNL	Ganaly	10.57	286	P	Pn	12 03 53.6	+1.1
GNL	Ganaly	10.57	286	eP	Pn	12 03 53.6	+1.1
KDTR	Khodutka, Kamc	10.57	276	P	Pn	12 03 51.8	-0.7
KDTR	Khodutka, Kamc	10.57	276	eP	Pn	12 03 51.8	-0.7
PEA0B	Petropavlovsk-	10.71	283		Pn	12 03 55.6	+1.3
PEA0B	Petropavlovsk-	10.71	283	ceP	Pn	12 03 55.2	+0.9
PETK	Petropavlovsk-	10.71	283	Pn	Pn	12 03 54.9	+0.6
PETK	Petropavlovsk-	10.71	283	Pn	Pn	12 03 54.5	+0.2
	comp=Z,10nm,0.3s,baz=80,slow=16,SNR=157						
PETK				Sn	Sn	12 05 49.9	-3.0
	comp=Z,15nm,0.3s,baz=96,slow=28,SNR=6.9						
PETK				LR	LR	12 08 01.4	
	comp=Z,1μm,21.8s,baz=95,slow=37						
	comp=Z,191nm,0.9s						
APC	Apacha	11.04	282	P	Pn	12 04 00.3	+1.5
APC	Apacha	11.04	282	eP	Pn	12 04 00.3	+1.5
PALN	Palana	11.16	316	P	Pn	12 04 03.1	+2.7
PALN	Palana	11.16	316	eP	Pn	12 04 03.2	+2.7
UNV	Unalaska Valle	11.21	73	Pn	Pn	12 04 03.0	+1.7
UNV	Unalaska Valle	11.21	73	P	Pn	12 04 01.9	+0.7
UNV	Unalaska Valle	11.21	73	P	Pn	12 04 02.0	+0.8
	baz=268,SNR=8.8						
PAU	Pauzhetka	11.41	275	P	Pn	12 04 03.6	-0.2
PAU	Pauzhetka	11.41	275	eP	Pn	12 04 03.7	-0.2
LVA	Lava Point	11.51	72		Pn	12 04 06.8	+1.5
KMSK	Kamenskaya	11.57	339	P	Pn	12 04 08.6	+2.6
KMSK	Kamenskaya	11.57	339	eP	Pn	12 04 08.6	+2.6
SKR	Severo-Kuril's	11.99	271	P	Pn	12 04 11.5	-0.4
SKR				S	Sn	12 06 16.7	-7.6
SKR	Severo-Kuril's	11.99	271	eP	Pn	12 04 11.5	-0.4
SKR				eS	Sn	12 06 16.7	-7.6
FALS	False Pass	13.07	69	Pn	Pn	12 04 28.9	+0.2
FALS	False Pass	13.07	69	P	Pn	12 04 26.8	+0.2
FALS	False Pass	13.07	69	P	Pn	12 04 27.4	+0.8
	baz=266						
M11K	Mekoryuk	13.31	44	Pn	Pn	12 04 28.9	-0.8
M11K	Mekoryuk	13.31	44	P	Pn	12 04 30.4	+0.6
	baz=239,SNR=7.5						
GAMB	Gambell	13.69	25	P	Pn	12 04 35.6	+0.7
	baz=216						
S12K	Black Hills	13.92	66	P	Pn	12 04 38.3	+0.1
	baz=264,SNR=7.1						
M13K	Dall Lake	14.57	46	P	P	12 04 50.0	-3.0
M13K	Dall Lake	14.57	46	P	Pn	12 04 47.4	+0.4
	baz=244,SNR=38						
K13K	Kusilvak Mount	14.77	40		Pn	12 04 51.8	+2.1
K13K	Kusilvak Mount	14.77	40	P	Pn	12 04 50.1	+0.4
	baz=237,SNR=15						
SDPT	Sand Point	14.79	67	Pn	Pn	12 04 50.8	+0.8
SDPT	Sand Point	14.79	67	P	Pn	12 04 50.3	+0.3
SDPT	Sand Point	14.79	67	P	Pn	12 04 50.8	+0.8
	baz=267						
O14K	Tigyukauivet M	15.11	52	P	P	12 04 57.5	-1.5
O14K				IAmb	IAmb	12 04 58.0	
	comp=Z,288nm,1.3s						
O14K	Tigyukauivet

BILL	Bilibino	16.68	348	*ce*P		P	12 05 15.3	-1.0
BILL				pmax		pmax		
	comp=Z,17nm,1.0s							
BILL				MLR		MLR		
	comp=Z,1µm,20.0s							
N16K	Nishlik Lake	16.69	49	P		Pn	12 05 15.1	+0.5
	baz=251,SNR=18							
O16K	Kokwok River B	16.76	53	P		P	12 05 16.2	-1.0
O16K	Kokwok River B	16.76	53	P		Pn	12 05 15.8	+0.4
	baz=255,SNR=13							
M16K	Timber Creek	16.79	47	P		P	12 05 17.4	-0.3
M16K				IAmb		IAmb	12 05 20.0	
	comp=Z,230nm,1.4s							
M16K	Timber Creek	16.79	47	P		P	12 05 16.6	-1.0
	baz=249,SNR=22							
L16K	Owhat River	16.83	45	P		P	12 05 17.9	-0.1
L16K				IAmb		IAmb	12 05 21.6	
	comp=Z,116nm,0.9s							
L16K	Owhat River	16.83	45	P		P	12 05 17.1	-1.0
	baz=246,SNR=27							
G15K	Niukluk	16.85	31	P		Pn	12 05 16.6	+0.2
	baz=229,SNR=15							
J16K	Anvik River	17.08	39	P		P	12 05 21.6	+0.7
J16K	Anvik River	17.08	39	P		P	12 05 20.0	-0.9
	baz=240,SNR=13							
F15K	North Star Dit	17.14	29	P		P	12 05 22.2	+0.7
F15K	North Star Dit	17.14	29	P		Pn	12 05 20.6	+0.5
	baz=226							
H16K	Elim	17.23	34	P		P	12 05 21.8	-0.6
	baz=233							
Q16K	King Salmon	17.27	56	P		P	12 05 22.2	-0.8
	baz=260,SNR=48							
O17K	Koliganek Bris	17.29	52	P		P	12 05 22.7	-0.4
	baz=256,SNR=19							
I17K	Unalakleet	17.36	37	P		P	12 05 24.7	+0.9
I17K				IAmb		IAmb	12 05 29.3	
	comp=Z,172nm,1.1s							
I17K	Unalakleet	17.36	37	P		P	12 05 23.6	-0.2
	baz=238,SNR=6.5							
N17K	Nushagak Hills	17.45	50	P		P	12 05 26.4	+1.4
N17K				IAmb		IAmb	12 05 28.1	
	comp=Z,237nm,1.1s							
N17K	Nushagak Hills	17.45	50	P		P	12 05 24.9	0.0
	baz=253,SNR=32							
P17K	Kvichak River	17.49	55	P		P	12 05 25.1	-0.2
	baz=258,SNR=29							
L17K	Donlin	17.51	44	P		P	12 05 25.8	+0.3
	baz=247,SNR=43							
CHIR	Chirikof Islan	17.56	66	P		P	12 05 26.1	-0.1
	baz=270							
M17K	Holitna River	17.62	47	P		P	12 05 28.3	+1.6
M17K	Holitna River	17.62	47	P		P	12 05 27.8	+1.1
	baz=250							
G16K	Koyuk River	17.65	32	P		P	12 05 28.2	+1.2
G16K	Koyuk River	17.65	32	P		P	12 05 27.6	+0.5
	baz=231,SNR=16							
J17K	VABM Dome	17.73	40	P		P	12 05 30.9	+2.9
J17K				IAmb		IAmb	12 05 34.2	
	comp=Z,128nm,1.0s							
J17K	VABM Dome	17.73	40	P		P	12 05 28.9	+0.9
	baz=242,SNR=39							
K17K	Iditarod	17.75	42	P		P	12 05 30.5	+2.3
K17K				IAmb		IAmb	12 05 31.8	
	comp=Z,244nm,0.8s							
K17K	Iditarod	17.75	42	P		P	12 05 29.2	+1.0
	baz=245,SNR=78							
ACHA	Angle Creek He	17.89	58			P	12 05 30.7	+0.8
ACHA				IAmb		IAmb	12 05 35.3	
	comp=Z,120nm,0.8s							
N18K	Kilae Creek	18.11	50	P		P	12 05 33.6	+1.4
N18K				IAmb		IAmb	12 05 36.2	
	comp=Z,195nm,1.2s							
N18K	Kilae Creek	18.11	50	P		P	12 05 33.0	+0.8
	baz=254							
Q18K	Katmai Hardscr	18.12	57	P		P	12 05 32.7	+0.2
	baz=261,SNR=58							
P18K	Big Mountain,	18.13	54			P	12 05 33.4	+0.8
P18K				IAmb		IAmb	12 05 35.2	
	comp=Z,143nm,0.9s							
P18K	Big Mountain,	18.13	54	P		P	12 05 33.2	+0.7
	baz=259,SNR=15							
H17K	Granite Mounta	18.21	35			P	12 05 35.6	+2.3
H17K	Granite Mounta	18.21	35	P		P	12 05 34.2	+0.9
	baz=236,SNR=30							
L18K	Granite Mounta	18.24	45	P		Pn	12 05 35.3	+1.7
L18K				IAmb		IAmb	12 05 37.5	
	comp=Z,121nm,0.9s							
L18K	Granite Mounta	18.24	45	P		Pn	12 05 34.4	+0.8
	baz=249							
O18K	Koktuh Hills	18.24	53			Pn	12 05 34.2	+0.5
O18K	Koktuh Hills	18.24	53	P		Pn	12 05 34.4	+0.7
	baz=258,SNR=55							
G17K	Kiwalik Mounta	18.28	33	P		Pn	12 05 34.8	+0.6
	baz=234,SNR=42							
R18K	Karluk	18.29	60	P		Pn	12 05 34.0	-0.1
	baz=265							
SII	Sitkinak Islan	18.38	63	P		P	12 05 34.1	-1.1
SII				IAmb		IAmb	12 05 36.2	
	comp=Z,199nm,0.7s							
SII	Sitkinak Islan	18.38	63	P		P	12 05 34.5	-0.7
	baz=269,SNR=7.5							
M18K	Stony River	18.38	48	P		Pn	12 05 36.1	+0.7
	baz=252,SNR=32							
F17K	Baldwin Pennin	18.67	30			Pn	12 05 40.4	+1.6
F17K				IAmb		IAmb	12 05 44.9	
	comp=Z,111nm,1.0s							
F17K	Baldwin Pennin	18.67	30	P		Pn	12 05 39.3	+0.5
	baz=231,SNR=45							
J18K	Innoko River	18.72	41	P		Pn	12 05 41.0	+1.5
J18K				IAmb		IAmb	12 05 43.3	
	comp=Z,114nm,0.8s							
J18K	Innoko River	18.72	41	P		Pn	12 05 40.1	+0.6
	baz=245,SNR=63							
O19K	Port Alsworth	18.75	52	P		Pn	12 05 40.8	+1.0
O19K				IAmb		IAmb	12 05 47.8	
	comp=Z,232nm,1.0s							
O19K	Port Alsworth	18.75	52	P		Pn	12 05 39.8	0.0
	baz=258,SNR=55							
TTA	Tatalina	18.79	43			Pn	12 05 40.9	+0.4
TTA				IAmb		IAmb	12 05 44.8	
	comp=Z,157nm,1.0s							
TTA	Tatalina	18.79	43	P		Pn	12 05 40.9	+0.4
TTA	Tatalina	18.79	43	P		Pn	12 05 40.9	+0.4
TTA				pmax		pmax		
	comp=Z,157nm,1.0s							
TTA	Tatalina	18.79	43	P		Pn	12 05 40.5	0.0
	baz=248,SNR=73							
N19K	Bonanza Creek	18.81	50	P		Pn	12 05 41.2	+0.5
N19K	Bonanza Creek	18.81	50	P		Pn	12 05 40.9	+0.2
	baz=256,SNR=32							
C16K	Lisburne Hills	18.84	23	P		Pn	12 05 42.0	+1.2
C16K	Lisburne Hills	18.84	23	P		Pn	12 05 40.4	-0.5
	baz=220							
Q19K	Cape Douglas,	18.86	56	P		Pn	12 05 40.9	-0.3
Q19K	Cape Douglas,	18.86	56	P		P	12 05 40.7	+0.2
	baz=262,SNR=12							
H18K	Honhosa River	18.89	36	P		Pn	12 05 41.8	+0.4
H18K				IAmb		IAmb	12 05 46.3	
	comp=Z,208nm,1.4s							
H18K	Honhosa River	18.89	36	P		Pn	12 05 41.9	+0.4
	baz=238,SNR=41							
OHAK	Old Harbor	18.89	61	P		P	12 05 39.2	-1.6
OHAK				IAmb		IAmb	12 05 42.1	
	comp=Z,186nm,0.8s							
OHAK	Old Harbor	18.89	61	P		P	12 05 39.3	-1.5
	baz=267,SNR=49							
E17K	Hotham Inlet	18.91	28	P		Pn	12 05 41.8	0.0
	baz=228							
D17K	Noatak River	18.99	26	P		Pn	12 05 43.3	+0.6
	baz=225,SNR=68							
L19K	White Mountain	19.03	46			Pn	12 05 43.1	-0.1
L19K				IAmb		IAmb	12 05 47.7	
	comp=Z,118nm,1.0s							
L19K	White Mountain	19.03	46	P		Pn	12 05 43.5	+0.3
	baz=251,SNR=35							
M19K	Big River Lodg	19.16	47	P		Pn	12 05 44.2	-0.5
M19K	Big River Lodg	19.16	47	P		Pn	12 05 44.3	-0.4
	baz=253,SNR=15							
P19K	Oil Pt	19.18	54	P		P	12 05 44.2	+0.2
P19K	Oil Pt	19.18	54	P		Pn	12 05 44.4	-0.7
	baz=260,SNR=15							
G18K	Tagagawik	19.19	33	P		Pn	12 05 45.2	+0.2
G18K				IAmb		IAmb	12 05 49.7	
	comp=Z,163nm,1.1s							
G18K	Tagagawik	19.19	33	P		Pn	12 05 44.6	-0.5
	baz=236,SNR=83							
GCSA	Galena City Sc	19.23	38	P		Pn	12 05 45.2	-0.3
	baz=242,SNR=151							
F18K	Selawik	19.27	31	P		Pn	12 05 45.6	-0.4
	baz=233,SNR=61							
ILSW	Iliamna Southw	19.28	53	P		Pn	12 05 46.5	+0.1
ILSW				IAmb		IAmb	12 05 59.6	
	comp=Z,168nm,1.0s							
RDOG	Red Dog Mine	19.29	25	P		Pn	12 05 46.7	+0.4
RDOG				IAmb		IAmb	12 05 53.2	
	comp=Z,118nm,0.8s							
RDOG	Red Dog Mine	19.29	25	P		Pn	12 05 46.1	-0.2
	baz=224,SNR=45							
KDAK	Kodiak Island	19.30	60	P		P	12 05 44.9	-0.4
KDAK	Kodiak Island	19.30	60	Pn		P	12 05 44.3	-0.9
	comp=Z,17nm,0.3s,baz=29,slow=1.1,SNR=520							
KDAK				LR		LR	12 13 28.1	
	comp=Z,978nm,19.4s,baz=89,slow=38							
	comp=Z,420nm,0.8s							
KDAK	Kodiak Island	19.30	60	P		P	12 05 44.9	-0.4
KDAK				pmax		pmax		
	comp=Z,486nm,0.8s							
KDAK	Kodiak Island	19.30	60	P		P	12 05 44.6	-0.7
	baz=266							
J19K	Poorman	19.38	40	P		Pn	12 05 47.3	-0.1
J19K				IAmb		IAmb	12 05 49.5	
	comp=Z,115nm,0.9s							
J19K	Poorman	19.38	40	P		Pn	12 05 47.0	-0.4
	baz=245,SNR=84							
Q20K	Shuyak Island	19.47	57	P		P	12 05 47.0	-0.1
	baz=264,SNR=18							
SYI	Shuyak Island	19.47	57	P		P	12 05 46.7	-0.4
E18K	Tukpahlearik C	19.50	28	IAmb		IAmb	12 05 55.0	
	comp=Z,118nm,0.9s							
E18K	Tukpahlearik C	19.50	28	P		Pn	12 05 48.8	0.0
	baz=230							
C17K	DeLong Mountai	19.52	24	P		Pn	12 05 48.8	-0.3
	baz=223							
O20K	Slope Mountain	19.56	53	P		Pn	12 05 48.8	-0.8
	baz=260,SNR=15							
L20K	Farewell, AK	19.56	46	P		P	12 05 48.6	+0.5
	baz=252,SNR=68							
M20K	Styx River	19.72	48	IAmb		IAmb	12 06 02.1	
	comp=Z,130nm,0.8s							
M20K	Styx River	19.72	48	P		Pn	12 05 50.6	-1.0
	baz=254							
H19K	Roundabout Mou	19.77	36	IAmb		IAmb	12 05 57.5	
	comp=Z,104nm,0.8s							
H19K	Roundabout Mou	19.77	36	P		Pn	12 05 50.9	-1.0
	baz=240							
K20K	Telida	19.77	43	IAmb		IAmb	12 05 56.3	
	comp=Z,157nm,0.8s							
K20K	Telida	19.77	43	P		Pn	12 05 51.2	-0.9
	baz=249,SNR=93							
G19K	Purcell Mounta	19.86	34	P		P	12 05 51.6	+0.3
	baz=238,SNR=32							
HOM	Homer	19.98	54	P		P	12 05 52.3	-0.3
HOM	Homer	19.98	54	P		P	12 05 52.3	-0.3
	baz=262,SNR=7.6							
N20K	Mount Spurr	19.98	50	P		P	12 05 53.3	+0.5
	baz=257,SNR=94							
SPCR	Spurr Chakacha	19.98	50	P		P	12 05 53.3	+0.5
	baz=257,SNR=68							
F19K	Shaleruckik Mo	20.01	32	P		Pn	12 05 53.9	-1.0
F19K				IAmb		IAmb	12 05 59.3	
	comp=Z,104nm,1.0s							
F19K	Shaleruckik Mo	20.01	32	P		Pn	12 05 54.0	-0.8
	baz=235,SNR=102							
J20K	Nowinta River	20.05	41	P		Pn	12 05 54.8	-0.5
	baz=247							
SPU	Mount Spurr	20.05	50	P		Pn	12 05 54.6	-0.8
SPU				IAmb		IAmb	12 05 57.2	
	comp=Z,182nm,0.8s							
C18K	Utukok River	20.16	25	IAmb		IAmb	12 06 05.0	
	comp=Z,88nm,0.8s							
C18K	Utukok River	20.16	25	P		Pn	12 05 55.5	-1.1
	baz=226							
I20K	Naaghedeneel	20.17	39	P		Pn	12 05 55.9	-0.8
	baz=245							
STLK	Strandline Lak	20.23	49	P		Pn	12 05 56.4	-1.1
STLK				IAmb		IAmb	12 06 08.7	
	comp=Z,58nm,0.7s							
TYV	Tymovskoe	20.23	280	*e*P		Pn	12 05 58.4	+0.9
TYV				pmax		pmax		
	comp=Z,68nm,1.0s							
TYV				pmax		pmax		
	comp=Z,300nm,4.3s							
H20K	Anotleneega Mo	20.32	37	P		P	12 05 57.2	+0.9
	baz=243,SNR=178							
BRLK	Bradley Lake	20.38	54	P		P	12 05 57.1	+0.2
PPLA	Purkeypile	20.43	45	IAmb		IAmb	12 06 06.0	
	comp=Z,220nm,1.1s							
PPLA	Purkeypile	20.43	45	P		Pn	12 05 58.9	-1.0
	baz=253,SNR=50							
BRSE	Bradley Lake S	20.44	54	P		P	12 05 57.5	-0.2
	baz=263,SNR=40							
SKT	Skwentna	20.48	48	P		Pn	12 05 59.4	-1.0
SKT				IAmb		IAmb	12 06 03.0	
	comp=Z,87nm,0.9s							
SKT	Skwentna	20.48	48	P		Pn	12 05 59.2	-1.2
	baz=256,SNR=58							
B18K	Kokolik River	20.52	23	P		P	12 05 59.1	+0.8
	baz=224,SNR=167							
E19K	Redstone River	20.54	31	IAmb		IAmb	12 06 09.7	
	comp=Z,74nm,0.9s							
E19K	Redstone River	20.54	31	P		P	12 05 59.7	+1.0
	baz=235,SNR=71							
CAST	Castle Rocks	20.64	44	P		Pn	12 06 01.1	-1.1
CAST				IAmb		IAmb	12 06 03.1	
	comp=Z,122nm,0.8s							
CAST	Castle Rocks	20.64	44	P		P	12 06 00.7	+0.9
	baz=252,SNR=124							
CHUM	Lake Minchumin	20.69	42	P		P	12 06 01.3	+0.9
	baz=250,SNR=127							
SUA	Susitna One	20.73	49	P		P	12 06 01.0	+0.1
SUA				IAmb		IAmb	12 06 15.0	
	comp=Z,81nm,0.8s							
SUA	Susitna One	20.73	49	P		P	12 06 01.5	+0.7
	baz=258,SNR=27							
F20K	Avaraart Lake	20.80	32	P		Pn	12 06 02.8	-1.3
	baz=238							
SLKM	Skilak Lake	20.81	52	P		P	12 06 01.8	+0.1
SLKM				IAmb		IAmb	12 06 14.1	
	comp=Z,90nm,1.0s							
NKL	Nikolayevsk	20.89	287	*e*P		P	12 06 03.4	+0.9
NKL				pmax		pmax		
	comp=N,143nm,0.9s							
NKL				pmax		pmax		
	comp=E,68nm,1.0s							
NKL				pmax		pmax		
	comp=Z,341nm,1.0s							
D19K	Kuna River	20.91	28	IAmb		IAmb	12 06 13.8	
	comp=Z,211nm,1.0s							
D19K	Kuna River	20.91	28	P		P	12 06 03.3	+0.7
	baz=231,SNR=57							
FIS	Fire Island	20.91	51	P		P	12 06 02.4	-0.3
FIS				IAmb		IAmb	12 06 16.7	
	comp=Z,92nm,0.8s							
O22K	Cooper Landing	21.05	52	P		P	12 06 04.2	0.0
O22K	Cooper Landing	21.05	52	P		P	12 06 04.5	+0.3
	baz=262,SNR=33							
M22K	Willow	21.08	49	IAmb		IAmb	12 06 15.2	
	comp=Z,119nm,1.0s							
M22K	Willow	21.08	49	P		P	12 06 04.0	-0.5
	baz=258,SNR=21							
SEW	Seward	21.13	54	P		P	12 06 04.7	-0.4
SEW				IAmb		IAmb	12 06 09.0	
	comp=Z,125nm,0.8s							
SEW	Seward	21.13	54	P		P	12 06 04.8	-0.4
	baz=263,SNR=45							
RC01	Rabbit Creek A	21.14	51	P		P	12 06 05.7	+0.5
RC01	Rabbit Creek A	21.14	51	P		P	12 06 05.4	+0.3
	baz=260,SNR=24							
UGL	Uglegorsk	21.15	275	*e*P		P	12 06 07.8	+2.5
UGL				*e*S		S	12 10 00.0	+1.5
UGL				pmax		pmax		
	comp=Z,200nm,1.0s							
UGL				pmax		pmax		
	comp=Z,150nm,0.8s							
UGL				smax		smax		
	comp=E,1µm,10.0s							
UGL				MLR		MLR		
	comp=E,600nm,11.0s							
UGL				MLR		MLR		
	comp=N,900nm,15.0s							
CUT	Chulitna	21.15	47	P		P	12 06 05.7	+0.4
CUT				IAmb		IAmb	12 06 24.4	
	comp=Z,138nm,1.0s							
CUT	Chulitna	21.15	47	P		P	12 06 06.0	+0.7
	baz=256,SNR=12							
H21K	Melozitna Rive	21.17	37	IAmb		IAmb	12 06 11.0	
	comp=Z,139nm,0.8s							
H21K	Melozitna Rive	21.17	37	P		P	12 06 06.2	+0.7
	baz=245,SNR=140							
KTH	Kantishna Hill	21.17	44	IAmb		IAmb	12 06 23.2	
	comp=Z,152nm,1.0s							
I21K	Tanana	21.30	39	IAmb		IAmb	12 06 11.8	
	comp=Z,121nm,0.9s							
I21K	Tanana	21.30	39	P		P	12 06 07.3	+0.5
	baz=248,SNR=77							
G21K	Allakaket	21.30	35	P		P	12 06 07.7	+0.8
G21K				IAmb		IAmb	12 06 11.3	
	comp=Z,91nm,0.8s							
G21K	Allakaket	21.30	35	P		P	12 06 07.0	+0.1
	baz=242,SNR=94							
A19K	Wainwright	21.30	22	P		P	12 06 07.7	+0.9
	baz=223,SNR=151							
BPAW	Bear Paw Mtn.	21.32	42	P		P	12 06 08.3	+1.2
BPAW				IAmb		IAmb	12 06 20.5	
	comp=Z,57nm,0.8s							
BPAW	Bear Paw Mtn.	21.32	42	P		P	12 06 07.7	+0.6
	baz=251,SNR=38							
E20K	Nigu River	21.33	29	P		P	12 06 08.2	+1.0
	baz=235,SNR=100							
TRF	Thorofare Moun	21.41	44	P		P	12 06 09.2	+0.9
TRF				IAmb		IAmb	12 06 25.8	
	comp=Z,100nm,0.8s							
TRF	Thorofare Moun	21.41	44	P		P	12 06 09.3	+1.0
	baz=254,SNR=35							
D20K	Etivluk River	21.48	28	P		P	12 06 09.2	+0.4
	baz=233,SNR=68							
PMR	Palmer	21.51	50	P		P	12 06 09.3	+0.1
	baz=260,SNR=6.1							
YSS	Yuzhno-Sakhali	21.55	269	P		P	12 06 11.3	+1.7
YSS				IAmb		IAmb	12 06 15.3	
	comp=Z,79nm,0.7s							
YSS	Yuzhno-Sakhali	21.55	269	P		P	12 06 11.8	+2.1
YSS	Yuzhno-Sakhali	21.55	269	*e*P		P	12 06 11.6	+1.9
YSS				*e*S		S	12 10 01.4	-5.1
YSS				pmax		pmax		
	comp=Z,100nm,0.8s							
YSS				pmax		pmax		
	comp=Z,500nm,5.7s							
YSS				smax		smax		
	comp=N,500nm,7.7s							
YSS				smax		smax		
	comp=E,700nm,6.8s							
GHO	Glory Hole Cre	21.64	49	P		P	12 06 11.1	+0.5
F21K	Alatna River	21.65	33	P		P	12 06 10.4	-0.2
	baz=241,SNR=252							
PWL	Port Wells	21.78	52	P		P	12 06 11.3	-0.7
PWL				IAmb		IAmb	12 06 24.5	
	comp=Z,99nm,1.0s							
PWL	Port Wells	21.78	52	P		P	12 06 10.9	-1.2
	baz=262,SNR=23							
KNK	Knik Glacier	21.80	50	P		P	12 06 11.6	-0.6
KNK				IAmb		IAmb	12 06 24.5	
	comp=Z,60nm,0.8s							
KNK	Knik Glacier	21.80	50	P		P	12 06 11.9	-0.4
	baz=261,SNR=29							
H22K	Ishtalitna Cre	21.81	38	P		P	12 06 12.3	-0.1
	baz=247							
SML	Sawmill	21.92	49	P		P	12 06 13.8	+0.2
SML				IAmb		IAmb	12 06 26.8	
	comp=Z,92nm,0.7s							
SML	Sawmill	21.92	49	P		P	12 06 13.3	-0.3
	baz=260,SNR=36							
MCK	McKinley	22.07	44	IAmb		IAmb	12 06 26.3	
	comp=Z,87nm,1.0s							
MCK	McKinley	22.07	44	P		P	12 06 14.5	-0.7
	baz=255,SNR=27							
E21K	Killik River	22.12	30	P		P	12 06 14.3	-1.3
	baz=237							
B20K	Meade River	22.14	25	IAmb		IAmb	12 06 26.1	
	comp=Z,179nm,1.2s							
B20K	Meade River	22.14	25	P		P	12 06 15.9	+0.1
	baz=230							
P23K	Montague Islan	22.15	54	P		P	12 06 15.1	-0.9
	baz=266,SNR=26							
M23K	Glacier View	22.20	49	P		P	12 06 15.4	-1.3
	baz=261,SNR=60							
F22K	John River	22.23	33	P		P	12 06 16.4	-0.4
	baz=242							
NEA2	Nenana	22.26	42	IAmb		IAmb	12 06 29.4	
	comp=Z,84nm,0.9s							
NEA2	Nenana	22.26	42	P		P	12 06 17.4	+0.2
	baz=253,SNR=26							
C21K	Knifeblade Rid	22.27	28	P		P	12 06 17.6	+0.3
	baz=235,SNR=86							
I23K	Minto, Yukon-K	22.32	40	P		P	12 06 18.3	+0.5
I23K	Minto, Yukon-K	22.32	40	P		P	12 06 17.6	-0.2
	baz=251,SNR=45							
GLI	Glacier Island	22.38	52	P		P	12 06 17.8	-0.7
GLI				IAmb		IAmb	12 06 19.8	
	comp=Z,90nm,0.8s							
GLI	Glacier Island	22.38	52	P		P	12 06 17.6	-0.9
	baz=264,SNR=17							
SCM	Sheep Creek Mo	22.40	49	IAmb		IAmb	12 06 31.1	
	comp=Z,148nm,0.9s							
SCM	Sheep Creek Mo	22.40	49	P		P	12 06 18.1	-0.7
	baz=261,SNR=69							
B21K	Ikpikpuk River	22.59	27	IAmb		IAmb	12 06 23.4	
	comp=Z,145nm,0.9s							
B21K	Ikpikpuk River	22.59	27	P		P	12 06 20.4	-0.3
	baz=234							
HIN	Hinchinbrook I	22.63	53	IAmb		IAmb	12 06 34.9	
	comp=Z,97nm,0.7s							
WRH	Wood River Hil	22.63	42	P		P	12 06 20.6	-0.6
G23K	Bananza Creek	22.64	36	IAmb		IAmb	12 06 24.1	
	comp=Z,102nm,0.9s							
G23K	Bananza Creek	22.64	36	P		P	12 06 20.9	-0.3
	baz=246,SNR=147							
Q23K	Middleton Isla	22.64	56	P		P	12 06 20.4	-0.8
	baz=268							
E22K	Anaktuvuk Pass	22.65	32	P		P	12 06 21.5	+0.2
E22K				IAmb		IAmb	12 06 23.2	
	comp=Z,100nm,0.9s							
E22K	Anaktuvuk Pass	22.65	32	P		P	12 06 21.1	-0.3
	baz=241,SNR=155							
FID	Port Fidalgo	22.67	52	IAmb		IAmb	12 06 38.5	
	comp=Z,87nm,0.9s							
D22K	Ayikyak River	22.75	30	IAmb		IAmb	12 06 33.8	
	comp=Z,100nm,1.1s							
D22K	Ayikyak River	22.75	30	P		P	12 06 22.0	-0.4
	baz=238							
COLD	Coldfoot	22.79	35	P		P	12 06 22.9	+0.2
COLD				IAmb		IAmb	12 06 25.6	
	comp=Z,41nm,0.8s							
COLD	Coldfoot	22.79	35	P		P	12 06 22.5	-0.3
	baz=245,SNR=82							
CCB	Clear Creek Bu	22.80	42	P		P	12 06 22.9	0.0
COLA	College	22.84	41	P		P	12 06 23.7	+0.4
COLA				IAmb		IAmb	12 06 35.3	
	comp=Z,65nm,0.7s							
COLA	College	22.84	41	P		P	12 06 24.0	+0.7
COLA	College	22.84	41	P		P	12 06 23.7	+0.4
COLA				pmax		pmax		
	comp=Z,65nm,0.7s							
COLA	College	22.84	41	P		P	12 06 23.1	-0.2
	baz=253							
M24K	Tolsona, Glenn	22.98	49	P		P	12

baz=256,SNR=12
H24K Noodor Dome 23.13 39 IAmb IAmb 12 06 31.3
comp=Z,80nm,0.8s
H24K Noodor Dome 23.13 39 P **P** **12 06 26.5 +0.1**
baz=251,SNR=128
A21K Barrow 23.14 23 P **P** **12 06 26.4 +0.1**
baz=228,SNR=7.3
IL31 23.21 42 P **P** **12 06 25.2 -1.9**
ILAR Eielson Array 23.21 42 P **P** **12 06 25.2 -1.9**
ILAR Eielson Array 23.21 42 P **P** **12 06 25.7 -1.4**
comp=Z,23nm,0.9s,baz=248,slow=8.4,SNR=94
ILAR PcP **PcP** **12 10 13.2 -0.8**
comp=Z,1.8nm,0.7s,baz=265,slow=3.3,SNR=4.4
ILAR LR LR 12 15 25.3
comp=Z,659nm,20.1s,baz=236,slow=36
comp=Z,23nm,0.9s
ILAR Eielson Array 23.21 42 P **P** **12 06 25.2 -1.9**
A22K Sinclair Lake 23.34 24 P **P** **12 06 28.0 -0.3**
baz=231
E23K Chandalar 23.35 33 P **P** **12 06 28.5 0.0**
baz=244,SNR=216
B22K Teshekpuk Lake 23.35 26 IAmb IAmb 12 06 31.4
comp=Z,63nm,0.8s
B22K Teshekpuk Lake 23.35 26 P **P** **12 06 27.8 -0.6**
baz=234,SNR=70
D23K Nanushuk River 23.42 31 IAmb IAmb 12 06 32.4
comp=Z,79nm,0.8s
D23K Nanushuk River 23.42 31 P **P** **12 06 28.8 -0.3**
baz=241
PAX Paxson 23.44 47 P **P** **12 06 28.8 -0.6**
PAX IAmb IAmb 12 06 30.7
comp=Z,77nm,0.9s
PAX Paxson 23.44 47 P **P** **12 06 28.8 -0.6**
PAX pmax pmax
comp=Z,77nm,0.9s
PAX Paxson 23.44 47 P **P** **12 06 28.8 -0.6**
baz=260,SNR=73
K24K Donnelly Dome 23.45 45 P **P** **12 06 27.7 -1.9**
baz=258
HARP HAARP 23.49 48 P **P** **12 06 30.0 +0.1**
baz=262,SNR=20
RAGM Ragged Mountai 23.53 53 P **P** **12 06 30.0 -0.3**
RAGM IAmb IAmb 12 06 55.3
comp=Z,96nm,0.8s
G24K Hadweenzic Riv 23.57 37 P **P** **12 06 30.8 +0.2**
G24K IAmb IAmb 12 06 33.0
comp=Z,82nm,0.8s
G24K Hadweenzic Riv 23.57 37 P **P** **12 06 30.4 -0.3**
baz=250
BMRM Bremner River 23.60 52 P **P** **12 06 30.7 -0.3**
BMRM IAmb IAmb 12 06 50.1
comp=Z,72nm,1.0s
BMRM Bremner River 23.60 52 P **P** **12 06 30.4 -0.6**
baz=266,SNR=31
TOLK Toolik Lake Re 23.62 32 P **P** **12 06 31.4 +0.3**
TOLK Toolik Lake Re 23.62 32 P **P** **12 06 30.8 -0.3**
baz=243,SNR=270
KAIM Kayak Island 23.64 54 P **P** **12 06 30.8 -0.5**
KAIM Kayak Island 23.64 54 P **P** **12 06 30.9 -0.4**
baz=268,SNR=11
N25K Chitina, Valde 23.66 50 P **P** **12 06 31.3 -0.3**
N25K IAmb IAmb 12 06 47.9
comp=Z,40nm,0.8s
N25K Chitina, Valde 23.66 50 P **P** **12 06 30.7 -0.9**
baz=264,SNR=38
F24K Squaw Lake 23.72 35 P **P** **12 06 31.7 -0.4**
F24K IAmb IAmb 12 06 45.8
comp=Z,54nm,1.1s
F24K Squaw Lake 23.72 35 P **P** **12 06 31.1 -0.9**
baz=248,SNR=58
HMT Hamilton 23.73 53 IAmb IAmb 12 06 33.9
comp=Z,83nm,0.8s
E24K Your Creek 23.74 34 P **P** **12 06 32.5 +0.2**
E24K IAmb IAmb 12 06 49.9
comp=Z,56nm,0.8s
E24K Your Creek 23.74 34 P **P** **12 06 31.6 -0.6**
baz=246
J25K Salcha River, 23.81 43 P **P** **12 06 30.8 -2.1**
J25K Salcha River, 23.81 43 P **P** **12 06 31.2 -1.7**
baz=257,SNR=16
JEM Erimo 23.83 258 P **P** **12 06 35.7 +2.5**
ERM Erimo 23.83 258 P **P** **12 06 33.9 +0.7**
ERM IAmb IAmb 12 06 55.1
comp=Z,59nm,0.9s
ERM Erimo 23.83 258 P **P** **12 06 35.5 +2.3**
ERM Erimo 23.83 258 P **P** **12 06 33.9 +0.7**
ERM pmax pmax
comp=Z,59nm,0.9s
RIDG Independent Ri 23.85 45 IAmb IAmb 12 06 47.0
comp=Z,52nm,0.7s
RIDG Independent Ri 23.85 45 P **P** **12 06 32.2 -1.1**
baz=259,SNR=28
C23K Itkillik River 23.88 29 P **P** **12 06 33.1 -0.3**
C23K IAmb IAmb 12 06 36.2
comp=Z,101nm,0.9s
C23K Itkillik River 23.88 29 P **P** **12 06 33.3 -0.1**
baz=239
PRP Porcupine Dome 23.97 41 P **P** **12 06 33.8 -0.7**
PRP IAmb IAmb 12 06 37.3
comp=Z,69nm,0.8s
PRP Porcupine Dome 23.97 41 P **P** **12 06 34.0 -0.5**
baz=255,SNR=67
SUCK Suckling Hills 23.97 54 IAmb IAmb 12 06 47.2
comp=Z,121nm,1.0s
BERG Berg Lake 24.01 53 IAmb IAmb 12 07 00.8
comp=Z,86nm,0.8s
GLB Gilahina Butte 24.02 51 IAmb IAmb 12 06 36.9
comp=Z,43nm,0.8s
GRNR Gornyy 24.04 283 ⇑*i*P **P** **12 06 36.1 +1.0**
GRNR pmax pmax
comp=Z,30nm,0.5s
GRNR MLR MLR
comp=Z,300nm,14.0s
H25L Birch Creek 24.06 39 P **P** **12 06 34.9 -0.3**
baz=253,SNR=168
D24K Happy Valley 24.10 31 IAmb IAmb 12 06 48.5
comp=Z,86nm,0.8s
D24K Happy Valley 24.10 31 P **P** **12 06 35.0 -0.5**
baz=243
G25K Bearman Lake 24.11 37 P **P** **12 06 35.3 -0.3**
baz=251
DOT Dot Lake 24.18 45 P **P** **12 06 35.3 -1.0**
DOT IAmb IAmb 12 06 45.8
comp=Z,43nm,0.7s
VRDI Verde Repeater 24.18 51 P **P** **12 06 36.0 -0.6**
MENT Mentasta 24.22 47 P **P** **12 06 36.5 -0.2**
MENT IAmb IAmb 12 06 48.4
comp=Z,63nm,0.7s
MENT Mentasta 24.22 47 P **P** **12 06 37.9 +1.1**
SCRK Sand Creek 24.27 45 P **P** **12 06 36.1 -1.2**
SCRK IAmb IAmb 12 06 46.7
comp=Z,62nm,0.7s
SCRK Sand Creek 24.27 45 P **P** **12 06 36.3 -1.0**
baz=260,SNR=72
FYU Fort Yukon 24.38 38 P **P** **12 06 38.4 +0.3**
C24K Franklin Bluff 24.40 30 IAmb IAmb 12 06 39.7
comp=Z,92nm,0.9s
C24K Franklin Bluff 24.40 30 P **P** **12 06 38.1 -0.2**
baz=242
L26K Log Cabin Wild 24.40 47 IAmb IAmb 12 06 51.0
comp=Z,55nm,0.7s
L26K Log Cabin Wild 24.40 47 P **P** **12 06 38.1 -0.3**
baz=262,SNR=81
M26K Nabesna, AK 24.49 49 P **P** **12 06 39.2 0.0**
M26K IAmb IAmb 12 06 59.5
comp=Z,54nm,1.1s
M26K Nabesna, AK 24.49 49 P **P** **12 06 38.7 -0.5**
baz=264,SNR=14
J26L Joseph Creek 24.55 43 IAmb IAmb 12 06 41.1
comp=Z,86nm,0.7s
J26L Joseph Creek 24.55 43 P **P** **12 06 38.4 -1.3**
baz=259,SNR=159
F25K Christian Rive 24.55 36 P **P** **12 06 39.6 -0.2**
F25K IAmb IAmb 12 06 43.5
comp=Z,79nm,0.9s
F25K Christian Rive 24.55 36 P **P** **12 06 39.5 -0.3**
baz=250,SNR=124
E25K Arctic Village 24.77 34 P **P** **12 06 41.6 0.0**
baz=249,SNR=236
I26K Coal Creek Min 24.88 42 IAmb IAmb 12 06 45.8
comp=Z,37nm,0.8s
I26K Coal Creek Min 24.88 42 P **P** **12 06 41.5 -1.1**
baz=258,SNR=48
MESA MESA 24.88 54 P **P** **12 06 43.3 +0.3**
MESA MESA 24.88 54 P **P** **12 06 42.2 -0.8**
baz=270,SNR=47
BMAR Burnt Mountain 24.89 36 P **P** **12 06 42.9 +0.1**

D25K Kavik River 24.96 32 IAmb IAmb 12 06 46.6
comp=Z,82nm,0.8s
D25K Kavik River 24.96 32 P **P** **12 06 43.1 -0.3**
baz=246
M27K Edge Creek, AK 25.00 49 P **P** **12 06 44.4 +0.4**
M27K IAmb IAmb 12 06 55.6
comp=Z,60nm,0.9s
M27K Edge Creek, AK 25.00 49 P **P** **12 06 44.1 +0.1**
baz=265,SNR=52
G26K Porcupine Rive 25.04 38 P **P** **12 06 44.0 -0.1**
baz=254,SNR=152
L27K Beaver Creek, 25.09 47 IAmb IAmb 12 07 03.5
comp=Z,63nm,1.0s
L27K Beaver Creek, 25.09 47 P **P** **12 06 44.6 -0.1**
baz=264,SNR=47
K27K Chicken 25.11 45 P **P** **12 06 44.6 -0.1**
K27K IAmb IAmb 12 06 55.3
comp=Z,54nm,0.8s
K27K Chicken 25.11 45 P **P** **12 06 44.2 -0.6**
baz=262
BCAR Beaver Creek A 25.11 47 P **P** **12 06 44.9 0.0**
F26K Sheenjek River 25.13 36 IAmb IAmb 12 06 48.7
comp=Z,117nm,0.9s
F26K Sheenjek River 25.13 36 P **P** **12 06 44.8 -0.1**
baz=252
I27K Kandik River 25.57 41 P **P** **12 06 47.8 -1.2**
baz=259,SNR=24
C26K Camden Bay 25.67 31 P **P** **12 06 49.5 -0.2**
baz=246,SNR=214
H27K Steamboat Moun 25.73 40 P **P** **12 06 49.7 -0.8**
baz=258,SNR=28
O28M Mount Upton 25.75 53 P **P** **12 06 50.2 -0.7**
baz=270,SNR=111
G27K Doyon Strip 25.81 38 IAmb IAmb 12 07 07.3
comp=Z,60nm,0.9s
G27K Doyon Strip 25.81 38 P **P** **12 06 50.6 -0.5**
baz=256
JTM Tenmabayashi 25.82 258 P **P** **12 06 51.3 -0.1**
JTM IAmb IAmb 12 07 11.2
comp=Z,69nm,0.9s
C27K Jago River 25.94 32 IAmb IAmb 12 06 56.1
comp=Z,83nm,0.9s
C27K Jago River 25.94 32 P **P** **12 06 51.8 -0.5**
baz=248,SNR=131
YUK8 Steele Glacier 25.96 51 P **P** **12 06 52.3 -0.5**
baz=270,SNR=40
YAK Yakutsk 26.18 310 P **P** **12 06 53.3 -1.2**
YAK Yakutsk 26.18 310 LR LR 12 16 50.8
comp=Z,382nm,19.4s,baz=88,slow=35
YAK Yakutsk 26.18 310 *e*P **P** **12 06 53.1 -1.4**
YAK *e*S **S** **12 11 20.1 -3.7**
YAK *e*SSS SSS 12 12 29.4
YAK pmax pmax
comp=E,48nm,0.9s
YAK pmax pmax
comp=Z,269nm,0.9s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=Z,128nm,0.9s
YAK pmax pmax
comp=E,42nm,1.3s
YAK pmax pmax
comp=N,17nm,0.7s
YAK smax smax
comp=E,46nm,1.5s
YAK smax smax
comp=N,176nm,2.1s
YAK MLR MLR
comp=Z,550nm,18.0s
YAK MLR MLR
comp=N,149nm,15.0s
YAK MLR MLR
comp=E,330nm,18.0s
E27K Coleen River 26.20 35 IAmb IAmb 12 06 57.0
comp=Z,70nm,0.8s
E27K Coleen River 26.20 35 P **P** **12 06 54.9 +0.3**
baz=254,SNR=112
I28M Miner Creek 26.23 42 IAmb IAmb 12 06 56.5
comp=Z,54nm,0.8s
I28M Miner Creek 26.23 42 P **P** **12 06 54.1 -0.9**
baz=261,SNR=77
DAWY Dawson 26.28 45 P **P** **12 06 55.5 +0.1**
DAWY IAmb IAmb 12 06 57.5
comp=Z,52nm,0.9s
DAWY Dawson 26.28 45 P **P** **12 06 54.9 -0.6**
baz=264,SNR=64
YUK4 Talbot Arm 26.50 51 P **P** **12 06 57.3 -0.3**
baz=270,SNR=25
O29M Mount Kennedy 26.56 54 P **P** **12 06 57.2 -0.9**
baz=273,SNR=14
M29M Somme Creek 26.60 49 P **P** **12 06 57.8 -0.5**
baz=268,SNR=33
YUK6 Outpost Mounta 26.64 52 P **P** **12 06 58.4 -0.6**
baz=272,SNR=11
D27M Malcolm River 26.73 33 IAmb IAmb 12 07 13.5
comp=Z,62nm,1.0s
D27M Malcolm River 26.73 33 P **P** **12 06 59.3 -0.1**
baz=252
L29M L29M 26.78 47 IAmb IAmb 12 07 12.9
comp=Z,98nm,1.5s
L29M L29M 26.78 47 P **P** **12 06 59.6 -0.3**
baz=267,SNR=24
J29N Klondike Camp 26.83 44 P **P** **12 07 00.5 0.0**
J29N IAmb IAmb 12 07 02.4
comp=Z,31nm,0.8s
J29N **PcP** **12 10 23.4 +1.3**
J29N Klondike Camp 26.83 44 P **P** **12 06 59.8 -0.6**
baz=265,SNR=27
I29M Ogilvie Camp, 26.89 42 P **P** **12 06 59.7 -1.2**
I29M IAmb IAmb 12 07 18.5
comp=Z,37nm,0.8s
I29M Ogilvie Camp, 26.89 42 P **P** **12 07 00.2 -0.7**
baz=263,SNR=37
H29M Whitestone 26.99 40 IAmb IAmb 12 07 23.7
comp=Z,29nm,0.8s
H29M Whitestone 26.99 40 P **P** **12 07 01.0 -0.8**
baz=261
E28M Babbage River 27.04 35 P **P** **12 07 01.7 -0.5**
baz=255,SNR=23
HYT Haines Junctio 27.07 52 IAmb IAmb 12 07 21.3
comp=Z,51nm,0.8s
HYT Haines Junctio 27.07 52 P **P** **12 07 02.6 0.0**
baz=272,SNR=23
K29M Barlow Dome 27.09 46 P **P** **12 07 03.3 +0.6**
baz=267,SNR=58
G29M Pine Creek 27.24 39 P **P** **12 07 04.4 +0.4**
G29M IAmb IAmb 12 07 06.4
comp=Z,99nm,0.8s
G29M Pine Creek 27.24 39 P **P** **12 07 04.5 +0.4**
baz=260,SNR=89
N30M Aishikik Lake 27.25 51 P **P** **12 07 04.1 -0.1**
N30M Aishikik Lake 27.25 51 P **P** **12 07 04.1 -0.1**
baz=272
M30M Minto, Yukon 27.38 48 P **P** **12 07 05.2 -0.1**
baz=270,SNR=6.7
P30M Million Dollar 27.38 54 P **P** **12 07 05.1 -0.3**
baz=274
KLR Kul'dur 27.40 282 LR LR 12 17 48.2
comp=Z,365nm,21.6s,baz=102,slow=36
KLR Kul'dur 27.40 282 *ce*P **P** **12 07 06.2 +0.7**
KLR pmax pmax
comp=Z,29nm,1.7s
D28M Stokes Point 27.51 34 P **P** **12 07 06.3 0.0**
baz=255
E29M Blow River 27.58 36 P **P** **12 07 07.5 +0.6**
E29M Blow River 27.58 36 P **P** **12 07 06.9 -0.1**
baz=257,SNR=30
J30M Hart River 27.65 44 P **P** **12 07 07.7 -0.1**
baz=266,SNR=22
I30M Mount Dempster 27.68 43 IAmb IAmb 12 07 26.4
comp=Z,52nm,0.8s
I30M Mount Dempster 27.68 43 P **P** **12 07 07.6 -0.5**
baz=265,SNR=32
O30N Mendenhall 27.76 52 P **P** **12 07 08.7 -0.1**
baz=274
MAYO Mayo, Yukon 27.80 46 IAmb IAmb 12 07 45.3
comp=Z,78nm,0.9s
MAYO Mayo, Yukon 27.80 46 P **P** **12 07 09.0 0.0**
baz=269
N31M Braeburn, Yuko 27.88 51 P **P** **12 07 09.7 0.0**
N31M Braeburn, Yuko 27.88 51 P **P** **12 07 09.6 -0.2**
baz=273
G30M tAoh Zraii Nji 27.95 39 IAmb IAmb 12 07 16.1
comp=Z,26nm,0.8s
G30M tAoh Zraii Nji 27.95 39 P **P** **12 07 10.0 -0.4**
baz=262

S31K Pelican 28.00 58 P **P** **12 07 10.5 -0.3**
baz=279
F30M Barrier River 28.21 38 P **P** **12 07 12.5 -0.1**
baz=261,SNR=36
SKAG Skagway 28.26 55 IAmb IAmb 12 08 06.1
comp=Z,29nm,0.8s
SKAG Skagway 28.26 55 P **P** **12 07 13.7 +0.6**
baz=277
TIXI Tiksi 28.28 331 P **P** **12 07 12.5 -0.7**
TIXI Tiksi 28.28 331 LR LR 12 18 13.9
comp=Z,376nm,21.4s,baz=176,slow=36
TIXI Tiksi 28.28 331 *i*P **P** **12 07 12.8 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
WHY Whitehorse 28.36 53 P **P** **12 07 12.7 -1.6**
M31M Drury Creek, Y 28.50 49 P **P** **12 07 15.1 -0.3**
M31M Drury Creek, Y 28.50 49 P **P** **12 07 15.0 -0.3**
baz=272,SNR=8.2
ZEA Zeya 28.56 293 *e*P **P** **12 07 15.7 -0.2**
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA MLR MLR
comp=E,200nm,15.0s
H31M Peel River 28.58 42 IAmb IAmb 12 07 36.3
comp=Z,33nm,1.1s
H31M Peel River 28.58 42 P **P** **12 07 15.4 -0.5**
baz=266,SNR=23
SIT Sitka 28.64 60 P **P** **12 07 16.7 +0.2**
SIT IAmb IAmb 12 07 19.5
comp=Z,42nm,0.9s
SIT Sitka 28.64 60 P **P** **12 07 18.7 +2.2**
SIT Sitka 28.64 60 P **P** **12 07 16.7 +0.2**
SIT pmax pmax
comp=Z,42nm,0.9s
SIT Sitka 28.64 60 P **P** **12 07 15.8 -0.8**
baz=281,SNR=9.3
R32K Eaglecrest 28.85 57 P **P** **12 07 17.3 -1.1**
baz=280
JIS Juneau Island 28.92 57 P **P** **12 07 20.8 +1.8**
S32K Killisnoo 28.96 59 P **P** **12 07 18.8 -0.5**
baz=281
F31M Tsiigehtchic 28.97 38 P **P** **12 07 18.6 -0.7**
F31M Tsiigehtchic 28.97 38 P **P** **12 07 18.6 -0.7**
baz=264,SNR=36
FARO Faro, Yukon 28.99 49 P **P** **12 07 20.1 +0.4**
FARO Faro, Yukon 28.99 49 P **P** **12 07 19.2 -0.4**
baz=273,SNR=22
P32M Atlin 29.06 55 P **P** **12 07 20.8 +0.4**
P32M IAmb IAmb 12 07 23.1
comp=Z,32nm,0.8s
P32M Atlin 29.06 55 P **P** **12 07 20.2 -0.1**
baz=278,SNR=24
INK Inuvik 29.16 37 P **P** **12 07 20.8 -0.2**
baz=262,SNR=29
N32M Quiet Lake 29.20 51 IAmb IAmb 12 07 34.2
comp=Z,30nm,0.8s
N32M Quiet Lake 29.20 51 P **P** **12 07 21.4 -0.1**
baz=276
JSD Sado 29.24 256 P **P** **12 07 23.7 +1.7**
P33M Teslin, Yukon 29.43 53 P **P** **12 07 24.0 +0.4**
P33M IAmb IAmb 12 07 26.4
comp=Z,42nm,0.9s
P33M Teslin, Yukon 29.43 53 P **P** **12 07 24.1 +0.5**
baz=277,SNR=47
USA0B Ussuriysk Arra 29.51 272 P **P** **12 07 24.7 +0.3**
USA0B Ussuriysk Arra 29.51 272 *i*P **P** **12 07 25.2 +0.8**
USRK Ussuriysk Ar. 29.51 272 P **P** **12 07 24.7 +0.3**
comp=Z,13nm,0.7s,baz=57,slow=8.2,SNR=24
USRK PcP **PcP** **12 10 28.8 -0.1**
comp=Z,5.7nm,0.8s,baz=95,slow=2.7,SNR=6.4
USRK LR LR 12 18 06.6
comp=Z,509nm,21.9s,baz=42,slow=34
comp=Z,13nm,0.7s
HEH HeiHe 29.61 286 *e*P **P** **12 07 24.0 -1.2**
HEH PcP **PcP** **12 10 29.0 0.0**
HEH pmax pmax
comp=Z,11nm,0.7s
HEH LR LR
comp=Z,580nm,16.4s
HEH LR LR
comp=Z,380nm,16.8s
HEH LR LR
comp=Z,800nm,17.8s
Q32M Nakina River 29.89 56 IAmb IAmb 12 07 39.9
comp=Z,48nm,0.8s
Q32M Nakina River 29.89 56 P **P** **12 07 28.2 +0.4**
baz=280
T33K Petersburg 29.96 60 P **P** **12 07 29.6 +1.4**
baz=283
U33K Whale Pass 30.04 61 P **P** **12 07 29.8 +0.9**
baz=284
VLA Vladivostok 30.14 270 *i*P **P** **12 07 30.2 +0.3**
VLA pmax pmax
comp=Z,9.0nm,0.9s
CRAG Craig 30.20 63 P **P** **12 07 32.5 +2.1**
CRAG Craig 30.20 63 P **P** **12 07 31.6 +1.2**
baz=285
MJAR Matsushiro Arr 30.26 254 P **P** **12 07 32.9 +1.8**
comp=Z,2.0nm,0.6s,baz=44,slow=9.0,SNR=6.6
MJAR LR LR 12 17 50.8
comp=Z,422nm,21.6s,baz=58,slow=32
comp=Z,2.0nm,0.6s
MAJO Matsushiro 30.26 254 P **P** **12 07 32.0 +0.9**
MAJO IAmb IAmb 12 08 19.7
comp=Z,23nm,0.8s
MAJO Matsushiro 30.26 254 P **P** **12 07 32.0 +0.9**
MAJO pmax pmax
comp=Z,23nm,0.8s
MAJO Matsushiro 30.26 254 P **P** **12 07 32.9 +1.8**
MJB9 Matsu-Tunnel 30.26 254 IAmb IAmb 12 08 20.7
comp=Z,23nm,0.8s
WRAK Wrangell Islan 30.38 61 P **P** **12 07 32.1 +0.2**
WRAK IAmb IAmb 12 07 37.3
comp=Z,28nm,0.9s
WRAK Wrangell Islan 30.38 61 P **P** **12 07 33.2 +1.2**
baz=284
R33M Jennings River 30.48 55 IAmb IAmb 12 07 36.3
comp=Z,55nm,0.9s
R33M Jennings River 30.48 55 P **P** **12 07 33.8 +0.9**
baz=280,SNR=63
S34M Telegraph Cree 30.68 57 P **P** **12 07 35.4 +0.8**
S34M IAmb IAmb 12 07 46.2
comp=Z,22nm,0.7s
S34M Telegraph Cree 30.68 57 P **P** **12 07 35.0 +0.4**
baz=282,SNR=24
MDJ Mudanjiang 30.78 274 P **P** **12 07 35.4 -0.2**
MDJ PcP **PcP** **12 10 32.6 +0.4**
MDJ S **S** **12 12 42.3 +5.9**
MDJ sS sS 12 12 56.0 +4.4
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ LR LR
comp=Z,320nm,12.8s
MDJ LR LR
comp=Z,520nm,14.8s
MDJ LR LR
comp=Z,940nm,20.3s
MDJ Mudanjiang 30.78 274 P **P** **12 07 35.7 +0.1**
MDJ pP **pP** **12 07 44.7 -0.5**
MSHR Mys Shultsa 30.88 270 *i*P **P** **12 07 37.4 +0.9**
MSHR pmax pmax
comp=Z,24nm,1.1s
PSTR Posyet 31.06 270 *i*P **P** **12 07 38.9 +0.8**
V35K Ketchikan 31.07 62 P **P** **12 07 38.0 0.0**
V35K Ketchikan 31.07 62 P **P** **12 07 38.8 +0.9**
baz=286
DLBC Dease Lake 31.14 56 IAmb IAmb 12 07 44.2
comp=Z,24nm,0.8s
DLBC Dease Lake 31.14 56 LR LR 12 19 52.7
comp=Z,885nm,21.2s,baz=282,slow=36
DLBC Dease Lake 31.14 56 P **P** **12 07 39.6 +0.8**
baz=282,SNR=25
T35M Bob Quinn 31.36 59 IAmb IAmb 12 07 44.6
comp=Z,51nm,0.8s
T35M Bob Quinn 31.36 59 P **P** **12 07 41.8 +1.1**
baz=285,SNR=38
JGF Kuroka 31.40 254 P **P** **12 07 41.4 +0.2**
JGF IAmb IAmb 12 07 44.5
comp=Z,28nm,1.1s
JGF Kuroka 31.40 254 P **P** **12 07 43.6 +2.4**
WTLY Watson Lake, Y 31.43 53 P **P** **12 07 41.6 +0.4**
WTLY Watson Lake, Y 31.43 53 P **P** **12 07 41.8 +0.6**
baz=280,SNR=16
BNX BinXian 31.57 278 ⇑P **P** **12 07 42.0 -0.5**

BNX pmax pmax
comp=Z,56nm,0.7s
JHJ Hachijo jima 2 31.74 248 LR LR 12 17 57.4
comp=Z,384nm,21.8s,baz=74,slow=31
A36M Sachs Harbour 32.41 30 P **P 12 07 49.8 +0.2**
A36M Sachs Harbour 32.41 30 P **P 12 07 50.5 +0.9**
baz=264,SNR=115
C36M Paulatuk 32.66 35 P **P 12 07 51.7 -0.1**
C36M IAmb IAmb 12 07 53.7
comp=Z,57nm,0.9s
C36M Paulatuk 32.66 35 P **P 12 07 51.6 -0.1**
baz=270,SNR=55
H11N2 WAKE ISLAND Hy 32.84 194 T T 12 42 37.5
baz=9.4,slow=76,SNR=511
H11N3 WAKE ISLAND Hy 32.85 194 T T 12 42 32.5
baz=9.4,slow=76,SNR=1088
H11N1 WAKE ISLAND Hy 32.85 194 T T 12 42 39.9
baz=9.4,slow=76,SNR=973
WRGLY Wrigley 33.40 46 P **P 12 07 59.3 +0.9**
WRGLY IAmb IAmb 12 08 21.9
comp=Z,36nm,0.9s
WRGLY Wrigley 33.40 46 P **P 12 07 58.9 +0.6**
baz=280,SNR=23
TOAD Toad River Com 33.48 54 P **P 12 08 00.0 +0.8**
baz=285,SNR=17
KOTAN Kotaneelee Air 33.75 52 P **P 12 08 02.0 +0.5**
baz=284,SNR=32
CN2 Changchun 33.75 276 P **P 12 08 02.1 +0.5**
CN2 sP sP 12 08 15.6 +0.2
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,500nm,19.0s
H11S1 WAKE ISLAND Hy 34.06 194 T T 12 44 10.8
baz=9.0,slow=76,SNR=2042
H11S3 WAKE ISLAND Hy 34.08 194 T T 12 44 16.3
baz=9.0,slow=76,SNR=1988
H11S2 WAKE ISLAND Hy 34.08 194 T T 12 44 21.9
baz=9.0,slow=76,SNR=1013
BBB Bella Bella 34.08 67 LR LR 12 20 27.5
comp=Z,284nm,20.2s,baz=257,slow=34
HIA Hailar 34.56 288 *i P* **P 12 08 08.6 0.0**
HIA pmax pmax
comp=Z,12nm,0.9s
JCJ Chichijima 35.07 238 LR LR 12 19 33.6
comp=Z,221nm,21.7s,baz=54,slow=31
KSRS Korea Array 35.91 265 P **P 12 08 22.8 +2.5**
comp=Z,14nm,0.7s,baz=54,slow=8.5,SNR=62
KSRS PcP **PcP 12 10 47.0 +0.3**
comp=Z,0.6nm,0.5s,baz=16,slow=2.0,SNR=4.2
KSRS LR LR 12 21 50.4
comp=Z,267nm,21.1s,baz=55,slow=34
comp=Z,14nm,0.7s
KS19 Wonju Array Si 35.92 265 P **P 12 08 22.0 +1.6**
KS19 IAmb IAmb 12 08 23.8
comp=Z,26nm,1.0s
KSAR Wonju Array Be 35.95 265 P **P 12 08 21.8 +1.2**
KSAR Wonju Array Be 35.95 265 P **P 12 08 21.8 +1.2**
INCN Inchon 36.69 266 P **P 12 08 28.4 +1.4**
INCN IAmb IAmb 12 08 30.0
comp=Z,36nm,0.8s
INCN Inchon 36.69 266 P **P 12 08 28.4 +1.4**
INCN pmax pmax
comp=Z,36nm,0.8s
CIT Chita 36.92 295 *e*P **P 12 08 28.6 -0.3**
CIT *e* 12 08 37.0
CIT *e* 12 08 42.6
CIT *e* 12 09 59.0
CIT pmax pmax
comp=Z,82nm,0.9s
TJN Taejon 36.95 264 P **P 12 08 30.1 +0.9**
TJN Taejon 36.95 264 P **P 12 08 30.1 +0.9**
TJN pmax pmax
comp=Z,120nm,0.8s
JNU Nakatsue 36.98 257 P **P 12 08 30.3 +0.7**
JNU IAmb IAmb 12 08 32.9
comp=Z,32nm,0.9s
JNU Nakatsue 36.98 257 LR LR 12 22 40.3
comp=Z,443nm,21.5s,baz=76,slow=34
YKA Yellowknife Ar 37.52 46 P **P 12 08 33.6 -0.1**
comp=Z,14nm,0.8s,baz=288,slow=8.6,SNR=112
YKA PcP **PcP 12 10 50.7 -0.4**
comp=Z,3.3nm,0.7s,baz=290,slow=3.9,SNR=5.7
YKA ScP **ScP 12 14 35.8 +0.2**
comp=Z,1.2nm,1.0s,baz=286,slow=3.4,SNR=4.5
YKA LR LR 12 25 19.1
comp=Z,523nm,19.1s,baz=280,slow=38
comp=Z,14nm,0.8s
DL2 Dalian 38.90 272 P **P 12 08 46.6 +1.0**
DL2 S **S 12 14 43.4 +2.0**
DL2 pmax pmax
comp=Z,50nm,0.8s
DL2 pmax pmax
comp=Z,200nm,8.4s
DL2 LR LR
comp=Z,390nm,17.1s
DL2 LR LR
comp=Z,350nm,16.3s
DL2 LR LR
comp=Z,560nm,16.5s
XLT XiLinHaoTe 39.41 282 *e*P **P 12 08 50.5 +0.5**
XLT pP pP 12 08 59.8 -0.1
XLT sP sP 12 09 05.6 +1.7
XLT PcP **PcP 12 10 58.1 +0.6**
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,170nm,5.5s
XLT LR LR
comp=Z,390nm,20.0s
XLT LR LR
comp=Z,410nm,16.2s
POHA Pohakuloa 39.46 134 P **P 12 08 52.8 +2.1**
POHA pP **pP 12 09 02.1 +1.6**
LON Longmire 40.22 72 P **P 12 08 57.0 +0.4**
LON Longmire 40.22 72 P **P 12 08 57.0 +0.4**
LON pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 40.73 24 P **P 12 09 00.4 0.0**
RES Resolute Bay 40.73 24 LR LR 12 28 11.2
comp=Z,112nm,19.1s,baz=207,slow=40
RES Resolute Bay 40.73 24 P **P 12 09 00.4 0.0**
RES pmax pmax
comp=Z,39nm,1.5s
B08A Colville Reser 40.83 68 P **P 12 09 00.5 -1.1**
DBO Dodson Butte 41.35 77 P **P 12 09 05.5 -0.5**
I04A Tendick Farm, 41.47 76 P **P 12 09 06.0 -0.9**
E07A Sunnyside 41.47 71 P **P 12 09 05.9 -0.9**
BJI Beijing 41.58 277 P **P 12 09 10.4 +2.6**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI LR LR
comp=Z,180nm,21.0s
BJI LR LR
comp=Z,110nm,21.3s
BJI LR LR
comp=Z,190nm,19.9s
BJT Baijiatuau 41.60 277 P **P 12 09 08.0 +0.1**
BJT Baijiatuau 41.60 277 P **P 12 09 08.0 +0.1**
BJT pmax pmax
comp=Z,10.0nm,0.9s
C09A Chrisman Ranch 41.73 68 P **P 12 09 08.2 -0.8**
D08A Wollman Farm, 41.74 70 P **P 12 09 08.1 -1.0**
F07A Phinny Hill Vi 41.78 72 P **P 12 09 08.4 -1.0**
I05D Terrebonne, OR 41.80 74 P **P 12 09 09.5 -0.1**
J04A Umpqua Nationa 41.96 76 P **P 12 09 10.1 -1.1**
E08A Dider Farm, El 41.97 70 P **P 12 09 09.5 -1.3**
NEW Newport 42.14 67 P **P 12 09 11.5 -0.9**
NEW Newport 42.14 67 LR LR 12 26 52.1
comp=Z,185nm,18.3s,baz=303,slow=36
NEW Newport 42.14 67 P **P 12 09 11.5 -0.9**
NEW pmax pmax
comp=Z,8.0nm,0.8s
PINE Pine Mountain 42.35 75 P **P 12 09 13.7 -0.5**
L04D Klamath Falls 42.43 78 P **P 12 09 14.5 -0.4**
YBH Yreka Blue Hor 42.47 78 P **P 12 09 15.2 0.0**
YBH Yreka Blue Hor 42.47 78 LR LR 12 23 37.2
comp=Z,586nm,21.6s,baz=316,slow=32
YBH Yreka Blue Hor 42.47 78 P **P 12 09 15.2 0.0**
YBH pmax pmax
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 42.49 70 P **P 12 09 14.5 -0.7**

K04D Chiloquin, OR 42.53 77 P **P 12 09 14.5 -1.2**
K04D IAmb IAmb 12 09 55.7
comp=Z,21nm,0.7s
ULN Ulaanbaatar 42.60 293 P **P 12 09 15.2 -1.0**
ULN Ulaanbaatar 42.60 293 *i P* **P 12 09 16.6 +0.4**
ULN pmax pmax
comp=Z,16nm,1.1s
ULN Ulaanbaatar 42.60 293 P **P 12 09 16.6 +0.4**
G08A Pilot Rock 42.68 72 P **P 12 09 16.1 -0.7**
SONM Songino Array 42.99 293 P **P 12 09 20.0 +0.7**
SONM Songino Array 42.99 293 P **P 12 09 20.2 +0.8**
comp=Z,15nm,0.5s,baz=65,slow=7.8,SNR=163
SONM PcP **PcP 12 11 09.0 -0.1**
comp=Z,5.0nm,0.8s,baz=63,slow=2.7,SNR=3.7
SONM ScP **ScP 12 14 57.5 +0.1**
comp=Z,1.5nm,1.1s,baz=104,slow=1.8,SNR=3.9
SONM LR LR 12 27 30.0
comp=Z,541nm,22.0s,baz=56,slow=36
comp=Z,15nm,0.5s
I07A Izee 43.04 74 P **P 12 09 19.3 -0.5**
JOW Kunigami 43.08 253 LR LR 12 24 28.1
comp=Z,164nm,21.9s,baz=132,slow=32
TIA Tai'an 43.38 272 P **P 12 09 23.6 +1.1**
TIA pP **pP 12 09 33.0 +0.7**
TIA sP **sP 12 09 36.2 -0.2**
TIA S **S 12 15 42.9 -5.0**
TIA ScS **ScS 12 19 21.1 +1.7**
TIA pmax pmax
comp=Z,23nm,0.9s
TIA pmax pmax
comp=Z,170nm,3.5s
TIA LR LR
comp=Z,290nm,21.3s
TIA LR LR
comp=Z,370nm,17.2s
TIA LR LR
comp=Z,380nm,21.3s
ZAK Zakamensk 43.39 298 *e*P **P 12 09 22.7 +0.2**
ZAK *e* 12 11 08.6
ZAK pmax pmax
comp=Z,11nm,1.6s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
HATC Hat Creek Radi 43.77 79 IAmb IAmb 12 10 23.7
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 43.91 281 *e*P **P 12 09 28.3 +1.5**
HHC S **S 12 15 52.0 -3.8**
HHC sS sS 12 16 09.6 -1.9
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,170nm,5.3s
HHC LR LR
comp=Z,320nm,15.3s
HHC LR LR
comp=Z,270nm,14.5s
HHC LR LR
comp=Z,310nm,15.4s
MOY Mondy 43.96 300 *e*P **P 12 09 27.3 +0.2**
MOY pmax pmax
comp=Z,18nm,1.3s
J08A Circle Bar Ran 44.06 74 P **P 12 09 27.0 -1.1**
HNS HongShan 44.11 275 ⇓P **P 12 09 30.1 +1.8**
HNS pP **pP 12 09 39.3 +1.2**
HNS sP **sP 12 09 48.0 +5.8**
HNS *e*S **S 12 16 01.3 +2.8**
HNS pmax pmax
comp=Z,29nm,1.3s
HNS pmax pmax
comp=Z,200nm,4.3s
HNS LR LR
comp=Z,120nm,13.9s
HNS LR LR
comp=Z,420nm,22.3s
HNS LR LR
comp=Z,460nm,19.7s
GDXM Geysers 44.18 82 P **P 12 09 28.9 -0.1**
GDXM IAmb IAmb 12 10 06.1
comp=Z,51nm,1.8s
WVOR Wild Horse Val 44.51 75 P **P 12 09 30.8 -0.8**
WVOR Wild Horse Val 44.51 75 P **P 12 09 30.8 -0.8**
WVOR pmax pmax
comp=Z,9.0nm,1.0s
BTO Baotou 44.99 282 *e*P **P 12 09 37.4 +2.0**
BTO pP **pP 12 09 46.5 +1.1**
BTO sP **sP 12 09 51.0 +1.6**
BTO PP **PcP 12 11 18.1 +2.0**
BTO S **S 12 16 14.5 +3.0**
BTO pmax pmax
comp=Z,120nm,0.8s
BTO LR LR
comp=Z,340nm,4.8s
BTO LR LR
comp=Z,530nm,6.7s
BTO LR LR
comp=Z,850nm,19.4s
NJ2 Nanjing 45.07 266 ⇑P **P 12 09 37.6 +1.6**
NJ2 pP **pP 12 09 46.8 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
OVMT Ovando 45.14 66 P **P 12 09 35.1 -1.5**
AFDM Forest Hills D 45.21 81 P **P 12 09 36.1 -1.0**
BPMT Black Pine Rid 45.23 67 P **P 12 09 36.3 -1.2**
GUAM Guam 45.36 224 LR LR 12 27 25.4
comp=Z,245nm,18.8s,baz=68,slow=34
LYMT Lyon Mountain 45.59 66 P **P 12 09 39.3 -1.0**
MFID Camas Ranch 45.60 72 P **P 12 09 39.6 -0.6**
PNTR Pine Nut 45.96 79 P **P 12 09 43.3 0.0**
PNTR IAmb IAmb 12 09 53.8
comp=Z,31nm,0.8s
CMB Columbia Colle 46.14 81 P **P 12 09 43.8 -0.7**
CMB Columbia Colle 46.14 81 P **P 12 09 43.8 -0.7**
CMB pmax pmax
comp=Z,7.0nm,0.9s
DLMT Dillon 46.34 68 P **P 12 09 45.3 -0.8**
HLID Hailey 46.34 71 P **P 12 09 45.2 -1.0**
EGMT Eagleton 46.41 64 P **P 12 09 45.6 -1.0**
EGMT IAmb IAmb 12 09 56.2
comp=Z,18nm,0.6s
WAKR Walker 46.42 80 P **P 12 09 46.5 -0.4**
BBGB Big Mountain B 46.67 83 P **P 12 09 48.4 -0.3**
BBGB IAmb IAmb 12 10 07.7
comp=Z,32nm,0.8s
BOZ Bozeman (W) 46.75 67 P **P 12 09 48.4 -1.0**
BOZ IAmb IAmb 12 09 59.0
comp=Z,14nm,0.8s
BOZ Bozeman (W) 46.75 67 P **P 12 09 48.4 -1.0**
BOZ pmax pmax
comp=Z,14nm,0.8s
FFC Flin Flon 46.78 52 P **P 12 09 48.6 -0.6**
FFC Flin Flon 46.78 52 P **P 12 09 48.6 -0.6**
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC Flin Flon 46.78 52 P **P 12 09 48.6 -0.6**
FFC pP **pP 12 09 58.3 -0.9**
RYN Ryan 46.90 79 P **P 12 09 49.7 -0.9**
LHV Little Huntoon 47.15 80 P **P 12 09 52.1 -0.2**
NVAR Mina Array Bea 47.16 79 P **P 12 09 51.8 -0.9**
NVAR Mina Array Bea 47.16 79 P **P 12 09 52.0 -0.6**
comp=Z,7.4nm,0.7s,baz=294,slow=7.2,SNR=36
NVAR LR LR 12 26 40.2
comp=Z,436nm,21.6s,baz=300,slow=32
comp=Z,7.4nm,0.7s
NV11 Mina Array Sit 47.25 79 P **P 12 09 53.1 -0.2**
LYN LuoYang 47.34 274 P **P 12 09 55.7 +1.9**
LYN S **S 12 16 46.4 +1.3**
LYN pmax pmax
comp=Z,28nm,0.8s
LYN LR LR
comp=Z,510nm,20.3s
LYN LR LR
comp=Z,340nm,21.3s
LYN LR LR
comp=Z,650nm,17.2s
YHL Hebgen Lake 47.45 68 P **P 12 09 53.9 -1.0**
YHL IAmb IAmb 12 09 55.2
comp=Z,18nm,1.0s
YHB Horse Butte 47.50 68 IAmb IAmb 12 09 55.4
comp=Z,21nm,0.9s
NEEM North Greenlan 47.69 12 *i P* **P 12 09 55.6 -0.7**
NEEM IAmb IAmb 12 10 06.8
comp=Z,78nm,1.0s
YNR Norris Junctio 47.82 68 P **P 12 09 56.7 -1.1**
YFT Old Faithful 47.88 68 IAmb IAmb 12 10 09.2
comp=Z,15nm,0.7s

YNE Yellowstone No 48.03 67 P **P 12 09 58.4 -1.0**
DSP Deep Springs 48.04 80 P **P 12 09 59.4 +0.2**
H17A Grant Village 48.07 68 P **P 12 10 00.3 +0.6**
MOOW Moose Ponds 48.36 69 P **P 12 10 00.8 -1.1**
RLMT Red Lodge 48.38 67 P **P 12 10 02.1 0.0**
RLMT IAmb IAmb 12 10 12.9
comp=Z,12nm,0.8s
HVU Hansel Valley 48.38 72 P **P 12 10 01.1 -0.9**
HVU Hansel Valley 48.38 72 P **P 12 10 01.1 -0.9**
HVU pmax pmax
comp=Z,8.0nm,0.7s
TPAW Teton Pass 48.40 69 P **P 12 10 01.1 -1.2**
GMN Gold Mountain 48.52 80 P **P 12 10 03.0 -0.2**
LOHW Long Hollow 48.52 69 P **P 12 10 02.5 -0.7**
BCW Bitter Crk WRg 48.74 84 IAmb IAmb 12 10 07.1
comp=Z,17nm,0.8s
ISA Isabella, Lake 48.84 82 P **P 12 10 04.2 -1.4**
ISA Isabella, Lake 48.84 82 P **P 12 10 04.2 -1.4**
ISA pmax pmax
comp=Z,12nm,1.4s
R11B Troy Canyon, C 48.86 77 P **P 12 10 04.8 -1.0**
WHN Wuhan 48.90 269 ⇑P **P 12 10 07.0 +1.1**
WHN pP **pP 12 10 15.0 -0.8**
WHN pmax pmax
comp=Z,120nm,0.8s
LAO LASA Array 49.15 63 IAmb IAmb 12 10 18.2
comp=Z,25nm,0.6s
DGMT Dagmar 49.19 60 P **P 12 10 07.5 -0.5**
HWUT Hardware Ranch 49.20 72 P **P 12 10 07.7 -0.7**
S11A Rachel 49.21 78 IAmb IAmb 12 10 24.5
comp=Z,25nm,1.2s
WCT Wildcat Mounta 49.23 80 P **P 12 10 07.5 -1.0**
TPNV Topopah Spring 49.36 79 P **P 12 10 09.0 -0.6**
TPNV IAmb IAmb 12 10 19.8
comp=Z,16nm,0.8s
TPNV Topopah Spring 49.36 79 P **P 12 10 09.0 -0.6**
TPNV pmax pmax
comp=Z,16nm,0.8s
SPA0 Spitsbergen Ar 49.46 354 *e*P **P 12 10 08.5 -1.2**
SPA0 IAmb IAmb 12 10 10.2
comp=Z,168nm,1.6s
SPITS Spitsbergen Ar 49.46 354 P **P 12 10 09.0 -0.6**
comp=Z,23nm,0.6s,baz=58,slow=7.9,SNR=85
comp=Z,23nm,0.6s
SPITS Spitsbergen Ar 49.46 354 P **P 12 10 08.7 -0.9**
SPITS pmax pmax
comp=Z,62nm,0.7s
SPB2 Spitsbergen Ar 49.46 354 P **P 12 10 09.3 -0.4**
TCUT Toone Canyon 49.59 72 P **P 12 10 11.3 -0.1**
GWY Greenwater Val 49.60 80 IAmb IAmb 12 10 21.5
comp=Z,12nm,0.7s
TCU Taichung 49.63 257 P **P 12 10 11.4 -0.2**
TCU pmax pmax
comp=Z,10.0nm,0.8s
PDAR Pinedale Array 49.65 69 P **P 12 10 10.4 -1.4**
PDAR Pinedale Array 49.65 69 P **P 12 10 10.6 -1.3**
comp=Z,8.3nm,0.8s,baz=305,slow=3.8,SNR=73
PDAR LR LR 12 32 09.6
comp=Z,120nm,18.1s,baz=341,slow=37
comp=Z,8.3nm,0.8s
PSUT Pine Spring 49.78 76 IAmb IAmb 12 10 22.8
comp=Z,12nm,0.7s
PRN Pahroc Range 49.79 78 P **P 12 10 12.4 -0.5**
PRN IAmb IAmb 12 10 43.6
comp=Z,13nm,0.9s
XAN Xi'an 49.86 276 ⇓P **P 12 10 13.7 +0.4**
XAN pP pP 12 10 21.0 -2.3
XAN S **S 12 17 17.2 -3.6**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN pmax pmax
comp=Z,180nm,7.2s
XAN LR LR
comp=Z,440nm,19.0s
XAN LR LR
comp=Z,570nm,20.6s
XAN LR LR
comp=Z,700nm,22.0s
PASC Pasadena Art C 50.01 83 P **P 12 10 14.2 -0.2**
GSC Goldstone, Bar 50.10 81 IAmb IAmb 12 10 25.4
comp=Z,16nm,0.7s
MPU Maple Canyon 50.16 73 P **P 12 10 15.0 -0.7**
HOPEN Hopen 50.37 351 *e*P **P 12 10 16.4 -0.1**
HOPEN IAmb IAmb 12 10 17.1
comp=Z,100nm,1.4s
UPNV Upernavik 50.58 18 *i P* **P 12 10 18.2 +0.1**
UPNV IAmb IAmb 12 10 28.4
comp=Z,23nm,1.0s
HSPB Hornsund (broa 50.64 354 *e*P **P 12 10 18.0 -0.5**
KNMB Chin-men Tao 50.78 260 P **P 12 10 20.1 -0.2**
ELS Elsinore Mount 50.83 83 P **P 12 10 21.4 +0.8**
ELS IAmb IAmb 12 10 42.1
comp=Z,31nm,1.6s
ZALV Zalesovo Beam 50.84 310 P **P 12 10 19.8 -0.6**
ZALV PcP **PcP 12 11 37.2 +0.6**
ZALV Zalesovo Beam 50.84 310 P **P 12 10 19.4 -0.9**
comp=Z,5.9nm,0.8s,baz=52,slow=6.4,SNR=14
ZALV PcP **PcP 12 11 36.7 +0.1**
comp=Z,6.9nm,0.8s,baz=28,slow=3.4,SNR=4.6
ZALV LR LR 12 34 00.1
comp=Z,259nm,18.2s,baz=50,slow=38
comp=Z,5.9nm,0.8s
ZALV Zalesovo Beam 50.84 310 *i P* **P 12 10 19.3 -1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 51.22 4 *i P* **P 12 10 22.0 -0.9**
SRU San Rafael Swe 51.40 73 P **P 12 10 25.1 +0.1**
SRU San Rafael Swe 51.40 73 P **P 12 10 25.1 +0.1**
SRU pmax pmax
comp=Z,12nm,0.8s
PKCU Pink Cliffs 51.41 76 P **P 12 10 25.0 -0.3**
PKCU IAmb IAmb 12 12 16.2
comp=Z,46nm,1.9s
PFO Pinyon Flats O 51.44 83 LR LR 12 28 07.8
comp=Z,612nm,21.7s,baz=300,slow=31
LZH Lanzhou 51.60 282 P **P 12 10 28.3 +1.8**
LZH pP pP 12 10 36.6 -0.1
LZH sP sP 12 10 43.9 +3.3
LZH S **S 12 17 45.1 0.0**
LZH pmax pmax
comp=Z,41nm,1.1s
LZH LR LR
comp=Z,470nm,14.8s
LZH LR LR
comp=Z,410nm,16.1s
LZH LR LR
comp=Z,640nm,19.6s
GTA Gaotai 51.83 288 *e*P **P 12 10 29.3 +1.1**
GTA pP pP 12 10 38.0 -0.3
GTA S **S 12 17 46.7 -1.4**
GTA pmax pmax
comp=Z,53nm,0.7s
GTA LR LR
comp=Z,210nm,16.4s
GTA LR LR
comp=Z,350nm,15.6s
GTA LR LR
comp=Z,480nm,19.3s
HMU Henry Mountain 52.03 75 IAmb IAmb 12 11 12.1
comp=Z,14nm,0.8s
O20A White River Ci 52.08 71 P **P 12 10 29.2 -0.9**
CBX Cerro Bola 52.20 84 P **P 12 10 31.4 +0.4**
CBX IAmb IAmb 12 10 32.7
comp=Z,23nm,0.7s
E28A Huff 52.23 60 P **P 12 10 30.9 0.0**
ULM Lac du Bonnet 52.42 54 P **P 12 10 31.7 -0.6**
ULM IAmb IAmb 12 10 42.0
comp=Z,27nm,0.7s
ULM Lac du Bonnet 52.42 54 P **P 12 10 31.5 -0.7**
comp=Z,13nm,0.8s,baz=305,slow=8.5,SNR=24
ULM LR LR 12 34 12.9
comp=Z,606nm,18.1s,baz=316,slow=38
comp=Z,13nm,0.8s
ULM Lac du Bonnet 52.42 54 P **P 12 10 31.7 -0.6**
ULM pmax pmax
comp=Z,27nm,0.7s
PV23 Carpenter Ridg 52.72 73 IAmb IAmb 12 11 15.0
comp=Z,21nm,0.8s
PV10 Paradox Valley 52.75 73 P **P 12 10 34.8 -0.4**
PV10 IAmb IAmb 12 11 04.1
comp=Z,26nm,0.7s
BJO1 Bjornoya 52.79 352 *e*P **P 12 10 34.4 -0.2**
BJO1 IAmb IAmb 12 10 36.7
comp=Z,40nm,0.6s
PV11 David Mesa, Pa 52.90 73 IAmb IAmb 12 10 50.0

comp=Z,22nm,0.7s
PV13 Radium Mtn., P 53.03 73 IAmb IAmb 12 10 47.1
comp=Z,33nm,0.6s
WUAZ Wupatki 53.26 77 P **P 12 10 38.1 -0.7**
WUAZ IAmb IAmb 12 11 58.0
comp=Z,14nm,0.8s
SUMG Summit 53.55 12 P **P 12 10 40.5 -0.2**
SUMG IAmb IAmb 12 10 56.3
comp=Z,25nm,0.9s
SUMG Summit 53.55 12 P **P 12 10 40.5 -0.2**
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 53.55 12 *i* P **P 12 10 40.0 -0.7**
SUMG IAmb IAmb 12 10 42.5
comp=Z,17nm,0.9s
DBG Daneborg 53.57 5 *i* P **P 12 10 39.5 -0.8**
DBG IAmb IAmb 12 10 49.6
comp=Z,15nm,0.9s
X16A Lo Mia Camp, P 53.96 78 P **P 12 10 43.7 -0.3**
FRB Frobisher Bay 54.40 29 LR LR 12 36 13.9
comp=Z,367nm,18.3s,baz=302,slow=38
ILULI Ilulissat 54.45 18 IAmb IAmb 12 10 48.0
comp=Z,26nm,0.8s
S22A 4UR Ranch, Cre 54.48 72 P **P 12 10 47.9 0.0**
baz=312,SNR=11
PIX Pinacate 54.69 82 P **P 12 10 49.9 +0.8**
PIX IAmb IAmb 12 12 04.3
comp=Z,27nm,1.9s
ZSN Zaisan 54.91 304 *e*P **P 12 10 50.6 +0.1**
ZSN pmax pmax
comp=Z,19nm,1.0s
ZSN Zaisan 54.91 304 *e*P **P 12 10 50.6 +0.1**
comp=Z,19nm,1.0s
F33A 5 Mile Ranch, 55.04 59 P **P 12 10 50.6 -0.9**
F33A IAmb IAmb 12 11 00.8
comp=Z,28nm,0.8s
OGNE Ogallala 55.12 66 IAmb IAmb 12 10 55.2
comp=Z,20nm,0.8s
CD2 Chengdu 55.18 277 P **P 12 10 53.7 +1.0**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,240nm,11.8s
CD2 LR LR
comp=Z,310nm,17.8s
K30B Basset 55.33 63 P **P 12 10 53.1 -0.6**
TUC Tucson 55.80 80 P **P 12 10 57.0 -0.3**
TUC Tucson 55.80 80 P **P 12 10 57.0 -0.3**
TUC pmax pmax
comp=Z,6.0nm,0.9s
WMQ Urumqi 55.82 299 *e*P **P 12 10 58.3 +1.1**
WMQ sP sP 12 11 12.5 +1.1
WMQ pmax pmax
comp=Z,39nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.3s
WMQ LR LR
comp=Z,650nm,23.1s
WMQ LR LR
comp=Z,630nm,20.5s
WMQ LR LR
comp=Z,600nm,20.5s
WMQ Urumqi 55.82 299 P **P 12 10 58.1 +0.9**
WMQ pP **pP 12 11 07.7 +0.3**
KURK Kurchatov 55.83 310 P **P 12 10 57.0 0.0**
KURK Kurchatov 55.83 310 P **P 12 10 57.0 0.0**
KURK pmax pmax
comp=Z,81nm,0.9s
KURK Kurchatov 55.83 310 P **P 12 10 57.0 0.0**
KURK pP **pP 12 11 06.4 -0.8**
KURK sP **sP 12 11 10.7 -0.5**
KURBB Kurchatov Arra 55.93 310 P **P 12 10 57.6 -0.2**
comp=Z,51nm,0.9s,baz=50,slow=7.0,SNR=170
comp=Z,51nm,0.9s
HAMF Hammerfest 55.97 349 *e*P **P 12 10 58.3 +0.5**
EYMN Ely 56.11 54 P **P 12 10 58.8 -0.3**
ECSD EROS Data Cent 56.26 61 P **P 12 10 59.3 -1.0**
ECSD IAmb IAmb 12 11 10.1
comp=Z,30nm,0.8s
T25A Trinidad 56.31 71 IAmb IAmb 12 11 12.4
comp=Z,18nm,1.1s
T25A Trinidad 56.31 71 P **P 12 11 00.5 -0.5**
baz=313,SNR=12
SFJD Kangerlussuaq 56.42 20 LR LR 12 38 31.3
comp=Z,108nm,19.1s,baz=312,slow=40
ICESG Greenland Ices 56.55 14 *i* P **P 12 11 00.8 -1.5**
ICESG IAmb IAmb 12 11 12.2
comp=Z,68nm,1.4s
ANMO Albuquerque 56.59 75 P **P 12 11 02.5 -0.5**
ANMO Albuquerque 56.59 75 LR LR 12 35 15.8
comp=Z,160nm,18.2s,baz=122,slow=36
ANMO Albuquerque 56.59 75 P **P 12 11 02.5 -0.5**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 56.59 75 P **P 12 11 02.6 -0.5**
ANMO pP **pP 12 11 12.3 -0.9**
ANMO sP **sP 12 11 16.1 -0.9**
MK31 Makanchi Array 56.66 305 P **P 12 11 02.5 -0.6**
MK31 Makanchi Array 56.66 305 *ce*P **P 12 11 02.7 -0.4**
MKAR Makanchi Array 56.66 305 P **P 12 11 02.4 -0.7**
comp=Z,6.4nm,0.4s,baz=52,slow=6.5,SNR=88
MKAR LR LR 12 36 15.0
comp=Z,484nm,21.0s,baz=42,slow=37
comp=Z,6.4nm,0.4s
ARA0 ARCESS Array S 56.78 348 *e*P **P 12 11 02.9 -0.7**
ARCES ARCESS Array B 56.78 348 P **P 12 11 02.6 -1.0**
comp=Z,2.6nm,0.4s,baz=35,slow=8.2,SNR=24
ARCES LR LR 12 35 13.7
comp=Z,151nm,21.6s,baz=332,slow=36
comp=Z,2.6nm,0.4s
MAKZ Makanchi 56.81 305 P **P 12 11 03.1 -1.1**
MAKZ IAmb IAmb 12 11 04.6
comp=Z,14nm,0.8s
MAKZ Makanchi 56.81 305 P **P 12 11 03.1 -1.1**
MAKZ pmax pmax
comp=Z,14nm,0.8s
MAKZ Makanchi 56.81 305 P **P 12 11 03.7 -0.5**
LENM Lemitar 56.82 76 P **P 12 11 05.3 +0.7**
GOMU GeErMu 56.92 288 P **P 12 11 05.5 0.0**
GOMU S **S 12 18 56.6 -0.6**
GOMU pmax pmax
comp=Z,20nm,0.9s
GOMU LR LR
comp=Z,410nm,15.1s
GOMU LR LR
comp=Z,400nm,15.6s
GOMU LR LR
comp=Z,630nm,15.4s
E38A The Farm, Brul 56.98 55 P **P 12 11 04.8 -0.6**
BGNE Belgrade 56.99 64 P **P 12 11 05.2 -0.3**
BNM Barren Site 57.04 75 P **P 12 11 06.0 -0.2**
CRNM Carthage 57.11 76 P **P 12 11 05.5 -1.1**
SCO Scoresbysund 57.22 7 *i* P **P 12 11 06.9 +0.3**
SPMN Marine on St. 57.28 57 P **P 12 11 07.3 -0.1**
319A Douglas 57.37 80 P **P 12 11 08.5 0.0**
319A IAmb IAmb 12 11 39.0
comp=Z,15nm,1.0s
JETT Jettan, Norway 57.38 350 *e*P **P 12 11 07.5 -0.3**
TRO Tromso 57.46 350 *e*P **P 12 11 08.7 +0.4**
TRO IAmb IAmb 12 11 10.2
comp=Z,35nm,1.0s
121A Cookes Peak, D 57.47 78 IAmb IAmb 12 11 37.7
comp=Z,17nm,1.1s
121A Cookes Peak, D 57.47 78 P **P 12 11 08.8 -0.4**
baz=314
KTK1 Kautokeino 57.56 348 *e*P **P 12 11 08.2 -0.9**
KTK1 IAmb IAmb 12 11 10.8
comp=Z,13nm,0.8s
L34A Svendsen Farm, 57.59 62 P **P 12 11 09.5 -0.1**
RTBA Rita Blanca 57.76 71 IAmb IAmb 12 11 22.6
comp=Z,13nm,0.9s
I37A Lemond, Waseca 57.79 58 P **P 12 11 11.0 -0.1**
CBKS Cedar Bluff 57.86 67 P **P 12 11 11.3 -0.4**
CBKS Cedar Bluff 57.86 67 P **P 12 11 11.3 -0.4**
CBKS pmax pmax
comp=Z,68nm,0.8s
BVAR Borovoye Array 57.94 316 P **P 12 11 11.8 -0.2**
comp=Z,12nm,0.6s,baz=51,slow=7.8,SNR=42
BVAR LR LR 12 38 47.0
comp=Z,558nm,18.5s,baz=45,slow=39
comp=Z,12nm,0.6s
BRVK Borovoye 57.96 317 P **P 12 11 12.0 -0.1**
BRVK IAmb IAmb 12 11 28.7
comp=Z,18nm,0.8s
BRVK Borovoye 57.96 317 *ce*P **P 12 11 12.3 +0.2**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 57.96 317 P **P 12 11 11.8 -0.3**
HSIG 58.01 83 P **P 12 11 12.6 -0.2**
COWI Conover 58.55 54 P **P 12 11 15.6 -0.8**
G40A Rib Lake 58.59 56 P **P 12 11 16.5 -0.1**
EPT El Paso 58.77 77 P **P 12 11 18.6 +0.3**
EPT IAmb IAmb 12 11 46.7
comp=Z,18nm,0.9s
SVE Sverdlovsk 58.99 324 *e*P **P 12 11 20.4 +1.2**
SVE pmax pmax
comp=Z,21nm,1.0s
BRZS Berezniki 59.09 313 *e*P **P 12 11 19.7 -0.4**
BRZS pmax pmax
comp=Z,6.0nm,0.9s
BRZS Berezniki 59.09 313 *e*P **P 12 11 19.7 -0.4**
comp=Z,6.2nm,0.9s
KSU1 Kansas State U 59.43 65 P **P 12 11 21.8 -0.8**
KSU1 IAmb IAmb 12 11 32.1
comp=Z,29nm,0.8s
PZH PanZhiHua 59.55 275 P **P 12 11 25.6 +1.9**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
NOKA Waynoka 59.83 68 P **P 12 11 25.2 -0.2**
TDK Taldyqorghan 59.86 305 *e*P **P 12 11 25.5 0.0**
TDK pmax pmax
comp=Z,14nm,0.9s
TDK Taldyqorghan 59.86 305 *e*P **P 12 11 25.6 0.0**
comp=Z,14nm,0.9s
ELIS Ellis County 59.95 69 P **P 12 11 26.2 -0.1**
ELIS IAmb IAmb 12 11 36.3
comp=Z,22nm,0.8s
KAN08 Anthony NE Sta 59.97 67 P **P 12 11 24.6 -1.7**
FAUS Fauske 60.00 351 *e*P **P 12 11 25.6 -0.4**
FAUS IAmb IAmb 12 11 29.3
comp=Z,18nm,0.7s
ANGG Ammassalik, Gr 60.06 15 *i* P **P 12 11 24.2 -2.2**
ANGG IAmb IAmb 12 11 25.9
comp=Z,23nm,0.9s
QIZ Qiongzhong 60.08 263 P **P 12 11 27.6 +0.4**
QIZ S **S 12 19 41.1 +3.2**
QIZ LR LR
comp=Z,430nm,13.7s
QIZ LR LR
comp=Z,280nm,14.4s
QIZ LR LR
comp=Z,280nm,23.4s
N38A Joes South For 60.10 61 P **P 12 11 26.5 -0.7**
KAN05 Bluff City Nor 60.11 67 P **P 12 11 26.7 -0.5**
KAN05 IAmb IAmb 12 11 36.6
comp=Z,26nm,0.7s
ARTI Arti 60.13 325 P **P 12 11 26.7 -0.4**
ARTI IAmb IAmb 12 11 46.0
comp=Z,21nm,0.8s
ARTI Arti 60.13 325 LR LR 12 39 19.4
comp=Z,361nm,20.9s,baz=40,slow=38
ARTI Arti 60.13 325 *d i* P **P 12 11 27.7 +0.6**
ARTI 12 12 09.1
ARTI S **S 12 19 41.9 +4.3**
ARTI SS **SS 12 23 38.5 +4.5**
ARTI pmax pmax
comp=Z,29nm,1.1s
ARTI Arti 60.13 325 P **P 12 11 27.5 +0.4**
I42A Draeger Farm, 60.21 56 P **P 12 11 27.6 -0.3**
KAN09 Caldwell North 60.23 67 P **P 12 11 27.3 -0.8**
VHRN Van Horn 60.39 77 P **P 12 11 29.8 +0.3**
VHRN IAmb IAmb 12 11 57.9
comp=Z,8.9nm,0.7s
DAV Davao City (W) 60.40 240 LR LR 12 33 28.8
comp=Z,192nm,21.9s,baz=20,slow=32
CROK Carrier 60.47 68 P **P 12 11 29.2 -0.6**
SHLS Shalkode 60.63 303 *e*P **P 12 11 29.4 -1.4**
SHLS pmax pmax
comp=Z,10.0nm,0.8s
SHLS Shalkode 60.63 303 *e*P **P 12 11 29.5 -1.4**
comp=Z,9.7nm,0.8s
DKNS Dickens 60.76 72 IAmb IAmb 12 11 42.6
comp=Z,23nm,0.8s
KPKS Kokpek 60.81 304 *e*P **P 12 11 32.1 0.0**
KPKS pmax pmax
comp=Z,11nm,1.0s
KPKS Kokpek 60.81 304 *e*P **P 12 11 32.1 0.0**
comp=Z,11nm,1.0s
UZB Uzynbulak 60.86 304 *e*P **P 12 11 32.0 -0.5**
UZB pmax pmax
comp=Z,12nm,1.3s
UZB Uzynbulak 60.86 304 *e*P **P 12 11 32.1 -0.5**
comp=Z,12nm,1.3s
ODSA Odessa 60.90 74 IAmb IAmb 12 11 34.7
comp=Z,17nm,1.0s
T35A Sooner Cattle 61.01 66 P **P 12 11 32.4 -1.1**
T35A IAmb IAmb 12 11 44.4
comp=Z,11nm,0.7s
SN07 Snyder 07 61.19 72 IAmb IAmb 12 11 36.9
comp=Z,14nm,0.9s
STOK Stokkvaagen 61.23 352 *e*P **P 12 11 33.9 -0.5**
STOK IAmb IAmb 12 11 36.1
comp=Z,56nm,1.4s
SATY Saty 61.24 304 *e*P **P 12 11 35.0 0.0**
SATY pmax pmax
comp=Z,14nm,1.4s
SATY Saty 61.24 304 *e*P **P 12 11 35.0 0.0**
comp=Z,14nm,1.4s
WMOK Wichita Mounta 61.25 70 IAmb IAmb 12 11 45.8
comp=Z,23nm,0.7s
MOR8 Moi Rana 61.26 351 *e*P **P 12 11 33.0 -1.7**
MOR8 IAmb IAmb 12 11 35.3
comp=Z,14nm,0.9s
OK029 Liberty Lake 61.27 68 P **P 12 11 34.2 -1.0**
KIRV Kirov 61.31 331 LR LR 12 40 50.3
comp=Z,260nm,20.0s,baz=20,slow=39
KIRV Kirov 61.31 331 *ce*P **P 12 11 35.3 +0.3**
MNHN Monahans 61.33 75 IAmb IAmb 12 11 46.0
comp=Z,22nm,0.8s
SN05 Snyder 5 61.34 72 IAmb IAmb 12 11 46.1
comp=Z,15nm,0.8s
QUOK Quay 61.43 67 P **P 12 11 35.3 -0.9**
QUOK IAmb IAmb 12 11 45.7
comp=Z,13nm,0.8s
LEIR Leirfjorden 61.44 352 *e*P **P 12 11 35.3 -0.5**
LEIR IAmb IAmb 12 11 36.4
comp=Z,43nm,1.1s
APMT Aspermont 61.48 72 IAmb IAmb 12 11 47.3
comp=Z,35nm,0.9s
OK052 Battle Ridge R 61.50 67 IAmb IAmb 12 11 46.3
comp=Z,18nm,0.7s
OK031 S. Brethren Rd 61.51 67 IAmb IAmb 12 11 46.5
comp=Z,22nm,0.7s
JAY Jayapura 61.63 220 LR LR 12 34 43.9
comp=Z,254nm,19.9s,baz=348,slow=32
FNO Franklin 61.68 68 P **P 12 11 36.8 -1.2**
SCHQ Schefferville 61.77 35 P **P 12 11 37.4 -0.8**
comp=Z,55nm,0.7s,baz=335,slow=6.9,SNR=67
SCHQ LR LR 12 39 16.8
comp=Z,175nm,19.5s,baz=328,slow=37
comp=Z,55nm,0.7s
DEOK Depew 61.78 67 IAmb IAmb 12 11 48.4
comp=Z,22nm,0.8s
AAA Alma-Ata 61.90 305 *e*P **P 12 11 39.2 -0.1**
AAA Alma-Ata 61.90 305 *e*P **P 12 11 39.3 -0.1**
X34A Smith Ranch, M 61.90 69 IAmb IAmb 12 11 50.7
comp=Z,19nm,0.8s
L44A Lake County Fo 61.94 57 P **P 12 11 38.5 -1.0**
L44A Lake County Fo 61.94 57 P **P 12 11 39.0 -0.6**
baz=316
LPIG La Paz 61.96 86 LR LR 12 32 57.9
comp=Z,255nm,21.9s,baz=302,slow=31
BTLS Baital 62.00 308 *e*P **P 12 11 39.7 -0.2**
BTLS pmax pmax
comp=Z,10.0nm,1.2s
BTLS Baital 62.00 308 *e*P **P 12 11 39.7 -0.2**
comp=Z,10nm,1.2s
TNSS Tian-Shan 62.00 305 *e*P **P 12 11 40.2 -0.3**
TNSS Tian-Shan 62.00 305 *e*P **P 12 11 40.2 -0.3**
SLVN Son La 62.01 269 IAmb IAmb 12 11 51.9
comp=Z,9.5nm,0.7s
KLMR Klimovskoe 62.05 337 *e*P **P 12 11 38.4 -1.6**
KLMR pmax pmax
comp=Z,49nm,0.9s
W35A Tecumseh 62.06 68 P **P 12 11 39.4 -1.1**
WTFS Witchita Falls 62.13 70 P **P 12 11 40.2 -0.8**
WTFS IAmb IAmb 12 11 51.1
comp=Z,21nm,0.8s
WUS Wushi 62.15 302 IAmb IAmb 12 11 43.8
comp=Z,19nm,0.7s
TX31 Lajitas Ar. Si 62.22 77 IAmb IAmb 12 12 10.0
comp=Z,18nm,0.8s
TXAR Lajitas Array 62.22 77 P **P 12 11 41.5 -0.3**
TXAR Lajitas Array 62.22 77 P **P 12 11 41.7 -0.1**
comp=Z,11nm,0.7s,baz=302,slow=4.5,SNR=80
comp=Z,11nm,0.7s
TXAR Lajitas Array 62.22 77 P **P 12 11 41.5 -0.3**
BAKI Biak 62.37 225 P **P 12 11 43.7 +1.0**
comp=Z,40nm,1.5s
HDIL Hopedale 62.38 59 P **P 12 11 41.8 -0.8**
SLBS Sierra La Lagu 62.49 86 P **P 12 11 44.2 +0.6**
SLBS IAmb IAmb 12 11 45.7
comp=Z,24nm,0.9s
SLBS Sierra La Lagu 62.49 86 P **P 12 11 44.3 +0.6**
SLBS pP **pP 12 11 54.2 +0.2**
KDJ Kajisay 62.54 304 IAmb IAmb 12 12 01.2
comp=Z,19nm,0.8s
OZNA Ozona 62.60 74 P **P 12 11 43.5 -0.8**
OZNA IAmb IAmb 12 11 45.0
comp=Z,13nm,1.0s
VLDQ Val d'Or 62.64 46 P **P 12 11 41.9 -2.2**
SAND Sanderson 62.70 76 P **P 12 11 44.5 -0.4**
LOOK Love County 62.71 69 IAmb IAmb 12 11 55.8
comp=Z,36nm,0.9s
HPIG 62.74 81 P **P 12 11 44.3 -1.2**
HPIG IAmb IAmb 12 12 24.7
comp=Z,12nm,0.9s
TKM2 Tokmak 2 62.77 305 P **P 12 11 45.6 +0.2**
SNR=12
SGDS Sogindy 62.87 306 *e*P **P 12 11 45.5 -0.4**
SGDS Sogindy 62.87 306 *e*P **P 12 11 45.5 -0.4**
FW03 Perrin-Whitt E 62.88 70 P **P 12 11 45.6 -0.4**
FW03 IAmb IAmb 12 11 56.1
comp=Z,13nm,0.6s
L46A Eue Claire 62.89 56 P **P 12 11 45.2 -0.8**
PLPT Palo Pinto 62.90 71 IAmb IAmb 12 11 56.7
comp=Z,27nm,0.8s
BORG Borgarnes 62.90 8 LR LR 12 39 12.2
comp=Z,71nm,19.9s,baz=327,slow=36
BOOM Boomskoye usch 62.91 305 IAmb IAmb 12 11 57.8
comp=Z,15nm,0.9s
HHAR Hobbs 62.92 65 P **P 12 11 44.5 -1.8**
HHAR IAmb IAmb 12 11 55.5
comp=Z,17nm,0.7s
ULHL Ulahol 62.93 305 P **P 12 11 47.2 +0.7**
SNR=5.1
USP Ospenovka 63.07 306 P **P 12 11 48.0 +0.8**
SNR=22
NSS Namsos 63.09 352 *e*P **P 12 11 46.8 -0.1**
NSS IAmb IAmb 12 11 49.5
comp=Z,39nm,1.3s
CCM Cathedral Cave 63.13 62 **P 12 11 46.5 -1.1**
CCM Cathedral Cave 63.13 62 P **P 12 11 46.5 -1.1**
CCM IAmb IAmb 12 11 57.0
comp=Z,16nm,0.7s
CCM Cathedral Cave 63.13 62 P **P 12 11 46.5 -1.1**
CCM pmax pmax
comp=Z,16nm,0.7s
CCM Cathedral Cave 63.13 62 P **P 12 11 47.4 -0.2**
CCM pP **pP 12 11 56.4 -1.5**
CCM sP **sP 12 12 00.3 -1.5**
CHMS Chumysh 63.14 306 P **P 12 11 48.5 +0.8**
SNR=5.5
MGMO Mountain Grove 63.22 63 IAmb IAmb 12 11 57.2
comp=Z,19nm,0.8s
I49A Point Hope 63.22 52 P **P 12 11 48.4 +0.3**
FW06 Azle 63.23 70 IAmb IAmb 12 11 58.8
comp=Z,22nm,0.7s
SGSI Sangihe 63.27 238 P **P 12 11 47.6 -1.2**
FW07 Weatherford 63.29 70 IAmb IAmb 12 11 59.0
comp=Z,21nm,0.7s
KBK Karagaybulak 63.29 306 P **P 12 11 49.7 +0.9**
SNR=11
AAK Ala-Archa 63.53 306 P **P 12 11 50.4 0.0**
AAK IAmb IAmb 12 12 06.7
comp=Z,15nm,1.0s
AAK Ala-Archa 63.53 306 LR LR 12 40 24.1
comp=Z,305nm,21.0s,baz=42,slow=37
AAK Ala-Archa 63.53 306 P **P 12 11 50.7 +0.4**
SNR=15
AAK Ala-Archa 63.53 306 *ce*P **P 12 11 50.2 -0.2**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 63.53 306 P **P 12 11 50.8 +0.4**
AAK pP **pP 12 12 00.1 -0.6**
AAK sP **sP 12 12 04.6 0.0**
BRDY Brady 63.60 72 P **P 12 11 50.6 -0.2**
BRDY IAmb IAmb 12 11 53.1
comp=Z,15nm,0.9s
SFIN Lafayette 63.67 58 P **P 12 11 50.3 -0.8**
LSA Lhasa 63.68 285 IAmb IAmb 12 12 03.1
comp=Z,12nm,0.7s
LSA Lhasa 63.68 285 P **P 12 11 53.2 +1.3**
LSA pmax pmax
comp=Z,12nm,0.9s
JCT Junction City 63.71 74 IAmb IAmb 12 12 19.7
comp=Z,21nm,0.9s
FW13 Cleburne 63.75 71 IAmb IAmb 12 12 02.0
comp=Z,19nm,0.8s
EKS2 Erkin-Say 63.87 306 P **P 12 11 53.2 +0.6**
SNR=22
T42A Van Buren 63.96 63 IAmb IAmb 12 12 02.0
comp=Z,11nm,0.7s
DRIO Del Rio 63.99 75 IAmb IAmb 12 11 55.4
comp=Z,12nm,0.9s
N47A Urbana 64.03 56 IAmb IAmb 12 12 02.5
comp=Z,25nm,0.8s
K50A Casco 64.18 53 P **P 12 11 53.2 -1.2**
K50A IAmb IAmb 12 12 04.4
comp=Z,26nm,0.9s
FIA1 FINESS Array S 64.27 344 P **P 12 11 54.2 -0.5**
FINES FINESS Array B 64.27 344 P **P 12 11 53.6 -1.1**
FINES FINESS Array B 64.27 344 P **P 12 11 54.0 -0.6**
comp=Z,8.3nm,0.9s,baz=19,slow=8.2,SNR=13
comp=Z,8.3nm,0.9s
FINES FINESS Array B 64.27 344 P **P 12 11 53.6 -1.1**
SWI Sorong 64.30 230 P **P 12 11 56.5 +1.0**
comp=Z,81nm,1.2s
AML Almayashu 64.30 306 P **P 12 11 56.5 +0.7**
SNR=18
MIAR Mount Ida 64.37 66 P **P 12 11 55.0 -0.9**
MIAR IAmb IAmb 12 11 58.5
comp=Z,23nm,0.9s
MIAR Mount Ida 64.37 66 P **P 12 11 55.0 -0.9**
MIAR pmax pmax
comp=Z,23nm,0.9s
SADO Sadowa 64.38 50 IAmb IAmb 12 12 05.3
comp=Z,27nm,0.8s
SADO Sadowa 64.38 50 LR LR 12 40 10.2
comp=Z,416nm,20.6s,baz=344,slow=36
SIUC Southern Illin 64.48 61 P **P 12 11 55.7 -0.8**
CGM3 Cape Girardeau 64.55 62 IAmb IAmb 12 12 06.3
comp=Z,10nm,0.8s
WHAR Wooly Hollow 64.56 65 P **P 12 11 55.9 -1.1**
WHAR IAmb IAmb 12 12 06.8
comp=Z,20nm,0.9s
LCAR Lake Charles 64.62 63 P **P 12 11 56.5 -0.9**
LCAR IAmb IAmb 12 12 06.6
comp=Z,9.8nm,0.7s
HNDO Hondo 64.71 74 P **P 12 11 57.1 -1.0**
O48B Farmland 64.76 57 P **P 12 11 57.4 -0.9**
435B Jarrell 64.80 72 IAmb IAmb 12 12 09.1
comp=Z,27nm,0.8s
435B Jarrell 64.80 72 P **P 12 11 58.0 -0.7**
baz=317
BLO Bloomington 64.85 58 IAmb IAmb 12 12 09.0
comp=Z,30nm,0.8s
DZA Taraz 64.91 308 *e*P **P 12 11 59.1 -0.1**
DZA Taraz 64.91 308 *e*P **P 12 11 59.1 -0.1**
AKTO Aktyubinsk 64.94 321 LR LR 12 42 12.0
comp=Z,421nm,20.7s,baz=69,slow=38
M50A Fremont 64.99 54 IAmb IAmb 12 12 09.6
comp=Z,24nm,0.7s
KSH Kashi 65.07 303 P **P 12 12 04.4 +3.9**
KSH pP sP 12 12 14.4 -0.4
KSH pmax pmax
comp=Z,22nm,1.1s
KSH LR LR
comp=Z,490nm,21.3s
KSH LR LR
comp=Z,470nm,22.0s
KSH LR LR
comp=Z,380nm,18.9s
ABKAR Akbulak array 65.11 319 P **P 12 12 00.4 0.0**
KK31 Karatay Array 65.14 309 P **P 12 12 00.4 -0.4**

KK31 IAmb IAmb 12 12 16.6
comp=Z,14nm,0.8s
KK31 Karatay Array 65.14 309 P **P 12 12 00.4 -0.4**
KK31 pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 65.14 309 P **P 12 12 00.4 -0.4**
KKAR Karatay Array 65.14 309 IAmb IAmb 12 12 16.6
comp=Z,9.2nm,0.7s
KKAR Karatay Array 65.14 309 P **P 12 12 00.4 -0.4**
ARSB Arslanbob 65.26 306 P **P 12 12 02.0 +0.3**
ARSB IAmb IAmb 12 12 04.6
comp=Z,18nm,0.8s
ARSB Arslanbob 65.26 306 P **P 12 12 02.0 +0.3**
ARSB pmax pmax
comp=Z,18nm,0.8s
WLAR White Oak Lake 65.26 67 P **P 12 12 01.2 -0.4**
WLAR IAmb IAmb 12 12 14.5
comp=Z,27nm,0.8s
TRQ Mont Tremblant 65.36 46 P **P 12 12 00.8 -1.4**
MOL Molde 65.37 354 *e*P **P 12 12 01.2 -0.7**
LDAQ Lac Daran 65.44 43 P **P 12 12 01.9 -0.7**
LDAQ IAmb IAmb 12 12 12.0
comp=Z,25nm,0.6s
833A Chaparral WMA, 65.52 75 P **P 12 12 02.7 -0.7**
baz=318
BRLS Borolday 65.53 309 *e*P **P 12 12 04.5 +1.3**
BRLS Borolday 65.53 309 *e*P **P 12 12 04.6 +1.3**
FAKI Fak Fak 65.64 228 P **P 12 12 04.9 +0.7**
FAKI IAmb IAmb 12 12 05.7
comp=Z,29nm,0.9s
FAKI Fak Fak 65.64 228 P **P 12 12 04.7 +0.5**
comp=Z,37nm,1.1s
WCI Wyandotte Cave 65.67 59 P **P 12 12 03.1 -1.1**
WCI IAmb IAmb 12 12 14.0
comp=Z,33nm,0.8s
WCI Wyandotte Cave 65.67 59 P **P 12 12 03.1 -1.1**
WCI pmax pmax
comp=Z,33nm,0.8s
WCI Wyandotte Cave 65.67 59 P **P 12 12 03.7 -0.5**
WCI pP **pP 12 12 13.3 -1.2**
UTMT University of 65.68 62 P **P 12 12 03.9 -0.4**
N51A Ashland 65.69 54 P **P 12 12 03.3 -1.0**
PMG Port Moresby 65.72 211 LR LR 12 36 18.5
comp=Z,225nm,20.3s,baz=34,slow=32
DOMB Dombas 65.79 353 *e*P **P 12 12 04.4 -0.2**
DOMB IAmb IAmb 12 12 06.6
comp=Z,24nm,1.0s
AKN Aaknes 65.80 354 *e*P **P 12 12 04.8 +0.1**
AKN IAmb IAmb 12 12 07.0
comp=Z,1μm,3.2s
ICQ Pointe Anglais 65.82 39 P **P 12 12 04.6 -0.4**
ICQ IAmb IAmb 12 12 06.2
comp=Z,25nm,0.8s
ACSO Alum Creek Sta 65.89 55 IAmb IAmb 12 12 15.3
comp=Z,30nm,0.9s
PECO Prince Edward 66.01 49 P **P 12 12 05.8 -0.5**
IUG Iuzhnay 66.10 308 *e*P **P 12 12 07.1 +0.1**
IUG pmax pmax
comp=Z,16nm,1.0s
IUG Iuzhnay 66.10 308 *e*P **P 12 12 07.1 +0.1**
comp=Z,16nm,1.0s
LMQ La Malbaie 66.15 42 P **P 12 12 06.4 -0.8**
CHM Chimkent 66.17 309 *e*P **P 12 12 07.5 +0.1**
CHM pmax pmax
comp=Z,8.0nm,0.5s
CHM Chimkent 66.17 309 *e*P **P 12 12 07.6 +0.1**
comp=Z,7.9nm,0.5s
SHL Shillong 66.27 282 IAmb IAmb 12 12 22.7
comp=Z,21nm,0.7s
MNTQ Montreal, Queb 66.34 46 IAmb IAmb 12 12 08.9
comp=Z,27nm,0.9s
WVT Waverly 66.40 61 P **P 12 12 08.4 -0.5**
WVT IAmb IAmb 12 12 19.2
comp=Z,29nm,0.9s
WVT Waverly 66.40 61 P **P 12 12 08.4 -0.5**
WVT pmax pmax
comp=Z,29nm,0.9s
WVT Waverly 66.40 61 P **P 12 12 08.3 -0.5**
WVT pP **pP 12 12 18.1 -1.1**
P51A Williamsport 66.42 56 P **P 12 12 08.2 -0.8**
WVNY West Valley, N 66.42 51 P **P 12 12 08.8 -0.2**
NC405 NORSAR Array S 66.48 351 P **P 12 12 08.4 -0.6**
FOO Floro 66.49 355 *e*P **P 12 12 09.3 +0.2**
MMNY Mt. Morris Dam 66.50 50 IAmb IAmb 12 12 19.1
comp=Z,14nm,0.7s
O52A Adamsville 66.56 55 P **P 12 12 09.4 -0.5**
LONY Lake Ozonia 66.59 47 P **P 12 12 10.0 0.0**
LONY IAmb IAmb 12 12 18.2
comp=Z,19nm,0.6s
NB2 NORSAR Subarra 66.60 352 P **P 12 12 09.3 -0.6**
comp=Z,4.1nm,0.5s,baz=10.0,slow=6.5
NB2 NORSAR Subarra 66.60 352 P **P 12 12 09.3 -0.6**
baz=10.0,slow=6.5
NOA NORSAR Array B 66.60 352 P **P 12 12 09.4 -0.4**
comp=Z,5.5nm,0.5s,baz=2.7,slow=5.7,SNR=44
NOA LR LR 12 41 34.9
comp=Z,74nm,20.8s,baz=295,slow=36
comp=Z,5.5nm,0.5s
HYA Hoyanger 66.86 354 *e*P **P 12 12 11.6 +0.3**
HYA IAmb IAmb 12 12 13.7
comp=Z,103nm,1.6s
NC602 NORSAR Array S 66.87 351 *e*P **P 12 12 11.4 -0.1**
CHTO Chiang Mai 66.97 271 P **P 12 12 12.3 -0.4**
CHTO IAmb IAmb 12 12 25.3
comp=Z,12nm,0.8s
CHTO Chiang Mai 66.97 271 P **P 12 12 12.4 -0.4**
CHTO pmax pmax
comp=Z,12nm,0.8s
BELG Belogornoye 67.05 328 P **P 12 12 13.0 +0.3**
comp=Z,46nm,0.8s,baz=88,slow=1.3,SNR=12
BELG LR LR 12 42 20.9
comp=Z,212nm,22.0s,baz=32,slow=37
comp=Z,46nm,0.8s
BELG Belogornoye 67.05 328 *i* P **P 12 12 13.5 +0.8**
BELG pmax pmax
comp=Z,7.0nm,0.9s
MOS Moscow 67.05 336 *e*P P 12 12 20.5 +7.8
MOS pmax pmax
comp=N,57nm,0.6s
MOS pmax pmax
comp=Z,49nm,0.7s
D62A Allapoint, All 67.05 42 P **P 12 12 12.7 -0.2**
PLAL Pickwick Lake 67.12 62 P **P 12 12 12.1 -1.4**
PLAL IAmb IAmb 12 12 22.9
comp=Z,22nm,0.8s
SKAR Skarslia 67.19 353 *e*P **P 12 12 13.9 +0.2**
SKAR IAmb IAmb 12 12 14.7
comp=Z,20nm,1.0s
U49A Red Boiling Sp 67.22 60 IAmb IAmb 12 12 24.0
comp=Z,26nm,0.7s
CM31 Chiang Mai Arr 67.23 271 P **P 12 12 15.4 +0.9**
CM31 IAmb IAmb 12 12 27.3
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 67.23 271 P **P 12 12 14.3 -0.1**
CMAR Chiang Mai Arr 67.23 271 P **P 12 12 15.0 +0.5**
comp=Z,4.1nm,0.8s,baz=24,slow=7.2,SNR=33
CMAR LR LR 12 43 04.9
comp=Z,116nm,21.2s,baz=65,slow=37
comp=Z,4.1nm,0.8s
CMAR Chiang Mai Arr 67.23 271 P **P 12 12 14.3 -0.1**
V48A Smith Brothers 67.23 61 P **P 12 12 13.1 -1.1**
V48A IAmb IAmb 12 12 24.0
comp=Z,20nm,0.8s
CLTN Cedars of Leba 67.24 60 P **P 12 12 13.8 -0.4**
DRK Karamyk 67.24 305 IAmb IAmb 12 12 17.6
comp=Z,16nm,0.9s
O54A Avella 67.24 54 IAmb IAmb 12 12 23.9
comp=Z,21nm,0.8s
HFS Hagfors 67.25 350 P **P 12 12 13.1 -0.8**
comp=Z,6.8nm,0.5s,baz=29,slow=3.4,SNR=52
HFS LR LR 12 44 58.1
comp=Z,88nm,18.2s,baz=310,slow=39
comp=Z,6.8nm,0.5s
NCB Newcomb 67.26 47 P **P 12 12 13.3 -1.0**
NCB IAmb IAmb 12 12 31.4
comp=Z,63nm,1.6s
P53A Whipple 67.26 55 IAmb IAmb 12 12 23.9
comp=Z,12nm,0.7s
BTK Batken 67.30 306 P **P 12 12 15.0 +0.3**
BTK IAmb IAmb 12 12 26.4
comp=Z,27nm,0.8s
BTK Batken 67.30 306 P **P 12 12 15.0 +0.3**
BTK pmax pmax
comp=Z,27nm,0.8s
J59A Piesco 67.52 48 P **P 12 12 14.9 -1.1**
OSL Oslo 67.73 352 *e*P **P 12 12 17.6 +0.6**

MRSI Marisa 67.88 240 P **P 12 12 18.4 -0.1**
comp=Z,29nm,1.0s
OBN Obninsk 67.88 336 LR LR 12 43 46.7
comp=Z,384nm,21.8s,baz=7.5,slow=38
OBN Obninsk 67.88 336⇓ *e*P **P 12 12 17.7 -0.2**
OBN *i* 12 12 26.7
OBN *e* 12 14 45.9
OBN *e*S **S 12 21 12.4 -1.2**
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,354nm,20.0s
MCWV Mont Chateau 67.91 54 IAmb IAmb 12 12 28.2
comp=Z,22nm,0.7s
SANI Sanana 67.91 235 P **P 12 12 18.1 -0.6**
comp=Z,23nm,0.9s
Q54A Coxs Mills 67.92 55 IAmb IAmb 12 12 24.2
comp=Z,51nm,1.6s
M57A Sunshine Farm, 67.94 51 P **P 12 12 18.1 -0.6**
ACCN Adirondack Com 67.97 47 P **P 12 12 17.9 -0.8**
ODD1 Odda 68.08 354 *e*P **P 12 12 19.3 +0.1**
ODD1 IAmb IAmb 12 12 20.3
comp=Z,14nm,0.8s
SWET Sewanee 68.11 61 IAmb IAmb 12 12 29.2
comp=Z,30nm,0.9s
KONO Kongsberg 68.11 352 *e*P **P 12 12 19.7 +0.3**
SSPA Standing Stone 68.12 52 P **P 12 12 19.2 -0.5**
SSPA Standing Stone 68.12 52 P **P 12 12 19.1 -0.7**
SSPA pP **pP 12 12 28.6 -1.5**
F64A Sherman 68.32 42 P **P 12 12 20.2 -0.6**
GAR Garm 68.35 306 P **P 12 12 21.7 +0.3**
TZTN Tazewell 68.38 58 IAmb IAmb 12 12 31.6
comp=Z,26nm,0.8s
KSPA Keystone Colle 68.42 50 P **P 12 12 21.0 -0.6**
J61A Chester 68.50 47 P **P 12 12 21.4 -0.7**
BRDH Bariadhala 68.56 280 LR LR 12 44 10.4
comp=Z,119nm,22.0s,baz=114,slow=37
BLS5 Blasjo 68.58 354 *e*P **P 12 12 22.4 +0.1**
BLS5 IAmb IAmb 12 12 25.7
comp=Z,112nm,1.6s
I62A Tamworth 68.62 45 IAmb IAmb 12 12 32.1
comp=Z,27nm,0.8s
CPCT Cooper Cave 68.69 60 P **P 12 12 22.8 -0.6**
CPCT IAmb IAmb 12 12 25.1
comp=Z,29nm,1.2s
Q56A Snyder Ridge, 68.70 54 P **P 12 12 23.0 -0.4**
Q56A IAmb IAmb 12 12 52.4
comp=Z,63nm,1.7s
FPAL Fort Paine 68.79 61 IAmb IAmb 12 12 34.2
comp=Z,15nm,0.9s
KMY Karmoy 68.86 354 *e*P **P 12 12 24.6 +0.6**
TKL Tuckaleechee C 68.93 59 IAmb IAmb 12 12 34.7
comp=Z,23nm,0.8s
TKL Tuckaleechee C 68.93 59 LR LR 12 44 28.4
comp=Z,642nm,18.1s,baz=328,slow=38
P57A Homestead Farm 68.94 53 P **P 12 12 24.4 -0.5**
P57A IAmb IAmb 12 12 34.6
comp=Z,25nm,0.7s
L61B Northampton 69.15 47 P **P 12 12 25.6 -0.5**
L61B Northampton 69.15 47 P **P 12 12 25.0 -1.1**
baz=322
LRAL Lakeview Retre 69.17 63 P **P 12 12 25.1 -1.3**
LRAL IAmb IAmb 12 12 26.8
comp=Z,45nm,1.8s
CHGR Chuyangaron 69.19 306 P **P 12 12 26.6 0.0**
CHGR Chuyangaron 69.19 306 P **P 12 12 26.6 0.0**
SIMJ Simiganj 69.27 306 P **P 12 12 27.1 0.0**
SIMJ IAmb IAmb 12 12 38.3
comp=Z,27nm,0.8s
SIMJ Simiganj 69.27 306 P **P 12 12 27.2 0.0**
SIMJ pP **pP 12 12 37.0 -0.5**
U54A Nelsons Funny 69.30 57 P **P 12 12 26.6 -0.7**
U54A IAmb IAmb 12 12 38.5
comp=Z,30nm,0.7s
KSCT Kent School, K 69.35 48 P **P 12 12 27.0 -0.4**
V53A Saluda 69.43 58 P **P 12 12 27.5 -0.5**
V53A IAmb IAmb 12 12 38.1
comp=Z,19nm,0.7s
BLA Blacksburg 69.49 56 IAmb IAmb 12 12 38.2
comp=Z,27nm,0.7s
LPSR Galich'ya Gora 69.50 333 *e*P **P 12 12 26.5 -1.6**
LPSR pmax pmax
comp=Z,50nm,1.6s
HOMB Homborsund 69.57 353 *e*P **P 12 12 28.9 +0.4**
SDMD Soldier's Deli 69.58 52 P **P 12 12 27.4 -1.4**
SDMD IAmb IAmb 12 12 38.5
comp=Z,20nm,0.8s
SNART Snartemo 69.60 353 *e*P **P 12 12 28.7 +0.1**
HRV Adam Dziewonsk 69.61 46 P **P 12 12 29.6 +0.7**
WUPA West Chester U 69.76 51 P **P 12 12 29.5 -0.4**
WUPA IAmb IAmb 12 12 40.4
comp=Z,26nm,0.7s
WES Weston 69.81 46 P **P 12 12 30.4 +0.2**
WES Weston 69.81 46 P **P 12 12 30.4 +0.2**
WES pmax pmax
comp=Z,35nm,0.7s
WSPT Westport, CT 69.86 48 IAmb IAmb 12 12 39.6
comp=Z,30nm,0.7s
UCCT U. Connecticut 69.88 47 P **P 12 12 29.8 -0.8**
BG3 Lake Jocassee 69.88 59 IAmb IAmb 12 12 40.9
comp=Z,25nm,0.7s
VRH Novokhopyorsk 69.93 331 *e*P **P 12 12 29.6 -1.2**
VRH pmax pmax
comp=Z,20nm,1.3s
V55A Taylorsville 70.12 57 IAmb IAmb 12 12 42.2
comp=Z,21nm,0.7s
U56A King 70.17 56 IAmb IAmb 12 12 42.5
comp=Z,30nm,0.8s
R58B Mineral 70.19 53 P **P 12 12 31.4 -1.2**
M63A Gales Ferry 70.27 47 P **P 12 12 32.6 -0.4**
MNK Minsk 70.44 340 *i* P P 12 12 44.4 +11
MNK *i* 12 15 18.9
MNK *i* S **SKiKP 12 22 07.8 -7.0**
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,38nm,0.8s
MNK pmax pmax
comp=E,20nm,0.9s
PAULI Pauline 70.60 58 IAmb IAmb 12 12 46.0
comp=Z,16nm,0.6s
VSR Storozhevoye 70.67 332 *e*P **P 12 12 35.5 +0.2**
VSR pmax pmax
comp=Z,30nm,1.5s
GOGA Godfrey 70.80 60 IAmb IAmb 12 12 46.4
comp=Z,13nm,1.1s
NIL Nilore 70.93 300 P **P 12 12 36.9 -0.3**
NIL Nilore 70.93 300 P **P 12 12 36.9 -0.3**
NIL pmax pmax
comp=Z,42nm,0.9s
NIL Nilore 70.93 300 P **P 12 12 38.0 +0.7**
NIL pP **pP 12 12 47.4 -0.3**
T59A Double "B" Far 71.12 54 P **P 12 12 37.5 -0.8**
T59A IAmb IAmb 12 12 48.4
comp=Z,26nm,0.8s
V58A Windy Hill, Pi 71.25 56 P **P 12 12 38.5 -0.6**
V58A IAmb IAmb 12 12 49.0
comp=Z,21nm,0.8s
COEN Coen 71.29 213 IAmb IAmb 12 12 40.5
comp=Z,14nm,0.9s
COEN Coen 71.29 213 P **P 12 12 39.3 -0.1**
comp=Z,16nm,1.1s
W57A Gilead 71.29 57 P **P 12 12 38.8 -0.6**
W57A IAmb IAmb 12 12 49.0
comp=Z,26nm,0.6s
JSC Jenkinsville 71.31 58 IAmb IAmb 12 12 49.4
comp=Z,26nm,0.7s
BIRD Birdtown, Kers 71.44 57 IAmb IAmb 12 12 50.0
comp=Z,26nm,0.7s
KBL Kabul 72.44 304 P **P 12 12 45.3 -1.3**
KBL IAmb IAmb 12 12 57.1
comp=Z,28nm,0.8s
KBL Kabul 72.44 304 P **P 12 12 45.3 -1.3**
KBL pmax pmax
comp=Z,29nm,0.8s
EKA Eskdalemuir Ar 73.04 359 P **P 12 12 49.4 -0.1**
comp=Z,8.9nm,0.8s,baz=5.3,slow=5.1,SNR=17
comp=Z,8.9nm,0.8s
KAPI Kappang 73.66 239 LR LR 12 41 53.5
comp=Z,83nm,19.8s,baz=60,slow=33
AKASG Malin Array Be 73.70 338 P **P 12 12 52.2 -1.2**
AKASG IAmb IAmb 12 13 03.3
comp=Z,25nm,1.5s
AKASG Malin Array Be 73.70 338 P **P 12 12 53.2 -0.3**
comp=Z,6.5nm,0.6s,baz=25,slow=6.0,SNR=21
AKASG LR LR 12 49 10.9
comp=Z,97nm,19.5s,baz=36,slow=39
comp=Z,6.5nm,0.6s
AKASG Malin Array Be 73.70 338 P **P 12 12 52.3 -1.2**
AKASG pmax pmax
comp=Z,25nm,1.5s
AKBB Malin Array Si 73.70 338 P **P 12 12 52.7 -0.7**
AKBB IAmb IAmb 12 13 03.8
comp=Z,28nm,1.1s
AKBB Malin Array Si 73.70 338 *ce*P **P 12 12 52.5 -0.9**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 73.70 338 P **P 12 12 53.4 0.0**
KIEV Kiev 73.72 338 P **P 12 12 53.2 -0.3**
KIEV IAmb IAmb 12 13 03.8
comp=Z,23nm,1.0s
KIEV Kiev 73.72 338 P **P 12 12 53.2 -0.3**
KIEV pmax pmax
comp=Z,23nm,1.0s
AK17 Malin Array Si 73.76 338 P **P 12 12 53.5 -0.3**
RNPP9 Sopachiv 73.76 341 P **P 12 12 53.7 -0.1**
RNPP8 Varash 73.84 341 P **P 12 12 54.1 -0.1**
TLIG Tlapa 74.08 82 P **P 12 12 57.7 +1.4**
TLIG IAmb IAmb 12 12 58.7
comp=Z,29nm,0.9s
DZM Mont Dzumac 74.13 188 P **P 12 12 57.0 +0.8**
DZM IAmb IAmb 12 12 59.5
comp=Z,38nm,1.2s
KDU Kakadu 74.22 223 P **P 12 12 56.5 -0.3**
comp=Z,59nm,0.9s
ONTNC Ouen Toro 74.36 188 P **P 12 12 58.6 +1.1**
SRIT Nakonsritamara 74.39 264 P **P 12 12 59.0 +1.0**
MTSU Mount Surprise 74.83 210 P **P 12 13 00.6 +0.3**
comp=Z,12nm,1.0s
GOF Gofitskoye 74.91 327 *ce*P **P 12 13 01.9 +1.3**
MTN Manton Dam 74.93 225 P **P 12 13 00.7 -0.2**
MTN IAmb IAmb 12 13 02.3
comp=Z,33nm,0.9s
MTN Manton Dam 74.93 225 P **P 12 13 00.7 -0.2**
comp=Z,49nm,1.0s
MAK Makhachkala 75.16 323 *e*P **P 12 12 59.4 -2.6**
MAK *e* 12 15 48.2
MAK *e*S **S 12 22 32.9 -5.0**
MAK *e*SS **SS 12 27 30.6 +4.2**
MAK pmax pmax
comp=Z,46nm,0.4s
MAK MLR MLR
comp=Z,545nm,17.0s
PPT Papeete 75.75 145 LR LR 12 38 38.8
comp=Z,301nm,20.7s,baz=326,slow=30
HRA Herat 75.97 308 IAmb IAmb 12 13 18.7
comp=Z,13nm,0.8s
CLL Collm 75.99 349 *e*pP pP 12 13 15.0 -2.3
KSP Ksiaz 76.00 346 *e*P P 12 13 16.3 +10
KVAR Kislovodsk Arr 76.00 327 P **P 12 13 08.0 +1.0**
comp=Z,2.5nm,0.3s,baz=148,slow=15,SNR=1.8
comp=Z,2.5nm,0.3s
KIV Kislovodsk 76.01 327 *e*P **P 12 13 07.3 +0.3**
KIV pmax pmax
comp=Z,15nm,1.1s
OJC Ojcow 76.05 344 *e*P P 12 13 16.7 +10
OJC Ojcow 76.05 344 P **P 12 13 07.2 +0.2**
OJC IAmb IAmb 12 13 17.5
comp=Z,32nm,1.3s
OJC Ojcow 76.05 344 P **P 12 13 07.3 +0.2**
OJC pmax pmax
comp=Z,32nm,1.3s
RAR Rarotonga 76.11 156 LR LR 12 40 15.1
comp=Z,229nm,19.0s,baz=298,slow=31
KBZ Khabaz 76.14 326 P **P 12 13 08.7 +1.1**
comp=Z,10nm,1.0s,baz=248,slow=4.5,SNR=19
KBZ LR LR 12 53 19.5
comp=Z,132nm,18.9s,baz=19,slow=41
comp=Z,10nm,1.0s
KBZ Khabaz 76.14 326 *ce*P **P 12 13 07.5 -0.1**
KBZ pmax pmax
comp=Z,13nm,1.0s
SHA1 Shidzhatmaz 76.21 327 *i* P **P 12 13 08.7 +0.4**
BRG Berggiesshubel 76.29 348 *e*P P 12 13 18.0 +10
BRG Amp 12 13 18.3
comp=Z,4.9nm,0.7s
SORM Soroca 76.31 338 ⇑P **P 12 13 08.7 +0.2**
SORM Soroca 76.31 338 P **P 12 13 08.7 +0.2**
AKT Akhty 76.35 322 *e*P **P 12 13 08.3 -0.8**
AKT *e* 12 13 19.1
AKT *e*PPP PPP 12 17 44.2
AKT pmax pmax
comp=Z,45nm,1.2s
DPC Dobruska-Polom 76.48 346 *e*P **P 12 13 10.0 +0.5**
DPC *e*pP **pP 12 13 18.7 -1.4**
DPC Dobruska-Polom 76.48 346 *e*P **P 12 13 10.0 +0.5**
DPC *e* 12 13 18.7
STEB Steborice 76.66 345 *e*P **P 12 13 11.1 +0.6**
CMIG Matias Romero 76.69 79 LR LR 12 42 58.1
comp=Z,298nm,21.6s,baz=352,slow=33
NIE Niedzica 76.74 343 *e*P **P 12 13 11.8 +0.9**
KOLS Kolonicke sedl 76.84 342 *e*P **P 12 13 12.0 +0.4**
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 76.84 342 *e*P **P 12 13 12.0 +0.4**
MORC Moravsky Berou 76.85 345 *e*P P 12 13 21.2 +10
LANS Liptovska Anna 77.14 344 *e*P **P 12 13 14.4 +1.1**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 77.14 344 *e*P **P 12 13 14.4 +1.1**
BTNL Ternell 77.39 353 *d*PcP **PcP 12 13 23.7 -1.3**
VRAC Vranov 77.45 346 LR LR 12 51 30.1
comp=Z,128nm,20.0s,baz=356,slow=39
VRAC Vranov 77.45 346 *e*P P 12 13 23.8 +8.8
BUR08 Bucovina Ar. S 77.48 340 P **P 12 13 15.9 +0.6**
BUR08 IAmb IAmb 12 13 26.5
comp=Z,16nm,0.8s
BURAR Bucovina Array 77.50 340 ⇓P **P 12 13 15.8 +0.4**
BURAR Bucovina Array 77.50 340 P **P 12 13 15.8 +0.4**
BMRD Maredsous 77.77 354 *d*PcP **PcP 12 13 26.4 -0.2**
GRA1 Grafenberg Arr 77.79 349 P **P 12 13 16.7 -0.1**
GRA1 IAmb IAmb 12 13 27.1
comp=Z,27nm,1.2s
GRF Grafenberg Arr 77.79 349 P **P 12 13 16.7 -0.1**
GRF pmax pmax
comp=Z,27nm,1.2s
VYHS Vyhne 77.88 344 *e*P **P 12 13 18.7 +1.3**
VYHS pmax pmax
comp=Z,22nm,2.0s
VYHS Vyhne 77.88 344 *e*P **P 12 13 18.7 +1.3**
PLAI Plampang 77.91 238 P **P 12 13 16.0 -1.9**
DOU Dourbes 77.98 354 *d*PcP **PcP 12 13 27.5 -0.1**
KHC Kasperske Hory 78.05 348 *e*P **P 12 13 19.7 +1.4**
KHC Kasperske Hory 78.05 348 *e*P **P 12 13 19.7 +1.4**
MODS Modra-Piesok 78.25 345 *e*P **P 12 13 21.5 +2.0**
MODS pmax pmax
comp=Z,45nm,1.6s
MODS Modra-Piesok 78.25 345 *e*P **P 12 13 21.5 +2.0**
PSZ Piszkesteto 78.25 343 P **P 12 13 19.2 -0.3**
PSZ IAmb IAmb 12 13 30.8
comp=Z,22nm,1.0s
PSZ Piszkesteto 78.25 343 P **P 12 13 19.2 -0.3**
PSZ pmax pmax
comp=Z,22nm,1.0s
GERES GERESS Array B 78.31 348 P **P 12 13 19.9 0.0**
comp=Z,0.9nm,0.6s,baz=2.6,slow=6.5,SNR=3.0
GERES LR LR 12 50 49.6
comp=Z,129nm,19.3s,baz=290,slow=38
comp=Z,0.9nm,0.6s
KNRA Kununurra 78.48 225 P **P 12 13 21.4 +0.5**
KNRA IAmb IAmb 12 13 22.2
comp=Z,24nm,1.2s
KNRA Kununurra 78.48 225 P **P 12 13 20.9 -0.1**
comp=Z,21nm,1.7s
BCA Borcka 78.59 326 ⇑P **P 12 13 22.1 +0.6**
GNI Garni 78.63 323 P **P 12 13 20.8 -1.1**
GNI IAmb IAmb 12 14 08.1
comp=Z,15nm,0.8s
GNI Garni 78.63 323 LR LR 12 52 17.2
comp=Z,420nm,20.1s,baz=30,slow=39
GNI Garni 78.63 323 *i* P **P 12 13 21.9 +0.1**
GNI pmax pmax
comp=Z,10.0nm,1.2s
DRGR 78.81 341 ⇓P **P 12 13 22.9 +0.3**
DRGR 78.81 341 P **P 12 13 22.9 +0.3**
CONA Conrad Observa 78.91 346 *i* P **P 12 13 23.7 +0.6**
comp=Z,4.3nm,0.8s
CONA *e*pP **pP 12 13 32.8 -1.0**
comp=Z,4.6nm,0.7s
COVR Voineasa-Covas 78.96 338 ⇓P **P 12 13 24.3 +0.9**

RONA	Rosalia, Austr	79.06 346	*i* P		P	12 13 23.7	-0.2
	comp=Z,2.4nm,0.6s						
PSI	Prapat	79.34 261	LR		LR	12 49 27.4	
	comp=Z,64nm,20.8s,baz=32,slow=36						
MLR	Muntele Rosu	79.36 339	P		P	12 13 26.4	+0.7
	comp=Z,4.4nm,0.7s,baz=103,slow=15,SNR=3.9						
MLR			LR		LR	12 51 00.3	
	comp=Z,152nm,20.4s,baz=324,slow=38						
	comp=Z,4.4nm,0.7s						
MLR	Muntele Rosu	79.36 339	⇑P		P	12 13 26.6	+0.9
BIOA	Bad Ischl, Aus	79.45 347	*e*P		P	12 13 27.4	+1.3
	comp=Z,1.8nm,0.4s						
VOIR		79.61 339	⇑P		P	12 13 28.2	+1.1
VOIR		79.61 339	P		P	12 13 28.1	+1.1
ARSA	Arzberg	79.62 346	*e*P		P	12 13 27.7	+0.7
	comp=Z,4.9nm,0.8s						
TLBR	Topalu	79.75 337	⇑P		P	12 13 29.1	+1.5
ARR	Arges	79.76 339	⇓P		P	12 13 29.1	+1.2
WB0	Warramunga Arr	79.81 219	P		P	12 13 28.2	0.0
WB0			IAmb		IAmb	12 13 29.2	
	comp=Z,26nm,0.9s						
EIDS	Eidsvold	79.87 202	P		P	12 13 28.9	+0.5
EIDS			IAmb		IAmb	12 13 30.3	
	comp=Z,14nm,0.8s						
SURR	Surduc	79.92 341	⇑P		P	12 13 28.9	+0.3
WR0	Warramunga Arr	79.93 218	P		P	12 13 28.8	-0.1
WR0			IAmb		IAmb	12 13 29.7	
	comp=Z,14nm,0.7s						
WRAB	Tennant Creek	79.98 219	P		P	12 13 29.0	-0.1
WRAB			IAmb		IAmb	12 13 30.1	
	comp=Z,29nm,0.9s						
WRAB	Tennant Creek	79.98 219	P		P	12 13 29.0	-0.1
WRAB			pmax		pmax		
	comp=Z,29nm,1.0s						
WB2	Warramunga Arr	79.99 219	P		P	12 13 29.2	+0.1
WB2			IAmb		IAmb	12 13 30.2	
	comp=Z,35nm,0.9s						
WRA	Warramunga Arr	80.00 219	P		P	12 13 28.5	-0.7
WRA	Warramunga Arr	80.00 219	P		P	12 13 29.2	0.0
	comp=Z,18nm,0.8s,baz=31,slow=6.3,SNR=100						
WRA			LR		LR	12 46 30.2	
	comp=Z,228nm,20.0s,baz=24,slow=34						
	comp=Z,18nm,0.8s						
WRA	Warramunga Arr	80.00 219	P		P	12 13 28.5	-0.7
WRA			pmax		pmax		
	comp=Z,1.0nm,1.0s						
RETA	Reutte	80.01 349	*e*pP		pP	12 13 39.2	-0.7
	comp=Z,9.6nm,1.0s						
WATA	Walderalm	80.07 349	*e*P		P	12 13 29.6	+0.1
	comp=Z,2.6nm,0.3s						
WATA			*e*pP		pP	12 13 39.0	-1.3
	comp=Z,6.0nm,0.5s						
KBA	Koelnbreinsper	80.09 348	*e*P		P	12 13 30.5	+0.8
	comp=Z,8.4nm,0.7s						
MOTA	Moosalm	80.11 349	*e*P		P	12 13 30.0	+0.2
	comp=Z,9.9nm,1.4s						
MOTA			*e*pP		pP	12 13 39.1	-1.4
	comp=Z,13nm,1.2s						
WTTA	Wattenberg	80.13 349	*e*P		P	12 13 29.9	0.0
	comp=Z,4.8nm,0.5s						
WTTA			*e*pP		pP	12 13 39.4	-1.3
	comp=Z,16nm,0.6s						
GZR	Gura Zlata	80.13 341	⇓P		P	12 13 30.4	+0.5
GZR	Gura Zlata	80.13 341	P		P	12 13 30.3	+0.5
BZS	Buzias	80.15 342	⇑P		P	12 13 30.4	+0.6
BZS	Buzias	80.15 342	P		P	12 13 30.4	+0.6
SQTA	Sankt Quirin	80.22 349	*e*pP		pP	12 13 39.8	-1.3
	comp=Z,15nm,0.9s						
SOKA	Soboth	80.25 346	*i* P		P	12 13 31.2	+0.7
	comp=Z,5.4nm,0.5s						
SOKA			*e*pP		pP	12 13 40.8	-0.3
	comp=Z,15nm,0.6s						
KOPT	Kop Dagi	80.25 326	P		P	12 13 29.9	-0.9
KOPT			IAmb		IAmb	12 13 47.7	
	comp=Z,16nm,0.7s						
GROS	Grobnik	80.39 346	*i* P		P	12 13 31.5	+0.3
HYB	Hyderabad	80.47 286	*e*P		P	12 13 32.1	+0.1
FETA	Feichten	80.48 349	*e*P		P	12 13 32.1	+0.3
	comp=Z,2.4nm,0.7s						
FETA			*e*pP		pP	12 13 41.1	-1.4
	comp=Z,2.4nm,0.5s						
OBKA	Obir	80.48 347	*e*P		P	12 13 32.6	+0.9
	comp=Z,8.2nm,0.6s						
OBKA			*e*pP		pP	12 13 41.8	-0.6
	comp=Z,12nm,0.5s						
ABTA	Abfaltersbach	80.53 348	*i* P		P	12 13 32.3	+0.3
	comp=Z,7.4nm,1.0s						
ABTA			*e*pP		pP	12 13 42.2	-0.5
	comp=Z,7.5nm,0.6s						
HERR	Herculane	80.69 341	⇓P		P	12 13 32.9	+0.1
DAVOX	Davos/Dischmat	80.81 350	P		P	12 13 33.7	+0.1
	comp=Z,2.9nm,0.6s,baz=343,slow=6.2,SNR=5.1						
DAVOX			LR		LR	12 54 03.1	
	comp=Z,64nm,18.9s,baz=76,slow=39						
	comp=Z,2.9nm,0.6s						
GEVA	Gevas	80.86 324	IAmb		IAmb	12 13 36.1	
	comp=Z,21nm,1.3s						
MDVR	Moldovita	80.93 341	⇑P		P	12 13 34.5	+0.4
GBRS	Gornja Briga	81.40 346	*i* P		P	12 13 36.6	+0.1
ILGA	Ilgaz	81.47 332	IAmb		IAmb	12 13 53.1	
	comp=Z,27nm,0.8s						
LEM	Lembang	81.86 248	LR		LR	12 48 36.7	
	comp=Z,32nm,20.3s,baz=42,slow=35						
BOVS	Bovan	82.03 341	⇓P		P	12 13 40.0	+0.1
MARD	Mardin	82.57 325	IAmb		IAmb	12 13 55.0	
	comp=Z,24nm,0.7s						
BR131	Keskin Array S	82.72 331	IAmb		IAmb	12 13 54.8	
	comp=Z,18nm,0.7s						
BR131	Keskin Array S	82.72 331	*i* P		P	12 13 44.1	+0.3
BRTR	Keskin Array B	82.72 331	P		P	12 13 44.0	+0.3
BRTR	Keskin Array B	82.72 331	P		P	12 13 44.1	+0.4
	comp=Z,4.4nm,0.7s,baz=68,slow=2.6,SNR=24						
	comp=Z,4.4nm,0.7s						
BRTR	Keskin Array B	82.72 331	P		P	12 13 44.0	+0.3
BNI	Bardonecchia	82.84 352	P		P	12 13 44.5	+0.2
BNI			IAmb		IAmb	12 14 04.7	
	comp=Z,32nm,1.2s						
BNI	Bardonecchia	82.84 352	P		P	12 13 44.5	+0.2
BNI			pmax		pmax		
	comp=Z,32nm,1.3s						
BNN	Bunyan	82.84 329			PcP	12 13 52.4	+3.2
KIRS	Kirsehir-Merke	83.18 331	⇑P		P	12 13 46.1	0.0
BORA	Eskisehir	83.49 333	IAmb		IAmb	12 13 58.2	
	comp=Z,16nm,0.6s						
ASAR	Alice Springs	83.54 217	P		P	12 13 48.4	+0.5
	comp=Z,15nm,0.7s,baz=17,slow=5.6,SNR=172						
ASAR			LR		LR	12 48 33.0	
	comp=Z,116nm,19.5s,baz=74,slow=34						
	comp=Z,15nm,0.7s						
RDO	Rodhopi	83.57 337	IAmb		IAmb	12 13 59.3	
	comp=Z,38nm,1.2s						
GAZ	Gaziantep	83.92 327	IAmb		IAmb	12 13 52.7	
	comp=Z,35nm,1.0s						
FDMO	Fiordimonte	84.09 347	P		P	12 13 50.3	-0.3
NRCA	Norcia	84.29 347	P		P	12 13 52.1	+0.4
ARMA	Armidale	84.61 200	IAmb		IAmb	12 13 55.9	
	comp=Z,18nm,0.8s						
MANT	Manisa	85.31 334	IAmb		IAmb	12 14 09.0	
	comp=Z,10nm,0.8s						
NMDO	Nuevo Mundo	85.55 62	IAmb		IAmb	12 14 09.0	
	comp=Z,19nm,0.8s						
CEST	Esterri de Car	85.65 356	P		P	12 13 59.0	+0.5
CEST			IAmb		IAmb	12 14 20.4	
	comp=Z,21nm,1.0s						
UOSS	Minazif	86.70 307	P		P	12 14 02.6	-1.2
UOSS			IAmb		IAmb	12 14 12.9	
	comp=Z,11nm,0.7s						
WSAR	Wadi Sarin	86.90 305	LR		LR	12 57 29.9	
	comp=Z,129nm,19.7s,baz=68,slow=39						
JTS	Las Juntas de	87.98 76	LR		LR	12 53 40.0	
	comp=Z,73nm,20.6s,baz=285,slow=36						
MMAI	Mount Meron Ar	88.32 327	P		P	12 14 11.8	+0.2
	comp=Z,0.9nm,0.3s,baz=70,slow=7.2,SNR=4.2						
MMAI			LR		LR	12 59 33.1	
	comp=Z,121nm,18.4s,baz=14,slow=40						
	comp=Z,0.9nm,0.3s						
STKA	Stephens Creek	88.55 208	P		P	12 14 13.0	+0.8
STKA	Stephens Creek	88.55 208	LR		LR	12 51 12.0	
	comp=Z,124nm,18.8s,baz=13,slow=34						
STKA	Stephens Creek	88.55 208	P		P	12 14 13.0	+0.8
STKA			pmax		pmax		
	comp=Z,514nm,1.9s						
ASF	Jabal al Asfar	88.57 326	LR		LR	13 00 22.2	
	comp=Z,108nm,18.3s,baz=194,slow=40						
ESDC	Sonseca Array	88.72 359	P		P	12 14 12.8	-0.6
	comp=Z,1.1nm,0.9s,baz=354,slow=5.0,SNR=3.9						
	comp=Z,1.1nm,0.9s						
TOZ	Tahuroa Road	89.34 180	P		P	12 14 16.1	+0.3
TOZ			IAmb		IAmb	12 15 46.1	
	comp=Z,26nm,1.4s						
DR12	Loma Pena Alta	90.01 59	P		P	12 14 19.9	+0.2
EIL	Elat	91.53 326	LR		LR	13 02 00.4	
	comp=Z,81nm,18.6s,baz=69,slow=40						
SJG	San Juan	92.26 57	LR		LR	12 57 48.4	
	comp=Z,203nm,20.4s,baz=322,slow=37						
RAYN	Ar Rayn	92.90 315	P		P	12 14 32.2	-0.8
RAYN			IAmb		IAmb	12 14 33.8	
	comp=Z,16nm,1.2s						
RAYN	Ar Rayn	92.90 315	P		P	12 14 32.2	-0.8
RAYN			pmax		pmax		
	comp=Z,16nm,1.3s						
SDV	Santo Domingo	97.46 65	LR		LR	12 59 12.6	
	comp=Z,140nm,21.9s,baz=275,slow=36						
ROSC	El Rosal	98.62 71	LR		LR	13 05 25.0	
	comp=Z,104nm,18.7s,baz=350,slow=39						
PCRV	Puerto La Cruz	99.68 60	LR		LR	13 00 00.1	
	comp=Z,147nm,21.9s,slow=35						
DBIC	Dimbokro	121.58 0	PKP		PKPdf	12 20 12.5	-1.2
	comp=Z,1.6nm,0.4s,baz=352,slow=1.6,SNR=5.9						
H03N2	Juan Fernandez	124.93 101	T		T	14 37 38.6	
	baz=314,slow=77,SNR=29						
H03N1	Juan Fernandez	124.94 101	T		T	14 37 42.2	
	baz=314,slow=77,SNR=31						
H03N3	Juan Fernandez	124.95 101	T		T	14 37 41.8	
	baz=314,slow=77,SNR=26						
AQDB	Aquidauana	129.73 71	PKPdf		PKPdf	12 20 29.1	+0.2
BDFB	Brasilia	130.16 60	PKP		PKPdf	12 20 30.4	+0.3
	comp=Z,2.4nm,0.8s,baz=131,slow=1.7,SNR=6.9						
MT08	Bocatoma Ro	130.39 95			PKPdf	12 20 30.4	+0.2
BI02	San Fabin de	131.75 99			PKiKP	12 20 33.2	-0.3
CPUP	Villa Florida	133.19 78	PKP		PKPdf	12 20 35.1	-0.2
	comp=Z,1.1nm,0.4s,baz=337,slow=2.1,SNR=4.5						
PLCA	Paso Flores	134.75 103	PKPdf		PKiKP	12 20 38.9	-0.5
PLCA	Paso Flores	134.75 103	PKP		PKPdf	12 20 38.0	0.0
	comp=Z,9.6nm,0.7s,baz=257,slow=3.1,SNR=28						
PLCA	Paso Flores	134.75 103	PKiKP		PKPdf	12 20 38.0	0.0
LL02	Futaleuf	135.43 106	PKPdf		PKiKP	12 20 40.0	-0.6
QSPA	South Pole Qui	141.73 180	PKPdf		PKPdf	12 20 49.5	-0.5
QSPA	South Pole Qui	141.73 180	PKhKP		PKPpre	12 20 44.0	
	comp=Z,3.0nm,0.7s,baz=290,slow=1.1,SNR=29						
SMAI	San Martin Ant	146.76 143			PKPab	12 21 01.2	-0.4
BOSA	Boshof	147.66 305	PKPbc		PKPbc	12 21 04.3	+0.1
	comp=Z,13nm,0.7s,baz=24,slow=2.7,SNR=28						
EFI	East Falkland	147.71 111	PKPbc		PKPbc	12 21 03.4	-0.1
EFI	East Falkland	147.71 111	PKP2		PKPbc	12 21 03.4	-0.1
GRHM	Grahamstown, E	150.73 297	PKPbc		PKiKP	12 21 12.2	-0.2
BELA	Belgrano 2	151.82 167	PKPbc		PKPbc	12 21 12.6	-0.3
SYO	Syowa Base	153.15 214	⇓*e*PKPdf		PKPdf	12 21 08.6	+0.1
SYO	Syowa Base	153.15 214	⇓*e*PKPab		PKPab	12 21 30.4	+2.5
ELIB	Princess Elisa	156.44 202	*d*PKP		PKPab	12 21 41.8	-0.3
TROLL	Troll, Antarti	159.64 187	⇓PKPab		PKPab	12 21 55.1	-0.8
SNAA	Sanae	160.22 182	⇓PKPab		PKPab	12 21 57.4	-1.0
	comp=Z,104nm,0.7s						
SNAA	Sanae	160.22 182	PKP		PKPdf	12 21 16.4	-1.3
	comp=Z,4.0nm,1.0s,baz=202,slow=5.4,SNR=8.7						
SNAA			PKPab		PKPab	12 21 57.1	-1.3
	comp=Z,8.4nm,1.1s,baz=272,slow=3.1,SNR=6.1						
VNA3	Neumayer Olymp	160.55 175	⇓PKPab		PKPab	12 21 57.6	-2.2
	comp=Z,21nm,0.7s						
VNA2	Neumayer–Watz	160.95 177	⇓PKPab		PKPab	12 21 59.8	-1.7
	comp=Z,5.7nm,0.7s,baz=229,slow=1.8						

*SOME **05** 12:09:12.3,42°.18N×73°.47E,h5km*
*NNC **05** 12:09:13.6±1.6,42°.25N×73°.48E,h0km,mb3.0,mpv2.7,*
Error ellipse: s-maj=14.0km s-min=5.3km az=2.0
*KNET **05** 12:09:13.4±0.5,42°.21N×73°.54E,h8km±3km,ml1.4,Error*
ellipse: s-maj=3.5km s-min=2.3km az=77.0

ISC 05 12:09:12.7±1.2,42°.18N±0°.05×73°.47E±0°.03,h8km±11km,
n20,σ0s72/33,13C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.17	105	⇑P		Pg	12 09 16.3	-0.1
	208nm,0.2s							
AML				⇓S		Sg	12 09 19.2	+0.1
	140nm,0.1s							
EKS2	Erkin-Say	0.54	25	⇑P		Pg	12 09 22.9	-0.2
	3.4nm,0.2s,SNR=12							
EKS2				⇑S		Sg	12 09 30.5	+0.3
	5.8nm,0.2s							
MRKS	Merke	0.60	343	P		Pg	12 09 23.8	-0.4
	10.0nm,0.2s							
MRKS				S		Sg	12 09 32.3	+0.2
	24nm,0.2s							
MRKS	Merke	0.60	343	*e*P		Pg	12 09 23.9	-0.4
	10.0nm,0.2s							
MRKS				*e*S		Sg	12 09 32.3	+0.2
	24nm,0.2s							
UCH	Uchtor	0.78	86	⇓P		Pg	12 09 27.7	0.0
	2.2nm,0.2s							
UCH				⇑S		Sg	12 09 38.7	+0.8
	10.0nm,0.3s							
AAK	Ala-Archa	0.89	58	⇑P		Pg	12 09 29.5	-0.3
	4.8nm,0.4s,SNR=6.3							
AAK				⇑S		Sb	12 09 41.8	-0.8
	6.1nm,0.3s							
AAK	Ala-Archa	0.89	58	P		Pg	12 09 29.3	-0.5
	1.8nm,0.4s							
AAK				S		Sg	12 09 41.3	-0.1
	4.2nm,0.4s							
USP	Ospenovka	1.33	35	⇑P		Pn	12 09 37.4	-0.2
	3.8nm,0.2s,SNR=6.7							
USP				⇑S		Sg	12 09 55.0	-0.4
	5.0nm,0.1s							
TKM2	Tokmak 2	1.74	64	⇑P		Pb	12 09 45.0	-0.1
	3.0nm,0.2s,SNR=6.6							
TKM2	Tokmak 2	1.74	64	⇑P		Pg	12 09 45.8	-0.3
	2.0nm,0.4s							
TKM2				⇑S		Sg	12 10 09.6	+1.0
	3.6nm,0.6s							
KST	Kastek	2.04	64	*e*P		Pb	12 09 50.7	+0.7
	2.8nm,0.2s							
KST				*e*S		Sg	12 10 18.3	+0.2
	8.0nm,0.6s							
ULHL	Ulahol	2.06	87	⇑P		Pb	12 09 51.2	+0.6
	3.6nm,0.2s,SNR=9.8							
KRBS	Karabastau	2.22	46	Pg		Pb	12 09 53.2	0.0
	2.1nm,0.3s							
KRBS				Lg		Lg	12 10 22.6	
	5.2nm,0.3s							
KK31	Karatay Array	2.37	294	⇓Pg		Pb	12 09 55.7	0.0
	0.6nm,0.3s,baz=110,slow=17,SNR=22							
KK31				⇑Lg		Lg	12 10 28.7	
	3.4nm,0.5s,baz=111,slow=27,SNR=13							
TNSS	Tian-Shan	2.71	70	Pg		Pb	12 10 01.7	+0.1
	6.4nm,0.6s							
TNSS				Lg		Lg	12 10 37.5	
	2.9nm,0.6s							
TNSS	Tian-Shan	2.71	70	*e*P		Pb	12 10 01.7	+0.1
	6.4nm,0.6s							
TNSS				*e*S		Sg	12 10 37.5	-2.2
	2.9nm,0.6s							
BRLS	Borolday	2.81	289	Pg		Pg	12 10 05.8	-0.8
	0.9nm,0.3s							
BRLS				Lg		Lg	12 10 44.2	
	2.6nm,0.4s							
BRLS	Borolday	2.81	289	*e*P		Pg	12 10 05.8	-0.8
	0.9nm,0.3s							
BRLS				*e*S		Sg	12 10 44.2	+1.1
	2.6nm,0.4s							
KTBS	Karatobe	2.81	56	Pg		Pb	12 10 03.4	+0.1
	1.3nm,0.3s							
KTBS				Lg		Lg	12 10 40.2	
	6.9nm,0.7s							
BTLS	Baital	2.90	8	*e*P		Pb	12 10 04.7	+0.1
	0.8nm,0.2s							
BTLS				*e*S		Sb	12 10 42.0	+1.9
	4.0nm,0.3s							

VIE 05 12:11:15.2±0.6,47°.75N×13°.12E,h0km,ml0.9/1,Error
ellipse: s-maj=4.2km s-min=3.0km az=56.0,Suspected
Mining explosion.,Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LESA	Schwarzleotal	0.44	223	*i* Pg		Pg	12 11 23.4	-0.2
	0.6nm,0.1s							
LESA				*e*Sg		Sg	12 11 30.7	+1.3
	0.8nm,0.1s							

*IDC **05** 12:13:03.8±5.5,17°.96S×178°.61W,h491km±63km,mb3.3/8,*
mbtmp4.2/8,Error ellipse: s-maj=30.0km s-min=23.0km
az=0.0
*NEIC **05** 12:13:08.9±0.8,17°.7S±0°.1×178°.6W±0°.1,h570km±20km,*
mb4.4/22,Error ellipse: s-maj=23.2km s-min=16.7km
az=137.0

ISC 05 12:13:08.6±0.6,17°.9S±0°.1×178°.68W±0°.10,h550km,n34,
σ0s95/36,mb4.3/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	3.62	9	P		P	12 14 28.1	+0.2
NIUE	Niue	8.39	99	P		P	12 15 09.8	-0.4
ONTNC	Ouen Toro	14.63	250	P		P	12 16 16.6	+2.3
URZ	Urewera	20.60	189	P		P	12 17 07.2	-2.7
	2.7nm,0.3s,baz=3.3,slow=2.6,SNR=9.5							
	2.7nm,0.3s							
EIDS	Eidsvold	29.02	250	P		P	12 18 24.9	+0.1
EIDS				IAmb		IAmb	12 18 52.1	
	comp=Z,20nm,1.4s							
MLZ	Mavora Lakes	29.51	199	P		P	12 18 29.2	+0.6
ARMA	Armidale	29.71	240	P		P	12 18 31.4	+0.6
ARMA				IAmb		IAmb	12 18 35.2	
	comp=Z,20nm,1.3s							
PMG	Port Moresby	34.20	280	P		P	12 19 07.1	-1.9
PMG				IAmb		IAmb	12 19 23.9	
	comp=Z,17nm,1.2s							
COEN	Coen	36.84	270	P		P	12 19 30.2	-0.8
COEN				IAmb		IAmb	12 19 32.5	
	comp=Z,7.7nm,0.9s							
TOO	Toolangi	36.97	231	P		P	12 19 32.6	+1.0
TOO				IAmb		IAmb	12 19 33.4	
	comp=Z,12nm,1.1s							
STKA	Stephens Creek	38.40	241	P		P	12 19 43.9	+0.5
STKA	Stephens Creek	38.40	241	P		P	12 19 43.5	+0.1
	comp=Z,6.9nm,0.8s,baz=97,slow=8.6,SNR=12							
	comp=Z,6.9nm,0.8s							
BBOO	Buckleboo	43.18	241	P		P	12 20 21.2	-0.2
WR0	Warramunga Arr	44.19	260	P		P	12 20 28.7	-0.7
WB0	Warramunga Arr	44.34	260	P		P	12 20 29.8	-0.7
WB0				IAmb		IAmb	12 20 57.1	
	comp=Z,13nm,1.4s							
WB2	Warramunga Arr	44.36	260	P		P	12 20 30.0	-0.7
WRAB	Tennant Creek	44.37	260	P		P	12 20 29.8	-0.9
WRA	Warramunga Arr	44.38	260	P		P	12 20 30.1	-0.7
WRA	Warramunga Arr	44.38	260	P		P	12 20 30.0	-0.8
	comp=Z,3.4nm,0.8s,baz=97,slow=7.4,SNR=30							
WRA				PcP		PcP	12 22 03.4	+0.6
	comp=Z,0.9nm,0.8s,baz=93,slow=3.1,SNR=3.5							
	comp=Z,3.4nm,0.8s							
AS31	Alice Springs	44.54	254	P		P	12 20 31.8	-0.3
AS31				IAmb		IAmb	12 20 32.9	
	comp=Z,6.4nm,0.7s							
ASAR	Alice Springs	44.54	254	P		P	12 20 31.6	-0.4
	comp=Z,25nm,0.8s,baz=88,slow=8.2,SNR=214							
ASAR				PcP		PcP	12 22 03.7	+0.3
	comp=Z,1.1nm,0.7s,baz=101,slow=4.3,SNR=5.0							
	comp=Z,25nm,0.8s							
FORT	Forrest	49.77	245	P		P	12 21 10.8	-0.4
KNRA	Kununurra	50.23	264	P		P	12 21 14.4	-0.4
KNRA				IAmb		IAmb	12 21 15.2	
	comp=Z,11nm,0.8s							
FITZ	Fitzroy Crossi	52.77	261	P		P	12 21 32.6	-0.5
PSA00	Pilbara Seismi	57.66	255	P		P	12 22 06.9	-0.2
PSA00				IAmb		IAmb	12 22 07.5	
	comp=Z,11nm,0.8s							
MBWA	Marble Bar	57.82	256	P		P	12 22 07.1	-1.2
MBWA				IAmb		IAmb	12 22 39.8	
	comp=Z,17nm,1.2s							
NWAO	Narrogin (SRO)	58.98	242	P		P	12 22 16.3	+0.4
MORW	Morawa	60.24	246	P		P	12 22 23.9	-0.4
MORW				IAmb		IAmb	12 22 37.1	
	comp=Z,29nm,1.4s							
QSPA	South Pole Qui	72.14	180	P		P	12 23 38.1	+0.5
QSPA				IAmb		IAmb	12 23 39.6	
	comp=Z,8.4nm,1.4s							
QSPA	South Pole Qui	72.14	180	P		P	12 23 37.9	+0.3
	comp=Z,3.0nm,0.9s,baz=50,slow=7.9,SNR=2.1							
	comp=Z,3.0nm,0.9s							
NVAR	Mina Array Bea	79.61	44	P		P	12 24 20.9	+1.5
	comp=Z,0.3nm,0.6s,baz=252,slow=6.3,SNR=3.8							
	comp=Z,0.3nm,0.6s							
ILAR	Eielson Array	85.95	13	P		P	12 24 49.5	-0.8
	comp=Z,0.2nm,0.6s,baz=222,slow=4.8,SNR=6.0							
	comp=Z,0.2nm,0.6s							
PDAR	Pinedale Array	87.53	44	P		P	12 24 59.4	+0.8
	comp=Z,0.3nm,0.7s,baz=236,slow=5.8,SNR=3.3							
	comp=Z,0.3nm,0.7s							
BRTR	Keskin Array B	144.60	315	PKP		PKPab	12 31 44.1	+0.1
	comp=Z,0.6nm,0.5s,baz=115,slow=1.8,SNR=4.3							

ISC 05 12:24:42.9±1.2,50°.14N±0°.09×19°.06E±0°.05,h5km,n5,
σ1s32/9,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.48	80	*e*Pg		Pb	12 24 54.0	+0.2
OJC				*e*Sg		Sb	12 25 01.7	+0.5
LANS	Liptovska Anna	1.02	165	*e*PG		Pg	12 25 00.6	-1.9
LANS				*e*SG		Sn	12 25 21.1	+2.4
LANS				*e*LG		Lg	12 25 25.9	
MORC	Moravsky Berou	1.05	250	*e*PG		Pn	12 25 03.9	-0.4
MORC				*e*SG		Sg	12 25 16.1	-0.4
VYHS	Vyhne	1.65	185	*e*PG		Pg	12 25 14.3	-0.3
VRAC	Vranov	1.81	243	*e*PN		Pg	12 25 17.0	-0.5
VRAC				*e*SG		Sb	12 25 39.8	+0.5

*IDC **05** 12:54:17.5±1.6,3°.60S×136°.90E,h0km,mb3.4/2,*
mbtmp3.6/5,ML3.4/3,Error ellipse: s-maj=36.8km
s-min=26.4km az=128.0
*DJA **05** 12:54:17.7±0.4,4°.5±4°×13°.7E±°,h10km,M4.0/7,mb4.3/1,*
MLv3.9/7

ISC 05 12:54:21.5±1.0,3°.50S±0°.09×136°.71E±0°.07,h35km,n12,
**σ2s26/13

KIZ	Kirchzarten	1.44 226	Pg	Pn	13 04 09.0	-0.3
FELD	Feldberg im Sc	1.46 223	Pg	Pn	13 04 09.5	-0.1
ABH	Alteburg	1.56 307	Pn	Pn	13 04 09.6	-1.3
SULZ	Cheisacher	1.70 213	Sn	Sb	13 04 35.7	-0.2
SULZ	Cheisacher	1.70 213	Pg	Pb	13 04 13.8	-0.1
ENDD	Endenburg	1.70 224	Sn	Sn	13 04 35.6	+0.3
ECH	Echery	1.71 245	Pg	Pn	13 04 13.4	+0.5

*IDC **05** 13:06:56.5±0.9, 9°.24S×158°.79E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=24.9km s-min=16.9km az=173.0*
*NEIC **05** 13:06:58.0±0.7, 9°.23S±0°.10×158°.87E±0°.07, h10km±1km, mb4.6/14, Error ellipse: s-maj=19.1km s-min=7.3km az=325.0*
ISC 05 13:06:57.7±0.6, 9°3S±0°.1×158°.77E±0°.08, h10km, n32, σ0°66/27, mb4.3/15, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.18	98		Pn	13 07 19.2	-1.0
HNR	Honiara	1.18	98	Pn	Pn	13 07 20.2	0.0
	126nm,0.3s,baz=200,slow=12,SNR=51						
HNR				Sn	Sn	13 07 36.7	+0.4
	569nm,0.3s,baz=166,slow=18,SNR=14						
LHI	Lord Howe Isla	22.15	179	P	P	13 11 52.4	-1.3
WR0	Warramunga Arr	25.70	243	P	P	13 12 28.7	+0.4
WB0	Warramunga Arr	25.76	243	P	P	13 12 29.1	+0.2
WB0				IAmb	IAmb	13 12 46.0	
	comp=Z,9.6nm,1.4s						
WRAB	Tennant Creek	25.86	243	P	P	13 12 30.1	+0.3
WRA	Warramunga Arr	25.87	243	P	P	13 12 30.7	+0.8
	comp=Z,1.7nm,0.8s,baz=69,slow=9.2,SNR=5.6						
	comp=Z,1.7nm,0.8s						
STKA	Stephens Creek	27.57	213	P	P	13 12 45.9	+0.9
STKA	Stephens Creek	27.57	213	P	P	13 12 46.2	+1.1
	comp=Z,1.7nm,0.6s,baz=67,slow=14,SNR=4.3						
	comp=Z,1.7nm,0.6s						
ASAR	Alice Springs	27.74	236	P	P	13 12 46.5	-0.3
	comp=Z,0.9nm,0.9s,baz=53,slow=9.2,SNR=6.5						
	comp=Z,0.9nm,0.9s						
H11S3	WAKE ISLAND Hy	28.67	16	T	T	13 41 44.7	
	baz=195,slow=74,SNR=5.5						
H11S2	WAKE ISLAND Hy	28.67	16	T	T	13 41 46.5	
	baz=195,slow=74,SNR=10.0						
H11S1	WAKE ISLAND Hy	28.69	16	T	T	13 41 42.8	
	baz=195						
H11N1	WAKE ISLAND Hy	29.89	16	T	T	13 43 20.4	
	baz=195,slow=76,SNR=4.5						
H11N3	WAKE ISLAND Hy	29.90	16	T	T	13 43 12.0	
	baz=195,slow=76,SNR=5.3						
H11N2	WAKE ISLAND Hy	29.91	16	T	T	13 43 27.1	
	baz=195,slow=76,SNR=3.7						
KNRA	Kununurra	29.96	255	P	P	13 13 06.8	+0.4
KNRA				IAmb	IAmb	13 13 45.2	
	comp=Z,15nm,1.4s						
BBOO	Buckleboo	31.45	219	P	P	13 13 19.2	-0.3
BBOO				IAmb	IAmb	13 13 21.4	
	comp=Z,20nm,1.2s						
MGBR	Mount Gambier	32.75	207	P	P	13 13 31.8	+1.0
FITZ	Fitzroy Crossi	33.31	251	P	P	13 13 36.3	+0.3
BKZ	Black Stump Fm	33.74	155	P	P	13 13 40.0	+0.4
BKZ				IAmb	IAmb	13 14 00.8	
	comp=Z,8.4nm,1.2s						
KULM	Kulim	59.70	282	P	P	13 17 01.6	-1.4
KULM				IAmb	IAmb	13 17 44.6	
	comp=Z,7.7nm,1.0s						
PETK	Petropavlovsk-	62.13	359	P	P	13 17 19.5	+0.7
	comp=Z,7.6nm,1.2s,baz=147,slow=8.8,SNR=4.0						
	comp=Z,7.6nm,1.2s						
SONM	Songino Array	73.27	326	P	P	13 18 29.8	+0.3
	comp=Z,0.8nm,0.7s,baz=140,slow=7.2,SNR=5.6						
	comp=Z,0.8nm,0.7s						
N15K	Kwethluk River	76.52	20	P	P	13 18 47.8	0.0
K17K	Iditarod	78.98	19	P	P	13 19 01.5	+0.1
K17K				IAmb	IAmb	13 19 03.8	
	comp=Z,18nm,1.4s						
CAST	Castle Rocks	81.51	20	P	P	13 19 14.6	-0.5
CAST				IAmb	IAmb	13 19 30.5	
	comp=Z,4.1nm,1.4s						
ILAR	Eielson Array	84.14	20	P	P	13 19 28.7	0.0
	comp=Z,0.2nm,0.4s,baz=246,slow=5.1,SNR=9.3						
	comp=Z,0.2nm,0.4s						
J25K	Salcha River,	84.58	21	P	P	13 19 30.9	-0.2
J25K				IAmb	IAmb	13 20 03.1	
	comp=Z,2.6nm,1.4s						
MKAR	Makanchi Array	87.57	318	P	P	13 19 45.8	-0.4
MKAR	Makanchi Array	87.57	318	P	P	13 19 46.5	+0.3
	comp=Z,0.3nm,0.6s,baz=123,slow=4.5,SNR=3.9						
	comp=Z,0.3nm,0.6s						
SYO	Syowa Base	91.39	198	‖eP	P	13 20 04.0	+0.4

*GCG **05** 13:16:35.1±1.9, 14°.02N×93°.16W, h13km±19km, MD4.9, ML3.7, MW3.8*
*IDC **05** 13:16:36.4±3.0, 14°.24N×93°.03W, h0km, mb3.7/4, mbtmp3.6/6, ML3.1/2, MS3.0/2, Error ellipse: s-maj=61.3km s-min=23.5km az=7.0*
*NEIC **05** 13:16:36.9±1.3, 14°.25N±0°.06×93°.07W±0°.04, h10km±2km, mb3.8/2, Md4.3/39(MEX), Error ellipse: s-maj=10.2km s-min=6.0km az=155.0*
*MEX **05** 13:16:38.1±0.8, 14°.16N×93°.10W, h4km±19km, MD4.3*
ISC 05 13:16:34.9±1.7, 14°20N±0°.06×93°.14W±0°.03, h3km±11km, n58, σ2°29/88, mb3.8/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.10	50		Pg	13 16 56.2	+0.2
THIG					Sb	13 17 10.2	-1.2
THIG		1.10	50	eP	Pg	13 16 56.2	+0.2
THIG				i S	Sb	13 17 10.2	-1.2
THIG		1.10	50	eP	Pg	13 16 55.8	-0.2
	comp=Z,1μm,0.6s						
THIG				i S	Sn	13 17 13.5	+0.5
THIG				IAML		13 17 18.5	
	comp=Z,1μm,0.6s						
THIG		1.10	50	eP		13 16 55.8	
	comp=Z,1μm,0.6s						
THIG				i S		13 17 13.5	
THIG				IAML		13 17 18.5	
	comp=Z,1μm,0.6s						
SMCA	Catarina	1.22	57	eP	Pb	13 16 58.0	-0.7
	comp=Z,880nm,0.5s						
SMCA				IAML		13 17 27.5	
	comp=Z,880nm,0.5s						
SMCA	Catarina	1.22	57	eP		13 16 58.0	
	comp=Z,880nm,0.5s						
SMCA				IAML		13 17 27.5	
	comp=Z,880nm,0.5s						
PATR	El Naranjo	1.26	44	eP	Pb	13 16 58.5	-1.1
PATR				i S	Sb	13 17 14.9	-1.4
PAVE	Pavencul	1.36	43	eP	Pn	13 16 59.9	-1.1
PAVE				eS	Sg	13 17 18.1	-0.5
RTAL	Retalhuleu	1.44	77		Pn	13 17 01.6	-0.3
RTAL	Retalhuleu	1.44	77	eP	Pn	13 17 01.5	-0.3
RTAL				eS	Sb	13 17 18.0	-3.0
PCIG		1.50	357		Pn	13 17 01.8	-0.9
PCIG					Sn	13 17 16.5	-6.3
PCIG		1.50	357	eP	Pn	13 17 01.8	-0.9
PCIG				eS	Sn	13 17 16.5	-6.3
STG8	El Palmar, Qui	1.75	82	eP		13 17 03.3	
STG0	El Palmar, Qui	1.76	82	i P		13 17 03.4	
SOKI	Kika Raxquin	1.79	70	eP	Pn	13 17 07.5	+0.4
SOKI				IAML		13 17 34.0	
	comp=Z,480nm,0.9s						
SOKI	Kika Raxquin	1.79	70	eP		13 17 07.5	
SOKI				IAML		13 17 34.0	
	comp=Z,480nm,0.9s						
HUEH	Huehuetenango	1.94	55		Pn	13 17 09.3	+0.4
HUEH	Huehuetenango	1.94	55	eP	Pn	13 17 08.9	0.0
HUEH				eS	Sn	13 17 30.9	-3.0
CARR	Arriaga	2.17	340	eP	Pn	13 17 14.3	+2.3
CARR				i S	Sn	13 17 38.7	-0.7
ESSG	Sabana Grande	2.25	85	eP	Pn	13 17 12.5	-0.6
ESSG	Sabana Grande	2.25	85	eP		13 17 12.5	
CCIG	Comitan	2.29	25		Pn	13 17 13.9	+0.2
CCIG	Comitan	2.29	25	eP	Pb	13 17 15.9	-1.1
CCIG				eS	Sn	13 17 41.9	-0.7
CCIG	Comitan	2.29	25	eP	Pb	13 17 16.1	-0.9
	comp=Z,524nm,0.7s						
CCIG				IAML		13 17 49.7	
	comp=Z,524nm,0.7s						
CCIG	Comitan	2.29	25	eP		13 17 16.1	
	comp=Z,524nm,0.7s						
CCIG				IAML		13 17 49.7	
	comp=Z,524nm,0.7s						
TGIG		2.56	0		Pn	13 17 18.6	+1.2
TGIG					Sn	13 17 49.3	+0.1
TGIG		2.56	0	eP	Pn	13 17 18.6	+1.2
TGIG				eS	Sn	13 17 49.3	+0.1
TGIG		2.56	0	eP	Pn	13 17 19.0	+1.5
	comp=Z,396nm,0.6s						
TGIG				i S	Sn	13 17 50.8	+1.6
TGIG				IAML		13 17 55.8	
	comp=Z,396nm,0.6s						
TGIG		2.56	0	eP		13 17 19.0	
	comp=Z,396nm,0.6s						
TGIG				i S		13 17 50.8	
TGIG				IAML		13 17 55.8	
	comp=Z,396nm,0.6s						
APG	El Apazote	2.71	73	Pn	Pn	13 17 20.6	+1.0
	comp=Z,1.1nm,0.3s,baz=189,slow=9.4,SNR=38						
APG				Sn	Sn	13 17 54.1	+1.1
	comp=Z,0.9nm,0.3s,baz=226,slow=19,SNR=7.2						
APG	El Apazote	2.71	73	i P	Pn	13 17 20.6	+1.0
APG	El Apazote	2.71	73	i P		13 17 20.6	
NILT	Santiago Nilte	2.75	329	eP	Pn	13 17 21.0	+1.1
NILT				eS	Sn	13 17 53.4	-0.3
UXUV	UXUV	3.25	343	eP	Pn	13 17 28.8	+2.0
UXUV				eS	Sn	13 18 05.2	-0.9
HUIG	Huatulco	3.27	299		Pn	13 17 27.5	+0.5
HUIG					Sn	13 18 01.2	-5.2
HUIG	Huatulco	3.27	299	eP	Pn	13 17 27.5	+0.5
HUIG				eS	Sn	13 18 01.2	-5.2
NUBE	Las Nubes	3.27	95	i P	Pn	13 17 27.9	+0.5
NUBE	Las Nubes	3.27	95	i P		13 17 27.9	
CMIG	Matias Romero	3.33	330		Pn	13 17 28.8	+0.9
CMIG					Sn	13 18 07.6	-0.5
CMIG	Matias Romero	3.33	330	Pn	Pn	13 17 29.3	+1.3
	comp=Z,7.1nm,0.3s,baz=167,slow=13,SNR=53						
CMIG				Sn	Sn	13 18 06.9	-1.2
	comp=Z,11nm,0.3s,baz=114,slow=15,SNR=4.5						
	comp=Z,16nm,0.3s						
CMIG	Matias Romero	3.33	330	eP	Pn	13 17 28.8	+0.9
CMIG				i S	Sn	13 18 07.6	-0.5
MTO3	Montecristo	3.67	86		Pn	13 17 32.9	+0.1
PETF	Flores	4.15	49		Pn	13 17 40.2	+1.0
PETF	Flores	4.15	49	eP	Pn	13 17 40.6	+1.4
PETF	Flores	4.15	49	eP		13 17 40.6	
PEIG	Puerto Escondi	4.26	295		Pn	13 17 42.4	+1.6
PEIG					Sn	13 18 25.8	-5.4
PEIG	Puerto Escondi	4.26	295	eP	Pn	13 17 42.4	+1.6
PEIG				eS	Sn	13 18 25.8	-5.4
NEUV	Arroyo Zacate	4.33	324	eP	Pn	13 17 42.6	+0.9
NEUV				eS	Sn	13 18 28.8	-3.9
YOIG	Yosondua	5.00	302		Sn	13 18 47.1	-2.7
YOIG	Yosondua	5.00	302	eS	Sn	13 18 47.1	-2.7
SCIG	Sabancuy	5.10	21	eP	Pn	13 17 54.6	+2.4
SCIG				eS	Sn	13 18 50.7	-1.0
PNIG	Pinotepa	5.28	295		Pn	13 17 56.8	+2.0
PNIG					Sn	13 18 51.5	-4.8
PNIG	Pinotepa	5.28	295	eP	Pn	13 17 56.8	+2.0
PNIG				eS	Sn	13 18 51.5	-4.8
TOIG	Toxpalan	5.41	316		Pn	13 17 57.7	+1.1
TOIG					Sn	13 18 57.6	-1.9
TOIG	Toxpalan	5.41	316	eP	Pn	13 17 57.7	+1.1
TOIG				eS	Sn	13 18 57.6	-1.9
JAUV	Jalcomulco	6.22	326	eP	Pn	13 18 09.1	+1.4
JAUV				eS	Sn	13 19 19.0	-0.5
TEIG	Tepich	7.58	37		Pn	13 18 25.8	-0.6
TEIG	Tepich	7.58	37	Pn	Pn	13 18 26.5	+0.1
	baz=232,slow=20						
TEIG				Sn	Sn	13 19 45.8	-7.1
	baz=300,slow=24,SNR=1.3						
TXAR	Lajitas Array	17.94	329	P	P	13 20 48.2	+2.0
	comp=Z,0.8nm,0.8s,baz=145,slow=13,SNR=5.6						
SLBS	Sierra La Lagu	18.47	303	P	P	13 20 52.3	+0.2
SLBS				IAmb	IAmb	13 21 27.0	
	comp=Z,12nm,1.2s						
WMOK	Wichita Mounta	21.07	347	P	P	13 21 20.4	-0.1
WMOK				IAmb	IAmb	13 21 27.2	
	comp=Z,6.0nm,1.4s						
TKL	Tuckaleechee C	22.97	20	LR	LR	13 29 35.8	
	comp=Z,32nm,21.2s,baz=31,slow=34						
ANMO	Albuquerque	23.90	332	LR	LR	13 32 22.7	
	comp=Z,38nm,18.6s,baz=265,slow=40						
PDAR	Pinedale Array	31.79	337	P	P	13 23 03.4	+2.4
	comp=Z,0.4nm,0.7s,baz=140,slow=9.4,SNR=4.9						
	comp=Z,0.4nm,0.7s						
NVAR	Mina Array Bea	32.83	322	P	P	13 23 13.7	+3.6
	comp=Z,1.1nm,0.7s,baz=138,slow=8.7,SNR=9.6						
	comp=Z,1.1nm,0.7s						
MCMT	McKenzie Canyo	34.82	335	P	P	13 23 27.0	-0.4
YKA	Yellowknife Ar	50.58	347	P	P	13 25 35.4	+0.7
	comp=Z,1.1nm,0.7s,baz=157,slow=7.5,SNR=22						
	comp=Z,1.1nm,0.7s						
ILAR	Eielson Array	62.22	337	P	P	13 26 59.2	+1.4
	comp=Z,0.5nm,0.8s,baz=142,slow=5.5,SNR=6.4						
	comp=Z,0.5nm,0.8s						
CMAR	Chiang Mai Arr	145.43	340	PKPbc	PKPbc	13 36 15.9	+0.6
	comp=Z,0.8nm,0.6s,baz=338,slow=4.8,SNR=5.5						

IDC 05 13:27:22.3±2.3, 6°86S×129°.01E, h0km, mb3.4/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=118.9km s-min=33.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.00	159	Pn	Pn	13 30 42.9	+0.8
	0.2nm,0.3s,baz=338,slow=13,SNR=13						
WRA				Sn	Sn	13 33 02.9	-15
	0.5nm,0.3s,baz=341,slow=23,SNR=9.0						
	0.3nm,0.3s						
ASAR	Alice Springs	17.36	165	P	Pn	13 31 25.7	-0.6
	0.2nm,0.3s,baz=345,slow=9.7,SNR=19						
ASAR				S	Sn	13 34 22.1	-18
	0.2nm,0.4s,baz=327,slow=19,SNR=6.8						
	0.5nm,0.6s						
MKAR	Makanchi Array	67.57	327	P	P	13 38 20.8	0.0
	0.1nm,0.4s,baz=118,slow=7.9,SNR=2.4						
	0.1nm,0.4s						

IDC 05 13:30:12.7±3.9, 32°.41N×84°.78E, h0km, mb3.0/2, mbtmp3.2/5, ML3.2/3, MS2.9/2, Error ellipse: s-maj=89.4km s-min=29.9km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.49	353	Pn	Pn	13 33 38.7	-0.4
	baz=161,slow=12,SNR=5.7						
	0.6nm,0.9s						
KURBB	Kurchatov Arra	18.78	348	P	P	13 34 33.3	0.0
	baz=161,slow=11,SNR=5.3						
	0.4nm,0.8s						
CMAR	Chiang Mai Arr	18.86	134	P	P	13 34 34.4	-0.1
	0.1nm,0.3s,baz=317,slow=11,SNR=4.7						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	21.53	0	P	P	13 35 02.9	-0.3
	0.5nm,0.5s,baz=176,slow=9.4,SNR=2.3						
ZALV				LR	LR	13 44 29.4	
	comp=Z,20nm,18.2s,baz=82,slow=40						
	0.5nm,0.5s						
SONM	Songino Array	22.49	40	P	P	13 35 13.8	+0.1
	0.3nm,0.5s,baz=224,slow=10,SNR=3.2						
	0.3nm,0.5s						
PALK	Pallekele	25.30	189	LR	LR	13 46 15.4	
	comp=Z,40nm,19.1s,baz=82,slow=38						

*IDC **05** 13:44:45.0±13.0, 19°.96S×177°.64W, h376km±116km, mb3.6/4, mbtmp4.4/5, Error ellipse: s-maj=80.9km s-min=27.6km az=38.0*
*NEIC **05** 13:44:45.3±0.5, 19°.88S±0°.07×177°.6W±0°.2, h384km±10km, mb4.1/18, Error ellipse: s-maj=31.2km s-min=7.1km az=103.0*
ISC 05 13:44:46.7±1.0, 19°.9S±0°.1×177°.7W±0°.2, h400km, n28, σ0°61/29, mb3.9/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	Funafuti	11.68	345	P	P	13 47 22.2	-0.8
URZ	Urewera	18.85	193	P	P	13 48 38.9	-1.1
	11nm,1.1s,baz=149,slow=17,SNR=1.5						
STKA	Stephens Creek	38.30	244	P	P	13 51 30.4	-0.5
STKA	Stephens Creek	38.30	244	P	P	13 51 31.2	+0.3
	1.6nm,0.4s,baz=81,slow=11,SNR=7.0						
	1.6nm,0.4s						
BBOO	Buckleboo	43.06	243	P	P	13 52 08.2	-1.1
BBOO				IAmb	IAmb	13 52 32.9	
	comp=Z,32nm,1.3s						
WR0	Warramunga Arr	44.76	261	P	P	13 52 23.1	+0.2
AS31	Alice Springs	44.92	256	P	P	13 52 24.2	+0.2
ASAR	Alice Springs	44.92	256	P	P	13 52 24.0	-0.1
ASAR	Alice Springs	44.92	256	P	P	13 52 24.7	+0.7
	comp=Z,8.6nm,0.7s,baz=90,slow=8.5,SNR=225						
ASAR				PcP	PcP	13 53 57.7	+0.1
	comp=Z,0.9nm,0.6s,baz=108,slow=3.6,SNR=7.3						
	comp=Z,8.6nm,0.7s						
WB0	Warramunga Arr	44.93	262	P	P	13 52 24.4	+0.3
WB0				IAmb	IAmb	13 52 25.3	
	comp=Z,7.1nm,0.6s						
WB2	Warramunga Arr	44.94	261	P	P	13 52 24.4	+0.1
WB2				IAmb	IAmb	13 52 25.5	
	comp=Z,5.0nm,0.8s						
WRAB	Tennant Creek	44.94	261	P	P	13 52 24.4	+0.1
WRAB				IAmb	IAmb	13 52 33.7	
	comp=Z,8.3nm,1.2s						
WRA	Warramunga Arr	44.95	261	P	P	13 52 24.3	0.0
WRA	Warramunga Arr	44.95	261	P	P	13 52 24.8	+0.5
	comp=Z,2.9nm,0.6s,baz=97,slow=6.7,SNR=47						
	comp=Z,2.9nm,0.6s						
KNRA	Kununurra	50.97	266	P	P	13 53 10.6	+0.8
KNRA				IAmb	IAmb	13 53 11.5	
	comp=Z,3.9nm,0.6s						
FITZ	Fitzroy Crossi	53.37	262	P	P	13 53 28.1	+0.9
PSA00	Pilbara Seismi	58.07	256	P	P	13 54 00.2	0.0
PSA00				IAmb	IAmb	13 54 00.8	
	comp=Z,27nm,1.5s						
MBWA	Marble Bar	58.25	257	P	P	13 54 00.9	-0.5
MBWA				IAmb	IAmb	13 54 40.5	
	comp=Z,17nm,1.2s						
GIRL	Giralia	62.97	254	P	P	13 54 34.0	+1.2
CASY	Casey	64.63	205	P	P	13 54 42.8	0.0
QSPA	South Pole Qui	70.18	180	P	P	13 55 17.8	+0.5
QSPA				IAmb	IAmb	13 55 28.6	
	comp=Z,8.0nm,1.5s						
QSPA	South Pole Qui	70.18	180	P	P	13 55 17.6	+0.3
	comp=Z,2.2nm,1.0s,baz=329,slow=1.4,SNR=5.6						
	comp=Z,2.2nm,1.0s						
SBUM	Sibu	72.17	279	P	P	13 55 29.8	0.0
SBUM				IAmb	IAmb	13 55 40.3	
	comp=Z,2.3nm,1.1s						
J16K	Anvik River	83.98	8	P	P	13 56 33.0	+0.2
J20K	Nowinta River	85.77	10	P	P	13 56 42.0	+0.4
J20K				IAmb	IAmb	13 56 55.4	
	comp=Z,5.9nm,1.2s						
AKASG	Malin Array Be	142.60	332	PKP	PKPdf	14 03 31.7	-1.0
	comp=Z,1.5nm,0.4s,baz=43,slow=3.9,SNR=11						
BRTR	Keskin Array B	146.62	313	PKPbc	PKPbc	14 03 43.2	+0.7
	comp=Z,0.9nm,0.6s,baz=129,slow=4.0,SNR=3.8						
MMAI	Mount Meron Ar	147.74	301	PKPbc	PKiKP	14 03 47.5	+0.3
	comp=Z,2.7nm,0.6s,baz=75,slow=4.6,SNR=3.6						

*NEIC **05** 13:44:58.0±2.3, 14°.32N±0°.05×93°.02W±0°.04, h10km±1km, mb4.9/371, Md4.9/133(MEX), Error ellipse: s-maj=8.3km s-min=6.1km az=148.0*
*GCG **05** 13:44:57.5±1.6, 14°.15N×93°.07W, h26km±13km, MD5.1, ML4.6, MW4.7*
*CATAC **05** 13:44:58.8±0.5, 14°N±3°×9°.3W±°, h7km, M5.1/24, mb5.3/8, mB5.5/7, MLv5.2/24, Mw(mB)5.0/7, Error ellipse: s-maj=8.5km s-min=6.2km az=52.8, confirmed*
*MEX **05** 13:44:59.1±0.7, 14°.21N×93°.06W, h9km±18km, MD4.9*
*GCMT **05** 13:45:00.0±0.2, 14°.27N±0°.01×93°.06W±0°.02, h20km, MW5.1/112, Moment Tensor Solution. s83,c108; s112,c163; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.27±.14; M_{tt}-3.05±.09; $M_{\phi\phi}$-1.21±.09; $M_{r\theta}$2.39±.16; $M_{\theta\phi}$1.40±.06; $M_{\phi r}$-2.44±.19; Best double couple: $M_0$5.27900×10^{16} NP1:ϕ_s291.00000°, δ26.00000°, λ74.00000°. NP2:ϕ_s129.00000°, δ65.00000°, λ98.00000°. Principal axes: T 5.5740, Plg69.0000°, Azm54.0000°; N -0.5810, Plg7.0000°, Azm306.0000°; P -4.9840, Plg20.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*RSNC **05** 13:45:02.7±0.9, 14°N±4°×9°.3W±°, h40km±7km, M4.6, mb4.7, mB5.2, ML4.3, Mw(mB)4.8, MwMwp5.0, Mwp5.3*
*IDC **05** 13:45:06.6±2.1, 14°.53N×92°.47W, h85km±17km, mb4.2/19, mbtmp4.5/23, MS4.3/57, Error ellipse: s-maj=20.7km s-min=10.7km az=54.0*
ISC 05 13:44:58.2±0.7, 14°25N±0°.04×92°.99W±0°.04, h22km±5km, n693, σ1°80/580, mb4.8/166, MS4.3/55, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.96	47		Pn	13 45 16.0	-0.4
THIG					Sn	13 45 28.2	-1.2
THIG		0.96	47	eP	Pn	13 45 16.0	-0.4
THIG				eS	Sn	13 45 28.2	-1.2
THIG		0.96	47	i P	Pn	13 45 16.1	-0.4
	comp=Z,15μm,0.7s						
THIG				IAML		13 45 39.4	
	comp=Z,15μm,0.7s						
THIG		0.96	47	i P		13 45 16.1	
	comp=Z,15μm,0.7s						
THIG				IAML		13 45 39.4	
	comp=Z,15μm,0.7s						
SMCA	Catarina	1.07	56	eP	Pb	13 45 18.0	-0.2
	comp=Z,11μm,0.9s						
SMCA				IAML		13 45 35.7	
	comp=Z,11μm,0.9s						
SMCA	Catarina	1.07	56	eP		13 45 18.0	
	comp=Z,11μm,0.9s						
SMCA				IAML		13 45 35.7	
	comp=Z,11μm,0.9s						
PATR	El Naranjo	1.13	40	i P	Pn	13 45 18.3	-0.6
PATR				eS	Sn	13 45 33.9	-0.1
CHUJ	Union Juarez	1.20	45	eP	Pb	13 45 19.9	-0.5
CHUJ				eS	Sn	13 45 35.4	-0.3
PAVE	Pavencul	1.23	40	eP	Pn	13 45 19.9	-0.4
PAVE				eS	Sn	13 45 35.9	-0.4
RTAL	Retalhuleu	1.29	77		Pb	13 45 21.3	-0.4
RTAL	Retalhuleu	1.29	77	eP	Pb	13 45 21.3	-0.4
RTAL				eS	Sb	13 45 37.7	-0.1
RTAL	Retalhuleu	1.29	77	S	Sb	13 45 40.0	+2.2
RTAL	Retalhuleu	1.29	77	P	Pb	13 45 21.5	-0.2
PCIG		1.47	351		Pn	13 45 21.8	-1.5
PCIG					Sn	13 45 39.9	-2.0
PCIG		1.47	351	eP	Pn	13 45 21.8	-1.5
PCIG				eS	Sn	13 45 39.9	-2.0
STG8	El Palmar, Qui	1.60	83	eP		13 45 23.1	
STG8				i S		13 45 44.3	
STG0	El Palmar, Qui	1.61	83	eP		13 45 23.2	
SOKI	Kika Raxquin	1.64	69	eP	Pb	13

CARR *i* S **Sn** **13 45 59.1 -0.3**
CCIG Comitan 2.19 22 Pn 13 45 34.0 +0.6
CCIG Comitan 2.19 22 *eP* **Pb 13 45 35.3 -1.9**
CCIG *eS* **Sb 13 46 01.0 -2.9**
CCIG Comitan 2.19 22 P **Pb 13 45 36.0 -1.1**
CCIG Comitan 2.19 22 S **Sb 13 46 05.7 +1.8**
CCIG Comitan 2.19 22 P **Pb 13 45 36.1 -1.1**
CCIG P **Pn 13 45 36.5 +3.1**
CCIG Comitan 2.19 22 *eP* **Pb 13 45 35.3 -1.9**
comp=Z,5μm,0.6s
CCIG IAML 13 46 09.6
comp=Z,5μm,0.6s
CCIG Comitan 2.19 22 *eP* 13 45 35.3
comp=Z,5μm,0.6s
CCIG IAML 13 46 09.6
comp=Z,5μm,0.6s
GCG4 OSOP 2.41 82 *eP* **Pn 13 45 38.4 +2.0**
comp=Z,4μm,1.0s
GCG4 IAML 13 46 23.9
comp=Z,4μm,1.0s
GCG4 OSOP 2.41 82 *eP* 13 45 38.4
comp=Z,4μm,1.0s
GCG4 IAML 13 46 23.9
comp=Z,4μm,1.0s
TGBT Tuxtla Gutierr 2.52 358 Pn 13 45 38.4 +0.6
TGBT **Sn 13 46 07.6 -0.2**
TGBT Tuxtla Gutierr 2.52 358 *eP* **Pn 13 45 38.4 +0.6**
TGBT *eS* **Sn 13 46 07.6 -0.2**
TGIG 2.52 357 Pn 13 45 38.8 +0.9
TGIG **Sn 13 46 08.4 +0.4**
TGIG 2.52 357 *eP* **Pn 13 45 38.8 +0.9**
TGIG *eS* **Sn 13 46 08.4 +0.4**
TGIG 2.52 357 *i* P **Pn 13 45 38.8 +0.9**
comp=Z,4μm,0.5s
TGIG *eS* **Sn 13 46 09.8 +1.8**
TGIG IAML 13 46 19.1
comp=Z,4μm,0.5s
TGIG 2.52 357 *i* P 13 45 38.8
comp=Z,4μm,0.5s
TGIG *eS* 13 46 09.8
TGIG IAML 13 46 19.1
comp=Z,4μm,0.5s
APG El Apazote 2.56 73 P **Pn 13 45 40.4 +1.8**
comp=Z,28nm,0.2s,baz=197,slow=13,SNR=254
APG S **Sn 13 46 08.6 -0.6**
comp=Z,84nm,0.7s,baz=217,slow=17,SNR=5.9
APG El Apazote 2.56 73 *i* P **Pn 13 45 40.4 +1.8**
APG El Apazote 2.56 73 *i* P 13 45 40.4
NILT Santiago Nilte 2.79 326 *eP* **Pn 13 45 40.3 -1.2**
NILT *eS* **Sn 13 46 13.6 -0.9**
SLOZ Alcaldia de Sa 3.12 94 P **Pn 13 45 47.1 +1.0**
SLOZ Alcaldia de Sa 3.12 94 S **Sn 13 46 24.8 +2.0**
SLOZ Alcaldia de Sa 3.12 94 P **Pn 13 45 47.3 +1.2**
LOAL Lomas de Alarc 3.12 94 P **Pn 13 45 47.6 +1.4**
LOAL Lomas de Alarc 3.12 94 P **Pn 13 45 48.1 +1.9**
NUBE Las Nubes 3.13 96 P **Pn 13 45 46.6 +0.2**
NUBE Las Nubes 3.13 96 S **Sn 13 46 22.2 -1.1**
NUBE Las Nubes 3.13 96 P **Pn 13 45 47.0 +0.6**
NUBE Las Nubes 3.13 96 *eP* **Pn 13 45 47.1 +0.6**
NUBE Las Nubes 3.13 96 *eP* 13 45 47.1
UXUV UXUV 3.25 340 *eP* **Pn 13 45 48.7 +0.8**
UXUV *eS* **Sn 13 46 26.8 +0.9**
CEVE Cerro Verde 3.29 97 P **Pn 13 45 50.1 +1.4**
CEVE Cerro Verde 3.29 97 P **Pn 13 45 50.8 +2.1**
CMIG Matias Romero 3.37 327 Pn 13 45 48.8 -0.7
CMIG **Sn 13 46 27.6 -1.1**
CMIG Matias Romero 3.37 327 P **Pn 13 45 49.5 0.0**
comp=Z,335nm,0.3s,baz=152,slow=12,SNR=515
CMIG S **Sn 13 46 29.9 +1.1**
comp=Z,1μm,0.7s,baz=93,slow=11,SNR=12
CMIG Matias Romero 3.37 327 *eP* **Pn 13 45 48.8 -0.7**
CMIG *eS* **Sn 13 46 27.6 -1.1**
HUIG Huatulco 3.37 297 Pn 13 45 48.0 -1.5
HUIG **Sn 13 46 24.4 -4.5**
HUIG Huatulco 3.37 297 *eP* **Pn 13 45 48.0 -1.5**
HUIG *eS* **Sn 13 46 24.4 -4.5**
HUIG Huatulco 3.37 297 *eP* **Pn 13 45 48.2 -1.3**
comp=Z,472nm,1.0s
HUIG IAML 13 47 08.2
comp=Z,472nm,1.0s
HUIG Huatulco 3.37 297 *eP* 13 45 48.2
comp=Z,472nm,1.0s
HUIG IAML 13 47 08.2
comp=Z,472nm,1.0s
JAYA Jayaque - finc 3.49 99 P **Pn 13 45 51.9 +0.5**
JAYA Jayaque - finc 3.49 99 P **Pn 13 45 52.5 +1.2**
JAYA Jayaque - finc 3.49 99 *eP* **Pn 13 45 51.8 +0.5**
JAYA Jayaque - finc 3.49 99 *eP* 13 45 51.8
MTO3 Montecristo 3.52 87 P **Pn 13 45 52.1 +0.3**
MTO3 Montecristo 3.52 87 P **Pn 13 45 52.6 +0.8**
ESQI Esquipulas 3.55 85 Pn 13 45 53.4 +1.3
ESQI Esquipulas 3.55 85 P **Pn 13 45 53.5 +1.5**
ESQI Esquipulas 3.55 85 P **Pb 13 45 56.9 -3.5**
PMON Piamonte 3.61 98 P **Pn 13 45 54.3 +1.4**
PMON Piamonte 3.61 98 P **Pn 13 45 54.6 +1.7**
LALI Alcalda de L 3.64 101 P **Pn 13 45 53.7 +0.4**
LALI Alcalda de L 3.64 101 P **Pn 13 45 55.0 +1.7**
VHSA Villahermosa 3.72 1 *eP* **Pn 13 45 55.9 +1.6**
VHSA *eS* **Sn 13 46 37.1 -0.2**
LOMA Loma Larga 3.76 99 P **Pn 13 45 56.6 +1.6**
LOMA Loma Larga 3.76 99 P **Pn 13 45 57.3 +2.3**
UDBS Universidad Do 3.76 98 P **Pn 13 45 50.7 -4.3**
UDBS Universidad Do 3.76 98 P **Pn 13 45 51.2 -3.8**
PAVA Las Pavas 3.97 97 P **Pn 13 45 58.9 +1.0**
PAVA Las Pavas 3.97 97 P **Pn 13 45 59.4 +1.5**
TUIG Tuzandepetl 4.01 340 *eP* **Pn 13 45 57.8 -0.6**
TUIG *eS* **Sn 13 46 43.6 -1.1**
PETF Flores 4.01 48 Pn 13 45 59.8 +1.4
PETF Flores 4.01 48 *eP* **Pn 13 46 00.2 +1.8**
PETF *eS* **Sn 13 46 47.9 +3.2**
PETF Flores 4.01 48 *eP* **Pn 13 46 00.3 +1.9**
PETF Flores 4.01 48 *eP* 13 46 00.3
COEG Centro de Oper 4.04 98 P **Pn 13 46 01.2 +2.4**
COEG Centro de Oper 4.04 98 P **Pn 13 46 01.3 +2.5**
PQSS Presa 15 de Se 4.35 98 P **Pn 13 46 05.1 +2.2**
PQSS Presa 15 de Se 4.35 98 P **Pn 13 46 06.5 +3.6**
PEIG Puerto Escondi 4.38 294 Pn 13 46 02.2 -1.2
PEIG **Sn 13 46 47.7 -6.0**
PEIG Puerto Escondi 4.38 294 *eP* **Pn 13 46 02.2 -1.2**
PEIG *eS* **Sn 13 46 47.7 -6.0**
NEUV Arroyo Zacate 4.38 322 *eP* **Pn 13 46 01.8 -1.6**
NEUV *eS* **Sn 13 46 49.3 -4.5**
IZABA Izabal, Puerto 4.51 70 *i* P **Pn 13 46 07.8 +2.6**
OXIG Oaxaca 4.57 308 Pn 13 46 06.2 0.0
OXIG **Sn 13 46 59.7 +0.9**
VHO Vista Hermosa 4.57 308 *eP* **Pn 13 46 06.2 0.0**
VHO *eS* **Sn 13 46 59.7 +0.9**
PACA Pacayal 4.60 99 P **Pn 13 46 09.1 +2.5**
PACA Pacayal 4.60 99 P **Pn 13 46 10.1 +3.5**
RANC El Ranchito 4.64 99 P **Pn 13 46 09.0 +1.9**
RANC El Ranchito 4.64 99 P **Pn 13 46 09.4 +2.3**
PMUV Sontecomapan 4.74 335 *eP* **Pn 13 46 05.6 -2.8**
PMUV *eS* **Sn 13 46 59.1 -3.6**
SCIG Sabancuy 5.00 20 *eP* **Pn 13 46 12.5 +0.5**
SCIG *eS* **Sn 13 47 04.0 -5.1**
SCIG Sabancuy 5.00 20 *eP* **Pn 13 46 12.8 +0.8**
SCIG Sabancuy 5.00 20 *eP* 13 46 12.8
LCND La Caada 5.04 100 P **Pn 13 46 14.1 +1.5**
LCND La Caada 5.04 100 P **Pn 13 46 14.1 +1.5**
YOIG Yosondua 5.10 301 Pn 13 46 15.8 +2.2
YOIG **Sn 13 47 04.4 -7.5**
YOIG Yosondua 5.10 301 *eP* **Pn 13 46 15.8 +2.2**
YOIG *eS* **Sn 13 47 04.4 -7.5**
CNCH Conchagua 5.10 100 P **Pn 13 46 13.9 +0.4**
CNCH Conchagua 5.10 100 P **Pn 13 46 14.5 +1.1**
NISHN Nisperales Com 5.16 72 *eP* **Pn 13 46 14.7 +0.4**
NISHN Nisperales Com 5.16 72 *eP* 13 46 14.7
PNIG Pinotepa 5.39 294 Pn 13 46 17.2 -0.1
PNIG **Sn 13 47 12.5 -6.4**
PNIG Pinotepa 5.39 294 *eP* **Pn 13 46 17.2 -0.1**
PNIG *eS* **Sn 13 47 12.5 -6.4**
CSGN Cosiguina Volc 5.43 103 P **Pn 13 46 21.0 +3.1**
CSGN Cosiguina Volc 5.43 103 P **Pn 13 46 21.9 +3.9**
TOIG Toxpalan 5.47 315 Pn 13 46 19.3 +0.8
TOIG **Sn 13 47 18.9 -2.0**
TOIG Toxpalan 5.47 315 *eP* **Pn 13 46 19.3 +0.8**
TOIG *eS* **Sn 13 47 18.9 -2.0**
TXIG Tlaxiaco 5.49 304 Pn 13 46 20.3 +1.4
TXIG **Sn 13 47 20.0 -1.5**
TXIG Tlaxiaco 5.49 304 *eP* **Pn 13 46 20.3 +1.4**
TXIG *eS* **Sn 13 47 20.0 -1.5**

TGUH Tegucigalpa,Un 5.55 91 Pn 13 46 21.3 +1.7
HLIG Huajuapan de L 5.84 308 Pn 13 46 21.5 -2.2
HLIG **Sn 13 47 25.6 -4.5**
HLIG Huajuapan de L 5.84 308 *eP* **Pn 13 46 21.5 -2.2**
HLIG *eS* **Sn 13 47 25.6 -4.5**
TPIG Tehuac#an 5.90 315 Pn 13 46 22.8 -1.7
TPIG **Sn 13 47 29.8 -1.8**
TPIG Tehuac#an 5.90 315 *eP* **Pn 13 46 22.8 -1.7**
TPIG *eS* **Sn 13 47 29.8 -1.8**
CRIN San Cristobal 5.98 104 Pn 13 46 26.5 +1.0
CRIN San Cristobal 5.98 104 P Pb 13 46 36.0 -5.8
CRIN San Cristobal 5.98 104 P **Pb 13 46 37.5 -4.3**
FTIG Fresnillo de T 6.14 307 Pn 13 46 28.0 +0.3
FTIG **Sn 13 47 35.4 -1.9**
FTIG Fresnillo de T 6.14 307 *eP* **Pn 13 46 28.0 +0.3**
FTIG *eS* **Sn 13 47 35.4 -1.9**
MGIG Malinaltepec 6.19 299 Pn 13 46 27.5 -1.0
MGIG **Sn 13 47 38.2 -0.5**
MGIG Malinaltepec 6.19 299 *eP* **Pn 13 46 27.5 -1.0**
MGIG *eS* **Sn 13 47 38.2 -0.5**
HERN Volcan Telica 6.21 104 Pn 13 46 29.4 +0.8
JAUV Jalcomulco 6.26 325 *eP* **Pn 13 46 26.8 -2.6**
JAUV *eS* **Sn 13 47 36.9 -3.4**
TLIG Tlapa 6.30 302 *eP* **Pn 13 46 30.6 +0.7**
TLIG *eS* **Sn 13 47 38.2 -3.0**
TLIG Tlapa 6.30 302 P **Pn 13 46 33.3 +3.5**
TLIG Tlapa 6.30 302 P Pn 13 46 36.5 +6.6
POHV Veracruz 6.32 320 Pn 13 46 30.4 -0.1
POHV **Sn 13 47 44.3 +2.0**
POHV Veracruz 6.32 320 *eP* **Pn 13 46 30.4 -0.1**
POHV *eS* **Sn 13 47 44.3 +2.0**
ROCN Rota Cerro Neg 6.32 105 P **Pn 13 46 30.6 +0.5**
ROCN Rota Cerro Neg 6.32 105 P Pn 13 46 38.1 +8.1
ROCN P Pb 13 46 38.5 -9.0
LVIG Laguna Verde 6.36 329 *eP* **Pn 13 46 29.1 -1.4**
LVIG *eS* **Sn 13 47 38.6 -3.9**
CNGN Cerro Negro 6.37 105 Pn 13 46 32.5 +1.7
CNGN Cerro Negro 6.37 105 P **Pn 13 46 33.3 +2.5**
CNGN Cerro Negro 6.37 105 P Pn 13 46 37.2 +6.4
CRIG Cruz Grande 6.42 293 Pn 13 46 30.8 -0.6
CRIG **Sn 13 47 44.8 +0.8**
CRIG Cruz Grande 6.42 293 *eP* **Pn 13 46 30.8 -0.6**
CRIG *eS* **Sn 13 47 44.8 +0.8**
MOMN Momotombo 6.54 105 P **Pn 13 46 34.0 +0.9**
MOMN Momotombo 6.54 105 P Pn 13 46 39.5 +6.3
LIMN Finca el Limon 6.55 100 P **Pn 13 46 34.3 +1.0**
LIMN Finca el Limon 6.55 100 P **Pn 13 46 34.5 +1.2**
COPN Copaltepe 6.56 107 P **Pn 13 46 34.9 +1.5**
COPN Copaltepe 6.56 107 P **Pn 13 46 35.7 +2.3**
MGAN Managua 6.89 107 Pn **Pn 13 46 40.8 +2.8**
DAIG Los Arroyos 6.98 294 Pn 13 46 40.6 +1.4
DAIG **Sn 13 47 55.2 -2.8**
DAIG Los Arroyos 6.98 294 *eP* **Pn 13 46 40.6 +1.4**
DAIG *eS* **Sn 13 47 55.2 -2.8**
PBCV Popocatepetl 7.12 312 *eP* **Pn 13 46 44.7 +3.4**
PBCV *eS* **Sn 13 48 04.8 +3.0**
PBXN Popocatepetl 7.20 312 *eP* **Pn 13 46 43.4 +0.7**
PBXN *eP* Pb 13 46 46.2 -17
PBXN *eS* **Sn 13 48 01.9 -2.3**
PBXN *eS* Sb 13 48 08.4 -20
PBPN Popocatepetl 7.21 312 *eP* **Pn 13 46 45.6 +2.9**
PBPN *eS* **Sn 13 48 05.8 +1.6**
PPM Popocatepetl 7.22 312 *eP* Pn 13 46 47.7 +4.8
PPM *eS* **Sn 13 48 08.5 +4.0**
PPIG Popocatepetl 7.22 312 Pn 13 46 47.7 +4.8
PPIG **Sn 13 48 08.5 +3.9**
CXIV Coxquihui 7.35 324 *eP* **Pn 13 46 43.8 -0.5**
CXUV *eS* **Sn 13 48 03.3 -3.8**
MYIG Merida 7.36 24 *eP* **Pn 13 46 41.4 -3.0**
MYIG *eS* **Sn 13 48 02.9 -4.3**
YAIG Yautepec 7.42 309 Pn 13 46 46.5 +1.2
YAIG **Sn 13 48 10.7 +1.8**
YAIG Yautepec 7.42 309 *eP* **Pn 13 46 46.5 +1.2**
YAIG *eS* **Sn 13 48 10.7 +1.8**
TEIG Tepich 7.46 36 Pn **Pn 13 46 45.7 0.0**
TEIG Tepich 7.46 36 P **Pn 13 46 46.4 +0.7**
baz=44,slow=24,SNR=168
TEIG S **Sn 13 48 02.2 -7.5**
baz=215,slow=24,SNR=1.3
TEIG Tepich 7.46 36 *eP* **Pn 13 46 45.6 -0.1**
TEIG *eS* **Sn 13 48 06.4 -3.3**
PLIG Platanillo 7.49 304 Pn 13 46 48.0 +1.8
PLIG **Sn 13 48 12.3 +1.7**
PLIG Platanillo 7.49 304 *eP* **Pn 13 46 48.0 +1.8**
PLIG *eS* **Sn 13 48 12.3 +1.7**
CAIG El Cayaco 7.54 293 Pn 13 46 48.3 +1.4
CAIG **Sn 13 48 07.4 -4.3**
CAIG El Cayaco 7.54 293 *eP* **Pn 13 46 48.3 +1.4**
CAIG *eS* **Sn 13 48 07.4 -4.3**
MPVM San Francisco 7.58 311 *i* P **Pn 13 46 49.6 +2.0**
MPVM *eS* **Sn 13 48 10.1 -3.0**
THVM De Xico 7.63 312 *eS* **Sn 13 48 07.6 -6.6**
XCVM Xochimilco 7.69 311 *eS* **Sn 13 48 10.0 -5.9**
PBVM Pinon 7.79 312 Pn 13 46 49.0 -1.2
PBVM Pinon 7.79 312 *eP* **Pn 13 46 49.0 -1.2**
MAVM Malinalco, Edo 7.80 308 *e* Pn 13 46 34.7 -16
MAVM *e* 13 48 02.8
AOVM Tlapan 7.85 310 Pn 13 46 56.7 +5.1
AOVM **Sn 13 48 17.2 -2.9**
AOVM Tlapan 7.85 310 *eP* Pn 13 46 56.7 +5.1
AOVM *eS* **Sn 13 48 17.2 -2.9**
INVM La Marquesa 7.91 310 *eP* Pn 13 46 45.9 -6.4
INVM *eS* **Sn 13 48 16.0 -5.4**
ACON Acoyapa 7.95 106 Pn 13 46 54.2 +1.8
ARIG Puente Sto Nin 8.12 301 Pn 13 46 56.5 +1.6
ARIG **Sn 13 48 28.5 +2.4**
ARIG Puente Sto Nin 8.12 301 *eP* **Pn 13 46 56.5 +1.6**
ARIG *eS* **Sn 13 48 28.5 +2.4**
DEIG Demacu 8.34 317 *eP* **Pn 13 46 58.2 +0.2**
DEIG *eS* **Sn 13 48 32.6 +0.9**
DHIG Demacu 8.34 317 Pn 13 46 58.2 +0.2
DHIG **Sn 13 48 32.6 +0.9**
INDI Punta indio, G 8.52 120 P **Pn 13 47 03.0 +2.7**
INDI Punta indio, G 8.52 120 P **Pn 13 47 03.1 +2.7**
ESPN Las Esperanzas 8.71 103 Pn 13 47 04.0 +1.2
ACIG Acambay 8.71 312 Sn 13 48 35.8 -4.9
ACIG Acambay 8.71 312 *eP* Pn 13 47 14.0 +1.1
ACIG *eS* **Sn 13 48 35.8 -4.9**
JTS Las Juntas de 8.79 116 Pn **Pn 13 47 06.4 +2.4**
JTS Las Juntas de 8.79 116 P **Pn 13 47 07.2 +3.2**
comp=Z,4.3nm,0.3s,baz=248,slow=10.0,SNR=5.2
ZIIG Zihuatanejo 8.81 293 Pn 13 47 06.1 +1.9
ZIIG **Sn 13 48 46.0 +3.1**
ZIIG Zihuatanejo 8.81 293 *eP* **Pn 13 47 06.1 +1.9**
ZIIG *eS* **Sn 13 48 46.0 +3.1**
CTUV Llano Grande 8.81 325 *eP* **Pn 13 47 03.6 -0.7**
CTUV *eS* **Sn 13 48 38.0 -5.1**
MOIG Morelia 9.52 306 Pn 13 47 16.8 +2.6
MOIG Morelia 9.52 306 *eP* **Pn 13 47 17.5 +3.2**
MMIG Aquila 10.72 293 Pn 13 47 24.6 -5.9
MMIG Aquila 10.72 293 *eP* Pn 13 47 24.6 -5.9
EZ5V 11.41 299 Pn 13 47 44.5 +4.3
EZ5V 11.41 299 *eP* **Pn 13 47 44.5 +4.3**
EZ5V *eS* **Sn 13 49 43.9 -3.2**
MNGA Volcan de Coli 11.42 298 *eP* **Pn 13 47 43.5 +3.2**
MNGA *eS* **Sn 13 49 45.9 -1.5**
INCO Volcan de Coli 11.43 299 *eP* **Pn 13 47 42.7 +2.1**
INCO *eS* **Sn 13 49 52.3 +4.4**
SOMAC Volcano de Col 11.45 299 *eP* **Pn 13 47 41.2 +0.4**
SOMAC *eS* **Sn 13 49 42.7 -5.7**
CDAR Ciudad de Arme 11.55 295 *eP* **Pn 13 47 42.8 +1.0**
CEGR Campo Tres 11.59 298 *eP* **Pn 13 47 45.8 +3.2**
CEGR *eS* **Sn 13 49 52.3 +0.8**
CIHU Emiliano Zapat 12.30 296 *eP* **Pn 13 47 54.0 +1.9**
SOR Soroa 12.72 47 Pn **Pn 13 47 57.4 -0.4**
833A Chaparral WMA, 15.22 338 Pn **Pn 13 48 32.6 +0.8**
833A IAmb IAmb 13 48 37.8
comp=Z,25nm,0.8s
833A Chaparral WMA, 15.22 338 P **Pn 13 48 32.4 +0.6**
baz=155,SNR=8.2
MTDJ Mount Denham 15.36 73 Pn **Pn 13 48 34.8 +1.0**
MTDJ IAmb IAmb 13 48 41.0
comp=Z,98nm,1.2s
HKT Hockley 15.85 351 Pn 13 48 41.4 +1.5
MLDN Muldoon 15.91 347 Pn **Pn 13 48 42.3 +1.5**
MLDN IAmb IAmb 13 48 46.3
comp=Z,99nm,1.3s
061Z Ochoppi 16.19 43 Pn **Pn 13 48 43.5 -0.9**
DRIO Del Rio 16.67 336 Pn 13 48 50.5 0.0
CHIV Chivirico 16.83 68 IAmb IAmb 13 49 02.8

comp=Z,11nm,0.8s
435B Jarrell 16.99 346 P **Pn 13 48 55.3 +0.8**
baz=164
HPIG 17.31 319 P **P 13 49 01.3 +1.3**
JCT Junction City 17.33 340 P 13 49 00.2 +0.1
BRAL Brewton 17.70 17 P 13 49 04.3 +0.1
SAND Sanderson 17.76 333 P 13 49 05.6 +0.7
SAND IAmb IAmb 13 49 09.2
comp=Z,58nm,1.0s
BRDY Brady 17.83 343 P 13 49 06.4 +0.8
TXAR Lajitas Array 17.97 328 P **P 13 49 08.8 +1.5**
TXAR Lajitas Array 17.97 328 P **P 13 49 09.8 +2.6**
comp=Z,18nm,0.9s,baz=151,slow=12,SNR=50
TXAR LR LR 13 57 05.0
comp=Z,321nm,18.8s,baz=112,slow=40
LPIG La Paz 19.05 304 P **Pn 13 49 24.5 +4.7**
comp=Z,18nm,0.3s,baz=275,slow=6.7,SNR=4.3
LPIG LR LR 13 56 52.1
comp=Z,762nm,18.4s,baz=122,slow=36
SGCY Sterling City 19.10 338 IAmb IAmb 13 49 24.3
comp=Z,46nm,0.8s
WLAR White Oak Lake 19.36 360 IAmb IAmb 13 49 25.9
comp=Z,59nm,0.9s
LRAL Lakeview Retre 19.48 15 P **P 13 49 23.1 -0.5**
ODSA Odessa 19.82 335 IAmb IAmb 13 49 31.4
comp=Z,57nm,0.9s
SN05 Snyder 5 19.89 340 IAmb IAmb 13 49 37.1
comp=Z,55nm,0.8s
OTAV Otavalo 20.02 133 P Pn 13 49 32.4 +0.5
APMT Aspermont 20.07 342 IAmb IAmb 13 49 38.3
comp=Z,56nm,0.7s
SN07 Snyder 07 20.09 340 IAmb IAmb 13 49 34.7
comp=Z,34nm,0.9s
MIAR Mount Ida 20.22 359 IAmb IAmb 13 49 37.3
comp=Z,55nm,0.9s
POST Post 20.27 339 IAmb IAmb 13 49 41.3
comp=Z,33nm,0.8s
UALR University of 20.45 2 IAmb IAmb 13 49 39.4
comp=Z,49nm,1.2s
ROSC El Rosal 20.63 115 P Pn 13 49 38.9 -0.2
ROSC IAmb IAmb 13 49 41.6
comp=Z,71nm,1.0s
ROSC El Rosal 20.63 115 P Pn 13 49 40.0 +0.9
comp=Z,28nm,0.7s,baz=321,slow=3.5,SNR=21
X34A Smith Ranch, M 20.73 349 IAmb IAmb 13 49 47.4
comp=Z,28nm,0.8s
GOGA Godfrey 20.95 23 IAmb IAmb 13 49 47.2
comp=Z,34nm,0.9s
WHAR Wooly Hollow 20.96 2 P **P 13 49 40.1 +0.3**
WHAR IAmb IAmb 13 49 50.0
comp=Z,43nm,1.3s
WMOK Wichita Mounta 21.06 347 IAmb IAmb 13 49 51.3
comp=Z,61nm,1.9s
W35A Tecumseh 21.11 351 IAmb IAmb 13 49 55.8
comp=Z,36nm,1.0s
FLOC Florencia 21.26 125 P **P 13 49 44.9 +1.7**
FLOC IAmb IAmb 13 49 58.8
comp=Z,52nm,1.1s
RUSC La Rusia 21.27 111 P **P 13 49 44.7 +0.9**
RUSC La Rusia 21.27 111 P **P 13 49 44.8 +1.1**
COHC Cochancay 21.47 140 P **P 13 49 46.8 +1.4**
OK029 Liberty Lake 21.83 350 IAmb IAmb 13 50 08.8
comp=Z,26nm,0.9s
OK031 S. Brethren Rd 21.89 352 IAmb IAmb 13 49 52.3
comp=Z,54nm,1.2s
OK052 Battle Ridge R 21.93 352 IAmb IAmb 13 49 52.6
comp=Z,40nm,0.8s
QUOK Quay 22.09 352 IAmb IAmb 13 49 54.1
comp=Z,41nm,0.9s
WVT Waverly 22.28 11 P **P 13 49 53.9 0.0**
OK048 Pawnee Station 22.36 352 IAmb IAmb 13 49 56.9
comp=Z,65nm,1.0s
CPCT Cooper Cave 22.45 18 IAmb IAmb 13 50 15.7
comp=Z,45nm,1.5s
SDV Santo Domingo 22.53 101 P **P 13 49 55.6 -1.5**
SDV Santo Domingo 22.53 101 LR LR 13 59 27.1
comp=Z,521nm,20.9s,baz=276,slow=39
BG3 Lake Jocassee 22.56 22 IAmb IAmb 13 50 18.2
comp=Z,70nm,1.5s
JSC Jenkinsville 22.60 26 IAmb IAmb 13 50 06.8
comp=Z,70nm,1.7s
CROK Carrier 22.61 349 IAmb IAmb 13 49 59.4
comp=Z,55nm,1.1s
121A Cookes Peak, D 22.66 326 IAmb IAmb 13 50 02.0
comp=Z,52nm,1.0s
121A Cookes Peak, D 22.66 326 P **P 13 49 59.5 +1.3**
baz=140,SNR=32
319A Douglas 22.67 322 IAmb IAmb 13 50 02.2
comp=Z,40nm,1.3s
BLOK Blackwell 22.74 351 IAmb IAmb 13 49 59.9
comp=Z,39nm,1.0s
T35A Sooner Cattle 22.80 353 IAmb IAmb 13 50 00.3
comp=Z,30nm,0.8s
PAULI Pauline 22.84 24 IAmb IAmb 13 50 08.1
comp=Z,28nm,0.9s
TKL Tuckaleechee C 22.87 20 IAmb IAmb 13 50 19.8
comp=Z,41nm,1.0s
TKL Tuckaleechee C 22.87 20 LR LR 14 00 06.3
comp=Z,426nm,18.9s,baz=196,slow=40
NOKA Waynoka 22.92 348 IAmb IAmb 13 50 02.3
comp=Z,39nm,0.8s
KAN13 South Haven SW 23.02 351 IAmb IAmb 13 50 18.3
comp=Z,34nm,1.0s
U49A Red Boiling Sp 23.09 15 IAmb IAmb 13 50 22.8
comp=Z,21nm,0.9s
KAN09 Caldwell North 23.17 351 IAmb IAmb 13 50 04.5
comp=Z,45nm,0.9s
KAN01 Argonia South 23.21 350 IAmb IAmb 13 50 04.9
comp=Z,56nm,1.2s
V53A Saluda 23.21 21 IAmb IAmb 13 50 25.5
comp=Z,65nm,1.3s
KMSC Kings Mountain 23.31 25 IAmb IAmb 13 50 13.8
comp=Z,28nm,1.0s
Y22D IRIS PASSCAL I 23.43 330 P **P 13 50 07.9 +1.8**
baz=144
SIUC Southern Illin 23.61 7 IAmb IAmb 13 50 31.4
comp=Z,34nm,1.1s
TZTN Tazewell 23.76 19 IAmb IAmb 13 50 29.6
comp=Z,43nm,1.1s
CCM Cathedral Cave 23.77 3 P **P 13 50 07.6 -1.5**
W57A Gilead 23.89 27 IAmb IAmb 13 50 22.8
comp=Z,55nm,1.6s
ANMO Albuquerque 23.92 332 P **P 13 50 11.6 +0.8**
ANMO Albuquerque 23.92 332 LR LR 14 00 60.0
comp=Z,439nm,18.4s,baz=302,slow=40
V55A Taylorsville 23.97 24 IAmb IAmb 13 50 30.5
comp=Z,22nm,1.1s
TUC Tucson 24.23 321 P **P 13 50 14.0 +0.3**
TUC IAmb IAmb 13 50 17.9
comp=Z,26nm,1.1s
TUC Tucson 24.23 321 *e* **P 13 50 15.8 +2.2**
U54A Nelsons Funny 24.33 22 IAmb IAmb 13 50 35.6
comp=Z,44nm,1.1s
U56A King 24.74 25 IAmb IAmb 13 50 18.1
comp=Z,34nm,1.2s
V58A Windy Hill, Pi 24.81 28 IAmb IAmb 13 50 17.9
comp=Z,27nm,0.9s
T25A Trinidad 24.97 338 P **P 13 50 22.4 +2.0**
baz=153,SNR=68
BAUV El Baul 24.99 99 IAmb IAmb 13 50 20.4
comp=Z,32nm,0.9s
CBKS Cedar Bluff 25.19 348 IAmb IAmb 13 50 24.2
comp=Z,28nm,1.0s
PIX Pinacate 25.47 316 P **P 13 50 25.8 +1.1**
PIX IAmb IAmb 13 50 46.5
comp=Z,22nm,1.4s
ATAH Atahualpa 25.71 145 LR LR 13 59 06.4
comp=Z,642nm,18.8s,baz=305,slow=33
SDCO Great Sand Dun 25.91 337 IAmb IAmb 13 50 33.3
comp=Z,21nm,0.8s
SJG San Juan 26.05 78 LR LR 14 00 45.8
comp=Z,744nm,21.7s,baz=256,slow=37
S22A 4UR Ranch, Cre 26.44 335 IAmb IAmb 13 50 38.9
comp=Z,28nm,0.9s
S22A 4UR Ranch, Cre 26.44 335 P **P 13 50 35.8 +1.9**
baz=148
T59A Double "B" Far 26.50 29 IAmb IAmb 13 50 33.0
comp=Z,24nm,0.9s
Q24A Divide 26.86 339 P **P 13 50 38.9 +1.3**
baz=153
PV13 Radium Mtn., P 27.64 332 IAmb IAmb 13 50 50.1
comp=Z,26nm,0.9s
PV15 Paradox Valley 27.64 333 IAmb IAmb 13 50 50.9
comp=Z,26nm,1.0s
L40A Anamosa 27.76 3 IAmb IAmb 13 50 45.8
comp=Z,37nm,1.4s
YUH Yuha Desert 27.79 315 P **P 13 50 47.4 +1.7**

YUH IAmb IAmb 13 50 48.6
comp=Z,22nm,1.4s
PCRV Puerto La Cruz 28.00 95 LR LR 14 02 51.4
comp=Z,459nm,20.3s,slow=39
HMU Henry Mountain 28.37 330 IAmb IAmb 13 51 02.4
comp=Z,16nm,1.0s
P57A Homestead Farm 28.39 25 IAmb IAmb 13 50 50.6
comp=Z,15nm,0.9s
PFO Pinyon Flats O 28.72 316 LR LR 14 02 41.6
comp=Z,161nm,18.9s,baz=130,slow=36
KNB Kanab 28.76 326 IAmb IAmb 13 50 59.1
comp=Z,16nm,1.1s
PKCU Pink Cliffs 28.80 327 IAmb IAmb 13 50 59.0
comp=Z,58nm,1.9s
K30B Basset 28.90 350 IAmb IAmb 13 50 59.9
comp=Z,22nm,0.8s
V12A Nelson 29.03 321 IAmb IAmb 13 51 00.3
comp=Z,19nm,1.1s
O20A White River Ci 29.05 335 IAmb IAmb 13 51 03.1
comp=Z,22nm,1.0s
MTPU Mount Pierson 29.18 328 IAmb IAmb 13 51 02.4
comp=Z,24nm,1.7s
SRU San Rafael Swe 29.19 331 IAmb IAmb 13 51 04.3
comp=Z,36nm,1.9s
Q16A Castle Valley 29.35 330 IAmb IAmb 13 51 03.2
comp=Z,30nm,1.7s
P18A Preston Nutter 29.48 332 IAmb IAmb 13 51 08.0
comp=Z,9.7nm,0.9s
MPU Maple Canyon 30.43 331 IAmb IAmb 13 51 15.3
comp=Z,13nm,0.9s
NNA Nana 30.59 148 LR LR 14 01 19.1
comp=Z,416nm,20.1s,baz=324,slow=32
K22A Casper 30.62 340 IAmb IAmb 13 51 14.6
comp=Z,12nm,0.8s
S11A Rachel 30.85 323 IAmb IAmb 13 51 16.9
comp=Z,29nm,1.3s
DUG Dugway, Tooele 31.14 330 IAmb IAmb 13 51 20.8
comp=Z,21nm,1.6s
HWUT Hardware Ranch 31.67 333 IAmb IAmb 13 51 25.3
comp=Z,28nm,1.5s
PD31 Pinedale Array 31.81 337 IAmb IAmb 13 51 25.1
comp=Z,8.9nm,0.9s
PDAR Pinedale Array 31.81 337 P **P** **13 51 21.4 0.0**
PDAR Pinedale Array 31.81 337 P **P** **13 51 22.6 +1.2**
comp=Z,7.6nm,1.0s,baz=133,slow=10,SNR=34
PDAR PcP **PcP** **13 54 12.4 +0.1**
comp=Z,0.8nm,0.8s,baz=177,slow=3.0,SNR=4.0
PDAR LR LR 14 07 30.5
comp=Z,169nm,19.1s,baz=143,slow=42
comp=Z,7.6nm,1.0s
HVU Hansel Valley 32.36 332 IAmb IAmb 13 51 31.8
comp=Z,11nm,0.9s
AHID Auburn Hatcher 32.42 335 IAmb IAmb 13 51 32.2
comp=Z,14nm,0.8s
SADO Sadowa 32.62 18 LR LR 14 05 59.4
comp=Z,594nm,19.8s,baz=201,slow=39
ELK Elko 32.77 328 LR LR 14 06 29.3
comp=Z,622nm,18.9s,baz=156,slow=39
NV11 Mina Array Sit 32.79 322 IAmb IAmb 13 51 34.1
comp=Z,19nm,1.0s
NVAR Mina Array Bea 32.88 322 P **P** **13 51 33.0 +2.1**
NVAR Mina Array Bea 32.88 322 P **P** **13 51 33.7 +2.8**
comp=Z,13nm,0.9s,baz=139,slow=8.9,SNR=74
NVAR PcP **PcP** **13 54 15.8 +0.5**
comp=Z,2.1nm,0.8s,baz=135,slow=3.5,SNR=5.9
NVAR LR LR 14 06 38.4
comp=Z,1µm,18.3s,baz=145,slow=39
comp=Z,13nm,0.9s
LHV Little Huntoon 32.89 321 IAmb IAmb 13 51 35.1
comp=Z,10nm,0.9s
FXWY Fox Creek 33.12 336 IAmb IAmb 13 51 37.4
comp=Z,18nm,0.8s
RYN Ryan 33.14 322 IAmb IAmb 13 51 36.3
comp=Z,11nm,1.1s
H17A Grant Village 33.58 337 IAmb IAmb 13 51 42.9
comp=Z,12nm,0.8s
WAKR Walker 33.62 321 IAmb IAmb 13 51 41.5
comp=Z,12nm,1.3s
LKWY Lake 33.66 337 IAmb IAmb 13 51 43.9
comp=Z,17nm,0.8s
YMP Mirror Lake Pl 33.72 338 IAmb IAmb 13 51 56.6
comp=Z,18nm,0.9s
YFT Old Faithful 33.73 337 IAmb IAmb 13 51 50.7
comp=Z,19nm,1.0s
RLMT Red Lodge 33.73 339 IAmb IAmb 13 51 46.6
comp=Z,10nm,0.8s
YNR Norris Junctio 33.89 337 IAmb IAmb 13 51 44.4
comp=Z,12nm,0.9s
AGMN Agassiz Nation 34.03 357 IAmb IAmb 13 51 43.8
comp=Z,6.5nm,0.8s
PNTR Pine Nut 34.08 322 IAmb IAmb 13 51 45.2
comp=Z,12nm,1.0s
YHB Horse Butte 34.12 337 IAmb IAmb 13 51 47.4
comp=Z,13nm,0.9s
PAHR Pah Rah Range 34.35 323 IAmb IAmb 13 51 46.6
comp=Z,11nm,1.1s
HLID Hailey 34.50 332 IAmb IAmb 13 51 50.9
comp=Z,11nm,1.2s
BOZ Bozeman (W) 34.99 337 IAmb IAmb 13 51 54.2
comp=Z,14nm,1.1s
DGMT Dagmar 35.36 347 IAmb IAmb 13 51 56.1
comp=Z,12nm,0.8s
WVOR Wild Horse Val 35.76 327 IAmb IAmb 13 51 58.7
comp=Z,13nm,1.1s
ULM Lac du Bonnet 35.98 357 P **P** **13 51 56.0 -1.3**
comp=Z,2.0nm,0.3s,baz=163,slow=8.3,SNR=10
ULM LR LR 14 10 26.7
comp=Z,305nm,19.4s,baz=176,slow=42
comp=Z,2.0nm,0.3s
J08A Circle Bar Ran 36.32 328 IAmb IAmb 13 52 03.5
comp=Z,23nm,1.0s
PLID Pearl Lake 36.41 332 IAmb IAmb 13 52 03.7
comp=Z,13nm,1.0s
MSO Missoula 36.91 336 IAmb IAmb 13 52 07.8
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 37.58 323 LR LR 14 09 26.7
comp=Z,697nm,19.2s,baz=149,slow=39
J04A Umpqua Nationa 38.19 325 IAmb IAmb 13 52 20.0
comp=Z,36nm,1.3s
E09A Wood Farm, Sta 38.46 332 IAmb IAmb 13 52 24.1
comp=Z,35nm,2.0s
LPAZ La Paz 39.03 140 P **P** **13 52 24.5 +0.2**
comp=Z,1.7nm,0.8s,baz=338,slow=11,SNR=6.3
LPAZ LR LR 14 07 04.0
comp=Z,290nm,21.4s,baz=320,slow=34
comp=Z,1.7nm,0.8s
J01E Myrtle Point 39.17 323 IAmb IAmb 13 52 27.6
comp=Z,38nm,1.2s
H04A Detroit Lake 39.18 327 IAmb IAmb 13 52 26.9
comp=Z,26nm,1.0s
I03D Drain, OR 39.18 325 IAmb IAmb 13 52 27.0
comp=Z,28nm,1.3s
HOOD Mount Hood Mea 39.32 328 IAmb IAmb 13 52 29.7
comp=Z,43nm,1.0s
NEW Newport 39.36 334 P **P** **13 52 26.7 +0.8**
comp=Z,3.2nm,0.7s,baz=111,slow=9.7,SNR=5.8
NEW LR LR 14 10 59.1
comp=Z,539nm,18.8s,baz=136,slow=40
comp=Z,3.2nm,0.7s
MDP Montagnes des 40.74 99 LR LR 14 10 10.1
comp=Z,530nm,21.9s,baz=286,slow=37
FFC Flin Flon 40.99 352 P **P** **13 52 38.1 -1.3**
LLLB Lillooet 43.16 333 P **P** **13 52 58.6 +1.4**
SIV San Ignacio 43.56 132 LR LR 14 10 27.8
comp=Z,442nm,18.4s,baz=292,slow=35
FCC Fort Churchill 44.44 359 P **P** **13 53 06.5 -0.8**
SCHQ Schefferville 45.33 21 P **P** **13 53 11.4 -3.0**
comp=Z,7.4nm,1.0s,baz=221,slow=7.4,SNR=4.2
SCHQ PcP **PcP** **13 54 52.9 -0.9**
comp=Z,6.0nm,1.1s,baz=223,slow=0.8,SNR=4.4
SCHQ LR LR 14 14 27.3
comp=Z,1µm,18.0s,baz=214,slow=39
comp=Z,7.4nm,1.0s
BBB Bella Bella 47.08 331 LR LR 14 13 53.7
comp=Z,123nm,18.7s,baz=157,slow=37
TOAD Toad River Com 50.56 339 P **P** **13 53 55.9 +0.9**
baz=138,SNR=9.4
YKA Yellowknife Ar 50.57 347 P **P** **13 53 55.0 +0.1**
comp=Z,14nm,0.8s,baz=156,slow=7.5,SNR=164
YKA PcP **PcP** **13 55 12.4 0.0**
comp=Z,1.4nm,0.8s,baz=156,slow=4.4,SNR=7.3
comp=Z,14nm,0.8s
KOTAN Kotaneelee Air 51.14 341 P **P** **13 54 00.2 +1.0**
baz=140,SNR=13
T35M Bob Quinn 51.16 335 P **P** **13 54 01.0 +1.6**
baz=131,SNR=6.5
CRAG Craig 51.45 332 P **P** **13 54 03.2 +1.7**
baz=127
DLBC Dease Lake 52.04 336 IAmb IAmb 13 54 12.2
comp=Z,10nm,0.8s
DLBC Dease Lake 52.04 336 P **P** **13 54 08.1 +2.1**
comp=Z,11nm,0.8s,baz=156,slow=4.5,SNR=14
DLBC LR LR 14 19 42.0
comp=Z,272nm,19.7s,baz=134,slow=40
comp=Z,11nm,0.8s
DLBC Dease Lake 52.04 336 P **P** **13 54 07.4 +1.3**
baz=132,SNR=10
S34M Telegraph Cree 52.13 335 P **P** **13 54 08.1 +1.5**
baz=131
FRB Frobisher Bay 52.30 13 LR LR 14 19 38.2
comp=Z,308nm,18.3s,baz=193,slow=40
WTLY Watson Lake, Y 52.74 338 P **P** **13 54 12.5 +1.3**
baz=134,SNR=6.9
R33M Jennings River 53.05 337 P **P** **13 54 15.2 +1.7**
baz=132
CPUP Villa Florida 53.19 139 P **P** **13 54 14.1 -0.8**
comp=Z,1.9nm,0.8s,baz=338,slow=8.9,SNR=4.5
CPUP LR LR 14 18 25.9
comp=Z,199nm,18.1s,baz=336,slow=38
comp=Z,1.9nm,0.8s
Q32M Nakina River 53.27 336 IAmb IAmb 13 54 22.1
comp=Z,19nm,1.1s
Q32M Nakina River 53.27 336 P **P** **13 54 16.5 +1.2**
baz=130
WRGLY Wrigley 53.38 343 P **P** **13 54 16.7 +1.0**
baz=142,SNR=13
SIT Sitka 53.38 333 P **P** **13 54 16.6 +0.7**
baz=125
BDFB Brasilia 53.47 122 P **P** **13 54 16.3 -1.0**
comp=Z,4.3nm,0.7s,baz=283,slow=8.8,SNR=8.1
BDFB LR LR 14 17 36.2
comp=Z,227nm,19.3s,baz=310,slow=37
comp=Z,4.3nm,0.7s
P32M Atlin 54.24 336 IAmb IAmb 13 54 28.3
comp=Z,10.0nm,1.1s
P32M Atlin 54.24 336 P **P** **13 54 23.1 +0.8**
baz=129
P33M Teslin, Yukon 54.29 337 IAmb IAmb 13 54 29.5
comp=Z,12nm,1.4s
P33M Teslin, Yukon 54.29 337 P **P** **13 54 23.8 +1.2**
baz=130
S31K Pelican 54.31 333 P **P** **13 54 23.9 +1.3**
baz=125
N32M Quiet Lake 55.00 338 IAmb IAmb 13 54 30.4
comp=Z,16nm,0.9s
N32M Quiet Lake 55.00 338 P **P** **13 54 28.9 +1.2**
baz=130
WHY Whitehorse 55.37 336 P **P** **13 54 31.5 +1.0**
baz=128
FARO Faro, Yukon 55.80 338 P **P** **13 54 34.7 +1.3**
baz=130,SNR=7.8
P30M Milln Dollar 55.87 335 P **P** **13 54 35.1 +1.1**
baz=126
O30N Mendenhall 55.91 336 IAmb IAmb 13 54 37.1
comp=Z,8.5nm,1.1s
O30N Mendenhall 55.91 336 P **P** **13 54 35.5 +1.3**
baz=127,SNR=7.2
M31M Drury Creek, Y 56.15 338 IAmb IAmb 13 54 37.9
comp=Z,9.7nm,1.3s
M31M Drury Creek, Y 56.15 338 P **P** **13 54 37.0 +1.1**
baz=129
N31M Braeburn, Yuko 56.22 337 IAmb IAmb 13 54 39.0
comp=Z,15nm,0.9s
N31M Braeburn, Yuko 56.22 337 P **P** **13 54 37.6 +1.1**
baz=128,SNR=9.5
HYT Haines Junctio 56.50 336 IAmb IAmb 13 54 41.1
comp=Z,19nm,1.5s
HYT Haines Junctio 56.50 336 P **P** **13 54 40.2 +1.6**
baz=125
O29M Mount Kennedy 56.63 335 IAmb IAmb 13 54 42.4
comp=Z,8.5nm,1.1s
O29M Mount Kennedy 56.63 335 P **P** **13 54 40.8 +1.3**
baz=124,SNR=5.2
N30M Aishikik Lake 56.71 336 IAmb IAmb 13 54 42.5
comp=Z,12nm,1.1s
N30M Aishikik Lake 56.71 336 P **P** **13 54 41.5 +1.6**
baz=126
YUK6 Outpost Mounta 56.91 336 P **P** **13 54 43.2 +1.6**
baz=124,SNR=7.0
YUK4 Talbot Arm 57.25 336 P **P** **13 54 45.9 +1.9**
baz=124,SNR=6.9
M30M Minto, Yukon 57.26 338 IAmb IAmb 13 54 46.2
comp=Z,21nm,1.4s
M30M Minto, Yukon 57.26 338 P **P** **13 54 44.9 +1.0**
baz=127,SNR=9.5
O28M Mount Upton 57.56 335 P **P** **13 54 47.9 +1.6**
baz=122
MAYO Mayo, Yukon 57.57 339 P **P** **13 54 47.7 +1.8**
baz=128
YUK8 Steele Glacier 57.67 335 P **P** **13 54 48.6 +1.6**
baz=123,SNR=7.2
M29M Somme Creek 57.81 337 P **P** **13 54 49.4 +1.6**
baz=125,SNR=36
MESA MESA 57.99 334 P **P** **13 54 50.7 +1.5**
baz=120
L29M L29M 58.07 338 IAmb IAmb 13 54 51.9
comp=Z,16nm,1.1s
L29M L29M 58.07 338 P **P** **13 54 49.6 +0.1**
baz=126
K29M Barlow Dome 58.29 339 IAmb IAmb 13 54 53.9
comp=Z,11nm,1.4s
K29M Barlow Dome 58.29 339 P **P** **13 54 51.5 +0.3**
baz=127
J30M Hart River 58.33 340 IAmb IAmb 13 55 47.1
comp=Z,20nm,1.9s
J30M Hart River 58.33 340 P **P** **13 54 51.6 +0.2**
baz=129
C36M Paulatuk 58.45 348 P **P** **13 54 52.5 +0.6**
baz=144,SNR=6.7
H31M Peel River 58.48 341 P **P** **13 54 52.7 +0.3**
baz=131
PLCA Paso Flores 58.53 160 P **P** **13 54 54.8 +1.8**
comp=Z,1.4nm,0.9s,baz=331,slow=13,SNR=3.0
PLCA LR LR 14 15 12.5
comp=Z,291nm,18.7s,baz=350,slow=31
comp=Z,1.4nm,0.9s
I30M Mount Dempster 58.75 340 IAmb IAmb 13 55 01.0
comp=Z,6.8nm,0.9s
I30M Mount Dempster 58.75 340 P **P** **13 54 54.3 0.0**
baz=129
J29N Klondike Camp 58.90 339 IAmb IAmb 13 55 00.3
comp=Z,15nm,1.5s
J29N Klondike Camp 58.90 339 P **P** **13 54 55.4 0.0**
baz=126
KAIM Kayak Island 58.95 333 P **P** **13 54 55.7 0.0**
baz=118
M27K Edge Creek, AK 59.09 336 IAmb IAmb 13 54 59.5
comp=Z,8.5nm,1.2s
M27K Edge Creek, AK 59.09 336 P **P** **13 54 57.1 +0.3**
baz=122
DAWY Dawson 59.09 338 P **P** **13 54 56.8 +0.2**
baz=125
VRDI Verde Repeater 59.16 334 IAmb IAmb 13 55 00.1
comp=Z,11nm,1.0s
F31M Tsiigehtchic 59.40 343 IAmb IAmb 13 54 59.6
comp=Z,12nm,1.0s
F31M Tsiigehtchic 59.40 343 P **P** **13 54 59.0 +0.3**
baz=133,SNR=6.8
GLB Gilahina Butte 59.41 334 IAmb IAmb 13 55 01.3
comp=Z,13nm,1.0s
BCAR Beaver Creek A 59.43 337 P **P** **13 55 00.2 +1.2**
L27K Beaver Creek, 59.44 337 IAmb IAmb 13 55 01.5
comp=Z,12nm,1.0s
L27K Beaver Creek, 59.44 337 P **P** **13 54 59.5 +0.4**
baz=122
I29M Ogilvie Camp, 59.48 340 IAmb IAmb 13 55 00.7
comp=Z,14nm,1.2s
I29M Ogilvie Camp, 59.48 340 P **P** **13 54 59.5 +0.2**
baz=127,SNR=5.3
BMRM Bremner River 59.52 334 IAmb IAmb 13 55 02.6
comp=Z,16nm,1.1s
BMRM Bremner River 59.52 334 P **P** **13 55 01.1 +1.4**
baz=118
M26K Nabesna, AK 59.56 336 IAmb IAmb 13 55 02.5
comp=Z,16nm,1.3s
M26K Nabesna, AK 59.56 336 P **P** **13 55 00.9 +0.9**
baz=120
SFJD Kangerlussuaq 59.58 18 LR LR 14 22 17.7
comp=Z,710nm,18.3s,baz=222,slow=38
Q23K Middleton Isla 59.60 332 P **P** **13 55 00.8 +0.7**
baz=116
G30M tAoh Zraii Nji 59.82 342 P **P** **13 55 02.5 +0.9**
baz=130
N25K Chitina, Valde 59.83 334 P **P** **13 55 03.1 +1.4**
baz=118,SNR=8.8
EYAK Cordova Ski Ar 59.83 333 P **P** **13 55 02.5 +0.8**
baz=117
INK Inuvik 59.93 344 P **P** **13 55 02.8 +0.5**
comp=Z,11nm,0.9s,baz=124,slow=7.8,SNR=35
INK LR LR 14 25 19.4
comp=Z,215nm,19.1s,baz=219,slow=40
comp=Z,11nm,0.9s
INK Inuvik 59.93 344 P **P** **13 55 02.8 +0.5**
baz=133,SNR=15
L26K Log Cabin Wild 60.02 336 IAmb IAmb 13 55 05.0
comp=Z,7.6nm,1.0s
L26K Log Cabin Wild 60.02 336 P **P** **13 55 02.4 -0.7**
baz=120
H29M Whitestone 60.02 341 P **P** **13 55 03.4 +0.4**
baz=127
RCBR Riachuelo 60.03 105 LR LR 14 21 57.2
comp=Z,103nm,21.6s,baz=286,slow=37
K27K Chicken 60.05 337 P **P** **13 55 03.8 +0.6**
baz=122
I28M Miner Creek 60.08 339 IAmb IAmb 13 55 11.3
comp=Z,6.5nm,1.1s
I28M Miner Creek 60.08 339 P **P** **13 55 03.9 +0.4**
baz=125
F30M Barrier River 60.10 343 P **P** **13 55 03.9 +0.5**
baz=130
MENT Mentasta 60.12 336 IAmb IAmb 13 55 14.8
comp=Z,6.9nm,1.1s
P23K Montague Islan 60.33 332 P **P** **13 55 05.5 +0.3**
baz=115
G29M Pine Creek 60.33 341 P **P** **13 55 05.4 +0.3**
baz=128,SNR=10
KLU Klutina 60.33 334 P **P** **13 55 05.9 +0.7**
baz=117,SNR=8.8
HARP HAARP 60.44 335 P **P** **13 55 06.5 +0.6**
baz=118,SNR=7.6
RES Resolute Bay 60.44 359 IAmb IAmb 13 55 06.2
comp=Z,11nm,0.9s
RES Resolute Bay 60.44 359 LR LR 14 23 42.7
comp=Z,213nm,19.1s,baz=185,slow=38
GLI Glacier Island 60.57 333 P **P** **13 55 07.5 +0.8**
baz=116
DOT Dot Lake 60.61 337 IAmb IAmb 13 55 09.4
comp=Z,14nm,1.0s
M24K Tolsona, Glenn 60.72 334 P **P** **13 55 08.7 +0.8**
baz=117
I27K Kandik River 60.75 339 P **P** **13 55 08.6 +0.6**
baz=123
SCRK Sand Creek 60.75 337 IAmb IAmb 13 55 10.0
comp=Z,9.3nm,1.2s
SCRK Sand Creek 60.75 337 P **P** **13 55 08.4 +0.3**
baz=120,SNR=6.3
A36M Sachs Harbour 60.82 349 P **P** **13 55 08.2 -0.1**
baz=144,SNR=20
PAX Paxson 60.83 335 IAmb IAmb 13 55 10.6
comp=Z,11nm,0.9s
PAX Paxson 60.83 335 P **P** **13 55 09.2 +0.5**
baz=118,SNR=11
J26L Joseph Creek 60.86 337 P **P** **13 55 09.2 +0.4**
baz=121,SNR=14
RIDG Independent Ri 60.96 336 P **P** **13 55 10.1 +0.6**
baz=119,SNR=7.9
H27K Steamboat Moun 61.07 340 P **P** **13 55 10.4 +0.3**
baz=124,SNR=14
SCM Sheep Creek Mo 61.09 334 P **P** **13 55 10.8 +0.4**
baz=116
I26K Coal Creek Min 61.13 338 P **P** **13 55 10.8 +0.3**
baz=122
E29M Blow River 61.21 343 P **P** **13 55 11.4 +0.3**
baz=128,SNR=12
M23K Glacier View 61.24 334 P **P** **13 55 11.8 +0.5**
baz=115
SEW Seward 61.31 332 P **P** **13 55 12.3 +0.5**
baz=113
K24K Donnelly Dome 61.35 336 P **P** **13 55 12.7 +0.6**
baz=118
KNK Knik Glacier 61.40 333 IAmb IAmb 13 55 14.6
comp=Z,14nm,1.0s
KNK Knik Glacier 61.40 333 P **P** **13 55 12.8 +0.4**
baz=114
G27K Doyon Strip 61.43 340 IAmb IAmb 13 55 14.3
comp=Z,7.8nm,1.1s
G27K Doyon Strip 61.43 340 P **P** **13 55 12.9 +0.3**
baz=124
SML Sawmill 61.51 334 P **P** **13 55 13.6 +0.5**
baz=115
J25K Salcha River, 61.59 337 IAmb IAmb 13 55 19.3
comp=Z,7.5nm,0.9s
J25K Salcha River, 61.59 337 P **P** **13 55 14.6 +0.9**
baz=119,SNR=9.6
PMR Palmer 61.76 333 IAmb IAmb 13 55 16.8
comp=Z,12nm,1.2s
PMR Palmer 61.76 333 P **P** **13 55 14.9 +0.1**
baz=114
BRSE Bradley Lake S 61.78 331 P **P** **13 55 15.3 +0.3**
baz=111
E28M Babbage River 61.82 342 IAmb IAmb 13 55 16.8
comp=Z,9.1nm,0.8s
E28M Babbage River 61.82 342 P **P** **13 55 15.5 +0.3**
baz=127
RC01 Rabbit Creek A 61.83 333 P **P** **13 55 15.6 +0.3**
baz=113
KDAK Kodiak Island 62.00 328 LR LR 14 22 45.3
comp=Z,134nm,18.2s,baz=322,slow=36
KDAK Kodiak Island 62.00 328 P **P** **13 55 16.9 +0.4**
baz=109
D28M Stokes Point 62.04 343 P **P** **13 55 17.3 +0.8**
baz=128
PRP Porcupine Dome 62.09 338 P **P** **13 55 17.6 +0.5**
baz=119,SNR=7.8
HDA Harding Lake 62.09 337 IAmb IAmb 13 56 48.9
comp=Z,11nm,0.9s
HDA Harding Lake 62.09 337 P **P** **13 55 17.2 +0.2**
baz=117,SNR=6.8
Q20K Shuyak Island 62.18 329 P **P** **13 55 18.0 +0.3**
baz=109
OHAK Old Harbor 62.19 328 P **P** **13 55 17.8 +0.1**
baz=108
E27K Coleen River 62.20 342 P **P** **13 55 18.4 +0.7**
baz=125
G26K Porcupine Rive 62.22 340 P **P** **13 55 18.2 +0.5**
baz=122
ILAR Eielson Array 62.24 337 P **P** **13 55 18.2 +0.2**
ILAR Eielson Array 62.24 337 P **P** **13 55 18.4 +0.5**
comp=Z,7.0nm,1.0s,baz=136,slow=4.6,SNR=48
ILAR LR LR 14 24 46.2
comp=Z,296nm,18.7s,baz=108,slow=38
comp=Z,7.0nm,1.0s
M22K Willow 62.26 333 P **P** **13 55 18.7 +0.5**
baz=113
SUA Susitna One 62.42 333 P **P** **13 55 19.9 +0.5**
baz=112
CCB Clear Creek Bu 62.53 337 P **P** **13 55 20.4 +0.4**
CCB IAmb IAmb 13 55 30.8
comp=Z,9.4nm,1.4s
H25L Birch Creek 62.56 339 P **P** **13 55 21.1 +1.0**
baz=119,SNR=7.4
MCK McKinley 62.57 335 P **P** **13 55 21.0 +0.7**
baz=115,SNR=8.2
POKR Poker Plat Res 62.60 337 P **P** **13 55 21.2 +0.7**
baz=117
D27M Malcolm River 62.62 343 P **P** **13 55 21.1 +0.6**
baz=126
COLA College 62.65 337 P **P** **13 55 20.7 0.0**
COLA College 62.65 337 P **P** **13 55 21.2 +0.5**
baz=117
F26K Sheenjek River 62.73 340 IAmb IAmb 13 55 23.8
comp=Z,14nm,1.3s
F26K Sheenjek River 62.73 340 P **P** **13 55 22.1 +0.8**
baz=122
BMAR Burnt Mountain 62.73 340 P **P** **13 55 22.0 +0.6**
R18K Karluk 62.89 328 P **P** **13 55 22.2 -0.3**
baz=107
Q19K Cape Douglas, 62.90 329 P **P** **13 55 22.7 +0.1**
baz=108
SPU Mount Spurr 62.91 332 IAmb IAmb 13 55 24.4
comp=Z,8.3nm,0.9s
G25K Bearman Lake 62.91 339 P **P** **13 55 23.1 +0.7**
baz=119
P19K Oil Pt 62.93 330 P **P** **13 55 23.0 +0.2**
baz=109
SKT Skwentna 62.97 333 IAmb IAmb 13 55 24.9
comp=Z,12nm,1.0s
SKT Skwentna 62.97 333 P **P** **13 55 23.2 +0.2**
baz=112,SNR=5.6
N20K Mount Spurr 62.98 332 P **P** **13 55 23.2 +0.1**
baz=111
SPCR Spurr Chakacha 62.98 332 P **P** **13 55 23.6 +0.5**
baz=111
NEA2 Nenana 63.00 336 P **P** **13 55 23.5 +0.4**
baz=115
TRF Thorofare Moun 63.01 335 P **P** **13 55 23.8 +0.4**

baz=114,SNR=7.7
H24K Noodor Dome 63.10 338 P P 13 55 24.3 +0.5
baz=117,SNR=14
F25K Christian Rive 63.17 340 P P 13 55 25.6 +1.4
baz=120,SNR=13
I23K Minto, Yukon-K 63.35 337 P P 13 55 26.1 +0.8
baz=115,SNR=10
G24K Hadweenzic Riv 63.36 339 IAmb IAmb 13 55 27.7
comp=Z,14nm,1.1s
G24K Hadweenzic Riv 63.36 339 P P 13 55 26.5 +1.1
baz=118,SNR=8.8
E25K Arctic Village 63.41 341 IAmb IAmb 13 55 27.7
comp=Z,12nm,1.1s
E25K Arctic Village 63.41 341 P P 13 55 26.9 +1.1
baz=120,SNR=7.9
Q18K Katmai Hardscr 63.49 329 P P 13 55 27.0 +0.4
baz=107
BPAW Bear Paw Mtn. 63.55 335 IAmb IAmb 13 55 28.3
comp=Z,11nm,0.9s
BPAW Bear Paw Mtn. 63.55 335 P P 13 55 27.2 +0.4
baz=113,SNR=9.9
PPLA Purkeypile 63.59 334 P P 13 55 27.7 +0.5
baz=112
O19K Port Alsworth 63.62 331 P P 13 55 27.7 +0.4
baz=108
M20K Styx River 63.64 333 P P 13 55 27.8 +0.4
baz=110
C27K Jago River 63.64 342 P P 13 55 27.8 +0.5
baz=123
CAST Castle Rocks 63.74 335 P P 13 55 28.5 +0.5
baz=112,SNR=10
F24K Squaw Lake 63.88 339 IAmb IAmb 13 55 40.2
comp=Z,14nm,1.6s
F24K Squaw Lake 63.88 339 P P 13 55 29.6 +0.7
baz=118
N19K Bonanza Creek 63.90 331 P P 13 55 29.2 0.0
baz=108
O18K Koktuh Hills 63.95 330 P P 13 55 29.2 -0.2
baz=107
CHUM Lake Minchumin 64.01 335 P P 13 55 30.0 +0.3
baz=112
C26K Camden Bay 64.15 342 P P 13 55 31.5 +1.0
baz=122
PPT Papeete 64.15 242 LR LR 14 15 08.6
comp=Z,202nm,21.1s,baz=86,slow=28
L20K Farewell, AK 64.17 333 P P 13 55 31.0 +0.1
baz=110
M19K Big River Lodg 64.21 333 P P 13 55 31.2 +0.1
baz=109
G23K Bananza Creek 64.27 338 IAmb IAmb 13 55 33.6
comp=Z,7.0nm,1.0s
G23K Bananza Creek 64.27 338 P P 13 55 32.0 +0.6
baz=115
D25K Kavik River 64.28 342 P P 13 55 32.2 +0.7
baz=120
Q16K King Salmon 64.33 329 P P 13 55 31.8 -0.1
baz=105
E24K Your Creek 64.35 340 P P 13 55 32.8 +0.8
baz=118
P17K Kvichak River 64.36 329 P P 13 55 32.1 0.0
baz=106
I21K Tanana 64.37 336 IAmb IAmb 13 55 33.2
comp=Z,7.8nm,1.0s
I21K Tanana 64.37 336 P P 13 55 32.3 +0.2
baz=113
H22K Ishtalitna Cre 64.42 337 P P 13 55 33.1 +0.6
baz=114
K20K Telida 64.55 334 P P 13 55 33.4 0.0
baz=110
COLD Coldfoot 64.55 339 IAmb IAmb 13 55 35.4
comp=Z,12nm,1.2s
COLD Coldfoot 64.55 339 P P 13 55 33.9 +0.6
baz=115,SNR=9.9
CHGN Chignik 64.67 326 P P 13 55 34.5 +0.3
baz=102
E23K Chandalar 64.72 340 P P 13 55 35.1 +0.6
baz=116,SNR=19
M18K Stony River 64.72 332 P P 13 55 34.3 -0.2
baz=107
J20K Nowinta River 64.87 335 IAmb IAmb 13 55 36.1
comp=Z,12nm,1.1s
J20K Nowinta River 64.87 335 P P 13 55 35.7 +0.3
baz=110
H21K Melozitna Rive 64.87 337 IAmb IAmb 13 55 36.5
comp=Z,5.1nm,0.9s
H21K Melozitna Rive 64.87 337 P P 13 55 35.7 +0.3
baz=112
D24K Happy Valley 64.96 341 P P 13 55 36.5 +0.6
baz=118
TOLK Toolik Lake Re 64.97 340 IAmb IAmb 13 55 38.1
comp=Z,10nm,0.9s
TOLK Toolik Lake Re 64.97 340 P P 13 55 36.7 +0.7
baz=117,SNR=12
P16K Nushagak River 65.09 329 P P 13 55 37.5 +0.6
baz=104
C24K Franklin Bluff 65.19 341 P P 13 55 38.0 +0.6
baz=118
TTA Tatalina 65.25 333 P P 13 55 38.2 +0.2
baz=108
O16K Kokwok River B 65.28 329 P P 13 55 38.0 -0.1
baz=104
F22K John River 65.37 339 P P 13 55 38.9 +0.3
baz=114
J19K Poorman 65.42 334 P P 13 55 38.7 -0.2
baz=109,SNR=7.2
M17K Holitna River 65.44 331 P P 13 55 39.4 +0.2
baz=106
G21K Allakaket 65.46 337 IAmb IAmb 13 55 40.9
comp=Z,16nm,0.9s
G21K Allakaket 65.46 337 P P 13 55 39.7 +0.5
baz=112
D23K Nanushuk River 65.47 340 P P 13 55 39.7 +0.5
baz=116
E22K Anaktuvuk Pass 65.50 339 P P 13 55 40.4 +1.0
baz=114,SNR=16
H20K Anotleneega Mo 65.62 336 P P 13 55 40.6 +0.3
baz=110
SDPT Sand Point 65.62 325 P P 13 55 40.8 +0.5
baz=100
J18K Innoko River 65.71 334 P P 13 55 41.8 +0.9
baz=107
F21K Alatna River 65.72 338 P P 13 55 41.9 +1.0
baz=112,SNR=26
N16K Nishlik Lake 65.83 330 P P 13 55 41.9 +0.2
baz=104
C23K Itkillik River 65.83 341 P P 13 55 42.3 +0.8
baz=116
EUNU Eureka 65.90 1 P P 13 55 42.1 +0.1
L17K Donlin 66.03 332 P P 13 55 43.2 +0.2
baz=105
O15K Ungalikthiuk R 66.04 329 P P 13 55 43.3 +0.2
baz=103
M16K Timber Creek 66.05 331 P P 13 55 43.4 +0.3
baz=104
D22K Ayikyak River 66.09 340 P P 13 55 42.9 -0.4
baz=114
GCSA Galena City Sc 66.17 335 P P 13 55 43.8 0.0
baz=108
K17K Iditarod 66.19 333 P P 13 55 43.8 -0.1
baz=106
H19K Roundabout Mou 66.25 336 IAmb IAmb 13 55 45.7
comp=Z,11nm,0.9s
H19K Roundabout Mou 66.25 336 P P 13 55 44.0 -0.2
baz=108
E21K Killik River 66.36 339 P P 13 55 45.0 +0.1
baz=112
L16K Owhat River 66.46 332 P P 13 55 45.6 -0.1
baz=104
F20K Avaraart Lake 66.47 338 P P 13 55 46.4 +0.7
baz=110
G19K Purcell Mounta 66.69 337 P P 13 55 47.1 0.0
baz=108
J17K VABM Dome 66.71 333 P P 13 55 47.3 0.0
baz=105
O14K Tigyukauivet M 66.78 329 P P 13 55 47.5 -0.2
baz=101
M15K Kasigluk River 66.80 330 P P 13 55 47.7 -0.1
baz=102
C21K Knifeblade Rid 66.90 340 P P 13 55 48.6 +0.2
baz=112
H18K Honhosa River 66.90 335 P P 13 55 48.6 +0.2
baz=106
B22K Teshekpuk Lake 66.92 341 P P 13 55 48.6 +0.2
baz=113,SNR=19
B21K Ikpikpuk River 67.02 340 P P 13 55 49.3 +0.3
baz=112
E20K Nigu River 67.06 339 P P 13 55 49.7 +0.2
baz=110
N14K Kuskokwak Cree 67.13 329 P P 13 55 50.3 +0.3
baz=101
E19K Redstone River 67.16 338 IAmb IAmb 13 55 53.5
comp=Z,23nm,1.9s
E19K Redstone River 67.16 338 P P 13 55 50.7 +0.6
baz=108
F19K Shaleruckik Mo 67.17 337 P P 13 55 50.9 +0.8
baz=108
FALS False Pass 67.21 324 P P 13 55 51.0 +0.4
baz=98
G18K Tagagawik 67.23 336 IAmb IAmb 13 55 52.1
comp=Z,9.7nm,1.1s
G18K Tagagawik 67.23 336 P P 13 55 51.2 +0.6
baz=106
J16K Anvik River 67.35 333 P P 13 55 52.0 +0.6
baz=104
D20K Etivluk River 67.36 339 P P 13 55 52.1 +0.7
baz=110
L15K Ungalak Mounta 67.39 331 P P 13 55 52.4 +0.8
baz=102
M14K Bethel 67.42 330 P P 13 55 52.3 +0.5
baz=101
H17K Granite Mounta 67.47 335 P P 13 55 53.0 +1.0
baz=105
K15K Wolf Creek Mou 67.54 332 P P 13 55 53.8 +1.2
baz=102
A22K Sinclair Lake 67.65 342 P P 13 55 53.9 +0.8
baz=112
D19K Kuna River 67.81 339 IAmb IAmb 13 55 58.2
comp=Z,9.5nm,0.9s
D19K Kuna River 67.81 339 P P 13 55 55.2 +1.0
baz=108
F18K Selawik 67.81 337 P P 13 55 55.1 +0.9
baz=106
L14K Kuka Creek 67.88 331 P P 13 55 54.8 +0.1
baz=101
G17K Kivalik Mounta 67.92 335 P P 13 55 55.5 +0.6
baz=104
B20K Meade River 67.98 340 P P 13 55 56.2 +1.0
baz=110
M13K Dall Lake 68.03 330 P P 13 55 56.9 +1.2
baz=100
H16K Elim 68.37 334 P P 13 55 58.5 +0.8
baz=103
E18K Tukpahlearik C 68.40 337 P P 13 55 59.1 +1.3
baz=105
J14K Nanvaranak Lak 68.55 332 P P 13 55 59.5 +0.7
baz=101
G16K Koyuk River 68.58 335 P P 13 55 59.7 +0.6
baz=103
E17K Hotham Inlet 68.77 337 P P 13 56 00.7 +0.5
baz=104
K13K Kusilvak Mount 68.92 331 P P 13 56 02.0 +0.9
baz=99
C18K Utukok River 68.94 339 IAmb IAmb 13 56 02.2
comp=Z,9.2nm,1.2s
C18K Utukok River 68.94 339 P P 13 56 01.9 +0.7
baz=105
G15K Niukluk 69.19 335 P P 13 56 03.7 +0.9
baz=101
A19K Wainwright 69.31 340 P P 13 56 04.5 +1.0
baz=106
B18K Kokolik River 69.33 339 P P 13 56 04.3 +0.6
baz=105,SNR=8.0
D17K Noatak River 69.39 337 P P 13 56 04.7 +0.8
baz=103
RDOG Red Dog Mine 69.41 338 P P 13 56 04.4 +0.3
baz=103
BORG Borgarnes 69.41 26 LR LR 14 26 51.0
comp=Z,197nm,18.2s,baz=264,slow=36
M11K Mekoryuk 69.43 329 P P 13 56 04.3 0.0
baz=97
F15K North Star Dit 69.58 335 P P 13 56 05.3 0.0
baz=101
C17K DeLong Mountai 69.60 338 P P 13 56 05.5 +0.1
baz=103
ANM Nome 69.68 334 P P 13 56 05.8 -0.1
baz=100
F14K Arctic Creek 70.23 335 P P 13 56 09.1 -0.1
baz=99
C16K Lisburne Hills 70.34 338 P P 13 56 10.0 +0.2
baz=101
P08K Saint George I 70.83 325 P P 13 56 12.3 -0.7
baz=93
TNA Tin City 70.90 335 P P 13 56 13.0 -0.3
baz=98
SPIA Saint Paul Isl 71.24 326 P P 13 56 15.1 -0.4
baz=93
GAMB Gambell 72.34 333 P P 13 56 21.7 -0.2
baz=94
RAR Rarotonga 74.41 243 LR LR 14 21 24.0
comp=Z,63nm,21.9s,baz=116,slow=29
JMIC Jan Mayen 74.84 20 LR LR 14 30 37.5
comp=Z,352nm,18.9s,baz=250,slow=37
EKA Eskdalemuir Ar 78.33 36 P P 13 56 54.0 -2.6
comp=Z,6.3nm,0.8s,baz=273,slow=5.8,SNR=8.6
comp=Z,6.3nm,0.8s
SPITS Spitsbergen Ar 80.04 11 LR LR 14 33 44.1
comp=Z,330nm,21.2s,baz=220,slow=37
ESDC Sonseca Array 80.32 52 P P 13 57 05.5 -2.4
comp=Z,3.3nm,0.9s,baz=289,slow=5.6,SNR=11
ESDC LR LR 14 28 59.7
comp=Z,203nm,19.4s,baz=290,slow=33
comp=Z,3.3nm,0.9s
SHEM Shemya Is, Ala 80.55 322 LR LR 14 30 40.4
comp=Z,33nm,20.9s,baz=123,slow=34
BILL Bilibino 80.87 338 P P 13 57 10.9 +0.7
MDT Midelt 81.09 58 LR LR 14 28 59.8
comp=Z,196nm,19.6s,baz=336,slow=33
PMSA Palmer Station 81.80 168 LR LR 14 24 48.3
comp=Z,144nm,18.3s,baz=306,slow=29
NB2 NORSAR Subarra 84.39 28 P P 13 57 28.5 -0.2
comp=Z,17nm,1.2s,baz=291,slow=5.1
NB2 NORSAR Subarra 84.39 28 P P 13 57 28.5 -0.2
baz=291,slow=5.1
NOA NORSAR Array B 84.39 28 P P 13 57 28.2 -0.5
comp=Z,2.2nm,0.8s,baz=290,slow=5.2,SNR=5.0
NOA LR LR 14 33 00.1
comp=Z,251nm,21.6s,baz=280,slow=34
comp=Z,2.2nm,0.8s
HFS Hagfors 85.85 29 P P 13 57 34.6 -1.4
comp=Z,2.8nm,0.9s,baz=356,slow=5.8,SNR=2.1
HFS LR LR 14 33 31.3
comp=Z,284nm,21.8s,baz=272,slow=34
comp=Z,2.8nm,0.9s
ARCES ARCESS Array B 86.20 18 P P 13 57 36.7 -0.9
comp=Z,3.8nm,0.9s,baz=353,slow=5.0,SNR=5.5
ARCES LR LR 14 36 58.5
comp=Z,255nm,18.1s,baz=302,slow=36
comp=Z,3.8nm,0.9s
DBIC Dimbokro 86.59 84 P P 13 57 39.1 -1.4
comp=Z,4.2nm,0.7s,baz=257,slow=6.8,SNR=5.0
DBIC LR LR 14 33 30.6
comp=Z,106nm,20.9s,baz=269,slow=34
comp=Z,4.2nm,0.7s
DAVOX Davos/Dischmat 88.33 42 LR LR 14 31 36.3
comp=Z,199nm,21.1s,baz=256,slow=32
TIXI Tiksi 89.82 348 P P 13 57 54.0 -0.7
TIXI Tiksi 89.82 348 LR LR 14 46 04.1
comp=Z,190nm,18.1s,baz=12,slow=41
GERES GERESS Array B 90.02 39 LR LR 14 34 04.6
comp=Z,185nm,20.8s,baz=263,slow=33
MA2 Magadan 90.44 333 P P 13 57 58.2 +0.3
MA2 IAmb IAmb 13 58 02.4
comp=Z,7.9nm,0.9s
FINES FINESS Array B 90.68 25 LR LR 14 40 19.9
comp=Z,137nm,18.4s,baz=307,slow=37
VRAC Vranov 91.60 38 LR LR 14 35 20.1
comp=Z,143nm,20.3s,baz=292,slow=33
VAE Valguarnera 94.74 50 LR LR 14 37 54.7
comp=Z,407nm,19.5s,baz=344,slow=34
YAK Yakutsk 96.92 341 LR LR 14 47 15.5
comp=Z,63nm,20.5s,baz=55,slow=38
AKASG Malin Array Be 98.05 33 LR LR 14 46 03.9
comp=Z,87nm,18.2s,baz=249,slow=38
URZ Urewera 98.59 233 LR LR 14 36 49.6
comp=Z,64nm,18.3s,baz=133,slow=31
OBN Obninsk 98.90 27 LR LR 14 42 02.3
comp=Z,181nm,20.9s,baz=348,slow=35
MLR Muntele Rosu 98.99 39 LR LR 14 40 05.6
comp=Z,91nm,21.0s,baz=260,slow=34
KURBB Kurchatov Arra 114.98 6 PKP PKiKP 14 03 37.4 0.0
comp=Z,1.1nm,0.9s,baz=354,slow=2.1,SNR=8.1
MKAR Makanchi Array 119.10 4 PKP PKPdf 14 03 45.4 -0.2
comp=Z,0.5nm,0.6s,baz=29,slow=2.8,SNR=6.0
HHC Hu-ho-hao-te 120.64 339 *e*P PKiKP 14 03 50.2 +1.3
BOSA Boshof 121.33 115 PKP PKPdf 14 03 50.0 -0.4
comp=Z,4.4nm,0.8s,baz=261,slow=6.5,SNR=3.5
NJ2 Nanjing 124.77 327 *e*P PKiKP 14 03 58.1 +1.0
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LZH Lanzhou 127.47 343 *e*PKP PKiKP 14 04 02.7 0.0
WRA Warramunga Arr 134.52 256 PKP PKiKP 14 04 16.9 -0.1
comp=Z,1.1nm,0.7s,baz=84,slow=1.9,SNR=8.9
ASAR Alice Springs 134.84 251 PKP PKPdf 14 04 16.7 +0.5
comp=Z,0.5nm,0.7s,baz=86,slow=2.0,SNR=6.1
PZH PanZhiHua 137.04 340 PKP PKPdf 14 04 20.6 +0.2
CMAR Chiang Mai Arr 145.44 340 PKPbc PKPbc 14 04 35.5 +0.2
comp=Z,6.2nm,0.8s,baz=347,slow=4.5,SNR=42

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*DNK **05** 13:45:34.3±0.3,58°.91N×11°.96E,h0km,ML2.4(UPP), Explosion*

UPP 05 13:45:33.9±0.1,58°.91N×11°.97E,h0km,ML2.4,Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANU	**Vaenersborg**	**0.42**	**172**	P	Pg	13 45 42.0	+0.1
VANU				S	Sg	13 45 47.8	+0.4
VANU	**Vaenersborg**	**0.42**	**172**	P	Pg	13 45 42.0	+0.1
VANU				S	Sg	13 45 47.8	+0.4
STRU	**Stroemstad**	**0.42**	**288**	P	Pg	13 45 42.0	0.0
STRU				S	Sg	13 45 47.8	+0.3
STRU	**Stroemstad**	**0.42**	**288**	*e*P	Pg	13 45 42.0	0.0
STRU				*i* S	Sg	13 45 47.5	0.0
STRU	**Stroemstad**	**0.42**	**288**	P	Pg	13 45 42.0	0.0
STRU				S	Sg	13 45 47.8	+0.3
FINU	**Finntorp**	**0.56**	**28**	P	Pg	13 45 44.5	-0.1
FINU				S	Sg	13 45 52.1	+0.2
FINU	**Finntorp**	**0.56**	**28**	P	Pg	13 45 44.5	-0.1
FINU				S	Sg	13 45 52.1	+0.2
NASU	**Vaermlandsnaes**	**0.63**	**88**	P	Pg	13 45 45.9	-0.1
NASU				S	Sg	13 45 54.5	+0.3
NASU	**Vaermlandsnaes**	**0.63**	**88**	P	Pg	13 45 45.9	-0.1
NASU				S	Sg	13 45 54.5	+0.3
TJOU	**Tjoern**	**0.90**	**192**	P	Pg	13 45 50.4	-0.6
TJOU				S	Sg	13 46 02.9	+0.2
TJOU	**Tjoern**	**0.90**	**192**	P	Pg	13 45 50.4	-0.6
TJOU				S	Sg	13 46 02.9	+0.2
BORU	**Boraas**	**1.35**	**161**	P	Pg	13 45 58.8	-0.9
BORU	**Boraas**	**1.35**	**161**	*e*P	Pg	13 45 57.7	-1.9
BORU	**Boraas**	**1.35**	**161**	P	Pg	13 45 58.8	-0.9
UDD	**Uddeholm**	**1.45**	**35**	P	Pn	13 46 00.6	-0.8
UDD	**Uddeholm**	**1.45**	**35**	P	Pn	13 46 00.6	-0.8
ASKU	**Askersund**	**1.49**	**89**	P	Pn	13 46 01.2	-0.6
ASKU	**Askersund**	**1.49**	**89**	P	Pn	13 46 01.2	-0.6
ONAU	**Onsala**	**1.52**	**181**	P	Pn	13 46 01.7	-0.5
ONAU	**Onsala**	**1.52**	**181**	*e*P	Pn	13 46 01.6	-0.6
ONAU				*e*S	Sg	13 46 22.3	-0.2
ONAU	**Onsala**	**1.52**	**181**	P	Pn	13 46 01.7	-0.5
NRAU	**Nora**	**1.71**	**66**	P	Pn	13 46 05.1	+0.1
NRAU	**Nora**	**1.71**	**66**	P	Pn	13 46 05.1	+0.1
FABU	**Falkenberg**	**1.96**	**168**	*e*S	Sb	13 46 35.0	-0.2

IDC 05 13:47:19.7±13.0,54°.30N×160°.10E,h0km,Error ellipse: s-maj=101.8km s-min=39.1km az=51.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**1.86**	**231**	I	I	13 56 20.0	
	0.3nm,0.8s,baz=48,slow=333,SNR=7.7						
PETK	**Petropavlovsk-**	**1.86**	**231**	Pg	Pb	13 47 53.8	-0.8
	0.3nm,0.3s,baz=50,slow=18,SNR=10						
I53US	**FAIRBANKS INFR**	**27.55**	**47**	I	I	16 31 00.0	
	baz=267,slow=321,SNR=1.6						

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*AEIC **05** 13:48:21.0±1.4,56°.2N±0°.1×149°.2W±0°.1,h13km±8km, Error ellipse: s-maj=17.7km s-min=10.9km az=178.0*

NEIC 05 13:48:17.1±1.4,56°.2N±0°.1×149°.3W±0°.1,h20km±10km, ML3.5/54,ML3.3(AEIC),Error ellipse: s-maj=16.9km s-min=9.3km az=174.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**312**		Sn	13 49 22.9	-0.8
KDAK	**Kodiak Island**	**2.39**	**312**	Pn	Pn	13 48 55.5	+0.4
OHAK	**Old Harbor**	**2.43**	**295**		Sn	13 49 23.5	-1.3
OHAK	**Old Harbor**	**2.43**	**295**	Pn	Pn	13 48 56.1	+0.4
SYI	**Shuyak Island**	**2.92**	**326**	Pn	Pn	13 49 02.5	+0.1
R18K	**Karluk**	**3.15**	**297**		Pn	13 49 07.2	+1.7
R18K	**Karluk**	**3.15**	**297**	IAML		13 49 48.2	
	comp=N,88nm,0.8s						
R18K				IAML		13 49 51.1	
	comp=E,85nm,0.7s						
Q23K	**Middleton Isla**	**3.55**	**25**		Pn	13 49 10.9	-0.1
Q23K	**Middleton Isla**	**3.55**	**25**	IAML		13 49 54.6	
	comp=N,57nm,1.1s						
Q23K				IAML		13 50 24.8	
	comp=E,78nm,1.1s						
Q19K	**Cape Douglas,**	**3.59**	**321**	Pn	Pn	13 49 12.7	+1.1
BRSE	**Bradley Lake S**	**3.60**	**348**		Pn	13 49 11.5	-0.2
BRSE					Sn	13 49 53.1	-0.4
BRLK	**Bradley Lake**	**3.64**	**347**	Pn	Pn	13 49 11.5	-0.7
BRLK				IAML		13 50 04.0	
	comp=E,69nm,0.5s						
KAHG	**Katmai Hook Gl**	**3.65**	**310**		Pn	13 49 15.2	+2.7
HOM	**Homer**	**3.66**	**341**	Pn	Pn	13 49 13.4	+0.9
SEW	**Seward**	**3.88**	**358**	Pn	Pn	13 49 14.3	-1.1
P23K	**Montague Islan**	**3.89**	**14**		Pn	13 49 15.5	-0.2
KAHC	**Katmai Hardscr**	**3.94**	**310**		Pn	13 49 18.4	+1.9
P19K	**Oil Pt**	**4.03**	**330**	Pn	Pn	13 49 18.1	+0.5
P19K				IAML		13 50 13.6	
	comp=E,78nm,0.8s						
ILS	**Iliamna Low So**	**4.24**	**333**		Pn	13 49 21.1	+0.5
O20K	**Slope Mountain**	**4.25**	**336**		Pn	13 49 20.8	+0.2
O22K	**Cooper Landing**	**4.26**	**357**	Pn	Pn	13 49 21.2	+0.4
ILSW	**Iliamna Southw**	**4.28**	**333**	Pn	Pn	13 49 21.7	+0.5
ILSW				IAML		13 50 19.5	
	comp=N,44nm,0.5s						
ILSW				IAML		13 50 21.9	
	comp=E,40nm,0.7s						
SLKM	**Skilak Lake**	**4.31**	**354**	Pn	Pn	13 49 20.9	-0.6
SLKM				IAML		13 50 18.1	
	comp=E,72nm,0.5s						
SLKM				IAML		13 50 19.5	
	comp=N,49nm,0.8s						
HIN	**Hinchinbrook I**	**4.41**	**18**	Pn	Pn	13 49 22.5	-0.3
HIN				IAML		13 50 16.9	
	comp=E,65nm,0.6s						
P18K	**Big Mountain,**	**4.50**	**317**	Pn	Pn	13 49 24.3	+0.3
KAIM	**Kayak Island**	**4.50**	**33**	Pn	Pn	13 49 23.1	-0.9
RDT	**Redoubt**	**4.65**	**340**		Pn	13 49 26.0	-0.2
PWL	**Port Wells**	**4.66**	**6**	Pn	Pn	13 49 25.5	-0.7
PWL				IAML		13 50 24.9	
	comp=N,45nm,0.7s						
PWL				IAML		13 50 25.8	
	comp=E,51nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.69**	**22**	Pn	Pn	13 49 25.8	-0.9
FID	**Port Fidalgo**	**4.75**	**17**	Pn	Pn	13 49 27.4	-0.1
FID				IAML		13 50 19.6	
	comp=E,45nm,0.5s						
FID				IAML		13 50 31.7	
	comp=N,40nm,0.5s						
GLI	**Glacier Island**	**4.79**	**13**	Pn	Pn	13 49 27.4	-0.5
GLI				IAML		13 50 29.4	
	comp=E,41nm,0.6s						
GLI				IAML		13 50 30.5	
	comp=N,39nm,0.8s						
RAGM	**Ragged Mountai**	**4.80**	**28**	Pn	Pn	13 49 28.1	-0.1
SUCK	**Suckling Hills**	**4.81**	**35**	Pn	Pn	13 49 28.1	-0.2
SUCK				IAML		13 50 24.0	
	comp=E,44nm,1.1s						
RC01	**Rabbit Creek A**	**4.87**	**357**		Pn	13 49 28.6	-0.5
RC01				IAML		13 50 31.9	
	comp=E,29nm,0.5s						
RC01				IAML		13 50 38.4	
	comp=N,24nm,0.7s						
SPU	**Mount Spurr**	**5.17**	**345**		Pn	13 49 32.7	-0.6
SPU				IAML		13 50 39.2	
	comp=E,23nm,0.8s						
SPU				IAML		13 50 41.4	
	comp=N,23nm,0.7s						
SNH	**Sunshine Point**	**5.20**	**38**		Pn	13 49 33.3	-0.5
SNH				IAML		13 50 57.1	
	comp=E,23nm,0.9s						
SNH				IAML		13 50 58.3	
	comp=N,23nm,1.1s						
KNK	**Knik Glacier**	**5.20**	**4**		Pn	13 49 34.3	+0.6
KNK				IAML		13 50 43.9	

comp=E,31nm,0.9s
KNK IAML 13 50 44.9
comp=N,18nm,0.5s
SPCR Spurr Chakacha 5.21 344 Pn Pn 13 49 34.6 +0.8
SUA Susitna One 5.29 352 Pn Pn 13 49 34.7 -0.4
SUA IAML 13 50 47.1
comp=N,23nm,1.0s
SUA IAML 13 50 57.6
comp=E,16nm,0.9s
BMRM Bremner River 5.32 25 Pn Pn 13 49 35.5 +0.1
N19K Bonanza Creek 5.34 331 Pn Pn 13 49 35.8 +0.1
PMR Palmer 5.37 1 Pn Pn 13 49 36.5 +0.6
STLK Strandline Lak 5.44 347 Pn Pn 13 49 37.3 +0.2
KLU Klutina 5.54 17 Pn 13 49 38.1 -0.3
GHO Glory Hole Cre 5.55 2 Pn 13 49 39.4 +0.9
SML Sawmill 5.60 4 Pn 13 49 39.9 +0.7
SKT Skwentna 5.88 349 Pn 13 49 42.9 0.0
RND Reindeer 7.19 1 Pn 13 50 02.0 +1.0
N30M Aishikik Lake 8.18 45 Pn 13 50 14.4 -0.2
P32M Atlin 8.92 61 Pn Pn 13 50 24.6 -0.1
P33M Teslin, Yukon 9.53 59 Pn 13 50 33.0 -0.1
H21K Melozitna Rive 9.60 351 Pn 13 50 33.6 -0.4
R33M Jennings River 10.24 64 Pn 13 50 43.0 +0.1

IDC 05 14:08:56.5±62.0, 19°37S×176°25W, h0km, mb3.8/3, mbtmp3.8/3, MS3.5/2, Error ellipse: s-maj=1153.0km s-min=185.6km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.77**	**243**	P	P	14 16 30.0	-1.3
	1.4nm,0.8s,baz=58,slow=9.5,SNR=1.3						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**46.39**	**255**	P	P	14 17 25.5	+0.4
	1.1nm,0.6s,baz=98,slow=8.0,SNR=18						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**46.40**	**261**	P	P	14 17 25.2	0.0
	0.4nm,0.3s,baz=94,slow=7.3,SNR=6.3						
	0.4nm,0.3s						
VNDA	**Vanda**	**59.18**	**185**	LR	LR	14 44 06.4	
	comp=Z,48nm,18.1s,baz=59,slow=36						
JHJ	**Hachijo jima 2**	**66.98**	**321**	LR	LR	14 46 18.9	
	comp=Z,24nm,18.3s,baz=92,slow=34						
H03S2	**Juan Fernandez**	**85.26**	**124**	T	T	15 53 55.4	
	baz=248,slow=74,SNR=5.0						
H03S1	**Juan Fernandez**	**85.28**	**124**	T	T	15 53 56.5	
	baz=248,slow=74,SNR=5.4						
H03S3	**Juan Fernandez**	**85.28**	**124**	T	T	15 53 55.3	
	baz=248,slow=74,SNR=5.5						
H03N2	**Juan Fernandez**	**85.39**	**124**	T	T	15 53 57.3	
	baz=257,slow=72,SNR=6.4						
H03N3	**Juan Fernandez**	**85.40**	**124**	T	T	15 54 05.2	
	baz=257,slow=72,SNR=6.6						
H03N1	**Juan Fernandez**	**85.41**	**124**	T	T	15 53 59.2	
	baz=257,slow=72,SNR=5.5						

IDC 05 14:12:55.0±2.5, 6°24S×129°25E, h0km, mb3.4/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=158.8km s-min=32.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.49**	**161**	Pn	Pn	14 16 21.3	-0.3
	0.4nm,0.3s,baz=342,slow=13,SNR=20						
WRA				Sn	Sn	14 18 48.1	-15
	0.5nm,0.3s,baz=335,slow=23,SNR=8.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.90**	**166**	P	Pn	14 17 05.9	+0.3
	0.2nm,0.3s,baz=352,slow=13,SNR=10						
ASAR				S	Sn	14 20 14.5	-11
	0.2nm,0.4s,baz=341,slow=26,SNR=4.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.18**	**327**	P	P	14 23 50.9	0.0
	0.3nm,0.6s,baz=119,slow=7.6,SNR=2.8						
	0.3nm,0.6s						

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*IDC **05** 14:27:49.5±0.9, 15°76N×122°17E, h0km, mb3.6/7, mbtmp3.6/8, ML4.3/1, MS3.4/5, Error ellipse: s-maj=28.2km s-min=16.1km az=82.0*
*NEIC **05** 14:27:55.3±1.6, 15°78N±0°07×122°1E±0°1, h40km±8km, mb4.5/16, Error ellipse: s-maj=20.6km s-min=10.2km az=96.0*

ISC 05 14:27:54.8±0.6, 15°80N±0°07×122°1E±0°1, h39km, n40, σ0°99/32, mb4.2/14, MS3.3/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.04**	**214**	**Pn**	**Pn**	**14 28 26.9**	**+0.1**
	97nm,0.3s,baz=20,slow=5.2,SNR=10						
TGY				Sn	**Sn**	**14 28 53.2**	**+2.3**
	237nm,0.3s,baz=8.0,slow=23,SNR=8.2						
	287nm,0.3s						
TPUB	**Ta-pu**	**7.60**	**350**	Pn	**Pn**	**14 29 44.3**	**+1.3**
YULB	**Yu-li**	**7.60**	**354**	Pn	**Pn**	**14 29 43.3**	**+0.3**
DLV	**Lat**	**13.78**	**256**	Pn	**Pn**	**14 31 06.1**	**-1.8**
JMN	**Monobe**	**20.77**	**29**		**P**	**14 32 32.9**	**+0.4**
JMN				IAmb	IAmb	14 32 51.1	
	comp=Z,16nm,1.1s						
KSAR	**Wonju Array Be**	**22.16**	**12**	P	**P**	**14 32 45.9**	**-1.4**
KSRS	**Korea Array**	**22.18**	**12**	P	**P**	**14 32 48.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=198,slow=11,SNR=5.3						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.31**	**280**	P	**P**	**14 32 49.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=87,slow=8.4,SNR=5.7						
CMAR				LR	LR	14 41 52.6	
	comp=Z,50nm,18.2s,baz=115,slow=38						
	comp=Z,0.7nm,0.6s						
BRDH	**Bariadhala**	**29.54**	**288**	LR	LR	14 46 35.2	
	comp=Z,64nm,18.2s,baz=227,slow=38						
COEN	**Coen**	**36.15**	**144**	P	**P**	**14 34 54.1**	**+0.4**
COEN				IAmb	IAmb	14 35 32.3	
	comp=Z,22nm,1.5s						
WB0	**Warramunga Arr**	**37.34**	**161**	P	**P**	**14 35 02.5**	**-1.3**
WRAB	**Tennant Creek**	**37.48**	**161**	P	**P**	**14 35 03.5**	**-1.4**
WRAB				IAmb	IAmb	14 35 04.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**37.49**	**161**	P	**P**	**14 35 03.7**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=332,slow=10,SNR=6.6						
	comp=Z,1.2nm,0.8s						
WB2	**Warramunga Arr**	**37.49**	**161**	P	**P**	**14 35 03.7**	**-1.3**
WR0	**Warramunga Arr**	**37.57**	**161**	P	**P**	**14 35 04.5**	**-1.1**
WR0				IAmb	IAmb	14 35 08.2	
	comp=Z,4.3nm,1.0s						
AS31	**Alice Springs**	**40.88**	**163**	P	**P**	**14 35 32.6**	**-0.7**
ASAR	**Alice Springs**	**40.88**	**163**	P	**P**	**14 35 32.8**	**-0.5**
ASAR	**Alice Springs**	**40.88**	**163**	P	**P**	**14 35 33.0**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=339,slow=7.1,SNR=25						
ASAR				LR	LR	14 54 32.0	
	comp=Z,153nm,18.2s,baz=88,slow=39						
	comp=Z,0.7nm,0.5s						
H11S3	**WAKE ISLAND Hy 42.59**	**80**		T	T	15 21 48.5	
	baz=274,slow=75,SNR=150						
H11S1	**WAKE ISLAND Hy 42.60**	**80**		T	T	15 21 46.8	
	baz=274,slow=75,SNR=152						
H11S2	**WAKE ISLAND Hy 42.61**	**80**		T	T	15 21 47.3	
	baz=274,slow=75,SNR=208						
H11N1	**WAKE ISLAND Hy 42.72**	**78**		T	T	15 21 55.3	
	baz=273,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy 42.73**	**78**		T	T	15 21 58.9	
	baz=273,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy 42.74**	**78**		T	T	15 21 58.9	
	baz=273,slow=75,SNR=8.6						
MKAR	**Makanchi Array**	**45.21**	**322**	P	**P**	**14 36 07.4**	**-0.7**
MKAR	**Makanchi Array**	**45.21**	**322**	P	**P**	**14 36 08.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=123,slow=8.8,SNR=4.8						
	comp=Z,0.4nm,0.7s						
KURK	**Kurchatov**	**49.25**	**325**	P	**P**	**14 36 39.6**	**+0.1**
KURK				IAmb	IAmb	14 36 42.0	
	comp=Z,3.7nm,1.0s						
KURBB	**Kurchatov Arra**	**49.26**	**325**	P	**P**	**14 36 40.0**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=120,slow=8.2,SNR=12						
	comp=Z,1.9nm,0.7s						
ARSB	**Arslanbob**	**49.28**	**311**	P	**P**	**14 36 39.2**	**-1.0**
ARSB				IAmb	IAmb	14 37 16.5	
	comp=Z,4.1nm,1.3s						
BBOO	**Buckleboo**	**50.14**	**165**	P	**P**	**14 36 46.8**	**+0.4**
GAR	**Garm**	**50.70**	**308**	P	**P**	**14 36 50.7**	**-0.2**
KKAR	**Karatay Array**	**51.53**	**313**	P	**P**	**14 36 56.6**	**-0.4**
BVAR	**Borovoye Array**	**54.85**	**325**	P	**P**	**14 37 21.8**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=110,slow=9.0,SNR=7.5						
	comp=Z,0.8nm,0.6s						
BRVK	**Borovoye**	**54.92**	**325**	P	**P**	**14 37 22.1**	**+0.4**
ABKAR	**Akbulak array**	**60.08**	**318**	P	**P**	**14 37 58.1**	**0.0**
M19K	**Big River Lodg**	**73.14**	**29**	P	**P**	**14 39 19.9**	**-1.3**
M19K				IAmb	IAmb	14 39 58.1	
	comp=Z,12nm,1.4s						
KDAK	**Kodiak Island**	**74.29**	**34**	LR	LR	15 13 10.3	
	comp=Z,13nm,19.4s,baz=304,slow=37						
SPITS	**Spitsbergen Ar**	**77.83**	**348**	P	**P**	**14 39 49.0**	**+1.2**
	comp=Z,10nm,0.9s,baz=182,slow=2.5,SNR=4.5						
NOA	**NORSAR Array B**	**86.04**	**333**	LR	LR	15 21 59.7	
	comp=Z,18nm,18.1s,baz=100,slow=38						
TULEG	**Thule**	**87.62**	**3**	P	**P**	**14 40 39.2**	**+0.6**

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*NOU **05** 14:44:19.3, 36°24S×177°91E, h240km, MLv4.3/15, Off E. Coast of N. Island, N.Z.*
*WEL **05** 14:44:20.9±1.0, 36°5S±10°×17°8E±°, h214km±12km, M3.7/18, ML4.0/13, MLv3.7/18, Error ellipse: s-maj=15.3km s-min=8.2km az=32.5, confirmed*

ISC 05 14:44:16.6±2.7, 36°1S±0°1×178°0E±0°1, h257km±13km, n73, σ1°89/86, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.45**	**170**	P	**Pn**	**14 44 56.2**	**+1.0**
MXZ	**Matakaoa Point**	**1.45**	**170**	S	**S**	**14 45 23.5**	**-2.3**
MXZ	**Matakaoa Point**	**1.45**	**170**	P	**Pn**	**14 44 56.3**	**+1.0**
MXZ	**Matakaoa Point**	**1.45**	**170**	S	**S**	**14 45 24.0**	**-1.8**
MXZ	**Matakaoa Point**	**1.45**	**170**	P	**Pn**	**14 44 56.2**	**+1.0**
MXZ				S	**S**	**14 45 24.2**	**-1.6**
WSRZ	**White Island S**	**1.52**	**205**	P	**Pn**	**14 44 58.4**	**+2.6**
WSRZ				S	**S**	**14 45 25.0**	**-1.7**
WIZ	**White Island**	**1.53**	**204**	P	**Pn**	**14 44 57.1**	**+1.3**
WIZ				S	**S**	**14 45 25.6**	**-1.2**
HAZ	**Te Kaha**	**1.63**	**185**	P	**Pn**	**14 44 57.2**	**+0.7**
HAZ				S	**S**	**14 45 25.3**	**-2.8**
WMGZ	**Waiomatatini S**	**1.72**	**168**	P	**Pn**	**14 44 59.0**	**+1.8**
WMGZ				S	**S**	**14 45 27.5**	**-1.9**
PKGZ	**Pakihiroa**	**1.73**	**177**	P	**Pn**	**14 44 59.1**	**+1.7**
PKGZ				S	**S**	**14 45 28.1**	**-1.6**
MYRZ	**Mayor Island**	**1.80**	**230**	P	**Pn**	**14 44 59.2**	**+1.2**
RUGZ	**Raukumara Rang**	**1.84**	**187**	P	**Pn**	**14 44 59.0**	**+0.5**
WHRZ	**Whale Island**	**1.90**	**205**	P	**Pn**	**14 45 02.4**	**+3.6**
KUZ	**Kuaotunu**	**1.92**	**251**	P	**Pn**	**14 44 59.4**	**+0.5**
KUZ	**Kuaotunu**	**1.92**	**251**	P	**Pn**	**14 44 58.5**	**-0.5**
PUZ	**Puketiti**	**1.95**	**173**	P	**Pn**	**14 45 01.0**	**+1.7**
PUZ				S	**S**	**14 45 32.0**	**-0.9**
TWGZ	**Tauwhareparae**	**2.04**	**180**	P	**Pn**	**14 45 02.3**	**+2.3**
TWGZ				S	**S**	**14 45 33.8**	**-0.7**
GRZ	**Great Barrier**	**2.04**	**266**	P	**Pn**	**14 45 00.6**	**+0.5**
OPRZ	**Ohinepanea**	**2.05**	**213**	P	**Pn**	**14 45 01.3**	**+1.2**
OPRZ				S	**S**	**14 45 35.6**	**+1.1**
TGRZ	**Tauranga**	**2.10**	**220**	P	**Pn**	**14 45 02.2**	**+1.6**
MARZ	**Manawahe**	**2.12**	**209**	P	**Pn**	**14 45 03.5**	**+2.7**
MWZ	**Matawai**	**2.22**	**189**	P	**Pn**	**14 45 02.8**	**+1.1**
MWZ				S	**S**	**14 45 35.4**	**-2.1**
URZ	**Urewera**	**2.23**	**198**	P	**Pn**	**14 45 02.2**	**+0.5**
URZ	**Urewera**	**2.23**	**198**	S	**S**	**14 45 35.5**	**-1.9**
URZ	**Urewera**	**2.23**	**198**	P	**Pn**	**14 45 03.0**	**+1.3**
URZ	**Urewera**	**2.23**	**198**	S	**S**	**14 45 35.6**	**-1.9**
URZ	**Urewera**	**2.23**	**198**	P	**Pn**	**14 45 02.7**	**+1.0**
URZ				S	**S**	**14 45 35.6**	**-1.9**
TKGZ	**Te Karaka**	**2.30**	**182**	P	**Pn**	**14 45 04.4**	**+2.0**
TKGZ				S	**S**	**14 45 37.2**	**-1.5**
MKRZ	**Makatiti**	**2.33**	**211**	P	**Pn**	**14 45 06.8**	**+4.0**
KARZ	**Kaharoa**	**2.34**	**216**	P	**Pn**	**14 45 04.8**	**+2.0**
OMRZ	**Omania**	**2.35**	**213**	P	**Pn**	**14 45 05.8**	**+2.9**
CNGZ	**Carnagh Statio**	**2.35**	**176**	P	**Pn**	**14 45 05.4**	**+2.5**
KMRZ	**Kaimai**	**2.36**	**223**	P	**Pn**	**14 45 05.1**	**+2.0**
RAGZ	**Rawiri**	**2.40**	**191**	P	**Pn**	**14 45 05.5**	**+2.1**
RAGZ				S	**S**	**14 45 39.5**	**-1.1**
TARZ	**Mount Tarawera**	**2.40**	**209**	P	**Pn**	**14 45 06.5**	**+3.0**
NGRZ	**Ngongotaha**	**2.43**	**216**	P	**Pn**	**14 45 07.4**	**+3.7**
HLRZ	**Highlands Stat**	**2.48**	**211**	P	**Pn**	**14 45 07.4**	**+3.2**
RRRZ	**Republican Roa**	**2.49**	**207**	P	**Pn**	**14 45 07.1**	**+2.8**
MUGZ	**Murupara**	**2.53**	**202**	P	**Pn**	**14 45 05.9**	**+1.3**
TOZ	**Tahuroa Road**	**2.54**	**230**	P	**Pn**	**14 45 06.9**	**+2.2**
MBAZ	**Motutapu North**	**2.56**	**255**	P	**Pn**	**14 45 06.4**	**+1.4**
RIGZ	**Rimuhau**	**2.57**	**184**	P	**Pn**	**14 45 07.0**	**+1.9**
HSRZ	**Hossack Road**	**2.58**	**212**	P	**Pn**	**14 45 09.0**	**+3.8**
ABAZ	**Army Bay**	**2.58**	**259**	P	**Pn**	**14 45 06.7**	**+1.5**
ETAZ	**East Tamaki Re**	**2.59**	**251**	P	**Pn**	**14 45 06.9**	**+1.7**
RTZ	**Ruatahuna**	**2.60**	**197**	P	**Pn**	**14 45 06.7**	**+1.2**
HRRZ	**Handcock Road**	**2.62**	**210**	P	**Pn**	**14 45 08.3**	**+2.7**
GRRZ	**Galatos Road**	**2.67**	**213**	P	**Pn**	**14 45 09.1**	**+3.1**
PRRZ	**Plateau Road**	**2.68**	**208**	P	**Pn**	**14 45 08.3**	**+2.2**
SNGZ	**Shannon Statio**	**2.69**	**191**	P	**Pn**	**14 45 08.0**	**+1.7**
PRGZ	**Paritu Road**	**2.78**	**181**	P	**Pn**	**14 45 09.1**	**+1.8**
WTAZ	**Waiatarua**	**2.85**	**253**	P	**Pn**	**14 45 09.8**	**+1.8**
WCZ	**Waipu Caves**	**2.95**	**273**	P	**Pn**	**14 45 08.8**	**-0.2**
MRHZ	**Matea Rd**	**2.97**	**204**	P	**Pn**	**14 45 10.7**	**+1.5**
WHHZ	**Waihua**	**3.00**	**191**	P	**Pn**	**14 45 11.6**	**+2.1**
BKZ	**Black Stump Fm**	**3.25**	**201**	P	**Pn**	**14 45 13.4**	**+1.2**
BKZ	**Black Stump Fm**	**3.25**	**201**	S	**S**	**14 45 55.5**	**-0.9**
BKZ	**Black Stump Fm**	**3.25**	**201**	P	**Pn**	**14 45 13.1**	**+0.9**
BKZ	**Black Stump Fm**	**3.25**	**201**	S	**S**	**14 45 55.3**	**-1.1**
HIZ	**Hauiti**	**3.44**	**225**	P	**Pn**	**14 45 15.1**	**+0.8**
OUZ	**Omahuta**	**3.68**	**283**	P	**Pn**	**14 45 18.2**	**+1.1**
OUZ	**Omahuta**	**3.68**	**283**	P	**Pn**	**14 45 17.9**	**+0.8**
OUZ	**Omahuta**	**3.68**	**283**	P	**Pn**	**14 45 16.6**	**-0.4**
KHEZ	**Kahui Hut**	**4.45**	**224**	P	**Pn**	**14 45 27.9**	**+1.8**
BFZ	**Birch Farm**	**4.74**	**196**	P	**Pn**	**14 45 30.2**	**+0.8**
BFZ	**Birch Farm**	**4.74**	**196**	S	**S**	**14 46 25.3**	**-2.2**
BFZ	**Birch Farm**	**4.74**	**196**	P	**Pn**	**14 45 30.0**	**+0.6**
SNZO	**South Karori**	**5.76**	**205**	P	**Pn**	**14 45 41.9**	**0.0**
QRZ	**Quartz Range**	**6.34**	**221**	P	**Pn**	**14 45 51.2**	**+2.2**
QRZ	**Quartz Range**	**6.34**	**221**	S	**S**	**14 47 02.3**	**-0.8**
QRZ	**Quartz Range**	**6.34**	**221**	P	**Pn**	**14 45 50.7**	**+1.7**
KHZ	**Kahutara**	**7.15**	**207**	P	**Pn**	**14 45 59.1**	**-0.1**
ODZ	**Otahua Downs**	**10.50**	**210**	P	**Pn**	**14 46 41.9**	**+0.7**

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*IDC **05** 14:45:41.6±2.0, 5°79S×132°00E, h0km, mb3.9/4, mbtmp4.0/6, ML4.5/3, Error ellipse: s-maj=83.5km s-min=25.0km az=78.0*
*NEIC **05** 14:45:46.9±1.7, 5°84S±0°09×132°3E±0°1, h35km±2km, mb4.2/8, Error ellipse: s-maj=21.5km s-min=12.8km az=67.0*
*DJA **05** 14:45:50.0±0.2, 6°S±3°×13°2E±°, h102km±8km, M4.6/17, mB5.1/5, mb4.5/8, MLv4.7/17, Mw(mB)4.5/5*

ISC 05 14:45:48.1±0.7, 5°79S±0°05×132°10E±0°06, h35km, n53, σ2°37/51, mb4.3/9, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.32**	**200**		**Pn**	**14 46 25.4**	**+1.5**
SAUI	**Saumlaki**	**2.32**	**200**	P	**Pn**	**14 46 27.8**	**+4.0**
SAUI	**Saumlaki**	**2.32**	**200**	S	**Sn**	**14 46 57.5**	**+6.4**
SAUI	**Saumlaki**	**2.32**	**200**	P	**Pn**	**14 46 27.3**	**+3.5**
BNDI	**Bandanaira**	**2.52**	**300**	P	**Pn**	**14 46 28.9**	**+2.3**
BNDI	**Bandanaira**	**2.52**	**300**	S	**Sn**	**14 46 58.9**	**+2.8**
BNDI	**Bandanaira**	**2.52**	**300**	P	**Pn**	**14 46 28.9**	**+2.3**
BNDI				S	**Sn**	**14 46 58.4**	**+2.3**
KMPI	**Kaimana, Papua**	**2.66**	**37**	P	**Pn**	**14 46 30.5**	**+2.0**
KMPI				S	**Sn**	**14 47 00.9**	**+1.5**
FAKI	**Fak Fak**	**2.86**	**3**		**Pn**	**14 46 32.7**	**+1.4**
FAKI	**Fak Fak**	**2.86**	**3**	P	**Pn**	**14 46 32.6**	**+1.3**
FAKI	**Fak Fak**	**2.86**	**3**	S	**Sn**	**14 47 03.8**	**-0.7**
FAKI	**Fak Fak**	**2.86**	**3**	P	**Pn**	**14 46 32.4**	**+1.1**
MSAI	**Masohi**	**3.98**	**307**	P	**Pn**	**14 46 47.9**	**+1.1**
AAI	**Ambon**	**4.41**	**298**	P	**Pn**	**14 46 54.6**	**+1.9**
RKPI	**Ransiki, Papua**	**4.73**	**26**	P	**Pn**	**14 46 59.5**	**+2.4**
SWI	**Sorong**	**4.96**	**350**	P	**Pn**	**14 47 01.3**	**+1.0**
NLAI	**Namlea**	**5.59**	**297**	P	**Pn**	**14 47 10.6**	**+1.8**
	0.3nm2μm35nm,0.4s						
BAKI	**Biak**	**6.08**	**41**	P	**Pn**	**14 47 18.0**	**+2.5**
	0.5nm2μm114nm,0.7s						
DRS	**Darwin Rock St**	**6.70**	**190**	P	**Pn**	**14 47 25.3**	**+1.1**
KDU	**Kakadu**	**6.86**	**177**	P	**Pn**	**14 47 28.0**	**+1.7**
MTN	**Manton Dam**	**7.07**	**188**		**Pn**	**14 47 30.3**	**+1.1**
MTN	**Manton Dam**	**7.07**	**188**	P	**Pn**	**14 47 30.3**	**+1.1**
SANI	**Sanana**	**7.14**	**301**	P	**Pn**	**14 47 29.9**	**-0.2**
SANI	**Sanana**	**7.14**	**301**	P	**Pn**	**14 47 30.1**	**0.0**
SMPI	**Sarmi**	**7.60**	**60**	P	**Pn**	**14 47 40.3**	**+3.8**
	0.1nm17nm,1.2s						
SOEI	**Soe**	**8.70**	**243**	Pn	**Pn**	**14 47 52.9**	**+1.2**
SOEI	**Soe**	**8.70**	**243**	P	**Pn**	**14 47 53.9**	**+2.2**
SOEI	**Soe**	**8.70**	**243**	P	**Pn**	**14 47 53.4**	**+1.7**
	62nm,1.0s						
KNRA	**Kununurra**	**10.36**	**198**		**Pn**	**14 48 13.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**13.76**	**207**	Pn	**Pn**	**14 48 57.5**	**-3.3**
FITZ	**Fitzroy Crossi**	**13.76**	**207**	Pn	Pn	14 48 57.0	-3.9
	9.3nm,0.3s,baz=31,slow=13,SNR=145						
FITZ				Sn	Sn	14 51 16.8	-16
	3.8nm,0.3s,baz=184,slow=17,SNR=6.7						
WRAB	**Tennant Creek**	**14.23**	**171**		Pn	14 49 03.5	-3.8
WRA	**Warramunga Arr**	**14.24**	**171**	Pn	Pn	14 49 02.7	-4.7
WRA	**Warramunga Arr**	**14.24**	**171**	Pn	**Pn**	**14 49 04.7**	**-2.7**
	1.3nm,0.3s,baz=356,slow=13,SNR=54						
WRA				Sn	Sn	14 51 29.5	-15
	2.8nm,0.3s,baz=355,slow=23,SNR=12						
	1.5nm,0.3s						
WR0	**Warramunga Arr**	**14.28**	**171**	Pn	**Pn**	**14 49 05.0**	**-3.1**
AS31	**Alice Springs**	**17.86**	**175**	P	**Pn**	**14 49 48.5**	**-5.4**
ASAR	**Alice Springs**	**17.86**	**175**	P	Pn	14 49 47.7	-6.3
ASAR	**Alice Springs**	**17.86**	**175**	P	**Pn**	**14 49 52.4**	**-1.6**
	0.8nm,0.3s,baz=347,slow=9.4,SNR=35						
ASAR				S	Sn	14 53 01.0	-11
	3.8nm,0.6s,baz=356,slow=26,SNR=9.2						
	1.8nm,0.4s						
MBWA	**Marble Bar**	**19.42**	**217**		**P**	**14 50 10.8**	**-0.7**
MBWA				IAmb	IAmb	14 50 17.3	
	comp=Z,9.5nm,0.9s						
PSA00	**Pilbara Seismi**	**19.67**	**216**		**P**	**14 50 13.0**	**-1.3**
PSA00				IAmb	IAmb	14 50 15.2	
	comp=Z,12nm,0.6s						
KKM	**Kota Kinabalu**	**19.74**	**306**	P	**P**	**14 50 15.6**	**+0.4**
FORT	**Forrest**	**25.15**	**188**	P	**P**	**14 51 05.7**	**-4.4**
CMAR	**Chiang Mai Arr**	**40.61**	**307**	P	**P**	**14 53 22.6**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=122,slow=8.0,SNR=6.3						
	comp=Z,0.7nm,0.5s						
PZH	**PanZhiHua**	**43.54**	**319**	P	**P**	**14 53 51.7**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
LZH	**Lanzhou**	**49.37**	**330**	*e*P	**P**	**14 54 35.4**	**+0.8**
LZH				pP	pP	14 54 46.7	+1.8
LZH				pmax	pmax		
	comp=Z,19nm,0.4s						
HHC	**Hu-ho-hao-te**	**50.09**	**340**	*e*P	**P**	**14 54 42.4**	**+2.5**
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
MK31	**Makanchi Array**	**68.38**	**326**	P	**P**	**14 56 45.4**	**-0.9**
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**14 56 45.5**	**-0.8**
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**14 56 45.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=115,slow=7.7,SNR=30						
	comp=Z,1.1nm,0.5s						
MAKZ	**Makanchi**	**68.57**	**326**	P	**P**	**14 56 46.2**	**-1.2**
MAKZ				IAmb	IAmb	14 56 47.3	
	comp=Z,2.7nm,1.0s						
KDJ	**Kajisay**	**69.00**	**319**	P	**P**	**14 56 49.9**	**-0.5**
KDJ				IAmb	IAmb	14 56 50.7	
	comp=Z,2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**72.59**	**328**	P	**P**	**14 57 10.3**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=130,slow=4.5,SNR=6.8						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**78.17**	**327**	P	**P**	**14 57 42.2**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=116,slow=6.6,SNR=4.3						
	comp=Z,0.8nm,0.7s						

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*IDC **05** 14:55:15.3±1.6, 14°06S×123°76E, h0km, mb3.9/3, mbtmp3.7/6, ML3.1/3, Error ellipse: s-maj=93.3km s-min=23.4km az=57.0*
*NEIC **05** 14:55:16.1±1.5, 14°04S±0°08×123°8E±0°1, h10km±1km, mb4.2/4, Error ellipse: s-maj=18.5km s-min=11.4km az=59.0*

ISC 05 14:55:15.8±0.7, 14°09S±0°08×123°8E±0°1, h10km, n20, σ1°39/21, mb4.2/4, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**4.35**	**156**	Pn	**Pn**	**14 56 23.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**4.35**	**156**	Pn	**Pn**	**14 56 24.6**	**+2.5**
	0.5nm,0.3s,baz=328,slow=11,SNR=9.7						
FITZ				Sn	**Sn**	**14 57 09.4**	**-3.6**
	0.7nm,0.3s,baz=337,slow=12,SNR=1.9						
	1.7nm,0.4s						
KNRA	**Kununurra**	**5.04**	**109**	Pn	**Pn**	**14 56 32.5**	**+0.9**
PSA00	**Pilbara Seismi**	**8.34**

WVZ	Waitaha Valley	30.28 178	P	P	15 06 51.6	+0.3
GVZ	Greta Valley S	30.33 174	P	P	15 06 50.9	-0.9
FOZ	Fox Glacier	30.71 179	P	P	15 06 54.9	0.0
LBZ	Lake Benmore	31.57 179	P	P	15 07 01.7	-0.6
STKA	Stephens Creek	31.66 229	P	P	15 07 03.6	+0.3
	comp=Z,1.4nm,0.6s,baz=45,slow=10.0,SNR=2.9					
	comp=Z,1.4nm,0.6s					
WKZ	Wanaka	32.00 180	P	P	15 07 06.1	+0.2
EAZ	Earnscleugh	32.41 180	P	P	15 07 09.0	-0.3
TOO	Toolangi	32.53 216	P	P	15 07 11.1	+0.5
TOO			IAmb	IAmb	15 07 13.2	
	comp=Z,10nm,1.4s					
WHZ	Wether Hill Ro	33.08 181	P	P	15 07 15.3	+0.3
TUZ	Tuapeka	33.13 179	P	P	15 07 15.3	-0.1
WR0	Warramunga Arr	33.90 253	P	P	15 07 21.6	-0.8
WR0			IAmb	IAmb	15 08 02.7	
	comp=Z,6.5nm,1.4s					
WB0	Warramunga Arr	34.02 254	P	P	15 07 22.7	-0.6
WB2	Warramunga Arr	34.08 253	P	P	15 07 23.1	-0.7
WB2			IAmb	IAmb	15 07 32.5	
	comp=Z,9.1nm,1.4s					
WRAB	Tennant Creek	34.08 253	P	P	15 07 23.1	-0.7
WRAB			IAmb	IAmb	15 07 23.4	
	comp=Z,3.2nm,0.5s					
WRA	Warramunga Arr	34.09 253	P	P	15 07 23.2	-0.7
	comp=Z,2.6nm,0.3s,baz=84,slow=8.6,SNR=94					
	comp=Z,2.6nm,0.3s					
AS31	Alice Springs	35.09 247	P	P	15 07 31.7	-0.5
AS31			IAmb	IAmb	15 07 32.5	
	comp=Z,2.1nm,0.6s					
ASAR	Alice Springs	35.09 247	P	P	15 07 31.4	-0.8
ASAR	Alice Springs	35.09 247	P	P	15 07 31.6	-0.6
	comp=Z,5.2nm,0.6s,baz=76,slow=9.8,SNR=134					
	comp=Z,5.2nm,0.6s					
BBOO	Buckleboo	36.23 231	P	P	15 07 41.7	+0.3
KNRA	Kununurra	39.19 261	P	P	15 08 05.4	-0.2
FITZ	Fitzroy Crossi	42.18 257	P	P	15 08 29.1	-0.1
PETK	Petropavlovsk-	66.29 353	P	P	15 11 11.0	-6.2
	comp=Z,0.9nm,0.7s,baz=167,slow=6.6,SNR=4.2					
	comp=Z,0.9nm,0.7s					
QSPA	South Pole Qui	77.30 180	P	P	15 12 20.4	-0.6
SONM	Songino Array	81.97 323	P	P	15 12 46.2	+0.5
	comp=Z,0.2nm,0.6s,baz=134,slow=7.4,SNR=2.0					
	comp=Z,0.2nm,0.6s					
BERG	Berg Lake	81.98 22	P	P	15 12 47.3	+2.0
BERG			IAmb	IAmb	15 13 31.2	
	comp=Z,14nm,1.5s					
RDOG	Red Dog Mine	83.03 10	P	P	15 12 49.1	-1.3
RDOG			IAmb	IAmb	15 13 21.2	
	comp=Z,3.1nm,0.6s					
IL31		84.07 17	P	P	15 12 55.7	+0.1
ILAR	Eielson Array	84.07 17	P	P	15 12 55.1	-0.5
	comp=Z,0.4nm,0.5s,baz=226,slow=5.6,SNR=11					
	comp=Z,0.4nm,0.5s					
L27K	Beaver Creek,	84.46 20	P	P	15 12 57.0	-0.6
BCAR	Beaver Creek A	84.48 20	P	P	15 12 56.9	-0.8
P32M	Atlin	85.36 25	P	P	15 13 02.5	+0.5
M30M	Minto, Yukon	85.92 22	P	P	15 13 04.6	0.0
M30M			IAmb	IAmb	15 13 12.5	
	comp=Z,4.7nm,1.2s					
MCMT	McKenzie Canyo	90.56 44	P	P	15 13 27.2	+0.3

IDC 05 15:18:35.1±3.8, 0°.93S×135°.83E, h0km, mb3.0/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=169.8km s-min=30.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.96	184	P	P	15 22 57.7	-0.4
	0.1nm,0.3s,baz=3.6,slow=12,SNR=5.2						
	0.8nm,0.8s						
ASAR	Alice Springs	22.68	185	P	P	15 23 38.7	+0.2
	0.3nm,0.5s,baz=5.6,slow=11,SNR=8.0						
	0.3nm,0.5s						
MKAR	Makanchi Array	66.63	323	P	P	15 29 27.7	0.0
	0.2nm,0.9s,baz=106,slow=7.8,SNR=1.4						
	0.2nm,0.9s						

*NEIC **05** 15:26:15.1±0.8, 66°.27N±0°.02×157°.14W±0°.04, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=321.0*

AEIC 05 15:26:14.8±0.8, 66°.283N±0°.007×157°.15W±0°.03, h2km±6km, ML3.4, ML3.6/122(NEIC), Error ellipse: s-maj=2.1km s-min=0.9km az=110.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	Purcell Mounta	0.14	170	Pg	Pg	15 26 18.0	+0.5
G19K				Sg	Sg	15 26 20.3	+1.0
F19K	Shaleruckik Mo	0.61	336	Pg	Pg	15 26 26.2	-0.2
F19K				Sg	Sg	15 26 34.4	+0.1
G18K	Tagagawik	0.73	238		Sg	15 26 38.8	+0.7
G18K	Tagagawik	0.73	238	Pg	Pg	15 26 28.6	-0.1
H19K	Roundabout Mou	0.81	159		Pg	15 26 30.3	+0.1
H19K				Sg	Sg	15 26 41.0	+0.2
H19K				IAML		15 26 46.4	
	comp=E,2μm,0.5s						
F20K	Avaraart Lake	0.95	36		Pg	15 26 32.8	-0.2
F20K					Sg	15 26 46.1	+0.7
F18K	Selawik	1.06	289		Pg	15 26 34.4	-0.6
E19K	Redstone River	1.18	358		Pg	15 26 37.0	-0.4
E19K				IAML		15 26 55.1	
	comp=N,1μm,0.5s						
H20K	Anotleneega Mo	1.22	129		Pg	15 26 37.6	-0.6
H20K					Sb	15 26 54.9	0.0
H18K	Honhosa River	1.24	204		Pg	15 26 37.5	-1.0
G21K	Allakaket	1.48	79	Pn	Pn	15 26 41.9	-0.6
GCSA	Galena City Sc	1.55	176		Pn	15 26 42.9	-0.4
GCSA					Sn	15 27 03.6	-0.3
F17K	Baldwin Pennin	1.66	277	Pn	Pn	15 26 44.1	-0.7
F17K				IAML		15 27 13.0	
	comp=E,532nm,0.7s						
F17K				IAML		15 27 14.1	
	comp=N,594nm,0.8s						
F21K	Alatna River	1.73	55		Pn	15 26 45.3	-0.7
F21K				IAML		15 27 14.7	
	comp=N,457nm,0.4s						
H17K	Granite Mounta	1.77	222		Pn	15 26 45.5	-1.0
H17K				IAML		15 27 11.5	
	comp=E,502nm,0.4s						
H17K				IAML		15 27 15.7	
	comp=N,425nm,0.7s						
H21K	Melozitna Rive	1.89	107		Pn	15 26 47.2	-0.8
H21K				IAML		15 27 18.4	
	comp=N,543nm,0.5s						
E20K	Nigu River	2.02	10		Pn	15 26 50.9	+1.0
D19K	Kuna River	2.25	351		Pn	15 26 52.8	-0.3
D19K				IAML		15 27 27.9	
	comp=E,414nm,0.6s						
D19K				IAML		15 27 28.2	
	comp=N,346nm,0.5s						
G16K	Koyuk River	2.32	250		Pn	15 26 52.1	-1.8
G16K				IAML		15 27 30.2	
	comp=N,364nm,0.9s						
G16K				IAML		15 27 32.9	
	comp=E,248nm,0.6s						
J19K	Poorman	2.39	164		Pn	15 26 54.6	-0.2
J19K				IAML		15 27 31.4	
	comp=E,223nm,0.8s						
I21K	Tanana	2.40	115		Pn	15 26 54.6	-0.5
I21K				IAML		15 27 38.3	
	comp=N,288nm,0.7s						
I21K				IAML		15 27 38.6	
	comp=E,383nm,0.8s						
J20K	Nowinta River	2.46	148		Pn	15 26 55.4	-0.5
D17K	Noatak River	2.73	304		Pn	15 26 59.1	-0.4
J18K	Innoko River	2.84	176		Pn	15 27 00.7	-0.3
I17K	Unalakleet	2.84	214		Pn	15 27 00.8	-0.2
C18K	Utukok River	2.84	329	Pn	Pn	15 27 00.6	-0.6
G23K	Bananza Creek	2.89	78		Pn	15 27 01.4	-0.4
G23K				IAML		15 27 48.9	
	comp=E,217nm,0.6s						
COLD	Coldfoot	2.91	68		Pn	15 27 01.3	-0.8
J17K	VABM Dome	3.01	197		Pn	15 27 03.1	-0.3
J17K				IAML		15 27 55.5	
	comp=N,168nm,0.8s						
J17K				IAML		15 27 56.9	
	comp=E,200nm,0.9s						
D22K	Ayikyak River	3.12	31	IAML		15 28 05.8	
	comp=E,185nm,1.2s						
D22K				IAML		15 28 08.6	
	comp=N,173nm,0.9s						
J16K	Anvik River	3.35	208	IAML		15 28 06.6	
	comp=N,132nm,0.6s						
J16K				IAML		15 28 18.9	
	comp=E,126nm,0.6s						
BPAW	Bear Paw Mtn.	3.40	127		Pn	15 27 08.4	-0.4
TTA	Tatalina	3.40	171		Pn	15 27 08.5	-0.3
I23K	Minto, Yukon-K	3.41	106		Pn	15 27 08.4	-0.6
I23K				IAML		15 28 09.3	
	comp=N,176nm,1.0s						
E23K	Chandalar	3.43	55	IAML		15 28 13.9	
	comp=N,130nm,0.8s						
E23K				IAML		15 28 14.3	
	comp=E,104nm,0.8s						
CAST	Castle Rocks	3.60	141		Pn	15 27 11.7	+0.2
K17K	Iditarod	3.62	188		Pn	15 27 11.3	-0.5
K17K				IAML		15 28 18.6	
	comp=N,99nm,0.8s						
K17K				IAML		15 28 18.7	
	comp=E,113nm,0.9s						
TOLK	Toolik Lake Re	3.76	47		Pn	15 27 13.6	-0.1
TOLK				IAML		15 28 20.4	
	comp=E,102nm,1.1s						
TOLK				IAML		15 28 29.1	
	comp=N,96nm,0.6s						
C16K	Lisburne Hills	3.76	306	Pn	Pn	15 27 13.6	-0.1
NEA2	Nenana	3.77	113		Pn	15 27 13.9	-0.1
NEA2				IAML		15 28 17.9	
	comp=N,88nm,1.0s						
NEA2				IAML		15 28 24.5	
	comp=E,68nm,1.1s						
H24K	Noodor Dome	3.81	93	IAML		15 28 18.3	
	comp=N,120nm,0.7s						
KTH	Kantishna Hill	3.81	133		Pn	15 27 14.2	-0.3
KTH				IAML		15 28 24.2	
	comp=N,73nm,0.9s						
ANM	Nome	3.84	247	Pn	Pn	15 27 15.1	+0.3
ANM				IAML		15 28 18.3	
	comp=E,62nm,0.9s						
ANM				IAML		15 28 20.6	
	comp=N,65nm,0.6s						
F24K	Squaw Lake	3.85	67	IAML		15 28 24.8	
	comp=N,121nm,0.7s						
COLA	College	4.11	106		Pn	15 27 18.1	-0.4
WRH	Wood River Hil	4.20	111	IAML		15 28 32.7	
	comp=N,49nm,0.7s						
WRH				IAML		15 28 33.0	
	comp=E,53nm,0.8s						
CCB	Clear Creek Bu	4.23	109	IAML		15 28 32.9	
	comp=E,57nm,0.7s						
CCB				IAML		15 28 38.2	
	comp=N,51nm,0.9s						
L19K	White Mountain	4.24	165		Pn	15 27 18.6	-1.8
L19K				IAML		15 28 11.6	
	comp=E,59nm,0.8s						
L19K				IAML		15 28 32.5	
	comp=N,52nm,1.1s						
D24K	Happy Valley	4.28	44	IAML		15 28 40.9	
	comp=N,84nm,0.8s						
D24K				IAML		15 28 43.1	
	comp=E,85nm,1.1s						
B22K	Teshekpuk Lake	4.30	17	IAML		15 28 37.3	
	comp=N,76nm,1.0s						
B22K				IAML		15 28 55.4	
	comp=E,85nm,1.0s						
C23K	Itkillik River	4.33	32		Pn	15 27 21.1	-0.4
C23K				IAML		15 28 46.8	
	comp=E,61nm,0.5s						
C23K				IAML		15 28 47.6	
	comp=N,68nm,0.8s						
K15K	Wolf Creek Mou	4.44	208	Pn	Pn	15 27 23.3	+0.3
K15K				IAML		15 28 45.2	
	comp=N,66nm,1.2s						
K15K				IAML		15 28 51.9	
	comp=E,48nm,1.1s						
TNA	Tin City	4.47	266	Pn	Pn	15 27 23.5	0.0
J14K	Nanvaranak Lak	4.50	221	IAML		15 28 44.8	
	comp=N,60nm,0.7s						
J14K				IAML		15 28 59.4	
	comp=E,65nm,1.0s						
ILAR	Eielson Array	4.53	105		Pn	15 27 23.7	-0.6
M19K	Big River Lodg	4.56	163	IAML		15 28 47.2	
	comp=E,42nm,0.6s						
HDA	Harding Lake	4.67	109	IAML		15 28 42.8	
	comp=E,44nm,0.4s						
C24K	Franklin Bluff	4.69	39		Pn	15 27 25.7	-0.8
C24K				IAML		15 28 52.6	
	comp=E,50nm,1.1s						
C24K				IAML		15 29 06.8	
	comp=N,43nm,1.1s						
F25K	Christian Rive	4.71	69	IAML		15 28 48.4	
	comp=N,49nm,0.8s						
E25K	Arctic Village	4.87	62	IAML		15 28 57.1	
	comp=E,43nm,0.7s						
E25K				IAML		15 29 03.1	
	comp=N,43nm,0.6s						
BMAR	Burnt Mountain	5.09	71		Pn	15 27 31.5	-0.5
J25K	Salcha River,	5.19	103	IAML		15 29 00.5	
	comp=E,35nm,0.7s						
F26K	Sheenjek River	5.29	69	IAML		15 29 07.6	
	comp=N,43nm,1.0s						
F26K				IAML		15 29 13.0	
	comp=E,40nm,0.6s						
M14K	Bethel	5.95	203	Pn	Pn	15 27 44.1	+0.3

*IDC **05** 15:26:41.2±4.3, 35°.80N×70°.35E, h77km±37km, mb3.9/16, mbtmp4.2/21, MS2.8/2, Error ellipse: s-maj=26.1km s-min=15.1km az=12.0*

*MOS **05** 15:26:43.7±0.9, 36°.01N×70°.34E, h109km, mb4.2/13, Error ellipse: s-maj=8.0km s-min=3.7km az=80.9*

*NNC **05** 15:26:45.3±2.9, 36°.52N×70°.18E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=25.2km s-min=19.8km az=162.0*

*NEIC **05** 15:26:45.5±1.9, 35°.99N±0°.07×70°.28E±0°.07, h114km±11km, mb4.3/7, Error ellipse: s-maj=10.8km s-min=8.7km az=188.0*

ISC 05 15:26:44.1±0.5, 35°.91N±0°.05×70°.37E±0°.05, h110km, n178, σ1 975/199, mb4.2/33, 20C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.75	219		Pn	15 27 15.3	+1.1
KBL	Kabul	1.75	219	PN	Pn	15 27 15.3	+1.1
CHGR	Chuyangaron	2.91	341		Pn	15 27 28.9	0.0
CHGR	Chuyangaron	2.91	341	PN	Pn	15 27 28.9	0.0
SIMJ	Simiganj	2.95	339		Pn	15 27 29.6	+0.1
GAR	Garm	3.08	359		Pn	15 27 31.9	+0.6
NIL	Nilore	3.27	133	Pn	Pn	15 27 35.9	+2.1
NIL	Nilore	3.27	133	PN	Pn	15 27 35.9	+2.1
DRK	Karamyk	3.74	17		Pn	15 27 41.6	+1.4
DRK	Karamyk	3.74	17	PN	Pn	15 27 41.6	+1.4
BTK	Batken	4.15	5		Pn	15 27 46.9	+1.4
BTK	Batken	4.15	5	PN	Pn	15 27 46.9	+1.4
JMU	Jammu	4.92	129	eP	Pn	15 27 56.7	+0.9
JMU				eS	Sn	15 28 49.5	-2.1
THN	Thein Dam	5.63	127	eP	Pn	15 28 06.2	+0.9
THN				eS	Sn	15 29 08.3	-0.5
THN				IAML		15 29 12.7	
	comp=E,230nm,0.3s						
THN				IAML		15 29 23.7	
	comp=E,294nm,0.3s						
KSH	Kashi	5.71	49	Pn	Pn	15 28 04.2	-2.5
KSH				Sn	Sn	15 29 02.8	-8.2
KSH				smax	smax		
	comp=N,220nm,0.4s						
KSH				smax	smax		
	comp=E,180nm,0.5s						
ARSB	Arslanbob	5.78	20		Pn	15 28 07.5	+0.1
ARSB	Arslanbob	5.78	20	PN	Pn	15 28 07.6	+0.1
DHRM	DHARAMSHALA	6.13	125	eP	Pn	15 28 13.2	+0.8
DHRM				eS	Sn	15 29 20.2	-1.0
DHRM				IAML		15 29 22.3	
	comp=E,290nm,0.4s						
DHRM				IAML		15 29 24.2	
	comp=E,346nm,0.7s						
IUG	Iuzhnay	6.23	358	ePN	Pn	15 28 14.1	+0.5
IUG	Iuzhnay	6.23	358	eP	Pn	15 28 13.4	-0.2
	comp=E,17nm,0.8s						
AML	Almayashu	6.72	22	P	Pn	15 28 20.6	0.0
	SNR=146						
BHK	Bhakra	6.74	130	eP	Pn	15 28 20.1	-0.5
BHK				eS	Sn	15 29 34.1	-1.8
BHK				IAML		15 29 36.0	
	comp=E,92nm,0.4s						
BHK				IAML		15 29 52.6	
	comp=E,87nm,0.6s						
DZA	Taraz	7.01	6	ePN	Pn	15 28 24.2	+0.1
DZA	Taraz	7.01	6	eP	Pn	15 28 24.3	+0.1
UCH	Uchtor	7.08	26	P	Pn	15 28 25.9	+0.4
	SNR=5.9						
BRLS	Borolday	7.12	357	ePN	Pn	15 28 21.9	-3.7
BRLS	Borolday	7.12	357	eP	Pn	15 28 21.9	-3.7
KK31	Karatay Array	7.18	1	Pn	Pn	15 28 25.9	-0.5
KK31	Karatay Array	7.18	1	P	Pn	15 28 25.9	-0.5
	comp=E,19nm,0.3s,baz=190,slow=14,SNR=320						
KK31				⇑S	Sn	15 29 42.3	-4.1
	comp=E,18nm,0.3s,baz=147,slow=30,SNR=4.2						
KK31	Karatay Array	7.18	1	PN	Pn	15 28 25.9	-0.5
KKAR	Karatay Array	7.18	1		Pn	15 28 26.0	-0.4
KKAR	Karatay Array	7.18	1	PN	Pn	15 28 26.0	-0.4
EKS2	Erkin-Say	7.24	20	P	Pn	15 28 27.8	+0.5
	SNR=13						
SMLA	Simla	7.41	128	eP	Pn	15 28 29.7	+0.1
SMLA				eS	Sn	15 29 49.7	-2.4
SMLA				IAML		15 29 52.5	
	comp=E,121nm,0.2s						
SMLA				IAML		15 29 56.1	
	comp=E,79nm,0.5s						
AAK	Ala-Archa	7.44	24	Pn	Pn	15 28 30.2	+0.2
AAK	Ala-Archa	7.44	24	P	Pn	15 28 30.4	+0.4
	comp=E,27nm,0.4s,baz=199,slow=6.3,SNR=101						
AAK				S	Sn	15 29 49.8	-3.0
	comp=E,32nm,0.5s,baz=114,slow=22,SNR=7.8						
AAK				LR	LR	15 31 08.8	
	comp=E,40nm,19.0s,baz=226,slow=35						
AAK	Ala-Archa	7.44	24	P	Pn	15 28 30.4	+0.4
	SNR=67						
AAK	Ala-Archa	7.44	24	⇓P	Pn	15 28 29.9	-0.1
	comp=E,16nm,0.4s						
AAK				⇓S	Sn	15 29 49.5	-3.4
	comp=E,61nm,0.8s						
KBK	Karagaybulak	7.61	26	P	Pn	15 28 33.0	+0.6
	SNR=23						
FRU1	Bishkek	7.63	24		Pn	15 28 30.7	-1.9
FRU1	Bishkek	7.63	24	PN	Pn	15 28 30.7	-1.9
ULHL	Ulahol	7.80	34	P	Pn	15 28 35.5	+0.5
	SNR=12						
CHMS	Chumysh	7.84	24	P	Pn	15 28 35.9	+0.5
	SNR=9.6						
CHMS	Chumysh	7.84	24	⇑P	Pn	15 28 35.2	-0.2
	comp=E,24nm,0.6s						
CHMS				⇑S	Sn	15 29 58.8	-3.7
	comp=E,38nm,0.6s						
CHMS	Chumysh	7.84	24	PN	Pn	15 28 35.2	-0.2
BOOM	Boomskoye usch	7.86	32	Pn	Pn	15 28 36.2	+0.4
BOOM	Boomskoye usch	7.86	32	PN	Pn	15 28 36.2	+0.4
KLP	Kalpa	7.88	121	eP	Pn	15 28 35.8	-0.5
KLP				eS	Sn	15 30 00.7	-3.3
KLP				IAML		15 30 08.3	
	comp=E,80nm,0.7s						
KLP				IAML		15 30 09.4	
	comp=E,131nm,0.4s						
USP	Ospenovka	8.00	22	P	Pn	15 28 38.0	+0.4
	SNR=25						
TKM2	Tokmak 2	8.08	28	P	Pn	15 28 38.6	-0.1
	SNR=32						
TKM2	Tokmak 2	8.08	28	⇑P	Pn	15 28 38.5	-0.3
	comp=E,8.2nm,0.4s						
TKM2				⇑S	Sn	15 30 04.1	-4.4
	comp=E,11nm,0.6s						
TKM2	Tokmak 2	8.08	28	PN	Pn	15 28 38.5	-0.3
KDJ	Kajisay	8.16	38	Pn	Pn	15 28 39.8	0.0
KDJ	Kajisay	8.16	38	PN	Pn	15 28 39.8	0.0
TARG	Taragay, Kyrgy	8.21	43		Pn	15 28 41.2	+0.5
TARG	Taragay, Kyrgy	8.21	43	PN	Pn	15 28 41.2	+0.5
SGDS	Sogindy	8.21	22	ePN	Pn	15 28 39.9	-0.5
SGDS	Sogindy	8.21	22	eP	Pn	15 28 39.9	-0.5
BKNR	BIKANER	8.25	162	eS	Sn	15 30 07.2	-5.3
WUS	Wushi	8.71	50	Pn	Pn	15 28 48.2	+1.0
TNSS	Tian-Shan	8.74	34	ePN	Pn	15 28 47.8	-0.1
TNSS	Tian-Shan	8.74	34	eP	Pn	15 28 47.9	-0.1
AAA	Alma-Ata	8.86	33	ePN	Pn	15 28 49.5	+0.2
AAA	Alma-Ata	8.86	33	eP	Pn	15 28 49.5	+0.2
NDI	New Delhi	9.24	139	eS	Sn	15 30 30.7	-6.0
KUDL	Kundal	9.32	144	eP	Pn	15 28 54.5	-1.0
KUDL				eS	Sn	15 30 31.4	-7.1
KUDL				IAML		15 30 37.2	
	comp=E,35nm,0.6s						
KUDL				IAML		15 30 44.0	
	comp=E,27nm,0.4s						
JOSI	Joshimath	9.36	122	eP	Pn	15 28 56.2	-0.1
JOSI				eS	Sn	15 30 35.2	-4.6
JOSI				IAML		15 30 39.6	
	comp=E,83nm,0.2s						
JOSI				IAML		15 30 50.8	
	comp=E,70nm,0.5s						
SATY	Saty	9.46	39	eP	Pn	15 28 57.8	+0.5
SATY	Saty	9.46	39	eP	Pn	15 28 57.9	+0.5
SONA	Sohna	9.53	141	eP	Pn	15 28 58.3	0.0
SONA				eS	Sn	15 30 37.2	-6.2
SONA				IAML		15 30 42.2	
	comp=E,61nm,0.4s						
SONA				IAML		15 30 56.0	
	comp=E,42nm,0.3s						
BTLS	Baital	9.54	16	eP	Pn	15 28 58.1	-0.2
BTLS				eS	Sn	15 30 43.0	-0.5
BTLS	Baital	9.54	16	eP	Pn	15 28 58.2	-0.2
BTLS				eS	Sn	15 30 43.1	-0.5
UZB	Uzynbulak	9.84	40	eP	Pn	15 29 02.7	+0.2
UZB	Uzynbulak	9.84	40	eP	Pn	15 29 02.7	+0.2
KPKS	Kokpek	9.89	38	eP	Pn	15 29 02.9	-0.3
KPKS				eS	Sn	15 30 51.7	-0.6
KPKS				pmax	pmax		
	comp=E,5.0nm,0.8s						
KPKS	Kokpek	9.89	38	eP	Pn	15 29 02.9	-0.3
	comp=E,5.2nm,0.8s						
KPKS				eS	Sn	15 30 51.7	-0.6
ARXS	Arharly	10.06	32	eP	Pn	15 29 05.5	0.0
SHLS	Shalkode	10.07	41	eP	Pn	15 29 08.8	+3.1
SHLS	Shalkode	10.07	41	eP	Pn	15 29 08.8	+3.1
OTUK	Ortayu	12.41	6	⇑P	Pn	15 29 34.4	-2.4
	comp=Z,5.3nm,0.8s						
OTUK	Ortayu	12.41	6	P	Pn	15 29 34.4	-2.4
JHNI	Jhansi	12.56	144	eS	Sn	15 31 47.6	-9.4
MAKZ	Makanchi	13.93	35		Pn	15 29 56.7	+0.1
MAKZ	Makanchi	13.93	35	⇑P	Pn	15 29 56.2	-0.3
	comp=Z,8.5nm,1.1s						
MAKZ	Makanchi	13.93	35	P	Pn	15 29 56.7	+0.1
BHPL	Bhopal	14.03	152	eP	Pn	15 29 57.5	-0.7
BHPL				eS	Sn	15 32 22.9	-10
MK31	Makanchi Array	14.06	36		Pn	15 29 58.3	0.0
MK31	Makanchi Array	14.06	36	P	Pn	15 29 59.0	+0.6
	comp=Z,3.5nm,0.6s,baz=218,slow=15,SNR=24						
MK31	Makanchi Array	14.06	36	ceP	Pn	15 29 59.0	+0.6
MKAR	Makanchi Array	14.06	36	Pn	Pn	15 29 58.4	+0.1
MKAR	Makanchi Array	14.06	36	P	Pn	15 29 58.5	+0.2
	comp=Z,1.3nm,0.8s,baz=224,slow=14,SNR=12						
MKAR	Makanchi Array	14.06	36	i P	Pn	15 29 59.4	+1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AB31	Akbulak array	15.37	333	⇑P	Pn	15 30 13.4	-1.4
	comp=Z,18nm,0.5s,baz=155,slow=12,SNR=689						
AB31				⇑S	Sn	15 32 58.5	-6.1
	comp=Z,3.3nm,0.3s,baz=154,slow=24,SNR=12						
AB31	Akbulak array	15.37	333	P	Pn	15 30 13.4	-1.4
ABKAR	Akbulak array	15.37	333		Pn	15 30 13.1	-1.7
WMQ	Urumqi	15.45	54	eP	P	15 30 18.1	0.0

BRVK IAmb IAmb 15 30 39.4
comp=Z,7.6nm,0.6s
BRVK Borovoye 17.14 360 ⇑P P 15 30 36.1 -0.5
comp=Z,7.2nm,0.7s
BRVK Borovoye 17.14 360*ce*P P 15 30 36.3 -0.3
BRVK pmax pmax
comp=Z,6.0nm,0.6s
GNI Garni 20.60 290 P Pn 15 31 17.7 -0.2
comp=Z,44nm,0.7s,baz=108,slow=2.9,SNR=21
GNI Garni 20.60 290 *i* P **P 15 31 14.7 +0.1**
GNI pmax pmax
comp=Z,29nm,0.9s
GNI Garni 20.60 290 P **P 15 31 14.2 -0.4**
comp=Z,55nm,0.7s
ZAA0 Zalesovo Array 20.66 25 P **P 15 31 15.6 +0.8**
ZAA0 IAmb IAmb 15 31 16.8
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 20.66 25 P **P 15 31 16.0 +1.1**
ZALV Zalesovo Beam 20.66 25 P **P 15 31 16.2 +1.4**
comp=Z,15nm,0.4s,baz=221,slow=11,SNR=77
comp=Z,15nm,0.4s
SVE Sverdlovsk 21.93 346 *e*P **P 15 31 29.9 +1.5**
ARTI Arti 22.04 342 P **P 15 31 31.0 +1.5**
comp=Z,11nm,0.7s,baz=162,slow=5.0,SNR=18
comp=Z,11nm,0.7s
ARTI Arti 22.04 342*d i*P **P 15 31 30.3 +0.8**
ARTI 15 32 01.2
ARTI S **S 15 35 26.0 +0.6**
ARTI pmax pmax
comp=Z,20nm,1.0s
KBZ Khabaz 22.43 299 P **P 15 31 34.0 +0.3**
comp=Z,5.2nm,0.9s,baz=131,slow=7.5,SNR=14
comp=Z,5.2nm,0.9s
SHA1 Shidzhatmaz 22.60 299 *i* P **P 15 31 35.6 -0.1**
KIV Kislovodsk 22.62 299 *e*P **P 15 31 35.9 +0.1**
KIV *e*S **S 15 35 35.1 -0.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 22.62 299 P **P 15 31 35.6 -0.2**
comp=Z,9.1nm,0.8s
BELG Belogornoye 23.04 323 *i* P **P 15 31 39.8 +0.2**
BELG pmax pmax
comp=Z,2.0nm,1.0s
KIRV Kirov 26.55 335 LR LR 15 43 15.9
comp=Z,29nm,18.3s,baz=355,slow=37
KIRV Kirov 26.55 335*ce*P **P 15 32 12.2 +0.9**
LZH Lanzhou 27.01 80 *e*P **P 15 32 14.3 -1.6**
LZH pP pP 15 32 39.3 -2.0
LZH pmax pmax
comp=Z,17nm,0.8s
PZH PanZhiHua 28.32 101 P **P 15 32 29.5 +1.8**
PZH pmax pmax
comp=Z,11nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
SONM Songino Array 29.09 55 P **P 15 32 36.3 +2.0**
comp=Z,0.3nm,0.4s,baz=251,slow=8.8,SNR=2.4
comp=Z,0.3nm,0.4s
BR104 Keskin Array S 29.13 289 P **P 15 32 34.3 -0.5**
comp=Z,2.3nm,0.9s
BR131 Keskin Array S 29.14 289 *i* P **P 15 32 34.8 0.0**
BRTR Keskin Array B 29.14 289 P **P 15 32 36.0 +1.2**
comp=Z,1.6nm,0.7s,baz=99,slow=8.5,SNR=8.7
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 29.14 289*ce*P **P 15 32 36.4 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BR106 Keskin Array S 29.15 289 P **P 15 32 34.4 -0.5**
comp=Z,2.2nm,0.8s
BR105 Keskin Array S 29.15 289 P **P 15 32 34.4 -0.6**
comp=Z,2.6nm,0.9s
OBN Obninsk 30.06 320 *e*P **P 15 32 42.2 -0.3**
OBN pmax pmax
comp=Z,6.0nm,0.9s
HHC Hu-ho-hao-te 32.45 69 *e*P **P 15 33 04.4 +0.5**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.5s
AK09 Malin Array Si 32.87 310 P **P 15 33 06.9 -0.4**
AK10 Malin Array Si 32.89 309 P **P 15 33 07.3 -0.2**
AK08 Malin Array Si 32.89 310 P **P 15 33 07.3 -0.2**
AK05 Malin Array Si 32.92 310 P **P 15 33 07.6 -0.1**
AKASG Malin Array Be 32.92 310 P **P 15 33 08.4 +0.6**
comp=Z,2.7nm,0.5s,baz=85,slow=7.1,SNR=32
comp=Z,2.7nm,0.5s
AKASG Malin Array Be 32.92 310*ce*P **P 15 33 08.3 +0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 32.92 310 P **P 15 33 07.3 -0.5**
AKBB Malin Array Si 32.92 310 *i* P **P 15 33 07.4 -0.4**
AKBB pmax pmax
comp=Z,2.0nm,1.0s
AKBB Malin Array Si 32.92 310 P **P 15 33 07.6 -0.2**
KIEV Kiev 32.93 310 P **P 15 33 07.4 -0.4**
KIEV IAmb IAmb 15 33 09.1
comp=Z,5.7nm,0.6s
KIEV Kiev 32.93 310 P **P 15 33 07.4 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
AK13 Malin Array Si 33.01 309 P **P 15 33 08.3 -0.2**
LUBAR Lubar, Ukraine 33.72 308 P **P 15 33 14.5 -0.2**
NDNU Novodnistrovsk 33.82 306 P **P 15 33 15.4 -0.2**
PLOR3 Plostina Array 34.14 301 P **P 15 33 18.2 -0.3**
comp=Z,9.2nm,1.0s
MLR Muntele Rosu 34.63 300 P **P 15 33 22.3 -0.5**
RNPP5 Staryi Chortor 35.09 310 P **P 15 33 26.2 -0.3**
RNPP9 Sopachiv 35.12 310 P **P 15 33 26.4 -0.3**
BUR08 Bucovina Ar. S 35.19 304 P **P 15 33 28.0 +0.4**
BUR08 IAmb IAmb 15 33 30.5
comp=Z,3.5nm,1.0s
XLT XiLinHaoTe 35.58 63 *e*P **P 15 33 30.9 0.0**
XLT pP pP 15 34 00.7 +3.8
XLT sP sP 15 34 10.4 +0.3
XLT PP **PP 15 34 58.0 +4.3**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT AMB AMB
comp=Z,84nm,4.8s
STNU Starunia 35.72 305 P **P 15 33 31.6 -0.3**
FINES FINESS Array B 37.69 327 P **P 15 33 49.6 +1.2**
comp=Z,5.2nm,0.8s,baz=100,slow=10,SNR=11
comp=Z,5.2nm,0.8s
ARCES ARCESS Array B 41.49 338 P **P 15 34 21.6 +1.7**
comp=Z,4.1nm,0.4s,baz=112,slow=7.5,SNR=47
comp=Z,4.1nm,0.4s
CLL Collm 43.17 309 *e*P **P 15 34 36.0 +2.3**
CLL Collm 43.17 309 *e*P **P 15 34 32.0 -1.7**
HFS Hagfors 43.22 322 P **P 15 34 34.8 +0.8**
comp=Z,5.2nm,0.6s,baz=99,slow=9.5,SNR=17
comp=Z,5.2nm,0.6s
NB2 NORSAR Subarra 44.55 323 P **P 15 34 44.9 +0.3**
comp=Z,7.2nm,0.9s,baz=99,slow=7.9
NOA NORSAR Array B 44.55 323 P **P 15 34 45.0 +0.3**
comp=Z,2.5nm,0.7s,baz=98,slow=7.9,SNR=9.3
comp=Z,2.5nm,0.7s
NOA NORSAR Array B 44.55 323 P **P 15 34 45.0 +0.3**
YAK Yakutsk 44.74 35 *i* P **P 15 34 46.8 +0.8**
YAK pmax pmax
comp=Z,7.0nm,1.3s
KLR Kul'dur 45.90 53 *i* P **P 15 34 56.4 +1.0**
KLR pmax pmax
comp=Z,4.0nm,1.5s
TIXI Tiksi 46.51 22 P **P 15 35 00.6 +0.8**
TIXI IAmb IAmb 15 35 04.3
comp=Z,2.3nm,0.8s
TIXI Tiksi 46.51 22 P **P 15 35 00.6 +0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
VLA Vladivostok 47.06 62 *i* P **P 15 35 06.2 +1.7**
VLA pmax pmax
comp=Z,3.0nm,1.1s
SPITS Spitsbergen Ar 47.95 347 P **P 15 35 12.6 +1.6**
comp=Z,6.2nm,0.9s,baz=118,slow=12,SNR=16
comp=Z,6.2nm,0.9s
ESDC Sonseca Array 57.28 298 P **P 15 36 21.2 +0.9**
comp=Z,1.4nm,0.8s,baz=57,slow=7.6,SNR=8.4
comp=Z,1.4nm,0.8s
TORD Torodi Ar. Bea 65.20 269 P **P 15 37 12.7 -1.2**
comp=Z,3.8nm,0.3s,baz=49,slow=4.7,SNR=2.0
comp=Z,3.8nm,0.3s
YKA Yellowknife Ar 81.85 2 P **P 15 38 51.5 +0.8**
comp=Z,0.3nm,0.6s,baz=346,slow=5.4,SNR=4.9
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 81.85 2 *i* P **P 15 38 50.5 -0.2**
WRA Warramunga Arr 82.11 121 P **P 15 38 53.1 +0.4**
comp=Z,0.4nm,0.5s,baz=325,slow=4.9,SNR=7.1
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 82.11 121*ce*P **P 15 38 53.5 +0.8**
ASAR Alice Springs 84.34 124 P **P 15 39 04.9 +0.8**
comp=Z,0.3nm,0.6s,baz=306,slow=4.8,SNR=7.4
comp=Z,0.3nm,0.6s

*IDC **05** 15:34:01.6±1.8, 26°.58N×98°.51E, h0km, mb3.6/5, mbtmp3.7/6, ML4.1/1, MS3.1/1, Error ellipse: s-maj=56.5km s-min=24.1km az=82.0*
*NEIC **05** 15:34:04.1±2.0, 26°.6N±0°.1×98°.4E±0°.2, h11km±5km, mb4.1/9, Error ellipse: s-maj=24.7km s-min=12.9km az=58.0*
ISC 05 15:34:03.6±0.8, 26°.52N±0°.07×98°.47E±0°.09, h10km, n24, σ1ŝ76/24, mb3.8/10, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**2.93**	**90**	Pn	Pn	15 34 42.3	-8.1
PZH				Pg	Pb	15 34 47.1	-9.0
PZH				Sn	Sn	15 35 17.7	-8.1
PZH				Sg	**Sb**	**15 35 27.2**	**-4.8**
PZH				smax	smax		
	comp=N,110nm,1.2s						
PZH				smax	smax		
	comp=E,90nm,1.1s						
SLVN	**Son La**	**7.17**	**135**		**Pn**	**15 35 51.7**	**+3.1**
CHTO	**Chiang Mai**	**7.69**	**177**		**Pn**	**15 35 55.7**	**+0.1**
CM31	**Chiang Mai Arr**	**8.04**	**177**		**Pn**	**15 36 00.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**8.04**	**177**		**Pn**	**15 36 01.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**8.04**	**177**	Pn	**Pn**	**15 36 01.7**	**+1.2**
	comp=E,0.7nm,0.3s,baz=351,slow=18,SNR=20						
CMAR				Sn	**Sn**	**15 37 31.9**	**+0.4**
	comp=E,0.5nm,0.3s,baz=1.5,slow=32,SNR=6.9						
	comp=E,5.4nm,0.7s						
LZH	**Lanzhou**	**10.58**	**24**	P	**Pn**	**15 36 38.7**	**+3.3**
LZH				pP		15 36 45.2	
LZH				pmax	pmax		
	comp=Z,19nm,0.6s						
WUS	**Wushi**	**21.61**	**317**	P	**P**	**15 38 51.8**	**-2.1**
WUS				IAmb	IAmb	15 38 57.6	
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**22.16**	**14**	P	**P**	**15 39 00.3**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=198,slow=8.9,SNR=3.4						
	comp=Z,0.6nm,0.8s						
KDJ	**Kajisay**	**23.39**	**317**	P	**P**	**15 39 12.1**	**-0.6**
PSI	**Prapat**	**23.59**	**179**	LR	LR	15 47 43.5	
	comp=Z,53nm,21.0s,baz=204,slow=35						
MK31	**Makanchi Array**	**23.95**	**332**	P	**P**	**15 39 17.4**	**-0.6**
MK31				IAmb	IAmb	15 39 18.3	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**23.95**	**332**	P	**P**	**15 39 17.3**	**-0.6**
MKAR	**Makanchi Array**	**23.95**	**332**	P	**P**	**15 39 17.1**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=142,slow=9.3,SNR=23						
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**24.09**	**331**	P	**P**	**15 39 18.9**	**-0.4**
BOOM	**Boomskoye usch**	**24.35**	**317**	P	**P**	**15 39 21.6**	**-0.3**
BOOM				IAmb	IAmb	15 39 22.4	
	comp=Z,3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**28.49**	**333**	P	**P**	**15 39 57.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=142,slow=8.5,SNR=3.4						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**29.20**	**343**	P	**P**	**15 40 04.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=155,slow=7.2,SNR=3.0						
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**33.75**	**329**	P	**P**	**15 40 43.8**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=144,slow=10,SNR=5.0						
	comp=Z,0.9nm,0.7s						
BRVK	**Borovoye**	**33.82**	**329**	P	**P**	**15 40 44.7**	**-1.1**
BRVK				IAmb	IAmb	15 40 49.5	
	comp=Z,5.4nm,1.4s						
ABKAR	**Akbulak array**	**37.37**	**318**	P	**P**	**15 41 14.4**	**-1.9**
ARTI	**Arti**	**41.38**	**327**	P	**P**	**15 41 50.6**	**+0.8**
ARTI				IAmb	IAmb	15 41 51.1	
	comp=Z,5.2nm,1.2s						
MTN	**Manton Dam**	**50.39**	**137**	P	**P**	**15 43 01.3**	**0.0**
H17K	**Granite Mounta**	**71.03**	**26**	P	**P**	**15 45 20.9**	**-0.6**

WEL 05 15:35:24.9±0.6, 39°S±2°×17°6E±°, h5km, M1.5/3, ML1.9/6, MLv1.5/3, Error ellipse: s-maj=6.1km s-min=3.2km az=83.7, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPPS	**Taupo Police S**	**0.05**	**174**	P	Pg	15 35 26.1	-0.1
TPPS				S	Sg	15 35 28.2	+1.0
WHTZ	**Whakaora**	**0.09**	**251**	P	Pg	15 35 23.4	-3.4
ALRZ	**Allen Road**	**0.23**	**71**	P	Pg	15 35 29.4	0.0
ALRZ				S	Sg	15 35 33.4	+0.9
GRRZ	**Galatos Road**	**0.29**	**8**	P	Pg	15 35 31.5	+1.0
GRRZ				S	Sg	15 35 35.7	+1.3
MRHZ	**Matea Rd**	**0.34**	**125**	P	Pg	15 35 31.6	+0.1
MRHZ				S	Sg	15 35 36.6	+0.6
HSRZ	**Hossack Road**	**0.36**	**24**	P	Pg	15 35 32.1	+0.4
HSRZ				S	Sg	15 35 37.9	+1.5
TLZ	**Tolley Road**	**0.51**	**307**	P	Pg	15 35 34.6	-0.1
BKZ	**Black Stump Fm**	**0.63**	**148**	P	Pg	15 35 37.3	+0.4
BKZ				S	Sb	15 35 46.9	-0.5
KWHZ	**Kaweka Forest**	**0.83**	**160**	P	Pg	15 35 41.2	+0.3

WEL 05 15:35:44.8, 40°S±2°×17°6E±°, h23km±4km, M2.0/13, ML2.3/7, MLv2.0/13, Error ellipse: s-maj=3.4km s-min=3.0km az=30.9, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.04**	**128**	P	Pb	15 35 49.4	+0.6
WPWS	**Waipawa Distri**	**0.17**	**54**	P	Pb	15 35 50.1	+0.3
WPWS				S	Sb	15 35 54.7	+1.5
PNHZ	**Pukenui**	**0.20**	**309**	P	Pb	15 35 50.8	+0.5
PNHZ				S	Sb	15 35 55.8	+1.7
PRHZ	**Porangahau**	**0.28**	**142**	P	Pb	15 35 51.9	+0.5
PRHZ	**Porangahau**	**0.28**	**142**	S	Sn	15 35 58.0	-1.2
PGFS	**Porangahau Fir**	**0.30**	**149**	P	Pb	15 35 52.2	+0.4
DVHZ	**Dannevirke**	**0.31**	**215**	P	Pb	15 35 52.2	+0.3
DVHZ	**Dannevirke**	**0.31**	**215**	P	Pb	15 35 52.1	+0.2
DVHZ				S	Sb	15 35 58.3	+1.5
TSZ	**Takapari Road**	**0.34**	**267**	P	Pb	15 35 52.6	+0.3
TSZ	**Takapari Road**	**0.34**	**267**	P	Pb	15 35 52.6	+0.2
TSZ				S	Sb	15 35 58.8	+1.3
PWZ	**Pawanui**	**0.35**	**88**	P	Pb	15 35 53.1	+0.6
PXZ	**Pawanui**	**0.35**	**88**	P	Pb	15 35 53.1	+0.6
PXZ	**Pawanui**	**0.35**	**88**	P	Pb	15 35 52.9	+0.5
KRHZ	**Kereru**	**0.40**	**356**	P	Pb	15 35 53.4	+0.1
KRHZ				S	Sb	15 36 00.5	+1.5
ANWZ	**Angora Road**	**0.42**	**173**	P	Pb	15 35 54.0	+0.4
ANWZ	**Angora Road**	**0.42**	**173**	P	Pb	15 35 54.0	+0.4
ANWZ				S	Sn	15 36 02.4	-0.2
KAHZ	**Kahuranaki**	**0.44**	**56**	P	Pb	15 35 54.5	+0.6
KAHZ	**Kahuranaki**	**0.44**	**56**	P	Pb	15 35 54.4	+0.5
POWZ	**Post Office Ro**	**0.60**	**234**	P	Pn	15 35 58.3	+0.3
POWZ	**Post Office Ro**	**0.60**	**234**	P	Pn	15 35 58.2	+0.2
PRWZ	**Pori Road**	**0.61**	**213**	P	Pb	15 35 57.3	+0.4
KWHZ	**Kaweka Forest**	**0.62**	**1**	P	Pb	15 35 57.0	-0.1
MCHZ	**McNeill Hill**	**0.64**	**21**	P	Pb	15 35 57.9	+0.5
MCHZ				S	Sn	15 36 08.5	+0.6
BFZ	**Birch Farm**	**0.65**	**191**	P	Pb	15 35 57.2	-0.3
MOVZ	**Moawhango**	**0.81**	**321**	P	Pb	15 36 00.3	0.0
TIWZ	**Tintock**	**0.83**	**208**	P	Pb	15 36 00.4	-0.2
BKZ	**Black Stump Fm**	**0.88**	**4**	P	Pb	15 36 01.1	-0.4
MRZ	**Mangatainoka R**	**0.88**	**225**	P	Pb	15 36 00.8	-0.7
WNVZ	**Wahianoa**	**0.95**	**319**	P	Pn	15 36 03.4	+0.5
MTVZ	**Mangateitei**	**0.98**	**312**	P	Pn	15 36 03.8	+0.6
NMHZ	**Naumai**	**0.99**	**18**	P	Pn	15 36 05.7	+2.2
SNVZ	**South Ngauruho**	**1.04**	**325**	P	Pb	15 36 04.6	+0.3
OTVZ	**Oturere**	**1.05**	**327**	P	Pb	15 36 04.7	+0.4
ETVZ	**East Tongariro**	**1.05**	**329**	P	Pb	15 36 04.8	+0.4
NGZ	**Ngauruhoe**	**1.07**	**324**	P	Pb	15 36 05.0	+0.4
TMVZ	**Te Maari**	**1.07**	**329**	P	Pb	15 36 05.1	+0.3
COVZ	**Chateau Observ**	**1.07**	**321**	P	Pb	15 36 05.0	+0.2
HOWZ	**Holdsworth Sta**	**1.09**	**218**	P	Pn	15 36 03.4	-1.3
NNVZ	**North Ngauruho**	**1.10**	**326**	P	Pb	15 36 05.5	+0.4
NTVZ	**North Tongarir**	**1.10**	**329**	P	Pb	15 36 05.4	+0.2
WTVZ	**West Tongariro**	**1.12**	**326**	P	Pb	15 36 05.9	+0.3
TMWZ	**Te Maipa**	**1.13**	**200**	P	Pn	15 36 03.6	-1.8
MRHZ	**Matea Rd**	**1.21**	**0**	P	Pb	15 36 13.8	+6.7
OGWZ	**Otaki Gorge**	**1.22**	**230**	P	Pn	15 36 05.1	-1.4
MTHZ	**Maungataniwha**	**1.24**	**16**	P	Pb	15 36 08.2	+0.7
WHTZ	**Whakaora**	**1.42**	**346**	P	Pn	15 36 09.4	+0.1
CAW	**Cannon Point**	**1.47**	**223**	P	Pn	15 36 08.5	-1.5
ALRZ	**Allen Road**	**1.48**	**358**	P	Pb	15 36 11.4	-0.2
WPRZ	**Whakapapatarin**	**1.53**	**353**	P	Pn	15 36 09.8	-1.1
MUGZ	**Murupara**	**1.59**	**10**	P	Pb	15 36 17.7	+4.2
MSWZ	**Moikau Station**	**1.63**	**212**	P	Pn	15 36 09.8	-2.4
HRRZ	**Handcock Road**	**1.65**	**357**	P	Pn	15 36 13.0	+0.5
HSRZ	**Hossack Road**	**1.73**	**356**	P	Pn	15 36 14.2	+0.6
TLZ	**Tolley Road**	**1.84**	**338**	P	Pb	15 36 16.8	-1.0

NOU 05 15:37:23.6, 14°.73S×167°.85E, h179km, MLv4.5/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.00**	**174**	P	Pn	15 38 11.4	-0.7
LUES	**Luesalemba Tem**	**4.46**	**335**	P	Pn	15 38 30.5	-0.2
KOUNC	**Koumac, New Ca**	**6.71**	**210**	P	Pn	15 38 59.7	-0.2
YATNC	**Mamie plateau,**	**7.35**	**187**	P	Pn	15 39 08.5	+0.2
PINNC	**Pines Island,**	**7.85**	**183**	P	Pn	15 39 16.0	+1.1

*GCG **05** 15:58:15.7±2.1, 13°.98N×93°.14W, h0km±15km, MD5.1*
*NEIC **05** 15:58:20.3±2.2, 14°.32N±0°.04×93°.04W±0°.04, h10km±1km, mb4.9/342, Mww5.4/28, Md4.9/135(MEX), Error ellipse: s-maj=8.0km s-min=6.1km az=151.0*
*NEIC **05** 15:58:21.9, 14°.15N×93°.00W, h24km, Moment Tensor Solution. Duration: 2ŝ3 Moment tensor: Scale 10^17^Nm; M_{rr}1.18; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-0.45; $M_{r\theta}$0.76; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.37000×10^17^ NP1: ϕ_s309.06000°, δ26.84000°, λ99.72000°. NP2: ϕ_s118.19000°, δ63.57000°, λ85.12000°. Principal axes: T 1.4672, Plg71.0000°, Azm18.0000°; N -0.1986, Plg4.0000°, Azm120.0000°; P -1.2685, Plg18.0000°, Azm212.0000°;*
*NEIC **05** 15:58:21.9, 14°.35N×93°.01W, h24km*
*MEX **05** 15:58:21.8±0.9, 14°.26N×93°.14W, h11km±22km, MD4.9*
*RSNC **05** 15:58:22.6±1.5, 14°N±7°×9°3W±1°0, h24km, M5.0, mB5.5, mb5.1, Mw(mB)4.9, MwMwp5.2, Mwp5.5*
*CATAC **05** 15:58:22.7±2.2, 14°N±7°×9°3W±1°2, h4km±10km, M5.2/19, mb5.5/6, mB5.6/6, MLv5.2/19, Mw(mB)5.1/6, MwMwp6.1/1, Mwp6.1/1, Error ellipse: s-maj=28.9km s-min=8.8km az=64.2, confirmed*
*GCMT **05** 15:58:24.3±0.1, 14°.35N±0°.01×93°.12W±0°.01, h15km, MW5.3/144, Moment Tensor Solution. s139, c228; s144, c248; Duration: 1ŝ1 Moment tensor: Scale 10^17^ Nm; M_{rr}0.93±.02; $M_{\theta\theta}$-0.68±.01; $M_{\phi\phi}$-0.25±.01; $M_{r\theta}$0.48±.02; $M_{\theta\phi}$0.35±.01; $M_{\phi r}$-0.66±.03; Best double couple: $M_0$1.21900×10^17^ NP1:ϕ_s287.00000°, δ26.00000°, λ65.00000°. NP2:ϕ_s135.00000°, δ66.00000°, λ102.00000°. Principal axes: T 1.2780, Plg67.0000°, Azm66.0000°; N -0.1190, Plg11.0000°, Azm310.0000°; P -1.1600, Plg20.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **05** 15:58:27.5±2.3, 14°.43N×92°.68W, h75km±19km, mb4.2/18, mbtmp4.6/21, MS4.7/57 Error ellipse: s-maj=21.0km s-min=10.8km az=56.0*
ISC 05 15:58:22.0±1.2, 14°.31N±0°.04×93°.07W±0°.03, h27km±8km, n657, σ2ŝ03/555, mb4.9/159, MS4.8/56, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.98**	**52**		**Pn**	**15 58 38.6**	**-1.4**
THIG					**Sb**	**15 58 51.0**	**-1.8**
THIG		**0.98**	**52**	*e*P	**Pn**	**15 58 38.6**	**-1.4**
THIG				*e*S	**Sb**	**15 58 51.0**	**-1.8**
THIG		**0.98**	**52**	*i* P	**Pn**	**15 58 38.7**	**-1.4**
THIG		**0.98**	**52**	*i* P		15 58 38.7	
SMCA	**Catarina**	**1.10**	**60**	*e*P	**Pn**	**15 58 40.2**	**-1.5**
SMCA	**Catarina**	**1.10**	**60**	*e*P		15 58 40.2	
PATR	**El Naranjo**	**1.14**	**45**	*e*P	**Pn**	**15 58 40.9**	**-1.5**
PATR				*i* S	**Sn**	**15 58 56.9**	**-0.3**
PAVE	**Pavencul**	**1.23**	**44**	*e*P	**Pn**	**15 58 42.4**	**-1.3**
PAVE				*i* S	**Sn**	**15 58 59.2**	**-0.4**
RTAL	**Retalhuleu**	**1.34**	**81**	Pn	**Pn**	**15 58 44.0**	**-1.0**
RTAL	**Retalhuleu**	**1.34**	**81**	*e*P	**Pn**	**15 58 43.9**	**-1.2**
RTAL				*i* S	**Sn**	**15 58 55.9**	**-6.2**
RTAL	**Retalhuleu**	**1.34**	**81**	P	**Pn**	**15 58 44.4**	**-0.6**
RTAL	**Retalhuleu**	**1.34**	**81**	P	**Pn**	**15 58 44.3**	**-0.8**
PCIG		**1.40**	**354**		**Pn**	**15 58 44.0**	**-1.7**
PCIG					**Sn**	**15 59 01.1**	**-2.2**
PCIG		**1.40**	**354**	*e*P	**Pn**	**15 58 44.0**	**-1.7**
PCIG				*i* S	**Sn**	**15 59 01.1**	**-2.2**
STG8	**El Palmar, Qui**	**1.67**	**85**	*e*P		15 58 45.8	
STG0	**El Palmar, Qui**	**1.67**	**86**	*e*P		15 58 45.8	
SOKI	**Kika Raxquin**	**1.69**	**72**	*e*P	**Pn**	**15 58 50.0**	**-0.1**
SOKI	**Kika Raxquin**	**1.69**	**72**	*e*P		15 58 50.0	
HUEH	**Huehuetenango**	**1.81**	**56**		**Pn**	**15 58 52.3**	**+0.6**
HUEH	**Huehuetenango**	**1.81**	**56**	*e*P	**Pn**	**15 58 52.1**	**+0.3**
HUEH				*i* S	**Sb**	**15 59 18.1**	**+1.0**
HUEH	**Huehuetenango**	**1.81**	**56**	P	**Pn**	**15 58 52.5**	**+0.8**
HUEH	**Huehuetenango**	**1.81**	**56**	P	**Pb**	**15 58 53.6**	**-1.0**
HUEH	**Huehuetenango**	**1.81**	**56**	*e*P	**Pn**	**15 58 52.4**	**+0.6**
HUEH				*i* S	**Sb**	**15 59 23.6**	**+6.5**
HUEH	**Huehuetenango**	**1.81**	**56**	*e*P		15 58 52.4	
HUEH				*i* S		15 59 23.6	
CARR	**Arriaga**	**2.10**	**337**	*e*P	**Pn**	**15 58 54.6**	**-0.8**
CARR				*e*S	**Sn**	**15 59 20.0**	**-0.6**
CCIG	**Comitan**	**2.16**	**24**	*i* P		15 58 57.8	
CCIG	**Comitan**	**2.16**	**24**		**Pn**	**15 58 56.9**	**+0.5**
CCIG	**Comitan**	**2.16**	**24**	*e*P	**Pn**	**15 58 57.7**	**+1.3**
CCIG				*i* S	**Sn**	**15 59 22.4**	**0.0**
CCIG	**Comitan**	**2.16**	**24**	P	**Pb**	**15 58 58.8**	**-1.7**
CCIG				P	**Pb**	**15 58 59.2**	**-1.3**
CCIG	**Comitan**	**2.16**	**24**	P	**Pb**	**15 58 59.2**	**-1.3**
CCIG	**Comitan**	**2.16**	**24**	*i* P	**Pn**	**15 58 57.8**	**+1.4**
ESSG	**Sabana Grande**	**2.17**	**88**	*e*P	**Pn**	**15 58 54.6**	**-1.9**
ESSG	**Sabana Grande**	**2.17**	**88**	*e*P		15 58 54.6	
TGBT	**Tuxtla Gutierr**	**2.46**	**359**		**Pn**	**15 59 01.2**	**+0.9**
TGBT					**Sn**	**15 59 29.8**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.46**	**359**	*e*P	**Pn**	**15 59 01.2**	**+0.9**
TGBT				*i* S	**Sn**	**15 59 29.8**	**+0.3**
TGIG		**2.46**	**359**		**Pn**	**15 59 01.2**	**+0.8**
TGIG					**Sn**	**15 59 28.4**	**-1.3**
TGIG		**2.46**	**359**	*e*P	**Pn**	**15 59 01.2**	**+0.8**
TGIG				*e*S	**Sn**	**15 59 28.4**	**-1.3**
TGIG		**2.46**	**359**	*e*P	**Pn**	**15 59 01.3**	**+0.8**
TGIG		**2.46**	**359**	*e*P		15 59 01.3	
APG	**El Apazote**	**2.61**	**74**	P	**Pn**	**15 59 01.3**	**-1.4**
	30nm,0.3s,baz=192,slow=12,SNR=44						
APG	**El Apazote**	**2.61**	**74**	*e*P	**Pn**	**15 59 03.1**	**+0.4**
APG	**El Apazote**	**2.61**	**74**	*e*P		15 59 03.1	
NILT	**Santiago Nilte**	**2.70**	**327**	*e*P	**Pn**	**15 59 03.8**	**+0.1**
NILT				*e*S	**Sn**	**15 59 35.8**	**+0.3**
UXUV	**UXUV**	**3.17**	**341**

ESQI Esquipulas 3.62 86 P Pn 15 59 17.8 +1.4
VHSA Villahermosa 3.66 2 eP Pn 15 59 16.7 -0.2
VHSA eS Sn 15 59 53.7 -5.4
PMON Piamonte 3.69 99 P Pn 15 59 19.0 +1.6
PMON Piamonte 3.69 99 P Pn 15 59 16.9 -0.5
TUIG Tuzandepetl 3.93 341 eP Pn 15 59 20.6 0.0
TUIG eS Sn 16 00 09.4 +3.6
PETF Flores 4.03 49 Pn 15 59 22.2 +0.3
PETF Flores 4.03 49 eP Pn 15 59 22.2 +0.3
PETF Flores 4.03 49 eP Pn 15 59 22.6 +0.6
PETF Flores 4.03 49 eP 15 59 22.6
PAVA Las Pavas 4.05 98 P Pb 15 59 33.4 +0.7
PAVA Las Pavas 4.05 98 P Pn 15 59 23.0 +0.6
SCLA Alcaldia de Sa 4.25 98 P Pn 15 59 22.2 -2.8
SCLA Alcaldia de Sa 4.25 98 P Pn 15 59 22.3 -2.8
PEIG Puerto Escondi 4.29 294 Pn 15 59 24.6 -0.9
PEIG Sn 16 00 08.6 -6.1
PEIG Puerto Escondi 4.29 294 eP Pn 15 59 24.6 -0.9
PEIG eS Sn 16 00 08.6 -6.1
NEUV Arroyo Zacate 4.29 323 eP Pn 15 59 24.3 -1.3
NEUV eS Sn 16 00 13.8 -0.9
OXIG Oaxaca 4.48 308 Pn 15 59 30.4 +2.0
OXIG Sn 16 00 17.7 -2.0
VHO Vista Hermosa 4.48 308 eP Pn 15 59 30.4 +2.0
VHO eS Sn 16 00 17.7 -2.0
PMUV Sontecomapan 4.65 335 eP Pn 15 59 26.2 -4.5
PMUV eS Sn 16 00 20.7 -3.2
PACA Pacayal 4.68 100 P Pn 15 59 34.0 +3.0
PACA Pacayal 4.68 100 P Pn 15 59 29.7 -1.4
SCIG Sabancuy 4.97 21 eP Pn 15 59 35.0 +0.1
SCIG eS Sn 16 00 33.5 +1.9
SCIG Sabancuy 4.97 21 eP Pn 15 59 35.3 +0.3
SCIG Sabancuy 4.97 21 eP 15 59 35.3
YOIG Yosondua 5.01 301 Pn 15 59 37.9 +2.2
YOIG Sn 16 00 29.4 -3.4
YOIG Yosondua 5.01 301 eP Pn 15 59 37.9 +2.2
YOIG eS Sn 16 00 29.4 -3.4
CNCH Conchagua 5.18 101 P Pn 15 59 38.0 0.0
CNCH Conchagua 5.18 101 P Pn 15 59 36.7 -1.3
CNCH Conchagua 5.18 101 S Sn 16 00 35.0 -2.1
NISHN Nisperales Com 5.21 73 eP Pn 15 59 38.0 -0.4
NISHN Nisperales Com 5.21 73 eP 15 59 38.0
PNIG Pinotepa 5.30 294 Pn 15 59 39.6 +0.1
PNIG Sn 16 00 32.9 -7.0
PNIG Pinotepa 5.30 294 eP Pn 15 59 39.6 +0.1
PNIG eS Sn 16 00 32.9 -7.0
TOIG Toxpalan 5.38 315 Pn 15 59 41.2 +0.5
TOIG Sn 16 00 33.5 -8.4
TOIG Toxpalan 5.38 315 eP Pn 15 59 41.2 +0.5
TOIG eS Sn 16 00 33.5 -8.4
TXIG Tlaxiaco 5.39 304 Pn 15 59 43.3 +2.3
TXIG Sn 16 00 42.6 +0.2
TXIG Tlaxiaco 5.39 304 eP Pn 15 59 43.3 +2.3
TXIG eS Sn 16 00 42.6 +0.2
CSGN Cosiguina Volc 5.51 103 P Pb 15 59 55.3 -2.3
CSGN Cosiguina Volc 5.51 103 P Pn 15 59 42.0 -0.5
POTN Potosi Cosigui 5.56 103 P Pn 15 59 46.8 +3.8
POTN Potosi Cosigui 5.56 103 P Pn 15 59 42.6 -0.4
TGUH Tegucigalpa,Un 5.62 92 Pn Pn 15 59 43.4 -0.6
HLIG Huajuapan de L 5.75 308 Pn 15 59 47.0 +1.3
HLIG Sn 16 00 48.5 -2.5
HLIG Huajuapan de L 5.75 308 eP Pn 15 59 47.0 +1.3
HLIG eS Sn 16 00 48.5 -2.5
TPIG Tehuac#an 5.81 315 Pn 15 59 45.8 -0.8
TPIG Sn 16 00 51.9 -0.5
TPIG Tehuac#an 5.81 315 eP Pn 15 59 45.8 -0.8
TPIG eS Sn 16 00 51.9 -0.5
FTIG Fresnillo de T 6.04 307 Pn 15 59 51.9 +2.1
FTIG Sn 16 00 50.0 -8.2
FTIG Fresnillo de T 6.04 307 eP Pn 15 59 51.9 +2.1
FTIG eS Sn 16 00 50.0 -8.2
CRIN San Cristobal 6.07 105 Pn Pn 15 59 49.7 -0.4
CRIN San Cristobal 6.07 105 P Pb 16 00 00.1 -6.9
CRIN San Cristobal 6.07 105 P Pn 15 59 51.6 +1.6
CRIN San Cristobal 6.07 105 S Sn 16 00 58.6 0.0
MGIG Malinaltepec 6.10 299 Pn 15 59 50.6 -0.1
MGIG Sn 16 00 56.5 -3.1
MGIG Malinaltepec 6.10 299 eP Pn 15 59 50.6 -0.1
MGIG eS Sn 16 00 56.5 -3.1
JAUV Jalcomulco 6.17 325 eP Pn 15 59 49.5 -2.0
JAUV eS Sn 16 00 58.4 -2.9
TLIG Tlapa 6.20 302 Pn Pn 15 59 52.1 +0.1
TLIG Tlapa 6.20 302 eP Pn 15 59 52.0 0.0
TLIG eS Sn 16 01 00.3 -1.9
POHV Veracruz 6.22 320 Pn 15 59 53.9 +1.3
POHV Sn 16 00 55.7 -7.6
POHV Veracruz 6.22 320 eP Pn 15 59 53.9 +1.3
POHV eS Sn 16 00 55.7 -7.6
LVIG Laguna Verde 6.27 330 eP Pn 15 59 45.9 -6.9
LVIG eS Sn 16 00 57.0 -6.5
CRIG Cruz Grande 6.33 293 Pn 15 59 53.6 +0.1
CRIG Sn 16 00 55.5 -10
CRIG Cruz Grande 6.33 293 eP Pn 15 59 53.6 +0.1
CRIG eS Sn 16 00 55.5 -10
CNGN Cerro Negro 6.45 105 Pn 15 59 55.2 -0.1
LIMN Finca el Limon 6.63 100 P Pn 16 00 06.3 +8.5
LIMN Finca el Limon 6.63 100 P Pn 15 59 56.7 -1.1
COPN Copaltepe 6.65 108 P Pn 16 00 02.7 +4.7
COPN Copaltepe 6.65 108 P Pn 15 59 58.5 +0.5
RCVN Varilla!2 6.71 95 P Pn 15 59 58.5 -0.5
RCVN Varilla!2 6.71 95 P Pn 15 59 58.0 -0.9
DAIG Los Arroyos 6.89 294 Pn 16 00 02.1 +0.8
DAIG Sn 16 01 14.9 -4.1
DAIG Los Arroyos 6.89 294 eP Pn 16 00 02.1 +0.8
DAIG eS Sn 16 01 14.9 -4.1
PBCV Popocatepetl 7.03 312 eP Pn 16 00 10.2 +6.8
PBCV eS Sn 16 01 27.0 +4.3
AERN Aeropuerto Man 7.05 107 P Pn 16 00 09.5 +5.9
PBXN Popocatepetl 7.11 312 eP Pn 16 00 04.6 -0.2
PBXN eP Pb 16 00 07.7 -17
PBXN eS Sn 16 01 17.5 -7.6
PBXN eS Sb 16 01 24.1 -26
PBPN Popocatepetl 7.11 312 eP Pn 16 00 00.2 -4.6
PBPN eP Pb 16 00 04.5 -21
PBPN eS Sn 16 01 20.9 -4.2
PBPN eS Sb 16 01 31.3 -19
PPM Popocatepetl 7.13 312 eP Pn 16 00 07.6 +2.6
PPM eS Sn 16 01 32.1 +6.7
PPIG Popocatepetl 7.13 312 Pn 16 00 07.6 +2.6
PPIG Sn 16 01 32.1 +6.7
CXUV Coxquihui 7.26 324 eP Pn 16 00 04.5 -2.0
CXUV eS Sn 16 01 24.7 -3.4
YAIG Yautepec 7.32 309 Pn 16 00 06.5 -0.9
YAIG Sn 16 01 24.3 -5.5
YAIG Yautepec 7.32 309 eP Pn 16 00 06.5 -0.9
YAIG eS Sn 16 01 24.3 -5.5
MYIG Merida 7.33 25 eP Pn 16 00 05.2 -2.2
MYIG eS Sn 16 01 28.6 -1.2
PLIG Platanillo 7.39 304 Pn 16 00 09.8 +1.5
PLIG Sn 16 01 30.6 -0.9
PLIG Platanillo 7.39 304 eP Pn 16 00 09.8 +1.5
PLIG eS Sn 16 01 30.6 -0.9
CAIG El Cayaco 7.45 292 Pn 16 00 10.6 +1.6
CAIG Sn 16 01 25.2 -7.6
CAIG El Cayaco 7.45 292 eP Pn 16 00 10.6 +1.6
CAIG eS Sn 16 01 25.2 -7.6
TEIG Tepich 7.45 37 P Pn 16 00 08.0 -1.0
baz=224,slow=24,SNR=73
TEIG S Sn 16 01 32.2 -0.5
TEIG Tepich 7.45 37 eP Pn 16 00 08.3 -0.7
TEIG eS Sn 16 01 27.5 -5.3
TEIG Tepich 7.45 37 P Pn 16 00 09.6 +0.6
31µm17µm909nm,0.8s
MPVM San Francisco 7.49 311 eP Pn 16 00 07.0 -2.8
MPVM eS Sn 16 01 37.8 +3.7
THVM De Xico 7.53 312 eP Pn 16 00 14.1 +3.7
THVM eS Sn 16 01 31.9 -3.3
TLVM San Miguel Top 7.60 311 eP Pn 16 00 14.9 +3.6
TLVM eS Sn 16 01 31.6 -5.3
XCVM Xochimilco 7.60 311 eS Sn 16 01 29.5 -7.3
MAVM Malinalco, Edo 7.70 308 e Pn 15 59 59.1 -14
MAVM e 16 01 16.3
AOVM Tlapan 7.76 310 Pn 16 00 10.4 -3.3
AOVM Sn 16 01 40.9 -0.1
AOVM Tlapan 7.76 310 eP Pn 16 00 10.4 -3.3
AOVM eS Sn 16 01 40.9 -0.1
INVM La Marquesa 7.82 310 eS Sn 16 01 43.9 +1.5
ARIG Puente Sto Nin 8.03 300 Pn 16 00 20.2 +3.2
ARIG Sn 16 01 44.8 -2.2
ARIG Puente Sto Nin 8.03 300 eP Pn 16 00 20.2 +3.2
ARIG eS Sn 16 01 44.8 -2.2
DHIG Demacu 8.25 317 Pn 16 00 22.7 +2.5
DEIG Demacu 8.25 317 eP Pn 16 00 22.7 +2.5
INDI Punta indio, G 8.61 120 P Pn 16 00 25.7 +0.8
ACIG Acambay 8.62 312 Pn 16 00 24.4 -0.8
ACIG Sn 16 02 03.1 +1.4
ACIG Acambay 8.62 312 eP Pn 16 00 24.4 -0.8
ACIG eS Sn 16 02 03.1 +1.4
ZIIG Zihuatanejo 8.72 293 Pn 16 00 28.3 +1.9
ZIIG Sn 16 02 02.6 -1.3
ZIIG Zihuatanejo 8.72 293 eP Pn 16 00 28.3 +1.9
ZIIG eS Sn 16 02 02.6 -1.3
CTUV Llano Grande 8.72 326 eP Pn 16 00 20.1 -6.4
CTUV eS Sn 16 02 00.4 -3.6
ESPN Las Esperanzas 8.79 103 Pn 16 00 27.6 +0.2
JTS Las Juntas de 8.88 116 Pn Pn 16 00 29.0 +0.4
JTS Las Juntas de 8.88 116 P Pn 16 00 28.4 -0.2
9.4nm,0.6s,baz=302,slow=12,SNR=7.0
JTS S Sn 16 02 11.0 +3.2
5.2nm,0.4s,baz=300,slow=20,SNR=0.6
MOIG Morelia 9.43 306 Pn 16 00 38.0 +1.7
MMIG Aquila 10.63 293 Pn 16 00 54.4 +1.7
MMIG Aquila 10.63 293 eP Pn 16 00 54.4 +1.7
EZ5V 11.32 298 Pn 16 01 06.5 +4.2
EZ5V 11.32 298 eP Pn 16 01 06.5 +4.2
EZ5V eS Sn 16 03 09.2 +1.0
MNGA Volcan de Coli 11.33 298 eP Pn 16 01 05.3 +2.9
INCO Volcan de Coli 11.34 299 eP Pn 16 01 06.7 +3.9
SOMAC Volcano de Col 11.36 299 eP Pn 16 01 06.7 +3.7
CDAR Ciudad de Arme 11.46 295 eP Pn 16 01 06.5 +2.6
CEGR Campo Tres 11.50 298 eP Pn 16 01 08.9 +4.2
CEGR eS Sn 16 03 13.5 +1.0
CIHU Emiliano Zapat 12.21 295 eP Pn 16 01 17.9 +3.5
SOR Soroa 12.73 47 Pn Pn 16 01 19.9 -1.5
833A Chaparral WMA, 15.14 338 Pn Pn 16 01 54.0 -0.1
833A IAmb IAmb 16 02 01.6
comp=Z,36nm,0.7s
833A Chaparral WMA, 15.14 338 P Pn 16 01 54.7 +0.6
baz=156,SNR=6.3
HKT Hockley 15.78 351 Pn Pn 16 02 02.8 +0.5
061Z Ochoppi 16.19 43 Pn Pn 16 02 06.0 -1.7
HNDO Hondo 16.20 340 Pn Pn 16 02 07.6 -0.3
DRIO Del Rio 16.59 336 Pn Pn 16 02 12.8 0.0
HPIG 17.21 319 P P 16 02 22.4 +0.2
JCT Junction City 17.25 340 P P 16 02 22.6 +0.1
JCT Junction City 17.25 340 e P 16 02 22.9 +0.4
SAND Sanderson 17.68 333 Pn 16 02 26.0 -0.4
BRDY Brady 17.76 343 Pn 16 02 26.6 -0.7
TXAR Lajitas Array 17.88 328 P P 16 02 30.1 +0.6
TXAR Lajitas Array 17.88 328 P P 16 02 32.2 +2.6
comp=Z,17nm,1.0s,baz=150,slow=13,SNR=31
TXAR LR LR 16 10 27.8
comp=Z,922nm,18.4s,baz=130,slow=40
GTBY Guantanamo Bay 18.04 69 P Pn 16 02 28.9 -2.0
LPIG La Paz 18.96 304 P Pn 16 02 45.3 +3.2
comp=Z,27nm,0.3s,baz=101,slow=5.2,SNR=3.9
LPIG LR LR 16 10 14.8
comp=Z,2µm,18.5s,baz=124,slow=37
SGCY Sterling City 19.02 339 IAmb IAmb 16 02 47.0
comp=Z,61nm,1.0s
ODSA Odessa 19.74 336 IAmb IAmb 16 02 53.8
comp=Z,69nm,1.0s
SN05 Snyder 5 19.81 340 IAmb IAmb 16 03 00.6
comp=Z,56nm,0.8s
APMT Aspermont 19.99 342 IAmb IAmb 16 03 02.9
comp=Z,45nm,0.8s
SN07 Snyder 07 20.01 340 IAmb IAmb 16 03 01.7
comp=Z,36nm,0.7s
OTAV Otavalo 20.11 133 P P 16 02 55.0 +0.6
MIAR Mount Ida 20.16 359 IAmb IAmb 16 03 01.2
comp=Z,55nm,1.0s
POST Post 20.19 339 IAmb IAmb 16 03 01.6
comp=Z,50nm,1.1s
DKNS Dickens 20.55 341 IAmb IAmb 16 03 06.6
comp=Z,50nm,0.7s
ROSC El Rosal 20.72 115 Pn 16 03 03.1 -0.4
ROSC IAmb IAmb 16 03 18.4
comp=Z,71nm,0.9s
ROSC El Rosal 20.72 115 P P 16 03 01.9 +0.9
comp=Z,56nm,1.0s,baz=277,slow=5.1,SNR=16
WHAR Wooly Hollow 20.91 2 P P 16 03 02.0 -0.4
RUSC La Rusia 21.36 111 P P 16 03 08.2 +0.2
RUSC La Rusia 21.36 111 P P 16 03 07.3 -0.7
COHC Cochancay 21.57 140 P P 16 03 10.5 +0.9
SMWD Samnorwood 21.70 344 IAmb IAmb 16 03 16.2
comp=Z,65nm,0.8s
LCAR Lake Charles 21.74 4 P P 16 03 10.3 -1.1
OK029 Liberty Lake 21.76 350 IAmb IAmb 16 03 17.0
comp=Z,33nm,0.8s
OK031 S. Brethren Rd 21.82 352 IAmb IAmb 16 03 32.3
comp=Z,73nm,1.2s
OK052 Battle Ridge R 21.86 352 IAmb IAmb 16 03 15.4
comp=Z,38nm,0.7s
HHAR Hobbs 21.90 358 IAmb IAmb 16 03 34.1
comp=Z,81nm,1.7s
QUOK Quay 22.02 352 IAmb IAmb 16 03 17.0
comp=Z,35nm,0.7s
OK048 Pawnee Station 22.29 352 IAmb IAmb 16 03 19.8
comp=Z,38nm,0.9s
BG3 Lake Jocassee 22.53 22 IAmb IAmb 16 03 39.0
comp=Z,35nm,1.2s
CROK Carrier 22.54 350 IAmb IAmb 16 03 22.1
comp=Z,31nm,0.7s
121A Cookes Peak, D 22.57 326 IAmb IAmb 16 03 24.9
comp=Z,48nm,0.9s
121A Cookes Peak, D 22.57 326 e P 16 03 22.9 +2.4
121A Cookes Peak, D 22.57 326 P P 16 03 20.7 +0.2
baz=140,SNR=50
JSC Jenkinsville 22.57 26 IAmb IAmb 16 03 42.6
comp=Z,82nm,1.7s
319A Douglas 22.58 322 IAmb IAmb 16 03 42.8
comp=Z,62nm,1.3s
SDV Santo Domingo 22.62 101 P P 16 03 20.4 -0.8
SDV IAmb IAmb 16 03 38.6
comp=Z,31nm,0.9s
SDV Santo Domingo 22.62 101 LR LR 16 14 01.6
comp=Z,1µm,19.4s,baz=282,slow=42
BLOK Blackwell 22.67 351 IAmb IAmb 16 03 40.4
comp=Z,50nm,1.1s
T35A Sooner Cattle 22.73 353 IAmb IAmb 16 03 40.2
comp=Z,46nm,1.0s
TKL Tuckaleechee C 22.84 20 IAmb IAmb 16 03 42.4
comp=Z,36nm,1.1s
TKL Tuckaleechee C 22.84 20 LR LR 16 14 00.7
comp=Z,2µm,18.2s,baz=199,slow=41
NOKA Waynoka 22.85 348 IAmb IAmb 16 03 27.1
comp=Z,30nm,0.7s
KAN13 South Haven SW 22.95 351 IAmb IAmb 16 03 43.7
comp=Z,46nm,1.0s
KAN17 Caldwell West 23.03 350 IAmb IAmb 16 03 40.2
comp=Z,28nm,0.8s
U49A Red Boiling Sp 23.05 15 IAmb IAmb 16 03 45.7
comp=Z,31nm,1.2s
KAN05 Bluff City Nor 23.11 350 IAmb IAmb 16 03 41.1
comp=Z,41nm,0.8s
SIUC Southern Illin 23.56 8 IAmb IAmb 16 03 55.8
comp=Z,30nm,0.9s
CCM Cathedral Cave 23.71 4 P P 16 03 29.9 -1.9
TZTN Tazewell 23.73 19 IAmb IAmb 16 03 51.0
comp=Z,40nm,1.2s
ANMO Albuquerque 23.84 332 P P 16 03 33.6 +0.3
ANMO Albuquerque 23.84 332 LR LR 16 13 48.3
comp=Z,496nm,19.4s,baz=304,slow=38
ANMO Albuquerque 23.84 332 e P 16 03 32.5 -0.7
U54A Nelsons Funny 24.30 22 IAmb IAmb 16 03 38.1
comp=Z,24nm,0.9s
V58A Windy Hill, Pi 24.79 28 IAmb IAmb 16 03 40.9
comp=Z,31nm,1.0s
T25A Trinidad 24.89 338 P P 16 03 43.7 +0.8
baz=153,SNR=53
BAUV El Baul 25.07 100 IAmb IAmb 16 03 55.4
comp=Z,26nm,0.7s
CBKS Cedar Bluff 25.11 348 IAmb IAmb 16 03 48.0
comp=Z,20nm,0.8s
X18A Snowflake 25.26 326 IAmb IAmb 16 04 09.2
comp=Z,71nm,1.7s
PIX Pinacate 25.37 316 P P 16 03 48.2 +1.1
PIX IAmb IAmb 16 04 08.4
comp=Z,33nm,1.4s
ATAH Atahualpa 25.80 145 LR LR 16 12 28.8
comp=Z,2µm,19.2s,baz=309,slow=33
SDCO Great Sand Dun 25.83 337 IAmb IAmb 16 03 57.2
comp=Z,17nm,0.8s
SJG San Juan 26.11 78 LR LR 16 14 09.5
comp=Z,2µm,21.9s,baz=255,slow=37
S22A 4UR Ranch, Cre 26.35 335 IAmb IAmb 16 04 01.4
comp=Z,17nm,0.9s
S22A 4UR Ranch, Cre 26.35 335 P P 16 03 56.8 +0.5
baz=149
N35A Tabor 26.55 356 IAmb IAmb 16 04 01.1
comp=Z,30nm,0.8s
MVCO Mesa Verde 26.63 332 IAmb IAmb 16 04 04.3
comp=Z,30nm,0.9s
WUAZ Wupatki 26.77 325 IAmb IAmb 16 04 20.1
comp=Z,30nm,1.4s
Q24A Divide 26.78 339 P P 16 04 00.7 +0.6
baz=153
PV13 Radium Mtn., P 27.56 332 IAmb IAmb 16 04 12.6
comp=Z,22nm,0.9s
PV15 Paradox Valley 27.56 333 IAmb IAmb 16 04 18.3
comp=Z,22nm,1.0s
YUH Yuha Desert 27.70 315 IAmb IAmb 16 04 28.3
comp=Z,34nm,1.7s
PV11 David Mesa, Pa 27.70 333 IAmb IAmb 16 04 21.8
comp=Z,29nm,0.8s
L40A Anamosa 27.70 3 IAmb IAmb 16 04 41.7
comp=Z,16nm,0.9s
PV07 Paradox Valley 27.71 333 IAmb IAmb 16 04 14.0
comp=Z,26nm,0.9s
W13A Hualapai Mount 27.93 322 IAmb IAmb 16 04 31.6
comp=Z,25nm,1.4s
PCRV Puerto La Cruz 28.07 95 LR LR 16 17 09.0
comp=Z,1µm,19.1s,slow=40
HMU Henry Mountain 28.28 330 IAmb IAmb 16 04 33.8
comp=Z,31nm,1.4s
PFO Pinyon Flats O 28.63 316 P P 16 04 17.2 +0.6
PFO Pinyon Flats O 28.63 316 LR LR 16 16 12.7
comp=Z,688nm,19.8s,baz=130,slow=37
V12A Nelson 28.93 321 IAmb IAmb 16 04 40.2
comp=Z,33nm,1.3s
O20A White River Ci 28.96 336 IAmb IAmb 16 04 32.1
comp=Z,15nm,1.0s
MTPU Mount Pierson 29.09 328 IAmb IAmb 16 04 48.2
comp=Z,27nm,1.8s
Q16A Castle Valley 29.26 330 IAmb IAmb 16 04 42.5
comp=Z,31nm,1.7s
P18A Preston Nutter 29.40 332 IAmb IAmb 16 05 10.0
comp=Z,20nm,1.4s
GWY Greenwater Val 30.35 320 P P 16 04 32.7 +0.9
K22A Casper 30.54 340 IAmb IAmb 16 04 38.5
comp=Z,9.9nm,0.8s
TPNV Topopah Spring 30.59 322 IAmb IAmb 16 04 54.9
comp=Z,26nm,1.7s
NNA Nana 30.68 148 LR LR 16 14 59.1
comp=Z,1µm,18.1s,baz=327,slow=32
S11A Rachel 30.76 323 IAmb IAmb 16 04 43.0
comp=Z,24nm,1.1s
SPMN Marine on St. 30.82 0 IAmb IAmb 16 04 39.2
comp=Z,12nm,0.9s
SPR3 Spring Creek 3 30.93 327 IAmb IAmb 16 04 56.9
comp=Z,26nm,1.5s
HWUT Hardware Ranch 31.59 333 IAmb IAmb 16 04 47.2
comp=Z,15nm,1.2s
PDAR Pinedale Array 31.72 337 P P 16 04 44.0 +0.1
PDAR Pinedale Array 31.72 337 P P 16 04 45.0 +1.1
comp=Z,4.4nm,0.8s,baz=140,slow=7.8,SNR=22
PDAR PcP PcP 16 07 33.7 -1.5
comp=Z,0.5nm,0.6s,baz=190,slow=3.0,SNR=2.9
PDAR LR LR 16 20 53.4
comp=Z,507nm,19.0s,baz=142,slow=42
comp=Z,4.4nm,0.8s
DSP Deep Springs 31.91 321 IAmb IAmb 16 05 05.9
comp=Z,15nm,1.3s
SADO Sadowa 32.59 19 LR LR 16 19 24.0
comp=Z,2µm,20.1s,baz=237,slow=39
ELK Elko 32.68 328 LR LR 16 19 51.6
comp=Z,2µm,18.4s,baz=154,slow=39
NV11 Mina Array Sit 32.70 322 IAmb IAmb 16 04 58.2
comp=Z,20nm,1.1s
NVAR Mina Array Bea 32.79 322 P P 16 04 55.8 +2.5
comp=Z,17nm,0.9s,baz=139,slow=8.8,SNR=33
NVAR PcP PcP 16 07 38.8 +0.6
comp=Z,0.4nm,0.3s,baz=92,slow=1.8,SNR=5.9
NVAR LR LR 16 19 51.4
comp=Z,3µm,18.3s,baz=132,slow=39
comp=Z,17nm,0.9s
LHV Little Huntoon 32.80 321 IAmb IAmb 16 05 19.3
comp=Z,20nm,1.1s
LOHW Long Hollow 32.84 336 IAmb IAmb 16 04 57.7
comp=Z,18nm,0.8s
MOOW Moose Ponds 33.02 336 IAmb IAmb 16 05 05.2
comp=Z,13nm,0.9s
FXWY Fox Creek 33.03 336 IAmb IAmb 16 04 59.5
comp=Z,9.1nm,0.8s
H17A Grant Village 33.50 337 IAmb IAmb 16 05 38.6
comp=Z,18nm,1.3s
WAKR Walker 33.52 321 IAmb IAmb 16 05 20.5
comp=Z,16nm,1.3s
EYMN Ely 33.56 2 IAmb IAmb 16 05 16.1
comp=Z,16nm,1.6s
LKWY Lake 33.57 337 IAmb IAmb 16 05 06.3
comp=Z,14nm,0.8s
YMP Mirror Lake Pl 33.63 338 IAmb IAmb 16 05 31.4
comp=Z,25nm,1.2s
YNE Yellowstone No 33.81 338 IAmb IAmb 16 05 08.2
comp=Z,21nm,0.9s
CMB Columbia Colle 33.83 319 P P 16 05 02.4 +0.3
YMR Madison River 33.88 337 IAmb IAmb 16 05 07.7
comp=Z,18nm,0.8s
AGMN Agassiz Nation 33.97 357 IAmb IAmb 16 05 24.9
comp=Z,10nm,1.0s
PNTR Pine Nut 33.99 322 IAmb IAmb 16 05 25.2
comp=Z,23nm,1.3s
YHL Hebgen Lake 34.11 337 IAmb IAmb 16 05 32.2
comp=Z,17nm,1.1s
BOAV Boa Vista 34.24 107 IAmb IAmb 16 05 20.1
comp=Z,19nm,0.9s
HLID Hailey 34.42 332 IAmb IAmb 16 05 26.3
comp=Z,19nm,1.4s
DGMT Dagmar 35.29 347 IAmb IAmb 16 05 16.1
comp=Z,12nm,0.9s
WVOR Wild Horse Val 35.67 327 IAmb IAmb 16 05 37.0
comp=Z,19nm,1.2s
ULM Lac du Bonnet 35.92 357 P P 16 05 18.1 -1.9
comp=Z,3.2nm,0.6s,baz=170,slow=10,SNR=7.7
ULM LR LR 16 24 00.3
comp=Z,1µm,18.5s,baz=172,slow=43
comp=Z,3.2nm,0.6s
HATC Hat Creek Radi 36.19 322 IAmb IAmb 16 05 26.7
comp=Z,14nm,0.8s
J08A Circle Bar Ran 36.23 328 IAmb IAmb 16 05 42.6
comp=Z,39nm,1.3s
PLID Pearl Lake 36.32 332 IAmb IAmb 16 05 50.8
comp=Z,20nm,1.1s
MSO Missoula 36.83 336 IAmb IAmb 16 05 53.4
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 37.49 323 LR LR 16 22 48.9
comp=Z,2µm,18.6s,baz=149,slow=39
KHMM Horse Mountain 37.59 321 IAmb IAmb 16 05 59.6
comp=Z,32nm,1.3s
J04A Umpqua Nationa 38.10 325 IAmb IAmb 16 05 59.1
comp=Z,31nm,1.2s
I03D Drain, OR 39.09 325 IAmb IAmb 16 06 06.0
comp=Z,38nm,1.4s
LPAZ La Paz 39.13 140 P P 16 05 47.8 -0.4
LPAZ La Paz 39.13 140 P P 16 05 48.5 +0.2
comp=Z,1.4nm,0.6s,baz=340,slow=8.9,SNR=6.0
LPAZ LR LR 16 20 26.5
comp=Z,950nm,21.0s,baz=320,slow=34
comp=Z,1.4nm,0.6s
NEW Newport 39.27 335 LR LR 16 24 21.6
comp=Z,2µm,18.6s,baz=136,slow=40
H04D Lebanon 39.28 326 IAmb IAmb 16 05 52.5
comp=Z,22nm,1.0s
MDP Montagnes des 40.82 99 LR LR 16 24 55.9
comp=Z,1µm,20.2s,baz=296,slow=39
FFC Flin Flon 40.93 352 P P 16 06 00.5 -1.5
LLLB Lillooet 43.08 333 IAmb IAmb 16 06 39.0
comp=Z,27nm,1.5s
SIV San Ignacio 43.66 132 LR LR 16 23 50.7
comp=Z,1µm,18.5s,baz=300,slow=35
PTLB Pontes e Lacer 44.71 130 P P 16 06 33.0 -0.2
PTLB IAmb IAmb 16 06 46.3
comp=Z,14nm,1.2s
SCHQ Schefferville 45.30 21 P P 16 06 35.3 -2.1
comp=Z,6.2nm,1.1s,baz=230,slow=7.9,SNR=3.3
SCHQ LR LR 16 27 51.2
comp=Z,4µm,18.3s,baz=216,slow=39
comp=Z,6.2nm,1.1s
BBB Bella Bella 46.99 331 LR LR 16 27 16.3
comp=Z,468nm,19.1s,baz=152,slow=37
TOAD Toad River Com 50.48 339 P P 16 07 17.7 +0.2

baz=138
YKA Yellowknife Ar 50.50 347 P P 16 07 17.6 +0.1
comp=Z,16nm,0.9s,baz=155,slow=7.6,SNR=160
YKA PcP PcP 16 08 35.3 +0.1
comp=Z,1.2nm,0.8s,baz=157,slow=3.9,SNR=4.7
comp=Z,16nm,0.9s
V35K Ketchikan 50.60 333 P P 16 07 18.1 -0.2
baz=129
KOTAN Kotaneelee Air 51.06 341 P P 16 07 22.4 +0.6
baz=140,SNR=5.4
T35M Bob Quinn 51.07 335 IAmb IAmb 16 08 30.2
comp=Z,25nm,1.6s
T35M Bob Quinn 51.07 335 P P 16 07 22.6 +0.6
baz=131
CRAG Craig 51.37 332 P P 16 07 24.4 +0.3
baz=127
U33K Whale Pass 51.76 333 P P 16 07 27.8 +0.7
baz=127
DLBC Dease Lake 51.96 336 IAmb IAmb 16 07 34.6
comp=Z,16nm,0.9s
DLBC Dease Lake 51.96 336 LR LR 16 32 43.3
comp=Z,887nm,19.5s,baz=134,slow=40
DLBC Dease Lake 51.96 336 P P 16 07 29.3 +0.7
baz=132,SNR=15
S34M Telegraph Cree 52.05 335 P P 16 07 30.5 +1.3
baz=131
FRB Frobisher Bay 52.25 13 LR LR 16 31 54.1
comp=Z,1µm,18.1s,baz=201,slow=39
R33M Jennings River 52.96 337 P P 16 07 37.0 +0.8
baz=132
Q32M Nakina River 53.18 336 IAmb IAmb 16 07 45.4
comp=Z,14nm,1.0s
Q32M Nakina River 53.18 336 P P 16 07 38.0 +0.2
baz=130
CPUP Villa Florida 53.29 139 P P 16 07 36.5 -2.3
comp=Z,2.5nm,0.8s,baz=315,slow=9.5,SNR=4.5
CPUP LR LR 16 31 48.2
comp=Z,558nm,18.1s,baz=333,slow=38
comp=Z,2.5nm,0.8s
WRGLY Wrigley 53.30 343 IAmb IAmb 16 07 40.3
comp=Z,18nm,1.0s
BDFB Brasilia 53.56 122 P P 16 07 39.4 -1.7
BDFB IAmb IAmb 16 07 54.2
comp=Z,13nm,1.1s
BDFB Brasilia 53.56 122 P P 16 07 38.2 -2.9
comp=Z,6.9nm,1.0s,baz=236,slow=7.3,SNR=6.1
BDFB LR LR 16 30 59.4
comp=Z,671nm,19.3s,baz=315,slow=37
comp=Z,6.9nm,1.0s
P32M Atlin 54.16 336 P P 16 07 45.2 +0.4
baz=129,SNR=6.5
P33M Teslin, Yukon 54.20 337 IAmb IAmb 16 08 12.9
comp=Z,18nm,1.5s
P33M Teslin, Yukon 54.20 337 P P 16 07 46.3 +1.2
baz=130
S31K Pelican 54.22 333 P P 16 07 45.9 +0.8
baz=125
N32M Quiet Lake 54.91 338 P P 16 07 51.2 +0.9
baz=130
WHY Whitehorse 55.28 336 IAmb IAmb 16 08 11.2
comp=Z,24nm,1.8s
WHY Whitehorse 55.28 336 P P 16 07 53.7 +0.7
baz=126
FARO Faro, Yukon 55.71 338 P P 16 07 56.6 +0.6
baz=131,SNR=7.1
P30M Million Dollar 55.78 335 P P 16 07 57.5 +0.9
baz=126
O30N Mendenhall 55.82 336 IAmb IAmb 16 08 15.5
comp=Z,32nm,1.6s
O30N Mendenhall 55.82 336 P P 16 07 57.5 +0.6
baz=127,SNR=8.4
M31M Drury Creek, Y 56.07 338 IAmb IAmb 16 08 17.0
comp=Z,32nm,1.9s
M31M Drury Creek, Y 56.07 338 P P 16 07 59.3 +0.8
baz=130
N31M Braeburn, Yuko 56.14 337 IAmb IAmb 16 08 02.4
comp=Z,12nm,0.9s
N31M Braeburn, Yuko 56.14 337 P P 16 08 00.1 +1.0
baz=128,SNR=8.4
HYT Haines Junctio 56.41 336 P P 16 08 01.4 +0.3
baz=125
O29M Mount Kennedy 56.55 335 P P 16 08 02.6 +0.5
baz=124
N30M Aishikik Lake 56.62 336 IAmb IAmb 16 08 07.2
comp=Z,11nm,1.1s
N30M Aishikik Lake 56.62 336 P P 16 08 03.2 +0.6
baz=126
YUK6 Outpost Mounta 56.83 336 P P 16 08 04.6 +0.4
baz=125
YUK4 Talbot Arm 57.17 336 P P 16 08 07.2 +0.6
baz=125
M30M Minto, Yukon 57.18 338 IAmb IAmb 16 08 34.5
comp=Z,28nm,1.6s
M30M Minto, Yukon 57.18 338 P P 16 08 07.0 +0.6
baz=127,SNR=6.3
O28M Mount Upton 57.48 335 P P 16 08 09.4 +0.5
baz=123
MAYO Mayo, Yukon 57.48 339 P P 16 08 09.2 +0.7
baz=129
YUK8 Steele Glacier 57.58 335 P P 16 08 09.9 +0.3
baz=123,SNR=8.2
M29M Somme Creek 57.73 337 P P 16 08 11.0 +0.7
baz=125
MESA MESA 57.91 334 P P 16 08 12.7 +0.9
baz=120
L29M L29M 57.99 338 IAmb IAmb 16 08 31.1
comp=Z,14nm,1.2s
L29M L29M 57.99 338 P P 16 08 12.7 +0.5
baz=126
K29M Barlow Dome 58.21 339 IAmb IAmb 16 08 32.4
comp=Z,17nm,1.6s
K29M Barlow Dome 58.21 339 P P 16 08 14.5 +0.7
baz=127
J30M Hart River 58.25 340 IAmb IAmb 16 08 31.9
comp=Z,24nm,1.8s
J30M Hart River 58.25 340 P P 16 08 14.8 +0.7
baz=129
C36M Paulatuk 58.38 348 P P 16 08 15.4 +0.8
baz=144
H31M Peel River 58.40 341 P P 16 08 16.0 +1.1
baz=131
PLCA Paso Flores 58.61 160 P P 16 08 16.4 -0.3
comp=Z,3.9nm,0.9s,baz=324,slow=5.2,SNR=5.9
PLCA LR LR 16 28 34.8
comp=Z,747nm,18.5s,baz=358,slow=31
comp=Z,3.9nm,0.9s
I30M Mount Dempster 58.67 340 IAmb IAmb 16 08 29.5
comp=Z,16nm,1.4s
I30M Mount Dempster 58.67 340 P P 16 08 17.7 +0.7
baz=129
J29N Klondike Camp 58.82 339 IAmb IAmb 16 09 18.3
comp=Z,10nm,1.4s
J29N Klondike Camp 58.82 339 P P 16 08 18.6 +0.7
baz=126
M27K Edge Creek, AK 59.01 336 IAmb IAmb 16 08 21.3
comp=Z,8.9nm,1.2s
M27K Edge Creek, AK 59.01 336 P P 16 08 19.8 +0.5
baz=122
DAWY Dawson 59.01 338 P P 16 08 19.1 -0.2
DAWY IAmb IAmb 16 08 36.5
comp=Z,27nm,1.8s
DAWY Dawson 59.01 338 P P 16 08 19.3 0.0
baz=125
VRDI Verde Repeater 59.07 334 IAmb IAmb 16 08 48.6
comp=Z,12nm,1.1s
F31M Tsiigehtchic 59.32 343 P P 16 08 21.8 +0.6
baz=133,SNR=6.4
GLB Gilahina Butte 59.33 334 IAmb IAmb 16 08 24.2
comp=Z,7.8nm,0.8s
BCAR Beaver Creek A 59.35 337 P P 16 08 22.2 +0.6
L27K Beaver Creek, 59.36 337 IAmb IAmb 16 08 24.4
comp=Z,9.8nm,1.0s
L27K Beaver Creek, 59.36 337 P P 16 08 22.0 +0.4
baz=122
I29M Ogilvie Camp, 59.40 340 IAmb IAmb 16 08 25.0
comp=Z,9.0nm,1.1s
I29M Ogilvie Camp, 59.40 340 P P 16 08 22.5 +0.6
baz=127,SNR=8.8
BMRM Bremner River 59.44 334 P P 16 08 22.6 +0.3
baz=118
M26K Nabesna, AK 59.48 336 IAmb IAmb 16 08 55.2
comp=Z,11nm,1.1s
M26K Nabesna, AK 59.48 336 P P 16 08 22.8 +0.3
baz=120,SNR=5.8
SFJD Kangerlussuaq 59.54 18 LR LR 16 35 51.1
comp=Z,2µm,18.2s,baz=222,slow=38
N25K Chitina, Valde 59.74 334 IAmb IAmb 16 08 27.3
comp=Z,9.5nm,0.8s
N25K Chitina, Valde 59.74 334 P P 16 08 24.8 +0.4
baz=118
EYAK Cordova Ski Ar 59.74 333 P P 16 08 24.6 +0.3
baz=117
G30M tAoh Zraii Nji 59.74 342 IAmb IAmb 16 08 38.3
comp=Z,12nm,1.2s
G30M tAoh Zraii Nji 59.74 342 P P 16 08 24.4 +0.2
baz=130
INK Inuvik 59.86 344 LR LR 16 38 50.9
comp=Z,740nm,18.9s,baz=133,slow=40
INK Inuvik 59.86 344 P P 16 08 25.3 +0.4
baz=133,SNR=24
L26K Log Cabin Wild 59.93 336 P P 16 08 26.1 +0.5
baz=120
H29M Whitestone 59.94 341 P P 16 08 26.3 +0.7
baz=127
K27K Chicken 59.97 337 P P 16 08 26.4 +0.5
baz=122,SNR=8.9
I28M Miner Creek 60.00 339 P P 16 08 26.6 +0.5
baz=125
F30M Barrier River 60.02 343 P P 16 08 26.5 +0.4
baz=131,SNR=14
MENT Mentasta 60.03 336 IAmb IAmb 16 09 24.1
comp=Z,20nm,1.6s
RCBR Riachuelo 60.12 105 LR LR 16 38 10.9
comp=Z,254nm,18.1s,baz=302,slow=40
P23K Montague Islan 60.24 332 P P 16 08 28.4 +0.7
baz=115
KLU Klutina 60.25 334 IAmb IAmb 16 08 32.8
comp=Z,12nm,1.0s
KLU Klutina 60.25 334 P P 16 08 28.0 +0.1
baz=117,SNR=8.5
G29M Pine Creek 60.25 341 P P 16 08 28.1 +0.4
baz=128,SNR=11
HARP HAARP 60.35 335 P P 16 08 28.8 +0.3
baz=118,SNR=6.4
RES Resolute Bay 60.38 359 IAmb IAmb 16 08 29.2
comp=Z,11nm,1.0s
RES Resolute Bay 60.38 359 LR LR 16 38 19.5
comp=Z,645nm,19.0s,baz=190,slow=40
GLI Glacier Island 60.48 333 P P 16 08 29.6 +0.2
baz=116
M24K Tolsona, Glenn 60.63 334 P P 16 08 31.1 +0.6
baz=117
SCRK Sand Creek 60.66 337 IAmb IAmb 16 08 58.8
comp=Z,14nm,1.3s
SCRK Sand Creek 60.66 337 P P 16 08 31.1 +0.4
baz=120
I27K Kandik River 60.67 339 P P 16 08 31.1 +0.5
baz=124
PAX Paxson 60.75 335 IAmb IAmb 16 08 33.0
comp=Z,10nm,0.9s
PAX Paxson 60.75 335 P P 16 08 30.7 -0.6
baz=118,SNR=12
A36M Sachs Harbour 60.75 349 P P 16 08 30.8 -0.1
baz=144,SNR=13
J26L Joseph Creek 60.77 337 IAmb IAmb 16 08 34.2
comp=Z,11nm,1.0s
J26L Joseph Creek 60.77 337 P P 16 08 31.0 -0.4
baz=121,SNR=15
RIDG Independent Ri 60.88 336 P P 16 08 32.3 +0.2
baz=119
H27K Steamboat Moun 60.98 340 P P 16 08 33.0 +0.3
baz=124
SCM Sheep Creek Mo 61.00 334 P P 16 08 32.9 -0.1
baz=116
PWL Port Wells 61.02 333 P P 16 08 32.3 -0.8
baz=114
I26K Coal Creek Min 61.05 338 P P 16 08 32.8 -0.4
baz=122
E29M Blow River 61.13 343 P P 16 08 34.2 +0.5
baz=129,SNR=18
M23K Glacier View 61.15 334 P P 16 08 34.3 +0.3
baz=116
SEW Seward 61.23 332 P P 16 08 34.5 +0.2
baz=113
K24K Donnelly Dome 61.27 336 P P 16 08 35.4 +0.7
baz=118
KNK Knik Glacier 61.31 333 P P 16 08 35.3 +0.3
baz=114
G27K Doyon Strip 61.35 340 IAmb IAmb 16 08 37.2
comp=Z,5.7nm,0.9s
G27K Doyon Strip 61.35 340 P P 16 08 35.3 0.0
baz=124
SML Sawmill 61.42 334 P P 16 08 35.5 -0.3
baz=115
J25K Salcha River, 61.50 337 IAmb IAmb 16 09 03.5
comp=Z,9.0nm,1.1s
J25K Salcha River, 61.50 337 P P 16 08 36.5 +0.2
baz=119
PMR Palmer 61.68 333 P P 16 08 38.1 +0.7
baz=114
RC01 Rabbit Creek A 61.74 333 P P 16 08 37.6 -0.3
baz=113,SNR=6.6
E28M Babbage River 61.74 342 IAmb IAmb 16 08 41.7
comp=Z,9.7nm,0.8s
E28M Babbage River 61.74 342 P P 16 08 37.6 -0.2
baz=127
KDAK Kodiak Island 61.92 328 P P 16 08 39.2 +0.1
baz=109
D28M Stokes Point 61.96 343 P P 16 08 39.5 +0.3
baz=128
PRP Porcupine Dome 62.01 338 P P 16 08 39.3 -0.5
baz=120,SNR=6.6
HDA Harding Lake 62.01 337 P P 16 08 39.2 -0.4
baz=118
HOM Homer 62.09 331 P P 16 08 39.9 -0.3
baz=110
Q20K Shuyak Island 62.09 329 P P 16 08 40.0 -0.2
baz=109
OHAK Old Harbor 62.10 328 P P 16 08 39.8 -0.5
baz=108
E27K Coleen River 62.12 342 P P 16 08 40.1 -0.3
baz=125
G26K Porcupine Rive 62.13 340 P P 16 08 40.3 -0.1
baz=122
IL31 62.15 337 IAmb IAmb 16 08 42.6
comp=Z,11nm,1.0s
ILAR Eielson Array 62.15 337 P P 16 08 40.4 -0.3
ILAR Eielson Array 62.15 337 P P 16 08 40.9 +0.2
comp=Z,6.3nm,0.9s,baz=132,slow=4.3,SNR=63
ILAR LR LR 16 37 59.1
comp=Z,887nm,19.3s,baz=116,slow=38
comp=Z,6.3nm,0.9s
M22K Willow 62.17 333 P P 16 08 40.9 +0.2
baz=113
SUA Susitna One 62.34 333 P P 16 08 42.2 +0.2
baz=112
SII Sitkinak Islan 62.37 327 P P 16 08 42.2 0.0
baz=107
CCB Clear Creek Bu 62.45 337 IAmb IAmb 16 09 08.9
comp=Z,15nm,1.6s
WRH Wood River Hil 62.48 336 IAmb IAmb 16 09 05.0
comp=Z,14nm,1.5s
H25L Birch Creek 62.48 339 P P 16 08 42.7 -0.1
baz=120,SNR=7.1
MCK McKinley 62.49 335 P P 16 08 42.7 -0.2
baz=115,SNR=6.4
CUT Chulitna 62.50 334 P P 16 08 42.7 -0.2
baz=113
POKR Poker Plat Res 62.52 337 IAmb IAmb 16 09 03.1
comp=Z,7.2nm,0.9s
POKR Poker Plat Res 62.52 337 P P 16 08 43.1 0.0
baz=117,SNR=6.2
D27M Malcolm River 62.54 343 P P 16 08 43.3 +0.1
baz=126
COLA College 62.57 337 P P 16 08 43.5 +0.1
COLA College 62.57 337 P P 16 08 43.4 +0.1
baz=117
F26K Sheenjek River 62.65 340 P P 16 08 44.2 +0.3
baz=122
BMAR Burnt Mountain 62.65 340 P P 16 08 44.1 +0.2
O20K Slope Mountain 62.70 331 P P 16 08 44.1 -0.3
baz=110
R18K Karluk 62.80 328 P P 16 08 44.8 -0.3
baz=107
Q19K Cape Douglas, 62.81 329 P P 16 08 45.4 +0.2
baz=108
G25K Bearman Lake 62.83 339 P P 16 08 45.4 +0.3
baz=119
P19K Oil Pt 62.84 330 P P 16 08 45.3 -0.1
baz=109
SKT Skwentna 62.88 333 P P 16 08 45.6 +0.1
baz=112
N20K Mount Spurr 62.90 332 P P 16 08 45.4 -0.3
baz=111
SPCR Spurr Chakacha 62.90 332 P P 16 08 45.5 -0.2
baz=111
NEA2 Nenana 62.91 336 P P 16 08 45.7 0.0
baz=116
TRF Thorofare Moun 62.92 335 P P 16 08 45.9 -0.1
baz=114,SNR=7.8
CHIR Chirikof Islan 62.95 326 P P 16 08 45.8 -0.2
baz=105
H24K Noodor Dome 63.02 338 IAmb IAmb 16 08 48.2
comp=Z,12nm,1.1s
H24K Noodor Dome 63.02 338 P P 16 08 46.1 -0.4
baz=117
F25K Christian Rive 63.09 340 P P 16 08 46.6 -0.3
baz=120,SNR=7.1
I23K Minto, Yukon-K 63.26 337 P P 16 08 47.8 -0.2
baz=115,SNR=13
G24K Hadweenzic Riv 63.27 339 IAmb IAmb 16 08 50.1
comp=Z,10nm,1.1s
G24K Hadweenzic Riv 63.27 339 P P 16 08 47.6 -0.4
baz=118
E25K Arctic Village 63.33 341 P P 16 08 48.0 -0.5
baz=121,SNR=8.0
Q18K Katmai Hardscr 63.40 329 P P 16 08 48.3 -0.9
baz=107
BPAW Bear Paw Mtn. 63.47 335 IAmb IAmb 16 08 50.7
comp=Z,10nm,1.0s
BPAW Bear Paw Mtn. 63.47 335 P P 16 08 49.0 -0.4
baz=113,SNR=8.6
PPLA Purkeypile 63.50 334 P P 16 08 48.8 -1.0
baz=112
O19K Port Alsworth 63.54 331 P P 16 08 50.0 +0.2
baz=108
M20K Styx River 63.55 333 P P 16 08 49.9 -0.1
baz=110
C27K Jago River 63.56 342 P P 16 08 49.6 -0.3
baz=123
CAST Castle Rocks 63.65 335 IAmb IAmb 16 08 52.1
comp=Z,12nm,1.0s
CAST Castle Rocks 63.65 335 P P 16 08 50.0 -0.6
baz=112,SNR=8.8
P18K Big Mountain, 63.73 330 P P 16 08 50.8 -0.5
baz=107
F24K Squaw Lake 63.80 339 IAmb IAmb 16 09 32.1
comp=Z,8.9nm,1.2s
F24K Squaw Lake 63.80 339 P P 16 08 51.1 -0.5
baz=118
N19K Bonanza Creek 63.81 331 P P 16 08 51.2 -0.6
baz=108
CHUM Lake Minchumin 63.92 335 P P 16 08 52.4 0.0
baz=112
C26K Camden Bay 64.07 342 P P 16 08 52.9 -0.3
baz=122,SNR=9.0
L20K Farewell, AK 64.08 333 P P 16 08 52.6 -0.9
baz=110
PPT Papeete 64.11 242 LR LR 16 31 34.0
comp=Z,371nm,18.6s,baz=68,slow=31
M19K Big River Lodg 64.12 333 P P 16 08 53.0 -0.7
baz=109
G23K Bananza Creek 64.19 338 P P 16 08 53.9 -0.3
baz=116
D25K Kavik River 64.20 342 P P 16 08 54.3 +0.1
baz=120
Q16K King Salmon 64.24 329 P P 16 08 54.8 +0.3
baz=105
E24K Your Creek 64.27 340 P P 16 08 54.9 +0.3
baz=118
P17K Kvichak River 64.27 329 P P 16 08 54.9 +0.2
baz=106
I21K Tanana 64.29 336 P P 16 08 54.4 -0.3
baz=113
H22K Ishtalitna Cre 64.34 337 P P 16 08 54.4 -0.7
baz=114,SNR=5.6
L19K White Mountain 64.42 333 P P 16 08 55.1 -0.5
baz=109
N18K Kilae Creek 64.43 331 P P 16 08 54.9 -0.9
baz=107
R16K Pilot Point 64.43 327 P P 16 08 55.0 -0.7
baz=104
K20K Telida 64.47 334 P P 16 08 55.0 -1.0
baz=110,SNR=6.5
COLD Coldfoot 64.47 339 IAmb IAmb 16 08 58.5
comp=Z,8.9nm,1.1s
COLD Coldfoot 64.47 339 P P 16 08 55.0 -0.9
baz=116,SNR=8.5
CHGN Chignik 64.58 326 P P 16 08 55.7 -1.1
baz=103
E23K Chandalar 64.64 340 P P 16 08 56.4 -0.6
baz=116
M18K Stony River 64.64 332 P P 16 08 56.0 -1.1
baz=108
O17K Koliganek Bris 64.75 330 P P 16 08 56.6 -1.2
baz=106
J20K Nowinta River 64.78 335 IAmb IAmb 16 09 39.8
comp=Z,19nm,1.4s
J20K Nowinta River 64.78 335 P P 16 08 57.3 -0.7
baz=110
H21K Melozitna Rive 64.79 337 P P 16 08 57.4 -0.6
baz=112
D24K Happy Valley 64.88 341 P P 16 08 57.9 -0.6
baz=118,SNR=6.4
TOLK Toolik Lake Re 64.88 340 IAmb IAmb 16 09 00.1
comp=Z,5.9nm,0.8s
TOLK Toolik Lake Re 64.88 340 P P 16 08 57.9 -0.7
baz=117,SNR=8.1
C24K Franklin Bluff 65.11 342 P P 16 08 58.8 -1.2
baz=118,SNR=15
I20K Naaghedeneel 65.13 336 P P 16 08 59.5 -0.8
baz=110
TTA Tatalina 65.16 333 P P 16 09 00.4 -0.2
baz=108
O16K Kokwok River B 65.19 329 P P 16 09 00.6 -0.1
baz=104
S14K Fog Glacier 65.20 326 P P 16 09 00.4 -0.5
baz=102
L18K Granite Mounta 65.25 332 P P 16 09 00.6 -0.4
baz=107
F22K John River 65.28 339 P P 16 09 01.0 -0.2
baz=114
J19K Poorman 65.33 334 IAmb IAmb 16 09 02.9
comp=Z,13nm,1.0s
J19K Poorman 65.33 334 P P 16 09 01.1 -0.5
baz=109
G21K Allakaket 65.38 337 IAmb IAmb 16 09 03.4
comp=Z,7.7nm,0.9s
G21K Allakaket 65.38 337 P P 16 09 01.1 -0.7
baz=112,SNR=5.4
D23K Nanushuk River 65.39 340 P P 16 09 01.8 -0.1
baz=116
E22K Anaktuvuk Pass 65.41 339 IAmb IAmb 16 09 04.5
comp=Z,13nm,1.0s
E22K Anaktuvuk Pass 65.41 339 P P 16 09 01.4 -0.7
baz=114,SNR=13
SDPT Sand Point 65.53 325 P P 16 09 02.8 -0.1
baz=100
H20K Anotleneega Mo 65.53 336 P P 16 09 02.6 -0.3
baz=110
J18K Innoko River 65.63 334 P P 16 09 03.1 -0.4
baz=108
F21K Alatna River 65.64 338 P P 16 09 03.0 -0.5
baz=112,SNR=28
N16K Nishlik Lake 65.74 330 P P 16 09 04.2 -0.1
baz=104
C23K Itkillik River 65.75 341 P P 16 09 04.1 -0.1
baz=116
O15K Ungalikthiuk R 65.95 329 P P 16 09 05.4 -0.2
baz=103
M16K Timber Creek 65.97 331 P P 16 09 05.9 +0.1
baz=104
D22K Ayikyak River 66.01 340 P P 16 09 06.1 +0.2
baz=114
GCSA Galena City Sc 66.09 335 P P 16 09 06.5 +0.1
baz=108
K17K Iditarod 66.11 333 P P 16 09 06.7 +0.1
baz=106
H19K Roundabout Mou 66.16 336 IAmb IAmb 16 09 09.9
comp=Z,12nm,1.1s
H19K Roundabout Mou 66.16 336 P P 16 09 07.0 +0.1
baz=109
L16K Owhat River 66.38 332 P P 16 09 07.9 -0.4
baz=104
F20K Avaraart Lake 66.39 338 P P 16 09 08.6 +0.2
baz=110
G19K Purcell Mounta 66.61 337 IAmb IAmb 16 09 10.7
comp=Z,9.5nm,1.1s
G19K Purcell Mounta 66.61 337 P P 16 09 09.6 -0.1
baz=108
J17K VABM Dome 66.63 333 P P 16 09 09.8 -0.1
baz=105
M15K Kasigluk River 66.71 330 P P 16 09 10.5 0.0
baz=103
H18K Honhosa River 66.81 335 P P 16 09 10.9 -0.2
baz=107

C21K	Knifeblade Rid	66.82	340	P	P	16 09 11.4	+0.3
	baz=112						
B22K	Teshekpuk Lake	66.84	341	P	P	16 09 11.1	+0.1
	baz=114						
B21K	Ikpikpuk River	66.94	340	IAmb	IAmb	16 09 18.4	
	comp=Z,7.8nm,0.8s						
B21K	Ikpikpuk River	66.94	340	P	P	16 09 10.8	-0.9
	baz=112,SNR=11						
E20K	Nigu River	66.97	339	P	P	16 09 11.8	-0.3
	baz=110						
N14K	Kuskokwak Cree	67.04	329	P	P	16 09 11.9	-0.6
	baz=101						
E19K	Redstone River	67.08	338	P	P	16 09 12.4	-0.4
	baz=109						
F19K	Shaleruckik Mo	67.08	337	P	P	16 09 12.2	-0.6
	baz=108						
FALS	False Pass	67.12	324	P	P	16 09 12.5	-0.6
	baz=98						
G18K	Tagagawik	67.14	336	IAmb	IAmb	16 09 45.2	
	comp=Z,10nm,1.1s						
G18K	Tagagawik	67.14	336	P	P	16 09 12.3	-0.9
	baz=107						
J16K	Anvik River	67.27	333	P	P	16 09 13.2	-0.8
	baz=104						
D20K	Etivluk River	67.28	339	P	P	16 09 13.8	-0.2
	baz=110,SNR=8.7						
L15K	Ungalak Mounta	67.30	331	P	P	16 09 15.0	+0.8
	baz=102						
M14K	Bethel	67.34	330	P	P	16 09 14.8	+0.4
	baz=101						
H17K	Granite Mounta	67.39	335	P	P	16 09 15.1	+0.3
	baz=105						
I17K	Unalakleet	67.45	334	P	P	16 09 15.3	+0.2
	baz=104						
K15K	Wolf Creek Mou	67.46	332	P	P	16 09 15.5	+0.4
	baz=102						
A22K	Sinclair Lake	67.57	342	P	P	16 09 16.3	+0.5
	baz=112						
D19K	Kuna River	67.73	339	IAmb	IAmb	16 09 20.1	
	comp=Z,12nm,0.9s						
D19K	Kuna River	67.73	339	P	P	16 09 17.4	+0.6
	baz=108						
F18K	Selawik	67.73	337	P	P	16 09 17.3	+0.5
	baz=106						
L14K	Kuka Creek	67.80	331	P	P	16 09 17.3	0.0
	baz=101						
G17K	Kiwalik Mounta	67.83	335	P	P	16 09 17.7	+0.2
	baz=105						
B20K	Meade River	67.90	340	P	P	16 09 18.5	+0.7
	baz=110						
H16K	Elim	68.28	334	P	P	16 09 20.3	0.0
	baz=103						
E18K	Tukpahlearik C	68.31	337	P	P	16 09 20.4	0.0
	baz=105						
G16K	Koyuk River	68.50	335	P	P	16 09 21.5	-0.2
	baz=103						
E17K	Hotham Inlet	68.69	337	P	P	16 09 23.1	+0.3
	baz=104						
UNV	Unalaska Valle	68.81	322	P	P	16 09 23.5	-0.3
	baz=95						
C18K	Utukok River	68.85	339	IAmb	IAmb	16 09 53.3	
	comp=Z,12nm,1.1s						
C18K	Utukok River	68.85	339	P	P	16 09 23.8	-0.1
	baz=105						
G15K	Niukluk	69.11	335	P	P	16 09 25.4	-0.1
	baz=101						
A19K	Wainwright	69.23	340	P	P	16 09 26.3	+0.1
	baz=106						
B18K	Kokolik River	69.25	339	P	P	16 09 26.3	0.0
	baz=105						
D17K	Noatak River	69.31	337	P	P	16 09 26.5	-0.2
	baz=103						
RDOG	Red Dog Mine	69.32	338	P	P	16 09 27.2	+0.4
	baz=103						
M11K	Mekoryuk	69.34	329	P	P	16 09 27.4	+0.4
	baz=98						
BORG	Borgarnes	69.38	26	LR	LR	16 38 52.3	
	comp=Z,534nm,21.8s,baz=264,slow=35						
F15K	North Star Dit	69.50	335	P	P	16 09 28.1	+0.2
	baz=101						
C17K	DeLong Mountai	69.52	338	P	P	16 09 28.1	+0.1
	baz=103						
ANM	Nome	69.59	334	P	P	16 09 28.3	-0.1
	baz=100						
F14K	Arctic Creek	70.14	335	P	P	16 09 31.6	-0.2
	baz=99						
C16K	Lisburne Hills	70.26	338	P	P	16 09 32.2	-0.3
	baz=101						
P08K	Saint George I	70.74	325	P	P	16 09 35.0	-0.7
	baz=93						
TNA	Tin City	70.81	335	P	P	16 09 35.6	-0.3
	baz=98						
SPIA	Saint Paul Isl	71.15	326	P	P	16 09 37.6	-0.6
	baz=93						
RAR	Rarotonga	74.38	243	LR	LR	16 37 33.1	
	comp=Z,450nm,18.1s,baz=94,slow=31						
JMIC	Jan Mayen	74.80	20	LR	LR	16 44 01.8	
	comp=Z,1μm,18.8s,baz=254,slow=37						
EKA	Eskdalemuir Ar	78.32	36	P	P	16 10 17.1	-2.6
	comp=Z,6.8nm,0.9s,baz=277,slow=5.8,SNR=3.5						
	comp=Z,6.8nm,0.9s						
SPITS	Spitsbergen Ar	79.99	11	LR	LR	16 47 08.5	
	comp=Z,1μm,21.2s,baz=223,slow=37						
ESDC	Sonseca Array	80.34	52	P	P	16 10 28.6	-2.5
ESDC	Sonseca Array	80.34	52	P	P	16 10 28.4	-2.7
	comp=Z,3.2nm,0.9s,baz=283,slow=5.9,SNR=14						
ESDC				LR	LR	16 42 43.3	
	comp=Z,596nm,19.0s,baz=283,slow=33						
	comp=Z,3.2nm,0.9s						
SHEM	Shemya Is, Ala	80.46	322	LR	LR	16 45 46.1	
	comp=Z,113nm,19.2s,baz=114,slow=35						
BILL	Bilibino	80.79	338	P	P	16 10 32.9	0.0
BILL				IAmb	IAmb	16 10 34.8	
	comp=Z,13nm,1.0s						
MDT	Midelt	81.12	58	LR	LR	16 42 23.5	
	comp=Z,479nm,20.1s,baz=330,slow=33						
PMSA	Palmer Station	81.87	168	LR	LR	16 38 10.8	
	comp=Z,308nm,21.7s,baz=316,slow=29						
NOA	NORSAR Array B	84.37	28	P	P	16 10 50.9	-0.8
	comp=Z,1.8nm,0.9s,baz=292,slow=4.7,SNR=4.7						
NOA				LR	LR	16 46 24.4	
	comp=Z,778nm,21.7s,baz=280,slow=34						
	comp=Z,1.8nm,0.9s						
HFS	Hagfors	85.83	29	LR	LR	16 46 55.6	
	comp=Z,855nm,21.9s,baz=278,slow=34						
ARCES	ARCESS Array B	86.17	18	P	P	16 10 59.5	-1.1
	comp=Z,3.6nm,0.9s,baz=283,slow=5.5,SNR=4.2						
ARCES				LR	LR	16 50 32.0	
	comp=Z,788nm,18.2s,baz=304,slow=36						
	comp=Z,3.6nm,0.9s						
DBIC	Dimbokro	86.65	84	P	P	16 11 02.2	-1.8
	comp=Z,4.4nm,0.8s,baz=262,slow=8.8,SNR=5.0						
DBIC				LR	LR	16 46 54.1	
	comp=Z,336nm,20.9s,baz=267,slow=34						
	comp=Z,4.4nm,0.8s						
DAVOX	Davos/Dischmat	88.33	42	LR	LR	16 47 32.0	
	comp=Z,347nm,18.9s,baz=291,slow=34						
CLL	Collm	88.70	37	*e*P	P	16 11 17.0	+3.9
CLL				*e*PP	PP	16 14 44.0	+2.5
CLL				*e*S	S	16 22 06.0	+7.7
CLL				*e*PS	PS	16 23 12.0	+7.0
CLL				AMS	AMS	16 52 00.0	
	comp=Z,500nm,20.0s						
TIXI	Tiksi	89.74	348	P	P	16 11 16.8	-0.7
TIXI				IAmb	IAmb	16 11 19.0	
	comp=Z,12nm,1.4s						
TIXI	Tiksi	89.74	348	LR	LR	16 59 18.9	
	comp=Z,505nm,18.1s,baz=27,slow=41						
PETK	Petropavlovsk-	89.81	325	P	P	16 11 17.6	-0.6
	comp=Z,3.4nm,1.0s,baz=78,slow=9.0,SNR=2.8						
	comp=Z,3.4nm,1.0s						
GERES	GERESS Array B	90.02	39	LR	LR	16 50 22.5	
	comp=Z,391nm,19.7s,baz=263,slow=35						
MA2	Magadan	90.35	333	P	P	16 11 21.1	+0.4
MA2				IAmb	IAmb	16 11 25.4	
	comp=Z,8.7nm,1.1s						
FINES	FINESS Array B	90.66	25	P	P	16 11 19.3	-2.7
	comp=Z,2.8nm,1.0s,baz=330,slow=4.8,SNR=1.2						
FINES				LR	LR	16 51 10.2	
	comp=Z,466nm,21.1s,baz=274,slow=35						
	comp=Z,2.8nm,1.0s						
TORD	Torodi Ar. Bea	91.31	76	P	P	16 11 22.6	-3.4
	comp=Z,5.4nm,0.3s,baz=306,slow=6.0,SNR=1.7						
	comp=Z,5.4nm,0.3s						
VRAC	Vranov	91.59	38	LR	LR	16 54 54.0	
	comp=Z,366nm,18.1s,baz=291,slow=37						
VAE	Valguarnera	94.75	50	LR	LR	16 51 18.8	
	comp=Z,1μm,19.9s,baz=338,slow=34						
YAK	Yakutsk	96.84	341	LR	LR	17 02 42.1	
	comp=Z,211nm,18.3s,baz=40,slow=40						
AKASG	Malin Array Be	98.04	33	LR	LR	16 59 28.2	
	comp=Z,310nm,18.2s,baz=303,slow=38						
URZ	Urewera	98.57	233	LR	LR	16 46 19.6	
	comp=Z,154nm,20.9s,baz=164,slow=29						
OBN	Obninsk	98.88	27	LR	LR	16 55 16.0	
	comp=Z,540nm,21.0s,baz=349,slow=35						
MLR	Muntele Rosu	98.98	39	LR	LR	16 57 12.6	
	comp=Z,223nm,19.7s,baz=301,slow=36						
KURBB	Kurchatov Arra	114.93	6	PKP	PKiKP	16 16 59.0	-1.5
	comp=Z,0.6nm,0.7s,baz=346,slow=2.0,SNR=6.3						
SONM	Songino Array	115.74	346	PKP	PKiKP	16 17 01.7	-0.6
	comp=Z,0.5nm,0.8s,baz=132,slow=2.1,SNR=2.6						
XLT	XiLinHaoTe	116.25	337	*e*PKP	PKiKP	16 16 58.0	-5.4
XLT				sPKP		16 17 10.7	
XLT				PP	PP	16 18 11.4	+3.4
XLT				AMB	AMB		
	comp=Z,100nm,7.0s						
SYO	Syowa Base	117.76	163	*e*PKiKP	PKiKP	16 17 06.8	+1.5
MKAR	Makanchi Array	119.04	4	PKP	PKPdf	16 17 07.4	-1.2
	comp=Z,0.6nm,0.8s,baz=11,slow=3.1,SNR=6.4						
HHC	Hu-ho-hao-te	120.56	338	*e*PKP	PKPdf	16 17 10.3	-1.5
BOSA	Boshof	121.42	115	PKP	PKPdf	16 17 12.9	-0.8
	comp=Z,4.7nm,0.8s,baz=316,slow=4.6,SNR=7.7						
WMQ	Urumqi	122.15	359	*e*PKP	PKPdf	16 17 14.9	+0.2
WMQ				LR	LR		
	comp=Z,760nm,16.9s						
WMQ				LR	LR		
	comp=Z,660nm,22.1s						
NJ2	Nanjing	124.68	327	*e*PKP	PKPdf	16 17 19.4	-0.4
LZH	Lanzhou	127.39	343	*e*PKP	PKiKP	16 17 25.9	+0.3
WRA	Warramunga Arr	134.47	256	PKP	PKPdf	16 17 38.6	0.0
	comp=Z,0.5nm,0.6s,baz=88,slow=2.4,SNR=5.4						
ASAR	Alice Springs	134.79	251	PKP	PKPdf	16 17 38.8	-0.4
	comp=Z,0.7nm,0.8s,baz=74,slow=2.3,SNR=6.2						
PZH	PanZhiHua	136.96	340	PKP	PKPdf	16 17 42.4	-0.9
CMAR	Chiang Mai Arr	145.36	340	PKPbc	PKPbc	16 17 58.0	-0.3
	comp=Z,8.3nm,1.0s,baz=343,slow=4.2,SNR=50						

GCG ***05*** *16:12:25.0±3.1, 12°.92N×93°.50W, h148km±203km, MD4.3*
MEX ***05*** *16:12:41.4±0.5, 14°.05N×93°.06W, h7km±42km, MD3.9*
ISC 05 16:12:40.1±2.5, 14°.2N±0°.1×93°.03W±0°.06, h14km±13km, n14, σ1°.65/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	El Naranjo	1.18	41	*e*P	Pg	16 13 02.6	-0.2
PATR				*e*S	Sn	16 13 19.5	+1.3
PAVE	Pavencul	1.27	40	*e*P	Pg	16 13 04.3	-0.3
PAVE				*e*S	Sn	16 13 21.7	+1.2
RTAL	Retalhuleu	1.32	77	*e*S	Sg	16 13 24.5	+1.6
PCIG		1.49	353	*e*P	Pn	16 13 06.3	-0.1
PCIG				*i* S	Sb	16 13 24.7	-1.5
STG8	El Palmar, Qui	1.64	82	*e*P		16 13 07.8	
STG0	El Palmar, Qui	1.65	83	*e*P		16 13 07.6	
CARR	Arriaga	2.19	337	*e*P	Pn	16 13 17.3	+1.3
CARR				*e*S	Sn	16 13 41.6	-1.3
CCIG	Comitan	2.22	23	*e*P	Pb	16 13 19.9	-0.3
CCIG				*e*S	Sb	16 13 46.8	-0.8
CCIG	Comitan	2.22	23	*e*P	Pb	16 13 20.4	+0.3
CCIG	Comitan	2.22	23	*e*P		16 13 20.4	
TGIG		2.54	358	*e*P	Pn	16 13 23.2	+2.2
TGIG				*e*S	Sb	16 13 54.5	-2.2
TGIG		2.54	358	*e*P	Pb	16 13 23.5	-2.1
TGIG		2.54	358	*e*P		16 13 23.5	
APG	El Apazote	2.60	72	*e*P	Pn	16 13 20.6	-1.3
APG	El Apazote	2.60	72	*e*P		16 13 20.6	
NILT	Santiago Nilte	2.79	327	*e*P	Pn	16 13 25.3	+1.0
NILT				*e*S	Sn	16 13 55.1	-2.7
UXUV	UXUV	3.26	341	*e*P	Pn	16 13 33.0	+2.2
UXUV				*e*S	Sn	16 14 11.8	+2.3
CMIG	Matias Romero	3.37	328	*e*P	Pn	16 13 33.2	+0.9
CMIG				*e*S	Sn	16 14 14.2	+2.1
NEUV	Arroyo Zacate	4.38	323	*e*P	Pn	16 13 47.7	+1.5
NEUV				*e*S	Sn	16 14 37.6	+0.6

NOU 05 16:26:34.3, 16°.99S×167°.44E, h0km, mb3.7/7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.02	136	P	Pg	16 26 54.3	+0.4
KOUNC	Koumac, New Ca	4.63	220	P	Pn	16 27 45.3	-0.3
DZM	Mont Dzumac	5.14	190	P	Pn	16 27 52.3	-0.4

GCG ***05*** *16:28:02.6±1.9, 14°.20N×92°.95W, h0km±234km, MD4.5, ML3.2, MW3.0*
MEX ***05*** *16:28:04.5±0.6, 14°.12N×93°.14W, h14km±74km, MD3.9*
ISC 05 16:28:03.3±2.1, 14°.25N±0°.09×93°.06W±0°.06, h12km±13km, n20, σ1°.33/22, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.01	49	*i* P	Pg	16 28 22.5	-0.3
THIG				*e*S	Sg	16 28 37.5	+1.5
SMCA	Catarina	1.13	57	*i* P	Pg	16 28 23.9	-1.1
SMCA	Catarina	1.13	57	*i* P		16 28 23.9	
PATR	El Naranjo	1.18	43	*e*P	Pg	16 28 24.9	-1.1
PATR				*e*S	Sg	16 28 40.7	-0.7
PAVE	Pavencul	1.27	42	*e*P	Pg	16 28 26.6	-1.2
PAVE				*e*S	Sg	16 28 44.0	-0.4
RTAL	Retalhuleu	1.35	78	*e*P	Pn	16 28 27.5	-0.4
RTAL				*e*S	Sg	16 28 45.4	-1.4
PCIG		1.46	354	*e*P	Pn	16 28 28.4	-1.0
PCIG				*e*S	Sn	16 28 41.3	-7.2
STG8	El Palmar, Qui	1.67	83	*e*P		16 28 28.9	
STG0	El Palmar, Qui	1.67	84	*e*P		16 28 29.1	
SOKI	Kika Raxquin	1.70	70	*e*P	Pn	16 28 33.2	+0.1
SOKI	Kika Raxquin	1.70	70	*e*P		16 28 33.2	
CARR	Arriaga	2.15	338	*e*P	Pn	16 28 38.0	-1.0
CARR				*e*S	Sn	16 29 04.1	-1.5
CCIG	Comitan	2.21	24	*e*P	Pn	16 28 41.7	+1.7
CCIG				*e*S	Sn	16 29 07.1	-0.2
CCIG	Comitan	2.21	24	*e*P	Pn	16 28 42.3	+2.4
CCIG				IAML		16 29 17.0	
	comp=Z,155nm,0.4s						
CCIG	Comitan	2.21	24	*e*P		16 28 42.3	
	comp=Z,155nm,0.4s						
CCIG				IAML		16 29 17.0	
	comp=Z,155nm,0.4s						
TGIG		2.52	359	*e*P	Pn	16 28 44.5	+0.4
TGIG				*e*S	Sn	16 29 14.3	-0.5
TGIG		2.52	359	*e*P	Pn	16 28 44.8	+0.7
TGIG				IAML		16 29 26.1	
	comp=Z,83nm,0.3s						
TGIG		2.52	359	*e*P		16 28 44.8	
TGIG				IAML		16 29 26.1	
	comp=Z,83nm,0.3s						
APG	El Apazote	2.62	73	*e*P	Pn	16 28 45.5	-0.1
APG	El Apazote	2.62	73	*e*P		16 28 45.5	
NILT	Santiago Nilte	2.75	327	*e*P	Pn	16 28 46.0	-1.2
NILT				*e*S	Sn	16 29 19.5	-0.9
NUBE	Las Nubes	3.20	96	*e*P	Pn	16 28 53.8	+0.3
NUBE	Las Nubes	3.20	96	*e*P		16 28 53.8	
UXUV	UXUV	3.23	341	*e*P	Pn	16 28 54.6	+0.9
UXUV				*e*S	Sn	16 29 31.2	-1.0
CMIG	Matias Romero	3.33	328	*e*P	Pn	16 28 55.0	-0.2
CMIG				*e*S	Sn	16 29 33.0	-1.7
PEIG	Puerto Escondi	4.32	294	*e*P	Pn	16 29 09.1	+0.3
PEIG				*e*S	Sn	16 29 50.7	-8.4
NEUV	Arroyo Zacate	4.34	323	*e*P	Pn	16 29 09.1	0.0
NEUV				*e*S	Sn	16 29 59.5	-0.2
YOIG	Yosondua	5.04	302	*e*P	Pn	16 29 22.1	+3.1

IDC ***05*** *16:31:24.2±1.0, 29°.93S×71°.93W, h0km, mb4.3/3, mbtmp4.0/8, ML3.7/4, Error ellipse: s-maj=27.9km s-min=23.2km az=68.0*
SJA ***05*** *16:31:26.9±0.6, 29°.95S×71°.63W, h7km±2km, ML4.0, MW3.6*
NEIC ***05*** *16:31:26.1±2.3, 29°.89S±0°.04×71°.84W±0°.09, h10km±1km, mb4.4/5, Error ellipse: s-maj=11.9km s-min=4.9km az=80.0*
GUC ***05*** *16:31:27.6±0.9, 29°.93S×71°.59W, h44km±2km, ML4.4*
ISC 05 16:31:25.1±1.3, 29°.91S±0°.02×71°.73W±0°.04, h2km±8km, n89, σ2°.00/117, mb4.4/4, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.77	174	Pg	Pb	16 31 42.1	+1.0
CO06				Sg	Sb	16 31 52.0	-0.1
CO06	Fray Jorge	0.77	174	⇑*i*P	Pb	16 31 42.1	+1.0
CO06				*i* S	Sb	16 31 52.1	0.0
CO06				IAML		16 31 54.7	
	comp=E,16μm,0.2s						
GO04	Tololo Observa	0.85	108	Pg	Pn	16 31 43.7	-0.6
GO04	Tololo Observa	0.85	108	⇑*i*P	Pn	16 31 43.4	-0.9
GO04				*i* S	Sn	16 31 54.8	-2.7
GO04				IAML		16 31 55.9	
	comp=N,60μm,0.3s						
GO04	Tololo Observa	0.85	108	*e*P	Pn	16 31 43.5	-0.8
LCO	Las Campanas	1.27	45	Pn	Pg	16 31 50.6	+1.2
LCO	Las Campanas	1.27	45	*e*P	Pg	16 31 50.0	+0.6
LCO				*i* S	Sb	16 32 07.0	+0.3
LCO				IAML		16 32 12.0	
	comp=N,39μm,0.4s						
LCO	Las Campanas	1.27	45	*e*P	Pb	16 31 50.7	+0.9
LCO				*e*S	Sn	16 32 08.9	+1.1
LCO				IAML		16 32 11.2	
	comp=Z,12μm,0.9s						
CO03	El Pedregal	1.29	136	Pn	Pb	16 31 50.1	0.0
CO03	El Pedregal	1.29	136	⇓*i*P	Pb	16 31 50.2	0.0
CO03				*i* S	Sn	16 32 06.5	-1.7
CO03				IAML		16 32 09.1	
	comp=E,5μm,0.3s						
CO03	El Pedregal	1.29	136	*e*P	Pb	16 31 50.2	0.0
CO03				*e*S	Sn	16 32 07.6	-0.6
CO03				IAML		16 32 09.8	
	comp=Z,2μm,0.3s						
CO01	Juntas del Tor	1.42	93	Pn	Pg	16 31 52.7	+0.3
CO01	Juntas del Tor	1.42	93	⇓*i*P	Pg	16 31 52.8	+0.3
CO01				*i* S	Sn	16 32 10.4	-1.2
CO01	Juntas del Tor	1.42	93	*e*P	Pg	16 31 52.8	+0.4
CO01				*e*S	Sn	16 32 11.5	-0.2
AC04	Llanos de Chal	1.79	19		Pn	16 31 57.2	+0.1
AC04	Llanos de Chal	1.79	19	⇑*i*P	Pn	16 31 57.5	+0.5
AC04	Llanos de Chal	1.79	19	*e*P	Pn	16 31 57.0	-0.1
AC04				*e*S	Sg	16 32 25.4	+2.8
AC04				IAML		16 32 29.9	
	comp=Z,1μm,0.8s						
AROD	Rodeo	1.98	98	*e*P	Pg	16 32 02.5	-0.4
AROD				*e*S	Sn	16 32 23.8	-1.6
ACDV	Cuesta del Vie	2.28	97	*e*P	Pb	16 32 07.6	+0.6
ACDV				IAML		16 32 47.4	
	comp=Z,403nm,0.4s						
ACCO	Cerro Coronel	2.41	107	*e*P	Pb	16 32 09.7	+0.4
ACCO				*e*S	Sg	16 32 42.5	+0.1
DOCA	Reserva Natura	2.51	115	*e*P	Pb	16 32 10.6	-0.6
DOCA				*e*S	Sg	16 32 42.9	-2.9
DOCA				IAML		16 32 55.4	
	comp=Z,493nm,0.7s						
VA06	Catapilco	2.67	172	Pn	Pn	16 32 09.7	+0.5
VA06	Catapilco	2.67	172	*e*P	Pn	16 32 09.7	+0.5
VA06				*i* S	Sn	16 32 40.3	-1.7
AC06	Mina Casimiro	2.82	26	Pn	Pn	16 32 11.9	+0.8
AC06	Mina Casimiro	2.82	26	⇑*i*P	Pn	16 32 12.1	+1.0
RTLS	Leoncito	2.82	133	*e*P	Pb	16 32 15.0	-1.3
RTLS				*e*S	Sb	16 32 48.6	-2.8
RTLS				IAML		16 32 57.8	
	comp=Z,2μm,0.5s						
AGUA	GUANDACOL	2.85	82	*e*P	Pb	16 32 16.1	-0.7
AGUA				*e*S	Sg	16 33 03.1	+6.4
AGUA				IAML		16 33 08.7	
	comp=Z,562nm,0.4s						
VA03	San Esteban	3.02	161	Pn	Pn	16 32 15.9	+1.8
VA03	San Esteban	3.02	161	*e*P	Pn	16 32 16.6	+2.6
VA03				*e*S	Sn	16 32 51.8	+0.9
VA03				IAML		16 33 06.9	
	comp=N,1μm,0.3s						
VA03	San Esteban	3.02	161	*e*P	Pn	16 32 16.3	+2.3
VA03				*e*S	Sb	16 32 56.4	-0.6
VA03				IAML		16 33 10.6	
	comp=Z,638nm,0.7s						
ROCH	El Roble	3.12	169	*e*P	Pn	16 32 16.3	+0.9
ROCH				*i* S	Sn	16 32 53.4	0.0
ROCH				IAML		16 33 11.3	
	comp=N,852nm,0.5s						
ROC1	El Roble	3.12	169	*e*S	Sn	16 32 54.4	+0.9
RTLL	Cerro Villicun	3.15	118	*e*P	Pb	16 32 19.5	-2.3
RTLL				*e*S	Sb	16 32 56.7	-3.9
SJA	San Juan	3.17	121	*e*P	Pb	16 32 21.6	-0.6
VCA	Vinchina	3.29	70	*e*P	Pb	16 32 22.9	-1.4
VCA				*e*S	Sb	16 33 00.8	-4.2
VCA				IAML		16 33 18.9	
	comp=Z,721nm,0.4s						
PEL	Peldehue	3.35	165		Pn	16 32 18.2	-0.3
MT02	Curacav	3.38	172	Pn	Pn	16 32 19.6	+0.7
MT02	Curacav	3.38	172	*e*P	Pn	16 32 19.8	+0.9
MT02				*e*S	Sb	16 33 06.3	-0.9
MT02				IAML		16 33 21.1	
	comp=Z,362nm,0.7s						
CFA	Coronel Fontan	3.45	120	Pn	Pn	16 32 22.8	+2.8
	comp=Z,8.0nm,0.3s,baz=296,slow=9.5,SNR=178						
CFA				Sn	Sn	16 33 03.8	+2.4
	comp=Z,19nm,0.3s,baz=268,slow=23,SNR=5.1						
	comp=Z,29nm,0.4s						
MT05	Renca	3.58	167	Pn	Pn	16 32 22.6	+1.0
MT05	Renca	3.58	167	*e*P	Pn	16 32 25.2	+3.5
MT05				*e*S	Sb	16 33 10.8	-2.1
MT05				IAML		16 33 35.8	
	comp=Z,281nm,0.7s						
ASAL	Salagasta	3.65	138	*e*P	Pn	16 32 22.2	-0.5
ASAL				*e*S	Sb	16 33 17.2	+2.1
MT16	CCHEN	3.66	164	Pn	Pn	16 32 25.2	+2.4
MT03	Universidad Ad	3.72	164	Pn	Pn	16 32 25.3	+1.6
MT03	Universidad Ad	3.72	164	*e*P	Pn	16 32 27.1	+3.3
MT03				*e*S	Sn	16 33 09.8	+1.6
MT03				IAML		16 33 33.1	
	comp=Z,341nm,0.6s						
MT04	Ro Olivares	3.74	159	*e*P	Pn	16 32 27.5	+3.4
MT04				*e*S	Sn	16 33 11.8	+3.0
MT04				IAML		16 33 24.2	
	comp=Z,192nm,0.9s						
AVFE	Valle Fertil	3.77	103	*e*P	Pn	16 32 26.9	+2.5
AVFE				*e*S	Sb	16 33 16.2	-2.5
AVFE				IAML		16 33 30.0	
	comp=Z,231nm,0.5s						
ARCO	CERRO ARCO	3.78	141	*e*P	Pb	16 32 29.5

comp=Z,0.1nm,0.3s,baz=339,slow=13,SNR=4.9
comp=Z,1.8nm,1.1s
CPUP Villa Florida 13.20 78 Pn **Pn 16 34 36.3 +2.7**
comp=Z,1.5nm,0.3s,baz=252,slow=3.2,SNR=0.8
CPUP Sn **Sn 16 37 06.8 +5.8**
comp=Z,0.2nm,0.3s,baz=266,slow=16,SNR=1.8
LPAZ La Paz 13.96 14 Pn **Pn 16 34 45.6 +1.1**
LPAZ La Paz 13.96 14 Pn **Pn 16 34 44.4 -0.1**
comp=Z,0.2nm,0.3s,baz=195,slow=8.9,SNR=7.3
comp=Z,2.0nm,0.7s
PLTB Pedras Altas 15.68 101 Pn **Pn 16 35 07.1 -0.2**
PLTB IAmb IAmb 16 35 48.3
comp=Z,33nm,1.5s
SIV San Ignacio 16.96 38 P **Pn 16 35 24.3 +0.7**
baz=229,slow=11,SNR=6.2
comp=Z,1.1nm,0.5s
BDFB Brasilia 26.00 62 P **P 16 36 58.7 -1.0**
BDFB IAmb IAmb 16 37 35.2
comp=Z,11nm,1.5s
RCBR Riachuelo 41.38 62 P **P 16 39 11.9 -1.0**
SNAA Sanae 55.28 159 P **P 16 40 59.1 -0.5**
SNAA IAmb IAmb 16 41 07.0
comp=Z,7.0nm,1.3s
SNAA Sanae 55.28 159 P **P 16 40 59.3 -0.3**
comp=Z,1.8nm,0.5s,baz=280,slow=9.6,SNR=11
comp=Z,1.8nm,0.5s
NVAR Mina Array Bea 80.69 325 P **P 16 43 40.3 +0.4**
comp=Z,0.5nm,0.6s,baz=141,slow=5.8,SNR=2.0
comp=Z,0.5nm,0.6s
TORD Torodi Ar. Bea 82.58 70 P **P 16 43 49.1 -1.0**
TORD Torodi Ar. Bea 82.58 70 P **P 16 43 49.2 -1.0**
comp=Z,5.9nm,0.4s,baz=227,slow=3.6,SNR=1.6
comp=Z,5.9nm,0.4s
ASAR Alice Springs 121.31 208 PKP **PKPdf 16 50 18.3 -2.2**
comp=Z,0.2nm,0.7s,baz=122,slow=2.0,SNR=1.6
WRA Warramunga Arr 124.44 210 PKP **PKPdf 16 50 25.1 -1.5**
comp=Z,0.2nm,0.5s,baz=154,slow=1.8,SNR=4.8
H11S2 WAKE ISLAND Hyl 25.99 272 T T 19 09 13.8
baz=115,slow=75,SNR=63
H11S1 WAKE ISLAND Hyl 26.00 272 T T 19 09 19.6
baz=115,slow=75,SNR=82
H11S3 WAKE ISLAND Hyl 26.01 272 T T 19 09 19.9
baz=115,slow=75,SNR=58
BVAR Borovoye Array 144.03 39 PKP **PKPab 16 51 00.2 +0.9**
comp=Z,0.2nm,0.4s,baz=318,slow=1.9,SNR=2.2
ZALV Zalesovo Beam 150.57 29 PKPbc **PKPbc 16 51 17.5 -0.6**
ZALV Zalesovo Beam 150.57 29 PKPbc **PKPbc 16 51 17.9 -0.2**
comp=Z,2.8nm,0.8s,baz=298,slow=3.8,SNR=10

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*IPEC **05** 16:55:57.7±0.2,51°.59N×16°.16E,h1km,ML3.3/5,Error ellipse: s-maj=1.7km s-min=1.3km az=62.0*
*NEIC **05** 16:55:57.4±1.5,51°.63N±0°.07×16°.14E±0°.08,h5km±1km, mb4.1/3,Error ellipse: s-maj=11.8km s-min=8.6km az=165.0*
*DNK **05** 16:55:57.6±1.7,51°.57N×16°.30E,h21km±51km,ML2.9*
*IDC **05** 16:55:58.3±0.7,51°.55N×15°.92E,h0km,mb3.5/2, mbtmp3.6/8,ML3.2/6,Error ellipse: s-maj=11.1km s-min=7.0km az=113.0*
*BGR **05** 16:55:58.8±0.4,51°.54N×16°.10E,h1km,ML3.4/13,Error ellipse: s-maj=4.4km s-min=2.2km az=21.0*
*VIE **05** 16:56:00.4±0.5,51°.41N×15°.81E,h0km,mb2.9/19, ml3.1/17,ms3.9/1,Error ellipse: s-maj=5.4km s-min=2.1km az=31.0,Suspected Mining induced.*
*PRU **05** 16:56:00.7,51°.48N×16°.07E,h0km,M4.1*
ISC 05 16:55:56.4±0.5,51°.64N±0°.02×16°.14E±0°.02,h0km,n120, σ1§10/189,mb4.0/5,7C-8D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**173**	*e*Pg	**Pg**	**16 56 12.5**	**+0.7**
KSP				*e*Sg	**Sg**	**16 56 22.8**	**+0.6**
KSP	**Ksiaz**	**0.81**	**173**	*e*Pg	**Pg**	**16 56 12.5**	**+0.7**
KSP				*e*Sg	**Sg**	**16 56 22.6**	**+0.4**
CHVC	**Chvalec**	**1.06**	**183**	*e*PG	**Pg**	**16 56 17.3**	**+0.7**
CHVC				*e*SG	**Sg**	**16 56 30.0**	**-0.3**
OSTC	**Ostas**	**1.09**	**177**	*e*PG	**Pg**	**16 56 17.8**	**+0.6**
OSTC				*e*SG	**Sg**	**16 56 30.7**	**-0.6**
	comp=Z,229nm,0.4s						
UPC	**Upice**	**1.14**	**184**	*e*PG	**Pg**	**16 56 18.6**	**+0.4**
UPC				*e*SG	**Sg**	**16 56 32.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.30**	**175**	*e*PG	**Pg**	**16 56 21.2**	**0.0**
DPC				*e*SG	**Sg**	**16 56 37.0**	**-1.1**
	comp=Z,377nm,0.7s						
DPC	**Dobruska-Polom**	**1.30**	**175**	*e*Pg	**Pg**	**16 56 21.3**	**+0.1**
DPC				*e*Sg	**Sg**	**16 56 37.6**	**-0.5**
PIVO	**Bartosovice**	**1.48**	**170**	*e*Pg	**Pn**	**16 56 24.3**	**0.0**
	baz=350						
PIVO				*e*Sg	**Sg**	**16 56 42.5**	**-1.4**
	353nm,0.4s,baz=350						
PVCC	**Panska Ves**	**1.49**	**222**	*e*PG	**Pb**	**16 56 25.2**	**+0.3**
PVCC				*e*SG	**Sb**	**16 56 44.4**	**0.0**
	comp=Z,639nm,0.2s						
BRG	**Berggiesshubel**	**1.58**	**242**	Pn	**Pn**	**16 56 25.3**	**-0.3**
BRG				Pg	**Pg**	**16 56 27.1**	**+0.5**
BRG				Sg	**Sg**	**16 56 47.1**	**0.0**
BRG				Amp		16 56 48.0	
	comp=Z,501nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**242**	*e*Pg	**Pg**	**16 56 27.0**	**+0.4**
BRG				*e*Sg	**Sg**	**16 56 47.4**	**+0.3**
KRLC	**Kraliky**	**1.62**	**165**	*e*PG	**Pn**	**16 56 26.5**	**+0.2**
KRLC				*e*SG	**Sn**	**16 56 47.6**	**-0.2**
	comp=Z,197nm,0.6s						
FBE	**Freiberg**	**1.89**	**249**	*e*Pg	**Pg**	**16 56 32.9**	**+0.3**
FBE				*e*Sg	**Sg**	**16 56 56.7**	**-0.4**
PRA	**Prague**	**1.91**	**215**	*e*PN	**Pn**	**16 56 30.2**	**+0.1**
PRA				*e*PG	**Pg**	**16 56 32.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.93**	**207**	*e*PG	**Pb**	**16 56 32.4**	**-0.1**
PRU	**Pruhonice**	**1.94**	**212**	*e*PG	**Pb**	**16 56 32.6**	**0.0**
PRU				*e*SG	**Sn**	**16 56 56.4**	**+0.7**
	comp=Z,178nm,0.7s						
CLL	**Collm**	**1.99**	**262**	Pn	**Pn**	**16 56 30.9**	**-0.4**
CLL	**Collm**	**1.99**	**262**	*e*Pn	**Pn**	**16 56 31.3**	**0.0**
CLL				*e*Pg	**Pg**	**16 56 35.2**	**+0.7**
CLL				*e*Sg	**Sg**	**16 57 00.6**	**+0.4**
CLL	**Collm**	**1.99**	**262**	*i* Pn	**Pn**	**16 56 31.2**	**0.0**
	comp=Z,46nm,0.5s						
CLL				*i* Pg	**Pg**	**16 56 35.0**	**+0.5**
CLL				*i* x	x	16 56 38.3	
CLL				*i* Sg	**Sg**	**16 57 01.7**	**+1.5**
	comp=Z,99nm,0.6s						
HSKC	**Hora Svate Kat**	**2.00**	**240**	*e*SG	**Sb**	**16 56 59.2**	**+0.3**
	comp=Z,285nm,0.5s						
STEB	**Steborice**	**2.00**	**148**	*e*PN	**Pn**	**16 56 31.5**	**+0.1**
STEB				*e*PG	**Pb**	**16 56 34.4**	**+0.8**
STEB				*e*SG	**Sb**	**16 56 59.3**	**+0.3**
MORC	**Moravsky Berou**	**2.07**	**154**		**Pn**	**16 56 32.2**	**-0.2**
MORC	**Moravsky Berou**	**2.07**	**154**	*e*Pn	**Pn**	**16 56 32.6**	**+0.2**
	baz=335						
MORC				*e*Sg	**Sb**	**16 57 01.2**	**+0.1**
	comp=Z,161nm,0.7s,baz=335						
MORC	**Moravsky Berou**	**2.07**	**154**	⇓P	**Pn**	**16 56 32.6**	**+0.2**
MORC				⇓S	**Sg**	**16 57 02.5**	**-0.3**
MORC	**Moravsky Berou**	**2.07**	**154**	*e*Pn	**Pn**	**16 56 32.6**	**+0.2**
MORC				*e*Sg	**Sg**	**16 57 02.4**	**-0.5**
OKC	**Ostrava-Krasne**	**2.21**	**144**	*e*PN	**Pn**	**16 56 33.4**	**-0.9**
OKC				*e*PG	**Pg**	**16 56 38.6**	**-0.2**
OKC				*e*SG	**Sb**	**16 57 05.8**	**+0.7**
	comp=Z,148nm,0.5s						
OKC	**Ostrava-Krasne**	**2.21**	**144**	*e*Pn	**Pn**	**16 56 34.1**	**-0.3**
OKC				*e*Pg	**Pg**	**16 56 38.9**	**+0.1**
OKC				*e*Sg	**Sb**	**16 57 06.0**	**+0.9**
VRAC	**Vranov**	**2.35**	**173**	Pn	**Pn**	**16 56 37.2**	**+0.9**
	comp=Z,11nm,0.3s,baz=345,slow=13,SNR=44						
VRAC				Lg	Lg	16 57 09.8	
	comp=Z,7.7nm,0.3s,baz=235,slow=16,SNR=3.8						
	comp=Z,31nm,0.4s						
VRAC	**Vranov**	**2.35**	**173**	*e*Pn	**Pn**	**16 56 36.6**	**+0.3**
	baz=353						
VRAC				*e*Sg	**Sb**	**16 57 09.8**	**+0.5**
	comp=Z,117nm,0.7s,baz=353						
VRAC	**Vranov**	**2.35**	**173**	⇑P	**Pn**	**16 56 37.6**	**+1.3**
VRAC				⇑S	**Sb**	**16 57 09.2**	**0.0**
ZVC	**Zvikov**	**2.53**	**210**	*e*SG	**Sb**	**16 57 15.9**	**+1.6**
KRUC	**Moravsky**	**2.59**	**176**	*e*Pn	**Pn**	**16 56 40.1**	**+0.6**
	baz=357						
KRUC	**Moravsky**	**2.59**	**176**	*e*Pg	**Pb**	**16 56 43.7**	**+0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**16 57 16.9**	**+0.9**
	comp=Z,128nm,0.9s,baz=357						
TANN	**Tannenbergstha**	**2.63**	**244**	*e*Pn	**Pn**	**16 56 40.5**	**+0.4**
TANN				*e*Pg	**Pg**	**16 56 47.7**	**+1.0**
TANN				*e*Sg	**Sg**	**16 57 19.4**	**-1.3**
WERD	**Werda**	**2.70**	**245**	*e*Pn	**Pn**	**16 56 41.3**	**+0.3**
WERD				*e*Pg	**Pg**	**16 56 48.5**	**+0.4**
WERD				*e*Sg	**Sg**	**16 57 22.1**	**-0.9**
OJC	**Ojcow**	**2.72**	**120**	*e*Pn	**Pn**	**16 56 40.4**	**-0.9**
OJC				*e*Pg	**Pg**	**16 56 48.5**	**0.0**
OJC				*e*Sg	**Sg**	**16 57 25.2**	**+1.5**
OJC	**Ojcow**	**2.72**	**120**	Pn	**Pn**	**16 56 40.4**	**-0.9**
OJC	**Ojcow**	**2.72**	**120**	*e*Pg	**Pg**	**16 56 49.1**	**+0.7**
NKC	**Novy Kostel**	**2.73**	**240**	*e*PN	**Pn**	**16 56 42.1**	**+0.7**
NKC				*e*PG	**Pg**	**16 56 48.4**	**-0.2**
NKC				*e*SG	**Sg**	**16 57 23.0**	**-1.0**
JAVC	**Velka Javorina**	**2.95**	**160**	*e*Pn	**Pn**	**16 56 45.2**	**+0.6**
	baz=341						
KHC	**Kasperske Hory**	**3.00**	**214**	*e*PN	**Pn**	**16 56 45.2**	**0.0**
KHC				*e*PG	**Pb**	**16 56 51.8**	**+1.1**
KHC				*e*SG	**Sb**	**16 57 29.7**	**+1.8**
	comp=Z,53nm,0.4s						
MOX	**Moxa**	**3.02**	**252**	*e*Pn	**Pn**	**16 56 45.6**	**+0.1**
MOX				*e*Pg	**Pg**	**16 56 54.5**	**+0.3**
MOX				*e*Sg	**Sg**	**16 57 34.3**	**+1.0**
GEC2	**GERESS Array S**	**3.21**	**210**		**Pn**	**16 56 48.0**	**-0.1**
GEC2	**GERESS Array S**	**3.21**	**210**	*e*Pn	**Pn**	**16 56 48.9**	**+0.8**
GEC2				*e*Sg	**Sb**	**16 57 36.2**	**+2.3**
GERES	**GERESS Array B**	**3.21**	**210**		**Pn**	**16 56 47.9**	**-0.2**
GERES	**GERESS Array B**	**3.21**	**210**	Pn	**Pn**	**16 56 48.9**	**+0.8**
	comp=Z,4.5nm,0.3s,baz=34,slow=13,SNR=57						
GERES				Sn	**Sn**	**16 57 25.0**	**-2.1**
	comp=Z,6.6nm,0.3s,baz=33,slow=27,SNR=5.2						
GERES				Lg	Lg	16 57 34.2	
	comp=Z,20nm,0.3s,baz=33,slow=27,SNR=12						
	comp=Z,9.5nm,0.3s						
LANS	**Liptovska Anna**	**3.28**	**138**	*e*PG	**Pg**	**16 56 58.0**	**-1.2**
LANS				*e*SG	**Sg**	**16 57 40.5**	**-1.2**
MODS	**Modra-Piesok**	**3.35**	**167**	*e*PG	**Pg**	**16 57 01.0**	**+0.4**
MODS				*e*SG	**Sg**	**16 57 42.8**	**-1.3**
NIE	**Niedzica**	**3.46**	**128**	*e*Pg	**Pg**	**16 57 03.4**	**+0.6**
NIE				*e*Sg	**Sg**	**16 57 47.6**	**-0.1**
BSD	**Bornholm Skovb**	**3.56**	**349**	*e*P	**Pn**	**16 56 53.5**	**+0.8**
BSD				*e*S	**Sn**	**16 57 32.9**	**-2.5**
BSD				IAML		16 57 53.8	
	comp=Z,53nm,0.4s						
CLZ	**Clausthal**	**3.59**	**275**	*e*Pn	**Pn**	**16 56 54.8**	**+1.5**
CLZ				*e*Sg	**Sg**	**16 57 53.1**	**+1.5**
VYHS	**Vyhne**	**3.60**	**150**	*e*PG	**Pg**	**16 57 06.8**	**+1.5**
VYHS				*e*SG	**Sg**	**16 57 54.0**	**+2.1**
GRA1	**Grafenberg Arr**	**3.69**	**240**		**Pn**	**16 56 55.1**	**+0.5**
GRF	**Grafenberg Arr**	**3.69**	**240**	*e*Pn	**Pn**	**16 56 55.4**	**+0.8**
GRF				*e*Sg	**Sg**	**16 57 53.4**	**-1.4**
GRFO	**Grafenberg**	**3.69**	**240**		**Pn**	**16 56 55.0**	**+0.4**
CONA	**Conrad Observa**	**3.72**	**183**	*i* Pn	**Pn**	**16 56 55.9**	**+0.7**
	comp=Z,4.4nm,0.3s,SNR=22						
CONA				Pg	**Pg**	**16 57 07.0**	**-0.7**
	comp=Z,17nm,0.4s						
RONA	**Rosalia, Austr**	**3.95**	**178**	*e*Pn	**Pn**	**16 56 58.4**	**+0.1**
	comp=Z,1.2nm,0.2s						
RONA				Pg	**Pg**	**16 57 10.6**	**-1.4**
	comp=Z,11nm,0.7s						
RONA				Sg	**Sg**	**16 58 02.7**	**-0.5**
	comp=Z,44nm,0.7s						
MOA	**Molln**	**3.98**	**198**	*e*Pn	**Pn**	**16 56 59.3**	**+0.6**
	comp=Z,16nm,0.4s,SNR=10						
MOA				Sg	**Sg**	**16 58 03.5**	**-0.8**
	comp=Z,35nm,0.4s						
SRO	**Srobarova**	**4.08**	**159**	*e*PG	**Pg**	**16 57 12.5**	**-2.1**
SRO				*e*SG	**Sg**	**16 58 04.1**	**-3.4**
KECS	**Kecovo**	**4.22**	**137**	*e*PG	**Pg**	**16 57 18.7**	**+1.4**
BIOA	**Bad Ischl, Aus**	**4.27**	**203**	*e*Pn	**Pn**	**16 57 01.7**	**-1.0**
	comp=Z,14nm,0.3s,SNR=8.3						
LUNU	**Lund**	**4.31**	**339**	*e*P	**Pn**	**16 57 03.7**	**+0.6**
LUNU				*e*S	**Sn**	**16 57 54.1**	**+0.1**
ARSA	**Arzberg**	**4.41**	**185**	*i* Pn	**Pn**	**16 57 06.2**	**+1.6**
	comp=Z,5.2nm,0.3s,SNR=14						
ARSA				*e*Pg	**Pg**	**16 57 19.2**	**-1.7**
	comp=Z,11nm,0.4s						
ARSA				Sg	**Sg**	**16 58 19.1**	**+1.0**
	comp=Z,33nm,0.5s						
ARSA	**Arzberg**	**4.41**	**185**	Pn	**Pn**	**16 57 05.0**	**+0.3**
PSZ	**Piszkesteto**	**4.45**	**145**		**Pn**	**16 57 05.7**	**+0.5**
PSZ	**Piszkesteto**	**4.45**	**145**	⇑P	**Pn**	**16 57 06.7**	**+1.6**
BLEU	**Blekinge**	**4.68**	**358**	*e*P	**Pn**	**16 57 09.3**	**+1.2**
KOLS	**Kolonicke sedl**	**4.78**	**122**	*e*PG	**Pg**	**16 57 28.4**	**+0.5**
KOLS				*e*SG	**Sg**	**16 58 31.1**	**+1.4**
LESA	**Schwarzleotal**	**4.79**	**209**	*e*Pn	**Pn**	**16 57 09.9**	**+0.2**
	comp=Z,1.4nm,0.3s						
LESA				Sg	**Sg**	**16 58 28.6**	**-1.4**
	comp=Z,10.0nm,0.4s						
BJUU	**Bjuv**	**4.81**	**339**	*e*P	**Pn**	**16 57 10.2**	**+0.2**
BJUU				*e*S	**Sn**	**16 58 04.0**	**-2.3**
KBA	**Koelnbreinsper**	**4.92**	**203**	*e*Pn	**Pn**	**16 57 12.5**	**+0.8**
	comp=Z,9.0nm,0.4s,SNR=4.4						
DEL	**Delary**	**5.02**	**345**	*e*P	**Pn**	**16 57 13.3**	**+0.4**
DEL				*e*S	**Sn**	**16 58 09.2**	**-2.3**
SOKA	**Soboth**	**5.02**	**189**	*e*Pn	**Pn**	**16 57 13.9**	**+0.8**
	comp=Z,4.2nm,0.5s						
WATA	**Walderalm**	**5.24**	**216**	Pn	**Pn**	**16 57 15.7**	**-0.4**
	comp=Z,2.7nm,0.3s,SNR=5.4						
OBKA	**Obir**	**5.24**	**192**	*e*Pn	**Pn**	**16 57 16.7**	**+0.6**
	comp=Z,0.6nm,0.3s						
OBKA				Pg	**Pg**	**16 57 35.4**	**-1.4**
	comp=Z,7.8nm,0.7s						
WTTA	**Wattenberg**	**5.27**	**216**	*e*Pn	**Pn**	**16 57 17.4**	**+0.8**
	comp=Z,2.5nm,0.3s,SNR=5.0						
MYKA	**Terra Mystica**	**5.28**	**199**	*e*Pn	**Pn**	**16 57 17.2**	**+0.7**
	comp=Z,1.7nm,0.3s						
MOTA	**Moosalm**	**5.41**	**219**	*e*Pn	**Pn**	**16 57 18.1**	**-0.3**
	comp=Z,1.1nm,0.4s						
RETA	**Reutte**	**5.43**	**222**	*e*Pn	**Pn**	**16 57 18.3**	**-0.4**
	comp=Z,1.9nm,0.4s						
ABTA	**Abfaltersbach**	**5.44**	**207**	*e*Pn	**Pn**	**16 57 18.5**	**-0.3**
	comp=Z,1.0nm,0.4s						
SQTA	**Sankt Quirin**	**5.47**	**218**	*e*Pn	**Pn**	**16 57 17.7**	**-1.5**
	comp=Z,0.7nm,0.2s						
MORH	**Mrgy, Hungar**	**5.68**	**162**	⇑P	**Pn**	**16 57 22.7**	**+0.8**
CEI	**Carei**	**5.70**	**132**	⇑P	**Pn**	**16 57 24.2**	**+2.0**
FABU	**Falkenberg**	**5.73**	**341**	*e*P	**Pn**	**16 57 23.0**	**+0.4**
FABU				*e*S	**Sn**	**16 58 25.3**	**-3.7**
FETA	**Feichten**	**5.82**	**219**	*e*Pn	**Pn**	**16 57 24.0**	**0.0**
	comp=Z,0.9nm,0.3s						
DAVA	**Damuels**	**5.97**	**226**	*e*Pn	**Pn**	**16 57 24.4**	**-1.6**
	comp=Z,1.4nm,0.3s						
BFO	**Black Forest**	**6.03**	**240**	Pn	**Pn**	**16 57 25.7**	**-1.1**
PABE	**Paberze**	**6.06**	**47**	Pn	**Pn**	**16 57 28.2**	**+1.1**
CTI	**Castel Tesino**	**6.33**	**210**	Pn	**Pn**	**16 57 31.6**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**6.33**	**220**		**Pn**	**16 57 31.9**	**+0.7**
DAVOS	**Davos/Dischmat**	**6.36**	**223**	Pn	**Pn**	**16 57 31.7**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=32,slow=14,SNR=4.1						
DAVOX				Lg	Lg	16 59 14.3	
	comp=Z,1.2nm,0.3s,baz=3.1,slow=23,SNR=4.4						
	comp=Z,1.5nm,0.3s						
BTNL	**Ternell**	**6.39**	**264**	*d*P	**Pn**	**16 57 33.0**	**+1.3**
MEM	**Membach**	**6.46**	**265**	*d*P	**Pn**	**16 57 33.6**	**+1.0**
SIRR	**Siria**	**6.49**	**144**	⇓P	**Pn**	**16 57 33.9**	**+0.7**
BCLA	**Clavier**	**6.94**	**264**	*d*P	**Pn**	**16 57 40.2**	**+0.9**
BZS	**Buzias**	**7.04**	**147**	⇓P	**Pn**	**16 57 42.2**	**+1.6**
BUR08	**Bucovina Ar. S**	**7.11**	**121**	Pn	**Pn**	**16 57 42.4**	**+0.7**
BURAR	**Bucovina Array**	**7.14**	**121**	Pn	**Pn**	**16 57 42.9**	**+0.8**
BURAR	**Bucovina Array**	**7.14**	**121**	⇑P	**Pn**	**16 57 43.1**	**+0.9**
NACGM	**Naroch**	**7.17**	**59**	*e*P	**Pn**	**16 57 43.2**	**+0.8**
	baz=248						
BMRD	**Maredsous**	**7.30**	**264**	*d*P	**Pn**	**16 57 45.8**	**+1.5**
GZR	**Gura Zlata**	**7.65**	**142**	⇑P	**Pn**	**16 57 51.2**	**+2.2**
KIEV	**Kiev**	**8.27**	**91**	Pn	**Pn**	**16 57 57.4**	**-0.2**
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**16 57 57.6**	**0.0**
	comp=Z,1.6nm,0.3s,baz=281,slow=12,SNR=17						
AKASG				Sn	**Sn**	**16 59 30.2**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=269,slow=24,SNR=5.1						
AKASG				Lg	Lg	17 00 24.1	
	comp=Z,0.2nm,0.3s,baz=82,slow=24,SNR=1.3						
	comp=Z,2.4nm,0.6s						
AKBB	**Malin Array Si**	**8.28**	**91**	Pn	**Pn**	**16 57 57.4**	**-0.3**
MSSA	**Maissana**	**8.57**	**214**	Pn	**Pn**	**16 58 02.9**	**+1.3**
HFS	**Hagfors**	**8.62**	**352**	Pn	**Pn**	**16 58 01.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=5.4						
HFS				Lg	Lg	17 00 33.0	
	comp=Z,0.3nm,0.3s,baz=177,slow=33,SNR=1.3						
	comp=Z,3.7nm,1.0s						
FDMO	**Fiordimonte**	**8.85**	**195**	Pn	**Pn**	**16 58 04.8**	**-0.7**
NRCA	**Norcia**	**9.05**	**194**	Pn	**Pn**	**16 58 07.8**	**-0.5**
NB201	**NORSAR Array S**	**9.80**	**346**	Pn	**Pn**	**16 58 18.7**	**+0.2**
NC405	**NORSAR Array S**	**9.80**	**347**	Pn	**Pn**	**16 58 18.6**	**+0.2**
FINES	**FINESS Array B**	**11.24**	**25**	Pn	**Pn**	**16 58 38.3**	**+0.3**
FINES	**FINESS Array B**	**11.24**	**25**	Pn	**Pn**	**16 58 37.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=7.3						
FINES				Sn	**Sn**	**17 00 40.0**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=217,slow=22,SNR=7.9						
	comp=Z,1.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**12.06**	**295**	Pn	**Pn**	**16 58 46.1**	**-3.3**
	baz=105,slow=14						
ARCES	**ARCESS Array B**	**18.49**	**10**	P	**P**	**17 00 11.0**	**-2.7**
	comp=Z,1.8nm,0.7s,baz=193,slow=12,SNR=7.7						
GAR	**Garm**	**39.25**	**87**	P	**P**	**17 03 26.6**	**0.0**
GAR				IAmb	IAmb	17 04 06.9	
	comp=Z,5.6nm,1.3s						
SONM	**Songino Array**	**54.83**	**56**	P	**P**	**17 05 30.6**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=284,slow=5.8,SNR=2.7						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**59.74**	**336**	P	**P**	**17 06 04.0**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=31,slow=6.1,SNR=6.9						
	comp=Z,0.4nm,0.7s						
I28M	**Miner Creek**	**61.80**	**349**	P	**P**	**17 06 18.1**	**+1.6**
I28M				IAmb	IAmb	17 06 39.2	
	comp=Z,1.4nm,1.1s						
ULM	**Lac du Bonnet**	**63.27**	**318**	P	**P**	**17 06 27.5**	**+1.0**
ULM				IAmb	IAmb	17 07 08.2	
	comp=Z,4.8nm,1.4s						

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*SJA **05** 17:05:18.8±0.5,21°.22S×68°.91W,h122km±3km,ML3.6, MW3.6*
*GUC **05** 17:05:21.2±0.8,21°.26S×68°.94W,h113km±4km,ML3.6*
*IDC **05** 17:05:42.9±6.5,19°.09S×67°.79W,h249km±41km,mb3.0/2, mbtmp3.7/5,Error ellipse: s-maj=104.3km s-min=18.9km az=24.0*
ISC 05 17:05:19.6±0.8,21°.25S±0°.04×68°.92W±0°.06,h121km±7km, n29,σ1§43/42,4C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.57**	**291**	⇑*i*P	**Pn**	**17 05 38.2**	**0.0**
PB01				*e*S	**Sn**	**17 05 51.8**	**-0.4**
PB01	**IPOC Station P**	**0.57**	**291**	*e*P	**Pn**	**17 05 38.1**	**-0.1**
PB01				*e*S	**Sn**	**17 05 52.2**	**0.0**
PB01				IAML		17 05 52.7	
	comp=Z,3μm,0.2s						
PB09	**IPOC Station P**	**0.62**	**209**	*e*P	**Pn**	**17 05 39.0**	**+0.3**
PB09				*e*S	**Sn**	**17 05 53.2**	**0.0**
PB09	**IPOC Station P**	**0.62**	**209**	*e*P	**Pn**	**17 05 38.7**	**0.0**
PB09				*e*S	**Sn**	**17 05 53.7**	**+0.6**
PB09				IAML		17 05 54.0	
	comp=Z,2μm,0.6s						
TA01	**Diego Aracena**	**1.36**	**300**	⇑*i*P	**Pn**	**17 05 45.6**	**+0.1**
TA01				*e*S	**Sn**	**17 06 05.0**	**-0.2**
TA01				IAML		17 06 06.5	
	comp=N,904nm,0.4s						
TA01	**Diego Aracena**	**1.36**	**300**	*e*P	**Pn**	**17 05 45.6**	**+0.1**
TA01				IAML		17 06 06.9	
	comp=Z,376nm,0.6s						
TA02	**Huaiquique**	**1.50**	**310**	*e*P	**Pn**	**17 05 47.1**	**0.0**
TA02	**Huaiquique**	**1.50**	**310**	*e*P	**Pn**	**17 05 47.0**	**0.0**
TA02				IAML		17 06 10.3	
	comp=Z,632nm,0.1s						
PB06	**IPOC Station P**	**1.57**	**203**	⇑*i*P	**Pn**	**17 05 48.6**	**+0.5**
PB06				*e*S	**Sn**	**17 06 10.0**	**+0.1**
PB06				IAML		17 06 11.3	
	comp=E,707nm,0.6s						
PB06	**IPOC Station P**	**1.57**	**203**	*e*P	**Pn**	**17 05 48.5**	**+0.4**
PB06				*e*S	**Sn**	**17 06 10.9**	**+1.0**
PB06				IAML		17 06 13.9	
	comp=Z,416nm,0.5s						
PB11	**IPOC Station P**	**1.63**	**335**	⇑*i*P	**Pn**	**17 05 49.0**	**+0.1**
PB11				*e*S	**Sn**	**17 06 11.0**	**-0.1**
PB11				IAML		17 06 12.4	
	comp=N,1μm,0.4s						
PB11	**IPOC Station P**	**1.63**	**335**	*e*P	**Pn**	**17 05 48.8**	**-0.1**
PB11				*e*S	**Sn**	**17 06 10.7**	**-0.4**
PB11				IAML		17 06 14.5	
	comp=Z,491nm,0.5s						
AF01	**San Pedro de A**	**1.83**	**158**	*e*P	Pn	17 06 03.8	+12
AF01				*e*S	**Sn**	**17 06

mb4.3/46,Md4.3/44(MEX),Error ellipse: s-maj=11.7km s-min=5.6km az=201.0

ISC 05 17:23:36.4±2.1,14°24N±0°05×93°08W±0°03,h3km±13km, n116,σ1°78/148,mb4.2/20,MS3.2/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**50**		**Pb**	**17 23 57.0**	**0.0**
THIG					**Sg**	**17 24 09.5**	**-0.3**
THIG		**1.03**	**50**	*eP*	**Pb**	**17 23 57.0**	**0.0**
THIG				*eS*	**Sg**	**17 24 09.5**	**-0.3**
THIG		**1.03**	**50**	*eP*	**Pb**	**17 23 57.0**	**0.0**
THIG		**1.03**	**50**	*eP*		17 23 57.0	
SMCA	**Catarina**	**1.15**	**58**	*eP*		17 23 59.0	
SMCA	**Catarina**	**1.16**	**58**	*eP*	**Pb**	**17 23 59.0**	**0.0**
PATR	**El Naranjo**	**1.20**	**43**	*eP*	**Pb**	**17 23 59.3**	**-0.7**
PATR				*i* S	**Sb**	**17 24 14.8**	**-1.2**
PAVE	**Pavencul**	**1.29**	**43**	*eP*	**Pb**	**17 24 00.7**	**-0.8**
PAVE				*eS*	**Sg**	**17 24 17.9**	**-0.2**
RTAL	**Retalhuleu**	**1.38**	**78**		**Pn**	**17 24 01.6**	**-1.0**
RTAL				Sn	**Sb**	**17 24 18.0**	**-2.8**
RTAL	**Retalhuleu**	**1.38**	**78**	*eP*	**Pn**	**17 24 01.9**	**-0.6**
RTAL				*eS*	**Sb**	**17 24 18.8**	**-2.0**
PCIG		**1.47**	**355**		**Pn**	**17 24 03.0**	**-0.8**
PCIG					**Sn**	**17 24 18.8**	**-4.7**
PCIG		**1.47**	**355**	*eP*	**Pn**	**17 24 03.0**	**-0.8**
PCIG				*i* S	**Sn**	**17 24 18.8**	**-4.7**
QUEO	**Labor Ovalle**	**1.65**	**67**	*i* P	**Pn**	**17 24 06.9**	**+0.4**
QUEO				*eS*	**Sg**	**17 24 28.5**	**-0.9**
QUEO	**Labor Ovalle**	**1.65**	**67**	*i* P		17 24 06.9	
QUEO				*eS*		17 24 28.5	
STG8	**El Palmar, Qui**	**1.69**	**83**	*eP*		17 24 04.1	
STG0	**El Palmar, Qui**	**1.70**	**83**	*eP*		17 24 03.9	
SOKI	**Kika Raxquin**	**1.73**	**70**	*eP*	**Pn**	**17 24 08.0**	**+0.3**
SOKI	**Kika Raxquin**	**1.73**	**70**	*eP*		17 24 08.0	
HUEH	**Huehuetenango**	**1.87**	**55**		**Pn**	**17 24 09.8**	**+0.3**
HUEH	**Huehuetenango**	**1.87**	**55**	*eP*	**Pb**	**17 24 10.7**	**-0.7**
HUEH				*eS*	**Sn**	**17 24 31.7**	**-2.1**
HUEH	**Huehuetenango**	**1.87**	**55**	*i* S	**Sg**	**17 24 36.9**	**+0.3**
HUEH	**Huehuetenango**	**1.87**	**55**	*i* S		17 24 36.9	
CARR	**Arriaga**	**2.15**	**338**	*eP*	**Pn**	**17 24 13.7**	**+0.4**
CARR				*eS*	**Sn**	**17 24 39.1**	**-1.4**
CCIG	**Comitan**	**2.23**	**24**		**Pn**	**17 24 15.5**	**+1.1**
CCIG	**Comitan**	**2.23**	**24**	*eP*	**Pb**	**17 24 16.8**	**-0.7**
CCIG				*eS*	**Sn**	**17 24 42.1**	**-0.5**
CCIG	**Comitan**	**2.23**	**24**	*i* P	**Pb**	**17 24 17.6**	**+0.1**
CCIG				*eS*	**Sg**	**17 24 46.6**	**-1.5**
CCIG	**Comitan**	**2.23**	**24**	*i* P		17 24 17.6	
CCIG				*eS*		17 24 46.6	
TGIG		**2.53**	**359**		**Pn**	**17 24 20.1**	**+1.6**
TGIG					**Sn**	**17 24 48.3**	**-1.5**
TGIG		**2.53**	**359**	*eP*	**Pn**	**17 24 20.1**	**+1.6**
TGIG				*eS*	**Sn**	**17 24 48.3**	**-1.5**
TGIG		**2.53**	**359**	*eP*	**Pn**	**17 24 20.2**	**+1.7**
TGIG				*eS*	**Sb**	**17 24 52.3**	**-1.7**
TGIG		**2.53**	**359**	*eP*		17 24 20.2	
TGIG				*eS*		17 24 52.3	
APG	**El Apazote**	**2.65**	**73**	Pn	**Pn**	**17 24 21.1**	**+0.8**
	1.2nm,0.3s,baz=198,slow=12,SNR=42						
APG				Sn	**Sn**	**17 24 54.0**	**+1.0**
	1.2nm,0.3s,baz=210,slow=15,SNR=5.2						
APG	**El Apazote**	**2.65**	**73**	*eP*	**Pn**	**17 24 20.5**	**+0.3**
APG	**El Apazote**	**2.65**	**73**	*eP*		17 24 20.5	
NILT	**Santiago Nilte**	**2.75**	**328**	*eP*	**Pn**	**17 24 22.3**	**+0.9**
NILT				*eS*	**Sn**	**17 24 55.1**	**0.0**
NUBE	**Las Nubes**	**3.22**	**96**	*i* P	**Pn**	**17 24 28.1**	**0.0**
NUBE	**Las Nubes**	**3.22**	**96**	*i* P		17 24 28.1	
UXUV	**UXUV**	**3.23**	**342**	*eP*	**Pn**	**17 24 30.7**	**+2.6**
UXUV				*eS*	**Sn**	**17 25 06.3**	**-0.8**
HUIG	**Huatulco**	**3.29**	**298**		**Pn**	**17 24 26.8**	**-2.2**
HUIG	**Huatulco**	**3.29**	**298**	*eP*	**Pn**	**17 24 26.8**	**-2.2**
HUIG				*eS*	**Sn**	**17 25 03.4**	**-5.3**
CMIG	**Matias Romero**	**3.33**	**329**		**Pn**	**17 24 30.1**	**+0.7**
CMIG					**Sn**	**17 25 08.7**	**-0.8**
CMIG	**Matias Romero**	**3.33**	**329**	Pn	**Pn**	**17 24 29.9**	**+0.5**
	13nm,0.3s,baz=150,slow=12,SNR=87						
CMIG				Sn	**Sn**	**17 25 08.1**	**-1.3**
	12nm,0.3s,baz=171,slow=14,SNR=4.2						
CMIG				LR	LR	17 25 38.0	
	comp=Z,63nm,20.2s,baz=358,slow=37 33nm,0.3s						
CMIG	**Matias Romero**	**3.33**	**329**	*eP*	**Pn**	**17 24 30.1**	**+0.7**
CMIG				*eS*	**Sn**	**17 25 08.7**	**-0.8**
MTO3	**Montecristo**	**3.61**	**87**		**Pn**	**17 24 32.1**	**-1.4**
ESQI	**Esquipulas**	**3.64**	**84**		**Pn**	**17 24 32.7**	**-1.1**
PETF	**Flores**	**4.09**	**49**	Pn	**Pn**	**17 24 39.2**	**-0.6**
PEIG	**Puerto Escondi**	**4.30**	**295**		**Pn**	**17 24 43.2**	**+0.5**
PEIG					Sn	17 25 26.0	-7.4
PEIG	**Puerto Escondi**	**4.30**	**295**	*eP*	**Pn**	**17 24 43.2**	**+0.5**
PEIG				*eS*	Sn	17 25 26.0	-7.4
NEUV	**Arroyo Zacate**	**4.33**	**323**	*eP*	Pn	17 24 39.3	-3.9
NEUV				*eS*	**Sn**	**17 25 31.9**	**-2.3**
YOIG	**Yosondua**	**5.03**	**302**		**Pn**	**17 24 57.1**	**+4.0**
YOIG					**Sn**	**17 25 49.6**	**-2.3**
YOIG	**Yosondua**	**5.03**	**302**	*eP*	**Pn**	**17 24 57.1**	**+4.0**
YOIG				*eS*	**Sn**	**17 25 49.6**	**-2.3**
SCIG	**Sabancuy**	**5.04**	**21**	*eP*	**Pn**	**17 24 54.2**	**+1.2**
SCIG				*eS*	**Sn**	**17 25 49.0**	**-2.8**
PNIG	**Pinotepa**	**5.32**	**294**		**Pn**	**17 24 58.3**	**+1.5**
PNIG					**Sn**	**17 25 53.4**	**-5.2**
PNIG	**Pinotepa**	**5.32**	**294**	*eP*	**Pn**	**17 24 58.3**	**+1.5**
PNIG				*i* S	**Sn**	**17 25 53.4**	**-5.2**
TXIG	**Tlaxiaco**	**5.42**	**304**		**Pn**	**17 25 02.1**	**+3.7**
TXIG					**Sn**	**17 26 06.2**	**+4.8**
TXIG	**Tlaxiaco**	**5.42**	**304**	*eP*	**Pn**	**17 25 02.1**	**+3.7**
TXIG				*eS*	**Sn**	**17 26 06.2**	**+4.8**
TOIG	**Toxpalan**	**5.42**	**316**		**Pn**	**17 24 58.9**	**+0.7**
TOIG					**Sn**	**17 26 01.6**	**+0.4**
TOIG	**Toxpalan**	**5.42**	**316**	*eP*	**Pn**	**17 24 58.9**	**+0.7**
TOIG				*eS*	**Sn**	**17 26 01.6**	**+0.4**
TGUH	**Tegucigalpa,Un**	**5.64**	**91**	Pn	**Pn**	**17 25 01.5**	**+0.2**
JAUV	**Jalcomulco**	**6.22**	**326**	*eP*	**Pn**	**17 25 09.1**	**-0.1**
JAUV				*eS*	**Sn**	**17 26 18.2**	**-2.7**
TLIG	**Tlapa**	**6.22**	**303**	Pn	**Pn**	**17 25 12.2**	**+2.9**
CXUV	**Coxquihui**	**7.31**	**325**	*eP*	**Pn**	**17 25 24.0**	**-0.2**
CXUV				*eS*	**Sn**	**17 26 47.3**	**-0.4**
TEIG	**Tepich**	**7.52**	**37**	Pn	**Pn**	**17 25 26.6**	**-0.4**
TEIG	**Tepich**	**7.52**	**37**	Pn	**Pn**	**17 25 28.3**	**+1.3**
TEIG				Sn	**Sn**	**17 26 47.9**	**-5.0**
	baz=246,slow=24,SNR=2.0						
ACON	**Acoyapa**	**8.03**	**105**	Pn	**Pn**	**17 25 34.5**	**+0.5**
SOR	**Soroa**	**12.79**	**47**	Pn	**Pn**	**17 26 39.0**	**-0.3**
SAND	**Sanderson**	**17.73**	**333**	P	**Pn**	**17 27 45.6**	**+1.2**
TXAR	**Lajitas Array**	**17.93**	**329**	P	**Pn**	**17 27 48.0**	**+1.0**
TXAR	**Lajitas Array**	**17.93**	**329**	P	**P**	**17 27 48.6**	**+0.9**
	0.1nm,0.3s,baz=155,slow=13,SNR=11 3.1nm,1.0s						
TX31	**Lajitas Ar. Si**	**17.93**	**329**	P	**P**	**17 27 48.6**	**+0.9**
OZNA	**Ozona**	**18.18**	**337**	P	**P**	**17 27 51.3**	**+0.9**
FW06	**Azle**	**19.09**	**348**	P	**P**	**17 27 59.7**	**-0.6**
MNHN	**Monahans**	**19.20**	**334**	P	**Pn**	**17 28 04.1**	**+1.6**
MNHN				IAmb	IAmb	17 28 07.7	
	comp=Z,15nm,0.8s						
VHRN	**Van Horn**	**19.78**	**328**	P	**Pn**	**17 28 10.1**	**+0.7**
ODSA	**Odessa**	**19.79**	**336**	P	**P**	**17 28 09.5**	**+1.4**
ODSA				IAmb	IAmb	17 28 12.0	
	comp=Z,11nm,0.7s						
SN05	**Snyder 5**	**19.87**	**340**	P	**P**	**17 28 10.3**	**+1.4**
SN05				IAmb	IAmb	17 28 34.6	
	comp=Z,9.4nm,0.5s						
APMT	**Aspermont**	**20.05**	**343**	P	**P**	**17 28 12.0**	**+1.2**
APMT				IAmb	IAmb	17 28 19.7	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**20.23**	**359**	P	**P**	**17 28 13.2**	**+0.6**
MIAR				IAmb	IAmb	17 28 18.3	
	comp=Z,9.9nm,0.9s						
DKNS	**Dickens**	**20.61**	**341**	P	**P**	**17 28 18.1**	**+1.1**
DKNS				IAmb	IAmb	17 28 25.3	
	comp=Z,9.8nm,0.6s						
SMWD	**Samnorwood**	**21.76**	**344**	P	**P**	**17 28 30.7**	**+1.4**
SMWD				IAmb	IAmb	17 28 34.8	
	comp=Z,13nm,0.8s						
121A	**Cookes Peak, D**	**22.62**	**326**	P	**P**	**17 28 41.5**	**+2.8**
121A				IAmb	IAmb	17 28 43.8	
	comp=Z,6.7nm,0.8s						
319A	**Douglas**	**22.62**	**322**	P	**P**	**17 28 41.5**	**+2.8**
319A				IAmb	IAmb	17 29 20.2	
	comp=Z,12nm,1.4s						
SDV	**Santo Domingo**	**22.62**	**101**	P	**P**	**17 28 40.1**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=295,slow=7.3,SNR=3.8						
	comp=Z,1.8nm,0.5s						

TKL	**Tuckaleechee C**	**22.91**	**20**	LR	LR	17 37 26.4	
	comp=Z,34nm,19.2s,baz=182,slow=36						
SBM	**South Baldy**	**23.44**	**329**	P	**P**	**17 28 49.6**	**+2.2**
LENM	**Lemitar**	**23.49**	**330**	P	**P**	**17 28 50.0**	**+2.3**
RTBA	**Rita Blanca**	**23.74**	**340**	P	**P**	**17 28 51.2**	**+1.2**
ANMO	**Albuquerque**	**23.89**	**332**	P	**P**	**17 28 53.1**	**+1.5**
T25A	**Trinidad**	**24.95**	**338**	P	**P**	**17 29 03.5**	**+2.2**
SDCO	**Great Sand Dun**	**25.88**	**337**	P	**P**	**17 29 11.0**	**+1.1**
S22A	**4UR Ranch, Cre**	**26.41**	**335**	P	**P**	**17 29 15.5**	**+0.8**
MVCO	**Mesa Verde**	**26.69**	**332**	P	**P**	**17 29 18.3**	**+1.2**
MVCO				IAmb	IAmb	17 29 23.3	
	comp=Z,6.0nm,1.1s						
PV13	**Radium Mtn., P**	**27.61**	**333**	P	**P**	**17 29 26.3**	**+0.9**
PV23	**Carpenter Ridg**	**27.94**	**333**	P	**P**	**17 29 30.2**	**+1.8**
PDAR	**Pinedale Array**	**31.78**	**337**	P	**P**	**17 30 01.4**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=140,slow=9.4,SNR=4.6						
	comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**32.83**	**322**	P	**P**	**17 30 11.3**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=135,slow=9.0,SNR=10.0						
	comp=Z,2.0nm,0.7s						
SNOW	**Snow King Moun**	**32.83**	**336**	P	**P**	**17 30 11.2**	**-0.4**
LOHW	**Long Hollow**	**32.90**	**336**	P	**P**	**17 30 12.7**	**+0.5**
LOHW				IAmb	IAmb	17 30 16.7	
	comp=Z,4.0nm,0.8s						
TPAW	**Teton Pass**	**32.94**	**336**	P	**P**	**17 30 12.5**	**0.0**
TPAW				IAmb	IAmb	17 30 20.8	
	comp=Z,4.6nm,0.9s						
MOOW	**Moose Ponds**	**33.07**	**336**	P	**P**	**17 30 13.9**	**+0.3**
MOOW				IAmb	IAmb	17 30 18.2	
	comp=Z,3.3nm,0.8s						
FXWY	**Fox Creek**	**33.09**	**336**	P	**P**	**17 30 14.4**	**+0.6**
FXWY				IAmb	IAmb	17 30 19.0	
	comp=Z,2.3nm,0.8s						
YNE	**Yellowstone No**	**33.87**	**338**	P	**P**	**17 30 21.8**	**+1.2**
YNE				IAmb	IAmb	17 30 26.9	
	comp=Z,3.2nm,0.9s						
YMR	**Madison River**	**33.93**	**337**	P	**P**	**17 30 21.9**	**+0.8**
YHL	**Hebgen Lake**	**34.17**	**337**	P	**P**	**17 30 23.4**	**+0.1**
YHL				IAmb	IAmb	17 30 27.3	
	comp=Z,7.9nm,1.5s						
MCMT	**McKenzie Canyo**	**34.81**	**335**	P	**P**	**17 30 30.0**	**+1.2**
DLMT	**Dillon**	**35.15**	**336**	P	**P**	**17 30 32.7**	**+1.1**
LRM	**Limekiln Ridge**	**35.47**	**336**	P	**P**	**17 30 34.5**	**+0.1**
ULM	**Lac du Bonnet**	**35.99**	**357**	LR	LR	17 47 06.8	
	comp=Z,38nm,18.6s,baz=337,slow=39						
LYMT	**Lyon Mountain**	**36.37**	**338**	P	**P**	**17 30 42.2**	**0.0**
FCC	**Fort Churchill**	**44.45**	**359**	P	**P**	**17 31 47.5**	**-1.0**
FCC				IAmb	IAmb	17 31 52.5	
	comp=Z,5.8nm,1.4s						
SCHQ	**Schefferville**	**45.37**	**21**	LR	LR	17 53 09.1	
	comp=Z,57nm,18.6s,baz=46,slow=39						
YKAB2	**New Yellowknif**	**50.50**	**347**	P	**P**	**17 32 36.0**	**+0.5**
YKA	**Yellowknife Ar**	**50.56**	**347**	P	**P**	**17 32 36.2**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=158,slow=7.4,SNR=36						
	comp=Z,2.2nm,0.8s						
MMPY	**Sheldon Lake,**	**55.31**	**340**	P	**P**	**17 33 12.0**	**+0.8**
M29M	**Somme Creek**	**57.78**	**337**	P	**P**	**17 33 30.1**	**+1.2**
M29M				IAmb	IAmb	17 33 31.4	
	comp=Z,3.7nm,0.9s						
BCAR	**Beaver Creek A**	**59.40**	**337**	P	**P**	**17 33 41.5**	**+1.4**
INK	**Inuvik**	**59.92**	**344**	P	**P**	**17 33 42.4**	**-1.1**
H29M	**Whitestone**	**60.00**	**341**	P	**P**	**17 33 44.4**	**+0.3**
HIN	**Hinchinbrook I**	**60.06**	**333**	P	**P**	**17 33 45.6**	**+1.0**
J26L	**Joseph Creek**	**60.83**	**338**	P	**P**	**17 33 49.6**	**-0.3**
J26L				IAmb	IAmb	17 34 27.0	
	comp=Z,2.2nm,1.1s						
E29M	**Blow River**	**61.20**	**343**	P	**P**	**17 33 52.6**	**+0.5**
E29M				IAmb	IAmb	17 34 10.3	
	comp=Z,5.1nm,1.5s						
E28M	**Babbage River**	**61.80**	**342**	P	**P**	**17 33 56.8**	**+0.5**
E28M				IAmb	IAmb	17 33 59.4	
	comp=Z,2.8nm,1.1s						
SYI	**Shuyak Island**	**62.14**	**329**	P	**P**	**17 33 60.0**	**+1.3**
ILAR	**Eielson Array**	**62.21**	**337**	P	**P**	**17 34 00.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=150,slow=5.4,SNR=10.0						
	comp=Z,0.6nm,0.7s						
BMAR	**Burnt Mountain**	**62.71**	**340**	P	**P**	**17 34 03.1**	**+0.6**
E25K	**Arctic Village**	**63.39**	**341**	P	**P**	**17 34 06.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**145.42**	**340**	PKPbc	**PKPbc**	**17 43 16.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=14,slow=3.1,SNR=9.1						

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*GCG **05** 17:43:56.0±1.8, 14°.17N×93°.09W, h10km±21km, MD4.9, ML4.5, MW4.2*
*CATAC **05** 17:43:57.9±0.7, 14°N±3°×9°.3W±°, h4km±4km, M5.0/12, mB5.2/5, mb5.4/7, MLv5.0/12, Mw(mB)4.5/5, Error ellipse: s-maj=7.7km s-min=4.3km az=28.0, confirmed*
*MEX **05** 17:43:58.9±1.0, 14°.21N×93°.09W, h12km±21km, MD4.7*
*NEIC **05** 17:43:59.6±2.0, 14°.31N±0°.06×92°.98W±0°.04, h35km±1km, mb4.7/303, Md4.6/98(MEX), Error ellipse: s-maj=10.3km s-min=6.6km az=188.0*
*IDC **05** 17:44:07.6±2.3, 14°.59N×92°.58W, h99km±18km, mb4.2/18, mbtmp4.5/20, MS3.7/37, Error ellipse: s-maj=23.2km s-min=11.8km az=48.0*

ISC 05 17:43:55.2±1.4,14°23N±0°.04×93°.07W±0°.03,h11km±8km, n600,σ2°18/545,mb4.7/133,MS3.8/35,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**49**		**Pn**	**17 44 15.6**	**0.0**
THIG					**Sb**	**17 44 27.3**	**-1.2**
THIG		**1.03**	**49**	*eP*	**Pn**	**17 44 15.6**	**0.0**
THIG				*i* S	**Sb**	**17 44 27.3**	**-1.2**
THIG		**1.03**	**49**	*i* P	**Pn**	**17 44 15.8**	**+0.2**
	comp=Z,6μm,0.4s						
THIG				IAML		17 44 36.4	
	comp=Z,6μm,0.4s						
THIG		**1.03**	**49**	*i* P		17 44 15.8	
	comp=Z,6μm,0.4s						
THIG				IAML		17 44 36.4	
	comp=Z,6μm,0.4s						
SMCA	**Catarina**	**1.15**	**57**	*eP*	**Pg**	**17 44 17.4**	**+0.2**
SMCA				IAML		17 44 37.8	
	comp=Z,5μm,0.9s						
SMCA	**Catarina**	**1.15**	**57**	*eP*		17 44 17.4	
SMCA				IAML		17 44 37.8	
	comp=Z,5μm,0.9s						
PATR	**El Naranjo**	**1.20**	**43**	*eP*	**Pg**	**17 44 18.0**	**-0.2**
PATR				*eS*	**Sn**	**17 44 34.1**	**-0.3**
PAVE	**Pavencul**	**1.29**	**42**	*eP*	**Pg**	**17 44 19.5**	**-0.5**
PAVE				*eS*	**Sg**	**17 44 36.6**	**-0.1**
RTAL	**Retalhuleu**	**1.36**	**78**		**Pg**	**17 44 20.9**	**-0.4**
RTAL				Sn	**Sb**	**17 44 36.8**	**-1.4**
RTAL	**Retalhuleu**	**1.36**	**78**	*eP*	**Pg**	**17 44 21.2**	**-0.2**
RTAL				*i* S	**Sb**	**17 44 37.2**	**-1.0**
RTAL	**Retalhuleu**	**1.36**	**78**	P	**Pg**	**17 44 21.3**	**-0.2**
RTAL	**Retalhuleu**	**1.36**	**78**	P	**Pg**	**17 44 21.2**	**-0.2**
PCIG		**1.47**	**354**		**Pn**	**17 44 21.1**	**-0.5**
PCIG					**Sn**	**17 44 36.8**	**-4.0**
PCIG		**1.47**	**354**	*i* P	**Pn**	**17 44 21.1**	**-0.5**
PCIG				*i* S	**Sn**	**17 44 36.8**	**-4.0**
QUEO	**Labor Ovalle**	**1.64**	**67**	*eP*	**Pb**	**17 44 25.4**	**-0.1**
QUEO				IAML		17 44 51.4	
	comp=Z,14μm,0.6s						
QUEO	**Labor Ovalle**	**1.64**	**67**	*eP*		17 44 25.4	
QUEO				IAML		17 44 51.4	
	comp=Z,14μm,0.6s						
STG8	**El Palmar, Qui**	**1.68**	**82**	*i* P		17 44 22.9	
STG0	**El Palmar, Qui**	**1.69**	**83**	*i* P		17 44 23.0	
SOKI	**Kika Raxquin**	**1.72**	**70**	*eP*	**Pb**	**17 44 26.8**	**-0.2**
SOKI				IAML		17 44 52.6	
	comp=Z,4μm,0.7s						
SOKI	**Kika Raxquin**	**1.72**	**70**	*eP*		17 44 26.8	
SOKI				IAML		17 44 52.6	
	comp=Z,4μm,0.7s						
HUEH	**Huehuetenango**	**1.86**	**54**		**Pb**	**17 44 28.7**	**-0.6**
HUEH	**Huehuetenango**	**1.86**	**54**	*eP*	**Pb**	**17 44 29.1**	**-0.2**
HUEH				*i* S	**Sg**	**17 44 53.3**	**-1.8**
HUEH	**Huehuetenango**	**1.86**	**54**	P	**Pb**	**17 44 29.7**	**+0.4**
HUEH	**Huehuetenango**	**1.86**	**54**	S	**Sb**	**17 44 52.5**	**-0.2**
HUEH	**Huehuetenango**	**1.86**	**54**	P	**Pg**	**17 44 29.9**	**-1.0**
HUEH	**Huehuetenango**	**1.86**	**54**	*eP*	**Pb**	**17 44 29.2**	**-0.2**
HUEH				IAML		17 45 02.9	
	comp=Z,9μm,0.5s						
HUEH	**Huehuetenango**	**1.86**	**54**	*eP*		17 44 29.2	
HUEH				IAML		17 45 02.9	
	comp=Z,9μm,0.5s						
CARR	**Arriaga**	**2.16**	**338**	*eP*	**Pn**	**17 44 31.7**	**+0.6**
CARR				*eS*	**Sn**	**17 44 57.0**	**-0.9**

ESSG	**Sabana Grande**	**2.18**	**86**	*eP*	**Pn**	**17 44 32.1**	**+0.7**
ESSG				IAML		17 45 05.3	
	comp=Z,3μm,0.9s						
ESSG	**Sabana Grande**	**2.18**	**86**	*eP*		17 44 32.1	
ESSG				IAML		17 45 05.3	
	comp=Z,3μm,0.9s						
CCIG	**Comitan**	**2.23**	**24**		**Pn**	**17 44 33.6**	**+1.4**
CCIG	**Comitan**	**2.23**	**24**	*eP*	**Pb**	**17 44 34.9**	**-0.7**
CCIG				*i* S	**Sn**	**17 44 59.5**	**-0.3**
CCIG	**Comitan**	**2.23**	**24**	P	**Pb**	**17 44 35.8**	**+0.3**
CCIG	**Comitan**	**2.23**	**24**	S	**Sb**	**17 45 03.7**	**+0.4**
CCIG	**Comitan**	**2.23**	**24**	P	**Pb**	**17 44 35.5**	**0.0**
CCIG	**Comitan**	**2.23**	**24**	P	**Pb**	**17 44 36.1**	**+0.5**
CCIG	**Comitan**	**2.23**	**24**	*i* P	**Pb**	**17 44 34.8**	**-0.7**
CCIG				IAML		17 45 09.6	
	comp=Z,4μm,0.5s						
CCIG	**Comitan**	**2.23**	**24**	*i* P		17 44 34.8	
CCIG				IAML		17 45 09.6	
	comp=Z,4μm,0.5s						
GCG4	**OSOP**	**2.48**	**82**	*eP*	**Pb**	**17 44 38.1**	**-1.8**
	comp=Z,2μm,0.6s						
GCG4				IAML		17 45 19.7	
	comp=Z,2μm,0.6s						
GCG4	**OSOP**	**2.48**	**82**	*eP*		17 44 38.1	
	comp=Z,2μm,0.6s						
GCG4				IAML		17 45 19.7	
	comp=Z,2μm,0.6s						
TGBT	**Tuxtla Gutierr**	**2.53**	**360**		**Pn**	**17 44 37.8**	**+1.6**
TGBT					**Sn**	**17 45 08.5**	**+1.5**
TGBT	**Tuxtla Gutierr**	**2.53**	**360**	*eP*	**Pn**	**17 44 37.8**	**+1.6**
TGBT				*eS*	**Sn**	**17 45 08.5**	**+1.5**
TGIG		**2.53**	**359**		**Pn**	**17 44 38.2**	**+2.0**
TGIG					**Sn**	**17 45 07.4**	**+0.3**
TGIG		**2.53**	**359**	*eP*	**Pn**	**17 44 38.2**	**+2.0**
TGIG				*eS*	**Sn**	**17 45 07.4**	**+0.3**
TGIG		**2.53**	**359**	*i* P	**Pn**	**17 44 38.3**	**+2.1**
	comp=Z,2μm,0.5s						
TGIG				*i* S	**Sb**	**17 45 10.1**	**-1.7**
TGIG				IAML		17 45 18.1	
	comp=Z,2μm,0.5s						
TGIG		**2.53**	**359**	*i* P		17 44 38.3	
	comp=Z,2μm,0.5s						
TGIG				*i* S		17 45 10.1	
TGIG				IAML		17 45 18.1	
	comp=Z,2μm,0.5s						
APG	**El Apazote**	**2.64**	**73**	P	**Pb**	**17 44 40.4**	**-2.2**
	comp=Z,42nm,0.3s,baz=192,slow=12,SNR=114						
APG				S	**Sn**	**17 45 08.7**	**-1.3**
	comp=Z,168nm,0.7s,baz=216,slow=16,SNR=11						
APG	**El Apazote**	**2.64**	**73**	*i* P	**Pb**	**17 44 40.3**	**-2.2**
APG	**El Apazote**	**2.64**	**73**	*i* P		17 44 40.3	
NILT	**Santiago Nilte**	**2.76**	**327**	*eP*	**Pn**	**17 44 40.0**	**+0.7**
NILT				*eS*	**Sn**	**17 45 11.5**	**-1.2**
LOAL	**Lomas de Alarc**	**3.20**	**94**	P	**Pn**	**17 44 47.5**	**+2.0**
LOAL	**Lomas de Alarc**	**3.20**	**94**	S	**Sn**	**17 45 25.1**	**+1.4**
LOAL	**Lomas de Alarc**	**3.20**	**94**	P	**Pb**	**17 44 50.7**	**-1.4**
LOAL	**Lomas de Alarc**	**3.20**	**94**	P	**Pn**	**17 44 47.9**	**+2.4**
NUBE	**Las Nubes**	**3.21**	**95**	P	**Pn**	**17 44 47.7**	**+2.0**
NUBE	**Las Nubes**	**3.21**	**95**	P	**Pn**	**17 44 47.6**	**+2.0**
NUBE	**Las Nubes**	**3.21**	**95**	*eP*	**Pn**	**17 44 47.4**	**+1.7**
NUBE	**Las Nubes**	**3.21**	**95**	*eP*		17 44 47.4	
UXUV	**UXUV**	**3.24**	**341**	*eP*	**Pn**	**17 44 47.8**	**+1.9**
UXUV				*eS*	**Sn**	**17 45 25.5**	**+1.0**
HUIG	**Huatulco**	**3.31**	**298**		**Pn**	**17 44 47.7**	**+0.8**
HUIG	**Huatulco**	**3.31**	**298**	*eP*	**Pn**	**17 44 47.7**	**+0.8**
HUIG				*i* S	**Sn**	**17 45 20.9**	**-5.4**
HUIG	**Huatulco**	**3.31**	**298**	*eP*	**Pn**	**17 44 47.4**	**+0.5**
HUIG				IAML		17 46 12.3	
	comp=Z,199nm,0.6s						
HUIG	**Huatulco**	**3.31**	**298**	*eP*

JAUV Jalcomulco 6.23 326 *eP* **Pn 17 45 25.6 -1.6**
TLIG Tlapa 6.24 303 Pn **Pn 17 45 30.8 +3.4**
TLIG Tlapa 6.24 303 *eP* **Pn 17 45 30.6 +3.3**
TLIG *eS* **Sn 17 46 37.1 -1.6**
TLIG Tlapa 6.24 303 S **Sn 17 46 45.0 +6.3**
TLIG Tlapa 6.24 303 P **Pn 17 45 31.8 +4.4**
POHV Veracruz 6.28 321 Pn 17 45 30.2 +2.0
POHV Veracruz 6.28 321 *eP* **Pn 17 45 30.2 +2.0**
HERN Volcan Telica 6.28 104 Pn 17 45 28.4 +0.5
LVIG Laguna Verde 6.33 330 *eP* **Pn 17 45 27.6 -0.8**
LVIG *eS* **Sn 17 46 37.6 -3.1**
CRIG Cruz Grande 6.35 294 Pn 17 45 30.7 +2.0
CRIG **Sn 17 46 33.5 -7.8**
CRIG Cruz Grande 6.35 294 *eP* **Pn 17 45 30.7 +2.0**
CRIG *eS* **Sn 17 46 33.5 -7.8**
CNGN Cerro Negro 6.44 105 Pn 17 45 29.9 -0.1
CNGN Cerro Negro 6.44 105 S **Sn 17 46 46.8 +3.3**
CNGN Cerro Negro 6.44 105 P **Pb 17 45 43.8 -3.5**
CNGN Cerro Negro 6.44 105 P **Pn 17 45 33.0 +3.0**
LIMN Finca el Limon 6.62 99 P **Pn 17 45 34.2 +1.6**
COPN Copaltepe 6.63 107 P **Pn 17 45 34.8 +2.2**
DAIG Los Arroyos 6.92 294 Pn 17 45 39.9 +3.3
DAIG **Sn 17 46 53.1 -2.2**
DAIG Los Arroyos 6.92 294 *eP* **Pn 17 45 39.9 +3.3**
DAIG *eS* **Sn 17 46 53.1 -2.2**
PBCV Popocatepetl 7.07 313 *eP* Pn 17 45 47.0 +8.0
PBCV *eS* **Sn 17 47 04.8 +5.3**
PBXN Popocatepetl 7.16 312 *i* P Pn 17 45 46.0 +5.8
PBXN *eS* **Sn 17 47 01.9 0.0**
PPM Popocatepetl 7.17 313 *eP* **Pn 17 45 40.1 -0.4**
PPM *eS* **Sn 17 47 07.2 +4.9**
PPIG Popocatepetl 7.17 313 Pn 17 45 40.1 -0.4
PPIG **Sn 17 47 07.2 +4.9**
CXUV Coxquihui 7.32 324 *eP* **Pn 17 45 43.1 +1.1**
CXUV *i* S **Sn 17 47 05.9 +0.7**
YAIG Yautepec 7.36 309 Pn 17 45 46.7 +3.9
YAIG **Sn 17 47 06.6 0.0**
YAIG Yautepec 7.36 309 *eP* **Pn 17 45 46.7 +3.9**
YAIG *eS* **Sn 17 47 06.6 0.0**
MYIG Merida 7.40 25 *eP* **Pn 17 45 40.8 -2.4**
PLIG Platanillo 7.43 305 Pn 17 45 48.1 +4.4
PLIG **Sn 17 47 04.9 -3.2**
PLIG Platanillo 7.43 305 *eP* **Pn 17 45 48.1 +4.4**
PLIG *eS* **Sn 17 47 04.9 -3.2**
CAIG El Cayaco 7.47 293 Pn 17 45 47.6 +3.4
CAIG **Sn 17 47 02.3 -6.7**
CAIG El Cayaco 7.47 293 *eP* **Pn 17 45 47.6 +3.4**
CAIG *eS* **Sn 17 47 02.3 -6.7**
TEIG Tepich 7.52 37 Pn **Pn 17 45 44.7 -0.1**
TEIG Tepich 7.52 37 P **Pn 17 45 45.6 +0.8**
TEIG S **Sn 17 47 01.4 -8.6**
TEIG Tepich 7.52 37 *eP* **Pn 17 45 45.5 +0.8**
TEIG *i* S **Sn 17 47 07.4 -2.6**
MAVM Malinalco, Edo 7.74 308 *e* Pn 17 45 32.5 -16
MAVM *e* 17 47 03.7
AOVM Tlapan 7.80 311 Pn 17 45 50.2 +1.1
AOVM **Sn 17 47 19.7 +1.9**
AOVM Tlapan 7.80 311 *i* P **Pn 17 45 50.2 +1.1**
AOVM *eS* **Sn 17 47 19.7 +1.9**
ACON Acoyapa 8.02 105 Pn 17 45 52.0 +0.4
ARIG Puente Sto Nin 8.06 301 Pn 17 45 57.5 +5.2
ARIG **Sn 17 47 21.7 -1.8**
ARIG Puente Sto Nin 8.06 301 *eP* Pn 17 45 57.5 +5.2
ARIG *eS* **Sn 17 47 21.7 -1.8**
INDI Punta indio, G 8.58 120 P **Pn 17 46 02.8 +3.4**
ACIG Acambay 8.66 312 Pn 17 46 06.3 +5.7
ACIG Acambay 8.66 312 *i* P Pn 17 46 06.3 +5.7
ZIIG Zihuatanejo 8.74 294 Pn 17 46 05.8 +4.1
ZIIG Zihuatanejo 8.74 294 *eP* **Pn 17 46 05.8 +4.1**
ESPN Las Esperanzas 8.78 102 Pn **Pn 17 46 02.6 +0.5**
JTS Las Juntas de 8.85 115 Pn 17 46 05.3 +2.2
SOCE Pocosol 9.10 114 Pn **Pn 17 46 08.6 +2.0**
MOIG Morelia 9.47 306 Pn **Pn 17 46 15.5 +3.7**
MMIG Aquila 10.66 294 Pn 17 46 32.0 +4.1
MMIG Aquila 10.66 294 *eP* **Pn 17 46 32.0 +4.1**
EZ5V 11.35 299 Pn 17 46 43.1 +5.5
EZ5V 11.35 299 *eP* Pn 17 46 43.1 +5.5
MNGA Volcan de Coli 11.36 299 *eP* Pn 17 46 43.7 +6.0
INCO Volcan de Coli 11.37 299 *eP* **Pn 17 46 41.3 +3.3**
SOMAC Volcano de Col 11.39 299 *eP* Pn 17 46 44.0 +5.7
CDITO Canoas 11.47 118 P **Pn 17 46 41.0 +2.0**
CEGR Campo Tres 11.53 298 *eP* Pn 17 46 46.5 +6.6
SOR Soroa 12.78 47 Pn **Pn 17 46 56.6 -0.3**
HBVL Hebbronville 13.80 339 Pn 17 47 14.5 +3.7
833A Chaparral WMA, 15.20 338 Pn **Pn 17 47 31.5 +1.6**
833A IAmb IAmb 17 47 46.6
comp=Z,29nm,1.0s
833A Chaparral WMA, 15.20 338 P **P 17 47 33.3 -1.6**
baz=155,SNR=5.6
MTDJ Mount Denham 15.44 73 Pn **Pn 17 47 32.0 -1.1**
MTDJ IAmb IAmb 17 47 48.1
comp=Z,48nm,0.9s
HKT Hockley 15.85 351 Pn **Pn 17 47 38.8 +0.6**
MLDN Muldoon 15.91 347 Pn **Pn 17 47 39.4 +0.3**
MLDN IAmb IAmb 17 48 05.5
comp=Z,67nm,1.5s
061Z Ochoppi 16.25 43 Pn **Pn 17 47 41.1 -2.4**
HNDO Hondo 16.27 340 P **Pn 17 47 44.4 +0.6**
HNVL Huntsville, TX 16.59 353 Pn **Pn 17 47 47.3 -0.6**
HNVL IAmb IAmb 17 48 10.7
comp=Z,112nm,1.3s
DRIO Del Rio 16.65 336 Pn **Pn 17 47 49.3 +0.7**
CHIV Chivirico 16.91 68 Pn **Pn 17 47 50.1 -1.8**
CHIV IAmb IAmb 17 48 25.0
comp=Z,21nm,1.2s
435B Jarrell 16.99 347 Pn **Pn 17 47 52.9 0.0**
HPIG 17.27 319 P **P 17 47 59.7 +1.7**
JCT Junction City 17.32 340 Pn 17 47 57.8 +0.8
NATX Nacogdoches 17.51 355 Pn 17 47 58.1 -1.2
DWPF Disney Wildern 17.54 36 Pn **Pn 17 47 58.1 -1.7**
DWPF IAmb IAmb 17 48 20.2
comp=Z,47nm,0.9s
SAND Sanderson 17.74 333 P **P 17 48 05.2 +2.1**
SAND IAmb IAmb 17 48 07.2
comp=Z,28nm,0.8s
BRDY Brady 17.82 343 P **P 17 48 04.3 +0.3**
237A Washetta, Mont 17.86 352 P **P 17 48 04.4 0.0**
237A IAmb IAmb 17 48 17.9
comp=Z,56nm,1.1s
TXAR Lajitas Array 17.94 329 P **P 17 48 06.9 +1.5**
TXAR Lajitas Array 17.94 329 P **P 17 48 09.2 +3.8**
comp=Z,13nm,1.1s,baz=152,slow=14,SNR=26
TXAR LR LR 17 56 04.4
comp=Z,70nm,18.7s,baz=119,slow=40
TX31 Lajitas Ar. Si 17.94 329 P **P 17 48 06.5 +1.0**
VBMS Vicksburg 18.05 7 P **Pn 17 48 05.7 -0.4**
VBMS IAmb IAmb 17 48 27.8
comp=Z,30nm,0.7s
OZNA Ozona 18.19 337 Pn 17 48 07.9 +0.1
ALPN Alpine 18.78 331 P 17 48 14.6 -0.1
Z41A Richland Creek 18.94 1 P **P 17 48 14.1 -2.2**
Z41A IAmb IAmb 17 48 37.4
comp=Z,57nm,1.1s
LPIG La Paz 18.99 304 LR LR 17 56 00.2
comp=Z,132nm,18.1s,baz=205,slow=37
SGCY Sterling City 19.08 339 P 17 48 17.6 -0.3
SGCY IAmb IAmb 17 48 21.9
comp=Z,34nm,0.6s
PLPT Palo Pinto 19.10 346 P **P 17 48 17.3 -0.7**
MNHN Monahans 19.21 334 P **P 17 48 18.4 -0.8**
FW03 Perrin-Whitt E 19.27 347 P **P 17 48 19.2 -0.6**
FW03 IAmb IAmb 17 48 28.2
comp=Z,18nm,0.7s
LRAL Lakeview Retre 19.52 15 P 17 48 19.1 -3.5
PECS Pecos 19.72 332 P **P 17 48 23.3 -1.6**
VHRN Van Horn 19.79 328 P **P 17 48 24.6 -1.1**
ODSA Odessa 19.80 336 P **P 17 48 24.0 -1.8**
ODSA IAmb IAmb 17 48 30.7
comp=Z,42nm,0.8s
SN05 Snyder 5 19.88 340 P **P 17 48 25.0 -1.6**
SN05 IAmb IAmb 17 48 36.0
comp=Z,39nm,0.6s
SN05 PcP **PcP 17 52 41.6 -2.3**
LOOK Love County 20.02 350 P **P 17 48 26.9 -1.1**
LOOK IAmb IAmb 17 48 40.8
comp=Z,25nm,1.0s
APMT Aspermont 20.06 343 P **P 17 48 29.2 +0.6**
OTAV Otavalo 20.07 133 P Pn 17 48 30.5 -0.4
SN07 Snyder 07 20.08 341 P **P 17 48 28.6 -0.1**
SN07 IAmb IAmb 17 48 33.3
comp=Z,24nm,0.6s

X40A Basin Creek Fa 20.17 1 P **P 17 48 29.6 -0.1**
MIAR Mount Ida 20.23 359 P **P 17 48 30.4 +0.1**
MIAR IAmb IAmb 17 48 36.7
comp=Z,39nm,0.8s
POST Post 20.26 339 P **P 17 48 31.7 +1.0**
POST IAmb IAmb 17 48 35.0
comp=Z,19nm,0.7s
UALR University of 20.46 2 P **P 17 48 32.5 -0.4**
UALR IAmb IAmb 17 48 39.7
comp=Z,21nm,0.8s
CLNB Carlsbad 20.48 333 P **P 17 48 33.0 -0.2**
HTMS Hat Mesa 20.56 334 P **P 17 48 33.9 -0.2**
CLN7 Carlsbad 7 20.58 333 P **P 17 48 35.2 +0.9**
DKNS Dickens 20.62 341 P **P 17 48 35.3 +0.7**
ROSC El Rosal 20.70 115 P 17 48 35.7 -0.2
ROSC IAmb IAmb 17 48 41.8
comp=Z,47nm,1.1s
ROSC El Rosal 20.70 115 P Pn 17 48 37.4 -0.8
comp=Z,30nm,0.8s,baz=253,slow=14,SNR=12
comp=Z,30nm,0.8s
X34A Smith Ranch, M 20.73 349 P 17 48 35.3 -0.5
X34A IAmb IAmb 17 49 01.2
comp=Z,27nm,0.9s
WMOK Wichita Mounta 21.06 347 P **P 17 48 39.1 -0.2**
W35A Tecumseh 21.11 351 P **P 17 48 39.0 -0.9**
W35A IAmb IAmb 17 48 49.9
comp=Z,26nm,0.9s
FPAL Fort Paine 21.31 17 P **P 17 48 40.7 -1.4**
FLOC Florencia 21.32 125 P **P 17 48 43.6 +1.3**
FLOC IAmb IAmb 17 49 12.0
comp=Z,42nm,1.1s
COHC Cochancay 21.51 139 P **P 17 48 45.8 +1.5**
FCAR Ozark Folk Cen 21.58 2 IAmb IAmb 17 48 49.3
comp=Z,12nm,0.7s
LCAR Lake Charles 21.81 4 P **P 17 48 46.3 -1.0**
OK029 Liberty Lake 21.83 350 IAmb IAmb 17 48 54.3
comp=Z,20nm,0.7s
HHAR Hobbs 21.97 358 IAmb IAmb 17 48 52.3
comp=Z,12nm,0.7s
QUOK Quay 22.09 352 P **P 17 48 49.6 -0.8**
OK048 Pawnee Station 22.36 352 P **P 17 48 53.3 0.0**
SDV Santo Domingo 22.61 101 P **P 17 48 56.1 -0.3**
SDV IAmb IAmb 17 48 59.6
comp=Z,15nm,0.9s
SDV Santo Domingo 22.61 101 P **P 17 48 56.4 +0.1**
comp=Z,16nm,0.8s,baz=305,slow=9.3,SNR=13
SDV LR LR 17 59 58.0
comp=Z,125nm,18.7s,baz=270,slow=43
comp=Z,16nm,0.8s
121A Cookes Peak, D 22.63 326 IAmb IAmb 17 49 02.2
comp=Z,34nm,0.8s
121A Cookes Peak, D 22.63 326 *i* **P 17 49 00.1 +3.7**
121A Cookes Peak, D 22.63 326 P **P 17 48 59.7 +3.3**
baz=140,SNR=29
BLOK Blackwell 22.74 351 IAmb IAmb 17 48 59.2
comp=Z,28nm,1.1s
T35A Sooner Cattle 22.80 353 IAmb IAmb 17 48 59.6
comp=Z,20nm,0.8s
TKL Tuckaleechee C 22.91 20 P **P 17 48 58.8 -0.4**
TKL Tuckaleechee C 22.91 20 LR LR 17 59 05.3
comp=Z,92nm,18.8s,baz=191,slow=40
NOKA Waynoka 22.92 348 IAmb IAmb 17 49 02.1
comp=Z,28nm,0.9s
KAN01 Argonia South 23.21 350 IAmb IAmb 17 49 04.7
comp=Z,16nm,0.8s
V53A Saluda 23.25 22 P **P 17 49 01.8 -0.9**
V53A IAmb IAmb 17 49 24.7
comp=Z,46nm,1.4s
SIUC Southern Illin 23.64 8 IAmb IAmb 17 49 26.3
comp=Z,42nm,1.4s
CCM Cathedral Cave 23.78 4 P **P 17 49 06.2 -1.6**
CCM IAmb IAmb 17 49 08.5
comp=Z,11nm,0.8s
ANMO Albuquerque 23.90 332 P **P 17 49 09.4 +0.2**
ANMO Albuquerque 23.90 332 LR LR 17 59 58.7
comp=Z,95nm,18.7s,baz=279,slow=40
TUC Tucson 24.19 321 P **P 17 49 12.2 +0.3**
TUC IAmb IAmb 17 49 17.7
comp=Z,14nm,0.9s
U54A Nelsons Funny 24.37 22 IAmb IAmb 17 49 14.6
comp=Z,20nm,0.8s
U56A King 24.78 25 IAmb IAmb 17 49 17.5
comp=Z,19nm,1.0s
V58A Windy Hill, Pi 24.86 28 IAmb IAmb 17 49 20.1
comp=Z,19nm,1.0s
T25A Trinidad 24.95 338 P **P 17 49 19.9 +1.0**
T25A Trinidad 24.95 338 P **P 17 49 20.8 +1.9**
baz=152,SNR=48
PIX Pinacate 25.42 316 P **P 17 49 24.1 +1.2**
ATAH Atahualpa 25.75 145 LR LR 17 58 06.5
comp=Z,143nm,18.7s,baz=294,slow=33
SJG San Juan 26.13 78 LR LR 17 59 12.2
comp=Z,187nm,21.8s,baz=218,slow=35
S22A 4UR Ranch, Cre 26.42 335 IAmb IAmb 17 49 38.3
comp=Z,16nm,0.8s
S22A 4UR Ranch, Cre 26.42 335 P **P 17 49 34.6 +2.4**
baz=148,SNR=27
T59A Double "B" Far 26.54 29 P **P 17 49 31.5 -1.5**
T59A IAmb IAmb 17 49 33.0
comp=Z,16nm,0.9s
MVCO Mesa Verde 26.70 332 IAmb IAmb 17 49 41.6
comp=Z,24nm,0.9s
Q24A Divide 26.84 339 P **P 17 49 36.4 +0.3**
Q24A Divide 26.84 339 P **P 17 49 38.5 +2.5**
baz=153
PV13 Radium Mtn., P 27.62 333 P **P 17 49 44.2 +1.2**
PV13 IAmb IAmb 17 49 49.4
comp=Z,15nm,0.9s
PV15 Paradox Valley 27.62 333 IAmb IAmb 17 49 50.2
comp=Z,12nm,0.8s
PV11 David Mesa, Pa 27.76 333 IAmb IAmb 17 49 52.4
comp=Z,21nm,0.8s
PV07 Paradox Valley 27.77 333 P **P 17 49 45.8 +1.5**
PV07 IAmb IAmb 17 49 50.8
comp=Z,24nm,0.9s
U15A North Rim 28.00 326 P **P 17 49 47.4 +0.9**
HMU Henry Mountain 28.34 330 P **P 17 49 49.7 +0.1**
PFO Pinyon Flats O 28.68 316 LR LR 18 00 23.5
comp=Z,62nm,21.1s,baz=122,slow=34
V12A Nelson 28.99 321 IAmb IAmb 17 49 59.6
comp=Z,9.7nm,1.0s
O20A White River Ci 29.03 336 IAmb IAmb 17 50 00.8
comp=Z,8.1nm,0.8s
ECSD EROS Data Cent 29.56 355 P **P 17 49 59.6 -0.3**
ECSD IAmb IAmb 17 50 03.8
comp=Z,6.7nm,0.8s
K22A Casper 30.60 340 IAmb IAmb 17 50 14.3
comp=Z,7.0nm,0.8s
SPR3 Spring Creek 3 30.98 327 P **P 17 50 13.9 +0.9**
SPR3 **PcP 17 53 10.1 +1.0**
TCUT Toone Canyon 31.18 333 P **P 17 50 15.2 +0.5**
TCUT IAmb IAmb 17 50 22.3
comp=Z,10nm,0.9s
HWUT Hardware Ranch 31.65 333 IAmb IAmb 17 50 25.2
comp=Z,7.4nm,0.9s
PDAR Pinedale Array 31.79 337 P **P 17 50 19.9 0.0**
PDAR Pinedale Array 31.79 337 P **P 17 50 21.6 +1.7**
comp=Z,2.7nm,0.7s,baz=131,slow=10,SNR=20
PDAR LR LR 18 05 07.1
comp=Z,62nm,18.2s,baz=138,slow=40
comp=Z,2.7nm,0.7s
DSP Deep Springs 31.96 321 P **P 17 50 23.1 +2.0**
HVU Hansel Valley 32.33 332 IAmb IAmb 17 50 31.6
comp=Z,7.1nm,0.9s
AHID Auburn Hatcher 32.40 335 IAmb IAmb 17 50 30.2
comp=Z,9.6nm,0.8s
SADO Sadowa 32.66 19 LR LR 18 04 26.8
comp=Z,99nm,19.9s,baz=258,slow=38
ELK Elko 32.74 328 LR LR 18 06 08.0
comp=Z,160nm,18.7s,baz=156,slow=40
NV11 Mina Array Sit 32.76 322 IAmb IAmb 17 50 33.4
comp=Z,11nm,0.8s
NVAR Mina Array Bea 32.84 322 P **P 17 50 31.7 +2.5**
NVAR **PcP 17 53 13.9 -0.2**
NVAR Mina Array Bea 32.84 322 P **P 17 50 32.7 +3.5**
comp=Z,11nm,0.8s,baz=138,slow=8.9,SNR=50
NVAR PcP **PcP 17 53 15.8 +1.7**
comp=Z,1.9nm,0.8s,baz=130,slow=2.0,SNR=5.6
NVAR LR LR 18 05 37.3
comp=Z,229nm,18.2s,baz=162,slow=39
comp=Z,11nm,0.8s
SNOW Snow King Moun 32.84 336 P **P 17 50 30.5 +1.3**
LHV Little Huntoon 32.85 321 IAmb IAmb 17 50 34.4
comp=Z,10nm,0.8s
MOOW Moose Ponds 33.08 336 IAmb IAmb 17 50 36.4
comp=Z,12nm,0.8s

FXWY Fox Creek 33.10 336 IAmb IAmb 17 50 36.8
comp=Z,12nm,0.8s
H17A Grant Village 33.56 337 IAmb IAmb 17 50 42.2
comp=Z,6.7nm,0.9s
LKWY Lake 33.64 337 IAmb IAmb 17 50 43.2
comp=Z,11nm,0.8s
YNR Norris Junctio 33.87 337 IAmb IAmb 17 50 43.3
comp=Z,7.1nm,0.8s
YNE Yellowstone No 33.88 338 P **P 17 50 39.8 +1.6**
PNTR Pine Nut 34.04 322 IAmb IAmb 17 50 44.5
comp=Z,8.0nm,0.8s
AGMN Agassiz Nation 34.04 357 P **P 17 50 38.2 -1.1**
AGMN IAmb IAmb 17 50 43.1
comp=Z,5.4nm,0.6s
YHL Hebgen Lake 34.18 337 IAmb IAmb 17 50 45.9
comp=Z,8.1nm,0.9s
BOAV Boa Vista 34.23 107 P **P 17 50 40.5 -0.8**
BOAV IAmb IAmb 17 50 42.4
comp=Z,7.9nm,1.1s
HLID Hailey 34.48 332 IAmb IAmb 17 50 47.2
comp=Z,4.6nm,0.8s
BOZ Bozeman (W) 34.98 337 P **P 17 50 48.7 +1.1**
BOZ IAmb IAmb 17 50 53.4
comp=Z,13nm,1.4s
DLMT Dillon 35.15 336 IAmb IAmb 17 50 53.3
comp=Z,13nm,0.9s
WVOR Wild Horse Val 35.72 327 IAmb IAmb 17 50 58.5
comp=Z,8.2nm,1.1s
ULM Lac du Bonnet 35.99 357 IAmb IAmb 17 50 57.5
comp=Z,5.8nm,1.0s
ULM Lac du Bonnet 35.99 357 P **P 17 50 54.5 -1.5**
comp=Z,3.9nm,0.6s,baz=176,slow=9.7,SNR=11
ULM PcP **PcP 17 53 22.5 -0.1**
comp=Z,0.8nm,0.3s,baz=203,slow=6.7,SNR=3.3
ULM LR LR 18 09 34.3
comp=Z,73nm,18.4s,baz=184,slow=43
comp=Z,3.9nm,0.6s
HRY Holter Researc 35.99 338 P **P 17 50 56.8 +0.5**
PLID Pearl Lake 36.38 332 IAmb IAmb 17 51 03.0
comp=Z,8.0nm,0.9s
EGMT Eagleton 36.42 341 IAmb IAmb 17 51 04.0
comp=Z,14nm,1.1s
BMO Blue Mountains 36.80 331 P **P 17 51 03.8 +0.6**
MSO Missoula 36.89 336 IAmb IAmb 17 51 07.1
comp=Z,7.2nm,0.8s
YBH Yreka Blue Hor 37.55 323 LR LR 18 08 44.8
comp=Z,140nm,19.7s,baz=202,slow=39
KHMM Horse Mountain 37.65 321 IAmb IAmb 17 51 14.6
comp=Z,12nm,0.9s
E09A Wood Farm, Sta 38.44 332 P **P 17 51 17.9 +1.0**
I04A Tendick Farm, 38.68 325 IAmb IAmb 17 51 22.1
comp=Z,9.2nm,1.1s
LPAZ La Paz 39.08 140 LR LR 18 06 03.5
comp=Z,72nm,19.7s,baz=306,slow=34
H04A Detroit Lake 39.14 327 IAmb IAmb 17 51 26.2
comp=Z,14nm,0.9s
NEW Newport 39.33 335 LR LR 18 09 48.1
comp=Z,104nm,18.7s,baz=131,slow=39
C09A Chrisman Ranch 39.47 333 IAmb IAmb 17 51 33.5
comp=Z,5.6nm,0.7s
LON Longmire 40.35 329 IAmb IAmb 17 51 39.2
comp=Z,6.7nm,0.8s
MDP Montagnes des 40.81 99 LR LR 18 09 09.8
comp=Z,119nm,21.8s,baz=306,slow=37
FFC Flin Flon 41.00 352 P **P 17 51 37.6 -0.5**
LLLB Lilloet 43.14 333 P **P 17 51 56.2 +0.6**
FCC Fort Churchill 44.45 359 P **P 17 52 05.5 -0.6**
FCC IAmb IAmb 17 52 07.4
comp=Z,5.6nm,0.7s
SCHQ Schefferville 45.37 21 P **P 17 52 11.6 -1.8**
comp=Z,3.7nm,0.9s,baz=234,slow=5.4,SNR=2.3
SCHQ LR LR 18 14 16.4
comp=Z,111nm,18.7s,baz=309,slow=40
comp=Z,3.7nm,0.9s
BBB Bella Bella 47.05 331 LR LR 18 15 54.7
comp=Z,117nm,18.2s,baz=183,slow=41
TOAD Toad River Com 50.55 339 P **P 17 52 55.8 +2.3**
baz=138,SNR=7.0
YKA Yellowknife Ar 50.56 347 P **P 17 52 54.4 +0.9**
comp=Z,13nm,0.8s,baz=157,slow=7.5,SNR=144
comp=Z,13nm,0.8s
KOTAN Kotaneelee Air 51.12 341 P **P 17 52 59.6 +1.8**
baz=140,SNR=9.3
T35M Bob Quinn 51.14 335 P **P 17 53 00.1 +2.1**
baz=131
DLBC Dease Lake 52.02 336 IAmb IAmb 17 53 11.5
comp=Z,9.1nm,0.8s
DLBC Dease Lake 52.02 336 P **P 17 53 06.8 +2.2**
baz=132,SNR=7.2
S34M Telegraph Cree 52.11 335 P **P 17 53 06.7 +1.6**
baz=130
FRB Frobisher Bay 52.33 13 LR LR 18 15 20.6
comp=Z,17nm,22.0s,baz=257,slow=36
R33M Jennings River 53.03 337 P **P 17 53 12.1 -0.1**
R33M IAmb IAmb 17 53 25.6
comp=Z,7.3nm,1.2s
R33M Jennings River 53.03 337 P **P 17 53 14.5 +2.3**
baz=132
CPUP Villa Florida 53.23 139 LR LR 18 16 09.4
comp=Z,42nm,18.0s,baz=280,slow=36
Q32M Nakina River 53.25 336 IAmb IAmb 17 53 21.9
comp=Z,9.7nm,0.8s
Q32M Nakina River 53.25 336 P **P 17 53 15.8 +1.9**
baz=130
BDFB Brasilia 53.52 122 P **P 17 53 15.9 -0.5**
comp=Z,3.3nm,0.7s,baz=296,slow=8.0,SNR=6.7
comp=Z,3.3nm,0.7s
TGTN Hyland Airport 53.55 340 P **P 17 53 17.6 +1.8**
baz=136,SNR=7.0
P32M Atlin 54.22 336 IAmb IAmb 17 53 27.7
comp=Z,8.4nm,1.1s
P32M Atlin 54.22 336 P **P 17 53 23.4 +2.6**
baz=129
P33M Teslin, Yukon 54.27 337 P **P 17 53 22.3 +1.1**
P33M Teslin, Yukon 54.27 337 P **P 17 53 22.4 +1.2**
baz=130
N32M Quiet Lake 54.98 338 P **P 17 53 27.7 +1.5**
baz=130
MMPY Sheldon Lake, 55.32 340 IAmb IAmb 17 53 32.9
comp=Z,9.0nm,0.8s
MMPY Sheldon Lake, 55.32 340 P **P 17 53 30.4 +1.7**
baz=133,SNR=18
WHY Whitehorse 55.35 336 P **P 17 53 30.5 +1.5**
baz=128
FARO Faro, Yukon 55.78 339 P **P 17 53 32.5 +0.5**
FARO IAmb IAmb 17 53 35.1
comp=Z,5.0nm,0.9s
FARO Faro, Yukon 55.78 339 P **P 17 53 33.8 +1.8**
baz=130,SNR=6.2
P30M Million Dollar 55.85 335 P **P 17 53 34.6 +2.0**
baz=125
O30N Mendenhall 55.89 336 IAmb IAmb 17 53 36.4
comp=Z,5.9nm,0.9s
O30N Mendenhall 55.89 336 P **P 17 53 34.5 +1.7**
baz=127,SNR=5.5
M31M Drury Creek, Y 56.13 338 P **P 17 53 36.8 +2.2**
baz=129
N31M Braeburn, Yuko 56.20 337 IAmb IAmb 17 53 38.9
comp=Z,11nm,0.9s
N31M Braeburn, Yuko 56.20 337 P **P 17 53 36.6 +1.5**
baz=127,SNR=6.2
HYT Haines Junctio 56.48 336 P **P 17 53 38.8 +1.7**
baz=125
O29M Mount Kennedy 56.61 335 P **P 17 53 39.5 +1.4**
baz=124
N30M Aishikik Lake 56.69 336 P **P 17 53 39.8 +1.3**
N30M IAmb IAmb 17 53 42.3
comp=Z,5.6nm,0.9s
N30M Aishikik Lake 56.69 336 P **P 17 53 40.3 +1.7**
baz=126
YUK6 Outpost Mounta 56.89 336 P **P 17 53 42.0 +1.8**
baz=124
YUK4 Talbot Arm 57.23 336 P **P 17 53 44.4 +1.9**
baz=124
M30M Minto, Yukon 57.25 338 IAmb IAmb 17 53 45.5
comp=Z,4.7nm,1.1s
M30M Minto, Yukon 57.25 338 P **P 17 53 44.1 +1.6**
baz=127,SNR=5.9
O28M Mount Upton 57.54 335 P **P 17 53 45.9 +1.0**
baz=122
YUK8 Steele Glacier 57.65 335 P **P 17 53 46.8 +1.3**
baz=123,SNR=7.1
M29M Somme Creek 57.79 337 P **P 17 53 47.9 +1.5**
baz=125,SNR=20
MESA MESA 57.97 334 P **P 17 53 49.1 +1.4**
baz=120
L29M L29M 58.06 338 P **P 17 53 48.5 +0.4**
L29M IAmb IAmb 17 53 51.6

	comp=Z,12nm,1.1s					
L29M			PcP	PcP	17 54 41.1	+1.2
L29M	**L29M**	**58.06 338**	P	P	**17 53 49.4**	**+1.2**
	baz=126					
K29M	**Barlow Dome**	**58.28 339**	IAmb	IAmb	17 54 01.3	
	comp=Z,4.7nm,1.2s					
K29M	**Barlow Dome**	**58.28 339**	P	P	**17 53 51.2**	**+1.5**
	baz=127					
J30M	**Hart River**	**58.32 340**	IAmb	IAmb	17 53 55.3	
	comp=Z,3.9nm,0.9s					
J30M	**Hart River**	**58.32 340**	P	P	**17 53 51.3**	**+1.2**
	baz=128					
C36M	**Paulatuk**	**58.44 348**	P	P	**17 53 52.6**	**+2.0**
	baz=144					
H31M	**Peel River**	**58.47 341**	P	P	**17 53 52.2**	**+1.2**
	baz=131					
PLCA	**Paso Flores**	**58.54 160**	P	P	**17 53 54.2**	**+2.4**
	comp=Z,2.5nm,1.0s,baz=331,slow=8.3,SNR=3.5					
	comp=Z,2.5nm,1.0s					
I30M	**Mount Dempster**	**58.74 340**	IAmb	IAmb	17 53 58.0	
	comp=Z,4.5nm,0.9s					
I30M	**Mount Dempster**	**58.74 340**	P	P	**17 53 54.2**	**+1.2**
	baz=129					
M27K	**Edge Creek, AK**	**59.07 336**	IAmb	IAmb	17 54 07.3	
	comp=Z,3.6nm,0.9s					
M27K	**Edge Creek, AK**	**59.07 336**	P	P	**17 53 57.3**	**+1.9**
	baz=121					
DAWY	**Dawson**	**59.07 338**	P	P	**17 53 56.5**	**+1.2**
	baz=125					
VRDI	**Verde Repeater**	**59.14 334**	P	P	**17 53 57.0**	**+1.1**
VRDI			IAmb	IAmb	17 53 59.4	
	comp=Z,4.3nm,0.8s					
F31M	**Tsiigehtchic**	**59.39 343**	P	P	**17 53 58.7**	**+1.4**
	baz=132,SNR=8.8					
BCAR	**Beaver Creek A**	**59.41 337**	P	P	**17 53 59.1**	**+1.5**
BCAR			PcP	PcP	**17 54 43.4**	**-1.9**
L27K	**Beaver Creek,**	**59.42 337**	IAmb	IAmb	17 54 00.8	
	comp=Z,8.1nm,1.0s					
L27K	**Beaver Creek,**	**59.42 337**	P	P	**17 53 59.5**	**+1.8**
	baz=122					
I29M	**Ogilvie Camp,**	**59.46 340**	IAmb	IAmb	17 54 00.5	
	comp=Z,6.7nm,1.0s					
I29M	**Ogilvie Camp,**	**59.46 340**	P	P	**17 53 59.5**	**+1.6**
	baz=127,SNR=5.2					
BMRM	**Bremner River**	**59.50 334**	IAmb	IAmb	17 54 15.3	
	comp=Z,10nm,1.1s					
BMRM	**Bremner River**	**59.50 334**	P	P	**17 54 00.3**	**+2.1**
	baz=118					
M26K	**Nabesna, AK**	**59.54 336**	IAmb	IAmb	17 54 01.8	
	comp=Z,6.7nm,1.1s					
M26K	**Nabesna, AK**	**59.54 336**	P	P	**17 54 00.7**	**+2.3**
	baz=120					
SFJD	**Kangerlussuaq**	**59.61 18**	LR	LR	18 21 16.8	
	comp=Z,151nm,18.2s,baz=210,slow=38					
N25K	**Chitina, Valde**	**59.80 334**	P	P	**17 54 02.5**	**+2.1**
	baz=118,SNR=8.5					
EYAK	**Cordova Ski Ar**	**59.80 333**	P	P	**17 54 02.4**	**+2.2**
	baz=116					
INK	**Inuvik**	**59.92 344**	P	P	**17 54 01.8**	**+0.9**
INK	**Inuvik**	**59.92 344**	P	P	**17 54 02.5**	**+1.6**
	baz=133,SNR=13					
L26K	**Log Cabin Wild**	**60.00 336**	P	P	**17 54 03.3**	**+1.7**
	baz=120					
H29M	**Whitestone**	**60.00 341**	P	P	**17 54 03.2**	**+1.6**
	baz=127					
K27K	**Chicken**	**60.04 337**	IAmb	IAmb	17 54 06.2	
	comp=Z,4.7nm,0.8s					
K27K	**Chicken**	**60.04 337**	P	P	**17 54 03.6**	**+1.8**
	baz=122					
I28M	**Miner Creek**	**60.07 339**	P	P	**17 54 03.3**	**+1.2**
	baz=125					
F30M	**Barrier River**	**60.09 343**	P	P	**17 54 03.6**	**+1.5**
	baz=130					
KLU	**Klutina**	**60.31 334**	P	P	**17 54 04.4**	**+0.5**
KLU	**Klutina**	**60.31 334**	P	P	**17 54 05.7**	**+1.9**
	baz=117,SNR=7.7					
G29M	**Pine Creek**	**60.32 341**	P	P	**17 54 05.4**	**+1.6**
	baz=128,SNR=7.5					
HARP	**HAARP**	**60.41 335**	P	P	**17 54 06.6**	**+2.2**
	baz=118					
RES	**Resolute Bay**	**60.45 359**	LR	LR	18 21 57.3	
	comp=Z,64nm,19.7s,baz=352,slow=38					
M24K	**Tolsona, Glenn**	**60.70 334**	P	P	**17 54 08.3**	**+1.9**
	baz=117					
SCRK	**Sand Creek**	**60.73 337**	P	P	**17 54 07.5**	**+0.8**
	baz=120					
I27K	**Kandik River**	**60.73 339**	P	P	**17 54 08.4**	**+1.8**
	baz=123					
PAX	**Paxson**	**60.81 336**	P	P	**17 54 08.9**	**+1.6**
	baz=118,SNR=9.4					
A36M	**Sachs Harbour**	**60.82 349**	P	P	**17 54 07.2**	**+0.2**
A36M	**Sachs Harbour**	**60.82 349**	P	P	**17 54 07.8**	**+0.8**
	baz=143,SNR=12					
J26L	**Joseph Creek**	**60.84 338**	IAmb	IAmb	17 54 10.7	
	comp=Z,8.3nm,0.9s					
J26L	**Joseph Creek**	**60.84 338**	P	P	**17 54 09.3**	**+1.9**
	baz=121,SNR=9.5					
RIDG	**Independent Ri**	**60.94 336**	IAmb	IAmb	17 54 11.2	
	comp=Z,6.9nm,0.8s					
RIDG	**Independent Ri**	**60.94 336**	P	P	**17 54 09.8**	**+1.7**
	baz=119					
H27K	**Steamboat Moun**	**61.05 340**	P	P	**17 54 10.9**	**+2.1**
	baz=124,SNR=5.4					
SCM	**Sheep Creek Mo**	**61.06 334**	P	P	**17 54 10.6**	**+1.6**
	baz=116					
I26K	**Coal Creek Min**	**61.11 338**	IAmb	IAmb	17 54 13.6	
	comp=Z,3.8nm,0.7s					
I26K	**Coal Creek Min**	**61.11 338**	P	P	**17 54 10.6**	**+1.5**
	baz=122					
E29M	**Blow River**	**61.20 343**	P	P	**17 54 11.1**	**+1.4**
E29M			IAmb	IAmb	17 54 21.1	
	comp=Z,9.1nm,1.0s					
E29M	**Blow River**	**61.20 343**	P	P	**17 54 11.7**	**+2.0**
	baz=128,SNR=9.5					
M23K	**Glacier View**	**61.22 334**	P	P	**17 54 11.6**	**+1.7**
	baz=115					
K24K	**Donnelly Dome**	**61.33 336**	P	P	**17 54 12.6**	**+1.9**
	baz=118					
KNK	**Knik Glacier**	**61.37 333**	P	P	**17 54 12.9**	**+1.9**
	baz=114					
G27K	**Doyon Strip**	**61.42 340**	IAmb	IAmb	17 54 14.1	
	comp=Z,4.4nm,0.9s					
G27K	**Doyon Strip**	**61.42 340**	P	P	**17 54 13.0**	**+1.8**
	baz=124					
SML	**Sawmill**	**61.48 334**	P	P	**17 54 13.7**	**+1.9**
	baz=115					
J25K	**Salcha River,**	**61.57 337**	IAmb	IAmb	17 54 15.7	
	comp=Z,4.8nm,0.9s					
J25K	**Salcha River,**	**61.57 337**	P	P	**17 54 13.8**	**+1.5**
	baz=119,SNR=5.8					
PMR	**Palmer**	**61.74 333**	P	P	**17 54 14.7**	**+1.3**
	baz=114					
RC01	**Rabbit Creek A**	**61.80 333**	P	P	**17 54 15.2**	**+1.3**
	baz=113					
E28M	**Babbage River**	**61.81 342**	IAmb	IAmb	17 54 16.1	
	comp=Z,6.9nm,0.8s					
E28M	**Babbage River**	**61.81 342**	P	P	**17 54 15.0**	**+1.2**
	baz=127					
D28M	**Stokes Point**	**62.03 343**	P	P	**17 54 16.8**	**+1.6**
	baz=128					
HDA	**Harding Lake**	**62.07 337**	IAmb	IAmb	17 54 18.0	
	comp=Z,5.5nm,0.8s					
HDA	**Harding Lake**	**62.07 337**	P	P	**17 54 17.3**	**+1.7**
	baz=117					
PRP	**Porcupine Dome**	**62.07 338**	P	P	**17 54 16.4**	**+0.7**
PRP	**Porcupine Dome**	**62.07 338**	P	P	**17 54 17.4**	**+1.6**
	baz=119,SNR=7.0					
HOM	**Homer**	**62.15 331**	P	P	**17 54 18.2**	**+2.1**
	baz=110					
E27K	**Coleen River**	**62.18 342**	P	P	**17 54 17.7**	**+1.3**
	baz=124					
G26K	**Porcupine Rive**	**62.20 340**	P	P	**17 54 18.1**	**+1.6**
	baz=122					
ILAR	**Eielson Array**	**62.22 337**	P	P	**17 54 17.3**	**+0.7**
ILAR	**Eielson Array**	**62.22 337**	P	P	**17 54 17.9**	**+1.2**
	comp=Z,4.9nm,0.9s,baz=134,slow=4.5,SNR=49					
ILAR			LR	LR	18 23 35.1	
	comp=Z,72nm,18.7s,baz=118,slow=38					
	comp=Z,4.9nm,0.9s					
SUA	**Susitna One**	**62.40 333**	P	P	**17 54 19.1**	**+1.1**
	baz=112					
CCB	**Clear Creek Bu**	**62.51 337**	P	P	**17 54 19.0**	**+0.5**
CCB			IAmb	IAmb	17 54 30.1	
	comp=Z,4.8nm,1.0s					
H25L	**Birch Creek**	**62.55 339**	P	P	**17 54 20.2**	**+1.4**
	baz=119					
MCK	**McKinley**	**62.55 335**	P	P	**17 54 20.3**	**+1.4**
	baz=115,SNR=6.4					
POKR	**Poker Plat Res**	**62.59 337**	P	P	**17 54 20.1**	**+1.1**
	baz=117					
D27M	**Malcolm River**	**62.61 343**	IAmb	IAmb	17 54 21.6	
	comp=Z,5.2nm,0.8s					
D27M	**Malcolm River**	**62.61 343**	P	P	**17 54 20.8**	**+1.6**
	baz=126					
COLA	**College**	**62.63 337**	P	P	**17 54 20.9**	**+1.6**
	baz=116					
F26K	**Sheenjek River**	**62.72 340**	IAmb	IAmb	17 54 22.6	
	comp=Z,3.0nm,0.8s					
F26K	**Sheenjek River**	**62.72 340**	P	P	**17 54 21.5**	**+1.5**
	baz=122					
BMAR	**Burnt Mountain**	**62.72 340**	P	P	**17 54 21.2**	**+1.2**
SPU	**Mount Spurr**	**62.88 332**	IAmb	IAmb	17 54 23.8	
	comp=Z,5.7nm,0.8s					
G25K	**Bearman Lake**	**62.89 339**	P	P	**17 54 22.6**	**+1.5**
	baz=119					
SKT	**Skwentna**	**62.94 333**	IAmb	IAmb	17 54 24.3	
	comp=Z,8.5nm,1.0s					
SKT	**Skwentna**	**62.94 333**	P	P	**17 54 23.2**	**+1.7**
	baz=112					
N20K	**Mount Spurr**	**62.96 332**	P	P	**17 54 22.9**	**+1.2**
	baz=110					
SPCR	**Spurr Chakacha**	**62.96 332**	P	P	**17 54 23.2**	**+1.5**
	baz=110					
NEA2	**Nenana**	**62.98 336**	P	P	**17 54 22.9**	**+1.2**
	baz=115					
TRF	**Thorofare Moun**	**62.99 335**	P	P	**17 54 23.0**	**+1.0**
	baz=114,SNR=6.8					
H24K	**Noodor Dome**	**63.08 338**	IAmb	IAmb	17 54 25.1	
	comp=Z,9.0nm,0.9s					
H24K	**Noodor Dome**	**63.08 338**	P	P	**17 54 24.1**	**+1.7**
	baz=117,SNR=11					
F25K	**Christian Rive**	**63.15 340**	IAmb	IAmb	17 54 26.8	
	comp=Z,5.5nm,1.1s					
F25K	**Christian Rive**	**63.15 340**	P	P	**17 54 24.3**	**+1.4**
	baz=120,SNR=6.3					
I23K	**Minto, Yukon-K**	**63.33 337**	P	P	**17 54 25.0**	**+1.0**
I23K	**Minto, Yukon-K**	**63.33 337**	P	P	**17 54 25.5**	**+1.6**
	baz=115,SNR=7.8					
G24K	**Hadweenzic Riv**	**63.34 339**	IAmb	IAmb	17 54 27.1	
	comp=Z,7.9nm,1.0s					
G24K	**Hadweenzic Riv**	**63.34 339**	P	P	**17 54 25.7**	**+1.6**
	baz=118,SNR=8.1					
E25K	**Arctic Village**	**63.40 341**	IAmb	IAmb	17 54 29.1	
	comp=Z,6.0nm,1.1s					
E25K	**Arctic Village**	**63.40 341**	P	P	**17 54 26.3**	**+1.9**
	baz=120,SNR=6.0					
Q18K	**Katmai Hardscr**	**63.46 329**	P	P	**17 54 26.1**	**+0.9**
	baz=107					
BPAW	**Bear Paw Mtn.**	**63.53 335**	IAmb	IAmb	17 54 27.6	
	comp=Z,6.7nm,0.8s					
BPAW	**Bear Paw Mtn.**	**63.53 335**	P	P	**17 54 26.7**	**+1.4**
	baz=113,SNR=5.3					
PPLA	**Purkeypile**	**63.57 334**	P	P	**17 54 26.7**	**+0.9**
	baz=111					
M20K	**Styx River**	**63.61 333**	P	P	**17 54 27.0**	**+0.9**
M20K			IAmb	IAmb	17 54 28.6	
	comp=Z,6.4nm,0.8s					
M20K	**Styx River**	**63.61 333**	P	P	**17 54 27.2**	**+1.1**
	baz=110					
C27K	**Jago River**	**63.63 342**	P	P	**17 54 27.2**	**+1.3**
	baz=123					
CAST	**Castle Rocks**	**63.72 335**	P	P	**17 54 27.8**	**+1.2**
	baz=112,SNR=8.0					
F24K	**Squaw Lake**	**63.87 340**	P	P	**17 54 28.8**	**+1.2**
	baz=118					
N19K	**Bonanza Creek**	**63.87 331**	P	P	**17 54 29.0**	**+1.2**
	baz=108					
O18K	**Koktuh Hills**	**63.92 330**	P	P	**17 54 29.2**	**+1.2**
	baz=107					
CHUM	**Lake Minchumin**	**63.99 335**	P	P	**17 54 29.1**	**+0.8**
	baz=112					
C26K	**Camden Bay**	**64.14 342**	P	P	**17 54 30.5**	**+1.3**
	baz=122					
L20K	**Farewell, AK**	**64.15 333**	P	P	**17 54 30.1**	**+0.6**
	baz=110					
M19K	**Big River Lodg**	**64.18 333**	P	P	**17 54 30.9**	**+1.2**
	baz=109					
G23K	**Bananza Creek**	**64.25 338**	IAmb	IAmb	17 54 33.1	
	comp=Z,7.3nm,1.1s					
G23K	**Bananza Creek**	**64.25 338**	P	P	**17 54 31.2**	**+1.1**
	baz=115					
D25K	**Kavik River**	**64.26 342**	P	P	**17 54 31.3**	**+1.1**
	baz=120					
Q16K	**King Salmon**	**64.30 329**	P	P	**17 54 31.8**	**+1.3**
	baz=105					
E24K	**Your Creek**	**64.33 340**	IAmb	IAmb	17 54 44.4	
	comp=Z,3.7nm,1.0s					
E24K	**Your Creek**	**64.33 340**	P	P	**17 54 31.4**	**+0.8**
	baz=117					
I21K	**Tanana**	**64.35 336**	IAmb	IAmb	17 54 32.1	
	comp=Z,6.6nm,1.2s					
I21K	**Tanana**	**64.35 336**	P	P	**17 54 32.0**	**+1.3**
	baz=113					
H22K	**Ishtalitna Cre**	**64.40 337**	P	P	**17 54 32.2**	**+1.1**
	baz=114					
L19K	**White Mountain**	**64.48 333**	P	P	**17 54 32.7**	**+1.1**
	baz=108					
N18K	**Kilae Creek**	**64.49 331**	P	P	**17 54 33.2**	**+1.4**
	baz=107					
K20K	**Telida**	**64.53 334**	P	P	**17 54 33.0**	**+1.1**
	baz=110					
COLD	**Coldfoot**	**64.54 339**	P	P	**17 54 33.2**	**+1.3**
COLD			IAmb	IAmb	17 54 35.3	
	comp=Z,5.9nm,1.0s					
COLD	**Coldfoot**	**64.54 339**	P	P	**17 54 33.6**	**+1.7**
	baz=115,SNR=5.4					
M18K	**Stony River**	**64.70 332**	P	P	**17 54 34.2**	**+1.1**
	baz=107					
E23K	**Chandalar**	**64.70 340**	IAmb	IAmb	17 54 36.6	
	comp=Z,10nm,1.1s					
E23K	**Chandalar**	**64.70 340**	P	P	**17 54 35.1**	**+2.0**
	baz=116					
J20K	**Nowinta River**	**64.85 335**	P	P	**17 54 35.0**	**+1.1**
	baz=110					
H21K	**Melozitna Rive**	**64.85 337**	IAmb	IAmb	17 54 36.8	
	comp=Z,4.1nm,0.9s					
H21K	**Melozitna Rive**	**64.85 337**	P	P	**17 54 35.0**	**+1.0**
	baz=112					
D24K	**Happy Valley**	**64.94 341**	IAmb	IAmb	17 54 37.4	
	comp=Z,8.1nm,1.1s					
D24K	**Happy Valley**	**64.94 341**	P	P	**17 54 35.7**	**+1.2**
	baz=118					
TOLK	**Toolik Lake Re**	**64.95 340**	IAmb	IAmb	17 54 37.5	
	comp=Z,6.1nm,0.7s					
TOLK	**Toolik Lake Re**	**64.95 340**	P	P	**17 54 36.4**	**+1.7**
	baz=116,SNR=6.6					
C24K	**Franklin Bluff**	**65.17 342**	P	P	**17 54 37.9**	**+1.9**
	baz=118					
I20K	**Naaghedeneel**	**65.20 336**	P	P	**17 54 37.4**	**+1.2**
	baz=110					
TTA	**Tatalina**	**65.22 333**	P	P	**17 54 38.1**	**+1.5**
	baz=108					
F22K	**John River**	**65.35 339**	P	P	**17 54 38.4**	**+1.2**
	baz=113					
J19K	**Poorman**	**65.39 335**	P	P	**17 54 38.5**	**+0.9**
J19K	**Poorman**	**65.39 335**	P	P	**17 54 38.0**	**+0.5**
	baz=108,SNR=6.3					
M17K	**Holitna River**	**65.42 332**	P	P	**17 54 39.2**	**+1.4**
	baz=106					
G21K	**Allakaket**	**65.44 337**	IAmb	IAmb	17 54 40.3	
	comp=Z,6.3nm,0.8s					
G21K	**Allakaket**	**65.44 337**	P	P	**17 54 39.0**	**+1.2**
	baz=112					
D23K	**Nanushuk River**	**65.46 340**	IAmb	IAmb	17 54 40.8	
	comp=Z,9.3nm,1.1s					
D23K	**Nanushuk River**	**65.46 340**	P	P	**17 54 39.6**	**+1.7**
	baz=116					
E22K	**Anaktuvuk Pass**	**65.48 339**	IAmb	IAmb	17 54 41.4	
	comp=Z,9.6nm,0.9s					
E22K	**Anaktuvuk Pass**	**65.48 339**	P	P	**17 54 39.5**	**+1.4**
	baz=114,SNR=10					
SDPT	**Sand Point**	**65.58 325**	P	P	**17 54 40.9**	**+2.0**
	baz=100					
H20K	**Anotleneega Mo**	**65.60 336**	P	P	**17 54 40.4**	**+1.6**
	baz=110					
J18K	**Innoko River**	**65.69 334**	P	P	**17 54 41.5**	**+2.1**
	baz=107					
F21K	**Alatna River**	**65.70 338**	P	P	**17 54 41.5**	**+2.0**
	baz=112,SNR=27					
C23K	**Itkillik River**	**65.82 341**	P	P	**17 54 40.9**	**+0.7**
C23K	**Itkillik River**	**65.82 341**	P	P	**17 54 42.3**	**+2.1**
	baz=116					
L17K	**Donlin**	**66.01 332**	P	P	**17 54 43.2**	**+1.6**
	baz=105					
D22K	**Ayikyak River**	**66.08 340**	P	P	**17 54 43.6**	**+1.7**
	baz=114					
H19K	**Roundabout Mou**	**66.23 336**	IAmb	IAmb	17 54 45.5	
	comp=Z,8.5nm,0.9s					
H19K	**Roundabout Mou**	**66.23 336**	P	P	**17 54 44.3**	**+1.5**
	baz=108					
F20K	**Avaraart Lake**	**66.46 338**	P	P	**17 54 45.8**	**+1.5**
	baz=110					
G19K	**Purcell Mounta**	**66.67 337**	IAmb	IAmb	17 54 48.1	
	comp=Z,7.0nm,0.9s					
G19K	**Purcell Mounta**	**66.67 337**	P	P	**17 54 47.0**	**+1.3**
	baz=108					
H18K	**Honhosa River**	**66.88 335**	P	P	**17 54 48.3**	**+1.2**
	baz=106					
C21K	**Knifeblade Rid**	**66.88 340**	P	P	**17 54 48.7**	**+1.7**
	baz=112					
B22K	**Teshekpuk Lake**	**66.90 341**	P	P	**17 54 48.4**	**+1.3**
	baz=113,SNR=12					
B21K	**Ikpikpuk River**	**67.00 340**	P	P	**17 54 48.6**	**+0.9**
B21K			IAmb	IAmb	17 54 50.4	
	comp=Z,6.5nm,0.8s					
B21K	**Ikpikpuk River**	**67.00 340**	P	P	**17 54 48.9**	**+1.2**
	baz=112					
E20K	**Nigu River**	**67.04 339**	P	P	**17 54 49.5**	**+1.4**
	baz=110					
E19K	**Redstone River**	**67.14 338**	P	P	**17 54 50.2**	**+1.5**
	baz=108					
F19K	**Shaleruckik Mo**	**67.15 337**	IAmb	IAmb	17 54 51.4	
	comp=Z,5.7nm,0.9s					
F19K	**Shaleruckik Mo**	**67.15 337**	P	P	**17 54 50.3**	**+1.6**
	baz=108					
G18K	**Tagagawik**	**67.21 336**	IAmb	IAmb	17 54 52.0	
	comp=Z,4.4nm,0.8s					
G18K	**Tagagawik**	**67.21 336**	P	P	**17 54 50.3**	**+1.2**
	baz=106					
J16K	**Anvik River**	**67.33 333**	P	P	**17 54 51.4**	**+1.5**
	baz=104					
D20K	**Etivluk River**	**67.34 339**	P	P	**17 54 51.4**	**+1.4**
	baz=110					
L15K	**Ungalak Mounta**	**67.36 331**	P	P	**17 54 51.7**	**+1.5**
	baz=102					
M14K	**Bethel**	**67.40 330**	P	P	**17 54 51.9**	**+1.6**
	baz=101					
K15K	**Wolf Creek Mou**	**67.52 332**	P	P	**17 54 52.8**	**+1.6**
	baz=102					
A22K	**Sinclair Lake**	**67.64 342**	P	P	**17 54 53.2**	**+1.5**
	baz=112,SNR=10.0					
D19K	**Kuna River**	**67.79 339**	IAmb	IAmb	17 54 57.6	
	comp=Z,6.1nm,0.8s					
D19K	**Kuna River**	**67.79 339**	P	P	**17 54 54.2**	**+1.3**
	baz=108					
F18K	**Selawik**	**67.79 337**	P	P	**17 54 54.7**	**+1.9**
	baz=106					
B20K	**Meade River**	**67.97 341**	P	P	**17 54 55.4**	**+1.6**
	baz=110					
M13K	**Dall Lake**	**68.01 330**	P	P	**17 54 56.5**	**+2.2**
	baz=100					
F17K	**Baldwin Pennin**	**68.37 336**	P	P	**17 54 58.1**	**+1.7**
	baz=104					
E18K	**Tukpahlearik C**	**68.38 337**	P	P	**17 54 58.2**	**+1.7**
	baz=105					
J14K	**Nanvaranak Lak**	**68.53 332**	P	P	**17 54 59.5**	**+2.1**
	baz=100					
G16K	**Koyuk River**	**68.56 335**	P	P	**17 54 59.0**	**+1.3**
	baz=103					
E17K	**Hotham Inlet**	**68.75 337**	P	P	**17 55 00.2**	**+1.4**
	baz=104					
C18K	**Utukok River**	**68.92 339**	IAmb	IAmb	17 55 04.6	
	comp=Z,3.5nm,0.8s					
C18K	**Utukok River**	**68.92 339**	P	P	**17 55 01.5**	**+1.6**
	baz=105					
A19K	**Wainwright**	**69.30 340**	P	P	**17 55 03.5**	**+1.3**
	baz=106,SNR=8.9					
B18K	**Kokolik River**	**69.32 339**	P	P	**17 55 03.2**	**+0.9**
	baz=105					
D17K	**Noatak River**	**69.37 337**	P	P	**17 55 03.4**	**+0.8**
	baz=103					
BORG	**Borgarnes**	**69.45 26**	LR	LR	18 24 04.2	
	comp=Z,47nm,21.5s,baz=268,slow=35					
F15K	**North Star Dit**	**69.56 335**	P	P	**17 55 04.7**	**+0.8**
	baz=101					
C17K	**DeLong Mountai**	**69.58 338**	P	P	**17 55 04.6**	**+0.6**
	baz=103					
JMIC	**Jan Mayen**	**74.88 20**	LR	LR	18 28 57.2	
	comp=Z,69nm,18.8s,baz=272,slow=36					
EKA	**Eskdalemuir Ar**	**78.38 36**	P	P	**17 55 53.7**	**-2.0**
	comp=Z,5.0nm,0.8s,baz=279,slow=5.5,SNR=8.0					
	comp=Z,5.0nm,0.8s					
SPITS	**Spitsbergen Ar**	**80.06 11**	LR	LR	18 32 44.0	
	comp=Z,92nm,20.7s,baz=206,slow=37					
ESDC	**Sonseca Array**	**80.39 52**	P	P	**17 56 05.3**	**-1.8**
	comp=Z,2.3nm,0.9s,baz=291,slow=6.1,SNR=8.5					
ESDC			LR	LR	18 28 56.5	
	comp=Z,48nm,19.4s,baz=290,slow=34					
	comp=Z,2.3nm,0.9s					
BILL	**Bilibino**	**80.86 338**	P	P	**17 56 09.6**	**+0.7**
BILL			IAmb	IAmb	17 56 11.7	
	comp=Z,11nm,0.9s					
MDT	**Midelt**	**81.16 58**	LR	LR	18 26 23.6	
	comp=Z,77nm,19.1s,baz=7.5,slow=32					
NB2	**NORSAR Subarra**	**84.43 28**	P	P	**17 56 27.5**	**-0.2**
	comp=Z,8.8nm,1.1s,baz=290,slow=5.6					
NOA	**NORSAR Array B**	**84.43 28**	P	P	**17 56 26.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=291,slow=5.1,SNR=5.5					
NOA			LR	LR	18 31 59.8	
	comp=Z,49nm,21.8s,baz=285,slow=34					
	comp=Z,1.1nm,0.7s					
HFS	**Hagfors**	**85.90 29**	P	P	**17 56 33.5**	**-1.6**
	comp=Z,4.3nm,0.9s,baz=339,slow=7.7,SNR=2.5					
HFS			LR	LR	18 32 19.1	
	comp=Z,64nm,21.7s,baz=268,slow=34					
	comp=Z,4.3nm,0.9s					
ARCES	**ARCESS Array B**	**86.24 18**	P	P	**17 56 35.7**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=283,slow=4.4,SNR=5.1					
ARCES			LR	LR	18 36 25.2	
	comp=Z,61nm,18.4s,baz=210,slow=37					
	comp=Z,3.6nm,0.9s					
DBIC	**Dimbokro**	**86.66 84**	P	P	**17 56 38.8**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=283,slow=4.2,SNR=5.1					
	comp=Z,4.8nm,0.8s					
DAVOX	**Davos/Dischmat**	**88.39 42**	LR	LR	18 30 48.8	
	comp=Z,56nm,19.8s,baz=258,slow=32					
TIXI	**Tiksi**	**89.81 348**	P	P	**17 56 53.5**	**0.0**
PETK	**Petropavlovsk-**	**89.86 325**	P	P	**17 56 55.5**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=55,slow=7.6,SNR=2.8					
	comp=Z,3.7nm,1.0s					
GERES	**GERESS Array B**	**90.08 39**	LR	LR	18 33 26.3	
	comp=Z,41nm,19.9s,baz=261,slow=33					
MA2	**Magadan**	**90.42 333**	P	P	**17 56 56.9**	**+0.3**
MA2			IAmb	IAmb	17 57 01.9	
	comp=Z,4.4nm,0.7s					
FINES	**FINESS Array B**	**90.73 25**	LR	LR	18 39 18.6	
	comp=Z,49nm,18.2s,baz=273,slow=37					
TORD	**Torodi Ar. Bea**	**91.33 76**	P	P	**17 57 00.3**	**-1.5**
	comp=Z,5.8nm,0.3s,baz=279,slow=4.5,SNR=3.9					
	comp=Z,5.8nm,0.3s					
VRAC	**Vranov**	**91.65 38**	LR	LR	18 34 31.1	
	comp=Z,38nm,20.9s,baz=261,slow=33					
AKASG	**Malin Array Be**	**98.10 33**	LR	LR	18 45 02.3	
	comp=Z,20nm,18.3s,baz=252,slow=38					
KURBB	**Kurchatov Arra**	**115.00 6**	PKP	PKPdf	18 02 36.6	+0.3
	comp=Z,0.8nm,0.7s,baz=345,slow=2.1,SNR=6.6					
SONM	**Songino Array**	**115.81 346**	PKP	**PKPdf**

NWLT	**Wulai**	**0.18 337**	*e*P	Pg	17 49 41.5	+0.6
YHNB	**Yeheng**	**0.20 288**	*e*P	Pg	17 49 41.6	+0.4
NSK	**Sanguang**	**0.21 288**	*e*P	Pg	17 49 41.9	+0.4
ENA	**Nanau**	**0.23 141**	*e*P	Pg	17 49 42.9	+1.1
ENA			*e*S	Sg	17 49 46.0	+1.1
EWUT	**Wuta**	**0.24 132**	*e*P	Pg	17 49 42.5	+0.5
EWUT			*e*S	Sg	17 49 45.8	+0.6
NNSB	**Datong**	**0.26 225**	*e*P	Pg	17 49 42.8	+0.5
NNSB			*e*S	Sg	17 49 46.6	+0.9

TAP 05 17:49:39.1, 24.′63N×121.′64E, h2km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.07 277**		P	Pg	17 49 40.9	+0.4
ENTT				S	Sg	17 49 42.4	+0.9
FUSB	**Fushanzhiwuyua**	**0.14 339**		*e*P	Pg	17 49 42.9	+1.1
FUSB				*e*S	Sg	17 49 45.6	+1.9
LATG	**Datong**	**0.14 228**		*e*P	Pg	17 49 43.3	+1.4
LATG				*e*S	Sg	17 49 46.2	+2.4
NWLT	**Wulai**	**0.19 319**		*e*P	Pg	17 49 44.0	+1.1
NWLT				*e*S	Sg	17 49 46.4	+1.0
ENA	**Nanau**	**0.22 156**		*e*P	Pg	17 49 44.7	+1.3
ENA				*e*S	Sg	17 49 48.2	+1.9
EWUT	**Wuta**	**0.22 146**		*e*P	Pg	17 49 44.7	+1.3
EWUT				*e*S	Sg	17 49 48.0	+1.7
YHNB	**Yeheng**	**0.24 279**		*e*P	Pg	17 49 44.5	+0.6
YHNB				*e*S	Sg	17 49 46.6	-0.5
NSK	**Sanguang**	**0.26 280**		*e*P	Pg	17 49 44.8	+0.6
NSK				*e*S	Sg	17 49 49.1	+1.5

*IDC **05** 17:52:35.0±0.7, 6.′67N×72.′94W, h164km±8km, mb3.4/5, mbtmp4.0/8, MS3.5/1, Error ellipse: s-maj=28.5km s-min=7.5km az=133.0*
*NEIC **05** 17:52:34.7±2.1, 6.′67N±0.′08×72.′91W±0.′09, h164km±7km, mb4.4/17, Error ellipse: s-maj=15.2km s-min=8.6km az=132.0*
ISC 05 17:52:34.2±0.5, 6.′67N±0.′06×72.′93W±0.′06, h161km, n51, σ1§17/55, mb4.3/13, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.79 192**			**Pn**	**17 52 59.3**	**+0.3**
RUSC				Sn	**Sn**	**17 53 18.1**	**+0.1**
ROSC	**El Rosal**	**2.29 217**			**Pn**	**17 53 15.8**	**+2.0**
ROSC				Sn	**Sn**	**17 53 43.4**	**-0.8**
ROSC	**El Rosal**	**2.29 217**		P	**Pn**	**17 53 15.9**	**+2.2**
528nm,0.3s,baz=316,slow=21,SNR=423
ROSC				S	**Sn**	**17 53 45.2**	**+1.0**
782nm,0.3s,baz=202,slow=22,SNR=7.8
SDV	**Santo Domingo**	**3.17 46**			**Pn**	**17 53 25.8**	**+1.5**
SDV				Sn	**Sn**	**17 54 02.0**	**-1.1**
SDV	**Santo Domingo**	**3.17 46**		P	**Pn**	**17 53 26.0**	**+1.7**
29nm,0.3s,baz=233,slow=8.8,SNR=44
SDV				S	**Sn**	**17 54 04.7**	**+1.5**
210nm,0.4s,baz=56,slow=21,SNR=51
BAUV	**El Baul**	**5.34 65**			**Pn**	**17 53 52.5**	**+0.1**
BAUV				Sn	**Sn**	**17 54 51.5**	**-2.0**
FLOC	**Florencia**	**5.74 208**			**Pn**	**17 53 58.2**	**+0.6**
OTAV	**Otavalo**	**8.44 221**			**Pn**	**17 54 32.7**	**-1.2**
PCRV	**Puerto La Cruz**	**8.91 66**		P	**Pn**	**17 54 41.7**	**+2.0**
3.1nm,0.4s,baz=260,slow=19,SNR=1.2
PCRV				S	**Sn**	**17 56 19.4**	**+0.5**
4.9nm,0.5s,baz=339,slow=11,SNR=1.4
MTDJ	**Mount Denham**	**12.34 339**		Pn	**Pn**	**17 55 24.8**	**+0.1**
MTDJ	**Mount Denham**	**12.34 339**		*e*P	**Pn**	**17 55 25.8**	**+1.2**
DR12	**Loma Pena Alta**	**12.53 16**		Pn	**Pn**	**17 55 26.9**	**-0.3**
BOAV	**Boa Vista**	**13.07 108**		Pn	**Pn**	**17 55 34.6**	**+0.6**
GTBY	**Guantanamo Bay**	**13.35 351**		*e*P	**Pn**	**17 55 38.4**	**+0.9**
RCC	**Rio Carpintero**	**13.52 349**		*e*P	**P**	**17 55 41.8**	**-1.4**
MARVS	**Santiago de Cu**	**13.56 348**		*e*P	**Pn**	**17 55 42.1**	**+1.9**
QMBU	**Quimbuelo**	**13.57 352**		*e*P	**P**	**17 55 42.9**	**-1.0**
CHIV	**Chivirico**	**13.66 346**		Pn	**Pn**	**17 55 42.2**	**+0.8**
PILO	**Pilon**	**13.86 342**		*e*P	**Pn**	**17 55 45.0**	**+1.0**
LMGC	**Las Mercedes**	**13.89 344**		*e*P	Pn	17 55 39.9	-4.4
PINC	**Pinares de May**	**14.02 349**		*e*P	**Pn**	**17 55 47.2**	**+1.3**
TEIG	**Tepich**	**20.09 314**		P	**P**	**17 56 51.6**	**-3.7**
SIV	**San Ignacio**	**25.39 153**		LR	LR	18 09 18.1
comp=Z,104nm,19.4s,baz=293,slow=40
TXAR	**Lajitas Array**	**36.71 312**		P	**P**	**17 59 26.0**	**0.0**
0.2nm,0.4s,baz=131,slow=7.8,SNR=2.2
0.2nm,0.4s
MT02	**Curacav**	**39.74 178**		P	**P**	**17 59 49.2**	**-2.0**
GBN	**Guysborough**	**39.85 13**		P	**P**	**17 59 51.9**	**+0.1**
BATG	**Bathurst New B**	**40.89 7**		P	**P**	**18 00 01.7**	**+1.3**
BATG				IAmb	IAmb	18 00 05.1
comp=Z,21nm,1.5s
LDAQ	**Lac Daran**	**41.17 2**		P	**P**	**18 00 03.6**	**+0.8**
LDAQ				IAmb	IAmb	18 00 41.8
comp=Z,12nm,1.3s
EYMN	**Ely**	**44.08 342**		P	**P**	**18 00 25.7**	**-0.4**
SCHQ	**Schefferville**	**48.28 5**		P	**P**	**18 00 59.9**	**+1.1**
SCHQ				IAmb	IAmb	18 01 00.9
comp=Z,7.9nm,0.8s
SCHQ	**Schefferville**	**48.28 5**		P	**P**	**18 00 59.7**	**+0.9**
comp=Z,5.0nm,0.5s,baz=191,slow=6.2,SNR=15
comp=Z,5.0nm,0.5s
RLMT	**Red Lodge**	**49.62 327**		P	P	18 01 04.8	-4.7
SAO	**San Andreas Ge**	**53.34 311**		P	**P**	**18 01 38.4**	**+1.4**
SAO				IAmb	IAmb	18 01 39.1
comp=Z,4.2nm,0.8s
FCC	**Fort Churchill**	**54.47 347**		P	**P**	**18 01 44.1**	**-0.6**
YKAB2	**New Yellowknif**	**63.43 340**		P	**P**	**18 02 46.1**	**-0.4**
YKA	**Yellowknife Ar**	**63.47 340**		P	**P**	**18 02 46.0**	**-0.7**
YKA	**Yellowknife Ar**	**63.47 340**		P	**P**	**18 02 47.0**	**+0.2**
comp=Z,0.8nm,0.6s,baz=137,slow=6.6,SNR=15
comp=Z,0.8nm,0.6s
SUMG	**Summit**	**69.10 11**		P	**P**	**18 03 23.0**	**+0.2**
SUMG				IAmb	IAmb	18 03 24.5
comp=Z,5.5nm,0.6s
M30M	**Minto, Yukon**	**72.25 334**		P	**P**	**18 03 42.4**	**+0.7**
A36M	**Sachs Harbour**	**72.63 345**		P	**P**	**18 03 43.2**	**-0.5**
A36M				IAmb	IAmb	18 03 44.7
comp=Z,3.6nm,0.8s
INK	**Inuvik**	**73.24 340**		P	**P**	**18 03 47.1**	**-0.2**
H29M	**Whitestone**	**74.17 337**		P	**P**	**18 03 53.4**	**+0.6**
H29M				IAmb	IAmb	18 04 24.1
comp=Z,4.4nm,1.3s
BMAR	**Burnt Mountain**	**76.88 338**		P	**P**	**18 04 09.0**	**+0.8**
ILAR	**Eielson Array**	**77.18 335**		P	**P**	**18 04 10.1**	**+0.2**
comp=Z,0.2nm,0.7s,baz=130,slow=3.8,SNR=2.0
comp=Z,0.2nm,0.7s
PPLA	**Purkeypile**	**79.21 333**		P	**P**	**18 04 21.8**	**+0.5**
PPLA				IAmb	IAmb	18 04 34.7
comp=Z,9.8nm,1.4s
M20K	**Styx River**	**79.54 332**		P	**P**	**18 04 23.6**	**+0.6**
M20K				IAmb	IAmb	18 05 03.9
comp=Z,16nm,1.4s
ARCES	**ARCESS Array B**	**86.75 20**		P	**P**	**18 04 60.0**	**+0.2**
comp=Z,1.7nm,0.8s,baz=274,slow=3.5,SNR=1.4
comp=Z,1.7nm,0.8s
MKAR	**Makanchi Array**	**122.40 20**		PKP	**PKiKP**	**18 11 11.1**	**+0.3**
comp=Z,0.2nm,0.4s,baz=315,slow=2.4,SNR=7.7
ASAR	**Alice Springs**	**149.18 234**		PKPbc	**PKPbc**	**18 12 05.0**	**+0.4**
comp=Z,1.0nm,0.7s,baz=115,slow=3.6,SNR=9.1
WRA	**Warramunga Arr**	**150.43 241**		PKPbc	**PKPbc**	**18 12 07.9**	**+0.3**
comp=Z,1.1nm,0.7s,baz=107,slow=2.8,SNR=6.7
CMAR	**Chiang Mai Arr**	**153.78 18**		PKPbc	**PKPbc**	**18 12 14.0**	**-1.2**
comp=Z,0.5nm,0.5s,baz=314,slow=3.1,SNR=4.3

*IDC **05** 18:06:49.8±1.4, 8.′62S×124.′20E, h0km, mb3.4/2, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=101.8km s-min=24.0km az=66.0*
ISC 05 18:06:59.9±0.9, 9.′33S±0.′09×123.′90E±0.′10, h100km, n11, σ3§44/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.56 140**		P	**Pn**	**18 07 20.4**	**+4.1**
MMRI	**Maumere**	**1.78 293**		P	**Pn**	**18 07 29.1**	**-0.6**
PLAI	**Plampang**	**6.07 274**		P	**Pn**	**18 08 27.6**	**+0.4**
DRS	**Darwin Rock St**	**7.53 115**		P	**Pn**	**18 08 49.9**	**+2.8**
MTN	**Manton Dam**	**7.91 117**		P	**Pn**	**18 08 55.2**	**+3.0**
FITZ	**Fitzroy Crossi**	**8.88 169**		Pn	**Pn**	**18 09 07.4**	**+2.0**
0.9nm,0.3s,baz=354,slow=9.5,SNR=34
FITZ				Sn	**Sn**	**18 10 43.5**	**-0.2**
1.6nm,0.3s,baz=133,slow=4.8,SNR=14
4.0nm,0.4s
KDU	**Kakadu**	**9.05 112**		P	**Pn**	**18 09 09.8**	**+2.0**
WRA	**Warramunga Arr**	**14.60 137**		Pn	**Pn**	**18 10 22.7**	**+1.1**
0.4nm,0.3s,baz=317,slow=13,SNR=22
WRA				Sn	**Sn**	**18 12 55.9**	**-6.7**
0.5nm,0.3s,baz=308,slow=25,SNR=8.4
0.8nm,0.4s
ASAR	**Alice Springs**	**17.17 147**		P	**P**	**18 10 57.5**	**+3.8**
0.2nm,0.3s,baz=324,slow=12,SNR=27
ASAR				S	**Sn**	**18 13 59.8**	**-4.9**
0.6nm,0.6s,baz=314,slow=21,SNR=6.0
1.0nm,0.6s
SONM	**Songino Array**	**58.99 346**		P	**P**	**18 16 47.6**	**-1.6**
0.1nm,0.4s,baz=156,slow=7.3,SNR=1.8
0.1nm,0.4s
MKAR	**Makanchi Array**	**67.05 330**		P	**P**	**18 17 41.7**	**-0.7**
0.2nm,0.4s,baz=133,slow=7.1,SNR=10
0.2nm,0.4s

*MEX **05** 18:15:48.3±0.5, 14.′10N×93.′13W, h8km±16km, MD4.1*
*GCG **05** 18:15:55.1±0.7, 14.′38N×91.′52W, h55km±9km, MD4.2*
ISC 05 18:15:39.7±2.0, 13.′95N±0.′10×93.′22W±0.′04, h8km±13km, n17, σ1§46/30, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.32**	**44**	*e*P	**Pg**	**18 16 06.9**	**+1.7**
THIG				*e*S	**Sn**	**18 16 20.0**	**-2.4**
SMCA	**Catarina**	**1.43**	**51**	*e*P	**Pg**	**18 16 09.8**	**+2.6**
SMCA	**Catarina**	**1.43**	**51**	*e*P		18 16 09.8
PATR	**El Naranjo**	**1.50**	**39**	*e*P	**Pg**	**18 16 09.5**	**+0.9**
PATR				*e*S	**Sn**	**18 16 26.6**	**-0.5**
RTAL	**Retalhuleu**	**1.58**	**69**	*i* P	**Pg**	**18 16 10.8**	**+0.6**
RTAL				*e*S	**Sb**	**18 16 29.2**	**-0.3**
PAVE	**Pavencul**	**1.59**	**39**	*e*P	**Pg**	**18 16 11.1**	**+0.7**
PAVE				*e*S	**Sn**	**18 16 28.3**	**-1.1**
PCIG		**1.74**	**0**	*e*P	**Pg**	**18 16 13.2**	**+0.1**
PCIG				*e*S	**Sn**	**18 16 33.9**	**+1.2**
STG8	**El Palmar, Qui**	**1.88**	**75**	*e*P		18 16 05.9
STG0	**El Palmar, Qui**	**1.88**	**75**	*e*P		18 16 05.6
STG0				*i* S		18 16 14.4
CARR	**Arriaga**	**2.38**	**344**	*e*P	**Pg**	**18 16 25.1**	**-0.2**
CARR				*i* S	**Sn**	**18 16 48.6**	**+0.1**
CCIG	**Comitan**	**2.54**	**24**	*e*P	**Pg**	**18 16 27.3**	**-1.2**
CCIG				*i* S	**Sn**	**18 16 52.6**	**-0.1**
CCIG	**Comitan**	**2.54**	**24**	*e*P	**Pg**	**18 16 27.1**	**-1.4**
CCIG	**Comitan**	**2.54**	**24**	*e*P		18 16 27.1
TGIG		**2.81**	**2**	*e*P	**Pb**	**18 16 30.2**	**-0.1**
TGIG				*e*S	**Sn**	**18 17 00.6**	**+1.4**
NILT	**Santiago Nilte**	**2.92**	**333**	*e*P	**Pb**	**18 16 32.7**	**+0.5**
NILT				*e*S	**Sn**	**18 17 04.5**	**+2.5**
HUIG	**Huatulco**	**3.32**	**303**	*e*P	**Pb**	**18 16 39.2**	**+0.2**
HUIG				*e*S	**Sn**	**18 17 13.1**	**+1.2**
UXUV	**UXUV**	**3.46**	**345**	*e*P	**Pb**	**18 16 41.1**	**-0.3**
UXUV				*e*S	**Sn**	**18 17 17.8**	**+2.6**
CMIG	**Matias Romero**	**3.51**	**333**	*e*P	**Pb**	**18 16 40.6**	**-1.5**
CMIG				*e*S	**Sn**	**18 17 15.6**	**-0.8**
PEIG	**Puerto Escondi**	**4.30**	**299**	*e*P	**Pb**	**18 16 54.4**	**-1.3**
PEIG				*e*S	**Sn**	**18 17 37.2**	**+1.2**
NEUV	**Arroyo Zacate**	**4.49**	**327**	*e*P	Pb	18 16 52.8	-6.0
NEUV				*e*S	**Sn**	**18 17 42.2**	**+1.6**
YOIG	**Yosondua**	**5.07**	**305**	*e*P	**Pb**	**18 17 06.4**	**-2.6**

*NOU **05** 18:32:10.3, 20.′47S×177.′20W, h528km, mb4.3/14, Fiji Islands Region*
*NEIC **05** 18:32:11.4±1.8, 20.′6S±0.′1×177.′8W±0.′1, h492km±6km, mb4.5/146, Error ellipse: s-maj=16.8km s-min=13.2km az=131.0*
*IDC **05** 18:32:14.4±2.0, 20.′69S×177.′99W, h523km±22km, mb3.9/15, mbtmp4.7/16, Error ellipse: s-maj=13.4km s-min=9.9km az=136.0*
ISC 05 18:32:11.5±0.3, 20.′62S±0.′05×177.′78W±0.′06, h500km, n292, σ1§24/272, mb4.5/106, 22C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.57 337**		P	**P**	**18 33 22.0**	**+2.2**
DGTI	**Dogotuki**	**4.90 331**		P	**P**	**18 33 39.3**	**+1.6**
FUTU	**Fugatoga**	**6.29 357**			**P**	**18 33 52.1**	**+1.4**
NIUE	**Niue**	**7.55 80**		P	**P**	**18 34 04.0**	**+0.7**
NIUE				S	**S**	**18 35 38.0**	**+3.1**
GLKZ	**Green Lake**	**8.61 181**		P	**P**	**18 34 12.5**	**-1.5**
GLKZ				S	**S**	**18 35 51.7**	**-3.1**
AFI	**Afiamalu**	**8.80 42**		P	**P**	**18 34 12.1**	**-4.3**
AFI				S	**S**	**18 35 51.7**	**-7.2**
PINNC	**Pines Island,**	**13.88 259**		P	**P**	**18 35 10.8**	**+0.9**
DZM	**Mont Dzumac**	**14.77 262**		P	**P**	**18 35 18.8**	**-0.7**
OUZ	**Omahuta**	**16.41 206**		P	**P**	**18 35 38.5**	**+2.3**
OUZ	**Omahuta**	**16.41 206**		P	**P**	**18 35 38.9**	**+2.7**
KUZ	**Kuauturu**	**17.04 198**		P	**P**	**18 35 44.1**	**+1.4**
MXZ	**Matakaoa Point**	**17.22 191**		P	**P**	**18 35 44.5**	**+0.1**
MXZ	**Matakaoa Point**	**17.22 191**		P	**P**	**18 35 45.0**	**+0.5**
MXZ	**Matakaoa Point**	**17.22 191**		S	**S**	**18 38 39.6**	**+1.0**
MXZ	**Matakaoa Point**	**17.22 191**		P	**P**	**18 35 44.9**	**+0.5**
MXZ				S	**S**	**18 38 39.6**	**+1.0**
HAZ	**Te Kaha**	**17.51 192**		P	**P**	**18 35 47.6**	**+0.5**
PUZ	**Puketiti**	**17.73 190**		P	**P**	**18 35 51.1**	**+1.9**
PUZ				S	**S**	**18 38 47.9**	**+0.9**
MWZ	**Matawai**	**18.11 192**		P	**P**	**18 35 52.5**	**-0.2**
MWZ				S	**S**	**18 38 55.5**	**+2.2**
URZ	**Urewera**	**18.13 193**		P	**P**	**18 35 51.6**	**-1.2**
7.8nm,0.5s,baz=348,slow=4.2,SNR=14
URZ				S	**S**	**18 38 52.8**	**-0.6**
4.2nm,0.3s,baz=348,slow=17,SNR=1.8
URZ	**Urewera**	**18.13 193**		P	**P**	**18 35 52.0**	**-0.8**
URZ	**Urewera**	**18.13 193**		S	**S**	**18 38 54.6**	**+1.2**
URZ	**Urewera**	**18.13 193**		P	**P**	**18 35 51.9**	**-0.8**
BKZ	**Black Stump Fm**	**19.13 194**		P	**P**	**18 36 01.9**	**-0.2**
BKZ	**Black Stump Fm**	**19.13 194**		S	**S**	**18 39 11.6**	**+1.7**
BFZ	**Birch Farm**	**20.64 193**		P	**P**	**18 36 15.3**	**-0.4**
MRZ	**Mangatainoka R**	**20.76 194**		P	**P**	**18 36 16.5**	**-0.4**
MSWZ	**Moikau Station**	**21.56 194**		P	**P**	**18 36 23.1**	**-0.9**
QRZ	**Quartz Range**	**21.77 200**		P	**P**	**18 36 24.9**	**-1.1**
QRZ	**Quartz Range**	**21.77 200**		P	**P**	**18 36 26.4**	**+0.5**
QRZ	**Quartz Range**	**21.77 200**		P	**P**	**18 36 26.2**	**+0.3**
NNZ	**Nelson**	**21.86 198**		P	**P**	**18 36 29.1**	**+2.4**
MRNZ	**Matariki Terra**	**22.22 199**		P	**P**	**18 36 29.8**	**-0.2**
THZ	**Tophouse**	**22.50 198**		P	**P**	**18 36 34.0**	**+1.4**
DSZ	**Denniston Nort**	**22.83 200**		P	**P**	**18 36 35.1**	**-0.4**
KHZ	**Kahutara**	**22.93 197**		P	**P**	**18 36 37.0**	**+0.7**
GVZ	**Greta Valley S**	**23.58 197**		P	**P**	**18 36 42.8**	**+0.7**
LTZ	**Lake Taylor**	**23.63 199**		P	**P**	**18 36 42.2**	**-0.5**
LTZ				IAmb	IAmb	18 36 45.8
comp=Z,8.7nm,0.6s
LTZ	**Lake Taylor**	**23.63 199**		P	**P**	**18 36 42.7**	**+0.1**
TATA	**Tatamba Isabel**	**24.83 296**		P	**P**	**18 36 55.4**	**+1.7**
RPZ	**Rata Peaks**	**24.84 200**		P	**P**	**18 36 53.7**	**+0.3**
RPZ	**Rata Peaks**	**24.84 200**		P	**P**	**18 36 54.9**	**+1.5**
FOZ	**Fox Glacier**	**25.09 202**		P	**P**	**18 36 54.7**	**-0.8**
LBZ	**Lake Benmore**	**25.72 200**		P	**P**	**18 37 00.8**	**-0.3**
LBZ				IAmb	IAmb	18 37 35.1
comp=Z,27nm,1.5s
LBZ	**Lake Benmore**	**25.72 200**		P	**P**	**18 37 01.4**	**+0.2**
JCZ	**Jackson Bay**	**25.93 203**		P	**P**	**18 37 02.2**	**-0.9**
JCZ	**Jackson Bay**	**25.93 203**		P	**P**	**18 37 02.5**	**-0.5**
WKZ	**Wanaka**	**26.50 201**		P	**P**	**18 37 08.2**	**+0.2**
MLZ	**Mavora Lakes**	**27.28 202**		P	**P**	**18 37 16.0**	**+1.1**
WHZ	**Wether Hill Ro**	**27.80 202**		P	**P**	**18 37 20.7**	**+1.3**
EIDS	**Eidsvold**	**29.01 255**		P	**P**	**18 37 29.7**	**-0.6**
EIDS				IAmb	IAmb	18 37 30.6
comp=Z,14nm,0.9s
ARMA	**Armidale**	**29.20 244**		P	**P**	**18 37 32.4**	**+0.3**
ARMA				IAmb	IAmb	18 37 33.7
comp=Z,16nm,0.7s
CAN	**Canberra**	**32.61 236**		P	**P**	**18 38 01.4**	**+0.2**
CAN	**Canberra**	**32.61 236**		P	**P**	**18 38 01.8**	**+0.5**
PMG	**Port Moresby**	**35.57 283**		P	**P**	**18 38 25.9**	**-0.4**
comp=Z,14nm,0.8s,baz=87,slow=4.9,SNR=7.3
comp=Z,14nm,0.8s
TOO	**Toolangi**	**35.99 234**		P	**P**	**18 38 29.9**	**+0.2**
TOO				IAmb	IAmb	18 38 30.8
comp=Z,13nm,0.7s
COEN	**Coen**	**37.79 274**		P	**P**	**18 38 44.3**	**-0.5**
COEN				IAmb	IAmb	18 38 59.1
comp=Z,32nm,1.5s
STKA	**Stephens Creek**	**37.92 244**		P	**P**	**18 38 45.7**	**+0.1**
STKA	**Stephens Creek**	**37.92 244**		P	**P**	**18 38 45.5**	**0.0**
comp=Z,18nm,0.5s,baz=94,slow=11,SNR=64
comp=Z,18nm,0.5s
BBOO	**Buckleboo**	**42.68 244**		P	**P**	**18 39 23.1**	**-0.6**
WR0	**Warramunga Arr**	**44.60 262**		P	**P**	**18 39 37.4**	**-1.5**
AS31	**Alice Springs**	**44.69 257**		P	**P**	**18 39 38.9**	**-0.6**
AS31				IAmb	IAmb	18 39 40.5
comp=Z,15nm,1.0s
ASAR	**Alice Springs**	**44.69 257**		P	**P**	**18 39 39.2**	**-0.3**
comp=Z,38nm,0.7s,baz=89,slow=8.4,SNR=961
ASAR				PcP	**PcP**	**18 41 11.7**	**+0.1**
comp=Z,3.8nm,0.7s,baz=106,slow=4.1,SNR=6.1
ASAR				S	**S**	**18 45 36.8**	**-2.6**
comp=Z,5.2nm,0.7s,baz=93,slow=16,SNR=34
comp=Z,38nm,0.7s
WB0	**Warramunga Arr**	**44.77 262**		P	**P**	**18 39 38.9**	**-1.3**
WB2	**Warramunga Arr**	**44.78 262**		P	**P**	**18 39 39.1**	**-1.1**
WRAB	**Tennant Creek**	**44.78 262**		P	**P**	**18 39 39.0**	**-1.2**
WRAB				IAmb	IAmb	18 39 40.1
comp=Z,26nm,1.1s
WRA	**Warramunga Arr**	**44.79 262**		P	**P**	**18 39 39.0**	**-1.4**
WRA	**Warramunga Arr**	**44.79 262**		P	**P**	**18 39 39.2**	**-1.1**
comp=Z,16nm,0.7s,baz=97,slow=7.2,SNR=304
WRA				PcP	**pP**	**18 41 12.2**	**+0.1**
comp=Z,1.7nm,0.6s,baz=94,slow=3.3,SNR=4.1
WRA				S	**S**	**18 45 36.7**	**-4.1**
comp=Z,1.8nm,0.8s,baz=97,slow=14,SNR=4.9
comp=Z,16nm,0.7s
MHA	**Mahukona**	**45.86 29**		P	**P**	**18 39 48.2**	**-0.1**
DHH	**Diamond Head**	**45.98 26**		P	**P**	**18 39 49.9**	**+0.6**
MTN	**Manton Dam**	**49.37 271**		P	**P**	**18 40 14.0**	**-1.0**
MTN				IAmb	IAmb	18 40 14.8
comp=Z,20nm,0.7s
FORT	**Forrest**	**49.44 247**		P	**P**	**18 40 14.6**	**-0.7**
KNRA	**Kununurra**	**50.85 266**		P	**P**	**18 40 25.3**	**-0.5**
KNRA				PcP	**PcP**	**18 41 31.9**	**-2.1**
FAKI	**Fak Fak**	**51.73 283**		P	**P**	**18 40 32.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.22 262**		P	**P**	**18 40 42.7**	**-0.2**
FITZ				PcP	**PcP**	**18 41 38.8**	**-4.1**
SOEI	**Soe**	**56.71 272**		P	**P**	**18 41 08.3**	**+0.7**
TNTI	**Ternate**	**57.69 285**		P	**P**	**18 41 14.4**	**+0.2**
TNTI				IAmb	IAmb	18 41 15.1
comp=Z,29nm,1.0s
PSA00	**Pilbara Seismi**	**57.84 257**		P	**P**	**18 41 14.5**	**-0.6**
PSA00	**Pilbara Seismi**	**57.84 257**		P	**P**	**18 41 13.8**	**-1.3**
PSA00				IAmb	IAmb	18 41 15.3
comp=Z,20nm,0.9s
MBWA	**Marble Bar**	**58.03 257**		P	**P**	**18 41 15.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**58.50 243**		P	**P**	**18 41 19.2**	**-0.2**
MMRI	**Maumere**	**58.96 272**		P	**P**	**18 41 22.1**	**-0.7**
MORW	**Morawa**	**59.97 248**		P	**P**	**18 41 28.7**	**-0.7**
MORW				IAmb	IAmb	18 41 29.3
comp=Z,20nm,0.7s
GIRL	**Giralia**	**62.72 255**		P	**P**	**18 41 47.8**	**+0.3**
PLAI	**Plampang**	**63.08 270**		P	**P**	**18 41 49.5**	**-0.4**
TOLI2	**Tolitoli**	**63.83 282**		P	**P**	**18 41 53.5**	**-1.2**
PCI	**Palu**	**63.92 279**		P	**P**	**18 41 57.1**	**+1.8**
CASY	**Casey**	**63.94 205**		P	**P**	**18 41 54.9**	**+0.4**
CASY				IAmb	IAmb	18 41 55.4
comp=Z,18nm,0.8s
JAGI	**Jajag, Banyuwa**	**66.59 270**		P	**P**	**18 42 10.6**	**-1.5**
JAGI	**Jajag, Banyuwa**	**66.59 270**		P	**P**	**18 42 10.8**	**-1.3**
comp=Z,43nm,1.0s
JHJ2	**Mitsune**	**67.03 322**		P	**P**	**18 42 13.1**	**-1.3**
QSPA	**South Pole Qui**	**69.45 180**		P	**P**	**18 42 30.1**	**+1.3**
QSPA				IAmb	IAmb	18 42 31.2
comp=Z,8.1nm,0.8s
QSPA	**South Pole Qui**	**69.45 180**		P	**P**	**18 42 30.3**	**+1.5**
comp=Z,7.1nm,0.7s,baz=345,slow=4.0,SNR=44
comp=Z,7.1nm,0.7s
PCJI	**Pacitan**	**69.46 269**		P	**P**	**18 42 29.4**	**-0.2**
KKM	**Kota Kinabalu**	**69.99 285**		P	**P**	**18 42 33.3**	**+0.4**
KKM				IAmb	IAmb	18 42 34.2
comp=Z,17nm,0.8s
UGM	**Wanagama**	**70.17 269**		P	**P**	**18 42 33.4**	**-0.5**
JGF	**Kuroka**	**70.23 322**		P	**P**	**18 42 34.1**	**+0.3**
JGF				IAmb	IAmb	18 42 39.3
comp=Z,21nm,1.5s
MJAR	**Matsushiro Arr**	**70.43 324**		P	**P**	**18 42 35.2**	**+0.3**
comp=Z,4.9nm,0.7s,baz=156,slow=5.7,SNR=16
comp=Z,4.9nm,0.7s
MAJO	**Matsushiro**	**70.43 324**		P	**P**	**18 42 35.3**	**+0.3**
MAJO				IAmb	IAmb	18 42 36.0
comp=Z,6.4nm,0.8s
MJB9	**Matsu-Tunnel**	**70.43 324**		P	**P**	**18 42 35.6**	**+0.7**
MJB9				IAmb	IAmb	18 42 37.0
comp=Z,6.1nm,0.7s
STKI	**Sintang**	**72.03 277**		P	**P**	**18 42 46.0**	**+1.2**
JTM	**Tenmabayashi**	**72.08 328**		P	**P**	**18 42 45.2**	**+0.7**
ADK	**Adak**	**72.20 1**		P	**P**	**18 42 44.9**	**0.0**
SBUM	**Sibu**	**72.23 280**		P	**P**	**18 42 45.4**	**-0.6**
JNU	**Nakatsue**	**72.50 317**		P	**P**	**18 42 47.3**	**+0.1**
JNU				IAmb	IAmb	18 42 49.1
comp=Z,19nm,1.0s
KSM	**Kuching**	**73.63 278**		P	**P**	**18 42 54.3**	**+0.2**
YULB	**Yu-li**	**73.74 303**		P	**P**	**18 42 54.5**	**+0.1**
YULB				IAm

NV11	Mina Array Sit	81.07	43	P	P	18 43 35.0	+0.8
J04A	Umpqua Nationa	81.54	38	IAmb	IAmb	18 43 39.8	
	comp=Z,19nm,0.9s						
J05D	Fort Rock, OR	82.07	38	P	P	18 43 41.5	+2.3
J05D				IAmb	IAmb	18 43 42.4	
	comp=Z,12nm,0.8s						
H04A	Detroit Lake	82.40	36	P	P	18 43 41.7	+1.0
H04A				IAmb	IAmb	18 43 43.2	
	comp=Z,12nm,1.3s						
CN2	Changchun	82.52	322	P	P	18 43 42.4	+1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PINE	Pine Mountain	82.55	38	IAmb	IAmb	18 43 45.0	
	comp=Z,13nm,1.0s						
BNX	BinXian	82.64	325	⇑P	P	18 43 42.6	+0.8
BNX				pmax	pmax		
	comp=Z,14nm,0.8s						
WVOR	Wild Horse Val	83.09	40	P	P	18 43 45.3	+1.0
UBPT	Khong Chiam	83.37	289	IAmb	IAmb	18 43 47.9	
	comp=Z,13nm,1.1s						
MNSI	Mandailing Nat	83.39	273	P	P	18 43 45.8	-0.5
TIA	Tai'an	83.51	312	P	P	18 43 45.7	-0.7
TIA				SKS	SKSac	18 53 05.4	-16
TIA				S	SKSac	18 53 19.1	-1.9
TIA				ScS	SKKSac	18 53 31.2	+4.1
TIA				pmax	pmax		
	comp=Z,140nm,3.6s						
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
I07A	Izee	83.56	38	P	P	18 43 48.4	+1.8
U15A	North Rim	83.89	48	IAmb	IAmb	18 43 52.0	
	comp=Z,6.5nm,0.9s						
MA2	Magadan	83.95	345	P	P	18 43 47.6	-0.4
MA2				IAmb	IAmb	18 43 49.0	
	comp=Z,6.5nm,0.9s						
MA2	Magadan	83.95	345	P	P	18 43 47.5	-0.5
	comp=Z,8.2nm,1.2s						
KULM	Kulim	83.99	278	IAmb	IAmb	18 43 51.0	
	comp=Z,13nm,0.7s						
G08A	Pilot Rock	84.59	37	P	P	18 43 52.7	+1.0
BMO	Blue Mountains	85.28	38	P	P	18 43 55.8	+0.7
GHO	Glory Hole Cre	85.29	13	IAmb	IAmb	18 43 56.1	
	comp=Z,9.2nm,0.8s						
GSI	Gunungsitoli	85.44	273	P	P	18 43 57.1	+0.6
HEH	HeiHe	85.52	328	eP	P	18 43 56.6	+0.7
HEH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HNS	HongShan	85.78	312	⇓P	P	18 43 58.5	+1.0
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
LYN	LuoYang	85.99	309	P	P	18 44 00.2	+1.6
LYN				pmax	pmax		
	comp=Z,32nm,0.6s						
BJT	Baijiatuan	86.11	315	IAmb	IAmb	18 44 00.8	
	comp=Z,6.2nm,0.8s						
CAST	Castle Rocks	86.16	11	IAmb	IAmb	18 43 59.3	
	comp=Z,7.3nm,1.0s						
PLID	Pearl Lake	86.18	39	P	P	18 44 00.3	+0.8
GLB	Gilahina Butte	86.20	16	IAmb	IAmb	18 44 25.2	
	comp=Z,6.7nm,1.0s						
SRU	San Rafael Swe	86.46	46	IAmb	IAmb	18 44 03.5	
	comp=Z,6.1nm,1.1s						
TRF	Thorofare Moun	86.52	12	P	P	18 43 60.0	-0.7
TRF				IAmb	IAmb	18 44 01.5	
	comp=Z,8.5nm,0.8s						
ELIB	Princess Elisa	86.55	186	dP	P	18 44 00.9	+0.1
	comp=Z,6.6nm,0.8s						
RND	Reindeer	86.77	13	IAmb	IAmb	18 44 03.1	
	comp=Z,14nm,1.0s						
TXAR	Lajitas Array	86.95	57	P	P	18 44 05.6	+2.2
	comp=Z,1.6nm,0.7s,baz=220,slow=6.4,SNR=12						
	comp=Z,1.6nm,0.7s						
MCK	McKinley	87.05	12	P	P	18 44 02.5	-0.4
MCK				IAmb	IAmb	18 44 04.6	
	comp=Z,7.1nm,0.9s						
M26K	Nabesna, AK	87.22	15	IAmb	IAmb	18 44 05.8	
	comp=Z,9.9nm,1.1s						
M27K	Edge Creek, AK	87.47	16	IAmb	IAmb	18 44 07.4	
	comp=Z,10nm,1.2s						
TROLL	Troll, Antarti	87.61	180	⇑P	P	18 44 06.0	+0.2
	comp=Z,181nm,0.8s						
I21K	Tanana	87.79	11	IAmb	IAmb	18 44 09.1	
	comp=Z,8.3nm,1.1s						
WRH	Wood River Hil	87.87	12	P	P	18 44 06.5	-0.2
WRH				IAmb	IAmb	18 44 07.8	
	comp=Z,8.1nm,1.0s						
SNAA	Sanae	87.89	178	⇑P	P	18 44 06.5	-0.5
	comp=Z,45nm,0.9s						
VNA3	Neumayer Olymp	88.01	176	⇑P	P	18 44 07.5	0.0
	comp=Z,10nm,0.4s						
HDA	Harding Lake	88.05	13	IAmb	IAmb	18 44 08.6	
	comp=Z,3.6nm,0.8s						
CCB	Clear Creek Bu	88.09	12	IAmb	IAmb	18 44 08.5	
	comp=Z,11nm,1.2s						
XLT	XiLinHaoTe	88.17	319	eP	P	18 44 09.5	+0.8
XLT				pP	pwP	18 46 12.0	+10
XLT				sP	sP	18 46 53.7	+3.7
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	Xi'an	88.37	307	⇓P	P	18 44 11.1	+1.3
XAN				pP	PcP	18 44 18.0	+7.0
XAN				pmax	pmax		
	comp=Z,29nm,0.9s						
IL31		88.39	13	IAmb	IAmb	18 44 11.2	
	comp=Z,8.7nm,1.4s						
ILAR	Eielson Array	88.39	13	P	P	18 44 08.2	-0.9
ILAR	Eielson Array	88.39	13	P	P	18 44 08.6	-0.6
	comp=Z,2.6nm,0.9s,baz=218,slow=4.9,SNR=16						
	comp=Z,2.6nm,0.9s						
M29M	Somme Creek	88.45	17	IAmb	IAmb	18 44 11.8	
	comp=Z,4.2nm,0.8s						
VNA2	Neumayer--Watz	88.45	177	⇑P	P	18 44 10.1	+0.5
	comp=Z,8.9nm,0.6s,baz=186,slow=4.7						
N31M	Braeburn, Yuko	88.46	19	IAmb	IAmb	18 44 11.9	
	comp=Z,4.8nm,0.9s						
VNA1	Neumayer--Stat	88.68	177	⇑P	P	18 44 08.9	-1.7
	comp=Z,11nm,0.8s						
K27K	Chicken	88.82	15	IAmb	IAmb	18 44 13.1	
	comp=Z,6.4nm,1.1s						
J26L	Joseph Creek	88.87	14	IAmb	IAmb	18 44 13.8	
	comp=Z,7.0nm,1.0s						
PD31	Pinedale Array	88.91	43	P	P	18 44 13.1	+0.7
PDAR	Pinedale Array	88.91	43	P	P	18 44 13.4	+1.0
	comp=Z,2.1nm,0.8s,baz=225,slow=3.1,SNR=18						
	comp=Z,2.1nm,0.8s						
YHL	Hebgen Lake	88.94	41	IAmb	IAmb	18 44 16.0	
	comp=Z,7.5nm,1.0s						
F20K	Avaraart Lake	88.94	8	IAmb	IAmb	18 44 14.0	
	comp=Z,8.4nm,1.2s						
M30M	Minto, Yukon	89.02	18	P	P	18 44 12.8	+0.6
M30M				IAmb	IAmb	18 44 13.7	
	comp=Z,3.3nm,0.7s						
BSI	Banda Aceh	89.04	276	P	P	18 44 14.7	+1.3
L29M	L29M	89.08	17	IAmb	IAmb	18 44 14.9	
	comp=Z,11nm,1.1s						
E19K	Redstone River	89.13	8	IAmb	IAmb	18 44 14.3	
	comp=Z,5.5nm,0.8s						
DAWY	Dawson	89.52	16	IAmb	IAmb	18 44 16.4	
	comp=Z,4.4nm,0.9s						
HHC	Hu-ho-hao-te	89.58	314	eP	P	18 44 16.9	+1.5
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.4s						
KMI	Kunming	89.59	297	⇑P	P	18 44 18.0	+2.1
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
I26K	Coal Creek Min	89.65	14	IAmb	IAmb	18 44 16.9	
	comp=Z,11nm,1.4s						
K29M	Barlow Dome	89.83	17	IAmb	IAmb	18 44 18.2	
	comp=Z,7.8nm,1.1s						
COLD	Coldfoot	89.96	10	P	P	18 44 17.3	+0.9
COLD				IAmb	IAmb	18 44 18.9	
	comp=Z,4.6nm,1.0s						
J29N	Klondike Camp	90.13	16	IAmb	IAmb	18 44 19.7	
	comp=Z,5.2nm,0.8s						
CMAR	Chiang Mai Arr	90.35	289	P	P	18 44 20.1	+0.8
CMAR	Chiang Mai Arr	90.35	289	P	P	18 44 20.9	+1.6
	comp=Z,9.2nm,0.8s,baz=120,slow=3.0,SNR=69						
	comp=Z,9.2nm,0.8s						
CHTO	Chiang Mai	90.48	290	P	P	18 44 20.6	+0.7
E22K	Anaktuvuk Pass	90.52	9	P	P	18 44 19.2	+0.1
E22K				IAmb	IAmb	18 44 20.8	
	comp=Z,7.0nm,1.1s						
PZH	PanZhiHua	90.95	298	P	P	18 44 23.3	+1.2
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
I30M	Mount Dempster	91.23	16	IAmb	IAmb	18 44 24.1	
	comp=Z,4.1nm,1.1s						
H29M	Whitestone	91.52	15	IAmb	IAmb	18 44 25.4	
	comp=Z,8.2nm,1.1s						
G30M	tAoh Zrali Nji	92.65	15	IAmb	IAmb	18 44 30.3	
	comp=Z,7.4nm,1.1s						
LZH	Lanzhou	93.00	307	eP	P	18 44 32.3	+0.9
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
SONM	Songino Array	95.98	319	P	P	18 44 44.8	+0.2
	comp=Z,0.7nm,0.8s,baz=140,slow=4.8,SNR=4.9						
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	111.43	313	PKiKP	PKiKP	18 49 47.5	-0.9
	comp=Z,0.8nm,0.7s,baz=53,slow=0.8,SNR=10						
KURBB	Kurchatov Arra	114.27	317	PKP	PKPdf	18 49 52.3	-1.3
	comp=Z,1.2nm,0.8s,baz=94,slow=1.9,SNR=15						
BVAR	Borovoye Array	119.30	320	PKP	PKPdf	18 50 02.8	-0.4
	comp=Z,2.3nm,0.5s,baz=92,slow=1.7,SNR=16						
KK31	Karatay Array	119.48	309		PKPdf	18 50 02.9	-1.1
KKAR	Karatay Array	119.48	309		PKPdf	18 50 02.9	-1.1
ARTI	Arti	125.52	325	PKPdf	PKPdf	18 50 14.8	-0.3
ABKAR	Abkulak array	126.31	317		PKPdf	18 50 16.4	-0.4
ARCES	ARCESS Array B	129.07	350	PKP	PKPdf	18 50 21.2	-0.3
	comp=Z,1.9nm,0.7s,baz=318,slow=1.6,SNR=4.7						
FINES	FINESS Array B	135.94	344	PKP	PKiKP	18 50 36.0	-0.4
	comp=Z,4.0nm,0.9s,baz=29,slow=4.4,SNR=4.9						
HFS	Hagfors	139.69	351	PKhKP	PKPpre	18 50 33.6	
	comp=Z,4.8nm,1.0s,baz=162,slow=0.9,SNR=4.1						
AKASG	Malin Array Be	143.22	331	PKhKP	PKPpre	18 50 45.4	
	comp=Z,9.7nm,0.6s,baz=44,slow=4.4,SNR=49						
KIEV	Kiev	143.23	331	PKPdf	PKPab	18 50 45.4	-0.5
LODK	Lodwar	143.49	247	PKPdf	PKPab	18 50 47.5	-0.5
EKA	Eskdalemuir Ar	145.10	5	PKPbc	PKPdf	18 50 51.5	+0.3
	comp=Z,3.5nm,0.8s,baz=323,slow=2.6,SNR=5.8						
BR131	Keskin Array S	147.07	312		PKPbc	18 50 57.6	-0.6
BRTR	Keskin Array B	147.07	312		PKPbc	18 50 57.5	-0.7
BRTR	Keskin Array B	147.07	312	PKPbc	PKPbc	18 50 58.2	0.0
	comp=Z,3.0nm,0.7s,baz=136,slow=4.7,SNR=18						
BURAR	Bucovina Array	147.27	331		PKPbc	18 50 58.4	0.0
BURAR	Bucovina Array	147.27	331	⇑P	PKiKP	18 50 60.0	-0.2
KOLS	Kolonicke sedl	147.50	335	ePKP	PKPab	18 51 02.8	+0.2
MMAI	Mount Meron Ar	148.05	300	PKPbc	PKPbc	18 51 00.9	+0.1
	comp=Z,26nm,0.9s,baz=67,slow=4.6,SNR=15						
OZUR		148.09	328	⇑P	PKiKP	18 51 01.4	-0.4
CLL	Collm	148.22	347	AMS	AMS	22 46 00.0	
	comp=Z,100nm,19.4s						
CLL	Collm	148.22	347	i PKPdf	PKPdf	18 50 57.3	+0.7
	comp=Z,4.0nm,0.9s						
CLL	Collm	148.22	347	i PKPbc	PKPbc	18 51 00.9	+0.3
	comp=Z,17nm,0.9s						
CLL	Collm	148.22	347	i PKPab	PKPab	18 51 05.6	+0.2
	comp=Z,8.0nm,0.8s						
STEB	Steborice	148.25	341	⇑ePKP	PKiKP	18 51 01.5	-0.5
DPC	Dobruska-Polom	148.30	343	⇑ePKP	PKPbc	18 51 01.2	+0.3
DPC				ePKPab	PKPab	18 51 07.1	+1.3
LANS	Liptovska Anna	148.37	338	e	PKPab	18 51 08.1	+1.9
LANS	Liptovska Anna	148.37	338	ePKP	PKiKP	18 51 02.6	+0.3
DOPR	Dopca	148.38	328	⇓P	PKiKP	18 51 01.9	-0.6
KRLC	Kraliky	148.42	342	⇑ePKP	PKiKP	18 51 02.0	-0.4
BRG	Berggiesshubel	148.43	346	Amp		18 51 02.4	
	comp=Z,5.2nm,0.8s						
BRG	Berggiesshubel	148.43	346	Amp		18 51 07.5	
	comp=Z,3.2nm,0.7s						
BRG	Berggiesshubel	148.43	346	i PKP	PKiKP	18 51 01.7	-0.6
BRG	Berggiesshubel	148.43	346	P	PKPab	18 51 06.7	+0.4
MLR	Muntele Rosu	148.44	327		PKPbc	18 51 00.3	-1.2
MORC	Moravsky Berou	148.46	341	ePKP	PKiKP	18 51 02.1	-0.4
KECS	Kecovo	148.56	336	ePKP	PKiKP	18 51 02.5	-0.2
MAUC	Maruska	148.73	340	⇑ePKP	PKiKP	18 51 02.9	-0.1
MARR	Marisel-Cluj	148.92	332	⇑P	PKiKP	18 51 03.1	-0.6
PRU	Pruhonice	149.10	344	⇑ePKP	PKiKP	18 51 03.5	-0.2
GOPC	GO Pecny, Ondr	149.11	344	⇑ePKP	PKiKP	18 51 04.0	+0.2
CSS	Mathiatis	149.14	304		PKPbc	18 51 02.3	-1.1
VYHS	Vyhne	149.15	338	e	PKPab	18 51 10.9	+1.6
VYHS	Vyhne	149.15	338	ePKP	PKiKP	18 51 03.8	-0.1
VRAC	Vranov	149.16	342	PKPbc	PKiKP	18 51 03.6	-0.3
	comp=Z,3.0nm,0.9s,baz=135,slow=1.4,SNR=2.6						
VRAC	Vranov	149.16	342	e	PKPab	18 51 10.4	+1.0
VRAC	Vranov	149.16	342	⇓P	PKiKP	18 51 04.3	+0.4
VRAC	Vranov	149.16	342	ePKP	PKiKP	18 51 03.6	-0.3
JAVC	Velka Javorina	149.22	340	ePKP	PKiKP	18 51 04.9	+0.8
PSZ	Piszkesteto	149.25	336	⇑P	PKiKP	18 51 04.0	-0.2
KRUC	Moravsky	149.44	342	e	PKPab	18 51 11.1	+0.6
KRUC	Moravsky	149.44	342	ePKP	PKiKP	18 51 04.2	-0.3
ZVC	Zvikov	149.70	344	⇑ePKP	PKiKP	18 51 05.0	0.0
SIRR	Siria	149.87	333	⇑P	PKiKP	18 51 05.5	0.0
GZR	Gura Zlata	150.04	330	⇓P	PKPbc	18 51 05.0	-0.3
SURR	Surduc	150.07	331	⇑P	PKiKP	18 51 05.5	-0.3
KHC	Kasperske Hory	150.13	345	⇑ePKP	PKiKP	18 51 05.8	-0.2
KHC				ePKPAB	PKPab	18 51 14.6	+1.1
BMRD	Maredsous	150.31	357	dPKP	PKiKP	18 51 06.2	0.0
GERES	GERESS Array B	150.37	345	PKPbc	PKPbc	18 51 06.1	+0.1
	comp=Z,3.0nm,0.8s,baz=93,slow=2.7,SNR=4.4						
BZS	Buzias	150.40	332	⇑P	PKiKP	18 51 06.3	-0.2
DOU	Dourbes	150.53	357	dPKP	PKiKP	18 51 06.6	-0.1
CONA	Conrad Observa	150.61	341	i PKP	PKiKP	18 51 07.0	0.0
	comp=Z,1.6nm,0.6s						
RONA	Rosalia, Austr	150.68	340	i PKP	PKiKP	18 51 07.1	-0.1
	comp=Z,4.8nm,0.6s						
RDO	Rodhopi	151.54	321	PKPdf	PKPdf	18 51 00.1	-1.9
RDO				PKPbc	PKPbc	18 51 08.3	-0.4
RDO					PKPab	18 51 20.0	+0.4
SOKA	Soboth	151.98	341	ePKP	PKPbc	18 51 09.0	-0.7
	comp=Z,0.8nm,0.4s						
OBKA	Obir	152.28	342	i PKP	PKPbc	18 51 09.9	-0.5
	comp=Z,0.4nm,0.3s						
WTTA	Wattenberg	152.34	346	ePKP	PKPbc	18 51 10.5	-0.1
	comp=Z,1.9nm,0.3s						
ABTA	Abfaltersbach	152.62	345	i PKP	PKPbc	18 51 10.5	-0.6
	comp=Z,2.5nm,0.6s						
TORD	Torodi Ar. Bea	172.55	176	PKP	PKPdf	18 51 22.7	-0.8
	comp=Z,3.1nm,0.5s,baz=127,slow=1.0,SNR=1.7						

*IDC **05** 18:48:12.4±2.0, 9°.22S×120°.50E, h0km, mb3.4/1, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=180.2km s-min=26.5km az=55.0*
*DJA **05** 18:48:15.0±0.7, 10°.S±8°.×11°.9E±°., h10km, M3.7/8, mb3.8/3, MLv3.6/8*

ISC 05 18:48:15.3±1.0, 10°.44S±0°.08×119°.15E±0°.06, h35km, n12, σ2°76/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.83	17	P	Pn	18 48 29.1	-1.5
BASI	Baing, Sumba	1.43	81	P	Pn	18 48 41.1	+2.3
PLAI	Plampang	2.09	320	P	Pn	18 48 48.0	+0.1
MMRI	Maumere	3.54	60	P	Pn	18 49 09.4	+1.6
BSSI	Bau Bau, Buton	4.47	17	P	Pn	18 49 21.6	+1.0
SRBI	Singaraja	4.53	301	P	Pn	18 49 24.1	+2.6
BKSI	Bulukumba	5.17	11	P	Pn	18 49 31.7	+1.4
	0.1nm18nm,0.9s						
JAGI	Jajag, Banyuwa	5.30	291	P	Pn	18 49 31.7	-0.4
	13nm,1.1s						
FITZ	Fitzroy Crossi	9.88	141	Pn	Pn	18 50 37.5	+2.5
	0.1nm,0.3s,baz=337,slow=10,SNR=1.7						
FITZ				Sn	Sn	18 52 22.6	-2.0
	0.4nm,0.3s,baz=181,slow=22,SNR=13						
	0.8nm,0.5s						
WRA	Warramunga Arr	17.43	125	P	Pn	18 52 13.1	-2.8
	0.1nm,0.3s,baz=308,slow=16,SNR=5.6						
WRA				S	Sn	18 55 11.7	-17
	0.4nm,0.9s,baz=277,slow=23,SNR=2.6						
	0.3nm,0.9s						
ASAR	Alice Springs	19.27	135	P	Pn	18 52 39.8	+1.4
	baz=322,slow=14,SNR=4.6						
ASAR				S	Sn	18 56 06.9	-6.6
	0.6nm,1.0s,baz=318,slow=26,SNR=2.6						
	0.2nm,0.8s						
MKAR	Makanchi Array	65.79	333	P	P	18 58 56.4	-0.5
	0.2nm,0.5s,baz=150,slow=6.5,SNR=5.1						
	0.2nm,0.5s						

ROM 05 18:48:48.1±0.1, 42°.810N±0°.005×13°.085E±0°.010, h8km, ML0.4/2, Error ellipse: s-maj=0.8km s-min=0.1km az=262.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	42	P	Pg	18 48 49.9	+0.1
NRCA				S	Sg	18 48 51.3	+0.3
NRCA				AML	AML		
	comp=E,204μm,0.2s						
NRCA				AML	AML		
	comp=N,111μm,0.1s						
NRCA				AML	AML		
	comp=E,150μm,0.1s						
NRCA				AML	AML		
	comp=N,154μm,1.1s						
MC2	Monte Cornacci	0.13	37	P	Pg	18 48 52.1	+1.0
MC2				S	Sg	18 48 54.0	+0.8
FEMA	Monte Fema	0.15	350	P	Pg	18 48 52.3	+0.9
FEMA				S	Sg	18 48 54.4	+0.6
GAVE	Gavelli	0.18	230	P	Pg	18 48 53.3	+1.4
GAVE				S	Sg	18 48 55.2	+0.7
MMO1	Montemonaco	0.20	63	P	Pg	18 48 52.4	+0.1
MMO1				S	Sg	18 48 56.0	+1.0
LNSS	Leonessa	0.21	189	P	Pg	18 48 52.8	+0.4
LNSS				S	Sg	18 48 56.3	+1.0
FDMO	Fiordimonte	0.23	0	P	Pg	18 48 53.3	+0.6
FDMO				S	Sg	18 48 56.5	+0.7
FDMO				AML	AML		
	comp=E,11μm,0.1s						
FDMO				AML	AML		
	comp=N,18μm,1.1s						
CESI	CESI - Serrava	0.24	326	P	Pg	18 48 54.3	+1.4
CESI				S	Sg	18 48 56.9	+0.7
SMA1	SAN MARTINO	0.26	134	P	Pg	18 48 54.1	+0.9
SMA1				S	Sb	18 48 58.9	-0.8
TERO	Teramo	0.43	116	P	Pb	18 48 57.5	-0.4
TERO				S	Sg	18 49 03.2	+1.2
FOSV	Fossato di Vic	0.54	334	P	Pb	18 48 59.6	-0.2
ARVD	Arcevia	0.70	351	P	Pg	18 49 01.7	+0.2

IDC 05 19:02:18.1±791.0, 54°.21N×4°.78E, h0km, Error ellipse: s-maj=347.7km s-min=152.7km az=126.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	7.73	130	I	I	19 50 30.0	
	baz=310,slow=298,SNR=1.1						
I43RU	DUBNA INFRASONI	8.46	69	I	I	20 45 40.0	
	baz=277,slow=316,SNR=1.1						
I48TN	KESRA INFRASONI	8.68	168	I	I	20 57 10.0	
	baz=358,slow=324,SNR=0.7						

IDC 05 19:03:41.9±3.1, 61°.14S×158°.06W, h0km, mb3.5/2, mbtmp3.5/2, MS3.7/6, Error ellipse: s-maj=705.4km s-min=81.5km az=9.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	20.90	203	LR	LR	19 13 30.8	
	comp=Z,209nm,19.7s,baz=58,slow=28						
QSPA	South Pole Qui	28.99	180	LR	LR	19 18 27.2	
	comp=Z,134nm,19.1s,baz=37,slow=30						
PPT	Papeete	43.94	12	LR	LR	19 26 01.8	
	comp=Z,92nm,19.9s,baz=168,slow=30						
SNAA	Sanae	46.36	169	LR	LR	19 29 20.6	
	comp=Z,132nm,18.4s,baz=202,slow=33						
H03S2	Juan Fernandez	55.89	99	T	T	20 14 10.5	
	baz=211,slow=74,SNR=29						
H03S1	Juan Fernandez	55.90	99	T	T	20 14 11.8	
	baz=211,slow=74,SNR=22						
H03S3	Juan Fernandez	55.91	99	T	T	20 14 11.2	
	baz=211,slow=74,SNR=25						
ASAR	Alice Springs	58.98	277	P	P	19 13 43.2	+0.1
	0.5nm,0.8s,baz=148,slow=6.3,SNR=5.7						
ASAR				LR	LR	19 37 59.6	
	comp=Z,72nm,18.2s,baz=124,slow=35						
	0.5nm,0.8s						
WRA	Warramunga Arr	61.94	280	P	P	19 14 03.2	-0.2
	0.4nm,0.9s,baz=151,slow=7.0,SNR=2.1						
	0.4nm,0.9s						
CPUP	Villa Florida	72.26	112	LR	LR	19 42 36.1	
	comp=Z,34nm,19.9s,baz=213,slow=32						
MKAR	Makanchi Array	143.15	275	PKP	PKPdf	19 23 16.8	+0.1
	0.1nm,0.6s,baz=113,slow=3.3,SNR=1.9						
KURBB	Kurchatov Arra	147.59	277	PKPbc	PKPbc	19 23 25.8	-1.0
	0.1nm,0.3s,baz=117,slow=2.2,SNR=2.4						
BVAR	Borovoye Array	153.03	275	PKPbc	PKPbc	19 23 39.8	-0.1
	0.3nm,0.7s,baz=126,slow=7.3,SNR=1.6						

*NEIC **05** 19:07:28.5±2.0, 43°.81N±0°.01×105°.3W±0°.1, h0km±1km, ML2.9/42, Error ellipse: s-maj=14.0km s-min=2.9km az=92.0*
*IDC **05** 19:07:30.4±2.2, 43°.61N×105°.33W, h0km, mbtmp3.3/2, ML2.1/1, Error ellipse: s-maj=50.5km s-min=10.3km az=152.0*

ISC 05 19:07:30.8±1.4, 43°.84N±0°.08×105°.34W±0°.09, h0km, n29, σ1°01/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	2.92	348		Pn	19 08 19.1	+0.6
LAO				IAML		19 09 07.6	
	47nm,1.6s						
LAO				IAML		19 09 15.9	
	42nm,0.8s						
RLMT	Red Lodge	3.09	296		Pn	19 08 21.7	+0.6
PD31	Pinedale Array	3.26	252	Pn	Pn	19 08 23.8	+0.4
PDAR	Pinedale Array	3.26	252	Pn	Pn	19 08 24.2	+0.8
PDAR	Pinedale Array	3.26	252	Pn	Pn	19 08 25.4	+2.0
	2.2nm,0.3s,baz=84,slow=16,SNR=29						
PDAR				Lg	Lg	19 09 10.1	
	6.6nm,0.3s,baz=74,slow=33,SNR=11						
YNE	Yellowstone No	3.54	291	Pn	Pn	19 08 26.8	-0.5
YNE				IAML		19 09 31.5	
	comp=E,22nm,0.4s						
Y

HRY	**Holter Researc**	**5.41**	**304**	Pn	**Pn**	**19 08 52.0**	**-0.8**
LYMT	**Lyon Mountain**	**5.81**	**305**	Pn	**Pn**	**19 08 57.7**	**-0.7**
I10CA	**LAC DU BONNET**	**8.99**	**42**	I	I	20 05 10.0	
	baz=223,slow=329,SNR=4.0						
ULM	**Lac du Bonnet**	**9.10**	**42**	Pn	**Pn**	**19 09 43.0**	**-0.3**
	comp=E,0.3nm,0.3s,baz=228,slow=13,SNR=2.5						
ULM				Lg	Lg	19 12 16.1	
	comp=E,0.2nm,0.3s,baz=171,slow=15,SNR=1.8						
	comp=E,1.0nm,0.4s						
TATA	**Tatamba Isabel**	**99.25**	**267**	S	**S**	**19 32 49.8**	**+2.0**

IDC 05 19:22:50.6±11.0, 51°.07N×151°.65E, h476km±188km, mb2.8/8, mbtmp3.6/8, Error ellipse: s-maj=168.7km s-min=28.3km az=168.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.23**	**293**	P	P	19 30 16.3	0.0
	0.3nm,0.7s,baz=60,slow=7.2,SNR=3.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.38**	**299**	P	P	19 30 16.6	-0.6
	0.7nm,0.6s,baz=67,slow=8.4,SNR=2.9						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**47.45**	**306**	P	P	19 30 41.3	+0.5
	0.1nm,0.3s,baz=55,slow=8.9,SNR=1.5						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	**48.09**	**39**	P	P	19 30 45.2	-0.1
	0.1nm,0.6s,baz=297,slow=7.6,SNR=4.1						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**59.73**	**333**	P	P	19 32 07.2	-0.6
	4.6nm,1.0s,baz=30,slow=9.2,SNR=6.8						
	4.6nm,1.0s						
NOA	**NORSAR Array B**	**63.83**	**340**	P	P	19 32 35.3	+0.5
	0.5nm,0.7s,baz=23,slow=6.1,SNR=1.7						
	0.5nm,0.7s						
HFS	**Hagfors**	**64.08**	**338**	P	P	19 32 36.7	+0.4
	0.8nm,0.4s,baz=54,slow=7.3,SNR=1.6						
	0.8nm,0.4s						
KBZ	**Khabaz**	**67.21**	**312**	P	P	19 32 56.2	0.0
	1.0nm,0.8s,baz=25,slow=19,SNR=2.2						
	1.0nm,0.8s						

*GCG **05** 19:34:57.1±1.3, 14°.71N×92°.46W, h78km±7km, MD4.3, ML3.1, MW3.0*
*MEX **05** 19:34:58.9±0.6, 14°.63N×92°.48W, h72km±6km, MD4.2*
ISC 05 19:34:57.4±1.4, 14°.63N±0°.06×92°.51W±0°.04, h71km±9km, n27, σ1º68/49, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.37**	**41**	*eP*	**Pn**	**19 35 09.4**	**+0.2**
THIG				*eS*	**Sn**	19 35 17.0	-0.7
THIG		**0.37**	**41**	*eP*	**Pn**	**19 35 08.8**	**-0.3**
THIG				*eS*	**Sn**	**19 35 18.4**	**+0.6**
THIG				IAML		19 35 24.3	
	comp=Z,1μm,0.3s						
THIG		**0.37**	**41**	*eP*		19 35 08.8	
THIG				*eS*		19 35 18.4	
THIG				IAML		19 35 24.3	
	comp=Z,1μm,0.3s						
SMCA	**Catarina**	**0.48**	**62**	*eP*	**Pn**	**19 35 09.8**	**-0.3**
	comp=Z,2μm,0.4s						
SMCA				*i* S	**Sn**	**19 35 19.4**	**-0.1**
SMCA				IAML		19 35 21.9	
	comp=Z,2μm,0.4s						
SMCA	**Catarina**	**0.48**	**62**	*eP*		19 35 09.8	
	comp=Z,2μm,0.4s						
SMCA				*i* S		19 35 19.4	
SMCA				IAML		19 35 21.9	
	comp=Z,2μm,0.4s						
PATR	**El Naranjo**	**0.56**	**29**	*i* P	**Pn**	**19 35 10.5**	**-0.7**
PATR				*eS*	**Sn**	**19 35 20.6**	**-0.6**
PAVE	**Pavencul**	**0.65**	**30**	*eP*	**Pn**	**19 35 11.6**	**-0.5**
PAVE				*eS*	**Sn**	**19 35 22.4**	**-0.5**
RTAL	**Retalhuleu**	**0.80**	**97**	*eP*	**Pn**	**19 35 13.4**	**-0.1**
RTAL				*eS*	**Sn**	**19 35 25.8**	**+0.3**
QUEO	**Labor Ovalle**	**0.99**	**76**	*eP*	**Pn**	**19 35 16.4**	**+0.2**
QUEO				IAML		19 35 38.0	
	comp=Z,916nm,0.6s						
QUEO	**Labor Ovalle**	**0.99**	**76**	*eP*		19 35 16.4	
QUEO				IAML		19 35 38.0	
	comp=Z,916nm,0.6s						
SOKI	**Kika Raxquin**	**1.09**	**80**	*eP*	**Pn**	**19 35 18.2**	**+0.7**
SOKI				*eS*	**Sn**	**19 35 34.0**	**+1.6**
SOKI				IAML		19 35 39.5	
	comp=Z,176nm,2.9s						
SOKI	**Kika Raxquin**	**1.09**	**80**	*eP*		19 35 18.2	
SOKI				*eS*		19 35 34.0	
SOKI				IAML		19 35 39.5	
	comp=Z,176nm,2.9s						
STG8	**El Palmar, Qui**	**1.14**	**99**	*i* P		19 35 14.3	
STG0	**El Palmar, Qui**	**1.15**	**100**	*i* P		19 35 14.5	
HUEH	**Huehuetenango**	**1.19**	**55**	*eS*	**Sn**	**19 35 36.1**	**+1.7**
PCIG		**1.27**	**328**	*eP*	**Pn**	**19 35 19.6**	**+0.2**
PCIG				*i* S	**Sn**	**19 35 36.0**	**+0.1**
ESSG	**Sabana Grande**	**1.65**	**98**	*eP*	**Pn**	**19 35 24.4**	**0.0**
ESSG				*i* S	**Sn**	**19 35 44.7**	**-0.2**
ESSG	**Sabana Grande**	**1.65**	**98**	*eP*		19 35 24.4	
ESSG				*i* S		19 35 44.7	
CCIG	**Comitan**	**1.68**	**12**	*eP*		19 35 25.2	
CCIG				IAML		19 36 00.7	
	comp=Z,100nm,0.3s						
CCIG	**Comitan**	**1.68**	**12**	*eP*	**Pn**	**19 35 26.0**	**+1.0**
CCIG				*eS*	**Sn**	**19 35 48.5**	**+2.6**
CCIG	**Comitan**	**1.68**	**12**	*eP*	**Pn**	**19 35 25.2**	**+0.2**
CCIG				IAML		19 36 00.7	
	comp=Z,100nm,0.3s						
APG	**El Apazote**	**2.02**	**79**	*eP*	**Pn**	**19 35 29.4**	**-0.1**
APG	**El Apazote**	**2.02**	**79**	*eP*		19 35 29.4	
CARR	**Arriaga**	**2.10**	**320**	*eP*	**Pn**	**19 35 31.7**	**+1.2**
CARR				*eS*	**Sn**	**19 35 56.9**	**+1.2**
TGIG		**2.22**	**345**	*eP*	**Pn**	**19 35 32.8**	**+0.6**
TGIG				*eS*	**Sn**	**19 35 58.5**	**0.0**
TGIG		**2.22**	**345**	*eP*	**Pn**	**19 35 30.4**	**-1.7**
TGIG		**2.22**	**345**	*eP*		19 35 30.4	
NILT	**Santiago Nilte**	**2.80**	**314**	*eP*	**Pn**	**19 35 40.7**	**+0.8**
NILT				*eS*	**Sn**	**19 36 12.8**	**+0.3**
UXUV	**UXUV**	**3.10**	**330**	*eP*	**Pn**	**19 35 44.9**	**+0.8**
UXUV				*eS*	**Sn**	**19 36 24.1**	**+4.1**
CMIG	**Matias Romero**	**3.35**	**317**	*eP*	**Pn**	**19 35 48.0**	**+0.6**
CMIG				*eS*	**Sn**	**19 36 25.5**	**-0.6**
NEUV	**Arroyo Zacate**	**4.41**	**315**	*eP*	**Pn**	**19 36 02.3**	**+0.4**
NEUV				*eS*	**Sn**	**19 36 53.7**	**+1.8**
SCIG	**Sabancuy**	**4.50**	**16**	*i* P	**Pn**	**19 36 02.3**	**-0.8**
SCIG				*eS*	**Sn**	**19 36 50.0**	**-4.1**
PEIG	**Puerto Escondi**	**4.68**	**288**	*eP*	**Pn**	**19 36 05.7**	**+0.1**
PEIG				*eS*	**Sn**	**19 36 53.1**	**-5.5**
YOIG	**Yosondua**	**5.33**	**295**	*eP*	**Pn**	**19 36 17.2**	**+2.4**
YOIG				*eS*	**Sn**	**19 37 14.4**	**-0.6**
TOIG	**Toxpalan**	**5.57**	**309**	*eP*	**Pn**	**19 36 18.1**	**+0.2**
TOIG				*eS*	**Sn**	**19 37 20.8**	**+0.2**
TXIG	**Tlaxiaco**	**5.69**	**298**	*eP*	**Pn**	**19 36 21.6**	**+1.9**
TXIG				*eS*	**Sn**	**19 37 22.9**	**-0.9**
JAUV	**Jalcomulco**	**6.25**	**320**	*eP*	**Pn**	**19 36 27.9**	**+0.8**
JAUV				*eS*	**Sn**	**19 37 32.2**	**-5.0**

*GCG **05** 19:37:25.1±3.3, 14°.92N×94°.34W, h37km±999km, MD4.8*
*MEX **05** 19:37:26.4±0.7, 14°.97N×94°.31W, h15km±62km, MD4.1*
ISC 05 19:37:19.1±1.5, 15°.01N±0°.05×94°.39W±0°.02, h10km±11km, n29, σ1º74/51, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.31**	**20**	*eP*	**Pg**	**19 37 46.6**	**+2.3**
CARR				*eS*	**Sn**	**19 38 01.6**	**+0.5**
PCIG		**1.32**	**58**	*eP*	**Pg**	**19 37 45.8**	**+1.3**
PCIG				*i* S	**Sn**	**19 38 01.6**	**+0.4**
NILT	**Santiago Nilte**	**1.56**	**352**	*eP*	**Pg**	**19 37 50.6**	**+1.5**
NILT				*eS*	**Sg**	**19 38 08.7**	**-0.7**
HUIG	**Huatulco**	**1.82**	**295**	*eP*	**Pg**	**19 37 55.1**	**+1.0**
HUIG				*eS*	**Sb**	**19 38 15.1**	**-0.4**
HUIG	**Huatulco**	**1.82**	**295**	*eP*	**Pg**	**19 37 54.9**	**+0.8**
HUIG				*eS*	**Sb**	**19 38 14.9**	**-0.6**
HUIG	**Huatulco**	**1.82**	**295**	*eP*		19 37 54.9	
HUIG				*eS*		19 38 14.9	
THIG		**2.05**	**93**	*eS*	**Sn**	**19 38 18.2**	**-1.1**
PATR	**El Naranjo**	**2.08**	**87**	*eP*	**Pb**	**19 37 56.9**	**-0.2**
PATR				*i* S	**Sn**	**19 38 19.9**	**-0.5**
CMIG	**Matias Romero**	**2.12**	**347**	*eP*	**Pg**	**19 37 59.3**	**-0.5**
CMIG				*i* S	**Sb**	**19 38 23.8**	**-0.3**
TGIG		**2.14**	**34**	*eP*	**Pg**	**19 37 59.1**	**-1.1**
TGIG				*eS*	**Sb**	**19 38 23.5**	**-1.1**
TGIG		**2.14**	**34**	*eP*	**Pg**	**19 37 58.8**	**-1.4**
TGIG		**2.14**	**34**	*eP*		19 37 58.8	
PAVE	**Pavencul**	**2.14**	**85**	*eP*	**Pb**	**19 37 58.0**	**-0.1**
PAVE				*i* S	**Sn**	**19 38 21.8**	**-0.1**
TGBT	**Tuxtla Gutierr**	**2.15**	**35**	*i* P	**Pg**	**19 38 01.0**	**+0.6**
TGBT				*eS*	**Sb**	**19 38 23.8**	**-1.2**
SMCA	**Catarina**	**2.24**	**94**	*i* S	**Sn**	**19 38 24.4**	**+0.4**
SMCA	**Catarina**	**2.24**	**94**	*i* S		19 38 24.4	
UXUV	**UXUV**	**2.31**	**6**	*eP*	**Pg**	**19 38 02.5**	**-0.8**
UXUV				*i* S	**Sb**	**19 38 29.3**	**-0.1**
CCIG	**Comitan**	**2.51**	**59**	*eP*	**Pb**	**19 38 05.1**	**+0.8**
CCIG				*eS*	**Sn**	**19 38 32.6**	**+1.7**
CCIG	**Comitan**	**2.51**	**59**	*eP*	**Pb**	**19 38 04.8**	**+0.4**
CCIG	**Comitan**	**2.51**	**59**	*eP*		19 38 04.8	
RTAL	**Retalhuleu**	**2.65**	**100**	*eS*	**Sn**	**19 38 30.9**	**-3.2**
HUEH	**Huehuetenango**	**2.80**	**83**	*eP*	**Pb**	**19 38 08.5**	**-0.9**
HUEH				*eS*	**Sn**	**19 38 40.8**	**+2.7**
PEIG	**Puerto Escondi**	**2.84**	**291**	*eP*	**Pb**	**19 38 09.5**	**-0.4**
PEIG				*eS*	**Sn**	**19 38 38.8**	**+0.1**
STG8	**El Palmar, Qui**	**2.99**	**100**	*eP*		19 38 05.8	
NEUV	**Arroyo Zacate**	**3.01**	**333**	*eP*	**Pb**	**19 38 10.7**	**-2.2**
NEUV				*eS*	**Sn**	**19 38 44.2**	**+1.1**
VHO	**Vista Hermosa**	**3.05**	**313**	*eP*	**Pb**	**19 38 12.5**	**-1.2**
VHO				*eS*	**Sn**	**19 38 45.0**	**+0.7**
YOIG	**Yosondua**	**3.55**	**302**	*eP*	**Pb**	**19 38 21.9**	**-0.3**
YOIG				*eS*	**Sn**	**19 38 59.0**	**+2.2**
APG	**El Apazote**	**3.79**	**90**	*eP*	**Pb**	**19 38 22.4**	**-3.8**
APG	**El Apazote**	**3.79**	**90**	*eP*		19 38 22.4	
PNIG	**Pinotepa**	**3.86**	**291**	*i* P	**Pb**	**19 38 24.5**	**-2.8**
PNIG				*eS*	**Sn**	**19 39 03.7**	**-0.2**
TXIG	**Tlaxiaco**	**3.94**	**305**	*eP*	**Pb**	**19 38 27.6**	**-1.3**
TXIG				*eS*	**Sn**	**19 39 06.1**	**-0.3**
TOIG	**Toxpalan**	**4.00**	**320**	*eP*	**Pb**	**19 38 28.9**	**-1.0**
TOIG				*eS*	**Sn**	**19 39 07.3**	**-0.4**
HLIG	**Huajuapan de L**	**4.32**	**311**	*eS*	**Sn**	**19 39 15.2**	**-0.3**
FTIG	**Fresnillo de T**	**4.61**	**309**	*eP*	**Pb**	**19 38 35.7**	**-4.4**
FTIG				*eS*	**Sn**	**19 39 23.9**	**+1.3**
SCIG	**Sabancuy**	**4.99**	**37**	*eP*	**Pn**	**19 38 37.3**	**+3.3**
SCIG				*eS*	**Sn**	**19 39 26.4**	**-5.4**

*IDC **05** 19:42:01.0±1.9, 38°.38N×142°.46E, h0km, mb3.8/4, mbtmp3.7/6, ML2.8/2, Error ellipse: s-maj=44.6km s-min=24.4km az=70.0*
*NIED **05** 19:42:11.0, 38°.24N×141°.70E, h50km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.28; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-0.37; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.58; $M_{\phi r}$-0.79; Fault plane solution: $M_0$1.07000×10¹⁵ NP1:φs70.00000°, δ38.00000°, λ164.00000°. NP2:φs173.00000°, δ80.00000°, λ53.00000°.*
*JMA **05** 19:42:11.0±0.1, 38°.2N±0°.4×141°.7E±0°.6, h50km, MV3.5/30, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 05 19:42:08.9±1.6, 38°.29N±0°.08×142°.0E±0°.1, h41km, n19, σ2º27/17, mb3.7/4, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.45**	**273**	*eP*	**Pn**	**19 42 19.3**	**+0.3**
JIKH				*eS*	**Sn**	**19 42 25.1**	**-0.9**
JIO	**Ouri**	**0.56**	**287**	‖P	**Pn**	**19 42 20.7**	**+0.2**
JIO				‖eS	**Sn**	**19 42 27.4**	**-1.4**
JKMT	**Kesennumamotoy**	**0.68**	**320**	‖*eP*	**Pn**	**19 42 23.3**	**+1.2**
JKMT				‖eS	**Sn**	**19 42 32.0**	**+0.4**
OFUJ	**Ofunato**	**0.84**	**340**	‖*eP*	**Pn**	**19 42 26.4**	**+2.0**
JMK	**Ichinoseki**	**0.92**	**316**	‖P	**Pn**	**19 42 26.3**	**+0.9**
JMM	**Marumori**	**1.06**	**247**	‖*eP*	**Pn**	**19 42 25.6**	**-1.8**
JOU	**Okura**	**1.08**	**274**	‖*eP*	**Pn**	**19 42 26.5**	**-1.1**
MJAR	**Matsushiro Arr**	**3.51**	**241**	Pn	**Pn**	**19 43 01.0**	**0.0**
	0.2nm,0.3s,baz=59,slow=22,SNR=13						
MJAR				Sn	**Sn**	**19 43 48.7**	**+7.4**
	0.2nm,0.3s,baz=104,slow=10,SNR=4.5						
	1.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.59**	**311**	Pn	**Pn**	**19 44 24.0**	**-0.4**
	0.2nm,0.3s,baz=121,slow=13,SNR=4.2						
	1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	20 18 15.6	
	baz=316,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	20 18 16.2	
	baz=316,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	20 18 16.9	
	baz=316,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	20 19 13.2	
	baz=317,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	20 19 15.3	
	baz=317,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	20 19 18.9	
	baz=317,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**19 49 50.9**	**-0.4**
	0.5nm,0.4s,baz=72,slow=9.3,SNR=2.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**43.88**	**301**	P	**P**	**19 50 10.5**	**-0.8**
	0.4nm,0.6s,baz=88,slow=8.7,SNR=6.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.63**	**307**	P	**P**	**19 50 24.3**	**-0.7**
	0.6nm,0.4s,baz=83,slow=8.0,SNR=10						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**58.37**	**189**	P	**P**	**19 51 59.0**	**-1.1**
	1.0nm,0.3s,baz=4.6,slow=7.1,SNR=39						
	1.0nm,0.3s						

*IDC **05** 20:09:31.6±0.5, 2°.94S×129°.74E, h0km, mb4.6/25, mbtmp4.6/30, ML4.8/5, MS3.8/34, Error ellipse: s-maj=19.8km s-min=11.6km az=84.0*
*NEIC **05** 20:09:33±1.2, 2°.91S±0°.07×129°.66E±0°.06, h10km±1km, mb4.9/63, Error ellipse: s-maj=11.5km s-min=9.9km az=207.0*
*DJA **05** 20:09:37.5±0.2, 3°S±2°×13°0E±°, h54km±4km, M4.8/31, mb5.1/31, mB5.3/20, MLv5.1/17, Mw(mB)4.7/20, MwMwp4.8/2, Mwp5.2/2*
ISC 05 20:09:35.7±0.3, 2°.98S±0°.04×129°.66E±0°.05, h28km, n212, σ1º55/188, mb4.8/59, MS3.8/32, 2C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.56**	**171**	P	**Pb**	**20 10 03.3**	**-0.6**
BNDI	**Bandanaira**	**1.56**	**171**	P	**Pb**	**20 10 05.0**	**+1.1**
NLAI	**Namlea**	**2.57**	**264**	P	**Pn**	**20 10 17.6**	**+2.1**
FAKI	**Fak Fak**	**2.59**	**89**	Pn	**Pn**	**20 10 15.7**	**0.0**
FAKI	**Fak Fak**	**2.59**	**89**	P	**Pn**	**20 10 16.3**	**+0.5**
FAKI	**Fak Fak**	**2.59**	**89**	P	**Pn**	**20 10 16.2**	**+0.5**
SWI	**Sorong**	**2.64**	**37**	P	**Pn**	**20 10 15.6**	**-0.9**
SANI	**Sanana**	**3.78**	**284**	P	**Pn**	**20 10 30.8**	**-1.4**
SANI	**Sanana**	**3.78**	**284**	S	**Sn**	**20 11 13.5**	**-2.3**
SANI	**Sanana**	**3.78**	**284**	P	**Pn**	**20 10 30.3**	**-1.9**
KMPI	**Kaimana, Papua**	**4.10**	**100**	P	**Pn**	**20 10 37.2**	**+0.7**
TNTI	**Ternate**	**4.37**	**328**	Pn	**Pn**	**20 10 39.0**	**-1.2**
TNTI	**Ternate**	**4.37**	**328**	P	**Pn**	**20 10 40.2**	**-0.1**
RKPI	**Ransiki, Papua**	**4.74**	**72**	P	**Pn**	**20 10 44.4**	**-1.0**
SAUI	**Saumlaki**	**5.24**	**162**		**Pn**	**20 10 52.4**	**+0.2**
SAUI	**Saumlaki**	**5.24**	**162**	P	**Pn**	**20 10 53.2**	**+1.0**
SAUI	**Saumlaki**	**5.24**	**162**	P	**Pn**	**20 10 53.9**	**+1.7**
SRPI	**Serui, Papua**	**6.67**	**81**	P	**Pn**	**20 11 11.2**	**-0.7**
KMSI	**Cibinong**	**6.68**	**302**	P	**Pn**	**20 11 12.6**	**+0.5**
	4μm223nm,0.8s						
BAKI	**Biak**	**6.68**	**75**	P	**Pn**	**20 11 12.1**	**0.0**
LUWI	**Luwuk**	**7.15**	**285**	Pn	**Pn**	**20 11 16.8**	**-1.6**
LUWI	**Luwuk**	**7.15**	**285**	P	**Pn**	**20 11 17.1**	**-1.3**
LUWI	**Luwuk**	**7.15**	**285**	P	**Pn**	**20 11 18.2**	**-0.2**
	1.1nm2μm166nm,0.7s						
BBSI	**Bau Bau**	**7.50**	**250**	P	**Pn**	**20 11 27.2**	**+3.9**
	0.6nm2μm183nm,0.9s						
APSI	**Ampana**	**8.26**	**284**	P	**Pn**	**20 11 34.7**	**+0.9**
	2μm287nm,1.1s						
MRSI	**Marisa**	**8.44**	**294**	P	**Pn**	**20 11 34.9**	**-1.4**
	1μm132nm,0.6s						
SOEI	**Soe**	**8.61**	**218**	Pn	**Pn**	**20 11 39.2**	**+0.6**
SOEI	**Soe**	**8.61**	**218**	P	Pn	20 11 45.6	+7.0
	3μm132nm,0.9s						
MMRI	**Maumere**	**9.28**	**232**		**Pn**	**20 11 50.3**	**+2.6**
MMRI	**Maumere**	**9.28**	**232**	P	**Pn**	**20 11 44.6**	**-3.1**
MMRI	**Maumere**	**9.28**	**232**	P	**Pn**	**20 11 52.4**	**+4.7**
	2μm116nm,1.1s						
DRS	**Darwin Rock St**	**9.47**	**173**	P	**Pn**	**20 11 50.2**	**-0.2**
BSSI	**Bau Bau, Buton**	**9.66**	**251**	P	**Pn**	**20 11 56.6**	**+3.6**
	1μm125nm,0.9s						
TOLI2	**Tolitoli**	**9.76**	**294**	Pn	**Pn**	**20 11 53.4**	**-0.9**
TOLI2	**Tolitoli**	**9.76**	**294**	P	**Pn**	**20 11 54.2**	**-0.1**
BKSI	**Bulukumba**	**9.79**	**256**	P	**Pn**	**20 11 58.4**	**+3.6**
	954nm55nm,0.9s						
MTN	**Manton Dam**	**9.91**	**172**	Pn	**Pn**	**20 11 57.6**	**+1.2**
MTN	**Manton Dam**	**9.91**	**172**	P	**Pn**	**20 11 56.8**	**+0.4**
SPSI	**Sidrap Palu**	**9.92**	**264**	P	**Pn**	**20 11 58.9**	**+2.4**
PCI	**Palu**	**10.03**	**282**	P	**Pn**	**20 12 00.3**	**+2.3**
	135nm,1.1s						
KDU	**Kakadu**	**10.04**	**164**	P	**Pn**	**20 11 57.8**	**-0.4**
KAPI	**Kappang**	**10.09**	**258**	Pn	**Pn**	**20 11 59.3**	**+0.5**
KAPI	**Kappang**	**10.09**	**258**	Pn	**Pn**	**20 12 00.6**	**+1.8**
	4.9nm,0.3s,baz=109,slow=5.9,SNR=21						
KAPI				LR	LR	20 16 56.6	
	comp=Z,935nm,19.2s,baz=72,slow=44						
	19nm,0.5s						
GENI	**Genyem**	**10.50**	**88**	P	**Pn**	**20 12 05.1**	**+0.6**
JAY	**Jayapura**	**11.04**	**88**	Pn	**Pn**	**20 12 11.4**	**-0.6**
	4.7nm,0.3s,baz=193,slow=7.9,SNR=12						
	25nm,0.6s						
JAY	**Jayapura**	**11.04**	**88**	P	**Pn**	**20 12 11.6**	**-0.4**
	51nm,0.8s						
WBSI	**Waikabubak, Su**	**12.16**	**237**	P	**Pn**	**20 12 31.3**	**+4.0**
	1μm110nm,0.8s						
KNRA	**Kununurra**	**12.65**	**184**	Pn	**Pn**	**20 12 33.0**	**-1.0**
PLAI	**Plampang**	**13.17**	**243**	P	**Pn**	**20 12 39.7**	**-1.3**
PLAI	**Plampang**	**13.17**	**243**	P	**Pn**	**20 12 43.7**	**+2.7**
	941nm48nm,1.1s						
MYLDM	**Lahad Datu**	**13.78**	**306**	Pn	**Pn**	**20 12 49.4**	**+0.1**
MYLDM	**Lahad Datu**	**13.78**	**306**	P	**Pn**	**20 12 48.8**	**-0.6**
SRBI	**Singaraja**	**15.24**	**250**	P	**Pn**	**20 13 10.6**	**+1.4**
	45nm,1.2s						
FITZ	**Fitzroy Crossi**	**15.54**	**194**		**Pn**	**20 13 10.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**15.54**	**194**	Pn	**Pn**	**20 13 11.9**	**-1.1**
	2.2nm,0.3s,baz=34,slow=12,SNR=80						
FITZ				Sn	**Sn**	**20 16 08.6**	**+4.3**
	0.5nm,0.3s,baz=351,slow=21,SNR=1.7						
FITZ				LR	LR	20 20 36.4	
	comp=Z,357nm,18.0s,baz=16,slow=43						
	4.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.54**	**194**	P	**Pn**	**20 13 11.9**	**-1.1**
ABJI	**Asem Bagus**	**16.08**	**252**	P	**P**	**20 13 22.1**	**-1.0**
	110nm,1.0s						
JAGI	**Jajag, Banyuwa**	**16.36**	**250**		**Pn**	**20 13 22.5**	**-1.1**
JAGI	**Jajag, Banyuwa**	**16.36**	**250**	P	**P**	**20 13 25.2**	**-1.1**
	41nm,0.8s						
COEN	**Coen**	**17.24**	**130**		**Pn**	**20 13 31.5**	**-3.2**
COEN	**Coen**	**17.24**	**130**	P	**P**	**20 13 35.0**	**-1.0**
WB0	**Warramunga Arr**	**17.32**	**165**		**Pn**	**20 13 33.0**	**-2.6**
WRAB	**Tennant Creek**	**17.47**	**165**		**Pn**	**20 13 34.8**	**-2.7**
WRA	**Warramunga Arr**	**17.47**	**165**		**Pn**	**20 13 34.3**	**-3.2**
WRA	**Warramunga Arr**	**17.47**	**165**	P	**Pn**	**20 13 35.9**	**-1.6**
	2.9nm,0.3s,baz=340,slow=13,SNR=65						
WRA				S	Sn	20 16 38.1	-13
	1.5nm,0.4s,baz=344,slow=22,SNR=2.3						
WRA				LR	LR	20 21 07.1	
	comp=Z,288nm,18.4s,baz=18,slow=40						
	14nm,0.4s						
WB2	**Warramunga Arr**	**17.48**	**165**		**Pn**	**20 13 34.6**	**-2.9**
WB2				IAmb	IAmb	20 13 40.5	
	comp=Z,86nm,1.3s						
WR0	**Warramunga Arr**	**17.54**	**165**		**Pn**	**20 13 36.0**	**-2.4**
MANU	**Manus Island**	**17.71**	**87**		**Pn**	**20 13 37.6**	**-3.0**
SBUM	**Sibu**	**18.25**	**187**	P	**P**	**20 13 45.4**	**-1.8**
PMG	**Port Moresby**	**18.53**	**111**	P	**Pn**	**20 13 51.6**	**+1.1**
	comp=Z,17nm,0.8s,baz=260,slow=6.5,SNR=7.1						
PMG				LR	LR	20 24 02.9	
	comp=Z,361nm,18.6s,baz=304,slow=47						
TGY	**Tagaytay City**	**19.05**	**333**	P	**Pn**	**20 13 56.1**	**-0.7**
	comp=Z,13nm,0.3s,baz=165,slow=17,SNR=1.3						
	comp=Z,51nm,0.3s						
PCJI	**Pacitan**	**19.11**	**253**	P	**Pn**	**20 13 57.9**	**+0.4**
	comp=Z,91nm,0.7s						
UGM	**Wanagama**	**19.66**	**255**	P	**P**	**20 14 01.8**	**-1.0**
UGM				IAmb	IAmb	20 14 16.0	
	comp=Z,100nm,1.2s						
UGM	**Wanagama**	**19.66**	**255**	P	**Pn**	**20 14 04.5**

JHJ Hachijo jima 2 37.16 14 LR LR 20 30 11.1
comp=Z,188nm,19.9s,baz=86,slow=33
CHTO Chiang Mai 37.18 307 P **P** **20 16 43.6 -1.1**
CHTO IAmb IAmb 20 16 54.1
comp=Z,20nm,0.8s
KMI Kunming 38.24 318 ⇓P **P** **20 16 54.0 +0.1**
KMI pP pP 20 16 58.8 -3.4
KMI sP sP 20 17 02.3 -3.3
KMI pmax pmax
comp=Z,5.0nm,1.1s
PZH PanZhiHua 39.84 319 P **P** **20 17 09.2 +2.1**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.5s
MJAR Matsushiro Arr 40.12 11 P **P** **20 17 07.3 -1.8**
comp=Z,6.0nm,0.9s,baz=186,slow=9.0,SNR=14
MJAR LR LR 20 32 09.6
comp=Z,123nm,19.9s,baz=187,slow=34
comp=Z,6.0nm,0.9s
MAJO Matsushiro 40.12 11 P **P** **20 17 06.9 -2.2**
MJB9 Matsu-Tunnel 40.12 11 P **P** **20 17 06.8 -2.3**
KSRS Korea Array 40.26 358 P **P** **20 17 10.4 +0.2**
comp=Z,1.0nm,0.7s,baz=176,slow=9.2,SNR=4.6
KSRS PcP **PcP** **20 19 15.8 +2.0**
comp=Z,0.3nm,0.4s,baz=160,slow=3.9,SNR=2.0
KSRS LR LR 20 32 47.6
comp=Z,118nm,20.9s,baz=175,slow=35
TNCH TengChong 41.09 314 P **P** **20 17 18.4 +0.9**
TNCH pmax pmax
comp=Z,6.0nm,3.4s
JSD Sado 41.58 10 P **P** **20 17 18.8 -2.3**
BJI Beijing 44.56 345 P P 20 17 48.8 +3.6
BJI pmax pmax
comp=Z,3.0nm,0.9s
BRDH Bariadhala 45.02 306 LR LR 20 39 43.2
comp=Z,53nm,19.6s,baz=180,slow=40
LZH Lanzhou 45.74 330 *e*P **P** **20 17 58.2 +3.3**
LZH sP sP 20 18 09.4 +2.7
LZH pmax pmax
comp=Z,24nm,0.5s
SHL Shillong 46.30 310 P **P** **20 17 58.0 -1.6**
SHL IAmb IAmb 20 18 07.5
comp=Z,9.0nm,0.7s
HHC Hu-ho-hao-te 46.64 341 *e*P P 20 18 05.7 +3.9
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,83nm,5.4s
CN2 Changchun 46.72 356 P P 20 18 06.4 +4.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 47.01 2 P **P** **20 18 03.8 -0.7**
comp=Z,2.1nm,0.5s,baz=183,slow=8.6,SNR=8.2
USRK LR LR 20 38 31.3
comp=Z,98nm,19.4s,baz=170,slow=37
comp=Z,2.1nm,0.5s
MDJ Mudanjiang 47.38 360 P **P** **20 18 10.0 +2.6**
MDJ PcS **PcS** **20 23 35.5 +2.6**
MDJ S **S** **20 25 03.8 +4.2**
MDJ sS sS 20 25 13.7 +0.1
MDJ pmax pmax
comp=Z,7.0nm,1.6s
MDJ LR LR
comp=Z,210nm,5.4s
MDJ LR LR
comp=Z,120nm,6.4s
MDJ LR LR
comp=Z,240nm,5.6s
XLT XiLinHaoTe 48.23 347 *e*P **P** **20 18 15.6 +1.5**
XLT pP pP 20 18 22.3 -0.4
XLT sP sP 20 18 25.4 -0.6
XLT pmax pmax
comp=Z,6.0nm,0.7s
ASAJ Asahikawa 48.30 12 P **P** **20 18 13.9 -0.5**
comp=Z,4.8nm,0.6s,baz=234,slow=10,SNR=8.5
ASAJ LR LR 20 40 22.1
comp=Z,82nm,18.2s,baz=176,slow=38
comp=Z,4.8nm,0.6s
BNX BinXian 48.54 358 ⇑P P 20 18 24.0 +7.6
BNX pmax pmax
comp=Z,3.0nm,0.9s
LSA Lhasa 49.12 314 P **P** **20 18 21.9 +0.3**
PALK Pallekele 49.90 282 LR LR 20 40 16.8
comp=Z,91nm,21.4s,baz=109,slow=37
GTA Gaotai 50.32 330 *e*P **P** **20 18 31.9 +1.6**
GTA pmax pmax
comp=Z,3.0nm,0.6s
KLR Kul'dur 52.03 2 P **P** **20 18 42.5 -0.2**
comp=Z,1.8nm,0.6s,baz=186,slow=6.3,SNR=9.3
KLR LR LR 20 38 25.9
comp=Z,70nm,21.9s,baz=186,slow=33
comp=Z,1.8nm,0.6s
HEH HeiHe 53.05 358 *e*P **P** **20 18 50.2 -0.1**
SONM Songino Array 54.55 341 P **P** **20 19 01.6 +0.2**
comp=Z,1.5nm,0.6s,baz=152,slow=7.6,SNR=11
SONM PcP **PcP** **20 20 05.0 +0.5**
comp=Z,0.8nm,0.6s,baz=159,slow=4.6,SNR=3.6
comp=Z,1.5nm,0.6s
BKZ Black Stump Fm 55.70 137 P **P** **20 19 09.5 -0.4**
BKZ IAmb IAmb 20 19 25.2
comp=Z,8.1nm,0.8s
URZ Urewera 55.71 135 LR LR 20 44 03.4
comp=Z,122nm,18.1s,baz=28,slow=37
WMQ Urumqi 59.87 326 *e*P P 20 19 42.9 +3.8
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,47nm,20.5s
PETK Petropavlovsk- 60.64 19 P **P** **20 19 44.3 +0.2**
comp=Z,8.2nm,0.8s,baz=205,slow=6.6,SNR=8.2
PETK LR LR 20 42 06.6
comp=Z,59nm,21.6s,baz=212,slow=32
comp=Z,8.2nm,0.8s
MA2 Magadan 64.55 12 P **P** **20 20 08.4 -1.6**
MA2 Magadan 64.55 12 P **P** **20 20 10.8 +0.8**
comp=Z,6.5nm,0.7s,baz=189,slow=6.0,SNR=17
MA2 LR LR 20 47 25.3
comp=Z,42nm,19.4s,baz=209,slow=35
comp=Z,6.5nm,0.7s
MKAR Makanchi Array 64.71 326 P **P** **20 20 10.3 -1.1**
MKAR Makanchi Array 64.71 326 P **P** **20 20 11.9 +0.6**
comp=Z,3.1nm,0.7s,baz=119,slow=8.5,SNR=28
comp=Z,3.1nm,0.7s
YAK Yakutsk 64.83 0 P **P** **20 20 10.9 -0.8**
YAK Yakutsk 64.83 0 P **P** **20 20 11.9 +0.2**
comp=Z,32nm,0.8s,baz=178,slow=6.5,SNR=13
YAK LR LR 20 47 35.1
comp=Z,55nm,20.9s,baz=126,slow=35
comp=Z,32nm,0.8s
KSH Kashi 64.86 316 P **P** **20 20 13.6 +1.0**
KSH pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 64.89 326 P **P** **20 20 12.2 -0.4**
MAKZ IAmb IAmb 20 20 20.2
comp=Z,13nm,1.4s
AAK Ala-Archa 67.28 319 P **P** **20 20 27.0 -1.2**
AAK IAmb IAmb 20 20 37.3
comp=Z,7.8nm,1.2s
AAK Ala-Archa 67.28 319 LR LR 20 52 47.3
comp=Z,38nm,21.5s,baz=113,slow=39
ARSB Arslanbob 67.71 317 P **P** **20 20 30.1 -0.8**
ZAA0 Zalesovo Array 67.85 333 P **P** **20 20 30.2 -1.1**
ZALV Zalesovo Beam 67.85 333 P **P** **20 20 30.5 -0.8**
ZALV Zalesovo Beam 67.85 333 P **P** **20 20 31.3 0.0**
comp=Z,5.8nm,0.9s,baz=111,slow=6.4,SNR=13
comp=Z,5.8nm,0.9s
SEY Seymchan 67.94 11 P **P** **20 20 32.9 +1.2**
comp=Z,15nm,0.7s,baz=213,slow=5.5,SNR=77
comp=Z,15nm,0.7s
GAR Garm 68.62 314 P **P** **20 20 36.2 -0.5**
BTK Batken 68.68 315 P **P** **20 20 36.1 -0.8**
BTK IAmb IAmb 20 21 10.8
comp=Z,6.9nm,1.2s
KURBB Kurchatov Arra 68.93 328 P **P** **20 20 38.5 +0.3**
comp=Z,5.8nm,0.7s,baz=127,slow=6.1,SNR=54
comp=Z,5.8nm,0.7s
KURK Kurchatov 68.94 328 P **P** **20 20 37.7 -0.5**
KKAR Karatay Array 70.12 318 P **P** **20 20 45.1 -0.6**
TIXI Tiksi 74.49 360 P **P** **20 21 10.4 -0.7**
TIXI IAmb IAmb 20 21 14.3
comp=Z,8.1nm,0.8s
TIXI Tiksi 74.49 360 P **P** **20 21 11.0 -0.2**
comp=Z,8.2nm,0.6s,baz=193,slow=4.1,SNR=36
TIXI LR LR 20 54 11.1
comp=Z,89nm,19.8s,baz=189,slow=36
comp=Z,8.2nm,0.6s

BVAR Borovoye Array 74.50 327 P **P** **20 21 11.9 +0.3**
comp=Z,5.3nm,0.8s,baz=124,slow=9.4,SNR=13
comp=Z,5.3nm,0.8s
BRVK Borovoye 74.58 327 P **P** **20 21 11.4 -0.7**
BRVK IAmb IAmb 20 21 23.8
comp=Z,7.4nm,0.8s
VNDA Vanda 76.46 173 P **P** **20 21 23.8 +1.3**
comp=Z,1.8nm,0.4s,baz=31,slow=2.4,SNR=1.8
comp=Z,1.8nm,0.4s
ABKAR Abkulak array 79.17 321 P **P** **20 21 37.5 -0.5**
ABKAR Abkulak array 79.17 321 P **P** **20 21 37.1 -1.0**
ABKAR IAmb IAmb 20 21 50.3
comp=Z,8.8nm,0.9s
PPT Papeete 80.31 107 LR LR 20 51 51.3
comp=Z,20nm,21.1s,baz=318,slow=32
ARTI Arti 82.22 328 P **P** **20 21 52.9 -1.3**
C16K Lisburne Hills 83.73 20 P **P** **20 22 00.2 -1.5**
C16K IAmb IAmb 20 22 13.7
comp=Z,9.7nm,1.1s
RAYN Ar Rayn 85.82 294 P **P** **20 22 13.7 +0.4**
KDAK Kodiak Island 85.99 32 LR LR 20 55 14.9
comp=Z,54nm,21.9s,baz=86,slow=32
D19K Kuna River 86.30 21 P **P** **20 22 14.1 -0.7**
D19K IAmb IAmb 20 22 32.2
comp=Z,4.3nm,0.8s
E19K Redstone River 86.31 22 IAmb IAmb 20 22 40.7
comp=Z,21nm,1.9s
QSPA South Pole Qui 86.97 180 P **P** **20 22 17.6 -0.6**
QSPA South Pole Qui 86.97 180 P **P** **20 22 17.6 -0.6**
comp=Z,2.1nm,0.6s,baz=146,slow=2.2,SNR=6.0
comp=Z,2.1nm,0.6s
SYO Syowa Base 87.27 201⇑*es*P sP 20 22 25.6 -6.4
GNI Garni 88.01 310 LR LR 21 10 05.8
comp=Z,20nm,18.1s,baz=114,slow=41
B22K Teshekpuk Lake 88.40 19 IAmb IAmb 20 22 37.9
comp=Z,12nm,1.4s
E22K Anaktuvuk Pass 88.48 22 IAmb IAmb 20 22 39.3
comp=Z,6.4nm,1.1s
RND Reindeer 88.83 26 P **P** **20 22 27.4 +0.3**
E23K Chandalar 89.27 22 P **P** **20 22 29.0 0.0**
H24K Noodor Dome 89.60 24 IAmb IAmb 20 22 44.4
comp=Z,6.4nm,1.1s
KBZ Khabaz 89.69 314 P **P** **20 22 31.8 +0.4**
comp=Z,1.0nm,0.7s,baz=281,slow=4.4,SNR=3.7
comp=Z,1.0nm,0.7s
ILAR Eielson Array 89.87 25 P **P** **20 22 30.8 -1.1**
comp=Z,0.4nm,0.6s,baz=240,slow=5.3,SNR=13
ILAR LR LR 20 56 57.4
comp=Z,52nm,20.6s,baz=274,slow=32
comp=Z,0.4nm,0.6s
GURO Guroymak-BITLI 89.98 308 IAmb IAmb 20 22 43.2
comp=Z,12nm,1.2s
BMAR Burnt Mountain 91.09 23 P **P** **20 22 37.6 +0.1**
J26L Joseph Creek 91.27 26 IAmb IAmb 20 22 40.3
comp=Z,13nm,1.9s
KMBO Kilima Mbogo 92.34 269 P **P** **20 22 45.4 +0.7**
comp=Z,1.5nm,0.7s,baz=44,slow=11,SNR=3.5
KMBO LR LR 21 00 59.5
comp=Z,76nm,20.4s,baz=96,slow=33
comp=Z,1.5nm,0.7s
I28M Miner Creek 92.86 25 IAmb IAmb 20 23 01.9
comp=Z,5.8nm,1.1s
M29M Somme Creek 93.49 28 IAmb IAmb 20 22 57.5
comp=Z,4.7nm,1.1s
L29M L29M 93.64 27 P **P** **20 22 50.4 +1.0**
L29M IAmb IAmb 20 22 58.4
comp=Z,4.8nm,1.0s
INK Inuvik 95.28 22 P **P** **20 22 55.5 -1.2**
INK IAmb IAmb 20 23 10.3
comp=Z,7.8nm,1.4s
EIL Elat 95.55 299 LR LR 21 11 25.3
comp=Z,21nm,20.6s,baz=113,slow=39
BRTR Keskin Array B 96.52 309 P **P** **20 23 02.6 -0.6**
comp=Z,0.1nm,0.3s,baz=79,slow=7.5,SNR=1.2
comp=Z,0.1nm,0.3s
ARCES ARCESS Array B 97.71 340 P Pdif 20 23 07.6 -0.1
comp=Z,2.9nm,0.9s,baz=97,slow=5.3,SNR=4.6
ARCES LR LR 21 13 20.2
comp=Z,45nm,18.3s,baz=38,slow=39
comp=Z,2.9nm,0.9s
FINES FINESS Array B 99.09 332 P **Pdif** **20 23 14.7 +0.7**
comp=Z,2.1nm,0.8s,baz=97,slow=4.8,SNR=1.9
FINES LR LR 21 10 25.1
comp=Z,35nm,18.6s,baz=78,slow=37
comp=Z,2.1nm,0.8s
BBB Bella Bella 99.84 38 LR LR 21 01 48.4
comp=Z,32nm,20.1s,baz=240,slow=31
BOSA Boshof 101.18 240 P **Pdif** **20 23 24.8 +0.5**
comp=Z,2.4nm,0.9s,baz=112,slow=5.4,SNR=2.1
CPUP Villa Florida 150.09 167 PKPbc **PKiKP** **20 29 25.5 0.0**
comp=Z,8.5nm,0.9s,baz=123,slow=0.6,SNR=12
LPAZ La Paz 154.01 138 PKPbc **PKiKP** **20 29 34.8 +0.2**
comp=Z,0.8nm,0.4s,baz=200,slow=1.5,SNR=4.2

IDC 05 20:32:39.8±2.5, 7°.36S×127°.59E, h0km, mb3.1/1, mbtmp3.0/3, ML3.0/2, Error ellipse: s-maj=300.9km s-min=33.6km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.12**	**153**	Pn	Pn	20 36 00.0	-1.2
0.1nm,0.3s,baz=330,slow=13,SNR=6.0							
WRA				Sn	Sn	20 38 23.6	-15
0.3nm,0.3s,baz=330,slow=22,SNR=7.1							
0.2nm,0.7s							
ASAR	**Alice Springs**	**17.32**	**160**	P	P	20 36 44.1	-0.5
0.1nm,0.3s,baz=337,slow=10,SNR=5.7							
ASAR				S	Sn	20 39 38.8	-18
0.3nm,0.8s,baz=322,slow=22,SNR=2.4							
0.1nm,0.4s							
MKAR	**Makanchi Array**	**67.23**	**328**	P	P	20 43 36.0	0.0
0.1nm,0.4s,baz=133,slow=6.3,SNR=1.9							
0.1nm,0.4s							

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*IDC **05** 20:43:00.2±1.3, 27°.79N×51°.80E, h0km, mb3.9/17, mbtmp3.9/21, ML3.3/4, Error ellipse: s-maj=32.3km s-min=15.9km az=23.0*
*TEH **05** 20:43:03.1, 27°.82N×51°.79E, h18km±32km*
*OMAN **05** 20:43:08.6±1.4, 27°.50N×52°.00E, h20km, mb2.9/3, ml3.5/12, Error ellipse: s-maj=18.8km s-min=3.9km az=165.0*
ISC 05 20:43:04.4±0.5, 27°.83N±0°.05×51°.83E±0°.04, h26km, n75, σ1#14/88, mb3.8/17, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.73**	**317**	Pg	**Pb**	**20 43 16.9**	**-1.7**
AHBU	**AHRAM**	**1.13**	**336**	Pg	**Pn**	**20 43 24.3**	**-0.3**
QIR1	**Qir**	**1.25**	**59**	Pg	**Pn**	**20 43 27.7**	**+1.3**
QIR1				Sg	**Sb**	**20 43 45.9**	**+2.7**
LMD1	**Lamerd**	**1.28**	**112**	Pg	**Pn**	**20 43 28.2**	**+1.5**
JHRM	**Jahrom**	**1.69**	**66**	Pg	**Pn**	**20 43 34.5**	**+2.1**
KAZ2	**Kazeron-Fars-I**	**1.78**	**355**	Pg	**Pn**	**20 43 34.8**	**+1.1**
SHI	**Shiraz**	**1.91**	**18**	Pn	**Pn**	**20 43 36.7**	**+1.3**
SHMA	**Al-Shehemyia**	**2.11**	**202**	P	**Pn**	**20 43 40.1**	**+2.0**
SHMA				S	**Sn**	**20 44 02.5**	**-0.9**
SAKB	**Bahrain**	**2.17**	**212**	P	**Pn**	**20 43 41.6**	**+2.7**
SAKB				S	**Sn**	**20 44 06.5**	**+1.5**
TRNA	**Turayna**	**3.13**	**190**	P	**Pn**	**20 43 51.9**	**-0.1**
TRNA				S	**Sn**	**20 44 27.8**	**-0.8**
KLNJ	**Kolanjah**	**3.18**	**356**	Pn	**Pn**	**20 43 53.8**	**+0.7**
SMRA	**Abu-Samra**	**3.20**	**197**	P	**Pn**	**20 43 54.3**	**+1.2**
SLWR	**Sila**	**3.75**	**182**	P	**Pn**	**20 44 01.5**	**+1.0**
KBD	**Kabd**	**3.88**	**291**	P	**Pb**	**20 44 14.1**	**+2.0**
GHWR	**Ruwais**	**3.96**	**166**	P	Pn	20 44 08.6	+5.1
IRAM	**Ramesheh**	**4.00**	**7**	Pn	**Pn**	**20 44 05.3**	**+1.1**
IMEH	**Mehriz**	**4.30**	**34**	Pn	**Pn**	**20 44 10.0**	**+1.6**
AJN	**Ajban**	**4.32**	**138**	P	**Pn**	**20 44 11.8**	**+3.4**
ZNGN	**Zangian**	**4.36**	**349**	Pn	**Pn**	**20 44 09.9**	**+0.6**
NAZ	**Nazwa, Dubai**	**4.45**	**129**	P	**Pn**	**20 44 11.5**	**+1.2**
NAZ				S	**Sn**	**20 45 01.8**	**+0.5**
ASUD	**Al Ashush, Dub**	**4.48**	**135**	P	**Pn**	**20 44 11.8**	**+1.1**
MASF	**Masafi**	**4.58**	**121**	P	**Pn**	**20 44 11.5**	**-0.6**
MASF				S	**Sn**	**20 45 03.2**	**-1.4**
NGRK	**Negar Kerman**	**4.67**	**66**	Pn	**Pn**	**20 44 14.5**	**+0.9**
MDH	**Madha**	**4.73**	**121**	P	**Pn**	**20 44 15.4**	**+1.2**
KHGB	**Koh Gabri**	**4.79**	**57**	Pn	**Pn**	**20 44 16.8**	**+1.6**
KRBR	**Kerman**	**4.83**	**62**	Pn	**Pn**	**20 44 17.6**	**+1.8**
UOSS	**Minazif**	**4.86**	**125**	P	**Pn**	**20 44 16.0**	**+0.1**
UOSS				S	**Sn**	**20 45 10.5**	**-0.9**
HATD	**Hatta, Dubai**	**4.88**	**127**	P	**Pn**	**20 44 17.1**	**+0.9**
IPIR	**Pirpir**	**4.91**	**351**	Pn	**Pn**	**20 44 18.1**	**+1.3**
ASHO	**Ashiyiah**	**4.92**	**129**	P	**Pn**	**20 44 17.1**	**+0.3**
SNR=9.0							
ASHO				S	**Sn**	**20 45 12.6**	**-0.4**
MZR	**Muzera**	**5.03**	**162**	P	**Pn**	**20 44 18.0**	**-0.3**
IZEF	**Zefreh**	**5.07**	**5**	Pn	**Pn**	**20 44 19.9**	**+0.9**
ALNE	**Al Ain**	**5.16**	**136**	P	**Pn**	**20 44 20.5**	**+0.5**
ZRDN	**Zarand Kerman**	**5.16**	**52**	Pn	**Pn**	**20 44 21.6**	**+1.4**
CHMN	**Cheshme madani**	**5.40**	**67**	Pn	**Pn**	**20 44 25.2**	**+1.5**
IKLH	**Kolahrood**	**5.48**	**358**	Pn	**Pn**	**20 44 25.9**	**+1.3**
SOHO	**SOHO**	**5.61**	**130**	P	**Pn**	**20 44 26.6**	**+0.4**
SOHO				S	**Sn**	**20 45 28.5**	**-1.4**
JASK	**Jask - Hormozg**	**5.74**	**109**	P	**Pn**	**20 44 28.8**	**+0.9**
KBAM	**BAM**	**5.97**	**76**	Pn	**Pn**	**20 44 32.7**	**+1.4**
HOQ	**Hoqain**	**6.51**	**129**	P	**Pn**	**20 44 39.0**	**+0.4**
SNR=7.5							
HOQ				S	**Sn**	**20 45 50.6**	**-1.3**
ISFB	**Sefidab**	**6.51**	**3**	Pn	**Pn**	**20 44 38.7**	**0.0**
TPRV	**Parvadeh(Tabas**	**6.67**	**38**	Pn	**Pn**	**20 44 42.4**	**+1.6**
HSAM	**Samen**	**6.94**	**337**	Pn	**Pn**	**20 44 45.2**	**+0.5**
SMDO	**Samad**	**7.36**	**129**	P	**Pn**	**20 44 51.0**	**+0.7**
SMDO				S	**Sn**	**20 46 11.4**	**-1.7**
WSAR	**Wadi Sarin**	**7.66**	**125**	Pn	**Pn**	**20 44 53.6**	**-0.8**
0.5nm,0.3s,baz=327,slow=9.2,SNR=7.4							
WSAR				Sn	**Sn**	**20 46 19.6**	**-0.6**
0.4nm,0.3s,baz=55,slow=7.4,SNR=4.4							
3.2nm,0.6s							
SNQR	**Sonqor, Kerman**	**7.87**	**334**	Pn	**Pn**	**20 44 57.6**	**+0.1**
IGHG	**Ghaleghazi**	**7.89**	**326**	Pn	**Pn**	**20 44 58.8**	**+1.1**
ILIN	**Lien**	**8.20**	**331**	Pn	**Pn**	**20 45 02.3**	**+0.3**
WBK	**Wadi Bani Khal**	**8.29**	**127**	P	**Pn**	**20 45 04.0**	**+0.9**
WBK				S	**Sn**	**20 46 35.1**	**-0.9**
TAPT	**Tabas- Tapeh t**	**8.38**	**32**	Pn	**Pn**	**20 45 05.5**	**+1.2**
MZPU	**Pul - Mazandar**	**8.59**	**359**	Pn	**Pn**	**20 45 08.1**	**+0.8**
KLST	**Kelardasht - M**	**8.69**	**356**	Pn	**Pn**	**20 45 09.3**	**+0.5**
MHTO	**MHTO**	**8.81**	**139**	P	**Pn**	**20 45 09.7**	**-0.5**
JLN	**Jalan Bani Buh**	**8.90**	**128**	P	**Pn**	**20 45 10.3**	**-1.1**
GNI	**Garni**	**13.62**	**336**	Pn	**Pn**	**20 46 17.4**	**+1.4**
0.2nm,0.3s,baz=216,slow=19,SNR=1.6							
1.1nm,0.4s							
KBZ	**Khabaz**	**17.42**	**338**	P	**Pn**	**20 47 06.2**	**+0.6**
0.1nm,0.3s,baz=149,slow=7.2,SNR=4.5							
2.0nm,1.0s							
BRTR	**Keskin Array B**	**19.18**	**313**	P	**P**	**20 47 25.9**	**-0.4**
0.1nm,0.3s,baz=126,slow=12,SNR=6.9							
1.0nm,0.8s							
MLR	**Muntele Rosu**	**27.06**	**318**	P	**P**	**20 48 44.9**	**+0.1**
2.2nm,0.8s,baz=166,slow=22,SNR=3.7							
2.2nm,0.8s							
AKASG	**Malin Array Be**	**28.56**	**329**	P	**P**	**20 48 57.4**	**-0.6**
0.4nm,0.5s,baz=144,slow=8.1,SNR=4.9							
0.4nm,0.5s							
BVAR	**Borovoye Array**	**28.69**	**24**	P	**P**	**20 48 58.7**	**-0.4**
0.7nm,0.6s,baz=217,slow=8.4,SNR=3.5							
0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**30.46**	**34**	P	**P**	**20 49 15.4**	**+0.5**
0.8nm,0.7s,baz=232,slow=8.9,SNR=8.2							
0.8nm,0.7s							
MKAR	**Makanchi Array**	**30.47**	**43**	P	**P**	**20 49 14.9**	**-0.1**
1.0nm,0.7s,baz=226,slow=8.0,SNR=14							
MKAR				PcP	**PcP**	**20 52 14.9**	**+1.0**
0.2nm,0.6s,baz=259,slow=1.5,SNR=2.1							
1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**35.55**	**34**	P	**P**	**20 49 59.4**	**+0.2**
2.3nm,0.6s,baz=238,slow=9.5,SNR=12							
2.3nm,0.6s							
FINES	**FINESS Array B**	**37.76**	**340**	P	**P**	**20 50 17.7**	**-0.2**
2.5nm,0.6s,baz=147,slow=11,SNR=15							
2.5nm,0.6s							
DAVOX	**Davos/Dischmat**	**37.81**	**311**	P	**P**	**20 50 18.3**	**-0.6**
1.5nm,0.6s,baz=140,slow=22,SNR=2.6							
1.5nm,0.6s							
HFS	**Hagfors**	**41.35**	**332**	P	**P**	**20 50 47.9**	**0.0**
3.3nm,0.4s,baz=116,slow=10,SNR=28							
3.3nm,0.4s							
NB2	**NORSAR Subarra**	**42.87**	**332**	P	**P**	**20 50 59.7**	**-0.6**
comp=Z,1.1nm,0.4s,baz=122,slow=8.6							
NOA	**NORSAR Array B**	**42.87**	**332**	P	**P**	**20 50 59.8**	**-0.6**
comp=Z,1.0nm,0.5s,baz=127,slow=9.0,SNR=7.9							
comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**44.09**	**92**	P	**P**	**20 51 10.4**	**-0.3**
comp=Z,0.4nm,0.7s,baz=288,slow=8.6,SNR=2.8							
comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**44.45**	**347**	P	**P**	**20 51 13.1**	**+0.2**
comp=Z,2.0nm,0.9s,baz=145,slow=6.9,SNR=1.3							
comp=Z,2.0nm,0.9s							
ESDC	**Sonseca Array**	**47.19**	**300**	P	**P**	**20 51 35.1**	**+0.1**
comp=Z,0.4nm,0.7s,baz=92,slow=7.7,SNR=1.8							
comp=Z,0.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**47.82**	**321**	P	**P**	**20 51 38.9**	**-0.7**
comp=Z,0.4nm,0.5s,baz=108,slow=8.7,SNR=2.0							
comp=Z,0.4nm,0.5s							
SCHQ	**Schefferville**	**82.36**	**329**	P	**P**	**20 55 23.6**	**-0.3**
comp=Z,2.2nm,0.5s,baz=41,slow=4.8,SNR=4.7							
comp=Z,2.2nm,0.5s							
ILAR	**Eielson Array**	**86.56**	**8**	P	**P**	**20 55 44.7**	**-0.2**
comp=Z,0.3nm,0.7s,baz=343,slow=5.1,SNR=2.7							
comp=Z,0.3nm,0.7s							
YKA	**Yellowknife Ar**	**89.34**	**354**	P	**P**	**20 55 58.0**	**-0.2**
comp=Z,0.4nm,0.7s,baz=2.1,slow=4.7,SNR=8.4							
comp=Z,0.4nm,0.7s							

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*SLM **05** 20:56:02.4±1.6, 36°.30N±0°.03×83°.74W±0°.04, h17km±6km, Error ellipse: s-maj=5.5km s-min=2.3km az=133.0*
NEIC 05 20:56:02.5±0.7, 36°.29N±0°.02×83°.73W±0°.03, h10km±7km, mb_Lg3.6/114, ML3.5/8, Md3.4/31(SLM), Error ellipse: s-maj=4.3km s-min=2.0km az=135.0, Tennessee

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPRT	**Copper Ridge**	**0.18**	**222**		Pg	20 56 06.6	0.0
CPRT					Sg	20 56 09.9	+0.5
ASTN	**Avondale Sprin**	**0.21**	**80**		Pg	20 56 07.0	+0.1
ASTN					Sg	20 56 10.4	+0.5
TZTN	**Tazewell**	**0.29**	**30**		Pg	20 56 07.8	-0.6
TZTN				Sg	Sg	20 56 11.4	-0.9
TKL	**Tuckaleechee C**	**0.63**	**183**		Pg	20 56 13.9	-0.9
TKL				Sg	Sg	20 56 22.4	-0.8
GRBT	**Greenback**	**0.72**	**212**		Pg	20 56 15.5	-1.0
GRBT					Sg	20 56 25.3	-0.7
VHTN	**Van Hill**	**0.76**	**82**		Pg	20 56 16.3	-0.8
BCRT	**Bacon Ridge**	**0.86**	**233**		Pg	20 56 18.1	-1.2
CCRT	**Cow Camps Rge**	**0.87**	**198**		Pg	20 56 17.8	-1.5
LRVA	**Lonesome Ridge**	**0.91**	**57**		Pg	20 56 18.7	-1.3
V53A	**Saluda**	**0.97**	**130**		Pg	20 56 19.8	-1.4
V53A				IAML		20 56 38.8	
comp=E,1μm,0.2s							
V53A				IAML		20 56 39.8	
comp=N,1μm,0.3s							
CPCT	**Cooper Cave**	**1.06**	**218**		Pg	20 56 21.3	-1.6
CPCT	**Cooper Cave**	**1.06**	**218**	IAML		20 56 36.1	
comp=N,1μm,0.3s							
CPCT				IAML		20 56 36.1	
comp=E,1μm,0.3s							
ETT	**Etowah**	**1.13**	**212**		Pb	20 56 22.4	-1.8
MGNC	**Mount Gibbes**	**1.29**	**115**		Pn	20 56 25.8	-1.1
BG3	**Lake Jocassee**	**1.45**	**153**	Pg	Pn	20 56 28.2	-0.6
U54A	**Nelsons Funny**	**1.56**	**81**		Pn	20 56 29.6	-0.8
GFM	**Grandfather Mo**	**1.56**	**96**		Pn	20 56 30.3	-0.3
ROKY	**Rotten Point**	**1.62**	**354**		Pn	20 56 30.8	-0.5
U49A	**Red Boiling Sp**	**1.67**	**278**		Pn	20 56 31.5	-0.3
RCG	**Rock City**	**1.86**	**226**		Pn	20 56 35.4	+0.9
V55A	**Taylorsville**	**2.08**	**101**		Pn	20 56 37.2	-0.3
SWET	**Sewanee**	**2.09**	**240**		Pn	20 56 37.7	0.0
CLTN	**Cedars of Leba**	**2.12**	**265**		Pn	20 56 39.0	+1.0
PAULI	**Pauline**	**2.14**	**133**		Pn	20 56 37.8	-0.5
KMSC	**Kings Mountain**	**2.26**	**120**		Pn	20 56 39.9	-0.1
FPAL	**Fort Paine**	**2.33**	**222**		Pn	20 56 41.0	+0.1
SSFO	**Shawnee State**	**2.44**	**10**	Pn	Pn	20 56 42.0	-0.4
S54A	**Dingess, Beckl**	**2.45**	**51**		Pn	20 56 42.2	-0.4
S54A				IAmb_Lg		20 57 25.2	
comp=Z,153nm,0.7s							
V48A	**Smith Brothers**	**2.57**	**259**		P

P51A	Williamsport	3.23	9	Pn	20 56 53.0	-0.2
W57A	Gilead	3.25	109	Pn	20 56 52.4	-1.0
WVT	Waverly	3.32	268	Pn	20 56 55.1	+0.6
WVT	Waverly	3.32	268	Pn	20 56 55.7	+1.2
P49A	Miami Univ. Ec	3.33	347	Pn	20 56 54.1	-0.6
P49A				IAmb_Lg	20 57 45.7	
	comp=Z,141nm,0.8s					
R55A	Marlinton	3.50	54	Pn	20 56 56.5	-0.6
R55A				IAmb_Lg	20 58 02.8	
	comp=Z,135nm,0.9s					
Q54A	Coxs Mills	3.54	40	Pn	20 56 56.7	-0.7
Q54A				IAmb_Lg	20 57 53.7	
	comp=Z,170nm,0.8s					
Y57A	Sumter	3.55	129	Pn	20 56 57.6	-0.1
USIN	University of	3.56	299	Pn Pn	20 56 56.7	-1.2
P52A	Corning	3.57	20	Pn	20 56 57.2	-0.7
BLO	Bloomington	3.63	323	Pn	20 56 57.4	-1.3
BLO				IAmb_Lg	20 57 59.4	
	comp=Z,133nm,0.8s					
P53A	Whipple	3.69	29	Pn	20 56 58.5	-1.1
P53A				IAmb_Lg	20 58 02.1	
	comp=Z,152nm,0.9s					
RCRC	Randolf Colleg	3.75	71	Pn	20 56 58.9	-1.6
V58A	Windy Hill, Pi	3.77	96	Pn	20 56 58.6	-2.1
PLAL	Pickwick Lake	3.77	251	Pn	20 57 01.4	+0.6
ACSO	Alum Creek Sta	3.98	8	Pn	20 57 04.5	+0.9
X58A	Rowland	3.98	115	IAmb_Lg	20 58 09.8	
	comp=Z,185nm,0.9s					
Y58A	Scranton	4.09	124	Pn	20 57 02.7	-2.4
O52A	Adamsville	4.10	21	Pn	20 57 02.3	-2.9
O48B	Farmland	4.12	345	Pn Pn	20 57 04.7	-0.7
UTMT	University of	4.15	272	Pn Pn	20 57 05.3	-0.6
LRAL	Lakeview Retre	4.22	221	Pn	20 57 04.2	-2.7
LRAL				IAmb_Lg	20 58 22.2	
	comp=Z,111nm,0.9s					
OLIL	Olney	4.24	306	Pn Pn	20 57 06.1	-1.1
NHSC	New Hope	4.32	136	Pn Pn	20 57 05.9	-2.4
O53A	New Philadelph	4.42	26	Pn	20 57 08.8	-0.8
O53A				IAmb_Lg	20 58 24.4	
	comp=Z,164nm,0.8s					
HICK	Hickman	4.44	275	Pn Pn	20 57 09.1	-0.8
CSU	Charleston Sou	4.47	137	IAmb_Lg	20 58 20.7	
	comp=Z,141nm,0.8s					
GLAT	Glass	4.49	271	Pn Pn	20 57 10.3	-0.3
Q56A	Snyder Ridge,	4.53	51	Pn	20 57 09.9	-1.2
Q56A				IAmb_Lg	20 58 30.4	
	comp=Z,89nm,0.9s					
MCWV	Mont Chateau	4.55	41	Pn	20 57 09.7	-1.7
MCWV				IAmb_Lg	20 58 26.7	
	comp=Z,159nm,0.9s					
SIUC	Southern Illin	4.62	290	IAmb_Lg	20 58 26.2	
	comp=Z,102nm,0.8s					
N49A	Columbus Grove	4.64	356	Pn Pn	20 57 11.2	-1.5
LNXT	Lenox	4.67	269	Pn Pn	20 57 11.5	-1.5
O54A	Avella	4.69	33	Pn	20 57 12.9	-0.5
O54A				IAmb_Lg	20 58 36.1	
	comp=Z,131nm,0.8s					
N47A	Urbana	4.83	342	Pn Pn	20 57 14.0	-1.3
N47A				IAmb_Lg	20 58 32.5	
	comp=Z,139nm,0.8s					
CGM3	Cape Girardeau	4.86	284	Pn	20 57 14.9	-0.8
SFIN	Lafayette	4.86	328	Pn	20 57 15.6	-0.2
SFIN				IAmb_Lg	20 58 34.2	
	comp=Z,118nm,0.7s					
PARMO	Parma	4.87	276	Pn Pn	20 57 16.9	+1.1
R58B	Mineral	4.96	69	Pn	20 57 16.9	-0.2
R58B				IAmb_Lg	20 58 41.4	
	comp=Z,74nm,1.0s					
PEBM	Pemiscott Bayo	4.96	270	IAmb_Lg	20 58 52.1	
	comp=Z,127nm,0.9s					
T59A	Double "B" Far	5.01	80	Pn	20 57 15.7	-2.1
N53A	Lisbon	5.04	26	Pn	20 57 16.6	-1.6
GNAR	Gosnell	5.10	268	IAmb_Lg	20 58 52.9	
	comp=Z,76nm,0.7s					
M50A	Fremont	5.13	6	Pn	20 57 18.0	-1.4
M50A				IAmb_Lg	20 58 46.9	
	comp=Z,110nm,0.7s					
PBMO	Poplar Bluff	5.42	277	Pn	20 57 23.0	-0.4
PBMO				IAmb_Lg	20 58 59.9	
	comp=Z,87nm,1.0s					
P57A	Homestead Farm	5.53	53	Pn	20 57 24.4	-0.5
M52A	Chesterland	5.56	19	Pn	20 57 24.5	-0.8
SLM	Saint Louis	5.68	296	IAmb_Lg	20 59 10.4	
	comp=Z,67nm,0.8s					
BRAL	Brewton	5.81	209	Pn Pn	20 57 25.6	-3.2
BRAL				IAmb_Lg	20 59 09.9	
	comp=Z,96nm,0.8s					
T42A	Van Buren	5.97	279	Pn	20 57 27.3	-3.6
AAM	Ann Arbor	6.00	1	IAmb_Lg	20 59 19.8	
	comp=Z,92nm,0.8s					
LCAR	Lake Charles	6.01	270	Pn Pn	20 57 28.4	-3.1
HDIL	Hopedale	6.10	316	Pn	20 57 30.0	-2.7
HDIL				IAmb_Lg	20 59 29.4	
	comp=Z,104nm,0.8s					
M44A	Midewin, Midew	6.10	328	IAmb_Lg	20 59 18.9	
	comp=Z,86nm,1.0s					
CCM	Cathedral Cave	6.25	289	Pn Pn	20 57 33.6	-1.2
SSPA	Standing Stone	6.31	45	Pn Pn	20 57 34.1	-1.5
ERPA	Erie	6.50	25	IAmb_Lg	20 59 36.3	
	comp=Z,101nm,0.8s					
K50A	Casco	6.53	7	IAmb_Lg	20 59 24.9	
	comp=Z,100nm,0.8s					
MVL	Millersville	6.89	55	Pn Pn	20 57 41.1	-2.4
MGMO	Mountain Grove	6.91	280	IAmb_Lg	20 59 37.7	
	comp=Z,55nm,0.7s					
VBMS	Vicksburg	6.94	236	IAmb_Lg	20 59 57.6	
	comp=Z,60nm,0.8s					
J47A	Sunmer	6.99	353	Pn	20 57 44.2	-0.7
CCAR	Cane Creek	7.00	253	IAmb_Lg	20 59 59.6	
	comp=Z,77nm,0.7s					
WHAR	Wooly Hollow	7.03	264	Pn Pn	20 57 44.0	-1.5
N41A	Harden Midland	7.12	310	Pn Pn	20 57 45.6	-1.1
N41A				IAmb_Lg	20 59 48.0	
	comp=Z,61nm,0.8s					
N58A	Sunbury	7.12	48	Pn	20 57 45.1	-1.7
N58A				IAmb_Lg	20 59 54.5	
	comp=Z,45nm,0.8s					
UALR	University of	7.18	260	Pn Pn	20 57 46.6	-1.0
M57A	Sunshine Farm,	7.20	44	Pn Pn	20 57 46.2	-1.6
M57A				IAmb_Lg	21 00 08.4	
	comp=Z,67nm,1.1s					
WVNY	West Valley, N	7.28	31	Pn Pn	20 57 47.5	-1.5
K43A	Burlington	7.33	332	IAmb_Lg	21 00 14.5	
	comp=Z,63nm,0.9s					
WUPA	West Chester U	7.36	58	Pn	20 57 47.2	-2.8
L56A	Greenwood	7.55	37	Pn Pn	20 57 49.8	-2.8
L56A				IAmb_Lg	21 00 05.1	
	comp=Z,75nm,1.0s					
X40A	Basin Creek Fa	7.65	259	Pn	20 57 51.5	-2.5
I49A	Point Hope	7.67	5	IAmb_Lg	21 00 14.4	
	comp=Z,69nm,0.9s					
MMNY	Mt. Morris Dam	7.85	33	Pn Pn	20 57 55.2	-1.5
Z41A	Richland Creek	8.06	251	IAmb_Lg	21 00 34.5	
	comp=Z,41nm,0.9s					
WLAR	White Oak Lake	8.13	254	IAmb_Lg	21 00 40.5	
	comp=Z,49nm,1.0s					
L40A	Anamosa	8.19	317	IAmb_Lg	21 00 27.3	
	comp=Z,60nm,0.9s					
JFWS	Jewell Farm	8.31	325	IAmb_Lg	21 00 31.2	
	comp=Z,43nm,0.9s					
J55A	Hilton	8.32	31	IAmb_Lg	21 00 31.1	
	comp=Z,51nm,0.8s					
N38A	Joes South For	8.70	304	IAmb_Lg	21 00 38.0	
	comp=Z,70nm,0.9s					
H43A	Windswept, Lux	8.73	341	Pn Pn	20 58 04.7	-4.1
H43A				IAmb_Lg	21 00 37.2	
	comp=Z,63nm,0.7s					
PAL	Palisades	9.01	56	IAmb_Lg	21 00 51.0	
	comp=Z,35nm,1.1s					
SADO	Sadowa	9.16	21	IAmb_Lg	21 00 52.9	
	comp=Z,31nm,0.9s					
PECO	Prince Edward	9.21	32	IAmb_Lg	21 01 05.2	
	comp=Z,41nm,0.9s					
I40A	Norwalk	9.24	327	IAmb_Lg	21 00 58.1	
	comp=Z,31nm,0.8s					
SCIA	State Center	9.26	310	IAmb_Lg	21 01 01.4	
	comp=Z,37nm,0.7s					
DELO	Deloro Mine	9.44	28	IAmb_Lg	21 00 57.7	
	comp=Z,47nm,1.0s					

IDC 05 20:56:29.2±6.4, 7°24S×125°28E, h458km±97km, mb2.5/3, mbtmp3.6/6, Error ellipse: s-maj=83.0km s-min=44.6km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.80	178	P	P	20 58 55.4	+0.3
	4.3nm,0.4s,baz=4.7,slow=9.2,SNR=40						
WRA	Warramunga Arr	15.38	146	P	P	20 59 43.2	-1.2
	1.1nm,0.7s,baz=326,slow=12,SNR=15						
ASAR	Alice Springs	18.31	154	P	P	21 00 14.9	+0.2
	1.0nm,0.5s,baz=322,slow=8.0,SNR=19						
SONM	Songino Array	57.32	345	P	P	21 05 32.7	+0.3
	0.1nm,0.4s,baz=160,slow=4.6,SNR=1.2						
	0.1nm,0.4s						
MKAR	Makanchi Array	65.94	329	P	P	21 06 28.9	0.0
	0.2nm,0.4s,baz=115,slow=7.7,SNR=5.2						
	0.2nm,0.4s						
BVAR	Borovoye Array	75.82	329	P	P	21 07 26.9	-0.3
	0.2nm,0.4s,baz=106,slow=4.7,SNR=1.6						
	0.2nm,0.4s						

CATAC ***05*** *20:59:29.3±1.4, 13°N±7°×9°0W±°, h25km±10km, M3.5/6, MLv3.5/6, Error ellipse: s-maj=16.2km s-min=6.9km az=28.7, confirmed*
GCG ***05*** *20:59:29.7±1.2, 13°70N×90°32W, h82km±10km, MD4.1*
ISC 05 20:59:30.5±2.7, 13°5N±0°2×90°42W±0°08, h38km, n19, σ0°79/19, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	San Jos, E	0.11	316	*i* P		20 59 44.1	
ESSJ				*i* S		20 59 56.4	
NUBE	Las Nubes	0.75	56	P	Pn	20 59 44.4	-0.4
NUBE	Las Nubes	0.75	56	P	Pn	20 59 44.3	-0.4
NUBE	Las Nubes	0.75	56	S	Sn	20 59 55.7	+0.8
NUBE	Las Nubes	0.75	56	*e*P	Pn	20 59 44.1	-0.6
NUBE	Las Nubes	0.75	56	*e*P		20 59 44.1	
LOAL	Lomas de Alarc	0.81	51	P	Pn	20 59 45.3	-0.1
LOAL	Lomas de Alarc	0.81	51	P	Pn	20 59 45.0	-0.4
LOAL	Lomas de Alarc	0.81	51	S	Sn	20 59 57.5	+1.2
CEVE	Cerro Verde	0.85	66	P	Pn	20 59 45.8	-0.4
JAYA	Jayaque - finc	0.96	80	P	Pn	20 59 47.3	-0.3
JAYA	Jayaque - finc	0.96	80	P	Pn	20 59 47.3	-0.3
JAYA	Jayaque - finc	0.96	80	S	Sn	21 00 00.6	+0.4
JAYA	Jayaque - finc	0.96	80	*e*P	Pn	20 59 47.1	-0.5
JAYA	Jayaque - finc	0.96	80	*e*P		20 59 47.1	
ESSG	Sabana Grande	0.98	336	*e*P	Pn	20 59 47.2	-0.6
ESSG				*e*S	Sn	21 00 00.8	+0.4
ESSG	Sabana Grande	0.98	336	*e*P		20 59 47.2	
ESSG				*e*S		21 00 00.8	
PMON	Piamonte	1.10	78	P	Pn	20 59 52.3	+2.8
PMON	Piamonte	1.10	78	P	Pn	20 59 49.1	-0.4
STG0	El Palmar, Qui	1.29	317	*e*P		20 59 56.8	
STG8	El Palmar, Qui	1.32	317	*e*P		20 59 57.4	
STG8				*e*S		21 00 18.1	
MTO3	Montecristo	1.38	48	P	Pn	20 59 51.9	-1.4
MTO3	Montecristo	1.38	48	P	Pn	20 59 51.9	-1.4
APG	El Apazote	1.51	359	*i* P	Pn	20 59 54.6	-0.6
APG	El Apazote	1.51	359	*i* P		20 59 54.6	
SOKI	Kika Raxquin	1.63	325	*e*S	Sn	21 00 18.3	+1.2
SOKI	Kika Raxquin	1.63	325	*e*S		21 00 18.3	

HEL ***05*** *21:00:52.2±0.3, 67°76N×20°21E, h0km, ML1.0, Suspected explosion*
UPP 05 21:00:51.5±0.0, 67°82N×20°21E, h0km, ML2.3, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	20	P	Pg	21 00 54.4	+0.2
KUA				S	Sg	21 00 56.5	+0.4
RATU	Laukkuluspa	0.23	271	P	Pg	21 00 56.1	+0.2
RATU				S	Sg	21 00 59.4	+0.4
KOVU	Salmi	0.41	357	P	Pg	21 00 59.2	0.0
KOVU				S	Sg	21 01 04.8	+0.4
LANU	Lannavaara	0.71	70	P	Pg	21 01 04.9	-0.3
LANU				S	Sg	21 01 14.6	+0.3
LANU	Lannavaara	0.71	70	PG	Pg	21 01 05.1	0.0
LANU				SG	Sg	21 01 15.1	+0.8
DUNU	Dundret	0.71	169	P	Pg	21 01 04.7	-0.5
MASU	Masugnsbyn	0.78	117	P	Pg	21 01 06.3	0.0
KIF	Kilpisjarvi	1.21	10	PG	Pn	21 01 15.8	+0.2
KIF				SG	Sb	21 01 31.4	+0.1
KIF				MSG		21 01 31.9	
	comp=Z,1.5nm,0.2s						
PAJU	Pajala	1.38	124	P	Pg	21 01 16.6	-1.2
PAJU	Pajala	1.38	124	PB	Pg	21 01 16.5	-1.4
	baz=303						
PAJU				SN	Sg	21 01 35.2	-0.4
HEF	Hetta	1.42	64	PG	Pn	21 01 18.2	-0.4
HEF				MSG		21 01 35.8	
	comp=Z,0.7nm,0.2s						
HEF				SG	Sg	21 01 37.0	-0.2
ERTU	Ertsjaerv	1.49	148	P	Pn	21 01 18.9	-0.5
ERTU	Ertsjaerv	1.49	148	PN	Pn	21 01 18.9	-0.6
ERTU				SN	Sg	21 01 39.2	0.0
KLF	Kolari	1.56	110	PN	Pn	21 01 20.1	-0.3
	baz=296						
KLF				MSG		21 01 38.3	
	comp=Z,0.7nm,0.2s						
KLF				SN	Sb	21 01 41.4	0.0
KTK1	Kautokeino	1.64	42	PG	Pb	21 01 22.4	-0.2
KTK1				SN	Sg	21 01 45.5	+1.4
TRO	Tromso	1.88	346	SG	Sg	21 01 52.0	+0.1
TOF	Tornio	2.38	135	MSG		21 02 01.4	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	21 02 05.2	+0.2
RNF	Rovaniemi	2.57	116	PG	Pn	21 01 36.1	+1.9
RNF				SG	Sb	21 02 10.7	+0.3
ARA0	ARCESS Array S	2.59	46	PB	Pb	21 01 36.9	-1.9
ARA0				SB	Sb	21 02 10.6	-0.5
KEV	Kevo	3.14	49	SN	Sn	21 02 21.6	+1.3
RANF	Ranua	3.16	122	PG	Pb	21 01 47.0	-1.5

IDC ***05*** *21:02:35.6±1.4, 14°38N×93°17W, h0km, mb3.6/3, mbtmp3.6/5, ML4.1/2, MS3.2/1, Error ellipse: s-maj=33.3km s-min=21.6km az=45.0*
GCG ***05*** *21:02:36.7±1.9, 14°22N×93°03W, h11km±28km, MD4.7*
MEX ***05*** *21:02:38.3±0.8, 14°25N×93°13W, h10km±26km, MD4.1*
ISC 05 21:02:35.0±1.8, 14°28N±0°06×93°12W±0°03, h6km±10km, n37, σ2°06/59, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.04	53	*e*P	Pg	21 02 55.8	+0.8
THIG				*e*S	Sg	21 03 08.4	-0.1
THIG		1.04	53	*e*P	Pg	21 02 55.1	+0.1
THIG		1.04	53	*e*P		21 02 55.1	
SMCA	Catarina	1.16	60	*e*P	Pb	21 02 57.2	-0.4
SMCA	Catarina	1.16	60	*e*P		21 02 57.2	
PATR	El Naranjo	1.20	46	*e*P	Pb	21 02 57.3	-1.0
PATR				*e*S	Sb	21 03 13.1	-1.1
PAVE	Pavencul	1.29	45	*e*P	Pn	21 02 58.8	-1.1
PAVE				*e*S	Sb	21 03 15.7	-1.2
RTAL	Retalhuleu	1.40	80	*e*P	Pn	21 03 00.9	-0.3
RTAL				*e*S	Sn	21 03 16.5	-3.6
PCIG		1.42	356	*e*P	Pn	21 03 00.8	-0.8
PCIG				*e*P	Pb	21 03 01.1	-1.0
PCIG				*e*S	Sn	21 03 15.1	-5.5
PCIG				*e*S	Sb	21 03 15.5	-5.0
STG8	El Palmar, Qui	1.72	84	*e*P		21 03 02.3	
STG0	El Palmar, Qui	1.73	85	*e*P		21 03 02.3	
SOKI	Kika Raxquin	1.75	72	*e*P	Pn	21 03 06.7	+0.4
SOKI	Kika Raxquin	1.75	72	*e*P		21 03 06.7	
HUEH	Huehuetenango	1.88	56	*e*P	Pn	21 03 09.3	+1.3
HUEH				*e*S	Sn	21 03 33.7	+1.6
CARR	Arriaga	2.10	339	*e*P	Pn	21 03 12.2	+1.3
CARR				*e*S	Sn	21 03 39.5	+2.1
CCIG	Comitan	2.21	25	*e*P	Pn	21 03 14.9	+2.4
CCIG				*e*S	Sn	21 03 42.3	+2.1
CCIG	Comitan	2.21	25	*e*P	Pn	21 03 14.3	+1.8
CCIG	Comitan	2.21	25	*e*P		21 03 14.3	
TGIG		2.49	360	*e*P	Pn	21 03 17.5	+1.3
TGIG				*e*S	Sn	21 03 48.0	+1.0
TGIG		2.49	360	*e*P	Pn	21 03 17.4	+1.1
TGIG				*i* S	Sn	21 03 49.5	+2.5
TGIG		2.49	360	*e*P		21 03 17.4	
TGIG				*i* S		21 03 49.5	
APG	El Apazote	2.67	74	Pn	Pn	21 03 20.7	+1.8
	0.7nm,0.3s,baz=195,slow=13,SNR=21						
APG				Sn	Sn	21 03 48.9	-2.9
	0.7nm,0.3s,baz=200,slow=13,SNR=3.6						
APG	El Apazote	2.67	74	*e*P	Pn	21 03 19.9	+1.0
APG	El Apazote	2.67	74	*e*P		21 03 19.9	
NILT	Santiago Nilte	2.69	328	*e*P	Pn	21 03 20.1	+1.1
NILT				*e*S	Sn	21 03 52.2	+0.2
UXUV	UXUV	3.18	342	*e*P	Pn	21 03 27.7	+2.0
UXUV				*e*S	Sn	21 04 04.7	+0.6
HUIG	Huatulco	3.25	298	*e*P	Pn	21 03 26.5	-0.1
HUIG				*e*S	Sn	21 03 59.5	-6.1
NUBE	Las Nubes	3.26	96	*e*P	Pn	21 03 27.0	0.0
NUBE	Las Nubes	3.26	96	*e*P		21 03 27.0	
CMIG	Matias Romero	3.27	329	Pn	Pn	21 03 28.6	+1.6
	8.3nm,0.3s,baz=165,slow=13,SNR=65						
CMIG				Sn	Sn	21 04 05.7	-0.6
	8.7nm,0.3s,baz=27,slow=8.6,SNR=9.8						
	21nm,0.3s						
CMIG	Matias Romero	3.27	329	*e*P	Pn	21 03 28.0	+1.0
CMIG				*e*S	Sn	21 04 05.8	-0.6
PEIG	Puerto Escondi	4.25	294	*e*P	Pn	21 03 42.9	+2.4
PEIG				*e*S	Sn	21 04 26.3	-4.2
NEUV	Arroyo Zacate	4.28	323	*e*P	Pn	21 03 41.7	+0.9
NEUV				*e*S	Sn	21 04 32.8	+1.7
YOIG	Yosondua	4.98	302	*e*P	Pn	21 03 56.0	+5.3
YOIG				*e*S	Sn	21 04 50.5	+1.8
PNIG	Pinotepa	5.27	294	*e*P	Pn	21 03 56.4	+1.9
PNIG				*e*S	Sn	21 04 49.1	-6.5
TOIG	Toxpalan	5.37	316	*e*P	Pn	21 03 59.6	+3.8
TOIG				*e*S	Sn	21 04 59.2	+1.1
TXIG	Tlaxiaco	5.37	304	*e*P	Pn	21 04 01.1	+5.1
TXIG				*e*S	Sn	21 04 58.9	+0.6
JAUV	Jalcomulco	6.17	326	*e*P	Pn	21 04 06.5	-0.4
JAUV				*e*S	Sn	21 05 15.8	-2.0
TEIG	Tepich	7.51	37	Pn	Pn	21 04 26.2	+1.0
	baz=36,slow=24						
TEIG				Sn	Sn	21 05 51.3	+0.5
	baz=343,slow=19						
TXAR	Lajitas Array	17.88	329	P	Pn	21 06 43.1	-1.6
	0.3nm,0.3s,baz=140,slow=17,SNR=7.6						
	0.3nm,0.5s						
PDAR	Pinedale Array	31.73	337	P	P	21 09 00.7	+0.6
	0.2nm,0.5s,baz=140,slow=7.1,SNR=2.8						
	0.2nm,0.5s						
ULM	Lac du Bonnet	35.95	357	LR	LR	21 25 36.9	
	comp=Z,34nm,19.5s,baz=40,slow=38						
YKA	Yellowknife Ar	50.51	347	P	P	21 11 33.8	-0.1
	0.6nm,0.7s,baz=158,slow=7.5,SNR=7.6						
	0.6nm,0.7s						
CPUP	Villa Florida	53.30	139	P	P	21 11 57.3	+2.2
	0.8nm,0.3s,baz=300,slow=5.8,SNR=2.9						
	0.8nm,0.3s						
MKAR	Makanchi Array	119.07	4	PKP	PKPdf	21 21 26.3	+1.1
	0.1nm,0.7s,baz=5.7,slow=4.3,SNR=1.1						
CMAR	Chiang Mai Arr	145.37	340	PKPbc	PKPbc	21 22 15.2	+0.4
	0.2nm,0.3s,baz=0.2,slow=4.4,SNR=4.6						

JMA ***05*** *21:18:50.5±0.1, 32°8N±0°2×131°9E±0°3, h48km, MV3.7/39, HYUGANADA REGION*
JMA Felt II J1 at HYUGANADA REGION .
NIED ***05*** *21:18:50.5, 32°77N×131°93E, h48km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}2.51; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-2.27; $M_{r\theta}$2.21; $M_{\theta\phi}$2.96; $M_{\phi r}$2.74; Fault plane solution: $M_0$5.11000×10^14^ NP1: ϕ_s112.00000°, δ50.00000°, λ32.00000°. NP2: ϕ_s0.00000°, δ66.00000°, λ135.00000°.*
IDC ***05*** *21:18:50.8±1.2, 32°78N×131°84E, h59km±9km, mb3.4/14, mbtmp3.8/17, MS2.8/4 Error ellipse: s-maj=17.7km s-min=13.9km az=21.0*
ISC 05 21:18:50.2±0.7, 32°78N±0°04×131°92E±0°03, h50km±6km, n48, σ0°96/54, mb3.6/14, 16D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSKE	Saikikamae	0.02	322	*i* P	Pn	21 18 57.9	0.0
JSKE				S	Sn	21 19 03.2	-0.1
JUS	Usuki	0.32	334	⇓*i* P	Pn	21 18 59.8	+0.3
JUS				⇓S	Sn	21 19 06.9	+0.7
JHHC	Hyugahichiya	0.41	216	*i* P	Pn	21 19 00.5	0.0
JHHC				S	Sn	21 19 08.1	+0.4
JKIT	Kitakata	0.42	249	⇓*i* P	Pn	21 19 00.7	+0.1
JKIT				⇓S	Sn	21 19 08.3	+0.3
JTSN	Tsuno	0.64	213	*i* P	Pn	21 19 03.4	+0.3
JTSN				S	Sn	21 19 13.3	+0.8
UWA2	Uwa jima 2	0.73	54	⇓*i* P	Pn	21 19 04.6	+0.2
UWA2				⇓S	Sn	21 19 15.8	+1.0
JTO	Tosashimizu	0.75	84	⇓*i* P	Pn	21 19 04.6	0.0
JTO				⇓S	Sn	21 19 15.3	+0.2
JNA	Nagahama	0.91	31	⇓*i* P	Pn	21 19 07.2	+0.5
JNA				⇓S	Sn	21 19 19.4	+0.6
JNU	Nakatsue	0.94	292	P	Pn	21 19 07.8	+0.7
	276nm,0.3s,baz=128,slow=4.4,SNR=1299						
JNU				S	Sn	21 19 20.2	+0.6
	2μm,0.5s,baz=335,slow=21,SNR=35						
JNU	Nakatsue	0.94	292	P	Pn	21 19 07.6	+0.5
JNU	Nakatsue	0.94	292	P	Sn	21 19 20.9	+1.3
JIU3	Izumi3	0.96	256	⇓*i* P	Pn	21 19 08.0	+0.6
JIU3				⇓*e*S	Sn	21 19 21.5	+1.5
JKU	Kubokawa	1.10	61	⇓*i* P	Pn	21 19 09.4	+0.2
JKU				⇓S	Sn	21 19 23.6	+0.2
JTZ	Takazaki	1.12	219	⇓*i* P	Pn	21 19 10.5	+0.9
JTZ				⇓S	Sn	21 19 26.9	+2.9
JET	Tanbara	1.38	43	*i* P	Pn	21 19 13.6	+0.6
JMN	Monobe	1.90	60	P	Pn	21 19 20.4	+0.3
JTU	Tsushima	2.73	310	P	Pn	21 19 31.7	+0.2
JTU	Tsushima	2.73	310	S	Sn	21 20 03.8	+0.5
INU	Inuyama	4.95	57	P	Pn	21 20 03.7	+1.8
INU	Inuyama	4.95	57	S	Sn	21 20 58.4	+0.6
JGF	Kuroka	5.31	57	P	Pn	21 20 07.8	+0.8
KSRS	Korea Array	5.70	326	P	Pn	21 20 13.5	+1.3
	6.5nm,0.3s,baz=145,slow=14,SNR=20						
KSRS	

ILAR	Eielson Array	57.17	30	P	P	21 28 31.7	+0.1
	0.2nm,0.8s,baz=284,slow=6.6,SNR=1.9						
	0.2nm,0.8s						
ARCES	ARCESS Array B	65.12	338	P	P	21 29 25.0	-0.3
	4.7nm,1.1s,baz=70,slow=11,SNR=1.6						
	4.7nm,1.1s						
KBZ	Khabaz	67.57	308	P	P	21 29 40.5	-0.8
	0.7nm,0.6s,baz=11,slow=21,SNR=2.1						
	0.7nm,0.6s						
FINES	FINESS Array B	68.77	330	P	P	21 29 46.6	-2.0
	5.7nm,1.1s,baz=53,slow=6.9,SNR=2.0						
	5.7nm,1.1s						
YKA	Yellowknife Ar	71.25	27	P	P	21 30 04.7	+0.9
	0.4nm,0.7s,baz=304,slow=5.8,SNR=7.2						
	0.4nm,0.7s						
PDAR	Pinedale Array	86.08	40	P	P	21 31 26.1	+0.2
	0.2nm,0.6s,baz=313,slow=8.0,SNR=2.0						
	0.2nm,0.6s						

IDC 05 21:19:52.8±1.7, 2°.68S×138°.93E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=32.2km s-min=15.2km az=168.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.78	85	Pg	Pn	21 20 24.3	-0.6
	6.0nm,0.3s,baz=264,slow=9.3,SNR=13						
JAY				Lg	Lg	21 20 50.1	
	4.1nm,0.3s,baz=119,slow=24,SNR=6.7						
WRA	Warramunga Arr	17.73	194	P	Pn	21 24 01.2	-0.1
	0.1nm,0.3s,baz=17,slow=13,SNR=6.1						
	0.7nm,0.7s						
ASAR	Alice Springs	21.42	193	P	P	21 24 42.6	0.0
	0.4nm,0.7s,baz=20,slow=11,SNR=6.9						
	0.4nm,0.7s						
MKAR	Makanchi Array	69.90	322	P	P	21 31 06.1	+0.2
	0.6nm,1.1s,baz=133,slow=5.5,SNR=2.2						
	0.6nm,1.1s						

*IDC **05** 21:27:33.6±5.0, 36°.69N×72°.37E, h89km±43km, mb3.5/6, mbtmp3.7/12, MS2.7/2, Error ellipse: s-maj=34.2km s-min=23.2km az=19.0*

ISC 05 21:27:34.9±1.1, 36°.78N±0°.10×72°.3E±0°.1, h100km, n15, σ1§69/17, mb3.7/6, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.10	15	P	Pn	21 29 00.7	-1.9
	4.3nm,0.6s,baz=188,slow=6.7,SNR=23						
AAK				S	Sn	21 30 14.0	+3.0
	2.9nm,0.7s,baz=280,slow=21,SNR=6.7						
AAK				LR	LR	21 31 30.1	
	comp=Z,30nm,18.3s,baz=138,slow=38						
AAK	Ala-Archa	6.10	15	⇑Pn	Pn	21 29 00.3	-2.4
	3.4nm,0.7s						
AAK				⇓Sn	Sn	21 30 13.3	+2.3
	7.8nm,0.8s						
KK31	Karatay Array	6.47	348	⇑Pn	Pn	21 29 04.0	-3.5
	8.8nm,0.8s,baz=152,slow=12,SNR=37						
KK31				⇑Sn	Sn	21 30 20.1	+0.3
	1.4nm,0.4s						
KK31				⇓Lg	Lg	21 30 53.5	
	6.3nm,0.7s						
MKAR	Makanchi Array	12.47	34	P	Pn	21 30 28.1	-0.7
	0.6nm,0.8s,baz=212,slow=14,SNR=7.1						
KURBB	Kurchatov Arra	14.55	16	P	Pn	21 30 55.8	+0.1
	0.4nm,0.7s,baz=204,slow=10,SNR=4.6						
BVAR	Borovoye Array	16.30	356	P	P	21 31 18.6	-0.3
	1.5nm,0.5s,baz=160,slow=10,SNR=12						
AKTO	Aktyubinsk	17.08	328	P	Pn	21 31 27.1	-0.2
	3.4nm,0.5s,baz=138,slow=9.9,SNR=11						
ZALV	Zalesovo Beam	19.25	23	P	P	21 31 50.5	-0.7
	1.2nm,0.6s,baz=206,slow=9.9,SNR=6.3						
ASF	Jabal al Asfar	29.43	272	LR	LR	21 48 40.6	
	comp=Z,34nm,18.6s,baz=62,slow=43						
BRTR	Keskin Array B	30.34	288	P	P	21 33 38.7	+1.5
	0.4nm,0.6s,baz=91,slow=11,SNR=2.8						
	0.4nm,0.6s						
ARCES	ARCESS Array B	41.29	337	P	P	21 35 09.6	-0.5
	3.2nm,0.9s,baz=109,slow=7.8,SNR=4.5						
	3.2nm,0.9s						
HFS	Hagfors	43.49	322	P	P	21 35 28.6	+0.6
	2.7nm,1.0s,baz=98,slow=10,SNR=1.8						
	2.7nm,1.0s						
TORD	Torodi Ar. Bea	66.76	269	P	P	21 38 16.2	+0.3
	2.1nm,0.4s,baz=51,slow=8.2,SNR=1.1						
	2.1nm,0.4s						
YKA	Yellowknife Ar	80.92	3	P	P	21 39 38.1	+0.4
	0.1nm,0.5s,baz=349,slow=5.4,SNR=1.9						
	0.1nm,0.5s						
WRA	Warramunga Arr	81.26	123	P	P	21 39 39.8	-0.4
	0.3nm,0.8s,baz=311,slow=5.8,SNR=16						
	0.3nm,0.8s						

*NEIC **05** 21:36:27.1±2.4, 31°.38N±0°.07×142°.1E±0°.1, h10km±1km, mb4.1/11, Error ellipse: s-maj=21.6km s-min=11.2km az=72.0*

*IDC **05** 21:36:29.9±6.1, 31°.33N×142°.12E, h33km±47km, mb3.7/9, mbtmp3.8/13, MLJ3.4/4, Error ellipse: s-maj=30.0km s-min=18.1km az=78.0*

ISC 05 21:36:29.1±0.7, 31°.35N±0°.08×142°.1E±0°.1, h29km, n35, σ1§28/37, mb4.0/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.66	312	Pn	Pn	21 37 10.2	+0.1
	31nm,0.3s,baz=60,slow=23,SNR=1.7						
JHJ				Sn	Sn	21 37 42.5	+1.3
	18nm,0.3s,baz=261,slow=20,SNR=2.4						
	121nm,0.4s						
JCJ	Chichijima	4.24	179	Pn	Pn	21 37 31.4	-0.3
JGF	Kuroka	5.82	318	Pn	Pn	21 37 53.5	0.0
MJAR	Matsushiro Arr	6.12	329	Pn	Pn	21 37 58.5	+0.9
	0.4nm,0.3s,baz=152,slow=12,SNR=21						
MJAR				Sn	Sn	21 39 06.6	0.0
	baz=135,slow=12,SNR=1.4						
	3.0nm,0.4s						
MAJO	Matsushiro	6.12	329		Pn	21 37 54.6	-3.0
MJB9	Matsu-Tunnel	6.12	329		Pn	21 37 54.8	-2.9
JMM	Marumori	6.60	351	Pn	Pn	21 38 02.5	-1.6
JSD	Sado	7.39	336	Pn	Pn	21 38 13.6	-1.5
ERM	Erimo	10.68	4	Pn	Pn	21 38 58.0	-2.0
ASAJ	Asahikawa	12.75	2	Pn	Pn	21 39 27.2	-1.2
	0.4nm,0.3s,baz=312,slow=34,SNR=1.1						
	1.5nm,0.4s						
KLR	Kul'dur	19.50	339	P	Pn	21 40 55.4	+0.2
	0.1nm,0.3s,baz=65,slow=6.8,SNR=2.6						
	0.4nm,0.4s						
SONM	Songino Array	31.74	312	P	P	21 42 50.4	-0.2
	1.3nm,1.0s,baz=91,slow=6.7,SNR=6.1						
	1.3nm,1.0s						
ZALV	Zalesovo Beam	46.31	317	P	P	21 44 52.4	+0.3
	0.7nm,0.7s,baz=94,slow=8.7,SNR=2.3						
	0.7nm,0.7s						
MK31	Makanchi Array	47.81	307	P	P	21 45 04.1	+0.1
MKAR	Makanchi Array	47.81	307	P	P	21 45 03.4	-0.6
MKAR	Makanchi Array	47.81	307	P	P	21 45 03.8	-0.2
	0.2nm,0.5s,baz=88,slow=8.4,SNR=6.8						
	0.2nm,0.5s						
MAKZ	Makanchi	48.03	307	P	P	21 45 04.3	-1.3
MAKZ				IAmb	IAmb	21 45 14.3	
	comp=Z,2.2nm,1.2s						
KURK	Kurchatov	50.04	312	P	P	21 45 20.9	0.0
KURBB	Kurchatov Arra	50.10	312	P	P	21 45 21.6	+0.1
	comp=Z,1.1nm,0.6s,baz=89,slow=7.7,SNR=15						
	comp=Z,1.1nm,0.6s						
B20K	Meade River	50.95	23	P	P	21 45 29.0	+1.5
WRA	Warramunga Arr	51.54	189	P	P	21 45 32.2	-0.3
	comp=Z,1.0nm,0.5s,baz=6.4,slow=7.7,SNR=35						
	comp=Z,1.0nm,0.5s						
B21K	Ikpikpuk River	51.70	23	P	P	21 45 35.4	+2.2
B21K				IAmb	IAmb	21 45 59.8	
	comp=Z,4.1nm,1.4s						
ILAR	Eielson Array	54.04	30	P	P	21 45 51.6	+1.0
	comp=Z,0.5nm,1.0s,baz=270,slow=8.2,SNR=4.1						
	comp=Z,0.5nm,1.0s						
BMAR	Burnt Mountain	55.08	27	P	P	21 45 58.9	+0.9
AS31	Alice Springs	55.26	189		P	21 45 59.4	-0.4
AS31				IAmb	IAmb	21 46 01.6	
	comp=Z,0.8nm,0.5s						
ASAR	Alice Springs	55.27	189	P	P	21 46 00.3	+0.5
	comp=Z,0.8nm,0.6s,baz=9.1,slow=7.9,SNR=8.4						
	comp=Z,0.8nm,0.6s						
C27K	Jago River	55.48	24	P	P	21 46 02.8	+1.9
C27K				IAmb	IAmb	21 46 29.2	
	comp=Z,1.6nm,1.2s						
KKAR	Karatay Array	56.62	304	P	P	21 46 10.0	+0.5
KKAR	Karatay Array	56.62	304	P	P	21 46 08.6	-0.9
KKAR				IAmb	IAmb	21 46 11.2	
	comp=Z,4.0nm,1.4s						
M29M	Somme Creek	57.90	33	P	P	21 46 19.3	+1.0
M29M				IAmb	IAmb	21 46 31.9	
	comp=Z,2.5nm,1.2s						
L29M	L29M	57.97	32	P	P	21 46 21.4	+2.7
L29M				IAmb	IAmb	21 46 38.3	
	comp=Z,2.7nm,0.9s						
ABKAR	Abkulak array	62.14	313	P	P	21 46 47.6	+0.2
ABKAR	Abkulak array	62.14	313	P	P	21 46 47.7	+0.2
ABKAR				IAmb	IAmb	21 46 54.2	
	comp=Z,3.1nm,1.2s						
ARCES	ARCESS Array B	69.53	340	P	P	21 47 35.2	+0.5
	comp=Z,3.3nm,0.9s,baz=52,slow=6.0,SNR=1.4						
	comp=Z,3.3nm,0.9s						
TXAR	Lajitas Array	93.10	53	P	P	21 49 40.0	-0.7
	comp=Z,0.6nm,0.6s,baz=297,slow=4.5,SNR=5.7						
	comp=Z,0.6nm,0.6s						

*IDC **05** 21:38:16.3±5.1, 20°.08S×177°.98W, h451km±52km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=33.4km s-min=18.6km az=88.0*

ISC 05 21:38:16.5±1.2, 20°.1S±0°.2×178°.0W±0°.3, h450km, n8, σ0§90/8, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.61	192	P	P	21 42 05.3	+0.3
	2.5nm,0.6s,baz=349,slow=4.2,SNR=1.8						
URZ				S	S	21 45 12.9	+1.1
	2.3nm,0.7s,baz=206,slow=13,SNR=1.1						
ASAR	Alice Springs	44.58	256	P	P	21 45 47.5	+0.1
	1.3nm,0.6s,baz=93,slow=7.6,SNR=15						
	1.3nm,0.6s						
WRA	Warramunga Arr	44.62	262	P	P	21 45 47.3	-0.4
	0.8nm,0.3s,baz=96,slow=7.7,SNR=6.7						
	0.8nm,0.3s						
QSPA	South Pole Qui	70.00	180	P	P	21 48 40.3	-1.2
	0.9nm,0.7s,baz=23,slow=0.6,SNR=6.8						
	0.9nm,0.7s						
ILAR	Eielson Array	87.90	13	P	P	21 50 17.1	+0.5
	0.2nm,0.4s,baz=210,slow=5.8,SNR=4.2						
	0.2nm,0.4s						
AKASG	Malin Array Be	142.62	331	PKhKP	PKPpre	21 56 52.8	
	0.8nm,0.5s,baz=39,slow=4.6,SNR=7.1						
BRTR	Keskin Array B	146.52	313	PKPbc	PKPdf	21 57 05.3	+0.8
	0.4nm,0.6s,baz=58,slow=2.8,SNR=2.3						
MMAI	Mount Meron Ar	147.56	300	PKPbc	PKPbc	21 57 09.2	-0.6
	0.2nm,0.3s,baz=79,slow=7.5,SNR=5.2						

*IDC **05** 21:43:21.9±2.8, 27°.88N×51°.74E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=67.3km s-min=28.3km az=159.0*

*TEH **05** 21:43:25.4, 27°.86N×51°.82E, h8km±61km*

ISC 05 21:43:23.7±1.1, 27°.79N±0°.09×51°.73E±0°.07, h10km, n13, σ0§99/15, mb3.9/6, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	Dashti - Bushe	0.71	324	Pg	Pb	21 43 39.5	+1.4
AHBU	AHRAM	1.14	340	Pg	Pb	21 43 46.3	+0.8
AHBU				Sg	Sn	21 44 02.6	+1.3
QIR1	Qir	1.34	59	Pg	Pg	21 43 49.1	-0.4
QIR1				Sg	Sn	21 44 07.4	+0.8
LMD1	Lamerd	1.35	109	Pg	Pg	21 43 50.2	+0.6
JHRM	Jahrom	1.78	66	Pg	Pn	21 43 55.4	+0.8
KAZ2	Kazeron-Fars-I	1.82	358	Pg	Pb	21 43 57.6	+0.5
SHI	Shiraz	1.97	20	Pn	Pb	21 44 00.4	+0.7
KURBB	Kurchatov Arra	30.54	34	P	P	21 49 36.0	-1.1
	0.4nm,0.8s,baz=231,slow=9.3,SNR=4.2						
	0.4nm,0.8s						
MKAR	Makanchi Array	30.55	43	P	P	21 49 36.8	-0.6
	0.7nm,0.9s,baz=228,slow=9.0,SNR=6.4						
	0.7nm,0.9s						
ZALV	Zalesovo Beam	35.62	34	P	P	21 50 20.3	-1.1
	1.1nm,0.7s,baz=238,slow=8.5,SNR=4.0						
	1.1nm,0.7s						
FINES	FINESS Array B	37.77	340	P	P	21 50 39.0	-0.6
	4.4nm,1.1s,baz=146,slow=8.7,SNR=3.6						
	4.4nm,1.1s						
HFS	Hagfors	41.34	332	P	P	21 51 08.1	-1.4
	2.2nm,0.7s,baz=128,slow=9.3,SNR=5.6						
	2.2nm,0.7s						
TORD	Torodi Ar. Bea	48.77	263	P	P	21 52 08.9	-0.2
	2.2nm,0.3s,baz=74,slow=9.2,SNR=1.6						
	2.2nm,0.3s						

*IDC **05** 21:48:08.6±8.2, 36°.50N×72°.39E, h74km±64km, mb4.0/2, mbtmp3.7/7, ML2.9/5, Error ellipse: s-maj=68.8km s-min=56.8km az=150.0*

ISC 05 21:48:06.7±2.8, 36°.5N±0°.2×72°.1E±0°.2, h50km, n7, σ1§34/8, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.43	16	P	Pn	21 49 38.7	-0.3
	0.6nm,0.3s,baz=191,slow=5.8,SNR=14						
AAK				S	Sn	21 50 51.8	+0.7
	1.5nm,0.7s,baz=350,slow=20,SNR=2.0						
	2.6nm,0.5s						
MKAR	Makanchi Array	12.81	33	P	Pn	21 51 07.4	+1.4
	baz=218,slow=13,SNR=2.3						
	0.3nm,0.8s						
KURBB	Kurchatov Arra	14.89	16	P	Pn	21 51 33.1	-0.7
	baz=193,slow=11,SNR=3.6						
	0.2nm,0.7s						
AKTO	Aktyubinsk	17.27	328	P	Pn	21 52 04.7	+0.5
	0.2nm,0.3s,baz=128,slow=11,SNR=5.4						
	1.4nm,0.4s						
ZALV	Zalesovo Beam	19.59	23	P	P	21 52 28.1	-2.3
	0.2nm,0.3s,baz=224,slow=10,SNR=2.7						
	0.7nm,0.5s						
ARCES	ARCESS Array B	41.52	337	P	P	21 55 48.6	-0.1
	7.6nm,1.2s,baz=118,slow=7.8,SNR=2.0						
	7.6nm,1.2s						
HFS	Hagfors	43.65	322	P	P	21 56 06.8	+0.8
	3.5nm,1.0s,baz=108,slow=9.3,SNR=2.5						
	3.5nm,1.0s						

*MEX **05** 21:52:48.7±0.5, 14°.03N×93°.23W, h15km, MD5.0*

*CATAC **05** 21:52:48.9±1.0, 14°.N±4°.×9°.3W±°., h1km±6km, M5.3/9, MLv5.3/9, Error ellipse: s-maj=10.4km s-min=7.7km az=47.9, confirmed*

*GCG **05** 21:52:49.1±1.7, 14°.09N×93°.06W, h28km±28km, MD5.2, ML4.7, MW4.5*

*MOS **05** 21:52:50.4±1.2, 14°.40N×92°.78W, h33km, mb5.0/43, Error ellipse: s-maj=10.0km s-min=5.2km az=105.4*

*GCMT **05** 21:52:52.2±0.4, 14°.26N±0°.02×92°.95W±0°.03, h20km, MW4.9/94, Moment Tensor Solution. s47,c57; s94,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.35±.12; $M_{\theta\theta}$-1.83±.07; $M_{\phi\phi}$-0.52±.08; $M_{r\theta}$1.03±.12; $M_{\theta\phi}$0.71±.05; $M_{\phi r}$-0.52±.15; Best double couple: $M_0$2.52500×10^{16} NP1:ϕ_s293.00000°, δ31.00000°, λ88.00000°. NP2: ϕ_s115.00000°, δ59.00000°, λ91.00000°. Principal axes: T 2.6290, Plg76.0000°, Azm29.0000°; N -0.2110, Plg1.0000°, Azm294.0000°; P -2.4210, Plg14.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 21:52:53.1, 14°.31N×92°.94W, h43km*

*NEIC **05** 21:52:53.1, 14°.91N×93°.00W, h46km, Moment Tensor Solution. Duration: 30±4 Moment tensor: Scale 10^{16}Nm; M_{rr}0.51; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$1.15; $M_{r\theta}$-0.97; $M_{\theta\phi}$1.77; $M_{\phi r}$1.02; Fault plane solution: $M_0$2.60000×10^{16} NP1:ϕ_s68.86000°, δ60.00000°, λ-0.10000°. NP2:ϕ_s158.91000°, δ89.91000°, λ-150.00000°. Principal axes: T 2.1969, Plg21.0000°, Azm290.0000°; N 0.8145, Plg60.0000°, Azm159.0000°; P -3.0113, Plg21.0000°, Azm28.0000°;*

*NEIC **05** 21:52:53.2±2.1, 14°.32N±0°.07×92°.92W±0°.05, h43km±2km, mb4.9/186, Mww4.9/13, Md5.0/147(MEX) Error ellipse: s-maj=10.1km s-min=6.8km az=205.0*

*RSNC **05** 21:52:53.8±1.4, 14°.N±7°.×9°.3W±.1°.0, h35km, M5.0, mB5.5, mb4.9, Mw(mB)4.9, MwMwp5.0, Mwp5.3*

*IDC **05** 21:52:55.6±2.8, 14°.39N×92°.51W, h69km±23km, mb4.2/20, mbtmp4.5/22, MS4.0/42, Error ellipse: s-maj=21.6km s-min=11.9km az=61.0*

ISC 05 21:52:51.9±0.9, 14°.27N±0°.04×92°.99W±0°.04, h40km±7km, n786, σ1§78/831, mb4.9/116, MS4.0/40, 12C-7D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.95	48		Pn	21 53 07.9	-0.9
THIG					Sn	21 53 22.7	+1.6
THIG		0.95	48	eP	Pn	21 53 07.9	-0.9
THIG				eS	Sn	21 53 22.7	+1.6
THIG		0.95	48	iP	Pn	21 53 07.9	-0.9
THIG				iS	Sn	21 53 24.3	+3.2
THIG				IAML		21 53 29.5	
	comp=Z,22μm,0.7s						
THIG		0.95	48	iP		21 53 07.9	
THIG				iS		21 53 24.3	
THIG				IAML		21 53 29.5	
	comp=Z,22μm,0.7s						
SMCA	Catarina	1.06	56	eP	Pn	21 53 09.5	-0.8
	comp=Z,11μm,0.9s						
SMCA				IAML		21 53 36.7	
	comp=Z,11μm,0.9s						
SMCA	Catarina	1.06	56	eP		21 53 09.5	
	comp=Z,11μm,0.9s						
SMCA				IAML		21 53 36.7	
	comp=Z,11μm,0.9s						
PATR	El Naranjo	1.12	41⇓	eP	Pn	21 53 10.2	-1.1
PATR				eS	Sn	21 53 26.0	+0.3
PAVE	Pavencul	1.21	40⇓	eP	Pn	21 53 11.7	-0.9
PAVE				eS	Sn	21 53 27.7	-0.3
RTAL	Retalhuleu	1.28	78		Pn	21 53 13.2	-0.1
RTAL				Sn	Sn	21 53 30.8	+1.5
RTAL	Retalhuleu	1.28	78⇑	eP	Pn	21 53 13.2	-0.1
RTAL				eS	Sn	21 53 30.5	+1.1
RTAL	Retalhuleu	1.28	78	P	Pn	21 53 13.3	0.0
RTAL	Retalhuleu	1.28	78	S	Sn	21 53 31.2	+1.9
RTAL	Retalhuleu	1.28	78	P	Pn	21 53 13.4	0.0
PCIG		1.45	351		Pn	21 53 13.7	-1.9
PCIG		1.45	351⇓	eP	Pn	21 53 13.7	-1.9
PCIG				eS	Sn	21 53 28.1	-5.3
QUEO	Labor Ovalle	1.55	67	eP	Pn	21 53 17.5	+0.2
QUEO				IAML		21 53 50.5	
	comp=Z,19μm,0.5s						
QUEO	Labor Ovalle	1.55	67	eP		21 53 17.5	
QUEO				IAML		21 53 50.5	
	comp=Z,19μm,0.5s						
STG8	El Palmar, Qui	1.60	83	iP		21 53 14.8	
STG0	El Palmar, Qui	1.61	84	iP		21 53 14.9	
STG0				iS		21 53 35.9	
SOKI	Kika Raxquin	1.63	70	eP	Pn	21 53 18.6	0.0
	comp=Z,7μm,1.4s						
SOKI				iS	Sn	21 53 41.4	+2.9
SOKI				IAML		21 53 49.6	
	comp=Z,7μm,1.4s						
SOKI	Kika Raxquin	1.63	70	eP		21 53 18.6	
	comp=Z,7μm,1.4s						
SOKI				iS		21 53 41.4	
SOKI				IAML		21 53 49.6	
	comp=Z,7μm,1.4s						
HUEH	Huehuetenango	1.78	54		Pn	21 53 21.6	+1.2
HUEH	Huehuetenango	1.78	54⇑	eP	Pn	21 53 21.8	+1.4
HUEH				eS	Sn	21 53 46.3	+4.3
HUEH	Huehuetenango	1.78	54	P	Pn	21 53 21.8	+1.4
HUEH	Huehuetenango	1.78	54	S	Sn	21 53 44.8	+2.9
HUEH	Huehuetenango	1.78	54	P	Pn	21 53 22.0	+1.6
HUEH	Huehuetenango	1.78	54	eP	Pn	21 53 21.3	+1.0
	comp=Z,25μm,0.6s						
HUEH				iS	Sn	21 53 48.1	+6.1
HUEH				IAML		21 53 56.6	
	comp=Z,25μm,0.6s						
HUEH	Huehuetenango	1.78	54	eP		21 53 21.3	
	comp=Z,25μm,0.6s						
HUEH				iS		21 53 48.1	
HUEH				IAML		21 53 56.6	
	comp=Z,25μm,0.6s						
ESSG	Sabana Grande	2.10	87	eP	Pn	21 53 23.3	-1.3
ESSG				IAML		21 54 16.4	
	comp=Z,3μm,1.0s						
ESSG	Sabana Grande	2.10	87	eP		21 53 23.3	
ESSG				IAML		21 54 16.4	
	comp=Z,3μm,1.0s						
CARR	Arriaga	2.16	336	eP	Pn	21 53 24.9	-0.6
CARR				eS	Sn	21 53 52.1	+1.1
CCIG	Comitan	2.17	22		Pn	21 53 27.3	+1.6
CCIG	Comitan	2.17	22	eP	Pn	21 53 27.3	+1.6
CCIG				eS	Sn	21 53 55.6	+4.2
CCIG	Comitan	2.17	22	P	Pn	21 53 27.7	+2.0
CCIG	Comitan	2.17	22	P	Pn	21 53 27.9	+2.2
CCIG				P		21 53 28.2	
CCIG	Comitan	2.17	22	iP	Pn	21 53 27.2	+1.6
CCIG				IAML		21 54 03.8	
	comp=Z,7μm,0.6s						
CCIG	Comitan	2.17	22	iP		21 53 27.2	
CCIG				IAML		21 54 03.8	
	comp=Z,7μm,0.6s						
TGBT	Tuxtla Gutierr	2.50	358		Pn	21 53 30.6	+0.6
TGBT	Tuxtla Gutierr	2.50	358	eP	Pn	21 53 30.6	+0.6
TGBT				eS	Sn	21 54 02.5	+3.1
TGIG		2.50	357		Pn	21 53 31.0	+0.8
TGIG					Sn	21 54 01.3	+1.8
TGIG		2.50	357⇓	eP	Pn	21 53 31.0	+0.8
TGIG				eS	Sn	21 54 01.3	+1.8
TGIG		2.50	357	iP	Pn	21 53 30.8	+0.6
TGIG				IAML		21 54 12.0	
	comp=Z,6μm,0.6s						
TGIG		2.50	357	iP		21 53 30.8	
TGIG				IAML		21 54 12.0	
	comp=Z,6μm,0.6s						
APG	El Apazote	2.55	73	P	Pn	21 53 31.9	+0.9
	comp=Z,42nm,0.3s,baz=197,slow=13,SNR=184						
APG				S	Sn	21 54 05.5	+4.5
	comp=Z,97nm,0.5s,baz=232,slow=21,SNR=3.7						
APG	El Apazote	2.55	73	iP	Pn	21 53 32.0	+1.0
APG	El Apazote	2.55	73	iP		21 53 32.0	
NILT	Santiago Nilte	2.77	326	eP	Pn	21 53 32.5	-1.3
NILT				eS	Sn	21 54 07.3	+1.2
SLOZ	Alcaldia de Sa	3.12	94	P	Pn	21 53 39.0	+0.3
SLOZ	Alcaldia de Sa	3.12	94	P	Pn	21 53 40.3	+1.6
LOAL	Lomas de Alarc	3.12	94	P	Pn	21 53 39.2	+0.4
LOAL	Lomas de Alarc	3.12	94	P	Pn	21 53 39.7	+0.9
NUBE	Las Nubes	3.14	96	P	Pn	21 53 39.0	+0.1
NUBE	Las Nubes	3.14	96	P	Pn	21 53 39.1	+0.1
NUBE	Las Nubes	3.14	96	eP	Pn	21 53 38.9	-0.1
NUBE	Las Nubes	3.14	96	eP		21 53 38.9	
UXUV	UXUV	3.23	340	eP	Pn	21 53 40.7	+0.5
UXUV				eS	Sn	21 54 20.4	+3.0
CEVE	Cerro Verde	3.30	97	P	Pn	21 53 41.8	+0.5
CEVE	Cerro Verde	3.30	97	P

LOMA Loma Larga 3.76 99 P **Pn 21 53 47.8 +0.2**
LOMA Loma Larga 3.76 99 S **Sn 21 54 33.6 +2.9**
LOMA Loma Larga 3.76 99 P Pn 21 53 51.9 +4.4
PAVA Las Pavas 3.97 97 P **Pn 21 53 49.9 -0.6**
PAVA Las Pavas 3.97 97 P Pn 21 53 55.2 +4.8
TUIG Tuzandepetl 3.99 340 *eP* **Pn 21 53 50.1 -0.5**
TUIG *eS* **Sn 21 54 32.0 -4.2**
PETF Flores 4.00 48 Pn **Pn 21 53 51.7 +1.0**
PETF Flores 4.00 48 *eP* **Pn 21 53 51.7 +1.0**
PETF *eS* Sn 21 54 44.6 +8.2
PETF Flores 4.00 48 *eP* **Pn 21 53 52.1 +1.4**
PETF IAML 21 54 59.1
comp=Z,793nm,2.0s
PETF Flores 4.00 48 *eP* 21 53 52.1
PETF IAML 21 54 59.1
comp=Z,793nm,2.0s
COEG Centro de Oper 4.04 99 P **Pn 21 53 51.1 -0.3**
COEG Centro de Oper 4.04 99 S **Sn 21 54 42.2 +4.7**
COEG Centro de Oper 4.04 99 P **Pn 21 53 52.8 +1.4**
TECO Alcaldia de Te 4.15 100 P Pn 21 54 05.2 +12
NEUV Arroyo Zacate 4.37 322 *eP* **Pn 21 53 53.8 -1.9**
NEUV *eS* **Sn 21 54 41.5 -3.9**
PEIG Puerto Escondi 4.37 294 **Pn 21 53 55.3 -0.5**
PEIG Puerto Escondi 4.37 294 *eP* **Pn 21 53 55.3 -0.5**
PEIG *eS* Sn 21 54 36.0 -9.5
IZABA Izabal, Puerto 4.50 71 *eP* Pn 21 54 01.4 +3.8
IZABA *eS* **Sn 21 54 52.3 +3.6**
IZABA Izabal, Puerto 4.50 71 P **Pn 21 53 58.3 +0.7**
IZABA Izabal, Puerto 4.50 71 P Pn 21 54 03.9 +6.3
OXLC Oaxaca 4.53 308 *eP* **Pn 21 54 01.0 +2.8**
OXLC *eS* **Sn 21 54 47.5 -2.3**
OXBJ Oaxaca 4.55 308 *eP* **Pn 21 53 55.4 -3.1**
OXBJ *eS* **Sn 21 54 47.1 -3.1**
OXIG Oaxaca 4.56 308 **Pn 21 54 00.3 +1.7**
VHO Vista Hermosa 4.56 308 *eP* **Pn 21 54 00.3 +1.7**
VHO *eS* **Sn 21 54 47.1 -3.4**
PACA Pacayal 4.60 99 P **Pn 21 54 01.4 +2.4**
PACA Pacayal 4.60 99 P **Pn 21 54 01.5 +2.4**
PMUV Sontecomapan 4.72 335 *eP* **Pn 21 53 57.1 -3.6**
PMUV *eS* **Sn 21 54 56.3 +2.0**
SCIG Sabancuy 4.99 20 *eP* **Pn 21 54 04.0 -0.3**
SCIG *eS* **Sn 21 55 03.0 +2.4**
SCIG Sabancuy 4.99 20 *eP* **Pn 21 54 03.7 -0.5**
SCIG IAML 21 55 43.7
comp=Z,669nm,0.8s
SCIG Sabancuy 4.99 20 *eP* 21 54 03.7
SCIG IAML 21 55 43.7
comp=Z,669nm,0.8s
YOIG Yosondua 5.09 301 **Pn 21 54 07.4 +1.5**
YOIG Yosondua 5.09 301 *eP* **Pn 21 54 07.4 +1.5**
YOIG *eS* **Sn 21 55 01.1 -2.5**
CNCH Conchagua 5.11 100 P **Pn 21 54 05.9 -0.2**
CNCH Conchagua 5.11 100 P **Pn 21 54 08.9 +2.8**
NISHN Nisperales Com 5.16 72 *eP* **Pn 21 54 06.6 -0.1**
NISHN Nisperales Com 5.16 72 *eP* 21 54 06.6
PNIG Pinotepa 5.39 294 **Pn 21 54 08.9 -0.9**
PNIG Pinotepa 5.39 294 *eP* **Pn 21 54 08.9 -0.9**
PNIG *eS* Sn 21 55 03.1 -7.5
CSGN Cosiguina Volc 5.43 103 P **Pn 21 54 10.6 +0.1**
CSGN Cosiguina Volc 5.43 103 P **Pn 21 54 10.8 +0.3**
TOIG Toxpalan 5.46 315 P **Pn 21 54 11.7 +0.8**
TOIG Toxpalan 5.46 315 *eP* **Pn 21 54 11.7 +0.8**
TOIG *eS* **Sn 21 55 08.1 -4.5**
TXIG Tlaxiaco 5.47 303 **Pn 21 54 12.8 +1.5**
TXIG **Sn 21 55 14.5 +1.4**
TXIG Tlaxiaco 5.47 303 *eP* **Pn 21 54 12.8 +1.5**
TXIG *eS* **Sn 21 55 14.5 +1.4**
POTN Potosi Cosigui 5.48 103 P **Pn 21 54 12.4 +1.4**
POTN Potosi Cosigui 5.48 103 P **Pn 21 54 14.3 +3.3**
POTN P 21 54 14.8
TGUH Tegucigalpa,Un 5.55 91 Pn **Pn 21 54 12.3 +0.1**
HLIG Huajuapan de L 5.83 308 **Pn 21 54 18.8 +2.8**
HLIG **Sn 21 55 21.3 -0.5**
HLIG Huajuapan de L 5.83 308⇓ *eP* **Pn 21 54 18.8 +2.8**
HLIG *eS* **Sn 21 55 21.3 -0.5**
TPIG Tehuac#an 5.89 315 **Pn 21 54 17.0 +0.1**
TPIG **Sn 21 55 24.2 +1.1**
TPIG Tehuac#an 5.89 315 *eP* **Pn 21 54 17.0 +0.1**
TPIG *eS* **Sn 21 55 24.2 +1.1**
CRIN San Cristobal 5.98 104 **Pn 21 54 18.6 +0.6**
CRIN San Cristobal 5.98 104 P **Pn 21 54 18.9 +0.8**
CRIN San Cristobal 5.98 104 P Pn 21 54 26.6 +8.5
FTIG Fresnillo de T 6.13 307 **Pn 21 54 22.7 +2.6**
FTIG **Sn 21 55 33.3 +4.3**
FTIG Fresnillo de T 6.13 307 *eP* **Pn 21 54 22.7 +2.6**
FTIG *eS* **Sn 21 55 33.3 +4.3**
MGIG Malinaltepec 6.18 299 **Pn 21 54 22.3 +1.4**
MGIG **Sn 21 55 28.8 -1.6**
MGIG Malinaltepec 6.18 299 *eP* **Pn 21 54 22.3 +1.4**
MGIG *eS* **Sn 21 55 28.8 -1.6**
HERN Volcan Telica 6.21 105 **Pn 21 54 21.1 -0.1**
JAUV Jalcomulco 6.25 325 *eP* **Pn 21 54 19.1 -2.6**
JAUV *eS* **Sn 21 55 28.8 -3.1**
TLIG Tlapa 6.29 302 Pn **Pn 21 54 24.2 +1.9**
TLIG Tlapa 6.29 302 *eP* **Pn 21 54 24.1 +1.8**
TLIG *eS* Sn 21 55 24.5 -8.4
POHV Veracruz 6.30 320 **Pn 21 54 23.3 +0.5**
POHV **Sn 21 55 34.8 +0.9**
POHV Veracruz 6.30 320 *eP* **Pn 21 54 23.3 +0.5**
POHV *eS* **Sn 21 55 34.8 +0.9**
LVIG Laguna Verde 6.34 329 *eP* **Pn 21 54 20.1 -2.8**
LVIG *eS* **Sn 21 55 28.8 -5.3**
CNGN Cerro Negro 6.37 105 **Pn 21 54 23.3 -0.1**
CNGN Cerro Negro 6.37 105 P Pn 21 54 31.1 +7.8
CNGN Cerro Negro 6.37 105 P Pn 21 54 32.8 +9.4
CRIG Cruz Grande 6.41 293 **Pn 21 54 24.1 +0.3**
CRIG Cruz Grande 6.41 293 *eP* **Pn 21 54 24.1 +0.3**
CRIG *eS* Sn 21 55 28.4 -7.3
LIMN Finca el Limon 6.55 100 P **Pn 21 54 25.5 -0.3**
LIMN Finca el Limon 6.55 100 P **Pn 21 54 25.9 0.0**
COPN Copaltepe 6.57 108 P **Pn 21 54 25.9 -0.1**
COPN Copaltepe 6.57 108 P **Pn 21 54 26.6 +0.6**
RCVN Varillal2 6.63 95 P **Pn 21 54 26.7 -0.4**
RCVN Varillal2 6.63 95 P **Pn 21 54 27.0 0.0**
MGAN Managua 6.90 107 Pn **Pn 21 54 29.5 -1.1**
DAIG Los Arroyos 6.98 294 **Pn 21 54 32.1 +0.5**
DAIG Los Arroyos 6.98 294 *eP* **Pn 21 54 32.1 +0.5**
DAIG *eS* **Sn 21 55 44.0 -5.8**
PBCV Popocatepetl 7.11 312 *eP* **Pn 21 54 32.4 -1.3**
PBCV *eS* **Sn 21 55 56.7 +3.3**
PBXN Popocatepetl 7.19 312 *eP* Pn 21 54 39.0 +4.0
PBXN *eP* 21 54 39.3
PBXN *eS* **Sn 21 55 55.4 -0.3**
PBXN *eS* 21 55 56.1
PBPN Popocatepetl 7.19 312 *eP* **Pn 21 54 37.0 +1.9**
PBPN *eP* **Pn 21 54 37.0 +1.9**
PBPN *eS* **Sn 21 55 51.4 -4.4**
PBPN *eS* 21 56 00.7
PPM Popocatepetl 7.21 312 *eP* Pn 21 54 39.5 +4.3
PPM *eS* **Sn 21 55 53.0 -3.2**
CXUV Coxquihui 7.34 324 *eP* **Pn 21 54 35.7 -0.9**
CXUV *eS* **Sn 21 55 52.1 -6.5**
MYIG Merida 7.34 25 *eP* **Pn 21 54 35.1 -1.5**
MYIG *eS* **Sn 21 55 59.6 +0.9**
YAIG Yautepec 7.40 309 **Pn 21 54 40.6 +3.0**
YAIG **Sn 21 56 01.3 +0.8**
YAIG Yautepec 7.40 309 *eP* **Pn 21 54 40.6 +3.0**
YAIG *eS* **Sn 21 56 01.3 +0.8**
TEIG Tepich 7.44 37 **Pn 21 54 37.8 -0.2**
TEIG Tepich 7.44 37 P **Pn 21 54 38.1 +0.1**
baz=52,slow=20
TEIG S **Sn 21 55 57.5 -3.7**
baz=338,slow=24,SNR=1.6
PLIG Platanillo 7.48 304 **Pn 21 54 40.5 +1.9**
PLIG Platanillo 7.48 304 *eP* **Pn 21 54 40.5 +1.9**
CAIG El Cayaco 7.54 292 **Pn 21 54 40.0 +0.7**
CAIG **Sn 21 56 02.2 -1.3**
CAIG El Cayaco 7.54 292 *eP* **Pn 21 54 40.0 +0.7**
CAIG *eS* **Sn 21 56 02.2 -1.3**
MPVM San Francisco 7.57 311 *eP* **Pn 21 54 43.6 +3.6**
MPVM *eS* **Sn 21 56 09.4 +4.6**
THVM De Xico 7.62 312 *eS* **Sn 21 55 58.0 -7.8**
TLVM San Miguel Top 7.68 311 *eP* **Pn 21 54 42.3 +0.7**
TLVM *eS* **Sn 21 56 04.2 -3.4**
XCVM Xochimilco 7.68 311 *eS* **Sn 21 56 05.6 -1.8**
UNM Universidad Na 7.78 311 *eS* **Sn 21 56 13.8 +4.0**
PBVM Pinon 7.78 312 *eS* **Sn 21 56 06.9 -2.5**
MAVM Malinalco, Edo 7.79 308 *eP* Pn 21 54 31.0 -12
MAVM *eS* Sn 21 55 58.7 -11
AOVM Tlapan 7.84 310 **Pn 21 54 46.9 +3.0**
AOVM **Sn 21 56 13.4 +1.7**
AOVM Tlapan 7.84 310 *eP* **Pn 21 54 46.9 +3.0**
AOVM *eS* **Sn 21 56 13.4 +1.7**
MHVM Bosque de Chap 7.85 312 *eS* **Sn 21 56 16.7 +5.1**
CJVM Cuajimalpa 7.87 311 *eS* **Sn 21 56 16.6 +4.4**
ACON Acoyapa 7.95 106 **Pn 21 54 45.0 0.0**
ARIG Puente Sto Nin 8.11 300 **Pn 21 54 49.9 +2.7**
ARIG **Sn 21 56 15.9 -1.9**
ARIG Puente Sto Nin 8.11 300 *eP* **Pn 21 54 49.9 +2.7**
ARIG *eS* **Sn 21 56 15.9 -1.9**
DEIG Demacu 8.33 317 *eP* **Pn 21 54 53.4 +3.0**
DEIG *eS* **Sn 21 56 25.4 +2.2**
DHIG Demacu 8.33 317 **Pn 21 54 53.4 +3.0**
DHIG **Sn 21 56 25.4 +2.2**
INDI Punta indio, G 8.53 120 P **Pn 21 54 54.4 +1.4**
INDI Punta indio, G 8.53 120 P **Pn 21 54 54.2 +1.2**
ACIG Acambay 8.70 312 **Pn 21 54 57.6 +2.2**
ACIG Acambay 8.70 312 *eP* **Pn 21 54 57.6 +2.2**
ACIG *eS* **Sn 21 56 25.5 -6.9**
JTS Las Juntas de 8.79 116 Pn **Pn 21 54 58.6 +2.0**
JTS Las Juntas de 8.79 116 P **Pn 21 54 56.1 -0.5**
comp=Z,5.8nm,0.5s,baz=302,slow=15,SNR=5.6
JTS S **Sn 21 56 38.7 +4.2**
comp=Z,10nm,0.6s,baz=21,slow=21,SNR=0.9
JTS Las Juntas de 8.79 116 P **Pn 21 54 58.6 +2.0**
CTUV Llano Grande 8.80 325⇑ *eP* **Pn 21 54 56.9 +0.3**
CTUV *eS* Sn 21 56 43.3 +8.7
ZIIG Zihuatanejo 8.80 293 **Pn 21 54 58.0 +1.3**
ZIIG Zihuatanejo 8.80 293 *eP* **Pn 21 54 58.0 +1.3**
ZIIG *eS* **Sn 21 56 28.8 -5.8**
SOCE Pocosol 9.04 114 **Pn 21 55 00.6 +0.6**
MOIG Morelia 9.51 306 **Pn 21 55 09.4 +2.8**
MOIG Morelia 9.51 306 *eP* **Pn 21 55 09.1 +2.5**
MOIG *eS* **Sn 21 56 58.3 +5.9**
JRQG Juriquilla Cam 9.57 313 Pn **Pn 21 55 09.6 +2.2**
RPIG Rio Verde 10.08 320 **Pn 21 55 17.8 +3.5**
RPIG Rio Verde 10.08 320 *eP* **Pn 21 55 17.8 +3.5**
RPIG *eS* **Sn 21 57 02.5 -3.6**
MMIG Aquila 10.72 293 **Pn 21 55 24.8 +1.9**
MMIG **Sn 21 57 25.1 +3.5**
MMIG Aquila 10.72 293 *eP* **Pn 21 55 24.8 +1.9**
MMIG *eS* **Sn 21 57 25.1 +3.5**
EZ5V 11.40 298 Pn 21 55 36.5 +4.0
EZ5V 11.40 298⇑ *eP* Pn 21 55 36.5 +4.0
EZ5V *eS* **Sn 21 57 42.3 +3.5**
MNGA Volcan de Coli 11.41 298⇑ *eP* Pn 21 55 36.8 +4.1
MNGA *eS* **Sn 21 57 39.9 +0.9**
INCO Volcan de Coli 11.42 299 *eP* **Pn 21 55 36.5 +3.6**
INCO *eS* **Sn 21 57 35.8 -3.7**
SOMAC Volcan de Col 11.45 299⇑ *eP* Pn 21 55 37.3 +4.1
SOMAC *eS* **Sn 21 57 35.8 -4.2**
CDAR Ciudad de Arme 11.54 295 *eP* **Pn 21 55 36.4 +2.2**
CEGR Campo Tres 11.58 298⇓ *eP* Pn 21 55 39.0 +4.1
CEGR *eS* **Sn 21 57 39.3 -3.8**
LNIG Linares 12.21 331 *eP* **Pn 21 55 46.1 +2.8**
CIHU Emiliano Zapat 12.29 295 *eP* **Pn 21 55 46.6 +2.1**
CIHU *eS* **Sn 21 58 01.4 +1.1**
ZAIG Zacatecas 12.40 314 Pn **Pn 21 55 46.9 +0.6**
SOR Soroa 12.70 47 Pn **Pn 21 55 48.3 -1.8**
SOR Soroa 12.70 47 P **Pn 21 55 48.3 -1.8**
MNIG Monterrey 13.20 330 **Pn 21 55 58.7 +1.8**
MNIG Monterrey 13.20 330 *eP* **Pn 21 55 58.7 +1.8**
HBVL Hebbronville 13.79 338 Pn **Pn 21 56 06.9 +1.9**
833A Chaparral WMA, 15.20 338 Pn **Pn 21 56 24.4 +0.5**
833A IAmb IAmb 21 56 29.6
comp=Z,42nm,0.7s
833A Chaparral WMA, 15.20 338 P **Pn 21 56 25.7 +1.9**
baz=155,SNR=12
MTDJ Mount Denham 15.35 73 **Pn 21 56 25.6 -0.3**
MCIG Muzquiz 15.68 331 P **Pn 21 56 31.6 +1.5**
MCIG Muzquiz 15.68 331 *eP* **Pn 21 56 31.6 +1.5**
HKT Hockley 15.83 351 Pn **Pn 21 56 32.3 +0.5**
HKT Hockley 15.83 351 *i* P **Pn 21 56 32.7 +0.8**
HKT pmax pmax
comp=Z,50nm,1.5s
PDIG Papasquiaro 15.84 314 P **Pn 21 56 33.6 +1.3**
PDIG Papasquiaro 15.84 314 *eP* **Pn 21 56 33.6 +1.3**
MLDN Muldoon 15.90 347 **Pn 21 56 32.9 +0.1**
MLDN IAmb IAmb 21 56 38.8
comp=Z,103nm,1.2s
061Z Ochoppi 16.17 43 Pn **Pn 21 56 35.2 -1.1**
HNDO Hondo 16.27 340 **Pn 21 56 38.0 +0.5**
DRIO Del Rio 16.65 336 Pn **Pn 21 56 42.6 +0.2**
CHIV Chivirico 16.82 68 Pn **Pn 21 56 43.5 -1.1**
CHIV IAmb IAmb 21 56 54.2
comp=Z,16nm,0.8s
435B Jarrell 16.97 346 Pn **Pn 21 56 45.8 -0.6**
435B Jarrell 16.97 346 P **P 21 56 48.1 +0.2**
baz=164
HPIG 17.29 319 P **P 21 56 52.1 +0.4**
JCT Junction City 17.31 340 **Pn 21 56 49.3 -1.4**
JCT Junction City 17.31 340 P **Pn 21 56 49.3 -1.4**
JCT pmax pmax
comp=Z,22nm,0.8s
DWPF Disney Wildern 17.47 36 **Pn 21 56 51.4 -1.2**
DWPF IAmb IAmb 21 56 54.2
comp=Z,98nm,1.1s
BCIG La Boquilla 17.57 321 P **P 21 56 57.0 +2.4**
BCIG La Boquilla 17.57 321 *eP* **P 21 56 57.0 +2.4**
BRAL Brewton 17.69 17 P **Pn 21 56 54.9 -0.3**
BRAL IAmb IAmb 21 57 00.9
comp=Z,179nm,1.1s
TXAR Lajitas Array 17.96 328 P **P 21 57 00.3 +1.4**
TXAR Lajitas Array 17.96 328 P **P 21 57 01.1 +2.1**
comp=Z,30nm,1.1s,baz=148,slow=12,SNR=49
TXAR LR LR 22 04 56.8
comp=Z,134nm,18.8s,baz=121,slow=40
TXAR Lajitas Array 17.96 328 P **P 21 57 00.3 +1.4**
TX31 Lajitas Ar. Si 17.96 328 P **P 21 57 00.3 +1.4**
VBMS Vicksburg 18.01 7 P **P 21 56 59.5 +0.2**
VBMS IAmb IAmb 21 57 04.5
comp=Z,66nm,0.6s
OZNA Ozona 18.19 337 P **P 21 57 02.6 +1.2**
NMDO Nuevo Mundo 18.28 67 P **P 21 57 01.1 -1.4**
NMDO IAmb IAmb 21 57 10.4
comp=Z,13nm,0.9s
FW13 Cleburne 18.45 348 P **P 21 57 03.9 -0.4**
FW07 Weatherford 18.87 347 P **P 21 57 08.4 -0.4**
Z41A Richland Creek 18.91 0 P **P 21 57 08.5 -0.7**
Z41A IAmb IAmb 21 57 14.2
comp=Z,60nm,0.8s
LPIG La Paz 19.04 304 LR LR 22 04 43.7
comp=Z,332nm,18.6s,baz=168,slow=37
MNHN Monahans 19.21 334 P **Pn 21 57 14.1 +0.3**
WLAR White Oak Lake 19.34 360 P **P 21 57 14.0 +0.2**
WLAR IAmb IAmb 21 57 18.2
comp=Z,78nm,0.9s
LRAL Lakeview Retre 19.47 15 **P 21 57 15.1 -0.2**
OTAV Otavalo 20.03 133 P **P 21 57 21.8 -0.3**
OTAV Otavalo 20.03 133 P **P 21 57 21.8 -0.3**
OTAV pmax pmax
comp=Z,5.0nm,0.9s
X40A Basin Creek Fa 20.14 0 P **P 21 57 21.2 -1.4**
MIAR Mount Ida 20.20 359 P **P 21 57 22.4 -0.9**
MIAR IAmb IAmb 21 57 29.1
comp=Z,88nm,0.9s
MIAR Mount Ida 20.20 359 P **P 21 57 22.4 -0.9**
MIAR pmax pmax
comp=Z,88nm,0.9s
UALR University of 20.43 2 P **P 21 57 25.2 -0.5**
UALR IAmb IAmb 21 57 31.1
comp=Z,30nm,0.8s
HTMS Hat Mesa 20.56 334 P **P 21 57 27.9 +0.5**
ROSC El Rosal 20.64 115 P **P 21 57 28.5 -0.1**
ROSC IAmb IAmb 21 57 32.9
comp=Z,69nm,0.9s
ROSC El Rosal 20.64 115 P Pn 21 57 30.2 -0.9
comp=Z,49nm,0.9s,baz=336,slow=4.0,SNR=19
ROSC El Rosal 20.64 115 P **P 21 57 28.5 -0.1**
ROSC pmax pmax
comp=Z,69nm,1.0s
GOGA Godfrey 20.93 23 P **P 21 57 30.2 -1.0**
GOGA Godfrey 20.93 23 P **P 21 57 30.3 -1.0**
GOGA pmax pmax
comp=Z,24nm,0.9s
WMOK Wichita Mounta 21.04 347 P **P 21 57 31.9 -0.6**
WMOK Wichita Mounta 21.04 347 P **P 21 57 31.9 -0.6**
WMOK pmax pmax
comp=Z,13nm,0.7s
W35A Tecumseh 21.09 351 P **P 21 57 32.7 -0.2**
W35A IAmb IAmb 21 57 37.9
comp=Z,34nm,0.7s
FPAL Fort Paine 21.26 17 P **P 21 57 34.2 -0.6**
FLOC Florencia 21.27 125 P **P 21 57 34.3 -0.8**
FLOC IAmb IAmb 21 57 44.3
comp=Z,71nm,1.1s
RUSC La Rusia 21.28 111 P **P 21 57 34.2 -1.4**
RUSC IAmb IAmb 21 57 43.0
comp=Z,43nm,0.8s
RUSC La Rusia 21.28 111 P **P 21 57 36.7 +1.0**
RUSC La Rusia 21.28 111 P **P 21 57 36.0 +0.3**
SDDR Presa de Saban 21.31 74 P **P 21 57 34.6 -1.0**
COHC Cochancay 21.49 140 P **P 21 57 35.9 -1.4**
DEOK Depew 21.72 352 P **P 21 57 39.2 -0.4**
DEOK IAmb IAmb 21 57 53.2
comp=Z,41nm,1.1s
LCAR Lake Charles 21.77 4 P **P 21 57 39.2 -1.0**
LCAR IAmb IAmb 21 57 54.2
comp=Z,27nm,0.9s
SWET Sewanee 21.81 16 P **P 21 57 39.7 -1.0**
SC01 Santiago de Io 21.91 73 P **P 21 57 40.8 -1.0**
SC01 IAmb IAmb 21 57 58.7
comp=Z,92nm,1.1s
HSIG 22.18 314 P **P 21 57 44.2 -0.6**
WVT Waverly 22.26 11 P **P 21 57 42.1 -3.4**
WVT Waverly 22.26 11 P **P 21 57 42.1 -3.4**
WVT pmax pmax
comp=Z,20nm,1.1s
PBMO Poplar Bluff 22.54 5 P **P 21 57 46.2 -2.2**
PBMO IAmb IAmb 21 58 05.3
comp=Z,21nm,0.8s
SDV Santo Domingo 22.54 101 P **P 21 57 47.6 -1.2**
SDV IAmb IAmb 21 57 51.3
comp=Z,21nm,0.8s
SDV Santo Domingo 22.54 101 LR LR 22 08 29.5
comp=Z,252nm,18.9s,baz=274,slow=42
SDV Santo Domingo 22.54 101 *eP* **P 21 57 47.9 -1.0**
BG3 Lake Jocassee 22.54 22 P **P 21 57 45.5 -3.0**
BG3 IAmb IAmb 21 58 08.3
comp=Z,27nm,0.9s
121A Cookes Peak, D 22.64 326 P **P 21 57 52.3 +2.4**
baz=140,SNR=42
319A Douglas 22.65 321 P **P 21 57 50.5 +0.6**
319A IAmb IAmb 21 58 12.2
comp=Z,42nm,1.1s
T42A Van Buren 22.73 4 P **P 21 57 49.1 -1.4**
TKL Tuckaleechee C 22.86 20 P **P 21 57 50.8 -1.0**
TKL IAmb IAmb 21 58 12.2
comp=Z,47nm,1.2s
TKL Tuckaleechee C 22.86 20 LR LR 22 08 28.6
comp=Z,273nm,18.1s,baz=193,slow=41
TKL Tuckaleechee C 22.86 20 P **P 21 57 50.8 -1.0**
TKL pmax pmax
comp=Z,47nm,1.3s
KAN13 South Haven SW 23.01 351 P **P 21 57 52.3 -1.0**
KAN13 IAmb IAmb 21 58 05.5
comp=Z,50nm,1.0s
U49A Red Boiling Sp 23.08 15 P **P 21 57 52.4 -1.7**
U49A IAmb IAmb 21 58 14.0
comp=Z,22nm,0.8s
CGM3 Cape Girardeau 23.13 7 P **P 21 57 53.1 -1.5**
CGM3 IAmb IAmb 21 58 18.5
comp=Z,45nm,1.6s
DUN6 Lazy B Ranch 23.39 324 P **P 21 57 58.8 +1.4**
Y22D IRIS PASSCAL I 23.41 330 P **P 21 57 58.1 +0.6**
Y22D IAmb IAmb 21 58 10.0
comp=Z,58nm,0.8s
TZTN Tazewell 23.74 19 P **P 21 57 59.3 -1.2**
TZTN IAmb IAmb 21 58 25.8
comp=Z,30nm,0.8s
CCM Cathedral Cave 23.75 3 P **P 21 57 59.0 -1.5**
CCM IAmb IAmb 21 58 01.0
comp=Z,23nm,0.8s
CCM Cathedral Cave 23.75 3 P **P 21 57 59.0 -1.5**
CCM pmax pmax
comp=Z,23nm,0.8s
ANMO Albuquerque 23.91 332 P **P 21 58 03.5 +1.3**
ANMO IAmb IAmb 21 58 07.2
comp=Z,18nm,0.7s
ANMO Albuquerque 23.91 332 LR LR 22 09 51.4
comp=Z,145nm,18.2s,baz=306,slow=42
ANMO Albuquerque 23.91 332 *i* P **P 21 58 03.6 +1.3**
ANMO pmax pmax
comp=Z,8.0nm,0.7s
TUC Tucson 24.22 321 P **P 21 58 06.4 +1.3**
TUC IAmb IAmb 21 58 09.6
comp=Z,29nm,0.9s
TUC Tucson 24.22 321 P **P 21 58 06.4 +1.3**
TUC pmax pmax
comp=Z,29nm,1.0s
WCI Wyandotte Cave 24.59 13 P **P 21 58 07.2 -1.1**
WCI IAmb IAmb 21 58 30.8
comp=Z,40nm,0.8s
WCI Wyandotte Cave 24.59 13 P **P 21 58 07.2 -1.1**
WCI pmax pmax
comp=Z,40nm,0.8s
KSU1 Kansas State U 24.94 353 P **P 21 58 10.6 -0.9**
T25A Trinidad 24.95 338 P **P 21 58 14.2 +2.4**
baz=153,SNR=132
BAUV El Baul 24.99 99 P **P 21 58 10.5 -1.7**
CBKS Cedar Bluff 25.17 348 P **P 21 58 12.9 -0.7**
CBKS IAmb IAmb 21 58 16.0
comp=Z,35nm,0.9s
CBKS Cedar Bluff 25.17 348 P **P 21 58 12.9 -0.7**
CBKS pmax pmax
comp=Z,35nm,0.9s
BLA Blacksburg 25.45 24 P **P 21 58 14.8 -1.3**
BLA IAmb IAmb 21 58 39.3
comp=Z,24nm,0.8s
BLA Blacksburg 25.45 24 P **P 21 58 14.8 -1.3**
BLA pmax pmax
comp=Z,24nm,0.9s
PIX Pinacate 25.45 316 P **P 21 58 16.0 -0.2**
ATAH Atahualpa 25.73 145 LR LR 22 06 56.4
comp=Z,294nm,19.3s,baz=310,slow=33
SJG San Juan 26.05 78 LR LR 22 08 36.9
comp=Z,363nm,21.8s,baz=253,slow=37
S22A 4UR Ranch, Cre 26.42 335 P **P 21 58 27.8 +2.6**
baz=148,SNR=54
N38A Joes South For 26.43 360 P **P 21 58 24.1 -0.8**
T59A Double "B" Far 26.48 29 P **P 21 58 23.6 -1.8**
T59A IAmb IAmb 21 58 24.8
comp=Z,23nm,0.8s
R55A Marlinton 26.50 23 P **P 21 58 24.0 -1.6**
R55A IAmb IAmb 21 58 48.6
comp=Z,38nm,1.2s
MVCO Mesa Verde 26.70 332 P **P 21 58 28.4 +0.6**
Q24A Divide 26.84 339 P **P 21 58 31.1 +2.0**
baz=153
GLA Glamis 27.28 317 P **P 21 58 32.4 -0.3**
GLA IAmb IAmb 21 58 35.7
comp=Z,18nm,0.7s
GLA Glamis 27.28 317 P **P 21 58 32.4 -0.3**
GLA pmax pmax
comp=Z,18nm,0.7s
Q56A Snyder Ridge, 27.52 24 P **P 21 58 33.8 -0.9**
Q56A IAmb IAmb 21 59 03.2
comp=Z,40nm,1.5s
BLYC Blythe 27.52 319 P **P 21 58 35.9 +1.1**
PV13 Radium Mtn., P 27.63 332 P **P 21 58 37.0 +1.0**
PV13 IAmb IAmb 21 58 42.4
comp=Z,39nm,1.0s
PV11 David Mesa, Pa 27.77 332 P **P 21 58 38.0 +0.8**
YUH Yuha Desert 27.77 315 P **P 21 58 38.2 +1.1**
HMU Henry Mountain 28.36 329 P **P 21 58 44.3 +1.7**
HMU IAmb IAmb 21 58 52.2
comp=Z,22nm,1.1s
P57A Homestead Farm 28.37 25 P **P 21 58 41.4 -0.9**
JFWS Jewell Farm 28.65 4 P **P 21 58 44.3 -0.4**
JFWS IAmb IAmb 21 58 47.0
comp=Z,17nm,0.7s
JFWS Jewell Farm 28.65 4 P **P 21 58 44.3 -0.4**
JFWS pmax pmax
comp=Z,17nm,0.7s
PFO Pinyon Flats O 28.71 316 *i* P **P 21 58 47.3 +1.7**
PFO pmax pmax
comp=Z,10.0nm,0.9s
KNB Kanab 28.74 326 P **P 21 58 46.9 +1.0**
KNB IAmb IAmb 21 58 49.8
comp=Z,65nm,2.0s
KNB Kanab 28.74 326 P **P 21 58 46.9 +1.0**
KNB pmax pmax
comp=Z,65nm,2.0s
V12A Nelson 29.01 321 P **P 21 58 50.0 +1.8**
V12A IAmb IAmb 21 58 52.1
comp=Z,18nm,0.9s
SRU San Rafael Swe 29.18 331 P **P 21 58 50.7 +0.9**

SRU	**San Rafael Swe**	**29.18 331**	P	**P**	**21 58 50.7 +0.9**
SRU			pmax	pmax	
comp=Z,7.0nm,0.9s					
SSPA	**Standing Stone**	**29.40 24**	P	**P**	**21 58 49.8 -1.6**
MVL	**Millersville**	**29.50 27**	P	**P**	**21 58 51.1 -1.2**
MVL			IAmb	IAmb	21 58 51.8
comp=Z,13nm,0.9s					
ECSD	**EROS Data Cent**	**29.53 355**	P	**P**	**21 58 51.9 -0.7**
ECSD			IAmb	IAmb	21 58 55.3
comp=Z,15nm,0.7s					
CZSB	**Cruzeiro do Su**	**29.71 136**	*e*P	**P**	**21 58 56.3 +1.9**
K22A	**Casper**	**30.60 340**	P	**P**	**21 59 03.1 +0.8**
K22A			IAmb	IAmb	21 59 06.5
comp=Z,22nm,0.7s					
NNA	**Nana**	**30.60 148**	*i* P	**P**	**21 59 02.4 0.0**
NNA			pmax	pmax	
comp=Z,12nm,1.0s					
BINY	**Binghamton**	**31.48 25**	P	**P**	**21 59 08.4 -1.4**
BINY			IAmb	IAmb	21 59 11.0
comp=Z,13nm,0.8s					
HWUT	**Hardware Ranch**	**31.66 333**	P	**P**	**21 59 12.6 +1.0**
HWUT			IAmb	IAmb	21 59 17.8
comp=Z,16nm,1.1s					
PD31	**Pinedale Array**	**31.79 337**	P	**P**	**21 59 14.1 +1.3**
PD31			IAmb	IAmb	21 59 16.9
comp=Z,10nm,0.8s					
PDAR	**Pinedale Array**	**31.79 337**	P	**P**	**21 59 14.1 +1.3**
comp=Z,8.9nm,0.9s,baz=130,slow=10.0,SNR=36					
PDAR			PcP	**PcP**	**22 02 02.8 -0.6**
comp=Z,1.0nm,0.7s,baz=165,slow=5.3,SNR=3.8					
PDAR			LR	LR	22 13 26.8
comp=Z,120nm,18.1s,baz=140,slow=39					
comp=Z,8.9nm,0.9s					
SADO	**Sadowa**	**32.60 18**	LR	LR	22 13 41.5
comp=Z,336nm,20.3s,baz=237,slow=38					
ELK	**Elko**	**32.75 328**	P	**P**	**21 59 23.0 +1.7**
ELK	**Elko**	**32.75 328**	LR	LR	22 14 50.1
comp=Z,280nm,18.9s,baz=153,slow=40					
ELK	**Elko**	**32.75 328**	P	**P**	**21 59 23.0 +1.7**
ELK			pmax	pmax	
comp=Z,6.0nm,0.9s					
NV11	**Mina Array Sit**	**32.78 322**	P	**P**	**21 59 24.0 +2.5**
NV11			IAmb	IAmb	21 59 25.8
comp=Z,20nm,0.8s					
SNOW	**Snow King Moun**	**32.84 336**	P	**P**	**21 59 23.8 +1.7**
NVAR	**Mina Array Bea**	**32.87 322**	P	**P**	**21 59 24.8 +2.5**
NVAR	**Mina Array Bea**	**32.87 322**	P	**P**	**21 59 25.1 +2.8**
comp=Z,18nm,0.7s,baz=136,slow=8.6,SNR=90					
NVAR			PcP	**PcP**	**22 02 08.5 +2.1**
comp=Z,2.9nm,0.8s,baz=125,slow=3.1,SNR=5.6					
DELO	**Deloro Mine**	**32.87 20**	P	**P**	**21 59 20.2 -1.8**
DELO			IAmb	IAmb	21 59 44.4
comp=Z,17nm,0.9s					
TPAW	**Teton Pass**	**32.95 336**	P	**P**	**21 59 23.6 +0.6**
L61B	**Northampton**	**33.11 28**	P	**P**	**21 59 22.9 -1.2**
H17A	**Grant Village**	**33.56 337**	P	**P**	**21 59 29.0 +0.7**
H17A			IAmb	IAmb	21 59 33.7
comp=Z,14nm,0.8s					
NCB	**Newcomb**	**33.67 25**	P	**P**	**21 59 27.2 -1.9**
YFT	**Old Faithful**	**33.71 337**	P	**P**	**21 59 31.1 +1.5**
RLMT	**Red Lodge**	**33.71 339**	P	**P**	**21 59 30.4 +0.8**
RLMT			IAmb	IAmb	21 59 37.6
comp=Z,18nm,0.8s					
YNE	**Yellowstone No**	**33.88 338**	P	**P**	**21 59 32.2 +1.2**
AGMN	**Agassiz Nation**	**34.02 357**	P	**P**	**21 59 31.4 -0.5**
AGMN			IAmb	IAmb	21 59 37.7
comp=Z,10nm,0.7s					
BOAV	**Boa Vista**	**34.16 107**	P	**P**	**21 59 32.3 -1.3**
BOAV			IAmb	IAmb	21 59 43.2
comp=Z,15nm,1.0s					
BOAV	**Boa Vista**	**34.16 107**	*e*P	**P**	**21 59 31.2 -2.4**
QLMT	**Earthquake Lak**	**34.26 336**	P	**P**	**21 59 36.5 +2.2**
HLID	**Hailey**	**34.49 332**	P	**P**	**21 59 37.5 +1.2**
HLID			IAmb	IAmb	21 59 39.6
comp=Z,7.4nm,0.8s					
BOZ	**Bozeman (W)**	**34.98 337**	P	**P**	**21 59 42.4 +1.9**
BOZ			IAmb	IAmb	21 59 46.0
comp=Z,13nm,0.8s					
BOZ	**Bozeman (W)**	**34.98 337**	P	**P**	**21 59 42.4 +1.9**
BOZ			pmax	pmax	
comp=Z,13nm,0.9s					
WVOR	**Wild Horse Val**	**35.74 327**	P	**P**	**21 59 47.9 +0.9**
WVOR			IAmb	IAmb	21 59 50.5
comp=Z,16nm,1.1s					
WVOR	**Wild Horse Val**	**35.74 327**	P	**P**	**21 59 47.9 +0.9**
WVOR			pmax	pmax	
comp=Z,16nm,1.1s					
ULM	**Lac du Bonnet**	**35.96 357**	P	**P**	**21 59 47.4 -1.3**
ULM			IAmb	IAmb	21 59 48.2
comp=Z,7.5nm,0.6s					
ULM	**Lac du Bonnet**	**35.96 357**	P	**P**	**21 59 47.3 -1.4**
comp=Z,5.6nm,0.5s,baz=172,slow=11,SNR=17					
ULM			PcP	**PcP**	**22 02 14.8 0.0**
comp=Z,4.0nm,0.7s,baz=209,slow=1.1,SNR=4.3					
ULM			LR	LR	22 18 38.0
comp=Z,178nm,18.2s,baz=180,slow=43					
comp=Z,5.6nm,0.5s					
ULM	**Lac du Bonnet**	**35.96 357**	*e*P	**P**	**21 59 47.6 -1.1**
ULM			pmax	pmax	
comp=Z,6.0nm,0.5s					
J08A	**Circle Bar Ran**	**36.30 328**	P	**P**	**21 59 53.8 +2.0**
MACA	**Manacapuru-AM**	**36.41 116**	P	**P**	**21 59 51.9 -1.0**
EGMT	**Eagleton**	**36.42 341**	P	**P**	**21 59 53.4 +0.7**
EGMT			IAmb	IAmb	21 59 57.5
comp=Z,19nm,0.8s					
PKME	**Peaks-Kenny Pk**	**36.84 28**	P	**P**	**21 59 54.3 -1.9**
MSO	**Missoula**	**36.90 336**	P	**P**	**21 59 57.4 +0.6**
MSO			IAmb	IAmb	21 59 59.5
comp=Z,14nm,0.8s					
YBH	**Yreka Blue Hor**	**37.57 323**	P	**P**	**22 00 02.7 +0.1**
YBH	**Yreka Blue Hor**	**37.57 323**	LR	LR	22 17 17.8
comp=Z,285nm,18.2s,baz=150,slow=39					
YBH	**Yreka Blue Hor**	**37.57 323**	P	**P**	**22 00 02.7 +0.1**
YBH			pmax	pmax	
comp=Z,4.0nm,0.7s					
L04D	**Klamath Falls**	**37.63 323**	P	**P**	**22 00 03.8 +0.6**
L04D			IAmb	IAmb	22 00 05.3
comp=Z,12nm,1.1s					
KBO	**Bosley Butte**	**38.76 322**	P	**P**	**22 00 14.1 +1.5**
KBO			IAmb	IAmb	22 00 16.3
comp=Z,22nm,0.9s					
HAWA	**Hanford**	**39.01 331**	P	**P**	**22 00 15.3 +0.8**
LPAZ	**La Paz**	**39.05 140**	P	**P**	**22 00 15.6 -0.2**
LPAZ	**La Paz**	**39.05 140**	P	**P**	**22 00 15.2 -0.6**
comp=Z,1.1nm,0.7s,baz=329,slow=5.0,SNR=5.6					
LPAZ			PcP	**PcP**	**22 02 25.9 +0.3**
comp=Z,1.8nm,1.0s,baz=264,slow=0.6,SNR=2.2					
LPAZ			LR	LR	22 14 54.1
comp=Z,164nm,22.0s,baz=314,slow=34					
comp=Z,1.1nm,0.7s					
LPAZ	**La Paz**	**39.05 140**	*e*P	**P**	**22 00 15.0 -0.9**
LPAZ			pmax	pmax	
comp=Z,1.0nm,0.7s					
LPAZ	**La Paz**	**39.05 140**	P	**P**	**22 00 15.8 0.0**
NEW	**Newport**	**39.34 334**	P	**P**	**22 00 17.6 +0.3**
NEW	**Newport**	**39.34 334**	LR	LR	22 18 50.8
comp=Z,209nm,19.0s,baz=120,slow=39					
NEW	**Newport**	**39.34 334**	P	**P**	**22 00 17.6 +0.3**
NEW			pmax	pmax	
comp=Z,5.0nm,0.7s					
MDP	**Montagnes des**	**40.74 99**	LR	LR	22 19 23.7
comp=Z,175nm,19.7s,baz=301,slow=39					
FFC	**Flin Flon**	**40.98 352**	P	**P**	**22 00 30.9 +0.2**
FFC	**Flin Flon**	**40.98 352**	P	**P**	**22 00 30.9 +0.2**
FFC			pmax	pmax	
comp=Z,10.0nm,0.8s					
FFC	**Flin Flon**	**40.98 352**	P	**P**	**22 00 31.1 +0.4**
ICQ	**Pointe Anglais**	**40.98 26**	P	**P**	**22 00 28.4 -2.3**
ICQ			IAmb	IAmb	22 01 59.2
comp=Z,32nm,1.3s					
ITTB	**Itaituba**	**41.33 114**	*e*P	**P**	**22 00 32.6 -1.6**
MAL2	**Monte Alegre,**	**41.71 110**	P	**P**	**22 00 36.4 -0.9**
MAL2			IAmb	IAmb	22 01 58.8
comp=Z,15nm,1.0s					
NPGB	**Novo Progresso**	**42.92 117**	*e*P	**P**	**22 00 45.1 -2.1**
LLLB	**Lillooet**	**43.15 333**	P	**P**	**22 00 49.4 +0.8**
PDRB	**Porto dos Gac**	**44.19 124**	*e*P	**P**	**22 00 55.4 -1.9**
CBB	**Campbell River**	**44.34 330**	P	**P**	**22 00 58.8 +0.7**
FCC	**Fort Churchill**	**44.42 359**	P	**P**	**22 00 58.0 -0.6**
FCC			IAmb	IAmb	22 00 59.3
comp=Z,12nm,0.7s					
FCC	**Fort Churchill**	**44.42 359**	P	**P**	**22 00 58.0 -0.6**
FCC			pmax	pmax	
comp=Z,12nm,0.7s					
PTLB	**Pontes e Lacer**	**44.63 130**	P	**P**	**22 01 00.2 -0.6**
SCHQ	**Schefferville**	**45.31 21**	P	**P**	**22 01 03.5 -2.3**
comp=Z,4.3nm,0.9s,baz=221,slow=7.5,SNR=6.1					
SCHQ			PcP	**PcP**	**22 02 45.0 0.0**
comp=Z,6.7nm,0.6s,baz=229,slow=4.3,SNR=13					
SCHQ			LR	LR	22 22 19.4
comp=Z,572nm,18.2s,baz=205,slow=39					
comp=Z,4.3nm,0.9s					
BBB	**Bella Bella**	**47.06 331**	LR	LR	22 21 44.7
comp=Z,72nm,18.6s,baz=158,slow=37					
BDQN	**Bodoquena, MS**	**49.59 133**	*e*P	**P**	**22 01 38.1 -1.3**
TOAD	**Toad River Com**	**50.55 339**	P	**P**	**22 01 48.2 +2.0**
baz=138,SNR=7.6					
YKA	**Yellowknife Ar**	**50.55 347**	P	**P**	**22 01 46.9 +0.7**
comp=Z,19nm,0.7s,baz=154,slow=8.2,SNR=9.9					
comp=Z,19nm,0.7s					
YKA	**Yellowknife Ar**	**50.55 347**	*e*P	**P**	**22 01 44.4 -1.7**
YKA			pmax	pmax	
comp=Z,19nm,0.7s					
V35K	**Ketchikan**	**50.67 333**	P	**P**	**22 01 48.5 +1.4**
baz=128					
KOTAN	**Kotaneelee Air**	**51.12 341**	P	**P**	**22 01 52.2 +1.7**
baz=140,SNR=11					
T35M	**Bob Quinn**	**51.14 335**	P	**P**	**22 01 53.2 +2.5**
baz=131,SNR=8.4					
CRAG	**Craig**	**51.44 332**	P	**P**	**22 01 55.0 +2.1**
baz=127					
WRAK	**Wrangell Islan**	**51.67 333**	P	**P**	**22 01 56.1 +1.5**
baz=129					
U33K	**Whale Pass**	**51.83 333**	P	**P**	**22 01 57.6 +1.9**
baz=127					
DLBC	**Dease Lake**	**52.02 336**	P	**P**	**22 02 00.2 +2.9**
baz=132,SNR=17					
S34M	**Telegraph Cree**	**52.11 335**	P	**P**	**22 02 00.9 +3.0**
baz=130					
FRB	**Frobisher Bay**	**52.28 13**	LR	LR	22 27 30.9
comp=Z,133nm,19.7s,baz=247,slow=40					
WTLY	**Watson Lake, Y**	**52.72 338**	P	**P**	**22 02 05.2 +2.8**
baz=134					
R33M	**Jennings River**	**53.03 337**	P	**P**	**22 02 07.4 +2.5**
baz=132					
CPUP	**Villa Florida**	**53.21 139**	P	**P**	**22 02 03.9 -2.6**
comp=Z,1.2nm,0.8s,baz=330,slow=10,SNR=3.1					
CPUP			LR	LR	22 26 15.7
comp=Z,107nm,18.0s,baz=343,slow=38					
comp=Z,1.2nm,0.8s					
Q32M	**Nakina River**	**53.25 336**	P	**P**	**22 02 08.6 +2.0**
Q32M			IAmb	IAmb	22 02 15.9
comp=Z,15nm,0.8s					
Q32M	**Nakina River**	**53.25 336**	P	**P**	**22 02 09.3 +2.7**
baz=130					
S32K	**Killisnoo**	**53.28 333**	P	**P**	**22 02 09.5 +3.0**
baz=126					
WRGLY	**Wrigley**	**53.36 343**	P	**P**	**22 02 09.2 +2.2**
baz=142					
BDFB	**Brasilia**	**53.48 122**	P	**P**	**22 02 07.9 -0.8**
BDFB	**Brasilia**	**53.48 122**	P	**P**	**22 02 06.3 -2.4**
comp=Z,4.7nm,0.8s,baz=286,slow=11,SNR=9.8					
BDFB			LR	LR	22 24 44.5
comp=Z,114nm,18.4s,baz=285,slow=36					
comp=Z,4.7nm,0.8s					
BDFB	**Brasilia**	**53.48 122**	P	**P**	**22 02 07.9 -0.8**
BDFB			pmax	pmax	
comp=Z,8.0nm,1.1s					
TGTN	**Hyland Airport**	**53.54 340**	P	**P**	**22 02 10.9 +2.4**
baz=136,SNR=24					
R32K	**Eaglecrest**	**53.74 334**	P	**P**	**22 02 12.3 +2.4**
baz=127,SNR=10.0					
P32M	**Atlin**	**54.22 336**	P	**P**	**22 02 15.3 +1.8**
baz=129					
P33M	**Teslin, Yukon**	**54.27 337**	P	**P**	**22 02 15.1 +1.2**
P33M	**Teslin, Yukon**	**54.27 337**	P	**P**	**22 02 16.0 +2.1**
baz=130,SNR=7.7					
S31K	**Pelican**	**54.29 333**	P	**P**	**22 02 15.8 +1.9**
baz=125					
SDBA	**SAO DESIDERIO**	**54.52 117**	*e*P	**P**	**22 02 13.0 -3.3**
IPMB	**Ipameri, GO**	**54.56 125**	*e*P	**P**	**22 02 15.1 -1.4**
N32M	**Quiet Lake**	**54.98 338**	P	**P**	**22 02 20.8 +1.8**
baz=130					
MMPY	**Sheldon Lake,**	**55.32 340**	P	**P**	**22 02 22.6 +1.2**
MMPY	**Sheldon Lake,**	**55.32 340**	P	**P**	**22 02 23.3 +1.9**
baz=133,SNR=23					
WHY	**Whitehorse**	**55.35 336**	P	**P**	**22 02 22.7 +1.0**
WHY	**Whitehorse**	**55.35 336**	P	**P**	**22 02 23.6 +1.9**
baz=128,SNR=5.4					
FARO	**Faro, Yukon**	**55.78 338**	P	**P**	**22 02 26.6 +2.0**
baz=130,SNR=9.9					
P30M	**Million Dollar**	**55.85 335**	P	**P**	**22 02 27.7 +2.5**
baz=126					
O30N	**Mendenhall**	**55.89 336**	P	**P**	**22 02 27.9 +2.4**
baz=127,SNR=7.0					
M31M	**Drury Creek, Y**	**56.13 338**	P	**P**	**22 02 28.7 +1.5**
baz=129,SNR=8.2					
N31M	**Braeburn, Yuko**	**56.20 337**	P	**P**	**22 02 30.1 +2.4**
baz=127					
HYT	**Haines Junctio**	**56.48 336**	P	**P**	**22 02 31.2 +1.4**
HYT	**Haines Junctio**	**56.48 336**	P	**P**	**22 02 31.6 +1.8**
baz=125					
O29M	**Mount Kennedy**	**56.62 335**	P	**P**	**22 02 32.5 +1.7**
baz=124					
N30M	**Aishikik Lake**	**56.69 336**	P	**P**	**22 02 33.2 +2.0**
baz=126					
YUK6	**Outpost Mounta**	**56.89 335**	P	**P**	**22 02 35.4 +2.5**
baz=124,SNR=9.2					
ITAB	**Concordia**	**57.22 136**	P	**P**	**22 02 34.6 -0.7**
YUK4	**Talbot Arm**	**57.23 336**	P	**P**	**22 02 37.3 +2.0**
baz=124,SNR=11					
M30M	**Minto, Yukon**	**57.25 338**	P	**P**	**22 02 36.7 +1.6**
baz=127,SNR=18					
O28M	**Mount Upton**	**57.54 335**	P	**P**	**22 02 39.6 +2.0**
baz=122					
MAYO	**Mayo, Yukon**	**57.55 339**	P	**P**	**22 02 39.6 +2.4**
baz=128					
YUK8	**Steele Glacier**	**57.65 335**	P	**P**	**22 02 40.8 +2.5**
baz=123,SNR=24					
M29M	**Somme Creek**	**57.79 337**	P	**P**	**22 02 41.2 +2.2**
baz=125,SNR=50					
MESA	**MESA**	**57.98 334**	P	**P**	**22 02 42.7 +2.3**
baz=120					
L29M	**L29M**	**58.06 338**	P	**P**	**22 02 41.6 +0.7**
L29M			IAmb	IAmb	22 02 43.6
comp=Z,13nm,0.9s					
L29M	**L29M**	**58.06 338**	P	**P**	**22 02 42.5 +1.7**
baz=126					
K29M	**Barlow Dome**	**58.27 339**	P	**P**	**22 02 43.8 +1.3**
baz=127					
J30M	**Hart River**	**58.31 340**	P	**P**	**22 02 44.2 +1.6**
baz=128					
SNH	**Sunshine Point**	**58.36 333**	P	**P**	**22 02 44.3 +1.3**
C36M	**Paulatuk**	**58.43 348**	P	**P**	**22 02 43.4 +0.2**
C36M			IAmb	IAmb	22 02 44.2
comp=Z,24nm,1.6s					
C36M	**Paulatuk**	**58.43 348**	P	**P**	**22 02 43.9 +0.6**
baz=144,SNR=7.3					
H31M	**Peel River**	**58.46 341**	P	**P**	**22 02 44.9 +1.3**
baz=131					
BGLC	**Bering Glacier**	**58.53 333**	P	**P**	**22 02 46.1 +2.1**
baz=119					
PLCA	**Paso Flores**	**58.55 160**	P	**P**	**22 02 45.2 +0.7**
PLCA	**Paso Flores**	**58.55 160**	P	**P**	**22 02 44.8 +0.3**
comp=Z,2.2nm,1.0s,baz=292,slow=23,SNR=2.6					
PLCA			LR	LR	22 23 02.9
comp=Z,154nm,18.7s,baz=356,slow=31					
comp=Z,2.2nm,1.0s					
PLCA	**Paso Flores**	**58.55 160**	P	**P**	**22 02 45.2 +0.7**
PLCA			pmax	pmax	
comp=Z,48nm,2.0s					
I30M	**Mount Dempster**	**58.73 340**	P	**P**	**22 02 46.7 +1.1**
baz=129					
BERG	**Berg Lake**	**58.84 333**	P	**P**	**22 02 47.3 +1.0**
BERG			IAmb	IAmb	22 02 50.0
comp=Z,15nm,0.9s					
HMT	**Hamilton**	**59.06 333**	P	**P**	**22 02 48.4 +0.6**
M27K	**Edge Creek, AK**	**59.07 336**	P	**P**	**22 02 49.7 +1.6**
baz=122					
DAWY	**Dawson**	**59.07 338**	P	**P**	**22 02 48.6 +0.7**
DAWY			IAmb	IAmb	22 02 49.6
comp=Z,4.0nm,0.7s					
DAWY	**Dawson**	**59.07 338**	P	**P**	**22 02 49.0 +1.1**
baz=125					
VRDI	**Verde Repeater**	**59.14 334**	P	**P**	**22 02 49.7 +1.1**
VRDI			IAmb	IAmb	22 02 55.1
comp=Z,8.7nm,0.8s					
F31M	**Tsiigehtchic**	**59.38 343**	P	**P**	**22 02 50.8 +1.0**
baz=132,SNR=9.1					
GLB	**Gilahina Butte**	**59.40 334**	P	**P**	**22 02 51.3 +1.1**
GLB			IAmb	IAmb	22 02 53.5
comp=Z,12nm,0.9s					
BCAR	**Beaver Creek A**	**59.41 337**	P	**P**	**22 02 51.5 +1.3**
L27K	**Beaver Creek,**	**59.43 337**	P	**P**	**22 02 52.0 +1.6**
baz=122					
BMRM	**Bremner River**	**59.51 334**	P	**P**	**22 02 52.6 +1.6**
BMRM			IAmb	IAmb	22 02 57.3
comp=Z,12nm,1.0s					
BMRM	**Bremner River**	**59.51 334**	P	**P**	**22 02 52.9 +2.0**
baz=118,SNR=6.7					
M26K	**Nabesna, AK**	**59.54 336**	P	**P**	**22 02 52.8 +1.6**
baz=120					
SFJD	**Kangerlussuaq**	**59.56 18**	LR	LR	22 30 09.9
comp=Z,398nm,18.0s,baz=222,slow=38					
G30M	**tAoh Zraii Nji**	**59.80 342**	P	**P**	**22 02 53.5 +0.6**
G30M			IAmb	IAmb	22 03 59.5
comp=Z,6.4nm,1.0s					
G30M	**tAoh Zraii Nji**	**59.80 342**	P	**P**	**22 02 54.1 +1.2**
baz=130					
N25K	**Chitina, Valde**	**59.81 334**	P	**P**	**22 02 54.8 +1.8**
baz=118,SNR=17					
EYAK	**Cordova Ski Ar**	**59.81 333**	P	**P**	**22 02 54.8 +1.8**
baz=117					
INK	**Inuvik**	**59.92 344**	P	**P**	**22 02 54.3 +0.8**
INK	**Inuvik**	**59.92 344**	LR	LR	22 33 28.1
comp=Z,166nm,18.3s,baz=238,slow=41					
INK	**Inuvik**	**59.92 344**	P	**P**	**22 02 54.3 +0.8**
INK			pmax	pmax	
comp=Z,29nm,1.1s					
INK	**Inuvik**	**59.92 344**	P	**P**	**22 02 54.8 +1.2**
baz=133,SNR=24					
H29M	**Whitestone**	**60.00 341**	P	**P**	**22 02 55.3 +1.1**
baz=127					
L26K	**Log Cabin Wild**	**60.00 336**	P	**P**	**22 02 55.6 +1.3**
baz=120					
K27K	**Chicken**	**60.04 337**	P	**P**	**22 02 56.4 +1.9**
baz=122					
RCBR	**Riachuelo**	**60.04 105**	P	**P**	**22 02 55.6 +0.3**
RCBR	**Riachuelo**	**60.04 105**	LR	LR	22 32 20.5
comp=Z,44nm,18.8s,baz=262,slow=40					
RCBR	**Riachuelo**	**60.04 105**	P	**P**	**22 02 55.6 +0.3**
RCBR			pmax	pmax	
comp=Z,35nm,1.1s					
RCBR	**Riachuelo**	**60.04 105**	*e*P	**P**	**22 02 51.9 -3.5**
RCBR	**Riachuelo**	**60.04 105**	P	**P**	**22 02 56.5 +1.2**
I28M	**Miner Creek**	**60.06 339**	P	**P**	**22 02 56.1 +1.3**
baz=125					
HIN	**Hinchinbrook I**	**60.08 333**	P	**P**	**22 02 56.6 +1.7**
F30M	**Barrier River**	**60.08 343**	P	**P**	**22 02 56.1 +1.4**
baz=130,SNR=13					
MENT	**Mentasta**	**60.10 336**	P	**P**	**22 02 56.0 +1.1**
MENT			IAmb	IAmb	22 03 17.3
comp=Z,6.3nm,0.8s					
G29M	**Pine Creek**	**60.31 341**	P	**P**	**22 02 58.0 +1.7**
baz=128					
P23K	**Montague Islan**	**60.31 332**	P	**P**	**22 02 57.9 +1.5**
baz=115					
KLU	**Klutina**	**60.32 334**	P	**P**	**22 02 58.2 +1.7**
KLU	**Klutina**	**60.32 334**	P	**P**	**22 02 58.9 +2.4**
baz=117,SNR=11					
HARP	**HAARP**	**60.42 335**	P	**P**	**22 02 59.0 +1.9**
baz=118,SNR=7.3					
RES	**Resolute Bay**	**60.42 359**	P	**P**	**22 02 56.6 -0.3**
RES			IAmb	IAmb	22 02 58.0
comp=Z,12nm,0.8s					
RES	**Resolute Bay**	**60.42 359**	LR	LR	22 32 58.8
comp=Z,121nm,20.7s,baz=236,slow=40					
RES	**Resolute Bay**	**60.42 359**	P	**P**	**22 02 56.6 -0.3**
RES			pmax	pmax	
comp=Z,12nm,0.8s					
DOT	**Dot Lake**	**60.59 337**	P	**P**	**22 02 59.0 +0.7**
M24K	**Tolsona, Glenn**	**60.70 334**	P	**P**	**22 03 01.4 +2.3**
baz=117,SNR=5.7					
SCRK	**Sand Creek**	**60.73 337**	P	**P**	**22 02 59.8 +0.5**
SCRK			IAmb	IAmb	22 03 02.3
comp=Z,6.3nm,0.9s					
SCRK	**Sand Creek**	**60.73 337**	P	**P**	**22 03 00.8 +1.4**
baz=120,SNR=7.7					
I27K	**Kandik River**	**60.73 339**	P	**P**	**22 03 00.7 +1.5**
baz=123					
A36M	**Sachs Harbour**	**60.80 349**	P	**P**	**22 02 60.0 +0.5**
baz=144,SNR=24					
PAX	**Paxson**	**60.82 335**	P	**P**	**22 03 01.5 +1.6**
baz=118,SNR=16					
J26L	**Joseph Creek**	**60.84 337**	P	**P**	**22 03 01.8 +1.8**
baz=121					
RIDG	**Independent Ri**	**60.94 336**	P	**P**	**22 03 02.4 +1.7**
baz=119,SNR=9.3					
H27K	**Steamboat Moun**	**61.05 340**	P	**P**	**22 03 02.7 +1.3**
baz=124					
SCM	**Sheep Creek Mo**	**61.07 334**	P	**P**	**22 03 02.7 +1.1**
SCM	**Sheep Creek Mo**	**61.07 334**	P	**P**	**22 03 02.7 +1.1**
SCM			pmax	pmax	
comp=Z,82nm,2.0s					
SCM	**Sheep Creek Mo**	**61.07 334**	P	**P**	**22 03 02.7 +1.1**
baz=116					
PWL	**Port Wells**	**61.09 333**	P	**P**	**22 03 02.8 +1.1**
baz=114					
I26K	**Coal Creek Min**	**61.11 338**	P	**P**	**22 03 02.8 +1.0**
baz=122					
E29M	**Blow River**	**61.20 343**	P	**P**	**22 03 03.6 +1.4**
baz=128					
M23K	**Glacier View**	**61.22 334**	P	**P**	**22 03 04.1 +1.5**
baz=115					
SEW	**Seward**	**61.30 332**	P	**P**	**22 03 04.3 +1.3**
baz=113					
K24K	**Donnelly Dome**	**61.34 336**	P	**P**	**22 03 04.8 +1.4**
baz=118,SNR=5.3					
KNK	**Knik Glacier**	**61.38 333**	P	**P**	**22 03 04.8 +1.1**
KNK			IAmb	IAmb	22 03 06.3
comp=Z,10.0nm,0.8s					
KNK	**Knik Glacier**	**61.38 333**	P	**P**	**22 03 05.4 +1.7**
baz=114					
G27K	**Doyon Strip**	**61.42 340**	P	**P**	**22 03 05.2 +1.4**
baz=124					
SML	**Sawmill**	**61.49 334**	P	**P**	**22 03 06.3 +1.8**
baz=115					
J25K	**Salcha River,**	**61.57 337**	P	**P**	**22 03 06.5 +1.6**
baz=119					
GHO	**Glory Hole Cre**	**61.73 333**	P	**P**	**22 03 07.5 +1.4**
PMR	**Palmer**	**61.75 333**	P	**P**	**22 03 07.9 +1.8**
baz=114					
BRSE	**Bradley Lake S**	**61.76 331**	P	**P**	**22 03 07.4 +1.2**
baz=111					
E28M	**Babbage River**	**61.80 342**	P	**P**	**22 03 07.3 +0.9**
E28M			IAmb	IAmb	22 03 08.5
comp=Z,11nm,0.8s					
E28M	**Babbage River**	**61.80 342**	P	**P**	**22 03 07.8 +1.4**
baz=127					
RC01	**Rabbit Creek A**	**61.81 333**	P	**P**	**22 03 07.5 +1.0**
RC01	**Rabbit Creek A**	**61.81 333**	P	**P**	**22 03 08.2 +1.6**
baz=113,SNR=6.8					
KDAK	**Kodiak Island**	**61.99 328**	P	**P**	**22 03 09.1 +1.3**
baz=109					
D28M	**Stokes Point**	**62.02 343**	P	**P**	**22 03 09.6 +1.8**
baz=128					
PRP	**Porcupine Dome**	**62.07 338**	P	**P**	**22 03 08.9 +0.5**
PRP	**Porcupine Dome**	**62.07 338**	P	**P**	**22 03 09.7 +1.3**
baz=119,SNR=18					
HDA	**Harding Lake

H25L	Birch Creek	62.55 339	P	P	22 03 12.7 +1.4
	baz=119				
MCK	McKinley	62.56 335	P	P	22 03 12.7 +1.2
	baz=115,SNR=8.5				
CUT	Chulitna	62.56 334	P	P	22 03 12.9 +1.3
	baz=113				
POKR	Poker Plat Res	62.59 337	P	P	22 03 12.5 +0.8
	baz=117				
D27M	Malcolm River	62.60 343	P	P	22 03 13.0 +1.2
	baz=126				
COLA	College	62.63 337	P	P	22 03 13.2 +1.2
F26K	Sheenjek River	62.71 340	P	P	22 03 13.9 +1.4
	baz=122				
BMAR	Burnt Mountain	62.72 340	P	P	22 03 14.1 +1.5
O20K	Slope Mountain	62.77 331	P	P	22 03 14.5 +1.4
	baz=110				
R18K	Karluk	62.88 328	P	P	22 03 15.1 +1.4
	baz=107				
G25K	Bearman Lake	62.89 339	P	P	22 03 15.1 +1.5
	baz=119				
SKT	Skwentna	62.95 333	P	P	22 03 15.6 +1.5
	baz=112,SNR=6.7				
N20K	Mount Spurr	62.97 332	P	P	22 03 15.6 +1.2
	baz=111,SNR=5.1				
SPCR	Spurr Chakacha	62.97 332	P	P	22 03 15.6 +1.2
	baz=111				
NEA2	Nenana	62.98 336	P	P	22 03 15.8 +1.5
	baz=115				
TRF	Thorofare Moun	62.99 335	P	P	22 03 15.4 +0.8
TRF	Thorofare Moun	62.99 335	P	P	22 03 15.9 +1.3
	baz=114,SNR=11				
CHIR	Chirikof Islan	63.02 326	P	P	22 03 16.2 +1.5
	baz=105				
H24K	Noodor Dome	63.08 338	P	P	22 03 16.7 +1.7
	baz=117				
F25K	Christian Rive	63.15 340	P	P	22 03 17.0 +1.6
	baz=120				
KTH	Kantishna Hill	63.29 335	P	P	22 03 17.4 +0.9
I23K	Minto, Yukon-K	63.33 337	P	P	22 03 18.0 +1.5
	baz=115,SNR=16				
G24K	Hadweenzic Riv	63.34 339	P	P	22 03 18.3 +1.6
	baz=118,SNR=11				
E25K	Arctic Village	63.39 341	P	P	22 03 18.6 +1.6
	baz=120,SNR=11				
Q18K	Katmai Hardscr	63.48 329	P	P	22 03 19.1 +1.3
	baz=107				
BPAW	Bear Paw Mtn.	63.53 335	P	P	22 03 18.9 +0.9
BPAW			IAmb	IAmb	22 03 20.0
	comp=Z,12nm,0.8s				
BPAW	Bear Paw Mtn.	63.53 335	P	P	22 03 19.0 +1.0
	baz=113,SNR=8.3				
PPLA	Purkeypile	63.57 334	P	P	22 03 19.6 +1.1
	baz=111				
C27K	Jago River	63.62 342	P	P	22 03 19.8 +1.3
	baz=123				
M20K	Styx River	63.62 333	P	P	22 03 19.7 +0.9
	baz=110				
CAST	Castle Rocks	63.72 335	P	P	22 03 20.0 +0.7
CAST			IAmb	IAmb	22 03 20.9
	comp=Z,15nm,0.9s				
CAST	Castle Rocks	63.72 335	P	P	22 03 20.0 +0.7
	baz=112,SNR=12				
P18K	Big Mountain,	63.80 330	P	P	22 03 20.8 +0.9
	baz=107				
F24K	Squaw Lake	63.87 339	P	P	22 03 21.5 +1.4
	baz=118,SNR=5.3				
N19K	Bonanza Creek	63.88 331	P	P	22 03 21.3 +0.8
	baz=108				
O18K	Koktuh Hills	63.93 330	P	P	22 03 21.4 +0.7
	baz=107				
CHUM	Lake Minchumin	63.99 335	P	P	22 03 22.3 +1.3
	baz=112				
C26K	Camden Bay	64.13 342	P	P	22 03 23.3 +1.6
	baz=122				
L20K	Farewell, AK	64.15 333	P	P	22 03 23.4 +1.2
	baz=110				
M19K	Big River Lodg	64.19 333	P	P	22 03 24.1 +1.7
	baz=109				
G23K	Bananza Creek	64.25 338	P	P	22 03 24.1 +1.4
	baz=115				
D25K	Kavik River	64.26 342	P	P	22 03 24.2 +1.5
	baz=120				
Q16K	King Salmon	64.31 329	P	P	22 03 25.1 +2.0
	baz=105				
E24K	Your Creek	64.33 340	P	P	22 03 25.0 +1.8
	baz=117				
P17K	Kvichak River	64.34 329	P	P	22 03 24.8 +1.4
	baz=106				
I21K	Tanana	64.35 336	P	P	22 03 24.7 +1.4
	baz=113,SNR=5.4				
H22K	Ishtalitna Cre	64.41 337	P	P	22 03 25.1 +1.4
	baz=114				
L19K	White Mountain	64.49 333	P	P	22 03 25.5 +1.2
	baz=108				
N18K	Kilae Creek	64.50 331	P	P	22 03 25.5 +1.1
	baz=107				
R16K	Pilot Point	64.50 327	P	P	22 03 25.7 +1.3
	baz=104				
K20K	Telida	64.53 334	P	P	22 03 25.4 +0.8
	baz=110				
COLD	Coldfoot	64.54 339	P	P	22 03 26.1 +1.6
	baz=115,SNR=9.1				
E23K	Chandalar	64.70 340	P	P	22 03 27.3 +1.6
	baz=116				
M18K	Stony River	64.71 332	P	P	22 03 26.9 +1.2
	baz=107				
O17K	Koliganek Bris	64.82 330	P	P	22 03 27.6 +1.2
	baz=105				
J20K	Nowinta River	64.85 335	P	P	22 03 27.7 +1.1
	baz=110,SNR=6.2				
H21K	Melozitna Rive	64.86 337	P	P	22 03 27.3 +0.7
	baz=112				
D24K	Happy Valley	64.94 341	P	P	22 03 28.6 +1.5
	baz=118				
TOLK	Toolik Lake Re	64.95 340	P	P	22 03 28.2 +0.9
TOLK			IAmb	IAmb	22 03 29.7
	comp=Z,10nm,0.8s				
TOLK	Toolik Lake Re	64.95 340	P	P	22 03 28.7 +1.5
	baz=117,SNR=16				
C24K	Franklin Bluff	65.17 341	P	P	22 03 30.4 +1.9
	baz=118				
I20K	Naaghedeneel	65.20 336	P	P	22 03 29.7 +0.9
	baz=110				
TTA	Tatalina	65.23 333	P	P	22 03 30.0 +0.8
	baz=108,SNR=5.4				
O16K	Kokwok River B	65.26 329	P	P	22 03 30.1 +0.7
	baz=104				
L18K	Granite Mounta	65.32 332	P	P	22 03 31.3 +1.6
	baz=107				
F22K	John River	65.35 339	P	P	22 03 31.0 +1.1
	baz=114				
J19K	Poorman	65.40 334	P	P	22 03 30.7 +0.5
	baz=109				
M17K	Holitna River	65.42 331	P	P	22 03 31.8 +1.4
	baz=106				
G21K	Allakaket	65.44 337	P	P	22 03 31.6 +1.2
	baz=112				
D23K	Nanushuk River	65.45 340	P	P	22 03 31.8 +1.4
	baz=116				
E22K	Anaktuvuk Pass	65.48 339	P	P	22 03 31.7 +1.0
	baz=114,SNR=15				
H20K	Anotleneega Mo	65.60 336	P	P	22 03 32.5 +1.0
	baz=110				
SDPT	Sand Point	65.60 325	P	P	22 03 33.0 +1.4
	baz=100				
J18K	Innoko River	65.70 334	P	P	22 03 32.9 +0.8
	baz=107				
F21K	Alatna River	65.70 338	P	P	22 03 33.5 +1.4
	baz=112				
N16K	Nishlik Lake	65.81 330	P	P	22 03 34.0 +1.1
	baz=104				
C23K	Itkillik River	65.81 341	P	P	22 03 34.1 +1.4
	baz=116				
EUNU	Eureka	65.88 1	P	P	22 03 33.9 +0.7
L17K	Donlin	66.02 332	P	P	22 03 35.3 +1.1
	baz=105				
O15K	Ungalikthiuk R	66.03 329	P	P	22 03 35.5 +1.2
	baz=103				
M16K	Timber Creek	66.04 331	P	P	22 03 35.4 +1.0
	baz=104				
D22K	Ayikyak River	66.07 340	P	P	22 03 35.7 +1.2
	baz=114				
GCSA	Galena City Sc	66.16 335	P	P	22 03 36.4 +1.4
	baz=108				
K17K	Iditarod	66.17 333	P	P	22 03 36.3 +1.1
	baz=106				
H19K	Roundabout Mou	66.23 336	P	P	22 03 36.6 +1.2
	baz=108				
SUMG	Summit	66.24 16	P	P	22 03 35.2 -0.6
SUMG			IAmb	IAmb	22 03 41.9
	comp=Z,31nm,2.0s				
SUMG	Summit	66.24 16	P	P	22 03 35.3 -0.6
SUMG			pmax	pmax	
	comp=Z,31nm,2.0s				
E21K	Killik River	66.34 339	P	P	22 03 37.1 +0.9
	baz=112				
L16K	Owhat River	66.45 332	P	P	22 03 38.1 +1.2
	baz=104				
F20K	Avaraart Lake	66.46 338	P	P	22 03 38.1 +1.2
	baz=110				
G19K	Purcell Mounta	66.67 337	P	P	22 03 39.2 +0.9
	baz=108				
J17K	VABM Dome	66.70 333	P	P	22 03 39.4 +0.9
	baz=105				
M15K	Kasigluk River	66.78 330	P	P	22 03 40.0 +0.9
	baz=102				
C21K	Knifeblade Rid	66.88 340	P	P	22 03 41.0 +1.4
	baz=112				
H18K	Honhosa River	66.88 335	P	P	22 03 40.8 +1.1
	baz=106				
B22K	Teshekpuk Lake	66.90 341	P	P	22 03 40.7 +1.1
	baz=113				
B21K	Ikpikpuk River	67.00 340	P	P	22 03 41.5 +1.2
	baz=112				
E20K	Nigu River	67.04 339	P	P	22 03 41.9 +1.2
	baz=110				
E19K	Redstone River	67.14 338	P	P	22 03 42.3 +1.0
	baz=108				
F19K	Shaleruckik Mo	67.15 337	P	P	22 03 42.7 +1.4
	baz=108				
G18K	Tagagawik	67.21 336	P	P	22 03 43.1 +1.3
	baz=106				
J16K	Anvik River	67.33 333	P	P	22 03 44.5 +1.9
	baz=104				
D20K	Etivluk River	67.34 339	P	P	22 03 44.1 +1.5
	baz=110				
L15K	Ungalak Mounta	67.37 331	P	P	22 03 44.4 +1.6
	baz=102				
M14K	Bethel	67.41 330	P	P	22 03 44.9 +1.8
	baz=101				
H17K	Granite Mounta	67.45 335	P	P	22 03 45.0 +1.7
	baz=105				
K15K	Wolf Creek Mou	67.53 332	P	P	22 03 45.3 +1.5
	baz=102				
A22K	Sinclair Lake	67.64 342	P	P	22 03 45.9 +1.6
	baz=112				
D19K	Kuna River	67.79 339	P	P	22 03 46.6 +1.2
	baz=108				
F18K	Selawik	67.80 337	P	P	22 03 46.8 +1.4
	baz=106				
L14K	Kuka Creek	67.87 331	P	P	22 03 47.4 +1.5
	baz=101				
G17K	Kiwalik Mounta	67.90 335	P	P	22 03 47.3 +1.2
	baz=104				
B20K	Meade River	67.96 340	P	P	22 03 48.1 +1.7
	baz=110				
M13K	Dall Lake	68.02 330	P	P	22 03 48.3 +1.4
	baz=100				
A21K	Barrow	68.25 342	P	P	22 03 49.3 +1.2
	baz=111				
H16K	Elim	68.35 334	P	P	22 03 50.4 +1.5
	baz=103				
F17K	Baldwin Pennin	68.37 336	P	P	22 03 50.3 +1.3
	baz=104				
E18K	Tukpahlearik C	68.38 337	P	P	22 03 50.6 +1.6
	baz=105				
J14K	Nanvaranak Lak	68.54 332	P	P	22 03 52.1 +2.1
	baz=101				
G16K	Koyuk River	68.57 335	P	P	22 03 51.7 +1.5
	baz=103				
E17K	Hotham Inlet	68.75 337	P	P	22 03 52.5 +1.1
	baz=104				
UNV	Unalaska Valle	68.88 322	P	P	22 03 54.0 +1.5
	baz=95				
K13K	Kusilvak Mount	68.90 331	P	P	22 03 54.0 +1.6
	baz=99				
C18K	Utukok River	68.92 339	P	P	22 03 54.0 +1.5
	baz=105				
G15K	Niukluk	69.18 335	P	P	22 03 55.5 +1.4
	baz=101				
A19K	Wainwright	69.30 340	P	P	22 03 56.3 +1.6
	baz=106				
B18K	Kokolik River	69.32 339	P	P	22 03 56.7 +1.8
	baz=105				
D17K	Noatak River	69.37 337	P	P	22 03 56.5 +1.3
	baz=103				
ALE	Alert	69.37 4	P	P	22 03 54.8 -0.3
RDOG	Red Dog Mine	69.39 338	P	P	22 03 56.4 +1.1
	baz=103				
BORG	Borgarnes	69.39 26	LR	LR	22 33 20.1
	comp=Z,93nm,21.2s,baz=255,slow=35				
M11K	Mekoryuk	69.41 329	P	P	22 03 57.8 +2.3
	baz=97				
F15K	North Star Dit	69.56 335	P	P	22 03 58.8 +2.3
	baz=101				
C17K	DeLong Mountai	69.58 338	P	P	22 03 58.3 +1.7
	baz=103				
ANM	Nome	69.66 334	P	P	22 03 58.0 +1.0
	baz=100				
F14K	Arctic Creek	70.21 335	P	P	22 04 02.3 +1.9
	baz=99				
C16K	Lisburne Hills	70.33 338	P	P	22 04 02.6 +1.6
	baz=101				
TNA	Tin City	70.88 335	P	P	22 04 05.9 +1.4
	baz=98				
SPIA	Saint Paul Isl	71.23 326	P	P	22 04 08.5 +1.7
	baz=93				
JMIC	Jan Mayen	74.82 20	LR	LR	22 38 20.4
	comp=Z,200nm,19.1s,baz=256,slow=37				
ADK	Adak	75.04 320	P	P	22 04 30.0 +0.7
ADK	Adak	75.04 320	P	P	22 04 30.0 +0.7
ADK			pmax	pmax	
	comp=Z,124nm,1.6s				
ESK	Eskdalemuir	78.29 36	P	P	22 04 46.0 -1.6
ESK	Eskdalemuir	78.29 36	P	P	22 04 46.0 -1.6
ESK			pmax	pmax	
	comp=Z,149nm,2.0s				
EKB	Eskdalemuir	78.29 36	P	P	22 04 45.6 -2.1
EKA	Eskdalemuir Ar	78.31 36	P	P	22 04 45.9 -1.9
	comp=Z,6.2nm,0.7s,baz=277,slow=6.0,SNR=23				
	comp=Z,6.2nm,0.7s				
SPB3	Spitsbergen Ar	80.02 11	P	P	22 04 56.4 -0.3
SPITS	Spitsbergen Ar	80.02 11	P	P	22 04 57.4 +0.6
	comp=Z,2.9nm,0.6s,baz=298,slow=3.1,SNR=4.6				
SPITS			LR	LR	22 43 08.3
	comp=Z,172nm,19.2s,baz=217,slow=38				
	comp=Z,2.9nm,0.6s				
ESDC	Sonseca Array	80.31 52	P	P	22 04 57.0 -2.1
ESDC			IAmb	IAmb	22 06 54.3
	comp=Z,46nm,2.0s				
ESDC	Sonseca Array	80.31 52	P	P	22 04 56.8 -2.3
	comp=Z,2.7nm,0.8s,baz=287,slow=5.3,SNR=11				
ESDC			LR	LR	22 36 40.9
	comp=Z,109nm,18.3s,baz=298,slow=33				
	comp=Z,2.7nm,0.8s				
ESBB	Sonseca Array	80.31 52	P	P	22 04 57.9 -1.2
ESBB			IAmb	IAmb	22 06 11.2
	comp=Z,34nm,1.6s				
BILL	Bilibino	80.86 338	P	P	22 05 01.9 +0.5
BILL	Bilibino	80.86 338	*ce*P	P	22 05 02.6 +1.2
BILL			pmax	pmax	
	comp=Z,27nm,1.0s				
MDT	Midelt	81.08 58	LR	LR	22 36 51.9
	comp=Z,96nm,19.0s,baz=302,slow=33				
PMSA	Palmer Station	81.82 168	LR	LR	22 34 38.5
	comp=Z,29nm,19.8s,baz=307,slow=31				
CEST	Esterri de Car	83.56 48	P	P	22 05 15.7 -0.6
CEST			IAmb	IAmb	22 08 00.3
	comp=Z,20nm,1.3s				
NB2	NORSAR Subarra	84.37 28	P	P	22 05 19.8 -0.1
	comp=Z,4.7nm,1.1s,baz=289,slow=5.1				
NOA	NORSAR Array B	84.37 28	P	P	22 05 18.9 -0.9
	comp=Z,2.1nm,0.7s,baz=291,slow=5.1,SNR=10				
NOA			LR	LR	22 40 52.4
	comp=Z,134nm,21.9s,baz=285,slow=34				
	comp=Z,2.1nm,0.7s				
HFS	Hagfors	85.83 29	P	P	22 05 26.1 -1.0
	comp=Z,3.4nm,0.8s,baz=262,slow=4.4,SNR=3.5				
HFS			LR	LR	22 41 23.4
	comp=Z,146nm,21.9s,baz=266,slow=34				
	comp=Z,3.4nm,0.8s				
ARCES	ARCESS Array B	86.19 18	P	P	22 05 27.5 -1.2
	comp=Z,1.9nm,0.6s,baz=287,slow=4.7,SNR=12				
	comp=Z,1.9nm,0.6s				
ARCES	ARCESS Array B	86.19 18	*e*P	P	22 05 29.3 +0.6
ARCES			pmax	pmax	
	comp=Z,1.0nm,0.5s				
DBIC	Dimbokro	86.58 84	P	P	22 05 30.6 -1.1
DBIC			IAmb	IAmb	22 05 33.0
	comp=Z,9.3nm,0.9s				
DBIC	Dimbokro	86.58 84	P	P	22 05 30.0 -1.8
	comp=Z,7.3nm,0.7s,baz=272,slow=6.8,SNR=10				
	comp=Z,7.3nm,0.7s				
DBIC	Dimbokro	86.58 84	P	P	22 05 30.6 -1.1
DBIC			pmax	pmax	
	comp=Z,9.0nm,0.9s				
BNI	Bardonecchia	86.72 44	P	P	22 05 31.2 -0.8
BNI			IAmb	IAmb	22 05 32.4
	comp=Z,16nm,1.2s				
BNI	Bardonecchia	86.72 44	P	P	22 05 31.2 -0.8
BNI			pmax	pmax	
	comp=Z,17nm,1.2s				
SENIN	Lac Senin/Sane	86.75 43	P	P	22 05 31.2 -1.1
TUE	Stuetta	88.06 42	P	P	22 05 37.8 -0.8
SEY	Seymchan	88.11 335	*ce*P	P	22 05 40.2 +2.0
SEY			pmax	pmax	
	comp=Z,6.0nm,0.7s				
FUORN	Ofenpass-Fuorn	88.61 42	P	P	22 05 40.4 -0.8
FUORN			IAmb	IAmb	22 05 45.0
	comp=Z,23nm,1.9s				
APA	Apatity	89.69 18	‖ *i*P	P	22 05 47.1 +1.6
APA			pmax	pmax	
	comp=Z,8.0nm,1.2s				
TIXI	Tiksi	89.80 348	P	P	22 05 46.0 +0.1
TIXI	Tiksi	89.80 348	LR	LR	22 54 05.3
	comp=Z,93nm,18.1s,baz=10.0,slow=41				
TIXI	Tiksi	89.80 348	*i* P	P	22 05 47.3 +1.4
TIXI			pmax	pmax	
	comp=Z,10.0nm,0.6s				
LVZ	Lovozero	89.85 17	*i* P	P	22 05 47.8 +1.5
LVZ			pmax	pmax	
	comp=Z,33nm,1.4s				
GERES	GERESS Array B	90.01 39	P	P	22 05 46.4 -1.1
	comp=Z,0.7nm,0.7s,baz=4.3,slow=5.4,SNR=3.6				
GERES			LR	LR	22 41 45.1
	comp=Z,88nm,20.8s,baz=262,slow=33				
	comp=Z,0.7nm,0.7s				
GERES	GERESS Array B	90.01 39	*e*P	P	22 05 49.2 +1.7
GERES			pmax	pmax	
	comp=Z,1.0nm,0.9s				
VSL	Villasalto	90.32 49	P	P	22 05 47.7 -1.3
MA2	Magadan	90.42 333	P	P	22 05 49.6 +0.5
MA2	Magadan	90.42 333	*ce*P	P	22 05 50.5 +1.4
MA2			pmax	pmax	
	comp=Z,7.0nm,0.9s				
FINES	FINESS Array B	90.66 25	P	P	22 05 48.0 -2.1
FINES	FINESS Array B	90.66 25	P	P	22 05 48.6 -1.5
	comp=Z,1.6nm,0.6s,baz=327,slow=2.8,SNR=11				
	comp=Z,1.6nm,0.6s				
FINES	FINESS Array B	90.66 25	*e*P	P	22 05 49.9 -0.2
FINES			pmax	pmax	
	comp=Z,2.0nm,0.6s				
TORD	Torodi Ar. Bea	91.25 76	P	P	22 05 52.2 -1.6
TORD			IAmb	IAmb	22 05 58.2
	comp=Z,9.0nm,2.0s				
TORD	Torodi Ar. Bea	91.25 76	P	P	22 05 51.5 -2.3
	comp=Z,2.5nm,0.3s,baz=291,slow=5.3,SNR=1.7				
	comp=Z,2.5nm,0.3s				
KEST	Kesra	91.50 53	P	P	22 05 52.0 -2.7
	comp=Z,3.4nm,0.9s,baz=286,slow=9.6,SNR=4.5				
KEST			LR	LR	22 41 07.7
	comp=Z,53nm,18.5s,baz=291,slow=32				
	comp=Z,3.4nm,0.9s				
VRAC	Vranov	91.58 38	LR	LR	22 49 12.6
	comp=Z,50nm,18.0s,baz=305,slow=37				
MODS	Modra-Piesok	92.38 39	*e*P	P	22 05 59.2 +0.8
MODS			*e*		22 09 43.6
MODS	Modra-Piesok	92.38 39	*e*P	P	22 05 59.2 +0.8
MODS			*e*PP	PP	22 09 43.6 +4.5
VSU	Vasula	92.54 27	*i* P	P	22 06 01.1 +2.2
VSU			pmax	pmax	
	comp=Z,10.0nm,1.1s				
PUL	Pulkovo	93.34 25	*i* P	P	22 06 04.3 +1.8
PUL			pmax	pmax	
	comp=Z,19nm,0.9s				
YAK	Yakutsk	96.90 341	*i* P	P	22 06 20.5 +1.8
YAK			pmax	pmax	
	comp=Z,5.0nm,0.9s				
AKBB	Malin Array Si	98.03 33	*ce*P	P	22 06 23.0 -1.1
AKBB			pmax	pmax	
	comp=Z,4.0nm,1.0s				
URZ	Urewera	98.61 233	LR	LR	22 43 19.5
	comp=Z,72nm,18.6s,baz=330,slow=30				
OBN	Obninsk	98.88 27	LR	LR	22 49 54.6
	comp=Z,89nm,21.1s,baz=356,slow=35				
OBN	Obninsk	98.88 27	*e*P	P	22 06 27.0 -0.8
OBN			pmax	pmax	
	comp=Z,3.0nm,0.8s				
MLR	Muntele Rosu	98.97 39	LR	LR	22 46 47.6
	comp=Z,75nm,21.9s,baz=254,slow=33				
KIRV	Kirov	101.17 19	*i* P	Pdif	22 06 39.1 +1.2
YSS	Yuzhno-Sakhali	101.27 325	*i* P	Pdif	22 06 38.1 -0.5
YSS			pmax	pmax	
	comp=Z,5.0nm,1.1s				
ZALV	Zalesovo Beam	112.03 1	PKiKP	PKiKP	22 11 23.2 +0.4
	comp=Z,0.6nm,0.5s,baz=15,slow=6.0,SNR=2.7				
ZALV			PP	PP	22 12 05.6 -0.3
	comp=Z,0.5nm,0.5s,baz=348,slow=6.2,SNR=4.3				
KURBB	Kurchatov Arra	114.97 6	PKiKP	PKiKP	22 11 28.7 +0.2
	comp=Z,1.3nm,0.7s,baz=350,slow=1.8,SNR=11				
SONM	Songino Array	115.80 346	PKP	PKiKP	22 11 30.1 -0.3
	comp=Z,0.7nm,0.7s,baz=310,slow=1.9,SNR=5.8				
SONM			PP	PP	22 12 33.9 +1.0
	comp=Z,1.1nm,1.0s,baz=357,slow=7.6,SNR=6.2				
SONM	Songino Array	115.80 346	*e*PKiKP	PKPdf	22 11 34.4 +3.9
SONM			pmax	pmax	
	comp=Z,1.0nm,0.7s				
XLT	XiLinHaoTe	116.32 337	*e*PKP	PKPdf	22 11 35.2 +3.7
XLT			sPKP		22 11 49.6
XLT			AMB	AMB	
	comp=Z,100nm,5.2s				
MKAR	Makanchi Array	119.08 4	PKP	PKPdf	22 11 36.6 -0.1
	comp=Z,0.7nm,0.6s,baz=8.4,slow=1.9,SNR=9.3				
MKAR	Makanchi Array	119.08 4	*e*PKiKP	PKiKP	22 11 39.0 +2.3
MKAR			pmax	pmax	
	comp=Z,1.0nm,0.6s				
HHC	Hu-ho-hao-te	120.63 339	*e*PKP	PKiKP	22 11 41.1 +1.1
BOSA	Boshof	121.34 115	PKP	PKiKP	22 11 42.1 +0.4
	comp=Z,3.0nm,0.7s,baz=312,slow=0.3,SNR=4.2				
WMQ	Urumqi	122.19 359	*e*PKP	PKiKP	22 11 44.1 +1.1
WMQ			LR	LR	
	comp=Z,180nm,17.1s				
AAK	Ala-Archa	122.22 11	*c i*PKiKP	PKPdf	22 11 41.6 -1.4
AAK			pmax	pmax	
	comp=Z,4.0nm,1.7s				
MBAR	Mbarara	122.74 81	*i* PKiKP	PKPdf	22 11 44.8 0.0
NJ2	Nanjing	124.75 327	*e*PKP	PKiKP	22 11 49.1 +0.8
GTA	Gaotai	125.28 348	*e*PKP	PKiKP	22 11 49.7 +0.4
KSH	Kashi	125.52 10	PKP	PKiKP	22 11 51.7 +1.9
STKA	Stephens Creek	127.35 241	PKP	PKPdf	22 11 53.1 +0.3
	comp=Z,3.3nm,0.6s,baz=120,slow=9.2,SNR=3.9				
STKA	Stephens Creek	127.35 241	*e*PKiKP	PKiKP	22 11 53.7 +0.3
STKA			pmax	pmax	
	comp=Z,2.0nm,0.6s				
LZH	Lanzhou	127.45 343	*e*PKP	PKiKP	22 11 57.9 +4.1
WRA	Warramunga Arr	134.53 256	PKP	PKPdf	22 12 07.3 +0.5
	comp=Z,1.5nm,0.7s,baz=85,slow=2.1,SNR=19				
WRA	Warramunga Arr	134.53 256	*e*PKiKP	PKiKP	22 12 08.4 +0.2
WRA			pmax	pmax	
	comp=Z,2.0nm,0.6s				
ASAR	Alice Springs	134.85 251	PKhKP	PKPpre	22 11 56.5
	comp=Z,0.7nm,1.1s,baz=87,slow=4.0,SNR=3.0				
ASAR			PKP	PKPdf	22 12 07.8 +0.5
	comp=Z,0.6nm,0.8s,baz=76,slow=2.1,SNR=5.5				
PZH	PanZhiHua	137.02 340	PKP	PKPdf	22 12 12.1 +0.6
FITZ	Fitzroy Crossi	142.75 259	PKPdf	PKPdf	22 12 20.0 -1.9
CHTO	Chiang Mai	145.09 340	PKPbc	PKPbc	22 12 24.9 -0.5
CHTO	Chiang Mai	145.09 340	PKP2	PKPbc	22 12 24.9 -0.5
CM31	Chiang Mai Arr	145.42 340	PKPbc	PKPbc	22 12 26.6 +0.2
CMAR	Chiang Mai Arr	145.42 340	PKPbc	PKPbc	22 12 26.4 -0.1
CMAR	Chiang Mai Arr	145.42 340	PKPbc	PKPab	22 12 27.3 +0.6
	comp=Z,9.6nm,0.6s,baz=343,slow=4.2,SNR=69				
PSA00	Pilbara Seismi	147.97 252	PKPbc	PKPbc	22 12 33.0 -0.8

SKHL ***05*** *22:09:26.5±1.0, 54.°10N×143.°80E, h3km±1km, mb4.9/3*
IDC ***05*** *22:09:28.8±0.8, 54.°18N×143.°78E, h0km, mb3.6/11,*
mbtmp3.6/16, ML3.7/5, MS2.6/4, Error ellipse:
s-maj=19.5km s-min=11.3km az=141.0
ISC 05 22:09:29.8±0.6,**54.°05N**±0.°05×**143.°64E**±0.°06,**h10**km,**n21,**

σ1°16′24, mb3.6′11, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.65**	**220**	*i* Pg	**Pg**	**22 09 40.5**	**-1.8**
OKH				AMB	AMB	22 09 41.2	
	4μm,0.3s						
OKH				*i* Sg	**Sg**	**22 09 51.0**	**+0.1**
OKH				A	A	22 09 52.0	
	15μm,0.4s						
OKH				A	A	22 09 52.0	
	15μm,0.4s						
NKL	**Nikolayevsk**	**1.98**	**244**	*e*P	**Pb**	**22 10 03.6**	**-2.2**
NKL				*e*Pg	**Pg**	**22 10 07.3**	**-0.4**
NKL				AMB	AMB	22 10 07.5	
	120nm,0.4s						
NKL				*e*Sg	**Sg**	**22 10 35.2**	**+1.9**
NKL				A	A	22 10 35.7	
	560nm,0.4s						
NKL				A	A	22 10 35.7	
	690nm,0.4s						
TYV	**Tymovskoe**	**3.25**	**191**	*e*P	**Pb**	**22 10 26.1**	**-1.3**
TYV				*e*Pg	**Pg**	**22 10 30.8**	**-1.1**
TYV				AMB	AMB	22 10 31.0	
	10.0nm,0.5s						
TYV				*e*S	**Sn**	**22 10 59.7**	**+0.4**
TYV				A	A	22 11 00.1	
	20nm,0.6s						
MA2	**Magadan**	**6.78**	**32**	Pn	**Pn**	**22 11 08.4**	**-0.8**
	1.2nm,0.3s,baz=212,slow=14,SNR=6.8						
MA2				Sn	**Sn**	**22 12 24.5**	**-1.9**
	1.0nm,0.3s,baz=196,slow=18,SNR=1.4						
MA2				LR	LR	22 14 12.9	
	comp=Z,51nm,18.4s,baz=236,slow=43						
	3.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.42**	**91**	Pn	Pn	22 11 32.2	+0.5
	0.8nm,0.3s,baz=356,slow=6.1,SNR=8.9						
PETK				Sn	**Sn**	**22 13 08.0**	**+1.2**
	1.2nm,0.3s,baz=322,slow=5.3,SNR=6.2						
	1.8nm,0.5s						
KLR	**Kul'dur**	**8.82**	**242**	Pn	Pn	22 11 40.5	+3.2
	0.2nm,0.3s,baz=46,slow=11,SNR=5.1						
KLR				Lg	Lg	22 14 09.7	
	0.2nm,0.3s,baz=311,slow=9.1,SNR=3.8						
KLR				LR	LR	22 15 27.4	
	comp=Z,31nm,20.2s,baz=67,slow=40						
	0.7nm,0.4s						
SEY	**Seymchan**	**10.01**	**24**	Pn	Pn	22 11 54.7	+1.3
	0.2nm,0.3s,baz=173,slow=23,SNR=1.6						
	0.7nm,0.4s						
TIXI	**Tiksi**	**18.80**	**345**	P	**Pn**	**22 13 49.7**	**+0.3**
	0.1nm,0.3s,baz=164,slow=6.9,SNR=7.6						
	2.7nm,0.2s						
KSRS	**Korea Array**	**19.81**	**219**	LR	LR	22 21 30.9	
	comp=Z,15nm,18.6s,baz=10.0,slow=36						
SONM	**Songino Array**	**24.07**	**270**	P	**P**	**22 14 46.3**	**+1.2**
	0.3nm,0.6s,baz=64,slow=7.1,SNR=2.5						
SONM				PcP	**PcP**	**22 18 27.5**	**+1.3**
	0.2nm,0.7s,baz=50,slow=2.3,SNR=1.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**35.08**	**44**	P	P	22 16 23.2	+0.7
	0.5nm,0.8s,baz=279,slow=8.0,SNR=7.1						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**38.64**	**285**	P	**P**	**22 16 54.0**	**+1.0**
	1.1nm,0.8s,baz=63,slow=7.3,SNR=11						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**38.68**	**292**	P	**P**	**22 16 53.4**	**+0.2**
	1.5nm,0.7s,baz=66,slow=8.8,SNR=9.3						
KURBB				PcP	**PcP**	**22 19 05.5**	**+0.6**
	0.3nm,0.5s,baz=69,slow=3.2,SNR=2.8						
	1.5nm,0.7s						
BVAR	**Borovoye Array**	**41.73**	**300**	P	**P**	**22 17 19.0**	**+0.5**
	1.2nm,0.9s,baz=76,slow=6.1,SNR=3.5						
	1.2nm,0.9s						
AAK	**Ala-Archa**	**45.58**	**285**	P	**P**	**22 17 50.9**	**+1.1**
	1.1nm,0.8s,baz=57,slow=23,SNR=6.2						
	1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.30**	**242**	LR	LR	22 40 27.6	
	comp=Z,10nm,18.3s,baz=80,slow=38						
NOA	**NORSAR Array B**	**59.21**	**335**	P	**P**	**22 19 30.1**	**-0.4**
	0.5nm,0.8s,baz=33,slow=9.6,SNR=2.0						
	0.5nm,0.8s						
AKASG	**Malin Array Be**	**62.08**	**319**	P	**P**	**22 19 49.9**	**-0.3**
	0.3nm,0.4s,baz=35,slow=7.3,SNR=2.4						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**65.11**	**51**	P	**P**	**22 20 10.9**	**+0.3**
	0.3nm,0.6s,baz=54,slow=3.8,SNR=3.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**74.12**	**189**	P	**P**	**22 21 06.8**	**+0.9**
	0.5nm,0.8s,baz=6.2,slow=6.3,SNR=6.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**77.85**	**189**	P	**P**	**22 21 27.8**	**+0.6**
	0.2nm,0.5s,baz=356,slow=5.1,SNR=2.1						
	0.2nm,0.5s						

IDC 05 22:11:17.7±15.0, 11°.41N×43°.34E, h0km, mb3.6/6, mbtmp3.6/6, MS3.5/4, Error ellipse: s-maj=331.6km s-min=171.2km az=58.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**19.77**	**338**	LR	LR	22 23 01.0	
	comp=Z,25nm,18.4s,baz=238,slow=36						
LSZ	**Lusaka**	**30.47**	**210**	LR	LR	22 29 52.4	
	comp=Z,94nm,19.5s,baz=143,slow=37						
AAK	**Ala-Archa**	**41.25**	**35**	P	P	22 19 03.6	-1.2
	0.2nm,0.3s,baz=216,slow=8.7,SNR=2.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**46.83**	**22**	P	P	22 19 48.3	-1.0
	0.5nm,0.7s,baz=228,slow=3.7,SNR=1.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**48.19**	**35**	P	P	22 20 00.6	+0.6
	1.7nm,1.0s,baz=222,slow=5.8,SNR=11						
	1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**48.55**	**29**	P	P	22 20 03.4	+0.7
	0.7nm,0.9s,baz=237,slow=8.3,SNR=4.7						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**53.65**	**29**	P	P	22 20 41.1	+0.2
	0.4nm,0.4s,baz=228,slow=5.6,SNR=3.7						
	0.4nm,0.4s						
SONM	**Songino Array**	**63.60**	**42**	P	P	22 21 50.3	-0.3
	0.8nm,0.9s,baz=243,slow=6.3,SNR=5.5						
	0.8nm,0.9s						
JNU	**Nakatsue**	**81.83**	**58**	LR	LR	23 05 33.0	
	comp=Z,19nm,20.7s,baz=30,slow=40						
WRA	**Warramunga Arr**	**94.75**	**109**	LR	LR	23 04 53.0	
	comp=Z,89nm,18.0s,baz=134,slow=34						

*MEX **05** 22:25:04.4±0.8, 14°.04N×93°.13W, h10km, MD3.9*
*GCG **05** 22:25:08.1±1.7, 14°.42N×92°.84W, h1km±30km, MD4.3*
ISC 05 22:25:01.8±2.4, 14°24N±0°.10×93°.11W±0°.05, h3km±12km, n15, σ1°15′27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**51**	*e*P	**Pn**	**22 25 24.7**	**+1.2**
THIG				*e*S	**Sn**	**22 25 40.1**	**+1.5**
PATR	**El Naranjo**	**1.21**	**44**	*e*P	**Pn**	**22 25 26.5**	**+0.6**
PATR				*e*S	**Sn**	**22 25 42.9**	**-0.1**
PAVE	**Pavencul**	**1.31**	**44**	*e*P	**Pn**	**22 25 27.9**	**+0.8**
PAVE				*e*S	**Sn**	**22 25 45.4**	**+0.2**
RTAL	**Retalhuleu**	**1.40**	**78**	*e*S	**Sn**	**22 25 47.0**	**-0.2**
PCIG		**1.46**	**356**	*e*P	**Pg**	**22 25 30.8**	**+1.0**
PCIG				*e*S	**Sg**	**22 25 49.8**	**+1.1**
STG8	**El Palmar, Qui**	**1.72**	**83**	*e*P		22 25 31.7	
STG8				*i* S		22 25 51.2	
STG0	**El Palmar, Qui**	**1.72**	**84**	*e*P		22 25 31.6	
STG0				*i* S		22 25 51.0	
CARR	**Arriaga**	**2.14**	**339**	*e*P	**Pg**	**22 25 43.0**	**+0.2**
CARR				*e*S	**Sg**	**22 26 10.0**	**-0.6**
CCIG	**Comitan**	**2.23**	**25**	*e*P	**Pg**	**22 25 44.6**	**-0.1**
CCIG				*e*S	**Sg**	**22 26 14.2**	**+0.6**
CCIG	**Comitan**	**2.23**	**25**	*e*P	**Pg**	**22 25 44.1**	**-0.6**
CCIG	**Comitan**	**2.23**	**25**	*e*P		22 25 44.1	
TGIG		**2.52**	**360**	*e*P	**Pb**	**22 25 47.4**	**-0.4**
TGIG				*e*S	**Sb**	**22 26 17.4**	**-1.8**
TGIG		**2.52**	**360**	*e*P	**Pb**	**22 25 47.3**	**-0.4**
TGIG				*e*S	**Sb**	**22 26 18.2**	**-1.0**
TGIG		**2.52**	**360**	*e*P		22 25 47.3	
TGIG				*e*S		22 26 18.2	
APG	**El Apazote**	**2.67**	**73**	*e*P	**Pb**	**22 25 49.9**	**-0.5**
APG	**El Apazote**	**2.67**	**73**	*e*P		22 25 49.9	
NILT	**Santiago Nilte**	**2.73**	**328**	*e*P	**Pb**	**22 25 50.9**	**-0.3**
NILT				*e*S	**Sn**	**22 26 21.9**	**+1.9**
UXUV	**UXUV**	**3.21**	**342**	*e*P	**Pb**	**22 25 59.5**	**-0.1**
UXUV				*e*S	**Sb**	**22 26 36.8**	**-2.4**
CMIG	**Matias Romero**	**3.31**	**329**	*e*P	**Pn**	**22 25 56.3**	**+1.7**
CMIG				*e*S	**Sn**	**22 26 35.4**	**+1.1**
NEUV	**Arroyo Zacate**	**4.31**	**323**	*e*P	**Pn**	**22 26 06.6**	**-1.8**
NEUV				*e*S	**Sn**	**22 26 60.0**	**+0.8**

*IDC **05** 22:53:24.3±0.5, 9°.78S×75°.45W, h0km, mb4.2/17, mbtmp4.3/22, ML3.8/5, MS3.7/29, Error ellipse: s-maj=20.1km s-min=12.2km az=73.0*
*NEIC **05** 22:53:25.4±1.1, 9°.80S±0°.04×75°.45W±0°.04, h6km±3km, mb4.9/66, Error ellipse: s-maj=6.9km s-min=5.0km az=125.0*
*RSNC **05** 22:53:25.9±2.3, 10°S±10°×7°5W±°, h10km, M4.7, mB5.3, mb5.1, ML4.5, Mw(mB)4.8*
*VAO **05** 22:53:31.2±1.0, 9°.78S×75°.41W, h38km±8km, mb4.6*
ISC 05 22:53:29.6±0.3, 9°82S±0°.04×75°54W±0°.05, h41km, n193, σ1°33′177, mb4.8/45, MS3.7/29, 2D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.51**	**210**	Pn	**Pn**	**22 54 08.1**	**+0.2**
NNA				Sn	**Sn**	**22 54 38.7**	**+1.4**
NNA	**Nana**	**2.51**	**210**	Pn	**Pn**	**22 54 08.4**	**+0.5**
	111nm,0.3s,baz=24,slow=12,SNR=146						
NNA				Sn	**Sn**	**22 54 38.8**	**+1.4**
	110nm,0.3s,baz=276,slow=10,SNR=13						
	577nm,0.5s						
CZSB	**Cruzeiro do Su**	**3.49**	**54**	Pn	**Pn**	**22 54 21.6**	**+0.2**
CZSB					**Sn**	**22 55 07.4**	**+5.9**
CZSB	**Cruzeiro do Su**	**3.49**	**54**	*e*P	**Pn**	**22 54 22.2**	**+0.9**
CZSB	**Cruzeiro do Su**	**3.49**	**54**	P	**Pn**	**22 54 22.8**	**+1.4**
ATAH	**Atahualpa**	**3.88**	**313**	Pn	**Pn**	**22 54 30.5**	**+3.3**
	39nm,0.3s,baz=149,slow=3.0,SNR=88						
ATAH				Lg	Lg	22 55 24.5	
	15nm,0.3s,baz=66,slow=19,SNR=3.5						
TBTG	**Tabatinga, AM**	**7.91**	**45**	Pn	**Pn**	**22 55 20.9**	**-1.2**
TBTG	**Tabatinga, AM**	**7.91**	**45**	*e*P	**Pn**	**22 55 23.0**	**+0.9**
COHC	**Cochancay**	**8.18**	**333**	Pn	**Pn**	**22 55 24.9**	**-0.9**
COHC	**Cochancay**	**8.18**	**333**	P	**Pn**	**22 55 25.3**	**-0.6**
	2μm87nm,0.6s						
PIAT	**Ana Tenorio**	**9.17**	**343**	P	**Pn**	**22 55 38.6**	**-1.2**
	1μm116nm,0.5s						
SLOR	**San Lorenzo -**	**9.49**	**342**		**Pn**	**22 55 43.9**	**-0.3**
LPAZ	**La Paz**	**9.67**	**132**	Pn	**Pn**	**22 55 45.5**	**-1.3**
LPAZ	**La Paz**	**9.67**	**132**	Pn	**Pn**	**22 55 44.8**	**-2.0**
	0.2nm,0.3s,baz=327,slow=14,SNR=9.9						
LPAZ				Lg	Lg	22 58 20.7	
	0.7nm,0.3s,baz=183,slow=15,SNR=4.4						
	1.8nm,0.7s						
LPAZ	**La Paz**	**9.67**	**132**	*e*P	**Pn**	**22 55 46.9**	**+0.1**
PB18	**Visviri**	**9.71**	**143**	Pn	**Pn**	**22 55 46.0**	**-1.3**
PB12	**IPOC Station P**	**10.10**	**151**	Pn	**Pn**	**22 55 50.5**	**-1.8**
BONI	**La Bonita**	**10.39**	**349**	P	**Pn**	**22 55 55.0**	**-1.4**
	798nm46nm,0.9s						
OTAV	**Otavalo**	**10.40**	**344**	Pn	**Pn**	**22 55 56.5**	**-0.2**
OTAV	**Otavalo**	**10.40**	**344**	*e*P	**Pn**	**22 55 57.4**	**+0.7**
OTAV	**Otavalo**	**10.40**	**344**	P	**Pn**	**22 55 57.8**	**+1.1**
	20nm,0.8s						
FLOC	**Florencia**	**11.32**	**359**	Pn	**Pn**	**22 56 07.2**	**-1.8**
CRUC	**La Cruz**	**11.39**	**353**	P	**Pn**	**22 56 10.2**	**0.0**
	9μm512nm,1.1s						
PB11	**IPOC Station P**	**11.40**	**151**	Pn	**Pn**	**22 56 07.9**	**-2.3**
BBAC	**Balboa, Cauca**	**11.88**	**352**	P	**Pn**	**22 56 17.3**	**+0.5**
	566nm48nm,0.6s						
GARC	**Garzon, Huila**	**11.92**	**0**	P	**Pn**	**22 56 16.3**	**-1.1**
	2μm72nm,0.4s						
PB08	**IPOC Station P**	**11.97**	**150**	Pn	**Pn**	**22 56 16.2**	**-1.9**
MACC	**Macarena, Meta**	**12.00**	**8**	P	**Pn**	**22 56 16.6**	**-1.6**
	961nm54nm,0.6s						
POPC	**Popayan, Colom**	**12.33**	**355**	P	**Pn**	**22 56 23.3**	**+0.4**
	380nm23nm,0.7s						
TEFE	**Tefe**	**12.51**	**61**	*e*P	**Pn**	**22 56 23.3**	**-1.8**
ORTC	**Ortega, Tolima**	**13.64**	**1**	P	**Pn**	**22 56 40.5**	**-0.1**
	743nm64nm,0.6s						
VILC	**Villavicencio,**	**13.96**	**8**	P	**Pn**	**22 56 44.4**	**-0.7**
	2μm207nm,0.5s						
ROSC	**El Rosal**	**14.61**	**5**	Pn	**Pn**	**22 56 53.5**	**-0.6**
	5.6nm,0.3s,baz=200,slow=14,SNR=7.0						
ROSC				Lg	Lg	23 01 08.6	
	1.6nm,0.3s,baz=54,slow=22,SNR=1.6						
	20nm,0.5s						
GUY2C	**Guyana, Caldas**	**14.94**	**1**	P	**P**	**22 57 01.2**	**-2.4**
	816nm83nm,0.9s						
VILB	**Vilhena**	**15.36**	**103**	Pn	**Pn**	**22 57 01.2**	**-2.4**
VILB	**Vilhena**	**15.36**	**103**	*e*P	**Pn**	**22 57 03.4**	**-0.3**
SIV	**San Ignacio**	**15.38**	**115**	Pn	**Pn**	**22 57 01.5**	**-2.4**
	0.1nm,0.3s,baz=301,slow=7.6,SNR=10						
SIV				Lg	Lg	23 01 27.4	
	0.1nm,0.3s,baz=37,slow=23,SNR=8.3						
	3.2nm,0.6s						
PB14	**IPOC Station P**	**15.52**	**162**		**Pn**	**22 57 04.4**	**-1.5**
CBOC	**Ciudad Bolivar**	**15.58**	**358**	P	**P**	**22 57 10.2**	**-0.2**
	673nm62nm,1.0s						
RUSC	**La Rusia**	**15.80**	**9**		**Pn**	**22 57 08.3**	**-1.5**
MACA	**Manacapuru-AM**	**16.17**	**67**		**Pn**	**22 57 12.1**	**-1.9**
MACA	**Manacapuru-AM**	**16.17**	**67**	*e*P	**Pn**	**22 57 14.6**	**+0.5**
GO02	**Mina Guanaco**	**16.28**	**160**	P	**Pn**	**22 57 16.4**	**+0.7**
DBBC	**Dabeiba**	**16.74**	**358**	P	**P**	**22 57 26.2**	**+3.1**
PTLB	**Pontes e Lacer**	**16.95**	**111**		**Pn**	**22 57 21.7**	**-2.2**
PTLB	**Pontes e Lacer**	**16.95**	**111**	*e*P	**Pn**	**22 57 23.8**	**-0.1**
PAMC	**Pamplona, Colo**	**17.28**	**10**	P	**P**	**22 57 29.4**	**-0.1**
AC02	**Maricunga**	**17.98**	**161**		**Pn**	**22 57 36.6**	**-0.4**
PDRB	**Porto dos Gac**	**18.57**	**97**	*e*P	**Pn**	**22 57 44.6**	**+0.8**
SDV	**Santo Domingo**	**19.21**	**15**	P	**P**	**22 57 48.8**	**-1.7**
SDV	**Santo Domingo**	**19.21**	**15**	P	**P**	**22 57 49.2**	**-1.3**
	1.4nm,0.3s,baz=195,slow=7.2,SNR=15						
SDV				Lg	Lg	23 03 35.2	
	0.3nm,0.3s,baz=320,slow=22,SNR=3.2						
	11nm,0.7s						
SDV	**Santo Domingo**	**19.21**	**15**	*e*P	**Pn**	**22 57 52.5**	**+0.8**
SDV	**Santo Domingo**	**19.21**	**15**	P	**Pn**	**22 57 52.5**	**+0.8**
	21nm,1.7s						
BOAV	**Boa Vista**	**19.26**	**52**	P	**P**	**22 57 49.7**	**-1.2**
BOAV	**Boa Vista**	**19.26**	**52**	*e*P	**Pn**	**22 57 52.1**	**-0.1**
SJCC	**San Jacinto, C**	**19.59**	**1**	P	**Pn**	**22 57 56.8**	**+0.8**
LCO	**Las Campanas**	**19.63**	**167**	P	**P**	**22 57 54.3**	**-0.8**
BAUV	**El Baul**	**20.08**	**22**	P	**P**	**22 57 59.6**	**-0.1**
BAUV				IAmb	IAmb	22 58 02.3	
	comp=Z,50nm,0.8s						
NPGB	**Novo Progresso**	**20.15**	**84**	*e*P	**P**	**22 57 59.9**	**-0.7**
SALV	**Santo Antonio**	**20.27**	**109**	*e*P	**P**	**22 58 01.7**	**-0.1**
ITTB	**Itaituba**	**20.38**	**76**	*e*P	**P**	**22 58 03.2**	**+0.1**
PANT	**Pantanal (Braz**	**20.45**	**119**	*e*P	**P**	**22 58 04.6**	**+0.7**
BDQN	**Bodoquena, MS**	**20.97**	**122**	*e*P	**P**	**22 58 08.9**	**-0.5**
HDC	**Heredia**	**21.46**	**336**	P	**P**	**22 58 13.6**	**-1.2**
AQDB	**Aquidauana**	**21.86**	**121**	P	**P**	**22 58 17.6**	**-1.4**
AQDB	**Aquidauana**	**21.86**	**121**	*e*P	**P**	**22 58 19.7**	**+0.7**
SOCE	**Pocosol**	**22.00**	**336**	P	**P**	**22 58 18.7**	**-1.8**
SOCE				IAmb	IAmb	22 58 30.9	
	comp=Z,66nm,1.4s						
JTS	**Las Juntas de**	**22.06**	**335**	P	**P**	**22 58 20.4**	**-0.8**
JTS	**Las Juntas de**	**22.06**	**335**	P	**P**	**22 58 21.4**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=146,slow=3.1,SNR=3.9						
JTS				LR	LR	23 06 34.4	
	comp=Z,197nm,18.5s,baz=114,slow=36						
	comp=Z,1.8nm,0.3s						
RPRD	**Ribas do Rio P**	**23.57**	**119**	*e*P	**P**	**22 58 38.7**	**+2.1**
CPUP	**Villa Florida**	**23.81**	**136**	P	**P**	**22 58 37.4**	**-1.5**
CPUP	**Villa Florida**	**23.81**	**136**	P	**P**	**22 58 38.1**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=323,slow=9.1,SNR=9.3						
CPUP				LR	LR	23 10 24.3	
	comp=Z,478nm,18.8s,baz=308,slow=43						
	comp=Z,5.8nm,0.9s						
CPUP	**Villa Florida**	**23.81**	**136**	*e*P	**P**	**22 58 41.2**	**+2.4**
ARAG	**Araguaiana, MT**	**23.86**	**107**	*e*P	**P**	**22 58 41.5**	**+2.1**
SJPY	**San Joaquin**	**23.86**	**132**	*e*P	**P**	**22 58 41.2**	**+1.8**
SNDB	**Serra Nova Dou**	**23.91**	**97**	*e*P	**P**	**22 58 42.4**	**+2.5**
ITRB	**Iturama**	**26.23**	**115**	*e*P	**P**	**22 59 02.7**	**+1.7**
PTGB	**Pitanga**	**26.80**	**127**	*e*P	**P**	**22 59 07.2**	**+0.9**
LDASE	**Londrina, Braz**	**26.96**	**123**	*e*P	**P**	**22 59 09.7**	**+2.2**
MDP	**Montagnes des**	**27.21**	**58**	LR	LR	23 09 59.4	
	comp=Z,122nm,18.9s,baz=228,slow=37						
BDFB	**Brasilia**	**27.45**	**105**	P	**P**	**22 59 11.0**	**-1.1**
BDFB	**Brasilia**	**27.45**	**105**	P	**P**	**22 59 10.6**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=247,slow=8.3,SNR=3.7						
BDFB				LR	LR	23 10 19.0	
	comp=Z,428nm,21.5s,baz=287,slow=37						
	comp=Z,1.8nm,0.7s						
IPMB	**Ipameri, GO**	**27.71**	**110**	*e*P	**P**	**22 59 15.1**	**+0.7**
ITAB	**Concordia**	**28.07**	**131**	P	**P**	**22 59 16.1**	**-1.3**
BB19B	**Bebedouro**	**28.29**	**116**	*e*P	**P**	**22 59 20.2**	**+0.7**
CPSB	**Cacapava Do Su**	**29.05**	**138**	*e*P	**P**	**22 59 27.6**	**+1.5**
CELP	**Cerrillos**	**29.09**	**18**	P	**P**	**22 59 25.3**	**-1.2**
PDPR	**Patillas Dam,**	**29.21**	**19**	P	**P**	**22 59 25.8**	**-1.7**
PDPR				IAmb	IAmb	22 59 57.9	
	comp=Z,30nm,1.2s						
HUMP	**Col San Antoni**	**29.38**	**19**	P	**P**	**22 59 27.6**	**-1.5**
HUMP				IAmb	IAmb	22 59 33.5	
	comp=Z,16nm,1.0s						
PMNB	**Patos De Minas**	**29.48**	**110**	*e*P	**P**	**22 59 30.5**	**+0.4**
JANB	**Januaria**	**30.92**	**103**	*e*P	**P**	**22 59 42.7**	**-0.1**
PLCA	**Paso Flores**	**31.11**	**173**	P	**P**	**22 59 44.6**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=358,slow=8.0,SNR=3.2						
PLCA				LR	LR	23 10 44.3	
	comp=Z,73nm,21.7s,baz=341,slow=33						
	comp=Z,0.9nm,0.5s						
DIAM	**Diamantina, MG**	**32.00**	**109**	*e*P	**P**	**22 59 52.9**	**+0.4**
TEIG	**Tepich**	**32.38**	**337**	P	**P**	**22 59 55.2**	**-0.3**
CMIG	**Matias Romero**	**32.87**	**324**	LR	LR	23 12 55.0	
	comp=Z,92nm,18.8s,baz=176,slow=36						
BSFB	**Barra de Sao F**	**34.73**	**109**	*e*P	**P**	**23 00 15.2**	**-0.9**
RIB01	**Linhares ES**	**35.24**	**110**	*e*P	**P**	**23 00 19.7**	**-0.8**
RCBR	**Riachuelo**	**39.45**	**87**	LR	LR	23 17 49.8	
	comp=Z,184nm,19.3s,baz=253,slow=37						
TKL	**Tuckaleechee C**	**45.89**	**351**	LR	LR	23 24 08.9	
	comp=Z,48nm,18.9s,baz=150,slow=40						
V48A	**Smith Brothers**	**46.54**	**347**	P	**P**	**23 01 52.6**	**-0.7**
V48A				IAmb	IAmb	23 01 53.9	
	comp=Z,10nm,0.7s						
TXAR	**Lajitas Array**	**47.44**	**326**	P	**P**	**23 02 00.3**	**-0.2**
TXAR	**Lajitas Array**	**47.44**	**326**	P	**P**	**23 02 01.5**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=147,slow=8.8,SNR=10						
TXAR				LR	LR	23 20 35.0	
	comp=Z,45nm,19.9s,baz=116,slow=34						
	comp=Z,1.3nm,0.7s						
TX31	**Lajitas Ar. Si**	**47.44**	**326**	P	**P**	**23 02 00.2**	**-0.3**
TX31				IAmb	IAmb	23 02 23.8	
	comp=Z,14nm,1.7s						
WHAR	**Wooly Hollow**	**47.57**	**341**	P	**P**	**23 02 01.0**	**-0.3**
LPIG	**La Paz**	**47.85**	**315**	LR	LR	23 18 48.1	
	comp=Z,55nm,19.6s,baz=201,slow=32						
LCAR	**Lake Charles**	**47.95**	**343**	P	**P**	**23 02 03.6**	**-0.6**
LCAR				IAmb	IAmb	23 02 11.2	
	comp=Z,9.2nm,1.1s						
APMT	**Aspermont**	**48.87**	**332**	P	**P**	**23 02 11.5**	**+0.1**
APMT				IAmb	IAmb	23 02 13.7	
	comp=Z,12nm,0.9s						
POST	**Post**	**49.30**	**331**	P	**P**	**23 02 14.7**	**0.0**
POST				IAmb	IAmb	23 02 16.6	
	comp=Z,13nm,0.8s						
FVM	**French Village**	**49.55**	**345**	P	**P**	**23 02 15.6**	**-0.9**
FVM				IAmb	IAmb	23 02 17.1	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	**49.83**	**344**	P	**P**	**23 02 17.8**	**-0.8**
CCM				IAmb	IAmb	23 03 13.5	
	comp=Z,18nm,1.6s						
SMWD	**Samnorwood**	**50.42**	**334**	P	**P**	**23 02 23.6**	**+0.5**
SMWD				IAmb	IAmb	23 02 24.9	
	comp=Z,17nm,0.8s						
ANMO	**Albuquerque**	**53.27**	**328**	LR	LR	23 25 18.0	
	comp=Z,30nm,18.1s,baz=300,slow=36						
FRNY	**Flat Rock**	**54.42**	**2**	P	**P**	**23 02 52.9**	**+0.3**
FRNY				IAmb	IAmb	23 02 55.0	
	comp=Z,18nm,1.2s						
SADO	**Sadowa**	**54.43**	**357**	P	**P**	**23 02 52.4**	**-0.2**
PKME	**Peaks-Kenny Pk**	**55.11**	**5**	P	**P**	**23 02 57.9**	**+0.3**
ECSD	**EROS Data Cent**	**56.64**	**342**	P	**P**	**23 03 08.1**	**-0.5**
ECSD				IAmb	IAmb	23 03 19.2	
	comp=Z,12nm,1.4s						
AGMN	**Agassiz Nation**	**60.59**	**345**	P	**P**	**23 03 35.6**	**-0.4**
AGMN				IAmb	IAmb	23 03 37.1	
	comp=Z,9.7nm,0.8s						
PDAR	**Pinedale Array**	**60.86**	**332**	P	**P**	**23 03 38.7**	**+0.5**
PDAR	**Pinedale Array**	**60.86**	**332**	P	**P**	**23 03 37.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=116,slow=10,SNR=6.6						
PDAR				LR	LR	23 31 28.4	
	comp=Z,49nm,18.2s,baz=124,slow=38						
	comp=Z,0.7nm,0.7s						
HWUT	**Hardware Ranch**	**60.94**

K29M Barlow Dome 86.94 337 P P 23 06 10.6 +0.5
K29M IAmb IAmb 23 06 11.8
comp=Z,5.8nm,1.1s
F31M Tsiigehtchic 87.47 341 P P 23 06 13.0 +0.6
DAWY Dawson 87.77 337 P P 23 06 14.7 +0.7
DAWY IAmb IAmb 23 06 16.0
comp=Z,7.9nm,1.3s
INK Inuvik 87.88 342 P P 23 06 15.2 +0.8
INK Inuvik 87.88 342 LR LR 23 49 22.2
comp=Z,52nm,18.2s,baz=234,slow=38
I29M Ogilvie Camp, 87.98 338 P P 23 06 15.1 +0.1
EKA Eskdalemuir Ar 88.20 33 P P 23 06 17.9 +1.7
comp=Z,1.4nm,0.8s,baz=258,slow=3.5,SNR=2.0
comp=Z,1.4nm,0.8s
VRDI Verde Repeater 88.22 333 P P 23 06 16.6 +0.1
VRDI IAmb IAmb 23 06 18.6
comp=Z,14nm,1.4s
BCAR Beaver Creek A 88.28 335 P P 23 06 17.3 +0.8
H29M Whitestone 88.41 339 P P 23 06 18.0 +1.0
I28M Miner Creek 88.62 338 P P 23 06 18.8 +0.7
I28M IAmb IAmb 23 06 36.4
comp=Z,11nm,1.4s
G29M Pine Creek 88.63 340 P P 23 06 18.6 +0.6
E29M Blow River 89.31 341 P P 23 06 21.9 +0.8
E29M IAmb IAmb 23 06 22.9
comp=Z,8.8nm,0.8s
KLU Klutina 89.42 333 P P 23 06 22.8 +0.9
KLU IAmb IAmb 23 06 23.9
comp=Z,6.2nm,0.9s
TSUM Tsumeb 89.74 109 LR LR 23 43 54.4
comp=Z,131nm,19.8s,baz=164,slow=34
ILAR Eielson Array 91.03 336 P P 23 06 30.3 +1.1
ILAR Eielson Array 91.03 336 P P 23 06 30.0 +0.8
comp=Z,0.6nm,0.8s,baz=164,slow=2.0,SNR=6.8
ILAR LR LR 23 53 47.7
comp=Z,32nm,18.1s,baz=247,slow=40
comp=Z,0.6nm,0.8s
KDAK Kodiak Island 91.41 329 LR LR 23 49 32.1
comp=Z,24nm,18.5s,baz=14,slow=37
KEST Kesra 91.55 54 LR LR 23 47 47.0
comp=Z,25nm,18.1s,baz=317,slow=36
CAST Castle Rocks 92.76 334 P P 23 06 37.4 +0.1
NOA NORSAR Array B 96.94 29 LR LR 23 47 30.4
comp=Z,8.5nm,20.1s,baz=300,slow=34
BVAR Borovoye Array 128.91 26 PKP PKiKP 23 12 34.1 +0.6
comp=Z,0.7nm,0.7s,baz=305,slow=5.1,SNR=4.6
ZALV Zalesovo Beam 133.26 16 PKP PKiKP 23 12 42.2 0.0
comp=Z,3.3nm,0.6s,baz=253,slow=2.0,SNR=12
KURBB Kurchatov Arra 134.04 23 PKP PKiKP 23 12 44.1 +0.2
comp=Z,0.8nm,0.6s,baz=306,slow=2.7,SNR=10
ASAR Alice Springs 136.00 220 PKP PKPdf 23 12 46.0 -1.2
comp=Z,0.7nm,0.8s,baz=109,slow=1.9,SNR=4.5
WRA Warramunga Arr 138.29 225 PKP PKPdf 23 12 50.9 -0.6
comp=Z,1.6nm,0.9s,baz=125,slow=2.0,SNR=9.0
MKAR Makanchi Array 138.60 23 PKP PKPdf 23 12 52.1 +0.9
comp=Z,0.6nm,0.6s,baz=346,slow=2.7,SNR=4.8
SONM Songino Array 142.07 358 PKhKP PKPpre 23 12 53.2
comp=Z,0.6nm,0.5s,baz=45,slow=0.4,SNR=3.0
XLT XiLinHaoTe 144.57 345 *e*PKP **PKPab 23 12 57.5 -3.1**
XLT pPKP PKiKP 23 13 07.6 +1.8
XLT sPKP 23 13 11.2
MTN Manton Dam 145.24 230 PKPbc **PKPbc 23 13 03.4 -0.2**
FITZ Fitzroy Crossi 145.26 217 PKPbc **PKPbc 23 13 03.3 -0.3**
KSRS Korea Array 145.29 326 PKPbc **PKPdf 23 13 04.3 +1.0**
comp=Z,6.3nm,0.7s,baz=50,slow=3.6,SNR=18
KSAR Wonju Array Be 145.32 326 PKPbc **PKPbc 23 13 03.3 +0.1**
MBWA Marble Bar 145.75 206 PKPbc **PKPdf 23 13 04.9 +0.2**
HHC Hu-ho-hao-te 148.46 350 *e*P **PKPdf 23 13 06.0 -2.8**
GTA Gaotai 150.24 7 *e*PKPbc **PKPdf 23 13 13.7 +2.0**
GTA pPKP PKiKP 23 13 17.9 +0.3
LZH Lanzhou 153.84 1 *e*PKPbc **PKPdf 23 13 12.7 -4.5**
NJ2 Nanjing 154.17 331 *e*P **PKPdf 23 13 16.5 -1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PZH PanZhiHua 163.20 8 PKP **PKPdf 23 13 27.5 -1.1**

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*IDC **05** 23:02:45.6±1.1, 3°.99N×92°.62E, h0km, mb3.6/8, mbtmp3.7/11, ML4.3/3, MS3.1/6, Error ellipse: s-maj=25.9km s-min=23.6km az=77.0*
*NEIC **05** 23:02:47.9±1.2, 3°.77N±0°.08×92°.69E±0°.04, h10km±2km, mb4.1/13, Error ellipse: s-maj=14.0km s-min=4.9km az=157.0*
ISC 05 23:02:47.1±0.9, 3°.82N±0°.10×92°.68E±0°.08, h10km, n46, σ1°21/34, mb3.9/13, MS3.2/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.48**	**72**		**Pn**	**23 03 56.0**	**+0.8**
GSI	**Gunungsitoli**	**5.49**	**117**	Pn	**Pn**	**23 04 07.9**	**-1.2**
PSI	**Prapat**	**6.32**	**99**	Pn	**Pn**	**23 04 23.0**	**+2.5**
	2.4nm,0.3s,baz=324,slow=11,SNR=4.7						
PSI				Sn	**Sn**	**23 05 32.5**	**-0.4**
	0.8nm,0.3s,baz=180,slow=12,SNR=6.1						
	6.8nm,0.3s						
RPSI	**Rantau Prapat**	**6.33**	**100**		**Pn**	**23 04 23.0**	**+2.4**
RPSI					**Sn**	**23 05 32.5**	**-0.6**
RPSI	**Rantau Prapat**	**6.33**	**100**	Pn	**Pn**	**23 04 19.3**	**-1.4**
PBA	**Port Blair**	**7.79**	**0**	Pn	**Pn**	**23 04 42.1**	**+1.5**
KULM	**Kulim**	**8.08**	**79**	Pn	**Pn**	**23 04 45.2**	**+0.6**
IPM	**Ipoh**	**8.35**	**85**	Pn	**Pn**	**23 04 48.3**	**-0.1**
SRIT	**Nakonsritamara**	**8.36**	**55**	Pn	**Pn**	**23 04 48.4**	**-0.1**
PALK	**Pallekele**	**12.40**	**287**	Pn	Pn	23 05 41.2	-2.7
	0.8nm,0.3s,baz=102,slow=14,SNR=8.2						
PALK				Sn	Sn	23 07 41.2	-21
	1.2nm,0.3s,baz=24,slow=23,SNR=8.4						
	1.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.79**	**22**	Pn	**Pn**	**23 06 27.2**	**-2.5**
	1.2nm,0.3s,baz=215,slow=13,SNR=13						
CMAR				LR	LR	23 12 09.3	
	comp=Z,54nm,19.1s,baz=200,slow=36						
	1.4nm,0.3s						
CHTO	**Chiang Mai**	**16.11**	**22**	Pn	**Pn**	**23 06 35.7**	**+1.8**
UBPT	**Khong Chiam**	**16.98**	**47**	Pn	**Pn**	**23 06 44.9**	**-0.1**
UBPT				IAmb	IAmb	23 06 58.9	
	comp=Z,29nm,1.3s						
LEM	**Lembang**	**18.28**	**125**	LR	LR	23 13 56.8	
	comp=Z,64nm,21.3s,baz=193,slow=36						
SHL	**Shillong**	**21.64**	**358**	P	**P**	**23 07 36.1**	**-1.8**
SHL				IAmb	IAmb	23 07 48.8	
	comp=Z,9.9nm,0.8s						
H08S3	**Diego Garcia H**	**23.14**	**241**	T	T	23 33 45.9	
	baz=62,slow=74						
H08S2	**Diego Garcia H**	**23.14**	**241**	T	T	23 33 28.2	
	baz=62,slow=74						
H08S1	**Diego Carcia H**	**23.15**	**241**	T	T	23 33 32.2	
	baz=62						
DRK	**Karamyk**	**40.23**	**335**	P	**P**	**23 10 23.7**	**-0.8**
GAR	**Garm**	**40.49**	**333**	P	**P**	**23 10 26.8**	**+0.3**
GAR				IAmb	IAmb	23 10 35.7	
	comp=Z,8.4nm,1.1s						
BTK	**Batken**	**41.13**	**334**	P	**P**	**23 10 31.8**	**+0.1**
AAK	**Ala-Archa**	**41.91**	**340**	LR	LR	23 27 47.1	
	comp=Z,36nm,21.2s,baz=211,slow=36						
H01W3	**Cape Leeuwin H**	**43.46**	**154**	T	T	23 57 42.3	
	baz=331						
H01W2	**Cape Leeuwin H**	**43.48**	**154**	T	T	23 58 05.0	
	baz=331						
H01W1	**Cape Leeuwin H**	**43.48**	**154**	T	T	23 57 56.4	
	baz=331						
MK31	**Makanchi Array**	**43.75**	**350**	P	**P**	**23 10 53.6**	**+0.9**
MKAR	**Makanchi Array**	**43.75**	**350**	P	**P**	**23 10 53.5**	**+0.7**
MKAR	**Makanchi Array**	**43.75**	**350**	P	P	23 10 50.1	-2.6
	comp=Z,0.3nm,0.7s,baz=169,slow=8.5,SNR=4.4						
	comp=Z,0.3nm,0.7s						
KKAR	**Karatay Array**	**43.80**	**336**	P	**P**	**23 10 53.8**	**+0.6**
MAKZ	**Makanchi**	**43.82**	**349**	P	**P**	**23 10 54.3**	**+0.9**
MAKZ				IAmb	IAmb	23 11 10.6	
	comp=Z,2.2nm,1.4s						
SONM	**Songino Array**	**45.41**	**13**	P	**P**	**23 11 06.8**	**+0.6**
SONM				IAmb	IAmb	23 11 17.5	
	comp=Z,1.1nm,0.9s						
SONM	**Songino Array**	**45.41**	**13**	P	**P**	**23 11 05.2**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=200,slow=11,SNR=2.4						
	comp=Z,0.2nm,0.4s						
KSRS	**Korea Array**	**46.48**	**39**	LR	LR	23 32 45.0	
	comp=Z,17nm,19.2s,baz=130,slow=39						
WB0	**Warramunga Arr**	**47.22**	**121**	P	**P**	**23 11 20.1**	**-0.5**
WB0				IAmb	IAmb	23 11 35.2	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**47.24**	**122**	P	**P**	**23 11 22.4**	**+1.6**
WRA	**Warramunga Arr**	**47.24**	**122**	P	**P**	**23 11 20.9**	**0.0**
	comp=Z,0.5nm,0.9s,baz=296,slow=7.9,SNR=2.9						
	comp=Z,0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**48.14**	**348**	P	**P**	**23 11 26.3**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=170,slow=7.3,SNR=7.3						
KURBB				LR	LR	23 33 37.6	
	comp=Z,24nm,18.4s,baz=168,slow=39						
	comp=Z,0.3nm,0.7s						
ZAA0	**Zalesovo Array**	**50.39**	**354**	P	**P**	**23 11 44.9**	**+0.5**
ZAA0				IAmb	IAmb	23 12 03.3	
	comp=Z,2.5nm,1.1s						
ZALV	**Zalesovo Beam**	**50.39**	**354**	P	**P**	**23 11 45.4**	**+0.9**
ZALV	**Zalesovo Beam**	**50.39**	**354**	P	**P**	**23 11 43.3**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=178,slow=9.1,SNR=3.8						
ZALV				LR	LR	23 35 22.9	
	comp=Z,20nm,19.6s,baz=83,slow=39						
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**52.38**	**343**	P	**P**	**23 11 58.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=132,slow=9.9,SNR=1.8						
	comp=Z,0.4nm,0.7s						
H04N2	**CROZET ISLANDS**	**61.52**	**211**	T	T	00 20 52.6	
	baz=49,slow=75,SNR=6.6						
H04N1	**CROZET ISLANDS**	**61.53**	**211**	T	T	00 20 51.6	
	baz=49,slow=75,SNR=8.0						
H04N3	**CROZET ISLANDS**	**61.54**	**211**	T	T	00 21 13.7	
	baz=49,slow=75,SNR=5.9						
LBTB	**Lobatse**	**71.05**	**242**	P	**P**	**23 14 06.2**	**+0.2**
	comp=Z,3.6nm,1.1s,baz=16,slow=5.4,SNR=2.4						
	comp=Z,3.6nm,1.1s						
BOSA	**Boshof**	**72.22**	**238**	P	**P**	**23 14 14.2**	**+1.1**
	comp=Z,2.1nm,1.1s,baz=126,slow=11,SNR=1.5						
	comp=Z,2.1nm,1.1s						

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*HEL **05** 23:02:57.4±0.1, 67°.84N×20°.19E, h0km, ML1.9, Suspected explosion*
*UPP **05** 23:02:57.0±0.0, 67°.84N×20°.21E, h0km, ML2.6, Confirmed Induced event*
*IDC **05** 23:02:57.7±1.0, 67°.75N×20°.87E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=17.1km s-min=6.3km az=121.0*
ISC 05 23:02:56.9±0.8, 67°.83N±0°.02×20°.23E±0°.03, h0km, n37, σ1°30/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**18**	P	**Pg**	**23 02 59.5**	**+0.2**
KUA				S	**Sg**	**23 03 01.4**	**+0.3**
RATU	**Laukkuluspa**	**0.24**	**269**	P	**Pg**	**23 03 01.7**	**+0.2**
RATU				S	**Sg**	**23 03 05.0**	**+0.4**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**23 03 04.3**	**-0.1**
KOVU				S	**Sg**	**23 03 09.4**	**-0.2**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 03 10.3**	**0.0**
LANU				S	**Sg**	**23 03 19.8**	**+0.4**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**23 03 10.3**	**0.0**
LANU				SG	**Sg**	**23 03 19.3**	**-0.1**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**23 03 10.8**	**+0.1**
DUNU				S	**Sg**	**23 03 20.7**	**+0.7**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**23 03 11.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**23 03 19.3**	**-0.6**
KIF	**Kilpisjarvi**	**1.20**	**10**	PG	**Pg**	**23 03 19.4**	**-0.4**
KIF				MSG		23 03 34.7	
	comp=Z,14nm,0.2s						
KIF				SG	**Sg**	**23 03 35.5**	**+0.2**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**23 03 22.4**	**-0.7**
PAJU				S	**Sg**	**23 03 41.1**	**+0.1**
PAJU	**Pajala**	**1.38**	**125**	PG	**Pg**	**23 03 22.3**	**-0.9**
	baz=304						
PAJU				SG	**Sg**	**23 03 41.1**	**+0.1**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**23 03 22.9**	**-0.9**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**23 03 22.8**	**-0.9**
	baz=245						
HEF				MSG		23 03 40.2	
	comp=Z,7.8nm,0.2s						
HEF				SB	**Sg**	**23 03 41.3**	**-0.8**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**23 03 24.5**	**-0.4**
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	**Pn**	**23 03 24.4**	**-0.4**
ERTU				SN	**Sg**	**23 03 45.4**	**+0.7**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**23 03 25.5**	**-0.2**
KLF				MSG		23 03 44.6	
	comp=Z,6.3nm,0.2s						
KLF				SN	**Sg**	**23 03 47.4**	**+0.6**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**23 03 26.5**	**-0.2**
KTK1				SN	**Sg**	**23 03 50.0**	**+1.0**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**23 03 30.8**	**+0.7**
TRO				SG	**Sn**	**23 03 54.6**	**+0.2**
KALU	**Kalix**	**2.33**	**147**	PB	**Pn**	**23 03 37.8**	**+1.4**
	baz=326						
KALU				SG	**Sb**	**23 04 08.8**	**-0.2**
TOF	**Tornio**	**2.38**	**136**	PB	**Pn**	**23 03 38.8**	**+1.7**
	baz=315						
TOF				MSG		23 04 08.4	
	comp=Z,6.4nm,0.2s						
TOF				SG	**Sb**	**23 04 11.3**	**+0.8**
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**23 03 41.5**	**+1.9**
RNF				SG	**Sb**	**23 04 16.1**	**+0.4**
ARA0	**ARCESS Array S**	**2.58**	**46**	PN	**Pn**	**23 03 40.8**	**+0.9**
	baz=227						
ARA0				SB	**Sb**	**23 04 14.3**	**-1.8**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 03 40.4**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=225,slow=16,SNR=83						
ARCES				Lg	Lg	23 04 14.2	
	comp=Z,3.0nm,0.3s,baz=228,slow=24,SNR=16						
	comp=Z,3.0nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN	**Pn**	**23 03 47.3**	**+0.4**
RAJF				SB	**Sb**	**23 04 29.7**	**-1.1**
KEV	**Kevo**	**3.13**	**49**	PN	**Pn**	**23 03 48.3**	**+0.9**
KEV				SN	**Sn**	**23 04 26.4**	**+1.0**
KEV				MSG		23 04 29.6	
	comp=Z,5.5nm,0.2s						
RANF	**Ranua**	**3.16**	**122**	PN	**Pn**	**23 03 49.2**	**+1.4**
	baz=313						
RANF				SG	**Sb**	**23 04 35.0**	**+2.1**
BURU	**Burvik**	**3.29**	**171**	PN	**Pn**	**23 03 51.4**	**+1.8**
BURU				SB	**Sb**	**23 04 34.2**	**-2.4**
VRF	**Varrio**	**3.56**	**87**	PN	**Pn**	**23 03 53.9**	**+0.6**
OUL	**Oulu**	**3.57**	**138**	PG	**Pb**	**23 04 01.4**	**+0.6**
	baz=322						
OUL				SG	**Sb**	**23 04 46.2**	**+1.6**
OBF0	**Syolatti, Pyha**	**3.72**	**152**	PG	**Pb**	**23 04 05.6**	**+2.3**
KU2	**Taivalkoski**	**3.82**	**120**	PN	**Pn**	**23 03 58.3**	**+1.5**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**23 03 58.8**	**+0.9**
OLKF				SG	**Sg**	**23 05 00.5**	**-1.3**
KU6	**Riekki**	**4.21**	**111**	PN	**Pn**	**23 04 03.2**	**+1.0**
	baz=297						
KU1	**Kurvinen**	**4.35**	**117**	PN	**Pn**	**23 04 06.0**	**+2.0**
	baz=307						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**23 04 38.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=340,slow=10,SNR=0.9						
FINES				Sn	**Sn**	**23 05 53.3**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=347,slow=18,SNR=5.5						
FINES				Lg	Lg	23 06 28.2	
	comp=Z,0.4nm,0.3s,baz=344,slow=25,SNR=7.5						
	comp=Z,0.6nm,0.5s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 04 52.4**	**+0.3**
	baz=21,slow=11,SNR=1.8						
NOA				Sn	**Sn**	**23 06 19.2**	**-2.2**
	baz=35,slow=14,SNR=1.5						
NOA				Lg	Lg	23 07 06.0	
	baz=19,slow=20,SNR=5.0						
	comp=Z,0.6nm,0.8s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**23 04 57.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=19,slow=11,SNR=2.2						
HFS				Sn	**Sn**	**23 06 26.7**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=20,slow=25,SNR=1.5						
HFS				Lg	Lg	23 07 16.3	
	comp=Z,0.3nm,0.3s,baz=19,slow=27,SNR=2.2						
	comp=Z,2.0nm,0.8s						

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*IDC **05** 23:20:55.6±0.9, 4°.09N×92°.82E, h0km, mb3.7/12, mbtmp3.8/15, ML4.4/3, MS3.1/4, Error ellipse: s-maj=28.2km s-min=16.0km az=41.0*
*NEIC **05** 23:20:57.1±1.6, 3°.89N±0°.09×92°.70E±0°.08, h10km±1km, mb4.3/24, Error ellipse: s-maj=19.4km s-min=5.0km az=220.0*
ISC 05 23:20:58.7±0.6, 4°.00N±0°.07×92°.80E±0°.06, h19km, n61, σ1°62/56, mb4.0/20, MS3.2/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**3.19**	**21**	*e*P	**Pn**	**23 21 48.6**	**+0.7**
CMBY				*e*S	**Sn**	**23 22 25.1**	**-0.4**
CMBY				IAML		23 22 28.8	
	comp=N,485nm,0.3s						
CMBY				IAML		23 22 29.5	
LHMI	**Lhok Sumawe**	**4.31**	**73**	Pn	**Pn**	**23 22 04.8**	**+1.5**
GSI	**Gunungsitoli**	**5.48**	**119**	Pn	**Pn**	**23 22 18.0**	**-1.3**
PSI	**Prapat**	**6.23**	**101**	Pn	**Pn**	**23 22 30.2**	**+0.4**
	comp=E,4.8nm,0.3s,baz=308,slow=9.4,SNR=13						
PSI				Sn	**Sn**	**23 23 41.6**	**+0.9**
	comp=E,2.3nm,0.3s,baz=185,slow=10.0,SNR=5.0						
	comp=E,7.6nm,0.3s						
RPSI	**Rantau Prapat**	**6.25**	**102**	Pn	**Pn**	**23 22 31.3**	**+1.3**
RPSI	**Rantau Prapat**	**6.25**	**102**		**Pn**	**23 22 30.2**	**+0.2**
RPSI					**Sn**	**23 23 41.6**	**+0.6**
PBA	**Port Blair**	**7.60**	**360**	Pn	**Pn**	**23 22 48.7**	**+0.2**
PBA	**Port Blair**	**7.60**	**360**	*e*P	**Pn**	**23 22 52.6**	**+4.1**
PBA				*e*S	**Sn**	**23 24 11.6**	**-2.6**
KULM	**Kulim**	**7.93**	**80**	Pn	**Pn**	**23 22 54.2**	**+1.1**
SRIT	**Nakonsritamara**	**8.16**	**56**	Pn	**Pn**	**23 22 57.9**	**+1.7**
IPM	**Ipoh**	**8.22**	**86**	Pn	**Pn**	**23 22 58.2**	**+1.1**
DGPR	**DIGLIPUR**	**9.12**	**1**	*e*P	**Pn**	**23 23 10.9**	**+1.6**
DGPR				*e*S	**Sn**	**23 24 45.8**	**-5.7**
DGPR				IAML		23 25 06.6	
	comp=N,84nm,0.5s						
DGPR				IAML		23 25 08.0	
	comp=E,100nm,0.7s						
PALK	**Pallekele**	**12.46**	**286**	Pn	**Pn**	**23 23 54.2**	**-1.0**
	comp=E,2.1nm,0.3s,baz=118,slow=13,SNR=7.1						
PALK				Sn	Sn	23 25 54.3	-19
	comp=E,2.0nm,0.3s,baz=145,slow=11,SNR=4.2						
	comp=E,3.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.57**	**22**	Pn	**Pn**	**23 24 36.1**	**-1.3**
	comp=E,0.8nm,0.3s,baz=203,slow=14,SNR=12						
CMAR				LR	LR	23 30 18.9	
	comp=E,43nm,19.2s,baz=225,slow=36						
	comp=E,1.8nm,0.3s						
CHTO	**Chiang Mai**	**15.90**	**22**	P	**P**	**23 24 45.6**	**+0.5**
SALM	**Salem**	**16.32**	**299**	*e*P	**P**	**23 24 53.6**	**+3.7**
SALM				IAmb	IAmb	23 24 56.4	
	comp=Z,6.8nm,0.4s						
UBPT	**Khong Chiam**	**16.77**	**47**		**P**	**23 24 55.3**	**+0.5**
AZL	**Aizawl**	**19.62**	**360**	*e*P	**Pn**	**23 25 31.7**	**+4.0**
AZL				IAmb	IAmb	23 25 37.0	
	comp=Z,7.2nm,0.7s						
SHL	**Shillong**	**21.46**	**358**	P	**P**	**23 25 47.3**	**+1.0**
H08S2	**Diego Garcia H**	**23.33**	**240**	T	T	23 49 09.4	
	baz=59						
H08S3	**Diego Garcia H**	**23.33**	**240**	T	T	23 49 26.4	
	baz=59						
H08S1	**Diego Carcia H**	**23.34**	**240**	T	T	23 49 37.2	
	baz=59						
DAV	**Davao City (W)**	**32.77**	**83**	P	**P**	**23 27 29.4**	**-1.5**
DRK	**Karamyk**	**40.12**	**335**	P	**P**	**23 28 33.3**	**-0.4**
GAR	**Garm**	**40.38**	**333**	P	**P**	**23 28 33.4**	**-2.3**
GAR				IAmb	IAmb	23 28 43.5	
	comp=Z,15nm,1.3s						
CHGR	**Chuyangaron**	**40.65**	**331**	P	**P**	**23 28 37.4**	**-0.5**
CHGR				IAmb	IAmb	23 28 45.3	
	comp=Z,7.2nm,0.7s						
SIMJ	**Simiganj**	**40.73**	**331**	P	**P**	**23 28 38.5**	**0.0**
SIMJ				IAmb	IAmb	23 28 46.6	
	comp=Z,6.9nm,1.2s						
BTK	**Batken**	**41.02**	**334**	P	**P**	**23 28 40.5**	**-0.3**
BOOM	**Boomskoye usch**	**41.16**	**341**	P	**P**	**23 28 40.4**	**-1.7**
BOOM				IAmb	IAmb	23 29 09.8	
	comp=Z,4.2nm,1.2s						
AAK	**Ala-Archa**	**41.78**	**340**	LR	LR	23 48 23.5	
	comp=Z,36nm,18.2s,baz=162,slow=40						
H01W3	**Cape Leeuwin H**	**43.58**	**154**	T	T	00 15 24.5	
	baz=330						
MK31	**Makanchi Array**	**43.59**	**350**	P	**P**	**23 29 00.3**	**-1.3**
MKAR	**Makanchi Array**	**43.59**	**350**	P	**P**	**23 29 00.6**	**-1.0**
MKAR	**Makanchi Array**	**43.59**	**350**	P	**P**	**23 29 00.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=161,slow=8.0,SNR=9.0						
	comp=Z,0.7nm,0.7s						
H01W2	**Cape Leeuwin H**	**43.59**	**154**	T	T	00 16 22.1	
	baz=330						
H01W1	**Cape Leeuwin H**	**43.59**	**154**	T	T	00 16 03.6	
	baz=330						
MAKZ	**Makanchi**	**43.66**	**349**	P	**P**	**23 29 04.5**	**+2.3**
KK31	**Karatay Array**	**43.67**	**336**	P	**P**	**23 29 01.5**	**-0.8**
KK31				IAmb	IAmb	23 29 10.8	
	comp=Z,2.8nm,0.8s						
KKAR	**Karatay Array**	**43.67**	**336**	P	**P**	**23 29 01.9**	**-0.4**
SONM	**Songino Array**	**45.21**	**13**	P	**P**	**23 29 15.2**	**+0.6**
SONM				IAmb	IAmb	23 29 31.4	
	comp=Z,4.2nm,1.4s						
SONM	**Songino Array**	**45.21**	**13**	P	**P**	**23 29 14.2**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=190,slow=8.8,SNR=4.6						
	comp=Z,0.7nm,0.7s						
WB0	**Warramunga Arr**	**47.21**	**122**	P	**P**	**23 29 30.2**	**-0.6**
WRA	**Warramunga Arr**	**47.24**	**122**	P	**P**	**23 29 30.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=298,slow=9.0,SNR=4.6						
	comp=Z,0.5nm,0.7s						
WB2	**Warramunga Arr**	**47.25**	**122**	P	**P**	**23 29 30.3**	**-0.7**
WB2				IAmb	IAmb	23 29 51.8	
	comp=Z,6.6nm,1.4s						
KURBB	**Kurchatov Arra**	**47.99**	**348**	P	**P**	**23 29 35.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=165,slow=7.5,SNR=12						
KURBB				LR	LR	23 54 19.3	
	comp=Z,22nm,18.6s,baz=172,slow=42						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**48.06**	**348**	P	**P**	**23 29 37.2**	**+0.4**
KURK				IAmb	IAmb	23 29 51.6	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**48.59**	**127**	P	**P**	**23 29 41.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=302,slow=7.6,SNR=1.5						
	comp=Z,0.2nm,0.4s						
ZAA0	**Zalesovo Array**	**50.22**	**354**	P	**P**	**23 29 53.1**	**-0.2**
ZAA0				IAmb	IAmb	23 30 02.3	
	comp=Z,3.2nm,0.5s						
ZALV	**Zalesovo Beam**	**50.22**	**354**	P	**P**	**23 29 53.1**	**-0.2**
ZALV	**Zalesovo Beam

WB2 Warramunga Arr 26.78 164 P P 23 32 29.0 +0.2
WB2 IAmb IAmb 23 32 33.0
comp=Z,6.7nm,1.2s
WR0 Warramunga Arr 26.85 164 P P 23 32 29.9 +0.4
WR0 IAmb IAmb 23 33 00.9
comp=Z,7.0nm,1.4s
PSA00 Pilbara Seismi 28.16 194 P P 23 32 41.2 0.0
PSA00 IAmb IAmb 23 32 42.7
comp=Z,3.1nm,0.8s
ASAR Alice Springs 30.24 167 P P 23 33 00.0 +0.3
comp=Z,0.3nm,0.5s,baz=348,slow=8.5,SNR=1.7
comp=Z,0.3nm,0.5s
BBOO Buckleboo 39.54 168 P P 23 34 18.4 -1.3
MK31 Makanchi Array 55.77 324 P P 23 36 25.9 +0.1
MKAR Makanchi Array 55.77 324 P P 23 36 25.9 +0.1
MKAR Makanchi Array 55.77 324 P P 23 36 26.9 +1.1
comp=Z,0.2nm,0.3s,baz=120,slow=6.3,SNR=10
MKAR PcP **PcP 23 37 25.0 +0.2**
comp=Z,0.2nm,0.6s,baz=115,slow=5.1,SNR=3.8
comp=Z,0.2nm,0.3s
MAKZ Makanchi 55.96 324 P P 23 36 27.0 -0.1
MAKZ IAmb IAmb 23 36 57.7
comp=Z,2.1nm,1.4s
KURK Kurchatov 59.91 327 P P 23 36 54.8 +0.1
KURK IAmb IAmb 23 37 00.3
comp=Z,2.4nm,1.3s
KURBB Kurchatov Arra 59.91 327 P P 23 36 53.9 -0.8
comp=Z,0.8nm,0.2s,baz=128,slow=6.8,SNR=2.3
comp=Z,0.8nm,0.2s
KKAR Karatay Array 61.65 316 P P 23 37 07.1 +0.4
BVAR Borovoye Array 65.50 326 P P 23 37 32.1 +0.1
comp=Z,0.5nm,0.7s,baz=122,slow=5.3,SNR=2.1
comp=Z,0.5nm,0.7s

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*SKHL **05** 23:27:49.3±0.2, 44°.30N×148°.80E, h59km±5km, mb4.1/3*
JMA 05 23:27:53.4±0.4, 45°N±2°×14°8E±°, h146km, MV3.4/17, NEAR ETOROFU ISLAND, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.49**	**251**	*e*P	Pn	23 28 21.6	-0.9
YUK	30nm,0.2s			AMB	AMB	23 28 23.8	
YUK				*e*S	Sn	23 28 46.0	+1.3
YUK	50nm,0.3s			A	A	23 28 50.4	
YUK	120nm,0.3s			A	A	23 28 50.4	
NEM2	**Nemuro 2**	**1.90**	**233**	P	Pn	23 28 27.5	+0.4
NEM2				S	Sn	23 28 52.7	-0.2
NMR	**Nemuro--Hokkai**	**1.91**	**233**	*e*P	Pn	23 28 25.6	-1.6
NMR	10.0nm,0.2s			AMB	AMB	23 28 27.9	
NMR				*e*S	Sn	23 28 52.7	-0.3
JNSB	**Nemuroshibetsu**	**2.16**	**250**	*e*S	Sn	23 28 59.3	+1.0
JKHN	**Kushirohamanak**	**2.41**	**234**	*e*P	Pn	23 28 33.9	+0.7
JKHN				S	Sn	23 29 03.8	+0.1
AKK	**Akkeshi**	**2.63**	**236**	*e*P	Pn	23 28 36.0	0.0
AKK				*e*S	Sn	23 29 09.6	+0.9
AKK	40nm,0.3s			A	A	23 29 11.1	
AKK	30nm,0.3s			A	A	23 29 11.1	
JAK	**Akkeshi**	**2.73**	**237**	S	Sn	23 29 10.8	-0.2
JCH	**Churui**	**3.76**	**241**	*e*P	Pn	23 28 51.0	+0.5
JCH				S	Sn	23 29 33.6	-1.0
JNBK	**Urakawa-nobuka**	**4.32**	**240**	P	Pn	23 28 58.0	+0.3
JNBK				S	Sn	23 29 43.3	-4.4
JOT	**Ohata**	**5.88**	**240**	S	Sn	23 30 19.4	-5.4
JANG	**Nango**	**6.24**	**230**	S	Sn	23 30 28.8	-4.8

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*IDC **05** 23:36:44.1±1.0, 7°.51S×154°.67E, h0km, mb3.9/10, mbtmp4.0/11, ML2.1/1, Error ellipse: s-maj=38.6km s-min=20.6km az=128.0*
ISC 05 23:36:48.4±0.7, 7°.5S±0°.1×154°.73E±0°.08, h27km, n13, σ1§57/15, mb4.1/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.51**	**111**	Sn	**Sn**	**23 39 12.3**	**+0.8**
	7.3nm,0.3s,baz=12,slow=0.5,SNR=2.3						
PMG	**Port Moresby**	**7.73**	**255**	Pn	**Pn**	**23 38 36.8**	**-2.4**
	1.8nm,0.3s,baz=75,slow=4.1,SNR=3.0						
PMG				Sn	**Sn**	**23 40 10.1**	**+4.2**
	3.0nm,0.3s,baz=75,slow=18,SNR=6.3						
	11nm,0.2s						
WRA	**Warramunga Arr**	**23.32**	**236**	P	**P**	**23 41 53.2**	**-1.5**
	0.4nm,0.5s,baz=61,slow=9.9,SNR=6.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.65**	**229**	P	**P**	**23 42 15.2**	**-1.0**
	0.7nm,0.7s,baz=62,slow=9.4,SNR=6.3						
	0.7nm,0.7s						
PETK	**Petropavlovsk-**	**60.41**	**2**	P	**P**	**23 46 55.6**	**+0.3**
	2.6nm,0.8s,baz=191,slow=7.2,SNR=2.9						
	2.6nm,0.8s						
SONM	**Songino Array**	**69.60**	**328**	P	**P**	**23 47 55.1**	**-0.3**
	1.1nm,0.8s,baz=127,slow=5.8,SNR=7.0						
	1.1nm,0.8s						
QSPA	**South Pole Qui**	**82.50**	**180**	P	**P**	**23 49 08.5**	**0.0**
	1.7nm,1.0s,baz=80,slow=11,SNR=3.2						
	1.7nm,1.0s						
MKAR	**Makanchi Array**	**83.59**	**319**	P	**P**	**23 49 14.9**	**+0.5**
	0.7nm,0.9s,baz=96,slow=6.3,SNR=5.6						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**83.92**	**22**	P	**P**	**23 49 15.2**	**-0.5**
	1.5nm,0.7s,baz=257,slow=5.0,SNR=15						
	1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**84.43**	**326**	P	**P**	**23 49 18.1**	**-0.4**
	0.7nm,0.5s,baz=117,slow=5.2,SNR=3.5						
	0.7nm,0.5s						
NVAR	**Mina Array Bea**	**92.23**	**52**	P	**P**	**23 49 56.9**	**+0.4**
	0.4nm,0.4s,baz=288,slow=5.5,SNR=4.5						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	**P**	**23 50 17.7**	**+0.8**
	0.1nm,0.5s,baz=275,slow=6.0,SNR=4.5						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.89**	**284**	PKPbc	**PKPbc**	**23 56 44.2**	**0.0**
	1.7nm,0.3s,baz=80,slow=1.6,SNR=1.2						
TORD				PKPab	**PKPab**	**23 56 56.1**	**+0.7**
	2.7nm,0.5s,baz=72,slow=2.6,SNR=1.2						

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*IDC **05** 23:38:54.3±2.2, 6°.17S×154°.76E, h76km±19km, mb3.9/10, mbtmp4.3/12, MS3.4/6, Error ellipse: s-maj=19.8km s-min=13.9km az=177.0*
*NEIC **05** 23:38:56.2±1.1, 6°.21S±0°.07×154°.73E±0°.09, h91km±6km, mb4.7/23, Error ellipse: s-maj=12.5km s-min=10.6km az=66.0*
ISC 05 23:38:56.3±0.5, 6°.23S±0°.07×154°.74E±0°.06, h100km, n70, σ1§10/69, mb4.5/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.27**	**308**	Pn	**Pn**	**23 39 44.6**	**-1.2**
I40PG	**Keravat**	**3.33**	**305**	I	I	23 59 15.0	
	82nm,0.4s,baz=125,slow=316,SNR=1.1						
HNR	**Honiara**	**6.06**	**122**	Pn	**Pn**	**23 40 23.7**	**+0.2**
HNR	**Honiara**	**6.06**	**122**	P	**Pn**	**23 40 20.6**	**-2.8**
	559nm,0.9s,baz=224,slow=3.4,SNR=6.0						
HNR				S	**Sn**	**23 41 31.2**	**-0.2**
	815nm,1.0s,baz=223,slow=18,SNR=5.9						
PMG	**Port Moresby**	**8.15**	**247**	P	**Pn**	**23 40 51.5**	**-0.3**
	145nm,0.7s,baz=46,slow=9.1,SNR=16						
PMG				S	**Sn**	**23 42 21.6**	**-0.7**
	32nm,0.6s,baz=91,slow=22,SNR=6.6						
PMG				LR	LR	23 44 01.7	
	comp=Z,340nm,20.6s,baz=52,slow=38						
MANU	**Manus Island**	**8.45**	**299**	Pn	**Pn**	**23 40 55.8**	**-0.2**
COEN	**Coen**	**13.73**	**235**	Pn	**Pn**	**23 42 06.4**	**-0.4**
JAY	**Jayapura**	**14.47**	**284**	LR	LR	23 48 47.1	
	comp=Z,230nm,18.6s,baz=37,slow=41						
EIDS	**Eidsvold**	**19.35**	**190**	P	**P**	**23 43 14.0**	**0.0**
EIDS				IAmb	IAmb	23 43 20.1	
	comp=Z,27nm,1.1s						
DZM	**Mont Dzumac**	**19.39**	**145**	P	**P**	**23 43 13.9**	**-0.6**
DZM				IAmb	IAmb	23 43 16.8	
	comp=Z,47nm,0.8s						
ONTNC	**Ouen Toro**	**19.58**	**146**	P	**P**	**23 43 14.9**	**-1.6**
PINNC	**Pines Island,**	**20.38**	**144**	P	**P**	**23 43 25.6**	**+0.4**
GUMO	**Guam**	**22.00**	**334**	LR	LR	23 52 38.1	
	comp=Z,29nm,19.8s,baz=117,slow=38						
FAKI	**Fak Fak**	**22.66**	**277**	P	**P**	**23 43 48.8**	**-0.7**
FAKI				IAmb	IAmb	23 43 51.9	
	comp=Z,21nm,0.8s						
WR0	**Warramunga Arr**	**23.90**	**233**	P	**P**	**23 44 01.0**	**0.0**
WR0				IAmb	IAmb	23 44 03.4	
	comp=Z,20nm,1.0s						
WB0	**Warramunga Arr**	**23.92**	**234**	P	**P**	**23 44 01.9**	**+0.6**
WB0				IAmb	IAmb	23 44 02.9	
	comp=Z,23nm,1.2s						
WRAB	**Tennant Creek**	**24.04**	**234**	P	**P**	**23 44 02.6**	**+0.3**
WRAB				IAmb	IAmb	23 44 04.0	
	comp=Z,23nm,1.2s						
WB2	**Warramunga Arr**	**24.04**	**234**	P	**P**	**23 44 02.9**	**+0.5**
WRA	**Warramunga Arr**	**24.05**	**234**	P	**P**	**23 44 01.7**	**-0.7**
WRA	**Warramunga Arr**	**24.05**	**234**	P	**P**	**23 44 03.1**	**+0.7**
	comp=Z,11nm,1.0s,baz=55,slow=9.3,SNR=23						
WRA				PcP	**PcP**	**23 47 42.2**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=60,slow=1.3,SNR=4.8						
WRA				ScP	**ScP**	**23 51 14.2**	**+2.8**
	comp=Z,0.9nm,1.1s,baz=71,slow=2.2,SNR=3.6						
WRA				LR	LR	23 53 06.2	
	comp=Z,147nm,19.4s,baz=132,slow=35						
	comp=Z,11nm,1.0s						
ARMA	**Armidale**	**24.24**	**187**	P	**P**	**23 44 05.6**	**+1.5**
ARMA				IAmb	IAmb	23 44 06.3	
	comp=Z,34nm,1.2s						
AS31	**Alice Springs**	**26.49**	**227**	P	**P**	**23 44 24.7**	**+0.2**
ASAR	**Alice Springs**	**26.50**	**227**	P	**P**	**23 44 25.9**	**+1.4**
ASAR	**Alice Springs**	**26.50**	**227**	P	**P**	**23 44 24.8**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=60,slow=8.5,SNR=11						
ASAR				PcP	**PcP**	**23 47 48.5**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=43,slow=3.3,SNR=6.0						
	comp=Z,1.7nm,0.6s						
KNRA	**Kununurra**	**27.14**	**248**	P	**P**	**23 44 31.1**	**+0.7**
KNRA				IAmb	IAmb	23 45 01.3	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**28.32**	**204**	P	**P**	**23 44 40.6**	**-0.1**
STKA				IAmb	IAmb	23 44 41.2	
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**28.32**	**204**	P	**P**	**23 44 41.0**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=20,slow=12,SNR=6.0						
	comp=Z,3.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.74**	**245**	P	**P**	**23 45 01.6**	**-0.6**
DAV	**Davao City (W)**	**31.96**	**294**	LR	LR	23 57 05.3	
	comp=Z,25nm,19.9s,baz=330,slow=34						
HAZ	**Te Kaha**	**37.73**	**150**	P	**P**	**23 46 03.9**	**+1.5**
URZ	**Urewera**	**37.79**	**151**	P	**P**	**23 46 04.4**	**+1.5**
RUGZ	**Raukumara Rang**	**37.84**	**150**	P	**P**	**23 46 05.1**	**+1.6**
MXZ	**Matakaoa Point**	**37.85**	**149**	P	**P**	**23 46 04.0**	**+0.6**
MXZ	**Matakaoa Point**	**37.85**	**149**	P	**P**	**23 46 04.7**	**+1.3**
PKGZ	**Pakihiroa**	**37.97**	**149**	P	**P**	**23 46 06.0**	**+1.6**
RTZ	**Ruatahuna**	**38.01**	**151**	P	**P**	**23 46 05.3**	**+0.5**
RTZ	**Ruatahuna**	**38.01**	**151**	P	**P**	**23 46 05.8**	**+1.0**
WMGZ	**Waiomatatini S**	**38.10**	**149**	P	**P**	**23 46 06.6**	**+1.1**
RAGZ	**Rawiri**	**38.12**	**151**	P	**P**	**23 46 08.8**	**+3.0**
BKZ	**Black Stump Fm**	**38.22**	**152**	P	**P**	**23 46 06.4**	**-0.2**
BKZ				IAmb	IAmb	23 46 13.4	
	comp=Z,7.4nm,0.7s						
BKZ	**Black Stump Fm**	**38.22**	**152**	P	**P**	**23 46 08.2**	**+1.6**
KWHZ	**Kaweka Forest**	**38.39**	**153**	P	**P**	**23 46 10.2**	**+2.1**
CNGZ	**Carnagh Statio**	**38.51**	**150**	P	**P**	**23 46 09.6**	**+0.7**
KRHZ	**Kereru**	**38.55**	**153**	P	**P**	**23 46 10.4**	**+1.1**
MHGZ	**Mahia Peninsul**	**38.88**	**151**	P	**P**	**23 46 12.7**	**+0.6**
KAHZ	**Kahuranaki**	**38.90**	**152**	P	**P**	**23 46 13.7**	**+1.5**
TCW	**Tory Channel**	**38.95**	**156**	P	**P**	**23 46 12.6**	**0.0**
BFZ	**Birch Farm**	**39.34**	**154**	P	**P**	**23 46 16.0**	**+0.2**
MSWZ	**Moikau Station**	**39.52**	**156**	P	**P**	**23 46 17.2**	**-0.1**
PLWZ	**Palliser**	**39.65**	**156**	P	**P**	**23 46 18.4**	**0.0**
RPZ	**Rata Peaks**	**39.99**	**162**	LR	LR	00 00 25.6	
	comp=Z,87nm,20.9s,baz=326,slow=32						
RPZ	**Rata Peaks**	**39.99**	**162**	P	**P**	**23 46 21.6**	**+0.3**
MLZ	**Mavora Lakes**	**40.68**	**166**	P	**P**	**23 46 25.8**	**-1.1**
MLZ				IAmb	IAmb	23 46 28.4	
	comp=Z,13nm,0.9s						
MORW	**Morawa**	**43.00**	**233**	P	**P**	**23 46 45.8**	**-0.3**
MORW				IAmb	IAmb	23 46 46.7	
	comp=Z,25nm,1.2s						
CMAR	**Chiang Mai Arr**	**60.23**	**295**	P	**P**	**23 48 54.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**60.23**	**295**	P	**P**	**23 48 55.3**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=116,slow=5.3,SNR=7.7						
	comp=Z,1.5nm,0.3s						
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**23 49 49.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=143,slow=7.0,SNR=1.5						
K15K	**Wolf Creek Mou**	**76.09**	**19**	P	**P**	**23 50 32.4**	**-0.3**
K15K				IAmb	IAmb	23 50 55.6	
	comp=Z,25nm,1.4s						
MKAR	**Makanchi Array**	**82.67**	**319**	P	**P**	**23 51 09.3**	**+0.4**
MKAR	**Makanchi Array**	**82.67**	**319**	P	**P**	**23 51 09.8**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=98,slow=5.9,SNR=3.9						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**23 51 08.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=238,slow=6.2,SNR=1.6						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.74**	**180**	P	**P**	**23 51 14.8**	**+0.6**
QSPA	**South Pole Qui**	**83.74**	**180**	P	**P**	**23 51 15.2**	**+1.1**
	comp=Z,11nm,0.8s,baz=357,slow=1.3,SNR=34						
	comp=Z,11nm,0.8s						
D23K	**Nanushuk River**	**83.83**	**17**	P	**P**	**23 51 15.8**	**+1.4**
NVAR	**Mina Array Bea**	**91.45**	**52**	P	**P**	**23 51 52.9**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=260,slow=5.8,SNR=7.7						
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**95.78**	**28**	P	**P**	**23 52 10.2**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=259,slow=5.5,SNR=3.5						
	comp=Z,0.1nm,0.6s						
PDAR	**Pinedale Array**	**98.38**	**48**	P	Pdif	23 52 23.7	+0.1
	comp=Z,0.3nm,0.8s,baz=305,slow=7.4,SNR=2.5						
	comp=Z,0.3nm,0.8s						
BOAV	**Boa Vista**	**144.64**	**95**	PKPdf	**PKPab**	**23 58 20.1**	**-1.1**
BDFB	**Brasilia**	**148.69**	**134**	PKPbc	**PKiKP**	**23 58 34.1**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=346,slow=6.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**152.57**	**287**	PKPbc	**PKPbc**	**23 58 40.2**	**-2.0**

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*GCG **05** 23:39:29.3±3.1, 16°.55N×94°.80W, h110km±108km, MD4.4*
*MEX **05** 23:39:31.6±0.7, 16°.54N×94°.77W, h100km±9km, MD4.2*
ISC 05 23:39:30.0±1.2, 16°.53N±0°.04×94°.72W±0°.02, h103km±8km, n42, σ2§02/79, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.10**	**71**	*e*P	**Pn**	**23 39 44.6**	**+0.3**
NILT				*e*S	**Sn**	**23 39 54.8**	**-0.2**
CMIG	**Matias Romero**	**0.58**	**344**	*i* P	**Pn**	**23 39 47.2**	**+0.5**
CMIG				*e*S	**Sn**	**23 39 58.9**	**-0.4**
UXUV	**UXUV**	**0.95**	**35**	*e*P	**Pn**	**23 39 51.0**	**+0.9**
UXUV				*e*S	**Sn**	**23 40 05.0**	**-0.4**
TUIG	**Tuzandepetl**	**1.52**	**11**	*e*P	Pn	23 39 51.1	-5.6
TUIG				*e*S	**Sn**	**23 40 16.9**	**-0.1**
HUIG	**Huatulco**	**1.54**	**241**	*e*P	**Pn**	**23 39 56.2**	**-0.7**
HUIG				*e*S	**Sn**	**23 40 16.7**	**-0.7**
HUIG	**Huatulco**	**1.54**	**241**	*e*P	**Pn**	**23 39 55.9**	**-1.0**
HUIG				*i* S	**Sn**	**23 40 16.5**	**-0.8**
HUIG	**Huatulco**	**1.54**	**241**	*e*P		23 39 55.9	
HUIG				*i* S		23 40 16.5	
TGIG		**1.55**	**81**	*e*P	**Pn**	**23 39 57.7**	**+0.7**
TGIG				*e*S	**Sn**	**23 40 17.0**	**-0.6**
TGIG		**1.55**	**81**	*e*P	**Pn**	**23 39 57.7**	**+0.7**
TGIG		**1.55**	**81**	*e*P		23 39 57.7	
NEUV	**Arroyo Zacate**	**1.57**	**319**	*e*P	**Pn**	**23 39 57.6**	**+0.4**
NEUV				*e*S	**Sn**	**23 40 17.6**	**-0.3**
TGBT	**Tuxtla Gutierr**	**1.58**	**81**	*e*P	**Pn**	**23 39 58.3**	**+0.9**
TGBT				*e*S	**Sn**	**23 40 17.4**	**-0.8**
PCIG		**1.66**	**120**	*e*P	**Pn**	**23 39 59.5**	**+1.1**
PCIG				*e*P		23 39 59.6	
PCIG				*e*S	**Sn**	**23 40 20.9**	**+1.0**
PCIG				*e*S		23 40 21.5	
PANG	**Puerto Angel**	**1.90**	**243**	*e*P	**Pn**	**23 39 59.9**	**-1.5**
PANG				*e*S	**Sn**	**23 40 23.0**	**-2.3**
OXLC	**Oaxaca**	**1.98**	**286**	*e*P	**Pn**	**23 40 04.5**	**+1.9**
OXLC				*e*S	**Sn**	**23 40 29.6**	**+2.1**
VHO	**Vista Hermosa**	**2.00**	**286**	*e*P	**Pn**	**23 40 05.3**	**+2.4**
VHO				*e*S	**Sn**	**23 40 30.2**	**+2.1**
PMUV	**Sontecomapan**	**2.04**	**349**	*e*P	**Pn**	**23 40 03.3**	**-0.1**
PMUV				*e*S	**Sn**	**23 40 25.6**	**-3.1**
VHSA	**Villahermosa**	**2.23**	**49**	*e*P	**Pn**	**23 40 05.4**	**-0.2**
VHSA				*e*S	**Sn**	**23 40 32.4**	**-0.6**
PEIG	**Puerto Escondi**	**2.40**	**258**	*e*P	**Pn**	**23 40 07.3**	**-0.6**
PEIG				*e*S	**Sn**	**23 40 34.3**	**-2.5**
CCIG	**Comitan**	**2.49**	**95**	*e*P	**Pn**	**23 40 09.8**	**+0.6**
CCIG				*e*S	**Sn**	**23 40 35.7**	**-3.6**
CCIG	**Comitan**	**2.49**	**95**	*e*P	**Pn**	**23 40 10.4**	**+1.2**
CCIG	**Comitan**	**2.49**	**95**	*e*P		23 40 10.4	
TOIG	**Toxpalan**	**2.73**	**305**	*e*P	**Pn**	**23 40 14.4**	**+2.1**
TOIG				*e*S	**Sn**	**23 40 45.4**	**+0.5**
YOIG	**Yosondua**	**2.73**	**277**	*e*P	**Pn**	**23 40 14.1**	**+1.6**
YOIG				*e*S	**Sn**	**23 40 45.3**	**+0.1**
PATR	**El Naranjo**	**2.77**	**120**	*e*P	**Pn**	**23 40 15.1**	**+2.0**
PATR				*e*S	**Sn**	**23 40 48.3**	**+2.1**
PAVE	**Pavencul**	**2.78**	**118**	*e*P	**Pn**	**23 40 15.5**	**+2.3**
PAVE				*e*S	**Sn**	**23 40 48.0**	**+1.6**
TXIG	**Tlaxiaco**	**3.01**	**284**	*e*P	**Pn**	**23 40 18.5**	**+2.3**
TXIG				*e*S	**Sn**	**23 40 51.4**	**-0.4**
TPIG	**Tehuac#an**	**3.15**	**307**	*e*P	**Pn**	**23 40 21.0**	**+3.1**
TPIG				*e*P		23 40 21.3	
TPIG				*e*S	**Sn**	**23 40 55.1**	**+0.2**
TPIG				*e*S		23 40 55.2	
HLIG	**Huajuapan de L**	**3.22**	**294**	*e*P	**Pn**	**23 40 21.7**	**+2.7**
HLIG				*e*S	**Sn**	**23 40 57.6**	**+0.9**
PNIG	**Pinotepa**	**3.28**	**268**	*e*P	**Pn**	**23 40 19.7**	**+0.2**
PNIG				*e*S	**Sn**	**23 40 55.4**	**-2.4**
JAUV	**Jalcomulco**	**3.45**	**325**	*e*P	**Pn**	**23 40 21.4**	**-0.5**
JAUV				*e*S	**Sn**	**23 40 59.1**	**-2.9**
POHV	**Veracruz**	**3.51**	**316**	*e*P	**Pn**	**23 40 26.1**	**+2.9**
POHV				*e*S	**Sn**	**23 41 04.7**	**+0.5**
FTIG	**Fresnillo de T**	**3.54**	**293**	*e*P	**Pn**	**23 40 26.4**	**+3.3**
FTIG				*e*S	**Sn**	**23 41 04.2**	**-0.1**
MGIG	**Malinaltepec**	**3.81**	**281**	*e*P	**Pn**	**23 40 28.6**	**+1.7**
MGIG				*e*S	**Sn**	**23 41 11.5**	**+0.5**
TLIG	**Tlapa**	**3.82**	**286**	*e*P	**Pn**	**23 40 29.9**	**+2.9**
TLIG				*e*S	**Sn**	**23 41 10.0**	**-1.1**
SCIG	**Sabancuy**	**4.15**	**54**	*e*P	**Pn**	**23 40 31.1**	**-0.1**
SCIG				*e*S	**Sn**	**23 41 13.4**	**-5.3**
CRIG	**Cruz Grande**	**4.24**	**273**	*e*P	**Pn**	**23 40 32.5**	**+0.1**
CRIG				*e*S	**Sn**	**23 41 17.1**	**-3.8**
APG	**El Apazote**	**4.37**	**110**	*e*P	**Pn**	**23 40 35.2**	**+0.8**
APG				*e*S	**Sn**	**23 41 22.6**	**-1.8**
APG	**El Apazote**	**4.37**	**110**	*e*P		23 40 35.2	
APG				*e*S		23 41 22.6	
PPM	**Popocatepetl**	**4.50**	**305**	*e*P	Pn	23 40 41.4	+4.9
CXUV	**Coxquihui**	**4.54**	**323**	*e*P	**Pn**	**23 40 37.2**	**+0.7**
CXUV				*e*S	**Sn**	**23 41 26.5**	**-1.6**
YAIG	**Yautepec**	**4.75**	**300**	*e*P	**Pn**	**23 40 43.3**	**+3.8**
YAIG				*e*S	**Sn**	**23 41 31.5**	**-2.1**
DAIG	**Los Arroyos**	**4.75**	**277**	*e*P	**Pn**	**23 40 40.1**	**+0.7**
DAIG				*e*S	**Sn**	**23 41 29.0**	**-4.4**
PLIG	**Platanillo**	**4.93**	**293**	*e*P	**Pn**	**23 40 45.5**	**+3.6**
PLIG				*e*S	**Sn**	**23 41 36.1**	**-1.7**
CAIG	**El Cayaco**	**5.34**	**276**	*e*P	**Pn**	**23 40 48.4**	**+1.0**
CAIG				*e*S	**Sn**	**23 41 42.4**	**-5.3**
ARIG	**Puente Sto Nin**	**5.65**	**289**	*e*P	**Pn**	**23 40 54.9**	**+3.2**
ARIG				*e*S	**Sn**	**23 41 54.1**	**-1.1**

IDC 05 23:47:47.0±1.9, 13°.64N×144°.51E, h96km±78km, mb3.0/3, mbtmp3.3/3, MS3.1/1, Error ellipse: s-maj=234.7km s-min=30.0km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.35**	**97**	P	Pn	23 48 03.1	+1.6
	917nm,0.3s,baz=288,slow=3.2,SNR=27						
GUMO				S	Sn	23 48 14.2	+1.9
	338nm,0.3s,baz=25,slow=21,SNR=20						
ASAJ	**Asahikawa**	**30.42**	**357**	LR	LR	00 08 06.3	
	comp=Z,34nm,19.2s,baz=158,slow=40						
WRA	**Warramunga Arr**	**34.84**	**197**	P	P	23 54 28.7	-0.3
	0.5nm,0.6s,baz=22,slow=9.2,SNR=7.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**38.50**	**196**	P	P	23 55 00.3	+0.2
	0.4nm,0.6s,baz=18,slow=8.4,SNR=3.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**61.21**	**316**	P	P	23 57 51.1	-0.7
	0.1nm,0.4s,baz=90,slow=7.5,SNR=1.8						
	0.1nm,0.4s						

IDC 05 23:49:46.2±2.6, 35°.79S×52°.90E, h0km, mb3.9/3, mbtmp3.9/3, MS4.3/1, Error ellipse: s-maj=179.3km s-min=33.9km az=28.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.39**	**184**	T	T	00 02 23.7	
	baz=6.9						
H04N2	**CROZET ISLANDS**	**10.40**	**184**	T	T	00 02 22.4	
	baz=6.9						
H04N3	**CROZET ISLANDS**	**10.41**	**184**	T	T	00 02 13.2	
	baz=6.9						
LSZ	**Lusaka**	**30.09**	**306**	LR	LR	00 05 58.9	
	comp=Z,529nm,18.6s,baz=114,slow=32						
TORD	**Torodi Ar. Bea**	**68.62**	**305**	P	P	00 00 51.0	-0.3
	1.9nm,0.3s,baz=122,slow=4.5,SNR=1.0						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**69.58**	**105**	P	P	00 00 57.7	+0.3
	0.3nm,0.6s,baz=239,slow=6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.67**	**0**	Pn	Pn	00 08 06.2	-1.7
	0.1nm,0.3s,baz=181,slow=13,SNR=5.9 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**16.72**	**352**	Pn	Pn	00 09 00.7	-1.2
	baz=184,slow=11,SNR=6.2 0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**19.92**	**5**	P	P	00 09 39.9	+0.4
	0.1nm,0.3s,baz=201,slow=12,SNR=2.5 0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**74.96**	**276**	P	P	00 16 49.9	0.0
	3.1nm,0.5s,baz=56,slow=5.4,SNR=1.2 3.1nm,0.5s						

NEIC ***06*** *00:12:15.9±2.1, 10°.73N±0°.06×61°.38W±0°.02, h53km±8km, mb4.4/59, Error ellipse: s-maj=8.5km s-min=2.2km az=198.0*

IDC ***06*** *00:12:16.1±0.7, 10°.85N×61°.58W, h54km±5km, mb3.8/18, mbtmp4.1/20, Error ellipse: s-maj=16.5km s-min=14.2km az=46.0*

TRN ***06*** *00:12:16.1, 10°.71N×61°.31W, h50km, MD4.1, Trinidad. Felt widely in Trindad. MMI IV, V.*

ISC 06 00:12:15.8±0.5, 10°.75N±0°.04×61°.40W±0°.04, h54km±4km, n141, σ1°.35/170, mb4.3/42, 1C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.10**	**180**	*eP*	**Pn**	**00 12 24.2**	**+0.1**
TRN				*eS*	**Sn**	00 12 29.4	-0.5
TBH	**Brigand Hill**	**0.42**	**128**	⇑*iP*	**Pn**	**00 12 26.4**	**0.0**
TPR	**Prospect**	**0.75**	**55**	⇑*iP*	**Pn**	**00 12 29.8**	**-0.6**
TPR				*eS*	**Sn**	**00 12 39.6**	**-1.4**
TOSP	**Speyside**	**1.01**	**57**	*eP*	**Pn**	**00 12 33.0**	**-0.8**
TOSP				*eS*	**Sn**	**00 12 45.9**	**-1.2**
GRFF	**Grenada Fort F**	**1.33**	**346**	*eP*	**Pn**	**00 12 38.7**	**+0.6**
GRFF				*eS*	**Sn**	**00 12 55.7**	**+0.9**
GRGR	**Grenville**	**1.40**	**350**	Pn	**Pn**	**00 12 38.9**	**-0.1**
GRGR				Sn	**Sn**	**00 12 57.1**	**+0.8**
GRGR	**Grenville**	**1.40**	**350**	*eP*	**Pn**	**00 12 39.5**	**+0.6**
GRGR				*eS*	**Sn**	**00 12 57.9**	**+1.5**
GCMP	**Grenada, Carri**	**1.73**	**359**	*eP*	**Pn**	**00 12 43.8**	**+0.3**
GCMP				*eS*	**Sn**	**00 13 05.2**	**+0.8**
SVOC	**Richmond Hill,**	**2.40**	**4**	*eP*	**Pn**	**00 12 53.9**	**+1.3**
SVOC				*eS*	**Sn**	**00 13 22.1**	**+1.3**
SVT	**Saint Vincent**	**2.41**	**4**	*eP*	**Pn**	**00 12 53.9**	**+1.1**
SVT				*eS*	**Sn**	**00 13 22.0**	**+0.8**
SVB	**Belmont**	**2.51**	**3**	*eP*	**Pn**	**00 12 55.2**	**+1.0**
SVB				*eS*	**Sn**	**00 13 24.6**	**+0.9**
BBGH	**Gun Hill**	**2.99**	**37**		**Pn**	**00 13 02.7**	**+2.0**
BBGH	**Gun Hill**	**2.99**	**37**	*eP*	**Pn**	**00 13 02.1**	**+1.4**
SLB	**Belfond**	**3.08**	**7**	*eP*	**Pn**	**00 13 03.8**	**+1.7**
SLB				*eS*	**Sn**	**00 13 36.9**	**-0.8**
SLAC	**Saint Lucia, A**	**3.17**	**9**	*eP*	**Pn**	**00 13 03.8**	**+0.6**
SLAC				*eS*	**Sn**	**00 13 39.2**	**-0.5**
PCRV	**Puerto La Cruz**	**3.23**	**260**	P	**Pn**	**00 13 05.7**	**+1.7**
	34nm,0.4s,baz=59,slow=5.3,SNR=67						
PCRV				S	**Sn**	**00 13 42.3**	**+1.0**
	97nm,0.6s,baz=342,slow=20,SNR=11						
PCRV	**Puerto La Cruz**	**3.23**	**260**	*eP*	**Pn**	**00 13 06.2**	**+2.1**
PCRV				*eS*	**Sn**	**00 13 43.1**	**+1.7**
SLBI	**Saint Lucia, B**	**3.28**	**7**	*eP*	**Pn**	**00 13 05.8**	**+1.1**
SLBI				*eS*	**Sn**	**00 13 42.3**	**-0.3**
H05S1	**Guadeloupe/Mar**	**3.69**	**9**	P	**Pn**	**00 13 11.8**	**+1.4**
H05S1				S	**Sn**	**00 13 51.6**	**-1.1**
	SNR=52						
MPOM	**Morne Pois Mar**	**3.71**	**8**	Pn	**Pn**	**00 13 11.3**	**+0.7**
BIM	**Bigot**	**3.76**	**5**	Pn	**Pn**	**00 13 11.8**	**+0.5**
BIM	**Bigot**	**3.76**	**5**	*eP*	**Pn**	**00 13 12.5**	**+1.1**
BIM				*eS*	**Sn**	**00 13 54.3**	**-0.1**
ILAM	**Ilet Lapin Mar**	**4.04**	**7**	Pn	**Pn**	**00 13 14.3**	**-0.8**
ILAM	**Ilet Lapin Mar**	**4.04**	**7**	*eP*	**Pn**	**00 13 16.7**	**+1.6**
ILAM				*eS*	**Sn**	**00 14 00.0**	**-1.0**
SVN	**Savane Anatole**	**4.07**	**3**	Pn	**Pn**	**00 13 16.4**	**+0.8**
SVN	**Savane Anatole**	**4.07**	**3**	*eP*	**Pn**	**00 13 16.7**	**+1.0**
SVN				*eS*	**Sn**	**00 14 01.3**	**-0.8**
MDN	**Morne-Daniel**	**4.54**	**0**	*eP*	**Pn**	**00 13 23.4**	**+1.4**
DSLB	**Salisbury**	**4.66**	**360**	*eP*	**Pn**	**00 13 24.9**	**+1.2**
TDBA	**Terre de Bas,**	**5.07**	**357**	Pn	**Pn**	**00 13 29.9**	**+0.6**
TBG	**Guadaloupe-3**	**5.08**	**357**	*eP*	**Pn**	**00 13 31.8**	**+2.4**
MAGL	**Barre de l'ile**	**5.17**	**1**	Pn	**Pn**	**00 13 31.6**	**+1.0**
CBE	**Ff, Capester**	**5.29**	**358**	Pn	**Pn**	**00 13 34.2**	**+1.8**
GDHS	**Morne Mazeau,**	**5.50**	**356**	Pn	**Pn**	**00 13 37.4**	**+2.2**
GDSD	**La Dsirade Is**	**5.54**	**3**	Pn	**Pn**	**00 13 36.8**	**+1.1**
H05N1	**Guadeloupe/Mar**	**5.54**	**3**	P	**Pn**	**00 13 36.8**	**+1.0**
H05N1				S	**Sn**	**00 14 34.2**	**-4.0**
ABD	**La Joyeuse, An**	**5.69**	**359**	Pn	**Pn**	**00 13 39.3**	**+1.5**
MBWH		**6.01**	**353**	*eP*	**Pn**	**00 13 43.7**	**+1.6**
MBFL	**Flemmings, Mon**	**6.01**	**353**	*eP*	**Pn**	**00 13 43.9**	**+1.7**
ANBD	**Bethesda, Anti**	**6.27**	**357**	*eP*	**Pn**	**00 13 47.5**	**+1.8**
ANBD				*eS*	**Sn**	**00 14 55.0**	**-1.1**
SKI	**Saint Kitts**	**6.67**	**349**	*eP*	**Pn**	**00 13 53.9**	**+2.7**
SKI				*eS*	**Sn**	**00 15 05.0**	**-1.0**
BAUV	**El Baul**	**6.78**	**255**	Pn	**Pn**	**00 13 52.9**	**+0.1**
BAUV	**El Baul**	**6.78**	**255**	*eP*	**Pn**	**00 13 54.4**	**+1.6**
BAUV				*eS*	**Sn**	**00 15 06.7**	**-2.0**
SEUS	**St. Eustatius**	**6.88**	**347**	Pn	**Pn**	**00 13 54.4**	**+0.4**
SMRT	**St. Maarten**	**7.44**	**348**	Pn	**Pn**	**00 14 01.5**	**-0.2**
BOAV	**Boa Vista**	**8.35**	**174**	Pn	**Pn**	**00 14 12.7**	**-1.5**
PDPR	**Patillas Dam,**	**8.50**	**329**	Pn	**Pn**	**00 14 16.3**	**+0.1**
HUMP	**Col San Antoni**	**8.52**	**330**	Pn	**Pn**	**00 14 16.1**	**-0.4**
SJG	**San Juan**	**8.64**	**328**	P	**Pn**	**00 14 15.1**	**-3.2**
	4.8nm,0.4s,baz=143,slow=20,SNR=1.7						
CELP	**Cerrillos**	**8.84**	**326**	Pn	**Pn**	**00 14 21.2**	**+0.3**
AOPR	**Arecibo Observ**	**9.16**	**326**	Pn	**Pn**	**00 14 26.1**	**+0.8**
SDV	**Santo Domingo**	**9.28**	**259**	Pn	**Pn**	**00 14 26.0**	**-1.2**
SDV	**Santo Domingo**	**9.28**	**259**	P	**Pn**	**00 14 24.8**	**-2.4**
	4.8nm,0.4s,baz=60,slow=10,SNR=8.3						
SDV				S	**Sn**	**00 16 05.1**	**-5.2**
	18nm,0.5s,baz=38,slow=18,SNR=12						
MDP	**Montagnes des**	**10.33**	**122**	P	Pn	00 14 36.4	-5.0
	6.3nm,0.5s,baz=328,slow=13,SNR=47						
MDP				S	Sn	00 16 24.1	-12
	59nm,0.4s,baz=43,slow=17,SNR=24						
DR12	**Loma Pena Alta**	**11.10**	**317**	Pn	**Pn**	**00 14 54.7**	**+2.7**
BANI	**BANI**	**11.52**	**312**	Pn	**Pn**	**00 15 00.2**	**+2.4**
RUSC	**La Rusia**	**12.52**	**248**	Pn	**Pn**	**00 15 10.2**	**-1.6**
SDDR	**Presa de Saban**	**12.58**	**312**	Pn	**Pn**	**00 15 15.0**	**+2.9**
MACA	**Manacapuru-AM**	**13.84**	**177**	Pn	**Pn**	**00 15 29.1**	**-0.1**
ROSC	**El Rosal**	**14.07**	**246**	P	**Pn**	**00 15 35.6**	**+2.8**
	5.1nm,0.3s,baz=102,slow=22,SNR=2.2						
MAL2	**Monte Alegre,**	**14.58**	**150**	Pn	**Pn**	**00 15 35.2**	**-4.0**
NMDO	**Nuevo Mundo**	**16.30**	**308**	Pn	**Pn**	**00 16 01.3**	**+0.1**
NMDO				IAmb	IAmb	00 16 01.9	
	comp=Z,10nm,1.1s						
CHIV	**Chivirico**	**17.12**	**304**		**P**	**00 16 14.7**	**+2.2**
CHIV				IAmb	IAmb	00 16 24.2	
	comp=Z,12nm,1.0s						
OTAV	**Otavalo**	**19.91**	**239**		**P**	**00 16 45.1**	**+1.5**
OTAV				IAmb	IAmb	00 17 09.2	
	comp=Z,20nm,1.5s						
LPAZ	**La Paz**	**27.68**	**194**	P	**P**	**00 18 01.1**	**+1.4**
LPAZ	**La Paz**	**27.68**	**194**	P	**P**	**00 18 01.1**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=358,slow=9.6,SNR=8.3 comp=Z,1.4nm,0.7s						
PB11	**IPOC Station P**	**31.39**	**195**	P	**P**	**00 18 32.3**	**+0.3**
PB11				IAmb	IAmb	00 18 45.2	
	comp=Z,8.7nm,1.1s						
G62A	**West of Eustis**	**35.23**	**349**	P	**P**	**00 19 06.0**	**+0.9**
F64A	**Sherman**	**35.49**	**352**	P	**P**	**00 19 08.3**	**+1.1**
F64A				IAmb	IAmb	00 19 43.5	
	comp=Z,23nm,1.5s						
E62A	**Clayton Lake**	**36.41**	**351**	P	**P**	**00 19 16.3**	**+1.2**
E62A				IAmb	IAmb	00 19 16.6	
	comp=Z,15nm,1.3s						
D62A	**Allapoint, All**	**36.79**	**351**	P	**P**	**00 19 19.4**	**+1.1**
D62A				IAmb	IAmb	00 19 38.6	
	comp=Z,18nm,1.4s						
CPUP	**Villa Florida**	**37.07**	**174**	P	**P**	**00 19 21.5**	**+0.7**
CPUP				IAmb	IAmb	00 19 35.4	
	comp=Z,8.1nm,1.4s						
CPUP	**Villa Florida**	**37.07**	**174**	P	**P**	**00 19 21.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=335,slow=5.6,SNR=5.8 comp=Z,1.6nm,0.6s						
TRQ	**Mont Tremblant**	**37.09**	**345**	P	**P**	**00 19 21.1**	**+0.2**
TRQ				IAmb	IAmb	00 19 22.4	
	comp=Z,5.4nm,0.7s						
SADO	**Sadowa**	**37.18**	**339**	P	**P**	**00 19 20.5**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=156,slow=12,SNR=1.8 comp=Z,3.6nm,0.9s						
LMQ	**La Malbaie**	**37.44**	**350**	P	**P**	**00 19 24.3**	**+0.4**
LDAQ	**Lac Daran**	**38.01**	**349**	P	**P**	**00 19 29.2**	**+0.5**
AC02	**Maricunga**	**38.11**	**191**	P	**P**	**00 19 32.0**	**+1.8**
AC02				IAmb	IAmb	00 19 32.7	
	comp=Z,5.0nm,0.8s						
DRLN	**Deer Lake**	**38.52**	**4**	P	**P**	**00 19 33.5**	**+0.6**
HBVL	**Hebbronville**	**38.63**	**300**	P	**P**	**00 19 34.0**	**-0.1**
SAND	**Sanderson**	**42.40**	**303**	P	**P**	**00 20 04.4**	**-1.0**
TX31	**Lajitas Ar. Si**	**43.50**	**301**	P	**P**	**00 20 12.9**	**-1.5**
TXAR	**Lajitas Array**	**43.50**	**301**	P	**P**	**00 20 13.7**	**-0.7**
TXAR	**Lajitas Array**	**43.50**	**301**	P	**P**	**00 20 13.4**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=115,slow=11,SNR=8.3						
TXAR				PcP	**PcP**	**00 22 02.9**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=98,slow=4.1,SNR=3.4 comp=Z,0.5nm,0.5s						
SCHQ	**Schefferville**	**44.18**	**355**	P	**P**	**00 20 20.4**	**+1.1**
SCHQ				IAmb	IAmb	00 20 59.9	
	comp=Z,7.6nm,1.1s						
SCHQ	**Schefferville**	**44.18**	**355**	P	**P**	**00 20 20.0**	**+0.8**
	comp=Z,5.0nm,0.5s,baz=174,slow=6.6,SNR=22 comp=Z,5.0nm,0.5s						
MT02	**Curacav**	**44.73**	**192**	P	**P**	**00 20 25.4**	**+1.5**
VHRN	**Van Horn**	**45.01**	**303**	P	**P**	**00 20 26.0**	**-0.4**
VHRN				IAmb	IAmb	00 20 27.4	
	comp=Z,6.6nm,1.5s						
SLBS	**Sierra La Lagu**	**47.90**	**292**	P	**P**	**00 20 49.3**	**+0.2**
ULM	**Lac du Bonnet**	**48.53**	**331**	P	**P**	**00 20 51.6**	**-1.9**
ULM				IAmb	IAmb	00 20 52.1	
	comp=Z,3.5nm,0.5s						
ULM	**Lac du Bonnet**	**48.53**	**331**	P	**P**	**00 20 51.6**	**-1.9**
	comp=Z,2.7nm,0.4s,baz=128,slow=9.0,SNR=9.9 comp=Z,2.7nm,0.4s						
PD31	**Pinedale Array**	**52.55**	**316**	P	**P**	**00 21 22.5**	**-1.7**
PDAR	**Pinedale Array**	**52.55**	**316**	P	**P**	**00 21 22.0**	**-2.2**
PDAR	**Pinedale Array**	**52.55**	**316**	P	**P**	**00 21 22.1**	**-2.2**
	comp=Z,0.8nm,0.6s,baz=116,slow=9.2,SNR=11						
PDAR				pP	**pP**	**00 21 37.3**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=109,slow=9.6,SNR=2.9 comp=Z,0.8nm,0.6s						
FRB	**Frobisher Bay**	**53.16**	**356**	P	**P**	**00 21 27.6**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=156,slow=6.3,SNR=8.8						
FRB				pP	**pP**	**00 21 43.4**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=174,slow=4.5,SNR=3.4 comp=Z,5.6nm,0.9s						
FCC	**Fort Churchill**	**53.90**	**340**	P	**P**	**00 21 32.2**	**-1.3**
FCC				IAmb	IAmb	00 21 33.5	
	comp=Z,13nm,1.5s						
DBIC	**Dimbokro**	**55.98**	**89**	P	**P**	**00 21 49.4**	**+0.1**
DBIC				IAmb	IAmb	00 22 06.7	
	comp=Z,13nm,1.4s						
DBIC	**Dimbokro**	**55.98**	**89**	P	**P**	**00 21 49.6**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=289,slow=6.4,SNR=1.3 comp=Z,0.8nm,0.3s						
NVAR	**Mina Array Bea**	**57.58**	**309**	P	**P**	**00 21 59.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=93,slow=6.5,SNR=2.2 comp=Z,0.4nm,0.4s						
ESDC	**Sonseca Array**	**58.27**	**50**	P	**P**	**00 22 06.9**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=254,slow=7.0,SNR=7.1						
ESDC				pP	**pP**	**00 22 19.0**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=263,slow=8.3,SNR=1.6 comp=Z,0.6nm,0.6s						
NEW	**Newport**	**59.49**	**320**	P	**P**	**00 22 11.4**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=119,slow=5.0,SNR=3.6 comp=Z,1.8nm,0.6s						
I07A	**Izee**	**59.82**	**315**	P	**P**	**00 22 14.7**	**-1.3**
I07A				IAmb	IAmb	00 22 16.2	
	comp=Z,4.2nm,1.3s						
J05D	**Fort Rock, OR**	**60.84**	**314**	P	**P**	**00 22 22.2**	**-0.8**
J05D				IAmb	IAmb	00 22 27.4	
	comp=Z,4.4nm,1.1s						
J04A	**Umpqua Nationa**	**61.45**	**313**	P	**P**	**00 22 26.7**	**-0.4**
J04A				IAmb	IAmb	00 22 30.8	
	comp=Z,9.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**61.64**	**81**	P	**P**	**00 22 27.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**61.64**	**81**	P	**P**	**00 22 28.8**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=295,slow=6.3,SNR=1.7 comp=Z,2.5nm,0.3s						
KBO	**Bosley Butte**	**62.77**	**312**	P	**P**	**00 22 35.8**	**-0.1**
I02E	**Swisshome, OR**	**62.87**	**314**	P	**P**	**00 22 35.7**	**-0.7**
YKA	**Yellowknife Ar**	**64.06**	**336**	P	**P**	**00 22 42.3**	**-1.5**
YKA	**Yellowknife Ar**	**64.06**	**336**	P	**P**	**00 22 42.1**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=113,slow=7.0,SNR=7.9 comp=Z,0.7nm,0.7s						
RES	**Resolute Bay**	**66.65**	**351**	P	**P**	**00 23 00.2**	**-0.1**
KEST	**Kesra**	**68.20**	**56**	P	**P**	**00 23 11.0**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=323,slow=15,SNR=3.9 comp=Z,1.8nm,1.0s						
EUNU	**Eureka**	**70.29**	**356**	P	**P**	**00 23 23.8**	**+0.6**
EUNU				IAmb	IAmb	00 23 26.0	
	comp=Z,2.9nm,0.9s						
GERES	**GERESS Array B**	**72.18**	**42**	P	**P**	**00 23 35.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=278,slow=12,SNR=3.6						
GERES				pP	**pP**	**00 23 51.2**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=298,slow=5.7,SNR=3.4 comp=Z,0.4nm,0.4s						
INK	**Inuvik**	**73.49**	**338**	P	**P**	**00 23 41.0**	**-1.4**
INK				IAmb	IAmb	00 23 48.6	
	comp=Z,3.6nm,1.4s						
G30M	**tAoh Zraii Nji**	**74.24**	**337**	P	**P**	**00 23 47.2**	**+0.3**
G30M				IAmb	IAmb	00 24 20.4	
	comp=Z,3.8nm,1.2s						
E28M	**Babbage River**	**75.73**	**338**	P	**P**	**00 23 54.1**	**-1.3**
E28M				IAmb	IAmb	00 24 35.5	
	comp=Z,4.0nm,1.5s						
K27K	**Chicken**	**76.32**	**333**	P	**P**	**00 23 58.4**	**-0.5**
K27K				IAmb	IAmb	00 24 18.6	
	comp=Z,6.8nm,1.4s						
E27K	**Coleen River**	**76.44**	**338**	P	**P**	**00 23 57.7**	**-1.8**
E27K				IAmb	IAmb	00 24 24.4	
	comp=Z,4.8nm,1.5s						
I26K	**Coal Creek Min**	**76.86**	**335**	P	**P**	**00 24 00.8**	**-1.0**
I26K				IAmb	IAmb	00 24 32.9	
	comp=Z,3.3nm,1.3s						
SPITS	**Spitsbergen Ar**	**77.04**	**12**	P	**P**	**00 24 03.7**	**+1.0**
	comp=Z,9.8nm,1.0s,baz=251,slow=4.4,SNR=1.8 comp=Z,9.8nm,1.0s						
SCRK	**Sand Creek**	**77.16**	**333**	P	**P**	**00 24 03.0**	**-0.8**
C27K	**Jago River**	**77.31**	**339**	P	**P**	**00 24 03.9**	**-0.4**
C27K				IAmb	IAmb	00 24 05.2	
	comp=Z,5.6nm,1.4s						
BMAR	**Burnt Mountain**	**77.53**	**337**	P	**P**	**00 24 05.4**	**-0.2**
E25K	**Arctic Village**	**77.92**	**338**	P	**P**	**00 24 06.8**	**-1.0**
E25K				IAmb	IAmb	00 24 35.3	
	comp=Z,3.0nm,1.4s						
F25K	**Christian Rive**	**77.94**	**337**	P	**P**	**00 24 07.7**	**-0.2**
F25K				IAmb	IAmb	00 24 09.1	
	comp=Z,4.1nm,1.4s						
D25K	**Kavik River**	**78.24**	**339**	P	**P**	**00 24 09.4**	**-0.2**
D25K				IAmb	IAmb	00 24 22.2	
	comp=Z,5.3nm,1.5s						
ILAR	**Eielson Array**	**78.43**	**334**	P	**P**	**00 24 09.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=78,slow=4.6,SNR=9.9						
ILAR				pP	**pP**	**00 24 24.6**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=97,slow=5.0,SNR=3.3 comp=Z,0.4nm,0.5s						
G24K	**Hadweenzic Riv**	**78.65**	**336**	P	**P**	**00 24 11.5**	**-0.4**
H24K	**Noodor Dome**	**78.83**	**335**	P	**P**	**00 24 12.2**	**-0.7**
E24K	**Your Creek**	**79.02**	**338**	P	**P**	**00 24 13.6**	**-0.3**
C24K	**Franklin Bluff**	**79.06**	**339**	P	**P**	**00 24 13.7**	**-0.3**
I23K	**Minto, Yukon-K**	**79.47**	**335**	P	**P**	**00 24 15.2**	**-1.0**
I23K				IAmb	IAmb	00 24 16.4	
	comp=Z,6.5nm,1.5s						
C23K	**Itkillik River**	**79.72**	**339**	P	**P**	**00 24 17.6**	**0.0**
TRF	**Thorofare Moun**	**79.97**	**333**	P	**P**	**00 24 19.2**	**-0.1**
TRF				IAmb	IAmb	00 24 33.3	
	comp=Z,4.1nm,1.0s						
B22K	**Teshekpuk Lake**	**80.64**	**340**	P	**P**	**00 24 22.6**	**+0.1**
CAST	**Castle Rocks**	**80.78**	**333**	P	**P**	**00 24 22.3**	**-1.2**
B21K	**Ikpikpuk River**	**81.12**	**339**	P	**P**	**00 24 25.3**	**+0.2**
M19K	**Big River Lodg**	**82.01**	**331**	P	**P**	**00 24 29.4**	**-0.6**
G18K	**Tagagawik**	**83.22**	**336**	P	**P**	**00 24 36.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**145.09**	**34**	PKPbc	**PKPdf**	**00 31 48.8**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=317,slow=4.2,SNR=9.0						
CMAR				pPKPbc	pPKPbc	00 32 04.3	+0.5
	comp=Z,1.2nm,0.3s,baz=316,slow=4.2,SNR=3.3						
STKA	**Stephens Creek**	**150.11**	**222**	PKPbc	**PKPbc**	**00 32 01.1**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=133,slow=5.2,SNR=3.6						

MAN ***06*** *00:12:56.1, 8°.60N×127°.16E, h1km, mb6.1, ML5.2, MS5.8*

MAN INTENSITY IV - BISLIG CITY; HINATUAN SURIGAO DEL SUR; INTENSITY III - BUTUAN CITY; LIANGA SURIGAO DEL SUR; NABUNTURAN COMPOSTELA VALLEY; INTENSITY II - DAVAO CITY; INTENSITY I - CAGAYAN DE ORO CITY; SANTA CRUZ DAVAO DEL SUR.

BJI ***06*** *00:12:58.8, 8°.49N×126°.76E, h20km, mB5.6/76, mb5.3/89, Ms5.7/99, Ms7 5.5/97*

MOS ***06*** *00:12:59.7±1.0, 8°.54N×126°.74E, h24km, mb5.6/77, MS5.4/21, Error ellipse: s-maj=7.6km s-min=3.7km az=114.3*

ISC-PP ***06*** *00:13:00, 8°.54N×126°.92E, h20km, Mwppsm6.2, Moment Tensor Solution. s42 Moment tensor: Scale 10^18Nm; Mrr0.62±.18; Mθθ-0.01±.20; Mφφ-0.59±.17; Mrθ0.17±.16; Mrφ0.12±.27; Mθφ-0.30±.15; Fault plane solution: Mo2.85000×10^18 NP1:φs190.80000°, δ38.60000°, λ71.80000°. NP2:φs33.60000°, δ53.60000°, λ104.00000°.*

NEIC ***06*** *00:13:00.8±1.9, 8°.54N±0°.05×126°.92E±0°.04, h16km±1km, mb5.6/367, Ms_20 5.5/632, Mwb5.6/53, Mww5.8/48 Error ellipse: s-maj=9.8km s-min=6.4km az=32.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.56; Mθθ0.44; Mφφ-3.00; Mrθ0.80; Mrφ0.06; Mθφ2.32; Fault plane solution: Mo3.73000×10^17 NP1:φs12.96000°, δ66.25000°, λ103.14000°. NP2:φs162.87000°, δ26.95000°, λ62.68000°. Principal axes: T 3.5922, Plg66.0000°, Azm306.0000°; N 0.2605, Plg12.0000°, Azm188.0000°; P -3.8528, Plg20.0000°, Azm93.0000°;*

NEIC ***06*** *00:13:00.5, 8°.54N×126°.93E, h26km*

NEIC ***06*** *00:13:00.5, 8°.54N×127°.23E, h26km, Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^17Nm; Mrr5.19; Mθθ0.61; Mφφ-5.81; Mrθ0.33; Mrφ-0.12; Mθφ1.84; Fault plane solution: Mo5.81000×10^17 NP1: φs177.54000°, δ35.85000°, λ84.45000°. NP2:φs4.38000°, δ54.34000°, λ94.00000°. Principal axes: T 5.5099, Plg80.0000°, Azm291.0000°; N 0.5999, Plg3.0000°, Azm182.0000°; P -6.1099, Plg9.0000°, Azm92.0000°;*

NEIC ***06*** *00:13:01.6, 8°.53N×126°.92E, h20km*

IPGP ***06*** *00:13:01.0, 8°.53N×126°.95E, h17km, Mw5.8, Fault plane solution: NP1:φs172.00000°, δ24.00000°, λ71.00000°. NP2:φs13.00000°, δ67.00000°, λ98.00000°.*

IDC ***06*** *00:13:03.2±1.3, 8°.49N×126°.80E, h38km±10km, mb5.0/33, mbtmp5.2/36, ML4.5/3, MS5.3/63, Error ellipse: s-maj=13.6km s-min=8.0km az=73.0*

DJA ***06*** *00:13:03.8±0.6, 9°N±2°×12°7E±°, h33km±4km, M5.7/98, mB6.0/80, mb5.5/98, MLv6.2/6, Mw(mB)5.7/80, MwMwp5.6/62, Mwp5.7/62*

GCMT ***06*** *00:13:04.8±0.1, 8°.49N±0°.01×127°.05E, h18km, MW5.9/170, Moment Tensor Solution. s162, c312; s170, c514; Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr5.38±.05; Mθθ0.20±.04; Mφφ-5.58±.04; Mrθ0.57±.10; Mθφ0.04±.03; Mrφ5.49±.13; Best double couple: Mo7.77800×10^17 NP1:φs175.00000°, δ23.00000°, λ81.00000°. NP2:φs4.00000°, δ68.00000°, λ94.00000°. Principal axes: T 7.6960, Plg67.0000°, Azm281.0000°; N 0.1640, Plg3.0000°, Azm183.0000°; P -7.8610, Plg23.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 00:13:02.0±0.4, 8°.52N±0°.02×126°.90E±0°.03, h27km±2km, h27km:pP-P, n1726, σ1°.75/1694, mb5.5/366, MS5.5/408, 131C-31D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.94**	**222**		**Pn**	**00 13 34.4**	**+1.1**
DAV				Sn	**Sn**	**00 13 57.8**	**+1.0**
DAV	**Davao City (W)**	**1.94**	**222**	Pn	**Pb**	**00 13 36.7**	**-0.1**
	706nm,0.3s,baz=51,slow=4.1,SNR=126						
DAV				Sn	**Sn**	**00 13 58.5**	**+1.6**
	821nm,0.3s,baz=68,slow=19,SNR=7.4						
DAV				LR	LR	00 14 14.4	
	comp=Z,102μm,18.5s,baz=42,slow=38						
DAV	**Davao City (W)**	**1.94**	**222**	P	**Pb**	**00 13 36.7**	**-0.1**
DAV				S	**Sb**	**00 14 01.4**	**+0.7**
DAV	**Davao City (W)**	**1.94**	**222**	P	**Pb**	**00 13 36.9**	**+0.1**
DAV	**Davao City (W)**	**1.94**	**222**	S	**Sb**	**00 14 00.3**	**-0.4**
DAV	**Davao City (W)**	**1.94**	**222**	⇑P	**Pb**	**00 13 35.2**	**-1.6**
DAV	**Davao City (W)**	**1.94**	**222**

SBUM	**Sibu**	**15.80 248**	Pn	**Pn**	**00 16 42.7**	**-0.1**
SBUM	**Sibu**	**15.80 248**	P	**P**	**00 16 44.9**	**-1.5**
SBUM	**Sibu**	**15.80 248**	⇑P	**P**	**00 16 45.2**	**-1.2**
TPUB	**Ta-pu**	**15.87 338**	Pn	**Pn**	**00 16 42.7**	**-1.1**
TPUB	**Ta-pu**	**15.87 338**	P	**P**	**00 16 46.2**	**-1.0**
BSSI	**Bau Bau, Buton**	**15.91 204**	P	**Pn**	**00 16 41.3**	**-2.9**
SSLB	**Suanglung**	**16.21 340**	Pn	**Pn**	**00 16 47.2**	**-0.8**
SSLB	**Suanglung**	**16.21 340**	P	**P**	**00 16 51.0**	**+0.1**
YOJ	**Yonaguni jima**	**16.28 347**	P	**P**	**00 16 52.8**	**+1.2**
YHNB	**Yeheng**	**16.90 342**		**Pn**	**00 16 57.0**	**+0.2**
YHNB	**Yeheng**	**16.90 342**	P	**P**	**00 16 59.7**	**+1.1**
SAUI	**Saumlaki**	**16.98 165**		**Pn**	**00 16 56.9**	**-0.9**
SAUI	**Saumlaki**	**16.98 165**	P	**P**	**00 16 59.6**	**+0.2**
SAUI	**Saumlaki**	**16.98 165**	P	**P**	**00 17 01.4**	**+2.0**
	comp=Z,14µmcomp=Z,462nm,0.8s					
TATO	**Taipei**	**17.16 343**	P	**Pn**	**00 16 58.8**	**-1.1**
GENI	**Genyem**	**17.24 129**	P	**P**	**00 17 02.7**	**+0.4**
GENI	**Genyem**	**17.24 129**	P	**Pn**	**00 16 57.0**	**-4.0**
	comp=Z,10µmcomp=Z,245nm,0.9s					
STKI	**Sintang**	**17.51 242**	P	**P**	**00 17 07.8**	**+2.4**
JAY	**Jayapura**	**17.60 128**	P	**P**	**00 17 06.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=333,slow=6.9,SNR=8.4					
JAY			S	**S**	**00 20 25.6**	**-2.6**
	comp=Z,16nm,0.9s,baz=356,slow=13,SNR=2.2					
JAY			LR	LR	00 23 16.2	
	comp=Z,27µm,19.2s,baz=304,slow=35					
	comp=Z,38nm,1.0s					
JAY	**Jayapura**	**17.60 128**	P	**Pn**	**00 17 03.3**	**-2.3**
MMRI	**Maumere**	**17.67 195**		**Pn**	**00 17 05.6**	**-0.7**
MMRI			IAmb	IAmb	00 17 16.1	
	comp=Z,1µm,1.6s					
MMRI	**Maumere**	**17.67 195**	P	**P**	**00 17 07.6**	**+0.5**
MMRI	**Maumere**	**17.67 195**	P	**Pn**	**00 17 06.0**	**-0.3**
	comp=Z,10µmcomp=Z,821nm,1.5s					
MMRI	**Maumere**	**17.67 195**	⇑P	**Pn**	**00 17 06.3**	**0.0**
KSM	**Kuching**	**17.94 248**	P	**P**	**00 17 11.2**	**+1.1**
KSM	**Kuching**	**17.94 248**	P	**P**	**00 17 11.6**	**+1.5**
KSM	**Kuching**	**17.94 248**	⇑P	**P**	**00 17 11.3**	**+1.2**
QZH	**Quanzhou**	**18.15 335**	⇑*i*P	**P**	**00 17 15.7**	**+3.4**
QZH			S	**Sn**	**00 20 36.2**	**+2.1**
QZH			pmax	pmax		
	comp=Z,120nm,2.1s					
QZH			LR	LR		
	comp=Z,11µm,14.4s					
QZH			LR	LR		
	comp=Z,6µm,13.7s					
QZH			LR	LR		
	comp=Z,25µm,16.8s					
JOW	**Kunigami**	**18.26 4**		**Pn**	**00 17 12.9**	**-0.6**
JOW	**Kunigami**	**18.26 4**	P	**P**	**00 17 16.8**	**+3.2**
	comp=Z,36nm,0.4s,baz=168,slow=6.7,SNR=7.2					
JOW			LR	LR	00 23 31.8	
	comp=Z,8µm,18.4s,baz=154,slow=34					
JOW	**Kunigami**	**18.26 4**	P	**P**	**00 17 17.0**	**+3.5**
JOW	**Kunigami**	**18.26 4**	⇑P	**P**	**00 17 17.1**	**+3.5**
GUMO	**Guam**	**18.34 72**	LR	LR	00 24 31.7	
	comp=Z,10µm,18.1s,baz=241,slow=37					
SOEI	**Soe**	**18.35 188**		**P**	**00 17 14.7**	**0.0**
SOEI			IAmb	IAmb	00 17 24.0	
	comp=Z,645nm,1.4s					
SOEI	**Soe**	**18.35 188**	P	**Pn**	**00 17 16.7**	**+2.0**
SOEI	**Soe**	**18.35 188**	P	**Pn**	**00 17 16.1**	**+1.3**
SOEI	**Soe**	**18.35 188**	P	**Pn**	**00 17 16.2**	**+1.4**
SOEI	**Soe**	**18.35 188**	⇑P	**Pn**	**00 17 16.8**	**+2.0**
DLV	**Lat**	**18.43 282**	P	**Pn**	**00 17 17.3**	**+1.3**
DLV			IAmb	IAmb	00 17 25.9	
	comp=Z,708nm,1.9s					
DLV	**Lat**	**18.43 282**	P	**Pn**	**00 17 18.6**	**+2.7**
GZH	**Guangzhou**	**19.46 320**	P	**Pn**	**00 17 28.5**	**+0.4**
GZH			S	**Sn**	**00 21 12.6**	**+6.8**
GZH			pmax	pmax		
	comp=Z,72nm,1.2s					
GZH			pmax	pmax		
	comp=Z,4µm,11.4s					
GZH			LR	LR		
	comp=Z,21µm,18.0s					
GZH			LR	LR		
	comp=Z,19µm,16.3s					
GZH			LR	LR		
	comp=Z,34µm,17.0s					
PLAI	**Plampang**	**19.48 208**	P	**Pn**	**00 17 28.8**	**+0.4**
PLAI	**Plampang**	**19.48 208**	P	**Pn**	**00 17 29.4**	**+1.0**
	comp=Z,9µmcomp=Z,5µmcomp=Z,300nm,0.8s					
WBSI	**Waikabubak, Su**	**19.53 203**	P	**Pn**	**00 17 32.3**	**+3.3**
	comp=Z,8µmcomp=Z,5µmcomp=Z,322nm,1.6s					
QIZ	**Qiongzhong**	**19.56 304**	P	**P**	**00 17 28.0**	**+0.1**
QIZ			pmax	pmax		
	comp=Z,120nm,1.6s					
QIZ			pmax	pmax		
	comp=Z,5µm,11.2s					
QIZ			LR	LR		
	comp=Z,10µm,15.8s					
QIZ			LR	LR		
	comp=Z,13µm,14.1s					
QIZ			LR	LR		
	comp=Z,20µm,14.1s					
QIZ	**Qiongzhong**	**19.56 304**	P	**P**	**00 17 27.8**	**-0.1**
BASI	**Baing, Sumba**	**19.65 199**	P	Pn	00 17 40.7	+10
TABU	**Tabubil**	**19.80 133**	P	**Pn**	**00 17 32.5**	**+0.3**
KMMI	**Kalianget**	**20.14 220**	P	Pn	00 17 47.6	+11
SRBI	**Singaraja**	**20.19 216**	P	Pn	00 17 38.1	+1.3
	comp=Z,9µmcomp=Z,3µmcomp=Z,189nm,1.0s					
ABJI	**Asem Bagus**	**20.54 218**	P	Pn	00 17 42.1	+1.2
	comp=Z,11µmcomp=Z,6µmcomp=Z,327nm,1.6s					
GRJI	**Gresik**	**21.02 224**	P	P	00 17 58.8	+15
JAGI	**Jajag, Banyuwa**	**21.12 217**	P	**P**	**00 17 46.1**	**+1.2**
JAGI	**Jajag, Banyuwa**	**21.12 217**	P	**P**	**00 17 47.1**	**+2.2**
JAGI	**Jajag, Banyuwa**	**21.12 217**	P	**P**	**00 17 48.2**	**+3.3**
	comp=Z,9µmcomp=Z,136nm,1.3s					
JAGI	**Jajag, Banyuwa**	**21.12 217**	⇑P	**P**	**00 17 48.2**	**+3.3**
DRS	**Darwin Rock St**	**21.20 169**	P	**P**	**00 17 46.2**	**+0.6**
GMJI	**Gumukmas**	**21.40 219**	P	**P**	**00 17 48.6**	**+0.7**
	comp=Z,120nm,1.4s					
MTN	**Manton Dam**	**21.64 169**	P	**P**	**00 17 48.7**	**-1.7**
MTN			IAmb	IAmb	00 17 56.0	
	comp=Z,489nm,1.6s					
MTN	**Manton Dam**	**21.64 169**	P	**P**	**00 17 50.2**	**-0.2**
	comp=Z,0.0nmcomp=Z,187nm,0.7s					
MTN	**Manton Dam**	**21.64 169**	S	**S**	**00 21 48.2**	**-0.8**
MTN	**Manton Dam**	**21.64 169**	P	**P**	**00 17 49.9**	**-0.5**
MTN	**Manton Dam**	**21.64 169**	⇑P	**P**	**00 17 50.3**	**-0.2**
KDU	**Kakadu**	**21.79 165**	P	**P**	**00 17 51.7**	**-0.3**
	comp=Z,0.0nmcomp=Z,269nm,1.1s					
KDU	**Kakadu**	**21.79 165**	P	**P**	**00 17 51.3**	**-0.7**
KDU	**Kakadu**	**21.79 165**	⇑P	**P**	**00 17 51.0**	**-1.0**
UBPT	**Khong Chiam**	**22.00 290**	P	**P**	**00 17 54.4**	**+0.1**
UBPT			IAmb	IAmb	00 18 06.7	
	comp=Z,702nm,2.0s					
UBPT	**Khong Chiam**	**22.00 290**	P	**P**	**00 17 54.1**	**-0.2**
UBPT	**Khong Chiam**	**22.00 290**	⇑P	**P**	**00 17 54.2**	**-0.1**
NGJI	**Ngawi**	**22.04 225**	P	**P**	**00 17 58.1**	**+3.3**
	comp=Z,6µmcomp=Z,183nm,1.6s					
TPI	**Tanjungpandan**	**22.22 241**	P	**P**	**00 17 58.3**	**+1.6**
	comp=Z,12µmcomp=Z,4µmcomp=Z,174nm,1.1s					
SMRI	**Semarang**	**22.55 227**	P	**P**	**00 17 56.4**	**-3.9**
SMRI	**Semarang**	**22.55 227**	P	**P**	**00 18 02.5**	**+2.3**
SMRI	**Semarang**	**22.55 227**	P	P	00 18 19.4	+19
PCJI	**Pacitan**	**22.83 224**	P	**P**	**00 18 06.5**	**+3.4**
	comp=Z,7µmcomp=Z,135nm,1.7s					
GULI	**GuiLin**	**22.93 319**	P	**P**	**00 18 04.5**	**+0.3**
GULI			S	**S**	**00 22 13.3**	**+0.5**
GULI			pmax	pmax		
	comp=Z,20nm,1.9s					
GULI			LR	LR		
	comp=Z,8µm,18.4s					
GULI			LR	LR		
	comp=Z,13µm,16.2s					
GULI			LR	LR		
	comp=Z,18µm,16.6s					
MANU	**Manus Island**	**22.95 116**	P	**P**	**00 18 03.5**	**-1.0**
MANU			IAmb	IAmb	00 18 07.6	
	comp=Z,286nm,1.3s					
MANU	**Manus Island**	**22.95 116**	⇑P	**P**	**00 18 04.8**	**+0.3**
SSE	**Sheshan**	**23.08 347**	P	**P**	**00 18 04.9**	**-0.7**
SSE			S	**S**	**00 22 15.4**	**+0.4**
SSE			pmax	pmax		
	comp=Z,95nm,1.3s					
SSE			pmax	pmax		
	comp=Z,2µm,7.1s					
SSE			LR	LR		
	comp=Z,4µm,14.1s					
SSE			LR	LR		
	comp=Z,3µm,14.6s					
UGM	**Wanagama**	**23.08 225**	P	**P**	**00 18 05.2**	**-0.6**
UGM			IAmb	IAmb	00 18 32.5	
	comp=Z,170nm,1.2s					
UGM	**Wanagama**	**23.08 225**	P	**P**	**00 18 07.8**	**+2.0**
UGM	**Wanagama**	**23.08 225**	P	P	00 18 14.3	+8.5
JCJ	**Chichijima**	**23.47 36**	P	**P**	**00 18 08.6**	**-1.0**
JCJ	**Chichijima**	**23.47 36**	P	**P**	**00 18 03.6**	**-6.0**
	comp=Z,396nm,1.1s,baz=216,slow=7.3,SNR=6.9					
JCJ			LR	LR	00 25 52.6	
	comp=Z,5µm,20.7s,baz=218,slow=33					
JCJ	**Chichijima**	**23.47 36**	P	**P**	**00 18 09.7**	**+0.1**
JCJ	**Chichijima**	**23.47 36**	⇑P	**P**	**00 18 11.6**	**+2.0**
CNSH	**ChangSha**	**23.58 328**	P	**P**	**00 18 08.0**	**-2.6**
CNSH			S	**S**	**00 22 24.0**	**+0.7**
CNSH			pmax	pmax		
	comp=Z,1µm,11.0s					
CNSH			LR	LR		
	comp=Z,9µm,17.6s					
CNSH			LR	LR		
	comp=Z,8µm,20.2s					
CNSH			LR	LR		
	comp=Z,12µm,18.4s					
MYKOM	**Kota Tinggi**	**23.89 255**	P	**P**	**00 18 13.8**	**+0.1**
MYKOM			IAmb	IAmb	00 18 16.3	
	comp=Z,315nm,1.4s					
MYKOM	**Kota Tinggi**	**23.89 255**	P	**P**	**00 18 13.4**	**-0.3**
MYKOM	**Kota Tinggi**	**23.89 255**	⇑P	**P**	**00 18 14.1**	**+0.4**
KNRA	**Kununurra**	**24.11 176**	P	**P**	**00 18 15.3**	**-0.4**
KNRA	**Kununurra**	**24.11 176**	P	**P**	**00 18 16.1**	**+0.3**
	comp=Z,464nm,1.5s					
LEM	**Lembang**	**24.53 232**	LR	LR	00 29 31.0	
	comp=Z,14µm,18.1s,baz=50,slow=40					
NJ2	**Nanjing**	**24.57 343**	⇑*i*P	**P**	**00 18 20.0**	**+0.2**
NJ2			sP	**pwP**	**00 18 32.2**	**-1.1**
NJ2			PP	**PnPn**	**00 18 50.1**	**-1.6**
NJ2			pmax	pmax		
	comp=Z,82nm,1.3s					
NJ2			pmax	pmax		
	comp=Z,3µm,9.0s					
NJ2			LR	LR		
	comp=Z,6µm,20.4s					
NJ2			LR	LR		
	comp=Z,7µm,15.6s					
NJ2			LR	LR		
	comp=Z,9µm,18.0s					
JNU	**Nakatsue**	**24.75 8**	IAmb	IAmb	00 18 34.6	
	comp=Z,254nm,1.5s					
JNU	**Nakatsue**	**24.75 8**	P	**P**	**00 18 21.1**	**-0.3**
	comp=Z,107nm,1.3s,baz=180,slow=7.0,SNR=11					
JNU			LR	LR	00 28 23.2	
	comp=Z,4µm,19.5s,baz=196,slow=37					
	comp=Z,107nm,1.3s					
JNU	**Nakatsue**	**24.75 8**	P	**P**	**00 18 21.2**	**-0.3**
JNU	**Nakatsue**	**24.75 8**	⇑P	**P**	**00 18 21.7**	**+0.2**
PMBI	**Palembang**	**24.82 244**	P	**P**	**00 18 23.1**	**+0.9**
WHN	**Wuhan**	**24.85 334**	P	**P**	**00 18 21.4**	**-0.9**
WHN			S	**S**	**00 22 49.6**	**+5.9**
WHN			LR	LR		
	comp=Z,8µm,14.1s					
WHN			LR	LR		
	comp=Z,6µm,15.7s					
WHN			LR	LR		
	comp=Z,8µm,18.4s					
BBJI	**Bungbulang**	**24.90 231**	P	**P**	**00 18 22.7**	**-0.3**
NONG	**Nongkai**	**24.95 295**	P	**P**	**00 18 23.5**	**+0.1**
CNJI	**Cibinong**	**25.21 232**	P	P	00 18 39.7	+14
SBJI	**Serang**	**25.30 236**	P	**P**	**00 18 30.7**	**+4.1**
	comp=Z,642nm,2.0s					
SKJI	**Sukabumi**	**25.48 233**	P	P	00 18 47.4	+19
SLVN	**Son La**	**25.56 302**	P	**P**	**00 18 28.5**	**-0.4**
SLVN			IAmb	IAmb	00 19 00.2	
	comp=Z,163nm,1.5s					
SLVN			IAMs_20	IAMs_20	00 29 58.6	
	comp=Z,14µm,19.0s					
SLVN	**Son La**	**25.56 302**	P	**P**	**00 18 28.8**	**-0.1**
NAYO	**Nakonayok**	**25.71 285**	P	**P**	**00 18 31.4**	**+1.1**
JMN	**Monobe**	**25.90 13**	P	**P**	**00 18 32.5**	**+0.6**
JMN			IAmb	IAmb	00 18 54.6	
	comp=Z,152nm,1.0s					
JMN	**Monobe**	**25.90 13**	P	**P**	**00 18 33.4**	**+1.6**
JMN	**Monobe**	**25.90 13**	⇑P	**P**	**00 18 33.4**	**+1.6**
CGJI	**Cibinong**	**25.94 235**	P	P	00 18 44.0	+12
JTU	**Tsushima**	**25.98 5**	P	**P**	**00 18 34.9**	**+2.4**
JTU	**Tsushima**	**25.98 5**	⇑P	**P**	**00 18 32.2**	**-0.3**
IPM	**Ipoh**	**26.01 263**	P	**P**	**00 18 32.8**	**-0.2**
IPM			IAmb	IAmb	00 18 36.7	
	comp=Z,122nm,1.0s					
IPM	**Ipoh**	**26.01 263**	P	**P**	**00 18 34.1**	**+1.0**
IPM	**Ipoh**	**26.01 263**	⇑P	**P**	**00 18 32.7**	**-0.4**
MDSI	**Maura Dua**	**26.08 241**	P	**P**	**00 18 34.4**	**+0.7**
	comp=Z,10µmcomp=Z,3µmcomp=Z,212nm,1.2s					
KULM	**Kulim**	**26.25 265**	P	**P**	**00 18 35.4**	**+0.2**
KULM			IAmb	IAmb	00 18 40.0	
	comp=Z,196nm,1.3s					
KULM	**Kulim**	**26.25 265**	P	**P**	**00 18 36.5**	**+1.3**
KULM	**Kulim**	**26.25 265**	⇑P	**P**	**00 18 35.3**	**+0.2**
LWLI	**Liwa**	**26.45 240**	P	**P**	**00 18 38.8**	**+1.7**
FITZ	**Fitzroy Crossi**	**26.48 183**		**P**	**00 18 36.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**26.48 183**	P	**P**	**00 18 36.9**	**-0.3**
	comp=Z,42nm,1.1s					
FITZ	**Fitzroy Crossi**	**26.48 183**	P	**P**	**00 18 36.9**	**-0.3**
	comp=Z,100nm,0.8s,baz=19,slow=9.8,SNR=36					
FITZ			S	**S**	**00 23 14.8**	**+5.2**
	comp=Z,58nm,1.3s,baz=326,slow=11,SNR=6.6					
FITZ			LR	LR	00 31 15.1	
	comp=Z,4µm,18.3s,baz=40,slow=41					
	comp=Z,100nm,0.8s					
FITZ	**Fitzroy Crossi**	**26.48 183**	P	**P**	**00 18 36.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**26.48 183**	⇑P	**P**	**00 18 37.0**	**-0.1**
PMG	**Port Moresby**	**26.92 131**	P	**P**	**00 18 40.4**	**-0.8**
	comp=Z,64nm,0.9s,baz=353,slow=5.7,SNR=16					
PMG			LR	LR	00 30 08.0	
	comp=Z,5µm,19.1s,baz=320,slow=38					
	comp=Z,64nm,0.9s					
SRIT	**Nakonsritamara**	**26.99 272**	P	**P**	**00 18 41.6**	**-0.3**
SRIT	**Nakonsritamara**	**26.99 272**	P	**P**	**00 18 43.1**	**+1.2**
BKNI	**Bangkinang**	**27.01 254**	P	**P**	**00 18 42.5**	**+0.4**
BKNI			IAmb	IAmb	00 19 07.6	
	comp=Z,211nm,1.2s					
BKNI	**Bangkinang**	**27.01 254**	P	**P**	**00 18 40.2**	**-1.9**
BKNI	**Bangkinang**	**27.01 254**	P	**P**	**00 18 44.0**	**+1.9**
BKNI	**Bangkinang**	**27.01 254**	P	**P**	**00 18 45.1**	**+3.0**
	comp=Z,9µmcomp=Z,3µmcomp=Z,118nm,1.5s					
ENH	**Enshi**	**27.08 325**	P	**P**	**00 18 40.5**	**-2.1**
ENH			IAMs_20	IAMs_20	00 30 22.4	
	comp=Z,13µm,18.0s					
ENH	**Enshi**	**27.08 325**	P	**P**	**00 18 41.9**	**-0.7**
JHJ	**Hachijo jima 2**	**27.22 24**	LR	LR	00 29 51.6	
	comp=Z,5µm,20.1s,baz=238,slow=37					
COEN	**Coen**	**27.57 144**	P	**P**	**00 18 46.0**	**-1.0**
COEN			IAmb	IAmb	00 19 07.7	
	comp=Z,122nm,1.1s					
COEN			IAMs_20	IAMs_20	00 31 37.2	
	comp=Z,13µm,19.0s					
COEN	**Coen**	**27.57 144**	P	**P**	**00 18 46.8**	**-0.3**
	comp=Z,0.0nmcomp=Z,126nm,1.1s					
COEN	**Coen**	**27.57 144**	P	**P**	**00 18 46.9**	**-0.1**
COEN	**Coen**	**27.57 144**	⇑P	**P**	**00 18 46.1**	**-0.9**
TJN	**Taejon**	**27.73 1**	P	**P**	**00 18 47.6**	**-0.6**
TJN	**Taejon**	**27.73 1**	P	**P**	**00 18 49.3**	**+1.1**
TJN	**Taejon**	**27.73 1**	*i* P	**P**	**00 18 48.0**	**-0.2**
PPI	**Padang Panjang**	**27.87 253**	P	**P**	**00 18 51.1**	**+1.3**
	comp=Z,8µmcomp=Z,2µmcomp=Z,61nm,0.9s					
RABL	**Rabaul**	**28.19 116**	P	**P**	**00 18 52.5**	**-0.1**
INU	**Inuyama**	**28.26 18**	P	**P**	**00 18 52.5**	**-0.6**
INU			IAmb	IAmb	00 19 09.0	
	comp=Z,157nm,1.6s					
INU	**Inuyama**	**28.26 18**	P	**P**	**00 18 53.6**	**+0.6**
INU	**Inuyama**	**28.26 18**	⇑P	**P**	**00 18 54.1**	**+1.1**
MNSI	**Mandailing Nat**	**28.27 256**	P	**P**	**00 18 55.5**	**+2.2**
	comp=Z,7µmcomp=Z,2µmcomp=Z,36nm,1.1s					
KMI	**Kunming**	**28.32 309**	⇑P	**P**	**00 18 52.9**	**-1.1**
KMI			PP	**PnPn**	**00 19 39.2**	**-3.9**
KMI			PcP	**PcP**	**00 22 08.4**	**+1.7**
KMI			S	**S**	**00 23 45.0**	**+5.8**
KMI			ScP	**ScP**	**00 25 46.1**	**-0.1**
KMI			pmax	pmax		
	comp=Z,23nm,1.0s					
KMI			LR	LR		
	comp=Z,9µm,18.8s					
KMI			LR	LR		
	comp=Z,17µm,16.5s					
KMI			LR	LR		
	comp=Z,16µm,17.3s					
PSI	**Prapat**	**28.40 260**	LR	LR	00 32 51.2	
	comp=Z,10µm,18.3s,baz=128,slow=42					
PSI	**Prapat**	**28.40 260**	P	**P**	**00 18 55.0**	**+0.4**
RPSI	**Rantau Prapat**	**28.42 260**	IAmb	IAmb	00 19 08.5	
	comp=Z,184nm,1.6s					
JGF	**Kuroka**	**28.60 18**	P	**P**	**00 18 56.5**	**+0.4**
JGF	**Kuroka**	**28.60 18**	P	**P**	**00 18 58.4**	**+2.3**
KSAR	**Wonju Array Be**	**28.80 2**	P	**P**	**00 18 57.9**	**+0.1**
KSAR	**Wonju Array Be**	**28.80 2**	P	**P**	**00 18 57.9**	**+0.1**
KSRS	**Korea Array**	**28.82 2**	P	**P**	**00 18 58.1**	**+0.2**
	comp=Z,34nm,1.1s,baz=182,slow=9.9,SNR=32					
KSRS			PcP	**PcP**	**00 22 06.3**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=164,slow=2.8,SNR=4.3					
KSRS			ScP	**ScP**	**00 25 46.3**	**-0.8**
	comp=Z,0.4nm,0.2s,baz=199,slow=3.3,SNR=1.9					
KSRS			LR	LR	00 31 19.4	
	comp=Z,6µm,19.5s,baz=180,slow=38					
	comp=Z,34nm,1.1s					
INCN	**Inchon**	**28.83 360**	P	**P**	**00 18 58.3**	**+0.2**
INCN	**Inchon**	**28.83 360**	P	**P**	**00 18 55.1**	**-3.0**
INCN	**Inchon**	**28.83 360**	P	**P**	**00 18 58.3**	**+0.2**
INCN			pmax	pmax		
	comp=Z,35nm,0.9s					
INCN			pmax	pmax		
	comp=Z,6µm,19.0s					
KS19	**Wonju Array Si**	**28.86 2**	P	**P**	**00 18 58.4**	**+0.1**
KS19			IAmb	IAmb	00 19 13.7	
	comp=Z,126nm,1.6s					
CM31	**Chiang Mai Arr**	**28.88 293**	P	**P**	**00 18 59.1**	**+0.4**
CM31			IAmb	IAmb	00 19 01.0	
	comp=Z,148nm,1.2s					
CMAR	**Chiang Mai Arr**	**28.88 293**	P	**P**	**00 18 58.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**28.88 293**	P	**P**	**00 18 59.5**	**+0.8**
	comp=Z,38nm,1.0s,baz=109,slow=7.0,SNR=147					
CMAR			PcP	**PcP**	**00 22 07.0**	**-0.9**
	comp=Z,4.3nm,0.9s,baz=102,slow=2.5,SNR=3.3					
CMAR			S	**S**	**00 23 46.0**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=45,slow=6.0,SNR=1.2					
CMAR			ScP	**ScP**	**00 25 46.1**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=86,slow=2.9,SNR=2.4					
CMAR			LR	LR	00 31 11.7	
	comp=Z,10µm,18.4s,baz=110,slow=38					
	comp=Z,38nm,1.0s					
CMAR	**Chiang Mai Arr**	**28.88 293**	*ce*P	**P**	**00 19 00.1**	**+1.4**
CMAR			pmax	pmax		
	comp=Z,42nm,1.0s					
TIA	**Tai'an**	**28.96 344**	P	**P**	**00 18 58.3**	**-1.0**
TIA			S	**S**	**00 23 51.7**	**+3.1**
TIA			ScP	**ScP**	**00 25 49.5**	**+1.8**
TIA			ScS	**ScS**	**00 29 43.9**	**+2.4**
TIA			pmax	pmax		
	comp=Z,34nm,1.0s					
TIA			pmax	pmax		
	comp=Z,2µm,9.9s					
TIA			LR	LR		
	comp=Z,6µm,17.2s					
TIA			LR	LR		
	comp=Z,7µm,14.8s					
TIA			LR	LR		
	comp=Z,7µm,14.7s					
CHTO	**Chiang Mai**	**28.98 294**	P	**P**	**00 18 58.5**	**-1.2**
CHTO			IAMs_20	IAMs_20	00 31 21.5	
	comp=Z,11µm,18.0s					
CHTO	**Chiang Mai**	**28.98 294**	P	**P**	**00 18 58.5**	**-1.2**
CHTO			pmax	pmax		
	comp=Z,73nm,1.3s					
CHTO			pmax	pmax		
	comp=Z,11µm,18.0s					
LYN	**LuoYang**	**29.10 335**	*e*P	**P**	**00 19 02.1**	**+1.6**
LYN			pP	pP	00 19 06.4	-0.3
LYN			S	**S**	**00 23 52.7**	**+2.0**
LYN			pmax	pmax		
	comp=Z,22nm,0.9s					
LYN			pmax	pmax		
	comp=Z,2µm,10.6s					
LYN			LR	LR		
	comp=Z,10µm,19.2s					
LYN			LR	LR		
	comp=Z,10µm,18.2s					
LYN			LR	LR		
	comp=Z,13µm,20.6s					
WRAB	**Tennant Creek**	**29.21 166**	P	**P**	**00 19 01.4**	**-0.2**
WRAB			IAmb	IAmb	00 19 32.4	
	comp=Z,104nm,1.1s					
WRAB	**Tennant Creek**	**29.21 166**	*d i*P	**P**	**00 19 01.2**	**-0.5**
WRAB			pmax	pmax		
	comp=Z,45nm,0.7s					
WRA	**Warramunga Arr**	**29.22 166**	P	**P**	**00 19 00.2**	**-1.5**
WRA	**Warramunga Arr**	**29.22 166**	P	**P**	**00 19 00.4**	**-1.3**
	comp=Z,8.3nm,1.0s,baz=351,slow=9.8,SNR=19					
WRA			S	**S**	**00 23 44.8**	**-8.1**
	comp=Z,2.9nm,0.9s,baz=337,slow=14,SNR=4.7					
WRA			ScP	**ScP**	**00 25 47.4**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=352,slow=3.8,SNR=2.7					
WRA			LR	LR	00 35 08.8	
	comp=Z,4µm,19.1s,baz=356,slow=45					
	comp=Z,8.3nm,1.0s					
WRA	**Warramunga Arr**	**29.22 166**	*i* P	**P**	**00 19 00.6**	**-1.1**
WRA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
WR0	**Warramunga Arr**	**29.29 165**	IAmb	IAmb	00 19 59.4	
	comp=Z,140nm,1.3s					
SISI	**Saibi**	**29.39 252**	P	P	00 19 08.2	+4.9
	comp=Z,78nm,1.4s					
HJU	**Haeju**	**29.41 358**	P	**P**	**00 19 03.6**	**+0.4**
HJU			S	**S**	**00 23 57.4**	**+2.0**
HJU			AmB			
	comp=Z,1µm,5.2s					
HJU			AMS	AMS		
	comp=Z,6µm,14.9s					
MAJO	**Matsushiro**	**29.73 19**	P	**P**	**00 19 04.8**	**-1.2**
MAJO	**Matsushiro**	**29.73 19**	P	**P**	**00 19 05.4**	**-0.7**
MAJO	**Matsushiro**	**29.73 19**	P	**P**	**00 19 04.9**	**-1.2**
MAJO			pmax	pmax		
	comp=Z,26nm,1.1s					
MAJO			pmax	pmax		
	comp=Z,6µm,20.0s					
MJAR	**Matsushiro Arr**	**29.73 19**	P	**P**	**00 19 05.0**	**-1.1**
	comp=Z,8.9nm,0.9s,baz=199,slow=7.8,SNR=12					
MJAR			PcP	**PcP**

comp=Z,105nm,1.5s
MBWA Marble Bar 30.32 193 P **P** **00 19 13.5 +2.1**
MBWA P **P** **00 19 13.5 +2.1**
MBWA S **S** **00 24 11.4 +1.3**
MBWA S **S** **00 24 11.4 +1.3**
MBWA Marble Bar 30.32 193 P **P** **00 19 11.7 +0.2**
MBWA Marble Bar 30.32 193 ⇑P **P** **00 19 11.4 -0.1**
PYAG Pyongyang 30.41 358 P **P** **00 19 12.9 +0.9**
PYAG S **S** **00 24 13.0 +1.8**
PYAG AmB
comp=Z,773nm,4.4s
PYAG AMS AMS
comp=Z,3μm,15.2s
MLSI Meulaboh, Aceh 30.59 264 P **P** **00 19 18.5 +4.6**
comp=Z,7μmcomp=Z,120nm,1.1s
DL2 Dalian 30.62 352 P **P** **00 19 15.2 +1.3**
DL2 S **S** **00 24 14.9 +0.4**
DL2 pmax pmax
comp=Z,210nm,0.9s
DL2 pmax pmax
comp=Z,1μm,6.7s
DL2 LR LR
comp=Z,8μm,17.1s
DL2 LR LR
comp=Z,5μm,16.1s
DL2 LR LR
comp=Z,10μm,16.2s
PSAC1 Pilbara Seismi 30.67 193 P **P** **00 19 14.2 -0.3**
comp=Z,128nm,1.1s
PSA00 Pilbara Seismi 30.70 193 P **P** **00 19 13.7 -1.1**
PSA00 IAmb IAmb 00 19 26.0
comp=Z,95nm,1.2s
PSA00 Pilbara Seismi 30.70 193 IAmb IAmb 00 19 26.1
comp=Z,173nm,1.1s
PSA00 Pilbara Seismi 30.70 193 P **P** **00 19 14.7 0.0**
comp=Z,147nm,1.2s
PSA00 Pilbara Seismi 30.70 193 P **P** **00 19 14.3 -0.5**
HNS HongShan 30.80 341 ⇑P **P** **00 19 14.6 -0.8**
HNS pP **sP** **00 19 22.1 -2.3**
HNS PP **PnPn** **00 20 15.8 -0.3**
HNS PcP **PcP** **00 22 13.8 +1.4**
HNS S **S** **00 24 15.1 -2.2**
HNS ScP **ScP** **00 25 55.4 +1.9**
HNS SS **SnSn** **00 25 58.6 +1.4**
HNS ScS **ScS** **00 29 52.4 +2.3**
HNS pmax pmax
comp=Z,39nm,1.2s
HNS LR LR
comp=Z,11μm,16.1s
HNS LR LR
comp=Z,3μm,17.1s
HNS LR LR
comp=Z,11μm,18.2s
CD2 Chengdu 31.02 319 P **P** **00 19 16.2 -1.4**
CD2 S **S** **00 24 23.7 +2.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,760nm,5.9s
CD2 LR LR
comp=Z,13μm,14.6s
CD2 LR LR
comp=Z,14μm,17.1s
JSD Sado 31.12 18 P **P** **00 19 18.7 +0.3**
PATS Pohnpei 31.18 91 IAms_20 IAms_20 00 29 01.3
comp=Z,14μm,22.0s
HHU Hamhung 31.28 1 P **P** **00 19 20.2 +0.6**
HHU AmB
comp=Z,675nm,2.4s
HHU AMS AMS
comp=Z,2μm,9.0s
QIS Mount Isa 31.49 157 P **P** **00 19 21.3 -0.5**
comp=Z,0.0nmcomp=Z,152nm,0.9s
QIS Mount Isa 31.49 157 P **P** **00 19 21.7 -0.1**
BSI Banda Aceh 31.50 267 P P 00 19 29.6 +7.6
SUJ Sinuiju 31.52 356 P **P** **00 19 22.9 +1.1**
SUJ S **S** **00 24 30.6 +2.1**
SUJ AmB
comp=Z,1μm,5.3s
SUJ AMS AMS
comp=Z,6μm,18.6s
MTSU Mount Surprise 31.58 147 P **P** **00 19 23.4 +0.7**
comp=Z,37nm,1.2s
MTSU Mount Surprise 31.58 147 P **P** **00 19 23.5 +0.9**
TNCH TengChong 31.63 305 P **P** **00 19 22.8 -0.4**
TNCH pP sP 00 19 30.7 -2.4
TNCH PP **PnPn** **00 20 26.2 -1.1**
TNCH S **S** **00 24 32.5 +1.4**
TNCH pmax pmax
comp=Z,80nm,1.1s
TNCH pmax pmax
comp=Z,670nm,5.0s
TNCH LR LR
comp=Z,2μm,14.5s
TNCH LR LR
comp=Z,3μm,18.8s
TNCH LR LR
comp=Z,5μm,20.3s
JMM Marumori 31.80 21 P **P** **00 19 24.5 +0.2**
JMM IAmb IAmb 00 19 32.1
comp=Z,110nm,1.0s
JMM Marumori 31.80 21 P **P** **00 19 25.1 +0.8**
JMM Marumori 31.80 21 ⇑P **P** **00 19 25.0 +0.8**
TIY Taiyuan 31.87 338 *e*P P 00 19 30.5 +5.5
TIY pP pwP 00 19 37.7 -1.0
TIY S **S** **00 24 38.4 +4.2**
TIY pmax pmax
comp=Z,19nm,0.6s
TIY pmax pmax
comp=Z,970nm,9.2s
TIY LR LR
comp=N,6μm,14.5s
TIY LR LR
comp=E,3μm,15.3s
TIY LR LR
comp=Z,4μm,15.9s
CMBY CAMPBELL BAY 32.70 270 IAms_20 IAms_20 00 37 16.9
comp=Z,6μm,18.4s
AS06 Alice Springs 32.71 168 P **P** **00 19 32.5 -0.1**
comp=Z,49nm,1.0s
AS31 Alice Springs 32.72 168 P **P** **00 19 31.7 -0.9**
AS31 Alice Springs 32.72 168 P **P** **00 19 33.6 +1.1**
comp=Z,10nm,0.7s
ASAR Alice Springs 32.72 168 P **P** **00 19 31.9 -0.7**
comp=Z,2.6nm,0.3s,baz=16,slow=9.4,SNR=43
ASAR PcP **PcP** **00 22 17.8 -0.2**
comp=Z,4.0nm,0.6s,baz=350,slow=2.8,SNR=1.4
ASAR S **S** **00 24 42.5 -5.2**
comp=Z,1.1nm,0.8s,baz=355,slow=19,SNR=2.2
ASAR ScP **ScP** **00 25 58.0 -2.3**
comp=Z,4.1nm,1.0s,baz=343,slow=1.5,SNR=5.1
ASAR LR LR 00 34 57.9
comp=Z,3μm,18.1s,baz=351,slow=40
comp=Z,2.6nm,0.3s
AS01 Alice Springs 32.73 168 P **P** **00 19 32.5 -0.1**
BJT Baijiatuau 32.79 345 IAmb IAmb 00 19 34.5
comp=Z,115nm,1.3s
BJT Baijiatuau 32.79 345 P **P** **00 19 33.4 +0.4**
BJI Beijing 32.81 345 P **P** **00 19 33.3 +0.2**
BJI S **S** **00 24 47.7 -1.0**
BJI pmax pmax
comp=Z,34nm,1.3s
BJI pmax pmax
comp=Z,640nm,9.7s
BJI LR LR
comp=Z,2μm,18.0s
BJI LR LR
comp=Z,910nm,16.8s
BJI LR LR
comp=Z,3μm,17.2s
SNY Shenyang 33.30 355 ⇑P **P** **00 19 38.1 +0.7**
SNY S **S** **00 24 57.5 +1.3**
SNY pmax pmax
comp=Z,280nm,1.1s
SNY pmax pmax
comp=Z,800nm,3.5s
SNY LR LR
comp=Z,7μm,19.4s
SNY LR LR
comp=Z,3μm,13.7s
SNY LR LR
comp=Z,8μm,19.2s
GIRL Giralia 33.37 202 P **P** **00 19 38.0 -0.2**
GIRL Giralia 33.37 202 P **P** **00 19 39.1 +0.9**
comp=Z,191nm,1.9s
GIRL Giralia 33.37 202 P **P** **00 19 39.9 +1.7**
GIRL Giralia 33.37 202 ⇑P **P** **00 19 39.9 +1.7**
WRKA Warakurna 33.38 178 P **P** **00 19 38.2 -0.2**
comp=Z,88nm,1.1s
WRKA Warakurna 33.38 178 P **P** **00 19 38.2 -0.2**
WRKA Warakurna 33.38 178 ⇑P **P** **00 19 38.2 -0.2**
DGPR DIGLIPUR 33.66 281 *e*P **P** **00 19 38.6 -2.3**
DGPR IAMs_20 IAMs_20 00 37 50.5
comp=Z,7μm,17.6s
PBA Port Blair 33.75 278 P **P** **00 19 40.9 -0.8**
PBA IAmb IAmb 00 20 07.7
comp=Z,52nm,0.9s
PBA Port Blair 33.75 278 P **P** **00 19 38.8 -2.9**
PBA Port Blair 33.75 278 *e*P **P** **00 19 38.7 -3.1**
PBA IAMs_20 IAMs_20 00 35 00.9
comp=Z,9μm,18.2s
TV1H Townsville Har 33.87 145 P **P** **00 19 44.4 +1.8**
MSHR Mys Shultsa 34.13 6 *i* P **P** **00 19 44.3 -0.3**
MSHR pmax pmax
comp=Z,17nm,1.0s
PSTR Posyet 34.17 5 *i* P **P** **00 19 45.2 +0.3**
LZH Lanzhou 34.56 326 *e*P **P** **00 19 48.8 +0.2**
LZH pP pP 00 19 53.8 -1.6
LZH sP sP 00 19 57.6 +0.1
LZH S **S** **00 25 19.2 +3.0**
LZH pmax pmax
comp=Z,44nm,1.2s
LZH pmax pmax
comp=Z,1μm,6.5s
LZH LR LR
comp=Z,14μm,14.1s
LZH LR LR
comp=Z,8μm,14.4s
LZH LR LR
comp=Z,11μm,14.1s
VLA Vladivostok 34.74 6 *i* P **P** **00 19 50.6 +0.8**
VLA pmax pmax
comp=Z,19nm,1.0s
HHC Hu-ho-hao-te 34.96 340 *e*P **P** **00 19 51.3 -0.7**
HHC pP pP 00 19 57.2 -1.1
HHC PP **PP** **00 21 11.9 +0.4**
HHC S **S** **00 25 23.0 +0.8**
HHC sS pS 00 25 29.8 +0.4
HHC SS **SnSn** **00 27 40.8 +2.4**
HHC pmax pmax
comp=Z,38nm,1.2s
HHC pmax pmax
comp=Z,590nm,6.5s
HHC LR LR
comp=Z,4μm,16.3s
HHC LR LR
comp=Z,3μm,13.9s
HHC LR LR
comp=Z,6μm,14.7s
CN2 Changchun 35.16 358 P **P** **00 19 53.5 0.0**
CN2 sP sP 00 20 00.5 -2.2
CN2 PP **PnPn** **00 21 12.0 +0.4**
CN2 S **S** **00 25 26.2 +1.2**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,1μm,8.0s
CN2 LR LR
comp=Z,5μm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,6μm,15.0s
BTO Baotou 35.30 338 *e*P **P** **00 19 56.6 +1.7**
BTO pP **sP** **00 20 02.5 -1.4**
BTO sP **pwP** **00 20 05.7 -3.0**
BTO S **S** **00 25 31.5 +4.0**
BTO SS **SnSn** **00 27 42.3 -4.5**
BTO pmax pmax
comp=Z,34nm,0.9s
BTO LR LR
comp=Z,4μm,14.9s
BTO LR LR
comp=Z,8μm,16.1s
BTO LR LR
comp=Z,6μm,14.5s
IMP Imphal 35.35 301 *e*P **P** **00 19 54.2 -1.3**
IMP IAmb IAmb 00 19 56.0
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 35.82 6 IAmb IAmb 00 20 12.4
comp=Z,114nm,1.2s
USA0B Ussuriysk Arra 35.82 6 *i* P **P** **00 19 58.8 -0.3**
USRK Ussuriysk Ar. 35.82 6 P **P** **00 19 58.7 -0.4**
USRK Ussuriysk Ar. 35.82 6 P **P** **00 19 59.9 +0.7**
comp=Z,57nm,1.0s,baz=190,slow=8.2,SNR=49
USRK S **S** **00 25 31.9 -3.1**
comp=Z,1.6nm,0.7s,baz=232,slow=11,SNR=1.5
USRK LR LR 00 34 05.8
comp=Z,3μm,20.4s,baz=187,slow=35
comp=Z,57nm,1.0s
MEEK Meekatharra 35.86 193 P **P** **00 19 59.5 -0.3**
comp=Z,175nm,1.3s
MEEK Meekatharra 35.86 193 P **P** **00 19 59.5 -0.3**
MDJ Mudanjiang 36.03 3 P **P** **00 20 01.8 +0.8**
MDJ PP **PP** **00 21 27.3 +4.1**
MDJ S **S** **00 25 37.3 -1.0**
MDJ SS **SnSn** **00 28 05.6 +1.4**
MDJ pmax pmax
comp=Z,110nm,1.3s
MDJ pmax pmax
comp=Z,2μm,7.0s
MDJ LR LR
comp=Z,4μm,17.9s
MDJ LR LR
comp=Z,3μm,15.1s
MDJ LR LR
comp=Z,6μm,20.6s
MDJ Mudanjiang 36.03 3 P **P** **00 20 02.6 +1.6**
AZL Aizawl 36.05 299 *e*P **P** **00 20 01.3 -0.2**
AZL IAmb IAmb 00 20 17.5
comp=Z,38nm,0.8s
AZL *e*S **S** **00 25 37.6 -1.7**
COCO West Island 36.28 236 P **P** **00 20 03.7 +0.2**
ERM Erimo 36.31 21 P **P** **00 20 03.1 -0.3**
ERM Erimo 36.31 21 P **P** **00 20 03.1 -0.3**
ERM pmax pmax
comp=Z,57nm,1.0s
ERM pmax pmax
comp=Z,6μm,19.0s
XLT XiLinHaoTe 36.48 347 *e*P **P** **00 20 04.7 -0.3**
XLT pP pP 00 20 08.8 -2.6
XLT sP sP 00 20 14.6 +0.6
XLT S **S** **00 25 45.6 +0.2**
XLT ScS **ScS** **00 30 12.5 -7.3**
XLT pmax pmax
comp=Z,68nm,1.1s
XLT LR LR
comp=Z,4μm,14.9s
XLT LR LR
comp=Z,5μm,19.7s
BRDH Bariadhala 36.63 297 LR LR 00 35 20.7
comp=Z,6μm,20.8s,baz=132,slow=37
TATA Tatamba Isabel 36.84 116 P **P** **00 20 08.4 +0.1**
BNX BinXian 37.08 1 ⇓P **P** **00 20 10.6 +0.7**
BNX sP **pwP** **00 20 21.3 -1.8**
BNX PP **PnPn** **00 21 38.2 +3.0**
BNX S **S** **00 25 58.2 +3.9**
BNX pmax pmax
comp=Z,36nm,1.3s
BNX pmax pmax
comp=Z,2μm,10.2s
BNX LR LR
comp=Z,5μm,16.7s
BNX LR LR
comp=Z,3μm,17.5s
BNX LR LR
comp=Z,7μm,16.7s
OOD Oodnadatta 37.09 167 P **P** **00 20 09.9 -0.3**
TEY Ternei 37.34 11 ⇑*e*P **P** **00 20 13.5 +1.4**
TEY *e* 00 25 56.7
TEY pmax pmax
comp=Z,40nm,1.5s
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=N,30nm,1.3s
TEY pmax pmax
comp=N,800nm,9.4s
TEY MLR MLR
comp=E,800nm,9.0s
TEY MLR MLR
comp=N,2μm,15.0s
SHL Shillong 37.35 301 P **P** **00 20 11.9 -0.9**
SHL IAmb IAmb 00 20 22.7
comp=Z,115nm,0.8s
SHL Shillong 37.35 301 P **P** **00 20 11.1 -1.7**
SNR=37
SHL Shillong 37.35 301 *e*P **P** **00 20 09.5 -3.3**
SHL *e*S **S** **00 25 57.5 -1.9**
SHL IAMs_20 IAMs_20 00 37 47.0
comp=Z,4μm,17.5s
SHL Shillong 37.35 301 P **P** **00 20 11.9 -0.9**
SHL pmax pmax
comp=Z,115nm,0.8s
HNR Honiara 37.44 118 LR LR 00 34 21.4
comp=Z,5μm,21.4s,baz=289,slow=34
ALEG Aligegeo Malai 37.80 116 P **P** **00 20 15.9 -0.5**
ASAJ Asahikawa 38.00 18 P **P** **00 20 19.3 +1.6**
comp=Z,55nm,1.0s,baz=237,slow=18,SNR=16
ASAJ S **S** **00 26 09.8 +1.4**
comp=Z,2.7nm,0.3s,baz=198,slow=20,SNR=1.6
comp=Z,55nm,1.0s
ASAJ Asahikawa 38.00 18 P **P** **00 20 18.4 +0.6**
ASAJ pmax pmax
comp=Z,240nm,1.6s
ASAJ pmax pmax
comp=Z,7μm,20.0s
JKA Kamikawa-asahi 38.01 18 P **P** **00 20 18.4 +0.6**
JKA IAmb IAmb 00 21 03.0
comp=Z,240nm,1.6s
JKA IAMs_20 IAMs_20 00 34 57.8
comp=Z,7μm,20.0s
JKA Kamikawa-asahi 38.01 18 ⇑P **P** **00 20 19.4 +1.6**
TAWA Tawang 38.12 304 *e*P **P** **00 20 18.4 -1.1**
TAWA IAmb IAmb 00 20 30.3
comp=Z,77nm,0.7s
INKA Innaminka 38.46 160 P **P** **00 20 21.9 +0.1**
QLP Quilpie 38.74 155 P **P** **00 20 23.9 -0.3**
comp=Z,250nm,1.8s
QLP Quilpie 38.74 155 P **P** **00 20 23.6 -0.6**
QLP Quilpie 38.74 155 ⇑P **P** **00 20 23.9 -0.3**
MORW Morawa 38.81 195 P **P** **00 20 24.1 -0.6**
MORW IAmb IAmb 00 20 36.3
comp=Z,136nm,0.9s
MORW Morawa 38.81 195 P **P** **00 20 25.1 +0.4**
comp=Z,190nm,1.1s
MORW Morawa 38.81 195 P **P** **00 20 24.9 +0.2**
MORW Morawa 38.81 195 ⇑P **P** **00 20 24.6 -0.2**
YUK Yuzh-Kuril'sk 39.05 22 P P 00 20 20.1 -6.4
YUK *e*S **S** **00 26 24.2 +0.2**
YUK *e*SS **SnSn** **00 29 13.4 -3.5**
YUK MLR MLR
comp=Z,3μm,16.0s
FORT Forrest 39.09 178 P **P** **00 20 26.0 -1.0**
FORT IAmb IAmb 00 20 41.4
comp=Z,136nm,0.7s
FORT Forrest 39.09 178 P **P** **00 20 27.3 +0.3**
comp=Z,189nm,0.8s
FORT Forrest 39.09 178 P **P** **00 20 27.5 +0.5**
FORT Forrest 39.09 178 ⇑P **P** **00 20 27.1 +0.1**
GTA Gaotai 39.16 326 *e*P **P** **00 20 27.4 -0.3**
GTA pP pP 00 20 32.5 -2.1
GTA PP **PnPn** **00 22 06.3 +5.8**
GTA ScP **ScP** **00 26 24.5 +0.7**
GTA S **S** **00 26 28.9 +2.6**
GTA SS **SS** **00 29 16.2 -3.5**
GTA ScS **ScS** **00 30 35.2 -0.2**
GTA pmax pmax
comp=Z,45nm,1.0s
GTA pmax pmax
comp=Z,1μm,10.4s
GTA LR LR
comp=Z,6μm,17.4s
GTA LR LR
comp=Z,5μm,17.1s
GTA LR LR
comp=Z,10μm,16.7s
CAL Calcutta 39.54 295 *e*P **P** **00 20 31.0 0.0**
LSA Lhasa 39.55 307 IAMs_20 IAMs_20 00 37 25.5
comp=Z,6μm,20.0s
LSA Lhasa 39.55 307 P **P** **00 20 32.3 +0.8**
LSA S S 00 26 21.0 -12
LSA pmax pmax
comp=Z,42nm,1.5s
LSA LR LR
comp=Z,3μm,19.4s
LSA LR LR
comp=Z,5μm,21.0s
LSA Lhasa 39.55 307 P **P** **00 20 28.9 -2.7**
LSA P **P** **00 20 28.9 -2.7**
LSA P **P** **00 20 28.9 -2.7**
LSA Lhasa 39.55 307 *i* P **P** **00 20 31.7 +0.2**
SNR=11
H11S3 WAKE ISLAND Hy 39.86 71 T T 01 03 53.5
baz=262,slow=74,SNR=68
H11S1 WAKE ISLAND Hy 39.87 71 T T 01 03 49.9
baz=262,slow=74,SNR=56
H11S2 WAKE ISLAND Hy 39.87 71 T T 01 03 41.1
baz=262,slow=74,SNR=46
KMBL Kambalda 39.95 187 P **P** **00 20 34.6 +0.4**
comp=Z,231nm,1.3s
KMBL Kambalda 39.95 187 P **P** **00 20 34.4 +0.2**
BLDU Ballidu 40.12 194 P **P** **00 20 36.0 +0.3**
comp=Z,181nm,1.4s
BLDU Ballidu 40.12 194 P **P** **00 20 36.0 +0.3**
GOMU GeErMu 40.14 318 P **P** **00 20 37.0 +0.8**
GOMU pP pP 00 20 42.5 -0.5
GOMU sP pwP 00 20 50.5 +1.8
GOMU PP **PnPn** **00 22 10.8 -1.6**
GOMU S **S** **00 26 40.8 -0.7**
GOMU sS pS 00 26 49.8 0.0
GOMU pmax pmax
comp=Z,99nm,1.3s
GOMU LR LR
comp=Z,15μm,15.6s
GOMU LR LR
comp=Z,15μm,16.0s
GOMU LR LR
comp=Z,26μm,16.2s
LCRK Leigh Creek 40.24 165 P **P** **00 20 36.8 +0.2**
JPG JALPAIGURI 40.37 301 *e*P **P** **00 20 37.7 -0.1**
YSS Yuzhno-Sakhali 40.62 17 P **P** **00 20 39.4 -0.1**
YSS Yuzhno-Sakhali 40.62 17 P **P** **00 20 41.4 +1.9**
YSS Yuzhno-Sakhali 40.62 17 *oe*P **P** **00 20 41.0 +1.5**
YSS *e**SP **sP** **00 20 49.3 +0.5**
YSS *e* 00 22 13.1
YSS *e*SP 00 22 43.3
YSS *e*S **S** **00 26 45.8 -1.8**
YSS *e*SS **SS** **00 29 45.4 -2.9**
YSS pmax pmax
comp=Z,500nm,5.2s
YSS pmax pmax
comp=Z,30nm,1.1s
YSS smax smax
comp=N,700nm,6.7s
YSS smax smax
comp=E,1μm,6.5s
GTK Tadong 40.72 302 *e*P **P** **00 20 40.5 -0.4**
GTK IAmb IAmb 00 20 57.2
comp=Z,105nm,1.0s
KLR Kul'dur 40.78 5 P **P** **00 20 41.1 +0.3**
comp=Z,13nm,0.5s,baz=181,slow=5.6,SNR=68
KLR S **S** **00 26 53.0 +3.1**
comp=Z,0.6nm,0.5s,baz=223,slow=19,SNR=1.5
comp=Z,13nm,0.5s
KLR Kul'dur 40.78 5 *ce*P **P** **00 20 41.5 +0.7**
KLR pmax pmax
comp=Z,104nm,2.5s
KLBR Kellerberrin 40.84 192 P **P** **00 20 41.8 +0.3**
comp=Z,203nm,1.2s
KLBR Kellerberrin 40.84 192 P **P** **00 20 42.1 +0.6**
HIA Hailar 41.05 353 IAMs_20 IAMs_20 00 40 08.6
comp=Z,7μm,19.0s
HIA Hailar 41.05 353 IAmb IAmb 00 20 45.3
comp=Z,150nm,1.4s
HIA Hailar 41.05 353 P **P** **00 20 43.9 +0.8**
HIA Hailar 41.05 353 *i* P **P** **00 20 42.9 -0.2**
HIA pmax pmax
comp=Z,96nm,1.1s
EIDS Eidsvold 41.10 146 P **P** **00 20 43.0 -0.8**
EIDS IAMs_20 IAMs_20 00 39 25.9
comp=Z,7μm,19.0s
EIDS Eidsvold 41.10 146 P **P** **00 20 43.9 0.0**
comp=Z,68nm,1.5s
EIDS Eidsvold 41.10 146 P **P** **00 20 44.1 +0.3**
EIDS Eidsvold 41.10 146 ⇑P **P** **00 20 44.1 +0.3**

MUN	**Mundaring**	**41.55 194**	P	**P**	**00 20 47.7**	**+0.3**
	comp=Z,149nm,1.5s					
MUN	**Mundaring**	**41.55 194**	P	**P**	**00 20 48.3**	**+0.9**
HEH	**HeiHe**	**41.60 1**	*e*P	**P**	**00 20 47.7**	**+0.1**
HEH			PcP	**PcP**	**00 22 44.5**	**+0.2**
HEH			S	**S**	**00 26 58.7**	**-3.3**
HEH			ScS	**ScS**	**00 30 46.2**	**-2.9**
HEH			pmax	pmax		
	comp=Z,61nm,1.3s					
HEH			pmax	pmax		
	comp=Z,2μm,7.5s					
HEH			LR	LR		
	comp=Z,5μm,18.4s					
HEH			LR	LR		
	comp=Z,3μm,18.1s					
HEH			LR	LR		
	comp=Z,7μm,18.0s					
MTKN	**Mount Kenneth**	**41.61 194**	P	**P**	**00 20 49.1**	**+1.3**
BBOO	**Buckleboo**	**42.02 168**	P	**P**	**00 20 50.5**	**-0.8**
BBOO			IAmb	IAmb	00 21 03.4	
	comp=Z,214nm,1.4s					
BBOO	**Buckleboo**	**42.02 168**	P	**P**	**00 20 51.0**	**-0.3**
	comp=Z,99nm,1.3s					
BBOO	**Buckleboo**	**42.02 168**	P	**P**	**00 20 51.3**	**+0.1**
BOK	**Bokaro**	**42.03 296**	*e*P	**P**	**00 20 50.5**	**-1.0**
BOK			IAmb	IAmb	00 21 01.6	
	comp=Z,166nm,1.4s					
BOK			*e*S	**S**	**00 27 06.7**	**-2.6**
BOK			IAMs_20	IAMs_20	00 36 58.4	
	comp=Z,5μm,24.8s					
NWAO	**Narrogin (SRO)**	**42.23 192**	P	**P**	**00 20 52.6**	**-0.3**
NWAO			IAmb	IAmb	00 21 05.8	
	comp=Z,192nm,1.1s					
NWAO	**Narrogin (SRO)**	**42.23 192**	LR	LR	00 39 32.0	
	comp=Z,2μm,20.9s,baz=328,slow=38					
NWAO	**Narrogin (SRO)**	**42.23 192**	P	P	00 20 58.8	+5.9
NWAO			P	P	00 20 58.8	+5.9
NWAO			S	**S**	**00 27 09.8**	**-2.1**
NWAO			S	**S**	**00 27 09.8**	**-2.1**
NWAO	**Narrogin (SRO)**	**42.23 192**	P	**P**	**00 20 53.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**42.23 192**	P	**P**	**00 20 53.8**	**+0.8**
NWAO	**Narrogin (SRO)**	**42.23 192**	P	**P**	**00 20 52.6**	**-0.3**
NWAO			pmax	pmax		
	comp=Z,192nm,1.2s					
UGL	**Uglegorsk**	**42.38 15**	*e*P	**P**	**00 20 53.9**	**-0.1**
UGL			*e*S	**S**	**00 27 08.3**	**-5.3**
UGL			*e*SS	**ScS**	**00 30 55.5**	**+1.6**
UGL			pmax	pmax		
	comp=Z,70nm,0.6s					
UGL			pmax	pmax		
	comp=Z,1μm,9.6s					
UGL			smax	smax		
	comp=E,3μm,9.4s					
UGL			smax	smax		
	comp=N,2μm,7.7s					
KNTI	**KHUNTI**	**42.40 295**	*e*P	**P**	**00 20 55.1**	**+0.5**
WHYH	**Whyalla**	**42.56 167**	P	**P**	**00 20 56.2**	**+0.6**
STKA	**Stephens Creek**	**42.56 161**	P	**P**	**00 20 55.0**	**-0.7**
STKA	**Stephens Creek**	**42.56 161**	P	**P**	**00 20 55.3**	**-0.3**
	comp=Z,537nm,1.2s					
STKA	**Stephens Creek**	**42.56 161**	P	**P**	**00 20 54.8**	**-0.8**
	comp=Z,16nm,0.7s,baz=335,slow=7.9,SNR=19					
STKA			S	**S**	**00 27 13.7**	**-3.0**
	comp=Z,4.0nm,1.0s,baz=303,slow=17,SNR=1.1					
STKA			LR	LR	00 43 34.4	
	comp=Z,2μm,18.5s,baz=331,slow=43					
	comp=Z,16nm,0.7s					
STKA	**Stephens Creek**	**42.56 161**	P	**P**	**00 20 55.7**	**+0.1**
STKA	**Stephens Creek**	**42.56 161**	*i* P	**P**	**00 20 55.1**	**-0.5**
ULN	**Ulaanbaatar**	**42.66 340**	P	**P**	**00 20 55.8**	**-0.8**
ULN	**Ulaanbaatar**	**42.66 340**	P	**P**	**00 20 56.3**	**-0.3**
ULN			P	**P**	**00 20 56.3**	**-0.3**
ULN			P	**P**	**00 20 56.3**	**-0.3**
ULN			S	**S**	**00 27 15.9**	**-2.3**
ULN			S	**S**	**00 27 15.9**	**-2.3**
ULN			S	**S**	**00 27 15.9**	**-2.3**
ULN	**Ulaanbaatar**	**42.66 340**	*c i* P	**P**	**00 20 55.9**	**-0.6**
ULN			pmax	pmax		
	comp=Z,59nm,1.1s					
ULN	**Ulaanbaatar**	**42.66 340**	⇑P	**P**	**00 20 56.0**	**-0.5**
GRNR	**Gornyy**	**42.85 9**	⇑*i* P	**P**	**00 20 59.8**	**+2.0**
GRNR			pmax	pmax		
	comp=N,20nm,1.0s					
GRNR			pmax	pmax		
	comp=Z,20nm,1.0s					
GRNR			MLR	MLR		
	comp=E,1μm,13.0s					
SONM	**Songino Array**	**42.86 340**	P	**P**	**00 20 57.8**	**-0.3**
SONM	**Songino Array**	**42.86 340**	P	**P**	**00 20 57.8**	**-0.3**
	comp=E,36nm,1.1s,baz=160,slow=7.4,SNR=93					
SONM			PcP	**PcP**	**00 22 49.0**	**+0.2**
	comp=E,9.6nm,0.9s,baz=156,slow=3.7,SNR=2.8					
SONM			S	**S**	**00 27 18.1**	**-2.9**
	comp=E,0.3nm,0.4s,baz=163,slow=5.4,SNR=1.5					
SONM			LR	LR	00 40 31.1	
	comp=E,4μm,20.9s,baz=154,slow=38					
	comp=E,36nm,1.1s					
LUES	**Luesalemba Tem**	**43.26 115**	P	**P**	**00 21 02.4**	**+0.9**
HTT	**Hallett**	**43.26 165**	P	**P**	**00 21 01.3**	**-0.1**
	comp=Z,56nm,1.5s					
HTT	**Hallett**	**43.26 165**	P	**P**	**00 21 01.8**	**+0.4**
HTT	**Hallett**	**43.26 165**	⇑P	**P**	**00 21 05.6**	**+4.2**
TW1H	**Toowoomba 1 Ha**	**43.30 147**	P	**P**	**00 21 02.8**	**+1.0**
VIS	**Vishakhapatnam**	**43.31 287**	*e*P	**P**	**00 21 01.8**	**-0.2**
VIS			IAMs_20	IAMs_20	00 38 46.2	
	comp=Z,5μm,20.6s					
RAGD	**RAYAGADA**	**43.38 289**	*e*P	**P**	**00 21 01.6**	**-0.9**
RAGD			IAmb	IAmb	00 21 12.7	
	comp=Z,277nm,1.9s					
JHSG	**JHARSUGUDA**	**43.50 293**	*e*P	**P**	**00 21 02.8**	**-0.7**
CMSA	**Cobar Meteorol**	**43.71 157**	P	**P**	**00 21 04.8**	**-0.1**
	comp=Z,118nm,1.3s					
CMSA	**Cobar Meteorol**	**43.71 157**	P	**P**	**00 21 05.4**	**+0.5**
TYV	**Tymovskoe**	**44.18 14**	*e*P	**P**	**00 21 10.8**	**+2.3**
TYV			*e*S	**S**	**00 27 46.9**	**+7.0**
TYV			pmax	pmax		
	comp=Z,15nm,1.6s					
TYV			pmax	pmax		
	comp=Z,400nm,4.1s					
TYV			smax	smax		
	comp=N,900nm,4.7s					
TYV			smax	smax		
	comp=E,1μm,4.7s					
CIT	**Chita**	**44.73 348**	*e*P	**P**	**00 21 13.0**	**+0.1**
CIT			*e*		00 21 22.2	
CIT			*e*		00 22 58.0	
CIT			*e*		00 23 38.4	
CIT			pmax	pmax		
	comp=Z,326nm,1.7s					
VAR	**Varanasi**	**44.93 297**	*e*P	**P**	**00 21 12.9**	**-2.0**
BLSP	**Bilaspur**	**45.06 293**	*e*P	**P**	**00 21 15.0**	**-1.0**
BLSP			IAmb	IAmb	00 21 29.6	
	comp=Z,459nm,2.0s					
ZEA	**Zeya**	**45.09 0**	*e*P	**P**	**00 21 16.3**	**+0.6**
ZEA			*e*		00 22 55.4	
ZEA			*e*S	**S**	**00 27 53.0**	**-0.1**
ZEA			*e*SS	**SS**	**00 31 14.8**	**-0.9**
ZEA			pmax	pmax		
	comp=N,400nm,9.5s					
ZEA			pmax	pmax		
	comp=Z,700nm,9.1s					
ZEA			pmax	pmax		
	comp=E,10.0nm,1.8s					
ZEA			pmax	pmax		
	comp=N,30nm,1.1s					
ZEA			pmax	pmax		
	comp=Z,40nm,1.1s					
ZEA			pmax	pmax		
	comp=N,600nm,6.0s					
ZEA			pmax	pmax		
	comp=Z,900nm,8.0s					
ZEA			smax	smax		
	comp=N,300nm,10.4s					
ZEA			smax	smax		
	comp=E,400nm,12.4s					
ARMA	**Armidale**	**45.42 150**	P	**P**	**00 21 18.2**	**-0.6**
ARMA			IAMs_20	IAMs_20	00 43 01.4	
	comp=Z,6μm,18.0s					
ARMA	**Armidale**	**45.42 150**	P	**P**	**00 21 19.1**	**+0.3**
	comp=Z,139nm,1.9s					
ARMA	**Armidale**	**45.42 150**	P	**P**	**00 21 19.6**	**+0.8**
ARMA	**Armidale**	**45.42 150**	⇑P	**P**	**00 21 19.5**	**+0.8**
PALK	**Pallekele**	**45.75 272**	P	**P**	**00 21 20.7**	**-0.9**
PALK			IAmb	IAmb	00 21 41.7	
	comp=Z,120nm,1.6s					
PALK	**Pallekele**	**45.75 272**	LR	LR	00 43 02.3	
	comp=Z,3μm,19.3s,baz=90,slow=39					
PALK	**Pallekele**	**45.75 272**	P	**P**	**00 21 20.3**	**-1.3**
PALK			P	**P**	**00 21 20.3**	**-1.3**
PALK			S	**S**	**00 28 03.5**	**-0.3**
PALK			S	**S**	**00 28 03.5**	**-0.3**
PALK	**Pallekele**	**45.75 272**	*i* P	**P**	**00 21 21.3**	**-0.3**
PALK			pmax	pmax		
	comp=Z,22nm,1.1s					
PALK	**Pallekele**	**45.75 272**	⇑P	**P**	**00 21 21.4**	**-0.2**
MALK	**Mahakanadarawa**	**45.83 273**	P	**P**	**00 21 24.7**	**+2.6**
MALK	**Mahakanadarawa**	**45.83 273**	⇑P	**P**	**00 21 22.6**	**+0.4**
HALK	**Hakmana**	**45.88 270**	⇑P	**P**	**00 21 23.4**	**+0.8**
NKL	**Nikolayevsk**	**45.88 12**	*e*P	**P**	**00 21 18.4**	**-3.5**
NKL			*e*S	**S**	**00 28 03.3**	**-1.2**
NKL			pmax	pmax		
	comp=N,54nm,1.2s					
NKL			pmax	pmax		
	comp=E,52nm,1.2s					
NKL			pmax	pmax		
	comp=Z,235nm,1.2s					
NKL			smax	smax		
	comp=E,52nm,2.5s					
NKL			smax	smax		
	comp=N,308nm,2.2s					
NKL			MLR	MLR		
	comp=E,9μm,18.0s					
NKL			MLR	MLR		
	comp=N,8μm,16.0s					
NKL			MLR	MLR		
	comp=Z,12μm,20.0s					
MDRS	**Chennai**	**46.00 280**	*e*P	**P**	**00 21 21.4**	**-2.0**
ALBI	**Allahabad**	**46.00 297**	*e*P	**P**	**00 21 23.6**	**+0.2**
ALBI			IAmb	IAmb	00 21 26.9	
	comp=Z,96nm,0.7s					
ZAK	**Zakamensk**	**46.11 339**	*e*P	**P**	**00 21 22.8**	**-1.1**
ZAK			pmax	pmax		
	comp=Z,16nm,1.4s					
LKN	**LUCKNOW**	**47.15 299**	*e*P	**P**	**00 21 30.5**	**-1.8**
ARPS	**Mount Arapiles**	**47.19 164**	P	**P**	**00 21 32.8**	**+0.4**
	comp=Z,159nm,0.9s					
ARPS	**Mount Arapiles**	**47.19 164**	P	**P**	**00 21 33.2**	**+0.8**
YNG	**Young**	**47.21 156**	P	**P**	**00 21 33.5**	**+0.8**
	comp=Z,395nm,1.2s					
YNG	**Young**	**47.21 156**	P	**P**	**00 21 34.0**	**+1.3**
IRK	**Irkutsk**	**47.35 341**	*e*P	**P**	**00 21 32.6**	**-0.9**
IRK			pmax	pmax		
	comp=Z,78nm,1.4s					
SYDH	**Sydney Hard Ro**	**47.76 153**	P	**P**	**00 21 37.5**	**+0.6**
HYB	**Hyderabad**	**47.82 286**	*e*P	**P**	**00 21 38.0**	**+0.3**
MOY	**Mondy**	**47.98 339**	*e*P	**P**	**00 21 38.5**	**-0.1**
MOY			pmax	pmax		
	comp=Z,80nm,2.4s					
SALM	**Salem**	**48.00 278**	*e*P	**P**	**00 21 40.2**	**+1.1**
RIV	**Riverview**	**48.01 153**	P	**P**	**00 21 41.5**	**+2.7**
	comp=Z,149nm,1.2s					
CAN	**Canberra**	**48.34 156**	P	**P**	**00 21 42.2**	**+0.7**
CAN			IAMs_20	IAMs_20	00 44 06.7	
	comp=Z,6μm,19.0s					
CAN	**Canberra**	**48.34 156**	P	**P**	**00 21 42.6**	**+1.1**
	comp=Z,101nm,1.3s					
CAN	**Canberra**	**48.34 156**	P	**P**	**00 21 43.2**	**+1.7**
CAN	**Canberra**	**48.34 156**	P	**P**	**00 21 42.2**	**+0.7**
CAN			pmax	pmax		
	comp=Z,292nm,1.6s					
CAN			pmax	pmax		
	comp=Z,6μm,19.0s					
CAN	**Canberra**	**48.34 156**	⇑P	**P**	**00 21 45.2**	**+3.7**
LGTI	**Lohaghat**	**48.38 302**	*e*P	**P**	**00 21 41.8**	**0.0**
LGTI			IAmb	IAmb	00 21 55.4	
	comp=Z,78nm,1.3s					
PTH	**Pithoragarh**	**48.43 302**	*e*P	**P**	**00 21 41.4**	**-1.1**
PTH			IAmb	IAmb	00 21 55.2	
	comp=Z,68nm,1.1s					
PTH			*e*S	**S**	**00 28 39.3**	**-2.7**
CNB	**Canberra Magne**	**48.49 155**	P	**P**	**00 21 44.0**	**+1.3**
	comp=Z,123nm,1.6s					
CNB	**Canberra Magne**	**48.49 155**	P	**P**	**00 21 43.2**	**+0.6**
BRAT	**Ballarat**	**48.53 162**	P	**P**	**00 21 43.4**	**+0.7**
KOD	**Kodaikanal**	**48.76 276**	*e*P	**P**	**00 21 45.4**	**+0.1**
KOD			IAmb	IAmb	00 21 57.7	
	comp=Z,46nm,1.2s					
JHNI	**Jhansi**	**48.92 296**	*e*P	**P**	**00 21 44.2**	**-1.9**
JHNI			IAmb	IAmb	00 21 48.4	
	comp=Z,67nm,0.7s					
WMQ	**Urumqi**	**48.97 323**	⇓*i* P	**P**	**00 21 46.8**	**+0.5**
WMQ			pP	pP	00 21 52.8	-0.5
WMQ			PcP	**PcP**	**00 23 07.2**	**-3.0**
WMQ			PcS	**PcS**	**00 27 07.8**	**+1.4**
WMQ			S	**S**	**00 28 53.6**	**+4.6**
WMQ			ScS	**ScS**	**00 31 35.2**	**-1.7**
WMQ			pmax	pmax		
	comp=Z,59nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,820nm,6.5s					
WMQ			LR	LR		
	comp=Z,10μm,19.1s					
WMQ			LR	LR		
	comp=Z,4μm,16.7s					
WMQ			LR	LR		
	comp=Z,4μm,17.5s					
TOO	**Toolangi**	**49.05 160**	P	**P**	**00 21 47.0**	**+0.2**
TOO			IAmb	IAmb	00 22 06.2	
	comp=Z,107nm,1.9s					
TOO	**Toolangi**	**49.05 160**	P	**P**	**00 21 47.6**	**+0.7**
	comp=Z,26nm,2.1s					
TOO	**Toolangi**	**49.05 160**	P	**P**	**00 21 47.0**	**+0.2**
TOO			pmax	pmax		
	comp=Z,107nm,1.9s					
JOSI	**Joshimath**	**49.25 303**	*e*P	**P**	**00 21 47.4**	**-1.4**
DZM	**Mont Dzumac**	**49.27 129**	P	**P**	**00 21 50.6**	**+1.7**
TRD	**Trivandrum**	**49.36 274**	*e*P	**P**	**00 21 46.9**	**-2.7**
TKRD	**Thakurdwara**	**49.47 301**	*e*P	**P**	**00 21 46.3**	**-4.0**
BHPL	**Bhopal**	**49.53 293**	*e*P	**P**	**00 21 51.1**	**+0.2**
BHPL			IAmb	IAmb	00 22 04.2	
	comp=Z,156nm,1.7s					
BHPL			IAMs_20	IAMs_20	00 39 34.4	
	comp=Z,5μm,18.7s					
AKL	**Akola**	**49.57 290**	*e*P	**P**	**00 21 51.5**	**+0.3**
AKL			IAmb	IAmb	00 22 04.8	
	comp=Z,38nm,0.9s					
NRDN	**NARMADA NAGAR**	**49.69 293**	*e*P	**P**	**00 21 51.1**	**-0.9**
NRDN			IAmb	IAmb	00 22 05.6	
	comp=Z,88nm,1.3s					
GUNA	**GUNA**	**49.85 295**	*e*P	**P**	**00 21 52.4**	**-0.8**
GUNA			IAmb	IAmb	00 22 06.5	
	comp=Z,148nm,1.2s					
BOD	**Bodaibo**	**50.18 351**	*e*P	**P**	**00 21 55.9**	**+0.8**
BOD			pmax	pmax		
	comp=Z,144nm,1.5s					
ASOR	**Ausora**	**50.30 300**	*e*P	**P**	**00 21 53.1**	**-3.4**
LHI	**Lord Howe Isla**	**50.33 144**	IAMs_20	IAMs_20	00 46 29.1	
	comp=Z,3μm,18.0s					
PINNC	**Pines Island,**	**50.35 129**	IAMs_20	IAMs_20	00 40 19.5	
	comp=Z,4μm,21.0s					
DDI	**Dehra Dun**	**50.44 302**	*e*P	**P**	**00 21 57.0**	**-0.7**
DDI			*e*S	**S**	**00 29 06.6**	**-3.3**
JMIU	**JAMIA UNIVERSI**	**50.66 300**	*e*P	**P**	**00 21 56.9**	**-2.4**
LDR	**Lodi Road**	**50.73 300**	*e*P	**P**	**00 21 58.9**	**-0.9**
NDI	**New Delhi**	**50.75 300**	*e*P	**P**	**00 21 58.6**	**-1.4**
NDI			IAmb	IAmb	00 22 12.0	
	comp=Z,61nm,0.6s					
NPLP	**NPLP New Delhi**	**50.78 300**	*e*P	**P**	**00 21 58.1**	**-2.1**
NPLP			IAmb	IAmb	00 22 02.3	
	comp=Z,85nm,0.5s					
PEA0B	**Petropavlovsk-**	**50.98 23**	P	**P**	**00 22 00.6**	**-0.6**
PEA0B			IAmb	IAmb	00 22 09.4	
	comp=Z,56nm,1.0s					
PEA0B	**Petropavlovsk-**	**50.98 23**	*c e*P	**P**	**00 22 00.3**	**-0.9**
PETK	**Petropavlovsk-**	**50.98 23**	P	**P**	**00 22 01.7**	**+0.5**
PETK	**Petropavlovsk-**	**50.98 23**	P	**P**	**00 22 01.9**	**+0.7**
	comp=Z,11nm,0.8s,baz=163,slow=4.0,SNR=12					
PETK			PcP	**PcP**	**00 23 17.4**	**+0.2**
	comp=Z,6.4nm,0.6s,baz=224,slow=6.7,SNR=4.9					
PETK			S	**S**	**00 29 10.4**	**-6.0**
	comp=Z,1.1nm,0.4s,baz=199,slow=4.1,SNR=2.7					
PETK			LR	LR	00 43 10.4	
	comp=Z,2μm,19.9s,baz=214,slow=35					
	comp=Z,11nm,0.8s					
GNR	**GANAUR**	**51.03 301**	*e*P	**P**	**00 21 59.6**	**-2.4**
KUDL	**Kundal**	**51.26 299**	*e*P	**P**	**00 22 02.6**	**-1.2**
KUDL			*e*S	**S**	**00 29 17.2**	**-4.0**
PET	**Petropavlovsk**	**51.29 24**	P	**P**	**00 22 03.0**	**-0.5**
PET			IAmb	IAmb	00 22 40.1	
	comp=Z,136nm,1.4s					
PET	**Petropavlovsk**	**51.29 24**	P	**P**	**00 22 05.5**	**+1.9**
PET	**Petropavlovsk**	**51.29 24**	*e*P	**P**	**00 22 05.5**	**+1.9**
PET			*e*S	**S**	**00 29 26.2**	**+5.4**
PET			pmax	pmax		
	comp=Z,42nm,1.5s					
SMLA	**Simla**	**51.39 303**	*e*P	**P**	**00 22 03.7**	**-1.0**
SMLA			*e*S	**S**	**00 29 21.4**	**-1.4**
RTK	**Rohtak**	**51.52 300**	*e*P	**P**	**00 22 05.0**	**-0.7**
KAD	**Karad**	**51.98 285**	*e*P	**P**	**00 22 08.9**	**-0.5**
BHK	**Bhakra**	**52.08 303**	*e*P	**P**	**00 22 09.8**	**-0.2**
BHK			*e*S	**S**	**00 29 29.9**	**-2.6**
GOA	**Goa**	**52.26 283**	*e*P	**P**	**00 22 09.2**	**-2.2**
GOA			IAMs_20	IAMs_20	00 40 03.9	
	comp=Z,5μm,20.8s					
POO	**Poona**	**52.36 287**	*e*P	**P**	**00 22 12.2**	**-0.1**
POO			IAMs_20	IAMs_20	00 36 37.9	
	comp=Z,5μm,21.8s					
DHRM	**DHARAMSHALA**	**52.39 304**	*e*P	**P**	**00 22 09.8**	**-2.7**
DHRM			IAmb	IAmb	00 22 25.5	
	comp=Z,291nm,1.3s					
DHRM			*e*S	**S**	**00 29 34.8**	**-2.4**
ZSN	**Zaisan**	**52.64 325**	*e*P	**P**	**00 22 12.9**	**-0.9**
ZSN	**Zaisan**	**52.64 325**	*e*P	**P**	**00 22 12.9**	**-0.9**
WUS	**Wushi**	**53.19 316**	IAMs_20	IAMs_20	00 47 33.8	
	comp=Z,5μm,19.0s					
YAK	**Yakutsk**	**53.44 2**	P	**P**	**00 22 19.6**	**+0.3**
YAK	**Yakutsk**	**53.44 2**	IAMs_20	IAMs_20	00 47 28.0	
	comp=Z,3μm,20.0s					
YAK	**Yakutsk**	**53.44 2**	*c i* P	**P**	**00 22 19.6**	**+0.3**
YAK			*e*		00 23 24.1	
YAK			*e*		00 24 20.7	
YAK			*e*PPP	PPP	00 25 28.6	
YAK			*e*S	**S**	**00 29 48.7**	**-1.3**
YAK			*e*		00 32 03.6	
YAK			*e*SS	**SS**	**00 33 31.3**	**+1.0**
YAK			pmax	pmax		
	comp=Z,188nm,1.5s					
YAK			pmax	pmax		
	comp=N,64nm,1.1s					
YAK			pmax	pmax		
	comp=E,28nm,1.2s					
YAK			pmax	pmax		
	comp=Z,207nm,3.4s					
YAK			pmax	pmax		
	comp=N,159nm,2.5s					
YAK			pmax	pmax		
	comp=E,153nm,3.2s					
YAK			smax	smax		
	comp=E,894nm,6.1s					
YAK			smax	smax		
	comp=N,234nm,4.1s					
YAK			MLR	MLR		
	comp=Z,2μm,16.0s					
YAK			MLR	MLR		
	comp=N,3μm,22.0s					
YAK			MLR	MLR		
	comp=E,1μm,14.0s					
YAK	**Yakutsk**	**53.44 2**	⇑P	**P**	**00 22 19.7**	**+0.3**
JMU	**Jammu**	**53.66 304**	*e*P	**P**	**00 22 22.4**	**+0.9**
MK31	**Makanchi Array**	**53.78 323**	*i* P	**P**	**00 22 21.1**	**-1.1**
MK31			pmax	pmax		
	comp=Z,35nm,0.9s					
MKAR	**Makanchi Array**	**53.78 323**	P	**P**	**00 22 21.1**	**-1.1**
MKAR	**Makanchi Array**	**53.78 323**	P	**P**	**00 22 21.8**	**-0.5**
	comp=Z,14nm,0.6s,baz=122,slow=7.6,SNR=169					
MKAR			ScP	**ScP**	**00 27 21.6**	**-2.7**
	comp=Z,1.9nm,0.9s,baz=134,slow=4.2,SNR=3.1					
MKAR			S	**S**	**00 29 54.2**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=139,slow=7.9,SNR=1.1					
	comp=Z,14nm,0.6s					
MKAR	**Makanchi Array**	**53.78 323**	*c e*P	**P**	**00 22 21.2**	**-1.1**
MKAR			pmax	pmax		
	comp=Z,14nm,0.5s					
SHLS	**Shalkode**	**53.84 318**	*e*P	**P**	**00 22 19.9**	**-3.0**
SHLS			pmax	pmax		
	comp=Z,40nm,1.1s					
SHLS	**Shalkode**	**53.84 318**	*e*P	**P**	**00 22 19.9**	**-3.0**
	comp=Z,40nm,1.1s					
SRGN	**SRI GANGA NAGA**	**53.86 301**	*e*P	**P**	**00 22 25.2**	**+2.1**
MAKZ	**Makanchi**	**53.98 323**	P	**P**	**00 22 22.0**	**-1.7**
MAKZ			IAMs_20	IAMs_20	00 43 54.1	
	comp=Z,5μm,22.0s					
MAKZ	**Makanchi**	**53.98 323**	P	**P**	**00 22 22.0**	**-1.7**
MAKZ			pmax	pmax		
	comp=Z,45nm,1.2s					
MAKZ			pmax	pmax		
	comp=Z,5μm,22.0s					
MAKZ	**Makanchi**	**53.98 323**	⇑P	**P**	**00 22 22.6**	**-1.1**
BKNR	**BIKANER**	**54.02 298**	*e*P	**P**	**00 22 22.4**	**-1.9**
MA2	**Magadan**	**54.05 15**	P	**P**	**00 22 23.5**	**-0.4**
MA2	**Magadan**	**54.05 15**	P	**P**	**00 22 25.3**	**+1.4**
MA2	**Magadan**	**54.05 15**	*c e*P	**P**	**00 22 25.1**	**+1.2**
MA2			pmax	pmax		
	comp=Z,18nm,1.3s					
MA2	**Magadan**	**54.05 15**	P	**P**	**00 22 23.5**	**-0.4**
	comp=Z,42nm,0.8s					
SRNI	**Srinagar**	**54.06 306**	*e*P	**P**	**00 22 23.3**	**-1.1**
UZB	**Uzynbulak**	**54.13 318**	*e*P	**P**	**00 22 24.1**	**-0.9**
UZB			pmax	pmax		
	comp=Z,40nm,1.3s					
UZB	**Uzynbulak**	**54.13 318**	*e*P	**P**	**00 22 24.1**	**-0.9**
	comp=Z,40nm,1.3s					
KAAM	**Kaadhehdhoo**	**54.27 264**	P	**P**	**00 22 25.6**	**-0.6**
KAAM	**Kaadhehdhoo**	**54.27 264**	P	**P**	**00 22 27.6**	**+1.3**
KAAM	**Kaadhehdhoo**	**54.27 264**	⇑P	**P**	**00 22 26.9**	**+0.6**
KPKS	**Kokpek**	**54.49 318**	*e*P	**P**	**00 22 26.4**	**-1.1**
KPKS			pmax	pmax		
	comp=Z,30nm,1.1s					
KPKS	**Kokpek**	**54.49 318**	*e*P	**P**	**00 22 26.5**	**-1.1**
	comp=Z,30nm,1.1s					
SATY	**Saty**	**54.50 318**	*e*P	**P**	**00 22 26.8**	**-0.9**
SATY			pmax	pmax		
	comp=Z,19nm,0.8s					
SATY	**Saty**	**54.50 318**	*e*P	**P**	**00 22 26.8**	**-0.9**
	comp=Z,19nm,0.8s					
ZHN	**Zhinishke**	**54.53 318**	*e*P	**P**	**00 22 26.8**	**-1.0**
ZHN	**Zhinishke**	**54.53 318**	*e*P	**P**	**00 22 26.9**	**-1.0**
KSH	**Kashi**	**54.86 313**	P	**P**	**00 22 30.8**	**+0.5**
KSH			sP	pwP	00 22 45.4	+2.3
KSH			PP	**PP**	**00 24 39.4**	**+6.1**
KSH			S	**S**	**00 30 10.5**	**+0.4**
KSH			ScS	**ScS**	**00 32 17.4**	**-0.7**
KSH			pmax	pmax		
	comp=Z,27nm,1.5s					
KSH			pmax	pmax		
	comp=Z,770nm,6.5s					
KSH			LR	LR		
	comp=Z,5μm,17.5s					
KSH			LR	LR		
	comp=Z,8μm,16.5s					
KSH			LR	LR		
	comp=Z,8μm,17.2s					
NIL	**Nilore**	**55.23 305**	P	**P**	**00 22 31.8**	**-1.2**
NIL	**Nilore**	**55.23 305**	P	**P**	**00 22 32.1**	**-0.9**
NIL			P	**P**	**00 22 32.1**	**-0.9**
NIL	**Nilore**	**55.23 305**	P	**P**	**00 22 31.8**	**-1.2**
NIL			pmax	pmax		
	comp=Z,262nm,0.9s					
TDK	**Taldyqorghan**	**55.33 320**	*e*P	**P**	**00 22 32.5**	**-1.0**
TDK	**Taldyqorghan**	**55.33 320**	*e*P	**P**	**00 22 32.6**	**-1.0**
ARXS	**Arharly**	**55.37 319**	*e*P	**P**	**00 22 33.4**	**-0.5**
TNSS	**Tian-Shan**	**55.47 317**	*e*P	**P**	**00 22 33.5**	**-1.5**
**

ZALV LR LR 00 48 11.8
comp=Z,4µm,19.6s,baz=127,slow=37
ZALV PKPPKP **P'P'df** **00 52 39.2 +0.2**
comp=Z,0.2nm,0.3s,baz=315,slow=1.0,SNR=3.7
comp=Z,8.8nm,0.4s
ZALV Zalesovo Beam 56.45 332 *i* P **P** **00 22 40.4 -0.9**
ZALV pmax pmax
comp=Z,9.0nm,0.4s
BHUJ Bhuj 56.63 292 IAMs_20 IAMs_20 00 37 19.1
comp=Z,4µm,18.6s
KBK Karagaybulak 56.69 316 P **P** **00 22 44.2 +0.7**
SNR=24
UCH Uchtor 56.84 315 P **P** **00 22 46.8 +1.9**
SNR=10
CHMS Chumysh 56.95 316 P **P** **00 22 45.1 0.0**
SNR=16
FRU1 Bishkek 56.96 316 P **P** **00 22 44.5 -0.8**
FRU1 IAMs_20 IAMs_20 00 45 57.3
comp=Z,5µm,21.0s
FRU1 Bishkek 56.96 316 P **P** **00 22 44.5 -0.8**
FRU1 pmax pmax
comp=Z,31nm,1.0s
FRU1 pmax pmax
comp=Z,5µm,21.0s
AAK Ala-Archa 57.00 316 P **P** **00 22 45.0 -0.7**
AAK IAmb IAmb 00 23 00.3
comp=Z,95nm,1.9s
AAK Ala-Archa 57.00 316 LR LR 00 46 45.1
comp=Z,5µm,21.9s,baz=92,slow=36
AAK Ala-Archa 57.00 316 P **P** **00 22 45.9 +0.3**
AAK P **P** **00 22 45.9 +0.3**
AAK P **P** **00 22 45.9 +0.3**
AAK S **S** **00 30 38.0 -0.5**
AAK S **S** **00 30 38.0 -0.5**
AAK S **S** **00 30 38.0 -0.5**
AAK Ala-Archa 57.00 316 P **P** **00 22 46.1 +0.5**
SNR=15
AAK Ala-Archa 57.00 316*ce*P **P** **00 22 44.6 -1.0**
AAK pmax pmax
comp=Z,61nm,2.5s
AAK Ala-Archa 57.00 316 *i* P **P** **00 22 45.1 -0.6**
SNR=20
AAK Ala-Archa 57.00 316 ⇑P **P** **00 22 44.6 -1.0**
SGDS Sogindy 57.20 317 *e*P **P** **00 22 45.7 -1.2**
SGDS Sogindy 57.20 317 *e*P **P** **00 22 45.8 -1.2**
USP Ospenovka 57.22 317 P **P** **00 22 47.3 +0.3**
SNR=34
SEY Seymchan 57.36 14*ce*P **P** **00 22 50.1 +2.5**
SEY pmax pmax
comp=Z,72nm,2.5s
AML Almayashu 57.38 315 P **P** **00 22 49.3 +0.7**
SNR=63
EKS2 Erkin-Say 57.50 316 P **P** **00 22 49.7 +0.5**
SNR=41
ARSB Arslanbob 57.61 314 IAmb IAmb 00 23 05.0
comp=Z,68nm,1.3s
DGTI Dogotuki 57.81 115 P **P** **00 22 53.1 +1.5**
KURK Kurchatov 57.85 326 P **P** **00 22 50.9 -0.3**
KURK Kurchatov 57.85 326 IAMs_20 IAMs_20 00 50 17.5
comp=Z,3µm,18.0s
KURK Kurchatov 57.85 326 P **P** **00 22 50.9 -0.3**
KURK P **P** **00 22 50.9 -0.3**
KURK P **P** **00 22 50.9 -0.3**
KURK S **S** **00 30 47.4 -1.7**
KURK S **S** **00 30 47.4 -1.7**
KURK S **S** **00 30 47.4 -1.7**
KURK Kurchatov 57.85 326*ce*P **P** **00 22 49.8 -1.4**
KURK pmax pmax
comp=Z,75nm,1.0s
KURK Kurchatov 57.85 326 ⇑P **P** **00 22 49.9 -1.4**
KURBB Kurchatov Arra 57.85 326 P **P** **00 22 50.7 -0.6**
comp=Z,27nm,0.6s,baz=124,slow=6.7,SNR=184
KURBB S **S** **00 30 48.6 -0.6**
comp=Z,1.7nm,1.2s,baz=124,slow=12,SNR=5.5
KURBB LR LR 00 47 31.3
comp=Z,2µm,20.2s,baz=153,slow=36
KURBB PKPPKP **P'P'df** **00 52 35.4 -1.7**
comp=Z,0.4nm,0.8s,baz=269,slow=3.0,SNR=2.2
comp=Z,27nm,0.6s
KURBB Kurchatov Arra 57.85 326 P **P** **00 22 50.5 -0.8**
DRK Karamyk 57.91 311 IAmb IAmb 00 22 53.8
comp=Z,65nm,1.0s
BTLS Baital 58.17 318 *e*P **P** **00 22 52.6 -1.1**
BTLS Baital 58.17 318 *e*P **P** **00 22 52.6 -1.1**
KBU Kabul Universi 58.75 305 P **P** **00 22 55.3 -2.9**
BTK Batken 58.80 312 IAmb IAmb 00 22 59.4
comp=Z,97nm,1.2s
KBL Kabul 58.83 305 P **P** **00 22 57.6 -1.1**
KBL IAmb IAmb 00 22 59.5
comp=Z,79nm,0.9s
KBL Kabul 58.83 305 P **P** **00 22 56.4 -2.3**
SNR=48
KBL P **P** **00 22 56.4 -2.3**
SNR=48
KBL S **S** **00 31 01.1 -1.8**
KBL S **S** **00 31 01.1 -1.8**
KBL Kabul 58.83 305 P **P** **00 22 57.6 -1.1**
KBL pmax pmax
comp=Z,79nm,1.0s
DZA Taraz 59.27 315 *e*P **P** **00 23 00.3 -1.1**
DZA pmax pmax
comp=Z,27nm,0.9s
DZA Taraz 59.27 315 *e*P **P** **00 23 00.3 -1.1**
comp=Z,27nm,0.9s
SIMJ Simiganj 59.78 310 P **P** **00 23 04.3 -0.9**
SIMJ IAmb IAmb 00 23 07.5
comp=Z,71nm,1.1s
SIMJ IAMs_20 IAMs_20 00 53 12.4
comp=Z,3µm,19.0s
KK31 Karatay Array 59.91 315 IAmb IAmb 00 23 06.7
comp=Z,62nm,0.8s
KK31 Karatay Array 59.91 315 *i* P **P** **00 23 05.2 -0.6**
KKAR Karatay Array 59.91 315 P **P** **00 23 04.6 -1.2**
KKAR Karatay Array 59.91 315 P **P** **00 23 04.6 -1.2**
KKAR Karatay Array 59.91 315 ⇑P **P** **00 23 04.5 -1.3**
IUG Iuzhnay 59.97 314 *e*P **P** **00 23 05.3 -1.0**
IUG Iuzhnay 59.97 314 *e*P **P** **00 23 05.3 -1.0**
BRLS Borolday 60.36 315 *e*P **P** **00 23 08.0 -0.9**
BRLS pmax pmax
comp=Z,24nm,0.8s
BRLS Borolday 60.36 315 *e*P **P** **00 23 08.0 -0.9**
comp=Z,24nm,0.8s
OTUK Ortayu 60.47 321 P **P** **00 23 08.5 -1.0**
BRZS Berezniki 60.93 323 *e*P **P** **00 23 11.7 -0.9**
BRZS pmax pmax
comp=Z,27nm,1.1s
BRZS Berezniki 60.93 323 *e*P **P** **00 23 11.7 -0.9**
comp=Z,27nm,1.1s
OUZ Omahuta 61.91 138 IAMs_20 IAMs_20 00 47 37.7
comp=Z,4µm,19.0s
ADK Adak 62.96 35 IAMs_20 IAMs_20 00 46 54.8
comp=Z,4µm,20.0s
TIXI Tiksi 63.08 1 P **P** **00 23 26.6 0.0**
TIXI Tiksi 63.08 1 IAMs_20 IAMs_20 00 51 41.2
comp=Z,4µm,20.0s
TIXI Tiksi 63.08 1 LR LR 00 51 42.0
comp=Z,3µm,20.4s,baz=200,slow=37
TIXI Tiksi 63.08 1*c i*P **P** **00 23 26.5 0.0**
TIXI Tiksi 63.08 1 ⇑P **P** **00 23 26.0 -0.6**
BVO Borovoye Array 63.45 326 *i* P **P** **00 23 29.1 -0.3**
BVAR Borovoye Array 63.45 326 P **P** **00 23 28.9 -0.5**
comp=Z,87nm,1.0s,baz=121,slow=7.6,SNR=145
BVAR S **S** **00 31 59.1 -1.5**
comp=Z,0.8nm,1.0s,baz=168,slow=7.6,SNR=2.1
BVAR LR LR 00 50 37.0
comp=Z,3µm,20.1s,baz=123,slow=36
comp=Z,87nm,1.0s
BRVK Borovoye 63.52 326 P **P** **00 23 28.9 -1.0**
BRVK Borovoye 63.52 326 IAMs_20 IAMs_20 00 50 05.1
comp=Z,4µm,20.0s
BRVK Borovoye 63.52 326 P **P** **00 23 28.7 -1.2**
BRVK P **P** **00 23 28.7 -1.2**
BRVK P **P** **00 23 28.7 -1.2**
BRVK S **S** **00 31 59.2 -2.4**
BRVK S **S** **00 31 59.2 -2.4**
BRVK S **S** **00 31 59.2 -2.4**
BRVK Borovoye 63.52 326*ce*P **P** **00 23 27.8 -2.1**
BRVK pmax pmax
comp=Z,124nm,1.0s
BRVK Borovoye 63.52 326 ⇑P **P** **00 23 28.9 -1.0**
KUZ Kuaotunu 64.19 138 P **P** **00 23 35.8 +1.3**
HRA Herat 64.34 304 P **P** **00 23 34.9 -1.0**
HRA IAmb IAmb 00 23 36.6
comp=Z,103nm,1.5s
ATKA Atka Island 64.51 36 IAMs_20 IAMs_20 00 47 49.4
comp=Z,3µm,20.0s
NGCH Negor - Chabah 64.52 294 P **P** **00 23 35.9 -1.0**
QRZ Quartz Range 64.60 143 P **P** **00 23 38.7 +1.6**
TOZ Tahuroa Road 64.61 139 IAMs_20 IAMs_20 00 49 46.6
comp=Z,4µm,20.0s
JCZ Jackson Bay 64.62 148 P **P** **00 23 38.6 +1.3**
JCZ Jackson Bay 64.62 148 P **P** **00 23 39.0 +1.7**
HIZ Hauiti 64.64 140 IAMs_20 IAMs_20 00 50 04.5
comp=Z,3µm,20.0s
DCZ Deep Cove 64.75 150 IAMs_20 IAMs_20 00 53 08.3
comp=Z,3µm,19.0s
DSZ Denniston Nort 64.75 144 P **P** **00 23 39.2 +1.1**
FOZ Fox Glacier 64.80 147 IAMs_20 IAMs_20 00 52 22.8
comp=Z,4µm,18.0s
BILL Biiibino 64.91 15 P **P** **00 23 38.7 0.0**
BILL Biiibino 64.91 15*ce*P **P** **00 23 39.6 +0.9**
BILL pmax pmax
comp=Z,72nm,2.5s
BILL MLR MLR
comp=Z,2µm,19.0s
VRZ Vera Road 64.94 140 P **P** **00 23 41.7 +2.3**
MLZ Mavora Lakes 65.17 149 P **P** **00 23 43.5 +2.8**
INZ Inchbonnie 65.17 145 P **P** **00 23 40.3 -0.5**
INZ IAmb IAmb 00 23 44.9
comp=Z,69nm,1.4s
WKZ Wanaka 65.25 148 IAMs_20 IAMs_20 00 49 25.7
comp=Z,3µm,22.0s
NNZ Nelson 65.35 143 P **P** **00 23 42.9 +0.9**
THZ Tophouse 65.40 144 P **P** **00 23 42.2 -0.2**
WHZ Wether Hill Ro 65.45 150 IAMs_20 IAMs_20 00 53 39.7
comp=Z,3µm,18.0s
NGZ Ngauruhoe 65.50 140 P **P** **00 23 44.9 +1.7**
LBZ Lake Benmore 65.57 147 P **P** **00 23 43.7 +0.4**
LBZ IAMs_20 IAMs_20 00 53 16.1
comp=Z,3µm,19.0s
LBZ Lake Benmore 65.57 147 P **P** **00 23 44.2 +0.8**
RPZ Rata Peaks 65.60 146 LR LR 00 53 19.0
comp=Z,3µm,19.3s,baz=301,slow=37
RPZ Rata Peaks 65.60 146 P **P** **00 23 44.5 +1.0**
LTZ Lake Taylor 65.68 145 P **P** **00 23 45.2 +1.1**
URZ Urewera 65.95 139 LR LR 00 50 17.6
comp=Z,3µm,22.0s,baz=29,slow=34
URZ Urewera 65.95 139 P **P** **00 23 46.9 +1.0**
URZ Urewera 65.95 139 ⇑P **P** **00 23 46.6 +0.6**
JLN Jalan Bani Buh 66.03 290 P **P** **00 23 44.5 -2.2**
JLN P **P** **00 23 44.5 -2.2**
BKZ Black Stump Fm 66.06 140 IAMs_20 IAMs_20 00 51 10.1
comp=Z,3µm,20.0s
BKZ Black Stump Fm 66.06 140 P **P** **00 23 47.1 +0.4**
BKZ Black Stump Fm 66.06 140 P **P** **00 23 47.6 +0.9**
RTZ Ruatahuna 66.07 139 P **P** **00 23 46.8 0.0**
KHZ Kahutara 66.18 144 P **P** **00 23 46.9 -0.4**
KHZ Kahutara 66.18 144 ⇑P **P** **00 23 47.6 +0.3**
ODZ Otahua Downs 66.25 148 IAMs_20 IAMs_20 00 58 18.1
comp=Z,2µm,18.0s
MWZ Matawai 66.27 138 P **P** **00 23 50.9 +2.8**
MRZ Mangatainoka R 66.35 141 IAMs_20 IAMs_20 00 55 08.7
comp=Z,2µm,19.0s
MRZ Mangatainoka R 66.35 141 P **P** **00 23 47.8 -0.6**
BHW Baring Head 66.36 142 IAMs_20 IAMs_20 00 54 47.9
comp=Z,3µm,18.0s
MXZ Matakaoa Point 66.37 137 P **P** **00 23 49.6 +1.0**
WBK Wadi Bani Khal 66.44 291 P **P** **00 23 48.4 -1.1**
WBK P **P** **00 23 48.4 -1.1**
MSWZ Moikau Station 66.59 142 P **P** **00 23 48.6 -1.3**
WSAR Wadi Sarin 66.75 292 LR LR 00 58 16.6
comp=Z,1µm,18.0s,baz=105,slow=41
BFZ Birch Farm 66.77 141 IAMs_20 IAMs_20 00 53 19.9
comp=Z,3µm,19.0s
BFZ Birch Farm 66.77 141 P **P** **00 23 51.4 +0.2**
BFZ Birch Farm 66.77 141 P **P** **00 23 52.1 +1.0**
BIDO Bidbid 67.22 292 P **P** **00 23 54.2 -0.2**
SNR=7.2
BIDO P **P** **00 23 54.2 -0.2**
SNR=7.2
JMDO Jabal Madar 67.24 291 P **P** **00 23 54.0 -0.6**
SNR=5.0
JMDO P **P** **00 23 54.0 -0.6**
SNR=5.0
SMDO Samad 67.29 291 P **P** **00 23 52.0 -2.9**
SMDO P **P** **00 23 52.0 -2.9**
SMDO P **P** **00 23 52.0 -2.9**
MHTO MHTO 67.37 289 P **P** **00 23 55.0 -0.4**
SNR=7.8
MHTO P **P** **00 23 55.0 -0.4**
SNR=7.8
JASK Jask - Hormozg 67.49 294 P **P** **00 23 55.1 -1.0**
HOQ Hoqain 67.97 292 P **P** **00 23 59.0 -0.2**
SNR=5.3
SPIA Saint Paul Isl 68.33 31 P **P** **00 24 01.4 +0.7**
baz=251
P08K Saint George I 68.51 32 P **P** **00 24 01.6 -0.2**
baz=252
AB31 Akbulak array 68.59 320 *i* P **P** **00 24 01.5 -1.1**
ABKAR Akbulak array 68.59 320 P **P** **00 24 00.7 -1.9**
ABKAR IAmb IAmb 00 24 03.3
comp=Z,79nm,1.2s
ABKAR Akbulak array 68.59 320 ⇑P **P** **00 24 01.2 -1.4**
SOHO SOHO 68.68 293 P **P** **00 24 02.0 -1.5**
SOHO SOHO 68.68 293 P **P** **00 24 01.8 -1.7**
ARQ Araqi 68.69 292 P **P** **00 24 02.7 -1.0**
ARQ P **P** **00 24 02.7 -1.0**
MDH Madha 68.90 294 P **P** **00 24 04.0 -0.9**
UOSS Minazif 68.98 293 P **P** **00 24 03.3 -2.2**
UOSS P **P** **00 24 03.3 -2.2**
UOSS Minazif 68.98 293 P **P** **00 24 03.5 -2.0**
UOSS Minazif 68.98 293 ⇑P **P** **00 24 03.6 -1.8**
MASF Masafi 69.03 294 P **P** **00 24 03.0 -2.8**
MASF P **P** **00 24 03.0 -2.8**
HATD Hatta, Dubai 69.05 293 P **P** **00 24 04.3 -1.6**
HATD P **P** **00 24 04.3 -1.6**
HATD P **P** **00 24 04.3 -1.6**
HATD Hatta, Dubai 69.05 293 P **P** **00 24 05.2 -0.7**
ALNE Al Ain 69.39 292 P **P** **00 24 08.0 0.0**
SNR=5.9
ALNE P **P** **00 24 08.0 0.0**
SNR=5.9
ALNE P **P** **00 24 08.0 0.0**
SNR=5.9
ALNE Al Ain 69.39 292 *i* P **P** **00 24 07.6 -0.4**
SNR=17
UNV Unalaska Valle 69.43 36 P **P** **00 24 07.8 +0.2**
UNV Unalaska Valle 69.43 36 P **P** **00 24 08.8 +1.2**
UNV Unalaska Valle 69.43 36 P **P** **00 24 07.8 +0.2**
baz=256
UNV S **S** **00 33 17.6 +4.4**
baz=256
NAZ Nazwa, Dubai 69.47 293 P **P** **00 24 05.8 -2.7**
NAZ P **P** **00 24 05.8 -2.7**
NAZ Nazwa, Dubai 69.47 293 P **P** **00 24 07.2 -1.3**
UMQ Umm Al-Quwin 69.47 294 P **P** **00 24 08.8 +0.3**
FAQ Al Faqa, Dubai 69.54 293 P **P** **00 24 09.2 +0.3**
FAQ P **P** **00 24 09.2 +0.3**
FAQ P **P** **00 24 09.2 +0.3**
FAQ Al Faqa, Dubai 69.54 293 P **P** **00 24 07.6 -1.3**
ASUD Al Ashush, Dub 69.78 293 P **P** **00 24 09.5 -0.9**
ASUD Al Ashush, Dub 69.78 293 P **P** **00 24 08.9 -1.5**
UMZA Um Al Zommool 69.95 291 P **P** **00 24 10.0 -1.5**
UMZA P **P** **00 24 10.0 -1.5**
GAMB Gambell 69.99 25 P **P** **00 24 12.2 +1.3**
baz=248
GAMB S **S** **00 33 23.9 +4.6**
baz=248
SVE Sverdlovsk 70.01 328*de*P **P** **00 24 10.9 -0.2**
SVE *e*S **S** **00 33 19.8 0.0**
SVE pmax pmax
comp=Z,165nm,1.2s
SVE MLR MLR
comp=Z,3µm,18.0s
AKTO Aktyubinsk 70.05 321 LR LR 00 57 41.9
comp=Z,7µm,18.2s,baz=99,slow=38
AKTO Aktyubinsk 70.05 321 P **P** **00 24 11.0 -0.6**
AJN Ajban 70.09 293 P **P** **00 24 10.1 -2.1**
DMTO DMTO 70.32 286 P **P** **00 24 15.0 +1.1**
SNR=9.5
DMTO P **P** **00 24 15.0 +1.1**
SNR=9.5
RBK Rabkut 71.04 286 P **P** **00 24 19.0 +0.7**
SNR=12
RBK P **P** **00 24 19.0 +0.7**
SNR=12
DOK Doka 71.06 287 P **P** **00 24 18.0 -0.3**
SNR=16
DOK P **P** **00 24 18.0 -0.3**
SNR=16
ARTI Arti 71.10 327 P **P** **00 24 16.5 -1.3**
ARTI IAmb IAmb 00 24 18.2
comp=Z,82nm,1.1s
ARTI IAMs_20 IAMs_20 00 54 45.1
comp=Z,2µm,20.0s
ARTI Arti 71.10 327 LR LR 00 58 57.2
comp=Z,2µm,18.5s,baz=114,slow=39
ARTI Arti 71.10 327*c i*P **P** **00 24 16.3 -1.5**
ARTI 00 24 37.7
ARTI 00 26 51.6
ARTI PPP PPP 00 28 37.1
ARTI S **S** **00 33 33.8 +1.2**
ARTI 00 34 17.9
ARTI pmax pmax
comp=Z,106nm,1.3s
ARTI MLR MLR
comp=Z,3µm,17.0s
ARTI Arti 71.10 327 ⇑P **P** **00 24 16.6 -1.2**
MZWR Madinat Zayed 71.11 292 P **P** **00 24 16.5 -2.1**
MZWR P **P** **00 24 16.5 -2.1**
M11K Mekoryuk 71.31 29 P **P** **00 24 20.1 +1.2**
baz=254
FALS False Pass 71.42 35 P **P** **00 24 19.8 +0.1**
baz=258
WHFO Wadi Hawf 71.43 286 P **P** **00 24 20.1 -0.5**
SNR=8.0
WHFO P **P** **00 24 20.1 -0.5**
SNR=8.0
MZR Muzera 71.50 291 P **P** **00 24 20.8 -0.1**
SNR=12
MZR P **P** **00 24 20.8 -0.1**
SNR=12
MZR Muzera 71.50 291 *i* P **P** **00 24 20.0 -0.9**
SNR=38
ABTO Aybut 71.92 285 P **P** **00 24 24.0 +0.4**
SNR=12
ABTO P **P** **00 24 24.0 +0.4**
SNR=12
JRN Qarnain Island 72.03 293 P **P** **00 24 22.0 -2.0**
JRN P **P** **00 24 22.0 -2.0**
TNA Tin City 72.14 23 P **P** **00 24 24.4 +0.5**
baz=250
TNA S **S** **00 33 46.4 +2.1**
baz=250
S12K Black Hills 72.35 34 IAMs_20 IAMs_20 00 52 16.0
comp=Z,2µm,21.0s
K13K Kusilvak Mount 72.45 27 IAmb IAmb 00 25 05.1
comp=Z,112nm,1.4s
K13K Kusilvak Mount 72.45 27 P **P** **00 24 26.3 +0.5**
baz=255
K13K S **S** **00 33 50.4 +2.5**
baz=255
M13K Dall Lake 72.68 29 P **P** **00 24 27.9 +0.7**
baz=256
F14K Arctic Creek 72.75 24 P **P** **00 24 28.1 +0.6**
baz=252
F14K S **S** **00 33 55.3 +4.1**
baz=252
ANM Nome 72.86 25 P **P** **00 24 29.2 +1.0**
baz=253
ANM S **S** **00 33 56.5 +3.9**
baz=253
SLWR Sila 73.11 293 P **P** **00 24 29.7 -0.8**
J14K Nanvaranak Lak 73.16 27 P **P** **00 24 31.8 +1.9**
baz=256
J14K S **SKiKP** **00 33 58.8 -1.6**
baz=256
SDPT Sand Point 73.17 35 IAMs_20 IAMs_20 00 52 13.8
comp=Z,3µm,21.0s
SDPT Sand Point 73.17 35 P **P** **00 24 30.7 +0.5**
baz=260
SDPT S **SKiKP** **00 33 59.1 -1.5**
baz=260
L14K Kuka Creek 73.22 28 P **P** **00 24 31.1 +0.7**
L14K IAmb IAmb 00 24 36.2
comp=Z,104nm,1.1s
L14K Kuka Creek 73.22 28 P **P** **00 24 31.3 +0.9**
baz=257,SNR=21
L14K S **SKiKP** **00 34 00.3 -0.2**
baz=257
N14K Kuskokwak Cree 73.39 30 P **P** **00 24 31.9 +0.5**
baz=258
M14K Bethel 73.43 29 P **P** **00 24 32.3 +0.7**
baz=258
M14K S **SKiKP** **00 34 01.5 +0.7**
baz=258
O14K Tigyukauivet M 73.46 31 P **P** **00 24 32.8 +1.0**
baz=259
F15K North Star Dit 73.48 24 IAmb IAmb 00 24 51.0
comp=Z,59nm,1.2s
F15K North Star Dit 73.48 24 P **P** **00 24 33.0 +1.1**
baz=254
F15K S **SKiKP** **00 34 02.4 +1.6**
baz=254
TRNA Turayna 73.52 293 P **P** **00 24 30.9 -2.0**
G15K Niukluk 73.53 24 P **P** **00 24 33.3 +1.1**
baz=254,SNR=6.8
G15K S **SKiKP** **00 34 02.4 +1.5**
baz=254
CHNA Chernabura Isl 73.59 35 P **P** **00 24 32.7 0.0**
baz=261
SHMA Al-Shehemyia 73.71 294 P **P** **00 24 33.2 -0.7**
S14K Fog Glacier 73.83 34 P **P** **00 24 34.2 -0.1**
baz=261
L15K Ungalak Mounta 73.85 28 P **P** **00 24 35.1 +1.0**
baz=258
L15K S **S** **00 34 06.2 +2.4**
baz=258
SMRA Abu-Samra 73.87 293 P **P** **00 24 35.0 +0.1**
SNR=5.6
K15K Wolf Creek Mou 73.96 27 IAmb IAmb 00 25 20.4
comp=Z,65nm,1.2s
K15K Wolf Creek Mou 73.96 27 P **P** **00 24 36.0 +1.2**
baz=258,SNR=10
K15K S **S** **00 34 07.4 +2.3**
baz=258
C16K Lisburne Hills 73.98 21 P **P** **00 24 35.0 +0.3**
C16K IAmb IAmb 00 24 53.6
comp=Z,62nm,1.2s
C16K Lisburne Hills 73.98 21 P **P** **00 24 35.7 +1.0**
baz=252
C16K S **S** **00 34 08.4 +3.4**
baz=252
M15K Kasigluk River 74.03 29 P **P** **00 24 35.6 +0.4**
baz=259,SNR=5.5
M15K S **S** **00 34 07.2 +1.4**
baz=259
SAKB Bahrain 74.09 295 P **P** **00 24 34.9 -1.3**
O15K Ungalikthiuk R 74.17 31 P **P** **00 24 37.0 +0.9**
baz=260
O15K S **S** **00 34 09.8 +2.2**
baz=260
H16K Elim 74.19 25 P **P** **00 24 36.9 +0.8**
baz=256,SNR=9.4
H16K S **S** **00 34 10.2 +2.6**
baz=256
N15K Kwethluk River 74.22 30 IAmb IAmb 00 24 50.5
comp=Z,77nm,1.2s
N15K Kwethluk River 74.22 30 P **P** **00 24 37.5 +1.1**
baz=259,SNR=7.0
N15K S **S** **00 34 08.1 0.0**
baz=259
G16K Koyuk River 74.32 24 P **P** **00 24 37.9 +1.1**
baz=256
G16K S **S** **00 34 11.5 +2.5**
baz=256
CHGN Chignik 74.47 34 IAMs_20 IAMs_20 00 54 13.1
comp=Z,3µm,20.0s
CHGN Chignik 74.47 34 P **P** **00 24 38.1 +0.3**
baz=262
J16K Anvik River 74.59 27 P **P** **00 24 39.3 +0.9**
baz=258
J16K S **S** **00 34 15.3 +3.2**
baz=258
D17K Noatak River 74.63 22 P **P** **00 24 39.8 +1.3**
baz=254,SNR=26
D17K S **S** **00 34 13.9 +1.5**
baz=254
I17K Unalakleet 74.67 26 IAmb IAmb 00 24 58.4
comp=Z,103nm,1.4s
I17K Unalakleet 74.67 26 P **P** **00 24 39.9 +1.1**
baz=258
I17K S **S** **00 34 16.6 +3.6**
baz=258
RDOG Red Dog Mine 74.79 22 P **P** **00 24 40.2 +0.7**
RDOG IAmb IAmb 00 24 56.0

	comp=Z,98nm,1.3s					
RDOG	Red Dog Mine	74.79	22	P	P	00 24 40.6 +1.1
	baz=255					
RDOG				S	S	00 34 16.7 +2.5
	baz=255					
L16K	Owhat River	74.80	28	IAmb	IAmb	00 24 58.8
	comp=Z,128nm,1.4s					
L16K	Owhat River	74.80	28	P	P	00 24 40.5 +0.9
	baz=260,SNR=13					
L16K				S	S	00 34 16.7 +2.3
	baz=260					
C17K	DeLong Mountai	74.80	21	P	P	00 24 40.8 +1.2
	baz=254					
C17K				S	S	00 34 16.6 +2.2
	baz=254					
M16K	Timber Creek	74.92	29	IAmb	IAmb	00 24 59.5
	comp=Z,58nm,1.1s					
M16K	Timber Creek	74.92	29	P	P	00 24 41.4 +1.0
	baz=260,SNR=7.3					
M16K				S	S	00 34 18.0 +2.1
	baz=260					
N16K	Nishlik Lake	74.92	30	P	P	00 24 41.7 +1.3
	baz=260					
N16K				S	S	00 34 17.7 +1.8
	baz=260					
E17K	Hotham Inlet	74.94	23	P	P	00 24 41.5 +1.1
	baz=256					
E17K				S	S	00 34 18.2 +2.3
	baz=256					
F17K	Baldwin Pennin	75.01	23	P	P	00 24 42.1 +1.4
	baz=257,SNR=6.2					
F17K				S	S	00 34 20.2 +3.6
	baz=257					
G17K	Kiwalik Mounta	75.04	24	P	P	00 24 42.5 +1.5
	baz=257,SNR=12					
G17K				S	S	00 34 19.0 +1.9
	baz=257					
P16K	Nushagak River	75.08	31	P	P	00 24 42.2 +0.9
	baz=262					
R16K	Pilot Point	75.09	33	P	P	00 24 42.3 +0.9
	baz=262					
O16K	Kokwok River B	75.11	31	IAmb	IAmb	00 25 21.0
	comp=Z,91nm,1.3s					
O16K	Kokwok River B	75.11	31	P	P	00 24 43.3 +1.8
	baz=261					
O16K				S	S	00 34 21.4 +3.3
	baz=261					
H17K	Granite Mounta	75.22	25	P	P	00 24 42.0 -0.1
H17K				IAmb	IAmb	00 25 01.2
	comp=Z,75nm,1.2s					
H17K	Granite Mounta	75.22	25	P	P	00 24 43.2 +1.1
	baz=258,SNR=12					
H17K				S	S	00 34 21.7 +2.6
	baz=258					
J17K	VABM Dome	75.28	27	IAmb	IAmb	00 25 01.8
	comp=Z,71nm,1.1s					
J17K	VABM Dome	75.28	27	P	P	00 24 44.1 +1.7
	baz=259					
J17K				S	S	00 34 23.2 +3.3
	baz=259					
L17K	Donlin	75.42	28	P	P	00 24 44.6 +1.4
	baz=260					
L17K				S	S	00 34 23.9 +2.6
	baz=260					
LKRN	Lenkeran, Azer	75.46	308	P	P	00 24 44.9 +1.0
E18K	Tukpahlearik C	75.48	22	P	P	00 24 43.1 -0.4
E18K				IAmb	IAmb	00 24 59.4
	comp=Z,40nm,0.9s					
E18K	Tukpahlearik C	75.48	22	P	P	00 24 45.1 +1.7
	baz=257					
E18K				S	S	00 34 24.1 +2.1
	baz=257					
K17K	Iditarod	75.51	27	IAmb	IAmb	00 25 03.3
	comp=Z,95nm,1.1s					
K17K	Iditarod	75.51	27	P	P	00 24 45.5 +1.8
	baz=260,SNR=16					
K17K				S	S	00 34 23.1 +0.7
	baz=260					
B18K	Kokolik River	75.52	20	P	P	00 24 45.4 +1.7
	baz=255,SNR=30					
B18K				S	S	00 34 24.0 +1.8
	baz=255					
C18K	Utukok River	75.55	21	IAmb	IAmb	00 24 57.8
	comp=Z,88nm,1.4s					
C18K	Utukok River	75.55	21	P	P	00 24 45.8 +1.8
	baz=256					
C18K				S	S	00 34 24.2 +1.4
	baz=256					
O17K	Koliganek Bris	75.64	30	P	P	00 24 45.4 +0.9
	baz=262,SNR=7.6					
O17K				S	S	00 34 26.3 +2.4
	baz=262					
F18K	Selawik	75.67	23	P	P	00 24 46.0 +1.5
	baz=258,SNR=19					
F18K				S	S	00 34 25.1 +1.2
	baz=258					
N17K	Nushagak Hills	75.70	30	IAmb	IAmb	00 25 16.1
	comp=Z,128nm,1.5s					
N17K	Nushagak Hills	75.70	30	P	P	00 24 45.3 +0.5
	baz=262					
N17K				S	S	00 34 28.1 +3.5
	baz=262					
M17K	Holitna River	75.71	29	P	P	00 24 45.7 +0.8
M17K				IAmb	IAmb	00 25 04.5
	comp=Z,71nm,1.1s					
M17K	Holitna River	75.71	29	P	P	00 24 46.2 +1.3
	baz=261					
M17K				S	S	00 34 28.4 +3.8
	baz=261					
Q16K	King Salmon	75.72	32	P	P	00 24 46.2 +1.3
	baz=263					
P17K	Kvichak River	75.90	31	P	P	00 24 47.6 +1.6
	baz=263					
H18K	Honhosa River	75.91	25	IAmb	IAmb	00 25 04.8
	comp=Z,125nm,1.8s					
H18K	Honhosa River	75.91	25	P	P	00 24 47.6 +1.6
	baz=260					
H18K				S	S	00 34 27.9 +1.1
	baz=260					
G18K	Tagagawik	75.93	24	P	P	00 24 47.3 +1.2
	baz=259					
G18K				S	S	00 34 26.6 -0.3
	baz=259					
CHIR	Chirikof Islan	75.96	35	P	P	00 24 47.4 +0.9
	baz=264					
A19K	Wainwright	75.97	20	P	P	00 24 48.5 +2.3
	baz=256					
A19K				S	S	00 34 30.5 +3.3
	baz=256					
L18K	Granite Mounta	76.18	28	P	P	00 24 48.2 +0.7
L18K				IAmb	IAmb	00 25 07.0
	comp=Z,64nm,1.2s					
L18K	Granite Mounta	76.18	28	P	P	00 24 48.7 +1.2
	baz=262					
L18K				S	S	00 34 33.6 +3.8
	baz=262					
KIRV	Kirov	76.25	328	LR	LR	01 02 37.3
	comp=Z,3µm,18.1s,baz=102,slow=39					
KIRV	Kirov	76.25	328	*e*P	P	00 24 46.7 -1.3
AKT	Akhty	76.30	311	*e*P	P	00 24 48.6 -0.2
AKT				*e*		00 25 00.6
AKT				*e*		00 27 43.9
AKT				*e*S	S	00 34 33.5 +1.4
AKT				pmax	pmax	
	comp=Z,70nm,1.5s					
J18K	Innoko River	76.34	27	S	S	00 34 32.9 +1.2
	baz=262					
N18K	Kilae Creek	76.36	30	IAmb	IAmb	00 25 07.9
	comp=Z,53nm,1.1s					
N18K	Kilae Creek	76.36	30	P	P	00 24 49.7 +1.1
	baz=263					
ACHA	Angle Creek He	76.36	32	P	P	00 24 48.7 0.0
F19K	Shaleruckik Mo	76.45	23	IAmb	IAmb	00 25 04.2
	comp=Z,86nm,1.6s					
F19K	Shaleruckik Mo	76.45	23	P	P	00 24 49.9 +1.0
	baz=260					
F19K				S	S	00 34 32.6 +0.1
	baz=260					
GCSA	Galena City Sc	76.47	25	P	P	00 24 50.4 +1.3
	baz=261					
GCSA				S	S	00 34 34.1 +1.3
	baz=261					
MAK	Makhachkala	76.49	312	*e*P	P	00 24 44.9 -4.8
MAK				*e*		00 27 35.7
MAK				*e*PPP	PPP	00 29 22.4
MAK				*e*S	S	00 34 30.0 -3.8
MAK				*e*SS	SS	00 39 26.9 -1.9
MAK				pmax	pmax	
	comp=Z,148nm,1.3s					
M18K	Stony River	76.49	29	P	P	00 24 50.3 +1.0
	baz=263					
M18K				S	S	00 34 35.9 +2.7
	baz=263					
KBD	Kabd	76.50	298	P	P	00 24 48.2 -1.8
P18K	Big Mountain,	76.54	31	P	P	00 24 49.9 +0.2
	baz=264					
P18K				S	S	00 34 34.2 +0.3
	baz=264					
Q18K	Katmai Hardscr	76.57	32	P	P	00 24 50.1 +0.1
	baz=264					
TTA	Tatalina	76.58	27	P	P	00 24 50.5 +0.5
	baz=262					
TTA				S	S	00 34 33.9 -0.5
	baz=262					
O18K	Koktuh Hills	76.60	30	IAmb	IAmb	00 24 53.3
	comp=Z,72nm,0.9s					
O18K	Koktuh Hills	76.60	30	P	P	00 24 51.4 +1.4
	baz=264,SNR=12					
O18K				S	S	00 34 37.3 +2.8
	baz=264					
G19K	Purcell Mounta	76.60	24	IAmb	IAmb	00 25 08.7
	comp=Z,112nm,1.8s					
G19K	Purcell Mounta	76.60	24	P	P	00 24 51.0 +1.1
	baz=261					
G19K				S	S	00 34 35.2 +0.8
	baz=261					
D19K	Kuna River	76.62	21	P	P	00 24 51.9 +1.8
	baz=259					
D19K				S	S	00 34 35.6 +1.0
	baz=259					
SEKA	Sheki	76.70	310	P	P	00 24 51.4 +0.4
BELG	Belogornoye	76.75	322	LR	LR	01 01 58.0
	comp=Z,2µm,18.2s,baz=91,slow=38					
BELG	Belogornoye	76.75	322	*i* P	P	00 24 49.3 -1.6
BELG				pmax	pmax	
	comp=Z,12nm,1.0s					
H19K	Roundabout Mou	76.76	25	IAmb	IAmb	00 25 05.2
	comp=Z,107nm,1.4s					
H19K	Roundabout Mou	76.76	25	P	P	00 24 52.6 +1.8
	baz=261					
H19K				S	S	00 34 38.9 +2.8
	baz=261					
E19K	Redstone River	76.77	23	P	P	00 24 51.7 +0.9
E19K				IAmb	IAmb	00 25 05.1
	comp=Z,133nm,1.4s					
E19K	Redstone River	76.77	23	P	P	00 24 52.8 +1.9
	baz=260					
E19K				S	S	00 34 36.9 +0.9
	baz=260					
R18K	Karluk	76.77	33	P	P	00 24 52.6 +1.7
	baz=265					
MNGR	Mingechevir, A	76.78	310	P	P	00 24 52.2 +0.8
SII	Sitkinak Islan	76.83	34	P	P	00 24 52.5 +1.1
	baz=265					
J19K	Poorman	76.90	26	IAmb	IAmb	00 25 17.1
	comp=Z,61nm,1.4s					
J19K	Poorman	76.90	26	P	P	00 24 53.3 +1.6
	baz=262					
J19K				S	S	00 34 40.5 +2.8
	baz=262					
L19K	White Mountain	77.03	28	IAmb	IAmb	00 25 18.6
	comp=Z,92nm,1.4s					
L19K	White Mountain	77.03	28	P	P	00 24 52.7 +0.3
	baz=264					
L19K				S	S	00 34 41.4 +2.3
	baz=264					
N19K	Bonanza Creek	77.06	30	IAmb	IAmb	00 25 10.3
	comp=Z,69nm,1.1s					
N19K	Bonanza Creek	77.06	30	P	P	00 24 54.7 +2.0
	baz=264					
N19K				S	S	00 34 42.7 +3.1
	baz=264					
O19K	Port Alsworth	77.08	30	IAmb	IAmb	00 24 56.5
	comp=Z,44nm,0.9s					
O19K	Port Alsworth	77.08	30	P	P	00 24 54.1 +1.5
	baz=264,SNR=6.8					
O19K				S	S	00 34 41.1 +1.5
	baz=264					
D20K	Etivluk River	77.21	21	P	P	00 24 54.9 +1.6
	baz=260					
D20K				S	S	00 34 42.2 +1.3
	baz=260					
M19K	Big River Lodg	77.21	28	IAmb	IAmb	00 25 22.9
	comp=Z,107nm,1.6s					
M19K	Big River Lodg	77.21	28	P	P	00 24 52.9 -0.5
	baz=264					
M19K				S	S	00 34 43.0 +1.9
	baz=264					
B20K	Meade River	77.24	20	IAmb	IAmb	00 25 07.6
	comp=Z,117nm,1.3s					
B20K	Meade River	77.24	20	P	P	00 24 55.2 +1.8
	baz=260					
B20K				S	S	00 34 42.1 +1.0
	baz=260					
F20K	Avaraart Lake	77.28	23	P	P	00 24 54.3 +0.7
F20K				IAmb	IAmb	00 25 07.8
	comp=Z,84nm,1.5s					
F20K	Avaraart Lake	77.28	23	P	P	00 24 55.4 +1.7
	baz=262					
F20K				S	S	00 34 43.7 +2.1
	baz=262					
E20K	Nigu River	77.29	22	P	P	00 24 54.7 +0.9
	baz=261					
E20K				S	S	00 34 41.8 0.0
	baz=261					
Q19K	Cape Douglas,	77.31	32	IAMs_20	IAMs_20	00 56 07.1
	comp=Z,3µm,21.0s					
Q19K	Cape Douglas,	77.31	32	P	P	00 24 53.7 -0.4
	baz=265					
GANJ	Ganja	77.36	310	P	P	00 24 55.1 +0.4
OHAK	Old Harbor	77.37	33	IAMs_20	IAMs_20	00 55 28.8
	comp=Z,3µm,20.0s					
OHAK	Old Harbor	77.37	33	P	P	00 24 56.3 +2.0
OHAK	Old Harbor	77.37	33	P	P	00 24 54.4 0.0
	baz=266					
H20K	Anotleneega Mo	77.41	25	P	P	00 24 55.6 +1.2
	baz=263					
H20K				S	S	00 34 45.5 +2.4
	baz=263					
I20K	Naaghedeneel	77.49	25	IAmb	IAmb	00 25 14.3
	comp=Z,97nm,1.1s					
I20K	Naaghedeneel	77.49	25	P	P	00 24 56.5 +1.6
	baz=263					
L20K	Farewell, AK	77.51	28	P	P	00 24 56.5 +1.4
	baz=264					
L20K				S	S	00 34 48.0 +3.7
	baz=264					
K20K	Telida	77.51	27	P	P	00 24 55.8 +0.7
	baz=264					
K20K				S	S	00 34 47.2 +2.9
	baz=264					
J20K	Nowinta River	77.56	26	P	P	00 24 55.8 +0.5
	baz=264					
J20K				S	S	00 34 47.2 +2.4
	baz=264					
P19K	Oil Pt	77.58	31	P	P	00 24 56.2 +0.7
	baz=266					
A21K	Barrow	77.65	19	P	P	00 24 57.0 +1.4
	baz=260,SNR=8.7					
A21K				S	S	00 34 45.8 +0.3
	baz=260					
RAR	Rarotonga	77.78	114	LR	LR	00 53 27.3
	comp=Z,2µm,20.9s,baz=280,slow=31					
KDAK	Kodiak Island	77.78	33	P	P	00 24 57.4 +0.8
KDAK				IAmb	IAmb	00 25 00.4
	comp=Z,39nm,0.8s					
KDAK	Kodiak Island	77.78	33	IAMs_20	IAMs_20	00 57 25.8
	comp=Z,2µm,20.0s					
KDAK	Kodiak Island	77.78	33	P	P	00 24 57.4 +0.8
KDAK				pmax	pmax	
	comp=Z,39nm,0.8s					
KDAK				pmax	pmax	
	comp=Z,2µm,20.0s					
KDAK	Kodiak Island	77.78	33	P	P	00 24 57.8 +1.2
	baz=266					
KDAK				S	S	00 34 48.7 +1.3
	baz=266					
M20K	Styx River	77.80	29	IAmb	IAmb	00 25 10.4
	comp=Z,52nm,1.1s					
M20K	Styx River	77.80	29	P	P	00 24 58.2 +1.3
	baz=265					
M20K				S	S	00 34 50.8 +3.1
	baz=265					
O20K	Slope Mountain	77.91	30	P	P	00 24 57.5 +0.1
	baz=266					
C21K	Knifeblade Rid	77.93	21	P	P	00 24 58.1 +0.8
	baz=262					
C21K				S	S	00 34 49.0 +0.4
	baz=262					
Q20K	Shuyak Island	77.94	32	P	P	00 24 58.2 +0.7
	baz=266					
Q20K				S	S	00 34 47.3 -1.7
	baz=266					
SYI	Shuyak Island	77.94	32	IAmb	IAmb	00 25 15.6
	comp=Z,62nm,0.9s					
NAX	Nakhchivan	78.02	308	P	P	00 24 58.2 -0.3
B21K	Ikpikpuk River	78.05	21	IAmb	IAmb	00 25 13.7
	comp=Z,88nm,1.1s					
B21K				IAMs_20	IAMs_20	01 05 12.7
	comp=Z,2µm,18.0s					
B21K	Ikpikpuk River	78.05	21	P	P	00 24 59.4 +1.4
	baz=262					
B21K				S	S	00 34 50.8 +0.9
	baz=262					
G21K	Allakaket	78.08	24	IAmb	IAmb	00 25 12.3
	comp=Z,81nm,1.4s					
G21K	Allakaket	78.08	24	P	P	00 25 00.1 +1.9
	baz=264					
G21K				S	S	00 34 52.9 +2.5
	baz=264					
A22K	Sinclair Lake	78.13	19	P	P	00 25 00.2 +1.9
	baz=262					
A22K				S	S	00 34 52.1 +1.4
	baz=262					
E21K	Killik River	78.13	22	IAmb	IAmb	00 25 18.8
	comp=Z,40nm,0.9s					
E21K	Killik River	78.13	22	P	P	00 24 59.5 +1.1
	baz=263					
E21K				S	S	00 34 51.5 +0.6
	baz=263					
F21K	Alatna River	78.17	23	P	P	00 24 59.8 +1.1
	baz=264					
F21K				S	S	00 34 53.1 +1.8
	baz=264					
N20K	Mount Spurr	78.19	29	P	P	00 24 59.3 +0.3
	baz=266,SNR=10.0					
SPCR	Spurr Chakacha	78.19	29	P	P	00 24 59.8 +0.8
	baz=266					
SPU	Mount Spurr	78.27	29	P	P	00 24 59.7 +0.3
H21K	Melozitna Rive	78.28	25	IAmb	IAmb	00 25 13.6
	comp=Z,112nm,1.8s					
H21K	Melozitna Rive	78.28	25	P	P	00 25 00.4 +1.1
	baz=265					
H21K				S	S	00 34 54.9 +2.3
	baz=265					
PPLA	Purkeypile	78.32	28	IAmb	IAmb	00 25 31.6
	comp=Z,159nm,1.9s					
PPLA	Purkeypile	78.32	28	P	P	00 25 00.7 +0.9
	baz=266					
CHUM	Lake Minchumin	78.34	26	P	P	00 25 00.8 +1.2
	baz=265,SNR=9.4					
CHUM				S	S	00 34 54.9 +1.7
	baz=265					
HOM	Homer	78.38	31	P	P	00 25 00.5 +0.6
	baz=267					
CAST	Castle Rocks	78.41	27	IAmb	IAmb	00 25 18.8
	comp=Z,66nm,1.3s					
CAST	Castle Rocks	78.41	27	P	P	00 25 01.1 +1.0
	baz=266,SNR=20					
CAST				S	S	00 34 54.7 +0.7
	baz=266					
B22K	Teshekpuk Lake	78.55	20	P	P	00 25 02.0 +1.3
	baz=263					
B22K				S	S	00 34 57.2 +2.0
	baz=263					
SKT	Skwentna	78.57	28	P	P	00 25 00.9 0.0
SKT				IAmb	IAmb	00 25 18.6
	comp=Z,66nm,1.2s					
SKT	Skwentna	78.57	28	P	P	00 25 01.5 +0.5
	baz=267,SNR=15					
GNI	Garni	78.58	309	P	P	00 25 01.4 -0.2
GNI				IAmb	IAmb	00 25 36.7
	comp=Z,118nm,1.4s					
GNI	Garni	78.58	309	LR	LR	01 03 23.4
	comp=Z,826nm,20.2s,baz=96,slow=38					
GNI	Garni	78.58	309	P	P	00 25 01.9 +0.2
GNI				P	P	00 25 01.9 +0.2
GNI	Garni	78.58	309	*i* P	P	00 25 01.5 -0.2
GNI				pmax	pmax	
	comp=Z,32nm,1.2s					
GNI	Garni	78.58	309	P	P	00 25 02.2 +0.6
GNI	Garni	78.58	309	⇑P	P	00 25 01.6 0.0
I21K	Tanana	78.58	25	IAmb	IAmb	00 25 15.3
	comp=Z,48nm,1.1s					
I21K	Tanana	78.58	25	P	P	00 25 02.0 +1.1
	baz=266,SNR=24					
I21K				S	S	00 34 57.6 +1.9
	baz=266					
D22K	Ayikyak River	78.65	21	IAmb	IAmb	00 25 22.2
	comp=Z,50nm,1.1s					
D22K	Ayikyak River	78.65	21	P	P	00 25 03.3 +2.0
	baz=264,SNR=17					
D22K				S	S	00 34 57.1 +0.8
	baz=264					
CAPN	Captain Cook N	78.68	30	P	P	00 25 02.3 +0.8
	baz=267					
F22K	John River	78.70	23	P	P	00 25 03.1 +1.5
	baz=265					
F22K				S	S	00 34 58.8 +1.8
	baz=265					
BRLK	Bradley Lake	78.77	31	IAmb	IAmb	00 25 20.6
	comp=Z,66nm,1.1s					
RAYN	Ar Rayn	78.80	292	P	P	00 25 01.6 -1.4
RAYN				IAmb	IAmb	00 25 03.4
	comp=Z,73nm,0.9s					
RAYN	Ar Rayn	78.80	292	IAMs_20	IAMs_20	01 04 52.0
	comp=Z,2µm,19.0s					
RAYN	Ar Rayn	78.80	292	P	P	00 25 03.0 -0.1
RAYN	Ar Rayn	78.80	292	P	P	00 25 01.6 -1.4
RAYN				pmax	pmax	
	comp=Z,73nm,1.0s					
RAYN				pmax	pmax	
	comp=Z,2µm,19.0s					
RAYN	Ar Rayn	78.80	292	*i* P	P	00 25 02.2 -0.8
	SNR=10					
RAYN	Ar Rayn	78.80	292	⇑P	P	00 25 01.4 -1.6
BRSE	Bradley Lake S	78.84	31	P	P	00 25 03.8 +1.2
	baz=268					
BRSE				S	S	00 34 58.2 -0.6
	baz=268					
H22K	Ishtalitna Cre	78.89	24	P	P	00 25 04.8 +2.2
	baz=266					
H22K				S	S	00 35 02.1 +3.0
	baz=266					
E22K	Anaktuvuk Pass	78.89	22	IAmb	IAmb	00 25 23.5
	comp=Z,52nm,1.1s					
E22K	Anaktuvuk Pass	78.89	22	P	P	00 25 03.9 +1.2
	baz=265,SNR=19					
E22K				S	S	00 34 59.6 +0.5
	baz=265					
SUA	Susitna One	78.91	29	IAmb	IAmb	00 25 20.7
	comp=Z,99nm,1.1s					
SUA	Susitna One	78.91	29	P	P	00 25 03.6 +0.6
	baz=267,SNR=20					
BPAW	Bear Paw Mtn.	78.94	26	IAmb	IAmb	00 25 21.7
	comp=Z,119nm,1.3s					
BPAW	Bear Paw Mtn.	78.94	26	P	P	00 25 04.4 +1.4
	baz=267,SNR=32					
SLKM	Skilak Lake	79.13	30	IAmb	IAmb	00 25 07.5
	comp=Z,51nm,1.0s					
CUT	Chulitna	79.18	28	IAmb	IAmb	00 25 41.9
	comp=Z,115nm,1.2s					
CUT	Chulitna	79.18	28	P	P	00 25 05.1 +0.8
	baz=268					
TRF	Thorofare Moun	79.22	27	IAmb	IAmb	00 25 22.7
	comp=Z,119nm,1.4s					
TRF	Thorofare Moun	79.22	27	P	P	00 25 05.1 +0.4
	baz=267,SNR=18					
M22K	Willow	79.22	29	P	P	00 25 05.1 +0.6
	baz=268,SNR=23					
D23K	Nanushuk River	79.37	21	P	P	00 25 07.3 +2.0
	baz=266					
D23K				S	S	00 35 06.4 +2.3
	baz=266					
RC01	Rabbit Creek A	79.39	29	P	P	00 25 04.5 -1.0
RC01				IAmb	IAmb	00 25 23.1
	comp=Z,75nm,1.3s					
RC01	Rabbit Creek A	79.39	29	P	P	00 25 06.3 +0.8
	baz=268,SNR=9.1					
COLD	Coldfoot	79.44	23	IAmb	IAmb	00 25 21.6
	comp=Z,104nm,1.6s					
COLD	Coldfoot	79.44	23	P	P	00 25 06.4 +0.7
	baz=267,SNR=24					
COLD				S	S	00 35 06.5 +1.6

	baz=267					
C23K	**Itkillik River**	**79.46**	**20**	IAMs_20	IAMs_20	01 06 07.8
	comp=Z,2μm,20.0s					
C23K	**Itkillik River**	**79.46**	**20**	P	**P**	**00 25 06.9 +1.3**
	baz=266					
C23K				S	**S**	**00 35 05.8 +0.8**
	baz=266					
G23K	**Bananza Creek**	**79.49**	**24**	IAmb	IAmb	00 25 20.4
	comp=Z,83nm,1.4s					
G23K	**Bananza Creek**	**79.49**	**24**	P	**P**	**00 25 06.8 +0.9**
	baz=267,SNR=20					
G23K				S	**S**	**00 35 07.9 +2.4**
	baz=267					
SEW	**Seward**	**79.50**	**30**	IAmb	IAmb	00 25 24.1
	comp=Z,54nm,1.0s					
SEW	**Seward**	**79.50**	**30**	P	**P**	**00 25 05.8 -0.3**
	baz=269					
I23K	**Minto, Yukon-K**	**79.69**	**25**	IAmb	IAmb	00 25 23.6
	comp=Z,169nm,1.8s					
I23K	**Minto, Yukon-K**	**79.69**	**25**	P	**P**	**00 25 08.4 +1.4**
	baz=268,SNR=21					
I23K				S	**S**	**00 35 07.8 +0.3**
	baz=268					
PMR	**Palmer**	**79.69**	**29**	P	**P**	**00 25 06.5 -0.5**
PMR				IAmb	IAmb	00 25 09.9
	comp=Z,45nm,0.9s					
PMR	**Palmer**	**79.69**	**29**	P	**P**	**00 25 07.9 +0.9**
PMR	**Palmer**	**79.69**	**29**	P	**P**	**00 25 06.6 -0.5**
PMR				pmax	pmax	
	comp=Z,45nm,0.9s					
PMR	**Palmer**	**79.69**	**29**	P	**P**	**00 25 07.7 +0.7**
	baz=269,SNR=18					
GOF	**Gofitskoye**	**79.69**	**314**	*ce*P	**P**	**00 25 06.5 -0.9**
E23K	**Chandalar**	**79.71**	**22**	IAmb	IAmb	00 25 24.0
	comp=Z,108nm,1.2s					
E23K	**Chandalar**	**79.71**	**22**	P	**P**	**00 25 09.0 +1.8**
	baz=267					
E23K				S	**S**	**00 35 09.4 +1.5**
	baz=267					
TOLK	**Toolik Lake Re**	**79.76**	**22**	P	**P**	**00 25 09.3 +2.0**
	baz=267,SNR=32					
TOLK				S	**S**	**00 35 09.0 +0.8**
	baz=267					
NEA2	**Nenana**	**79.80**	**26**	P	**P**	**00 25 08.5 +0.9**
	baz=268,SNR=17					
MCK	**McKinley**	**79.83**	**27**	IAmb	IAmb	00 25 13.1
	comp=Z,73nm,1.0s					
MCK	**McKinley**	**79.83**	**27**	P	**P**	**00 25 08.6 +0.8**
	baz=268,SNR=41					
KBZ	**Khabaz**	**79.84**	**313**	P	**P**	**00 25 07.5 -0.8**
	comp=Z,14nm,1.0s,baz=61,slow=5.2,SNR=20					
KBZ				S	**S**	**00 35 03.4 -6.4**
	comp=Z,0.5nm,0.8s,baz=70,slow=7.1,SNR=1.7					
KBZ				LR	LR	01 05 43.7
	comp=Z,3μm,18.1s,baz=84,slow=40					
	comp=Z,14nm,1.0s					
KBZ	**Khabaz**	**79.84**	**313**	*ce*P	**P**	**00 25 06.8 -1.4**
KBZ				pmax	pmax	
	comp=Z,17nm,1.1s					
RND	**Reindeer**	**79.86**	**27**	IAmb	IAmb	00 25 12.3
	comp=Z,116nm,1.6s					
GEVA	**Gevas**	**79.95**	**307**	IAmb	IAmb	00 25 10.8
	comp=Z,98nm,1.2s					
KIV	**Kislovodsk**	**79.98**	**313**	P	**P**	**00 25 07.8 -1.4**
KIV	**Kislovodsk**	**79.98**	**313**	P	**P**	**00 25 07.3 -1.9**
KIV				P	**P**	**00 25 07.3 -1.9**
KIV	**Kislovodsk**	**79.98**	**313**	⇑P	**P**	**00 25 09.9 +0.7**
KIV	**Kislovodsk**	**79.98**	**313**	*e*P	**P**	**00 25 08.1 -1.1**
KIV				*e*		00 28 10.3
KIV				*e*S	**S**	**00 35 11.3 -0.4**
KIV				*e*SS	**SS**	**00 40 21.2 -0.4**
KIV				*e*SSS	SSS	00 43 48.0
KIV				pmax	pmax	
	comp=Z,22nm,1.0s					
KIV				MLR	MLR	
	comp=Z,2μm,19.0s					
KIV	**Kislovodsk**	**79.98**	**313**	*i* P	**P**	**00 25 09.1 -0.1**
	SNR=8.6					
KNK	**Knik Glacier**	**80.01**	**29**	IAmb	IAmb	00 25 24.7
	comp=Z,56nm,0.8s					
KNK	**Knik Glacier**	**80.01**	**29**	P	**P**	**00 25 10.0 +1.2**
	baz=269,SNR=21					
SHA1	**Shidzhatmaz**	**80.01**	**313**	*i* P	**P**	**00 25 09.2 -0.3**
D24K	**Happy Valley**	**80.05**	**21**	IAmb	IAmb	00 25 25.5
	comp=Z,58nm,0.9s					
D24K	**Happy Valley**	**80.05**	**21**	P	**P**	**00 25 10.7 +1.8**
	baz=268					
D24K				S	**S**	**00 35 12.0 +0.8**
	baz=268					
PWL	**Port Wells**	**80.06**	**30**	P	**P**	**00 25 10.3 +1.1**
	baz=270,SNR=42					
SML	**Sawmill**	**80.07**	**29**	P	**P**	**00 25 10.6 +1.4**
	baz=269,SNR=20					
C24K	**Franklin Bluff**	**80.12**	**21**	P	**P**	**00 25 10.5 +1.3**
	baz=268					
C24K				S	**S**	**00 35 12.7 +0.8**
	baz=268					
E24K	**Your Creek**	**80.14**	**22**	P	**P**	**00 25 11.4 +1.9**
	baz=268					
E24K				S	**S**	**00 35 13.6 +1.3**
	baz=268					
WRH	**Wood River Hil**	**80.22**	**26**	IAmb	IAmb	00 25 22.9
	comp=Z,60nm,1.2s					
COLA	**College**	**80.32**	**26**	P	**P**	**00 25 10.2 -0.2**
COLA	**College**	**80.32**	**26**	P	**P**	**00 25 11.7 +1.3**
COLA	**College**	**80.32**	**26**	*i* P	**P**	**00 25 10.5 +0.1**
COLA				pmax	pmax	
	comp=Z,21nm,0.9s					
COLA	**College**	**80.32**	**26**	⇑P	**P**	**00 25 11.4 +1.1**
COLA	**College**	**80.32**	**26**	P	**P**	**00 25 11.5 +1.1**
	baz=269					
H24K	**Noodor Dome**	**80.33**	**25**	P	**P**	**00 25 12.0 +1.5**
	baz=269					
H24K				S	**S**	**00 35 16.3 +1.9**
	baz=269					
F24K	**Squaw Lake**	**80.35**	**23**	IAmb	IAmb	00 25 25.0
	comp=Z,121nm,1.6s					
F24K	**Squaw Lake**	**80.35**	**23**	P	**P**	**00 25 13.0 +2.4**
	baz=269					
F24K				S	**S**	**00 35 16.7 +2.2**
	baz=269					
M23K	**Glacier View**	**80.36**	**29**	P	**P**	**00 25 11.9 +1.1**
	baz=270					
VRH	**Novokhopyorsk**	**80.40**	**321**	*e*P	**P**	**00 25 09.8 -1.3**
VRH				*e*S	**S**	**00 35 21.8 +6.3**
VRH				pmax	pmax	
	comp=Z,75nm,1.4s					
VRH				smax	smax	
	comp=N,73nm,1.6s					
G24K	**Hadweenzic Riv**	**80.50**	**24**	P	**P**	**00 25 13.3 +1.9**
	baz=269					
G24K				S	**S**	**00 35 18.0 +2.0**
	baz=269					
POKR	**Poker Plat Res**	**80.50**	**25**	P	**P**	**00 25 12.3 +0.9**
	baz=270,SNR=12					
P23K	**Montague Islan**	**80.53**	**31**	P	**P**	**00 25 13.0 +1.4**
	baz=270,SNR=6.0					
SCM	**Sheep Creek Mo**	**80.55**	**29**	IAmb	IAmb	00 25 36.7
	comp=Z,100nm,1.2s					
SCM	**Sheep Creek Mo**	**80.55**	**29**	P	**P**	**00 25 13.1 +1.3**
	baz=270,SNR=19					
GLI	**Glacier Island**	**80.67**	**30**	IAmb	IAmb	00 25 14.8
	comp=Z,36nm,0.8s					
GLI	**Glacier Island**	**80.67**	**30**	P	**P**	**00 25 13.1 +0.7**
	baz=271					
HDA	**Harding Lake**	**80.71**	**26**	P	**P**	**00 25 11.2 -1.3**
HDA				IAMs_20	IAMs_20	01 06 32.9
	comp=Z,2μm,19.0s					
HDA	**Harding Lake**	**80.71**	**26**	P	**P**	**00 25 13.2 +0.7**
	baz=270,SNR=16					
ILAR	**Eielson Array**	**80.74**	**26**	P	**P**	**00 25 12.7 +0.1**
ILAR	**Eielson Array**	**80.74**	**26**	P	**P**	**00 25 12.3 -0.4**
	comp=Z,8.3nm,1.0s,baz=239,slow=5.1,SNR=75					
ILAR				LR	LR	00 59 34.7
	comp=Z,806nm,21.9s,baz=262,slow=34					
	comp=Z,8.3nm,1.0s					
GURO	**Guroymak-BITLI**	**80.75**	**308**	IAmb	IAmb	00 25 15.3
	comp=Z,86nm,1.0s					
GURO	**Guroymak-BITLI**	**80.75**	**308**	⇑P	**P**	**00 25 13.4 -0.1**
BCA	**Borcka**	**80.89**	**311**	⇑P	**P**	**00 25 13.6 -0.4**
D25K	**Kavik River**	**80.93**	**21**	IAmb	IAmb	00 25 27.7
	comp=Z,150nm,1.7s					
D25K				IAMs_20	IAMs_20	01 07 08.3
	comp=Z,2μm,19.0s					
D25K	**Kavik River**	**80.93**	**21**	P	**P**	**00 25 14.6 +0.9**
	baz=270					
D25K				S	**S**	**00 35 22.0 +1.5**
	baz=270					
HIN	**Hinchinbrook I**	**80.97**	**30**	IAmb	IAmb	00 25 48.6
	comp=Z,102nm,1.3s					
HIN				IAMs_20	IAMs_20	00 56 17.9
	comp=Z,2μm,22.0s					
FID	**Port Fidalgo**	**80.98**	**30**	IAMs_20	IAMs_20	01 07 20.4
	comp=Z,1μm,18.0s					
G25K	**Bearman Lake**	**81.04**	**24**	P	**P**	**00 25 15.8 +1.5**
	baz=271					
Q23K	**Middleton Isla**	**81.07**	**31**	P	**P**	**00 25 16.6 +2.1**
	baz=272					
M24K	**Tolsona, Glenn**	**81.09**	**28**	P	**P**	**00 25 14.9 +0.2**
M24K				IAmb	IAmb	00 25 53.1
	comp=Z,49nm,0.9s					
M24K	**Tolsona, Glenn**	**81.09**	**28**	P	**P**	**00 25 16.0 +1.3**
	baz=271,SNR=7.4					
H25L	**Birch Creek**	**81.17**	**24**	P	**P**	**00 25 17.2 +2.3**
	baz=271,SNR=31					
H25L				S	**S**	**00 35 26.1 +3.1**
	baz=271					
F25K	**Christian Rive**	**81.21**	**23**	P	**P**	**00 25 17.4 +2.2**
	baz=271					
F25K				S	**S**	**00 35 26.6 +3.0**
	baz=271					
KLU	**Klutina**	**81.23**	**29**	P	**P**	**00 25 16.3 +0.8**
	baz=272,SNR=8.6					
E25K	**Arctic Village**	**81.23**	**22**	P	**P**	**00 25 17.1 +1.8**
	baz=271,SNR=33					
E25K				S	**S**	**00 35 25.6 +1.9**
	baz=271					
K24K	**Donnelly Dome**	**81.23**	**27**	P	**P**	**00 25 14.2 -1.2**
	baz=271					
PRP	**Porcupine Dome**	**81.30**	**25**	P	**P**	**00 25 16.5 +0.7**
	baz=271					
DIV	**Divide**	**81.31**	**29**	IAmb	IAmb	00 25 34.8
	comp=Z,50nm,1.0s					
EYAK	**Cordova Ski Ar**	**81.34**	**30**	IAmb	IAmb	00 25 34.9
	comp=Z,58nm,1.2s					
EYAK	**Cordova Ski Ar**	**81.34**	**30**	P	**P**	**00 25 18.0 +2.1**
EYAK	**Cordova Ski Ar**	**81.34**	**30**	P	**P**	**00 25 17.4 +1.5**
	baz=272,SNR=6.0					
KLMR	**Klimovskoe**	**81.34**	**330**	*e*P	**P**	**00 25 12.6 -3.3**
KLMR				S	**S**	**00 35 25.2 +0.3**
KLMR				pmax	pmax	
	comp=Z,168nm,1.5s					
KLMR				MLR	MLR	
	comp=Z,2μm,15.0s					
LABN	**Labinsk**	**81.36**	**314**	*e*P	**P**	**00 25 16.3 -0.1**
LABN				*e*S	**S**	**00 35 25.3 -0.5**
LABN				pmax	pmax	
	comp=Z,48nm,1.5s					
J25K	**Salcha River,**	**81.39**	**26**	P	**P**	**00 25 16.4 +0.2**
	baz=272					
FYU	**Fort Yukon**	**81.39**	**24**	P	**P**	**00 25 17.3 +1.2**
FYU				IAmb	IAmb	00 25 27.8
	comp=Z,65nm,1.3s					
PAX	**Paxson**	**81.39**	**27**	P	**P**	**00 25 17.7 +1.4**
	baz=272,SNR=11					
C26K	**Camden Bay**	**81.43**	**20**	P	**P**	**00 25 18.6 +2.4**
	baz=271					
C26K				S	**S**	**00 35 27.2 +1.6**
	baz=271					
ERBR	**Yeremizino-Bor**	**81.46**	**315**	*e*P	**P**	**00 25 16.0 -0.9**
ERBR				*e*S	**S**	**00 35 24.5 -2.3**
ERBR				pmax	pmax	
	comp=Z,64nm,1.1s					
HARP	**HAARP**	**81.56**	**28**	P	**P**	**00 25 18.1 +1.0**
	baz=272					
BMAR	**Burnt Mountain**	**81.62**	**23**	P	**P**	**00 25 18.1 +0.7**
RIDG	**Independent Ri**	**81.65**	**27**	IAmb	IAmb	00 25 32.7
	comp=Z,97nm,1.1s					
RIDG	**Independent Ri**	**81.65**	**27**	P	**P**	**00 25 19.0 +1.4**
	baz=272,SNR=19					
F26K	**Sheenjek River**	**81.78**	**23**	IAmb	IAmb	00 25 34.6
	comp=Z,89nm,1.8s					
F26K	**Sheenjek River**	**81.78**	**23**	P	**P**	**00 25 19.6 +1.4**
	baz=272					
F26K				S	**S**	**00 35 31.0 +1.6**
	baz=272					
KOPT	**Kop Dagi**	**81.83**	**309**	P	**P**	**00 25 19.5 +0.2**
KOPT				IAmb	IAmb	00 25 23.9
	comp=Z,120nm,1.3s					
N25K	**Chitina, Valde**	**81.86**	**29**	P	**P**	**00 25 20.1 +1.3**
	baz=273,SNR=8.4					
C27K	**Jago River**	**81.86**	**21**	IAmb	IAmb	00 25 34.7
	comp=Z,68nm,1.2s					
C27K	**Jago River**	**81.86**	**21**	P	**P**	**00 25 20.3 +1.7**
	baz=272					
C27K				S	**S**	**00 35 30.0 -0.1**
	baz=272					
RAGM	**Ragged Mountai**	**81.88**	**30**	IAmb	IAmb	00 25 37.0
	comp=Z,77nm,1.2s					
RAGM				IAMs_20	IAMs_20	01 07 42.9
	comp=Z,2μm,20.0s					
BMRM	**Bremner River**	**81.89**	**30**	P	**P**	**00 25 20.4 +1.5**
	baz=273,SNR=13					
VORD	**Divnogorie**	**81.94**	**320**	*e*P	**P**	**00 25 16.1 -3.2**
VORD				pmax	pmax	
	comp=Z,30nm,1.1s					
VORR	**Voronezh**	**81.95**	**321**	*e*P	**P**	**00 25 18.9 -0.4**
VORR				pmax	pmax	
	comp=Z,33nm,0.4s					
G26K	**Porcupine Rive**	**81.95**	**23**	P	**P**	**00 25 21.4 +2.3**
	baz=273,SNR=12					
G26K				S	**S**	**00 35 33.0 +1.9**
	baz=273					
VSR	**Storozhevoye**	**82.00**	**321**	*e*P	**P**	**00 25 15.2 -4.4**
VSR				pmax	pmax	
	comp=Z,20nm,1.2s					
SCRK	**Sand Creek**	**82.02**	**26**	IAmb	IAmb	00 25 53.8
	comp=Z,108nm,1.8s					
SCRK	**Sand Creek**	**82.02**	**26**	P	**P**	**00 25 20.4 +0.8**
	baz=273,SNR=20					
KAIM	**Kayak Island**	**82.03**	**31**	IAmb	IAmb	00 25 37.8
	comp=Z,109nm,1.2s					
KAIM	**Kayak Island**	**82.03**	**31**	P	**P**	**00 25 20.7 +1.1**
	baz=273,SNR=6.8					
LPSR	**Galich'ya Gora**	**82.06**	**322**	*e*P	**P**	**00 25 18.7 -1.2**
LPSR				*e*S	**S**	**00 35 28.4 -4.3**
LPSR				pmax	pmax	
	comp=Z,167nm,1.7s					
LPSR				pmax	pmax	
	comp=Z,48nm,0.9s					
LPSR				smax	smax	
	comp=N,50nm,1.5s					
HMT	**Hamilton**	**82.09**	**30**	IAMs_20	IAMs_20	01 08 07.4
	comp=Z,2μm,20.0s					
SOC	**Sochi**	**82.15**	**313**	*e*P	**P**	**00 25 17.9 -2.7**
SOC				*e*		00 28 24.8
SOC				*e*PPP	PPP	00 30 16.1
SOC				*e*S	**S**	**00 35 32.2 -1.8**
SOC				*i* SSS	SSS	00 44 19.6
SOC				pmax	pmax	
	comp=Z,33nm,0.9s					
J26L	**Joseph Creek**	**82.17**	**26**	P	**P**	**00 25 20.8 +0.3**
J26L	**Joseph Creek**	**82.17**	**26**	P	**P**	**00 25 21.8 +1.4**
	baz=273					
MENT	**Mentasta**	**82.20**	**27**	P	**P**	**00 25 22.3 +1.8**
GLB	**Gilahina Butte**	**82.24**	**29**	IAmb	IAmb	00 25 39.5
	comp=Z,120nm,1.6s					
I26K	**Coal Creek Min**	**82.30**	**25**	IAmb	IAmb	00 25 35.9
	comp=Z,46nm,1.1s					
I26K	**Coal Creek Min**	**82.30**	**25**	P	**P**	**00 25 22.1 +1.2**
	baz=274					
SUCK	**Suckling Hills**	**82.34**	**30**	IAmb	IAmb	00 25 35.8
	comp=Z,137nm,1.6s					
L26K	**Log Cabin Wild**	**82.36**	**27**	P	**P**	**00 25 23.0 +1.7**
	baz=274					
BERG	**Berg Lake**	**82.36**	**30**	IAMs_20	IAMs_20	01 08 15.9
	comp=Z,2μm,20.0s					
VRDI	**Verde Repeater**	**82.43**	**29**	IAmb	IAmb	00 25 39.8
	comp=Z,171nm,2.0s					
ATD	**Arta Tunnel**	**82.54**	**281**	IAmb	IAmb	00 25 25.4
	comp=Z,69nm,1.2s					
ATD	**Arta Tunnel**	**82.54**	**281**	LR	LR	01 03 59.1
	comp=Z,17nm,18.2s,baz=70,slow=37					
ATD	**Arta Tunnel**	**82.54**	**281**	⇑P	**P**	**00 25 23.4 +0.1**
M26K	**Nabesna, AK**	**82.56**	**28**	P	**P**	**00 25 23.3 +0.9**
M26K				IAmb	IAmb	00 25 36.4
	comp=Z,43nm,1.1s					
M26K	**Nabesna, AK**	**82.56**	**28**	P	**P**	**00 25 24.4 +1.9**
	baz=274					
BGLC	**Bering Glacier**	**82.59**	**30**	P	**P**	**00 25 24.5 +2.0**
	baz=274					
MOS	**Moscow**	**82.61**	**325**	*e*P	**P**	**00 25 19.9 -2.8**
MOS				*e*		00 28 32.5
MOS				*e*S	**S**	**00 35 35.9 -2.3**
MOS				pmax	pmax	
	comp=Z,76nm,1.9s					
MOS				MLR	MLR	
	comp=E,2μm,18.0s					
MOS				MLR	MLR	
	comp=Z,2μm,18.0s					
E27K	**Coleen River**	**82.71**	**22**	IAmb	IAmb	00 25 39.0
	comp=Z,90nm,1.5s					
E27K	**Coleen River**	**82.71**	**22**	P	**P**	**00 25 25.2 +2.1**
	baz=274,SNR=27					
E27K				S	**S**	**00 35 41.1 +2.2**
	baz=274					
G27K	**Doyon Strip**	**82.80**	**24**	IAmb	IAmb	00 25 39.8
	comp=Z,93nm,1.8s					
G27K	**Doyon Strip**	**82.80**	**24**	P	**P**	**00 25 26.3 +2.7**
	baz=275					
G27K				S	**S**	**00 35 42.7 +2.8**
	baz=275					
SNH	**Sunshine Point**	**82.81**	**30**	P	**P**	**00 25 25.0 +1.3**
SNH				IAmb	IAmb	00 25 37.6
	comp=Z,59nm,0.9s					
SNH				IAMs_20	IAMs_20	00 59 44.4
	comp=Z,2μm,20.0s					
D27M	**Malcolm River**	**82.85**	**21**	P	**P**	**00 25 25.8 +2.0**
	baz=275					
D27M				S	**S**	**00 35 41.3 +0.9**
	baz=275					
K27K	**Chicken**	**82.86**	**26**	P	**P**	**00 25 26.5 +2.6**
	baz=275					
K27K				S	**S**	**00 35 41.6 +1.1**
	baz=275					
H27K	**Steamboat Moun**	**82.90**	**24**	P	**P**	**00 25 26.3 +2.1**
	baz=275					
H27K				S	**S**	**00 35 43.8 +2.8**
	baz=275					
I27K	**Kandik River**	**82.92**	**25**	P	**P**	**00 25 26.5 +2.2**
	baz=275,SNR=87					
I27K				S	**S**	**00 35 43.0 +1.8**
	baz=275					
LVZ	**Lovozero**	**83.01**	**338**	P	**P**	**00 25 24.1 -0.5**
LVZ	**Lovozero**	**83.01**	**338**	P	**P**	**00 25 24.1 -0.5**
LVZ				pmax	pmax	
	comp=Z,240nm,1.8s					
LVZ				pmax	pmax	
	comp=Z,3μm,19.0s					
L27K	**Beaver Creek,**	**83.05**	**27**	P	**P**	**00 25 27.1 +2.2**
	baz=275					
L27K				S	**S**	**00 35 44.2 +1.7**
	baz=275					
BCAR	**Beaver Creek A**	**83.07**	**27**	P	**P**	**00 25 26.2 +1.2**
M27K	**Edge Creek, AK**	**83.09**	**28**	P	**P**	**00 25 26.7 +1.5**
	baz=275					
M27K				S	**S**	**00 35 45.0 +1.8**
	baz=275					
ABPO	**Ambohimpanom**	**83.10**	**250**	P	**P**	**00 25 24.6 -1.6**
ABPO	**Ambohimpanom**	**83.10**	**250**	P	**P**	**00 25 24.6 -1.6**
ABPO				pmax	pmax	
	comp=Z,16nm,1.0s					
MESA	**MESA**	**83.25**	**30**	P	**P**	**00 25 28.0 +1.8**
	baz=275,SNR=16					
MESA				S	**S**	**00 35 45.6 +0.6**
	baz=275					
OBN	**Obninsk**	**83.27**	**325**	P	**P**	**00 25 25.2 -0.9**
OBN				IAMs_20	IAMs_20	01 04 40.9
	comp=Z,2μm,19.0s					
OBN	**Obninsk**	**83.27**	**325**	*ce*P	**P**	**00 25 24.9 -1.2**
OBN				*e*		00 28 35.9
OBN				*e*PPP	PPP	00 30 27.2
OBN				*e*S	**S**	**00 35 45.9 +1.1**
OBN				pmax	pmax	
	comp=Z,114nm,1.7s					
OBN				MLR	MLR	
	comp=Z,2μm,19.0s					
E28M	**Babbage River**	**83.43**	**22**	P	**P**	**00 25 28.8 +2.0**
	baz=276,SNR=28					
E28M				S	**S**	**00 35 46.8 +0.6**
	baz=276					
APA	**Apatity**	**83.52**	**337**	⇓*i*P	**P**	**00 25 23.7 -3.5**
APA				*i*		00 25 31.0
APA				*i*		00 28 38.0
APA				*i* S	**S**	**00 35 44.0 -3.0**
APA				*i* PS	**PnS**	**00 36 36.0 -5.0**
APA				*i* SS	**SS**	**00 41 18.0 +5.2**
APA				pmax	pmax	
	comp=Z,43nm,1.0s					
I28M	**Miner Creek**	**83.63**	**25**	P	**P**	**00 25 30.3 +2.4**
	baz=276					
I28M				S	**S**	**00 35 49.8 +1.3**
	baz=276					
D28M	**Stokes Point**	**83.63**	**21**	P	**P**	**00 25 29.6 +1.8**
	baz=277					
D28M				S	**S**	**00 35 49.2 +1.1**
	baz=277					
ANN	**Anapa**	**83.68**	**314**	*e*P	**P**	**00 25 25.9 -2.6**
ANN				pmax	pmax	
	comp=Z,248nm,1.4s					
KHAM	**Kharkiv**	**83.96**	**320**	P	**P**	**00 25 30.4 +0.5**
DAWY	**Dawson**	**84.03**	**26**	P	**P**	**00 25 31.7 +1.7**
	baz=277					
DAWY				S	**S**	**00 35 53.4 +1.0**
	baz=277					
O28M	**Mount Upton**	**84.05**	**30**	P	**P**	**00 25 32.5 +2.0**
	baz=277,SNR=39					
O28M				S	**S**	**00 35 55.0 +1.7**
	baz=277					
E29M	**Blow River**	**84.06**	**22**	P	**P**	**00 25 30.4 +0.4**
E29M				IAmb	IAmb	00 25 33.4
	comp=Z,80nm,1.6s					
E29M	**Blow River**	**84.06**	**22**	P	**P**	**00 25 31.8 +1.9**
	baz=278					
E29M				S	**SKSac**	**00 35 53.1 +1.8**
	baz=278					
VOI	**Vohitsoka**	**84.07**	**247**	⇑P	**P**	**00 25 30.2 -0.8**
H29M	**Whitestone**	**84.18**	**24**	P	**P**	**00 25 32.1 +1.5**
	baz=278					
H29M				S	**S**	**00 35 56.2 +2.4**
	baz=278					
YUK8	**Steele Glacier**	**84.20**	**29**	P	**P**	**00 25 33.4 +2.3**
	baz=277,SNR=16					
YUK8				S	**S**	**00 35 56.0 +1.3**
	baz=277					
G29M	**Pine Creek**	**84.22**	**23**	P	**P**	**00 25 32.5 +1.7**
	baz=278					
G29M				S	**S**	**00 35 55.8 +1.6**
	baz=278					
I29M	**Ogilvie Camp,**	**84.32**	**25**	P	**P**	**00 25 33.0 +1.7**
	baz=278					
I29M				S	**S**	**00 35 56.9 +1.6**
	baz=278					
J29N	**Klondike Camp**	**84.48**	**26**	P	**P**	**00 25 34.1 +1.8**
	baz=278					
J29N				S	**S**	**00 35 59.1 +2.1**
	baz=278					
M29M	**Somme Creek**	**84.66**	**28**	P	**P**	**00 25 34.2 +1.0**
M29M				IAmb	IAmb	00 25 49.6
	comp=Z,58nm,1.1s					
M29M	**Somme Creek**	**84.66**	**28**	P	**P**	**00 25 35.2 +1.9**
	baz=278					
M29M				S	**S**	**00 36 01.4 +2.5**
	baz=278					
L29M	**L29M**	**84.71**	**27**	P	**P**	**00 25 36.0 +2.6**
	baz=278,SNR=46					
L29M				S	**S**	**00 36 00.8 +1.5**
	baz=278					
YUK4	**Talbot Arm**	**84.72**	**29**	P	**P**	**00 25 35.6 +1.8**
	baz=278,SNR=7.9					
YUK4				S	**S**	**00 36 01.9 +2.1**
	baz=278					
TOKA	**Tokat**	**84.87**	**310**	IAmb	IAmb	00 25 35.8
	comp=Z,50nm,1.0s					
K29M	**Barlow Dome**	**84.88**	**26**	P	**P**	**00 25 36.2 +1.8**
	baz=279					
K29M				S	**S**	**00 36 03.9 +2.8**
	baz=279					
O29M	**Mount Kennedy**	**84.91**	**30**	P	**P**	**00 25 36.9 +2.3**
	baz=278					
O29M				S	**S**	**00 36 03.2 +1.7**
	baz=278					
G30M	**tAoh Zraii Nji**	**84.91**	**23**	P	**P**	**00 25 35.4 +1.1**
	baz=280,SNR=38					
G30M				S	**SKSac**	**00 36 00.4 +3.6**
	baz=280					
YUK6	**Outpost Mounta**	**84.92**	**29**	P	**P**	**00 25 36.8 +2.1**
	baz=278,SNR=7.8					
YUK6				S	**S**	**00 36 04.9 +3.1**
	baz=278					
F30M	**Barrier River**	**84.97**	**22**	P	**P**	**00 25 36.4 +1.8**

baz=280
F30M S **S** **00 36 02.9 +1.4**
baz=280
JOF Joensuu 85.02 333 *e*P **P** **00 25 35.0 +0.1**
PLTM Poltava 85.10 319 P **P** **00 25 35.9 +0.3**
I30M Mount Dempster 85.14 25 IAMs_20 IAMs_20 01 06 06.1
comp=Z,1μm,19.0s
I30M Mount Dempster 85.14 25 P **P** **00 25 36.7 +1.0**
baz=280,SNR=35
I30M S **S** **00 36 05.7 +2.1**
baz=280
J30M Hart River 85.27 25 P **P** **00 25 37.7 +1.4**
J30M Hart River 85.27 25 P **P** **00 25 38.0 +1.7**
baz=280,SNR=27
J30M S **S** **00 36 04.7 -0.2**
baz=280
HYT Haines Junctio 85.35 29 IAmb IAmb 00 25 54.4
comp=Z,27nm,0.9s
HYT IAMs_20 IAMs_20 01 06 32.6
comp=Z,2μm,20.0s
HYT Haines Junctio 85.35 29 P **P** **00 25 39.3 +2.5**
baz=279,SNR=22
HYT S **S** **00 36 07.9 +2.0**
baz=279
M30M Minto, Yukon 85.40 27 P **P** **00 25 39.0 +2.1**
baz=280,SNR=29
M30M S **S** **00 36 08.7 +2.6**
baz=280
N30M Aishikik Lake 85.45 29 P **P** **00 25 39.5 +2.3**
baz=279
N30M S **S** **00 36 09.2 +2.5**
baz=279
ASF Jabal al Asfar 85.52 302 LR LR 01 10 44.4
comp=Z,1μm,18.2s,baz=102,slow=40
DIKM Dikmen 85.62 311 ⇑P **P** **00 25 38.7 +0.3**
MAYO Mayo, Yukon 85.63 26 P **P** **00 25 39.5 +1.5**
baz=280
MAYO S **S** **00 36 11.5 +3.2**
baz=280
FKH Fakeheh 85.67 304 *e*P **P** **00 25 39.2 +0.3**
INK Inuvik 85.67 22 IAmb IAmb 00 25 40.8
comp=Z,79nm,1.3s
INK Inuvik 85.67 22 P **P** **00 25 39.2 +1.2**
baz=282,SNR=44
INK S **S** **00 36 08.9 +0.5**
baz=282
P30M Million Dollar 85.73 30 P **P** **00 25 40.0 +1.3**
baz=280
P30M S **S** **00 36 11.7 +2.2**
baz=280
F31M Tsiigehtchic 85.77 22 IAmb IAmb 00 25 41.0
comp=Z,64nm,1.1s
F31M Tsiigehtchic 85.77 22 P **P** **00 25 39.6 +1.0**
baz=282,SNR=34
F31M S **S** **00 36 10.0 +0.6**
baz=282
BEIL Beino 85.81 304 *e*P **P** **00 25 39.9 +0.4**
SPITS Spitsbergen Ar 85.84 349 P **P** **00 25 38.1 -0.7**
comp=Z,21nm,0.9s,baz=95,slow=7.6,SNR=21
SPITS LR LR 01 10 59.5
comp=Z,2μm,18.2s,baz=38,slow=40
comp=Z,21nm,0.9s
SPITS Spitsbergen Ar 85.84 349 P **P** **00 25 38.4 -0.4**
SPITS pmax pmax
comp=Z,60nm,1.2s
H31M Peel River 85.87 24 P **P** **00 25 40.1 +0.9**
baz=281
H31M S **S** **00 36 11.0 +0.5**
baz=281
PUL Pulkovo 86.00 330 *ce*P **P** **00 25 39.6 -0.2**
PUL pmax pmax
comp=Z,72nm,1.0s
SIM Simferopol' 86.01 315 *e*P **P** **00 25 40.1 -0.1**
SIM *e*S **SKSac** **00 36 04.5 0.0**
SIM smax smax
comp=E,700nm,13.0s
ARCES ARCESS Array B 86.03 340 P **P** **00 25 39.0 -0.9**
ARCES ARCESS Array B 86.03 340 P **P** **00 25 39.8 -0.1**
comp=E,13nm,0.7s,baz=79,slow=5.5,SNR=28
ARCES S **SKSac** **00 35 59.6 -4.1**
comp=E,3.9nm,1.0s,baz=18,slow=15,SNR=1.6
ARCES LR LR 01 10 25.8
comp=E,1μm,18.0s,baz=77,slow=40
comp=E,13nm,0.7s
ARCES ARCESS Array B 86.03 340 P **P** **00 25 39.0 -0.9**
ARCES pmax pmax
comp=Z,133nm,1.7s
O30N Mendenhall 86.04 29 P **P** **00 25 41.3 +1.1**
baz=280,SNR=13
O30N S **S** **00 36 13.8 +1.3**
baz=280
HWQ Hawqa 86.04 304 *e*P **P** **00 25 39.8 -1.0**
N31M Braeburn, Yuko 86.06 28 IAMs_20 IAMs_20 01 02 34.4
comp=Z,2μm,20.0s
N31M Braeburn, Yuko 86.06 28 P **P** **00 25 42.0 +1.9**
baz=280,SNR=8.0
N31M S **S** **00 36 15.1 +2.4**
baz=280
PLBC Pleasant Camp 86.14 31 P **P** **00 25 42.0 +1.4**
baz=280
PLBC S **S** **00 36 15.7 +2.3**
baz=280
ZAHL Zahle 86.15 303 *e*P **P** **00 25 41.5 +0.2**
RCY Rachaya 86.24 303 *e*P **P** **00 25 41.6 -0.2**
BHL Bhannes 86.33 304 *e*P **P** **00 25 41.6 -0.6**
SHBL Chebaa 86.33 303 *e*P **P** **00 25 42.5 +0.2**
GEM Giv'at Ha'Em 86.42 303 ⇑P **P** **00 25 42.5 0.0**
DQRL Deir Qamar 86.43 303 *e*P **P** **00 25 43.0 +0.3**
PPT Papeete 86.44 108 LR LR 01 04 50.6
comp=Z,855nm,18.2s,baz=278,slow=36
S31K Pelican 86.47 32 IAmb IAmb 00 25 52.7
comp=Z,42nm,1.3s
S31K Pelican 86.47 32 P **P** **00 25 44.5 +2.3**
baz=280
S31K S **S** **00 36 20.1 +3.5**
baz=280
BZK Bozkurt 86.51 312 ⇓P **P** **00 25 42.6 -0.1**
M31M Drury Creek, Y 86.57 28 IAmb IAmb 00 25 45.9
comp=Z,55nm,1.7s
M31M Drury Creek, Y 86.57 28 P **P** **00 25 43.6 +1.0**
baz=282
M31M S **S** **00 36 20.3 +2.8**
baz=282
WHY Whitehorse 86.65 29 P **P** **00 25 44.8 +1.6**
baz=281,SNR=20
WHY S **S** **00 36 21.3 +2.7**
baz=281
R31K City Hall, Gus 86.65 32 P **P** **00 25 44.8 +1.8**
baz=281
SKAG Skagway 86.66 30 IAMs_20 IAMs_20 01 01 31.3
comp=Z,2μm,20.0s
SKAG Skagway 86.66 30 P **P** **00 25 45.1 +2.0**
baz=281
MMAI Mount Meron Ar 86.66 303 P **P** **00 25 43.6 -0.2**
comp=Z,42nm,1.0s,baz=83,slow=7.1,SNR=46
MMAI S **SKSac** **00 36 03.3 -6.0**
comp=Z,0.3nm,0.4s,baz=156,slow=11,SNR=1.6
MMAI LR LR 01 08 02.1
comp=Z,856nm,20.7s,baz=68,slow=38
comp=Z,42nm,1.0s
SALP Salfit 86.97 302 ⇑P **P** **00 25 44.9 -0.4**
KIRS Kirsehir-Merke 86.98 309 ⇑P **P** **00 25 44.6 -0.7**
FARO Faro, Yukon 87.04 28 IAmb IAmb 00 26 01.4
comp=Z,79nm,1.5s
FARO Faro, Yukon 87.04 28 P **P** **00 25 46.5 +1.5**
baz=282,SNR=23
FARO S **S** **00 36 24.3 +2.2**
baz=282
BR131 Keskin Array S 87.11 310 *i* P **P** **00 25 44.5 -1.4**
BRTR Keskin Array B 87.11 310 P **P** **00 25 43.3 -2.7**
BRTR Keskin Array B 87.11 310 P **P** **00 25 44.5 -1.4**
comp=Z,7.5nm,0.8s,baz=114,slow=4.8,SNR=47
BRTR S **SKSac** **00 36 02.6 -9.3**
comp=Z,0.1nm,0.3s,baz=131,slow=37,SNR=1.3
BRTR LR LR 01 07 09.3
comp=Z,783nm,21.8s,baz=66,slow=37
comp=Z,7.5nm,0.8s
BRTR Keskin Array B 87.11 310 *ce*P **P** **00 25 44.9 -1.0**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
SIT Sitka 87.12 33 P **P** **00 25 46.4 +1.0**
SIT Sitka 87.12 33 P **P** **00 25 45.9 +0.5**
SIT Sitka 87.12 33 P **P** **00 25 46.4 +1.0**
SIT pmax pmax
comp=Z,134nm,2.0s
SIT pmax pmax
comp=Z,1μm,18.0s

SIT Sitka 87.12 33 P **P** **00 25 47.1 +1.7**
baz=281
SIT S **S** **00 36 25.8 +2.9**
baz=281
AMAZ Amatzia 87.28 301 ⇑P **P** **00 25 46.3 -0.5**
R32K Eaglecrest 87.31 32 P **P** **00 25 48.2 +1.9**
baz=282
A36M Sachs Harbour 87.39 17 P **P** **00 25 47.6 +1.2**
baz=290
A36M S **S** **00 36 25.1 +0.2**
baz=290
N32M Quiet Lake 87.41 29 IAmb IAmb 00 25 50.0
comp=Z,26nm,0.8s
N32M Quiet Lake 87.41 29 P **P** **00 25 48.2 +1.5**
baz=283
N32M S **S** **00 36 28.0 +2.3**
baz=283
P32M Atlin 87.44 30 IAMs_20 IAMs_20 01 02 48.9
comp=Z,1μm,20.0s
P32M Atlin 87.44 30 P **P** **00 25 48.4 +1.4**
baz=282
P32M S **S** **00 36 29.0 +2.9**
baz=282
S32K Killisnoo 87.44 32 P **P** **00 25 47.2 +0.3**
baz=282
EIL Elat 87.52 299 LR LR 01 13 05.7
comp=Z,1μm,18.1s,baz=40,slow=41
FINES FINESS Array B 87.71 332 P **P** **00 25 46.8 -1.3**
FINES FINESS Array B 87.71 332 P **P** **00 25 47.3 -0.9**
comp=Z,39nm,0.9s,baz=69,slow=4.3,SNR=66
FINES S **SKSac** **00 36 08.3 -5.9**
comp=Z,1.7nm,0.9s,baz=144,slow=7.4,SNR=1.4
comp=Z,39nm,0.9s
ANTO Ankara 87.73 310 P **P** **00 25 46.9 -1.9**
ANTO IAmb IAmb 00 25 51.7
comp=Z,57nm,1.5s
ANTO Ankara 87.73 310 P **P** **00 25 45.8 -3.1**
ANTO P **P** **00 25 45.8 -3.1**
ANTO Ankara 87.73 310 ⇓P **P** **00 25 48.4 -0.5**
ANTO Ankara 87.73 310 P **P** **00 25 46.9 -1.9**
ANTO pmax pmax
comp=Z,57nm,1.5s
P33M Teslin, Yukon 87.74 29 IAMs_20 IAMs_20 01 01 52.9
comp=Z,2μm,20.0s
P33M Teslin, Yukon 87.74 29 P **P** **00 25 49.5 +1.0**
baz=283
P33M S **S** **00 36 31.0 +2.0**
baz=283
MMPY Sheldon Lake, 87.90 27 IAmb IAmb 00 26 04.5
comp=Z,79nm,1.9s
MMPY Sheldon Lake, 87.90 27 P **P** **00 25 50.2 +1.1**
baz=284,SNR=9.5
MMPY S **S** **00 36 32.3 +1.9**
baz=284
VSU Vasula 88.08 329 *ce*P **P** **00 25 48.7 -1.2**
VSU pmax pmax
comp=Z,247nm,1.7s
VSU Vasula 88.08 329 *e*P **P** **00 25 48.5 -1.4**
VSU Vasula 88.08 329 ⇑P **P** **00 25 48.6 -1.3**
CSS Mathiatis 88.08 305 IAmb IAmb 00 25 50.9
comp=Z,36nm,0.7s
CSS Mathiatis 88.08 305 ⇑P **P** **00 25 49.5 -1.0**
KEF Keuruu 88.09 333 *e*P **P** **00 25 48.9 -1.0**
VNDA Vanda 88.13 173 P **P** **00 25 49.2 -0.5**
comp=Z,9.7nm,1.0s,baz=339,slow=5.4,SNR=5.5
VNDA LR LR 01 06 41.1
comp=Z,2μm,19.7s,baz=348,slow=36
comp=Z,9.7nm,1.0s
ARBE Arbavere 88.23 330 *e*P **P** **00 25 50.5 -0.2**
MAW Mawson 88.28 200 LR LR 01 06 04.1
comp=Z,719nm,18.1s,baz=60,slow=36
AKASG Malin Array Be 88.30 321 P **P** **00 25 49.5 -1.7**
comp=Z,8.2nm,0.7s,baz=66,slow=4.4,SNR=50
AKASG S **SKSac** **00 36 09.9 -8.4**
comp=Z,0.2nm,0.3s,baz=96,slow=0.2,SNR=1.3
comp=Z,8.2nm,0.7s
AKASG Malin Array Be 88.30 321 *ce*P **P** **00 25 50.2 -1.0**
AKASG pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 88.30 321 IAmb IAmb 00 25 51.2
comp=Z,55nm,1.3s
AKBB Malin Array Si 88.30 321 *ce*P **P** **00 25 49.8 -1.4**
AKBB pmax pmax
comp=Z,27nm,1.1s
Q32M Nakina River 88.31 31 P **P** **00 25 50.8 -0.5**
baz=284
Q32M S **S** **00 36 35.9 +1.2**
baz=284
KIEV Kiev 88.31 321 P **P** **00 25 48.9 -2.3**
KIEV IAmb IAmb 00 25 51.3
comp=Z,50nm,1.3s
KIEV Kiev 88.31 321 ⇓P **P** **00 25 50.1 -1.1**
KIEV Kiev 88.31 321 P **P** **00 25 48.9 -2.3**
KIEV pmax pmax
comp=Z,50nm,1.3s
KIEV pmax pmax
comp=Z,3μm,18.0s
KIEV Kiev 88.31 321 *i* P **P** **00 25 49.4 -1.8**
SNR=10
KIEV Kiev 88.31 321 ⇑P **P** **00 25 50.1 -1.1**
MNK Minsk 88.32 325 *d* iP **P** **00 25 51.0 -0.2**
NOR Nord 88.36 355 *i* P **P** **00 25 50.8 -0.1**
NOR IAmb IAmb 00 25 57.1
comp=Z,136nm,2.2s
U33K Whale Pass 88.51 33 P **P** **00 25 53.0 +1.0**
baz=283
U33K S **S** **00 36 39.4 +3.2**
baz=283
CRAG Craig 88.66 34 P **P** **00 25 53.7 +1.0**
baz=283
CRAG S **S** **00 36 41.8 +4.1**
baz=283
C36M Paulatuk 88.67 20 IAmb IAmb 00 25 55.3
comp=Z,40nm,1.1s
C36M Paulatuk 88.67 20 P **P** **00 25 53.4 +0.9**
baz=291
C36M S **S** **00 36 36.2 -1.0**
baz=291
MEF Metsahovi 88.81 331 *e*P **P** **00 25 53.1 -0.2**
VAF Ylistaro 88.84 334 *e*P **P** **00 25 52.7 -0.7**
R33M Jennings River 88.85 30 P **P** **00 25 55.6 +1.8**
baz=285
R33M S **S** **00 36 44.6 +4.9**
baz=285
WRAK Wrangell Islan 88.86 33 P **P** **00 25 55.5 +1.8**
baz=284
WRAK S **S** **00 36 45.0 +5.4**
baz=284
IIGN Ignalina 89.07 326 *e*P **P** **00 25 54.0 -0.7**
S34M Telegraph Cree 89.14 31 IAMs_20 IAMs_20 01 13 55.0
comp=Z,1μm,18.0s
S34M Telegraph Cree 89.14 31 P **P** **00 25 56.5 +1.5**
baz=285
S34M S **S** **00 36 46.0 +3.8**
baz=285
KIBK Kibwezi 89.20 268 IAmb IAmb 00 25 57.7
comp=Z,49nm,1.3s
KIBK Kibwezi 89.20 268 P **P** **00 25 59.0 +2.7**
KIBK Kibwezi 89.20 268 P **P** **00 25 57.2 +0.9**
SNR=7.7
KIS Kishinev 89.30 317 ⇑ *i* P **P** **00 25 54.0 -2.0**
comp=Z,250nm,9.9s
KIS *e*L L 01 02 28.0
KIS LRM MLR 01 11 13.0
comp=Z,600nm,17.0s
KIS Kishinev 89.30 317 *c i* P **P** **00 25 54.0 -2.0**
KIS pmax pmax
comp=Z,250nm,9.9s
MILM Milestii Mici 89.32 317 ⇑ *i* P **P** **00 25 54.0 -2.0**
comp=Z,660nm,9.1s
MILM *i* SKS **SKSac** **00 36 23.0 -1.5**
MILM *i* S **SKKSac** **00 36 40.0 +3.4**
MILM *e*L L 00 55 41.0
MILM LRM MLR 01 10 25.0
comp=Z,2μm,18.0s
MILM Milestii Mici 89.32 317 *c i* P **P** **00 25 54.0 -2.0**
MILM *i* 00 36 23.0
MILM *i* S **SKKSac** **00 36 40.0 +3.4**
MILM pmax pmax
comp=Z,660nm,9.1s
SORM Soroca 89.38 319 ⇓P **P** **00 25 55.4 -0.9**
SORM Soroca 89.38 319 P **P** **00 25 55.3 -0.9**
MTSE Matsula 89.50 329 *e*P **P** **00 25 56.3 -0.3**
BORA Eskisehir 89.50 310 IAmb IAmb 00 25 56.8
comp=Z,26nm,1.0s
V35K Ketchikan 89.53 34 P **P** **00 25 57.5 +0.7**
baz=284

V35K S **S** **00 36 49.2 +3.4**
baz=284
TGTN Hyland Airport 89.55 28 P **P** **00 25 58.1 +1.2**
baz=287
TGTN S **S** **00 36 47.3 +1.3**
baz=287
DLBC Dease Lake 89.57 31 P **P** **00 25 57.4 +0.3**
DLBC Dease Lake 89.57 31 LR LR 01 03 09.9
comp=Z,795nm,20.9s,baz=294,slow=34
DLBC Dease Lake 89.57 31 P **P** **00 25 58.2 +1.1**
baz=286
DLBC S **S** **00 36 48.0 +1.6**
baz=286
TLCR 89.67 316 ⇑P **P** **00 25 57.5 -0.2**
TLCR 89.67 316 P **P** **00 25 57.5 -0.2**
JURR Jurilovca 89.71 315 ⇑P **P** **00 25 57.7 -0.2**
WTLY Watson Lake, Y 89.71 29 P **P** **00 25 59.5 +1.8**
baz=287
WTLY S **S** **00 36 48.9 +1.4**
baz=287
KMBO Kilima Mbogo 89.81 269 P **P** **00 25 58.3 -1.1**
KMBO IAmb IAmb 00 26 00.8
comp=Z,50nm,1.4s
KMBO Kilima Mbogo 89.81 269 IAMs_20 IAMs_20 01 05 52.8
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 89.81 269 P **P** **00 25 59.4 0.0**
comp=Z,15nm,1.1s,baz=56,slow=6.3,SNR=24
KMBO S **SKSac** **00 36 23.6 -5.6**
comp=Z,0.4nm,0.4s,baz=69,slow=18,SNR=1.3
KMBO LR LR 01 06 52.7
comp=Z,2μm,18.7s,baz=84,slow=36
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 89.81 269 *ce*P **P** **00 25 58.4 -1.0**
KMBO pmax pmax
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 89.81 269 *i* P **P** **00 25 59.2 -0.1**
SNR=19
RAF Rauma 89.83 332 *e*P **P** **00 25 57.6 -0.6**
T35M Bob Quinn 89.84 32 P **P** **00 26 00.0 +1.7**
baz=285
T35M S **S** **00 36 51.5 +2.6**
baz=285
EUNU Eureka 89.93 5 IAmb IAmb 00 26 00.8
comp=Z,80nm,1.4s
TPGR Topolog 90.01 315 ⇓P **P** **00 25 59.0 -0.4**
VLDR Vladesti 90.04 316 ⇑P **P** **00 25 59.7 +0.2**
TIRR Tirgusor 90.10 315 ⇓P **P** **00 25 59.0 -0.7**
TIRR Tirgusor 90.10 315 P **P** **00 25 59.0 -0.7**
SCTR Scanteiesti 90.13 316 ⇓P **P** **00 25 59.9 0.0**
CFR Carcaliu 90.14 316 ⇑P **P** **00 25 58.7 -1.2**
CFR Carcaliu 90.14 316 P **P** **00 25 58.7 -1.2**
VARL Varlezi 90.18 316 ⇓P **P** **00 25 60.0 -0.2**
RNPP9 Sopachiv 90.20 322 P **P** **00 25 59.2 -0.9**
U35K Hyder 90.25 33 IAMs_20 IAMs_20 00 58 21.4
comp=Z,2μm,20.0s
PABE Paberze 90.27 326 IAMs_20 IAMs_20 01 08 41.0
comp=Z,2μm,21.0s
PABE Paberze 90.27 326 *e*P **P** **00 26 00.1 -0.2**
TLBR Topalu 90.33 315 ⇑P **P** **00 26 00.8 0.0**
HARR Harsova 90.39 315 ⇓P **P** **00 26 00.7 -0.5**
HARR Harsova 90.39 315 P **P** **00 26 00.6 -0.5**
KMPD K-Podol'skiy 90.51 319 P **P** **00 26 00.3 -1.3**
PANC Panciu 90.67 316 ⇑P **P** **00 26 03.3 +0.9**
TESR Tescani 90.86 317 ⇑P **P** **00 26 02.5 -0.8**
VRI Vrincioaia 90.95 317 ⇓P **P** **00 26 03.8 0.0**
VRI Vrincioaia 90.95 317 P **P** **00 26 03.8 0.0**
PLOR Plostina 91.01 317 ⇑P **P** **00 26 04.2 +0.1**
PLOR Plostina 91.01 317 P **P** **00 26 04.2 +0.1**
LODK Lodwar 91.01 274 IAMs_20 IAMs_20 01 07 26.6
comp=Z,2μm,19.0s
WRGLY Wrigley 91.11 25 P **P** **00 26 04.5 +0.5**
WRGLY IAMs_20 IAMs_20 01 14 31.6
comp=Z,1μm,19.0s
WRGLY Wrigley 91.11 25 P **P** **00 26 05.5 +1.5**
baz=291
SUW Suwalki 91.12 325 *e*P **P** **00 26 03.8 -0.6**
SUW Suwalki 91.12 325 *e*P **P** **00 26 03.7 -0.6**
MANT Manisa 91.22 309 IAmb IAmb 00 26 05.2
comp=Z,36nm,1.1s
OZUR 91.54 317 ⇑P **P** **00 26 06.8 +0.3**
BURAR Bucovina Array 91.55 318 ⇓P **P** **00 26 06.6 -0.1**
BURAR Bucovina Array 91.55 318 P **P** **00 26 06.5 -0.1**
SULR 91.55 315 ⇓P **P** **00 26 06.8 +0.3**
MLR Muntele Rosu 91.58 316 IAmb IAmb 00 26 07.3
comp=Z,34nm,1.4s
MLR Muntele Rosu 91.58 316 LR LR 01 12 43.9
comp=Z,3μm,20.4s,baz=61,slow=39
MLR Muntele Rosu 91.58 316 ⇓P **P** **00 26 06.7 -0.2**
MLR Muntele Rosu 91.58 316 P **P** **00 26 06.6 -0.2**
TOAD Toad River Com 91.83 30 P **P** **00 26 09.3 +1.8**
baz=290
DOPR Dopca 91.84 317 ⇑P **P** **00 26 08.1 +0.2**
KOTAN Kotaneelee Air 91.96 28 P **P** **00 26 09.2 +1.1**
baz=291
KOTAN S **S** **00 37 08.5 +0.5**
baz=291
VOIR 92.20 316 ⇓P **P** **00 26 10.4 +0.8**
VOIR 92.20 316 P **P** **00 26 10.4 +0.8**
ARCR ARCALIA 92.25 318 ⇓P **P** **00 26 10.1 +0.4**
ARR Arges 92.50 316 ⇑P **P** **00 26 10.5 -0.5**
DAG Danmarks Havn 92.55 353 P **P** **00 26 11.6 +1.1**
DAG Danmarks Havn 92.55 353 *i* P **P** **00 26 10.2 -0.2**
BMR Baia Mare 92.66 319 ⇑P **P** **00 26 11.6 0.0**
BMR Baia Mare 92.66 319 P **P** **00 26 11.6 0.0**
TNR Turnu Rosu 92.67 317 ⇑P **P** **00 26 12.5 +0.7**
TNR Turnu Rosu 92.67 317 P **P** **00 26 12.4 +0.7**
CJR Cluj-Napoca 92.85 318 ⇓P **P** **00 26 13.0 +0.4**
CJR Cluj-Napoca 92.85 318 P **P** **00 26 12.9 +0.4**
CBBR Cluj-Babes-Bol 92.86 318 ⇑P **P** **00 26 13.1 +0.5**
KARP Karpathos 92.93 306 *e*P **P** **00 26 12.3 -0.8**
LOT Lotru 93.07 317 ⇓P **P** **00 26 13.5 -0.2**
KOLS Kolonicke sedl 93.09 320 *e*P **P** **00 26 14.1 +0.5**
KOLS pmax pmax
comp=Z,22nm,1.3s
KOLS Kolonicke sedl 93.09 320 *e*P **P** **00 26 14.1 +0.5**
RES Resolute Bay 93.10 10 P **P** **00 26 12.8 -0.2**
RES IAMs_20 IAMs_20 01 10 46.7
comp=Z,1μm,20.0s
RES Resolute Bay 93.10 10 LR LR 01 11 44.8
comp=Z,828nm,18.9s,baz=334,slow=38
RES Resolute Bay 93.10 10 P **P** **00 26 12.8 -0.2**
RES pmax pmax
comp=Z,46nm,1.0s
RES pmax pmax
comp=Z,1μm,20.0s
BEL Belsk 93.14 323 *e*P **P** **00 26 14.2 +0.5**
MARR Marisel-Cluj 93.18 318 ⇓P **P** **00 26 14.0 -0.1**
PLD Plovdiv 93.23 313 *e*P **P** **00 26 13.6 -0.7**
RZN Rozhen 93.35 313 *e*P **P** **00 26 13.5 -1.7**
DRGR 93.41 318 ⇓P **P** **00 26 14.9 -0.3**
DRGR 93.41 318 P **P** **00 26 14.9 -0.3**
DEV Deva 93.54 317 ⇓P **P** **00 26 15.7 +0.1**
DEV Deva 93.54 317 P **P** **00 26 15.7 +0.1**
VALD Valchedram 93.76 315 *e*P **P** **00 26 16.2 -0.5**
HFS Hagfors 93.87 333 P **P** **00 26 15.7 -1.2**
comp=Z,29nm,0.9s,baz=86,slow=4.6,SNR=20
HFS S **SKSac** **00 36 42.6 -7.2**
comp=Z,2.1nm,0.9s,baz=8.7,slow=10,SNR=1.5
comp=Z,29nm,0.9s
SURR Surduc 94.09 317 ⇑P **P** **00 26 17.1 -1.2**
MMB Musomishta 94.10 313 *e*P **P** **00 26 16.3 -2.1**
HERR Herculane 94.14 316 ⇓P **P** **00 26 18.0 -0.5**
NEEM North Greenlan 94.16 360 *i* P **P** **00 26 18.8 +0.5**
NEEM IAmb IAmb 00 26 24.5
comp=Z,74nm,1.5s
NIE Niedzica 94.19 321 *e*P **P** **00 26 19.1 +0.5**
VTS Vitosha 94.19 314 *e*P **P** **00 26 18.1 -0.9**
OJC Ojcow 94.24 322 *e*P **P** **00 26 18.5 -0.3**
OJC Ojcow 94.24 322 IAmb IAmb 00 26 19.7
comp=Z,40nm,1.1s
SIRR Siria 94.26 318 ⇓P **P** **00 26 18.9 -0.1**
NC405 NORSAR Array S 94.34 334 IAmb IAmb 00 26 19.1
comp=Z,37nm,1.1s
KECS Kecovo 94.36 320 *e*P **P** **00 26 19.2 -0.2**
KECS pmax pmax
comp=Z,62nm,2.0s
KECS Kecovo 94.36 320 *e*P **P** **00 26 19.2 -0.2**
KKB Krupnik 94.47 313 *e*P **P** **00 26 19.2 -0.9**
BZS Buzias 94.48 317 ⇓P **P** **00 26 19.0 -1.0**
BZS Buzias 94.48 317 P **P** **00 26 19.0 -1.0**
NB2 NORSAR Subarra 94.59 334 P **P** **00 26 18.6 -1.6**
comp=Z,24nm,1.0s,baz=65,slow=4.6
NB2 NORSAR Subarra 94.59 334 P **P** **00 26 18.6 -1.6**
baz=65,slow=4.6

NB2 NORSAR Subarra 94.59 334 P **P** **00 26 17.3 -2.9**
NOA NORSAR Array B 94.59 334 P **P** **00 26 18.5 -1.8**
comp=Z,8.8nm,0.9s,baz=64,slow=4.6,SNR=20
NOA S SKSac 00 36 41.8 -12
comp=Z,0.5nm,0.8s,baz=75,slow=7.2,SNR=2.3
NOA LR LR 01 12 01.5
comp=Z,3μm,20.8s,baz=75,slow=37
comp=Z,8.8nm,0.9s
MDVR Moldovita 94.65 316 ⇓P **P** **00 26 20.4 -0.5**
PEHC Pehcevo 94.66 313 *i* P **P** **00 26 20.1 -0.9**
NC204 NORSAR Array S 94.68 334 IAmb IAmb 00 26 20.6
comp=Z,26nm,0.9s
LANS Liptovska Anna 94.79 321 *e*P **P** **00 26 20.9 -0.5**
LANS pmax pmax
comp=Z,12nm,1.4s
LANS Liptovska Anna 94.79 321 *e*P **P** **00 26 20.9 -0.5**
IDI Anoyia 94.80 307 P **P** **00 26 19.7 -2.1**
IDI Anoyia 94.80 307 LR LR 01 15 30.3
comp=Z,556nm,19.0s,baz=86,slow=40
DBG Daneborg 94.84 351 *i* P **P** **00 26 20.7 -0.3**
DBG IAmb IAmb 00 26 32.4
comp=Z,83nm,1.8s
PSZ Piszkesteto 94.91 320 P **P** **00 26 21.2 -0.8**
PSZ IAMs_20 IAMs_20 01 13 13.2
comp=Z,2μm,20.0s
PSZ Piszkesteto 94.91 320 ⇑P **P** **00 26 22.1 +0.1**
PSZ Piszkesteto 94.91 320 P **P** **00 26 21.2 -0.8**
PSZ pmax pmax
comp=Z,21nm,1.3s
PSZ pmax pmax
comp=Z,2μm,20.0s
PSZ Piszkesteto 94.91 320 *e*P **P** **00 26 21.4 -0.6**
OZB Mount Ozzard 94.96 39 IAMs_20 IAMs_20 01 10 51.4
comp=Z,1μm,21.0s
BOVS Bovan 94.99 315 ⇑P **P** **00 26 21.6 -0.8**
VAY Valandovo 95.02 313 *i* P **P** **00 26 19.5 -3.0**
YKA Yellowknife Ar 95.09 24 P **P** **00 26 23.3 +0.9**
comp=Z,14nm,1.0s,baz=298,slow=4.7,SNR=97
YKA S **SKSac** **00 36 56.7 +0.5**
comp=Z,0.1nm,0.3s,baz=310,slow=4.6,SNR=1.6
YKA LR LR 01 07 50.3
comp=Z,523nm,22.0s,baz=296,slow=34
comp=Z,14nm,1.0s
YKA Yellowknife Ar 95.09 24 *ce*P **P** **00 26 23.6 +1.2**
YKA pmax pmax
comp=Z,14nm,1.0s
JMIC Jan Mayen 95.26 347 LR LR 01 13 34.5
comp=Z,1μm,20.8s,baz=42,slow=38
BSD Bornholm Skovb 95.29 328 *i* P **P** **00 26 23.1 -0.3**
DEL Delary 95.29 329 *i* P **P** **00 26 22.8 -0.6**
BORU Boraas 95.36 330 *i* P **P** **00 26 22.9 -0.8**
OKC Ostrava-Krasne 95.37 322 AMS AMS 01 12 20.0
comp=Z,2μm,19.5s
VYHS Vyhne 95.39 321 *e*P **P** **00 26 24.5 +0.3**
VYHS pmax pmax
comp=Z,117nm,2.6s
VYHS Vyhne 95.39 321 *e*P **P** **00 26 24.5 +0.3**
STRU Stroemstad 95.50 332 *i* P **P** **00 26 22.6 -1.7**
STEB Steborice 95.57 322 *e*P **P** **00 26 25.1 +0.2**
FABU Falkenberg 95.65 330 *i* P **P** **00 26 24.3 -0.7**
MAUC Maruska 95.73 322 *e*P **P** **00 26 25.9 +0.2**
TJOU Tjoern 95.74 331 *i* P **P** **00 26 23.9 -1.5**
MORC Moravsky Berou 95.76 322 IAmb IAmb 00 26 27.0
comp=Z,29nm,1.3s
MORC IAMs_20 IAMs_20 01 13 04.5
comp=Z,2μm,18.0s
MORC Moravsky Berou 95.76 322 *e*P **P** **00 26 25.8 0.0**
MORC Moravsky Berou 95.76 322 P **P** **00 26 26.3 +0.5**
LUNU Lund 95.85 328 *i* P **P** **00 26 25.8 -0.2**
BJUU Bjuv 95.88 329 *i* P **P** **00 26 25.8 -0.4**
SRO Srobarova 95.95 320 *e*P **P** **00 26 26.4 -0.3**
SRO pmax pmax
comp=Z,25nm,1.4s
SRO Srobarova 95.95 320 *e*P **P** **00 26 26.4 -0.3**
JAVC Velka Javorina 96.00 321 *e*P **P** **00 26 28.1 +1.1**
KRLC Kraliky 96.12 323 AMS AMS 01 14 10.0
comp=Z,2μm,15.6s
KSP Ksiaz 96.13 323 *e*P **P** **00 26 27.4 0.0**
MBAR Mbarara 96.18 270 IAMs_20 IAMs_20 01 13 42.6
comp=Z,1μm,18.0s
MBAR Mbarara 96.18 270 *ce*P **P** **00 26 29.1 +0.5**
MBAR pmax pmax
comp=Z,4.0nm,1.3s
OSTC Ostas 96.28 323 AMS AMS 01 15 00.0
comp=Z,2μm,18.0s
DPC Dobruska-Polom 96.29 323 *e*P **P** **00 26 28.4 +0.1**
DPC AMS AMS 01 16 50.0
comp=Z,2μm,17.9s
DPC Dobruska-Polom 96.29 323 *e*P **P** **00 26 28.4 +0.1**
DPC MLR MLR
comp=Z,2μm,17.9s
CHVC Chvalec 96.36 323 *e*P **P** **00 26 28.5 0.0**
CHVC AMS AMS 01 16 10.0
comp=Z,2μm,18.0s
CHVC Chvalec 96.36 323 *e*P **P** **00 26 28.5 0.0**
CHVC MLR MLR
comp=Z,2μm,18.0s
MODS Modra-Piesok 96.41 321 *e*P **P** **00 26 29.5 +0.6**
MODS Modra-Piesok 96.41 321 *e*P **P** **00 26 29.4 +0.6**
UPC Upice 96.42 323 AMS AMS 01 15 00.0
comp=Z,2μm,18.4s
VRAC Vranov 96.50 322 LR LR 01 13 30.0
comp=Z,1μm,18.2s,baz=90,slow=38
VRAC Vranov 96.50 322 *e*P **P** **00 26 29.4 +0.2**
KBN Korca 96.51 313 IAmb IAmb 00 26 30.9
comp=Z,26nm,1.2s
NLWA Neilton Lookou 96.51 40 P **P** **00 26 30.2 +0.9**
NLWA IAMs_20 IAMs_20 01 02 21.5
comp=Z,2μm,22.0s
LLLB Lilloet 96.58 37 P **P** **00 26 29.8 +0.3**
LLLB IAmb IAmb 00 26 44.9
comp=Z,21nm,1.2s
KRUC Moravsky 96.72 322 *e*P **P** **00 26 30.2 +0.1**
TIR Tirane 96.96 314 IAMs_20 IAMs_20 01 16 37.2
comp=Z,1μm,19.0s
KULLO Kullorsuaq 97.01 1 *i* P **P** **00 26 30.7 -0.2**
PDG Podgorica 97.06 315 IAMs_20 IAMs_20 01 17 29.6
comp=Z,2μm,20.0s
GNW Green Mountain 97.11 40 IAMs_20 IAMs_20 01 02 31.4
comp=Z,2μm,21.0s
TREC Trest 97.18 322 *e*P **P** **00 26 32.3 0.0**
TREC Trest 97.18 322 *e*P **P** **00 26 32.3 0.0**
F03A Seaside 97.21 42 IAMs_20 IAMs_20 01 16 52.1
comp=Z,1μm,19.0s
GOPC GO Pecny, Ondr 97.37 323 *e*P **P** **00 26 33.1 0.0**
GOPC AMS AMS 01 17 30.0
comp=Z,2μm,18.6s
GOPC GO Pecny, Ondr 97.37 323 *e*P **P** **00 26 33.1 0.0**
GOPC MLR MLR
comp=Z,2μm,18.6s
CONA Conrad Observa 97.46 321 *e*PcP **P** **00 26 33.7 0.0**
comp=Z,1.1nm,0.5s,SNR=8.6
PRU Pruhonice 97.49 323 *e*P **P** **00 26 33.4 -0.2**
PRU AMS AMS 01 17 30.0
comp=Z,2μm,19.0s
PRU Pruhonice 97.49 323 *e*P **P** **00 26 33.4 -0.2**
PRU MLR MLR
comp=Z,2μm,19.0s
BRG Berggiesshubel 97.50 324 ⇓*i*P Pdif 00 26 33.8 +0.2
BRG Amp 00 26 35.4
comp=Z,30nm,1.2s
BRG Berggiesshubel 97.50 324 S **S** **00 38 04.0 +7.3**
BRG Berggiesshubel 97.50 324 SP SP 00 39 24.0 +5.8
PRA Prague 97.52 323 AMS AMS 01 18 00.0
comp=Z,2μm,18.1s
D05A Enumclaw 97.78 40 IAMs_20 IAMs_20 01 03 02.0
comp=Z,1μm,20.0s
COR Corvallis 97.84 43 IAMs_20 IAMs_20 01 18 32.9
comp=Z,1μm,20.0s
CLL Collm 97.86 325 *i* P **P** **00 26 34.9 -0.3**
CLL *e* 00 37 12.0
CLL pmax pmax
comp=Z,30nm,1.4s
CLL MLR MLR
comp=Z,2μm,17.6s
CLL Collm 97.86 325 *i* P **P** **00 26 34.9 -0.3**
comp=Z,30nm,1.4s
CLL *i* x x 00 26 38.7
CLL *i* pP **pP** **00 26 42.4 0.0**
comp=Z,39nm,1.6s
CLL *e*PP **PP** **00 30 39.0 +5.6**
CLL *e*SKSac **SKSac** **00 37 12.0 +0.8**
CLL *e*S **ScS** **00 38 06.0 +6.1**
CLL *e*SP **SP** **00 39 20.0 -2.2**
CLL *e*PS **PS** **00 39 24.0 -2.1**

CLL *e*SS **SS** **00 44 48.0 +7.6**
J01E Myrtle Point 97.89 44 IAMs_20 IAMs_20 01 17 13.5
comp=Z,2μm,18.0s
HSKC Hora Svate Kat 97.90 324 AMS AMS 01 15 00.0
comp=Z,2μm,17.5s
ZVC Zvikov 97.91 323 *e*P **P** **00 26 35.5 0.0**
ZVC AMS AMS 01 17 10.0
comp=Z,2μm,19.3s
ARSA Arzberg 97.92 320 IAmb IAmb 00 26 36.4
comp=Z,33nm,1.8s
I03D Drain, OR 98.11 44 IAMs_20 IAMs_20 01 10 38.2
comp=Z,1μm,18.0s
GROS Grobnik 98.22 319 *e*Pdiff **P** **00 26 36.5 -0.6**
H04D Lebanon 98.24 43 IAMs_20 IAMs_20 01 07 29.5
comp=Z,1μm,21.0s
DBO Dodson Butte 98.38 44 IAMs_20 IAMs_20 01 06 44.3
comp=Z,1μm,20.0s
QSPA South Pole Qui 98.40 180 P **P** **00 26 36.8 -0.6**
QSPA IAmb IAmb 00 27 18.0
comp=Z,23nm,1.4s
QSPA South Pole Qui 98.40 180 IAMs_20 IAMs_20 01 14 41.9
comp=Z,2μm,20.0s
QSPA South Pole Qui 98.40 180 P **P** **00 26 36.7 -0.7**
comp=Z,4.0nm,0.9s,baz=299,slow=2.7,SNR=7.2
QSPA S **SKSac** **00 37 08.8 -4.5**
comp=Z,1.4nm,1.0s,baz=292,slow=5.4,SNR=7.9
QSPA LR LR 01 11 51.0
comp=Z,1μm,20.6s,baz=357,slow=36
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 98.40 322 *e*P **P** **00 26 37.2 -0.6**
KHC *e*SKS **SKSac** **00 37 17.6 +3.5**
KHC AMS AMS 01 17 20.0
comp=Z,2μm,18.3s
KHC Kasperske Hory 98.40 322 *e*P **P** **00 26 37.2 -0.6**
KHC *e* 00 37 17.6
KHC MLR MLR
comp=Z,2μm,18.3s
GEC2 GERESS Array S 98.44 322 IAmb IAmb 00 26 38.9
comp=Z,27nm,1.1s
GERES GERESS Array B 98.44 322 P **P** **00 26 36.4 -1.6**
GERES GERESS Array B 98.44 322 P **P** **00 26 37.1 -0.9**
comp=Z,9.8nm,0.9s,baz=57,slow=4.9,SNR=28
GERES S **SKSac** **00 37 15.2 +0.8**
comp=Z,0.2nm,0.4s,baz=51,slow=6.4,SNR=1.8
GERES LR LR 01 13 08.0
comp=Z,2μm,21.5s,baz=78,slow=37
comp=Z,9.8nm,0.9s
POGA Pongola 98.44 244 IAMs_20 IAMs_20 01 08 46.1
comp=Z,1μm,19.0s
MOA Molln 98.48 321 *e*Pdiff **P** **00 26 38.1 0.0**
comp=Z,12nm,0.9s,SNR=9.8
CRES Cresnjevec Ost 98.48 319 *e*Pdiff **P** **00 26 38.0 -0.2**
SUMG Summit 98.50 356 *i* P Pdif 00 26 38.8 +0.6
SUMG IAmb IAmb 00 26 42.3
comp=Z,5.6nm,1.0s
LTY Liberty 98.59 40 IAMs_20 IAMs_20 01 03 18.5
comp=Z,2μm,22.0s
NKC Novy Kostel 98.63 324 AMS AMS 01 18 20.0
comp=Z,2μm,16.9s
OBKA Obir 98.81 320 *e*Pdiff **P** **00 26 39.2 -0.6**
comp=Z,3.1nm,0.8s
UPNV Upernavik 98.83 1 *i* P Pdif 00 26 40.5 +1.4
UPNV IAmb IAmb 00 26 43.8
comp=Z,26nm,1.5s
VISS Visnje 98.89 319 *e*Pdiff **P** **00 26 39.8 -0.3**
BIOA Bad Ischl, Aus 98.93 321 *e*Pdiff **P** **00 26 39.5 -0.7**
comp=Z,1.0nm,0.3s
B08A Colville Reser 98.99 38 IAmb IAmb 00 26 56.1
comp=Z,37nm,1.9s
J04A Umpqua Nationa 99.12 44 IAMs_20 IAMs_20 01 20 48.8
comp=Z,2μm,18.0s
YBH Yreka Blue Hor 99.23 45 IAMs_20 IAMs_20 01 03 03.8
comp=Z,1μm,22.0s
YBH Yreka Blue Hor 99.23 45 LR LR 01 03 26.8
comp=Z,1μm,21.7s,baz=292,slow=30
L04D Klamath Falls 99.34 45 IAMs_20 IAMs_20 01 01 15.8
comp=Z,1μm,22.0s
KBA Koelnbreinsper 99.36 321 *e*Pdiff **Pdif** **00 26 40.7 -1.5**
comp=Z,1.8nm,0.6s
G06A Carlson Farm, 99.38 41 IAMs_20 IAMs_20 01 13 35.4
comp=Z,1μm,19.0s
K04D Chiloquin, OR 99.58 44 IAMs_20 IAMs_20 01 13 22.1
comp=Z,1μm,19.0s
F07A Phinny Hill Vi 99.58 41 IAMs_20 IAMs_20 01 13 56.8
comp=Z,1μm,20.0s
LESA Schwarzleotal 99.64 321 *e*Pdiff **Pdif** **00 26 41.7 -1.7**
comp=Z,4.0nm,0.7s,SNR=5.2
J05D Fort Rock, OR 99.70 43 IAMs_20 IAMs_20 01 21 08.1
comp=Z,1μm,18.0s
SGRT San Giovanni R 99.75 315 IAMs_20 IAMs_20 01 19 35.8
comp=Z,1μm,20.0s
D08A Wollman Farm, 99.76 39 IAMs_20 IAMs_20 01 15 51.5
comp=Z,1μm,19.0s
E08A Dider Farm, El 99.90 40 IAMs_20 IAMs_20 01 04 08.2
comp=Z,1μm,20.0s
ABTA Abfaltersbach 100.01 321 *e*Pdiff **Pdif** **00 26 42.9 -2.2**
comp=Z,1.9nm,0.6s
CUC Castrocucco 100.31 313 IAMs_20 IAMs_20 01 18 26.9
comp=Z,1μm,19.0s
WTTA Wattenberg 100.35 321 *e*Pdiff **Pdif** **00 26 45.6 -1.1**
comp=Z,4.2nm,0.5s,SNR=7.3
WATA Walderalm 100.36 321 *e*Pdiff **Pdif** **00 26 45.9 -0.8**
comp=Z,2.1nm,0.5s
NEW Newport 100.37 38 IAMs_20 IAMs_20 01 17 11.4
comp=Z,1μm,19.0s
G08A Pilot Rock 100.45 41 IAMs_20 IAMs_20 01 14 21.7
comp=Z,1μm,18.0s
E09A Wood Farm, Sta 100.47 40 IAMs_20 IAMs_20 01 04 25.3
comp=Z,1μm,22.0s
LSZ Lusaka 100.55 256 IAMs_20 IAMs_20 01 10 35.4
comp=Z,2μm,19.0s
SQTA Sankt Quirin 100.63 321 *e*Pdiff **Pdif** **00 26 47.2 -0.7**
comp=Z,1.2nm,0.2s,SNR=6.9
CTI Castel Tesino 100.84 320 IAMs_20 IAMs_20 01 21 09.2
comp=Z,2μm,18.0s
FETA Feichten 101.01 321 *e*Pdiff **Pdif** **00 26 48.8 -0.8**
comp=Z,3.3nm,0.7s,SNR=6.9
CAMP Campotosto 101.08 316 IAMs_20 IAMs_20 01 20 58.9
comp=Z,2μm,21.0s
FDMO Fiordimonte 101.11 317 IAMs_20 IAMs_20 01 18 49.5
comp=Z,2μm,20.0s
DAVA Damuels 101.42 322 *e*Pdiff **Pdif** **00 26 51.0 -0.4**
comp=Z,2.3nm,0.7s
AFDM Forest Hills D 101.44 47 IAMs_20 IAMs_20 01 09 40.7
comp=Z,1μm,20.0s
FUORN Ofenpass-Fuorn 101.47 321 IAMs_20 IAMs_20 01 22 15.8
comp=Z,1μm,19.0s
BMO Blue Mountains 101.69 41 IAMs_20 IAMs_20 01 15 11.7
comp=Z,1μm,19.0s
WVOR Wild Horse Val 101.79 43 IAMs_20 IAMs_20 01 14 46.4
comp=Z,2μm,20.0s
SAO San Andreas Ge 101.85 50 IAMs_20 IAMs_20 01 15 10.7
comp=Z,2μm,19.0s
CMB Columbia Colle 102.20 48 IAMs_20 IAMs_20 01 04 09.7
comp=Z,2μm,20.0s
PAHR Pah Rah Range 102.31 46 IAMs_20 IAMs_20 01 13 32.5
comp=Z,2μm,19.0s
PNTR Pine Nut 102.39 47 IAMs_20 IAMs_20 01 05 51.6
comp=Z,2μm,20.0s
PLID Pearl Lake 102.43 40 IAMs_20 IAMs_20 01 04 30.2
comp=Z,1μm,22.0s
WLF Walferdange 102.51 325 P **Pdif** **00 26 56.9 +0.9**
PMPB Monarch Peak 102.53 50 IAMs_20 IAMs_20 01 14 14.6
comp=Z,1μm,19.0s
WAKR Walker 102.72 47 IAMs_20 IAMs_20 01 04 43.5
comp=Z,2μm,22.0s
RYN Ryan 103.34 47 IAMs_20 IAMs_20 01 05 06.8
comp=Z,2μm,22.0s
GRHM Grahamstown, E 103.39 238 IAMs_20 IAMs_20 01 09 33.9
comp=Z,2μm,19.0s
NVAR Mina Array Bea 103.58 47 Pdiff **Pdif** **00 27 00.9 -0.4**
comp=Z,0.4nm,0.4s,baz=297,slow=5.7,SNR=2.4
NVAR PKKP **PKKPdf** **00 43 03.9 +0.8**
comp=Z,1.9nm,0.8s,baz=95,slow=3.6,SNR=5.3
BCW Bitter Crk WRg 104.04 51 IAMs_20 IAMs_20 01 13 33.6
comp=Z,1μm,20.0s
HLID Hailey 104.13 41 IAMs_20 IAMs_20 01 18 04.1
comp=Z,1μm,19.0s
DSP Deep Springs 104.22 48 IAMs_20 IAMs_20 01 05 14.3
comp=Z,2μm,21.0s
Q09A Carvers 104.23 46 IAMs_20 IAMs_20 01 05 42.2
comp=Z,1μm,20.0s
ISA Isabella, Lake 104.49 50 IAMs_20 IAMs_20 01 14 45.5
comp=Z,1μm,19.0s
ELK Elko 104.81 44 IAMs_20 IAMs_20 01 08 10.3
comp=Z,1μm,21.0s
FFC Flin Flon 104.92 27 IAMs_20 IAMs_20 01 22 34.9
comp=Z,1μm,20.0s

CCAC Calif City Air 105.03 50 IAMs_20 IAMs_20 01 14 10.8
comp=Z,2μm,19.0s
FCC Fort Churchill 105.28 21 IAMs_20 IAMs_20 01 16 48.0
comp=Z,1μm,22.0s
YHL Hebgen Lake 105.58 39 IAMs_20 IAMs_20 01 19 34.2
comp=Z,1μm,18.0s
YHB Horse Butte 105.62 39 IAMs_20 IAMs_20 01 14 51.3
comp=Z,1μm,19.0s
GWY Greenwater Val 105.65 49 IAMs_20 IAMs_20 01 03 11.0
comp=Z,1μm,21.0s
TPNV Topopah Spring 105.65 48 IAMs_20 IAMs_20 01 07 24.2
comp=Z,1μm,21.0s
S11A Rachel 105.74 47 IAMs_20 IAMs_20 01 11 59.3
comp=Z,2μm,19.0s
YMR Madison River 105.80 39 IAMs_20 IAMs_20 01 19 33.2
comp=Z,1μm,18.0s
GSC Goldstone, Bar 105.89 50 IAMs_20 IAMs_20 01 15 01.5
comp=Z,1μm,20.0s
YNM Yellowstone No 105.94 39 IAMs_20 IAMs_20 01 20 20.7
comp=Z,1μm,18.0s
YNR Norris Junctio 105.95 39 IAMs_20 IAMs_20 01 20 13.3
comp=Z,1μm,18.0s
HVU Hansel Valley 106.01 42 IAMs_20 IAMs_20 01 25 16.1
comp=Z,1μm,18.0s
ELS Elsinore Mount 106.04 51 IAMs_20 IAMs_20 01 24 06.7
comp=Z,1μm,18.0s
SPR3 Spring Creek 3 106.18 45 IAMs_20 IAMs_20 01 08 32.9
comp=Z,1μm,20.0s
BGU Big Grassy Mou 106.23 43 IAMs_20 IAMs_20 01 24 33.0
comp=Z,1μm,18.0s
YMP Mirror Lake Pl 106.27 39 IAMs_20 IAMs_20 01 20 58.5
comp=Z,1μm,19.0s
FXWY Fox Creek 106.27 40 IAMs_20 IAMs_20 01 13 23.6
comp=Z,1μm,20.0s
TPAW Teton Pass 106.39 40 IAMs_20 IAMs_20 01 20 28.7
comp=Z,1μm,19.0s
MOOW Moose Ponds 106.39 40 IAMs_20 IAMs_20 01 08 17.9
comp=Z,1μm,21.0s
SNOW Snow King Moun 106.53 40 IAMs_20 IAMs_20 01 08 21.5
comp=Z,1μm,22.0s
LOHW Long Hollow 106.55 40 IAMs_20 IAMs_20 01 08 10.0
comp=Z,1μm,21.0s
AHID Auburn Hatcher 106.64 41 IAMs_20 IAMs_20 01 08 37.7
comp=Z,1μm,19.0s
KEST Kesra 106.65 311 PP **PP** **00 31 39.9 -0.1**
comp=Z,8.8nm,1.2s,baz=62,slow=4.4,SNR=4.8
PSUT Pine Spring 106.72 46 IAMs_20 IAMs_20 01 09 29.2
comp=Z,1μm,20.0s
PFO Pinyon Flats O 106.80 51 IAMs_20 IAMs_20 01 20 54.0
comp=Z,1μm,18.0s
FRB Frobisher Bay 106.98 7 PP **PP** **00 31 39.1 -2.0**
comp=Z,4.5nm,1.1s,baz=315,slow=5.5,SNR=3.5
CBX Cerro Bola 107.13 53 IAMs_20 IAMs_20 01 25 46.8
comp=Z,1μm,21.0s
V12A Nelson 107.18 49 IAMs_20 IAMs_20 01 17 05.7
comp=Z,1μm,19.0s
TCUT Toone Canyon 107.23 42 IAMs_20 IAMs_20 01 25 12.4
comp=Z,2μm,19.0s
CCX Cicese 107.30 53 IAMs_20 IAMs_20 01 17 39.3
comp=Z,1μm,18.0s
JLU Jordanelle 107.44 43 IAMs_20 IAMs_20 01 09 28.1
comp=Z,1μm,22.0s
LAO LASA Array 107.57 35 IAMs_20 IAMs_20 01 05 55.8
comp=Z,1μm,22.0s
YUH Yuha Desert 107.59 52 IAMs_20 IAMs_20 01 09 13.8
comp=Z,1μm,20.0s
PDAR Pinedale Array 107.63 40 PKKPbc PKKPbc 00 42 40.8 -1.9
comp=Z,0.8nm,0.9s,baz=113,slow=3.9,SNR=3.8
PDAR PKKPab PKKPab 00 42 52.6 -4.4
comp=Z,0.8nm,0.8s,baz=108,slow=3.3,SNR=8.6
ESJX Sierra Juarez 107.81 53 IAMs_20 IAMs_20 01 18 15.8
comp=Z,1μm,19.0s
LCMT Little Creek M 107.81 47 IAMs_20 IAMs_20 01 08 41.3
comp=Z,1μm,20.0s
MTPU Mount Pierson 108.12 45 IAMs_20 IAMs_20 01 09 03.2
comp=Z,2μm,21.0s
KNB Kanab 108.12 47 IAMs_20 IAMs_20 01 08 41.3
comp=Z,1μm,21.0s
W13A Hualapai Mount 108.16 49 IAMs_20 IAMs_20 01 08 24.4
comp=Z,1μm,21.0s
GLA Glamis 108.28 51 IAMs_20 IAMs_20 01 10 41.0
comp=Z,1μm,20.0s
PKCU Pink Cliffs 108.29 46 IAMs_20 IAMs_20 01 08 08.9
comp=Z,2μm,21.0s
Q16A Castle Valley 108.42 44 IAMs_20 IAMs_20 01 19 17.2
comp=Z,1μm,18.0s
RDMU Red Mountain 108.72 42 IAMs_20 IAMs_20 01 09 52.7
comp=Z,1μm,20.0s
U15A North Rim 108.76 47 IAMs_20 IAMs_20 01 07 52.3
comp=Z,1μm,22.0s
SFX San Felipe 109.05 53 IAMs_20 IAMs_20 01 16 32.6
comp=Z,1μm,18.0s
O20A White River Ci 109.81 42 IAMs_20 IAMs_20 01 10 50.7
comp=Z,1μm,20.0s
WUAZ Wupatki 109.83 48 IAMs_20 IAMs_20 01 08 31.7
comp=Z,1μm,21.0s
SNAA Sanae 109.86 195 PKKPbc PKKPbc 00 42 36.3 +0.1
comp=Z,1.8nm,0.9s,baz=313,slow=5.6,SNR=2.2
X16A Lo Mia Camp, P 110.27 49 IAMs_20 IAMs_20 01 09 40.4
comp=Z,2μm,22.0s
E28A Huff 110.71 33 IAMs_20 IAMs_20 01 11 59.4
comp=Z,1μm,22.0s
TSUM Tsumeb 110.93 253 IAMs_20 IAMs_20 01 15 48.4
comp=Z,1μm,20.0s
X18A Snowflake 111.32 48 IAMs_20 IAMs_20 01 23 56.2
comp=Z,1μm,18.0s
WIN Windhoek 111.46 249 IAMs_20 IAMs_20 01 13 13.3
comp=Z,1μm,22.0s
TUC Tucson 111.68 50 IAMs_20 IAMs_20 01 24 05.1
comp=Z,1μm,19.0s
S22A 4UR Ranch, Cre 111.97 44 IAMs_20 IAMs_20 01 22 21.1
comp=Z,1μm,19.0s
AGMN Agassiz Nation 112.05 29 IAMs_20 IAMs_20 01 23 45.7
comp=Z,1μm,19.0s
BRIGG Briggsdale 112.12 40 IAMs_20 IAMs_20 01 09 58.5
comp=Z,1μm,22.0s
Q24A Divide 112.46 42 IAMs_20 IAMs_20 01 12 58.8
comp=Z,1μm,21.0s
SRIG Santa Rosalia 112.60 56 IAMs_20 IAMs_20 01 27 10.8
comp=Z,1μm,18.0s
HSIG 112.95 54 IAMs_20 IAMs_20 01 11 22.1
comp=Z,1μm,21.0s
319A Douglas 113.24 51 IAMs_20 IAMs_20 01 21 51.4
comp=Z,1μm,20.0s
F33A 5 Mile Ranch, 113.51 31 IAMs_20 IAMs_20 01 13 28.3
comp=Z,1μm,22.0s
ANMO Albuquerque 113.64 46 IAMs_20 IAMs_20 01 20 41.6
comp=Z,1μm,19.0s
Y22D IRIS PASSCAL I 113.74 47 IAMs_20 IAMs_20 01 11 51.2
comp=Z,1μm,21.0s
121A Cookes Peak, D 113.84 49 IAMs_20 IAMs_20 01 26 01.2
comp=Z,1μm,18.0s
T25A Trinidad 113.93 43 P **PKiKP** **00 31 38.9 -0.4**
baz=302
ESDC Sonseca Array 113.94 320 PP **PP** **00 32 29.9 -2.3**
comp=Z,2.4nm,1.2s,baz=78,slow=11,SNR=4.8
ECSD EROS Data Cent 114.74 33 IAMs_20 IAMs_20 01 30 28.5
comp=Z,941nm,20.0s
EPT El Paso 115.16 49 IAMs_20 IAMs_20 01 26 30.0
comp=Z,1μm,18.0s
SPMN Marine on St. 115.70 30 IAMs_20 IAMs_20 01 28 12.5
comp=Z,1μm,19.0s
CBKS Cedar Bluff 116.02 39 IAMs_20 IAMs_20 01 25 10.8
comp=Z,1μm,20.0s
L34A Svendsen Farm, 116.04 35 IAMs_20 IAMs_20 01 29 07.6
comp=Z,1μm,19.0s
COWI Conover 116.80 27 IAMs_20 IAMs_20 01 30 43.2
comp=Z,1μm,18.0s
EVO Evora 117.15 321 PKP **PKiKP** **00 31 49.3 +4.2**
MESJ Messejana 117.70 321 *e*PP **PP** **00 32 59.5 +0.9**
MESJ IAMs_20 IAMs_20 01 32 35.7
comp=Z,2μm,16.6s
SCIA State Center 117.82 33 IAMs_20 IAMs_20 01 25 55.8
comp=Z,1μm,21.0s
OK038 West end E0370 118.05 41 IAMs_20 IAMs_20 01 18 31.7
comp=Z,1μm,22.0s
MORF Marmelete 118.30 321 *e*PP **PP** **00 33 03.7 +0.8**
MORF IAMs_20 IAMs_20 01 33 01.6
comp=Z,2μm,14.9s
TXAR Lajitas Array 118.48 50 PKP **PKiKP** **00 31 49.2 +1.0**
comp=Z,0.7nm,0.7s,baz=188,slow=1.3,SNR=6.7
TXAR PKKPbc **PKKPbc** **00 42 04.7 -1.0**
comp=Z,3.0nm,0.9s,baz=128,slow=5.3,SNR=15
CROK Carrier 118.52 40 IAMs_20 IAMs_20 01 19 07.1
comp=Z,1μm,21.0s
I42A Draeger Farm, 118.57 29 IAMs_20 IAMs_20 01 31 33.0
comp=Z,1μm,19.0s
JFWS Jewell Farm 118.64 30 IAMs_20 IAMs_20 01 29 42.3

comp=Z,1μm,20.0s
OK048 Pawnee Station 119.24 40 IAMs_20 IAMs_20 01 22 12.0
comp=Z,1μm,20.0s
OK051 E0350 and S346 119.25 40 IAMs_20 IAMs_20 01 16 09.4
comp=Z,1μm,22.0s
OK052 Battle Ridge R 119.59 40 IAMs_20 IAMs_20 01 16 47.3
comp=Z,1μm,21.0s
OK031 S. Brethren Rd 119.59 40 IAMs_20 IAMs_20 01 16 57.4
comp=Z,1μm,20.0s
K43A Burlington 119.74 29 IAMs_20 IAMs_20 01 30 48.1
comp=Z,1μm,20.0s
AVE Averroes 119.88 316 IAMs_20 IAMs_20 01 33 54.7
comp=Z,1μm,20.0s
FW03 Perrin-Whitt E 120.53 44 IAMs_20 IAMs_20 01 23 24.6
comp=Z,879nm,19.0s
JCT Junction City 120.75 47 IAMs_20 IAMs_20 01 26 22.9
comp=Z,1μm,20.0s
HDIL Hopedale 120.86 32 IAMs_20 IAMs_20 01 31 25.0
comp=Z,1μm,20.0s
FW06 Azle 120.91 43 IAMs_20 IAMs_20 01 35 07.8
comp=Z,1μm,19.0s
FW07 Weatherford 120.92 44 IAMs_20 IAMs_20 01 23 47.9
comp=Z,1μm,20.0s
HHAR Hobbs 121.19 38 IAMs_20 IAMs_20 01 35 07.6
comp=Z,1μm,18.0s
TORD Torodi Ar. Bea 121.47 291 PKPdf **PKPdf 00 31 52.4 -1.6**
TORD Torodi Ar. Bea 121.47 291 PKP **PKPdf 00 31 52.2 -1.8**
comp=Z,2.2nm,0.4s,baz=73,slow=2.2,SNR=1.8
FW14 Alvarado 121.50 44 IAMs_20 IAMs_20 01 30 31.3
comp=Z,949nm,19.0s
CCM Cathedral Cave 121.58 35 IAMs_20 IAMs_20 01 26 56.6
comp=Z,1μm,20.0s
MGMO Mountain Grove 121.61 36 IAMs_20 IAMs_20 01 30 49.5
comp=Z,1μm,19.0s
FVM French Village 122.09 34 IAMs_20 IAMs_20 01 29 02.1
comp=Z,1μm,20.0s
AAM Ann Arbor 122.22 26 IAMs_20 IAMs_20 01 36 25.7
comp=Z,1μm,19.0s
TRQ Mont Tremblant 122.22 17 IAMs_20 IAMs_20 01 30 27.2
comp=Z,1μm,18.0s
K50A Casco 122.28 25 IAMs_20 IAMs_20 01 30 22.0
comp=Z,1μm,21.0s
T42A Van Buren 122.38 36 PKPdf **PKPdf 00 31 54.0 -1.3**
T42A IAMs_20 IAMs_20 01 29 25.8
comp=Z,1μm,20.0s
N47A Urbana 122.41 29 IAMs_20 IAMs_20 01 25 34.6
comp=Z,1μm,21.0s
FCAR Ozark Folk Cen 122.55 37 IAMs_20 IAMs_20 01 24 21.5
comp=Z,849nm,21.0s
OLIL Olney 122.82 32 IAMs_20 IAMs_20 01 31 57.0
comp=Z,1μm,20.0s
PBMO Poplar Bluff 122.94 35 IAMs_20 IAMs_20 01 27 18.5
comp=Z,1μm,19.0s
SIUC Southern Illin 122.96 34 IAMs_20 IAMs_20 01 29 39.9
comp=Z,971nm,20.0s
LCAR Lake Charles 123.01 37 IAMs_20 IAMs_20 01 25 24.5
comp=Z,1μm,20.0s
CGM3 Cape Girardeau 123.01 34 IAMs_20 IAMs_20 01 31 37.3
comp=Z,973nm,19.0s
N49A Columbus Grove 123.08 28 IAMs_20 IAMs_20 01 31 04.4
comp=Z,1μm,20.0s
O48B Farmland 123.15 29 IAMs_20 IAMs_20 01 26 07.5
comp=Z,1μm,21.0s
M50A Fremont 123.22 27 IAMs_20 IAMs_20 01 35 16.8
comp=Z,1μm,20.0s
PARMO Parma 123.41 35 IAMs_20 IAMs_20 01 24 41.9
comp=Z,855nm,20.0s
HBAR Harrisburg 123.65 37 IAMs_20 IAMs_20 01 31 35.6
comp=Z,1μm,18.0s
PEBM Pemiscott Bayo 123.73 36 IAMs_20 IAMs_20 01 36 09.5
comp=Z,1μm,20.0s
T45A Paducah 123.77 34 IAMs_20 IAMs_20 01 31 10.3
comp=Z,1μm,19.0s
HICK Hickman 123.79 35 IAMs_20 IAMs_20 01 30 41.0
comp=Z,1μm,19.0s
M52A Chesterland 123.83 25 IAMs_20 IAMs_20 01 33 04.1
comp=Z,1μm,18.0s
Z41A Richland Creek 123.87 40 IAMs_20 IAMs_20 01 18 47.7
comp=Z,1μm,22.0s
HKT Hockley 123.88 45 IAMs_20 IAMs_20 01 28 59.2
comp=Z,1μm,19.0s
N51A Ashland 123.90 27 IAMs_20 IAMs_20 01 33 28.0
comp=Z,1μm,18.0s
GLAT Glass 123.95 35 IAMs_20 IAMs_20 01 34 46.2
comp=Z,1μm,20.0s
LNXT Lenox 123.95 35 IAMs_20 IAMs_20 01 31 11.3
comp=Z,1μm,22.0s
WCI Wyandotte Cave 124.14 31 IAMs_20 IAMs_20 01 21 20.9
comp=Z,1μm,21.0s
HALT Halls 124.17 35 IAMs_20 IAMs_20 01 36 49.2
comp=Z,1μm,21.0s
ACSO Alum Creek Sta 124.19 27 IAMs_20 IAMs_20 01 29 54.8
comp=Z,1μm,20.0s
NCB Newcomb 124.36 18 IAMs_20 IAMs_20 01 32 06.6
comp=Z,1μm,20.0s
MET Memphis--Engin 124.38 37 IAMs_20 IAMs_20 01 36 45.8
comp=Z,1μm,20.0s
WVT Waverly 124.87 34 IAMs_20 IAMs_20 01 26 34.5
comp=Z,1μm,20.0s
O53A New Philadelph 124.96 26 IAMs_20 IAMs_20 01 31 44.2
comp=Z,1μm,20.0s
MOIG Morelia 124.98 59 IAMs_20 IAMs_20 01 18 58.8
comp=Z,1μm,20.0s
P52A Corning 125.05 27 IAMs_20 IAMs_20 01 26 58.7
comp=Z,1μm,20.0s
ACCN Adirondack Com 125.06 18 IAMs_20 IAMs_20 01 33 42.2
comp=Z,1μm,21.0s
ACRG Accra 125.41 283 IAMs_20 IAMs_20 01 28 24.9
comp=Z,926nm,21.0s
PLAL Pickwick Lake 125.56 35 IAMs_20 IAMs_20 01 26 05.8
comp=Z,980nm,19.0s
U49A Red Boiling Sp 125.70 32 IAMs_20 IAMs_20 01 36 40.0
comp=Z,1μm,19.0s
V48A Smith Brothers 125.71 34 IAMs_20 IAMs_20 01 27 09.5
comp=Z,889nm,20.0s
L61B Northampton 126.21 18 P **PKPdf 00 32 02.4 -0.1**
baz=336
SWET Sewanee 126.58 34 IAMs_20 IAMs_20 01 27 36.9
comp=Z,945nm,19.0s
TZTN Tazewell 126.83 31 IAMs_20 IAMs_20 01 34 42.0
comp=Z,1μm,20.0s
Q56A Snyder Ridge, 126.83 25 IAMs_20 IAMs_20 01 32 29.7
comp=Z,1μm,20.0s
CPCT Cooper Cave 127.17 32 IAMs_20 IAMs_20 01 33 02.2
comp=Z,1μm,20.0s
M63A Gales Ferry 127.36 18 IAMs_20 IAMs_20 01 37 51.8
comp=Z,1μm,20.0s
WUPA West Chester U 127.48 22 IAMs_20 IAMs_20 01 32 17.6
comp=Z,849nm,20.0s
LRAL Lakeview Retre 127.57 36 IAMs_20 IAMs_20 01 38 09.3
comp=Z,1μm,20.0s
U54A Nelsons Funny 127.70 29 IAMs_20 IAMs_20 01 36 04.8
comp=Z,1μm,19.0s
R58B Mineral 128.29 25 IAMs_20 IAMs_20 01 35 38.0
comp=Z,1μm,20.0s
BRAL Brewton 128.87 38 IAMs_20 IAMs_20 01 23 11.8
comp=Z,1μm,22.0s
KMSC Kings Mountain 129.04 30 IAMs_20 IAMs_20 01 23 03.5
comp=Z,1μm,20.0s
PAULI Pauline 129.05 31 IAMs_20 IAMs_20 01 32 46.9
comp=Z,1μm,20.0s
DBIC Dimbokro 129.59 286 PKP **PKPdf 00 32 08.9 -0.7**
comp=Z,6.1nm,0.9s,baz=356,slow=4.2,SNR=3.2
BIRD Birdtown, Kers 129.86 30 IAMs_20 IAMs_20 01 37 05.0
comp=Z,1μm,21.0s
X58A Rowland 130.48 29 IAMs_20 IAMs_20 01 29 39.2
comp=Z,1μm,20.0s
Y58A Scranton 130.85 29 IAMs_20 IAMs_20 01 33 02.1
comp=Z,1μm,21.0s
CCIG Comitan 134.18 57 IAMs_20 IAMs_20 01 20 51.4
comp=Z,888nm,18.0s
HUEH Huehuetenango 135.18 58 IAMs_20 IAMs_20 01 32 45.1
comp=Z,763nm,18.0s
ESQI Esquipulas 137.37 58 IAMs_20 IAMs_20 01 33 30.0
comp=Z,992nm,19.0s
MTO3 Montecristo 137.43 58 PKPdf **PKPdf 00 32 20.6 -4.0**
TGUH Tegucigalpa,Un 139.34 57 IAMs_20 IAMs_20 01 22 43.3
comp=Z,922nm,22.0s
HERN Volcan Telica 140.45 58 IAMs_20 IAMs_20 01 41 21.8
comp=Z,398nm,20.0s
JTS Las Juntas de 143.20 60 IAMs_20 IAMs_20 01 30 43.8
comp=Z,852nm,20.0s
JTS Las Juntas de 143.20 60 *eP* PKPab 00 32 30.6 +0.2
LL04 Puerto Octay 143.47 155 IAMs_20 IAMs_20 01 27 08.3
comp=Z,765nm,22.0s
NMDO Nuevo Mundo 143.97 36 IAMs_20 IAMs_20 01 44 42.3
comp=Z,926nm,19.0s
HDC Heredia 144.06 60 IAMs_20 IAMs_20 01 32 07.6
comp=Z,898nm,19.0s
HDC Heredia 144.06 60 *eP* **PKPdf 00 32 37.9 +1.5**
MTDJ Mount Denham 144.11 42 IAMs_20 IAMs_20 01 47 04.8
comp=Z,823nm,22.0s
PICV PH. Pirrs 144.17 60 *eP* **PKPdf 00 32 37.0 +0.4**
PISJ San Jernim 144.23 60 *eP* **PKPdf 00 32 37.0 +0.2**
LCR2 La Lucha 2 144.28 60 *eP* **PKPab 00 32 33.3 -1.6**
VICA Volcano Irazu 144.30 60 *eP* **PKPdf 00 32 37.0 -0.3**
PLCA Paso Flores 144.37 157 PKPdf PKPbc 00 32 35.0 +0.4
PLCA Paso Flores 144.37 157 PKP PKPbc 00 32 35.0 +0.4
comp=Z,13nm,1.0s,baz=221,slow=3.7,SNR=14
PLCA Paso Flores 144.37 157 PKIKP PKPbc 00 32 35.0 +0.4
PLCA Paso Flores 144.37 157 *eP* **PKiKP 00 32 38.8 -1.1**
GTBY Guantanamo Bay 144.38 37 IAMs_20 IAMs_20 01 49 24.4
comp=Z,759nm,19.0s
FIMO Fila Mora 145.21 61 *eP* **PKiKP 00 32 40.5 -1.8**
GRTK Grand Turk 145.30 30 IAMs_20 IAMs_20 01 49 37.9
comp=Z,638nm,20.0s
EDP2 Potrero Grande 145.35 61 *eP* **PKiKP 00 32 41.2 -1.3**
JIME Puerto Jimenez 145.45 61 *eP* **PKiKP 00 32 42.1 -0.6**
PIRO Carate, Puerto 145.50 62 *eP* **PKPab 00 32 40.7 +1.6**
EDAD Golfito 145.53 61 *eP* **PKiKP 00 32 41.6 -1.4**
BRU2 Volcan 145.87 60 IAMs_20 IAMs_20 01 31 49.8
comp=Z,762nm,19.0s
SDDR Presa de Saban 147.31 33 IAMs_20 IAMs_20 01 45 14.5
comp=Z,1μm,21.0s
BCIP Isla Barro Col 148.10 57 IAMs_20 IAMs_20 01 38 40.3
comp=Z,927nm,20.0s
DR12 Loma Pena Alta 148.47 31 **PKPbc 00 32 47.3 +0.1**
PCDR Punta Cana, DR 149.19 29 IAMs_20 IAMs_20 01 35 03.0
comp=Z,634nm,19.0s
TRQA Tornquist 149.52 166 PKPbc **PKPbc 00 32 48.7 -0.7**
TRQA Tornquist 149.52 166 PKP2 **PKPbc 00 32 48.7 -0.7**
TRQA pmax pmax
comp=Z,1μm,21.0s
UUPR Utuado, UPR, P 150.19 27 IAMs_20 IAMs_20 01 48 31.2
comp=Z,773nm,20.0s
OBIP Obispado Ponce 150.43 27 IAMs_20 IAMs_20 01 47 58.4
comp=Z,711nm,21.0s
SJG San Juan 150.57 26 IAMs_20 IAMs_20 01 43 42.1
comp=Z,715nm,21.0s
HUMP Col San Antoni 150.67 25 IAMs_20 IAMs_20 01 48 18.7
comp=Z,799nm,19.0s
SEUS St. Eustatius 152.37 21 IAMs_20 IAMs_20 01 37 31.8
comp=Z,937nm,20.0s
CFA Coronel Fontan 153.06 151 PKP **PKPdf 00 32 50.6 +0.2**
comp=Z,1.1nm,0.6s,baz=190,slow=9.5,SNR=2.3
CFA PKPbc **PKPbc 00 32 57.5 -0.3**
comp=Z,2.8nm,0.6s,baz=270,slow=3.9,SNR=6.7
OTAV Otavalo 153.29 72 PKPbc **PKPdf 00 32 55.4 +3.6**
OTAV Otavalo 153.29 72 IAMs_20 IAMs_20 01 30 28.9
comp=Z,962nm,21.0s
OTAV Otavalo 153.29 72 PKIKP **PKPdf 00 32 55.4 +3.6**
OTAV pmax pmax
comp=Z,1μm,21.0s
OTAV Otavalo 153.29 72 *eP* **PKPdf 00 32 50.9 -0.9**
ROSC El Rosal 155.02 59 PKP **PKPdf 00 32 54.4 +0.2**
comp=Z,3.3nm,0.3s,baz=316,slow=10,SNR=1.3
SDV Santo Domingo 155.42 46 PKPdf **PKPdf 00 32 52.2 -2.3**
SDV Santo Domingo 155.42 46 *eP* **PKPdf 00 32 53.8 -0.6**
NNA Nana 156.39 100 IAMs_20 IAMs_20 01 41 47.9
comp=Z,741nm,18.0s
PLTB Pedras Altas 156.87 179 PKPab **PKPab 00 33 25.4 +0.2**
CZSB Cruzeiro do Su 160.58 89 *eP* **PKPdf 00 33 01.8 +1.3**
CPUP Villa Florida 161.84 168 PKP **PKPdf 00 33 00.9 -0.6**
comp=Z,1.2nm,0.9s,baz=235,slow=7.0,SNR=2.9
CPUP PKPab **PKPab 00 33 46.7 -0.2**
comp=Z,6.8nm,1.0s,baz=196,slow=4.2,SNR=6.6
CPUP Villa Florida 161.84 168 *eP* **PKPdf 00 33 02.6 +1.1**
TBTG Tabatinga, AM 162.76 77 *eP* **PKPdf 00 33 03.5 +0.7**
LPAZ La Paz 163.43 119 PKP **PKPdf 00 33 04.6 +0.5**
comp=Z,3.4nm,0.8s,baz=337,slow=1.4,SNR=9.1
LPAZ PKPab **PKPab 00 33 56.5 +1.4**
comp=Z,8.6nm,1.0s,baz=316,slow=1.6,SNR=5.7
LPAZ La Paz 163.43 119 *eP* **PKPdf 00 33 04.3 +0.2**
MURT Porto Murtinho 166.24 162 *eP* **PKPdf 00 33 07.6 +2.0**
TEFE Tefe 167.50 67 *eP* **PKPdf 00 33 08.1 +1.3**
BDQN Bodoquena, MS 167.63 164 *eP* **PKPdf 00 33 08.1 +1.4**
AQDB Aquidauana 167.86 168 *eP* **PKPdf 00 33 07.3 +0.5**
SIV San Ignacio 169.25 134 PKP **PKPdf 00 33 07.5 -0.4**
comp=Z,4.7nm,1.1s,baz=200,slow=1.4,SNR=7.8
SIV PKPab **PKPab 00 34 17.8 -2.2**
comp=Z,2.7nm,1.0s,baz=241,slow=5.6,SNR=1.4
PTLB Pontes e Lacer 170.94 140 *eP* **PKPdf 00 33 08.9 +0.1**
SDBA SAO DESIDERIO 171.06 244 *eP* **PKPdf 00 33 08.9 -0.1**
BDFB Brasilia 171.35 215 PKPab **PKPab 00 34 29.1 -0.2**
comp=Z,5.3nm,0.9s,baz=176,slow=3.0,SNR=5.8
BDFB PP **PP 00 38 17.0 -2.1**
comp=Z,2.5nm,0.8s,baz=127,slow=6.7,SNR=3.9
SALV Santo Antonio 172.24 161 *eP* **PKPdf 00 33 10.6 +1.1**
ITTB Itaituba 175.11 32 *eP* **PKPdf 00 33 10.6 0.0**
SNDB Serra Nova Dou 176.13 207 *eP* **PKPdf 00 33 10.6 -0.3**
NPGB Novo Progresso 177.33 57 *eP* **PKPdf 00 33 12.2 +1.1**

IDC 06 00:25:46.9±1.9, 8°67S×123°85E, h0km, mb3.2/1, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=123.9km s-min=28.5km az=63.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.54**	**170**	Pn	Pn	00 28 05.1	-0.5
FITZ	1.1nm,0.3s,baz=350,slow=18,SNR=61			Sn	Sn	00 29 39.8	-14
	3.5nm,0.3s,baz=60,slow=20,SNR=19 2.3nm,0.3s						
WRA	**Warramunga Arr**	**15.12**	**139**	Pn	Pn	00 29 21.8	-0.2
WRA	0.2nm,0.3s,baz=320,slow=14,SNR=14			Sn	Sn	00 32 00.2	-10
	0.4nm,0.3s,baz=315,slow=22,SNR=8.5 0.2nm,0.3s						
ASAR	**Alice Springs**	**17.75**	**148**	P	P	00 29 56.4	-0.2
ASAR	0.2nm,0.3s,baz=324,slow=13,SNR=8.0			S	Sn	00 33 00.4	-14
	0.8nm,0.7s,baz=315,slow=22,SNR=4.5 0.7nm,0.4s						
MKAR	**Makanchi Array**	**66.45**	**330**	P	P	00 36 38.1	0.0
	0.1nm,0.5s,baz=146,slow=5.6,SNR=1.9 0.1nm,0.5s						

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*IDC **06** 00:32:19.6±1.9, 10°36S×120°49E, h0km, mb3.8/4, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=140.4km s-min=22.6km az=56.0*

ISC 06 00:32:21.0±1.2, 10°4S±0°2×120°9E±0°3, h10km, n7, σ3°01/9, mb4.0/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.97**	**149**	Pn	**Pn**	**00 34 32.9**	**+2.1**
FITZ	0.4nm,0.3s,baz=326,slow=7.3,SNR=7.0			Sn	**Sn**	**00 36 07.2**	**-4.8**
	0.3nm,0.3s,baz=322,slow=17,SNR=2.4 2.5nm,0.5s						
WRA	**Warramunga Arr**	**16.11**	**128**	Pn	**Pn**	**00 36 10.4**	**+2.6**
WRA	0.1nm,0.3s,baz=297,slow=13,SNR=2.8			Sn	**Sn**	**00 39 04.5**	**-2.3**
	0.1nm,0.3s,baz=308,slow=25,SNR=1.9 0.2nm,0.4s						
ASAR	**Alice Springs**	**18.16**	**138**	P	**Pn**	**00 36 37.1**	**+3.6**
	0.1nm,0.3s,baz=313,slow=12,SNR=10 1.0nm,0.7s						
SONM	**Songino Array**	**59.36**	**349**	P	**P**	**00 42 22.8**	**-0.7**
	0.7nm,0.5s,baz=169,slow=7.2,SNR=6.2 0.7nm,0.5s						
MKAR	**Makanchi Array**	**66.51**	**332**	P	**P**	**00 43 10.5**	**-0.5**
	0.2nm,0.5s,baz=139,slow=7.8,SNR=2.4 0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**70.97**	**338**	P	**P**	**00 43 37.4**	**-1.2**
	0.6nm,0.5s,baz=153,slow=5.1,SNR=4.2 0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**71.00**	**333**	P	**P**	**00 43 38.6**	**-0.3**
	0.6nm,0.2s,baz=141,slow=6.0,SNR=1.2 0.6nm,0.2s						

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*IDC **06** 00:33:23.8±1.6, 9°73S×150°20E, h0km, mb3.7/3, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=32.3km s-min=20.8km az=0.0*

ISC 06 00:33:25.0±1.5, 9°7S±0°2×150°2E±0°1, h10km, n6, σ0°80/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**275**	Pn	**Pn**	**00 34 12.6**	**+0.1**
	9.4nm,0.4s,baz=94,slow=14,SNR=4.2						
PMG				Pg	**Pb**	**00 34 18.5**	**+0.2**
	6.6nm,0.3s,baz=101,slow=9.6,SNR=19						
PMG				Lg	Lg	00 34 59.4	
	7.6nm,0.3s,baz=72,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**18.37**	**235**	P	**P**	**00 37 39.5**	**-0.6**
	0.1nm,0.3s,baz=61,slow=11,SNR=6.4 1.7nm,0.9s						
ASAR	**Alice Springs**	**20.84**	**226**	P	Pn	00 38 07.3	-2.3
	2.5nm,0.8s,baz=62,slow=11,SNR=20 2.5nm,0.8s						
STKA	**Stephens Creek**	**23.46**	**199**	P	**P**	**00 38 35.4**	**+0.7**
	2.7nm,0.8s,baz=0.0,slow=12,SNR=2.9 2.7nm,0.8s						
ILAR	**Eielson Array**	**87.65**	**22**	P	**P**	**00 46 13.7**	**+0.3**
	0.7nm,1.1s,baz=255,slow=4.7,SNR=4.1 0.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**148.93**	**279**	PKPbc	**PKiKP**	**00 53 14.6**	**-1.0**
	2.6nm,0.4s,baz=69,slow=2.3,SNR=2.1						

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*IDC **06** 00:34:25.8±7.0, 62°02N×148°68W, h67km±50km, mb3.1/2, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=52.8km s-min=35.6km az=23.0*

*AEIC **06** 00:34:26.9±1.4, 62°06N±0°03×148°70W±0°05, h40km±8km, ML3.3, ML3.4/188(NEIC), Error ellipse: s-maj=4.2km s-min=3.2km az=193.0*

*NEIC **06** 00:34:26.3±1.2, 62°07N±0°03×148°68W±0°05, h35km±10km, Error ellipse: s-maj=3.9km s-min=3.1km az=191.0*

ISC 06 00:34:25.6±0.8, 62°03N±0°04×148°71W±0°03, h47km±9km, n219, σ1°06/222, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.28**	**201**		**Pn**	**00 34 34.3**	**0.0**
GHO					**Sn**	**00 34 40.9**	**+0.4**
SML	**Sawmill**	**0.29**	**141**		**Pn**	**00 34 34.1**	**-0.3**
SML					**Sn**	**00 34 40.8**	**+0.2**
PMR	**Palmer**	**0.48**	**205**		**Pn**	**00 34 36.1**	**-0.3**
PMR					**Sn**	**00 34 44.6**	**+0.5**
PMR				IAML		00 34 45.4	
	comp=E,2μm,0.3s						
M23K	**Glacier View**	**0.52**	**117**		**Pn**	**00 34 36.5**	**-0.5**
M23K					**Sn**	**00 34 45.0**	**0.0**
KNK	**Knik Glacier**	**0.63**	**169**		**Pn**	**00 34 38.5**	**+0.1**
KNK					**Sn**	**00 34 48.4**	**+0.9**
SCM	**Sheep Creek Mo**	**0.68**	**106**		**Pn**	**00 34 38.4**	**-0.6**
SCM					**Sn**	**00 34 49.2**	**+0.5**
SCM				IAML		00 34 50.2	
	comp=E,2μm,0.7s						
SCM				IAML		00 34 50.2	
	comp=N,2μm,0.7s						
M22K	**Willow**	**0.72**	**248**		**Pn**	**00 34 39.2**	**-0.2**
M22K					**Sn**	**00 34 50.2**	**+0.7**
CUT	**Chulitna**	**0.82**	**298**		**Pn**	**00 34 40.6**	**-0.2**
CUT					**Sn**	**00 34 52.1**	**+0.3**
RC01	**Rabbit Creek A**	**1.06**	**208**	Pn	**Pn**	**00 34 44.8**	**+0.6**
RC01				IAML		00 35 03.3	
	comp=N,916nm,0.4s						
SUA	**Susitna One**	**1.12**	**240**	Pn	**Pn**	**00 34 45.4**	**+0.4**
SUA				IAML		00 35 04.7	
	comp=E,540nm,0.5s						
FIS	**Fire Island**	**1.15**	**220**	Pn	**Pn**	**00 34 46.7**	**+1.5**
FIS				IAML		00 35 08.1	
	comp=N,955nm,0.4s						
PWL	**Port Wells**	**1.19**	**171**	Pn	**Pn**	**00 34 46.4**	**+0.5**
M24K	**Tolsona, Glenn**	**1.20**	**85**	Pn	**Pn**	**00 34 46.3**	**+0.4**
M24K	**Tolsona, Glenn**	**1.20**	**85**		**Sn**	**00 35 03.1**	**+2.0**
M24K	**Tolsona, Glenn**	**1.20**	**85**	IAML		00 35 06.0	
	comp=E,2μm,0.5s						
M24K				IAML		00 35 07.5	
	comp=N,1μm,0.4s						
SKT	**Skwentna**	**1.33**	**269**	Pn	**Pn**	**00 34 48.1**	**+0.3**
SKT				IAML		00 35 08.4	
	comp=N,865nm,0.3s						
SKT				IAML		00 35 08.4	
	comp=E,560nm,0.3s						
RND	**Reindeer**	**1.38**	**357**	Pn	**Pn**	**00 34 48.1**	**-0.3**
RND	**Reindeer**	**1.38**	**357**		**Sn**	**00 35 05.1**	**-0.5**
RND	**Reindeer**	**1.38**	**357**	IAML		00 35 06.1	
	comp=N,303nm,0.4s						
RND				IAML		00 35 09.7	
	comp=E,332nm,0.4s						
GLI	**Glacier Island**	**1.39**	**145**	Pn	**Pn**	**00 34 49.0**	**+0.5**
KLU	**Klutina**	**1.43**	**111**	Pn	**Pn**	**00 34 49.2**	**0.0**
KLU	**Klutina**	**1.43**	**111**		**Sn**	**00 35 08.7**	**+1.9**
KLU	**Klutina**	**1.43**	**111**	IAML		00 35 09.4	
	comp=N,702nm,0.2s						
KLU				IAML		00 35 12.7	
	comp=E,591nm,0.3s						
STLK	**Strandline Lak**	**1.58**	**252**	Pn	**Pn**	**00 34 52.2**	**+1.1**
STLK	**Strandline Lak**	**1.58**	**252**		**Sn**	**00 35 13.0**	**+2.6**
STLK	**Strandline Lak**	**1.58**	**252**	IAML		00 35 14.9	
	comp=N,542nm,0.4s						
STLK				IAML		00 35 17.0	
	comp=E,315nm,0.5s						
TRF	**Thorofare Moun**	**1.60**	**334**	Pn	**Pn**	**00 34 51.4**	**-0.2**
TRF				IAML		00 35 14.8	
	comp=E,300nm,0.4s						
TRF				IAML		00 35 15.8	
	comp=N,293nm,0.4s						
O22K	**Cooper Landing**	**1.63**	**198**	Pn	**Pn**	**00 34 54.0**	**+2.2**
DIV	**Divide**	**1.67**	**121**	Pn	**Pn**	**00 34 52.0**	**-0.4**
DIV	**Divide**	**1.67**	**121**		**Sn**	**00 35 13.6**	**+0.9**
FID	**Port Fidalgo**	**1.68**	**139**	Pn	**Pn**	**00 34 53.0**	**+0.6**
SLKM	**Skilak Lake**	**1.69**	**206**	Pn	**Pn**	**00 34 54.0**	**+1.3**
SLKM				IAML		00 35 21.3	
	comp=E,477nm,0.6s						
SLKM				IAML		00 35 24.1	
	comp=N,319nm,0.4s						
HARP	**HAARP**	**1.71**	**76**		**Pn**	**00 34 54.0**	**+1.1**
MCK	**McKinley**	**1.71**	**357**	Pn	**Pn**	**00 34 53.3**	**+0.3**
CAPN	**Captain Cook N**	**1.73**	**224**	Pn	**Pn**	**00 34 55.7**	**+2.6**
SPCG	**Spurr Capps Gl**	**1.75**	**246**		**Pn**	**00 34 55.2**	**+1.7**
PAX	**Paxson**	**1.77**	**57**	Pn	**Pn**	**00 34 54.2**	**+0.3**
SPU	**Mount Spurr**	**1.81**	**243**	Pn	**Pn**	**00 34 55.5**	**+1.2**
KTH	**Kantishna Hill**	**1.83**	**327**	Pn	**Pn**	**00 34 54.9**	**+0.2**
KTH	**Kantishna Hill**	**1.83**	**327**		**Sn**	**00 35 16.8**	**+0.1**
KTH	**Kantishna Hill**	**1.83**	**327**	IAML		00 35 21.1	
	comp=N,262nm,0.6s						
KTH				IAML		00 35 21.3	
	comp=E,462nm,0.7s						
PPLA	**Purkeypile**	**1.83**	**300**	Pn	**Pn**	**00 34 55.4**	**+0.6**
SPCR	**Spurr Chakacha**	**1.87**	**245**		**Pn**	**00 34 56.5**	**+1.4**
SPBG	**Spurr Blockage**	**1.91**	**248**		**Pn**	**00 34 57.5**	**+1.7**
HIN	**Hinchinbrook I**	**1.96**	**146**	Pn	**Pn**	**00 34 57.3**	**+0.9**
HIN				IAML		00 35 30.1	
	comp=N,345nm,0.4s						
SEW	**Seward**	**1.97**	**191**	Pn	**Pn**	**00 34 58.0**	**+1.6**
N25K	**Chitina, Valde**	**2.00**	**101**	Pn	**Pn**	**00 34 57.8**	**+0.9**
N25K				IAML		00 35 25.7	
	comp=N,324nm,0.6s						
N25K				IAML		00 35 25.9	
	comp=E,208nm,0.6s						
EYAK	**Cordova Ski Ar**	**2.06**	**135**	Pn	**Pn**	**00 34 58.8**	**+1.1**
WACK	**Wrangell Chich**	**2.07**	**89**		**Pn**	**00 34 59.2**	**+1.2**
CAST	**Castle Rocks**	**2.09**	**313**	Pn	**Pn**	**00 34 58.6**	**+0.5**
CAST				IAML		00 35 26.4	
	comp=E,167nm,0.3s						
CAST				IAML		00 35 38.1	
	comp=N,211nm,0.6s						
M20K	**Styx River**	**2.09**	**268**	Pn	**Pn**	**00 34 59.5**	**+1.2**
M20K				IAML		00 35 27.6	
	comp=N,187nm,0.6s						
M20K				IAML		00 35 28.6	
	comp=E,180nm,0.4s						
P23K	**Montague Islan**	**2.14**	**162**		**Pn**	**00 34 59.3**	**+0.6**
WASW	**Wrangell South**	**2.15**	**91**		**Pn**	**00 35 00.3**	**+1.3**
WAZA	**Wrangell Mount**	**2.15**	**87**		**Pn**	**00 35 00.7**	**+1.5**
BMRM	**Bremner River**	**2.24**	**117**	Pn	**Pn**	**00 35 00.5**	**+0.3**
RDT	**Redoubt**	**2.31**	**232**		**Pn**	**00 35 02.2**	**+1.1**
BPAW	**Bear Paw Mtn.**	**2.32**	**334**	Pn	**Pn**	**00 35 01.2**	**-0.1**
BPAW				IAML		00 35 31.1	
	comp=E,153nm,0.4s						
BPAW				IAML		00 35 43.2	
	comp=N,147nm,0.8s						
GLB	**Gilahina Butte**	**2.41**	**102**	Pn	**Pn**	**00 35 03.4**	**+0.9**
GLB				IAML		00 35 40.8	
	comp=N,192nm,0.4s						
GOAT	**Goat Mountain**	**2.41**	**125**		**Pn**	**00 35 03.1**	**+0.5**
RDJH	**Redoubt Jeurge**	**2.45**

CHUM Lake Minchumin 2.48 320 Pn Pn 00 35 04.1 +0.6
MENT Mentasta 2.49 66 Pn **Pn 00 35 04.9 +1.3**
BRSE Bradley Lake S 2.50 204 Pn 00 35 05.3 +1.5
BRLK Bradley Lake 2.51 206 Pn Pn **00 35 05.5 +1.6**
HDA Harding Lake 2.52 18 Pn Pn **00 35 05.1 +1.2**
HDA IAML 00 35 36.6
comp=E,160nm,0.8s
HDA IAML 00 35 41.5
comp=N,166nm,0.3s
RDWB Redoubt West 2.53 234 Pn 00 35 06.0 +1.8
RED Redoubt Volcan 2.54 232 Pn 00 35 06.4 +1.9
RAGM Ragged Mountai 2.56 128 Pn Pn **00 35 05.5 +1.0**
NEA2 Nenana 2.58 357 Pn Pn **00 35 04.5 -0.3**
NEA2 IAML 00 35 36.4
comp=E,187nm,0.5s
NEA2 IAML 00 35 36.7
comp=N,118nm,0.6s
VRDI Verde Repeater 2.64 105 Pn Pn **00 35 06.0 +0.2**
VRDI IAML 00 35 48.5
comp=N,119nm,0.9s
CCB Clear Creek Bu 2.66 8 Pn Pn **00 35 05.7 -0.2**
M19K Big River Lodg 2.69 270 Pn Pn **00 35 06.9 +0.6**
M19K IAML 00 35 56.8
comp=E,135nm,0.5s
M19K IAML 00 35 57.2
comp=N,139nm,0.5s
M26K Nabesna, AK 2.70 80 Pn Pn **00 35 07.5 +1.0**
M26K IAML 00 35 57.3
comp=E,136nm,0.4s
O20K Slope Mountain 2.73 226 Pn 00 35 08.8 +1.9
HMT Hamilton 2.75 126 Pn Pn **00 35 07.2 +0.1**
K20K Telida 2.81 301 Pn Pn **00 35 08.5 +0.5**
K20K IAML 00 35 58.8
comp=N,139nm,0.7s
K20K IAML 00 35 59.9
comp=E,150nm,0.7s
Q23K Middleton Isla 2.86 155 Pn Pn **00 35 10.2 +1.6**
Q23K IAML 00 35 59.6
comp=E,154nm,0.7s
Q23K IAML 00 36 03.7
comp=N,145nm,1.1s
IL31 2.87 16 Pn Pn **00 35 09.3 +0.5**
ILAR Eielson Array 2.87 16 Pn Pn **00 35 08.7 -0.1**
ILAR Eielson Array 2.87 16 P Pn **00 35 09.8 +1.1**
comp=N,8.2nm,0.3s,baz=198,slow=13,SNR=408
ILAR S Sn **00 35 43.1 +1.0**
comp=N,12nm,0.3s,baz=192,slow=21,SNR=3.8
COLA College 2.88 7 Pn Pn **00 35 08.7 -0.2**
L19K White Mountain 2.89 276 Pn Pn **00 35 09.9 +0.8**
L19K IAML 00 35 47.6
comp=E,84nm,0.3s
L19K IAML 00 36 05.6
comp=N,81nm,0.8s
SCRK Sand Creek 2.91 46 Pn Pn **00 35 09.5 +0.1**
SCRK IAML 00 35 57.5
comp=N,78nm,0.6s
NICHA Nichawak Mount 2.92 126 Pn 00 35 09.8 +0.3
BERG Berg Lake 2.93 122 Pn 00 35 09.7 +0.1
KAIM Kayak Island 2.97 133 Pn Pn **00 35 10.4 +0.2**
KAIM IAML 00 36 02.4
comp=N,85nm,0.7s
KAIM IAML 00 36 04.5
comp=E,75nm,0.5s
ILSW Iliamna Southw 2.98 228 Pn Pn **00 35 12.1 +1.7**
J25K Salcha River, 3.00 29 Pn Pn **00 35 11.6 +1.0**
J25K IAML 00 35 49.0
comp=E,164nm,0.6s
J25K IAML 00 35 50.5
comp=N,115nm,0.3s
N19K Bonanza Creek 3.03 249 Pn Pn **00 35 12.4 +1.3**
N19K IAML 00 36 04.1
comp=N,70nm,0.7s
SUCK Suckling Hills 3.10 127 Pn Pn **00 35 12.5 +0.6**
SUCK IAML 00 36 03.0
comp=E,106nm,0.4s
SUCK IAML 00 36 05.6
comp=N,134nm,0.4s
I23K Minto, Yukon-K 3.14 355 Pn Pn **00 35 12.5 0.0**
I23K IAML 00 35 50.6
comp=N,93nm,0.7s
POKR Poker Plat Res 3.15 10 Pn Pn **00 35 13.1 +0.4**
POKR IAML 00 35 51.8
comp=N,89nm,0.7s
M27K Edge Creek, AK 3.22 81 Pn Pn **00 35 14.7 +0.9**
M27K IAML 00 36 12.3
comp=N,63nm,1.1s
P19K Oil Pt 3.25 225 Pn Pn **00 35 16.0 +1.9**
BGLC Bering Glacier 3.26 124 Pn 00 35 15.1 +1.0
L27K Beaver Creek, 3.35 69 Pn Pn **00 35 16.4 +0.9**
BCAR Beaver Creek A 3.37 69 Pn Pn **00 35 16.9 +1.2**
J26L Joseph Creek 3.40 41 Pn Pn **00 35 16.7 +0.5**
J26L IAML 00 35 58.4
comp=N,84nm,0.5s
SNH Sunshine Point 3.40 120 Pn Pn **00 35 16.6 +0.5**
SNH IAML 00 36 11.2
comp=E,69nm,0.8s
SNH IAML 00 36 13.2
comp=N,62nm,0.7s
M18K Stony River 3.42 264 Pn 00 35 17.1 +0.8
I21K Tanana 3.48 337 Pn Pn **00 35 17.2 +0.1**
TTA Tatalina 3.51 288 Pn 00 35 17.9 +0.3
TTA Tatalina 3.51 288 IAML 00 36 00.6
comp=N,61nm,0.9s
AUCH Augustine Cone 3.55 223 Pn 00 35 20.7 +2.6
K27K Chicken 3.63 54 Pn Pn **00 35 20.1 +0.9**
N18K Kilae Creek 3.71 252 Pn Pn **00 35 20.9 +0.5**
N18K IAML 00 36 30.3
comp=N,44nm,0.8s
J19K Poorman 3.71 305 Pn Pn **00 35 21.2 +0.9**
J19K IAML 00 36 30.4
comp=N,44nm,0.5s
J19K IAML 00 36 31.2
comp=E,61nm,1.1s
L18K Granite Mounta 3.75 276 Pn Pn **00 35 21.2 +0.4**
L18K IAML 00 36 28.2
comp=N,39nm,0.8s
PRP Porcupine Dome 3.77 21 Pn Pn **00 35 22.2 +0.9**
PRP IAML 00 36 08.1
comp=N,62nm,0.6s
PRP IAML 00 36 08.9
comp=E,52nm,0.5s
I20K Naaghedeneel 3.80 319 Pn Pn **00 35 22.1 +0.7**
H24K Noodor Dome 3.84 5 Pn Pn **00 35 22.4 +0.2**
O18K Koktuh Hills 3.85 238 Pn Pn **00 35 22.9 +0.6**
O18K IAML 00 36 27.8
comp=N,37nm,0.9s
SYI Shuyak Island 3.89 210 Pn Pn **00 35 24.2 +1.4**
SYI IAML 00 36 11.2
comp=N,36nm,0.5s
J18K Innoko River 3.95 295 Pn Pn **00 35 24.7 +1.0**
J18K IAML 00 36 11.1
comp=N,43nm,0.6s
J18K IAML 00 36 11.9
comp=E,71nm,0.6s
Q19K Cape Douglas, 3.96 220 Pn Pn **00 35 25.0 +1.3**
RKAV Rock Avalanche 3.97 113 Pn 00 35 24.1 +0.1
H22K Ishtalitna Cre 4.05 344 Pn 00 35 25.1 +0.1
H21K Melozitna Rive 4.07 335 Pn Pn **00 35 25.5 +0.3**
I26K Coal Creek Min 4.11 35 Pn Pn **00 35 26.7 +0.8**
I26K IAML 00 36 21.0
comp=N,49nm,0.9s
I26K IAML 00 36 40.9
comp=E,68nm,0.9s
M17K Holitna River 4.20 265 Pn Pn **00 35 27.2 +0.2**
M17K IAML 00 36 53.0
comp=N,61nm,0.8s
H20K Anotleneega Mo 4.42 324 Pn 00 35 30.5 +0.4
H25L Birch Creek 4.44 15 Pn 00 35 31.7 +1.4
L17K Donlin 4.51 276 Pn 00 35 31.7 +0.4
K17K Iditarod 4.52 283 Pn Pn **00 35 32.1 +0.7**
K17K IAML 00 36 24.6
comp=E,47nm,0.7s
K17K IAML 00 36 58.0
comp=N,33nm,1.0s
KAHC Katmai Hardscr 4.62 225 Pn 00 35 34.0 +1.1
KDAK Kodiak Island 4.69 206 Pn Pn **00 35 33.6 -0.1**
KDAK IAML 00 36 27.9
comp=N,24nm,0.8s
KDAK IAML 00 36 30.2
comp=N,21nm,0.5s
DAWY Dawson 4.71 60 Pn Pn **00 35 34.5 +0.5**
DAWY IAML 00 36 53.1
comp=N,33nm,0.7s
DAWY IAML 00 36 53.4
comp=E,31nm,0.6s

G24K Hadweenzic Riv 4.72 6 Pn Pn **00 35 34.8 +0.7**
G23K Bananza Creek 4.73 354 Pn Pn **00 35 35.0 +0.7**
I27K Kandik River 4.77 38 Pn 00 35 35.6 +0.8
FYU Fort Yukon 4.80 17 Pn Pn **00 35 36.0 +0.8**
FYU IAML 00 36 43.6
comp=N,32nm,0.9s
FYU IAML 00 36 59.1
comp=E,26nm,0.7s
M29M Somme Creek 4.81 81 Pn Pn **00 35 37.0 +1.5**
G25K Bearman Lake 4.89 12 Pn 00 35 37.0 +0.6
H19K Roundabout Mou 4.91 319 Pn Pn **00 35 37.3 +0.6**
H19K IAML 00 37 08.3
comp=E,23nm,0.8s
H19K IAML 00 37 08.3
comp=N,18nm,1.0s
KAKN Katmai Knife C 4.91 223 Pn 00 35 37.7 +0.9
G21K Allakaket 4.96 337 Pn Pn **00 35 38.0 +0.5**
G21K IAML 00 36 47.3
comp=E,17nm,0.7s
G21K IAML 00 36 48.8
comp=N,23nm,0.7s
J17K VABM Dome 4.96 291 Pn Pn **00 35 38.0 +0.5**
J17K IAML 00 37 07.6
comp=E,19nm,0.7s
J17K IAML 00 37 13.9
comp=N,17nm,1.1s
M16K Timber Creek 5.01 263 Pn Pn **00 35 38.5 +0.3**
M16K IAML 00 37 19.2
comp=E,15nm,1.0s
L29M L29M 5.01 73 Pn Pn **00 35 39.5 +1.3**
L29M IAML 00 37 06.9
comp=E,26nm,0.8s
N16K Nishlik Lake 5.10 257 Pn 00 35 40.5 +1.1
L16K Owhat River 5.11 271 Pn Pn **00 35 39.6 +0.2**
ANCK Angle Creek 5.13 224 Pn 00 35 40.9 +1.1
I28M Miner Creek 5.19 45 Pn Pn **00 35 41.0 +0.4**
I28M IAML 00 37 15.8
comp=E,30nm,1.1s
I28M IAML 00 37 15.9
comp=N,20nm,1.0s
O16K Kokwok River B 5.20 246 Pn Pn **00 35 41.5 +0.7**
O16K IAML 00 37 16.6
comp=N,16nm,1.1s
O16K IAML 00 37 25.1
comp=E,16nm,1.2s
O29M Mount Kennedy 5.20 105 Pn Pn **00 35 42.1 +1.2**
O29M IAML 00 36 59.6
comp=N,16nm,0.5s
O29M IAML 00 37 05.4
comp=E,16nm,0.5s
H27K Steamboat Moun 5.26 34 Pn 00 35 42.2 +0.6
YUK5 Granite Creek 5.26 95 Pn 00 35 42.7 +0.9
H18K Honhosa River 5.33 310 Pn Pn **00 35 43.6 +1.1**
H18K IAML 00 36 45.9
comp=E,14nm,0.7s
OHAK Old Harbor 5.35 208 Pn Pn **00 35 42.4 -0.4**
OHAK IAML 00 36 50.0
comp=N,19nm,1.2s
HYT Haines Junctio 5.51 98 Pn Pn **00 35 45.4 +0.3**
F24K Squaw Lake 5.52 3 Pn Pn **00 35 46.1 +0.9**
G19K Purcell Mounta 5.52 322 Pn Pn **00 35 45.6 +0.5**
N30M Aishikik Lake 5.55 91 Pn Pn **00 35 45.9 +0.2**
F21K Alatna River 5.60 341 Pn Pn **00 35 46.7 +0.5**
J16K Anvik River 5.62 288 Pn Pn **00 35 47.1 +0.6**
G27K Doyon Strip 5.68 29 Pn Pn **00 35 48.0 +0.6**
BMAR Burnt Mountain 5.70 16 Pn Pn **00 35 48.0 +0.4**
F25K Christian Rive 5.74 12 Pn Pn **00 35 48.9 +0.8**
I17K Unalakleet 5.78 294 Pn Pn **00 35 49.8 +1.2**
H17K Granite Mounta 5.80 305 Pn Pn **00 35 50.2 +1.2**
N15K Kwethluk River 5.83 256 Pn Pn **00 35 50.4 +1.0**
G18K Tagagawik 5.85 316 Pn Pn **00 35 50.5 +0.9**
F20K Avaraart Lake 5.87 332 Pn Pn **00 35 51.0 +1.1**
M15K Kasigluk River 5.92 262 Pn 00 35 50.9 +0.4
F26K Sheenjek River 6.01 17 Pn Pn **00 35 52.6 +0.8**
K15K Wolf Creek Mou 6.01 278 Pn Pn **00 35 52.1 +0.3**
L15K Ungalak Mounta 6.06 272 Pn 00 35 52.7 +0.2
E23K Chandalar 6.07 357 Pn Pn **00 35 54.1 +1.4**
E24K Your Creek 6.07 1 Pn Pn **00 35 53.3 +0.6**
J30M Hart River 6.13 60 Pn Pn **00 35 55.9 +2.3**
H29M Whitestone 6.17 43 Pn Pn **00 35 54.8 +0.8**
O15K Ungalikthiuk R 6.17 247 Pn 00 35 55.0 +0.9
F19K Shaleruckik Mo 6.21 325 Pn Pn **00 35 55.0 +0.5**
E25K Arctic Village 6.26 11 Pn Pn **00 35 56.1 +0.9**
G17K Kiwalik Mounta 6.33 309 Pn 00 35 57.4 +1.2
I30M Mount Dempster 6.36 54 Pn Pn **00 35 58.1 +1.4**
M14K Bethel 6.49 264 Pn Pn **00 35 59.0 +0.6**
E19K Redstone River 6.55 330 Pn Pn **00 36 00.2 +1.1**
F18K Selawik 6.60 319 Pn 00 36 01.0 +1.1
H16K Elim 6.62 299 Pn 00 36 01.5 +1.3
TOLK Toolik Lake Re 6.65 357 Pn Pn **00 36 02.5 +1.9**
L14K Kuka Creek 6.68 270 Pn Pn **00 36 01.9 +0.8**
G29M Pine Creek 6.73 39 Pn Pn **00 36 03.1 +1.4**
O14K Tigyukauivet M 6.77 251 Pn Pn **00 36 04.9 +2.7**
WHY Whitehorse 6.79 96 Pn Pn **00 36 03.8 +1.1**
G16K Koyuk River 6.93 305 Pn Pn **00 36 05.3 +0.9**
J14K Nanvaranak Lak 6.94 282 Pn Pn **00 36 05.1 +0.6**
F17K Baldwin Pennin 7.03 314 Pn Pn **00 36 06.8 +1.2**
SKAG Skagway 7.04 106 Pn Pn **00 36 08.0 +2.0**
D24K Happy Valley 7.15 360 Pn Pn **00 36 09.5 +2.1**
G30M tAoh Zraii Nji 7.32 42 Pn Pn **00 36 11.3 +1.5**
D25K Kavik River 7.38 6 Pn Pn **00 36 12.5 +1.8**
E18K Tukpahlearik C 7.42 322 Pn 00 36 12.3 +1.2
S31K Pelican 7.46 118 Pn Pn **00 36 12.0 +0.3**
K13K Kusilvak Mount 7.51 276 Pn Pn **00 36 12.0 -0.4**
D19K Kuna River 7.58 333 Pn Pn **00 36 14.2 +0.8**
C24K Franklin Bluff 7.72 0 Pn Pn **00 36 16.7 +1.5**
P32M Atlin 7.73 102 Pn Pn **00 36 15.5 +0.1**
E29M Blow River 7.82 31 Pn Pn **00 36 17.1 +0.5**
C23K Itkillik River 7.88 355 Pn Pn **00 36 19.2 +1.9**
C27K Jago River 7.89 13 Pn Pn **00 36 19.5 +1.9**
D27M Malcolm River 7.91 20 Pn Pn **00 36 19.2 +1.3**
ANM Nome 7.92 296 Pn Pn **00 36 19.4 +1.4**
F15K North Star Dit 7.93 305 Pn Pn **00 36 19.8 +1.6**
B21K Ikpikpuk River 7.99 345 Pn Pn **00 36 20.2 +1.3**
SIT Sitka 8.42 120 Pn Pn **00 36 24.7 -0.2**
C18K Utukok River 8.43 327 Pn Pn **00 36 25.3 +0.3**
B22K Teshekpuk Lake 8.56 349 Pn Pn **00 36 27.7 +1.1**
Q32M Nakina River 8.67 103 Pn Pn **00 36 28.4 -0.1**
B20K Meade River 8.71 340 Pn Pn **00 36 30.3 +1.6**
INK Inuvik 8.95 39 Pn Pn **00 36 32.4 +0.4**
R33M Jennings River 9.08 99 Pn Pn **00 36 35.3 +1.2**
TNA Tin City 9.19 301 Pn Pn **00 36 37.1 +1.8**
C16K Lisburne Hills 9.37 319 Pn Pn **00 36 39.4 +1.7**
YKA Yellowknife Ar 15.78 73 P Pn **00 38 04.3 0.0**
baz=280,slow=12,SNR=1.8
comp=N,0.1nm,0.6s
EKA Eskdalemuir Ar 59.89 22 P **P 00 44 24.9 -1.1**
comp=N,0.4nm,0.4s,baz=329,slow=5.3,SNR=4.1
comp=N,0.4nm,0.4s
MKAR Makanchi Array 64.09 324 P **P 00 44 51.7 -2.6**
comp=N,0.1nm,0.4s,baz=26,slow=6.7,SNR=4.1
comp=N,0.1nm,0.4s

*IDC **06** 00:45:49.3±0.7, 30°.22N×87°.55E, h0km, mb3.9/17, mbtmp3.9/20, ML3.8/3, Error ellipse: s-maj=22.4km s-min=15.3km az=56.0*
*NEIC **06** 00:45:51.0±2.5, 30°.2N±0°.1×87°.4E±0°.1, h10km±1km, mb4.1/24, Error ellipse: s-maj=20.6km s-min=12.3km az=209.0*
*NDI **06** 00:45:53.2±4.1, 30°.56N×87°.80E, h10km, ML3.9, MW4.3, mb4.1(NEIC)*
ISC 06 00:45:55.6±0.5, 30°.42N±0°.06×87°.54E±0°.06, h35km, n65, σ1§67/70, mb3.8/21, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.21**	**102**	Pn	**Pn**	**00 46 43.9**	**-0.2**
GTK	**Tadong**	**3.23**	**163**	*e*P	**Pn**	**00 46 45.4**	**+1.5**
GTK				*e*S	**Sn**	**00 47 26.1**	**+4.9**
SHL	**Shillong**	**6.18**	**140**	Pn	**Pn**	**00 47 21.8**	**-2.7**
SHL	**Shillong**	**6.18**	**140**	*e*P	Pn	**00 47 24.4**	**-0.2**
LGTI	**Lohaghat**	**6.40**	**263**	*e*P	Pn	00 47 32.7	+5.3
PTH	**Pithoragarh**	**6.41**	**264**	*e*P	**Pn**	**00 47 29.6**	**+1.9**
PTH				*e*S	**Sn**	**00 48 39.3**	**-0.5**
BOK	**Bokaro**	**6.76**	**193**	*e*P	**Pn**	**00 47 31.9**	**-0.5**
BOK				*e*S	**Sn**	**00 48 48.1**	**-0.1**
BOK				IAML		00 48 49.8	
	comp=E,63nm,0.7s						
BOK				IAML		00 48 50.6	
	comp=E,60nm,1.0s						
JOSI	**Joshimath**	**6.89**	**273**	*e*P	**Pn**	**00 47 36.5**	**+2.2**

AZL Aizawl 8.09 144 *e*P **Pn 00 47 49.8 -0.9**
SMLA Simla 8.95 277 *e*P **Pn 00 48 03.2 +0.8**
SMLA *e*S **Sn 00 49 44.9 +2.9**
SMLA IAML 00 49 48.1
comp=E,64nm,0.8s
SMLA IAML 00 49 50.0
comp=E,69nm,0.5s
DHRM DHARAMSHALA 9.78 284 *e*P **Pn 00 48 15.2 +1.1**
DHRM *e*S **Sn 00 50 01.9 -0.9**
DHRM IAML 00 50 08.3
comp=E,59nm,0.7s
DHRM IAML 00 50 10.5
comp=E,63nm,0.7s
BHPL Bhopal 11.51 234 *e*P **Pn 00 48 39.9 +2.3**
NRDN NARMADA NAGAR 12.04 233 *e*P **Pn 00 48 48.9 +4.2**
NIL Nilore 12.54 289 Pn **Pn 00 48 48.6 -3.0**
TARG Taragay, Kyrgy 13.74 328 Pn **Pn 00 49 08.1 -0.2**
DRK Karamyk 15.73 309 Pn **Pn 00 49 32.3 -2.6**
DRK IAmb IAmb 00 49 39.5
comp=Z,10nm,1.2s
CMAR Chiang Mai Arr 15.79 136 Pn **Pn 00 49 32.7 -2.7**
comp=Z,1.0nm,0.3s,baz=316,slow=12,SNR=10
comp=Z,1.7nm,0.3s
AAK Ala-Archa 16.05 323 Pn **Pn 00 49 39.7 +0.9**
comp=Z,0.1nm,0.3s,baz=185,slow=16,SNR=1.6
comp=Z,0.5nm,0.3s
KBL Kabul 16.14 290 Pn **Pn 00 49 36.7 -3.3**
KBL IAmb IAmb 00 49 48.1
comp=Z,9.5nm,0.8s
GAR Garm 16.53 306 Pn **Pn 00 49 41.9 -2.9**
GAR IAmb IAmb 00 49 45.4
comp=Z,7.4nm,0.9s
BTK Batken 16.68 310 Pn **Pn 00 49 44.3 -2.4**
MK31 Makanchi Array 16.85 347 P 00 49 50.1 -0.4
MKAR Makanchi Array 16.85 347 Pn **Pn 00 49 49.3 +0.6**
MKAR Makanchi Array 16.85 347 P P 00 49 49.9 -0.6
comp=Z,0.1nm,0.3s,baz=151,slow=14,SNR=11
comp=Z,0.7nm,0.6s
CHGR Chuyangaron 17.21 303 Pn **Pn 00 49 51.0 -2.3**
CHGR IAmb IAmb 00 49 56.4
comp=Z,7.2nm,0.7s
SIMJ Simiganj 17.32 303 Pn 00 49 53.9 -0.8
KK31 Karatay Array 18.56 318 P P 00 50 08.7 -0.7
KKAR Karatay Array 18.56 318 P P 00 50 09.8 +0.4
KURBB Kurchatov Arra 21.28 344 P P 00 50 38.4 -0.5
comp=Z,2.4nm,1.0s,baz=161,slow=10,SNR=7.5
comp=Z,2.4nm,1.0s
SONM Songino Array 22.62 34 P **P 00 50 55.2 +1.8**
SONM Songino Array 22.62 34 P P 00 50 54.6 +1.1
comp=Z,0.8nm,0.6s,baz=226,slow=11,SNR=6.9
comp=Z,0.8nm,0.6s
ZAA0 Zalesovo Array 23.59 356 P **P 00 51 05.1 +2.1**
ZAA0 IAmb IAmb 00 51 06.9
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 23.59 356 P **P 00 51 03.5 +0.5**
ZALV Zalesovo Beam 23.59 356 P P 00 51 03.7 +0.7
comp=Z,1.2nm,0.6s,baz=185,slow=6.9,SNR=8.9
comp=Z,1.2nm,0.6s
BVAR Borovoye Array 25.83 336 P **P 00 51 24.2 +0.8**
comp=Z,0.8nm,0.5s,baz=148,slow=11,SNR=8.8
BVAR PcP **PcP 00 54 52.1 0.0**
comp=Z,0.7nm,0.6s,baz=99,slow=2.0,SNR=3.5
comp=Z,0.8nm,0.5s
BRVK Borovoye 25.89 336 P **P 00 51 24.9 +0.8**
ABKAR Akbulak array 28.09 320 P **P 00 51 45.0 +1.1**
ABKAR IAmb IAmb 00 51 45.5
comp=Z,1.4nm,0.6s
ARTI Arti 33.04 330 P **P 00 52 27.8 +0.3**
BR131 Keskin Array S 44.50 297 P **P 00 54 04.2 +0.4**
BR131 IAmb IAmb 00 54 10.2
comp=Z,2.1nm,0.9s
BRTR Keskin Array B 44.50 297 P **P 00 54 03.7 -0.2**
BRTR Keskin Array B 44.50 297 P **P 00 54 03.6 -0.3**
comp=Z,0.5nm,0.6s,baz=94,slow=8.7,SNR=5.3
comp=Z,0.5nm,0.6s
BORA Eskisehir 46.92 298 P **P 00 54 22.6 -0.4**
FINES FINESS Array B 50.20 327 P **P 00 54 46.9 -0.7**
FINES FINESS Array B 50.20 327 P **P 00 54 46.6 -1.0**
comp=Z,2.8nm,0.8s,baz=126,slow=9.7,SNR=7.1
comp=Z,2.8nm,0.8s
ARCES ARCESS Array B 52.11 337 P **P 00 55 02.3 +0.4**
comp=Z,3.3nm,0.9s,baz=92,slow=6.7,SNR=12
comp=Z,3.3nm,0.9s
PETK Petropavlovsk- 54.64 44 P **P 00 55 22.6 +1.8**
comp=Z,1.3nm,0.4s,baz=219,slow=11,SNR=1.5
comp=Z,1.3nm,0.4s
HFS Hagfors 56.19 325 P **P 00 55 31.6 -0.1**
comp=Z,2.2nm,0.6s,baz=101,slow=8.0,SNR=11
comp=Z,2.2nm,0.6s
KMBO Kilima Mbogo 57.18 246 P **P 00 55 39.1 -0.6**
comp=Z,1.2nm,0.8s,baz=29,slow=13,SNR=3.7
comp=Z,1.2nm,0.8s
NB2 NORSAR Subarra 57.35 326 P **P 00 55 39.3 -0.7**
comp=Z,0.7nm,0.6s,baz=84,slow=7.4
NOA NORSAR Array B 57.35 326 P **P 00 55 39.7 -0.3**
comp=Z,1.3nm,0.7s,baz=86,slow=7.0,SNR=5.7
comp=Z,1.3nm,0.7s
GERES GERESS Array B 57.51 311 P **P 00 55 43.3 +1.8**
comp=Z,0.3nm,0.4s,baz=106,slow=8.7,SNR=2.3
comp=Z,0.3nm,0.4s
WB0 Warramunga Arr 67.24 132 P **P 00 56 44.4 -2.2**
WRA Warramunga Arr 67.33 132 P **P 00 56 45.0 -2.3**
comp=Z,0.8nm,0.8s,baz=325,slow=6.4,SNR=10.0
comp=Z,0.8nm,0.8s
WB2 Warramunga Arr 67.34 132 P **P 00 56 44.5 -2.8**
C16K Lisburne Hills 68.10 23 P **P 00 56 52.0 +0.5**
ASAR Alice Springs 69.79 135 P **P 00 57 00.8 -1.8**
comp=Z,0.7nm,0.8s,baz=319,slow=5.7,SNR=6.3
comp=Z,0.7nm,0.8s
BMAR Burnt Mountain 74.93 18 P **P 00 57 33.5 +0.8**
A36M Sachs Harbour 75.35 10 P **P 00 57 35.1 +0.2**
A36M IAmb IAmb 00 58 16.9
comp=Z,4.1nm,1.3s
ILAR Eielson Array 76.12 21 P **P 00 57 38.2 -1.3**
comp=Z,0.7nm,1.1s,baz=253,slow=4.8,SNR=2.4
comp=Z,0.7nm,1.1s
H29M Whitestone 77.48 17 P **P 00 57 46.9 -0.3**
H29M IAmb IAmb 00 58 13.9
comp=Z,5.5nm,1.4s
BCAR Beaver Creek A 78.92 21 P **P 00 57 57.4 +2.1**
TORD Torodi Ar. Bea 79.93 279 P **P 00 58 00.5 -1.0**
TORD IAmb IAmb 00 58 01.2
comp=Z,1.2nm,0.9s
TORD Torodi Ar. Bea 79.93 279 P **P 00 58 00.8 -0.7**
comp=Z,2.9nm,0.5s,baz=45,slow=4.9,SNR=2.5
comp=Z,2.9nm,0.5s
YKA Yellowknife Ar 85.71 10 P **P 00 58 29.9 -0.8**
comp=Z,0.2nm,0.6s,baz=342,slow=4.5,SNR=3.9
comp=Z,0.2nm,0.6s
CPUP Villa Florida 148.90 269 PKPbc **PKPbc 01 05 38.5 -1.5**
comp=Z,1.4nm,0.5s,baz=63,slow=2.2,SNR=5.9

*IDC **06** 01:00:43.9±2.4, 8°.55N×125°.61E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=275.0km s-min=21.6km az=67.0*
ISC 06 01:00:44.9±1.2, 8°.73N±0°.09×126°.1E±0°.3, h10km, n9, σ0§88/7, mb3.5/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.71**	**196**	Sn	**Sg**	**01 01 40.0**	**0.0**
	67nm,0.3s,baz=98,slow=7.1,SNR=1.6						
WRA	**Warramunga Arr**	**29.64**	**164**	P	**P**	**01 06 50.5**	**-0.2**
	0.2nm,0.6s,baz=340,slow=7.4,SNR=5.5						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**33.10**	**167**	P	**P**	**01 07 21.2**	**0.0**
	0.2nm,0.3s,baz=348,slow=7.3,SNR=5.9						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy 40.58**	**72**		T	T	01 51 21.3	
	baz=262,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy 40.60**	**72**		T	T	01 51 22.5	
	baz=262,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy 40.60**	**72**		T	T	01 51 23.7	
	baz=262,slow=75,SNR=42						
MKAR	**Makanchi Array**	**53.12**	**324**	P	**P**	**01 10 02.7**	**-0.1**
	0.3nm,0.5s,baz=129,slow=7.0,SNR=6.3						
MKAR				PcP	**PcP**	**01 11 12.6**	**+1.6**
	0.3nm,0.6s,baz=110,slow=4.4,SNR=4.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.22**	**326**	P	**P**	**01 10 31.6**	**-0.7**
	0.4nm,0.5s,baz=123,slow=7.0,SNR=6.6						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**87.14**	**332**	P	**P**	**01 13 30.7**	**-0.3**
	2.3nm,0.9s,baz=70,slow=8.0,SNR=3.6						
	2.3nm,0.9s						

*IDC **06** 01:18:25.6±1.0, 35°.32N×136°.75E, h303km±13km, mb2.9/8, mbtmp3.6/8, Error ellipse: s-maj=31.4km s-min=16.8km az=72.0*
*JMA **06** 01:18:25.5±0.2, 35°N±1°×13°7E±°, h308km±1km, MV2.5/36, SW GIFU PREF*
ISC 06 01:18:25.7±0.8, 35°.41N±0°.08×136°.87E±0°.06, h305km±6km, n24, σ0s94/30, mb3.0/8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.21**	**329**	*eP*	**Pn**	**01 19 04.6**	**+0.3**
JYTA				*eS*	**S**	**01 19 35.1**	**+0.1**
JKG	**Kaga**	**0.96**	**333**	*eP*	**Pn**	**01 19 06.5**	**+0.2**
JIE	**Ise**	**1.03**	**187**	P	**Pn**	**01 19 07.4**	**+0.5**
JWT	**Wachi**	**1.21**	**264**	P	**Pn**	**01 19 07.7**	**+0.1**
JWT				*eS*	**S**	**01 19 39.7**	**-1.3**
JYN	**Shimob**	**1.37**	**86**	*eP*	**Pn**	**01 19 09.3**	**+0.7**
MAT	**Matsushiro**	**1.56**	**44**	*eP*	**Pn**	**01 19 10.1**	**+0.3**
MJAR	**Matsushiro Arr**	**1.56**	**44**	P	**Pn**	**01 19 10.1**	**+0.4**
	12nm,0.4s,baz=212,slow=7.1,SNR=32						
MJAR				S	**S**	**01 19 46.6**	**+1.7**
	1.3nm,0.6s,baz=233,slow=12,SNR=1.4						
JWY	**Kouya**	**1.59**	**222**	*eP*	**Pn**	**01 19 10.3**	**+0.2**
JRY	**Ryogami san**	**1.76**	**69**	*eP*	**Pn**	**01 19 11.7**	**+0.5**
TTO1	**TONANKAI O.B.S**	**1.79**	**182**	*eP*	**Pn**	**01 19 12.3**	**+1.3**
JOD2	**Odawara 2**	**1.82**	**94**	*eP*	**Pn**	**01 19 12.4**	**+0.8**
JOD2				*eS*	**S**	**01 19 47.6**	**-0.6**
JTNC	**Tanabenakahech**	**1.90**	**213**	P	**Pn**	**01 19 12.3**	**+0.1**
JAG	**Ashikaga**	**2.33**	**64**	*eP*	**Pn**	**01 19 14.5**	**-1.1**
JAG				*eS*	**S**	**01 19 52.8**	**-2.6**
JSD	**Sado**	**2.85**	**23**	P	**Pn**	**01 19 20.5**	**+0.3**
JHS	**Saijyo**	**3.10**	**263**	*eP*	**Pn**	**01 19 22.6**	**-0.2**
BSO1	**Boso 1**	**3.46**	**102**	*eP*	**Pn**	**01 19 25.6**	**-0.2**
BSO1				*eS*	**S**	**01 20 13.4**	**-0.6**
SONM	**Songino Array**	**25.76**	**308**	P	**P**	**01 23 30.2**	**+1.1**
	0.4nm,0.6s,baz=99,slow=8.9,SNR=2.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**41.89**	**303**	P	**P**	**01 25 45.1**	**-1.6**
	0.2nm,0.6s,baz=81,slow=11,SNR=1.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**44.12**	**309**	P	**P**	**01 26 04.0**	**-0.3**
	0.2nm,0.4s,baz=84,slow=9.7,SNR=4.1						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**48.95**	**313**	P	**P**	**01 26 42.0**	**+0.5**
	0.2nm,0.3s,baz=105,slow=9.1,SNR=2.5						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**52.81**	**32**	P	**P**	**01 27 10.7**	**+0.8**
	0.2nm,0.6s,baz=279,slow=8.1,SNR=1.8						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**55.10**	**183**	P	**P**	**01 27 26.2**	**-0.6**
	0.4nm,0.3s,baz=0.1,slow=7.6,SNR=16						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**68.49**	**331**	P	**P**	**01 28 55.2**	**+0.2**
	1.4nm,0.6s,baz=67,slow=5.3,SNR=7.0						
	1.4nm,0.6s						
HFS	**Hagfors**	**73.99**	**334**	P	**P**	**01 29 28.8**	**+1.0**
	2.3nm,1.0s,baz=60,slow=6.8,SNR=1.9						
	2.3nm,1.0s						

*IDC **06** 01:33:18.9±1.6, 24°.32N×121°.01E, h0km, mb3.6/4, mbtmp3.7/5, ML3.4/1, MS4.3/3, Error ellipse: s-maj=69.2km s-min=28.5km az=69.0*
*JMA **06** 01:33:29.7±0.2, 24°.7N±0°.5×121°.8E±0°.5, h82km±1km, MV3.3/14, TAIWAN REGION*
*TAP **06** 01:33:29.5, 24°.76N×121°.79E, h87km, ML4.2, B*
ISC 06 01:33:29.1±0.8, 24°.79N±0°.03×121°.81E±0°.02, h92km±4km, n160, σ0s73/263, mb3.3/4, 45C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.06**	**249**	*i P*	**Pn**	**01 33 42.5**	**+0.5**
ILA				S	**Sn**	**01 33 52.2**	**+0.6**
NTC	**Toucheng**	**0.07**	**18**	*eP*	**Pn**	**01 33 42.5**	**+0.4**
NTC				*eS*	**Sn**	**01 33 51.5**	**-0.2**
EGS		**0.13**	**63**	⇑*iP*	**Pn**	**01 33 42.4**	**+0.3**
EGS				*eS*	**Sn**	**01 33 52.6**	**+0.8**
TWE	**Neicheng**	**0.14**	**243**	⇑*iP*	**Pn**	**01 33 42.4**	**+0.3**
TWE				S	**Sn**	**01 33 51.5**	**-0.3**
NDS	**Dongshan**	**0.17**	**208**	⇑*iP*	**Pn**	**01 33 42.6**	**+0.4**
NDS				*eS*	**Sn**	**01 33 52.4**	**+0.4**
TWC	**Suao**	**0.18**	**167**	⇑*iP*	**Pn**	**01 33 42.8**	**+0.5**
TWC				*i S*	**Sn**	**01 33 52.6**	**+0.5**
TIPB	**Shuangxi**	**0.19**	**6**	⇑*iP*	**Pn**	**01 33 42.5**	**+0.1**
TIPB				S	**Sn**	**01 33 51.6**	**-0.6**
FUSB	**Fushanzhiwuyua**	**0.20**	**263**	⇑*iP*	**Pn**	**01 33 42.3**	**-0.1**
FUSB				*eS*	**Sn**	**01 33 51.5**	**-0.8**
ESAO	**Su ao**	**0.21**	**170**	⇑*iP*	**Pn**	**01 33 42.9**	**+0.5**
ESAO				*i S*	**Sn**	**01 33 52.9**	**+0.6**
ENTT	**Nioudou**	**0.26**	**236**	⇑*iP*	**Pn**	**01 33 42.8**	**+0.1**
ENTT				*eS*	**Sn**	**01 33 52.3**	**-0.4**
NWLT	**Wulai**	**0.28**	**268**	⇑*iP*	**Pn**	**01 33 42.4**	**-0.3**
NWLT				S	**Sn**	**01 33 51.5**	**-1.3**
TWB1	**Santiao Chiao**	**0.28**	**37**	⇑*iP*	**Pn**	**01 33 42.8**	**+0.1**
TWB1				*i S*	**Sn**	**01 33 52.6**	**-0.2**
NWF	**Wu-fen Shan**	**0.28**	**356**	⇑*iP*	**Pn**	**01 33 42.9**	**+0.1**
NWF				S	**Sn**	**01 33 52.4**	**-0.7**
WFSB	**Wu-fen Shan**	**0.28**	**356**	⇑*iP*	**Pn**	**01 33 42.9**	**+0.2**
WFSB				S	**Sn**	**01 33 52.3**	**-0.6**
SXI1	**Grass Mountain**	**0.31**	**12**	⇑*iP*	**Pn**	**01 33 42.8**	**-0.2**
SXI1				S	**Sn**	**01 33 52.7**	**-0.6**
NHY	**Taipei**	**0.33**	**320**	*eP*	**Pn**	**01 33 43.0**	**+0.1**
NHY				*i S*	**Sn**	**01 33 53.3**	**+0.1**
EWUT	**Wuta**	**0.34**	**184**	*eP*	**Pn**	**01 33 43.2**	**+0.2**
EWUT				S	**Sn**	**01 33 53.9**	**+0.6**
TATO	**Taipei**	**0.34**	**303**	P	**Pn**	**01 33 42.8**	**-0.2**
TATO	**Taipei**	**0.34**	**303**	S	**Sn**	**01 33 53.0**	**-0.4**
LATG	**Datong**	**0.35**	**226**	⇑*iP*	**Pn**	**01 33 43.3**	**+0.1**
LATG				S	**Sn**	**01 33 53.2**	**-0.6**
ENA	**Nanau**	**0.36**	**189**	*eP*	**Pn**	**01 33 42.7**	**-0.4**
ENA				*eS*	**Sn**	**01 33 53.8**	**+0.2**
TAP	**Taipei**	**0.37**	**313**	⇑*iP*	**Pn**	**01 33 43.2**	**0.0**
TAP				S	**Sn**	**01 33 53.1**	**-0.5**
YHNB	**Yeheng**	**0.41**	**254**	P	**Pn**	**01 33 43.1**	**-0.4**
YHNB	**Yeheng**	**0.41**	**254**	S	**Sn**	**01 33 53.0**	**-1.2**
YHNB	**Yeheng**	**0.41**	**254**	⇑*iP*	**Pn**	**01 33 43.2**	**-0.4**
YHNB				S	**Sn**	**01 33 52.8**	**-1.4**
YM01	**YM01**	**0.42**	**329**	⇑*iP*	**Pn**	**01 33 43.6**	**+0.1**
YM01				*i S*	**Sn**	**01 33 54.0**	**-0.3**
NSK	**Sanguang**	**0.42**	**255**	⇑*iP*	**Pn**	**01 33 43.2**	**-0.4**
NSK				S	**Sn**	**01 33 52.9**	**-1.5**
ZUZH	**Zhuzihu**	**0.44**	**328**	⇑*iP*	**Pn**	**01 33 43.7**	**0.0**
ZUZH				*eS*	**Sn**	**01 33 54.0**	**-0.5**
YM08	**YM08**	**0.45**	**334**	*i P*	**Pn**	**01 33 43.7**	**0.0**
YM08				S	**Sn**	**01 33 53.9**	**-0.7**
EAHA	**Aohua**	**0.46**	**187**	*eP*	**Pn**	**01 33 44.1**	**+0.3**
EAHA				*eS*	**Sn**	**01 33 55.1**	**+0.4**
TWS1	**Kuangyinshan**	**0.47**	**312**	⇑*iP*	**Pn**	**01 33 43.1**	**-0.7**
TWS1				S	**Sn**	**01 33 54.0**	**-0.8**
ANP	**Anpu**	**0.47**	**327**	⇑*iP*	**Pn**	**01 33 43.9**	**-0.1**
ANP				S	**Sn**	**01 33 54.4**	**-0.7**
EHP	**Heping Village**	**0.48**	**187**	*eP*	**Pn**	**01 33 44.0**	**+0.1**
NTST	**Danshui**	**0.50**	**320**	*i P*	**Pn**	**01 33 44.4**	**+0.4**
NTST				*eS*	**Sn**	**01 33 55.5**	**+0.4**
TWY	**Chenhua**	**0.52**	**339**	P	**Pn**	**01 33 43.6**	**-0.7**
TWY				*eS*	**Sn**	**01 33 54.9**	**-0.6**
NNS	**Nan Shan**	**0.52**	**229**	⇑*iP*	**Pn**	**01 33 44.4**	**0.0**
NNS				*eS*	**Sn**	**01 33 55.5**	**-0.3**
NNSB	**Datong**	**0.52**	**227**	⇑*iP*	**Pn**	**01 33 44.4**	**0.0**
NNSB				*eS*	**Sn**	**01 33 54.3**	**-1.5**
EOS2	**EOS2**	**0.53**	**133**	*eP*	**Pn**	**01 33 44.7**	**+0.6**
KSHI	**Guanxi Townshi**	**0.57**	**269**	⇑*iP*	**Pn**	**01 33 44.8**	**+0.2**
KSHI				*i S*	**Sn**	**01 33 56.2**	**0.0**
NCUH	**Zhongli**	**0.59**	**288**	⇑*iP*	**Pn**	**01 33 45.0**	**+0.2**
NCUH				*i S*	**Sn**	**01 33 56.2**	**-0.3**
NACB	**Ninganchiao**	**0.64**	**197**	P	**Pn**	**01 33 44.4**	**-0.8**
NACB	**Ninganchiao**	**0.64**	**197**	S	**Sn**	**01 33 55.3**	**-2.0**
NACB	**Ninganchiao**	**0.64**	**197**	⇑*iP*	**Pn**	**01 33 44.3**	**-1.0**
NACB				*eS*	**Sn**	**01 33 55.4**	**-1.8**
NFF	**Wufeng Townshi**	**0.64**	**256**	⇑*iP*	**Pn**	**01 33 45.2**	**-0.1**
NFF				*i S*	**Sn**	**01 33 56.3**	**-1.2**
ETL	**Fush Village**	**0.65**	**195**	*eP*	**Pn**	**01 33 44.7**	**-0.6**
ETL				*eS*	**Sn**	**01 33 56.9**	**-0.6**
ETLH	**Xiulin Townshi**	**0.65**	**207**	⇑*iP*	**Pn**	**01 33 45.0**	**-0.4**
ETLH				*eS*	**Sn**	**01 33 56.6**	**-1.0**
EOS3	**EOS3**	**0.68**	**137**	⇓*iP*	**Pn**	**01 33 46.2**	**+0.8**
TWD	**Chiawan**	**0.73**	**195**	*eP*	**Pn**	**01 33 45.3**	**-0.8**
TWD				*eS*	**Sn**	**01 33 57.8**	**-1.0**
LIOB	**Emei**	**0.73**	**259**	⇑*iP*	**Pn**	**01 33 46.2**	**+0.1**
LIOB				S	**Sn**	**01 33 57.7**	**-1.1**
SBCB	**Hsinchu**	**0.74**	**271**	*eP*	**Pn**	**01 33 46.5**	**+0.3**
SBCB				*eS*	**Sn**	**01 33 58.7**	**-0.3**
NSTT	**Nanjuang**	**0.75**	**258**	*eP*	**Pn**	**01 33 45.7**	**-0.5**
NSTT				*eS*	**Sn**	**01 33 58.1**	**-1.0**
HSN	**Hsinchu**	**0.76**	**271**	⇑⇑*iP*	**Pn**	**01 33 46.2**	**-0.1**
HSN				*i S*	**Sn**	**01 33 58.4**	**-0.8**
TWT	**Tachien**	**0.78**	**227**	⇑⇑*iP*	**Pn**	**01 33 47.5**	**+0.7**
TWT				*eS*	**Sn**	**01 34 00.0**	**0.0**
TDCB	**Techi**	**0.79**	**228**	⇑⇑*iP*	**Pn**	**01 33 47.5**	**+0.6**
TDCB				*eS*	**Sn**	**01 33 58.7**	**-1.5**
WHF	**Hehuan Shan**	**0.81**	**218**	P	**Pn**	**01 33 47.5**	**+0.2**
WHF				*eS*	**Sn**	**01 34 00.7**	**-0.2**
EOS4	**EOS4**	**0.81**	**145**	⇑⇑*iP*	**Pn**	**01 33 46.6**	**+0.1**
EOS4				*eS*	**Sn**	**01 33 59.5**	**0.0**
HWA	**Hwalien**	**0.83**	**193**	*eP*	**Pn**	**01 33 45.0**	**-2.0**
LXIB	**Xiulin Townshi**	**0.84**	**205**	⇑⇑*iP*	**Pn**	**01 33 46.6**	**-0.8**
LXIB				S	**Sn**	**01 34 00.9**	**-0.1**
ETM	**Tongmen**	**0.86**	**199**	P	**Pn**	**01 33 46.5**	**-1.0**
ETM				*eS*	**Sn**	**01 33 59.9**	**-1.3**
PCYT	**Pengchaiyu**	**0.87**	**16**	*eP*	**Pn**	**01 33 48.3**	**+0.7**
PCYT				*eS*	**Sn**	**01 34 01.4**	**0.0**
WHP	**Taichung City**	**0.93**	**237**	⇑⇑*iP*	**Pn**	**01 33 48.9**	**+0.6**
WHP				S	**Sn**	**01 34 02.7**	**0.0**
TEYL	**Yanliau Villag**	**0.93**	**192**	*eP*	**Pn**	**01 33 47.1**	**-1.1**
TEYL				*eS*	**Sn**	**01 34 01.1**	**-1.4**
NMLH	**Miaoli**	**0.95**	**255**	P	**Pn**	**01 33 48.8**	**+0.3**
NMLH				*i S*	**Sn**	**01 34 02.2**	**-0.7**
OWD	**Renai**	**1.01**	**215**	P	**Pn**	**01 33 49.9**	**+0.7**
OWD				S	**Sn**	**01 34 04.6**	**+0.4**
WUSB	**Renai**	**1.01**	**219**	⇑⇑*iP*	**Pn**	**01 33 49.8**	**+0.6**
WUSB				*eS*	**Sn**	**01 34 04.9**	**+0.6**
SHUL	**Shoufeng**	**1.02**	**193**	*i P*	**Pn**	**01 33 49.2**	**+0.1**
SHUL				*i S*	**Sn**	**01 34 04.5**	**+0.4**
ESL	**Shilin**	**1.02**	**199**	*eP*	**Pn**	**01 33 48.0**	**-1.3**
TWQ1	**Liyutan**	**1.04**	**245**	⇑⇑*iP*	**Pn**	**01 33 49.6**	**+0.3**
TWQ1				*i S*	**Sn**	**01 34 03.9**	**-0.7**
JYNG	**Yonagunijimaku**	**1.09**	**108**	P	**Pn**	**01 33 49.8**	**-0.2**
JYNG				*eS*	**Sn**	**01 34 05.1**	**-0.6**
WCS	**Beigang Elemen**	**1.09**	**228**	⇑⇑P	**Pn**	**01 33 50.6**	**+0.7**
WCS				*i S*	**Sn**	**01 34 05.9**	**+0.3**
WARBT	**Fenglin Townsh**	**1.13**	**200**	⇑⇑P	**Pn**	**01 33 49.0**	**-1.5**
WARBT				*eS*	**Sn**	**01 34 05.1**	**-1.4**
YOJ	**Yonaguni jima**	**1.14**	**106**	P	**Pn**	**01 33 50.7**	**+0.1**
YOJ	**Yonaguni jima**	**1.14**	**106**	⇓⇓*iP*	**Pn**	**01 33 50.6**	**0.0**
YOJ	**Yonaguni jima**	**1.14**	**106**	P	**Pn**	**01 33 50.6**	**0.0**
YOJ				*eS*	**Sn**	**01 34 05.9**	**-0.9**
WDJ	**Dajia District**	**1.15**	**248**	⇑⇑P	**Pn**	**01 33 51.2**	**+0.6**
WDJ				*i S*	**Sn**	**01 34 07.1**	**+0.3**
EGFH	**Guangfu**	**1.16**	**197**	*eP*	**Pn**	**01 33 50.9**	**0.0**
VWDT	**VWDT**	**1.19**	**211**	⇑⇑*iP*	**Pn**	**01 33 51.7**	**+0.6**
VWDT				*eS*	**Sn**	**01 34 08.4**	**+0.6**
TCU	**Taichung**	**1.21**	**239**	*eP*	**Pn**	**01 33 51.9**	**+0.6**
TCU				*eS*	**Sn**	**01 34 07.2**	**-0.9**
SMLT	**Sun Moon Lake**	**1.22**	**223**	⇑⇑*iP*	**Pn**	**01 33 51.2**	**-0.4**
SMLT				S	**Sn**	**01 34 08.3**	**-0.3**
TYC	**Yuchr**	**1.23**	**225**	⇑⇑*iP*	**Pn**	**01 33 52.1**	**+0.5**
TYC				*i S*	**Sn**	**01 34 09.2**	**+0.5**
SSLB	**Suanglung**	**1.26**	**218**	P	**Pn**	**01 33 52.7**	**+0.6**
SSLB	**Suanglung**	**1.26**	**218**	⇑⇑P	**Pn**	**01 33 52.6**	**+0.6**
SSLB				*eS*	**Sn**	**01 34 09.9**	**+0.5**
HGSD	**Ruisui**	**1.33**	**195**	*eP*	**Pn**	**01 33 52.9**	**0.0**
HGSD				*eS*	**Sn**	**01 34 11.3**	**+0.4**
WCHH	**Zhanghua**	**1.34**	**239**	P	**Pn**	**01 33 53.3**	**+0.4**
WCHH				*i S*	**Sn**	**01 34 10.1**	**-0.8**
EHY	**Hungye**	**1.35**	**199**	*eP*	**Pn**	**01 33 51.9**	**-1.2**
WCH1	**Changhua City**	**1.35**	**238**	*eP*	**Pn**	**01 33 53.5**	**+0.4**
WCH1				*eS*	**Sn**	**01 34 11.2**	**0.0**
EHYH	**Wanrong**	**1.35**	**198**	*eP*	**Pn**	**01 33 53.4**	**+0.2**
WNT	**Mingjian**	**1.36**	**229**	*i P*	**Pn**	**01 33 54.0**	**+0.7**
WNT				*i S*	**Sn**	**01 34 12.2**	**+0.6**
WJS	**Zhushan**	**1.37**	**226**	P	**Pn**	**01 33 54.1**	**+0.7**
WJS				*i S*	**Sn**	**01 34 12.9**	**+1.2**
WHYT	**Xinyi Township**	**1.39**	**219**	*i P*	**Pn**	**01 33 54.5**	**+0.9**
WHYT				*i S*	**Sn**	**01 34 13.3**	**+1.2**
YULB	**Yu-li**	**1.46**	**199**	P	**Pn**	**01 33 54.2**	**-0.3**
YULB	**Yu-li**	**1.46**	**199**	S	**Sn**	**01 34 13.6**	**-0.1**
YULB	**Yu-li**	**1.46**	**199**	*eP*	**Pn**	**01 33 53.3**	**-1.2**
YULB				*eS*	**Sn**	**01 34 12.1**	**-1.6**
ECBN	**Changbin**	**1.50**	**193**	*eP*	**Pn**	**01 33 55.5**	**+0.5**
EYUL	**Yuli**	**1.50**	**197**	*eP*	**Pn**	**01 33 54.8**	**-0.1**
TWF1	**Yuli**	**1.50**	**198**	*eP*	**Pn**	**01 33 54.4**	**-0.6**
TWF1				*eS*	**Sn**	**01 34 13.7**	**-0.9**
YUS	**Yu-Shan**	**1.51**	**211**	*eP*	**Pn**	**01 33 54.8**	**-0.8**
YUS				*i S*	**Sn**	**01 34 14.9**	**-0.5**
ALS	**Alishan**	**1.56**	**216**	*eP*	**Pn**	**01 33 57.1**	**+1.0**
ALS				*eS*	**Sn**	**01 34 16.4**	**-0.1**
CHN5	**Tsauling**	**1.57**	**221**	⇑⇑P	**Pn**	**01 33 56.4**	**+0.5**
CHN5				*eS*	**Sn**	**01 34 16.8**	**+0.6**
WDL	**Douliou City**	**1.57**	**228**	*eP*	**Pn**	**01 33 56.5**	**+0.7**
WDL				*eS*	**Sn**	**01 34 16.2**	**+0.1**
WGK	**Gukeng**	**1.58**	**226**	⇓⇓P	**Pn**	**01 33 56.8**	**+0.9**
WGK				*eS*	**Sn**	**01 34 16.9**	**+0.7**
WDLH	**Douliu**	**1.59**	**227**	*i P*	**Pn**	**01 33 56.9**	**+0.8**
WDLH				*i S*	**Sn**	**01 34 16.8**	**+0.3**
CHKH	**Chenggong**	**1.63**	**193**	*eP*	**Pn**	**01 33 56.7**	**+0.1**
CHKH				*eS*	**Sn**	**01 34 17.6**	**+0.1**
FULB	**Fuli**	**1.65**	**197**	*eP*	**Pn**	**01 33 57.3**	**+0.5**
FULB				*eS*	**Sn**	**01 34 17.6**	**-0.3**
EHD	**Haiduan**	**1.72**	**199**	*eP*	**Pn**	**01 33 57.4**	**-0.3**
CHKT	**Chengkung**	**1.73**	**194**	*eP*	**Pn**	**01 33 58.2**	**+0.3**
CHKT				*eS*	**Sn**	**01 34 19.6**	**-0.1**
WCKO	**Fanlu**	**1.73**	**220**	*eP*	**Pn**	**01 33 58.9**	**+1.0**
WCKO				*i S*	**Sn**	**01 34 20.3**	**+0.5**
ELDTW	**Lidau**	**1.75**	**205**	*eP*	**Pn**	**01 33 58.7**	**+0.5**
ELDTW				*eS*	**Sn**	**01 34 20.1**	**-0.2**
CHY	**Chiayi**	**1.80**	**225**	*eP*	**Pn**	**01 33 59.4**	**+0.7**
CHY				*eS*	**Sn**	**01 34 21.1**	**-0.1**
CHN4	**Tsaushan**	**1.81**	**218**	*eP*	**Pn**	**01 33 59.7**	**+0.9**
CHN4				*eS*	**Sn**	**01 34 19.6**	**-1.9**
IRIF	**Iriomote-Funau**	**1.81**	**104**	P	**Pn**	**01 33 58.8**	**0.0**
IRIF				*eS*	**Sn**	**01 34 20.5**	**-1.1**
TPUB	**Ta-pu**	**1.83**	**216**	P	**Pn**	**01 33 59.7**	**+0.5**
TPUB	**Ta-pu**	**1.83**	**216**	*eP*	**Pn**	**01 33 59.2**	**+0.1**
TPUB				*eS*	**Sn**	**01 34 22.4**	**+0.3**
EDH	**Donghe**	**1.86**	**194**	*eP*	**Pn**	**01 33 59.6**	**+0.1**
EDH				*eS*	**Sn**	**01 34 22.0**	**-0.8**
STYH	**Taoyuan**	**1.86**	**211**	*i P*	**Pn**	**01 34 00.8**	**+1.3**
STYH				*eS*	**Sn**	**01 34 24.1**	**+1.3**
WTP	**Ta-pu**	**1.88**	**216**	*eP*	**Pn**	**01 34 00.5**	**+0.6**
WSL	**Shuilin Townsh**	**1.91**	**229**	*eP*	**Pn**	**01 34 00.7**	**+0.5**
WSL				*i S*	**Sn**	**01 34 23.0**	**0.0**
TWK	**Hsinying**	**1.93**	**219**	*eP*	**Pn**	**01 34 01.1**	**+0.5**
TWK				*eS*	**Sn**	**01 34 23.8**	**-0.8**
HATJ	**Hateruma jima**	**1.96**	**111**	*eP*	**Pn**	**01 34 00.8**	**0.0**
SNST	**Tainan City**	**1.96**	**218**	*eP*	**Pn**	**01 34 02.0**	**+1.1**
SNST				*eS*	**Sn**	**01 34 25.7**	**+0.6**
LONT	**Longtian**	**1.97**	**198**	*eP*	**Pn**	**01 34 01.3**	**+0.3**
LONT				*eS*	**Sn**	**01 34 24.9**	**-0.5**
CHN1	**Nanshi**	**1.98**	**216**	*eP*	**Pn**	**01 34 01.8**	**+0.8**
CHN1				*eS*	**Sn**	**01 34 25.9**	**+0.4**
ICHU	**Yijhu**	**1.99**	**225**	*eP*	**Pn**	**01 34 01.7**	**+0.5**
ICHU				*i S*	**Sn**	**01 34 26.5**	**+0.8**
SGST	**Jiashian**	**2.03**	**214**	*eP*	**Pn**	**01 34 02.1**	**+0.3**
SGST				*eS*	**Sn**	**01 34 27.2**	**+0.5**
TWG	**Pinlang**	**2.07**	**199**	*eP*	**Pn**	**01 34 02.9**	**+0.6**
TWGBT	**Beinan**	**2.07**	**199**	P	**Pn**	**01 34 03.0**	**+0.7**
JKRS	**Kuro-shima**	**2.08**	**105**	*eP*	**Pn**	**01 34 02.4**	**0.0**
JKRS				*eS*	**Sn**	**01 34 27.4**	**-0.5**
LDUT	**Ludao**	**2.12**	**188**	*eP*	**Pn**	**01 34 02.4**	**-0.6**
LDUT				*eS*	**Sn**	**01 34 27.7**	**-1.2**
VWUC	**VWUC**	**2.15**	**276**	*eP*	**Pn**	**01 34 02.8**	**-0.5**
MATB	**Ma-tsu**	**2.16**	**309**	*eP*	**Pn**	**01 34 03.2**	**-0.3**
JIJ	**Ishigaki jima**	**2.17**	**101**	*eP*	**Pn**	**01 34 03.4**	**-0.2**
JIJ				*eS*	**Sn**	**01 34 28.4**	**-1.5**
TSCK	**Chigu Township**	**2.27**	**224**	*eP*	**Pn**	**01 34 05.8**	**+0.9**
JISG	**Ishigakijimahi**	**2.29**	**94**	*eP*	**Pn**	**01 34 05.5**	**+0.4**
JISG				*eS*	**Sn**	**01 34 32.2**	**-0.5**
ECL	**Taimali**	**2.31**	**200**	*eP*	**Pn**	**01 34 04.6**	**-0.9**
ECL				*eS*	**Sn**	**01 34 32.9**	**-0.5**
TSMG	**Majia**	**2.33**	**207**	*eP*	**Pn**	**01 34 06.6**	**+0.9**
PNG	**Penghu**	**2.39**	**240**	*eP*	**Pn**	**01 34 04.9**	**-1.5**
PHUB	**P'eng-hu**	**2.40**	**239**	*eP*	**Pn**	**01 34 05.7**	**-0.9**
PHUB				*i S*	**Sn**	**01 34 33.3**	**-2.1**
MASBT	**Mashibuluo**	**2.42**	**207**	*eP*	**Pn**	**01 34 08.3**	**+1.4**
PTMZ	**Houxiangcun**	**2.45**	**276**	*eP*	**Pn**	**01 34 07.0**	**-0.2**
WDGT	**Dungji**	**2.48**	**233**	*eP*	**Pn**	**01 34 07.3**	**-0.3**
WDGT				*eS*	**Sn**	**01 34 36.1**	**-1.2**
EAST	**Anshuo**	**2.55**	**200**	*eP*	**Pn**	**01 34 09.6**	**+1.0**
WSSB	**Gushan**	**2.56**	**214**	*eP*	**Pn**	**01 34 07.4**	**-1.4**
XPSS	**Dashiqiu**	**2.58**	**326**	*eP*	**Pn**	**01 34 08.7**	**-0.4**
SCZT	**Fangliau**	**2.64**	**205**	*eP*	**Pn**	**01 34 11.2**	**+1.4**
VCHM	**Qimei**	**2.68**	**235**	*eP*	**Pn**	**01 34 09.9**	**-0.5**
LYUB	**Lan-yu**	**2.78**	**184**	*eP*	**Pn**	**01 34 10.5**	**-1.2**
MHZQ	**Yeshan**	**2.83**	**298**	*eP*	**Pn**	**01 34 11.9**	**-0.4**
KNMB	**Chin-men Tao**	**3.13**	**265**	*eP*	**Pn**	**01 34 15.8**	**-0.5**
AXDP	**Jialang**	**3.49**	**273**	*eP*	**Pn**	**01 34 21.0**	**-0.1**
ZPLA	**Ao Xicun**	**3.79**	**258**	*eP*	**Pn**	**01 34 25.0**	**-0.4**
SXFK	**Yanhouchang**	**4.08**	**294**	*eP*	**Pn**	**01 34 28.9**	**-0.4**
DSXP	**Dongshan**	**4.14**	**256**	*eP*	**Pn**	**01 34 29.4**	**-0.7**
KSRS	**Korea Array**	**13.67**	**21**	Pn	**P**	**01 36 44.9**	**+0.5**
	0.2nm,0.3s,baz=200,slow=12,SNR=7.6						
	1.7nm,0.6s						
SONM	**Songino Array**	**26.04**	**336**	P	**P**	**01 38 55.0**	**+1.3**
	0.7nm,0.9s,baz=165,slow=8.5,SNR=4.3						
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**38.31**	**315**	P	**P**	**01 40 40.8**	**+0.1**
	0.2nm,0.5s,baz=98,slow=9.9,SNR=5.6						
	0.2nm,0.5s						
PALK	**Pallekele**	**42.95**	**253**	LR	LR	01 59 37.8	
	comp=Z,142nm,18.6s,baz=343,slow=38						
WRA	**Warramunga Arr**	**46.10**	**164**	P	**P**	**01 41 43.3**	**-0.8**
	0.2nm,0.4s,baz=344,slow=8.2,SNR=1.7						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**71.21**	**330**	P	**P**	**01 44 38.1**	**+0.3**
	7.4nm,1.1s,baz=141,slow=14,SNR=2.5						
	7.4nm,1.1s						
DAVOX	**Davos/Dischmat**	**86.01**	**320**	LR	LR	02 27 33.1	
	comp=Z,241nm,19.0s,baz=261,slow=38						
VAE	**Valguarnera**	**87.91**	**311**	LR	LR	02 35 35.2	
	comp=Z,250nm,18

AGPR Aguadilla, PR 1.67 90 Pn **Pn 01 48 10.8 -0.7**
AGPR Sn **Sn 01 48 34.1 +0.2**
AGPR IAML 01 48 42.9
comp=E,88nm,0.4s
AGPR IAML 01 48 47.6
comp=N,116nm,2.4s
AGPR Aguadilla, PR 1.67 90⇓ *eP* **Pn 01 48 12.7 +1.3**
AGPR Aguadilla, PR 1.67 90 *eS* **Sn 01 48 35.5 +1.6**
AGPR Aguadilla, PR 1.67 90 *i P* **Pn 01 48 12.8 +1.3**
AGPR IAML 01 48 37.8
comp=Z,100nm,1.3s
LSP Las Mesas 1.72 100 Pn 01 48 13.6 +1.4
LSP **Sn 01 48 36.9 +1.8**
LSP Las Mesas 1.72 100⇓ *eP* **Pn 01 48 13.6 +1.4**
LSP Las Mesas 1.72 100 *eS* **Sn 01 48 36.9 +1.8**
CRPR Cabo Rojo, PR 1.74 105 Pn **Pn 01 48 10.2 -2.1**
CRPR **Sn 01 48 31.4 -3.9**
CRPR Cabo Rojo, PR 1.74 105⇑ *eP* **Pn 01 48 12.7 +0.4**
CRPR Cabo Rojo, PR 1.74 105 *eS* **Sn 01 48 35.0 -0.3**
CRPR Cabo Rojo, PR 1.74 105 *i P* **Pn 01 48 12.8 +0.4**
CRPR IAML 01 48 45.6
comp=Z,47nm,1.6s
MLPR Magueyes Islan 1.81 106⇓ *eP* **Pn 01 48 13.3 +0.1**
MLPR Magueyes Islan 1.81 106 *eS* **Sn 01 48 36.3 -0.5**
GBPR Guanica, Bosqu 1.96 105 Pn 01 48 15.8 +0.8
GBPR **Sn 01 48 40.1 0.0**
GBPR Guanica, Bosqu 1.96 105⇓ *eP* **Pn 01 48 15.8 +0.8**
GBPR Guanica, Bosqu 1.96 105 *eS* **Sn 01 48 40.1 0.0**
SC01 Santiago de Io 2.00 299 Pn **Pn 01 48 13.4 -2.1**
SC01 IAML 01 48 59.1
comp=E,80nm,0.1s
SC01 IAML 01 49 05.8
comp=N,85nm,0.1s
AOPR Arecibo Observ 2.01 93 Pn **Pn 01 48 15.5 -0.3**
AOPR Sn **Sn 01 48 39.8 -1.6**
AOPR Arecibo Observ 2.01 93⇑ *eP* **Pn 01 48 16.2 +0.5**
AOPR Arecibo Observ 2.01 93 *eS* **Sn 01 48 41.8 +0.4**
UUPR Utuado, UPR, P 2.05 96 Pn **Pn 01 48 16.4 +0.1**
UUPR Sn **Sn 01 48 42.2 -0.1**
UUPR Utuado, UPR, P 2.05 96⇓ *eP* **Pn 01 48 18.0 +1.8**
UUPR Utuado, UPR, P 2.05 96 *eS* **Sn 01 48 43.4 +1.0**
OBIP Obispado Ponce 2.19 101 Pn **Pn 01 48 16.8 -1.1**
OBIP Sn **Sn 01 48 44.0 -1.4**
OBIP Obispado Ponce 2.19 101⇓ *eP* **Pn 01 48 19.4 +1.4**
OBIP Obispado Ponce 2.19 101 *eS* **Sn 01 48 45.2 -0.2**
CELP Cerrillos 2.21 100 Pn **Pn 01 48 17.9 -0.3**
CELP Sn **Sn 01 48 45.5 -0.4**
CELP IAML 01 48 53.4
comp=N,27nm,0.4s
CELP Cerrillos 2.21 100⇓ *eP* **Pn 01 48 18.9 +0.7**
CELP Cerrillos 2.21 100 *eS* **Sn 01 48 46.5 +0.6**
EMPR Esperanza - Ma 2.22 90 Pn **Pn 01 48 17.9 -0.4**
EMPR Sn **Sn 01 48 44.7 -1.3**
EMPR Esperanza - Ma 2.22 90⇓ *eP* **Pn 01 48 21.0 +2.7**
EMPR Esperanza - Ma 2.22 90 *eS* **Sn 01 48 45.7 -0.4**
SDDR Presa de Saban 2.35 283 Pn **Pn 01 48 21.4 +1.5**
SDDR IAML 01 48 57.3
comp=N,23nm,1.8s
SDDR Presa de Saban 2.35 283 *i P* **Pn 01 48 23.2 +3.2**
SDDR IAML 01 48 57.5
comp=Z,12nm,2.2s
ECPR Experimental S 2.38 93⇓ *eP* **Pn 01 48 22.1 +1.7**
ECPR Experimental S 2.38 93 *eS* **Sn 01 48 48.8 -1.0**
LONE3 El Aguacate, B 2.46 273 *i P* **Pn 01 48 22.1 +0.6**
LONE3 IAML 01 48 57.7
comp=Z,16nm,3.9s
LOVI El Cajuil, Ovi 2.47 255 *i P* **Pn 01 48 22.0 +0.5**
LOVI *eS* **Sn 01 48 49.7 -2.0**
LOVI IAML 01 48 51.4
comp=Z,55nm,0.9s
LODU1 El Espartillar 2.48 268 *i P* **Pn 01 48 24.7 +3.1**
LODU1 IAML 01 49 08.0
comp=Z,47nm,4.0s
SJG San Juan 2.61 98 Pn **Pn 01 48 22.4 -0.9**
SJG IAML 01 48 59.6
comp=Z,26nm,0.8s
SJG IAML 01 49 14.0
comp=Z,22nm,2.1s
SJG San Juan 2.61 98⇑ *eP* **Pn 01 48 22.8 -0.5**
SJG San Juan 2.61 98 *eS* **Sn 01 48 53.2 -1.8**
GCPR Guaynabo City 2.65 93 Pn **Pn 01 48 23.7 -0.1**
GCPR **Sn 01 48 52.9 -3.0**
GCPR IAML 01 49 22.5
comp=E,18nm,2.7s
GCPR IAML 01 49 52.0
comp=N,17nm,2.3s
GCPR Guaynabo City 2.65 93⇑ *eP* **Pn 01 48 24.6 +0.7**
GCPR Guaynabo City 2.65 93 *eS* **Sn 01 48 53.7 -2.2**
IGPR InterUniversit 2.67 101 Pn **Pn 01 48 24.3 +0.2**
IGPR IAML 01 49 05.9
comp=E,28nm,0.3s
IGPR IAML 01 49 10.6
comp=N,32nm,0.3s
LOBH Bahia de las A 2.70 257 *i P* **Pn 01 48 25.2 +0.7**
LOBH *eS* **Sn 01 48 55.8 -1.3**
LOBH IAML 01 48 59.1
comp=Z,46nm,1.7s
PDPR Patillas Dam, 2.74 99 Pn **Pn 01 48 25.0 -0.1**
PDPR IAML 01 49 03.9
comp=N,19nm,0.1s
PDPR IAML 01 50 17.5
comp=E,17nm,1.8s
PDPR Patillas Dam, 2.74 99⇓ *eP* **Pn 01 48 26.9 +1.9**
PDPR Patillas Dam, 2.74 99 *eS* **Sn 01 48 59.4 +1.3**
HUMP Col San Antoni 2.89 96 Pn **Pn 01 48 26.8 -0.1**
HUMP **Sn 01 48 59.8 -1.6**
HUMP IAML 01 49 08.2
comp=N,20nm,0.2s
HUMP IAML 01 49 09.7
comp=E,30nm,0.2s
HUMP Col San Antoni 2.89 96⇓ *eP* **Pn 01 48 27.9 +1.0**
HUMP Col San Antoni 2.89 96 *eS* **Sn 01 49 00.1 -1.3**

*IDC **06** 01:47:46.2±0.6, 32°.02S×178°.00W, h0km, mb4.3/7, mbtmp4.3/7, MS4.2/14, Error ellipse: s-maj=24.7km s-min=18.3km az=2.0*
*WEL **06** 01:47:48.1±0.8, 32°S±5°×17°8W±1°, h33km, M4.9/11, mB5.1/6, ML5.4/11, MLv5.2/11, Mw(mB)4.5/6, Error ellipse: s-maj=16.1km s-min=4.0km az=106.3, confirmed*
*NEIC **06** 01:47:49.4±1.4, 32°.0S±0°.1×178°.1W±0°.2, h10km±1km, mb4.9/22, Error ellipse: s-maj=25.6km s-min=20.2km az=114.0*

ISC 06 01:47:48.1±0.5, 31°.96S±0°.06×178°.0W±0°.1, h10km, n126, σ1§81/125, mb4.8/21, MS4.2/14, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.69**	**2**	P	**Pn**		**01 48 29.4**	**-2.1**
GLKZ				S	**Sn**		**01 48 59.8**	**-4.3**
RIZ	**Raoul Island**	**2.71**	**2**	P	**Pn**		**01 48 28.8**	**-2.9**
MXZ	**Matakaoa Point**	**6.34**	**207**	Pn	**Pn**		**01 49 21.9**	**+0.3**
MXZ	**Matakaoa Point**	**6.34**	**207**	P	**Pn**		**01 49 22.6**	**+1.0**
MXZ				S	**Sn**		**01 50 32.7**	**-1.4**
WMGZ	**Waiomatatini S**	**6.53**	**206**	P	**Pn**		**01 49 26.4**	**+2.2**
WMGZ				S	**Sn**		**01 50 39.7**	**+1.0**
PKGZ	**Pakihiroa**	**6.70**	**207**	P	**Pn**		**01 49 25.0**	**-1.5**
PKGZ				S	**Sn**		**01 50 43.9**	**+1.0**
HAZ	**Te Kaha**	**6.72**	**210**	P	**Pn**		**01 49 28.2**	**+1.4**
HAZ				S	**Sn**		**01 50 45.8**	**+2.4**
PUZ	**Puketiti**	**6.81**	**206**	P	**Pn**		**01 49 24.7**	**-3.4**
PUZ				S	**Sn**		**01 50 45.1**	**-0.6**
GRZ	**Great Barrier**	**6.89**	**230**	P	Pn		01 49 36.3	+7.2
RUGZ	**Raukumara Rang**	**6.95**	**209**	P	**Pn**		**01 49 28.4**	**-1.6**
RUGZ				S	**Sn**		**01 50 48.9**	**-0.3**
TWGZ	**Tauwhareparae**	**7.01**	**207**	P	**Pn**		**01 49 31.4**	**+0.6**
TWGZ				S	**Sn**		**01 50 50.9**	**+0.4**
CNGZ	**Carnagh Statio**	**7.20**	**204**	P	**Pn**		**01 49 30.9**	**-2.4**
CNGZ				S	**Sn**		**01 50 55.4**	**+0.3**
MWZ	**Matawai**	**7.32**	**209**	P	**Pn**		**01 49 34.1**	**-1.0**
MWZ				S	**Sn**		**01 50 58.4**	**+0.1**
URZ	**Urewera**	**7.43**	**211**	Pn	Pn		01 49 26.8	-10
	0.3nm,0.3s,baz=19,slow=14,SNR=2.2							
URZ				Sn	Sn		01 50 48.7	-12
	1.5nm,0.3s,baz=61,slow=20,SNR=1.0							
URZ	**Urewera**	**7.43**	**211**	P	**Pn**		**01 49 37.3**	**+0.8**
URZ				S	**Sn**		**01 50 59.8**	**-1.2**
WCZ	**Waipu Caves**	**7.47**	**236**	P	Pn		01 49 42.5	+5.4
OUZ	**Omahuta**	**7.70**	**243**	P	Pn		01 49 48.2	+7.9
PRGZ	**Paritu Road**	**7.70**	**204**	P	**Pn**		**01 49 38.8**	**-1.4**
PRGZ				S	**Sn**		**01 51 05.7**	**-1.9**
SNGZ	**Shannon Statio**	**7.78**	**208**	P	**Pn**		**01 49 40.7**	**-0.7**
SNGZ				S	**Sn**		**01 51 08.5**	**-1.1**
RTZ	**Ruatahuna**	**7.79**	**210**	Pn	**Pn**		**01 49 40.0**	**-1.6**
RTZ	**Ruatahuna**	**7.79**	**210**	P	**Pn**		**01 49 42.0**	**+0.5**
RTZ				S	**Sn**		**01 51 07.6**	**-2.2**
TOZ	**Tahuroa Road**	**7.83**	**221**	Pn	**Pn**		**01 49 43.5**	**+1.4**
KNZ	**Kokohu**	**7.86**	**205**	S	**Sn**		**01 51 09.1**	**-2.4**
RAHZ	**Arahi**	**8.00**	**208**	P	**Pn**		**01 49 45.9**	**+1.5**
RAHZ				S	**Sn**		**01 51 12.6**	**-2.3**
MTHZ	**Maungataniwha**	**8.04**	**210**	P	**Pn**		**01 49 43.9**	**-1.1**
MTHZ				S	**Sn**		**01 51 15.0**	**-1.1**
NMHZ	**Naumai**	**8.27**	**209**	P	**Pn**		**01 49 48.9**	**+0.8**
NMHZ				S	**Sn**		**01 51 19.1**	**-2.5**
BKZ	**Black Stump Fm**	**8.46**	**210**	Pn	**Pn**		**01 49 49.6**	**-1.1**
BKZ	**Black Stump Fm**	**8.46**	**210**	P	**Pn**		**01 49 50.6**	**-0.1**
BKZ				S	**Sn**		**01 51 23.9**	**-2.3**
PXZ	**Pawanui**	**9.05**	**206**	S	**Sn**		**01 51 35.7**	**-4.9**
TSZ	**Takapari Road**	**9.43**	**209**	S	**Sn**		**01 51 43.5**	**-6.6**
BFZ	**Birch Farm**	**9.85**	**206**	Pn	**Pn**		**01 50 12.7**	**+3.0**
BFZ	**Birch Farm**	**9.85**	**206**	P	**Pn**		**01 50 11.0**	**+1.3**
BFZ				S	**Sn**		**01 51 54.3**	**-5.9**
MRZ	**Mangatainoka R**	**10.09**	**209**	Pn	**Pn**		**01 50 14.6**	**+1.6**
MRZ	**Mangatainoka R**	**10.09**	**209**	P	Pn		01 50 07.3	-5.7
MRZ				S	**Sn**		**01 51 58.8**	**-7.5**
CTZ	**Chatham Island**	**11.80**	**175**	P	Pn		01 50 32.3	-4.1
CTZ				S	Sn		01 52 31.2	-17
THZ	**Tophouse**	**12.17**	**214**	Pn	**Pn**		**01 50 41.7**	**+0.1**
THZ	**Tophouse**	**12.17**	**214**	P	**Pn**		**01 50 41.6**	**+0.1**
THZ				S	Sn		01 52 48.8	-8.5
KHZ	**Kahutara**	**12.40**	**210**	P	**Pn**		**01 50 42.9**	**-1.7**
WVZ	**Waitaha Valley**	**14.21**	**216**	P	**P**		**01 51 15.8**	**-1.0**
RPZ	**Rata Peaks**	**14.54**	**213**	Pn	Pn		01 51 09.1	-4.8
RPZ	**Rata Peaks**	**14.54**	**213**	Pn	Pn		01 51 09.5	-4.4
	0.9nm,0.3s,baz=40,slow=15,SNR=5.5							
RPZ				Sn	Sn		01 53 40.1	-15
	1.9nm,0.3s,baz=74,slow=22,SNR=8.4							
WHZ	**Wether Hill Ro**	**17.64**	**214**	P	**Pn**		**01 51 50.4**	**-3.5**
ARMA	**Armidale**	**25.96**	**265**	P	**P**		**01 53 22.4**	**+1.4**
ARMA				IAmb	IAmb		01 53 28.4
	comp=Z,43nm,1.7s							
EIDS	**Eidsvold**	**27.82**	**276**	P	**P**		**01 53 36.2**	**-1.5**
EIDS				IAmb	IAmb		01 53 54.9
	comp=Z,18nm,1.3s							
PPT	**Papeete**	**29.44**	**68**	LR	LR		02 03 03.5
	comp=Z,90nm,19.3s,baz=262,slow=31							
STKA	**Stephens Creek**	**34.13**	**259**	P	**P**		**01 54 36.2**	**+3.0**
STKA	**Stephens Creek**	**34.13**	**259**	P	**P**		**01 54 34.1**	**+0.9**
	comp=Z,4.6nm,0.9s,baz=101,slow=10,SNR=4.8							
STKA				LR	LR		02 06 46.3
	comp=Z,538nm,20.4s,baz=100,slow=33							
	comp=Z,4.6nm,0.9s							
BBOO	**Buckleboo**	**38.54**	**256**	P	**P**		**01 55 11.3**	**+0.4**
BBOO				IAmb	IAmb		01 56 05.2
	comp=Z,90nm,1.6s							
PMG	**Port Moresby**	**39.27**	**297**	LR	LR		02 09 51.0
	comp=Z,183nm,21.0s,baz=143,slow=34							
COEN	**Coen**	**39.70**	**288**	P	**P**		**01 55 22.2**	**+1.5**
AS31	**Alice Springs**	**43.02**	**269**	P	**P**		**01 55 48.1**	**0.0**
ASAR	**Alice Springs**	**43.02**	**269**	P	**P**		**01 55 47.8**	**-0.3**
ASAR	**Alice Springs**	**43.02**	**269**	P	**P**		**01 55 48.2**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=106,slow=7.7,SNR=28							
ASAR				S	**S**		**02 02 13.2**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=113,slow=15,SNR=2.7							
ASAR				LR	LR		02 13 51.8
	comp=Z,303nm,19.0s,baz=139,slow=36							
	comp=Z,5.5nm,0.7s							
WR0	**Warramunga Arr**	**43.97**	**274**	P	**P**		**01 55 55.9**	**+0.2**
WR0				IAmb	IAmb		01 56 09.6
	comp=Z,11nm,0.8s							
WB2	**Warramunga Arr**	**44.14**	**274**	P	**P**		**01 55 57.1**	**+0.1**
WB2				IAmb	IAmb		01 56 11.5
	comp=Z,20nm,0.9s							
WRAB	**Tennant Creek**	**44.14**	**274**	P	**P**		**01 55 57.7**	**+0.6**
WRAB				IAmb	IAmb		01 56 11.5
	comp=Z,18nm,0.9s							
WRA	**Warramunga Arr**	**44.15**	**274**	P	**P**		**01 55 57.0**	**-0.2**
WRA	**Warramunga Arr**	**44.15**	**274**	P	**P**		**01 55 57.2**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=113,slow=7.7,SNR=84							
WRA				S	**S**		**02 02 33.7**	**+3.3**
	comp=Z,0.9nm,1.0s,baz=112,slow=18,SNR=3.0							
WRA				LR	LR		02 13 51.4
	comp=Z,588nm,18.6s,baz=86,slow=35							
	comp=Z,4.0nm,0.4s							
WB0	**Warramunga Arr**	**44.18**	**274**	P	**P**		**01 55 57.9**	**+0.5**
WB0				IAmb	IAmb		01 56 14.6
	comp=Z,20nm,0.7s							
FORT	**Forrest**	**45.64**	**257**	P	**P**		**01 56 09.0**	**+0.1**
VNDA	**Vanda**	**46.54**	**186**	LR	LR		02 12 30.7
	comp=Z,167nm,18.7s,baz=342,slow=32							
JAY	**Jayapura**	**48.60**	**299**	LR	LR		02 15 17.9
	comp=Z,110nm,20.2s,baz=309,slow=34							
MTN	**Manton Dam**	**50.21**	**280**	P	**P**		**01 56 43.4**	**-1.1**
MTN				IAmb	IAmb		01 56 59.0
	comp=Z,12nm,0.7s							
KNRA	**Kununurra**	**50.81**	**276**	P	**P**		**01 56 48.0**	**-1.0**
KNRA				IAmb	IAmb		01 57 23.5
	comp=Z,11nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.34**	**271**	P	**P**		**01 57 00.4**	**0.0**
FITZ	**Fitzroy Crossi**	**52.34**	**271**	LR	LR		02 19 00.2
	comp=Z,689nm,18.8s,baz=126,slow=36							
CASY	**Casey**	**53.75**	**208**	P	**P**		**01 57 12.3**	**+2.2**
NWAO	**Narrogin (SRO)**	**53.83**	**250**	LR	LR		02 17 17.4
	comp=Z,159nm,19.4s,baz=58,slow=33							
QSPA	**South Pole Qui**	**58.15**	**180**	P	**P**		**01 57 42.7**	**+0.8**
QSPA	**South Pole Qui**	**58.15**	**180**	P	**P**		**01 57 40.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=46,slow=3.6,SNR=8.9							
	comp=Z,0.3nm,0.3s							
KAPI	**Kappang**	**63.87**	**281**	LR	LR		02 25 11.3
	comp=Z,260nm,20.5s,baz=104,slow=35							
BELA	**Belgrano 2**	**68.25**	**172**	P	**P**		**01 58 49.8**	**+1.3**
MAW	**Mawson**	**70.84**	**201**	LR	LR		02 29 31.1
	comp=Z,256nm,19.1s,baz=188,slow=35							
LEM	**Lembang**	**73.15**	**272**	LR	LR		02 30 53.4
	comp=Z,151nm,20.9s,baz=122,slow=35							
TROLL	**Troll, Antarti**	**76.31**	**180**	⇑P	**P**		**01 59 36.3**	**-0.6**
	comp=Z,778nm,0.9s							
SNAA	**Sanae**	**76.60**	**178**	⇑P	**P**		**01 59 38.2**	**-0.2**
	comp=Z,326nm,1.1s							
SNAA	**Sanae**	**76.60**	**178**	P	**P**		**01 59 38.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=205,slow=1.2,SNR=4.5							
	comp=Z,1.2nm,0.7s							
VNA3	**Neumayer Olymp**	**76.75**	**176**	⇑P	**P**		**01 59 39.4**	**+0.1**
	comp=Z,35nm,0.8s							
VNA2	**Neumayer--Watz**	**77.19**	**177**	⇑P	**P**		**01 59 42.1**	**+0.4**
	comp=Z,12nm,0.6s,baz=180,slow=5.6							
H03S2	**Juan Fernandez**	**79.63**	**123**	T	T		03 28 57.4
	baz=236,slow=74,SNR=4.1							
H03S1	**Juan Fernandez**	**79.64**	**123**	T	T		03 28 54.1
	baz=236,slow=74,SNR=4.3							
H03S3	**Juan Fernandez**	**79.65**	**123**	T	T		03 28 56.1
	baz=236,slow=74,SNR=5.2							
H03N3	**Juan Fernandez**	**79.83**	**123**	T	T		03 29 03.7
	baz=240,slow=72,SNR=5.7							
H03N2	**Juan Fernandez**	**79.83**	**123**	T	T		03 29 07.7
	baz=240,slow=72,SNR=5.2							
H03N1	**Juan Fernandez**	**79.85**	**123**	T	T		03 29 01.7
	baz=240,slow=72,SNR=10							
JNU	**Nakatsue**	**80.70**	**319**	LR	LR		02 30 16.7
	comp=Z,62nm,18.9s,baz=57,slow=32							
PETK	**Petropavlovsk-**	**87.31**	**346**	P	**P**		**02 00 33.4**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=134,slow=8.4,SNR=3.7							
	comp=Z,3.0nm,0.7s							
X16A	**Lo Mia Camp, P**	**90.99**	**49**	P	**P**		**02 00 54.0**	**+1.4**
X16A				IAmb	IAmb		02 00 55.4
	comp=Z,2.8nm,0.9s							
U15A	**North Rim**	**91.71**	**47**	P	**P**		**02 00 57.2**	**+1.1**
U15A				IAmb	IAmb		02 01 32.1
	comp=Z,17nm,1.9s							
BNX	**BinXian**	**91.77**	**325**	⇑P	**P**		**02 00 54.3**	**-1.5**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.1s							
KLR	**Kul'dur**	**92.37**	**330**	P	**P**		**02 00 58.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=110,slow=0.9,SNR=5.4							
	comp=Z,1.3nm,0.7s							
LPAZ	**La Paz**	**97.53**	**114**	LR	LR		02 39 33.0
	comp=Z,85nm,18.0s,baz=53,slow=32							
YKA	**Yellowknife Ar**	**106.86**	**26**	PKKPab	PKKPab		02 17 41.3	-2.6
	comp=Z,0.3nm,0.8s,baz=46,slow=2.4,SNR=4.0							
MKAR	**Makanchi Array**	**118.75**	**309**	PKP	**PKPdf**		**02 06 35.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=64,slow=3.4,SNR=2.5							
BOOM	**Boomskoye usch**	**121.88**	**303**	PKPdf	**PKPdf**		**02 06 42.6**	**0.0**
KURK	**Kurchatov**	**122.10**	**313**	PKPdf	**PKPdf**		**02 06 41.7**	**-0.8**
KURBB	**Kurchatov Arra**	**122.14**	**313**	PKP	**PKPdf**		**02 06 41.4**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=108,slow=2.0,SNR=8.7							
KKAR	**Karatay Array**	**125.90**	**303**	PKPdf	**PKPdf**		**02 06 50.6**	**+0.5**
BVAR	**Borovoye Array**	**127.49**	**315**	PKP	**PKPdf**		**02 06 52.8**	**0.0**
	comp=Z,3.0nm,0.8s,baz=88,slow=3.3,SNR=10							
ARCES	**ARCESS Array B**	**140.10**	**347**	PKP	**PKPdf**		**02 07 15.3**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=358,slow=1.1,SNR=5.0							
GNI	**Garni**	**144.74**	**296**	PKP	**PKPab**		**02 07 24.6**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=32,slow=15,SNR=4.6							
KBZ	**Khabaz**	**145.94**	**302**	PKPbc	**PKPdf**		**02 07 27.1**	**+0.2**
	comp=Z,7.6nm,1.1s,baz=85,slow=1.7,SNR=8.7							
KVAR	**Kislovodsk Arr**	**146.06**	**302**	PKPbc	**PKPbc**		**02 07 29.0**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=100,slow=6.1,SNR=2.7							
OBN	**Obninsk**	**146.42**	**324**	PKPbc	**PKPdf**		**02 07 28.2**	**+0.8**
	comp=Z,13nm,0.5s,baz=124,slow=2.7,SNR=9.3							
FIA1	**FINESS Array S**	**146.59**	**339**	PKPdf	**PKPdf**		**02 07 28.3**	**+0.8**
FINES	**FINESS Array B**	**146.59**	**339**	PKPdf	**PKPdf**		**02 07 28.6**	**+1.0**
FINES	**FINESS Array B**	**146.59**	**339**	PKPbc	**PKPdf**		**02 07 28.4**	**+0.9**
	comp=Z,8.7nm,0.5s,baz=45,slow=4.0,SNR=56							
NB2	**NORSAR Subarra**	**150.29**	**351**	PKP	**PKPbc**		**02 07 38.6**	**-0.2**
	comp=Z,15nm,1.4s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.29**	**351**	PKPbc	**PKPbc**		**02 07 38.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=13,slow=4.1,SNR=9.0							
ASF	**Jabal al Asfar**	**150.47**	**280**	PKPbc	**PKPbc**		**02 07 40.6**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=134,slow=5.5,SNR=6.7							
ASF				PKPab	**sPKPbc**		**02 07 45.9**	**+3.3**
	comp=Z,3.0nm,0.9s,baz=112,slow=3.4,SNR=7.2							
NC602	**NORSAR Array S**	**150.53**	**350**	PKPbc	**PKPbc**		**02 07 39.3**	**-0.1**
HFS	**Hagfors**	**150.76**	**348**	PKPbc	**PKPbc**		**02 07 39.6**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=115,slow=2.1,SNR=5.8							
HFS				PKPab	**PKPab**		**02 07 47.4**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=85,slow=3.4,SNR=9.5							
EIL	**Elat**	**151.64**	**274**	PKPbc	**PKPbc**		**02 07 43.1**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=87,slow=1.5,SNR=7.0							
MMAI	**Mount Meron Ar**	**151.84**	**281**	PKPbc	**PKPbc**		**02 07 44.1**	**+0.7**
	comp=Z,9.8nm,0.8s,baz=82,slow=7.7,SNR=20							
ILGA	**Ilgaz**	**153.04**	**299**	PKPbc	**PKPbc**		**02 07 46.5**	**+0.4**
MI28	**MI28,Pidlybu**	**153.20**	**323**	PKP	**PKPdf**		**02 07 40.2**	**+1.9**
BRTR	**Keskin Array B**	**153.28**	**296**	PKPbc	**PKPbc**		**02 07 46.3**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=137,slow=3.8,SNR=14							
BRTR				PKPab	**PKPab**		**02 07 56.4**	**-2.1**
	comp=Z,4.6nm,1.0s,baz=137,slow=3.6,SNR=11							
RNPP9	**Sopachiv**	**153.81**	**325**	PKP	**PKPdf**		**02 07 41.3**	**+2.2**
RNPP8	**Varash**	**153.87**	**325**	PKP	**PKPdf**		**02 07 41.4**	**+2.2**
SORM	**Soroca**	**154.32**	**317**	PKP	**PKPdf**		**02 07 42.2**	**+2.2**
LANS	**Liptovska Anna**	**158.37**	**328**	*e*PKP	**PKPab**		**02 08 20.1**	**+0.3**
CLL	**Collm**	**159.03**	**340**	*i* PKPab	**PKPab**		**02 08 21.6**	**-0.8**
	comp=Z,15nm,1.4s							
BRG	**Berggiesshubel**	**159.13**	**338**	*e*P	**PKPab**		**02 08 23.0**	**+0.1**
BRG				Amp			02 08 24.2
	comp=Z,4.6nm,0.9s							
VYHS	**Vyhne**	**159.14**	**327**	*e*PKP	**PKPab**		**02 08 23.3**	**+0.2**
SRO	**Srobarova**	**159.87**	**327**	*e*PKP	**PKPab**		**02 08 26.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**161.27**	**179**	PKPab	**PKPab**		**02 08 31.9**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=189,slow=1.7,SNR=2.2							

*NEIC **06** 01:48:09.4±2.2, 10°.99N±0°.02×74°.78W±0°.06, h47km±6km, mb4.5/19, Error ellipse: s-maj=9.4km s-min=1.7km az=74.0*
*UPA **06** 01:48:10.7±1.8, 11°.04N×75°.00W, h31km±80km, MW5.2*
*IDC **06** 01:48:15.0±1.8, 10°.83N×74°.53W, h92km±18km, mb3.6/9, mbtmp3.9/14, Error ellipse: s-maj=19.9km s-min=12.1km az=39.0*

ISC 06 01:48:08.3±0.5, 10°.99N±0°.05×74°.81W±0°.04, h35km, n70, σ2§01/81, mb4.3/17, 1C, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**3.99**	**233**	*e*P	**Pn**		**01 49 07.9**	**+0.9**
UPD2				*e*S	**Sn**		**01 49 51.3**	**-1.2**
CHPO	**Chepo, Panama**	**4.61**	**247**	*e*P	**Pn**		**01 49 15.2**	**-0.3**
CHPO				*e*S	**Sn**		**01 50 03.8**	**-4.1**
SDV	**Santo Domingo**	**4.62**	**117**		**Pn**		**01 49 16.2**	**+0.5**
SDV				Sn	**Sn**		**01 50 08.3**	**0.0**
SDV	**Santo Domingo**	**4.62**	**117**	P	**Pn**		**01 49 16.5**	**+0.7**
	133nm,0.6s,baz=307,slow=4.5,SNR=210							
SDV				S	**Sn**		**01 50 08.9**	**+0.7**
	176nm,0.4s,baz=208,slow=19,SNR=7.8							
UPA	**Univ. de Panam**	**5.07**	**247**	*e*P	**Pn**		**01 49 22.4**	**+0.6**
UPA				*e*S	**Sn**		**01 50 16.4**	**-2.7**
BCIP	**Isla Barro Col**	**5.28**	**250**	Pn	**Pn**		**01 49 24.8**	**+0.2**
BCIP	**Isla Barro

comp=Z,5.4nm,0.8s
FXWY Fox Creek 45.14 323 P **P** **01 56 20.9 -0.8**
FXWY IAmb IAmb 01 56 34.2
comp=Z,4.1nm,0.8s
BO01 Tunca 45.27 176 P **P** **01 56 21.4 -1.2**
YHL Hebgen Lake 45.93 324 P **P** **01 56 28.1 +0.1**
YHL IAmb IAmb 01 56 43.3
comp=Z,10nm,1.5s
NVAR Mina Array Bea 47.41 313 P **P** **01 56 43.8 +4.1**
comp=Z,0.2nm,0.4s,baz=125,slow=6.6,SNR=3.9
comp=Z,0.2nm,0.4s
PLCA Paso Flores 51.62 176 P **P** **01 57 09.5 -1.9**
PLCA IAmb IAmb 01 57 12.7
comp=Z,5.3nm,1.1s
PLCA Paso Flores 51.62 176 P **P** **01 57 11.1 -0.3**
comp=Z,2.7nm,0.9s,baz=42,slow=10,SNR=4.5
comp=Z,2.7nm,0.9s
YKA Yellowknife Ar 58.80 340 P **P** **01 58 04.3 +1.5**
comp=Z,0.7nm,0.8s,baz=133,slow=7.1,SNR=11
comp=Z,0.7nm,0.8s
MG03 Isla Dawson 64.69 177 P **P** **01 58 42.4 -0.1**
A36M Sachs Harbour 68.00 345 P **P** **01 59 04.4 +0.9**
A36M IAmb IAmb 01 59 14.5
comp=Z,4.4nm,0.9s
ESDC Sonseca Array 68.34 52 P **P** **01 59 06.7 +0.3**
ESBB Sonseca Array 68.34 52 P **P** **01 59 03.9 -2.5**
H29M Whitestone 69.48 337 P **P** **01 59 13.9 +1.0**
H29M IAmb IAmb 01 59 37.0
comp=Z,6.2nm,1.4s
TORD Torodi Ar. Bea 74.57 79 P **P** **01 59 43.7 -0.6**
TORD Torodi Ar. Bea 74.57 79 P **P** **01 59 44.7 +0.3**
comp=Z,1.5nm,0.3s,baz=292,slow=5.9,SNR=1.3
comp=Z,1.5nm,0.3s
ASAR Alice Springs 149.91 241 PKPbc **PKPbc** **02 07 55.8 +0.1**
comp=Z,2.0nm,0.7s,baz=114,slow=3.2,SNR=16
CMAR Chiang Mai Arr 150.09 12 PKPbc **PKPbc** **02 07 55.5 -0.8**
comp=Z,1.0nm,0.3s,baz=0.2,slow=3.0,SNR=2.0
WRA Warramunga Arr 150.57 249 PKPbc **PKiKP** **02 07 58.2 +0.1**
comp=Z,1.0nm,0.7s,baz=99,slow=2.8,SNR=8.9

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*IDC **06** 01:49:19.4±15.0, 21°.09N×144°.67E, h263km±124km, mb3.5/10, mbtmp4.1/10, Error ellipse: s-maj=94.3km s-min=30.9km az=2.0*
ISC 06 01:49:20.3±2.6, 21°.6N±0°.6×144°.8E±0°.3, h250km, n11, σ0°60/12, mb3.8/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.53**	**321**	P		**P**	**P**	**01 53 50.6**	**+0.8**
	1.9nm,0.6s,baz=151,slow=8.2,SNR=9.5								
	1.9nm,0.6s								
SONM	**Songino Array**	**40.39**	**320**	P		**P**	**P**	**01 56 34.5**	**+0.2**
	0.4nm,0.3s,baz=119,slow=8.7,SNR=3.2								
	0.4nm,0.3s								
ZALV	**Zalesovo Beam**	**55.23**	**321**	P		**P**	**P**	**01 58 27.4**	**-0.1**
	1.6nm,0.5s,baz=110,slow=8.2,SNR=8.9								
	1.6nm,0.5s								
MKAR	**Makanchi Array**	**55.87**	**313**	P		**P**	**P**	**01 58 31.9**	**-0.3**
	0.7nm,0.5s,baz=90,slow=6.8,SNR=13								
MKAR				PcP			**pP**	**01 59 26.2**	**+0.2**
	0.2nm,0.5s,baz=76,slow=5.0,SNR=4.2								
	0.7nm,0.5s								
KURBB	**Kurchatov Arra**	**58.63**	**317**	P		**P**	**P**	**01 58 50.9**	**-0.4**
	2.3nm,0.9s,baz=93,slow=7.7,SNR=22								
	2.3nm,0.9s								
BVAR	**Borovoye Array**	**63.73**	**320**	P		**P**	**P**	**01 59 25.3**	**-0.2**
	1.2nm,0.3s,baz=97,slow=7.9,SNR=17								
	1.2nm,0.3s								
YKA	**Yellowknife Ar**	**75.89**	**28**	P		**P**	**P**	**02 00 39.5**	**+0.3**
	0.6nm,0.6s,baz=290,slow=5.7,SNR=8.0								
	0.6nm,0.6s								
NVAR	**Mina Array Bea**	**82.08**	**52**	P		**P**	**P**	**02 01 13.1**	**-0.3**
	0.6nm,0.4s,baz=292,slow=4.7,SNR=2.7								
	0.6nm,0.4s								
FINES	**FINESS Array B**	**83.94**	**335**	P		**P**	**P**	**02 01 21.3**	**-0.8**
	2.2nm,0.3s,baz=68,slow=4.5,SNR=21								
	2.2nm,0.3s								
HFS	**Hagfors**	**89.42**	**338**	P		**P**	**P**	**02 01 47.8**	**-0.8**
	2.1nm,0.9s,baz=71,slow=4.9,SNR=1.6								
	2.1nm,0.9s								
LPAZ	**La Paz**	**148.49**	**86**	PKPbc		**PKPdf**	**PKPdf**	**02 08 36.1**	**+0.9**
	0.8nm,0.5s,baz=304,slow=3.6,SNR=3.0								

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*IDC **06** 01:54:43.9±0.7, 38°.47N×22°.12E, h0km, mb4.0/18, mbtmp3.8/31, MLJ3.7/9, MS3.4/1, Error ellipse: s-maj=12.8km s-min=12.2km az=154.0*
*ATH **06** 01:54:44.9, 38°.37N×22°.03E, h6km±1km, ML3.9/42, Manual Solution by M.Papanikolaou First location: 2019/03/06 01:55:32, This location: 2021/03/28 20:32:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*NAO **06** 01:54:44.1, 38°.36N×21°.99E, h10km, mb4.2*
*PDG **06** 01:54:45.4±0.6, 38°.38N×22°.00E, h4km±1km, ML3.8/12, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*THE **06** 01:54:45.2, 38°.36N×21°.99E, h9km, ML3.9/20, Error ellipse: s-maj=0.7km s-min=0.5km az=198.0*
*NEIC **06** 01:54:45.7±2.7, 38°.35N±0°.05×22°.01E±0°.06, h10km±1km, mb4.3/29, Error ellipse: s-maj=9.0km s-min=6.2km az=37.0*
*UPSL **06** 01:54:45.1, 38°.36N×21°.99E, h6km, Mw3.9, Moment Tensor Solution. s7 Moment tensor: M_{rr}-6.11; $M_{\theta\theta}$7.23; $M_{\phi\phi}$-1.12; $M_{r\theta}$-5.45; $M_{\theta\phi}$-2.79; $M_{\phi r}$-0.90; Fault plane solution: NP1:ϕ_s309.00000°, δ31.00000°, λ-54.00000°. NP2:ϕ_s89.00000°, δ65.00000°, λ-109.00000°.*
*BEO **06** 01:54:51.6±0.7, 38°.84N×22°.32E, h0km, ML3.5/6*
ISC 06 01:54:45.3±0.6, 38°.37N±0°.02×22°.01E±0°.01, h13km±3km, n299, σ1°40/359, mb4.2/30, 26C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.10**	**303**	P		**Pg**	**Pg**	**01 54 47.3**	**-1.0**
EFP				S		**Sg**	**Sg**	**01 54 49.2**	**-1.2**
	97μm,0.3s								
EFP	**Efpalio**	**0.10**	**303**	P		**Pg**	**Pg**	**01 54 47.1**	**-1.2**
EFP				S		**Sg**	**Sg**	**01 54 49.0**	**-1.5**
KALE	**Kalithea**	**0.10**	**79**	P		**Pg**	**Pg**	**01 54 47.8**	**-0.6**
KALE				S		**Sg**	**Sg**	**01 54 50.1**	**-0.5**
	203μm,0.3s								
KALE	**Kalithea**	**0.10**	**79**	P		**Pg**	**Pg**	**01 54 47.9**	**-0.5**
KALE				S		**Sg**	**Sg**	**01 54 49.7**	**-0.9**
ALIK	**Aliki, Aigiali**	**0.14**	**145**	P		**Pg**	**Pg**	**01 54 48.8**	**+0.1**
ALIK				S		**Sg**	**Sg**	**01 54 51.6**	**+0.5**
UPR	**University Cam**	**0.20**	**244**	P		**Pg**	**Pg**	**01 54 49.0**	**-0.7**
UPR				S		**Sg**	**Sg**	**01 54 51.9**	**-0.9**
PATC	**Patra C**	**0.22**	**243**	P		**Pg**	**Pg**	**01 54 49.8**	**-0.3**
PATC				S		**Sg**	**Sg**	**01 54 53.2**	**-0.2**
ANX	**Ano Chora**	**0.23**	**342**	P		**Pg**	**Pg**	**01 54 49.7**	**-0.7**
ANX				S		**Sg**	**Sg**	**01 54 53.4**	**-0.4**
	176μm,0.4s								
ANX	**Ano Chora**	**0.23**	**342**	P		**Pg**	**Pg**	**01 54 49.7**	**-0.7**
ANX				S		**Sg**	**Sg**	**01 54 53.4**	**-0.4**
PATG	**Patra B**	**0.26**	**239**	P		**Pg**	**Pg**	**01 54 50.7**	**-0.1**
PATG				S		**Sg**	**Sg**	**01 54 54.4**	**-0.1**
KLV	**Kalavryta, Ach**	**0.35**	**162**	P		**Pg**	**Pg**	**01 54 51.7**	**-0.6**
KLV				S		**Sg**	**Sg**	**01 54 56.5**	**-0.6**
	9μm,0.4s								
KLV	**Kalavryta, Ach**	**0.35**	**162**	P		**Pg**	**Pg**	**01 54 51.7**	**-0.6**
KLV				S		**Sg**	**Sg**	**01 54 56.2**	**-0.8**
DLFA	**Delphi**	**0.39**	**74**	P		**Pg**	**Pg**	**01 54 52.6**	**-0.6**
DLFA				S		**Sg**	**Sg**	**01 54 58.9**	**+0.3**
PVO	**Paravola**	**0.45**	**303**	P		**Pg**	**Pg**	**01 54 53.6**	**-0.7**
PVO				S		**Sg**	**Sg**	**01 55 00.7**	**+0.3**
DRO	**Drossia**	**0.48**	**210**	P		**Pg**	**Pg**	**01 54 54.3**	**-0.5**
DRO	**Drossia**	**0.48**	**210**	P		**Pg**	**Pg**	**01 54 54.3**	**-0.5**
GUR	**Goura**	**0.51**	**149**	P		**Pg**	**Pg**	**01 54 54.5**	**-0.8**
GUR				S		**Sg**	**Sg**	**01 55 01.7**	**-0.4**
	18μm,0.5s								
GUR	**Goura**	**0.51**	**149**	P		**Pg**	**Pg**	**01 54 54.6**	**-0.7**
GUR				S		**Sg**	**Sg**	**01 55 02.3**	**+0.2**
AXS	**Araxos**	**0.53**	**251**	P		**Pg**	**Pg**	**01 54 55.1**	**-0.6**
AXS				S		**Sg**	**Sg**	**01 55 02.5**	**-0.3**
RLS	**Riolos of Patr**	**0.53**	**234**	P		**Pg**	**Pg**	**01 54 55.2**	**-0.6**
RLS				S		**Sg**	**Sg**	**01 55 02.7**	**-0.1**
	8μm,0.5s								
RLS	**Riolos of Patr**	**0.53**	**234**	P		**Pg**	**Pg**	**01 54 55.5**	**-0.3**
RLS				S		**Sg**	**Sg**	**01 55 02.9**	**0.0**
EVR	**Evrytania**	**0.57**	**344**	P		**Pg**	**Pg**	**01 54 56.5**	**+0.1**
EVR				S		**Sb**	**Sb**	**01 55 05.2**	**0.0**
	27μm,0.5s								
EVR	**Evrytania**	**0.57**	**344**	P		**Pg**	**Pg**	**01 54 56.7**	**+0.2**
EVR				S		**Sg**	**Sg**	**01 55 04.2**	**+0.2**
AXAR	**Agios Charalam**	**0.64**	**52**	P		**Pg**	**Pg**	**01 54 56.7**	**-1.1**
AXAR				S		**Sb**	**Sb**	**01 55 07.8**	**+0.6**
	60μm,0.4s								
AXAR	**Agios Charalam**	**0.64**	**52**	P		**Pg**	**Pg**	**01 54 57.1**	**-0.7**
AXAR				S		**Sg**	**Sg**	**01 55 06.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.65**	**8**	P		**Pg**	**Pg**	**01 54 57.0**	**-0.9**
MAKR				S		**Sb**	**Sb**	**01 55 08.2**	**+0.8**
	28μm,0.4s								
MAKR	**Makrakomi, Fth**	**0.65**	**8**	P		**Pg**	**Pg**	**01 54 57.5**	**-0.5**
MAKR				S		**Sg**	**Sg**	**01 55 07.0**	**+0.5**
LCHA	**Lechaina**	**0.73**	**234**	P		**Pg**	**Pg**	**01 54 59.2**	**-0.3**
LKR	**Lokris**	**0.82**	**70**	P		**Pg**	**Pg**	**01 55 00.6**	**-0.6**
CLEM	**Kyllini,Ilia,G**	**0.84**	**236**	P		**Pg**	**Pg**	**01 55 01.3**	**-0.3**
AMT	**Artemida-Makis**	**0.87**	**196**	P		**Pg**	**Pg**	**01 55 01.6**	**-0.6**
ZARO	**Zacharo**	**0.93**	**198**	P		**Pg**	**Pg**	**01 55 02.8**	**-0.5**
AIDA	**Aidipsos**	**0.94**	**59**	P		**Pg**	**Pg**	**01 55 02.6**	**-1.0**
SOFA	**Sofades**	**0.97**	**4**	P		**Pg**	**Pg**	**01 55 03.8**	**-0.2**
VIL2	**Platees**	**1.00**	**99**	P		**Pb**	**Pb**	**01 55 04.8**	**+0.3**
RTZL	**Ratzakli, Kefa**	**1.02**	**254**	P		**Pg**	**Pg**	**01 55 04.0**	**-1.0**
RTZL				S		**Sb**	**Sb**	**01 55 18.6**	**+0.5**
VILL	**Villia**	**1.04**	**101**	P		**Pb**	**Pb**	**01 55 05.5**	**+0.3**
VILL				S		**Sb**	**Sb**	**01 55 20.3**	**+1.5**
	8μm,0.7s								
SMHA	**Samh**	**1.08**	**264**	P		**Pg**	**Pg**	**01 55 04.0**	**-2.1**
NYDR	**Nydri-Lefkada**	**1.09**	**289**	P		**Pg**	**Pg**	**01 55 04.7**	**-1.5**
KYPS	**Kipseli, Zakin**	**1.09**	**240**	P		**Pg**	**Pg**	**01 55 05.5**	**-0.8**
EVGI	**Lefkada island**	**1.09**	**284**	P		**Pg**	**Pg**	**01 55 04.7**	**-1.6**
EVGI	**Lefkada island**	**1.09**	**284**	P		**Pg**	**Pg**	**01 55 04.8**	**-1.6**
ARTB	**Arta**	**1.13**	**314**	P		**Pg**	**Pg**	**01 55 05.0**	**-2.0**
TETR	**Tetrakomo, Epi**	**1.13**	**330**	P		**Pg**	**Pg**	**01 55 04.9**	**-2.1**
VLS	**Valsamata**	**1.14**	**261**	P		**Pg**	**Pg**	**01 55 05.2**	**-2.0**
VLS				S		**Sb**	**Sb**	**01 55 22.9**	**+1.4**
	4μm,0.3s								
VLS	**Valsamata**	**1.14**	**261**	P		**Pg**	**Pg**	**01 55 05.1**	**-2.0**
LTHK	**Lithakia**	**1.14**	**235**	P		**Pg**	**Pg**	**01 55 05.8**	**-1.5**
FSK	**Fiskardo**	**1.14**	**275**	P		**Pg**	**Pg**	**01 55 05.4**	**-1.9**
FSK				S		**Sb**	**Sb**	**01 55 22.7**	**+1.1**
	3μm,0.4s								
FSK	**Fiskardo**	**1.14**	**275**	P		**Pg**	**Pg**	**01 55 05.6**	**-1.7**
PSDA	**Pessada-Kefalo**	**1.15**	**258**	P		**Pg**	**Pg**	**01 55 05.6**	**-1.9**
PSDA				S		**Sb**	**Sb**	**01 55 22.6**	**+0.6**
	8μm,0.2s								
PSDA	**Pessada-Kefalo**	**1.15**	**258**	P		**Pg**	**Pg**	**01 55 05.7**	**-1.9**
TSLK	**Tsoukalades, L**	**1.16**	**293**	P		**Pg**	**Pg**	**01 55 06.6**	**-1.0**
TSLK	**Tsoukalades, L**	**1.16**	**293**	P		**Pg**	**Pg**	**01 55 06.5**	**-1.1**
ORTH	**Orthonies,Zaky**	**1.16**	**244**	P		**Pg**	**Pg**	**01 55 06.1**	**-1.6**
DRAG	**Dragano-Lefkad**	**1.17**	**286**	P		**Pg**	**Pg**	**01 55 06.4**	**-1.4**
THL	**Klokotos Trika**	**1.19**	**0**	P		**Pg**	**Pg**	**01 55 06.5**	**-1.7**
THL				S		**Sb**	**Sb**	**01 55 24.3**	**+1.3**
	5μm,0.5s								
THL	**Klokotos Trika**	**1.19**	**0**	P		**Pg**	**Pg**	**01 55 06.7**	**-1.5**
ITM	**Ithomi**	**1.19**	**183**	P		**Pg**	**Pg**	**01 55 06.6**	**-1.7**
ITM	**Ithomi**	**1.19**	**183**	Pn		**Pg**	**Pg**	**01 55 07.1**	**-1.2**
ITM				Sn		**Sn**	**Sn**	**01 55 24.8**	**+1.1**
ITM	**Ithomi**	**1.19**	**183**	P		**Pg**	**Pg**	**01 55 06.5**	**-1.8**
ELFA	**Athens-Elefsin**	**1.25**	**105**	P		**Pg**	**Pg**	**01 55 08.5**	**-0.8**
DMLN	**Damoulianata-K**	**1.30**	**265**	P		**Pn**	**Pn**	**01 55 08.0**	**-1.2**
MET5	**Makryloggos,Me**	**1.30**	**125**	P		**Pn**	**Pn**	**01 55 09.8**	**+0.6**
GINA	**Giannouli**	**1.33**	**13**	P		**Pn**	**Pn**	**01 55 10.1**	**+0.5**
NEO	**Neokhori**	**1.33**	**45**	P		**Pn**	**Pn**	**01 55 08.7**	**-0.9**
NEO	**Neokhori**	**1.33**	**45**	P		**Pn**	**Pn**	**01 55 08.5**	**-1.0**
LRSO	**Larissa Observ**	**1.33**	**13**	P		**Pn**	**Pn**	**01 55 09.8**	**+0.2**
LRSO				S		**Sn**	**Sn**	**01 55 28.9**	**+1.8**
	6μm,0.6s								
LRSO	**Larissa Observ**	**1.33**	**13**	P		**Pn**	**Pn**	**01 55 10.1**	**+0.6**
KRND	**KRANIDI**	**1.34**	**137**	P		**Pn**	**Pn**	**01 55 09.9**	**+0.3**
KRND				S		**Sb**	**Sb**	**01 55 26.9**	**-0.3**
	4μm,0.6s								
KRND	**KRANIDI**	**1.34**	**137**	P		**Pn**	**Pn**	**01 55 09.6**	**0.0**
TYRN	**Tyrnavos**	**1.35**	**7**	P		**Pn**	**Pn**	**01 55 10.4**	**+0.6**
TYRN				S		**Sn**	**Sn**	**01 55 29.2**	**+1.6**
	4μm,0.6s								
TYRN	**Tyrnavos**	**1.35**	**7**	P		**Pn**	**Pn**	**01 55 09.1**	**-0.7**
XOR	**Xorichti**	**1.35**	**42**	P		**Pn**	**Pn**	**01 55 09.4**	**-0.5**
XOR	**Xorichti**	**1.35**	**42**	P		**Pn**	**Pn**	**01 55 09.2**	**-0.7**
ACHAR	**Athens-Acharne**	**1.39**	**102**	P		**Pn**	**Pn**	**01 55 10.9**	**+0.5**
ATH	**Athens Observa**	**1.40**	**106**	P		**Pn**	**Pn**	**01 55 10.8**	**+0.3**
ATH	**Athens Observa**	**1.40**	**106**	P		**Pn**	**Pn**	**01 55 10.9**	**+0.4**
NOAC	**Athens-Thissio**	**1.40**	**106**	P		**Pn**	**Pn**	**01 55 11.0**	**+0.5**
ATHP	**Athens-Neo Psi**	**1.44**	**104**	P		**Pn**	**Pn**	**01 55 11.4**	**+0.4**
ATHU	**Athens Univers**	**1.45**	**106**	P		**Pn**	**Pn**	**01 55 11.5**	**+0.2**
PTL	**Penteli**	**1.49**	**102**	P		**Pn**	**Pn**	**01 55 12.4**	**+0.6**
PTL				S		**Sn**	**Sn**	**01 55 32.2**	**+1.0**
	2μm,0.5s								
PTL	**Penteli**	**1.49**	**102**	P		**Pn**	**Pn**	**01 55 12.2**	**+0.4**
VLY	**Voula,Athens**	**1.50**	**110**	P		**Pn**	**Pn**	**01 55 12.2**	**+0.4**
YDRA	**Hydra**	**1.54**	**131**	P		**Pn**	**Pn**	**01 55 13.3**	**+0.9**
MSVA	**Metsovo**	**1.54**	**335**	P		**Pn**	**Pn**	**01 55 13.7**	**+1.1**
DION	**Dionisos Attik**	**1.54**	**100**	P		**Pn**	**Pn**	**01 55 12.8**	**+0.3**
DION				S		**Sn**	**Sn**	**01 55 32.6**	**+0.2**
	2μm,0.6s								
DION	**Dionisos Attik**	**1.54**	**100**	P		**Pn**	**Pn**	**01 55 13.0**	**+0.5**
JAN	**Janina**	**1.57**	**325**	P		**Pb**	**Pn**	**01 55 15.0**	**+0.7**
KYMI	**Kymi, Euboea I**	**1.66**	**80**	P		**Pn**	**Pn**	**01 55 14.4**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.66**	**80**	P		**Pn**	**Pn**	**01 55 14.2**	**+0.1**
KPRO	**Kipourio**	**1.66**	**342**	P		**Pn**	**Pn**	**01 55 15.1**	**+0.9**
AOS	**Alonnisos**	**1.66**	**61**	P		**Pn**	**Pn**	**01 55 13.8**	**-0.5**
IGT	**Igoumenitsa**	**1.75**	**312**	P		**Pb**	**Pn**	**01 55 17.7**	**+0.5**
VLI	**Veliai**	**1.81**	**156**	P		**Pn**	**Pn**	**01 55 16.6**	**+0.5**
VLI	**Veliai**	**1.81**	**156**	P		**Pn**	**Pn**	**01 55 16.5**	**+0.5**
KARY	**Karystos**	**1.94**	**99**	P		**Pn**	**Pn**	**01 55 18.6**	**+0.7**
KARY				S		**Sn**	**Sn**	**01 55 42.5**	**+0.3**
	675nm,0.7s								
KARY	**Karystos**	**1.94**	**99**	P		**Pn**	**Pn**	**01 55 18.6**	**+0.7**
NEST	**Nestorio**	**2.17**	**340**	P		**Pn**	**Pn**	**01 55 22.8**	**+1.5**
KEK	**Kerkira**	**2.18**	**309**	Pn		**Pn**	**Pn**	**01 55 23.6**	**+2.3**
PLG	**Polygyros**	**2.29**	**29**	P		**Pn**	**Pn**	**01 55 22.3**	**-0.5**
THE	**Thessaloniki**	**2.37**	**18**	P		**Pn**	**Pn**	**01 55 24.0**	**+0.1**
HORT	**Hortiatis**	**2.38**	**20**	P		**Pn**	**Pn**	**01 55 24.0**	**0.0**
KBN	**Korca**	**2.44**	**338**	Pn		**Pb**	**Pn**	**01 55 28.2**	**-0.9**
FNA	**Florina**	**2.46**	**349**	Pn		**Pn**	**Pn**	**01 55 26.2**	**+1.0**
FNA	**Florina**	**2.46**	**349**	*e*Pn		**Pn**	**Pn**	**01 55 26.3**	**+1.2**
FNA				*e*Sg		**Sn**	**Sn**	**01 55 57.5**	**+2.4**
FNA	**Florina**	**2.46**	**349**	P		**Pn**	**Pn**	**01 55 26.3**	**+1.2**
SOH	**Sokhos**	**2.66**	**23**	P		**Pn**	**Pn**	**01 55 28.5**	**+0.6**
OHR	**Ohrid**	**2.89**	**341**	*i* Pn		**Pb**	**Pn**	**01 55 35.7**	**-1.1**
VAY	**Valandovo**	**2.98**	**8**	*i* Pn		**Pn**	**Pn**	**01 55 33.1**	**+0.9**
SRS	**Serrai**	**3.00**	**23**	*e*Pn		**Pn**	**Pn**	**01 55 32.9**	**+0.4**
SRS				*e*Sg		**Sn**	**Sn**	**01 56 09.7**	**+1.4**
SRS	**Serrai**	**3.00**	**23**	P		**Pn**	**Pn**	**01 55 32.8**	**+0.2**
APE	**Apeiranthos**	**3.08**	**114**	⇑P		**Pn**	**Pn**	**01 55 37.0**	**+3.4**
APE	**Apeiranthos**	**3.08**	**114**	P		**Pn**	**Pn**	**01 55 34.3**	**+0.6**
SCTE	**Santa Cesarea**	**3.23**	**303**	Pn		**Pn**	**Pn**	**01 55 36.5**	**+0.8**
TIR	**Tirane**	**3.40**	**332**	Pn		**Pn**	**Pn**	**01 55 39.9**	**+1.8**
PEHC	**Pehcevo**	**3.47**	**11**	*i* Pn		**Pn**	**Pn**	**01 55 41.3**	**+2.3**
IDI	**Anoyia**	**3.85**	**142**	Pn		**Pn**	**Pn**	**01 55 44.6**	**+0.4**
IDI	**Anoyia**	**3.85**	**142**	Pn		**Pn**	**Pn**	**01 55 44.3**	**+0.1**
	15nm,0.5s,baz=282,slow=11,SNR=26								
IDI				Sn		**Sn**	**Sn**	**01 56 28.3**	**-1.0**
	4.4nm,0.3s,baz=315,slow=18,SNR=3.3								
RDO	**Rodhopi**	**3.88**	**43**	Pn		**Pn**	**Pn**	**01 55 44.1**	**-0.5**
ALN	**Alexandroupoli**	**4.01**	**50**	Pn		**Pn**	**Pn**	**01 55 46.3**	**0.0**
PUK	**Puka**	**4.01**	**337**	Pn		**Pn**	**Pn**	**01 55 48.6**	**+2.1**
ULC	**Ulcinj**	**4.17**	**330**	⇑*i*Pn		**Pn**	**Pn**	**01 55 50.0**	**+1.4**
ULC				*i* Sn		**Sn**	**Sn**	**01 56 37.1**	**-0.1**
TIP	**Timpagrande**	**4.18**	**283**	Pn		**Pn**	**Pn**	**01 55 49.7**	**+0.8**
TIP	**Timpagrande**	**4.18**	**283**	⇑P		**Pn**	**Pn**	**01 55 50.0**	**+1.1**
DRME	**Dracevica, Mon**	**4.38**	**331**	*e*Pn		**Pn**	**Pn**	**01 55 53.2**	**+1.7**
DRME	**Dracevica, Mon**	**4.38**	**331**	⇑*i*Pn		**Pn**	**Pn**	**01 55 52.8**	**+1.3**
DRME				*i* Sn		**Sn**	**Sn**	**01 56 42.1**	**-0.3**
BARS	**Barje**	**4.44**	**358**	*e*Pn		**Pn**	**Pn**	**01 55 54.4**	**+2.1**
PVY	**Plav**	**4.50**	**340**	⇓*i*Pn		**Pn**	**Pn**	**01 55 55.4**	**+2.2**
PVY				*i* Sn		**Sn**	**Sn**	**01 56 47.0**	**+1.5**
PDG	**Podgorica**	**4.57**	**333**	Pn		**Pn**	**Pn**	**01 55 55.0**	**+1.0**
PDG	**Podgorica**	**4.57**	**333**	*e*Pn		**Pn**	**Pn**	**01 55 55.7**	**+1.7**
PDG	**Podgorica**	**4.57**	**333**	⇑P		**Pn**	**Pn**	**01 55 55.8**	**+1.7**
PDG	**Podgorica**	**4.57**	**333**	⇑*i*Pn		**Pn**	**Pn**	**01 55 55.2**	**+1.2**
PDG				*i* Sn		**Sn**	**Sn**	**01 56 47.1**	**+0.2**
BUM	**Brajici-Budva**	**4.59**	**330**	⇑*i*Pn		**Pn**	**Pn**	**01 55 55.4**	**+1.0**
BUM				*i* Sn		**Sn**	**Sn**	**01 56 47.5**	**-0.2**
IVA	**Berane**	**4.78**	**341**	⇓*i*Pn		**Pn**	**Pn**	**01 55 58.2**	**+1.2**
IVA				*i* Sn		**Sn**	**Sn**	**01 56 51.8**	**-0.4**
CEME	**Cevo**	**4.79**	**331**	⇓*i*Pn		**Pn**	**Pn**	**01 55 58.3**	**+1.1**
CEME				*i* Sn		**Sn**	**Sn**	**01 56 52.1**	**-0.5**
CEL	**Celeste**	**4.81**	**271**	Pn		**Pn**	**Pn**	**01 55 58.6**	**+1.1**
KOME	**Kolasin**	**4.86**	**338**	⇑*i*Pn		**Pn**	**Pn**	**01 55 59.4**	**+1.2**
KOME				*i* Sn		**Sn**	**Sn**	**01 56 53.6**	**-0.7**
HCY	**Herceg Novi**	**4.88**	**328**	*e*Pn		**Pn**	**Pn**	**01 55 58.6**	**+0.3**
HCY	**Herceg Novi**	**4.88**	**328**	⇓*i*Pn		**Pn**	**Pn**	**01 55 58.6**	**+0.3**
HCY				*i* Sn		**Sn**	**Sn**	**01 56 54.4**	**-0.2**
SELS	**Selova**	**4.89**	**352**	*e*Pn		**Pn**	**Pn**	**01 56 00.2**	**+1.7**
ZAPS	**Zavoj**	**4.92**	**5**	*e*Pn		**Pn**	**Pn**	**01 56 00.8**	**+1.9**
NKME	**Niksic**	**4.97**	**333**	⇑*i*Pn		**Pn**	**Pn**	**01 56 00.9**	**+1.3**
NKME				*i* Sn		**Sn**	**Sn**	**01 56 56.4**	**-0.6**
KARP	**Karpathos**	**4.99**	**123**	Pn		**Pn**	**Pn**	**01 56 02.1**	**+2.1**
CUC	**Castrocucco**	**5.08**	**291**	Pn		**Pn**	**Pn**	**01 56 02.5**	**+1.3**
SJES	**Sjenica**	**5.12**	**343**	*e*Pn		**Pn**	**Pn**	**01 56 04.5**	**+2.7**
SJES	**Sjenica**	**5.12**	**343**	*e*Pn		**Pn**	**Pn**	**01 56 04.9**	**+3.1**
MANT	**Manisa**	**5.14**	**87**	Pn		**Pn**	**Pn**	**01 56 03.4**	**+1.2**
TREB	**Trebinje**	**5.16**	**328**	*e*Pn		**Pn**	**Pn**	**01 56 02.6**	**+0.4**
BRY	**Bratogost**	**5.24**	**331**	*e*Pn		**Pn**	**Pn**	**01 56 04.6**	**+1.1**
BRY	**Bratogost**	**5.24**	**331**	⇓*i*Pn		**Pn**	**Pn**	**01 56 04.5**	**+1.1**
BRY				*i* Sn		**Sn**	**Sn**	**01 57 02.6**	**-1.1**
GOCS	**Kraljevo Serbi**	**5.26**	**351**	*e*Pn		**Pn**	**Pn**	**01 56 06.3**	**+2.7**
BOVS	**Bovan**	**5.26**	**358**	⇑P		**Pn**	**Pn**	**01 56 04.4**	**+0.8**
BOVS	**Bovan**	**5.26**	**358**	*e*Pn		**Pn**	**Pn**	**01 56 04.8**	**+1.2**
ARG	**Arkhangelos**	**5.33**	**112**	Pn		**Pn**	**Pn**	**01 56 08.7**	**+4.2**
UPM	**Unac-Piva**	**5.37**	**335**	*e*Pn		**Pn**	**Pn**	**01 56 07

comp=Z,22nm,0.9s
GNI Garni 17.69 77 P Pn 01 58 50.9 -0.5
comp=Z,0.2nm,0.3s,baz=196,slow=16,SNR=1.5
comp=Z,0.9nm,0.5s
ESDC Sonseca Array 20.21 282 P Pn 01 59 21.8 0.0
ESDC Sonseca Array 20.21 282 P P 01 59 21.2 +1.3
comp=Z,2.2nm,0.8s,baz=75,slow=11,SNR=17
comp=Z,2.2nm,0.8s
PAB San Pablo 20.51 282 P P 01 59 23.9 +0.7
HFS Hagfors 22.41 349 P P 01 59 42.4 -0.9
comp=Z,3.0nm,0.5s,baz=156,slow=11,SNR=13
comp=Z,3.0nm,0.5s
KONO Kongsberg 22.72 344 P P 01 59 46.8 +0.1
FINES FINESS Array B 23.23 5 P P 01 59 50.6 -1.3
comp=Z,3.2nm,0.9s,baz=182,slow=13,SNR=7.0
FINES PcP **PcP 02 03 39.2 -0.1**
comp=Z,1.8nm,0.9s,baz=246,slow=1.4,SNR=3.5
comp=Z,3.2nm,0.9s
NC602 NORSAR Array S 23.33 347 P P 01 59 52.1 -0.8
NAO01 NORSAR Array S 23.55 346 P P 01 59 54.4 -0.8
NB2 NORSAR Subarra 23.68 347 P P 01 59 56.0 -0.4
comp=Z,3.7nm,0.8s,baz=158,slow=9.3
NOA NORSAR Array B 23.68 347 P P 01 59 55.8 -0.6
comp=Z,3.9nm,0.9s,baz=151,slow=9.7,SNR=17
comp=Z,3.9nm,0.9s
EKA Eskdalemuir Ar 23.96 323 P P 01 59 59.0 0.0
comp=Z,8.6nm,0.8s,baz=123,slow=9.9,SNR=17
comp=Z,8.6nm,0.8s
ESK Eskdalemuir 23.97 323 P P 01 59 58.8 -0.4
EKB Eskdalemuir 23.98 323 P P 01 59 58.7 -0.6
ARTI Arti 30.03 41 P P 02 00 52.5 -1.1
TORD Torodi Ar. Bea 30.93 221 P P 02 01 03.3 +1.3
comp=Z,2.2nm,0.5s,baz=24,slow=9.6,SNR=1.7
comp=Z,2.2nm,0.5s
ARCES ARCESS Array B 31.28 2 P P 02 01 04.0 -0.5
comp=Z,1.8nm,0.7s,baz=188,slow=8.6,SNR=1.7
comp=Z,1.8nm,0.7s
BVAR Borovoye Array 36.09 50 P P 02 01 46.5 0.0
comp=Z,0.5nm,0.6s,baz=289,slow=4.5,SNR=4.0
comp=Z,0.5nm,0.6s
KK31 Karatay Array 36.64 67 P P 02 01 51.1 -0.3
KKAR Karatay Array 36.64 67 P P 02 01 51.7 +0.3
DBIC Dimbokro 39.84 224 P P 02 02 20.8 +2.2
comp=Z,2.9nm,0.8s,baz=49,slow=7.0,SNR=1.9
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 39.98 358 P P 02 02 19.8 +0.7
comp=Z,9.7nm,1.0s,baz=149,slow=12,SNR=6.0
comp=Z,9.7nm,1.0s
KURBB Kurchatov Arra 41.17 54 P P 02 02 29.1 -0.1
comp=Z,1.2nm,0.8s,baz=281,slow=8.7,SNR=7.9
comp=Z,1.2nm,0.8s
TARG Taragay, Kyrgy 42.21 67 P P 02 02 38.8 +0.4
ZAA0 Zalesovo Array 44.69 48 P P 02 02 55.8 -1.8
ZAA0 IAmb IAmb 02 03 05.2
comp=Z,8.7nm,1.4s
ZALV Zalesovo Beam 44.69 48 P P 02 02 55.8 -1.8
ZALV Zalesovo Beam 44.69 48 P P 02 02 57.1 -0.5
comp=Z,1.8nm,0.4s,baz=278,slow=8.5,SNR=7.8
comp=Z,1.8nm,0.4s
SONM Songino Array 59.42 51 P P 02 04 45.8 -1.8
SONM Songino Array 59.42 51 P P 02 04 47.2 -0.4
comp=Z,0.8nm,0.6s,baz=281,slow=8.4,SNR=5.8
comp=Z,0.8nm,0.6s
RES Resolute Bay 59.91 344 P P 02 04 50.3 0.0
BOSA Boshof 66.71 177 P P 02 05 34.1 -1.9
BOSA IAmb IAmb 02 05 54.7
comp=Z,4.7nm,1.2s
C27K Jago River 71.80 355 P P 02 06 08.0 +0.9
C27K IAmb IAmb 02 06 43.8
comp=Z,3.0nm,1.2s
B20K Meade River 71.93 360 P P 02 06 08.2 +0.4
B20K IAmb IAmb 02 06 12.9
comp=Z,4.3nm,1.2s
E29M Blow River 72.50 352 P P 02 06 12.4 +1.2
E29M IAmb IAmb 02 06 16.9
comp=Z,2.7nm,0.8s
F31M Tsiigehtchic 72.91 350 P P 02 06 14.7 +1.1
F31M IAmb IAmb 02 06 44.9
comp=Z,7.7nm,1.4s
YKA Yellowknife Ar 73.60 341 P P 02 06 18.2 +0.4
comp=Z,0.3nm,0.7s,baz=34,slow=4.8,SNR=6.3
comp=Z,0.3nm,0.7s
E24K Your Creek 73.63 356 P P 02 06 17.7 -0.3
E24K IAmb IAmb 02 06 28.1
comp=Z,2.8nm,1.4s
G27K Doyon Strip 74.40 353 P P 02 06 23.4 +0.9
G27K IAmb IAmb 02 06 39.5
comp=Z,3.5nm,1.4s
E19K Redstone River 74.49 360 P P 02 06 23.5 +0.6
E19K IAmb IAmb 02 06 29.6
comp=Z,3.1nm,0.8s
I28M Miner Creek 75.56 352 P P 02 06 29.8 +0.6
I28M IAmb IAmb 02 06 41.6
comp=Z,3.6nm,1.4s
ULM Lac du Bonnet 76.23 324 P P 02 06 33.5 +0.3
comp=Z,1.3nm,0.5s,baz=117,slow=4.5,SNR=4.3
comp=Z,1.3nm,0.5s
ILAR Eielson Array 76.82 355 P P 02 06 37.7 +1.3
comp=Z,0.2nm,0.6s,baz=20,slow=5.4,SNR=2.1
comp=Z,0.2nm,0.6s
K29M Barlow Dome 76.83 351 P P 02 06 37.8 +1.2
K29M IAmb IAmb 02 06 45.9
comp=Z,2.7nm,1.4s
WRH Wood River Hil 77.20 356 P P 02 06 39.8 +1.3
WRH IAmb IAmb 02 06 42.6
comp=Z,5.2nm,1.3s
KSRS Korea Array 78.29 51 P P 02 06 44.2 -0.9
comp=Z,0.8nm,0.4s,baz=306,slow=4.1,SNR=2.4
comp=Z,0.8nm,0.4s
M29M Somme Creek 78.30 351 P P 02 06 47.0 +2.2
PPLA Purkeypile 78.97 357 P P 02 06 49.3 +0.8
STLK Strandline Lak 80.35 357 P P 02 06 56.7 +0.8
STLK IAmb IAmb 02 07 23.6
comp=Z,4.3nm,1.1s
PDAR Pinedale Array 88.04 327 P P 02 07 34.4 -1.2
comp=Z,0.4nm,0.8s,baz=23,slow=6.4,SNR=3.8
comp=Z,0.4nm,0.8s

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*SOME **06** 02:00:00.8, 42°.22N×84°.80E, h25km*
*NNC **06** 02:00:03.1±1.9, 42°.32N×84°.65E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.7km s-min=8.1km az=151.0*
ISC 06 02:00:03.0±2.6, 42°.2N±0°.1×84°.58E±0°.09, h10km, n24, σ2°75/33, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.88**	**285**	Pg	**Pb**	**02 01 08.7**	**-2.9**
SHLS	20nm,0.3s			Lg	Lg	02 01 57.4	
SHLS	**Shalkode**	**3.88**	**285**	*eP*	**Pb**	**02 01 08.6**	**-3.0**
SHLS	31nm,0.3s 5.6nm,0.1s			*eS*	**Sb**	**02 01 57.4**	**-1.3**
DJR	**Jarkent**	**4.08**	**302**	Pg	**Pb**	**02 01 17.3**	**+2.4**
DJR	14nm,0.3s 3.6nm,0.5s			Lg	Lg	02 02 12.2	
DJR	**Jarkent**	**4.08**	**302**	*eP*	**Pb**	**02 01 17.3**	**+2.4**
DJR	11nm,0.3s 1.6nm,0.2s			*eS*	**Sg**	**02 02 12.2**	**-1.6**
UZB	**Uzynbulak**	**4.20**	**284**	Pg	**Pb**	**02 01 19.3**	**+2.3**
UZB	8.9nm,1.1s 6.5nm,0.3s			Lg	Lg	02 02 15.6	
UZB	**Uzynbulak**	**4.20**	**284**	*eP*	**Pb**	**02 01 19.3**	**+2.3**
UZB	15nm,0.4s 3.9nm,0.2s			*eS*	**Sg**	**02 02 15.6**	**-2.1**
KNOS	**Konyrlen**	**4.47**	**300**	Pg	**Pb**	**02 01 24.5**	**+2.8**
KNOS	9.9nm,0.3s 6.0nm,0.4s			Lg	Lg	02 02 24.9	
KPKS	**Kokpek**	**4.50**	**288**	Pg	**Pb**	**02 01 24.6**	**+2.4**
KPKS	20nm,0.3s 3.7nm,0.3s			Lg	Lg	02 02 24.8	
KPKS	**Kokpek**	**4.50**	**288**	*eP*	**Pb**	**02 01 24.6**	**+2.4**
KPKS	21nm,0.6s 2.7nm,0.1s			*eS*	**Sg**	**02 02 24.8**	**-2.8**
ZHN	**Zhinishke**	**4.62**	**284**	Pg	**Pb**	**02 01 27.2**	**+3.0**
ZHN	21nm,0.2s 11nm,0.2s			Lg	Lg	02 02 29.1	
ZHN	**Zhinishke**	**4.62**	**284**	*eP*	**Pb**	**02 01 27.2**	**+3.0**
ZHN	19nm,0.2s 2.2nm,0.1s			*eS*	**Sg**	**02 02 29.1**	**-2.2**
BLB	**Baldybastay**	**4.83**	**295**	Pg	**Pb**	**02 01 31.2**	**+3.4**
BLB	18nm,0.3s 22nm,0.2s			Lg	Lg	02 02 36.2	
MK31	**Makanchi Array**	**4.84**	**341**	⇓Pn	**Pn**	**02 01 15.6**	**-0.3**
MK31	0.1nm,0.2s,baz=270,slow=26,SNR=13 7.8nm,0.6s,baz=153,slow=16,SNR=67			⇑Pg	**Pb**	**02 01 30.2**	**+2.4**
MK31	5.1nm,0.4s,baz=153,slow=31,SNR=6.8			Lg	Lg	02 02 34.2	
KURS	**Kuram**	**4.88**	**287**	Pg	**Pb**	**02 01 32.0**	**+3.5**
KURS	7.6nm,0.9s 8.3nm,0.6s			Lg	Lg	02 02 37.6	
MAKZ	**Makanchi**	**4.93**	**339**	⇑Pg	**Pb**	**02 01 32.1**	**+2.7**
MAKZ	12nm,0.9s 8.7nm,0.8s			⇓Lg	Lg	02 02 38.7	
ZSN	**Zaisan**	**5.21**	**2**	Pg	**Pb**	**02 01 36.2**	**+2.0**
ZSN	4.3nm,0.3s 10nm,0.6s			Lg	Lg	02 02 44.8	
ZSN	**Zaisan**	**5.21**	**2**	*eP*	**Pb**	**02 01 36.1**	**+2.0**
ZSN	3.6nm,0.2s 7.2nm,0.3s			*eS*	**Sg**	**02 02 44.8**	**-5.4**
TDK	**Taldyqorghan**	**5.26**	**304**	Pg	**Pg**	**02 01 42.4**	**-1.4**
TDK	35nm,0.4s 29nm,0.2s			Lg	Lg	02 02 55.6	
TDK	**Taldyqorghan**	**5.26**	**304**	*eP*	**Pg**	**02 01 42.4**	**-1.4**
TDK	28nm,0.2s 8.2nm,0.1s			*eS*	**Sg**	**02 02 55.6**	**+3.7**
ARXS	**Arharly**	**5.31**	**294**	Pg	**Pg**	**02 01 42.4**	**-2.3**
ARXS	2.5nm,0.3s 12nm,0.5s			Lg	Lg	02 02 55.6	
TNSS	**Tian-Shan**	**5.69**	**281**	Pg	**Pg**	**02 01 49.8**	**-2.1**
TNSS	2.5nm,0.4s 2.6nm,0.8s			Lg	Lg	02 03 08.2	
TNSS	**Tian-Shan**	**5.69**	**281**	*eP*	**Pg**	**02 01 49.8**	**-2.1**
TNSS	0.7nm,0.1s 3.2nm,0.2s			*eS*	**Sg**	**02 03 08.2**	**+2.7**
KTBS	**Karatobe**	**5.98**	**287**	Pg	**Pg**	**02 01 55.0**	**-2.5**
KTBS	1.8nm,0.4s 11nm,0.6s			Lg	Lg	02 03 16.8	
KURBB	**Kurchatov Arra**	**9.36**	**336**	⇑Pn	**Pn**	**02 02 20.8**	**+3.0**
KURBB	3.9nm,1.1s 10.0nm,0.7s			⇑Lg	Lg	02 05 00.2	

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*IDC **06** 02:00:00.4±2.0, 8°.44S×150°.22E, h0km, mb3.6/4, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=62.1km s-min=24.3km az=133.0*
ISC 06 02:00:05.4±1.7, 8°.6S±0°.3×150°.3E±0°.2, h35km, n6, σ0°94/7, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**255**	Pn	**Pn**	**02 00 53.7**	**+0.3**
PMG	12nm,0.3s,baz=63,slow=16,SNR=6.9 13nm,0.3s,baz=78,slow=22,SNR=8.5			Sn	**Sn**	**02 01 30.9**	**+0.4**
WRA	**Warramunga Arr**	**19.14**	**232**	P	**P**	**02 04 24.8**	**-1.1**
	12nm,0.3s 0.1nm,0.3s,baz=56,slow=12,SNR=6.4 0.2nm,0.3s						
ASAR	**Alice Springs**	**21.73**	**224**	P	**P**	**02 04 54.0**	**+0.2**
	0.5nm,0.4s,baz=53,slow=9.0,SNR=4.8 0.5nm,0.4s						
MKAR	**Makanchi Array**	**81.54**	**320**	P	**P**	**02 12 19.0**	**-0.5**
	0.5nm,0.6s,baz=112,slow=5.9,SNR=7.3 0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**82.91**	**327**	P	**P**	**02 12 25.5**	**-1.0**
	0.4nm,0.5s,baz=121,slow=5.4,SNR=1.8 0.4nm,0.5s						
ILAR	**Eielson Array**	**86.56**	**22**	P	**P**	**02 12 45.6**	**+1.0**
	0.3nm,0.7s,baz=257,slow=5.0,SNR=4.5 0.3nm,0.7s						

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*IDC **06** 02:47:54.8±1.4, 12°.95N×143°.37E, h338km±17km, mb3.3/11, mbtmp4.0/11, Error ellipse: s-maj=34.4km s-min=11.9km az=86.0*
ISC 06 02:47:55.4±0.8, 12°.9N±0°.1×143°.5E±0°.2, h350km, n12, σ0°86/12, mb3.4/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**64**	P	**Pn**	**02 48 42.3**	**-1.3**
	144nm,0.3s,baz=29,slow=19,SNR=5.4						
WRA	**Warramunga Arr**	**33.88**	**196**	P	**P**	**02 54 06.6**	**0.0**
	2.8nm,0.7s,baz=17,slow=9.4,SNR=16 2.8nm,0.7s						
ASAR	**Alice Springs**	**37.55**	**194**	P	**P**	**02 54 38.0**	**+0.4**
	0.8nm,0.7s,baz=17,slow=12,SNR=15 0.8nm,0.7s						
STKA	**Stephens Creek**	**44.59**	**182**	P	**P**	**02 55 33.9**	**-0.2**
	1.5nm,0.6s,baz=344,slow=7.0,SNR=3.8 1.5nm,0.6s						
SONM	**Songino Array**	**46.49**	**326**	P	**P**	**02 55 48.2**	**-0.7**
	0.8nm,0.6s,baz=146,slow=6.5,SNR=6.3 0.8nm,0.6s						
MKAR	**Makanchi Array**	**61.02**	**317**	P	**P**	**02 57 33.0**	**0.0**
	0.7nm,0.6s,baz=97,slow=8.1,SNR=12 0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**61.37**	**325**	P	**P**	**02 57 34.8**	**-0.4**
	0.8nm,0.4s,baz=111,slow=8.3,SNR=3.5 0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**64.25**	**320**	P	**P**	**02 57 54.1**	**0.0**
	1.6nm,0.6s,baz=102,slow=6.9,SNR=16 1.6nm,0.6s						
BVAR	**Borovoye Array**	**69.60**	**322**	P	**P**	**02 58 28.0**	**+0.6**
	2.8nm,0.5s,baz=100,slow=8.6,SNR=25 2.8nm,0.5s						
ILAR	**Eielson Array**	**69.75**	**25**	P	**P**	**02 58 28.0**	**-0.1**
	0.3nm,0.8s,baz=246,slow=6.2,SNR=1.5 0.3nm,0.8s						
YKA	**Yellowknife Ar**	**84.07**	**27**	P	**P**	**02 59 49.2**	**+1.9**
	0.1nm,0.6s,baz=205,slow=8.2,SNR=1.7 0.1nm,0.6s						
FINES	**FINESS Array B**	**91.18**	**335**	P	**P**	**03 00 21.2**	**+0.1**
	3.9nm,1.0s,baz=46,slow=5.5,SNR=7.7 3.9nm,1.0s						

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*NEIC **06** 02:53:46.3±0.9, 59°.83N±0°.03×152°.82W±0°.06, h100km±4km, Error ellipse: s-maj=4.6km s-min=4.3km az=88.0*
*AEIC **06** 02:53:47.4±1.0, 59°.82N±0°.03×152°.79W±0°.05, h95km±3km, ML2.9, ML3.0/155(NEIC), Error ellipse: s-maj=4.9km s-min=3.4km az=160.0*
ISC 06 02:53:45.8±1.2, 59°.80N±0°.04×152°.79W±0°.04, h101km±7km, n181, σ0°69/189, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.21**	**318**		**Pn**	**02 54 00.4**	**+0.2**
ILS					**Sn**	**02 54 10.7**	**-0.4**
ILSW	**Iliamna Southw**	**0.25**	**316**		**Pn**	**02 54 00.2**	**-0.3**
ILSW				Sn	**Sn**	**02 54 10.6**	**-0.9**
ILSW	comp=E,875nm,0.8s			IAML		02 54 11.7	
ILSW	comp=N,416nm,0.3s			IAML		02 54 11.8	
OPT	**Oil Point**	**0.27**	**236**		**Pn**	**02 54 00.9**	**+0.5**
P19K	**Oil Pt**	**0.27**	**236**	Pn	**Pn**	**02 54 00.8**	**+0.3**
P19K				Sn	**Sn**	**02 54 10.9**	**-0.4**
O20K	**Slope Mountain**	**0.29**	**17**		**Pn**	**02 54 01.0**	**+0.4**
O20K					**Sn**	**02 54 11.8**	**+0.2**
AU22	**Augustine Moun**	**0.52**	**214**		**Pn**	**02 54 02.4**	**+0.6**
AU22					**Sn**	**02 54 14.2**	**+0.5**
AUCH	**Augustine Cone**	**0.55**	**217**		**Pn**	**02 54 02.9**	**+0.7**
HOM	**Homer**	**0.60**	**103**	Pn	**Pn**	**02 54 03.1**	**+0.7**
HOM				Sn	**Sn**	**02 54 15.6**	**+0.7**
RED	**Redoubt Volcan**	**0.62**	**1**		**Pn**	**02 54 02.7**	**0.0**
RDWB	**Redoubt West**	**0.69**	**358**		**Pn**	**02 54 03.5**	**+0.1**
RDWB					**Sn**	**02 54 15.7**	**-0.9**
RDJH	**Redoubt Jeurge**	**0.79**	**360**		**Pn**	**02 54 04.5**	**+0.2**
RDT	**Redoubt**	**0.80**	**14**		**Pn**	**02 54 04.4**	**+0.1**
RDT					**Sn**	**02 54 17.7**	**-0.5**
O19K	**Port Alsworth**	**0.86**	**298**	Pn	**Pn**	**02 54 04.9**	**+0.1**
O19K				Sn	**Sn**	**02 54 18.5**	**-0.6**
BRLK	**Bradley Lake**	**0.96**	**91**	Pn	**Pn**	**02 54 06.0**	**+0.1**
BRLK				Sn	**Sn**	**02 54 20.8**	**-0.3**
BRLK	comp=E,540nm,0.3s			IAML		02 54 22.5	
Q19K	**Cape Douglas,**	**0.98**	**207**	Pn	**Pn**	**02 54 06.0**	**0.0**
Q19K	comp=N,220nm,0.7s			IAML		02 54 24.8	
Q19K	comp=E,284nm,1.1s			IAML		02 54 27.8	
BRSE	**Bradley Lake S**	**1.04**	**92**		**Pn**	**02 54 07.3**	**+0.6**
BRSE					**Sn**	**02 54 22.6**	**+0.1**
SYI	**Shuyak Island**	**1.21**	**170**	Pn	**Pn**	**02 54 09.3**	**+0.7**
SYI	comp=E,140nm,0.4s			IAML		02 54 28.2	
SYI	comp=N,141nm,0.6s			IAML		02 54 28.4	
O18K	**Koktuh Hills**	**1.22**	**274**	Pn	**Pn**	**02 54 08.9**	**+0.2**
O18K	**Koktuh Hills**	**1.22**	**274**		**Sn**	**02 54 25.7**	**-0.4**
O18K	**Koktuh Hills**	**1.22**	**274**	IAML		02 54 26.6	
O18K	comp=N,79nm,0.6s			IAML		02 54 26.8	
O18K	comp=E,93nm,0.6s			IAML		02 54 28.4	
CAPN	**Captain Cook N**	**1.27**	**39**	Pn	**Pn**	**02 54 10.9**	**+1.6**
P18K	**Big Mountain,**	**1.31**	**253**	Pn	**Pn**	**02 54 09.5**	**-0.3**
P18K	**Big Mountain,**	**1.31**	**253**		**Sn**	**02 54 27.3**	**-0.6**
N19K	**Bonanza Creek**	**1.32**	**321**	Pn	**Pn**	**02 54 09.9**	**0.0**
N19K	**Bonanza Creek**	**1.32**	**321**		**Sn**	**02 54 27.7**	**-0.6**
N19K	**Bonanza Creek**	**1.32**	**321**	IAML		02 54 28.1	
N19K	comp=E,127nm,0.8s			IAML		02 54 29.1	
N19K	comp=N,84nm,0.7s			IAML		02 54 29.4	
SPU	**Mount Spurr**	**1.43**	**14**	Pn	**Pn**	**02 54 11.3**	**0.0**
SPU				IAML		02 54 32.2	
SPU	comp=E,149nm,0.5s			IAML		02 54 32.4	
SPCR	**Spurr Chakacha**	**1.43**	**11**		**Pn**	**02 54 11.7**	**+0.4**
SLKM	**Skilak Lake**	**1.47**	**60**	Pn	**Pn**	**02 54 12.0**	**+0.3**
SLKM	comp=N,323nm,0.2s			IAML		02 54 33.8	
SLKM	comp=E,230nm,0.3s			IAML		02 54 34.2	
SPBG	**Spurr Blockage**	**1.48**	**8**		**Pn**	**02 54 12.5**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.54**	**14**		**Pn**	**02 54 13.3**	**+0.6**
KAHG	**Katmai Hook Gl**	**1.59**	**215**		**Pn**	**02 54 14.5**	**+1.2**
KAHC	**Katmai Hardscr**	**1.62**	**226**		**Pn**	**02 54 14.6**	**+0.9**
KAHC	**Katmai Hardscr**	**1.62**	**226**		**Pn**	**02 54 14.6**	**+0.9**
O22K	**Cooper Landing**	**1.68**	**65**	Pn	**Pn**	**02 54 14.3**	**0.0**
SEW	**Seward**	**1.71**	**78**	Pn	**Pn**	**02 54 14.8**	**+0.3**
STLK	**Strandline Lak**	**1.77**	**15**	Pn	**Pn**	**02 54 16.3**	**+0.9**
STLK	comp=E,62nm,0.6s			IAML		02 54 39.1	
STLK	comp=N,88nm,0.6s			IAML		02 54 39.3	
N18K	**Kilae Creek**	**1.78**	**301**	Pn	**Pn**	**02 54 15.5**	**0.0**
N18K	comp=E,55nm,1.0s			IAML		02 54 38.7	
KAKN	**Katmai Knife C**	**1.91**	**219**		**Pn**	**02 54 18.3**	**+1.0**
SUA	**Susitna One**	**1.95**	**30**	Pn	**Pn**	**02 54 18.6**	**+0.8**
SUA	comp=N,278nm,0.8s			IAML		02 54 45.1	
P17K	**Kvichak River**	**1.96**	**253**		**Pn**	**02 54 18.9**	**+1.1**
RC01	**Rabbit Creek A**	**1.99**	**48**	Pn	**Pn**	**02 54 18.9**	**+0.6**
RC01	comp=E,267nm,0.3s			IAML		02 54 44.8	
RC01	comp=N,228nm,0.4s			IAML		02 54 45.4	
KDAK	**Kodiak Island**	**2.03**	**177**	Pn	**Pn**	**02 54 18.2**	**-0.5**
KDAK	comp=N,71nm,0.5s			IAML		02 54 44.5	
KDAK	comp=N,81nm,0.4s			IAML		02 54 45.2	
ACHA	**Angle Creek He**	**2.06**	**220**	Pn	**Pn**	**02 54 19.6**	**+0.3**
M20K	**Styx River**	**2.09**	**356**	Pn	**Pn**	**02 54 20.0**	**+0.3**
M20K	comp=E,43nm,0.7s			IAML		02 54 46.1	
M20K	comp=N,51nm,0.6s			IAML		02 54 47.1	
ANCK	**Angle Creek**	**2.13**	**222**		**Pn**	**02 54 21.3**	**+1.2**
M19K	**Big River Lodg**	**2.25**	**340**	Pn	**Pn**	**02 54 21.5**	**-0.1**
M18K	**Stony River**	**2.26**	**320**		**Pn**	**02 54 21.8**	**+0.2**
SKT	**Skwentna**	**2.27**	**15**	Pn	**Pn**	**02 54 22.1**	**+0.2**
SKT	comp=E,61nm,0.4s			IAML		02 54 54.6	
SKT	comp=N,57nm,0.4s			IAML		02 54 55.2	
N17K	**Nushagak Hills**	**2.31**	**290**	Pn	**Pn**	**02 54 22.3**	**-0.1**
R18K	**Karluk**	**2.40**	**202**		**Pn**	**02 54 24.3**	**+0.7**
PWL	**Port Wells**	**2.46**	**63**	Pn	**Pn**	**02 54 23.6**	**-0.7**
PWL	comp=E,148nm,0.5s			IAML		02 54 53.9	
PMR	**Palmer**	**2.54**	**43**	P	**Pn**	**02 54 25.8**	**+0.4**
PMR	**Palmer**	**2.54**	**43**	S	**Sn**	**02 54 54.6**	**-1.2**
L19K	**White Mountain**	**2.59**	**338**	Pn	**Pn**	**02 54 26.1**	**+0.1**
OHAK	**Old Harbor**	**2.60**	**186**	Pn	**Pn**	**02 54 25.9**	**-0.3**
OHAK	comp=N,42nm,0.3s			IAML		02 54 57.1	
OHAK	comp=E,47nm,0.3s			IAML		02 54 58.2	
OHAK	**Old Harbor**	**2.60**	**186**	P	**Pn**	**02 54 26.0**	**-0.2**
OHAK	**Old Harbor**	**2.60**	**186**	S	**Sn**	**02 54 56.5**	**-0.7**
KNK	**Knik Glacier**	**2.68**	**51**	Pn	**Pn**	**02 54 26.9**	**-0.3**
O16K	**Kokwok River B**	**2.69**	**268**	Pn	**Pn**	**02 54 27.1**	**-0.4**
P23K	**Montague Islan**	**2.72**	**84**		**Pn**	**02 54 28.1**	**+0.3**
L20K	**Farewell, AK**	**2.74**	**349**		**Pn**	**02 54 28.5**	**+0.5**
GHO	**Glory Hole Cre**	**2.74**	**42**	Pn	**Pn**	**02 54 27.9**	**-0.2**
GHO	comp=N,103nm,0.3s			IAML		02 55 00.5	
GHO	comp=E,72nm,0.5s			IAML		02 55 07.1	
P16K	**Nushagak River**	**2.77**	**256**		**Pn**	**02 54 29.8**	**+1.4**
M17K	**Holitna River**	**2.80**	**307**	Pn	**Pn**	**02 54 28.8**	**0.0**
M17K	comp=E,35nm,1.1s			IAML		02 55 19.1	
M17K	comp=N,34nm,0.9s			IAML		02 55 21.6	
SML	**Sawmill**	**2.97**	**45**	Pn	**Pn**	**02 54 30.7**	**-0.5**
SML	comp=E,70nm,0.9s			IAML		02 55 06.7	
SML	comp=N,68nm,0.8s			IAML		02 55 14.1	
GLI	**Glacier Island**	**3.03**	**67**	Pn	**Pn**	**02 54 30.4**	**-1.5**
GLI	comp=E,103nm,0.4s			IAML		02 55 06.7	
GLI	comp=N,60nm,0.6s			IAML		02 55 12.3	
N16K	**Nishlik Lake**	**3.06**	**285**		**Pn**	**02 54 33.2**	**+0.8**
L18K	**Granite Mounta**	**3.08**	**324**	Pn	**Pn**	**02 54 32.4**	**-0.1**
PPLA	**Purkeypile**	**3.12**	**5**	Pn	**Pn**	**02 54 34.1**	**+0.9**
M23K	**Glacier View**	**3.19**	**49**		**Pn**	**02 54 34.1**	**+0.1**
HIN	**Hinchinbrook I**	**3.21**	**77**	Pn	**Pn**	**02 54 33.5**	**-0.8**
HIN	comp=N,69nm,0.4s			IAML		02 55 12.2	
HIN	comp=E,59nm,0.5s			IAML		02 55 13.4	
FID	**Port Fidalgo**	**3.29**	**70**	Pn	**Pn**	**02 54 34.2**	**-1.1**
FID	comp=E,88nm,0.3s			IAML		02 55 12.8	
M16K	**Timber Creek**	**3.29**	**294**	Pn	**Pn**	**02 54 35.7**	**+0.3**
Q23K	**Middleton Isla**	**3.29**	**94**		**Pn**	**02 54 36.2**	**+0.8**
Q23K	**Middleton Isla**	**3.29**	**94**	IAML		02 55 15.5	
Q23K	comp=N,61nm,0.5s			IAML		02 55 15.6	
Q23K	comp=E,83nm,1.0s			IAML		02 55 16.3	
SII	**Sitkinak Islan**	**3.33**	**193**	Pn	**Pn**	**02 54 36.0**	**0.0**
SII	comp=N,82nm,0.5s			IAML		02 55 15.5	
SII	**Sitkinak Islan**	**3.33**	**193**	P	**Pn**	**02 54 36.3**	**+0.3**
SCM	**Sheep Creek Mo**	**3.36**	**50**	Pn	**Pn**	**02 54 36.1**	**-0.3**
SCM	comp=E,55nm,0.5s			IAML		02 55 18.4	
SCM	comp=N,59nm,0.7s			IAML		02 55 18.4	
EYAK	**Cordova Ski Ar**	**3.60**	**75**	Pn	**Pn**	**02 54 38.3**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.60**	**75**	P	**Pn**	**02 54 39.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.60**	**75**	S	**Sn**	**02 55 19.4**	**-1.6**
K20K	**Telida**	**3.62**	**351**	Pn	**Pn**	**02 54 40.3**	**+0.5**
O15K	**Ungalikthiuk R**	**3.64**	**263**		**Pn**	**02 54 41.6**	**+1.6**
CAST	**Castle Rocks**	**3.65**	**5**	Pn	**Pn**	**02 54 40.6**	**+0.5**
N15K	**Kwethluk River**	**3.69**	**279**	Pn	**Pn**	**02 54 41.7**	**+1.0**
DIV	**Divide**	**3.72**	**66**	Pn	**Pn**	**02 54 41.0**	**-0.2**
KLU	**Klutina**	**3.78**	**60**	Pn	**Pn**	**02 54 41.4**	**-0.6**

KLU IAML 02 55 27.1
comp=E,35nm,0.4s
L16K Owhat River 3.80 303 Pn **Pn 02 54 42.3 +0.2**
TRF Thorofare Moun 3.85 17 Pn **Pn 02 54 44.4 +1.4**
TRF IAML 02 55 32.0
comp=N,26nm,0.5s
TRF IAML 02 55 33.8
comp=E,23nm,0.5s
KTH Kantishna Hill 3.87 13 Pn **Pn 02 54 44.0 +0.8**
KTH IAML 02 55 30.5
comp=E,17nm,0.9s
KTH IAML 02 55 49.2
comp=N,14nm,1.0s
K17K Iditarod 3.95 320 Pn **Pn 02 54 44.5 +0.3**
K17K IAML 02 55 46.1
comp=E,13nm,1.0s
K17K IAML 02 55 57.7
comp=N,9.4nm,1.1s
M24K Tolsona, Glenn 3.97 52 Pn **Pn 02 54 44.5 -0.1**
M24K IAML 02 55 40.3
comp=N,40nm,0.8s
RND Reindeer 4.08 26 Pn **Pn 02 54 46.3 +0.3**
RND IAML 02 55 33.3
comp=E,18nm,0.3s
RND IAML 02 55 37.5
comp=N,18nm,1.2s
GOAT Goat Mountain 4.10 76 **Pn 02 54 45.8 -0.6**
RAGM Ragged Mountai 4.11 78 Pn **Pn 02 54 46.1 -0.3**
J18K Innoko River 4.12 335 Pn **Pn 02 54 46.5 0.0**
KAIM Kayak Island 4.22 85 Pn **Pn 02 54 48.4 +0.5**
KAIM IAML 02 55 40.7
comp=E,38nm,0.9s
KAIM IAML 02 55 44.6
comp=N,34nm,0.5s
BMRM Bremner River 4.23 70 Pn **Pn 02 54 47.9 -0.1**
CHIR Chirikof Islan 4.27 202 **Pn 02 54 48.7 +0.1**
HMT Hamilton 4.31 79 Pn **Pn 02 54 49.2 +0.1**
MCK McKinley 4.35 23 Pn **Pn 02 54 50.2 +0.6**
BPAW Bear Paw Mtn. 4.40 10 Pn **Pn 02 54 50.7 +0.5**
BPAW IAML 02 55 38.9
comp=N,7.9nm,0.6s
N25K Chitina, Valde 4.41 62 Pn **Pn 02 54 49.9 -0.7**
N25K IAML 02 55 41.9
comp=N,14nm,0.4s
N25K IAML 02 55 42.9
comp=E,18nm,0.4s
J19K Poorman 4.42 344 Pn **Pn 02 54 50.8 +0.3**
J20K Nowinta River 4.44 352 Pn **Pn 02 54 51.3 +0.6**
J20K IAML 02 55 43.5
comp=E,8.2nm,0.7s
NICHA Nichawak Mount 4.45 81 **Pn 02 54 51.4 +0.4**
HARP HAARP 4.53 52 **Pn 02 54 52.2 +0.2**
SUCK Suckling Hills 4.54 83 Pn **Pn 02 54 51.7 -0.5**
SUCK IAML 02 55 53.9
comp=N,17nm,1.2s
SUCK IAML 02 56 06.3
comp=E,13nm,0.9s
BERG Berg Lake 4.59 79 **Pn 02 54 53.2 +0.3**
CHGN Chignik 4.61 223 Pn **Pn 02 54 53.6 +0.5**
WACK Wrangell Chich 4.68 58 **Pn 02 54 54.2 0.0**
J17K VABM Dome 4.69 323 Pn **Pn 02 54 54.0 -0.2**
GLB Gilahina Butte 4.72 66 Pn **Pn 02 54 53.6 -1.0**
GLB IAML 02 55 49.3
comp=E,15nm,0.7s
GLB IAML 02 55 49.6
comp=N,14nm,0.9s
PAX Paxson 4.74 45 Pn **Pn 02 54 55.6 +0.6**
VRDI Verde Repeater 4.83 69 Pn **Pn 02 54 55.4 -0.9**
VRDI IAML 02 55 51.8
comp=E,6.0nm,0.6s
VRDI IAML 02 55 52.3
comp=N,9.3nm,0.5s
K15K Wolf Creek Mou 4.93 304 Pn **Pn 02 54 57.9 +0.5**
SNH Sunshine Point 5.01 81 Pn **Pn 02 54 59.8 +1.1**
SNH IAML 02 55 57.3
comp=N,20nm,0.5s
SNH IAML 02 56 13.2
comp=E,16nm,1.1s
J16K Anvik River 5.11 316 Pn **Pn 02 55 00.1 +0.2**
J16K IAML 02 56 46.9
comp=N,4.2nm,0.9s
NEA2 Nenana 5.11 18 Pn **Pn 02 54 59.9 0.0**
NEA2 IAML 02 56 02.4
comp=E,3.8nm,0.4s
L14K Kuka Creek 5.12 292 Pn **Pn 02 54 59.4 -0.5**
L14K IAML 02 56 17.6
comp=N,8.1nm,1.1s
L14K IAML 02 56 50.3
comp=E,8.5nm,1.1s
WRH Wood River Hil 5.18 23 Pn **Pn 02 55 01.0 +0.2**
WRH IAML 02 56 20.0
comp=E,4.2nm,0.7s
WRH IAML 02 56 22.6
comp=N,5.8nm,1.2s
BARK Barkley Ridge 5.19 79 **Pn 02 55 01.2 +0.1**
BALM Baldy 5.32 72 **Pn 02 55 02.5 -0.4**
HDA Harding Lake 5.38 28 Pn **Pn 02 55 03.7 +0.2**
MENT Mentasta 5.38 50 Pn **Pn 02 55 03.6 0.0**
MENT IAML 02 56 21.0
comp=E,15nm,0.6s
MENT IAML 02 56 25.3
comp=N,12nm,0.6s
CCB Clear Creek Bu 5.39 23 Pn **Pn 02 55 02.8 -0.9**
CCB IAML 02 56 04.8
comp=E,4.8nm,0.4s
CCB IAML 02 56 05.8
comp=N,3.7nm,0.3s
I21K Tanana 5.41 4 Pn **Pn 02 55 04.1 +0.1**
M26K Nabesna, AK 5.42 57 Pn **Pn 02 55 03.8 -0.4**
MESA MESA 5.46 81 Pn **Pn 02 55 05.4 +0.6**
I17K Unalakleet 5.55 321 Pn **Pn 02 55 06.1 +0.4**
COLA College 5.58 22 P **Pn 02 55 06.7 +0.4**
I23K Minto, Yukon-K 5.60 15 Pn **Pn 02 55 06.8 +0.3**
DOT Dot Lake 5.67 43 Pn **Pn 02 55 07.8 +0.4**
IL31 5.70 26 Pn **Pn 02 55 07.8 0.0**
ILAR Eielson Array 5.70 26 Pn **Pn 02 55 07.1 -0.7**
RKAV Rock Avalanche 5.76 80 **Pn 02 55 10.2 +1.4**
H21K Melozitna Rive 5.88 360 Pn **Pn 02 55 10.7 +0.4**
M27K Edge Creek, AK 5.88 59 Pn **Pn 02 55 11.4 +1.0**
SCRK Sand Creek 5.90 41 Pn **Pn 02 55 11.0 +0.3**
J25K Salcha River, 5.94 33 Pn **Pn 02 55 11.7 +0.5**
H18K Honhosa River 5.96 337 Pn **Pn 02 55 11.2 -0.2**
H19K Roundabout Mou 5.99 345 Pn **Pn 02 55 11.7 0.0**
H17K Granite Mounta 6.12 330 Pn **Pn 02 55 14.4 +0.8**
L27K Beaver Creek, 6.19 53 Pn **Pn 02 55 14.2 -0.3**
BCAR Beaver Creek A 6.21 53 Pn **Pn 02 55 14.2 -0.6**
J26L Joseph Creek 6.39 39 Pn **Pn 02 55 18.1 +0.8**
H24K Noodor Dome 6.46 18 Pn **Pn 02 55 17.9 -0.4**
YUK8 Steele Glacier 6.60 71 **Pn 02 55 21.9 +1.6**
PRP Porcupine Dome 6.64 27 Pn **Pn 02 55 20.9 +0.2**
G18K Tagagawik 6.67 339 Pn **Pn 02 55 22.3 +1.2**
G21K Allakaket 6.75 358 Pn **Pn 02 55 23.2 +1.1**
G23K Bananza Creek 7.05 9 Pn **Pn 02 55 26.8 +0.6**
G16K Koyuk River 7.13 326 Pn **Pn 02 55 26.5 -0.8**
O29M Mount Kennedy 7.14 80 Pn **Pn 02 55 29.1 +1.6**
YUK6 Outpost Mounta 7.25 75 **Pn 02 55 30.6 +1.5**
G24K Hadweenzic Riv 7.33 17 Pn **Pn 02 55 30.0 +0.1**
F20K Avaraart Lake 7.39 351 Pn **Pn 02 55 32.0 +1.2**
F19K Shaleruckik Mo 7.40 345 Pn **Pn 02 55 32.2 +1.3**
M29M Somme Creek 7.42 63 Pn **Pn 02 55 32.3 +1.0**
F21K Alatna River 7.46 358 Pn **Pn 02 55 32.9 +1.2**
YUK5 Granite Creek 7.50 73 **Pn 02 55 33.4 +0.9**
COLD Coldfoot 7.54 8 Pn **Pn 02 55 33.2 +0.4**
HYT Haines Junctio 7.66 76 Pn **Pn 02 55 35.2 +0.6**
F17K Baldwin Pennin 7.68 334 Pn **Pn 02 55 35.3 +0.6**
L29M L29M 7.76 58 Pn **Pn 02 55 37.0 +1.1**
N30M Aishikik Lake 7.90 71 Pn **Pn 02 55 37.3 -0.4**
E19K Redstone River 7.93 348 Pn **Pn 02 55 38.8 +0.6**
F15K North Star Dit 8.03 323 Pn **Pn 02 55 39.9 +0.4**
I28M Miner Creek 8.18 41 Pn **Pn 02 55 42.7 +1.0**
O30N Mendenhall 8.35 76 Pn **Pn 02 55 44.8 +0.9**
D23K Nanushuk River 9.25 5 Pn **Pn 02 55 57.0 +1.0**
M31M Drury Creek, Y 9.25 67 Pn **Pn 02 55 56.1 +0.1**
JIS Juneau Island 9.61 91 S **Sn 02 57 46.9 +0.1**
JIS Juneau Island 9.61 91 P **Pn 02 56 00.9 0.0**
P32M Atlin 9.64 83 Pn **Pn 02 56 02.7 +1.2**
FARO Faro, Yukon 9.74 67 Pn **Pn 02 56 03.4 +0.6**
N32M Quiet Lake 9.82 74 Pn **Pn 02 56 04.6 +0.8**
P33M Teslin, Yukon 10.01 79 Pn **Pn 02 56 07.2 +0.8**
MMPY Sheldon Lake, 10.74 66 Pn **Pn 02 56 17.3 +0.9**
R33M Jennings River 11.06 83 Pn **Pn 02 56 22.5 +1.8**

*IDC **06** 02:54:50.3±1.3, 6.°01N×72.°23W, h57km±14km, mb3.1/3, mbtmp3.8/7, MS3.0/3, Error ellipse: s-maj=23.7km s-min=7.5km az=137.0*
ISC 06 02:54:49.2±0.9, **6.°00N**±0.°09×**72.°29W**±0.°10, **h35**km, **n9,** σ1.°**78**/**11**, **mb3.4**/**3**, **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**241**	P	**Pn**	**02 55 25.6**	**+0.2**
	304nm,0.5s,baz=112,slow=19,SNR=101						
ROSC				S	**Sn**	**02 55 56.5**	**+3.5**
	442nm,0.4s,baz=38,slow=23,SNR=10.0						
SDV	**Santo Domingo**	**3.31**	**30**	P	**Pn**	**02 55 39.7**	**+1.0**
	18nm,0.3s,baz=198,slow=3.2,SNR=55						
SDV				S	**Sn**	**02 56 17.3**	**+0.5**
	105nm,0.3s,baz=239,slow=12,SNR=5.3						
SDV				LR	LR	02 57 08.2	
	comp=Z,129nm,19.1s,baz=264,slow=42						
PCRV	**Puerto La Cruz**	**8.64**	**61**	P	**Pn**	**02 56 52.9**	**+1.1**
	25nm,0.9s,baz=259,slow=5.2,SNR=5.9						
PCRV				S	**Sn**	**02 58 29.3**	**+1.2**
	15nm,0.5s,baz=133,slow=21,SNR=6.9						
PCRV				LR	LR	03 01 02.1	
	comp=Z,137nm,18.1s,slow=43						
SJG	**San Juan**	**13.45**	**26**	P	**Pn**	**02 57 58.9**	**+1.2**
	7.3nm,0.7s,baz=208,slow=8.9,SNR=1.2						
ATAH	**Atahualpa**	**14.40**	**205**	LR	LR	03 05 25.1	
	comp=Z,63nm,19.8s,baz=181,slow=44						
LPAZ	**La Paz**	**22.52**	**170**	P	**P**	**02 59 45.7**	**-1.1**
	0.6nm,0.6s,baz=332,slow=7.7,SNR=4.8						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**37.62**	**312**	P	**P**	**03 01 59.4**	**-1.6**
	0.4nm,0.7s,baz=129,slow=9.9,SNR=3.7						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**64.32**	**340**	P	**P**	**03 05 19.9**	**-1.1**
	0.5nm,0.8s,baz=139,slow=6.7,SNR=10						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**150.65**	**239**	PKPbc	**PKPbc**	**03 14 37.2**	**-1.4**
	0.3nm,0.3s,baz=111,slow=1.9,SNR=5.6						

*IDC **06** 03:05:36.0±0.8, 22.°25S×169.°54E, h0km, mb4.2/10, mbtmp4.2/10, MS4.0/2, Error ellipse: s-maj=28.5km s-min=23.4km az=82.0*
*NEIC **06** 03:05:38.6±1.3, 22.°3S±0.°1×169.°39E±0.°08, h10km±1km, mb4.7/24, Error ellipse: s-maj=24.4km s-min=13.0km az=172.0*
*NOU **06** 03:05:50.6, 22.°03S×168.°37E, h0km, MLv3.8/5, New Caledonia*
ISC 06 03:05:40.1±0.6, **22.°3S**±0.°1×**169.°33E**±0.°08, **h23**km, **n49,** σ0.°**93**/**48**, **mb4.6**/**20**, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.77**	**261**		**Pn**	**03 06 10.2**	**+0.9**
PINNC				Sn	**Sb**	**03 06 32.8**	**-0.8**
PINNC	**Pines Island,**	**1.77**	**261**	P	**Pn**	**03 06 10.2**	**+0.9**
YATNC	**Mamie plateau,**	**2.28**	**277**	P	**Pn**	**03 06 15.7**	**-0.7**
OUENC	**Ouen Island, N**	**2.31**	**268**	P	**Pn**	**03 06 17.5**	**+0.7**
ONTNC	**Ouen Toro**	**2.67**	**270**		**Pn**	**03 06 21.5**	**-0.2**
ONTNC	**Ouen Toro**	**2.67**	**270**	P	**Pn**	**03 06 22.5**	**+0.8**
DZM	**Mont Dzumac**	**2.69**	**275**		**Pn**	**03 06 22.4**	**+0.2**
DZM	**Mont Dzumac**	**2.69**	**275**	P	**Pn**	**03 06 22.3**	**+0.2**
RPZ	**Rata Peaks**	**21.37**	**177**	P	**P**	**03 10 25.8**	**-0.1**
	6.1nm,0.9s,baz=266,slow=10,SNR=3.0						
	6.1nm,0.9s						
COEN	**Coen**	**26.19**	**284**	P	**P**	**03 11 15.0**	**+1.7**
STKA	**Stephens Creek**	**26.39**	**243**	LR	LR	03 20 32.3	
	comp=Z,275nm,19.8s,baz=182,slow=34						
ASAR	**Alice Springs**	**32.59**	**261**	P	**P**	**03 12 10.2**	**+0.1**
ASAR	**Alice Springs**	**32.59**	**261**	P	**P**	**03 12 10.8**	**+0.6**
	2.8nm,1.0s,baz=82,slow=9.4,SNR=17						
	2.8nm,1.0s						
WB0	**Warramunga Arr**	**32.67**	**268**	P	**P**	**03 12 10.0**	**-0.8**
WB2	**Warramunga Arr**	**32.67**	**268**	P	**P**	**03 12 11.1**	**+0.2**
WRA	**Warramunga Arr**	**32.68**	**268**	P	**P**	**03 12 10.3**	**-0.7**
WRA	**Warramunga Arr**	**32.68**	**268**	P	**P**	**03 12 11.0**	**0.0**
	1.4nm,0.8s,baz=97,slow=8.3,SNR=8.5						
	1.4nm,0.8s						
KNRA	**Kununurra**	**38.84**	**273**	P	**P**	**03 13 03.8**	**0.0**
FAKI	**Fak Fak**	**40.82**	**293**	P	**P**	**03 13 20.1**	**-0.2**
FAKI				IAmb	IAmb	03 13 35.6	
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**41.11**	**268**	P	**P**	**03 13 23.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**41.11**	**268**	LR	LR	03 31 22.0	
	comp=Z,185nm,18.2s,baz=131,slow=37						
PSA00	**Pilbara Seismi**	**45.74**	**261**	P	**P**	**03 13 56.7**	**-3.3**
PSA00				IAmb	IAmb	03 13 59.1	
	comp=Z,7.6nm,1.4s						
MBWA	**Marble Bar**	**45.92**	**262**	P	**P**	**03 14 01.5**	**+0.1**
MBWA				IAmb	IAmb	03 14 03.2	
	comp=Z,10nm,0.9s						
QSPA	**South Pole Qui**	**67.73**	**180**	P	**P**	**03 16 36.5**	**+0.9**
QSPA				IAmb	IAmb	03 16 39.0	
	comp=Z,8.1nm,1.2s						
QSPA	**South Pole Qui**	**67.73**	**180**	P	**P**	**03 16 36.6**	**+0.9**
	comp=Z,4.6nm,1.1s,baz=347,slow=4.4,SNR=6.0						
	comp=Z,4.6nm,1.1s						
KSRS	**Korea Array**	**71.11**	**326**	P	**P**	**03 16 57.2**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=154,slow=5.7,SNR=7.0						
	comp=Z,2.5nm,0.8s						
BJT	**Baijiatuau**	**79.39**	**321**	P	**P**	**03 17 44.4**	**+0.1**
BJT				IAmb	IAmb	03 17 46.2	
	comp=Z,6.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**79.86**	**295**	P	**P**	**03 17 48.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=122,slow=3.6,SNR=5.0						
	comp=Z,1.0nm,0.3s						
N15K	**Kwethluk River**	**85.91**	**15**	P	**P**	**03 18 18.2**	**+0.3**
SNAA	**Sanae**	**86.08**	**182**	P	**P**	**03 18 19.1**	**+0.3**
SNAA				IAmb	IAmb	03 18 20.7	
	comp=Z,12nm,1.5s						
SNAA	**Sanae**	**86.08**	**182**	P	**P**	**03 18 18.1**	**-0.7**
	comp=Z,3.5nm,1.0s,baz=260,slow=7.9,SNR=4.5						
	comp=Z,3.5nm,1.0s						
M16K	**Timber Creek**	**86.93**	**15**	P	**P**	**03 18 23.4**	**+0.6**
HOPS	**Hopland Field**	**87.81**	**46**	P	**P**	**03 18 26.5**	**-1.1**
L18K	**Granite Mounta**	**88.52**	**15**	P	**P**	**03 18 31.1**	**+0.8**
L18K				IAmb	IAmb	03 18 37.6	
	comp=Z,5.1nm,1.3s						
SONM	**Songino Array**	**89.74**	**323**	P	**P**	**03 18 35.7**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=152,slow=4.0,SNR=6.5						
	comp=Z,1.6nm,1.0s						
NVAR	**Mina Array Bea**	**90.78**	**48**	P	**P**	**03 18 39.8**	**-2.0**
	comp=Z,1.0nm,0.7s,baz=229,slow=6.5,SNR=4.0						
	comp=Z,1.0nm,0.7s						
J05D	**Fort Rock, OR**	**91.18**	**43**	P	**P**	**03 18 43.7**	**+0.2**
PINE	**Pine Mountain**	**91.62**	**43**	P	**P**	**03 18 45.5**	**0.0**
PINE				IAmb	IAmb	03 18 45.9	
	comp=Z,3.3nm,0.9s						
U33K	**Whale Pass**	**91.99**	**28**	P	**P**	**03 18 47.5**	**+0.9**
E19K	**Redstone River**	**92.91**	**12**	P	**P**	**03 18 50.6**	**-0.2**
E19K				IAmb	IAmb	03 18 53.2	
	comp=Z,2.3nm,0.9s						
ILAR	**Eielson Array**	**93.15**	**17**	P	**P**	**03 18 49.9**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=239,slow=4.8,SNR=7.8						
	comp=Z,0.3nm,0.6s						
LTY	**Liberty**	**93.49**	**40**	P	**P**	**03 18 54.7**	**+0.7**
LTY				IAmb	IAmb	03 19 13.4	
	comp=Z,2.6nm,1.2s						
B20K	**Meade River**	**95.13**	**11**	P	**P**	**03 19 00.6**	**-0.2**
B20K				IAmb	IAmb	03 19 01.0	
	comp=Z,3.8nm,1.3s						
BMAR	**Burnt Mountain**	**95.78**	**16**	P	**P**	**03 19 02.8**	**-1.1**
PLCA	**Paso Flores**	**96.16**	**139**	P	**P**	**03 19 05.8**	**-0.8**
C23K	**Itkillik River**	**96.24**	**13**	P	**P**	**03 19 05.7**	**-0.2**
C23K				IAmb	IAmb	03 19 14.2	
	comp=Z,2.9nm,1.0s						
C24K	**Franklin Bluff**	**96.56**	**14**	P	**P**	**03 19 07.1**	**-0.3**
EKA	**Eskdalemuir Ar**	**146.58**	**352**	PKPbc	**PKPdf**	**03 25 18.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=344,slow=2.8,SNR=2.0						
GERES	**GERESS Array B**	**147.23**	**330**	PKPbc	**PKPbc**	**03 25 21.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=92,slow=3.1,SNR=3.5						

*IDC **06** 03:11:20.5±1.1, 22.°32S×169.°54E, h0km, mb4.1/8, mbtmp4.1/8, MS3.2/1, Error ellipse: s-maj=34.5km s-min=28.8km az=147.0*
*NOU **06** 03:11:21.6, 22.°10S×169.°48E, h0km, MLv4.3/12, Southeast of Loyalty Islands*
*NEIC **06** 03:11:23.5±1.8, 22.°4S±0.°1×169.°41E±0.°03, h10km±1km, mb4.6/20, Error ellipse: s-maj=23.0km s-min=5.1km az=180.0*
ISC 06 03:11:22.8±0.6, **22.°21S**±0.°07×**169.°41E**±0.°06, **h10**km, **n52,** σ0.°**99**/**52**, **mb4.5**/**18**, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.86**	**257**		**Pn**	**03 11 55.0**	**+0.3**
PINNC				Sn	**Sn**	**03 12 17.6**	**-0.7**
PINNC	**Pines Island,**	**1.86**	**257**	P	**Pn**	**03 11 55.1**	**+0.4**
PINNC	**Pines Island,**	**1.86**	**257**	S	**Sb**	**03 12 20.9**	**+0.7**
YATNC	**Mamie plateau,**	**2.34**	**273**	P	**Pn**	**03 12 01.4**	**0.0**
YATNC	**Mamie plateau,**	**2.34**	**273**	S	**Sb**	**03 12 33.7**	**-0.3**
OUENC	**Ouen Island, N**	**2.38**	**264**	P	**Pn**	**03 12 01.9**	**-0.1**
OUENC	**Ouen Island, N**	**2.38**	**264**	S	**Sb**	**03 12 34.3**	**-1.1**
ONTNC	**Ouen Toro**	**2.74**	**267**		**Pn**	**03 12 07.3**	**+0.5**
ONTNC	**Ouen Toro**	**2.74**	**267**	P	**Pn**	**03 12 08.7**	**+1.9**
DZM	**Mont Dzumac**	**2.75**	**272**		**Pn**	**03 12 07.2**	**+0.1**
DZM	**Mont Dzumac**	**2.75**	**272**	P	**Pn**	**03 12 07.2**	**+0.1**
DVP	**Devils Point**	**4.60**	**345**	P	**Pn**	**03 12 31.8**	**-0.7**
DVP	**Devils Point**	**4.60**	**345**	S	**Sn**	**03 13 23.9**	**-2.2**
KOUNC	**Koumac, New Ca**	**5.05**	**288**	P	**Pn**	**03 12 40.0**	**+1.4**
RPZ	**Rata Peaks**	**21.49**	**177**	LR	LR	03 24 16.7	
	comp=Z,64nm,18.5s,baz=289,slow=36						
COEN	**Coen**	**26.22**	**284**	P	**P**	**03 16 58.8**	**+0.7**
TAU	**Tasmania Unive**	**27.65**	**217**	P	**P**	**03 17 10.0**	**-0.7**
ASAR	**Alice Springs**	**32.68**	**260**	P	**P**	**03 17 55.5**	**-0.1**
	1.6nm,0.7s,baz=82,slow=8.6,SNR=15						
	1.6nm,0.7s						
WB0	**Warramunga Arr**	**32.74**	**268**	P	**P**	**03 17 56.5**	**+0.5**
WB2	**Warramunga Arr**	**32.75**	**267**	P	**P**	**03 17 56.9**	**+0.8**
WRA	**Warramunga Arr**	**32.76**	**267**	P	**P**	**03 17 55.3**	**-1.0**
WRA	**Warramunga Arr**	**32.76**	**267**	P	**P**	**03 17 55.9**	**-0.3**
	0.7nm,0.5s,baz=96,slow=7.0,SNR=5.8						
	0.7nm,0.5s						
MTN	**Manton Dam**	**37.58**	**278**	P	**P**	**03 18 37.7**	**0.0**
MTN				IAmb	IAmb	03 18 38.4	
	comp=Z,5.5nm,0.7s						
KNRA	**Kununurra**	**38.90**	**272**	P	**P**	**03 18 49.0**	**+0.1**
KNRA				IAmb	IAmb	03 18 49.7	
	comp=Z,8.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.19**	**268**	P	**P**	**03 19 08.3**	**+0.4**
PSA00	**Pilbara Seismi**	**45.82**	**261**	P	**P**	**03 19 42.3**	**-3.0**
PSA00				IAmb	IAmb	03 19 51.6	
	comp=Z,7.7nm,1.1s						
QSPA	**South Pole Qui**	**67.86**	**180**	P	**P**	**03 22 20.1**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=5.5,slow=4.4,SNR=5.0						
	comp=Z,1.2nm,0.3s						
KSRS	**Korea Array**	**71.04**	**326**	P	**P**	**03 22 42.0**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=143,slow=5.2,SNR=5.5						
	comp=Z,1.7nm,0.8s						
ATKA	**Atka Island**	**75.47**	**10**	P	**P**	**03 23 08.3**	**+1.5**
BELA	**Belgrano 2**	**79.14**	**175**	P	**P**	**03 23 26.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**79.87**	**295**	P	**P**	**03 23 32.0**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=117,slow=5.1,SNR=5.2						
	comp=Z,1.1nm,0.3s						
SNAA	**Sanae**	**86.22**	**182**	P	**P**	**03 24 03.6**	**-0.6**
SNAA				IAmb	IAmb	03 24 05.8	
	comp=Z,5.0nm,1.2s						
M20K	**Styx River**	**89.00**	**17**	P	**P**	**03 24 19.6**	**+2.1**
M20K				IAmb	IAmb	03 24 29.9	
	comp=Z,3.6nm,1.1s						
ISA	**Isabella, Lake**	**89.22**	**51**	P	**P**	**03 24 19.7**	**+0.5**
ISA				IAmb	IAmb	03 24 20.0	
	comp=Z,2.8nm,0.7s						
SONM	**Songino Array**	**89.68**	**323**	P	**P**	**03 24 21.8**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=146,slow=5.5,SNR=5.0						
	comp=Z,1.1nm,0.9s						
NVAR	**Mina Array Bea**	**90.64**	**48**	P	**P**	**03 24 24.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=238,slow=4.4,SNR=1.8						
	comp=Z,0.3nm,0.3s						
J05D	**Fort Rock, OR**	**91.04**	**43**	P	**P**	**03 24 27.9**	**+0.3**
J05D				IAmb	IAmb	03 24 36.1	
	comp=Z,5.3nm,1.2s						
E19K	**Redstone River**	**92.77**	**12**	P	**P**	**03 24 35.8**	**+0.9**
ILAR	**Eielson Array**	**93.00**	**17**	P	**P**	**03 24 34.6**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=244,slow=4.9,SNR=12						
	comp=Z,0.5nm,0.7s						
M29M	**Somme Creek**	**93.91**	**22**	P	**P**	**03 24 41.5**	**+1.2**
M29M				IAmb	IAmb	03 24 48.3	
	comp=Z,2.8nm,1.2s						
D22K	**Ayikyak River**	**94.89**	**13**	P	**P**	**03 24 45.3**	**+0.7**
D22K				IAmb	IAmb	03 24 53.5	
	comp=Z,4.9nm,1.2s						
B20K	**Meade River**	**94.98**	**11**	P	**P**	**03 24 45.7**	**+0.7**
B20K				IAmb	IAmb	03 24 48.2	
	comp=Z,5.1nm,1.5s						
BMAR	**Burnt Mountain**	**95.64**	**16**	P	**P**	**03 24 48.1**	**0.0**
B22K	**Teshekpuk Lake**	**95.95**	**12**	P	**P**	**03 24 50.2**	**+0.9**
C23K	**Itkillik River**	**96.10**	**13**	P	**P**	**03 24 50.9**	**+0.8**
CO06	**Fray Jorge**	**101.29**	**130**	Pdif	**Pdif**	**03 25 15.4**	**+0.9**
ZAA0	**Zalesovo Array**	**104.56**	**323**	Pdif	**Pdif**	**03 25 27.5**	**-0.8**
PKME	**Peaks-Kenny Pk**	**127.31**	**49**	PKPdf	**PKPdf**	**03 30 27.3**	**-0.4**
LMN	**Caledonia Moun**	**130.35**	**48**	PKPdf	**PKPdf**	**03 30 34.2**	**+0.6**
PSZ	**Piszkesteto**	**144.61**	**324**	PKPdf	**PKPab**	**03 30 58.6**	**+0.3**
IDI	**Anoyia**	**146.45**	**301**	PKPdf	**PKPdf**	**03 31 04.0**	**+0.7**
EKA	**Eskdalemuir Ar**	**146.46**	**352**	PKPbc	**PKPdf**	**03 31 03.5**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=24,slow=2.5,SNR=3.5						

*IDC **06** 03:18:52.9±3.7, 14.°45N×93.°05W, h0km, mb3.4/2, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=60.0km s-min=22.4km az=12.0*
*GCG **06** 03:18:52.5±2.1, 14.°06N×93.°13W, h35km±999km, MD4.7, ML3.3, MW3.6*
*MEX **06** 03:18:55.5±0.6, 14.°25N×93.°04W, h10km, MD4.1*
ISC 06 03:18:51.7±2.2, **14.°24N**±0.°06×**93.°07W**±0.°03, **h10**km±13km, **n32,** σ2.°**13**/**55**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.02**	**50**	*e*P	**Pb**	**03 19 11.5**	**0.0**
THIG				*e*S	**Sg**	**03 19 24.3**	**-0.4**
SMCA	**Catarina**	**1.14**	**58**	*e*P	**Pb**	**03 19 13.2**	**-0.4**
SMCA	**Catarina**	**1.14**	**58**	*e*P		03 19 13.2	
PATR	**El Naranjo**	**1.19**	**43**	*e*P	**Pb**	**03 19 13.7**	**-0.8**
PATR				*e*S	**Sb**	**03 19 28.7**	**-1.3**
PAVE	**Pavencul**	**1.28**	**42**	*e*P	**Pn**	**03 19 15.2**	**-0.6**
PAVE				*e*S	**Sb**	**03 19 31.6**	**-1.2**
RTAL	**Retalhuleu**	**1.36**	**78**	*e*P	**Pn**	**03 19 16.6**	**-0.2**
RTAL				*e*S	**Sn**	**03 19 33.9**	**-1.0**
PCIG		**1.46**	**354**	*e*P	**Pn**	**03 19 17.1**	**-1.0**
PCIG				*e*S	**Sn**	**03 19 31.7**	**-5.6**
STG8	**El Palmar, Q

comp=Z,7.0nm,0.3s,baz=116,slow=15,SNR=6.2
comp=Z,16nm,0.3s
CMIG Matias Romero 3.33 329 *eP* **Pn 03 19 44.6 +0.7**
CMIG *eS* **Sn 03 20 20.9 -2.5**
PETF Flores 4.07 49 *eP* **Pn 03 19 57.7 +3.6**
PEIG Puerto Escondi 4.31 294 *eP* **Pn 03 19 58.9 +1.6**
PEIG *eS* **Sn 03 20 41.6 -6.0**
NEUV Arroyo Zacate 4.34 323 *eP* **Pn 03 19 58.3 +0.6**
NEUV *eS* **Sn 03 20 47.5 -0.8**
YOIG Yosondua 5.04 302 *eP* **Pn 03 20 11.4 +3.9**
YOIG *eS* **Sn 03 21 04.8 -1.1**
PNIG Pinotepa 5.33 294 *eP* **Pn 03 20 13.3 +1.9**
PNIG *eS* Sn 03 21 04.4 -8.4
TOIG Toxpalan 5.42 315 *eP* **Pn 03 20 14.3 +1.5**
TOIG *eS* **Sn 03 21 18.2 +3.0**
TXIG Tlaxiaco 5.42 304 *eP* **Pn 03 20 15.6 +2.7**
TXIG *eS* **Sn 03 21 12.7 -2.8**
TEIG Tepich 7.51 37 Pn **Pn 03 20 42.4 +1.1**
baz=232,slow=19
TEIG Sn **Sn 03 22 04.1 -2.5**
baz=232,slow=19,SNR=1.6
TXAR Lajitas Array 17.94 329 P **Pn 03 23 01.5 +0.1**
baz=153,slow=8.4,SNR=4.2
comp=Z,0.4nm,0.9s
PDAR Pinedale Array 31.78 337 P **P 03 25 18.7 +2.2**
comp=Z,0.3nm,0.7s,baz=138,slow=13,SNR=2.6
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 50.56 347 P **P 03 27 50.6 +0.5**
comp=Z,0.5nm,0.7s,baz=156,slow=7.5,SNR=10
comp=Z,0.5nm,0.7s

SCB 06 03:33:37.4±1.0, 21°.36S×66°.84W, h219km±14km, ML3.7/2, Error ellipse: s-maj=7.6km s-min=4.8km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.13**	**85**	Pg	Pn	03 34 11.1	+0.5
PB09	**IPOC Station P**	**2.28**	**259**	Pg	Pn	03 34 20.8	+0.4
PB08	**IPOC Station P**	**2.48**	**299**	Pg	Pn	03 34 23.3	+0.5
PB01	**IPOC Station P**	**2.49**	**277**	Pg	Pn	03 34 23.1	+0.6
PB01				Sg	S	03 34 57.6	0.0
PB01				IAML		03 35 00.2	
	95nm,0.2s						
SOEO	**Opoqueri**	**2.95**	**340**	Pg	Pn	03 34 29.0	+0.9
PB11	**IPOC Station P**	**3.08**	**301**	Pg	Pn	03 34 29.4	+0.2
PB11				Sg	S	03 35 08.8	-0.8
PB11				IAML		03 35 10.4	
	284nm,0.1s						
SOET	**ToroToro**	**3.37**	**17**	Pg	Pn	03 34 33.4	+0.6
AOEA	**Aiquile**	**3.51**	**26**	Pg	Pn	03 34 34.2	-0.2
SOEJ	**Jacaque**	**4.55**	**343**	Pg	Pn	03 34 48.4	+1.2
BBOD	**La Paz, Gloria**	**4.99**	**340**	Pg	Pn	03 34 53.4	+0.7
LPAZ	**La Paz**	**5.19**	**346**	Pg	Pn	03 34 56.1	+0.7

*NEIC **06** 04:15:03.6±0.8, 41°.46N±0°.02×81°.65W±0°.02, h5km±1km, ML2.0/8, ML2.0/5(LDO), Error ellipse: s-maj=4.4km s-min=2.9km az=320.0*
*OTT **06** 04:15:04.7±0.4, 41°.51N×81°.64W, h5km, MN2.5/7, South shore Lake Erie 97km south from Blenheim, On Eastern Background Seismic Zone.*
*LDO **06** 04:15:04.5±1.4, 41°.49N±0°.02×81°.67W±0°.03, h5km±1km, Error ellipse: s-maj=4.6km s-min=2.9km az=320.0*
ISC 06 04:15:02.4±1.1, 41°.52N±0°.02×81°.68W±0°.03, h14km±9km, n27, σ1°25/43, Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M52A	**Chesterland**	**0.25**	**86**		**Pb**	**04 15 08.6**	**0.0**
M52A					**Sg**	**04 15 12.0**	**+0.8**
M52A	**Chesterland**	**0.25**	**86**	IAML		04 15 12.1	
	comp=E,370nm,0.1s						
M52A				IAML		04 15 12.2	
	comp=N,530nm,0.3s						
M53A	**WI Miller and**	**0.76**	**96**		**Pb**	**04 15 17.3**	**-0.1**
M53A					**Sb**	**04 15 26.8**	**-0.9**
N51A	**Ashland**	**0.80**	**221**		**Pb**	**04 15 17.8**	**-0.2**
N51A					**Sb**	**04 15 27.8**	**-0.8**
N51A	**Ashland**	**0.80**	**221**	IAML		04 15 28.9	
	comp=E,73nm,0.2s						
N51A				IAML		04 15 31.8	
	comp=N,49nm,0.2s						
N53A	**Lisbon**	**0.96**	**138**		**Pb**	**04 15 20.3**	**-0.5**
N53A					**Sb**	**04 15 32.4**	**-0.9**
ALLY	**Alegheny Colle**	**1.16**	**83**		**Sb**	**04 15 38.8**	**-0.4**
ALLY	**Alegheny Colle**	**1.16**	**83**	SG	**Sg**	**04 15 40.0**	**+0.1**
O53A	**New Philadelph**	**1.32**	**164**		**Pn**	**04 15 26.2**	**-0.2**
O53A				IAML		04 15 37.1	
	comp=N,24nm,4.4s						
O53A					**Sn**	**04 15 42.8**	**-1.1**
O53A				IAML		04 15 43.4	
	comp=E,24nm,0.2s						
ERPA	**Erie**	**1.40**	**64**		**Pb**	**04 15 28.7**	**+0.4**
ERPA					**Sb**	**04 15 46.6**	**+0.6**
ERPA	**Erie**	**1.40**	**64**	PG	**Pg**	**04 15 29.5**	**+0.2**
ERPA				SG	**Sg**	**04 15 47.1**	**-0.3**
O52A	**Adamsville**	**1.41**	**185**		**Pb**	**04 15 28.4**	**-0.1**
O52A					**Sn**	**04 15 45.1**	**-0.9**
K50A	**Casco**	**1.43**	**331**	PG	**Pg**	**04 15 30.4**	**+0.5**
K50A				SG	**Sg**	**04 15 49.8**	**+1.3**
K50A				Trac		04 15 50.8	
	comp=E,9.3nm,0.1s						
ACSO	**Alum Creek Sta**	**1.62**	**218**		**Pb**	**04 15 32.5**	**+0.4**
ACSO					**Sb**	**04 15 52.4**	**0.0**
O54A	**Avella**	**1.67**	**143**		**Pb**	**04 15 32.7**	**-0.1**
O54A					**Sb**	**04 15 53.0**	**-0.7**
ELFO	**Elginfield**	**1.69**	**9**	PN	**Pg**	**04 15 34.7**	**-0.1**
ELFO				SN	**Sg**	**04 15 57.0**	**+0.2**
ELFO				Trac		04 15 60.0	
	comp=E,7.8nm,0.1s						
P52A	**Corning**	**1.92**	**190**		**Pn**	**04 15 35.1**	**+0.5**
P52A	**Corning**	**1.92**	**190**		**Sb**	**04 15 59.9**	**-1.0**
P53A	**Whipple**	**2.04**	**174**		**Pb**	**04 15 38.8**	**-0.4**
P53A					**Sb**	**04 16 03.6**	**-1.0**
TYNO	**Tyneside**	**2.07**	**40**	SN	**Sb**	**04 16 06.0**	**+0.7**
ACTO	**Acton**	**2.41**	**29**	PN	**Pb**	**04 15 44.3**	**-1.1**
ACTO				SN	**Sb**	**04 16 13.9**	**-1.1**
ACTO				LG	Lg	04 16 19.6	
ACTO				Trac		04 16 27.5	
	comp=E,2.3nm,0.0s						
BASO	**Ashfield**	**2.49**	**0**	SN	**Sb**	**04 16 16.3**	**-1.1**
STCO	**Saint Catharin**	**2.51**	**47**	SN	**Sb**	**04 16 17.0**	**-1.0**
BWLO	**Walkerton**	**2.62**	**9**	PN	**Pb**	**04 15 48.0**	**-1.1**
BWLO				SN	**Sb**	**04 16 19.3**	**-2.0**
BWLO				Trac		04 16 37.5	
	comp=E,14nm,0.5s						
MEDO	**Medina**	**2.90**	**54**	PN	**Pb**	**04 15 52.0**	**-1.9**
MEDO				SN	**Sn**	**04 16 25.6**	**+2.7**
MEDO				LG	Lg	04 16 33.7	
MEDO				Trac		04 16 33.9	
	comp=E,1.1nm,0.1s						
BMRO	**Meriville Lake**	**3.09**	**6**	PN	**Pb**	**04 15 55.3**	**-1.8**
BMRO				SN	**Sn**	**04 16 30.5**	**+3.0**
BMRO				LG	Lg	04 16 41.7	
BMRO				Trac		04 16 45.5	
	comp=E,28nm,0.6s						
CLWO	**Collingwood**	**3.10**	**19**	PN	**Pb**	**04 15 54.0**	**-3.2**
CLWO				SN	**Sn**	**04 16 30.2**	**+2.5**
CLWO				LG	Lg	04 16 41.5	
CLWO				Trac		04 16 44.5	
	comp=E,1.7nm,0.1s						

*NOU **06** 04:34:46.4, 37°.12S×179°.80E, h0km, MLv3.8/8, Off E. Coast of N. Island, N.Z.*
*WEL **06** 04:34:56.0±0.7, 37°.S±4°×17°9E±°, h12km, M3.3/22, ML3.6/25, MLv3.3/22, Error ellipse: s-maj=6.8km s-min=5.1km az=94.5, confirmed*
ISC 06 04:34:54.5±2.8, 37°.20S±0°.07×179°.2E±0°.1, h23km±15km, n76, σ1°13/84, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**242**	P	**Pb**	**04 35 09.6**	**+0.1**
MXZ	**Matakaoa Point**	**0.79**	**242**	P	**Pb**	**04 35 09.6**	**+0.1**
MXZ				S	**Sb**	**04 35 17.5**	**-2.3**
WMGZ	**Waiomatatini S**	**0.87**	**224**	P	**Pn**	**04 35 13.4**	**+2.0**
WMGZ				S	**Sn**	**04 35 24.2**	**+0.9**
PKGZ	**Pakihiroa**	**1.10**	**232**	P	**Pb**	**04 35 15.9**	**+1.0**
PKGZ				S	**Sn**	**04 35 29.5**	**+0.4**
PUZ	**Puketiti**	**1.14**	**220**	P	**Pb**	**04 35 16.7**	**+1.2**
PUZ				S	**Sb**	**04 35 30.6**	**+0.6**
HAZ	**Te Kaha**	**1.25**	**243**	P	**Pn**	**04 35 16.4**	**-0.1**
HAZ				S	**Sn**	**04 35 32.4**	**-0.2**
TWGZ	**Tauwhareparae**	**1.37**	**224**	P	**Pb**	**04 35 19.9**	**+0.5**
TWGZ				S	**Sb**	**04 35 36.8**	**+0.3**
RUGZ	**Raukumara Rang**	**1.42**	**237**	P	**Pb**	**04 35 20.6**	**+0.2**
RUGZ				S	**Sn**	**04 35 38.0**	**+0.9**
CNGZ	**Carnagh Statio**	**1.50**	**211**	P	**Pb**	**04 35 22.3**	**+0.6**
WIZ	**White Island**	**1.62**	**258**	P	**Pn**	**04 35 20.9**	**-0.7**
TKGZ	**Te Karaka**	**1.63**	**220**	P	**Pb**	**04 35 23.4**	**-0.5**
WSRZ	**White Island S**	**1.63**	**258**	P	**Pn**	**04 35 21.1**	**-0.7**
WSRZ				S	**Sn**	**04 35 40.6**	**-1.4**
MWZ	**Matawai**	**1.73**	**229**	P	**Pb**	**04 35 24.6**	**-1.1**
WHRZ	**Whale Island**	**1.87**	**249**	P	**Pn**	**04 35 26.4**	**+1.2**
RIGZ	**Rimuhau**	**1.88**	**216**	P	**Pn**	**04 35 26.4**	**+1.1**
RAGZ	**Rawiri**	**1.91**	**227**	P	**Pb**	**04 35 27.2**	**-1.5**
URZ	**Urewera**	**1.96**	**236**	P	**Pn**	**04 35 27.3**	**+1.1**
URZ	**Urewera**	**1.96**	**236**	P	**Pn**	**04 35 27.3**	**+1.1**
PRGZ	**Paritu Road**	**2.00**	**210**	P	**Pn**	**04 35 28.2**	**+1.2**
SNGZ	**Shannon Statio**	**2.15**	**222**	P	**Pn**	**04 35 29.7**	**+0.7**
KNZ	**Kokohu**	**2.18**	**213**	P	**Pn**	**04 35 29.8**	**+0.5**
OPRZ	**Ohinepanea**	**2.19**	**252**	P	**Pn**	**04 35 29.8**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.20**	**207**	P	**Pn**	**04 35 30.9**	**+1.2**
RTZ	**Ruatahuna**	**2.25**	**230**	P	**Pn**	**04 35 31.4**	**+1.1**
MYRZ	**Mayor Island**	**2.35**	**267**	P	**Pn**	**04 35 32.4**	**+0.7**
TARZ	**Mount Tarawera**	**2.36**	**243**	P	**Pn**	**04 35 33.5**	**+1.6**
RAHZ	**Arahi**	**2.38**	**223**	P	**Pn**	**04 35 33.2**	**+1.0**
RRRZ	**Republican Roa**	**2.40**	**241**	P	**Pn**	**04 35 33.6**	**+1.2**
WHHZ	**Waihua**	**2.43**	**219**	P	**Pn**	**04 35 33.5**	**+0.8**
MTHZ	**Maungataniwha**	**2.48**	**227**	P	**Pn**	**04 35 34.7**	**+1.1**
NMHZ	**Naumai**	**2.67**	**224**	P	**Pn**	**04 35 37.4**	**+1.3**
ARHZ	**Aropaoanui**	**2.69**	**219**	P	**Pn**	**04 35 37.2**	**+0.9**
MRHZ	**Matea Rd**	**2.73**	**232**	P	**Pn**	**04 35 37.8**	**+0.8**
KUZ	**Kuaotunu**	**2.81**	**278**	P	**Pn**	**04 35 37.4**	**-0.6**
KUZ	**Kuaotunu**	**2.81**	**278**	P	**Pn**	**04 35 37.3**	**-0.6**
BKZ	**Black Stump Fm**	**2.89**	**226**	P	**Pn**	**04 35 39.9**	**+0.7**
BKZ	**Black Stump Fm**	**2.89**	**226**	P	**Pn**	**04 35 40.1**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.96**	**213**	P	**Pn**	**04 35 40.2**	**+0.1**
MCHZ	**McNeill Hill**	**2.98**	**220**	P	**Pn**	**04 35 40.8**	**+0.5**
TOZ	**Tahuroa Road**	**2.98**	**259**	P	**Pn**	**04 35 40.3**	**+0.1**
KWHZ	**Kaweka Forest**	**3.11**	**223**	P	**Pn**	**04 35 42.5**	**+0.3**
GRZ	**Great Barrier**	**3.14**	**286**	P	**Pn**	**04 35 43.0**	**+0.5**
KAHZ	**Kahuranaki**	**3.16**	**214**	P	**Pn**	**04 35 42.6**	**-0.3**
RATZ	**Rangitukua**	**3.17**	**237**	P	**Pn**	**04 35 44.2**	**+1.3**
MKAZ	**Moumakai**	**3.21**	**270**	P	**Pn**	**04 35 43.6**	**0.0**
WIAZ	**Waiheke Island**	**3.27**	**276**	P	**Pn**	**04 35 44.4**	**+0.2**
KATZ	**Kakaramea**	**3.27**	**236**	P	**Pn**	**04 35 45.2**	**+0.6**
KRHZ	**Kereru**	**3.29**	**221**	P	**Pn**	**04 35 44.7**	**0.0**
TMVZ	**Te Maari**	**3.34**	**234**	P	**Pn**	**04 35 45.8**	**+0.3**
ETVZ	**East Tongariro**	**3.35**	**234**	P	**Pn**	**04 35 46.0**	**+0.4**
NTVZ	**North Tongarir**	**3.35**	**234**	P	**Pn**	**04 35 46.0**	**+0.4**
PXZ	**Pawanui**	**3.36**	**212**	P	**Pn**	**04 35 44.9**	**-0.7**
PXZ				S	**Sn**	**04 36 21.2**	**-3.6**
KRVZ	**Karewarewa**	**3.37**	**235**	P	**Pn**	**04 35 46.5**	**+0.6**
OTVZ	**Oturere**	**3.40**	**234**	P	**Pn**	**04 35 46.5**	**+0.2**
NNVZ	**North Ngauruho**	**3.41**	**234**	P	**Pn**	**04 35 47.1**	**+0.7**
WTVZ	**West Tongariro**	**3.42**	**235**	P	**Pn**	**04 35 47.4**	**+0.9**
SNVZ	**South Ngauruho**	**3.42**	**233**	P	**Pn**	**04 35 47.1**	**+0.4**
NGZ	**Ngauruhoe**	**3.44**	**234**	P	**Pn**	**04 35 47.4**	**+0.5**
MBAZ	**Motutapu North**	**3.46**	**276**	P	**Pn**	**04 35 47.4**	**+0.5**
MOVZ	**Moawhango**	**3.48**	**230**	P	**Pn**	**04 35 47.5**	**+0.1**
TWVZ	**Taurewa**	**3.50**	**236**	P	**Pn**	**04 35 48.6**	**+1.0**
WNVZ	**Wahianoa**	**3.53**	**232**	P	**Pn**	**04 35 48.3**	**+0.1**
PNHZ	**Pukenui**	**3.58**	**220**	P	**Pn**	**04 35 47.7**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.63**	**271**	P	**Pn**	**04 35 50.1**	**+0.8**
HIZ	**Hauiti**	**3.67**	**248**	P	**Pn**	**04 35 51.5**	**+1.7**
HIZ	**Hauiti**	**3.67**	**248**	P	**Pn**	**04 35 51.6**	**+1.7**
DVHZ	**Dannevirke**	**3.89**	**216**	P	**Pn**	**04 35 51.8**	**-1.1**
VRZ	**Vera Road**	**3.98**	**240**	P	**Pn**	**04 35 55.6**	**+1.4**
BFZ	**Birch Farm**	**4.17**	**212**	P	**Pn**	**04 35 54.8**	**-1.9**
NEZ	**North Egmont**	**4.51**	**241**	P	**Pn**	**04 36 03.6**	**+2.2**
PKE	**Pukeiti**	**4.55**	**242**	P	**Pn**	**04 36 04.5**	**+2.4**
KHEZ	**Kahui Hut**	**4.58**	**241**	P	**Pn**	**04 36 03.8**	**+1.4**
KHEZ	**Kahui Hut**	**4.58**	**241**	P	**Pn**	**04 36 04.9**	**+2.5**
OUZ	**Omahuta**	**4.93**	**292**	P	**Pn**	**04 36 08.5**	**+1.4**
OUZ	**Omahuta**	**4.93**	**292**	P	**Pn**	**04 36 08.8**	**+1.7**
CTZ	**Chatham Island**	**7.27**	**155**	P	Pn	04 36 43.4	+4.1

*SNET **06** 04:41:30.5±0.9, 12°.04N×87°.80W, h19km±34km, ML3.1*
*CATAC **06** 04:41:33.8±0.6, 12°N±4°×8°8W±°, h40km±7km, M2.6/11, MLv2.6/11, Error ellipse: s-maj=10.3km s-min=3.7km az=32.6, confirmed*
ISC 06 04:41:32.2±1.4, 12°.12N±0°.07×87°.59W±0°.04, h59km±19km, n85, σ1°04/101, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.78**	**43**	P	**Pn**	**04 41 48.2**	**+0.7**
CRIN	**San Cristobal**	**0.78**	**43**	P	**Pn**	**04 41 47.1**	**-0.3**
CRIN	**San Cristobal**	**0.78**	**43**	S	**Sn**	**04 41 59.1**	**+0.5**
CSGN	**Cosiguina Volc**	**0.85**	**2**	P	**Pn**	**04 41 48.9**	**+0.6**
CSGN				S	**Sn**	**04 41 59.3**	**-0.9**
CSGN	**Cosiguina Volc**	**0.85**	**2**	P	**Pn**	**04 41 48.1**	**-0.2**
CSGN				S	**Sn**	**04 41 60.0**	**-0.3**
CSGN	**Cosiguina Volc**	**0.85**	**2**	P	**Pn**	**04 41 48.7**	**+0.4**
TEL3	**Telica 3**	**0.85**	**58**	P	**Pn**	**04 41 49.4**	**+1.1**
TEL3	**Telica 3**	**0.85**	**58**	P	**Pn**	**04 41 48.5**	**+0.2**
QUEN	**Al S del Volca**	**0.86**	**57**	P	**Pn**	**04 41 49.2**	**+0.8**
QUEN				S	**Sn**	**04 41 59.5**	**-0.9**
PACN	**Al O del Volca**	**0.87**	**64**	P	**Pn**	**04 41 49.3**	**+0.8**
PACN				S	**Sn**	**04 41 59.6**	**-0.9**
POTN	**Potosi Cosigui**	**0.88**	**5**	S	**Sn**	**04 42 02.6**	**+1.9**
POTN	**Potosi Cosigui**	**0.88**	**5**	P	**Pn**	**04 41 48.6**	**0.0**
POTN				S	**Sn**	**04 41 59.5**	**-1.1**
POTN	**Potosi Cosigui**	**0.88**	**5**	P	**Pn**	**04 41 48.7**	**+0.1**
TELN	**Telica**	**0.88**	**57**	P	**Pn**	**04 41 48.9**	**+0.2**
TELN				S	**Sn**	**04 41 59.8**	**-1.1**
HERN	**Volcan Telica**	**0.89**	**57**	P	**Pn**	**04 41 48.6**	**-0.2**
HERN	**Volcan Telica**	**0.89**	**57**	S	**Sn**	**04 41 59.8**	**-1.3**
MIRN	**Miramar**	**0.92**	**70**	P	**Pn**	**04 41 50.3**	**+1.2**
ROCN	**Rota Cerro Neg**	**0.92**	**64**	P	Pn	04 41 44.5	-4.6
ROCN				S	**Sn**	**04 42 01.1**	**-0.5**
ROCN	**Rota Cerro Neg**	**0.92**	**64**	P	**Pn**	**04 41 44.9**	**-4.2**
ROCN				S	**Sn**	**04 41 58.6**	**-3.1**
ROCN	**Rota Cerro Neg**	**0.92**	**64**	P	Pn	04 41 44.6	-4.6
POLN	**Al Sur del Vol**	**0.92**	**55**	P	**Pn**	**04 41 48.8**	**-0.5**
POLN				S	**Sn**	**04 42 00.8**	**-1.0**
PLRN	**Geotermica Pol**	**0.93**	**60**	P	**Pn**	**04 41 50.0**	**+0.8**
PLRN				S	**Sn**	**04 42 05.3**	**+3.5**
PLRN	**Geotermica Pol**	**0.93**	**60**	P	**Pn**	**04 41 50.0**	**+0.8**
PLRN				S	**Sn**	**04 42 01.9**	**+0.1**
PLRN	**Geotermica Pol**	**0.93**	**60**	P	**Pn**	**04 41 50.0**	**+0.8**
CNGA	**Al SSO del Vol**	**0.94**	**67**	P	**Pn**	**04 41 49.6**	**+0.1**
CNGA				S	**Sn**	**04 42 01.9**	**-0.4**
CNGN	**Cerro Negro**	**0.95**	**67**	P	**Pn**	**04 41 50.1**	**+0.5**
CNGN	**Cerro Negro**	**0.95**	**67**	S	**Sn**	**04 42 02.1**	**-0.3**
MACN	**El Madrono**	**0.96**	**69**	S	**Sn**	**04 42 03.1**	**+0.4**
MACN	**El Madrono**	**0.96**	**69**	P	**Pn**	**04 41 51.1**	**+1.4**
MACN				S	**Sn**	**04 42 02.8**	**+0.2**
MACN	**El Madrono**	**0.96**	**69**	P	**Pn**	**04 41 50.3**	**+0.6**
COPN	**Copaltepe**	**0.98**	**87**	P	**Pn**	**04 41 50.6**	**+0.7**
COPN	**Copaltepe**	**0.98**	**87**	P	**Pn**	**04 41 51.4**	**+1.5**
COPN	**Copaltepe**	**0.98**	**87**	P	**Pn**	**04 41 51.2**	**+1.3**
LEVN	**Ruinas Leon Vi**	**0.99**	**74**	P	**Pn**	**04 41 50.4**	**+0.4**
LEVN				S	**Sn**	**04 42 02.5**	**-0.8**
MOMN	**Momotombo**	**1.07**	**74**	P	**Pn**	**04 41 52.7**	**+1.7**
MOMN	**Momotombo**	**1.07**	**74**	P	**Pn**	**04 41 51.7**	**+0.6**
MOMN				S	**Sn**	**04 42 04.2**	**-1.0**
MOMN	**Momotombo**	**1.07**	**74**	P	**Pn**	**04 41 52.8**	**+1.7**
SAPS	**Ciudad Sandino**	**1.16**	**88**	P	**Pn**	**04 41 52.6**	**+0.3**
SAPS	**Ciudad Sandino**	**1.16**	**88**	S	**Sn**	**04 42 07.1**	**-0.2**
CNCH	**Conchagua**	**1.17**	**348**	*eP*	**Pn**	**04 41 52.3**	**-0.3**
CNCH				*eS*	**Sn**	**04 42 09.2**	**+1.5**
CNCH				IAML		04 42 14.3	
	comp=Z,433nm,0.5s						
CNCH	**Conchagua**	**1.17**	**348**	P	**Pn**	**04 41 52.6**	**0.0**
CNCH	**Conchagua**	**1.17**	**348**	S	**Sn**	**04 42 07.3**	**-0.5**
LCND	**La Caada**	**1.22**	**346**	*eP*	**Pn**	**04 41 53.0**	**-0.1**
LCND				*eS*	**Sn**	**04 42 10.4**	**+1.8**
LCND				IAML		04 42 11.7	
	comp=Z,102nm,0.4s						
LCND	**La Caada**	**1.22**	**346**	P	**Pn**	**04 41 53.2**	**+0.1**
LCND	**La Caada**	**1.22**	**346**	S	**Sn**	**04 42 07.7**	**-0.9**
LCND	**La Caada**	**1.22**	**346**	P	**Pn**	**04 41 53.1**	**+0.1**
APQ2	**Apoyeque**	**1.24**	**86**	P	**Pn**	**04 41 52.8**	**-0.5**
APQ2	**Apoyeque**	**1.24**	**86**	P	**Pn**	**04 41 53.1**	**-0.3**
APQ2	**Apoyeque**	**1.24**	**86**	S	**Sn**	**04 42 08.0**	**-1.1**
UNAN	**Cigeo UNAN**	**1.29**	**90**	P	**Pb**	**04 41 54.6**	**+0.5**
UNAN				S	**Sn**	**04 42 10.0**	**-0.4**
TISN	**Laguna Tiscapa**	**1.29**	**89**	P	**Pn**	**04 41 53.9**	**-0.2**
R4DEC	**Barrio San Lui**	**1.31**	**89**	P	**Pn**	**04 41 54.2**	**-0.1**
R4DEC	**Barrio San Lui**	**1.31**	**89**	S	**Sn**	**04 42 10.1**	**-0.8**
MGAN	**Managua**	**1.31**	**89**	S	**Sn**	**04 42 10.5**	**-0.4**
MGAN	**Managua**	**1.31**	**89**	S	**Sn**	**04 42 10.0**	**-1.0**
MGAN	**Managua**	**1.31**	**89**	P	**Pn**	**04 41 55.1**	**+0.7**
MAS3	**Al N del Volca**	**1.39**	**94**	S	**Sn**	**04 42 12.0**	**-0.8**
MAS3	**Al N del Volca**	**1.39**	**94**	P	**Pn**	**04 41 56.0**	**+0.6**
MAS3				S	**Sn**	**04 42 12.6**	**-0.2**
LIMN	**Finca el Limon**	**1.52**	**52**	P	**Pn**	**04 41 58.7**	**+1.5**
LIMN	**Finca el Limon**	**1.52**	**52**	P	**Pn**	**04 41 57.2**	**0.0**
PACA	**Pacayal**	**1.52**	**332**	*eP*	**Pn**	**04 41 56.6**	**-0.6**
PACA				IAML		04 42 19.3	
	comp=Z,837nm,0.2s						
PACA	**Pacayal**	**1.52**	**332**	P	**Pn**	**04 41 56.6**	**-0.6**
PACA	**Pacayal**	**1.52**	**332**	S	**Sn**	**04 42 15.4**	**-0.6**
ALJI	**Alcalda de J**	**1.53**	**322**	S	**Sn**	**04 42 16.0**	**-0.2**
ALJI	**Alcalda de J**	**1.53**	**322**	S	**Sn**	**04 42 15.1**	**-1.1**
ALJI	**Alcalda de J**	**1.53**	**322**	P	**Pn**	**04 41 58.4**	**+1.1**
PQSS	**Presa 15 de Se**	**1.77**	**328**	*eP*	**Pn**	**04 41 59.9**	**-0.6**
PQSS	**Presa 15 de Se**	**1.77**	**328**	P	**Pn**	**04 42 01.1**	**+0.7**
PQSS	**Presa 15 de Se**	**1.77**	**328**	S	**Sn**	**04 42 22.3**	**+0.4**
UESV	**Universidad de**	**1.91**	**322**	S	**Sn**	**04 42 24.8**	**-0.5**
UESV	**Universidad de**	**1.91**	**322**	S	**Sn**	**04 42 23.6**	**-1.7**
UESV	**Universidad de**	**1.91**	**322**	P	**Pn**	**04 42 03.7**	**+1.3**
SCLA	**Alcaldia de Sa**	**1.92**	**325**	*eP*	**Pn**	**04 42 01.6**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.92**	**325**	P	**Pn**	**04 42 02.5**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.92**	**325**	S	**Sn**	**04 42 26.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.92**	**325**	P	**Pn**	**04 42 02.3**	**-0.3**
COEG	**Centro de Oper**	**1.95**	**320**	S	**Sn**	**04 42 26.2**	**-0.2**
COEG	**Centro de Oper**	**1.95**	**320**	P	**Pn**	**04 42 04.4**	**+1.4**
COEG	**Centro de Oper**	**1.95**	**320**	S	**Sn**	**04 42 25.5**	**-0.9**
RCVN	**Varillal2**	**1.99**	**43**	P	**Pn**	**04 42 04.9**	**+1.2**
RCVN	**Varillal2**	**1.99**	**43**	S	**Sn**	**04 42 26.7**	**-0.9**
RCPN	**Sur Rio San Ju**	**2.02**	**46**	S	**Sn**	**04 42 27.1**	**-1.2**
RCPN	**Sur Rio San Ju**	**2.02**	**46**	P	**Pn**	**04 42 03.7**	**-0.3**
CEDA	**San Andres**	**2.43**	**314**	P	**Pn**	**04 42 09.9**	**+0.4**
SLOZ	**Alcaldia de Sa**	**2.85**	**312**	P	Pn	04 42 02.5	-13

CATAC 06 04:48:07.1±0.5, 12°N±4°×8°7W±°, h34km±5km, M3.0/4, MLv3.0/4, Error ellipse: s-maj=10.7km s-min=4.1km az=33.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACN	**Al O del Volca**	**0.50**	**45**	P	Sn	04 48 27.0	+1.7
PACN	**Al O del Volca**	**0.50**	**45**	P	Pn	04 48 27.0	+1.7
PACN	**Al O del Volca**	**0.50**	**45**	P	Pn	04 48 18.4	+0.5
PACN				S	Sn	04 48 27.0	+1.7
QUEN	**Al S del Volca**	**0.53**	**34**	P	Sn	04 48 28.8	+2.7
QUEN	**Al S del Volca**	**0.53**	**34**	P	Sn	04 48 28.7	+2.6
QUEN	**Al S del Volca**	**0.53**	**34**	P	Pn	04 48 19.7	+1.4
QUEN				S	Sn	04 48 28.7	+2.6
ROCN	**Rota Cerro Neg**	**0.55**	**47**	P	Pn	04 48 13.5	-4.9
ROCN				S	Sb	04 48 22.6	-3.7
COPN	**Copaltepe**	**0.55**	**86**	P	Pn	04 48 19.6	+1.1
TELN	**Telica**	**0.55**	**35**	P	Sn	04 48 28.8	+2.1
TELN				S	Sb	04 48 33.4	+6.8

PTBC S **Sn** **05 07 55.3 -3.4**
OCAC Ocana 4.64 106 P **Pn** **05 07 10.5 +1.5**
OCAC S **Sn** **05 08 00.2 -2.7**

*IDC **06** 05:11:00.4±0.4, 55.˚46S×1.˚66W, h0km, mb4.9/20, mbtmp4.9/21, ML5.0/1, MS4.8/46, Error ellipse: s-maj=15.8km s-min=13.6km az=123.0*
*MOS **06** 05:11:01.6±1.1, 55.˚41S×1.˚69W, h14km, mb5.7/21, Error ellipse: s-maj=19.3km s-min=11.0km az=81.5*
*RSNC **06** 05:11:02.7±0.6, 55.˚S±10.˚×.˚±1.˚0, h10km±4km, M5.6, mB6.0, mb5.3, Mw(mB)5.8*
*NEIC **06** 05:11:02.8, 55.˚34S×1.˚68W, h16km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17^Nm; Mrr=1.14; Mθθ0.10; Mφφ1.04; Mrθ-0.24; Mθφ-0.16; Mφr0.46; Fault plane solution: M0=1.22000×10^17^ NP1: φs=356.77000°, δ33.17000°, λ-78.72000°. NP2: φs=163.36000°, δ57.55000°, λ-97.29000°. Principal axes: T 1.1764, Plg12.0000°, Azm259.0000°; N 0.0856, Plg6.0000°, Azm167.0000°; P -1.2620, Plg76.0000°, Azm51.0000°;*
*NEIC **06** 05:11:02.8±1.4, 55.˚44S±0.˚10×1.˚7W±0.˚2, h10km±1km, mb5.7/106, Mww5.3/14 Error ellipse: s-maj=16.2km s-min=15.2km az=176.0*
*NEIC **06** 05:11:02.8, 55.˚44S×1.˚68W, h16km*
*BJI **06** 05:11:03.0, 55.˚60S×1.˚60W, h10km, mB5.7/7, Ms5.5/25, Ms7 5.2/26*
*GCMT **06** 05:11:04.8±0.1, 55.˚60S±0.˚01×1.˚23W±0.˚01, h12km, MW5.4/161, Moment Tensor Solution. s77, c113; s161, c283; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr=1.28±.01; Mθθ0.06±.01; Mφφ1.21±.01; Mrθ-0.27±.05; Mθφ0.01±.01; Mφr-0.52±.04; Best double couple: M0=1.37200×10^17^ NP1:φs172.00000°, δ34.00000°, λ-106.00000°. NP2:φs11.00000°, δ57.00000°, λ-79.00000°. Principal axes: T 1.3160, Plg12.0000°, Azm93.0000°; N 0.1020, Plg9.0000°, Azm185.0000°; P -1.4270, Plg75.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 05:11:02.3±0.2, 55.˚45S±0.˚06×1.˚63W±0.˚06, h10km, n336, σ1º08/304, mb5.6/68, MS4.9/58, 3C-9D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.54**	**188**	⇓P	**Pn**	**05 14 43.5**	**+2.5**
	comp=Z,303nm,1.1s						
VNA2	**Neumayer--Watz**	**15.74**	**187**	⇓P	**Pn**	**05 14 44.8**	**+1.1**
	comp=Z,101nm,0.8s,baz=8.6,slow=13						
VNA3	**Neumayer Olymp**	**16.23**	**189**	⇓P	**Pn**	**05 14 51.8**	**+1.7**
	comp=Z,46nm,0.6s						
SNAA	**Sanae**	**16.30**	**181**		**Pn**	**05 14 52.0**	**+1.1**
SNAA	**Sanae**	**16.30**	**181**	⇓P	**P**	**05 14 53.8**	**-0.1**
	comp=Z,4μm,1.0s						
SNAA	**Sanae**	**16.30**	**181**	Pn	**Pn**	**05 14 51.2**	**+0.3**
	comp=Z,5.2nm,0.3s,baz=356,slow=16,SNR=130						
SNAA				Sn	Sn	05 17 39.1	-12
	comp=Z,0.3nm,0.3s,baz=18,slow=14,SNR=2.6						
SNAA				LR	LR	05 19 40.0	
	comp=Z,2μm,20.7s,baz=338,slow=32						
	comp=Z,29nm,0.6s						
SNAA	**Sanae**	**16.30**	**181**	*i* P	**Pn**	**05 14 51.8**	**+0.9**
SNAA				pmax	pmax		
	comp=Z,231nm,1.0s						
TROLL	**Troll, Antarti**	**16.72**	**176**	⇓P	**P**	**05 14 58.2**	**-0.5**
	comp=Z,7μm,0.9s						
ELIB	**Princess Elisa**	**19.63**	**157**	*d*P	**P**	**05 15 30.9**	**+0.2**
	comp=Z,70nm,1.5s						
SYO	**Syowa Base**	**22.92**	**142**	⇑*i*P	**P**	**05 16 01.8**	**-4.1**
SYO	**Syowa Base**	**22.92**	**142**	⇓*i*P	**P**	**05 16 04.3**	**-1.6**
BELA	**Belgrano 2**	**25.28**	**196**	P	**P**	**05 16 28.0**	**-0.2**
SUR	**Sutherland**	**27.92**	**44**	P	**P**	**05 16 53.0**	**+0.4**
SUR	**Sutherland**	**27.92**	**44**	LR	LR	05 25 08.1	
	comp=Z,3μm,20.8s,baz=204,slow=30						
PMSA	**Palmer Station**	**31.18**	**227**	P	**P**	**05 17 21.3**	**+0.4**
PMSA	**Palmer Station**	**31.18**	**227**	LR	LR	05 26 42.5	
	comp=Z,865nm,21.0s,baz=90,slow=30						
MAW	**Mawson**	**31.45**	**138**	LR	LR	05 27 36.5	
	comp=Z,2μm,21.2s,baz=271,slow=32						
BOSA	**Boshof**	**33.04**	**47**	P	**P**	**05 17 37.4**	**-0.4**
BOSA	**Boshof**	**33.04**	**47**	P	**P**	**05 17 37.1**	**-0.6**
	comp=Z,7.4nm,0.9s,baz=200,slow=8.5,SNR=7.9						
BOSA				LR	LR	05 28 19.1	
	comp=Z,1μm,20.7s,baz=210,slow=31						
	comp=Z,7.4nm,0.9s						
BOSA	**Boshof**	**33.04**	**47**	P	**P**	**05 17 37.4**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,35nm,1.2s						
H04S2	**CROZET ISLANDS**	**33.88**	**98**	T	T	05 53 50.0	
	baz=236,slow=75						
H04S3	**CROZET ISLANDS**	**33.89**	**98**	T	T	05 53 51.3	
	baz=236,slow=75						
H04S1	**CROZET ISLANDS**	**33.90**	**98**	T	T	05 53 52.1	
	baz=236,slow=75						
CRZF	**Crozet Islands**	**34.11**	**98**	P	**P**	**05 17 48.1**	**+1.3**
CRZF				IAmb	IAmb	05 18 30.7	
	comp=Z,212nm,1.5s						
H04N3	**CROZET ISLANDS**	**34.21**	**97**	T	T	05 54 24.9	
	baz=241,slow=76,SNR=8.9						
H04N1	**CROZET ISLANDS**	**34.22**	**97**	T	T	05 54 19.4	
	baz=241,slow=76,SNR=6.1						
H04N2	**CROZET ISLANDS**	**34.23**	**97**	T	T	05 54 18.2	
	baz=241,slow=76,SNR=10						
QSPA	**South Pole Qui**	**34.79**	**180**	P	**P**	**05 17 53.1**	**+0.4**
QSPA				IAmb	IAmb	05 18 01.5	
	comp=Z,144nm,1.0s						
QSPA	**South Pole Qui**	**34.79**	**180**	P	**P**	**05 17 53.4**	**+0.6**
	comp=Z,36nm,1.0s,baz=215,slow=4.9,SNR=79						
QSPA				LR	LR	05 31 45.1	
	comp=Z,805nm,20.2s,baz=210,slow=36						
	comp=Z,36nm,1.0s						
WIN	**Windhoek**	**35.67**	**31**	P	**P**	**05 18 00.7**	**-0.1**
WIN				IAmb	IAmb	05 18 03.3	
	comp=Z,200nm,1.7s						
WIN	**Windhoek**	**35.67**	**31**	P	**P**	**05 18 00.7**	**-0.1**
WIN				pmax	pmax		
	comp=Z,200nm,1.7s						
KOOLE	**Kule**	**36.24**	**35**	*i* P	**P**	**05 18 05.1**	**-0.3**
KOOLE	**Kule**	**36.24**	**35**	*i* P	**P**	**05 18 05.3**	**-0.2**
LBTB	**Lobatse**	**36.37**	**44**	P	**P**	**05 18 06.4**	**-0.1**
LBTB	**Lobatse**	**36.37**	**44**	P	**P**	**05 18 06.3**	**-0.2**
	comp=Z,6.6nm,0.8s,baz=192,slow=9.8,SNR=8.5						
LBTB				LR	LR	05 30 11.2	
	comp=Z,2μm,22.0s,baz=206,slow=32						
	comp=Z,6.6nm,0.8s						
LBTB	**Lobatse**	**36.37**	**44**	P	**P**	**05 18 06.4**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,125nm,1.8s						
POGA	**Pongola**	**36.97**	**54**	P	**P**	**05 18 11.3**	**-0.3**
KGCAE	**Kacgae**	**37.05**	**38**	*i* P	**P**	**05 18 11.9**	**-0.6**
KGCAE	**Kacgae**	**37.05**	**38**	*e*P	**P**	**05 18 11.8**	**-0.6**
KDWAN	**Kaudwane**	**37.47**	**42**	*i* P	**P**	**05 18 15.4**	**-0.6**
KDWAN	**Kaudwane**	**37.47**	**42**	*i* P	**P**	**05 18 15.0**	**-1.0**
LPHEP	**Lephephe**	**37.95**	**44**	*i* P	**P**	**05 18 19.6**	**-0.4**
LPHEP	**Lephephe**	**37.95**	**44**	*e*P	**P**	**05 18 20.0**	**0.0**
GRTLG	**Ghanzi**	**38.09**	**36**	*i* P	**P**	**05 18 20.5**	**-0.8**
GRTLG	**Ghanzi**	**38.09**	**36**	*i* P	**P**	**05 18 21.0**	**-0.2**
MG03	**Isla Dawson**	**38.38**	**243**	P	**P**	**05 18 23.9**	**+0.8**
TSUM	**Tsumeb**	**39.00**	**30**	P	**P**	**05 18 28.9**	**0.0**
TSUM				IAmb	IAmb	05 18 31.4	
	comp=Z,286nm,1.7s						
TSUM	**Tsumeb**	**39.00**	**30**	P	**P**	**05 18 29.6**	**+0.7**
	comp=Z,22nm,1.0s,baz=189,slow=9.8,SNR=34						
TSUM				LR	LR	05 32 09.2	
	comp=Z,1μm,18.6s,baz=200,slow=32						
	comp=Z,22nm,1.0s						
GO10	**Punta Arenas**	**39.04**	**244**	P	**P**	**05 18 30.4**	**+1.5**
GO10				IAmb	IAmb	05 18 38.3	
	comp=Z,343nm,1.6s						
QNGWA	**Qangwa**	**39.78**	**35**	*i* P	**P**	**05 18 35.2**	**-0.2**
QNGWA	**Qangwa**	**39.78**	**35**	*i* P	**P**	**05 18 35.3**	**-0.2**
BROLN	**Tlhalogang**	**40.57**	**44**	*i* P	**P**	**05 18 41.4**	**-0.5**
BROLN	**Tlhalogang**	**40.57**	**44**	*i* P	**P**	**05 18 41.5**	**-0.5**
PLTB	**Pedras Altas**	**43.16**	**281**	P	**P**	**05 19 04.0**	**+1.1**
PLTB				IAmb	IAmb	05 19 11.2	
	comp=Z,161nm,1.4s						
PLTB	**Pedras Altas**	**43.16**	**281**	*e*P	**P**	**05 19 03.2**	**+0.3**
TER01	**Tubaro-SC**	**43.18**	**289**	*e*P	**P**	**05 19 01.9**	**-1.2**
TRQA	**Tornquist**	**43.37**	**268**	P	**P**	**05 19 05.1**	**+0.6**
TRQA				IAmb	IAmb	05 19 12.6	
	comp=Z,128nm,1.1s						
TRQA	**Tornquist**	**43.37**	**268**	P	**P**	**05 19 05.1**	**+0.6**
TRQA				pmax	pmax		
	comp=Z,128nm,1.2s						
CNLB	**Canela**	**43.51**	**286**	*e*P	**P**	**05 19 06.1**	**+0.3**
COYC	**Coyhaique**	**44.04**	**252**	P	**P**	**05 19 10.3**	**+0.5**
CPSB	**Cacapava Do Su**	**44.10**	**283**	*e*P	**P**	**05 19 11.4**	**+1.0**
TBOT	**Tacuaremb**	**44.53**	**279**	*e*P	**P**	**05 19 14.3**	**+0.5**
AY01	**Puyuhuapi**	**45.09**	**253**	P	**P**	**05 19 18.9**	**+0.7**
AY01				IAmb	IAmb	05 19 26.5	
	comp=Z,179nm,1.2s						
ALF01	**Guarapari-ES**	**45.42**	**304**	*e*P	**P**	**05 19 20.8**	**-0.3**
LL02	**Futaleuf**	**45.45**	**255**	P	**P**	**05 19 21.7**	**+0.5**
PARB	**Paraibuna**	**45.53**	**297**	*e*P	**P**	**05 19 22.5**	**+0.4**
ITAB	**Concordia**	**45.83**	**287**	P	**P**	**05 19 24.6**	**+0.3**
ITAB				IAmb	IAmb	05 19 33.0	
	comp=Z,239nm,1.7s						
ITAB	**Concordia**	**45.83**	**287**	*e*P	**P**	**05 19 25.6**	**+1.3**
LSZ	**Lusaka**	**46.19**	**42**	P	**P**	**05 19 26.5**	**-0.8**
LSZ				IAmb	IAmb	05 19 39.9	
	comp=Z,78nm,1.4s						
LSZ	**Lusaka**	**46.19**	**42**	P	**P**	**05 19 27.2**	**-0.1**
	comp=Z,11nm,0.9s,baz=201,slow=7.8,SNR=18						
LSZ				LR	LR	05 36 42.2	
	comp=Z,4μm,18.2s,baz=196,slow=33						
	comp=Z,11nm,0.9s						
LSZ	**Lusaka**	**46.19**	**42**	P	**P**	**05 19 26.5**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,78nm,1.4s						
SPB	**Sao Paulo**	**46.26**	**294**	P	**P**	**05 19 27.7**	**0.0**
PLCA	**Paso Flores**	**46.38**	**258**	P	**P**	**05 19 28.6**	**0.0**
PLCA	**Paso Flores**	**46.38**	**258**	P	**P**	**05 19 28.7**	**+0.1**
	comp=Z,7.6nm,1.1s,baz=125,slow=6.8,SNR=5.3						
PLCA				LR	LR	05 36 26.0	
	comp=Z,1μm,21.5s,baz=147,slow=33						
	comp=Z,7.6nm,1.1s						
PLCA	**Paso Flores**	**46.38**	**258**	P	**P**	**05 19 28.6**	**0.0**
PLCA				pmax	pmax		
	comp=Z,49nm,1.3s						
PLCA	**Paso Flores**	**46.38**	**258**	*e*P	**P**	**05 19 29.7**	**+1.2**
RIB01	**Linhares ES**	**46.39**	**305**	*e*P	**P**	**05 19 29.3**	**+0.6**
VAO	**Valinhos**	**46.50**	**295**	*e*P	**P**	**05 19 31.0**	**+1.3**
VNDA	**Vanda**	**46.90**	**175**	P	**P**	**05 19 33.1**	**+1.0**
VNDA				IAmb	IAmb	05 19 41.1	
	comp=Z,86nm,1.1s						
VNDA	**Vanda**	**46.90**	**175**	P	**P**	**05 19 33.1**	**+1.0**
	comp=Z,15nm,0.9s,baz=205,slow=6.6,SNR=11						
VNDA				LR	LR	05 38 57.1	
	comp=Z,1μm,19.8s,baz=188,slow=36						
	comp=Z,15nm,0.9s						
BSFB	**Barra de Sao F**	**47.02**	**305**	*e*P	**P**	**05 19 34.1**	**+0.5**
LL03	**Petrohue**	**47.13**	**257**	P	**P**	**05 19 34.4**	**0.0**
SJMB	**Sao Joao De Ma**	**47.29**	**305**	*e*P	**P**	**05 19 35.3**	**-0.5**
LL04	**Puerto Octay**	**47.29**	**257**	P	**P**	**05 19 35.2**	**-0.4**
LL04				IAmb	IAmb	05 19 42.8	
	comp=Z,93nm,1.2s						
LR05	**Currie**	**47.53**	**258**	P	**P**	**05 19 37.6**	**+0.1**
FRTB	**Fartura**	**47.58**	**292**	*e*P	**P**	**05 19 39.5**	**+1.5**
PTGB	**Pitanga**	**47.80**	**289**	*e*P	**P**	**05 19 41.0**	**+1.2**
LR03	**Panguipulli**	**48.13**	**258**	P	**P**	**05 19 42.0**	**-0.2**
LDASE	**Londrina, Braz**	**48.36**	**291**	*e*P	**P**	**05 19 45.7**	**+1.6**
GUA01	**Guaratinga, BA**	**48.50**	**308**	*e*P	**P**	**05 19 44.9**	**-0.3**
DIAM	**Diamantina, MG**	**48.82**	**302**	*e*P	**P**	**05 19 47.7**	**-0.1**
BB19B	**Bebedouro**	**48.91**	**295**	*e*P	**P**	**05 19 49.4**	**+1.0**
VOI	**Vohitsoka**	**49.01**	**67**	P	**P**	**05 19 50.1**	**+0.9**
VOI				IAmb	IAmb	05 20 00.8	
	comp=Z,158nm,1.8s						
CPUP	**Villa Florida**	**49.41**	**282**	P	**P**	**05 19 51.7**	**-0.3**
CPUP				IAmb	IAmb	05 20 01.4	
	comp=Z,99nm,1.4s						
CPUP	**Villa Florida**	**49.41**	**282**	P	**P**	**05 19 51.7**	**-0.3**
	comp=Z,11nm,1.1s,baz=136,slow=7.2,SNR=14						
CPUP				LR	LR	05 37 23.6	
	comp=Z,1μm,22.0s,baz=156,slow=32						
	comp=Z,11nm,1.1s						
CPUP	**Villa Florida**	**49.41**	**282**	*e*P	**P**	**05 19 52.2**	**+0.2**
CMC01	**Camacan, BA**	**49.45**	**309**	*e*P	P	05 19 58.6	+6.1
SJPY	**San Joaquin**	**49.78**	**285**	*e*P	**P**	**05 19 54.7**	**-0.2**
PMNB	**Patos De Minas**	**49.97**	**299**	*e*P	**P**	**05 19 56.7**	**+0.2**
ML02	**Panimavida**	**50.34**	**262**	P	**P**	**05 19 58.9**	**-0.2**
ITRB	**Iturama**	**50.99**	**294**	*e*P	**P**	**05 20 05.1**	**+1.0**
BO01	**Tunca**	**51.14**	**264**	P	**P**	**05 20 05.7**	**+0.6**
MT13	**San Alfonso**	**51.16**	**265**	P	**P**	**05 20 05.6**	**+0.2**
MT13				IAmb	IAmb	05 20 18.6	
	comp=Z,118nm,1.2s						
IPMB	**Ipameri, GO**	**51.33**	**298**	*e*P	**P**	**05 20 06.7**	**0.0**
MT03	**Universidad Ad**	**51.47**	**265**	P	**P**	**05 20 08.0**	**+0.3**
MT16	**CCHEN**	**51.52**	**265**	P	**P**	**05 20 08.6**	**+0.5**
CFA	**Coronel Fontan**	**51.57**	**269**	LR	LR	05 39 07.0	
	comp=Z,584nm,21.5s,baz=124,slow=33						
MT05	**Renca**	**51.67**	**265**	P	**P**	**05 20 09.2**	**0.0**
PEL	**Peldehue**	**51.83**	**265**	P	**P**	**05 20 10.6**	**+0.3**
PEL	**Peldehue**	**51.83**	**265**	P	**P**	**05 20 10.6**	**+0.3**
PEL				pmax	pmax		
	comp=Z,201nm,1.2s						
JANB	**Januaria**	**51.92**	**304**	*e*P	**P**	**05 20 10.2**	**-0.9**
OPO	**Ambohidratompo**	**51.97**	**65**	LR	LR	05 37 54.4	
	comp=Z,1μm,20.3s,baz=351,slow=31						
VA05	**Santo Domingo**	**51.98**	**264**	P	**P**	**05 20 12.0**	**+0.7**
MT02	**Curacav**	**52.00**	**265**	P	**P**	**05 20 12.2**	**+0.6**
MT02				IAmb	IAmb	05 20 20.7	
	comp=Z,134nm,1.2s						
RPRD	**Ribas do Rio P**	**52.11**	**290**	*e*P	**P**	**05 20 13.1**	**+0.6**
NBAN	**Anadia - AL**	**53.18**	**316**	*e*P	**P**	**05 20 20.2**	**-0.2**
AQDB	**Aquidauana**	**53.19**	**288**	P	**P**	**05 20 20.4**	**0.0**
AQDB	**Aquidauana**	**53.19**	**288**	*e*P	**P**	**05 20 20.4**	**0.0**
BDFB	**Brasilia**	**53.21**	**299**	P	**P**	**05 20 20.1**	**-0.6**
BDFB	**Brasilia**	**53.21**	**299**	P	**P**	**05 20 20.7**	**-0.2**
	comp=Z,18nm,1.2s,baz=139,slow=4.8,SNR=13						
BDFB				LR	LR	05 38 45.0	
	comp=Z,1μm,19.3s,baz=157,slow=31						
	comp=Z,18nm,1.2s						
BDFB	**Brasilia**	**53.21**	**299**	P	**P**	**05 20 20.2**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,56nm,1.1s						
MURT	**Porto Murtinho**	**53.27**	**286**	*e*P	**P**	**05 20 20.4**	**-0.6**
BDQN	**Bodoquena, MS**	**53.78**	**288**	*e*P	**P**	**05 20 23.9**	**-0.9**
CO01	**Juntas del Tor**	**53.84**	**268**	P	**P**	**05 20 26.2**	**+0.7**
CO01				IAmb	IAmb	05 20 34.6	
	comp=Z,159nm,1.3s						
NBCA	**Caruaru-PE**	**54.39**	**317**	*e*P	**P**	**05 20 29.4**	**0.0**
SDBA	**SAO DESIDERIO**	**54.50**	**305**	*e*P	**P**	**05 20 29.8**	**-0.3**
LCO	**Las Campanas**	**54.92**	**269**	P	**P**	**05 20 33.3**	**-0.1**
LCO				IAmb	IAmb	05 20 41.0	
	comp=Z,120nm,1.4s						
LCO	**Las Campanas**	**54.92**	**269**	P	**P**	**05 20 33.3**	**-0.1**
LCO				pmax	pmax		
	comp=Z,120nm,1.4s						
ARAG	**Araguaiana, MT**	**55.08**	**296**	*e*P	**P**	**05 20 33.9**	**-0.4**
AC02	**Maricunga**	**55.68**	**272**	P	**P**	**05 20 39.2**	**0.0**
AC06	**Mina Casimiro**	**55.98**	**270**	P	**P**	**05 20 41.2**	**+0.5**
RCBR	**Riachuelo**	**56.54**	**318**	LR	LR	05 39 55.3	
	comp=Z,445nm,18.9s,baz=156,slow=31						
SALV	**Santo Antonio**	**56.94**	**292**	*e*P	**P**	**05 20 48.4**	**+0.8**
GO02	**Mina Guanaco**	**57.23**	**273**	P	**P**	**05 20 49.6**	**-0.4**
GO02				IAmb	IAmb	05 20 58.6	
	comp=Z,125nm,1.3s						
SNDB	**Serra Nova Dou**	**57.98**	**298**	*e*P	**P**	**05 20 55.4**	**+0.4**
NBPB	**Pedra_Branca-C**	**58.26**	**314**	*e*P	**P**	**05 20 56.6**	**-0.3**
PTLB	**Pontes e Lacer**	**59.16**	**289**	P	**P**	**05 21 02.6**	**-0.6**
PTLB				IAmb	IAmb	05 21 10.2	
	comp=Z,53nm,1.2s						
PTLB	**Pontes e Lacer**	**59.16**	**289**	*e*P	**P**	**05 21 03.0**	**-0.2**
SIV	**San Ignacio**	**59.76**	**287**	LR	LR	05 43 58.5	
	comp=Z,1μm,19.6s,baz=144,slow=33						
MBAR	**Mbarara**	**60.67**	**38**	P	**P**	**05 21 14.4**	**+0.7**
MBAR	**Mbarara**	**60.67**	**38**	*i* P	**P**	**05 21 14.2**	**+0.5**
MBAR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PB08	**IPOC Station P**	**60.93**	**277**	P	**P**	**05 21 16.0**	**+0.2**
PB08				IAmb	IAmb	05 21 23.8	
	comp=Z,66nm,1.5s						
PDRB	**Porto dos Gac**	**61.07**	**293**	*e*P	**P**	**05 21 16.9**	**+0.5**
TA02	**Huaiquique**	**61.38**	**276**	P	**P**	**05 21 18.4**	**+0.1**
TA02				IAmb	IAmb	05 21 25.8	
	comp=Z,117nm,1.6s						
PB11	**IPOC Station P**	**61.51**	**276**	P	**P**	**05 21 18.9**	**-0.6**
PB11				IAmb	IAmb	05 21 27.7	
	comp=Z,145nm,1.9s						
VILB	**Vilhena**	**61.79**	**289**	P	**P**	**05 21 21.1**	**-0.1**
VILB				IAmb	IAmb	05 21 28.6	
	comp=Z,81nm,1.3s						
VILB	**Vilhena**	**61.79**	**289**	*e*P	**P**	**05 21 21.3**	**+0.1**
KIBK	**Kibwezi**	**61.87**	**46**		**P**	**05 21 21.9**	**+0.2**
KIBK				IAmb	IAmb	05 21 26.2	
	comp=Z,89nm,1.7s						
DBIC	**Dimbokro**	**61.95**	**356**	P	**P**	**05 21 21.6**	**-0.5**
DBIC	**Dimbokro**	**61.95**	**356**	P	**P**	**05 21 22.1**	**0.0**
	comp=Z,41nm,1.0s,baz=160,slow=7.5,SNR=28						
DBIC				LR	LR	05 43 14.8	
	comp=Z,193nm,19.4s,baz=160,slow=31						
	comp=Z,41nm,1.0s						
DBIC	**Dimbokro**	**61.95**	**356**	P	**P**	**05 21 21.6**	**-0.5**
DBIC				pmax	pmax		
	comp=Z,250nm,1.7s						
KMBO	**Kilima Mbogo**	**62.65**	**45**	P	**P**	**05 21 28.4**	**+1.2**
KMBO				IAmb	IAmb	05 21 32.5	
	comp=Z,98nm,1.9s						
KMBO	**Kilima Mbogo**	**62.65**	**45**	P	**P**	**05 21 27.4**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=202,slow=10,SNR=23						
KMBO				LR	LR	05 46 52.5	
	comp=Z,2μm,18.8s,baz=217,slow=34						
	comp=Z,1.0nm,0.3s						
PB12	**IPOC Station P**	**62.81**	**277**	P	**P**	**05 21 28.1**	**0.0**
PB12				IAmb	IAmb	05 21 36.3	
	comp=Z,68nm,1.5s						
PB18	**Visviri**	**63.15**	**278**	P	**P**	**05 21 31.0**	**+0.2**
LPAZ	**La Paz**	**63.43**	**280**	P	**P**	**05 21 32.4**	**-0.5**
LPAZ				IAmb	IAmb	05 21 40.6	
	comp=Z,91nm,1.2s						
LPAZ	**La Paz**	**63.43**	**280**	P	**P**	**05 21 32.8**	**-0.1**
	comp=Z,67nm,1.4s,baz=122,slow=5.5,SNR=55						
LPAZ				LR	LR	05 47 10.3	
	comp=Z,1μm,21.0s,baz=118,slow=34						
	comp=Z,67nm,1.4s						
LPAZ	**La Paz**	**63.43**	**280**	P	**P**	**05 21 32.4**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,91nm,1.3s						
LPAZ	**La Paz**	**63.43**	**280**	*e*P	**P**	**05 21 32.6**	**-0.3**
NPGB	**Novo Progresso**	**64.23**	**297**	*e*P	**P**	**05 21 37.9**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**64.80**	**307**	*e*P	**P**	**05 21 41.4**	**+0.3**
LODK	**Lodwar**	**66.07**	**41**	P	**P**	**05 21 50.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**68.39**	**3**	P	**P**	**05 22 03.0**	**-0.9**
TORD				IAmb	IAmb	05 22 04.9	
	comp=Z,90nm,1.9s						
TORD	**Torodi Ar. Bea**	**68.39**	**3**	P	**P**	**05 22 04.2**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=194,slow=5.5,SNR=4.7						
	comp=Z,5.4nm,0.7s						
MACA	**Manacapuru-AM**	**70.27**	**295**	P	**P**	**05 22 15.0**	**-0.7**
MACA				IAmb	IAmb	05 22 22.4	
	comp=Z,63nm,1.1s						
NNA	**Nana**	**71.83**	**275**	P	**P**	**05 22 25.1**	**-0.1**
NNA				IAmb	IAmb	05 22 33.0	
	comp=Z,91nm,1.4s						
NNA	**Nana**	**71.83**	**275**	LR	LR	05 52 04.3	
	comp=Z,896nm,21.9s,baz=150,slow=34						
NNA	**Nana**	**71.83**	**275**	*i* P	**P**	**05 22 25.3**	**+0.1**
NNA				pmax	pmax		
	comp=Z,42nm,1.2s						
NNA	**Nana**	**71.83**	**275**	P	**P**	**05 22 23.5**	**-1.7**
	comp=Z,26nm,0.4s						
TEFE	**Tefe**	**72.06**	**291**	*e*P	**P**	**05 22 26.6**	**+0.1**
CZSB	**Cruzeiro do Su**	**72.97**	**281**	P	**P**	**05 22 30.4**	**-1.5**
CZSB				IAmb	IAmb	05 22 39.1	
	comp=Z,86nm,1.5s						
CZSB	**Cruzeiro do Su**	**72.97**	**281**	*e*P	**P**	**05 22 31.7**	**-0.3**
MDP	**Montagnes des**	**73.47**	**306**	LR	LR	05 50 00.7	
	comp=Z,1μm,21.8s,baz=104,slow=32						
TBTG	**Tabatinga, AM**	**74.34**	**286**	P	**P**	**05 22 38.1**	**-1.9**
TBTG	**Tabatinga, AM**	**74.34**	**286**	*e*P	**P**	**05 22 39.9**	**-0.1**
H01W2	**Cape Leeuwin H**	**74.66**	**130**	T	T	06 45 29.6	
	baz=210,slow=75,SNR=181						
H01W1	**Cape Leeuwin H**	**74.67**	**130**	T	T	06 45 33.9	
	baz=210,slow=75,SNR=193						
H01W3	**Cape Leeuwin H**	**74.67**	**130**	T	T	06 45 27.7	
	baz=210,slow=75,SNR=151						
BOAV	**Boa Vista**	**74.93**	**298**	P	**P**	**05 22 42.3**	**-1.1**
BOAV	**Boa Vista**	**74.93**	**298**	*e*P	**P**	**05 22 43.1**	**-0.3**
ATD	**Arta Tunnel**	**76.39**	**45**	P	**P**	**05 22 52.8**	**+1.1**
ATD	**Arta Tunnel**	**76.39**	**45**	LR	LR	05 56 28.9	
	comp=Z,46nm,18.6s,baz=192,slow=36						
ATAH	**Atahualpa**	**76.65**	**277**	LR	LR	05 55 40.4	
	comp=Z,981nm,21.5s,baz=162,slow=35						
NWAO	**Narrogin (SRO)**	**77.68**	**131**	P	**P**	**05 22 58.4**	**-0.5**
NWAO				IAmb	IAmb	05 23 11.8	
	comp=Z,60nm,1.1s	

comp=Z,59nm,1.4s
EIL Elat 90.38 31 LR LR 06 04 19.4
comp=Z,454nm,18.4s,baz=238,slow=35
SJG San Juan 91.19 301 LR LR 06 01 58.4
comp=Z,939nm,19.5s,baz=161,slow=34
KEST Kesra 91.30 9 P **P** **05 24 08.5 +1.0**
KEST IAmb IAmb 05 24 17.2
comp=Z,65nm,1.3s
KEST Kesra 91.30 9 P **P** **05 24 08.0 +0.5**
comp=Z,16nm,1.0s,baz=196,slow=2.3,SNR=12
KEST LR LR 06 04 34.8
comp=Z,187nm,18.1s,baz=224,slow=35
comp=Z,16nm,1.0s
GCPR Guaynabo City 91.33 301 P **P** **05 24 07.5 -0.5**
GCPR IAmb IAmb 05 24 14.8
comp=Z,47nm,1.4s
PALK Pallekele 91.60 80 LR LR 05 57 26.7
comp=Z,769nm,19.6s,baz=214,slow=30
BRU2 Volcan 92.14 282 P **P** **05 24 12.5 +0.4**
ASAR Alice Springs 92.57 140 P **P** **05 24 13.0 -0.9**
ASAR Alice Springs 92.57 140 P **P** **05 24 13.4 -0.5**
comp=Z,5.8nm,1.0s,baz=205,slow=4.6,SNR=28
ASAR LR LR 06 00 31.5
comp=Z,334nm,18.9s,baz=190,slow=32
comp=Z,5.8nm,1.0s
ASAR Alice Springs 92.57 140 P **P** **05 24 13.0 -0.9**
AS31 Alice Springs 92.57 140 P **P** **05 24 12.6 -1.4**
ASF Jabal al Asfar 93.30 32 LR LR 06 03 17.4
comp=Z,423nm,21.8s,baz=239,slow=34
RAFF Raffo Rosso 93.31 13 P **P** **05 24 16.6 0.0**
WSAR Wadi Sarin 93.58 53 LR LR 06 02 17.6
comp=Z,313nm,21.8s,baz=234,slow=33
MMAI Mount Meron Ar 93.64 30 LR LR 06 05 26.5
comp=Z,334nm,19.1s,baz=192,slow=35
HDC Heredia 93.92 282 P **P** **05 24 20.2 -0.1**
HDC IAmb IAmb 05 25 11.0
comp=Z,27nm,0.5s
FITZ Fitzroy Crossi 94.27 131 P **P** **05 24 20.7 -1.0**
FITZ Fitzroy Crossi 94.27 131 LR LR 06 01 05.2
comp=Z,712nm,20.1s,baz=236,slow=32
CEL Celeste 94.53 14 P **P** **05 24 23.4 +1.1**
CEL IAmb IAmb 05 24 32.5
comp=Z,86nm,1.8s
CEL Celeste 94.53 14 P **P** **05 24 22.7 +0.4**
comp=Z,20nm,1.7s
JTS Las Juntas de 94.63 281 P **P** **05 24 22.9 -0.4**
JTS Las Juntas de 94.63 281 LR LR 06 08 42.3
comp=Z,186nm,19.2s,baz=129,slow=37
JTS Las Juntas de 94.63 281 P **P** **05 24 22.9 -0.4**
JTS pmax pmax
comp=Z,31nm,1.4s
ESDC Sonseca Array 94.77 358 P **P** **05 24 23.5 +0.1**
ESDC IAmb IAmb 05 24 37.6
comp=Z,55nm,1.8s
ESDC Sonseca Array 94.77 358 P **P** **05 24 24.5 +1.0**
comp=Z,3.8nm,1.0s,baz=184,slow=3.8,SNR=11
ESDC LR LR 06 04 16.1
comp=Z,172nm,18.5s,baz=191,slow=34
comp=Z,3.8nm,1.0s
LEM Lembang 95.13 110 LR LR 05 59 06.4
comp=Z,1μm,20.1s,baz=248,slow=30
TIP Timpagrande 95.56 14 P **P** **05 24 28.0 +1.0**
TIP IAmb IAmb 05 24 30.4
comp=Z,66nm,1.8s
TIP Timpagrande 95.56 14 P **P** **05 24 27.1 +0.1**
comp=Z,15nm,1.7s
ELL Elmali 95.71 25 P **P** **05 24 29.1 +1.3**
ELL IAmb IAmb 05 27 58.7
comp=Z,26nm,0.7s
ELL Elmali 95.71 25 P **P** **05 24 29.2 +1.3**
ELL pmax pmax
comp=Z,26nm,0.7s
WRA Warramunga Arr 96.12 139 P **P** **05 24 29.6 -0.7**
WRA Warramunga Arr 96.12 139 P **P** **05 24 28.9 -1.4**
comp=Z,4.8nm,1.3s,baz=199,slow=4.0,SNR=9.1
WRA LR LR 06 02 31.2
comp=Z,348nm,19.8s,baz=200,slow=32
comp=Z,4.8nm,1.3s
WRA Warramunga Arr 96.12 139 P **P** **05 24 29.6 -0.7**
WRA pmax pmax
comp=Z,2.0nm,1.7s
WB2 Warramunga Arr 96.13 139 P **P** **05 24 29.5 -0.8**
WB2 IAmb IAmb 05 24 31.2
comp=Z,35nm,1.6s
WRAB Tennant Creek 96.14 139 *i* P **P** **05 24 29.0 -1.3**
WRAB pmax pmax
comp=Z,11nm,0.9s
WR0 Warramunga Arr 96.19 139 P **P** **05 24 29.7 -0.8**
WR0 IAmb IAmb 05 27 31.6
comp=Z,12nm,0.7s
EIDS Eidsvold 96.19 155 P **P** **05 24 29.0 -1.5**
EIDS IAmb IAmb 05 24 32.5
comp=Z,33nm,1.6s
PSI Prapat 98.28 97 LR LR 06 02 05.5
comp=Z,266nm,18.4s,baz=215,slow=31
MARD Mardin 99.24 33 P **Pdif** **05 24 45.2 +1.4**
MARD IAmb IAmb 05 24 50.9
comp=Z,26nm,1.8s
BR131 Keskin Array S 99.46 27 P **Pdif** **05 24 45.6 +0.9**
BR131 Keskin Array S 99.46 27 P **Pdif** **05 24 45.6 +0.9**
BR131 pmax pmax
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 99.46 27 P **Pdif** **05 24 45.4 +0.7**
comp=Z,0.5nm,0.9s,baz=126,slow=2.1,SNR=4.8
BRTR PP **PP** **05 28 47.2 -1.6**
comp=Z,2.5nm,1.0s,baz=200,slow=9.2,SNR=11
BRTR LR LR 06 11 33.0
comp=Z,175nm,19.1s,baz=166,slow=36
comp=Z,0.5nm,0.9s
MAK Makhachkala 106.52 35 *i* P **Pdif** **05 25 11.8 -4.0**
MAK *e* 05 29 37.4
MAK *e*PPP PPP 05 31 54.6
MAK *e* 05 35 50.4
MAK *e* 05 36 38.0
MAK *e*SS SS 05 44 39.6 -5.4
MAK *e*SSS SSS 05 48 44.1
MAK pmax pmax
comp=Z,98nm,1.2s
MAK MLR MLR
comp=Z,484nm,15.0s
CLL Collm 107.08 10 *e*PS PS 05 39 07.0 +1.9
CLL *e*SS SS 05 45 00.0 +7.6
CLL AMS AMS 06 18 00.0
comp=Z,200nm,20.3s
AK10 Malin Array Si 108.77 20 P **Pdif** **05 25 26.5 +0.9**
AKASG Malin Array Be 108.86 20 PP **PP** **05 29 55.5 -2.9**
comp=Z,1.8nm,0.8s,baz=208,slow=7.4,SNR=16
AKBB Malin Array Si 108.86 20 P **Pdif** **05 25 26.7 +0.7**
CMAR Chiang Mai Arr 110.97 88 PKiKP **PKiKP** **05 29 35.5 -0.1**
comp=Z,0.6nm,0.5s,baz=224,slow=3.5,SNR=4.2
CMAR PP **PP** **05 30 12.9 -1.1**
comp=Z,0.4nm,0.3s,baz=217,slow=4.4,SNR=4.2
MNK Minsk 112.23 18 *i* P **Pdif** **05 25 44.6 +3.7**
MNK *i* 05 30 25.6
MNK *i* PPP PPP 05 32 47.6
MNK *i* 05 36 53.2
MNK *i* SS SS 05 46 06.0 +4.5
MNK *i* SSS SSS 05 50 16.5
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=N,22nm,0.9s
MNK MLR MLR
comp=Z,166nm,19.0s
MNK MLR MLR
comp=N,635nm,24.0s
OBN Obninsk 114.54 23 *i* PKIKP **PKiKP** **05 29 44.0 +2.8**
OBN *e* 05 30 37.5
OBN *e*PPP PPP 05 33 04.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,149nm,21.0s
KSH Kashi 115.23 57 PKP **PKPdf** **05 29 43.1 -0.2**
VSU Vasula 115.83 16 *i* PKIKP **PKiKP** **05 29 45.6 +2.1**
NOA NORSAR Array B 116.59 7 PKP **PKPdf** **05 29 44.5 -0.5**
comp=Z,0.3nm,0.8s,baz=198,slow=1.6,SNR=2.6
QIZ Qiongzhong 117.62 96 PKP **PKiKP** **05 29 49.8 +1.5**
QIZ SS SS 05 47 16.1 +3.3
QIZ LR LR
comp=Z,360nm,12.8s
QIZ LR LR
comp=Z,550nm,12.7s
QIZ LR LR
comp=Z,540nm,20.1s
PZH PanZhiHua 118.87 85 PKP **PKPdf** **05 29 51.1 +0.4**
TXAR Lajitas Array 120.29 279 PKP **PKPdf** **05 29 52.2 -1.0**
comp=Z,1.4nm,1.0s,baz=313,slow=0.8,SNR=8.3
TXAR PKKPbc **PKKPbc** **05 39 59.1 +0.6**
comp=Z,0.4nm,0.8s,baz=337,slow=2.9,SNR=4.1
KLMR Klimovskoe 120.44 22 *e*PKIKP **PKPdf** **05 29 51.0 -1.4**
KLMR pmax pmax
comp=Z,26nm,1.6s
ARTI Arti 121.64 34 *i* PKIKP **PKiKP** **05 29 56.0 +1.0**
ARTI 05 31 28.4
ARTI 05 37 07.7
ARTI SS SS 05 48 06.1 +1.9
SCHQ Schefferville 122.15 322 PKP **PKPdf** **05 29 54.7 -1.2**
comp=Z,2.9nm,0.7s,baz=165,slow=3.7,SNR=6.4
GOMU GeErMu 122.34 72 PKP **PKPdf** **05 29 57.8 +0.4**
BRVK Borovoye 123.26 43 *i* PKIKP **PKPdf** **05 29 58.5 +0.4**
BVAR Borovoye Array 123.28 43 PKP **PKPdf** **05 29 58.4 +0.3**
comp=Z,2.8nm,0.7s,baz=207,slow=1.0,SNR=18
CD2 Chengdu 123.37 83 PKP **PKPdf** **05 29 58.6 -0.5**
MK31 Makanchi Array 123.76 55 *i* PKIKP **PKiKP** **05 30 00.7 +1.2**
MKAR Makanchi Array 123.76 55 PKP **PKPdf** **05 29 59.3 0.0**
comp=Z,2.9nm,0.3s,baz=222,slow=1.9,SNR=63
WMQ Urumqi 124.21 61 PKP **PKiKP** **05 30 01.0 +0.4**
WMQ LR LR
comp=Z,410nm,13.3s
WMQ LR LR
comp=Z,500nm,18.7s
WMQ LR LR
comp=Z,410nm,22.9s
KURK Kurchatov 124.96 50 *i* PKIKP **PKPdf** **05 30 00.0 -1.4**
APA Apatity 125.44 16 ⇓*i* PKIKP **PKPdf** **05 30 01.0 -0.8**
APA *i* 05 32 00.7
APA pmax pmax
comp=Z,14nm,1.0s
LVZ Lovozero 125.94 16 *i* PKIKP **PKPdf** **05 30 03.0 +0.2**
LVZ pmax pmax
comp=Z,52nm,1.2s
ARCES ARCESS Array B 126.23 11 PKP **PKPdf** **05 30 01.1 -2.1**
comp=Z,5.0nm,0.9s,baz=197,slow=2.8,SNR=4.9
LZH Lanzhou 127.23 79 *e*PKP **PKiKP** **05 30 07.4 +0.4**
GTA Gaotai 127.39 73 PKP **PKPdf** **05 30 06.5 -0.1**
GTA sPKP 05 30 13.1
GTA LR LR
comp=Z,200nm,18.2s
GTA LR LR
comp=Z,230nm,17.1s
GTA LR LR
comp=Z,290nm,18.2s
XAN Xi'an 128.61 84 ⇑PKP **PKPdf** **05 30 08.9 -0.1**
XAN LR LR
comp=Z,430nm,17.2s
XAN LR LR
comp=Z,400nm,17.2s
XAN LR LR
comp=Z,580nm,16.5s
ZALV Zalesovo Beam 129.94 50 PKP **PKPdf** **05 30 08.1 -2.7**
comp=Z,1.2nm,0.7s,baz=202,slow=3.2,SNR=6.2
LYN LuoYang 130.99 87 PKP **PKiKP** **05 30 19.9 +5.5**
ULM Lac du Bonnet 131.09 302 PKP **PKPdf** **05 30 11.1 -2.0**
comp=Z,4.0nm,1.0s,baz=208,slow=6.6,SNR=5.8
NJ2 Nanjing 132.80 94 *e*PKP **PKPdf** **05 30 17.8 +0.9**
PDAR Pinedale Array 133.25 286 PKP **PKPdf** **05 30 15.8 -2.0**
comp=Z,1.6nm,1.1s,baz=96,slow=1.5,SNR=8.4
SPITS Spitsbergen Ar 133.82 5 PKP **PKPdf** **05 30 18.3 +0.8**
comp=Z,18nm,1.1s,baz=206,slow=7.4,SNR=3.2
BTO Baotou 133.85 79 *e*PKP **PKPdf** **05 30 19.2 +0.4**
BTO LR LR
comp=Z,520nm,11.2s
BTO LR LR
comp=Z,380nm,6.6s
BTO LR LR
comp=Z,400nm,12.2s
HNS HongShan 134.29 86 ⇓PKP **PKiKP** **05 30 26.0 +5.1**
HNS LR LR
comp=Z,220nm,17.7s
HNS LR LR
comp=Z,520nm,22.6s
HNS LR LR
comp=Z,520nm,22.4s
HHC Hu-ho-hao-te 134.88 80 *e*PKP **PKPdf** **05 30 18.5 -2.2**
HHC LR LR
comp=Z,210nm,19.3s
HHC LR LR
comp=Z,230nm,17.7s
HHC LR LR
comp=Z,250nm,22.7s
NVAR Mina Array Bea 135.20 275 PKP **PKPdf** **05 30 21.1 -0.5**
comp=Z,1.0nm,0.8s,baz=178,slow=5.8,SNR=6.5
MOY Mondy 136.10 61 *e*PKIKP **PKPdf** **05 30 21.9 -0.7**
MOY pmax pmax
comp=Z,32nm,2.9s
ZAK Zakamensk 136.48 64 *e*PKIKP **PKPdf** **05 30 21.7 -1.7**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
SONM Songino Array 136.56 69 PKP **PKPdf** **05 30 22.9 -0.8**
comp=Z,2.6nm,0.9s,baz=214,slow=1.7,SNR=11
SONM PP **PP** **05 33 09.4 +3.1**
comp=Z,2.1nm,1.2s,baz=232,slow=7.3,SNR=4.2
XLT XiLinHaoTe 139.41 80 *e*PKP PKPdf 05 30 21.5 -7.5
XLT sPKP 05 30 28.8
KSRS Korea Array 141.85 97 PKP **PKPdf** **05 30 31.2 -2.2**
comp=Z,1.5nm,0.8s,baz=180,slow=0.8,SNR=8.0
PGC Sidney 144.52 284 PKPdf **PKPab** **05 30 36.6 +0.3**
HIA Hailar 144.61 75 **PKPab** **05 30 36.4 -0.3**
HIA Hailar 144.61 75 PKIKP **PKPab** **05 30 36.4 -0.3**
CN2 Changchun 144.64 87 PKP **PKPab** **05 30 36.4 -0.5**
CN2 PP **PP** **05 33 57.8 +2.2**
CN2 AMB AMB
comp=Z,200nm,5.0s
C03A Quillayute Air 144.75 282 PKPbc 05 30 38.0 +0.8
CLRS Cowichan Lake 144.99 284 **PKPab** **05 30 37.8 -0.2**
INU Inuyama 145.38 108 **PKPbc** **05 30 38.8 -0.8**
BOD Bodaibo 145.70 59 *e*PKIKP **PKPdf** **05 30 38.3 -1.2**
BOD pmax pmax
comp=Z,101nm,1.6s
YKA Yellowknife Ar 146.22 310 PKPbc **PKPdf** **05 30 39.3 -1.0**
comp=Z,13nm,0.8s,baz=114,slow=2.8,SNR=104
YKA PP **PP** **05 34 04.4 -0.3**
comp=Z,0.9nm,1.0s,baz=116,slow=6.4,SNR=4.0
MAJO Matsushiro 146.91 108 **PKPdf** **05 30 43.6 +1.2**
MAJO Matsushiro 146.91 108 PKP2 **PKPdf** **05 30 43.6 +1.2**
MJAR Matsushiro Arr 146.91 108 PKPbc **PKPdf** **05 30 43.4 +1.0**
comp=Z,9.6nm,1.1s,baz=212,slow=3.4,SNR=18
BNX BinXian 146.92 85 ⇑PKPbc **PKPdf** **05 30 42.2 +0.2**
MSHR Mys Shultsa 147.13 93 *i* PKP2 **PKPdf** **05 30 43.3 +0.9**
MSHR pmax pmax
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 148.61 91 PKPbc **PKPbc** **05 30 47.8 -0.8**
comp=Z,3.5nm,0.7s,baz=230,slow=1.8,SNR=9.8
HEH HeiHe 149.37 78 PKPbc **PKPdf** **05 30 45.7 -0.2**
HEH LR LR
comp=Z,320nm,20.2s
HEH LR LR
comp=Z,340nm,19.6s
HEH LR LR
comp=Z,370nm,18.6s
ZEA Zeya 150.87 72 *e*PKIKP **PKPbc** **05 30 53.6 -0.2**
ZEA pmax pmax
comp=Z,30nm,1.4s
KLR Kul'dur 151.30 83 *i* PKIKP **PKPbc** **05 30 53.0 -1.9**
KLR pmax pmax
comp=Z,55nm,1.5s
YSS Yuzhno-Sakhali 156.35 96 *e*PKIKP **PKPdf** **05 30 55.7 -0.4**
YSS pmax pmax
comp=Z,30nm,1.3s
ILAR Eielson Array 160.59 313 PKP **PKPdf** **05 31 00.8 +0.1**
comp=Z,2.0nm,1.0s,baz=312,slow=2.5,SNR=5.5
ILAR PKPab **PKPab** **05 31 42.5 0.0**
comp=Z,10nm,1.2s,baz=82,slow=2.8,SNR=21
ILAR PP **PP** **05 35 27.3 +1.5**
comp=Z,1.8nm,1.2s,baz=37,slow=4.2,SNR=6.8
WRH Wood River Hil 161.16 312 PKPab **PKPab** **05 31 44.7 -0.3**
G23K Bananza Creek 161.26 320 **PKPab** **05 31 46.1 +0.6**
SEY Seymchan 164.81 50 *i* PKIKP **PKPdf** **05 31 01.4 -3.5**
SEY pmax pmax
comp=Z,12nm,1.7s
BILL Bilibino 166.17 19 *i* PKIKP **PKPdf** **05 31 03.8 -2.1**
BILL pmax pmax
comp=Z,25nm,1.8s
PETK Petropavlovsk- 167.70 92 PKP **PKPdf** **05 31 05.5 -2.0**
comp=Z,4.9nm,1.0s,baz=282,slow=2.8,SNR=3.9

*GUC **06** 05:14:58.2±0.7,29°.21S×71°.27W,h56km,mb3.9*

*SJA **06** 05:14:58.5±1.0,29°.13S×71°.18W,h35km,ML3.5,MW3.9*
ISC 06 05:14:56.6±1.5,**29°.19S**±0°.03×**71°.47W**±0°.07,**h14**km±**10**km,
n25,σ**1**°**47**/**31**,**4C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.70**	**75**	*e*P	**Pg**	**05 15 10.3**	**-0.1**
LCO				*e*S	**Sg**	**05 15 19.4**	**-0.2**
AC04	**Llanos de Chal**	**1.04**	**20**	⇑*i*P	**Pg**	**05 15 16.6**	**-0.2**
AC04				*e*S	**Sg**	**05 15 30.3**	**-0.1**
AC04				IAML		05 15 32.2	
comp=E,2μm,0.2s							
GO04	**Tololo Observa**	**1.14**	**149**	⇑*i*P	**Pg**	**05 15 17.3**	**-1.4**
GO04				*e*S	**Sg**	**05 15 31.4**	**-2.3**
GO04				IAML		05 15 33.0	
comp=N,16μm,0.1s							
CO01	**Juntas del Tor**	**1.44**	**123**	⇑*i*P	**Pn**	**05 15 21.4**	**-1.0**
CO01				IAML		05 15 39.7	
comp=N,2μm,0.2s							
CO06	**Fray Jorge**	**1.49**	**185**	*e*P	**Pn**	**05 15 22.6**	**-0.4**
CO03	**El Pedregal**	**1.78**	**158**	*e*P	**Pn**	**05 15 26.4**	**-0.7**
CO03				*e*S	**Sn**	**05 15 47.5**	**-2.0**
CO03				IAML		05 15 49.5	
comp=E,2μm,0.2s							
AROD	**Rodeo**	**1.99**	**120**	*e*P	**Pn**	**05 15 30.4**	**+0.2**
AROD				*e*S	**Sn**	**05 15 53.3**	**-1.8**
AC06	**Mina Casimiro**	**2.08**	**29**	⇑*i*P	**Pn**	**05 15 30.4**	**-0.6**
AC06				*e*S	**Sn**	**05 15 55.0**	**-1.7**
ACDV	**Cuesta del Vie**	**2.27**	**116**	*e*P	**Pn**	**05 15 34.3**	**+0.5**
ACCO	**Cerro Coronel**	**2.51**	**124**	*e*P	**Pn**	**05 15 38.6**	**+1.2**
AGUA	**GUANDACOL**	**2.62**	**97**	*e*P	**Pn**	**05 15 40.0**	**+1.3**
AGUA				IAML		05 16 31.1	
comp=Z,244nm,0.4s							
VCA	**Vinchina**	**2.90**	**82**	*e*P	**Pn**	**05 15 44.7**	**+2.2**
VCA				IAML		05 16 30.0	
comp=Z,238nm,0.9s							
AC02	**Maricunga**	**3.13**	**42**	*e*P	**Pn**	**05 15 45.5**	**-0.5**
AC02				IAML		05 16 39.2	
comp=E,448nm,0.3s							
RTLS	**Leoncito**	**3.21**	**145**	*e*P	**Pn**	**05 15 48.9**	**+2.0**
RTLL	**Cerro Villicun**	**3.36**	**130**	*e*P	**Pn**	**05 15 49.0**	**+0.3**
SJA	**San Juan**	**3.43**	**134**	*e*P	**Pb**	**05 16 00.1**	**+2.9**
AUSP	**Uspallata**	**3.52**	**150**	*e*P	**Pn**	**05 15 53.0**	**+1.9**
AVFE	**Valle Fertil**	**3.78**	**114**	*e*P	**Pn**	**05 15 54.4**	**-0.2**
AVFE				IAML		05 16 56.4	
comp=Z,114nm,0.7s							
ACLC	**CERRO LA CRUZ**	**3.96**	**95**	*e*P	**Pn**	**05 15 56.7**	**-0.4**
ACLC				IAML		05 16 59.8	
comp=Z,49nm,0.6s							
ASAL	**Salagasta**	**4.08**	**147**	*e*P	**Pn**	**05 16 00.5**	**+1.8**
ARCO	**CERRO ARCO**	**4.24**	**150**	*e*P	**Pn**	**05 16 03.1**	**+2.1**
APLL	**PUNTA DE LOS L**	**4.46**	**107**	*e*P	**Pn**	**05 16 03.2**	**-0.7**
AAGR	**Agrelo**	**4.50**	**150**	*e*P	**Pn**	**05 16 06.7**	**+2.3**
CYA	**Choya**	**5.03**	**83**	*e*P	**Pn**	**05 16 10.9**	**-0.8**
CYA				IAML		05 17 13.6	
comp=Z,28nm,1.0s							
FSA	**Cafayete**	**5.76**	**59**	*e*P	**Pn**	**05 16 22.1**	**+0.2**

*IDC **06** 05:22:24.3±2.6,55°.33S×1°.73W,h0km,mb4.1/5,*
mbtmp4.1/6,ML4.1/1,MS4.0/1,Error ellipse: s-maj=75.0km
s-min=29.4km az=61.0
*NEIC **06** 05:22:25.8±0.6,55°.35±0°.1×1°.7W±0°.3,h10km±1km,*
mb4.5/11,Error ellipse: s-maj=26.9km s-min=17.7km
az=117.0
ISC 06 05:22:26.6±1.0,**55°.3S**±0°.1×**1°.7W**±0°.2,**h16**km,**n28**,
σ**0**°**58**/**22**,**mb4.4**/**10**,**3C-1D**,**Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**15.86**	**187**	⇑P	**Pn**	**05 26 09.9**	**+1.1**
comp=Z,4.8nm,0.3s,baz=356,slow=15							
VNA3	**Neumayer Olymp**	**16.35**	**189**	⇑P	**Pn**	**05 26 15.4**	**+0.3**
comp=Z,3.9nm,0.4s							
SNAA	**Sanae**	**16.42**	**181**	Pn	**Pn**	**05 26 16.5**	**+0.5**
SNAA				IAmb	IAmb	05 26 39.9	
comp=Z,16nm,1.2s							
SNAA	**Sanae**	**16.42**	**181**	⇑P	**Pn**	**05 26 16.8**	**+0.7**
comp=Z,123nm,0.7s							
SNAA	**Sanae**	**16.42**	**181**	Pn	**Pn**	**05 26 16.1**	**0.0**
comp=Z,0.6nm,0.3s,baz=358,slow=17,SNR=18							
comp=Z,2.9nm,0.5s							
SYO	**Syowa Base**	**23.06**	**143**	⇓*ep*P	**P**	**05 27 30.5**	**-0.3**
BELA	**Belgrano 2**	**25.38**	**196**	P	**P**	**05 27 52.2**	**-0.4**
BELA				IAmb	IAmb	05 28 09.7	
comp=Z,15nm,1.4s							
H04S2	**CROZET ISLANDS**	**33.96**	**98**	T	T	06 05 05.7	
baz=236,slow=75,SNR=52							
H04S3	**CROZET ISLANDS**	**33.96**	**98**	T	T	06 05 14.2	
baz=236,slow=75,SNR=54							
H04S1	**CROZET ISLANDS**	**33.98**	**98**	T	T	06 05 18.5	
baz=236,slow=75,SNR=60							
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**05 29 16.8**	**-0.5**
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**05 29 17.3**	**0.0**
comp=Z,1.5nm,0.7s,baz=174,slow=4.0,SNR=3.5							
comp=Z,1.5nm,0.7s							
PLTB	**Pedras Altas**	**43.08**	**281**	P	**P**	**05 30 25.7**	**+0.1**
PLTB				IAmb	IAmb	05 30 28.6	
comp=Z,12nm,1.3s							
TRQA	**Tornquist**	**43.31**	**268**	P	**P**	**05 30 27.6**	**+0.1**
TRQA				IAmb	IAmb	05 31 11.6	
comp=Z,14nm,1.4s							
PLCA	**Paso Flores**	**46.35**	**258**	P	**P**	**05 30 50.0**	**-1.7**
PLCA				IAmb	IAmb	05 31 23.4	
comp=Z,6.7nm,1.5s							
CPUP	**Villa Florida**	**49.32**	**282**	P	**P**	**05 31 14.6**	**-0.2**
comp=Z,2.0nm,0.9s,baz=146,slow=6.0,SNR=5.0							
CPUP				LR	LR	05 48 59.9	
comp=Z,160nm,20.6s,baz=238,slow=32							
comp=Z,2.0nm,0.9s							
MT09	**Talagante**	**51.49**	**265**	P	**P**	**05 31 31.5**	**+0.2**
MT09				IAmb	IAmb	05 31 37.6	
comp=Z,22nm,1.3s							
CFA	**Coronel Fontan**	**51.51**	**269**	P	**P**	**05 31 31.3**	**-0.1**
comp=Z,1.5nm,0.6s,baz=143,slow=11,SNR=8.0							
comp=Z,1.5nm,0.6s							
BDFB	**Brasilia**	**53.10**	**299**	P	**P**	**05 31 43.2**	**-0.2**
BDFB	**Brasilia**	**53.10**	**299**	P	**P**	**05 31 43.9**	**+0.6**
comp=Z,1.4nm,0.6s,baz=144,slow=8.7,SNR=4.8							
comp=Z,1.4nm,0.6s							
GO04	**Tololo Observa**	**54.05**	**268**	P	**P**	**05 31 50.8**	**+0.5**
LPAZ	**La Paz**	**63.35**	**280**	P	**P**	**05 32 55.4**	**-0.3**
LPAZ				IAmb	IAmb	05 32 57.1	
comp=Z,3.7nm,0.9s							
LPAZ	**La Paz**	**63.35**	**280**	P	**P**	**05 32 56.1**	**+0.4**
comp=Z,2.7nm,0.8s,baz=138,slow=4.9,SNR=8.3							
comp=Z,2.7nm,0.8s							
H01W2	**Cape Leeuwin H**	**74.79**	**130**	T	T	06 57 02.6	
baz=210,slow=75,SNR=17							
H01W1	**Cape Leeuwin H**	**74.80**	**130**	T	T	06 56 58.8	
baz=210,slow=75,SNR=20							
H01W3	**Cape Leeuwin H**	**74.80**	**130**	T	T	06 56 50.1	
baz=210,slow=75,SNR=16							
UOSS	**Minazif**	**93.94**	**50**	P	**P**	**05 35 43.2**	**0.0**
YKA	**Yellowknife Ar**	**146.09**	**310**	PKPbc	**PKPdf**	**05 42 03.7**	**+0.4**
comp=Z,2.1nm,0.8s,baz=114,slow=2.9,SNR=28							

*IDC **06** 05:28:20.5±0.7,22°.51S×171°.63E,h0km,mb4.5/15,*
mbtmp4.5/16,ML3.4/1,MS3.9/10,Error ellipse:
s-maj=20.4km s-min=19.7km az=85.0
*NEIC **06** 05:28:23.5±2.4,22°.7S±0°.1×171°.6E±0°.1,h10km±1km,*
mb4.7/37,Error ellipse: s-maj=19.3km s-min=15.2km
az=45.0
ISC 06 05:28:22.8±0.5,**22°.63S**±0°.08×**171°.55E**±0°.09,**h10**km,**n112**,
σ**1**°**04**/**100**,**mb4.7**/**34**,**MS3.9**/**9**,**2C-7D**,**Southeast of**
Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.79**	**270**		**Pn**	**05 29 22.6**	**+1.3**
ONTNC	**Ouen Toro**	**4.73**	**273**		**Pn**	**05 29 34.9**	**+0.7**
DZM	**Mont Dzumac**	**4.76**	**276**		**Pn**	**05 29 36.0**	**+1.3**
TOZ	**Tahuroa Road**	**15.43**	**168**		**Pn**	**05 32 00.5**	**0.0**
URZ	**Urewera**	**16.29**	**164**	Pn	**Pn**	**05 32 13.0**	**+1.4**
0.2nm,0.3s,baz=77,slow=5.5,SNR=9.8							
URZ				LR	LR	05 37 33.0	
comp=Z,361nm,18.1s,baz=78,slow=34							
14nm,0.9s							
RTZ	**Ruatahuna**	**16.59**	**165**		**Pn**	**05 32 16.8**	**+1.1**
RTZ				IAmb	IAmb	05 32 20.9	
comp=Z,42nm,1.2s							
BKZ	**Black Stump Fm**	**17.01**	**167**	P	**P**	**05 32 23.5**	**+0.8**
HNR	**Honiara**	**17.21**	**318**	LR	LR	05 37 58.0	

comp=Z,160nm,19.4s,baz=140,slow=34
MRNZ Matariki Terra 18.74 177 P Pn 05 32 42.0 -0.1
EIDS Eidsvold 18.90 258 P P 05 32 43.1 -0.5
THZ Tophouse 19.11 177 P P 05 32 46.0 +0.2
INZ Inchbonnie 20.04 180 P Pn 05 32 56.9 -0.7
LTZ Lake Taylor 20.10 178 P P 05 32 57.4 +0.7
FOZ Fox Glacier 20.89 184 P P 05 33 03.0 -2.2
FOZ IAmb IAmb 05 33 10.1
comp=Z,27nm,1.0s
RPZ Rata Peaks 21.03 181 P P 05 33 08.1 +1.5
comp=Z,9.2nm,1.0s,baz=87,slow=9.4,SNR=3.5
RPZ LR LR 05 40 48.0
comp=Z,301nm,19.2s,baz=324,slow=35
comp=Z,9.2nm,1.0s
MQZ McQueen's Vall 21.04 178 P P 05 33 07.4 +0.7
MQZ IAmb IAmb 05 33 25.9
comp=Z,42nm,1.2s
RAR Rarotonga 26.62 92 LR LR 05 43 56.0
comp=Z,84nm,18.1s,baz=261,slow=35
PMG Port Moresby 26.82 295 P P 05 34 03.5 -0.1
comp=Z,8.7nm,0.6s,baz=87,slow=8.4,SNR=4.2
PMG LR LR 05 43 58.6
comp=Z,304nm,18.2s,baz=148,slow=35
comp=Z,8.7nm,0.6s
STKA Stephens Creek 28.10 244 P P 05 34 15.6 +0.7
comp=Z,2.1nm,0.8s,baz=190,slow=20,SNR=1.2
comp=Z,2.1nm,0.8s
COEN Coen 28.25 283 P P 05 34 17.4 +1.0
COEN IAmb IAmb 05 34 19.1
comp=Z,13nm,1.1s
AS31 Alice Springs 34.57 261 P P 05 35 09.8 -2.1
ASAR Alice Springs 34.57 261 P P 05 35 10.6 -1.3
ASAR Alice Springs 34.57 261 P P 05 35 12.0 +0.1
comp=Z,8.3nm,1.1s,baz=83,slow=8.4,SNR=30
comp=Z,8.3nm,1.1s
WB2 Warramunga Arr 34.71 267 P P 05 35 12.1 -1.0
WB2 IAmb IAmb 05 35 23.8
comp=Z,16nm,1.4s
WRA Warramunga Arr 34.72 267 P P 05 35 12.1 -1.2
WRA Warramunga Arr 34.72 267 P P 05 35 12.4 -0.8
comp=Z,1.8nm,0.6s,baz=98,slow=8.3,SNR=8.8
comp=Z,1.8nm,0.6s
JAY Jayapura 35.99 299 P P 05 35 22.6 -1.6
comp=Z,20nm,0.8s,baz=153,slow=9.2,SNR=4.4
comp=Z,20nm,0.8s
MTN Manton Dam 39.60 277 P P 05 35 53.8 -0.9
MTN IAmb IAmb 05 35 54.7
comp=Z,11nm,0.9s
KNRA Kununurra 40.90 272 P P 05 36 04.5 -1.0
KNRA IAmb IAmb 05 36 09.2
comp=Z,8.6nm,0.9s
FITZ Fitzroy Crossi 43.15 267 P P 05 36 24.1 +0.2
FITZ Fitzroy Crossi 43.15 267 P P 05 36 24.1 +0.2
comp=Z,21nm,0.9s,baz=128,slow=8.2,SNR=41
comp=Z,21nm,0.9s
GUMO Guam 44.49 321 LR LR 05 52 48.4
comp=Z,120nm,18.7s,baz=77,slow=33
PSA00 Pilbara Seismi 47.72 261 P P 05 36 59.4 -0.7
MBWA Marble Bar 47.91 261 P P 05 37 00.5 -1.1
MORW Morawa 49.99 250 P P 05 37 16.6 -0.9
MORW IAmb IAmb 05 37 18.0
comp=Z,14nm,0.9s
GIRL Giralia 52.60 258 P P 05 37 37.2 +0.1
TOLI2 Tolitoli 54.77 289 P P 05 37 52.7 -0.5
TOLI2 IAmb IAmb 05 37 55.5
comp=Z,10nm,0.8s
JCJ Chichijima 57.01 329 P P 05 38 10.4 +1.5
MJAR Matsushiro Arr 66.75 331 P P 05 39 12.6 -1.7
comp=Z,1.2nm,0.4s,baz=90,slow=21,SNR=5.2
comp=Z,1.2nm,0.4s
QSPA South Pole Qui 67.44 180 P P 05 39 17.6 -0.9
QSPA South Pole Qui 67.44 180 P P 05 39 17.8 -0.7
comp=Z,3.9nm,0.9s,baz=265,slow=0.8,SNR=6.3
QSPA LR LR 06 07 10.8
comp=Z,61nm,18.2s,baz=12,slow=34
comp=Z,3.9nm,0.9s
KSRS Korea Array 72.51 325 P P 05 39 48.7 -1.1
comp=Z,1.1nm,0.8s,baz=145,slow=5.5,SNR=4.2
comp=Z,1.1nm,0.8s
NJ2 Nanjing 74.14 315 *e*P P 05 40 00.8 +1.3
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 76.38 351 P P 05 40 10.4 -1.5
comp=Z,3.9nm,0.9s,baz=168,slow=6.5,SNR=2.8
comp=Z,3.9nm,0.9s
TIA Tai'an 77.90 318 P P 05 40 21.1 +0.2
HNS HongShan 80.15 317 *e*P P 05 40 34.4 +1.2
CM31 Chiang Mai Arr 81.85 294 P P 05 40 43.9 +1.1
CM31 IAmb IAmb 05 40 45.4
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 81.85 294 P P 05 40 44.1 +1.4
comp=Z,3.7nm,0.6s,baz=118,slow=5.1,SNR=23
comp=Z,3.7nm,0.6s
XAN Xi'an 81.98 312 P P 05 40 48.0 +4.9
XAN pmax pmax
comp=Z,14nm,1.4s
CHTO Chiang Mai 82.01 294 P P 05 40 44.3 +0.7
CHTO IAmb IAmb 05 40 46.0
comp=Z,10nm,1.0s
ELIB Princess Elisa 83.18 190 *d*P P 05 40 49.0 0.0
PZH PanZhiHua 83.34 302 P P 05 40 52.6 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
HHC Hu-ho-hao-te 84.19 319 *e*P P 05 40 56.5 +2.0
SNAA Sanae 85.87 182 LR LR 06 16 22.1
comp=Z,86nm,19.0s,baz=218,slow=34
O02D Mt. Diablo Mer 87.37 44 P P 05 41 11.6 +1.3
L18K Granite Mounta 88.28 14 P P 05 41 16.3 +2.4
L18K IAmb IAmb 05 41 40.4
comp=Z,12nm,1.5s
LPIG La Paz 88.96 63 LR LR 06 13 08.7
comp=Z,138nm,21.2s,baz=128,slow=30
PAHR Pah Rah Range 89.36 46 P P 05 41 20.2 +0.4
PAHR IAmb IAmb 05 41 20.9
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 89.45 48 P P 05 41 20.9 +0.5
NVAR Mina Array Bea 89.45 48 P P 05 41 20.5 +0.1
comp=Z,3.8nm,0.8s,baz=224,slow=8.6,SNR=13
comp=Z,3.8nm,0.8s
NV11 Mina Array Sit 89.55 48 P P 05 41 19.7 -1.0
NV11 IAmb IAmb 05 41 21.9
comp=Z,4.3nm,0.9s
J05D Fort Rock, OR 90.01 42 P P 05 41 23.0 +0.3
PINE Pine Mountain 90.45 42 P P 05 41 25.5 +0.6
ULN Ulaanbaatar 90.86 323 P P 05 41 26.3 -0.4
WVOR Wild Horse Val 91.21 44 P P 05 41 28.8 +0.4
WVOR IAmb IAmb 05 41 34.7
comp=Z,8.1nm,1.4s
PRN Pahroc Range 91.22 50 P P 05 41 27.7 -0.8
PRN IAmb IAmb 05 41 29.9
comp=Z,4.1nm,0.8s
SONM Songino Array 91.22 322 P P 05 41 27.3 -1.0
comp=Z,3.4nm,1.0s,baz=144,slow=4.0,SNR=13
comp=Z,3.4nm,1.0s
U15A North Rim 92.75 52 P P 05 41 36.5 +0.6
U15A IAmb IAmb 05 41 37.2
comp=Z,4.0nm,0.7s
E19K Redstone River 92.77 12 P P 05 41 34.3 -0.5
E19K IAmb IAmb 05 41 35.8
comp=Z,4.3nm,1.0s
ILAR Eielson Array 92.83 17 P P 05 41 33.2 -1.9
comp=Z,0.7nm,0.9s,baz=242,slow=5.5,SNR=5.0
comp=Z,0.7nm,0.9s
TXAR Lajitas Array 96.50 61 LR LR 06 16 05.9
comp=Z,212nm,22.0s,baz=110,slow=30
WMQ Urumqi 101.10 313 *e*P Pdif 05 42 15.2 +2.1
WMQ LR LR
comp=Z,250nm,17.7s
BVAR Borovoye Array 114.39 319 PKP PKPdf 05 47 01.0 -1.6
comp=Z,0.6nm,0.4s,baz=90,slow=1.5,SNR=4.4
ARTI Arti 121.34 323 PKP PKPdf 05 47 14.7 -1.1
comp=Z,1.3nm,0.4s,baz=140,slow=2.2,SNR=3.5
AKTO Aktyubinsk 122.01 316 PKP PKPdf 05 47 16.2 -1.1
comp=Z,2.2nm,0.7s,baz=32,slow=1.4,SNR=8.3
BDFB Brasilia 125.71 131 PKP PKPdf 05 47 24.6 -1.0
comp=Z,1.9nm,0.5s,baz=184,slow=2.9,SNR=4.6
AKASG Malin Array Be 139.49 323 PKP PKPdf 05 47 47.7 -2.6
comp=Z,0.5nm,0.4s,baz=74,slow=0.8,SNR=1.8
VRI Vrincioaia 143.26 318 ⇑P PKPab 05 47 54.4 +1.3
MLR Muntele Rosu 143.93 318 ⇓P PKPab 05 47 56.2 +0.4
DOPR Dopca 144.04 319 ⇓P PKPab 05 47 57.2 +1.1
VOIR 144.51 318 ⇓P PKPab 05 47 57.8 -0.1
CJR Cluj-Napoca 144.74 321 ⇑P PKPbc 05 47 59.7 +0.9
ARR Arges 144.80 318 ⇓P PKPab 05 47 59.6 +0.7
MARR Marisel-Cluj 145.03 321 ⇓P PKPbc 05 47 59.9 0.0
DRGR 145.21 321 ⇓P PKPbc 05 48 00.2 -0.1
KECS Kecovo 145.45 325 *e*PKP PKPdf 05 48 01.8 +0.8
LANS Liptovska Anna 145.55 327 *e*PKP PKPab 05 48 02.6 +1.0
STEB Steborice 145.85 329 *e*PKP PKPdf 05 48 02.3 +0.7
MORC Moravsky Berou 146.07 329 *e*PKP PKPdf 05 48 02.0 -0.1
DPC Dobruska-Polom 146.22 331 *e*PKP PKPdf 05 48 03.7 +1.4
VYHS Vyhne 146.29 327 *e*PKP PKPbc 05 48 04.0 +0.4
JAVC Velka Javorina 146.63 328 *e*PKP PKPbc 05 48 05.2 +0.5
VRAC Vranov 146.84 330 PKPbc **PKPdf 05 48 03.7 +0.3**
comp=Z,4.6nm,0.7s,baz=115,slow=5.2,SNR=4.4
VRAC Vranov 146.84 330 *e*PKP PKPdf 05 48 04.0 +0.6
BRG Berggiesshubel 146.85 334 P PKiKP 05 48 29.3 +22
BRG Amp 05 48 30.2
comp=Z,2.4nm,0.8s
CLL Collm 146.89 335 *i* PKPbc **PKPbc 05 48 06.0 +0.8**
comp=Z,4.0nm,0.5s
KRUC Moravsky 147.11 329 *e*PKP PKPdf 05 48 05.0 +1.2
MODS Modra-Piesok 147.15 328 *e*PKP PKPbc 05 48 06.8 +0.7
PRU Pruhonice 147.27 332 *e*PKP PKPbc 05 48 06.6 +0.3
ZVC Zvikov 147.83 332 *e*PKP PKPbc 05 48 08.1 +0.2
RONA Rosalia, Austr 148.09 328 *e*pPKP PKPbc 05 48 09.0 +0.2
comp=Z,4.2nm,0.5s
CONA Conrad Observa 148.15 328 *i* pPKP **PKPbc 05 48 09.2 +0.3**
comp=Z,1.9nm,0.5s
KHC Kasperske Hory 148.33 332 *e*PKP PKPbc 05 48 08.9 -0.4
IDI Anoyia 148.38 301 PKPbc **PKPdf 05 48 07.8 +1.4**
comp=Z,20nm,0.9s,baz=8.1,slow=8.6,SNR=6.3
GERES GERESS Array B 148.49 332 PKPbc **PKPbc 05 48 09.3 -0.4**
comp=Z,3.0nm,0.8s,baz=321,slow=1.9,SNR=11
OBKA Obir 149.78 328 *i* pPKP **PKPbc 05 48 12.4 -0.7**
comp=Z,1.0nm,0.4s
LESA Schwarzleotal 150.01 331 *i* PKP **PKPbc 05 48 12.9 -0.7**
comp=Z,3.1nm,0.4s
WATA Walderalm 150.56 332 *i* PKP **PKPbc 05 48 15.3 +0.3**
comp=Z,1.4nm,0.3s
ABTA Abfaltersbach 150.59 330 *i* pPKP **PKPbc 05 48 14.0 -1.0**
comp=Z,3.0nm,0.6s
SQTA Sankt Quirin 150.81 332 *e*PKP PKPbc 05 48 15.2 -0.4
comp=Z,0.9nm,0.2s
FETA Feichten 151.18 332 *i* PKP **PKPbc 05 48 16.1 -0.4**
comp=Z,1.1nm,0.4s
DAVOX Davos/Dischmat 151.72 333 PKPbc **PKPbc 05 48 16.3 -1.5**
comp=Z,2.2nm,0.5s,baz=100,slow=3.6,SNR=6.1

SOME ***06*** *05:28:45.7, 42°.07N×81°.43E, h30km*
NNC ***06*** *05:28:47.3±1.2, 42°.17N×81°.25E, h0km, mb4.4, mpv4.0,*
Error ellipse: s-maj=8.3km s-min=6.3km az=161.0
ISC 06 05:28:46.7±2.3,**42°.22N**±0°.09×**81°.23E**±0°.07,**h2**km±12km,
n46,σ1°**83**/62,**8C-3D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.60**	**306**	P	**Pn**	**05 29 14.1**	**-2.1**
268nm,0.2s							
SHLS				S	**Sn**	**05 29 34.7**	**-2.8**
304nm,0.2s							
SHLS	**Shalkode**	**1.60**	**306**	*e*P	**Pn**	**05 29 14.1**	**-2.1**
268nm,0.2s							
SHLS				*e*S	**Sn**	**05 29 34.7**	**-2.8**
304nm,0.2s							
PDGK	**Podgornoye**	**1.69**	**312**	⇑Pn	**Pb**	**05 29 19.2**	**+0.5**
42nm,0.4s							
PDGK				⇑Sn	**Sg**	**05 29 43.9**	**+2.7**
205nm,0.6s							
UZB	**Uzynbulak**	**1.87**	**300**	Pg	**Pb**	**05 29 22.4**	**+0.7**
61nm,0.2s							
UZB				Lg	Lg	05 29 49.0	
148nm,0.6s							
UZB	**Uzynbulak**	**1.87**	**300**	*e*P	**Pb**	**05 29 22.4**	**+0.7**
25nm,0.1s							
UZB				*e*S	**Sg**	**05 29 49.0**	**+2.2**
133nm,0.2s							
SATY	**Saty**	**2.24**	**293**	Pg	**Pb**	**05 29 28.5**	**+0.4**
49nm,0.2s							
SATY				Lg	Lg	05 29 59.2	
283nm,0.1s							
KPKS	**Kokpek**	**2.25**	**305**	Pg	**Pb**	**05 29 28.9**	**+0.8**
138nm,0.2s							
KPKS				Lg	Lg	05 30 00.0	
468nm,0.2s							
KPKS	**Kokpek**	**2.25**	**305**	*e*P	**Pb**	**05 29 28.9**	**+0.8**
23nm,0.1s							
KPKS				*e*S	**Sg**	**05 30 00.0**	**+1.1**
220nm,0.2s							
ZHN	**Zhinishke**	**2.27**	**296**	Pg	**Pb**	**05 29 29.1**	**+0.7**
63nm,0.2s							
ZHN				Lg	Lg	05 30 00.5	
172nm,0.2s							
ZHN	**Zhinishke**	**2.27**	**296**	*e*P	**Pb**	**05 29 29.1**	**+0.7**
59nm,0.2s							
ZHN				*e*S	**Sg**	**05 30 00.5**	**+1.0**
300nm,0.2s							
DJR	**Jarkent**	**2.36**	**334**	Pg	**Pb**	**05 29 30.6**	**+0.6**
34nm,0.4s							
DJR				Lg	Lg	05 30 03.1	
336nm,0.5s							
DJR	**Jarkent**	**2.36**	**334**	*e*P	**Pb**	**05 29 30.6**	**+0.6**
12nm,0.1s							
DJR				*e*S	**Sg**	**05 30 03.1**	**+0.6**
336nm,0.5s							
KURS	**Kuram**	**2.58**	**300**	Pg	**Pb**	**05 29 34.4**	**+0.6**
72nm,0.4s							
KURS				Lg	Lg	05 30 09.4	
52nm,0.5s							
KNOS	**Konyrlen**	**2.61**	**326**	Pg	**Pb**	**05 29 35.4**	**+1.0**
56nm,0.2s							
KNOS				Lg	Lg	05 30 11.2	
144nm,0.4s							
BLB	**Baldybastay**	**2.75**	**314**	Pg	**Pb**	**05 29 37.9**	**+1.2**
116nm,0.3s							
BLB				Lg	Lg	05 30 15.6	
254nm,0.3s							
ARXS	**Arharly**	**3.19**	**310**	Pg	**Pb**	**05 29 45.2**	**+1.1**
6.0nm,0.2s							
ARXS				Lg	Lg	05 30 28.1	
46nm,0.3s							
KOTS	**Kotyrbulak**	**3.20**	**290**	Pg	**Pb**	**05 29 45.1**	**+0.8**
26nm,0.2s							
KOTS				Lg	Lg	05 30 27.9	
107nm,0.7s							
KOTS	**Kotyrbulak**	**3.20**	**290**	*e*P	**Pb**	**05 29 45.1**	**+0.8**
26nm,0.2s							
KOTS				*e*S	**Sg**	**05 30 27.9**	**-1.5**
107nm,0.7s							
MDOK	**Medeo**	**3.22**	**288**	*e*P	**Pg**	**05 29 48.0**	**-0.5**
11nm,0.1s							
MDOK				*e*S	**Sg**	**05 30 33.0**	**+2.7**
33nm,0.2s							
TNSS	**Tian-Shan**	**3.26**	**286**	Pg	**Pb**	**05 29 46.4**	**+0.8**
22nm,0.3s							
TNSS				Lg	Lg	05 30 30.1	
25nm,0.2s							
TNSS	**Tian-Shan**	**3.26**	**286**	*e*P	**Pb**	**05 29 46.4**	**+0.8**
12nm,0.2s							
TNSS				*e*S	**Sg**	**05 30 30.1**	**-1.5**
25nm,0.2s							
KAPS	**Kapalarasan**	**3.35**	**337**	Pg	**Pb**	**05 29 48.0**	**+1.1**
KAPS				Lg	Lg	05 30 33.0	
TDK	**Taldyqorghan**	**3.46**	**325**	Pg	**Pb**	**05 29 50.2**	**+1.5**
70nm,0.3s							
TDK				Lg	Lg	05 30 36.4	
138nm,0.3s							
TDK	**Taldyqorghan**	**3.46**	**325**	*e*P	**Pb**	**05 29 50.1**	**+1.5**
23nm,0.1s							
TDK				*e*S	**Sg**	**05 30 36.4**	**-1.3**
138nm,0.3s							
CHKK	**Chushkaly**	**3.51**	**299**	Pg	**Pb**	**05 29 50.6**	**+1.0**
16nm,0.3s							
CHKK				Lg	Lg	05 30 37.2	
60nm,0.3s							
CHKK	**Chushkaly**	**3.51**	**299**	*e*P	**Pb**	**05 29 50.6**	**+1.0**
1.8nm,0.1s							
CHKK				*e*S	**Sg**	**05 30 37.2**	**-2.3**
60nm,0.3s							
MTBS	**Maitube**	**3.65**	**286**	Pg	**Pb**	**05 29 53.2**	**+1.2**
9.6nm,0.2s							
MTBS				Lg	Lg	05 30 41.6	
30nm,0.2s							
MTBS	**Maitube**	**3.65**	**286**	*e*P	**Pb**	**05 29 53.2**	**+1.2**
8.4nm,0.3s							
MTBS				*e*S	**Sg**	**05 30 41.6**	**-2.5**
30nm,0.2s							
KTBS	**Karatobe**	**3.65**	**296**	Pg	**Pb**	**05 29 53.4**	**+1.3**
20nm,0.3s							
KTBS				Lg	Lg	05 30 42.1	
92nm,0.5s							
KST	**Kastek**	**3.97**	**284**	Pg	**Pb**	**05 29 59.3**	**+1.8**
9.8nm,0.6s							
KST				Lg	Lg	05 30 52.0	
42nm,0.6s							
KST	**Kastek**	**3.97**	**284**	*e*P	**Pb**	**05 29 59.3**	**+1.8**
10.0nm,0.2s							
KST				*e*S	**Sg**	**05 30 52.0**	**-2.2**
42nm,0.6s							
DGS	**Degeres**	**4.15**	**286**	Pg	**Pb**	**05 30 02.6**	**+2.1**
13nm,0.4s							
DGS				Lg	Lg	05 30 57.9	
37nm,0.4s							
TKM2	**Tokmak 2**	**4.22**	**281**	⇑Pn	**Pn**	**05 29 54.5**	**+2.3**
12nm,0.9s							
KRBS	**Karabastau**	**4.33**	**292**	Pg	**Pg**	**05 30 07.7**	**-2.1**
9.0nm,0.5s							
KRBS				Lg	Lg	05 31 06.7	
22nm,0.4s							
MK31	**Makanchi Array**	**4.64**	**9**	⇓Pn	**Pn**	**05 29 58.5**	**+0.7**
1.1nm,0.3s,baz=16,slow=10,SNR=53							
MK31				⇓Sn	**Sn**	**05 30 54.7**	**+2.5**
2.9nm,0.3s,baz=184,slow=23,SNR=6.6							
MK31				⇑Lg	Lg	05 31 15.7	
18nm,0.6s,baz=187,slow=30,SNR=8.5							
CHMS	**Chumysh**	**4.84**	**281**	⇓Pg	**Pg**	**05 30 18.8**	**-0.7**
4.4nm,0.8s							
CHMS				⇑Lg	Lg	05 31 26.1	
17nm,1.1s							
AAK	**Ala-Archa**	**5.00**	**277**	⇑Pg	**Pg**	**05 30 20.9**	**-1.7**
6.5nm,0.8s							
AAK				Lg	Lg	05 31 28.2	
14nm,0.6s							
SGDS	**Sogindy**	**5.00**	**286**	Pg	**Pb**	**05 30 18.8**	**+3.7**
3.0nm,0.4s							
SGDS				Lg	Lg	05 31 25.4	
8.7nm,0.4s							
ZSN	**Zaisan**	**5.83**	**25**	Pg	**Pg**	**05 30 36.1**	**-2.4**
7.9nm,0.3s							
ZSN				Lg	Lg	05 31 55.3	
17nm,0.5s							
ZSN	**Zaisan**	**5.83**	**25**	*e*P	**Pg**	**05 30 36.1**	**-2.4**
3.4nm,0.1s							
ZSN				*e*S	**Sg**	**05 31 55.3**	**+1.2**
17nm,0.5s							
BTLS	**Baital**	**5.92**	**301**	Pg	**Pg**	**05 30 39.9**	**-0.3**
4.1nm,0.7s							
BTLS				Lg	Lg	05 32 01.9	
3.4nm,0.7s							
BTLS	**Baital**	**5.92**	**301**	*e*P	**Pg**	**05 30 39.9**	**-0.3**
1.7nm,0.3s							
BTLS				*e*S	**Sg**	**05 32 01.9**	**+4.9**
2.1nm,0.2s							
MRKS	**Merke**	**5.94**	**278**	Pg	**Pg**	**05 30 39.4**	**-1.1**
4.2nm,0.5s							
MRKS				Lg	Lg	05 32 01.5	
6.5nm,0.4s							
MRKS	**Merke**	**5.94**	**278**	*e*P	**Pg**	**05 30 39.4**	**-1.1**
4.2nm,0.5s							
MRKS				*e*S	**Sg**	**05 32 01.5**	**+4.1**
5.0nm,0.2s							
KK31	**Karatay Array**	**7.95**	**280**	⇑Lg	Lg	05 33 02.9	
3.1nm,0.7s,baz=76,slow=28,SNR=4.9							
KURK	**Kurchatov**	**8.69**	**349**	⇑Lg	Lg	05 33 24.8	
14nm,1.2s							

TIR ***06*** *05:46:52.6, 41°.84N×19°.59E, h22km±1km, Md2.4/3, Ml2.8/5*
ATH ***06*** *05:46:52.8, 41°.79N×19°.44E, h12km±2km, ML2.6/11,*
Manual Solution by F.Xalaris First location: 2019/03/06
05:48:11, This location: 2020/09/14 09:01:33 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km
BEO ***06*** *05:46:53.4±0.4, 41°.93N×19°.69E, h0km, ML2.4/11*
PDG ***06*** *05:46:53.0±0.2, 41°.83N×19°.61E, h18km, MD2.9/1,*
ML2.8/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0
RHSSO ***06*** *05:46:53.3±0.7, 41°.84N×19°.64E, h10km±1km, ML2.8/9*
ISC 06 05:46:53.1±0.9,**41°.84N**±0°.02×**19°.58E**±0°.02,**h14**km±8km,
n87,σ0°**89**/132,**26C-10D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.28**	**297**	⇑Pg	**Pg**	**05 46 59.3**	**+0.3**
ULC	**Ulcinj**	**0.28**	**297**	⇑*i*Pg	**Pg**	**05 46 59.2**	**+0.3**
ULC				*i* Sg	**Sb**	**05 47 04.5**	**+0.1**
PUK	**Puka**	**0.31**	**49**	⇓Pg	**Pg**	**05 46 59.5**	**-0.1**
PUK				Sg	**Sb**	**05 47 04.7**	**-0.8**
PUK				AML	AML	05 47 07.3	
5.4nm,0.1s							
PUK				AMd		05 47 35.2	
DRME	**Dracevica, Mon**	**0.46**	**320**	⇓Pg	**Pg**	**05 47 02.0**	**-0.1**
DRME	**Dracevica, Mon**	**0.46**	**320**	*e*Pg	**Pg**	**05 47 02.3**	**+0.1**
DRME				*e*Sg	**Sb**	**05 47 10.1**	**+0.6**
DRME	**Dracevica, Mon**	**0.46**	**320**	⇑*i*Pg	**Pg**	**05 47 02.1**	**-0.1**
DRME				*i* Sg	**Sb**	**05 47 10.2**	**+0.7**
TIR	**Tirane**	**0.53**	**156**	⇑Pn	**Pg**	**05 47 03.5**	**-0.1**
TIR				AML	AML	05 47 11.7	
1.2nm,0.3s							
TIR				Sg	**Sb**	**05 47 11.9**	**+0.1**
TIR				AMd		05 47 40.1	
TIR	**Tirane**	**0.53**	**156**	*e*Pg	**Pg**	**05 47 03.5**	**-0.1**
TIR				*e*Sg	**Sb**	**05 47 12.4**	**+0.7**
TIR	**Tirane**	**0.53**	**156**	P	**Pg**	**05 47 03.5**	**-0.1**
TIR				S	**Sg**	**05 47 11.0**	**+0.3**
PDG	**Podgorica**	**0.64**	**338**	⇑*i*Pg	**Pg**	**05 47 04.9**	**-0.7**
PDG				*e*Sg	**Sb**	**05 47 15.2**	**+0.4**
PDG	**Podgorica**	**0.64**	**338**	⇑P	**Pg**	**05 47 05.2**	**-0.4**
PDG	**Podgorica**	**0.64**	**338**	⇑*i*Pg	**Pg**	**05 47 04.9**	**-0.7**
PDG				*i* Sg	**Sb**	**05 47 15.4**	**+0.6**
PDG	**Podgorica**	**0.64**	**338**	P	**Pg**	**05 47 05.5**	**-0.1**
PDG				S	**Sb**	**05 47 14.6**	**-0.2**
BCI	**Bajram Curri**	**0.64**	**34**	⇑Pg	**Pg**	**05 47 04.9**	**-0.8**
BCI				Sg	**Sb**	**05 47 14.7**	**-0.2**
BCI				AML	AML	05 47 15.5	
2.7nm,0.3s							
BCI				AML	AML	05 47 16.5	
2.2nm,0.4s							
PHP	**Peshkopia**	**0.66**	**103**	⇓Pg	**Pg**	**05 47 05.2**	**-0.9**
PHP				Sn	**Sb**	**05 47 15.3**	**-0.2**
PHP				AML	AML	05 47 17.1	
1.8nm,0.2s							
PHP				AMd		05 47 54.0	
BUM	**Brajici-Budva**	**0.69**	**313**	Pg	**Pg**	**05 47 06.6**	**+0.1**
BUM	**Brajici-Budva**	**0.69**	**313**	⇑*i*Pg	**Pg**	**05 47 06.0**	**-0.5**
BUM				*i* Sg	**Sn**	**05 47 17.9**	**-1.0**
PVY	**Plav**	**0.81**	**20**	⇓Pn	**Pg**	**05 47 07.8**	**-1.0**
PVY	**Plav**	**0.81**	**20**	⇑*i*Pg	**Pg**	**05 47 07.8**	**-1.0**
PVY				*i* Sg	**Sb**	**05 47 20.2**	**+0.4**
CEME	**Cevo**	**0.86**	**326**	P	**Pg**	**05 47 09.2**	**-0.6**
CEME	**Cevo**	**0.86**	**326**	⇑*i*Pg	**Pg**	**05 47 08.9**	**-0.9**
CEME				*i* Sg	**Sn**	**05 47 22.9**	**-0.3**
HCY	**Herceg Novi**	**1.01**	**308**	⇑*i*Pg	**Pb**	**05 47 12.0**	**-0.3**
HCY				*e*Sg	**Sn**	**05 47 26.7**	**-0.1**
HCY	**Herceg Novi**	**1.01**	**308**	⇑*i*Pg	**Pb**	**05 47 11.8**	**-0.5**
HCY				*i* Sg	**Sn**	**05 47 28.5**	**+1.7**
KOME	**Kolasin**	**1.01**	**357**	⇑*i*Pg	**Pb**	**05 47 11.8**	**-0.7**
KOME				*i* Sg	**Sn**	**05 47 27.7**	**+0.7**
NKME	**Niksic**	**1.04**	**334**	P	**Pb**	**05 47 12.5**	**-0.4**
NKME	**Niksic**	**1.04**	**334**	⇑*i*Pg	**Pb**	**05 47 12.4**	**-0.4**
NKME				*i* Sg	**Sn**	**05 47 29.2**	**+1.6**
BEY	**Berane**	**1.06**	**13**	Pg	**Pb**	**05 47 12.8**	**-0.4**
IVA	**Berane**	**1.06**	**13**	⇓*i*Pg	**Pb**	**05 47 12.4**	**-0.8**
IVA				*i* Sg	**Sn**	**05 47 28.9**	**+0.7**
OHR	**Ohrid**	**1.17**	**128**	*i* Pn	**Pb**	**05 47 14.9**	**-0.2**
TREB	**Trebinje**	**1.27**	**314**	*e*Pg	**Pb**	**05 47 16.8**	**+0.1**
TREB				*e*Sg	**Sg**	**05 47 34.8**	**+0.9**
BRY	**Bratogost**	**1.31**	**325**	P	**Pb**	**05 47 17.5**	**0.0**
BRY	**Bratogost**	**1.31**	**325**	⇓*i*Pg	**Pb**	**05 47 18.0**	**+0.4**
BRY				*e*Sg	**Sg**	**05 47 35.7**	**+0.2**
BRY	**Bratogost**	**1.31**	**325**	⇑*i*Pg	**Pb**	**05 47 17.3**	**+0.2**
BRY				*i* Sg	**Sg**	**05 47

PLE				*i* Sg	Sg	05 47 40.6	-0.8
KLINJ	**Klinje**	**1.52**	**332**	*e*Pn	Pb	05 47 20.9	-0.2
KLINJ				*e*Sn	Sb	05 47 41.1	+0.9
FNA	**Florina**	**1.72**	**127**	Pn	Pb	05 47 24.8	+0.4
FNA				Sn	Sg	05 47 48.1	-0.2
FNA				AML	AML	05 47 51.3	
0.5nm,0.4s							
FNA	**Florina**	**1.72**	**127**	P	Pb	05 47 23.5	-0.9
FNA				S	Sb	05 47 46.6	+0.8
STON	**Ston**	**1.73**	**307**	*e*Pn	Pn	05 47 23.1	+0.4
STON				*e*Sn	Sb	05 47 46.0	-0.2
STON	**Ston**	**1.73**	**307**	*e*Pn	Pn	05 47 23.0	+0.4
RUDO	**Rudo**	**1.79**	**355⇑**	*i*Pn	Pn	05 47 24.4	+0.9
RUDO				*e*Sn	Sb	05 47 47.2	-0.6
SELS	**Selova**	**1.79**	**39**	*e*Pg	Pb	05 47 24.7	-1.0
SELS				*e*Sg	Sn	05 47 46.7	+0.6
MESG	**Mesagne**	**1.80**	**227**	P	Pn	05 47 22.4	-1.2
NEST	**Nestorio**	**1.80**	**141**	Pn	Pb	05 47 25.9	0.0
NEST	**Nestorio**	**1.80**	**141**	P	Pn	05 47 24.8	+1.0
LSK	**Leskovik**	**1.85**	**155**	Pn	Pb	05 47 26.3	-0.5
KALIN	**Kalinovik**	**1.86**	**334**	*e*Pn	Pn	05 47 25.4	+0.8
KALIN				*e*Sn	Sb	05 47 49.9	-0.2
BARS	**Barje**	**1.93**	**59**	*e*Pg	Pn	05 47 26.3	+0.9
BARS				*e*Sg	Sn	05 47 50.1	+0.7
SCTE	**Santa Cesarea**	**1.95**	**206**	P	Pn	05 47 24.8	-0.9
GOCS	**Kraljevo Serbi**	**1.97**	**29**	*e*Pg	Pn	05 47 27.3	+1.2
GOCS				*e*Sg	Sb	05 47 52.0	-1.2
BBLS	**Lazi&#263i**	**2.03**	**357⇑**	*i*Pn	Pn	05 47 27.6	+0.7
BBLS				*e*Sn	Sn	05 47 52.6	+0.5
BBLS	**Lazi&#263i**	**2.03**	**357**	*e*Pg	Pn	05 47 28.3	+1.4
KEK	**Kerkira**	**2.13**	**175**	P	Pn	05 47 28.1	0.0
KEK				S	Sn	05 47 54.1	-0.2
LSTV	**Lastovo**	**2.20**	**296**	*e*Pn	Pn	05 47 29.0	-0.1
GRUS	**Gruza**	**2.21**	**22**	*e*Pg	Pn	05 47 30.5	+1.1
GRUS				*e*Sg	Sb	05 47 59.8	-0.3
DIVS	**Divibare**	**2.28**	**8**	*e*Pg	Pn	05 47 31.4	+1.1
DIVS				*e*Sg	Sb	05 48 00.9	-1.2
IGT	**Igoumenitsa**	**2.37**	**166**	P	Pn	05 47 31.3	-0.2
IGT				S	Sn	05 48 00.4	0.0
MAKA	**Makarska**	**2.38**	**308**	*e*Pn	Pn	05 47 32.1	+0.5
BOVS	**Bovan**	**2.39**	**40**	⇓P	Pn	05 47 32.6	+0.9
BOVS	**Bovan**	**2.39**	**40**	*e*Pg	Pn	05 47 32.3	+0.6
TRUS	**Trudelj**	**2.46**	**14**	*e*Pn	Pn	05 47 33.7	+0.9
KNT	**Kendrikon**	**2.58**	**104**	P	Pn	05 47 35.6	+1.2
ZAPS	**Zavoj**	**2.68**	**57**	*e*Pn	Pn	05 47 37.1	+1.4
ZAGS	**Zajecar**	**2.78**	**44**	*e*Pn	Pn	05 47 38.0	+0.9
BORS2	**Bor- Borsko je**	**2.88**	**38**	*e*Pn	Pn	05 47 38.1	-0.4
HORT	**Hortiatis**	**2.93**	**114**	P	Pn	05 47 40.9	+1.6
TSLK	**Tsoukalades, L**	**3.12**	**164**	P	Pn	05 47 41.5	-0.2
FRGS	**Fruska Gora**	**3.32**	**3**	*e*Pn	Pn	05 47 45.5	+0.9
MDVR	**Moldovita**	**3.33**	**27**	⇑P	Pn	05 47 45.7	+1.0
BLY	**Banja Luka**	**3.40**	**330**	*e*Pn	Pn	05 47 46.9	+1.3
BLY				*e*Sn	Sn	05 48 27.0	+1.4
TIP	**Timpagrande**	**3.42**	**220**	P	Pn	05 47 44.8	-1.1
MAKR	**Makrakomi, Fth**	**3.43**	**144**	P	Pn	05 47 46.8	+0.8
HERR	**Herculane**	**3.68**	**33**	⇑P	Pn	05 47 50.6	+1.1
XOR	**Xorichti**	**3.70**	**131**	P	Pn	05 47 50.6	+0.9
ANX	**Ano Chora**	**3.70**	**150**	P	Pn	05 47 50.2	+0.3
A051A	**Mrakovica**	**3.72**	**329**	*e*Pn	Pn	05 47 51.1	+1.0
A051A				*e*Sn	Sn	05 48 34.7	+0.9
BZS	**Buzias**	**4.06**	**21**	⇑P	Pn	05 47 55.4	+0.8
GZR	**Gura Zlata**	**4.25**	**32**	⇑P	Pn	05 47 59.0	+1.6
SURR	**Surduc**	**4.33**	**24**	⇓P	Pn	05 48 02.8	+4.5
MORH	**Mrgy, Hungar**	**4.43**	**352**	⇑P	Pb	05 48 07.2	-3.4
SIRR	**Siria**	**4.68**	**18**	⇓P	Pn	05 48 02.8	-0.4
CRES	**Cresnjevec Ost**	**4.98**	**325**	*e*Pn	Pn	05 48 07.8	+0.5
CRES				*e*Sn	Sn	05 49 04.8	+0.2

*IDC **06** 05:49:40.7±1.4, 14°.80N×147°.24E, h0km, mb3.8/8, mbtmp3.8/9, ML4.2/1, Error ellipse: s-maj=36.3km s-min=25.1km az=125.0*

ISC 06 05:49:42.4±1.2, 14°.8N±0°.2×147°.2E±0°.2, h10km, n13, σ0§69/11, mb4.0/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.54**	**243**	Pn	Pn	05 50 24.2	+0.5
42nm,0.3s,baz=336,slow=20,SNR=2.5							
GUMO				Sn	Sn	05 50 53.8	-0.9
63nm,0.3s,baz=34,slow=20,SNR=3.0							
62nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**19.04**	**76**	T	T	06 13 39.7	
baz=263,SNR=4.5							
H11S1	**WAKE ISLAND Hy**	**19.06**	**76**	T	T	06 13 45.4	
baz=263							
H11S2	**WAKE ISLAND Hy**	**19.06**	**76**	T	T	06 13 47.5	
baz=263							
WRA	**Warramunga Arr**	**36.73**	**200**	P	P	05 56 49.8	-0.2
0.3nm,0.7s,baz=27,slow=8.9,SNR=1.7							
0.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**46.28**	**282**	P	P	05 58 09.7	+1.1
2.8nm,0.3s,baz=84,slow=8.2,SNR=5.8							
2.8nm,0.3s							
SONM	**Songino Array**	**47.12**	**323**	P	P	05 58 14.7	-0.2
0.6nm,0.7s,baz=127,slow=6.3,SNR=4.2							
0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**62.01**	**324**	P	P	06 00 01.8	-0.9
0.5nm,0.4s,baz=110,slow=8.7,SNR=2.8							
0.5nm,0.4s							
MKAR	**Makanchi Array**	**62.23**	**315**	P	P	06 00 04.5	0.0
0.9nm,0.4s,baz=89,slow=8.8,SNR=24							
0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**65.20**	**319**	P	P	06 00 23.5	-0.4
1.8nm,0.6s,baz=96,slow=7.4,SNR=13							
ILAR	**Eielson Array**	**66.55**	**25**	P	P	06 00 32.2	-0.2
0.2nm,0.6s,baz=264,slow=5.8,SNR=5.3							
0.2nm,0.6s							
BVAR	**Borovoye Array**	**70.42**	**321**	P	P	06 00 56.1	-0.6
0.9nm,0.4s,baz=102,slow=6.9,SNR=6.1							
0.9nm,0.4s							
YKA	**Yellowknife Ar**	**80.78**	**28**	P	P	06 01 56.2	+0.3
0.1nm,0.4s,baz=282,slow=5.4,SNR=2.3							
0.1nm,0.4s							

*NEIC **06** 05:50:41.9±1.9, 19°.80N±0°.08×63°.7W±0°.1, h35km±2km, ML3.0/26, Md3.4/12(RSPR), Error ellipse: s-maj=18.5km s-min=13.1km az=101.0*

*RSPR **06** 05:50:45.0, 19°.78N×63°.93W, h83km±17km, MD3.4/12*

ISC 06 05:50:38.3±2.5, 19°.9N±0°.2×63°.57W±0°.06, h35km, n54, σ1§87/57, 8C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	**Saba**	**2.28**	**172**	Pn	Pn	05 51 18.5	+5.1
SABA				IAML		05 52 28.8	
comp=N,163nm,1.6s							
SKI	**Saint Kitts**	**2.66**	**163**	*e*P	Pn	05 51 21.5	+2.8
SKI				*e*S	Sn	05 51 47.2	-2.6
HUMP	**Col San Antoni**	**2.77**	**232**		Sn	05 51 51.6	-0.9
HUMP	**Col San Antoni**	**2.77**	**232**		Pn	05 51 20.9	+0.7
HUMP	**Col San Antoni**	**2.77**	**232⇑**	*e*P	Pn	05 51 22.6	+2.4
HUMP	**Col San Antoni**	**2.77**	**232**	*e*S	Sn	05 51 51.6	-0.9
ANWB	**Willy Bob**	**2.78**	**142**	*e*P	Pn	05 51 21.8	+1.5
ANWB				*e*S	Sn	05 51 49.4	-3.3
GCPR	**Guaynabo City**	**2.85**	**237**		Sn	05 51 52.5	-2.0
GCPR	**Guaynabo City**	**2.85**	**237**		Pn	05 51 21.7	+0.4
GCPR	**Guaynabo City**	**2.85**	**237⇑**	*e*P	Pn	05 51 23.4	+2.0
GCPR	**Guaynabo City**	**2.85**	**237**	*e*S	Sn	05 51 52.5	-2.0
PDPR	**Patillas Dam,**	**2.98**	**232**	Pn	Pn	05 51 24.6	+1.6
PDPR	**Patillas Dam,**	**2.98**	**232⇑**	*e*P	Pn	05 51 25.2	+2.1
PDPR	**Patillas Dam,**	**2.98**	**232**	*e*S	Sn	05 51 57.2	-0.3
ECPR	**Experimental S**	**3.07**	**240⇓**	*e*P	Pn	05 51 26.2	+1.9
ECPR	**Experimental S**	**3.07**	**240**	*e*S	Sn	05 51 58.8	-1.1
IGPR	**InterUniversit**	**3.08**	**232**		Sn	05 51 59.1	-0.8
IGPR	**InterUniversit**	**3.08**	**232**		Pn	05 51 25.9	+1.5
IGPR				IAML		05 52 09.6	
comp=N,17nm,0.6s							
IGPR				IAML		05 52 15.7	
comp=E,22nm,1.5s							
IGPR	**InterUniversit**	**3.08**	**232⇓**	*e*P	Pn	05 51 26.5	+2.1
IGPR	**InterUniversit**	**3.08**	**232**	*e*S	Sn	05 51 59.1	-0.8
EMPR	**Esperanza - Ma**	**3.13**	**244**	Pn	Pn	05 51 26.4	+0.3
EMPR				IAML		05 52 21.9	
comp=N,97nm,2.9s							
ANBD	**Bethesda, Anti**	**3.31**	**149**	*e*P	Pn	05 51 29.5	+2.0
ANBD				*e*S	Sn	05 52 02.8	-2.7
CELP	**Cerrillos**	**3.38**	**238**		Pn	05 51 30.1	+1.6
CELP					Sn	05 52 05.7	-1.7
CELP	**Cerrillos**	**3.38**	**238**	IAML		05 52 09.6	
comp=E,17nm,2.6s							
CELP				IAML		05 53 27.5	
comp=N,20nm,2.9s							
CELP	**Cerrillos**	**3.38**	**238⇑**	*e*P	Pn	05 51 30.1	+1.6
CELP	**Cerrillos**	**3.38**	**238**	*e*S	Sn	05 52 05.7	-1.7
MBFL	**Flemmings, Mon**	**3.38**	**157**	*e*P	Pn	05 51 30.7	+2.1
AOPR	**Arecibo Observ**	**3.38**	**244**		Pn	05 51 30.5	+1.8
AOPR					Sn	05 52 06.3	-1.3
AOPR	**Arecibo Observ**	**3.38**	**244**	IAML		05 52 20.4	
comp=N,34nm,2.4s							
AOPR				IAML		05 52 32.9	
comp=E,32nm,1.6s							
AOPR	**Arecibo Observ**	**3.38**	**244**	*e*P	Pn	05 51 30.4	+1.8
AOPR				*e*S	Sn	05 52 05.4	-2.2
AOPR	**Arecibo Observ**	**3.38**	**244⇑**	*e*P	Pn	05 51 30.5	+1.8
AOPR	**Arecibo Observ**	**3.38**	**244**	*e*S	Sn	05 52 06.3	-1.3
UUPR	**Utuado, UPR, P**	**3.40**	**242**		Pn	05 51 30.8	+2.0
UUPR					Sn	05 52 04.9	-3.1
UUPR	**Utuado, UPR, P**	**3.40**	**242**	IAML		05 52 10.4	
comp=N,57nm,0.3s							
UUPR				IAML		05 52 12.8	
comp=E,69nm,0.4s							
UUPR	**Utuado, UPR, P**	**3.40**	**242⇓**	*e*P	Pn	05 51 30.8	+2.0
UUPR	**Utuado, UPR, P**	**3.40**	**242**	*e*S	Sn	05 52 04.9	-3.1
OBIP	**Obispado Ponce**	**3.41**	**238**		Sn	05 52 07.1	-1.2
OBIP	**Obispado Ponce**	**3.41**	**238**		Pn	05 51 29.7	+0.7
OBIP				IAML		05 52 44.1	
comp=N,24nm,2.7s							
OBIP				IAML		05 53 15.4	
comp=E,24nm,2.4s							
OBIP	**Obispado Ponce**	**3.41**	**238⇑**	*e*P	Pn	05 51 30.7	+1.7
OBIP	**Obispado Ponce**	**3.41**	**238**	*e*S	Sn	05 52 07.1	-1.2
AGPR	**Aguadilla, PR**	**3.64**	**248**	Pn	Pn	05 51 33.0	+0.9
LSP	**Las Mesas**	**3.74**	**243**		Pn	05 51 37.5	+4.0
LSP					Sn	05 52 14.9	-1.5
LSP	**Las Mesas**	**3.74**	**243**	IAML		05 51 37.5	+4.0
LSP	**Las Mesas**	**3.74**	**243⇓**	*e*P	Pn	05 51 37.5	+4.0
LSP	**Las Mesas**	**3.74**	**243**	*e*S	Sn	05 52 14.9	-1.5
MLPR	**Magueyes Islan**	**3.81**	**240⇑**	*e*P	Pn	05 51 36.3	+1.9
MLPR	**Magueyes Islan**	**3.81**	**240**	*e*S	Sn	05 52 18.1	+0.1
CRPR	**Cabo Rojo, PR**	**3.84**	**241**		Pn	05 51 37.4	+2.5
CRPR					Sn	05 52 16.1	-2.7
CRPR	**Cabo Rojo, PR**	**3.84**	**241**	IAML		05 53 25.2	
comp=E,40nm,3.4s							
CRPR				IAML		05 54 00.5	
comp=N,36nm,2.3s							
CRPR	**Cabo Rojo, PR**	**3.84**	**241⇓**	*e*P	Pn	05 51 37.4	+2.5
CRPR	**Cabo Rojo, PR**	**3.84**	**241**	*e*S	Sn	05 52 16.1	-2.7
PCDR	**Punta Cana, DR**	**4.75**	**254**		Pn	05 51 47.6	+0.2
PCDR					Sn	05 52 40.0	-1.3
PCDR	**Punta Cana, DR**	**4.75**	**254⇑**	*e*P	Pn	05 51 47.6	+0.2
PCDR	**Punta Cana, DR**	**4.75**	**254**	*e*S	Sn	05 52 40.0	-1.3
DR12	**Loma Pena Alta**	**5.60**	**260**	Pn	Pn	05 52 00.8	+1.7

*AFAD **06** 06:00:23.9, 35°.86N×28°.66E, h7km±6km, ML2.2*

*ATH **06** 06:00:32.7, 36°.40N×29°.14E, h11km±2km, ML2.6/3, Manual Solution by F.Xalaris First location: 2019/03/06 06:02:00, This location: 2019/03/06 11:24:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 3 km*

*ISK **06** 06:00:33.3, 36°.36N×29°.20E, h10km, ML2.2/12*

ISC 06 06:00:33.7±0.9, 36°.36N±0°.03×29°.19E±0°.03, h18km±7km, n24, σ1§06/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	**Mula-Seydike**	**0.08**	**21**	P	Pg	06 00 37.4	+0.2
FETY	**Fethiye**	**0.29**	**343**	Pg	Pg	06 00 39.7	-0.3
FETY				Sg	Sb	06 00 44.8	-0.1
FETY	**Fethiye**	**0.29**	**343**	P	Pb	06 00 41.8	+1.4
AKAS	**Kas**	**0.36**	**110**	Pg	Pg	06 00 40.9	-0.3
AKAS				Sg	Sg	06 00 46.3	-0.1
AKAS	**Kas**	**0.36**	**110**	P	Pg	06 00 41.0	-0.3
KSL	**Kastellorizon**	**0.38**	**123**	P	Pg	06 00 41.4	-0.2
KSL				S	Sb	06 00 47.6	+0.1
SABU	**Mula-Dalaman**	**0.50**	**339**	P	Pg	06 00 42.2	-1.5
KNIK	**Mula-Seydike**	**0.58**	**32**	P	Pg	06 00 43.6	-1.6
CAME	**Cameli-Denizli**	**0.59**	**9**	Pg	Pg	06 00 44.3	-1.2
CAME				Sg	Sb	06 00 53.8	+0.1
DALY	**Dalyan (Mula)**	**0.63**	**317**	Pg	Pg	06 00 45.9	-0.2
ELL	**Elmali**	**0.70**	**56**	Pg	Pg	06 00 47.0	-0.4
ELL	**Elmali**	**0.70**	**56**	P	Pg	06 00 46.5	-0.9
ELL				S	Sb	06 00 56.6	-0.2
TURN	**Turunc**	**0.87**	**299**	Pg	Pb	06 00 50.6	+0.4
TURN	**Turunc**	**0.87**	**299**	P	Pn	06 00 54.1	+3.1
TURN				*i* AML	AML	06 01 22.0	
comp=N,70nm,0.3s							
TURN				*i* AML	AML	06 01 29.0	
comp=E,50nm,0.4s							
ARG	**Arkhangelos**	**0.87**	**261**	Pg	Pg	06 00 50.2	-0.4
ARG	**Arkhangelos**	**0.87**	**261**	P	Pg	06 00 49.8	-0.9
ARG				S	Sg	06 00 59.9	-2.2
AKUM	**Antalya-Kumluc**	**0.93**	**92**	P	Pg	06 00 50.5	-1.3
AKUM				*i* AML	AML	06 01 22.0	
comp=N,94nm,0.4s							
YER	**Yerkesik**	**1.06**	**317**	Pg	Pb	06 00 54.0	+0.4
APMY	**Acipayam-Deniz**	**1.11**	**5**	Pn	Pg	06 00 54.2	-1.1
KORT	**Korkueli**	**1.13**	**55**	Pn	Pg	06 00 54.9	-0.7
ANTB	**Antalya**	**1.30**	**65**	Pn	Pg	06 00 58.1	-0.6
DAT	**Datca**	**1.35**	**286**	Pn	Pb	06 00 58.7	+0.2
ISP	**Isparta**	**1.81**	**36**	P	Pn	06 01 04.3	+0.2
KARP	**Karpathos**	**1.83**	**244**	P	Pn	06 01 03.9	-0.5

ISK 06 06:00:44.8, 36°.36N×29°.21E, h18km, ML2.7/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	**Mula-Seydike**	**0.08**	**8**	S	Sg	06 00 53.0	+2.3
FETY	**Fethiye**	**0.29**	**339**	Pg	Pb	06 00 51.5	-0.1
FETY				Sg	Sb	06 00 56.9	+0.8
FETY	**Fethiye**	**0.29**	**339**	S	Sb	06 00 57.2	+1.2
AKAS	**Kas**	**0.34**	**112**	Pg	Pb	06 00 52.6	+0.1
AKAS				Sg	Sb	06 00 57.9	+0.3
AKAS	**Kas**	**0.34**	**112**	S	Sb	06 00 58.9	+1.2
SABU	**Mula-Dalaman**	**0.50**	**337**	S	Sb	06 01 03.4	+1.2
KNIK	**Mula-Seydike**	**0.56**	**31**	S	Sb	06 01 04.7	+0.7
DEMR	**Demre-Antalya**	**0.57**	**102**	Pg	Pb	06 00 56.5	+0.2
CAME	**Cameli-Denizli**	**0.59**	**7**	Pg	Pb	06 00 56.6	0.0
CAME				Sg	Sb	06 01 05.5	+0.9
DALY	**Dalyan (Mula)**	**0.64**	**315**	Pg	Pg	06 00 57.5	0.0
DALY				Sg	Sb	06 01 07.2	+1.2
ELL	**Elmali**	**0.68**	**55**	Pg	Pg	06 00 58.7	+0.4
TURN	**Turunc**	**0.88**	**298**	Pg	Pn	06 01 02.3	0.0
TURN				Sg	Sn	06 01 15.1	+0.4
TURN	**Turunc**	**0.88**	**298**	S	Sn	06 01 14.4	-0.2
ARG	**Arkhangelos**	**0.89**	**261**	Pg	Pg	06 01 02.0	-0.1
ARG				Sg	Sn	06 01 15.6	+0.7
AKUM	**Antalya-Kumluc**	**0.91**	**92**	S	Sn	06 01 17.9	+2.4
YER	**Yerkesik**	**1.07**	**316**	Pg	Pg	06 01 05.8	+0.2
APMY	**Acipayam-Deniz**	**1.11**	**4**	Pn	Pn	06 01 05.9	+0.3
KORT	**Korkueli**	**1.11**	**55**	Pn	Pn	06 01 06.0	+0.3
ANTB	**Antalya**	**1.28**	**65**	Pn	Pb	06 01 08.2	-0.1
DAT	**Datca**	**1.37**	**286**	Pn	Pb	06 01 09.7	-0.2
MLSB	**Milas**	**1.48**	**309**	Pn	Pb	06 01 11.8	0.0
BODT	**Bodrum**	**1.68**	**295**	Pn	Pn	06 01 13.7	+0.4
BASM	**Basmaki-Afyon**	**1.69**	**23**	Pn	Pn	06 01 13.9	+0.3
NAZL	**Nazilli-Aydin**	**1.76**	**336**	Pn	Pn	06 01 15.3	+0.8
KARP	**Karpathos**	**1.85**	**245**	Pn	Pn	06 01 16.4	+0.7
AYDB	**Zeytinkoy-Aydi**	**1.90**	**327**	Pn	Pn	06 01 17.3	+0.8
ODEM	**Odemis-Izmir**	**2.12**	**335**	Pn	Pn	06 01 20.3	+0.9

ATH 06 06:04:41.7, 36°.28N×29°.61E, h17km±4km, ML2.7/3, Manual Solution by F.Xalaris First location: 2019/03/06 06:06:02, This location: 2019/03/06 11:37:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 7 km, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.14**	**187**	P	Pg	06 04 45.7	0.0
KSL				S	Sb	06 04 48.9	+0.4
IZZE	**Mula-Seydike**	**0.34**	**297**	P	Pg	06 04 46.5	-2.5
ELL	**Elmali**	**0.52**	**28**	P	Pb	06 04 52.6	+0.1
ARG	**Arkhangelos**	**1.20**	**267**	P	Pb	06 05 04.2	+0.3
ARG				S	Sb	06 05 18.6	-0.4
AKMS	**Akamas**	**2.56**	**119**	P	Pn	06 05 22.5	+0.1
SMG	**Samos**	**2.63**	**304**	P	Pn	06 05 24.5	+1.1

*AFAD **06** 06:04:46.8, 36°.33N×29°.18E, h27km±1km, ML2.7*

*ISK **06** 06:04:47.3, 36°.39N×29°.21E, h20km, ML3.0/23*

ISC 06 06:04:46.5±1.2, 36°.28N±0°.04×29°.24E±0°.03, h23km±9km, n31, σ0§75/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZZE	**Mula-Seydike**	**0.15**	**356**	S	Sb	06 04 55.6	+0.7
AKAS	**Kas**	**0.30**	**100**	Pg	Pn	06 04 55.6	-0.1
AKAS				Sg	Sn	06 05 01.2	-0.3
AKAS	**Kas**	**0.30**	**100**	P	Pn	06 04 55.3	-0.4
AKAS				S	Sn	06 05 01.4	0.0
FETY	**Fethiye**	**0.37**	**340**	Pg	Pb	06 04 54.2	-0.4
FETY				Sg	Sb	06 04 59.2	-0.9
FETY	**Fethiye**	**0.37**	**340**	P	Pb	06 04 54.6	0.0
FETY				S	Sb	06 04 59.8	-0.3
SABU	**Mula-Dalaman**	**0.58**	**338**	P	Pb	06 04 57.7	-0.4
SABU				S	Sb	06 05 06.0	+0.1
SABU				*i* AML	AML	06 05 10.0	
comp=N,415nm,0.4s							
SABU				*i* AML	AML	06 05 10.0	
comp=E,553nm,0.6s							
KNIK	**Mula-Seydike**	**0.62**	**26**	P	Pb	06 04 57.9	-1.0
KNIK				*i* AML	AML	06 05 08.0	
comp=E,390nm,0.4s							
KNIK				S	Sb	06 05 08.1	+0.8
KNIK				*i* AML	AML	06 05 11.0	
comp=N,212nm,0.5s							
CAME	**Cameli-Denizli**	**0.66**	**4**	Pg	Pb	06 04 58.7	-0.8
CAME				Sg	Sb	06 05 06.9	-1.5
DALY	**Dalyan (Mula)**	**0.71**	**319**	Pg	Pb	06 04 59.8	-0.5
DALY				Sg	Sb	06 05 08.9	-0.7
ELL	**Elmali**	**0.71**	**49**	Pg	Pb	06 05 00.6	+0.2
ELL	**Elmali**	**0.71**	**49**	S	Pb	06 05 00.2	-0.2
CAEL	**Denizli, Camel**	**0.84**	**4**	P	Pb	06 05 00.3	-2.3
CAEL				S	Sn	06 05 15.0	+0.1
CAEL				*i* AML	AML	06 05 16.0	
comp=N,438nm,0.6s							
ARG	**Arkhangelos**	**0.90**	**266**	Pg	Pn	06 05 04.7	+0.9
TURN	**Turunc**	**0.94**	**302**	Pg	Pn	06 05 04.6	+0.3
GOLH	**Golhisar**	**0.99**	**15**	P	Pb	06 05 04.9	-0.2
GOLH				S	Sn	06 05 20.0	+1.6
YER	**Yerkesik**	**1.15**	**318**	Pg	Pb	06 05 07.8	+0.1
KORT	**Korkueli**	**1.15**	**51**	Pn	Pb	06 05 08.5	+0.7
APMY	**Acipayam-Deniz**	**1.19**	**2**	Pn	Pn	06 05 07.8	-0.1
ANTB	**Antalya**	**1.29**	**61**	Pn	Pb	06 05 10.7	+0.5
DAT	**Datca**	**1.41**	**289**	Pn	Pb	06 05 11.8	-0.4
MLSB	**Milas**	**1.55**	**311**	Pn	Pn	06 05 13.5	+0.7
BODT	**Bodrum**	**1.73**	**297**	Pn	Pn	06 05 16.2	+0.9
BASM	**Basmaki-Afyon**	**1.76**	**21**	Pn	Pn	06 05 16.2	+0.5
YKAV	**Yalikavak-Bodr**	**1.78**	**299**	Pn	Pn	06 05 16.2	+0.3
KARP	**Karpathos**	**1.84**	**247**	Pn	Pb	06 05 18.6	-0.9
NAZL	**Nazilli-Aydin**	**1.84**	**336**	Pn	Pn	06 05 17.6	+0.8
AYDB	**Zeytinkoy-Aydi**	**1.98**	**327**	Pn	Pn	06 05 19.3	+0.5
GCAM	**G?zelcaml?**	**2.14**	**312**	Pn	Pn	06 05 21.4	+0.6
ODEM	**Odemis-Izmir**	**2.19**	**335**	Pn	Pn	06 05 22.0	+0.3
KULA	**Kula-Manisa**	**2.27**	**349**	Pn	Pn	06 05 22.7	-0.1
SHUT	**Suhut-Afyon**	**2.50**	**24**	Pn	Pn	06 05 25.6	-0.3

*NEIC **06** 06:46:57.4±1.0, 59°.66N±0°.01×152°.23W±0°.05, h81km±4km, Error ellipse: s-maj=4.1km s-min=1.7km az=70.0*

*AEIC **06** 06:46:58.5±1.2, 59°.64N±0°.03×152°.25W±0°.05, h79km±4km, ML2.9, ML3.1/158(NEIC), Error ellipse: s-maj=4.4km s-min=3.8km az=180.0*

ISC 06 06:46:57.0±1.3, 59°.64N±0°.03×152°.21W±0°.04, h85km±7km, n171, σ0§66/171, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.29**	**86**		Sn	06 47 19.9	+0.7
HOM	**Homer**	**0.29**	**86**		Pn	06 47 09.5	-0.2
O20K	**Slope Mountain**	**0.49**	**335**		Pn	06 47 11.3	+0.2
O20K

comp=N,176nm,1.0s
KAKN Katmai Knife C 2.00 229 Pn Pn 06 47 29.7 +0.7
N18K Kilae Creek 2.12 301 Pn 06 47 29.9 -0.5
N18K IAML 06 47 55.1
comp=N,95nm,0.5s
N18K IAML 06 47 55.9
comp=E,94nm,0.5s
ACHA Angle Creek He 2.16 230 Pn **Pn 06 47 31.6 +0.4**
P17K Kvichak River 2.21 260 Pn 06 47 32.3 +0.6
ANCK Angle Creek 2.23 231 Pn 06 47 32.9 +0.8
PWL Port Wells 2.29 56 Pn 06 47 32.7 0.0
PWL IAML 06 47 59.8
comp=E,200nm,0.4s
M20K Styx River 2.29 349 Pn 06 47 33.2 +0.2
M22K Willow 2.35 25 Pn 06 47 34.6 +1.0
SKT Skwentna 2.37 8 Pn 06 47 34.2 +0.4
SKT IAML 06 48 06.3
comp=N,66nm,0.3s
SKT IAML 06 48 09.3
comp=E,60nm,0.4s
R18K Karluk 2.39 210 Pn 06 47 34.7 +0.6
P23K Montague Islan 2.45 80 Pn 06 47 35.3 +0.4
PMR Palmer 2.48 36 Pn 06 47 35.0 -0.3
PMR IAML 06 48 04.4
comp=E,81nm,0.4s
PMR IAML 06 48 04.7
comp=N,62nm,0.5s
PMR Palmer 2.48 36 P **Pn 06 47 35.0 -0.3**
O17K Koliganek Bris 2.48 275 Pn 06 47 35.5 +0.3
Q16K King Salmon 2.49 249 Pn 06 47 36.1 +0.7
OHAK Old Harbor 2.49 194 Pn **Pn 06 47 35.0 -0.4**
OHAK IAML 06 48 05.2
comp=N,48nm,0.4s
OHAK Old Harbor 2.49 194 P **Pn 06 47 34.9 -0.5**
OHAK Old Harbor 2.49 194 S **Sn 06 48 04.5 -0.5**
M19K Big River Lodg 2.51 336 Pn 06 47 35.8 +0.1
KNK Knik Glacier 2.57 45 Pn 06 47 36.6 +0.1
KNK IAML 06 48 07.2
comp=N,140nm,0.2s
M18K Stony River 2.58 318 Pn 06 47 36.5 -0.1
N17K Nushagak Hills 2.65 292 Pn **Pn 06 47 37.5 0.0**
N17K IAML 06 48 07.6
comp=N,41nm,1.4s
GHO Glory Hole Cre 2.68 36 Pn 06 47 38.1 0.0
GHO IAML 06 48 09.8
comp=N,94nm,0.5s
GLI Glacier Island 2.83 62 Pn 06 47 39.3 -0.8
L19K White Mountain 2.86 334 Pn 06 47 40.6 +0.2
SML Sawmill 2.89 40 Pn 06 47 41.2 +0.4
SML IAML 06 48 20.3
comp=N,53nm,0.7s
SML IAML 06 48 26.3
comp=E,60nm,0.7s
CUT Chulitna 2.93 18 Pn 06 47 41.8 +0.4
CUT IAML 06 48 44.4
comp=N,91nm,0.8s
L20K Farewell, AK 2.96 345 Pn 06 47 42.2 +0.4
HIN Hinchinbrook I 2.96 73 Pn **Pn 06 47 41.2 -0.6**
HIN IAML 06 48 17.2
comp=N,90nm,0.6s
HIN IAML 06 48 17.4
comp=E,105nm,0.6s
O16K Kokwok River B 2.99 272 Pn 06 47 42.5 +0.3
Q23K Middleton Isla 2.99 92 Pn **Pn 06 47 42.1 -0.1**
Q23K IAML 06 48 32.7
comp=N,70nm,1.4s
Q23K IAML 06 49 06.9
comp=E,73nm,1.4s
P16K Nushagak River 3.02 261 Pn 06 47 43.6 +1.0
FID Port Fidalgo 3.07 66 Pn 06 47 41.5 -1.7
M23K Glacier View 3.08 44 Pn 06 47 44.3 +0.8
M17K Holitna River 3.13 307 Pn 06 47 44.2 +0.2
M17K IAML 06 48 19.7
comp=N,56nm,0.6s
M17K IAML 06 48 21.6
comp=E,74nm,0.8s
SCM Sheep Creek Mo 3.25 45 Pn 06 47 46.3 +0.5
SCM IAML 06 48 23.5
comp=E,75nm,0.5s
SCM IAML 06 48 26.4
comp=N,75nm,0.2s
SII Sitkinak Islan 3.26 200 Pn 06 47 45.6 -0.2
SII Sitkinak Islan 3.26 200 P **Pn 06 47 46.0 +0.1**
SII Sitkinak Islan 3.26 200 S **Sn 06 48 22.2 -1.5**
PPLA Purkeypile 3.27 0 Pn **Pn 06 47 46.9 +0.9**
EYAK Cordova Ski Ar 3.36 72 Pn 06 47 46.2 -0.9
EYAK Cordova Ski Ar 3.36 72 P **Pn 06 47 46.4 -0.7**
L18K Granite Mounta 3.39 322 Pn 06 47 47.3 -0.2
N16K Nishlik Lake 3.39 287 Pn 06 47 48.4 +0.7
DIV Divide 3.53 62 Pn 06 47 49.5 0.0
KLU Klutina 3.62 56 Pn 06 47 50.8 +0.1
M16K Timber Creek 3.63 295 Pn 06 47 51.4 +0.6
TTA Tatalina 3.78 333 Pn 06 47 52.8 0.0
CAST Castle Rocks 3.79 1 Pn **Pn 06 47 53.1 +0.1**
K20K Telida 3.83 347 Pn 06 47 54.1 +0.5
M24K Tolsona, Glenn 3.85 47 Pn **Pn 06 47 54.7 +0.9**
RAGM Ragged Mountai 3.86 76 Pn 06 47 53.2 -0.7
RAGM IAML 06 48 41.5
comp=E,55nm,0.3s
GOAT Goat Mountain 3.86 73 Pn 06 47 53.6 -0.4
L17K Donlin 3.89 313 Pn 06 47 54.2 0.0
O15K Ungalikthiuk R 3.92 266 Pn 06 47 55.6 +0.9
TRF Thorofare Moun 3.93 13 Pn 06 47 55.1 0.0
TRF IAML 06 48 44.8
comp=N,25nm,0.6s
TRF IAML 06 48 46.0
comp=E,21nm,1.0s
KAIM Kayak Island 3.95 82 Pn 06 47 55.5 +0.4
KAIM Kayak Island 3.95 82 IAML 06 48 45.8
comp=N,26nm,0.4s
KAIM IAML 06 48 47.3
comp=E,30nm,1.1s
KTH Kantishna Hill 3.97 8 Pn 06 47 55.5 0.0
KTH IAML 06 49 01.9
comp=E,18nm,0.8s
KTH IAML 06 49 07.5
comp=N,19nm,1.0s
N15K Kwethluk River 4.00 281 Pn 06 47 57.0 +1.1
N15K Kwethluk River 4.00 281 IAML 06 48 43.5
comp=E,34nm,1.4s
N15K IAML 06 49 10.0
comp=N,28nm,1.3s
BMRM Bremner River 4.01 67 Pn **Pn 06 47 55.5 -0.6**
HMT Hamilton 4.05 77 Pn 06 47 56.3 -0.3
RND Reindeer 4.11 22 Pn **Pn 06 47 57.7 +0.4**
RND IAML 06 48 44.9
comp=E,29nm,0.4s
RND IAML 06 48 45.2
comp=N,16nm,0.6s
L16K Owhat River 4.13 303 Pn **Pn 06 47 57.7 +0.1**
NICHA Nichawak Mount 4.19 78 Pn 06 47 58.1 -0.3
N25K Chitina, Valde 4.24 59 Pn **Pn 06 47 59.2 +0.1**
N25K IAML 06 48 46.7
comp=N,21nm,0.7s
N25K IAML 06 48 48.3
comp=E,29nm,0.5s
K17K Iditarod 4.27 319 Pn **Pn 06 47 59.5 0.0**
K17K IAML 06 48 50.6
comp=E,15nm,1.2s
K17K IAML 06 49 08.7
comp=N,10nm,1.4s
MCK McKinley 4.39 19 Pn **Pn 06 48 01.9 +0.7**
J18K Innoko River 4.40 333 Pn 06 48 01.7 +0.5
HARP HAARP 4.41 48 Pn 06 48 02.7 +1.3
BPAW Bear Paw Mtn. 4.51 7 Pn 06 48 02.4 -0.4
WACK Wrangell Chich 4.52 55 Pn 06 48 03.6 +0.5
GLB Gilahina Butte 4.52 63 Pn **Pn 06 48 02.7 -0.3**
GLB IAML 06 48 53.7
comp=N,22nm,0.3s
GLB IAML 06 48 53.8
comp=E,19nm,0.3s
VRDI Verde Repeater 4.62 66 Pn 06 48 04.5 0.0
VRDI IAML 06 48 56.0
comp=E,12nm,0.6s
VRDI IAML 06 48 57.8
comp=N,15nm,0.6s
WAZA Wrangell Mount 4.63 55 Pn 06 48 05.8 +1.1
O14K Tigyukauivet M 4.64 269 Pn 06 48 05.8 +1.4
O14K Tigyukauivet M 4.64 269 IAML 06 49 21.4
comp=E,9.6nm,1.4s
O14K IAML 06 50 28.4
comp=N,11nm,1.5s
J20K Nowinta River 4.64 349 Pn **Pn 06 48 04.7 +0.2**
J19K Poorman 4.66 341 Pn 06 48 05.0 +0.2
PAX Paxson 4.66 41 Pn **Pn 06 48 05.5 +0.6**
SNH Sunshine Point 4.75 79 Pn 06 48 06.4 +0.4
SNH Sunshine Point 4.75 79 IAML 06 48 59.6
comp=E,29nm,0.5s
SNH IAML 06 49 03.2
comp=N,20nm,0.3s
N14K Kuskokwak Cree 4.80 277 Pn 06 48 08.0 +1.4
BARK Barkley Ridge 4.94 77 Pn 06 48 08.4 -0.2
M14K Bethel 4.99 287 Pn **Pn 06 48 10.1 +0.9**
M14K IAML 06 50 35.0
comp=E,14nm,1.4s
M14K IAML 06 51 07.4
comp=N,16nm,1.4s
J17K VABM Dome 5.00 322 Pn 06 48 09.6 +0.2
KIAG Kiagna River 5.07 71 Pn 06 48 10.1 -0.4
BALM Baldy 5.10 70 Pn 06 48 10.3 -0.5
NEA2 Nenana 5.18 15 Pn 06 48 12.0 +0.1
NEA2 IAML 06 49 10.1
comp=E,7.1nm,1.2s
NEA2 IAML 06 49 11.4
comp=N,6.4nm,1.0s
MESA MESA 5.19 80 Pn 06 48 13.0 +0.8
MESA IAML 06 49 14.8
comp=E,21nm,1.1s
WRH Wood River Hil 5.22 20 Pn **Pn 06 48 12.5 +0.2**
WRH IAML 06 49 14.8
comp=E,5.4nm,0.7s
WRH IAML 06 49 15.5
comp=N,6.6nm,0.5s
MENT Mentasta 5.26 47 Pn **Pn 06 48 14.5 +1.5**
MENT IAML 06 49 29.4
comp=N,14nm,0.6s
MENT IAML 06 49 33.7
comp=E,16nm,0.6s
MENT Mentasta 5.26 47 P **Pn 06 48 15.0 +2.0**
K15K Wolf Creek Mou 5.26 304 Pn 06 48 13.7 +0.7
K15K Wolf Creek Mou 5.26 304 IAML 06 51 08.1
comp=E,5.6nm,1.5s
M26K Nabesna, AK 5.27 54 Pn **Pn 06 48 13.4 +0.3**
M26K IAML 06 49 11.2
comp=N,12nm,1.1s
M26K IAML 06 49 12.5
comp=E,6.7nm,0.6s
HDA Harding Lake 5.39 25 Pn 06 48 15.1 +0.4
RIDG Independent Ri 5.40 37 Pn **Pn 06 48 15.5 +0.6**
CCB Clear Creek Bu 5.43 20 Pn **Pn 06 48 14.6 -0.7**
J16K Anvik River 5.43 316 Pn 06 48 15.3 0.0
L14K Kuka Creek 5.45 293 Pn **Pn 06 48 16.5 +1.0**
RKAV Rock Avalanche 5.50 78 Pn 06 48 17.1 +0.7
COLA College 5.63 19 P **Pn 06 48 18.4 +0.5**
I23K Minto, Yukon-K 5.68 12 Pn 06 48 18.7 0.0
M27K Edge Creek, AK 5.72 57 Pn **Pn 06 48 19.4 +0.1**
IL31 5.72 24 Pn 06 48 19.3 +0.2
ILAR Eielson Array 5.72 24 Pn **Pn 06 48 18.8 -0.4**
SCRK Sand Creek 5.84 38 Pn 06 48 20.9 -0.1
J25K Salcha River, 5.93 30 Pn 06 48 22.4 +0.3
L27K Beaver Creek, 6.06 51 Pn **Pn 06 48 24.3 +0.5**
O28M Mount Upton 6.10 74 Pn 06 48 25.0 +0.4
J26L Joseph Creek 6.34 36 Pn **Pn 06 48 27.9 +0.2**
H24K Noodor Dome 6.53 16 Pn **Pn 06 48 29.7 -0.5**
PRP Porcupine Dome 6.65 25 Pn **Pn 06 48 32.5 +0.5**
O29M Mount Kennedy 6.88 79 Pn 06 48 36.4 +1.3
YUK6 Outpost Mounta 7.01 73 Pn 06 48 37.8 +0.8
I26K Coal Creek Min 7.06 33 Pn 06 48 37.0 -0.4
M29M Somme Creek 7.24 61 Pn 06 48 41.2 +1.2
H25L Birch Creek 7.26 21 Pn 06 48 40.2 +0.2
YUK5 Granite Creek 7.27 72 Pn 06 48 41.5 +1.1
G24K Hadweenzic Riv 7.40 15 Pn 06 48 42.4 +0.3
COLD Coldfoot 7.67 6 Pn 06 48 45.4 -0.3
P30M Million Dollar 7.69 80 Pn **Pn 06 48 47.4 +1.3**
O30N Mendenhall 8.11 75 Pn 06 48 52.2 +0.5
BMAR Burnt Mountain 8.52 20 Pn **Pn 06 48 56.5 -0.8**
SKAG Skagway 8.58 84 P **Pn 06 48 59.2 +1.1**
JIS Juneau Island 9.31 91 P **Pn 06 49 10.5 +2.4**

*AFAD **06** 06:56:51.8, 42.°68N×29.°24E, h33km±1km, ML3.0*
*ISK **06** 06:56:52.1, 42.°70N×29.°09E, h10km, ML2.9/30*
*CFUSG **06** 06:56:53.5, 42.°90N×29.°50E, h10km, mb2.4/2, West Black Sea Magtype MSH 2.9 from 2 stations*
ISC 06 06:56:51.7±3.0,**42.°70N**±0.°02×**29.°27E**±0.°04, **h7**km±22km, **n64**, σ0°**83**/84, **21C-11D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSMN	**Mangalia Port-**	**1.20**	**336**	⇓P	**Pb**	**06 57 14.6**	**-0.2**
TSMN				⇓S	**Sb**	**06 57 30.1**	**-0.4**
MANR	**Mangalia**	**1.22**	**336**	⇑P	**Pn**	**06 57 14.6**	**-0.5**
MANR				⇑S	**Sn**	**06 57 31.5**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.43**	**211**	Pn	**Pn**	**06 57 17.7**	**-0.2**
CTYL				Sn	**Sn**	**06 57 36.2**	**-0.7**
EFOR	**EFORIE**	**1.45**	**342**	⇑P	**Pn**	**06 57 18.6**	**+0.3**
EFOR				⇓S	**Sn**	**06 57 37.0**	**-0.6**
KLYT	**Kilyos**	**1.46**	**187**	Pn	**Pb**	**06 57 19.1**	**0.0**
TSCT	**Constanta Port**	**1.52**	**343**	⇑P	**Pb**	**06 57 19.9**	**-0.4**
TSCT				⇑S	**Sn**	**06 57 38.8**	**-0.6**
VIZE	**Kirklareli, Vi**	**1.54**	**224**	P	**Pn**	**06 57 19.8**	**+0.2**
VIZE				S	**Sb**	**06 57 40.5**	**+0.2**
VIZE				*i* AML	AML	06 57 42.0	
comp=N,203nm,0.2s							
BGKT	**Bogazkoy**	**1.56**	**194**	Pn	**Pn**	**06 57 19.9**	**+0.1**
CTKS	**Kestanelik-??a**	**1.57**	**201**	Pn	**Pn**	**06 57 19.6**	**-0.3**
MFTR	**Murfatlar**	**1.60**	**338**	⇓P	**Pn**	**06 57 20.0**	**-0.3**
MFTR				⇑S	**Sn**	**06 57 40.8**	**-0.4**
ARMN	**Kirklareli, Me**	**1.60**	**239**	P	**Pn**	**06 57 20.9**	**+0.5**
ARMN				S	**Sb**	**06 57 41.8**	**-0.1**
ISK	**Istanbul-Kandi**	**1.64**	**185**	Pn	**Pb**	**06 57 21.9**	**-0.3**
KAVV	**Kandilli-Istan**	**1.64**	**185**	Pn	**Pb**	**06 57 21.9**	**-0.4**
SLVT	**Silivri**	**1.67**	**208**	Pn	**Pn**	**06 57 21.5**	**+0.2**
ELBA	**Catalca**	**1.67**	**202**	P	**Pn**	**06 57 21.8**	**+0.4**
ELBA				S	**Sb**	**06 57 43.9**	**-0.2**
ELBA				*i* AML	AML	06 57 44.0	
comp=E,242nm,0.1s							
PHSR	**Pinarhisar**	**1.68**	**231**	Pn	**Pn**	**06 57 21.3**	**-0.1**
KAND	**Kocaeli-Kandir**	**1.75**	**156**	P	**Pn**	**06 57 22.5**	**+0.1**
KAND				*i* AML	AML	06 57 45.0	
comp=N,345nm,0.2s							
KAND				*i* AML	AML	06 57 45.0	
comp=E,354nm,0.6s							
KAND				S	**Sn**	**06 57 45.5**	**+0.6**
AVCI	**Avcilar-stanb**	**1.75**	**194**	Pn	**Pn**	**06 57 22.9**	**+0.5**
ICOR	**Ion Corvin**	**1.77**	**323**	⇑P	**Pb**	**06 57 25.0**	**+0.6**
ICOR				⇑S	**Sb**	**06 57 47.0**	**+0.2**
KIRK	**Kırklareli**	**1.85**	**241**	P	**Pn**	**06 57 23.8**	**0.0**
KIRK				S	**Sb**	**06 57 48.2**	**-1.0**
CVDA	**Cernavoda**	**1.86**	**332**	⇓P	**Pb**	**06 57 25.0**	**-0.9**
CVDA				⇑S	**Sb**	**06 57 48.5**	**-0.8**
TIRR	**Tirgusor**	**1.86**	**341**	Pn	**Pn**	**06 57 24.3**	**+0.4**
TIRR	**Tirgusor**	**1.86**	**341**	⇑P	**Pb**	**06 57 25.4**	**-0.6**
TIRR				⇑S	**Sn**	**06 57 46.9**	**-0.7**
SEMS	**Kocaeli-K¶rfe**	**1.86**	**169**	P	**Pn**	**06 57 24.5**	**+0.5**
SEMS				S	**Sn**	**06 57 48.5**	**+0.7**
SEMS				*i* AML	AML	06 57 49.0	
comp=N,158nm,0.4s							
SEMS				*i* AML	AML	06 57 49.0	
comp=E,139nm,0.3s							
HRT	**Hereke**	**1.90**	**171**	Pn	**Pn**	**06 57 25.6**	**+1.1**
KAYN	**Sakarya, Kayna**	**1.91**	**155**	P	**Pn**	**06 57 24.9**	**+0.3**
KAYN				S	**Sn**	**06 57 49.8**	**+0.9**
TLBR	**Topalu**	**2.04**	**335**	⇑P	**Pn**	**06 57 27.1**	**+0.7**
TLBR				⇓S	**Sn**	**06 57 53.1**	**+1.0**
EDRB	**Edirne**	**2.06**	**246**	Pn	**Pn**	**06 57 26.2**	**-0.4**
JURR	**Jurilovca**	**2.08**	**352**	⇑P	**Pn**	**06 57 27.6**	**+0.7**
SAUV	**Serdivan-Sakar**	**2.12**	**158**	Pn	**Pn**	**06 57 28.9**	**+1.5**
OSMT	**Osmaniye**	**2.12**	**171**	Pn	**Pn**	**06 57 28.2**	**+0.6**
YLV	**Yalova**	**2.13**	**178**	Pn	**Pn**	**06 57 29.4**	**+1.6**
KDZE	**Karadeniz Ereo**	**2.14**	**130**	Pn	**Pn**	**06 57 28.1**	**+0.4**
TKR	**Tekirdag**	**2.14**	**218**	Pn	**Pn**	**06 57 28.2**	**+0.4**
ARMT	**Armutlu**	**2.16**	**188**	Pn	**Pn**	**06 57 28.9**	**+0.9**
HARR	**Harsova**	**2.21**	**335**	⇑P	**Pb**	**06 57 31.3**	**-0.6**
TPGR	**Topolog**	**2.24**	**344**	⇓P	**Pb**	**06 57 32.9**	**+0.5**
ADVT	**Abdulvahap**	**2.29**	**171**	Pn	**Pn**	**06 57 31.4**	**+1.5**
GEYV	**SAKARYA_Geyve**	**2.35**	**160**	P	**Pn**	**06 57 30.3**	**-0.3**
GEYV				S	**Sn**	**06 58 00.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.35**	**187**	Pn	**Pn**	**06 57 31.6**	**+1.0**
IGD	**Bursa**	**2.44**	**181**	P	**Pn**	**06 57 33.4**	**+1.5**
IGD				S	**Sb**	**06 58 04.6**	**-1.4**
TLCR		**2.50**	**353**	⇓S	**Sn**	**06 58 04.0**	**+0.5**
UKOP	**Uzunkopru-Edir**	**2.52**	**232**	Pn	**Pn**	**06 57 33.4**	**+0.5**
KCTX	**Karacabey (Bur**	**2.53**	**196**	Pn	**Pn**	**06 57 33.7**	**+0.6**
EDC	**Edincik**	**2.58**	**205**	Pn	**Pn**	**06 57 34.0**	**+0.2**
CFR	**Carcaliu**	**2.61**	**342**	⇑P	**Pn**	**06 57 35.1**	**+0.9**
CFR				⇓S	**Sn**	**06 58 06.0**	**0.0**
KRBG	**Karabiga-Canak**	**2.74**	**213**	Pn	**Pn**	**06 57 36.2**	**+0.2**
SGRR	**Singureni**	**2.84**	**304**	⇑P	**Pn**	**06 57 39.6**	**+2.3**
ERIK	**Erikli-Kesan**	**2.89**	**226**	Pn	**Pn**	**06 57 36.9**	**-1.2**
SCHLR	**Schela**	**2.95**	**340**	⇓P	**Pn**	**06 57 40.6**	**+1.7**
LPK	**Lapseki**	**2.99**	**220**	Pn	**Pn**	**06 57 39.8**	**+0.3**
ALN	**Alexandroupoli**	**3.01**	**234**	Pn	**Pn**	**06 57 39.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**3.11**	**223**	Pn	**Pn**	**06 57 40.5**	**-0.6**
RDO	**Rodhopi**	**3.19**	**242**	Pn	**Pn**	**06 57 41.8**	**-0.3**
BZK	**Bozkurt**	**3.59**	**100**	⇑P	**Pn**	**06 57 47.3**	**-0.4**
VRI	**Vrincioaia**	**3.65**	**331**	Pn	**Pn**	**06 57 49.2**	**+0.7**
VRI	**Vrincioaia**	**3.65**	**331**	⇑P	**Pn**	**06 57 49.6**	**+1.1**
PLOR	**Plostina**	**3.67**	**330**	⇓P	**Pn**	**06 57 49.0**	**+0.2**
MLR	**Muntele Rosu**	**3.67**	**321**	Pn	**Pn**	**06 57 49.4**	**+0.4**
SEV	**Sevastopol'**	**3.69**	**59**	*e*P	**Pn**	**06 57 49.9**	**+0.9**
SEV				Pm		06 57 53.1	
comp=Z,2.0nm,0.4s							
SEV				*e*S	**Sn**	**06 58 30.8**	**-1.9**
SEV				Sm		06 58 33.3	
comp=N,4.0nm,0.4s							
SEV				Sm		06 58 33.3	
comp=E,4.0nm,0.4s							
COVR	**Voineasa-Covas**	**3.83**	**326**	⇑P	**Pn**	**06 57 53.0**	**+1.9**
VOIR		**4.09**	**313**	⇑P	**Pn**	**06 57 56.7**	**+2.1**
ARR	**Arges**	**4.27**	**310**	⇑P	**Pn**	**06 57 58.3**	**+1.1**
SUDU	**Sudak**	**4.69**	**60**	*e*P	Pn	06 57 58.2	-4.6
SUDU				Pm		06 57 58.8	
comp=Z,8.0nm,0.5s							
SUDU				*e*S	Sn	06 58 46.7	-11
SUDU				Sm		06 58 47.7	
comp=N,9.0nm,0.4s							
SUDU				Sm		06 58 47.7	
comp=E,4.0nm,0.2s							

*CNRM **06** 07:03:01.4, 35.°63N×3.°63W, h15km, ML2.0*
*MDD **06** 07:03:02.9±0.5, 35.°53N×3.°67W, h0km, mb_Lg2.6/5, Error ellipse: s-maj=3.8km s-min=3.2km az=43.0*
*SFS **06** 07:03:03.9, 35.°42N×3.°61W, h29km, ML2.7/6, ML2.4/8, MLv2.2/8*
ISC 06 07:03:02.5±1.0,**35.°54N**±0.°02×**3.°63W**±0.°02, **h14**km±9km, **n33**, σ0°**92**/45, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**218**	P	**Pg**	**07 03 10.9**	**+0.1**
PALE	**Palemas**	**0.41**	**218**	S	**Sb**	**07 03 17.9**	**+0.2**
WMELI	**Melilla**	**0.60**	**112**	Sg	**Sg**	**07 03 22.0**	**-0.2**
WMELI				Pg	**Pg**	**07 03 14.6**	**+0.4**
EMEL	**Melilla**	**0.60**	**114**	Pg	**Pg**	**07 03 14.6**	**+0.3**
EMEL				Sg	**Sg**	**07 03 22.3**	**0.0**
EMEL				*i* Vmb_Lg		07 03 24.7	
EMLI	**Melilla**	**0.60**	**114**	Sg	**Sg**	**07 03 22.1**	**-0.3**
EMLI				Pg	**Pg**	**07 03 14.6**	**+0.2**
GOG	**Mont Gurugu**	**0.61**	**122**	P	**Pg**	**07 03 14.4**	**-0.1**
GOG	**Mont Gurugu**	**0.61**	**122**	S	**Sb**	**07 03 23.6**	**+0.2**
EALB	**Alboran**	**0.62**	**51**	Pg	**Pn**	**07 03 17.2**	**+0.3**
EALB				Sg	**Sn**	**07 03 26.5**	**-0.1**
EALB	**Alboran**	**0.62**	**51**	Pg	**Pn**	**07 03 17.1**	**+0.3**
EALB				Sg	**Sn**	**07 03 26.9**	**+0.2**
EALB				*i* Vmb_Lg		07 03 27.6	
PVLZ	**Pen de Vlez**	**0.66**	**236**	Pg	**Pb**	**07 03 16.1**	**+0.3**
PVLZ				Sg	**Sg**	**07 03 24.2**	**0.0**
CHAS	**Isla Isabel II**	**1.04**	**110**	Pn	**Pb**	**07 03 21.1**	**-1.2**
CHAS				Sn	**Sb**	**07 03 33.4**	**-2.4**
AKLM	**AKL**	**1.05**	**191**	P	**Pb**	**07 03 22.0**	**-0.5**
AKLM	**AKL**	**1.05**	**191**	S	**Sg**	**07 03 36.5**	**0.0**
TAF	**Taforalt**	**1.23**	**126**	P	**Pn**	**07 03 25.2**	**-0.1**
TAF	**Taforalt**	**1.23**	**126**	S	**Sg**	**07 03 42.5**	**+0.2**
ELGU	**Los Guajares,**	**1.32**	**0**	Pn	**Pn**	**07 03 27.3**	**+0.7**
ELGU				Sn	**Sb**	**07 03 44.4**	**+0.4**
ELGU	**Los Guajares,**	**1.32**	**0**	Pg	**Pb**	**07 03 27.6**	**+0.5**
ELGU				Sg	**Sb**	**07 03 43.8**	**-0.2**
ELGU				*i* Vmb_Lg		07 03 51.0	
EMAL	**Malaga-Limoner**	**1.38**	**332**	Sn	**Sn**	**07 03 45.4**	**+0.1**
SMIR	**Smir Dam**	**1.44**	**276**	P	**Pn**	**07 03 27.2**	**-0.8**
SMIR	**Smir Dam**	**1.44**	**276**	S	**Sn**	**07 03 46.7**	**0.0**
CEU	**Ceuta**	**1.46**	**284**	Pn	**Pn**	**07 03 26.9**	**-1.5**
ECEU	**Ceuta**	**1.47**	**284**	Sg	**Sn**	**07 03 45.8**	**-1.7**
JBK	**JBK**	**1.49**	**144**	P	**Pn**	**07 03 28.6**	**-0.4**
JBK	**JBK**	**1.49**	**144**	S	**Sb**	**07 03 49.5**	**+0.7**
EQUE	**Quentar**	**1.66**	**5**	Pg	**Pg**	**07 03 34.7**	**+0.2**
EQUE				*i* Vmb_Lg		07 03 50.0	
EQUE				Sg	**Sb**	**07 03 54.6**	**+0.8**
EQES	**Quesada**	**2.30**	**11**	Pg	**Pb**	**07 03 44.2**	**+0.4**
EQES				Sn	**Sb**	**07 04 11.7**	**-0.4**
EQES				*i* Vmb_Lg		07 04 17.4	
EADA	**Adamuz**	**2.73**	**344**	Pg	**Pb**	**07 03 50.0**	**-1.1**
EADA				Sn	**Sn**	**07 04 18.7**	**+0.1**
MD31	**MD31**	**2.83**	**200**	P	**Pn**	**07 03 48.1**	**+0.7**
MD31	**MD31**	**2.83**	**200**	S	**Sn**	**07 04 22.9**	**+1.7**
MDT	**Midelt**	**2.84**	**197**	P	**Pn**	**07 03 47.9**	**+0.4**
MDT	**Midelt**	**2.84**	**197**	S	**Sn**	**07 04 23.7**	**+2.1**
PBAR	**Barrancos**	**3.79**	**315**	*e*P	**Pn**	**07 04 02.4**	**+1.9**
MORF	**Marmelete**	**4.42**	**295**	*e*S	**Sn**	**07 04 58.0**	**-2.3**
MORF				IAML		07 04 58.3	

*IDC **06** 07:11:31.3±4.0, 31.°02N×142.°49E, h0km, mb3.6/6, mbtmp3.6/7, ML2.7/1, Error ellipse: s-maj=165.4km s-min=19.9km az=71.0*
ISC 06 07:11:36.9±3.5,**31.°0N**±0.°3×**142.°5E**±0.°9, **h37**km, **n8**, σ0°**67**/8, **mb3.7**/7, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.53**	**328**	Pn	**Pn**	**07 13 09.7**	**-0.6**
0.2nm,0.3s,baz=144,slow=10,SNR=9.0 3.5nm,0.8s							
SONM	**Songino Array**	**32.15**	**312**	P	**P**	**07 18 02.0**	**+1.0**
0.5nm,0.8s,baz=111,slow=8.2,SNR=2.6 0.5nm,0.8s							
MKAR	**Makanchi Array**	**48.22**	**307**	P	**P**	**07 20 13.2**	**-0.6**
0.5nm,0.7s,baz=98,slow=9.2,SNR=6.7 0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**50.52**	**312**	P	**P**	**07 20 30.9**	**-0.3**
0.9nm,0.8s,baz=87,slow=7.8,SNR=6.9							
WRA	**Warramunga Arr**	**51.29**	**190**	P	**P**	**07 20 37.1**	**-0.2**
0.6nm,0.5s,baz=4.8,slow=7.5,SNR=9.1 0.6nm,0.5s							
ASAR	**Alice Springs**	**55.01**	**190**	P	**P**	**07 21 04.5**	**-0.2**
0.3nm,0.5s,baz=0.3,slow=5.5,SNR=13 0.3nm,0.5s							
BVAR	**Borovoye Array**	**55.35**	**316**	P	**P**	**07 21 07.1**	**+0.2**
0.6nm,0.6s,baz=77,slow=6.4,SNR=2.8 0.6nm,0.6s							
AKASG	**Malin Array Be**	**79.59**	**324**	P	**P**	**07 23 40.3**	**+0.3**
0.3nm,0.4s,baz=56,slow=5.4,SNR=2.2 0.3nm,0.4s							

*IDC **06** 07:20:43.5±0.5, 36.°35S×97.°42W, h0km, mb4.9/16, mbtmp4.8/16, MS4.9/43, Error ellipse: s-maj=17.1km s-min=15.4km az=85.0*
*MOS **06** 07:20:43.8±1.4, 36.°20S×97.°36W, h10km, mb5.4/26, Error ellipse: s-maj=14.7km s-min=10.4km az=80.1*
*RSNC **06** 07:20:45.8±1.4, 36°S±10°×9°8W±1°0, h10km±15km, M4.5, mB5.1, mb4.4, Mw(mB)5.6*
*NEIC **06** 07:20:45.3, 36.°31S×98.°00W, h20km, Moment Tensor Solution. Duration: 28 Moment tensor: Scale 10^17 Nm; Mrr-0.06; Mθθ0.00; Mφφ0.06; Mrθ0.37; Mθφ-2.16; Mφr0.50; Fault plane solution: M0 2.25000×10^17 NP1: φs271.40000°, δ77.45000°, λ-170.80000°. NP2: φs179.38000°, δ81.02000°, λ-12.71000°. Principal axes: T 2.1946, Plg2.0000°, Azm226.0000°; N 0.1043, Plg74.0000°, Azm325.0000°; P -2.2989, Plg15.0000°, Azm135.0000°;*
*NEIC **06** 07:20:45.3±1.3, 36.°2S±0.°1×97.°5W±0.°1, h10km±1km, mb5.4/149, Ms_20 5.1/378, Mww5

λ174.00000°. NP2:φ₀182.00000°,δ84.00000°,λ22.00000°.
Principal axes: T 2.2140, Plg20.0000°, Azm48.0000°; N -0.4050, Plg67.0000°, Azm196.0000°; P -1.8090, Plg11.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
BJI **06** 07:20:47.1,36.20S×97.50W,h10km,mB5.4/1,Ms5.4/13, Ms7 5.2/16
GUC **06** 07:20:49.0,35.96S×97.19W,h15km,MW5.6
ISC 06 07:20:45.0±0.3,**36.22S**±0.07×**97.43W**±0.06,**h10**km,**n535**, σ**1**§**16**/336,**mb5.3**/89,**MS5.1**/230,**13C-8D**,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.59**	**308**		Pn		**Pn**	**07 23 55.2**	**-2.6**
RPN	**Rapa Nui**	**13.59**	**308**		P		**Pn**	**07 23 55.2**	**-2.6**
H03S2	**Juan Fernandez**	**15.34**	**87**		T		T	07 40 12.9	
	baz=254,slow=74,SNR=229								
H03S1	**Juan Fernandez**	**15.36**	**87**		T		T	07 40 23.5	
	baz=254,slow=74,SNR=86								
H03S3	**Juan Fernandez**	**15.36**	**86**		T		T	07 40 09.5	
	baz=254,slow=74,SNR=78								
H03N2	**Juan Fernandez**	**15.44**	**85**		T		T	07 40 17.5	
	baz=257,slow=73,SNR=337								
H03N3	**Juan Fernandez**	**15.44**	**85**		T		T	07 40 18.8	
	baz=257,slow=73,SNR=352								
H03N1	**Juan Fernandez**	**15.46**	**85**		T		T	07 40 20.5	
	baz=257,slow=73,SNR=450								
VA04	**Juan Fernndez**	**15.47**	**86**		Pn		**Pn**	**07 24 24.7**	**+1.5**
LR04	**Corral**	**19.24**	**108**		P		**Pn**	**07 25 11.2**	**+0.9**
LL05	**Los Muermos**	**19.35**	**113**		P		**P**	**07 25 12.1**	**+1.6**
LL06	**Loncomilla**	**19.36**	**115**		P		**P**	**07 25 12.2**	**+1.6**
BI05	**Punta Hualpn**	**19.49**	**99**				**Pn**	**07 25 13.8**	**+0.4**
BI05					IAmb		IAmb	07 25 19.5	
	comp=Z,382nm,1.4s								
GO07	**Milladeo Hill,**	**19.51**	**118**		P		**Pn**	**07 25 14.3**	**+0.8**
LL07	**Hotel Espejo d**	**19.59**	**117**		P		**P**	**07 25 14.5**	**+1.4**
LR03	**Panguipulli**	**20.06**	**107**		P		Pn	07 25 20.5	+0.4
LR03					IAmb		IAmb	07 25 26.1	
	comp=Z,351nm,1.4s								
LL04	**Puerto Octay**	**20.09**	**111**		P		**P**	**07 25 20.4**	**+1.8**
LL04					IAmb		IAmb	07 25 25.9	
	comp=Z,223nm,1.4s								
LL03	**Petrohue**	**20.12**	**112**		P		**P**	**07 25 19.8**	**+0.8**
LR05	**Currie**	**20.35**	**109**		P		**P**	**07 25 22.8**	**+1.4**
AY01	**Puyuhuapi**	**20.54**	**121**				**P**	**07 25 24.9**	**+1.4**
AY01					IAmb		IAmb	07 25 31.1	
	comp=Z,340nm,1.3s								
AY01					IAMs_20		IAMs_20	07 31 04.8	
	comp=Z,9μm,22.0s								
LL02	**Futaleuf**	**20.83**	**117**				**P**	**07 25 27.9**	**+1.3**
LL02					IAmb		IAmb	07 25 31.6	
	comp=Z,315nm,1.2s								
BI02	**San Fabin de**	**21.03**	**99**		P		**P**	**07 25 29.1**	**+0.1**
BI02					IAmb		IAmb	07 25 37.2	
	comp=Z,212nm,1.1s								
ML02	**Panimavida**	**21.03**	**96**		P		**P**	**07 25 30.2**	**+1.2**
ML02					IAmb		IAmb	07 25 36.4	
	comp=Z,145nm,1.0s								
COYC	**Coyhaique**	**21.24**	**124**		P		**P**	**07 25 32.0**	**+0.9**
COYC	**Coyhaique**	**21.24**	**124**		IAMs_20		IAMs_20	07 31 29.4	
	comp=Z,13μm,22.0s								
VA05	**Santo Domingo**	**21.30**	**91**		P		**P**	**07 25 33.5**	**+1.7**
VA01	**Torpederas**	**21.43**	**89**		P		**P**	**07 25 35.4**	**+2.2**
VA01					IAmb		IAmb	07 25 39.9	
	comp=Z,196nm,1.3s								
AY03	**Cochrane**	**21.47**	**129**		IAMs_20		IAMs_20	07 31 51.6	
	comp=Z,6μm,18.0s								
PLCA	**Paso Flores**	**21.48**	**110**		P		**P**	**07 25 34.2**	**+0.4**
PLCA					IAmb		IAmb	07 25 41.8	
	comp=Z,295nm,1.2s								
PLCA	**Paso Flores**	**21.48**	**110**		P		**P**	**07 25 34.0**	**+0.1**
	comp=Z,43nm,1.0s,baz=277,slow=11,SNR=23								
PLCA					LR		LR	07 31 59.3	
	comp=Z,2μm,18.3s,baz=278,slow=32								
	comp=Z,43nm,1.0s								
PLCA	**Paso Flores**	**21.48**	**110**		P		**P**	**07 25 34.2**	**+0.4**
PLCA					pmax		pmax		
	comp=Z,295nm,1.3s								
PLCA	**Paso Flores**	**21.48**	**110**	*eP*			**P**	**07 25 34.6**	**+0.8**
MT01	**Popeta**	**21.54**	**91**		P		**P**	**07 25 35.7**	**+1.3**
MT01					IAmb		IAmb	07 25 41.8	
	comp=Z,137nm,1.2s								
BO01	**Tunca**	**21.56**	**93**				**P**	**07 25 34.7**	**+0.2**
BO01					IAmb		IAmb	07 25 41.2	
	comp=Z,211nm,1.2s								
BO02	**Sierra Bellavi**	**21.72**	**94**		P		**P**	**07 25 35.4**	**-1.0**
BO02					IAmb		IAmb	07 25 40.5	
	comp=Z,153nm,1.1s								
BO04	**La Punta**	**22.03**	**92**		P		**P**	**07 25 39.9**	**+0.1**
BO04					IAmb		IAmb	07 25 58.5	
	comp=Z,217nm,1.2s								
MT05	**Renca**	**22.07**	**91**				**P**	**07 25 41.6**	**+1.4**
PEL	**Peldehue**	**22.18**	**90**		P		**P**	**07 25 42.5**	**+1.2**
PEL					IAmb		IAmb	07 25 50.4	
	comp=Z,193nm,1.3s								
PEL	**Peldehue**	**22.18**	**90**		P		**P**	**07 25 42.6**	**+1.2**
PEL					pmax		pmax		
	comp=Z,193nm,1.3s								
PEL					pmax		pmax		
	comp=Z,2μm,21.0s								
CO06	**Fray Jorge**	**22.19**	**83**		P		**P**	**07 25 42.1**	**+0.7**
MT03	**Universidad Ad**	**22.23**	**91**		P		**P**	**07 25 43.3**	**+1.4**
MT03					IAmb		IAmb	07 25 48.1	
	comp=Z,195nm,1.0s								
MT16	**CCHEN**	**22.24**	**91**		P		**P**	**07 25 44.0**	**+2.1**
MT13	**San Alfonso**	**22.35**	**92**		P		**P**	**07 25 45.0**	**+1.8**
MT13					IAmb		IAmb	07 25 53.8	
	comp=Z,132nm,1.1s								
LMEL	**Las Melosas**	**22.39**	**92**		P		**P**	**07 25 44.2**	**+0.5**
VA03	**San Esteban**	**22.39**	**89**		P		**P**	**07 25 44.4**	**+0.7**
VA03					IAmb		IAmb	07 25 49.2	
	comp=Z,146nm,0.9s								
CO03	**El Pedregal**	**22.89**	**84**				**P**	**07 25 49.4**	**+0.5**
CO03					IAmb		IAmb	07 25 53.9	
	comp=Z,129nm,1.2s								
MG05	**Puerto Natales**	**23.52**	**139**		IAMs_20		IAMs_20	07 32 29.3	
	comp=Z,5μm,18.0s								
AC04	**Llanos de Chal**	**23.63**	**78**				**P**	**07 25 55.2**	**-1.2**
AC04					IAMs_20		IAMs_20	07 32 15.9	
	comp=Z,8μm,18.0s								
CO01	**Juntas del Tor**	**23.68**	**83**		P		**P**	**07 25 57.0**	**-0.1**
AC06	**Mina Casimiro**	**24.59**	**77**				**P**	**07 26 06.0**	**+0.7**
AC06					IAmb		IAmb	07 26 09.9	
	comp=Z,97nm,1.2s								
AC06					IAMs_20		IAMs_20	07 33 20.1	
	comp=Z,6μm,18.0s								
AC01	**Pan de Azucar**	**24.98**	**74**				**P**	**07 26 09.4**	**+0.6**
AC01					IAmb		IAmb	07 26 13.2	
	comp=Z,116nm,1.0s								
AC01					IAMs_20		IAMs_20	07 32 53.6	
	comp=Z,6μm,22.0s								
MG03	**Isla Dawson**	**25.72**	**142**		P		**P**	**07 26 15.4**	**+0.1**
AC02	**Maricunga**	**25.79**	**77**				**P**	**07 26 16.7**	**-0.1**
AC02					IAmb		IAmb	07 26 21.3	
	comp=Z,76nm,0.9s								
AC02					IAMs_20		IAMs_20	07 33 22.1	
	comp=Z,6μm,22.0s								
MG02	**Cerro Sombrero**	**25.82**	**139**		IAMs_20		IAMs_20	07 34 12.1	
	comp=Z,5μm,19.0s								
PB14	**IPOC Station P**	**25.92**	**71**				**P**	**07 26 17.4**	**-0.4**
PB14					IAmb		IAmb	07 26 21.7	
	comp=Z,70nm,1.3s								
GO02	**Mina Guanaco**	**26.26**	**73**				**P**	**07 26 21.3**	**+0.4**
GO02					IAmb		IAmb	07 26 25.2	
	comp=Z,75nm,1.0s								
GO02					IAMs_20		IAMs_20	07 33 33.6	
	comp=Z,6μm,22.0s								
MG01	**Puerto William**	**27.70**	**142**		IAMs_20		IAMs_20	07 34 53.1	
	comp=Z,6μm,21.0s								
PB03	**IPOC Station P**	**27.87**	**67**		P		**P**	**07 26 35.2**	**0.0**
PB03					IAmb		IAmb	07 26 39.3	
	comp=Z,47nm,0.9s								
PB09	**IPOC Station P**	**28.40**	**67**		IAMs_20		IAMs_20	07 34 47.2	
	comp=Z,5μm,19.0s								
TA01	**Diego Aracena**	**28.46**	**64**		P		**P**	**07 26 40.1**	**-0.1**
TA01					IAmb		IAmb	07 26 44.3	
	comp=Z,60nm,1.1s								
TA01					IAMs_20		IAMs_20	07 34 32.8	
	comp=Z,6μm,21.0s								
AF01	**San Pedro de A**	**28.54**	**70**		P		**P**	**07 26 41.6**	**+0.3**
AF01					IAmb		IAmb	07 26 46.3	
	comp=Z,87nm,0.9s								
AF01					IAMs_20		IAMs_20	07 34 55.8	
	comp=Z,6μm,21.0s								
PB01	**IPOC Station P**	**28.68**	**66**		P		**P**	**07 26 42.1**	**-0.1**
PB01					IAmb		IAmb	07 26 46.8	
	comp=Z,91nm,1.3s								
PB01					IAMs_20		IAMs_20	07 34 41.4	
	comp=Z,7μm,22.0s								
TA02	**Huaiquique**	**28.68**	**64**		IAMs_20		IAMs_20	07 34 39.7	
	comp=Z,7μm,21.0s								
PB11	**IPOC Station P**	**29.35**	**64**		IAMs_20		IAMs_20	07 34 58.5	
	comp=Z,5μm,22.0s								
PB08	**IPOC Station P**	**29.48**	**65**		IAMs_20		IAMs_20	07 35 16.7	
	comp=Z,5μm,20.0s								
AP01	**Chacalluta**	**29.77**	**61**		IAMs_20		IAMs_20	07 35 08.4	
	comp=Z,4μm,18.0s								
NNA	**Nana**	**30.44**	**43**		LR		LR	07 36 02.8	
	comp=Z,9μm,21.8s,baz=221,slow=30								
NNA	**Nana**	**30.44**	**43**	*i*	P		**P**	**07 26 58.4**	**+0.5**
NNA					pmax		pmax		
	comp=Z,84nm,1.7s								
EFI	**East Falkland**	**31.83**	**132**	*ce*	P		**P**	**07 27 09.0**	**-0.8**
EFI					pmax		pmax		
	comp=Z,99nm,1.8s								
LPAZ	**La Paz**	**32.73**	**60**		P		**P**	**07 27 18.5**	**-0.1**
LPAZ					IAmb		IAmb	07 27 23.8	
	comp=Z,66nm,1.0s								
LPAZ	**La Paz**	**32.73**	**60**		P		**P**	**07 27 20.3**	**+1.6**
	comp=Z,61nm,1.1s,baz=208,slow=6.3,SNR=28								
LPAZ					PcP		**PcP**	**07 30 04.1**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=176,slow=4.1,SNR=3.6								
LPAZ					LR		LR	07 38 03.8	
	comp=Z,1μm,20.8s,baz=236,slow=32								
	comp=Z,61nm,1.1s								
LPAZ	**La Paz**	**32.73**	**60**		P		**P**	**07 27 18.5**	**-0.1**
LPAZ					pmax		pmax		
	comp=Z,66nm,1.0s								
LPAZ	**La Paz**	**32.73**	**60**	*eP*			**P**	**07 27 17.9**	**-0.8**
ATAH	**Atahualpa**	**33.77**	**36**		LR		LR	07 37 53.2	
	comp=Z,5μm,21.6s,baz=210,slow=30								
TBOT	**Tacuaremb**	**34.52**	**95**	*eP*			**P**	**07 27 32.3**	**-1.2**
PMSA	**Palmer Station**	**34.83**	**156**		LR		LR	07 38 02.7	
	comp=Z,2μm,19.2s,baz=310,slow=30								
CPUP	**Villa Florida**	**35.45**	**85**		P		**P**	**07 27 40.7**	**-0.8**
CPUP	**Villa Florida**	**35.45**	**85**		P		**P**	**07 27 40.5**	**-1.0**
	comp=Z,9.1nm,0.9s,baz=240,slow=9.4,SNR=15								
CPUP					PcP		**PcP**	**07 30 11.2**	**+0.1**
	comp=Z,6.5nm,1.1s,baz=320,slow=3.0,SNR=3.8								
CPUP					LR		LR	07 40 20.5	
	comp=Z,1μm,19.1s,baz=252,slow=33								
	comp=Z,9.1nm,0.9s								
CPUP	**Villa Florida**	**35.45**	**85**		P		**P**	**07 27 40.7**	**-0.8**
CPUP					pmax		pmax		
	comp=Z,20nm,1.1s								
PAYG	**Puerto Ayora**	**35.98**	**12**		IAMs_20		IAMs_20	07 38 41.4	
	comp=Z,4μm,18.0s								
SMAI	**San Martin Ant**	**36.20**	**161**		IAMs_20		IAMs_20	07 38 02.9	
	comp=Z,2μm,20.0s								
CZSB	**Cruzeiro do Su**	**36.24**	**45**		P		**P**	**07 27 47.7**	**-0.6**
CZSB	**Cruzeiro do Su**	**36.24**	**45**	*eP*			**P**	**07 27 48.7**	**+0.3**
PLTB	**Pedras Altas**	**36.38**	**96**		P		**P**	**07 27 49.3**	**-0.2**
PLTB					IAmb		IAmb	07 27 52.5	
	comp=Z,69nm,1.0s								
PLTB	**Pedras Altas**	**36.38**	**96**	*eP*			**P**	**07 27 49.1**	**-0.3**
ESPZ	**Base Esperanza**	**36.64**	**151**		IAMs_20		IAMs_20	07 38 22.9	
	comp=Z,4μm,22.0s								
CPSB	**Cacapava Do Su**	**36.97**	**94**	*eP*			**P**	**07 27 52.9**	**-1.7**
SJPY	**San Joaquin**	**37.03**	**84**	*eP*			**P**	**07 27 54.8**	**-0.3**
MURT	**Porto Murtinho**	**37.47**	**78**	*eP*			**P**	**07 27 58.5**	**-0.3**
COHC	**Cochancay**	**37.55**	**31**		P		**P**	**07 28 00.3**	**+0.8**
SIV	**San Ignacio**	**38.05**	**68**		LR		LR	07 41 56.3	
	comp=Z,2μm,21.0s,baz=256,slow=33								
ITAB	**Concordia**	**39.26**	**90**		P		**P**	**07 28 13.2**	**-0.6**
ITAB	**Concordia**	**39.26**	**90**	*eP*			**P**	**07 28 13.3**	**-0.6**
CNLB	**Canela**	**39.46**	**94**	*eP*			**P**	**07 28 15.8**	**+0.2**
AQDB	**Aquidauana**	**39.61**	**78**		P		**P**	**07 28 15.8**	**-1.0**
AQDB					IAmb		IAmb	07 28 20.6	
	comp=Z,123nm,1.1s								
AQDB	**Aquidauana**	**39.61**	**78**	*eP*			**P**	**07 28 16.7**	**-0.1**
PTLB	**Pontes e Lacer**	**39.84**	**69**		P		**P**	**07 28 18.3**	**-0.4**
PTLB					IAMs_20		IAMs_20	07 42 24.4	
	comp=Z,2μm,22.0s								
PTLB	**Pontes e Lacer**	**39.84**	**69**	*eP*			**P**	**07 28 18.4**	**-0.4**
OTAV	**Otavalo**	**40.33**	**30**		P		**P**	**07 28 23.3**	**0.0**
OTAV	**Otavalo**	**40.33**	**30**		IAMs_20		IAMs_20	07 41 02.2	
	comp=Z,2μm,22.0s								
OTAV	**Otavalo**	**40.33**	**30**		P		**P**	**07 28 23.3**	**0.0**
OTAV					pmax		pmax		
	comp=Z,29nm,1.1s								
OTAV					pmax		pmax		
	comp=Z,2μm,22.0s								
OTAV	**Otavalo**	**40.33**	**30**	*eP*			**P**	**07 28 22.4**	**-0.9**
PTGB	**Pitanga**	**40.42**	**86**	*eP*			**P**	**07 28 23.1**	**-0.6**
VILB	**Vilhena**	**40.64**	**65**		P		**P**	**07 28 25.5**	**0.0**
VILB					IAMs_20		IAMs_20	07 42 47.7	
	comp=Z,2μm,20.0s								
TBTG	**Tabatinga, AM**	**40.71**	**45**		P		**P**	**07 28 24.9**	**-1.1**
TBTG					IAmb		IAmb	07 28 29.4	
	comp=Z,64nm,1.1s								
TBTG	**Tabatinga, AM**	**40.71**	**45**	*eP*			**P**	**07 28 25.9**	**-0.1**
TER01	**Tubaro-SC**	**41.16**	**93**	*eP*			**P**	**07 28 30.6**	**+1.0**
RPRD	**Ribas do Rio P**	**41.19**	**80**	*eP*			**P**	**07 28 30.1**	**+0.2**
MAJ01	**Sao Joao Batis**	**41.71**	**92**	*eP*			**P**	**07 28 34.1**	**-0.1**
LDASE	**Londrina, Braz**	**41.80**	**85**	*eP*			**P**	**07 28 34.0**	**-1.0**
SALV	**Santo Antonio**	**42.20**	**72**	*eP*			**P**	**07 28 37.9**	**-0.3**
C2SB	**Chapadao do Su**	**42.79**	**78**	*eP*			**P**	**07 28 43.5**	**+0.4**
FRTB	**Fartura**	**43.08**	**86**	*eP*			**P**	**07 28 45.2**	**-0.2**
PDRB	**Porto dos Gac**	**44.08**	**67**	*eP*			**P**	**07 28 52.0**	**-1.5**
ITRB	**Iturama**	**44.26**	**81**	*eP*			**P**	**07 28 53.9**	**-1.1**
SPB	**Sao Paulo**	**44.68**	**88**		P		**P**	**07 28 57.5**	**-0.7**
SPB					IAmb		IAmb	07 29 02.1	
	comp=Z,83nm,1.1s								
SPB					IAMs_20		IAMs_20	07 45 43.3	
	comp=Z,2μm,20.0s								
SPB	**Sao Paulo**	**44.68**	**88**	*eP*			**P**	**07 28 57.6**	**-0.5**
ARAG	**Araguaiana, MT**	**45.33**	**75**	*eP*			**P**	**07 29 03.3**	**-0.1**
VAO	**Valinhos**	**45.34**	**88**		P		**P**	**07 29 03.4**	**-0.1**
VAO					IAmb		IAmb	07 29 07.1	
	comp=Z,58nm,1.0s								
VAO					IAMs_20		IAMs_20	07 47 42.6	
	comp=Z,2μm,18.0s								
VAO	**Valinhos**	**45.34**	**88**	*eP*			**P**	**07 29 02.9**	**-0.6**
ROSC	**El Rosal**	**46.22**	**33**		P		**P**	**07 29 11.6**	**+0.7**
	comp=Z,5.0nm,0.5s,baz=212,slow=5.4,SNR=18								
ROSC					LR		LR	07 46 50.4	
	comp=Z,3μm,18.1s,baz=222,slow=34								
	comp=Z,5.0nm,0.5s								
BRU2	**Volcan**	**46.87**	**20**		IAMs_20		IAMs_20	07 43 33.3	
	comp=Z,3μm,22.0s								
MACA	**Manacapuru-AM**	**47.21**	**54**		P		**P**	**07 29 17.7**	**-0.6**
MACA					IAMs_20		IAMs_20	07 46 17.8	
	comp=Z,3μm,21.0s								
MACA	**Manacapuru-AM**	**47.21**	**54**	*eP*			**P**	**07 29 17.7**	**-0.6**
RUSC	**La Rusia**	**47.70**	**34**		P		**P**	**07 29 22.1**	**-0.5**
JTS	**Las Juntas de**	**47.73**	**17**		LR		LR	07 44 26.9	
	comp=Z,4μm,21.6s,baz=192,slow=30								
SNDB	**Serra Nova Dou**	**47.96**	**72**	*eP*			**P**	**07 29 23.8**	**-0.2**
PMNB	**Patos De Minas**	**48.02**	**83**	*eP*			**P**	**07 29 23.4**	**-1.2**
BCIP	**Isla Barro Col**	**48.08**	**24**		IAMs_20		IAMs_20	07 44 14.5	
	comp=Z,2μm,20.0s								
NPGB	**Novo Progresso**	**48.12**	**63**	*eP*			**P**	**07 29 24.6**	**-0.7**
BDFB	**Brasilia**	**48.35**	**78**		P		**P**	**07 29 27.1**	**-0.2**
BDFB					IAmb		IAmb	07 29 31.1	
	comp=Z,37nm,1.0s								
BDFB	**Brasilia**	**48.35**	**78**		P		**P**	**07 29 27.1**	**-0.2**
	comp=Z,27nm,1.0s,baz=246,slow=5.4,SNR=20								
BDFB					LR		LR	07 48 37.1	
	comp=Z,2μm,18.0s,baz=239,slow=35								
	comp=Z,27nm,1.0s								
BELA	**Belgrano 2**	**49.23**	**166**		P		**P**	**07 29 32.7**	**-0.3**
ACON	**Acoyapa**	**49.30**	**16**		IAMs_20		IAMs_20	07 45 03.6	
	comp=Z,2μm,20.0s								
PPT	**Papeete**	**49.47**	**278**		P		**P**	**07 29 36.2**	**+0.5**
	comp=Z,35nm,0.8s,baz=89,slow=8.9,SNR=5.5								
PPT					LR		LR	07 45 00.7	
	comp=Z,890nm,18.5s,baz=114,slow=29								
	comp=Z,35nm,0.8s								
DUB01	**Friburgo-RJ**	**49.49**	**89**	*eP*			**P**	**07 29 36.6**	**+0.7**
HERN	**Volcan Telica**	**49.58**	**14**		IAMs_20		IAMs_20	07 46 04.0	
	comp=Z,2μm,18.0s								
CRIN	**San Cristobal**	**49.63**	**13**		IAMs_20		IAMs_20	07 45 48.1	
	comp=Z,2μm,19.0s								
ESPN	**Las Esperanzas**	**49.72**	**17**		P		**P**	**07 29 36.9**	**-0.5**
CAM01	**Campos-RJ**	**50.20**	**89**	*eP*			**P**	**07 29 41.3**	**+0.2**
DIAM	**Diamantina, MG**	**50.37**	**84**	*eP*			**P**	**07 29 42.3**	**-0.4**
TGUH	**Tegucigalpa,Un**	**50.91**	**13**		P		**P**	**07 29 47.5**	**+1.0**
TGUH					IAmb		IAmb	07 29 50.5	
	comp=Z,43nm,1.1s								
TGUH					IAMs_20		IAMs_20	07 45 54.2	
	comp=Z,2μm,22.0s								
ESQI	**Esquipulas**	**51.07**	**10**		IAMs_20		IAMs_20	07 45 58.4	
	comp=Z,2μm,21.0s								
APG	**El Apazote**	**51.36**	**9**		LR		LR	07 46 26.4	
	comp=Z,43nm,18.9s,baz=249,slow=30								
SDV	**Santo Domingo**	**51.46**	**35**		P		**P**	**07 29 49.6**	**-1.2**
SDV					IAmb		IAmb	07 29 53.0	
	comp=Z,73nm,1.9s								
SDV					IAMs_20		IAMs_20	07 49 06.2	
	comp=Z,3μm,20.0s								
SDV	**Santo Domingo**	**51.46**	**35**		LR		LR	07 49 27.1	
	comp=Z,3μm,20.3s,baz=202,slow=33								
SDV	**Santo Domingo**	**51.46**	**35**	*eP*			**P**	**07 29 49.5**	**-1.3**
BOAV	**Boa Vista**	**51.56**	**50**		P		**P**	**07 29 50.8**	**-0.7**
BOAV					IAMs_20		IAMs_20	07 49 50.0	
	comp=Z,2μm,18.0s								
BOAV	**Boa Vista**	**51.56**	**50**	*eP*			**P**	**07 29 50.2**	**-1.3**
JANB	**Januaria**	**51.62**	**80**	*eP*			**P**	**07 29 51.9**	**-0.1**
SJMB	**Sao Joao De Ma**	**52.16**	**86**	*eP*			**P**	**07 29 56.1**	**+0.2**
BSFB	**Barra de Sao F**	**52.37**	**87**	*eP*			**P**	**07 29 57.3**	**-0.2**
RIB01	**Linhares ES**	**52.48**	**87**	*eP*			**P**	**07 29 58.3**	**0.0**
SDBA	**SAO DESIDERIO**	**52.68**	**77**	*eP*			**P**	**07 30 00.1**	**+0.2**
BAUV	**El Baul**	**52.75**	**38**		P		**P**	**07 29 59.5**	**-0.7**
BAUV					IAmb		IAmb	07 30 03.3	
	comp=Z,57nm,0.9s								
CMIG	**Matias Romero**	**53.07**	**3**		LR		LR	07 47 02.0	
	comp=Z,816nm,20.9s,baz=174,slow=30								
QSPA	**South Pole Qui**	**54.00**	**180**		P		**P**	**07 30 08.8**	**-0.3**
	comp=Z,9.6nm,1.1s,baz=131,slow=6.3,SNR=12								
QSPA					LR		LR	07 50 09.6	
	comp=Z,617nm,18.2s,baz=120,slow=33								
	comp=Z,9.6nm,1.1s								
GUA01	**Guaratinga, BA**	**54.40**	**85**	*eP*			**P**	**07 30 12.4**	**0.0**
ABR01	**Abrolhos, BA**	**54.56**	**87**	*eP*			**P**	**07 30 13.2**	**-0.4**
HATO	**Hato, Curacao**	**55.12**	**35**		IAMs_20		IAMs_20	07 51 57.4	
	comp=Z,2μm,20.0s								
CMC01	**Camacan, BA**	**55.30**	**84**	*eP*			**P**	**07 30 18.4**	**-0.5**
VNA3	**Neumayer Olymp**	**55.47**	**157**	⇓*P*			**P**	**07 30 18.5**	**-1.0**
	comp=Z,28nm,1.3s								
PCRV	**Puerto La Cruz**	**55.53**	**40**		LR		LR	07 52 53.6	
	comp=Z,7μm,18.2s,slow=35								
RAR	**Rarotonga**	**55.82**	**267**		LR		LR	07 48 20.5	
	comp=Z,522nm,20.4s,baz=123,slow=30								
VNA1	**Neumayer--Stat**	**56.05**	**156**	⇓*P*			**P**	**07 30 21.6**	**-1.9**
	comp=Z,57nm,1.2s								
VNA2	**Neumayer--Watz**	**56.26**	**157**	⇓*P*			**P**	**07 30 24.8**	**-0.3**
	comp=Z,28nm,1.5s,baz=245,slow=21								
TMAB	**Tom-Au,PA,Br**	**56.58**	**65**	*eP*			**P**	**07 30 28.2**	**0.0**
TEIG	**Tepich**	**56.80**	**10**		IAMs_20		IAMs_20	07 49 59.1	
	comp=Z,1μm,19.0s								
VNDA	**Vanda**	**57.22**	**195**		P		**P**	**07 30 30.8**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=66,slow=4.1,SNR=1.6								
VNDA					LR		LR	07 49 06.7	
	comp=Z,822nm,21.2s,baz=109,slow=30								
	comp=Z,2.7nm,1.0s								
MTDJ	**Mount Denham**	**57.32**	**23**		IAMs_20		IAMs_20	07 49 18.8	
	comp=Z,2μm,22.0s								
SNAA	**Sanae**	**57.48**	**158**		P		**P**	**07 30 34.3**	**+0.4**
SNAA					IAmb		IAmb	07 30 36.3	
	comp=Z,82nm,1.5s								
SNAA	**

LTZ Lake Taylor 66.74 233 IAMs_20 IAMs_20 07 53 17.5
comp=Z,2µm,21.0s
NNZ Nelson 66.75 235 IAMs_20 IAMs_20 07 53 23.9
comp=Z,2µm,21.0s
THZ Tophouse 66.81 234 IAMs_20 IAMs_20 07 54 54.3
comp=Z,1µm,20.0s
THZ Tophouse 66.81 234 P **P** **07 31 37.8 +0.9**
TOZ Tahuroa Road 66.97 239 IAMs_20 IAMs_20 07 55 25.8
comp=Z,1µm,20.0s
HIZ Hauiti 67.04 238 P **P** **07 31 37.9 -0.5**
RPZ Rata Peaks 67.08 232 LR LR 07 54 09.3
comp=Z,2µm,20.4s,baz=137,slow=30
INZ Inchbonnie 67.30 233 P **P** **07 31 39.8 -0.2**
INZ IAMs_20 IAMs_20 07 53 35.4
comp=Z,1µm,21.0s
INZ Inchbonnie 67.30 233 P **P** **07 31 39.7 -0.2**
LBZ Lake Benmore 67.30 231 IAMs_20 IAMs_20 07 53 07.4
comp=Z,1µm,21.0s
PECS Pecos 67.50 354 P **P** **07 31 40.7 -0.5**
PECS IAmb IAmb 07 31 47.4
comp=Z,31nm,1.3s
QRZ Quartz Range 67.50 235 IAMs_20 IAMs_20 07 54 45.8
comp=Z,1µm,19.0s
QRZ Quartz Range 67.50 235 P **P** **07 31 40.1 -1.1**
DSZ Denniston Nort 67.54 234 P **P** **07 31 40.2 -1.4**
WKZ Wanaka 67.82 230 P **P** **07 31 42.6 -0.6**
ODSA Odessa 68.15 355 P **P** **07 31 45.3 0.0**
ODSA IAmb IAmb 07 31 49.1
comp=Z,16nm,0.9s
319A Douglas 68.15 349 P **P** **07 31 45.4 +0.1**
JCZ Jackson Bay 68.33 231 P **P** **07 31 48.2 +1.7**
HTMS Hat Mesa 68.58 354 P **P** **07 31 47.2 -0.7**
WCZ Waipu Caves 68.65 241 P **P** **07 31 48.8 +0.3**
SFX San Felipe 68.87 344 IAMs_20 IAMs_20 07 55 45.0
comp=Z,906nm,19.0s
DUN6 Lazy B Ranch 69.28 349 P **P** **07 31 53.1 +0.7**
OUZ Omahuta 69.54 241 P **P** **07 31 54.1 +0.1**
ESJX Sierra Juarez 70.05 343 IAMs_20 IAMs_20 07 54 54.2
comp=Z,1µm,22.0s
CPBX Cerro Prieto 70.30 344 IAMs_20 IAMs_20 07 56 34.9
comp=Z,978nm,18.0s
SYO Syowa Base 70.39 165 ⇑ *i* P **P** **07 31 57.7 -1.0**
X34A Smith Ranch, M 70.45 360 P **P** **07 31 59.1 -0.3**
YUH Yuha Desert 70.66 344 IAMs_20 IAMs_20 07 56 11.4
comp=Z,952nm,18.0s
TKX Tecate 70.74 343 IAMs_20 IAMs_20 07 56 19.7
comp=Z,833nm,18.0s
UALR University of 70.79 4 P **P** **07 32 01.8 +0.4**
UALR IAmb IAmb 07 32 05.4
comp=Z,22nm,1.1s
GLA Glamis 70.81 345 P **P** **07 32 01.7 +0.1**
GLA IAMs_20 IAMs_20 07 56 49.3
comp=Z,782nm,19.0s
GLA Glamis 70.81 345 P **P** **07 32 01.7 +0.1**
GLA pmax pmax
comp=Z,16nm,1.4s
GLA pmax pmax
comp=Z,800nm,19.0s
SMWD Samnorwood 71.00 358 P **P** **07 32 02.8 0.0**
SMWD IAmb IAmb 07 32 06.8
comp=Z,25nm,0.9s
W35A Tecumseh 71.01 0 P **P** **07 32 03.2 +0.5**
FNO Franklin 71.11 0 P **P** **07 32 03.0 -0.3**
FNO IAmb IAmb 07 32 07.2
comp=Z,31nm,1.0s
FPAL Fort Paine 71.25 10 P **P** **07 32 04.9 +0.6**
Y14A Wickenburg 71.29 346 P **P** **07 32 04.3 -0.3**
Y14A IAmb IAmb 07 32 11.7
comp=Z,49nm,1.7s
ANMO Albuquerque 71.30 352 LR LR 07 58 39.2
comp=Z,425nm,19.0s,baz=338,slow=32
ANMO Albuquerque 71.30 352 *i* P **P** **07 32 05.1 +0.3**
ANMO pmax pmax
comp=Z,6.0nm,1.4s
X18A Snowflake 71.34 349 P **P** **07 32 05.3 +0.3**
BLYC Blythe 71.42 345 P **P** **07 32 05.8 +0.6**
BLYC IAMs_20 IAMs_20 07 57 19.9
comp=Z,783nm,18.0s
X16A Lo Mia Camp, P 71.48 348 P **P** **07 32 06.8 +0.9**
CSTR Hydro, Custer 71.50 359 P **P** **07 32 05.4 -0.4**
Y57A Sumter 71.66 15 IAMs_20 IAMs_20 07 57 08.3
comp=Z,1µm,22.0s
DEOK Depew 71.70 1 P **P** **07 32 06.9 0.0**
DEOK IAmb IAmb 07 32 10.6
comp=Z,47nm,1.0s
PFO Pinyon Flats O 71.71 343 IAMs_20 IAMs_20 07 56 40.5
comp=Z,762nm,19.0s
JSC Jenkinsville 71.74 14 P **P** **07 32 07.6 +0.4**
JSC IAMs_20 IAMs_20 08 01 01.4
comp=Z,945nm,18.0s
JSC Jenkinsville 71.74 14 P **P** **07 32 07.6 +0.4**
JSC pmax pmax
comp=Z,87nm,1.5s
JSC pmax pmax
comp=Z,900nm,18.0s
OK031 S. Brethren Rd 71.81 1 P **P** **07 32 07.8 +0.2**
OK031 IAmb IAmb 07 32 13.6
comp=Z,45nm,1.4s
SWET Sewanee 71.87 10 IAMs_20 IAMs_20 07 58 07.7
comp=Z,748nm,18.0s
FCAR Ozark Folk Cen 71.91 5 P **P** **07 32 07.6 -0.6**
ELIS Ellis County 71.94 358 P **P** **07 32 08.6 +0.1**
ELIS IAmb IAmb 07 32 15.5
comp=Z,71nm,1.4s
QUOK Quay 72.02 1 P **P** **07 32 08.1 -0.7**
QUOK IAmb IAmb 07 32 12.6
comp=Z,32nm,1.0s
PAULI Pauline 72.16 13 P **P** **07 32 09.8 +0.1**
PAULI IAmb IAmb 07 32 13.4
comp=Z,54nm,1.1s
HHAR Hobbs 72.20 3 P **P** **07 32 09.6 -0.3**
OK048 Pawnee Station 72.27 0 P **P** **07 32 10.1 -0.2**
V48A Smith Brothers 72.27 9 P **P** **07 32 09.8 -0.6**
V48A IAmb IAmb 07 32 13.5
comp=Z,22nm,0.8s
OK038 West end E0370 72.34 359 P **P** **07 32 10.5 -0.2**
OK038 IAmb IAmb 07 32 15.0
comp=Z,28nm,1.0s
OK051 E0350 and S346 72.36 0 P **P** **07 32 10.7 -0.2**
OK051 IAmb IAmb 07 32 14.7
comp=Z,27nm,0.9s
NOKA Waynoka 72.50 359 P **P** **07 32 11.8 0.0**
NOKA IAmb IAmb 07 32 16.1
comp=Z,32nm,0.9s
WVT Waverly 72.53 8 P **P** **07 32 11.1 -0.8**
WVT Waverly 72.53 8 P **P** **07 32 11.1 -0.8**
WVT pmax pmax
comp=Z,20nm,1.2s
BLOK Blackwell 72.61 0 P **P** **07 32 12.0 -0.3**
TKL Tuckaleechee C 72.63 12 LR LR 08 00 24.2
comp=Z,711nm,19.5s,baz=182,slow=33
PASC Pasadena Art C 72.66 342 IAMs_20 IAMs_20 07 56 31.7
comp=Z,966nm,18.0s
HICK Hickman 72.79 7 IAMs_20 IAMs_20 07 59 05.0
comp=Z,1µm,22.0s
V53A Saluda 72.80 12 P **P** **07 32 13.5 -0.1**
V53A IAmb IAmb 07 32 17.7
comp=Z,37nm,1.2s
W57A Gilead 72.84 15 IAMs_20 IAMs_20 08 01 23.6
comp=Z,813nm,18.0s
KAN17 Caldwell West 72.89 360 P **P** **07 32 14.0 0.0**
PBMO Poplar Bluff 72.92 6 P **P** **07 32 13.9 -0.3**
PBMO IAmb IAmb 07 32 20.1
comp=Z,57nm,1.6s
KAN05 Bluff City Nor 72.96 360 P **P** **07 32 14.8 +0.4**
KAN05 IAmb IAmb 07 32 21.2
comp=Z,36nm,1.1s
KAN09 Caldwell North 72.98 360 P **P** **07 32 14.2 -0.3**
KAN09 IAmb IAmb 07 32 21.3
comp=Z,46nm,1.2s
KAN01 Argonia South 73.00 360 P **P** **07 32 14.6 -0.1**
KAN01 IAmb IAmb 07 32 22.1
comp=Z,33nm,1.1s
U49A Red Boiling Sp 73.17 10 P **P** **07 32 15.4 -0.3**
U49A IAmb IAmb 07 32 18.5
comp=Z,56nm,1.3s
V12A Nelson 73.39 345 P **P** **07 32 17.4 +0.2**
V12A IAMs_20 IAMs_20 07 58 39.2
comp=Z,912nm,18.0s
GSC Goldstone, Bar 73.41 344 IAMs_20 IAMs_20 07 56 47.6
comp=Z,729nm,19.0s
CGM3 Cape Girardeau 73.50 6 IAMs_20 IAMs_20 08 00 21.7
comp=Z,1µm,20.0s
CCAC Calif City Air 73.55 343 IAMs_20 IAMs_20 07 57 27.4
comp=Z,726nm,19.0s
MVCO Mesa Verde 73.78 351 P **P** **07 32 20.1 +0.6**
MVCO IAmb IAmb 07 32 26.5
comp=Z,37nm,1.4s
U56A King 73.91 14 IAMs_20 IAMs_20 08 02 32.0
comp=Z,991nm,19.0s
SIUC Southern Illin 73.95 7 P **P** **07 32 20.7 +0.5**
SDCO Great Sand Dun 73.97 353 P **P** **07 32 20.6 -0.2**
FVM French Village 74.11 6 P **P** **07 32 20.9 -0.3**
FVM IAmb IAmb 07 32 25.0
comp=Z,26nm,1.1s
FVM French Village 74.11 6 P **P** **07 32 20.9 -0.3**
FVM pmax pmax
comp=Z,26nm,1.1s
ISA Isabella, Lake 74.15 342 P **P** **07 32 21.5 0.0**
ISA IAMs_20 IAMs_20 07 57 45.2
comp=Z,932nm,19.0s
ISA Isabella, Lake 74.15 342 P **P** **07 32 21.5 0.0**
ISA pmax pmax
comp=Z,18nm,1.3s
ISA pmax pmax
comp=Z,900nm,19.0s
USIN University of 74.36 8 IAMs_20 IAMs_20 08 05 19.6
comp=Z,1µm,19.0s
PRN Pahroc Range 75.05 346 IAMs_20 IAMs_20 07 59 52.2
comp=Z,1µm,18.0s
PMPB Monarch Peak 75.27 341 IAMs_20 IAMs_20 07 59 34.8
comp=Z,1µm,18.0s
S11A Rachel 75.43 345 IAMs_20 IAMs_20 07 59 26.1
comp=Z,1µm,18.0s
MAW Mawson 75.43 172 LR LR 08 04 21.8
comp=Z,790nm,18.9s,baz=198,slow=35
SRU San Rafael Swe 75.92 350 P **P** **07 32 32.2 +0.4**
SRU San Rafael Swe 75.92 350 P **P** **07 32 32.2 +0.4**
SRU pmax pmax
comp=Z,40nm,2.0s
SRU pmax pmax
comp=Z,500nm,18.0s
R11B Troy Canyon, C 76.07 345 P **P** **07 32 33.2 +0.5**
NVAR Mina Array Bea 76.74 343 P **P** **07 32 37.9 +1.3**
comp=Z,11nm,0.9s,baz=178,slow=6.4,SNR=23
NVAR LR LR 07 59 20.7
comp=Z,529nm,18.8s,baz=150,slow=30
comp=Z,11nm,0.9s
CMB Columbia Colle 76.88 342 IAMs_20 IAMs_20 07 59 07.4
comp=Z,1µm,19.0s
WAKR Walker 77.08 342 IAMs_20 IAMs_20 07 59 40.9
comp=Z,891nm,19.0s
SDMD Soldier's Deli 77.61 16 IAMs_20 IAMs_20 08 02 16.0
comp=Z,969nm,20.0s
PNTR Pine Nut 77.68 343 IAMs_20 IAMs_20 08 00 09.6
comp=Z,937nm,19.0s
AFDM Forest Hills D 77.89 341 P **P** **07 32 42.7 -0.1**
AFDM IAMs_20 IAMs_20 08 01 19.1
comp=Z,1µm,18.0s
PAHR Pah Rah Range 78.21 343 IAMs_20 IAMs_20 08 00 57.9
comp=Z,741nm,19.0s
ELK Elko 78.32 346 LR LR 08 01 35.3
comp=Z,480nm,18.2s,baz=160,slow=31
M50A Fremont 78.36 11 P **P** **07 32 44.8 -0.4**
M50A IAmb IAmb 07 32 48.8
comp=Z,45nm,0.9s
K30B Basset 78.54 358 P **P** **07 32 47.1 +0.8**
SSPA Standing Stone 78.56 15 IAMs_20 IAMs_20 08 02 07.0
comp=Z,1µm,21.0s
K22A Casper 78.93 353 P **P** **07 32 49.2 +0.6**
K22A IAmb IAmb 07 33 11.4
comp=Z,62nm,1.7s
AAM Ann Arbor 79.15 10 P **P** **07 32 49.2 -0.4**
AAM Ann Arbor 79.15 10 P **P** **07 32 49.2 -0.4**
AAM pmax pmax
comp=Z,51nm,0.9s
PDAR Pinedale Array 79.38 351 P **P** **07 32 51.0 -0.2**
PDAR Pinedale Array 79.38 351 P **P** **07 32 51.1 0.0**
comp=Z,8.3nm,0.6s,baz=163,slow=6.2,SNR=49
comp=Z,8.3nm,0.6s
O02D Mt. Diablo Mer 79.52 341 IAMs_20 IAMs_20 07 59 22.4
comp=Z,1µm,22.0s
HATC Hat Creek Radi 79.77 342 IAMs_20 IAMs_20 08 00 18.1
comp=Z,1µm,20.0s
TPAW Teton Pass 80.28 350 P **P** **07 32 55.5 -0.6**
YBH Yreka Blue Hor 80.95 341 LR LR 08 01 32.8
comp=Z,488nm,18.6s,baz=169,slow=30
MFID Camas Ranch 81.01 347 IAMs_20 IAMs_20 08 03 00.9
comp=Z,704nm,19.0s
SPMN Marine on St. 81.17 3 P **P** **07 33 00.4 0.0**
SPMN IAmb IAmb 07 33 08.8
comp=Z,26nm,0.7s
K04D Chiloquin, OR 81.55 342 IAMs_20 IAMs_20 08 01 47.1
comp=Z,825nm,18.0s
BCX Boston College 81.78 19 IAMs_20 IAMs_20 08 07 17.3
comp=Z,1µm,20.0s
MCMT McKenzie Canyo 81.87 349 P **P** **07 33 05.7 +1.2**
J05D Fort Rock, OR 82.04 343 IAMs_20 IAMs_20 08 02 27.2
comp=Z,1µm,18.0s
SADO Sadowa 82.29 13 LR LR 08 06 17.3
comp=Z,405nm,18.8s,baz=226,slow=33
I07A Izee 82.40 344 IAMs_20 IAMs_20 08 02 36.6
comp=Z,698nm,20.0s
PLID Pearl Lake 82.66 347 IAMs_20 IAMs_20 08 04 22.5
comp=Z,666nm,18.0s
BMO Blue Mountains 82.68 346 IAMs_20 IAMs_20 08 02 54.0
comp=Z,640nm,20.0s
I04A Tendick Farm, 82.81 342 IAMs_20 IAMs_20 08 02 28.5
comp=Z,638nm,19.0s
G08A Pilot Rock 83.43 345 IAMs_20 IAMs_20 08 03 16.0
comp=Z,651nm,20.0s
H04A Detroit Lake 83.59 343 P **P** **07 33 13.5 +0.4**
H04A IAmb IAmb 07 33 24.3
comp=Z,52nm,1.5s
G06A Carlson Farm, 83.75 344 IAMs_20 IAMs_20 08 03 59.3
comp=Z,904nm,19.0s
HOOD Mount Hood Mea 84.06 343 IAMs_20 IAMs_20 08 03 28.7
comp=Z,761nm,18.0s
F07A Phinny Hill Vi 84.22 344 IAMs_20 IAMs_20 08 04 19.7
comp=Z,1µm,18.0s
MXC Moxie City 84.94 344 IAMs_20 IAMs_20 08 03 35.0
comp=Z,992nm,20.0s
LON Longmire 85.45 343 IAMs_20 IAMs_20 08 04 31.3
comp=Z,690nm,20.0s
NEW Newport 85.92 347 IAMs_20 IAMs_20 08 06 36.9
comp=Z,706nm,18.0s
NEW Newport 85.92 347 LR LR 08 05 19.6
comp=Z,473nm,20.2s,baz=152,slow=31
ULM Lac du Bonnet 86.10 1 P **P** **07 33 24.6 -1.0**
comp=Z,5.3nm,0.9s,baz=198,slow=9.0,SNR=3.5
ULM LR LR 08 08 35.6
comp=Z,321nm,20.5s,baz=160,slow=33
comp=Z,5.3nm,0.9s
ULM Lac du Bonnet 86.10 1 *i* P **P** **07 33 23.8 -1.8**
B08A Colville Reser 86.44 346 IAMs_20 IAMs_20 08 05 28.5
comp=Z,946nm,19.0s
SUR Sutherland 90.59 132 LR LR 08 05 59.7
comp=Z,598nm,22.0s,baz=204,slow=30
BBB Bella Bella 92.03 342 LR LR 08 07 46.4
comp=Z,141nm,19.9s,baz=175,slow=31
STKA Stephens Creek 92.58 227 P **P** **07 33 56.0 -1.0**
comp=Z,4.6nm,1.0s,baz=50,slow=6.5,SNR=3.7
STKA LR LR 08 07 15.9
comp=Z,1µm,21.5s,baz=153,slow=30
comp=Z,4.6nm,1.0s
STKA Stephens Creek 92.58 227 *i* P **P** **07 33 56.8 -0.1**
SCHQ Schefferville 94.42 17 LR LR 08 13 49.2
comp=Z,1µm,18.1s,baz=204,slow=34
HNR Honiara 94.51 255 LR LR 08 08 21.8
comp=Z,310nm,20.9s,baz=154,slow=30
BOSA Boshof 95.95 132 P **P** **07 34 11.8 -0.8**
comp=Z,5.3nm,1.0s,baz=143,slow=4.7,SNR=3.9
BOSA LR LR 08 10 27.3
comp=Z,362nm,21.2s,baz=212,slow=31
comp=Z,5.3nm,1.0s
DBIC Dimbokro 95.96 86 LR LR 08 14 35.2
comp=Z,421nm,19.7s,baz=216,slow=34
TSUM Tsumeb 97.52 120 LR LR 08 11 03.8
comp=Z,425nm,21.7s,baz=188,slow=31
LBTB Lobatse 98.77 130 LR LR 08 11 40.9
comp=Z,236nm,22.0s,baz=224,slow=31
YKA Yellowknife Ar 99.34 352 P **Pdif** **07 34 27.3 +0.7**
comp=Z,0.7nm,1.0s,baz=163,slow=4.5,SNR=7.5
comp=Z,0.7nm,1.0s
POGA Pongola 100.67 135 IAMs_20 IAMs_20 08 12 40.4
comp=Z,584nm,20.0s
O29M Mount Kennedy 101.94 340 IAMs_20 IAMs_20 08 10 32.4
comp=Z,537nm,21.0s
HYT Haines Junctio 102.10 341 IAMs_20 IAMs_20 08 11 42.6
comp=Z,637nm,20.0s
N30M Aishikik Lake 102.53 342 IAMs_20 IAMs_20 08 12 02.0
comp=Z,621nm,19.0s
ASAR Alice Springs 103.21 227 Pdiff **Pdif** **07 34 43.1 -2.0**
comp=Z,0.8nm,1.0s,baz=142,slow=4.7,SNR=4.4
H01W1 Cape Leeuwin H 103.38 206 T T 09 30 45.6
baz=155,slow=76,SNR=68
H01W2 Cape Leeuwin H 103.38 206 T T 09 30 45.7
baz=155,slow=76,SNR=52
H01W3 Cape Leeuwin H 103.39 206 T T 09 30 46.7
baz=155,slow=76,SNR=45
RAGM Ragged Mountai 103.76 338 IAMs_20 IAMs_20 08 11 26.6
comp=Z,616nm,20.0s
L29M L29M 104.19 342 IAMs_20 IAMs_20 08 13 53.9
comp=Z,651nm,19.0s
FID Port Fidalgo 104.60 337 IAMs_20 IAMs_20 08 11 15.3
comp=Z,464nm,21.0s
PWL Port Wells 105.27 337 IAMs_20 IAMs_20 08 12 13.4
comp=Z,504nm,21.0s
O22K Cooper Landing 105.43 336 IAMs_20 IAMs_20 08 12 31.7
comp=Z,717nm,19.0s
WRA Warramunga Arr 105.75 230 Pdiff **Pdif** **07 34 58.0 +1.6**
comp=Z,1.1nm,0.9s,baz=145,slow=4.7,SNR=5.6
RC01 Rabbit Creek A 105.89 336 IAMs_20 IAMs_20 08 14 02.9
comp=Z,598nm,18.0s
I29M Ogilvie Camp, 106.12 343 IAMs_20 IAMs_20 08 13 49.0
comp=Z,507nm,20.0s
ILSW Iliamna Southw 106.23 334 IAMs_20 IAMs_20 08 14 46.7
comp=Z,760nm,19.0s
I28M Miner Creek 106.58 343 IAMs_20 IAMs_20 08 14 55.1
comp=Z,583nm,19.0s
J26L Joseph Creek 106.72 341 IAMs_20 IAMs_20 08 14 39.8
comp=Z,455nm,20.0s
I26K Coal Creek Min 107.26 342 IAMs_20 IAMs_20 08 13 36.0
comp=Z,521nm,22.0s
PRP Porcupine Dome 108.04 341 IAMs_20 IAMs_20 08 16 53.6
comp=Z,500nm,18.0s
N17K Nushagak Hills 108.05 333 IAMs_20 IAMs_20 08 14 01.0
comp=Z,772nm,21.0s
KTH Kantishna Hill 108.09 338 IAMs_20 IAMs_20 08 15 30.0
comp=Z,421nm,19.0s
E29M Blow River 108.57 345 IAMs_20 IAMs_20 08 16 22.7
comp=Z,538nm,20.0s
N15K Kwethluk River 108.89 332 IAMs_20 IAMs_20 08 14 07.2
comp=Z,771nm,20.0s
H24K Noodor Dome 108.91 340 IAMs_20 IAMs_20 08 15 16.7
comp=Z,474nm,19.0s
E28M Babbage River 109.09 345 IAMs_20 IAMs_20 08 16 22.5
comp=Z,456nm,20.0s
I21K Tanana 109.59 339 IAMs_20 IAMs_20 08 15 10.6
comp=Z,474nm,20.0s
L16K Owhat River 109.67 333 IAMs_20 IAMs_20 08 16 26.8
comp=Z,570nm,20.0s
F25K Christian Rive 109.68 342 IAMs_20 IAMs_20 08 15 25.9
comp=Z,521nm,21.0s
J18K Innoko River 109.88 336 IAMs_20 IAMs_20 08 15 25.3
comp=Z,771nm,20.0s
J19K Poorman 109.88 337 IAMs_20 IAMs_20 08 15 08.3
comp=Z,553nm,22.0s
D27M Malcolm River 109.91 345 IAMs_20 IAMs_20 08 16 46.2
comp=Z,441nm,19.0s
E25K Arctic Village 110.07 343 IAMs_20 IAMs_20 08 16 28.2
comp=Z,522nm,20.0s
I20K Naaghedeneel 110.08 338 IAMs_20 IAMs_20 08 14 45.5
comp=Z,477nm,22.0s
H21K Melozitna Rive 110.17 339 IAMs_20 IAMs_20 08 15 39.0
comp=Z,399nm,18.0s
F24K Squaw Lake 110.18 342 IAMs_20 IAMs_20 08 15 13.2
comp=Z,451nm,21.0s
L14K Kuka Creek 110.62 332 IAMs_20 IAMs_20 08 17 14.9
comp=Z,653nm,19.0s
C27K Jago River 110.81 344 IAMs_20 IAMs_20 08 17 33.8
comp=Z,466nm,20.0s
E23K Chandalar 111.03 341 IAMs_20 IAMs_20 08 18 00.6
comp=Z,438nm,18.0s
D25K Kavik River 111.18 343 IAMs_20 IAMs_20 08 17 31.6
comp=Z,508nm,19.0s
H17K Granite Mounta 111.91 336 IAMs_20 IAMs_20 08 18 28.9
comp=Z,682nm,19.0s
D23K Nanushuk River 111.96 342 IAMs_20 IAMs_20 08 15 56.2
comp=Z,573nm,20.0s
TAM Tamanrasset 113.19 78 IAMs_20 IAMs_20 08 27 46.3
comp=Z,583nm,19.0s
ANM Nome 113.54 334 IAMs_20 IAMs_20 08 18 27.1
comp=Z,659nm,19.0s
F15K North Star Dit 113.95 335 IAMs_20 IAMs_20 08 17 09.9
comp=Z,662nm,20.0s
CART Cartagena 115.42 61 IAMs_20 IAMs_20 08 29 32.6
comp=Z,688nm,20.0s
FAKI Fak Fak 119.53 241 IAMs_20 IAMs_20 08 23 15.5
comp=Z,621nm,20.0s
MBAR Mbarara 119.57 115 IAMs_20 IAMs_20 08 30 32.3
comp=Z,486nm,18.0s
MMRI Maumere 121.86 228 IAMs_20 IAMs_20 08 25 24.2
comp=Z,499nm,22.0s
KIBK Kibwezi 123.52 123 IAMs_20 IAMs_20 08 25 46.6
comp=Z,455nm,22.0s
KMBO Kilima Mbogo 123.85 121 *i* PKIKP **PKPdf** **07 39 43.7 -0.5**
BILL Bilibino 125.34 333 IAMs_20 IAMs_20 08 28 31.3
comp=Z,510nm,18.0s
BILL Bilibino 125.34 333 *i* PKIKP **PKiKP** **07 39 49.0 +3.6**
BILL pmax pmax
comp=Z,7.0nm,1.6s
LODK Lodwar 125.68 116 IAMs_20 IAMs_20 08 27 53.1
comp=Z,521nm,22.0s
FETA Feichten 126.97 54 *e*PKiKP **PKiKP** **07 39 51.4 +1.9**
comp=Z,14nm,1.2s
RETA Reutte 127.12 54 *e*PKiKP **PKiKP** **07 39 51.4 +1.7**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 127.34 54 *e*PKiKP **PKiKP** **07 39 52.2 +2.0**
comp=Z,18nm,1.2s
LUWI Luwuk 127.37 234 IAMs_20 IAMs_20 08 31 49.8
comp=Z,393nm,19.0s
FDMO Fiordimonte 127.43 60 IAMs_20 IAMs_20 08 32 51.5
comp=Z,416nm,20.0s
CAMP Campotosto 127.50 61 IAMs_20 IAMs_20 08 34 42.5
comp=Z,308nm,18.0s
WATA Walderalm 127.61 54 *e*PKiKP **PKiKP** **07 39 51.9 +1.1**
comp=Z,5.0nm,0.6s
WTTA Wattenberg 127.63 54 *e*PKiKP **PKiKP** **07 39 52.4 +1.6**
comp=Z,22nm,1.6s
CEL Celeste 127.93 66 IAMs_20 IAMs_20 08 33 43.3
comp=Z,557nm,22.0s
ABTA Abfaltersbach 128.08 55 *e*PKP **PKPdf** **07 39 51.1 +0.1**
comp=Z,0.1nm,0.2s
LESA Schwarzleotal 128.36 54 *e*PKP **PKPdf** **07 39 51.8 +0.3**
comp=Z,8.7nm,1.2s
CUC Castrocucco 128.44 64 IAMs_20 IAMs_20 08 37 22.6
comp=Z,388nm,19.0s
MYKA Terra Mystica 128.80 56 *e*PKiKP **PKiKP** **07 39 54.3 +1.3**
comp=Z,5.4nm,1.0s
BIOA Bad Ischl, Aus 129.05 54 *e*PKP **PKiKP** **07 39 53.5 +0.1**
comp=Z,2.8nm,0.5s
KHC Kasperske Hory 129.34 52 *c i*PKIKP **PKiKP** **07 39 54.6 +0.6**
KHC pmax pmax
comp=Z,36nm,2.5s
GERES GERESS Array B 129.36 53 PKP **PKPdf** **07 39 52.9 -0.5**
comp=Z,2.0nm,0.8s,baz=234,slow=1.7,SNR=6.5
OBKA Obir 129.38 56 *e*PKiKP **PKiKP** **07 39 54.9 +0.6**
comp=Z,3.8nm,0.8s
CLL Collm 129.43 50 *i* PKIKP **PKiKP** **07 39 55.0 +1.0**
CLL pmax pmax
comp=Z,45nm,1.7s
SOKA Soboth 129.74 56 *e*PKiKP **PKiKP** **07 39 55.6 +0.7**
comp=Z,5.7nm,1.2s
NOA NORSAR Array B 129.77 37 PKP **PKPdf** **07 39 54.0 +0.3**
comp=Z,1.4nm,0.8s,baz=283,slow=1.7,SNR=3.6
BRG Berggiesshubel 129.93 50 *e*PKP **PKiKP** **07 39 57.1 +2.0**
BRG Amp 07 39 58.0
comp=Z,4.7nm,1.0s
ARSA Arzberg 130.20 55 *e*PKP **PKiKP** **07 39 56.2 +0.4**
comp=Z,3.0nm,0.7s
CONA Conrad Observa 130.57 54 *e*PKP **PKPdf** **07 39 55.7 0.0**
comp=Z,6.3nm,1.2s
SEY Seymchan 130.60 326 *c i*PKIKP **PKiKP** **07 39 56.6 +0.6**
SEY pmax pmax
comp=Z,7.0nm,1.3s
RONA Rosalia, Austr 130.81 55 *e*PKP **PKPdf** **07 39 56.5 +0.4**
comp=Z,1.4nm,0.6s
BKB Balikpapan 130.91 228 IAMs_20 IAMs_20 08 47 24.2
comp=Z,547nm,19.0s
KEK Kerkira 131.28 66 IAMs_20 IAMs_20 08 39 52.7
comp=Z,487nm,18.0s
PDG Podgorica 131.62 62 IAMs_20 IAMs_20 08 38 09.8
comp=Z,306nm,20.0s
TIR Tirane 131.78 64 IAMs_20 IAMs_20 08 40 02.9
comp=Z,468nm,20.0s
ITM Ithomi 132.11 70 IAMs_20 IAMs_20 08 41 42.9
comp=Z,350nm,20.0s
FNA Florina 132.74 65 IAMs_20 IAMs_20 08 35 25.4
comp=Z,334nm,20.0s

RDO	**Rodhopi**	**135.88**	**66**	IAMs_20	IAMs_20	08 39 32.4	
	comp=Z,365nm,20.0s						
ALN	**Alexandroupoli**	**136.20**	**66**	IAMs_20	IAMs_20	08 37 06.9	
	comp=Z,379nm,22.0s						
FINES	**FINESS Array B**	**136.92**	**36**	PKP	**PKPdf**	**07 40 07.1**	**0.0**
	comp=Z,4.3nm,1.0s,baz=264,slow=1.5,SNR=4.1						
KSM	**Kuching**	**136.94**	**223**	IAMs_20	IAMs_20	08 32 39.4	
	comp=Z,440nm,22.0s						
TIXI	**Tiksi**	**137.30**	**340**	IAMs_20	IAMs_20	08 41 11.1	
	comp=Z,334nm,19.0s						
TIXI	**Tiksi**	**137.30**	**340**	*i* PKIKP	**PKPdf**	**07 40 07.2**	**-0.3**
TIXI				*i*		07 40 11.0	
VSU	**Vasula**	**137.66**	**40**	*i* PKIKP	**PKPdf**	**07 40 09.4**	**+0.9**
VSU				*i*		07 40 12.0	
APA	**Apatity**	**138.25**	**26**	⇓*i* PKHKP	PKPpre	07 39 59.5	
APA				*i*		07 42 58.0	
APA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
APA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MNK	**Minsk**	**138.63**	**46**	*i* PKIKP	**PKPdf**	**07 40 07.5**	**-2.9**
MNK				*i*		07 42 57.4	
MNK				*i* PPP	PPP	07 46 00.1	
MNK				*i*		07 47 18.6	
MNK				*i* SS	SS	08 01 10.2	-6.0
MNK				*i* SSS	SSS	08 06 21.1	
MNK				pmax	pmax		
	comp=E,22nm,0.8s						
MNK				pmax	pmax		
	comp=N,26nm,0.9s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MNK				MLR	MLR		
	comp=E,1μm,20.0s						
MNK				MLR	MLR		
	comp=N,760nm,19.0s						
MNK				MLR	MLR		
	comp=Z,514nm,19.0s						
ISP	**Isparta**	**138.85**	**72**	IAMs_20	IAMs_20	08 42 47.4	
	comp=Z,412nm,21.0s						
BORA	**Eskisehir**	**139.27**	**69**	IAMs_20	IAMs_20	08 44 08.4	
	comp=Z,350nm,20.0s						
AKASG	**Malin Array Be**	**139.55**	**52**	PKP	**PKPdf**	**07 40 12.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=264,slow=3.0,SNR=6.6						
AKASG	**Malin Array Be**	**139.55**	**52**	*c i* PKIKP	**PKiKP**	**07 40 15.0**	**+0.4**
AKBB	**Malin Array Si**	**139.55**	**52**	*i* PKIKP	**PKPdf**	**07 40 10.7**	**-1.5**
AKBB				*i*		07 40 15.9	
MYKOM	**Kota Tinggi**	**140.49**	**215**	IAMs_20	IAMs_20	08 35 12.1	
	comp=Z,406nm,21.0s						
GHAJ	**Ghor Haditha**	**140.91**	**83**	IAMs_20	IAMs_20	08 43 23.3	
	comp=Z,489nm,20.0s						
YAK	**Yakutsk**	**141.10**	**327**	*e*PKIKP	**PKPdf**	**07 40 16.1**	**+1.4**
YAK				pmax	pmax		
	comp=Z,31nm,1.4s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
BRTR	**Keskin Array B**	**141.64**	**70**	PKP	**PKPdf**	**07 40 15.8**	**-0.8**
	comp=E,1.7nm,0.9s,baz=242,slow=3.1,SNR=6.2						
BRTR	**Keskin Array B**	**141.64**	**70**	*c i* PKIKP	**PKiKP**	**07 40 20.2**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**141.91**	**298**	PKP	**PKPdf**	**07 40 16.5**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=101,slow=2.1,SNR=2.5						
KLR	**Kul'dur**	**142.26**	**306**	PKP	**PKPdf**	**07 40 16.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=346,slow=2.0,SNR=2.2						
KLR	**Kul'dur**	**142.26**	**306**	*c i* PKIKP	**PKiKP**	**07 40 21.3**	**+1.1**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KLMR	**Klimovskoe**	**143.34**	**34**	*e*PKIKP	PKPbc	07 40 16.6	+0.7
KLMR				pmax	pmax		
	comp=Z,33nm,1.3s						
RPSI	**Rantau Prapat**	**143.38**	**208**	IAMs_20	IAMs_20	08 42 21.3	
	comp=Z,421nm,19.0s						
OBN	**Obninsk**	**143.53**	**44**	*e*PKIKP	PKPab	07 40 15.8	+0.2
OBN				*i*		07 40 23.0	
OBN				*e*		07 43 30.5	
OBN				*e*PPP	PPP	07 46 40.5	
OBN				pmax	pmax		
	comp=Z,60nm,1.0s						
OBN				pmax	pmax		
	comp=Z,39nm,1.3s						
MDJ	**Mudanjiang**	**143.66**	**298**	IAMs_20	IAMs_20	08 32 14.7	
	comp=Z,372nm,21.0s						
KSRS	**Korea Array**	**143.95**	**286**	PKP	PKPbc	07 40 18.3	-0.1
	comp=Z,4.9nm,0.7s,baz=100,slow=4.0,SNR=11						
MOS	**Moscow**	**143.98**	**43**	*e*PKIKP	PKPab	07 40 16.4	-0.9
MOS				pmax	pmax		
	comp=Z,78nm,1.1s						
ZEA	**Zeya**	**144.57**	**314**	*e*PKIKP	PKPbc	07 40 20.5	+0.7
ZEA				pmax	pmax		
	comp=Z,20nm,1.5s						
HEH	**HeiHe**	**145.00**	**308**	PKP	PKPbc	07 40 21.4	+0.1
HEH				LR	LR		
	comp=Z,180nm,16.3s						
HEH				LR	LR		
	comp=Z,440nm,17.3s						
HEH				LR	LR		
	comp=Z,610nm,16.4s						
KULM	**Kulim**	**145.03**	**213**		**PKPbc**	**07 40 21.2**	**-1.3**
BNX	**BinXian**	**145.24**	**300**	⇑PKPbc	**PKPbc**	**07 40 21.8**	**-0.4**
LPSR	**Galich'ya Gora**	**145.39**	**48**	*e*PKP2	**PKPbc**	**07 40 20.8**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,150nm,1.0s						
RAYN	**Ar Rayn**	**145.66**	**101**	PKPdf	**PKPdf**	**07 40 23.6**	**-0.4**
RAYN	**Ar Rayn**	**145.66**	**101**	IAMs_20	IAMs_20	08 42 45.7	
	comp=Z,410nm,22.0s						
RAYN	**Ar Rayn**	**145.66**	**101**	PKIKP	**PKPdf**	**07 40 23.6**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,400nm,22.0s						
VORR	**Voronezh**	**145.73**	**49**	*e*PKP2	**PKPdf**	**07 40 22.6**	**-0.5**
VORR				pmax	pmax		
	comp=Z,60nm,1.0s						
VSR	**Storozhevoye**	**145.77**	**50**	*e*PKP2	**PKPdf**	**07 40 22.9**	**-0.4**
VSR				pmax	pmax		
	comp=Z,40nm,1.0s						
VORD	**Divnogorie**	**145.89**	**51**	*e*PKIKP	**PKPdf**	**07 40 21.7**	**-1.7**
VORD				pmax	pmax		
	comp=Z,20nm,1.1s						
SOC	**Sochi**	**146.60**	**64**	*de*PKIKP	**PKPdf**	**07 40 23.2**	**-1.7**
SOC				*i*		07 40 28.0	
SOC				*e*		07 43 48.8	
VRH	**Novokhopyorsk**	**147.36**	**50**	*e*PKP2	**PKPdf**	**07 40 26.9**	**+1.0**
VRH				pmax	pmax		
	comp=Z,60nm,0.9s						
KIV	**Kislovodsk**	**148.76**	**63**	*e*PKHKP	PKPpre	07 40 26.3	
KIV				*i*		07 40 32.1	
KIV				*e*		07 44 00.7	
KIV				*e*SS	SS	08 03 11.6	-2.2
KIV				*e*SSS	SSS	08 08 47.6	
KIV				pmax	pmax		
	comp=Z,38nm,1.1s						
KIRV	**Kirov**	**148.84**	**34**	PKPbc	**PKiKP**	**07 40 33.3**	**-0.1**
	comp=Z,14nm,0.7s,baz=280,slow=1.2,SNR=12						
KIRV	**Kirov**	**148.84**	**34**	*c i* PKP2	**PKiKP**	**07 40 34.3**	**+0.9**
KBZ	**Khabaz**	**148.91**	**64**	PKPbc	**PKPbc**	**07 40 32.9**	**+0.2**
	comp=Z,36nm,1.1s,baz=248,slow=2.0,SNR=24						
KBZ	**Khabaz**	**148.91**	**64**	*c i* PKP2	**PKPbc**	**07 40 32.6**	**-0.1**
GOF	**Gofitskoye**	**148.99**	**61**	*c e*PKP2	**PKiKP**	**07 40 34.5**	**+0.3**
DL2	**Dalian**	**149.08**	**287**	PKPbc	**PKPab**	**07 40 38.2**	**+0.6**
DL2				LR	LR		
	comp=N,840nm,20.7s						
DL2				LR	LR		
	comp=E,740nm,16.4s						
DL2				LR	LR		
	comp=Z,700nm,24.3s						
NJ2	**Nanjing**	**149.80**	**273**	*e*PKPbc	**PKPdf**	**07 40 29.5**	**-1.0**
BOD	**Bodaibo**	**150.02**	**326**	*e*PKIKP	**PKPbc**	**07 40 32.6**	**-2.4**
BOD				pmax	pmax		
	comp=Z,40nm,2.2s						
QIZ	**Qiongzhong**	**150.54**	**242**	PKPbc	**PKPdf**	**07 40 31.7**	**-0.4**
QIZ				PP	**PP**	**07 44 13.1**	**-0.3**
QIZ				SS	SS	08 03 35.4	+2.1
QIZ				LR	LR		
	comp=Z,450nm,13.5s						
BELG	**Belogornoye**	**150.58**	**46**	PKPbc	**PKPbc**	**07 40 35.4**	**-1.1**
	comp=Z,35nm,0.9s,baz=9.3,slow=4.1,SNR=9.7						
TIA	**Tai'an**	**152.21**	**280**	PKPbc	**PKPbc**	**07 40 40.7**	**-0.1**
MAK	**Makhachkala**	**152.29**	**65**	*e*PKIKP	**PKPdf**	**07 40 29.4**	**-4.6**
MAK				*e*		07 44 17.2	
MAK				*e*		07 47 32.8	
MAK				pmax	pmax		
	comp=Z,116nm,0.9s						
AKT	**Akhty**	**152.48**	**68**	*e*PKIKP	**PKPdf**	**07 40 35.8**	**+1.3**
AKT				*e*		07 44 24.3	
AKT				pmax	pmax		
	comp=Z,28nm,1.2s						
XLT	**XiLinHaoTe**	**153.37**	**297**	*e*PKPbc	**PKPab**	**07 40 56.6**	**+1.2**
XLT				pPKP	sPKPab	07 41 03.7	+5.4
ARTI	**Arti**	**154.04**	**31**	IAMs_20	IAMs_20	08 57 25.1	
	comp=Z,254nm,19.0s						
ARTI	**Arti**	**154.04**	**31**	PKP	**PKPdf**	**07 40 36.4**	**+0.3**
	comp=Z,5.5nm,0.9s,baz=280,slow=3.6,SNR=6.9						
ARTI	**Arti**	**154.04**	**31**	*i* PKIKP	**PKPdf**	**07 40 38.5**	**+2.4**
HNS	**HongShan**	**154.31**	**282**	⇑PKPbc	**PKPdf**	**07 40 33.3**	**-3.8**
HNS				PKPab	**sPKPab**	**07 41 08.4**	**+6.1**
HNS				LR	LR		
	comp=Z,380nm,14.5s						
HNS				LR	LR		
	comp=Z,310nm,17.1s						
UOSS	**Minazif**	**154.75**	**109**	IAMs_20	IAMs_20	08 49 12.0	
	comp=Z,383nm,22.0s						
HHC	**Hu-ho-hao-te**	**156.91**	**290**	*e*PKP	**PKPdf**	**07 40 36.5**	**-4.2**
CMAR	**Chiang Mai Arr**	**157.16**	**224**	PKPab	**PKPab**	**07 41 12.6**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=163,slow=2.7,SNR=11						
AKTO	**Aktyubinsk**	**157.31**	**44**	PKP	**PKPdf**	**07 40 40.1**	**-0.6**
	comp=Z,5.7nm,1.0s,baz=293,slow=4.1,SNR=8.3						
AKTO				PKPab	**PKPab**	**07 41 12.9**	**+1.0**
	comp=Z,4.9nm,0.7s,baz=284,slow=3.9,SNR=9.3						
CHTO	**Chiang Mai**	**157.45**	**224**	IAMs_20	IAMs_20	08 50 13.1	
	comp=Z,304nm,20.0s						
BTO	**Baotou**	**158.09**	**290**	*e*PKPbc	PKPdf	07 40 34.1	-8.0
BTO				pPKP	pPKPdf	07 40 43.0	-1.3
BTO				sPKP		07 40 46.4	
BTO				PKPab	PKPab	07 41 05.5	-10
BTO				PP	PP	07 44 17.7	-38
XAN	**Xi'an**	**158.36**	**272**	PKP	**PKPdf**	**07 40 47.6**	**+5.0**
SONM	**Songino Array**	**158.93**	**311**	PKP	**PKPdf**	**07 40 42.9**	**0.0**
	comp=Z,1.5nm,1.1s,baz=84,slow=1.8,SNR=6.4						
SONM				PKPab	**PKPab**	**07 41 19.0**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=82,slow=3.2,SNR=6.5						
PZH	**PanZhiHua**	**161.01**	**245**	PKP	**PKPdf**	**07 40 49.8**	**+3.8**
BVAR	**Borovoye Array**	**161.13**	**23**	PKP	**PKPdf**	**07 40 44.6**	**-0.5**
	comp=Z,3.7nm,1.0s,baz=315,slow=0.9,SNR=12						
BVAR				PKPab	**pPKPab**	**07 41 30.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=327,slow=2.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**162.20**	**356**	PKP	**PKPdf**	**07 40 45.2**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=0.0,slow=0.6,SNR=9.8						
ZALV				PKPab	**pPKPab**	**07 41 34.3**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=13,slow=3.7,SNR=4.3						
ZALV				PP	**PP**	**07 45 16.4**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=0.0,slow=2.1,SNR=3.5						
KURK	**Kurchatov**	**165.23**	**10**	PKIKP	**PKPdf**	**07 40 48.3**	**-0.7**
KURK						07 41 46.2	
KURBB	**Kurchatov Arra**	**165.31**	**10**	PKP	**PKPdf**	**07 40 48.3**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=337,slow=1.4,SNR=3.0						
KURBB				PKPab	**PKPab**	**07 41 46.2**	**-0.5**
	comp=Z,3.4nm,1.0s,baz=338,slow=4.8,SNR=9.5						
GTA	**Gaotai**	**166.00**	**288**	*e*PKP	**PKPdf**	**07 40 53.8**	**+3.6**
GTA				PKPab	**PKPab**	**07 41 50.5**	**0.0**
GTA				PP	**PP**	**07 45 44.8**	**+6.4**
GTA				LR	LR		
	comp=Z,150nm,16.7s						
GTA				LR	LR		
	comp=Z,240nm,18.9s						
GTA				LR	LR		
	comp=Z,360nm,21.1s						
MKAR	**Makanchi Array**	**169.43**	**1**	PKPab	**PKPab**	**07 42 05.4**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=2.6,slow=4.5,SNR=8.3						
AAK	**Ala-Archa**	**171.05**	**42**	PKP	**PKPdf**	**07 40 53.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=232,slow=2.4,SNR=5.5						
WMQ	**Urumqi**	**171.45**	**334**	*e*PKP	**PKPdf**	**07 40 51.9**	**-1.6**
WMQ				LR	LR		
	comp=Z,420nm,21.5s						
WMQ				LR	LR		
	comp=Z,350nm,21.5s						
KSH	**Kashi**	**173.82**	**56**	PKP	**PKPdf**	**07 40 57.6**	**+2.8**

*IDC **06** 07:24:46.4±1.3, 49°.75N×81°.51E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=19.1km s-min=10.5km az=49.0*
*NNC **06** 07:24:54.1±3.7, 49°.42N×81°.04E, h19km±34km, mb3.5, mpv3.2, Error ellipse: s-maj=42.4km s-min=19.7km az=58.0, Suspected Mining explosion.*

ISC 06 07:24:44.6±1.1, 49°.45N±0°.07×81°.56E±0°.07, h0km, n14, σ1§70/13, 7C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.28**	**319**	P		Pn	07 25 14.8	+4.8
	10nm,0.1s							
SEM				S		**Sn**	**07 25 28.8**	**+0.8**
	18nm,0.1s							
KURBB	**Kurchatov Arra**	**2.28**	**302**	Pg		**Pn**	**07 25 24.1**	**+0.6**
	0.5nm,0.3s,baz=112,slow=19,SNR=50							
KURBB				Lg		Lg	07 25 54.7	
	1.1nm,0.3s,baz=114,slow=28,SNR=9.9							
KURBB	**Kurchatov Arra**	**2.28**	**302**	⇑Pn		**Pn**	**07 25 23.2**	**-0.3**
	12nm,0.5s							
KURBB				⇑Sn		**Sb**	**07 25 54.8**	**-0.6**
	46nm,0.7s							
KURK	**Kurchatov**	**2.28**	**305**	⇑Pn		**Pn**	**07 25 23.2**	**-0.3**
	16nm,0.6s							
KURK				⇑Sn		**Sn**	**07 25 53.9**	**+1.6**
	42nm,0.8s							
MAKZ	**Makanchi**	**2.66**	**174**	⇑Pn		**Pg**	**07 25 35.3**	**-0.1**
	1.1nm,0.4s							
MAKZ				⇑Lg		Lg	07 26 16.9	
	12nm,0.8s							
MK31	**Makanchi Array**	**2.70**	**169**	Pn		**Pb**	**07 25 34.1**	**+0.4**
	2.0nm,0.5s,baz=354,slow=12,SNR=45							
MK31				⇑Lg		Lg	07 26 18.8	
	10nm,0.7s,baz=5.0,slow=25,SNR=16							
MKAR	**Makanchi Array**	**2.70**	**169**	Pn		**Pg**	**07 25 36.4**	**+0.1**
	1.3nm,0.3s,baz=351,slow=12,SNR=56							
MKAR				Lg		Lg	07 26 14.9	
	0.7nm,0.3s,baz=355,slow=29,SNR=3.7							
	2.0nm,0.3s							
ZSN	**Zaisan**	**2.97**	**131**	Pg		Pg	07 25 54.1	+13
	5.8nm,0.4s							
ZSN				Lg		Lg	07 26 36.1	
	9.1nm,0.5s							
I46RU	**ZALESOVO INFRA**	**4.94**	**23**	I		I	07 51 20.0	
	0.1nm,1.0s,baz=203,slow=323,SNR=1.1							
ZALV	**Zalesovo Beam**	**4.94**	**23**	Pn		**Pn**	**07 26 00.2**	**+0.2**
	0.5nm,0.3s,baz=210,slow=12,SNR=4.9							
ZALV				Lg		Lg	07 27 14.4	
	0.5nm,0.3s,baz=206,slow=26,SNR=7.8							
	0.6nm,0.3s							
BRZS	**Berezniki**	**5.79**	**279**	Pg		**Pg**	**07 26 35.9**	**+0.4**
	1.2nm,0.2s							
BRZS				Lg		Lg	07 27 47.8	
	5.8nm,1.1s							
OTUK	**Ortayu**	**6.21**	**262**	Pg		**Pg**	**07 26 44.8**	**+1.3**
	2.3nm,1.8s							
OTUK				Lg		Lg	07 28 03.1	
	2.6nm,1.2s							
BVAR	**Borovoye Array**	**7.88**	**301**	Sn		**Sn**	**07 28 05.3**	**-4.8**
	0.1nm,0.3s,baz=113,slow=22,SNR=6.3							
BVAR				Lg		Lg	07 28 51.0	
	baz=107,slow=27,SNR=5.8							
AAK	**Ala-Archa**	**8.40**	**218**	Lg		Lg	07 29 17.2	
	0.2nm,0.3s,baz=140,slow=16,SNR=1.7							

*NNC **06** 07:28:04.9±0.6, 49°.95N×78°.52E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=8.6km s-min=2.9km az=84.0, Suspected Mining explosion.*
*IDC **06** 07:28:07.8±0.9, 50°.07N×78°.85E, h0km, mbtmp2.6/3, ML1.9/2, Error ellipse: s-maj=11.9km s-min=6.4km az=57.0*

ISC 06 07:28:07.3±0.9, 50°.01N±0°.06×78°.69E±0°.09, h0km, n20, σ1§13/29, 17C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**349**	⇑P		**Pg**	**07 28 17.5**	**-1.1**
KUR07				⇓S		**Sg**	**07 28 27.1**	**+1.0**
KUR06	**Kurchatov Arra**	**0.60**	**350**	⇑P		**Pg**	**07 28 17.7**	**-1.2**
KUR06				⇑S		**Sg**	**07 28 27.1**	**+0.4**
KUR14	**Kurchatov Arra**	**0.61**	**354**	⇑P		**Pg**	**07 28 17.8**	**-1.2**
KUR14				⇑S		**Sg**	**07 28 27.1**	**+0.2**
KUR15	**Kurchatov Arra**	**0.62**	**352**	⇑P		**Pg**	**07 28 17.9**	**-1.2**
KUR15				⇑S		**Sg**	**07 28 27.3**	**+0.2**
KURBB	**Kurchatov Arra**	**0.62**	**351**	Pg		**Pg**	**07 28 17.9**	**-1.3**
	1.0nm,0.3s,baz=164,slow=18,SNR=38							
KURBB				Lg		Lg	07 28 27.5	
	1.3nm,0.3s,baz=164,slow=33,SNR=20							
KURBB	**Kurchatov Arra**	**0.62**	**351**	⇓P		**Pg**	**07 28 18.0**	**-1.3**
	16nm,0.5s							
KURBB				⇓S		**Sg**	**07 28 28.3**	**+0.9**
	86nm,0.6s							
KUR16	**Kurchatov Arra**	**0.63**	**349**	⇓P		**Pg**	**07 28 18.2**	**-1.3**
KUR16				⇑S		**Sg**	**07 28 27.5**	**-0.2**
KUR17	**Kurchatov Arra**	**0.64**	**347**	⇓P		**Pg**	**07 28 18.7**	**-0.9**
KUR17				⇑S		**Sg**	**07 28 28.3**	**+0.4**
KUR05	**Kurchatov Arra**	**0.64**	**351**	⇑P		**Pg**	**07 28 18.4**	**-1.2**
KUR05				⇑S		**Sg**	**07 28 27.9**	**0.0**
KUR04	**Kurchatov Arra**	**0.66**	**352**	⇑P		**Pg**	**07 28 18.8**	**-1.2**
KUR04				⇑S		**Sg**	**07 28 28.2**	**-0.4**
KURK	**Kurchatov**	**0.71**	**356**	⇓P		**Pg**	**07 28 19.1**	**-1.8**
	4.4nm,0.4s							
KURK				⇑S		**Sg**	**07 28 31.0**	**+0.9**
	40nm,0.7s							
MAKZ	**Makanchi**	**3.88**	**144**	⇓Lg		Lg	07 30 08.3	
	7.3nm,0.7s							
MK31	**Makanchi Array**	**4.01**	**142**	⇑Pn		**Pn**	**07 29 09.5**	**-0.5**
	baz=320,slow=9.8,SNR=13							
MK31				⇑Pg		**Pb**	**07 29 19.5**	**+0.6**
	0.5nm,0.3s,baz=325,slow=14,SNR=9.3							
MK31				Lg		Lg	07 30 14.0	
	3.3nm,0.5s,baz=328,slow=27,SNR=16							
MKAR	**Makanchi Array**	**4.01**	**142**	Pn		**Pn**	**07 29 10.5**	**+0.5**
	0.2nm,0.4s,baz=320,slow=10,SNR=6.0							
MKAR				Pg		**Pb**	**07 29 18.2**	**-0.6**
	0.4nm,0.3s,baz=320,slow=15,SNR=8.0							
MKAR				Lg		Lg	07 30 10.8	
	0.8nm,0.3s,baz=329,slow=30,SNR=9.9							
OTUK	**Ortayu**	**4.53**	**249**	⇑Lg		Lg	07 30 26.5	
	6.5nm,0.9s							
I46RU	**ZALESOVO INFRA**	**5.47**	**41**	I		I	07 59 50.0	
	baz=222,slow=323,SNR=3.6							
ZALV	**Zalesovo Beam**	**5.47**	**41**	Pn		**Pn**	**07 29 30.8**	**+0.8**
	0.3nm,0.3s,baz=229,slow=15,SNR=4.3							
ZALV				Lg		Lg	07 30 59.1	
	0.2nm,0.3s,baz=228,slow=32,SNR=3.6							
	0.7nm,0.3s							
BVA0	**Borovoye Array**	**6.00**	**303**	⇓Sn		**Sn**	**07 30 43.9**	**-2.7**
	2.7nm,1.1s,baz=112,slow=22,SNR=3.9							
BVA0				⇓Lg		Lg	07 31 15.6	
	3.0nm,1.1s,baz=112,slow=22,SNR=3.9							
BVAR	**Borovoye Array**	**6.00**	**303**	Pn		**Pn**	**07 29 39.0**	**+1.8**
	baz=120,slow=14,SNR=1.0							
BVAR				Sn		**Sn**	**07 30 47.4**	**+0.8**
	0.1nm,0.3s,baz=109,slow=24,SNR=5.3							
BVAR				Lg		Lg	07 31 21.2	
	baz=116,slow=27,SNR=3.2							
	0.3nm,0.4s							
AAK	**Ala-Archa**	**7.92**	**203**	Lg		Lg	07 32 18.8	
	0.2nm,0.3s,baz=73,slow=20,SNR=3.9							

*NOU **06** 07:32:45.9, 14°.95S×166°.54E, h36km, MLv4.9/26, Vanuatu Islands*
*IDC **06** 07:33:20.2±18.0, 14°.70S×165°.68E, h373km±186km, mb3.5/8, mbtmp4.1/8, MS3.4/1, Error ellipse: s-maj=77.7km s-min=25.0km az=82.0*

ISC 06 07:32:44.6±0.8, 14°.89S±0°.06×166°.65E±0°.10, h35km, n30, σ1§36/28, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.18**	**153**	P		**Pn**	**07 33 34.3**	**+2.1**
LUES	**Luesalemba Tem**	**4.26**	**350**	P		**Pn**	**07 33 48.5**	**+1.5**
KOUNC	**Koumac, New Ca**	**6.06**	**201**	P		**Pn**	**07 34 13.6**	**+1.8**
KOUNC	**Koumac, New Ca**	**6.06**	**201**	S		**Sn**	**07 35 19.8**	**-0.2**
HURO	**Huro Makira**	**6.38**	**313**	P		**Pn**	**07 34 16.7**	**+0.5**
MARNC	**Mare, Loyalty**	**6.69**	**169**	P		**Pn**	**07 34 22.5**	**+2.2**
YATNC	**Mamie plateau,**	**7.13**	**178**	P		**Pn**	**07 34 26.2**	**-0.3**
YATNC	**Mamie plateau,**	**7.13**	**178**	S		**Sn**	**07 35 45.7**	**-0.7**
DZM	**Mont Dzumac**	**7.15**	**182**	P		**Pn**	**07 34 27.0**	**+0.3**
NGOA	**Tingoa Renbel**	**7.22**	**297**	P		**Pn**	**07 34 26.9**	**-0.7**
OUENC	**Ouen Island, N**	**7.49**	**179**	P		**Pn**	**07 34 32.5**	**+1.1**
OUENC	**Ouen Island, N**	**7.49**	**179**	S		**Sn**	**07 35 54.5**	**-0.6**
ALEG	**Aligegeo Malai**	**8.43**	**316**	P		**Pn**	**07 34 45.2**	**+0.9**
ALEG	**Aligegeo Malai**	**8.43**	**316**	S		**Sn**	**07 36 19.2**	**+0.9**
HNR	**Honiara**	**8.50**	**309**	LR		LR	07 37 44.3	
	comp=Z,247nm,18.9s,baz=170,slow=34							
SAVO	**Savo Central**	**8.79**	**310**	P		**Pn**	**07 34 51.4**	**+2.2**
TATA	**Tatamba Isabel**	**9.31**	**313**	P		**Pn**	**07 34 58.0**	**+1.6**
BKZ	**Black Stump Fm**	**25.69**	**162**	P		**P**	**07 38 13.7**	**+2.3**
STKA	**Stephens Creek**	**28.43**	**229**	P		**P**	**07 38 36.3**	**+0.2**
	1.4nm,0.6s,baz=47,slow=10,SNR=3.9							
	1.4nm,0.6s							
WRA	**Warramunga Arr**	**31.20**	**256**	P		**P**	**07 38 58.6**	**-2.2**
	1.6nm,0.9s,baz=83,slow=8.4,SNR=5.0							
	1.6nm,0.9s							
ASAR	**Alice Springs**	**32.05**	**249**	P		**P**	**07 39 07.6**	**-0.7**
	2.0nm,0.6s,baz=74,slow=9.5,SNR=25							
	2.0nm,0.6s							
BBOO	**Buckleboo**	**33.01**	**232**	P		**P**	**07 39 16.7**	**+0.2**
WRKA	**Warakurna**	**37.32**	**248**	P		**P**	**07 39 54.9**	**+1.1**
FORT	**Forrest**	**38.70**	**239**	P		**P**	**07 40 05.3**	**0.0**
FITZ	**Fitzroy Crossi**	**39.39**	**260**	P		**P**	**07 40 11.1**	**-0.2**
QSPA	**South Pole Qui**	**75.14**	**180**	P		**P**	**07 44 23.4**	**+0.3**
	4.6nm,0.9

PKGZ Pakihiroa 3.92 200 P Pn 07 46 09.9 +1.6
PKGZ S Sn 07 46 56.0 +1.2
PUZ Puketiti 4.06 197 P Pn 07 46 11.3 +1.1
PUZ S Sn 07 46 57.7 -0.5
GRZ Great Barrier 4.09 239 P Pn 07 46 10.7 +0.2
RUGZ Raukumara Rang 4.13 204 P Pn 07 46 12.2 +1.0
RUGZ S Sn 07 47 00.8 +0.8
TWGZ Tauwhareparae 4.23 200 P Pn 07 46 14.1 +1.7
TWGZ S Sn 07 47 03.0 +0.8
CNGZ Carnagh Statio 4.47 196 P Pn 07 46 16.6 +1.3
CNGZ S Sn 07 47 08.4 +0.9
MWZ Matawai 4.52 203 P Pn 07 46 17.0 +0.9
MWZ S Sn 07 47 07.1 -1.7
TKGZ Te Karaka 4.52 200 P Pn 07 46 16.8 +0.8
TKGZ S Sn 07 47 07.9 -0.8
URZ Urewera 4.60 207 P Pn 07 46 17.0 0.0
RAGZ Rawiri 4.70 203 P Pn 07 46 19.1 +0.6
RAGZ S Sn 07 47 12.8 -0.3
MKAZ Moumakai 4.75 231 P Pn 07 46 20.1 +1.0
WCZ Waipu Caves 4.79 247 P Pn 07 46 19.2 -0.3
RIGZ Rimuhau 4.79 199 P Pn 07 46 19.7 +0.1
RIGZ S Sn 07 47 13.9 -1.2
RTZ Ruatahuna 4.96 206 P Pn 07 46 22.6 +0.7
PRGZ Paritu Road 4.96 197 P Pn 07 46 22.0 +0.2
PRGZ S Sn 07 47 17.4 -1.7
SNGZ Shannon Statio 4.98 203 P Pn 07 46 23.2 +1.0
SNGZ S Sn 07 47 18.6 -1.0
PRRZ Plateau Road 5.09 211 P Pn 07 46 24.9 +1.3
KNZ Kokohu 5.11 199 P Pn 07 46 22.9 -0.9
MHGZ Mahia Peninsul 5.17 196 P Pn 07 46 25.0 +0.4
RAHZ Arahi 5.19 204 P Pn 07 46 24.9 +0.1
MTHZ Maungataniwha 5.22 206 P Pn 07 46 25.2 0.0
WHHZ Waihua 5.29 202 P Pn 07 46 26.5 +0.4
GLKZ Green Lake 5.29 22 S Sn 07 47 25.4 -1.5
NMHZ Naumai 5.45 205 P Pn 07 46 29.0 +0.7
ARHZ Aropaoanui 5.53 203 P Pn 07 46 28.4 -0.9
BKZ Black Stump Fm 5.62 207 P Pn 07 46 29.9 -0.7
MCHZ McNeill Hill 5.79 204 P Pn 07 46 32.4 -0.4
KWHZ Kaweka Forest 5.88 206 P Pn 07 46 32.6 -1.3
ETVZ East Tongariro 5.92 212 P Pn 07 46 34.7 +0.2
OTVZ Oturere 5.96 213 P Pn 07 46 35.3 +0.1
SNVZ South Ngauruho 5.99 213 P Pn 07 46 34.6 -1.0
KAHZ Kahuranaki 6.05 202 P Pn 07 46 34.1 -2.1
KRHZ Kereru 6.09 206 P Pn 07 46 34.9 -1.8
PXZ Pawanui 6.28 201 P Pn 07 46 38.0 -1.2
PNHZ Pukenui 6.39 206 P Pn 07 46 38.1 -2.6
BFZ Birch Farm 7.06 202 P Pn 07 46 47.6 -1.9
MRZ Mangatainoka R 7.27 206 P Pn 07 46 48.8 -3.5
OGWZ Otaki Gorge 7.56 208 P Pn 07 46 52.5 -3.6

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*ASRS **06** 08:04:56.0±1.0, 54°.09N×86°.47E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 06 08:04:59.0±2.4, 54°.01N×86°.45E, h0km, mbtmp3.7/2, ML2.7/2, Error ellipse: s-maj=20.3km s-min=11.7km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**267**	I	I	08 09 10.0	
	baz=89,slow=315,SNR=6.2						
ZALV	**Zalesovo Beam**	**0.96**	**267**	Pg	Pg	08 05 16.2	-1.2
	0.8nm,0.3s,baz=87,slow=18,SNR=8.1						
ZALV				Lg	Lg	08 05 31.1	
	1.0nm,0.3s,baz=84,slow=31,SNR=4.0						
KURBB	**Kurchatov Arra**	**5.92**	**238**	Pn	Pn	08 06 28.7	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=13						
KURBB				Lg	Lg	08 08 08.7	
	baz=53,slow=32,SNR=1.2						
	59nm,0.8s						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	08 06 53.0	+0.8
	0.2nm,0.3s,baz=22,slow=13,SNR=8.7						
MKAR				Sn	Sn	08 08 20.2	+0.2
	0.1nm,0.3s,baz=25,slow=27,SNR=2.9						
MKAR				Lg	Lg	08 09 03.9	
	baz=19,slow=32,SNR=1.6						
	0.2nm,0.3s						

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*IDC **06** 08:10:30.3±14.0, 27°.75N×51°.75E, h0km, mb3.8/6, mbtmp3.8/6, MS4.2/1, Error ellipse: s-maj=282.0km s-min=35.9km az=3.0*
*TEH **06** 08:10:34.0, 27°.90N×51°.81E, h22km±30km*

ISC 06 08:10:32.3±2.1, 27°.7N±0°.2×51°.7E±0°.2, h10km, n14, σ0°.84/13, mb3.7/6, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.73**	**330**	Pg	**Pb**	**08 10 47.8**	**+0.7**
AHBU	**AHRAM**	**1.18**	**344**	Pg	**Pg**	**08 10 55.8**	**+0.8**
LMD1	**Lamerd**	**1.39**	**106**	Pg	**Pg**	**08 11 00.2**	**+1.3**
QIR1	**Qir**	**1.43**	**58**	Pg	**Pn**	**08 10 58.2**	**-0.2**
KAZ2	**Kazeron-Fars-I**	**1.88**	**360**	Pg	**Pn**	**08 11 05.3**	**+0.7**
SHI	**Shiraz**	**2.05**	**21**	Pn	**Pn**	**08 11 07.3**	**+0.3**
IMEH	**Mehriz**	**4.46**	**34**	Pn	**Pn**	**08 11 40.5**	**+0.2**
BVAR	**Borovoye Array**	**28.84**	**24**	P	**P**	**08 16 29.9**	**-0.8**
	0.7nm,0.7s,baz=214,slow=8.3,SNR=4.5						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**30.64**	**43**	P	**P**	**08 16 45.9**	**-0.8**
	0.6nm,0.7s,baz=232,slow=8.3,SNR=6.3						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**35.71**	**34**	P	**P**	**08 17 29.6**	**-1.2**
	1.0nm,0.5s,baz=238,slow=8.5,SNR=3.5						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**37.81**	**340**	P	**P**	**08 17 48.0**	**-0.6**
	1.5nm,0.7s,baz=142,slow=7.2,SNR=4.4						
	1.5nm,0.7s						
HFS	**Hagfors**	**41.37**	**332**	P	**P**	**08 18 18.0**	**-0.3**
	1.7nm,0.4s,baz=123,slow=8.5,SNR=10						
	1.7nm,0.4s						
NOA	**NORSAR Array B**	**42.90**	**332**	P	**P**	**08 18 30.3**	**-0.5**
	0.4nm,0.5s,baz=124,slow=8.2,SNR=2.0						
	0.4nm,0.5s						
SONM	**Songino Array**	**46.62**	**49**	LR	LR	08 43 10.2	
	comp=Z,298nm,20.2s,baz=75,slow=42						

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*SOME **06** 08:19:01.4, 40°.58N×72°.60E, h5km*
*ISU **06** 08:19:01, 40°.50N×72°.62E, h15km*
*NNC **06** 08:19:04.8±2.5, 40°.70N×72°.55E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=20.7km s-min=9.4km az=177.0*

ISC 06 08:19:02.7±1.4, 40°.59N±0°.08×72°.59E±0°.05, h10km, n12, σ1°.43/16, 2C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.24**	**313**	P	Pg	08 19 01.0	-6.7
FRG	**Fergana**	**0.65**	**251**	P	**Pg**	**08 19 13.7**	**-1.7**
FRG				S	**Sg**	**08 19 23.2**	**-0.8**
CHMG	**Chimgan**	**2.18**	**297**	P	**Pn**	**08 19 41.0**	**+1.9**
CHMG				S	**Sg**	**08 20 11.1**	**-1.6**
MRKS	**Merke**	**2.21**	**12**	Pg	**Pb**	**08 19 43.3**	**+0.6**
	7.2nm,0.4s						
MRKS				Lg	Lg	08 20 14.2	
	23nm,0.4s						
MRKS	**Merke**	**2.21**	**12**	*e*P	**Pb**	**08 19 42.2**	**-0.6**
	5.8nm,0.3s						
MRKS				*e*S	**Sg**	**08 20 12.1**	**-1.6**
	23nm,0.4s						
IUG	**Iuzhnay**	**2.48**	**310**	Pg	**Pb**	**08 19 48.3**	**+0.9**
	8.8nm,0.3s						
IUG				Lg	Lg	08 20 22.6	
	22nm,0.4s						
AAK	**Ala-Archa**	**2.50**	**34**	⇑Pn	**Pb**	**08 19 46.9**	**-0.8**
	3.4nm,0.5s						
AAK				Lg	Lg	08 20 20.6	
	4.7nm,0.5s						
KK31	**Karatay Array**	**2.96**	**329**	Pg	**Pb**	**08 19 56.3**	**+0.8**
	0.2nm,0.2s,baz=128,slow=14,SNR=4.2						
KK31				⇑Lg	Lg	08 20 33.0	
	0.7nm,0.3s,baz=130,slow=28						
BRLS	**Borolday**	**3.19**	**321**	Pg	**Pb**	**08 19 58.8**	**-0.7**
	0.8nm,0.2s						
BRLS				Lg	Lg	08 20 40.6	
	2.6nm,0.4s						
BRLS	**Borolday**	**3.19**	**321**	*e*P	**Pb**	**08 19 58.8**	**-0.7**
	0.5nm,0.1s						
BRLS				*e*S	**Sb**	**08 20 40.6**	**+2.0**
	2.6nm,0.2s						
KST	**Kastek**	**3.52**	**45**	Pg	**Pb**	**08 20 06.4**	**+1.3**
	1.7nm,0.7s						
KST				Lg	Lg	08 20 53.7	
	2.2nm,0.7s						
KST	**Kastek**	**3.52**	**45**	*e*P	**Pb**	**08 20 06.4**	**+1.3**
	0.4nm,0.1s						
KST				*e*S	**Sg**	**08 20 53.7**	**-1.9**
	1.2nm,0.2s						

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*IDC **06** 08:39:24.1±0.5, 2°.34N×126°.94E, h0km, mb4.3/18, mbtmp4.4/19, ML4.3/1, MS3.6/12, Error ellipse: s-maj=26.5km s-min=11.2km az=80.0*
*DJA **06** 08:39:29.6±0.2, 2°N±2°×12°7E±°, h10km, M4.9/19, mB5.4/6, mb5.1/13, MLv4.8/19, Mw(mB)4.8/6, MwMwp4.6/1, Mwp5.0/1*
*NEIC **06** 08:39:31.9±1.5, 2°.25N±0°.08×126°.88E±0°.07, h55km±2km, mb4.7/59, Error ellipse: s-maj=12.6km s-min=8.6km az=222.0*

ISC 06 08:39:31.5±0.3, 2°30N±0°.05×126°92E±0°.07, h53km, n137, σ1°26/135, mb4.7/57, MS3.6/11, 1C, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.59**	**164**	Pn	**Pn**	**08 39 56.6**	**-0.6**
TNTI	**Ternate**	**1.59**	**164**	P	**Pn**	**08 39 57.3**	**+0.1**
SGSI	**Sangihe**	**1.95**	**315**	P	**Pn**	**08 40 00.6**	**-1.6**
LBMI	**Labuha**	**2.98**	**169**	P	**Pn**	**08 40 18.6**	**+2.3**
KMSI	**Cibinong**	**3.40**	**240**	P	**Pn**	**08 40 24.0**	**+1.9**
DAV	**Davao City (W)**	**4.92**	**344**	Sn	**Sn**	**08 41 37.9**	**-0.6**
	41nm,0.3s,baz=90,slow=20,SNR=1.3						
MRSI	**Marisa**	**5.30**	**250**	P	**Pn**	**08 40 50.0**	**+1.9**
	0.7nm3μm2μm195nm,0.6s						
LUWI	**Luwuk**	**5.31**	**231**	Pn	**Pn**	**08 40 48.1**	**-0.2**
LUWI	**Luwuk**	**5.31**	**231**	P	**Pn**	**08 40 50.0**	**+1.7**
SWI	**Sorong**	**5.36**	**126**	P	**Pn**	**08 40 50.7**	**+1.8**
	0.3nm1μm94nm,0.7s						
NLAI	**Namlea**	**5.51**	**178**	P	**Pn**	**08 40 53.8**	**+2.8**
	0.4nm76nm,0.6s						
MSAI	**Masohi**	**5.96**	**160**	P	**Pn**	**08 40 59.4**	**+2.2**
AAI	**Ambon**	**6.08**	**168**	P	**Pn**	**08 41 02.1**	**+3.2**
	0.4nm107nm,0.6s						
APSI	**Ampana**	**6.16**	**239**	P	**Pn**	**08 41 01.4**	**+1.5**
TOLI2	**Tolitoli**	**6.25**	**259**	Pn	**Pn**	**08 41 00.6**	**-0.5**
FAKI	**Fak Fak**	**7.44**	**134**	Pn	**Pn**	**08 41 18.9**	**+1.5**
FAKI	**Fak Fak**	**7.44**	**134**	P	**Pn**	**08 41 20.2**	**+2.8**
TTSI	**Tana Toraja**	**8.87**	**233**	P	**Pn**	**08 41 36.9**	**-0.1**
	68nm,1.4s						
MYLDM	**Lahad Datu**	**8.87**	**289**		**Pn**	**08 41 38.6**	**+1.5**
BAKI	**Biak**	**9.82**	**111**	P	**Pn**	**08 41 52.0**	**+1.9**
KAPI	**Kappang**	**10.20**	**225**	Pn	**Pn**	**08 41 55.6**	**+0.3**
KAPI	**Kappang**	**10.20**	**225**	Pn	**Pn**	**08 41 53.1**	**-2.2**
	2.4nm,0.3s,baz=172,slow=6.7,SNR=4.0						
	10nm,0.6s						
KKM	**Kota Kinabalu**	**11.30**	**290**	Pn	**Pn**	**08 42 08.5**	**-2.0**
JAY	**Jayapura**	**14.59**	**109**	Pn	**Pn**	**08 42 57.2**	**+2.1**
	0.8nm,0.3s,baz=313,slow=3.6,SNR=10						
JAY				LR	LR	08 48 30.2	
	comp=Z,317nm,21.9s,baz=334,slow=38						
SBUM	**Sibu**	**14.69**	**271**	Pn	**Pn**	**08 42 57.7**	**+1.4**
KNRA	**Kununurra**	**17.96**	**174**		**P**	**08 43 36.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.31**	**184**	P	**P**	**08 44 02.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**20.31**	**184**	P	**P**	**08 44 03.1**	**-0.1**
	12nm,0.7s,baz=17,slow=11,SNR=40						
	12nm,0.7s						
YULB	**Yu-li**	**21.66**	**346**	P	**P**	**08 44 16.8**	**-1.0**
YULB				IAmb	IAmb	08 44 45.1	
	comp=Z,30nm,1.2s						
SSLB	**Suanglung**	**22.12**	**345**	P	**P**	**08 44 21.3**	**-1.4**
SSLB				IAmb	IAmb	08 44 26.3	
	comp=Z,18nm,0.6s						
COEN	**Coen**	**22.82**	**136**	P	**P**	**08 44 29.6**	**-0.6**
WB0	**Warramunga Arr**	**23.13**	**162**	P	**P**	**08 44 31.6**	**-1.7**
WB0				IAmb	IAmb	08 44 34.3	
	comp=Z,31nm,0.8s						
WRAB	**Tennant Creek**	**23.27**	**162**	P	**P**	**08 44 32.8**	**-1.9**
WRAB				IAmb	IAmb	08 44 41.4	
	comp=Z,57nm,1.2s						
WRA	**Warramunga Arr**	**23.28**	**162**	P	**P**	**08 44 33.4**	**-1.3**
	comp=Z,17nm,0.6s,baz=340,slow=11,SNR=58						
WRA				S	**S**	**08 48 41.3**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=343,slow=19,SNR=2.9						
WRA				LR	LR	08 55 14.4	
	comp=Z,204nm,19.0s,baz=4.0,slow=41						
	comp=Z,17nm,0.6s						
PMG	**Port Moresby**	**23.28**	**120**	LR	LR	08 56 21.2	
	comp=Z,305nm,18.0s,baz=326,slow=44						
WB2	**Warramunga Arr**	**23.28**	**162**	P	**P**	**08 44 33.1**	**-1.6**
WB2				IAmb	IAmb	08 44 41.5	
	comp=Z,74nm,1.3s						
MBWA	**Marble Bar**	**24.36**	**196**	P	**P**	**08 44 43.5**	**-1.2**
MBWA				IAmb	IAmb	08 45 10.3	
	comp=Z,34nm,1.4s						
PSA00	**Pilbara Seismi**	**24.72**	**196**	P	**P**	**08 44 46.5**	**-1.5**
PSA00	**Pilbara Seismi**	**24.72**	**196**	P	**P**	**08 44 47.6**	**-0.4**
PSA00				IAmb	IAmb	08 45 07.9	
	comp=Z,12nm,0.9s						
UBPT	**Khong Chiam**	**24.77**	**303**	P	**P**	**08 44 47.7**	**-0.8**
UBPT				IAmb	IAmb	08 44 49.7	
	comp=Z,30nm,1.5s						
IPM	**Ipoh**	**25.94**	**275**	P	**P**	**08 44 59.8**	**+0.6**
RABL	**Rabaul**	**26.04**	**104**	P	**P**	**08 44 59.5**	**-0.6**
RABL				IAmb	IAmb	08 45 02.9	
	comp=Z,22nm,0.7s						
AS31	**Alice Springs**	**26.69**	**166**	P	**P**	**08 45 04.9**	**-1.0**
ASAR	**Alice Springs**	**26.69**	**166**	P	**P**	**08 45 04.9**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=344,slow=8.4,SNR=32						
ASAR				PcP	**PcP**	**08 48 28.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=351,slow=2.8,SNR=7.4						
ASAR				S	**S**	**08 49 37.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=345,slow=15,SNR=3.0						
	comp=Z,1.8nm,0.5s						
JCJ	**Chichijima**	**28.67**	**29**	LR	LR	08 55 26.2	
	comp=Z,43nm,22.0s,baz=164,slow=34						
NJ2	**Nanjing**	**30.55**	**346**	*e*P	**P**	**08 45 40.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,24nm,1.7s						
CM31	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**08 45 50.8**	**-0.2**
CM31				IAmb	IAmb	08 45 54.7	
	comp=Z,6.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**08 45 50.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**31.77**	**302**	P	**P**	**08 45 50.7**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=116,slow=8.5,SNR=1.1						
CMAR				LR	LR	09 00 15.4	
	comp=Z,54nm,18.5s,baz=190,slow=39						
	comp=Z,1.9nm,0.3s						
CHTO	**Chiang Mai**	**31.93**	**303**	P	**P**	**08 45 51.1**	**-1.3**
CHTO				IAmb	IAmb	08 45 52.6	
	comp=Z,8.0nm,0.7s						
MORW	**Morawa**	**32.89**	**198**	P	**P**	**08 46 00.2**	**-0.5**
MORW				IAmb	IAmb	08 46 01.3	
	comp=Z,26nm,1.2s						
FORT	**Forrest**	**32.92**	**178**	P	**P**	**08 46 00.2**	**-0.7**
PZH	**PanZhiHua**	**34.10**	**317**	P	**P**	**08 46 13.6**	**+2.2**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
HNR	**Honiara**	**34.91**	**110**	LR	LR	09 02 15.9	
	comp=Z,72nm,18.2s,baz=307,slow=39						
KSAR	**Wonju Array Be**	**34.98**	**1**	P	**P**	**08 46 20.1**	**+1.5**
KSRS	**Korea Array**	**34.99**	**1**	P	**P**	**08 46 18.6**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=179,slow=10,SNR=11						
KSRS				PcP	**PcP**	**08 48 50.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=197,slow=2.6,SNR=4.3						
KSRS				LR	LR	09 03 30.0	
	comp=Z,27nm,19.9s,baz=165,slow=41						
	comp=Z,2.9nm,0.7s						
MJAR	**Matsushiro Arr**	**35.63**	**16**	P	**P**	**08 46 23.3**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=191,slow=8.5,SNR=12						
MJAR				LR	LR	09 00 18.2	
	comp=Z,88nm,20.7s,baz=246,slow=35						
	comp=Z,4.5nm,0.8s						
MAJO	**Matsushiro**	**35.63**	**16**	P	**P**	**08 46 23.2**	**-1.1**
MAJO				IAmb	IAmb	08 46 25.8	
	comp=Z,8.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**35.63**	**16**	P	**P**	**08 46 24.4**	**+0.1**
MJB9				IAmb	IAmb	08 46 26.7	
	comp=Z,8.0nm,0.8s						
BBOO	**Buckleboo**	**35.98**	**167**	P	**P**	**08 46 26.3**	**-1.0**
EIDS	**Eidsvold**	**36.12**	**141**	P	**P**	**08 46 28.2**	**-0.5**
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**08 46 33.3**	**-0.5**
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**08 46 33.5**	**-0.3**
	comp=Z,29nm,0.7s,baz=330,slow=9.0,SNR=46						
STKA				PcP	**PcP**	**08 48 55.9**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=350,slow=7.0,SNR=4.2						
	comp=Z,29nm,0.7s						
JMM	**Marumori**	**37.61**	**18**	P	**P**	**08 46 41.2**	**0.0**
ARMA	**Armidale**	**40.18**	**146**	P	**P**	**08 47 03.2**	**+0.3**
HHC	**Hu-ho-hao-te**	**40.80**	**342**	*e*P	**P**	**08 47 11.3**	**+3.4**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,4.0s						
SHL	**Shillong**	**40.88**	**308**	P	**P**	**08 47 07.5**	**-1.3**
SHL				IAmb	IAmb	08 47 14.3	
	comp=Z,11nm,0.8s						
CN2	**Changchun**	**41.34**	**358**	P	**P**	**08 47 16.1**	**+4.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**41.96**	**5**	P	**P**	**08 47 16.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**41.96**	**5**	P	**P**	**08 47 17.2**	**+0.1**
	comp=Z,9.2nm,0.8s,baz=183,slow=6.7,SNR=15						
	comp=Z,9.2nm,0.8s						
XLT	**XiLinHaoTe**	**42.52**	**348**	*e*P	P	08 47 32.4	+11
XLT				PP	**PcP**	**08 49 10.0**	**-3.8**
XLT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BNX	**BinXian**	**43.26**	**0**	⇑P	**P**	**08 47 28.4**	**+0.7**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA	**Gaotai**	**44.41**	**330**	*e*P	**P**	**08 47 39.9**	**+2.7**
GTA				pP	pwP	08 47 52.3	-1.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
HEH	**HeiHe**	**47.78**	**0**	*e*P	**P**	**08 48 03.5**	**+0.2**
HEH				pmax	pmax		
	comp=Z,11nm,1.1s						
ULN	**Ulaanbaatar**	**48.52**	**342**	P	**P**	**08 48 10.1**	**+0.7**
ULN				IAmb	IAmb	08 48 34.0	
	comp=Z,4.9nm,0.8s						
SONM	**Songino Array**	**48.70**	**342**	P	**P**	**08 48 10.7**	**0.0**
SONM	**Songino Array**	**48.70**	**342**	P	**P**	**08 48 10.0**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=142,slow=7.3,SNR=10.0						
	comp=Z,1.1nm,0.5s						
PETK	**Petropavlovsk-**	**56.67**	**22**	P	**P**	**08 49 09.7**	**+0.4**
PETK	**Petropavlovsk-**	**56.67**	**22**	P	**P**	**08 49 09.0**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=214,slow=5.0,SNR=4.9						
	comp=Z,3.6nm,0.9s						
MK31	**Makanchi Array**	**58.83**	**326**	P	**P**	**08 49 23.8**	**-0.9**
MK31				IAmb	IAmb	08 49 58.5	
	comp=Z,6.1nm,1.4s						
MKAR	**Makanchi Array**	**58.83**	**326**	P	**P**	**08 49 23.8**	**-0.8**
MKAR	**Makanchi Array**	**58.83**	**326**	P	**P**	**08 49 24.2**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=124,slow=8.2,SNR=18						
	comp=Z,1.4nm,0.5s						
MAKZ	**Makanchi**	**59.01**	**326**	P	**P**	**08 49 26.3**	**+0.4**
MAKZ				IAmb	IAmb	08 49 59.6	
	comp=Z,7.9nm,1.3s						
YAK	**Yakutsk**	**59.62**	**2**	P	**P**	**08 49 28.1**	**-1.6**
	comp=Z,37nm,0.4s,baz=64,slow=2.4,SNR=7.3						
MA2	**Magadan**	**60.03**	**14**	P	**P**	**08 49 33.5**	**+0.8**
MA2				IAmb	IAmb	08 49 35.0	
	comp=Z,7.9nm,1.0s						
MRNZ	**Matariki Terra**	**60.17**	**142**	P	**P**	**08 49 33.2**	**-0.8**
LBZ	**Lake Benmore**	**60.41**	**146**	P	**P**	**08 49 34.8**	**-0.7**
THZ	**Tophouse**	**60.47**	**142**	P	**P**	**08 49 35.5**	**-0.5**
BOOM	**Boomskoye usch**	**60.52**	**319**	P	**P**	**08 49 37.1**	**+0.6**
BOOM				IAmb	IAmb	08 50 15.3	
	comp=Z,7.4nm,1.4s						
TCW	**Tory Channel**	**61.02**	**141**	P	**P**	**08 49 39.4**	**-0.3**
URZ	**Urewera**	**61.38**	**136**	LR	LR	09 17 46.2	
	comp=Z,124nm,18.4s,baz=23,slow=38						
RTZ	**Ruatahuna**	**61.47**	**137**	P	**P**	**08 49 42.0**	**-0.9**
ZALV	**Zalesovo Beam**	**61.94**	**333**	P	**P**	**08 49 44.6**	**-1.0**
ZALV	**Zalesovo Beam**	**61.94**	**333**	P	**P**	**08 49 45.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=130,slow=7.2,SNR=3.6						
	comp=Z,0.7nm,0.6s						
GAR	**Garm**	**63.03**	**313**	P	**P**	**08 49 52.7**	**-0.7**
GAR				IAmb	IAmb	08 50 24.1	
	comp=Z,8.6nm,0.8s						
KURBB	**Kurchatov Arra**	**63.04**	**328**	P	**P**	**08 49 53.0**	**0.0**
	comp=Z,3.0nm,0.7s,baz=130,slow=6.2,SNR=5.9						
KURK	**Kurchatov**	**63.04**	**328**	P	**P**	**08 49 52.8**	**-0.3**
KURK				IAmb	IAmb	08 50 20.6	
	comp=Z,10nm,0.8s						
KK31	**Karatay Array**	**64.40**	**317**	P	**P**	**08 50 01.9**	**-0.4**
KKAR	**Karatay Array**	**64.40**	**317**	P	**P**	**08 50 01.3**	**-0.9**
KKAR	**Karatay Array**	**64.40**	**317**	P	**P**	**08 50 01.5**	**-0.8**
BVAR	**Borovoye Array**	**68.61**	**327**	P	**P**	**08 50 29.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=118,slow=6.9,SNR=14						
	comp=Z,3.7nm,0.7s						
TIXI	**Tiksi**	**69.26**	**1**	P	**P**	**08 50 31.8**	**-0.7**
TIXI				IAmb	IAmb	08 50 33.3	
	comp=Z,6.5nm,0.9s						
TIXI	**Tiksi**	**69.26**	**1**	LR	LR	09 25 19.1	
	comp=Z,66nm,18.8s,baz=195,slow=40						
ABKAR	**Akbulak array**	**73.37**	**321**	P	**P**	**08 50 57.5**	**-0.3**
ABKAR	**Akbulak array**	**73.37**	**321**	P	**P**	**08 50 57.8**	**0.0**
ABKAR				IAmb	IAmb	08 51 00.8	
	comp=Z,2.9nm,0.8s						
ARTI	**Arti**	**76.32**	**328**	P	**P**	**08 51 14.5**	**-0.2**
ARTI				IAmb	IAmb	08 51 17.3	
	comp=Z,5.3nm,0.8s						
M14K	**Bethel**	**78.84**	**28**	P	**P**	**08 51 29.7**	**+1.1**
RAYN	**Ar Rayn**	**81.21**	**293**	P	**P**	**08 51 41.4**	**-0.9**
VNDA	**Vanda**	**82.00**	**173**	P	**P**	**08 51 45.2**	**-0.1**
VNDA				IAmb	IAmb	08 52 20.0	
	comp=Z,19nm,1.3s						
VNDA	**Vanda**	**82.00**	**173**	P	**P**	**08 51 45.8**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=26,slow=1.5,SNR=8.1						
	comp=Z,3.8nm,0.8s						
Q19K	**Cape Douglas,**	**82.58**	**31**	P

DVP	**Devils Point**	**2.60**	**143**	P	Pn	08 42 37.3	-0.1
LUES	**Luesalemba Tem**	**5.00**	**353**	P	Pn	08 43 10.4	+0.1
KOUNC	**Koumac, New Ca**	**5.32**	**203**	P	Pn	08 43 15.0	+0.2
YATNC	**Mamie plateau,**	**6.38**	**177**	P	Pn	08 43 29.3	-0.1
DZM	**Mont Dzumac**	**6.39**	**181**	P	Pn	08 43 29.2	-0.4
NGOA	**Tingoa Renbel**	**7.49**	**302**	P	Pn	08 43 44.5	-0.1

*NEIC **06** 08:43:19.2±0.5, 19°.236N±0°.006×155°.463W±0°.009, h7km±4km, Error ellipse: s-maj=1.4km s-min=0.7km az=122.0*

HVO 06 08:43:18.2±0.7, 19°.220N±0°.010×155°.452W±0°.007, h0km±9km, ML2.3/20, ML2.2/40(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=153.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.05**	**72**		Pg	08 43 20.9	+1.6
HLP	**Hilina Pali**	**0.15**	**61**		Pg	08 43 23.1	+1.9
HLP					Sg	08 43 26.3	+3.1
HLP	**Hilina Pali**	**0.15**	**61**	IAML		08 43 26.6	
	comp=N,356nm,0.3s						
HLP				IAML		08 43 26.7	
	comp=E,340nm,0.2s						
KHU	**Kahuku**	**0.16**	**279**		Pg	08 43 22.7	+1.5
KHU	**Kahuku**	**0.16**	**279**		Sg	08 43 25.9	+2.6
KHU	**Kahuku**	**0.16**	**279**	IAML		08 43 25.4	
	comp=E,708nm,3.7s						
HPO	**Honuapo**	**0.16**	**217**		Pg	08 43 22.5	+1.2
HPO					Sg	08 43 25.8	+2.4
SDHHI	**Sand Hill**	**0.23**	**41**		Pg	08 43 23.6	+1.0
SDHHI					Sg	08 43 28.0	+2.5
WRMHI	**West Rim**	**0.23**	**38**		Pg	08 43 23.7	+1.0
WRMHI					Sg	08 43 27.9	+2.2
RIM	**Rim**	**0.24**	**44**		Sg	08 43 23.9	-2.2
KKO	**Keanakako'i**	**0.25**	**45**		Pg	08 43 24.2	+1.2
KKO					Sg	08 43 28.5	+2.2
UWE	**Uwekahuna**	**0.25**	**37**		Pg	08 43 24.3	+1.2
UWE					Sg	08 43 28.6	+2.3
UWE	**Uwekahuna**	**0.25**	**37**	IAML		08 43 29.6	
	comp=E,650nm,0.3s						
UWE				IAML		08 43 31.5	
	comp=N,596nm,0.4s						
OBL	**Observatory Le**	**0.25**	**39**		Pg	08 43 24.3	+1.2
OBL					Sb	08 43 28.7	-2.0
UWB	**Uwekahuna Bluf**	**0.26**	**39**		Pg	08 43 24.0	+0.8
UWB					Sg	08 43 28.6	+2.0
BYL	**Byron's Ledge**	**0.26**	**43**		Pg	08 43 24.4	+1.2
BYL					Sg	08 43 28.7	+2.0
BYL	**Byron's Ledge**	**0.26**	**43**	IAML		08 43 29.5	
	comp=E,328nm,0.8s						
BYL				IAML		08 43 32.0	
	comp=N,212nm,0.6s						
SBLHI	**Steaming Bluff**	**0.27**	**40**		Pg	08 43 24.4	+1.0
SBLHI					Sb	08 43 29.2	-2.0
HATHI	**Halema'uma'u T**	**0.27**	**42**		Pg	08 43 24.6	+1.2
HATHI					Sg	08 43 29.0	+2.0
HATHI	**Halema'uma'u T**	**0.27**	**42**	IAML		08 43 29.8	
	comp=E,305nm,0.3s						
HATHI				IAML		08 43 32.0	
	comp=N,348nm,0.3s						
PUH	**Pauahi**	**0.27**	**55**		Pg	08 43 24.5	+1.1
PUH					Sg	08 43 28.9	+2.0
PUH	**Pauahi**	**0.27**	**55**	IAML		08 43 29.6	
	comp=N,326nm,0.2s						
PUH				IAML		08 43 29.8	
	comp=E,254nm,0.2s						
MLH	**Mauna Loa**	**0.28**	**13**		Pg	08 43 24.8	+1.2
MLH					Sb	08 43 29.8	-1.9
MLH	**Mauna Loa**	**0.28**	**13**	IAML		08 43 30.3	
	comp=N,510nm,0.3s						
MLH				IAML		08 43 33.0	
	comp=E,354nm,0.3s						
RSD	**Rainshed**	**0.29**	**34**		Pg	08 43 25.0	+1.1
RSD					Sb	08 43 29.9	-2.0
MWH	**Mokuaweoweo**	**0.30**	**333**		Pg	08 43 24.8	+0.9
MWH					Sb	08 43 30.3	-2.1
MWH	**Mokuaweoweo**	**0.30**	**333**	IAML		08 43 30.4	
	comp=N,250nm,2.5s						
MWH				IAML		08 43 33.3	
	comp=E,342nm,2.1s						
KNHH	**Kane Nui o Ham**	**0.31**	**59**		Pg	08 43 25.1	+0.9
MLOA	**Mauna Loa Obse**	**0.34**	**340**		Pg	08 43 25.5	+0.8
MLOA					Sb	08 43 31.6	-1.9
MLOA	**Mauna Loa Obse**	**0.34**	**340**	IAML		08 43 33.7	
	comp=N,87nm,3.9s						
MLOA				IAML		08 43 33.8	
	comp=E,86nm,3.9s						
STCH	**Steam Cracks**	**0.35**	**62**		Pg	08 43 25.7	+0.8
STCH					Sg	08 43 31.3	+1.8
STCH	**Steam Cracks**	**0.35**	**62**	IAML		08 43 31.5	
	comp=N,253nm,0.2s						
STCH				IAML		08 43 32.3	
	comp=E,221nm,0.1s						
NPOC	**North of Pu'u**	**0.37**	**62**		Pg	08 43 26.1	+0.9
NPOC					Sb	08 43 32.1	-1.9
ALEP	**Alea Permanent**	**0.37**	**330**		Pg	08 43 25.8	+0.6
ALEP					Sb	08 43 32.2	-2.1
JCUZ	**Jacuzzi**	**0.37**	**64**		Pg	08 43 26.3	+1.0
JCUZ					Sg	08 43 31.7	+1.6
HMH	**Humu'ula Sheep**	**0.38**	**356**		Pg	08 43 26.4	+0.9
HMH					Sb	08 43 33.0	-1.7
HMH	**Humu'ula Sheep**	**0.38**	**356**	IAML		08 43 33.5	
	comp=N,404nm,0.1s						
HMH				IAML		08 43 33.5	
	comp=E,322nm,0.4s						
JOKA	**Jonika Flow**	**0.47**	**63**		Pg	08 43 27.3	0.0
JOKA				IAML		08 43 42.9	
	comp=E,194nm,3.2s						
JOKA	**Jonika Flow**	**0.47**	**63**		Sg	08 43 34.9	+1.4
JOKA	**Jonika Flow**	**0.47**	**63**	IAML		08 43 33.6	
	comp=N,208nm,3.2s						
CPH	**Captain Cook**	**0.52**	**301**		Pg	08 43 28.2	+0.2
POHA	**Pohakuloa**	**0.54**	**352**		Pg	08 43 28.9	+0.3
POHA					Sg	08 43 37.2	+1.6
POHA	**Pohakuloa**	**0.54**	**352**	IAML		08 43 41.5	
	comp=N,222nm,3.1s						
POHA				IAML		08 43 42.3	
	comp=N,193nm,0.5s						
HUH	**Hualalai**	**0.59**	**322**		Pg	08 43 30.0	+0.5
HUH					Sg	08 43 38.8	+1.6
KKH	**Kailua Kona**	**0.69**	**309**		Pg	08 43 31.3	-0.2
KKH					Sg	08 43 41.1	+0.8

*NEIC **06** 08:52:49.5±1.8, 51°.40N±0°.06×176°.52E±0°.08, h10km±1km, mb4.3/94, ML4.1(AEIC), Error ellipse: s-maj=11.8km s-min=5.4km az=141.0*

*IDC **06** 08:52:49.6±0.7, 51°.67N×176°.69E, h0km, mb4.0/17, mbtmp4.0/20, ML3.4/3, MS3.1/2, Error ellipse: s-maj=20.8km s-min=13.1km az=175.0*

*AEIC **06** 08:52:52.3±1.9, 51°.5N±0°.1×176°.6E±0°.1, h10km±5km, Error ellipse: s-maj=17.8km s-min=7.7km az=195.0*

ISC 06 08:52:53.4±0.6, 51°.6N±0°.1×176°.57E±0°.05, h31km, n368, σ1§10/363, mb4.2/56, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.87**	**307**	Pn	**Pn**	**08 53 23.9**	**+0.7**
	393nm,0.3s,baz=102,slow=2.4,SNR=71						
SHEM				Sn	**Sn**	**08 53 46.4**	**+0.6**
	335nm,0.3s,baz=273,slow=16,SNR=19						
SHEM				LR	LR	08 53 53.9	
	comp=Z,387nm,21.8s,baz=320,slow=34						
ADK	**Adak**	**4.20**	**84**		**Pn**	**08 53 54.5**	**-0.7**
ATKA	**Atka Island**	**5.74**	**81**	Pn	**Pn**	**08 54 16.0**	**-0.4**
SPIA	**Saint Paul Isl**	**9.47**	**49**		**Pn**	**08 55 09.8**	**+2.4**
SPIA	**Saint Paul Isl**	**9.47**	**49**	P	**Pn**	**08 55 06.1**	**-1.3**
	baz=238						
P08K	**Saint George I**	**9.54**	**53**	P	**Pn**	**08 55 07.1**	**-1.2**
	baz=243						
UNV	**Unalaska Valle**	**10.50**	**71**	Pn	**Pn**	**08 55 22.8**	**+1.3**
UNV	**Unalaska Valle**	**10.50**	**71**	P	**Pn**	**08 55 19.8**	**-1.7**
	baz=263						
LVA	**Lava Point**	**10.80**	**70**	Pn	**Pn**	**08 55 27.0**	**+1.3**
PEA0B	**Petropavlovsk-**	**11.63**	**285**	Pn	**Pn**	**08 55 35.6**	**-1.5**
PETK	**Petropavlovsk-**	**11.63**	**285**	Pn	**Pn**	**08 55 37.1**	**0.0**
PETK	**Petropavlovsk-**	**11.63**	**285**	Pn	**Pn**	**08 55 39.0**	**+1.9**
	0.3nm,0.3s,baz=88,slow=17,SNR=4.1						
PETK				Sn	**Sn**	**08 57 40.1**	**-5.6**
	1.0nm,0.3s,baz=238,slow=28,SNR=9.0						
PETK				LR	LR	09 00 12.1	
	comp=Z,82nm,19.3s,baz=52,slow=38						
	4.0nm,0.7s						
M11K	**Mekoryuk**	**12.98**	**41**	P	**Pn**	**08 55 55.0**	**-0.5**
	baz=234						
S12K	**Black Hills**	**13.29**	**64**	P	**Pn**	**08 55 57.2**	**-2.4**
	baz=260						
M13K	**Dall Lake**	**14.20**	**44**	P	**Pn**	**08 56 11.6**	**-0.4**
	baz=240						
CHNA	**Chernabura Isl**	**14.61**	**68**	P	**Pn**	**08 56 15.4**	**-2.2**
	baz=266						
O14K	**Tigyukauivet M**	**14.65**	**50**	P	**Pn**	**08 56 17.5**	**-0.6**
	baz=248						
N14K	**Kuskokwak Cree**	**14.72**	**47**	P	**Pn**	**08 56 19.3**	**+0.2**
	baz=244						
S14K	**Fog Glacier**	**14.77**	**62**	P	**Pn**	**08 56 18.7**	**-1.2**
	baz=261						
L14K	**Kuka Creek**	**14.95**	**41**	P	**Pn**	**08 56 22.6**	**+0.4**
	baz=238						
M14K	**Bethel**	**14.96**	**44**	P	**Pn**	**08 56 22.5**	**+0.2**
	baz=241						
O15K	**Ungalikthiuk R**	**15.32**	**51**	P	**Pn**	**08 56 27.0**	**-0.1**
	baz=250						
CHGN	**Chignik**	**15.40**	**63**	P	**Pn**	**08 56 27.0**	**-1.1**
	baz=262						
J14K	**Nanvaranak Lak**	**15.40**	**36**	P	**Pn**	**08 56 28.6**	**+0.4**
	baz=232						
M15K	**Kasigluk River**	**15.50**	**45**	P	**Pn**	**08 56 29.8**	**+0.5**
	baz=244						
N15K	**Kwethluk River**	**15.55**	**48**	Pn	**Pn**	**08 56 31.0**	**+1.0**
N15K	**Kwethluk River**	**15.55**	**48**	P	**Pn**	**08 56 30.8**	**+0.8**
	baz=246						
K15K	**Wolf Creek Mou**	**15.92**	**39**	P	**Pn**	**08 56 36.5**	**+1.7**
	baz=237						
P16K	**Nushagak River**	**16.18**	**53**	P	**Pn**	**08 56 37.1**	**-1.0**
	baz=253						
O16K	**Kokwok River B**	**16.29**	**51**	P	**Pn**	**08 56 39.4**	**-0.2**
	baz=251						
M16K	**Timber Creek**	**16.40**	**46**	P	**Pn**	**08 56 42.5**	**+1.5**
	baz=245						
L16K	**Owhat River**	**16.48**	**43**	P	**Pn**	**08 56 42.8**	**+1.0**
	baz=242						
G15K	**Niukluk**	**16.71**	**29**	P	**Pn**	**08 56 46.3**	**+1.5**
	baz=226						
Q16K	**King Salmon**	**16.76**	**55**	P	**Pn**	**08 56 45.3**	**-0.1**
	baz=256						
J16K	**Anvik River**	**16.81**	**37**	P	**Pn**	**08 56 47.2**	**+1.1**
	baz=236						
O17K	**Koliganek Bris**	**16.83**	**51**	P	**Pn**	**08 56 46.9**	**+0.6**
	baz=252						
CHIR	**Chirikof Islan**	**16.92**	**65**	P	**Pn**	**08 56 47.2**	**-0.3**
	baz=266						
P17K	**Kvichak River**	**16.99**	**53**	P	**Pn**	**08 56 48.8**	**+0.4**
	baz=255						
N17K	**Nushagak Hills**	**17.02**	**48**	P	**Pn**	**08 56 49.5**	**+0.7**
	baz=250						
F15K	**North Star Dit**	**17.04**	**27**	P	**Pn**	**08 56 49.9**	**+0.9**
	baz=223						
H16K	**Elim**	**17.04**	**32**	P	**Pn**	**08 56 48.8**	**-0.2**
	baz=230						
I17K	**Unalakleet**	**17.12**	**36**	P	**Pn**	**08 56 50.6**	**+0.7**
	baz=234						
SEY	**Seymchan**	**17.16**	**321**	P	**P**	**08 56 52.2**	**+0.3**
	0.1nm,0.3s,baz=144,slow=19,SNR=1.7						
	0.2nm,0.3s						
L17K	**Donlin**	**17.16**	**43**	P	**Pn**	**08 56 51.4**	**+0.8**
	baz=243						
M17K	**Holitna River**	**17.23**	**45**	P	**Pn**	**08 56 52.2**	**+0.8**
	baz=246						
ACHA	**Angle Creek He**	**17.35**	**57**	P	**P**	**08 56 55.3**	**+1.2**
ACHA				IAmb	IAmb	08 57 11.7	
	comp=Z,36nm,1.4s						
K17K	**Iditarod**	**17.43**	**41**	P	**Pn**	**08 56 55.3**	**+1.5**
	baz=242						
J17K	**VABM Dome**	**17.46**	**38**	P	**Pn**	**08 56 55.3**	**+1.1**
	baz=238						
G16K	**Koyuk River**	**17.50**	**30**	P	**Pn**	**08 56 55.6**	**+1.0**
	baz=228						
Q18K	**Katmai Hardscr**	**17.59**	**55**	P	**Pn**	**08 56 56.1**	**+0.1**
	baz=258						
P18K	**Big Mountain,**	**17.64**	**53**	P	**Pn**	**08 56 56.8**	**+0.3**
	baz=256						
N18K	**Kilae Creek**	**17.68**	**49**	P	**Pn**	**08 56 58.5**	**+1.5**
	baz=251						
O18K	**Koktuh Hills**	**17.77**	**51**	P	**P**	**08 57 00.4**	**+1.8**
O18K				IAmb	IAmb	08 57 04.3	
	comp=Z,29nm,0.8s						
O18K	**Koktuh Hills**	**17.77**	**51**	P	**Pn**	**08 56 58.8**	**+0.8**
	baz=254						
L18K	**Granite Mounta**	**17.88**	**43**	P	**Pn**	**08 57 00.3**	**+0.9**
	baz=245						
M18K	**Stony River**	**17.98**	**46**	P	**Pn**	**08 57 01.5**	**+0.8**
	baz=249						
H17K	**Granite Mounta**	**18.01**	**33**	P	**Pn**	**08 57 02.4**	**+1.4**
	baz=233						
G17K	**Kiwalik Mounta**	**18.11**	**31**	P	**P**	**08 57 03.5**	**+1.2**
	baz=230						
O19K	**Port Alsworth**	**18.29**	**51**	P	**Pn**	**08 57 07.0**	**+2.7**
O19K				IAmb	IAmb	08 57 09.7	
	comp=Z,31nm,1.0s						
O19K	**Port Alsworth**	**18.29**	**51**	P	**P**	**08 57 04.3**	**0.0**
	baz=254,SNR=7.4						
Q19K	**Cape Douglas,**	**18.34**	**55**	P	**P**	**08 57 05.7**	**+0.7**
Q19K	**Cape Douglas,**	**18.34**	**55**	P	**P**	**08 57 04.5**	**-0.5**
	baz=259						
N19K	**Bonanza Creek**	**18.38**	**49**	P	**P**	**08 57 05.8**	**+0.4**
	baz=252						
J18K	**Innoko River**	**18.42**	**40**	P	**Pn**	**08 57 08.1**	**+2.2**
J18K	**Innoko River**	**18.42**	**40**	P	**P**	**08 57 06.2**	**+0.4**
	baz=242						
TTA	**Tatalina**	**18.46**	**42**	P	**P**	**08 57 06.8**	**+0.5**
	baz=244						
F17K	**Baldwin Pennin**	**18.55**	**28**	P	**P**	**08 57 08.3**	**+1.3**
	baz=227						
L19K	**White Mountain**	**18.66**	**45**	P	**P**	**08 57 09.5**	**+1.1**
L19K	**White Mountain**	**18.66**	**45**	P	**P**	**08 57 09.0**	**+0.5**
	baz=248						
H18K	**Honhosa River**	**18.67**	**34**	P	**P**	**08 57 09.8**	**+1.3**
	baz=235						
P19K	**Oil Pt**	**18.69**	**53**	P	**P**	**08 57 09.0**	**+0.2**
	baz=257						
KDAK	**Kodiak Island**	**18.73**	**59**	P	**P**	**08 57 08.3**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=326,slow=1.1,SNR=33						
	comp=Z,4.2nm,0.4s						
KDAK	**Kodiak Island**	**18.73**	**59**	P	**P**	**08 57 09.6**	**+0.4**
	baz=263						
M19K	**Big River Lodg**	**18.77**	**46**	P	**P**	**08 57 09.8**	**+0.2**
	baz=249						
ILSW	**Iliamna Southw**	**18.81**	**52**	P	**Pn**	**08 57 11.7**	**+0.9**
E17K	**Hotham Inlet**	**18.82**	**27**	P	**P**	**08 57 11.4**	**+1.3**
	baz=225						
C16K	**Lisburne Hills**	**18.84**	**21**	P	**P**	**08 57 11.4**	**+1.1**
	baz=217						
D17K	**Noatak River**	**18.93**	**24**	P	**P**	**08 57 12.5**	**+1.1**
	baz=222						
GCSA	**Galena City Sc**	**18.98**	**36**	P	**P**	**08 57 12.3**	**+0.4**
	baz=238,SNR=9.8						
G18K	**Tagagawik**	**19.01**	**32**	P	**Pn**	**08 57 14.2**	**+1.1**
G18K	**Tagagawik**	**19.01**	**32**	P	**P**	**08 57 13.1**	**+0.9**
	baz=233						
O20K	**Slope Mountain**	**19.08**	**52**	P	**P**	**08 57 13.5**	**+0.4**
	baz=257						
J19K	**Poorman**	**19.09**	**39**	P	**Pn**	**08 57 15.2**	**+1.1**
J19K				IAmb	IAmb	08 57 18.5	
	comp=Z,16nm,1.4s						
J19K	**Poorman**	**19.09**	**39**	P	**P**	**08 57 14.5**	**+1.3**
	baz=242						
F18K	**Selawik**	**19.13**	**29**	P	**P**	**08 57 14.9**	**+1.5**
	baz=230,SNR=5.7						
L20K	**Farewell, AK**	**19.19**	**44**	P	**P**	**08 57 15.5**	**+1.2**
	baz=249						
RDOG	**Red Dog Mine**	**19.25**	**24**	P	**P**	**08 57 15.0**	**+0.2**
RDOG				IAmb	IAmb	08 57 26.1	
	comp=Z,16nm,0.8s						
RDOG	**Red Dog Mine**	**19.25**	**24**	P	**P**	**08 57 16.4**	**+1.6**
	baz=221						
M20K	**Styx River**	**19.32**	**46**	P	**P**	**08 57 17.2**	**+1.4**
	baz=251						
E18K	**Tukpahlearik C**	**19.40**	**27**	P	**P**	**08 57 18.2**	**+1.7**
	baz=226						
K20K	**Telida**	**19.44**	**42**	P	**P**	**08 57 18.2**	**+1.2**
	baz=246						
C17K	**DeLong Mountai**	**19.50**	**22**	P	**P**	**08 57 18.3**	**+0.7**
	baz=220						
H19K	**Roundabout Mou**	**19.55**	**34**	P	**P**	**08 57 19.3**	**+1.2**
	baz=237						
N20K	**Mount Spurr**	**19.55**	**49**	P	**P**	**08 57 19.3**	**+1.1**
	baz=254,SNR=16						
SPCR	**Spurr Chakacha**	**19.55**	**49**	P	**P**	**08 57 19.0**	**+0.7**
	baz=254,SNR=10.0						
SPU	**Mount Spurr**	**19.62**	**49**	P	**Pn**	**08 57 21.2**	**+0.7**
G19K	**Purcell Mounta**	**19.68**	**32**	P	**P**	**08 57 20.8**	**+1.3**
	baz=235						
J20K	**Nowinta River**	**19.75**	**39**	P	**P**	**08 57 21.9**	**+1.6**
J20K				IAmb	IAmb	08 57 23.9	
	comp=Z,17nm,1.4s						
J20K	**Nowinta River**	**19.75**	**39**	P	**P**	**08 57 21.0**	**+0.6**
	baz=244,SNR=7.0						
STLK	**Strandline Lak**	**19.80**	**48**	P	**P**	**08 57 22.9**	**+1.8**
STLK				IAmb	IAmb	08 57 25.5	
	comp=Z,21nm,0.9s						
F19K	**Shaleruckik Mo**	**19.86**	**30**	P	**P**	**08 57 21.8**	**+0.4**
	baz=232						
BRLK	**Bradley Lake**	**19.88**	**53**		**P**	**08 57 22.1**	**+0.3**
I20K	**Naaghedeneel**	**19.91**	**37**	P	**P**	**08 57 22.0**	**0.0**
	baz=242						
CAPN	**Captain Cook N**	**19.95**	**50**	P	**P**	**08 57 21.1**	**-1.3**
	baz=257						
BRSE	**Bradley Lake S**	**19.95**	**53**	P	**P**	**08 57 22.2**	**-0.4**
	baz=260						
PPLA	**Purkeypile**	**20.07**	**44**	P	Pn	08 57 26.3	+0.4
PPLA	**Purkeypile**	**20.07**	**44**	P	**P**	**08 57 24.1**	**+0.1**
	baz=250						
SKT	**Skwentna**	**20.08**	**47**	P	**P**	**08 57 26.0**	**+2.1**
SKT				IAmb	IAmb	08 57 30.8	
	comp=Z,18nm,0.8s						
SKT	**Skwentna**	**20.08**	**47**	P	**P**	**08 57 24.2**	**+0.3**
	baz=253,SNR=8.2						
H20K	**Anotleneega Mo**	**20.09**	**35**	P	**P**	**08 57 24.6**	**+0.6**
	baz=240						
C18K	**Utukok River**	**20.11**	**24**	P	**P**	**08 57 25.8**	**+1.5**
C18K				IAmb	IAmb	08 57 34.6	
	comp=Z,13nm,1.1s						
C18K	**Utukok River**	**20.11**	**24**	P	**P**	**08 57 25.6**	**+1.3**
	baz=223						
CAST	**Castle Rocks**	**20.30**	**42**	P	**P**	**08 57 28.2**	**+1.9**
CAST	**Castle Rocks**	**20.30**	**42**	P	**P**	**08 57 27.9**	**+1.6**
	baz=249						
SUA	**Susitna One**	**20.30**	**48**	P	**P**	**08 57 27.7**	**+1.3**
SUA				IAmb	IAmb	08 57 31.9	
	comp=Z,11nm,0.6s						
SUA	**Susitna One**	**20.30**	**48**	P	**P**	**08 57 26.9**	**+0.4**
	baz=255						
SLKM	**Skilak Lake**	**20.34**	**51**	P	**P**	**08 57 27.5**	**+0.7**
SLKM				IAmb	IAmb	08 57 30.0	
	comp=Z,23nm,1.0s						
CHUM	**Lake Minchumin**	**20.37**	**41**	P	**P**	**08 57 28.0**	**+1.0**
	baz=247,SNR=6.4						
E19K	**Redstone River**	**20.41**	**29**	P	**P**	**08 57 29.4**	**+1.9**
	baz=232,SNR=7.5						
B18K	**Kokolik River**	**20.50**	**22**	P	**P**	**08 57 30.1**	**+1.6**
	baz=221						
O22K	**Cooper Landing**	**20.58**	**51**	P	**P**	**08 57 30.4**	**+1.1**
O22K	**Cooper Landing**	**20.58**	**51**	P	**P**	**08 57 30.4**	**+1.1**
	baz=259						
F20K	**Avaraart Lake**	**20.64**	**31**	P	**P**	**08 57 32.4**	**+2.5**
	baz=235						
SEW	**Seward**	**20.65**	**53**	P	**P**	**08 57 31.0**	**+1.0**
	baz=260						
M22K	**Willow**	**20.66**	**48**	P	**P**	**08 57 31.2**	**+1.1**
	baz=255						
RC01	**Rabbit Creek A**	**20.69**	**50**	P	**P**	**08 57 31.5**	**+1.0**
RC01				IAmb	IAmb	08 57 38.4	
	comp=Z,13nm,0.7s						
RC01	**Rabbit Creek A**	**20.69**	**50**	P	**P**	**08 57 31.3**	**+0.8**
	baz=257						
D19K	**Kuna River**	**20.82**	**26**	P	**P**	**08 57 33.7**	**+1.8**
	baz=228						
KTH	**Kantishna Hill**	**20.83**	**43**	P	**P**	**08 57 33.7**	**+1.5**
KTH				IAmb	IAmb	08 57 39.3	
	comp=Z,8.6nm,0.8s						
H21K	**Melozitna Rive**	**20.93**	**36**	P	**P**	**08 57 34.8**	**+1.7**
H21K	**Melozitna Rive**	**20.93**	**36**	P	**P**	**08 57 34.8**	**+1.7**
	baz=242						
BPAW	**Bear Paw Mtn.**	**21.00**	**41**	P	**P**	**08 57 35.6**	**+1.8**
BPAW	**Bear Paw Mtn.**	**21.00**	**41**	P	**P**	**08 57 34.9**	**+1.0**
	baz=248						
I21K	**Tanana**	**21.03**	**38**	P	**P**	**08 57 36.0**	**+1.9**
I21K				IAmb	IAmb	08 57 39.8	
	comp=Z,11nm,1.1s						
I21K	**Tanana**	**21.03**	**38**	P	**P**	**08 57 35.8**	**+1.6**
	baz=244						
TRF	**Thorofare Moun**	**21.07**	**43**	P	**P**	**08 57 36.6**	**+1.8**
TRF				IAmb	IAmb	08 57 38.1	
	comp=Z,11nm,1.2s						
TRF	**Thorofare Moun**	**21.07**	**43**	P	**P**	**08 57 35.2**	**+0.4**
	baz=251						
PMR	**Palmer**	**21.08**	**49**	P	**P**	**08 57 35.6**	**+0.9**
	baz=257						
G21K	**Allakaket**	**21.09**	**34**	P	**P**	**08 57 35.9**	**+1.0**
G21K	**Allakaket**	**21.09**	**34**	P	**P**	**08 57 36.3**	**+1.4**
	baz=239,SNR=6.2						
E20K	**Nigu River**	**21.22**	**28**	P	**P**	**08 57 37.5**	**+1.3**
	baz=232						
GHO	**Glory Hole Cre**	**21.22**	**48**	P	**P**	**08 57 37.4**	**+1.1**
GHO				IAmb	IAmb	08 58 09.4	
	comp=Z,12nm,1.0s						
A19K	**Wainwright**	**21.31**	**21**	P	**P**	**08 57 38.6**	**+1.5**
	baz=220						
PWL	**Port Wells**	**21.32**	**51**	P	**P**	**08 57 37.5**	**+0.2**
PWL	**Port Wells**	**21.32**	**51**	P	**P**	**08 57 37.8**	**+0.5**
	baz=260						
KNK	**Knik Glacier**	**21.36**	**49**	P	**P**	**08 57 38.4**	**+0.7**
KNK				IAmb	IAmb	08 57 41.2	
	comp=Z,12nm,0.8s						
KNK	**Knik Glacier**	**21.36**	**49**	P	**P**	**08 57 38.6**	**+0.8**
	baz=258						
D20K	**Etivluk River**	**21.38**	**27**	P	**P**	**08 57 39.5**	**+1.6**
	baz=230						
F21K	**Alatna River**	**21.47**	**32**	P	**P**	**08 57 40.0**	**+1.1**
	baz=238						
SML	**Sawmill**	**21.50**	**48**	P	**P**	**08 57 40.4**	**+1.1**
SML	**Sawmill**	**21.50**	**48**	P	**P**	**08 57 40.0**	**+0.7**
	baz=257,SNR=17						
H22K	**Ishtalitna Cre**	**21.56**	**36**	P	**P**	**08 57 40.8**	**+1.0**
	baz=244						
P23K	**Montague Islan**	**21.65**	**53**	P	**P**	**08 57 41.0**	**+0.1**
	baz=263						
RND	**Reindeer**	**21.67**	**44**	P	**P**	**08 57 42.6**	**+1.5**
MCK	**McKinley**	**21.73**	**43**	P	**P**	**08 57 42.8**	**+1.1**
	baz=252						

B21K	**Ikpikpuk River**	**22.51**	**26**	P	**P**	**08 57 51.9 +1.9**
	baz=231,SNR=5.4					
EYAK	**Cordova Ski Ar**	**22.53**	**52**	P	**P**	**08 57 50.4 +0.1**
	baz=263					
COLA	**College**	**22.54**	**40**	P	**P**	**08 57 51.4 +1.1**
	baz=251					
M24K	**Tolsona, Glenn**	**22.56**	**48**	P	**P**	**08 57 51.7 +1.1**
M24K	**Tolsona, Glenn**	**22.56**	**48**	P	**P**	**08 57 51.5 +0.8**
	baz=259,SNR=6.0					
KLU	**Klutina**	**22.57**	**50**	P	**P**	**08 57 51.2 +0.4**
KLU				IAmb	IAmb	08 58 09.8
	comp=Z,14nm,1.3s					
KLU	**Klutina**	**22.57**	**50**	P	**P**	**08 57 51.4 +0.6**
	baz=261					
COLD	**Coldfoot**	**22.58**	**34**	P	**P**	**08 57 51.6 +0.9**
COLD	**Coldfoot**	**22.58**	**34**	P	**P**	**08 57 52.1 +1.3**
	baz=242					
DIV	**Divide**	**22.59**	**51**	P	**P**	**08 57 52.2 +1.1**
DIV				IAmb	IAmb	08 57 53.9
	comp=Z,8.5nm,0.6s					
D22K	**Ayikyak River**	**22.63**	**29**	P	**P**	**08 57 52.2 +0.9**
	baz=236					
HDA	**Harding Lake**	**22.77**	**42**	P	**P**	**08 57 52.8 +0.1**
	baz=253					
POKR	**Poker Plat Res**	**22.79**	**40**	P	**P**	**08 57 53.0 0.0**
	baz=251					
H24K	**Noodor Dome**	**22.86**	**38**	P	**P**	**08 57 54.7 +1.0**
H24K				IAmb	IAmb	08 57 57.3
	comp=Z,7.7nm,0.8s					
H24K	**Noodor Dome**	**22.86**	**38**	P	**P**	**08 57 53.6 -0.2**
	baz=248,SNR=11					
IL31		**22.90**	**41**	P	**P**	**08 57 53.8 -0.2**
ILAR	**Eielson Array**	**22.90**	**41**	P	**P**	**08 57 54.2 +0.1**
	comp=Z,1.4nm,0.6s,baz=246,slow=8.4,SNR=23					
ILAR				LR	LR	09 07 13.5
	comp=Z,65nm,20.2s,baz=184,slow=38					
	comp=Z,1.4nm,0.6s					
PAX	**Paxson**	**23.05**	**46**	P	**P**	**08 57 56.3 +0.5**
PAX	**Paxson**	**23.05**	**46**	P	**P**	**08 57 55.6 -0.1**
	baz=258,SNR=12					
RAGM	**Ragged Mountai**	**23.05**	**53**	P	**P**	**08 57 56.0 +0.3**
RAGM				IAmb	IAmb	08 58 07.0
	comp=Z,12nm,0.9s					
HARP	**HAARP**	**23.08**	**47**	P	**P**	**08 57 56.0 0.0**
	baz=259					
K24K	**Donnelly Dome**	**23.10**	**44**	P	**P**	**08 57 55.6 -0.7**
	baz=256					
A21K	**Barrow**	**23.14**	**22**	P	**P**	**08 57 56.8 +0.3**
	baz=226					
BMRM	**Bremner River**	**23.14**	**51**	P	**P**	**08 57 56.4 -0.2**
BMRM				IAmb	IAmb	08 58 00.7
	comp=Z,8.5nm,0.7s					
BMRM	**Bremner River**	**23.14**	**51**	P	**P**	**08 57 56.3 -0.4**
	baz=263					
KAIM	**Kayak Island**	**23.14**	**54**	P	**P**	**08 57 55.5 -1.1**
	baz=266					
E23K	**Chandalar**	**23.17**	**32**	P	**P**	**08 57 57.8 +0.8**
	baz=242					
N25K	**Chitina, Valde**	**23.22**	**49**	P	**P**	**08 57 57.7 +0.2**
N25K				IAmb	IAmb	08 58 00.1
	comp=Z,10nm,0.8s					
N25K	**Chitina, Valde**	**23.22**	**49**	P	**P**	**08 57 56.7 -0.8**
	baz=262,SNR=7.6					
HMT	**Hamilton**	**23.25**	**53**	P	**P**	**08 57 57.9 +0.1**
B22K	**Teshekpuk Lake**	**23.28**	**25**	P	**P**	**08 57 58.5 +0.6**
	baz=232					
D23K	**Nanushuk River**	**23.28**	**30**	P	**P**	**08 57 58.1 +0.2**
	baz=238					
A22K	**Sinclair Lake**	**23.31**	**23**	P	**P**	**08 57 57.6 -0.6**
	baz=228					
G24K	**Hadweenzic Riv**	**23.33**	**36**	P	**P**	**08 57 59.4 +0.9**
G24K				IAmb	IAmb	08 58 04.8
	comp=Z,8.1nm,0.9s					
G24K	**Hadweenzic Riv**	**23.33**	**36**	P	**P**	**08 57 58.0 -0.5**
	baz=247					
TOLK	**Toolik Lake Re**	**23.46**	**31**	P	**P**	**08 57 59.6 -0.2**
	baz=240					
SUCK	**Suckling Hills**	**23.47**	**53**	P	**P**	**08 57 59.9 -0.1**
J25K	**Salcha River,**	**23.48**	**42**	P	**P**	**08 57 59.5 -0.5**
	baz=254					
RIDG	**Independent Ri**	**23.49**	**44**		**P**	**08 57 59.6 -0.4**
RIDG				IAmb	IAmb	08 58 30.5
	comp=Z,7.7nm,1.1s					
RIDG	**Independent Ri**	**23.49**	**44**	P	**P**	**08 57 59.0 -1.1**
	baz=257					
F24K	**Squaw Lake**	**23.52**	**34**	P	**P**	**08 58 01.6 +1.3**
F24K	**Squaw Lake**	**23.52**	**34**	P	**P**	**08 57 59.2 -1.1**
	baz=245					
BERG	**Berg Lake**	**23.53**	**53**	P	**P**	**08 58 00.7 +0.2**
E24K	**Your Creek**	**23.55**	**33**	P	**P**	**08 58 00.3 -0.4**
	baz=243					
GLB	**Gilahina Butte**	**23.57**	**50**	P	**P**	**08 58 00.8 -0.1**
GLB				IAmb	IAmb	08 58 03.6
	comp=Z,12nm,0.8s					
PRP	**Porcupine Dome**	**23.67**	**40**	P	**P**	**08 58 02.1 +0.2**
PRP	**Porcupine Dome**	**23.67**	**40**	P	**P**	**08 58 01.6 -0.4**
	baz=252,SNR=6.2					
VRDI	**Verde Repeater**	**23.72**	**51**	P	**P**	**08 58 02.9 +0.3**
C23K	**Itkillik River**	**23.77**	**28**	P	**P**	**08 58 02.4 -0.3**
	baz=237					
H25L	**Birch Creek**	**23.80**	**38**	P	**P**	**08 58 02.9 0.0**
	baz=250,SNR=5.8					
DOT	**Dot Lake**	**23.81**	**45**	P	**P**	**08 58 02.7 -0.5**
MENT	**Mentasta**	**23.83**	**46**	P	**P**	**08 58 04.2 +0.8**
MENT				IAmb	IAmb	08 58 06.2
	comp=Z,10nm,0.8s					
G25K	**Bearman Lake**	**23.86**	**36**	P	**P**	**08 58 02.7 -0.8**
	baz=249					
SCRK	**Sand Creek**	**23.91**	**44**		**P**	**08 58 03.8 -0.4**
SCRK				IAmb	IAmb	08 58 04.7
	comp=Z,6.9nm,1.0s					
SCRK	**Sand Creek**	**23.91**	**44**	P	**P**	**08 58 03.6 -0.6**
	baz=257,SNR=6.7					
D24K	**Happy Valley**	**23.95**	**30**	P	**P**	**08 58 04.3 -0.1**
	baz=240					
L26K	**Log Cabin Wild**	**24.01**	**46**	P	**P**	**08 58 06.2 +1.2**
L26K	**Log Cabin Wild**	**24.01**	**46**	P	**P**	**08 58 05.0 0.0**
	baz=260,SNR=7.3					
M26K	**Nabesna, AK**	**24.08**	**48**	P	**P**	**08 58 05.3 -0.3**
	baz=262					
FYU	**Fort Yukon**	**24.12**	**37**	P	**P**	**08 58 06.8 +0.8**
FYU				IAmb	IAmb	08 58 19.4
	comp=Z,5.7nm,0.9s					
J26L	**Joseph Creek**	**24.21**	**43**		**P**	**08 58 06.0 -0.9**
J26L				IAmb	IAmb	08 58 08.1
	comp=Z,7.6nm,0.7s					
J26L	**Joseph Creek**	**24.21**	**43**	P	**P**	**08 58 06.7 -0.2**
	baz=256,SNR=14					
C24K	**Franklin Bluff**	**24.27**	**29**	P	**P**	**08 58 08.0 +0.7**
	baz=239					
F25K	**Christian Rive**	**24.34**	**35**	P	**P**	**08 58 08.4 +0.4**
F25K	**Christian Rive**	**24.34**	**35**	P	**P**	**08 58 09.2 +1.2**
	baz=248,SNR=5.1					
E25K	**Arctic Village**	**24.57**	**34**	P	**P**	**08 58 11.9 +1.8**
E25K	**Arctic Village**	**24.57**	**34**	P	**P**	**08 58 11.2 +1.2**
	baz=247					
I26K	**Coal Creek Min**	**24.57**	**41**	P	**P**	**08 58 10.4 +0.4**
	baz=255					
M27K	**Edge Creek, AK**	**24.59**	**48**	P	**P**	**08 58 11.0 +0.5**
	baz=263					
L27K	**Beaver Creek,**	**24.70**	**46**	P	**P**	**08 58 12.0 +0.6**
	baz=261					
BCAR	**Beaver Creek A**	**24.72**	**46**		**P**	**08 58 12.0 +0.4**
K27K	**Chicken**	**24.75**	**44**	P	**P**	**08 58 11.9 +0.2**
	baz=259					
G26K	**Porcupine Rive**	**24.79**	**37**	P	**P**	**08 58 12.8 +0.8**
	baz=251					
D25K	**Kavik River**	**24.80**	**31**	P	**P**	**08 58 13.3 +1.1**
	baz=243					
F26K	**Sheenjek River**	**24.91**	**35**	P	**P**	**08 58 14.1 +1.0**
	baz=249					
I27K	**Kandik River**	**25.26**	**40**	P	**P**	**08 58 16.4 0.0**
	baz=256					
O28M	**Mount Upton**	**25.28**	**52**	P	**P**	**08 58 16.5 -0.3**
	baz=268					
H27K	**Steamboat Moun**	**25.45**	**39**	P	**P**	**08 58 17.9 -0.2**
	baz=255					
YUK8	**Steele Glacier**	**25.50**	**51**	P	**P**	**08 58 19.1 +0.2**
	baz=267,SNR=15					
C26K	**Camden Bay**	**25.53**	**30**	P	**P**	**08 58 19.9 +1.2**
	baz=244					
G27K	**Doyon Strip**	**25.55**	**38**	P	**P**	**08 58 19.7 +0.7**
	baz=254					
C27K	**Jago River**	**25.79**	**31**	P	**P**	**08 58 22.5 +1.5**
C27K				IAmb	IAmb	08 58 32.6
	comp=Z,9.2nm,1.4s					
C27K	**Jago River**	**25.79**	**31**	P	**P**	**08 58 21.8 +0.8**
	baz=246					
I28M	**Miner Creek**	**25.91**	**41**	P	**P**	**08 58 22.7 +0.4**
	baz=258					
DAWY	**Dawson**	**25.92**	**44**	P	**P**	**08 58 22.8 +0.5**
DAWY				IAmb	IAmb	08 58 24.0
	comp=Z,6.9nm,0.9s					
DAWY	**Dawson**	**25.92**	**44**	P	**P**	**08 58 23.5 +1.1**
	baz=262,SNR=12					
E27K	**Coleen River**	**25.98**	**35**	P	**P**	**08 58 24.2 +1.3**
	baz=251					
YUK4	**Talbot Arm**	**26.05**	**51**	P	**P**	**08 58 24.1 +0.3**
	baz=268,SNR=9.5					
O29M	**Mount Kennedy**	**26.07**	**53**	P	**P**	**08 58 24.9 +1.0**
O29M				IAmb	IAmb	08 58 29.4
	comp=Z,10nm,1.2s					
O29M	**Mount Kennedy**	**26.07**	**53**	P	**P**	**08 58 24.5 +0.6**
	baz=270					
YUK6	**Outpost Mounta**	**26.18**	**52**	P	**P**	**08 58 24.6 -0.3**
	baz=269,SNR=5.8					
M29M	**Somme Creek**	**26.18**	**48**	P	**P**	**08 58 24.9 +0.1**
M29M				IAmb	IAmb	08 58 29.8
	comp=Z,7.9nm,0.8s					
M29M	**Somme Creek**	**26.18**	**48**	P	**P**	**08 58 24.9 +0.1**
	baz=266,SNR=9.3					
L29M	**L29M**	**26.38**	**47**	P	**P**	**08 58 26.8 +0.3**
	baz=265					
J29N	**Klondike Camp**	**26.48**	**44**	P	**P**	**08 58 27.8 +0.4**
	baz=262					
D27M	**Malcolm River**	**26.54**	**33**	P	**P**	**08 58 28.6 +0.6**
	baz=250					
I29M	**Ogilvie Camp,**	**26.57**	**42**	P	**P**	**08 58 29.0 +0.7**
	baz=260					
HYT	**Haines Junctio**	**26.60**	**52**		**P**	**08 58 27.2 -1.5**
HYT	**Haines Junctio**	**26.60**	**52**	P	**P**	**08 58 28.6 0.0**
	baz=270,SNR=16					
H29M	**Whitestone**	**26.70**	**40**	P	**P**	**08 58 29.8 +0.5**
	baz=259					
K29M	**Barlow Dome**	**26.71**	**45**	P	**P**	**08 58 30.1 +0.5**
	baz=264					
N30M	**Aishikik Lake**	**26.80**	**50**	P	**P**	**08 58 30.8 +0.5**
	baz=269					
E28M	**Babbage River**	**26.83**	**34**	P	**P**	**08 58 31.0 +0.5**
	baz=253					
P30M	**Million Dollar**	**26.89**	**53**	P	**P**	**08 58 31.1 -0.1**
	baz=272					
M30M	**Minto, Yukon**	**26.96**	**48**	P	**P**	**08 58 31.4 -0.3**
M30M	**Minto, Yukon**	**26.96**	**48**	P	**P**	**08 58 30.8 -1.0**
	baz=267					
G29M	**Pine Creek**	**26.97**	**38**	P	**P**	**08 58 33.0 +1.2**
G29M				IAmb	IAmb	08 58 36.8
	comp=Z,6.2nm,0.9s					
J30M	**Hart River**	**27.30**	**44**	P	**P**	**08 58 34.1 -0.8**
	baz=264					
D28M	**Stokes Point**	**27.32**	**33**	P	**P**	**08 58 33.3 -1.6**
	baz=252					
I30M	**Mount Dempster**	**27.35**	**42**	P	**P**	**08 58 34.3 -1.0**
	baz=263					
E29M	**Blow River**	**27.36**	**35**	P	**P**	**08 58 34.5 -0.7**
	baz=255					
N31M	**Braeburn, Yuko**	**27.43**	**50**	P	**P**	**08 58 36.3 +0.3**
N31M				IAmb	IAmb	08 58 41.9
	comp=Z,5.2nm,0.9s					
N31M	**Braeburn, Yuko**	**27.43**	**50**	P	**P**	**08 58 34.1 -1.8**
	baz=270					
S31K	**Pelican**	**27.45**	**58**	P	**P**	**08 58 34.3 -1.8**
	baz=277					
G30M	**tAoh Zraii Nji**	**27.68**	**38**	P	**P**	**08 58 39.3 +1.2**
G30M	**tAoh Zraii Nji**	**27.68**	**38**	P	**P**	**08 58 37.5 -0.7**
	baz=260					
SKAG	**Skagway**	**27.75**	**55**	P	**P**	**08 58 37.1 -1.7**
	baz=275					
WHY	**Whitehorse**	**27.89**	**52**	P	**P**	**08 58 38.3 -1.9**
	baz=273					
F30M	**Barrier River**	**27.96**	**37**	P	**P**	**08 58 40.3 -0.3**
	baz=259					
SIT	**Sitka**	**28.07**	**60**	P	**P**	**08 58 40.6 -1.0**
	baz=279					
M31M	**Drury Creek, Y**	**28.07**	**49**	P	**P**	**08 58 41.6 -0.2**
	baz=270					
H31M	**Peel River**	**28.26**	**41**	P	**P**	**08 58 42.9 -0.5**
	baz=264					
G31M	**Satah River**	**28.43**	**39**	P	**P**	**08 58 44.7 -0.1**
	baz=262					
P32M	**Atlin**	**28.56**	**54**	P	**P**	**08 58 45.5 -0.6**
	baz=276					
FARO	**Faro, Yukon**	**28.56**	**49**	P	**P**	**08 58 47.1 +1.0**
FARO	**Faro, Yukon**	**28.56**	**49**	P	**P**	**08 58 44.7 -1.3**
	baz=271					
F31M	**Tsiigehtchic**	**28.71**	**38**	P	**P**	**08 58 47.8 +0.5**
F31M				IAmb	IAmb	08 58 57.5
	comp=Z,7.8nm,1.5s					
F31M	**Tsiigehtchic**	**28.71**	**38**	P	**P**	**08 58 46.2 -1.0**
	baz=261					
N32M	**Quiet Lake**	**28.74**	**51**	P	**P**	**08 58 46.5 -1.2**
	baz=273					
INK	**Inuvik**	**28.93**	**36**	P	**P**	**08 58 48.8 -0.4**
	baz=260					
P33M	**Teslin, Yukon**	**28.95**	**53**	P	**P**	**08 58 49.0 -0.5**
P33M	**Teslin, Yukon**	**28.95**	**53**	P	**P**	**08 58 48.1 -1.4**
	baz=275					
Q32M	**Nakina River**	**29.38**	**55**	P	**P**	**08 58 52.6 -0.9**
	baz=278					
U33K	**Whale Pass**	**29.45**	**61**	P	**P**	**08 58 52.0 -1.9**
	baz=282					
CRAG	**Craig**	**29.59**	**63**	P	**P**	**08 58 53.7 -1.5**
	baz=283					
R33M	**Jennings River**	**29.98**	**54**	P	**P**	**08 58 58.1 -0.7**
	baz=278					
S34M	**Telegraph Cree**	**30.14**	**57**	P	**P**	**08 58 59.1 -1.0**
	baz=280					
V35K	**Ketchikan**	**30.46**	**62**	P	**P**	**08 59 00.8 -2.1**
	baz=284					
DLBC	**Dease Lake**	**30.62**	**56**	P	**P**	**08 59 03.8 -0.5**
	baz=280					
T35M	**Bob Quinn**	**30.80**	**59**	P	**P**	**08 59 05.2 -0.8**
	baz=283					
WTLY	**Watson Lake, Y**	**30.95**	**53**	P	**P**	**08 59 06.9 -0.3**
	baz=278					
TGTN	**Hyland Airport**	**31.01**	**50**	P	**P**	**08 59 07.8 0.0**
	baz=276					
A36M	**Sachs Harbour**	**32.27**	**30**	P	**P**	**08 59 19.0 +0.4**
A36M				IAmb	IAmb	08 59 28.9
	comp=Z,3.0nm,0.8s					
A36M	**Sachs Harbour**	**32.27**	**30**	P	**P**	**08 59 19.9 +1.2**
	baz=262					
H11N2	**WAKE ISLAND Hy**	**32.74**	**197**	T	T	09 34 20.7
	baz=11,slow=76,SNR=104					
H11N3	**WAKE ISLAND Hy**	**32.75**	**197**	T	T	09 34 31.9
	baz=11,slow=76,SNR=115					
H11N1	**WAKE ISLAND Hy**	**32.76**	**197**	T	T	09 34 32.4
	baz=11,slow=76,SNR=93					
TOAD	**Toad River Com**	**32.98**	**54**	P	**P**	**08 59 24.6 -0.5**
	baz=283					
KOTAN	**Kotaneelee Air**	**33.28**	**52**	P	**P**	**08 59 27.4 -0.3**
	baz=282					
H11S1	**WAKE ISLAND Hy**	**33.97**	**197**	T	T	09 36 09.4
	baz=10,slow=76,SNR=50					
H11S3	**WAKE ISLAND Hy**	**33.98**	**197**	T	T	09 35 57.9
	baz=10,slow=76,SNR=34					
H11S2	**WAKE ISLAND Hy**	**33.98**	**197**	T	T	09 36 00.4
	baz=10,slow=76,SNR=23					
KSRS	**Korea Array**	**36.75**	**267**	P	**P**	**09 00 00.5 +2.8**
	comp=Z,1.1nm,0.8s,baz=51,slow=8.6,SNR=1.6					
	comp=Z,1.1nm,0.8s					
YKA	**Yellowknife Ar**	**37.14**	**46**	P	**P**	**09 00 00.9 +0.2**
YKA	**Yellowknife Ar**	**37.14**	**46**	P	**P**	**09 00 01.4 +0.7**
	comp=Z,2.3nm,0.8s,baz=279,slow=9.2,SNR=18					
	comp=Z,2.3nm,0.8s					
RES	**Resolute Bay**	**40.69**	**24**	P	**P**	**09 00 31.2 +0.9**
SONM	**Songino Array**	**43.92**	**294**	P	**P**	**09 00 58.7 +1.6**
	comp=Z,1.5nm,0.6s,baz=64,slow=7.7,SNR=9.6					
	comp=Z,1.5nm,0.6s					
BPMT	**Black Pine Rid**	**44.57**	**68**	P	**P**	**09 01 00.8 -1.6**
HHC	**Hu-ho-hao-te**	**44.82**	**283**	*e*P	**P**	**09 01 03.2 -1.2**
HHC				pmax	pmax	
	comp=Z,12nm,0.6s					
HHC				pmax	pmax	
	comp=Z,70nm,6.7s					
NVAR	**Mina Array Bea**	**46.37**	**80**	P	**P**	**09 01 17.1 +0.4**
	comp=Z,1.3nm,0.7s,baz=292,slow=7.3,SNR=8.4					
	comp=Z,1.3nm,0.7s					
TPNV	**Topopah Spring**	**48.57**	**80**	P	**P**	**09 01 35.0 +1.2**
PDAR	**Pinedale Array**	**48.96**	**70**	P	**P**	**09 01 36.1 -0.7**
	comp=Z,0.5nm,0.7s,baz=343,slow=3.2,SNR=5.2					
	comp=Z,0.5nm,0.7s					
SPITS	**Spitsbergen Ar**	**49.88**	**355**	P	**P**	**09 01 42.9 -0.3**
	comp=Z,2.3nm,0.5s,baz=42,slow=6.7,SNR=10.0					
	comp=Z,2.3nm,0.5s					
U15A	**North Rim**	**51.33**	**78**	P	**P**	**09 01 54.9 0.0**
U15A				IAmb	IAmb	09 01 57.4
	comp=Z,2.7nm,0.8s					
PV13	**Radium Mtn., P**	**52.30**	**74**	P	**P**	**09 02 00.3 -1.7**
S22A	**4UR Ranch, Cre**	**53.75**	**73**	P	**P**	**09 02 11.1 -1.7**
	baz=311					
Q24A	**Divide**	**53.95**	**71**	P	**P**	**09 02 12.3 -2.0**
	baz=311					
T25A	**Trinidad**	**55.59**	**72**	P	**P**	**09 02 24.2 -1.9**
	baz=312					
Y22D	**IRIS PASSCAL I**	**56.16**	**76**	P	**P**	**09 02 28.2 -1.9**
	baz=313					
121A	**Cookes Peak, D**	**56.69**	**78**	P	**P**	**09 02 32.3 -1.7**
	baz=314					
WMQ	**Urumqi**	**56.74**	**300**	*e*P	**P**	**09 02 30.8 -3.2**
WMQ				pmax	pmax	
	comp=Z,31nm,0.9s					
KURBB	**Kurchatov Arra**	**56.81**	**311**	P	**P**	**09 02 35.1 +0.7**
	comp=Z,1.9nm,0.4s,baz=41,slow=7.2,SNR=7.8					
ARCES	**ARCESS Array B**	**57.30**	**348**	P	**P**	**09 02 37.8 +0.3**
	comp=Z,2.6nm,0.9s,baz=39,slow=7.5,SNR=1.2					
	comp=Z,2.6nm,0.9s					
MK31	**Makanchi Array**	**57.57**	**306**	P	**P**	**09 02 39.0 -0.8**
MK31				IAmb	IAmb	09 02 41.0
	comp=Z,3.2nm,1.4s					
MKAR	**Makanchi Array**	**57.57**	**306**	P	**P**	**09 02 39.2 -0.6**
MKAR	**Makanchi Array**	**57.57**	**306**	P	**P**	**09 02 39.9 +0.1**
	comp=Z,0.8nm,0.4s,baz=53,slow=6.4,SNR=22					
	comp=Z,0.8nm,0.4s					
BVAR	**Borovoye Array**	**58.78**	**317**	P	**P**	**09 02 49.0 +0.9**
	comp=Z,3.3nm,0.5s,baz=51,slow=6.1,SNR=14					
	comp=Z,3.3nm,0.5s					
BRVK	**Borovoye**	**58.80**	**317**	P	**P**	**09 02 47.5 -0.8**
E46A	**Sault Ste Mari**	**60.27**	**52**	P	**P**	**09 02 58.2 -0.3**
PZH	**PanZhiHua**	**60.45**	**276**	P	**P**	**09 02 59.3 -0.8**
PZH				pmax	pmax	
	comp=Z,8.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,110nm,4.7s					
L44A	**Lake County Fo**	**61.40**	**57**	P	**P**	**09 03 04.9 -1.3**
	baz=315					
TX31	**Lajitas Ar. Si**	**61.45**	**78**	P	**P**	**09 03 06.5 -0.3**
TX31				IAmb	IAmb	09 03 37.3
	comp=Z,2.3nm,1.2s					
TXAR	**Lajitas Array**	**61.45**	**78**	P	**P**	**09 03 07.4 +0.5**
TXAR	**Lajitas Array**	**61.45**	**78**	P	**P**	**09 03 07.6 +0.8**
	comp=Z,0.7nm,0.5s,baz=302,slow=5.1,SNR=20					
	comp=Z,0.7nm,0.5s					
FINES	**FINESS Array B**	**64.83**	**345**	P	**P**	**09 03 29.2 +0.5**
	comp=Z,0.7nm,0.5s,baz=4.3,slow=7.6,SNR=3.6					
	comp=Z,0.7nm,0.5s					
HFS	**Hagfors**	**67.73**	**351**	P	**P**	**09 03 49.0 +1.7**
	comp=Z,1.9nm,0.7s,baz=14,slow=6.7,SNR=5.8					
	comp=Z,1.9nm,0.7s					
CMAR	**Chiang Mai Arr**	**68.11**	**272**	P	**P**	**09 03 52.0 +1.7**
	comp=Z,1.0nm,0.3s,baz=39,slow=6.0,SNR=1.6					
	comp=Z,1.0nm,0.3s					
L61B	**Northampton**	**68.74**	**48**	P	**P**	**09 03 51.2 -2.6**
	baz=321					
M65A	**Busby, Falmout**	**70.38**	**47**	P	**P**	**09 04 01.3 -2.6**
	baz=322					
AKASG	**Malin Array Be**	**74.34**	**339**	P	**P**	**09 04 28.6 +1.1**
	comp=Z,0.5nm,0.3s,baz=24,slow=5.8,SNR=4.4					
	comp=Z,0.5nm,0.3s					
WRA	**Warramunga Arr**	**80.28**	**220**	P	**P**	**09 05 01.6 +0.7**
	comp=Z,1.1nm,0.7s,baz=34,slow=5.9,SNR=7.4					
	comp=Z,1.1nm,0.7s					
ASAR	**Alice Springs**	**83.80**	**219**	P	**P**	**09 05 21.4 +1.9**
	comp=Z,1.2nm,0.8s,baz=21,slow=5.3,SNR=12					
	comp=Z,1.2nm,0.8s					

IDC 06 09:00:40.7±8.3, 5°.87S×150°.62E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=252.5km s-min=35.8km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.12**	**227**	P	P	09 05 29.2	+1.9
	1.0nm,0.9s,baz=53,slow=10,SNR=4.9						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**23.92**	**221**	P	P	09 05 55.2	-1.3
	0.5nm,0.7s,baz=45,slow=9.6,SNR=5.0						
	0.5nm,0.7s						
SONM	**Songino Array**	**66.09**	**329**	P	P	09 11 29.7	-0.1
	0.3nm,0.4s,baz=145,slow=5.3,SNR=1.6						
	0.3nm,0.4s						

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*ISU **06** 09:02:49, 40°.31N×72°.78E, h16km*
*NNC **06** 09:02:51.6±6.8, 40°.56N×72°.74E, h0km, mb3.1, mpv2.6,*
Error ellipse: s-maj=50.4km s-min=24.9km az=5.0

ISC 06 09:02:47.9±3.1, 40°.2N±0°.2×72°.8E±0°.1, h10km, n7, σ0°.84/7, 1C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.64**	**327**	P	Pg	09 02 49.0	-11
FRG	**Fergana**	**0.81**	**281**	P	**Pg**	**09 03 04.0**	**+0.6**
FRG				S	**Sb**	**09 03 14.7**	**-0.3**
CHMI	**Chimion**	**0.99**	**273**	P	**Pg**	**09 03 07.4**	**+0.4**
CHMI				S	**Sb**	**09 03 20.9**	**+0.5**
CHMG	**Chimgan**	**2.51**	**303**	P	**Pb**	**09 03 32.0**	**-1.1**
CHMG				S	**Sb**	**09 04 04.9**	**+0.8**
AAK	**Ala-Archa**	**2.72**	**27**	⇑Pg	**Pb**	**09 03 36.4**	**-0.3**
	1.3nm,0.3s						
AAK				⇓Lg	Lg	09 04 10.4	
	4.5nm,0.3s						
KK31	**Karatay Array**	**3.36**	**330**	⇓Lg	Lg	09 04 27.9	
	2.2nm,0.5s,baz=140,slow=30,SNR=6.6						
TKM2	**Tokmak 2**	**3.41**	**37**	⇓Lg	Lg	09 04 32.0	
	1.5nm,0.5s						

ISK 06 09:05:46.4, 37°.34N×28°.24E, h0km, ML2.0/17, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**170**	Pg	Pg	09 05 51.3	+0.9
MLSB	**Milas**	**0.37**	**263**	Pg	Pg	09 05 54.6	+1.1
MLSB				Sg	Sg	09 05 59.6	+1.3
TURN	**Turunc**	**0.57**	**179**	Pg	Pg	09 05 57.8	+0.6
TURN				Sg	Sb	09 06 06.3	-1.5
DALY	**Dalyan (Mula)**	**0.62**	**147**	Pg	Pg	09 05 58.7	+0.4
DALY				Sg	Sb	09 06 08.1	-1.3
NAZL	**Nazilli-Aydin**	**0.62**	**4**	Pg	Pb	09 05 59.3	-0.9
NAZL				Sg	Sb	09 06 08.0	-1.5
AYDB	**Zeytinkoy-Aydi**	**0.66**	**

comp=N,11nm,0.4s

*MDD **06** 09:16:33.9±1.2,36°.70N×8°.36W,h20km±2km,mb_Lg2.6/4,*
Error ellipse: s-maj=9.4km s-min=5.3km az=22.0
*INMG **06** 09:16:34.0±1.2,36°.69N×8°.38W,h17km±3km,ML2.2,Error*
ellipse: s-maj=3.5km s-min=2.0km az=67.0,
#DIST_RANGE: LOCAL #IPMA_REGION: SW Albufeira
*IGIL **06** 09:16:34.2,36°.69N×8°.38W,h13km,ML2.5*
*SFS **06** 09:16:35.4,36°.76N×8°.35W,h0km,ML2.5/7,ML2.5/7,*
MLv2.5/7
*CNRM **06** 09:16:39.9,35°.82N×8°.55W,h30km,ML3.3*
ISC 06 09:16:30.5±1.2,36°.54N±0°.03×8°.45W±0°.04,h27km±13km,
n34,σ1°.43/58,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.67**	**333**	*e*Pg	**Pb**	**09 16 44.0**	**+0.5**
PFVI				*e*Sg	**Sb**	**09 16 52.6**	**+0.1**
PFVI				*i* AML	AML	09 16 53.6	
PFVI				*i* AML	AML	09 16 54.3	
PFVI				*i* AML	AML	09 16 54.4	
PFVI	**Vila Bisbo**	**0.67**	**333**	Sg	**Sb**	**09 16 52.2**	**-0.3**
PFVI				Pg	**Pb**	**09 16 43.8**	**+0.2**
MORF	**Marmelete**	**0.78**	**348**	*e*P	**Pb**	**09 16 45.9**	**+0.4**
MORF				*e*S	**Sb**	**09 16 54.5**	**-1.4**
MORF				IAML		09 16 56.6	
	comp=E,304nm,0.2s						
MORF	**Marmelete**	**0.78**	**348**	*e*Pg	**Pb**	**09 16 46.0**	**+0.4**
MORF				*e*Sg	**Sb**	**09 16 55.3**	**-0.5**
MORF				*i* AML	AML	09 16 56.5	
MORF				*i* AML	AML	09 16 56.7	
MORF				*i* AML	AML	09 16 56.9	
PBDV	**Barranco-do-Ve**	**0.82**	**31**	*e*Pg	**Pb**	**09 16 46.3**	**+0.1**
PBDV				*e*Sg	**Sb**	**09 16 55.0**	**-1.9**
PBDV				*i* AML	AML	09 16 57.4	
PBDV				*i* AML	AML	09 16 57.4	
PBDV				*i* AML	AML	09 16 58.2	
PTEO	**Sao Teotonio**	**1.03**	**348**	*e*P	**Pn**	**09 16 50.5**	**+1.3**
PTEO				*e*S	**Sb**	**09 17 02.5**	**-0.4**
PTEO				*i* AML	AML	09 17 03.1	
PTEO				*i* AML	AML	09 17 03.4	
PTEO				*i* AML	AML	09 17 03.7	
PVAQ	**Vaqueiros**	**1.04**	**34**	*e*P	**Pn**	**09 16 50.3**	**+0.8**
PVAQ				*e*S	**Sb**	**09 17 02.5**	**-0.8**
PVAQ				*i* AML	AML	09 17 03.6	
PVAQ	**Vaqueiros**	**1.04**	**34**	Sg	**Sb**	**09 17 01.5**	**-1.8**
PVAQ				Pg	**Pn**	**09 16 50.2**	**+0.8**
PCVE	**Castro Verde**	**1.14**	**17**	*e*P	**Pn**	**09 16 51.3**	**+0.6**
PCVE				*e*S	**Sb**	**09 17 05.0**	**-1.1**
PCVE				*i* AML	AML	09 17 05.7	
PCVE				*i* AML	AML	09 17 06.0	
PCVE				*i* AML	AML	09 17 06.2	
PCVE	**Castro Verde**	**1.14**	**17**	Pg	**Pn**	**09 16 51.1**	**+0.3**
PCVE				Sg	**Sb**	**09 17 04.6**	**-1.4**
EGRO	**El Granado**	**1.26**	**38**	Pg	**Pb**	**09 16 53.7**	**+0.1**
EGRO				Sg	**Sb**	**09 17 07.4**	**-2.1**
EGRO	**El Granado**	**1.26**	**38**	Pg	**Pb**	**09 16 54.0**	**+0.3**
EGRO				Sg	**Sb**	**09 17 07.5**	**-2.0**
EGRO				*i* Vmb_Lg		09 17 10.3	
MESJ	**Messejana**	**1.31**	**8**	*e*P	**Pb**	**09 16 54.4**	**-0.1**
MESJ				*e*S	**Sn**	**09 17 08.8**	**-1.0**
MESJ				IAML		09 17 10.8	
	comp=N,40nm,0.1s						
MESJ	**Messejana**	**1.31**	**8**	*e*P	**Pb**	**09 16 54.4**	**-0.1**
MESJ				*e*S	**Sn**	**09 17 09.4**	**-0.4**
MESJ				*i* AML	AML	09 17 09.8	
MESJ				*i* AML	AML	09 17 11.5	
MESJ				*i* AML	AML	09 17 11.9	
PBEJ	**Beja**	**1.56**	**17**	*e*Pg	**Pb**	**09 16 59.4**	**+1.2**
PBEJ				*e*Sg	**Sb**	**09 17 17.5**	**-0.5**
PBEJ				*i* AML	AML	09 17 17.8	
PBEJ				*i* AML	AML	09 17 19.5	
EMIN	**Mina Concepcio**	**1.88**	**49**	Pn	**Pb**	**09 17 05.1**	**+0.9**
EMIN				Sn	**Sb**	**09 17 25.7**	**-1.5**
EMIN	**Mina Concepcio**	**1.88**	**49**	Pg	**Pb**	**09 17 05.1**	**+0.9**
EMIN				Sg	**Sb**	**09 17 27.0**	**-0.2**
EMIN				*i* Vmb_Lg		09 17 31.4	
PBAR	**Barrancos**	**1.98**	**34**	*e*Pg	**Pb**	**09 17 07.4**	**+1.5**
PBAR				*e*Sg	**Sb**	**09 17 31.0**	**+0.7**
PBAR				*i* AML	AML	09 17 33.2	
PBAR				*i* AML	AML	09 17 33.7	
PBAR				*i* AML	AML	09 17 34.0	
PBAR	**Barrancos**	**1.98**	**34**	Pn	**Pb**	**09 17 07.1**	**+1.1**
PBAR				Sn	**Sn**	**09 17 27.6**	**+1.3**
EVO	**Evora**	**2.02**	**10**	*e*Sg	**Sb**	**09 17 31.3**	**0.0**
EVO	**Evora**	**2.02**	**10**	Sn	**Sb**	**09 17 30.7**	**-0.6**
EVO				Pn	**Pb**	**09 17 06.7**	**+0.1**
EBAD	**Badajoz**	**2.49**	**27**	Sg	**Sb**	**09 17 45.7**	**+0.8**
PMTG	**Montargil**	**2.53**	**4**	*e*Pn	**Pn**	**09 17 11.9**	**+2.0**
PMTG				*e*Sn	**Sn**	**09 17 37.5**	**-2.3**
PMTG				*e*Sg	**Sb**	**09 17 47.2**	**+1.2**
PMTG				*i* AML	AML	09 17 49.5	
PMTG				*i* AML	AML	09 17 51.2	
PMTG				*i* AML	AML	09 17 51.8	
ECAB	**El Cabril**	**2.86**	**57**	Pn	**Pn**	**09 17 15.2**	**+0.7**
ECAB				Sn	**Sn**	**09 17 44.8**	**-3.3**
ECAB				Sg	**Sb**	**09 17 56.6**	**+1.0**
ECAB				*i* Vmb_Lg		09 18 00.6	
PMRV	**Marv??o**	**3.00**	**16**	*e*Sg	**Sb**	**09 18 00.3**	**+0.7**
PMRV				*i* AML	AML	09 18 02.2	
PMRV				*i* AML	AML	09 18 03.0	
PMRV				*i* AML	AML	09 18 04.6	
ZHG	**ZHG**	**3.42**	**154**	P	**Pn**	**09 17 24.7**	**+2.4**
ZHG	**ZHG**	**3.42**	**154**	S	**Sn**	**09 17 59.0**	**-3.0**
EADA	**Adamuz**	**3.49**	**61**	Pn	**Pn**	**09 17 24.2**	**+1.2**
EADA				Sn	**Sn**	**09 18 01.2**	**-2.4**
EADA				*i* Vmb_Lg		09 18 22.7	
MD31	**MD31**	**4.76**	**139**	P	**Pn**	**09 17 43.7**	**+3.1**
MD31	**MD31**	**4.76**	**139**	S	**Sn**	**09 18 32.7**	**-2.2**
MDT	**Midelt**	**4.88**	**138**	P	**Pn**	**09 17 45.4**	**+3.1**
MDT	**Midelt**	**4.88**	**138**	S	**Sn**	**09 18 37.3**	**-0.7**
TTIG	**Tnine Tigouga,**	**5.97**	**180**	P	**Pn**	**09 17 55.8**	**-1.5**
TTIG	**Tnine Tigouga,**	**5.97**	**180**	S	Sn	09 18 56.5	-8.4

*IDC **06** 09:17:12.0±1.0,14°.50N×93°.82W,h0km,mb4.1/11,*
mbtmp4.1/14,ML3.6/4,MS3.5/15,Error ellipse:
s-maj=33.8km s-min=13.5km az=56.0
*GCG **06** 09:17:13.8±1.3,14°.26N×93°.92W,h35km±26km,MD4.9,*
ML4.1,MW4.3
*MEX **06** 09:17:15.4±2.0,14°.36N×93°.88W,h11km±21km,MD4.5*
*CATAC **06** 09:17:16.5±0.7,14°.N±4°.×9°.4W±°.,h19km±6km,M4.9/11,*
mB5.2/2,mb5.1/2,MLv4.8/11,Mw(mB)4.6/2,Error ellipse:
s-maj=8.6km s-min=4.3km az=27.8,confirmed
*NEIC **06** 09:17:17.5±2.1,14°.49N±0°.07×93°.72W±0°.05,h23km±5km,*
mb4.2/38,Md4.5/86(MEX),Error ellipse: s-maj=10.6km
s-min=6.1km az=195.0
ISC 06 09:17:14.1±2.8,14°.32N±0°.05×93°.88W±0°.03,h16km±18km,
n212,σ2°.24/255,mb4.2/18,MS3.7/13,6C-5D,Near coast
of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.52**	**25**		**Pn**	**09 17 38.1**	**-2.5**
PCIG					**Sn**	**09 17 56.0**	**-4.0**
PCIG		**1.52**	**25**	*e*P	**Pn**	**09 17 38.1**	**-2.5**
PCIG				*e*S	**Sn**	**09 17 56.0**	**-4.0**
THIG		**1.67**	**69**		**Pn**	**09 17 41.0**	**-1.7**
THIG					**Sn**	**09 17 59.4**	**-4.3**
THIG		**1.67**	**69**	*e*P	**Pn**	**09 17 41.0**	**-1.7**
THIG				*e*S	**Sn**	**09 17 59.4**	**-4.3**
THIG		**1.67**	**69**	*e*P	**Pn**	**09 17 40.3**	**-2.3**
THIG				IAML		09 18 17.7	
	comp=Z,3μm,0.9s						
THIG		**1.67**	**69**	*e*P		09 17 40.3	
THIG				IAML		09 18 17.7	
	comp=Z,3μm,0.9s						
PATR	**El Naranjo**	**1.77**	**63**	*e*P	**Pn**	**09 17 42.2**	**-2.2**
PATR				*e*S	**Sn**	**09 18 04.4**	**-2.4**
SMCA	**Catarina**	**1.82**	**73**	*e*P	**Pn**	**09 17 43.1**	**-1.8**
SMCA	**Catarina**	**1.82**	**73**	*e*P		09 17 43.1	
PAVE	**Pavencul**	**1.86**	**62**	*e*P	**Pn**	**09 17 43.7**	**-1.9**
PAVE				*e*S	**Sn**	**09 18 05.3**	**-3.5**
CARR	**Arriaga**	**1.92**	**359**	*e*P	**Pn**	**09 17 44.4**	**-1.7**
CARR				*e*S	**Sn**	**09 18 04.1**	**-5.7**
RTAL	**Retalhuleu**	**2.12**	**84**		**Pn**	**09 17 48.7**	**-0.3**
RTAL	**Retalhuleu**	**2.12**	**84**	*e*P	**Pn**	**09 17 47.8**	**-1.2**
RTAL				*e*S	**Sn**	**09 18 12.6**	**-2.4**
RTAL	**Retalhuleu**	**2.12**	**84**	⇑P	**Pn**	**09 17 47.9**	**-1.1**
RTAL	**Retalhuleu**	**2.12**	**84**	S	**Sn**	**09 18 14.4**	**-0.7**
RTAL	**Retalhuleu**	**2.12**	**84**	P	**Pn**	**09 17 48.9**	**-0.1**
NILT	**Santiago Nilte**	**2.34**	**342**	*e*P	**Pn**	**09 17 50.0**	**-1.9**
NILT				*e*S	**Sn**	**09 18 17.8**	**-2.6**
STG0	**El Palmar, Qui**	**2.46**	**87**	*e*P		09 17 49.5	
HUEH	**Huehuetenango**	**2.50**	**66**		**Pn**	**09 17 54.0**	**-0.4**
HUEH	**Huehuetenango**	**2.50**	**66**	*e*P	**Pn**	**09 17 54.3**	**0.0**
HUEH				*e*S	**Sb**	**09 18 26.6**	**-2.9**
HUEH	**Huehuetenango**	**2.50**	**66**	S	**Sn**	**09 18 24.9**	**+0.2**
HUEH	**Huehuetenango**	**2.50**	**66**	P	**Pn**	**09 17 54.7**	**+0.3**
HUEH	**Huehuetenango**	**2.50**	**66**	⇑P	**Pn**	**09 17 54.7**	**+0.3**
HUEH	**Huehuetenango**	**2.50**	**66**	P	**Pn**	**09 17 54.5**	**+0.1**
HUEH	**Huehuetenango**	**2.50**	**66**	S	**Sb**	**09 18 27.6**	**-1.9**
HUEH	**Huehuetenango**	**2.50**	**66**	*e*P	**Pn**	**09 17 54.5**	**+0.1**
HUEH				IAML		09 18 39.6	
	comp=Z,3μm,0.5s						
HUEH	**Huehuetenango**	**2.50**	**66**	*e*P		09 17 54.5	
HUEH				IAML		09 18 39.6	
	comp=Z,3μm,0.5s						
TGIG		**2.55**	**16**		**Pn**	**09 17 54.6**	**-0.3**
TGIG					**Sn**	**09 18 24.6**	**-1.0**
TGIG		**2.55**	**16**	*e*P	**Pn**	**09 17 54.6**	**-0.3**
TGIG				*e*S	**Sn**	**09 18 24.6**	**-1.0**
TGIG		**2.55**	**16**	*e*P	**Pn**	**09 17 54.3**	**-0.5**
TGIG				*e*S	**Sn**	**09 18 24.8**	**-0.8**
TGIG				IAML		09 18 37.1	
	comp=Z,791nm,0.5s						
TGIG		**2.55**	**16**	*e*P		09 17 54.3	
TGIG				*e*S		09 18 24.8	
TGIG				IAML		09 18 37.1	
	comp=Z,791nm,0.5s						
TGBT	**Tuxtla Gutierr**	**2.56**	**17**		**Pn**	**09 17 54.3**	**-0.6**
TGBT					**Sn**	**09 18 22.6**	**-3.1**
TGBT	**Tuxtla Gutierr**	**2.56**	**17**	*e*P	**Pn**	**09 17 54.3**	**-0.6**
TGBT				*e*S	**Sn**	**09 18 22.6**	**-3.1**
CCIG	**Comitan**	**2.57**	**41**	*e*P		09 17 55.6	
CCIG				*e*S		09 18 26.9	
CCIG				IAML		09 18 37.8	
	comp=Z,855nm,0.7s						
CCIG	**Comitan**	**2.57**	**41**		**Pn**	**09 17 55.0**	**-0.4**
CCIG	**Comitan**	**2.57**	**41**	*e*P	**Pn**	**09 17 56.3**	**+0.9**
CCIG				*e*S	**Sn**	**09 18 27.2**	**+0.8**
CCIG	**Comitan**	**2.57**	**41**	P	**Pn**	**09 17 55.7**	**+0.3**
CCIG	**Comitan**	**2.57**	**41**	⇑P	**Pn**	**09 17 55.8**	**+0.5**
CCIG	**Comitan**	**2.57**	**41**	P	**Pn**	**09 17 56.4**	**+1.1**
CCIG	**Comitan**	**2.57**	**41**	S	**Sn**	**09 18 27.2**	**+0.8**
CCIG	**Comitan**	**2.57**	**41**	*e*P	**Pn**	**09 17 55.6**	**+0.3**
CCIG				*e*S	**Sn**	**09 18 26.9**	**+0.5**
CCIG				IAML		09 18 37.8	
	comp=Z,855nm,0.7s						
HUIG	**Huatulco**	**2.59**	**304**		**Pn**	**09 17 53.9**	**-1.5**
HUIG					**Sn**	**09 18 19.4**	**-7.2**
HUIG	**Huatulco**	**2.59**	**304**	*e*P	**Pn**	**09 17 53.9**	**-1.5**
HUIG				*e*S	**Sn**	**09 18 19.4**	**-7.2**
HUIG	**Huatulco**	**2.59**	**304**	*e*P	**Pn**	**09 17 53.1**	**-2.3**
	comp=Z,89nm,1.5s						
HUIG				IAML		09 19 04.7	
	comp=Z,89nm,1.5s						
HUIG	**Huatulco**	**2.59**	**304**	*e*P		09 17 53.1	
	comp=Z,89nm,1.5s						
HUIG				IAML		09 19 04.7	
	comp=Z,89nm,1.5s						
CMIG	**Matias Romero**	**2.92**	**341**		**Pn**	**09 17 58.6**	**-1.3**
CMIG					**Sn**	**09 18 33.8**	**-0.9**
CMIG	**Matias Romero**	**2.92**	**341**	Pn	**Pn**	**09 17 57.9**	**-2.0**
	comp=Z,7.0nm,0.3s,baz=186,slow=13,SNR=84						
CMIG				Sn	**Sn**	**09 18 30.1**	**-4.6**
	comp=Z,23nm,0.3s,baz=154,slow=12,SNR=6.0						
CMIG				LR	LR	09 19 04.0	
	comp=Z,507nm,20.7s,baz=180,slow=40						
	comp=Z,62nm,0.6s						
CMIG	**Matias Romero**	**2.92**	**341**	*e*P	**Pn**	**09 17 58.6**	**-1.3**
CMIG				*e*S	**Sn**	**09 18 33.8**	**-0.9**
UXUV	**UXUV**	**2.99**	**355**	*e*P	**Pn**	**09 18 01.5**	**+0.6**
UXUV				*e*S	**Sn**	**09 18 36.2**	**-0.3**
FG8	**Yepocapa, Chim**	**3.21**	**91**	*e*P		09 17 58.2	
APG	**El Apazote**	**3.37**	**78**	Pn	**Pn**	**09 18 05.6**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=168,slow=10,SNR=35						
APG				Lg	Lg	09 18 49.8	
	comp=Z,1.8nm,0.3s,baz=231,slow=21,SNR=6.6						
APG	**El Apazote**	**3.37**	**78**	*e*P	**Pn**	**09 18 06.2**	**-0.1**
APG	**El Apazote**	**3.37**	**78**	*e*P		09 18 06.2	
PEIG	**Puerto Escondi**	**3.57**	**298**		**Pn**	**09 18 07.8**	**-1.1**
PEIG					**Sn**	**09 18 45.7**	**-5.1**
PEIG	**Puerto Escondi**	**3.57**	**298**	*e*P	**Pn**	**09 18 07.8**	**-1.1**
PEIG				*e*S	**Sn**	**09 18 45.7**	**-5.1**
TUIG	**Tuzandepetl**	**3.73**	**352**	*e*P	**Pb**	**09 18 15.8**	**-3.8**
FAME	**Alcaldia de Sa**	**3.78**	**97**	⇓P	**Pn**	**09 18 12.1**	**+0.3**
FAME	**Alcaldia de Sa**	**3.78**	**97**	S	**Sn**	**09 18 53.7**	**-2.2**
NEUV	**Arroyo Zacate**	**3.85**	**331**	*e*P	**Pn**	**09 18 11.4**	**-1.3**
NEUV				*e*S	**Sn**	**09 18 54.6**	**-3.0**
OXIG	**Oaxaca**	**3.88**	**315**		**Pn**	**09 18 14.1**	**+0.8**
OXIG					**Sn**	**09 18 57.6**	**-1.1**
VHO	**Vista Hermosa**	**3.88**	**315**	*e*P	**Pn**	**09 18 14.1**	**+0.8**
VHO				*e*S	**Sn**	**09 18 57.6**	**-1.1**
SLOZ	**Alcaldia de Sa**	**3.98**	**94**	P	**Pn**	**09 18 14.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**3.98**	**94**	P	**Pn**	**09 18 14.7**	**+0.1**
SLOZ	**Alcaldia de Sa**	**3.98**	**94**	P	**Pn**	**09 18 15.1**	**+0.6**
SLOZ	**Alcaldia de Sa**	**3.98**	**94**	S	**Sn**	**09 19 01.2**	**+0.2**
LOAL	**Lomas de Alarc**	**3.99**	**94**	⇑P	**Pn**	**09 18 15.2**	**+0.5**
NUBE	**Las Nubes**	**4.00**	**95**	P	**Pn**	**09 18 15.2**	**+0.3**
NUBE	**Las Nubes**	**4.00**	**95**	⇑P	**Pn**	**09 18 15.2**	**+0.3**
NUBE	**Las Nubes**	**4.00**	**95**	S	**Sn**	**09 19 00.5**	**-1.0**
NUBE	**Las Nubes**	**4.00**	**95**	*e*P	**Pn**	**09 18 15.0**	**+0.1**
NUBE	**Las Nubes**	**4.00**	**95**	*e*P		09 18 15.0	
YOIG	**Yosondua**	**4.34**	**306**		**Pn**	**09 18 21.4**	**+1.7**
YOIG					**Sn**	**09 19 06.8**	**-3.4**
YOIG	**Yosondua**	**4.34**	**306**	*e*P	**Pn**	**09 18 21.4**	**+1.7**
YOIG				*e*S	**Sn**	**09 19 06.8**	**-3.4**
PMUV	**Sontecomapan**	**4.37**	**344**	*e*P	**Pn**	**09 18 17.3**	**-2.6**
PMUV				*e*S	**Sn**	**09 19 10.8**	**+0.2**
ESQI	**Esquipulas**	**4.40**	**86**		**Pn**	**09 18 19.9**	**-0.6**
ESQI	**Esquipulas**	**4.40**	**86**	S	**Sn**	**09 19 10.4**	**-1.0**
ESQI	**Esquipulas**	**4.40**	**86**	P	**Pn**	**09 18 21.3**	**+0.9**
PMON	**Piamonte**	**4.47**	**97**	S	**Sn**	**09 19 12.5**	**-0.6**
PMON	**Piamonte**	**4.47**	**97**	P	**Pn**	**09 18 21.3**	**0.0**
LALI	**Alcalda de L**	**4.50**	**100**	S	**Sn**	**09 19 12.8**	**-0.9**
LALI	**Alcalda de L**	**4.50**	**100**	⇑P	**Pn**	**09 18 21.6**	**-0.1**
PNIG	**Pinotepa**	**4.59**	**297**		**Pn**	**09 18 22.5**	**-0.4**
PNIG					**Sn**	**09 19 13.0**	**-2.9**
PNIG	**Pinotepa**	**4.59**	**297**	*e*P	**Pn**	**09 18 22.5**	**-0.4**
PNIG				*e*S	**Sn**	**09 19 13.0**	**-2.9**
PETF	**Flores**	**4.65**	**56**		**Pn**	**09 18 23.8**	**+0.2**
PETF	**Flores**	**4.65**	**56**	*e*P	**Pn**	**09 18 23.3**	**-0.3**
PETF				*e*S	**Sn**	**09 19 16.4**	**-1.0**
PETF	**Flores**	**4.65**	**56**	S	**Sn**	**09 19 17.2**	**-0.2**
PETF	**Flores**	**4.65**	**56**	⇓P	**Pn**	**09 18 23.9**	**+0.2**
PETF	**Flores**	**4.65**	**56**	*e*P	**Pn**	**09 18 23.4**	**-0.3**
PETF	**Flores**	**4.65**	**56**	*e*P		09 18 23.4	
TXIG	**Tlaxiaco**	**4.75**	**308**		**Pn**	**09 18 26.8**	**+1.4**
TXIG					**Sn**	**09 19 20.3**	**+0.1**
TXIG	**Tlaxiaco**	**4.75**	**308**	*e*P	**Pn**	**09 18 26.8**	**+1.4**
TXIG				*e*S	**Sn**	**09 19 20.3**	**+0.1**
TOIG	**Toxpalan**	**4.84**	**321**		**Pn**	**09 18 29.5**	**+3.0**
TOIG					**Sn**	**09 19 28.4**	**+6.0**
TOIG	**Toxpalan**	**4.84**	**321**	*e*P	**Pn**	**09 18 29.5**	**+3.0**
TOIG				*e*S	**Sn**	**09 19 28.4**	**+6.0**
COEG	**Centro de Oper**	**4.90**	**98**	S	**Sn**	**09 19 24.1**	**+0.4**
COEG	**Centro de Oper**	**4.90**	**98**	P	**Pn**	**09 18 29.0**	**+1.8**
COEG	**Centro de Oper**	**4.90**	**98**	P	**Pn**	**09 18 27.9**	**+0.6**
COEG	**Centro de Oper**	**4.90**	**98**	P	**Pn**	**09 18 29.0**	**+1.8**
SCLA	**Alcaldia de Sa**	**5.04**	**96**	S	**Sn**	**09 19 26.4**	**-0.6**
SCLA	**Alcaldia de Sa**	**5.04**	**96**	P	**Pn**	**09 18 28.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**5.04**	**96**	P	**Pn**	**09 18 28.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**5.04**	**96**	P	**Pn**	**09 18 29.0**	**-0.2**
TPIG	**Tehuac#an**	**5.27**	**321**		**Pn**	**09 18 33.0**	**+0.6**
TPIG					**Sn**	**09 19 35.9**	**+2.9**
TPIG	**Tehuac#an**	**5.27**	**321**	*e*P	**Pn**	**09 18 33.0**	**+0.6**
TPIG				*e*S	**Sn**	**09 19 35.9**	**+2.9**
SCIG	**Sabancuy**	**5.29**	**29**	*e*P	**Pn**	**09 18 32.3**	**-0.2**
SCIG				*e*S	**Sn**	**09 19 30.7**	**-2.5**
MGIG	**Malinaltepec**	**5.42**	**303**		**Pn**	**09 18 33.8**	**-0.6**
MGIG					**Sn**	**09 19 33.6**	**-3.0**
MGIG	**Malinaltepec**	**5.42**	**303**	*e*P	**Pn**	**09 18 33.8**	**-0.6**
MGIG				*e*S	**Sn**	**09 19 33.6**	**-3.0**
FTIG	**Fresnillo de T**	**5.43**	**312**		**Pn**	**09 18 36.9**	**+2.4**
FTIG					**Sn**	**09 19 36.8**	**+0.1**
FTIG	**Fresnillo de T**	**5.43**	**312**	*e*P	**Pn**	**09 18 36.9**	**+2.4**
FTIG				*e*S	**Sn**	**09 19 36.8**	**+0.1**
TLIG	**Tlapa**	**5.54**	**306**	Pn	**Pn**	**09 18 38.5**	**+2.4**
TLIG	**Tlapa**	**5.54**	**306**	*e*P	**Pn**	**09 18 38.3**	**+2.1**
TLIG				*e*S	**Sn**	**09 19 39.6**	**0.0**
TLIG	**Tlapa**	**5.54**	**306**	S	**Sn**	**09 19 45.3**	**+5.6**
TLIG	**Tlapa**	**5.54**	**306**	⇓P	**Pn**	**09 18 38.4**	**+2.2**
TLIG	**Tlapa**	**5.54**	**306**	P	**Pn**	**09 18 39.1**	**+3.0**
CRIG	**Cruz Grande**	**5.60**	**296**		**Pn**	**09 18 36.7**	**-0.2**
CRIG					Sn	09 19 32.2	-8.7
CRIG	**Cruz Grande**	**5.60**	**296**	*e*P	**Pn**	**09 18 36.7**	**-0.2**
CRIG				*e*S	Sn	09 19 32.2	-8.7
POHV	**Veracruz**	**5.74**	**326**		**Pn**	**09 18 43.3**	**+4.2**
POHV	**Veracruz**	**5.74**	**326**	*e*P	**Pn**	**09 18 43.3**	**+4.2**
JAUV	**Jalcomulco**	**5.75**	**331**	*e*P	**Pn**	**09 18 37.3**	**-1.6**
JAUV				*e*S	**Sn**	**09 19 44.3**	**-0.2**
LCND	**La Caada**	**5.90**	**99**	P	**Pn**	**09 18 41.0**	**+0.1**
LCND	**La Caada**	**5.90**	**99**	P	**Pn**	**09 18 41.1**	**+0.1**
CNCH	**Conchagua**	**5.96**	**99**	S	**Sn**	**09 19 48.1**	**-1.8**
CNCH	**Conchagua**	**5.96**	**99**	⇓P	**Pn**	**09 18 41.8**	**-0.1**
DAIG	**Los Arroyos**	**6.17**	**297**		**Pn**	**09 18 42.9**	**-1.8**
DAIG					**Sn**	**09 19 51.0**	**-4.0**
DAIG	**Los Arroyos**	**6.17**	**297**	*e*P	**Pn**	**09 18 42.9**	**-1.8**
DAIG				*e*S	**Sn**	**09 19 51.0**	**-4.0**
TGUH	**Tegucigalpa,Un**	**6.41**	**92**		**Pn**	**09 18 50.8**	**+2.7**
PBXN	**Popocatepetl**	**6.53**	**316**	*e*P	Pn	09 18 45.9	-4.2
PBXN				*e*P	**Pn**	**09 18 51.2**	**+1.1**
PBPN	**Popocatepetl**	**6.54**	**317**	*e*P	Pn	09 18 45.2	-5.0
PBPN				*e*P	Pn	09 18 46.1	-4.1
PPM	**Popocatepetl**	**6.55**	**317**	*e*P	Pn	09 18 55.2	+4.8
PPM				*e*S	**Sn**	**09 20 13.0**	**+7.9**
PPIG	**Popocatepetl**	**6.56**	**317**		**Pn**	**09 18 55.2**	**+4.8**
PPIG					**Sn**	**09 20 13.0**	**+7.9**
YAIG	**Yautepec**	**6.72**	**313**		**Pn**	**09 18 54.3**	**+2.0**
YAIG					**Sn**	**09 20 09.4**	**+0.8**
YAIG	**Yautepec**	**6.72**	**313**	*e*P	**Pn**	**09 18 54.3**	**+2.0**
YAIG				*e*S	**Sn**	**09 20 09.4**	**+0.8**
PLIG	**Platanillo**	**6.75**	**308**		**Pn**	**09 18 54.1**	**+1.4**
PLIG					**Sn**	**09 20 11.1**	**+1.8**
PLIG	**Platanillo**	**6.75**	**308**	*e*P	**Pn**	**09 18 54.1**	**+1.4**
PLIG				*e*S	**Sn**	**09 20 11.1**	**+1.8**
CXUV	**Coxquihui**	**6.81**	**329**	*e*P	**Pn**	**09 18 55.9**	**+2.4**
CXUV				*e*S	**Sn**	**09 20 12.6**	**+1.8**
CRIN	**San Cristobal**	**6.83**	**103**	Pn	**Pn**	**09 18 56.3**	**+2.5**
CNGN	**Cerro Negro**	**7.22**	**104**	Pn	**Pn**	**09 19 01.4**	**+2.3**
ARIG	**Puente Sto Nin**	**7.35**	**303**		**Pn**	**09 19 03.8**	**+2.9**
ARIG					**Sn**	**09 20 27.5**	**+3.4**
ARIG	**Puente Sto Nin**	**7.35**	**303**	*e*P	**Pn**	**09 19 03.8**	**+2.9**
ARIG				*e*S	**Sn**	**09 20 27.5**	**+3.4**
COPN	**Copaltepe**	**7.41**	**106**	P	Pn	09 19 10.6	+9.0
LIMN	**Finca el Limon**	**7.41**	**99**	P	**Pn**	**09 19 01.5**	**-0.3**
LIMN	**Finca el Limon**	**7.41**	**99**	⇓P	**Pn**	**09 19 01.4**	**-0.3**
MYIG	**Merida**	**7.69**	**30**	*e*P	**Pn**	**09 19 05.7**	**+0.2**
TEIG	**Tepich**	**7.94**	**42**	Pn	**Pn**	**09 19 06.8**	**-2.2**
TEIG	**Tepich**	**7.94**	**42**	Pn	**Pn**	**09 19 06.6**	**-2.4**
	baz=133,slow=24,SNR=1.5						
TEIG				Sn	**Sn**	**09 20 31.4**	**-7.1**
ZIIG	**Zihuatanejo**	**8.00**	**295**		**Pn**	**09 19 11.0**	**+1

PLID	**Pearl Lake**	**35.94 333**	P	**P**	**09 24 15.4**	**+1.2**
YBH	**Yreka Blue Hor**	**37.01 323**	LR	LR	09 41 14.5	
	comp=Z,240nm,18.6s,baz=150,slow=39					
LPAZ	**La Paz**	**39.65 139**	P	**P**	**09 24 47.0**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=341,slow=12,SNR=5.3					
LPAZ			LR	LR	09 40 38.8	
	comp=Z,46nm,18.3s,baz=316,slow=35					
	comp=Z,1.4nm,0.8s					
MDP	**Montagnes des**	**41.60 99**	LR	LR	09 45 00.7	
	comp=Z,54nm,18.4s,baz=334,slow=40					
PTLB	**Pontes e Lacer**	**45.33 129**	P	**P**	**09 25 32.2**	**+0.4**
PTLB			IAmb	IAmb	09 25 33.6	
	comp=Z,6.3nm,1.1s					
YKA	**Yellowknife Ar**	**50.31 348**	P	**P**	**09 26 09.1**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=157,slow=7.4,SNR=28					
	comp=Z,2.2nm,0.8s					
FRB	**Frobisher Bay**	**52.42 14**	P	**P**	**09 26 22.9**	**-2.6**
	comp=Z,2.4nm,1.0s,baz=212,slow=9.8,SNR=1.6					
	comp=Z,2.4nm,1.0s					
CPUP	**Villa Florida**	**53.81 139**	P	**P**	**09 26 36.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=342,slow=6.2,SNR=5.0					
	comp=Z,2.4nm,0.8s					
BDFB	**Brasilia**	**54.23 122**	P	**P**	**09 26 39.9**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=277,slow=7.4,SNR=7.1					
	comp=Z,4.0nm,0.7s					
PLCA	**Paso Flores**	**58.89 159**	P	**P**	**09 27 14.7**	**+2.3**
	comp=Z,4.4nm,1.1s,baz=36,slow=3.6,SNR=2.9					
	comp=Z,4.4nm,1.1s					
INK	**Inuvik**	**59.62 344**	P	**P**	**09 27 17.6**	**+0.6**
RES	**Resolute Bay**	**60.36 360**	P	**P**	**09 27 20.6**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=193,slow=10,SNR=6.5					
	comp=Z,0.9nm,0.5s					
ILAR	**Eielson Array**	**61.83 337**	P	**P**	**09 27 32.4**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=137,slow=3.8,SNR=12					
	comp=Z,1.7nm,0.9s					
RND	**Reindeer**	**61.97 335**	P	**P**	**09 27 35.2**	**+1.9**
B20K	**Meade River**	**67.62 341**	P	**P**	**09 28 11.1**	**+1.3**
SPITS	**Spitsbergen Ar**	**80.13 11**	LR	LR	10 08 47.2	
	comp=Z,58nm,18.6s,baz=212,slow=39					
NOA	**NORSAR Array B**	**84.73 28**	LR	LR	10 08 41.4	
	comp=Z,29nm,18.2s,baz=275,slow=36					
HFS	**Hagfors**	**86.20 29**	LR	LR	10 07 03.5	
	comp=Z,37nm,19.8s,baz=261,slow=35					
ARCES	**ARCESS Array B**	**86.40 18**	P	**P**	**09 29 54.9**	**-0.6**
	comp=Z,6.0nm,1.1s,baz=2.7,slow=2.6,SNR=4.2					
ARCES			LR	LR	10 09 08.8	
	comp=Z,27nm,18.0s,baz=256,slow=36					
	comp=Z,6.0nm,1.1s					
TIXI	**Tiksi**	**89.56 348**	LR	LR	10 14 25.4	
	comp=Z,31nm,21.0s,baz=340,slow=38					
FINES	**FINESS Array B**	**90.97 25**	LR	LR	10 10 16.1	
	comp=Z,29nm,20.8s,baz=224,slow=35					
YAK	**Yakutsk**	**96.57 341**	LR	LR	10 18 09.9	
	comp=Z,13nm,18.3s,baz=15,slow=38					
HHC	**Hu-ho-hao-te**	**120.26 338**	*eP*	**PKPdf**	**09 36 02.0**	**-3.0**
PZH	**PanZhiHua**	**136.67 339**	PKP	**PKiKP**	**09 36 38.3**	**-0.1**

*NEIC **06** 09:21:48.2±1.2,61°.43N±0°.03×150°.00W±0°.05,h46km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=176.0*

AEIC 06 09:21:48.9±1.4,61°.43N±0°.03×149°.98W±0°.05,h45km±4km, ML2.6,ML2.8/130(NEIC)**, Error ellipse: s-maj=4.2km s-min=3.5km az=177.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.31**	**202**		Pn	09 21 57.3	-0.4
FIS				IAML		09 22 05.8	
	comp=N,878nm,0.6s						
FIS				IAML		09 22 06.1	
	comp=E,1μm,0.5s						
M22K	**Willow**	**0.33**	**348**		Pn	09 21 56.6	-1.2
M22K					Sn	09 22 03.9	-0.2
RC01	**Rabbit Creek A**	**0.36**	**161**		Pn	09 21 57.0	-1.2
RC01					Sn	09 22 04.3	-0.6
RC01				IAML		09 22 07.3	
	comp=N,488nm,0.2s						
RC01				IAML		09 22 08.6	
	comp=E,380nm,0.1s						
SUA	**Susitna One**	**0.37**	**275**		Pn	09 21 57.0	-1.5
SUA				IAML		09 22 04.9	
	comp=N,716nm,0.8s						
SUA				IAML		09 22 05.1	
	comp=E,466nm,0.4s						
PMR	**Palmer**	**0.43**	**68**		Pn	09 21 58.3	-0.8
PMR					Sn	09 22 06.2	0.0
PMR				IAML		09 22 06.7	
	comp=N,650nm,0.2s						
PMR				IAML		09 22 06.8	
	comp=E,735nm,0.2s						
GHO	**Glory Hole Cre**	**0.61**	**56**		Pn	09 22 00.5	-0.8
GHO				IAML		09 22 11.7	
	comp=E,547nm,0.4s						
GHO				IAML		09 22 12.5	
	comp=N,479nm,0.2s						
KNK	**Knik Glacier**	**0.73**	**91**		Pn	09 22 02.6	-0.3
KNK					Sn	09 22 13.4	+0.4
KNK				IAML		09 22 14.8	
	comp=N,365nm,0.5s						
KNK				IAML		09 22 17.4	
	comp=E,398nm,0.3s						
SML	**Sawmill**	**0.87**	**64**	Pn	Pn	09 22 04.1	-0.7
SML					Sn	09 22 17.1	+0.7
SML				IAML		09 22 18.4	
	comp=E,312nm,0.7s						
SML				IAML		09 22 20.8	
	comp=N,350nm,0.7s						
CAPN	**Captain Cook N**	**0.88**	**221**		Pn	09 22 04.9	0.0
STLK	**Strandline Lak**	**0.89**	**275**		Pn	09 22 03.9	-1.3
STLK					Sn	09 22 15.7	-1.3
STLK				IAML		09 22 16.4	
	comp=E,187nm,0.3s						
STLK				IAML		09 22 16.7	
	comp=N,437nm,0.5s						
SKT	**Skwentna**	**0.92**	**307**		Pn	09 22 03.8	-1.6
SKT					Sn	09 22 16.5	-1.1
SKT				IAML		09 22 16.8	
	comp=E,273nm,0.6s						
SKT				IAML		09 22 17.1	
	comp=N,475nm,0.4s						
SLKM	**Skilak Lake**	**0.94**	**187**	Pn	Pn	09 22 04.1	-1.6
SLKM				IAML		09 22 19.8	
	comp=N,376nm,0.4s						
O22K	**Cooper Landing**	**0.96**	**173**		Pn	09 22 04.9	-1.0
PWL	**Port Wells**	**0.98**	**125**	Pn	Pn	09 22 05.7	-0.5
PWL				IAML		09 22 21.0	
	comp=E,335nm,0.4s						
CUT	**Chulitna**	**0.98**	**352**		Pn	09 22 05.6	-0.6
SPCG	**Spurr Capps Gl**	**0.99**	**263**		Pn	09 22 05.3	-1.3
SPU	**Mount Spurr**	**1.03**	**257**		Pn	09 22 05.6	-1.4
SPU					Sn	09 22 19.1	-1.2
SPU				IAML		09 22 19.4	
	comp=N,226nm,0.3s						
SPU				IAML		09 22 20.2	
	comp=E,172nm,0.2s						
SPCR	**Spurr Chakacha**	**1.10**	**259**		Pn	09 22 06.5	-1.5
M23K	**Glacier View**	**1.13**	**70**		Pn	09 22 08.3	-0.1
SPBG	**Spurr Blockage**	**1.17**	**262**		Pn	09 22 07.7	-1.2
SCM	**Sheep Creek Mo**	**1.33**	**71**		Pn	09 22 11.1	+0.1
SCM				IAML		09 22 31.8	
	comp=N,259nm,0.8s						
SEW	**Seward**	**1.36**	**169**		Pn	09 22 09.9	-1.4
RDT	**Redoubt**	**1.47**	**235**		Pn	09 22 11.5	-1.4
GLI	**Glacier Island**	**1.50**	**110**	Pn	Pn	09 22 12.7	-0.7
GLI				IAML		09 22 38.0	
	comp=N,128nm,0.3s						
GLI				IAML		09 22 39.6	
	comp=E,104nm,0.5s						
DFR	**Drift River**	**1.57**	**239**		Pn	09 22 13.1	-1.2
M20K	**Styx River**	**1.57**	**288**		Pn	09 22 13.8	-0.6
M20K				IAML		09 22 35.2	
	comp=E,71nm,0.8s						
RDJH	**Redoubt Jeurge**	**1.62**	**240**		Pn	09 22 13.9	-1.1
NCT	**North Crescent**	**1.69**	**240**		Pn	09 22 14.9	-1.0
RDWB	**Redoubt West**	**1.69**	**237**		Pn	09 22 14.9	-1.1
RED	**Redoubt Volcan**	**1.70**	**235**		Pn	09 22 15.0	-1.2
BRLK	**Bradley Lake**	**1.73**	**195**		Pn	09 22 15.5	-1.0
BRSE	**Bradley Lake S**	**1.74**	**193**		Pn	09 22 15.2	-1.5
PPLA	**Purkeypile**	**1.80**	**326**		Pn	09 22 17.7	+0.1
FID	**Port Fidalgo**	**1.83**	**110**		Pn	09 22 16.7	-1.1
FID				IAML		09 22 46.3	
	comp=E,72nm,0.5s						
FID				IAML		09 22 47.6	
	comp=N,71nm,0.5s						
O20K	**Slope Mountain**	**1.88**	**225**		Pn	09 22 18.1	-0.5
P23K	**Montague Islan**	**1.92**	**138**		Pn	09 22 17.5	-1.5
M24K	**Tolsona, Glenn**	**1.93**	**68**		Pn	09 22 20.1	+0.9
M24K				IAML		09 22 49.4	
	comp=N,101nm,0.3s						
KLU	**Klutina**	**1.95**	**86**		Pn	09 22 19.1	-0.5
KLU				IAML		09 22 51.7	
	comp=N,77nm,0.4s						
KLU				IAML		09 22 52.3	
	comp=E,55nm,0.6s						
HOM	**Homer**	**1.96**	**206**		Pn	09 22 18.9	-0.7
HIN	**Hinchinbrook I**	**1.99**	**120**		Pn	09 22 19.0	-1.1
HIN				IAML		09 22 53.2	
	comp=N,55nm,1.1s						
HIN				IAML		09 22 55.7	
	comp=E,58nm,0.6s						
TRF	**Thorofare Moun**	**2.03**	**356**		Pn	09 22 20.7	0.0
TRF				IAML		09 22 49.8	
	comp=E,55nm,0.6s						
TRF				IAML		09 22 58.0	
	comp=N,69nm,0.6s						
RND	**Reindeer**	**2.05**	**14**		Pn	09 22 20.9	+0.1
RND				IAML		09 22 52.1	
	comp=E,55nm,0.5s						
RND				IAML		09 22 54.0	
	comp=N,66nm,0.6s						
DIV	**Divide**	**2.05**	**97**		Pn	09 22 20.4	-0.6
L20K	**Farewell, AK**	**2.12**	**301**		Pn	09 22 21.2	-0.7
ILS	**Iliamna Low So**	**2.12**	**227**		Pn	09 22 21.3	-0.7
ILSW	**Iliamna Southw**	**2.13**	**228**		Pn	09 22 21.4	-0.6
ILSW				IAML		09 22 51.1	
	comp=E,46nm,0.6s						
M19K	**Big River Lodg**	**2.16**	**285**		Pn	09 22 21.7	-0.7
KTH	**Kantishna Hill**	**2.17**	**349**		Pn	09 22 22.7	+0.1
KTH				IAML		09 22 51.5	
	comp=E,55nm,0.7s						
KTH				IAML		09 22 52.4	
	comp=N,48nm,0.5s						
CAST	**Castle Rocks**	**2.22**	**335**		Pn	09 22 23.2	0.0
CAST				IAML		09 23 04.9	
	comp=E,41nm,1.1s						
EYAK	**Cordova Ski Ar**	**2.24**	**111**		Pn	09 22 22.6	-0.9
N19K	**Bonanza Creek**	**2.27**	**256**		Pn	09 22 23.3	-0.7
N19K				IAML		09 22 51.4	
	comp=N,27nm,0.8s						
N19K				IAML		09 22 57.7	
	comp=E,28nm,1.2s						
MCK	**McKinley**	**2.36**	**11**		Pn	09 22 25.9	+0.8
P19K	**Oil Pt**	**2.41**	**223**		Pn	09 22 25.5	-0.3
P19K				IAML		09 23 08.7	
	comp=N,87nm,1.0s						
L19K	**White Mountain**	**2.43**	**290**		Pn	09 22 25.7	-0.4
O19K	**Port Alsworth**	**2.46**	**242**		Pn	09 22 25.9	-0.6
HARP	**HAARP**	**2.48**	**65**		Pn	09 22 27.3	+0.6
N25K	**Chitina, Valde**	**2.58**	**84**		Pn	09 22 27.6	-0.6
N25K				IAML		09 23 09.9	
	comp=N,38nm,0.5s						
N25K				IAML		09 23 10.6	
	comp=E,21nm,0.5s						
BMRM	**Bremner River**	**2.64**	**98**		Pn	09 22 27.9	-1.1
CHUM	**Lake Minchumin**	**2.69**	**337**		Pn	09 22 29.1	-0.4
GOAT	**Goat Mountain**	**2.70**	**106**		Pn	09 22 28.6	-1.1
K20K	**Telida**	**2.71**	**317**		Pn	09 22 29.4	-0.5
BPAW	**Bear Paw Mtn.**	**2.72**	**351**		Pn	09 22 29.5	-0.5
BPAW				IAML		09 23 16.7	
	comp=E,21nm,0.9s						
RAGM	**Ragged Mountai**	**2.79**	**110**		Pn	09 22 30.3	-0.8
RAGM				IAML		09 23 23.9	
	comp=E,61nm,0.5s						
M18K	**Stony River**	**2.81**	**274**		Pn	09 22 30.3	-0.9
N18K	**Kilae Creek**	**2.97**	**258**		Pn	09 22 32.2	-1.3
O18K	**Koktuh Hills**	**3.02**	**241**		Pn	09 22 32.9	-1.3
O18K				IAML		09 23 08.5	
	comp=E,16nm,1.1s						
O18K				IAML		09 23 36.1	
	comp=N,23nm,1.0s						
SYI	**Shuyak Island**	**3.08**	**204**		Pn	09 22 33.8	-1.1
SYI				IAML		09 23 18.8	
	comp=N,30nm,0.8s						
SYI				IAML		09 23 21.5	
	comp=E,24nm,1.0s						
Q19K	**Cape Douglas,**	**3.11**	**218**		Pn	09 22 34.6	-0.8
TTA	**Tatalina**	**3.20**	**301**		Pn	09 22 35.8	-1.0
BERG	**Berg Lake**	**3.24**	**106**		Pn	09 22 35.3	-1.9
L18K	**Granite Mounta**	**3.28**	**287**		Pn	09 22 36.7	-1.0
J20K	**Nowinta River**	**3.35**	**327**		Pn	09 22 38.6	-0.1
J20K				IAML		09 23 17.9	
	comp=N,25nm,0.5s						
J20K				IAML		09 23 18.0	
	comp=E,21nm,0.4s						
M17K	**Holitna River**	**3.59**	**273**		Pn	09 22 41.0	-0.9
M17K				IAML		09 23 41.5	
	comp=N,20nm,1.1s						
M17K				IAML		09 23 43.9	
	comp=E,22nm,1.1s						
N17K	**Nushagak Hills**	**3.63**	**259**	Pn	Pn	09 22 41.3	-1.2
N17K				IAML		09 23 49.9	
	comp=N,12nm,1.1s						
J19K	**Poorman**	**3.65**	**317**	Pn	Pn	09 22 42.5	-0.3
BALM	**Baldy**	**3.71**	**93**		Pn	09 22 43.0	-0.7
J18K	**Innoko River**	**3.74**	**306**		Pn	09 22 43.2	-0.8
KAHC	**Katmai Hardscr**	**3.77**	**224**		Pn	09 22 43.1	-1.3
BARK	**Barkley Ridge**	**3.80**	**103**		Pn	09 22 43.9	-1.0
O17K	**Koliganek Bris**	**3.88**	**248**		Pn	09 22 45.0	-1.0
KDAK	**Kodiak Island**	**3.90**	**201**	Pn	Pn	09 22 43.5	-2.6
KDAK				IAML		09 23 18.0	
	comp=N,9.6nm,1.0s						
KDAK				IAML		09 23 19.2	
	comp=N,13nm,1.1s						
L17K	**Donlin**	**4.01**	**284**		Pn	09 22 47.0	-0.7
KAKN	**Katmai Knife C**	**4.06**	**221**		Pn	09 22 47.1	-1.3
K17K	**Iditarod**	**4.12**	**292**		Pn	09 22 48.6	-0.6
K17K				IAML		09 24 07.8	
	comp=N,7.9nm,1.2s						
N16K	**Nishlik Lake**	**4.39**	**261**		Pn	09 22 52.3	-0.7
O16K	**Kokwok River B**	**4.42**	**249**		Pn	09 22 52.1	-1.1
O16K				IAML		09 24 02.7	
	comp=N,6.7nm,0.7s						
H21K	**Melozitna Rive**	**4.42**	**345**		Pn	09 22 53.6	+0.2
L16K	**Owhat River**	**4.55**	**278**		Pn	09 22 54.2	-0.9
PRP	**Porcupine Dome**	**4.56**	**24**	Pn	Pn	09 22 56.4	+1.0
PRP				IAML		09 23 54.7	
	comp=E,8.0nm,0.6s						
PRP				IAML		09 24 15.8	
	comp=N,13nm,0.8s						
P16K	**Nushagak River**	**4.67**	**242**		Pn	09 22 55.7	-0.9
J17K	**VABM Dome**	**4.67**	**299**	Pn	Pn	09 22 55.6	-1.1
I26K	**Coal Creek Min**	**4.95**	**35**		Pn	09 23 01.8	+1.2
I26K				IAML		09 24 24.4	
	comp=N,9.6nm,1.0s						
H19K	**Roundabout Mou**	**5.03**	**328**		Pn	09 23 01.5	-0.2
H19K				IAML		09 24 44.4	
	comp=E,5.1nm,1.1s						
H25L	**Birch Creek**	**5.19**	**19**		Pn	09 23 05.5	+1.7
J16K	**Anvik River**	**5.29**	**295**		Pn	09 23 04.2	-1.0
O15K	**Ungalikthiuk R**	**5.39**	**250**		Pn	09 23 06.0	-0.7
K15K	**Wolf Creek Mou**	**5.54**	**284**	Pn	Pn	09 23 08.1	-0.6
FYU	**Fort Yukon**	**5.56**	**20**	Pn	Pn	09 23 09.9	+1.1
H17K	**Granite Mounta**	**5.71**	**312**	Pn	Pn	09 23 10.5	-0.4
G18K	**Tagagawik**	**5.91**	**323**	Pn	Pn	09 23 13.7	-0.1
F20K	**Avaraart Lake**	**6.17**	**339**	Pn	Pn	09 23 17.9	+0.7
BMAR	**Burnt Mountain**	**6.45**	**19**	Pn	Pn	09 23 21.7	+0.5

*SOME **06** 09:32:12.7,41°.32N×83°.73E,h5km*
*NNC **06** 09:32:16.6±1.5,41°.42N×83°.63E,h11km±7km,mb3.8, mpv3.5, Error ellipse: s-maj=11.0km s-min=7.5km az=159.0*

ISC 06 09:32:12.8±2.8,41°.3N±0°.1×83°.70E±0°.08,h10km,n24, σ2°44/34**, 2C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.64**	**302**	Pg	**Pb**	**09 33 16.0**	**-1.3**
	12nm,0.3s						
SHLS				Lg	Lg	09 34 02.0	
	90nm,0.5s						
SHLS	**Shalkode**	**3.64**	**302**	*eP*	**Pb**	**09 33 16.0**	**-1.3**
	2.5nm,0.1s						
SHLS				*eS*	**Sb**	**09 34 02.0**	**+0.6**
	90nm,0.5s						
UZB	**Uzynbulak**	**3.92**	**299**	Pg	**Pg**	**09 33 25.9**	**-2.0**
	2.6nm,0.1s						
UZB				Lg	Lg	09 34 19.1	
	64nm,0.8s						
UZB	**Uzynbulak**	**3.92**	**299**	*eP*	**Pg**	**09 33 25.9**	**-2.0**
	2.6nm,0.1s						
UZB				*eS*	**Sg**	**09 34 19.1**	**+0.4**
	64nm,0.8s						
DJR	**Jarkent**	**4.16**	**318**	Pg	**Pg**	**09 33 29.9**	**-2.5**
	3.6nm,0.2s						
DJR				Lg	Lg	09 34 26.6	
	17nm,0.8s						
DJR	**Jarkent**	**4.16**	**318**	*eP*	**Pg**	**09 33 29.9**	**-2.5**
	1.0nm,0.1s						
DJR				*eS*	**Sg**	**09 34 25.9**	**-0.4**
	14nm,0.5s						
KPKS	**Kokpek**	**4.28**	**302**	Pg	**Pg**	**09 33 32.9**	**-2.0**
	3.9nm,0.2s						
KPKS				Lg	Lg	09 34 30.7	
	2μm,1.0s						
KPKS	**Kokpek**	**4.28**	**302**	*eP*	**Pg**	**09 33 32.9**	**-2.0**
	3.9nm,0.2s						
KPKS				*eS*	**Sg**	**09 34 30.7**	**+0.3**
	2μm,1.0s						
SATY	**Saty**	**4.29**	**296**	Pg	**Pg**	**09 33 32.8**	**-2.3**
	2.0nm,0.2s						
SATY				Lg	Lg	09 34 31.1	
	58nm,0.8s						
KNOS	**Konyrlen**	**4.50**	**314**	Pg	**Pb**	**09 33 35.4**	**+3.5**
	5.7nm,0.6s						
KNOS				Lg	Lg	09 34 35.1	
	13nm,0.3s						
KOTS	**Kotyrbulak**	**5.24**	**293**	Pg	**Pg**	**09 33 51.5**	**-1.7**
	4.9nm,0.3s						
KOTS				Lg	Lg	09 35 03.2	
	41nm,0.7s						
KOTS	**Kotyrbulak**	**5.24**	**293**	*eP*	**Pg**	**09 33 50.1**	**-3.1**
	2.3nm,0.2s						
KOTS				*eS*	**Sg**	**09 35 00.2**	**-1.0**
	40nm,0.4s						
TNSS	**Tian-Shan**	**5.30**	**291**	Pg	**Pg**	**09 33 53.0**	**-1.3**
	1.9nm,0.4s						
TNSS				Lg	Lg	09 35 05.0	
	8.7nm,0.8s						
TNSS	**Tian-Shan**	**5.30**	**291**	*eP*	**Pg**	**09 33 51.9**	**-2.4**
	0.8nm,0.1s						
TNSS				*eS*	**Sg**	**09 35 03.5**	**+0.5**
	8.7nm,0.8s						
MK31	**Makanchi Array**	**5.56**	**350**	Pn	**Pn**	**09 33 39.1**	**+3.5**
	0.2nm,0.3s,baz=184,slow=11,SNR=13						
MK31				Pg	**Pg**	**09 33 55.7**	**-3.5**
	2.7nm,0.7s,baz=173,slow=16,SNR=19						
MK31				Lg	Lg	09 35 10.5	
	11nm,0.6s,baz=169,slow=29,SNR=11						
MAKZ	**Makanchi**	**5.62**	**348**	⇑Pg	**Pg**	**09 33 56.9**	**-3.5**
	1.3nm,0.6s						
MAKZ				⇓Sn	**Sn**	**09 34 42.1**	**+1.1**
	2.1nm,0.5s						
MAKZ				⇓Lg	Lg	09 35 09.8	
	9.4nm,0.8s						
MTBS	**Maitube**	**5.69**	**291**	Pg	**Pg**	**09 33 57.5**	**-4.3**
	1.2nm,0.1s						
MTBS				Lg	Lg	09 35 13.3	
	10nm,0.4s						
MTBS	**Maitube**	**5.69**	**291**	*eP*	**Pg**	**09 33 58.5**	**-3.3**
	1.2nm,0.1s						
MTBS				*eS*	**Sg**	**09 35 14.5**	**-0.9**
	10nm,0.4s						
KTBS	**Karatobe**	**5.71**	**297**	Pg	**Pg**	**09 33 58.3**	**-3.8**
	0.8nm,0.2s						
KTBS				Lg	Lg	09 35 14.2	
	33nm,0.7s						
KST	**Kastek**	**6.00**	**289**	Pg	**Pg**	**09 34 05.2**	**-2.4**
	1.0nm,0.2s						
KST				Lg	Lg	09 35 26.5	
	20nm,0.7s						
KST	**Kastek**	**6.00**	**289**	*eP*	**Pg**	**09 34 05.2**	**-2.4**
	1.0nm,0.2s						
KST				*eS*	**Sg**	**09 35 26.4**	**+1.2**
	20nm,0.5s						
ZSN	**Zaisan**	**6.18**	**7**	Pg	**Pg**	**09 34 08.1**	**-3.0**
	2.1nm,0.2s						
ZSN				Lg	Lg	09 35 30.8	
	24nm,0.8s						
ZSN	**Zaisan**	**6.18**	**7**	*eP*	**Pg**	**09 34 08.1**	**-3.0**
	1.5nm,0.1s						
ZSN				*eS*	**Sg**	**09 35 30.8**	**-0.3**
	24nm,0.8s						
TKM2	**Tokmak 2**	**6.23**	**287**	⇑Lg	Lg	09 35 27.7	
	18nm,0.8s						

*NEIC **06** 09:43:04.4±1.5,31°.295N±0°.010×103°.61W±0°.01, h6km±3km, Error ellipse: s-maj=1.5km s-min=1.4km az=63.0*

NEIC 06 09:43:04.1±1.2,31°.30N±0°.01×103°.61W±0°.02,h6km±4km, mb_Lg2.5/18,ML2.5/58,ML2.6/9, Error ellipse: s-maj=2.1km s-min=1.4km az=60.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.14**	**40**		Pg	09 43 07.7	+0.7
PECS	**Pecos**	**0.23**	**287**		Pg	09 43 09.4	+0.8
PECS				Sg	Sg	09 43 13.8	+2.2
PECS				IAML		09 43 15.0	
	953nm,0.4s						
MNHN	**Monahans**	**0.73**	**87**		Pg	09 43 17.8	-0.3
MNHN					Sg	09 43 28.2	+0.5
ALPN	**Alpine**	**0.93**	**181**		Pg	09 43 21.1	-0.8
ALPN					Sb	09 43 34.7	-0.6
ALPN				IAML		09 43 45.6	
	102nm,0.5s						
CLNB	**Carlsbad**	**0.98**	**347**		Pg	09 43 22.6	-0.4
GDL2	**Guadalupe Moun**	**1.10**	**325**		Pg	09 43 24.7	-0.5
CLN7	**Carlsbad 7**	**1.12**	**352**		Pg	09 43 25.7	+0.1
HTMS	**Hat Mesa**	**1.17**	**359**		Pg	09 43 26.2	-0.3
ODSA	**Odessa**	**1.22**	**48**		Pg	09 43 26.8	-0.7
ODSA					Sn	09 43 44.2	-0.4
VHRN	**Van Horn**	**1.29**	**247**	Pg	Pn	09 43 27.8	-1.0
VHRN					Sb	09 43 45.9	+0.3
VHRN				IAML		09 43 53.0	
	58nm,0.8s						
MNTX	**Cornudas Mount**	**1.56**	**285**		Pb	09 43 33.7	+0.3
MNTX					Sg	09 43 55.3	+1.0
CPRX	**Cap Rock**	**1.74**	**353**	Pn	Pn	09 43 35.7	+0.7
SAND	**Sanderson**	**1.86**	**136**	Pn	Pb	09 43 38.1	-0.5
SAND					Sb	09 44 02.4	+0.3
SAND				IAmb_Lg		09 44 07.5	
	comp=Z,25nm,0.8s						
TX31	**Lajitas Ar. Si**	**1.96**	**181**		Pn	09 43 39.0	+1.0
TX31					Sg	09 44 06.8	-0.4
TXAR	**Lajitas Array**	**1.96**	**181**		Pn	09 43 39.1	+1.0
OZNA	**Ozona**	**2.17**	**99**		Pn	09 43 40.9	+0.1
OZNA				IAmb_Lg		09 44 12.2	
	comp=Z,12nm,0.9s						
SGCY	**Sterling City**	**2.21**	**73**		Pn	09 43 42.5	+1.2
SGCY				IAmb_Lg		09 44 18.5	
	comp=

ANMO				IAML		09 45 21.4	
	comp=Z,9.2nm,4.0s						
ANMO				IAML		09 45 21.9	
	comp=Z,10nm,4.0s						
ANMO				IAmb_Lg		09 45 31.4	
	comp=Z,4.7nm,0.8s						
PLPT	**Palo Pinto**	**4.74**	**70**	Pn	Pn	09 44 16.0	-0.1
WTFS	**Witchita Falls**	**4.99**	**59**	Pn	Pn	09 44 19.2	-0.4
FW03	**Perrin-Whitt E**	**5.01**	**68**	Pn	Pn	09 44 20.1	+0.3
RTBA	**Rita Blanca**	**5.17**	**8**	Pn	Pn	09 44 22.3	+0.1
WMOK	**Wichita Mounta**	**5.31**	**49**	Pn	Pn	09 44 24.9	+0.9
FW06	**Azle**	**5.40**	**70**	Pn	Pn	09 44 25.6	+0.5
X34A	**Smith Ranch, M**	**5.87**	**54**	Pn	Pn	09 44 32.2	+0.6

*SOME **06** 09:47:44.9, 41.°85N×83.°12E, h5km*
NNC 06 09:47:46.7±1.2, 41.°78N×83.°03E, h0km, mb3.7, mpv3.5, 3C-1D, Error ellipse: s-maj=8.7km s-min=5.6km az=159.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.98**	**299**	Pg	Pn	09 48 36.5	+1.1
	11nm,0.4s						
SHLS				Lg	Lg	09 49 13.5	
	20nm,0.5s						
SHLS	**Shalkode**	**2.98**	**299**	*e*P	Pn	09 48 36.5	+1.1
	5.2nm,0.2s						
SHLS				*e*S	Sn	09 49 13.5	+1.7
	20nm,0.3s						
PDGK	**Podgornoye**	**3.04**	**302**	⇑Pg	Pb	09 48 41.0	-0.8
	1.6nm,0.5s						
PDGK				⇑Lg	Lg	09 49 24.6	
	15nm,0.8s						
UZB	**Uzynbulak**	**3.27**	**296**	Pg	Pb	09 48 46.6	+1.0
	5.6nm,0.3s						
UZB				Lg	Lg	09 49 30.9	
	15nm,0.5s						
UZB	**Uzynbulak**	**3.27**	**296**	*e*P	Pb	09 48 46.6	+1.0
	1.8nm,0.1s						
UZB				*e*S	Sg	09 49 30.9	-0.8
	15nm,0.3s						
SATY	**Saty**	**3.66**	**292**	Pg	Pb	09 48 53.5	+1.2
SATY				Lg	Lg	09 49 43.0	
ZHN	**Zhinishke**	**3.67**	**294**	Pg	Pb	09 48 54.5	+2.0
	8.1nm,0.3s						
ZHN				Lg	Lg	09 49 44.4	
	10nm,0.1s						
ZHN	**Zhinishke**	**3.67**	**294**	*e*P	Pb	09 48 54.5	+2.0
	2.8nm,0.1s						
ZHN				*e*S	Sg	09 49 44.4	-0.2
	6.2nm,0.2s						
KNOS	**Konyrlen**	**3.82**	**314**	Pg	Pb	09 48 56.2	+1.1
	3.2nm,0.3s						
KNOS				Lg	Lg	09 49 47.4	
	11nm,0.1s						
BLB	**Baldybastay**	**4.07**	**306**	Pg	Pb	09 49 00.9	+1.6
	10.0nm,0.5s						
BLB				Lg	Lg	09 49 55.3	
	8.9nm,0.6s						
TNSS	**Tian-Shan**	**4.68**	**288**	Pg	Pb	09 49 12.1	+2.2
	1.0nm,0.0s						
TNSS				Lg	Lg	09 50 14.2	
	1.6nm,0.8s						
TNSS	**Tian-Shan**	**4.68**	**288**	*e*P	Pb	09 49 12.1	+2.2
	0.3nm,0.1s						
TNSS				*e*S	Sg	09 50 14.2	-2.8
	0.9nm,0.3s						
MK31	**Makanchi Array**	**5.04**	**354**	Pg	Pb	09 49 17.8	+2.0
	1.3nm,0.8s,baz=170,slow=16,SNR=7.6						
MK31				⇓Lg	Lg	09 50 25.9	
	2.6nm,0.6s,baz=168,slow=25,SNR=3.9						
KTBS	**Karatobe**	**5.06**	**295**	Pg	Pb	09 49 19.1	+3.0
	1.2nm,0.3s						
KTBS				Lg	Lg	09 50 26.3	
	5.3nm,0.5s						
MAKZ	**Makanchi**	**5.08**	**352**	⇑Lg	Lg	09 50 30.2	
	3.0nm,1.1s						
KST	**Kastek**	**5.38**	**286**	Pg	Pb	09 49 25.2	+3.5
	1.6nm,0.3s						
KST				Lg	Lg	09 50 36.5	
	3.7nm,0.6s						
KST	**Kastek**	**5.38**	**286**	*e*P	Pb	09 49 25.2	+3.5
	0.6nm,0.1s						
KST				*e*S	Sg	09 50 36.5	-3.1
	3.6nm,0.5s						
DGS	**Degeres**	**5.56**	**288**	Pg	Pb	09 49 28.6	+3.9
	1.8nm,0.4s						
DGS				Lg	Lg	09 50 42.4	
	3.0nm,0.3s						
ZSN	**Zaisan**	**5.82**	**12**	Pg	Pb	09 49 32.9	+3.8
	2.5nm,0.1s						
ZSN				Lg	Lg	09 50 49.8	
	8.0nm,0.9s						
ZSN	**Zaisan**	**5.82**	**12**	*e*P	Pb	09 49 32.9	+3.8
	2.5nm,0.1s						
ZSN				*e*S	Sg	09 50 49.8	-3.8
	6.9nm,0.4s						

*JMA **06** 09:57:30.5±0.3, 29.°2N±0.°7×13.°0E±.°, h76km±2km, MV3.0/24, NEAR TOKARA ISLANDS*
*IDC **06** 09:57:32.1±1.4, 29.°00N×129.°49E, h93km±29km, mb3.0/1, mbtmp3.5/5, Error ellipse: s-maj=70.3km s-min=12.4km az=110.0*
ISC 06 09:57:30.6±1.1, 29.°09N±0.°04×129.°60E±0.°05, h80km±8km, n23, σ1§38/39, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.35**	**281**	*i* P	**Pn**	**09 57 42.4**	**-0.9**
JTAJ				S	**Sn**	**09 57 51.4**	**-1.2**
JAM	**Amami Oshima**	**0.67**	**180**	*i* P	**Pn**	**09 57 46.0**	**0.0**
JAM				S	**Sn**	**09 57 57.5**	**+0.1**
JNN	**Nakanoshima**	**0.79**	**18**	P	**Pn**	**09 57 46.4**	**-0.9**
JNN				S	**Sn**	**09 57 58.3**	**-1.4**
JZK	**Kikaishima**	**0.84**	**157**	P	**Pn**	**09 57 49.7**	**+1.9**
JZK				*e*S	**Sn**	**09 58 04.8**	**+4.2**
JAMN	**Amaminishikomi**	**0.92**	**204**	*i* P	**Pn**	**09 57 48.8**	**0.0**
JAMN				S	**Sn**	**09 58 02.7**	**+0.5**
JYAK	**Yakushimahirau**	**1.39**	**34**	P	**Pn**	**09 57 54.3**	**-0.3**
JYAK				S	**Sn**	**09 58 12.2**	**-0.4**
JTK	**Tokunoshima**	**1.42**	**204**	P	**Pn**	**09 57 55.3**	**+0.4**
JTK				*e*S	**Sn**	**09 58 13.2**	**0.0**
JKC	**Kuchinoerabu**	**1.47**	**21**	P	**Pn**	**09 57 55.0**	**-0.4**
JKC				*e*S	**Sn**	**09 58 12.7**	**-1.5**
JMTN	**Minamitane**	**1.73**	**41**	P	**Pn**	**09 57 59.4**	**+0.5**
JMTN				*e*S	**Sn**	**09 58 20.8**	**+0.4**
JOKE	**Okinoerabujima**	**1.94**	**208**	P	**Pn**	**09 58 02.5**	**+0.7**
JOKE				*e*S	**Sn**	**09 58 25.6**	**0.0**
JTN	**Tanegashima 3**	**1.97**	**37**	P	**Pn**	**09 58 02.5**	**+0.4**
JYRO	**Yoronjima**	**2.29**	**207**	P	**Pn**	**09 58 06.9**	**+0.5**
JYRO				S	**Sn**	**09 58 34.2**	**+0.4**
JIH	**Iheya**	**2.50**	**216**	P	**Pn**	**09 58 09.9**	**+0.6**
JIH				*e*S	**Sn**	**09 58 39.5**	**+0.6**
JOW	**Kunigami**	**2.53**	**208**	P	**Pn**	**09 58 09.2**	**-0.5**
	31nm,0.3s,baz=90,slow=14,SNR=14						
JOW				S	**Sn**	**09 58 39.5**	**-0.2**
	32nm,0.3s,baz=62,slow=30,SNR=8.4						
JOW	**Kunigami**	**2.53**	**208**	P	**Pn**	**09 58 10.9**	**+1.2**
JOW				*e*S	**Sn**	**09 58 40.6**	**+1.0**
JNTH	**Nagotoyohara**	**2.92**	**209**	*e*P	**Pn**	**09 58 15.2**	**+0.4**
JKDJ	**Kitadaitoujima**	**3.47**	**154**	*e*P	**Pn**	**09 58 22.5**	**+0.1**
JKDJ				*e*S	**Sn**	**09 58 59.0**	**-3.4**
JMZ	**Minamidaito 2**	**3.56**	**156**	P	**Pn**	**09 58 24.0**	**+0.4**
JMZ				*e*S	**Sn**	**09 59 01.9**	**-2.6**
JKE	**Kume jima 2**	**3.71**	**223**	P	**Pn**	**09 58 25.9**	**+0.2**
JKE				S	**Sn**	**09 59 07.6**	**-0.7**
JNU	**Nakatsue**	**4.17**	**15**	P	**Pn**	**09 58 34.2**	**+2.3**
	10nm,0.4s,baz=189,slow=19,SNR=25						
KSRS	**Korea Array**	**8.46**	**351**	P	**Pn**	**09 59 33.1**	**+2.8**
	0.6nm,0.4s,baz=169,slow=13,SNR=4.2						
MJAR	**Matsushiro Arr**	**10.38**	**42**	P	Pn	10 00 00.8	+4.3
	0.9nm,0.6s,baz=226,slow=15,SNR=5.7						
WRA	**Warramunga Arr**	**48.96**	**174**	P	**P**	**10 06 08.3**	**-0.7**
	0.3nm,0.6s,baz=354,slow=7.8,SNR=2.1						
	0.3nm,0.6s						

IDC 06 09:57:39.4±999.0, 57.°44N×28.°08E, h0km, Error ellipse: s-maj=1258.0km s-min=104.5km az=94.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**5.04**	**94**	I	I	10 30 00.0	
	0.3nm,0.7s,baz=280,slow=328,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**18.88**	**99**	I	I	11 53 30.0	
	baz=309,slow=327,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**31.37**	**72**	I	I	13 07 30.0	
	baz=300,slow=328,SNR=1.9						

*IDC **06** 10:00:18.9±1.3, 55.°63S×28.°34W, h0km, mb4.2/3, mbtmp4.3/4, ML4.6/1, Error ellipse: s-maj=56.8km s-min=29.2km az=50.0*
ISC 06 10:00:25.1±1.0, 55.°7S±0.°2×28.°5W±0.°3, h45km, n8, σ0§65/8, mb4.3/3, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.80**	**157**	⇑P	**P**	**10 04 29.8**	**+0.5**
	comp=Z,7.0nm,0.5s,baz=321,slow=12						
SNAA	**Sanae**	**19.36**	**156**	⇑P	**P**	**10 04 46.7**	**+0.1**
	comp=Z,141nm,0.4s						
SNAA	**Sanae**	**19.36**	**156**	P	**P**	**10 04 46.5**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=321,slow=12,SNR=52						
	comp=Z,8.3nm,0.5s						
TROLL	**Troll, Antarti**	**20.89**	**153**	⇑P	**P**	**10 05 03.1**	**-0.1**
	comp=Z,352nm,0.5s						
CPUP	**Villa Florida**	**36.04**	**313**	P	**P**	**10 07 21.6**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=138,slow=8.1,SNR=7.3						
	comp=Z,2.7nm,0.7s						
LPAZ	**La Paz**	**49.59**	**306**	P	**P**	**10 09 13.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=180,slow=2.0,SNR=6.4						
	comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.10**	**31**	P	**P**	**10 11 50.7**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=201,slow=5.4,SNR=2.7						
	comp=Z,1.5nm,0.3s						
ILAR	**Eielson Array**	**149.35**	**312**	PKPbc	**PKPbc**	**10 20 06.3**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=102,slow=1.9,SNR=4.7						

*GCG **06** 10:15:53.0±4.9, 17.°14N×85.°11W, h36km±999km, MD5.4*
*NEIC **06** 10:15:55.3±1.6, 16.°35N±0.°07×85.°53W±0.°08, h10km±2km, mb4.3/20, Error ellipse: s-maj=13.3km s-min=12.0km az=286.0*
*IDC **06** 10:16:01.1±2.2, 16.°93N×85.°92W, h0km, mb3.7/7, mbtmp3.7/8, ML2.9/2, MS3.2/20, Error ellipse: s-maj=41.2km s-min=28.8km az=162.0*
ISC 06 10:15:56.6±0.7, 16.°40N±0.°05×85.°63W±0.°06, h10km, n66, σ1§61/52, mb4.2/11, MS3.2/14, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISHN	**Nisperales Com**	**2.25**	**254**	*e*P	**Pn**	**10 16 35.7**	**+1.7**
NISHN				*e*S	**Sn**	**10 17 00.5**	**-1.4**
NISHN	**Nisperales Com**	**2.25**	**254**	*e*P		10 16 35.7	
NISHN				*e*S		10 17 00.5	
TGUH	**Tegucigalpa,Un**	**2.82**	**214**	Pn	**Pn**	**10 16 40.8**	**-1.0**
MARCA	**Marcala la Paz**	**3.22**	**226**	*e*P	**Pb**	**10 16 52.5**	**-1.5**
MARCA				*e*S	**Sg**	**10 17 40.8**	**+0.7**
MARCA	**Marcala la Paz**	**3.22**	**226**	*e*P		10 16 52.5	
MARCA				*e*S		10 17 40.8	
CRIN	**San Cristobal**	**3.93**	**201**	Pn	**Pn**	**10 16 55.4**	**-1.7**
CNGN	**Cerro Negro**	**4.02**	**195**	Pn	**Pn**	**10 16 56.6**	**-1.6**
ESQI	**Esquipulas**	**4.02**	**243**	Pn	**Pn**	**10 16 56.4**	**-1.9**
PETF	**Flores**	**4.09**	**278**	Pn	**Pn**	**10 16 58.8**	**-0.4**
PETF	**Flores**	**4.09**	**278**	*e*P	**Pn**	**10 16 58.6**	**-0.7**
PETF	**Flores**	**4.09**	**278**	*e*P		10 16 58.6	
MTO3	**Montecristo**	**4.11**	**242**	Pn	**Pn**	**10 16 58.8**	**-0.9**
MGAN	**Managua**	**4.27**	**188**	Pn	**Pn**	**10 16 59.5**	**-2.2**
ACON	**Acoyapa**	**4.43**	**174**	Pn	**Pn**	**10 17 00.8**	**-3.1**
TEIG	**Tepich**	**4.56**	**327**	Pn	**Pn**	**10 17 03.8**	**-1.9**
TEIG	**Tepich**	**4.56**	**327**	Pn	**Pn**	**10 17 03.4**	**-2.3**
TEIG				Pg	**Pb**	**10 17 13.1**	**-3.6**
TEIG				Sn	Sn	10 17 46.8	-12
APG	**El Apazote**	**4.86**	**254**	Pn	Pb	10 17 16.2	-5.7
	0.1nm,0.3s,baz=95,slow=15,SNR=3.7						
APG				Sn	**Sn**	**10 18 04.8**	**-1.7**
	0.2nm,0.3s,baz=111,slow=11,SNR=3.8						
APG	**El Apazote**	**4.86**	**254**	*e*P	Pn	10 17 15.8	+5.8
APG	**El Apazote**	**4.86**	**254**	*e*P		10 17 15.8	
HUEH	**Huehuetenango**	**5.75**	**260**	Pn	**Pn**	**10 17 22.2**	**0.0**
JTS	**Las Juntas de**	**6.11**	**174**	Pn	**Pn**	**10 17 24.1**	**-2.9**
JTS	**Las Juntas de**	**6.11**	**174**	LR	LR	10 20 11.8	
	comp=Z,104nm,19.0s,baz=7.0,slow=38						
CCIG	**Comitan**	**6.25**	**270**	Pn	**Pn**	**10 17 30.2**	**+1.1**
SOR	**Soroa**	**6.82**	**21**	Pn	**Pn**	**10 17 35.1**	**-1.6**
MTDJ	**Mount Denham**	**7.94**	**76**	Pn	**Pn**	**10 17 50.1**	**-2.1**
CMIG	**Matias Romero**	**8.89**	**276**	Pn	**Pn**	**10 18 04.8**	**-0.4**
	0.5nm,0.3s,baz=79,slow=12,SNR=4.2						
CMIG				LR	LR	10 21 45.7	
	comp=Z,189nm,20.2s,baz=148,slow=40						
	1.2nm,0.4s						
TLIG	**Tlapa**	**12.43**	**277**	Pn	**Pn**	**10 18 53.4**	**-0.4**
UNM	**Universidad Na**	**13.22**	**285**	Pn	**Pn**	**10 19 03.6**	**-1.2**
ROSC	**El Rosal**	**15.97**	**135**	LR	LR	10 26 15.6	
	comp=Z,140nm,20.1s,baz=76,slow=37						
SDV	**Santo Domingo**	**16.42**	**115**	LR	LR	10 27 58.5	
	comp=Z,72nm,18.5s,baz=264,slow=42						
MLDN	**Muldoon**	**16.95**	**324**	P	**Pn**	**10 19 53.9**	**-0.1**
MLDN				IAmb	IAmb	10 19 57.1	
	comp=Z,35nm,0.9s						
HNDO	**Hondo**	**18.11**	**319**	P	**Pn**	**10 20 06.0**	**-2.3**
SJG	**San Juan**	**18.68**	**82**	LR	LR	10 26 55.4	
	comp=Z,64nm,21.3s,baz=278,slow=35						
DRIO	**Del Rio**	**18.91**	**316**	P	**P**	**10 20 16.5**	**-1.0**
JCT	**Junction City**	**19.09**	**320**	P	**P**	**10 20 19.8**	**+0.3**
JCT				IAmb	IAmb	10 20 45.7	
	comp=Z,11nm,0.5s						
BRDY	**Brady**	**19.18**	**323**	P	**P**	**10 20 19.6**	**-0.9**
BRDY				IAmb	IAmb	10 20 43.3	
	comp=Z,24nm,1.2s						
TKL	**Tuckaleechee C**	**19.25**	**5**	LR	LR	10 27 17.2	
	comp=Z,49nm,20.9s,baz=186,slow=36						
OZNA	**Ozona**	**20.22**	**318**	P	**P**	**10 20 32.2**	**+0.3**
SAND	**Sanderson**	**20.26**	**315**	P	**P**	**10 20 32.6**	**+0.3**
SAND				IAmb	IAmb	10 20 55.9	
	comp=Z,13nm,1.3s						
SGCY	**Sterling City**	**20.90**	**320**	P	**P**	**10 20 37.5**	**-1.7**
SGCY				IAmb	IAmb	10 21 12.7	
	comp=Z,22nm,1.1s						
TXAR	**Lajitas Array**	**20.98**	**311**	P	**P**	**10 20 40.2**	**0.0**
TXAR	**Lajitas Array**	**20.98**	**311**	P	**P**	**10 20 40.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=130,slow=11,SNR=23						
TXAR				S	S	10 24 22.7	-11
	comp=Z,0.8nm,0.8s,baz=121,slow=20,SNR=4.1						
TXAR				LR	LR	10 29 17.9	
	comp=Z,20nm,20.7s,baz=125,slow=39						
	comp=Z,1.8nm,0.7s						
TX31	**Lajitas Ar. Si**	**20.98**	**311**	P	**P**	**10 20 38.9**	**-1.3**
T42A	**Van Buren**	**21.11**	**348**	P	**P**	**10 20 41.0**	**-0.4**
APMT	**Aspermont**	**21.33**	**325**	P	**P**	**10 20 43.4**	**-0.4**
APMT				IAmb	IAmb	10 21 04.0	
	comp=Z,7.8nm,0.7s						
PCRV	**Puerto La Cruz**	**21.34**	**104**	LR	LR	10 30 11.1	
	comp=Z,81nm,18.9s,slow=39						
MGMO	**Mountain Grove**	**21.49**	**345**	P	**P**	**10 20 44.4**	**-1.1**
MNHN	**Monahans**	**21.55**	**317**	P	**P**	**10 20 45.9**	**-0.4**
MNHN				IAmb	IAmb	10 20 58.3	
	comp=Z,11nm,0.9s						
ALPN	**Alpine**	**21.56**	**313**	P	**P**	**10 20 45.9**	**-0.5**
ALPN				IAmb	IAmb	10 21 10.8	
	comp=Z,7.7nm,0.8s						
WMOK	**Wichita Mounta**	**21.73**	**330**	P	**P**	**10 20 48.6**	**+0.5**
WCI	**Wyandotte Cave**	**21.75**	**359**	P	**P**	**10 20 47.6**	**-0.6**
POST	**Post**	**21.93**	**322**	P	**P**	**10 20 49.9**	**-0.5**
POST				IAmb	IAmb	10 21 13.9	
	comp=Z,14nm,1.1s						
CLN7	**Carlsbad 7**	**22.92**	**317**	P	**P**	**10 21 00.4**	**-0.6**
LPIG	**La Paz**	**24.36**	**292**	LR	LR	10 31 30.0	
	comp=Z,50nm,19.2s,baz=90,slow=39						
ANMO	**Albuquerque**	**26.23**	**319**	P	**P**	**10 21 33.2**	**+1.1**
ANMO				IAmb	IAmb	10 21 44.7	
	comp=Z,6.8nm,1.2s						
ANMO	**Albuquerque**	**26.23**	**319**	LR	LR	10 32 45.3	
	comp=Z,16nm,19.7s,baz=300,slow=39						
SADO	**Sadowa**	**28.80**	**10**	LR	LR	10 33 43.1	
	comp=Z,44nm,18.1s,baz=272,slow=38						
PDAR	**Pinedale Array**	**33.29**	**327**	P	**P**	**10 22 35.4**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=156,slow=7.8,SNR=1.8						
PDAR				LR	LR	10 38 17.8	
	comp=Z,27nm,18.2s,baz=104,slow=41						
	comp=Z,0.1nm,0.4s						
MDP	**Montagnes des**	**34.24**	**105**	LR	LR	10 37 58.9	
	comp=Z,52nm,18.9s,baz=298,slow=38						
NVAR	**Mina Array Bea**	**36.07**	**314**	P	**P**	**10 22 59.9**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=126,slow=11,SNR=3.6						
	comp=Z,1.0nm,0.9s						
SCHQ	**Schefferville**	**41.01**	**17**	P	**P**	**10 23 43.5**	**+3.7**
	comp=Z,2.9nm,0.9s,baz=216,slow=8.7,SNR=2.3						
SCHQ				LR	LR	10 39 57.5	
	comp=Z,64nm,19.6s,baz=29,slow=35						
	comp=Z,2.9nm,0.9s						
FRB	**Frobisher Bay**	**48.75**	**10**	LR	LR	10 44 27.2	
	comp=Z,52nm,18.5s,baz=40,slow=35						
BBB	**Bella Bella**	**48.93**	**327**	LR	LR	10 46 49.2	
	comp=Z,31nm,19.1s,baz=342,slow=38						
YKA	**Yellowknife Ar**	**50.33**	**343**	P	**P**	**10 24 54.9**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=140,slow=8.0,SNR=5.5						
	comp=Z,0.2nm,0.7s						
SFJD	**Kangerlussuaq**	**55.46**	**16**	LR	LR	10 48 38.5	
	comp=Z,49nm,18.6s,baz=194,slow=36						
RES	**Resolute Bay**	**58.51**	**357**	LR	LR	10 50 52.5	
	comp=Z,18nm,18.0s,baz=9.0,slow=36						
ILAR	**Eielson Array**	**63.17**	**335**	P	**P**	**10 26 26.3**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=118,slow=5.1,SNR=12						
	comp=Z,0.7nm,0.7s						
NOA	**NORSAR Array B**	**79.08**	**29**	LR	LR	10 59 34.2	
	comp=Z,8.8nm,21.0s,baz=350,slow=33						
HFS	**Hagfors**	**80.50**	**30**	LR	LR	11 02 11.4	
	comp=Z,12nm,19.3s,baz=288,slow=35						
FINES	**FINESS Array B**	**85.67**	**27**	P	**P**	**10 28 38.9**	**+3.5**
	comp=Z,2.8nm,1.0s,baz=282,slow=7.0,SNR=2.0						
	comp=Z,2.8nm,1.0s						

*NEIC **06** 10:16:50.4±0.9, 13.°22S±0.°09×170.°4E±0.°2, h10km±2km, mb4.4/14, Error ellipse: s-maj=33.8km s-min=6.4km az=64.0*
*IDC **06** 10:17:02.5±60.0, 13.°80S×168.°73E, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=1020.0km s-min=118.7km az=65.0*
ISC 06 10:16:51.2±2.1, 13.°5S±0.°4×170.°4E±0.°2, h10km, n18, σ1§59/18, mb4.3/10, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**19.69**	**109**	P	**P**	**10 21 20.3**	**-0.5**
ARMA	**Armidale**	**24.14**	**223**	P	**P**	**10 22 07.9**	**+0.3**
ARMA				IAmb	IAmb	10 22 27.6	
	comp=Z,9.6nm,1.1s						
BKZ	**Black Stump Fm**	**26.13**	**169**	P	**P**	**10 22 26.8**	**+1.2**
BKZ				IAmb	IAmb	10 22 27.0	
	comp=Z,4.1nm,0.6s						
COEN	**Coen**	**26.43**	**266**	P	**P**	**10 22 32.1**	**+3.7**
MRZ	**Mangatainoka R**	**27.44**	**171**	P	**P**	**10 22 38.1**	**+0.8**
MRZ				IAmb	IAmb	10 22 38.7	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**32.09**	**230**	P	**P**	**10 23 18.6**	**0.0**
STKA	**Stephens Creek**	**32.09**	**230**	P	**P**	**10 23 18.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=72,slow=6.4,SNR=4.9						
	comp=Z,0.5nm,0.4s						
WR0	**Warramunga Arr**	**34.87**	**254**	P	**P**	**10 23 42.3**	**-0.7**
WR0				IAmb	IAmb	10 23 44.2	
	comp=Z,1.7nm,0.6s						
WB0	**Warramunga Arr**	**34.99**	**255**	P	**P**	**10 23 43.4**	**-0.7**
WB2	**Warramunga Arr**	**35.04**	**255**	P	**P**	**10 23 43.6**	**-0.9**
WB2				IAmb	IAmb	10 23 43.8	
	comp=Z,2.3nm,0.5s						
WRA	**Warramunga Arr**	**35.06**	**255**	P	**P**	**10 23 43.6**	**-1.0**
WRA	**Warramunga Arr**	**35.06**	**255**	P	**P**	**10 23 43.6**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=84,slow=8.7,SNR=55						
	comp=Z,1.8nm,0.3s						
AS31	**Alice Springs**	**35.93**	**248**	P	**P**	**10 23 51.1**	**-1.0**
AS31				IAmb	IAmb	10 23 51.3	
	comp=Z,3.1nm,0.3s						
ASAR	**Alice Springs**	**35.93**	**248**	P	**P**	**10 23 50.6**	**-1.5**
ASAR	**Alice Springs**	**35.93**	**248**	P	**P**	**10 23 50.8**	**-1.3**
	comp=Z,5.9nm,0.7s,baz=80,slow=9.5,SNR=82						
	comp=Z,5.9nm,0.7s						
BBOO	**Buckleboo**	**36.72**	**233**	P	**P**	**10 23 57.3**	**-1.4**
KNRA	**Kununurra**	**40.29**	**262**	P	**P**	**10 24 27.0**	**-1.9**
KNRA				IAmb	IAmb	10 24 33.0	
	comp=Z,6.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**43.22**	**258**	P	**P**	**10 24 50.2**	**-2.7**

IDC 06 10:22:34.6±999.0, 57.°03N×29.°37E, h0km, Error ellipse: s-maj=1175.0km s-min=92.8km az=91.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.32**	**91**	I	I	10 50 50.0	
	0.5nm,0.6s,baz=275,slow=325,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**18.12**	**99**	I	I	12 13 40.0	
	baz=308,slow=326,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**30.84**	**72**	I	I	13 28 40.0	
	baz=300,slow=328,SNR=2.0						

*NOU **06** 10:33:01.9, 35.°26S×179.°48E, h225km, MLv3.8/10, Off E. Coast of N. Island, N.Z.*
*WEL **06** 10:33:10.2±1.0, 35.°S±9.°×17.°9E±1.°0, h156km±22km, M3.7/19, ML4.0/19, MLv3.7/19, Error ellipse: s-maj=14.3km s-min=11.3km az=54.8, confirmed*
ISC 06 10:33:06.1±3.4, 35.°5S±0.°2×179.°2E±0.°2, h219km±16km, n43, σ1§42/56, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.15**	**199**	P	**Pn**	**10 33 47.4**	**0.0**
MXZ	**Matakaoa Point**	**2.15**	**199**	P	**Pn**	**10 33 47.4**	**0.0**
MXZ				S	**S**	**10 34 16.4**	**-3.3**
WMGZ	**Waiomatatini S**	**2.37

mb3.1/5,mbtmp3.9/6,Error ellipse: s-maj=70.7km s-min=27.2km az=6.0

ISC 06 10:39:30.4±1.1,25°.1S±0°.1×179°.7E±0°.2,h450km,n7, σ0.94/7,mb3.5/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.32**	**189**	P	**P**	**10 42 22.1**	**-1.2**
	5.5nm,0.8s,baz=37,slow=15,SNR=1.5						
URZ				S	**S**	**10 44 47.3**	**+1.2**
	3.8nm,0.9s,baz=342,slow=20,SNR=1.7						
STKA	**Stephens Creek**	**34.02**	**250**	P	**P**	**10 45 35.7**	**+0.4**
	0.8nm,0.4s,baz=104,slow=12,SNR=3.4						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**41.56**	**262**	P	**P**	**10 46 37.5**	**+0.1**
	1.1nm,0.4s,baz=90,slow=6.9,SNR=38						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**42.04**	**268**	P	**P**	**10 46 40.8**	**-0.5**
	3.1nm,0.7s,baz=99,slow=6.7,SNR=32						
	3.1nm,0.7s						
NVAR	**Mina Array Bea**	**85.81**	**44**	P	**P**	**10 51 21.7**	**+0.3**
	0.1nm,0.3s,baz=215,slow=6.3,SNR=2.2						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**91.31**	**58**	P	**P**	**10 51 47.3**	**+0.1**
	0.4nm,0.9s,baz=236,slow=5.8,SNR=3.5						
	0.4nm,0.9s						
HFS	**Hagfors**	**143.64**	**348**	PKP	PKPab	10 58 09.3	-1.6
	1.0nm,0.4s,baz=27,slow=3.5,SNR=4.4						

IDC 06 11:06:17.0±6.0,5°.89S×150°.83E,h0km,mb3.3/3, mbtmp3.4/3,MS3.2/1,Error ellipse: s-maj=180.4km s-min=34.4km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.26**	**227**	P	P	11 11 04.0	-1.1
	0.8nm,0.9s,baz=49,slow=10,SNR=5.2						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.03**	**221**	P	P	11 11 34.2	+0.2
	1.0nm,0.8s,baz=56,slow=8.3,SNR=14						
	1.0nm,0.8s						
KAPI	**Kappang**	**30.94**	**270**	LR	LR	11 26 28.6	
	comp=Z,46nm,19.1s,baz=300,slow=39						
SONM	**Songino Array**	**66.22**	**329**	P	P	11 17 07.4	+0.5
	0.2nm,0.4s,baz=134,slow=4.2,SNR=2.2						
	0.2nm,0.4s						

IDC 06 11:09:37.8±9.2,17°.72S×178°.44W,h585km±98km, mb2.7/4,mbtmp3.6/4,Error ellipse: s-maj=114.0km s-min=33.8km az=145.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.64**	**259**	P	P	11 16 59.6	-0.1
	0.6nm,0.5s,baz=95,slow=7.2,SNR=13						
WRA				PcP	PcP	11 18 29.5	-0.1
	3.5nm,1.4s,baz=92,slow=3.8,SNR=5.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**44.82**	**254**	P	P	11 17 00.9	-0.1
	1.7nm,0.6s,baz=88,slow=8.8,SNR=28						
ASAR				PcP	PcP	11 18 29.5	-0.7
	0.3nm,0.4s,baz=104,slow=4.1,SNR=4.7						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**85.71**	**13**	P	P	11 21 15.0	-0.2
	0.1nm,0.4s,baz=209,slow=4.7,SNR=6.4						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**85.92**	**58**	P	P	11 21 17.3	+0.2
	0.2nm,0.7s,baz=217,slow=7.9,SNR=2.6						
	0.2nm,0.7s						

HEL 06 11:18:35.8±0.3,67°.16N×20°.59E,h0km,ML1.1, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.88**	**133**	PG	Pg	11 18 50.2	-2.4
PAJU	**Pajala**	**1.00**	**97**	PG	Pg	11 18 53.8	-1.0
PAJU				SB	Sg	11 19 07.8	0.0
LANU	**Lannavaara**	**1.04**	**31**	SB	Sg	11 19 08.8	+0.6
KLF	**Kolari**	**1.32**	**85**	PG	Pg	11 18 58.9	-2.1
KLF				MSG		11 19 15.5	
	comp=Z,0.8nm,0.2s						
KLF				SG	Sg	11 19 16.6	-1.4
HEF	**Hetta**	**1.71**	**42**	PG	Pn	11 19 06.3	-0.6
HEF				MSG		11 19 26.9	
	comp=Z,0.8nm,0.2s						
HEF				SN	Sn	11 19 29.2	-0.1
KALU	**Kalix**	**1.72**	**138**	PG	Pn	11 19 06.6	-0.3
KALU				SN	Sg	11 19 30.7	-0.1
TOF	**Tornio**	**1.84**	**124**	PG	Pn	11 19 08.8	+0.1
TOF				MSG		11 19 30.7	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sn	11 19 32.7	+0.1
KIF	**Kilpisjarvi**	**1.85**	**2**	PG	Pb	11 19 10.2	-0.2
KIF				MSG		11 19 32.0	
	comp=Z,1.5nm,0.2s						
KIF				SG	Sb	11 19 34.3	+0.2
KTK1	**Kautokeino**	**2.11**	**27**	PG	Pn	11 19 13.1	+0.8
KTK1				SG	Sb	11 19 40.6	-0.9
RNF	**Rovaniemi**	**2.21**	**102**	PB	Pn	11 19 14.3	+0.6
RNF				SG	Sb	11 19 43.4	-1.0
TRO	**Tromso**	**2.56**	**347**	SN	Sn	11 19 49.1	-1.0
RANF	**Ranua**	**2.73**	**112**	SG	Sb	11 19 58.7	-0.7
OBF4	**Vikkela, Lumij**	**3.00**	**140**	PB	Pn	11 19 26.9	+2.5
OBF4				MSG		11 20 03.9	
	comp=Z,0.4nm,0.2s						
OUL	**Oulu**	**3.00**	**132**	SN	Sn	11 20 00.5	-0.6
RAJF	**Raja-Jooseppi**	**3.21**	**62**	SN	Sn	11 20 06.5	+0.2
KEV	**Kevo**	**3.52**	**39**	SN	Sn	11 20 13.9	0.0
VRF	**Varrio**	**3.52**	**76**	SB	Sb	11 20 20.8	-1.4

*PGC **06** 11:26:57.9±0.1,64°.11N×129°.55W,h1km,ML3.0/31, 184km southwest of Norman Wells, Nt Nw Territories - Nunavut, Canada*

*ANF **06** 11:26:59.9±0.5,64°.18N×129°.82W,h15km±3km,ML3.2/21, Error ellipse: s-maj=2.2km s-min=1.0km az=67.0*

ISC 06 11:26:57.6±0.8,64°.14N±0°.03×129°.61W±0°.04,h10km, n106,σ2.11/163,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FARO	**Faro, Yukon**	**2.56**	**223**	Pn	**Pn**	**11 27 39.8**	**+0.6**
FARO				Sg	**Sb**	**11 28 17.3**	**+2.2**
FARO	**Faro, Yukon**	**2.56**	**223**	P	**Pn**	**11 27 40.1**	**+1.0**
	baz=38,SNR=5.5						
FARO				Sb	**Sb**	**11 28 17.3**	**+2.2**
	baz=38						
H31M	**Peel River**	**2.61**	**312**	Pn	**Pn**	**11 27 40.9**	**+1.0**
H31M	**Peel River**	**2.61**	**312**	P	**Pn**	**11 27 40.7**	**+0.8**
	baz=128						
H31M				S	**Sn**	**11 28 11.4**	**-0.2**
	baz=128						
TGTN	**Hyland Airport**	**2.70**	**166**	Pn	**Pb**	**11 27 43.2**	**-2.7**
TGTN				Sn	**Sb**	**11 28 17.1**	**-1.9**
TGTN	**Hyland Airport**	**2.70**	**166**	P	**Pb**	**11 27 43.6**	**-2.3**
	baz=346,SNR=11						
TGTN				S	**Sb**	**11 28 17.3**	**-1.7**
	baz=346						
MAYO	**Mayo, Yukon**	**2.84**	**262**	Sg	**Sb**	**11 28 25.1**	**+2.2**
MAYO	**Mayo, Yukon**	**2.84**	**262**	P	**Pn**	**11 27 43.5**	**+0.6**
	baz=75						
MAYO				Sb	**Sb**	**11 28 24.0**	**+1.0**
	baz=75						
WRGLY	**Wrigley**	**2.89**	**106**	P	**Pn**	**11 27 46.0**	**+2.4**
	baz=292						
M31M	**Drury Creek, Y**	**2.92**	**230**	Pn	**Pn**	**11 27 44.8**	**+0.8**
M31M				Sg	**Sb**	**11 28 27.1**	**+1.8**
M31M	**Drury Creek, Y**	**2.92**	**230**	P	**Pn**	**11 27 45.4**	**+1.4**
	baz=44						
M31M				Sb	**Sb**	**11 28 27.3**	**+2.1**
	baz=44						
J30M	**Hart River**	**2.96**	**281**	Pn	**Pn**	**11 27 46.5**	**+1.9**
J30M				Sn	**Sn**	**11 28 23.4**	**+3.3**
J30M	**Hart River**	**2.96**	**281**	P	**Pn**	**11 27 45.5**	**+0.9**
	baz=95,SNR=14						
I30M	**Mount Dempster**	**3.10**	**293**	Pn	**Pn**	**11 27 49.0**	**+2.4**
I30M				Sn	**Sn**	**11 28 25.9**	**+2.1**
I30M	**Mount Dempster**	**3.10**	**293**	P	**Pn**	**11 27 46.0**	**-0.6**
	baz=107						
G31M	**Satah River**	**3.40**	**327**	Pn	**Pn**	**11 27 50.6**	**+0.1**
G31M				Sn	**Sn**	**11 28 31.9**	**+1.1**
G31M	**Satah River**	**3.40**	**327**	P	**Pn**	**11 27 50.8**	**+0.3**
	baz=144						
G31M				S	**Sn**	**11 28 31.3**	**+0.5**
	baz=144						
N32M	**Quiet Lake**	**3.41**	**210**	Pn	**Pn**	**11 27 49.6**	**-1.1**
N32M				Sg	**Sg**	**11 28 44.5**	**-2.3**
N32M	**Quiet Lake**	**3.41**	**210**	P	**Pn**	**11 27 52.3**	**+1.6**
	baz=25						
N32M				Sb	**Sg**	**11 28 43.5**	**-3.3**
	baz=25						
K29M	**Barlow Dome**	**3.50**	**269**	Pn	**Pn**	**11 27 52.5**	**+0.4**
K29M				Sn	**Sn**	**11 28 34.3**	**+0.7**
K29M				Sg	**Sg**	**11 28 47.5**	**-2.3**
K29M	**Barlow Dome**	**3.50**	**269**	P	**Pn**	**11 27 52.4**	**+0.4**
	baz=81						
K29M				S	**Sn**	**11 28 33.6**	**0.0**
	baz=81						
M30M	**Minto, Yukon**	**3.60**	**247**	Pn	**Pn**	**11 27 53.8**	**+0.4**
M30M				Sg	**Sb**	**11 28 49.2**	**+4.3**
M30M	**Minto, Yukon**	**3.60**	**247**	P	**Pn**	**11 27 53.9**	**+0.5**
	baz=60,SNR=13						
M30M				Sb	**Sb**	**11 28 47.6**	**+2.7**
	baz=60						
F31M	**Tsiigehtchic**	**3.72**	**335**	Pn	**Pn**	**11 27 55.1**	**+0.1**
F31M	**Tsiigehtchic**	**3.72**	**335**	P	**Pn**	**11 27 55.2**	**+0.2**
	baz=152,SNR=23						
F31M				S	**Sn**	**11 28 39.3**	**+0.4**
	baz=152						
N31M	**Braeburn, Yuko**	**3.89**	**230**	Sg	**Sg**	**11 29 00.6**	**-1.7**
L29M	**L29M**	**3.94**	**259**	Pn	**Pn**	**11 27 59.3**	**+1.2**
L29M	**L29M**	**3.94**	**259**	P	**Pn**	**11 27 57.2**	**-0.8**
	baz=70						
G30M	**tAoh Zraii Nji**	**3.96**	**319**	Pn	**Pn**	**11 27 58.8**	**+0.5**
G30M				Sn	**Sn**	**11 28 46.4**	**+1.7**
G30M	**tAoh Zraii Nji**	**3.96**	**319**	P	**Pn**	**11 27 57.9**	**-0.4**
	baz=134,SNR=8.1						
G30M				S	**Sn**	**11 28 45.3**	**+0.6**
	baz=134						
WTLY	**Watson Lake, Y**	**4.06**	**174**	Pn	**Pn**	**11 28 00.8**	**+1.0**
WTLY				Sn	**Sn**	**11 28 48.8**	**+1.5**
WTLY	**Watson Lake, Y**	**4.06**	**174**	P	**Pn**	**11 28 02.0**	**+2.2**
	baz=354						
WTLY				S	**Sn**	**11 28 48.9**	**+1.5**
	baz=354						
P33M	**Teslin, Yukon**	**4.22**	**202**	Pn	**Pn**	**11 28 03.1**	**+1.1**
P33M				Sn	**Sn**	**11 28 52.3**	**+1.0**
P33M				Sg	**Sg**	**11 29 08.4**	**-4.6**
P33M	**Teslin, Yukon**	**4.22**	**202**	P	**Pn**	**11 28 02.6**	**+0.6**
	baz=18,SNR=19						
P33M				S	**Sn**	**11 28 53.0**	**+1.7**
	baz=18						
H29M	**Whitestone**	**4.24**	**303**	Pn	**Pn**	**11 28 02.2**	**+0.1**
H29M				Sn	**Sn**	**11 28 50.2**	**-1.4**
H29M	**Whitestone**	**4.24**	**303**	P	**Pn**	**11 28 02.4**	**+0.3**
	baz=116						
H29M				S	**Sn**	**11 28 50.8**	**-0.9**
	baz=116						
WHY	**Whitehorse**	**4.27**	**217**	Pn	**Pn**	**11 28 04.3**	**+1.7**
WHY				Sn	**Sn**	**11 28 53.6**	**+1.0**
WHY				Sg	**Sg**	**11 29 09.6**	**-5.0**
WHY	**Whitehorse**	**4.27**	**217**	P	**Pn**	**11 28 03.5**	**+0.9**
	baz=31,SNR=6.9						
WHY				Sb	**Sb**	**11 29 08.6**	**+4.3**
	baz=31						
DAWY	**Dawson**	**4.29**	**273**	Pn	**Pn**	**11 28 04.1**	**+1.2**
DAWY	**Dawson**	**4.29**	**273**	P	**Pn**	**11 28 03.6**	**+0.7**
	baz=84,SNR=33						
DAWY				S	**Sn**	**11 28 52.7**	**-0.3**
	baz=84						
F30M	**Barrier River**	**4.31**	**327**	Pn	**Pn**	**11 28 03.6**	**+0.6**
F30M				Sn	**Sn**	**11 28 53.8**	**+0.6**
F30M	**Barrier River**	**4.31**	**327**	P	**Pn**	**11 28 03.4**	**+0.4**
	baz=142						
F30M				S	**Sn**	**11 28 53.7**	**+0.5**
	baz=142						
M29M	**Somme Creek**	**4.34**	**251**	Pn	**Pn**	**11 28 04.3**	**+0.7**
M29M				Sg	**Sb**	**11 29 11.8**	**+5.3**
M29M	**Somme Creek**	**4.34**	**251**	Sb	**Sb**	**11 29 09.6**	**+3.1**
	baz=62						
N30M	**Aishikik Lake**	**4.36**	**235**	Pn	**Pn**	**11 28 05.4**	**+1.5**
N30M				Sn	**Sn**	**11 28 55.1**	**+0.3**
N30M				Sg	**Sb**	**11 29 12.5**	**+5.5**
N30M	**Aishikik Lake**	**4.36**	**235**	Sb	**Sb**	**11 29 11.4**	**+4.4**
	baz=48						
G29M	**Pine Creek**	**4.47**	**312**	Pn	**Pn**	**11 28 06.4**	**+1.1**
G29M				Sn	**Sn**	**11 28 56.3**	**-0.9**
G29M	**Pine Creek**	**4.47**	**312**	P	**Pn**	**11 28 05.4**	**+0.1**
	baz=125						
G29M				S	**Sn**	**11 28 55.7**	**-1.5**
	baz=125						
INK	**Inuvik**	**4.47**	**341**	Pn	**Pn**	**11 28 05.1**	**-0.1**
INK	**Inuvik**	**4.47**	**341**	P	**Pn**	**11 28 05.9**	**+0.7**
	baz=158,SNR=32						
INK				S	**Sn**	**11 28 58.5**	**+1.3**
	baz=158						
O30N	**Mendenhall**	**4.53**	**225**	Pn	**Pn**	**11 28 07.5**	**+1.4**
O30N				Sg	**Sg**	**11 29 18.2**	**-4.6**
O30N	**Mendenhall**	**4.53**	**225**	P	**Pn**	**11 28 07.1**	**+1.0**
	baz=38,SNR=20						
O30N				Sb	**Sb**	**11 29 16.6**	**+4.9**
	baz=38						
I28M	**Miner Creek**	**4.61**	**291**	Pn	**Pn**	**11 28 08.2**	**+0.9**
R33M	**Jennings River**	**4.81**	**188**	Pn	**Pn**	**11 28 11.8**	**+1.7**
R33M				Sn	**Sn**	**11 29 06.7**	**+0.8**
R33M	**Jennings River**	**4.81**	**188**	P	**Pn**	**11 28 11.9**	**+1.7**
	baz=5.9,SNR=12						
R33M				S	**Sn**	**11 29 07.6**	**+1.7**
	baz=5.9						
YUK5	**Granite Creek**	**4.86**	**235**	Pn	**Pn**	**11 28 12.5**	**+1.7**
YUK5				Sn	**Sn**	**11 29 07.7**	**+0.5**
YUK5				Sg	**Sb**	**11 29 27.4**	**+6.1**
HYT	**Haines Junctio**	**4.95**	**231**	Pn	**Pn**	**11 28 13.6**	**+1.6**
HYT	**Haines Junctio**	**4.95**	**231**	P	**Pn**	**11 28 13.4**	**+1.4**
	baz=43,SNR=9.6						
P32M	**Atlin**	**4.97**	**205**	Pn	**Pn**	**11 28 14.1**	**+1.9**
P32M	**Atlin**	**4.97**	**205**	P	**Pn**	**11 28 13.4**	**+1.3**
	baz=20,SNR=19						
YUK4	**Talbot Arm**	**5.01**	**240**	Pn	**Pn**	**11 28 13.4**	**+0.4**
YUK4				Sg	**Sb**	**11 29 29.1**	**+3.4**
YUK4	**Talbot Arm**	**5.01**	**240**	P	**Pn**	**11 28 12.9**	**-0.1**
	baz=52,SNR=15						
YUK4				S	**Sn**	**11 29 09.6**	**-1.4**
	baz=52						
YUK6	**Outpost Mounta**	**5.17**	**236**	Pn	**Pn**	**11 28 16.6**	**+1.6**
YUK6	**Outpost Mounta**	**5.17**	**236**	P	**Pn**	**11 28 16.7**	**+1.6**
	baz=47,SNR=6.7						
P30M	**Million Dollar**	**5.31**	**224**	Pn	**Pn**	**11 28 18.4**	**+1.6**
P30M				Sn	**Sn**	**11 29 19.1**	**+1.1**
P30M				Sg	**Sb**	**11 29 40.6**	**+6.6**
P30M	**Million Dollar**	**5.31**	**224**	P	**Pn**	**11 28 17.8**	**+1.0**
	baz=36						
Q32M	**Nakina River**	**5.36**	**195**	Pn	**Pn**	**11 28 19.2**	**+1.6**
Q32M	**Nakina River**	**5.36**	**195**	P	**Pn**	**11 28 19.4**	**+1.8**
	baz=12						
YUK7	**Dusty Glacier**	**5.38**	**232**	Pn	**Pn**	**11 28 20.1**	**+2.2**
E29M	**Blow River**	**5.42**	**326**	Pn	**Pn**	**11 28 18.8**	**+0.6**
E29M				Sn	**Sn**	**11 29 20.5**	**0.0**
E29M	**Blow River**	**5.42**	**326**	P	**Pn**	**11 28 18.5**	**+0.2**
	baz=139						
H27K	**Steamboat Moun**	**5.44**	**298**	Pn	**Pn**	**11 28 19.9**	**+1.3**
YUK8	**Steele Glacier**	**5.48**	**243**	Pg	**Pg**	**11 28 40.5**	**-2.0**
YUK8				Sg	**Sg**	**11 29 48.1**	**-5.2**
L27K	**Beaver Creek,**	**5.56**	**264**	Pn	**Pn**	**11 28 21.2**	**+0.9**
L27K				Sn	**Sn**	**11 29 24.3**	**+0.1**
L27K	**Beaver Creek,**	**5.56**	**264**	P	**Pn**	**11 28 20.3**	**0.0**
	baz=73						
C36M	**Paulatuk**	**5.67**	**20**	Sn	**Sn**	**11 29 24.6**	**-2.0**
C36M	**Paulatuk**	**5.67**	**20**	P	**Pn**	**11 28 23.3**	**+1.7**
	baz=206						
G27K	**Doyon Strip**	**5.68**	**303**	Pn	**Pn**	**11 28 23.0**	**+1.0**
G27K				Sn	**Sn**	**11 29 23.4**	**-3.8**
G27K	**Doyon Strip**	**5.68**	**303**	P	**Pn**	**11 28 22.4**	**+0.5**
	baz=113						
O29M	**Mount Kennedy**	**5.69**	**231**	Pn	**Pn**	**11 28 25.0**	**+2.8**
TOAD	**Toad River Com**	**5.71**	**157**	P	**Pn**	**11 28 24.9**	**+2.6**
	baz=340						
DLBC	**Dease Lake**	**5.73**	**182**	Pn	**Pn**	**11 28 24.8**	**+2.1**
DLBC				Sg	**Sg**	**11 30 02.5**	**+1.1**
DLBC	**Dease Lake**	**5.73**	**182**	P	**Pn**	**11 28 24.6**	**+1.9**
	baz=0.9,SNR=23						
M27K	**Edge Creek, AK**	**5.82**	**258**	Pn	**Pn**	**11 28 24.9**	**+0.9**
M27K				Sg	**Sg**	**11 29 58.7**	**-5.6**
M27K	**Edge Creek, AK**	**5.82**	**258**	P	**Pn**	**11 28 24.6**	**+0.6**
	baz=66						
O28M	**Mount Upton**	**5.96**	**240**	Pn	**Pn**	**11 28 28.2**	**+2.2**
E28M	**Babbage River**	**5.99**	**323**	P	**Pn**	**11 28 26.7**	**+0.5**
	baz=134						
S34M	**Telegraph Cree**	**6.30**	**187**	P	**Pn**	**11 28 32.2**	**+1.8**
	baz=5.2						
E27K	**Coleen River**	**6.32**	**315**	P	**Pn**	**11 28 31.7**	**+1.0**
	baz=125						
D28M	**Stokes Point**	**6.33**	**329**	Sn	**Sn**	**11 29 40.1**	**-2.9**
D27M	**Malcolm River**	**6.81**	**324**	Pn	**Pn**	**11 28 39.8**	**+2.4**
D27M	**Malcolm River**	**6.81**	**324**	P	**Pn**	**11 28 38.1**	**+0.7**
	baz=134						
F26K	**Sheenjek River**	**6.93**	**307**	Pn	**Pn**	**11 28 39.9**	**+0.9**
F26K	**Sheenjek River**	**6.93**	**307**	P	**Pn**	**11 28 39.7**	**+0.7**
	baz=114						
YKAW3	**Yellowknife Wh**	**6.93**	**96**	Pn	**Pn**	**11 28 40.1**	**+1.1**
KUKN	**Kugluktuk,NWT**	**6.97**	**52**	Pn	**Pn**	**11 28 44.0**	**+4.5**
T35M	**Bob Quinn**	**7.20**	**183**	Pn	**Pn**	**11 28 45.5**	**+2.8**
T35M	**Bob Quinn**	**7.20**	**183**	P	**Pn**	**11 28 44.8**	**+2.1**
	baz=1.5						
F25K	**Christian Rive**	**7.42**	**305**	P	**Pn**	**11 28 44.9**	**-0.9**
	baz=110						
E25K	**Arctic Village**	**7.59**	**309**	Pn	**Pn**	**11 28 49.5**	**+1.4**
C27K	**Jago River**	**7.80**	**321**	Pn	**Pn**	**11 28 53.0**	**+2.1**
A36M	**Sachs Harbour**	**8.04**	**10**	Pn	**Pn**	**11 28 56.8**	**+2.6**
A36M	**Sachs Harbour**	**8.04**	**10**	P	**Pn**	**11 28 55.6**	**+1.4**
	baz=194						
C26K	**Camden Bay**	**8.31**	**321**	Pn	**Pn**	**11 28 59.9**	**+2.1**
TOLK	**Toolik Lake Re**	**9.16**	**308**	P	**Pn**	**11 29 10.6**	**+0.9**
	baz=110						
C23K	**Itkillik River**	**9.96**	**314**	P	**Pn**	**11 29 21.4**	**+0.9**
	baz=115						

IDC 06 11:34:16.7±7.0,5°.68S×126°.81E,h525km±110km,mb2.6/1, mbtmp3.6/4,Error ellipse: s-maj=113.3km s-min=35.3km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.40**	**185**	P	P	11 37 00.6	+1.3
	1.6nm,0.3s,baz=13,slow=11,SNR=30						
WRA	**Warramunga Arr**	**15.96**	**153**	P	P	11 37 36.4	-0.1
	0.6nm,0.3s,baz=330,slow=11,SNR=42						
ASAR	**Alice Springs**	**19.15**	**160**	P	P	11 38 05.8	-0.5
	0.2nm,0.3s,baz=336,slow=6.9,SNR=6.5						
SONM	**Songino Array**	**56.24**	**344**	P	P	11 43 07.0	0.0
	0.3nm,0.5s,baz=144,slow=5.7,SNR=2.0						
	0.3nm,0.5s						

*NEIC **06** 11:51:05.0±1.3,7°.70S±0°.06×129°.41E±0°.07,h35km±2km, mb4.2/11,Error ellipse: s-maj=12.5km s-min=10.8km az=93.0*

*IDC **06** 11:51:07.2±2.8,7°.77S×129°.13E,h54km±24km,mb3.9/8, mbtmp4.2/11,ML4.5/2,MS3.0/7,Error ellipse: s-maj=40.5km s-min=16.3km az=64.0*

*DJA **06** 11:51:09.6±0.3,8°.3S±2°.×12°.9E±°.,h96km±13km,M4.7/17, mB4.9/3,mb4.7/12,MLv4.7/17,Mw(mB)4.2/3*

ISC 06 11:51:06.8±0.5,7°.73S±0°.04×129°.33E±0°.05,h50km,n76, σ1.97/75,mb4.2/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.96**	**98**		Pn	11 51 35.3	-2.4
SAUI	**Saumlaki**	**1.96**	**98**	P	**Pn**	**11 51 41.6**	**+3.9**
SAUI				S	**Sn**	**11 52 07.0**	**+5.8**
BNDI	**Bandanaira**	**3.23**	**10**	P	**Pn**	**11 51 56.1**	**+1.0**
BNDI	**Bandanaira**	**3.23**	**10**	P	**Pn**	**11 51 55.9**	**+0.8**
AAI	**Ambon**	**4.17**	**344**	P	**Pn**	**11 52 09.0**	**+1.1**
AAI				S	**Sn**	**11 52 55.8**	**+0.4**
MSAI	**Masohi**	**4.37**	**355**	P	**Pn**	**11 52 11.9**	**+1.2**
DRS	**Darwin Rock St**	**4.92**	**162**	P	**Pn**	**11 52 20.8**	**+2.5**
DRS	**Darwin Rock St**	**4.92**	**162**	S	**Sn**	**11 53 17.2**	**+3.2**
NLAI	**Namlea**	**4.98**	**333**	P	**Pn**	**11 52 21.2**	**+2.1**
NLAI				S	**Sn**	**11 53 17.1**	**+1.7**
MTN	**Manton Dam**	**5.39**	**161**		**Pn**	**11 52 21.8**	**-2.9**
MTN	**Manton Dam**	**5.39**	**161**	P	**Pn**	**11 52 27.1**	**+2.4**
MTN	**Manton Dam**	**5.39**	**161**	S	**Sn**	**11 53 28.4**	**+3.0**
SOEI	**Soe**	**5.40**	**248**	Pn	**Pn**	**11 52 24.2**	**-0.7**
SOEI	**Soe**	**5.40**	**248**	P	Pn	11 52 29.1	+4.2
SOEI	**Soe**	**5.40**	**248**	P	Pn	11 52 28.0	+3.1
	0.7nm74nm,0.9s						
FAKI	**Fak Fak**	**5.59**	**31**		Pn	11 52 23.6	-3.8
FAKI	**Fak Fak**	**5.59**	**31**	P	**Pn**	**11 52 27.3**	**-0.1**
FAKI	**Fak Fak**	**5.59**	**31**	S	**Sn**	**11 53 27.7**	**-2.7**
FAKI	**Fak Fak**	**5.59**	**31**	P	**Pn**	**11 52 27.4**	**0.0**
	0.4nm954nm63nm,0.8s						
FAKI				S	**Sn**	**11 53 30.0**	**-0.4**
	0.4nm954nm63nm,0.8s						
KDU	**Kakadu**	**5.82**	**148**	P	**Pn**	**11 52 31.5**	**+0.9**
KDU	**Kakadu**	**5.82**	**148**	S	**Sn**	**11 53 37.7**	**+1.7**
KMPI	**Kaimana, Papua**	**5.93**	**47**	P	**Pn**	**11 52 34.6**	**+2.4**
SANI	**Sanana**	**6.55**	**329**	P	**Pn**	**11 52 44.1**	**+3.5**
SANI	**Sanana**	**6.55**	**329**	P	**Pn**	**11 52 44.2**	**+3.6**
SANI				S	**Sn**	**11 53 56.1**	**+2.1**
BBSI	**Bau Bau**	**7.08**	**288**	P	Pn	11 52 51.9	+4.0
	0.2nm66nm,1.0s						
BBSI				S	**Sn**	**11 54 11.2**	**+4.2**
	0.2nm66nm,1.0s						
SWI	**Sorong**	**7.08**	**16**	P	**Pn**	**11 52 48.7**	**+0.8**
	0.3nm43nm,0.9s						
SWI				S	**Sn**	**11 54 07.9**	**+0.8**
	0.3nm43nm,0.9s						
RKPI	**Ransiki, Papua**	**7.84**	**38**	P	**Pn**	**11 52 59.8**	**+1.5**
	99nm,0.8s						
RKPI				S	**Sn**	**11 54 26.1**	**+0.4**
	99nm,0.8s						
KNRA	**Kununurra**	**7.92**	**184**		**Pn**	**11 52 58.4**	**-1.0**
BAKI	**Biak**	**9.

comp=Z,4.2nm,0.8s,baz=341,slow=5.1,SNR=4.8
comp=Z,4.2nm,0.8s
TPUB Ta-pu 31.99 345 P **P 11 57 27.0 -1.4**
CMAR Chiang Mai Arr 39.70 311 P **P 11 58 33.8 -0.7**
comp=Z,0.6nm,0.3s,baz=139,slow=7.0,SNR=4.4
CMAR LR LR 12 16 04.4
comp=Z,13nm,21.1s,baz=130,slow=38
comp=Z,0.6nm,0.3s
GTA Gaotai 54.29 332 *e*P **P 12 00 29.0 +0.8**
GTA pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 58.92 342 P **P 12 01 01.1 +0.1**
comp=Z,0.5nm,0.4s,baz=101,slow=12,SNR=4.6
comp=Z,0.5nm,0.4s
KSH Kashi 68.11 318 P P 12 02 10.0 +8.2
KSH pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 68.47 327 P **P 12 02 03.1 -0.7**
MK31 IAmb IAmb 12 02 05.3
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 68.47 327 P **P 12 02 03.1 -0.7**
MKAR Makanchi Array 68.47 327 P **P 12 02 03.0 -0.8**
comp=Z,2.5nm,0.6s,baz=124,slow=6.5,SNR=39
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 71.94 334 P **P 12 02 23.6 -1.2**
ZALV Zalesovo Beam 71.94 334 P **P 12 02 24.3 -0.5**
comp=Z,1.7nm,0.5s,baz=130,slow=4.0,SNR=8.4
comp=Z,1.7nm,0.5s
KURBB Kurchatov Arra 72.78 329 P **P 12 02 29.2 -0.7**
comp=Z,2.9nm,0.6s,baz=132,slow=5.0,SNR=5.0
comp=Z,2.9nm,0.6s
KURK Kurchatov 72.79 329 P **P 12 02 29.2 -0.7**
KURK IAmb IAmb 12 02 31.2
comp=Z,4.2nm,0.6s
KKAR Karatay Array 73.45 319 P **P 12 02 33.9 -0.2**
BVAR Borovoye Array 78.32 328 P **P 12 03 01.0 -0.6**
comp=Z,0.8nm,0.4s,baz=106,slow=8.5,SNR=6.3
comp=Z,0.8nm,0.4s
QSPA South Pole Qui 82.26 180 P **P 12 03 24.0 +1.3**
QSPA South Pole Qui 82.26 180 P **P 12 03 22.3 -0.4**
comp=Z,0.9nm,0.8s,baz=338,slow=1.3,SNR=1.8
comp=Z,0.9nm,0.8s
ABKAR Akbulak array 82.66 322 P **P 12 03 25.6 +0.6**
CPUP Villa Florida 145.54 169 PKPbc **PKPab 12 10 41.6 +1.0**
comp=Z,1.1nm,0.4s,baz=166,slow=4.1,SNR=2.8
LPAZ La Paz 150.54 144 PKPbc **PKPbc 12 10 55.4 +0.5**
comp=Z,0.9nm,0.4s,baz=220,slow=3.8,SNR=6.7

*JMA **06** 12:38:09.3±0.2,44°.5N±0°.7×14°.6E±°, h18km±1km, MV2.5/34, NEAR KUNASHIRI ISLAND*
*SKHL **06** 12:38:10.1±0.4,44°.50N×145°.70E, h24km±3km, mb4.0/4*
ISC 06 12:38:09.8±1.6, 44°.49N±0°.07×145°.76E±0°.04, h25km±13km, n12, σ0°32/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.46**	**170**	*i* P	**Pb**	**12 38 19.2**	**-0.1**
YUK				AMB	AMB	12 38 20.6	
180nm,0.2s							
YUK				*i* S	**Sb**	**12 38 26.1**	**+0.3**
YUK				A	A	12 38 26.4	
290nm,0.2s							
YUK				A	A	12 38 26.4	
620nm,0.2s							
JRA	**Rausu**	**0.71**	**220**	P	**Pb**	**12 38 23.1**	**-0.5**
JRA				S	**Sb**	**12 38 33.1**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.89**	**218**	P	**Pb**	**12 38 26.2**	**-0.5**
JNSB				S	**Sn**	**12 38 38.8**	**0.0**
SHO	**Shikotan**	**0.99**	**128**	*e*P	**Pn**	**12 38 28.0**	**0.0**
SHO				AMB	AMB	12 38 28.8	
20nm,0.2s							
SHO				*e*S	**Sb**	**12 38 41.2**	**+0.3**
SHO				A	A	12 38 43.3	
610nm,0.3s							
SHO				A	A	12 38 43.3	
610nm,0.3s							
NMR	**Nemuro--Hokkai**	**1.12**	**181**	*i* P	**Pn**	**12 38 29.8**	**0.0**
NMR				AMB	AMB	12 38 30.5	
30nm,0.2s							
NMR				*e*S	**Sn**	**12 38 44.0**	**-0.3**
NMR				A	A	12 38 45.4	
150nm,0.3s							
NMR				A	A	12 38 45.4	
40nm,0.3s							
NEM2	**Nemuro 2**	**1.12**	**180**	P	**Pn**	**12 38 29.7**	**-0.1**
NEM2				S	**Sb**	**12 38 45.0**	**+0.4**
JNK	**Nakash**	**1.17**	**220**	P	**Pn**	**12 38 30.5**	**0.0**
JTKR	**Abashiri--Toko**	**1.42**	**249**	P	**Pn**	**12 38 34.1**	**+0.1**
JTKR				*e*S	**Sn**	**12 38 52.0**	**+0.1**
AKK	**Akkeshi**	**1.61**	**205**	*e*P	**Pn**	**12 38 36.7**	**+0.1**
AKK				*e*S	**Sn**	**12 38 56.4**	**-0.1**
JAK	**Akkeshi**	**1.68**	**208**	*e*P	**Pn**	**12 38 38.1**	**+0.7**
KUR	**Kuril'sk**	**1.68**	**63**	*e*S	**Sn**	**12 38 58.1**	**-0.1**
KUR				A	A	12 39 03.6	
40nm,0.4s							
KUR				A	A	12 39 03.6	
40nm,0.4s							
JMP	**Maruseppu**	**1.79**	**255**	P	**Pn**	**12 38 39.4**	**+0.3**

*LVSN **06** 12:41:58.2±8.4,58°.81N×23°.68E, h0km±112km, ML1.7*
HEL 06 12:41:58.2±0.2, 60°.87N×26°.55E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.47**	**226**	PG	Pg	12 42 06.5	-0.8
PVF				SG	Sg	12 42 12.4	-0.9
PVF				MSG		12 42 13.8	
comp=Z,4.1nm,0.2s							
VJF	**Virojoki**	**0.60**	**124**	PG	Pg	12 42 08.8	-0.8
baz=302							
VJF				SG	Sg	12 42 16.9	-0.4
VJF				MSG		12 42 17.1	
comp=Z,2.8nm,0.2s							
FIA0	**FINESS Array S**	**0.62**	**338**	PG	Pg	12 42 08.9	-1.1
FIA0				MSG		12 42 17.9	
comp=Z,3.9nm,0.2s							
FIA0				SG	Sg	12 42 18.3	+0.3
NUR	**Nurmijarvi**	**1.00**	**250**	PG	Pg	12 42 16.6	-0.9
NUR				MSG		12 42 29.1	
comp=Z,2.5nm,0.2s							
NUR				SN	Sn	12 42 36.7	+2.4
KAF	**Kangasniemi**	**1.25**	**355**	PG	Pg	12 42 20.6	-1.5
KAF				MSG		12 42 36.0	
comp=Z,1.3nm,0.2s							
KAF				SG	Sg	12 42 37.3	-1.0
MEF	**Metsahovi**	**1.25**	**239**	*e*P	Pg	12 42 20.8	-1.3
MEF				*e*S	Sb	12 42 39.2	-0.1
MEF				AML	AML	12 42 42.5	
comp=E,12nm,0.5s							
MEF				AML	AML	12 42 42.8	
comp=N,15nm,0.3s							
MEF				AML	AML	12 42 45.5	
comp=Z,9.1nm,0.5s							
MEF	**Metsahovi**	**1.25**	**239**	PG	Pg	12 42 20.8	-1.4
MEF				MSG		12 42 36.0	
comp=Z,3.6nm,0.2s							
MEF				SN	Sn	12 42 41.9	+1.5
RUF	**Ruokolahti**	**1.29**	**63**	PG	Pg	12 42 21.1	-1.7
RUF				MSG		12 42 37.1	
comp=Z,4.2nm,0.2s							
RUF				SG	Sg	12 42 38.4	-1.1
ARBE	**Arbavere**	**1.47**	**191**	*e*S	Sg	12 42 41.2	-4.1
ARBE				AML	AML	12 42 48.5	
comp=Z,38nm,0.4s							
ARBE				AML	AML	12 42 49.0	
comp=N,66nm,0.2s							
ARBE				AML	AML	12 42 50.2	
comp=E,52nm,0.3s							
KEF	**Keuruu**	**1.53**	**329**	PN	Pn	12 42 25.9	-0.9
KEF				MSG		12 42 44.1	
comp=Z,1.4nm,0.2s							
KEF				SN	Sg	12 42 46.1	-1.2
SUF	**Sumiainen**	**1.86**	**354**	PG	Pn	12 42 31.6	+0.3
SUF				MSG		12 42 53.7	
comp=Z,1.4nm,0.2s							
SUF				SG	Sn	12 42 56.1	+0.6
RAF	**Rauma**	**2.34**	**276**	*e*P	Pb	12 42 39.7	-1.5
RAF				AML	AML	12 42 44.0	
comp=Z,5.2nm,0.7s							
RAF				*e*S	Sb	12 43 09.2	-1.4
RAF				AML	AML	12 43 10.6	
comp=N,3.9nm,0.6s							
RAF				AML	AML	12 43 27.1	
comp=E,3.3nm,0.7s							
RAF	**Rauma**	**2.34**	**276**	MSG		12 43 07.4	
comp=Z,1.0nm,0.2s							
RAF				SG	Sb	12 43 10.1	-0.5
KPF	**Kankaanpaa**	**2.37**	**296**	SG	Sb	12 43 11.8	+0.5
MTSE	**Matsula**	**2.57**	**214**	SG	Sb	12 43 17.4	+0.2
NIF	**Nilsia**	**2.59**	**13**	SG	Sb	12 43 17.4	-0.5
JOF	**Joensuu**	**3.05**	**46**	SB	Sb	12 43 28.8	-2.1

IDC 06 12:43:00.1±420.0, 49°.22N×48°.75E, h0km, Error ellipse: s-maj=133.1km s-min=119.7km az=34.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.12**	**75**	I	I	13 17 30.0	
0.1nm,0.4s,baz=262,slow=306,SNR=2.2							
I43RU	**DUBNA INFRASONI**	**0.23**	**322**	I	I	13 43 00.0	
baz=129,slow=344,SNR=1.7							
I46RU	**ZALESOVO INFRA**	**22.73**	**64**	I	I	15 03 20.0	
baz=272,slow=328,SNR=1.5							

IDC 06 12:45:50.9±2.7, 4°.88N×93°.61E, h0km, mb3.6/4, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=108.7km s-min=22.9km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.46**	**21**	Pn	Pn	12 49 17.8	+0.7
0.2nm,0.3s,baz=205,slow=11,SNR=6.3							
0.6nm,0.3s							
H08S2	**Diego Garcia H**	**24.47**	**240**	T	T	13 17 14.9	
baz=59,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**24.47**	**240**	T	T	13 17 19.9	
baz=59,slow=76,SNR=16							
H08S1	**Diego Carcia H**	**24.48**	**240**	T	T	13 17 22.4	
baz=59,slow=76,SNR=16							
MKAR	**Makanchi Array**	**42.88**	**349**	P	P	12 53 51.0	0.0
0.6nm,0.5s,baz=171,slow=8.1,SNR=14							
0.6nm,0.5s							
WRA	**Warramunga Arr**	**47.03**	**123**	P	P	12 54 24.1	-0.4
0.2nm,0.4s,baz=300,slow=7.9,SNR=8.1							
0.2nm,0.4s							
ASAR	**Alice Springs**	**48.47**	**128**	P	P	12 54 35.9	+0.3
0.3nm,0.7s,baz=305,slow=7.4,SNR=4.8							
0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**49.44**	**353**	P	P	12 54 42.1	-0.4
0.6nm,0.3s,baz=171,slow=7.2,SNR=7.0							
0.6nm,0.3s							
H04N2	**CROZET ISLANDS**	**62.91**	**211**	T	T	14 05 35.9	
baz=49							
H04N1	**CROZET ISLANDS**	**62.92**	**211**	T	T	14 05 35.0	
baz=49							
H04N3	**CROZET ISLANDS**	**62.92**	**211**	T	T	14 05 36.4	
baz=49							

*VIE **06** 12:47:03.8±0.4,48°.21N×8°.79E, h0km, mb2.3/4, ml2.2/6, Error ellipse: s-maj=5.9km s-min=1.7km az=19.0, Suspected Mining explosion.*
*STR **06** 12:47:03.3±1.1,48°.N±3°.×±°, h0km, MLv2.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=81.8, preliminary*
ISC 06 12:47:03.8±0.8, 48°.21N±0°.03×8°.75E±0°.03, h0km, n23, σ0°82/30, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFO	**Black Forest**	**0.30**	**294**	Pg	**Pg**	**12 47 09.6**	**0.0**
BFO				Sg	**Sg**	**12 47 14.8**	**+1.3**
SLE	**Schleitheim**	**0.47**	**201**	Pg	**Pg**	**12 47 12.6**	**-0.1**
SLE	**Schleitheim**	**0.47**	**201**	Sg	**Sg**	**12 47 20.3**	**+1.4**
OPP	**Oppenau**	**0.47**	**308**	Pg	**Pg**	**12 47 12.8**	**0.0**
FELD	**Feldberg im Sc**	**0.60**	**237**	Pg	**Pg**	**12 47 15.3**	**+0.1**
KIZ	**Kirchzarten**	**0.61**	**246**	Pg	**Pg**	**12 47 16.0**	**+0.6**
KIZ	**Kirchzarten**	**0.61**	**246**	Sg	**Sb**	**12 47 26.0**	**-0.4**
BABA	**Baden-Baden-Ne**	**0.63**	**325**	Pg	**Pg**	**12 47 15.8**	**-0.1**
BABA	**Baden-Baden-Ne**	**0.63**	**325**	Sg	**Sb**	**12 47 26.6**	**-0.6**
ZELS	**Zelsheim**	**0.75**	**278**	Pg	**Pb**	**12 47 19.4**	**-0.3**
SULZ	**Cheisacher**	**0.80**	**212**	Pg	**Pb**	**12 47 19.9**	**-0.7**
ENDD	**Endenburg**	**0.84**	**234**	Pg	**Pb**	**12 47 20.3**	**-0.8**
ENDD	**Endenburg**	**0.84**	**234**	Sg	**Sb**	**12 47 33.2**	**+0.2**
WLS	**Welschbruch**	**0.95**	**283**	Pg	**Pb**	**12 47 22.6**	**-0.6**
WLS				Sg	**Sb**	**12 47 36.6**	**+0.2**
ECH	**Echery**	**1.06**	**271**	Pg	**Pg**	**12 47 24.4**	**+0.3**
ECH				Sg	**Sb**	**12 47 39.7**	**+0.2**
BALST	**Balsthal**	**1.12**	**220**	Pg	**Pb**	**12 47 25.6**	**-0.5**
BALST	**Balsthal**	**1.12**	**220**	Sg	**Sb**	**12 47 41.1**	**-0.2**
DAVA	**Damuels**	**1.20**	**140**	Pg	**Pb**	**12 47 26.6**	**-0.8**
4.3nm,0.3s							
DAVA				*e*Sg	**Sn**	**12 47 43.6**	**-1.3**
15nm,0.4s							
RETA	**Reutte**	**1.54**	**117**	Pg	**Pn**	**12 47 32.2**	**-0.3**
0.9nm,0.2s							
RETA				*e*Sg	**Sn**	**12 47 52.7**	**-0.5**
20nm,0.5s							
FETA	**Feichten**	**1.79**	**131**	Pn	**Pn**	**12 47 35.5**	**-0.5**
1.8nm,0.6s							
FETA				*e*Sn	**Sn**	**12 47 59.4**	**-0.1**
6.9nm,0.7s							
WTTA	**Wattenberg**	**2.17**	**115**	Sg	**Sg**	**12 48 14.3**	**+1.0**
4.4nm,0.5s							
LESA	**Schwarzleotal**	**2.76**	**105**	Sg	**Sg**	**12 48 34.6**	**+2.1**
5.0nm,0.6s							
KBA	**Koelnbreinsper**	**3.31**	**108**	*e*Pn	**Pn**	**12 47 57.1**	**+0.1**
3.1nm,0.6s							
KBA				Sg	**Sg**	**12 48 51.7**	**+1.8**
4.3nm,0.6s							

*NEIC **06** 12:53:34.5±0.6, 36°.883N±0°.009×97°.43W±0°.01, h7km±4km, Error ellipse: s-maj=2.1km s-min=1.0km az=224.0*
NEIC 06 12:53:34.4±0.6, 36°.883N±0°.009×97°.43W±0°.01, h5km±1km, ML2.2/52, ML2.5/28, Error ellipse: s-maj=2.6km s-min=1.5km az=238.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.14**	**342**		Pg	12 53 38.0	+0.8
KAN13					Sg	12 53 40.4	+1.4
KAN13				IAML		12 53 40.6	
comp=N,859nm,0.3s							
BLOK	**Blackwell**	**0.21**	**126**		Pg	12 53 39.0	+0.5
BLOK					Sg	12 53 42.0	+0.7
KAN09	**Caldwell North**	**0.29**	**329**		Pg	12 53 40.6	+0.4
KAN09					Sg	12 53 45.1	+1.0
KAN09				IAML		12 53 47.2	
comp=N,442nm,0.2s							
KAN17	**Caldwell West**	**0.32**	**301**		Pg	12 53 41.1	+0.6
KAN17				IAML		12 53 45.8	
comp=N,386nm,0.2s							
KAN17					Sg	12 53 45.9	+1.1
KAN17				IAML		12 53 46.0	
comp=E,294nm,0.3s							
GC02	**Grant County #**	**0.35**	**265**		Pg	12 53 41.4	+0.1
GC02					Sg	12 53 46.5	+0.7
KAN01	**Argonia South**	**0.38**	**315**		Pg	12 53 42.4	+0.6
KAN01					Sg	12 53 47.6	+0.8
KAN01				IAML		12 53 47.9	
comp=E,185nm,0.3s							
KAN01				IAML		12 53 48.1	
comp=N,186nm,0.1s							
KAN05	**Bluff City Nor**	**0.42**	**302**		Pg	12 53 43.1	+0.6
KAN05					Sg	12 53 49.0	+0.8
KAN05				IAML		12 53 49.1	
comp=E,181nm,0.2s							
KAN05				IAML		12 53 50.8	
comp=N,232nm,0.2s							
KAN14	**Manchester OK**	**0.44**	**280**		Pg	12 53 42.9	0.0
KAN14					Sg	12 53 49.1	+0.5
KAN14				IAML		12 53 51.0	
comp=E,139nm,0.2s							
KAN08	**Anthony NE Sta**	**0.55**	**308**		Pg	12 53 45.7	+0.5
KAN08					Sg	12 53 53.2	+0.9
KAN08				IAML		12 53 55.0	
comp=N,171nm,0.4s							
CROK	**Carrier**	**0.59**	**230**		Pg	12 53 45.7	0.0
CROK					Sg	12 53 53.8	+0.5
CROK				IAML		12 54 04.1	
comp=E,164nm,0.4s							
OK048	**Pawnee Station**	**0.61**	**140**		Pg	12 53 46.4	+0.3
OK048					Sg	12 53 54.4	+0.5
OK032	**Salt Plains WL**	**0.63**	**263**		Pg	12 53 46.6	0.0
OK032					Sg	12 53 55.4	+0.5
OK032				IAML		12 53 57.5	
comp=E,102nm,0.2s							
OK032				IAML		12 54 02.6	
comp=E,92nm,0.2s							
T35A	**Sooner Cattle**	**0.73**	**87**		Pg	12 53 48.8	+0.3
QUOK	**Quay**	**0.92**	**141**		Pg	12 53 51.9	-0.2
QUOK					Sg	12 54 04.0	+0.1
QUOK				IAML		12 54 05.9	
comp=N,57nm,0.2s							
QUOK				IAML		12 54 10.8	
comp=E,73nm,0.2s							
OK052	**Battle Ridge R**	**1.02**	**150**		Pg	12 53 54.0	0.0
OK052					Sg	12 54 07.2	0.0
OK052				IAML		12 54 12.9	
comp=E,60nm,0.2s							
OK031	**S. Brethren Rd**	**1.04**	**153**		Pg	12 53 54.1	-0.3
OK031					Sg	12 54 07.9	0.0
OK031				IAML		12 54 13.2	
comp=E,67nm,0.4s							
OK031				IAML		12 54 14.1	
comp=E,55nm,0.1s							
OK038	**West end E0370**	**1.13**	**249**		Pg	12 53 55.9	-0.3
OK038					Sg	12 54 11.1	+0.3
BCOK	**Bluff Creek, N**	**1.23**	**187**		Pg	12 53 57.7	-0.4
BCOK					Sb	12 54 14.8	+0.4
NOKA	**Waynoka**	**1.23**	**259**	Pg	Pg	12 53 57.5	-0.6
DEOK	**Depew**	**1.28**	**144**		Pg	12 53 58.0	-1.0
DEOK				IAML		12 54 19.2	
comp=N,49nm,0.4s							
DEOK				IAML		12 54 20.5	
comp=E,53nm,0.2s							
FNO	**Franklin**	**1.62**	**179**		Pb	12 54 04.3	-0.5
W35A	**Tecumseh**	**1.78**	**165**		Pn	12 54 06.4	+0.5
WMOK	**Wichita Mounta**	**2.41**	**208**		Pn	12 54 16.1	+1.6

*IDC **06** 13:37:01.4±1.8, 5°.79N×92°.26E, h0km, mb3.4/4, mbtmp3.6/6, ML4.0/2, MS2.5/1, Error ellipse: s-maj=43.8km s-min=31.5km az=54.0*
ISC 06 13:37:06.1±1.3, 5°.8N±0°.2×92°.10E±0°.10, h35km, n12, σ1°49/7, mb3.4/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.42**	**278**	Pn	**Pn**	**13 39 48.5**	**+1.6**
1.2nm,0.3s,baz=97,slow=13,SNR=5.7							
PALK				Sn	**Sn**	**13 41 51.1**	**-2.2**
1.8nm,0.3s,baz=152,slow=10.0,SNR=5.2							
2.7nm,0.3s							
CMAR	**Chiang Mai Arr**	**14.23**	**27**	Pn	**Pn**	**13 40 24.7**	**-0.6**
0.2nm,0.3s,baz=219,slow=13,SNR=4.9							
CMAR				LR	LR	13 46 31.0	
comp=Z,20nm,19.6s,baz=205,slow=40							
0.5nm,0.3s							
H08S3	**Diego Garcia H**	**23.69**	**236**	T	T	14 08 06.5	
baz=61,slow=75,SNR=11							
H08S2	**Diego Garcia H**	**23.69**	**236**	T	T	14 07 59.0	
baz=61,slow=75,SNR=9.4							
H08S1	**Diego Carcia H**	**23.71**	**236**	T	T	14 07 34.5	
baz=61,slow=75,SNR=8.6							
MKAR	**Makanchi Array**	**41.70**	**350**	P	**P**	**13 44 52.4**	**+0.9**
0.2nm,0.6s,baz=166,slow=7.4,SNR=3.5							
0.2nm,0.6s							
SONM	**Songino Array**	**43.63**	**14**	P	**P**	**13 45 07.4**	**+0.1**
0.3nm,0.6s,baz=198,slow=8.0,SNR=2.0							
0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**48.36**	**354**	P	**P**	**13 45 44.3**	**0.0**
0.7nm,0.4s,baz=179,slow=4.8,SNR=5.2							
0.7nm,0.4s							
ASAR	**Alice Springs**	**50.21**	**127**	P	**P**	**13 45 58.5**	**-0.5**
0.4nm,0.9s,baz=301,slow=8.7,SNR=2.7							
0.4nm,0.9s							
H04N2	**CROZET ISLANDS**	**62.93**	**210**	T	T	14 55 26.2	
baz=49,slow=74							
H04N1	**CROZET ISLANDS**	**62.94**	**210**	T	T	14 55 25.6	
baz=49,slow=74							
H04N3	**CROZET ISLANDS**	**62.95**	**210**	T	T	14 55 26.2	
baz=49							

*IDC **06** 13:57:14.3±0.4, 3°.53N×126°.78E, h0km, mb4.7/28, mbtmp4.7/30, ML4.5/2, MS3.9/32, Error ellipse: s-maj=20.7km s-min=9.5km az=77.0*
*BJI **06** 13:57:17.5, 3°.10N×127°.03E, h54km, mB5.2/16, mb4.9/65, Ms4.4/20, Ms7 4.3/27*
*MOS **06** 13:57:18.5±0.9, 3°.54N×126°.75E, h43km, mb5.0/37, Error ellipse: s-maj=11.6km s-min=4.9km az=116.1*
*DJA **06** 13:57:20.1±0.2, 4°N±2°×12°7E±°, h50km±3km, M4.7/37, mb5.0/37, mB5.2/19, MLv5.1/18, Mw(mB)4.6/19, MwMwp4.5/5, Mwp4.9/5*
*NEIC **06** 13:57:22.9±1.9, 3°.54N±0°.06×126°.96E±0°.08, h60km±7km, mb5.0/103, Error ellipse: s-maj=11.3km s-min=8.3km az=80.0*
ISC 06 13:57:21.6±0.3, 3°.57N±0°.03×126°.91E±0°.05, h51km±2km, h51km: pP-P, n686, σ1°18/709, mb4.9/155, MS4.0/40, 10C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.39**	**275**	P	**Pn**	**13 57 44.2**	**-0.4**
TNTI	**Ternate**	**2.81**	**171**	Pn	**Pn**	**13 58 03.5**	**-0.6**
TNTI	**Ternate**	**2.81**	**171**	P	**Pn**	**13 58 03.4**	**-0.7**
TNTI	**Ternate**	**2.81**	**171**	S	**Sn**	**13 58 37.3**	**+0.4**
TNTI	**Ternate**	**2.81**	**171**	P	**Pn**	**13 58 04.4**	**+0.3**
TNTI				S	**Sn**	**13 58 36.2**	**-0.7**
DAV	**Davao City (W)**	**3.72**	**339**	Pn	**Pn**	**13 58 18.7**	**+2.1**
DAV	**Davao City (W)**	**3.72**	**339**	Pn	**Pn**	**13 58 15.1**	**-1.5**
58nm,0.3s,baz=236,slow=15,SNR=5.1							
DAV				Pg		13 58 23.0	
92nm,0.3s,baz=260,slow=15,SNR=8.4							
DAV				Lg	Lg	13 59 11.1	
93nm,0.3s,baz=178,slow=22,SNR=3.6							
161nm,0.4s							
DAV	**Davao City (W)**	**3.72**	**339**	P	**Pn**	**13 58 16.8**	**+0.2**
DAV	**Davao City (W)**	**3.72**	**339**	S	**Sn**	**13 58 58.8**	**-0.4**
KMSI	**Cibinong**	**4.18**	**225**	P	**Pn**	**13 58 25.6**	**+2.8**
SANI	**Sanana**	**5.66**	**189**	P	**Pn**	**13 58 43.1**	**0.0**
SANI	**Sanana**	**5.66**	**189**	P	**Pn**	**13 58 42.2**	**-0.9**
2μm82nm,0.7s							
MRSI	**Marisa**	**5.84**	**238**	P	**Pn**	**13 58 49.0**	**+3.3**
1.0nm3μm186nm,0.6s							
LUWI	**Luwuk**	**6.17**	**222**	Pn	**Pn**	**13 58 53.9**	**+3.7**
LUWI	**Luwuk**	**6.17**	**222**	P	**Pn**	**13 58 53.7**	**+3.5**
LUWI	**Luwuk**	**6.17**	**222**	P	**Pn**	**13 58 53.3**	**+3.1**
341nm,1.0s							
SWI	**Sorong**	**6.18**	**135**	P	**Pn**	**13 58 50.3**	**-0.1**
0.6nm1μm143nm,0.7s							
TOLI2	**Tolitoli**	**6.59**	**248**	Pn	**Pn**	**13 58 55.7**	**-0.3**
TOLI2	**Tolitoli**	**6.59**	**248**	P	**Pn**	**13 58 56.6**	**+0.6**
NLAI	**Namlea**	**6.76**	**178**	P	**Pn**	**13 58 58.2**	**-0.1**
0.5nm2μm77nm,0.6s							
APSI	**Ampana**	**6.89**	**230**	P	**Pn**	**13 59 03.5**	**+3.4**
3μm294nm,0.8s							
MSAI	**Masohi**	**7.16**	**164**	P	**Pn**	**13 59 06.8**	**+3.1**
0.4nm2μm79nm,0.6s							
AAI	**Ambon**	**7.32**	**170**	P	**Pn**	**13 59 08.6**	**+2.6**
0.3nm983nm74nm,0.9s							
PCI	**Palu**	**8.35**	**238**	P	**Pn**	**13 59 22.2**	**+2.1**
105nm,1.0s							
FAKI	**Fak Fak**	**8.37**	**140**	Pn	**Pn**	**13 59 19.7**	**-0.6**
FAKI	**Fak Fak**	**8.37**	**140**	P	**Pn**	**13 59 21.3**	**+1.0**
FAKI	**Fak Fak**	**8.37**	**140**	S	**Sn**	**14 00 52.2**	**-1.2**
FAKI	**Fak Fak**	**8.37**	**140**	P	**Pn**	**13 59 20.1**	**-0.2**
68nm,0.8s							
MYLDM	**Lahad Datu**	**8.54**	**281**	Pn	**Pn**	**13 59 25.1**	**+2.4**
MYLDM	**Lahad Datu**	**8

62nm,0.8s
GENI Genyem 14.59 115 P **Pn 14 00 44.1 -1.1**
GENI Genyem 14.59 115 P **P 14 00 51.0 +0.5**
SBUM Sibu 14.71 266 Pn **Pn 14 00 48.6 +1.8**
SBUM Sibu 14.71 266 P **P 14 00 49.7 -2.1**
JAY Jayapura 15.05 113 Pn **Pn 14 00 50.9 -0.3**
1.6nm,0.3s,baz=313,slow=4.2,SNR=12
JAY LR LR 14 06 05.6
comp=Z,709nm,19.6s,baz=312,slow=35
7.5nm,0.7s
JAY Jayapura 15.05 113 P **Pn 14 00 49.6 -1.6**
776nm68nm,0.9s
WBSI Waikabubak, Su 15.11 210 P **Pn 14 00 53.9 +1.9**
1µm97nm,0.9s
PLAI Plampang 15.32 216 P **P 14 00 57.0 -1.5**
PLAI Plampang 15.32 216 P **P 14 00 57.9 -0.6**
STKI Sintang 15.81 258 P **P 14 01 03.2 -0.8**
48nm,0.9s
DRS Darwin Rock St 16.38 166 P **Pn 14 01 07.6 -0.6**
KSM Kuching 16.72 263 P **Pn 14 01 12.5 +0.1**
KSM Kuching 16.72 263 P **P 14 01 16.0 +1.9**
MTN Manton Dam 16.84 166 **Pn 14 01 11.7 -2.2**
MTN Manton Dam 16.84 166 P **Pn 14 01 11.3 -2.6**
comp=Z,44nm,0.6s
MTN Manton Dam 16.84 166 P **Pn 14 01 12.4 -1.5**
KDU Kakadu 17.07 161 P **Pn 14 01 16.4 -0.4**
comp=Z,74nm,0.9s
KDU Kakadu 17.07 161 P **Pn 14 01 17.0 +0.2**
JAGI Jajag, Banyuwa 17.46 227 P **Pn 14 01 20.6 -1.1**
KNRA Kununurra 19.21 175 P **P 14 01 41.2 -0.3**
KNRA Kununurra 19.21 175 P **P 14 01 40.7 -0.7**
comp=Z,66nm,0.7s
TWGBT Beinan 19.95 344 P **P 14 01 49.6 +0.1**
TWG Pinlang 19.96 344 P **P 14 01 47.4 -2.2**
TWG IAmb IAmb 14 01 49.7
comp=Z,89nm,1.0s
DLV Lat 20.05 296 P Pn 14 01 52.0 -1.1
DLV IAmb IAmb 14 01 57.9
comp=Z,84nm,1.4s
DLV Lat 20.05 296 P Pn 14 01 52.4 -0.6
GUMO Guam 20.34 60 LR LR 14 09 14.0
comp=Z,207nm,19.9s,baz=226,slow=35
YULB Yu-li 20.44 345 P **P 14 01 51.9 -2.9**
YULB IAmb IAmb 14 01 59.9
comp=Z,136nm,1.2s
TPUB Ta-pu 20.54 343 P **P 14 01 53.7 -2.2**
TPUB Ta-pu 20.54 343 P **P 14 01 54.9 -1.0**
SSLB Suanglung 20.91 345 P **P 14 01 57.7 -2.3**
SSLB Suanglung 20.91 345 P **P 14 01 58.8 -1.1**
NACB Ninganchiao 21.12 346 P **P 14 02 00.1 -2.0**
FITZ Fitzroy Crossi 21.57 183 P **P 14 02 05.0 -1.9**
FITZ Fitzroy Crossi 21.57 183 P **P 14 02 04.5 -2.4**
comp=Z,11nm,0.7s,baz=24,slow=8.5,SNR=28
comp=Z,11nm,0.7s
YHNB Yeheng 21.65 346 P **P 14 02 06.5 -1.4**
YHNB Yeheng 21.65 346 P **P 14 02 07.8 -0.1**
LEM Lembang 21.86 242 LR LR 14 12 29.4
comp=Z,430nm,18.1s,baz=40,slow=42
KNMB Chin-men Tao 22.34 339 P **P 14 02 14.9 -0.3**
KNMB IAmb IAmb 14 02 18.9
comp=Z,80nm,1.0s
QIZ Qiongzhong 22.68 314 P **P 14 02 19.7 +0.7**
QIZ S **S 14 06 26.1 +2.3**
QIZ LR LR
comp=Z,520nm,11.1s
QIZ LR LR
comp=Z,490nm,7.9s
QIZ LR LR
comp=Z,380nm,15.7s
MYKOM Kota Tinggi 23.11 266 P **P 14 02 23.3 -0.1**
MYKOM Kota Tinggi 23.11 266 P **P 14 02 25.2 +1.8**
JOW Kunigami 23.17 3 P **P 14 02 23.9 +0.1**
JOW Kunigami 23.17 3 P **P 14 02 22.6 -1.3**
comp=Z,29nm,0.8s,baz=279,slow=0.8,SNR=4.4
JOW LR LR 14 10 24.4
comp=Z,203nm,21.9s,baz=21,slow=34
comp=Z,29nm,0.8s
BLSI Bandar Lampung 23.39 248 P **P 14 02 25.4 -0.8**
CGJI Cibinong 23.48 245 P **P 14 02 26.6 -0.3**
comp=Z,975nmcomp=Z,87nm,0.8s
COEN Coen 23.74 138 P **P 14 02 26.9 -2.5**
COEN Coen 23.74 138 P **P 14 02 27.8 -1.6**
comp=Z,14nm,0.8s
COEN Coen 23.74 138 P **P 14 02 28.7 -0.6**
PMG Port Moresby 23.94 123 LR LR 14 12 59.3
comp=Z,402nm,19.5s,baz=305,slow=39
MDSI Maura Dua 24.08 251 P **P 14 02 34.4 +1.8**
comp=Z,29nm,1.1s
UBPT Khong Chiam 24.11 300 P **P 14 02 31.6 -1.1**
UBPT IAmb IAmb 14 02 33.0
comp=Z,47nm,1.0s
UBPT Khong Chiam 24.11 300 P **P 14 02 34.3 +1.5**
WB0 Warramunga Arr 24.33 163 P **P 14 02 32.9 -1.8**
WRAB Tennant Creek 24.47 163 P **P 14 02 34.8 -1.2**
WRAB Tennant Creek 24.47 163 *i* P **P 14 02 35.0 -1.0**
WRAB pmax pmax
comp=Z,135nm,0.9s
WRA Warramunga Arr 24.48 163 P **P 14 02 34.3 -1.8**
comp=Z,97nm,0.9s,baz=342,slow=10,SNR=181
WRA S **S 14 06 52.8 -0.2**
comp=Z,3.8nm,0.9s,baz=347,slow=20,SNR=6.5
MBWA Marble Bar 25.56 196 P **P 14 02 44.6 -1.3**
MBWA Marble Bar 25.56 196 P **P 14 02 46.0 +0.1**
comp=Z,24nm,1.3s
IPM Ipoh 25.84 273 P **P 14 02 47.6 -0.9**
IPM Ipoh 25.84 273 P **P 14 02 48.4 -0.2**
PSAC1 Pilbara Seismi 25.90 195 P **P 14 02 48.7 -0.3**
comp=Z,34nm,0.8s
PSA00 Pilbara Seismi 25.93 195 P **P 14 02 48.8 -0.4**
PSA00 Pilbara Seismi 25.93 195 P **P 14 02 49.3 +0.1**
comp=Z,32nm,0.9s
PSA00 Pilbara Seismi 25.93 195 P **P 14 02 49.1 -0.1**
KULM Kulim 26.24 275 P **P 14 02 52.1 -0.1**
RABL Rabaul 26.38 107 P **P 14 02 51.9 -1.6**
QIS Mount Isa 27.02 153 P **P 14 02 58.5 -0.6**
comp=Z,28nm,0.8s
QIS Mount Isa 27.02 153 P **P 14 02 58.8 -0.3**
NONG Nongkai 27.37 303 P **P 14 03 02.1 -0.2**
NAYO Nakonayok 27.41 295 P **P 14 03 03.8 +1.2**
MTSU Mount Surprise 27.56 142 P **P 14 03 03.5 -0.4**
comp=Z,7.3nm,0.8s
MTSU Mount Surprise 27.56 142 P **P 14 03 03.8 -0.2**
SRIT Nakonsritamara 27.60 282 P **P 14 03 03.2 -1.3**
SRIT Nakonsritamara 27.60 282 P **P 14 03 04.8 +0.4**
AS06 Alice Springs 27.91 166 P **P 14 03 06.4 -0.7**
comp=Z,31nm,0.8s
AS31 Alice Springs 27.91 166 P **P 14 03 05.6 -1.5**
AS31 Alice Springs 27.91 166 P **P 14 03 06.1 -1.0**
comp=Z,6.1nm,0.6s
ASAR Alice Springs 27.91 166 P **P 14 03 06.0 -1.1**
comp=Z,4.6nm,0.6s,baz=340,slow=6.3,SNR=67
ASAR PcP **PcP 14 06 22.6 +0.8**
comp=Z,2.5nm,0.7s,baz=347,slow=2.2,SNR=4.9
ASAR S **S 14 07 53.5 +6.0**
comp=Z,1.6nm,0.9s,baz=348,slow=18,SNR=4.8
comp=Z,4.6nm,0.6s
AS01 Alice Springs 27.93 166 P **P 14 03 06.7 -0.5**
PSI Prapat 27.96 269 LR LR 14 16 12.4
comp=Z,192nm,18.5s,baz=70,slow=41
WRKA Warakurna 28.47 177 P **P 14 03 11.6 -0.4**
comp=Z,30nm,1.1s
WRKA Warakurna 28.47 177 P **P 14 03 11.8 -0.2**
GIRL Giralia 28.85 205 P **P 14 03 16.6 +1.2**
NJ2 Nanjing 29.33 346 *eP* **P 14 03 20.7 +1.2**
NJ2 pmax pmax
comp=Z,19nm,0.7s
WHN Wuhan 29.34 337 P **P 14 03 21.4 +1.8**
GSI Gunungsitoli 29.39 266 P **P 14 03 19.4 -1.0**
GSI IAmb IAmb 14 03 21.4
comp=Z,18nm,0.7s
JNU Nakatsue 29.63 7 P **P 14 03 21.9 -0.4**
JNU IAmb IAmb 14 03 37.7
comp=Z,48nm,1.3s
JNU Nakatsue 29.63 7 P **P 14 03 21.3 -1.0**
comp=Z,13nm,0.9s,baz=220,slow=2.9,SNR=5.6
comp=Z,13nm,0.9s
MEEK Meekatharra 31.08 194 P **P 14 03 34.7 -0.5**
comp=Z,32nm,1.1s
MEEK Meekatharra 31.08 194 P **P 14 03 35.1 -0.1**
CM31 Chiang Mai Arr 31.11 301 P **P 14 03 36.6 +1.1**
CMAR Chiang Mai Arr 31.11 301 P **P 14 03 35.6 +0.1**
CMAR Chiang Mai Arr 31.11 301 P **P 14 03 34.6 -0.9**
comp=Z,3.3nm,0.7s,baz=116,slow=7.2,SNR=17
CMAR PcP **PcP 14 06 32.1 +2.0**
comp=Z,1.5nm,0.9s,baz=168,slow=0.4,SNR=5.7
CMAR ScP **ScP 14 10 13.4 +4.5**
comp=Z,0.4nm,0.5s,baz=136,slow=2.3,SNR=4.2
CMAR LR LR 14 18 41.7
comp=Z,100nm,18.0s,baz=100,slow=42
comp=Z,3.3nm,0.7s
ENH Enshi 31.26 330 P **P 14 03 37.3 +0.6**
CHTO Chiang Mai 31.26 301 P **P 14 03 35.8 -1.0**
CHTO Chiang Mai 31.26 301 P **P 14 03 35.8 -1.0**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
OOD Oodnadatta 32.31 165 P **P 14 03 45.4 -0.4**
TJN Taejon 32.65 1 *i* P **P 14 03 48.0 -0.7**
PZH PanZhiHua 33.19 316 P **P 14 03 56.6 +2.8**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.8s
JGF Kuroka 33.31 16 P **P 14 03 54.2 -0.4**
JGF IAmb IAmb 14 04 29.6
comp=Z,39nm,1.6s
LYN LuoYang 33.62 338 P **P 14 03 58.9 +1.6**
LYN pmax pmax
comp=Z,29nm,0.8s
LYN LR LR
comp=Z,410nm,19.2s
LYN LR LR
comp=Z,320nm,18.6s
LYN LR LR
comp=Z,540nm,18.6s
TIA Tai'an 33.72 346 P **P 14 03 58.5 +0.4**
TIA pmax pmax
comp=Z,30nm,1.1s
KSAR Wonju Array Be 33.72 1 P **P 14 03 58.8 +0.7**
KSAR Wonju Array Be 33.72 1 P **P 14 03 58.8 +0.7**
KSRS Korea Array 33.74 1 P **P 14 03 57.8 -0.4**
comp=Z,5.1nm,0.7s,baz=177,slow=10,SNR=16
KSRS PcP **PcP 14 06 38.2 +1.4**
comp=Z,2.8nm,0.8s,baz=173,slow=2.4,SNR=7.1
KSRS LR LR 14 19 54.9
comp=Z,89nm,18.4s,baz=185,slow=40
comp=Z,5.1nm,0.7s
KS19 Wonju Array Si 33.78 1 P **P 14 03 58.6 0.0**
INKA Innaminka 33.86 158 P **P 14 03 59.5 +0.1**
FORT Forrest 34.17 178 P **P 14 04 01.3 -0.8**
FORT Forrest 34.17 178 P **P 14 04 01.5 -0.5**
comp=Z,71nm,0.8s
FORT Forrest 34.17 178 P **P 14 04 02.4 +0.3**
QLP Quilpie 34.34 152 P **P 14 04 02.7 -0.9**
comp=Z,37nm,1.1s
MJAR Matsushiro Arr 34.42 16 P **P 14 04 04.1 -0.2**
comp=Z,1.9nm,0.7s,baz=176,slow=8.5,SNR=2.8
MJAR PcP **PcP 14 06 40.4 +1.5**
comp=Z,3.9nm,0.7s,baz=151,slow=2.8,SNR=7.4
MJAR LR LR 14 16 48.5
comp=Z,228nm,20.0s,baz=206,slow=34
comp=Z,1.9nm,0.7s
XAN Xi'an 34.64 333 P **P 14 04 05.2 -1.0**
XAN pP pP 14 04 18.6 -0.7
XAN pmax pmax
comp=Z,43nm,0.8s
XAN LR LR
comp=Z,380nm,22.0s
XAN LR LR
comp=Z,400nm,21.3s
XAN LR LR
comp=Z,530nm,19.2s
XAN Xi'an 34.64 333 P **P 14 04 04.8 -1.4**
CD2 Chengdu 34.88 324 P **P 14 04 08.6 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,230nm,12.1s
KMBL Kambalda 35.07 188 P **P 14 04 09.3 -0.5**
comp=Z,31nm,1.2s
KMBL Kambalda 35.07 188 P **P 14 04 09.9 0.0**
HNR Honiara 35.36 112 LR LR 14 18 17.3
comp=Z,231nm,20.4s,baz=265,slow=36
HNS HongShan 35.48 343 ⇑P **P 14 04 15.0 +1.7**
HNS pP **pP 14 04 26.7 +0.2**
HNS sP **sP 14 04 29.7 -2.9**
HNS PcP **PcP 14 06 43.6 +1.7**
HNS pmax pmax
comp=Z,29nm,1.1s
HNS LR LR
comp=Z,260nm,17.1s
HNS LR LR
comp=Z,250nm,20.0s
DL2 Dalian 35.50 353 P **P 14 04 14.2 +0.8**
DL2 pmax pmax
comp=Z,44nm,0.9s
LCRK Leigh Creek 35.51 163 P **P 14 04 13.6 0.0**
KLBR Kellerberrin 36.04 193 P **P 14 04 17.7 -0.5**
comp=Z,44nm,0.8s
KLBR Kellerberrin 36.04 193 P **P 14 04 18.0 -0.1**
EIDS Eidsvold 37.11 142 P **P 14 04 26.1 -1.3**
EIDS IAmb IAmb 14 04 28.1
comp=Z,15nm,0.9s
EIDS Eidsvold 37.11 142 P **P 14 04 26.8 -0.6**
comp=Z,20nm,1.5s
EIDS Eidsvold 37.11 142 P **P 14 04 27.8 +0.4**
BBOO Buckleboo 37.20 167 P **P 14 04 28.5 +0.4**
BBOO Buckleboo 37.20 167 P **P 14 04 27.5 -0.6**
comp=Z,38nm,1.2s
NWAO Narrogin (SRO) 37.44 193 P **P 14 04 29.9 -0.1**
NWAO pP **pwP 14 04 44.3 -0.9**
BJT Baijiatuau 37.56 346 P **P 14 04 32.1 +1.1**
BJT Baijiatuau 37.56 346 P **P 14 04 31.9 +0.9**
BJI Beijing 37.59 346 P **P 14 04 31.7 +0.5**
BJI pP **pP 14 04 43.5 -0.8**
BJI sP **sP 14 04 49.4 -0.8**
BJI pmax pmax
comp=Z,53nm,0.8s
STKA Stephens Creek 37.92 159 P **P 14 04 33.0 -1.1**
STKA Stephens Creek 37.92 159 P **P 14 04 33.2 -0.8**
comp=Z,58nm,0.7s,baz=334,slow=8.9,SNR=114
comp=Z,58nm,0.7s
STKA Stephens Creek 37.92 159 P **P 14 04 33.9 -0.1**
STKA Stephens Creek 37.92 159 *i* P **P 14 04 34.0 -0.1**
SNY Shenyang 38.21 356 ⇓P **P 14 04 36.5 +0.1**
SNY pmax pmax
comp=Z,22nm,0.7s
HTT Hallett 38.51 164 P **P 14 04 38.4 -0.8**
comp=Z,16nm,0.9s
HTT Hallett 38.51 164 P **P 14 04 41.0 +1.8**
LZH Lanzhou 38.73 330 *eP* **P 14 04 42.1 +1.0**
LZH sP sP 14 04 58.3 -2.1
LZH pmax pmax
comp=Z,26nm,1.4s
LZH LR LR
comp=Z,320nm,14.4s
LZH LR LR
comp=Z,340nm,14.1s
LZH LR LR
comp=Z,450nm,14.8s
BRDH Bariadhala 39.08 302 LR LR 14 23 15.8
comp=Z,88nm,18.5s,baz=160,slow=40
CMSA Cobar Meteorol 39.23 154 P **P 14 04 44.6 -0.5**
comp=Z,28nm,1.4s
CMSA Cobar Meteorol 39.23 154 P **P 14 04 45.3 +0.2**
HHC Hu-ho-hao-te 39.61 342 *eP* **P 14 04 51.8 +3.5**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,210nm,5.5s
BTO Baotou 39.90 340 *eP* **P 14 04 53.2 +2.5**
BTO pP **pP 14 05 05.3 +1.4**
BTO sP **sP 14 05 11.0 +1.2**
BTO S **S 14 10 57.3 +5.2**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,150nm,6.7s
BTO LR LR
comp=Z,340nm,6.4s
BTO LR LR
comp=Z,230nm,5.7s
BTO LR LR
comp=Z,200nm,6.0s
CN2 Changchun 40.09 358 P **P 14 04 56.5 +4.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SHL Shillong 40.12 306 P **P 14 04 51.7 -1.1**
SHL Shillong 40.12 306 P **P 14 04 51.7 -1.1**
SHL pmax pmax
comp=Z,59nm,0.9s
USRK Ussuriysk Ar. 40.71 6 P **P 14 04 57.5 +0.3**
USRK Ussuriysk Ar. 40.71 6 P **P 14 04 56.8 -0.4**
comp=Z,6.9nm,0.8s,baz=193,slow=7.4,SNR=10
USRK PcP **PcP 14 06 57.6 -0.4**
comp=Z,2.2nm,0.7s,baz=158,slow=5.8,SNR=3.2
comp=Z,6.9nm,0.8s
MDJ Mudanjiang 40.95 3 P **P 14 05 00.2 +1.0**
MDJ pmax pmax
comp=Z,17nm,1.1s
MDJ Mudanjiang 40.95 3 P **P 14 04 59.4 +0.2**
MDJ Mudanjiang 40.95 3 P **P 14 05 00.1 +1.0**
ARMA Armidale 41.23 147 P **P 14 05 01.9 0.0**
ARMA IAmb IAmb 14 05 03.7
comp=Z,23nm,0.8s
ARMA Armidale 41.23 147 P **P 14 05 01.2 -0.7**
comp=Z,41nm,1.7s
ARMA Armidale 41.23 147 P **P 14 05 02.6 +0.7**
H11S3 WAKE ISLAND Hy 41.63 66 T T 14 49 33.3
baz=253,slow=74,SNR=15
H11S1 WAKE ISLAND Hy 41.64 66 T T 14 49 34.5
baz=253,slow=74,SNR=3.6
H11S2 WAKE ISLAND Hy 41.64 66 T T 14 49 36.8
baz=253,slow=74,SNR=3.9
BNX BinXian 42.00 1 ⇓P **P 14 05 10.4 +2.6**
BNX pmax pmax
comp=Z,6.0nm,0.9s
ARPS Mount Arapiles 42.48 162 P **P 14 05 11.3 -0.5**
comp=Z,42nm,0.9s
ARPS Mount Arapiles 42.48 162 P **P 14 05 12.8 +1.0**
LSA Lhasa 42.68 311 P **P 14 05 13.8 -0.3**
LSA IAmb IAmb 14 05 16.3
comp=Z,14nm,0.6s
LSA Lhasa 42.68 311 P **P 14 05 13.9 -0.3**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 42.68 311 P **P 14 05 14.7 +0.5**
ASAJ Asahikawa 42.69 17 P **P 14 05 13.5 0.0**
comp=Z,5.3nm,0.6s,baz=211,slow=10,SNR=13
ASAJ PcP **PcP 14 07 04.8 +0.3**
comp=Z,3.7nm,0.8s,baz=243,slow=4.5,SNR=1.9
comp=Z,5.3nm,0.6s
GTA Gaotai 43.33 329 *eP* **P 14 05 19.7 +0.8**
GTA sP sP 14 05 37.9 -0.4
GTA pmax pmax
comp=Z,87nm,5.3s
GTA LR LR
comp=Z,170nm,16.0s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,310nm,18.2s
CAN Canberra 43.89 154 P **P 14 05 24.1 +0.8**
GOMU GeErMu 43.92 322 P **P 14 05 24.4 +0.4**
GOMU pmax pmax
comp=Z,7.0nm,1.4s
YSS Yuzhno-Sakhali 45.35 15 P **P 14 05 34.4 -0.2**
YSS Yuzhno-Sakhali 45.35 15 P **P 14 05 34.5 -0.2**
YSS Yuzhno-Sakhali 45.35 15 *eP* **P 14 05 34.7 0.0**
YSS *eS* **S 14 12 12.1 +0.3**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS Yuzhno-Sakhali 45.35 15 P **P 14 05 34.8 +0.2**
KLR Kul'dur 45.68 4 P **P 14 05 36.9 -0.4**
comp=Z,4.2nm,0.7s,baz=214,slow=4.5,SNR=14
KLR PcP **PcP 14 07 15.9 +1.2**
comp=Z,2.8nm,0.9s,baz=247,slow=7.0,SNR=2.3
comp=Z,4.2nm,0.7s
KLR Kul'dur 45.68 4 *cePcP* **P 14 05 36.6 -0.7**
KLR pmax pmax
comp=Z,13nm,1.4s
DZM Mont Dzumac 46.29 125 P **P 14 05 43.2 +0.5**
DZM IAmb IAmb 14 07 10.7
comp=Z,22nm,1.2s
DZM Mont Dzumac 46.29 125 P **P 14 05 44.5 +1.9**
DZM pP **sP 14 05 59.7 -1.6**
HEH HeiHe 46.52 0 *eP* **P 14 05 43.7 -0.2**
HEH pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 47.33 342 P **P 14 05 50.4 0.0**
ULN IAmb IAmb 14 05 52.9
comp=Z,19nm,1.0s
ULN Ulaanbaatar 47.33 342 *i* P **P 14 05 50.0 -0.4**
ULN pmax pmax
comp=Z,20nm,1.0s
SONM Songino Array 47.51 341 P **P 14 05 51.9 +0.1**
SONM Songino Array 47.51 341 P **P 14 05 51.9 +0.1**
comp=Z,3.7nm,0.5s,baz=160,slow=8.4,SNR=29
SONM PcP **PcP 14 07 22.4 +1.1**
comp=Z,3.8nm,0.8s,baz=161,slow=3.1,SNR=5.7
SONM LR LR 14 27 45.4
comp=Z,104nm,19.2s,baz=157,slow=38
comp=Z,3.7nm,0.5s
TYV Tymovskoe 48.96 13 *eP* P 14 06 14.3 +12
TYV pmax pmax
comp=Z,8.0nm,1.4s
TYV pmax pmax
comp=Z,200nm,4.3s
HYB Hyderabad 49.34 290 *eP* **P 14 06 05.9 -0.4**
HYB IVmB_BB 14 06 06.3
comp=Z,249nm,1.0s
CIT Chita 49.56 349 *eP* **P 14 06 08.4 +1.0**
CIT *e* 14 06 17.4
CIT *e* 14 06 23.6
CIT pmax pmax
comp=Z,60nm,2.2s
ZEA Zeya 50.01 0 *eP* **P 14 06 10.4 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZAK Zakamensk 50.74 341 *eP* **P 14 06 15.9 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
IRK Irkutsk 52.03 343 *eP* **P 14 06 27.0 +1.0**
IRK pmax pmax
comp=Z,21nm,2.0s
MOY Mondy 52.59 340 *eP* **P 14 06 31.7 +1.4**
MOY pmax pmax
comp=Z,25nm,1.9s
WMQ Urumqi 52.96 325 *eP* P 14 06 38.1 +5.0
WMQ pP pP 14 06 48.4 +1.5
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,160nm,23.9s
PETK Petropavlovsk- 55.51 22 P **P 14 06 51.7 +0.3**
comp=Z,11nm,1.0s,baz=199,slow=4.3,SNR=18
comp=Z,11nm,1.0s
ZSN Zaisan 56.74 327 *eP* **P 14 06 59.4 -0.9**
ZSN pmax pmax
comp=Z,9.0nm,1.2s
ZSN Zaisan 56.74 327 *eP* **P 14 06 59.4 -0.9**
comp=Z,9.5nm,1.2s
WUS Wushi 56.80 318 P **P 14 07 00.8 -0.2**
WUS pP **pP 14 07 16.5 +1.6**
SHLS Shalkode 57.59 320 *eP* **P 14 07 03.8 -2.6**
SHLS Shalkode 57.59 320 *eP* **P 14 07 03.9 -2.6**
PDGK Podgornoye 57.65 321 P **P 14 07 05.5 -1.4**
MK31 Makanchi Array 57.79 325 P **P 14 07 07.3 -0.4**
MK31 IAmb IAmb 14 07 20.5
comp=Z,6.8nm,0.8s
MK31 Makanchi Array 57.79 325 *ceP* **P 14 07 07.4 -0.4**
MKAR Makanchi Array 57.79 325 P **P 14 07 07.6 -0.1**
MKAR Makanchi Array 57.79 325 P **P 14 07 07.2 -0.5**
comp=Z,5.7nm,0.5s,baz=121,slow=7.9,SNR=83
MKAR ScP **ScP 14 12 03.4 +7.4**
comp=Z,0.9nm,1.0s,baz=108,slow=4.7,SNR=3.6
MKAR LR LR 14 34 04.5
comp=Z,122nm,18.9s,baz=103,slow=38
comp=Z,5.7nm,0.5s
MKAR Makanchi Array 57.79 325 *i* P **P 14 07 07.1 -0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
UZB Uzynbulak 57.86 320 *eP* **P 14 07 07.7 -0.7**
UZB pmax pmax
comp=Z,7.0nm,1.0s
UZB Uzynbulak 57.86 320 *eP* **P 14 07 07.7 -0.7**
comp=Z,7.1nm,1.0s
MAKZ Makanchi 57.98 325 P **P 14 07 08.8 -0.2**
MAKZ IAmb IAmb 14 07 10.4
comp=Z,23nm,1.2s
MAKZ Makanchi 57.98 325 P **P 14 07 08.8 -0.2**
MAKZ pmax pmax
comp=Z,23nm,1.3s
MAKZ Makanchi 57.98 325 P **P 14 07 08.6 -0.4**
SATY Saty 58.22 320 *eP* **P 14 07 10.2 -0.7**
SATY pmax pmax
comp=Z,9.0nm,1.0s
SATY Saty 58.22 320 *eP* **P 14 07 10.3 -0.7**

comp=Z,8.9nm,1.0s
KPKS Kokpek 58.23 320 *e*P **P 14 07 10.3 -0.6**
KPKS Kokpek 58.23 320 *e*P **P 14 07 10.3 -0.6**
ZHN Zhinishke 58.25 320 *e*P **P 14 07 10.4 -0.7**
ZHN Zhinishke 58.25 320 *e*P **P 14 07 10.4 -0.7**
KSH Kashi 58.29 315 P **P 14 07 12.0 +0.6**
KSH pP pP 14 07 25.1 -0.3
KSH pmax pmax
comp=Z,5.0nm,1.3s
OUZ Omahuta 58.32 136 P **P 14 07 13.3 +1.7**
YAK Yakutsk 58.36 2 P **P 14 07 11.7 +0.3**
YAK Yakutsk 58.36 2 LR LR 14 31 16.4
comp=Z,43nm,21.7s,baz=185,slow=35
YAK Yakutsk 58.36 2*d i*P **P 14 07 12.0 +0.7**
YAK *e**PP **pP 14 07 26.0 +1.2**
YAK *e* 14 08 02.4
YAK *e* 14 09 21.4
YAK *e*PPP PPP 14 10 40.8
YAK *e*S **S 14 15 11.5 +1.4**
YAK *e**SS **sS 14 15 37.3 +4.2**
YAK *e* 14 16 54.2
YAK *e*SS **SS 14 19 00.9 -2.0**
YAK *e*SSS SSS 14 21 19.5
YAK pmax pmax
comp=Z,51nm,1.0s
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,91nm,3.2s
YAK pmax pmax
comp=N,64nm,3.8s
YAK pmax pmax
comp=E,44nm,2.7s
YAK smax smax
comp=N,33nm,2.4s
YAK smax smax
comp=E,49nm,4.4s
YAK Yakutsk 58.36 2 P **P 14 07 11.6 +0.3**
KDJ Kajisay 58.59 318 P **P 14 07 13.3 -0.3**
KDJ IAmb IAmb 14 07 15.0
comp=Z,9.1nm,1.0s
KDJ Kajisay 58.59 318 P **P 14 07 13.3 -0.3**
KDJ pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 58.81 14 P **P 14 07 14.5 -0.1**
MA2 IAmb IAmb 14 07 16.3
comp=Z,19nm,1.5s
MA2 Magadan 58.81 14 LR LR 14 33 17.0
comp=Z,61nm,20.0s,baz=210,slow=37
MA2 Magadan 58.81 14 P **P 14 07 14.6 0.0**
MA2 Magadan 58.81 14*ce*P **P 14 07 15.4 +0.8**
MA2 pmax pmax
comp=Z,11nm,1.3s
MA2 Magadan 58.81 14 P **P 14 07 14.1 -0.5**
comp=Z,9.2nm,1.3s
TNSS Tian-Shan 59.15 319 *e*P **P 14 07 16.5 -1.2**
TNSS Tian-Shan 59.15 319 *e*P **P 14 07 16.6 -1.2**
TDK Taldyqorghan 59.16 322 *e*P **P 14 07 16.6 -0.6**
TDK pmax pmax
comp=Z,8.0nm,0.8s
TDK Taldyqorghan 59.16 322 *e*P **P 14 07 16.6 -0.6**
comp=Z,8.2nm,0.8s
WCZ Waipu Caves 59.22 136 P **P 14 07 19.5 +1.7**
TKM2 Tokmak 2 59.99 319 P **P 14 07 20.9 -2.4**
JCZ Jackson Bay 60.47 146 P **P 14 07 28.0 +1.7**
AAK Ala-Archa 60.60 318 P **P 14 07 27.1 -0.3**
AAK Ala-Archa 60.60 318 LR LR 14 34 53.6
comp=Z,86nm,21.3s,baz=98,slow=37
AAK Ala-Archa 60.60 318*ce*P **P 14 07 28.4 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 60.60 318 P **P 14 07 28.6 +1.2**
AAK PcP **PcP 14 08 12.6 +1.2**
QRZ Quartz Range 60.69 142 P **P 14 07 28.9 +1.1**
DSZ Denniston Nort 60.78 143 P **P 14 07 30.1 +1.7**
ZAA0 Zalesovo Array 60.81 333 P **P 14 07 27.3 -1.1**
ZALV Zalesovo Beam 60.81 333 P **P 14 07 27.5 -0.9**
comp=Z,4.0nm,0.5s,baz=121,slow=5.8,SNR=14
ZALV PKiKP **PKiKP 14 14 29.7 +1.4**
comp=Z,0.6nm,0.5s,baz=104,slow=6.1,SNR=2.4
ZALV LR LR 14 35 34.5
comp=Z,86nm,19.3s,baz=117,slow=38
comp=Z,4.0nm,0.5s
TOZ Tahuroa Road 60.94 137 P **P 14 07 30.0 +0.5**
TOZ IAmb IAmb 14 07 31.8
comp=Z,14nm,0.8s
TOZ Tahuroa Road 60.94 137 P **P 14 07 31.2 +1.7**
MLZ Mavora Lakes 60.95 148 P **P 14 07 30.3 +0.8**
WKZ Wanaka 61.09 147 P **P 14 07 31.8 +1.4**
ARSB Arslanbob 61.10 316 P **P 14 07 30.4 -0.4**
ARSB IAmb IAmb 14 07 47.0
comp=Z,25nm,1.6s
ARSB Arslanbob 61.10 316 P **P 14 07 30.4 -0.4**
ARSB pmax pmax
comp=Z,25nm,1.6s
NNZ Nelson 61.44 141 P **P 14 07 32.4 -0.4**
LBZ Lake Benmore 61.45 146 P **P 14 07 33.6 +0.8**
THZ Tophouse 61.46 142 P **P 14 07 32.8 -0.3**
THZ Tophouse 61.46 142 P **P 14 07 33.3 +0.2**
RPZ Rata Peaks 61.52 145 P **P 14 07 34.0 +0.6**
LTZ Lake Taylor 61.67 143 P **P 14 07 36.0 +1.5**
OXZ Oxford 61.86 144 P **P 14 07 35.5 -0.1**
TMZ Timaru 61.91 146 P **P 14 07 37.3 +1.4**
BTLS Baital 61.91 320 *e*P **P 14 07 35.1 -0.9**
BTLS Baital 61.91 320 *e*P **P 14 07 35.1 -0.9**
KURBB Kurchatov Arra 61.97 327 P **P 14 07 35.8 -0.5**
comp=Z,45nm,0.7s,baz=129,slow=6.3,SNR=86
comp=Z,45nm,0.7s
KURBB Kurchatov Arra 61.97 327 P **P 14 07 35.1 -1.2**
KURK Kurchatov 61.97 327 P **P 14 07 36.1 -0.2**
KURK IAmb IAmb 14 07 37.2
comp=Z,18nm,0.9s
KURK Kurchatov 61.97 327 P **P 14 07 36.1 -0.2**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 61.97 327 P **P 14 07 35.6 -0.7**
SEY Seymchan 62.15 13*ce*P **P 14 07 37.7 +0.5**
SEY pmax pmax
comp=Z,14nm,1.3s
GAR Garm 62.17 313 P **P 14 07 37.0 -1.0**
GAR IAmb IAmb 14 08 09.4
comp=Z,20nm,1.1s
KHZ Kahutara 62.22 143 P **P 14 07 37.8 -0.2**
GVZ Greta Valley S 62.24 143 P **P 14 07 39.1 +0.9**
URZ Urewera 62.30 137 LR LR 14 35 20.1
comp=Z,337nm,19.3s,baz=40,slow=37
URZ Urewera 62.30 137 P **P 14 07 39.6 +0.9**
BKZ Black Stump Fm 62.34 138 P **P 14 07 39.1 0.0**
BKZ Black Stump Fm 62.34 138 P **P 14 07 39.1 0.0**
BKZ Black Stump Fm 62.34 138 P **P 14 07 39.3 +0.3**
RTZ Ruatahuna 62.39 137 P **P 14 07 39.1 -0.3**
HAZ Te Kaha 62.51 136 P **P 14 07 40.6 +0.4**
MWZ Matawai 62.62 137 P **P 14 07 41.5 +0.6**
DZA Taraz 62.84 317 *e*P **P 14 07 41.6 -0.7**
DZA Taraz 62.84 317 *e*P **P 14 07 41.6 -0.7**
IUG Iuzhnay 63.46 316 *e*P **P 14 07 45.9 -0.6**
IUG pmax pmax
comp=Z,7.0nm,0.7s
IUG Iuzhnay 63.46 316 *e*P **P 14 07 45.9 -0.6**
comp=Z,6.7nm,0.7s
KK31 Karatay Array 63.47 317 *i*P **P 14 07 45.6 -0.9**
KKAR Karatay Array 63.47 317 P **P 14 07 45.8 -0.7**
KKAR Karatay Array 63.47 317 P **P 14 07 45.8 -0.7**
BRLS Borolday 63.91 317 *e*P **P 14 07 48.5 -0.9**
BRLS Borolday 63.91 317 *e*P **P 14 07 48.5 -0.9**
OTUK Ortayu 64.36 323 P **P 14 07 50.3 -1.9**
BRZS Berezniki 64.92 325 *e*P **P 14 07 55.2 -0.6**
BRZS Berezniki 64.92 325 *e*P **P 14 07 55.2 -0.6**
BVA0 Borovoye Array 67.55 327 *i*P **P 14 08 11.8 -0.8**
BVAR Borovoye Array 67.55 327 P **P 14 08 11.8 -0.9**
comp=Z,11nm,0.8s,baz=123,slow=8.8,SNR=63
BVAR LR LR 14 38 24.7
comp=Z,58nm,22.0s,baz=103,slow=37
comp=Z,11nm,0.8s
BRVK Borovoye 67.62 327 P **P 14 08 12.6 -0.5**
BRVK IAmb IAmb 14 08 29.5
comp=Z,15nm,0.8s
BRVK Borovoye 67.62 327*ce*P **P 14 08 13.0 0.0**
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 67.62 327 P **P 14 08 12.8 -0.2**
BRVK pP **pP 14 08 28.7 +1.7**

TIXI Tiksi 68.00 1 P **P 14 08 14.9 -0.1**
TIXI IAmb IAmb 14 08 24.3
comp=Z,15nm,1.1s
TIXI Tiksi 68.00 1 LR LR 14 36 49.7
comp=Z,60nm,21.9s,baz=188,slow=35
TIXI Tiksi 68.00 1 *i*P **P 14 08 14.0 -1.0**
TIXI pmax pmax
comp=Z,10.0nm,1.1s
BILL Bilibino 69.66 15*ce*P **P 14 08 26.4 +1.0**
BILL pmax pmax
comp=Z,14nm,2.5s
BILL Bilibino 69.66 15 P **P 14 08 25.5 0.0**
CASY Casey 70.68 187 P **P 14 08 32.5 +0.9**
CASY pP **pwP 14 08 47.8 +0.1**
AB31 Akbulak array 72.39 321 *i*P **P 14 08 41.2 -1.1**
ABKAR Akbulak array 72.39 321 P **P 14 08 41.8 -0.5**
ABKAR IAmb IAmb 14 08 43.1
comp=Z,8.7nm,0.7s
ABKAR Akbulak array 72.39 321 P **P 14 08 42.0 -0.4**
SPIA Saint Paul Isl 72.54 31 P **P 14 08 42.6 -0.5**
baz=248
P08K Saint George I 72.69 31 P **P 14 08 43.8 -0.2**
baz=249
UNV Unalaska Valle 73.45 35 P **P 14 08 47.7 -0.7**
baz=253
AKTO Aktyubinsk 73.90 322 LR LR 14 44 08.1
comp=Z,128nm,19.9s,baz=174,slow=38
AKTO Aktyubinsk 73.90 322 P **P 14 08 50.7 -0.5**
SVE Sverdlovsk 74.19 328 *e*P **P 14 08 53.0 +0.2**
GAMB Gambell 74.47 24 P **P 14 08 53.7 -0.5**
baz=245
ARTI Arti 75.25 328*d i*P **P 14 08 59.5 +0.5**
ARTI S **S 14 18 35.7 +1.5**
ARTI SS **SS 14 23 21.0 -3.6**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
FALS False Pass 75.47 34 P **P 14 08 60.0 -0.2**
baz=255
M11K Mekoryuk 75.62 28 P **P 14 09 00.5 -0.4**
baz=251
S12K Black Hills 76.43 33 P **P 14 09 04.4 -1.3**
baz=256
TNA Tin City 76.66 23 P **P 14 09 05.7 -1.1**
baz=248
K13K Kusilvak Mount 76.82 27 P **P 14 09 06.3 -1.5**
baz=252
M13K Dall Lake 76.98 29 P **P 14 09 07.5 -1.2**
baz=254
SDPT Sand Point 77.22 34 P **P 14 09 10.4 +0.3**
SDPT Sand Point 77.22 34 P **P 14 09 10.7 +0.6**
SDPT Sand Point 77.22 34 P **P 14 09 09.3 -0.8**
baz=258
F14K Arctic Creek 77.26 23 P **P 14 09 09.4 -0.7**
baz=250
ANM Nome 77.34 24 P **P 14 09 10.7 0.0**
baz=251
J14K Nanvaranak Lak 77.55 26 P **P 14 09 11.7 -0.1**
baz=253
L14K Kuka Creek 77.55 28 P **P 14 09 10.9 -0.9**
baz=254
CHNA Chernabura Isl 77.61 35 P **P 14 09 11.5 -0.8**
baz=258
N14K Kuskokwak Cree 77.66 29 P **P 14 09 12.3 -0.2**
baz=255
O14K Tigyukauivet M 77.70 30 P **P 14 09 12.3 -0.5**
baz=256
M14K Bethel 77.74 28 P **P 14 09 12.4 -0.5**
baz=255,SNR=7.0
S14K Fog Glacier 77.93 33 P **P 14 09 13.8 -0.4**
baz=258
F15K North Star Dit 77.99 23 P **P 14 09 13.7 -0.5**
baz=252
G15K Niukluk 78.01 24 P **P 14 09 14.2 -0.2**
baz=252
L15K Ungalak Mounta 78.19 28 P **P 14 09 14.9 -0.5**
baz=255
M15K Kasigluk River 78.33 29 P **P 14 09 15.7 -0.4**
baz=256
K15K Wolf Creek Mou 78.33 27 P **P 14 09 15.8 -0.4**
baz=255
O15K Ungalikthiuk R 78.40 30 P **P 14 09 15.9 -0.7**
baz=257
N15K Kwethluk River 78.49 29 P **P 14 09 16.9 -0.3**
baz=257
CHGN Chignik 78.56 33 P **P 14 09 17.6 +0.1**
baz=259
C16K Lisburne Hills 78.57 21 P **P 14 09 17.4 0.0**
baz=250
H16K Elim 78.65 25 P **P 14 09 17.7 -0.2**
baz=254,SNR=8.0
G16K Koyuk River 78.81 24 P **P 14 09 18.1 -0.7**
baz=254
J16K Anvik River 78.99 26 P **P 14 09 18.8 -1.0**
baz=256
I17K Unalakleet 79.10 25 P **P 14 09 20.0 -0.4**
baz=256,SNR=5.6
L16K Owhat River 79.13 28 P **P 14 09 21.4 +0.8**
L16K IAmb IAmb 14 09 22.9
comp=Z,23nm,1.1s
L16K Owhat River 79.13 28 P **P 14 09 19.9 -0.7**
baz=257,SNR=7.5
D17K Noatak River 79.20 21 P **P 14 09 20.2 -0.6**
baz=253,SNR=19
N16K Nishlik Lake 79.20 29 P **P 14 09 20.2 -0.9**
baz=258
M16K Timber Creek 79.23 28 P **P 14 09 20.6 -0.5**
baz=258
P16K Nushagak River 79.30 31 P **P 14 09 20.8 -0.7**
baz=259
O16K Kokwok River B 79.36 30 P **P 14 09 21.6 -0.3**
baz=259
RDOG Red Dog Mine 79.37 21 P **P 14 09 21.5 -0.3**
baz=253,SNR=5.7
C17K DeLong Mountai 79.40 21 P **P 14 09 21.9 -0.1**
baz=252
E17K Hotham Inlet 79.49 22 P **P 14 09 22.3 -0.1**
baz=254
G17K Kiwalik Mounta 79.53 24 P **P 14 09 22.3 -0.4**
baz=255
F17K Baldwin Pennin 79.53 23 P **P 14 09 22.2 -0.4**
baz=255
AKT Akhty 79.54 311 *e*P **P 14 09 20.8 -2.6**
AKT *e**SP **sP 14 09 41.8 -1.7**
AKT *e* 14 12 21.3
AKT pmax pmax
comp=Z,7.0nm,0.8s
H17K Granite Mounta 79.69 24 P **P 14 09 23.5 -0.1**
H17K IAmb IAmb 14 09 26.9
comp=Z,20nm,1.2s
H17K Granite Mounta 79.69 24 P **P 14 09 23.2 -0.4**
baz=256
J17K VABM Dome 79.69 26 P **P 14 09 23.4 -0.2**
baz=257
L17K Donlin 79.77 27 P **P 14 09 24.0 0.0**
baz=258
K17K Iditarod 79.89 27 P **P 14 09 24.3 -0.3**
baz=258
O17K Koliganek Bris 79.89 30 P **P 14 09 24.7 -0.1**
baz=260,SNR=5.2
Q16K King Salmon 79.92 31 P **P 14 09 25.0 +0.1**
baz=260
N17K Nushagak Hills 79.98 29 P **P 14 09 26.0 +0.8**
N17K IAmb IAmb 14 09 28.8
comp=Z,18nm,1.1s
N17K Nushagak Hills 79.98 29 P **P 14 09 24.8 -0.4**
baz=259
CHIR Chirikof Islan 80.02 34 P **P 14 09 25.0 -0.5**
baz=262
M17K Holitna River 80.02 28 P **P 14 09 27.6 +2.2**
M17K IAmb IAmb 14 09 28.5
comp=Z,19nm,1.0s
M17K Holitna River 80.02 28 P **P 14 09 25.9 +0.4**
baz=259
E18K Tukpahlearik C 80.03 22 P **P 14 09 26.8 +1.4**
E18K IAmb IAmb 14 09 28.7
comp=Z,24nm,1.0s
E18K Tukpahlearik C 80.03 22 P **P 14 09 26.0 +0.6**
baz=255
P17K Kvichak River 80.12 31 P **P 14 09 25.9 -0.1**
baz=260
B18K Kokolik River 80.13 20 P **P 14 09 26.1 +0.2**
baz=254
C18K Utukok River 80.14 21 P **P 14 09 25.5 -0.6**
baz=254
F18K Selawik 80.19 23 P **P 14 09 25.9 -0.3**
baz=256,SNR=7.0
H18K Honhosa River 80.38 24 P **P 14 09 27.9 +0.6**

H18K IAmb IAmb 14 09 29.6
comp=Z,20nm,1.4s
H18K Honhosa River 80.38 24 P **P 14 09 26.7 -0.7**
baz=258
G18K Tagagawik 80.42 24 P **P 14 09 26.9 -0.6**
baz=257,SNR=5.7
KIRV Kirov 80.45 329*ce*P **P 14 09 28.2 +0.4**
L18K Granite Mounta 80.53 27 P **P 14 09 29.0 +0.8**
L18K IAmb IAmb 14 09 31.0
comp=Z,14nm,1.0s
L18K Granite Mounta 80.53 27 P **P 14 09 27.6 -0.5**
baz=260
A19K Wainwright 80.61 19 P **P 14 09 29.2 +0.8**
baz=254
N18K Kilae Creek 80.64 29 P **P 14 09 28.6 -0.2**
baz=260
BELG Belogornoye 80.64 322 *i*P **P 14 09 28.0 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
J18K Innoko River 80.74 26 P **P 14 09 30.4 +1.1**
J18K IAmb IAmb 14 09 32.1
comp=Z,26nm,1.6s
J18K Innoko River 80.74 26 P **P 14 09 29.0 -0.3**
baz=259
P18K Big Mountain, 80.76 30 P **P 14 09 29.1 -0.4**
baz=261
Q18K Katmai Hardscr 80.76 31 P **P 14 09 28.5 -1.1**
baz=262
M18K Stony River 80.80 28 P **P 14 09 29.2 -0.4**
baz=260
O18K Koktuh Hills 80.84 30 P **P 14 09 29.3 -0.6**
baz=261
R18K Karluk 80.90 32 P **P 14 09 29.5 -0.7**
baz=262
GCSA Galena City Sc 80.91 25 P **P 14 09 29.5 -0.6**
baz=259,SNR=6.7
SII Sitkinak Islan 80.92 33 P **P 14 09 29.2 -1.2**
baz=263
TTA Tatalina 80.96 27 P **P 14 09 30.1 -0.5**
baz=260
F19K Shaleruckik Mo 80.97 23 P **P 14 09 30.2 -0.2**
F19K Shaleruckik Mo 80.97 23 P **P 14 09 30.9 +0.4**
baz=258
G19K Purcell Mounta 81.10 24 P **P 14 09 31.6 +0.5**
baz=258
D19K Kuna River 81.20 21 P **P 14 09 31.9 +0.2**
baz=257
H19K Roundabout Mou 81.24 24 P **P 14 09 32.0 +0.2**
baz=259
E19K Redstone River 81.31 22 P **P 14 09 32.4 +0.2**
baz=258,SNR=31
J19K Poorman 81.31 26 P **P 14 09 32.6 +0.3**
baz=260
O19K Port Alsworth 81.33 30 P **P 14 09 31.8 -0.7**
baz=262
N19K Bonanza Creek 81.34 29 P **P 14 09 32.2 -0.5**
baz=262
L19K White Mountain 81.37 28 P **P 14 09 31.9 -0.8**
baz=261
OHAK Old Harbor 81.49 33 P **P 14 09 32.4 -0.9**
baz=263
Q19K Cape Douglas, 81.50 31 P **P 14 09 32.8 -0.7**
baz=263
M19K Big River Lodg 81.54 28 P **P 14 09 33.3 -0.2**
baz=262
D20K Etivluk River 81.79 21 P **P 14 09 34.7 -0.1**
baz=259
P19K Oil Pt 81.81 30 P **P 14 09 34.6 -0.4**
baz=263
F20K Avaraart Lake 81.81 23 P **P 14 09 36.0 +1.1**
F20K IAmb IAmb 14 09 38.3
comp=Z,26nm,1.3s
F20K Avaraart Lake 81.81 23 P **P 14 09 34.6 -0.3**
baz=260
E20K Nigu River 81.86 22 P **P 14 09 34.6 -0.6**
baz=259,SNR=30
L20K Farewell, AK 81.86 27 P **P 14 09 34.8 -0.5**
baz=262
B20K Meade River 81.86 20 P **P 14 09 35.0 -0.1**
baz=258
H20K Anotleneega Mo 81.88 24 P **P 14 09 35.0 -0.3**
baz=261
K20K Telida 81.90 27 P **P 14 09 35.0 -0.4**
baz=262
KDAK Kodiak Island 81.93 32 P **P 14 09 36.5 +0.9**
KDAK Kodiak Island 81.93 32 LR LR 14 40 29.8
comp=Z,52nm,21.0s,baz=97,slow=32
KDAK Kodiak Island 81.93 32 P **P 14 09 36.5 +0.9**
KDAK pmax pmax
comp=Z,81nm,1.4s
KDAK Kodiak Island 81.93 32 P **P 14 09 35.0 -0.7**
baz=264
I20K Naaghedeneel 81.94 25 P **P 14 09 35.2 -0.3**
baz=261
J20K Nowinta River 81.98 26 P **P 14 09 36.5 +0.6**
J20K IAmb IAmb 14 09 38.9
comp=Z,21nm,1.1s
J20K Nowinta River 81.98 26 P **P 14 09 35.1 -0.7**
baz=262,SNR=11
Q20K Shuyak Island 82.11 31 P **P 14 09 36.1 -0.5**
baz=264
M20K Styx River 82.13 28 P **P 14 09 36.5 -0.2**
baz=263
A21K Barrow 82.31 18 P **P 14 09 37.9 +0.5**
baz=258,SNR=9.0
N20K Mount Spurr 82.49 29 P **P 14 09 38.5 -0.1**
baz=264
SPCR Spurr Chakacha 82.49 29 P **P 14 09 38.0 -0.6**
baz=264
C21K Knifeblade Rid 82.52 21 P **P 14 09 38.5 -0.1**
baz=260
G21K Allakaket 82.59 23 P **P 14 09 39.1 +0.1**
baz=262
B21K Ikpikpuk River 82.66 20 P **P 14 09 39.1 -0.1**
baz=260
PPLA Purkeypile 82.69 27 P **P 14 09 39.1 -0.6**
baz=263
E21K Killik River 82.70 21 P **P 14 09 40.5 +1.0**
E21K IAmb IAmb 14 09 42.3
comp=Z,16nm,0.8s
E21K Killik River 82.70 21 P **P 14 09 39.4 -0.1**
baz=261
F21K Alatna River 82.70 23 P **P 14 09 39.4 -0.1**
baz=262
CHUM Lake Minchumin 82.74 26 P **P 14 09 40.0 +0.2**
baz=263,SNR=9.8
H21K Melozitna Rive 82.75 24 P **P 14 09 39.7 -0.2**
baz=262
A22K Sinclair Lake 82.78 19 P **P 14 09 40.0 +0.2**
baz=260
CAST Castle Rocks 82.79 27 P **P 14 09 40.2 +0.1**
baz=263,SNR=9.2
SKT Skwentna 82.89 28 P **P 14 09 40.3 -0.4**
baz=264,SNR=7.7
CAPN Captain Cook N 82.96 29 P **P 14 09 41.0 +0.1**
baz=265
I21K Tanana 83.04 25 P **P 14 09 42.2 +0.9**
I21K IAmb IAmb 14 09 44.9
comp=Z,17nm,0.9s
I21K Tanana 83.04 25 P **P 14 09 41.7 +0.4**
baz=263,SNR=18
BRSE Bradley Lake S 83.07 30 P **P 14 09 41.3 -0.4**
baz=265
B22K Teshekpuk Lake 83.18 20 P **P 14 09 42.4 +0.5**
baz=261
SUA Susitna One 83.22 29 P **P 14 09 41.9 -0.6**
baz=265,SNR=6.1
KBZ Khabaz 83.22 313 P **P 14 09 42.0 -0.7**
comp=Z,1.7nm,0.8s,baz=183,slow=3.6,SNR=4.4
KBZ LR LR 14 50 28.6
comp=Z,37nm,21.2s,baz=59,slow=38
comp=Z,1.7nm,0.8s
KBZ Khabaz 83.22 313 P **P 14 09 42.0 -0.7**
D22K Ayikyak River 83.23 21 P **P 14 09 43.5 +1.3**
D22K Ayikyak River 83.23 21 P **P 14 09 42.5 +0.2**
baz=262
F22K John River 83.24 22 P **P 14 09 42.4 +0.1**
baz=263
VNDA Vanda 83.25 173 P **P 14 09 41.8 -0.3**
comp=Z,6.8nm,1.0s,baz=49,slow=11,SNR=3.0
VNDA LR LR 14 48 10.0
comp=Z,59nm,18.1s,baz=347,slow=37
comp=Z,6.8nm,1.0s
BPAW Bear Paw Mtn. 83.35 26 P **P 14 09 42.7 -0.3**
baz=264,SNR=17
H22K Ishtalitna Cre 83.37 24 P **P 14 09 43.2 +0.1**
baz=264
KIV Kislovodsk 83.38 314 *e*P **P 14 09 40.9 -2.8**

KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
E22K	**Anaktuvuk Pass**	**83.45**	**22**	P	**P**	**14 09 43.6**	**+0.2**
	baz=263,SNR=20						
CUT	**Chulitna**	**83.52**	**28**	P	**P**	**14 09 43.0**	**-0.8**
	baz=265						
M22K	**Willow**	**83.54**	**28**	P	**P**	**14 09 43.4**	**-0.5**
	baz=265						
TRF	**Thorofare Moun**	**83.60**	**27**	P	**P**	**14 09 43.8**	**-0.7**
	baz=265,SNR=8.3						
O22K	**Cooper Landing**	**83.64**	**30**	P	**P**	**14 09 43.8**	**-0.6**
	baz=266						
RC01	**Rabbit Creek A**	**83.67**	**29**	P	**P**	**14 09 44.5**	**-0.2**
	baz=266						
SEW	**Seward**	**83.75**	**30**	P	**P**	**14 09 44.3**	**-0.8**
	baz=266						
D23K	**Nanushuk River**	**83.96**	**21**	P	**P**	**14 09 45.4**	**-0.6**
	baz=264						
COLD	**Coldfoot**	**83.97**	**23**	P	**P**	**14 09 45.0**	**-1.1**
	baz=265,SNR=31						
G23K	**Bananza Creek**	**83.99**	**23**	P	**P**	**14 09 46.1**	**-0.1**
	baz=265						
PMR	**Palmer**	**84.00**	**29**	P	**P**	**14 09 46.8**	**+0.5**
PMR	**Palmer**	**84.00**	**29**	P	**P**	**14 09 46.2**	**0.0**
	baz=266,SNR=9.0						
C23K	**Itkillik River**	**84.07**	**20**	P	**P**	**14 09 47.4**	**+0.9**
C23K	**Itkillik River**	**84.07**	**20**	P	**P**	**14 09 46.3**	**-0.2**
	baz=264						
I23K	**Minto, Yukon-K**	**84.14**	**25**	P	**P**	**14 09 46.6**	**-0.3**
	baz=266,SNR=16						
VRH	**Novokhopyorsk**	**84.22**	**321**	*e*P	**P**	**14 09 45.3**	**-2.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NEA2	**Nenana**	**84.22**	**26**	P	**P**	**14 09 47.3**	**-0.1**
	baz=266,SNR=13						
MCK	**McKinley**	**84.22**	**26**	P	**P**	**14 09 48.0**	**+0.6**
MCK				IAmb	IAmb	14 09 49.7	
	comp=Z,25nm,1.0s						
MCK	**McKinley**	**84.22**	**26**	P	**P**	**14 09 48.0**	**+0.6**
MCK				pmax	pmax		
	comp=Z,25nm,1.0s						
MCK	**McKinley**	**84.22**	**26**	P	**P**	**14 09 47.2**	**-0.3**
	baz=266,SNR=9.1						
E23K	**Chandalar**	**84.26**	**22**	P	**P**	**14 09 49.1**	**+1.4**
E23K				IAmb	IAmb	14 09 51.6	
	comp=Z,23nm,0.9s						
E23K	**Chandalar**	**84.26**	**22**	P	**P**	**14 09 48.0**	**+0.3**
	baz=265						
KNK	**Knik Glacier**	**84.31**	**29**	P	**P**	**14 09 47.3**	**-0.6**
	baz=267,SNR=15						
TOLK	**Toolik Lake Re**	**84.33**	**21**	P	**P**	**14 09 48.1**	**+0.1**
	baz=265,SNR=18						
PWL	**Port Wells**	**84.34**	**29**	P	**P**	**14 09 47.7**	**-0.4**
	baz=267,SNR=9.3						
SML	**Sawmill**	**84.39**	**28**	P	**P**	**14 09 48.7**	**+0.4**
SML	**Sawmill**	**84.39**	**28**	P	**P**	**14 09 48.5**	**+0.2**
	baz=267,SNR=16						
D24K	**Happy Valley**	**84.64**	**21**	P	**P**	**14 09 50.4**	**+1.0**
D24K				IAmb	IAmb	14 09 53.2	
	comp=Z,30nm,1.1s						
D24K	**Happy Valley**	**84.64**	**21**	P	**P**	**14 09 49.5**	**+0.1**
	baz=266						
M23K	**Glacier View**	**84.68**	**28**	P	**P**	**14 09 49.9**	**+0.1**
	baz=268,SNR=9.7						
E24K	**Your Creek**	**84.69**	**22**	P	**P**	**14 09 50.2**	**+0.4**
	baz=266						
C24K	**Franklin Bluff**	**84.72**	**20**	P	**P**	**14 09 50.7**	**+0.9**
	baz=266						
COLA	**College**	**84.76**	**25**	P	**P**	**14 09 50.3**	**+0.2**
COLA	**College**	**84.76**	**25**	P	**P**	**14 09 51.3**	**+1.3**
	baz=267						
P23K	**Montague Islan**	**84.77**	**30**	P	**P**	**14 09 50.3**	**+0.1**
	baz=268						
CCB	**Clear Creek Bu**	**84.77**	**26**	P	**P**	**14 09 50.0**	**-0.2**
CCB				IAmb	IAmb	14 09 52.0	
	comp=Z,15nm,1.1s						
H24K	**Noodor Dome**	**84.80**	**24**	P	**P**	**14 09 51.0**	**+0.6**
H24K				IAmb	IAmb	14 10 05.7	
	comp=Z,29nm,1.6s						
H24K	**Noodor Dome**	**84.80**	**24**	P	**P**	**14 09 51.2**	**+0.8**
	baz=267,SNR=9.7						
SCM	**Sheep Creek Mo**	**84.87**	**28**	P	**P**	**14 09 51.0**	**+0.2**
	baz=268,SNR=8.6						
F24K	**Squaw Lake**	**84.88**	**23**	P	**P**	**14 09 52.5**	**+1.7**
F24K				IAmb	IAmb	14 09 54.7	
	comp=Z,12nm,1.0s						
F24K	**Squaw Lake**	**84.88**	**23**	P	**P**	**14 09 51.4**	**+0.7**
	baz=267,SNR=11						
GLI	**Glacier Island**	**84.95**	**29**	P	**P**	**14 09 51.2**	**+0.1**
	baz=268						
POKR	**Poker Plat Res**	**84.95**	**25**	P	**P**	**14 09 51.7**	**+0.6**
	baz=268						
G24K	**Hadweenzic Riv**	**85.00**	**23**	P	**P**	**14 09 52.3**	**+0.9**
G24K				IAmb	IAmb	14 09 55.0	
	comp=Z,18nm,0.9s						
G24K	**Hadweenzic Riv**	**85.00**	**23**	P	**P**	**14 09 51.8**	**+0.4**
	baz=267,SNR=12						
HDA	**Harding Lake**	**85.13**	**26**	P	**P**	**14 09 52.3**	**+0.3**
	baz=268,SNR=8.4						
ILAR	**Eielson Array**	**85.17**	**25**	P	**P**	**14 09 51.4**	**-0.8**
	comp=Z,5.1nm,1.1s,baz=256,slow=3.6,SNR=22						
	comp=Z,5.1nm,1.1s						
HIN	**Hinchinbrook I**	**85.23**	**30**	P	**P**	**14 09 53.3**	**+0.8**
Q23K	**Middleton Isla**	**85.28**	**31**	P	**P**	**14 09 52.8**	**0.0**
	baz=269						
M24K	**Tolsona, Glenn**	**85.42**	**28**	P	**P**	**14 09 54.0**	**+0.5**
	baz=269,SNR=8.1						
D25K	**Kavik River**	**85.52**	**21**	P	**P**	**14 09 54.6**	**+0.7**
	baz=268						
KLU	**Klutina**	**85.53**	**29**	P	**P**	**14 09 54.0**	**-0.1**
	baz=269,SNR=10						
SOC	**Sochi**	**85.53**	**313**	*e*P	**P**	**14 09 50.9**	**-3.5**
SOC				*e*		14 13 07.5	
SOC				*e*PPP	PPP	14 15 03.0	
SOC				*e*S	**SKSac**	**14 20 10.4**	**-5.2**
SOC				*e*SS	**SS**	**14 25 57.1**	**-1.6**
SOC				*e*SSS	SSS	14 29 30.2	
SOC				MLR	MLR		
	comp=Z,144nm,21.0s						
G25K	**Bearman Lake**	**85.55**	**23**	P	**P**	**14 09 54.2**	**+0.3**
	baz=269						
EYAK	**Cordova Ski Ar**	**85.60**	**30**	P	**P**	**14 09 55.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**85.60**	**30**	P	**P**	**14 09 54.6**	**+0.2**
	baz=269						
K24K	**Donnelly Dome**	**85.63**	**26**	P	**P**	**14 09 55.2**	**+0.7**
	baz=269,SNR=5.2						
KLMR	**Klimovskoe**	**85.63**	**331**	*e*P	**P**	**14 09 52.4**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,32nm,1.2s						
H25L	**Birch Creek**	**85.65**	**24**	P	**P**	**14 09 55.2**	**+0.7**
	baz=269						
F25K	**Christian Rive**	**85.75**	**23**	P	**P**	**14 09 55.4**	**+0.4**
	baz=269						
PAX	**Paxson**	**85.76**	**27**	P	**P**	**14 09 56.1**	**+0.9**
PAX				IAmb	IAmb	14 09 58.1	
	comp=Z,26nm,1.5s						
PAX	**Paxson**	**85.76**	**27**	P	**P**	**14 09 56.1**	**+0.9**
PAX				pmax	pmax		
	comp=Z,27nm,1.5s						
PAX	**Paxson**	**85.76**	**27**	P	**P**	**14 09 55.4**	**+0.1**
	baz=269,SNR=7.3						
PRP	**Porcupine Dome**	**85.76**	**25**	P	**P**	**14 09 55.5**	**+0.2**
	baz=269						
E25K	**Arctic Village**	**85.78**	**22**	P	**P**	**14 09 55.9**	**+0.7**
	baz=269,SNR=8.8						
VORR	**Voronezh**	**85.80**	**321**	*e*P	**P**	**14 09 53.7**	**-1.8**
VORR				pmax	pmax		
	comp=Z,40nm,1.0s						
J25K	**Salcha River,**	**85.82**	**26**	P	**P**	**14 09 56.0**	**+0.5**
	baz=269						
VSR	**Storozhevoye**	**85.83**	**321**	*e*P	**P**	**14 09 53.3**	**-2.4**
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
HARP	**HAARP**	**85.90**	**28**	P	**P**	**14 09 56.0**	**+0.2**
	baz=270						
LPSR	**Galich'ya Gora**	**85.96**	**322**	*e*P	**P**	**14 09 54.8**	**-1.5**
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
RIDG	**Independent Ri**	**86.04**	**26**	P	**P**	**14 09 56.6**	**0.0**
	baz=270						
C26K	**Camden Bay**	**86.04**	**20**	P	**P**	**14 09 56.9**	**+0.5**
	baz=269						
N25K	**Chitina, Valde**	**86.16**	**29**	P	**P**	**14 09 57.9**	**+0.6**
N25K				IAmb	IAmb	14 10 01.1	
	comp=Z,17nm,1.2s						
N25K	**Chitina, Valde**	**86.16**	**29**	P	**P**	**14 09 57.6**	**+0.3**
	baz=270,SNR=8.7						
BMRM	**Bremner River**	**86.17**	**29**	P	**P**	**14 09 57.3**	**+0.1**
	baz=270,SNR=9.9						
KAIM	**Kayak Island**	**86.27**	**30**	P	**P**	**14 09 57.8**	**+0.1**
	baz=271						
F26K	**Sheenjek River**	**86.32**	**22**	P	**P**	**14 09 58.3**	**+0.4**
	baz=270						
HMT	**Hamilton**	**86.34**	**30**	P	**P**	**14 09 58.8**	**+0.7**
DOT	**Dot Lake**	**86.39**	**27**	P	**P**	**14 09 57.4**	**-0.9**
DOT				IAmb	IAmb	14 10 01.4	
	comp=Z,10nm,1.4s						
SCRK	**Sand Creek**	**86.42**	**26**	P	**P**	**14 09 58.7**	**+0.2**
	baz=271						
C27K	**Jago River**	**86.46**	**21**	P	**P**	**14 09 59.5**	**+1.0**
C27K	**Jago River**	**86.46**	**21**	P	**P**	**14 09 59.2**	**+0.7**
	baz=271						
G26K	**Porcupine Rive**	**86.47**	**23**	P	**P**	**14 09 58.9**	**+0.3**
	baz=271						
GLB	**Gilahina Butte**	**86.54**	**29**	P	**P**	**14 09 59.4**	**+0.3**
GLB				IAmb	IAmb	14 10 02.2	
	comp=Z,20nm,1.0s						
MENT	**Mentasta**	**86.56**	**27**	P	**P**	**14 09 59.5**	**+0.4**
MENT				IAmb	IAmb	14 10 02.3	
	comp=Z,26nm,1.8s						
MENT	**Mentasta**	**86.56**	**27**	P	**P**	**14 09 59.4**	**+0.3**
J26L	**Joseph Creek**	**86.60**	**26**	P	**P**	**14 09 59.5**	**+0.1**
	baz=271						
BERG	**Berg Lake**	**86.62**	**30**	P	**P**	**14 10 00.5**	**+1.0**
MOS	**Moscow**	**86.67**	**325**	*e*P	**P**	**14 09 57.3**	**-2.5**
MOS				pmax	pmax		
	comp=Z,54nm,0.8s						
VRDI	**Verde Repeater**	**86.72**	**29**	P	**P**	**14 10 00.4**	**+0.2**
VRDI				IAmb	IAmb	14 10 03.1	
	comp=Z,12nm,1.1s						
L26K	**Log Cabin Wild**	**86.73**	**27**	P	**P**	**14 10 00.2**	**+0.3**
	baz=271						
I26K	**Coal Creek Min**	**86.75**	**25**	P	**P**	**14 10 01.0**	**+1.1**
	baz=271						
M26K	**Nabesna, AK**	**86.91**	**28**	P	**P**	**14 10 01.6**	**+0.8**
	baz=272						
K27K	**Chicken**	**87.26**	**26**	P	**P**	**14 10 03.4**	**+0.9**
K27K	**Chicken**	**87.26**	**26**	P	**P**	**14 10 03.7**	**+1.2**
	baz=272						
E27K	**Coleen River**	**87.27**	**22**	P	**P**	**14 10 03.2**	**+0.7**
	baz=273						
OBN	**Obninsk**	**87.30**	**325**	LR	LR	14 50 19.9	
	comp=Z,64nm,21.7s,baz=10,slow=36						
OBN	**Obninsk**	**87.30**	**325**	*e*P	**P**	**14 10 03.2**	**+0.4**
OBN				*e**PP	**pP**	**14 10 17.4**	**+0.1**
OBN				*e**SP	**sP**	**14 10 24.0**	**+1.2**
OBN				*e*		14 13 28.2	
OBN				*e*PPP	PPP	14 15 22.9	
OBN				pmax	pmax		
	comp=Z,52nm,1.7s						
G27K	**Doyon Strip**	**87.31**	**23**	P	**P**	**14 10 02.8**	**+0.1**
	baz=273						
I27K	**Kandik River**	**87.39**	**25**	P	**P**	**14 10 03.7**	**+0.6**
	baz=273						
H27K	**Steamboat Moun**	**87.39**	**24**	P	**P**	**14 10 03.8**	**+0.6**
	baz=273						
L27K	**Beaver Creek,**	**87.42**	**27**	P	**P**	**14 10 03.4**	**+0.1**
	baz=273						
M27K	**Edge Creek, AK**	**87.43**	**28**	P	**P**	**14 10 03.6**	**+0.1**
	baz=273						
D27M	**Malcolm River**	**87.44**	**21**	P	**P**	**14 10 03.5**	**+0.1**
	baz=273						
E28M	**Babbage River**	**88.00**	**21**	P	**P**	**14 10 05.9**	**-0.1**
	baz=274						
I28M	**Miner Creek**	**88.09**	**25**	P	**P**	**14 10 06.4**	**-0.2**
	baz=274						
D28M	**Stokes Point**	**88.23**	**21**	P	**P**	**14 10 07.1**	**+0.1**
	baz=275						
O28M	**Mount Upton**	**88.33**	**29**	P	**P**	**14 10 07.5**	**-0.5**
	baz=274						
DAWY	**Dawson**	**88.44**	**26**	P	**P**	**14 10 08.7**	**+0.6**
DAWY				IAmb	IAmb	14 10 21.7	
	comp=Z,15nm,1.8s						
DAWY	**Dawson**	**88.44**	**26**	P	**P**	**14 10 08.1**	**0.0**
	baz=275						
YUK8	**Steele Glacier**	**88.50**	**29**	P	**P**	**14 10 08.5**	**-0.3**
	baz=275						
E29M	**Blow River**	**88.62**	**22**	P	**P**	**14 10 09.3**	**+0.4**
	baz=276						
H29M	**Whitestone**	**88.67**	**24**	P	**P**	**14 10 10.0**	**+0.9**
	baz=276						
G29M	**Pine Creek**	**88.73**	**23**	P	**P**	**14 10 10.0**	**+0.6**
G29M				IAmb	IAmb	14 10 59.3	
	comp=Z,22nm,1.6s						
G29M	**Pine Creek**	**88.73**	**23**	P	**P**	**14 10 10.4**	**+1.0**
	baz=276						
I29M	**Ogilvie Camp,**	**88.78**	**25**	P	**P**	**14 10 10.5**	**+0.8**
	baz=276						
M29M	**Somme Creek**	**89.01**	**28**	P	**P**	**14 10 11.6**	**+0.6**
	baz=276						
YUK4	**Talbot Arm**	**89.03**	**29**	P	**P**	**14 10 11.7**	**+0.6**
	baz=276						
L29M	**L29M**	**89.09**	**27**	P	**P**	**14 10 11.9**	**+0.6**
	baz=276						
O29M	**Mount Kennedy**	**89.17**	**30**	P	**P**	**14 10 12.0**	**+0.2**
	baz=276						
YUK6	**Outpost Mounta**	**89.21**	**29**	P	**P**	**14 10 12.0**	**0.0**
	baz=276						
K29M	**Barlow Dome**	**89.28**	**26**	P	**P**	**14 10 12.2**	**0.0**
	baz=276						
MMAI	**Mount Meron Ar**	**89.34**	**303**	P	**P**	**14 10 12.1**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=120,slow=7.3,SNR=1.7						
	comp=Z,1.7nm,0.6s						
G30M	**tAoh Zraii Nji**	**89.43**	**23**	P	**P**	**14 10 13.2**	**+0.5**
	baz=278						
F30M	**Barrier River**	**89.51**	**22**	P	**P**	**14 10 13.9**	**+0.9**
	baz=278						
I30M	**Mount Dempster**	**89.60**	**25**	P	**P**	**14 10 14.4**	**+0.7**
	baz=278						
HYT	**Haines Junctio**	**89.64**	**29**	P	**P**	**14 10 14.7**	**+0.8**
	baz=276						
J30M	**Hart River**	**89.71**	**25**	P	**P**	**14 10 15.0**	**+0.8**
	baz=278						
KMBO	**Kilima Mbogo**	**89.73**	**269**	P	**P**	**14 10 14.7**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=128,slow=3.5,SNR=6.7						
	comp=Z,2.9nm,0.7s						
M30M	**Minto, Yukon**	**89.76**	**27**	P	**P**	**14 10 14.2**	**-0.2**
	baz=277						
N30M	**Aishikik Lake**	**89.76**	**29**	P	**P**	**14 10 14.4**	**0.0**
	baz=277						
P30M	**Million Dollar**	**89.99**	**30**	P	**P**	**14 10 15.0**	**-0.5**
	baz=277						
G31M	**Satah River**	**90.20**	**23**	P	**P**	**14 10 16.5**	**+0.2**
	baz=279						
INK	**Inuvik**	**90.24**	**22**	P	**P**	**14 10 16.8**	**+0.4**
	baz=280						
BR104	**Keskin Array S**	**90.26**	**310**	P	**P**	**14 10 16.8**	**-0.6**
	comp=Z,4.5nm,1.0s						
BR131	**Keskin Array S**	**90.26**	**310**	*i* P	**P**	**14 10 16.6**	**-0.8**
BRTR	**Keskin Array B**	**90.26**	**310**	P	**P**	**14 10 16.9**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=108,slow=4.0,SNR=13						
	comp=Z,2.8nm,0.8s						
BR106	**Keskin Array S**	**90.28**	**310**	P	**P**	**14 10 16.8**	**-0.6**
	comp=Z,4.2nm,0.9s						
BR105	**Keskin Array S**	**90.28**	**310**	P	**P**	**14 10 16.5**	**-1.0**
	comp=Z,4.3nm,0.9s						
F31M	**Tsiigehtchic**	**90.31**	**22**	P	**P**	**14 10 16.6**	**-0.1**
	baz=280						
O30N	**Mendenhall**	**90.33**	**29**	P	**P**	**14 10 17.2**	**+0.1**
	baz=278						
H31M	**Peel River**	**90.36**	**24**	P	**P**	**14 10 17.2**	**+0.1**
	baz=279						
PLBC	**Pleasant Camp**	**90.37**	**30**	P	**P**	**14 10 17.9**	**+0.7**
	baz=278						
N31M	**Braeburn, Yuko**	**90.38**	**28**	P	**P**	**14 10 17.4**	**+0.1**
	baz=278						
S31K	**Pelican**	**90.64**	**32**	P	**P**	**14 10 18.6**	**+0.1**
	baz=278						
ARCES	**ARCESS Array B**	**90.66**	**340**	P	**P**	**14 10 17.7**	**-0.7**
	comp=Z,7.6nm,0.7s,baz=83,slow=5.9,SNR=21						
ARCES				LR	LR	14 54 20.4	
	comp=Z,54nm,20.6s,baz=61,slow=38						
	comp=Z,7.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**90.67**	**349**	P	**P**	**14 10 18.0**	**-0.3**
	comp=Z,8.8nm,0.8s,baz=100,slow=9.4,SNR=7.2						
SPITS				LR	LR	14 56 25.8	
	comp=Z,54nm,19.9s,baz=24,slow=39						
	comp=Z,8.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**90.67**	**349**	P	**P**	**14 10 18.0**	**-0.3**
SKAG	**Skagway**	**90.90**	**30**	P	**P**	**14 10 19.4**	**-0.2**
	baz=278						
M31M	**Drury Creek, Y**	**90.92**	**28**	P	**P**	**14 10 19.7**	**-0.1**
	baz=279						
WHY	**Whitehorse**	**90.94**	**29**	P	**P**	**14 10 19.8**	**-0.2**
	baz=279						
FARO	**Faro, Yukon**	**91.40**	**28**	P	**P**	**14 10 21.9**	**-0.1**
	baz=280						
N32M	**Quiet Lake**	**91.72**	**29**	P	**P**	**14 10 22.8**	**-0.7**
N32M				IAmb	IAmb	14 10 26.3	
	comp=Z,11nm,1.2s						
N32M	**Quiet Lake**	**91.72**	**29**	P	**P**	**14 10 23.3**	**-0.2**
	baz=280						
P33M	**Teslin, Yukon**	**92.02**	**29**	P	**P**	**14 10 24.8**	**-0.2**
	baz=281						
FINES	**FINESS Array B**	**92.06**	**332**	P	**P**	**14 10 24.3**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=46,slow=5.5,SNR=7.8						
FINES				LR	LR	14 55 19.5	
	comp=Z,51nm,19.0s,baz=50,slow=38						
	comp=Z,2.3nm,0.8s						
FINES	**FINESS Array B**	**92.06**	**332**	*i* P	**P**	**14 10 26.2**	**+1.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
A36M	**Sachs Harbour**	**92.08**	**17**	P	**P**	**14 10 25.3**	**+0.4**
	baz=288						
AKASG	**Malin Array Be**	**92.13**	**321**	P	**P**	**14 10 24.2**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=75,slow=3.8,SNR=9.1						
	comp=Z,1.3nm,0.6s						
AKASG	**Malin Array Be**	**92.13**	**321**	*i* P	**P**	**14 10 25.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**92.13**	**321**	*ce*P	**P**	**14 10 24.3**	**-1.3**
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AK06	**Malin Array Si**	**92.16**	**321**	P	**P**	**14 10 25.2**	**-0.5**
AK04	**Malin Array Si**	**92.17**	**321**	P	**P**	**14 10 25.3**	**-0.4**
AK07	**Malin Array Si**	**92.17**	**321**	P	**P**	**14 10 25.3**	**-0.4**
AK11	**Malin Array Si**	**92.17**	**321**	P	**P**	**14 10 25.3**	**-0.4**
SYO	**Syowa Base**	**92.34**	**201**	‖ *i* P	**P**	**14 10 27.1**	**+1.0**
MNK	**Minsk**	**92.36**	**325**	*i* P	**P**	**14 10 25.2**	**-1.3**
MNK				*i* *PP	**pP**	**14 10 39.1**	**-2.0**
MNK				*i* *SP	**sP**	**14 10 46.6**	**-0.1**
MNK				*i*		14 14 07.8	
MNK				*i* PPP	PPP	14 16 06.7	
MNK				*i* S	**SKSac**	**14 20 53.8**	**-1.9**
MNK				*i* *SS	**S**	**14 21 19.9**	**-6.1**
MNK				*i* SS	**SS**	**14 27 37.5**	**+0.3**
MNK				*i* SSS	SSS	14 31 17.4	
MNK				pmax	pmax		
	comp=E,17nm,0.8s						
MNK				pmax	pmax		
	comp=Z,12nm,0.5s						
MNK				pmax	pmax		
	comp=N,21nm,0.8s						
MNK				MLR	MLR		
	comp=N,132nm,22.0s						
MNK				MLR	MLR		
	comp=E,128nm,20.0s						
MNK				MLR	MLR		
	comp=Z,60nm,16.0s						
Q32M	**Nakina River**	**92.53**	**31**	P	**P**	**14 10 26.4**	**-1.2**
	baz=281						
U33K	**Whale Pass**	**92.61**	**34**	P	**P**	**14 10 27.4**	**-0.2**
	baz=280						
MI28	**Mi28,Pidlybu**	**93.07**	**321**	P	**P**	**14 10 29.3**	**-0.6**
LUBAR	**Lubar, Ukraine**	**93.18**	**320**	P	**P**	**14 10 28.6**	**-1.8**
C36M	**Paulatuk**	**93.30**	**20**	P	**P**	**14 10 30.3**	**-0.3**
	baz=289						
QSPA	**South Pole Qui**	**93.48**	**180**	P	**P**	**14 10 31.7**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=358,slow=3.3,SNR=4.4						
	comp=Z,2.3nm,0.9s						
V35K	**Ketchikan**	**93.59**	**34**	P	**P**	**14 10 31.6**	**-0.6**
	baz=281						
DLBC	**Dease Lake**	**93.79**	**31**	P	**P**	**14 10 33.1**	**0.0**
	baz=283						
TGTN	**Hyland Airport**	**93.90**	**28**	P	**P**	**14 10 33.4**	**-0.2**
	baz=285						
VRI	**Vrincioaia**	**94.54**	**316**	P	**P**	**14 10 36.5**	**-0.3**
	comp=Z,9.9nm,1.2s						
EUNU	**Eureka**	**94.82**	**6**	P	**P**	**14 10 37.4**	**-0.1**
EUNU				IAmb	IAmb	14 10 51.6	
	comp=Z,19nm,1.9s						
MLR	**Muntele Rosu**	**95.14**	**316**	LR	LR	14 58 40.0	
	comp=Z,76nm,21.3s,baz=74,slow=39						
BURAR	**Bucovina Array**	**95.24**	**318**	P	**P**	**14 10 39.8**	**-0.3**
DAG	**Danmarks Havn**	**97.44**	**352**	*i* P	**P**	**14 10 48.8**	**-0.5**
HFS	**Hagfors**	**98.25**	**332**	LR	LR	14 59 47.4	
	comp=Z,59nm,18.4s,baz=58,slow=38						
NB2	**NORSAR Subarra**	**99.01**	**334**	P	**Pdif**	**14 10 55.8**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**99.01**	**334**	LR	LR	15 00 33.8	
	comp=Z,84nm,20.4s,baz=75,slow=38						
YKA	**Yellowknife Ar**	**99.57**	**24**	Pdiff	**Pdif**	**14 10 58.9**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=293,slow=4.7,SNR=6.5						
YKA				PKiKP	**PKiKP**	**14 15 29.3**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=289,slow=2.0,SNR=3.8						
DBG	**Daneborg**	**99.71**	**351**	*i* P	**Pdif**	**14 10 59.8**	**+0.2**
PDAR	**Pinedale Array**	**111.35**	**41**	PKiKP	**PKiKP**	**14 15 51.6**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=180,slow=0.9,SNR=4.2						
PDAR				PKKPbc	**PKKPbc**	**14 26 45.0**	**-2.4**
	comp=Z,0.3nm,0.7s,baz=149,slow=1.1,SNR=3.1						
TXAR	**Lajitas Array**	**121.55**	**52**	PKP	**PKiKP**	**14 16 11.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=345,slow=1.5,SNR=9.7						
TXAR	**Lajitas Array**	**121.55**	**52**	PKIKP	**PKiKP**	**14 16 11.0**	**+0.5**
DBIC	**Dimbokro**	**130.79**	**282**	PKP	**PKPdf**	**14 16 27.9**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=108,slow=3.2,SNR=3.0						
DBIC	**Dimbokro**	**130.79**	**282**	PKIKP	**PKPdf**	**14 16 28.0**	**-0.3**
PLCA	**Paso Flores**	**139.79**	**159**	PKP	**PKiKP**	**14 16 45.8**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=337,slow=1.1,SNR=4.8						
CPUP	**Villa Florida**	**157.00**	**170**	PKPab	**PKPab**	**14 17 42.4**	**0.0**
	comp=Z,2.1nm,0.5s,baz=204,slow=3.1,SNR=5.1						
LPAZ	**La Paz**	**160.55**	**132**	PKP	**PKPdf**	**14 17 19.6**	**+2.0**
	comp=Z,3.3nm,0.9s,baz=24,slow=6.7,SNR=8.0						

IDC ***06*** *14:04:45.9±0.8,29°.21N×130°.19E,h0km,mb3.8/13, mbtmp3.7/15,ML3.5/2,Error ellipse: s-maj=27.6km s-min=14.3km az=83.0*

NEIC ***06*** *14:04:51.0±2.0,29°.13N±0°.06×130

JNU Sn **Sn** **14 06 36.7 +0.6**
baz=124,slow=12
JKE Kume jima 2 4.17 229 *e*P **Pn** **14 05 52.7 0.0**
JMN Monobe 5.51 33 Pn **Pn** **14 06 11.0 -0.2**
INU Inuyama 8.42 41 Pn **Pn** **14 06 52.0 +1.1**
KSRS Korea Array 8.53 347 Pn **Pn** **14 06 51.0 -1.4**
0.6nm,0.3s,baz=166,slow=12,SNR=6.5
0.3nm,0.3s
JGF Kuroka 8.79 41 Pn **Pn** **14 06 54.9 -1.2**
JKA Kamikawa-asahi 17.89 30 P **P** **14 08 58.8 +1.5**
JKA IAmb IAmb 14 09 10.0
comp=Z,16nm,1.2s
KLR Kul'dur 20.10 3 P **P** **14 09 20.0 -1.5**
comp=Z,1.3nm,0.8s,baz=205,slow=6.5,SNR=2.9
comp=Z,1.3nm,0.8s
SONM Songino Array 26.25 322 P **P** **14 10 21.0 -1.7**
SONM Songino Array 26.25 322 P **P** **14 10 21.2 -1.5**
comp=Z,1.6nm,0.8s,baz=142,slow=11,SNR=5.7
comp=Z,1.6nm,0.8s
TOLI2 Tolitoli 29.30 200 P **P** **14 10 50.4 +0.3**
TOLI2 IAmb IAmb 14 11 16.0
comp=Z,14nm,0.8s
LUWI Luwuk 30.86 195 P **P** **14 11 04.3 +0.5**
FAKI Fak Fak 31.93 176 **P** **14 11 13.8 +0.5**
MKAR Makanchi Array 41.04 309 P **P** **14 12 29.8 -0.9**
comp=Z,0.4nm,0.7s,baz=100,slow=7.9,SNR=2.2
MKAR PcP **PcP** **14 14 29.6 -0.3**
comp=Z,0.4nm,0.7s,baz=98,slow=3.1,SNR=3.8
comp=Z,0.4nm,0.7s
KURK Kurchatov 44.04 314 P **P** **14 12 53.2 -1.7**
KURK IAmb IAmb 14 12 56.1
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 44.08 314 P **P** **14 12 54.9 -0.4**
comp=Z,1.2nm,0.7s,baz=96,slow=8.7,SNR=10.0
KNRA Kununurra 44.57 182 P **P** **14 12 59.5 +0.1**
KNRA IAmb IAmb 14 13 06.5
comp=Z,11nm,1.1s
FITZ Fitzroy Crossi 47.17 186 P **P** **14 13 20.2 +0.3**
FITZ IAmb IAmb 14 13 48.3
comp=Z,2.0nm,1.4s
FITZ Fitzroy Crossi 47.17 186 P **P** **14 13 21.1 +1.1**
comp=Z,1.1nm,0.6s,baz=0.0,slow=6.1,SNR=1.7
comp=Z,1.1nm,0.6s
WB0 Warramunga Arr 48.78 175 P **P** **14 13 32.2 -0.2**
WB0 IAmb IAmb 14 13 56.4
comp=Z,6.9nm,1.4s
WRA Warramunga Arr 48.95 175 P **P** **14 13 33.9 +0.2**
WRA Warramunga Arr 48.95 175 P **P** **14 13 34.1 +0.4**
comp=Z,1.1nm,0.6s,baz=354,slow=8.4,SNR=14
comp=Z,1.1nm,0.6s
BVAR Borovoye Array 49.38 316 P **P** **14 13 36.6 -0.1**
comp=Z,3.8nm,0.7s,baz=93,slow=9.4,SNR=18
BVAR PcP **PcP** **14 14 58.2 -0.4**
comp=Z,1.3nm,0.7s,baz=90,slow=3.3,SNR=5.5
comp=Z,3.8nm,0.7s
BRVK Borovoye 49.44 317 P **P** **14 13 36.8 -0.3**
BRVK IAmb IAmb 14 13 38.4
comp=Z,5.4nm,0.9s
AS31 Alice Springs 52.61 176 P **P** **14 14 01.3 0.0**
ASAR Alice Springs 52.61 176 P **P** **14 14 01.4 +0.2**
ASAR Alice Springs 52.61 176 P **P** **14 14 02.0 +0.7**
comp=Z,0.6nm,0.8s,baz=16,slow=6.2,SNR=31
comp=Z,0.6nm,0.8s
ABKAR Akbulak array 56.03 312 P **P** **14 14 25.0 -0.9**
K17K Iditarod 56.06 32 P **P** **14 14 26.7 +0.8**
K17K IAmb IAmb 14 14 54.5
comp=Z,9.6nm,1.4s
D22K Ayikyak River 58.49 24 P **P** **14 14 44.8 +1.8**
D22K IAmb IAmb 14 15 01.9
comp=Z,3.2nm,1.1s
STLK Strandline Lak 59.13 33 P **P** **14 14 47.5 -0.1**
ILAR Eielson Array 61.02 29 P **P** **14 15 01.1 +0.6**
comp=Z,0.4nm,1.0s,baz=282,slow=7.3,SNR=2.2
comp=Z,0.4nm,1.0s
KBZ Khabaz 68.74 309 P **P** **14 15 51.2 +0.3**
comp=Z,1.7nm,0.9s,baz=120,slow=8.1,SNR=3.5
comp=Z,1.7nm,0.9s
FINES FINESS Array B 71.24 331 P **P** **14 16 05.5 -0.4**
comp=Z,1.6nm,0.8s,baz=64,slow=4.9,SNR=4.4
comp=Z,1.6nm,0.8s
AKASG Malin Array Be 74.51 320 P **P** **14 16 25.2 -0.3**
comp=Z,0.6nm,0.5s,baz=57,slow=6.8,SNR=2.6
comp=Z,0.6nm,0.5s
YKA Yellowknife Ar 75.13 26 P **P** **14 16 30.3 +1.4**
comp=Z,0.3nm,0.6s,baz=300,slow=5.7,SNR=4.2
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 76.69 308 P **P** **14 16 37.9 -0.5**
comp=Z,0.5nm,0.6s,baz=45,slow=7.2,SNR=2.3
comp=Z,0.5nm,0.6s

*IDC **06** 14:09:11.6±0.7,3°.56N×126°.98E, h0km, mb3.9/13, mbtmp3.9/13, Error ellipse: s-maj=37.8km s-min=13.9km az=73.0*
*DJA **06** 14:09:16.4±0.5,4°.N±10°.×12°.7E±°., h26km±10km, M4.2/9, mB5.0/1, mb4.4/5, MLv4.1/9, Mw(mB)4.2/1*
*NEIC **06** 14:09:18.3±1.8,3°.51N±0°.09×127°.0E±0°.1, h48km±8km, mb4.3/24, Error ellipse: s-maj=17.3km s-min=11.1km az=60.0*
ISC 06 14:09:18.1±0.5,3°.55N±0°.06×127°.02E±0°.08, h48km, n50, σ1°01/51, mb4.2/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.49**	**275**	P	**Pn**	**14 09 41.8**	**-0.7**
SGSI				S	**Sn**	**14 10 01.5**	**+0.7**
TNTI	**Ternate**	**2.78**	**173**		**Pn**	**14 10 01.6**	**+1.5**
TNTI	**Ternate**	**2.78**	**173**	P	**Pn**	**14 10 01.7**	**+1.5**
MRSI	**Marisa**	**5.92**	**239**	P	**Pn**	**14 10 44.4**	**+1.1**
0.1nm28nm,0.6s							
SWI	**Sorong**	**6.10**	**136**	P	**Pn**	**14 10 45.6**	**-0.1**
LUWI	**Luwuk**	**6.23**	**223**	Pn	**Pn**	**14 10 47.9**	**+0.4**
APSI	**Ampana**	**6.96**	**231**	P	**Pn**	**14 10 58.8**	**+1.3**
MYLDM	**Lahad Datu**	**8.65**	**281**	Pn	**Pn**	**14 11 21.5**	**+0.8**
SBUM	**Sibu**	**14.82**	**266**	Pn	**Pn**	**14 12 43.9**	**-0.8**
MTN	**Manton Dam**	**16.79**	**166**	Pn	**Pn**	**14 13 07.5**	**-2.5**
MTN				IAmb	IAmb	14 13 45.0	
comp=Z,24nm,1.4s							
KNRA	**Kununurra**	**19.18**	**175**	P	**P**	**14 13 37.1**	**-0.7**
KNRA				IAmb	IAmb	14 14 01.8	
comp=Z,12nm,1.1s							
TPUB	**Ta-pu**	**20.58**	**343**	P	**P**	**14 13 51.8**	**-1.4**
TPUB				IAmb	IAmb	14 13 53.9	
comp=Z,23nm,0.8s							
SSLB	**Suanglung**	**20.95**	**344**	P	**P**	**14 13 56.6**	**-0.5**
SSLB				IAmb	IAmb	14 13 58.8	
comp=Z,18nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.56**	**184**	P	**P**	**14 14 03.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.56**	**184**	P	**P**	**14 14 03.5**	**0.0**
comp=Z,1.4nm,0.5s,baz=22,slow=10,SNR=7.6							
comp=Z,1.4nm,0.5s							
YHNB	**Yeheng**	**21.69**	**346**	P	**P**	**14 14 03.6**	**-1.5**
UBPT	**Khong Chiam**	**24.21**	**300**	P	**P**	**14 14 29.1**	**-1.3**
UBPT				IAmb	IAmb	14 14 44.9	
comp=Z,21nm,1.5s							
WB0	**Warramunga Arr**	**24.28**	**163**	P	**P**	**14 14 30.1**	**-0.9**
WB0				IAmb	IAmb	14 14 32.1	
comp=Z,6.4nm,0.7s							
WRA	**Warramunga Arr**	**24.43**	**163**	P	**P**	**14 14 30.8**	**-1.6**
WRA	**Warramunga Arr**	**24.43**	**163**	P	**P**	**14 14 32.0**	**-0.5**
comp=Z,5.1nm,0.9s,baz=341,slow=10,SNR=18							
comp=Z,5.1nm,0.9s							
AS31	**Alice Springs**	**27.87**	**166**	P	**P**	**14 15 01.8**	**-1.7**
ASAR	**Alice Springs**	**27.87**	**166**	P	**P**	**14 15 03.2**	**-0.3**
ASAR	**Alice Springs**	**27.87**	**166**	P	**P**	**14 15 03.1**	**-0.4**
comp=Z,0.3nm,0.3s,baz=338,slow=8.6,SNR=13							
comp=Z,0.3nm,0.3s							
CMAR	**Chiang Mai Arr**	**31.21**	**300**	P	**P**	**14 15 33.1**	**-0.1**
comp=Z,0.3nm,0.3s,baz=105,slow=9.3,SNR=1.8							
comp=Z,0.3nm,0.3s							
STKA	**Stephens Creek**	**37.86**	**160**	P	**P**	**14 16 30.2**	**-0.2**
STKA	**Stephens Creek**	**37.86**	**160**	P	**P**	**14 16 31.0**	**+0.5**
comp=Z,3.1nm,0.7s,baz=338,slow=8.3,SNR=5.4							
comp=Z,3.1nm,0.7s							
KLR	**Kul'dur**	**45.69**	**4**	P	**P**	**14 17 34.7**	**+0.6**
comp=Z,0.3nm,0.3s,baz=249,slow=8.6,SNR=2.9							
comp=Z,0.3nm,0.3s							
SONM	**Songino Array**	**47.56**	**341**	P	**P**	**14 17 50.1**	**+1.1**
SONM	**Songino Array**	**47.56**	**341**	P	**P**	**14 17 49.6**	**+0.6**
comp=Z,0.5nm,0.5s,baz=159,slow=8.0,SNR=5.4							
comp=Z,0.5nm,0.5s							
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**14 18 48.4**	**+0.5**
comp=Z,2.1nm,0.8s,baz=186,slow=3.0,SNR=4.6							
comp=Z,2.1nm,0.8s							
MK31	**Makanchi Array**	**57.87**	**325**	P	**P**	**14 19 04.5**	**-0.6**
MKAR	**Makanchi Array**	**57.87**	**325**	P	**P**	**14 19 04.2**	**-0.9**
MKAR	**Makanchi Array**	**57.87**	**325**	P	**P**	**14 19 04.8**	**-0.3**
comp=Z,1.0nm,0.4s,baz=121,slow=7.6,SNR=17							
comp=Z,1.0nm,0.4s							
MAKZ	**Makanchi**	**58.05**	**325**	P	**P**	**14 19 05.8**	**-0.6**
MAKZ				IAmb	IAmb	14 19 19.0	
comp=Z,2.1nm,0.9s							
DSZ	**Denniston Nort**	**60.70**	**143**	P	**P**	**14 19 26.3**	**+1.5**
ZALV	**Zalesovo Beam**	**60.88**	**333**	P	**P**	**14 19 24.7**	**-0.9**
comp=Z,0.5nm,0.4s,baz=114,slow=7.1,SNR=2.0							
comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**62.04**	**327**	P	**P**	**14 19 33.3**	**-0.3**
comp=Z,1.2nm,0.5s,baz=130,slow=6.3,SNR=13							
KURK	**Kurchatov**	**62.05**	**327**	P	**P**	**14 19 33.1**	**-0.4**
KURK				IAmb	IAmb	14 19 35.9	
comp=Z,2.2nm,0.7s							
BKZ	**Black Stump Fm**	**62.26**	**138**	P	**P**	**14 19 34.6**	**-0.7**
BVAR	**Borovoye Array**	**67.63**	**327**	P	**P**	**14 20 10.3**	**+0.4**
comp=Z,0.8nm,0.4s,baz=124,slow=9.5,SNR=8.4							
comp=Z,0.8nm,0.4s							
BRVK	**Borovoye**	**67.70**	**327**	P	**P**	**14 20 09.9**	**-0.5**
BRVK				IAmb	IAmb	14 20 13.0	
comp=Z,1.7nm,0.8s							
ABKAR	**Akbulak array**	**72.47**	**321**	P	**P**	**14 20 39.0**	**-0.6**
SDPT	**Sand Point**	**77.18**	**34**	P	**P**	**14 21 07.0**	**+0.3**
M14K	**Bethel**	**77.70**	**28**	P	**P**	**14 21 10.3**	**+0.8**
L18K	**Granite Mounta**	**80.49**	**27**	P	**P**	**14 21 26.3**	**+1.5**
B21K	**Ikpikpuk River**	**82.64**	**20**	P	**P**	**14 21 37.8**	**+1.8**
B21K				IAmb	IAmb	14 21 39.5	
comp=Z,2.4nm,0.8s							
H21K	**Melozitna Rive**	**82.73**	**24**	P	**P**	**14 21 38.2**	**+1.7**
H21K				IAmb	IAmb	14 21 39.9	
comp=Z,2.3nm,0.9s							
B22K	**Teshekpuk Lake**	**83.16**	**20**	P	**P**	**14 21 39.9**	**+1.3**
B22K				IAmb	IAmb	14 22 11.9	
comp=Z,7.3nm,1.4s							
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	**14 21 49.0**	**+0.1**
comp=Z,0.3nm,0.9s,baz=262,slow=4.6,SNR=4.5							
comp=Z,0.3nm,0.9s							
ARCES	**ARCESS Array B**	**90.71**	**340**	P	**P**	**14 22 15.5**	**0.0**
comp=Z,5.0nm,1.1s,baz=42,slow=5.6,SNR=3.8							
comp=Z,5.0nm,1.1s							

*IDC **06** 14:25:56.9±1.0,5°.02N×61°.89E, h0km, mb3.8/9, mbtmp3.8/9, MS3.3/8, Error ellipse: s-maj=26.6km s-min=22.8km az=32.0*
ISC 06 14:25:59.6±1.1,5°.1N±0°.2×61°.9E±0°.2, h16km, n16, σ0°96/10, mb3.8/10, MS3.4/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**25.36**	**257**	P	**P**	**14 31 27.9**	**+1.3**
0.7nm,0.3s,baz=64,slow=8.4,SNR=3.2							
KMBO				LR	LR	14 39 52.8	
comp=Z,70nm,21.7s,baz=87,slow=33							
0.7nm,0.3s							
BRDH	**Bariadhala**	**33.66**	**56**	LR	LR	14 47 42.3	
comp=Z,127nm,18.4s,baz=150,slow=39							
PSI	**Prapat**	**37.02**	**92**	LR	LR	14 46 52.0	
comp=Z,60nm,18.0s,baz=246,slow=34							
MMAI	**Mount Meron Ar**	**37.18**	**322**	LR	LR	14 47 43.1	
comp=Z,48nm,19.7s,baz=80,slow=35							
CMAR	**Chiang Mai Arr**	**38.54**	**67**	P	**P**	**14 33 22.4**	**+0.5**
0.3nm,0.4s,baz=262,slow=9.8,SNR=5.9							
CMAR				LR	LR	14 49 11.4	
comp=Z,13nm,19.1s,baz=265,slow=36							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**45.15**	**20**	P	**P**	**14 34 16.2**	**+0.7**
0.6nm,0.8s,baz=209,slow=9.0,SNR=4.4							
0.6nm,0.8s							
LBTB	**Lobatse**	**46.24**	**228**	LR	LR	14 51 02.0	
comp=Z,16nm,18.1s,baz=91,slow=33							
KURBB	**Kurchatov Arra**	**47.50**	**14**	P	**P**	**14 34 34.5**	**+0.6**
0.6nm,0.7s,baz=213,slow=8.1,SNR=6.9							
BOSA	**Boshof**	**48.62**	**224**	LR	LR	14 53 46.7	
comp=Z,58nm,19.4s,baz=196,slow=34							
ZALV	**Zalesovo Beam**	**52.19**	**17**	P	**P**	**14 35 09.3**	**-0.1**
1.2nm,0.7s,baz=175,slow=5.4,SNR=6.9							
1.2nm,0.7s							
SONM	**Songino Array**	**57.08**	**34**	P	**P**	**14 35 44.9**	**-0.4**
0.7nm,0.7s,baz=241,slow=8.1,SNR=4.7							
0.7nm,0.7s							
HFS	**Hagfors**	**65.89**	**336**	P	**P**	**14 36 44.9**	**+0.5**
2.3nm,0.8s,baz=109,slow=7.9,SNR=2.8							
2.3nm,0.8s							
ESDC	**Sonseca Array**	**68.26**	**311**	P	**P**	**14 36 58.3**	**-1.7**
0.3nm,0.6s,baz=99,slow=8.5,SNR=1.8							
0.3nm,0.6s							
WRA	**Warramunga Arr**	**75.36**	**112**	P	**P**	**14 37 42.8**	**-0.2**
1.8nm,0.7s,baz=290,slow=4.9,SNR=13							
1.8nm,0.7s							
ASAR	**Alice Springs**	**75.71**	**116**	P	**P**	**14 37 44.4**	**-0.6**
1.4nm,0.8s,baz=276,slow=5.6,SNR=16							
1.4nm,0.8s							
PETK	**Petropavlovsk-**	**89.47**	**37**	LR	LR	15 20 51.2	
comp=Z,22nm,18.8s,baz=88,slow=37							

IDC 06 14:50:19.0±2.7,20°.52S×66°.40E, h0km, mb3.6/5, mbtmp3.6/5, MS3.3/4, Error ellipse: s-maj=85.8km s-min=32.7km az=46.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.09**	**26**	T	T	15 07 34.9	
baz=202,slow=75,SNR=83							
H08S2	**Diego Garcia H**	**14.10**	**26**	T	T	15 07 33.5	
baz=202,slow=75,SNR=51							
H08S3	**Diego Garcia H**	**14.11**	**26**	T	T	15 07 38.4	
baz=202,slow=75,SNR=76							
H04N2	**CROZET ISLANDS**	**28.24**	**202**	T	T	15 26 13.0	
baz=30,slow=75							
H04N1	**CROZET ISLANDS**	**28.24**	**202**	T	T	15 26 16.5	
baz=30,slow=75							
H04N3	**CROZET ISLANDS**	**28.25**	**202**	T	T	15 26 18.7	
baz=30,slow=75							
PALK	**Pallekele**	**31.00**	**28**	LR	LR	15 05 47.7	
comp=Z,52nm,21.8s,baz=200,slow=30							
LSZ	**Lusaka**	**36.67**	**272**	LR	LR	15 10 45.9	
comp=Z,82nm,18.9s,baz=116,slow=34							
CMAR	**Chiang Mai Arr**	**50.19**	**42**	P	P	14 59 16.4	-0.4
0.4nm,0.7s,baz=238,slow=8.2,SNR=4.2							
CMAR				LR	LR	15 19 39.0	
comp=Z,17nm,18.6s,baz=270,slow=35							
0.4nm,0.7s							
ASAR	**Alice Springs**	**62.10**	**107**	P	P	15 00 42.6	+0.4
0.3nm,0.7s,baz=269,slow=5.4,SNR=7.8							
0.3nm,0.7s							
AAK	**Ala-Archa**	**63.29**	**7**	LR	LR	15 24 56.0	
comp=Z,27nm,19.6s,baz=188,slow=33							
WRA	**Warramunga Arr**	**63.30**	**103**	P	P	15 00 49.5	-0.7
0.4nm,0.7s,baz=256,slow=6.8,SNR=2.0							
0.4nm,0.7s							
BRTR	**Keskin Array B**	**67.29**	**333**	P	P	15 01 15.4	-0.3
0.3nm,0.5s,baz=130,slow=4.5,SNR=1.8							
0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**75.85**	**11**	P	P	15 02 07.5	+0.7
0.6nm,0.5s,baz=184,slow=5.8,SNR=2.4							
0.6nm,0.5s							

*KRNET **06** 14:58:35.0±0.1,42°.00N×77°.54E, h21km, mb3.7*
*KNET **06** 14:58:35.8±0.5,42°.10N×77°.46E, h8km±2km, ml3.3, Error ellipse: s-maj=5.5km s-min=2.9km az=13.0*
*SOME **06** 14:58:35.0,42°.05N×77°.50E, h15km*
*NNC **06** 14:58:35.5±0.5,42°.05N×77°.55E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=3.4km s-min=2.2km az=178.0*
ISC 06 14:58:34.8±1.2,42°.01N±0°.02×77°.47E±0°.02, h1km±10km, n93, σ1°21/161, 48C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.25**	**299**	⇑*e*P	**Pb**	**14 58 41.3**	**-1.0**
KDJ				⇑*e*S	**Sb**	**14 58 45.9**	**-1.4**
TARG	**Taragay, Kyrgy**	**0.37**	**138**	⇑*e*P	**Pg**	**14 58 42.2**	**+0.3**
TARG				⇑*e*S	**Sg**	**14 58 47.3**	**+0.6**
ANVS	**Anan'yevo**	**0.79**	**10**	⇑*e*P	**Pg**	**14 58 49.8**	**-0.1**
ANVS				⇑*e*S	**Sg**	**14 59 00.7**	**+0.6**
PRZ	**Przheval'sk**	**0.84**	**55**	⇑*e*P	**Pg**	**14 58 50.1**	**-0.7**
PRZ				⇑*e*S	**Sg**	**14 59 01.6**	**0.0**
ULHL	**Ulahol**	**0.95**	**285**	⇓P	**Pb**	**14 58 53.8**	**-0.3**
48nm,0.1s							
ULHL				⇓S	**Sb**	**14 59 07.2**	**-0.1**
208nm,0.2s							
ULHL	**Ulahol**	**0.95**	**285**	⇑*e*P	**Pb**	**14 58 53.6**	**-0.6**
ULHL				⇑*e*S	**Sb**	**14 59 07.2**	**-0.1**
TNSS	**Tian-Shan**	**1.10**	**339**	P	**Pg**	**14 58 55.9**	**0.0**
108nm,0.1s							
TNSS				S	**Sg**	**14 59 10.9**	**+0.7**
105nm,0.2s							
TNSS	**Tian-Shan**	**1.10**	**339**	*e*P	**Pg**	**14 58 55.9**	**0.0**
TNSS				*e*S	**Sg**	**14 59 10.9**	**+0.7**
TNSS	**Tian-Shan**	**1.10**	**339**	*e*P	**Pg**	**14 58 55.9**	**0.0**
112nm,0.1s							
TNSS				*e*S	**Sg**	**14 59 10.9**	**+0.7**
164nm,0.1s							
BOOM	**Boomskoye usch**	**1.24**	**293**	⇑*e*P	**Pg**	**14 58 58.6**	**+0.1**
BOOM				⇑*e*S	**Sb**	**14 59 16.2**	**+0.6**
KOTS	**Kotyrbulak**	**1.25**	**348**	P	**Pg**	**14 58 58.6**	**-0.2**
270nm,0.1s							
KOTS				S	**Sg**	**14 59 15.4**	**+0.3**
339nm,0.3s							
KOTS	**Kotyrbulak**	**1.25**	**348**	*e*P	**Pg**	**14 58 58.7**	**-0.2**
KOTS				*e*S	**Sg**	**14 59 15.5**	**+0.3**
KOTS	**Kotyrbulak**	**1.25**	**348**	*e*P	**Pg**	**14 58 58.6**	**-0.2**
270nm,0.1s							
KOTS				*e*S	**Sg**	**14 59 15.4**	**+0.3**
255nm,0.2s							
SATY	**Saty**	**1.26**	**33**	P	**Pg**	**14 58 57.8**	**-1.1**
85nm,0.2s							
SATY				S	**Sg**	**14 59 14.0**	**-1.1**
355nm,0.2s							
SATY	**Saty**	**1.26**	**33**	*e*P	**Pg**	**14 58 57.8**	**-1.1**
SATY				*e*S	**Sg**	**14 59 14.1**	**-1.1**
KNDC	**Almaty**	**1.27**	**343**	⇑P	**Pg**	**14 58 58.9**	**-0.1**
KNDC	171nm,0.2s						
				⇑S	**Sb**	**14 59 16.6**	**+0.3**
251nm,0.3s							
AAA	**Alma-Ata**	**1.27**	**341**	P	**Pb**	**14 58 59.4**	**-0.2**
770nm,0.2s							
AAA				S	**Sb**	**14 59 16.4**	**-0.1**
190nm,0.2s							
AAA	**Alma-Ata**	**1.27**	**341**	*e*P	**Pb**	**14 58 59.4**	**-0.2**
589nm,0.1s							
AAA				*e*S	**Sb**	**14 59 16.4**	**-0.1**
176nm,0.1s							
KASK	**Kaskelen**	**1.36**	**333**	⇑P	**Pg**	**14 59 00.6**	**-0.2**
107nm,0.3s							
KASK				⇑S	**Sn**	**14 59 19.8**	**+0.1**
105nm,0.2s							
ZHN	**Zhinishke**	**1.36**	**31**	P	**Pg**	**14 58 59.6**	**-1.3**
116nm,0.2s							
ZHN				S	**Sg**	**14 59 17.0**	**-1.5**
628nm,0.3s							
ZHN	**Zhinishke**	**1.36**	**31**	*e*P	**Pg**	**14 58 59.6**	**-1.3**
ZHN				*e*S	**Sg**	**14 59 17.0**	**-1.5**
ZHN	**Zhinishke**	**1.36**	**31**	*e*P	**Pg**	**14 58 59.6**	**-1.3**
113nm,0.1s							
ZHN				*e*S	**Sg**	**14 59 17.0**	**-1.5**
566nm,0.2s							
MTBS	**Maitube**	**1.36**	**326**	P	**Pg**	**14 59 00.6**	**-0.3**
176nm,0.2s							
MTBS				S	**Sg**	**14 59 18.9**	**+0.4**
321nm,0.1s							
MTBS	**Maitube**	**1.36**	**326**	*e*P	**Pg**	**14 59 00.6**	**-0.3**
MTBS				*e*S	**Sg**	**14 59 18.9**	**+0.4**
MTBS	**Maitube**	**1.36**	**326**	*e*P	**Pg**	**14 59 00.6**	**-0.3**
176nm,0.2s							
MTBS				*e*S	**Sg**	**14 59 18.9**	**+0.4**
321nm,0.1s							
KST	**Kastek**	**1.52**	**313**	P	**Pn**	**14 59 03.5**	**+0.2**
33nm,0.3s							
KST				S	**Sg**	**14 59 23.9**	**+0.2**
304nm,0.5s							
KST	**Kastek**	**1.52**	**313**	*e*P	**Pn**	**14 59 03.5**	**+0.2**
KST				*e*S	**Sg**	**14 59 23.9**	**+0.2**
KST	**Kastek**	**1.52**	**313**	*e*P	**Pn**	**14 59 03.5**	**+0.2**
33nm,0.3s							
KST				*e*S	**Sg**	**14 59 23.9**	**+0.2**
304nm,0.5s							
KURS	**Kuram**	**1.57**	**19**	P	**Pn**	**14 59 03.5**	**-0.4**
43nm,0.3s							
KURS				S	**Sn**	**14 59 23.6**	**-1.3**
136nm,0.4s							
KURS	**Kuram**	**1.57**	**19**	*e*P	**Pn**	**14 59 03.5**	**-0.4**
KURS				*e*S	**Sn**	**14 59 23.6**	**-1.3**
KURS	**Kuram**	**1.57**	**19**	*e*P	Pg	14 59 09.6	+4.8
92nm,0.2s							
KURS				*e*S	**Sg**	**14 59 34.0**	**+8.9**
626nm,0.2s							
UZB	**Uzynbulak**	**1.61**	**45**	P	**Pn**	**14 59 04.0**	**-0.6**
34nm,0.2s							
UZB				S	**Sn**	**14 59 24.5**	**-1.6**
232nm,0.3s							
UZB	**Uzynbulak**	**1.61**	**45**	*e*P	**Pn**	**14 59 04.0**	**-0.6**
UZB				*e*S	**Sn**	**14 59 24.6**	**-1.6**
UZB	**Uzynbulak**	**1.61**	**45**	*e*P	**Pn**	**14 59 04.0**	**-0.6**
20nm,0.1s							
UZB				*e*S	**Sn**	**14 59 24.5**	**-1.6**
173nm,0.2s							
TKM2	**Tokmak 2**	**1.66**	**304**	⇑P	**Pb**	**14 59 06.2**	**-0.2**
35nm,0.1s,SNR=44							
TKM2				⇓S	**Sg**	**14 59 29.3**	**+1.2**
468nm,0.1s							
TKM2	**Tokmak 2**	**1.66**	**304**	⇑Pn	**Pb**	**14 59 06.1**	**-0.2**
9.9nm,0.3s							
TKM2				⇑Sn	**Sg**	**14 59 29.4**	**+1.2**
340nm,0.5s							
TKM2	**Tokmak 2**	**1.66**	**304**	⇓*e*P	**Pb**	**14 59 05.9**	**-0.5**
TKM2				⇓*e*S	**Sg**	**14 59 28.3**	**+0.1**
KPKS	**Kokpek**	**1.71**	**31**	P	**Pn**	**14 59 05.9**	**0.0**
59nm,0.2s							
KPKS				S	**Sn**	**14 59 27.7**	**-0.7**
574nm,0.5s							
KPKS	**Kokpek**	**1.71**	**31**	*e*P	**Pn**	**14 59 05.9**	**0.0**
KPKS				*e*S	**Sn**	**14 59 27.7**	**-0.7**
KPKS	**Kokpek**	**1.71**	**31**	*e*P	**Pn**	**14 59 05.9**	**0.0**
59nm,0.2s							
KPKS				*e*S	**Sn**	**14 59 27.7**	**-0.7**
496nm,0.5s							
KPKS	**Kokpek**	**1.71**	**31**	*e*P	**Pg**	**14 59 07.8**	**+0.3**
20nm,0.1s							
KPKS				*e*S	**Sg**	**14 59 31.5**	**+1.8**
242nm,0.2s							
DGS	**Degeres**	**1.76**	**315**	P	**Pb**	**14 59 07.8**	**-0.2**
20nm,0.1s			

UCH ⇓S **Sg** **14 59 46.7 +0.8**
45nm,0.3s
UCH Uchtor **2.21 277**⇑*e*P **Pn** **14 59 13.8 +0.7**
UCH ⇑*e*S **Sn** **14 59 42.1 +0.7**
BLB Baldybastay **2.21 19** Pg **Pb** **14 59 15.2 -0.5**
697nm,0.2s
BLB Lg Lg 14 59 43.5
782nm,0.3s
ARXS Arharly **2.22 7** Pg **Pb** **14 59 14.7 -1.1**
45nm,0.2s
ARXS Lg Lg 14 59 42.7
316nm,0.2s
CHMS Chumysh **2.24 297** ⇓P **Pb** **14 59 15.1 -1.0**
16nm,0.3s,SNR=11
CHMS ⇑S **Sg** **14 59 46.4 -0.5**
104nm,0.2s
CHMS Chumysh **2.24 297** ⇑Pg **Pb** **14 59 15.1 -1.0**
15nm,0.8s
CHMS ⇑Lg Lg 14 59 45.9
104nm,0.5s
CHMS Chumysh **2.24 297**⇑*e*P **Pn** **14 59 13.8 +0.7**
CHMS ⇑*e*S **Sn** **14 59 42.1 +0.6**
FRU1 Bishkek **2.25 292**⇓*e*P **Pn** **14 59 14.3 +1.0**
FRU1 ⇓*e*S **Sn** **14 59 42.9 +1.1**
AAK Ala-Archa **2.30 287** ⇓P **Pb** **14 59 17.1 -0.1**
13nm,0.2s,SNR=32
AAK ⇓S **Sg** **14 59 48.9 +0.3**
136nm,0.4s
AAK Ala-Archa **2.30 287** ⇑Pn **Pb** **14 59 17.3 +0.1**
7.8nm,0.5s
AAK ⇑Lg Lg 14 59 48.8
88nm,0.5s
AAK Ala-Archa **2.30 287**⇓*e*P **Pn** **14 59 14.7 +0.7**
AAK ⇓*e*S **Sn** **14 59 43.7 +0.7**
ARLS Aral **2.36 267**⇑*e*P **Pn** **14 59 15.5 +0.7**
ARLS ⇑*e*S **Sn** **14 59 45.0 +0.5**
USP Ospenovka **2.53 301** ⇓P **Pn** **14 59 19.1 +2.0**
17nm,0.2s,SNR=19
USP Ospenovka **2.53 301**⇑*e*P **Pn** **14 59 17.8 +0.7**
USP ⇑*e*S **Sn** **14 59 49.0 +0.4**
SGDS Sogindy **2.54 306** Pg **Pb** **14 59 21.3 0.0**
16nm,0.2s
SGDS Lg Lg 14 59 54.5
132nm,0.3s
KNOS Konyrlen **2.66 27** Pg **Pb** **14 59 22.7 -0.6**
10.0nm,0.2s
KNOS Lg Lg 14 59 56.5
120nm,0.5s
AML Almayashu **2.82 274**⇑*e*P **Pn** **14 59 22.1 +0.8**
AML ⇑*e*S **Sn** **14 59 56.5 +0.3**
EKS2 Erkin-Say **2.82 285**⇑*e*P **Pn** **14 59 21.9 +0.8**
EKS2 ⇑*e*S **Sn** **14 59 56.1 +0.3**
DJR Jarkent **2.88 35** Pg **Pb** **14 59 25.9 -1.0**
5.6nm,0.3s
DJR Lg Lg 15 00 02.0
165nm,0.3s
DJR Jarkent **2.88 35** *e*P **Pb** **14 59 25.9 -1.0**
4.2nm,0.1s
DJR *e*S **Sb** **15 00 02.0 -0.7**
165nm,0.3s
SALK Salom-Alik **2.97 249**⇑*e*P **Pn** **14 59 23.9 +0.7**
SALK ⇑*e*S **Sn** **14 59 59.6 0.0**
TDK Taldyqorghan **3.07 12** Pg **Pb** **14 59 29.5 -0.7**
21nm,0.1s
TDK Lg Lg 15 00 08.3
345nm,0.4s
TDK Taldyqorghan **3.07 12** *e*P **Pb** **14 59 29.5 -0.7**
17nm,0.1s
TDK *e*S **Sb** **15 00 08.2 +0.1**
350nm,0.2s
MRKS Merke **3.23 285** Pg **Pg** **14 59 35.0 -1.7**
4.7nm,0.4s
MRKS Lg Lg 15 00 17.7
61nm,0.3s
MRKS Merke **3.23 285** *e*P **Pg** **14 59 35.0 -1.7**
3.8nm,0.2s
MRKS *e*S **Sg** **15 00 17.7 -0.9**
61nm,0.3s
ARSB Arslanbob **3.43 260**⇓*e*P **Pn** **14 59 30.4 +0.8**
ARSB ⇓*e*S **Sn** **15 00 10.9 -0.1**
KAPS Kapalarasan **3.55 22** Pg **Pb** **14 59 38.3 -0.1**
2.8nm,0.2s
KAPS Lg Lg 15 00 23.2
77nm,0.2s
SFK Sufi-Kurgan **3.60 238**⇓*e*P **Pn** **14 59 32.7 +0.7**
SFK ⇓*e*S **Sn** **15 00 14.9 -0.5**
MNAS Manas **3.72 279**⇑*e*P **Pn** **14 59 34.2 +0.7**
MNAS ⇑*e*S **Sn** **15 00 18.2 +0.1**
OHH Osh **3.83 249**⇓*e*P **Pn** **14 59 35.8 +0.8**
OHH ⇓*i*S **Sn** **15 00 20.2 -0.6**
BTLS Baital **3.93 322** Pg **Pb** **14 59 45.7 +0.9**
1.3nm,0.1s
BTLS Lg Lg 15 00 35.9
22nm,0.3s
BTLS Baital **3.93 322** *e*P **Pb** **14 59 45.7 +0.9**
0.5nm,0.1s
BTLS *e*S **Sb** **15 00 35.9 +3.1**
22nm,0.3s
KK31 Karatay Array **5.26 284** Pg **Pg** **15 00 12.7 -2.8**
0.9nm,0.3s,baz=91,slow=16,SNR=8.7
KK31 Lg Lg 15 01 23.1
7.0nm,0.5s,baz=99,slow=29,SNR=13
KKAR Karatay Array **5.26 284**⇑*e*P **Pn** **14 59 55.6 +1.1**
KKAR ⇑*e*S **Sn** **15 00 54.4 -1.4**
IUG Iuzhnay **5.54 274** Pg **Pg** **15 00 18.2 -2.7**
1.8nm,0.1s
IUG Lg Lg 15 01 31.7
17nm,0.7s
MAKZ Makanchi **5.78 32** ⇑Pn **Pn** **15 00 03.9 +2.2**
2.4nm,0.8s
MAKZ ⇓Lg Lg 15 01 35.4
3.2nm,0.5s
MK31 Makanchi Array **5.90 34** ⇓Pn **Pn** **15 00 04.4 +1.0**
0.4nm,0.3s,baz=204,slow=16,SNR=18
MK31 ⇓Lg Lg 15 01 40.3
5.5nm,0.7s,baz=216,slow=27,SNR=4.0
OTUK Ortayu **7.22 332** Lg Lg 15 02 26.1
11nm,0.8s
KURK Kurchatov **8.75 5** ⇑Lg Lg 15 03 06.3
8.9nm,0.9s

*OMAN **06** 14:59:44.5±0.1, 17°.75N×59°.78E, h35km, mb3.9/11, ml3.9/6, Error ellipse: s-maj=1.6km s-min=0.8km az=300.0*
*DSN **06** 14:59:45.4±2.5, 18°.06N×59°.69E, h15km, ML2.8/6, Error ellipse: s-maj=50.1km s-min=21.5km az=73.0*
ISC 06 14:59:40.4±3.0, 17°.7N±0°.1×59°.8E±0°.1, h10km, n31, σ1ˢ08/50, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**3.07 316**		P	**Pn**	**15 00 29.9**	**+0.8**
	SNR=8.5						
DQM				S	**Sn**	**15 01 06.6**	**+0.6**
MHTO	**MHTO**	**3.69 332**		P	**Pn**	**15 00 37.5**	**0.0**
	SNR=70						
MHTO				S	**Sn**	**15 01 21.3**	**+0.2**
JLN	**Jalan Bani Buh**	**4.43 355**		P	**Pn**	**15 00 47.7**	**0.0**
	SNR=22						
JLN				S	**Sn**	**15 01 39.2**	**-0.1**
DMTO	**DMTO**	**4.63 271**		P	**Pn**	**15 00 51.2**	**+0.7**
	SNR=15						
DMTO				S	**Sn**	**15 01 42.9**	**-1.5**
JMDO	**Jabal Madar**	**4.90 341**		P	**Pn**	**15 00 54.9**	**+0.7**
JMDO				S	**Sn**	**15 01 51.9**	**+0.9**
WBK	**Wadi Bani Khal**	**4.93 351**		P	**Pn**	**15 00 54.7**	**+0.1**
	SNR=7.9						
WBK				S	**Sn**	**15 01 51.3**	**-0.5**
DOK	**Doka**	**5.47 280**		P	**Pn**	**15 01 03.2**	**+1.2**
DOK				S	**Sn**	**15 02 04.2**	**-0.9**
SMDO	**Samad**	**5.56 343**		P	**Pn**	**15 01 03.7**	**+0.3**
SMDO				S	**Sn**	**15 02 08.0**	**+0.5**
BSY	**Bisya**	**5.57 334**		P	**Pn**	**15 01 04.4**	**+0.9**
BSY				S	**Sn**	**15 02 07.0**	**-0.5**
WHFO	**Wadi Hawf**	**5.75 273**		P	**Pn**	**15 01 07.0**	**+1.0**
WHFO				S	**Sn**	**15 02 11.5**	**-0.6**
BIDO	**Bidbid**	**5.99 345**		P	**Pn**	**15 01 09.1**	**0.0**
	SNR=8.2						
BIDO				S	**Sn**	**15 02 18.0**	**+0.2**
ABTO	**Aybut**	**6.22 268**		P	**Pn**	**15 01 13.6**	**+1.2**
ABTO				S	**Sn**	**15 02 23.2**	**-0.4**
HOQ	**Hoqain**	**6.29 339**		P	**Pn**	**15 01 14.9**	**+1.6**
ARQ	**Araqi**	**6.38 332**		P	**Pn**	**15 01 16.0**	**+1.4**
	SNR=16						
UMZA	**Um Al Zommool**	**6.61 320**		P	**Pn**	**15 01 18.6**	**+0.9**
SOHO	**SOHO**	**7.08 335**		P	**Pn**	**15 01 25.6**	**+1.5**
SOHO				S	**Sn**	**15 02 45.3**	**+0.6**
SOHO	**SOHO**	**7.08 335**		P	**Pn**	**15 01 24.1**	**-0.1**
ALNE	**Al Ain**	**7.36 330**		P	**Pn**	**15 01 29.3**	**+1.3**
ALNE				S	**Sn**	**15 02 50.1**	**-1.5**
ALNE	**Al Ain**	**7.36 330**		P	**Pn**	**15 01 28.5**	**+0.5**
ASHO	**Ashiyiah**	**7.76 334**		P	**Pn**	**15 01 34.8**	**+1.2**
ASHO	**Ashiyiah**	**7.76 334**		P	**Pn**	**15 01 34.3**	**+0.7**
ASHO				S	**Sn**	**15 02 58.5**	**-3.1**
HATD	**Hatta, Dubai**	**7.86 335**		P	**Pn**	**15 01 36.4**	**+1.5**
HATD				S	**Sn**	**15 03 02.4**	**-1.5**
HATD	**Hatta, Dubai**	**7.86 335**		P	**Pn**	**15 01 32.3**	**-2.6**
MZR	**Muzera**	**7.93 313**		P	**Pn**	**15 01 35.8**	**0.0**
MZR				S	**Sn**	**15 03 05.7**	**+0.1**
MZR	**Muzera**	**7.93 313**		P	**Pn**	**15 01 35.5**	**-0.3**
UOSS	**Minazif**	**7.94 336**		P	**Pn**	**15 01 37.0**	**+1.1**
UOSS				S	**Sn**	**15 03 06.8**	**+0.9**
ASUD	**Al Ashush, Dub**	**8.04 329**		P	**Pn**	**15 01 38.3**	**+0.9**
ASUD				S	**Sn**	**15 03 09.0**	**+0.6**
ASUD	**Al Ashush, Dub**	**8.04 329**		P	**Pn**	**15 01 38.2**	**+0.8**
TRNA	**Turayna**	**10.63 313**		P	**Pn**	**15 02 13.7**	**+0.9**
SMRA	**Abu-Samra**	**10.91 311**		P	**Pn**	**15 02 17.1**	**+0.4**
RAYN	**Ar Rayn**	**14.58 296**		P	**Pn**	**15 03 05.3**	**-1.7**

WEL 06 15:09:19.5±1.5, 34°.S±16°×17°.9W±1°.2, h160km±69km, M3.6/4, mB4.5/1, ML3.9/7, MLv3.6/4, Mw(mB)3.7/1, Error ellipse: s-maj=23.7km s-min=12.0km az=31.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.58 206**		P	Pn	15 10 28.4	+0.9
WMGZ				S	Sn	15 11 21.4	+0.8
PKGZ	**Pakihiroa**	**4.75 209**		P	Pn	15 10 29.9	+0.1
PKGZ				S	Sn	15 11 26.4	+1.8
HAZ	**Te Kaha**	**4.78 212**		P	Pn	15 10 31.0	+0.9
HAZ				S	Sn	15 11 26.6	+1.3
PUZ	**Puketiti**	**4.86 206**		P	Pn	15 10 31.6	+0.4
PUZ				S	Sn	15 11 27.9	+0.6
RUGZ	**Raukumara Rang**	**5.00 211**		P	Pn	15 10 32.5	-0.7
RUGZ				S	Sn	15 11 31.4	+0.6
CNGZ	**Carnagh Statio**	**5.24 204**		P	Pn	15 10 35.1	-1.2
CNGZ				S	Sn	15 11 35.4	-0.9
MWZ	**Matawai**	**5.37 210**		P	Pn	15 10 39.2	+1.2
MWZ				S	Sn	15 11 39.1	-0.3
URZ	**Urewera**	**5.49 214**		P	Pn	15 10 37.1	-2.4
URZ				S	Sn	15 11 41.5	-0.7
SNGZ	**Shannon Statio**	**5.83 209**		P	Pn	15 10 44.4	+0.4
WCZ	**Waipu Caves**	**5.87 246**		P	Pn	15 10 45.0	+0.5
OUZ	**Omahuta**	**6.26 254**		P	Pn	15 10 49.6	-0.2
OUZ				S	Sn	15 12 00.7	+0.2
OTVZ	**Oturere**	**6.90 217**		S	Sn	15 12 17.8	+1.8

IDC 06 15:20:46.4±3.8, 16°.13S×175°.48W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=171.4km s-min=79.6km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.94 240**		P	P	15 28 39.1	0.0
	1.1nm,0.5s,baz=100,slow=11,SNR=1.7						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**47.73 258**		P	P	15 29 25.5	0.0
	0.9nm,0.3s,baz=96,slow=7.3,SNR=30						
WRA				PcP	PcP	15 30 54.7	-0.2
	0.4nm,0.7s,baz=78,slow=3.3,SNR=2.1						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**47.98 253**		P	P	15 29 27.3	-0.1
	3.7nm,0.5s,baz=86,slow=8.9,SNR=104						
ASAR				PcP	PcP	15 30 55.2	-0.5
	0.5nm,0.6s,baz=104,slow=3.9,SNR=5.9						
	3.7nm,0.5s						

*IDC **06** 15:22:19.2±1.0, 30°.75N×142°.01E, h0km, mb3.5/8, mbtmp3.5/9, ML3.0/1, Error ellipse: s-maj=37.3km s-min=19.3km az=83.0*
*JMA **06** 15:22:26.2±0.7, 31°.N±3°×14°.2E±°, h124km, MV3.1/17, NEAR TORISHIMA IS*
ISC 06 15:22:23.0±1.1, 30°.9N±0°.1×142°.2E±0°.2, h24km, n14, σ1ˢ53/16, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**3.85 345**		P	**Pn**	**15 23 21.0**	**+0.9**
JOD2	**Odawara 2**	**5.04 330**		P	**Pn**	**15 23 38.2**	**+1.2**
JRY	**Ryogami san**	**5.76 333**		P	**Pn**	**15 23 47.6**	**+0.6**
JHO	**Hitachi**	**5.82 347**	*e*P	P	**Pn**	**15 23 46.9**	**-0.9**
JHO				S	**Sn**	**15 24 49.9**	**-3.9**
JAG	**Ashikaga**	**5.93 338**		P	**Pn**	**15 23 49.1**	**-0.2**
MJAR	**Matsushiro Arr**	**6.50 331**		Pn	**Pn**	**15 23 57.2**	**+0.2**
	0.3nm,0.3s,baz=164,slow=12,SNR=15						
MJAR				Sn	**Sn**	**15 25 10.5**	**0.0**
	baz=143,slow=29,SNR=1.8						
	1.3nm,0.3s						
KLR	**Kul'dur**	**19.91 340**		P	**P**	**15 26 53.0**	**+0.4**
	0.4nm,0.3s,baz=231,slow=7.3,SNR=4.5						
	0.4nm,0.3s						
SONM	**Songino Array**	**32.04 312**		P	**P**	**15 28 48.9**	**+1.2**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**48.09 307**		P	**P**	**15 30 59.8**	**-0.9**
	0.4nm,0.8s,baz=90,slow=10,SNR=4.8						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**50.41 312**		P	**P**	**15 31 17.9**	**-0.4**
	0.2nm,0.3s,baz=89,slow=7.5,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**51.13 189**		P	**P**	**15 31 22.2**	**-1.8**
	0.6nm,0.4s,baz=4.9,slow=7.5,SNR=10						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**54.39 30**		P	**P**	**15 31 48.5**	**+0.9**
	0.2nm,0.6s,baz=278,slow=7.3,SNR=2.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**54.86 189**		P	**P**	**15 31 50.1**	**-1.3**
	0.2nm,0.5s,baz=358,slow=5.2,SNR=6.5						
	0.2nm,0.5s						
RES	**Resolute Bay**	**68.35 14**		P	**P**	**15 33 23.6**	**+1.8**
	0.5nm,0.4s,baz=315,slow=5.7,SNR=7.7						
	0.5nm,0.4s						

*ZUR **06** 15:27:56.1, 48°.16N×8°.04E, h3km±3km, MLh1.2/13, Error ellipse: s-maj=6756.0km s-min=1422.4km az=167.0*
STR 06 15:27:56.3±0.3, 48°N±1°×°±°, h0km, MLv2.0/7, 6C-1D, Error ellipse: s-maj=0.0km s-min=0.0km az=90.9, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIZ	**Kirchzarten**	**0.23 210**		⇑Pg	Pg	15 28 00.5	-0.1
KIZ				Sg	Sg	15 28 03.6	+0.1
KIZ	**Kirchzarten**	**0.23 210**		Pg	Pg	15 28 00.5	-0.1
BFO	**Black Forest**	**0.24 42**		⇑Pg	Pg	15 28 01.1	+0.2
FELD	**Feldberg im Sc**	**0.28 191**		⇑Pg	Pg	15 28 01.8	+0.1
FELD	**Feldberg im Sc**	**0.28 191**		Sg	Sg	15 28 05.7	+0.4
FELD	**Feldberg im Sc**	**0.28 191**		Pg	Pg	15 28 01.8	+0.1
VOGT	**Vogtsburg - To**	**0.29 256**		Pg	Pg	15 28 01.5	-0.2
VOGT	**Vogtsburg - To**	**0.29 256**		Sg	Sg	15 28 05.7	+0.2
BERGE	**Lenzkirch (DE)**	**0.29 167**		⇑Pg	Pg	15 28 02.0	+0.3
ZELS	**Zelsheim**	**0.34 297**		Pg	Pg	15 28 02.6	-0.2
ZELS				Sg	Sg	15 28 07.8	+0.7
OPP	**Oppenau**	**0.35 11**		Pg	Pg	15 28 02.8	-0.2
OPP	**Oppenau**	**0.35 11**		Sg	Sg	15 28 07.8	+0.3
METMA	**Mettma DE**	**0.45 165**		⇑Pg	Pg	15 28 05.1	+0.1
SLE	**Schleitheim**	**0.47 145**		Pg	Pg	15 28 05.6	+0.3
SLE	**Schleitheim**	**0.47 145**		Sg	Sg	15 28 11.9	+0.5
ENDD	**Endenburg**	**0.50 208**		⇑Pg	Pg	15 28 05.5	-0.2
ENDD	**Endenburg**	**0.50 208**		Pg	Pg	15 28 05.5	-0.3
ENDD	**Endenburg**	**0.50 208**		Sg	Sg	15 28 11.9	-0.3
WLS	**Welschbruch**	**0.55 298**		Pg	Pg	15 28 07.8	+0.9
WLS				Sg	Sg	15 28 14.8	+0.8
BABA	**Baden-Baden-Ne**	**0.57 7**		Pg	Pg	15 28 07.0	-0.3
BABA	**Baden-Baden-Ne**	**0.57 7**		Sg	Sg	15 28 14.6	0.0
WALT	**Westhalten**	**0.57 251**		Pg	Pg	15 28 07.4	+0.2
WALT				Sg	Sg	15 28 15.4	+0.7
ECH	**Echery**	**0.62 276**		Pg	Pg	15 28 07.5	-0.7
SULZ	**Cheisacher**	**0.62 178**		⇓Pg	Pg	15 28 08.4	+0.2
SULZ	**Cheisacher**	**0.62 178**		Pg	Pg	15 28 08.3	+0.1
SULZ	**Cheisacher**	**0.62 178**		Sg	Sg	15 28 17.3	+1.0
HOHE	**HOHENGOEFT**	**0.65 322**		Pg	Pg	15 28 08.3	-0.3
HOHE				Sg	Sg	15 28 18.3	+1.3
NEEW	**Neewiller pres**	**0.81 1**		Pg	Pg	15 28 11.7	0.0
NEEW				Sg	Sg	15 28 22.9	+0.8
CIEL	**Dossenheim-sur**	**0.83 325**		Pg	Pg	15 28 12.2	-0.1
CIEL				Sg	Sg	15 28 24.1	+1.0
BALST	**Balsthal**	**0.86 198**		Sg	Sb	15 28 25.0	-1.1
BALST	**Balsthal**	**0.86 198**		Pg	Pg	15 28 13.2	+0.5
LEMB	**Lembach**	**0.91 346**		Pg	Pg	15 28 13.7	0.0
LEMB				Sg	Sg	15 28 26.3	+0.8
BOURR	**Bourrignon**	**0.95 218**		Sg	Sb	15 28 28.2	-0.6
BOURR	**Bourrignon**	**0.95 218**		Pg	Pg	15 28 14.4	-0.1
VOEL	**Voellerdingen**	**1.04 322**		Pg	Pg	15 28 15.4	-0.7
VOEL				Sg	Sg	15 28 29.7	+0.1
RONF	**Ronchamp**	**1.06 246**		Pg	Pg	15 28 16.0	-0.6
CHMF	**Charmoille**	**1.32 227**		Pg	Pg	15 28 21.1	-0.5
CHMF				Sg	Sg	15 28 38.8	0.0

VIE 06 15:28:14.3±0.2, 47°.45N×10°.78E, h0km, mb0.8/2, ml1.1/4, Error ellipse: s-maj=2.2km s-min=1.3km az=81.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RETA	**Reutte**	**0.04 346**		*i* Pg	Pg	15 28 14.8	-0.3
	8.4nm,0.1s						
RETA				*i* Sg	Sg	15 28 15.7	0.0
	22nm,0.1s						
SQTA	**Sankt Quirin**	**0.37 127**		*e*Pg	Pg	15 28 21.5	+0.1
	0.8nm,0.2s						
SQTA				*e*Sg	Sg	15 28 27.6	+1.4
	5.9nm,0.3s						
FETA	**Feichten**	**0.43 184**		*e*Pg	Pg	15 28 22.9	+0.5
	0.2nm,0.1s						
FETA				*e*Sg	Sg	15 28 28.3	+0.4
	0.6nm,0.2s						
DAVA	**Damuels**	**0.63 256**		Sg	Sb	15 28 36.7	-1.0
	10nm,0.4s						

*IDC **06** 15:34:54.6±3.1, 51°.81N×178°.46E, h92km±27km, mb3.1/9, mbtmp3.6/12, Error ellipse: s-maj=30.6km s-min=16.6km az=168.0*
*NEIC **06** 15:34:55.2±1.7, 51°.8N±0°.1×178°.4E±0°.1, h94km±11km, mb3.9/26, ML3.4(AEIC), Error ellipse: s-maj=21.0km s-min=2.7km az=206.0*
*AEIC **06** 15:34:58.3±2.1, 51°.8N±0°.2×178°.4E±0°.1, h107km±7km, Error ellipse: s-maj=31.6km s-min=9.9km az=187.0*
ISC 06 15:34:56.4±0.9, 51°.8N±0°.2×178°.28E±0°.05, h113km, n50, σ1ˢ39/49, mb3.7/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.74 292**		P	**Pn**	**15 35 38.5**	**-0.4**
	119nm,0.7s,baz=290,slow=23,SNR=2.6						
SHEM				S	**Sn**	**15 36 10.8**	**-0.9**
	59nm,0.3s,baz=263,slow=18,SNR=7.6						
KIWB	**Kanaga Island**	**2.83 87**		Pn	**Pn**	**15 35 38.8**	**-1.4**
ADK	**Adak**	**3.12 86**		Pn	**Pn**	**15 35 41.8**	**-2.2**
PETK	**Petropavlovsk-**	**12.62 284**		P	**Pn**	**15 37 51.3**	**-0.4**
	4.6nm,1.0s,baz=261,slow=31,SNR=9.6						
PETK				S	**Sn**	**15 40 05.0**	**-5.5**
	1.8nm,0.8s,baz=82,slow=25,SNR=1.1						
K15K	**Wolf Creek Mou**	**15.14 38**		P	**P**	**15 38 27.9**	**+1.5**
K15K				IAmb	IAmb	15 39 04.3	
	comp=Z,16nm,1.4s						
L16K	**Owhat River**	**15.65 42**		P	**P**	**15 38 31.7**	**-0.3**
L16K				IAmb	IAmb	15 38 32.6	
	comp=Z,8.4nm,1.2s						
M17K	**Holitna River**	**16.38 45**		P	**P**	**15 38 40.9**	**+0.8**
OHAK	**Old Harbor**	**17.31 61**			**P**	**15 38 48.7**	**-1.7**
KDAK	**Kodiak Island**	**17.75 59**		P	**P**	**15 38 52.3**	**-2.9**
KDAK	**Kodiak Island**	**17.75 59**		P	**P**	**15 38 52.7**	**-2.5**
	comp=Z,3.4nm,0.8s,baz=97,slow=2.6,SNR=18						
K20K	**Telida**	**18.64 41**		P	**P**	**15 39 06.1**	**+1.2**
SPU	**Mount Spurr**	**18.73 48**			**Pn**	**15 39 07.8**	**+0.2**
BRLK	**Bradley Lake**	**18.95 53**		P	**P**	**15 39 07.0**	**-1.3**
J20K	**Nowinta River**	**18.98 39**		P	**P**	**15 39 09.4**	**+0.9**
J20K				IAmb	IAmb	15 39 12.4	
	comp=Z,9.7nm,1.3s						
SLKM	**Skilak Lake**	**19.43 51**		P	**P**	**15 39 13.8**	**+0.3**
SLKM				IAmb	IAmb	15 39 18.4	
	comp=Z,8.3nm,1.0s						
KTH	**Kantishna Hill**	**20.01 42**		P	**P**	**15 39 20.0**	**+0.1**
KTH				IAmb	IAmb	15 39 59.6	
	comp=Z,12nm,1.5s						
PWL	**Port Wells**	**20.41 51**		P	**P**	**15 39 23.2**	**-0.9**
SCM	**Sheep Creek Mo**	**21.09 48**		P	**P**	**15 39 31.3**	**-0.1**
SCM				IAmb	IAmb	15 40 02.0	
	comp=Z,13nm,1.3s						
FID	**Port Fidalgo**	**21.28 51**		P	**P**	**15 39 32.5**	**-1.0**
G23K	**Bananza Creek**	**21.69 34**		P	**P**	**15 39 38.4**	**+0.6**
ILAR	**Eielson Array**	**22.10 41**		P	**P**	**15 39 41.0**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=262,slow=13,SNR=5.2						
	comp=Z,0.2nm,0.6s						
E23K	**Chandalar**	**22.49 31**		P	**P**	**15 39 45.6**	**-0.4**
E23K				IAmb	IAmb	15 39 50.2	
	comp=Z,5.9nm,1.5s						
D23K	**Nanushuk River**	**22.64 29**		P	**P**	**15 39 47.4**	**-0.1**
D23K				IAmb	IAmb	15 40 15.7	
	comp=Z,4.0nm,1.2s						
VRDI	**Verde Repeater**	**22.81 51**		P	**P**	**15 39 49.3**	**-0.1**
VRDI				IAmb	IAmb	15 40 11.5	
	comp=Z,8.0nm,1.3s						
DOT	**Dot Lake**	**22.96 44**		P	**P**	**15 39 50.5**	**-0.2**
J26L	**Joseph Creek**	**23.38 42**		P	**P**	**15 39 53.9**	**-0.8**
BCAR	**Beaver Creek A**	**23.85 46**		P	**P**	**15 39 59.9**	**+1.0**
E25K	**Arctic Village**	**23.86 33**		P	**P**	**15 39 59.7**	**+0.8**
E25K				IAmb	IAmb	15 40 37.3	
	comp=Z,4.4nm,1.5s						
BMAR	**Burnt Mountain**	**23.93 35**		P	**P**	**15 39 59.8**	**+0.2**
G31M	**Satah River**	**27.65 39**		P	**P**	**15 40 32.8**	**-0.2**
G31M				IAmb	IAmb	15 40 34.0	
	comp=Z,3.9nm,1.4s						
P33M	**Teslin, Yukon**	**28.01 53**		P	**P**	**15 40 34.1**	**-2.3**
P33M				IAmb	IAmb	15 40 51.1	
	comp=Z,2.7nm,1.4s						
A36M	**Sachs Harbour**	**31.62 30**		P	**P**	**15 41 09.4**	**+1.4**
A36M				IAmb	IAmb	15 41 12.9	
	comp=Z,1.8nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**33.21 200**		T	T	16 16 45.3	
	baz=14						
H11N3	**WAKE ISLAND Hy**	**33.22 200**		T	T	16 16 46.4	
	baz=14						
H11N1	**WAKE ISLAND Hy**	**33.23 200**		T	T	16 16 43.7	
	baz=14						
YKA	**Yellowknife Ar**	**36.27 46**		P	**P**	**15 41 48.5**	**+0.3**
YKA	**Yellowknife Ar**	**36.27 46**		P	**P**	**15 41 48.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=282,slow=8.9,SNR=3.5						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**45.30 81**		P	**P**	**15 43 01.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=290,slow=6.9,SNR=1.9						
	comp=Z,0.3nm,0.5s						
R11B	**Troy Canyon, C**	**47.01 79**		P

IDC **06** *15:46:10.6*±*0.3,31.˙86S×177.˙89W,h0km,mb5.7/28, mbtmp5.7/29,ML4.1/1,MS6.1/54,Error ellipse: s-maj=13.7km s-min=11.1km az=21.0*

IPGP **06** *15:46:11.0,32.˙03S×177.˙80W,h15km,Mw6.4, Fault plane solution: NP1:*ϕ_s*204.00000°,*δ*20.00000°,*λ*99.00000°. NP2:*ϕ_s*14.00000°,*δ*70.00000°,*λ*87.00000°.*

NEIC **06** *15:46:11.8,31.˙94S×177.˙28W,h24km,Moment Tensor Solution. Duration:*6^s9 *Moment tensor: Scale* 10^{18}*Nm; Mrr5.27; Mθθ-1.05; Mφφ-4.21; Mrθ0.88; Mθφ-1.33; Mφr2.09; Fault plane solution:* M_o*5.48000×*10^{18} *NP1:* ϕ_s*199.16000°,*δ*32.78000°,*λ*88.32000°. NP2:*ϕ_s*21.15000°,* δ*57.24000°,*λ*91.08000°. Principal axes: T 5.7584, Plg78.0000°, Azm295.0000°; N -0.5661, Plg1.0000°, Azm201.0000°; P -5.1923, Plg12.0000°, Azm110.0000°;*

NEIC **06** *15:46:11.8,32.˙04S×177.˙75W,h24km*

BJI **06** *15:46:12.0,32.˙02S×178.˙05W,h20km,mB6.3/62, mb5.9/67,Ms6.4/91,Ms7 6.2/90*

MOS **06** *15:46:12.5*±*1.2,31.˙93S×178.˙13W,h19km,mb6.2/36, MS6.3/41,Error ellipse: s-maj=11.2km s-min=8.1km az=123.8*

NOU **06** *15:46:13.5,32.˙25S×177.˙58W,h30km,ML6.1/180,South of Kermadec Islands*

NEIC **06** *15:46:14.9*±*1.9,32.˙02S*±*0.˙09×177.˙9W*±*0.˙1,h29km*±*1km, mb6.0/421,Ms_20 6.4/536,Mww6.4/64,Error ellipse: s-maj=16.8km s-min=13.9km az=127.0*

ISC-PP **06** *15:46:14,32.˙02S×177.˙88W,h17km,Mwppsm6.6, Moment Tensor Solution. s24 Moment tensor: Scale* 10^{19}*Nm; Mrr0.69*±*.15; Mθθ-0.07*±*.16; Mφφ-0.61*±*.18; Mrθ0.12*±*.12; Mθφ0.20*±*.29; Mφr-0.15*±*.12; Fault plane solution: Mo7.14000×*10^{19} *NP1:*ϕ_s*189.10000°,*δ*36.00000°,* λ*81.30000°. NP2:*ϕ_s*19.80000°,*δ*54.40000°,*λ*96.30000°.*

PMR **06** *15:46:16.0,32.˙20S×177.˙80W,h46km*

GCMT **06** *15:46:19.9*±*0.0,31.˙92S×177.˙58W,h12km,MW6.4/168, Moment Tensor Solution. s165,c389; s168,c728; Duration:*3^s9 *Moment tensor: Scale* 10^{18}*Nm; Mrr3.47*±*.01; Mθθ-0.13*±*.01; Mφφ-3.33*±*.01; Mrθ0.82*±*.04; Mθφ-1.14*±*.01; Mφr3.30*±*.04; Best double couple: Mo4.94000×*10^{18} *NP1:*ϕ_s*201.00000°,*δ*23.00000°,* λ*95.00000°. NP2:*ϕ_s*15.00000°,*δ*67.00000°,*λ*88.00000°. Principal axes: T 4.8310, Plg68.0000°, Azm281.0000°; N 0.2230, Plg2.0000°, Azm16.0000°; P -5.0480, Plg22.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 06 15:46:13.9±0.5,**32.˙06S**±0.˙03×**177.˙84W**±0.˙03,**h26**km±3km, **n1908,**σ**1**°**78**/1622,**mb6.0**/331,**MS6.4**/372,**99C-63D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.79 359**		P	**Pn**	**15 46 52.3**	**-4.6**
GLKZ				S	**Sn**	**15 47 25.8**	**-3.9**
MXZ	**Matakaoa Point**	**6.34 209**		Pn	**Pn**	**15 47 41.9**	**-3.8**
MXZ	**Matakaoa Point**	**6.34 209**		P	**Pn**	**15 47 42.4**	**-3.2**
MXZ	**Matakaoa Point**	**6.34 209**		S	**Sn**	**15 48 58.1**	**+1.0**
MXZ	**Matakaoa Point**	**6.34 209**		P	**Pn**	**15 47 42.5**	**-3.2**
WMGZ	**Waiomatatini S**	**6.52 207**		P	**Pn**	**15 47 45.9**	**-2.2**
WMGZ				S	**Sn**	**15 49 01.9**	**+0.4**
PKGZ	**Pakihiroa**	**6.69 209**		P	**Pn**	**15 47 47.1**	**-3.4**
PKGZ				S	**Sn**	**15 49 06.6**	**+0.7**
HAZ	**Te Kaha**	**6.72 211**		P	**Pn**	**15 47 48.6**	**-2.3**
PUZ	**Puketiti**	**6.80 207**		P	**Pn**	**15 47 49.9**	**-2.1**
PUZ				S	**Sn**	**15 49 08.8**	**+0.2**
WIZ	**White Island**	**6.81 215**		P	**Pn**	**15 47 52.1**	**-0.1**
RUGZ	**Raukumara Rang**	**6.94 211**		P	**Pn**	**15 47 51.3**	**-2.8**
GRZ	**Great Barrier**	**6.95 231**		P	**Pn**	**15 47 53.0**	**-1.0**
TWGZ	**Tauwhareparae**	**7.00 208**		P	**Pn**	**15 47 51.6**	**-3.1**
KUZ	**Kuaotunu**	**7.08 227**		P	**Pn**	**15 47 58.6**	**+2.8**
CNGZ	**Carnagh Statio**	**7.18 206**		P	**Pn**	**15 47 53.3**	**-3.9**
WHRZ	**Whale Island**	**7.18 215**		P	**Pn**	**15 47 58.3**	**+1.1**
TKGZ	**Te Karaka**	**7.28 208**		P	**Pn**	**15 47 55.6**	**-2.9**
MWZ	**Matawai**	**7.32 210**		P	**Pn**	**15 47 55.2**	**-4.0**
OPRZ	**Ohinepanea**	**7.38 217**		P	**Pn**	**15 48 00.4**	**+0.5**
OPRZ				S	**Sn**	**15 49 25.3**	**+2.5**
MARZ	**Manawahe**	**7.43 216**		P	**Pn**	**15 48 00.7**	**+0.1**
URZ	**Urewera**	**7.44 212**		Pn	**Pn**	**15 47 56.8**	**-3.9**
	4.6nm,0.3s,baz=340,slow=4.6,SNR=44						
URZ				Sn	**Sn**	**15 49 22.1**	**-2.1**
	304nm,0.3s,baz=174,slow=22,SNR=12						
URZ	**Urewera**	**7.44 212**		P	**Pn**	**15 47 59.5**	**-1.2**
URZ	**Urewera**	**7.44 212**		S	**Sn**	**15 49 24.3**	**+0.1**
URZ	**Urewera**	**7.44 212**		P	**Pn**	**15 47 59.7**	**-3.2**
RAGZ	**Rawiri**	**7.50 210**		P	**Pn**	**15 48 00.5**	**-1.2**
RIGZ	**Rimuhau**	**7.54 207**		P	**Pn**	**15 47 58.5**	**-3.7**
WCZ	**Waipu Caves**	**7.55 237**		P	**Pn**	**15 48 03.7**	**+1.3**
MKAZ	**Moumakai**	**7.66 227**		P	**Pn**	**15 48 03.0**	**-0.7**
KARZ	**Kaharoa**	**7.67 218**		P	**Pn**	**15 48 05.9**	**+1.9**
PRGZ	**Paritu Road**	**7.68 206**		P	**Pn**	**15 48 00.7**	**-3.4**
KMRZ	**Kaimai**	**7.70 220**		P	**Pn**	**15 48 04.0**	**-0.4**
TARZ	**Mount Tarawera**	**7.71 215**		P	**Pn**	**15 48 07.9**	**+3.4**
NGRZ	**Ngongotaha**	**7.76 217**		P	**Pn**	**15 48 09.1**	**+3.9**
MUGZ	**Murupara**	**7.77 213**		P	**Pn**	**15 48 03.5**	**-1.8**
SNGZ	**Shannon Statio**	**7.77 209**		P	**Pn**	**15 48 02.9**	**-2.4**
RRRZ	**Republican Roa**	**7.78 215**		P	**Pn**	**15 48 05.9**	**+0.4**
RTZ	**Ruatahuna**	**7.79 211**		Pn	**Pn**	**15 48 02.5**	**-3.1**
RTZ	**Ruatahuna**	**7.79 211**		P	**Pn**	**15 48 05.5**	**-0.1**
OUZ	**Omahuta**	**7.80 244**		P	**Pn**	**15 48 09.8**	**+4.0**
OUZ	**Omahuta**	**7.80 244**		P	**Pn**	**15 48 08.2**	**+2.4**
OUZ	**Omahuta**	**7.80 244**	⇑	P	**Pn**	**15 48 08.3**	**+2.6**
KNZ	**Kokohu**	**7.85 207**		P	Pn	15 48 01.7	-4.6
TOZ	**Tahuroa Road**	**7.87 222**		Pn	**Pn**	**15 48 04.9**	**-1.7**
TOZ	**Tahuroa Road**	**7.87 222**		P	**Pn**	**15 48 03.4**	**-3.2**
MHGZ	**Mahia Peninsul**	**7.88 205**		P	Pn	15 48 02.3	-4.4
GRRZ	**Galatos Road**	**7.99 217**		P	Pn	15 48 14.5	+6.1
RAHZ	**Arahi**	**7.99 210**		P	**Pn**	**15 48 05.8**	**-2.6**
ALRZ	**Allen Road**	**8.04 215**		P	**Pn**	**15 48 09.1**	**0.0**
MTHZ	**Maungataniwha**	**8.05 211**		P	**Pn**	**15 48 07.4**	**-1.7**
WHHZ	**Waihua**	**8.07 208**		P	**Pn**	**15 48 08.2**	**-1.2**
WPRZ	**Whakapapatarin**	**8.10 216**		P	**Pn**	**15 48 10.8**	**+1.0**
MRHZ	**Matea Rd**	**8.22 213**		P	**Pn**	**15 48 09.2**	**-2.3**
NMHZ	**Naumai**	**8.26 210**		P	**Pn**	**15 48 11.8**	**-0.3**
TLZ	**Tolley Road**	**8.27 219**		P	**Pn**	**15 48 13.5**	**+1.2**
WHTZ	**Whakaora**	**8.31 216**		P	**Pn**	**15 48 13.6**	**+0.8**
ARHZ	**Aropaoanui**	**8.32 209**		P	**Pn**	**15 48 10.1**	**-2.7**
WATZ	**Wairara**	**8.46 217**		P	**Pn**	**15 48 15.5**	**+0.7**
BKZ	**Black Stump Fm**	**8.46 211**		Pn	Pn	15 48 10.4	-4.4
BKZ	**Black Stump Fm**	**8.46 211**		P	**Pn**	**15 48 13.7**	**-1.1**
BKZ	**Black Stump Fm**	**8.46 211**		S	**Sn**	**15 49 46.7**	**-2.7**
BKZ	**Black Stump Fm**	**8.46 211**		P	Pn	15 48 10.7	-4.0
RATZ	**Rangitukua**	**8.56 216**		P	**Pn**	**15 48 16.9**	**+0.7**
MCHZ	**McNeill Hill**	**8.60 210**		P	**Pn**	**15 48 14.0**	**-2.7**
RITZ	**Rihia Road**	**8.60 215**		P	**Pn**	**15 48 17.6**	**+0.9**
CKHZ	**Cape Kidnapper**	**8.63 207**		P	Pn	15 48 12.5	-4.6
KATZ	**Kakaramea**	**8.68 216**		P	**Pn**	**15 48 21.3**	**+3.4**
KWHZ	**Kaweka Forest**	**8.70 211**		P	**Pn**	**15 48 17.2**	**-0.9**
HIZ	**Hauiti**	**8.78 221**		P	**Pn**	**15 48 23.1**	**+4.0**
TMVZ	**Te Maari**	**8.78 215**		P	**Pn**	**15 48 16.4**	**-2.9**
NTVZ	**North Tongarir**	**8.79 215**		P	**Pn**	**15 48 17.1**	**-2.2**
ETVZ	**East Tongariro**	**8.80 215**		P	**Pn**	**15 48 18.2**	**-1.3**
KRVZ	**Karewarewa**	**8.80 215**		P	**Pn**	**15 48 21.3**	**+1.8**
KAHZ	**Kahuranaki**	**8.82 208**		P	Pn	15 48 14.0	-5.8
NNVZ	**North Ngauruho**	**8.84 215**		P	**Pn**	**15 48 20.4**	**+0.3**
OTVZ	**Oturere**	**8.84 215**		P	**Pn**	**15 48 18.5**	**-1.6**
WTVZ	**West Tongariro**	**8.84 215**		P	**Pn**	**15 48 21.0**	**+0.9**
SNVZ	**South Ngauruho**	**8.87 215**		P	**Pn**	**15 48 20.0**	**-0.6**
NGZ	**Ngauruhoe**	**8.88 215**		P	**Pn**	**15 48 23.4**	**+2.7**
TWVZ	**Taurewa**	**8.88 216**		P	**Pn**	**15 48 22.1**	**+1.4**
KRHZ	**Kereru**	**8.90 210**		P	**Pn**	**15 48 18.1**	**-2.8**
COVZ	**Chateau Observ**	**8.93 215**		P	**Pn**	**15 48 23.4**	**+2.1**
FWVZ	**Far West T-bar**	**8.97 215**		P	**Pn**	**15 48 22.5**	**+0.6**
MAVZ	**Matarangi**	**8.97 215**		P	**Pn**	**15 48 25.5**	**+3.5**
MOVZ	**Moawhango**	**8.99 214**		P	**Pn**	**15 48 20.6**	**-1.5**
WNVZ	**Wahianoa**	**9.00 215**		P	**Pn**	**15 48 21.5**	**-0.8**
PXZ	**Pawanui**	**9.04 207**		P	Pn	15 48 18.1	-4.5
PNHZ	**Pukenui**	**9.20 210**		P	Pn	15 48 20.5	-4.5
WPHZ	**Waipukurau**	**9.23 208**		P	**Pn**	**15 48 21.4**	**-4.0**
VRZ	**Vera Road**	**9.27 218**		P	**Pn**	**15 48 27.4**	**+1.5**
PRHZ	**Porangahau**	**9.33 207**		P	Pn	15 48 22.2	-4.5
TSZ	**Takapari Road**	**9.43 210**		P	**Pn**	**15 48 25.2**	**-2.9**
DVHZ	**Dannevirke**	**9.54 209**		P	Pn	15 48 25.7	-3.9
POWZ	**Post Office Ro**	**9.78 210**		P	**Pn**	**15 48 31.8**	**-1.1**
KHEZ	**Kahui Hut**	**9.79 220**		P	**Pn**	**15 48 32.5**	**-0.6**
BFZ	**Birch Farm**	**9.83 207**			Pn	15 48 29.1	-4.5
BFZ	**Birch Farm**	**9.83 207**		P	Pn	15 48 28.8	-4.8
BFZ	**Birch Farm**	**9.83 207**		S	**Sn**	**15 50 18.8**	**-4.3**
BFZ	**Birch Farm**	**9.83 207**		P	Pn	15 48 28.2	-5.4
SNZO	**South Karori**	**11.00 211**			Pn	15 48 44.6	-4.9
TUWZ	**Tuamarina**	**11.43 213**			Pn	15 48 49.8	-5.7
QRZ	**Quartz Range**	**11.68 219**			Pn	15 48 53.4	-5.5
QRZ	**Quartz Range**	**11.68 219**		P	**Pn**	**15 48 58.2**	**-0.7**
QRZ	**Quartz Range**	**11.68 219**		S	**Sn**	**15 51 03.5**	**-4.9**
CTZ	**Chatham Island**	**11.70 176**			Pn	15 48 54.1	-5.0
CTZ	**Chatham Island**	**11.70 176**		P	**Pn**	**15 48 55.8**	**-3.2**
CTZ	**Chatham Island**	**11.70 176**		P	Pn	15 48 53.7	-5.3
KHZ	**Kahutara**	**12.40 211**		P	**Pn**	**15 49 07.0**	**-1.7**
LKBA	**Tubou, Lakemba**	**13.80 356**		P	**Pn**	**15 49 30.7**	**+2.9**
RPZ	**Rata Peaks**	**14.55 214**		Pn	Pn	15 49 33.1	-5.0
	6.4nm,0.3s,baz=52,slow=2.2,SNR=13						
RPZ				Sn	Sn	15 52 03.4	-15
	25nm,0.3s,baz=299,slow=20,SNR=12						
RPZ	**Rata Peaks**	**14.55 214**		P	**Pn**	**15 49 34.5**	**-3.6**
NIUE	**Niue**	**14.76 31**		P	**Pn**	**15 49 37.5**	**-3.5**
NIUE	**Niue**	**14.76 31**		P	**Pn**	**15 49 37.5**	**-3.5**
FOZ	**Fox Glacier**	**15.03 217**		Pn	**Pn**	**15 49 38.8**	**-5.6**
TAVE	**Taveuni**	**15.40 353**		P	**P**	**15 49 51.9**	**-2.0**
ODZ	**Otahua Downs**	**15.76 211**		P	**Pn**	**15 49 50.7**	**-3.4**
JCZ	**Jackson Bay**	**15.94 217**		P	**Pn**	**15 49 55.1**	**-1.3**
PINNC	**Pines Island,**	**16.09 302**		P	**P**	**15 50 04.1**	**+2.6**
MARNC	**Mare, Loyalty**	**16.42 306**		P	**P**	**15 50 06.3**	**+1.1**
OUENC	**Ouen Island, N**	**16.65 301**		P	**P**	**15 50 09.1**	**+1.4**
YATNC	**Mamie plateau,**	**16.84 303**		P	**P**	**15 50 10.9**	**+1.0**
ONTNC	**Ouen Toro**	**17.00 301**			**P**	**15 50 12.1**	**+0.5**
ONTNC	**Ouen Toro**	**17.00 301**		P	**P**	**15 50 13.4**	**+1.8**
DZM	**Mont Dzumac**	**17.15 302**			**P**	**15 50 13.3**	**-0.1**
DZM	**Mont Dzumac**	**17.15 302**		P	**P**	**15 50 14.8**	**+1.4**
SYZ	**Scrubby Hill**	**17.59 211**		P	**P**	**15 50 18.6**	**+0.7**
FUTU	**Fugatoga**	**17.67 359**		P	**Pn**	**15 50 15.2**	**-3.1**
PYZ	**Puysegur Point**	**18.46 216**		P	**Pn**	**15 50 29.5**	**+1.7**
AFI	**Afiamalu**	**18.90 18**		P	**P**	**15 50 28.6**	**-4.0**
AFI	**Afiamalu**	**18.90 18**		P	**P**	**15 50 29.2**	**-3.5**
AFI	**Afiamalu**	**18.90 18**		P	**P**	**15 50 28.6**	**-4.0**
AFI				pmax	pmax		
	comp=Z,2μm,1.2s						
AFI	**Afiamalu**	**18.90 18**	⇑	P	**P**	**15 50 28.8**	**-3.9**
DVP	**Devils Point**	**19.06 315**		P	**Pn**	**15 50 37.2**	**+2.0**
RAR	**Rarotonga**	**19.40 61**			**P**	**15 50 37.2**	**-0.9**
RAR				IAmb	IAmb	15 50 46.9	
	comp=Z,775nm,1.2s						
RAR	**Rarotonga**	**19.40 61**		P	**P**	**15 50 37.1**	**-0.9**
	comp=Z,6.0nm,0.3s,baz=213,slow=7.4,SNR=13						
RAR				S	S	15 53 52.3	-24
	comp=Z,46nm,0.8s,baz=72,slow=23,SNR=2.8						
RAR				LR	LR	15 56 46.5	
	comp=Z,23μm,21.1s,baz=228,slow=33						
	comp=Z,272nm,1.0s						
RAR	**Rarotonga**	**19.40 61**		P	**P**	**15 50 37.5**	**-0.5**
RAR	**Rarotonga**	**19.40 61**		P	**P**	**15 50 37.2**	**-0.9**
RAR				pmax	pmax		
	comp=Z,775nm,1.3s						
RAR	**Rarotonga**	**19.40 61**	⇓	P	**P**	**15 50 35.9**	**-2.2**
LHI	**Lord Howe Isla**	**19.64 265**		P	**Pn**	**15 50 42.2**	**+0.2**
LHI				IAmb	IAmb	15 50 55.0	
	comp=Z,706nm,1.3s						
LHI	**Lord Howe Isla**	**19.64 265**		P	**Pn**	**15 50 44.0**	**+1.9**
LHI	**Lord Howe Isla**	**19.64 265**	⇑	P	**Pn**	**15 50 43.3**	**+1.2**
KOUNC	**Koumac, New Ca**	**19.67 301**		P	**Pn**	**15 50 42.6**	**+0.1**
FUNA	**Funafuti**	**23.58 353**		IAMs_20	IAMs_20	15 59 21.8	
	comp=Z,106μm,18.0s						
GC1S	**Gold Coast 1 S**	**25.05 271**		P	**P**	**15 51 38.9**	**+2.8**
NTLH	**Newcastle Hard**	**25.67 260**		P	**P**	**15 51 46.1**	**+4.4**
AUWSH	**Wavell State H**	**25.67 273**		P	**P**	**15 51 44.2**	**+2.5**
RIV	**Riverview**	**26.03 258**		P	**P**	**15 51 49.8**	**+4.9**
LUES	**Luesalemba Tem**	**26.05 321**		P	**P**	**15 51 47.9**	**+2.7**
ARMA	**Armidale**	**26.12 265**		P	**P**	**15 51 46.8**	**+0.9**
ARMA				IAmb	IAmb	15 52 04.8	
	comp=Z,438nm,1.4s						
ARMA	**Armidale**	**26.12 265**		P	**P**	**15 51 48.8**	**+2.9**
ARMA	**Armidale**	**26.12 265**		P	**P**	**15 51 48.3**	**+2.4**
ARMA	**Armidale**	**26.12 265**	⇓	P	**P**	**15 51 49.0**	**+3.0**
MGCD	**Mangrove Creek**	**26.13 259**		P	**P**	**15 51 48.2**	**+2.3**
	comp=Z,392nm,0.9s						
MGCD	**Mangrove Creek**	**26.13 259**		P	**P**	**15 51 48.2**	**+2.3**
WOLH	**Wollongong Har**	**26.22 256**		P	**P**	**15 51 49.2**	**+2.5**
SYDH	**Sydney Hard Ro**	**26.38 258**		P	**P**	**15 51 50.6**	**+2.5**
TW1H	**Toowoomba 1 Ha**	**26.54 272**		P	**P**	**15 51 51.8**	**+2.1**
CNB	**Canberra Magne**	**27.41 254**		P	**P**	**15 51 59.1**	**+1.5**
	comp=Z,0.0nmcomp=Z,213nm,1.1s						
CNB	**Canberra Magne**	**27.41 254**		P	**P**	**15 51 59.5**	**+2.0**
MILA	**Mila**	**27.55 250**		P	**P**	**15 52 01.0**	**+2.2**
	comp=Z,0.0nmcomp=Z,113nm,1.2s						
MILA	**Mila**	**27.55 250**	⇓	P	**P**	**15 52 01.4**	**+2.7**
CAN	**Canberra**	**27.71 254**		P	**P**	**15 51 59.5**	**-0.7**
CAN				IAmb	IAmb	15 52 06.8	
	comp=Z,246nm,1.2s						
CAN	**Canberra**	**27.71 254**		P	**P**	**15 51 59.7**	**-0.4**
	comp=Z,0.0nmcomp=Z,143nm,1.5s						
CAN	**Canberra**	**27.71 254**		P	**P**	**15 52 02.1**	**+1.9**
CAN	**Canberra**	**27.71 254**		P	**P**	**15 51 59.5**	**-0.7**
CAN				pmax	pmax		
	comp=Z,246nm,1.2s						
CAN				pmax	pmax		
	comp=Z,74μm,19.0s						
CAN	**Canberra**	**27.71 254**	⇑	P	**P**	**15 52 02.1**	**+1.9**
MCQ	**Macquarie Isla**	**27.84 209**		P	**P**	**15 52 02.7**	**+1.7**
	comp=Z,346nm,1.5s						
MCQ	**Macquarie Isla**	**27.84 209**		P	**P**	**15 52 02.1**	**+1.2**
MCQ	**Macquarie Isla**	**27.84 209**	⇓	P	**P**	**15 52 05.7**	**+4.8**
EIDS	**Eidsvold**	**28.00 276**		P	**P**	**15 52 03.4**	**+0.6**
EIDS				IAmb	IAmb	15 52 11.0	
	comp=Z,211nm,0.9s						
EIDS				IAMs_20	IAMs_20	16 01 55.5	
	comp=Z,110μm,19.0s						
EIDS	**Eidsvold**	**28.00 276**		P	**P**	**15 52 03.5**	**+0.8**
	comp=Z,0.0nmcomp=Z,252nm,1.2s						
EIDS	**Eidsvold**	**28.00 276**		P	**P**	**15 52 03.5**	**+0.8**
EIDS	**Eidsvold**	**28.00 276**	⇑	P	**P**	**15 52 03.2**	**+0.5**
YNG	**Young**	**28.28 256**		P	**P**	**15 52 06.4**	**+1.2**
	comp=Z,985nm,1.2s						
YNG	**Young**	**28.28 256**		P	**P**	**15 52 07.2**	**+2.0**
GD1S	**Gladstone Soft**	**28.50 279**		P	**P**	**15 52 09.7**	**+2.5**
HURO	**Huro Makira**	**28.50 314**		P	**P**	**15 52 07.9**	**+0.7**
NGOA	**Tingoa Renbel**	**28.82 310**		P	**P**	**15 52 12.4**	**+2.3**
PPTF	**Pamatai, Papee**	**29.32 67**		P	**P**	**15 52 13.2**	**-1.4**
PPTF				IAmb	IAmb	15 52 42.1	
	comp=Z,290nm,1.1s						
PPTF	**Pamatai, Papee**	**29.32 67**		P	**P**	**15 52 14.4**	**-0.2**
PPT	**Papeete**	**29.32 67**		P	**P**	**15 52 14.4**	**-0.2**
	comp=Z,107nm,0.9s,baz=121,slow=14,SNR=6.9						
PPT				LR	LR	16 02 02.9	
	comp=Z,26μm,18.4s,baz=243,slow=32						
	comp=Z,107nm,0.9s						
CORO	**Coronation Par**	**29.41 241**		P	**P**	**15 52 17.3**	**+2.2**
TAU	**Tasmania Unive**	**29.50 238**		P	**P**	**15 52 14.0**	**-1.9**
TAU				IAmb	IAmb	15 52 21.3	
	comp=Z,180nm,0.9s						
TAU	**Tasmania Unive**	**29.50 238**		P	**P**	**15 52 18.3**	**+2.4**
TAU	**Tasmania Unive**	**29.50 238**		P	**P**	**15 52 14.0**	**-1.9**
TAU				pmax	pmax		
	comp=Z,180nm,0.9s						
TAU				pmax	pmax		
	comp=Z,61μm,18.0s						
TAU	**Tasmania Unive**	**29.50 238**	⇓	P	**P**	**15 52 17.2**	**+1.3**
MOO	**Moorlands**	**29.52 239**		P	**P**	**15 52 17.1**	**+1.0**
	comp=Z,0.0nmcomp=Z,290nm,0.9s						
MOO	**Moorlands**	**29.52 239**		P	**P**	**15 52 17.8**	**+1.7**
RMQ	**Roma**	**29.59 272**		P	**P**	**15 52 20.2**	**+3.4**
RMQ	**Roma**	**29.59 272**		P	**P**	**15 52 19.2**	**+2.3**
TOO	**Toolangi**	**30.47 249**		P	**P**	**15 52 25.9**	**+1.2**
TOO	**Toolangi**	**30.47 249**		P	**P**	**15 52 26.7**	**+2.0**
	comp=Z,0.0nmcomp=Z,86nm,2.2s						
TOO	**Toolangi**	**30.47 249**		P	**P**	**15 52 25.9**	**+1.2**
TOO				pmax	pmax		
	comp=Z,79nm,1.2s						
TOO				pmax	pmax		
	comp=Z,28μm,19.0s						
TOO	**Toolangi**	**30.47 249**	⇑	P	**P**	**15 52 26.3**	**+1.6**
HNR	**Honiara**	**30.50 313**		P	**P**	**15 52 24.5**	**-0.5**
HNR	**Honiara**	**30.50 313**		P	**P**	**15 52 24.4**	**-0.5**
	comp=Z,132nm,0.9s,baz=169,slow=5.1,SNR=4.9						
HNR				LR	LR	16 03 31.5	
	comp=Z,65μm,19.2s,baz=165,slow=34						
	comp=Z,132nm,0.9s						
HNR	**Honiara**	**30.50 313**		P	**P**	**15 52 27.3**	**+2.3**
HNR	**Honiara**	**30.50 313**		P	**P**	**15 52 24.5**	**-0.5**
HNR				pmax	pmax		
	comp=Z,851nm,1.4s						
HNR				pmax	pmax		
	comp=Z,66μm,19.0s						
HNR	**Honiara**	**30.50 313**	⇑	P	**P**	**15 52 22.6**	**-2.4**
ALEG	**Aligegeo Malai**	**30.57 315**		P	**P**	**15 52 25.0**	**-0.6**
SAVO	**Savo Central**	**30.81 313**		P	**P**	**15 52 27.5**	**-0.2**
CMSA	**Cobar Meteorol**	**30.91 261**		P	**P**	**15 52 29.0**	**+0.5**
	comp=Z,0.0nmcomp=Z,438nm,1.6s						
CMSA	**Cobar Meteorol**	**30.91 261**		P	**P**	**15 52 29.6**	**+1.1**
MLBS	**Spotswood, Mel**	**30.94 249**		P	**P**	**15 52 31.2**	**+2.5**
TATA	**Tatamba Isabel**	**31.40 314**		P	**P**	**15 52 32.8**	**-0.1**
GEXS	**Deakin Univers**	**31.42 248**		P	**P**	**15 52 35.4**	**+2.5**
BRAT	**Ballarat**	**31.71 249**		P	**P**	**15 52 36.9**	**+1.4**
QLP	**Quilpie**	**33.40 270**		P	**P**	**15 52 50.3**	**-0.1**
	comp=Z,0.0nmcomp=Z,723nm,1.5s						
QLP	**Quilpie**	**33.40 270**		P	**P**	**15 52 50.5**	**+0.1**
QLP	**Quilpie**	**33.40 270**	⇑	P	**P**	**15 52 50.5**	**+0.1**
ARPS	**Mount Arapiles**	**33.42 251**		P	**P**	**15 52 51.0**	**+0.5**
	comp=Z,860nm,0.9s						
ARPS	**Mount Arapiles**	**33.42 251**		P	**P**	**15 52 50.9**	**+0.5**
TV1H	**Townsville Har**	**34.17 283**		P	P	15 53 02.3	+5.1
STKA	**Stephens Creek**	**34.27 259**		P	**P**	**15 52 58.3**	**+0.3**
STKA	**Stephens Creek**	**34.27 259**		P	**P**	**15 52 58.3**	**+0.3**
	comp=Z,672nm,1.1s,comp=Z,0.0nm						
STKA	**Stephens Creek**	**34.27 259**		P	**P**	**15 52 58.4**	**+0.5**
	comp=Z,139nm,1.0s,baz=100,slow=10,SNR=81						
STKA				LR	LR	16 06 32.1	
	comp=Z,59μm,19.0s,baz=97,slow=36						
	comp=Z,139nm,1.0s						
STKA	**Stephens Creek**	**34.27 259**		P	**P**	**15 52 58.4**	**+0.5**
STKA	**Stephens Creek**	**34.27 259**	*i*	P	**P**	**15 52 58.1**	**+0.2**
MGBR	**Mount Gambier**	**34.37 249**		P	**P**	**15 52 58.0**	**-0.7**
INKA	**Innaminka**	**36.00 266**		P	**P**	**15 53 13.7**	**+0.8**
HTT	**Hallett**	**36.20 256**		P	**P**	**15 53 13.9**	**-0.7**
	comp=Z,0.0nmcomp=Z,286nm,1.0s						
HTT	**Hallett**	**36.20 256**		P	**P**	**15 53 14.7**	**+0.1**
HTT	**Hallett**	**36.20 256**	⇑	P	**P**	**15 53 14.3**	**-0.3**
GHSS	**Government Hou**	**36.23 253**		P	**P**	**15 53 15.9**	**+1.2**
MTSU	**Mount Surprise**	**36.77 283**		P	**P**	**15 53 19.9**	**+0.3**
	comp=Z,228nm,0.8s						
MTSU	**Mount Surprise**	**36.77 283**		P	**P**	**15 53 20.3**	**+0.7**
PTPS	**Port Pirie**	**37.01 256**		P	**P**	**15 53 22.0**	**+0.6**
WHYH	**Whyalla**	**37.38 256**		P	**P**	**15 53 24.2**	**-0.4**
LCRK	**Leigh Creek**	**37

comp=Z,0.0nmcomp=Z,173nm,1.2s
KMBL Kambalda 50.68 254 P **P 15 55 10.2 -1.0**
DRS Darwin Rock St 50.80 281 P **P 15 55 12.1 -0.2**
KNRA Kununurra 50.98 276 P **P 15 55 12.6 -1.0**
comp=Z,0.0nmcomp=Z,208nm,1.2s
CCD Concordia, Ant 51.40 196 P **P 15 55 18.0 +1.5**
FITZ Fitzroy Crossi 52.51 271 P **P 15 55 23.6 -1.4**
FITZ Fitzroy Crossi 52.51 271 P **P 15 55 25.0 -0.1**
comp=Z,358nm,1.1s,baz=168,slow=9.3,SNR=154
FITZ LR LR 16 17 37.4
comp=Z,78µm,19.4s,baz=114,slow=36
comp=Z,358nm,1.1s
FITZ Fitzroy Crossi 52.51 271 P **P 15 55 23.5 -1.6**
SRPI Serui, Papua 52.59 295 P **P 15 55 26.3 +0.6**
comp=Z,12µmcomp=Z,3µmcomp=Z,145nm,1.0s
SAUI Saumlaki 52.86 286 P **P 15 55 27.5 -0.2**
SAUI Saumlaki 52.86 286 P **P 15 55 28.8 +1.1**
BAKI Biak 53.13 296 P **P 15 55 30.8 +1.2**
comp=Z,19µmcomp=Z,6µmcomp=Z,323nm,1.3s
WAKE Wake Island 53.17 342 P **P 15 55 28.3 -1.4**
WAKE Wake Island 53.17 342 IAMs_20 IAMs_20 16 14 43.4
comp=Z,36µm,20.0s
WAKE Wake Island 53.17 342 P **P 15 55 27.6 -2.1**
WAKE Wake Island 53.17 342 P **P 15 55 27.8 -1.9**
H11N3 WAKE ISLAND Hy 53.52 342 P **P 15 55 31.9 -0.2**
baz=191,slow=10,SNR=7.4
H11N1 WAKE ISLAND Hy 53.52 342 P **P 15 55 32.1 +0.1**
baz=191,slow=10,SNR=7.3
H11N2 WAKE ISLAND Hy 53.53 342 P **P 15 55 31.8 -0.3**
baz=191,slow=10,SNR=5.3
CASY Casey 53.74 208 P **P 15 55 33.8 +0.4**
CASY Casey 53.74 208 ⇓sP **P 15 55 34.0 +0.5**
CASY Casey 53.74 208 P **P 15 55 34.0 +0.5**
NWAO Narrogin (SRO) 53.96 250 P **P 15 55 34.4 -1.2**
NWAO IAmb IAmb 15 55 55.1
comp=Z,162nm,1.4s
NWAO Narrogin (SRO) 53.96 250 IAMs_20 IAMs_20 16 19 23.6
comp=Z,30µm,19.0s
NWAO Narrogin (SRO) 53.96 250 LR LR 16 16 16.5
comp=Z,14µm,21.4s,baz=52,slow=34
NWAO Narrogin (SRO) 53.96 250 P **P 15 55 34.8 -0.7**
NWAO P **P 15 55 34.8 -0.7**
NWAO S **S 16 03 07.7 -2.0**
NWAO S **S 16 03 07.7 -2.0**
NWAO Narrogin (SRO) 53.96 250 P **P 15 55 34.9 -0.7**
NWAO Narrogin (SRO) 53.96 250 P **P 15 55 35.1 -0.5**
NWAO Narrogin (SRO) 53.96 250 P **P 15 55 34.4 -1.2**
NWAO pmax pmax
comp=Z,162nm,1.5s
NWAO pmax pmax
comp=Z,30µm,19.0s
KLBR Kellerberrin 53.96 252 P **P 15 55 33.6 -1.9**
KLBR Kellerberrin 53.96 252 P **P 15 55 33.7 -1.9**
RKPI Ransiki, Papua 54.41 294 P **P 15 55 38.3 -0.8**
comp=Z,18µmcomp=Z,166nm,1.2s
MEEK Meekatharra 54.96 258 P **P 15 55 40.7 -2.3**
MEEK Meekatharra 54.96 258 P **P 15 55 40.5 -2.5**
FAKI Fak Fak 55.05 291 P **P 15 55 42.1 -1.7**
FAKI IAmb IAmb 15 55 52.4
comp=Z,212nm,0.9s
FAKI Fak Fak 55.05 291 P **P 15 55 42.5 -1.2**
FAKI Fak Fak 55.05 291 P **P 15 55 42.7 -1.0**
comp=Z,21µmcomp=Z,4µmcomp=Z,266nm,1.8s
FAKI Fak Fak 55.05 291 ⇑P **P 15 55 40.9 -2.8**
MUN Mundaring 55.08 251 P **P 15 55 41.7 -2.1**
MUN Mundaring 55.08 251 P **P 15 55 44.0 +0.3**
BLDU Ballidu 55.12 253 P **P 15 55 43.1 -1.0**
comp=Z,0.0nmcomp=Z,93nm,1.3s
BLDU Ballidu 55.12 253 P **P 15 55 43.9 -0.2**
MTKN Mount Kenneth 55.44 251 P **P 15 55 48.9 +2.5**
comp=Z,302nm,1.0s
MTKN Mount Kenneth 55.44 251 P **P 15 55 48.3 +2.0**
PUH Pauahi 55.55 26 P **P 15 55 47.2 +0.1**
BYL Byron's Ledge 55.56 26 P **P 15 55 46.6 -0.7**
KNHH Kane Nui o Ham 55.57 26 P **P 15 55 47.1 -0.2**
HATHI Halema'uma'u T 55.58 26 P **P 15 55 46.7 -0.7**
HATHI IAmb IAmb 15 55 55.7
comp=Z,291nm,1.2s
POHA Pohakuloa 55.78 26 P **P 15 55 49.3 +0.3**
PSA00 Pilbara Seismi 55.92 264 P **P 15 55 47.4 -2.5**
PSA00 IAmb IAmb 15 55 55.7
comp=Z,125nm,1.4s
PSA00 Pilbara Seismi 55.92 264 P **P 15 55 47.6 -2.4**
PSA00 Pilbara Seismi 55.92 264 P **P 15 55 48.0 -1.9**
HPAH Hawaii Prepara 55.97 25 P **P 15 55 49.3 -0.8**
PSAC1 Pilbara Seismi 55.97 264 P **P 15 55 48.5 -1.8**
BNDI Bandanaira 55.98 288 P **P 15 55 49.9 -0.5**
BNDI Bandanaira 55.98 288 P **P 15 55 50.1 -0.3**
BNDI Bandanaira 55.98 288 ⇑P **P 15 55 48.1 -2.3**
MBWA Marble Bar 56.19 265 P **P 15 55 49.6 -2.2**
MBWA IAmb IAmb 15 55 55.6
comp=Z,169nm,0.9s
MBWA Marble Bar 56.19 265 IAMs_20 IAMs_20 16 21 26.8
comp=Z,35µm,18.0s
MBWA Marble Bar 56.19 265 P **P 15 55 49.3 -2.6**
MBWA Marble Bar 56.19 265 P **P 15 55 50.5 -1.4**
MBWA P **P 15 55 50.5 -1.4**
MBWA S **S 16 03 38.0 -2.0**
MBWA S **S 16 03 38.0 -2.0**
MBWA Marble Bar 56.19 265 P **P 15 55 49.7 -2.2**
MBWA Marble Bar 56.19 265 ⇓P **P 15 55 49.9 -2.0**
MBWA Marble Bar 56.19 265 P **P 15 55 49.7 -2.2**
MBWA PcP **PcP 15 56 46.1 -3.4**
MORW Morawa 56.20 254 IAmb IAmb 15 56 11.6
comp=Z,132nm,1.1s
MORW IAMs_20 IAMs_20 16 19 17.4
comp=Z,29µm,20.0s
MORW Morawa 56.20 254 P **P 15 55 50.1 -1.7**
MORW Morawa 56.20 254 P **P 15 55 50.2 -1.7**
MORW Morawa 56.20 254 ⇑P **P 15 55 50.4 -1.5**
KIP Kipapa 56.47 22 P **P 15 55 49.7 -3.9**
KIP Kipapa 56.47 22 P **P 15 55 49.6 -4.0**
SWI Sorong 57.09 292 P **P 15 55 57.9 -0.4**
comp=Z,16µmcomp=Z,4µmcomp=Z,246nm,1.6s
MSAI Masohi 57.45 288 P **P 15 56 00.0 -0.8**
comp=Z,18µmcomp=Z,4µmcomp=Z,198nm,0.7s
SOEI Soe 57.74 279 P **P 15 56 00.3 -2.7**
SOEI Soe 57.74 279 P **P 15 56 03.4 +0.4**
SOEI Soe 57.74 279 P **P 15 56 04.7 +1.7**
SOEI Soe 57.74 279 ⇑P **P 15 56 01.9 -1.1**
GUMO Guam 57.76 316 LR LR 16 19 44.9
comp=Z,23µm,18.5s,baz=118,slow=35
AAI Ambon 57.84 288 P **P 15 56 03.5 -0.1**
comp=Z,19µmcomp=Z,3µmcomp=Z,127nm,1.1s
QSPA South Pole Qui 58.05 180 IAMs_20 IAMs_20 16 19 10.9
comp=Z,29µm,18.0s
QSPA South Pole Qui 58.05 180 P **P 15 56 06.6 +2.1**
comp=Z,60nm,0.7s,baz=29,slow=1.2,SNR=113
QSPA LR LR 16 19 13.6
comp=Z,28µm,18.9s,baz=40,slow=34
comp=Z,60nm,0.7s
QSPA South Pole Qui 58.05 180 P **P 15 56 06.9 +2.4**
NLAI Namlea 58.99 287 P **P 15 56 10.6 -1.0**
comp=Z,4µmcomp=Z,295nm,1.7s
MIDW Midway 59.94 0 IAMs_20 IAMs_20 16 20 07.6
comp=Z,28µm,19.0s
MIDW Midway 59.94 0 P **P 15 56 19.0 +1.2**
MMRI Maumere 60.03 279 P **P 15 56 17.8 -1.0**
MMRI Maumere 60.03 279 P **P 15 56 18.5 -0.3**
MMRI Maumere 60.03 279 P **P 15 56 18.3 -0.5**
MMRI Maumere 60.03 279 ⇑P **P 15 56 17.1 -1.7**
GIRL Giralia 60.20 261 P **P 15 56 19.9 0.0**
GIRL Giralia 60.20 261 P **P 15 56 20.9 +1.0**
comp=Z,0.0nmcomp=Z,306nm,1.3s
GIRL Giralia 60.20 261 P **P 15 56 21.7 +1.8**
SANI Sanana 60.58 288 P P 15 56 16.2 -6.4
SANI Sanana 60.58 288 P **P 15 56 21.0 -1.6**
SANI Sanana 60.58 288 P **P 15 56 21.7 -0.9**
comp=Z,15µmcomp=Z,5µmcomp=Z,247nm,1.3s
SANI Sanana 60.58 288 ⇑P **P 15 56 19.2 -3.3**
BASI Baing, Sumba 60.60 276 P **P 15 56 23.6 +0.9**
BBSI Bau Bau 61.44 282 P **P 15 56 29.0 +0.6**
comp=Z,18µmcomp=Z,4µmcomp=Z,225nm,1.1s
WBSI Waikabubak, Su 61.90 276 P **P 15 56 32.3 +0.7**
comp=Z,15µmcomp=Z,4µmcomp=Z,247nm,1.2s
BKSI Bulukumba 63.57 281 P **P 15 56 42.3 -0.3**
comp=Z,15µmcomp=Z,3µmcomp=Z,126nm,1.2s
PLAI Plampang 63.68 276 P **P 15 56 43.4 0.0**
PLAI Plampang 63.68 276 P **P 15 56 43.7 +0.3**
comp=Z,17µmcomp=Z,4µmcomp=Z,235nm,0.9s
KMSI Cibinong 63.74 289 P **P 15 56 45.1 +1.4**
comp=Z,16µmcomp=Z,5µmcomp=Z,437nm,1.3s
LUWI Luwuk 63.78 286 P **P 15 56 40.9 -3.1**
LUWI Luwuk 63.78 286 P **P 15 56 43.9 -0.1**
LUWI Luwuk 63.78 286 P **P 15 56 44.2 +0.2**
comp=Z,5µmcomp=Z,402nm,1.4s
LUWI Luwuk 63.78 286 ⇑P **P 15 56 41.8 -2.2**
KAPI Kappang 64.05 281 P **P 15 56 44.1 -1.7**
KAPI IAmb IAmb 15 57 00.6
comp=Z,209nm,1.1s
KAPI Kappang 64.05 281 LR LR 16 24 38.9
comp=Z,38µm,19.9s,baz=115,slow=36
KAPI Kappang 64.05 281 P **P 15 56 45.1 -0.7**
KAPI P **P 15 56 45.1 -0.7**
KAPI S **S 16 05 18.6 -2.4**
KAPI S **S 16 05 18.6 -2.4**
KAPI Kappang 64.05 281 P **P 15 56 47.1 +1.3**
KAPI Kappang 64.05 281 *i* P **P 15 56 44.4 -1.4**
KAPI pmax pmax
comp=Z,212nm,1.1s
KAPI MLR MLR
comp=Z,39µm,20.0s
KAPI Kappang 64.05 281 ⇑P **P 15 56 44.5 -1.2**
KAPI Kappang 64.05 281 P **P 15 56 44.8 -0.9**
SPSI Sidrap Palu 64.61 282 P **P 15 56 48.5 -0.9**
comp=Z,14µmcomp=Z,3µmcomp=Z,186nm,1.2s
APSI Ampana 64.77 286 P **P 15 56 51.6 +1.1**
comp=Z,4µmcomp=Z,345nm,1.3s
TTSI Tana Toraja 65.07 283 P **P 15 56 52.1 -0.4**
comp=Z,12µmcomp=Z,3µmcomp=Z,162nm,1.2s
MRSI Marisa 65.33 287 P **P 15 56 52.6 -1.6**
comp=Z,15µmcomp=Z,2µmcomp=Z,117nm,0.9s
SRBI Singaraja 66.23 275 P **P 15 57 00.6 +0.6**
comp=Z,14µmcomp=Z,4µmcomp=Z,209nm,0.8s
PCI Palu 66.26 285 P **P 15 57 00.7 +0.6**
DAV Davao City (W) 66.45 295 LR LR 16 25 57.6
comp=Z,11µm,20.1s,baz=132,slow=36
DAV Davao City (W) 66.45 295 P **P 15 56 58.0 -3.3**
TOLI2 Tolitoli 66.64 287 IAmb IAmb 15 57 08.2
comp=Z,98nm,0.9s
TOLI2 Tolitoli 66.64 287 P **P 15 57 01.0 -1.6**
JAGI Jajag, Banyuwa 66.93 274 P **P 15 57 02.7 -1.8**
JAGI IAMs_20 IAMs_20 16 26 01.3
comp=Z,25µm,20.0s
JAGI Jajag, Banyuwa 66.93 274 P **P 15 57 02.4 -2.1**
JAGI Jajag, Banyuwa 66.93 274 P **P 15 57 04.2 -0.3**
comp=Z,15µmcomp=Z,4µmcomp=Z,198nm,1.5s
JAGI Jajag, Banyuwa 66.93 274 ⇑P **P 15 57 01.2 -3.2**
ABJI Asem Bagus 67.21 275 P **P 15 57 07.7 +1.5**
comp=Z,16µmcomp=Z,5µmcomp=Z,216nm,1.3s
GMJI Gumukmas 67.63 274 P **P 15 57 08.5 -0.4**
comp=Z,4µmcomp=Z,204nm,1.1s
KMMI Kalianget 67.82 276 P **P 15 57 14.3 +4.2**
BELA Belgrano 2 68.13 172 P **P 15 57 11.2 +0.1**
BELA IAmb IAmb 15 57 28.9
comp=Z,145nm,1.0s
BKB Balikpapan 68.48 283 P **P 15 57 16.6 +2.4**
SMKI Samarinda 68.68 283 P **P 15 57 14.2 -1.3**
comp=Z,318nm,1.6s
PCJI Pacitan 69.59 273 P **P 15 57 20.7 -0.4**
comp=Z,14µmcomp=Z,5µmcomp=Z,387nm,1.4s
NGJI Ngawi 69.78 274 P **P 15 57 25.2 +2.9**
comp=Z,5µmcomp=Z,140nm,0.8s
JCJ Chichijima 70.08 322 LR LR 16 26 32.8
comp=Z,8µm,18.8s,baz=132,slow=35
JCJ Chichijima 70.08 322 P **P 15 57 25.3 +1.6**
UGM Wanagama 70.29 273 P **P 15 57 25.1 -0.4**
UGM IAMs_20 IAMs_20 16 27 45.4
comp=Z,28µm,21.0s
PMSA Palmer Station 70.70 155 P **P 15 57 28.1 +1.1**
PMSA IAmb IAmb 15 58 10.3
comp=Z,163nm,1.3s
PMSA Palmer Station 70.70 155 LR LR 16 23 17.2
comp=Z,13µm,19.8s,baz=242,slow=31
PMSA Palmer Station 70.70 155 ⇓P **P 15 57 29.5 +2.4**
PMSA Palmer Station 70.70 155 *e*P **P 15 57 27.1 0.0**
PMSA Palmer Station 70.70 155 P **P 15 57 29.1 +2.0**
PMSA PcP **PcP 15 57 48.6 +0.7**
MAW Mawson 70.81 201 P P 15 57 33.1 +5.5
MAW Mawson 70.81 201 P **P 15 57 30.8 +3.1**
comp=Z,128nm,1.2s,baz=102,slow=13,SNR=4.5
MAW LR LR 16 28 45.2
comp=Z,20µm,18.7s,baz=115,slow=36
comp=Z,128nm,1.2s
CMJI Cimerak 72.12 272 P **P 15 57 36.7 +0.2**
comp=Z,12µmcomp=Z,3µmcomp=Z,144nm,1.3s
BBJI Bungbulang 72.96 272 P **P 15 57 40.2 -1.4**
XMI Christmas Isla 73.11 268 P **P 15 57 44.2 +1.8**
KKM Kota Kinabalu 73.21 288 P **P 15 57 42.4 -0.6**
KKM IAmb IAmb 15 57 51.3
comp=Z,87nm,0.9s
KKM Kota Kinabalu 73.21 288 P **P 15 57 42.7 -0.3**
KKM Kota Kinabalu 73.21 288 ⇑P **P 15 57 41.0 -2.0**
LEM Lembang 73.32 272 LR LR 16 29 20.4
comp=Z,15µm,21.3s,baz=129,slow=35
CNJI Cibinong 73.48 272 P **P 15 57 44.2 -0.4**
comp=Z,76nm,1.3s
STKI Sintang 73.72 281 P **P 15 57 46.3 +0.3**
comp=Z,14µmcomp=Z,6µmcomp=Z,391nm,1.2s
MG04 Isla Riesco 73.99 143 IAmb IAmb 15 57 51.0
comp=Z,256nm,1.1s
ESPZ Base Esperanza 74.00 156 IAmb IAmb 15 57 51.8
comp=Z,275nm,1.2s
GO10 Punta Arenas 74.10 143 ⇓P **P 15 57 49.8 +2.1**
MG05 Puerto Natales 74.12 141 IAmb IAmb 15 57 50.8
comp=Z,141nm,1.0s
SKJI Sukabumi 74.12 272 P **P 15 57 49.0 +0.6**
comp=Z,12µmcomp=Z,4µmcomp=Z,183nm,1.2s
TGY Tagaytay City 74.41 298 P **P 15 57 51.4 +1.4**
comp=Z,357nm,0.8s,baz=34,slow=1.1,SNR=17
TGY LR LR 16 29 12.7
comp=Z,5µm,20.1s,baz=126,slow=35
comp=Z,357nm,0.8s
SBUM Sibu 74.42 283 P **P 15 57 50.1 0.0**
SBUM IAmb IAmb 15 57 56.2
comp=Z,101nm,1.2s
SBUM Sibu 74.42 283 P **P 15 57 49.0 -1.1**
SBUM Sibu 74.42 283 ⇑P **P 15 57 48.5 -1.6**
MG01 Puerto William 74.81 146 IAmb IAmb 15 57 56.7
comp=Z,247nm,1.1s
SBJI Serang 74.94 272 P **P 15 57 54.3 +1.2**
comp=Z,5µmcomp=Z,192nm,1.5s
CGJI Cibinong 75.06 272 P **P 15 57 52.6 -1.2**
comp=Z,2µmcomp=Z,110nm,1.1s
ELIB Princess Elisa 75.22 187 *d*P **P 15 57 54.8 +0.8**
comp=Z,118nm,1.2s
ELIB *d*PP **PP 16 00 40.4 -1.5**
MG02 Cerro Sombrero 75.23 143 P **P 15 57 54.8 +0.6**
TPI Tanjungpandan 75.42 276 P **P 15 57 56.0 +0.2**
comp=Z,14µmcomp=Z,2µmcomp=Z,71nm,1.2s
KSM Kuching 75.47 281 IAmb IAmb 15 57 59.5
comp=Z,179nm,1.0s
KSM Kuching 75.47 281 P **P 15 57 54.7 -1.4**
SYO Syowa Base 75.53 193 ⇑*i*P **P 15 57 56.0 +0.4**
SYO Syowa Base 75.53 193 ⇑*i*pP pP 15 58 04.6 +2.5
SYO Syowa Base 75.53 193 ⇓*i*sP sP 15 58 07.0 +2.5
JHJ Hachijo jima 2 76.17 324 LR LR 16 31 29.7
comp=Z,8µm,18.0s,baz=152,slow=36
TROLL Troll, Antarti 76.22 180 ⇓P **P 15 58 01.3 +1.7**
comp=Z,8µm,1.1s
TROLL ⇓S **S 16 07 44.9 +2.9**
AY03 Cochrane 76.43 137 IAmb IAmb 15 58 04.8
comp=Z,128nm,1.1s
SNAA Sanae 76.50 178 P **P 15 58 01.8 +0.7**
SNAA Sanae 76.50 178 ⇓P **P 15 58 02.2 +1.0**
comp=Z,2µm,1.0s
SNAA ⇓S **S 16 07 46.3 +1.4**
SNAA Sanae 76.50 178 P **P 15 58 02.4 +1.3**
comp=Z,68nm,0.9s,baz=186,slow=4.7,SNR=68
SNAA LR LR 16 30 16.7
comp=Z,10µm,19.2s,baz=197,slow=34
comp=Z,68nm,0.9s
SNAA Sanae 76.50 178 P **P 15 58 01.8 +0.7**
SNAA pmax pmax
comp=Z,339nm,1.1s
SNAA pmax pmax
comp=Z,13µm,20.0s
VNA3 Neumayer Olymp 76.64 176 ⇓P **P 15 58 02.8 +0.8**
comp=Z,269nm,0.8s
VNA2 Neumayer--Watz 77.08 177 ⇓P **P 15 58 05.1 +0.8**
comp=Z,191nm,0.7s,baz=181,slow=4.7
VNA2 ⇓S **S 16 07 53.6 +2.4**
baz=340,slow=6.2
VNA1 Neumayer--Stat 77.31 176 ⇓P **P 15 58 07.2 +1.6**
comp=Z,244nm,1.0s
MDSI Maura Dua 77.45 273 P **P 15 58 05.3 -2.1**
comp=Z,12µmcomp=Z,3µmcomp=Z,196nm,1.0s
COYC Coyhaique 77.64 136 P **P 15 58 08.5 +0.6**
COYC IAmb IAmb 15 58 11.7
comp=Z,213nm,1.0s
COYC Coyhaique 77.64 136 IAMs_20 IAMs_20 16 25 58.6
comp=Z,15µm,19.0s
COYC Coyhaique 77.64 136 ⇓P **P 15 58 09.8 +1.8**
PMBI Palembang 77.76 274 IAMs_20 IAMs_20 16 32 42.2
comp=Z,20µm,21.0s
JOW Kunigami 77.88 312 P **P 15 58 09.6 +0.2**
comp=Z,39nm,0.9s,baz=145,slow=6.2,SNR=4.4
JOW LR LR 16 31 18.4
comp=Z,12µm,18.4s,baz=116,slow=35
comp=Z,39nm,0.9s
AY01 Puyuhuapi 77.94 135 P **P 15 58 10.0 +0.4**
AY01 IAmb IAmb 15 58 12.9
comp=Z,109nm,1.1s
GO07 Milladeo Hill, 78.03 133 IAmb IAmb 15 58 13.9
comp=Z,200nm,0.9s
JYT Yasato 78.48 327 P **P 15 58 14.0 +1.5**
LL06 Loncomilla 78.53 133 P **P 15 58 14.3 +1.3**
MNAI Manna 78.55 272 IAMs_20 IAMs_20 16 34 56.1
comp=Z,22µm,20.0s
LL02 Futaleuf 79.09 134 P **P 15 58 16.4 +0.3**
LL02 IAmb IAmb 15 58 19.5
comp=Z,196nm,1.1s
KSI Kapahiang 79.23 272 P **P 15 58 16.0 -1.3**
comp=Z,13µmcomp=Z,5µmcomp=Z,229nm,1.1s
INU Inuyama 79.32 324 P **P 15 58 17.1 -0.1**
INU Inuyama 79.32 324 P **P 15 58 17.9 +0.8**
INU Inuyama 79.32 324 ⇑P **P 15 58 14.3 -2.9**
JGF Kuroka 79.35 324 P **P 15 58 17.4 0.0**
H03S2 Juan Fernandez 79.44 123 T T 17 25 39.3
baz=237,slow=74,SNR=10
H03S1 Juan Fernandez 79.45 123 T T 17 25 40.5
baz=237,slow=74,SNR=11
H03S3 Juan Fernandez 79.46 123 T T 17 25 45.3
baz=237,slow=74,SNR=10
JMM Marumori 79.55 328 P **P 15 58 19.4 +1.1**
H03N3 Juan Fernandez 79.64 123 T T 17 25 58.7
baz=242,slow=72
H03N2 Juan Fernandez 79.64 123 T T 17 25 58.8
baz=242,slow=72
H03N1 Juan Fernandez 79.66 123 T T 17 25 56.2
baz=242,slow=72
MJAR Matsushiro Arr 79.68 325 P **P 15 58 19.0 -0.1**
comp=Z,50nm,1.0s,baz=148,slow=4.9,SNR=30
MJAR LR LR 16 32 08.5
comp=Z,5µm,18.6s,baz=136,slow=35
comp=Z,50nm,1.0s
MJAR Matsushiro Arr 79.68 325 P **P 15 58 19.0 -0.1**
MAJO Matsushiro 79.68 325 P **P 15 58 17.3 -1.8**
MAJO IAmb IAmb 15 58 30.2
comp=Z,103nm,1.2s
MAJO Matsushiro 79.68 325 P **P 15 58 18.2 -0.9**
MAJO Matsushiro 79.68 325 *i* P **P 15 58 16.8 -2.3**
MAJO pmax pmax
comp=Z,75nm,1.1s
MAJO Matsushiro 79.68 325 ⇑P **P 15 58 17.8 -1.3**
MAT Matsushiro 79.68 325 P **P 15 58 18.4 -0.7**
MJB9 Matsu-Tunnel 79.69 325 IAmb IAmb 15 58 31.2
comp=Z,100nm,1.2s
JMN Monobe 79.69 321 IAmb IAmb 15 58 31.6
comp=Z,95nm,1.0s
JMN Monobe 79.69 321 P **P 15 58 20.6 +1.3**
LL03 Petrohue 79.89 132 P **P 15 58 20.5 0.0**
LL03 IAmb IAmb 15 58 26.3
comp=Z,221nm,1.0s
TWGBT Beinan 79.91 305 P **P 15 58 21.9 +1.2**
LL04 Puerto Octay 80.02 132 IAmb IAmb 15 58 24.2
comp=Z,144nm,1.2s
YULB Yu-li 80.14 305 P **P 15 58 25.6 +3.7**
NACB Ninganchiao 80.45 306 P **P 15 58 24.5 +1.0**
TPUB Ta-pu 80.54 305 IAmb IAmb 15 58 28.6
comp=Z,108nm,1.0s
TPUB Ta-pu 80.54 305 P **P 15 58 24.4 +0.3**
SSLB Suanglung 80.63 306 P **P 15 58 24.5 -0.1**
LR05 Currie 80.65 132 IAmb IAmb 15 58 46.4
comp=Z,298nm,1.4s
LR03 Panguipulli 80.77 131 IAmb IAmb 15 58 28.8
comp=Z,182nm,1.0s
JSD Sado 80.85 326 P **P 15 58 26.6 +1.3**
JNU Nakatsue 80.89 318 IAmb IAmb 15 58 34.5
comp=Z,209nm,1.3s
JNU Nakatsue 80.89 318 P **P 15 58 24.9 -0.8**
comp=Z,89nm,1.0s,baz=87,slow=3.6,SNR=18
JNU LR LR 16 30 48.6
comp=Z,5µm,20.5s,baz=128,slow=33
comp=Z,89nm,1.0s
JNU Nakatsue 80.89 318 P **P 15 58 26.7 +1.0**
JNU Nakatsue 80.89 318 P **P 15 58 25.2 -0.5**
MYKOM Kota Tinggi 81.05 278 IAMs_20 IAMs_20 16 37 22.4
comp=Z,18µm,19.0s
MYKOM Kota Tinggi 81.05 278 P **P 15 58 27.3 +0.3**
JHS Saijyo 81.07 321 P **P 15 58 25.7 -0.9**
PLCA Paso Flores 81.28 133 IAmb IAmb 15 58 31.6
comp=Z,151nm,1.1s
PLCA Paso Flores 81.28 133 P **P 15 58 29.2 +1.3**
comp=Z,102nm,1.1s,baz=222,slow=5.8,SNR=38
PLCA LR LR 16 28 20.5
comp=Z,21µm,19.1s,baz=239,slow=31
comp=Z,102nm,1.1s
PLCA Paso Flores 81.28 133 *e*P **P 15 58 29.4 +1.4**
EFI East Falkland 81.33 147 P **P 15 58 28.4 +0.5**
EFI IAmb IAmb 15 58 42.3
comp=Z,222nm,1.1s
EFI East Falkland 81.33 147 *ce*P **P 15 58 30.0 +2.1**
EFI pmax pmax
comp=Z,156nm,1.7s
EFI MLR MLR
comp=Z,3µm,18.0s
BI05 Punta Hualpn 81.82 128 IAmb IAmb 15 58 34.6
comp=Z,163nm,1.1s
JTM Tenmabayashi 81.83 330 P **P 15 58 30.5 +0.1**
ERM Erimo 81.98 332 P **P 15 58 31.6 +0.4**
ERM Erimo 81.98 332 P **P 15 58 34.4 +3.2**
ERM Erimo 81.98 332 *i* P **P 15 58 31.1 -0.1**
ERM pmax pmax
comp=Z,261nm,1.7s
ERM MLR MLR
comp=Z,22µm,19.0s
JEM Erimo 81.98 332 P **P 15 58 34.5 +3.3**
JOT Ohata 82.33 330 P **P 15 58 35.4 +2.4**
BKNI Bangkinang 82.64 275 IAMs_20 IAMs_20 16 37 19.5
comp=Z,20µm,19.0s
BKNI Bangkinang 82.64 275 P P 15 58 29.4 -6.1
YUK Yuzh-Kuril'sk 82.67 334 *c* *i* P **P 15 58 34.5 -0.2**
YUK *i* S **SKSac 16 08 57.7 +3.7**
YUK SSS SSS 16 17 35.8
YUK pmax pmax
comp=Z,261nm,1.1s
DLV Lat 82.82 289 IAmb IAmb 15 58 46.6
comp=Z,157nm,1.2s
DLV Lat 82.82 289 P **P 15 58 37.2 +0.7**
KUR Kuril'sk 83.00 336 P **P 15 58 35.1 -1.3**
KUR S **SKSac 16 08 55.7 -0.4**
KUR SS **SS 16 14 17.1 -1.4**
KUR pmax pmax
comp=Z,2µm,9.0s
KUR pmax pmax
comp=Z,351nm,1.5s
KUR MLR MLR
comp=Z,17µm,19.0s
QZH Quanzhou 83.02 305 ⇑*i*P **P 15 58 34.9 -2.1**
QZH S **S 16 08 48.8 -6.0**
QZH LR LR
comp=Z,6µm,16.5s
QZH LR LR
comp=Z,6µm,16.8s
QZH LR LR
comp=Z,6µm,27.8s
BI02 San Fabin de 83.14 129 IAmb IAmb 15 58 49.2
comp=Z,185nm,1.1s
SISI Saibi 83.42 273 P **P 15 58 39.2 -0.3**
JMP Maruseppu 83.58 333 P **P 15 58 40.2 +0.7**
ADK Adak 83.59 1 P **P 15 58 39.8 +0.5**
ADK Adak 83.59 1 P **P 15 58 39.8 +0.5**
ADK pmax pmax
comp=Z,913nm,1.6s
ATKA Atka Island 83.96 2 IAMs_20 IAMs_20 16 30 04.4
comp=Z,18µm,21.0s
JKA Kamikawa-asahi 83.97 333 IAmb IAmb 15 58 52.4
comp=Z,128nm,1.1s
ASAJ Asahikawa 83.97 333 LR LR 16 35 46.0
comp=Z,10µm,18.0s,baz=172,slow=36
ASAJ Asahikawa 83.97 333 P **P 15 58 42.4 +0.9**
MNSI Mandailing Nat 84.13 275 P **P 15 58 45.7 +2.6**
HKPS Hong Kong Po S 84.53 300 P **P 15 58 47.8 +2.9**
BO01 Tunca 84.57 127 IAmb IAmb 15 58 56.0
comp=Z,271nm,1.6s

VA05	**Santo Domingo**	84.63	126	IAmb	IAmb	15 58 48.0
	comp=Z,145nm,1.1s					
SHEM	**Shemya Is, Ala**	84.72	355	LR	LR	16 34 15.7
	comp=Z,10μm,18.2s,baz=176,slow=34					
IPM	**Ipoh**	84.87	278	IAmb	IAmb	15 58 52.3
	comp=Z,163nm,1.8s					
IPM				IAMs_20	IAMs_20	16 40 09.5
	comp=Z,19μm,20.0s					
IPM	**Ipoh**	84.87	278	P	**P**	**15 58 45.5 -1.3**
MT02	**Curacav**	85.19	126	IAmb	IAmb	15 58 53.1
	comp=Z,174nm,1.1s					
TJN	**Taejon**	85.23	319	P	**P**	**15 58 47.2 -0.8**
TJN	**Taejon**	85.23	319	P	**P**	**15 58 48.4 +0.4**
TJN	**Taejon**	85.23	319	*i* P	**P**	**15 58 47.5 -0.5**
LPIG	**La Paz**	85.29	58	LR	LR	16 29 39.6
	comp=Z,16μm,20.4s,baz=232,slow=31					
SSE	**Sheshan**	85.30	311	P	**P**	**15 58 47.7 -0.8**
SSE				pP	**PcP**	**15 58 52.6 +1.0**
SSE				S	**S**	**16 09 18.0 +0.6**
SSE				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SSE				pmax	pmax	
	comp=Z,840nm,5.3s					
SSE				LR	LR	
	comp=Z,2μm,18.7s					
SLBS	**Sierra La Lagu**	85.30	58	P	**P**	**15 58 48.5 -0.3**
VA06	**Catapilco**	85.48	126	IAmb	IAmb	15 59 01.4
	comp=Z,165nm,1.1s					
MT13	**San Alfonso**	85.49	127	IAmb	IAmb	15 59 06.0
	comp=Z,142nm,1.1s					
SKR	**Severo-Kuril's**	85.54	344	*e*P	P	15 58 37.6 -12
SKR				*e*S	**SKSac**	**16 09 10.3 -1.9**
SKR				pmax	pmax	
	comp=Z,2μm,6.3s					
GZH	**Guangzhou**	85.61	301	P	**P**	**15 58 51.4 +1.2**
GZH				S	**S**	**16 09 22.2 +1.4**
GZH				pmax	pmax	
	comp=Z,83nm,0.9s					
KULM	**Kulim**	85.62	279	IAmb	IAmb	15 58 56.3
	comp=Z,99nm,1.4s					
KULM				IAMs_20	IAMs_20	16 40 23.3
	comp=Z,13μm,19.0s					
KULM	**Kulim**	85.62	279	P	**P**	**15 58 51.2 +0.7**
KSRS	**Korea Array**	85.70	320	P	**P**	**15 58 49.8 -0.6**
	comp=Z,52nm,1.0s,baz=143,slow=5.8,SNR=30					
KSRS				LR	LR	16 33 27.2
	comp=Z,6μm,20.6s,baz=130,slow=33					
	comp=Z,52nm,1.0s					
KSAR	**Wonju Array Be**	85.71	320	P	**P**	**15 58 49.7 -0.7**
KSAR	**Wonju Array Be**	85.71	320	P	**P**	**15 58 49.7 -0.7**
PSI	**Prapat**	85.74	276	LR	LR	16 39 01.8
	comp=Z,30μm,19.6s,baz=130,slow=37					
PSI	**Prapat**	85.74	276	P	**P**	**15 58 50.3 -1.0**
KS19	**Wonju Array Si**	85.76	320	IAmb	IAmb	15 58 57.2
	comp=Z,59nm,1.0s					
QIZ	**Qiongzhong**	85.83	295	P	**P**	**15 58 51.0 -0.4**
QIZ				PP	**PP**	**16 02 12.9 +1.5**
QIZ				S	**S**	**16 09 21.9 -1.2**
QIZ				SS	**SS**	**16 14 55.5 -5.5**
QIZ				pmax	pmax	
	comp=Z,57nm,1.3s					
QIZ				pmax	pmax	
	comp=Z,2μm,9.3s					
QIZ				LR	LR	
	comp=Z,2μm,22.0s					
QIZ				LR	LR	
	comp=Z,4μm,31.9s					
QIZ				LR	LR	
	comp=Z,13μm,34.3s					
QIZ	**Qiongzhong**	85.83	295	P	**P**	**15 58 54.7 +3.3**
MT08	**Bocatoma Ro**	85.84	127	IAmb	IAmb	15 58 57.3
	comp=Z,91nm,1.1s					
VA03	**San Esteban**	85.88	126	IAmb	IAmb	15 59 15.3
	comp=Z,139nm,1.1s					
SRIG	**Santa Rosalia**	85.93	54	IAmb	IAmb	15 58 56.7
	comp=Z,106nm,1.1s					
CCX	**Cicese**	85.94	48	P	**P**	**15 58 50.7 -0.9**
CCX				IAmb	IAmb	15 59 08.1
	comp=Z,232nm,1.7s					
GSI	**Gunungsitoli**	86.09	274	IAmb	IAmb	15 59 18.5
	comp=Z,148nm,1.1s					
GSI	**Gunungsitoli**	86.09	274	P	**P**	**15 58 52.5 -0.4**
GSI	**Gunungsitoli**	86.09	274	P	**P**	**15 58 53.1 +0.2**
	comp=Z,11μmcomp=Z,4μmcomp=Z,98nm,0.9s					
UNV	**Unalaska Valle**	86.11	7	P	**P**	**15 58 52.6 +0.7**
UNV	**Unalaska Valle**	86.11	7	P	**P**	**15 58 52.9 +1.0**
	baz=190					
VTX	**Valle De La Tr**	86.19	49	IAmb	IAmb	15 58 59.0
	comp=Z,112nm,1.3s					
CBX	**Cerro Bola**	86.24	48	IAmb	IAmb	15 59 07.6
	comp=Z,80nm,1.2s					
YSS	**Yuzhno-Sakhali**	86.30	334	P	**P**	**15 58 52.6 -0.4**
YSS				IAMs_20	IAMs_20	16 32 30.5
	comp=Z,14μm,21.0s					
YSS	**Yuzhno-Sakhali**	86.30	334	P	**P**	**15 58 53.3 +0.3**
YSS	**Yuzhno-Sakhali**	86.30	334	*oe*P	**P**	**15 58 53.0 0.0**
YSS				*e*		16 09 14.6
YSS				*e*S	**S**	**16 09 25.0 -1.5**
YSS				pmax	pmax	
	comp=Z,2μm,8.8s					
YSS				pmax	pmax	
	comp=Z,140nm,0.9s					
CO06	**Fray Jorge**	86.33	124	IAmb	IAmb	15 58 56.2
	comp=Z,74nm,1.1s					
SAO	**San Andreas Ge**	86.41	42	IAmb	IAmb	15 59 36.8
	comp=Z,114nm,1.2s					
INCN	**Inchon**	86.43	319	P	**P**	**15 58 55.3 +1.3**
TKX	**Tecate**	86.44	48	IAmb	IAmb	15 59 35.5
	comp=Z,201nm,1.6s					
ESJX	**Sierra Juarez**	86.49	49	IAmb	IAmb	15 59 04.1
	comp=Z,150nm,1.5s					
PASC	**Pasadena Art C**	86.54	46	IAmb	IAmb	15 59 06.0
	comp=Z,125nm,1.3s					
ELS	**Elsinore Mount**	86.65	47	IAmb	IAmb	15 59 04.4
	comp=Z,180nm,1.6s					
YUH	**Yuha Desert**	86.93	48	IAmb	IAmb	15 59 08.3
	comp=Z,103nm,1.3s					
GDXM	**Geysers**	87.11	40	IAmb	IAmb	15 59 20.5
	comp=Z,128nm,1.2s					
UBPT	**Khong Chiam**	87.12	290	IAmb	IAmb	15 59 02.7
	comp=Z,66nm,1.1s					
UBPT	**Khong Chiam**	87.12	290	P	**P**	**15 58 58.8 +1.0**
PET	**Petropavlovsk**	87.17	346	P	**P**	**15 58 55.9 -1.2**
PET				IAmb	IAmb	15 59 10.6
	comp=Z,129nm,1.2s					
PET				IAMs_20	IAMs_20	16 35 58.1
	comp=Z,16μm,19.0s					
PET	**Petropavlovsk**	87.17	346	P	**P**	**15 58 57.1 0.0**
PET	**Petropavlovsk**	87.17	346	*e*P	**P**	**15 58 56.3 -0.8**
PET				*e*		16 09 20.7
PET				*e*S	**S**	**16 09 37.6 +3.0**
PET				*e*PS	**PnS**	**16 10 37.7 +0.2**
PET				*e*SS	**SS**	**16 15 19.8 +0.2**
PET				pmax	pmax	
	comp=Z,1μm,8.8s					
PET				pmax	pmax	
	comp=Z,2μm,14.2s					
PET				pmax	pmax	
	comp=Z,100nm,1.2s					
PET				MLR	MLR	
	comp=Z,12μm,20.0s					
PET	**Petropavlovsk**	87.17	346	P	**P**	**15 58 56.3 -0.8**
	comp=Z,94nm,1.6s					
TEY	**Ternei**	87.19	330⇓	*e*P	**P**	**15 58 57.3 -0.1**
TEY				*e*		16 09 16.5
TEY				pmax	pmax	
	comp=Z,20nm,1.2s					
TEY				pmax	pmax	
	comp=N,10.0nm,1.2s					
TEY				pmax	pmax	
	comp=E,10.0nm,1.2s					
PFO	**Pinyon Flats O**	87.23	47	P	**P**	**15 58 58.4 +0.3**
PFO	**Pinyon Flats O**	87.23	47	P	**P**	**15 58 58.4 +0.3**
PFO				pmax	pmax	
	comp=Z,258nm,1.7s					
CCAC	**Calif City Air**	87.31	45	IAmb	IAmb	15 59 07.7
	comp=Z,144nm,1.2s					
KCPM	**Cahto Peak**	87.32	39	P	**P**	**15 58 59.5 +1.0**
KCPM				IAmb	IAmb	15 59 20.6
	comp=Z,181nm,1.4s					
HJU	**Haeju**	87.34	319	P	**P**	**15 58 56.9 -1.4**
HJU				S	**SKSac**	**16 09 27.7 +3.7**
HJU				AmB		
	comp=Z,3μm,4.7s					
NJ2	**Nanjing**	87.43	311⇑	*i* P	**P**	**15 58 59.0 +0.1**
NJ2				pP	**pP**	**15 59 04.6 -1.0**
NJ2				PP	**PP**	**16 02 21.6 -2.5**
NJ2				SKS	**SKSac**	**16 09 25.5 +0.6**
NJ2				S	**ScS**	**16 09 41.6 -3.5**
NJ2				SS	**SS**	**16 15 23.0 -1.1**
NJ2				pmax	pmax	
	comp=Z,18nm,0.8s					
NJ2				pmax	pmax	
	comp=Z,2μm,9.6s					
NJ2				LR	LR	
	comp=Z,5μm,19.0s					
NJ2				LR	LR	
	comp=Z,3μm,17.0s					
NJ2				LR	LR	
	comp=Z,7μm,17.6s					
PEA0B	**Petropavlovsk-**	87.45	346	*ce*P	**P**	**15 58 58.2 -0.3**
PETK	**Petropavlovsk-**	87.45	346	P	**P**	**15 58 57.2 -1.3**
PETK	**Petropavlovsk-**	87.45	346	P	**P**	**15 58 58.2 -0.4**
	comp=Z,121nm,1.0s,baz=178,slow=6.3,SNR=61					
PETK				LR	LR	16 34 55.6
	comp=Z,7μm,19.1s,baz=159,slow=34					
	comp=Z,121nm,1.0s					
FALS	**False Pass**	87.45	8	P	**P**	**15 58 58.3 -0.1**
FALS	**False Pass**	87.45	8	P	**P**	**15 58 59.3 +0.9**
	baz=192					
PAYG	**Puerto Ayora**	87.57	89	IAMs_20	IAMs_20	16 34 04.1
	comp=Z,14μm,18.0s					
HHU	**Hamhung**	87.69	321	P	**P**	**15 58 58.3 -1.7**
HHU				S	**SKSac**	**16 09 30.8 +4.7**
HHU				AmB		
	comp=Z,321nm,1.2s					
HHU				AMS	AMS	
	comp=Z,8μm,16.9s					
SNSI	**Sinabang, Aceh**	87.73	274	P	**P**	**15 59 01.6 +0.7**
	comp=Z,3μmcomp=Z,113nm,1.6s					
MSHR	**Mys Shultsa**	87.79	325	*i* P	**P**	**15 58 59.4 -1.0**
PIX	**Pinacate**	87.81	50	IAmb	IAmb	15 59 09.7
	comp=Z,122nm,1.3s					
CO01	**Juntas del Tor**	87.82	124	P	**P**	**15 59 01.3 -0.2**
CO01				IAmb	IAmb	15 59 13.0
	comp=Z,170nm,1.4s					
VLA	**Vladivostok**	87.85	326	*i* P	**P**	**15 58 59.7 -1.0**
VLA				pmax	pmax	
	comp=Z,54nm,1.1s					
VLA				MLR	MLR	
	comp=Z,6μm,19.0s					
ZON	**Zonda**	87.88	126	IAmb	IAmb	15 59 08.1
	comp=Z,138nm,1.3s					
HSIG		87.88	54	IAmb	IAmb	15 59 10.1
	comp=Z,134nm,1.4s					
CMB	**Columbia Colle**	87.90	42	IAmb	IAmb	15 59 09.9
	comp=Z,177nm,1.6s					
CNBA	**Chernabura Isl**	87.94	10	IAMs_20	IAMs_20	16 40 03.1
	comp=Z,13μm,19.0s					
LCO	**Las Campanas**	87.95	123	P	**P**	**15 59 01.4 -0.8**
LCO	**Las Campanas**	87.95	123	IAMs_20	IAMs_20	16 31 17.3
	comp=Z,19μm,19.0s					
LCO	**Las Campanas**	87.95	123	P	**P**	**15 59 01.4 -0.8**
LCO				pmax	pmax	
	comp=Z,395nm,1.9s					
LCO				pmax	pmax	
	comp=Z,19μm,19.0s					
CHNA	**Chernabura Isl**	87.95	10	P	**P**	**15 59 01.5 +0.6**
CHNA	**Chernabura Isl**	87.95	10	P	**P**	**15 59 02.0 +1.2**
	baz=195					
PYAG	**Pyongyang**	88.03	320	P	**P**	**15 59 00.5 -1.2**
PYAG				S	**SKSac**	**16 09 33.8 +5.6**
PYAG				AmB		
	comp=Z,1μm,3.7s					
PYAG				AMS	AMS	
	comp=Z,7μm,14.9s					
KHMM	**Horse Mountain**	88.10	38	IAmb	IAmb	15 59 24.4
	comp=Z,172nm,1.5s					
GSC	**Goldstone, Bar**	88.14	46	P	**P**	**15 59 02.4 0.0**
GSC	**Goldstone, Bar**	88.14	46	P	**P**	**15 59 02.4 0.0**
GSC				pmax	pmax	
	comp=Z,241nm,1.5s					
CFA	**Coronel Fontan**	88.14	126	LR	LR	16 32 07.6
	comp=Z,6μm,18.6s,baz=230,slow=31					
AC04	**Llanos de Chal**	88.16	122	IAmb	IAmb	15 59 08.8
	comp=Z,112nm,1.1s					
TRQA	**Tornquist**	88.17	135	P	**P**	**15 59 02.4 -0.3**
TRQA				IAmb	IAmb	15 59 12.7
	comp=Z,250nm,1.9s					
TRQA				IAMs_20	IAMs_20	16 35 30.4
	comp=Z,19μm,18.0s					
TRQA	**Tornquist**	88.17	135	P	**P**	**15 59 02.4 -0.3**
TRQA				pmax	pmax	
	comp=Z,250nm,2.0s					
TRQA				pmax	pmax	
	comp=Z,19μm,18.0s					
AFDM	**Forest Hills D**	88.21	41	IAmb	IAmb	15 59 41.7
	comp=Z,124nm,1.5s					
SRIT	**Nakonsritamara**	88.26	281	IAmb	IAmb	15 59 07.8
	comp=Z,68nm,1.5s					
SRIT	**Nakonsritamara**	88.26	281	P	**P**	**15 59 04.3 +0.9**
SDPT	**Sand Point**	88.32	10	P	**P**	**15 59 03.3 +0.7**
SDPT	**Sand Point**	88.32	10	P	**P**	**15 59 03.7 +1.1**
	baz=195					
UGL	**Uglegorsk**	88.33	335⇓	*i* P	**P**	**15 59 03.3 +0.5**
UGL				*e*		16 02 31.0
UGL				*e*S	**S**	**16 09 45.8 -0.1**
UGL				pmax	pmax	
	comp=Z,200nm,1.1s					
UGL				smax	smax	
	comp=E,4μm,10.0s					
UGL				smax	smax	
	comp=N,7μm,14.0s					
113A	**Mohawk Valley,**	88.38	49	IAmb	IAmb	15 59 42.6
	comp=Z,181nm,1.5s					
S12K	**Black Hills**	88.45	9	IAMs_20	IAMs_20	16 37 23.1
	comp=Z,15μm,20.0s					
S12K	**Black Hills**	88.45	9	P	**P**	**15 59 03.9 +0.7**
	baz=193					
P08K	**Saint George I**	88.59	5	IAMs_20	IAMs_20	16 35 24.8
	comp=Z,13μm,20.0s					
P08K	**Saint George I**	88.59	5	P	**P**	**15 59 04.5 +0.7**
	baz=187					
USA0B	**Ussuriysk Arra**	88.62	326	*i* P	**P**	**15 59 02.1 -2.2**
USRK	**Ussuriysk Ar.**	88.62	326	P	**P**	**15 59 03.1 -1.2**
USRK	**Ussuriysk Ar.**	88.62	326	P	**P**	**15 59 04.2 -0.1**
	comp=Z,100nm,1.0s,baz=144,slow=3.5,SNR=54					
USRK				LR	LR	16 36 01.0
	comp=Z,9μm,19.6s,baz=142,slow=34					
	comp=Z,100nm,1.0s					
MLSI	**Meulaboh, Aceh**	88.65	276	P	**P**	**15 59 05.3 +0.1**
	comp=Z,138nm,1.1s					
LHMI	**Lhok Sumawe**	88.70	277	IAMs_20	IAMs_20	16 43 18.0
	comp=Z,15μm,19.0s					
GWY	**Greenwater Val**	88.81	45	IAmb	IAmb	15 59 10.8
	comp=Z,78nm,1.0s					
DSP	**Deep Springs**	88.84	44	IAmb	IAmb	15 59 28.8
	comp=Z,236nm,2.0s					
CNSH	**ChangSha**	88.99	304	P	**P**	**15 59 05.2 -1.3**
CNSH				S	**S**	**16 09 46.6 -6.5**
CNSH				LR	LR	
	comp=Z,4μm,19.0s					
CNSH				LR	LR	
	comp=Z,4μm,19.2s					
CNSH				LR	LR	
	comp=Z,5μm,19.8s					
PNTR	**Pine Nut**	89.08	41	IAmb	IAmb	15 59 16.5
	comp=Z,118nm,1.1s					
L02F	**Cave Junction**	89.09	37	IAmb	IAmb	15 59 16.0
	comp=Z,114nm,1.5s					
GULI	**GuiLin**	89.10	301	P	**P**	**15 59 08.9 +1.8**
GULI				PP	**PP**	**16 02 35.9 -1.8**
GULI				S	S	16 09 44.0 -10
GULI				pmax	pmax	
	comp=Z,50nm,1.4s					
GULI				LR	LR	
	comp=Z,3μm,17.8s					
GULI				LR	LR	
	comp=Z,5μm,20.0s					
GULI				LR	LR	
	comp=Z,9μm,19.5s					
SPIA	**Saint Paul Isl**	89.12	4	P	**P**	**15 59 05.9 -0.4**
SPIA	**Saint Paul Isl**	89.12	4	P	**P**	**15 59 07.6 +1.3**
	baz=186					
LHV	**Little Huntoon**	89.13	43	IAmb	IAmb	15 59 37.4
	comp=Z,182nm,1.4s					
WCT	**Wildcat Mounta**	89.24	45	P	**P**	**15 59 07.4 -0.2**
WCT				IAmb	IAmb	15 59 16.8
	comp=Z,90nm,1.4s					
YBH	**Yreka Blue Hor**	89.25	38	IAmb	IAmb	15 59 29.7
	comp=Z,67nm,1.1s					
YBH	**Yreka Blue Hor**	89.25	38	LR	LR	16 31 15.4
	comp=Z,16μm,20.9s,baz=224,slow=30					
NVAR	**Mina Array Bea**	89.36	43	P	**P**	**15 59 08.7 +0.4**
NVAR	**Mina Array Bea**	89.36	43	P	**P**	**15 59 09.3 +1.0**
	comp=Z,49nm,1.0s,baz=220,slow=6.9,SNR=90					
NVAR				PKKPbc	**PKKPbc**	**16 16 45.6 +0.8**
	comp=Z,1.1nm,0.8s,baz=76,slow=2.8,SNR=3.9					
NVAR				PKPPKP	**P'P'df**	**16 24 54.9 +5.7**
	comp=Z,1.4nm,0.8s,baz=180,slow=1.0,SNR=6.2					
NVAR				LR	LR	16 35 00.1
	comp=Z,27μm,18.5s,baz=230,slow=33					
	comp=Z,49nm,1.0s					
S14K	**Fog Glacier**	89.36	10	P	**P**	**15 59 08.9 +1.2**
	baz=195					
NV11	**Mina Array Sit**	89.45	43	IAmb	IAmb	15 59 17.3
	comp=Z,162nm,1.6s					
WHN	**Wuhan**	89.45	307	P	**P**	**15 59 07.1 -1.5**
WHN				LR	LR	
	comp=Z,3μm,18.6s					
WHN				LR	LR	
	comp=Z,2μm,18.1s					
WHN				LR	LR	
	comp=Z,4μm,20.7s					
K02D	**Willamette Mer**	89.46	37	IAmb	IAmb	15 59 31.7
	comp=Z,219nm,1.8s					
SUJ	**Sinuiju**	89.46	320	P	**P**	**15 59 07.7 -0.6**
SUJ				AmB		
	comp=Z,568nm,1.5s					
CHGN	**Chignik**	89.55	11	P	**P**	**15 59 09.7 +1.4**
	baz=196					
CHIR	**Chirikof Islan**	89.57	12	P	**P**	**15 59 09.6 +1.1**
	baz=199					
TPNV	**Topopah Spring**	89.57	45	IAmb	IAmb	15 59 18.6
	comp=Z,147nm,1.2s					
V12A	**Nelson**	89.62	46	IAmb	IAmb	15 59 15.1
	comp=Z,79nm,1.1s					
Y14A	**Wickenburg**	89.62	49	IAmb	IAmb	15 59 15.0
	comp=Z,86nm,1.0s					
PAHR	**Pah Rah Range**	89.62	41	P	**P**	**15 59 09.1 -0.3**
PAHR				IAmb	IAmb	15 59 25.2
	comp=Z,120nm,1.4s					
TYV	**Tymovskoe**	89.62	336	*e*P	**P**	**15 59 09.7 +0.9**
TYV				*e*S	**S**	**16 09 59.4 +1.4**
TYV				pmax	pmax	
	comp=Z,101nm,0.7s					
TYV				pmax	pmax	
	comp=Z,800nm,3.3s					
TYV				smax	smax	
	comp=N,3μm,4.6s					
TYV				smax	smax	
	comp=E,2μm,4.6s					
W13A	**Hualapai Mount**	89.81	47	IAmb	IAmb	15 59 23.1
	comp=Z,133nm,1.2s					
L04D	**Klamath Falls**	89.81	38	IAmb	IAmb	15 59 54.9
	comp=Z,148nm,1.2s					
NAYO	**Nakonayok**	89.93	287	P	**P**	**15 59 12.4 +1.3**
SHPR	**Sheep Range**	89.94	46	IAmb	IAmb	15 59 50.1
	comp=Z,85nm,1.4s					
DBO	**Dodson Butte**	89.98	37	IAmb	IAmb	15 59 36.2
	comp=Z,156nm,1.4s					
TUC	**Tucson**	90.04	51	P	**P**	**15 59 11.7 +0.3**
TUC	**Tucson**	90.04	51	P	**P**	**15 59 11.7 +0.3**
TUC				pmax	pmax	
	comp=Z,233nm,1.5s					
TUC				pmax	pmax	
	comp=Z,10μm,19.0s					
MDJ	**Mudanjiang**	90.07	325	IAMs_20	IAMs_20	16 40 03.3
	comp=Z,18μm,19.0s					
MDJ	**Mudanjiang**	90.07	325	P	**P**	**15 59 10.7 -0.4**
MDJ				PcP	**PcP**	**15 59 13.4 +1.1**
MDJ				pmax	pmax	
	comp=Z,36nm,1.0s					
MDJ				pmax	pmax	
	comp=Z,2μm,9.3s					
MDJ				LR	LR	
	comp=Z,6μm,24.4s					
MDJ				LR	LR	
	comp=Z,7μm,24.4s					
MDJ				LR	LR	
	comp=Z,19μm,24.7s					
MDJ	**Mudanjiang**	90.07	325	P	**P**	**15 59 11.1 0.0**
BSI	**Banda Aceh**	90.23	276	P	**P**	**15 59 13.4 +0.7**
	comp=Z,8μmcomp=Z,2μmcomp=Z,63nm,1.1s					
ZAIG	**Zacatecas**	90.23	63	IAmb	IAmb	15 59 25.0
	comp=Z,169nm,1.9s					
DL2	**Dalian**	90.26	317	P	**P**	**15 59 14.0 +1.9**
DL2				SKS	**SKSac**	**16 09 40.5 -0.9**
DL2				S	**ScS**	**16 10 06.6 -1.7**
DL2				pmax	pmax	
	comp=Z,130nm,1.1s					
DL2				pmax	pmax	
	comp=Z,2μm,7.7s					
DL2				LR	LR	
	comp=Z,7μm,18.6s					
DL2				LR	LR	
	comp=Z,5μm,21.5s					
DL2				LR	LR	
	comp=Z,10μm,32.4s					
Q09A	**Carvers**	90.28	43	P	**P**	**15 59 12.8 +0.3**
Q09A				IAmb	IAmb	15 59 58.4
	comp=Z,91nm,1.1s					
I03D	**Drain, OR**	90.34	36	IAmb	IAmb	15 59 21.3
	comp=Z,191nm,1.5s					
HPIG		90.34	58	IAmb	IAmb	15 59 21.9
	comp=Z,78nm,1.3s					
AC02	**Maricunga**	90.35	122	IAmb	IAmb	15 59 24.6
	comp=Z,179nm,1.5s					
TLIG	**Tlapa**	90.44	70	IAmb	IAmb	15 59 24.0
	comp=Z,136nm,1.3s					
319A	**Douglas**	90.47	53	IAmb	IAmb	15 59 46.9
	comp=Z,143nm,1.4s					
NONG	**Nongkai**	90.51	291	P	**P**	**15 59 14.3 +0.5**
SII	**Sitkinak Islan**	90.53	13	IAMs_20	IAMs_20	16 36 56.3
	comp=Z,18μm,20.0s					
SII	**Sitkinak Islan**	90.53	13	P	**P**	**15 59 13.7 +0.7**
	baz=200					
PRN	**Pahroc Range**	90.59	45	IAmb	IAmb	15 59 53.3
	comp=Z,167nm,1.4s					
PB14	**IPOC Station P**	90.72	120	P	**P**	**15 59 14.6 -0.7**
PB14	**IPOC Station P**	90.72	120	P	**P**	**15 59 12.5 -2.8**
I04A	**Tendick Farm,**	90.88	37	IAmb	IAmb	15 59 35.0
	comp=Z,76nm,1.0s					
R16K	**Pilot Point**	90.90	11	P	**P**	**15 59 15.6 +1.0**
	baz=197					
X16A	**Lo Mia Camp, P**	90.93	49	IAmb	IAmb	15 59 22.2
	comp=Z,100nm,1.1s					
GO02	**Mina Guanaco**	91.01	121	IAmb	IAmb	15 59 27.8
	comp=Z,102nm,1.3s					
J05D	**Fort Rock, OR**	91.12	38	IAmb	IAmb	15 59 45.8
	comp=Z,89nm,1.2s					
SNY	**Shenyang**	91.16	320	⇑P	**P**	**15 59 15.2 -1.0**
SNY				SS	SS	16 16 16.7 -1.3
SNY				pmax	pmax	
	comp=Z,91nm,1.2s					
SNY				pmax	pmax	
	comp=Z,950nm,8.4s					
SNY				LR	LR	
	comp=Z,5μm,18.9s					
SNY				LR	LR	
	comp=Z,4μm,16.4s					
SNY				LR	LR	
	comp=Z,11μm,18.1s					
TIA	**Tai'an**	91.20	313	P	**P**	**15 59 16.8 +0.2**
TIA				pP	**sP**	**15 59 26.6 +0.9**
TIA				SKS	**SKSac**	**16 09 49.5 +2.5**
TIA				S	**SKKSac**	**16 10 06.0 +3.7**
TIA				SS	**SS**	**16 16 14.1 -4.8**
TIA				pmax	pmax	
	comp=Z,130nm,1.2s					
TIA				pmax	pmax	
	comp=Z,2μm,10.2s					
TIA				LR	LR	
	comp=Z,5μm,24.7s					
TIA				LR	LR	
	comp=Z,7μm,23.1s					
TIA				LR	LR	
	comp=Z,14μm,24.1s					
OHAK	**Old Harbor**	91.33	13	P	**P**	**15 59 17.4 +0.8**
OHAK				IAmb	IAmb	15 59 51.5
	comp=Z,72nm,1.1s					
OHAK	**Old Harbor**	91.33	13	P	**P**	**15 59 17.4 +0.8**
OHAK	**Old Harbor**	91.33	13	P	**P**	**15 59 17.6 +1.0**
	baz=201					
R18K	**Karluk**	91.43	12	P	**P**	**15 59 17.7 +0.6**
	baz=200					
LCMT	**Little Creek M**	91.44	46	IAmb	IAmb	15 59 22.8
	comp=Z,43nm,1.0s					
G03D	**McMinnville, O**	91.48	35	P	**P**	**15 59 18.2 +0.5**
CN2	**Changchun**	91.54	323	P	**P**	**15 59 17.0 -1.0**

CN2				pP	sP	15 59 27.5	+0.4
CN2				SKS	**SKSac**	**16 09 46.2**	**-2.3**
CN2				S	**S**	**16 10 12.2**	**-3.8**
CN2				pmax	pmax		
	comp=Z,230nm,1.0s						
CN2				pmax	pmax		
	comp=Z,1μm,10.0s						
CN2				LR	LR		
	comp=Z,6μm,18.0s						
CN2				LR	LR		
	comp=Z,8μm,18.0s						
CN2				LR	LR		
	comp=Z,9μm,18.0s						
H04A	**Detroit Lake**	**91.63**	**36**	IAmb	IAmb	15 59 48.0	
	comp=Z,115nm,1.1s						
WUAZ	**Wupatki**	**91.66**	**48**	IAmb	IAmb	15 59 34.4	
	comp=Z,88nm,1.1s						
WUAZ				IAMs_20	IAMs_20	16 33 27.9	
	comp=Z,13μm,20.0s						
KNB	**Kanab**	**91.70**	**47**	IAmb	IAmb	15 59 24.8	
	comp=Z,86nm,1.0s						
SLVN	**Son La**	**91.72**	**294**	P	**P**	**15 59 21.7**	**+2.3**
SRDT	**SRDT**	**91.74**	**286**	P	**P**	**15 59 20.7**	**+1.1**
GRNR	**Gornyy**	**91.82**	**333**	⇑*i*P	**P**	**15 59 19.2**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,30nm,0.9s						
F03A	**Seaside**	**91.85**	**35**	P	**P**	**15 59 20.0**	**+0.7**
BNX	**BinXian**	**91.94**	**325**	⇓P	**P**	**15 59 18.7**	**-1.1**
BNX				pP	**pP**	**15 59 25.0**	**-1.5**
BNX				SKS	**SKSac**	**16 09 46.9**	**-3.8**
BNX				pmax	pmax		
	comp=Z,34nm,1.0s						
BNX				pmax	pmax		
	comp=Z,1μm,8.6s						
BNX				LR	LR		
	comp=Z,6μm,16.9s						
BNX				LR	LR		
	comp=Z,5μm,17.6s						
BNX				LR	LR		
	comp=Z,10μm,17.7s						
X18A	**Snowflake**	**91.96**	**50**	IAmb	IAmb	15 59 30.1	
	comp=Z,107nm,1.4s						
KDAK	**Kodiak Island**	**91.99**	**13**	LR	LR	16 33 56.6	
	comp=Z,9μm,21.5s,baz=62,slow=31						
KDAK	**Kodiak Island**	**91.99**	**13**	P	**P**	**15 59 20.0**	**+0.4**
	baz=201						
O14K	**Tigyukauivet M**	**92.01**	**8**	IAMs_20	IAMs_20	16 41 11.3	
	comp=Z,12μm,19.0s						
O14K	**Tigyukauivet M**	**92.01**	**8**	P	**P**	**15 59 20.5**	**+0.8**
	baz=194						
PSUT	**Pine Spring**	**92.04**	**45**	IAmb	IAmb	15 59 29.7	
	comp=Z,74nm,1.4s						
SPR3	**Spring Creek 3**	**92.06**	**44**	IAmb	IAmb	15 59 31.8	
	comp=Z,68nm,1.6s						
Q16K	**King Salmon**	**92.11**	**11**	P	**P**	**15 59 21.1**	**+0.9**
	baz=198,SNR=11						
O15K	**Ungalikthiuk R**	**92.12**	**9**	P	**P**	**15 59 21.1**	**+0.8**
	baz=195						
121A	**Cookes Peak, D**	**92.18**	**53**	IAmb	IAmb	15 59 55.8	
	comp=Z,106nm,1.5s						
121A	**Cookes Peak, D**	**92.18**	**53**	P	**P**	**15 59 20.3**	**-1.2**
	baz=233						
NKL	**Nikolayevsk**	**92.21**	**336**	*e*P	P	15 59 13.4	-7.4
NKL				*e*S	**SKSac**	**16 09 44.8**	**-7.0**
NKL				pmax	pmax		
	comp=N,70nm,1.0s						
NKL				pmax	pmax		
	comp=E,241nm,1.1s						
NKL				pmax	pmax		
	comp=Z,481nm,1.1s						
NKL				smax	smax		
	comp=N,484nm,4.1s						
NKL				smax	smax		
	comp=E,325nm,3.1s						
NKL				MLR	MLR		
	comp=E,18μm,20.0s						
NKL				MLR	MLR		
	comp=N,14μm,19.0s						
NKL				MLR	MLR		
	comp=Z,77μm,19.0s						
P16K	**Nushagak River**	**92.24**	**10**	P	**P**	**15 59 21.5**	**+0.6**
	baz=197						
Q18K	**Katmai Hardscr**	**92.36**	**12**	P	**P**	**15 59 22.1**	**+0.5**
	baz=199,SNR=10						
GYA	**Guiyang**	**92.49**	**300**	⇓P	**P**	**15 59 25.8**	**+2.8**
GYA				pP	sP	15 59 33.2	+1.1
GYA				SKS	**SKSac**	**16 09 55.8**	**+0.8**
GYA				S	**S**	**16 10 23.0**	**-2.6**
GYA				pmax	pmax		
	comp=Z,54nm,1.1s						
GYA				LR	LR		
	comp=Z,7μm,19.8s						
KLR	**Kul'dur**	**92.53**	**330**	LR	LR	16 41 28.4	
	comp=Z,9μm,18.0s,baz=144,slow=36						
KLR	**Kul'dur**	**92.53**	**330**	*ce*P	**P**	**15 59 22.3**	**-0.1**
KLR				pmax	pmax		
	comp=Z,77nm,0.8s						
KLR				MLR	MLR		
	comp=Z,13μm,18.0s						
I07A	**Izee**	**92.58**	**38**	P	**P**	**15 59 22.2**	**-0.8**
I07A				IAmb	IAmb	15 59 44.8	
	comp=Z,80nm,1.3s						
M11K	**Mekoryuk**	**92.60**	**6**	IAMs_20	IAMs_20	16 37 59.9	
	comp=Z,12μm,20.0s						
M11K	**Mekoryuk**	**92.60**	**6**	P	**P**	**15 59 23.1**	**+0.7**
	baz=190						
N14K	**Kuskokwak Cree**	**92.61**	**8**	P	**P**	**15 59 23.0**	**+0.6**
	baz=194						
J08A	**Circle Bar Ran**	**92.62**	**39**	IAmb	IAmb	15 59 45.7	
	comp=Z,110nm,1.3s						
P17K	**Kvichak River**	**92.64**	**11**	P	**P**	**15 59 23.5**	**+0.9**
	baz=198,SNR=6.7						
ENH	**Enshi**	**92.65**	**304**	P	**P**	**15 59 24.8**	**+1.3**
MTPU	**Mount Pierson**	**92.74**	**46**	P	**P**	**15 59 24.6**	**+0.4**
MTPU				IAmb	IAmb	15 59 34.1	
	comp=Z,130nm,1.5s						
NLWA	**Neilton Lookou**	**92.77**	**33**	IAmb	IAmb	15 59 47.0	
	comp=Z,46nm,1.2s						
O16K	**Kokwok River B**	**92.77**	**10**	IAMs_20	IAMs_20	16 41 19.4	
	comp=Z,14μm,19.0s						
O16K	**Kokwok River B**	**92.77**	**10**	P	**P**	**15 59 24.3**	**+1.1**
	baz=197						
Q20K	**Shuyak Island**	**92.80**	**13**	P	**P**	**15 59 24.0**	**+0.6**
	baz=201						
SYI	**Shuyak Island**	**92.80**	**13**	IAMs_20	IAMs_20	16 45 20.2	
	comp=Z,12μm,19.0s						
NNA	**Nana**	**92.84**	**106**	P	**P**	**15 59 25.8**	**+1.0**
	comp=Z,46nm,1.1s,baz=254,slow=7.5,SNR=7.9						
NNA				LR	LR	16 34 05.7	
	comp=Z,17μm,19.0s,baz=240,slow=31						
	comp=Z,46nm,1.1s						
NNA	**Nana**	**92.84**	**106**	*ce*P	**P**	**15 59 23.8**	**-1.0**
NNA				pmax	pmax		
	comp=Z,112nm,1.3s						
Q19K	**Cape Douglas,**	**92.86**	**12**	IAMs_20	IAMs_20	16 38 04.9	
	comp=Z,15μm,20.0s						
Q19K	**Cape Douglas,**	**92.86**	**12**	P	**P**	**15 59 24.2**	**+0.4**
	baz=200						
M13K	**Dall Lake**	**92.90**	**7**	IAMs_20	IAMs_20	16 43 49.9	
	comp=Z,14μm,18.0s						
M13K	**Dall Lake**	**92.90**	**7**	P	**P**	**15 59 24.7**	**+0.9**
	baz=192						
P18K	**Big Mountain,**	**93.03**	**11**	IAmb	IAmb	15 59 48.9	
	comp=Z,65nm,1.1s						
P18K				IAMs_20	IAMs_20	16 38 20.2	
	comp=Z,12μm,20.0s						
P18K	**Big Mountain,**	**93.03**	**11**	P	**P**	**15 59 24.8**	**+0.3**
	baz=199,SNR=6.2						
N15K	**Kwethluk River**	**93.05**	**9**	IAmb	IAmb	15 59 42.6	
	comp=Z,72nm,0.9s						
N15K	**Kwethluk River**	**93.05**	**9**	P	**P**	**15 59 25.0**	**+0.5**
	baz=195						
VHRN	**Van Horn**	**93.07**	**55**	IAmb	IAmb	15 59 58.4	
	comp=Z,80nm,1.7s						
O17K	**Koliganek Bris**	**93.09**	**10**	P	**P**	**15 59 25.2**	**+0.5**
	baz=197						
CMIG	**Matias Romero**	**93.14**	**72**	LR	LR	16 34 24.5	
	comp=Z,7μm,18.4s,baz=244,slow=31						
LYN	**LuoYang**	**93.15**	**309**	P	**P**	**15 59 24.7**	**-1.0**
LYN				pP	pP	15 59 33.9	+1.5
LYN				sP	sP	15 59 36.7	+1.9
LYN				SKS	**SKSac**	**16 09 56.1**	**-1.9**
LYN				SS	**SS**	**16 16 47.4**	**+0.4**
LYN				pmax	pmax		
	comp=Z,87nm,1.1s						
LYN				pmax	pmax		
	comp=Z,2μm,11.7s						
LYN				LR	LR		
	comp=Z,8μm,18.2s						
LYN				LR	LR		
	comp=Z,4μm,18.2s						
LYN				LR	LR		
	comp=Z,11μm,18.6s						
TX31	**Lajitas Ar. Si**	**93.17**	**57**	IAmb	IAmb	15 59 40.2	
	comp=Z,92nm,1.4s						
TXAR	**Lajitas Array**	**93.17**	**57**	P	**P**	**15 59 27.1**	**+1.1**
	comp=Z,15nm,1.0s,baz=205,slow=5.5,SNR=55						
TXAR				PKKPbc	**PKKPbc**	**16 16 34.4**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=111,slow=2.8,SNR=8.1						
TXAR				LR	LR	16 34 36.8	
	comp=Z,5μm,20.0s,baz=220,slow=31						
	comp=Z,15nm,1.0s						
TA01	**Diego Aracena**	**93.26**	**117**	IAmb	IAmb	15 59 29.8	
	comp=Z,82nm,1.1s						
LON	**Longmire**	**93.28**	**35**	IAmb	IAmb	15 59 49.6	
	comp=Z,144nm,2.0s						
HOLB	**Holberg**	**93.31**	**29**	P	**P**	**15 59 26.5**	**+0.5**
HOLB				IAmb	IAmb	16 00 07.7	
	comp=Z,128nm,1.5s						
GNW	**Green Mountain**	**93.38**	**34**	IAmb	IAmb	15 59 48.3	
	comp=Z,78nm,1.6s						
M14K	**Bethel**	**93.39**	**8**	IAmb	IAmb	16 00 06.6	
	comp=Z,31nm,0.9s						
M14K				IAMs_20	IAMs_20	16 42 15.7	
	comp=Z,11μm,19.0s						
M14K	**Bethel**	**93.39**	**8**	P	**P**	**15 59 26.2**	**+0.2**
	baz=193						
SBM	**South Baldy**	**93.45**	**52**	P	**P**	**15 59 28.3**	**+0.8**
HNS	**HongShan**	**93.45**	**313**	⇑P	**P**	**15 59 26.6**	**-0.4**
HNS				SKS	**SKSac**	**16 10 01.6**	**+2.1**
HNS				S	**S**	**16 10 26.3**	**-7.0**
HNS				pmax	pmax		
	comp=Z,49nm,1.2s						
HNS				LR	LR		
	comp=Z,7μm,17.2s						
HNS				LR	LR		
	comp=Z,5μm,18.1s						
HNS				LR	LR		
	comp=Z,9μm,17.7s						
O18K	**Koktuh Hills**	**93.47**	**11**	IAmb	IAmb	15 59 33.2	
	comp=Z,70nm,1.1s						
O18K				IAMs_20	IAMs_20	16 38 22.9	
	comp=Z,14μm,21.0s						
O18K	**Koktuh Hills**	**93.47**	**11**	P	**P**	**15 59 26.7**	**+0.2**
	baz=199						
M15K	**Kasigluk River**	**93.48**	**8**	P	**P**	**15 59 27.0**	**+0.5**
	baz=194						
N16K	**Nishlik Lake**	**93.52**	**9**	P	**P**	**15 59 27.4**	**+0.7**
	baz=196,SNR=15						
F07A	**Phinny Hill Vi**	**93.62**	**36**	IAmb	IAmb	15 59 50.2	
	comp=Z,147nm,2.0s						
P19K	**Oil Pt**	**93.62**	**12**	IAMs_20	IAMs_20	16 38 28.9	
	comp=Z,15μm,20.0s						
P19K	**Oil Pt**	**93.62**	**12**	P	**P**	**15 59 27.9**	**+0.7**
	baz=201						
Y22D	**IRIS PASSCAL I**	**93.68**	**52**	IAMs_20	IAMs_20	16 36 10.5	
	comp=Z,13μm,19.0s						
G08A	**Pilot Rock**	**93.69**	**37**	IAmb	IAmb	15 59 49.8	
	comp=Z,87nm,1.4s						
ALPN	**Alpine**	**93.78**	**56**	IAmb	IAmb	15 59 42.5	
	comp=Z,115nm,1.6s						
N17K	**Nushagak Hills**	**93.80**	**10**	IAMs_20	IAMs_20	16 42 00.6	
	comp=Z,12μm,19.0s						
N17K	**Nushagak Hills**	**93.80**	**10**	P	**P**	**15 59 28.7**	**+0.7**
	baz=197						
L14K	**Kuka Creek**	**93.88**	**7**	P	**P**	**15 59 29.3**	**+1.0**
L14K				IAmb	IAmb	15 59 38.6	
	comp=Z,76nm,1.4s						
L14K	**Kuka Creek**	**93.88**	**7**	P	**P**	**15 59 29.0**	**+0.6**
	baz=193						
MXC	**Moxie City**	**93.91**	**36**	IAmb	IAmb	15 59 51.6	
	comp=Z,139nm,1.8s						
HOM	**Homer**	**93.92**	**13**	P	**P**	**15 59 30.2**	**+1.7**
	baz=202						
O19K	**Port Alsworth**	**93.94**	**12**	IAmb	IAmb	15 59 58.9	
	comp=Z,91nm,1.1s						
O19K				IAMs_20	IAMs_20	16 38 28.3	
	comp=Z,13μm,20.0s						
O19K	**Port Alsworth**	**93.94**	**12**	P	**P**	**15 59 29.2**	**+0.6**
	baz=200						
M16K	**Timber Creek**	**94.02**	**9**	IAmb	IAmb	16 00 17.7	
	comp=Z,41nm,1.1s						
M16K				IAMs_20	IAMs_20	16 40 53.5	
	comp=Z,14μm,20.0s						
M16K	**Timber Creek**	**94.02**	**9**	P	**P**	**15 59 29.8**	**+0.8**
	baz=196						
CMAR	**Chiang Mai Arr**	**94.08**	**289**	P	**P**	**15 59 30.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**94.08**	**289**	P	**P**	**15 59 31.0**	**+0.7**
	comp=Z,7.3nm,0.9s,baz=140,slow=3.7,SNR=32						
CMAR				PP	**PP**	**16 03 13.8**	**-3.3**
	comp=Z,11nm,1.2s,baz=144,slow=6.1,SNR=7.1						
CMAR				PKKPbc	**PKKPdf**	**16 16 31.2**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=291,slow=4.6,SNR=7.5						
CMAR				LR	LR	16 44 21.5	
	comp=Z,3μm,19.2s,baz=130,slow=37						
	comp=Z,7.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**94.08**	**289**	P	**P**	**15 59 30.5**	**+0.2**
MFID	**Camas Ranch**	**94.09**	**40**	IAmb	IAmb	15 59 51.6	
	comp=Z,71nm,1.4s						
MFID				IAMs_20	IAMs_20	16 36 39.7	
	comp=Z,19μm,20.0s						
TMUT	**Trail Mountain**	**94.12**	**46**	P	**P**	**15 59 30.8**	**+0.4**
TMUT				IAmb	IAmb	15 59 35.7	
	comp=Z,40nm,1.0s						
O20K	**Slope Mountain**	**94.13**	**12**	P	**P**	**15 59 30.5**	**+0.9**
	baz=201						
PB11	**IPOC Station P**	**94.13**	**116**	IAmb	IAmb	15 59 36.9	
	comp=Z,100nm,1.1s						
N18K	**Kilae Creek**	**94.14**	**11**	P	**P**	**15 59 31.3**	**+1.7**
	baz=198						
HAWA	**Hanford**	**94.16**	**36**	IAmb	IAmb	15 59 52.7	
	comp=Z,69nm,1.4s						
BRLK	**Bradley Lake**	**94.16**	**13**	IAmb	IAmb	16 00 05.3	
	comp=Z,66nm,1.3s						
BRSE	**Bradley Lake S**	**94.17**	**13**	P	**P**	**15 59 31.1**	**+1.4**
	baz=203						
BJT	**Baijiatuau**	**94.19**	**315**	IAmb	IAmb	15 59 34.5	
	comp=Z,36nm,1.1s						
BJT	**Baijiatuau**	**94.19**	**315**	P	**P**	**15 59 29.5**	**-0.8**
ATAH	**Atahualpa**	**94.19**	**101**	LR	LR	16 34 20.6	
	comp=Z,6μm,18.7s,baz=253,slow=31						
PECS	**Pecos**	**94.19**	**56**	P	**P**	**15 59 30.0**	**-0.7**
LTY	**Liberty**	**94.20**	**35**	IAmb	IAmb	16 00 12.6	
	comp=Z,87nm,1.6s						
BJI	**Beijing**	**94.20**	**315**	P	**P**	**15 59 30.7**	**+0.4**
BJI				SKS	**SKSac**	**16 10 05.2**	**+1.8**
BJI				S	**ScS**	**16 10 45.7**	**+4.7**
BJI				pmax	pmax		
	comp=Z,16nm,1.1s						
BJI				pmax	pmax		
	comp=Z,530nm,10.6s						
BJI				LR	LR		
	comp=Z,3μm,18.4s						
BJI				LR	LR		
	comp=Z,3μm,20.1s						
BJI				LR	LR		
	comp=Z,5μm,18.6s						
CHTO	**Chiang Mai**	**94.26**	**289**	P	**P**	**15 59 30.9**	**-0.2**
CHTO	**Chiang Mai**	**94.26**	**289**	P	**P**	**15 59 31.0**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s						
CHTO				pmax	pmax		
	comp=Z,5μm,20.0s						
K13K	**Kusilvak Mount**	**94.27**	**6**	IAmb	IAmb	16 00 00.3	
	comp=Z,50nm,1.2s						
K13K				IAMs_20	IAMs_20	16 38 51.9	
	comp=Z,14μm,20.0s						
K13K	**Kusilvak Mount**	**94.27**	**6**	P	**P**	**15 59 30.9**	**+0.8**
	baz=191						
PB08	**IPOC Station P**	**94.29**	**117**	P	**P**	**15 59 30.3**	**-1.6**
PB08				IAmb	IAmb	15 59 39.8	
	comp=Z,44nm,1.1s						
L15K	**Ungalak Mounta**	**94.34**	**8**	P	**P**	**15 59 31.5**	**+1.1**
	baz=194						
E08A	**Dider Farm, El**	**94.46**	**36**	IAmb	IAmb	15 59 54.0	
	comp=Z,91nm,1.9s						
BBB	**Bella Bella**	**94.49**	**28**	LR	LR	16 36 13.0	
	comp=Z,13μm,19.1s,baz=224,slow=32						
N19K	**Bonanza Creek**	**94.49**	**11**	IAMs_20	IAMs_20	16 39 04.0	
	comp=Z,14μm,20.0s						
N19K	**Bonanza Creek**	**94.49**	**11**	P	**P**	**15 59 31.9**	**+0.6**
	baz=200						
ANMO	**Albuquerque**	**94.50**	**51**	IAMs_20	IAMs_20	16 40 46.3	
	comp=Z,13μm,18.0s						
ANMO	**Albuquerque**	**94.50**	**51**	LR	LR	16 34 26.6	
	comp=Z,9μm,20.4s,baz=44,slow=31						
ANMO	**Albuquerque**	**94.50**	**51**	*i*P	**P**	**15 59 32.6**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,14nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,6μm,17.0s						
MVCO	**Mesa Verde**	**94.53**	**49**	IAMs_20	IAMs_20	16 34 59.8	
	comp=Z,15μm,20.0s						
M17K	**Holitna River**	**94.60**	**10**	IAmb	IAmb	15 59 50.5	
	comp=Z,86nm,1.2s						
M17K				IAMs_20	IAMs_20	16 50 55.7	
	comp=Z,10μm,18.0s						
M17K	**Holitna River**	**94.60**	**10**	P	**P**	**15 59 32.7**	**+1.0**
	baz=197						
L16K	**Owhat River**	**94.62**	**9**	IAmb	IAmb	15 59 50.1	
	comp=Z,66nm,1.4s						
L16K	**Owhat River**	**94.62**	**9**	P	**P**	**15 59 32.9**	**+1.1**
	baz=196,SNR=8.7						
KMI	**Kunming**	**94.69**	**297**	⇑P	**P**	**15 59 33.0**	**-0.3**
KMI				PP	**PP**	**16 03 24.6**	**+2.5**
KMI				SS	SS	16 17 08.1	-1.6
KMI				pmax	pmax		
	comp=Z,37nm,1.1s						
KMI				pmax	pmax		
	comp=Z,760nm,9.4s						
KMI				LR	LR		
	comp=Z,4μm,18.4s						
KMI				LR	LR		
	comp=Z,7μm,19.8s						
KMI				LR	LR		
	comp=Z,6μm,25.8s						
HVU	**Hansel Valley**	**94.75**	**43**	IAmb	IAmb	15 59 44.9	
	comp=Z,47nm,1.1s						
SEW	**Seward**	**94.76**	**14**	P	**P**	**15 59 33.1**	**+0.7**
	baz=204						
Q23K	**Middleton Isla**	**94.81**	**16**	P	**P**	**15 59 33.8**	**+1.2**
	baz=206						
CLN7	**Carlsbad 7**	**94.83**	**55**	P	**P**	**15 59 32.0**	**-1.6**
M18K	**Stony River**	**94.92**	**10**	P	**P**	**15 59 33.6**	**+0.5**
	baz=199						
MA2	**Magadan**	**94.92**	**345**	P	**P**	**15 59 32.4**	**-0.8**
MA2				IAmb	IAmb	15 59 44.8	
	comp=Z,122nm,1.4s						
MA2				IAMs_20	IAMs_20	16 43 07.1	
	comp=Z,13μm,19.0s						
MA2	**Magadan**	**94.92**	**345**	LR	LR	16 44 38.5	
	comp=Z,7μm,18.0s,baz=158,slow=37						
MA2	**Magadan**	**94.92**	**345**	P	**P**	**15 59 32.6**	**-0.6**
MA2	**Magadan**	**94.92**	**345**	*ce*P	**P**	**15 59 32.7**	**-0.5**
MA2				pmax	pmax		
	comp=Z,86nm,1.4s						
MA2				MLR	MLR		
	comp=Z,11μm,19.0s						
K15K	**Wolf Creek Mou**	**94.94**	**8**	IAmb	IAmb	15 59 53.9	
	comp=Z,80nm,1.2s						
K15K				IAMs_20	IAMs_20	16 43 13.7	
	comp=Z,12μm,19.0s						
K15K	**Wolf Creek Mou**	**94.94**	**8**	P	**P**	**15 59 33.7**	**+0.5**
	baz=194						
E09A	**Wood Farm, Sta**	**94.94**	**37**	IAmb	IAmb	15 59 55.8	
	comp=Z,54nm,1.3s						
HLID	**Hailey**	**94.97**	**41**	IAmb	IAmb	15 59 42.8	
	comp=Z,57nm,1.5s						
SLKM	**Skilak Lake**	**94.98**	**13**	IAmb	IAmb	16 00 08.3	
	comp=Z,58nm,1.1s						
SLKM				IAMs_20	IAMs_20	16 39 37.0	
	comp=Z,13μm,20.0s						
CAPN	**Captain Cook N**	**95.04**	**13**	P	**P**	**15 59 34.2**	**+0.5**
	baz=202						
O22K	**Cooper Landing**	**95.05**	**14**	IAMs_20	IAMs_20	16 46 15.9	
	comp=Z,15μm,18.0s						
TIY	**Taiyuan**	**95.07**	**312**	*e*P	**P**	**15 59 36.0**	**+1.5**
TIY				PP	**PP**	**16 03 27.5**	**+2.8**
TIY				SKS	**SKSac**	**16 10 11.7**	**+3.2**
TIY				S	**ScS**	**16 10 51.4**	**+2.8**
TIY				pmax	pmax		
	comp=Z,19nm,0.6s						
TIY				pmax	pmax		
	comp=Z,910nm,10.0s						
TIY				LR	LR		
	comp=Z,3μm,22.0s						
TIY				LR	LR		
	comp=Z,4μm,22.0s						
TIY				LR	LR		
	comp=Z,7μm,20.0s						
P23K	**Montague Islan**	**95.09**	**15**	P	**P**	**15 59 34.4**	**+0.4**
	baz=206						
PLID	**Pearl Lake**	**95.10**	**39**	IAmb	IAmb	15 59 42.9	
	comp=Z,64nm,1.2s						
TCUT	**Toone Canyon**	**95.14**	**44**	IAmb	IAmb	15 59 54.0	
	comp=Z,149nm,1.7s						
BSUT	**Blindstream Ca**	**95.16**	**45**	IAmb	IAmb	15 59 57.7	
	comp=Z,42nm,1.2s						
PV07	**Paradox Valley**	**95.17**	**47**	P	**P**	**15 59 35.4**	**+0.2**
J14K	**Nanvaranak Lak**	**95.17**	**7**	IAMs_20	IAMs_20	16 39 29.9	
	comp=Z,16μm,20.0s						
J14K	**Nanvaranak Lak**	**95.17**	**7**	P	**P**	**15 59 35.0**	**+0.8**
	baz=192						
L17K	**Donlin**	**95.18**	**9**	P	**P**	**15 59 36.2**	**+1.9**
	baz=196,SNR=6.2						
HEH	**HeiHe**	**95.19**	**328**	*e*P	**P**	**15 59 33.1**	**-1.5**
HEH				SKS	**SKSac**	**16 10 07.5**	**-0.8**
HEH				S	**ScS**	**16 10 54.1**	**+5.3**
HEH				pmax	pmax		
	comp=Z,32nm,1.2s						
HEH				pmax	pmax		
	comp=Z,980nm,9.3s						
HEH				LR	LR		
	comp=Z,6μm,19.4s						
HEH				LR	LR		
	comp=Z,9μm,19.4s						
HEH				LR	LR		
	comp=Z,14μm,19.6s						
CRAG	**Craig**	**95.20**	**24**	P	**P**	**15 59 35.5**	**+1.0**
	baz=217						
XAN	**Xi'an**	**95.22**	**307**	⇑P	**P**	**15 59 36.8**	**+1.5**
XAN				S	**S**	**16 10 52.5**	**+3.4**
XAN				pmax	pmax		
	comp=Z,42nm,2.0s						
XAN				pmax	pmax		
	comp=Z,2μm,10.0s						
XAN				LR	LR		
	comp=Z,3μm,18.0s						
XAN				LR	LR		
	comp=Z,8μm,20.0s						
XAN				LR	LR		
	comp=Z,13μm,19.0s						
N20K	**Mount Spurr**	**95.25**	**12**	P	**P**	**15 59 35.6**	**+0.8**
	baz=202						
SPCR	**Spurr Chakacha**	**95.25**	**12**	P	**P**	**15 59 35.1**	**+0.4**
	baz=202						
L18K	**Granite Mounta**	**95.49**	**10**	IAMs_20	IAMs_20	16 39 40.3	
	comp=Z,11μm,20.0s						
L18K	**Granite Mounta**	**95.49**	**10**	P	**P**	**15 59 36.7**	**+1.0**
	baz=198						
PB18	**Visviri**	**95.53**	**115**	P	**P**	**15 59 36.7**	**-1.1**
M19K	**Big River Lodg**	**95.54**	**11**	IAMs_20	IAMs_20	16 44 40.6	
	comp=Z,12μm,19.0s						
M19K	**Big River Lodg**	**95.54**	**11**	P	**P**	**15 59 36.2**	**+0.2**
	baz=200						
ODSA	**Odessa**	**95.54**	**56**	IAmb	IAmb	15 59 42.0	
	comp=Z,41nm,1.2s						
RC01	**Rabbit Creek A**	**95.61**	**13**	IAMs_20	IAMs_20	16 44 43.5	
	comp=Z,11μm,18.0s						
RC01	**Rabbit Creek A**	**95.61**	**13**	P	**P**	**15 59 37.4**	**+1.1**
	baz=204						
V35K	**Ketchikan**	**95.61**	**24**	IAMs_20	IAMs_20	16 35 21.1	
	comp=Z,13μm,20.0s						
V35K	**Ketchikan**	**95.61**	**24**	P	**P**	**15 59 37.3**	**+0.9**
	baz=218						
GAMB	**Gambell**	**95.63**	**3**	P	**P**	**15 59 38.1**	**+1.8**
	baz=185						
APG	**El Apazote

comp=Z,13µm,18.0s
U33K Whale Pass 95.72 23 P **P 15 59 38.0 +1.2**
baz=217
M20K Styx River 95.73 11 IAMs_20 IAMs_20 16 39 43.6
comp=Z,15µm,21.0s
M20K Styx River 95.73 11 P **P 15 59 37.5 +0.6**
baz=201
L19K White Mountain 95.73 11 IAmb IAmb 15 59 55.8
comp=Z,69nm,1.3s
L19K White Mountain 95.73 11 P **P 15 59 37.5 +0.7**
baz=199
K17K Iditarod 95.74 9 IAmb IAmb 16 00 13.6
comp=Z,37nm,1.1s
K17K Iditarod 95.74 9 P **P 15 59 37.8 +1.0**
baz=196
SUA Susitna One 95.76 13 P **P 15 59 37.4 +0.3**
baz=203
SIT Sitka 95.77 22 P **P 15 59 37.1 +0.1**
baz=215
OZNA Ozona 95.88 57 IAmb IAmb 15 59 48.9
comp=Z,61nm,1.8s
S22A 4UR Ranch, Cre 95.91 49 P **P 15 59 37.9 -0.8**
baz=234
EYAK Cordova Ski Ar 95.95 15 P **P 15 59 39.3 +1.5**
EYAK Cordova Ski Ar 95.95 15 P **P 15 59 39.5 +1.7**
baz=207,SNR=6.1
GLI Glacier Island 95.96 15 IAmb IAmb 16 00 12.1
comp=Z,42nm,0.9s
GLI IAMs_20 IAMs_20 16 36 18.8
comp=Z,15µm,21.0s
GLI Glacier Island 95.96 15 P **P 15 59 37.8 -0.1**
baz=206,SNR=9.9
FID Port Fidalgo 95.97 15 P **P 15 59 37.2 -0.7**
FID IAmb IAmb 16 00 12.7
comp=Z,36nm,1.1s
FID IAMs_20 IAMs_20 16 40 15.0
comp=Z,16µm,20.0s
SUCK Suckling Hills 95.99 16 IAMs_20 IAMs_20 16 40 09.7
comp=Z,18µm,20.0s
J16K Anvik River 96.01 8 IAmb IAmb 16 00 18.4
comp=Z,49nm,1.4s
J16K Anvik River 96.01 8 P **P 15 59 38.4 +0.4**
baz=195
SKT Skwentna 96.09 12 IAMs_20 IAMs_20 16 40 09.4
comp=Z,13µm,20.0s
SKT Skwentna 96.09 12 P **P 15 59 38.5 -0.1**
baz=202
TBOT Tacuaremb 96.11 133 *e*P **P 15 59 40.5 +1.0**
M22K Willow 96.14 13 P **P 15 59 37.0 -1.7**
baz=203
KNK Knik Glacier 96.16 14 IAMs_20 IAMs_20 16 46 40.1
comp=Z,13µm,18.0s
KNK Knik Glacier 96.16 14 P **P 15 59 38.7 -0.1**
baz=205,SNR=6.1
L20K Farewell, AK 96.16 11 P **P 15 59 40.2 +1.3**
baz=200
PMR Palmer 96.19 13 IAmb IAmb 16 00 08.8
comp=Z,48nm,1.6s
PMR Palmer 96.19 13 P **P 15 59 39.6 +0.7**
PMR Palmer 96.19 13 P **P 15 59 38.9 0.0**
baz=204
PZH PanZhiHua 96.19 297 P **P 15 59 41.6 +1.6**
PZH PP **PP 16 03 33.6 0.0**
PZH SKS **SKSac 16 10 14.6 -0.4**
PZH S **ScS 16 10 59.5 +0.9**
PZH pmax pmax
comp=Z,10.0nm,1.5s
PZH pmax pmax
comp=Z,250nm,8.6s
PZH LR LR
comp=Z,5µm,22.1s
PZH LR LR
comp=Z,5µm,23.5s
PZH LR LR
comp=Z,6µm,21.6s
WRAK Wrangell Islan 96.22 23 IAMs_20 IAMs_20 16 44 26.7
comp=Z,15µm,18.0s
WRAK Wrangell Islan 96.22 23 P **P 15 59 39.6 +0.5**
baz=217
S31K Pelican 96.23 21 IAMs_20 IAMs_20 16 45 09.3
comp=Z,10µm,18.0s
S31K Pelican 96.23 21 P **P 15 59 36.6 -2.6**
baz=214
MTO3 Montecristo 96.24 77 IAmb IAmb 16 00 18.1
comp=Z,34nm,0.9s
TTA Tatalina 96.26 10 P **P 15 59 38.0 -1.3**
baz=198
J17K VABM Dome 96.30 8 P **P 15 59 40.1 +0.7**
baz=196
S32K Killisnoo 96.34 22 P **P 15 59 38.4 -1.2**
baz=216
AHID Auburn Hatcher 96.34 43 IAmb IAmb 15 59 51.3
comp=Z,53nm,1.3s
GHO Glory Hole Cre 96.39 13 IAMs_20 IAMs_20 16 45 07.3
comp=Z,13µm,18.0s
O20A White River Ci 96.44 46 IAMs_20 IAMs_20 16 41 48.2
comp=Z,13µm,18.0s
MESA MESA 96.53 17 P **P 15 59 38.3 -2.5**
baz=210
SML Sawmill 96.54 14 IAMs_20 IAMs_20 16 46 44.3
comp=Z,13µm,18.0s
SML Sawmill 96.54 14 P **P 15 59 40.2 -0.4**
baz=205
I17K Unalakleet 96.58 8 IAmb IAmb 15 59 58.3
comp=Z,42nm,1.4s
I17K Unalakleet 96.58 8 P **P 15 59 40.4 -0.2**
baz=194
BMRM Bremner River 96.59 16 P **P 15 59 40.8 0.0**
BMRM IAmb IAmb 16 00 06.7
comp=Z,38nm,1.2s
BMRM Bremner River 96.59 16 P **P 15 59 39.4 -1.4**
baz=208
NEW Newport 96.63 36 LR LR 16 36 43.8
comp=Z,29µm,19.9s,baz=223,slow=31
M23K Glacier View 96.65 14 P **P 15 59 39.7 -1.3**
baz=205
XLT XiLinHaoTe 96.67 318 *e*P **P 15 59 41.7 0.0**
XLT sP sP 15 59 50.2 -0.6
XLT SKS **SKSac 16 10 12.7 -3.9**
XLT S **ScS 16 11 05.4 +3.7**
XLT pmax pmax
comp=Z,11nm,1.0s
XLT LR LR
comp=Z,5µm,22.3s
XLT LR LR
comp=Z,9µm,20.8s
J18K Innoko River 96.67 9 IAMs_20 IAMs_20 16 42 16.6
comp=Z,12µm,19.0s
J18K Innoko River 96.67 9 P **P 15 59 40.7 -0.4**
baz=198
KLU Klutina 96.76 15 IAMs_20 IAMs_20 16 36 44.1
comp=Z,13µm,20.0s
KLU Klutina 96.76 15 P **P 15 59 42.5 +0.9**
baz=207,SNR=5.7
SCM Sheep Creek Mo 96.77 14 IAmb IAmb 16 00 16.1
comp=Z,29nm,0.9s
SCM IAMs_20 IAMs_20 16 46 04.3
comp=Z,10µm,18.0s
SCM Sheep Creek Mo 96.77 14 P **P 15 59 42.8 +1.2**
baz=206,SNR=6.6
ANM Nome 96.80 5 IAMs_20 IAMs_20 16 38 03.9
comp=Z,11µm,20.0s
ANM Nome 96.80 5 P **P 15 59 42.3 +0.7**
baz=191
PPLA Purkeypile 96.83 12 P **P 15 59 43.1 +1.1**
baz=202
FXWY Fox Creek 96.92 42 P **P 15 59 42.5 -0.5**
FXWY IAmb IAmb 16 00 04.8
comp=Z,44nm,1.4s
K20K Telida 96.96 11 IAmb IAmb 16 00 25.7
comp=Z,43nm,1.5s
K20K IAMs_20 IAMs_20 16 44 09.2
comp=Z,11µm,19.0s
K20K Telida 96.96 11 P **P 15 59 42.1 -0.3**
baz=200
SNOW Snow King Moun 96.97 43 IAmb IAmb 15 59 54.4
comp=Z,63nm,1.4s
R32K Eaglecrest 97.01 21 P Pdif 15 59 44.2 +1.4
baz=216
VRDI Verde Repeater 97.08 16 IAMs_20 IAMs_20 16 40 46.6
comp=Z,16µm,20.0s
CD2 Chengdu 97.08 302 P Pdif 15 59 45.2 +1.3
CD2 PP **PP 16 03 46.2 +5.9**
CD2 SKS **SKSac 16 10 21.7 +2.4**
CD2 S **S 16 11 04.7 -0.6**
CD2 SS **SS 16 17 41.6 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 pmax pmax
comp=Z,1µm,6.5s
CD2 LR LR
comp=Z,6µm,19.0s
CD2 LR LR
comp=Z,6µm,19.0s
DLMT Dillon 97.12 40 IAmb IAmb 16 00 26.3
comp=Z,55nm,1.4s
T25A Trinidad 97.12 51 P **P 15 59 44.1 0.0**
baz=235
LOHW Long Hollow 97.15 42 IAmb IAmb 16 00 03.8
comp=Z,37nm,1.4s
MOOW Moose Ponds 97.15 42 IAmb IAmb 16 00 26.7
comp=Z,50nm,1.8s
H16K Elim 97.15 7 P Pdif 15 59 44.2 +1.0
baz=193
N25K Chitina, Valde 97.15 15 IAMs_20 IAMs_20 16 46 25.5
comp=Z,12µm,18.0s
N25K Chitina, Valde 97.15 15 P **P 15 59 43.5 +0.1**
baz=208
GLB Gilahina Butte 97.19 16 IAMs_20 IAMs_20 16 46 59.4
comp=Z,12µm,18.0s
PDAR Pinedale Array 97.24 44 P **P 15 59 43.7 -0.8**
PDAR Pinedale Array 97.24 44 P **P 15 59 44.4 -0.1**
comp=Z,8.3nm,0.9s,baz=202,slow=3.1,SNR=34
PDAR PP **PP 16 03 39.9 -1.7**
comp=Z,5.0nm,1.1s,baz=246,slow=6.3,SNR=4.4
PDAR PKKP **PKKPbc 16 16 24.1 -0.1**
comp=Z,3.8nm,0.8s,baz=89,slow=3.7,SNR=11
PDAR LR LR 16 40 03.5
comp=Z,10µm,18.6s,baz=230,slow=33
comp=Z,8.3nm,0.9s
M24K Tolsona, Glenn 97.26 14 IAMs_20 IAMs_20 16 41 09.2
comp=Z,12µm,19.0s
M24K Tolsona, Glenn 97.26 14 P Pdif 15 59 47.2 +3.3
baz=207
J19K Poorman 97.33 10 IAMs_20 IAMs_20 16 42 47.0
comp=Z,11µm,20.0s
J19K Poorman 97.33 10 P Pdif 15 59 44.7 +0.6
baz=199
G15K Niukluk 97.33 6 P Pdif 15 59 44.7 +0.6
baz=192
CAST Castle Rocks 97.34 11 IAMs_20 IAMs_20 16 40 35.2
comp=Z,13µm,20.0s
CAST Castle Rocks 97.34 11 P **P 15 59 42.8 -1.3**
baz=202
LPAZ La Paz 97.34 114 P Pdif 15 59 48.2 +2.0
comp=Z,7.2nm,0.8s,baz=219,slow=3.3,SNR=18
LPAZ PKKPbc **PKKPbc 16 16 21.6 -1.5**
comp=Z,3.0nm,1.0s,baz=0.0,slow=2.0,SNR=4.4
LPAZ LR LR 16 37 22.7
comp=Z,7µm,18.4s,baz=222,slow=32
comp=Z,7.2nm,0.8s
LPAZ La Paz 97.34 114 *e*P Pdif 15 59 46.9 +0.7
T35M Bob Quinn 97.38 24 P Pdif 15 59 44.8 +0.2
baz=219
PLBC Pleasant Camp 97.43 20 P Pdif 15 59 46.4 +1.8
baz=214
PLTB Pedras Altas 97.48 135 *e*P **P 15 59 45.7 -0.1**
HHC Hu-ho-hao-te 97.48 314 *e*P Pdif 15 59 48.4 +2.9
HHC pP pP 15 59 53.3 +1.2
HHC SKS **SKSac 16 10 24.4 +3.4**
HHC S **S 16 11 05.0 -3.4**
HHC sS sS 16 11 20.0 +0.1
HHC pmax pmax
comp=Z,25nm,1.2s
HHC pmax pmax
comp=Z,540nm,7.6s
HHC LR LR
comp=Z,3µm,21.2s
HHC LR LR
comp=Z,3µm,22.6s
HHC LR LR
comp=Z,7µm,23.3s
O28M Mount Upton 97.49 18 P Pdif 15 59 46.3 +1.1
baz=211
O29M Mount Kennedy 97.51 19 IAMs_20 IAMs_20 16 39 46.1
comp=Z,14µm,20.0s
O29M Mount Kennedy 97.51 19 P Pdif 15 59 46.0 +0.8
baz=213
YFT Old Faithful 97.53 42 P **P 15 59 45.5 -0.2**
YHL Hebgen Lake 97.58 41 IAmb IAmb 15 59 55.4
comp=Z,43nm,1.3s
TNA Tin City 97.61 4 P **P 15 59 45.0 -0.2**
baz=188
SEY Seymchan 97.62 347 LR LR 16 39 32.2
comp=Z,11µm,20.5s,baz=149,slow=33
SEY Seymchan 97.62 347 *ce*P **P 15 59 45.3 0.0**
SEY pmax pmax
comp=Z,70nm,1.3s
SEY MLR MLR
comp=Z,12µm,18.0s
F14K Arctic Creek 97.63 5 P **P 15 59 44.4 -0.9**
baz=190
KTH Kantishna Hill 97.66 12 IAMs_20 IAMs_20 16 38 15.8
comp=Z,15µm,22.0s
TRF Thorofare Moun 97.68 12 IAmb IAmb 16 00 17.6
comp=Z,43nm,1.4s
TRF Thorofare Moun 97.68 12 P Pdif 15 59 46.8 +0.9
baz=203
H17K Granite Mounta 97.69 8 P Pdif 15 59 48.3 +2.6
baz=195
Q24A Divide 97.69 49 P **P 15 59 43.3 -3.5**
baz=235
J20K Nowinta River 97.72 10 P **P 15 59 44.8 -1.0**
baz=200
SKAG Skagway 97.73 20 P **P 15 59 45.5 -0.5**
baz=215
CHUM Lake Minchumin 97.73 11 P **P 15 59 44.1 -1.7**
baz=202
HARP HAARP 97.73 15 P **P 15 59 45.5 -0.4**
baz=208
ZEA Zeya 97.76 331 *e*P **P 15 59 45.5 -0.7**
ZEA *e* 16 03 41.6
ZEA *e*S **SKSac 16 10 23.4 +1.9**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA pmax pmax
comp=E,100nm,7.7s
ZEA pmax pmax
comp=Z,400nm,12.6s
ZEA pmax pmax
comp=N,200nm,6.0s
ZEA pmax pmax
comp=Z,500nm,14.8s
BOZ Bozeman (W) 97.80 40 IAmb IAmb 16 00 09.5
comp=Z,49nm,1.6s
JTS Las Juntas de 97.81 83 LR LR 16 36 39.8
comp=Z,11µm,18.9s,baz=250,slow=31
P30M Million Dollar 97.81 19 P Pdif 15 59 47.3 +0.9
baz=214
S34M Telegraph Cree 97.81 23 P Pdif 15 59 47.2 +0.9
baz=218
RTBA Rita Blanca 97.84 52 P **P 15 59 46.5 -0.7**
RTBA IAmb IAmb 15 59 58.3
comp=Z,57nm,1.5s
LKWY Lake 97.85 42 IAmb IAmb 16 00 14.3
comp=Z,75nm,1.8s
TNCH TengChong 97.87 294 P **P 15 59 46.8 -0.9**
TNCH PP **PP 16 03 48.0 +1.3**
TNCH SKS **SKSac 16 10 23.1 -0.8**
TNCH S **S 16 11 10.1 -2.5**
TNCH SS **SS 16 17 55.9 +1.2**
TNCH pmax pmax
comp=Z,21nm,1.4s
TNCH pmax pmax
comp=Z,580nm,6.7s
TNCH LR LR
comp=Z,1µm,21.4s
TNCH LR LR
comp=Z,1µm,19.6s
TNCH LR LR
comp=Z,5µm,22.5s
GCSA Galena City Sc 97.88 9 P **P 15 59 46.2 -0.2**
baz=198
G16K Koyuk River 97.88 6 IAMs_20 IAMs_20 16 45 29.1
comp=Z,15µm,19.0s
G16K Koyuk River 97.88 6 P Pdif 15 59 48.4 +1.9
baz=193
RND Reindeer 97.90 13 IAmb IAmb 16 00 22.0
comp=Z,34nm,1.2s
RND IAMs_20 IAMs_20 16 41 42.1
comp=Z,17µm,19.0s
F15K North Star Dit 97.99 5 IAMs_20 IAMs_20 16 41 29.2
comp=Z,13µm,20.0s
F15K North Star Dit 97.99 5 P Pdif 15 59 47.4 +0.4
baz=191
YUK8 Steele Glacier 98.03 18 P **P 15 59 47.6 -0.1**
baz=212
H18K Honhosa River 98.08 8 IAMs_20 IAMs_20 16 45 09.7
comp=Z,12µm,20.0s
H18K Honhosa River 98.08 8 P **P 15 59 47.1 -0.3**
baz=196
OTAV Otavalo 98.09 95 *e*P Pdif 15 59 52.1 +2.7
YUK6 Outpost Mounta 98.11 18 P **P 15 59 47.9 0.0**
baz=213
HIA Hailar 98.14 324 IAMs_20 IAMs_20 16 45 18.0
comp=Z,15µm,19.0s
HIA Hailar 98.14 324 P Pdif 15 59 49.3 +1.2
BPAW Bear Paw Mtn. 98.16 12 IAMs_20 IAMs_20 16 46 04.9
comp=Z,15µm,19.0s
BPAW Bear Paw Mtn. 98.16 12 P **P 15 59 47.4 -0.4**
baz=203
G17K Kiwalik Mounta 98.16 7 P **P 15 59 46.0 -1.7**
baz=195
PAX Paxson 98.18 14 P **P 15 59 46.0 -2.0**
baz=207
MCK McKinley 98.18 13 P Pdif 15 59 49.1 +1.1
baz=204,SNR=7.4
M26K Nabesna, AK 98.22 16 IAMs_20 IAMs_20 16 47 43.6
comp=Z,14µm,18.0s
M26K Nabesna, AK 98.22 16 P Pdif 15 59 51.3 +3.1
baz=209
HYT Haines Junctio 98.24 19 P Pdif 15 59 49.9 +1.5
baz=214
I20K Naaghedeneel 98.26 10 IAMs_20 IAMs_20 16 41 15.5
comp=Z,12µm,20.0s
I20K Naaghedeneel 98.26 10 P **P 15 59 46.4 -1.7**
baz=200
Q32M Nakina River 98.27 22 IAMs_20 IAMs_20 16 49 13.2
comp=Z,10µm,18.0s
Q32M Nakina River 98.27 22 P Pdif 15 59 50.7 +2.1
baz=216
BTO Baotou 98.29 313 *e*P Pdif 15 59 53.6 +4.5
BTO PP **PP 16 03 56.3 +6.8**
BTO SKS **SKSac 16 10 28.0 +2.9**
BTO pmax pmax
comp=Z,19nm,0.8s
BTO pmax pmax
comp=Z,2µm,8.0s
BTO LR LR
comp=Z,9µm,19.8s
BTO LR LR
comp=Z,13µm,17.8s
BTO LR LR
comp=Z,23µm,20.2s
P32M Atlin 98.32 21 IAMs_20 IAMs_20 16 43 37.6
comp=Z,10µm,19.0s
P32M Atlin 98.32 21 P **P 15 59 46.6 -2.1**
baz=217
YUK4 Talbot Arm 98.37 18 P **P 15 59 47.3 -1.7**
baz=213
M27K Edge Creek, AK 98.44 16 IAMs_20 IAMs_20 16 41 31.5
comp=Z,13µm,20.0s
M27K Edge Creek, AK 98.44 16 P Pdif 15 59 50.8 +1.5
baz=210
MENT Mentasta 98.53 15 P Pdif 15 59 50.2 +0.7
MENT Mentasta 98.53 15 P Pdif 15 59 51.3 +1.8
CPSB Cacapava Do Su 98.53 134 *e*P Pdif 15 59 51.1 +0.6
CZSB Cruzeiro do Su 98.58 105 *e*P Pdif 15 59 52.9 +2.0
O30N Mendenhall 98.59 19 IAMs_20 IAMs_20 16 44 28.6
comp=Z,14µm,18.0s
O30N Mendenhall 98.59 19 P **P 15 59 48.5 -1.3**
baz=215
DLBC Dease Lake 98.59 23 LR LR 16 34 37.4
comp=Z,6µm,21.8s,baz=228,slow=30
DLBC Dease Lake 98.59 23 P **P 15 59 49.9 0.0**
baz=219
H19K Roundabout Mou 98.68 9 P **P 15 59 49.7 -0.3**
baz=198
L26K Log Cabin Wild 98.68 15 IAMs_20 IAMs_20 16 41 54.9
comp=Z,17µm,20.0s
L26K Log Cabin Wild 98.68 15 P **P 15 59 48.3 -1.9**
baz=209
G18K Tagagawik 98.76 8 IAmb IAmb 16 00 20.0
comp=Z,53nm,1.9s
G18K Tagagawik 98.76 8 P **P 15 59 50.1 -0.3**
baz=196
WHY Whitehorse 98.84 20 P Pdif 15 59 54.0 +2.9
baz=216
CPUP Villa Florida 98.85 129 P Pdif 15 59 53.5 +1.5
comp=Z,2.4nm,0.8s,baz=255,slow=5.8,SNR=9.6
CPUP PKKPbc **PKKPbc 16 16 17.8 -0.5**
comp=Z,8.6nm,0.9s,baz=36,slow=3.2,SNR=18
CPUP PKPPKP **P'P'df 16 24 34.7 -4.0**
comp=Z,2.9nm,1.1s,baz=41,slow=5.6,SNR=3.3
CPUP LR LR 16 41 08.4
comp=Z,7µm,18.1s,baz=225,slow=33
comp=Z,2.4nm,0.8s
CPUP Villa Florida 98.85 129 *e*P Pdif 15 59 52.8 +0.8
H20K Anotlenega Mo 98.86 9 P Pdif 15 59 54.9 +4.0
baz=200
N30M Aishikik Lake 98.88 18 IAMs_20 IAMs_20 16 40 40.3
comp=Z,14µm,20.0s
N30M Aishikik Lake 98.88 18 P Pdif 15 59 53.5 +2.3
baz=214
NEA2 Nenana 98.94 12 P Pdif 15 59 53.1 +1.8
baz=204
K22A Casper 98.97 45 IAmb IAmb 16 00 13.5
comp=Z,84nm,1.9s
RIDG Independent Ri 98.99 14 IAMs_20 IAMs_20 16 37 57.1
comp=Z,15µm,21.0s
RIDG Independent Ri 98.99 14 P **P 15 59 51.1 -0.5**
baz=208
I21K Tanana 99.00 11 P Pdif 15 59 53.3 +1.8
baz=202
F17K Baldwin Pennin 99.01 7 IAMs_20 IAMs_20 16 41 48.0
comp=Z,13µm,20.0s
F17K Baldwin Pennin 99.01 7 P **Pdif 15 59 55.6 +4.1**
baz=194
WRH Wood River Hil 99.01 13 IAMs_20 IAMs_20 16 41 50.5
comp=Z,16µm,20.0s
R33M Jennings River 99.03 22 P **Pdif 15 59 54.0 +2.1**
R33M IAMs_20 IAMs_20 16 49 13.2
comp=Z,10µm,18.0s
R33M Jennings River 99.03 22 P **Pdif 15 59 54.1 +2.1**
baz=219
L27K Beaver Creek, 99.06 16 IAMs_20 IAMs_20 16 48 27.9
comp=Z,12µm,18.0s
L27K Beaver Creek, 99.06 16 P **Pdif 15 59 54.3 +2.4**
baz=210
P33M Teslin, Yukon 99.09 21 P **Pdif 15 59 55.1 +3.0**
baz=217
BRIGG Briggsdale 99.14 48 IAMs_20 IAMs_20 16 42 34.9
comp=Z,11µm,18.0s
HDA Harding Lake 99.17 13 P **Pdif 15 59 53.3 +1.0**
baz=206
G19K Purcell Mounta 99.19 8 IAMs_20 IAMs_20 16 45 45.0
comp=Z,11µm,20.0s
G19K Purcell Mounta 99.19 8 P **Pdif 15 59 54.2 +1.8**
baz=198
CCB Clear Creek Bu 99.22 13 IAMs_20 IAMs_20 16 41 57.1
comp=Z,16µm,20.0s
N31M Braeburn, Yuko 99.26 19 P **Pdif 15 59 54.4 +1.6**
baz=215
H21K Melozitna Rive 99.31 10 P **Pdif 15 59 56.9 +4.0**
baz=201
F18K Selawik 99.33 7 P **Pdif 15 59 54.8 +1.9**
baz=196
M29M Somme Creek 99.35 17 IAMs_20 IAMs_20 16 41 07.5
comp=Z,15µm,20.0s
M29M Somme Creek 99.35 17 P **Pdif 15 59 56.3 +3.0**
baz=213
SCRK Sand Creek 99.38 14 P **Pdif 15 59 54.3 +0.9**
baz=208
I23K Minto, Yukon-K 99.40 12 IAMs_20 IAMs_20 16 42 43.8
comp=Z,17µm,20.0s
I23K Minto, Yukon-K 99.40 12 P **Pdif 15 59 57.3 +4.0**
baz=204
COLA College 99.42 12 P **Pdif 15 59 54.0 +0.7**
COLA College 99.42 12 P **Pdif 15 59 53.9 +0.6**
COLA College 99.42 12 *i* P **Pdif 15 59 52.3 -1.0**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA MLR MLR
comp=Z,16µm,18.0s
COLA College 99.42 12 P **Pdif 15 59 55.2 +1.8**
baz=205
ILAR Eielson Array 99.51 13 P **Pdif 15 59 54.5 +0.8**
ILAR Eielson Array 99.51 13 P **Pdif 15 59 54.6 +0.9**
comp=Z,3.6nm,1.0s,baz=220,slow=5.0,SNR=16
ILAR PP **PP 16 04 01.6 +3.5**
comp=Z,8.1nm,1.0s,baz=207,slow=6.0,SNR=5.5

ILAR				PKKPbc	PKKPbc	16 16 17.8	-0.6	
	comp=Z,1.0nm,0.9s,baz=13,slow=3.5,SNR=2.8							
ILAR				LR	LR	16 40 09.8		
	comp=Z,5μm,19.4s,baz=206,slow=33							
	comp=Z,3.6nm,1.0s							
E17K	Hotham Inlet	99.58	6	P	Pdif	15 59 55.2	+1.2	
	baz=194							
J25K	Salcha River,	99.66	14	IAms_20	IAms_20	16 48 38.7		
	comp=Z,15μm,18.0s							
J25K	Salcha River,	99.66	14	P	Pdif	15 59 57.0	+2.4	
	baz=207							
POKR	Poker Plat Res	99.72	13	IAmb	IAmb	16 03 52.9		
	comp=Z,46nm,1.8s							
POKR	Poker Plat Res	99.72	13	P	Pdif	15 59 56.5	+1.8	
	baz=206							
H22K	Ishtalitna Cre	99.75	11	P	Pdif	15 59 54.5	-0.4	
	baz=202							
N32M	Quiet Lake	99.76	20	IAms_20	IAms_20	16 42 30.6		
	comp=Z,12μm,19.0s							
N32M	Quiet Lake	99.76	20	P	Pdif	15 59 58.8	+3.7	
	baz=217							
F19K	Shaleruckik Mo	99.76	8	P	Pdif	15 59 54.5	-0.3	
	baz=197							
LZH	Lanzhou	99.82	306	eP	Pdif	15 59 56.7	+0.6	
LZH				pP	pwP	16 00 08.3	-2.0	
LZH				SKS	SKSac	16 10 34.8	+1.7	
LZH				sS	pS	16 11 34.3	-3.1	
LZH				pmax	pmax			
	comp=Z,870nm,6.5s							
LZH				LR	LR			
	comp=Z,5μm,19.6s							
LZH				LR	LR			
	comp=Z,7μm,19.2s							
LZH				LR	LR			
	comp=Z,8μm,19.9s							
K27K	Chicken	99.84	15	IAms_20	IAms_20	16 42 30.5		
	comp=Z,15μm,20.0s							
K27K	Chicken	99.84	15	P	Pdif	15 59 54.1	-1.2	
	baz=210							
M30M	Minto, Yukon	99.89	18	IAms_20	IAms_20	16 41 22.9		
	comp=Z,15μm,20.0s							
M30M	Minto, Yukon	99.89	18	P	Pdif	15 59 54.3	-1.3	
	baz=214							
J26L	Joseph Creek	99.93	14	IAms_20	IAms_20	16 38 36.9		
	comp=Z,12μm,21.0s							
J26L	Joseph Creek	99.93	14	P	Pdif	15 59 57.4	+1.6	
	baz=209							
L29M	L29M	99.99	17	IAms_20	IAms_20	16 41 37.5		
	comp=Z,14μm,20.0s							
L29M	L29M	99.99	17	P	Pdif	15 59 59.1	+3.1	
	baz=213							
G21K	Allakaket	100.02	10	IAms_20	IAms_20	16 44 10.0		
	comp=Z,12μm,20.0s							
G21K	Allakaket	100.02	10	P	Pdif	15 59 57.8	+1.8	
	baz=201							
E18K	Tukpahlearik C	100.03	7	IAms_20	IAms_20	16 42 41.2		
	comp=Z,12μm,20.0s							
E18K	Tukpahlearik C	100.03	7	P	Pdif	15 59 57.2	+1.1	
	baz=195							
D17K	Noatak River	100.07	6	P	Pdif	15 59 57.4	+1.2	
	baz=193							
F20K	Avaraart Lake	100.22	9	P	Pdif	15 59 59.5	+2.6	
	baz=199							
M31M	Drury Creek, Y	100.23	19	P	Pdif	15 59 56.5	-0.6	
	baz=216							
H24K	Noodor Dome	100.29	12	P	Pdif	15 59 58.3	+1.0	
	baz=205							
E19K	Redstone River	100.43	8	P	Pdif	15 59 58.9	+1.1	
	baz=198							
RDOG	Red Dog Mine	100.44	6	IAms_20	IAms_20	16 40 59.9		
	comp=Z,17μm,20.0s							
RDOG	Red Dog Mine	100.44	6	P	Pdif	16 00 00.4	+2.6	
	baz=193							
PRP	Porcupine Dome	100.44	13	P	Pdif	15 59 59.7	+1.6	
	baz=207							
C16K	Lisburne Hills	100.47	5	IAms_20	IAms_20	16 39 46.7		
	comp=Z,15μm,20.0s							
C16K	Lisburne Hills	100.47	5	P	Pdif	16 00 02.7	+4.8	
	baz=191							
DAWY	Dawson	100.49	16	P	Pdif	15 59 57.7	-0.6	
	baz=212							
BILL	Bilibino	100.50	354	IAms_20	IAms_20	16 41 11.8		
	comp=Z,15μm,20.0s							
BILL	Bilibino	100.50	354	i P	Pdif	15 59 58.4	+0.3	
BILL				pmax	pmax			
	comp=Z,21nm,1.4s							
BILL				MLR	MLR			
	comp=Z,13μm,18.0s							
FARO	Faro, Yukon	100.55	20	P	Pdif	15 59 57.9	-0.6	
	baz=217							
TOAD	Toad River Com	100.56	25	P	Pdif	16 00 01.5	+2.9	
	baz=223							
OK038	West end E0370	100.56	54	IAms_20	IAms_20	16 40 14.7		
	comp=Z,10μm,20.0s							
SJPY	San Joaquin	100.56	128	eP	Pdif	16 00 01.1	+1.4	
F21K	Alatna River	100.68	9	P	Pdif	15 59 56.4	-2.6	
	baz=201							
I26K	Coal Creek Min	100.72	14	IAms_20	IAms_20	16 39 21.8		
	comp=Z,12μm,20.0s							
I26K	Coal Creek Min	100.72	14	P	Pdif	15 59 58.7	-0.4	
	baz=209							
G23K	Bananza Creek	100.72	11	IAms_20	IAms_20	16 46 09.7		
	comp=Z,14μm,19.0s							
G23K	Bananza Creek	100.72	11	P	Pdif	16 00 01.7	+2.5	
	baz=204							
K29M	Barlow Dome	100.75	17	IAms_20	IAms_20	16 42 21.7		
	comp=Z,12μm,20.0s							
K29M	Barlow Dome	100.75	17	P	Pdif	16 00 00.3	+0.8	
	baz=214							
OGNE	Ogallala	100.79	48	IAms_20	IAms_20	16 39 07.5		
	comp=Z,15μm,19.0s							
C17K	DeLong Mountai	100.83	5	P	Pdif	15 59 58.5	-1.1	
	baz=193							
NATX	Nacogdoches	101.00	60	IAms_20	IAms_20	16 39 23.5		
	comp=Z,12μm,21.0s							
H25L	Birch Creek	101.05	13	P	Pdif	16 00 01.7	+1.1	
	baz=207							
OK029	Liberty Lake	101.09	55	IAms_20	IAms_20	16 45 43.7		
	comp=Z,11μm,18.0s							
J29N	Klondike Camp	101.09	16	IAms_20	IAms_20	16 49 22.7		
	comp=Z,11μm,19.0s							
J29N	Klondike Camp	101.09	16	P	Pdif	16 00 00.4	-0.6	
	baz=213							
LKP	Lekhapani	101.11	295	eP	Pdif	16 00 01.0	-0.9	
CBKS	Cedar Bluff	101.13	51	IAms_20	IAms_20	16 44 37.6		
	comp=Z,11μm,18.0s							
F22K	John River	101.13	10	P	Pdif	16 00 02.8	+1.8	
	baz=202							
G24K	Hadweenzic Riv	101.14	12	IAms_20	IAms_20	16 43 35.8		
	comp=Z,14μm,20.0s							
G24K	Hadweenzic Riv	101.14	12	P	Pdif	16 00 02.8	+1.8	
	baz=206							
C18K	Utukok River	101.16	6	IAms_20	IAms_20	16 43 31.2		
	comp=Z,16μm,20.0s							
C18K	Utukok River	101.16	6	P	Pdif	16 00 03.6	+2.5	
	baz=194							
COLD	Coldfoot	101.17	11	P	Pdif	16 00 03.7	+2.5	
	baz=204							
I27K	Kandik River	101.30	14	P	Pdif	16 00 04.9	+3.1	
	baz=211							
E20K	Nigu River	101.31	8	P	Pdif	16 00 04.3	+2.5	
	baz=199							
D19K	Kuna River	101.32	7	IAms_20	IAms_20	16 45 52.4		
	comp=Z,14μm,20.0s							
D19K	Kuna River	101.32	7	P	Pdif	16 00 04.3	+2.5	
	baz=197							
IMP	Imphal	101.34	292	eP	Pdif	16 00 00.4	-2.6	
FYU	Fort Yukon	101.42	13	IAms_20	IAms_20	16 43 24.3		
	comp=Z,13μm,20.0s							
G25K	Bearman Lake	101.44	12	P	Pdif	16 00 04.1	+1.8	
	baz=207							
LAO	LASA Array	101.47	42	IAms_20	IAms_20	16 46 06.9		
	comp=Z,13μm,18.0s							
TGTN	Hyland Airport	101.52	22	P	Pdif	16 00 05.1	+2.2	
	baz=221							
I28M	Miner Creek	101.54	15	P	Pdif	16 00 02.3	-0.6	
	baz=212							
KOHI	KOHIMA	101.65	293	eP	Pdif	16 00 02.7	-1.8	
J30M	Hart River	101.65	17	IAms_20	IAms_20	16 42 50.5		
	comp=Z,13μm,20.0s							
J30M	Hart River	101.65	17	P	Pdif	16 00 02.8	-0.7	
	baz=215							
D20K	Etivluk River	101.70	8	P	Pdif	16 00 03.1	-0.4	
	baz=198							
E21K	Killik River	101.76	9	IAms_20	IAms_20	16 43 39.8		
	comp=Z,10μm,20.0s							
E21K	Killik River	101.76	9	P	Pdif	16 00 04.8	+1.0	
	baz=200							
E22K	Anaktuvuk Pass	101.77	10	IAms_20	IAms_20	16 45 03.3		
	comp=Z,10μm,20.0s							
E22K	Anaktuvuk Pass	101.77	10	P	Pdif	16 00 05.6	+1.7	
	baz=202							
AZL	Aizawl	101.79	291	eP	Pdif	16 00 03.4	-1.7	
B18K	Kokolik River	101.81	6	P	Pdif	16 00 05.8	+1.9	
	baz=194							
F24K	Squaw Lake	101.81	11	P	Pdif	16 00 04.3	+0.3	
	baz=206							
I29M	Ogilvie Camp,	101.83	16	IAms_20	IAms_20	16 44 10.2		
	comp=Z,10μm,20.0s							
I29M	Ogilvie Camp,	101.83	16	P	Pdif	16 00 07.3	+3.1	
	baz=213							
H27K	Steamboat Moun	101.86	14	P	Pdif	16 00 06.7	+2.4	
	baz=211							
OK051	E0350 and S346	101.88	54	IAms_20	IAms_20	16 51 54.8		
	comp=Z,10μm,18.0s							
KOTAN	Kotaneelee Air	101.90	24	P	Pdif	16 00 04.6	0.0	
	baz=224							
E23K	Chandalar	102.03	10	IAms_20	IAms_20	16 45 26.1		
	comp=Z,12μm,20.0s							
E23K	Chandalar	102.03	10	P	Pdif	16 00 08.2	+3.1	
	baz=204							
G26K	Porcupine Rive	102.04	13	P	Pdif	16 00 07.5	+2.5	
	baz=209							
I30M	Mount Dempster	102.17	17	IAms_20	IAms_20	16 43 10.3		
	comp=Z,12μm,20.0s							
I30M	Mount Dempster	102.17	17	P	Pdif	16 00 08.0	+2.2	
	baz=215							
E24K	Your Creek	102.22	11	P	Pdif	16 00 06.1	+0.2	
	baz=205							
F25K	Christian Rive	102.26	12	P	Pdif	16 00 07.0	+0.9	
	baz=208							
C21K	Knifeblade Rid	102.33	8	P	Pdif	16 00 04.4	-1.8	
	baz=200							
G27K	Doyon Strip	102.34	14	IAms_20	IAms_20	16 44 02.4		
	comp=Z,12μm,20.0s							
G27K	Doyon Strip	102.34	14	P	Pdif	16 00 07.3	+0.9	
	baz=211							
D22K	Ayikyak River	102.34	9	IAms_20	IAms_20	16 45 47.5		
	comp=Z,12μm,20.0s							
D22K	Ayikyak River	102.34	9	P	Pdif	16 00 05.9	-0.4	
	baz=202							
DGAR	Diego Garcia	102.49	253	IAms_20	IAms_20	16 51 02.9		
	comp=Z,13μm,18.0s							
H29M	Whitestone	102.54	15	IAms_20	IAms_20	16 50 20.8		
	comp=Z,13μm,18.0s							
H29M	Whitestone	102.54	15	P	Pdif	16 00 05.3	-2.0	
	baz=214							
TOLK	Toolik Lake Re	102.57	10	IAms_20	IAms_20	16 45 54.4		
	comp=Z,13μm,20.0s							
TOLK	Toolik Lake Re	102.57	10	P	Pdif	16 00 04.0	-3.4	
	baz=204							
F26K	Sheenjek River	102.62	13	IAms_20	IAms_20	16 44 11.0		
	comp=Z,16μm,20.0s							
F26K	Sheenjek River	102.62	13	P	Pdif	16 00 07.9	+0.2	
	baz=209							
A19K	Wainwright	102.69	6	P	Pdif	16 00 07.5	-0.3	
	baz=194							
D23K	Nanushuk River	102.70	10	IAms_20	IAms_20	16 44 39.9		
	comp=Z,13μm,20.0s							
D23K	Nanushuk River	102.70	10	P	Pdif	16 00 09.7	+1.8	
	baz=203							
ZIRO	ZIRO	102.75	294	eP	Pdif	16 00 07.7	-1.7	
E25K	Arctic Village	102.75	12	IAms_20	IAms_20	16 44 37.2		
	comp=Z,16μm,20.0s							
E25K	Arctic Village	102.75	12	P	Pdif	16 00 09.9	+1.7	
	baz=208							
B21K	Ikpikpuk River	102.80	8	IAms_20	IAms_20	16 47 52.3		
	comp=Z,10μm,20.0s							
B21K	Ikpikpuk River	102.80	8	P	Pdif	16 00 11.6	+3.3	
	baz=200							
YAK	Yakutsk	102.83	337	eP	Pdif	16 00 08.5	-0.1	
YAK				e	Pdif	16 04 18.8		
YAK				eS	SKSac	16 10 47.9	+2.0	
YAK				pmax	pmax			
	comp=Z,19nm,1.0s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.5s							
YAK				pmax	pmax			
	comp=Z,506nm,5.8s							
YAK				pmax	pmax			
	comp=N,163nm,4.8s							
YAK				pmax	pmax			
	comp=E,233nm,5.1s							
YAK				smax	smax			
	comp=N,1μm,6.5s							
YAK				smax	smax			
	comp=E,551nm,6.6s							
YAK				MLR	MLR			
	comp=Z,5μm,15.0s							
YAK				MLR	MLR			
	comp=N,8μm,21.0s							
YAK				MLR	MLR			
	comp=E,1μm,17.0s							
B20K	Meade River	102.87	7	IAms_20	IAms_20	16 46 45.4		
	comp=Z,14μm,20.0s							
B20K	Meade River	102.87	7	P	Pdif	16 00 09.7	+1.1	
	baz=198							
D24K	Happy Valley	103.15	10	IAms_20	IAms_20	16 46 21.7		
	comp=Z,14μm,19.0s							
D24K	Happy Valley	103.15	10	P	Pdif	16 00 10.9	+1.1	
	baz=205							
H31M	Peel River	103.15	17	IAms_20	IAms_20	16 43 58.0		
	comp=Z,12μm,20.0s							
H31M	Peel River	103.15	17	P	Pdif	16 00 10.2	+0.2	
	baz=217							
BDQN	Bodoquena, MS	103.16	124	eP	Pdif	16 00 13.2	+1.9	
MIAR	Mount Ida	103.19	58	IAms_20	IAms_20	16 40 54.4		
	comp=Z,10μm,20.0s							
G29M	Pine Creek	103.19	15	IAms_20	IAms_20	16 44 55.1		
	comp=Z,10μm,20.0s							
G29M	Pine Creek	103.19	15	P	Pdif	16 00 11.1	+0.9	
	baz=214							
K30B	Basset	103.24	48	IAms_20	IAms_20	16 45 07.3		
	comp=Z,13μm,19.0s							
C23K	Itkillik River	103.51	9	IAms_20	IAms_20	16 45 29.4		
	comp=Z,12μm,20.0s							
C23K	Itkillik River	103.51	9	P	Pdif	16 00 14.0	+2.5	
	baz=204							
BGNE	Belgrade	103.52	50	IAms_20	IAms_20	16 46 27.9		
	comp=Z,10μm,18.0s							
PALK	Pallekele	103.52	270	PP	PP	16 04 30.4	+1.1	
	comp=Z,20nm,0.9s,baz=111,slow=6.7,SNR=6.7							
E27K	Coleen River	103.53	13	P	Pdif	16 00 14.8	+3.1	
	baz=211							
DGMT	Dagmar	103.60	41	IAms_20	IAms_20	16 42 25.6		
	comp=Z,13μm,20.0s							
B22K	Teshekpuk Lake	103.62	8	IAms_20	IAms_20	16 48 39.0		
	comp=Z,10μm,20.0s							
B22K	Teshekpuk Lake	103.62	8	P	Pdif	16 00 14.5	+2.6	
	baz=201							
G30M	tAoh Zraii Nji	103.65	16	IAms_20	IAms_20	16 51 04.3		
	comp=Z,12μm,18.0s							
G30M	tAoh Zraii Nji	103.65	16	P	Pdif	16 00 13.9	+1.6	
	baz=215							
C24K	Franklin Bluff	103.68	10	IAms_20	IAms_20	16 44 57.8		
	comp=Z,10μm,20.0s							
C24K	Franklin Bluff	103.68	10	P	Pdif	16 00 16.2	+4.0	
	baz=205							
D25K	Kavik River	103.68	11	IAms_20	IAms_20	16 41 45.9		
	comp=Z,14μm,21.0s							
D25K	Kavik River	103.68	11	P	Pdif	16 00 13.3	+1.0	
	baz=207							
A22K	Sinclair Lake	104.06	8	P	Pdif	16 00 15.7	+1.8	
	baz=200							
G31M	Satah River	104.06	16	IAms_20	IAms_20	16 44 48.1		
	comp=Z,13μm,20.0s							
G31M	Satah River	104.06	16	P	Pdif	16 00 16.4	+2.4	
	baz=217							
ULN	Ulaanbaatar	104.10	318	IAms_20	IAms_20	16 48 07.6		
	comp=Z,9μm,19.0s							
A21K	Barrow	104.19	7	P	Pdif	16 00 16.3	+1.8	
	baz=198							
MALK	Mahakanadarawa	104.23	271	PKP	PP	16 04 35.6	+1.1	
F30M	Barrier River	104.27	15	P	Pdif	16 00 15.1	+0.2	
	baz=216							
E28M	Babbage River	104.29	14	IAms_20	IAms_20	16 50 59.2		
	comp=Z,11μm,18.0s							
E28M	Babbage River	104.29	14	P	Pdif	16 00 16.7	+1.7	
	baz=213							
WRGLY	Wrigley	104.30	22	P	Pdif	16 00 16.7	+1.6	
	baz=225							
C27K	Jago River	104.40	12	IAms_20	IAms_20	16 45 50.8		
	comp=Z,13μm,20.0s							
C27K	Jago River	104.40	12	P	Pdif	16 00 18.6	+3.2	
	baz=209							
E29M	Blow River	104.45	14	P	Pdif	16 00 17.4	+1.7	
	baz=214							
C26K	Camden Bay	104.45	11	P	Pdif	16 00 18.9	+3.2	
	baz=208							
SONM	Songino Array	104.46	318	Pdiff	Pdif	16 00 17.5	+1.1	
	comp=Z,4.8nm,1.1s,baz=138,slow=4.5,SNR=14							
SONM				PP	PP	16 04 36.0	0.0	
	comp=Z,3.2nm,1.0s,baz=134,slow=6.2,SNR=2.9							
SONM				PKKPbc	PKKPbc	16 16 02.3	-1.0	
	comp=Z,0.4nm,0.6s,baz=299,slow=3.0,SNR=3.7							
SUSD	Miller	104.56	47	IAms_20	IAms_20	16 46 21.9		
	comp=Z,12μm,19.0s							
D27M	Malcolm River	104.56	13	IAms_20	IAms_20	16 50 07.2		
	comp=Z,9μm,19.0s							
D27M	Malcolm River	104.56	13	P	Pdif	16 00 19.3	+3.0	
	baz=212							
F31M	Tsiigehtchic	104.60	16	IAms_20	IAms_20	16 45 05.3		
	comp=Z,10μm,20.0s							
F31M	Tsiigehtchic	104.60	16	P	Pdif	16 00 16.8	+0.5	
	baz=218							
E28A	Huff	104.60	44	IAms_20	IAms_20	16 41 55.0		
	comp=Z,12μm,20.0s							
N35A	Tabor	104.88	51	IAms_20	IAms_20	16 47 28.0		
	comp=Z,10μm,18.0s							
L34A	Svendsen Farm,	104.95	50	IAms_20	IAms_20	16 46 30.7		
	comp=Z,9μm,19.0s							
D28M	Stokes Point	105.06	13	P	PKiKP	16 04 35.7	+3.0	
	baz=214							
INK	Inuvik	105.34	16	P	PKiKP	16 04 34.0	+0.8	
	baz=218							
T42A	Van Buren	106.15	56	IAms_20	IAms_20	16 48 26.9		
	comp=Z,14μm,18.0s							
GOMU	GeErMu	106.19	303	Pdif	Pdif	16 00 21.6	-3.1	
GOMU				SKS	SKSac	16 11 05.8	+2.4	
GOMU				AMB	AMB			
	comp=Z,2μm,9.0s							
GOMU				LR	LR			
	comp=Z,6μm,18.6s							
GOMU				LR	LR			
	comp=Z,3μm,20.3s							
GOMU				LR	LR			
	comp=Z,8μm,20.8s							
N38A	Joes South For	106.45	52	IAms_20	IAms_20	16 48 04.0		
	comp=Z,12μm,18.0s							
KAAM	Kaadhehdhoo	106.45	260	IAms_20	IAms_20	16 47 02.7		
	comp=Z,15μm,20.0s							
CCM	Cathedral Cave	106.53	55	IAms_20	IAms_20	16 49 17.7		
	comp=Z,12μm,18.0s							
GTK	Tadong	106.74	292	eP	Pdif	16 00 25.4	-1.7	
YKA	Yellowknife Ar	106.88	26	Pdiff	Pdif	16 00 28.6	+2.0	
	comp=Z,0.8nm,1.0s,baz=235,slow=4.3,SNR=5.5							
YKA				PKiKP	PKiKP	16 04 36.7	+0.4	
	comp=Z,3.5nm,1.1s,baz=247,slow=2.2,SNR=8.2							
YKA				PKKPbc	PKKPbc	16 15 56.5	+0.4	
	comp=Z,3.6nm,0.8s,baz=50,slow=2.7,SNR=19							
SCIA	State Center	106.98	51	IAms_20	IAms_20	16 45 24.7		
	comp=Z,11μm,19.0s							
RAGD	RAYAGADA	107.13	282	eP	Pdif	16 00 26.8	-1.9	
RAGD				IAmb	IAmb	16 05 03.7		
	comp=Z,111nm,1.6s							
ZAK	Zakamensk	107.52	319	eP	Pdif	16 00 30.9	+1.0	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.4s							
KOD	Kodaikanal	107.77	271	eP	Pdif	16 00 29.7	-2.5	
SALM	Salem	107.86	273	eP	Pdif	16 00 29.3	-2.8	
SALM				IAmb	IAmb	16 05 06.2		
	comp=Z,28nm,1.0s							
MTDJ	Mount Denham	107.97	79	IAms_20	IAms_20	16 42 31.8		
	comp=Z,14μm,19.0s							
N41A	Harden Midland	108.01	53	IAms_20	IAms_20	16 48 46.0		
	comp=Z,10μm,19.0s							
WVT	Waverly	108.07	58	IAms_20	IAms_20	16 47 33.8		
	comp=Z,9μm,18.0s							
AGMN	Agassiz Nation	108.31	44	IAms_20	IAms_20	16 48 50.3		
	comp=Z,13μm,18.0s							
L40A	Anamosa	108.38	52	IAms_20	IAms_20	16 46 07.6		
	comp=Z,11μm,19.0s							
C36M	Paulatuk	108.41	18	IAms_20	IAms_20	16 50 29.1		
	comp=Z,13μm,19.0s							
C36M	Paulatuk	108.41	18	P	PKiKP	16 04 39.0	+0.1	
	baz=226							
FOMA	Nahampoana Res	108.95	223	IAms_20	IAms_20	16 51 38.0		
	comp=Z,9μm,18.0s							
HDIL	Hopedale	109.01	54	IAms_20	IAms_20	16 49 37.4		
	comp=Z,11μm,18.0s							
ULM	Lac du Bonnet	109.20	42	PKiKP	PKiKP	16 04 40.2	-0.8	
	comp=Z,6.7nm,0.9s,baz=253,slow=1.3,SNR=7.8							
ULM				PKKPbc	PKKPbc	16 15 49.0	+0.7	
	comp=Z,1.5nm,0.6s,baz=117,slow=6.8,SNR=1.8							
SDV	Santo Domingo	109.22	91	IAms_20	IAms_20	16 44 41.0		
	comp=Z,10μm,18.0s							
L42A	Oliver, Polo	109.39	52	IAms_20	IAms_20	16 49 44.4		
	comp=Z,10μm,18.0s							
JFWS	Jewell Farm	109.40	51	IAms_20	IAms_20	16 46 39.6		
	comp=Z,12μm,18.0s							
I40A	Norwalk	109.58	50	IAms_20	IAms_20	16 54 08.4		
	comp=Z,9μm,18.0s							
TIXI	Tiksi	109.89	344	IAms_20	IAms_20	16 53 37.6		
	comp=Z,12μm,19.0s							
A36M	Sachs Harbour	109.97	15	P	PKiKP	16 04 41.2	-0.6	
	baz=226							
GOGA	Godfrey	110.10	63	IAms_20	IAms_20	16 51 10.6		
	comp=Z,8μm,18.0s							
HYB	Hyderabad	110.36	278	ePdif	Pdif	16 00 42.5	-0.7	
HYB				ePP	PP	16 05 19.1	-0.4	
HYB				eSKSac	SKSac	16 11 20.3	-1.0	
HYB				eSP	SP	16 14 45.0	-1.5	
HYB				eSS	SS	16 20 46.2	+0.1	
HYB				IVMs_BB	IVMs_BB	16 53 34.1		
	comp=Z,3μm,18.4s							
SFIN	Lafayette	110.44	55	IAms_20	IAms_20	16 52 22.4		
	comp=Z,9μm,18.0s							
G40A	Rib Lake	110.44	49	IAms_20	IAms_20	16 49 41.1		
	comp=Z,12μm,19.0s							
K43A	Burlington	110.58	52	IAms_20	IAms_20	16 54 38.0		
	comp=Z,10μm,18.0s							
L44A	Lake County Fo	110.64	53	P	PKiKP	16 04 42.2	-1.8	
	baz=245							
I42A	Draeger Farm,	110.70	51	IAms_20	IAms_20	16 44 46.9		
	comp=Z,8μm,20.0s							
GRHM	Grahamstown, E	111.11	202	IAms_20	IAms_20	16 48 05.5		
	comp=Z,13μm,19.0s							
TZTN	Tazewell	111.37	60	IAms_20	IAms_20	16 50 22.0		
	comp=Z,8μm,18.0s							
V53A	Saluda	111.55	61	IAms_20	IAms_20	16 51 59.8		
	comp=Z,11μm,18.0s							
N47A	Urbana	111.62	55	IAms_20	IAms_20	16 46 07.6

comp=Z,20nm,0.8s
BHPL Bhopal 113.95 283 *e*P **PKiKP 16 04 49.9 -1.0**
BHPL IAmb IAmb 16 05 43.9
comp=Z,54nm,1.8s
N51A Ashland 113.95 56 IAMs_20 IAMs_20 16 47 56.2
comp=Z,12μm,20.0s
JHNI Jhansi 113.99 286 *e*P **PKiKP 16 04 48.9 -2.0**
O52A Adamsville 114.02 57 IAMs_20 IAMs_20 16 48 09.3
comp=Z,13μm,20.0s
P53A Whipple 114.10 57 IAMs_20 IAMs_20 16 47 54.4
comp=Z,13μm,20.0s
LGTI Lohaghat 114.29 291 *e*P PKPdf 16 04 50.7 -0.6
LGTI IAmb IAmb 16 05 09.1
comp=Z,63nm,1.6s
V58A Windy Hill, Pi 114.35 62 IAMs_20 IAMs_20 16 53 51.8
comp=Z,8μm,18.0s
PTH Pithoragarh 114.35 291 *e*P PKPdf 16 04 50.9 -0.8
PTH IAmb IAmb 16 05 01.7
comp=Z,54nm,1.1s
WMQ Urumqi 114.35 308 PKP PKPdf 16 04 50.3 -0.8
WMQ PP **PP 16 05 45.7 -2.1**
WMQ SS SS 16 21 41.8 +3.3
WMQ AMB AMB
comp=Z,970nm,8.5s
WMQ LR LR
comp=Z,5μm,23.7s
WMQ LR LR
comp=Z,3μm,14.9s
WMQ LR LR
comp=Z,3μm,19.3s
R55A Marlinton 114.56 59 IAMs_20 IAMs_20 16 56 27.2
comp=Z,11μm,18.0s
W59A Clinton 114.61 63 IAMs_20 IAMs_20 16 57 27.8
comp=Z,8μm,18.0s
E46A Sault Ste Mari 114.67 50 IAMs_20 IAMs_20 16 52 30.9
comp=Z,10μm,19.0s
I49A Point Hope 114.76 52 IAMs_20 IAMs_20 17 04 38.6
comp=Z,9μm,18.0s
M52A Chesterland 114.89 55 IAMs_20 IAMs_20 16 52 43.2
comp=Z,8μm,18.0s
JOSI Joshimath 115.28 291 *e*P **PKPdf 16 04 52.9 -0.6**
JOSI IAmb IAmb 16 05 06.4
comp=Z,87nm,1.2s
Q56A Snyder Ridge, 115.52 59 IAMs_20 IAMs_20 16 56 47.0
comp=Z,9μm,18.0s
BOSA Boshof 115.79 203 PKP **PKPdf 16 04 56.3 +1.7**
comp=Z,11nm,1.0s,baz=161,slow=0.6,SNR=7.6
BOSA PP **PP 16 05 58.9 +2.3**
comp=Z,11nm,0.9s,baz=179,slow=7.1,SNR=4.4
BOSA PKKPbc **PKKPbc 16 15 25.8 -0.2**
comp=Z,6.2nm,1.0s,baz=56,slow=3.0,SNR=4.4
T59A Double "B" Far 115.96 61 IAMs_20 IAMs_20 16 47 18.7
comp=Z,9μm,21.0s
ERPA Erie 116.06 55 IAMs_20 IAMs_20 16 53 09.9
comp=Z,9μm,19.0s
R58B Mineral 116.08 60 IAMs_20 IAMs_20 16 52 26.9
comp=Z,8μm,19.0s
V61A Roper 116.26 63 IAMs_20 IAMs_20 16 54 31.4
comp=Z,8μm,18.0s
DDI Dehra Dun 116.38 291 *e*P **PKPdf 16 04 54.6 -0.9**
DDI IAmb IAmb 16 05 00.0
comp=Z,55nm,1.0s
CBN Corbin Frederi 116.54 60 IAMs_20 IAMs_20 16 52 59.1
comp=Z,8μm,18.0s
KLP Kalpa 116.69 292 *e*P **PKPdf 16 04 53.2 -3.1**
KLP IAmb IAmb 16 05 03.5
comp=Z,44nm,0.8s
KUDL Kundal 116.77 288 *e*P **PKiKP 16 04 56.5 +0.3**
KUDL IAmb IAmb 16 05 04.8
comp=Z,31nm,1.2s
SSPA Standing Stone 117.02 57 **PKiKP 16 04 57.0 +0.7**
SMLA Simla 117.39 291 *e*P **PKPdf 16 04 55.2 -2.0**
SMLA IAmb IAmb 16 05 01.5
comp=Z,41nm,0.7s
ZSN Zaisan 117.46 311 *e*PKIKP **PKPdf 16 04 57.0 +0.1**
ZSN Zaisan 117.46 311 *e*PKP **PKPdf 16 04 57.0 +0.1**
MSEY Mahe Island 117.57 244 IAMs_20 IAMs_20 16 53 44.7
comp=Z,8μm,18.0s
HUMP Col San Antoni 117.76 85 **PKPdf 16 04 57.9 -0.4**
R61A Willards 118.09 60 IAMs_20 IAMs_20 16 53 14.0
comp=Z,8μm,19.0s
BHK Bhakra 118.10 291 *e*P **PKPdf 16 04 57.9 -0.8**
BHK IAmb IAmb 16 05 03.1
comp=Z,142nm,1.1s
DHRM DHARAMSHALA 118.50 292 *e*P **PKiKP 16 05 00.4 +0.7**
DHRM IAmb IAmb 16 05 19.5
comp=Z,57nm,0.5s
K57A Scipio Center 118.68 55 IAMs_20 IAMs_20 16 57 52.5
comp=Z,12μm,18.0s
RES Resolute Bay 118.78 18 PKPdf **PKPdf 16 04 58.0 -0.6**
RES Resolute Bay 118.78 18 PKIKP **PKPdf 16 04 58.0 -0.6**
MK31 Makanchi Array 118.94 309*c i*PKIKP **PKiKP 16 05 00.3 +0.5**
MKAR Makanchi Array 118.94 309 **PKPdf 16 04 58.6 -1.2**
MKAR Makanchi Array 118.94 309 PKP **PKPdf 16 04 59.3 -0.5**
comp=Z,37nm,1.0s,baz=96,slow=1.2,SNR=44
MKAR PKKPbc **PKKPab 16 15 16.3 +1.2**
comp=Z,4.2nm,0.8s,baz=292,slow=3.4,SNR=10
P61A Hammonton 118.94 59 IAMs_20 IAMs_20 16 53 44.4
comp=Z,8μm,19.0s
THN Thein Dam 119.03 292 *e*P **PKPdf 16 05 00.3 -0.1**
THN IAmb IAmb 16 05 05.0
comp=Z,186nm,1.2s
MAKZ Makanchi 119.14 309 **PKPdf 16 04 59.3 -0.9**
MAKZ Makanchi 119.14 309 PKIKP **PKPdf 16 04 59.3 -0.9**
MAKZ pmax pmax
comp=Z,7μm,20.0s
ZALV Zalesovo Beam 119.36 318 **PKPdf 16 04 59.9 -0.4**
ZALV Zalesovo Beam 119.36 318 PKP **PKiKP 16 05 00.5 +0.1**
comp=Z,11nm,0.8s,baz=150,slow=1.3,SNR=29
ZALV PKKPbc **PKKPbc 16 15 15.1 +1.6**
comp=Z,0.9nm,0.7s,baz=242,slow=3.1,SNR=1.8
ZALV Zalesovo Beam 119.36 318 PKIKP **PKPdf 16 04 59.9 -0.4**
JMU Jammu 119.77 292⇑ *e*P **PKPdf 16 05 00.8 -1.0**
SHLS Shalkode 119.78 305 *e*PKIKP **PKPdf 16 05 01.0 -0.7**
SHLS Shalkode 119.78 305 *e*PKP **PKPdf 16 05 01.0 -0.7**
PDGK Podgornoye 119.81 305 PKIKP **PKPdf 16 05 01.5 -0.2**
UZB Uzynbulak 120.08 305 *e*PKIKP **PKPdf 16 05 02.2 -0.1**
UZB Uzynbulak 120.08 305 *e*PKP **PKPdf 16 05 02.2 -0.1**
J59A Piesco 120.31 55 PKPdf **PKPdf 16 05 02.6 0.0**
CBE Ff, Capester 120.41 89 IAMs_20 IAMs_20 16 51 07.3
comp=Z,7μm,19.0s
KPKS Kokpek 120.41 305 *e*PKIKP **PKPdf 16 05 02.5 -0.3**
KPKS Kokpek 120.41 305 *e*PKP **PKPdf 16 05 02.5 -0.3**
BHUJ Bhuj 120.42 280 *e*P **PKPdf 16 05 02.3 -1.0**
BHUJ IAmb IAmb 16 05 08.0
comp=Z,52nm,0.5s
ILAM Ilet Lapin Mar 120.42 91 IAMs_20 IAMs_20 16 53 21.7
comp=Z,7μm,18.0s
SATY Saty 120.49 304 *e*PKIKP **PKPdf 16 05 02.7 -0.3**
SATY Saty 120.49 304 *e*PKP **PKPdf 16 05 02.8 -0.3**
ZHN Zhinishke 120.50 304 *e*PKIKP **PKPdf 16 05 02.6 -0.4**
ZHN *e* 16 06 28.7
ZHN Zhinishke 120.50 304 *e*PKP **PKPdf 16 05 02.7 -0.4**
ZHN *e*PP **PP 16 06 28.8 -1.9**
BBGH Gun Hill 120.75 93 IAMs_20 IAMs_20 16 48 53.4
comp=Z,9μm,22.0s
JASL Jaisalmer 120.85 284 *e*P **PKPdf 16 05 03.2 -0.9**
JASL IAmb IAmb 16 05 23.2
comp=Z,52nm,0.7s
TDK Taldyqorghan 121.03 306 *e*PKIKP **PKPdf 16 05 03.8 0.0**
TDK *e* 16 06 32.2
TDK MLR MLR
comp=Z,3μm,19.0s
TDK Taldyqorghan 121.03 306 *e*PKP **PKPdf 16 05 03.9 0.0**
TDK *e*PP **PP 16 06 32.3 -1.8**
TDK LR LR 16 58 50.6
comp=Z,3μm,18.7s
KSH Kashi 121.19 300 PKP **PKiKP 16 05 06.8 +2.2**
KSH PP **PP 16 06 42.1 +6.6**
KSH SKS **SKSdf 16 12 09.0 -5.8**
KSH LR LR
comp=Z,3μm,24.7s
KSH LR LR
comp=Z,4μm,20.6s
KSH LR LR
comp=Z,7μm,26.8s
SEM Semipalatinsk 121.20 313 *e*PKIKP **PKPdf 16 05 04.2 -0.1**
SEM MLR MLR
comp=Z,3μm,18.0s
SEM Semipalatinsk 121.20 313 *e*PKP **PKPdf 16 05 04.3 -0.1**
SEM LR LR 16 58 02.7
comp=Z,3μm,17.7s
L61B Northampton 121.30 57 P **PKiKP 16 05 05.4 +0.9**
baz=253
NIL Nilore 121.39 292 PKPdf **PKiKP 16 05 05.2 +0.1**

NIL Nilore 121.39 292 PKIKP **PKiKP 16 05 05.2 +0.1**
TNSS Tian-Shan 121.51 304 *e*PKIKP **PKPdf 16 05 04.9 -0.4**
TNSS Tian-Shan 121.51 304 *e*PKP **PKPdf 16 05 05.0 -0.4**
AAA Alma-Ata 121.58 304 *e*PKIKP **PKPdf 16 05 04.8 -0.2**
AAA Alma-Ata 121.58 304 *e*PKP **PKPdf 16 05 04.9 -0.2**
BROLN Tlhalogang 121.90 208 *i* P **PKiKP 16 05 07.9 +1.3**
KGCAE Kacgae 122.13 202 *i* P **PKiKP 16 05 08.9 +1.9**
KURK Kurchatov 122.29 313 PKPdf **PKPdf 16 05 04.9 -1.1**
KURK Kurchatov 122.29 313 P **PKPdf 16 05 06.2 +0.1**
KURK Kurchatov 122.29 313*ce*PKIKP **PKiKP 16 05 06.6 +0.4**
KURK pmax pmax
comp=Z,76nm,1.0s
KURK MLR MLR
comp=Z,8μm,18.0s
KURBB Kurchatov Arra 122.32 313 PKP **PKPdf 16 05 05.9 -0.2**
comp=Z,59nm,1.0s,baz=107,slow=1.8,SNR=22
KURBB Kurchatov Arra 122.32 313 PKIKP **PKPdf 16 05 05.1 -1.0**
TKM2 Tokmak 2 122.43 303 P **PKiKP 16 05 08.9 +1.8**
SNR=43
TKM2 Tokmak 2 122.43 303 PKIKP **PKPdf 16 05 06.2 -0.7**
M65A Busby, Falmout 122.51 58 P **PKPdf 16 05 04.1 -2.7**
baz=254
KOOLE Kule 122.60 200 *i* P **PKiKP 16 05 09.8 +1.7**
I62A Tamworth 122.63 55 IAMs_20 IAMs_20 16 57 19.0
comp=Z,9μm,18.0s
KBK Karagaybulak 122.82 303 P **PKiKP 16 05 09.9 +2.1**
SNR=40
UCH Uchtor 123.02 302 P **PKiKP 16 05 11.2 +2.6**
SNR=8.1
CHMS Chumysh 123.05 303 P **PKiKP 16 05 10.1 +2.0**
SNR=47
AAK Ala-Archa 123.14 303 **PKPdf 16 05 08.2 0.0**
AAK Ala-Archa 123.14 303 P **PKiKP 16 05 09.7 +1.3**
AAK Ala-Archa 123.14 303 P **PKiKP 16 05 10.5 +2.1**
SNR=33
AAK Ala-Archa 123.14 303 *i* PKIKP **PKPdf 16 05 07.2 -1.0**
I63A Otisfield 123.21 55 IAMs_20 IAMs_20 16 57 47.2
comp=Z,11μm,18.0s
SGDS Sogindy 123.25 304 *e*PKIKP **PKPdf 16 05 08.2 0.0**
SGDS *e* 16 06 47.5
SGDS Sogindy 123.25 304 *e*PKP **PKPdf 16 05 08.3 0.0**
SGDS *e*PP **PP 16 06 47.5 -1.7**
USP Ospenovka 123.29 304 P **PKiKP 16 05 10.5 +2.0**
SNR=50
G62A West of Eustis 123.52 54 **PKPdf 16 05 08.6 0.0**
G62A IAMs_20 IAMs_20 17 00 40.4
comp=Z,10μm,18.0s
AML Almayashu 123.58 302 P **PKiKP 16 05 11.9 +2.3**
SNR=112
LDAQ Lac Daran 123.65 51 PKPdf **PKPdf 16 05 09.0 +0.1**
EKS2 Erkin-Say 123.66 303 P **PKiKP 16 05 11.7 +2.3**
SNR=43
WIN Windhoek 123.83 197 **PKPdf 16 05 09.2 -1.0**
WIN IAMs_20 IAMs_20 16 59 10.1
comp=Z,10μm,18.0s
WIN Windhoek 123.83 197 PKIKP **PKPdf 16 05 09.3 -1.0**
WIN pmax pmax
comp=Z,10μm,18.0s
GRTLG Ghanzi 123.83 201 *i* P **PKiKP 16 05 12.4 +1.9**
BTLS Baital 124.03 306 *e*PKIKP **PKPdf 16 05 09.4 -0.2**
BTLS Baital 124.03 306 *e*PKP **PKPdf 16 05 09.5 -0.2**
PKME Peaks-Kenny Pk 124.38 54 IAMs_20 IAMs_20 16 58 40.3
comp=Z,9μm,18.0s
E62A Clayton Lake 124.52 53 IAMs_20 IAMs_20 17 00 53.7
comp=Z,10μm,18.0s
NBAN Anadia - AL 124.59 132 *e*P **PKPdf 16 05 11.6 -0.1**
KBU Kabul Universi 124.90 292 PKP **PKPdf 16 05 10.0 -1.9**
KBL Kabul 124.98 292 **PKPdf 16 05 11.8 -0.2**
KBL Kabul 124.98 292 P **PKiKP 16 05 14.3 +1.9**
SNR=57
KBL Kabul 124.98 292 PKIKP **PKPdf 16 05 11.9 -0.2**
TULEG Thule 125.33 16 IAMs_20 IAMs_20 17 03 36.2
comp=Z,8μm,19.0s
DZA Taraz 125.46 303 *e*PKIKP **PKPdf 16 05 12.1 -0.3**
DZA Taraz 125.46 303 *e*PKP **PKPdf 16 05 12.2 -0.3**
G65A Princeton 125.56 55 **PKiKP 16 05 12.9 0.0**
G65A IAMs_20 IAMs_20 17 01 36.5
comp=Z,10μm,18.0s
OTUK Ortayu 125.83 309 PKIKP **PKPdf 16 05 12.5 -0.5**
BRZS Berezniki 125.89 311 *e*PKIKP **PKPdf 16 05 13.3 +0.3**
BRZS *e* 16 07 05.3
BRZS Berezniki 125.89 311 *e*PKP **PKPdf 16 05 13.3 +0.3**
BRZS *e*PP **PP 16 07 05.3 -1.3**
KK31 Karatay Array 126.09 303 *i* PKIKP **PKiKP 16 05 14.1 0.0**
KKAR Karatay Array 126.09 303 **PKPdf 16 05 13.4 -0.2**
KKAR Karatay Array 126.09 303 PKIKP **PKPdf 16 05 13.5 -0.2**
SIMJ Simiganj 126.16 297 **PKPdf 16 05 13.3 -0.8**
IUG Iuzhnay 126.23 301 *e*PKIKP **PKPdf 16 05 14.0 -0.1**
IUG Iuzhnay 126.23 301 *e*PKP **PKPdf 16 05 14.0 -0.1**
ICQ Pointe Anglais 126.52 49 PKPdf **PKPdf 16 05 12.8 -1.4**
BRLS Borolday 126.56 302 *e*PKIKP **PKPdf 16 05 14.3 -0.2**
BRLS Borolday 126.56 302 *e*PKP **PKPdf 16 05 14.4 -0.2**
CHM Chimkent 126.58 301 *e*PKIKP **PKPdf 16 05 14.5 -0.1**
CHM Chimkent 126.58 301 *e*PKP **PKPdf 16 05 14.5 -0.1**
CHM LR LR 17 00 41.0
LSZ Lusaka 126.73 212 IAMs_20 IAMs_20 16 55 38.1
comp=Z,11μm,20.0s
LSZ Lusaka 126.73 212 PKP **PKiKP 16 05 17.6 +1.2**
comp=Z,8.7nm,0.8s,baz=134,slow=1.6,SNR=11
LSZ Lusaka 126.73 212 P **PKiKP 16 05 18.3 +1.9**
BATG Bathurst New B 126.97 52 PKPdf **PKPdf 16 05 14.3 -0.8**
SCHQ Schefferville 127.37 43 PKP **PKPdf 16 05 15.5 -0.2**
comp=Z,78nm,1.0s,baz=309,slow=1.8,SNR=22
BVA0 Borovoye Array 127.68 315 *i* PKIKP **PKPdf 16 05 15.4 -0.9**
BVAR Borovoye Array 127.68 315 PKP **PKPdf 16 05 16.6 +0.2**
comp=Z,57nm,0.9s,baz=111,slow=1.6,SNR=38
RCBR Riachuelo 127.72 129 *e*P **PKPdf 16 05 17.3 -0.4**
BRVK Borovoye 127.75 315 P **PKiKP 16 05 18.2 +1.2**
BRVK Borovoye 127.75 315*ce*PKIKP **PKPdf 16 05 15.9 -0.5**
BRVK pmax pmax
comp=Z,81nm,1.3s
BRVK MLR MLR
comp=Z,5μm,17.0s
NGCH Negor - Chabah 128.38 278 P **PKiKP 16 05 19.0 -0.1**
SNR=5.7
JLN Jalan Bani Buh 128.60 274 P **PKiKP 16 05 21.4 +1.7**
SNR=11
NEEM North Greenlan 128.80 13 *i* P **PKiKP 16 05 19.6 +0.8**
WBK Wadi Bani Khal 129.16 274 P **PKPdf 16 05 20.3 +0.2**
SNR=8.6
DQM DQM 129.26 270 P **PKiKP 16 05 21.4 +0.3**
SNR=5.2
MHTO MHTO 129.34 272 P **PKPdf 16 05 20.9 +0.4**
SNR=18
UPNV Upernavik 129.58 19 *i* P **PKPdf 16 05 19.8 +0.5**
JMDO Jabal Madar 129.79 274 P **PKiKP 16 05 23.0 +0.9**
SNR=15
NOR Nord 129.84 4 *i* P **PKiKP 16 05 20.9 +0.4**
SMDO Samad 130.11 274 P **PKiKP 16 05 23.7 +0.8**
SNR=15
BIDO Bidbid 130.23 275 P **PKiKP 16 05 23.3 +0.4**
SNR=9.1
DMTO DMTO 130.48 266 P **PKiKP 16 05 24.4 +0.9**
BSY Bisya 130.71 274 P **PKiKP 16 05 24.2 +0.3**
SNR=20
HOQ Hoqain 130.94 275 P **PKiKP 16 05 24.9 +0.5**
SNR=24
RBK Rabkut 131.02 266 P **PKiKP 16 05 26.2 +1.4**
SNR=9.4
JASK Jask - Hormozg 131.32 278 P **PKiKP 16 05 26.9 +1.8**
SNR=10
ARQ Araqi 131.51 274 P **PKiKP 16 05 26.1 +0.5**
SNR=15
WHFO Wadi Hawf 131.57 266 P **PKiKP 16 05 26.2 +0.4**
SNR=7.5
DOK Doka 131.58 267 P **PKiKP 16 05 26.7 +0.9**
SNR=6.9
SHEL Horse Pasture 131.66 170 IAMs_20 IAMs_20 17 02 12.1
comp=Z,6μm,20.0s
ABTO Aybut 131.72 265 P **PKiKP 16 05 27.3 +1.1**
SNR=9.1
KIBK Kibwezi 131.75 232 **PKPdf 16 05 24.1 -1.4**
KIBK IAMs_20 IAMs_20 17 00 13.0
comp=Z,9μm,19.0s
KIBK Kibwezi 131.75 232 PKP **PKiKP 16 05 27.3 +0.8**
KIBK Kibwezi 131.75 232 P **PKiKP 16 05 28.9 +2.5**
SNR=13
SOHO SOHO 131.81 275 P **PKiKP 16 05 26.3 +0.2**
SOHO SOHO 131.81 275 *i* PKPdf **PKPdf 16 05 24.7 -0.4**
SNR=20
UOSS Minazif 132.39 276 **PKPdf 16 05 25.9 -0.3**
UOSS Minazif 132.39 276 P **PKiKP 16 05 27.2 -0.1**
UOSS Minazif 132.39 276 *i* PKPdf **PKPdf 16 05 26.3 +0.1**
SNR=10
HATD Hatta, Dubai 132.41 276 P **PKiKP 16 05 27.4 +0.1**

SNR=15
HATD Hatta, Dubai 132.41 276 *i* PKiKP **PKPdf 16 05 26.5 +0.3**
SNR=16
ASHO Ashiyiah 132.42 275 P **PKiKP 16 05 28.1 +0.7**
SNR=16
ASHO Ashiyiah 132.42 275 *i* PKPdf **PKPdf 16 05 25.6 -0.7**
SNR=12
UMZA Um Al Zommool 132.43 273 P **PKiKP 16 05 28.3 +0.9**
ILULI Ilulissat 132.43 23 **PKPdf 16 05 25.5 +0.7**
ILULI Ilulissat 132.43 23 PKIKP **PKPdf 16 05 25.5 +0.7**
ILULI pmax pmax
comp=Z,16μm,19.0s
ILULI Ilulissat 132.43 23 *i* P **PKiKP 16 05 27.7 +1.7**
MDH Madha 132.44 276 P **PKPdf 16 05 26.9 +0.6**
SNR=6.9
MDH Madha 132.44 276 *i* PKPdf **PKPdf 16 05 24.7 -1.5**
SNR=12
ALNE Al Ain 132.44 274 P **PKiKP 16 05 27.8 +0.4**
SNR=23
ALNE Al Ain 132.44 274 *i* PKPdf **PKPdf 16 05 24.2 -2.1**
SNR=18
MSFE Esma-Masafi 132.58 276 *i* PKiKP **PKPdf 16 05 26.8 +0.3**
SNR=9.3
MASF Masafi 132.58 276 P **PKiKP 16 05 28.5 +0.9**
SNR=9.3
FAQ Al Faqa, Dubai 132.83 275 P **PKiKP 16 05 30.4 +2.3**
SNR=7.8
FAQ Al Faqa, Dubai 132.83 275 *i* PKiKP **PKPdf 16 05 27.6 +0.6**
SNR=11
SHME Shamm 132.84 277 P **PKiKP 16 05 28.9 +0.8**
SHME Shamm 132.84 277 PKiKP **PKiKP 16 05 27.8 -0.3**
KBS Kingsbay 132.85 357 *e*PKPdf **PKiKP 16 05 26.4 -0.2**
KBS *e*PP **PP 16 07 52.9 +1.9**
KBS *e*SKPdf **SKiKP 16 09 00.8 0.0**
KBS *e*SS **SS 16 25 34.7 +4.5**
KBS IVMs_BB IVMs_BB 17 01 45.6
comp=Z,2μm,20.0s
NAZ Nazwa, Dubai 132.86 276 P **PKiKP 16 05 29.1 +0.9**
SNR=14
NAZ Nazwa, Dubai 132.86 276 *i* PKiKP **PKiKP 16 05 28.1 -0.1**
SNR=12
ASUD Al Ashush, Dub 133.01 275 P **PKiKP 16 05 29.7 +1.2**
ASUD Al Ashush, Dub 133.01 275 PKiKP **PKiKP 16 05 28.4 -0.1**
KMBO Kilima Mbogo 133.18 232 IAMs_20 IAMs_20 17 01 24.2
comp=Z,6μm,20.0s
KMBO Kilima Mbogo 133.18 232 PKP **PKPdf 16 05 26.9 -1.5**
comp=Z,2.4nm,0.8s,baz=48,slow=13,SNR=4.3
KMBO SKP **SKPdf 16 09 03.0 +1.2**
comp=Z,30nm,0.9s,baz=70,slow=2.7,SNR=28
KMBO Kilima Mbogo 133.18 232 P **PKPdf 16 05 28.6 +0.3**
KMBO Kilima Mbogo 133.18 232 *i* PKPdf **PKPdf 16 05 24.1 -4.2**
SNR=20
SVE Sverdlovsk 133.26 320 *i* PKIKP **PKiKP 16 05 28.3 +0.3**
SVE pmax pmax
comp=Z,102nm,1.8s
AJN Ajban 133.28 275 P **PKiKP 16 05 29.8 +0.8**
SPA0 Spitsbergen Ar 133.36 356 *e*PKPdf **PKiKP 16 05 27.9 +0.2**
SPA0 *e*PP **PP 16 07 54.5 +0.1**
SPA0 *e*SKPdf **SKiKP 16 09 01.8 -0.1**
SPA0 *e*SS **SS 16 25 37.5 +0.9**
SPA0 IVMs_BB IVMs_BB 16 56 29.2
comp=Z,2μm,17.1s
SPITS Spitsbergen Ar 133.36 356 PKP **PKiKP 16 05 27.6 0.0**
comp=Z,36nm,0.9s,baz=122,slow=1.9,SNR=8.7
SPITS SKPbc **SKPab 16 08 55.6 +0.7**
comp=Z,26nm,0.9s,baz=248,slow=6.7,SNR=5.0
SFJD Kangerlussuaq 133.44 26 *i* P **PKiKP 16 05 29.1 +1.1**
MZWR Madinat Zayed 133.92 273 P **PKiKP 16 05 31.4 +1.1**
NUUK Nuuk 133.95 29 *i* P **PKiKP 16 05 31.0 +1.9**
MZR Muzera 133.97 272 P **PKiKP 16 05 32.9 +2.4**
SNR=19
MZR Muzera 133.97 272 *i* PKiKP **PKiKP 16 05 30.1 -0.4**
SNR=20
DAG Danmarks Havn 134.17 7 *i* P **PKPdf 16 05 27.8 -0.1**
HOPEN Hopen 134.20 353 *e*PKPdf **PKiKP 16 05 29.9 +0.5**
HOPEN *e*PP **PP 16 07 59.2 -0.5**
HOPEN *e*SKPdf **SKPdf 16 09 02.3 +1.0**
HOPEN *e*SS **SS 16 25 48.1 +1.5**
HOPEN IVMs_BB IVMs_BB 17 02 19.3
comp=Z,4μm,22.9s
SUMG Summit 134.26 16 **PKPdf 16 05 29.2 +0.5**
SUMG IAMs_20 IAMs_20 17 06 22.0
comp=Z,10μm,19.0s
SUMG Summit 134.26 16 PKIKP **PKPdf 16 05 29.2 +0.5**
SUMG Summit 134.26 16 *i* P **PKiKP 16 05 30.3 +0.2**
ARTI Arti 134.55 320 PKhKP PKPpre 16 05 19.3
comp=Z,6.0nm,0.8s,baz=176,slow=2.0,SNR=5.9
ARTI PKP **PKPdf 16 05 30.0 +0.8**
comp=Z,84nm,1.0s,baz=172,slow=1.3,SNR=25
ARTI SKPbc **SKPab 16 09 01.5 +0.7**
comp=Z,62nm,0.9s,baz=104,slow=7.1,SNR=16
ARTI Arti 134.55 320 *i* PKIKP **PKPdf 16 05 28.7 -0.5**
ARTI 16 07 58.5
ARTI MLR MLR
comp=Z,10μm,19.0s
GHWR Ruwais 134.84 273 P **PKiKP 16 05 33.9 +1.7**
JRN Qarnain Island 135.22 274 P **PKiKP 16 05 33.5 +0.6**
AKTO Aktyubinsk 135.31 311 PKhKP PKPpre 16 05 21.0
comp=Z,6.1nm,0.8s,baz=121,slow=0.3,SNR=10
AKTO PKP **PKiKP 16 05 32.6 +0.2**
comp=Z,7.2nm,0.7s,baz=86,slow=3.5,SNR=9.9
AKTO SKPbc **SKPab 16 09 02.9 -1.4**
comp=Z,15nm,1.1s,baz=191,slow=22,SNR=12
ICESG Greenland Ices 136.07 20 *i* P **PKPdf 16 05 32.1 -0.1**
DBG Daneborg 136.22 9 *i* P **PKPdf 16 05 32.1 +0.3**
TRNA Turayna 136.54 273 P **PKiKP 16 05 35.3 -0.3**
SNR=6.2
BJO1 Bjornoya 136.66 353 *e*PKPdf **PKiKP 16 05 34.3 -0.1**
BJO1 *e*PP **PP 16 08 13.8 -1.3**
BJO1 *e*SKPdf **SKiKP 16 09 07.6 -1.1**
BJO1 *e*SS **SS 16 26 15.1 -0.9**
BJO1 IVMs_BB IVMs_BB 16 54 26.7
comp=Z,2μm,3.6s
SMRA Abu-Samra 136.87 273 P **PKPdf 16 05 35.2 +0.7**
SNR=9.8
SHMA Al-Shehemyia 137.14 275 P **PKPdf 16 05 33.4 -1.5**
SNR=5.7
MBAR Mbarara 137.74 225 IAMs_20 IAMs_20 17 12 03.2
comp=Z,8μm,18.0s
LODK Lodwar 137.78 234 P **PKPdf 16 05 37.2 +0.6**
SNR=6.8
VADS Vadso 139.00 346 *e*PKPdf **PKPdf 16 05 34.2 -2.9**
VADS *e*PP **PP 16 08 29.0 -0.8**
VADS *e*SS SS 16 26 48.0 +4.1
VADS IVMs_BB IVMs_BB 17 01 35.8
comp=Z,2μm,10.9s
SCO Scoresbysund 139.29 12 IAMs_20 IAMs_20 17 07 42.4
comp=Z,7μm,20.0s
SCO Scoresbysund 139.29 12 *i* P **PKPdf 16 05 38.3 +0.8**
LVZ Lovozero 139.46 342 *i* PKIKP **PKPdf 16 05 38.2 +0.2**
HAMF Hammerfest 139.59 349 *e*PKPdf **PKPdf 16 05 31.4 -6.7**
HAMF *e*PP **PP 16 08 33.6 +0.3**
HAMF *e*SS SS 16 26 52.1 +1.4
HAMF IVMs_BB IVMs_BB 17 02 56.2
comp=Z,2μm,3.6s
KEV Kevo 139.76 347 IAMs_20 IAMs_20 17 09 44.0
comp=Z,7μm,20.0s
APA Apatity 140.03 342⇓ *i* PKIKP **PKPdf 16 05 36.7 -2.3**
APA *i* 16 05 44.9
APA *i* 16 08 33.0
APA *i* 16 12 51.0
APA *i* SS SS 16 26 56.0 -0.1
APA pmax pmax
comp=Z,21nm,1.0s
APA pmax pmax
comp=Z,31nm,0.9s
ARA0 ARCESS Array S 140.24 347 *e*PKPdf **PKPdf 16 05 36.0 -3.3**
ARA0 *e*PP **PP 16 08 38.1 +0.8**
ARA0 *e*SS SS 16 27 03.1 +4.6
ARA0 IVMs_BB IVMs_BB 17 00 34.9
comp=Z,2μm,4.0s
ARCES ARCESS Array B 140.24 347 PKhKP PKPpre 16 05 33.3
comp=Z,5.1nm,0.5s,baz=40,slow=2.2,SNR=17
ARCES SKPbc **SKiKP 16 09 16.5 +0.3**
comp=Z,22nm,0.9s,baz=356,slow=1.7,SNR=4.9
JNW Jan Mayen West 140.55 5 *e*PKPdf **PKPdf 16 05 40.8 +0.9**
JNW *e*SS SS 16 27 06.3 +4.4
JNW IVMs_BB IVMs_BB 16 55 39.8
comp=Z,3μm,3.6s
JMIC Jan Mayen 140.58 5 *e*PKPdf **PKPdf 16 05 38.9 -1.0**
JMIC *e*PP **PP 16 08 36.9 -2.5**
JMIC *e*SS SS 16 27 08.9 +6.6
JMIC IVMs_BB IVMs_BB 17 01 56.2
comp=Z,1μm,3.2s
JMI Jan Mayen 140.62 6 *e*PKPdf **PKPdf 16 05 40.0 +0.1**

RAYN	**Ar Rayn**	**140.94 269**	PKPpre	PKPpre	16 05 37.5	
RAYN	**Ar Rayn**	**140.94 269**	P	**PKPdf**	**16 05 38.6**	**-3.5**
RAYN	**Ar Rayn**	**140.94 269**	PKIKP	**PKPdf**	**16 05 37.5**	**-4.6**
RAYN	**Ar Rayn**	**140.94 269**	*i* PKPdf	**PKPdf**	**16 05 36.1**	**-6.0**
	SNR=18					
JETT	**Jettan, Norway**	**141.07 350**	*e*PKPdf	**PKPdf**	**16 05 38.8**	**-2.2**
JETT			*e*PP	**PP**	**16 08 41.7**	**-0.8**
JETT			*e*SS	SS	16 27 09.9	+1.7
JETT			IVMs_BB	IVMs_BB	16 59 52.6	
	comp=Z,1μm,4.0s					
KTK1	**Kautokeino**	**141.10 348**	*e*PKPdf	**PKPdf**	**16 05 34.1**	**-6.8**
KTK1			*e*PP	**PP**	**16 08 39.4**	**-3.3**
KTK1			*e*SS	SS	16 27 11.0	+2.5
KTK1			IVMs_BB	IVMs_BB	17 00 48.1	
	comp=Z,2μm,16.2s					
TRO	**Tromso**	**141.21 351**	*e*PKPdf	**PKPdf**	**16 05 38.6**	**-2.5**
TRO			*e*PP	**PP**	**16 08 43.3**	**+0.1**
TRO			*e*SS	SS	16 27 10.7	+1.1
TRO			IVMs_BB	IVMs_BB	16 55 50.2	
	comp=Z,2μm,3.8s					
BELG	**Belogornoye**	**141.48 315**	PKhKP	PKPpre	16 05 35.3	
	comp=Z,195nm,1.1s,baz=81,slow=0.8,SNR=26					
BELG			SKPbc	**SKiKP**	**16 09 21.8**	**+2.5**
	comp=Z,147nm,1.0s,baz=51,slow=4.2,SNR=6.8					
KLMR	**Klimovskoe**	**142.28 331**	*e*PKIKP	**PKPdf**	**16 05 39.1**	**-4.1**
KLMR			pmax	pmax		
	comp=Z,193nm,1.1s					
KLMR			MLR	MLR		
	comp=Z,6μm,16.0s					
AKT	**Akhty**	**142.67 298**	*e*PKIKP	**PKPdf**	**16 05 42.0**	**-2.7**
AKT			*e*		16 08 50.4	
AKT			pmax	pmax		
	comp=Z,121nm,0.9s					
MAK	**Makhachkala**	**142.82 300**	*e*PKHKP	PKPpre	16 05 38.9	
MAK			*e*		16 08 49.6	
MAK			*e*		16 12 49.0	
MAK			*e*SSS	SSS	16 32 44.6	
MAK			pmax	pmax		
	comp=Z,190nm,1.0s					
LOF	**Lofoten**	**143.28 353**	*e*PKPdf	PKPab	16 05 41.1	+0.4
LOF			*e*SS	SS	16 27 38.9	+5.2
LOF			IVMs_BB	IVMs_BB	17 02 02.4	
	comp=Z,2μm,4.3s					
STEI	**Steigen**	**143.29 352**	*e*PKPdf	PKPab	16 05 40.6	-0.1
FAUS	**Fauske**	**143.80 351**	*e*PKPdf	PKPab	16 05 42.6	-0.1
FAUS			*e*PP	**PP**	**16 09 00.3**	**+1.4**
FAUS			*e*SS	SS	16 27 41.0	+1.4
FAUS			IVMs_BB	IVMs_BB	17 00 31.2	
	comp=Z,2μm,17.8s					
KONS	**Konsvik**	**144.91 352**	*e*PKPbc	PKPbc	16 05 47.1	+0.2
GNI	**Garni**	**144.93 295**		**PKPab**	**16 05 47.5**	**-0.5**
GNI	**Garni**	**144.93 295**	P	**PKPdf**	**16 05 50.6**	**+1.8**
GNI	**Garni**	**144.93 295**	*i* PKIKP	**PKPab**	**16 05 46.9**	**-1.2**
GNI	**Garni**	**144.93 295**	PKPdf	PKPbc	16 05 48.5	+0.4
MOR8	**Moi Rana**	**145.06 351**	*e*PKPbc	**PKPbc**	**16 05 46.5**	**-1.0**
MOR8			*e*PP	**PP**	**16 09 05.2**	**-1.3**
MOR8			*e*SS	SS	16 27 55.5	+1.3
MOR8			IVMs_BB	IVMs_BB	17 03 22.8	
	comp=Z,2μm,4.4s					
STOK	**Stokkvaagen**	**145.08 352**	*e*PKPbc	**PKPbc**	**16 05 40.0**	**-7.5**
STOK			*e*SS	SS	16 27 58.1	+3.9
STOK			IVMs_BB	IVMs_BB	17 04 29.5	
	comp=Z,2μm,4.1s					
LEIR	**Leirfjorden**	**145.28 352**	*e*PKPbc	**PKPbc**	**16 05 47.4**	**-0.7**
LEIR			IVmB_BB		16 05 56.9	
	comp=Z,4μm,1.8s					
LEIR			*e*PP	**PP**	**16 09 07.2**	**-0.6**
LEIR			*e*SS	SS	16 28 00.6	+4.1
LEIR			IVMs_BB	IVMs_BB	16 59 25.6	
	comp=Z,2μm,4.5s					
VRH	**Novokhopyorsk**	**145.33 315**	*e*PKP2	**PKPbc**	**16 05 46.7**	**-2.0**
VRH			pmax	pmax		
	comp=Z,240nm,1.0s					
VRH			MLR	MLR		
	comp=Z,6μm,21.0s					
MOS	**Moscow**	**145.77 324**	*e*PKP2	**PKPdf**	**16 05 47.3**	**-2.2**
MOS			*e*		16 09 18.4	
MOS			pmax	pmax		
	comp=Z,2μm,1.3s					
MOS			pmax	pmax		
	comp=Z,2μm,1.1s					
MOS			pmax	pmax		
	comp=E,297nm,1.2s					
MOS			pmax	pmax		
	comp=N,777nm,1.2s					
GOF	**Gofitskoye**	**145.86 304***c*	*i* PKIKP	**PKPdf**	**16 05 49.9**	**-0.1**
KBZ	**Khabaz**	**146.13 302**	PKPbc	**PKPdf**	**16 05 51.0**	**+0.6**
	comp=N,501nm,1.2s,baz=149,slow=0.8,SNR=61					
KBZ	**Khabaz**	**146.13 302***ce*	PKP2	**PKPdf**	**16 05 50.9**	**+0.4**
KIV	**Kislovodsk**	**146.25 302**	PKPdf	**PKPdf**	**16 05 51.1**	**+0.2**
KIV	**Kislovodsk**	**146.25 302**	P	**PKPab**	**16 05 53.1**	**+0.4**
KIV	**Kislovodsk**	**146.25 302**	⇑P	**PKPdf**	**16 05 50.9**	**0.0**
KIV	**Kislovodsk**	**146.25 302**	*e*PKHKP	PKPpre	16 05 47.7	
KIV			*i*		16 05 51.8	
KIV			*e*		16 09 09.4	
KIV			*e*		16 12 56.0	
KIV			*e*SS	SS	16 28 03.7	-6.5
KIV			pmax	pmax		
	comp=Z,275nm,1.0s					
KIV			MLR	MLR		
	comp=Z,6μm,25.0s					
KIV	**Kislovodsk**	**146.25 302**	*i* PKPdf	**PKPdf**	**16 05 51.0**	**+0.2**
	SNR=81					
KIV	**Kislovodsk**	**146.25 302**	PKP	**PKPdf**	**16 05 49.6**	**-1.2**
LPSR	**Galich'ya Gora**	**146.46 319**	*e*PKIKP	**PKPdf**	**16 05 50.6**	**-0.1**
LPSR			pmax	pmax		
	comp=Z,2μm,1.0s					
LPSR			MLR	MLR		
	comp=Z,7μm,20.0s					
PUL	**Pulkovo**	**146.55 334**	*i* PKIKP	**PKPdf**	**16 05 50.4**	**-0.3**
OBN	**Obninsk**	**146.60 324**	PKPdf	**PKPdf**	**16 05 51.3**	**+0.5**
OBN	**Obninsk**	**146.60 324**	PKPbc	**PKPdf**	**16 05 51.6**	**+0.7**
	comp=Z,465nm,1.0s,baz=54,slow=2.6,SNR=36					
OBN	**Obninsk**	**146.60 324**	⇑P	**PKPbc**	**16 05 52.1**	**-0.4**
OBN	**Obninsk**	**146.60 324**	*e*PKP2	**PKPbc**	**16 05 51.9**	**-0.6**
OBN			*e*		16 09 13.6	
OBN			*e*		16 12 40.4	
OBN			*e*SS	SS	16 28 15.5	+2.9
OBN			pmax	pmax		
	comp=Z,1μm,1.3s					
VORR	**Voronezh**	**146.65 317**	*e*PKP2	**PKPbc**	**16 05 52.2**	**-0.6**
VORR			pmax	pmax		
	comp=Z,1μm,1.0s					
FINES	**FINESS Array B**	**146.74 339**		**PKPdf**	**16 05 51.6**	**+0.6**
FINES	**FINESS Array B**	**146.74 339**	PKPbc	**PKPbc**	**16 05 52.4**	**-0.3**
	comp=Z,304nm,0.9s,baz=46,slow=4.0,SNR=189					
FINES	**FINESS Array B**	**146.74 339**	PKP2	**PKPdf**	**16 05 51.6**	**+0.6**
VSR	**Storozhevoye**	**146.84 316**	*e*PKIKP	**PKPdf**	**16 05 51.5**	**+0.1**
VSR			pmax	pmax		
	comp=Z,920nm,1.0s					
VORD	**Divnogorie**	**146.85 316**	*e*PKIKP	**PKPdf**	**16 05 51.6**	**+0.1**
VORD			pmax	pmax		
	comp=Z,800nm,1.0s					
NSS	**Namsos**	**146.94 352**	*e*PKPdf	**PKPdf**	**16 05 51.3**	**+0.1**
NSS			IVmB_BB		16 06 11.7	
	comp=Z,4μm,3.1s					
NSS			*e*SS	SS	16 28 21.2	+5.9
NSS			IVMs_BB	IVMs_BB	17 02 39.1	
	comp=Z,2μm,24.5s					
BCA	**Borcka**	**147.26 298**	⇑P	**PKPbc**	**16 05 53.9**	**-1.0**
ERBR	**Yeremizino-Bor**	**147.53 306**	*i* PKP2	**PKiKP**	**16 05 57.3**	**-0.2**
ERBR			pmax	pmax		
	comp=Z,1μm,1.2s					
LABN	**Labinsk**	**147.55 304**	*i* PKP2	**PKiKP**	**16 05 57.2**	**-0.4**
LABN			pmax	pmax		
	comp=Z,538nm,1.7s					
SOC	**Sochi**	**148.43 302***c*	*i* PKHKP	PKPpre	16 05 52.0	
SOC			*e*PPP	PPP	16 12 45.5	
SOC			*e*SS	SS	16 28 24.8	-10
SOC			*e*SSS	SSS	16 34 06.4	
SOC			MLR	MLR		
	comp=Z,6μm,18.0s					
KTUT	**Trabzon**	**148.69 297**	⇓P	**PKPbc**	**16 05 57.3**	**-1.3**
MOL	**Molde**	**149.28 355**	*e*PKPdf	**PKPdf**	**16 05 55.6**	**+0.5**
MOL			IVmBBB		16 06 02.4	
	comp=Z,767nm,1.4s					
MOL			*e*SS	SS	16 28 46.1	+4.5
MOL			IVMs_BB	IVMs_BB	16 59 54.0	
	comp=Z,1μm,3.5s					
DOMB	**Dombas**	**149.67 354**	*e*PKPdf	**PKPdf**	**16 05 56.7**	**+0.8**
DOMB			IVmBBB		16 06 03.3	
	comp=Z,788nm,1.4s					
DOMB			*e*PP	**PP**	**16 09 33.7**	**+0.2**
DOMB			*e*SS	SS	16 28 51.0	+4.8
DOMB			IVMs_BB	IVMs_BB	17 03 23.3	
	comp=Z,2μm,3.9s					
AKN	**Aaknes**	**149.71 356**	*e*PKPdf	**PKPdf**	**16 05 56.6**	**+0.7**
AKN			IVmBBB		16 06 07.3	
	comp=Z,2μm,1.2s					
AKN			*e*SS	SS	16 28 50.6	+4.1
AKN			IVMs_BB	IVMs_BB	17 00 34.5	
	comp=Z,2μm,3.6s					
ANN	**Anapa**	**149.82 305**	*i* PKP2	**PKiKP**	**16 06 02.4**	**+0.1**
ANN			*e*		16 09 31.0	
ANN			pmax	pmax		
	comp=Z,655nm,1.1s					
FOO	**Floro**	**150.39 357**	*e*PKPdf	**PKPdf**	**16 05 56.3**	**-0.6**
FOO			IVmB_BB		16 06 44.0	
	comp=Z,4μm,2.8s					
FOO			*e*SS	SS	16 28 54.3	+0.3
NB2	**NORSAR Subarra**	**150.41 351**	PKP	**PKPdf**	**16 05 58.2**	**+1.2**
	comp=Z,178nm,1.1s,baz=15,slow=4.1					
NB2	**NORSAR Subarra**	**150.41 351**	PKPab	**PKPdf**	**16 05 58.2**	**+1.2**
	baz=15,slow=4.1					
NOA	**NORSAR Array B**	**150.41 351**	PKPbc	**PKPbc**	**16 06 01.7**	**-0.6**
	comp=Z,67nm,1.0s,baz=15,slow=3.7,SNR=32					
NC602	**NORSAR Array S**	**150.66 351**	*e*PKPdf	**PKPdf**	**16 05 58.6**	**+1.3**
NC602			IVmB_BB		16 06 22.4	
	comp=Z,3μm,4.2s					
NC602			*e*SS	SS	16 28 59.0	+2.0
NC602			IVMsBB		17 01 06.6	
	comp=Z,2μm,24.2s					
HYA	**Hoyanger**	**150.76 356**	*e*PKPdf	**PKPdf**	**16 05 58.2**	**+0.8**
HYA			IVmB_BB		16 06 11.1	
	comp=Z,4μm,2.2s					
HYA			*e*SS	SS	16 29 00.3	+2.2
HFS	**Hagfors**	**150.89 348**	PKPbc	**PKPbc**	**16 06 02.5**	**-0.9**
	comp=Z,29nm,1.0s,baz=68,slow=3.9,SNR=15					
SUE	**Sulen**	**150.94 357**	*e*PKPdf	**PKPdf**	**16 05 58.8**	**+1.0**
SUE			IVmBBB		16 06 08.1	
	comp=Z,3μm,1.2s					
SUE			*e*SS	SS	16 29 01.0	+0.9
MNK	**Minsk**	**151.07 328**	*i* PKIKP	**PKiKP**	**16 06 05.5**	**+0.9**
MNK			*i*		16 09 43.9	
MNK			*i* PPP	PPP	16 13 05.3	
MNK			*i*		16 13 06.3	
MNK			*i* SS	SS	16 29 05.7	+3.2
MNK			*i* SSS	SSS	16 34 45.8	
MNK			pmax	pmax		
	comp=Z,523nm,1.0s					
MNK			pmax	pmax		
	comp=E,138nm,1.0s					
MNK			pmax	pmax		
	comp=N,100nm,1.2s					
SKAR	**Skarslia**	**151.09 354**	*e*PKPdf	**PKPdf**	**16 05 58.0**	**-0.1**
SKAR			IVmBBB		16 06 09.1	
	comp=Z,2μm,2.1s					
SKAR			*e*SKPdf	**SKPdf**	**16 09 23.2**	**-6.6**
SKAR			*e*SS	**SS**	**16 29 03.9**	**+1.9**
SKAR			IVMs_BB	IVMs_BB	17 01 19.6	
	comp=Z,2μm,3.8s					
ASK	**Askoy**	**151.50 357**	*e*PKPdf	**PKPdf**	**16 05 58.9**	**+0.3**
ASK			IVmB_BB		16 06 16.8	
	comp=Z,4μm,3.3s					
ASK			*e*SS	SS	16 29 10.3	+4.1
OSL	**Oslo**	**151.54 351**	*e*PKPdf	**PKPdf**	**16 05 59.1**	**+0.4**
OSL			*e*SS	SS	16 29 09.9	+3.2
BER	**Bergen**	**151.59 357**	*e*PKPdf	**PKPdf**	**16 05 59.8**	**+1.0**
BER			IVmB_BB		16 06 04.0	
	comp=Z,2μm,3.5s					
BER			*e*SKPdf	**SKPdf**	**16 09 25.2**	**-5.1**
BER			*e*SS	**SS**	**16 29 07.4**	**+0.1**
BER			IVMs_BB	IVMs_BB	17 04 16.3	
	comp=Z,3μm,3.7s					
GHAJ	**Ghor Haditha**	**151.62 277**	IAMs_20	IAMs_20	17 12 22.2	
	comp=Z,8μm,20.0s					
HWQ	**Hawqa**	**151.71 284**	*e*P	**PKPdf**	**16 05 57.5**	**-2.5**
BHL	**Bhannes**	**151.91 283**	*e*P	**PKPdf**	**16 05 58.2**	**-2.0**
KONO	**Kongsberg**	**151.96 352**		**PKiKP**	**16 06 06.4**	**+0.2**
KONO	**Kongsberg**	**151.96 352**	IAMs_20	IAMs_20	17 21 38.2	
	comp=Z,6μm,21.0s					
KONO	**Kongsberg**	**151.96 352**	*e*PKPdf	**PKPdf**	**16 05 58.5**	**-0.9**
KONO			IVmBBB		16 06 07.5	
	comp=Z,1μm,2.9s					
KONO			*e*SS	SS	16 29 11.3	-0.1
KONO	**Kongsberg**	**151.96 352**	PKIKP	**PKiKP**	**16 06 06.4**	**+0.2**
KONO			pmax	pmax		
	comp=Z,6μm,21.0s					
ODD1	**Odda**	**151.98 355**	*e*PKPdf	**PKPdf**	**16 06 00.5**	**+1.0**
DIKM	**Dikmen**	**151.99 299**	⇓P	**PKPdf**	**16 06 02.3**	**+2.4**
PABE	**Paberze**	**152.00 333**	IAMs_20	IAMs_20	17 19 08.4	
	comp=Z,8μm,20.0s					
MMAI	**Mount Meron Ar**	**152.02 281**	PKPbc	**PKiKP**	**16 06 08.1**	**+0.8**
	comp=Z,36nm,0.7s,baz=35,slow=3.1,SNR=18					
SIM	**Simferopol'**	**152.07 307**	*e*PKIKP	**PKiKP**	**16 06 08.8**	**+1.9**
STRU	**Stroemstad**	**152.34 350**	*i* P	**PKiKP**	**16 07 06.6**	**+0.6**
BLS5	**Blasjo**	**152.48 355**	*e*PKPdf	**PKPdf**	**16 06 00.7**	**+0.5**
BLS5			IVmB_BB		16 06 29.3	
	comp=Z,2μm,3.1s					
BLS5			*e*SS	SS	16 29 18.6	+1.4
AKASG	**Malin Array Be**	**152.69 321**		**PKPdf**	**16 06 00.9**	**+0.2**
AKASG	**Malin Array Be**	**152.69 321**	PKPbc	**PKPbc**	**16 06 07.8**	**0.0**
	comp=Z,5.3nm,0.7s,baz=55,slow=1.7,SNR=19					
AKASG	**Malin Array Be**	**152.69 321**	PKIKP	**PKPdf**	**16 06 00.9**	**+0.2**
AKBB	**Malin Array Si**	**152.69 321**	PKP	**PKPdf**	**16 06 00.8**	**+0.1**
KIEV	**Kiev**	**152.70 321**	⇑P	**PKPbc**	**16 06 07.5**	**-0.3**
KIEV	**Kiev**	**152.70 321**	⇑PKIKP	**PKPbc**	**16 06 07.5**	**-0.3**
KIEV	**Kiev**	**152.70 321**	PKPdf	**PKPdf**	**16 06 04.2**	**+3.5**
AK08	**Malin Array Si**	**152.71 321**	PKP	**PKPdf**	**16 06 01.1**	**+0.4**
AK02	**Malin Array Si**	**152.72 321**	PKP	**PKPdf**	**16 06 00.5**	**-0.3**
AK10	**Malin Array Si**	**152.73 321**	PKP	**PKPdf**	**16 06 00.5**	**-0.3**
AK11	**Malin Array Si**	**152.73 321**	PKP	**PKPdf**	**16 06 01.1**	**+0.3**
KMY	**Karmoy**	**152.76 357**	*e*PKPdf	**PKPdf**	**16 06 00.1**	**-0.5**
KMY			IVmBBB		16 06 03.4	
	comp=Z,2μm,2.9s					
KMY			*e*PP	**PP**	**16 09 54.3**	**+3.1**
KMY			*e*SS	SS	16 29 22.7	+2.5
BZK	**Bozkurt**	**152.85 300**	⇓P	**PKPbc**	**16 06 08.1**	**-0.3**
TJOU	**Tjoern**	**153.24 349**	*i* P	**PKiKP**	**16 06 10.6**	**+1.7**
KIRS	**Kirsehir-Merke**	**153.32 294**	⇓P	**PKPbc**	**16 06 08.0**	**-1.7**
SUW	**Suwalki**	**153.41 332**	*e*PKPdf	**PKPdf**	**16 06 03.4**	**+1.8**
SUW			*e*PKPbc	**PKiKP**	**16 06 10.2**	**+0.9**
BORU	**Boraas**	**153.41 347**	*i* P	**PKiKP**	**16 06 09.4**	**+0.1**
HOMB	**Homborsund**	**153.44 352**	*e*PKPdf	**PKPdf**	**16 06 01.8**	**+0.2**
HOMB			IVmBBB		16 06 12.2	
	comp=Z,2μm,1.3s					
HOMB			*e*PP	**PP**	**16 09 57.1**	**+2.1**
HOMB			*e*SS	SS	16 29 29.2	+1.7
HOMB	**Homborsund**	**153.44 352**	*i* P	**PKiKP**	**16 06 11.0**	**+1.7**
BRTR	**Keskin Array B**	**153.47 296**		**PKPdf**	**16 06 02.5**	**+0.1**
BRTR	**Keskin Array B**	**153.47 296**	PKPbc	**PKiKP**	**16 06 10.4**	**+0.2**
	comp=Z,17nm,1.2s,baz=150,slow=2.7,SNR=21					
BRTR	**Keskin Array B**	**153.47 296**	PKIKP	**PKPdf**	**16 06 02.5**	**+0.1**
SNART	**Snartemo**	**153.50 354**	*i* P	**PKiKP**	**16 06 11.0**	**+1.6**
CIDE	**Kastamonu/Cide**	**153.64 301**	⇑P	**PKPdf**	**16 06 05.7**	**+3.3**
ONAU	**Onsala**	**153.79 348**	*i* P	**PKiKP**	**16 06 12.4**	**+2.4**
DBIC	**Dimbokro**	**153.90 164**	PKPbc	**PKiKP**	**16 06 11.9**	**+0.3**
	comp=Z,24nm,1.1s,baz=164,slow=2.0,SNR=9.7					
DBIC	**Dimbokro**	**153.90 164**	⇓PKIKP	**PKPdf**	**16 06 02.9**	**-0.7**
BLEU	**Blekinge**	**153.96 343**	*i* P	**PKiKP**	**16 06 10.8**	**+0.4**
RNPP9	**Sopachiv**	**153.98 325**	PKP	**PKPdf**	**16 06 02.6**	**+0.1**
FABU	**Falkenberg**	**154.01 347**	*i* P	**PKiKP**	**16 06 10.8**	**+0.3**
ANTO	**Ankara**	**154.10 296**	IAMs_20	IAMs_20	17 23 20.4	
	comp=Z,6μm,20.0s					
ANTO	**Ankara**	**154.10 296**	P	**PKPdf**	**16 06 05.4**	**+2.2**
ANTO	**Ankara**	**154.10 296**	⇑P	**PKPdf**	**16 06 04.4**	**+1.1**
ANTO	**Ankara**	**154.10 296**	⇑PKIKP	**PKPdf**	**16 06 04.4**	**+1.1**
DEL	**Delary**	**154.27 345**	*i* P	**PKiKP**	**16 06 12.4**	**+1.3**
SORM	**Soroca**	**154.50 317**	⇑P	**PKPdf**	**16 06 05.7**	**+2.3**
SORM	**Soroca**	**154.50 317**	⇑PKIKP	**PKPdf**	**16 06 05.7**	**+2.3**
KIS	**Kishinev**	**154.76 314**	*e*PKP	**PKPbc**	**16 06 11.0**	**-1.4**
KIS	**Kishinev**	**154.76 314**	*e*PKIKP	**PKPbc**	**16 06 11.0**	**-1.4**
MILM	**Milestii Mici**	**154.80 314**	*e*PKHKP	PKPpre	16 06 04.0	
MILM	**Milestii Mici**	**154.80 314**	*i* PKiKP	**PKPbc**	**16 06 11.0**	**-1.5**
MILM	**Milestii Mici**	**154.80 314**	⇓P	**PKPdf**	**16 06 07.3**	**+3.5**
MILM	**Milestii Mici**	**154.80 314**	*e*PKIKP	**PKPdf**	**16 06 04.0**	**+0.2**
MILM			*i*		16 06 11.0	
BJUU	**Bjuv**	**154.82 346**	*i* P	**PKiKP**	**16 06 15.1**	**+2.9**
R9F13	**Warsaw-Wawer**	**155.56 331**	*e*PKPdf	**PKPdf**	**16 06 06.0**	**+1.3**
R9F13			*e*PKPab	**PKPab**	**16 06 32.1**	**+1.4**
TPGR	**Topolog**	**155.91 310**	⇓P	**PKPdf**	**16 06 10.6**	**+5.1**
BEL	**Belsk**	**156.00 331**	*e*PKPab	**PKPab**	**16 06 33.9**	**+1.3**
ISP	**Isparta**	**156.10 292**	IAMs_20	IAMs_20	17 16 30.0	
	comp=Z,8μm,22.0s					
GKP	**Gorka Klasztor**	**156.18 337**	*e*PKPdf	**PKPdf**	**16 06 08.3**	**+2.8**
GKP			*e*PKPab	**PKPab**	**16 06 34.7**	**+1.4**
COSR	**Cosmesti PH**	**156.20 313**	⇑P	**PKPab**	**16 06 32.9**	**-0.8**
TESR	**Tescani**	**156.30 315**	⇓P	**PKPdf**	**16 06 10.9**	**+5.0**
EKA	**Eskdalemuir Ar**	**156.43 8**	PKP	**PKPdf**	**16 06 06.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=274,slow=1.1,SNR=1.9					
EKA			PKPab	**PKPab**	**16 06 33.9**	**-0.4**
	comp=Z,25nm,1.1s,baz=324,slow=4.1,SNR=7.8					
PSN	**Preselentsi**	**156.56 307**	*e*P	**PKPdf**	**16 06 08.3**	**+2.0**
VRI	**Vrincioaia**	**156.56 313**	⇑P	**PKPdf**	**16 06 09.6**	**+3.3**
VRI	**Vrincioaia**	**156.56 313**	⇑PKIKP	**PKPdf**	**16 06 09.6**	**+3.3**
BURAR	**Bucovina Array**	**156.57 318**		**PKPdf**	**16 06 06.4**	**0.0**
BURAR	**Bucovina Array**	**156.57 318**	⇑P	PKPdf	16 06 14.4	+8.0
BURAR	**Bucovina Array**	**156.57 318**	⇑PKIKP	PKPdf	16 06 14.4	+8.0
PLOR	**Plostina**	**156.62 313**	⇑P	**PKPdf**	**16 06 13.5**	**+7.1**
PLOR	**Plostina**	**156.62 313**	⇑PKIKP	**PKPdf**	**16 06 13.5**	**+7.1**
PRD	**Provadia**	**157.22 306**	*e*P	**PKPdf**	**16 06 05.5**	**-1.7**
MLR	**Muntele Rosu**	**157.22 313**	PKP	**PKPdf**	**16 06 09.0**	**+1.7**
	comp=Z,29nm,1.2s,baz=351,slow=7.2,SNR=9.5					
MLR			PKPab	**PKPab**	**16 06 38.1**	**-0.2**
	comp=Z,84nm,1.1s,baz=71,slow=5.5,SNR=9.7					
MLR	**Muntele Rosu**	**157.22 313**	⇓P	**PKPdf**	**16 06 08.8**	**+1.5**
DOPR	**Dopca**	**157.33 314**	⇑P	**PKPdf**	**16 06 11.0**	**+3.7**
KOLS	**Kolonicke sedl**	**157.35 324**	*e*PKIKP	**PKPdf**	**16 06 09.4**	**+2.2**
KOLS	**Kolonicke sedl**	**157.35 324**	*e*PKP	**PKPdf**	**16 06 09.4**	**+2.2**
KOLS			*e*		16 06 40.6	
SULR		**157.39 311**	⇑P	PKPdf	16 06 17.5	+10
BAND	**Balkesir-Ban**	**157.55 299**	⇑P	**PKPdf**	**16 06 09.3**	**+1.6**
OJC	**Ojcow**	**157.61 329**	*e*PKPdf	**PKPdf**	**16 06 12.2**	**+4.7**
OJC			*e*PKPab	**PKPab**	**16 06 40.6**	**+1.0**
VOIR		**157.80 314**	⇓P	**PKPdf**	**16 06 11.2**	**+3.3**
VOIR		**157.80 314**	⇓PKIKP	**PKPdf**	**16 06 11.2**	**+3.3**
NIE	**Niedzica**	**157.97 327**	*e*PKPdf	**PKPdf**	**16 06 11.5**	**+3.5**
NIE			*e*PKPab	**PKPab**	**16 06 43.1**	**+1.9**
JMB	**Yambol**	**158.06 305**	*e*P	**PKPdf**	**16 06 07.0**	**-1.3**
SZH	**Strazhitsa**	**158.15 308**	*e*P	**PKPdf**	**16 06 08.3**	**-0.1**
HUMR	**Humele**	**158.27 311**	⇓P	**PKPdf**	**16 06 08.0**	**-0.5**
MARR	**Marisel-Cluj**	**158.29 318**	⇓P	**PKPdf**	**16 06 09.7**	**+1.1**
DRGR		**158.45 319**	⇓P	**PKPdf**	**16 06 09.6**	**+0.9**
DRGR		**158.45 319**	⇓PKIKP	**PKPdf**	**16 06 09.6**	**+0.9**
KSP	**Ksiaz**	**158.52 335**	*e*PKPdf	**PKPdf**	**16 06 12.2**	**+3.6**
KSP			*e*PKPab	**PKPab**	**16 06 43.3**	**-0.2**
KECS	**Kecovo**	**158.53 325**	*e*PKP2	**PKPab**	**16 06 45.5**	**+1.8**
KECS	**Kecovo**	**158.53 325**	*e*PKP	**PKPab**	**16 06 45.5**	**+1.8**
LANS	**Liptovska Anna**	**158.54 328**	*e*PKIKP	**PKPdf**	**16 06 10.3**	**+1.6**
LANS	**Liptovska Anna**	**158.54 328**	*e*PKP	**PKPdf**	**16 06 10.3**	**+1.6**
LANS			*e*		16 06 45.6	
LOT	**Lotru**	**158.57 315**	⇑P	**PKPdf**	**16 06 10.6**	**+1.6**
OKC	**Ostrava-Krasne**	**158.60 331**	AMS	AMS	17 18 10.0	
	comp=Z,7μm,21.9s					
OSTC	**Ostas**	**158.78 335**	AMS	AMS	17 25 20.0	
	comp=Z,7μm,19.1s					
CHVC	**Chvalec**	**158.81 335**	*e*PKPAB	**PKPab**	**16 06 46.1**	**+1.3**
CHVC	**Chvalec**	**158.81 335**	*e*PKP2	**PKPab**	**16 06 46.1**	**+1.3**
UPC	**Upice**	**158.90 335**	*e*PKPAB	**PKPab**	**16 06 45.6**	**+0.4**
UPC			AMS	AMS	17 21 00.0	
	comp=Z,9μm,20.4s					
UPC	**Upice**	**158.90 335**	*e*PKP2	**PKPab**	**16 06 45.6**	**+0.4**
UPC			MLR	MLR		
	comp=Z,9μm,20.4s					
MORC	**Moravsky Berou**	**158.90 331**	*e*PKP	**PKPdf**	**16 06 10.1**	**+1.0**
MORC			*e*		16 06 46.1	
NISR	**Nisiros**	**158.91 289**	P	**PKPdf**	**16 06 06.2**	**-3.2**
DPC	**Dobruska-Polom**	**158.91 334**	*e*PKPAB	**PKPab**	**16 06 46.3**	**+1.0**
DPC			AMS	AMS	17 25 00.0	
	comp=Z,6μm,19.2s					
DPC	**Dobruska-Polom**	**158.91 334**	*e*PKP2	**PKPab**	**16 06 46.3**	**+1.0**
DPC

KOKK Kokkinochori, 160.41 303 P **PKPdf 16 06 08.7 -2.4**
ZVC Zvikov 160.44 336 *e*PKPAB **PKPab 16 06 52.8 +0.9**
ZVC AMS AMS 17 34 00.0
comp=Z,9μm,18.5s
SRS Serrai 160.60 304 P **PKPdf 16 06 07.0 -4.3**
KKB Krupnik 160.65 306 *e*P **PKPdf 16 06 09.6 -1.7**
BOVS Bovan 160.77 312 ⇑P **PKPdf 16 06 11.7 +0.4**
IDI Anoyia 160.82 286 P **PKPdf 16 06 11.0 -0.8**
IDI Anoyia 160.82 286 PKP **PKPdf 16 06 12.7 +0.9**
IDI Anoyia 160.82 286 PKP **PKPdf 16 06 12.6 +0.8**
comp=Z,13nm,0.8s,baz=149,slow=5.6,SNR=3.7
IDI PKPab **PKPab 16 06 54.5 +0.3**
comp=Z,37nm,0.8s,baz=151,slow=4.3,SNR=5.0
KHC Kasperske Hory 160.91 337 *e*PKPDF **PKPdf 16 06 13.8 +2.4**
KHC *e*PKPAB **PKPab 16 06 54.5 +0.5**
KHC *ex* x 16 10 34.5
KHC *ex* x 16 19 42.0
KHC *ex* x 16 20 31.8
KHC AMS AMS 17 27 30.0
comp=Z,11μm,17.8s
KHC Kasperske Hory 160.91 337 *e*PKIKP **PKPdf 16 06 13.8 +2.4**
KHC *e* 16 06 54.5
KHC *e* 16 10 34.5
KHC MLR MLR
comp=Z,11μm,17.8s
PLG Polygyros 160.96 302 P **PKPdf 16 06 09.0 -2.7**
KYMI Kymi, Euboea I 160.96 296 P **PKPdf 16 06 09.7 -2.0**
AOS Alonnisos 160.99 298 P **PKPdf 16 06 09.5 -2.2**
MORH Mrgy, Hungar 161.00 323 ⇓P **PKPdf 16 06 10.6 -0.9**
RONA Rosalia, Austr 161.03 330 *ep*PKP **PKPdf 16 06 13.9 +2.3**
comp=Z,24nm,1.6s
RONA *i* PKP **PKPab 16 06 55.4 +0.8**
comp=Z,152nm,1.1s,SNR=9.4
CONA Conrad Observa 161.04 331 *e*PKP **PKPdf 16 06 12.7 +1.1**
comp=Z,13nm,1.1s
CONA *e*PKP **PKPab 16 06 56.3 +1.6**
comp=Z,112nm,1.5s
FRGS Fruska Gora 161.05 319⇑*i*P **PKPdf 16 06 09.8 -1.8**
KNT Kendrikon 161.07 304 P **PKPdf 16 06 09.0 -2.8**
GERES GERESS Array B 161.11 336 **PKPdf 16 06 11.7 0.0**
GERES GERESS Array B 161.11 336 PKP **PKPdf 16 06 11.8 +0.2**
comp=Z,11nm,1.2s,baz=343,slow=1.4,SNR=11
GERES PKPab **PKPab 16 06 55.1 +0.1**
comp=Z,24nm,1.0s,baz=20,slow=5.8,SNR=8.7
GERES PKKP 16 14 29.2
comp=Z,1.1nm,0.8s,baz=5.7,slow=2.7,SNR=3.4
GERES GERESS Array B 161.11 336 PKIKP **PKPdf 16 06 11.7 0.0**
TORD Torodi Ar. Bea 161.17 179 **PKPdf 16 06 12.3 -0.3**
TORD Torodi Ar. Bea 161.17 179 PKP **PKPdf 16 06 13.8 +1.2**
comp=Z,2.8nm,0.3s,baz=2.9,slow=3.0,SNR=6.3
TORD PKPab **PKPab 16 06 57.2 +1.4**
comp=Z,28nm,0.9s,baz=157,slow=1.5,SNR=7.9
TORD PP **PP 16 10 38.6 +1.1**
comp=Z,2.9nm,0.3s,baz=207,slow=3.0,SNR=3.8
UCC Uccle 161.21 356 *d*PKPdf **PKPdf 16 06 12.6 +1.0**
DION Dionisos Attik 161.21 295 P **PKPdf 16 06 09.7 -2.3**
MEM Membach 161.25 352 *d*PKPdf **PKPdf 16 06 12.7 +1.0**
MEM *d*PKP **PKPab 16 06 55.5 +0.2**
BTNL Ternell 161.26 352 *d*PKPdf **PKPdf 16 06 13.7 +2.0**
BTNL *d*PKP **PKPab 16 06 57.0 +1.6**
PTL Penteli 161.27 295 P **PKPdf 16 06 11.0 -1.1**
NEO Neokhori 161.45 299 P **PKPdf 16 06 11.0 -1.3**
XOR Xorichti 161.45 299 P **PKPdf 16 06 10.5 -1.8**
GRG Griva 161.50 304 P **PKPdf 16 06 10.0 -2.3**
BHOU Houvegnez 161.50 352 *d*PKPdf **PKPdf 16 06 14.5 +2.6**
BHOU *d*PKP **PKPab 16 06 54.3 -2.2**
BCLA Clavier 161.51 354 *d*PKPdf **PKPdf 16 06 12.4 +0.5**
BCLA *d*PKP **PKPab 16 06 55.8 -0.6**
BGES Gesves 161.56 354 *d*PKPdf **PKPdf 16 06 10.6 -1.4**
BGES *d*PKP **PKPab 16 06 57.7 +1.0**
BMRD Maredsous 161.67 355 *d*PKPdf **PKPdf 16 06 12.9 +0.9**
BMRD *d*PKP **PKPab 16 06 57.9 +0.8**
VILL Villia 161.67 295 P **PKPdf 16 06 09.5 -3.1**
ARSA Arzberg 161.71 330 *e*PKP **PKPdf 16 06 14.2 +1.9**
comp=Z,17nm,1.6s
ARSA *i* PKP **PKPab 16 06 58.8 +1.3**
comp=Z,189nm,1.5s,SNR=7.0
ARSA *e*PP **PP 16 10 44.3 +3.4**
comp=Z,13nm,1.0s
LIT Litokhoron 161.74 302 P **PKPdf 16 06 10.7 -1.8**
MOA Molln 161.74 333 *e*PKP **PKPdf 16 06 13.6 +1.3**
comp=Z,9.6nm,0.9s
MOA *i* PKP **PKPab 16 06 59.4 +1.7**
comp=Z,332nm,2.1s,SNR=5.5
RCHB Rochefort 161.78 354 *d*PKPdf **PKPdf 16 06 14.0 +1.8**
RCHB *d*PKP **PKPab 16 06 57.3 -0.4**
DOU Dourbes 161.89 355 *d*PKPdf **PKPdf 16 06 13.2 +0.9**
AXAR Agios Charalam 162.02 298 P **PKPdf 16 06 11.0 -1.9**
SJES Sjenica 162.04 314⇑*i*P **PKPdf 16 06 09.6 -3.3**
BBLS Lazi&#263i 162.05 316⇑*i*P **PKPdf 16 06 10.7 -2.1**
TYRN Tyrnavos 162.06 301 P **PKPdf 16 06 10.7 -2.1**
BIOA Bad Ischl, Aus 162.11 334 *e*PKP **PKPdf 16 06 14.0 +1.4**
comp=Z,19nm,1.1s
BIOA *e*PKP **PKPab 16 07 00.7 +1.4**
comp=Z,247nm,1.3s,SNR=6.8
WLF Walferdange 162.16 352 PKP **PKPdf 16 06 13.0 +0.4**
WLF Walferdange 162.16 352 *d*PKPdf **PKPdf 16 06 14.5 +1.9**
WLF *d*PKP **PKPab 16 07 00.0 +0.7**
HAPS Han Pijesak,BI 162.18 317⇑*i*P **PKPdf 16 06 11.5 -1.5**
KZN Kozani 162.18 303 P **PKPdf 16 06 12.0 -1.1**
RUDO Rudo 162.21 315⇑*i*P **PKPdf 16 06 10.8 -2.1**
THL Klokotos Trika 162.26 300 P **PKPdf 16 06 10.7 -2.3**
FNA Florina 162.28 305 P **PKPdf 16 06 11.2 -1.9**
MAKR Makrakomi, Fth 162.34 299 P **PKPdf 16 06 10.5 -2.7**
SOKA Soboth 162.37 330 *i* PKP **PKPdf 16 06 14.0 +0.9**
comp=Z,21nm,1.2s,SNR=5.9
SOKA *i* PKP **PKPab 16 07 01.4 +0.9**
comp=Z,123nm,1.3s,SNR=5.9
KALE Kalithea 162.51 297 P **PKPdf 16 06 11.5 -1.9**
PHP Peshkopia 162.53 308 P **PKPdf 16 06 11.0 -2.3**
KLV Kalavryta, Ach 162.59 296 P **PKPdf 16 06 13.2 -0.3**
KPRO Kipourio 162.60 302 P **PKPdf 16 06 12.0 -1.5**
EVR Evrytania 162.61 299 P **PKPdf 16 06 13.0 -0.6**
ANX Ano Chora 162.62 297 P **PKPdf 16 06 12.8 -0.8**
EFP Efpalio 162.68 297 P **PKPdf 16 06 13.5 0.0**
LESA Schwarzleotal 162.68 335 *i* PKP **PKPdf 16 06 14.0 +0.7**
comp=Z,36nm,1.1s,SNR=12
LESA *e*PP **PP 16 10 46.1 +0.1**
comp=Z,19nm,1.2s
A051A Mrakovica 162.71 323⇑*i*P **PKPdf 16 06 14.0 +0.6**
OBKA Obir 162.71 330 *e*PKP **PKPdf 16 06 14.5 +1.1**
comp=Z,10nm,1.1s
OBKA Obir 162.71 330⇑*i*P **PKPdf 16 06 10.4 -3.0**
GCIS Gornji Cirnik 162.72 327 *e*PKPdf **PKPdf 16 06 12.2 -1.1**
KBA Koelnbreinsper 162.73 333 *e*PKP **PKPdf 16 06 14.2 +0.7**
comp=Z,27nm,1.1s
BLY Banja Luka 162.74 321⇑*i*P **PKPdf 16 06 11.3 -2.0**
KBN Korca 162.75 305 P **PKPdf 16 06 13.8 +0.2**
CRES Cresnjevec Ost 162.83 327⇑*i*P **PKPdf 16 06 11.1 -2.3**
PDG Podgorica 162.93 312⇑*i*P **PKPdf 16 06 12.0 -1.6**
DRO Drossia 162.95 296 P **PKPdf 16 06 13.0 -0.8**
MYKA Terra Mystica 162.98 332 *e*PKP **PKPdf 16 06 15.3 +1.7**
comp=Z,21nm,1.5s
MYKA *e*PKP **PKPab 16 07 03.6 +0.4**
comp=Z,75nm,1.2s
LSK Leskovik 163.07 304 P **PKPdf 16 06 13.0 -0.9**
LJU Ljubljana 163.08 329 *e*PKPdf **PKPdf 16 06 14.7 +1.1**
LJU *e*PKPab **PKPab 16 07 04.3 +0.7**
DRME Dracevica, Mon 163.10 312⇑*i*P **PKPdf 16 06 12.5 -1.3**
RLS Riolos of Patr 163.11 296 P **PKPdf 16 06 11.2 -2.7**
BRY Bratogost 163.12 314⇑*i*P **PKPdf 16 06 14.7 +0.7**
WATA Walderalm 163.13 337 *e*PKP **PKPdf 16 06 14.9 +1.0**
comp=Z,17nm,1.2s
BOJS Bojanci 163.17 327 *e*PKPdf **PKPdf 16 06 14.7 +0.9**
CRNS Crni Vrh 163.17 330 *i* PKPdf **PKPdf 16 06 14.6 +0.8**
WTTA Wattenberg 163.18 337 *e*PKP **PKPdf 16 06 15.3 +1.3**
comp=Z,27nm,1.4s
RETA Reutte 163.25 339 *e*PKP **PKPdf 16 06 15.4 +1.5**
comp=Z,10.0nm,1.3s
RETA *i* PKP **PKPab 16 07 05.9 +1.5**
comp=Z,149nm,1.1s,SNR=12
RETA *e*PP **PP 16 10 51.9 +2.9**
comp=Z,39nm,1.8s
ABTA Abfaltersbach 163.32 335 *i* PKP **PKPdf 16 06 14.8 +0.9**
comp=Z,35nm,1.2s,SNR=14
ABTA *i* PKP **PKPab 16 07 05.2 +0.5**
comp=Z,111nm,1.1s,SNR=5.8
ABTA *e*PP **PP 16 10 50.5 +1.0**
comp=Z,16nm,1.3s
SQTA Sankt Quirin 163.35 338 *e*PKP **PKPdf 16 06 14.6 +0.6**
comp=Z,13nm,1.1s
SQTA *i* PKP **PKPab 16 07 06.3 +1.5**
comp=Z,134nm,1.0s,SNR=6.0
HCY Herceg Novi 163.40 313⇑*i*P **PKPdf 16 06 17.7 +3.6**

JAVS Javornik 163.40 330 *i* PKPab **PKPab 16 07 04.0 -1.0**
IGT Igoumenitsa 163.50 302 P **PKPdf 16 06 13.0 -1.3**
LKD2 Lefkada island 163.51 299 P **PKPdf 16 06 12.2 -2.1**
PMOZ Porto Moniz, M 163.64 82 *e*LR LR 17 11 25.6
PMOZ *i* AMs_20 17 21 11.3
comp=Z,9μm,18.0s
STON Ston 163.64 316⇑*i*P **PKPdf 16 06 16.0 +1.8**
FETA Feichten 163.68 339 *i* PKP **PKPdf 16 06 15.4 +1.0**
comp=Z,30nm,1.2s,SNR=12
FETA *e*PKP **PKPab 16 07 08.0 +1.7**
comp=Z,66nm,1.0s
DAVA Damuels 163.69 341 *e*PKP **PKPdf 16 06 15.0 +0.6**
comp=Z,25nm,1.3s
DAVA *i* PKP **PKPab 16 07 07.7 +1.4**
comp=Z,68nm,1.1s,SNR=5.9
KEK Kerkira 163.81 303 P **PKPdf 16 06 14.0 -0.5**
DAVOX Davos/Dischmat 164.15 340 PKP **PKPdf 16 06 15.8 +0.9**
comp=Z,11nm,1.0s,baz=42,slow=10,SNR=8.4
DAVOX PKPab **PKPab 16 07 08.9 +0.4**
comp=Z,99nm,1.1s,baz=0.0,slow=2.0,SNR=15
VLC Villacollemand 166.31 334 PKP **PKPdf 16 06 17.2 +0.7**
CESX Cesi 166.61 325 PKPdf **PKPdf 16 06 15.5 -1.3**
CESX **PKPab 16 07 19.2 0.0**
PGAV Gavieira, Arco 167.08 37 *e*PP PP 16 11 37.3 +28
PGAV *e*LR LR 17 06 45.8
PGAV *i* AMs_20 17 22 48.3
comp=Z,12μm,18.0s
PVIS Viseu 168.16 40 *e*PKPab **PKPab 16 07 27.3 +1.1**
PCAS Casmilo, Conde 168.26 44 *e*PKPab **PKPab 16 07 28.2 +1.5**
MVO Moncorvo 168.30 36 *e*PKPdf **PKPdf 16 06 20.9 +2.7**
MVO *e*PP PP 16 11 57.6 +42
MVO *e*SS SS 16 32 10.9 +6.2
MVO *e*LR LR 17 06 13.5
MVO *i* AMs_20 17 24 58.5
comp=Z,10μm,18.0s
VAE Valguarnera 168.57 302 PKPab **PKPab 16 07 30.0 +1.8**
comp=Z,16nm,0.8s,baz=0.0,slow=6.1,SNR=1.4
MTE Manteigas 168.58 41 *e*PKPab **PKPab 16 07 28.4 +0.3**
MTE *e*PP PP 16 11 45.7 +29
MTE *e*SS SS 16 32 14.3 +6.6
MTE *e*LR LR 17 07 55.7
MTE *i* AMs_20 17 17 55.4
comp=Z,14μm,20.0s
LIS Lisbon 168.63 51 *e*PKPdf **PKPdf 16 06 19.3 +0.9**
LIS *e*SS SS 16 32 10.6 +1.8
LIS IAMs_20 IAMs_20 17 21 10.4
comp=Z,13μm,14.0s
LIS Lisbon 168.63 51 *e*PKIKP **PKPdf 16 06 19.3 +0.9**
LIS *e*SS SS 16 32 10.6 +1.9
PCBR Castelo Branco 168.99 42 *e*PKPdf **PKPdf 16 06 21.2 +2.7**
PMRV Marv??o 169.31 44 *e*PKPdf **PKPdf 16 06 21.6 +2.8**
PMRV *e*PKPab **PKPab 16 07 31.5 +0.2**
PMRV *e*PP PP 16 11 34.6 +14
PMRV *e*SS SS 16 32 21.1 +6.0
PMRV *e*LR LR 17 10 55.5
PMRV *i* AMs_20 17 22 47.2
comp=Z,11μm,18.0s
EVO Evora 169.48 49 *e*PKPdf **PKPdf 16 06 21.9 +3.0**
EVO Evora 169.48 49 PKP **PKPdf 16 06 16.4 -2.5**
MORF Marmelete 169.68 57 *e*PKPdf **PKPdf 16 06 19.9 +0.8**
MORF *e*PP **PP 16 11 24.1 +0.9**
MORF *e*SS SS 16 32 20.9 +1.3
MORF IAMs_20 IAMs_20 17 21 47.7
comp=Z,13μm,18.7s
MORF Marmelete 169.68 57 *e*PKPdf **PKPdf 16 06 22.0 +2.9**
MORF Marmelete 169.68 57 *e*PKIKP **PKPdf 16 06 19.9 +0.8**
MORF *e* 16 11 24.0
MESJ Messejana 169.72 53 *e*PKPdf **PKPdf 16 06 20.0 +1.0**
MESJ *e*PP **PP 16 11 24.2 +1.0**
MESJ *e*SS SS 16 32 21.3 +1.6
MESJ IAMs_20 IAMs_20 17 21 38.4
comp=Z,13μm,19.5s
MESJ Messejana 169.72 53 *e*PKPdf **PKPdf 16 06 21.0 +1.9**
PCVE Castro Verde 169.95 54 *e*PKPdf **PKPdf 16 06 22.1 +2.9**
PCVE Castro Verde 169.95 54 PKP **PKPdf 16 06 20.4 +1.2**
EBAD Badajoz 169.97 46 PKP **PKPdf 16 06 20.7 +1.5**
PBDV Barranco-do-Ve 170.21 55 *e*PKPdf **PKPdf 16 06 20.7 +1.3**
PVAQ Vaqueiros 170.28 54 *e*PP PP 16 11 56.7 +31
PVAQ *e*LR LR 17 06 39.7
PVAQ *i* AMs_20 17 22 52.6
comp=Z,11μm,20.0s
PBAR Barrancos 170.31 48 *e*PKPdf **PKPdf 16 06 22.0 +2.6**
PBAR Barrancos 170.31 48 PKP **PKPdf 16 06 20.9 +1.5**
EMIN Mina Concepcio 170.78 49 PKP **PKPdf 16 06 21.5 +1.8**
ESDC Sonseca Array 170.92 31 PKP **PKPdf 16 06 21.4 +1.6**
comp=Z,11nm,1.1s,baz=341,slow=3.5,SNR=13
ESDC PKPab **PKPab 16 07 39.0 +0.6**
comp=Z,4.8nm,1.0s,baz=338,slow=4.5,SNR=1.2
KEST Kesra 172.99 303 PKP **PKPdf 16 06 22.7 +1.8**
comp=Z,12nm,1.1s,baz=90,slow=2.0,SNR=6.0
KEST PKPab **PKPab 16 07 48.5 +0.6**
comp=Z,34nm,1.1s,baz=27,slow=4.5,SNR=4.7
CMAH Djebel Manchou 173.70 318 P **PKPab 16 07 50.1 -0.8**
CAEH 'Ain El Ouahch 173.90 322 P **PKPab 16 07 52.3 +0.6**
MDT Midelt 174.23 81 PKP **PKPdf 16 06 23.1 +1.6**
comp=Z,28nm,1.1s,baz=333,slow=0.3,SNR=9.1
CKFL Kef-Lekhel 174.26 320 P **PKPab 16 07 54.8 +1.4**
DFRA Djebel Bou Aff 174.57 327 P **PKPab 16 07 56.2 +1.4**

*IDC **06** 15:51:21.5±2.9, 31°.15S×178°.48W, h0km, mb4.5/3, mbtmp4.5/3, Error ellipse: s-maj=182.4km s-min=45.3km az=167.0*
ISC 06 15:51:22.4±2.7, 31°S±1°×178°.4W±0°.4, h10km, n6, σ0s34/6, mb4.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.73**	**268**	P	**P**	**15 59 19.8**	**-0.2**
	1.9nm,0.7s,baz=108,slow=8.2,SNR=1.2						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**43.79**	**273**	P	**P**	**15 59 28.9**	**+0.3**
	2.5nm,0.3s,baz=112,slow=8.1,SNR=5.1						
	2.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.02**	**271**	P	**P**	**16 00 32.4**	**0.0**
	19nm,1.0s,baz=121,slow=5.9,SNR=2.1						
	19nm,1.0s						
BVAR	**Borovoye Array**	**126.71**	**315**	PKP	**PKiKP**	**16 10 25.8**	**-0.3**
	2.6nm,0.9s,baz=119,slow=1.8,SNR=1.6						
FINES	**FINESS Array B**	**145.74**	**339**	PKPbc	**PKPab**	**16 11 01.1**	**-0.1**
	2.5nm,0.4s,baz=48,slow=4.1,SNR=3.7						
ESDC	**Sonseca Array**	**170.38**	**27**	PKP	**PKPdf**	**16 11 31.0**	**+0.3**
	4.1nm,1.2s,baz=318,slow=1.7,SNR=4.0						

*IDC **06** 15:51:52.1±1.4, 31°.88S×177°.83W, h0km, mb4.7/4, mbtmp4.7/5, Error ellipse: s-maj=60.5km s-min=32.5km az=144.0*
ISC 06 15:51:55.6±1.3, 32°.1S±0°.2×177°.9W±0°.3, h24km, n12, σ0s96/13, mb4.7/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.41**	**212**	Pn	**Pn**	**15 53 42.6**	**+0.4**
	76nm,0.9s,baz=264,slow=18,SNR=1.4						
URZ				Sn	**Sn**	**15 55 04.5**	**-1.0**
	2.8nm,0.3s,baz=244,slow=14,SNR=1.7						
ASAR	**Alice Springs**	**43.16**	**269**	P	**P**	**15 59 54.7**	**+0.1**
	3.6nm,0.6s,baz=114,slow=8.2,SNR=4.6						
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**16 00 04.0**	**+0.2**
	5.4nm,0.5s,baz=109,slow=3.7,SNR=5.5						
	5.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.49**	**271**	P	**P**	**16 01 07.4**	**+0.5**
	19nm,1.0s,baz=124,slow=7.3,SNR=2.0						
	19nm,1.0s						
PETK	**Petropavlovsk-**	**87.47**	**346**	P	**P**	**16 04 39.1**	**-1.5**
	3.3nm,0.8s,baz=139,slow=4.6,SNR=4.6						
	3.3nm,0.8s						
MKAR	**Makanchi Array**	**118.93**	**309**	PKP	**PKPdf**	**16 10 40.9**	**-0.9**
	0.7nm,0.5s,baz=200,slow=1.3,SNR=5.0						
BVAR	**Borovoye Array**	**127.68**	**315**	PKP	**PKPdf**	**16 10 58.3**	**0.0**
	1.5nm,0.5s,baz=117,slow=2.6,SNR=4.8						
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc	**PKPdf**	**16 11 34.2**	**+1.2**
	5.3nm,0.4s,baz=41,slow=4.1,SNR=11						
HFS	**Hagfors**	**150.91**	**348**	PKPbc	**PKPbc**	**16 11 45.1**	**-0.4**
	5.3nm,0.9s,baz=110,slow=1.7,SNR=1.8						
MMAI	**Mount Meron Ar**	**152.00**	**281**	PKPbc	**PKiKP**	**16 11 51.1**	**+1.7**
	5.1nm,0.5s,baz=83,slow=6.8,SNR=9.3						
AKASG	**Malin Array Be**	**152.69**	**321**	PKPbc	**PKPbc**	**16 11 49.7**	**-0.1**
	1.0nm,0.5s,baz=46,slow=3.2,SNR=4.6						
BRTR	**Keskin Array B**	**153.46**	**296**	PKPbc	**PKPbc**	**16 11 52.5**	**+0.3**
	1.7nm,0.5s,baz=144,slow=4.3,SNR=9.5						

IDC 06 15:53:32.4±6.0, 30°.50S×178°.80W, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=227.5km s-min=65.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.41**	**267**	P	P	16 01 28.1	-0.9
	1.5nm,0.6s,baz=110,slow=7.9,SNR=0.8						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**43.41**	**273**	P	P	16 01 37.3	+0.2
	1.9nm,0.3s,baz=112,slow=8.0,SNR=4.5						
	1.9nm,0.3s						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	16 13 09.8	-0.4
	1.2nm,0.4s,baz=48,slow=4.1,SNR=1.0						

*IDC **06** 15:53:47.4±2.5, 32°.28S×177°.98W, h0km, mb4.6/5, mbtmp4.6/5, Error ellipse: s-maj=108.2km s-min=39.3km az=156.0*
ISC 06 15:53:50.1±2.7, 32°.3S±0°.6×177°.9W±0°.4, h20km, n9, σ0s90/9, mb4.7/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.15**	**269**	P	**P**	**16 01 50.4**	**+0.9**
	2.9nm,0.6s,baz=103,slow=7.9,SNR=1.8						
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**16 01 58.0**	**-0.8**
	5.7nm,0.5s,baz=112,slow=7.9,SNR=5.6						
	5.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.48**	**271**	P	**P**	**16 03 00.9**	**-1.0**
	12nm,1.0s,baz=135,slow=6.9,SNR=2.1						
	12nm,1.0s						
PETK	**Petropavlovsk-**	**87.65**	**346**	P	**P**	**16 06 36.7**	**+0.1**
	3.1nm,0.8s,baz=160,slow=5.6,SNR=5.4						
	3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**88.78**	**326**	P	**P**	**16 06 42.8**	**+0.7**
	3.0nm,0.8s,baz=120,slow=4.1,SNR=4.6						
	3.0nm,0.8s						
BVAR	**Borovoye Array**	**127.81**	**315**	PKP	**PKiKP**	**16 12 54.6**	**+0.4**
	1.4nm,0.8s,baz=63,slow=2.1,SNR=2.1						
FINES	**FINESS Array B**	**146.93**	**339**	PKPbc	**PKPab**	**16 13 30.5**	**-1.2**
	11nm,0.8s,baz=44,slow=4.3,SNR=6.8						
MMAI	**Mount Meron Ar**	**152.03**	**281**	PKPbc	**PKiKP**	**16 13 43.9**	**-0.6**
	2.6nm,0.5s,baz=66,slow=4.1,SNR=4.8						
AKASG	**Malin Array Be**	**152.83**	**321**	PKPbc	**PKiKP**	**16 13 45.7**	**+0.3**
	3.0nm,0.8s,baz=52,slow=4.5,SNR=4.5						

IDC 06 15:56:06.8±5.9, 31°.73S×178°.08W, h0km, mb4.1/2, mbtmp4.1/2, Error ellipse: s-maj=304.7km s-min=55.7km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.99**	**268**	P	P	16 04 08.0	-0.1
	1.7nm,0.6s,baz=114,slow=8.1,SNR=3.3						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**44.10**	**274**	P	P	16 04 16.9	-0.1
	1.2nm,0.4s,baz=114,slow=7.9,SNR=2.7						
	1.2nm,0.4s						
FINES	**FINESS Array B**	**146.36**	**339**	PKPbc	PKPdf	16 15 48.1	+0.6
	2.7nm,0.9s,baz=56,slow=3.5,SNR=1.7						
AKASG	**Malin Array Be**	**152.30**	**321**	PKPbc	PKPbc	16 16 03.7	-0.4
	0.8nm,0.7s,baz=78,slow=0.5,SNR=1.7						

IDC 06 15:57:33.0±424.0, 48°.43N×11°.66E, h0km, Error ellipse: s-maj=154.8km s-min=33.4km az=73.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**1.43**	**72**	I	I	16 05 50.0	
	0.2nm,0.6s,baz=254,slow=322,SNR=1.0						
I48TN	**KESRA INFRASONI**	**2.73**	**189**	I	I	17 12 30.0	
	baz=7.7,slow=325,SNR=1.7						
I43RU	**DUBNA INFRASONI**	**7.52**	**52**	I	I	17 45 20.0	
	baz=250,slow=330,SNR=1.7						

IDC 06 15:58:03.7±6.2, 31°.05S×178°.75W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=238.9km s-min=65.3km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.43**	**268**	P	P	16 05 59.9	-0.6
	0.4nm,0.5s,baz=105,slow=7.8,SNR=1.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.48**	**273**	P	P	16 06 09.2	+0.2
	0.4nm,0.3s,baz=114,slow=8.0,SNR=4.7						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**145.53**	**339**	PKPbc	PKPdf	16 17 42.4	-0.7
	1.1nm,0.6s,baz=15,slow=5.8,SNR=1.4						

IDC 06 15:58:46.9±6.4, 31°.23S×178°.11W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=257.9km s-min=65.2km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.98**	**268**	P	P	16 06 47.6	-0.5
	0.9nm,0.8s,baz=111,slow=7.1,SNR=4.6						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**44.04**	**273**	P	P	16 06 57.1	+0.3
	0.4nm,0.3s,baz=113,slow=8.0,SNR=2.3						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**145.89**	**339**	PKPbc	PKPdf	16 18 26.7	-0.3
	1.6nm,0.8s,baz=48,slow=2.1,SNR=1.3						

*WEL **06** 15:58:54.0±0.8, 32°S±4°×17°7W±°, h10km, M4.6/3, ML5.9/9, Mw(mB)4.6/3, Error ellipse: s-maj=12.5km s-min=4.4km az=101.3, confirmed*
*IDC **06** 15:58:59.3±0.6, 31°.72S×177°.89W, h0km, mb4.6/14, mbtmp4.6/15, ML4.1/1, Error ellipse: s-maj=21.9km s-min=20.4km az=135.0*
*NEIC **06** 15:59:01.6±1.9, 31°.9S±0°.1×177°.9W±0°.1, h10km±1km, mb5.0/42, Error ellipse: s-maj=20.0km s-min=17.5km az=119.0*
ISC 06 15:59:00.3±0.4, 31°.93S±0°.05×177°.74W±0°.08, h10km, n145, σ1s77/165, mb5.0/53, 5C-4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.66**	**357**	P	Pn	15 59 38.7	-4.5
GLKZ				S	**Sn**	**16 00 08.6**	**-6.9**
MXZ	**Matakaoa Point**	**6.50**	**209**	S	**Sn**	**16 01 49.5**	**-0.6**
WMGZ	**Waiomatatini S**	**6.68**	**207**	P	**Pn**	**16 00 37.6**	**-0.8**
WMGZ				S	**Sn**	**16 01 57.1**	**+2.5**
PKGZ	**Pakihiroa**	**6.85**	**209**	P	**Pn**	**16 00 39.1**	**-1.7**
PKGZ				S	**Sn**	**16 01 57.3**	**-1.6**
HAZ	**Te Kaha**	**6.88**	**211**	P	**Pn**	**16 00 41.8**	**+0.5**
HAZ				S	**Sn**	**16 02 01.5**	**+1.9**
PUZ	**Puketiti**	**6.96**	**207**	P	**Pn**	**16 00 40.1**	**-2.2**
PUZ				S	**Sn**	**16 02 02.0**	**+0.5**
RUGZ	**Raukumara Rang**	**7.10**	**211**	P	**Pn**	**16 00 43.7**	**-0.7**
RUGZ				S	**Sn**	**16 02 07.2**	**+1.9**
TWGZ	**Tauwhareparae**	**7.16**	**208**	P	**Pn**	**16 00 43.7**	**-1.3**
TWGZ				S	**Sn**	**16 02 06.0**	**-0.5**
KUZ	**Kuaotunu**	**7.24**	**227**	P	**Pn**	**16 00 50.3**	**+4.2**
CNGZ	**Carnag

OUZ	Omahuta	7.94 243	S	Pn	16 00 59.4	+3.6
RTZ	Ruatahuna	7.95 211		Pn	16 00 56.3	+0.3
TOZ	Tahuroa Road	8.03 222	Pn	Pn	16 00 56.2	-0.7
MHGZ	Mahia Peninsul	8.04 205	P	Pn	16 00 53.8	-3.3
MHGZ			S	Sn	16 02 24.3	-3.7
RAHZ	Arahi	8.15 210	P	Pn	16 00 58.2	-0.6
RAHZ			S	Sn	16 02 31.2	+0.2
MTHZ	Maungataniwha	8.21 211	P	Pn	16 00 58.9	-0.6
MTHZ			S	Sn	16 02 30.9	-1.3
MRHZ	Matea Rd	8.38 213	P	Pn	16 01 00.1	-1.8
MRHZ			S	Sn	16 02 35.0	-1.7
BKZ	Black Stump Fm	8.62 211	Pn	Pn	16 01 03.6	-1.5
BKZ	Black Stump Fm	8.62 211	P	Pn	16 01 03.5	-1.6
BKZ			S	Sn	16 02 39.0	-3.4
HIZ	Hauiti	8.94 221	P	Pn	16 01 12.4	+3.0
TMVZ	Te Maari	8.94 215	P	Pn	16 01 08.5	-1.2
TMVZ			S	Sn	16 02 47.5	-3.0
OTVZ	Oturere	9.00 215	P	Pn	16 01 10.2	-0.3
KRHZ	Kereru	9.06 210	P	Pn	16 01 09.6	-1.6
KRHZ			S	Sn	16 02 48.9	-4.4
PNHZ	Pukenui	9.36 210	P	Pn	16 01 12.9	-2.4
PNHZ			S	Sn	16 02 55.3	-5.4
VRZ	Vera Road	9.43 218	P	Pn	16 01 17.4	+1.2
PRHZ	Porangahau	9.48 207	P	Pn	16 01 14.3	-2.7
PRHZ			S	Sn	16 02 57.7	-5.9
ANWZ	Angora Road	9.71 207	P	Pn	16 01 17.3	-2.8
BFZ	Birch Farm	9.99 207	P	Pn	16 01 19.6	-4.3
CTZ	Chatham Island	11.82 176	P	Pn	16 01 44.3	-4.6
CTZ			S	Sn	16 03 46.3	-15
MRNZ	Matariki Terra	12.14 216	Pn	Pn	16 01 53.4	+0.1
INZ	Inchbonnie	13.78 215	Pn	Pn	16 02 14.9	-0.7
RPZ	Rata Peaks	14.71 214	Pn	Pn	16 02 25.5	-2.9
	0.6nm,0.3s,baz=63,slow=8.2,SNR=3.1					
RPZ			Sn	Sn	16 04 58.4	-13
	0.7nm,0.3s,baz=305,slow=20,SNR=2.6					
ODZ	Otahua Downs	15.92 211	Pn	Pn	16 02 40.7	-3.7
DZM	Mont Dzumac	17.16 301		P	16 03 03.6	+1.7
ARMA	Armidale	26.21 265	P	P	16 04 37.4	+1.9
ARMA			IAmb	IAmb	16 04 42.9	
	comp=Z,38nm,1.4s					
CAN	Canberra	27.83 254	P	P	16 04 52.4	+2.5
CAN			IAmb	IAmb	16 05 23.5	
	comp=Z,50nm,1.3s					
EIDS	Eidsvold	28.07 275	P	P	16 04 51.9	-0.2
EIDS			IAmb	IAmb	16 05 10.5	
	comp=Z,31nm,1.2s					
EIDS	Eidsvold	28.07 275	P	P	16 04 53.2	+1.1
TOO	Toolangi	30.60 249	P	P	16 05 16.4	+1.9
CMSA	Cobar Meteorol	31.02 261	P	P	16 05 20.3	+2.1
	comp=Z,41nm,2.2s					
ARPS	Mount Arapiles	33.55 250	P	P	16 05 41.8	+1.4
	comp=Z,79nm,0.9s					
STKA	Stephens Creek	34.38 259	P	P	16 05 48.7	+1.1
STKA	Stephens Creek	34.38 259	P	P	16 05 48.2	+0.6
	comp=Z,112nm,2.0s					
STKA	Stephens Creek	34.38 259	P	P	16 05 48.5	+0.8
	comp=Z,11nm,0.7s,baz=95,slow=10,SNR=14					
	comp=Z,11nm,0.7s					
MGBR	Mount Gambier	34.50 249	P	P	16 05 50.0	+1.4
HTT	Hallett	36.32 256	P	P	16 06 05.1	+0.7
MTSU	Mount Surprise	36.82 283	P	P	16 06 10.0	+1.3
	comp=Z,22nm,0.8s					
BBOO	Buckleboo	38.79 256	P	P	16 06 24.6	-0.7
RABL	Rabaul	39.47 308	P	P	16 06 28.6	-2.4
RABL			IAmb	IAmb	16 06 37.0	
	comp=Z,19nm,0.6s					
QIS	Mount Isa	39.67 276	P	P	16 06 33.3	+0.5
	comp=Z,13nm,2.0s					
COEN	Coen	39.92 287	P	P	16 06 35.3	+0.4
COEN	Coen	39.92 287	P	P	16 06 35.7	+0.8
	comp=Z,21nm,1.0s					
AS19	Alice Springs	43.21 268	P	P	16 07 01.4	-0.4
	comp=Z,34nm,0.9s					
AS06	Alice Springs	43.22 268	P	P	16 07 01.7	-0.2
	comp=Z,25nm,0.9s					
AS31	Alice Springs	43.27 268	P	P	16 07 01.9	-0.4
AS31	Alice Springs	43.27 268	P	P	16 07 02.0	-0.3
	comp=Z,6.8nm,0.7s					
ASAR	Alice Springs	43.27 268	P	P	16 07 01.9	-0.5
	comp=Z,16nm,0.8s,baz=108,slow=7.1,SNR=41					
	comp=Z,16nm,0.8s					
WR0	Warramunga Arr	44.22 274	P	P	16 07 09.0	-0.9
WB2	Warramunga Arr	44.39 274	P	P	16 07 10.4	-0.8
WB2			IAmb	IAmb	16 07 11.7	
	comp=Z,22nm,0.8s					
WRAB	Tennant Creek	44.39 274	P	P	16 07 09.7	-1.6
WRA	Warramunga Arr	44.40 274	P	P	16 07 10.3	-1.0
WRA	Warramunga Arr	44.40 274	P	P	16 07 10.7	-0.7
	comp=Z,10nm,0.5s,baz=114,slow=7.5,SNR=45					
	comp=Z,10nm,0.5s					
WB0	Warramunga Arr	44.43 274	P	P	16 07 11.0	-0.6
WB0			IAmb	IAmb	16 07 27.4	
	comp=Z,24nm,0.8s					
FORT	Forrest	45.89 256	P	P	16 07 21.8	-1.3
FORT	Forrest	45.89 256	P	P	16 07 22.2	-0.9
	comp=Z,59nm,1.7s,comp=Z,0.0nm					
WRKA	Warakurna	47.53 264	P	P	16 07 35.4	-0.7
	comp=Z,55nm,1.1s					
JAY	Jayapura	48.80 298	P	P	16 07 45.0	-1.0
	comp=Z,7.2nm,0.8s,baz=200,slow=10,SNR=4.0					
	comp=Z,7.2nm,0.8s					
KDU	Kakadu	49.41 281	P	P	16 07 48.7	-1.9
MTN	Manton Dam	50.45 280	P	P	16 07 57.5	-1.0
MTN			IAmb	IAmb	16 07 58.6	
	comp=Z,15nm,0.8s					
KNRA	Kununurra	51.06 275	P	P	16 08 01.8	-1.2
KNRA			IAmb	IAmb	16 08 07.8	
	comp=Z,16nm,0.8s					
KNRA	Kununurra	51.06 275	P	P	16 08 03.4	+0.4
	comp=Z,27nm,1.3s					
FITZ	Fitzroy Crossi	52.59 271	P	P	16 08 13.6	-1.0
FITZ	Fitzroy Crossi	52.59 271	P	P	16 08 13.8	-0.7
	comp=Z,11nm,0.7s,baz=140,slow=7.7,SNR=18					
	comp=Z,11nm,0.7s					
CASY	Casey	53.91 208	P	P	16 08 24.8	+1.4
CASY			IAmb	IAmb	16 08 30.0	
	comp=Z,20nm,0.8s					
FAKI	Fak Fak	55.09 291	P	P	16 08 31.6	-1.2
FAKI			IAmb	IAmb	16 08 32.4	
	comp=Z,14nm,0.8s					
PSA00	Pilbara Seismi	56.02 264	P	P	16 08 37.8	-1.7
PSA00			IAmb	IAmb	16 08 38.5	
	comp=Z,12nm,0.7s					
MBWA	Marble Bar	56.29 265	P	P	16 08 39.5	-1.9
MBWA	Marble Bar	56.29 265	P	P	16 08 38.4	-3.0
QSPA	South Pole Qui	58.19 180	P	P	16 08 57.7	+3.4
QSPA	South Pole Qui	58.19 180	P	P	16 08 56.9	+2.5
	comp=Z,6.8nm,0.8s,baz=28,slow=1.4,SNR=14					
	comp=Z,6.8nm,0.8s					
BELA	Belgrano 2	68.25 172	P	P	16 10 01.9	+1.2
SBUM	Sibu	74.48 283	P	P	16 10 37.9	-1.4
ELIB	Princess Elisa	75.37 187	dP	P	16 10 45.7	+2.0
	comp=Z,8.0nm,1.0s					
KSM	Kuching	75.53 281	P	P	16 10 44.2	-1.2
KSM			IAmb	IAmb	16 10 45.3	
	comp=Z,16nm,0.9s					
SYO	Syowa Base	75.68 193	⇓eP	P	16 10 46.4	+1.0
SYO	Syowa Base	75.68 193	⇓/sP	sP	16 10 50.0	+2.8
TROLL	Troll, Antarti	76.35 180	⇑⇑P	P	16 10 51.7	+2.3
	comp=Z,787nm,1.1s					
SNAA	Sanae	76.63 178	P	P	16 10 52.3	+1.4
SNAA			IAmb	IAmb	16 11 04.5	
	comp=Z,13nm,1.0s					
SNAA	Sanae	76.63 178	⇑P	P	16 10 52.2	+1.4
	comp=Z,168nm,0.8s					
SNAA	Sanae	76.63 178	P	P	16 10 52.4	+1.4
	comp=Z,10nm,1.1s,baz=177,slow=12,SNR=7.7					
	comp=Z,10nm,1.1s					
VNA3	Neumayer Olymp	76.77 176	⇑P	P	16 10 50.5	-1.1
	comp=Z,25nm,0.7s					
VNA2	Neumayer--Watz	77.21 177	⇑P	P	16 10 54.8	+0.8
	comp=Z,17nm,0.7s,baz=168,slow=5.7					
VNA1	Neumayer--Stat	77.44 176	⇑⇑P	P	16 10 52.2	-3.1
	comp=Z,20nm,0.8s					
MJAR	Matsushiro Arr	79.62 325	P	P	16 11 06.1	-1.6
	comp=Z,2.6nm,0.9s,baz=160,slow=7.8,SNR=4.1					
	comp=Z,2.6nm,0.9s					
BO02	Sierra Bellavi	84.56 128	P	P	16 11 35.1	+1.0
BO02			IAmb	IAmb	16 11 39.5	
	comp=Z,11nm,0.9s					
SLBS	Sierra La Lagu	85.16 58	P	P	16 11 38.0	+1.0
SLBS			IAmb	IAmb	16 12 45.8	
	comp=Z,27nm,1.8s					
KSRS	Korea Array	85.65 320	P	P	16 11 37.9	-1.1
	comp=Z,2.0nm,0.9s,baz=134,slow=7.2,SNR=4.2					
	comp=Z,2.0nm,0.9s					
YSS	Yuzhno-Sakhali	86.21 334	P	P	16 11 41.2	-0.4
YSS			IAmb	IAmb	16 12 01.6	
	comp=Z,11nm,1.1s					
PETK	Petropavlovsk-	87.34 345	P	P	16 11 46.6	-0.4
	comp=Z,4.9nm,0.8s,baz=123,slow=5.5,SNR=3.8					
	comp=Z,4.9nm,0.8s					
NJ2	Nanjing	87.40 311	eP	P	16 11 48.9	+1.1
NJ2			pmax	pmax		
	comp=Z,11nm,1.5s					
USRK	Ussuriysk Ar.	88.55 326	P	P	16 11 53.0	+0.1
	comp=Z,1.4nm,0.8s,baz=159,slow=5.0,SNR=2.0					
	comp=Z,1.4nm,0.8s					
NVAR	Mina Array Bea	89.20 43	P	P	16 11 57.6	+1.1
	comp=Z,3.8nm,1.0s,baz=220,slow=7.6,SNR=7.7					
	comp=Z,3.8nm,1.0s					
X16A	Lo Mia Camp, P	90.77 49	P	P	16 12 04.9	+1.0
X16A			IAmb	IAmb	16 12 06.9	
	comp=Z,6.6nm,0.9s					
TIA	Tai'an	91.17 313	P	P	16 12 06.3	+0.9
TIA			sP	sP	16 12 10.9	+3.3
TIA			pmax	pmax		
	comp=Z,11nm,1.6s					
PINE	Pine Mountain	91.47 37	P	P	16 12 08.1	+1.2
PINE			IAmb	IAmb	16 12 09.2	
	comp=Z,11nm,1.1s					
CN2	Changchun	91.49 323	P	P	16 12 05.2	-1.5
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
U15A	North Rim	91.50 47	P	P	16 12 07.2	-0.1
U15A			IAmb	IAmb	16 12 10.2	
	comp=Z,5.9nm,0.9s					
BNX	BinXian	91.88 325	⇓P	P	16 12 07.6	-0.9
BNX			pmax	pmax		
	comp=Z,9.0nm,0.8s					
TXAR	Lajitas Array	93.02 57	P	P	16 12 15.3	+1.0
	comp=Z,2.7nm,1.1s,baz=204,slow=5.5,SNR=4.1					
	comp=Z,2.7nm,1.1s					
CMAR	Chiang Mai Arr	94.11 289	P	P	16 12 19.4	-0.1
	comp=Z,0.8nm,0.8s,baz=146,slow=3.3,SNR=4.4					
CMAR			PP	PP	16 16 06.4	+0.2
	comp=Z,1.1nm,1.0s,baz=136,slow=5.1,SNR=5.3					
	comp=Z,0.8nm,0.8s					
XAN	Xi'an	95.21 307	eP	P	16 12 24.9	+0.7
XAN			pmax	pmax		
	comp=Z,10.0nm,1.5s					
PZH	PanZhiHua	96.20 297	P	P	16 12 30.4	+1.4
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,4.7s					
HHC	Hu-ho-hao-te	97.45 314	eP	Pdif	16 12 36.4	+2.0
HHC			pmax	pmax		
	comp=Z,10.0nm,0.5s					
HHC			pmax	pmax		
	comp=Z,670nm,6.5s					
WMQ	Urumqi	114.34 308	ePKP	PKiKP	16 17 41.9	+1.8
WMQ			LR	LR		
	comp=N,4μm,18.9s					
WMQ			LR	LR		
	comp=E,3μm,19.7s					
WMQ			LR	LR		
	comp=Z,5μm,24.3s					
MKAR	Makanchi Array	118.92 309	PKP	PKPdf	16 17 47.7	-1.1
	comp=Z,2.6nm,1.1s,baz=90,slow=0.1,SNR=4.7					
KKAR	Karatay Array	126.09 303		PKPdf	16 18 03.7	+1.0
BVAR	Borovoye Array	127.64 315	PKP	PKPdf	16 18 04.9	-0.4
	comp=Z,2.2nm,0.6s,baz=142,slow=0.6,SNR=7.5					
GNI	Garni	144.95 296		PKPab	16 18 37.1	-0.1
KBZ	Khabaz	146.13 302	PKPbc	PKPdf	16 18 40.3	+0.8
	comp=Z,18nm,1.0s,baz=102,slow=2.3,SNR=17					
KARS	Kars	146.22 297	PKPdf	PKPdf	16 18 40.9	+0.9
KIV	Kislovodsk	146.25 303	PKPdf	PKPdf	16 18 39.9	0.0
FIA1	FINESS Array S	146.65 339	PKPdf	PKPdf	16 18 40.2	+0.4
FINES	FINESS Array B	146.65 339	PKPdf	PKPdf	16 18 40.2	+0.3
FINES	FINESS Array B	146.65 339	PKPbc	PKPdf	16 18 40.6	+0.8
	comp=Z,14nm,0.7s,baz=52,slow=3.6,SNR=31					
NB2	NORSAR Subarra	150.29 351	PKP	PKPbc	16 18 51.5	+0.4
	comp=Z,18nm,1.4s,baz=17,slow=2.6					
NOA	NORSAR Array B	150.29 351	PKPbc	PKPbc	16 18 50.4	-0.7
	comp=Z,1.8nm,0.8s,baz=30,slow=3.8,SNR=5.0					
HFS	Hagfors	150.78 348	PKPbc	PKPbc	16 18 51.9	-0.2
	comp=Z,4.5nm,0.9s,baz=106,slow=5.3,SNR=2.7					
GAZ	Gaziantep	150.85 290		PKPbc	16 18 53.5	+0.2
MMAI	Mount Meron Ar	152.08 281	PKPbc	PKPbc	16 18 56.7	+0.5
	comp=Z,7.7nm,0.5s,baz=80,slow=5.3,SNR=17					
AKASG	Malin Array Be	152.63 321	PKPbc	PKPbc	16 18 56.2	-0.5
	comp=Z,5.6nm,0.8s,baz=58,slow=2.5,SNR=16					
KIEV	Kiev	152.65 321		PKPbc	16 18 56.8	+0.1
BRTR	Keskin Array B	153.49 296		PKPbc	16 18 58.0	-1.2
BRTR	Keskin Array B	153.49 296	PKPbc	PKPbc	16 18 59.1	-0.1
	comp=Z,2.1nm,0.5s,baz=138,slow=4.7,SNR=9.1					
BUR08	Bucovina Ar. S	156.52 319		PKPab	16 19 23.4	-0.8
BRG	Berggiesshubel	159.19 339	ePKP	PKPab	16 19 35.2	-0.2
BRG			Amp		16 19 36.3	
	comp=Z,5.7nm,1.0s					

IDC 06 16:01:03.5±2.4, 30°.97S×178°.40W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=68.6km s-min=43.3km az=43.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.74	268	P	P	16 09 02.7	-0.1
	1.1nm,0.5s,baz=105,slow=6.7,SNR=1.3						
	1.1nm,0.5s						
WRA	Warramunga Arr	43.78	273	P	P	16 09 10.9	-0.3
	2.2nm,0.4s,baz=112,slow=8.1,SNR=4.8						
	2.2nm,0.4s						
QSPA	South Pole Qui	59.15	180	P	P	16 11 05.8	0.0
	4.5nm,0.9s,baz=41,slow=9.2,SNR=1.9						
	4.5nm,0.9s						
FINES	FINESS Array B	145.55	339	PKPbc	PKPdf	16 20 42.3	-0.6
	3.5nm,0.9s,baz=35,slow=5.1,SNR=1.0						

*IDC **06** 16:02:06.1±2.3, 31°.19S×178°.49W, h0km, mb4.0/3, mbtmp4.1/4, Error ellipse: s-maj=55.7km s-min=39.2km az=67.0*
*WEL **06** 16:02:10.5±0.9, 32°.5±8°.5×17°.8W±2°.5, h12km, M5.1/7, mB5.0/5, ML5.7/6, MLv5.1/7, Error ellipse: s-maj=34.6km s-min=4.9km az=106.3, confirmed*

ISC 06 16:02:07.2±1.1, 31°.39S±0°.07×178°.3W±0°.2, h10km, n17, σ1§95/14, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.15	9	P	Pg	16 02 46.8	-1.7
GLKZ				S	Sg	16 03 18.5	+2.1
RIZ	Raoul Island	2.17	9	P	Pg	16 02 47.6	-1.2
MXZ	Matakaoa Point	6.75	203	MLv			
WMGZ	Waiomatatini S	6.95	202	MLv			
WMGZ				mB			
PKGZ	Pakihiroa	7.11	204	MLv			
PKGZ				mB			
HAZ	Te Kaha	7.11	206	P	Pn	16 03 51.3	-0.1
PUZ	Puketiti	7.23	202	P	Pn	16 03 53.3	+0.3
PUZ				S	Sn	16 05 12.5	-2.7
RUGZ	Raukumara Rang	7.34	206	mB			
TWGZ	Tauwhareparae	7.42	203	P	Pn	16 03 56.7	+1.1
TKGZ	Te Karaka	7.70	203	mB			
MWZ	Matawai	7.72	205	P	Pn	16 04 03.0	+3.3
OUZ	Omahuta	7.76	238	P	Pn	16 04 02.3	+2.0
URZ	Urewera	7.81	207	Pn	Pn	16 04 02.0	+1.1
	30nm,0.9s,baz=22,slow=19,SNR=0.7						
ASAR	Alice Springs	42.79	268	P	P	16 10 04.5	-0.8
	1.0nm,0.7s,baz=111,slow=8.1,SNR=1.6						
	1.0nm,0.7s						
WRA	Warramunga Arr	43.87	273	P	P	16 10 13.2	-0.8
	1.0nm,0.4s,baz=114,slow=8.0,SNR=1.5						
	1.0nm,0.4s						
QSPA	South Pole Qui	58.72	180	P	P	16 12 07.0	+2.0
	4.0nm,0.9s,baz=180,slow=19,SNR=2.6						
	4.0nm,0.9s						
FINES	FINESS Array B	145.97	339	PKPbc	PKPab	16 21 45.2	-1.7
	0.8nm,0.4s,baz=53,slow=3.4,SNR=1.2						

*IDC **06** 16:02:14.7±1.9, 31°.44S×178°.31W, h0km, mb4.4/2, mbtmp4.4/3, ML4.0/1, Error ellipse: s-maj=63.3km s-min=39.9km az=139.0*

ISC 06 16:02:15.2±1.9, 31°.5S±0°.2×178°.2W±0°.4, h10km, n8, σ0§77/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.80	208	Pn	Pn	16 04 09.3	+0.6
	2.3nm,0.3s,baz=25,slow=19,SNR=1.0						
URZ				Sn	Sn	16 05 27.0	-10
	3.8nm,0.3s,baz=252,slow=20,SNR=3.0						
	21nm,0.7s						
URZ	Urewera	7.80	208	P	Pn	16 04 08.1	-0.6
ASAR	Alice Springs	42.91	268	P	P	16 10 14.2	-0.2
	3.1nm,0.6s,baz=114,slow=8.1,SNR=7.2						
	3.1nm,0.6s						
WRA	Warramunga Arr	44.00	273	P	P	16 10 23.4	+0.4
	2.0nm,0.4s,baz=114,slow=7.9,SNR=6.3						
	2.0nm,0.4s						
FINES	FINESS Array B	146.10	339	PKPbc	PKPab	16 21 54.5	-0.9
	1.9nm,0.5s,baz=53,slow=4.5,SNR=4.1						
HFS	Hagfors	150.26	348	PKPbc	PKiKP	16 22 07.4	+0.7
	2.2nm,0.8s,baz=4.8,slow=2.4,SNR=2.3						
MMAI	Mount Meron Ar	151.62	282	PKPbc	PKiKP	16 22 10.0	-0.5
	1.2nm,0.5s,baz=81,slow=5.2,SNR=2.2						
BRTR	Keskin Array B	152.96	297	PKPbc	PKiKP	16 22 13.8	+0.6
	0.5nm,0.5s,baz=98,slow=2.9,SNR=2.8						

*IDC **06** 16:03:28.6±1.8, 32°.32S×177°.99W, h0km, mb4.2/2, mbtmp4.2/3, ML2.9/1, Error ellipse: s-maj=68.4km s-min=39.1km az=140.0*

ISC 06 16:03:28.9±1.7, 32°.2S±0°.2×177°.8W±0°.4, h10km, n8, σ1§65/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.34	213	Pn	Pn	16 05 13.8	-2.4
	0.2nm,0.3s,baz=356,slow=15,SNR=1.3						
URZ				Sn	Sn	16 06 42.0	+2.5
	2.5nm,0.3s,baz=72,slow=20,SNR=1.8						
	20nm,0.8s						
ASAR	Alice Springs	43.22	269	P	P	16 11 29.9	-0.7
	1.3nm,0.6s,baz=107,slow=8.4,SNR=2.4						
	1.3nm,0.6s						
WRA	Warramunga Arr	44.37	274	P	P	16 11 39.9	+0.1
	2.3nm,0.4s,baz=115,slow=8.0,SNR=5.2						
	2.3nm,0.4s						
FINES	FINESS Array B	146.90	339	PKPbc	PKPab	16 23 11.8	-0.4
	6.3nm,0.9s,baz=46,slow=4.0,SNR=5.9						
HFS	Hagfors	151.05	348	PKPbc	PKiKP	16 23 21.9	-0.1
	1.9nm,0.8s,baz=60,slow=6.8,SNR=2.0						
MMAI	Mount Meron Ar	152.09	281	PKPbc	PKiKP	16 23 26.7	+1.5
	1.1nm,0.5s,baz=76,slow=6.1,SNR=1.6						
AKASG	Malin Array Be	152.83	321	PKPbc	PKiKP	16 23 26.7	+0.8
	0.2nm,0.3s,baz=53,slow=3.7,SNR=1.1						
BRTR	Keskin Array B	153.58	295	PKPbc	PKiKP	16 23 29.0	+0.9
	0.5nm,0.5s,baz=121,slow=2.7,SNR=1.9						

IDC 06 16:06:24.9±2.5, 32°.13S×179°.35W, h0km, mb3.5/2, mbtmp3.5/3, Error ellipse: s-maj=65.4km s-min=47.5km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.77	204	Pn	Pn	16 08 05.2	-0.3
	3.4nm,0.6s,baz=309,slow=6.5,SNR=0.7						
URZ				Sn	Sn	16 09 31.3	+8.1
	1.0nm,0.3s,baz=24,slow=12,SNR=1.9						
ASAR	Alice Springs	41.90	269	P	P	16 14 17.6	+0.3
	0.2nm,0.4s,baz=114,slow=7.8,SNR=1.4						
	0.2nm,0.4s						
WRA	Warramunga Arr	43.05	275	P	P	16 14 26.2	-0.4
	0.3nm,0.3s,baz=115,slow=7.9,SNR=5.2						
	0.3nm,0.3s						
FINES	FINESS Array B	146.34	338	PKPbc	PKPdf	16 26 05.5	-0.1
	3.8nm,0.9s,baz=46,slow=4.0,SNR=3.0						
BRTR	Keskin Array B	152.35	295	PKPbc	PKiKP	16 26 23.3	+0.1
	0.5nm,0.8s,baz=77,slow=2.7,SNR=2.5						

*IDC **06** 16:11:18.1±3.0, 32°.42S×177°.85W, h0km, mb3.8/2, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=75.5km s-min=46.1km az=128.0*

ISC 06 16:11:23.3±2.2, 32°.7S±0°.1×178°.1W±0°.3, h20km, n15, σ2§15/23, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.63	210	S	Sb	16 14 08.7	+0.9
WMGZ	Waiomatatini S	5.80	208	P	Pn	16 12 51.1	+2.9
WMGZ				S	Sb	16 14 12.3	-0.6
PKGZ	Pakihiroa	5.98	210	P	Pn	16 12 53.0	+2.3
PKGZ				S	Sb	16 14 19.3	+1.3
HAZ	Te Kaha	6.02	213	P	Pn	16 12 51.6	+0.4
HAZ				S	Sb	16 14 23.0	+3.9
PUZ	Puketiti	6.08	208	P	Pn	16 12 52.8	+0.6
PUZ				S	Sb	16 14 22.2	+1.3
RUGZ	Raukumara Rang	6.24	212	P	Pn	16 12 54.7	+0.4
RUGZ				S	Sb	16 14 24.2	-1.3
TWGZ	Tauwhareparae	6.28	209	P	Pn	16 12 57.0	+2.1
TWGZ				S	Sb	16 14 22.7	-4.2
CNGZ	Carnagh Statio	6.46	206	S	Sb	16 14 26.3	-5.5
MWZ	Matawai	6.61	211	P	Pn	16 12 59.6	+0.3
MWZ				S	Sb	16 14 35.5	-0.6
URZ	Urewera	6.74	214	Pn	Pn	16 13 02.0	+1.0
	0.3nm,0.3s,baz=346,slow=4.2,SNR=1.3						
URZ				Sn	Sb	16 14 32.6	-7.1
	0.9nm,0.3s,baz=343,slow=17,SNR=2.1						
	3.5nm,0.7s						
URZ	Urewera	6.74	214	P	Pn	16 13 01.1	+0.1
URZ				S	Sb	16 14 38.3	-1.4
RIGZ	Rimuhau	6.83	208	S	Sb	16 14 42.3	-0.1
ASAR	Alice Springs	42.92	270	P	P	16 19 21.3	+0.4
	0.5nm,0.4s,baz=107,slow=7.4,SNR=9.7						
	0.5nm,0.4s						
WRA	Warramunga Arr	44.12	275	P	P	16 19 29.7	-0.9
	0.8nm,0.4s,baz=113,slow=7.9,SNR=10						
	0.8nm,0.4s						
FINES	FINESS Array B	147.28	339	PKPbc	PKPdf	16 31 01.3	-0.9
	0.8nm,0.4s,baz=56,slow=3.3,SNR=7.6						

*WEL **06** 16:15:22.2±1.5, 32°.5±6°.×17°.7W±2°.3, h12km, M4.4/6, mB4.2/2, ML5.0/7, MLv4.4/6, Error ellipse: s-maj=30.7km s-min=5.6km az=99.4, confirmed*
*IDC **06** 16:15:24.6±3.5, 31°.97S×177

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.78**	**359**	P	Pn	16 16 55.5	-0.1
WMGZ	**Waiomatatini S**	**6.51**	**207**	mB			
PKGZ	**Pakihiroa**	**6.68**	**209**	P	Pn	16 17 50.4	+1.2
HAZ	**Te Kaha**	**6.71**	**211**	P	Pn	16 17 50.1	+0.5
PUZ	**Puketiti**	**6.79**	**207**	P	Pn	16 17 49.3	-1.4
PUZ				S	Sn	16 19 09.2	+1.4
RUGZ	**Raukumara Rang**	**6.93**	**210**	P	Pn	16 17 53.4	+0.6
CNGZ	**Carnagh Statio**	**7.17**	**205**	P	Pn	16 17 54.9	-0.9
MWZ	**Matawai**	**7.31**	**210**	P	Pn	16 17 57.9	+0.1
MWZ				S	Sn	16 19 21.4	+0.7
URZ	**Urewera**	**7.43**	**212**	P	Pn	16 17 59.3	-0.1
URZ				S	Sn	16 19 24.1	+0.6
OUZ	**Omahuta**	**7.78**	**244**	P	Pg	16 18 52.5	+12

*IDC **06** 16:16:48.6±3.1, 32°.15S×177°.80W, h0km, mb3.7/2, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=74.3km s-min=37.5km az=118.0*

ISC 06 16:16:48.0±3.3, 32°.05±0°.1×177°.7W±0°.5, h10km, n5, σ1♀54/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.76**	**356**	S	**Sn**	**16 18 04.1**	**-1.5**
URZ	**Urewera**	**7.54**	**213**	Pn	**Pn**	**16 18 37.4**	**-0.6**
	0.5nm,0.3s,baz=72,slow=20,SNR=1.8						
URZ				Sn	**Sn**	**16 20 02.6**	**-1.0**
	1.1nm,0.3s,baz=216,slow=18,SNR=1.9 5.3nm,0.4s						
ASAR	**Alice Springs**	**43.32**	**268**	P	**P**	**16 24 51.6**	**+1.2**
	0.5nm,0.5s,baz=105,slow=7.0,SNR=7.6 0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.45**	**274**	P	**P**	**16 25 00.8**	**+1.2**
	0.5nm,0.3s,baz=112,slow=8.0,SNR=9.7 0.5nm,0.3s						
FINES	**FINESS Array B**	**146.75**	**339**	PKPbc	**PKPab**	**16 36 31.3**	**+0.6**
	4.2nm,0.9s,baz=35,slow=5.1,SNR=5.6						

*IDC **06** 16:18:49.4±3.1, 31°.99S×177°.83W, h0km, mb3.8/2, mbtmp3.8/3, Error ellipse: s-maj=73.6km s-min=37.0km az=117.0*
*WEL **06** 16:18:50.0±1.6, 32°.5±11°.×17°.8W±3°.7, h10km, M4.5/4, ML4.6/4, MLv4.5/4, Error ellipse: s-maj=50.4km s-min=4.2km az=106.3, confirmed*

ISC 06 16:18:48.6±2.4, 31°.9S±0°.1×177°.6W±0°.4, h10km, n15, σ1♀40/20, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**354**	P	**Pn**	**16 19 30.8**	**-0.8**
GLKZ				S	**Sn**	**16 20 03.9**	**0.0**
PKGZ	**Pakihiroa**	**6.92**	**210**	P	**Pn**	**16 20 30.6**	**+0.5**
PKGZ				S	**Sn**	**16 21 48.4**	**-0.6**
HAZ	**Te Kaha**	**6.96**	**212**	P	**Pn**	**16 20 32.9**	**+2.3**
HAZ				S	**Sn**	**16 21 51.1**	**+1.3**
PUZ	**Puketiti**	**7.02**	**208**	S	**Sn**	**16 21 51.5**	**+0.1**
RUGZ	**Raukumara Rang**	**7.18**	**212**	S	**Sn**	**16 21 55.3**	**-0.1**
TWGZ	**Tauwhareparae**	**7.23**	**209**	S	**Sn**	**16 21 57.1**	**+0.6**
CNGZ	**Carnagh Statio**	**7.40**	**207**	P	**Pn**	**16 20 35.0**	**-1.6**
CNGZ				S	**Sn**	**16 22 02.6**	**+1.9**
TKGZ	**Te Karaka**	**7.50**	**209**	S	**Sn**	**16 22 01.9**	**-1.3**
MWZ	**Matawai**	**7.55**	**211**	S	**Sn**	**16 22 03.9**	**-0.5**
URZ	**Urewera**	**7.68**	**213**	Pn	**Pn**	**16 20 39.8**	**-0.6**
	3.9nm,0.5s,baz=337,slow=5.7,SNR=1.0						
URZ				Sn	**Sn**	**16 22 04.3**	**-3.1**
	1.2nm,0.3s,baz=249,slow=20,SNR=7.6						
URZ	**Urewera**	**7.68**	**213**	S	**Sn**	**16 22 05.4**	**-2.0**
SNGZ	**Shannon Statio**	**8.01**	**210**	S	**Sn**	**16 22 14.9**	**-0.7**
ASAR	**Alice Springs**	**43.41**	**268**	P	**P**	**16 26 52.6**	**+0.9**
	0.7nm,0.6s,baz=108,slow=7.2,SNR=11 0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.53**	**273**	P	**P**	**16 27 01.4**	**+0.6**
	1.7nm,1.1s,baz=112,slow=8.0,SNR=5.7 1.7nm,1.1s						
FINES	**FINESS Array B**	**146.69**	**339**	PKPbc	**PKPab**	**16 38 31.4**	**+0.4**
	1.4nm,0.6s,baz=50,slow=4.3,SNR=6.3						

*NAO **06** 16:23:05.2±3.1, 71°.68N×1°.90W, ML2.8*
*BER **06** 16:23:10.7±3.8, 71°.87N×1°.23W, h10km, mb(Pn)4.2, ML2.8(NAO), Confirmed Earthquake*

ISC 06 16:23:07.5±1.5, 71°.8N±0°.1×1°.1W±0°.1, h10km, n22, σ2♀55/21, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**6.10**	**303**	*e*P	Pn	16 24 34.7	-2.9
DBG	**Daneborg**	**6.10**	**303**	Pn	Pn	16 24 34.6	-3.0
DBG	**Daneborg**	**6.10**	**303**	*e*P	Pn	16 24 35.0	-2.6
DBG				*e*S	Sn	16 25 35.5	-12
LOF	**Lofoten**	**6.23**	**119**	*e*P	**Pn**	**16 24 42.1**	**+2.8**
LOF				*e*S	**Sn**	**16 25 47.2**	**-3.2**
LOF				IAML		16 25 55.5	
	comp=Z,5.0nm,0.6s						
LOF	**Lofoten**	**6.23**	**119**	Pn	**Pn**	**16 24 41.9**	**+2.6**
LOF				Sn	Sn	16 25 45.5	-4.9
HSPB	**Hornsund (broa**	**6.82**	**33**	*e*P	**Pn**	**16 24 49.2**	**+1.8**
STEI	**Steigen**	**6.84**	**117**	*e*P	**Pn**	**16 24 49.7**	**+2.1**
STEI				IAML		16 26 00.0	
	comp=Z,2.9nm,0.8s						
STEI				*e*S	Sn	16 26 00.2	-5.1
DAG	**Danmarks Havn**	**6.85**	**324**	*e*P	**Pn**	**16 24 46.5**	**-1.3**
DAG				*e*		16 25 52.4	
DAG	**Danmarks Havn**	**6.85**	**324**	*e*P	**Pn**	**16 24 45.4**	**-2.4**
DAG				*e*S	Sn	16 25 52.8	-13
FAUS	**Fauske**	**7.23**	**120**	*e*P	**Pn**	**16 24 55.2**	**+2.1**
FAUS				*e*S	Sn	16 26 10.2	-4.9
FAUS				IAML		16 26 17.8	
	comp=Z,3.0nm,0.7s						
KONS	**Konsvik**	**7.35**	**130**	*e*P	**Pn**	**16 24 56.1**	**+1.5**
KONS				*e*S	Sn	16 26 11.1	-6.8
KONS				IAML		16 26 14.3	
	comp=Z,3.5nm,0.3s						
JETT	**Jettan, Norway**	**7.45**	**97**	Pn	**Pn**	**16 24 57.5**	**+1.4**
JETT				Sn	Sn	16 26 15.5	-5.1
JETT	**Jettan, Norway**	**7.45**	**97**	Pn	**Pn**	**16 24 57.5**	**+1.4**
JETT				Sn	Sn	16 26 15.5	-5.1
STOK	**Stokkvaagen**	**7.46**	**131**	*e*P	**Pn**	**16 24 58.6**	**+2.5**
STOK				*e*S	Sn	16 26 14.4	-6.1
STOK				IAML		16 26 25.9	
	comp=Z,5.3nm,0.6s						
LEIR	**Leirfjorden**	**7.66**	**132**	*e*P	**Pn**	**16 25 01.2**	**+2.3**
LEIR				*e*S	Sn	16 26 19.8	-5.8
LEIR				IAML		16 26 24.0	
	comp=Z,2.3nm,0.2s						
SPA0	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**16 25 03.1**	**+2.7**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**16 25 03.1**	**+2.7**
	baz=207,slow=18						
KIF	**Kilpisjarvi**	**7.85**	**101**	*e*P	**Pn**	**16 25 02.8**	**+1.4**
KIF				*e*S	Sn	16 26 25.1	-5.1
KIF	**Kilpisjarvi**	**7.85**	**101**	Pn	**Pn**	**16 25 02.9**	**+1.4**
KIF				Sn	**Sn**	**16 26 25.9**	**-4.3**
MOR8	**Moi Rana**	**7.93**	**128**	*e*P	**Pn**	**16 25 05.3**	**+2.6**
MOR8				*e*S	Sn	16 26 27.4	-4.9
MOR8				IAML		16 26 33.1	
	comp=Z,4.1nm,0.6s						
ARA0	**ARCESS Array S**	**9.06**	**92**	Pn	**Pn**	**16 25 20.5**	**+2.4**
	baz=294,slow=11						
ARA0	**ARCESS Array S**	**9.06**	**92**	Pn	**Pn**	**16 25 20.5**	**+2.4**
	baz=294,slow=11						

ISC 06 16:24:01.6±1.2, 28°.17N±0°.04×112°.30W±0°.04, h7km±13km, n7, σ0♀64/13, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	**San Francisqui**	**0.54**	**295**	⇑*i*P	**Pg**	**16 24 12.0**	**-0.2**
SFQB				*e*S	**Sg**	**16 24 19.0**	**-0.2**
SFQB				IAML		16 24 19.4	
	comp=E,1μm,0.2s						
BKIRB	**Bahia Kino**	**0.73**	**21**	⇓*i*P	**Pg**	**16 24 16.1**	**+0.4**
BKIRB				*e*S	**Sg**	**16 24 25.9**	**+0.6**
SRIG	**Santa Rosalia**	**0.85**	**176**	⇑*e*P	**Pg**	**16 24 17.6**	**-0.4**
SRIG				*e*S	**Sg**	**16 24 29.4**	**+0.3**
GUYB	**Guaymas**	**1.29**	**102**	⇓*i*P	**Pn**	**16 24 26.0**	**-0.1**
GUYB				*e*S	**Sb**	**16 24 43.2**	**+0.1**
BAHB	**Baha de los**	**1.35**	**305**	*e*P	**Pg**	**16 24 26.3**	**-1.2**
HSIG		**1.46**	**54**	*e*P	**Pn**	**16 24 28.1**	**-0.3**
HSIG				*e*S	**Sn**	**16 24 47.5**	**-0.3**
HSIG				IAML		16 24 48.8	
	comp=E,72nm,0.3s						
HSIG				IAML		16 24 48.9	
	comp=N,135nm,0.4s						
NE74	**Guerrero Negro**	**1.52**	**264**	*i*P	**Pn**	**16 24 30.2**	**+1.0**
NE74				*e*S	**Sg**	**16 24 50.9**	**+0.4**
NE74				IAML		16 24 51.6	
	comp=N,107nm,0.5s						

*IDC **06** 16:24:57.4±6.7, 34°.25N×22°.28E, h0km, mb3.6/2, mbtmp3.4/6, ML3.5/4, Error ellipse: s-maj=104.7km s-min=61.0km az=46.0*
*ATH **06** 16:25:03.5±0.8, 34°.60N×22°.36E, h9km, ML3.1/5, Manual Solution by G.Panopoulou First location: 2019/03/06 16:26:06, This location: 2019/03/06 18:07:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 3 km*

ISC 06 16:25:03.6±1.8, 34°.5N±0°.1×22°.36E±0°.08, h28km, n51, σ0♀78/54, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.47**	**75**	P	**Pb**	**16 25 29.4**	**-0.8**
GVD				S	**Sb**	**16 25 49.8**	**+1.3**
ANKY	**Antikythira Is**	**1.59**	**29**	P	**Pn**	**16 25 30.0**	**+0.2**
PRNS	**Prines Rethymn**	**1.97**	**63**	P	**Pn**	**16 25 35.1**	**0.0**
IDI	**Anoyia**	**2.23**	**68**	P	**Pn**	**16 25 40.1**	**+1.3**
IDI				S	**Sb**	**16 26 09.2**	**-1.3**
VLI	**Veliai**	**2.29**	**12**	P	**Pn**	**16 25 40.1**	**+0.6**
ITM	**Ithomi**	**2.72**	**353**	P	**Pn**	**16 25 46.0**	**+0.5**
MHLO	**Agia Marina, M**	**2.77**	**36**	P	**Pn**	**16 25 46.5**	**+0.4**
KRND	**KRANIDI**	**2.97**	**12**	P	**Pn**	**16 25 49.1**	**+0.2**
AMT	**Artemida-Makis**	**3.10**	**350**	P	**Pn**	**16 25 51.1**	**+0.5**
AMT				S	**Sn**	**16 26 27.9**	**+1.1**
MET6	**Megalochori,Me**	**3.21**	**14**	P	**Pn**	**16 25 52.6**	**+0.4**
MET5	**Makryloggos,Me**	**3.24**	**14**	P	**Pn**	**16 25 53.1**	**+0.5**
GUR	**Goura**	**3.46**	**360**	P	**Pn**	**16 25 56.9**	**+1.3**
DRO	**Drossia**	**3.51**	**352**	P	**Pn**	**16 25 57.4**	**+1.1**
CLEM	**Kyllini,Ilia,G**	**3.55**	**344**	P	**Pn**	**16 25 56.9**	**+0.1**
VLY	**Voula,Athens**	**3.57**	**19**	P	**Pn**	**16 25 56.7**	**-0.3**
KLV	**Kalavryta, Ach**	**3.57**	**357**	P	**Pn**	**16 25 58.5**	**+1.3**
ORTH	**Orthonies,Zaky**	**3.63**	**339**	P	**Pn**	**16 25 58.0**	**0.0**
RLS	**Riolos of Patr**	**3.65**	**349**	P	**Pn**	**16 25 59.1**	**+1.0**
APE	**Apeiranthos**	**3.65**	**44**	P	**Pn**	**16 25 57.4**	**-0.9**
ATHU	**Athens Univers**	**3.67**	**18**	P	**Pn**	**16 25 58.0**	**-0.4**
PTL	**Penteli**	**3.77**	**18**	P	**Pn**	**16 25 59.8**	**-0.1**
AXS	**Araxos**	**3.80**	**348**	P	**Pn**	**16 26 01.4**	**+1.2**
VIL2	**Platees**	**3.80**	**11**	P	**Pn**	**16 25 59.3**	**-1.0**
DION	**Dionisos Attik**	**3.81**	**19**	P	**Pn**	**16 26 00.2**	**-0.2**
PSDA	**Pessada-Kefalo**	**3.91**	**339**	P	**Pn**	**16 26 01.7**	**0.0**
KALE	**Kalithea**	**3.91**	**357**	P	**Pn**	**16 26 02.4**	**+0.5**
KARY	**Karystos**	**3.93**	**25**	P	**Pn**	**16 26 01.6**	**-0.4**
EFP	**Efpalio**	**3.96**	**355**	P	**Pn**	**16 26 03.5**	**+1.0**
VLS	**Valsamata**	**3.96**	**339**	P	**Pn**	**16 26 02.2**	**-0.3**
KARP	**Karpathos**	**4.08**	**73**	P	**Pn**	**16 26 06.2**	**+2.0**
DMLN	**Damoulianata-K**	**4.08**	**337**	P	**Pn**	**16 26 03.8**	**-0.4**
ANX	**Ano Chora**	**4.13**	**355**	P	**Pn**	**16 26 05.1**	**+0.3**
PVO	**Paravola**	**4.19**	**351**	P	**Pn**	**16 26 06.8**	**+1.2**
LKR	**Lokris**	**4.20**	**7**	P	**Pn**	**16 26 05.5**	**-0.2**
FSK	**Fiskardo**	**4.23**	**341**	P	**Pn**	**16 26 06.6**	**+0.4**
AXAR	**Agios Charalam**	**4.29**	**3**	P	**Pn**	**16 26 06.7**	**-0.3**
EVGI	**Lefkada island**	**4.36**	**342**	P	**Pn**	**16 26 08.8**	**+0.8**
KYMI	**Kymi, Euboea I**	**4.38**	**18**	P	**Pn**	**16 26 08.0**	**-0.2**
EVR	**Evrytania**	**4.46**	**354**	P	**Pn**	**16 26 09.6**	**+0.2**
LKD2	**Lefkada island**	**4.52**	**343**	P	**Pn**	**16 26 11.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**4.54**	**358**	P	**Pn**	**16 26 11.1**	**+0.7**
TSLK	**Tsoukalades, L**	**4.55**	**343**	P	**Pn**	**16 26 11.5**	**+0.9**
XOR	**Xorichti**	**4.93**	**8**	P	**Pn**	**16 26 15.5**	**-0.3**
THL	**Klokotos Trika**	**5.09**	**357**	P	**Pn**	**16 26 18.1**	**+0.1**
IGT	**Igoumenitsa**	**5.30**	**343**	P	**Pn**	**16 26 21.1**	**+0.2**
BRTR	**Keskin Array B**	**10.42**	**57**	Pn	**Pn**	**16 27 31.8**	**+0.6**
	0.1nm,0.3s,baz=251,slow=12,SNR=2.8 0.7nm,0.7s						
MMAI	**Mount Meron Ar**	**10.96**	**94**	Pn	**Pn**	**16 27 37.7**	**-0.8**
	0.8nm,0.3s,baz=276,slow=13,SNR=2.4 0.5nm,0.3s						
AKASG	**Malin Array Be**	**16.97**	**15**	P	**P**	**16 29 00.8**	**+0.3**
	0.6nm,0.3s,baz=204,slow=9.0,SNR=2.6 0.2nm,0.3s						
KBZ	**Khabaz**	**18.39**	**54**	P	**Pn**	**16 29 16.6**	**+0.3**
	0.1nm,0.3s,baz=219,slow=15,SNR=1.9 0.6nm,0.5s						
MKAR	**Makanchi Array**	**46.07**	**56**	P	**P**	**16 33 24.4**	**-0.6**
	0.3nm,0.5s,baz=274,slow=7.7,SNR=8.4 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**47.13**	**46**	P	**P**	**16 33 31.9**	**-1.2**
	0.4nm,0.4s,baz=272,slow=7.1,SNR=2.8 0.4nm,0.4s						

*IDC **06** 16:30:15.3±0.5, 55°.19N×164°.52E, h0km, mb4.4/35, mbtmp4.5/40, ML4.9/5, Error ellipse: s-maj=13.0km s-min=8.5km az=173.0*
*KRSC **06** 16:30:17.8±1.8, 55°.08N×164°.50E, h64km±25km, Ml5.4, Felt [II] at Ust-Kamchatsk.*
*NEIC **06** 16:30:17.1±1.9, 55°.17N±0°.09×164°.5E±0°.1, h10km±1km, mb4.7/223, Error ellipse: s-maj=16.1km s-min=10.8km az=171.0*
*BJI **06** 16:30:17.4, 55°.32N×163°.87E, h8km, mB5.6/4, mb5.0/48*
*MOS **06** 16:30:19.7±0.8, 55°.12N×164°.54E, h51km, mb5.0/48, Error ellipse: s-maj=5.0km s-min=4.2km az=92.6*

ISC 06 16:30:19.2±0.7, 55°.12N±0°.04×164°.49E±0°.03, h27km±4km, n702, σ1♀21/682, mb4.7/181, 6C-4D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.85**	**84**	PN	**Pn**	**16 30 34.6**	**-0.8**
BKI				S	**Sb**	**16 30 45.5**	**-0.9**
BKI	**Bering**	**0.85**	**84**	*e*P	**Pn**	**16 30 34.6**	**-0.8**
BKI				*e*S	**Sb**	**16 30 45.5**	**-0.9**
KBTR	**Krutoberegovo**	**1.45**	**320**	PN	**Pn**	**16 30 43.1**	**-0.5**
KBTR	**Krutoberegovo**	**1.45**	**320**	*e*P	**Pn**	**16 30 43.1**	**-0.5**
KBG	**Krutoberegovo**	**1.52**	**319**	PN	**Pn**	**16 30 44.3**	**-0.4**
KBG				S	**Sn**	**16 31 02.0**	**-1.6**
KBG	**Krutoberegovo**	**1.52**	**319**	*e*P	**Pn**	**16 30 44.3**	**-0.4**
KBG				*e*S	**Sn**	**16 31 02.0**	**-1.6**
MKZ	**Mys Kozlova**	**1.69**	**252**	PN	**Pn**	**16 30 47.7**	**+0.7**
MKZ				S	**Sn**	**16 31 07.0**	**-0.8**
MKZ	**Mys Kozlova**	**1.69**	**252**	*e*P	**Pn**	**16 30 47.7**	**+0.7**
MKZ				*e*S	**Sn**	**16 31 07.0**	**-0.8**
SMKR	**Semkarok**	**2.25**	**312**	PN	**Pn**	**16 30 56.1**	**+1.4**
SMKR	**Semkarok**	**2.25**	**312**	*e*P	**Pn**	**16 30 56.1**	**+1.4**
ZLN	**Zelenaya**	**2.28**	**295**	PN	**Pn**	**16 30 57.1**	**+1.9**
ZLN	**Zelenaya**	**2.28**	**295**	*e*P	**Pn**	**16 30 57.1**	**+1.9**
CIRR	**Tsirk**	**2.35**	**297**	PN	**Pn**	**16 30 57.8**	**+1.7**
CIRR	**Tsirk**	**2.35**	**297**	*e*P	**Pn**	**16 30 57.8**	**+1.7**
TUMD	**Tumrok D**	**2.35**	**274**	PN	**Pn**	**16 30 57.2**	**+1.2**
TUMD	**Tumrok D**	**2.35**	**274**	*e*P	**Pn**	**16 30 57.2**	**+1.2**
BZWR	**Bezymyannyi-We**	**2.42**	**292**	PN	**Pn**	**16 30 59.4**	**+2.2**
BZWR				S	**Sb**	**16 31 29.4**	**-2.2**
BZWR	**Bezymyannyi-We**	**2.42**	**292**	*e*P	**Pn**	**16 30 59.4**	**+2.2**
BZWR				*e*S	**Sb**	**16 31 29.5**	**-2.2**
SRKR	**Sorokina**	**2.42**	**311**	PN	**Pn**	**16 30 59.1**	**+2.0**
SRKR	**Sorokina**	**2.42**	**311**	*e*P	**Pn**	**16 30 59.2**	**+2.0**
KLY	**Klyuchi**	**2.48**	**300**	*e*S	**Sn**	**16 31 26.7**	**-0.5**
KRSR	**Krestovskiy**	**2.48**	**298**	PN	**Pn**	**16 30 59.0**	**+1.1**
KRSR				S	**Sn**	**16 31 27.3**	**-0.1**
KRSR	**Krestovskiy**	**2.48**	**298**	*e*P	**Pn**	**16 30 59.1**	**+1.1**
KRSR				*e*S	**Sn**	**16 31 27.3**	**-0.1**
KIRR	**Kirishev**	**2.50**	**291**	PN	**Pn**	**16 31 00.4**	**+2.2**
KIRR				S	**Sb**	**16 31 31.2**	**-2.7**
KIRR	**Kirishev**	**2.50**	**291**	*e*P	**Pn**	**16 31 00.5**	**+2.2**
KIRR				*e*S	**Sb**	**16 31 31.2**	**-2.7**
KMNR	**Kamenistaya**	**2.51**	**287**	PN	**Pb**	**16 31 01.5**	**-2.0**
KMNR	**Kamenistaya**	**2.51**	**287**	*e*P	**Pb**	**16 31 01.5**	**-2.0**
KPT	**Kopyto**	**2.57**	**291**	PN	**Pn**	**16 31 01.1**	**+2.0**
KPT				S	**Sb**	**16 31 32.9**	**-2.9**
KPT	**Kopyto**	**2.57**	**291**	*e*P	**Pn**	**16 31 01.2**	**+2.0**
KPT				*e*S	**Sb**	**16 31 33.0**	**-2.9**
KOZ	**Kozyrevsk**	**2.79**	**292**	PN	**Pn**	**16 31 04.7**	**+2.7**
KOZ				S	**Sn**	**16 31 37.9**	**+3.1**
KOZ	**Kozyrevsk**	**2.79**	**292**	*e*P	**Pn**	**16 31 04.7**	**+2.7**
KOZ				*e*S	**Sn**	**16 31 37.9**	**+3.1**
SRDR	**Sredinnyy**	**2.96**	**296**	PN	**Pn**	**16 31 06.5**	**+2.1**
SRDR				S	**Sn**	**16 31 42.2**	**+3.2**
SRDR	**Sredinnyy**	**2.96**	**296**	*e*P	**Pn**	**16 31 06.6**	**+2.1**
SRDR				*e*S	**Sn**	**16 31 42.2**	**+3.2**
KII	**Karymskiy**	**3.13**	**252**	PN	**Pn**	**16 31 08.3**	**+1.5**
KII				S	**Sn**	**16 31 43.5**	**+0.2**
KII	**Karymskiy**	**3.13**	**252**	*e*P	**Pn**	**16 31 08.3**	**+1.5**
KII				*e*S	**Sn**	**16 31 43.6**	**+0.2**
ESO	**Esso**	**3.39**	**286**	PN	**Pn**	**16 31 12.2**	**+1.9**
ESO	**Esso**	**3.39**	**286**	*e*P	**Pn**	**16 31 12.3**	**+1.9**
NLC	**Nalytchevo**	**3.60**	**239**	PN	**Pn**	**16 31 13.8**	**+0.6**
NLC				S	**Sn**	**16 31 53.6**	**-1.2**
NLC	**Nalytchevo**	**3.60**	**239**	*e*P	**Pn**	**16 31 13.9**	**+0.6**
NLC				*e*S	**Sn**	**16 31 53.7**	**-1.2**
SDLR	**Sedlovina**	**3.77**	**243**	PN	**Pn**	**16 31 17.3**	**+1.6**
SDLR				S	**Sn**	**16 31 58.7**	**-0.6**
SDLR	**Sedlovina**	**3.77**	**243**	*e*P	**Pn**	**16 31 17.4**	**+1.6**
SDLR				*e*S	**Sn**	**16 31 58.7**	**-0.6**
KRER	**Koryakskii**	**3.83**	**244**	PN	**Pn**	**16 31 18.7**	**+2.2**
KRER				S	**Sn**	**16 32 00.7**	**-0.1**
KRER	**Koryakskii**	**3.83**	**244**	*e*P	**Pn**	**16 31 18.8**	**+2.2**
KRER				*e*S	**Sn**	**16 32 00.8**	**-0.1**
UGLR	**Uglovaya**	**3.84**	**242**	PN	**Pn**	**16 31 18.5**	**+1.9**
UGLR				S	**Sn**	**16 31 59.8**	**-1.1**
UGLR	**Uglovaya**	**3.84**	**242**	*e*P	**Pn**	**16 31 18.5**	**+1.9**
UGLR				*e*S	**Sn**	**16 31 59.8**	**-1.1**
KRX	**Arik**	**3.86**	**245**	PN	**Pn**	**16 31 18.8**	**+2.0**
KRX				S	**Sn**	**16 32 00.9**	**-0.4**
KRX	**Arik**	**3.86**	**245**	*e*P	**Pn**	**16 31 18.9**	**+2.0**
KRX				*e*S	**Sn**	**16 32 01.0**	**-0.4**
AVH	**Avacha**	**3.86**	**244**	PN	**Pn**	**16 31 19.1**	**+2.3**
AVH				S	**Sn**	**16 32 01.2**	**0.0**
AVH	**Avacha**	**3.86**	**244**	*e*P	**Pn**	**16 31 19.1**	**+2.3**
AVH				*e*S	**Sn**	**16 32 01.3**	**0.0**
KOK	**Koryaka**	**3.90**	**244**	PN	**Pn**	**16 31 19.4**	**+2.1**
KOK				S	**Sn**	**16 32 01.0**	**-1.2**
KOK	**Koryaka**	**3.90**	**244**	*e*P	**Pn**	**16 31 19.5**	**+2.1**
KOK				*e*S	**Sn**	**16 32 01.0**	**-1.2**
DALK	**Dalny**	**3.98**	**241**	PN	**Pn**	**16 31 19.8**	**+1.5**
DALK	**Dalny**	**3.98**	**241**	*e*P	**Pn**	**16 31 19.8**	**+1.5**
DALK				*e*S	**Sn**	**16 32 02.3**	**-1.8**
PET	**Petropavlovsk**	**4.03**	**241**		**Pn**	**16 31 20.4**	**+1.3**
PET	**Petropavlovsk**	**4.03**	**241**	P	**Pn**	**16 31 21.0**	**+1.9**
PET	**Petropavlovsk**	**4.03**	**241**	*e*PN	**Pn**	**16 31 20.4**	**+1.3**
PET				*e*S	**Sn**	**16 32 04.4**	**-0.9**
PET				pmax	pmax		
	comp=Z,354nm,0.5s						
PET				smax	smax		
	comp=N,4μm,0.7s						
PET				smax	smax		
	comp=E,4μm,0.6s						
PET	**Petropavlovsk**	**4.03**	**241**	*e*P	**Pn**	**16 31 21.0**	**+1.9**
PET				*e*S	**Sn**	**16 32 04.5**	**-0.9**
INSR	**Institute**	**4.03**	**242**	PN	**Pn**	**16 31 20.7**	**+1.6**
INSR				S	**Sn**	**16 32 04.3**	**-1.1**
INSR	**Institute**	**4.03**	**242**	*e*P	**Pn**	**16 31 20.8**	**+1.6**
INSR				*e*S	**Sn**	**16 32 04.3**	**-1.1**
GNL	**Ganaly**	**4.08**	**252**	PN	**Pn**	**16 31 22.3**	**+2.3**
GNL				S	**Sn**	**16 32 07.4**	**+0.5**
GNL	**Ganaly**	**4.08**	**252**	*e*P	**Pn**	**16 31 22.3**	**+2.3**
GNL				*e*S	**Sn**	**16 32 07.5**	**+0.5**
TIGL	**Tigil**	**4.18**	**312**	PN	**Pn**	**16 31 23.4**	**+2.3**
TIGL	**Tigil**	**4.18**	**312**	*e*P	**Pn**	**16 31 23.5**	**+2.3**
OSSR	**Ossora**	**4.22**	**350**	PN	**Pn**	**16 31 22.4**	**+0.8**
OSSR	**Ossora**	**4.22**	**350**	*e*P	**Pn**	**16 31 22.4**	**+0.8**
OSSR				*e*S	**Sn**	**16 32 07.9**	**-2.0**
KRMR	**Karymshinskiy**	**4.40**	**241**	PN	**Pn**	**16 31 26.1**	**+1.9**
KRMR				S	**Sn**	**16 32 13.9**	**-0.6**
KRMR	**Karymshinskiy**	**4.40**	**241**	*e*P	**Pn**	**16 31 26.1**	**+1.9**
KRMR				*e*S	**Sn**	**16 32 13.9**	**-0.6**
RUS	**Russkaya**	**4.45**	**235**	PN	**Pn**	**16 31 25.7**	**+0.8**
RUS	**Russkaya**	**4.45**	**235**	*e*P	**Pn**	**16 31 25.7**	**+0.8**
RUS				*e*S	**Sn**	**16 32 13.6**	**-2.2**
PEA0B	**Petropavlovsk-**	**4.48**	**246**	Pn	**Pn**	**16 31 26.6**	**+1.4**
PEA0B	**Petropavlovsk-**	**4.48**	**246**	*ce*PN	**Pn**	**16 31 27.3**	**+2.0**
PETK	**Petropavlovsk-**

comp=Z,53nm,0.9s
J14K Nanvaranak Lak 18.01 52 P 16 34 27.8 +0.3
J14K Nanvaranak Lak 18.01 52 P Pn 16 34 27.5 +0.3
baz=260
L14K Kuka Creek 18.22 57 P P 16 34 30.3 +0.5
baz=265
FALS False Pass 18.33 78 P Pn 16 34 31.9 +0.7
baz=284
F15K North Star Dit 18.34 42 P Pn 16 34 31.8 +0.5
F15K North Star Dit 18.34 42 P P 16 34 31.6 +0.4
baz=250
G15K Niukluk 18.35 45 P Pn 16 34 32.2 +0.8
baz=253
M14K Bethel 18.53 59 P Pn 16 34 34.8 +1.2
M14K Bethel 18.53 59 P Pn 16 34 34.1 +0.5
baz=268
N14K Kuskokwak Cree 18.65 61 P P 16 34 35.0 +0.4
baz=270
L15K Ungalak Mounta 18.82 56 P Pn 16 34 37.8 +0.7
baz=265
K15K Wolf Creek Mou 18.86 54 P Pn 16 34 38.7 +1.0
K15K Wolf Creek Mou 18.86 54 P P 16 34 37.6 +0.6
baz=264
O14K Tigyukauivet M 18.88 63 P Pn 16 34 38.2 +0.4
O14K IAmb IAmb 16 34 40.5
comp=Z,58nm,1.2s
O14K Tigyukauivet M 18.88 63 P Pn 16 34 38.7 +0.9
baz=273
S12K Black Hills 18.90 74 P Pn 16 34 39.0 +0.8
baz=282
H16K Elim 18.99 47 P Pn 16 34 39.2 +0.1
baz=256
G16K Koyuk River 19.14 44 P P 16 34 40.0 0.0
baz=254
M15K Kasigluk River 19.15 59 P P 16 34 40.7 +0.6
baz=269
C16K Lisburne Hills 19.16 35 P P 16 34 40.7 +0.6
C16K IAmb IAmb 16 34 42.1
comp=Z,33nm,0.9s
C16K Lisburne Hills 19.16 35 P P 16 34 40.8 +0.6
baz=242,SNR=38
ERM Erimo 19.16 236 P P 16 34 39.2 -1.2
ERM IAmb IAmb 16 35 05.3
comp=Z,56nm,1.1s
ERM Erimo 19.16 236 P P 16 34 39.2 -1.2
ERM pmax pmax
comp=Z,55nm,1.2s
YAK Yakutsk 19.23 305 P P 16 34 38.9 -2.1
YAK Yakutsk 19.23 305 P P 16 34 39.2 -1.7
comp=Z,7.8nm,0.3s,baz=260,slow=0.6,SNR=42
comp=Z,83nm,0.7s
YAK Yakutsk 19.23 305 *e*P **P 16 34 39.2 -1.7**
YAK *e*S **Sn 16 38 13.2 -3.3**
YAK pmax pmax
comp=Z,52nm,0.8s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=E,49nm,2.0s
YAK pmax pmax
comp=Z,353nm,4.7s
YAK pmax pmax
comp=N,89nm,3.2s
YAK pmax pmax
comp=E,228nm,4.0s
YAK smax smax
comp=N,68nm,2.0s
YAK smax smax
comp=E,40nm,1.7s
J16K Anvik River 19.42 51 P P 16 34 43.4 +0.3
baz=262
N15K Kwethluk River 19.45 60 P P 16 34 44.4 +1.1
N15K IAmb IAmb 16 34 46.0
comp=Z,38nm,0.8s
N15K Kwethluk River 19.45 60 P Pn 16 34 44.6 -0.1
baz=271,SNR=8.5
I17K Unalakleet 19.48 49 P Pn 16 34 45.2 +0.2
I17K Unalakleet 19.48 49 P P 16 34 44.2 +0.5
baz=260
O15K Ungalikthiuk R 19.62 63 P P 16 34 45.8 +0.5
baz=274,SNR=6.3
D17K Noatak River 19.67 37 P P 16 34 46.5 +0.8
baz=246,SNR=13
L16K Owhat River 19.78 56 P P 16 34 47.7 +0.7
baz=267
SDPT Sand Point 19.86 75 P P 16 34 47.3 -0.6
baz=284
G17K Kiwalik Mounta 19.86 45 P P 16 34 48.7 +0.9
baz=255
RDOG Red Dog Mine 19.88 37 P P 16 34 47.8 -0.3
RDOG Red Dog Mine 19.88 37 P P 16 34 49.0 +0.9
baz=246,SNR=17
E17K Hotham Inlet 19.89 40 P P 16 34 48.9 +0.8
baz=250
F17K Baldwin Pennin 19.89 42 P P 16 34 49.0 +0.9
baz=252
C17K DeLong Mountai 19.97 35 P P 16 34 49.2 +0.1
baz=244,SNR=21
M16K Timber Creek 20.01 58 P P 16 34 50.6 +1.2
M16K IAmb IAmb 16 34 51.8
comp=Z,22nm,0.8s
M16K Timber Creek 20.01 58 P P 16 34 50.4 +1.0
baz=270
H17K Granite Mounta 20.03 46 P P 16 34 50.9 +1.2
baz=258
N16K Nishlik Lake 20.10 60 P Pn 16 34 52.1 -0.4
baz=271,SNR=6.4
J17K VABM Dome 20.12 51 P Pn 16 34 52.3 -0.3
baz=263
S14K Fog Glacier 20.16 72 P P 16 34 51.9 +0.7
baz=282
L17K Donlin 20.36 55 P P 16 34 54.1 +0.8
baz=267
K17K Iditarod 20.40 53 IAmb IAmb 16 35 12.6
comp=Z,23nm,0.9s
K17K Iditarod 20.40 53 P P 16 34 54.6 +0.9
baz=266
TEY Ternei 20.41 252⇓ *e*P Pn 16 34 56.2 0.0
TEY pmax pmax
comp=Z,50nm,0.8s
TEY pmax pmax
comp=N,20nm,0.7s
TEY pmax pmax
comp=E,40nm,0.7s
E18K Tukpahlearik C 20.45 39 IAmb IAmb 16 34 56.3
comp=Z,23nm,0.8s
E18K Tukpahlearik C 20.45 39 P P 16 34 54.9 +0.7
baz=250
O16K Kokwok River B 20.48 62 P P 16 34 54.8 +0.3
baz=274
CHNA Chernabura Isl 20.48 76 P P 16 34 55.1 +0.5
baz=286
F18K Selawik 20.55 42 P P 16 34 56.8 +1.5
baz=254,SNR=5.8
P16K Nushagak River 20.57 64 P P 16 34 56.2 +0.7
baz=276
C18K Utukok River 20.70 36 IAmb IAmb 16 35 01.1
comp=Z,28nm,0.8s
C18K Utukok River 20.70 36 P P 16 34 57.1 +0.1
baz=247
H18K Honhosa River 20.71 46 P P 16 34 57.5 +0.4
H18K Honhosa River 20.71 46 P P 16 34 58.1 +1.0
baz=259
M17K Holitna River 20.75 57 IAmb IAmb 16 35 17.9
comp=Z,23nm,0.8s
M17K Holitna River 20.75 57 P P 16 34 59.0 +1.5
baz=270
G18K Tagagawik 20.76 44 P P 16 34 58.7 +1.2
baz=257
CHGN Chignik 20.77 71 P P 16 34 57.0 -0.8
CHGN Chignik 20.77 71 P P 16 34 58.7 +0.9
baz=283,SNR=8.9
KLR Kul'dur 20.79 267 P P 16 34 57.0 -1.0
comp=Z,6.2nm,0.7s,baz=61,slow=12,SNR=13
comp=Z,6.2nm,0.7s
KLR Kul'dur 20.79 267 *i*P **P 16 34 57.8 -0.3**
KLR pmax pmax
comp=Z,25nm,1.5s
B18K Kokolik River 20.81 34 P P 16 34 58.4 +0.4
baz=244
N17K Nushagak Hills 20.88 59 P P 16 34 59.7 +0.8
baz=272
O17K Koliganek Bris 20.97 61 P P 16 35 00.8 +0.9
baz=274
R16K Pilot Point 20.98 68 P P 16 35 01.3 +1.3
baz=280
JTM Tenmabayashi 21.11 237 P P 16 35 04.5 +3.0

L18K Granite Mounta 21.12 55 P P 16 35 02.3 +0.8
baz=268
J18K Innoko River 21.18 51 P P 16 35 03.0 +0.8
J18K IAmb IAmb 16 35 18.0
comp=Z,24nm,0.8s
J18K Innoko River 21.18 51 P P 16 35 03.3 +1.2
baz=265,SNR=11
GCSA Galena City Sc 21.27 48 P P 16 35 03.5 +0.5
baz=262
Q16K King Salmon 21.30 64 P P 16 35 03.7 +0.2
baz=278
F19K Shaleruckik Mo 21.33 42 P P 16 35 03.8 0.0
baz=255
P17K Kvichak River 21.35 63 P P 16 35 04.6 +0.6
baz=276
A19K Wainwright 21.41 32 P P 16 35 04.7 +0.2
baz=243
G19K Purcell Mounta 21.44 44 P P 16 35 06.3 +1.4
baz=258,SNR=7.9
TTA Tatalina 21.46 53 P P 16 35 05.6 +0.3
baz=267
N18K Kilae Creek 21.51 59 P P 16 35 06.3 +0.5
baz=273
M18K Stony River 21.52 57 P P 16 35 06.5 +0.7
baz=271
ZEA Zeya 21.55 282 *e*P **P 16 35 05.9 -0.2**
ZEA pmax pmax
comp=Z,20nm,0.8s
H19K Roundabout Mou 21.57 46 P P 16 35 07.0 +0.8
baz=260,SNR=11
D19K Kuna River 21.70 37 P P 16 35 07.8 +0.2
D19K IAmb IAmb 16 35 10.7
comp=Z,23nm,0.9s
D19K Kuna River 21.70 37 P P 16 35 08.5 +0.8
baz=251,SNR=16
E19K Redstone River 21.70 40 IAmb IAmb 16 35 26.5
comp=Z,25nm,0.8s
E19K Redstone River 21.70 40 P P 16 35 08.7 +1.0
baz=254
J19K Poorman 21.72 50 IAmb IAmb 16 35 29.2
comp=Z,17nm,0.8s
J19K Poorman 21.72 50 P P 16 35 09.0 +1.1
baz=265,SNR=6.8
O18K Koktuh Hills 21.91 61 P P 16 35 10.2 +0.2
baz=276
P18K Big Mountain, 21.95 62 P P 16 35 10.4 0.0
P18K Big Mountain, 21.95 62 P P 16 35 10.4 0.0
baz=277
L19K White Mountain 21.98 55 P P 16 35 10.6 -0.2
baz=270
Q18K Katmai Hardscr 22.16 64 P P 16 35 12.6 -0.2
baz=279
F20K Avaraart Lake 22.17 42 P P 16 35 12.3 -0.3
baz=257
N19K Bonanza Creek 22.20 58 P P 16 35 13.1 -0.1
baz=274
M19K Big River Lodg 22.20 55 P P 16 35 13.6 +0.5
baz=271
H20K Anotleneega Mo 22.21 46 P P 16 35 13.6 +0.3
baz=262,SNR=9.0
D20K Etivluk River 22.29 37 P P 16 35 13.5 -0.6
baz=252
I20K Naaghedeneel 22.29 48 IAmb IAmb 16 35 47.4
comp=Z,21nm,0.8s
I20K Naaghedeneel 22.29 48 P P 16 35 13.9 -0.1
baz=264
E20K Nigu River 22.30 38 P P 16 35 13.8 -0.4
baz=254
O19K Port Alsworth 22.32 60 P P 16 35 14.3 -0.1
baz=276
K20K Telida 22.36 52 P P 16 35 14.8 0.0
K20K Telida 22.36 52 P P 16 35 14.7 -0.2
baz=268,SNR=5.7
J20K Nowinta River 22.38 49 IAmb IAmb 16 35 17.5
comp=Z,16nm,0.8s
J20K Nowinta River 22.38 49 P P 16 35 14.6 -0.4
baz=266
CHIR Chirikof Islan 22.41 72 P P 16 35 15.4 0.0
baz=285
L20K Farewell, AK 22.43 54 P P 16 35 15.7 +0.1
baz=270
TIXI Tiksi 22.44 331 P P 16 35 16.0 +0.5
TIXI IAmb IAmb 16 35 34.5
comp=Z,41nm,1.1s
TIXI Tiksi 22.44 331 *i*P **P 16 35 16.6 +1.1**
TIXI pmax pmax
comp=Z,26nm,1.3s
B20K Meade River 22.55 34 IAmb IAmb 16 35 18.2
comp=Z,32nm,0.8s
B20K Meade River 22.55 34 P P 16 35 16.2 -0.6
baz=249
R18K Karluk 22.64 67 P P 16 35 17.3 -0.5
baz=282
M20K Styx River 22.80 56 P P 16 35 18.7 -0.9
baz=272
HEH HeiHe 22.81 273 *e*P **P 16 35 16.0 -3.6**
HEH pmax pmax
comp=Z,26nm,1.0s
Q19K Cape Douglas, 22.82 63 P P 16 35 19.6 -0.2
baz=279
G21K Allakaket 22.93 44 P P 16 35 20.7 0.0
baz=261
P19K Oil Pt 22.93 61 P P 16 35 20.7 -0.2
baz=278
SII Sitkinak Islan 23.00 69 P P 16 35 21.7 +0.1
baz=284
C21K Knifeblade Rid 23.05 37 P P 16 35 21.5 -0.5
baz=253
F21K Alatna River 23.06 42 IAmb IAmb 16 35 23.9
comp=Z,16nm,0.9s
F21K Alatna River 23.06 42 P P 16 35 22.5 +0.4
baz=259,SNR=17
H21K Melozitna Rive 23.09 46 IAmb IAmb 16 35 24.1
comp=Z,24nm,1.2s
H21K Melozitna Rive 23.09 46 P P 16 35 22.5 +0.1
baz=264,SNR=16
E21K Killik River 23.15 39 P P 16 35 22.4 -0.6
baz=256
CHUM Lake Minchumin 23.17 50 P P 16 35 23.2 0.0
baz=268,SNR=7.8
O20K Slope Mountain 23.18 60 P P 16 35 22.6 -0.9
baz=277
PPLA Purkeypile 23.21 53 P P 16 35 23.6 -0.3
baz=271
A21K Barrow 23.23 31 P P 16 35 22.8 -0.9
baz=246,SNR=5.8
B21K Ikpikpuk River 23.25 36 P P 16 35 23.7 -0.3
baz=252
CAST Castle Rocks 23.26 52 P P 16 35 23.9 -0.3
CAST Castle Rocks 23.26 52 P P 16 35 24.7 +0.5
baz=270,SNR=9.3
N20K Mount Spurr 23.27 57 P P 16 35 24.9 +0.5
baz=275
SPCR Spurr Chakacha 23.27 57 P P 16 35 24.4 0.0
baz=275
OHAK Old Harbor 23.33 67 P P 16 35 24.9 0.0
baz=283
I21K Tanana 23.39 47 P P 16 35 25.7 +0.3
baz=266,SNR=5.5
USA0B Ussuriysk Arra 23.49 256 *i*P **P 16 35 23.3 -3.3**
USRK Ussuriysk Ar. 23.49 256 P **P 16 35 24.9 -1.6**
comp=Z,2.1nm,0.6s,baz=51,slow=11,SNR=8.2
comp=Z,2.1nm,0.6s
USRK Ussuriysk Ar. 23.49 256 P P 16 35 25.0 -1.6
Q20K Shuyak Island 23.52 64 P P 16 35 26.3 -0.4
baz=281
SKT Skwentna 23.55 55 P P 16 35 27.3 +0.3
SKT Skwentna 23.55 55 P P 16 35 27.5 +0.4
baz=273
JMM Marumori 23.56 233 P P 16 35 28.7 +1.4
JMM Marumori 23.56 233 P P 16 35 32.2 +4.9
KDAK Kodiak Island 23.58 66 P P 16 35 25.5 -1.8
comp=Z,10nm,0.9s,baz=222,slow=1.4,SNR=21
comp=Z,10nm,0.9s
KDAK Kodiak Island 23.58 66 P P 16 35 27.1 -0.2
baz=282
A22K Sinclair Lake 23.60 32 P P 16 35 26.7 -0.7
baz=249
F22K John River 23.61 41 P P 16 35 27.4 -0.2
baz=260
H22K Ishtalitna Cre 23.70 45 P P 16 35 28.3 -0.1
baz=265
D22K Ayikyak River 23.71 38 IAmb IAmb 16 35 29.3
comp=Z,50nm,1.5s
D22K Ayikyak River 23.71 38 P P 16 35 28.2 -0.3
baz=256
BPAW Bear Paw Mtn. 23.76 50 P P 16 35 29.3 +0.2
baz=269,SNR=11

KTH Kantishna Hill 23.78 51 P P 16 35 29.8 +0.5
KTH IAmb IAmb 16 35 31.9
comp=Z,19nm,1.1s
E22K Anaktuvuk Pass 23.86 40 P P 16 35 28.8 -1.2
E22K IAmb IAmb 16 35 46.1
comp=Z,33nm,1.1s
E22K Anaktuvuk Pass 23.86 40 P P 16 35 29.8 -0.3
baz=259,SNR=18
B22K Teshekpuk Lake 23.86 34 P P 16 35 29.3 -0.6
baz=252,SNR=54
SUA Susitna One 23.96 56 IAmb IAmb 16 35 51.0
comp=Z,17nm,0.8s
SUA Susitna One 23.96 56 P P 16 35 31.6 +0.6
baz=275,SNR=5.6
TRF Thorofare Moun 24.07 51 IAmb IAmb 16 35 33.9
comp=Z,26nm,0.8s
TRF Thorofare Moun 24.07 51 P P 16 35 32.1 +0.1
baz=271,SNR=17
BRSE Bradley Lake S 24.17 61 P P 16 35 32.7 -0.2
baz=279
COLD Coldfoot 24.32 42 IAmb IAmb 16 35 35.4
comp=Z,33nm,0.9s
COLD Coldfoot 24.32 42 P P 16 35 33.7 -0.5
baz=263,SNR=36
G23K Bananza Creek 24.33 43 P P 16 35 33.8 -0.6
baz=264
D23K Nanushuk River 24.44 38 IAmb IAmb 16 35 54.4
comp=Z,26nm,1.4s
D23K Nanushuk River 24.44 38 P P 16 35 34.9 -0.3
baz=258,SNR=11
RC01 Rabbit Creek A 24.48 57 P P 16 35 35.7 0.0
baz=277
I23K Minto, Yukon-K 24.49 47 P P 16 35 35.0 -0.7
I23K IAmb IAmb 16 35 53.2
comp=Z,22nm,0.9s
I23K Minto, Yukon-K 24.49 47 P P 16 35 35.9 +0.1
baz=268,SNR=18
O22K Cooper Landing 24.56 59 P P 16 35 36.0 -0.4
baz=278
MDJ Mudanjiang 24.57 259 P P 16 35 34.6 -2.1
MDJ IAmb IAmb 16 35 39.7
comp=Z,15nm,1.2s
MDJ Mudanjiang 24.57 259 P P 16 35 37.8 +1.1
NEA2 Nenana 24.60 49 IAmb IAmb 16 35 38.5
comp=Z,16nm,0.9s
NEA2 Nenana 24.60 49 P P 16 35 36.5 -0.3
baz=270,SNR=8.3
JSD Sado 24.61 237 P P 16 35 37.5 +0.4
JSD IAmb IAmb 16 35 46.3
comp=Z,25nm,0.8s
C23K Itkillik River 24.65 36 IAmb IAmb 16 35 39.1
comp=Z,27nm,0.8s
C23K Itkillik River 24.65 36 P P 16 35 36.6 -0.5
baz=257,SNR=23
E23K Chandalar 24.66 40 P P 16 35 37.0 -0.4
baz=262
MCK McKinley 24.67 51 IAmb IAmb 16 35 56.4
comp=Z,20nm,1.0s
MCK McKinley 24.67 51 P P 16 35 37.5 +0.1
baz=272,SNR=7.8
RND Reindeer 24.71 52 IAmb IAmb 16 35 57.8
comp=Z,18nm,0.9s
PMR Palmer 24.71 56 P P 16 35 37.8 0.0
baz=276
SEW Seward 24.75 59 P P 16 35 37.4 -0.7
baz=279
TOLK Toolik Lake Re 24.77 39 P P 16 35 37.5 -0.8
TOLK Toolik Lake Re 24.77 39 P P 16 35 37.9 -0.5
baz=260,SNR=40
WRH Wood River Hil 25.02 49 IAmb IAmb 16 35 59.6
comp=Z,22nm,0.8s
KNK Knik Glacier 25.05 56 IAmb IAmb 16 35 59.3
comp=Z,18nm,0.8s
KNK Knik Glacier 25.05 56 P P 16 35 40.7 -0.2
baz=277
SML Sawmill 25.07 55 P P 16 35 40.7 -0.4
SML IAmb IAmb 16 36 00.3
comp=Z,21nm,0.7s
SML Sawmill 25.07 55 P P 16 35 41.2 +0.1
baz=276,SNR=5.4
E24K Your Creek 25.08 40 P P 16 35 41.1 0.0
baz=263
COLA College 25.12 48 P P 16 35 41.0 -0.4
COLA IAmb IAmb 16 36 00.4
comp=Z,17nm,0.7s
COLA College 25.12 48 *i*P **P 16 35 41.2 -0.2**
COLA pmax pmax
comp=Z,18nm,1.5s
D24K Happy Valley 25.13 38 P P 16 35 41.2 -0.3
baz=260
H24K Noodor Dome 25.13 46 P P 16 35 41.1 -0.5
baz=268
CCB Clear Creek Bu 25.15 49 IAmb IAmb 16 36 00.5
comp=Z,23nm,0.9s
BNX BinXian 25.15 264 ⇑P **P 16 35 40.9 -1.0**
BNX pmax pmax
comp=Z,6.0nm,1.1s
PWL Port Wells 25.19 58 P P 16 35 41.5 -0.6
baz=278,SNR=5.3
F24K Squaw Lake 25.25 42 IAmb IAmb 16 36 00.8
comp=Z,8.0nm,0.7s
F24K Squaw Lake 25.25 42 P P 16 35 42.0 -0.6
baz=264
C24K Franklin Bluff 25.28 37 P P 16 35 42.5 -0.3
baz=259
POKR Poker Plat Res 25.30 47 IAmb IAmb 16 36 06.2
comp=Z,12nm,0.9s
POKR Poker Plat Res 25.30 47 P P 16 35 42.9 -0.2
baz=270
G24K Hadweenzic Riv 25.34 44 IAmb IAmb 16 35 44.4
comp=Z,22nm,0.9s
G24K Hadweenzic Riv 25.34 44 P P 16 35 43.2 -0.3
baz=267
M23K Glacier View 25.36 55 P P 16 35 44.2 +0.5
baz=277
HDA Harding Lake 25.52 49 P P 16 35 43.7 -1.3
HDA IAmb IAmb 16 36 05.3
comp=Z,9.9nm,0.8s
HDA Harding Lake 25.52 49 P P 16 35 44.2 -0.9
baz=272,SNR=7.8
IL31 25.54 48 IAmb IAmb 16 36 03.0
comp=Z,16nm,0.9s
ILAR Eielson Array 25.54 48 P P 16 35 44.2 -1.1
ILAR Eielson Array 25.54 48 P P 16 35 44.3 -0.9
comp=Z,6.6nm,0.9s,baz=262,slow=8.5,SNR=66
comp=Z,6.6nm,0.9s
SCM Sheep Creek Mo 25.54 55 P P 16 35 45.9 +0.5
baz=277,SNR=5.1
GLI Glacier Island 25.78 57 P P 16 35 47.1 -0.4
baz=279
P23K Montague Islan 25.78 59 P P 16 35 46.8 -0.7
baz=281
MJB9 Matsu-Tunnel 25.84 235 P P 16 35 49.3 +1.1
MAJO Matsushiro 25.84 235 P P 16 35 48.9 +0.7
MAJO Matsushiro 25.84 235 P P 16 35 54.6 +6.4
MAJO Matsushiro 25.84 235 *i*P **P 16 35 49.2 +1.0**
MAJO pmax pmax
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 25.84 235 P P 16 35 49.1 +0.9
comp=Z,17nm,0.8s,baz=33,slow=10.0,SNR=42
comp=Z,17nm,0.8s
G25K Bearman Lake 25.89 44 P P 16 35 48.2 -0.1
baz=268,SNR=6.4
H25L Birch Creek 25.98 45 P P 16 35 49.1 -0.1
baz=269
D25K Kavik River 26.02 38 IAmb IAmb 16 35 51.2
comp=Z,22nm,0.8s
D25K Kavik River 26.02 38 P P 16 35 49.1 -0.5
baz=262
M24K Tolsona, Glenn 26.05 54 P P 16 35 49.9 -0.1
baz=277
K24K Donnelly Dome 26.06 50 P P 16 35 49.6 -0.5
baz=274
PRP Porcupine Dome 26.10 46 IAmb IAmb 16 36 07.0
comp=Z,16nm,0.8s
PRP Porcupine Dome 26.10 46 P P 16 35 50.6 +0.1
baz=271,SNR=20
F25K Christian Rive 26.11 42 P P 16 35 50.3 -0.2
baz=266
E25K Arctic Village 26.18 41 P P 16 35 49.9 -1.2
E25K IAmb IAmb 16 35 51.9
comp=Z,12nm,0.9s
E25K Arctic Village 26.18 41 P P 16 35 51.0 0.0
baz=266,SNR=11
J25K Salcha River, 26.20 49 P P 16 35 50.0 -1.2
baz=273
FYU Fort Yukon 26.23 44 IAmb IAmb 16 35 52.4
comp=Z,15nm,0.8s

KLU	Klutina	26.25	56	P	P	16 35 51.6	-0.2	
	baz=279							
PAX	Paxson	26.27	52	IAmb	IAmb	16 36 15.9		
	comp=Z,8.3nm,0.8s							
PAX	Paxson	26.27	52	P	P	16 35 51.9	-0.2	
	baz=276							
Q23K	Middleton Isla	26.42	60	P	P	16 35 53.0	-0.2	
	baz=283							
RIDG	Independent Ri	26.48	50	IAmb	IAmb	16 36 24.7		
	comp=Z,13nm,0.9s							
RIDG	Independent Ri	26.48	50	P	P	16 35 52.9	-1.0	
	baz=275							
HARP	HAARP	26.48	54	P	P	16 35 54.2	+0.4	
	baz=278							
EYAK	Cordova Ski Ar	26.49	58	P	P	16 35 53.9	0.0	
	baz=281							
BMAR	Burnt Mountain	26.51	42	P	P	16 35 52.5	-1.6	
C26K	Camden Bay	26.61	37	P	P	16 35 54.6	-0.2	
	baz=263							
F26K	Sheenjek River	26.69	42	P	P	16 35 55.4	-0.3	
	baz=268							
G26K	Porcupine Rive	26.81	43	P	P	16 35 56.3	-0.4	
	baz=270,SNR=9.8							
DOT	Dot Lake	26.84	51	IAmb	IAmb	16 36 15.7		
	comp=Z,9.7nm,0.7s							
SCRK	Sand Creek	26.84	50	IAmb	IAmb	16 36 07.0		
	comp=Z,15nm,1.2s							
SCRK	Sand Creek	26.84	50	P	P	16 35 56.0	-1.2	
	baz=275,SNR=8.9							
N25K	Chitina, Valde	26.86	55	P	P	16 35 57.4	+0.1	
	baz=280							
BMRM	Bremner River	26.97	57	P	P	16 35 57.6	-0.7	
BMRM				IAmb	IAmb	16 36 17.5		
	comp=Z,24nm,1.0s							
BMRM	Bremner River	26.97	57	P	P	16 35 58.2	-0.1	
	baz=281							
J26L	Joseph Creek	26.98	49	P	P	16 35 57.6	-0.8	
	baz=275							
C27K	Jago River	26.99	37	IAmb	IAmb	16 35 59.4		
	comp=Z,23nm,1.0s							
C27K	Jago River	26.99	37	P	P	16 35 58.0	-0.3	
	baz=264,SNR=27							
JGF	Kuroka	27.00	235	P	P	16 36 04.8	+6.0	
RAGM	Ragged Mountai	27.05	58	IAmb	IAmb	16 36 25.0		
	comp=Z,16nm,0.9s							
MENT	Mentasta	27.07	52	P	P	16 35 58.5	-0.7	
MENT				IAmb	IAmb	16 36 17.9		
	comp=Z,10nm,0.8s							
I26K	Coal Creek Min	27.10	47	P	P	16 35 59.5	+0.2	
	baz=273							
L26K	Log Cabin Wild	27.23	52	P	P	16 35 59.7	-0.8	
	baz=278							
KAIM	Kayak Island	27.27	59	P	P	16 35 59.9	-1.0	
	baz=283							
M26K	Nabesna, AK	27.48	53	P	P	16 36 02.8	-0.1	
	baz=279							
BOD	Bodaibo	27.50	297	eP	P	16 36 01.6	-1.3	
BOD				pmax	pmax			
	comp=Z,16nm,1.0s							
G27K	Doyon Strip	27.65	44	P	P	16 36 04.1	-0.2	
	baz=272							
HIA	Hailar	27.66	277	P	P	16 36 04.9	+0.3	
HIA	Hailar	27.66	277	P	P	16 36 04.9	+0.3	
HIA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
E27K	Coleen River	27.66	41	P	P	16 36 04.2	-0.2	
	baz=269							
K27K	Chicken	27.67	50	IAmb	IAmb	16 36 25.4		
	comp=Z,13nm,0.9s							
K27K	Chicken	27.67	50	P	P	16 36 04.3	-0.2	
	baz=277,SNR=9.3							
H27K	Steamboat Moun	27.72	45	P	P	16 36 05.2	+0.2	
	baz=273,SNR=9.8							
I27K	Kandik River	27.72	46	P	P	16 36 04.6	-0.4	
	baz=274							
L27K	Beaver Creek,	27.91	52	IAmb	IAmb	16 36 26.3		
	comp=Z,10.0nm,0.8s							
L27K	Beaver Creek,	27.91	52	P	P	16 36 06.9	+0.3	
	baz=279							
D27M	Malcolm River	27.93	38	IAmb	IAmb	16 36 07.4		
	comp=Z,11nm,0.8s							
D27M	Malcolm River	27.93	38	P	P	16 36 06.4	-0.4	
	baz=268							
BCAR	Beaver Creek A	27.93	52	P	P	16 36 07.1	+0.2	
M27K	Edge Creek, AK	28.00	53	IAmb	IAmb	16 36 32.1		
	comp=Z,11nm,1.0s							
M27K	Edge Creek, AK	28.00	53	P	P	16 36 07.7	+0.1	
	baz=280							
MESA	MESA	28.42	58	P	P	16 36 10.6	-0.7	
	baz=284							
E28M	Babbage River	28.43	40	P	P	16 36 10.9	-0.3	
	baz=270							
I28M	Miner Creek	28.43	46	P	P	16 36 10.8	-0.6	
	baz=276							
D28M	Stokes Point	28.72	38	P	P	16 36 12.7	-1.1	
	baz=270							
DAWY	Dawson	28.84	49	P	P	16 36 14.4	-0.5	
	baz=279							
H29M	Whitestone	29.00	45	P	P	16 36 15.9	-0.4	
H29M				IAmb	IAmb	16 36 40.9		
	comp=Z,20nm,1.4s							
H29M	Whitestone	29.00	45	P	P	16 36 16.1	-0.1	
	baz=276							
E29M	Blow River	29.04	40	IAmb	IAmb	16 36 17.6		
	comp=Z,12nm,1.2s							
E29M	Blow River	29.04	40	P	P	16 36 16.7	+0.1	
	baz=272,SNR=7.7							
G29M	Pine Creek	29.08	43	IAmb	IAmb	16 36 18.9		
	comp=Z,17nm,0.9s							
G29M	Pine Creek	29.08	43	P	P	16 36 17.4	+0.5	
	baz=275,SNR=10							
O28M	Mount Upton	29.12	56	P	P	16 36 17.6	-0.1	
	baz=284							
I29M	Ogilvie Camp,	29.12	46	P	P	16 36 16.7	-0.7	
YUK8	Steele Glacier	29.20	55	P	P	16 36 18.1	-0.3	
	baz=284							
M29M	Somme Creek	29.55	52	IAmb	IAmb	16 36 41.2		
	comp=Z,6.7nm,0.7s							
M29M	Somme Creek	29.55	52	P	P	16 36 21.2	-0.1	
	baz=282							
L29M	L29M	29.56	51	IAmb	IAmb	16 36 41.3		
	comp=Z,12nm,0.8s							
L29M	L29M	29.56	51	P	P	16 36 21.9	+0.6	
	baz=282,SNR=12							
K29M	Barlow Dome	29.69	49	P	P	16 36 22.1	-0.5	
	baz=281							
YUK4	Talbot Arm	29.71	55	P	P	16 36 22.7	-0.2	
	baz=284							
G30M	tAoh Zraii Nji	29.78	43	P	P	16 36 22.9	-0.3	
	baz=276							
F30M	Barrier River	29.88	42	P	P	16 36 24.1	0.0	
	baz=276							
I30M	Mount Dempster	29.94	46	P	P	16 36 24.0	-0.8	
I30M	Mount Dempster	29.94	46	P	P	16 36 24.7	-0.1	
	baz=279,SNR=8.4							
YUK6	Outpost Mounta	29.94	55	P	P	16 36 24.4	-0.5	
	baz=285							
O29M	Mount Kennedy	30.01	57	P	P	16 36 24.9	-0.5	
	baz=286							
J30M	Hart River	30.07	48	P	P	16 36 25.4	-0.5	
	baz=280							
M30M	Minto, Yukon	30.27	52	P	P	16 36 27.3	-0.4	
	baz=283							
KSRS	Korea Array	30.37	250	P	P	16 36 30.0	+1.4	
	comp=Z,8.4nm,0.8s,baz=40,slow=8.9,SNR=18							
	comp=Z,8.4nm,0.8s							
HYT	Haines Junctio	30.38	55	IAmb	IAmb	16 37 10.6		
	comp=Z,9.3nm,1.1s							
HYT	Haines Junctio	30.38	55	P	P	16 36 28.8	+0.2	
	baz=286							
KSAR	Wonju Array Be	30.39	250	P	P	16 36 28.9	0.0	
KSAR	Wonju Array Be	30.39	250	P	P	16 36 28.9	0.0	
N30M	Aishikik Lake	30.41	54	P	P	16 36 28.3	-0.6	
	baz=285							
G31M	Satah River	30.55	43	P	P	16 36 29.6	-0.3	
	baz=278							
INK	Inuvik	30.66	40	P	P	16 36 30.1	-0.8	
INK				IAmb	IAmb	16 36 47.1		
	comp=Z,7.8nm,0.7s							
INK	Inuvik	30.66	40	P	P	16 36 30.1	-0.8	
INK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
INK	Inuvik	30.66	40	P	P	16 36 30.9	0.0	
	baz=276,SNR=7.0							
F31M	Tsiigehtchic	30.68	42	IAmb	IAmb	16 36 31.5		
	comp=Z,7.3nm,0.8s							
F31M	Tsiigehtchic	30.68	42	P	P	16 36 30.6	-0.5	
	baz=278							
H31M	Peel River	30.69	45	P	P	16 36 30.9	-0.3	
	baz=280							
P30M	Million Dollar	30.84	56	P	P	16 36 32.7	0.0	
	baz=287							
O30N	Mendenhall	31.06	55	P	P	16 36 34.8	+0.2	
	baz=287							
M31M	Drury Creek, Y	31.45	52	IAmb	IAmb	16 36 58.0		
	comp=Z,7.3nm,0.8s							
M31M	Drury Creek, Y	31.45	52	P	P	16 36 38.3	+0.3	
	baz=286							
WHY	Whitehorse	31.66	55	P	P	16 36 40.5	+0.6	
WHY	Whitehorse	31.66	55	P	P	16 36 39.8	-0.1	
	baz=288							
S31K	Pelican	31.90	60	P	P	16 36 41.8	-0.1	
	baz=291							
P32M	Atlin	32.56	56	P	P	16 36 47.3	-0.5	
	baz=290							
R32K	Eaglecrest	32.63	59	P	P	16 36 49.4	+1.1	
	baz=292							
SIT	Sitka	32.69	61	P	P	16 36 50.1	+1.3	
	baz=293							
P33M	Teslin, Yukon	32.78	55	P	P	16 36 49.9	+0.2	
	baz=290							
S32K	Killisnoo	32.91	60	P	P	16 36 51.2	+0.5	
	baz=293							
A36M	Sachs Harbour	33.04	32	IAmb	IAmb	16 36 55.0		
	comp=Z,10nm,0.8s							
A36M	Sachs Harbour	33.04	32	P	P	16 36 52.5	+0.8	
	baz=278,SNR=12							
C36M	Paulatuk	33.88	37	P	P	16 36 58.5	-0.6	
C36M	Paulatuk	33.88	37	P	P	16 36 58.9	-0.2	
	baz=282,SNR=15							
U33K	Whale Pass	34.19	62	P	P	16 37 02.3	+0.4	
	baz=295							
S34M	Telegraph Cree	34.43	58	P	P	16 37 05.1	+1.1	
	baz=294							
WRAK	Wrangell Islan	34.45	61	P	P	16 37 05.1	+1.0	
	baz=295							
CRAG	Craig	34.46	63	P	P	16 37 05.4	+1.1	
	baz=296							
DLBC	Dease Lake	34.76	57	IAmb	IAmb	16 37 27.8		
	comp=Z,6.8nm,0.7s							
DLBC	Dease Lake	34.76	57	P	P	16 37 06.7	-0.2	
	comp=Z,2.6nm,0.7s,baz=267,slow=7.0,SNR=4.6							
	comp=Z,2.6nm,0.7s							
DLBC	Dease Lake	34.76	57	P	P	16 37 08.1	+1.2	
	baz=294							
T35M	Bob Quinn	35.26	59	P	P	16 37 12.6	+1.4	
T35M				IAmb	IAmb	16 37 14.4		
	comp=Z,8.0nm,0.8s							
T35M	Bob Quinn	35.26	59	P	P	16 37 12.9	+1.7	
	baz=296,SNR=5.6							
H11N2	WAKE ISLAND Hy	35.38	176	T	T	17 15 16.4		
	baz=359,slow=76							
H11N3	WAKE ISLAND Hy	35.39	176	T	T	17 15 19.0		
	baz=359,slow=76							
H11N1	WAKE ISLAND Hy	35.39	176	T	T	17 15 13.3		
	baz=359,slow=76							
ULN	Ulaanbaatar	35.58	283	P	P	16 37 13.9	-0.3	
ULN				IAmb	IAmb	16 37 17.1		
	comp=Z,8.4nm,0.8s							
ULN	Ulaanbaatar	35.58	283	i P	P	16 37 13.1	-1.1	
ULN				pmax	pmax			
	comp=Z,9.0nm,0.8s							
WRGLY	Wrigley	35.91	47	P	P	16 37 17.5	+0.9	
	baz=292							
SONM	Songino Array	35.96	283	P	P	16 37 16.9	-0.5	
SONM	Songino Array	35.96	283	P	P	16 37 17.5	0.0	
	comp=Z,8.7nm,0.9s,baz=64,slow=6.9,SNR=34							
	comp=Z,8.7nm,0.9s							
SONM	Songino Array	35.96	283	P	P	16 37 17.0	-0.5	
SONM				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZAK	Zakamensk	36.30	289	eP	P	16 37 19.7	-0.6	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
H11S1	WAKE ISLAND Hy	36.58	176	T	T	17 16 49.6		
	baz=359,slow=76							
H11S3	WAKE ISLAND Hy	36.60	177	T	T	17 16 40.5		
	baz=359,slow=76							
H11S2	WAKE ISLAND Hy	36.60	176	T	T	17 16 49.9		
	baz=359,slow=76							
KOTAN	Kotaneelee Air	36.86	52	P	P	16 37 25.8	+0.9	
	baz=295							
MOY	Mondy	36.87	292	eP	P	16 37 25.6	+0.5	
MOY				pmax	pmax			
	comp=Z,16nm,2.1s							
HNS	HongShan	37.78	263	⇑P	P	16 37 35.0	+2.2	
HNS				pmax	pmax			
	comp=Z,11nm,1.0s							
EUNU	Eureka	39.34	15	IAmb	IAmb	16 37 46.8		
	comp=Z,22nm,0.7s							
NJ2	Nanjing	39.34	253	eP	P	16 37 46.2	+0.2	
NJ2				pmax	pmax			
	comp=Z,41nm,1.2s							
YKA	Yellowknife Ar	39.90	46	P	P	16 37 50.0	-0.3	
	comp=Z,2.4nm,0.7s,baz=297,slow=8.3,SNR=22							
	comp=Z,2.4nm,0.7s							
YKA	Yellowknife Ar	39.90	46	P	P	16 37 50.0	-0.3	
RES	Resolute Bay	40.45	24	P	P	16 37 54.2	-0.5	
RES	Resolute Bay	40.45	24	P	P	16 37 54.2	-0.5	
RES				pmax	pmax			
	comp=Z,9.0nm,0.9s							
LYN	LuoYang	41.07	262	P	P	16 38 02.1	+1.8	
LYN				pmax	pmax			
	comp=Z,40nm,1.0s							
LLLB	Lillooet	42.77	64	P	P	16 38 14.5	+0.4	
XAN	Xi'an	43.47	265	eP	P	16 38 21.0	+1.1	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
ZAA0	Zalesovo Array	43.86	303	P	P	16 38 21.4	-1.3	
ZALV	Zalesovo Beam	43.86	303	P	P	16 38 20.9	-1.9	
ZALV	Zalesovo Beam	43.86	303	P	P	16 38 21.3	-1.4	
	comp=Z,2.5nm,0.8s,baz=64,slow=6.8,SNR=7.8							
	comp=Z,2.5nm,0.8s							
ZALV	Zalesovo Beam	43.86	303	i P	P	16 38 21.7	-1.0	
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.9s							
LZH	Lanzhou	44.92	271	eP	P	16 38 33.7	+2.0	
LZH				pP	pP	16 38 38.4	+0.3	
LZH				pmax	pmax			
	comp=Z,35nm,1.3s							
GTA	Gaotai	44.94	277	eP	P	16 38 32.5	+0.8	
GTA				pmax	pmax			
	comp=Z,28nm,1.1s							
B08A	Colville Reser	45.46	65	IAmb	IAmb	16 38 36.8		
	comp=Z,8.3nm,0.8s							
SPITS	Spitsbergen Ar	45.55	351	P	P	16 38 35.4	-0.6	
	comp=Z,26nm,1.0s,baz=54,slow=5.6,SNR=8.8							
	comp=Z,26nm,1.0s							
SPITS	Spitsbergen Ar	45.55	351	P	P	16 38 36.0	+0.1	
SPITS				pmax	pmax			
	comp=Z,31nm,1.0s							
NEEM	North Greenlan	45.86	10	i P	P	16 38 38.2	-0.5	
NEEM				IAmb	IAmb	16 38 39.0		
	comp=Z,22nm,1.0s							
ENH	Enshi	45.93	261	P	P	16 38 39.7	+0.1	
HOOD	Mount Hood Mea	46.15	70	P	P	16 38 41.4	+0.2	
H04A	Detroit Lake	46.27	71	IAmb	IAmb	16 38 44.1		
	comp=Z,8.0nm,1.0s							
NEW	Newport	46.66	64	IAmb	IAmb	16 39 01.7		
	comp=Z,8.5nm,1.1s							
NEW	Newport	46.66	64	P	P	16 38 44.6	-0.6	
	comp=Z,3.6nm,0.8s,baz=318,slow=10,SNR=5.2							
	comp=Z,3.6nm,0.8s							
F07A	Phinny Hill Vi	46.70	68	P	P	16 38 44.5	-0.9	
PINE	Pine Mountain	47.53	71	IAmb	IAmb	16 38 53.9		
	comp=Z,12nm,1.1s							
KULLO	Kullorsuaq	47.63	14	i P	P	16 38 51.9	-0.3	
ZSN	Zaisan	47.83	296	eP	P	16 38 53.5	-0.7	
ZSN				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ZSN	Zaisan	47.83	296	eP	P	16 38 53.6	-0.7	
	comp=Z,6.7nm,0.7s							
L04D	Klamath Falls	47.83	74	P	P	16 38 55.3	+0.9	
YBH	Yreka Blue Hor	47.93	74	P	P	16 38 54.7	-0.4	
	comp=Z,3.1nm,0.7s,baz=294,slow=5.6,SNR=4.9							
	comp=Z,3.1nm,0.7s							
DAG	Damarks Havn	48.36	1	i P	P	16 38 57.3	-0.5	
WMQ	Urumqi	48.72	290	⇑P	P	16 39 02.5	+1.3	
WMQ				pmax	pmax			
	comp=Z,61nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,60nm,3.8s							
KURK	Kurchatov	48.84	303	P	P	16 39 01.5	-0.4	
KURK	Kurchatov	48.84	303	P	P	16 39 01.5	-0.4	
KURK				pmax	pmax			
	comp=Z,33nm,0.7s							
KURBB	Kurchatov Arra	48.95	303	P	P	16 39 02.5	-0.2	
	comp=Z,21nm,0.6s,baz=55,slow=7.9,SNR=42							
J08A	Circle Bar Ran	49.16	70	IAmb	IAmb	16 39 06.0		
	comp=Z,7.6nm,1.0s							
PLID	Pearl Lake	49.32	67	P	P	16 39 06.1	+0.2	
UPNV	Upernavik	49.34	15	i P	P	16 39 05.1	-0.3	
UPNV				IAmb	IAmb	16 39 05.4		
	comp=Z,14nm,0.8s							
MK31	Makanchi Array	49.59	297	IAmb	IAmb	16 39 08.2		
	comp=Z,12nm,0.9s							
MK31	Makanchi Array	49.59	297	i P	P	16 39 06.7	-1.0	
MK31				pmax	pmax			
	comp=Z,18nm,0.9s							
MKAR	Makanchi Array	49.59	297	P	P	16 39 06.6	-1.1	
MKAR	Makanchi Array	49.59	297	P	P	16 39 07.2	-0.5	
	comp=Z,9.9nm,0.9s,baz=59,slow=6.7,SNR=80							
	comp=Z,9.9nm,0.9s							
MKAR	Makanchi Array	49.59	297	i P	P	16 39 07.5	-0.2	
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
WVOR	Wild Horse Val	49.69	71	IAmb	IAmb	16 39 26.0		
	comp=Z,7.7nm,1.1s							
MAKZ	Makanchi	49.74	297	P	P	16 39 07.7	-1.1	
MAKZ	Makanchi	49.74	297	P	P	16 39 07.7	-1.1	
MAKZ				pmax	pmax			
	comp=Z,26nm,1.2s							
GOMU	GeErMu	50.01	278	P	P	16 39 11.7	+0.2	
GOMU				pP	pP	16 39 16.1	-1.8	
GOMU				sP	sP	16 39 22.5	+2.1	
GOMU				pmax	pmax			
	comp=Z,49nm,1.0s							
FCC	Fort Churchill	50.26	42	IAmb	IAmb	16 39 28.9		
	comp=Z,11nm,0.7s							
GYA	Guiyang	50.44	260	⇓P	P	16 39 16.1	+1.6	
GYA				pmax	pmax			
	comp=Z,26nm,0.9s							
DBG	Daneborg	50.82	2	i P	P	16 39 16.1	-0.5	
DBG				IAmb	IAmb	16 39 17.1		
	comp=Z,7.8nm,0.9s							
BVAR	Borovoye Array	51.14	309	P	P	16 39 18.9	-0.4	
	comp=Z,11nm,0.6s,baz=57,slow=8.2,SNR=75							
	comp=Z,11nm,0.6s							
BRVK	Borovoye	51.16	309	P	P	16 39 18.9	-0.5	
BRVK	Borovoye	51.16	309	ceP	P	16 39 18.9	-0.5	
BRVK				pmax	pmax			
	comp=Z,12nm,0.6s							
PAHR	Pah Rah Range	51.16	74	IAmb	IAmb	16 39 20.9		
	comp=Z,7.8nm,1.0s							
BOZ	Bozeman (W)	51.25	64	IAmb	IAmb	16 39 37.2		
	comp=Z,5.7nm,0.9s							
PNTR	Pine Nut	51.47	75	P	P	16 39 22.7	+0.4	
PNTR				IAmb	IAmb	16 39 24.2		
	comp=Z,14nm,0.8s							
SUMG	Summit	51.60	9	P	P	16 39 22.9	-0.1	
SUMG				IAmb	IAmb	16 39 24.0		
	comp=Z,22nm,1.2s							
SUMG	Summit	51.60	9	P	P	16 39 22.9	-0.1	
SUMG				pmax	pmax			
	comp=Z,23nm,1.2s							
SUMG	Summit	51.60	9	i P	P	16 39 21.2	-1.8	
SUMG				IAmb	IAmb	16 39 24.6		
	comp=Z,11nm,0.7s							
ARCES	ARCESS Array B	52.14	343	P	P	16 39 25.4	-1.1	
	comp=Z,12nm,1.1s,baz=34,slow=8.8,SNR=6.9							
	comp=Z,12nm,1.1s							
BRZS	Berezniki	52.17	305	eP	P	16 39 26.6	-0.4	
BRZS	Berezniki	52.17	305	eP	P	16 39 26.6	-0.4	
NVAR	Mina Array Bea	52.66	74	P	P	16 39 31.8	+0.7	
NVAR	Mina Array Bea	52.66	74	P	P	16 39 31.4	+0.3	
	comp=Z,5.6nm,0.8s,baz=322,slow=8.8,SNR=22							
	comp=Z,5.6nm,0.8s							
LHV	Little Huntoon	52.67	75	IAmb	IAmb	16 39 34.2		
	comp=Z,26nm,1.5s							
ELK	Elko	52.70	70	P	P	16 39 31.9	+0.5	
	comp=Z,2.6nm,0.9s,baz=296,slow=7.6,SNR=7.4							
	comp=Z,2.6nm,0.9s							
NV11	Mina Array Sit	52.74	74	IAmb	IAmb	16 39 33.5		
	comp=Z,11nm,1.1s							
TDK	Taldyqorghan	52.80	297	eP	P	16 39 31.3	-0.4	
TDK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
TDK	Taldyqorghan	52.80	297	eP	P	16 39 31.4	-0.4	
	comp=Z,8.1nm,0.6s							
PZH	PanZhiHua	53.20	264	P	P	16 39 37.1	+2.0	
PZH				pmax	pmax			
	comp=Z,8.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,4.5s							
PDGK	Podgornoye	53.40	295	P	P	16 39 34.2	-2.2	
OTUK	Ortayu	53.53	304	P	P	16 39 35.4	-1.8	
SHLS	Shalkode	53.54	295	eP	P	16 39 35.0	-2.4	
SHLS				pmax	pmax			
	comp=Z,7.0nm,0.6s							
SHLS	Shalkode	53.54	295	eP	P	16 39 35.1	-2.4	
	comp=Z,6.8nm,0.6s							
KPKS	Kokpek	53.73	296	eP	P	16 39 38.2	-0.5	
KPKS	Kokpek	53.73	296	eP	P	16 39 38.2	-0.5	
ARTI	Arti	53.73	318	P	P	16 39 38.0	-0.5	
ARTI	Arti	53.73	318	di P	P	16 39 39.6	+1.2	
ARTI				*PP	pwP	16 39 54.3	+2.0	
ARTI						16 40 42.6		
ARTI						16 41 40.3		
ARTI				S	S	16 47 09.1	-1.5	
ARTI				SS	SKiKP	16 50 47.8	-2.3	
ARTI				pmax	pmax			
	comp=Z,12nm,0.9s							
UZB	Uzynbulak	53.77	295	eP	P	16 39 38.5	-0.6	
UZB				pmax	pmax			
	comp=Z,6.0nm,0.6s							
UZB	Uzynbulak	53.77	295	eP	P	16 39 38.6	-0.6	
	comp=Z,6.2nm,0.6s							
ZHN	Zhinishke	54.06	296	eP	P	16 39 40.5	-0.7	
ZHN	Zhinishke	54.06	296	eP	P	16 39 40.5	-0.7	
SATY	Saty	54.16	296	eP	P	16 39 41.4	-0.5	
SATY				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SATY	Saty	54.16	296	eP	P	16 39 41.5	-0.5	
	comp=Z,6.6nm,0.9s							
R11B	Troy Canyon, C	54.21	73	IAmb	IAmb	16 40 05.5		
	comp=Z,6.5nm,1.2s							
PDAR	Pinedale Array	54.29	65	P	P	16 39 42.9	-0.2	
PDAR	Pinedale Array	54.29	65	P	P	16 39 42.5	-0.5	
	comp=Z,2.3nm,0.9s,baz=323,slow=7.1,SNR=4.0							
	comp=Z,2.3nm,0.9s							
SPR3	Spring Creek 3	54.43	71	IAmb	IAmb	16 40 05.2		
	comp=Z,16nm,1.0s							
AAA	Alma-Ata	54.82	297	eP	P	16 39 46.1	-0.6	
AAA				pmax	pmax			
	comp=Z,9.0nm,0.6s							
AAA	Alma-Ata	54.82	297	eP	P	16 39 46.2	-0.5	
	comp=Z,9.2nm,0.6s							
ICESG	Greenland Ices	54.85	10	i P	P	16 39 46.4	-0.4	
TPNV	Topopah Spring	54.85

TMUT Trail Mountain 55.90 69 IAmb IAmb 16 40 12.6
comp=Z,8.9nm,0.9s
USP Ospenovka 56.01 298 P **P 16 39 55.7 +0.5**
SNR=28
CHMS Chumysh 56.08 298 P **P 16 39 55.5 -0.1**
SNR=9.5
P18A Preston Nutter 56.18 68 P **P 16 39 57.3 +0.5**
P18A IAmb IAmb 16 40 20.7
comp=Z,13nm,1.0s
Q16A Castle Valley 56.20 69 IAmb IAmb 16 40 14.7
comp=Z,11nm,0.9s
KBK Karagaybulak 56.22 297 P **P 16 39 57.4 +0.5**
SNR=20
KLMR Klimovskoe 56.46 331 *e*P **P 16 39 56.5 -1.5**
KLMR *e**PP **pwP 16 40 11.7 -0.2**
KLMR pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 56.47 298 P **P 16 39 58.5 -0.1**
AAK Ala-Archa 56.47 298 P **P 16 39 58.9 +0.3**
SNR=31
AAK Ala-Archa 56.47 298 *i* P **P 16 39 58.2 -0.4**
AAK pmax pmax
comp=Z,31nm,1.0s
EKS2 Erkin-Say 56.81 298 P **P 16 40 01.6 +0.6**
SNR=33
LSA Lhasa 56.86 275 P **P 16 40 02.3 +0.4**
LSA Lhasa 56.86 275 P **P 16 40 02.3 +0.4**
LSA pmax pmax
comp=Z,19nm,1.0s
AML Almayashu 57.24 298 P **P 16 40 05.2 +0.8**
SNR=16
DZA Taraz 57.87 300 *e*P **P 16 40 07.9 -0.5**
DZA Taraz 57.87 300 *e*P **P 16 40 07.9 -0.5**
KSH Kashi 57.98 294 P **P 16 40 13.2 +3.9**
KSH pmax pmax
comp=Z,21nm,1.3s
PV13 Radium Mtn., P 58.01 68 IAmb IAmb 16 40 27.1
comp=Z,8.3nm,0.8s
KK31 Karatay Array 58.12 301 *i* P **P 16 40 09.9 -0.2**
KKAR Karatay Array 58.12 301 P **P 16 40 10.2 +0.1**
KKAR Karatay Array 58.12 301 P **P 16 40 10.2 +0.1**
KKAR pmax pmax
comp=Z,18nm,1.1s
AKTO Aktyubinsk 58.33 314 P **P 16 40 10.9 -0.5**
BRLS Borolday 58.51 301 *e*P **P 16 40 14.3 +1.5**
BRLS Borolday 58.51 301 *e*P **P 16 40 14.3 +1.5**
IUG Iuzhnay 59.07 300 *e*P **P 16 40 16.5 -0.3**
IUG pmax pmax
comp=Z,9.0nm,0.9s
IUG Iuzhnay 59.07 300 *e*P **P 16 40 16.5 -0.3**
comp=Z,8.9nm,0.9s
CHM Chimkent 59.16 301 *e*P **P 16 40 16.9 -0.4**
CHM Chimkent 59.16 301 *e*P **P 16 40 17.0 -0.4**
FINES FINESS Array B 59.24 338 P **P 16 40 17.3 -0.3**
comp=Z,4.1nm,0.7s,baz=30,slow=12,SNR=9.0
comp=Z,4.1nm,0.7s
S22A 4UR Ranch, Cre 59.37 67 P **P 16 40 20.2 +1.0**
baz=318
SHL Shillong 59.58 272 P **P 16 40 20.4 -0.2**
SHL Shillong 59.58 272 P **P 16 40 20.4 -0.2**
SHL pmax pmax
comp=Z,20nm,1.2s
CHTO Chiang Mai 60.82 261 P **P 16 40 29.3 +0.3**
CHTO Chiang Mai 60.82 261 P **P 16 40 29.3 +0.3**
CHTO pmax pmax
comp=Z,30nm,0.9s
T25A Trinidad 61.10 66 P **P 16 40 31.9 +0.9**
baz=319
CMAR Chiang Mai Arr 61.10 261 P **P 16 40 31.6 +0.8**
CMAR Chiang Mai Arr 61.10 261 P **P 16 40 32.4 +1.5**
comp=Z,4.4nm,0.6s,baz=22,slow=6.8,SNR=37
comp=Z,4.4nm,0.6s
CMAR Chiang Mai Arr 61.10 261 *i* P **P 16 40 32.5 +1.6**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
GAR Garm 61.29 298 P **P 16 40 32.0 -0.1**
OBN Obninsk 62.16 329 *e*P **P 16 40 38.6 +1.1**
OBN *e**PP **pwP 16 40 50.5 -0.9**
OBN *e**SP sP 16 40 56.9 +11
OBN *e* 16 41 16.1
OBN *e* 16 42 52.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
SIMJ Simiganj 62.21 298 P **P 16 40 37.2 -1.1**
NB2 NORSAR Subarra 62.27 346 P **P 16 40 38.1 -0.2**
comp=Z,1.6nm,0.6s,baz=17,slow=6.9
NB2 NORSAR Subarra 62.27 346 P **P 16 40 38.0 -0.2**
NOA NORSAR Array B 62.27 346 P **P 16 40 38.0 -0.2**
comp=Z,2.7nm,0.7s,baz=16,slow=6.8,SNR=11
comp=Z,2.7nm,0.7s
NOA NORSAR Array B 62.27 346 P **P 16 40 38.0 -0.2**
SCHQ Schefferville 62.62 31 P **P 16 40 40.0 -0.6**
comp=Z,3.8nm,0.6s,baz=338,slow=6.6,SNR=13
comp=Z,3.8nm,0.6s
HFS Hagfors 62.77 344 P **P 16 40 40.9 -0.6**
comp=Z,3.1nm,0.6s,baz=326,slow=0.5,SNR=8.3
comp=Z,3.1nm,0.6s
LPSR Galich'ya Gora 63.59 326 *e*P **P 16 40 49.8 +2.8**
LPSR pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 63.83 292 P **P 16 40 49.2 +0.2**
NIL Nilore 63.83 292 P **P 16 40 49.2 +0.2**
NIL pmax pmax
comp=Z,16nm,0.6s
VRH Novokhopyorsk 63.86 324 *e*P **P 16 40 46.7 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 64.69 325 *e*P **P 16 40 53.1 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 65.36 295 P **P 16 40 57.5 -1.7**
KBL IAmb IAmb 16 41 06.9
comp=Z,9.4nm,0.9s
KBL Kabul 65.36 295 P **P 16 40 57.5 -1.7**
KBL pmax pmax
comp=Z,9.0nm,0.9s
VHRN Van Horn 65.64 71 IAmb IAmb 16 41 02.7
comp=Z,5.6nm,0.9s
WMOK Wichita Mounta 65.86 64 P **P 16 41 01.5 -0.7**
WMOK IAmb IAmb 16 41 03.2
comp=Z,6.9nm,0.9s
WMOK Wichita Mounta 65.86 64 P **P 16 41 01.5 -0.7**
WMOK pmax pmax
comp=Z,7.0nm,0.9s
TX31 Lajitas Ar. Si 67.49 71 P **P 16 41 12.2 -0.5**
TX31 IAmb IAmb 16 41 14.2
comp=Z,7.1nm,0.8s
TXAR Lajitas Array 67.49 71 P **P 16 41 12.6 -0.1**
TXAR Lajitas Array 67.49 71 P **P 16 41 13.3 +0.5**
comp=Z,5.6nm,0.7s,baz=299,slow=4.2,SNR=44
comp=Z,5.6nm,0.7s
TXAR Lajitas Array 67.49 71 P **P 16 41 12.6 -0.1**
AKASG Malin Array Be 68.15 331 P **P 16 41 16.2 -0.3**
comp=Z,1.0nm,0.5s,baz=29,slow=6.2,SNR=8.0
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.15 331 *i* P **P 16 41 16.5 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 68.15 331 P **P 16 41 16.4 -0.1**
AKBB IAmb IAmb 16 41 33.6
comp=Z,7.9nm,0.9s
AKBB Malin Array Si 68.15 331 P **P 16 41 16.4 -0.1**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 68.15 331 P **P 16 41 16.4 -0.1**
KIEV Kiev 68.16 331 P **P 16 41 16.6 +0.1**
AK01 Malin Array Si 68.16 331 P **P 16 41 16.2 -0.3**
AK20 Malin Array Si 68.17 331 P **P 16 41 15.7 -0.9**
AK18 Malin Array Si 68.17 331 P **P 16 41 16.5 -0.1**
AK02 Malin Array Si 68.19 331 P **P 16 41 16.4 -0.3**
AK08 Malin Array Si 68.20 331 P **P 16 41 16.1 -0.7**
HRA Herat 68.94 300 P **P 16 41 21.2 -0.7**
DRIO Del Rio 69.06 69 P **P 16 41 21.6 -0.9**
DRIO IAmb IAmb 16 41 38.9
comp=Z,6.2nm,0.7s
EKA Eskdalemuir Ar 69.45 353 P **P 16 41 24.1 -0.4**
comp=Z,3.6nm,0.9s,baz=32,slow=6.4,SNR=4.4
comp=Z,3.6nm,0.9s
KIV Kislovodsk 69.67 319 *e*P **P 16 41 23.9 -2.2**
KIV pmax pmax
comp=Z,4.0nm,1.1s
AKT Akhty 69.77 314 *e*P **P 16 41 24.7 -2.2**
AKT *e**PP **pwP 16 41 41.9 +1.0**
AKT *e* 16 41 46.1
AKT *e**SP **PcP 16 41 48.9 -0.5**
AKT *e* 16 43 58.8
AKT pmax pmax
comp=Z,8.0nm,0.7s
KBZ Khabaz 69.78 319 P **P 16 41 27.4 +0.7**
comp=Z,5.1nm,0.9s,baz=102,slow=0.9,SNR=14
comp=Z,5.1nm,0.9s
L61B Northampton 71.34 41 P **P 16 41 35.8 -0.4**
baz=330
LANS Liptovska Anna 72.04 337 *e*P **P 16 41 42.2 +1.8**
LANS *e* 16 41 58.3
LANS Liptovska Anna 72.04 337 *e*P **P 16 41 42.2 +1.8**
LANS *e* 16 41 58.3
BURAR Bucovina Array 72.05 332 P **P 16 41 40.4 -0.1**
MODS Modra-Piesok 73.26 338 *e*P **P 16 41 49.9 +2.3**
MODS *e* 16 42 05.8
MODS Modra-Piesok 73.26 338 *e*P **P 16 41 49.9 +2.3**
MODS *e* 16 42 05.8
KHC Kasperske Hory 73.30 341 *e*PCP **PcP 16 42 04.5 +0.3**
GERES GERESS Array B 73.55 340 P **P 16 41 49.6 +0.2**
GERES GERESS Array B 73.55 340 P **P 16 41 49.8 +0.4**
comp=Z,1.3nm,0.7s,baz=79,slow=6.9,SNR=6.5
comp=Z,1.3nm,0.7s
GERES GERESS Array B 73.55 340 P **P 16 41 49.6 +0.2**
KBA Koelnbreinsper 75.31 340 *i* P **P 16 42 01.4 +1.6**
comp=Z,4.2nm,0.7s
WATA Walderalm 75.40 341 *e*P **P 16 41 59.0 -1.3**
comp=Z,2.9nm,0.5s
ABTA Abfaltersbach 75.79 341 *i* P **P 16 42 03.3 +0.9**
comp=Z,6.9nm,1.0s
FETA Feichten 75.85 342 *e*P **P 16 42 04.0 +1.1**
comp=Z,6.3nm,1.2s
GSI Gunungsitoli 75.90 251 P **P 16 42 08.0 +4.7**
BR131 Keskin Array S 76.63 323 P **P 16 42 06.4 -1.0**
BR131 Keskin Array S 76.63 323 P **P 16 42 06.4 -1.0**
BR131 pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 76.63 323 P **P 16 42 06.4 -1.0**
BRTR Keskin Array B 76.63 323 P **P 16 42 07.3 -0.1**
comp=Z,1.0nm,0.7s,baz=71,slow=5.0,SNR=5.8
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 76.63 323 *i* P **P 16 42 07.9 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
WRAB Tennant Creek 79.05 209 P **P 16 42 20.6 -0.1**
WRAB IAmb IAmb 16 42 21.8
comp=Z,8.5nm,0.9s
WRAB Tennant Creek 79.05 209 P **P 16 42 20.6 -0.1**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRA Warramunga Arr 79.06 209 P **P 16 42 20.5 -0.2**
WRA Warramunga Arr 79.06 209 P **P 16 42 20.8 0.0**
comp=Z,5.3nm,0.8s,baz=21,slow=5.9,SNR=22
comp=Z,5.3nm,0.8s
NRCA Norcia 79.42 339 P **P 16 42 22.9 +0.1**
MMAI Mount Meron Ar 81.98 319 P **P 16 42 37.1 +0.5**
comp=Z,0.3nm,0.3s,baz=19,slow=9.2,SNR=4.1
comp=Z,0.3nm,0.3s
ASAR Alice Springs 82.72 208 P **P 16 42 40.5 +0.2**
ASAR Alice Springs 82.72 208 P **P 16 42 41.0 +0.7**
comp=Z,7.8nm,0.8s,baz=16,slow=5.7,SNR=96
comp=Z,7.8nm,0.8s
ASAR Alice Springs 82.72 208 P **P 16 42 40.5 +0.2**
ESDC Sonseca Array 85.06 351 P **P 16 42 52.8 +0.5**
comp=Z,1.7nm,0.9s,baz=10,slow=4.5,SNR=5.5
comp=Z,1.7nm,0.9s
QSPA South Pole Qui 144.87 180 PKPdf **PKPab 16 49 50.6 -0.8**

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*IDC **06** 16:32:27.8±0.9, 34°.43S×108°.98W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=31.9km s-min=26.7km az=39.0*
ISC 06 16:32:29.4±1.0, 34°.4S±0°.2×108°.9W±0°.2, h10km, n19, σ19 34/10, mb4.1/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**24.80**	**97**	T	T	17 03 29.2	
	baz=257,slow=75						
H03S1	**Juan Fernandez**	**24.81**	**97**	T	T	17 03 31.5	
	baz=257,slow=75						
H03S3	**Juan Fernandez**	**24.81**	**97**	T	T	17 03 28.5	
	baz=257,slow=75						
PLCA	**Paso Flores**	**30.88**	**113**	P	**P**	**16 38 45.1**	**-1.0**
	2.4nm,0.8s,baz=262,slow=8.9,SNR=3.5						
	2.4nm,0.8s						
LPAZ	**La Paz**	**40.71**	**74**	P	**P**	**16 40 11.0**	**-0.1**
	2.2nm,1.0s,baz=206,slow=5.2,SNR=5.0						
	2.2nm,1.0s						
CPUP	**Villa Florida**	**44.83**	**94**	P	**P**	**16 40 45.0**	**+1.1**
	1.9nm,0.8s,baz=259,slow=6.0,SNR=4.7						
	1.9nm,0.8s						
QSPA	**South Pole Qui**	**55.81**	**180**	P	**P**	**16 42 07.8**	**+1.3**
	2.3nm,0.9s,baz=92,slow=3.2,SNR=3.9						
	2.3nm,0.9s						
NVAR	**Mina Array Bea**	**72.98**	**352**	P	**P**	**16 44 00.8**	**+1.6**
	1.8nm,1.0s,baz=189,slow=8.7,SNR=5.1						
	1.8nm,1.0s						
PDAR	**Pinedale Array**	**76.79**	**360**	P	**P**	**16 44 21.6**	**+0.4**
	1.1nm,0.9s,baz=180,slow=7.3,SNR=5.3						
	1.1nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**95.76**	**288**	T	T	18 32 35.5	
	baz=125,slow=74						
H11S1	**WAKE ISLAND Hy**	**95.78**	**288**	T	T	18 32 36.2	
	baz=125,slow=74						
H11S3	**WAKE ISLAND Hy**	**95.78**	**288**	T	T	18 32 36.0	
	baz=125						
H01W1	**Cape Leeuwin H**	**100.16**	**215**	T	T	18 38 19.5	
	baz=145						
H01W2	**Cape Leeuwin H**	**100.17**	**215**	T	T	18 38 19.8	
	baz=145						
H01W3	**Cape Leeuwin H**	**100.18**	**215**	T	T	18 38 22.4	
	baz=145						
AKASG	**Malin Array Be**	**145.65**	**49**	PKPbc	**PKPab**	**16 52 08.3**	**+0.1**
	0.6nm,0.6s,baz=272,slow=3.7,SNR=4.4						
BRTR	**Keskin Array B**	**149.80**	**69**	PKPbc	**PKPbc**	**16 52 18.4**	**-1.3**
	1.1nm,0.8s,baz=253,slow=2.8,SNR=5.0						
SONM	**Songino Array**	**150.48**	**308**	PKPbc	**PKPbc**	**16 52 19.3**	**-1.8**
	3.4nm,0.8s,baz=98,slow=2.9,SNR=8.5						
CMAR	**Chiang Mai Arr**	**150.56**	**244**	PKPbc	**PKPbc**	**16 52 20.9**	**-1.1**
	1.9nm,0.8s,baz=195,slow=2.1,SNR=10						

WEL 06 16:32:53.2±1.3, 32°S±5°×17°W±1°, h33km, M4.2/6, mB4.5/2, ML4.7/9, MLv4.2/6, Mw(mB)3.6/2, Error ellipse: s-maj=25.5km s-min=4.7km az=101.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.71**	**348**	P	Pn	16 33 34.3	0.0
GLKZ				S	Sn	16 34 06.5	+0.6
WMGZ	**Waiomatatini S**	**6.87**	**210**	P	Pn	16 34 32.1	+0.6
WMGZ				S	Sn	16 35 52.1	+3.5
PKGZ	**Pakihiroa**	**7.05**	**211**	P	Pn	16 34 33.3	-0.8
PKGZ				S	Sn	16 35 52.8	-0.3
HAZ	**Te Kaha**	**7.10**	**214**	P	Pn	16 34 36.5	+1.8
HAZ				S	Sn	16 35 55.7	+1.5
PUZ	**Puketiti**	**7.15**	**210**	P	Pn	16 34 31.5	-3.9
PUZ				S	Sn	16 35 55.5	0.0
RUGZ	**Raukumara Rang**	**7.32**	**213**	P	Pn	16 34 38.1	+0.3
TWGZ	**Tauwhareparae**	**7.36**	**211**	P	Pn	16 34 37.5	-0.8
CNGZ	**Carnagh Statio**	**7.52**	**208**	P	Pn	16 34 38.9	-1.6
CNGZ				S	Sn	16 36 05.4	+0.8
TKGZ	**Te Karaka**	**7.63**	**210**	P	Pn	16 34 44.6	+2.6
MWZ	**Matawai**	**7.69**	**212**	P	Pn	16 34 41.6	-1.2
MWZ				S	Sn	16 36 07.6	-1.1
URZ	**Urewera**	**7.82**	**214**	P	Pn	16 34 49.2	+4.6
OUZ	**Omahuta**	**8.30**	**244**	P	Pn	16 34 51.1	-0.1

IDC 06 16:36:43.9±3.5, 32°.21S×178°.08W, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=79.2km s-min=38.6km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.21**	**212**	Pn	Pn	16 38 30.0	-0.5
	0.2nm,0.3s,baz=332,slow=20,SNR=1.0						
URZ				Sn	Sn	16 39 55.0	+2.0
	0.4nm,0.3s,baz=242,slow=18,SNR=3.2						
	3.1nm,0.8s						
ASAR	**Alice Springs**	**42.98**	**269**	P	P	16 44 45.3	+0.3
	0.2nm,0.5s,baz=113,slow=8.6,SNR=1.8						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.13**	**274**	P	P	16 44 54.0	-0.3
	0.4nm,0.5s,baz=115,slow=7.9,SNR=7.5						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	PKPbc	16 56 26.4	-0.8
	2.0nm,1.0s,baz=40,slow=5.4,SNR=1.4						

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*NEIC **06** 16:39:17.0±1.0, 61°.39N±0°.02×150°.00W±0°.05, h46km±4km, Error ellipse: s-maj=3.6km s-min=2.9km az=135.0*
AEIC 06 16:39:17.7±1.1, 61°.40N±0°.03×149°.99W±0°.05, h44km±4km, ML2.4, ML2.6/116(NEIC), Error ellipse: s-maj=3.7km s-min=3.3km az=147.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.28**	**203**		Pn	16 39 25.5	-0.5
FIS				Sn	Sn	16 39 33.7	+1.8
FIS				IAML		16 39 34.7	
	comp=E,720nm,0.5s						
RC01	**Rabbit Creek A**	**0.34**	**158**	Pn	Pn	16 39 25.6	-1.1
RC01				Sn	Sn	16 39 32.3	-0.7
RC01				IAML		16 39 33.6	
	comp=E,427nm,0.3s						
RC01				IAML		16 39 33.8	
	comp=N,436nm,0.3s						
M22K	**Willow**	**0.36**	**350**	Pn	Pn	16 39 25.7	-1.1
M22K				Sn	Sn	16 39 33.1	-0.1
M22K				IAML		16 39 33.8	
	comp=E,405nm,0.7s						
SUA	**Susitna One**	**0.37**	**280**	Pn	Pn	16 39 26.2	-0.9
SUA				Sn	Sn	16 39 33.3	-0.5
SUA				IAML		16 39 36.1	
	comp=N,326nm,0.5s						
PMR	**Palmer**	**0.46**	**65**	Pn	Pn	16 39 26.8	-1.2
PMR				Sn	Sn	16 39 34.8	-0.5
PMR				IAML		16 39 35.5	
	comp=E,251nm,0.5s						
PMR				IAML		16 39 35.5	
	comp=N,273nm,0.6s						
GHO	**Glory Hole Cre**	**0.63**	**54**	Pn	Pn	16 39 29.3	-1.1
GHO				Sn	Sn	16 39 39.3	-0.2
GHO				IAML		16 39 40.6	
	comp=N,304nm,0.2s						
KNK	**Knik Glacier**	**0.74**	**89**	Pn	Pn	16 39 30.9	-0.9
KNK				Sn	Sn	16 39 42.7	+0.8
KNK				IAML		16 39 43.6	
	comp=N,208nm,0.6s						
KNK				IAML		16 39 43.8	
	comp=E,211nm,0.4s						
CAPN	**Captain Cook N**	**0.85**	**222**	Pn	Pn	16 39 33.4	+0.2
CAPN				Sn	Sn	16 39 46.5	+2.0
STLK	**Strandline Lak**	**0.89**	**277**	Pn	Pn	16 39 33.0	-0.9
STLK				Sn	Sn	16 39 45.2	-0.4
STLK				IAML		16 39 46.5	
	comp=E,165nm,0.3s						
SML	**Sawmill**	**0.89**	**62**	Pn	Pn	16 39 32.6	-1.3
SML				Sn	Sn	16 39 45.1	-0.5
SML				IAML		16 39 48.0	
	comp=N,146nm,0.6s						
SML				IAML		16 39 48.1	
	comp=E,211nm,0.7s						
SLKM	**Skilak Lake**	**0.91**	**187**	Pn	Pn	16 39 32.3	-1.7
SLKM				Sn	Sn	16 39 45.2	-0.7
SLKM				IAML		16 39 47.4	
	comp=E,137nm,0.4s						
SLKM				IAML		16 39 49.3	
	comp=N,132nm,0.4s						
SKT	**Skwentna**	**0.93**	**309**	Pn	Pn	16 39 32.9	-1.5
SKT				Sn	Sn	16 39 46.1	-0.5
SKT				IAML		16 39 46.8	
	comp=N,233nm,0.5s						
SKT				IAML		16 39 48.2	
	comp=E,198nm,0.4s						
O22K	**Cooper Landing**	**0.94**	**172**	Pn	Pn	16 39 32.8	-1.6
O22K				Sn	Sn	16 39 44.5	-2.1
O22K				IAML		16 39 51.6	
	comp=E,264nm,0.3s						
PWL	**Port Wells**	**0.97**	**123**	Pn	Pn	16 39 33.9	-1.1
PWL				Sn	Sn	16 39 47.0	-0.5
SPCG	**Spurr Capps Gl**	**0.98**	**264**		Pn	16 39 34.5	-0.7
CUT	**Chulitna**	**1.01**	**353**		Sn	16 39 48.8	+0.3
SPU	**Mount Spurr**	**1.02**	**258**	Pn	Pn	16 39 34.4	-1.2
SPU				Sn	Sn	16 39 47.9	-0.9
SPU				IAML		16 39 49.7	
	comp=N,178nm,0.3s						
SPU				IAML		16 39 49.8	
	comp=E,118nm,0.3s						
SPCR	**Spurr Chakacha**	**1.09**	**260**		Pn	16 39 35.6	-1.0
SPCR					Sn	16 39 50.0	-0.5
M23K	**Glacier View**	**1.15**	**69**		Pn	16 39 37.0	-0.5
M23K					Sn	16 39 52.9	+0.9
SPBG	**Spurr Blockage**	**1.16**	**264**		Pn	16 39 36.7	-0.8
SEW	**Seward**	**1.33**	**168**	Pn	Pn	16 39 38.3	-1.5
SCM	**Sheep Creek Mo**	**1.34**	**70**	Pn	Pn	16 39 39.3	-0.8
SCM				Sn	Sn	16 39 57.6	+0.8
SCM				IAML		16 39 59.9	
	comp=N,122nm,0.8s						
SCM				IAML		16 40 00.9	
	comp=E,99nm,0.7s						
RDT	**Redoubt**	**1.44**	**236**		Pn	16 39 40.4	-1.0
GLI	**Glacier Island**	**1.50**	**109**	Pn	Pn	16 39 40.9	-1.3
GLI				Sn	Sn	16 39 59.8	-0.7
GLI				IAML		16 40 01.1	
	comp=N,119nm,0.5s						
GLI				IAML		16 40 05.9	
	comp=E,96nm,0.5s						
DFR	**Drift River**	**1.54**	**239**		Pn	16 39 41.9	-0.9
M20K	**Styx River**	**1.57**	**289**	Pn	Pn	16 39 42.6	-0.6
M20K				IAML		16 40 04.7	
	comp=N,55nm,0.9s						
M20K				IAML		16 40 06.0	
	comp=E,54nm,0.6s						
RDJH	**Redoubt Jeurge**	**1.59**	**240**		Pn	16 39 42.8	-0.8
NCT	**North Crescent**	**1.66**	**241**		Pn	16 39 43.7	-0.7
RDWB	**Redoubt West**	**1.67**	**238**		Pn	16 39 43.7	-0.8
RED	**Redoubt Volcan**	**1.68**	**235**		Pn	16 39 43.8	-0.9
BRLK	**Bradley Lake**	**1.70**	**195**	Pn	Pn	16 39 43.1	-1.9
BRLK				IAML		16 40 09.5	
	comp=N,59nm,0.3s						
BRLK				IAML		16 40 10.4	
	comp=E,72nm,0.1s						
BRSE	**Bradley Lake S**	**1.71**	**193**		Pn	16 39 43.5	-1.6
PPLA	**Purkeypile**	**1.82**	**326**	Pn	Pn	16 39 46.3	-0.3
FID	**Port Fidalgo**	**1.83**	**109**	Pn	Pn	16 39 45.0	-1.6
FID				IAML		16 40 09.5	
	comp=E,84nm,0.5s						
FID				IAML		16 40 13.6	
	comp=N,65nm,0.6s						
O20K	**Slope Mountain**	**1.85**	**225**		Pn	16 39 46.8	-0.2
P23K	**Montague Islan**	**1.90**	**137**		Pn	16 39 45.6	-2.0
M24K	**Tolsona, Glenn**	**1.95**	**67**	Pn	Pn	16 39 48.6	+0.3
M24K				IAML		16 40 23.8	
	comp=E,58nm,0.7s						
M24K				IAML		16 40 26.6	
	comp=N,51nm,0.7s						
KLU	**Klutina**	**1.96**	**86**	Pn	Pn	16 39 46.5	-2.0
KLU				IAML		16 40 22.4	
	comp=N,37nm,0.3s						
HIN	**Hinchinbrook I**	**1.98**	**119**	Pn	Pn	16 39 47.6	-1.2
HIN				IAML		16 40 21.1	
	comp=N,63nm,0.6s						
HIN				IAML		16 40 23.4	
	comp=E,69nm,0.5s						
DIV	**Divide**	**2.06**	**96**	Pn	Pn	16 39 48.9	-1.0
TRF	**Thorofare Moun**	**2.06**	**356**	Pn	Pn	16 39 49.1	-0.8
TRF				IAML		16 40 19.4	
	comp=N,42nm,0.4s						
RND	**Reindeer**	**2.08**	**14**	Pn	Pn	16 39 49.9	-0.2
ILSW	**Iliamna Southw**	**2.10**	**229**	Pn	Pn	16 39 49.3	-1.2
ILSW				IAML		16 40 19.5	
	comp=E,29nm,0.7s						
L20K	**Farewell, AK**	**2.13**	**302**		Pn	16 39 50.3	-0.5
M19K	**Big River Lodg**	**2.16**	**285**	Pn	Pn	16 39 50.4	-0.8
KTH	**Kantishna Hill**	**2.20**	**349**	Pn	Pn	16 39 51.3	-0.5
KTH				IAML		16 40 21.1	
	comp=N,33nm,0.6s						
KTH				IAML		16 40 22.6	
	comp=E,24nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.24**	**111**	Pn	Pn	16 39 52.9	+0.7
CAST	**Castle Rocks**	**2.25**	**335**	Pn	Pn	16 39 52.1	-0.2
CAST				IAML		16 40 23.2	
	comp=E,20nm,0.3s						
N19K	**Bonanza Creek**	**2.26**	**257**	Pn	Pn	16 39 51.8	-0.8
P19K	**Oil Pt**	**2.38**	**224**	Pn	Pn	16 39 53.6	-0.6
MCK	**McKinley**	**2.39**	**11**	Pn	Pn	16 39 55.1	+0.8
L19K	**White Mountain**	**2.44**	**291**	Pn	Pn	16 39 54.5	-0.5

HARP	HAARP	2.50	64		Pn	16 39 56.6	+0.7
N25K	Chitina, Valde	2.59	83	Pn	Pn	16 39 57.2	0.0
N25K				IAML		16 40 38.6	
	comp=N,17nm,0.9s						
PAX	Paxson	2.64	51	Pn	Pn	16 39 58.5	+0.6
BMRM	Bremner River	2.65	97	Pn	Pn	16 39 59.7	+1.7
GOAT	Goat Mountain	2.70	106		Pn	16 39 57.0	-1.6
K20K	Telida	2.73	318	Pn	Pn	16 39 58.6	-0.5
BPAW	Bear Paw Mtn.	2.75	351	Pn	Pn	16 39 58.2	-1.0
M18K	Stony River	2.80	274		Pn	16 39 59.3	-0.7
N18K	Kilae Creek	2.96	258	Pn	Pn	16 40 01.0	-1.1
N18K				IAML		16 40 36.0	
	comp=N,14nm,0.6s						
GLB	Gilahina Butte	2.97	87	Pn	Pn	16 40 04.5	+2.1
GLB				IAML		16 40 52.1	
	comp=N,12nm,0.5s						
HMT	Hamilton	3.00	108	Pn	Pn	16 40 04.8	+2.0
O18K	Koktuh Hills	3.00	241	Pn	Pn	16 40 01.3	-1.4
VRDI	Verde Repeater	3.16	90	Pn	Pn	16 40 07.2	+2.1
TTA	Tatalina	3.21	301	Pn	Pn	16 40 04.4	-1.3
TTA				IAML		16 41 04.3	
	comp=N,8.2nm,1.1s						
L18K	Granite Mounta	3.28	287	Pn	Pn	16 40 05.5	-1.0
J20K	Nowinta River	3.37	327	Pn	Pn	16 40 07.6	-0.3
J20K				IAML		16 41 41.0	
	comp=E,19nm,0.7s						
J20K				IAML		16 41 47.6	
	comp=N,20nm,0.6s						
M17K	Holitna River	3.58	273	Pn	Pn	16 40 09.6	-1.1
M17K				IAML		16 41 11.2	
	comp=N,14nm,0.8s						
M17K				IAML		16 41 12.7	
	comp=E,13nm,1.0s						
N17K	Nushagak Hills	3.62	259	Pn	Pn	16 40 09.9	-1.2
N17K				IAML		16 40 51.8	
	comp=E,11nm,0.8s						
J19K	Poorman	3.67	318	Pn	Pn	16 40 11.5	-0.4
KIAG	Kiagna River	3.73	94		Pn	16 40 11.7	-1.2
J18K	Innoko River	3.75	306	Pn	Pn	16 40 12.4	-0.6
I23K	Minto, Yukon-K	3.77	4	Pn	Pn	16 40 13.5	+0.3
J25K	Salcha River,	3.85	31	Pn	Pn	16 40 14.3	-0.1
J25K				IAML		16 41 08.9	
	comp=E,9.2nm,1.0s						
J25K				IAML		16 42 54.6	
	comp=N,5.7nm,0.5s						
O17K	Koliganek Bris	3.87	248		Pn	16 40 13.7	-0.9
I21K	Tanana	3.90	348	Pn	Pn	16 40 15.5	+0.6
P17K	Kvichak River	3.90	238		Pn	16 40 14.2	-0.8
L17K	Donlin	4.01	284		Pn	16 40 15.9	-0.7
K17K	Iditarod	4.12	292	Pn	Pn	16 40 17.4	-0.8
M16K	Timber Creek	4.35	269	Pn	Pn	16 40 20.2	-1.1
N16K	Nishlik Lake	4.38	262		Pn	16 40 21.2	-0.4
L16K	Owhat River	4.55	278	Pn	Pn	16 40 22.8	-1.1
L16K				IAML		16 42 50.2	
	comp=E,3.3nm,0.6s						
L16K				IAML		16 42 59.8	
	comp=N,3.6nm,0.7s						
PRP	Porcupine Dome	4.59	24	Pn	Pn	16 40 24.8	+0.1
PRP				IAML		16 41 43.2	
	comp=N,5.1nm,0.9s						
PRP				IAML		16 42 48.9	
	comp=E,6.2nm,0.9s						
N15K	Kwethluk River	5.10	260	Pn	Pn	16 40 30.8	-0.8
N15K				IAML		16 41 35.9	
	comp=E,4.2nm,1.1s						
K15K	Wolf Creek Mou	5.54	284	Pn	Pn	16 40 36.9	-0.6
M14K	Bethel	5.84	269	Pn	Pn	16 40 40.8	-0.9
L14K	Kuka Creek	6.10	275	Pn	Pn	16 40 45.6	+0.4

ISC 06 16:40:44.3±1.2,28°.16N±0°.04×112°.31W±0°.04,h9km±12km, n8,σ9§30/14,4D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	San Francisqui	0.54	297	⇓iP	Pg	16 40 54.6	-0.2
SFQB				eS	Sg	16 41 01.7	-0.3
SFQB				IAML		16 41 02.1	
	comp=E,4μm,0.2s						
BKIRB	Bahia Kino	0.74	21	⇓iP	Pg	16 40 58.7	0.0
BKIRB				eS	Sg	16 41 08.8	+0.5
SRIG	Santa Rosalia	0.84	176	⇓eP	Pg	16 41 00.4	-0.1
SRIG				eS	Sg	16 41 11.7	+0.3
SRIG				IAML		16 41 13.8	
	comp=N,335nm,0.3s						
SRIG				IAML		16 41 21.2	
	comp=E,285nm,0.6s						
GUYB	Guaymas	1.30	101	⇓iP	Pn	16 41 08.5	-0.1
GUYB				eS	Sb	16 41 25.5	-0.2
BAHB	Baha de los	1.35	306	eP	Pn	16 41 09.6	+0.3
HSIG		1.47	54	eP	Pn	16 41 10.8	-0.3
HSIG				eS	Sn	16 41 30.6	+0.1
HSIG				IAML		16 41 31.2	
	comp=N,236nm,0.2s						
HSIG				IAML		16 41 31.2	
	comp=E,165nm,0.3s						
NE74	Guerrero Negro	1.51	265	eP	Pb	16 41 12.8	+0.2
NE74				eS	Sg	16 41 33.0	+0.1
NE74				IAML		16 41 34.3	
	comp=N,419nm,0.5s						
SLGB	San Luis Gonza	2.47	313	eP	Pg	16 41 31.3	-0.4
SLGB				IAML		16 42 10.2	
	comp=N,62nm,0.9s						

*IDC **06** 16:41:01.5±3.2,32°.08S×177°.55W,h0km,mb3.7/2, mbtmp3.7/3,ML2.9/1,Error ellipse: s-maj=75.5km s-min=37.6km az=118.0*
*WEL **06** 16:41:06.8±1.9,32°.5±9°×17°.8W±3°.2,h33km,M4.9/7, mB5.8/6,ML4.7/5,MLv4.5/2,Mw(mB)5.3/7,Error ellipse: s-maj=43.7km s-min=4.6km az=104.7,confirmed*

ISC 06 16:41:04.3±2.5,32°.0S±0°.1×177°.5W±0°.4,h18km,n15, σ1§68/17,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.75	353	P	Pn	16 41 47.2	-0.3
GLKZ				S	Sn	16 42 21.4	+1.2
MXZ	Matakaoa Point	6.51	210	S	Sn	16 43 54.6	+1.6
HAZ	Te Kaha	6.91	213	P	Pn	16 42 47.8	+3.2
HAZ				S	Sn	16 44 05.2	+2.5
PUZ	Puketiti	6.97	208	S	Sn	16 44 03.7	-0.5
RUGZ	Raukumara Rang	7.12	212	P	Pn	16 42 48.8	+1.0
RUGZ				S	Sn	16 44 08.8	+0.5
KUZ	Kuaotunu	7.31	228	mB			
MWZ	Matawai	7.50	211	P	Pn	16 42 51.8	-1.0
MWZ				S	Sn	16 44 15.7	-1.6
OPRZ	Ohinepanea	7.58	218	mB			
URZ	Urewera	7.62	214	Pn	Pn	16 42 52.2	-2.3
	0.2nm,0.3s,baz=359,slow=4.6,SNR=2.4						
URZ				Sn	Sn	16 44 18.0	-2.3
	1.3nm,0.3s,baz=278,slow=17,SNR=7.1 4.5nm,0.9s						
URZ	Urewera	7.62	214	P	Pn	16 42 54.9	+0.4
URZ				S	Sn	16 44 18.8	-1.5
MKRZ	Makatiti	7.85	217	mB			
RRRZ	Republican Roa	7.98	216	mB			
ASAR	Alice Springs	43.44	268	P	P	16 49 07.0	+0.6
	0.5nm,0.5s,baz=105,slow=7.0,SNR=15 0.5nm,0.5s						
WRA	Warramunga Arr	44.57	274	P	P	16 49 14.9	-0.6
	0.4nm,0.3s,baz=112,slow=7.9,SNR=11 0.4nm,0.3s						
FINES	FINESS Array B	146.78	339	PKPbc	PKPbc	17 00 44.0	-0.5
	2.9nm,1.0s,baz=65,slow=4.7,SNR=4.6						

WEL 06 16:46:15.0±1.4,32°S±11°×17°8W±3°7,h33km,M4.1/5, ML4.7/6,MLv4.1/5,Error ellipse: s-maj=50.0km s-min=4.5km az=106.3,confirmed,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.49	4	P	Pn	16 46 53.4	+0.2
GLKZ				S	Sn	16 47 23.0	+0.6
HAZ	Te Kaha	6.88	208	P	Pn	16 47 54.7	+1.2
PUZ	Puketiti	6.98	204	P	Pn	16 47 53.7	-1.2
PUZ				S	Sn	16 49 15.0	+1.9
RUGZ	Raukumara Rang	7.10	208	P	Pn	16 47 57.6	+0.9
RUGZ				S	Sn	16 49 16.4	+0.1
TWGZ	Tauwhareparae	7.17	206	P	Pn	16 47 57.6	0.0
TWGZ				S	Sn	16 49 19.0	+1.1
CNGZ	Carnagh Statio	7.36	203	P	Pn	16 47 58.7	-1.5
MWZ	Matawai	7.48	207	P	Pn	16 48 02.4	+0.5
MWZ				S	Sn	16 49 25.8	+0.3
URZ	Urewera	7.59	210	P	Pn	16 48 03.9	+0.7
URZ				S	Sn	16 49 28.6	+0.6
RIGZ	Rimuhau	7.72	205	S	Sn	16 49 32.0	+0.7

IDC 06 16:47:39.5±6.2,32°.39S×177°.94W,h0km,mb3.2/2, mbtmp3.2/2,Error ellipse: s-maj=261.9km s-min=66.3km az=159.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.11	213	Sn	Sn	16 50 52.6	+6.2
	0.4nm,0.3s,baz=300,slow=19,SNR=1.4						
ASAR	Alice Springs	43.09	269	P	P	16 55 41.8	+0.2
	0.2nm,0.6s,baz=111,slow=7.6,SNR=0.9 0.2nm,0.6s						
WRA	Warramunga Arr	44.26	274	P	P	16 55 50.8	-0.2
	0.3nm,0.7s,baz=117,slow=8.3,SNR=1.4 0.3nm,0.7s						
FINES	FINESS Array B	147.03	339	PKPbc	PKPbc	17 07 22.4	-1.0
	1.5nm,0.9s,baz=45,slow=3.1,SNR=1.2						

*JMA **06** 16:50:28.4±0.1,24°.3N±0°.6×122°.2E±0°.3,h61km±2km, MV3.2/19,TAIWAN REGION*
*TAP **06** 16:50:29.1,24°.37N×122°.08E,h61km,ML3.8,B*

ISC 06 16:50:29.3±1.2,24°.35N±0°.02×122°.18E±0°.02,h57km±5km, n153,σ1§14/263,3C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.09	33	P	Pn	16 50 38.2	+0.5
EOS2				iS	Sn	16 50 45.2	+1.4
EOS3	EOS3	0.14	116	iP	Pn	16 50 38.4	+0.5
EOS3				iS	Sn	16 50 45.8	+1.8
EOS4	EOS4	0.26	151	iP	Pn	16 50 38.4	+0.1
EOS4				iS	Sn	16 50 45.5	+0.7
EWUT	Wuta	0.38	285	iP	Pn	16 50 39.4	-0.3
EWUT				S	Sn	16 50 47.0	-0.3
ESAO	Su ao	0.38	307	P	Pn	16 50 39.3	-0.4
ESAO				S	Sn	16 50 47.0	-0.4
TWC	Suao	0.40	311	⇓iP	Pn	16 50 39.8	-0.1
TWC				iS	Sn	16 50 46.9	-0.7
EAHA	Aohua	0.40	268	iP	Pn	16 50 39.5	-0.5
EAHA				iS	Sn	16 50 47.9	+0.2
EHP	Heping Village	0.40	265	iP	Pn	16 50 39.7	-0.3
EHP				S	Sn	16 50 48.1	+0.3
ENA	Nanau	0.41	282	⇓iP	Pn	16 50 39.8	-0.2
ENA				iS	Sn	16 50 47.6	-0.2
NDS	Dongshan	0.51	304	P	Pn	16 50 41.2	+0.1
NDS				S	Sn	16 50 50.0	+0.3
ETL	Fush Village	0.54	250	P	Pn	16 50 40.9	-0.6
ETL				S	Sn	16 50 50.0	-0.3
NACB	Ninganchiao	0.56	252	P	Pn	16 50 40.9	-0.8
NACB	Ninganchiao	0.56	252	iP	Pn	16 50 41.0	-0.7
NACB				iS	Sn	16 50 49.9	-0.8
ILA	Ilan	0.57	317	eP	Pn	16 50 42.2	+0.4
ILA				iS	Sn	16 50 51.6	+0.6
TWD	Chiawan	0.60	244	⇑iP	Pn	16 50 41.4	-0.7
TWD				iS	Sn	16 50 50.9	-0.5
NTC	Toucheng	0.60	328	eP	Pn	16 50 41.9	-0.2
TWE	Neicheng	0.60	309	⇑iP	Pn	16 50 42.3	+0.2
TWE				iS	Sn	16 50 51.3	-0.1
LATG	Datong	0.62	288	P	Pn	16 50 42.5	0.0
LATG				S	Sn	16 50 52.3	+0.1
ENTT	Nioudou	0.63	298	iP	Pn	16 50 42.5	0.0
ENTT				iS	Sn	16 50 52.2	0.0
HWA	Hwalien	0.64	235	iP	Pn	16 50 42.3	-0.4
HWA				S	Sn	16 50 53.3	+0.9
ETLH	Xiulin Townshi	0.65	258	iP	Pn	16 50 42.6	-0.3
ETLH				eS	Sn	16 50 52.5	-0.2
FUSB	Fushanzhiwuyua	0.68	307	P	Pn	16 50 43.5	+0.3
FUSB				eS	Sn	16 50 53.4	+0.1
TWB1	Santiao Chiao	0.68	345	iP	Pn	16 50 42.5	-0.7
TWB1				iS	Sn	16 50 51.7	-1.5
TIPB	Shuangxi	0.70	333	eP	Pn	16 50 43.5	+0.1
TIPB				S	Sn	16 50 53.7	0.0
JYNG	Yonagunijimaku	0.70	81	eP	Pn	16 50 43.5	+0.1
JYNG				eS	Sn	16 50 53.9	+0.2
TEYL	Yanliau Villag	0.71	228	P	Pn	16 50 41.1	-2.5
TEYL				eS	Sn	16 50 52.1	-1.8
NNSB	Datong	0.73	277	⇑iP	Pn	16 50 43.5	-0.4
NNSB				iS	Sn	16 50 53.7	-0.8
ETM	Tongmen	0.73	239	P	Pn	16 50 43.3	-0.5
ETM				eS	Sn	16 50 53.4	-1.0
NNS	Nan Shan	0.74	277	iP	Pn	16 50 43.7	-0.3
NNS				iS	Sn	16 50 54.1	-0.6
NWLT	Wulai	0.75	305	P	Pn	16 50 44.6	+0.6
NWLT				S	Sn	16 50 54.6	-0.2
YOJ	Yonaguni jima	0.77	81	P	Pn	16 50 44.1	-0.1
YOJ	Yonaguni jima	0.77	81	P	Sn	16 50 55.3	+0.2
YOJ	Yonaguni jima	0.77	81	iP	Pn	16 50 44.3	+0.1
YOJ	Yonaguni jima	0.77	81	eP	Pn	16 50 43.9	-0.2
YOJ				eS	Sn	16 50 54.9	-0.2
LXIB	Xiulin Townshi	0.77	245	P	Pn	16 50 43.6	-0.8
LXIB				iS	Sn	16 50 54.9	-0.5
SHUL	Shoufeng	0.79	225	P	Pn	16 50 44.0	-0.5
SHUL				iS	Sn	16 50 55.9	+0.2
SXI1	Grass Mountain	0.79	340	P	Pn	16 50 44.5	-0.2
SXI1				S	Sn	16 50 55.1	-0.7
YHNB	Yeheng	0.80	294	P	Pn	16 50 44.5	-0.2
YHNB	Yeheng	0.80	294	S	Sn	16 50 55.7	-0.3
YHNB	Yeheng	0.80	294	P	Pn	16 50 44.7	0.0
YHNB				iS	Sn	16 50 56.0	0.0
NWF	Wu-fen Shan	0.81	333	iP	Pn	16 50 45.0	+0.2
NWF				eS	Sn	16 50 55.3	-0.9
WFSB	Wu-fen Shan	0.81	333	P	Pn	16 50 44.2	-0.5
WFSB				iS	Sn	16 50 55.5	-0.5
NSK	Sanguang	0.82	294	iP	Pn	16 50 44.8	-0.1
NSK				eS	Sn	16 50 55.9	-0.5
WHF	Hehuan Shan	0.86	257	iP	Pn	16 50 45.0	-0.8
WHF				S	Sn	16 50 57.2	-0.6
TEGC	Jichi Village	0.86	223	eP	Pn	16 50 45.2	-0.3
TEGC				eS	Sn	16 50 57.6	+0.3
ESL	Shilin	0.86	232	iP	Pn	16 50 44.6	-0.9
ESL				eS	Sn	16 50 56.9	-0.5
TATO	Taipei	0.89	315	P	Pn	16 50 46.4	+0.7
TATO	Taipei	0.89	315	S	Sn	16 50 58.0	+0.2
TWT	Tachien	0.92	264	eP	Pn	16 50 46.9	+0.6
TWT				iS	Sn	16 50 59.0	+0.1
TAP	Taipei	0.92	318	P	Pn	16 50 46.3	+0.1
TAP				eS	Sn	16 50 58.9	+0.3
TDCB	Techi	0.94	264	eP	Pn	16 50 46.9	+0.3
TDCB				iS	Sn	16 50 59.0	-0.2
WARBT	Fenglin Townsh	0.96	229	iP	Pn	16 50 45.7	-1.0
WARBT				S	Sn	16 50 58.1	-1.4
EGFH	Guangfu	0.96	226	iP	Pn	16 50 46.0	-0.8
EGFH				eS	Sn	16 50 58.6	-1.0
YM01	YM01	0.97	325	eP	Pn	16 50 46.7	-0.2
YM08	YM08	0.99	327	eP	Pn	16 50 46.5	-0.6
ZUZH	Zhuzihu	1.00	325	iP	Pn	16 50 46.7	-0.5
ZUZH				eS	Sn	16 50 59.4	-1.1
OWD	Renai	1.00	247	iP	Pn	16 50 47.0	-0.3
OWD				eS	Sn	16 50 59.3	-1.3
NFF	Wufeng Townshi	1.01	287	iP	Pn	16 50 47.8	+0.4
NFF				eS	Sn	16 51 01.9	+1.1
KSHI	Guanxi Townshi	1.01	295	eP	Pn	16 50 47.9	+0.6
KSHI				eS	Sn	16 51 02.1	+1.5
TWS1	Kuangyinshan	1.02	317	eP	Pn	16 50 46.6	-0.9
TWS1				S	Sn	16 51 01.0	0.0
ANP	Anpu	1.03	324	eP	Pn	16 50 47.5	-0.1
WUSB	Renai	1.03	250	iP	Pn	16 50 47.8	0.0
WUSB				iS	Sn	16 51 01.0	-0.4
NTST	Danshui	1.05	321	eP	Pn	16 50 49.1	+1.3
NTST				eS	Sn	16 51 02.2	+0.6
NCUH	Zhongli	1.10	305	eP	Pn	16 50 48.5	0.0
HGSD	Ruisui	1.10	219	P	Pn	16 50 48.0	-0.5
HGSD				S	Sn	16 51 03.0	+0.2
LIOB	Emei	1.10	286	P	Pn	16 50 49.1	+0.6
LIOB				iS	Sn	16 51 03.6	+0.7
NSTT	Nanjuang	1.11	285	eP	Pn	16 50 49.3	+0.6
NSTT				eS	Sn	16 51 03.8	+0.7
VWDT	VWDT	1.12	238	iP	Pn	16 50 48.9	+0.1
VWDT				iS	Sn	16 51 02.9	-0.4
WHP	Taichung City	1.13	267	eP	Pn	16 50 49.9	+0.9
WHP				S	Sn	16 51 04.7	+1.1
EHYH	Wanrong	1.14	222	eP	Pn	16 50 48.2	-0.9
EHYH				eS	Sn	16 51 01.7	-2.1
EHY	Hungye	1.15	223	iP	Pn	16 50 48.1	-1.1
EHY				eS	Sn	16 51 01.8	-2.2
SBCB	Hsinchu	1.18	292	eP	Pn	16 50 50.3	+0.8
SBCB				eS	Sn	16 51 05.1	+0.5
HSN	Hsinchu	1.19	293	eS	Sn	16 51 03.6	-1.4
WCS	Beigang Elemen	1.19	256	iP	Pn	16 50 50.4	+0.6
WCS				S	Sn	16 51 06.0	+1.0
ECBN	Changbin	1.22	213	eP	Pn	16 50 49.5	-0.7
ECBN				S	Sn	16 51 04.5	-1.2
YULB	Yu-li	1.25	221	P	Pn	16 50 49.3	-1.2
YULB	Yu-li	1.25	221	S	Sn	16 51 04.6	-1.8
YULB	Yu-li	1.25	221	iP	Pn	16 50 49.5	-1.1
YULB				iS	Sn	16 51 04.8	-1.6
SSLB	Suanglung	1.25	244	P	Pn	16 50 50.6	0.0
SSLB	Suanglung	1.25	244	S	Sn	16 51 06.1	-0.4
SSLB	Suanglung	1.25	244	P	Pn	16 50 50.6	0.0
SSLB				S	Sn	16 51 05.9	-0.6
SMLT	Sun Moon Lake	1.26	249	iP	Pn	16 50 50.2	-0.5
SMLT				iS	Sn	16 51 05.8	-1.0
EYUL	Yuli	1.27	219	iP	Pn	16 50 50.3	-0.5
EYUL				eS	Sn	16 51 07.3	+0.4
TWF1	Yuli	1.28	219	eP	Pn	16 50 50.0	-1.0
NMLH	Miaoli	1.28	279	eP	Pn	16 50 51.6	+0.7
NMLH				eS	Sn	16 51 07.9	+0.8
PCYT	Pengchaiyu	1.28	356	eS	Sn	16 51 06.6	-0.5
TWQ1	Liyutan	1.28	270	eP	Pn	16 50 51.9	+0.9
TYC	Yuchr	1.29	250	P	Pn	16 50 51.6	+0.6
TYC				iS	Sn	16 51 08.0	+0.7
NSY	Sanyi	1.30	273	eP	Pn	16 50 52.6	+1.4
NSY				iS	Sn	16 51 08.1	+0.5
CHKH	Chenggong	1.36	212	P	Pn	16 50 51.5	-0.5
CHKH				eS	Sn	16 51 06.6	-2.0
WHYT	Xinyi Township	1.38	242	iP	Pn	16 50 53.0	+0.8
WHYT				S	Sn	16 51 09.8	+0.3
FULB	Fuli	1.40	216	eP	Pn	16 50 53.6	+1.0
FULB				eS	Sn	16 51 12.2	+2.1
YUS	Yu-Shan	1.41	233	eP	Pn	16 50 51.2	-2.0
YUS				eS	Sn	16 51 08.3	-2.7
IRIF	Iriomote-Funau	1.41	90	eP	Pn	16 50 52.3	-0.5
IRIF				S	Sn	16 51 10.1	-0.3
WJS	Zhushan	1.43	249	P	Pn	16 50 54.1	+1.2
WJS				iS	Sn	16 51 13.2	+2.5
WNT	Mingjian	1.44	251	eP	Pn	16 50 54.9	+1.7
WNT				iS	Sn	16 51 13.3	+2.2
CHKT	Chengkung	1.45	211	eP	Pn	16 50 52.0	-1.2
CHKT				iS	Sn	16 51 08.1	-3.1
EHD	Haiduan	1.49	217	eP	Pn	16 50 53.8	0.0
WCHH	Zhanghua	1.50	260	P	Pn	16 50 54.9	+0.9
WCHH				eS	Sn	16 51 13.3	+0.8
ALS	Alishan	1.51	237	iP	Pn	16 50 55.1	+0.8
ALS				iS	Sn	16 51 13.3	+0.2
HATJ	Hateruma jima	1.51	101	eP	Pn	16 50 54.9	+0.9
HATJ				S	Sn	16 51 13.8	+1.0
WCH1	Changhua City	1.52	260	eS	Sn	16 51 14.1	+1.2
ECS	Chishang	1.53	215	eP	Pn	16 50 53.9	-0.4
ECS				eS	Sn	16 51 13.7	+0.6
CHN5	Tsauling	1.56	242	eP	Pn	16 50 56.4	+1.5
CHN5				iS	Sn	16 51 15.4	+1.2
ELDTW	Lidau	1.57	223	eP	Pn	16 50 54.4	-0.6
ELDTW				S	Sn	16 51 13.0	-1.3
EDH	Donghe	1.59	211	eP	Pn	16 50 54.3	-0.8
EDH				iS	Sn	16 51 12.7	-1.8
WGK	Gukeng	1.62	246	eP	Pn	16 50 57.1	+1.6
WGK				iS	Sn	16 51 17.6	+2.3
WDL	Douliou City	1.63	248	eS	Sn	16 51 18.0	+2.5
JKRS	Kuro-shima	1.67	93	eP	Pn	16 50 56.7	+0.4
JKRS				eS	Sn	16 51 17.4	+0.8
WCKO	Fanlu	1.70	238	eP	Pn	16 50 58.2	+1.5
WCKO				iS	Sn	16 51 19.1	+1.7
LONT	Longtian	1.73	214	eP	Pn	16 50 57.1	+0.1
LONT				eS	Sn	16 51 17.2	-0.8
STYH	Taoyuan	1.74	228	iP	Pn	16 50 57.9	+0.7
STYH				S	Sn	16 51 19.2	+1.0
CHN4	Tsaushan	1.76	236	eS	Sn	16 51 21.1	+2.4
TPUB	Ta-pu	1.76	234	eP	Pn	16 50 58.9	+1.4
TPUB				S	Sn	16 51 20.4	+1.6
WTK	Tuku	1.77	249	eP	Pn	16 50 58.4	+0.9
WTK				iS	Sn	16 51 20.9	+2.1
LDUT	Ludao	1.79	202	eP	Pn	16 50 56.7	-1.1
LDUT				S	Sn	16 51 16.6	-2.8
JIJ	Ishigaki jima	1.79	89	eP	Pn	16 50 57.5	-0.3
JIJ				eS	Sn	16 51 18.6	-0.9
WTCT	Ta-ch'eng	1.80	255	eS	Sn	16 51 21.0	+1.2
WTP	Ta-pu	1.81	233	eP	Pn	16 50 59.5	+1.4
WTP				eS	Sn	16 51 21.6	+1.7
CHY	Chiayi	1.82	243	eP	Pn	16 51 00.6	+2.4
CHY				S	Sn	16 51 21.8	+1.7
TWGBT	Beinan	1.83	214	P	Pn	16 50 57.1	-1.3
TWGBT	Beinan	1.83	214	S	Sn	16 51 19.2	-1.2
TWGBT	Beinan	1.83	214	eP	Pn	16 50 57.2	-1.2
TWGBT				eS	Sn	16 51 18.7	-1.7
TWG	Pinlang	1.83	214	eP	Pn	16 50 57.3	-1.1
TWG				S	Sn	16 51 19.0	-1.5
TWK	Hsinying	1.89	236	eS	Sn	16 51 23.9	+2.0
CHN1	Nanshi	1.91	233	eP	Pn	16 51 01.2	+1.7
CHN1				S	Sn	16 51 23.9	+1.5
SNST	Tainan City	1.91	234	eS	Sn	16 51 23.6	+1.2
WSF	Szhu	1.93	249	eS	Sn	16 51 24.0	+1.2
SGST	Jiashian	1.93	230	iP	Pn	16 51 00.4	+0.6
SGST				S	Sn	16 51 23.9	+0.9
JISG	Ishigakijimahi	1.96	83	eP	Pn	16 50 59.7	-0.4
JISG				S	Sn	16 51 22.7	-0.8
WSL	Shuilin Townsh	1.97	246	eP	Pn	16 51 01.7	+1.4
WSL				S	Sn	16 51 25.1	+1.3
ICHU	Yijhu	2.00	241	eP	Pn	16 51 02.5	+1.9
ICHU				eS	Sn	16 51 27.5	+2.9
CHN8	Yiju	2.06	241	eS	Sn	16 51 27.9	+1.8
ECL	Taimali	2.07	213	eS

PUZ			S	Sn	16 54 05.9	-1.0
RUGZ	**Raukumara Rang**	**7.10 211**	P	Pn	16 52 52.7	+1.5
RUGZ			S	Sn	16 54 11.4	+0.7
TWGZ	**Tauwhareparae**	**7.15 208**	S	Sn	16 54 11.8	-0.1
CNGZ	**Carnagh Statio**	**7.33 206**	P	Pn	16 52 50.9	-3.4
CNGZ			S	Sn	16 54 17.3	+1.1
MWZ	**Matawai**	**7.47 210**	P	Pn	16 52 57.0	+0.8
MWZ			S	Sn	16 54 18.4	-1.3
URZ	**Urewera**	**7.59 212**	Pn	Pn	16 52 58.3	+0.5
	0.2nm,0.3s,baz=355,slow=6.5,SNR=1.1					
URZ			Sn	Sn	16 54 21.4	-1.2
	0.2nm,0.3s,baz=51,slow=17,SNR=1.8					
	2.6nm,0.7s					
URZ	**Urewera**	**7.59 212**	P	Pn	16 53 00.4	+2.6
URZ			S	Sn	16 54 21.6	-1.0
ASAR	**Alice Springs**	**43.25 268**	P	P	16 59 06.2	-1.7
	0.3nm,0.8s,baz=109,slow=7.7,SNR=7.4					
	0.3nm,0.8s					
WRA	**Warramunga Arr**	**44.38 274**	P	P	16 59 16.5	-0.5
	0.3nm,0.6s,baz=116,slow=7.9,SNR=4.7					
	0.3nm,0.6s					
FINES	**FINESS Array B**	**146.64 339**	PKPbc	PKiKP	17 10 49.8	+0.2
	1.8nm,0.9s,baz=45,slow=3.9,SNR=1.5					

*NEIC **06** 16:51:14.9±1.9,34°.67N±0°.02×96°.11W±0°.03,h0km±2km,*
Error ellipse: s-maj=3.3km s-min=2.4km az=94.0
NEIC 06 16:51:14.1±1.9,34°.64N±0°.02×96°.09W±0°.02,h5km±1km,
mb_Lg2.5/6,ML3.1/20,ML3.3/31,Error ellipse:
s-maj=3.4km s-min=2.9km az=88.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.82 308**			Pg	16 51 29.8	0.0
W35A					Sb	16 51 41.5	-0.7
LOOK	**Love County**	**1.11 234**			Pb	16 51 36.0	+0.3
LOOK				Sg	Sg	16 51 50.1	+0.3
LOOK				IAML		16 51 58.8	
	comp=E,158nm,0.2s						
FNO	**Franklin**	**1.24 300**		Pg	Pg	16 51 37.1	-0.7
FNO				Sg	Sb	16 51 54.3	+0.1
FNO				IAML		16 51 58.4	
	comp=N,327nm,0.4s						
FNO				IAML		16 52 02.6	
	comp=E,297nm,0.4s						
DEOK	**Depew**	**1.24 345**		Pg	Pg	16 51 37.4	-0.4
DEOK				Sg	Sb	16 51 54.7	+0.4
DEOK				IAML		16 51 55.4	
	comp=E,270nm,0.1s						
DEOK				IAML		16 51 55.5	
	comp=N,265nm,0.1s						
TUL3	**Leonard**	**1.29 11**		Pg	Pn	16 51 38.7	0.0
OKCSW	**OKLAHOMA CITY**	**1.34 305**			Pn	16 51 39.0	-0.5
OKCSW				IAML		16 52 04.2	
	comp=N,457nm,0.5s						
X34A	**Smith Ranch, M**	**1.44 269**			Pn	16 51 40.5	-0.2
OK031	**S. Brethren Rd**	**1.44 335**			Pn	16 51 40.8	-0.1
OK052	**Battle Ridge R**	**1.47 337**			Pn	16 51 41.1	0.0
OK029	**Liberty Lake**	**1.60 316**			Pn	16 51 43.2	+0.2
QUOK	**Quay**	**1.60 342**			Pb	16 51 43.8	-0.4
Z38A	**Mt. Pleasant**	**1.66 146**			Pb	16 51 45.3	+0.2
Z38A				IAmb_Lg		16 52 07.8	
	comp=Z,22nm,0.7s						
OK048	**Pawnee Station**	**1.90 339**		Pn	Pn	16 51 46.6	-0.6
OK051	**E0350 and S346**	**1.95 342**			Pn	16 51 48.4	+0.5
FW06	**Azle**	**2.07 217**		Pn	Pn	16 51 49.9	+0.5
MIAR	**Mount Ida**	**2.08 92**		Pn	Pb	16 51 51.1	-1.1
MIAR					Pn	16 51 51.2	+1.7
WTFS	**Witchita Falls**	**2.15 247**		Pn	Pn	16 51 51.9	+1.3
WMOK	**Wichita Mounta**	**2.22 273**			Pn	16 51 51.9	+0.3
WMOK				IAmb_Lg		16 52 25.2	
	comp=Z,18nm,0.8s						
FW16	**Waxahatchie**	**2.26 198**		IAmb_Lg		16 52 25.1	
	comp=Z,24nm,0.9s						
FW03	**Perrin-Whitt E**	**2.29 226**			Pn	16 51 53.6	+1.0
FW03				IAmb_Lg		16 52 26.1	
	comp=Z,30nm,0.8s						
CSTR	**Hydro, Custer**	**2.35 296**		Pn	Pn	16 51 53.3	-0.1
HHAR	**Hobbs**	**2.40 46**			Pn	16 51 54.9	+0.9
PLPT	**Palo Pinto**	**2.60 226**		Pn	Pn	16 51 56.9	+0.1
X40A	**Basin Creek Fa**	**2.69 92**		Pn	Pn	16 51 59.3	+1.3
KAN08	**Anthony NE Sta**	**2.99 330**		Pn	Pn	16 52 01.7	-0.5
Z41A	**Richland Creek**	**3.06 116**		Pn	Pn	16 52 03.0	-0.1
FCAR	**Ozark Folk Cen**	**3.48 68**		Pn	Pn	16 52 08.8	0.0
APMT	**Aspermont**	**3.60 250**		Pn	Pn	16 52 10.3	-0.3
BRDY	**Brady**	**4.15 217**		Pn	Pn	16 52 18.0	-0.1
KSU1	**Kansas State U**	**4.47 355**		Pn	Pn	16 52 22.1	-0.3
T42A	**Van Buren**	**4.71 58**		Pn	Pn	16 52 26.2	+0.5

WEL 06 16:54:55.3±1.6,32°S±10°×17°8W±3°7,h33km,M3.7/5,
mB4.1/3,ML4.2/6,MLv3.7/5,Error ellipse: s-maj=49.9km
s-min=4.6km az=104.7,confirmed,Kermadec Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.60 360**		P	Pn	16 55 35.5	+0.4
GLKZ				S	Sn	16 56 06.1	+0.5
WMGZ	**Waiomatatini S**	**6.66 206**		P	Pn	16 56 32.2	+1.4
WMGZ				S	Sn	16 57 46.8	+1.3
PKGZ	**Pakihiroa**	**6.83 208**		P	Pn	16 56 34.0	+0.9
PKGZ				S	Sn	16 57 50.4	+0.6
RUGZ	**Raukumara Rang**	**7.08 210**		P	Pn	16 56 36.5	-0.2
RUGZ				S	Sn	16 57 57.0	+1.0
TWGZ	**Tauwhareparae**	**7.14 207**		P	Pn	16 56 36.3	-1.1
TWGZ				S	Sn	16 57 58.9	+1.5
CNGZ	**Carnagh Statio**	**7.32 205**		P	Pn	16 56 39.0	-0.9
RIGZ	**Rimuhau**	**7.68 206**		S	Sn	16 58 10.4	-0.3

*SJA **06** 17:08:19.5±0.7,20°.73S×69°.13W,h114km±5km,ML3.6,*
MW3.6
*GUC **06** 17:08:22.0±0.7,20°.72S×69°.13W,h93km±6km,ML3.7*
ISC 06 17:08:20.9±1.4,20°.72S±0°.03×69°.18W±0°.08,h111km±9km,
n21,σ1°28/39,6C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.43 222**		⇑*iP*	**Pn**	**17 08 36.9**	**-0.6**
PB01				*eS*	**Sn**	**17 08 48.8**	**-1.2**
PB01				IAML		17 08 49.3	
	comp=N,13μm,0.2s						
PB01	**IPOC Station P**	**0.43 222**		*eP*	**Pn**	**17 08 36.9**	**-0.6**
PB01				*eS*	**Sn**	**17 08 49.0**	**-1.0**
PB01				IAML		17 08 49.3	
	comp=Z,6μm,0.2s						
TA01	**Diego Aracena**	**0.95 279**		⇑*iP*	**Pn**	**17 08 41.7**	**+0.1**
TA01				*eS*	**Sn**	**17 08 57.5**	**+0.2**
TA01				IAML		17 08 58.9	
	comp=E,2μm,0.2s						
TA01	**Diego Aracena**	**0.95 279**		*eP*	**Pn**	**17 08 41.7**	**+0.1**
TA01				*eS*	**Sn**	**17 08 58.1**	**+0.8**
TA01				IAML		17 09 00.1	
	comp=Z,477nm,0.3s						
TA02	**Huaiquique**	**1.00 297**		*eP*	**Pn**	**17 08 42.6**	**+0.4**
TA02	**Huaiquique**	**1.00 297**		*eP*	**Pn**	**17 08 42.5**	**+0.4**
TA02				IAML		17 09 00.3	
	comp=Z,2μm,0.3s						
TA02				*eS*	**Sn**	**17 09 00.3**	**+2.2**
PB11	**IPOC Station P**	**1.06 335**		⇑*iP*	**Pn**	**17 08 43.0**	**0.0**
PB11				*eS*	**Sn**	**17 08 59.8**	**+0.2**
PB11				IAML		17 09 00.9	
	comp=E,4μm,0.2s						
PB11	**IPOC Station P**	**1.06 335**		*eP*	**Pn**	**17 08 42.9**	**0.0**
PB11				*eS*	**Sn**	**17 09 00.2**	**+0.7**
PB11				IAML		17 09 01.1	
	comp=Z,2μm,0.1s						
PB09	**IPOC Station P**	**1.07 183**		⇑*iP*	**Pn**	**17 08 43.2**	**+0.1**
PB09				*eS*	**Sn**	**17 08 59.7**	**-0.2**
PB09	**IPOC Station P**	**1.07 183**		*eP*	**Pn**	**17 08 43.2**	**+0.1**
PB09				*eS*	**Sn**	**17 09 00.5**	**+0.7**
PB09				IAML		17 09 00.9	
	comp=Z,454nm,0.4s						
PB03	**IPOC Station P**	**1.42 202**		*eP*	**Pn**	**17 08 47.0**	**0.0**
PB03				*eS*	**Sn**	**17 09 06.2**	**-0.7**
PB03	**IPOC Station P**	**1.42 202**		*eP*	**Pn**	**17 08 47.0**	**0.0**
PB03				*eS*	**Sn**	**17 09 07.0**	**+0.1**
PB03				IAML		17 09 08.4	
	comp=Z,556nm,0.2s						
PB06	**IPOC Station P**	**2.01 190**		⇑*eP*	**Pn**	**17 08 54.2**	**0.0**
PB06				*eS*	**Sn**	**17 09 19.1**	**-0.5**
PB06				IAML		17 09 21.8	
	comp=E,362nm,0.5s						
PB06	**IPOC Station P**	**2.01 190**		*eP*	**Pn**	**17 08 54.2**	**0.0**
PB06				*eS*	**Sn**	**17 09 19.8**	**+0.2**
PB06				IAML		17 09 24.0	
	comp=Z,241nm,0.2s						
PB12	**IPOC Station P**	**2.36 332**		⇑*iP*	**Pn**	**17 08 58.5**	**-0.2**
PB12				*eS*	**Sn**	**17 09 27.6**	**0.0**
PB12	**IPOC Station P**	**2.36 332**		*eP*	**Pn**	**17 08 58.5**	**-0.2**
PB12				*eS*	**Sn**	**17 09 26.3**	**-1.3**
PB12				IAML		17 09 37.1	
	comp=Z,183nm,0.6s						
AF01	**San Pedro de A**	**2.41 157**		*eP*	**Pn**	**17 08 57.8**	**-1.7**
AF01				*eS*	**Sn**	**17 09 35.1**	**+6.2**
AF01				IAML		17 09 43.4	
	comp=Z,156nm,0.9s						
AP01	**Chacalluta**	**2.58 335**		*eP*	**Pn**	**17 09 02.2**	**+0.7**
AP01				IAML		17 09 38.7	
	comp=Z,351nm,0.6s						
PB14	**IPOC Station P**	**4.05 196**		*eP*	**Pn**	**17 09 21.3**	**+0.1**
PB14				*eS*	**Sn**	**17 10 06.9**	**-0.9**
PB14				*eS*		17 10 07.0	
GO02	**Mina Guanaco**	**4.44 185**		*eP*	**Pn**	**17 09 26.2**	**-0.3**
GO02				*eS*	**Sn**	**17 10 16.1**	**-1.1**
LPAZ	**La Paz**	**4.52 13**		*eP*	**Pn**	**17 09 26.9**	**-1.1**

*DJA **06** 17:12:33.1±0.6,0°S±8°×13°1E±°,h289km±6km,M3.9/7,*
mB6.4/1,mb4.6/1,MLv3.5/7,Mw(mB)6.2/1
*IDC **06** 17:12:43.8±2.3,2°.66S×128°.98E,h0km,mb3.0/2,*
mbtmp3.1/3,ML3.2/1,Error ellipse: s-maj=143.7km
s-min=28.5km az=69.0
ISC 06 17:12:50.8±1.2,1°.9S±0°.1×131°.44E±0°.09,h100km,n7,
σ1°35/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.08 350**		P	**Pn**	**17 13 11.4**	**-0.7**
SWI				S	Sn	17 13 31.9	+3.7
FAKI	**Fak Fak**	**1.27 140**		P	Pn	17 13 26.5	+12
FAKI				S	Sn	17 13 56.5	+24
RKPI	**Ransiki, Papua**	**2.77 81**		P	**Pn**	**17 13 33.8**	**+0.3**
MSAI	**Masohi**	**2.87 241**		P	**Pn**	**17 13 35.1**	**+0.2**
WRA	**Warramunga Arr**	**18.12 171**		P	**P**	**17 16 55.1**	**-0.1**
	0.1nm,0.3s,baz=342,slow=11,SNR=5.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**21.74 174**		P	**P**	**17 17 32.4**	**-1.9**
	0.2nm,0.3s,baz=346,slow=12,SNR=15						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**64.86 325**		P	**P**	**17 23 20.5**	**+1.1**
	0.1nm,0.4s,baz=119,slow=8.4,SNR=1.3						
	0.1nm,0.4s						

IDC 06 17:20:24.2±3.2,31°.94S×178°.13W,h0km,mb3.5/2,
mbtmp3.6/3,ML2.9/1,Error ellipse: s-maj=74.7km
s-min=48.3km az=121.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.41 210**		Pn	Pn	17 22 13.3	-0.3
	0.2nm,0.3s,baz=314,slow=13,SNR=1.5						
	7.8nm,1.1s						
ASAR	**Alice Springs**	**42.94 269**		P	P	17 28 24.7	-0.3
	0.4nm,0.6s,baz=106,slow=7.1,SNR=11						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.06 274**		P	P	17 28 34.2	+0.1
	0.4nm,0.5s,baz=112,slow=8.1,SNR=8.3						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**146.54 339**	PKPbc	PKPbc		17 40 06.0	-0.7
	4.4nm,1.2s,baz=33,slow=5.3,SNR=4.4						

*NOU **06** 17:22:03.4,33°.49S×179°.10W,h406km,ML4.5/14,South*
of Kermadec Islands
*WEL **06** 17:22:03.6±0.5,33°S±5°×18°0W±1°1,h10km,M4.8/13,*
mB5.5/6,ML4.7/13,MLv4.8/13,Mw(mB)4.9/6,Error ellipse:
s-maj=15.4km s-min=4.2km az=110.8,confirmed
ISC 06 17:22:01.2±1.8,32°.76S±0°.10×179°.6W±0°.1,h300km,n106,
σ1°79/123,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.78 23**		P	Pn	17 23 01.8	-3.3
GLKZ				S	S	17 23 49.0	-7.3
RIZ	**Raoul Island**	**3.80 23**		S	**S**	**17 23 53.9**	**-2.7**
MXZ	**Matakaoa Point**	**5.08 199**		P	**Pn**	**17 23 21.6**	**+2.1**
MXZ	**Matakaoa Point**	**5.08 199**		P	**S**	**17 24 26.0**	**+3.5**
MXZ	**Matakaoa Point**	**5.08 199**		P	**Pn**	**17 23 21.7**	**+2.2**
MXZ				S	**S**	**17 24 23.0**	**+0.6**
WMGZ	**Waiomatatini S**	**5.29 197**		P	**Pn**	**17 23 23.1**	**+1.1**
WMGZ				S	**S**	**17 24 23.4**	**-3.6**
HAZ	**Te Kaha**	**5.41 202**		P	**Pn**	**17 23 23.1**	**-0.3**
HAZ				S	**S**	**17 24 30.2**	**+0.6**
PKGZ	**Pakihiroa**	**5.43 200**		P	**Pn**	**17 23 24.6**	**+1.1**
PKGZ				S	**S**	**17 24 28.3**	**-1.6**
PUZ	**Puketiti**	**5.57 198**		P	**Pn**	**17 23 25.5**	**+0.2**
PUZ				S	**S**	**17 24 34.2**	**+1.2**
RUGZ	**Raukumara Rang**	**5.64 202**		P	**Pn**	**17 23 27.1**	**+0.9**
RUGZ				S	**S**	**17 24 33.7**	**-0.9**
TWGZ	**Tauwhareparae**	**5.74 199**		P	**Pn**	**17 23 28.9**	**+1.5**
TWGZ				S	**S**	**17 24 40.4**	**+3.6**
WHRZ	**Whale Island**	**5.79 208**		P	**Pn**	**17 23 32.1**	**+4.2**
WHRZ				S	**S**	**17 24 41.6**	**+3.8**
WCZ	**Waipu Caves**	**5.91 236**		P	**Pn**	**17 23 29.4**	**+0.1**
OPRZ	**Ohinepanea**	**5.96 211**		P	**Pn**	**17 23 31.6**	**+1.8**
CNGZ	**Carnagh Statio**	**5.97 197**		P	**Pn**	**17 23 31.2**	**+1.2**
CNGZ				S	**S**	**17 24 41.0**	**-0.7**
MARZ	**Manawahe**	**6.02 209**		P	**Pn**	**17 23 32.7**	**+2.0**
MWZ	**Matawai**	**6.02 202**		P	**Pn**	**17 23 30.3**	**-0.4**
MWZ				S	**S**	**17 24 43.4**	**+0.5**
TKGZ	**Te Karaka**	**6.03 199**		P	**Pn**	**17 23 31.6**	**+1.0**
TKGZ				S	**S**	**17 24 42.8**	**0.0**
MKAZ	**Moumakai**	**6.09 223**		P	**Pn**	**17 23 33.3**	**+1.8**
URZ	**Urewera**	**6.10 205**		P	**Pn**	**17 23 30.4**	**-1.1**
URZ	**Urewera**	**6.10 205**		P	**S**	**17 24 44.8**	**+0.5**
URZ	**Urewera**	**6.10 205**		P	**Pn**	**17 23 30.2**	**-1.3**
URZ				S	**S**	**17 24 45.2**	**+0.8**
ETAZ	**East Tamaki Re**	**6.13 225**		P	**Pn**	**17 23 32.8**	**+0.9**
OUZ	**Omahuta**	**6.14 245**		P	**Pn**	**17 23 30.5**	**-1.6**
RAGZ	**Rawiri**	**6.21 202**		P	**Pn**	**17 23 33.9**	**+0.9**
RAGZ				S	**S**	**17 24 50.6**	**+3.7**
KMRZ	**Kaimai**	**6.23 214**		P	**Pn**	**17 23 36.9**	**+3.6**
RIGZ	**Rimuhau**	**6.30 199**		P	**Pn**	**17 23 34.4**	**+0.4**
RIGZ				S	**S**	**17 24 50.0**	**+1.1**
TOZ	**Tahuroa Road**	**6.36 217**		P	**Pn**	**17 23 34.0**	**-0.7**
AWAZ	**Awhitu Peninsu**	**6.37 226**		P	**Pn**	**17 23 36.4**	**+1.6**
RRRZ	**Republican Roa**	**6.39 208**		P	**Pn**	**17 23 39.2**	**+4.1**
RRRZ				S	**S**	**17 24 53.6**	**+2.7**
MUGZ	**Murupara**	**6.41 206**		P	**Pn**	**17 23 35.1**	**-0.2**
MUGZ				S	**S**	**17 24 50.0**	**-1.3**
RTZ	**Ruatahuna**	**6.46 204**		P	**Pn**	**17 23 36.6**	**+0.6**
RTZ				S	**S**	**17 24 52.4**	**-0.1**
PRGZ	**Paritu Road**	**6.47 198**		P	**Pn**	**17 23 36.9**	**+0.8**
PRGZ				S	**S**	**17 24 51.8**	**-0.8**
SNGZ	**Shannon Statio**	**6.49 202**		P	**Pn**	**17 23 35.5**	**-0.8**
SNGZ				S	**S**	**17 24 53.0**	**-0.1**
GRRZ	**Galatos Road**	**6.57 211**		P	**Pn**	**17 23 40.4**	**+3.1**
KNZ	**Kokohu**	**6.62 199**		P	**Pn**	**17 23 36.4**	**-1.4**
KNZ				S	**S**	**17 24 56.6**	**+0.8**
ALRZ	**Allen Road**	**6.65 208**		P	**Pn**	**17 23 40.3**	**+2.1**
MHGZ	**Mahia Peninsul**	**6.68 197**		P	**Pn**	**17 23 40.5**	**+1.9**
MHGZ				S	**S**	**17 24 58.5**	**+1.2**
WPRZ	**Whakapapatarin**	**6.69 210**		P	**Pn**	**17 23 41.7**	**+3.0**
RAHZ	**Arahi**	**6.70 203**		P	**Pn**	**17 23 38.7**	**-0.1**
RAHZ				S	**S**	**17 24 58.5**	**+0.9**
MTHZ	**Maungataniwha**	**6.72 204**		P	**Pn**	**17 23 40.6**	**+1.6**
WHHZ	**Waihua**	**6.80 201**		P	**Pn**	**17 23 41.1**	**+1.2**
KUTZ	**Kaahu Road**	**6.81 212**		P	**Pn**	**17 23 43.4**	**+3.3**
TLZ	**Tolley Road**	**6.81 214**		P	**Pn**	**17 23 42.9**	**+2.7**
MRHZ	**Matea Rd**	**6.86 207**		P	**Pn**	**17 23 41.9**	**+1.1**
NMHZ	**Naumai**	**6.95 204**		P	**Pn**	**17 23 42.2**	**+0.3**
WATZ	**Wairara**	**7.03 211**		P	**Pn**	**17 23 44.8**	**+2.0**
ARHZ	**Aropaoanui**	**7.04 202**		P	**Pn**	**17 23 43.6**	**+0.7**
BKZ	**Black Stump Fm**	**7.12 205**		P	**Pn**	**17 23 42.3**	**-1.7**
BKZ	**Black Stump Fm**	**7.12 205**		S	**S**	**17 25 06.0**	**-1.1**
BKZ	**Black Stump Fm**	**7.12 205**		P	**Pn**	**17 23 42.3**	**-1.7**
RATZ	**Rangitukua**	**7.15 210**		P	**Pn**	**17 23 45.2**	**+1.0**
RITZ	**Rihia Road**	**7.20 209**		P	**Pn**	**17 23 46.3**	**+1.4**
KATZ	**Kakaramea**	**7.27 210**		P	**Pn**	**17 23 47.5**	**+1.6**
HIZ	**Hauiti**	**7.29 217**		P	**Pn**	**17 23 48.5**	**+2.6**
HIZ	**Hauiti**	**7.29 217**		P	**Pn**	**17 23 48.8**	**+2.9**
MCHZ	**McNeill Hill**	**7.30 203**		P	**Pn**	**17 23 44.2**	**-1.9**
KWHZ	**Kaweka Forest**	**7.38 205**		P	**Pn**	**17 23 47.1**	**+0.1**
CKHZ	**Cape Kidnapper**	**7.38 200**		P	**Pn**	**17 23 47.9**	**+0.9**
NTVZ	**North Tongarir**	**7.38 210**		P	**Pn**	**17 23 48.3**	**+1.1**
TMVZ	**Te Maari**	**7.38 210**		P	**Pn**	**17 23 48.3**	**+1.1**
KRVZ	**Karewarewa**	**7.39 210**		P	**Pn**	**17 23 48.2**	**+0.9**
ETVZ	**East Tongariro**	**7.40 209**		P	**Pn**	**17 23 48.1**	**+0.7**
WTVZ	**West Tongariro**	**7.43 210**		P	**Pn**	**17 23 48.7**	**+0.9**
NNVZ	**North Ngauruho**	**7.43 210**		P	**Pn**	**17 23 48.9**	**+1.0**
OTVZ	**Oturere**	**7.44 210**		P	**Pn**	**17 23 48.5**	**+0.5**
TWVZ	**Taurewa**	**7.46 211**		P	**Pn**	**17 23 48.9**	**+0.8**
SNVZ	**South Ngauruho**	**7.47 210**		P	**Pn**	**17 23 48.8**	**+0.5**
NGZ	**Ngauruhoe**	**7.48 210**		P	**Pn**	**17 23 49.4**	**+1.0**
KAHZ	**Kahuranaki**	**7.56 201**		P	Pn	17 23 47.3	-2.1
FWVZ	**Far West T-bar**	**7.56 210**		P	**Pn**	**17 23 49.7**	**+0.1**
MAVZ	**Matarangi**	**7.57 210**		P	**Pn**	**17 23 50.0**	**+0.3**
WHVZ	**Whangaehu Hut**	**7.57 209**		P	**Pn**	**17 23 49.6**	**0.0**
KRHZ	**Kereru**	**7.59 204**		P	**Pn**	**17 23 48.5**	**-1.1**
WNVZ	**Wahianoa**	**7.61 209**		P	**Pn**	**17 23 49.7**	**-0.3**
MOVZ	**Moawhango**	**7.61 208**		P	**Pn**	**17 23 48.9**	**-1.1**
PKVZ	**Pokaka**	**7.68 211**		P	**Pn**	**17 23 51.5**	**+0.7**
PXZ	**Pawanui**	**7.79 200**		P	**Pn**	**17 23 51.5**	**-0.5**
VRZ	**Vera Road**	**7.81 214**		P	**Pn**	**17 23 53.9**	**+1.6**
PNHZ	**Pukenui**	**7.89 204**		P	**Pn**	**17 23 51.2**	**-2.1**
WPHZ	**Waipukurau**	**7.95 202**		P	**Pn**	**17 23 54.2**	**+0.2**
PRHZ	**Porangahau**	**8.07 201**		P	**Pn**	**17 23 54.4**	**-1.1**
TSZ	**Takapari Road**	**8.10 205**		P	**Pn**	**17 23 54.7**	**-1.2**
PKE	**Pukeiti**	**8.24 217**		P	**Pn**	**17 24 00.2**	**+2.5**
LREZ	**Lake Rotokare**	**8.25 214**		P	**Pn**	**17 23 58.7**	**+1.0**
DVHZ	**Dannevirke**	**8.25 203**		P	**Pn**	**17 23 56.9**	**-0.7**
NEZ	**North Egmont**	**8.25 216**		P	**Pn**	**17 24 00.1**	**+2.4**
ANWZ	**Angora Road**	**8.30 201**		P	**Pn**	**17 23 58.4**	**+0.2**
KHEZ	**Kahui Hut**	**8.31 217**		P	**Pn**	**17 24 00.3**	**+1.8**
KHEZ	**Kahui Hut**	**8.31 217**		P	**Pn**	**17 24 00.5**	**+2.0**
POWZ	**Post Office Ro**	**8.47 205**		P	**Pn**	**17 24 00.0**	**-0.3**
PRWZ	**Pori Road**	**8.54 203**		P	**Pn**	**17 24 00.4**	**-0.9**
BFZ	**Birch Farm**	**8.57 202**		P	Pn	17 23 59.4	-2.2
BFZ	**Birch Farm**	**8.57 202**		S	**S**	**17 25 34.4**	**-5.1**
BFZ	**Birch Farm**	**8.57 202**		P	**Pn**	**17 23 59.5**	**-2.1**
TIWZ	**Tintock**	**8.77 203**		P	**Pn**	**17 24 03.4**	**-0.7**
CPWZ	**Castlepoint**	**8.79 201**		P	**Pn**	**17 24 05.2**	**+0.9**
TMWZ	**Te Maipa**	**9.07 202**		P	**Pn**	**17 24 06.9**	**-0.8**
MTW	**Mount Morrison**	**9.24 204**		P	**Pn**	**17 24 08.3**	**-1.6**
TRWZ	**Traveller**	**9.39 202**		P	**Pn**	**17 24 11.2**	**-0.6**
PAWZ	**Paruwai Farm**	**9.46 203**		P	**Pn**	**17 24 11.5**	**-1.1**
PLWZ	**Palliser**	**9.69 203**		P	**Pn**	**17 24 14.1**	**-1.3**
QRZ	**Quartz Range**	**10.21 216**		P	**Pn**	**17 24 18.7**	**-3.1**
QRZ	**Quartz Range**	**10.21 216**		S	**S**	**17 26 11.5**	**-5.1**
KHZ	**Kahutara**	**11.05 207**		P	Pn	17 24 28.3	-3.7
KHZ	**Kahutara**	**11.05 207**		S	S	17 26 28.0	-7.6

ISC 06 17:30:10.2±1.2,28°.14N±0°.05×112°.43W±0°.07,
h25km±19km,n5,σ1°64/10,2C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	**San Francisqui**	**0.46 304**		⇓*iP*	**Pb**	**17 30 20.2**	**+0.3**
SFQB				*eS*	**Sb**	**17 30 27.3**	**+0.9**
SFQB				IAML		17 30 27.7	
	comp=N,168nm,0.2s						
BKIRB	**Bahia Kino**	**0.80 28**		⇓*iP*	**Pb**	**17 30 24.4**	**-1.2**
BKIRB				*eS*	**Sb**	**17 30 34.0**	**-2.0**
SRIG	**Santa Rosalia**	**0.84 169**		⇑*eP*	**Pb**	**17 30 26.0**	**-0.1**
SRIG				*eS*	**Sn**	**17 30 37.8**	**-0.1**
GUYB	**Guaymas**	**1.40 100**		⇓*eP*	**Pb**	**17 30 34.0**	**-0.1**
GUYB				*eS*	**Sn**	**17 30 51.0**	**-0.7**
GUYB				IAML		17 30 52.9	
	comp=E,19nm,0.2s						
HSIG		**1.57 56**		*eP*	**Pb**	**17 30 41.6**	**+3.0**
HSIG				*eS*	**Sn**	**17 30 56.0**	**-0.1**
HSIG				IAML		17 30 56.8	
	comp=N,19nm,0.2s						

*IDC **06** 17:33:32.9±3.8,18°.20N×59°.82E,h0km,mb3.7/6,*
mbtmp3.7/6,Error ellipse: s-maj=87.4km s-min=30.5km
az=16.0
*OMAN **06** 17:33:35.8±0.1,17°.76N×59°.70E,h72km±3km,mb4.6/18,*
*ml4

HFS	**Hagfors**	**53.62 333**	P	**P**		**17 42 52.0**	**-1.0**
	2.0nm,0.9s,baz=130,slow=9.1,SNR=2.1						
	2.0nm,0.9s						

DJA 06 17:41:41.1±0.7,3°S±3′×14°0E±°,h20km±7km,M4.2/8, mb4.1/6,MLv4.2/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.67**	**10**	P	Pb	17 41 54.4	+0.2
GENI				S	Sn	17 42 05.5	0.0
JAY	**Jayapura**	**0.99**	**41**	P	Pb	17 41 59.0	-0.6
JAY				S	Sn	17 42 13.2	-0.1
WAMI	**Wamena**	**1.47**	**245**	P	Pn	17 42 04.2	-2.3
SMPI	**Sarmi**	**1.84**	**313**	P	Pn	17 42 12.1	+0.5
SMPI				S	Sn	17 42 34.5	+0.2
SRPI	**Serui, Papua**	**4.05**	**290**	P	Pn	17 42 41.9	-0.1
BAKI	**Biak**	**4.44**	**297**	P	Pn	17 42 48.0	+0.6
MMPI	**Merauke**	**5.18**	**176**	P	Pn	17 42 56.7	-0.9
FAKI	**Fak Fak**	**7.80**	**272**	P	Pn	17 43 33.1	-0.4
	0.1nm9.4nm,0.8s						

JMA 06 17:43:58.8±0.1,27°5N±0°7×14°2E±°,h69km,MD3.9/20, MV4.0/20,NEAR CHICHIJIMA ISLAND,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.36**	**169**	*eP*	Pn	17 44 10.3	0.0
CBIJ				S	Sn	17 44 18.9	+0.2
CBIJ	**Chichi jima**	**0.36**	**169**	A	A	17 44 10.3	
	comp=N,13nm,0.9s,comp=E,28nm,0.8s						
JHH2	**Haha-jima-NKT2**	**0.81**	**176**	P	Pn	17 44 15.2	+0.2
JHH2				*e*S	Sn	17 44 26.7	-0.2
JHH2	**Haha-jima-NKT2**	**0.81**	**176**	A	A	17 44 15.2	
	comp=N,9.0nm,0.3s,comp=E,9.0nm,0.4s						
BSO1	**Boso 1**	**7.25**	**353**	*eP*	Pn	17 45 40.8	-0.8
BSO4	**Boso 4**	**7.67**	**349**	*eP*	Pn	17 45 49.5	+1.8
JOD2	**Odawara 2**	**8.21**	**342**	*eP*	Pn	17 45 55.2	0.0
JRY	**Ryogami san**	**8.97**	**343**	*eP*	Pn	17 46 04.8	-0.8
JHO	**Hitachi**	**9.23**	**352**	*eP*	Pn	17 46 07.2	-1.9

*NEIC **06** 17:46:11.9±1.2,11°4S±0°2×166°5E±0°2,h90km±22km, mb4.4/13,Error ellipse: s-maj=34.3km s-min=3.7km az=47.0*
*NOU **06** 17:46:14.8,11°61S×166°22E,h35km,mb4.8/18,Santa Cruz Islands*
*IDC **06** 17:46:16.8±8.8,11°57S×166°13E,h103km±62km,mb3.8/6, mbtmp4.2/7,Error ellipse: s-maj=65.8km s-min=31.0km az=99.0*

ISC 06 17:46:14.3±1.0,11°54S±0°09×166°31E±0°10,h100km,n40, σ1§19/41,mb4.3/12,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.95**	**336**	P	**Pn**	**17 46 31.5**	**-2.8**
LUES	**Luesalemba Tem**	**0.95**	**336**	S	**Sn**	**17 46 46.1**	**-3.1**
HURO	**Huro Makira**	**4.45**	**283**	P	**Pn**	**17 47 18.3**	**-1.4**
NGOA	**Tingoa Renbel**	**6.12**	**269**	P	**Pn**	**17 47 41.1**	**-1.2**
ALEG	**Aligegeo Malai**	**6.18**	**296**	P	**Pn**	**17 47 44.0**	**+0.9**
DVP	**Devils Point**	**6.41**	**164**	P	**Pn**	**17 47 46.9**	**+0.6**
HNR	**Honiara**	**6.59**	**288**		**Pn**	**17 47 48.3**	**-0.5**
HNR	**Honiara**	**6.59**	**288**	P	**Pn**	**17 47 49.0**	**+0.2**
	49nm,0.6s,baz=79,slow=4.6,SNR=4.4						
HNR				S	**Sn**	**17 49 02.0**	**-0.6**
	33nm,0.4s,baz=72,slow=20,SNR=1.7						
HNR	**Honiara**	**6.59**	**288**	P	**Pn**	**17 47 49.9**	**+1.1**
HNR	**Honiara**	**6.59**	**288**	S	**Sn**	**17 49 03.2**	**+0.7**
SAVO	**Savo Central**	**6.81**	**290**	P	**Pn**	**17 47 52.8**	**+1.0**
SAVO	**Savo Central**	**6.81**	**290**	S	**Sn**	**17 49 08.0**	**+0.1**
TATA	**Tatamba Isabel**	**7.13**	**295**	P	**Pn**	**17 47 56.5**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.17**	**192**	P	**Pn**	**17 48 22.8**	**-0.9**
DZM	**Mont Dzumac**	**10.47**	**179**	Pn	**Pn**	**17 48 40.0**	**-1.6**
DZM	**Mont Dzumac**	**10.47**	**179**	P	**Pn**	**17 48 40.5**	**-1.1**
YATNC	**Mamie plateau,**	**10.48**	**177**	P	**Pn**	**17 48 41.1**	**-0.5**
ONTNC	**Ouen Toro**	**10.71**	**179**	Pn	**Pn**	**17 48 42.9**	**-1.8**
ONTNC	**Ouen Toro**	**10.71**	**179**	P	**Pn**	**17 48 46.4**	**+1.7**
PINNC	**Pines Island,**	**11.07**	**175**	Pn	**Pn**	**17 48 49.4**	**-0.1**
PINNC	**Pines Island,**	**11.07**	**175**	P	**Pn**	**17 48 51.1**	**+1.6**
EIDS	**Eidsvold**	**19.92**	**224**	P	**P**	**17 50 38.6**	**+0.5**
EIDS				IAmb	IAmb	17 50 41.6	
	comp=Z,7.8nm,0.7s						
COEN	**Coen**	**22.69**	**261**	P	**P**	**17 51 07.6**	**-0.2**
COEN				IAmb	IAmb	17 51 11.0	
	comp=Z,5.8nm,0.8s						
ARMA	**Armidale**	**23.21**	**214**	P	**P**	**17 51 13.3**	**+0.6**
ARMA				IAmb	IAmb	17 51 21.0	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**30.47**	**225**	P	**P**	**17 52 17.3**	**-0.5**
STKA	**Stephens Creek**	**30.47**	**225**	P	**P**	**17 52 18.9**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=48,slow=12,SNR=4.4						
	comp=Z,2.8nm,0.8s						
WB0	**Warramunga Arr**	**31.75**	**251**	P	**P**	**17 52 28.0**	**-1.3**
WB0				IAmb	IAmb	17 52 31.1	
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**31.82**	**251**	P	**P**	**17 52 29.4**	**-0.4**
WRAB				IAmb	IAmb	17 52 30.4	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**31.82**	**251**	P	**P**	**17 52 30.2**	**+0.4**
WB2				IAmb	IAmb	17 52 31.8	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**31.84**	**251**	P	**P**	**17 52 29.2**	**-0.8**
WRA	**Warramunga Arr**	**31.84**	**251**	P	**P**	**17 52 30.1**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=83,slow=9.2,SNR=11						
	comp=Z,4.6nm,0.8s						
AS31	**Alice Springs**	**33.07**	**244**	P	**P**	**17 52 40.9**	**+0.1**
ASAR	**Alice Springs**	**33.07**	**244**	P	**P**	**17 52 41.1**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=69,slow=9.7,SNR=34						
	comp=Z,4.0nm,0.7s						
KNRA	**Kununurra**	**36.69**	**259**	P	**P**	**17 53 11.4**	**-0.5**
KNRA				IAmb	IAmb	17 53 41.0	
	comp=Z,9.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.79**	**256**	P	**P**	**17 53 38.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**39.79**	**256**	P	**P**	**17 53 39.1**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=103,slow=8.3,SNR=4.3						
	comp=Z,4.2nm,0.8s						
SOEI	**Soe**	**41.33**	**268**	P	**P**	**17 53 49.3**	**-1.4**
NWAO	**Narrogin (SRO)**	**49.65**	**236**	P	**P**	**17 54 55.3**	**-0.8**
SONM	**Songino Array**	**79.39**	**324**	P	**P**	**17 58 11.3**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=123,slow=5.3,SNR=3.7						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**	**17 59 23.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=95,slow=5.0,SNR=3.2						
	comp=Z,0.2nm,0.6s						

IDC 06 17:48:26.6±11.0,29°80N×137°31E,h316km±206km, mb2.8/2,mbtmp3.4/3,Error ellipse: s-maj=261.4km s-min=150.7km az=98.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.77**	**6**	P	Pn	17 50 05.5	+0.1
	1.2nm,0.5s,baz=175,slow=12,SNR=4.7						
MJAR				S		17 51 25.4	0.0
	1.3nm,0.8s,baz=94,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**49.53**	**184**	P	P	17 56 46.1	-0.1
	0.3nm,0.4s,baz=3.3,slow=7.8,SNR=7.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**53.26**	**184**	P	P	17 57 13.4	-0.2
	0.5nm,1.0s,baz=353,slow=6.1,SNR=4.2						
	0.5nm,1.0s						

*WEL **06** 17:52:18.1±1.5,32°S±6°×17°7W±2°1,h33km,M4.5/30, ML4.5/6,MLv4.5/30,Error ellipse: s-maj=28.0km s-min=5.0km az=102.0,confirmed*
*IDC **06** 17:52:20.4±3.0,31°89S×178°17W,h0km,mb3.7/2, mbtmp3.7/3,ML3.4/1,Error ellipse: s-maj=69.9km s-min=45.2km az=122.0*

ISC 06 17:52:18.9±1.9,32°06S±0°10×177°7W±0°3,h18km,n45, σ1§43/18,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.79**	**356**	P	**Pn**	**17 53 02.6**	**-0.1**
GLKZ				S	**Sn**	**17 53 35.0**	**-1.0**
RIZ	**Raoul Island**	**2.81**	**356**	MLv			
MXZ	**Matakaoa Point**	**6.41**	**210**	MLv			
WMGZ	**Waiomatatini S**	**6.58**	**208**	MLv			
PKGZ	**Pakihiroa**	**6.76**	**210**	P	**Pn**	**17 53 55.8**	**-1.4**
PKGZ				S	**Sn**	**17 55 13.7**	**-0.1**
HAZ	**Te Kaha**	**6.80**	**212**	P	**Pn**	**17 54 00.6**	**+2.8**
PUZ	**Puketiti**	**6.86**	**208**	MLv			
WSRZ	**White Island S**	**6.90**	**216**	MLv			
WIZ	**White Island**	**6.90**	**216**	MLv			
RUGZ	**Raukumara Rang**	**7.02**	**212**	P	**Pn**	**17 53 59.3**	**-1.5**
RUGZ				S	**Sn**	**17 55 20.5**	**+0.3**
GRZ	**Great Barrier**	**7.06**	**232**	MLv			
TWGZ	**Tauwhareparae**	**7.06**	**209**	S	**Sn**	**17 55 21.2**	**-0.1**
KUZ	**Kuaotunu**	**7.18**	**228**	P	**Pn**	**17 54 03.2**	**+0.2**
MYRZ	**Mayor Island**	**7.22**	**222**	MLv			
CNGZ	**Carnagh Statio**	**7.24**	**207**	P	**Pn**	**17 54 04.3**	**+0.4**
WHRZ	**Whale Island**	**7.26**	**216**	MLv			
TKGZ	**Te Karaka**	**7.34**	**209**	MLv			
MWZ	**Matawai**	**7.39**	**211**	P	**Pn**	**17 54 06.6**	**+0.7**
OPRZ	**Ohinepanea**	**7.46**	**218**	MLv			
MARZ	**Manawahe**	**7.51**	**216**	MLv			
URZ	**Urewera**	**7.51**	**213**	Pn	**Pn**	**17 54 08.6**	**+1.0**
	0.6nm,0.3s,baz=134,slow=24,SNR=5.8						
URZ				Sn	**Sn**	**17 55 30.9**	**-1.4**
	2.5nm,0.3s,baz=290,slow=19,SNR=12						
	5.8nm,0.9s						
URZ	**Urewera**	**7.51**	**213**	P	**Pn**	**17 54 04.3**	**-3.3**
URZ				S	**Sn**	**17 55 31.1**	**-1.2**
TGRZ	**Tauranga**	**7.53**	**220**	MLv			
EDRZ	**Edgecumbe**	**7.57**	**216**	MLv			
RAGZ	**Rawiri**	**7.57**	**211**	MLv			
WIAZ	**Waiheke Island**	**7.59**	**230**	MLv			
RIGZ	**Rimuhau**	**7.61**	**208**	MLv			
WCZ	**Waipu Caves**	**7.67**	**238**	MLv			
LIRZ	**Lichensteins R**	**7.67**	**218**	MLv			
ABAZ	**Army Bay**	**7.67**	**232**	MLv			
MBAZ	**Motutapu North**	**7.72**	**231**	MLv			
MKRZ	**Makatiti**	**7.73**	**217**	MLv			
PRGZ	**Paritu Road**	**7.75**	**207**	MLv			
OMRZ	**Omania**	**7.76**	**217**	MLv			
MKAZ	**Moumakai**	**7.76**	**228**	MLv			
KARZ	**Kaharoa**	**7.76**	**218**	MLv			
TARZ	**Mount Tarawera**	**7.79**	**216**	MLv			
KMRZ	**Kaimai**	**7.79**	**220**	MLv			
SNGZ	**Shannon Statio**	**7.84**	**210**	MLv			
MUGZ	**Murupara**	**7.85**	**214**	MLv			
RTZ	**Ruatahuna**	**7.86**	**212**	MLv			
OUZ	**Omahuta**	**7.93**	**244**	P	Pn	17 54 20.4	+7.2
ASAR	**Alice Springs**	**43.32**	**269**	P	**P**	**18 00 20.9**	**+0.9**
	0.5nm,0.6s,baz=105,slow=7.0,SNR=20						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.45**	**274**	P	**P**	**18 00 30.1**	**+0.9**
	0.8nm,0.5s,baz=112,slow=8.0,SNR=17						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**146.79**	**339**	PKPbc	**PKiKP**	**18 12 02.0**	**+0.2**
	3.5nm,1.0s,baz=30,slow=3.7,SNR=7.3						

*IDC **06** 18:00:00.9±3.3,47°52N×92°79W,h0km,mbtmp2.9/2, ML2.2/2,Error ellipse: s-maj=40.0km s-min=18.1km az=84.0*
*NEIC **06** 18:00:01.8±1.4,47°50N±0°03×93°09W±0°05,h0km±2km, mb_Lg2.7/8,Error ellipse: s-maj=5.8km s-min=4.1km az=247.0*

ISC 06 18:00:00.5±0.9,47°51N±0°04×93°12W±0°04,h0km,n18, σ0§73/17,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.18**	**68**		**Pg**	**18 00 23.2**	**0.0**
E38A	**The Farm, Brul**	**1.40**	**129**		**Pg**	**18 00 26.3**	**-1.0**
E38A				Sg	**Sg**	**18 00 45.3**	**-0.2**
E38A				IAmb_Lg		18 00 47.0	
	comp=Z,41nm,0.9s						
AGMN	**Agassiz Nation**	**2.01**	**294**	Pn	**Pn**	**18 00 35.6**	**-0.1**
EPLO	**Experimental L**	**2.21**	**350**	Pg	**Pb**	**18 00 41.7**	**+0.4**
EPLO				IAmb_Lg		18 01 17.4	
	comp=Z,30nm,0.9s						
SPMN	**Marine on St.**	**2.29**	**174**		**Pn**	**18 00 40.2**	**+0.7**
TBO	**Thunder Bay**	**2.74**	**64**	Pn	**Pn**	**18 00 45.3**	**-0.4**
F33A	**5 Mile Ranch,**	**2.75**	**234**		**Pn**	**18 00 46.3**	**+0.5**
G40A	**Rib Lake**	**3.02**	**137**		**Pn**	**18 00 49.9**	**+0.4**
COWI	**Conover**	**3.08**	**116**		**Pn**	**18 00 51.0**	**+0.6**
ULM	**Lac du Bonnet**	**3.29**	**328**	Pn	**Pn**	**18 00 53.3**	**-0.1**
ULM	**Lac du Bonnet**	**3.29**	**328**	Pn	**Pn**	**18 00 55.0**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=144,slow=14,SNR=4.6						
ULM				Pg	**Pg**	**18 01 02.6**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=146,slow=16,SNR=3.3						
ULM				Lg	Lg	18 01 45.0	
	comp=Z,0.9nm,0.3s,baz=239,slow=19,SNR=5.2						
	comp=Z,0.6nm,0.4s						
I10CA	**LAC DU BONNET**	**3.31**	**326**	I	I	18 22 30.0	
	comp=Z,0.2nm,1.1s,baz=134,slow=342,SNR=2.7						
I37A	**Lemond, Waseca**	**3.50**	**183**		**Pn**	**18 00 57.1**	**+1.0**
I40A	**Norwalk**	**4.02**	**153**	IAmb_Lg		18 02 10.5	
	comp=Z,21nm,1.0s						
ECSD	**EROS Data Cent**	**4.50**	**214**		**Pn**	**18 01 09.7**	**-0.2**
I42A	**Draeger Farm,**	**4.66**	**139**	IAmb_Lg		18 02 26.5	
	comp=Z,16nm,1.0s						
PDAR	**Pinedale Array**	**12.53**	**254**	Pn	**Pn**	**18 03 00.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=70,slow=12,SNR=4.9						
PDAR				Lg	Lg	18 06 29.9	
	baz=64,slow=34,SNR=2.2						
YKA	**Yellowknife Ar**	**19.27**	**329**	P	**P**	**18 04 26.4**	**0.0**
	baz=133,slow=12,SNR=3.2						

NEIC 06 18:01:29.2±0.6,37°052N±0°009×104°99W±0°02, h5km±2km,mb_Lg2.9/5,ML2.4/8,Error ellipse: s-maj=3.1km s-min=2.6km az=112.0,Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.80**	**330**	Pg	Pg	18 01 44.9	+0.2
SDCO				Sg	Sg	18 01 55.9	+0.7
SDCO				IAML		18 01 56.1	
	142nm,0.1s						
SDCO				IAML		18 01 56.2	
	128nm,0.1s						
RTBA	**Rita Blanca**	**1.91**	**108**	Pn	Pn	18 02 03.5	+0.9
RTBA					Sb	18 02 29.7	+0.8
ANMO	**Albuquerque**	**2.41**	**210**	Pn	Pn	18 02 07.1	-2.5
MVCO	**Mesa Verde**	**2.81**	**274**	Pn	Pn	18 02 13.3	-1.8
PV15	**Paradox Valley**	**3.05**	**296**	Pn	Pn	18 02 18.6	+0.2
BNM	**Barren Site**	**3.19**	**205**	Pn	Pn	18 02 19.0	-1.2
PV07	**Paradox Valley**	**3.21**	**297**	Pn	Pn	18 02 17.9	-2.7
LENM	**Lemitar**	**3.30**	**210**	Pn	Pn	18 02 19.5	-2.3
PV11	**David Mesa, Pa**	**3.32**	**293**	Pn	Pn	18 02 22.2	+0.2
CRNM	**Carthage**	**3.40**	**205**	Pg	Pb	18 02 31.1	+0.9
OGNE	**Ogallala**	**4.52**	**30**	Pg	Pb	18 02 51.4	+2.3
KAN12	**Harper NE Stat**	**5.59**	**85**	IAmb_Lg		18 04 32.3	
	comp=Z,25nm,0.9s						
FW14	**Alvarado**	**7.92**	**124**	IAmb_Lg		18 05 58.7	
	comp=Z,16nm,0.8s						

*IDC **06** 18:04:30.0±0.8,32°21S×178°04W,h0km,mb4.4/6, mbtmp4.3/7,ML4.0/1,Error ellipse: s-maj=29.8km s-min=22.9km az=132.0*
*WEL **06** 18:04:32.9±1.0,32°S±16°×17°8W±4°0,h33km,M4.5/11, mB4.8/7,ML5.2/11,MLv5.0/11,Mw(mB)4.1/9,Error ellipse: s-maj=56.5km s-min=5.6km az=111.6,confirmed*
*NEIC **06** 18:04:35.1±1.0,32°4S±0°1×178°51W±0°05,h10km±1km, mb4.6/10,Error ellipse: s-maj=23.0km s-min=7.9km az=2.0*

ISC 06 18:04:33.9±0.6,32°07S±0°07×178°2W±0°1,h24km,n75, σ1§61/84,mb4.5/14,4C-1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.81**	**6**	P	**Pn**	**18 05 13.3**	**-4.0**
MXZ	**Matakaoa Point**	**6.17**	**206**	Pn	**Pn**	**18 05 59.8**	**-3.8**
MXZ	**Matakaoa Point**	**6.17**	**206**	P	**Pn**	**18 06 02.3**	**-1.2**
MXZ				S	**Sn**	**18 07 13.7**	**+0.2**
WMGZ	**Waiomatatini S**	**6.36**	**205**	P	**Pn**	**18 06 05.7**	**-0.4**
WMGZ				S	**Sn**	**18 07 19.3**	**+1.2**
PKGZ	**Pakihiroa**	**6.53**	**207**	P	**Pn**	**18 06 06.4**	**-2.1**
PKGZ				P	**Sn**	**18 07 21.2**	**-0.9**
HAZ	**Te Kaha**	**6.55**	**209**	P	**Pn**	**18 06 07.6**	**-1.1**
HAZ				S	**Sn**	**18 07 24.8**	**+2.1**
PUZ	**Puketiti**	**6.64**	**205**	S	**Sn**	**18 07 25.4**	**+0.4**
RUGZ	**Raukumara Rang**	**6.77**	**209**	P	**Pn**	**18 06 11.2**	**-0.7**
RUGZ				S	**Sn**	**18 07 27.9**	**-0.4**
TWGZ	**Tauwhareparae**	**6.84**	**206**	P	**Pn**	**18 06 12.4**	**-0.4**
TWGZ				S	**Sn**	**18 07 30.4**	**+0.5**
CNGZ	**Carnagh Statio**	**7.03**	**203**	P	**Pn**	**18 06 12.8**	**-2.6**
TKGZ	**Te Karaka**	**7.12**	**206**	P	**Sn**	**18 07 36.5**	**-0.1**
MWZ	**Matawai**	**7.15**	**208**	P	**Pn**	**18 06 15.8**	**-1.2**
MWZ				S	**Sn**	**18 07 37.6**	**+0.1**
URZ	**Urewera**	**7.26**	**210**	Pn	**Pn**	**18 06 15.2**	**-3.2**
	2.3nm,0.3s,baz=60,slow=5.3,SNR=13						
URZ				Sn	**Sn**	**18 07 40.4**	**+0.3**
	18nm,0.3s,baz=158,slow=20,SNR=15						
	3.5nm,0.3s						
URZ	**Urewera**	**7.26**	**210**	P	**Pn**	**18 06 16.5**	**-1.9**
URZ				S	**Sn**	**18 07 40.0**	**0.0**
RIGZ	**Rimuhau**	**7.38**	**205**	P	**Pn**	**18 07 43.1**	**-0.2**
OUZ	**Omahuta**	**7.50**	**243**	P	Pn	18 06 28.6	+6.8
PRGZ	**Paritu Road**	**7.54**	**204**	P	**Pn**	**18 06 23.1**	**+0.8**
PRGZ				S	**Sn**	**18 07 42.5**	**-4.5**
SNGZ	**Shannon Statio**	**7.61**	**207**	P	**Pn**	**18 06 24.1**	**+0.8**
SNGZ				S	**Sn**	**18 07 48.2**	**-0.5**
RTZ	**Ruatahuna**	**7.61**	**210**		**Pn**	**18 06 19.6**	**-3.8**
TOZ	**Tahuroa Road**	**7.64**	**221**	Pn	Pn	18 06 18.7	-5.0
MTHZ	**Maungataniwha**	**7.87**	**209**	P	**Pn**	**18 06 28.1**	**+1.2**
MTHZ				S	**Sn**	**18 07 55.4**	**+0.2**
BKZ	**Black Stump Fm**	**8.28**	**210**		**Pn**	**18 06 30.1**	**-2.4**
HIZ	**Hauiti**	**8.56**	**219**	Pn	**Pn**	**18 06 33.0**	**-3.3**
RPZ	**Rata Peaks**	**14.36**	**213**	Pn	**Pn**	**18 07 51.3**	**-4.4**
	0.5nm,0.3s,baz=107,slow=12,SNR=3.3						
RPZ				Sn	Sn	18 10 17.8	-16
	0.8nm,0.3s,baz=69,slow=22,SNR=1.2						
STKA	**Stephens Creek**	**33.94**	**259**	P	**P**	**18 11 16.7**	**+1.3**
	3.2nm,0.7s,baz=87,slow=10,SNR=6.7						
	3.2nm,0.7s						
COEN	**Coen**	**39.57**	**288**	P	**P**	**18 12 05.5**	**+2.1**
COEN				IAmb	IAmb	18 12 07.7	
	comp=Z,4.2nm,0.8s						
AS31	**Alice Springs**	**42.85**	**269**	P	**P**	**18 12 31.4**	**+1.0**
ASAR	**Alice Springs**	**42.85**	**269**	P	**P**	**18 12 30.7**	**+0.3**
ASAR	**Alice Springs**	**42.85**	**269**	P	**P**	**18 12 31.4**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=104,slow=7.6,SNR=93						
	comp=Z,4.7nm,0.6s						
WR0	**Warramunga Arr**	**43.81**	**274**	P	**P**	**18 12 38.5**	**+0.4**
WR0				IAmb	IAmb	18 12 53.4	
	comp=Z,8.6nm,1.1s						
WB2	**Warramunga Arr**	**43.98**	**274**	P	**P**	**18 12 40.4**	**+0.9**
WB2				IAmb	IAmb	18 12 55.3	
	comp=Z,17nm,1.2s						
WRAB	**Tennant Creek**	**43.98**	**274**	P	**P**	**18 12 39.8**	**+0.2**
WRAB				IAmb	IAmb	18 12 55.2	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**43.99**	**274**	P	**P**	**18 12 40.0**	**+0.5**
WRA	**Warramunga Arr**	**43.99**	**274**	P	**P**	**18 12 40.4**	**+0.8**
	comp=Z,6.2nm,0.5s,baz=112,slow=8.0,SNR=55						
	comp=Z,6.2nm,0.5s						
WB0	**Warramunga Arr**	**44.02**	**274**	P	**P**	**18 12 40.8**	**+1.0**
WB0				IAmb	IAmb	18 12 42.1	
	comp=Z,10nm,0.8s						
MTN	**Manton Dam**	**50.07**	**280**	P	**P**	**18 13 28.0**	**+1.0**
QSPA	**South Pole Qui**	**58.05**	**180**	P	**P**	**18 14 25.6**	**+0.8**
QSPA	**South Pole Qui**	**58.05**	**180**	P	**P**	**18 14 24.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=0.0,slow=4.0,SNR=3.0						
	comp=Z,1.6nm,0.7s						
BELA	**Belgrano 2**	**68.16**	**172**	P	**P**	**18 15 33.2**	**+1.6**
BELA				IAmb	IAmb	18 15 37.6	
	comp=Z,16nm,1.5s						
SYO	**Syowa Base**	**75.45**	**193**	⇓P	**P**	**18 16 16.0**	**+0.6**
TROLL	**Troll, Antarti**	**76.21**	**180**	⇑P	**P**	**18 16 17.3**	**-2.6**
	comp=Z,186nm,1.1s						
SNAA	**Sanae**	**76.50**	**179**	⇑P	**P**	**18 16 20.8**	**-0.7**
	comp=Z,87nm,0.9s						
SNAA	**Sanae**	**76.50**	**179**	P	**P**	**18 16 20.3**	**-1.2**
	comp=Z,3.5nm,1.0s,baz=206,slow=8.0,SNR=3.3						
	comp=Z,3.5nm,1.0s						
VNA3	**Neumayer Olymp**	**76.66**	**176**	⇑P	**P**	**18 16 21.4**	**-0.9**
	comp=Z,10nm,0.7s						
VNA2	**Neumayer--Watz**	**77.09**	**177**	⇑P	**P**	**18 16 23.6**	**-1.2**
	comp=Z,5.5nm,1.0s,baz=179,slow=5.7						
NVAR	**Mina Array Bea**	**89.59**	**43**	P	**P**	**18 17 30.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=243,slow=4.0,SNR=3.3						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**118.68**	**309**	PKP	**PKiKP**	**18 23 19.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=67,slow=3.2,SNR=4.1						
KURBB	**Kurchatov Arra**	**122.08**	**313**	PKP	**PKPdf**	**18 23 25.0**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=112,slow=2.0,SNR=4.6						
BVAR	**Borovoye Array**	**127.45**	**315**	PKP	**PKPdf**	**18 23 34.8**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=131,slow=2.0,SNR=5.7						
ARCES	**ARCESS Array B**	**140.17**	**347**	PKiKP	PKPpre	18 23 53.9	
	comp=Z,8.0nm,1.1s,baz=39,slow=2.2,SNR=2.1						
KBZ	**Khabaz**	**145.85**	**302**	PKPbc	**PKiKP**	**18 24 12.9**	**-1.6**
	comp=Z,5.1nm,1.0s,baz=202,slow=5.3,SNR=8.7						
GEVA	**Gevas**	**145.90**	**292**	PKPdf	**PKPab**	**18 24 12.0**	**0.0**
FIA1	**FINESS Array S**	**146.63**	**339**	PKPdf	**PKPbc**	**18

comp=Z,14nm,1.2s
WR0 Warramunga Arr 23.78 234 P **P** **18 36 10.6 +1.2**
WR0 IAmb IAmb 18 36 13.3
comp=Z,5.3nm,0.8s
WRAB Tennant Creek 23.92 234 P **P** **18 36 12.8 +2.2**
WRAB IAmb IAmb 18 36 14.6
comp=Z,5.3nm,0.8s
WB2 Warramunga Arr 23.92 234 P **P** **18 36 11.9 +1.2**
WB2 IAmb IAmb 18 36 14.6
comp=Z,5.2nm,0.7s
WRA Warramunga Arr 23.93 234 P **P** **18 36 11.5 +0.8**
WRA Warramunga Arr 23.93 234 P **P** **18 36 14.1 +3.3**
comp=Z,4.5nm,0.6s,baz=59,slow=9.7,SNR=27
WRA PcP **PcP** **18 39 50.9 -1.4**
comp=Z,0.2nm,0.5s,baz=38,slow=2.0,SNR=1.6
comp=Z,4.5nm,0.6s
ARMA Armidale 23.95 187 P **P** **18 36 11.1 +0.2**
ARMA IAmb IAmb 18 36 44.5
comp=Z,45nm,1.5s
MTN Manton Dam 24.15 253 P **P** **18 36 12.6 -0.3**
MTN IAmb IAmb 18 36 47.4
comp=Z,20nm,1.1s
AS31 Alice Springs 26.34 227 P **P** **18 36 33.7 +1.0**
ASAR Alice Springs 26.34 227 P **P** **18 36 33.5 +0.8**
ASAR Alice Springs 26.34 227 P **P** **18 36 34.9 +2.2**
comp=Z,0.9nm,0.4s,baz=56,slow=9.1,SNR=33
ASAR PcP **PcP** **18 39 56.9 -0.8**
comp=Z,0.3nm,0.6s,baz=58,slow=2.9,SNR=4.9
comp=Z,0.9nm,0.4s
KNRA Kununurra 27.10 248 P **P** **18 36 39.5 0.0**
KNRA IAmb IAmb 18 37 21.3
comp=Z,25nm,1.5s
H11S3 WAKE ISLAND Hy 27.49 25 T T 19 04 56.8
baz=205,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 27.49 25 T T 19 04 57.4
baz=205,slow=75,SNR=15
H11S1 WAKE ISLAND Hy 27.51 25 T T 19 04 53.5
baz=205,slow=75,SNR=9.2
STKA Stephens Creek 28.08 204 P **P** **18 36 47.9 -0.2**
STKA Stephens Creek 28.08 204 P **P** **18 36 50.1 +2.0**
comp=Z,1.3nm,0.6s,baz=36,slow=11,SNR=4.4
comp=Z,1.3nm,0.6s
FITZ Fitzroy Crossi 30.67 245 P **P** **18 37 12.8 +1.6**
BBOO Buckleboo 31.43 211 P **P** **18 37 18.1 +0.3**
MBWA Marble Bar 36.91 243 P **P** **18 38 05.7 +0.2**
PETK Petropavlovsk- 59.46 2 P **P** **18 40 58.0 -0.7**
comp=Z,3.6nm,0.9s,baz=189,slow=7.3,SNR=2.7
comp=Z,3.6nm,0.9s
CMAR Chiang Mai Arr 60.42 295 P **P** **18 41 06.6 +0.7**
comp=Z,0.2nm,0.5s,baz=112,slow=5.9,SNR=1.6
comp=Z,0.2nm,0.5s
SONM Songino Array 68.85 327 P **P** **18 41 59.3 -1.1**
comp=Z,0.4nm,0.5s,baz=130,slow=6.0,SNR=5.2
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 82.94 319 P **P** **18 43 19.1 -1.6**
comp=Z,0.5nm,0.8s,baz=100,slow=6.7,SNR=5.9
comp=Z,0.5nm,0.8s
QSPA South Pole Qui 83.44 180 P **P** **18 43 22.8 -0.3**
comp=Z,2.3nm,0.8s,baz=346,slow=8.3,SNR=15
comp=Z,2.3nm,0.8s

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*WEL **06** 18:42:49.7±1.3,32°S±5°×17°7W±1°8,h33km,M4.5/10, mB4.7/5,ML5.0/8,MLv4.7/10,Mw(mB)3.9/5,Error ellipse: s-maj=23.7km s-min=4.4km az=103.7,confirmed*
*IDC **06** 18:42:50.0±0.8,32°12S×178°08W,h0km,mb4.1/5, mbtmp4.1/6,ML3.9/1,Error ellipse: s-maj=28.8km s-min=23.2km az=129.0*
*NEIC **06** 18:42:51.1±0.5,32°5S±0°2×177°9W±0°2,h10km±2km, mb4.3/8,Error ellipse: s-maj=37.3km s-min=24.0km az=141.0*
ISC 06 18:42:52.6±0.7,32°06S±0°07×178°1W±0°2,h24km,n47, σ1§24/54,mb4.2/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.79**	**3**	P	**Pn**	**18 43 33.9**	**-1.8**
GLKZ				S	**Sn**	**18 44 08.5**	**-0.2**
MXZ	**Matakaoa Point**	**6.24**	**207**	Pn	**Pn**	**18 44 20.4**	**-2.7**
WMGZ	**Waiomatatini S**	**6.43**	**206**	P	**Pn**	**18 44 25.8**	**+0.1**
WMGZ				S	**Sn**	**18 45 40.0**	**+1.8**
PKGZ	**Pakihiroa**	**6.59**	**207**	P	**Pn**	**18 44 26.9**	**-1.1**
PKGZ				S	**Sn**	**18 45 43.1**	**+0.6**
HAZ	**Te Kaha**	**6.62**	**210**	P	**Pn**	**18 44 27.6**	**-0.8**
HAZ				S	**Sn**	**18 45 45.7**	**+2.6**
PUZ	**Puketiti**	**6.71**	**206**	S	**Sn**	**18 45 44.2**	**-1.0**
RUGZ	**Raukumara Rang**	**6.84**	**209**	P	**Pn**	**18 44 30.8**	**-0.8**
RUGZ				S	**Sn**	**18 45 49.1**	**+0.4**
TWGZ	**Tauwhareparae**	**6.90**	**207**	P	**Pn**	**18 44 32.5**	**+0.2**
TWGZ				S	**Sn**	**18 45 50.4**	**+0.3**
CNGZ	**Carnagh Statio**	**7.09**	**204**	P	**Pn**	**18 44 32.2**	**-2.6**
TKGZ	**Te Karaka**	**7.18**	**206**	S	**Sn**	**18 45 56.9**	**0.0**
MWZ	**Matawai**	**7.22**	**209**	P	**Pn**	**18 44 37.1**	**+0.5**
MWZ				S	**Sn**	**18 45 57.5**	**-0.4**
URZ	**Urewera**	**7.33**	**211**	Pn	**Pn**	**18 44 36.5**	**-1.7**
	2.1nm,0.3s,baz=109,slow=5.0,SNR=12						
URZ				Sn	**Sn**	**18 46 00.5**	**-0.1**
	7.6nm,0.3s,baz=127,slow=20,SNR=17						
	6.7nm,0.6s						
URZ	**Urewera**	**7.33**	**211**	P	**Pn**	**18 44 37.0**	**-1.1**
URZ				S	**Sn**	**18 46 00.4**	**-0.2**
WCZ	**Waipu Caves**	**7.38**	**236**	P	Pn	18 44 45.9	+7.1
OUZ	**Omahuta**	**7.62**	**243**	P	Pn	18 44 48.6	+6.5
RTZ	**Ruatahuna**	**7.69**	**210**	Pn	**Pn**	**18 44 43.2**	**+0.1**
BKZ	**Black Stump Fm**	**8.35**	**210**	Pn	**Pn**	**18 44 51.7**	**-0.5**
THZ	**Tophouse**	**12.07**	**214**	Pn	**Pn**	**18 45 40.9**	**-2.2**
STKA	**Stephens Creek**	**34.07**	**259**	P	**P**	**18 49 35.6**	**+0.5**
STKA	**Stephens Creek**	**34.07**	**259**	P	**P**	**18 49 36.4**	**+1.2**
	2.6nm,0.8s,baz=118,slow=15,SNR=3.5						
	2.6nm,0.8s						
BBOO	**Buckleboo**	**38.48**	**256**	P	**P**	**18 50 13.4**	**+0.6**
BBOO				IAmb	IAmb	18 50 14.7	
	comp=Z,3.4nm,0.7s						
AS31	**Alice Springs**	**42.98**	**269**		**P**	**18 50 51.1**	**+1.0**
ASAR	**Alice Springs**	**42.98**	**269**	P	**P**	**18 50 50.7**	**+0.6**
ASAR	**Alice Springs**	**42.98**	**269**	P	**P**	**18 50 51.4**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=105,slow=7.6,SNR=53						
	comp=Z,2.1nm,0.6s						
WR0	**Warramunga Arr**	**43.94**	**274**	P	**P**	**18 50 59.0**	**+1.2**
WR0				IAmb	IAmb	18 50 59.3	
	comp=Z,1.6nm,0.6s						
WB2	**Warramunga Arr**	**44.11**	**274**	P	**P**	**18 51 00.4**	**+1.2**
WRAB	**Tennant Creek**	**44.11**	**274**	P	**P**	**18 50 59.0**	**-0.2**
WRAB				IAmb	IAmb	18 51 03.4	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**18 51 00.3**	**+1.0**
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**18 51 00.5**	**+1.2**
	comp=Z,3.3nm,0.5s,baz=113,slow=7.8,SNR=47						
	comp=Z,3.3nm,0.5s						
WB0	**Warramunga Arr**	**44.15**	**274**	P	**P**	**18 51 00.8**	**+1.3**
WB0				IAmb	IAmb	18 51 01.8	
	comp=Z,4.8nm,0.6s						
FORT	**Forrest**	**45.58**	**257**	P	**P**	**18 51 09.1**	**-1.6**
VNDA	**Vanda**	**46.44**	**186**	P	**P**	**18 51 14.4**	**-2.5**
QSPA	**South Pole Qui**	**58.05**	**180**	P	**P**	**18 52 45.0**	**+1.5**
	comp=Z,1.0nm,1.0s,baz=323,slow=1.4,SNR=15						
	comp=Z,1.0nm,1.0s						
NVAR	**Mina Array Bea**	**89.50**	**43**	P	**P**	**18 55 50.2**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=240,slow=4.2,SNR=2.2						
	comp=Z,0.6nm,0.7s						
RES	**Resolute Bay**	**118.84**	**18**		**PKiKP**	**19 01 38.2**	**+0.4**
KBZ	**Khabaz**	**145.95**	**302**	PKPbc	**PKiKP**	**19 02 32.1**	**-1.2**
	comp=Z,3.4nm,1.0s,baz=44,slow=2.6,SNR=3.4						
GEVA	**Gevas**	**146.01**	**292**	PKPdf	**PKPdf**	**19 02 28.4**	**-1.3**
FIA1	**FINESS Array S**	**146.67**	**339**	PKPdf	**PKPbc**	**19 02 30.7**	**-0.7**
FINES	**FINESS Array B**	**146.67**	**339**	PKPdf	**PKPbc**	**19 02 30.6**	**-0.9**
FINES	**FINESS Array B**	**146.67**	**339**	PKPbc	**PKPab**	**19 02 32.0**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=58,slow=3.4,SNR=5.7						
NB2	**NORSAR Subarra**	**150.38**	**351**	PKP	**PKPab**	**19 02 48.6**	**+0.9**
	comp=Z,4.3nm,1.1s,baz=17,slow=2.6						
HFS	**Hagfors**	**150.85**	**348**	PKPbc	**PKiKP**	**19 02 42.6**	**-0.4**
	comp=Z,4.9nm,1.0s,baz=0.0,slow=0.0,SNR=2.7						
MMAI	**Mount Meron Ar**	**151.82**	**281**	PKPbc	**PKiKP**	**19 02 46.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=116,slow=5.7,SNR=3.7						
AKASG	**Malin Array Be**	**152.56**	**321**	PKPbc	**PKiKP**	**19 02 47.7**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=48,slow=3.7,SNR=5.2						
BRTR	**Keskin Array B**	**153.29**	**296**	PKPbc	**PKiKP**	**19 02 49.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=126,slow=2.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**161.18**	**179**	PKPab	**PKPab**	**19 03 35.0**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=172,slow=3.9,SNR=0.6						
ESDC	**Sonseca Array**	**171.03**	**30**	PKPab	**PKPab**	**19 04 18.8**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=325,slow=5.7,SNR=3.0						

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*JMA **06** 18:43:46.5±0.1,38°9N±0°3×142°0E±0°6,h49km,MV3.9/40, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
*NEIC **06** 18:43:47.4±1.6,38°93N±0°06×141°9E±0°1,h50km±7km, mb4.0/8,Error ellipse: s-maj=16.3km s-min=7.8km az=107.0*
*IDC **06** 18:43:49.5±1.6,39°08N×141°88E,h68km±7km,mb3.5/12, mbtmp3.9/16,Error ellipse: s-maj=29.4km s-min=10.7km az=120.0*
ISC 06 18:43:45.3±0.9,38°82N±0°05×142°09E±0°08,h46km±6km, n55,σ1§60/60,mb4.0/18,15D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.42**	**308**	⇓*iP*	**Pn**	**18 43 55.8**	**+0.5**
OFUJ				⇓S	**Sn**	**18 44 02.1**	**-0.4**
JKMT	**Kesennumamotoy**	**0.48**	**269**	⇓*iP*	**Pn**	**18 43 56.6**	**+0.5**
JKMT				⇓*iS*	**Sn**	**18 44 03.4**	**-0.3**
JIO	**Ouri**	**0.69**	**236**	⇓*iP*	**Pn**	**18 43 59.4**	**+0.7**
JIO				⇓S	**Sn**	**18 44 08.2**	**-0.2**
JMK	**Ichinoseki**	**0.69**	**281**	⇓*iP*	**Pn**	**18 43 58.9**	**+0.1**
JMK				⇓S	**Sn**	**18 44 07.7**	**-0.8**
JOM	**Ohasama**	**0.90**	**317**	⇓*iP*	**Pn**	**18 44 01.5**	**0.0**
JOM				⇓S	**Sn**	**18 44 12.3**	**-1.2**
JOU	**Okura**	**1.21**	**248**	⇓*iP*	**Pn**	**18 44 06.1**	**+0.4**
JRG	**Rokugo**	**1.27**	**297**	⇓*iP*	**Pn**	**18 44 06.4**	**-0.2**
JYK	**Kaneyama**	**1.36**	**275**	⇓*iP*	**Pn**	**18 44 07.8**	**+0.1**
JMM	**Marumori**	**1.40**	**227**	Pn	**Pn**	**18 44 08.8**	**+0.5**
JMM				Sn	**Sn**	**18 44 20.1**	**-5.5**
JMM	**Marumori**	**1.40**	**227**	⇓*iP*	**Pn**	**18 44 08.8**	**+0.5**
JMM				⇓S	**Sn**	**18 44 25.9**	**+0.4**
JANG	**Nango**	**1.61**	**344**	*i* P	**Pn**	**18 44 11.2**	**-0.1**
JTM	**Tenmabayashi**	**2.12**	**338**		**Pn**	**18 44 18.2**	**+0.1**
JSD	**Sado**	**3.11**	**257**		**Pn**	**18 44 31.8**	**0.0**
ERM	**Erimo**	**3.29**	**14**	Pn	**Pn**	**18 44 35.0**	**+0.8**
MAJO	**Matsushiro**	**3.83**	**235**		**Pn**	**18 44 43.5**	**+1.8**
MJAR	**Matsushiro Arr**	**3.83**	**235**	P	**Pn**	**18 44 44.6**	**+2.8**
	8.3nm,0.5s,baz=39,slow=13,SNR=50						
MJAR				S	**Sn**	**18 45 31.2**	**+5.7**
	6.8nm,0.7s,baz=94,slow=8.3,SNR=5.6						
MJB9	**Matsu-Tunnel**	**3.83**	**235**		**Pn**	**18 44 43.2**	**+1.5**
JGF	**Kuroka**	**4.96**	**231**		**Pn**	**18 44 59.6**	**+2.3**
JKA	**Kamikawa-asahi**	**5.30**	**4**	Pn	**Pn**	**18 45 02.6**	**+0.7**
ASAJ	**Asahikawa**	**5.30**	**4**	P	**Pn**	**18 45 02.3**	**+0.4**
	3.3nm,0.5s,baz=211,slow=16,SNR=20						
ASAJ				S	**Sn**	**18 46 00.2**	**-1.5**
	4.2nm,0.6s,baz=151,slow=18,SNR=1.8						
INU	**Inuyama**	**5.34**	**231**	Pn	**Pn**	**18 45 02.5**	**+0.2**
JHJ	**Hachijo jima 2**	**5.99**	**199**	P	Pn	18 45 18.1	+6.7
	170nm,0.8s,baz=277,slow=17,SNR=2.1						
JHJ				S	**Sn**	**18 46 15.8**	**-2.8**
	125nm,0.7s,baz=71,slow=21,SNR=1.0						
USRK	**Ussuriysk Ar.**	**9.29**	**309**	P	**Pn**	**18 45 57.0**	**+0.6**
	5.1nm,0.7s,baz=125,slow=13,SNR=7.1						
KSRS	**Korea Array**	**11.24**	**267**	P	Pn	18 46 30.0	+6.8
	1.1nm,0.8s,baz=76,slow=13,SNR=1.7						
CN2	**Changchun**	**13.46**	**297**	P	**Pn**	**18 46 51.2**	**-2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**21.50**	**12**	P	**P**	**18 48 30.4**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=190,slow=7.0,SNR=4.0						
	comp=Z,0.9nm,0.3s						
HHC	**Hu-ho-hao-te**	**23.48**	**285**	*e*P	**P**	**18 48 49.4**	**-1.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,88nm,5.2s						
SONM	**Songino Array**	**27.28**	**301**	P	**P**	**18 49 26.5**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=113,slow=11,SNR=2.2						
	comp=Z,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	19 20 03.2	
	baz=317,slow=75,SNR=215						
H11N1	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	19 20 04.3	
	baz=317,slow=75,SNR=187						
H11N3	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	19 20 05.4	
	baz=317,slow=75,SNR=236						
H11S1	**WAKE ISLAND Hy**	**29.43**	**126**	T	T	19 20 58.7	
	baz=318,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	19 20 58.8	
	baz=318,slow=76,SNR=188						
H11S2	**WAKE ISLAND Hy**	**29.45**	**126**	T	T	19 20 58.2	
	baz=318,slow=76,SNR=89						
ZAA0	**Zalesovo Array**	**41.13**	**311**	P	**P**	**18 51 24.8**	**+0.3**
ZAA0				IAmb	IAmb	18 51 42.8	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**18 51 23.6**	**-0.9**
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**18 51 23.2**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=92,slow=6.9,SNR=6.0						
ZALV				pP	**pP**	**18 51 40.9**	**+3.8**
	comp=Z,1.8nm,0.6s,baz=85,slow=8.3,SNR=5.4						
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.49**	**254**	P	**P**	**18 51 36.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=122,slow=13,SNR=1.9						
	comp=Z,0.2nm,0.4s						
FAKI	**Fak Fak**	**42.52**	**195**	P	**P**	**18 51 34.8**	**-1.4**
MK31	**Makanchi Array**	**43.65**	**301**	P	**P**	**18 51 44.7**	**-0.5**
MKAR	**Makanchi Array**	**43.65**	**301**	P	**P**	**18 51 44.5**	**-0.7**
MKAR	**Makanchi Array**	**43.65**	**301**	P	**P**	**18 51 45.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=86,slow=9.4,SNR=24						
MKAR				pP	**sP**	**18 52 01.9**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=89,slow=7.8,SNR=4.3						
	comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**43.85**	**301**	P	**P**	**18 51 46.6**	**-0.3**
B20K	**Meade River**	**44.15**	**26**	P	**P**	**18 51 50.9**	**+2.0**
B20K				IAmb	IAmb	18 52 03.7	
	comp=Z,5.7nm,1.5s						
B21K	**Ikpikpuk River**	**44.95**	**26**	P	**P**	**18 51 57.2**	**+2.1**
B21K				IAmb	IAmb	18 51 58.9	
	comp=Z,2.3nm,1.1s						
KURK	**Kurchatov**	**45.27**	**307**	P	**P**	**18 51 57.6**	**-0.4**
KURBB	**Kurchatov Arra**	**45.34**	**307**	P	**P**	**18 51 58.5**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=80,slow=8.1,SNR=24						
KURBB				pP	**sP**	**18 52 15.5**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=81,slow=8.1,SNR=6.4						
ILAR	**Eielson Array**	**47.70**	**33**	P	**P**	**18 52 18.7**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=271,slow=6.2,SNR=5.7						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**49.78**	**311**	P	**P**	**18 52 33.0**	**0.0**
	comp=Z,1.5nm,0.5s,baz=66,slow=8.1,SNR=13						
	comp=Z,1.5nm,0.5s						
BRVK	**Borovoye**	**49.84**	**311**	P	**P**	**18 52 32.9**	**-0.6**
BRVK				IAmb	IAmb	18 52 34.2	
	comp=Z,1.9nm,1.0s						
ARTI	**Arti**	**55.49**	**318**	P	**P**	**18 53 15.1**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=73,slow=8.1,SNR=5.5						
	comp=Z,4.2nm,0.6s						
AKTO	**Aktyubinsk**	**57.89**	**311**	P	**P**	**18 53 31.7**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=74,slow=4.2,SNR=3.3						
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**67.48**	**332**	P	**P**	**18 54 35.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=73,slow=6.6,SNR=4.0						
	comp=Z,0.9nm,0.6s						
AKASG	**Malin Array Be**	**73.21**	**322**	P	**P**	**18 55 10.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=6.1,SNR=5.8						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**78.07**	**312**	P	**P**	**18 55 38.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=46,slow=7.5,SNR=2.2						
	comp=Z,0.3nm,0.5s						

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*BJI **06** 18:47:19.1,4°46S×143°60E,h133km,mB5.8/53,mb5.3/90*
*DJA **06** 18:47:24.6±1.0,4°S±6°×14°3E±°,h131km±5km,M5.7/25, mB6.0/25,mb5.8/25,MLv6.4/7,Mw5.7/18,Mw(mB)5.7/25, MwMwp5.4/21,Mwp5.6/21*
*MOS **06** 18:47:24.0±1.0,4°10S×142°99E,h138km,mb5.5/39,Error ellipse: s-maj=9.0km s-min=4.7km az=111.0*
*IDC **06** 18:47:25.0±0.3,4°15S×142°96E,h131km±2km,mb5.1/32, mbtmp5.5/37,MS4.6/30,Error ellipse: s-maj=11.0km s-min=6.2km az=63.0*
*NEIC **06** 18:47:25.1,4°72S×143°00E,h130km,Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^17Nm; Mrr3.32; Mθθ-0.80; Mφφ-2.52; Mrθ-0.20; Mθφ1.52; Mφr-0.84; Fault plane solution: Mo3.48000×10^17 NP1: ϕ±319.96000°,δ40.61000°,λ74.92000°. NP2: ϕ±159.50000°,δ51.06000°,λ102.58000°. Principal axes: T 3.4847, Plg79.0000°, Azm122.0000°; N -0.0153, Plg10.0000°, Azm332.0000°; P -3.4694, Plg5.0000°, Azm241.0000°;*
*NEIC **06** 18:47:25.1,4°12S×142°91E,h130km*
*NEIC **06** 18:47:25.1±2.0,4°13S±0°07×142°93E±0°07,h130km±4km, mb5.5/299,Mww5.6/37,Error ellipse: s-maj=10.9km s-min=10.5km az=160.0*
*GCMT **06** 18:47:26.1±0.1,4°20S±0°01×143°02E±0°01,h137km, MW5.7/160,Moment Tensor Solution. s139,c225; s160,c317; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr3.79±.04; Mθθ-0.64±.04; Mφφ-3.15±.05; Mrθ0.28±.04; Mθφ1.58±.04; Mφr-1.17±.04; Best double couple: Mo4.03600×10^17 NP1:ϕ±330.00000°,δ37.00000°, λ84.00000°. NP2:ϕ±158.00000°,δ54.00000°,λ94.00000°. Principal axes: T 3.9820, Plg81.0000°, Azm88.0000°; N 0.1060, Plg4.0000°, Azm335.0000°; P -4.0890, Plg9.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 18:47:24.9±0.2,4°19S±0°03×142°97E±0°03,h136km±1km, h136km:pP-P,n1104,σ1§52/1167,mb5.5/304,53C-22D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.81**	**306**	P	**Pn**	**18 48 08.8**	**-0.5**
	691nm,0.5s,baz=156,slow=9.4,SNR=202						
JAY				S	**Sn**	**18 48 42.1**	**-1.4**
	1μm,0.4s,baz=38,slow=20,SNR=8.8						
JAY				LR	LR	18 49 00.4	
	comp=Z,20μm,19.6s,baz=247,slow=34						
JAY	**Jayapura**	**2.81**	**306**	P	**Pn**	**18 48 08.2**	**-1.1**
GENI	**Genyem**	**3.21**	**299**	P	**Pn**	**18 48 13.4**	**-1.2**
GENI	**Genyem**	**3.21**	**299**	S	**Sn**	**18 48 51.0**	**-1.9**
GENI	**Genyem**	**3.21**	**299**	P	**Pn**	**18 48 14.1**	**-0.5**
SMPI	**Sarmi**	**4.78**	**297**	P	**Pn**	**18 48 35.0**	**-0.2**
MANU	**Manus Island**	**4.88**	**64**		**Pn**	**18 48 37.2**	**+0.7**
PMG	**Port Moresby**	**6.65**	**142**	Pn	**Pn**	**18 48 59.6**	**-0.6**
PMG	**Port Moresby**	**6.65**	**142**	P	**Pn**	**18 49 00.2**	**0.0**
	117nm,0.5s,baz=31,slow=5.6,SNR=58						
PMG				S	**Sn**	**18 50 14.1**	**-0.7**
	453nm,0.7s,baz=284,slow=12,SNR=4.0						
SRPI	**Serui, Papua**	**7.10**	**289**	P	**Pn**	**18 49 05.5**	**-0.9**
	38nm26μm1μm,0.4s						
BULU	**Kimbe**	**7.44**	**101**	P	**Pn**	**18 49 09.1**	**-1.8**
BAKI	**Biak**	**7.47**	**293**	P	**Pn**	**18 49 11.9**	**+0.5**
RABL	**Rabaul**	**9.17**	**90**	Pn	**Pn**	**18 49 34.4**	**+0.3**
RKPI	**Ransiki, Papua**	**9.18**	**287**	P	**Pn**	**18 49 34.1**	**-0.1**
	10μm13μm814nm,0.9s						
KMPI	**Kaimana, Papua**	**9.26**	**273**	P	**Pn**	**18 49 34.5**	**-0.8**
COEN	**Coen**	**9.71**	**179**		**Pn**	**18 49 41.8**	**+0.4**
COEN	**Coen**	**9.71**	**179**	P	**Pn**	**18 49 42.3**	**+0.9**
	comp=Z,0.0nmcomp=Z,145nm,0.9s						
COEN	**Coen**	**9.71**	**179**	P	**Pn**	**18 49 42.0**	**+0.6**
	comp=Z,144nm,0.9s						
FAKI	**Fak Fak**	**10.78**	**276**	Pn	**Pn**	**18 49 54.2**	**-1.4**
FAKI	**Fak Fak**	**10.78**	**276**	P	**Pn**	**18 49 54.2**	**-1.4**
	comp=Z,422nm,1.3s						
FAKI	**Fak Fak**	**10.78**	**276**	S	**Sn**	**18 51 53.8**	**-0.8**
	comp=Z,422nm,1.3s						
FAKI	**Fak Fak**	**10.78**	**276**	P	**Pn**	**18 49 53.9**	**-1.7**
	comp=Z,15μmcomp=Z,6μmcomp=Z,424nm,1.3s						
SWI	**Sorong**	**12.15**	**285**	P	**Pn**	**18 50 12.9**	**-0.9**
	comp=Z,8μmcomp=Z,10μmcomp=Z,822nm,1.3s						
SAUI	**Saumlaki**	**12.20**	**251**	Pn	**Pn**	**18 50 13.0**	**-1.4**
SAUI	**Saumlaki**	**12.20**	**251**	P	**Pn**	**18 50 14.1**	**-0.3**
	comp=Z,2μm,0.7s						
SAUI	**Saumlaki**	**12.20**	**251**	S	**Sn**	**18 52 28.1**	**-1.0**
	comp=Z,2μm,0.7s						
BNDI	**Bandanaira**	**13.03**	**268**	P	**Pn**	**18 50 24.8**	**-0.4**
	comp=Z,1μm,1.8s						
BNDI	**Bandanaira**	**13.03**	**268**	S	**Sn**	**18 52 48.9**	**-0.3**
	comp=Z,1μm,1.8s						
BNDI	**Bandanaira**	**13.03**	**268**	P	**Pn**	**18 50 24.5**	**-0.7**
	comp=Z,8μmcomp=Z,16μmcomp=Z,1μm,1.8s						
KDU	**Kakadu**	**13.38**	**230**	P	**Pn**	**18 50 28.1**	**-1.5**
KDU	**Kakadu**	**13.38**	**230**	P	**Pn**	**18 50 28.3**	**-1.3**
	comp=Z,887nm,0.6s						
MTSU	**Mount Surprise**	**13.93**	**175**	P	**P**	**18 50 38.9**	**-1.4**
	comp=Z,96nm,0.8s						
MTSU	**Mount Surprise**	**13.93**	**175**	P	**Pn**	**18 50 36.5**	**-0.1**
	comp=Z,96nm,0.8s						
MSAI	**Masohi**	**14.04**	**273**	P	**P**	**18 50 40.3**	**-1.3**
	comp=Z,7μmcomp=Z,4μmcomp=Z,294nm,0.6s						
DRS	**Darwin Rock St**	**14.48**	**235**	P	**Pn**	**18 50 43.7**	**+0.1**
	comp=Z,1μm,0.7s						
MTN	**Manton Dam**	**14.52**	**233**	Pn	**Pn**	**18 50 42.6**	**-1.6**
MTN	**Manton Dam**	**14.52**	**233**	P	**Pn**	**18 50 43.4**	**-0.8**
	comp=Z,0.0nmcomp=Z,1μm,0.7s						
MTN	**Manton Dam**	**14.52**	**233**	P	**Pn**	**18 50 44.0**	**-0.1**
	comp=Z,1μm,0.7s						
AAI	**Ambon**	**14.

comp=Z,54nm,0.3s,baz=32,slow=3.4,SNR=4.8
comp=Z,54nm,0.3s
MMRI Maumere 21.07 257 P **P 18 51 57.5 -1.1**
MMRI Maumere 21.07 257 P **P 18 51 59.2 +0.6**
comp=Z,566nm,1.3s
MMRI Maumere 21.07 257 S **S 18 55 48.2 +2.5**
comp=Z,566nm,1.3s
MMRI Maumere 21.07 257 P **P 18 51 57.9 -0.7**
GD1S Gladstone Soft 21.08 159 P **P 18 52 00.5 +1.9**
comp=Z,118nm,0.9s
AS06 Alice Springs 21.21 203 P **P 18 52 00.2 +0.2**
comp=Z,448nm,0.8s
AS01 Alice Springs 21.23 203 P **P 18 52 01.5 +1.2**
comp=Z,443nm,0.8s
AS31 Alice Springs 21.25 203 P **P 18 52 00.2 -0.4**
AS31 Alice Springs 21.25 203 P **P 18 52 00.2 -0.4**
comp=Z,0.0nmcomp=Z,149nm,0.8s
ASAR Alice Springs 21.25 203 P **P 18 52 00.6 0.0**
comp=Z,99nm,0.7s,baz=31,slow=8.5,SNR=145
ASAR S **S 18 55 44.5 -4.5**
comp=Z,55nm,0.8s,baz=23,slow=23,SNR=7.8
ASAR LR LR 19 01 32.5
comp=Z,4μm,20.1s,baz=55,slow=40
ASAR P3KP 19 26 39.4
comp=Z,0.4nm,0.8s,baz=258,slow=2.0,SNR=5.7
comp=Z,99nm,0.7s
AS19 Alice Springs 21.27 203 P **P 18 52 01.2 +0.6**
comp=Z,730nm,0.8s
FITZ Fitzroy Crossi 21.88 229 P **P 18 52 07.1 -0.1**
comp=Z,222nm,0.5s,baz=50,slow=10,SNR=265
FITZ S **S 18 55 56.3 -3.9**
comp=Z,88nm,1.0s,baz=102,slow=20,SNR=4.7
FITZ LR LR 19 01 34.2
comp=Z,3μm,20.8s,baz=70,slow=39
comp=Z,222nm,0.5s
QLP Quilpie 22.30 177 P **P 18 52 12.3 +0.9**
comp=Z,328nm,1.3s
QLP Quilpie 22.30 177 P **P 18 52 12.9 +1.5**
comp=Z,327nm,1.3s
EIDS Eidsvold 22.46 160 P **P 18 52 13.2 +0.3**
EIDS Eidsvold 22.46 160 P **P 18 52 14.5 +1.5**
comp=Z,531nm,0.7s
EIDS Eidsvold 22.46 160 P **P 18 52 14.8 +1.9**
comp=Z,531nm,0.7s
TOLI2 Tolitoli 22.79 283 P **P 18 52 15.8 -0.4**
TOLI2 Tolitoli 22.79 283 P **P 18 52 17.3 +1.1**
comp=Z,324nm,1.7s
TOLI2 Tolitoli 22.79 283 S **S 18 56 19.6 +4.4**
comp=Z,324nm,1.7s
RMQ Roma 22.86 167 P **P 18 52 17.9 +1.1**
comp=Z,138nm,1.2s
RMQ Roma 22.86 167 P **P 18 52 19.5 +2.8**
comp=Z,138nm,1.2s
KAPI Kappang 23.16 267 P **P 18 52 19.7 0.0**
KAPI IAmb IAmb 18 52 36.8
comp=Z,194nm,1.1s
KAPI Kappang 23.16 267 P **P 18 52 21.9 +2.2**
comp=Z,68nm,0.8s
KAPI Kappang 23.16 267 *i* P **P 18 52 21.4 +1.7**
KAPI pmax pmax
comp=Z,157nm,1.2s
INKA Innaminka 23.52 185 P **P 18 52 24.9 +2.1**
comp=Z,2μm,1.3s
INKA Innaminka 23.52 185 S **S 18 56 33.1 +6.5**
comp=Z,2μm,1.3s
LUES Luesalemba Tem 23.63 107 P **P 18 52 24.5 +0.5**
comp=Z,162nm,1.4s
OOD Oodnadatta 24.48 196 P **P 18 52 33.4 +1.9**
comp=Z,459nm,0.7s
TW1H Toowoomba 1 Ha 24.77 161 P **P 18 52 35.7 +1.5**
comp=Z,336nm,0.7s
AUWSH Wavell State H 25.01 158 P **P 18 52 38.1 +1.8**
comp=Z,124nm,0.9s
WRKA Warakurna 25.08 213 P **P 18 52 38.0 +0.9**
comp=Z,395nm,0.8s
WRKA Warakurna 25.08 213 P **P 18 52 38.3 +1.2**
comp=Z,395nm,0.8s
WRKA Warakurna 25.08 213 S **S 18 56 55.1 +3.4**
comp=Z,395nm,0.8s
PLAI Plampang 25.45 258 P **P 18 52 39.4 -1.1**
GC1S Gold Coast 1 S 25.87 158 P **P 18 52 45.9 +1.8**
MYLDM Lahad Datu 26.15 291 IAmb IAmb 18 53 25.5
comp=Z,183nm,0.9s
MYLDM Lahad Datu 26.15 291 P **P 18 52 49.2 +2.4**
comp=Z,183nm,1.5s
BKB Balikpapan 26.20 276 P **P 18 52 49.6 +2.3**
comp=Z,302nm,1.6s
KOUNC Koumac, New Ca 26.36 130 P **P 18 52 49.9 +1.3**
comp=Z,0.5nm,0.9s
LCRK Leigh Creek 26.51 189 P **P 18 52 51.3 +1.5**
comp=Z,812nm,0.7s
CMSA Cobar Meteorol 27.33 175 P **P 18 52 58.1 +1.0**
comp=Z,72nm,1.1s
CMSA Cobar Meteorol 27.33 175 P **P 18 52 59.3 +2.1**
comp=Z,73nm,1.1s
ARMA Armidale 27.34 164 IAmb IAmb 18 53 01.8
comp=Z,146nm,1.1s
ARMA Armidale 27.34 164 P **P 18 52 59.3 +1.8**
comp=Z,165nm,1.6s
ARMA Armidale 27.34 164 P **P 18 52 59.1 +1.6**
comp=Z,166nm,1.6s
STKA Stephens Creek 27.58 183 P **P 18 52 59.5 +0.1**
STKA Stephens Creek 27.58 183 P **P 18 52 60.0 +0.6**
comp=Z,947nm,0.8s
STKA Stephens Creek 27.58 183 P **P 18 53 00.5 +1.1**
comp=Z,131nm,0.7s,baz=350,slow=8.9,SNR=184
STKA S **S 18 57 28.0 -2.9**
comp=Z,13nm,0.9s,baz=32,slow=17,SNR=1.8
comp=Z,131nm,0.7s
STKA Stephens Creek 27.58 183 P **P 18 53 00.4 +1.1**
comp=Z,47nm,0.8s
STKA Stephens Creek 27.58 183 P **P 18 52 59.5 +0.1**
STKA pmax pmax
comp=Z,637nm,0.8s
MBWA Marble Bar 28.19 231 P **P 18 53 05.5 +0.5**
MBWA Marble Bar 28.19 231 P **P 18 53 05.5 +0.5**
comp=Z,180nm,1.1s
MBWA Marble Bar 28.19 231 P **P 18 53 06.3 +1.4**
comp=Z,103nm,1.1s
PSA00 Pilbara Seismi 28.33 230 P **P 18 53 05.7 -0.5**
PSA00 IAmb IAmb 18 53 12.3
comp=Z,62nm,0.8s
PSA00 Pilbara Seismi 28.33 230 IAmb IAmb 18 53 11.8
comp=Z,140nm,0.8s
PSA00 Pilbara Seismi 28.33 230 P **P 18 53 07.3 +1.1**
comp=Z,209nm,0.9s
PSA00 Pilbara Seismi 28.33 230 P **P 18 53 08.9 +2.7**
comp=Z,209nm,0.9s
PSAC1 Pilbara Seismi 28.33 230 P **P 18 53 06.2 -0.1**
comp=Z,213nm,1.1s
KKM Kota Kinabalu 28.58 291 P **P 18 53 07.3 -1.3**
KKM IAmb IAmb 18 54 11.1
comp=Z,81nm,1.1s
DZM Mont Dzumac 28.88 130 P **P 18 53 11.3 +0.1**
DZM Mont Dzumac 28.88 130 P **P 18 53 12.2 +1.1**
comp=Z,132nm,1.1s
JAGI Jajag, Banyuwa 28.95 260 P **P 18 53 11.9 +0.1**
comp=Z,74nm,0.6s
ONTNC Ouen Toro 29.02 130 P **P 18 53 11.9 -0.3**
ONTNC IAmb IAmb 18 53 13.7
comp=Z,140nm,1.0s
ONTNC Ouen Toro 29.02 130 P **P 18 53 12.9 +0.6**
comp=Z,155nm,0.8s
WHYH Whyalla 29.14 189 P **P 18 53 14.6 +1.4**
comp=Z,194nm,0.8s
BBOO Buckleboo 29.20 192 P **P 18 53 14.3 +0.5**
BBOO Buckleboo 29.20 192 P **P 18 53 14.3 +0.5**
comp=Z,362nm,1.0s
BBOO Buckleboo 29.20 192 P **P 18 53 15.1 +1.3**
comp=Z,362nm,1.0s
YATNC Mamie plateau, 29.21 130 P **P 18 53 15.2 +1.2**
PTPS Port Pirie 29.21 189 P **P 18 53 15.8 +2.0**
comp=Z,325nm,0.7s
HTT Hallett 29.34 187 P **P 18 53 16.1 +1.0**
comp=Z,192nm,0.8s
HTT Hallett 29.34 187 P **P 18 53 16.6 +1.5**
comp=Z,192nm,0.8s
OUENC Ouen Island, N 29.38 130 P **P 18 53 17.1 +1.7**
comp=Z,21nm,0.9s
MARNC Mare, Loyalty 29.79 127 P **P 18 53 20.4 +1.3**
comp=Z,4.9nm,0.6s
MGCD Mangrove Creek 29.86 166 P **P 18 53 17.6 -2.0**
PINNC Pines Island, 29.95 130 P **P 18 53 21.5 +1.1**
PINNC IAmb IAmb 18 53 24.3
comp=Z,142nm,1.2s
FORT Forrest 29.96 206 P **P 18 53 21.7 +1.2**
FORT Forrest 29.96 206 P **P 18 53 22.6 +2.1**
comp=Z,1μm,0.8s
FORT Forrest 29.96 206 P **P 18 53 22.3 +1.8**
comp=Z,1μm,0.8s
YNG Young 30.38 171 P **P 18 53 25.9 +1.6**
comp=Z,488nm,1.4s
YNG Young 30.38 171 P **P 18 53 26.2 +2.0**
comp=Z,182nm,1.4s
GHSS Government Hou 30.85 187 P **P 18 53 30.4 +2.1**
comp=Z,690nm,0.7s
WOLH Wollongong Har 30.95 167 P **P 18 53 31.3 +2.1**
comp=Z,172nm,0.8s
JCJ Chichijima 31.11 359 P P 18 53 22.2 -8.4
comp=Z,59nm,0.4s,baz=276,slow=20,SNR=8.7
JCJ LR LR 19 06 18.6
comp=Z,524nm,18.8s,baz=106,slow=36
SBUM Sibu 31.43 282 P **P 18 53 34.8 +1.1**
SBUM Sibu 31.43 282 P **P 18 53 35.7 +2.0**
comp=Z,15nm,1.5s
CAN Canberra 31.48 171 IAmb IAmb 18 53 37.2
comp=Z,91nm,0.6s
CAN Canberra 31.48 171 P **P 18 53 35.4 +1.5**
comp=Z,146nm,0.8s
CAN Canberra 31.48 171 P **P 18 53 35.9 +2.0**
comp=Z,223nm,0.8s
CAN Canberra 31.48 171 P **P 18 53 35.8 +1.9**
CNB Canberra Magne 31.54 170 P **P 18 53 36.0 +1.6**
comp=Z,129nm,0.9s
CNB Canberra Magne 31.54 170 P **P 18 53 36.5 +2.1**
comp=Z,128nm,0.9s
MEEK Meekatharra 32.27 224 P **P 18 53 41.9 +1.0**
comp=Z,198nm,1.0s
ARPS Mount Arapiles 32.45 182 P **P 18 53 43.6 +1.3**
comp=Z,749nm,0.8s
ARPS Mount Arapiles 32.45 182 P **P 18 53 44.1 +1.8**
comp=Z,749nm,0.8s
KSM Kuching 33.12 279 IAmb IAmb 18 54 35.4
comp=Z,66nm,1.1s
KSM Kuching 33.12 279 P **P 18 53 50.5 +2.0**
comp=Z,40nm,1.4s
MILA Mila 33.20 171 P **P 18 53 50.0 +1.1**
comp=Z,34nm,0.9s
TOO Toolangi 33.31 176 **PcP 18 56 30.4 +1.6**
TOO Toolangi 33.31 176 P **P 18 53 52.5 +2.6**
comp=Z,38nm,1.0s
GIRL Giralia 33.31 234 P **P 18 53 52.6 +2.6**
comp=Z,329nm,0.9s
KMBL Kambalda 33.53 214 P **P 18 53 53.1 +1.3**
comp=Z,246nm,1.1s
GEXS Deakin Univers 33.88 178 P **P 18 53 57.3 +2.6**
comp=Z,142nm,0.8s
JOW Kunigami 33.95 336 P **P 18 53 56.1 +0.6**
comp=Z,48nm,1.0s,baz=87,slow=6.3,SNR=5.2
JOW LR LR 19 05 26.6
comp=Z,992nm,21.7s,baz=66,slow=32
comp=Z,48nm,1.0s
JOW Kunigami 33.95 336 P **P 18 53 56.6 +1.1**
comp=Z,149nm,1.7s
YULB Yu-li 34.62 323 P **P 18 54 02.7 +1.4**
comp=Z,58nm,2.4s
NACB Ninganchiao 35.04 325 P **P 18 54 06.5 +1.6**
comp=Z,180nm,1.7s
BBJI Bungbulang 35.28 263 P **P 18 54 06.3 -0.9**
YHNB Yeheng 35.55 325 IAmb IAmb 18 54 21.6
comp=Z,176nm,1.3s
YHNB Yeheng 35.55 325 P **P 18 54 10.4 +1.1**
comp=Z,116nm,1.4s
MORW Morawa 35.56 223 P **P 18 54 10.5 +1.2**
comp=Z,240nm,1.2s
TATO Taipei 35.72 325 P **P 18 54 12.1 +1.4**
TATO Taipei 35.72 325 P **P 18 54 12.1 +1.4**
comp=Z,408nm,2.0s
BLDU Ballidu 36.12 220 P **P 18 54 14.8 +0.8**
comp=Z,290nm,0.9s
KLBR Kellerberrin 36.12 218 P **P 18 54 15.0 +1.0**
comp=Z,384nm,0.9s
FUNA Funafuti 36.25 99 P **P 18 54 15.3 0.0**
KNMB Chin-men Tao 37.19 321 P **P 18 54 22.0 -1.2**
JHJ Hachijo jima 2 37.22 356 LR LR 19 06 29.8
comp=Z,1μm,21.4s,baz=192,slow=31
CORO Coronation Par 37.29 175 P **P 18 54 26.0 +2.2**
comp=Z,63nm,0.9s
MUN Mundaring 37.34 219 P **P 18 54 25.6 +1.2**
comp=Z,138nm,1.0s
NWAO Narrogin (SRO) 37.36 217 P **P 18 54 25.4 +0.8**
NWAO IAmb IAmb 18 55 51.3
comp=Z,66nm,0.8s
NWAO Narrogin (SRO) 37.36 217 LR LR 19 10 47.2
comp=Z,2μm,18.4s,baz=1.0,slow=38
NWAO Narrogin (SRO) 37.36 217 P **P 18 54 26.5 +2.0**
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 37.36 217 P **P 18 54 25.4 +0.8**
NWAO pmax pmax
comp=Z,66nm,0.8s
NWAO Narrogin (SRO) 37.36 217 P **P 18 54 25.8 +1.3**
MTKN Mount Kenneth 37.59 220 P **P 18 54 29.1 +2.7**
comp=Z,517nm,0.8s
DGTI Dogotuki 38.05 111 P **P 18 54 31.2 +0.7**
comp=Z,42nm,0.8s
JMN Monobe 38.67 348 P **P 18 54 36.4 +0.9**
comp=Z,174nm,1.6s
TAU Tasmania Unive 38.76 175 P **P 18 54 38.4 +2.4**
TAU IAmb IAmb 18 54 41.1
comp=Z,275nm,1.9s
TAU Tasmania Unive 38.76 175 P **P 18 54 38.4 +2.4**
TAU pmax pmax
comp=Z,275nm,1.9s
TAU Tasmania Unive 38.76 175 P **P 18 54 38.3 +2.3**
JNU Nakatsue 38.83 344 IAmb IAmb 18 54 39.1
comp=Z,111nm,1.0s
JNU Nakatsue 38.83 344 P **P 18 54 36.8 -0.1**
comp=Z,58nm,0.9s,baz=134,slow=5.0,SNR=17
comp=Z,58nm,0.9s
JNU Nakatsue 38.83 344 P **P 18 54 37.8 +0.9**
comp=Z,145nm,1.2s
INU Inuyama 39.72 352 P **P 18 54 42.1 -2.1**
INU IAmb IAmb 18 54 46.8
comp=Z,58nm,0.9s
INU Inuyama 39.72 352 P **P 18 54 44.6 +0.5**
comp=Z,75nm,1.8s
INU Inuyama 39.72 352 P **P 18 54 43.9 -0.3**
JGF Kuroka 39.92 353 IAmb IAmb 18 54 50.1
comp=Z,40nm,0.7s
JGF Kuroka 39.92 353 P **P 18 54 45.7 -0.2**
comp=Z,54nm,0.8s
QIZ Qiongzhong 39.94 306 P **P 18 54 47.4 +1.1**
QIZ sP **sP 18 55 31.2 -0.8**
QIZ S **S 19 00 37.9 -3.7**
QIZ sS **sS 19 01 35.7 +1.7**
QIZ SS **SS 19 03 42.7 -1.4**
QIZ LR LR
comp=Z,410nm,12.7s
QIZ LR LR
comp=Z,740nm,12.3s
QIZ LR LR
comp=Z,660nm,19.3s
MJAR Matsushiro Arr 40.76 354 P **P 18 54 51.8 -0.9**
comp=Z,31nm,0.7s,baz=165,slow=10,SNR=83
MJAR LR LR 19 11 06.9
comp=Z,551nm,21.1s,baz=135,slow=35
comp=Z,31nm,0.7s
MAJO Matsushiro 40.76 354 P **P 18 54 51.4 -1.3**
MAJO IAmb IAmb 18 54 53.6
comp=Z,160nm,1.2s
MAJO Matsushiro 40.76 354 P **P 18 54 51.6 -1.1**
comp=Z,123nm,1.2s
MAJO Matsushiro 40.76 354 *i* P **P 18 54 51.0 -1.7**
MAJO pmax pmax
comp=Z,58nm,0.6s
MAJO Matsushiro 40.76 354 P **P 18 54 51.8 -1.0**
MAJO PcP **PcP 18 56 52.4 +0.9**
MJB9 Matsu-Tunnel 40.76 354 P **P 18 54 52.3 -0.4**
MJB9 IAmb IAmb 18 54 54.6
comp=Z,149nm,1.2s
UBPT Khong Chiam 41.87 298 P **P 18 55 01.7 -0.4**
UBPT Khong Chiam 41.87 298 P **P 18 55 04.0 +1.9**
comp=Z,26nm,2.0s
JMM Marumori 41.88 357 IAmb IAmb 18 55 04.1
comp=Z,149nm,1.1s
JMM Marumori 41.88 357 P **P 18 55 02.9 +1.1**
comp=Z,127nm,1.0s
OUZ Omahuta 41.90 141 P **P 18 55 05.0 +3.0**
JSD Sado 42.23 354 P **P 18 55 04.8 +0.1**
comp=Z,97nm,1.1s
NJ2 Nanjing 42.72 329 ⇑ *i* P **P 18 55 10.2 +1.5**
NJ2 pP **pP 18 55 42.3 +3.0**
NJ2 S **S 19 01 26.9 +4.7**
NJ2 pmax pmax
comp=Z,68nm,1.6s
NJ2 pmax pmax
comp=Z,900nm,5.7s
NJ2 LR LR
comp=Z,560nm,17.5s
NJ2 LR LR
comp=Z,560nm,16.6s
NJ2 LR LR
comp=Z,660nm,21.8s
WCZ Waipu Caves 42.83 142 P **P 18 55 12.5 +2.9**
TJN Taejon 42.91 341 *i* P **P 18 55 10.4 +0.2**
GULI GuiLin 43.13 314 P **P 18 55 16.0 +3.8**
GULI pP **pP 18 55 44.6 +1.8**
GULI S **S 19 01 32.3 +3.8**
GULI pmax pmax
comp=Z,100nm,1.7s
GULI LR LR
comp=Z,900nm,20.6s
GULI LR LR
comp=Z,800nm,22.4s
GULI LR LR
comp=Z,900nm,20.6s
GRZ Great Barrier 43.72 141 P **P 18 55 19.0 +2.3**
KSRS Korea Array 43.73 343 P **P 18 55 17.7 +1.0**
comp=Z,26nm,0.7s,baz=156,slow=8.7,SNR=49
KSRS PcP **PP 18 57 02.9 +1.5**
comp=Z,5.8nm,0.8s,baz=164,slow=2.6,SNR=4.6
comp=Z,26nm,0.7s
KSAR Wonju Array Be 43.73 343 P **P 18 55 17.0 +0.3**
KSAR Wonju Array Be 43.73 343 P **P 18 55 17.0 +0.3**
WHN Wuhan 44.05 324 P **P 18 55 20.7 +1.3**
WHN pP **pP 18 55 52.2 +2.0**
WHN PcP **PcP 18 57 03.2 +0.7**
WHN S **S 19 01 43.8 +2.1**
WHN sS **sS 19 02 38.9 +4.0**
WHN pmax pmax
comp=Z,93nm,1.6s
INCN Inchon 44.16 341 P **P 18 55 20.6 +0.4**
INCN Inchon 44.16 341 P **P 18 55 21.2 +1.0**
comp=Z,184nm,1.6s
INCN Inchon 44.16 341 P **P 18 55 20.6 +0.4**
INCN pmax pmax
comp=Z,374nm,1.5s
KUZ Kuaotunu 44.20 141 P **P 18 55 22.5 +2.0**
comp=Z,146nm,1.0s
KUZ Kuaotunu 44.20 141 P **P 18 55 23.2 +2.7**
RPSI Rantau Prapat 44.54 278 P **P 18 55 22.2 -1.4**
PSI Prapat 44.56 278 P **P 18 55 26.1 +2.2**
comp=Z,67nm,0.9s
PSI Prapat 44.56 278 P **P 18 55 22.3 -1.6**
PSI pmax pmax
comp=Z,43nm,0.9s
TOZ Tahuroa Road 44.69 143 P **P 18 55 26.1 +1.7**
TOZ IAmb IAmb 18 55 28.9
comp=Z,78nm,0.8s
TOZ Tahuroa Road 44.69 143 P **P 18 55 27.4 +3.0**
JTM Tenmabayashi 44.79 358 P **P 18 55 25.8 +0.7**
comp=Z,383nm,0.9s
NONG Nongkai 45.06 301 P **P 18 55 28.3 +0.7**
comp=Z,67nm,0.8s
SRIT Nakonsritamara 45.07 286 P **P 18 55 28.3 +0.5**
comp=Z,28nm,0.9s
QRZ Quartz Range 45.12 148 IAmb IAmb 18 55 31.8
comp=Z,68nm,0.7s
QRZ Quartz Range 45.12 148 P **P 18 55 30.3 +2.5**
comp=Z,105nm,1.6s
QRZ Quartz Range 45.12 148 P **P 18 55 30.5 +2.6**
VRZ Vera Road 45.17 145 P **P 18 55 31.6 +3.4**
NAYO Nakonayok 45.20 295 P **P 18 55 29.7 +0.9**
comp=Z,171nm,1.1s
DSZ Denniston Nort 45.42 150 IAmb IAmb 18 55 37.2
comp=Z,50nm,0.7s
DSZ Denniston Nort 45.42 150 PcP **PcP 18 57 07.3 +0.2**
GSI Gunungsitoli 45.69 276 P **P 18 55 31.6 -1.2**
NGZ Ngauruhoe 45.69 144 P **P 18 55 35.3 +2.8**
JCZ Jackson Bay 45.78 154 P **P 18 55 35.3 +2.2**
comp=Z,217nm,0.9s
JCZ Jackson Bay 45.78 154 P **P 18 55 35.5 +2.4**
FOZ Fox Glacier 45.82 153 P **P 18 55 34.8 +1.6**
FOZ PcP **PcP 18 57 08.1 -0.3**
NNZ Nelson 45.85 148 IAmb IAmb 18 55 39.8
comp=Z,95nm,1.2s
NNZ Nelson 45.85 148 P **P 18 55 35.3 +1.7**
WVZ Waitaha Valley 45.89 152 P **P 18 55 34.4 +0.6**
WVZ PcP **PcP 18 57 07.6 -1.0**
MSZ Milford Sound 45.90 155 P **P 18 55 36.5 +2.7**
SLVN Son La 45.91 305 P **P 18 55 36.0 +1.6**
comp=Z,21nm,2.8s
ERM Erimo 45.98 0 *i* P **P 18 55 34.6 +0.2**
ERM pmax pmax
comp=Z,13nm,0.6s
THZ Tophouse 45.99 149 IAmb IAmb 18 55 39.7
comp=Z,64nm,0.7s
THZ Tophouse 45.99 149 P **P 18 55 36.0 +1.3**
THZ PcP **PcP 18 57 08.5 -0.7**
URZ Urewera 46.01 142 P **P 18 55 35.9 +1.1**
comp=Z,54nm,0.3s,baz=342,slow=4.9,SNR=110
comp=Z,54nm,0.3s
URZ Urewera 46.01 142 P **P 18 55 36.3 +1.5**
HAZ Te Kaha 46.11 141 P **P 18 55 37.5 +1.9**
RTZ Ruatahuna 46.15 143 P **P 18 55 37.6 +1.5**
BKZ Black Stump Fm 46.21 144 P **P 18 55 37.5 +1.0**
BKZ IAmb IAmb 18 55 39.6
comp=Z,151nm,0.9s
BKZ Black Stump Fm 46.21 144 P **P 18 55 38.0 +1.5**
comp=Z,212nm,0.7s
BKZ Black Stump Fm 46.21 144 P **P 18 55 37.9 +1.4**
DCZ Deep Cove 46.23 156 IAmb IAmb 18 55 40.6
comp=Z,152nm,1.0s
DCZ Deep Cove 46.23 156 P **P 18 55 38.6 +2.2**
MWZ Matawai 46.31 142 P **P 18 55 39.1 +1.8**
MXZ Matakaoa Point 46.33 141 P **P 18 55 38.3 +1.0**
MXZ IAmb IAmb 18 55 41.8
comp=Z,67nm,0.8s
MXZ Matakaoa Point 46.33 141 P **P 18 55 39.4 +2.1**
comp=Z,77nm,0.8s
MXZ Matakaoa Point 46.33 141 P **P 18 55 38.9 +1.6**
LTZ Lake Taylor 46.42 150 IAmb IAmb 18 55 41.4
comp=Z,50nm,0.6s
LTZ Lake Taylor 46.42 150 P **P 18 55 39.1 +1.1**
WKZ Wanaka 46.48 154 IAmb IAmb 18 55 50.0
comp=Z,120nm,1.3s
WKZ Wanaka 46.48 154 P **P 18 55 40.3 +1.8**
TSZ Takapari Road 46.49 145 P **P 18 55 40.0 +1.5**
GYA Guiyang 46.50 313 ⇓ P **P 18 55 41.5 +2.5**
GYA pP pP 18 56 10.9 +0.9
GYA S **S 19 02 20.2 +2.9**
GYA pmax pmax
comp=Z,89nm,1.6s
GYA LR LR
comp=Z,830nm,17.2s
RPZ Rata Peaks 46.53 152 IAmb IAmb 18 55 41.4
comp=Z,152nm,1.0s
RPZ Rata Peaks 46.53 152 P **P 18 55 40.1 +1.2**
comp=Z,91nm,0.6s,baz=294,slow=1.4,SNR=37
RPZ LR LR 19 15 36.6
comp=Z,998nm,18.1s,baz=325,slow=36
comp=Z,91nm,0.6s
RPZ Rata Peaks 46.53 152 P **P 18 55 40.7 +1.8**
MLZ Mavora Lakes 46.54 156 IAmb IAmb 18 55 41.6
comp=Z,81nm,0.8s
MLZ Mavora Lakes 46.54 156 P **P 18 55 40.7 +1.8**
PUZ Puketiti 46.60 141 P **P 18 55 41.1 +1.6**
PYZ Puysegur Point 46.62 157 P **P 18 55 42.1 +2.6**
SNZO South Karori 46.63 147 P **P 18 55 39.6 0.0**
SNZO IAmb IAmb 18 55 41.7
comp=Z,129nm,0.8s
SNZO South Karori 46.63 147 P **P 18 55 40.5 +0.9**
LBZ Lake Benmore 46.65 153 IAmb IAmb 18 55 42.4
comp=Z,89nm,0.8s
LBZ Lake Benmore 46.65 153 P **P 18 55 40.9 +1.1**
LBZ PcP **PcP 18 57 11.7 +0.3**
MRZ Mangatainoka R 46.67 146 P **P 18 55 41.0 +1.0**
BHW Baring Head 46.79 147 IAmb IAmb 18 55 42.3
comp=Z,97nm,0.6s
KHZ Kahutara 46.79 149 IAmb IAmb 18 55 42.5
comp=Z,53nm,0.6s
KHZ Kahutara 46.79 149 P **P 18 55 42.1 +1.3**
comp=Z,76nm,1.7s
KHZ Kahutara 46.79 149 P **P 18 55 41.5 +0.7**
KNZ Kokohu 46.83 143 P **P 18 55 42.5 +1.4**
WHZ Wether Hill Ro 46.90 156 IAmb IAmb 18 55 44.9
comp=Z,140nm,0.9s
WHZ Wether Hill Ro 46.90 156 P **P 18 55 43.0 +1.4**
ENH Enshi 46.90 319 IAmb IAmb 18 56 16.0
comp=Z,69nm,0.7s

ENH	**Enshi**	**46.90 319**	P	**P**	**18 55 43.3 +1.4**
	comp=Z,68nm,1.9s				
TIA	**Tai'an**	**46.90 331**	P	**P**	**18 55 42.1 +0.3**
TIA			pP	**pP**	**18 56 13.1 +0.2**
TIA			sP	**sP**	**18 56 28.8 +0.6**
TIA			ScP	**ScP**	**19 00 55.6 +2.0**
TIA			S	**S**	**19 02 23.8 +1.3**
TIA			sS	**sS**	**19 03 16.5 +0.4**
TIA			SS	**SS**	**19 05 49.0 -2.2**
TIA			pmax	pmax	
	comp=Z,53nm,1.9s				
TIA			pmax	pmax	
	comp=Z,780nm,3.9s				
TIA			LR	LR	
	comp=Z,510nm,17.6s				
TIA			LR	LR	
	comp=Z,670nm,15.3s				
TIA			LR	LR	
	comp=Z,820nm,22.2s				
EAZ	**Earnscleugh**	**46.93 155**	P	**P**	**18 55 42.6 +0.7**
EAZ			PcP	**PcP**	**18 57 13.5 +1.1**
GVZ	**Greta Valley S**	**46.94 150**	P	**P**	**18 55 43.2 +1.2**
PWZ	**Pawanui**	**46.99 144**	P	**P**	**18 55 44.0 +1.5**
PXZ	**Pawanui**	**46.99 144**	P	**P**	**18 55 43.8 +1.4**
TMZ	**Timaru**	**47.02 153**	P	**P**	**18 55 43.7 +1.0**
TMZ			PcP	**PcP**	**18 57 13.7 +1.0**
BFZ	**Birch Farm**	**47.06 145**	P	**P**	**18 55 44.5 +1.5**
	comp=Z,306nm,0.8s				
BFZ	**Birch Farm**	**47.06 145**	P	**P**	**18 55 43.9 +0.9**
DL2	**Dalian**	**47.20 337**	P	**P**	**18 55 45.1 +1.1**
DL2			pP	**pP**	**18 56 15.4 +0.3**
DL2			sP	**sP**	**18 56 31.1 +0.7**
DL2			S	**S**	**19 02 28.7 +2.2**
DL2			pmax	pmax	
	comp=Z,58nm,1.8s				
DL2			pmax	pmax	
	comp=Z,650nm,3.5s				
SRDT	**SRDT**	**47.21 294**	P	**P**	**18 55 46.7 +2.2**
	comp=Z,38nm,2.1s				
MQZ	**McQueen's Vall**	**47.29 151**	IAmb	IAmb	18 55 49.1
	comp=Z,53nm,0.8s				
MQZ	**McQueen's Vall**	**47.29 151**	P	**P**	**18 55 46.1 +1.4**
TUZ	**Tuapeka**	**47.64 155**	P	**P**	**18 55 48.6 +1.3**
APZ	**The Paps**	**47.68 157**	P	**P**	**18 55 48.9 +1.2**
MSHR	**Mys Shultsa**	**47.76 348**	*i* P	**P**	**18 55 49.0 +0.7**
MSHR			pmax	pmax	
	comp=Z,147nm,1.0s				
SYZ	**Scrubby Hill**	**47.90 156**	P	**P**	**18 55 51.0 +1.7**
PSTR	**Posyet**	**47.91 348**	*i* P	**P**	**18 55 50.3 +0.9**
HHSZ	**Highcliff Hill**	**48.00 154**	P	**P**	**18 55 53.7 +3.5**
LYN	**LuoYang**	**48.06 326**	P	**P**	**18 55 51.8 +1.0**
LYN			pP	pP	18 56 24.4 +2.5
LYN			sP	sP	18 56 38.0 +0.9
LYN			S	**S**	**19 02 42.2 +3.3**
LYN			sS	sS	19 03 33.7 +1.0
LYN			pmax	pmax	
	comp=Z,79nm,1.5s				
ASAJ	**Asahikawa**	**48.08 360**	P	**P**	**18 55 51.2 +0.4**
	comp=Z,53nm,0.9s,baz=214,slow=12,SNR=39				
ASAJ			LR	LR	19 21 16.9
	comp=Z,240nm,18.6s,baz=187,slow=42				
	comp=Z,53nm,0.9s				
JKA	**Kamikawa-asahi**	**48.08 360**	IAmb	IAmb	18 55 53.1
	comp=Z,110nm,1.0s				
VLA	**Vladivostok**	**48.14 349**	*i* P	**P**	**18 55 51.8 +0.6**
VLA			pmax	pmax	
	comp=Z,83nm,1.0s				
KMI	**Kunming**	**48.73 309**	⇑P	**P**	**18 55 58.6 +2.3**
KMI			pP	pP	18 56 28.1 +0.5
KMI			sP	sP	18 56 40.3 -2.4
KMI			S	**S**	**19 02 49.2 +0.1**
KMI			sS	sS	19 03 44.5 +1.5
KMI			pmax	pmax	
	comp=Z,79nm,1.6s				
KMI			LR	LR	
	comp=Z,490nm,18.8s				
KMI			LR	LR	
	comp=Z,520nm,19.0s				
KMI			LR	LR	
	comp=Z,670nm,20.8s				
CMAR	**Chiang Mai Arr**	**48.86 299**	P	**P**	**18 55 57.2 0.0**
CMAR	**Chiang Mai Arr**	**48.86 299**	P	**P**	**18 55 58.5 +1.2**
	comp=Z,23nm,0.8s,baz=124,slow=6.3,SNR=106				
CMAR			S	**S**	**19 02 52.1 +1.4**
	comp=Z,0.2nm,0.4s,baz=344,slow=34,SNR=1.6				
CMAR			LR	LR	19 18 26.7
	comp=Z,279nm,18.2s,baz=120,slow=38				
CMAR			PKPPKP	**P'P'df**	**19 26 56.8 -2.5**
	comp=Z,1.0nm,0.9s,baz=248,slow=3.6,SNR=4.7				
	comp=Z,23nm,0.8s				
CHTO	**Chiang Mai**	**49.00 299**	P	**P**	**18 55 58.7 +0.4**
CHTO	**Chiang Mai**	**49.00 299**	P	**P**	**18 55 58.7 +0.4**
CHTO			pmax	pmax	
	comp=Z,33nm,1.0s				
HNS	**HongShan**	**49.02 330**	⇑P	**P**	**18 55 58.6 +0.5**
HNS			pP	**pP**	**18 56 31.0 +1.6**
HNS			sP	**sP**	**18 56 44.8 +0.3**
HNS			PP	**PP**	**18 57 55.6 +2.6**
HNS			ScP	**ScP**	**19 01 05.0 +2.5**
HNS			S	**S**	**19 02 51.4 -0.9**
HNS			sS	**sS**	**19 03 47.4 +1.1**
HNS			pmax	pmax	
	comp=Z,73nm,2.0s				
HNS			pmax	pmax	
	comp=Z,800nm,5.8s				
HNS			LR	LR	
	comp=Z,810nm,19.2s				
HNS			LR	LR	
	comp=Z,740nm,19.0s				
HNS			LR	LR	
	comp=Z,1μm,20.6s				
SNY	**Shenyang**	**49.08 341**	⇑P	**P**	**18 55 59.0 +0.6**
SNY			S	**S**	**19 02 54.1 +1.1**
SNY			pmax	pmax	
	comp=Z,73nm,1.6s				
SNY			pmax	pmax	
	comp=Z,1μm,3.9s				
SNY			LR	LR	
	comp=Z,330nm,15.1s				
SNY			LR	LR	
	comp=Z,330nm,8.5s				
SNY			LR	LR	
	comp=Z,420nm,15.9s				
USA0B	**Ussuriysk Arra**	**49.17 350**	*i* P	**P**	**18 55 58.8 -0.2**
USRK	**Ussuriysk Ar.**	**49.17 350**	P	**P**	**18 55 59.4 +0.4**
USRK	**Ussuriysk Ar.**	**49.17 350**	P	**P**	**18 55 59.8 +0.8**
	comp=Z,90nm,0.5s,baz=147,slow=6.6,SNR=276				
USRK			LR	LR	19 15 32.5
	comp=Z,484nm,19.2s,baz=137,slow=34				
	comp=Z,90nm,0.5s				
USRK	**Ussuriysk Ar.**	**49.17 350**	P	**P**	**18 55 59.4 +0.4**
TEY	**Ternei**	**49.33 354**	⇓*e*P	**P**	**18 56 00.0 -0.2**
TEY			*e*		19 02 49.5
TEY			pmax	pmax	
	comp=Z,10.0nm,2.1s				
TEY			pmax	pmax	
	comp=E,10.0nm,1.0s				
TEY			pmax	pmax	
	comp=N,10.0nm,1.2s				
XAN	**Xi'an**	**49.77 322**	⇑P	**P**	**18 56 04.5 +0.6**
XAN			pP	pP	18 56 34.9 -0.4
XAN			PcP	**PcP**	**18 57 25.0 +2.1**
XAN			PP	**PP**	**18 58 01.4 +1.5**
XAN			S	**S**	**19 03 04.3 +1.3**
XAN			sS	sS	19 03 56.5 -0.7
XAN			SS	**SS**	**19 06 35.9 -1.6**
XAN			pmax	pmax	
	comp=N,120nm,1.7s				
XAN			pmax	pmax	
	comp=N,1μm,6.2s				
XAN			LR	LR	
	comp=N,570nm,19.1s				
XAN			LR	LR	
	comp=N,470nm,18.1s				
XAN			LR	LR	
	comp=N,540nm,15.8s				
MDJ	**Mudanjiang**	**50.04 348**	IAmb	IAmb	18 56 08.1
	comp=Z,79nm,0.9s				
MDJ	**Mudanjiang**	**50.04 348**	P	**P**	**18 56 05.9 +0.2**
MDJ			PcP	**PcP**	**18 57 18.3 -5.2**
MDJ			S	**S**	**19 03 09.8 +3.5**
MDJ			sS	sS	19 04 03.1 +2.6
MDJ			pmax	pmax	
	comp=Z,110nm,1.5s				
MDJ	**Mudanjiang**	**50.04 348**	P	**P**	**18 56 06.7 +1.0**
	comp=Z,104nm,1.1s				
MDJ	**Mudanjiang**	**50.04 348**	P	**P**	**18 56 06.2 +0.5**
MDJ			pP	**pP**	**18 56 39.7 +2.5**
PZH	**PanZhiHua**	**50.21 310**	P	**P**	**18 56 08.5 +1.1**
PZH			pP	**pP**	**18 56 40.0 +1.2**
PZH			S	**S**	**19 03 11.0 +1.5**
PZH			sS	**sS**	**19 04 02.9 -0.8**
PZH			pmax	pmax	
	comp=Z,30nm,1.6s				
PZH			pmax	pmax	
	comp=Z,230nm,5.6s				
PZH			LR	LR	
	comp=Z,240nm,18.4s				
PZH			LR	LR	
	comp=Z,280nm,18.5s				
PZH			LR	LR	
	comp=Z,430nm,18.8s				
CN2	**Changchun**	**50.31 344**	P	**P**	**18 56 08.2 +0.5**
CN2			pP	pP	18 56 37.5 -1.7
CN2			PcP	**PcP**	**18 57 24.8 +0.3**
CN2			S	**S**	**19 03 10.8 +0.8**
CN2			sS	sS	19 04 03.9 -0.4
CN2			pmax	pmax	
	comp=Z,80nm,1.6s				
CN2			pmax	pmax	
	comp=Z,800nm,3.0s				
BJT	**Baijiatuau**	**50.41 333**	P	**P**	**18 56 10.0 +1.4**
	comp=Z,92nm,1.8s				
TIY	**Taiyuan**	**50.42 328**	*e*P	**P**	**18 56 10.3 +1.5**
TIY			S	**S**	**19 03 12.3 +0.3**
TIY			SS	**SS**	**19 06 43.8 -4.0**
TIY			pmax	pmax	
	comp=Z,610nm,12.0s				
TIY			LR	LR	
	comp=Z,560nm,17.9s				
TIY			LR	LR	
	comp=Z,580nm,21.3s				
TIY			LR	LR	
	comp=Z,850nm,22.0s				
BJI	**Beijing**	**50.43 333**	P	**P**	**18 56 09.2 +0.6**
BJI			S	**S**	**19 03 12.9 +1.1**
BJI			pmax	pmax	
	comp=Z,44nm,1.7s				
BJI			LR	LR	
	comp=Z,410nm,21.0s				
BJI			LR	LR	
	comp=Z,190nm,19.1s				
BJI			LR	LR	
	comp=Z,490nm,18.9s				
YSS	**Yuzhno-Sakhali**	**50.92 360**	P	**P**	**18 56 11.4 -0.7**
YSS	**Yuzhno-Sakhali**	**50.92 360**	P	**P**	**18 56 12.5 +0.3**
	comp=Z,145nm,1.6s				
YSS	**Yuzhno-Sakhali**	**50.92 360**	*ce*P	**P**	**18 56 12.3 +0.1**
YSS			*e**PP	**pP**	**18 56 46.3 +2.5**
YSS			*e*S	**S**	**19 03 16.3 -2.0**
YSS			pmax	pmax	
	comp=Z,800nm,8.2s				
YSS	**Yuzhno-Sakhali**	**50.92 360**	P	**P**	**18 56 12.3 +0.1**
YSS			pP	**pP**	**18 56 46.5 +2.8**
CD2	**Chengdu**	**51.16 316**	⇑P	**P**	**18 56 15.7 +1.3**
CD2			pP	pP	18 56 45.7 -0.2
CD2			S	**S**	**19 03 23.9 +1.5**
CD2			sS	sS	19 04 20.6 +3.9
CD2			pmax	pmax	
	comp=Z,40nm,0.6s				
CD2			pmax	pmax	
	comp=Z,880nm,3.9s				
CD2			LR	LR	
	comp=Z,510nm,14.6s				
CD2			LR	LR	
	comp=Z,590nm,16.5s				
BNX	**BinXian**	**51.60 346**	⇑P	**P**	**18 56 17.6 +0.3**
BNX			pP	**pP**	**18 56 49.7 +0.7**
BNX			S	**S**	**19 03 28.2 +0.4**
BNX			sS	**sS**	**19 04 22.0 -0.2**
BNX			pmax	pmax	
	comp=Z,320nm,1.0s				
BNX			pmax	pmax	
	comp=Z,1μm,5.5s				
BNX			LR	LR	
	comp=Z,490nm,17.4s				
BNX			LR	LR	
	comp=Z,410nm,18.2s				
BNX			LR	LR	
	comp=Z,470nm,19.5s				
MCQ	**Macquarie Isla**	**51.82 168**	P	**P**	**18 56 20.6 +1.8**
MCQ	**Macquarie Isla**	**51.82 168**	P	**P**	**18 56 21.4 +2.6**
	comp=Z,290nm,1.2s				
MCQ	**Macquarie Isla**	**51.82 168**	P	**P**	**18 56 20.6 +1.8**
MCQ			pmax	pmax	
	comp=Z,164nm,0.8s				
TNCH	**TengChong**	**52.02 306**	⇑P	**P**	**18 56 22.2 +1.1**
TNCH			pP	pP	18 56 52.2 -0.5
TNCH			sP	sP	18 57 05.1 -2.7
TNCH			PcP	**PcP**	**18 57 33.2 +1.6**
TNCH			ScP	**ScP**	**19 01 16.3 +0.3**
TNCH			S	**S**	**19 03 34.0 -0.6**
TNCH			ScS	**ScS**	**19 05 56.1 -2.0**
TNCH			SS	**SS**	**19 07 11.2 -2.5**
TNCH			pmax	pmax	
	comp=Z,50nm,1.9s				
TNCH			pmax	pmax	
	comp=Z,680nm,3.3s				
TNCH			LR	LR	
	comp=Z,380nm,17.8s				
UGL	**Uglegorsk**	**53.05 359**	*e*P	**P**	**18 56 28.4 +0.5**
UGL			pmax	pmax	
	comp=Z,900nm,2.4s				
HHC	**Hu-ho-hao-te**	**53.24 330**	*e*P	**P**	**18 56 30.6 +1.0**
HHC			pP	pP	18 57 03.4 +2.0
HHC			S	**S**	**19 03 50.8 +0.3**
HHC			sS	sS	19 04 48.4 +3.2
HHC			pmax	pmax	
	comp=Z,47nm,1.2s				
HHC			pmax	pmax	
	comp=Z,240nm,5.0s				
HHC			LR	LR	
	comp=Z,550nm,17.7s				
HHC			LR	LR	
	comp=Z,460nm,18.6s				
HHC			LR	LR	
	comp=Z,730nm,17.5s				
XLT	**XiLinHaoTe**	**53.63 336**	*e*P	**P**	**18 56 32.9 +0.4**
XLT			pP	pP	18 57 04.6 +0.3
XLT			pmax	pmax	
	comp=Z,51nm,1.8s				
BTO	**Baotou**	**53.83 329**	*e*P	**P**	**18 56 35.6 +1.7**
BTO			pP	**pP**	**18 57 08.1 +2.3**
BTO			sP	**sP**	**18 57 24.0 +3.2**
BTO			PP	**PP**	**18 58 34.8 -1.8**
BTO			S	**S**	**19 04 00.7 +2.3**
BTO			SS	**SS**	**19 07 44.0 +2.4**
BTO			pmax	pmax	
	comp=Z,62nm,1.7s				
BTO			pmax	pmax	
	comp=Z,450nm,3.9s				
BTO			LR	LR	
	comp=Z,2μm,19.0s				
BTO			LR	LR	
	comp=Z,1μm,17.3s				
BTO			LR	LR	
	comp=Z,3μm,19.6s				
KLR	**Kul'dur**	**54.09 351**	LR	LR	19 16 27.4
	comp=Z,509nm,22.0s,baz=174,slow=32				
KLR	**Kul'dur**	**54.09 351**	*ce*P	**P**	**18 56 35.9 +0.4**
KLR			pmax	pmax	
	comp=Z,231nm,2.0s				
LZH	**Lanzhou**	**54.25 321**	⇑P	**P**	**18 56 38.8 +1.6**
LZH			pP	pP	18 57 10.4 +1.4
LZH			S	**S**	**19 04 07.0 +2.5**
LZH			sS	sS	19 05 02.2 +4.3
LZH			pmax	pmax	
	comp=Z,92nm,1.3s				
LZH			pmax	pmax	
	comp=Z,1μm,5.8s				
LZH			LR	LR	
	comp=Z,480nm,13.7s				
LZH			LR	LR	
	comp=Z,400nm,14.4s				
LZH			LR	LR	
	comp=Z,670nm,14.8s				
TYV	**Tymovskoe**	**54.83 360**	*e*P	**P**	**18 56 41.8 +1.0**
TYV			*e*S	**S**	**19 04 12.2 +0.9**
TYV			pmax	pmax	
	comp=Z,66nm,1.3s				
TYV			pmax	pmax	
	comp=Z,500nm,4.3s				
TYV			smax	smax	
	comp=N,600nm,6.3s				
TYV			smax	smax	
	comp=E,400nm,6.3s				
GRNR	**Gornyy**	**55.03 355**	⇑*i*P	**P**	**18 56 43.1 +0.8**
GRNR			pmax	pmax	
	comp=N,10.0nm,1.2s				
GRNR			pmax	pmax	
	comp=Z,20nm,1.0s				
HEH	**HeiHe**	**55.86 348**	*e*P	**P**	**18 56 48.1 -0.1**
HEH			sP	**sP**	**18 57 31.7 -3.7**
HEH			S	**S**	**19 04 24.9 -0.1**
HEH			sS	**sS**	**19 05 17.5 -3.0**
HEH			ScS	**ScS**	**19 06 21.6 -2.3**
HEH			SS	**SS**	**19 08 11.6 -1.4**
HEH			pmax	pmax	
	comp=Z,110nm,1.0s				
HEH			pmax	pmax	
	comp=Z,1μm,3.8s				
HIA	**Hailar**	**56.93 342**	IAmb	IAmb	18 56 58.4
	comp=Z,120nm,1.4s				
HIA	**Hailar**	**56.93 342**	P	**P**	**18 56 57.1 +1.2**
	comp=Z,61nm,1.5s				
SHL	**Shillong**	**57.67 304**	IAmb	IAmb	18 57 04.3
	comp=Z,74nm,1.0s				
PEA0B	**Petropavlovsk-**	**58.42 10**	P	**P**	**18 57 06.3 +0.1**
PEA0B	**Petropavlovsk-**	**58.42 10**	*ce*P	**P**	**18 57 05.2 -1.0**
PETK	**Petropavlovsk-**	**58.42 10**	P	**P**	**18 57 04.6 -1.6**
PETK	**Petropavlovsk-**	**58.42 10**	P	**P**	**18 57 06.5 +0.3**
	comp=Z,42nm,0.8s,baz=192,slow=7.4,SNR=28				
PETK			pP	**pP**	**18 57 39.0 +0.4**
	comp=Z,44nm,1.0s,baz=169,slow=5.3,SNR=4.6				
PETK			LR	LR	19 22 09.9
	comp=Z,208nm,19.8s,baz=195,slow=36				
	comp=Z,42nm,0.8s				
GTA	**Gaotai**	**58.81 322**	P	**P**	**18 57 11.1 +1.7**
GTA			pP	pP	18 57 43.2 +1.5
GTA			S	**S**	**19 05 07.2 +2.8**
GTA			sS	sS	19 06 02.6 +4.4
GTA			pmax	pmax	
	comp=Z,31nm,1.9s				
GTA			pmax	pmax	
	comp=Z,560nm,7.6s				
GTA			LR	LR	
	comp=Z,250nm,16.0s				
GTA			LR	LR	
	comp=Z,210nm,18.2s				
GTA			LR	LR	
	comp=Z,340nm,18.9s				
ZEA	**Zeya**	**59.20 349**	*e*P	**P**	**18 57 12.2 +0.6**
ZEA			pmax	pmax	
	comp=N,60nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,120nm,1.1s				
LSA	**Lhasa**	**59.96 308**	IAmb	IAmb	18 57 21.4
	comp=Z,51nm,1.1s				
LSA	**Lhasa**	**59.96 308**	P	**P**	**18 57 19.6 +1.8**
LSA			LR	LR	
	comp=Z,490nm,10.0s				
LSA			LR	LR	
	comp=Z,390nm,10.2s				
LSA	**Lhasa**	**59.96 308**	P	**P**	**18 57 19.3 +1.5**
LSA	**Lhasa**	**59.96 308**	P	**P**	**18 57 19.6 +1.8**
LSA			pP	**pP**	**18 57 52.7 +2.5**
GOMU	**GeErMu**	**60.29 316**	P	**P**	**18 57 21.2 +1.3**
GOMU			S	**S**	**19 05 16.3 -7.7**
GOMU			pmax	pmax	
	comp=Z,32nm,1.5s				
GOMU			LR	LR	
	comp=Z,520nm,18.9s				
GOMU			LR	LR	
	comp=Z,670nm,15.8s				
GOMU			LR	LR	
	comp=Z,940nm,15.9s				
ULN	**Ulaanbaatar**	**60.64 333**	P	**P**	**18 57 22.5 +0.8**
ULN	**Ulaanbaatar**	**60.64 333**	P	**P**	**18 57 22.5 +0.8**
ULN			pmax	pmax	
	comp=Z,182nm,1.6s				
ULN	**Ulaanbaatar**	**60.64 333**	P	**P**	**18 57 23.0 +1.2**
ULN			pP	**pP**	**18 57 56.2 +2.0**
SONM	**Songino Array**	**60.92 333**	P	**P**	**18 57 24.3 +0.7**
SONM	**Songino Array**	**60.92 333**	P	**P**	**18 57 24.5 +1.0**
	comp=Z,17nm,1.1s,baz=151,slow=6.6,SNR=65				
SONM			pP	**pP**	**18 57 56.1 0.0**
	comp=Z,9.6nm,0.9s,baz=154,slow=5.7,SNR=5.0				
SONM			LR	LR	19 22 28.9
	comp=Z,888nm,21.6s,baz=129,slow=35				
SONM			PKPPKP	**P'P'df**	**19 26 34.2 -5.4**
	comp=Z,0.6nm,0.8s,baz=345,slow=1.9,SNR=4.8				
SONM			PKP2bc	**P'P'bc**	**19 26 49.5 +0.8**
	comp=Z,10nm,0.9s,baz=296,slow=1.4,SNR=33				
	comp=Z,17nm,1.1s				
SONM	**Songino Array**	**60.92 333**	P	**P**	**18 57 24.3 +0.7**
SONM			pmax	pmax	
	comp=Z,182nm,1.8s				
CIT	**Chita**	**61.32 340**	*e*P	**P**	**18 57 27.4 +1.3**
CIT			*e*		18 58 00.6
CIT			*e*		18 58 14.8
CIT			*e*		19 07 01.6
CIT			pmax	pmax	
	comp=Z,497nm,2.0s				
DRV	**Dumont d'Urvil**	**62.40 181**	P	**P**	**18 57 33.6 +0.6**
SHEM	**Shemya Is, Ala**	**62.51 21**	LR	LR	19 18 54.4
	comp=Z,586nm,21.3s,baz=203,slow=30				
PALK	**Pallekele**	**63.17 280**	P	**P**	**18 57 36.5 -2.7**
PALK	**Pallekele**	**63.17 280**	PKP2bc	**P'P'bc**	**19 26 44.1 -1.9**
	comp=Z,3.7nm,1.0s,baz=303,slow=7.3,SNR=3.7				
PALK	**Pallekele**	**63.17 280**	P	**P**	**18 57 36.5 -2.7**
PALK			pmax	pmax	
	comp=Z,21nm,0.9s				
MA2	**Magadan**	**63.86 4**	P	**P**	**18 57 42.3 -0.5**
MA2			IAmb	IAmb	18 58 19.0
	comp=Z,52nm,0.8s				
MA2	**Magadan**	**63.86 4**	P	**P**	**18 57 42.8 0.0**
	comp=Z,39nm,0.8s,baz=162,slow=5.6,SNR=65				
MA2			pP	**pP**	**18 58 15.7 0.0**
	comp=Z,52nm,0.8s,baz=164,slow=5.7,SNR=12				
MA2			LR	LR	19 21 28.4
	comp=Z,118nm,21.2s,baz=192,slow=32				
	comp=Z,39nm,0.8s				
MA2	**Magadan**	**63.86 4**	P	**P**	**18 57 42.9 +0.2**
	comp=Z,119nm,1.5s				
MA2	**Magadan**	**63.86 4**	P	**P**	**18 57 42.3 -0.5**
MA2			pmax	pmax	
	comp=Z,52nm,0.8s				
MA2	**Magadan**	**63.86 4**	P	**P**	**18 57 42.3 -0.5**
	comp=Z,2μmcomp=Z,116nm,1.5s				
MA2			pP	**pP**	**18 58 14.6 -1.0**
	comp=Z,2μmcomp=Z,116nm,1.5s				
MA2	**Magadan**	**63.86 4**	P	**P**	**18 57 43.0 +0.2**
MA2			pP	**PcP**	**18 58 17.4 +0.1**
ZAK	**Zakamensk**	**64.17 333**	*e*P	**P**	**18 57 45.4 +0.3**
ZAK			*e*		18 58 18.1
ZAK			pmax	pmax	
	comp=Z,96nm,1.6s				
ZAK			pmax	pmax	
	comp=Z,53nm,1.3s				
IRK	**Irkutsk**	**65.07 335**	*e*P	**P**	**18 57 51.3 +0.5**
IRK			pmax	pmax	
	comp=Z,218nm,3.0s				
CASY	**Casey**	**65.99 194**	P	**P**	**18 57 57.0 +0.6**
CASY			IAmb	IAmb	18 57 58.9
	comp=Z,58nm,0.7s				
CASY	**Casey**	**65.99 194**	P	**P**	**18 57 57.1 +0.6**
BOD	**Bodaibo**	**66.06 344**	*e*P	**P**	**18 57 57.1 +0.1**
BOD			pmax	pmax	
	comp=Z,180nm,1.7s				
MOY	**Mondy**	**66.11 333**	*e*P	**P**	**18 57 58.6 +1.0**
MOY			pmax	pmax	
	comp=Z,235nm,2.6s				
YAK	**Yakutsk**	**66.81 353**	P	**P**	**18 58 01.9 +0.2**
YAK	**Yakutsk**	**66.81 353**	P	**P**	**18 58 02.0 +0.4**
	comp=Z,79nm,0.8s,baz=91,slow=1.1,SNR=67				
YAK			pP	**pP**	**18 58 35.3 +0.5**
	comp=Z,79nm,1.0s,baz=341,slow=4.5,SNR=5.1				
YAK			LR	LR	19 23 53.2
	comp=Z,203nm,21.0s,baz=160,slow=33				
	comp=Z,79nm,0.8s				
YAK	**Yakutsk**	**66.81 353**	*c i*P	**P**	**18 58 02.0 +0.4**
YAK			*e*		18 58 29.6
YAK			*e**PP	**pP**	**18 58 35.6 +0.8**
YAK			*e*		19 00 30.7
YAK			*e*PPP	PPP	19 02 08.5
YAK			*e*S	**S**	**19 06 44.3 +1.3**

YAK e*SS **sS** **19 07 40.5 +2.3**
YAK eSS **SS** **19 11 06.1 +2.2**
YAK pmax pmax
comp=Z,65nm,1.2s
YAK pmax pmax
comp=N,89nm,1.5s
YAK pmax pmax
comp=E,19nm,1.2s
YAK pmax pmax
comp=Z,93nm,3.3s
YAK pmax pmax
comp=N,150nm,3.8s
YAK pmax pmax
comp=E,171nm,4.2s
YAK smax smax
comp=N,328nm,4.2s
YAK smax smax
comp=E,313nm,5.4s
YAK Yakutsk 66.81 353 P **P** **18 58 02.1 +0.4**
YAK pP **pP** **18 58 36.0 +1.2**
YAK sP **sP** **18 58 52.3 +2.7**
HYB Hyderabad 67.07 291 eP **P** **18 58 03.8 -0.4**
HYB ePcP **PcP** **18 58 31.1 -0.5**
HYB IVmB_BB 18 58 35.9
comp=Z,475nm,6.2s
HYB epP **pP** **18 58 36.2 -1.1**
HYB esP **sP** **18 58 52.0 0.0**
HYB eS **S** **19 06 44.0 -3.9**
PPT Papeete 67.26 107 P **P** **18 58 06.1 +0.6**
comp=Z,71nm,0.8s,baz=60,slow=0.3,SNR=3.8
comp=Z,71nm,0.8s
SEY Seymchan 67.31 5 ceP **P** **18 58 05.0 +0.2**
SEY pmax pmax
comp=Z,142nm,1.7s
WMQ Urumqi 68.83 320 ⇑ iP **P** **18 58 15.7 +0.9**
WMQ pP pP 18 58 48.8 +0.8
WMQ S **S** **19 07 10.1 +2.2**
WMQ pmax pmax
comp=Z,65nm,1.3s
WMQ pmax pmax
comp=Z,620nm,3.7s
WMQ LR LR
comp=Z,280nm,19.3s
UNV Unalaska Valle 71.50 29 P **P** **18 58 32.2 +1.5**
baz=234
CCD Concordia, Ant 71.76 185 P **P** **18 58 33.4 +0.9**
P08K Saint George I 71.80 25 P **P** **18 58 33.8 +1.3**
baz=231
SPIA Saint Paul Isl 71.87 25 P **P** **18 58 34.1 +1.2**
baz=230
ZSN Zaisan 72.28 323 eP **P** **18 58 35.9 +0.3**
ZSN eS **S** **19 07 49.7 +2.0**
ZSN Zaisan 72.28 323 eP **P** **18 58 36.0 +0.3**
ZSN eS **S** **19 07 49.8 +2.0**
WUS Wushi 73.42 315 IAmb IAmb 18 58 45.6
comp=Z,119nm,1.5s
FALS False Pass 73.56 29 P **P** **18 58 43.4 +0.4**
baz=237
MK31 Makanchi Array 73.57 321 IAmb IAmb 18 58 45.7
comp=Z,75nm,1.2s
MK31 Makanchi Array 73.57 321 ceP **P** **18 58 43.8 +0.6**
MKAR Makanchi Array 73.57 321 P **P** **18 58 43.8 +0.5**
MKAR Makanchi Array 73.57 321 P **P** **18 58 43.9 +0.7**
comp=Z,21nm,0.5s,baz=96,slow=9.3,SNR=422
MKAR pP **pP** **18 59 17.0 +0.2**
comp=Z,18nm,0.8s,baz=99,slow=7.5,SNR=4.7
MKAR S **S** **19 08 02.9 +0.6**
comp=Z,0.7nm,1.0s,baz=107,slow=9.7,SNR=5.8
MKAR PKKPbc **PKKPbc** **19 18 19.9 +0.2**
comp=Z,0.5nm,0.9s,baz=282,slow=1.1,SNR=3.6
MKAR PKPPKP **P'P'df** **19 26 15.0 -3.7**
comp=Z,0.7nm,0.8s,baz=299,slow=3.5,SNR=4.3
comp=Z,21nm,0.5s
MAKZ Makanchi 73.77 321 P **P** **18 58 44.9 +0.5**
MAKZ IAmb IAmb 18 58 46.8
comp=Z,93nm,1.1s
MAKZ Makanchi 73.77 321 P **P** **18 58 44.9 +0.5**
MAKZ pmax pmax
comp=Z,93nm,1.1s
BILL Bilibino 73.89 9 P **P** **18 58 44.4 -0.2**
BILL IAmb IAmb 18 58 46.7
comp=Z,102nm,1.5s
BILL Bilibino 73.89 9 ceP **P** **18 58 45.1 +0.5**
BILL pmax pmax
comp=Z,86nm,1.7s
SHLS Shalkode 73.97 317 eP **P** **18 58 44.4 -1.4**
SHLS Shalkode 73.97 317 eP **P** **18 58 44.5 -1.4**
VNDA Vanda 73.98 176 P **P** **18 58 46.0 +1.0**
VNDA IAmb IAmb 18 58 47.7
comp=Z,57nm,0.8s
VNDA Vanda 73.98 176 P **P** **18 58 45.9 +0.8**
comp=Z,55nm,0.8s,baz=326,slow=6.9,SNR=93
VNDA LR LR 19 31 36.7
comp=Z,294nm,18.6s,baz=7.0,slow=36
comp=Z,55nm,0.8s
VNDA Vanda 73.98 176 P **P** **18 58 46.0 +1.0**
VNDA pmax pmax
comp=Z,57nm,0.9s
UZB Uzynbulak 74.27 317 eP **P** **18 58 47.7 +0.2**
UZB eS **S** **19 08 12.3 +1.7**
UZB pmax pmax
comp=Z,72nm,1.2s
UZB Uzynbulak 74.27 317 eP **P** **18 58 47.8 +0.2**
comp=Z,72nm,1.2s
UZB eS **S** **19 08 12.3 +1.7**
KPKS Kokpek 74.61 317 eP **P** **18 58 49.6 +0.1**
KPKS Kokpek 74.61 317 eP **P** **18 58 49.7 +0.2**
SATY Saty 74.65 317 eP **P** **18 58 50.1 +0.4**
SATY eS **S** **19 08 16.6 +1.8**
SATY pmax pmax
comp=Z,82nm,1.4s
SATY Saty 74.65 317 eP **P** **18 58 50.1 +0.4**
comp=Z,82nm,1.4s
SATY eS **S** **19 08 16.6 +1.8**
S12K Black Hills 74.67 29 P **P** **18 58 49.4 0.0**
baz=238
ZHN Zhinishke 74.67 317 eP **P** **18 58 50.1 +0.3**
ZHN Zhinishke 74.67 317 eP **P** **18 58 50.1 +0.3**
KSH Kashi 75.19 313 P **P** **18 58 54.9 +2.0**
KSH pP pP 18 59 29.5 +2.8
KSH S **S** **19 08 25.3 +4.3**
KSH pmax pmax
comp=Z,32nm,1.7s
SDPT Sand Point 75.26 30 P **P** **18 58 53.1 +0.4**
SDPT Sand Point 75.26 30 P **P** **18 58 53.7 +1.0**
comp=Z,137nm,1.7s
SDPT Sand Point 75.26 30 P **P** **18 58 52.7 0.0**
baz=239
TDK Taldyqorghan 75.36 319 eP **P** **18 58 53.8 +0.2**
TDK pmax pmax
comp=Z,193nm,1.5s
TDK Taldyqorghan 75.36 319 eP **P** **18 58 53.9 +0.3**
comp=Z,193nm,1.5s
ZALV Zalesovo Beam 75.37 329 P **P** **18 58 52.4 -1.0**
ZALV Zalesovo Beam 75.37 329 P **P** **18 58 53.1 -0.3**
comp=Z,21nm,0.6s,baz=110,slow=6.1,SNR=79
ZALV pP **pP** **18 59 26.6 -0.6**
comp=Z,26nm,0.8s,baz=109,slow=5.6,SNR=7.2
ZALV sP **sP** **18 59 41.2 -0.5**
comp=Z,9.5nm,0.6s,baz=108,slow=5.8,SNR=3.0
ZALV S **S** **19 08 17.5 -4.5**
comp=Z,0.4nm,0.5s,baz=323,slow=30,SNR=1.6
ZALV PKPPKP **P'P'df** **19 26 15.5 +0.5**
comp=Z,1.3nm,0.7s,baz=304,slow=3.4,SNR=4.7
ZALV LR LR 19 31 13.4
comp=Z,362nm,21.1s,baz=113,slow=35
comp=Z,21nm,0.6s
CNBA Chernabura Isl 75.43 30 IAmb IAmb 18 58 55.5
comp=Z,140nm,1.5s
CHNA Chernabura Isl 75.44 30 P **P** **18 58 56.0 +2.2**
comp=Z,64nm,1.6s
CHNA Chernabura Isl 75.44 30 P **P** **18 58 53.9 +0.2**
baz=240
M11K Mekoryuk 75.52 23 P **P** **18 58 55.2 +1.1**
baz=233
NIL Nilore 75.62 306 P **P** **18 58 55.9 +0.5**
NIL Nilore 75.62 306 P **P** **18 58 55.9 +0.5**
NIL pmax pmax
comp=Z,99nm,0.6s
TNSS Tian-Shan 75.65 316 eP **P** **18 58 55.8 0.0**
TNSS Tian-Shan 75.65 316 eP **P** **18 58 55.8 0.0**
GAMB Gambell 75.72 19 P **P** **18 58 56.1 +0.9**
baz=227
AAA Alma-Ata 75.73 316 eP **P** **18 58 56.0 +0.2**
AAA pmax pmax
comp=Z,69nm,1.3s
AAA Alma-Ata 75.73 316 eP **P** **18 58 56.1 +0.2**
comp=Z,69nm,1.3s
BOOM Boomskoye usch 76.17 315 IAmb IAmb 18 59 01.2
comp=Z,41nm,0.7s
S14K Fog Glacier 76.18 29 P **P** **18 58 58.1 0.0**
baz=240
TIXI Tiksi 76.25 355 P **P** **18 58 56.5 -1.6**
TIXI Tiksi 76.25 355 i P **P** **18 58 56.9 -1.2**
TIXI pmax pmax
comp=Z,115nm,2.4s
TKM2 Tokmak 2 76.55 316 P **P** **18 59 01.4 +0.8**
SNR=45
M13K Dall Lake 76.69 24 IAmb IAmb 18 59 03.7
comp=Z,267nm,1.9s
M13K Dall Lake 76.69 24 P **P** **18 59 01.4 +0.7**
baz=236
CHGN Chignik 76.74 29 IAmb IAmb 18 59 37.4
comp=Z,54nm,0.8s
CHGN Chignik 76.74 29 P **P** **18 59 00.8 -0.3**
baz=241
KBK Karagaybulak 76.91 315 P **P** **18 59 03.3 +0.6**
SNR=11
O14K Tigyukauivet M 76.93 26 P **P** **18 59 01.9 -0.2**
baz=238
K13K Kusilvak Mount 77.05 23 P **P** **18 59 03.4 +0.7**
baz=234
UCH Uchtor 77.09 315 P **P** **18 59 06.9 +2.9**
SNR=6.0
N14K Kuskokwak Cree 77.11 25 P **P** **18 59 03.3 +0.2**
baz=237
CHMS Chumysh 77.16 316 P **P** **18 59 04.3 +0.4**
SNR=18
AAK Ala-Archa 77.23 315 P **P** **18 59 04.8 +0.4**
AAK Ala-Archa 77.23 315 P **P** **18 59 04.9 +0.5**
comp=Z,13nm,0.8s,baz=106,slow=3.7,SNR=35
AAK S **S** **19 08 44.7 +1.6**
comp=Z,0.3nm,0.4s,baz=325,slow=20,SNR=6.4
AAK PKKPbc **PKKPbc** **19 18 12.6 +1.0**
comp=Z,0.6nm,0.3s,baz=315,slow=1.5,SNR=4.1
AAK PKPPKP **P'P'df** **19 26 12.3 -0.6**
comp=Z,1.1nm,0.6s,baz=216,slow=8.7,SNR=4.0
comp=Z,13nm,0.8s
AAK Ala-Archa 77.23 315 P **P** **18 59 05.4 +1.0**
SNR=29
AAK Ala-Archa 77.23 315 ceP **P** **18 59 05.2 +0.8**
AAK pmax pmax
comp=Z,65nm,1.7s
AAK Ala-Archa 77.23 315 i P **P** **18 59 04.0 -0.4**
SNR=33
KURK Kurchatov 77.38 324 P **P** **18 59 04.5 -0.4**
KURK IAmb IAmb 18 59 06.9
comp=Z,126nm,1.4s
KURK Kurchatov 77.38 324 ceP **P** **18 59 05.0 +0.2**
KURK pmax pmax
comp=Z,136nm,1.7s
KURBB Kurchatov Arra 77.40 324 P **P** **18 59 05.3 +0.4**
comp=Z,48nm,0.7s,baz=109,slow=4.4,SNR=77
KURBB S **S** **19 08 43.3 -1.0**
comp=Z,0.2nm,0.6s,baz=248,slow=40,SNR=5.5
KURBB PKKPbc **PKKPbc** **19 18 11.2 -0.3**
comp=Z,0.7nm,0.5s,baz=301,slow=2.8,SNR=9.9
KURBB PKPPKP **P'P'df** **19 26 11.8 0.0**
comp=Z,0.6nm,0.6s,baz=309,slow=2.8,SNR=4.3
comp=Z,48nm,0.7s
USP Ospenovka 77.42 316 P **P** **18 59 06.1 +0.8**
SNR=56
M14K Bethel 77.45 24 P **P** **18 59 05.7 +0.7**
baz=237
L14K Kuka Creek 77.48 24 P **P** **18 59 05.7 +0.6**
baz=236
O15K Ungalikthiuk R 77.52 26 P **P** **18 59 05.7 +0.3**
baz=239
AML Almayashu 77.64 315 P **P** **18 59 08.3 +1.3**
SNR=54
EKS2 Erkin-Say 77.74 315 P **P** **18 59 08.4 +1.2**
SNR=44
R16K Pilot Point 77.75 28 P **P** **18 59 06.9 +0.2**
baz=242
CHIR Chirikof Islan 77.90 30 P **P** **18 59 07.5 -0.1**
baz=244
ARSB Arslanbob 77.91 314 IAmb IAmb 18 59 10.8
comp=Z,162nm,1.4s
N15K Kwethluk River 77.92 25 P **P** **18 59 08.2 +0.5**
baz=239
J14K Nanvaranak Lak 77.94 22 IAmb IAmb 18 59 10.4
comp=Z,113nm,1.6s
J14K Nanvaranak Lak 77.94 22 P **P** **18 59 08.7 +1.1**
baz=235
M15K Kasigluk River 77.94 25 P **P** **18 59 08.1 +0.3**
baz=238
TNA Tin City 78.13 19 P **P** **18 59 08.8 +0.2**
baz=230
L15K Ungalak Mounta 78.15 24 P **P** **18 59 09.1 +0.2**
baz=237
P16K Nushagak River 78.27 27 P **P** **18 59 09.5 -0.1**
baz=241
BTLS Baital 78.28 317 eP **P** **18 59 10.3 +0.4**
BTLS Baital 78.28 317 eP **P** **18 59 10.3 +0.4**
ANM Nome 78.36 20 P **P** **18 59 10.9 +0.9**
baz=233
K15K Wolf Creek Mou 78.47 23 P **P** **18 59 11.6 +1.0**
baz=237
O16K Kokwok River B 78.50 26 IAmb IAmb 18 59 12.9
comp=Z,293nm,1.9s
O16K Kokwok River B 78.50 26 P **P** **18 59 11.0 +0.2**
baz=241,SNR=17
F14K Arctic Creek 78.59 19 P **P** **18 59 12.2 +0.9**
baz=232
N16K Nishlik Lake 78.64 25 P **P** **18 59 12.4 +0.8**
baz=240,SNR=12
Q16K King Salmon 78.71 28 P **P** **18 59 12.7 +0.7**
baz=242
M16K Timber Creek 78.84 25 P **P** **18 59 13.6 +0.9**
baz=240
SII Sitkinak Islan 78.95 30 P **P** **18 59 13.8 +0.4**
baz=245
L16K Owhat River 78.98 24 P **P** **18 59 14.0 +0.6**
baz=239,SNR=13
O17K Koliganek Bris 79.03 26 P **P** **18 59 14.4 +0.7**
baz=242,SNR=36
P17K Kvichak River 79.05 27 P **P** **18 59 14.8 +0.9**
baz=242
G15K Niukluk 79.07 20 P **P** **18 59 14.1 +0.2**
baz=234
KBL Kabul 79.22 306 P **P** **18 59 14.5 -1.1**
KBL Kabul 79.22 306 P **P** **18 59 14.5 -1.1**
KBL pmax pmax
comp=Z,21nm,0.9s
R18K Karluk 79.25 29 P **P** **18 59 15.4 +0.5**
baz=244
GAR Garm 79.27 311 IAmb IAmb 18 59 17.7
comp=Z,51nm,0.8s
F15K North Star Dit 79.29 19 P **P** **18 59 15.8 +0.8**
baz=234
N17K Nushagak Hills 79.35 26 IAmb IAmb 18 59 18.9
comp=Z,105nm,1.5s
N17K Nushagak Hills 79.35 26 P **P** **18 59 16.5 +1.0**
baz=241
J16K Anvik River 79.36 23 IAmb IAmb 18 59 18.4
comp=Z,275nm,1.9s
J16K Anvik River 79.36 23 P **P** **18 59 16.1 +0.6**
baz=238
Q18K Katmai Hardscr 79.46 28 P **P** **18 59 15.7 -0.6**
baz=244,SNR=7.8
H16K Elim 79.50 21 P **P** **18 59 16.5 +0.4**
baz=236,SNR=12
DZA Taraz 79.53 315 eP **P** **18 59 17.1 +0.2**
DZA Taraz 79.53 315 eP **P** **18 59 17.2 +0.2**
I17K Unalakleet 79.65 22 IAmb IAmb 18 59 20.7
comp=Z,115nm,1.4s
I17K Unalakleet 79.65 22 P **P** **18 59 17.9 +0.9**
baz=238,SNR=9.5
M17K Holitna River 79.67 25 IAmb IAmb 18 59 21.0
comp=Z,142nm,1.6s
M17K Holitna River 79.67 25 P **P** **18 59 18.3 +1.1**
baz=241
L17K Donlin 79.67 24 P **P** **18 59 18.2 +1.0**
baz=240,SNR=12
OHAK Old Harbor 79.68 30 IAmb IAmb 18 59 20.2
comp=Z,134nm,1.6s
OHAK Old Harbor 79.68 30 P **P** **18 59 19.4 +2.1**
comp=Z,55nm,1.6s
OHAK Old Harbor 79.68 30 P **P** **18 59 17.5 +0.2**
baz=245
P18K Big Mountain, 79.69 27 P **P** **18 59 16.6 -0.8**
baz=243
G16K Koyuk River 79.88 20 P **P** **18 59 18.6 +0.3**
baz=236
O18K Koktuh Hills 79.91 27 P **P** **18 59 18.6 +0.1**
baz=243
K17K Iditarod 79.96 24 IAmb IAmb 18 59 22.1
comp=Z,106nm,1.1s
K17K Iditarod 79.96 24 P **P** **18 59 19.7 +0.9**
baz=240
N18K Kilae Creek 79.99 26 P **P** **18 59 19.8 +0.9**
baz=242
J17K VABM Dome 80.00 23 P **P** **18 59 19.9 +1.0**
baz=239
KK31 Karatay Array 80.17 315 IAmb IAmb 18 59 22.5
comp=Z,137nm,1.5s
KKAR Karatay Array 80.17 315 P **P** **18 59 20.3 0.0**
KKAR Karatay Array 80.17 315 IAmb IAmb 18 59 22.4
comp=Z,88nm,1.5s
KKAR Karatay Array 80.17 315 P **P** **18 59 20.3 0.0**
SIMJ Simiganj 80.17 310 P **P** **18 59 20.6 0.0**
SIMJ IAmb IAmb 18 59 22.6
comp=Z,70nm,1.2s
Q19K Cape Douglas, 80.22 28 P **P** **18 59 19.3 -1.0**
baz=245
KDAK Kodiak Island 80.25 29 P **P** **18 59 20.2 -0.1**
KDAK Kodiak Island 80.25 29 P **P** **18 59 20.2 -0.1**
KDAK pmax pmax
comp=Z,315nm,2.0s
KDAK Kodiak Island 80.25 29 P **P** **18 59 20.3 -0.1**
baz=246
IUG Iuzhnay 80.26 314 eP **P** **18 59 21.2 +0.3**
IUG eS **S** **19 09 17.3 +2.0**
IUG pmax pmax
comp=Z,84nm,1.3s
IUG Iuzhnay 80.26 314 eP **P** **18 59 21.3 +0.3**
comp=Z,84nm,1.3s
IUG eS **S** **19 09 17.3 +2.0**
L18K Granite Mounta 80.37 24 IAmb IAmb 18 59 23.7
comp=Z,245nm,1.9s
L18K Granite Mounta 80.37 24 P **P** **18 59 21.0 0.0**
baz=242
M18K Stony River 80.39 25 P **P** **18 59 22.1 +1.1**
baz=242,SNR=14
H17K Granite Mounta 80.50 21 P **P** **18 59 22.4 +0.8**
baz=238,SNR=35
G17K Kiwalik Mounta 80.54 21 P **P** **18 59 22.6 +0.9**
baz=237
C16K Lisburne Hills 80.62 17 P **P** **18 59 22.4 +0.2**
baz=232,SNR=22
BRLS Boroldoy 80.62 315 eP **P** **18 59 23.3 +0.6**
BRLS Boroldoy 80.62 315 eP **P** **18 59 23.4 +0.6**
N19K Bonanza Creek 80.67 26 P **P** **18 59 22.9 +0.3**
baz=244
Q20K Shuyak Island 80.68 29 P **P** **18 59 22.5 -0.2**
baz=246
BRZS Berezniki 80.69 322 eP **P** **18 59 23.2 +0.3**
BRZS Berezniki 80.69 322 eP **P** **18 59 23.3 +0.3**
P19K Oil Pt 80.72 27 P **P** **18 59 22.9 0.0**
baz=245
F17K Baldwin Pennin 80.85 20 P **P** **18 59 24.0 +0.7**
baz=237
J18K Innoko River 80.96 23 IAmb IAmb 18 59 26.1
comp=Z,192nm,1.9s
J18K Innoko River 80.96 23 P **P** **18 59 24.4 +0.3**
baz=241,SNR=23
D17K Noatak River 80.97 18 P **P** **18 59 24.8 +0.9**
baz=235,SNR=37
TTA Tatalina 80.99 24 P **P** **18 59 27.0 +2.7**
comp=Z,34nm,1.6s
TTA Tatalina 80.99 24 P **P** **18 59 24.8 +0.5**
baz=242,SNR=14
E17K Hotham Inlet 81.01 19 P **P** **18 59 24.9 +0.7**
baz=236
L19K White Mountain 81.12 25 P **P** **18 59 25.7 +0.7**
baz=243
H18K Honhosa River 81.17 21 IAmb IAmb 18 59 27.0
comp=Z,205nm,2.0s
H18K Honhosa River 81.17 21 P **P** **18 59 25.2 0.0**
baz=240
O20K Slope Mountain 81.18 27 P **P** **18 59 24.7 -0.7**
baz=246
M19K Big River Lodg 81.19 25 P **P** **18 59 26.3 +1.0**
baz=244
RDOG Red Dog Mine 81.22 18 P **P** **18 59 25.8 +0.4**
baz=235,SNR=9.4
C17K DeLong Mountai 81.39 18 P **P** **18 59 26.6 +0.4**
baz=235
G18K Tagagawik 81.45 21 P **P** **18 59 26.5 -0.1**
baz=239
HOM Homer 81.46 28 P **P** **18 59 27.6 +0.8**
baz=246
F18K Selawik 81.47 20 P **P** **18 59 26.9 +0.2**
baz=238,SNR=10
GCSA Galena City Sc 81.52 22 P **P** **18 59 27.5 +0.6**
baz=241,SNR=14
E18K Tukpahlearik C 81.60 19 P **P** **18 59 27.9 +0.6**
baz=237,SNR=44
J19K Poorman 81.64 23 IAmb IAmb 18 59 30.1
comp=Z,268nm,1.9s
J19K Poorman 81.64 23 P **P** **18 59 28.2 +0.6**
baz=242,SNR=32
L20K Farewell, AK 81.66 25 P **P** **18 59 28.3 +0.5**
baz=244
M20K Styx River 81.72 25 IAmb IAmb 18 59 30.4
comp=Z,281nm,1.9s
M20K Styx River 81.72 25 P **P** **18 59 28.5 +0.3**
baz=245
N20K Mount Spurr 81.83 26 P **P** **18 59 27.8 -1.0**
baz=246
SPCR Spurr Chakacha 81.83 26 P **P** **18 59 27.9 -0.9**
baz=246
BRSE Bradley Lake S 81.92 28 P **P** **18 59 28.5 -0.7**
baz=247
K20K Telida 81.97 24 IAmb IAmb 18 59 32.6
comp=Z,264nm,1.9s
K20K Telida 81.97 24 P **P** **18 59 30.0 +0.6**
baz=244
H19K Roundabout Mou 82.06 21 P **P** **18 59 30.1 +0.4**
baz=241
C18K Utukok River 82.09 18 P **P** **18 59 30.0 +0.1**
baz=236
G19K Purcell Mounta 82.13 21 IAmb IAmb 18 59 33.3
comp=Z,112nm,1.2s
G19K Purcell Mounta 82.13 21 P **P** **18 59 30.9 +0.8**
baz=241
CAPN Captain Cook N 82.13 27 P **P** **18 59 30.6 +0.4**
baz=247
F19K Shaleruckik Mo 82.23 20 P **P** **18 59 31.0 +0.4**
baz=240
J20K Nowinta River 82.30 23 IAmb IAmb 18 59 34.4
comp=Z,225nm,1.6s
J20K Nowinta River 82.30 23 P **P** **18 59 31.6 +0.5**
baz=244
B18K Kokolik River 82.31 17 P **P** **18 59 31.5 +0.5**
baz=236
MAW Mawson 82.38 202 P **P** **18 59 33.1 +1.7**
comp=Z,65nm,0.7s,baz=75,slow=4.8,SNR=12
MAW LR LR 19 34 59.3
comp=Z,316nm,18.0s,baz=84,slow=35
comp=Z,65nm,0.7s
SKT Skwentna 82.45 26 P **P** **18 59 30.8 -1.1**
baz=246
I20K Naaghedeneel 82.45 23 IAmb IAmb 18 59 35.1
comp=Z,214nm,1.7s
I20K Naaghedeneel 82.45 23 P **P** **18 59 32.4 +0.6**
baz=243
PPLA Purkeypile 82.54 25 IAmb IAmb 18 59 34.8
comp=Z,192nm,1.7s
PPLA Purkeypile 82.54 25 P **P** **18 59 32.2 -0.4**
baz=246,SNR=12
SUA Susitna One 82.58 26 P **P** **18 59 31.1 -1.6**
baz=247
H20K Anotleneega Mo 82.62 22 P **P** **18 59 32.9 +0.2**
baz=243
SEW Seward 82.66 28 IAmb IAmb 18 59 34.3
comp=Z,220nm,1.9s
SEW Seward 82.66 28 P **P** **18 59 32.4 -0.5**
baz=248,SNR=6.4
E19K Redstone River 82.73 20 IAmb IAmb 19 00 12.7
comp=Z,60nm,0.8s
E19K Redstone River 82.73 20 P **P** **18 59 33.6 +0.3**
baz=240,SNR=62
CAST Castle Rocks 82.80 24 IAmb IAmb 18 59 35.1
comp=Z,218nm,2.0s
CAST Castle Rocks 82.80 24 P **P** **18 59 33.2 -0.5**
baz=246,SNR=21
RC01 Rabbit Creek A 82.89 27 P **P** **18 59 33.6 -0.6**
baz=248,SNR=13
CHUM Lake Minchumin 82.90 24 P **P** **18 59 34.5 +0.4**
baz=245,SNR=55
BVAR Borovoye Array 82.96 324 P **P** **18 59 35.3 +0.5**

comp=Z,62nm,0.6s,baz=113,slow=5.7,SNR=153
BVAR pP **pP** **19 00 09.2 +0.2**
comp=Z,31nm,0.7s,baz=112,slow=5.6,SNR=4.1
BVAR S **S** **19 09 37.7 -4.7**
comp=Z,0.7nm,0.7s,baz=103,slow=4.7,SNR=4.8
BVAR PKKPbc **PKKPbc** **19 17 58.3 -0.8**
comp=Z,1.4nm,0.6s,baz=304,slow=3.5,SNR=8.1
comp=Z,62nm,0.6s
D19K Kuna River 82.96 19 P **P** **18 59 34.9 +0.4**
baz=239
M22K Willow 82.97 26 P **P** **18 59 33.4 -1.2**
baz=248
A19K Wainwright 82.99 17 P **P** **18 59 35.2 +0.7**
baz=236,SNR=29
BRVK Borovoye 83.03 325 P **P** **18 59 35.3 +0.2**
BRVK Borovoye 83.03 325 *eP* **P** **18 59 35.6 +0.5**
BRVK pmax pmax
comp=Z,233nm,1.7s
F20K Avaraart Lake 83.04 20 P **P** **18 59 35.5 +0.7**
baz=242,SNR=44
CUT Chulitna 83.16 26 IAmb IAmb 18 59 36.9
comp=Z,138nm,1.3s
CUT Chulitna 83.16 26 P **P** **18 59 33.8 -1.8**
baz=247,SNR=5.5
KTH Kantishna Hill 83.33 24 IAmb IAmb 18 59 38.0
comp=Z,114nm,1.4s
PMR Palmer 83.35 26 IAmb IAmb 18 59 38.3
comp=Z,62nm,1.2s
PMR Palmer 83.35 26 P **P** **18 59 38.1 +1.6**
comp=Z,47nm,1.7s
PMR Palmer 83.35 26 P **P** **18 59 35.8 -0.7**
baz=248,SNR=16
PWL Port Wells 83.44 27 P **P** **18 59 36.3 -0.7**
baz=249,SNR=18
H21K Melozitna Rive 83.47 22 P **P** **18 59 37.4 +0.3**
baz=245,SNR=22
E20K Nigu River 83.47 19 P **P** **18 59 37.3 +0.2**
baz=241
GHO Glory Hole Cre 83.51 26 IAmb IAmb 18 59 39.4
comp=Z,97nm,1.4s
BPAW Bear Paw Mtn. 83.53 24 IAmb IAmb 18 59 38.6
comp=Z,165nm,2.0s
BPAW Bear Paw Mtn. 83.53 24 P **P** **18 59 36.7 -0.8**
baz=247,SNR=16
D20K Ettivluk River 83.55 19 P **P** **18 59 37.8 +0.3**
baz=241,SNR=30
TRF Thorofare Moun 83.56 25 IAmb IAmb 18 59 39.4
comp=Z,101nm,1.7s
TRF Thorofare Moun 83.56 25 P **P** **18 59 36.7 -1.1**
baz=247,SNR=9.7
I21K Tanana 83.58 23 IAmb IAmb 18 59 39.9
comp=Z,216nm,1.8s
I21K Tanana 83.58 23 P **P** **18 59 38.1 +0.5**
baz=246
P23K Montague Islan 83.58 28 P **P** **18 59 37.9 +0.2**
baz=250
G21K Allakaket 83.58 21 IAmb IAmb 18 59 40.6
comp=Z,79nm,1.7s
G21K Allakaket 83.58 21 P **P** **18 59 38.5 +0.9**
baz=244,SNR=18
KNK Knik Glacier 83.59 27 IAmb IAmb 18 59 40.0
comp=Z,158nm,1.6s
KNK Knik Glacier 83.59 27 P **P** **18 59 37.6 -0.2**
baz=249,SNR=17
SML Sawmill 83.78 26 P **P** **18 59 38.6 -0.2**
baz=249,SNR=26
Q23K Middleton Isla 83.89 29 P **P** **18 59 39.7 +0.3**
baz=251
F21K Alatna River 83.90 21 P **P** **18 59 39.6 +0.4**
baz=244
GLI Glacier Island 84.02 28 IAmb IAmb 18 59 42.0
comp=Z,182nm,1.6s
GLI Glacier Island 84.02 28 P **P** **18 59 39.6 -0.4**
baz=250,SNR=13
B20K Meade River 84.02 17 P **P** **18 59 40.0 +0.3**
baz=240
M23K Glacier View 84.05 27 P **P** **18 59 39.6 -0.5**
baz=250,SNR=9.5
H22K Ishtalitna Cre 84.10 22 P **P** **18 59 40.7 +0.4**
baz=246,SNR=14
RND Reindeer 84.14 25 IAmb IAmb 18 59 42.0
comp=Z,77nm,1.1s
MCK McKinley 84.22 25 P **P** **18 59 40.1 -0.9**
baz=248,SNR=36
SCM Sheep Creek Mo 84.24 27 P **P** **18 59 40.7 -0.5**
baz=250,SNR=14
FID Port Fidalgo 84.26 28 IAmb IAmb 18 59 43.3
comp=Z,106nm,1.4s
E21K Killik River 84.28 19 P **P** **18 59 41.4 +0.2**
baz=243
C21K Knifeblade Rid 84.34 19 P **P** **18 59 42.1 +0.6**
baz=242,SNR=17
F22K John River 84.48 20 P **P** **18 59 42.9 +0.7**
baz=245
NEA2 Nenana 84.49 24 IAmb IAmb 18 59 43.0
comp=Z,121nm,1.7s
NEA2 Nenana 84.49 24 P **P** **18 59 41.0 -1.3**
baz=248,SNR=21
EYAK Cordova Ski Ar 84.54 28 IAmb IAmb 18 59 44.2
comp=Z,128nm,1.9s
EYAK Cordova Ski Ar 84.54 28 P **P** **18 59 44.7 +2.1**
comp=Z,23nm,2.0s
EYAK Cordova Ski Ar 84.54 28 P **P** **18 59 42.2 -0.4**
baz=252,SNR=9.1
I23K Minto, Yukon-K 84.58 23 P **P** **18 59 42.6 -0.1**
baz=248
B21K Ikpikpuk River 84.61 18 IAmb IAmb 19 00 22.0
comp=Z,61nm,0.9s
B21K Ikpikpuk River 84.61 18 P **P** **18 59 43.3 +0.6**
baz=243
DIV Divide 84.71 27 IAmb IAmb 18 59 46.1
comp=Z,140nm,1.4s
KLU Klutina 84.76 27 IAmb IAmb 18 59 46.4
comp=Z,89nm,1.5s
KLU Klutina 84.76 27 P **P** **18 59 43.5 -0.3**
baz=251,SNR=16
A21K Barrow 84.83 16 P **P** **18 59 44.0 +0.1**
baz=241
WRH Wood River Hil 84.84 24 IAmb IAmb 18 59 45.4
comp=Z,109nm,1.4s
M24K Tolsona, Glenn 84.84 26 P **P** **18 59 44.4 +0.2**
baz=251,SNR=9.6
E22K Anaktuvuk Pass 84.87 20 IAmb IAmb 18 59 48.3
comp=Z,105nm,1.5s
E22K Anaktuvuk Pass 84.87 20 P **P** **18 59 44.6 +0.5**
baz=245,SNR=26
D22K Ayikyak River 84.90 19 IAmb IAmb 18 59 48.5
comp=Z,153nm,1.6s
D22K Ayikyak River 84.90 19 P **P** **18 59 45.2 +0.9**
baz=245,SNR=26
G23K Bananza Creek 84.93 22 P **P** **18 59 45.2 +0.7**
baz=247
KAIM Kayak Island 84.98 29 P **P** **18 59 45.1 +0.2**
baz=253
COLD Coldfoot 85.07 21 P **P** **18 59 45.8 +0.7**
baz=247,SNR=9.7
COLA College 85.08 24 P **P** **18 59 43.9 -1.2**
COLA College 85.08 24 P **P** **18 59 44.8 -0.3**
comp=Z,26nm,1.7s
COLA College 85.08 24 *i* P **P** **18 59 43.7 -1.4**
COLA pmax pmax
comp=Z,89nm,2.0s
COLA College 85.08 24 P **P** **18 59 43.8 -1.4**
baz=249
A22K Sinclair Lake 85.15 17 P **P** **18 59 46.1 +0.7**
baz=242
BMRM Bremner River 85.20 28 IAmb IAmb 18 59 48.3
comp=Z,53nm,1.1s
BMRM Bremner River 85.20 28 P **P** **18 59 45.6 -0.4**
baz=253,SNR=12
HDA Harding Lake 85.28 24 IAmb IAmb 18 59 46.8
comp=Z,112nm,1.9s
HDA Harding Lake 85.28 24 P **P** **18 59 45.3 -1.0**
baz=250,SNR=8.6
B22K Teshekpuk Lake 85.31 18 P **P** **18 59 46.5 +0.3**
baz=244
POKR Poker Plat Res 85.33 23 P **P** **18 59 45.3 -1.2**
baz=250
SUCK Suckling Hills 85.33 29 IAmb IAmb 18 59 49.8
comp=Z,126nm,1.7s
HARP HAARP 85.39 26 P **P** **18 59 47.2 +0.3**
baz=252
N25K Chitina, Valde 85.40 27 P **P** **18 59 47.1 +0.1**
baz=253,SNR=17
H24K Noodor Dome 85.41 23 P **P** **18 59 46.6 -0.3**
baz=249
ILAR Eielson Array 85.43 24 P **P** **18 59 44.6 -2.4**
ILAR Eielson Array 85.43 24 P **P** **18 59 45.6 -1.4**
comp=Z,17nm,0.6s,baz=258,slow=4.4,SNR=170
ILAR pP **pP** **19 00 20.3 -1.1**
comp=Z,27nm,0.8s,baz=259,slow=4.7,SNR=8.6
ILAR PKKPbc **PKKPbc** **19 17 51.8 -2.0**
comp=Z,0.5nm,0.6s,baz=340,slow=0.5,SNR=5.7
comp=Z,17nm,0.6s
PAX Paxson 85.43 26 IAmb IAmb 18 59 48.6
comp=Z,116nm,1.6s
PAX Paxson 85.43 26 P **P** **18 59 47.3 +0.1**
baz=252,SNR=18
BERG Berg Lake 85.46 29 IAmb IAmb 18 59 50.0
comp=Z,131nm,1.4s
BERG pP 19 00 21.9 +0.2
K24K Donnelly Dome 85.56 25 P **P** **18 59 47.5 -0.3**
baz=251,SNR=8.2
BGLC Bering Glacier 85.58 29 P **P** **18 59 48.5 +0.7**
baz=254
D23K Nanushuk River 85.59 19 P **P** **18 59 48.8 +1.2**
baz=246
E23K Chandalar 85.59 20 IAmb IAmb 19 00 25.9
comp=Z,39nm,0.9s
E23K Chandalar 85.59 20 P **P** **18 59 48.6 +0.8**
baz=248
GLB Gilahina Butte 85.71 27 IAmb IAmb 18 59 50.2
comp=Z,217nm,2.0s
QSPA South Pole Qui 85.77 180 P **P** **18 59 49.1 +0.3**
comp=Z,115nm,0.7s,baz=324,slow=1.1,SNR=420
QSPA PKiKP **PKiKP** **19 04 59.4 +2.2**
comp=Z,2.8nm,1.0s,baz=286,slow=1.7,SNR=1.4
QSPA S **SKSac** **19 09 59.9 -1.7**
comp=Z,1.6nm,1.0s,baz=128,slow=23,SNR=8.9
QSPA LR LR 19 38 37.1
comp=Z,1μm,20.9s,baz=12,slow=36
comp=Z,115nm,0.7s
SNH Sunshine Point 85.81 29 **pP** **19 00 23.3 -0.2**
SNH IAmb IAmb 19 00 26.3
comp=Z,57nm,0.8s
TOLK Toolik Lake Re 85.83 20 IAmb IAmb 18 59 52.7
comp=Z,114nm,1.2s
TOLK Toolik Lake Re 85.83 20 P **P** **18 59 49.5 +0.6**
baz=248,SNR=46
G24K Hadweenzic Riv 85.87 22 P **P** **18 59 49.4 +0.3**
baz=250,SNR=20
RIDG Independent Ri 85.94 25 IAmb IAmb 18 59 51.8
comp=Z,129nm,1.5s
RIDG Independent Ri 85.94 25 P **P** **18 59 49.2 -0.4**
baz=252,SNR=24
C23K Itkillik River 85.96 19 P **P** **18 59 50.2 +0.7**
baz=246,SNR=76
J25K Salcha River, 85.99 24 P **P** **18 59 49.3 -0.5**
baz=252
E24K Your Creek 86.00 21 P **P** **18 59 50.0 +0.3**
baz=249,SNR=14
F24K Squaw Lake 86.00 21 IAmb IAmb 19 00 28.0
comp=Z,35nm,0.8s
F24K Squaw Lake 86.00 21 P **P** **18 59 50.6 +0.8**
baz=249,SNR=35
MENT Mentasta 86.18 26 IAmb IAmb 18 59 52.6
comp=Z,100nm,1.8s
MENT Mentasta 86.18 26 P **P** **18 59 52.2 +1.4**
comp=Z,30nm,2.2s
PRP Porcupine Dome 86.22 23 P **P** **18 59 51.3 +0.3**
baz=252
MESA MESA 86.24 29 P **P** **18 59 51.2 -0.1**
baz=255
D24K Happy Valley 86.28 19 P **P** **18 59 51.9 +0.8**
baz=248
H25L Birch Creek 86.34 23 P **P** **18 59 51.6 +0.2**
baz=251
M26K Nabesna, AK 86.35 27 IAmb IAmb 18 59 53.5
comp=Z,127nm,1.9s
M26K Nabesna, AK 86.35 27 P **P** **18 59 51.5 -0.1**
baz=254
L26K Log Cabin Wild 86.37 26 IAmb IAmb 18 59 53.5
comp=Z,104nm,1.8s
L26K Log Cabin Wild 86.37 26 P **P** **18 59 51.6 0.0**
baz=254,SNR=7.3
SCRK Sand Creek 86.37 25 IAmb IAmb 18 59 53.3
comp=Z,99nm,1.8s
SCRK Sand Creek 86.37 25 P **P** **18 59 51.3 -0.5**
baz=253,SNR=15
G25K Bearman Lake 86.40 22 P **P** **18 59 51.9 +0.3**
baz=251,SNR=14
WSAR Wadi Sarin 86.44 293 PKKPbc PKKPbc 19 17 50.0 +0.6
comp=Z,2.6nm,0.6s,baz=324,slow=12,SNR=2.0
C24K Franklin Bluff 86.53 19 P **P** **18 59 52.7 +0.5**
baz=248
J26L Joseph Creek 86.70 25 IAmb IAmb 18 59 55.1
comp=Z,154nm,1.9s
J26L Joseph Creek 86.70 25 P **P** **18 59 53.2 -0.2**
baz=253,SNR=22
F25K Christian Rive 86.84 21 IAmb IAmb 18 59 56.8
comp=Z,100nm,1.6s
F25K Christian Rive 86.84 21 P **P** **18 59 54.7 +0.8**
baz=251,SNR=20
M27K Edge Creek, AK 86.84 27 P **P** **18 59 54.5 +0.4**
baz=255
E25K Arctic Village 87.04 21 P **P** **18 59 55.5 +0.7**
baz=251,SNR=44
L27K Beaver Creek, 87.05 26 IAmb IAmb 18 59 57.1
comp=Z,150nm,1.9s
L27K Beaver Creek, 87.05 26 P **P** **18 59 55.4 +0.4**
baz=255
BCAR Beaver Creek A 87.07 26 P **P** **18 59 54.6 -0.5**
I26K Coal Creek Min 87.10 24 P **P** **18 59 54.2 -0.9**
baz=254
D25K Kavik River 87.16 20 IAmb IAmb 18 59 58.3
comp=Z,110nm,1.3s
D25K Kavik River 87.16 20 P **P** **18 59 55.8 +0.4**
baz=250,SNR=40
BMAR Burnt Mountain 87.18 22 P **P** **18 59 55.8 +0.2**
K27K Chicken 87.20 25 P **P** **18 59 56.1 +0.4**
baz=255
O28M Mount Upton 87.23 29 P **P** **18 59 55.9 -0.3**
baz=256,SNR=9.1
G26K Porcupine Rive 87.33 22 P **P** **18 59 57.1 +1.0**
baz=253
F26K Sheenjek River 87.42 21 P **P** **18 59 57.5 +0.9**
baz=255
YUK8 Steele Glacier 87.55 28 P **P** **18 59 58.2 +0.5**
baz=257,SNR=10
I27K Kandik River 87.80 24 P **P** **18 59 59.0 +0.5**
baz=255
C26K Camden Bay 87.84 19 P **P** **18 59 59.7 +1.2**
baz=252,SNR=43
O29M Mount Kennedy 87.91 29 P **P** **18 59 59.5 +0.3**
O29M IAmb IAmb 19 00 40.5
comp=Z,36nm,1.1s
O29M Mount Kennedy 87.91 29 P **P** **18 59 59.9 +0.6**
baz=258
H27K Steamboat Moun 88.00 23 P **P** **19 00 00.2 +0.7**
baz=255,SNR=56
YUK4 Talbot Arm 88.09 28 P **P** **19 00 01.0 +0.8**
baz=258,SNR=18
G27K Doyon Strip 88.10 23 IAmb IAmb 19 00 02.5
comp=Z,52nm,1.4s
G27K Doyon Strip 88.10 23 P **P** **19 00 00.4 +0.5**
baz=255,SNR=27
YUK6 Outpost Mounta 88.14 29 P **P** **19 00 00.5 0.0**
baz=258,SNR=6.3
C27K Jago River 88.14 20 P **P** **19 00 00.8 +0.8**
baz=253
DAWY Dawson 88.35 25 P **P** **19 00 01.5 +0.4**
baz=257,SNR=34
M29M Somme Creek 88.41 27 P **P** **19 00 01.8 +0.3**
baz=258,SNR=30
I28M Miner Creek 88.44 24 IAmb IAmb 19 00 03.7
comp=Z,39nm,0.9s
I28M Miner Creek 88.44 24 P **P** **19 00 01.9 +0.3**
baz=257
SOHO SOHO 88.44 294 *i* P **P** **19 00 01.5 -0.9**
SNR=5.9
E27K Coleen River 88.48 21 P **P** **19 00 02.5 +0.9**
baz=255,SNR=32
HYT Haines Junctio 88.53 29 IAmb IAmb 19 00 42.2
comp=Z,35nm,1.0s
HYT Haines Junctio 88.53 29 P **P** **19 00 02.6 +0.4**
baz=259,SNR=13
S31K Pelican 88.64 32 IAmb IAmb 19 00 04.6
comp=Z,55nm,1.2s
S31K Pelican 88.64 32 P **P** **19 00 02.8 +0.2**
baz=260
P30M Million Dollar 88.66 30 P **P** **19 00 03.2 +0.5**
baz=259
L29M L29M 88.70 27 IAmb IAmb 19 00 42.1
comp=Z,33nm,0.8s
L29M L29M 88.70 27 P **P** **19 00 03.4 +0.6**
baz=258,SNR=29
UOSS Minazif 88.82 295 P **P** **19 00 02.9 -1.3**
UOSS Minazif 88.82 295 P **P** **19 00 03.4 -0.8**
PLBC Pleasant Camp 88.84 30 P **P** **19 00 03.1 -0.4**
baz=260
N30M Aishikik Lake 88.85 28 P **P** **19 00 03.7 +0.1**
baz=259,SNR=11
HATD Hatta, Dubai 88.87 295 *i* P **P** **19 00 04.2 -0.2**
SNR=5.3
MSFE Esma-Masafi 88.89 295 *i* P **P** **19 00 04.4 -0.2**
SNR=5.1
J29N Klondike Camp 88.94 25 IAmb IAmb 19 00 07.4
comp=Z,80nm,1.5s
J29N Klondike Camp 88.94 25 P **P** **19 00 04.7 +0.7**
baz=258,SNR=14
SHME Shamm 88.97 296 P **P** **19 00 04.5 -0.4**
D27M Malcolm River 88.97 20 IAmb IAmb 19 00 06.4
comp=Z,77nm,1.7s
D27M Malcolm River 88.97 20 P **P** **19 00 04.5 +0.5**
baz=256,SNR=14
SIT Sitka 88.97 33 P **P** **19 00 04.3 +0.2**
baz=261
I29M Ogilvie Camp, 89.09 24 P **P** **19 00 04.6 +0.1**
baz=258,SNR=38
K29M Barlow Dome 89.11 26 P **P** **19 00 05.4 +0.6**
baz=259
ALNE Al Ain 89.15 294 *i* P **P** **19 00 05.1 -0.7**
SNR=8.1
M30M Minto, Yukon 89.19 27 IAmb IAmb 19 00 07.3
comp=Z,48nm,1.5s
M30M Minto, Yukon 89.19 27 P **P** **19 00 05.4 +0.3**
baz=260,SNR=15
O30N Mendenhall 89.20 29 IAmb IAmb 19 00 08.2
comp=Z,55nm,1.6s
O30N Mendenhall 89.20 29 P **P** **19 00 04.9 -0.3**
baz=260,SNR=12
H29M Whitestone 89.24 23 IAmb IAmb 19 00 07.2
comp=Z,77nm,1.6s
H29M Whitestone 89.24 23 P **P** **19 00 05.2 -0.1**
baz=258,SNR=8.5
SVE Sverdlovsk 89.28 327 *e*P **P** **19 00 04.6 -1.0**
SVE pmax pmax
comp=Z,66nm,1.9s
NAZ Nazwa, Dubai 89.31 295 P **P** **19 00 05.8 -0.6**
E28M Babbage River 89.32 21 IAmb IAmb 19 00 08.0
comp=Z,125nm,1.9s
E28M Babbage River 89.32 21 P **P** **19 00 05.9 +0.3**
baz=257
SKAG Skagway 89.36 30 P **P** **19 00 06.2 +0.3**
baz=261
S32K Killisnoo 89.44 32 P **P** **19 00 06.5 +0.2**
baz=262
BESE Bessie Mountai 89.46 31 IAmb IAmb 19 00 08.6
comp=Z,91nm,1.6s
N31M Braeburn, Yuko 89.47 28 P **P** **19 00 06.4 -0.1**
baz=260,SNR=7.5
G29M Pine Creek 89.52 23 P **P** **19 00 07.0 +0.5**
baz=258
ASUD Al Ashush, Dub 89.58 295 P **P** **19 00 07.3 -0.4**
R32K Eaglecrest 89.59 32 P **P** **19 00 07.1 0.0**
baz=262
J30M Hart River 89.76 25 P **P** **19 00 08.3 +0.5**
baz=260,SNR=32
D28M Stokes Point 89.77 20 P **P** **19 00 07.4 -0.2**
baz=258
WHY Whitehorse 89.77 29 P **P** **19 00 08.0 0.0**
baz=261,SNR=8.0
MAYO Mayo, Yukon 89.78 26 P **P** **19 00 08.3 +0.4**
baz=260
I30M Mount Dempster 89.86 25 P **P** **19 00 08.4 +0.1**
baz=260
E29M Blow River 89.87 21 P **P** **19 00 07.8 -0.3**
baz=258,SNR=7.7
CRAG Craig 89.96 34 P **P** **19 00 09.1 +0.4**
baz=263
AKTO Aktyubinsk 89.98 320 P **P** **19 00 08.2 -0.9**
comp=Z,7.6nm,0.5s,baz=95,slow=5.4,SNR=25
comp=Z,7.6nm,0.5s
U33K Whale Pass 90.04 34 P **P** **19 00 09.4 +0.3**
baz=263
P32M Atlin 90.19 30 P **P** **19 00 09.5 -0.4**
baz=262
G30M tAoh Zraii Nji 90.23 23 IAmb IAmb 19 00 11.2
comp=Z,143nm,2.0s
G30M tAoh Zraii Nji 90.23 23 P **P** **19 00 09.5 -0.4**
baz=260
M31M Drury Creek, Y 90.24 28 P **P** **19 00 09.6 -0.4**
baz=262
ARTI Arti 90.45 326 P **P** **19 00 09.1 -2.0**
ARTI IAmb IAmb 19 00 11.2
comp=Z,48nm,1.2s
ARTI Arti 90.45 326 P **P** **19 00 09.9 -1.2**
comp=Z,6.6nm,0.4s,baz=88,slow=0.9,SNR=17
ARTI pP **pP** **19 00 44.7 -1.2**
comp=Z,4.9nm,0.7s,baz=116,slow=8.0,SNR=1.9
ARTI LR LR 19 42 09.1
comp=Z,211nm,20.1s,baz=86,slow=36
comp=Z,6.6nm,0.4s
ARTI Arti 90.45 326 *c i* P **P** **19 00 09.7 -1.4**
ARTI *PP **pP** **19 00 42.5 -3.4**
ARTI 19 03 45.9
ARTI S **SKSac** **19 10 28.1 -1.6**
ARTI SP **SPn** **19 12 04.8 +2.7**
ARTI SS **SS** **19 16 53.3 -4.9**
ARTI pmax pmax
comp=Z,46nm,1.3s
F30M Barrier River 90.50 22 P **P** **19 00 11.4 +0.3**
baz=260
WRAK Wrangell Islan 90.51 34 P **P** **19 00 11.1 -0.2**
baz=263
N32M Quiet Lake 90.71 29 P **P** **19 00 12.6 +0.3**
baz=263
P33M Teslin, Yukon 90.72 30 P **P** **19 00 11.8 -0.5**
baz=263
FARO Faro, Yukon 90.72 28 P **P** **19 00 11.9 -0.3**
baz=262,SNR=8.6
H31M Peel River 90.79 24 P **P** **19 00 12.4 0.0**
baz=262
V35K Ketchikan 90.80 35 P **P** **19 00 13.1 +0.5**
baz=264
Q32M Nakina River 90.85 31 P **P** **19 00 13.3 +0.2**
baz=263
SYO Syowa Base 90.89 201 ‖ *i* PcP **PcP** **19 00 15.0 +1.2**
SYO Syowa Base 90.89 201 ‖ *e*pP pP 19 00 48.2 +0.5
G31M Satah River 90.98 23 IAmb IAmb 19 00 14.7
comp=Z,60nm,1.4s
G31M Satah River 90.98 23 P **P** **19 00 12.8 -0.4**
baz=262,SNR=14
MZR Muzera 91.15 293 *i* P **P** **19 00 14.9 -0.2**
SNR=15
F31M Tsiigehtchic 91.25 23 IAmb IAmb 19 00 16.4
comp=Z,36nm,1.4s
F31M Tsiigehtchic 91.25 23 P **P** **19 00 13.9 -0.6**
baz=262,SNR=9.1
S34M Telegraph Cree 91.33 32 P **P** **19 00 15.6 +0.4**
baz=264
INK Inuvik 91.45 22 LR LR 19 45 07.6
comp=Z,124nm,18.1s,baz=249,slow=38
INK Inuvik 91.45 22 P **P** **19 00 15.1 -0.3**
baz=262,SNR=11
R33M Jennings River 91.56 31 P **P** **19 00 16.7 +0.4**
baz=265
T35M Bob Quinn 91.72 33 P **P** **19 00 17.5 +0.5**
baz=265
MMPY Sheldon Lake, 91.73 27 IAmb IAmb 19 00 18.9
comp=Z,46nm,1.7s
MMPY Sheldon Lake, 91.73 27 P **P** **19 00 17.0 +0.1**
baz=264,SNR=6.7
DLBC Dease Lake 91.96 32 P **P** **19 00 18.3 +0.2**
baz=265,SNR=5.1
BBB Bella Bella 92.61 38 IAmb IAmb 19 00 22.8
comp=Z,63nm,1.4s
WTLY Watson Lake, Y 92.71 30 P **P** **19 00 21.8 +0.2**
baz=266
TGTN Hyland Airport 93.05 29 P **P** **19 00 22.9 -0.2**
baz=267
A36M Sachs Harbour 94.50 18 IAmb IAmb 19 01 07.7
comp=Z,14nm,0.8s
A36M Sachs Harbour 94.50 18 P **P** **19 00 28.7 -0.7**
baz=270
ELIB Princess Elisa 94.87 196 *d*P **P** **19 00 32.7 +1.4**
comp=Z,78nm,0.7s
C36M Paulatuk 94.94 21 IAmb IAmb 19 00 32.1
comp=Z,36nm,1.6s
C36M Paulatuk 94.94 21 P **P** **19 00 30.6 -0.9**
baz=271
KOTAN Kotaneelee Air 95.09 30 P **P** **19 00 32.0 -0.4**
baz=271
KIRV Kirov 95.40 328 P **P** **19 00 33.2 -0.6**

comp=Z,6.3nm,0.5s,baz=150,slow=3.4,SNR=7.3
comp=Z,6.3nm,0.5s
KIRV Kirov 95.40 328 *ce*P **P 19 00 33.7 -0.1**
LKRN Lenkeran, Azer 95.86 308 P **P 19 00 36.1 -0.3**
YBH Yreka Blue Hor 95.99 49 LR LR 19 39 11.8
comp=Z,137nm,18.6s,baz=281,slow=32
BELG Belogornoye 96.56 322 P **P 19 00 37.9 -1.3**
comp=Z,32nm,0.9s,baz=279,slow=3.9,SNR=16
comp=Z,32nm,0.9s
BELG Belogornoye 96.56 322 *i* P **P 19 00 38.3 -0.9**
BELG pmax pmax
comp=Z,11nm,1.1s
AKT Akhty 96.68 311 *e*P **P 19 00 37.9 -2.3**
AKT *e**PP **pP 19 01 10.5 -4.6**
AKT *e**SP **sP 19 01 24.2 -5.1**
AKT *e* 19 04 32.3
AKT *e*PPP PPP 19 06 39.1
AKT *e*S **SKSac 19 11 01.2 -3.4**
AKT pmax pmax
comp=Z,18nm,1.4s
MAK Makhachkala 96.83 313 *e*P **P 19 00 38.3 -2.4**
MAK *e**PP **pP 19 01 13.2 -2.3**
MAK *e**SP **sP 19 01 27.1 -2.7**
MAK *e* 19 11 02.7
MAK pmax pmax
comp=Z,71nm,0.8s
SEKA Sheki 97.08 311 P **P 19 00 41.4 -0.6**
MNGR Mingechevir, A 97.17 310 P **P 19 00 42.2 -0.1**
PINE Pine Mountain 97.27 47 P **P 19 00 42.5 -0.5**
PINE IAmb IAmb 19 01 36.8
comp=Z,31nm,1.6s
GANJ Ganja 97.75 310 P **P 19 00 44.8 -0.2**
BELA Belgrano 2 98.04 181 P **P 19 00 45.3 -0.1**
I07A Izee 98.30 46 P **P 19 00 47.0 -0.4**
I07A IAmb IAmb 19 00 49.4
comp=Z,33nm,1.8s
NAX Nakhchivan 98.42 309 P **P 19 00 47.7 -0.4**
RAYN Ar Rayn 98.50 293 P **P 19 00 47.4 -1.3**
RAYN Ar Rayn 98.50 293 P **P 19 00 47.4 -1.3**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 98.50 293 Pdiff **P 19 00 46.7 -2.0**
G08A Pilot Rock 98.64 45 P Pdif 19 00 49.3 +0.4
G08A IAmb IAmb 19 00 50.9
comp=Z,39nm,1.9s
WVOR Wild Horse Val 99.00 48 IAmb IAmb 19 01 30.0
comp=Z,22nm,1.6s
NVAR Mina Array Bea 99.42 52 P **Pdif 19 00 52.8 +0.1**
comp=Z,0.2nm,0.3s,baz=46,slow=50,SNR=1.9
NVAR LR LR 19 37 13.6
comp=Z,246nm,21.3s,baz=274,slow=30
comp=Z,0.2nm,0.3s
YKA Yellowknife Ar 99.43 27 P **Pdif 19 00 51.1 -0.8**
comp=Z,0.7nm,0.7s,baz=282,slow=5.0,SNR=9.3
YKA PKiKP **PKiKP 19 05 20.9 +0.3**
comp=Z,0.2nm,0.5s,baz=355,slow=17,SNR=2.9
YKA PKKPbc **PKKPbc 19 17 14.8 -2.4**
comp=Z,0.5nm,0.4s,baz=123,slow=16,SNR=16
YKA LR LR 19 42 15.0
comp=Z,136nm,21.0s,baz=280,slow=33
NEW Newport 99.70 42 LR LR 19 38 50.9
comp=Z,220nm,20.7s,baz=274,slow=31
TROLL Troll, Antarti 99.79 192 ⇓P **Pdif 19 00 54.5 +1.0**
comp=Z,2μm,0.6s
BMO Blue Mountains 99.83 45 IAmb IAmb 19 00 56.9
comp=Z,25nm,1.9s
KBZ Khabaz 100.16 314 P **Pdif 19 00 55.6 +0.1**
comp=Z,0.6nm,0.6s,baz=34,slow=5.1,SNR=4.3
KBZ PKKPbc **PKKPbc 19 17 12.4 -2.1**
comp=Z,1.3nm,0.7s,baz=274,slow=3.7,SNR=7.8
KLMR Klimovskoe 100.18 331 *e*P **Pdif 19 00 52.3 -2.9**
KLMR *e* 19 05 01.2
KLMR pmax pmax
comp=Z,43nm,1.7s
VRH Novokhopyorsk 100.30 321 *e*P **Pdif 19 00 52.0 -4.0**
VRH pmax pmax
comp=Z,50nm,1.7s
SNAA Sanae 101.08 190 ⇓P **Pdif 19 00 59.8 +0.6**
comp=Z,181nm,0.9s
SNAA Sanae 101.08 190 Pdiff **Pdif 19 00 59.4 +0.2**
comp=Z,6.7nm,0.8s,baz=167,slow=3.5,SNR=15
SPITS Spitsbergen Ar 101.16 350 Pdiff **Pdif 19 00 59.3 -0.1**
comp=Z,6.1nm,0.8s,baz=86,slow=4.3,SNR=6.5
SPITS PKKPbc **PKKPbc 19 17 10.4 -2.3**
comp=Z,3.7nm,0.7s,baz=146,slow=4.6,SNR=3.6
APA Apatity 101.25 338 ⇓*i*P **Pdif 19 00 44.4 -15**
APA pmax pmax
comp=Z,9.0nm,1.4s
VORR Voronezh 101.80 322 *e*P **Pdif 19 01 00.1 -2.5**
VORR pmax pmax
comp=Z,30nm,1.8s
LPSR Galich'ya Gora 101.83 323 *e*P **Pdif 19 00 58.9 -3.9**
LPSR pmax pmax
comp=Z,30nm,1.7s
VORD Divnogorie 101.85 321 *e*P **Pdif 19 01 01.2 -1.7**
VORD pmax pmax
comp=Z,10.0nm,1.6s
VSR Storozhevoye 101.89 321 *e*P **Pdif 19 01 01.5 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.8s
MOS Moscow 102.07 326 *i* P **Pdif 19 01 02.1 -1.6**
MOS *e* 19 05 16.1
VNA2 Neumayer--Watz 102.51 190 ⇓P **Pdif 19 01 06.3 +0.8**
comp=Z,10nm,0.6s,baz=158,slow=6.4
VNA3 Neumayer Olymp 102.59 189 ⇓P **Pdif 19 01 07.0 +1.1**
comp=Z,12nm,0.7s
OBN Obninsk 102.78 326 *e*P **Pdif 19 01 05.9 -1.0**
OBN *e* 19 05 22.1
OBN *e*PPP PPP 19 07 32.9
OBN pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 103.28 341 Pdiff **Pdif 19 01 08.0 -0.9**
comp=Z,6.9nm,0.7s,baz=71,slow=8.2,SNR=24
ARCES PKiKP **PKiKP 19 05 27.7 +0.3**
comp=Z,2.6nm,0.9s,baz=103,slow=1.1,SNR=8.1
ARCES PKKPbc **PKKPbc 19 17 03.7 -2.7**
comp=Z,1.7nm,0.5s,baz=260,slow=1.6,SNR=13
PDAR Pinedale Array 105.64 47 Pdiff **Pdif 19 01 20.5 +0.2**
comp=Z,0.1nm,0.5s,baz=137,slow=20,SNR=2.1
PDAR PKiKP **PKiKP 19 05 33.0 +0.1**
comp=Z,0.4nm,0.6s,baz=192,slow=2.8,SNR=4.7
PDAR PKKPbc **PKKPbc 19 16 57.4 -1.3**
comp=Z,0.9nm,0.5s,baz=100,slow=4.3,SNR=13
FINES FINESS Array B 106.28 333 Pdiff **Pdif 19 01 21.3 -1.1**
comp=Z,4.5nm,0.7s,baz=73,slow=3.9,SNR=11
FINES PKiKP **PKiKP 19 05 33.3 +0.2**
comp=Z,1.7nm,0.8s,baz=70,slow=2.1,SNR=5.4
FINES PKKPbc **PKKPbc 19 16 55.3 -1.7**
comp=Z,1.4nm,0.6s,baz=270,slow=1.9,SNR=4.7
MMAI Mount Meron Ar 106.99 303 PKKPbc PKKPbc 19 16 54.6 +0.7
comp=Z,1.4nm,0.5s,baz=11,slow=0.9,SNR=6.1
BRTR Keskin Array B 107.50 310 Pdiff **Pdif 19 01 26.6 -1.9**
comp=Z,0.5nm,0.6s,baz=104,slow=5.2,SNR=4.6
BRTR PKiKP **PKiKP 19 05 36.5 +0.3**
comp=Z,0.5nm,0.7s,baz=156,slow=4.9,SNR=2.6
BRTR PKKPbc **PKKPbc 19 16 53.0 +0.4**
comp=Z,1.8nm,0.7s,baz=253,slow=2.0,SNR=9.9
MNK Minsk 107.79 326 *i* P **Pdif 19 01 26.8 -2.4**
MNK *i* 19 05 57.7
MNK *i* PPP PPP 19 08 14.5
MNK *i* 19 12 35.3
MNK *i* SS SS 19 21 01.9 +1.9
MNK *i* SSS SSS 19 25 07.3
MNK pmax pmax
comp=Z,3.0nm,0.8s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=N,9.0nm,1.1s
MNK MLR MLR
comp=Z,243nm,21.0s
MNK MLR MLR
comp=N,210nm,18.0s
AKASG Malin Array Be 108.14 322 Pdiff **Pdif 19 01 29.7 -1.2**
comp=N,0.1nm,0.3s,baz=80,slow=1.1,SNR=4.9
AKASG PKiKP **PKiKP 19 05 37.6 +0.7**
comp=N,1.1nm,0.5s,baz=69,slow=2.3,SNR=11
AKASG PP **PP 19 06 01.7 -0.1**
comp=N,0.1nm,0.3s,baz=63,slow=7.0,SNR=5.6
AKASG PKKPbc **PKKPbc 19 16 49.0 -1.8**
comp=N,1.7nm,0.7s,baz=265,slow=4.1,SNR=7.3
VLDR Vladesti 110.20 317 ⇑P **PKiKP 19 05 41.9 +1.0**
SCTR Scanteiesti 110.30 317 ⇓P **PKiKP 19 05 41.8 +0.7**
CFR Carcaliu 110.34 317 ⇑P **PKiKP 19 05 39.4 -1.8**
CFR Carcaliu 110.34 317 ⇓P **PKKPbc 19 16 36.4 -7.1**
CFR Carcaliu 110.34 317 ⇑PKIKP **PKiKP 19 05 39.4 -1.8**

T25A Trinidad 110.49 52 P **PKiKP 19 05 41.2 -0.8**
baz=281
TLBR Topalu 110.56 316 ⇑P **PKiKP 19 05 36.1 -5.5**
GHRR 110.59 318 ⇑P **PKKPbc 19 16 42.9 +0.1**
HARR Harsova 110.60 316 ⇑P **PKiKP 19 05 36.5 -5.2**
HARR Harsova 110.60 316 ⇑PKIKP **PKiKP 19 05 36.5 -5.2**
TESR Tescani 110.97 318 ⇓P **PKiKP 19 05 42.9 +0.6**
TESR Tescani 110.97 318 ⇑P **PKKPbc 19 16 38.6 -3.0**
VRI Vrincioaia 111.10 318 ⇑P **PKiKP 19 05 39.9 -2.8**
VRI Vrincioaia 111.10 318 ⇑P **PKKPbc 19 16 36.8 -4.4**
VRI Vrincioaia 111.10 318 ⇑PKIKP **PKiKP 19 05 39.9 -2.8**
PLOR Plostina 111.16 318 ⇓P **PKiKP 19 05 39.9 -2.9**
PLOR Plostina 111.16 318 ⇓P **PKKPbc 19 16 39.3 -1.7**
PLOR Plostina 111.16 318 ⇓PKIKP **PKiKP 19 05 39.9 -2.9**
BISRR Bisoca 111.20 317 ⇑P **PKKPbc 19 16 39.3 -1.6**
MLR Muntele Rosu 111.73 318 ⇓P **PKiKP 19 05 37.4 -6.6**
MLR Muntele Rosu 111.73 318 ⇓P **PKKPbc 19 16 33.0 -6.3**
MLR Muntele Rosu 111.73 318 ⇓PKIKP **PKiKP 19 05 37.4 -6.6**
BOSA Boshof 111.92 237 PKiKP **PKiKP 19 05 45.6 +0.7**
comp=N,1.4nm,0.6s,baz=57,slow=1.4,SNR=5.3
HFS Hagfors 112.26 335 Pdiff **Pdif 19 01 49.5 +0.6**
comp=N,2.1nm,0.7s,baz=94,slow=11,SNR=2.1
HFS PKKPbc **PKKPbc 19 16 35.8 -2.1**
comp=N,2.4nm,0.6s,baz=180,slow=5.9,SNR=5.9
HFS PKKPab **PKKPab 19 16 45.2 +0.5**
comp=N,2.2nm,0.7s,baz=197,slow=4.5,SNR=2.3
TXAR Lajitas Array 112.38 60 PKiKP **PKiKP 19 05 45.6 -0.1**
comp=N,0.9nm,0.8s,baz=183,slow=1.5,SNR=7.2
TXAR PKKPbc **PKKPbc 19 16 34.7 -1.8**
comp=N,0.7nm,0.7s,baz=126,slow=6.3,SNR=4.3
TXAR PKKPab **PKKPab 19 16 45.2 +0.4**
comp=N,2.7nm,0.9s,baz=79,slow=6.3,SNR=11
ARR Arges 112.65 318 ⇓P PKiKP 19 05 36.6 -9.1
NB2 NORSAR Subarra 112.74 337 PKPdf **PKiKP 19 05 45.1 -0.2**
comp=Z,3.1nm,1.0s,baz=44,slow=1.9
NB2 PKKP **PKKPbc 19 16 34.4 -1.9**
comp=Z,4.5nm,0.8s,baz=229,slow=3.5
NOA NORSAR Array B 112.74 337 PKiKP **PKiKP 19 05 45.4 +0.1**
comp=Z,0.9nm,0.6s,baz=52,slow=1.8,SNR=5.5
NOA PKKPbc **PKKPbc 19 16 35.1 -1.2**
comp=Z,1.7nm,0.7s,baz=54,slow=3.2,SNR=8.1
NOA PKKPab **PKKPab 19 16 43.2 +0.6**
comp=Z,1.5nm,0.8s,baz=235,slow=4.4,SNR=4.7
ULM Lac du Bonnet 112.76 37 PKiKP **PKiKP 19 05 45.5 -0.1**
comp=Z,1.5nm,0.6s,baz=231,slow=2.1,SNR=4.1
KOLS Kolonicke sedl 112.97 322 *e*PKIKP **PKiKP 19 05 48.0 +1.9**
KOLS *e* 19 06 23.3
KOLS Kolonicke sedl 112.97 322 *e*PKP **PKiKP 19 05 48.0 +1.9**
KOLS *e* 19 06 23.3
MARR Marisel-Cluj 113.23 319 ⇑P **PKiKP 19 05 46.0 -0.8**
MARR Marisel-Cluj 113.23 319 ⇑P **PKKPbc 19 16 34.5 +0.2**
DRGR 113.45 320 ⇑P **PKiKP 19 05 47.7 +0.5**
DRGR 113.45 320 ⇑P **PKKPbc 19 16 32.5 -1.0**
DRGR 113.45 320 ⇑PKIKP **PKiKP 19 05 47.7 +0.5**
GZR Gura Zlata 113.88 318 ⇑P PKiKP 19 05 39.8 -8.2
GZR Gura Zlata 113.88 318 ⇑PKIKP PKiKP 19 05 39.8 -8.2
SURR Surduc 114.19 319 ⇓P PKPdf 19 05 43.7 -4.8
SURR Surduc 114.19 319 ⇑P **PKKPbc 19 16 30.8 0.0**
HERR Herculane 114.30 318 ⇓P PKPdf 19 05 37.9 -11
SIRR Siria 114.32 319 ⇑P PKPdf 19 05 48.0 -0.8
SIRR Siria 114.32 319 ⇑P **PKKPbc 19 16 30.5 +0.1**
BZS Buzias 114.57 319 ⇑P PKPdf 19 05 44.1 -5.2
BZS Buzias 114.57 319 ⇓P **PKKPbc 19 16 29.1 -0.4**
BZS Buzias 114.57 319 ⇑PKIKP PKPdf 19 05 44.1 -5.1
LANS Liptovska Anna 114.59 323 *e*PKIKP PKPdf 19 05 51.4 +2.2
LANS Liptovska Anna 114.59 323 *e*PKP PKPdf 19 05 51.4 +2.2
MDVR Moldovita 114.80 318 ⇑P PKiKP 19 05 39.6 -10
STEB Steborice 115.27 324 *e*PKP **PKPdf 19 05 52.2 +1.7**
MORC Moravsky Berou 115.47 324 *e*PKP **PKPdf 19 05 51.4 +0.5**
JCT Junction City 115.50 58 **PKiKP 19 05 51.6 0.0**
JCT Junction City 115.50 58 PKIKP **PKiKP 19 05 51.6 0.0**
KRLC Kraliky 115.78 325 *e*PKP **PKPdf 19 05 53.0 +1.5**
KRLC Kraliky 115.78 325 *e*PKIKP **PKPdf 19 05 53.0 +1.5**
JAVC Velka Javorina 115.79 323 *e*PKP **PKPdf 19 05 52.6 +1.0**
FRGS Fruska Gora 115.93 319 *e*P **PKiKP 19 05 52.0 +0.1**
BRDY Brady 116.02 57 **PKPdf 19 05 51.9 -0.6**
VRAC Vranov 116.23 324 *e*PKP **PKPdf 19 05 51.7 -0.7**
MODS Modra-Piesok 116.23 323 *e*PKIKP **PKiKP 19 05 54.2 +1.8**
MODS Modra-Piesok 116.23 323 *e*PKP **PKiKP 19 05 54.2 +1.8**
MORH Mrgy, Hungar 116.28 320 ⇑P **PKPdf 19 05 52.3 -0.1**
MORH Mrgy, Hungar 116.28 320 ⇑P **PKKPbc 19 16 21.6 -2.0**
TEKS Tekeris 116.34 318 *e*P **PKiKP 19 05 55.5 +2.8**
KRUC Moravsky 116.46 324 *e*PKP **PKiKP 19 05 52.9 +0.1**
SJES Sjenica 116.51 317 *e*P **PKiKP 19 05 53.3 +0.1**
BBLS Lazi&#263i 116.67 318 *e*P **PKiKP 19 05 53.5 0.0**
RUDO Rudo 116.79 317 *e*P **PKPdf 19 05 52.5 -1.1**
TREC Trest 116.88 324 *e*PKP **PKiKP 19 05 53.8 +0.2**
TREC Trest 116.88 324 *e*PKIKP **PKiKP 19 05 53.8 +0.2**
HAPS Han Pijesak,Bl 116.90 318 *e*P **PKPdf 19 05 53.7 -0.2**
BRG Berggiesshubel 117.00 326 *e*PKP **PKiKP 19 05 55.0 +1.2**
BRG Amp 19 05 55.6
comp=Z,5.8nm,0.8s
BRG pPKP pPKPdf 19 06 30.6 +0.5
BRG Amp 19 06 32.0
comp=Z,8.4nm,0.9s
PRU Pruhonice 117.10 325 *e*PKP **PKiKP 19 05 54.6 +0.6**
PRU Pruhonice 117.10 325 *e*PKIKP **PKiKP 19 05 54.6 +0.6**
RONA Rosalia, Austr 117.12 323 *e*PKP **PKPdf 19 05 52.3 -1.9**
comp=Z,8.4nm,1.2s
CONA Conrad Observa 117.28 323 *i* PKP **PKPdf 19 05 53.9 -0.6**
comp=Z,3.9nm,0.5s,SNR=4.8
CONA *ep*PKiKP **pPKiKP 19 06 30.9 +0.1**
comp=Z,7.2nm,1.1s
CONA *e*PP **PP 19 07 11.1 +4.3**
comp=Z,17nm,1.8s
CONA *e*PKKP **PKKPbc 19 16 19.8 -0.5**
comp=Z,7.1nm,1.3s
CLL Collm 117.30 327 *e*PKPdf **PKPdf 19 05 54.0 -0.3**
CLL *ep*PKPdf **pPKPdf 19 06 29.0 -1.6**
CLL *e*PP **PP 19 07 07.0 +0.3**
CLL AMS AMS 19 55 00.0
comp=Z,400nm,20.9s
HSKC Hora Svate Kat 117.42 326 *e*PKP **PKiKP 19 05 55.8 +1.2**
DRME Dracevica, Mon 117.43 316 *e*P **PKPdf 19 05 54.0 -0.9**
ZVC Zvikov 117.56 325 *e*PKP **PKiKP 19 05 55.1 +0.2**
BRY Bratogost 117.62 317 *e*P **PKPdf 19 05 54.1 -1.3**
ARSA Arzberg 117.79 322 *e*PKP **PKPdf 19 05 55.0 -0.4**
comp=Z,2.5nm,0.5s
BLY Banja Luka 117.80 319 *e*P **PKiKP 19 05 55.7 +0.2**
HCY Herceg Novi 117.81 316 *e*P **PKPdf 19 05 53.7 -1.9**
A051A Mrakovica 117.88 320 *e*P **PKPdf 19 05 55.3 -0.4**
KHC Kasperske Hory 118.06 325 *e*PKP **PKiKP 19 05 56.7 +0.7**
KHC *ep*PKP **pPKPdf 19 06 31.0 -1.2**
KHC Kasperske Hory 118.06 325 *e*PKIKP **PKiKP 19 05 56.7 +0.7**
KHC *e* 19 06 31.0
GERES GERESS Array B 118.13 325 PKPdf **PKPdf 19 05 55.7 -0.5**
GERES GERESS Array B 118.13 325 PKP **PKiKP 19 05 56.4 +0.3**
comp=Z,3.9nm,0.5s,baz=76,slow=1.8,SNR=18
GERES pPKP **pPKPdf 19 06 30.7 -1.8**
comp=Z,5.0nm,0.9s,baz=1.9,slow=4.0,SNR=4.7
GERES PKKPbc **PKKPbc 19 16 16.6 -0.7**
comp=Z,2.6nm,0.7s,baz=193,slow=3.6,SNR=8.8
STON Ston 118.20 317 *e*P **PKPdf 19 05 55.3 -1.0**
MOA Molln 118.27 323 *e*PKP **PKiKP 19 05 56.5 +0.1**
comp=Z,3.9nm,0.5s
SOKA Soboth 118.34 322 *i* PKP **PKiKP 19 05 56.8 +0.2**
comp=Z,3.9nm,0.6s,SNR=6.0
SOKA PKKP **PKKPbc 19 16 14.6 -1.9**
comp=Z,1.6nm,0.7s
CRES Cresnjevec Ost 118.46 321 *e*P **PKPdf 19 05 56.1 -0.6**
OBKA Obir 118.72 322 *e*PKP **PKPdf 19 05 57.3 0.0**
comp=Z,3.0nm,0.5s
OBKA PKKP **PKKPbc 19 16 10.1 -5.0**
comp=Z,5.6nm,1.3s
OBKA Obir 118.72 322 *e*P **PKPdf 19 05 56.9 -0.4**
BIOA Bad Ischl, Aus 118.72 323 *e*PKP **PKPdf 19 05 56.9 -0.3**
comp=Z,2.7nm,0.5s
BIOA *e*PKKP **PKKPbc 19 16 13.2 -1.9**
comp=Z,1.6nm,0.4s
VISS Visnje 118.86 321 *i* PKPdf **PKPdf 19 05 57.4 -0.1**
LJU Ljubljana 118.94 321 *i* PKPdf **PKPdf 19 05 57.7 0.0**
CRNS Crni Vrh 119.09 322 *i* PKPdf **PKPdf 19 05 57.4 -0.6**
KBA Koelnbreinsper 119.19 323 *i* PKP **PKPdf 19 05 57.4 -0.9**
comp=Z,3.8nm,0.5s,SNR=7.7
KBA *ep*PKP **pPKPdf 19 06 33.3 -1.4**
comp=Z,6.6nm,1.1s
KBA *e*PKKP **PKKPbc 19 16 12.7 -0.9**
comp=Z,2.3nm,0.6s
MYKA Terra Mystica 119.22 322 *e*PKP **PKiKP 19 05 58.3 0.0**
comp=Z,5.2nm,0.9s
MYKA *e*PKKP **PKKPbc 19 16 13.2 -0.1**
comp=Z,3.2nm,0.4s
LESA Schwarzleotal 119.42 324 *i* PKP **PKPdf 19 05 58.3 -0.4**

comp=Z,11nm,0.5s,SNR=16
LESA *ep*PKP **pPKPdf 19 06 34.3 -0.6**
comp=Z,5.0nm,0.7s
LESA *e*PKKP **PKKPbc 19 16 10.9 -1.7**
comp=Z,8.2nm,0.7s
ABTA Abfaltersbach 119.85 323 *i* PKP **PKPdf 19 05 59.5 0.0**
comp=Z,9.8nm,0.6s,SNR=13
ABTA *ep*PKP **pPKPdf 19 06 34.3 -1.5**
comp=Z,8.5nm,0.8s
ABTA *e*PKKP **PKKPbc 19 16 10.3 -0.7**
comp=Z,4.4nm,0.7s
SGRT San Giovanni R 119.97 317 PKPdf **PKPdf 19 05 59.1 -0.8**
WATA Walderalm 120.11 324 *i* PKP **PKiKP 19 06 00.3 +0.1**
comp=Z,6.9nm,0.5s,SNR=7.1
WATA *ep*PKP **pPKPdf 19 06 34.6 -1.8**
comp=Z,10nm,1.1s
WTTA Wattenberg 120.11 324 *i* PKP **PKiKP 19 06 00.2 0.0**
comp=Z,13nm,0.4s,SNR=9.3
WTTA *ep*PKP **pPKPdf 19 06 35.6 -0.8**
comp=Z,16nm,0.8s
WTTA *e*PKKP **PKKPbc 19 16 09.1 -1.0**
comp=Z,7.5nm,1.0s
TIP Timpagrande 120.24 313 ⇑P **PKPdf 19 06 00.4 -0.1**
SQTA Sankt Quirin 120.39 324 *i* PKP **PKPdf 19 06 00.4 -0.2**
comp=Z,9.2nm,0.6s,SNR=5.2
SQTA *ep*PKP **pPKPdf 19 06 34.9 -1.9**
comp=Z,11nm,0.9s
SQTA *e*PKKP **PKKPbc 19 16 08.8 -0.3**
comp=Z,6.9nm,0.6s
RETA Reutte 120.51 324 *e*PKP **PKPdf 19 06 00.8 0.0**
comp=Z,2.7nm,0.5s
RETA *ep*PKP **pPKPdf 19 06 36.3 -0.7**
comp=Z,8.9nm,1.2s
RETA *e*PKKP **PKKPbc 19 16 08.1 -0.4**
comp=Z,3.7nm,0.9s
CTI Castel Tesino 120.71 323 PKPdf **PKiKP 19 06 01.4 +0.1**
CTI Castel Tesino 120.71 323 PKIKP **PKiKP 19 06 01.4 +0.1**
FETA Feichten 120.77 324 *i* PKP **PKPdf 19 06 01.3 0.0**
comp=Z,11nm,1.0s,SNR=5.7
FETA *ep*PKiKP **pPKPdf 19 06 37.5 -0.2**
comp=Z,10nm,0.9s
INTR Introdacqua 121.11 317 PKPdf **PKPdf 19 06 01.4 -0.7**
DAVA Damuels 121.13 324 *i* PKP **PKPdf 19 06 01.8 -0.2**
comp=Z,16nm,0.5s,SNR=17
DAVA *ep*PKP **pPKPdf 19 06 36.1 -2.2**
comp=Z,12nm,0.8s
DAVA *e*PKKP **PKKPab 19 16 06.1 0.0**
comp=Z,4.4nm,0.6s
E46A Sault Ste Mari 121.39 37 **PKPdf 19 06 02.3 0.0**
COYC Coyhaique 121.46 152 PKPdf **PKPdf 19 06 02.5 -0.1**
TSUM Tsumeb 121.48 245 PKPdf **PKPdf 19 06 02.1 -1.4**
EKA Eskdalemuir Ar 122.19 338 PKP **PKiKP 19 06 04.1 +0.3**
comp=Z,4.7nm,0.5s,baz=30,slow=2.5,SNR=41
EKA pPKP **pPKPdf 19 06 39.3 -0.6**
comp=Z,3.7nm,0.6s,baz=30,slow=3.0,SNR=4.9
EKA PKKPbc **PKKPab 19 16 01.0 -0.1**
comp=Z,1.9nm,0.5s,baz=226,slow=3.4,SNR=12
SCHQ Schefferville 124.04 20 PKP **PKiKP 19 06 07.7 +0.1**
comp=Z,3.0nm,0.6s,baz=338,slow=2.0,SNR=5.4
SCHQ pPKP **pPKPdf 19 06 42.4 -1.1**
comp=Z,7.1nm,0.7s,baz=18,slow=1.5,SNR=5.0
SCHQ PKKPbc **PKKPab 19 15 54.2 +1.0**
comp=Z,7.4nm,0.6s,baz=152,slow=3.1,SNR=25
LR05 Currie 125.38 147 PKPdf **PKiKP 19 06 10.8 +0.2**
PLCA Paso Flores 125.78 149 PKPdf **PKiKP 19 06 11.7 +0.2**
PLCA Paso Flores 125.78 149 PKP **PKiKP 19 06 12.5 +1.0**
comp=Z,43nm,0.6s,baz=234,slow=1.8,SNR=72
PLCA pPKP **pPKPdf 19 06 46.7 -0.7**
comp=Z,18nm,1.0s,baz=206,slow=2.3,SNR=3.1
KEST Kesra 127.01 312 PKP **PKiKP 19 06 14.9 +0.9**
comp=Z,5.7nm,0.7s,baz=277,slow=2.0,SNR=9.0
ICQ Pointe Anglais 128.06 25 PKPdf **PKPdf 19 06 12.8 -2.2**
SSPA Standing Stone 128.40 39 **PKPdf 19 06 15.1 -0.9**
L61B Northampton 130.43 35 P **PKPdf 19 06 18.9 -0.9**
baz=310
TRQA Tornquist 132.02 153 PKPdf **PKiKP 19 06 23.9 -0.1**
TRQA Tornquist 132.02 153 PKIKP **PKiKP 19 06 23.9 -0.1**
CFA Coronel Fontan 133.63 142 SKPbc **SKPbc 19 09 42.4 -0.2**
comp=Z,3.1nm,0.9s,baz=249,slow=3.2,SNR=4.4
ESDC Sonseca Array 133.72 324 PKPdf **PKPdf 19 06 24.6 -1.6**
ESDC Sonseca Array 133.72 324 PKP **PKiKP 19 06 27.2 -0.2**
comp=Z,1.1nm,0.7s,baz=16,slow=3.1,SNR=6.4
ESDC pPKP **pPKPdf 19 07 00.7 -1.8**
comp=Z,1.4nm,0.9s,baz=29,slow=2.8,SNR=3.5
ESDC SKPbc **SKPbc 19 09 42.1 -0.5**
comp=Z,3.2nm,1.0s,baz=25,slow=3.5,SNR=4.8
LCO Las Campanas 133.79 138 PKPdf **PKPdf 19 06 25.1 -1.8**
LCO Las Campanas 133.79 138 PKIKP **PKPdf 19 06 25.1 -1.8**
MVO Moncorvo 134.40 328 *e*PKP **PKiKP 19 06 30.8 +2.0**
PCBR Castelo Branco 135.58 327 *e*PKP **PKiKP 19 06 32.7 +1.6**
PBAR Barrancos 136.50 325 *e*PKP **PKiKP 19 06 33.5 +0.4**
EVO Evora 136.80 326 *e*PKP **PKiKP 19 06 35.3 +1.7**
PBEJ Beja 137.08 326 *e*PKP **PKiKP 19 06 36.1 +1.9**
MESJ Messejana 137.41 326 *e*PKP **PKiKP 19 06 37.1 +2.2**
MORF Marmelete 138.03 325 *e*PKP **PKiKP 19 06 39.3 +3.0**
OTAV Otavalo 138.43 94 PKPdf **PKPdf 19 06 34.5 -1.6**
OTAV Otavalo 138.43 94 PKIKP **PKPdf 19 06 34.5 -1.6**
OTAV Otavalo 138.43 94 *e*P **PKPdf 19 06 34.8 -1.4**
TBOT Tacuaremb 140.04 155 *e*P **PKPdf 19 06 36.9 -1.1**
TORD Torodi Ar. Bea 140.75 286 PKPpre 19 06 31.6
TORD Torodi Ar. Bea 140.75 286 PKhKP PKPpre 19 06 31.5
comp=Z,34nm,0.3s,baz=70,slow=1.8,SNR=8.7
TORD SKPbc **SKPbc 19 10 04.6 +0.7**
comp=Z,32nm,0.3s,baz=54,slow=2.3,SNR=10
ROSC El Rosal 142.82 88 PKhKP PKPpre 19 06 40.1
comp=Z,23nm,0.6s,baz=317,slow=1.4,SNR=23
LPAZ La Paz 143.12 124 PKPbc PKPbc 19 06 42.7 +0.8
comp=Z,58nm,0.7s,baz=296,slow=1.4,SNR=138
LPAZ pPKP pPKPdf 19 07 19.2 -1.9
comp=Z,15nm,0.7s,baz=229,slow=1.3,SNR=1.9
LPAZ La Paz 143.12 124 *e*P **PKPdf 19 06 44.0 -0.7**
CPUP Villa Florida 143.85 148 PKPdf PKPab 19 06 42.3 +0.1
CPUP Villa Florida 143.85 148 PKP PKPbc 19 06 43.7 +0.8
comp=Z,37nm,0.7s,baz=228,slow=2.0,SNR=62
CPUP pPKP pPKPdf 19 07 19.4 -1.8
comp=Z,14nm,0.8s,baz=168,slow=5.0,SNR=3.1
CPUP Villa Florida 143.85 148 *e*P **PKPdf 19 06 44.0 -1.0**
CNLB Canela 144.15 159 *e*P **PKPdf 19 06 46.4 +0.9**
TER01 Tubaro-SC 145.45 161 *e*P **PKPdf 19 06 47.6 -0.1**
PMAR Madeira 145.94 329 *e*PKP **PKPab 19 06 51.4 +1.3**
SDV Santo Domingo 146.30 80 **PKPdf 19 06 47.9 -1.8**
DBIC Dimbokro 147.88 276 PKPbc **PKPbc 19 06 55.6 +0.3**
comp=Z,74nm,0.5s,baz=81,slow=2.5,SNR=136
DBIC pPKPbc **pPKPdf 19 07 28.2 -0.2**
comp=Z,31nm,0.8s,baz=52,slow=3.8,SNR=3.5
SJG San Juan 148.33 62 **PKPdf 19 06 51.8 -0.9**
SJG San Juan 148.33 62 PKIKP **PKPdf 19 06 51.8 -0.9**
IGPR InterUniversit 148.42 62 PKPdf **PKPdf 19 06 51.5 -1.4**
SIV San Ignacio 148.89 131 PKPbc **PKiKP 19 06 58.5 -0.6**
comp=Z,155nm,0.6s,baz=243,slow=1.8,SNR=23
SIV pPKPbc **pPKPbc 19 07 32.1 -1.8**
comp=Z,52nm,0.8s,baz=260,slow=1.7,SNR=3.3
FRTB Fartura 150.03 156 *e*P **PKPdf 19 06 54.9 -0.5**
SPB Sao Paulo 150.59 160 PKPdf **PKPdf 19 06 56.5 +0.4**
SPB Sao Paulo 150.59 160 *e*P **PKPdf 19 06 56.7 +0.5**
PTLB Pontes e Lacer 150.68 132 *e*P **PKPdf 19 06 57.5 +1.1**
VAO Valinhos 151.29 161 *e*P **PKPdf 19 06 57.5 +0.1**
VILB Vilhena 151.37 127 *e*P **PKPdf 19 06 57.7 +0.1**
TEFE Tefe 151.38 105 *e*P **PKPdf 19 06 57.6 -0.1**
PARB Paraibuna 151.39 163 *e*P **PKPdf 19 06 58.0 +0.4**
SALV Santo Antonio 152.81 138 *e*P **PKPdf 19 06 59.2 -0.5**
DUB01 Friburgo-RJ 153.38 169 *e*P **PKPdf 19 07 00.5 0.0**
CLDB Colider 156.07 129 *e*P **PKPdf 19 07 03.8 -0.5**
BOAV Boa Vista 156.48 94 *e*P **PKPdf 19 07 05.0 +0.2**
SJMB Sao Joao De Ma 156.89 170 *e*P **PKPdf 19 07 05.9 +0.6**
BDFB Brasilia 157.50 151 PKP **PKPdf 19 07 07.0 +0.8**
comp=Z,13nm,0.9s,baz=97,slow=0.3,SNR=14
BDFB PKPab **PKPab 19 07 38.9 +0.5**
comp=Z,29nm,0.9s,baz=256,slow=1.7,SNR=8.9
NPGB Novo Progresso 158.57 121 *e*P **PKPdf 19 07 05.9 -1.6**
**GUA01 Guaratinga

mbtmp4.1/7, ML3.8/2, Error ellipse: s-maj=29.5km s-min=26.2km az=109.0

ISC 06 19:09:32.7±0.7, 32°.17S±0°.07×177°.8W±0°.1, h10km, n39, σ3°33/46, mb4.1/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.91**	**358**	P	**Pn**	**19 10 16.0**	**-2.9**
GLKZ				S	**Sn**	**19 10 48.4**	**-5.5**
MXZ	**Matakaoa Point**	**6.27**	**210**	P	**Pn**	**19 11 06.1**	**+0.9**
MXZ				S	**Sn**	**19 12 19.1**	**+2.3**
HAZ	**Te Kaha**	**6.66**	**212**	P	**Pn**	**19 11 12.7**	**+2.2**
HAZ				S	**Sn**	**19 12 30.2**	**+3.8**
GRZ	**Great Barrier**	**6.92**	**232**	P	Pn	19 11 22.6	+8.4
MWZ	**Matawai**	**7.25**	**211**	P	**Pn**	**19 11 22.1**	**+3.4**
MWZ				S	**Sn**	**19 12 41.6**	**+0.6**
URZ	**Urewera**	**7.37**	**213**	Pn	**Pn**	**19 11 21.2**	**+0.8**
	1.2nm,0.3s,baz=338,slow=4.4,SNR=16						
URZ				Sn	**Sn**	**19 12 44.3**	**+0.3**
	5.4nm,0.3s,baz=334,slow=4.7,SNR=12						
	3.8nm,0.3s						
URZ	**Urewera**	**7.37**	**213**	P	**Pn**	**19 11 20.3**	**-0.1**
URZ				S	**Sn**	**19 12 43.7**	**-0.4**
WCZ	**Waipu Caves**	**7.54**	**238**	P	Pn	19 11 30.1	+7.5
OUZ	**Omahuta**	**7.80**	**245**	P	Pn	19 11 32.9	+6.6
PXZ	**Pawanui**	**8.96**	**207**	S	**Sn**	**19 13 21.0**	**-2.0**
BFZ	**Birch Farm**	**9.76**	**208**	P	**Pn**	**19 11 51.4**	**-1.6**
BFZ				S	**Sn**	**19 13 38.0**	**-4.7**
CPWZ	**Castlepoint**	**9.97**	**207**	S	**Sn**	**19 13 45.4**	**-2.5**
MRZ	**Mangatainoka R**	**10.02**	**210**	P	**Pn**	**19 11 55.3**	**-1.4**
MRZ				S	**Sn**	**19 13 42.9**	**-6.1**
HOWZ	**Holdsworth Sta**	**10.24**	**210**	S	**Sn**	**19 13 48.0**	**-6.5**
OGWZ	**Otaki Gorge**	**10.32**	**211**	P	**Pn**	**19 11 58.6**	**-2.1**
OGWZ				S	**Sn**	**19 13 50.8**	**-5.7**
MTW	**Mount Morrison**	**10.46**	**209**	S	**Sn**	**19 13 53.7**	**-6.3**
KIW	**Kapiti Island**	**10.47**	**212**	S	**Sn**	**19 13 54.4**	**-5.9**
PAWZ	**Paruwai Farm**	**10.68**	**209**	S	**Sn**	**19 14 00.3**	**-5.1**
MSWZ	**Moikau Station**	**10.78**	**209**	P	**Sn**	**19 14 00.2**	**-7.6**
CTZ	**Chatham Island**	**11.58**	**176**	P	**Pn**	**19 12 15.7**	**-2.2**
CTZ				S	Sn	19 14 17.7	-10
THZ	**Tophouse**	**12.12**	**215**	P	**Pn**	**19 12 27.7**	**+2.2**
THZ				S	**Sn**	**19 14 33.8**	**-6.9**
RPZ	**Rata Peaks**	**14.49**	**214**	Pn	**Pn**	**19 12 59.7**	**+1.9**
	0.6nm,0.3s,baz=24,slow=10.0,SNR=1.8						
RPZ				Sn	Sn	19 15 26.6	-12
	0.5nm,0.3s,baz=110,slow=21,SNR=1.4						
	5.5nm,0.6s						
STKA	**Stephens Creek**	**34.30**	**259**	P	**P**	**19 16 20.2**	**+0.9**
	1.6nm,0.6s,baz=124,slow=20,SNR=3.9						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**43.23**	**269**	P	**P**	**19 17 35.0**	**+0.6**
	2.7nm,0.7s,baz=104,slow=7.6,SNR=29						
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**44.38**	**274**	P	**P**	**19 17 43.8**	**+0.2**
	2.1nm,0.4s,baz=112,slow=7.9,SNR=16						
	2.1nm,0.4s						
QSPA	**South Pole Qui**	**57.94**	**180**	P	**P**	**19 19 26.7**	**+1.7**
	0.8nm,0.5s,baz=80,slow=6.1,SNR=2.2						
	0.8nm,0.5s						
SNAA	**Sanae**	**76.38**	**178**	P	**P**	**19 21 24.9**	**+3.1**
	0.8nm,0.7s,baz=187,slow=15,SNR=1.8						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**119.05**	**309**	PKP	**PKiKP**	**19 28 22.3**	**+0.8**
	0.1nm,0.4s,baz=52,slow=2.4,SNR=1.4						
KURBB	**Kurchatov Arra**	**122.44**	**313**	PKP	**PKiKP**	**19 28 28.0**	**0.0**
	0.7nm,0.3s,baz=124,slow=2.2,SNR=1.4						
BVAR	**Borovoye Array**	**127.80**	**315**	PKP	**PKiKP**	**19 28 38.4**	**-0.2**
	0.4nm,0.4s,baz=62,slow=2.3,SNR=2.2						
KBZ	**Khabaz**	**146.23**	**302**	PKPbc	**PKiKP**	**19 29 15.3**	**-1.0**
	2.0nm,0.9s,baz=70,slow=4.5,SNR=3.6						
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	**PKPab**	**19 29 15.4**	**-0.4**
	3.6nm,0.5s,baz=56,slow=3.4,SNR=23						
NB2	**NORSAR Subarra**	**150.53**	**351**	PKP	**PKiKP**	**19 29 25.7**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.53**	**351**	PKPbc	**PKiKP**	**19 29 24.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=15,slow=4.1,SNR=3.8						
HFS	**Hagfors**	**151.01**	**348**	PKPbc	**PKiKP**	**19 29 27.1**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=57,slow=5.3,SNR=4.0						
MMAI	**Mount Meron Ar**	**152.10**	**281**	PKPbc	**PKiKP**	**19 29 30.3**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=82,slow=6.0,SNR=3.7						
AKASG	**Malin Array Be**	**152.81**	**321**	PKPbc	**PKiKP**	**19 29 30.6**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=45,slow=3.5,SNR=4.4						
BRTR	**Keskin Array B**	**153.57**	**295**	PKPbc	**PKiKP**	**19 29 33.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=97,slow=2.9,SNR=2.1						
TORD	**Torodi Ar. Bea**	**161.06**	**178**	PKPab	**PKPab**	**19 30 16.8**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=165,slow=3.2,SNR=1.0						

*NAO **06** 19:10:35.6±2.0, 71°.86N×1°.53W, ML2.9*
*BER **06** 19:10:39.7±3.0, 71°.85N×1°.36W, h10km, mb(Pn)4.2, ML2.9(NAO), Confirmed Earthquake*
*IDC **06** 19:10:40.0±3.7, 71°.69N×0°.28W, h0km, mbtmp3.5/5, ML2.7/4, Error ellipse: s-maj=44.7km s-min=24.9km az=89.0*
*DNK **06** 19:10:44.7±2.2, 72°.16N×2°.38W, h36km±61km, ML2.1*

ISC 06 19:10:36.6±1.0, 71°.80N±0°.08×1°.23W±0°.08, h10km, n53, σ1°78/56, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**6.08**	**303**	*eP*	**Pn**	**19 12 04.1**	**-2.2**
DBG				*eS*	Sn	19 13 06.6	-9.2
DBG	**Daneborg**	**6.08**	**303**	Pn	**Pn**	**19 12 04.0**	**-2.3**
DBG				Sn	Sn	19 13 06.5	-9.3
DBG	**Daneborg**	**6.08**	**303**	*eP*	**Pn**	**19 12 03.8**	**-2.6**
DBG				*eS*	Sn	19 13 01.3	-15
DBG				IAML		19 13 21.9	
	comp=Z,2.9nm,0.7s						
LOF	**Lofoten**	**6.26**	**119**	*eP*	**Pn**	**19 12 10.7**	**+1.9**
LOF				*eS*	**Sn**	**19 13 16.8**	**-3.4**
LOF				IAML		19 13 18.6	
	comp=Z,9.7nm,0.4s						
LOF	**Lofoten**	**6.26**	**119**	Pn	**Pn**	**19 12 11.3**	**+2.5**
LOF				Sn	**Sn**	**19 13 16.6**	**-3.6**
BJO1	**Bjornoya**	**6.45**	**56**	Pn	**Pn**	**19 12 12.6**	**+1.2**
SCO	**Scoresbysund**	**6.83**	**269**	*eP*	**Pn**	**19 12 16.9**	**+0.2**
DAG	**Danmarks Havn**	**6.84**	**325**	*eP*	**Pn**	**19 12 15.5**	**-1.3**
DAG				*e*		19 13 21.9	
DAG	**Danmarks Havn**	**6.84**	**325**	*eP*	**Pn**	**19 12 15.0**	**-1.9**
DAG				*eS*	Sn	19 13 21.7	-13
DAG				IAML		19 13 25.2	
	comp=Z,19nm,0.4s						
STEI	**Steigen**	**6.87**	**116**	*eP*	**Pn**	**19 12 18.3**	**+1.1**
STEI				*eS*	Sn	19 13 30.7	-4.5
STEI				IAML		19 13 34.6	
	comp=Z,5.7nm,0.3s						
STEI	**Steigen**	**6.87**	**116**	Pn	**Pn**	**19 12 18.6**	**+1.4**
STEI				Sn	Sn	19 13 30.5	-4.7
HSPB	**Hornsund (broa**	**6.87**	**33**	*eP*	**Pn**	**19 12 18.2**	**+1.0**
HSPB				IAML		19 12 19.1	
	comp=Z,2.7nm,0.2s						
HSPB	**Hornsund (broa**	**6.87**	**33**	Pn	**Pn**	**19 12 18.3**	**+1.1**
TRO	**Tromso**	**7.00**	**98**	*eP*	**Pn**	**19 12 19.1**	**+0.1**
TRO				*eS*	Sn	19 13 31.4	-7.1
TRO				IAML		19 13 37.1	
	comp=Z,4.8nm,0.9s						
TRO	**Tromso**	**7.00**	**98**	Pn	**Pn**	**19 12 19.5**	**+0.5**
TRO				Sn	Sn	19 13 31.3	-7.2
FAUS	**Fauske**	**7.26**	**120**	*eP*	**Pn**	**19 12 23.9**	**+1.3**
FAUS				*eS*	Sn	19 13 40.2	-4.7
FAUS				IAML		19 13 45.0	
	comp=Z,4.6nm,0.5s						
FAUS	**Fauske**	**7.26**	**120**	Pn	**Pn**	**19 12 24.2**	**+1.6**
FAUS				Sn	Sn	19 13 40.3	-4.6
KONS	**Konsvik**	**7.36**	**129**	*eP*	**Pn**	**19 12 25.2**	**+1.2**
KONS				*eS*	Sn	19 13 41.6	-5.8
KONS				IAML		19 13 47.9	
	comp=Z,5.5nm,0.7s						
KONS	**Konsvik**	**7.36**	**129**	Pn	**Pn**	**19 12 25.3**	**+1.4**
KONS				Sn	Sn	19 13 40.9	-6.5
BRBB	**Barentsburg B**	**7.45**	**25**	*eP*	**Pn**	**19 12 26.2**	**+1.1**
STOK	**Stokkvaagen**	**7.47**	**130**	*eP*	**Pn**	**19 12 27.0**	**+1.5**
STOK				*eS*	Sn	19 13 44.2	-5.9
STOK				IAML		19 13 52.4	
	comp=Z,3.1nm,0.9s						
STOK	**Stokkvaagen**	**7.47**	**130**	Pn	**Pn**	**19 12 27.0**	**+1.5**
STOK				Sn	Sn	19 13 43.5	-6.6
JETT	**Jettan, Norway**	**7.50**	**97**	Pn	**Pn**	**19 12 26.9**	**+1.0**
JETT				Sn	Sn	19 13 45.9	-5.0
JETT	**Jettan, Norway**	**7.50**	**97**	Pn	**Pn**	**19 12 26.9**	**+1.0**
JETT				Sn	Sn	19 13 45.9	-5.0
LEIR	**Leirfjorden**	**7.68**	**131**	*eP*	**Pn**	**19 12 29.8**	**+1.6**
LEIR				*eS*	Sn	19 13 49.2	-5.8
LEIR				IAML		19 13 54.1	
	comp=Z,6.3nm,0.9s						
SPA0	**Spitsbergen Ar**	**7.82**	**27**	Pn	**Pn**	**19 12 32.2**	**+2.0**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**7.82**	**27**	Pn	**Pn**	**19 12 32.2**	**+2.0**
	baz=207,slow=18						
SPITS	**Spitsbergen Ar**	**7.82**	**27**	Pn	**Pn**	**19 12 32.3**	**+2.0**
	comp=Z,1.1nm,0.2s,baz=216,slow=14,SNR=60						
KBS	**Kingsbay**	**7.87**	**19**	*eP*	**Pn**	**19 12 31.2**	**+0.4**
KBS				IAML		19 12 34.2	
	comp=Z,1.7nm,0.5s						
KBS	**Kingsbay**	**7.87**	**19**	Pn	**Pn**	**19 12 30.0**	**-0.8**
KBS	**Kingsbay**	**7.87**	**19**	*eP*	**Pn**	**19 12 30.5**	**-0.4**
KIF	**Kilpisjarvi**	**7.89**	**100**	*eP*	**Pn**	**19 12 32.0**	**+0.8**
KIF				*eS*	Sn	19 13 54.5	-5.9
KIF	**Kilpisjarvi**	**7.89**	**100**	Pn	**Pn**	**19 12 32.5**	**+1.3**
KIF				Sn	Sn	19 13 54.7	-5.7
MOR8	**Moi Rana**	**7.95**	**128**	*eP*	**Pn**	**19 12 34.7**	**+2.7**
MOR8				*eS*	Sn	19 13 57.2	-4.7
MOR8				IAML		19 14 03.1	
	comp=Z,5.6nm,0.7s						
MOR8	**Moi Rana**	**7.95**	**128**	Pn	**Pn**	**19 12 34.5**	**+2.5**
MOR8				Sn	Sn	19 13 57.3	-4.6
KTK1	**Kautokeino**	**8.64**	**97**	*eP*	**Pn**	**19 12 42.7**	**+1.1**
KTK1				*eS*	Sn	19 14 12.7	-6.2
KTK1				IAML		19 14 22.2	
	comp=Z,2.0nm,0.5s						
NSS	**Namsos**	**8.77**	**140**	*eP*	**Pn**	**19 12 44.1**	**+0.8**
NSS				*eS*	Sn	19 14 14.7	-7.3
NSS				IAML		19 14 19.9	
	comp=Z,3.5nm,1.0s						
HEF	**Hetta**	**9.09**	**100**	*eP*	**Pn**	**19 12 48.8**	**+1.0**
HEF				*eS*	Sn	19 14 23.1	-6.9
HEF	**Hetta**	**9.09**	**100**	Pn	**Pn**	**19 12 48.7**	**+1.0**
HEF				Sn	Sn	19 14 23.4	-6.5
ARA0	**ARCESS Array S**	**9.11**	**91**	Pn	**Pn**	**19 12 49.4**	**+1.5**
	baz=297,slow=12						
ARA0				Sn	Sn	19 14 25.3	-4.9
	baz=292,slow=22						
ARA0	**ARCESS Array S**	**9.11**	**91**	Pn	**Pn**	**19 12 49.4**	**+1.5**
	baz=297,slow=12						
ARA0				Sn	Sn	19 14 25.3	-4.9
	baz=292,slow=22						
ARCES	**ARCESS Array B**	**9.11**	**91**	Pn	**Pn**	**19 12 48.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=298,slow=12,SNR=20						
ARCES				Sn	Sn	19 14 25.2	-5.0
	comp=Z,0.1nm,0.3s,baz=301,slow=23,SNR=1.7						
	comp=Z,1.2nm,0.4s						
KEV	**Kevo**	**9.48**	**89**	*eP*	**Pn**	**19 12 53.1**	**+0.2**
KEV	**Kevo**	**9.48**	**89**	Pn	**Pn**	**19 12 53.3**	**+0.4**
AKN	**Aaknes**	**10.17**	**158**	Pn	**Pn**	**19 13 05.1**	**+2.7**
AKN				Sn	Sn	19 14 48.9	-7.5
AKN	**Aaknes**	**10.17**	**158**	Pn	**Pn**	**19 13 05.1**	**+2.7**
AKN				Sn	Sn	19 14 48.9	-7.5
NB2	**NORSAR Subarra**	**11.86**	**149**	Pn	**Pn**	**19 13 27.7**	**+2.2**
NB2	**NORSAR Subarra**	**11.86**	**149**	Pn	**Pn**	**19 13 27.7**	**+2.2**
NOA	**NORSAR Array B**	**11.86**	**149**	Pn	**Pn**	**19 13 27.3**	**+1.8**
	baz=346,slow=12,SNR=1.4						
NOA				Sn	**Sn**	**19 15 35.1**	**-2.5**
	baz=340,slow=19,SNR=1.9						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**13.13**	**145**	Pn	**Pn**	**19 13 44.8**	**+2.0**
	baz=343,slow=12						
HFS	**Hagfors**	**13.13**	**145**	Pn	**Pn**	**19 13 44.8**	**+2.0**
	baz=343,slow=12						
HFS	**Hagfors**	**13.13**	**145**	Pn	**Pn**	**19 13 45.0**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=338,slow=11,SNR=4.9						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**14.82**	**120**	Pn	**Pn**	**19 14 06.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=331,slow=11,SNR=1.8						
	comp=Z,1.8nm,0.8s						

*AEIC **06** 19:17:20.9±1.4, 56°.28N±0°.10×149°.9W±0°.1, h12km±7km, Error ellipse: s-maj=15.2km s-min=6.3km az=156.0*

NEIC 06 19:17:15.8±1.5, 56°.25N±0°.09×149°.85W±0°.03, h10km±2km, ML2.9/62, ML2.8(AEIC), Error ellipse: s-maj=16.1km s-min=3.0km az=171.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.13**	**299**		Pn	19 17 50.7	-0.8
OHAK					Sn	19 18 14.2	-3.8
KDAK	**Kodiak Island**	**2.15**	**317**		Pn	19 17 50.9	-0.8
KDAK	**Kodiak Island**	**2.15**	**317**		Sn	19 18 15.2	-3.1
SII	**Sitkinak Islan**	**2.43**	**279**		Sn	19 18 22.6	-2.8
SII	**Sitkinak Islan**	**2.43**	**279**	Pn	Pn	19 17 54.1	-1.5
SII				IAML		19 18 38.7	
	comp=N,67nm,1.1s						
SII				IAML		19 18 56.0	
	comp=E,73nm,1.1s						
SYI	**Shuyak Island**	**2.74**	**331**		Pn	19 18 00.0	+0.2
SYI					Sn	19 18 31.2	-1.8
SYI	**Shuyak Island**	**2.74**	**331**	IAML		19 18 32.8	
	comp=N,27nm,1.1s						
CHIR	**Chirikof Islan**	**3.27**	**265**		Pn	19 18 07.3	+0.3
CHIR	**Chirikof Islan**	**3.27**	**265**	IAML		19 19 34.3	
	comp=N,57nm,1.2s						
CHIR				IAML		19 20 08.6	
	comp=E,43nm,1.1s						
CNPM	**China Poot**	**3.37**	**348**	Pn	Pn	19 18 08.3	-0.3
Q19K	**Cape Douglas,**	**3.38**	**324**	Pn	Pn	19 18 09.2	+0.6
KAHG	**Katmai Hook Gl**	**3.40**	**313**		Pn	19 18 10.0	+1.1
BRSE	**Bradley Lake S**	**3.54**	**353**		Pn	19 18 10.2	-0.6
ACHA	**Angle Creek He**	**3.57**	**306**	Pn	Pn	19 18 11.9	+0.7
BRLK	**Bradley Lake**	**3.57**	**352**		Pn	19 18 10.6	-0.7
BRLK	**Bradley Lake**	**3.57**	**352**	IAML		19 18 54.4	
	comp=N,16nm,1.0s						
KAHC	**Katmai Hardscr**	**3.68**	**313**		Pn	19 18 12.8	0.0
Q23K	**Middleton Isla**	**3.70**	**29**		Pn	19 18 12.8	-0.2
Q23K	**Middleton Isla**	**3.70**	**29**	IAML		19 19 13.3	
	comp=N,45nm,1.1s						
P19K	**Oil Pt**	**3.86**	**334**	Pn	Pn	19 18 16.3	+1.0
SEW	**Seward**	**3.88**	**3**		Pn	19 18 14.5	-0.9
SEW					Sn	19 18 56.6	-4.3
P23K	**Montague Islan**	**3.98**	**18**		Pn	19 18 16.5	-0.3
P23K					Sn	19 18 60.0	-3.5
ILSW	**Iliamna Southw**	**4.13**	**336**	Pn	Pn	19 18 18.0	-1.1
ILSW				IAML		19 19 08.0	
	comp=E,16nm,1.0s						
ILSW				IAML		19 19 08.3	
	comp=N,13nm,1.0s						
P18K	**Big Mountain,**	**4.27**	**320**	Pn	Pn	19 18 21.1	+0.2
P18K				IAML		19 19 10.0	
	comp=E,11nm,1.0s						
SLKM	**Skilak Lake**	**4.28**	**358**		Pn	19 18 20.0	-1.0
SLKM	**Skilak Lake**	**4.28**	**358**	IAML		19 19 08.0	
	comp=N,15nm,0.5s						
SLKM				IAML		19 19 12.5	
	comp=E,15nm,0.8s						
HIN	**Hinchinbrook I**	**4.52**	**22**		Pn	19 18 24.1	-0.2
HIN	**Hinchinbrook I**	**4.52**	**22**	IAML		19 19 15.6	
	comp=E,22nm,1.0s						
HIN				IAML		19 19 17.9	
	comp=N,14nm,0.6s						
O18K	**Koktuh Hills**	**4.60**	**324**	Pn	Pn	19 18 25.4	-0.1
O18K				IAML		19 19 22.9	
	comp=E,9.2nm,1.1s						
O18K				IAML		19 19 32.0	
	comp=N,10nm,1.2s						
KAIM	**Kayak Island**	**4.68**	**36**	Pn	Pn	19 18 26.6	+0.2
PWL	**Port Wells**	**4.69**	**9**		Pn	19 18 26.3	-0.3
PWL	**Port Wells**	**4.69**	**9**	IAML		19 19 17.4	
	comp=N,9.9nm,1.0s						
PWL				IAML		19 19 19.4	
	comp=E,11nm,0.4s						
CHGN	**Chignik**	**4.78**	**274**	Pn	Pn	19 18 28.0	+0.3
CHGN				IAML		19 19 10.4	
	comp=E,13nm,1.1s						
CHGN				IAML		19 19 20.8	
	comp=N,8.8nm,1.1s						
EYAK	**Cordova Ski Ar**	**4.82**	**25**		Pn	19 18 28.5	+0.1
FID	**Port Fidalgo**	**4.85**	**20**		Pn	19 18 28.4	-0.4
FID	**Port Fidalgo**	**4.85**	**20**	IAML		19 19 22.2	
	comp=N,7.7nm,0.8s						
FID				IAML		19 19 33.1	
	comp=E,8.9nm,0.7s						
GLI	**Glacier Island**	**4.86**	**16**	Pn	Pn	19 18 27.3	-1.7
GLI				IAML		19 19 23.9	
	comp=N,8.1nm,0.6s						
GLI				IAML		19 19 32.0	
	comp=E,9.6nm,0.8s						
RAGM	**Ragged Mountai**	**4.97**	**31**	Pn	Pn	19 18 29.4	-1.0
SUCK	**Suckling Hills**	**5.00**	**37**	IAML		19 19 34.4	
	comp=N,16nm,1.2s						
SUCK				IAML		19 19 41.6	
	comp=E,15nm,1.1s						
HMT	**Hamilton**	**5.05**	**33**	Pn	Pn	19 18 32.1	+0.6
SPU	**Mount Spurr**	**5.08**	**348**	Pn	Pn	19 18 32.0	0.0
N19K	**Bonanza Creek**	**5.18**	**334**	Pn	Pn	19 18 32.2	-1.3
N19K				IAML		19 19 51.8	
	comp=E,4.3nm,1.1s						
KNK	**Knik Glacier**	**5.23**	**7**	Pn	Pn	19 18 32.8	-1.3
KNK				IAML		19 19 41.4	
	comp=N,4.7nm,1.1s						
KNK				IAML		19 19 42.3	
	comp=E,5.8nm,1.2s						
SUA	**Susitna One**	**5.25**	**355**	Pn	Pn	19 18 33.2	-1.3
SUA				IAML		19 20 08.0	
	comp=E,4.6nm,1.2s						
SUA				IAML		19 20 09.6	
	comp=N,4.0nm,0.9s						
BERG	**Berg Lake**	**5.27**	**35**	Pn	Pn	19 18 33.1	-1.5
DIV	**Divide**	**5.34**	**22**	Pn	Pn	19 18 35.6	+0.1
STLK	**Strandline Lak**	**5.37**	**350**	Pn	Pn	19 18 34.6	-1.3
STLK				IAML		19 19 45.8	
	comp=N,4.0nm,1.2s						
SNH	**Sunshine Point**	**5.41**	**40**	Pn	Pn	19 18 36.9	+0.4
N18K	**Kilae Creek**	**5.46**	**327**	Pn	Pn	19 18 36.2	-1.0
O16K	**Kokwok River B**	**5.53**	**311**	Pn	Pn	19 18 37.8	-0.3
GHO	**Glory Hole Cre**	**5.56**	**5**	Pn	Pn	19 18 38.3	-0.3
SML	**Sawmill**	**5.63**	**7**	Pn	Pn	19 18 39.1	-0.5
KLU	**Klutina**	**5.64**	**20**		Pn	19 18 39.6	-0.1
BARK	**Barkley Ridge**	**5.69**	**40**		Pn	19 18 41.0	+0.6
CNBA	**Chernabura Isl**	**5.71**	**260**	Pn	Pn	19 18 40.4	-0.3
SCM	**Sheep Creek Mo**	**5.75**	**12**	Pn	Pn	19 18 40.6	-0.6
N17K	**Nushagak Hills**	**5.77**	**321**	Pn	Pn	19 18 40.9	-0.5
VRDI	**Verde Repeater**	**6.00**	**31**	Pn	Pn	19 18 45.1	+0.3
N25K	**Chitina, Valde**	**6.02**	**25**		Pn	19 18 45.5	+0.6
RKAV	**Rock Avalanche**	**6.05**	**44**		Pn	19 18 46.1	+0.7
SDPT	**Sand Point**	**6.06**	**266**	Pn	Pn	19 18 46.0	+0.6
GLB	**Gilahina Butte**	**6.08**	**29**		Pn	19 18 45.4	-0.3
KIAG	**Kiagna River**	**6.11**	**37**		Pn	19 18 47.0	+0.7
M24K	**Tolsona, Glenn**	**6.17**	**16**	Pn	Pn	19 18 46.4	-0.6
M17K	**Holitna River**	**6.50**	**326**	Pn	Pn	19 18 51.6	+0.2
HARP	**HAARP**	**6.62**	**19**		Pn	19 18 54.0	+0.9
N15K	**Kwethluk River**	**6.69**	**310**	Pn	Pn	19 18 55.3	+1.2
M16K	**Timber Creek**	**6.75**	**319**	Pn	Pn	19 18 55.1	+0.3
O28M	**Mount Upton**	**6.79**	**44**		Pn	19 18 56.3	+0.6
S12K	**Black Hills**	**6.88**	**271**	Pn	Pn	19 18 57.3	+0.7
TRF	**Thorofare Moun**	**7.23**	**358**	Pn	Pn	19 19 01.6	0.0
M27K	**Edge Creek, AK**	**7.36**	**30**	Pn	Pn	19 19 04.3	+1.0
L16K	**Owhat River**	**7.39**	**322**	Pn	Pn	19 19 04.4	+0.7
S31K	**Pelican**	**7.61**	**71**		Pn	19 19 06.5	-0.2
BCAR	**Beaver Creek A**	**7.96**	**27**	Pn	Pn	19 19 12.7	+1.2
HDA	**Harding Lake**	**8.31**	**9**	Pn	Pn	19 19 18.9	+2.6
I21K	**Tanana**	**9.02**	**354**	Pn	Pn	19 19 25.7	-0.3
L29M	**L29M**	**9.07**	**36**	Pn	Pn	19 19 27.4	+0.7
K29M	**Barlow Dome**	**9.78**	**34**	Pn	Pn	19 19 36.4	-0.1
M31M	**Drury Creek, Y**	**9.90**	**47**	Pn	Pn	19 19 39.7	+1.7

*NNC **06** 19:19:43.5±3.0, 36°.79N×70°.90E, h79km±68km, mb3.7, mpv4.2, Error ellipse: s-maj=27.3km s-min=22.9km az=108.0*
*IDC **06** 19:19:43.1±8.5, 36°.64N×71°.23E, h108km±61km, mb3.7/4, mbtmp3.8/9, Error ellipse: s-maj=74.9km s-min=47.6km az=163.0*

ISC 06 19:19:42.9±2.0, 36°.7N±0°.2×71°.0E±0°.1, h100km, n24, σ0°66/28, mb4.1/4, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.80**	**20**	P	**Pn**	**19 21 06.8**	**0.0**
	SNR=95						
EKS2	**Erkin-Say**	**6.32**	**19**	P	**Pn**	**19 21 13.8**	**+0.3**
	SNR=15						
KK31	**Karatay Array**	**6.41**	**357**	P	**Pn**	**19 21 15.1**	**+0.4**
	19nm,0.3s,baz=176,slow=12,SNR=210						
KK31				⇓S	**Sn**	**19 22 25.3**	**-1.0**
	6.1nm,0.4s,baz=188,slow=24,SNR=6.7						
AAK	**Ala-Archa**	**6.50**	**23**	P	**Pn**	**19 21 16.5**	**+0.4**
	15nm,0.3s,baz=187,slow=4.2,SNR=40						
AAK				S	**Sn**	**19 22 29

s-maj=34.6km s-min=23.7km az=5.0
SGS ***06*** *19:20:53.9, 17.74N×40.24E, h17km, Ml3.0*
NEIC ***06*** *19:20:58.6±2.1, 18.26N±0.07×40.4E±0.1, h10km±2km, mb4.1/11, Error ellipse: s-maj=23.5km s-min=10.1km az=256.0*
ISC 06 19:20:53.8±0.8, **17.75N**±0.08×**40.27E**±0.08, **h10**km, **n45**, σ1§**46**/44, **mb3.9**/18, **Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRK03	**Al Birk**	**1.61**	**74**	**P**	**Pn**	**19 21 20.1**	**-2.1**
BRK04	**Al Birk**	**1.71**	**59**	**P**	**Pn**	**19 21 21.4**	**-2.2**
FRSS2	**Sair Farasan I**	**1.71**	**121**	**P**	**Pn**	**19 21 21.7**	**-1.9**
DRBS	**Ad Darb**	**1.94**	**87**	**P**	**Pn**	**19 21 25.0**	**-1.8**
DRBS	**Ad Darb**	**1.94**	**87**	S	**Sn**	**19 21 48.6**	**-2.6**
FRSS	**Farasan al Kab**	**2.03**	**119**	P	**Pn**	**19 21 26.5**	**-1.5**
ASIR3	**ASIR3**	**2.21**	**65**	P	**Pn**	**19 21 29.2**	**-1.6**
NAMS	**An Nimas**	**2.31**	**52**	P	**Pn**	**19 21 31.1**	**-1.2**
MKHL	**Mahalah**	**2.33**	**99**	P	**Pn**	**19 21 30.1**	**-2.2**
BESHS	**BESHS**	**2.48**	**99**	P	**Pn**	**19 21 33.1**	**-1.2**
ENMS	**ENMS**	**2.55**	**59**	P	**Pn**	**19 21 35.5**	**+0.1**
JAZS	**Jizan**	**2.62**	**105**	P	**Pn**	**19 21 34.7**	**-1.5**
ASIR2	**ASIR2**	**2.88**	**83**	P	**Pn**	**19 21 39.9**	**-0.1**
KNGHS	**KNGHS**	**3.12**	**80**	P	**Pn**	**19 21 43.3**	**+0.1**
BAHS2	**Abu Rakh**	**3.22**	**16**	P	**Pn**	**19 21 42.6**	**-1.8**
ATD	**Arta Tunnel**	**6.67**	**158**	Pn	Pb	19 22 41.6	-8.4
RAYN	**Ar Rayn**	**7.55**	**40**	Pn	**Pn**	**19 22 41.1**	**-2.9**
UOSS	**Minazif**	**16.47**	**62**		**Pn**	**19 24 44.1**	**-1.0**
UOSS				IAmb	IAmb	19 24 52.8	
	comp=Z,12nm,0.8s						
WSAR	**Wadi Sarin**	**18.04**	**69**	P	**P**	**19 25 07.4**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=2.9						
WSAR				LR	LR	19 32 55.9	
	comp=Z,191nm,18.4s,baz=105,slow=40						
	comp=Z,5.2nm,0.9s						
GURO	**Guroymak-BITLI**	**20.78**	**4**	P	**P**	**19 25 33.5**	**-1.7**
BRTR	**Keskin Array B**	**22.64**	**347**	P	**P**	**19 25 54.2**	**-0.9**
BRTR	**Keskin Array B**	**22.64**	**347**	P	**P**	**19 25 56.5**	**+1.3**
	comp=Z,5.6nm,1.1s,baz=159,slow=11,SNR=11						
	comp=Z,5.6nm,1.1s						
BR131	**Keskin Array S**	**22.64**	**347**	P	**P**	**19 25 54.5**	**-0.7**
BR131				IAmb	IAmb	19 26 02.2	
	comp=Z,9.9nm,1.1s						
GNI	**Garni**	**22.65**	**9**	P	**P**	**19 25 54.7**	**-0.6**
GNI	**Garni**	**22.65**	**9**	P	**P**	**19 25 57.7**	**+2.4**
	comp=Z,2.3nm,0.8s,baz=194,slow=4.2,SNR=5.5						
	comp=Z,2.3nm,0.8s						
MANT	**Manisa**	**23.06**	**336**	P	**P**	**19 25 59.4**	**-0.2**
MANT				IAmb	IAmb	19 26 30.6	
	comp=Z,4.7nm,0.9s						
HRA	**Herat**	**25.68**	**46**	P	**P**	**19 26 24.5**	**+0.2**
HRA				IAmb	IAmb	19 26 30.7	
	comp=Z,3.8nm,0.8s						
KBZ	**Khabaz**	**25.99**	**4**	P	**P**	**19 26 28.4**	**+1.7**
	comp=Z,2.5nm,1.0s,baz=180,slow=11,SNR=3.7						
	comp=Z,2.5nm,1.0s						
KIV	**Kislovodsk**	**26.20**	**4**	P	**P**	**19 26 29.0**	**+0.2**
AKASG	**Malin Array Be**	**34.04**	**347**	P	**P**	**19 27 36.9**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=174,slow=8.2,SNR=4.6						
	comp=Z,0.1nm,0.4s						
BELG	**Belogornoye**	**35.05**	**8**	P	**P**	**19 27 46.0**	**-0.6**
	comp=Z,6.8nm,0.8s,baz=184,slow=15,SNR=4.1						
	comp=Z,6.8nm,0.8s						
AKTO	**Aktyubinsk**	**35.57**	**20**	P	**P**	**19 27 51.0**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=225,slow=2.9,SNR=4.1						
	comp=Z,0.6nm,0.5s						
KK31	**Karatay Array**	**35.97**	**39**	P	**P**	**19 27 55.2**	**+0.4**
KKAR	**Karatay Array**	**35.97**	**39**	P	**P**	**19 27 56.1**	**+1.3**
KKAR	**Karatay Array**	**35.97**	**39**	P	**P**	**19 27 56.3**	**+1.5**
KKAR				IAmb	IAmb	19 28 01.6	
	comp=Z,1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**37.41**	**269**	P	**P**	**19 28 06.3**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=79,slow=8.5,SNR=3.1						
	comp=Z,0.6nm,0.3s						
GERES	**GERESS Array B**	**37.76**	**331**	P	**P**	**19 28 10.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=142,slow=11,SNR=2.5						
	comp=Z,0.8nm,0.7s						
ARTI	**Arti**	**40.92**	**15**	P	**P**	**19 28 35.5**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=197,slow=7.5,SNR=3.5						
	comp=Z,3.3nm,1.0s						
KURBB	**Kurchatov Arra**	**44.75**	**34**	P	**P**	**19 29 09.0**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=239,slow=7.5,SNR=1.3						
MKAR	**Makanchi Array**	**45.04**	**41**	P	**P**	**19 29 10.9**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=252,slow=8.9,SNR=4.2						
	comp=Z,0.4nm,0.7s						
ZAA0	**Zalesovo Array**	**49.77**	**33**	P	**P**	**19 29 46.7**	**+0.3**
ZAA0				IAmb	IAmb	19 29 49.5	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**49.77**	**33**	P	**P**	**19 29 45.5**	**-0.9**
ZALV	**Zalesovo Beam**	**49.77**	**33**	P	**P**	**19 29 47.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=242,slow=9.4,SNR=5.8						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.55**	**79**	P	**P**	**19 30 30.8**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=285,slow=7.2,SNR=4.9						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**61.07**	**45**	P	**P**	**19 31 10.0**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=258,slow=7.2,SNR=4.4						
	comp=Z,0.6nm,0.8s						

BJI ***06*** *19:25:59.8, 38.68N×141.73E, h84km, mB5.0/17, mb4.7/65, Ms4.5/21, Ms7 4.3/22*
MOS ***06*** *19:25:59.2±1.0, 38.74N×141.74E, h71km, mb5.0/39, Error ellipse: s-maj=6.6km s-min=4.2km az=108.2*
IDC ***06*** *19:26:01.1±0.4, 38.70N×141.60E, h68km±2km, mb4.5/31, mbtmp4.7/37, MS3.6/6, Error ellipse: s-maj=10.3km s-min=8.7km az=89.0*
NEIC ***06*** *19:26:01.3±2.3, 38.71N±0.05×141.64E±0.10, h66km±5km, mb4.9/271, Error ellipse: s-maj=11.8km s-min=6.7km az=116.0*
NIED ***06*** *19:26:01.5, 38.72N×141.63E, h70km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr6.93; Mθθ-0.47; Mφφ-6.46; Mrθ0.24; Mθφ 1.04; Mφr-0.65; Fault plane solution: M0 6.82000×10¹⁵ NP1: φs351.00000°, δ42.00000°, λ92.00000°. NP2: φs169.00000°, δ48.00000°, λ89.00000°.*
JMA ***06*** *19:26:01.5±0.1, 38.7N±0.2×141.6E±0.4, h70km, MD4.6/40, MV5.0/40, KINKAZAN REGION*
JMA Felt IV J1 at KINKAZAN REGION .
ISC 06 19:26:00.9±0.3, **38.70N**±0.03×**141.75E**±0.04, **h69**km±1km, **h69**km:**pP-P**, **n835**, σ1§**56**/769, **mb4.9**/240, **40C-24D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.24**	**297**	*i* P	**Pn**	**19 26 12.0**	**+0.3**
JKMT				S	**Sn**	**19 26 19.4**	**-0.1**
JKMT	**Kesennumamotoy**	**0.24**	**297**	A	A	19 26 12.0	
	comp=N,32nm,0.6s,comp=E,39nm,0.5s						
OFUJ	**Ofunato**	**0.38**	**350**	*i* P	**Pn**	**19 26 13.1**	**+0.5**
OFUJ				S	**Sn**	**19 26 21.4**	**+0.2**
OFUJ	**Ofunato**	**0.38**	**350**	A	A	19 26 13.1	
	comp=N,48nm,0.7s,comp=E,40nm,1.3s						
JIO	**Ouri**	**0.40**	**232**	*i* P	**Pn**	**19 26 13.0**	**+0.3**
JIO				*i* S	**Sn**	**19 26 21.2**	**-0.2**
JIO	**Ouri**	**0.40**	**232**	A	A	19 26 13.0	
	comp=N,120nm,0.3s,comp=E,123nm,0.4s						
JIKH	**Ishinomakikobu**	**0.45**	**210**	A	A	19 26 13.7	
	comp=N,89nm,0.4s,comp=E,81nm,0.2s						
JMK	**Ichinoseki**	**0.48**	**301**	⇓*i* P	**Pn**	**19 26 13.4**	**-0.1**
JMK				⇓S	**Sn**	**19 26 22.1**	**-0.7**
JMK	**Ichinoseki**	**0.48**	**301**	A	A	19 26 13.4	
	comp=N,86nm,0.3s,comp=E,199nm,0.2s						
JOFO	**Osakifurukawao**	**0.67**	**262**	A	A	19 26 15.1	
	comp=N,264nm,0.5s,comp=E,410nm,0.4s						
JOM	**Ohasama**	**0.85**	**335**	*i* P	**Pn**	**19 26 17.6**	**+0.1**
JOM				S	**Sn**	**19 26 29.4**	**-0.5**
JOM	**Ohasama**	**0.85**	**335**	A	A	19 26 17.6	
	comp=N,68nm,0.3s,comp=E,101nm,0.3s						
MIYJ	**Miyakonagasawa**	**0.88**	**3**	A	A	19 26 18.5	
	comp=N,39nm,1.1s,comp=E,17nm,0.4s						
JOU	**Okura**	**0.92**	**249**	⇓*i* P	**Pn**	**19 26 18.1**	**-0.2**
JOU	**Okura**	**0.92**	**249**	A	A	19 26 18.1	
	comp=N,78nm,0.6s,comp=E,141nm,0.6s						
JYK	**Kaneyama**	**1.11**	**282**	⇓*i* P	**Pn**	**19 26 20.4**	**-0.4**
JYK				⇓S	**Sn**	**19 26 34.5**	**-1.1**
JYK	**Kaneyama**	**1.11**	**282**	A	A	19 26 20.4	
	comp=N,24nm,0.5s,comp=E,38nm,2.0s						
JRG	**Rokugo**	**1.11**	**309**	⇓*i* P	**Pn**	**19 26 20.5**	**-0.3**
JRG				⇓S	**Sn**	**19 26 35.0**	**-0.7**
JRG	**Rokugo**	**1.11**	**309**	A	A	19 26 20.5	
	comp=N,31nm,0.9s,comp=E,30nm,0.4s						
JMM	**Marumori**	**1.12**	**222**	Pn	**Pn**	**19 26 20.4**	**-0.5**
JMM				Sn	**Sn**	**19 26 34.3**	**-1.6**
JMM	**Marumori**	**1.12**	**222**	P	**Pn**	**19 26 20.5**	**-0.4**
JMM	**Marumori**	**1.12**	**222**	S	**Sn**	**19 26 34.9**	**-0.9**
JMM	**Marumori**	**1.12**	**222**	⇓*i* P	**Pn**	**19 26 20.6**	**-0.3**
JMM				⇓S	**Sn**	**19 26 34.9**	**-0.9**
JMM	**Marumori**	**1.12**	**222**	A	A	19 26 20.6	
	comp=N,24nm,0.5s,comp=E,28nm,5.1s						
JMST	**Minamisoumatoc**	**1.19**	**215**	A	A	19 26 22.2	
	comp=N,35nm,0.4s,comp=E,45nm,1.0s						
JSZI	**Iwateshizukuis**	**1.21**	**329**	A	A	19 26 22.1	
	comp=N,31nm,2.5s,comp=E,26nm,4.8s						
JTH	**Tanohata**	**1.24**	**4**	A	A	19 26 23.2	
	comp=N,52nm,0.6s,comp=E,26nm,0.9s						
JKZ	**Kuzumaki**	**1.32**	**346**	A	A	19 26 23.9	
	comp=N,16nm,1.4s,comp=E,10.0nm,2.3s						
JYS	**Shiratake**	**1.41**	**251**	⇓*i* P	**Pn**	**19 26 24.6**	**-0.1**
JYS	**Shiratake**	**1.41**	**251**	A	A	19 26 24.6	
	comp=N,33nm,1.1s,comp=E,40nm,0.9s						
JYYZ	**Yamagatayuza**	**1.46**	**283**	A	A	19 26 25.0	
	comp=N,43nm,4.9s,comp=E,49nm,3.4s						
JYW	**Yuwa**	**1.46**	**305**	A	A	19 26 25.2	
	comp=N,37nm,3.0s,comp=E,50nm,1.1s						
JYAR	**Yonezawaarcadi**	**1.49**	**239**	A	A	19 26 25.8	
	comp=N,91nm,1.0s,comp=E,95nm,1.2s						
JFK	**Kawauchi**	**1.50**	**208**	*i* P	**Pn**	**19 26 26.2**	**+0.3**
JFK	**Kawauchi**	**1.50**	**208**	A	A	19 26 26.2	
	comp=N,15nm,1.1s,comp=E,18nm,1.7s						
JKEN	**Kujiedanarisaw**	**1.50**	**359**	A	A	19 26 26.6	
	comp=N,33nm,0.6s,comp=E,40nm,0.5s						
JOTO	**OTAMA OYAMA**	**1.60**	**225**	*i* P	**Pn**	**19 26 27.6**	**+0.4**
JOTO	**OTAMA OYAMA**	**1.60**	**225**	A	A	19 26 27.6	
	comp=N,27nm,1.1s,comp=E,25nm,0.7s						
JYA	**Atsumi**	**1.60**	**267**	⇓*i* P	**Pn**	**19 26 26.9**	**-0.3**
JYA	**Atsumi**	**1.60**	**267**	A	A	19 26 26.9	
	comp=N,21nm,0.7s,comp=E,25nm,0.6s						
JANG	**Nango**	**1.68**	**354**	A	A	19 26 29.0	
	comp=N,9.0nm,0.4s,comp=E,5.0nm,0.6s						
JAH	**Hinai**	**1.72**	**330**	A	A	19 26 29.0	
	comp=N,7.0nm,1.5s,comp=E,9.0nm,2.8s						
ONAJ	**Iwakimizuishiy**	**1.77**	**206**	A	A	19 26 30.2	
	comp=N,23nm,0.3s,comp=E,29nm,0.4s						
JTB	**Tobi-shima**	**1.78**	**287**	A	A	19 26 29.5	
	comp=N,17nm,1.0s,comp=E,10.0nm,2.8s						
JFFD	**Fukushimafurud**	**1.86**	**211**	A	A	19 26 31.4	
	comp=N,7.0nm,2.9s,comp=E,14nm,1.5s						
JNTW	**Noshirotokiwa**	**1.99**	**322**	A	A	19 26 32.7	
	comp=N,16nm,3.4s,comp=E,12nm,1.4s						
JFY	**Yanaizu**	**2.07**	**232**	A	A	19 26 33.9	
	comp=N,6.0nm,1.7s,comp=E,7.0nm,3.6s						
JNS	**Sasagawa**	**2.11**	**246**	A	A	19 26 34.2	
	comp=N,8.0nm,0.9s,comp=E,7.0nm,2.4s						
JTM	**Tenmabayashi**	**2.15**	**346**		**Pn**	**19 26 35.0**	**+0.4**
JTM				Sn	**Sn**	**19 26 52.2**	**-7.9**
JTM	**Tenmabayashi**	**2.15**	**346**	P	**Pn**	**19 26 35.4**	**+0.9**
JTM	**Tenmabayashi**	**2.15**	**346**	A	A	19 26 35.3	
	comp=N,5.0nm,1.3s,comp=E,3.0nm,1.1s						
JHHS	**Hirosakihyakuz**	**2.23**	**332**	A	A	19 26 36.0	
	comp=N,13nm,2.8s,comp=E,10.0nm,6.6s						
JSB	**Shiboa**	**2.26**	**221**	A	A	19 26 36.7	
	comp=N,12nm,2.9s,comp=E,10.0nm,1.4s						
JIW	**Iwasaki**	**2.32**	**325**	A	A	19 26 37.3	
	comp=N,6.0nm,1.0s,comp=E,5.0nm,1.4s						
JOG3	**Oga3**	**2.40**	**301**	A	A	19 26 31.7	
	comp=N,8.0nm,1.1s,comp=E,11nm,0.8s						
JSI2	**Shiura 2**	**2.57**	**337**	A	A	19 26 41.0	
	comp=N,4.0nm,1.4s,comp=E,5.0nm,1.4s						
JAHD	**Aomorihigashid**	**2.58**	**353**	A	A	19 26 41.4	
	comp=N,16nm,1.4s,comp=E,13nm,1.8s						
JIZZ	**Izumozaki**	**2.67**	**245**	A	A	19 26 42.0	
	comp=N,9.0nm,1.5s,comp=E,10.0nm,2.4s						
JYT	**Yasato**	**2.76**	**207**	A	A	19 26 44.0	
	comp=N,9.0nm,0.4s,comp=E,12nm,0.4s						
JSD	**Sado**	**2.82**	**258**	Pn	**Pn**	**19 26 42.7**	**-1.0**
JSD	**Sado**	**2.82**	**258**	P	**Pn**	**19 26 43.4**	**-0.3**
JJN	**Nakama**	**3.26**	**242**	A	A	19 26 50.3	
	comp=N,3.0nm,4.0s,comp=E,4.0nm,1.9s						
ERM	**Erimo**	**3.48**	**18**	Pn	**Pn**	**19 26 51.9**	**-0.7**
ERM	**Erimo**	**3.48**	**18**	P	**Pn**	**19 26 52.3**	**-0.3**
ERM	**Erimo**	**3.48**	**18**	*ce*P	**Pn**	**19 26 51.5**	**-1.1**
ERM				pmax	pmax		
	comp=Z,57nm,0.6s						
JEM	**Erimo**	**3.48**	**18**	P	**Pn**	**19 26 52.4**	**-0.2**
MJAR	**Matsushiro Arr**	**3.54**	**234**	P	**Pn**	**19 26 55.1**	**+1.6**
	comp=Z,650nm,0.5s,baz=42,slow=12,SNR=2051						
MJAR				LR	LR	19 27 56.3	
	comp=Z,263nm,19.0s,baz=45,slow=34						
MAJO	**Matsushiro**	**3.54**	**234**	Pn	**Pn**	**19 26 55.1**	**+1.6**
MAJO	**Matsushiro**	**3.54**	**234**	P	**Pn**	**19 26 55.2**	**+1.6**
MAJO	**Matsushiro**	**3.54**	**234**	*i* P	**Pn**	**19 26 54.9**	**+1.4**
MJB9	**Matsu-Tunnel**	**3.54**	**234**	Pn	**Pn**	**19 26 55.8**	**+2.3**
JGF	**Kuroka**	**4.68**	**230**	Pn	**Pn**	**19 27 10.4**	**+1.4**
JGF	**Kuroka**	**4.68**	**230**	P	**Pn**	**19 27 11.1**	**+2.0**
JGF	**Kuroka**	**4.68**	**230**	S	**Sn**	**19 28 06.2**	**+4.1**
JSG	**Sagara**	**4.94**	**217**		**Pn**	**19 27 13.1**	**+0.6**
JSG	**Sagara**	**4.94**	**217**	P	**Pn**	**19 27 13.5**	**+1.0**
INU	**Inuyama**	**5.05**	**230**	Pn	**Pn**	**19 27 15.1**	**+1.0**
INU	**Inuyama**	**5.05**	**230**	P	**Pn**	**19 27 15.6**	**+1.5**
ASAJ	**Asahikawa**	**5.45**	**6**	P	**Pn**	**19 27 19.0**	**-0.4**
	comp=Z,18nm,0.3s,baz=216,slow=10,SNR=57						
ASAJ				S	**Sn**	**19 28 15.7**	**-5.1**
	comp=Z,124nm,0.8s,baz=333,slow=27,SNR=3.6						
ASAJ				LR	LR	19 29 39.3	
	comp=Z,292nm,19.8s,baz=189,slow=40						
JKA	**Kamikawa-asahi**	**5.45**	**6**	Pn	**Pn**	**19 27 18.5**	**-0.9**
NMR	**Nemuro--Hokkai**	**5.55**	**32**	⇓*i* P	**Pn**	**19 27 18.6**	**-2.2**
NMR				*i* S	**Sn**	**19 28 17.2**	**-6.0**
JHJ	**Hachijo jima 2**	**5.79**	**197**	P	**Pn**	**19 27 23.4**	**-0.8**
	comp=Z,191nm,0.3s,baz=44,slow=18,SNR=8.4						
JHJ				S	**Sn**	**19 28 21.4**	**-7.9**
	comp=Z,351nm,0.4s,baz=235,slow=20,SNR=6.0						
JHJ2	**Mitsune**	**5.79**	**196**	Pn	**Pn**	**19 27 23.3**	**-0.9**
RUSJ	**Misakicho**	**6.00**	**25**	⇑*i* P	**Pn**	**19 27 26.2**	**-0.8**
RUSJ				*e*S	**Sn**	**19 28 31.7**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**6.16**	**29**	*c i* P	**Pn**	**19 27 27.6**	**-1.6**
YUK				*e*S	**Sn**	**19 28 32.0**	**-6.2**
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=Z,361nm,0.2s						
YUK				pmax	pmax		
	comp=E,97nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
TEY	**Ternei**	**7.40**	**330**	⇑*e*P	**Pn**	**19 27 49.8**	**+3.6**
TEY				pmax	pmax		
	comp=Z,70nm,0.9s						
TEY				pmax	pmax		
	comp=N,90nm,0.9s						
TEY				pmax	pmax		
	comp=E,50nm,0.9s						
KUR	**Kuril'sk**	**7.96**	**33**	P	**Pn**	**19 27 52.8**	**-0.9**
KUR				*i* S	**Sn**	**19 29 16.8**	**-5.4**
KUR				pmax	pmax		
	comp=Z,145nm,0.8s						
KUR				smax	smax		
	comp=N,340nm,0.5s						
KUR				smax	smax		
	comp=E,451nm,0.5s						
JMN	**Monobe**	**8.07**	**234**	Pn	**Pn**	**19 27 55.3**	**-0.1**
YSS	**Yuzhno-Sakhali**	**8.28**	**5**	Pn	**Pn**	**19 27 57.8**	**-0.4**
YSS	**Yuzhno-Sakhali**	**8.28**	**5**	P	**Pn**	**19 27 59.2**	**+1.0**
YSS	**Yuzhno-Sakhali**	**8.28**	**5**	*e*P	**Pn**	**19 27 58.3**	**+0.1**
YSS				*e*S	**Sn**	**19 29 26.8**	**-3.3**
YSS				smax	smax		
	comp=Z,30nm,1.1s						
VLA	**Vladivostok**	**8.68**	**304**	*i* P	**Pn**	**19 28 04.1**	**+0.5**
USA0B	**Ussuriysk Arra**	**9.16**	**310**	Pn	**Pn**	**19 28 10.4**	**+0.3**
USA0B	**Ussuriysk Arra**	**9.16**	**310**	*i* P	**Pn**	**19 28 10.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**9.16**	**310**	Pn	**Pn**	**19 28 10.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**9.16**	**310**	P	**Pn**	**19 28 10.8**	**+0.6**
	comp=Z,16nm,0.5s,baz=118,slow=14,SNR=49						
USRK				LR	LR	19 31 31.0	
	comp=Z,259nm,18.6s,baz=153,slow=36						
USRK	**Ussuriysk Ar.**	**9.16**	**310**	P	**Pn**	**19 28 10.9**	**+0.7**
PSTR	**Posyet**	**9.21**	**299**	*i* P	**Pn**	**19 28 10.7**	**-0.1**
JNU	**Nakatsue**	**10.43**	**241**	Pn	**Pn**	**19 28 27.4**	**-0.2**
JNU	**Nakatsue**	**10.43**	**241**	P	**Pn**	**19 28 28.2**	**+0.6**
	comp=Z,6.6nm,0.5s,baz=46,slow=2.2,SNR=10						
JNU	**Nakatsue**	**10.43**	**241**	P	**Pn**	**19 28 28.2**	**+0.6**
MDJ	**Mudanjiang**	**10.84**	**307**	Pn	**Pn**	**19 28 35.2**	**+2.0**
MDJ	**Mudanjiang**	**10.84**	**307**	P	**Pn**	**19 28 35.1**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,11nm,1.4s						
MDJ	**Mudanjiang**	**10.84**	**307**	P	**Pn**	**19 28 37.1**	**+3.9**
KSRS	**Korea Array**	**10.97**	**268**	P	**Pn**	**19 28 38.1**	**+3.1**
	comp=Z,52nm,0.6s,baz=80,slow=14,SNR=99						
KSRS				LR	LR	19 32 23.4	
	comp=Z,275nm,21.4s,baz=60,slow=35						
KSAR	**Wonju Array Be**	**11.01**	**268**	Pn	**Pn**	**19 28 37.8**	**+2.4**
KSAR	**Wonju Array Be**	**11.01**	**268**	P	**Pn**	**19 28 37.8**	**+2.4**
KS19	**Wonju Array Si**	**11.01**	**268**		**Pn**	**19 28 38.1**	**+2.6**
JCJ	**Chichijima**	**11.58**	**178**	Pn	**Pn**	**19 28 43.2**	**-0.1**
JCJ	**Chichijima**	**11.58**	**178**	P	Pn	19 28 37.1	-6.1
	comp=Z,53nm,0.3s,baz=294,slow=16,SNR=6.9						
JCJ				LR	LR	19 32 31.1	
	comp=Z,3μm,21.2s,baz=114,slow=34						
TJN	**Taejon**	**11.66**	**263**	Pn	**Pn**	**19 28 46.2**	**+1.9**
TJN	**Taejon**	**11.66**	**263**	P	**Pn**	**19 28 47.7**	**+3.4**
TJN	**Taejon**	**11.66**	**263**	*i* P	**Pn**	**19 28 45.4**	**+1.1**
TYV	**Tymovskoe**	**12.18**	**3**	*e*P	**Pn**	**19 28 51.2**	**-0.1**
TYV				*e*S	**Sn**	**19 31 07.0**	**+1.8**
TYV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,5.3s						
TYV				smax	smax		
	comp=N,200nm,4.7s						
TYV				smax	smax		
	comp=E,300nm,4.7s						
BNX	**BinXian**	**12.74**	**308**	⇓P	**Pn**	**19 28 58.9**	**-0.1**
BNX				S	**Sn**	**19 31 20.3**	**+1.4**
BNX				pmax	pmax		
	comp=E,7.0nm,1.4s						
BNX				pmax	pmax		
	comp=E,220nm,5.3s						
BNX				LR	LR		
	comp=E,970nm,19.8s						
BNX				LR	LR		
	comp=E,660nm,15.6s						
BNX				LR	LR		
	comp=E,1μm,18.0s						
KLR	**Kul'dur**	**12.74**	**329**	P	**Pn**	**19 28 59.9**	**+0.8**
	comp=E,3.4nm,0.8s,baz=132,slow=14,SNR=10						
KLR				LR	LR	19 32 53.6	
	comp=E,166nm,20.4s,baz=160,slow=32						
KLR	**Kul'dur**	**12.74**	**329**	*ce*P	**Pn**	**19 28 59.8**	**+0.8**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CN2	**Changchun**	**13.28**	**298**	P	**Pn**	**19 29 06.9**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HEH	**HeiHe**	**15.40**	**323**	*e*P	**Pn**	**19 29 32.4**	**-1.5**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DL2	**Dalian**	**15.69**	**277**	P	**P**	**19 29 39.5**	**-0.9**
DL2				pmax	pmax		
	comp=Z,37nm,0.9s						
ZEA	**Zeya**	**18.02**	**331**	*e*P	**P**	**19 30 05.1**	**-0.9**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
PETK	**Petropavlovsk-**	**18.12**	**32**	P	**P**	**19 30 05.6**	**-1.6**
PETK	**Petropavlovsk-**	**18.12**	**32**	P	**P**	**19 30 06.5**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=181,slow=8.5,SNR=8.1						
TIA	**Tai'an**	**19.70**	**270**	P	**P**	**19 30 22.2**	**-2.3**
TIA				pmax	pmax		
	comp=Z,32nm,1.1s						
TIA				LR	LR		
	comp=Z,400nm,11.7s						
TIA				LR	LR		
	comp=Z,620nm,11.9s						
TIA				LR	LR		
	comp=Z,380nm,13.3s						
NJ2	**Nanjing**	**19.79**	**257**	⇑P	**Pn**	**19 30 26.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,17nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,210nm,6.2s						
BJI	**Beijing**	**19.80

YAK				e*PP	pP	19 31 29.4	-0.5
YAK				e		19 34 48.5	
YAK				eS	S	19 35 29.3	+0.6
YAK				e*SS	sS	19 36 01.7	+5.0
YAK				eSS	SnSn	19 36 23.8	+3.9
YAK				e		19 42 08.0	
YAK				pmax	pmax		
	comp=Z,46nm,2.1s						
YAK				pmax	pmax		
	comp=N,18nm,2.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				smax	smax		
	comp=N,162nm,4.4s						
YAK				smax	smax		
	comp=E,172nm,5.4s						
SEY	**Seymchan**	**25.11**	**11**	ceP	**P**	**19 31 18.9**	**+0.1**
SEY				pmax	pmax		
	comp=Z,29nm,1.0s						
ULN	**Ulaanbaatar**	**26.68**	**301**		**P**	**19 31 33.0**	**-0.4**
ULN	**Ulaanbaatar**	**26.68**	**301**	i P	**P**	**19 31 33.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN	**Xi'an**	**26.76**	**270**	P	**P**	**19 31 33.6**	**-0.5**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				LR	LR		
	comp=Z,340nm,14.4s						
XAN				LR	LR		
	comp=Z,210nm,17.9s						
XAN				LR	LR		
	comp=Z,440nm,17.2s						
SONM	**Songino Array**	**27.11**	**301**	P	**P**	**19 31 36.0**	**-1.3**
SONM	**Songino Array**	**27.11**	**301**	P	**P**	**19 31 36.2**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=108,slow=9.4,SNR=16						
SONM				pP	**pP**	**19 31 53.7**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=104,slow=8.3,SNR=4.1						
SONM				sP	**sP**	**19 32 01.6**	**-0.4**
	comp=Z,4.0nm,1.1s,baz=100,slow=10,SNR=3.6						
SONM				PcP	**PcP**	**19 34 56.2**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=101,slow=2.3,SNR=8.2						
SONM				pPcP		19 35 14.3	
	comp=Z,1.2nm,0.5s,baz=141,slow=2.2,SNR=4.7						
	comp=Z,1.4nm,0.4s						
SONM	**Songino Array**	**27.11**	**301**	P	**P**	**19 31 36.0**	**-1.3**
SONM				pmax	pmax		
	comp=Z,17nm,1.8s						
ENH	**Enshi**	**27.78**	**262**	P	**P**	**19 31 43.7**	**+0.4**
ENH				IAmb	IAmb	19 31 48.9	
	comp=Z,29nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.81**	**124**	T	T	20 02 28.0	
	baz=317,slow=75,SNR=2271						
H11N1	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	20 02 28.7	
	baz=317,slow=75,SNR=2085						
H11N3	**WAKE ISLAND Hy**	**28.83**	**124**	T	T	20 02 28.6	
	baz=317,slow=75,SNR=2332						
ZAK	**Zakamensk**	**29.48**	**306**	eP	**P**	**19 31 57.0**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**29.58**	**126**	T	T	20 03 18.0	
	baz=318,slow=76,SNR=705						
H11S3	**WAKE ISLAND Hy**	**29.58**	**126**	T	T	20 03 16.1	
	baz=318,slow=76,SNR=732						
H11S2	**WAKE ISLAND Hy**	**29.59**	**126**	T	T	20 03 15.1	
	baz=318,slow=76,SNR=471						
LZH	**Lanzhou**	**30.09**	**277**	eP	**P**	**19 32 08.2**	**+4.3**
LZH				pP	pP	19 32 18.8	-1.7
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
LZH				LR	LR		
	comp=Z,580nm,13.7s						
LZH				LR	LR		
	comp=Z,510nm,14.1s						
LZH				LR	LR		
	comp=Z,600nm,13.1s						
MOY	**Mondy**	**31.09**	**308**	eP	**P**	**19 32 11.9**	**-0.6**
CD2	**Chengdu**	**31.97**	**268**	P	**P**	**19 32 19.2**	**-1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BILL	**Bilibino**	**32.36**	**17**	P	**P**	**19 32 22.9**	**-0.3**
BILL				IAmb	IAmb	19 32 25.2	
	comp=Z,21nm,1.3s						
BILL	**Bilibino**	**32.36**	**17**	ceP	**P**	**19 32 24.1**	**+0.8**
BILL				pmax	pmax		
	comp=Z,24nm,1.7s						
BILL	**Bilibino**	**32.36**	**17**	P	**P**	**19 32 23.5**	**+0.3**
BILL				pP	**pP**	**19 32 40.3**	**+0.3**
GTA	**Gaotai**	**32.36**	**285**	eP	**P**	**19 32 23.9**	**+0.1**
GTA				PcP	**PcP**	**19 35 10.6**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**33.67**	**353**	P	**P**	**19 32 33.6**	**-1.1**
TIXI	**Tiksi**	**33.67**	**353**	i P	**P**	**19 32 32.7**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI	**Tiksi**	**33.67**	**353**	P	**P**	**19 32 33.9**	**-0.8**
TIXI				pP	**pP**	**19 32 50.3**	**-1.2**
TIXI				sP	**sP**	**19 32 58.9**	**-0.8**
QIZ	**Qiongzhong**	**33.88**	**244**	P	**P**	**19 32 37.0**	**-0.1**
QIZ				S	**S**	**19 37 56.6**	**0.0**
QIZ				LR	LR		
	comp=Z,590nm,9.6s						
QIZ				LR	LR		
	comp=Z,450nm,13.1s						
QIZ				LR	LR		
	comp=Z,580nm,16.7s						
KMI	**Kunming**	**35.51**	**259**	⇑P	**P**	**19 32 51.4**	**+0.1**
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
PZH	**PanZhiHua**	**35.57**	**262**	P	**P**	**19 32 51.1**	**-0.6**
PZH				S	**S**	**19 38 23.3**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
PZH				LR	LR		
	comp=Z,320nm,15.1s						
PZH				LR	LR		
	comp=Z,470nm,19.4s						
PZH				LR	LR		
	comp=Z,560nm,18.6s						
SPIA	**Saint Paul Isl**	**36.16**	**43**	P	**P**	**19 32 56.9**	**+0.6**
	baz=260						
P08K	**Saint George I**	**36.45**	**44**	P	**P**	**19 32 59.5**	**+0.9**
	baz=262						
GAMB	**Gambell**	**37.16**	**32**	P	**P**	**19 33 05.8**	**+1.2**
	baz=250						
UNV	**Unalaska Valle**	**37.94**	**49**	P	**P**	**19 33 13.2**	**+1.9**
	baz=268						
TNCH	**TengChong**	**38.81**	**262**	P	**P**	**19 33 19.8**	**+0.5**
TNCH				pP	pP	19 33 36.8	+0.5
TNCH				sP	sP	19 33 43.6	-0.7
TNCH				S	**S**	**19 39 12.3**	**+0.1**
TNCH				pmax	pmax		
	comp=Z,16nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,46nm,3.3s						
TNCH				LR	LR		
	comp=Z,230nm,11.7s						
TNCH				LR	LR		
	comp=Z,250nm,14.2s						
TNCH				LR	LR		
	comp=Z,350nm,18.5s						
TNA	**Tin City**	**39.28**	**30**	P	**P**	**19 33 24.4**	**+2.0**
TNA				IAmb	IAmb	19 33 25.4	
	comp=Z,20nm,0.8s						
TNA	**Tin City**	**39.28**	**30**	P	**P**	**19 33 24.3**	**+1.9**
	baz=252						
DLV	**Lat**	**39.80**	**237**	P	**P**	**19 33 28.1**	**+0.5**
DLV				IAmb	IAmb	19 33 34.0	
	comp=Z,13nm,0.7s						
K13K	**Kusilvak Mount**	**39.80**	**36**	P	**P**	**19 33 29.1**	**+2.3**
K13K	**Kusilvak Mount**	**39.80**	**36**	P	**P**	**19 33 28.0**	**+1.2**
	baz=260						
F14K	**Arctic Creek**	**39.89**	**31**	P	**P**	**19 33 29.5**	**+2.0**
	baz=254						
ANM	**Nome**	**40.04**	**32**	P	**P**	**19 33 29.5**	**+0.7**
ANM	**Nome**	**40.04**	**32**	P	**P**	**19 33 29.5**	**+0.7**
ANM				pmax	pmax		
	comp=Z,71nm,1.6s						
ANM	**Nome**	**40.04**	**32**	P	**P**	**19 33 31.3**	**+2.5**
	baz=256						
M13K	**Dall Lake**	**40.19**	**39**	P	**P**	**19 33 32.3**	**+2.3**
	baz=263						
WMQ	**Urumqi**	**40.35**	**295**	eP	**P**	**19 33 32.3**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				LR	LR		
	comp=Z,240nm,18.9s						
WMQ	**Urumqi**	**40.35**	**295**	P	**P**	**19 33 33.0**	**+1.2**
J14K	**Nanvaranak Lak**	**40.45**	**35**	P	**P**	**19 33 33.0**	**+0.9**
J14K				IAmb	IAmb	19 33 34.6	
	comp=Z,32nm,1.6s						
J14K	**Nanvaranak Lak**	**40.45**	**35**	P	**P**	**19 33 34.2**	**+2.1**
	baz=260						
S12K	**Black Hills**	**40.55**	**46**	P	**P**	**19 33 34.7**	**+1.6**
	baz=269						
F15K	**North Star Dit**	**40.62**	**31**	P	**P**	**19 33 35.8**	**+2.2**
	baz=255,SNR=5.7						
L14K	**Kuka Creek**	**40.64**	**38**	P	**P**	**19 33 35.9**	**+2.2**
	baz=262						
G15K	**Niukluk**	**40.70**	**32**	P	**P**	**19 33 36.3**	**+2.1**
	baz=257						
M14K	**Bethel**	**40.91**	**39**	P	**P**	**19 33 37.4**	**+1.4**
M14K				IAmb	IAmb	19 33 39.3	
	comp=Z,17nm,0.8s						
M14K	**Bethel**	**40.91**	**39**	P	**P**	**19 33 37.9**	**+1.9**
	baz=264						
N14K	**Kuskokwak Cree**	**40.97**	**40**	P	**P**	**19 33 38.0**	**+1.6**
	baz=265						
ZAA0	**Zalesovo Array**	**41.01**	**311**	P	**P**	**19 33 36.5**	**-0.4**
ZAA0				IAmb	IAmb	19 33 40.0	
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**41.01**	**311**	P	**P**	**19 33 36.6**	**-0.2**
ZALV	**Zalesovo Beam**	**41.01**	**311**	P	**P**	**19 33 36.5**	**-0.3**
	comp=Z,11nm,0.6s,baz=91,slow=8.0,SNR=42						
ZALV				pP	**pP**	**19 33 54.0**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=83,slow=7.6,SNR=3.8						
ZALV				PcP	**PcP**	**19 35 35.5**	**-0.2**
	comp=Z,4.5nm,0.4s,baz=97,slow=3.1,SNR=13						
ZALV				pPcP		19 35 53.7	
	comp=Z,3.7nm,0.5s,baz=98,slow=3.1,SNR=6.4						
	comp=Z,11nm,0.6s						
C16K	**Lisburne Hills**	**41.09**	**27**	P	**P**	**19 33 38.6**	**+1.2**
	baz=252						
O14K	**Tigyukauivet M**	**41.13**	**41**	P	**P**	**19 33 39.5**	**+1.8**
	baz=266						
L15K	**Ungalak Mounta**	**41.25**	**37**	P	**P**	**19 33 40.2**	**+1.4**
	baz=263						
K15K	**Wolf Creek Mou**	**41.31**	**36**	P	**P**	**19 33 40.4**	**+1.2**
	baz=262						
H16K	**Elim**	**41.38**	**33**	P	**P**	**19 33 41.2**	**+1.5**
	baz=259						
SDPT	**Sand Point**	**41.46**	**47**	P	**P**	**19 33 41.4**	**+0.9**
	baz=271						
G16K	**Koyuk River**	**41.48**	**32**	P	**P**	**19 33 41.4**	**+0.8**
	baz=258						
M15K	**Kasigluk River**	**41.53**	**39**	P	**P**	**19 33 42.1**	**+1.1**
	baz=265						
ZSN	**Zaisan**	**41.63**	**301**	eP	**P**	**19 33 41.4**	**-0.7**
ZSN				pmax	pmax		
	comp=Z,15nm,0.6s						
ZSN	**Zaisan**	**41.63**	**301**	eP	**P**	**19 33 41.5**	**-0.7**
	comp=Z,15nm,0.6s						
D17K	**Noatak River**	**41.74**	**28**	P	**P**	**19 33 44.5**	**+1.8**
	baz=255,SNR=13						
N15K	**Kwethluk River**	**41.78**	**40**	P	**P**	**19 33 45.1**	**+1.9**
N15K				IAmb	IAmb	19 34 36.8	
	comp=Z,19nm,1.2s						
N15K	**Kwethluk River**	**41.78**	**40**	P	**P**	**19 33 45.0**	**+1.9**
	baz=266						
O15K	**Ungalikthiuk R**	**41.86**	**41**	P	**P**	**19 33 45.3**	**+1.5**
	baz=267						
J16K	**Anvik River**	**41.87**	**35**	P	**P**	**19 33 45.6**	**+1.8**
	baz=262						
I17K	**Unalakleet**	**41.91**	**34**	P	**P**	**19 33 45.8**	**+1.7**
	baz=261						
C17K	**DeLong Mountai**	**41.92**	**27**	P	**P**	**19 33 45.8**	**+1.6**
	baz=254						
CHNA	**Chernabura Isl**	**41.98**	**48**	P	**P**	**19 33 46.0**	**+1.2**
	baz=272						
CHTO	**Chiang Mai**	**41.98**	**254**	P	**P**	**19 33 45.1**	**-0.2**
CHTO	**Chiang Mai**	**41.98**	**254**	P	**P**	**19 33 45.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
E17K	**Hotham Inlet**	**42.06**	**29**	P	**P**	**19 33 47.0**	**+1.7**
	baz=257						
F17K	**Baldwin Pennin**	**42.14**	**30**	P	**P**	**19 33 47.8**	**+1.9**
	baz=258						
CMAR	**Chiang Mai Arr**	**42.20**	**254**	P	**P**	**19 33 46.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=42,slow=7.7,SNR=9.6						
CMAR				PcP	**PcP**	**19 35 40.5**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=3.1,slow=1.2,SNR=8.0						
CMAR				pPcP		19 35 58.5	
	comp=Z,2.3nm,0.7s,baz=20,slow=1.9,SNR=8.4						
	comp=Z,0.9nm,0.6s						
G17K	**Kiwalik Mounta**	**42.20**	**32**	P	**P**	**19 33 48.5**	**+2.0**
	baz=260						
L16K	**Owhat River**	**42.20**	**37**	P	**P**	**19 33 48.6**	**+2.0**
L16K	**Owhat River**	**42.20**	**37**	P	**P**	**19 33 48.5**	**+2.0**
	baz=265						
FAKI	**Fak Fak**	**42.33**	**194**	P	**P**	**19 33 48.5**	**+0.4**
FAKI				IAmb	IAmb	19 34 19.1	
	comp=Z,11nm,0.8s						
M16K	**Timber Creek**	**42.40**	**38**	P	**P**	**19 33 50.0**	**+1.8**
	baz=266						
H17K	**Granite Mounta**	**42.41**	**33**	P	**P**	**19 33 50.2**	**+2.0**
	baz=261						
N16K	**Nishlik Lake**	**42.46**	**39**	P	**P**	**19 33 51.2**	**+2.5**
	baz=267						
J17K	**VABM Dome**	**42.56**	**35**	P	**P**	**19 33 52.1**	**+2.7**
	baz=263						
E18K	**Tukpahlearik C**	**42.60**	**29**	P	**P**	**19 33 51.9**	**+2.2**
	baz=258						
B18K	**Kokolik River**	**42.65**	**26**	P	**P**	**19 33 51.9**	**+1.9**
	baz=254						
C18K	**Utukok River**	**42.67**	**27**	P	**P**	**19 33 51.4**	**+1.1**
	baz=256						
O16K	**Kokwok River B**	**42.76**	**41**	P	**P**	**19 33 52.4**	**+1.3**
	baz=268						
L17K	**Donlin**	**42.80**	**37**	P	**P**	**19 33 53.8**	**+2.4**
	baz=266						
F18K	**Selawik**	**42.80**	**30**	P	**P**	**19 33 53.3**	**+2.0**
	baz=259,SNR=11						
P16K	**Nushagak River**	**42.80**	**41**	P	**P**	**19 33 53.1**	**+1.7**
	baz=269						
K17K	**Iditarod**	**42.84**	**36**	IAmb	IAmb	19 33 55.7	
	comp=Z,22nm,1.2s						
K17K	**Iditarod**	**42.84**	**36**	P	**P**	**19 33 53.8**	**+2.1**
	baz=265						
R16K	**Pilot Point**	**43.02**	**44**	P	**P**	**19 33 54.7**	**+1.5**
	baz=271						
G18K	**Tagagawik**	**43.08**	**31**	P	**P**	**19 33 55.3**	**+1.6**
	baz=261						
H18K	**Honhosa River**	**43.09**	**32**	P	**P**	**19 33 55.7**	**+2.0**
	baz=262						
A19K	**Wainwright**	**43.12**	**25**	P	**P**	**19 33 55.6**	**+1.8**
	baz=254,SNR=8.4						
M17K	**Holitna River**	**43.16**	**38**	P	**P**	**19 33 56.1**	**+1.8**
	baz=267						
N17K	**Nushagak Hills**	**43.24**	**39**	P	**P**	**19 33 56.9**	**+1.9**
	baz=268						
O17K	**Koliganek Bris**	**43.27**	**40**	P	**P**	**19 33 56.9**	**+1.7**
	baz=269						
MK31	**Makanchi Array**	**43.48**	**301**	P	**P**	**19 33 56.4**	**-0.7**
MK31				IAmb	IAmb	19 33 59.6	
	comp=Z,18nm,0.9s						
MK31	**Makanchi Array**	**43.48**	**301**	ceP	**P**	**19 33 56.8**	**-0.3**
MKAR	**Makanchi Array**	**43.48**	**301**	P	**P**	**19 33 56.5**	**-0.6**
MKAR	**Makanchi Array**	**43.48**	**301**	P	**P**	**19 33 56.7**	**-0.5**
	comp=Z,17nm,0.8s,baz=83,slow=8.9,SNR=81						
MKAR				pP	**pP**	**19 34 13.4**	**-1.0**
	comp=Z,4.6nm,0.7s,baz=78,slow=10,SNR=2.9						
MKAR				PcP	**PcP**	**19 35 43.9**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=64,slow=2.8,SNR=1.7						
MKAR				pPcP		19 36 02.7	
	comp=Z,1.5nm,0.7s,baz=94,slow=9.7,SNR=2.9						
	comp=Z,17nm,0.8s						
Q16K	**King Salmon**	**43.49**	**42**	P	**P**	**19 33 58.8**	**+1.8**
	baz=271						
L18K	**Granite Mounta**	**43.55**	**37**	P	**P**	**19 33 59.8**	**+2.3**
L18K	**Granite Mounta**	**43.55**	**37**	P	**P**	**19 33 59.8**	**+2.3**
	baz=267						
F19K	**Shaleruckik Mo**	**43.58**	**30**	P	**P**	**19 33 59.0**	**+1.5**
	baz=261						
J18K	**Innoko River**	**43.62**	**35**	P	**P**	**19 33 59.6**	**+1.6**
	baz=266						
MAKZ	**Makanchi**	**43.69**	**301**	P	**P**	**19 33 58.1**	**-0.7**
MAKZ				IAmb	IAmb	19 34 01.4	
	comp=Z,19nm,1.0s						
MAKZ	**Makanchi**	**43.69**	**301**	P	**P**	**19 33 58.1**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,19nm,1.0s						
MAKZ	**Makanchi**	**43.69**	**301**	P	**P**	**19 33 58.3**	**-0.5**
MAKZ				pP	**pP**	**19 34 16.0**	**-0.1**
MAKZ				sP	**sP**	**19 34 24.1**	**0.0**
D19K	**Kuna River**	**43.74**	**28**	P	**P**	**19 34 00.3**	**+1.4**
	baz=259						
G19K	**Purcell Mounta**	**43.75**	**31**	P	**P**	**19 34 00.2**	**+1.2**
	baz=262,SNR=8.0						
E19K	**Redstone River**	**43.88**	**29**	P	**P**	**19 34 01.9**	**+1.9**
	baz=261						
N18K	**Kilae Creek**	**43.89**	**39**	P	**P**	**19 34 02.1**	**+1.9**
	baz=269						
TTA	**Tatalina**	**43.91**	**36**	P	**P**	**19 34 02.2**	**+1.8**
	baz=267						
H19K	**Roundabout Mou**	**43.94**	**32**	IAmb	IAmb	19 34 03.5	
	comp=Z,22nm,0.8s						
H19K	**Roundabout Mou**	**43.94**	**32**	P	**P**	**19 34 02.5**	**+2.0**
	baz=264						
M18K	**Stony River**	**43.94**	**38**	P	**P**	**19 34 02.8**	**+2.3**
	baz=268						
J19K	**Poorman**	**44.15**	**34**	P	**P**	**19 34 03.8**	**+1.6**
	baz=266,SNR=8.4						
P18K	**Big Mountain,**	**44.22**	**41**	P	**P**	**19 34 04.4**	**+1.5**
	baz=271						
D20K	**Etivluk River**	**44.32**	**27**	P	**P**	**19 34 05.2**	**+1.6**
	baz=260						
B20K	**Meade River**	**44.37**	**26**	P	**P**	**19 34 05.4**	**+1.5**
	baz=258						
E20K	**Nigu River**	**44.40**	**28**	P	**P**	**19 34 05.7**	**+1.5**
	baz=261,SNR=21						
F20K	**Avaraart Lake**	**44.41**	**30**	P	**P**	**19 34 06.1**	**+1.9**
	baz=263,SNR=7.6						
L19K	**White Mountain**	**44.41**	**37**	P	**P**	**19 34 05.3**	**+1.0**
	baz=269						
N19K	**Bonanza Creek**	**44.58**	**39**	P	**P**	**19 34 07.5**	**+1.7**
	baz=270						
H20K	**Anotleneega Mo**	**44.58**	**32**	P	**P**	**19 34 07.4**	**+1.7**
	baz=265,SNR=7.9						
M19K	**Big River Lodg**	**44.63**	**37**	P	**P**	**19 34 07.9**	**+1.9**
	baz=269						
J20K	**Nowinta River**	**44.81**	**34**	P	**P**	**19 34 09.5**	**+2.1**
	baz=267						
K20K	**Telida**	**44.81**	**35**	P	**P**	**19 34 10.1**	**+2.6**
	baz=268,SNR=6.1						
A21K	**Barrow**	**44.82**	**24**	P	**P**	**19 34 09.2**	**+1.7**
	baz=258						
L20K	**Farewell, AK**	**44.87**	**36**	P	**P**	**19 34 10.0**	**+2.0**
	baz=269						
C21K	**Knifeblade Rid**	**45.05**	**27**	P	**P**	**19 34 11.4**	**+2.1**
	baz=262						
Q19K	**Cape Douglas,**	**45.05**	**41**	P	**P**	**19 34 10.3**	**+0.8**
	baz=273						
KURK	**Kurchatov**	**45.13**	**307**	P	**P**	**19 34 09.4**	**-0.8**
KURK	**Kurchatov**	**45.13**	**307**	ceP	**P**	**19 34 09.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,57nm,1.0s						
KURK	**Kurchatov**	**45.13**	**307**	P	**P**	**19 34 09.5**	**-0.7**
KURK				pP	**pP**	**19 34 27.3**	**-0.3**
KURK				sP	**sP**	**19 34 34.9**	**-0.7**
B21K	**Ikpikpuk River**	**45.17**	**26**	P	**P**	**19 34 12.1**	**+1.8**
	baz=261						
KURBB	**Kurchatov Arra**	**45.20**	**307**	P	**P**	**19 34 10.5**	**-0.3**
	comp=Z,47nm,0.6s,baz=80,slow=8.2,SNR=180						
KURBB				pP	**pP**	**19 34 27.5**	**-0.7**
	comp=Z,9.1nm,0.4s,baz=80,slow=8.2,SNR=3.6						
	comp=Z,47nm,0.6s						
M20K	**Styx River**	**45.22**	**37**	P	**P**	**19 34 12.3**	**+1.4**
	baz=270						
G21K	**Allakaket**	**45.23**	**31**	P	**P**	**19 34 12.4**	**+1.6**
	baz=265						
E21K	**Killik River**	**45.24**	**28**	P	**P**	**19 34 12.0**	**+1.1**
	baz=263						
A22K	**Sinclair Lake**	**45.28**	**24**	P	**P**	**19 34 12.5**	**+1.4**
	baz=260						
F21K	**Alatna River**	**45.30**	**30**	P	**P**	**19 34 12.9**	**+1.6**
	baz=265,SNR=9.1						
H21K	**Melozitna Rive**	**45.45**	**32**	P	**P**	**19 34 14.2**	**+1.6**
	baz=267,SNR=5.3						
O20K	**Slope Mountain**	**45.52**	**40**	P	**P**	**19 34 14.1**	**+0.9**
	baz=273						
CHUM	**Lake Minchumin**	**45.60**	**34**	P	**P**	**19 34 15.6**	**+1.8**
	baz=269						
PPLA	**Purkeypile**	**45.66**	**36**	P	**P**	**19 34 16.0**	**+1.6**
	baz=270						
N20K	**Mount Spurr**	**45.68**	**38**	P	**P**	**19 34 16.3**	**+1.8**
	baz=272,SNR=8.9						
SPCR	**Spurr Chakacha**	**45.68**	**38**	P	**P**	**19 34 16.0**	**+1.5**
	baz=272						
B22K	**Teshekpuk Lake**	**45.69**	**25**	P	**P**	**19 34 15.4**	**+1.1**
	baz=262						
KDAK	**Kodiak Island**	**45.69**	**43**	P	**P**	**19 34 15.9**	**+1.4**
	baz=275						
KDAK	**Kodiak Island**	**45.69**	**43**	P	**P**	**19 34 15.5**	**+1.0**
KDAK				sP	**sP**	**19 34 42.2**	**+2.5**
CAST	**Castle Rocks**	**45.70**	**35**	P	**P**	**19 34 16.4**	**+1.8**
CAST	**Castle Rocks**	**45.70**	**35**	P	**P**	**19 34 16.1**	**+1.5**
	baz=270,SNR=6.2						
D22K	**Ayikyak River**	**45.76**	**27**	P	**P**	**19 34 16.7**	**+1.7**
	baz=264,SNR=45						
I21K	**Tanana**	**45.78**	**33**	P	**P**	**19 34 16.9**	**+1.8**
	baz=268						
F22K	**John River**	**45.82**	**29**	P	**P**	**19 34 17.5**	**+2.0**
	baz=266						
SKT	**Skwentna**	**45.98**	**37**	P	**P**	**19 34 18.1**	**+1.4**
	baz=272						
E22K	**Anaktuvuk Pass**	**46.01**	**29**	P	**P**	**19 34 18.8**	**+1.8**
	baz=266,SNR=30						
HOM	**Homer**	**46.04**	**40**	P	**P**	**19 34 19.4**	**+2.2**
	baz=274						
H22K	**Ishtalitna Cre**	**46.05**	**32**	P	**P**	**19 34 19.1**	**+1.8**
	baz=268,SNR=5.9						
BPAW	**Bear Paw Mtn.**	**46.19**	**34**	P	**P**	**19 34 20.3**	**+1.9**
	baz=270						
KTH	**Kantishna Hill**	**46.22**	**35**	IAmb	IAmb	19 34 21.8	
	comp=Z,15nm,1.0s						
KTH				sP		19 34 45.8	+1.8
SHLS	**Shalkode**	**46.32**	**296**	eP	**P**	**19 34 16.7**	**-3.1**
SHLS	**Shalkode**	**46.32**	**296**	eP	**P**	**19 34 16.7**	**-3.1**
SUA	**Susitna One**	**46.37**	**38**	IAmb	IAmb	19 34 23.5	
	comp=Z,11nm,0.8s						
SUA	**Susitna One**	**46.37**	**38**	P	**P**	**19 34 21.7**	**+1.7**
	baz=273						
D23K	**Nanushuk River**	**46.49**	**27**	P	**P**	**19 34 22.9**	**+2.2**
	baz=266,SNR=13						
TRF	**Thorofare Moun**	**46.51**	**35**	P	**P**	**19 34 22.5**	**+1.4**
	baz=271						
TDK	**Taldyqorghan**	**46.54**	**299**	eP	**P**	**19 34 20.7**	**-0.7**
TDK	**Taldyqorghan**	**46.54**	**299**	eP	**P**	**19 34 20.8**	**-0.7**
CUT	**Chulitna**	**46.55**	**36**	P	**P**	**19 34 22.5**	**+1.2**
	baz=272						
COLD	**Coldfoot**	**46.57**	**30**	IAmb	IAmb	19 34 59.0	
	comp=Z,17nm,1.5s						
COLD	**Coldfoot**	**46.57**	**30**	P	**P**	**19 34 22.9**	**+1.6**
	baz=268,SNR=5.0						
C23K	**Itkillik River**	**46.58**	**26**	P	**P**	**19 34 22.7**	**+1.3**
	baz=265						
G23K	**Bananza Creek**	**46.62**	**31**	P	**P**	**19 34 23.4**	**+1.6**
	baz=268						
UZB	**Uzynbulak**	**46.63**	**297**	eP	**P**	**19 34 21.3**	**-1.0**
UZB	**U

PMR Palmer 47.14 38 P P 19 34 26.9 +1.2
PMR IAmb IAmb 19 34 27.6
comp=Z,7.9nm,0.8s
PMR Palmer 47.14 38 P P 19 34 26.9 +1.2
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 47.14 38 P P 19 34 27.3 +1.5
baz=274
RND Reindeer 47.16 35 IAmb IAmb 19 34 28.0
comp=Z,12nm,1.0s
D24K Happy Valley 47.17 27 P P 19 34 27.5 +1.6
baz=267
GHO Glory Hole Cre 47.22 37 IAmb IAmb 19 34 28.8
comp=Z,17nm,1.0s
C24K Franklin Bluff 47.24 26 P P 19 34 28.2 +1.8
baz=267
E24K Your Creek 47.25 29 P P 19 34 28.5 +1.8
baz=269,SNR=27
KNK Knik Glacier 47.47 38 P P 19 34 29.9 +1.5
baz=275
F24K Squaw Lake 47.47 29 P P 19 34 29.8 +1.4
baz=270
H24K Noodor Dome 47.49 32 IAmb IAmb 19 34 31.8
comp=Z,10nm,0.9s
H24K Noodor Dome 47.49 32 P P 19 34 30.5 +1.9
baz=271,SNR=8.8
SML Sawmill 47.50 37 IAmb IAmb 19 34 31.0
comp=Z,12nm,0.8s
SML Sawmill 47.50 37 P P 19 34 30.2 +1.5
baz=275
COLA College 47.53 33 *i* P **P 19 34 28.3 -0.5**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 47.53 33 P P 19 34 30.2 +1.4
baz=272
COLA College 47.53 33 P P 19 34 30.6 +1.8
PWL Port Wells 47.58 39 IAmb IAmb 19 34 31.1
comp=Z,9.7nm,0.8s
PWL Port Wells 47.58 39 P P 19 34 30.4 +1.1
baz=276
G24K Hadweenzic Riv 47.64 31 P P 19 34 31.4 +1.8
baz=271,SNR=13
POKR Poker Plat Res 47.70 33 P P 19 34 32.0 +1.9
baz=272,SNR=9.1
M23K Glacier View 47.79 37 P P 19 34 32.3 +1.5
baz=275
HDA Harding Lake 47.94 34 IAmb IAmb 19 34 33.8
comp=Z,12nm,0.9s
HDA Harding Lake 47.94 34 P P 19 34 33.3 +1.3
baz=273,SNR=7.4
IL31 47.95 33 IAmb IAmb 19 34 33.9
comp=Z,13nm,0.7s
ILAR Eielson Array 47.95 33 P P 19 34 32.6 +0.6
ILAR Eielson Array 47.95 33 P **P 19 34 33.2 +1.2**
comp=Z,9.4nm,0.7s,baz=267,slow=6.0,SNR=126
ILAR pP **pP 19 34 50.3 +0.8**
comp=Z,2.8nm,0.6s,baz=262,slow=5.9,SNR=5.2
ILAR PcP **PcP 19 35 59.0 -0.2**
comp=Z,0.7nm,0.6s,baz=281,slow=3.2,SNR=1.1
comp=Z,9.4nm,0.7s
SCM Sheep Creek Mo 47.97 37 IAmb IAmb 19 34 34.8
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 47.97 37 P P 19 34 33.9 +1.5
baz=275
D25K Kavik River 48.04 27 P P 19 34 34.5 +1.7
baz=270
TNSS Tian-Shan 48.11 297 *eP* **P 19 34 33.0 -1.1**
TNSS Tian-Shan 48.11 297 *eP* **P 19 34 33.0 -1.1**
P23K Montague Islan 48.13 40 P P 19 34 35.1 +1.6
baz=277
G25K Bearman Lake 48.18 30 P P 19 34 35.6 +1.8
baz=272
GLI Glacier Island 48.18 38 P P 19 34 35.2 +1.2
baz=276
H25L Birch Creek 48.32 31 P P 19 34 36.6 +1.8
baz=273
F25K Christian Rive 48.33 29 IAmb IAmb 19 34 38.5
comp=Z,13nm,0.7s
F25K Christian Rive 48.33 29 P P 19 34 37.3 +2.3
baz=272,SNR=24
E25K Arctic Village 48.35 29 IAmb IAmb 19 34 38.5
comp=Z,9.3nm,0.9s
E25K Arctic Village 48.35 29 P P 19 34 37.1 +2.0
baz=271,SNR=11
PRP Porcupine Dome 48.48 32 IAmb IAmb 19 34 39.0
comp=Z,12nm,0.8s
PRP Porcupine Dome 48.48 32 P P 19 34 37.8 +1.5
baz=274,SNR=13
M24K Tolsona, Glenn 48.49 37 P P 19 34 37.7 +1.4
baz=276
K24K Donnelly Dome 48.50 34 P P 19 34 37.7 +1.3
baz=275,SNR=6.2
C26K Camden Bay 48.56 26 P P 19 34 38.6 +2.0
baz=270,SNR=17
J25K Salcha River, 48.61 33 P P 19 34 38.5 +1.3
baz=275
KLU Klutina 48.67 37 IAmb IAmb 19 35 20.9
comp=Z,9.6nm,0.9s
KLU Klutina 48.67 37 P P 19 34 38.9 +1.1
baz=277,SNR=5.0
PAX Paxson 48.72 36 ScP **ScP 19 39 52.0 +1.1**
BMAR Burnt Mountain 48.75 30 P P 19 34 40.5 +2.3
DIV Divide 48.79 38 IAmb IAmb 19 34 41.4
comp=Z,16nm,0.9s
EYAK Cordova Ski Ar 48.88 39 IAmb IAmb 19 34 42.0
comp=Z,9.7nm,0.7s
EYAK Cordova Ski Ar 48.88 39 P P 19 34 41.2 +2.0
baz=278
F26K Sheenjek River 48.90 29 P P 19 34 41.4 +2.1
baz=273,SNR=57
RIDG Independent Ri 48.92 34 P P 19 34 40.9 +1.3
baz=276
HARP HAARP 48.93 36 P P 19 34 41.2 +1.6
baz=277
C27K Jago River 48.98 27 P P 19 34 41.6 +1.7
baz=272,SNR=21
BRZS Berezniki 49.01 307 *eP* **P 19 34 39.5 -0.9**
BRZS pmax pmax
comp=Z,4.0nm,0.5s
BRZS Berezniki 49.01 307 *eP* **P 19 34 39.6 -0.9**
comp=Z,3.9nm,0.5s
G26K Porcupine Rive 49.09 30 P P 19 34 42.9 +2.1
baz=274,SNR=8.8
SCRK Sand Creek 49.27 34 IAmb IAmb 19 34 44.3
comp=Z,12nm,0.8s
SCRK Sand Creek 49.27 34 P P 19 34 43.5 +1.1
baz=276,SNR=13
DOT Dot Lake 49.28 35 IAmb IAmb 19 34 45.0
comp=Z,36nm,2.0s
N25K Chitina, Valde 49.29 37 IAmb IAmb 19 34 56.8
comp=Z,19nm,1.7s
N25K Chitina, Valde 49.29 37 P P 19 34 44.1 +1.6
baz=278
BMRM Bremner River 49.38 38 IAmb IAmb 19 34 45.9
comp=Z,9.2nm,0.8s
BMRM Bremner River 49.38 38 P P 19 34 45.0 +1.8
baz=278
J26L Joseph Creek 49.40 33 P P 19 34 44.2 +0.9
baz=276
I26K Coal Creek Min 49.49 32 P P 19 34 44.9 +1.1
baz=276
BTLS Baital 49.49 300 *eP* **P 19 34 43.1 -1.0**
BTLS Baital 49.49 300 *eP* **P 19 34 43.1 -1.0**
KAIM Kayak Island 49.63 39 P P 19 34 46.0 +1.0
baz=280
BVAR Borovoye Array 49.66 311 P P 19 34 45.0 -0.4
comp=Z,11nm,0.5s,baz=69,slow=7.7,SNR=82
BVAR pP **pP 19 35 02.9 0.0**
comp=Z,5.6nm,0.7s,baz=74,slow=11,SNR=4.1
BVAR PcP **PcP 19 36 05.8 +0.1**
comp=Z,6.3nm,0.5s,baz=82,slow=2.9,SNR=7.8
BVAR pPcP 19 36 23.2
comp=Z,6.3nm,0.6s,baz=64,slow=3.4,SNR=7.4
comp=Z,11nm,0.5s
L26K Log Cabin Wild 49.67 35 IAmb IAmb 19 34 48.4
comp=Z,9.9nm,0.8s
L26K Log Cabin Wild 49.67 35 P P 19 34 47.1 +1.8
baz=278,SNR=7.5
BRVK Borovoye 49.72 311 P P 19 34 45.1 -0.7
BRVK IAmb IAmb 19 34 46.3
comp=Z,11nm,1.1s
BRVK Borovoye 49.72 311 *ceP* **P 19 34 45.6 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 49.72 311 P P 19 34 45.2 -0.5
BRVK pP **pP 19 35 03.5 +0.2**
BRVK sP **sP 19 35 11.0 -0.3**
E27K Coleen River 49.83 28 P P 19 34 47.9 +1.5
baz=275
BERG Berg Lake 49.91 39 IAmb IAmb 19 34 50.2
comp=Z,22nm,1.2s
M26K Nabesna, AK 49.92 36 IAmb IAmb 19 34 51.1
comp=Z,14nm,1.2s
M26K Nabesna, AK 49.92 36 P P 19 34 49.2 +2.0
baz=279,SNR=5.9
G27K Doyon Strip 49.94 30 ScP **ScP 19 39 56.6 +0.6**
G27K Doyon Strip 49.94 30 P P 19 34 49.0 +1.7
baz=276
AAK Ala-Archa 49.95 297 P P 19 34 47.4 -0.4
AAK Ala-Archa 49.95 297 *ceP* **P 19 34 46.9 -1.0**
AAK pmax pmax
comp=Z,2.0nm,0.8s
D27M Malcolm River 49.97 27 IAmb IAmb 19 34 50.5
comp=Z,9.4nm,0.8s
D27M ScP **ScP 19 39 57.8 +1.7**
D27M Malcolm River 49.97 27 P P 19 34 49.6 +2.1
baz=275,SNR=14
KSH Kashi 49.99 293 P P 19 34 51.9 +3.7
KSH pP pP 19 35 08.8 +3.0
KSH sP sP 19 35 16.7 +3.0
H27K Steamboat Moun 50.05 31 P P 19 34 50.7 +2.6
baz=277,SNR=9.4
I27K Kandik River 50.09 32 P P 19 34 50.4 +1.9
baz=277
K27K Chicken 50.10 34 P P 19 34 50.1 +1.6
baz=278
IPM Ipoh 50.24 238 P P 19 34 48.6 -1.6
IPM IAmb IAmb 19 35 15.2
comp=Z,8.2nm,0.8s
L27K Beaver Creek, 50.35 35 IAmb IAmb 19 34 54.3
comp=Z,14nm,1.1s
L27K Beaver Creek, 50.35 35 P P 19 34 52.4 +1.9
baz=279,SNR=8.5
BCAR Beaver Creek A 50.37 35 P P 19 34 52.2 +1.6
M27K Edge Creek, AK 50.45 36 IAmb IAmb 19 34 54.9
comp=Z,14nm,1.1s
M27K Edge Creek, AK 50.45 36 P P 19 34 53.0 +1.7
baz=280,SNR=9.3
E28M Babbage River 50.55 28 P P 19 34 53.7 +1.8
baz=276
D28M Stokes Point 50.75 27 P P 19 34 55.1 +1.8
baz=276
I28M Miner Creek 50.80 32 P P 19 34 55.7 +1.8
baz=279,SNR=18
E29M Blow River 51.17 28 ScP **ScP 19 40 05.1 +3.9**
E29M Blow River 51.17 28 P P 19 34 58.5 +2.0
baz=278
DAWY Dawson 51.26 34 P P 19 34 58.9 +1.6
baz=280
H29M Whitestone 51.32 31 P P 19 34 59.5 +1.8
baz=279
G29M Pine Creek 51.35 30 P P 19 34 59.7 +1.8
baz=279
ARSB Arslanbob 51.46 296 IAmb IAmb 19 35 25.3
comp=Z,14nm,0.8s
I29M Ogilvie Camp, 51.49 32 IAmb IAmb 19 35 01.7
comp=Z,12nm,0.8s
I29M Ogilvie Camp, 51.49 32 P P 19 35 00.4 +1.4
baz=280,SNR=16
O28M Mount Upton 51.54 38 P P 19 35 01.7 +2.0
baz=282
YUK8 Steele Glacier 51.63 37 P P 19 35 01.9 +1.6
baz=282
M29M Somme Creek 51.99 36 P P 19 35 04.7 +1.9
baz=282,SNR=9.8
L29M L29M 52.00 35 IAmb IAmb 19 35 06.6
comp=Z,18nm,0.9s
L29M L29M 52.00 35 P P 19 35 05.3 +2.5
baz=282
G30M tAoh Zraii Nji 52.03 30 P P 19 35 05.1 +2.1
baz=281
DZA Taraz 52.05 299 *eP* **P 19 35 02.8 -0.6**
DZA Taraz 52.05 299 *eP* **P 19 35 02.9 -0.6**
F30M Barrier River 52.08 29 P P 19 35 05.2 +1.9
baz=280
K29M Barlow Dome 52.12 34 IAmb IAmb 19 35 06.9
comp=Z,10nm,0.7s
K29M Barlow Dome 52.12 34 P P 19 35 05.6 +1.9
baz=282,SNR=12
YUK4 Talbot Arm 52.15 37 P P 19 35 06.2 +2.0
baz=283,SNR=6.9
I30M Mount Dempster 52.31 32 P P 19 35 07.3 +2.1
baz=282,SNR=54
YUK6 Outpost Mounta 52.37 37 P P 19 35 08.0 +2.1
baz=284
COEN Coen 52.40 178 P P 19 35 06.8 +0.6
COEN Coen 52.40 178 P P 19 35 07.3 +1.1
comp=Z,19nm,0.9s
O29M Mount Kennedy 52.42 38 P P 19 35 08.2 +2.1
baz=284,SNR=6.2
J30M Hart River 52.47 33 P P 19 35 08.7 +2.3
baz=282
KK31 Karatay Array 52.53 299 IAmb IAmb 19 35 32.3
comp=Z,9.1nm,1.1s
KKAR Karatay Array 52.53 299 P P 19 35 06.0 -1.0
KKAR Karatay Array 52.53 299 P P 19 35 06.0 -1.0
M30M Minto, Yukon 52.72 35 IAmb IAmb 19 35 11.6
comp=Z,8.8nm,1.0s
M30M Minto, Yukon 52.72 35 P P 19 35 10.8 +2.7
baz=284,SNR=11
INK Inuvik 52.78 28 P P 19 35 10.1 +1.6
baz=282,SNR=18
G31M Satah River 52.80 29 IAmb IAmb 19 35 10.8
comp=Z,11nm,0.6s
G31M Satah River 52.80 29 P P 19 35 10.2 +1.6
baz=282,SNR=9.7
HYT Haines Junctio 52.81 37 P P 19 35 11.6 +2.7
baz=284,SNR=18
N30M Aishikik Lake 52.85 37 IAmb IAmb 19 35 13.9
comp=Z,14nm,1.6s
N30M Aishikik Lake 52.85 37 P P 19 35 11.0 +1.9
baz=284
F31M Tsiigehtchic 52.89 29 IAmb IAmb 19 35 11.7
comp=Z,25nm,1.4s
F31M Tsiigehtchic 52.89 29 P P 19 35 10.7 +1.5
baz=282,SNR=12
DRK Karamyk 52.99 294 IAmb IAmb 19 35 22.4
comp=Z,6.5nm,0.6s
H31M Peel River 53.02 31 ScP **ScP 19 40 13.8 +4.5**
H31M Peel River 53.02 31 P P 19 35 12.3 +2.1
baz=283,SNR=17
BRLS Boroldaу 53.02 299 *eP* **P 19 35 11.3 +0.6**
BRLS Boroldaу 53.02 299 *eP* **P 19 35 11.3 +0.6**
IUG Iuzhnay 53.22 298 *eP* **P 19 35 11.3 -0.8**
IUG Iuzhnay 53.22 298 *eP* **P 19 35 11.4 -0.8**
P30M Million Dollar 53.25 38 P P 19 35 14.3 +2.2
baz=285
N31M Braeburn, Yuko 53.45 36 IAmb IAmb 19 35 17.1
comp=Z,17nm,1.0s
N31M Braeburn, Yuko 53.45 36 P P 19 35 15.9 +2.4
baz=285,SNR=7.7
O30N Mendenhall 53.49 37 P P 19 35 16.4 +2.6
baz=285,SNR=5.1
M31M Drury Creek, Y 53.89 35 IAmb IAmb 19 35 19.8
comp=Z,8.9nm,0.9s
M31M Drury Creek, Y 53.89 35 P P 19 35 19.0 +2.3
baz=286,SNR=8.3
SVE Sverdlovsk 54.08 318 *eP* **P 19 35 18.3 +0.2**
SVE pmax pmax
comp=Z,31nm,0.8s
WHY Whitehorse 54.09 37 P P 19 35 20.6 +2.3
baz=286,SNR=6.3
SKAG Skagway 54.22 39 P P 19 35 21.6 +2.6
baz=287
GAR Garm 54.24 294 IAmb IAmb 19 35 37.2
comp=Z,10nm,0.8s
FARO Faro, Yukon 54.36 35 IAmb IAmb 19 35 23.1
comp=Z,9.5nm,0.9s
FARO Faro, Yukon 54.36 35 P P 19 35 22.6 +2.5
baz=286,SNR=7.7
NIL Nilore 54.36 287 P P 19 35 20.8 +0.2
NIL Nilore 54.36 287 P P 19 35 20.8 +0.2
NIL pmax pmax
comp=Z,39nm,0.9s
NIL Nilore 54.36 287 P P 19 35 21.0 +0.4
NIL pP **pP 19 35 38.3 -0.2**
NIL sP **sP 19 35 46.4 0.0**
A36M Sachs Harbour 54.62 22 IAmb IAmb 19 35 24.8
comp=Z,14nm,0.8s
A36M Sachs Harbour 54.62 22 P P 19 35 23.7 +1.9
baz=287,SNR=18
SIT Sitka 54.96 41 P P 19 35 26.3 +1.9
baz=288
P32M Atlin 54.97 38 P P 19 35 26.6 +2.0
baz=288
R32K Eaglecrest 54.98 40 P P 19 35 26.9 +2.3
baz=288
MMPY Sheldon Lake, 55.17 34 P P 19 35 27.8 +1.8
baz=288,SNR=6.0
P33M Teslin, Yukon 55.20 37 IAmb IAmb 19 35 30.3
comp=Z,16nm,1.1s
P33M Teslin, Yukon 55.20 37 P P 19 35 28.4 +2.1
baz=288,SNR=13
S32K Killisnoo 55.21 41 P P 19 35 27.9 +1.6
baz=289
MDSI Maura Dua 55.26 228 P P 19 35 24.7 -2.4
comp=Z,17nm,1.1s
MDSI pP **pP 19 35 39.6 -5.4**
comp=Z,17nm,1.1s
SIMJ Simiganj 55.31 295 P P 19 35 26.9 -0.6
SIMJ IAmb IAmb 19 35 53.4
comp=Z,16nm,0.9s
SIMJ Simiganj 55.31 295 P P 19 35 26.9 -0.6
SIMJ pP **pP 19 35 44.9 -0.5**
SIMJ sP **sP 19 35 52.5 -0.8**
ARTI Arti 55.41 318 P P 19 35 26.4 -1.3
ARTI Arti 55.41 318 P P 19 35 27.3 -0.4
comp=Z,34nm,0.5s,baz=78,slow=3.8,SNR=81
ARTI pP **pP 19 35 45.1 -0.5**
comp=Z,9.8nm,0.4s,baz=80,slow=2.8,SNR=4.7
comp=Z,34nm,0.5s
ARTI Arti 55.41 318 P P 19 35 26.4 -1.3
ARTI pmax pmax
comp=Z,40nm,0.6s
ARTI Arti 55.41 318 P P 19 35 27.3 -0.4
ARTI pP **pP 19 35 44.8 -0.8**
ARTI sP **sP 19 35 52.7 -0.8**
KNRA Kununurra 55.44 195 P P 19 35 28.9 +0.6
comp=Z,22nm,0.9s
C36M Paulatuk 55.81 25 P P 19 35 31.6 +1.3
baz=289,SNR=11
Q32M Nakina River 55.88 39 P P 19 35 32.8 +1.6
baz=290
R33M Jennings River 56.36 38 IAmb IAmb 19 35 39.1
comp=Z,20nm,1.6s
R33M Jennings River 56.36 38 P P 19 35 36.6 +2.0
baz=290
U33K Whale Pass 56.42 42 P P 19 35 37.0 +2.1
baz=291
MTSU Mount Surprise 56.59 177 P P 19 35 36.5 0.0
comp=Z,8.6nm,0.9s
CRAG Craig 56.65 43 P P 19 35 38.9 +2.3
baz=291
S34M Telegraph Cree 56.80 40 P P 19 35 40.2 +2.6
baz=291
TGTN Hyland Airport 56.86 35 P P 19 35 40.5 +2.5
baz=291,SNR=13
KBL Kabul 57.08 290 P P 19 35 39.2 -1.1
KBL IAmb IAmb 19 36 06.0
comp=Z,15nm,1.1s
KBL Kabul 57.08 290 P P 19 35 39.2 -1.1
KBL pmax pmax
comp=Z,15nm,1.1s
WTLY Watson Lake, Y 57.13 37 P P 19 35 42.6 +2.7
baz=291
DLBC Dease Lake 57.16 39 IAmb IAmb 19 35 44.0
comp=Z,7.7nm,1.0s
DLBC Dease Lake 57.16 39 P P 19 35 42.6 +2.4
baz=292
T35M Bob Quinn 57.59 40 P P 19 35 45.9 +2.7
T35M IAmb IAmb 19 35 47.3
comp=Z,13nm,0.8s
T35M Bob Quinn 57.59 40 P P 19 35 45.8 +2.5
baz=292,SNR=8.9
WRGLY Wrigley 58.29 32 P P 19 35 50.2 +2.2
baz=294,SNR=8.4
EUNU Eureka 58.50 9 IAmb IAmb 19 35 50.5
comp=Z,8.5nm,0.8s
WB0 Warramunga Arr 58.57 188 P P 19 35 49.4 -0.9
WRAB Tennant Creek 58.73 188 P P 19 35 51.0 -0.6
WRAB Tennant Creek 58.73 188 *i* P **P 19 35 49.2 -2.3**
WRAB pmax pmax
comp=Z,22nm,0.9s
WRA Warramunga Arr 58.75 188 P P 19 35 50.6 -1.0
WRA Warramunga Arr 58.75 188 P P 19 35 51.3 -0.3
comp=Z,16nm,0.5s,baz=5.5,slow=6.8,SNR=190
WRA pP **pP 19 36 08.5 -1.1**
comp=Z,6.8nm,0.5s,baz=4.5,slow=7.1,SNR=6.5
WRA PcP **PcP 19 36 41.3 +0.6**
comp=Z,3.2nm,0.6s,baz=358,slow=4.1,SNR=5.1
WRA pPcP 19 36 58.2
comp=Z,1.4nm,0.7s,baz=5.3,slow=4.5,SNR=1.0
comp=Z,16nm,0.5s
WRA Warramunga Arr 58.75 188 *i* P **P 19 35 51.2 -0.4**
WRA pmax pmax
comp=Z,17nm,0.5s
SANVU Saraoutou 58.90 151 P P 19 35 53.5 +0.8
SPA0 Spitsbergen Ar 58.94 349 *eP* **P 19 35 52.5 +0.1**
SPA0 IAmb IAmb 19 35 54.8
comp=Z,72nm,1.6s
SPITS Spitsbergen Ar 58.94 349 P P 19 35 52.4 +0.1
comp=Z,4.5nm,0.8s,baz=82,slow=6.8,SNR=27
comp=Z,4.5nm,0.8s
QIS Mount Isa 58.98 182 P P 19 35 53.2 -0.1
comp=Z,5.6nm,1.7s
KIRV Kirov 59.09 322 *ceP* **P 19 35 53.6 0.0**
TOAD Toad River Com 59.30 37 P P 19 35 57.4 +2.2
baz=295,SNR=7.9
KOTAN Kotaneelee Air 59.31 35 P P 19 35 57.4 +2.2
baz=295
NOR Nord 59.41 356 *i* P **P 19 35 55.4 -0.1**
NOR IAmb IAmb 19 35 56.3
comp=Z,5.8nm,0.7s
RES Resolute Bay 60.92 15 P P 19 36 05.8 -0.1
RES Resolute Bay 60.92 15 P P 19 36 05.8 -0.1
RES pmax pmax
comp=Z,15nm,0.7s
YKA Yellowknife Ar 62.24 31 P P 19 36 15.8 +0.9
comp=Z,5.3nm,0.8s,baz=300,slow=6.3,SNR=57
AS06 Alice Springs 62.45 188 P P 19 36 17.0 +0.2
comp=Z,11nm,0.8s
AS31 Alice Springs 62.47 188 P P 19 36 16.8 -0.1
AS31 Alice Springs 62.47 188 P P 19 36 17.1 +0.2
comp=Z,4.7nm,0.8s
ASAR Alice Springs 62.47 188 P P 19 36 16.6 -0.3
ASAR Alice Springs 62.47 188 P P 19 36 17.0 0.0
comp=Z,8.5nm,0.7s,baz=359,slow=4.8,SNR=142
ASAR pP **pP 19 36 34.5 -0.6**
comp=Z,4.6nm,0.6s,baz=11,slow=6.6,SNR=7.8
ASAR sP **sP 19 36 42.8 0.0**
comp=Z,3.0nm,0.7s,baz=358,slow=3.4,SNR=3.8
comp=Z,8.5nm,0.7s
KLMR Klimovskoe 62.50 327 *eP* **P 19 36 13.2 -3.5**
KLMR *e* 19 38 31.3
KLMR pmax pmax
comp=Z,29nm,1.8s
AS19 Alice Springs 62.50 188 P P 19 36 17.4 +0.2
ARA0 ARCESS Array S 62.53 339 *eP* **P 19 36 17.3 +0.5**
ARA0 IAmb IAmb 19 36 20.4
comp=Z,128nm,1.8s
ARCES ARCESS Array B 62.53 339 P P 19 36 16.9 +0.1
comp=Z,2.2nm,0.5s,baz=55,slow=7.4,SNR=14
comp=Z,2.2nm,0.5s
BELG Belogornoye 62.77 317 P P 19 36 18.2 -0.4
comp=Z,21nm,0.6s,baz=47,slow=1.2,SNR=16
comp=Z,21nm,0.6s
BELG Belogornoye 62.77 317 *i* P **P 19 36 17.5 -1.1**
BELG pmax pmax
comp=Z,4.0nm,0.7s
KTK1 Kautokeino 63.49 339 *eP* **P 19 36 23.7 +0.5**
KTK1 IAmb IAmb 19 36 24.5
comp=Z,12nm,0.8s
NEEM North Greenlan 63.85 3 *i* P **P 19 36 25.6 -0.2**
NEEM IAmb IAmb 19 36 27.2
comp=Z,16nm,0.9s
JETT Jettan, Norway 63.90 340 *eP* **P 19 36 25.8 -0.1**
JETT IAmb IAmb 19 36 32.2
comp=Z,275nm,2.1s
DAG Danmarks Havn 64.14 355 *i* P **P 19 36 27.0 -0.3**
WRKA Warakurna 64.64 194 P P 19 36 31.5 +0.2
comp=Z,21nm,0.8s
QLP Quilpie 64.98 178 P P 19 36 33.9 +0.5
comp=Z,43nm,0.9s
STEI Steigen 66.39 341 *eP* **P 19 36 41.8 -0.2**
STEI IAmb IAmb 19 36 43.2
comp=Z,46nm,1.5s
VRH Novokhopyorsk 66.53 318 *eP* **P 19 36 39.3 -3.8**
VRH pmax pmax
comp=Z,9.0nm,0.9s
FAUS Fauske 66.77 340 *eP* **P 19 36 44.4 0.0**
FAUS IAmb IAmb 19 36 46.2
comp=Z,23nm,1.2s

OBN	Obninsk	66.93	323	*e*P		P	19 36 43.9	-1.7
OBN				*e**PP		pP	19 37 05.7	+1.7
OBN				*e*			19 37 09.8	
OBN				*e**SP		PcP	19 37 14.7	+1.0
OBN				*e*			19 39 13.7	
OBN				*e*PPP		PPP	19 40 47.4	
OBN				pmax		pmax		
	comp=Z,8.0nm,0.6s							
OBN				MLR		MLR		
	comp=Z,92nm,17.0s							
OBN	Obninsk	66.93	323	P		P	19 36 44.9	-0.7
OBN				pP		pP	19 37 03.3	-0.7
LPSR	Galich'ya Gora	67.20	320	*e*P		P	19 36 45.1	-2.3
LPSR				pmax		pmax		
	comp=Z,9.0nm,0.9s							
LTY	Liberty	67.32	47	IAmb		IAmb	19 36 50.7	
	comp=Z,24nm,1.4s							
FINES	FINESS Array B	67.47	332	P		P	19 36 48.6	-0.3
	comp=Z,8.3nm,0.7s,baz=29,slow=9.9,SNR=36							
FINES				pP		pP	19 37 06.8	-0.5
	comp=Z,8.4nm,0.8s,baz=46,slow=11,SNR=7.0							
	comp=Z,8.3nm,0.7s							
B08A	Colville Reser	67.47	46	IAmb		IAmb	19 36 51.7	
	comp=Z,23nm,1.4s							
HOOD	Mount Hood Mea	67.80	49	IAmb		IAmb	19 36 55.1	
	comp=Z,24nm,1.1s							
H04A	Detroit Lake	67.83	50	P		P	19 36 53.1	+1.5
H04A				IAmb		IAmb	19 36 54.4	
	comp=Z,17nm,1.0s							
VSR	Storozhevoye	67.86	318	*e*P		P	19 36 48.8	-2.8
VSR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
MOR8	Moi Rana	67.90	340	*e*P		P	19 36 50.2	-1.4
MOR8				IAmb		IAmb	19 36 52.0	
	comp=Z,17nm,1.0s							
E07A	Sunnyside	68.17	47	P		P	19 36 55.0	+1.3
E07A				IAmb		IAmb	19 36 56.6	
	comp=Z,11nm,1.1s							
LEIR	Leirfjorden	68.30	340	*e*P		P	19 36 53.7	-0.3
LEIR				IAmb		IAmb	19 36 54.0	
	comp=Z,50nm,1.5s							
AKT	Akhty	68.31	306	*e*P		P	19 36 53.9	-0.8
AKT				*e**PP		pP	19 37 14.4	+1.2
AKT				*e*			19 37 18.8	
AKT				pmax		pmax		
	comp=Z,10.0nm,0.6s							
AKT				MLR		MLR		
	comp=Z,1μm,14.0s							
D08A	Wollman Farm,	68.43	47	P		P	19 36 56.4	+1.2
D08A				IAmb		IAmb	19 36 57.6	
	comp=Z,11nm,0.9s							
F07A	Phinny Hill Vi	68.49	48	IAmb		IAmb	19 36 58.6	
	comp=Z,14nm,0.9s							
NEW	Newport	68.75	45	IAmb		IAmb	19 36 59.3	
	comp=Z,8.1nm,0.8s							
SUMG	Summit	69.02	0	P		P	19 36 59.5	+0.6
SUMG				IAmb		IAmb	19 37 00.7	
	comp=Z,12nm,0.9s							
SUMG	Summit	69.02	0	P		P	19 36 59.6	+0.6
SUMG				pmax		pmax		
	comp=Z,12nm,0.9s							
SUMG	Summit	69.02	0	*i* P		P	19 36 59.5	+0.6
SUMG				IAmb		IAmb	19 37 01.1	
	comp=Z,20nm,1.2s							
PINE	Pine Mountain	69.06	50	IAmb		IAmb	19 37 03.4	
	comp=Z,20nm,1.0s							
J05D	Fort Rock, OR	69.17	51	IAmb		IAmb	19 37 03.0	
	comp=Z,13nm,1.1s							
GOF	Gofitskoye	69.19	311	*c*eP		P	19 36 59.7	-0.3
NSS	Namsos	69.82	339	*e*P		P	19 37 03.1	-0.4
NSS				IAmb		IAmb	19 37 05.0	
	comp=Z,37nm,1.4s							
CMSA	Cobar Meteorol	69.98	176	P		P	19 37 06.3	+1.6
	comp=Z,16nm,2.5s							
KVAR	Kislovodsk Arr	70.02	311	P		P	19 37 06.0	+0.7
	comp=Z,5.0nm,0.7s,baz=265,slow=23,SNR=5.0							
	comp=Z,5.0nm,0.7s							
KIV	Kislovodsk	70.02	311	P		P	19 37 05.2	0.0
KIV	Kislovodsk	70.02	311	⇓P		P	19 37 05.3	0.0
KIV	Kislovodsk	70.02	311	*e*P		P	19 37 04.0	-1.3
KIV				pmax		pmax		
	comp=Z,27nm,1.0s							
KIV	Kislovodsk	70.02	311	P		P	19 37 05.2	0.0
KIV				pP		pP	19 37 24.0	+0.2
KBZ	Khabaz	70.03	310	P		P	19 37 05.5	+0.4
	comp=Z,9.0nm,0.8s,baz=72,slow=3.3,SNR=22							
	comp=Z,9.0nm,0.8s							
KBZ	Khabaz	70.03	310	*i* P		P	19 37 03.8	-1.3
KBZ				pmax		pmax		
	comp=Z,12nm,0.9s							
SHA1	Shidzhatmaz	70.16	310	*i* P		P	19 37 03.8	-2.5
STKA	Stephens Creek	70.22	180	P		P	19 37 06.8	+0.5
	comp=Z,2.2nm,0.5s,baz=356,slow=6.4,SNR=12							
	comp=Z,2.2nm,0.5s							
J08A	Circle Bar Ran	70.78	50	IAmb		IAmb	19 37 13.0	
	comp=Z,13nm,1.1s							
GNI	Garni	70.93	306	*i* P		P	19 37 10.2	-0.7
GNI				pmax		pmax		
	comp=Z,12nm,1.7s							
WVOR	Wild Horse Val	71.22	50	IAmb		IAmb	19 37 15.5	
	comp=Z,14nm,1.2s							
MSO	Missoula	71.34	45	IAmb		IAmb	19 37 15.4	
	comp=Z,8.8nm,0.8s							
FFC	Flin Flon	72.16	33	P		P	19 37 18.4	+0.5
FFC				IAmb		IAmb	19 37 19.6	
	comp=Z,13nm,0.8s							
FFC	Flin Flon	72.16	33	P		P	19 37 18.4	+0.5
FFC				pmax		pmax		
	comp=Z,13nm,0.8s							
FCC	Fort Churchill	72.39	27	IAmb		IAmb	19 37 20.5	
	comp=Z,17nm,1.0s							
ICESG	Greenland Ices	72.52	1	*i* P		P	19 37 20.8	+0.6
ICESG				IAmb		IAmb	19 37 21.9	
	comp=Z,12nm,0.9s							
MOL	Molde	72.59	340	*e*P		P	19 37 21.0	+0.8
DOMB	Dombas	72.59	339	*e*P		P	19 37 20.4	0.0
DOMB				IAmb		IAmb	19 37 20.8	
	comp=Z,6.7nm,0.6s							
HFS	Hagfors	72.68	336	P		P	19 37 20.7	-0.2
	comp=Z,7.9nm,0.4s,baz=52,slow=5.8,SNR=71							
HFS				pP		pP	19 37 39.0	-0.5
	comp=Z,5.8nm,0.5s,baz=46,slow=6.0,SNR=4.9							
	comp=Z,7.9nm,0.4s							
NC204	NORSAR Array S	72.70	338	IAmb		IAmb	19 37 39.9	
	comp=Z,24nm,1.0s							
NB2	NORSAR Subarra	72.75	337	P		P	19 37 20.8	-0.5
	comp=Z,2.6nm,0.5s,baz=37,slow=6.2							
NB2	NORSAR Subarra	72.75	337	P		P	19 37 20.8	-0.5
	baz=37,slow=6.2							
NB2	NORSAR Subarra	72.75	337	P		P	19 37 18.2	-3.1
NOA	NORSAR Array B	72.75	337	P		P	19 37 20.9	-0.4
	comp=Z,4.7nm,0.6s,baz=52,slow=7.0,SNR=28							
NOA				pP		pP	19 37 39.0	-0.9
	comp=Z,6.3nm,0.8s,baz=38,slow=6.0,SNR=8.9							
NOA				sP		sP	19 37 47.5	-0.2
	comp=Z,2.3nm,0.6s,baz=39,slow=6.1,SNR=3.4							
	comp=Z,4.7nm,0.6s							
DLMT	Dillon	72.97	45	IAmb		IAmb	19 37 25.7	
	comp=Z,15nm,0.7s							
AKN	Aaknes	73.06	340	*e*P		P	19 37 23.6	+0.6
AKN				IAmb		IAmb	19 37 26.0	
	comp=Z,1μm,3.1s							
AK03	Malin Array Si	73.13	322	P		P	19 37 22.2	-1.5
AKASG	Malin Array Be	73.15	322	P		P	19 37 23.1	-0.7
	comp=Z,4.8nm,0.4s,baz=46,slow=6.2,SNR=113							
AKASG				pP		pP	19 37 41.3	-1.1
	comp=Z,2.5nm,0.4s,baz=46,slow=5.9,SNR=6.5							
	comp=Z,4.8nm,0.4s							
AKBB	Malin Array Si	73.15	322	IAmb		IAmb	19 37 23.6	
	comp=Z,10nm,0.6s							
AKBB	Malin Array Si	73.15	322	*i* P		P	19 37 22.4	-1.4
AKBB				pmax		pmax		
	comp=Z,9.0nm,0.6s							
AKBB	Malin Array Si	73.15	322	P		P	19 37 22.2	-1.6
AK23	Malin Array Si	73.15	322	P		P	19 37 22.8	-1.0
AK01	Malin Array Si	73.16	322	P		P	19 37 22.9	-0.9
KIEV	Kiev	73.16	322	P		P	19 37 23.0	-0.8
KIEV				IAmb		IAmb	19 37 23.6	
	comp=Z,9.8nm,0.6s							
KIEV	Kiev	73.16	322	⇑P		P	19 37 22.6	-1.2
KIEV	Kiev	73.16	322	P		P	19 37 23.0	-0.8
KIEV				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KIEV	Kiev	73.16	322	P		P	19 37 22.3	-1.5
	comp=Z,50nm,0.8s							
AK04	Malin Array Si	73.16	322	P		P	19 37 22.7	-1.1
AK09	Malin Array Si	73.17	322	P		P	19 37 22.8	-1.1
AK08	Malin Array Si	73.17	322	P		P	19 37 22.8	-1.1
AK22	Malin Array Si	73.18	322	P		P	19 37 22.8	-1.2
AK02	Malin Array Si	73.18	322	P		P	19 37 22.9	-1.1
AK21	Malin Array Si	73.18	322	P		P	19 37 22.9	-1.1
AK11	Malin Array Si	73.19	322	P		P	19 37 22.9	-1.1
AK15	Malin Array Si	73.20	322	P		P	19 37 22.9	-1.2
AK10	Malin Array Si	73.20	322	P		P	19 37 23.0	-1.1
AK18	Malin Array Si	73.21	322	P		P	19 37 23.0	-1.1
AK05	Malin Array Si	73.21	322	P		P	19 37 23.0	-1.1
AK12	Malin Array Si	73.22	322	P		P	19 37 23.1	-1.1
AK20	Malin Array Si	73.22	322	P		P	19 37 23.1	-1.1
AK16	Malin Array Si	73.22	322	P		P	19 37 23.1	-1.1
AK06	Malin Array Si	73.23	322	P		P	19 37 23.2	-1.1
AK19	Malin Array Si	73.23	322	P		P	19 37 23.2	-1.1
AK17	Malin Array Si	73.24	322	P		P	19 37 23.2	-1.1
AK14	Malin Array Si	73.25	322	P		P	19 37 23.2	-1.2
AK07	Malin Array Si	73.25	322	P		P	19 37 23.3	-1.1
AK13	Malin Array Si	73.28	322	P		P	19 37 23.4	-1.2
BOZ	Bozeman (W)	73.36	45	IAmb		IAmb	19 37 27.9	
	comp=Z,14nm,0.8s							
LHV	Little Huntoon	73.76	54	IAmb		IAmb	19 37 31.2	
	comp=Z,13nm,0.9s							
NVAR	Mina Array Bea	73.78	54	P		P	19 37 29.6	+1.6
NVAR	Mina Array Bea	73.78	54	P		P	19 37 30.2	+2.2
	comp=Z,4.7nm,0.7s,baz=290,slow=5.8,SNR=22							
NVAR				pP		pP	19 37 48.7	+2.1
	comp=Z,2.1nm,0.7s,baz=303,slow=7.1,SNR=4.3							
	comp=Z,4.7nm,0.7s							
YHL	Hebgen Lake	74.08	45	IAmb		IAmb	19 37 32.6	
	comp=Z,11nm,0.9s							
YHB	Horse Butte	74.13	45	IAmb		IAmb	19 37 32.8	
	comp=Z,15nm,0.9s							
SFJD	Kangerlussuaq	74.20	5	*i* P		P	19 37 30.1	+0.5
SFJD				IAmb		IAmb	19 37 33.3	
	comp=Z,13nm,1.0s							
RNPP9	Sopachiv	74.23	324	P		P	19 37 29.4	-0.7
YMR	Madison River	74.31	45	IAmb		IAmb	19 37 33.5	
	comp=Z,7.3nm,0.7s							
RNPP5	Staryi Chortor	74.36	324	P		P	19 37 30.0	-0.9
LUBAR	Lubar, Ukraine	74.37	322	P		P	19 37 29.4	-1.5
YNE	Yellowstone No	74.62	44	IAmb		IAmb	19 37 35.5	
	comp=Z,10nm,0.8s							
ASK	Askoy	74.95	339	*e*P		P	19 37 34.6	+0.6
RLMT	Red Lodge	74.95	44	IAmb		IAmb	19 40 12.3	
	comp=Z,16nm,0.8s							
BER	Bergen	74.99	339	*e*P		P	19 37 35.1	+0.8
ODD1	Odda	75.02	338	*e*P		P	19 37 35.1	+0.5
HVU	Hansel Valley	75.10	48	IAmb		IAmb	19 37 38.4	
	comp=Z,11nm,0.8s							
MARD	Mardin	75.10	306	P		P	19 37 35.5	0.0
MARD				IAmb		IAmb	19 37 36.6	
	comp=Z,9.9nm,0.7s							
SORM	Soroca	75.28	321	P		P	19 37 34.7	-1.5
	comp=Z,12nm,0.7s							
NDNU	Novodnistrovsk	75.45	321	P		P	19 37 36.2	-1.0
HORU	Horodok	75.48	322	P		P	19 37 36.4	-1.0
HWUT	Hardware Ranch	75.91	48	IAmb		IAmb	19 37 43.2	
	comp=Z,18nm,1.1s							
KMPD	K-Podol'skiy	75.91	322	P		P	19 37 38.6	-1.2
DUG	Dugway, Tooele	76.07	50	IAmb		IAmb	19 37 43.9	
	comp=Z,10nm,0.7s							
PD31	Pinedale Array	76.31	46	IAmb		IAmb	19 37 44.6	
	comp=Z,7.8nm,0.7s							
PDAR	Pinedale Array	76.31	46	P		P	19 37 43.5	+0.9
PDAR	Pinedale Array	76.31	46	P		P	19 37 43.7	+1.2
	comp=Z,6.5nm,0.6s,baz=272,slow=0.9,SNR=90							
PDAR				pP		pP	19 38 02.8	+1.5
	comp=Z,1.5nm,0.7s,baz=246,slow=1.3,SNR=2.7							
	comp=Z,6.5nm,0.6s							
MPU	Maple Canyon	76.88	49	IAmb		IAmb	19 37 48.5	
	comp=Z,14nm,0.8s							
BURAR	Bucovina Array	77.17	322	⇓P		P	19 37 47.0	0.0
BURAR	Bucovina Array	77.17	322	⇓P		P	19 37 47.1	0.0
TESR	Tescani	77.23	320	⇓P		P	19 37 47.1	-0.2
CFR	Carcaliu	77.38	318	⇑P		P	19 37 47.4	-0.7
CFR	Carcaliu	77.38	318	⇑P		P	19 37 47.4	-0.7
GAZ	Gaziantep	77.42	308	IAmb		IAmb	19 37 50.2	
	comp=Z,14nm,0.8s							
TMUT	Trail Mountain	77.59	49	IAmb		IAmb	19 37 52.4	
	comp=Z,21nm,1.5s							
KOLS	Kolonicke sedl	77.63	324	*e*P		P	19 37 50.0	+0.5
KOLS				pmax		pmax		
	comp=Z,6.0nm,1.3s							
KOLS	Kolonicke sedl	77.63	324	*e*P		P	19 37 50.0	+0.5
VRI	Vrincioaia	77.63	320	⇑P		P	19 37 49.7	+0.1
VRI	Vrincioaia	77.63	320	⇑P		P	19 37 49.7	+0.1
VRI	Vrincioaia	77.63	320	P		P	19 37 48.5	-1.1
OJC	Ojcow	77.81	326	IAmb		IAmb	19 37 51.7	
	comp=Z,14nm,1.2s							
MTPU	Mount Pierson	77.81	51	IAmb		IAmb	19 37 54.5	
	comp=Z,9.2nm,0.8s							
Q16A	Castle Valley	77.86	50	IAmb		IAmb	19 37 54.2	
	comp=Z,15nm,1.3s							
P18A	Preston Nutter	77.95	49	IAmb		IAmb	19 37 54.8	
	comp=Z,26nm,1.5s							
BR131	Keskin Array S	77.95	311	*i* P		P	19 37 50.3	-1.3
BRTR	Keskin Array B	77.95	311	P		P	19 37 50.7	-0.9
BRTR	Keskin Array B	77.95	311	P		P	19 37 51.5	-0.2
	comp=Z,2.0nm,0.5s,baz=98,slow=3.3,SNR=23							
BRTR				pP		pP	19 38 09.7	-0.8
	comp=Z,1.5nm,0.4s,baz=112,slow=3.8,SNR=6.5							
	comp=Z,2.0nm,0.5s							
ULM	Lac du Bonnet	77.97	34	P		P	19 37 51.4	+0.1
	comp=Z,5.9nm,0.8s,baz=317,slow=6.1,SNR=12							
	comp=Z,5.9nm,0.8s							
ULM	Lac du Bonnet	77.97	34	*i* P		P	19 37 49.0	-2.4
SRU	San Rafael Swe	78.12	49	IAmb		IAmb	19 37 55.1	
	comp=Z,18nm,0.8s							
ISR	Istrita	78.24	319	⇑P		P	19 37 53.8	+0.8
ISR	Istrita	78.24	319	⇑P		P	19 37 53.8	+0.8
ICOR	Ion Corvin	78.28	318	⇑P		P	19 37 51.6	-1.5
MLR	Muntele Rosu	78.29	320	⇑P		P	19 37 55.6	+2.2
MLR	Muntele Rosu	78.29	320	⇑P		P	19 37 55.6	+2.2
ANTO	Ankara	78.35	312	P		P	19 37 53.8	0.0
ANTO				IAmb		IAmb	19 37 54.8	
	comp=Z,12nm,0.7s							
ANTO	Ankara	78.35	312	⇑P		P	19 37 54.6	+0.8
ANTO	Ankara	78.35	312	P		P	19 37 53.8	0.0
ANTO				pmax		pmax		
	comp=Z,12nm,0.7s							
LANS	Liptovska Anna	78.74	326	*e*P		P	19 37 56.5	+0.8
LANS				pmax		pmax		
	comp=Z,5.0nm,1.3s							
LANS	Liptovska Anna	78.74	326	*e*P		P	19 37 56.5	+0.8
VOIR		78.78	320	⇓P		P	19 37 44.8	-11
VOIR		78.78	320	⇓P		P	19 37 44.8	-11
MARR	Marisel-Cluj	78.85	322	⇑P		P	19 37 56.6	+0.2
STEB	Steborice	78.89	327	*e*P		P	19 37 57.0	+0.5
ARR	Arges	79.03	320	⇑P		P	19 37 58.1	+0.7
MORC	Moravsky Berou	79.11	327	*e*P		P	19 37 57.8	+0.1
MORC	Moravsky Berou	79.11	327	⇑P		P	19 37 56.5	-1.2
MORC	Moravsky Berou	79.11	327	⇑P		P	19 37 56.5	-1.2
DPC	Dobruska-Polom	79.19	328	*e*P		P	19 37 59.0	+0.8
DPC	Dobruska-Polom	79.19	328	*e*P		P	19 37 59.0	+0.8
VYHS	Vyhne	79.51	325	*e*P		P	19 38 01.0	+1.1
VYHS				pmax		pmax		
	comp=Z,51nm,2.6s							
VYHS	Vyhne	79.51	325	*e*P		P	19 38 01.0	+1.1
PV11	David Mesa, Pa	79.63	49	IAmb		IAmb	19 38 03.7	
	comp=Z,11nm,0.6s							
JAVC	Velka Javorina	79.75	326	*e*P		P	19 38 03.3	+2.1
PV13	Radium Mtn., P	79.75	49	IAmb		IAmb	19 38 04.4	
	comp=Z,14nm,0.9s							
CLL	Collm	79.79	330	IAmb		IAmb	19 38 02.0	
	comp=Z,8.0nm,0.7s							
CLL	Collm	79.79	330	*i* P		P	19 38 00.7	-0.6
CLL				pmax		pmax		
	comp=Z,9.0nm,0.8s							
CLL	Collm	79.79	330	*i* P		P	19 38 00.7	-0.6
CLL				*i* pP		pP	19 38 19.3	-0.8
	comp=Z,9.0nm,0.8s							
	comp=Z,9.0nm,0.9s							
VRAC	Vranov	79.87	327	*e*P		P	19 38 02.0	+0.2
VRAC	Vranov	79.87	327	⇑P		P	19 38 02.1	+0.2
VRAC	Vranov	79.87	327	⇑P		P	19 38 02.1	+0.2
GZR	Gura Zlata	79.94	321	⇑P		P	19 38 01.6	-0.7
GZR	Gura Zlata	79.94	321	⇑P		P	19 38 01.6	-0.7
SURR	Surduc	79.99	322	⇓P		P	19 38 02.5	-0.1
KRUC	Moravsky	80.14	327	*e*P		P	19 38 03.5	+0.2
MODS	Modra-Piesok	80.28	326	*e*P		P	19 38 04.8	+0.7
MODS				pmax		pmax		
	comp=Z,38nm,1.5s							
MODS	Modra-Piesok	80.28	326	*e*P		P	19 38 04.8	+0.7
BZS	Buzias	80.34	322	⇑P		P	19 38 04.1	-0.3
BZS	Buzias	80.34	322	⇑P		P	19 38 04.1	-0.3
TREC	Trest	80.35	328	*e*P		P	19 38 04.9	+0.5
TREC	Trest	80.35	328	*e*P		P	19 38 04.9	+0.5
ZVC	Zvikov	80.77	328	*e*P		P	19 38 07.2	+0.6
MDVR	Moldovita	80.90	321	⇑P		P	19 38 08.3	+0.8
S22A	4UR Ranch, Cre	81.19	48	P		P	19 38 11.3	+1.8
	baz=313							
MMAI	Mount Meron Ar	81.22	305	P		P	19 38 09.8	+0.4
	comp=Z,3.9nm,0.6s,baz=50,slow=6.9,SNR=12							
MMAI				pP		pP	19 38 27.8	-0.5
	comp=Z,0.4nm,0.3s,baz=65,slow=4.1,SNR=2.2							
	comp=Z,3.9nm,0.6s							
RONA	Rosalia, Austr	81.22	326	*e*P		P	19 38 10.0	+0.9
	comp=Z,7.9nm,0.7s							
CONA	Conrad Observa	81.24	327	*e*P		P	19 38 09.9	+0.7
	comp=Z,6.0nm,0.9s							
KHC	Kasperske Hory	81.26	329	*e*P		P	19 38 09.4	+0.1
KHC	Kasperske Hory	81.26	329	*e*P		P	19 38 09.4	+0.1
Q24A	Divide	81.33	46	P		P	19 38 12.0	+1.8
	baz=313							
GERES	GERESS Array B	81.44	328	P		P	19 38 10.2	-0.1
	comp=Z,1.6nm,0.4s,baz=40,slow=6.7,SNR=6.5							
GERES				pP		pP	19 38 28.9	-0.3
	comp=Z,1.0nm,0.6s,baz=22,slow=5.0,SNR=2.3							
	comp=Z,1.6nm,0.4s							
EKA	Eskdalemuir Ar	81.65	341	P		P	19 38 11.3	+0.2
	comp=Z,1.0nm,0.4s,baz=25,slow=4.9,SNR=8.5							
EKA				pP		pP	19 38 29.1	-0.9
	comp=Z,3.4nm,0.8s,baz=26,slow=5.5,SNR=4.0							
	comp=Z,1.0nm,0.4s							
BIOA	Bad Ischl, Aus	82.37	328	*e*P		P	19 38 14.8	-0.4
	comp=Z,5.5nm,0.6s							
ECSD	EROS Data Cent	82.44	39	IAmb		IAmb	19 38 17.0	
	comp=Z,7.7nm,0.8s							
SOKA	Soboth	82.56	326	*e*P		P	19 38 16.0	-0.2
	comp=Z,9.3nm,1.0s							
E38A	The Farm, Brul	82.61	34	IAmb		IAmb	19 38 17.2	
	comp=Z,10nm,0.8s							
OBKA	Obir	82.90	326	*e*P		P	19 38 18.2	+0.2
	comp=Z,4.2nm,0.8s							
BTNL	Ternell	82.92	333	*d*P		P	19 38 18.0	+0.1
KBA	Koelnbreinsper	82.97	327	*e*P		P	19 38 18.3	-0.2
	comp=Z,5.8nm,0.8s,SNR=6.3							
LESA	Schwarzleotal	82.98	328	*i* P		P	19 38 18.6	+0.2
	comp=Z,9.6nm,1.1s,SNR=4.9							
T25A	Trinidad	83.01	47	IAmb		IAmb	19 38 21.3	
	comp=Z,9.4nm,0.8s							
T25A	Trinidad	83.01	47	P		P	19 38 20.6	+1.7
	baz=314							
ANMO	Albuquerque	83.31	50	P		P	19 38 21.4	+0.9
ANMO	Albuquerque	83.31	50	*i* P		P	19 38 19.3	-1.2
ANMO				pmax		pmax		
	comp=Z,14nm,3.9s							
BCLA	Clavier	83.35	334	*d*P		P	19 38 19.9	-0.2
	comp=Z,6.5nm,0.0s							
RTZ	Ruatahuna	83.47	153	P		P	19 38 20.4	-0.3
WATA	Walderalm	83.50	328	*e*P		P	19 38 20.6	-0.5
	comp=Z,3.1nm,0.5s							
WTTA	Wattenberg	83.54	328	*e*P		P	19 38 21.3	0.0
	comp=Z,2.4nm,0.5s							
ABTA	Abfaltersbach	83.58	328	*e*P		P	19 38 20.7	-0.9
	comp=Z,3.0nm,0.7s							
BMRD	Maredsous	83.63	334	*d*P		P	19 38 21.2	-0.3
	comp=Z,9.1nm,0.9s							
SCHQ	Schefferville	83.66	16	P		P	19 38 21.6	-0.1
	comp=Z,6.5nm,0.7s,baz=339,slow=5.3,SNR=9.3							
	comp=Z,6.5nm,0.7s							
RETA	Reutte	83.71	329	*e*P		P	19 38 22.2	+0.1
	comp=Z,6.7nm,0.6s							
SQTA	Sankt Quirin	83.75	329	*e*P		P	19 38 22.3	-0.1
	comp=Z,4.5nm,0.5s							
PDG	Podgorica	83.84	321	IAmb		IAmb	19 38 23.4	
	comp=Z,18nm,1.0s							
PDG	Podgorica	83.84	321	⇑P		P	19 38 19.7	-3.0
LIT	Litokhoron	83.91	318	IAmb		IAmb	19 38 23.8	
	comp=Z,11nm,0.9s							
FETA	Feichten	84.10	329	*i* P		P	19 38 24.1	-0.1
	comp=Z,6.2nm,0.6s,SNR=7.0							
121A	Cookes Peak, D	84.13	53	IAmb		IAmb	19 40 28.4	
	comp=Z,12nm,1.1s							
121A	Cookes Peak, D	84.13	53	P		P	19 38 26.9	+2.2
	baz=313							
DAVA	Damuels	84.23	329	*e*P		P	19 38 24.9	0.0
	comp=Z,9.6nm,1.0s							
G40A	Rib Lake	84.24	34	IAmb		IAmb	19 38 26.1	
	comp=Z,7.9nm,0.8s							
KBN	Korca	84.41	319	IAmb		IAmb	19 38 28.5	

MOS ***06*** *19:29:25.9±0.9,23°.11N×143°.79E,h18km,mb4.9/36,Error ellipse: s-maj=14.1km s-min=5.9km az=112.6*

NEIC ***06*** *19:29:27.3±2.0,23°.16N±0°.08×143°.8E±0°.1,h10km±1km, mb5.0/174,Error ellipse: s-maj=18.8km s-min=13.6km az=254.0*

GCMT ***06*** *19:29:31.3±0.4,23°.19N±0°.02×143°.97E±0°.03,h16km±2km, MW5.0/72,Moment Tensor Solution. s4,c6; s72,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.98±.28; Mθθ3.81±.23; Mφφ-2.83±.18; Mrθ1.26±.57; Mφθ0.14±.16; Mφr0.85±.69; Best double couple: M0 3.65700×10^16 NP1:φs134.00000°,δ63.00000°,λ-6.00000°. NP2: φs226.00000°,δ84.00000°,λ-153.00000°. Principal axes: T 4.1380, Plg14.0000°, Azm357.0000°; N -0.9640, Plg63.0000°, Azm237.0000°; P -3.1760, Plg23.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JMA ***06*** *19:29:32.3±0.7,23°N±2°×14°4E±°,h126km,MV4.6/27, IOTO ISLANDS REGION*

ISC 06 19:29:26.9±0.3,23°.13N±0°.04×143°.82E±0°.06,h10km,n519, σ1§25/459,mb4.9/163,MS4.3/44,10C-1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.80**	**337**	*e*P	**Pn**	**19 30 27.5**	**+2.0**
JHH2				*e*S	**Sn**	**19 31 08.8**	**-1.4**
JCJ	**Chichijima**	**4.22**	**340**	Pn	**Pn**	**19 30 30.5**	**-0.8**
JCJ	**Chichijima**	**4.22**	**340**	Pn	Pn	19 30 25.7	-5.6
	39nm,0.3s,baz=283,slow=22,SNR=9.5						
JCJ				Sn	**Sn**	**19 31 12.9**	**-7.8**
	111nm,0.3s,baz=284,slow=22,SNR=8.3						
CBIJ	**Chichi jima**	**4.22**	**340**	*e*P	**Pn**	**19 30 31.9**	**+0.6**
CBIJ				*e*S	**Sn**	**19 31 18.6**	**-2.0**
JHJ	**Hachijo jima 2**	**10.57**	**341**	LR	LR	19 35 52.0	
	comp=Z,1μm,21.1s,baz=144,slow=37						
BSO1	**Boso 1**	**11.75**	**348**	*e*P	**Pn**	**19 32 13.6**	**-0.5**
BSO4	**Boso 4**	**12.21**	**346**	*e*P	**Pn**	**19 32 22.1**	**+1.4**
JOD2	**Odawara 2**	**12.78**	**342**	*e*P	**Pn**	**19 32 27.6**	**-1.0**
JYT	**Yasato**	**13.43**	**347**	*e*P	**Pn**	**19 32 38.9**	**+1.4**
INU	**Inuyama**	**13.54**	**336**		**Pn**	**19 32 38.6**	**-0.5**
JGF	**Kuroka**	**13.64**	**337**		**Pn**	**19 32 40.4**	**-0.1**
JHO	**Hitachi**	**13.73**	**349**	*e*P	**Pn**	**19 32 40.1**	**-1.5**
JAG	**Ashikaga**	**13.78**	**345**	*e*P	**Pn**	**19 32 40.3**	**-2.0**
MJAR	**Matsushiro Arr**	**14.22**	**341**	Pn	**Pn**	**19 32 47.4**	**-1.0**
	0.7nm,0.3s,baz=162,slow=14,SNR=24						
MJAR				Sn	Sn	19 35 15.5	-11
	baz=138,slow=11,SNR=2.4						
MJAR				LR	LR	19 37 56.7	
	comp=Z,1μm,19.5s,baz=155,slow=36						
	3.0nm,0.5s						
MAJO	**Matsushiro**	**14.22**	**341**		**Pn**	**19 32 48.0**	**-0.4**
MAJO	**Matsushiro**	**14.22**	**341**	*i* P	**Pn**	**19 32 49.3**	**+0.9**
MJB9	**Matsu-Tunnel**	**14.23**	**341**		**Pn**	**19 32 49.0**	**+0.5**
JOW	**Kunigami**	**14.57**	**288**	LR	LR	19 38 16.6	
	comp=Z,586nm,18.4s,baz=95,slow=36						
JMM	**Marumori**	**14.92**	**351**	Pn	**Pn**	**19 32 56.5**	**-1.4**
JNU	**Nakatsue**	**15.14**	**314**	Pn	**Pn**	**19 33 02.1**	**+1.3**
	0.1nm,0.3s,baz=146,slow=20,SNR=1.7						
JNU				LR	LR	19 38 18.1	
	comp=Z,575nm,19.4s,baz=122,slow=35						
	5.7nm,0.8s						
JSD	**Sado**	**15.61**	**343**		**Pn**	**19 33 04.3**	**-2.7**
ERM	**Erimo**	**18.84**	**358**	*i* P	**P**	**19 33 47.0**	**+0.1**
KSRS	**Korea Array**	**19.77**	**320**	P	**P**	**19 33 56.3**	**-0.8**
	0.3nm,0.3s,baz=133,slow=13,SNR=7.7						
KSRS				LR	LR	19 40 57.7	
	comp=Z,707nm,19.8s,baz=135,slow=35						
	4.5nm,0.9s						
KSAR	**Wonju Array Be**	**19.78**	**320**	P	**P**	**19 33 54.4**	**-2.9**
KSAR	**Wonju Array Be**	**19.78**	**320**	P	**P**	**19 33 54.4**	**-2.9**
KS19	**Wonju Array Si**	**19.83**	**320**		**P**	**19 33 57.9**	**0.0**
YULB	**Yu-li**	**20.70**	**275**	P	**P**	**19 34 05.7**	**-1.7**
JKA	**Kamikawa-asahi**	**20.96**	**358**	P	**P**	**19 34 09.4**	**-0.6**
ASAJ	**Asahikawa**	**20.96**	**358**	P	**P**	**19 34 10.9**	**+1.0**
	9.0nm,1.1s,baz=209,slow=9.4,SNR=4.4						
ASAJ				LR	LR	19 41 42.9	
	comp=Z,590nm,21.9s,baz=197,slow=35						
	9.0nm,1.1s						
ASAJ	**Asahikawa**	**20.96**	**358**	P	**P**	**19 34 09.4**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,33nm,1.2s						
SSLB	**Suanglung**	**20.99**	**276**	P	**P**	**19 34 11.1**	**+0.5**
SSLB				IAmb	IAmb	19 34 16.0	
	comp=Z,70nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**21.74**	**95**	T	T	19 56 32.6	
	baz=283,slow=74,SNR=58						
H11N2	**WAKE ISLAND Hy**	**21.74**	**95**	T	T	19 56 43.4	
	baz=283,slow=74,SNR=39						
H11N3	**WAKE ISLAND Hy**	**21.75**	**95**	T	T	19 56 44.7	
	baz=283,slow=74,SNR=81						
H11S3	**WAKE ISLAND Hy**	**21.86**	**98**	T	T	19 56 52.6	
	baz=278,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**21.86**	**98**	T	T	19 56 58.7	
	baz=278,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**21.87**	**98**	T	T	19 56 55.0	
	baz=278,slow=75,SNR=15						
MSHR	**Mys Shultsa**	**22.08**	**334**	*i* P	**P**	**19 34 22.0**	**0.0**
MSHR				pmax	pmax		
	comp=Z,12nm,0.7s						
PSTR	**Posyet**	**22.28**	**334**	*i* P	**P**	**19 34 22.9**	**-1.3**
USA0B	**Ussuriysk Arra**	**23.16**	**338**	P	**P**	**19 34 33.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**23.16**	**338**	*i* P	**P**	**19 34 31.9**	**-1.6**
USRK	**Ussuriysk Ar.**	**23.16**	**338**	P	**P**	**19 34 33.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**23.16**	**338**	P	**P**	**19 34 33.1**	**-0.3**
	comp=Z,8.4nm,0.7s,baz=164,slow=9.5,SNR=13						
USRK				LR	LR	19 42 48.0	
	comp=Z,1μm,20.9s,baz=153,slow=35						
	comp=Z,8.4nm,0.7s						
DAV	**Davao City (W)**	**23.72**	**231**	LR	LR	19 41 55.7	
	comp=Z,750nm,21.8s,baz=72,slow=32						
YSS	**Yuzhno-Sakhali**	**23.79**	**358**	P	**P**	**19 34 40.6**	**+1.0**
YSS	**Yuzhno-Sakhali**	**23.79**	**358**	*e*P	**P**	**19 34 41.4**	**+1.8**
YSS				*e*S	**S**	**19 38 54.3**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2	**Nanjing**	**23.80**	**297**	*e*P	**P**	**19 34 40.3**	**+0.3**
NJ2				sP	**pwP**	**19 34 47.3**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ	**Mudanjiang**	**24.40**	**335**	P	**P**	**19 34 46.9**	**+1.5**
MDJ				IAmb	IAmb	19 35 04.8	
	comp=Z,33nm,1.1s						
MDJ	**Mudanjiang**	**24.40**	**335**	P	**P**	**19 34 46.7**	**+1.3**
MDJ				S	**S**	**19 39 09.1**	**+4.0**
MDJ				pmax	pmax		
	comp=Z,26nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,450nm,6.2s						
MDJ				LR	LR		
	comp=Z,730nm,19.2s						
MDJ				LR	LR		
	comp=Z,1μm,18.6s						
MDJ				LR	LR		
	comp=Z,2μm,16.8s						
DL2	**Dalian**	**24.59**	**315**	P	**P**	**19 34 47.0**	**-0.1**
DL2				S	**S**	**19 39 07.2**	**-0.9**
DL2				pmax	pmax		
	comp=Z,39nm,0.9s						
DL2				LR	LR		
	comp=Z,640nm,14.9s						
DL2				LR	LR		
	comp=Z,900nm,13.2s						
DL2				LR	LR		
	comp=Z,1μm,15.2s						
MANU	**Manus Island**	**25.26**	**172**	P	**P**	**19 34 52.4**	**-1.0**
MANU				IAmb	IAmb	19 34 55.5	
	comp=Z,20nm,0.8s						
SMPI	**Sarmi**	**25.46**	**192**	P	**P**	**19 34 57.1**	**+1.9**
CN2	**Changchun**	**25.58**	**328**	P	**P**	**19 34 55.3**	**-0.8**
CN2				S	**S**	**19 39 20.9**	**-3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,900nm,16.0s						
JAY	**Jayapura**	**25.67**	**187**	LR	LR	19 43 00.9	
	comp=Z,670nm,20.1s,baz=9.5,slow=32						
BNX	**BinXian**	**26.21**	**333**	⇑P	**P**	**19 35 02.6**	**+0.8**
BNX				S	**S**	**19 39 34.0**	**+0.2**
BNX				pmax	pmax		
	comp=Z,12nm,1.3s						
BNX				pmax	pmax		
	comp=Z,270nm,7.3s						
BNX				LR	LR		
	comp=Z,410nm,15.1s						
BNX				LR	LR		
	comp=Z,970nm,14.1s						
BNX				LR	LR		
	comp=Z,1μm,18.2s						
TIA	**Tai'an**	**26.51**	**306**	P	**P**	**19 35 04.0**	**-0.7**
TIA				S	**S**	**19 39 32.2**	**-6.7**
TIA				pmax	pmax		
	comp=Z,36nm,0.7s						
TIA				LR	LR		
	comp=Z,460nm,14.9s						
TIA				LR	LR		
	comp=Z,1μm,13.5s						
TIA				LR	LR		
	comp=Z,1μm,15.6s						
TYV	**Tymovskoe**	**27.70**	**358**	*e*P	**P**	**19 35 16.1**	**+1.0**
TYV				pmax	pmax		
	comp=Z,100nm,3.2s						
TYV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KLR	**Kul'dur**	**27.74**	**343**	P	**P**	**19 35 16.1**	**+0.6**
	comp=Z,6.9nm,0.6s,baz=145,slow=7.6,SNR=23						
KLR				LR	LR	19 46 07.2	
	comp=Z,638nm,20.0s,baz=172,slow=36						
	comp=Z,6.9nm,0.6s						
KLR	**Kul'dur**	**27.74**	**343**	*i* P	**P**	**19 35 16.9**	**+1.4**
KLR				pmax	pmax		
	comp=Z,15nm,0.8s						
RABL	**Rabaul**	**28.35**	**162**	P	**P**	**19 35 19.8**	**-1.5**
RABL				IAmb	IAmb	19 35 27.5	
	comp=Z,13nm,0.7s						
HNS	**HongShan**	**28.75**	**306**	*e*P	**P**	**19 35 26.6**	**+1.9**
HNS				S	**S**	**19 40 22.9**	**+8.8**
HNS				LR	LR		
	comp=Z,800nm,15.7s						
HNS				LR	LR		
	comp=Z,1μm,14.7s						
HNS				LR	LR		
	comp=Z,970nm,15.1s						
HEH	**HeiHe**	**29.96**	**339**	*e*P	**P**	**19 35 36.9**	**+1.6**
HEH				pP	**sP**	**19 35 39.3**	**+1.7**
HEH				S	**S**	**19 40 33.6**	**+0.7**
HEH				pmax	pmax		
	comp=Z,23nm,1.2s						
HEH				pmax	pmax		
	comp=Z,200nm,3.8s						
HEH				LR	LR		
	comp=Z,1μm,18.8s						
HEH				LR	LR		
	comp=Z,1μm,18.0s						
HEH				LR	LR		
	comp=Z,1μm,18.7s						
MYLDM	**Lahad Datu**	**30.25**	**238**	P	**P**	**19 35 40.3**	**+2.1**
MRSI	**Marisa**	**30.97**	**226**	P	**P**	**19 35 44.5**	**0.0**
	comp=Z,441nmcomp=Z,42nm,0.9s						
TOLI2	**Tolitoli**	**31.29**	**229**		**P**	**19 35 47.1**	**-0.3**
TOLI2				IAmb	IAmb	19 35 51.6	
	comp=Z,14nm,0.8s						
PETK	**Petropavlovsk-**	**31.75**	**16**	P	**P**	**19 35 49.8**	**-1.2**
	comp=Z,3.7nm,1.0s,baz=219,slow=7.4,SNR=2.5						
PETK				LR	LR	19 46 01.1	
	comp=Z,462nm,20.6s,baz=196,slow=31						
	comp=Z,3.7nm,1.0s						
HHC	**Hu-ho-hao-te**	**32.33**	**311**	*e*P	**P**	**19 35 56.4**	**0.0**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,4.9s						
HHC				LR	LR		
	comp=Z,350nm,13.5s						
HHC				LR	LR		
	comp=Z,350nm,14.3s						
HHC				LR	LR		
	comp=Z,620nm,18.8s						
XAN	**Xi'an**	**32.38**	**297**	P	**P**	**19 35 56.5**	**-0.3**
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
PMG	**Port Moresby**	**32.50**	**174**	LR	LR	19 47 13.9	
	comp=Z,473nm,18.9s,baz=355,slow=33						
ZEA	**Zeya**	**33.04**	**342**	*e*P	**P**	**19 36 03.1**	**+0.8**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				MLR	MLR		
	comp=N,400nm,14.0s						
BTO	**Baotou**	**33.32**	**310**	*e*P	**P**	**19 36 05.5**	**+0.4**
BTO				pP	**sP**	**19 36 10.4**	**+3.0**
BTO				sP	**pwP**	**19 36 12.8**	**0.0**
BTO				PP	**PnPn**	**19 37 17.3**	**+1.8**
BTO				S	**S**	**19 41 27.6**	**+1.9**
BTO				pmax	pmax		
	comp=N,9.0nm,0.8s						
BTO				pmax	pmax		
	comp=N,330nm,3.5s						
BTO				LR	LR		
	comp=N,510nm,13.6s						
BTO				LR	LR		
	comp=N,760nm,16.7s						
BTO				LR	LR		
	comp=N,930nm,13.5s						
TTSI	**Tana Toraja**	**35.00**	**225**	P	**P**	**19 36 19.1**	**-0.6**
	comp=N,27nm,1.2s						
SPSI	**Sidrap Palu**	**35.72**	**224**	P	**P**	**19 36 25.4**	**-0.6**
	comp=N,45nm,0.8s						
HNR	**Honiara**	**36.00**	**152**	LR	LR	19 49 31.4	
	comp=N,423nm,21.5s,baz=23,slow=34						
CD2	**Chengdu**	**36.37**	**291**	P	**P**	**19 36 29.8**	**-1.7**
CD2				pmax	pmax		
	comp=N,10.0nm,1.0s						
KAPI	**Kappang**	**36.54**	**223**	LR	LR	19 50 10.6	
	comp=N,225nm,21.3s,baz=51,slow=34						
MA2	**Magadan**	**36.75**	**6**	P	**P**	**19 36 33.9**	**-0.3**
	comp=N,0.9nm,0.3s,baz=209,slow=19,SNR=5.0						
MA2				LR	LR	19 51 29.8	
	comp=N,200nm,20.5s,baz=196,slow=36						
	comp=N,0.9nm,0.3s						
MA2	**Magadan**	**36.75**	**6**	*i* P	**P**	**19 36 34.5**	**+0.3**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LZH	**Lanzhou**	**36.83**	**300**	*e*P	**P**	**19 36 37.7**	**+2.2**
LZH				sP	pwP	19 36 45.9	+2.7
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,5.5s						
LZH				LR	LR		
	comp=Z,580nm,13.4s						
LZH				LR	LR		
	comp=Z,510nm,14.4s						
LZH				LR	LR		
	comp=Z,600nm,14.1s						
COEN	**Coen**	**36.86**	**181**	P	**P**	**19 36 35.3**	**-0.3**
COEN				IAmb	IAmb	19 36 41.2	
	comp=Z,24nm,0.8s						
COEN	**Coen**	**36.86**	**181**	P	**P**	**19 36 36.1**	**+0.5**
	comp=Z,33nm,0.8s						
SBUM	**Sibu**	**36.88**	**241**		**P**	**19 36 35.5**	**-0.4**
SLVN	**Son La**	**36.92**	**275**	P	**P**	**19 36 36.8**	**+0.6**
SLVN				IAmb	IAmb	19 37 00.1	
	comp=Z,64nm,1.9s						
CIT	**Chita**	**37.03**	**329**	*e*P	**P**	**19 36 36.6**	**-0.2**
CIT				*e*		19 36 43.0	
CIT				*e*		19 38 02.6	
SHEM	**Shemya Is, Ala**	**37.48**	**30**	LR	LR	19 48 14.5	
	comp=Z,560nm,21.8s,baz=248,slow=30						
PZH	**PanZhiHua**	**38.22**	**284**	P	**P**	**19 36 47.9**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ULN	**Ulaanbaatar**	**38.25**	**319**		**P**	**19 36 46.6**	**-0.8**
ULN	**Ulaanbaatar**	**38.25**	**319**	*i* P	**P**	**19 36 47.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.4s						
SONM	**Songino Array**	**38.63**	**319**	P	**P**	**19 36 49.4**	**-1.1**
SONM	**Songino Array**	**38.63**	**319**	P	**P**	**19 36 50.2**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=129,slow=8.7,SNR=14						
SONM				PcP	**PcP**	**19 39 02.5**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=103,slow=2.8,SNR=3.6						
SONM				LR	LR	19 53 51.3	
	comp=Z,674nm,18.1s,baz=119,slow=38						
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**38.63**	**319**	P	**P**	**19 36 49.4**	**-1.1**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YAK	**Yakutsk**	**40.07**	**350**	LR	LR	19 54 20.4	
	comp=Z,403nm,20.5s,baz=156,slow=37						
YAK	**Yakutsk**	**40.07**	**350**	*e*P	**P**	**19 37 02.5**	**+0.4**
YAK				pmax	pmax		
	comp=Z,26nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
SEY	**Seymchan**	**40.21**	**6**	*i* P	**P**	**19 37 03.7**	**+0.4**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GTA	**Gaotai**	**40.54**	**304**	P	**P**	**19 37 07.6**	**+1.0**
GTA				S	**S**	**19 43 14.0**	**-1.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				LR	LR		
	comp=Z,340nm,13.5s						
GTA				LR	LR		
	comp=Z,370nm,14.5s						
GTA				LR	LR		
	comp=Z,420nm,14.5s						
PLAI	**Plampang**	**40.72**	**222**	P	**P**	**19 37 06.4**	**-1.7**
	comp=Z,61nm,0.9s						
MTSU	**Mount Surprise**	**41.01**	**179**	P	**P**	**19 37 11.9**	**+1.5**
	comp=Z,19nm,0.9s						
TNCH	**TengChong**	**41.26**	**282**	P	**P**	**19 37 12.7**	**0.0**
TNCH				pP	sP	19 37 15.3	+0.2
TNCH				S	**S**	**19 43 26.3**	**-0.7**
TNCH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,220nm,5.6s						
TNCH				LR	LR		
	comp=Z,230nm,11.7s						
TNCH				LR	LR		
	comp=Z,250nm,14.2s						
TNCH				LR	LR		
	comp=Z,350nm,18.5s						
ZAK	**Zakamensk**	**41.59**	**321**	*e*P	**P**	**19 37 13.9**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
IRK	**Irkutsk**	**41.89**	**324**	*e*P	**P**	**19 37 16.5**	**-0.8**
IRK				pmax	pmax		
	comp=Z,24nm,1.8s						
CHTO	**Chiang Mai**	**42.00**	**273**	P	**P**	**19 37 17.9**	**-0.8**
CHTO	**Chiang Mai**	**42.00**	**273**	P	**P**	**19 37 17.9**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.09**	**272**	P	**P**	**19 37 19.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=62,slow=7.2,SNR=8.7						
CMAR				PcP	**PcP**	**19 39 14.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=101,slow=2.5,SNR=1.9						
CMAR				LR	LR	19 54 02.6	
	comp=Z,352nm,20.3s,baz=95,slow=35						
	comp=Z,1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.09**	**272**	*i* P	**P**	**19 37 22.0**	**+2.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MOY	**Mondy**	**43.45**	**322**	*e*P	**P**	**19 37 29.4**	**-0.7**
MOY				pmax	pmax		
	comp=Z,17nm,2.3s						
QIS	**Mount Isa**	**43.62**	**186**	P	**P**	**19 37 31.4**	**-0.2**
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**43.62**	**193**	P	**P**	**19 37 30.6**	**-1.0**
WRA	**Warramunga Arr**	**43.80**	**193**	P	**P**	**19 37 31.4**	**-1.7**
WRA	**Warramunga Arr**	**43.80**	**193**	P	**P**	**19 37 32.6**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=16,slow=9.0,SNR=9.1						
WRA				PcP	**PcP**	**19 39 19.2**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=15,slow=3.7,SNR=2.7						
WRA				ScP	**ScP**	**19 43 11.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=8.8,slow=3.7,SNR=5.6						
WRA				LR	LR	19 55 46.2	
	comp=Z,413nm,18.9s,baz=34,slow=36						
	comp=Z,2.6nm,0.5s						
WRA	**Warramunga Arr**	**43.80**	**193**	*i* P	**P**	**19 37 33.4**	**+0.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GOMU	**GeErMu**	**44.10**	**299**	P	**P**	**19 37 38.2**	**+2.3**
GOMU				pP	pwP	19 37 42.6	-1.1
GOMU				sP	sP	19 37 46.5	+8.2
GOMU				S	**S**	**19 44 10.5**	**+1.5**
GOMU				pmax	pmax		
	comp=Z,75nm,0.9s						
GOMU				LR	LR		
	comp=Z,450nm,16.3s						
GOMU				LR	LR		
	comp=Z,310nm,15.2s						
GOMU				LR	LR		
	comp=Z,380nm,15.0s						
FITZ	**Fitzroy Crossi**	**44.66**	**205**	P	**P**	**19 37 41.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**44.66**	**205**	LR	LR	19 55 46.6	
	comp=Z,160nm,18.3s,baz=18,slow=35						
BILL	**Bilibino**	**47.01**	**11**	P	**P**	**19 37 58.5**	**+0.5**
BILL	**Bilibino**	**47.01**	**11**	*i* P	**P**	**19 37 58.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SHL	**Shillong**	**47.14**	**284**	P	**P**	**19 37 59.4**	**-0.5**
SHL	**Shillong**	**47.14**	**284**	P	**P**	**19 37 59.4**	**-0.5**
SHL				pmax	pmax		
	comp=Z,14nm,0.6s						
AS31	**Alice Springs**	**47.50**	**192**	P	**P**	**19 38 01.6**	**-0.8**
AS31	**Alice Springs**	**47.50**	**192**	P	**P**	**19 38 01.7**	**-0.6**
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**47.50**	**192**	P	**P**	**19 38 00.9**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=12,slow=13,SNR=5.8						
ASAR				PcP	**PcP**	**19 39 34.4**	**+1.9**
	comp=Z,0.9nm,0.9s,baz=21,slow=13,SNR=2.2						
ASAR				ScP	**ScP**	**19 43 26.6**	**-0.2**
	comp=Z,1.1nm,1.1s,baz=16,slow=4.9,SNR=2.9						
ASAR				LR	LR	19 56 54.0	
	comp=Z,348nm,20.3s,baz=12,slow=35						
	comp=Z,1.5nm,0.6s						
BRDH	**Bariadhala**	**47.85**	**280**	LR	LR	20 00 39.3	
	comp=Z,141nm,18.7s,baz=140,slow=39						
TIXI	**Tiksi**	**49.30**	**354**	P	**P**	**19 38 16.1**	**+0.5**
TIXI	**Tiksi**	**49.30**	**354**	LR	LR	20 01 22.7	
	comp=Z,121nm,21.7s,baz=188,slow=39						
TIXI	**Tiksi**	**49.30**	**354**	P	**P**	**19 38 16.1**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
QLP	**Quilpie**	**49.42**	**180**	P	**P**	**19 38 16.6**	**-0.4**
	comp=Z,36nm,0.9s						
DZM	**Mont Dzumac**	**50.03**	**152**	P	**P**	**19 38 19.1**	**-2.9**
WMQ	**Urumqi**	**50.14**	**308**	*e*P	**P**	**19 38 23.5**	**+0.9**
WMQ				pP	pwP	19 38 30.7	+0.2
WMQ				pmax	pmax		
	comp=Z,32nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,3.8s						
WMQ				LR	LR		
	comp=Z,420nm,16.5s						
WMQ				LR	LR		
	comp=Z,250nm,20.9s						
PSAC1	**Pilbara Seismi**	**50.18**	**210**	P	**P**	**19 38 20.5**	**-2.5**
S12K	**Black Hills**	**51.14**	**36**	P	**P**	**19 38 30.0**	**+0.1**
	baz=253						
SDPT	**Sand Point**	**51.91**	**37**	P	**P**	**19 38 35.0**	**-0.6**
SDPT	**Sand Point**	**51.91**	**37**	P	**P**	**19 38 36.0**	**+0.4**
	baz=255						
M13K	**Dall Lake**	**52.04**	**30**	P	**P**	**19 38 37.4**	**+1.0**
	baz=248						
K13K	**Kusilvak Mount**	**52.05**	**28**	P	**P**	**19 38 36.8**	**+0.3**
	baz=246						
CHNA	**

ANM	Nome	52.88	25	P	P	19 38 43.7	+1.0
	baz=243						
F14K	Arctic Creek	52.94	24	P	P	19 38 44.1	+1.0
	baz=242						
CHGN	Chignik	53.28	36	P	P	19 38 46.1	+0.5
	baz=256						
O15K	Ungalikthiuk R	53.31	32	P	P	19 38 46.2	+0.3
	baz=253						
L15K	Ungalak Mounta	53.34	29	P	P	19 38 46.3	+0.2
	baz=249						
M15K	Kasigluk River	53.37	30	P	P	19 38 46.2	-0.1
	baz=251						
ZAA0	Zalesovo Array	53.47	321	P	P	19 38 45.9	-1.3
ZALV	Zalesovo Beam	53.47	321	P	P	19 38 46.5	-0.7
	comp=Z,3.6nm,0.6s,baz=107,slow=8.4,SNR=11						
ZALV				PcP	PcP	19 39 53.9	-0.2
	comp=Z,3.3nm,0.8s,baz=113,slow=3.6,SNR=2.1						
ZALV				LR	LR	20 02 51.9	
	comp=Z,350nm,18.6s,baz=100,slow=38						
	comp=Z,3.6nm,0.6s						
N15K	Kwethluk River	53.48	31	P	P	19 38 47.6	+0.4
	baz=252						
K15K	Wolf Creek Mou	53.54	28	P	P	19 38 48.4	+0.8
	baz=249						
G15K	Niukluk	53.58	25	P	P	19 38 48.3	+0.5
	baz=244						
F15K	North Star Dit	53.67	24	P	P	19 38 48.8	+0.3
	baz=243						
H16K	Elim	54.14	25	P	P	19 38 52.2	+0.3
	baz=247						
MK31	Makanchi Array	54.18	312	*ce*P	P	19 38 52.5	0.0
MKAR	Makanchi Array	54.18	312	P	P	19 38 52.5	0.0
	comp=Z,6.1nm,0.7s,baz=87,slow=9.4,SNR=33						
MKAR				PcP	PcP	19 39 56.8	-0.2
	comp=Z,1.0nm,0.7s,baz=82,slow=3.2,SNR=1.2						
MKAR				ScP	ScP	19 43 56.9	+1.5
	comp=Z,0.8nm,1.0s,baz=76,slow=6.1,SNR=3.3						
	comp=Z,6.1nm,0.7s						
MKAR	Makanchi Array	54.18	312	*i* P	P	19 38 52.7	+0.2
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
P16K	Nushagak River	54.18	33	P	P	19 38 51.9	-0.4
	baz=255						
N16K	Nishlik Lake	54.20	31	P	P	19 38 51.9	-0.6
	baz=253						
L16K	Owhat River	54.26	29	P	P	19 38 54.0	+1.2
L16K				IAmb	IAmb	19 39 25.9	
	comp=Z,41nm,1.9s						
L16K	Owhat River	54.26	29	P	P	19 38 52.5	-0.3
	baz=251						
M16K	Timber Creek	54.28	30	P	P	19 38 53.5	+0.5
	baz=252						
O16K	Kokwok River B	54.28	32	IAmb	IAmb	19 38 58.6	
	comp=Z,9.8nm,0.8s						
O16K	Kokwok River B	54.28	32	P	P	19 38 52.6	-0.4
	baz=254						
J16K	Anvik River	54.30	27	P	P	19 38 53.4	+0.4
	baz=249						
CMSA	Cobar Meteorol	54.38	178	P	P	19 38 53.6	-0.4
	comp=Z,17nm,1.0s						
MAKZ	Makanchi	54.39	312	P	P	19 38 54.1	0.0
MAKZ				IAmb	IAmb	19 38 56.0	
	comp=Z,13nm,1.1s						
MAKZ	Makanchi	54.39	312	P	P	19 38 54.1	0.0
MAKZ				pmax	pmax		
	comp=Z,13nm,1.1s						
G16K	Koyuk River	54.40	25	P	P	19 38 54.1	+0.3
	baz=246						
I17K	Unalakleet	54.47	27	P	P	19 38 54.1	-0.2
	baz=249						
C16K	Lisburne Hills	54.62	21	P	P	19 38 55.3	0.0
	baz=241						
CHIR	Chirikof Islan	54.70	37	P	P	19 38 56.6	+0.4
	baz=259						
STKA	Stephens Creek	54.73	182	P	P	19 38 55.7	-0.8
STKA	Stephens Creek	54.73	182	P	P	19 38 55.7	-0.8
	comp=Z,5.2nm,0.7s,baz=2.5,slow=8.1,SNR=15						
STKA				LR	LR	20 05 05.7	
	comp=Z,255nm,18.1s,baz=6.7,slow=39						
	comp=Z,5.2nm,0.7s						
STKA	Stephens Creek	54.73	182	P	P	19 38 55.7	-0.8
STKA				pmax	pmax		
	comp=Z,197nm,1.8s						
Q16K	King Salmon	54.76	33	P	P	19 38 56.3	-0.1
	baz=256						
O17K	Koliganek Bris	54.82	32	P	P	19 38 57.4	+0.5
	baz=255						
L17K	Donlin	54.92	29	P	P	19 38 57.8	+0.2
	baz=252						
N17K	Nushagak Hills	54.97	31	P	P	19 38 58.5	+0.5
	baz=254						
J17K	VABM Dome	54.98	27	P	P	19 38 57.9	-0.1
	baz=251						
P17K	Kvichak River	55.00	33	P	P	19 38 57.8	-0.4
	baz=256						
G17K	Kiwalik Mounta	55.09	25	P	P	19 38 59.3	+0.5
	baz=248						
M17K	Holitna River	55.09	30	P	P	19 38 59.3	+0.4
	baz=254						
K17K	Iditarod	55.10	28	IAmb	IAmb	19 39 09.2	
	comp=Z,21nm,1.0s						
K17K	Iditarod	55.10	28	P	P	19 39 00.1	+1.2
	baz=252						
D17K	Noatak River	55.11	22	P	P	19 38 59.6	+0.7
	baz=244						
H17K	Granite Mounta	55.17	26	P	P	19 38 59.2	-0.2
	baz=249						
F17K	Baldwin Pennin	55.23	24	P	P	19 39 00.0	+0.3
	baz=246						
E17K	Hotham Inlet	55.29	23	P	P	19 39 00.5	+0.4
	baz=246						
RDOG	Red Dog Mine	55.33	21	IAmb	IAmb	19 39 20.2	
	comp=Z,10nm,0.9s						
RDOG	Red Dog Mine	55.33	21	P	P	19 39 01.2	+0.7
	baz=244						
C17K	DeLong Mountai	55.43	21	P	P	19 39 02.0	+0.8
	baz=243						
Q18K	Katmai Hardscr	55.60	34	P	P	19 39 03.3	+0.6
	baz=258						
SII	Sitkinak Islan	55.63	36	P	P	19 39 03.1	+0.3
	baz=260						
N18K	Kilae Creek	55.63	31	P	P	19 39 03.4	+0.6
	baz=256						
P18K	Big Mountain,	55.65	33	P	P	19 39 03.6	+0.7
	baz=257						
L18K	Granite Mounta	55.67	29	P	P	19 39 03.2	+0.2
	baz=254						
R18K	Karluk	55.67	35	P	P	19 39 03.5	+0.5
	baz=259						
O18K	Koktuh Hills	55.76	32	P	P	19 39 04.3	+0.6
	baz=257						
E18K	Tukpahlearik C	55.86	23	P	P	19 39 04.9	+0.6
	baz=246						
H18K	Honhosa River	55.86	26	P	P	19 39 05.1	+0.7
	baz=250						
M18K	Stony River	55.87	30	P	P	19 39 05.0	+0.5
	baz=255						
F18K	Selawik	55.89	24	P	P	19 39 04.9	+0.5
	baz=248						
G18K	Tagagawik	56.01	25	P	P	19 39 06.0	+0.6
	baz=250						
J18K	Innoko River	56.01	28	P	P	19 39 05.6	+0.1
	baz=253						
C18K	Utukok River	56.16	21	P	P	19 39 06.8	+0.3
	baz=245						
TTA	Tatalina	56.16	29	P	P	19 39 06.9	+0.2
	baz=254						
OHAK	Old Harbor	56.23	36	P	P	19 39 06.8	-0.2
OHAK	Old Harbor	56.23	36	P	P	19 39 07.4	+0.3
	baz=260						
B18K	Kokolik River	56.27	20	P	P	19 39 08.1	+0.9
	baz=244						
N19K	Bonanza Creek	56.33	31	P	P	19 39 08.2	+0.3
	baz=257						
L19K	White Mountain	56.49	30	P	P	19 39 09.3	+0.4
	baz=256						
J19K	Poorman	56.63	27	P	P	19 39 11.0	+1.2
	baz=254						
F19K	Shaleruckik Mo	56.67	24	P	P	19 39 10.7	+0.7
	baz=250						
G19K	Purcell Mounta	56.69	25	P	P	19 39 11.2	+0.9
	baz=251						
KDAK	Kodiak Island	56.69	35	LR	LR	20 00 24.7	
	comp=Z,312nm,21.8s,baz=94,slow=33						
P19K	Oil Pt	56.70	33	P	P	19 39 11.3	+0.9
	baz=259						
H19K	Roundabout Mou	56.74	25	P	P	19 39 10.5	-0.2
	baz=252						
KURK	Kurchatov	56.84	316	P	P	19 39 10.9	-0.6
KURK	Kurchatov	56.84	316	*ce*P	P	19 39 12.0	+0.4
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
A19K	Wainwright	56.87	19	P	P	19 39 12.1	+0.7
	baz=244						
KURBB	Kurchatov Arra	56.90	316	P	P	19 39 11.4	-0.5
	comp=Z,5.5nm,0.6s,baz=90,slow=7.9,SNR=29						
SYI	Shuyak Island	56.93	34	P	P	19 39 11.8	-0.2
L20K	Farewell, AK	57.00	29	P	P	19 39 12.8	+0.2
	baz=256						
E19K	Redstone River	57.08	23	P	P	19 39 12.8	-0.2
	baz=250						
K20K	Telida	57.13	28	P	P	19 39 13.0	-0.4
	baz=256						
D19K	Kuna River	57.14	22	P	P	19 39 13.7	+0.3
	baz=248						
M20K	Styx River	57.20	30	P	P	19 39 14.0	-0.1
	baz=257						
J20K	Nowinta River	57.30	27	P	P	19 39 15.4	+0.8
	baz=255						
I20K	Naaghedeneel	57.33	27	P	P	19 39 15.2	+0.5
	baz=254						
H20K	Anotleneega Mo	57.36	26	P	P	19 39 16.0	+1.0
	baz=254						
N20K	Mount Spurr	57.50	31	P	P	19 39 16.3	+0.1
	baz=259						
F20K	Avaraart Lake	57.50	24	P	P	19 39 16.4	+0.4
	baz=252						
E20K	Nigu River	57.73	22	P	P	19 39 18.2	+0.5
	baz=250						
D20K	Etivluk River	57.73	22	P	P	19 39 18.3	+0.7
	baz=250						
PPLA	Purkeypile	57.85	29	P	P	19 39 18.9	+0.2
	baz=258						
CAPN	Captain Cook N	57.92	32	P	P	19 39 19.2	+0.2
	baz=260						
BRSE	Bradley Lake S	57.96	33	P	P	19 39 19.4	+0.1
	baz=261						
SKT	Skwentna	57.97	30	IAmb	IAmb	19 39 24.0	
	comp=Z,14nm,1.0s						
SKT	Skwentna	57.97	30	P	P	19 39 20.2	+0.8
	baz=259,SNR=5.2						
CAST	Castle Rocks	58.01	28	IAmb	IAmb	19 39 24.9	
	comp=Z,12nm,0.8s						
CAST	Castle Rocks	58.01	28	P	P	19 39 19.8	+0.1
	baz=258,SNR=18						
B20K	Meade River	58.01	20	IAmb	IAmb	19 39 33.2	
	comp=Z,13nm,0.8s						
B20K	Meade River	58.01	20	P	P	19 39 20.1	+0.6
	baz=248						
CHUM	Lake Minchumin	58.01	28	P	P	19 39 20.1	+0.5
	baz=257						
G21K	Allakaket	58.18	25	P	P	19 39 20.9	+0.1
	baz=254						
H21K	Melozitna Rive	58.23	26	P	P	19 39 20.9	-0.3
	baz=255						
SUA	Susitna One	58.24	31	P	P	19 39 21.4	0.0
	baz=260						
F21K	Alatna River	58.39	24	P	P	19 39 22.2	0.0
	baz=254						
I21K	Tanana	58.45	26	P	P	19 39 23.2	+0.6
	baz=256						
C21K	Knifeblade Rid	58.51	22	P	P	19 39 23.6	+0.6
	baz=251						
KTH	Kantishna Hill	58.55	28	IAmb	IAmb	19 39 52.8	
	comp=Z,24nm,1.4s						
E21K	Killik River	58.56	23	P	P	19 39 24.0	+0.6
	baz=253						
BPAW	Bear Paw Mtn.	58.63	28	IAmb	IAmb	19 39 29.5	
	comp=Z,9.3nm,0.9s						
BPAW	Bear Paw Mtn.	58.63	28	P	P	19 39 24.4	+0.4
	baz=258,SNR=10						
SEW	Seward	58.65	33	P	P	19 39 24.5	+0.4
	baz=262						
RC01	Rabbit Creek A	58.66	31	IAmb	IAmb	19 39 28.6	
	comp=Z,13nm,0.9s						
RC01	Rabbit Creek A	58.66	31	P	P	19 39 24.5	+0.3
	baz=261						
B21K	Ikpikpuk River	58.71	21	P	P	19 39 24.8	+0.4
	baz=251						
TRF	Thorofare Moun	58.81	29	P	P	19 39 25.8	+0.4
	baz=259,SNR=13						
H22K	Ishkalitna Cre	58.86	26	P	P	19 39 25.9	+0.3
	baz=257						
KSH	Kashi	58.94	303	P	P	19 39 30.2	+3.5
KSH				S	S	19 47 38.2	+5.2
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
F22K	John River	58.95	24	P	P	19 39 26.5	+0.3
	baz=255						
PMR	Palmer	59.02	31	IAmb	IAmb	19 39 39.0	
	comp=Z,15nm,0.9s						
PMR	Palmer	59.02	31	P	P	19 39 27.1	+0.4
	baz=261						
A22K	Sinclair Lake	59.05	20	P	P	19 39 27.5	+0.8
	baz=250						
D22K	Ayikyak River	59.14	22	IAmb	IAmb	19 40 00.6	
	comp=Z,14nm,0.9s						
D22K	Ayikyak River	59.14	22	P	P	19 39 27.8	+0.4
	baz=254,SNR=9.2						
GHO	Glory Hole Cre	59.15	31	IAmb	IAmb	19 39 47.2	
	comp=Z,14nm,0.9s						
E22K	Anaktuvuk Pass	59.25	23	IAmb	IAmb	19 39 43.1	
	comp=Z,14nm,1.2s						
E22K	Anaktuvuk Pass	59.25	23	P	P	19 39 27.6	-0.6
	baz=255,SNR=5.8						
PWL	Port Wells	59.30	32	P	P	19 39 28.7	0.0
	baz=262						
KNK	Knik Glacier	59.32	31	P	P	19 39 28.2	-0.6
	baz=262,SNR=8.7						
B22K	Teshekpuk Lake	59.33	20	P	P	19 39 29.2	+0.6
	baz=252						
SML	Sawmill	59.43	31	P	P	19 39 29.2	-0.4
	baz=262,SNR=15						
RND	Reindeer	59.44	29	IAmb	IAmb	19 39 34.0	
	comp=Z,10nm,0.9s						
MCK	McKinley	59.45	28	IAmb	IAmb	19 39 34.4	
	comp=Z,14nm,0.9s						
MCK	McKinley	59.45	28	P	P	19 39 29.5	-0.2
	baz=260,SNR=9.6						
NEA2	Nenana	59.55	27	IAmb	IAmb	19 39 35.7	
	comp=Z,8.7nm,1.0s						
NEA2	Nenana	59.55	27	P	P	19 39 30.3	0.0
	baz=260,SNR=8.5						
G23K	Bananza Creek	59.58	25	P	P	19 39 31.0	+0.5
	baz=258						
COLD	Coldfoot	59.63	24	IAmb	IAmb	19 39 45.0	
	comp=Z,8.3nm,0.9s						
COLD	Coldfoot	59.63	24	P	P	19 39 31.3	+0.6
	baz=257,SNR=6.0						
M23K	Glacier View	59.72	31	P	P	19 39 31.7	+0.2
	baz=262,SNR=5.7						
AAK	Ala-Archa	59.78	307	P	P	19 39 32.7	+0.3
AAK	Ala-Archa	59.78	307	*ce*P	P	19 39 34.3	+1.8
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
D23K	Nanushuk River	59.86	22	P	P	19 39 33.1	+0.7
	baz=256						
GLI	Glacier Island	59.91	32	P	P	19 39 32.9	+0.1
	baz=264						
SCM	Sheep Creek Mo	59.91	31	P	P	19 39 33.0	+0.1
	baz=263,SNR=14						
WRH	Wood River Hil	59.94	28	IAmb	IAmb	19 39 55.3	
	comp=Z,18nm,1.5s						
E23K	Chandalar	60.03	23	P	P	19 39 34.4	+0.7
	baz=257						
C23K	Itkillik River	60.11	21	P	P	19 39 34.7	+0.6
	baz=255,SNR=16						
COLA	College	60.11	27	P	P	19 39 35.2	+1.1
	baz=261						
Q23K	Middleton Isla	60.14	34	P	P	19 39 34.7	+0.4
	baz=265						
TOLK	Toolik Lake Re	60.18	23	IAmb	IAmb	19 39 38.8	
	comp=Z,8.7nm,0.9s						
TOLK	Toolik Lake Re	60.18	23	P	P	19 39 35.1	+0.5
	baz=257						
FID	Port Fidalgo	60.19	32	IAmb	IAmb	19 39 38.5	
	comp=Z,12nm,0.7s						
H24K	Noodor Dome	60.26	26	IAmb	IAmb	19 39 41.1	
	comp=Z,13nm,0.9s						
H24K	Noodor Dome	60.26	26	P	P	19 39 35.9	+0.7
	baz=260,SNR=20						
POKR	Poker Plat Res	60.33	27	IAmb	IAmb	19 39 42.8	
	comp=Z,11nm,1.1s						
POKR	Poker Plat Res	60.33	27	P	P	19 39 36.2	+0.6
	baz=261						
HDA	Harding Lake	60.42	28	IAmb	IAmb	19 40 06.3	
	comp=Z,34nm,1.9s						
HDA	Harding Lake	60.42	28	P	P	19 39 37.1	+0.8
	baz=262						
E24K	Your Creek	60.45	24	IAmb	IAmb	19 39 51.5	
	comp=Z,13nm,1.1s						
E24K	Your Creek	60.45	24	P	P	19 39 37.3	+0.8
	baz=258,SNR=12						
M24K	Tolsona, Glenn	60.48	31	P	P	19 39 37.9	+1.0
	baz=264						
IL31		60.50	27	IAmb	IAmb	19 39 40.9	
	comp=Z,14nm,1.1s						
ILAR	Eielson Array	60.50	27	P	P	19 39 35.8	-1.1
ILAR	Eielson Array	60.50	27	P	P	19 39 36.0	-0.8
	comp=Z,7.5nm,0.8s,baz=258,slow=5.7,SNR=32						
ILAR				LR	LR	20 06 48.9	
	comp=Z,210nm,18.9s,baz=250,slow=37						
	comp=Z,7.5nm,0.8s						
ILAR	Eielson Array	60.50	27	P	P	19 39 35.8	-1.1
EYAK	Cordova Ski Ar	60.53	32	P	P	19 39 37.7	+0.7
EYAK	Cordova Ski Ar	60.53	32	P	P	19 39 37.5	+0.4
	baz=265						
KLU	Klutina	60.54	31	IAmb	IAmb	19 39 42.6	
	comp=Z,15nm,0.8s						
KLU	Klutina	60.54	31	P	P	19 39 37.5	+0.3
	baz=264,SNR=11						
D24K	Happy Valley	60.56	22	P	P	19 39 37.5	+0.4
	baz=257						
F24K	Squaw Lake	60.56	24	IAmb	IAmb	19 39 43.5	
	comp=Z,8.4nm,0.9s						
F24K	Squaw Lake	60.56	24	P	P	19 39 37.3	0.0
	baz=259						
G24K	Hadweenzic Riv	60.57	25	P	P	19 39 37.7	+0.4
	baz=260						
DIV	Divide	60.57	32	P	P	19 39 36.2	-1.3
DIV				IAmb	IAmb	19 39 48.6	
	comp=Z,8.7nm,0.8s						
C24K	Franklin Bluff	60.73	22	P	P	19 39 38.5	+0.3
	baz=257						
K24K	Donnelly Dome	60.85	29	P	P	19 39 39.1	-0.2
	baz=263						
PAX	Paxson	60.90	30	IAmb	IAmb	19 39 54.4	
	comp=Z,7.6nm,1.0s						
PAX	Paxson	60.90	30	P	P	19 39 40.3	+0.6
	baz=264						
HYB	Hyderabad	61.06	278	*e*P	P	19 39 40.2	-1.2
G25K	Bearman Lake	61.12	25	P	P	19 39 41.8	+0.8
	baz=261						
BMRM	Bremner River	61.13	32	IAmb	IAmb	19 39 45.4	
	comp=Z,14nm,0.8s						
BMRM	Bremner River	61.13	32	P	P	19 39 41.5	+0.3
	baz=266						
J25K	Salcha River,	61.13	28	P	P	19 39 40.5	-0.7
	baz=263						
H25L	Birch Creek	61.16	26	P	P	19 39 41.5	+0.2
	baz=262						
PRP	Porcupine Dome	61.18	27	P	P	19 39 41.5	-0.1
	baz=262						
N25K	Chitina, Valde	61.18	31	IAmb	IAmb	19 40 25.0	
	comp=Z,13nm,1.4s						
N25K	Chitina, Valde	61.18	31	P	P	19 39 41.2	-0.4
	baz=266						
NWAO	Narrogin (SRO)	61.24	205	LR	LR	20 06 46.2	
	comp=Z,100nm,19.7s,baz=9.5,slow=37						
RIDG	Independent Ri	61.26	29	IAmb	IAmb	19 39 49.6	
	comp=Z,10nm,0.7s						
RIDG	Independent Ri	61.26	29	P	P	19 39 42.0	-0.1
	baz=264,SNR=7.4						
F25K	Christian Rive	61.42	24	IAmb	IAmb	19 39 49.8	
	comp=Z,11nm,1.0s						
F25K	Christian Rive	61.42	24	P	P	19 39 43.4	+0.2
	baz=261						
FYU	Fort Yukon	61.44	25	IAmb	IAmb	19 39 49.3	
	comp=Z,15nm,0.8s						
D25K	Kavik River	61.45	22	P	P	19 39 43.8	+0.5
	baz=260						
BERG	Berg Lake	61.53	33	IAmb	IAmb	19 39 48.5	
	comp=Z,10nm,0.9s						
E25K	Arctic Village	61.53	24	IAmb	IAmb	19 40 04.2	
	comp=Z,13nm,1.1s						
E25K	Arctic Village	61.53	24	P	P	19 39 44.1	+0.3
	baz=261,SNR=12						
GLB	Gilahina Butte	61.54	31	IAmb	IAmb	19 40 11.7	
	comp=Z,24nm,1.4s						
DOT	Dot Lake	61.60	29	IAmb	IAmb	19 39 49.2	
	comp=Z,7.9nm,0.8s						
SCRK	Sand Creek	61.66	29	IAmb	IAmb	19 39 49.7	
	comp=Z,12nm,0.8s						
SCRK	Sand Creek	61.66	29	P	P	19 39 44.5	-0.4
	baz=265,SNR=20						
VRDI	Verde Repeater	61.70	32	P	P	19 39 44.6	-0.7
VRDI				IAmb	IAmb	19 40 04.1	
	comp=Z,16nm,1.4s						
BMAR	Burnt Mountain	61.80	25	P	P	19 39 47.3	+1.6
L26K	Log Cabin Wild	61.87	30	P	P	19 39 46.5	+0.3
	baz=266						
J26L	Joseph Creek	61.89	28	P	P	19 39 46.3	-0.1
	baz=265						
NIL	Nilore	61.91	297	P	P	19 39 47.8	+0.8
NIL	Nilore	61.91	297	P	P	19 39 47.8	+0.8
NIL				pmax	pmax		
	comp=Z,19nm,0.6s						
BVAR	Borovoye Array	61.98	319	P	P	19 39 47.0	-0.1
	comp=Z,16nm,0.6s,baz=89,slow=7.3,SNR=39						
	comp=Z,16nm,0.6s						
M26K	Nabesna, AK	61.99	30	P	P	19 39 46.9	-0.1
	baz=266						
F26K	Sheenjek River	62.01	24	P	P	19 39 47.2	+0.1
	baz=263						
BRVK	Borovoye	62.04	319	P	P	19 39 47.4	-0.1
BRVK				IAmb	IAmb	19 39 52.9	
	comp=Z,14nm,0.8s						
BRVK	Borovoye	62.04	319	*ce*P	P	19 39 48.0	+0.5
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s						
G26K	Porcupine Rive	62.05	25	P	P	19 39 47.4	+0.1
	baz=263,SNR=16						
C26K	Camden Bay	62.05	22	P	P	19 39 47.3	0.0
	baz=261						
I26K	Coal Creek Min	62.14	27	P	P	19 39 48.3	+0.4
	baz=265						
DRK	Karamyk	62.15	304	IAmb	IAmb	19 39 54.6	
	comp=Z,8.0nm,0.8s						
MESA	MESA	62.40	33	P	P	19 39 50.3	+0.3
	baz=269						
C27K	Jago River	62.42	22	P	P	19 39 51.3	+1.5
	baz=262						
K27K	Chicken	62.50	29	P	P	19 39 51.8	+1.4
	baz=266						
M27K	Edge Creek, AK	62.51	30	P	P	19 39 51.1	+0.5
	baz=268						
L27K	Beaver Creek,	62.56	30	P	P	19 39 51.8	+1.0
	baz=267						
KK31	Karatay Array	62.64	308	IAmb	IAmb	19 40 17.0	
	comp=Z,10nm,0.9s						
KKAR	Karatay Array	62.64	308	P	P	19 39 51.4	-0.3
KKAR	Karatay Array	62.64	308	IAmb	IAmb	19 40 17.0	
	comp=Z,6.1nm,0.8s						
KKAR	Karatay Array	62.64	308	P	P	19 39 51.4	-0.3
I27K	Kandik River	62.80	27	P	P	19 39 52.8	+0.4
	baz=266						
G27K	Doyon Strip	62.88	25	P	P	19 39 53.9	+1.0
	baz=265						
H27K	Steamboat Moun	62.88	26	P	P	19 39 53.9	+1.0
	baz=266						
E27K	Coleen River	63.02	24	P	P	19 39 54.4	+0.6
	baz=265						
O28M	Mount Upton	63.28	32	P	P	19 39 55.7	-0.2
	baz=270						
D27M	Malcolm River	63.34	23	P	P	19 39 57.0	+1.1
	baz=265						
YUK8	Steele Glacier	63.48	32	P	P	19 39 57.6	+0.3
	baz=270						
I28M	Miner Creek	63.49	27	IAmb	IAmb	19 40 02.4	
	comp=Z,7.8nm,0.8s						
I28M	Miner Creek	63.49	27	P	P	19 39 58.0	+0.9
	baz=268						
DAWY	Dawson	63.69	29	IAmb	IAmb	19 40 16.9	
	comp=Z,10nm,1.2s						
DAWY	Dawson	63.69	29	P	P	19 39 59.6	+1.3
	baz=269						
E28M	Babbage River	63.81	23	P	P	19 40 00.4	+1.4
	baz=266						
YUK4	Talbot Arm	64.02	32	P	P	19 40 01.1	+0.4
	baz=271						
O29M	Mount Kennedy	64.08	33	P	P	19 40 01.9	+0.8
	baz=271						
M29M	Somme Creek	64

D28M	**Stokes Point**	64.14	23	P	P	19 40 01.9 +0.8
	baz=267					
H29M	**Whitestone**	64.16	26	P	P	19 40 01.4 +0.1
	baz=269,SNR=8.1					
YUK6	**Outpost Mounta**	64.17	32	P	P	19 40 02.6 +0.8
	baz=271					
I29M	**Ogilvie Camp,**	64.17	27	IAmb	IAmb	19 40 11.6
	comp=Z,7.3nm,1.0s					
I29M	**Ogilvie Camp,**	64.17	27	P	P	19 40 02.5 +1.0
	baz=269					
L29M	**L29M**	64.25	30	IAmb	IAmb	19 40 06.9
	comp=Z,6.6nm,0.8s					
L29M	**L29M**	64.25	30	P	P	19 40 02.9 +0.9
	baz=270					
G29M	**Pine Creek**	64.31	25	P	P	19 40 02.9 +0.5
	baz=269					
E29M	**Blow River**	64.40	24	P	P	19 40 03.8 +0.9
	baz=268					
SIMJ	**Simiganj**	64.42	303	P	P	19 40 03.9 +0.2
K29M	**Barlow Dome**	64.51	29	P	P	19 40 05.0 +1.2
	baz=271					
K29M	**Barlow Dome**	64.51	29	ScP	P	19 40 05.4 +1.6
HYT	**Haines Junctio**	64.59	32	IAmb	IAmb	19 40 32.5
	comp=Z,26nm,1.6s					
HYT	**Haines Junctio**	64.59	32	P	P	19 40 05.0 +0.6
	baz=272					
N30M	**Aishikik Lake**	64.77	31	IAmb	IAmb	19 40 11.3
	comp=Z,7.1nm,0.9s					
N30M	**Aishikik Lake**	64.77	31	P	P	19 40 06.5 +1.1
	baz=272					
M30M	**Minto, Yukon**	64.87	30	IAmb	IAmb	19 40 34.0
	comp=Z,11nm,1.4s					
M30M	**Minto, Yukon**	64.87	30	P	P	19 40 07.0 +0.9
	baz=272					
P30M	**Million Dollar**	64.89	33	P	P	19 40 07.5 +1.2
	baz=273					
I30M	**Mount Dempster**	64.98	27	P	P	19 40 07.4 +0.5
	baz=271					
J30M	**Hart River**	65.02	28	P	P	19 40 07.0 -0.2
	baz=271					
G30M	**tAoh Zraii Nji**	65.03	25	P	P	19 40 08.0 +1.0
	baz=270,SNR=8.5					
KBL	**Kabul**	65.17	299	P	P	19 40 08.1 -0.6
KBL	**Kabul**	65.17	299	P	P	19 40 08.1 -0.6
KBL				pmax	pmax	
	comp=Z,23nm,0.8s					
F30M	**Barrier River**	65.19	25	P	P	19 40 09.1 +1.1
	baz=270					
N31M	**Braeburn, Yuko**	65.40	31	IAmb	IAmb	19 40 15.4
	comp=Z,10.0nm,0.8s					
N31M	**Braeburn, Yuko**	65.40	31	P	P	19 40 09.6 +0.1
	baz=273					
G31M	**Satah River**	65.79	25	P	P	19 40 12.0 +0.1
	baz=272					
H31M	**Peel River**	65.81	27	P	P	19 40 12.6 +0.5
	baz=273					
WHY	**Whitehorse**	65.89	32	P	P	19 40 12.8 +0.1
	baz=274					
F31M	**Tsiigehtchic**	65.98	25	IAmb	IAmb	19 40 17.5
	comp=Z,6.3nm,0.8s					
F31M	**Tsiigehtchic**	65.98	25	P	P	19 40 13.1 0.0
	baz=272					
M31M	**Drury Creek, Y**	66.01	31	IAmb	IAmb	19 40 32.0
	comp=Z,7.6nm,1.1s					
M31M	**Drury Creek, Y**	66.01	31	P	P	19 40 13.4 0.0
	baz=274					
INK	**Inuvik**	66.03	24	IAmb	IAmb	19 40 27.0
	comp=Z,17nm,1.3s					
INK	**Inuvik**	66.03	24	P	P	19 40 13.3 -0.1
	baz=272					
R32K	**Eaglecrest**	66.29	35	P	P	19 40 15.8 +0.5
	baz=276					
P32M	**Atlin**	66.57	33	P	P	19 40 17.5 +0.5
	baz=276					
N32M	**Quiet Lake**	66.72	32	P	P	19 40 18.4 +0.4
	baz=276					
P33M	**Teslin, Yukon**	66.95	33	IAmb	IAmb	19 40 37.5
	comp=Z,8.6nm,1.2s					
P33M	**Teslin, Yukon**	66.95	33	P	P	19 40 20.0 +0.4
	baz=276					
SVE	**Sverdlovsk**	67.28	324	*e*P	P	19 40 25.3 +3.7
SVE				pmax	pmax	
	comp=Z,13nm,1.0s					
Q32M	**Nakina River**	67.38	34	P	P	19 40 23.1 +0.6
	baz=277					
MMPY	**Sheldon Lake,**	67.42	30	P	P	19 40 23.0 +0.6
	baz=277					
WRAK	**Wrangell Islan**	67.69	37	P	P	19 40 25.1 +0.9
	baz=278					
R33M	**Jennings River**	67.98	33	P	P	19 40 26.9 +0.7
	baz=278					
S34M	**Telegraph Cree**	68.12	35	IAmb	IAmb	19 40 31.7
	comp=Z,7.8nm,0.9s					
S34M	**Telegraph Cree**	68.12	35	P	P	19 40 27.9 +1.0
	baz=279					
V35K	**Ketchikan**	68.26	38	P	P	19 40 28.8 +1.0
	baz=279					
A36M	**Sachs Harbour**	68.50	20	IAmb	IAmb	19 40 49.6
	comp=Z,8.3nm,0.9s					
A36M	**Sachs Harbour**	68.50	20	P	P	19 40 30.6 +1.6
	baz=278					
ARTI	**Arti**	68.57	323	P	P	19 40 28.3 -1.5
ARTI				IAmb	IAmb	19 40 50.4
	comp=Z,10nm,1.0s					
ARTI	**Arti**	68.57	323	*d*P	P	19 40 29.1 -0.6
ARTI						19 42 56.0
ARTI				S	S	19 49 32.6 +0.5
ARTI				SS	SS	19 53 53.2 -2.5
ARTI				pmax	pmax	
	comp=Z,7.0nm,0.8s					
DLBC	**Dease Lake**	68.61	34	IAmb	IAmb	19 40 57.6
	comp=Z,18nm,1.4s					
DLBC	**Dease Lake**	68.61	34	LR	LR	20 08 15.7
	comp=Z,198nm,21.4s,baz=270,slow=34					
DLBC	**Dease Lake**	68.61	34	P	P	19 40 30.8 +0.7
	baz=279					
T35M	**Bob Quinn**	68.74	36	P	P	19 40 32.3 +1.5
	baz=280					
RTZ	**Ruatahuna**	68.84	153	P	P	19 40 31.5 -0.1
TGTN	**Hyland Airport**	68.97	31	P	P	19 40 32.7 +0.6
	baz=280					
BKZ	**Black Stump Fm**	69.10	153	P	P	19 40 33.3 +0.1
C36M	**Paulatuk**	69.32	22	IAmb	IAmb	19 40 39.0
	comp=Z,8.6nm,0.8s					
C36M	**Paulatuk**	69.32	22	P	P	19 40 34.5 +0.4
	baz=280					
WRGLY	**Wrigley**	70.83	29	IAmb	IAmb	19 40 49.6
	comp=Z,15nm,0.9s					
TOAD	**Toad River Com**	70.99	33	P	P	19 40 45.3 +0.6
	baz=283					
KIRV	**Kirov**	72.80	327	*i*P	P	19 40 56.3 +0.9
SPITS	**Spitsbergen Ar**	74.53	350	LR	LR	20 19 25.1
	comp=Z,93nm,18.1s,baz=17,slow=40					
YKA	**Yellowknife Ar**	74.92	28	P	P	19 41 07.5 -0.3
	comp=Z,5.3nm,0.8s,baz=289,slow=5.9,SNR=31					
YKA				LR	LR	20 13 20.5
	comp=Z,118nm,20.0s,baz=282,slow=35					
RES	**Resolute Bay**	75.55	14	IAmb	IAmb	19 41 31.4
	comp=Z,22nm,2.0s					
RES	**Resolute Bay**	75.55	14	LR	LR	20 18 29.7
	comp=Z,131nm,18.7s,baz=7.5,slow=39					
LVZ	**Lovozero**	75.69	338	P	P	19 41 11.8 -0.4
	comp=Z,47nm,2.5s					
KLMR	**Klimovskoe**	76.75	331	*e*P	P	19 41 20.0 +1.7
KLMR				*e*		19 44 12.0
KLMR				pmax	pmax	
	comp=Z,18nm,1.6s					
H04A	**Detroit Lake**	76.82	47	P	P	19 41 19.2 +0.1
H04A				IAmb	IAmb	19 41 26.4
	comp=Z,10.0nm,1.0s					
LTY	**Liberty**	76.95	44	IAmb	IAmb	19 41 38.0
	comp=Z,15nm,1.6s					
HOOD	**Mount Hood Mea**	76.97	46	IAmb	IAmb	19 41 28.1
	comp=Z,17nm,0.9s					
ARCES	**ARCESS Array B**	77.76	342	P	P	19 41 24.6 +0.8
	comp=Z,6.0nm,0.8s,baz=69,slow=6.8,SNR=7.3					
	comp=Z,6.0nm,0.8s					
PINE	**Pine Mountain**	77.97	48	IAmb	IAmb	19 41 33.1
	comp=Z,11nm,0.9s					
UOSS	**Minazif**	78.55	292	P	P	19 41 28.2 -0.8
UOSS				IAmb	IAmb	19 41 34.6
	comp=Z,9.5nm,0.8s					
NEW	**Newport**	78.83	42	P	P	19 41 29.8 -0.4
NEW	**Newport**	78.83	42	P	P	19 41 29.8 -0.4
NEW				pmax	pmax	
	comp=Z,7.0nm,1.0s					
AKT	**Akhty**	79.38	311	*e*P	P	19 41 31.3 -2.1
AKT				*e*		19 41 39.0
AKT				pmax	pmax	
	comp=Z,8.0nm,0.7s					
VRH	**Novokhopyorsk**	79.50	321	*e*P	P	19 41 31.3 -2.4
VRH				pmax	pmax	
	comp=Z,9.0nm,0.9s					
CMB	**Columbia Colle**	80.43	53	P	P	19 41 39.3 +0.2
CMB	**Columbia Colle**	80.43	53	P	P	19 41 39.3 +0.2
CMB				pmax	pmax	
	comp=Z,7.0nm,0.8s					
VSR	**Storozhevoye**	80.96	322	*e*P	P	19 41 38.2 -3.4
VSR				pmax	pmax	
	comp=Z,9.0nm,1.0s					
NVAR	**Mina Array Bea**	81.80	52	P	P	19 41 47.1 +0.5
NVAR	**Mina Array Bea**	81.80	52	P	P	19 41 46.8 +0.2
	comp=Z,4.2nm,0.8s,baz=265,slow=5.2,SNR=14					
	comp=Z,4.2nm,0.8s					
KBZ	**Khabaz**	81.81	314	P	P	19 41 45.6 -0.6
	comp=Z,12nm,0.8s,baz=132,slow=2.4,SNR=22					
	comp=Z,12nm,0.8s					
KIV	**Kislovodsk**	81.85	314	P	P	19 41 46.8 +0.2
KIV				IAmb	IAmb	19 42 20.7
	comp=Z,11nm,0.9s					
KIV	**Kislovodsk**	81.85	314	*e*P	P	19 41 47.7 +1.1
KIV				pmax	pmax	
	comp=Z,9.0nm,1.1s					
KIV				MLR	MLR	
	comp=Z,170nm,19.0s					
GNI	**Garni**	81.98	310	P	P	19 41 46.8 -0.7
	comp=Z,6.7nm,1.0s					
FINES	**FINESS Array B**	82.15	335	P	P	19 41 47.2 -0.4
	comp=Z,2.1nm,0.4s,baz=66,slow=5.2,SNR=18					
	comp=Z,2.1nm,0.4s					
FINES	**FINESS Array B**	82.15	335	*i*P	P	19 41 47.0 -0.7
FINES				pmax	pmax	
	comp=Z,2.0nm,0.4s					
ELK	**Elko**	83.04	49	P	P	19 41 51.0 -2.1
ELK	**Elko**	83.04	49	P	P	19 41 51.0 -2.1
ELK				pmax	pmax	
	comp=Z,4.0nm,1.0s					
BOZ	**Bozeman (W)**	83.35	43	IAmb	IAmb	19 42 12.2
	comp=Z,14nm,1.9s					
YMR	**Madison River**	84.19	44	IAmb	IAmb	19 42 21.1
	comp=Z,9.6nm,1.1s					
FFC	**Flin Flon**	84.31	32	P	P	19 41 58.9 -0.1
FFC				IAmb	IAmb	19 42 25.3
	comp=Z,10nm,1.0s					
FFC	**Flin Flon**	84.31	32	P	P	19 41 58.9 -0.1
FFC				pmax	pmax	
	comp=Z,10.0nm,1.0s					
DUG	**Dugway, Tooele**	84.95	48	IAmb	IAmb	19 42 07.0
	comp=Z,29nm,1.9s					
JLU	**Jordanelle**	85.70	48	IAmb	IAmb	19 42 26.6
	comp=Z,18nm,1.5s					
PDAR	**Pinedale Array**	85.97	45	P	P	19 42 07.8 -0.1
	comp=Z,0.7nm,0.8s,baz=273,slow=1.4,SNR=6.2					
	comp=Z,0.7nm,0.8s					
AKASG	**Malin Array Be**	86.69	325	P	P	19 42 08.9 -2.1
	comp=Z,0.7nm,0.4s,baz=51,slow=4.8,SNR=12					
	comp=Z,0.7nm,0.4s					
AKASG	**Malin Array Be**	86.69	325	*i*P	P	19 42 10.0 -0.9
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.5s					
AK09	**Malin Array Si**	86.70	325	P	P	19 42 10.4 -0.6
SRU	**San Rafael Swe**	87.01	49	IAmb	IAmb	19 42 16.8
	comp=Z,27nm,1.9s					
MI28	**MI28,Pidlybu**	87.38	325	P	P	19 42 13.2 -1.1
HFS	**Hagfors**	87.64	337	P	P	19 42 13.6 -1.8
	comp=Z,1.4nm,0.5s,baz=79,slow=7.6,SNR=4.6					
	comp=Z,1.4nm,0.5s					
NB2	**NORSAR Subarra**	87.83	339	P	P	19 42 14.7 -1.6
	comp=Z,9.3nm,1.1s,baz=47,slow=4.6					
NB2	**NORSAR Subarra**	87.83	339	P	P	19 42 14.7 -1.6
	baz=47,slow=4.6					
NOA	**NORSAR Array B**	87.83	339	P	P	19 42 15.1 -1.2
	comp=Z,3.1nm,0.9s,baz=52,slow=4.3,SNR=8.3					
	comp=Z,3.1nm,0.9s					
RAYN	**Ar Rayn**	88.12	295	P	P	19 42 18.1 -0.4
RAYN	**Ar Rayn**	88.12	295	P	P	19 42 18.1 -0.4
RAYN				pmax	pmax	
	comp=Z,15nm,1.2s					
BRTR	**Keskin Array B**	89.79	314	P	P	19 42 24.4 -1.8
BRTR	**Keskin Array B**	89.79	314	P	P	19 42 24.7 -1.4
	comp=Z,1.6nm,0.8s,baz=103,slow=2.9,SNR=6.9					
	comp=Z,1.6nm,0.8s					
BRTR	**Keskin Array B**	89.79	314	*i*P	P	19 42 24.1 -2.0
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.9s					
SDCO	**Great Sand Dun**	91.12	48	IAmb	IAmb	19 43 22.9
	comp=Z,16nm,1.9s					
MMAI	**Mount Meron Ar**	91.87	307	P	P	19 42 34.0 -1.8
	comp=Z,1.0nm,0.6s,baz=64,slow=6.6,SNR=2.6					
	comp=Z,1.0nm,0.6s					
TXAR	**Lajitas Array**	96.74	54	P	P	19 42 59.0 +0.7
	comp=Z,0.2nm,0.5s,baz=331,slow=6.5,SNR=2.0					
	comp=Z,0.2nm,0.5s					
SYO	**Syowa Base**	116.48	203⇑	*e*PKPdf	PKPdf	19 48 09.6 -0.6
TROLL	**Troll, Antarti**	126.47	194	⇑P	Pdif	19 45 15.6 +6.1
	comp=Z,130nm,0.6s					
TORD	**Torodi Ar. Bea**	128.29	310	PKP	PKPdf	19 48 34.0 -0.6
	comp=Z,47nm,1.1s,baz=38,slow=2.6,SNR=2.2					
VNA2	**Neumayer--Watz**	129.35	192	⇑P	Pdif	19 45 25.2 +3.0
	comp=Z,31nm,0.7s,baz=135,slow=2.9					
VNA3	**Neumayer Olymp**	129.50	191	⇑P	Pdif	19 45 25.7 +2.8
	comp=Z,20nm,0.8s					
VNA1	**Neumayer--Stat**	129.74	192	⇑P	Pdif	19 45 25.9 +1.9
	comp=Z,20nm,0.9s					
LL02	**Futaleuf**	144.42	133	PKPdf	PKPdf	19 49 05.5 +2.0
BOAV	**Boa Vista**	145.26	46		PKPdf	19 49 08.0 +2.2
PLCA	**Paso Flores**	146.23	129		PKPab	19 49 09.0 +0.4
PLCA	**Paso Flores**	146.23	129	PKPbc	PKPbc	19 49 08.2 +0.3
	comp=Z,17nm,0.8s,baz=252,slow=2.2,SNR=15					
PLCA	**Paso Flores**	146.23	129	PKP2	PKPab	19 49 09.0 +0.4
BI02	**San Fabin de**	146.91	122		PKPbc	19 49 10.2 +0.2
BO01	**Tunca**	147.56	118		PKPab	19 49 14.5 +0.6
BO02	**Sierra Bellavi**	147.72	119	PKPab	PKPbc	19 49 13.6 +1.3
PEL	**Peldehue**	148.10	116	PKPab	PKPab	19 49 16.6 +0.4
PEL	**Peldehue**	148.10	116	PKP2	PKPab	19 49 16.6 +0.4
LPAZ	**La Paz**	149.20	83	PKPbc	PKPbc	19 49 16.4 -0.8
	comp=Z,7.4nm,0.6s,baz=8.2,slow=1.4,SNR=14					

*IDC **06** 19:36:25.1±1.1,23°.17N×143°.84E,h0km,mb3.7/8, mbtmp3.7/9,ML3.0/1,Error ellipse: s-maj=37.8km s-min=21.7km az=83.0*

ISC 06 19:36:27.2±1.0,23°.3N±0°.1×143°.7E±0°.2,h10km,n12, σ1§57/12,mb3.6/10,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	4.02	341	Pn	Pn	19 37 23.7	-5.1
	6.9nm,0.3s,baz=288,slow=21,SNR=1.9						
JCJ				Sn	Sn	19 38 12.5	-3.5
	16nm,0.3s,baz=300,slow=24,SNR=1.5						
MJAR	**Matsushiro Arr**	14.02	342	Pn	Pn	19 39 47.3	+1.3
	0.1nm,0.3s,baz=158,slow=14,SNR=4.2						
	0.6nm,0.3s						
SONM	**Songino Array**	38.42	319	P	P	19 43 49.8	+0.7
	0.4nm,0.7s,baz=129,slow=8.6,SNR=2.5						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	43.93	193	P	P	19 44 32.9	-1.6
	0.5nm,0.7s,baz=16,slow=9.3,SNR=5.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	47.64	192	P	P	19 45 02.6	-1.1
	0.4nm,0.7s,baz=19,slow=5.9,SNR=2.4						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	53.26	321	P	P	19 45 46.4	+0.5
	0.4nm,0.4s,baz=110,slow=13,SNR=2.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	53.97	312	P	P	19 45 52.9	+1.6
	0.7nm,0.5s,baz=85,slow=9.6,SNR=13						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	56.68	316	P	P	19 46 11.5	+0.7
	0.4nm,0.4s,baz=90,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	60.42	27	P	P	19 46 36.6	0.0
	0.4nm,1.0s,baz=279,slow=6.1,SNR=2.1						
	0.4nm,1.0s						
BVAR	**Borovoye Array**	61.77	319	P	P	19 46 46.6	+0.6
	0.9nm,0.4s,baz=88,slow=9.0,SNR=6.5						
	0.9nm,0.4s						
YKA	**Yellowknife Ar**	74.84	28	P	P	19 48 07.5	-0.2
	0.2nm,0.5s,baz=287,slow=5.8,SNR=3.4						
FINES	**FINESS Array B**	81.94	335	P	P	19 48 47.2	+0.3
	2.9nm,0.9s,baz=46,slow=6.0,SNR=1.9						
	2.9nm,0.9s						

*IDC **06** 19:47:03.5±0.9,3°.47S×145°.05E,h0km,mb4.1/11, mbtmp4.0/14,ML3.2/3,Error ellipse: s-maj=28.4km s-min=17.0km az=97.0*

ISC 06 19:47:07.0±0.7,3°.49S±0°.08×144°.9E±0°.1,h22km,n15, σ0§87/16,mb4.0/12,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	4.33	283	Pn	Pn	19 48 10.4	-1.1
	1.1nm,0.3s,baz=212,slow=16,SNR=5.2						
	8.1nm,0.9s						
PMG	**Port Moresby**	6.28	159	Pn	Pn	19 48 39.1	+0.7
	3.8nm,0.3s,baz=50,slow=5.8,SNR=16						
PMG				Sn	Sn	19 49 49.0	-0.5
	0.7nm,0.3s,baz=145,slow=20,SNR=1.4						
	10nm,0.3s						
WRA	**Warramunga Arr**	19.34	211	P	Pn	19 51 31.7	-0.5
	0.4nm,0.3s,baz=33,slow=11,SNR=13						
	2.1nm,0.7s						
ASAR	**Alice Springs**	22.71	207	P	P	19 52 07.8	+0.2
	1.6nm,0.6s,baz=34,slow=8.1,SNR=30						
	1.6nm,0.6s						
KSRS	**Korea Array**	43.70	340	P	P	19 55 10.6	+0.1
	1.2nm,0.6s,baz=149,slow=9.4,SNR=2.0						
	1.2nm,0.6s						
USRK	**Ussurlysk Ar.**	48.88	348	P	P	19 55 51.5	+0.4
	4.1nm,0.7s,baz=154,slow=8.4,SNR=6.8						
	4.1nm,0.7s						
CMAR	**Chiang Mai Arr**	50.26	297	P	P	19 56 04.1	+2.0
	0.9nm,0.5s,baz=118,slow=6.0,SNR=9.8						
	0.9nm,0.5s						
PETK	**Petropavlovsk-**	57.41	9	P	P	19 56 54.1	+0.2
	1.2nm,0.6s,baz=163,slow=6.1,SNR=4.6						
	1.2nm,0.6s						
MA2	**Magadan**	63.05	3	P	P	19 57 32.2	-0.1
	2.5nm,0.5s,baz=164,slow=4.1,SNR=7.5						
	2.5nm,0.5s						
SEY	**Seymchan**	66.49	4	P	P	19 57 55.1	+0.5
	2.3nm,0.7s,baz=184,slow=6.2,SNR=9.3						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	74.26	321	P	P	19 58 43.1	+0.5
	0.7nm,0.5s,baz=101,slow=8.4,SNR=20						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	75.80	328	P	P	19 58 50.9	-0.4
	0.3nm,0.4s,baz=90,slow=12,SNR=3.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	78.00	323	P	P	19 59 03.7	0.0
	0.2nm,0.3s,baz=105,slow=5.2,SNR=2.2						
BVAR	**Borovoye Array**	83.54	324	P	P	19 59 33.3	0.0
	1.4nm,0.7s,baz=118,slow=5.9,SNR=7.2						
	1.4nm,0.7s						
ILAR	**Eielson Array**	84.02	24	P	P	19 59 33.9	-1.7
	0.8nm,0.7s,baz=252,slow=4.8,SNR=11						
	0.8nm,0.7s						

*NEIC **06** 19:50:33.6±1.6,26°.05N±0°.10×141°.2E±0°.1,h84km±8km, mb4.6/50,Error ellipse: s-maj=19.9km s-min=12.3km az=117.0*

*JMA **06** 19:50:34.2±0.3,26°.2N±0°.5×14°1E±°,h27km±4km,MD4.7/8, MV4.9/8,W OFF OGASAWARA*

JMA Felt I J1 at W OFF OGASAWARA .

*IDC **06** 19:50:35.7±0.7,26°.02N×141°.06E,h114km±5km,mb3.7/19, mbtmp4.0/22,MS3.5/1,Error ellipse: s-maj=16.3km s-min=10.9km az=82.0*

ISC 06 19:50:34.0±0.5,26°.07N±0°.07×141°.25E±0°.08,h100km,n82, σ1§44/80,mb4.5/48,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	1.00	56	P	Pn	19 50 54.0	-0.5
JHH2				*e*S	Sn	19 51 08.0	-1.9
JHH2	**Haha-jima-NKT2**	1.00	56	A	A	19 50 54.0	
	comp=N,46nm,0.4s,comp=E,81nm,0.4s						
CBIJ	**Chichi jima**	1.32	39	P	Pn	19 50 58.1	0.0
CBIJ				S	Sn	19 51 15.8	-0.6
CBIJ	**Chichi jima**	1.32	39	A	A	19 50 58.1	
	comp=N,15nm,1.9s,comp=E,20nm,0.4s						
JCJ	**Chichijima**	1.32	39	Pn	Pn	19 50 58.1	-0.1
JCJ				Sn	Sn	19 51 13.7	-2.7
JCJ	**Chichijima**	1.32	39	P	Pn	19 50 52.0	-6.1
	comp=E,2μm,0.4s,baz=178,slow=3.0,SNR=147						
JCJ				S	Sn	19 51 09.2	-7.2
	comp=E,3μm,0.4s,baz=267,slow=21,SNR=15						
MJAR	**Matsushiro Arr**	10.76	347	P	Pn	19 53 08.0	+3.0
	comp=E,1.5nm,0.7s,baz=150,slow=9.3,SNR=9.4						
JMM	**Marumori**	11.77	358	Pn	Pn	19 53 18.3	-0.3
KSRS	**Korea Array**	16.02	318	P	P	19 54 14.1	-0.9
	comp=E,0.8nm,0.8s,baz=133,slow=12,SNR=1.3						
ASAJ	**Asahikawa**	18.04	3	P	Pn	19 54 40.5	+2.4
	comp=E,2.4nm,0.6s,baz=190,slow=6.4,SNR=6.6						
ASAJ				S	S	19 57 56.8	-2.1
	comp=E,2.3nm,0.8s,baz=21,slow=19,SNR=1.5						
TGY	**Tagaytay City**	22.45	242	LR	LR	20 03 59.5	
	comp=E,107nm,19.2s,baz=132,slow=36						
KLR	**Kul'dur**	24.27	345	P	P	19 55 41.6	-0.2
	comp=E,0.9nm,0.6s,baz=132,slow=9.7,SNR=4.3						
	comp=E,0.9nm,0.6s						
H11S3	**WAKE ISLAND Hy**	24.69	103	T	T	20 21 02.8	
	SNR=0.5						
SONM	**Songino Array**	34.89	318	P	P	19 57 13.8	-2.2
	comp=E,0.2nm,0.4s,baz=116,slow=9.9,SNR=4.6						
SONM				PcP	PcP	19 59 46.3	-0.3
	comp=E,0.3nm,0.7s,baz=129,slow=3.9,SNR=2.0						
	comp=E,0.2nm,0.4s						
SEY	**Seymchan**	37.59	8	P	P	19 57 39.4	+0.8
	comp=E,1.4nm,0.6s,baz=192,slow=7.2,SNR=7.0						
SEY				pP	pwP	19 58 05.0	+0.1
	comp=E,2.2nm,0.7s,baz=183,slow=10,SNR=3.8						
	comp=E,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	39.74	268	P	P	19 57 56.3	-0.8
	comp=E,0.4nm,0.4s,baz=60,slow=7.8,SNR=4.6						
CMAR				PcP	PcP	19 59 59.7	-2.1
	comp=E,0.3nm,0.3s,baz=100,slow=9.7,SNR=4.1						
	comp=E,0.4nm,0.4s						
COEN	**Coen**	39.83	177	P	P	19 57 57.9	+0.2
COEN				IAmb	IAmb	19 58 00.0	
	comp=Z,8.3nm,1.2s						
WB0	**Warramunga Arr**	46.05	189	P	P	19 58 46.9	-0.9
WR0	**Warramunga Arr**	46.21	189	P	P	19 58 48.2	-1.0
WRAB	**Tennant Creek**	46.22	189	P	P	19 58 48.4	-0.8
WB2	**Warramunga Arr**	46.22	189	P	P	19 58 48.7	-0.6
WRA	**Warramunga Arr**	46.23	189	P	P	19 58 48.1	-1.1
WRA	**Warramun

D23K	Nanushuk River	58.07	23	IAmb	IAmb	20 00 48.2
	comp=Z,5.4nm,0.8s					
BVAR	Borovoye Array	58.23	318	P	P	20 00 17.6 -0.2
	comp=Z,2.8nm,0.5s,baz=88,slow=6.6,SNR=14					
	comp=Z,2.8nm,0.5s					
C23K	Itkillik River	58.26	22	IAmb	IAmb	20 00 23.3
	comp=Z,9.7nm,1.2s					
DRK	Karamyk	58.59	302	P	P	20 00 21.5 +0.6
DRK				IAmb	IAmb	20 00 23.3
	comp=Z,2.9nm,0.7s					
D24K	Happy Valley	58.76	23	IAmb	IAmb	20 00 52.7
	comp=Z,4.6nm,0.8s					
C24K	Franklin Bluff	58.89	23	IAmb	IAmb	20 00 53.2
	comp=Z,6.1nm,0.8s					
KK31	Karatay Array	59.01	306	P	P	20 00 23.9 +0.6
KK31				IAmb	IAmb	20 00 25.0
	comp=Z,3.4nm,0.7s					
KKAR	Karatay Array	59.01	306	P	P	20 00 23.8 +0.4
IL31		59.01	28	P	P	20 00 23.4 +0.5
IL31				IAmb	IAmb	20 00 52.6
	comp=Z,3.6nm,0.8s					
ILAR	Eielson Array	59.01	28	P	P	20 00 23.6 +0.6
ILAR	Eielson Array	59.01	28	P	P	20 00 23.8 +0.8
	comp=Z,2.0nm,0.9s,baz=258,slow=5.5,SNR=12					
ILAR				pP	pwP	20 00 51.4 +0.2
	comp=Z,3.8nm,0.9s,baz=259,slow=5.6,SNR=12					
	comp=Z,2.0nm,0.9s					
D25K	Kavik River	59.65	23	IAmb	IAmb	20 00 30.3
	comp=Z,3.4nm,0.7s					
GAR	Garm	59.81	302	P	P	20 00 29.7 +0.6
E25K	Arctic Village	59.82	25	P	P	20 00 31.2 +2.7
E25K				IAmb	IAmb	20 00 31.8
	comp=Z,2.7nm,0.6s					
DOT	Dot Lake	60.19	30	P	P	20 00 32.4 +1.2
DOT				IAmb	IAmb	20 01 01.4
	comp=Z,6.8nm,0.8s					
SCRK	Sand Creek	60.23	29	P	P	20 00 32.6 +1.1
C27K	Jago River	60.61	23	IAmb	IAmb	20 00 37.1
	comp=Z,3.9nm,0.9s					
SIMJ	Simiganj	60.88	301	P	P	20 00 37.2 +0.9
E28M	Babbage River	62.08	24	IAmb	IAmb	20 00 47.8
	comp=Z,4.4nm,0.9s					
M29M	Somme Creek	62.78	31	IAmb	IAmb	20 00 52.7
	comp=Z,9.8nm,1.4s					
G30M	tAoh Zraii Nji	63.40	26	IAmb	IAmb	20 01 24.1
	comp=Z,6.4nm,1.0s					
H31M	Peel River	64.26	27	IAmb	IAmb	20 01 00.9
	comp=Z,5.6nm,0.8s					
WRGLY	Wrigley	69.39	29	P	P	20 01 32.5 +1.8
WRGLY				IAmb	IAmb	20 01 33.5
	comp=Z,6.8nm,0.8s					
YKA	Yellowknife Ar	73.44	28	P	P	20 01 56.4 +1.2
	comp=Z,4.1nm,0.7s,baz=296,slow=6.1,SNR=47					
YKA				pP	pwP	20 02 24.8 +0.9
	comp=Z,2.9nm,0.9s,baz=291,slow=5.5,SNR=7.8					
ARCES	ARCESS Array B	74.23	341	P	P	20 02 00.0 +0.3
	comp=Z,3.6nm,0.8s,baz=72,slow=7.8,SNR=8.5					
	comp=Z,3.6nm,0.8s					
B08A	Colville Reser	76.85	43	P	P	20 02 16.3 +1.2
KBZ	Khabaz	78.09	313	P	P	20 02 21.8 -0.2
	comp=Z,1.9nm,0.8s,baz=136,slow=6.8,SNR=3.7					
	comp=Z,1.9nm,0.8s					
FINES	FINESS Array B	78.49	334	P	P	20 02 23.6 -0.2
	comp=Z,2.3nm,0.5s,baz=68,slow=5.3,SNR=17					
	comp=Z,2.3nm,0.5s					
FINES	FINESS Array B	78.49	334	P	P	20 02 23.6 -0.2
BMO	Blue Mountains	79.62	45	P	P	20 02 31.8 +1.3
NVAR	Mina Array Bea	81.81	51	P	P	20 02 44.0 +1.5
	comp=Z,1.0nm,0.6s,baz=296,slow=7.0,SNR=5.5					
NVAR				pP	pwP	20 03 11.7 -0.2
	comp=Z,0.9nm,0.6s,baz=311,slow=5.0,SNR=3.2					
	comp=Z,1.0nm,0.6s					
AKASG	Malin Array Be	82.94	324	P	P	20 02 47.1 -0.6
	comp=Z,2.3nm,0.7s,baz=52,slow=5.4,SNR=12					
	comp=Z,2.3nm,0.7s					
FFC	Flin Flon	83.05	31	P	P	20 02 48.9 +0.6
YFT	Old Faithful	83.87	43	IAmb	IAmb	20 02 58.3
	comp=Z,5.3nm,0.9s					
HFS	Hagfors	84.03	336	P	P	20 02 52.1 -1.1
	comp=Z,2.1nm,0.5s,baz=76,slow=6.1,SNR=10					
	comp=Z,2.1nm,0.5s					
HFS	Hagfors	84.03	336	P	P	20 02 52.1 -1.1
H17A	Grant Village	84.06	43	IAmb	IAmb	20 02 58.8
	comp=Z,9.0nm,1.2s					
NOA	NORSAR Array B	84.25	338	P	P	20 02 53.4 -0.9
	comp=Z,1.4nm,0.5s,baz=41,slow=5.0,SNR=9.5					
	comp=Z,1.4nm,0.5s					
HWUT	Hardware Ranch	84.85	46	P	P	20 02 59.6 +1.7
HWUT				IAmb	IAmb	20 03 00.6
	comp=Z,6.3nm,1.1s					
PDAR	Pinedale Array	85.53	44	P	P	20 03 02.8 +1.4
	comp=Z,1.5nm,0.8s,baz=289,slow=2.2,SNR=12					
PDAR				pP	pwP	20 03 31.6 +0.9
	comp=Z,1.1nm,0.9s,baz=242,slow=3.2,SNR=3.6					
	comp=Z,1.5nm,0.8s					
BRTR	Keskin Array B	86.08	313	P	P	20 03 03.4 -0.6
	comp=Z,0.7nm,0.7s,baz=83,slow=4.6,SNR=2.9					
	comp=Z,0.7nm,0.7s					
TORD	Torodi Ar. Bea	124.61	310	PKP	PKPdf	20 09 21.8 -0.8
	comp=Z,91nm,0.3s,baz=20,slow=3.5,SNR=5.3					
PLCA	Paso Flores	149.88	127	PKPbc	PKPbc	20 10 12.5 -0.2
	comp=Z,1.7nm,0.6s,baz=211,slow=8.4,SNR=3.9					
LPAZ	La Paz	150.99	76	PKPbc	PKPbc	20 10 16.6 -0.1
	comp=Z,4.8nm,0.7s,baz=249,slow=3.0,SNR=12					

*BJI **06** 19:54:08.6, 17°.64N×39°.80E, h19km, mB5.4/15, mb4.7/55, Ms4.9/24, Ms7 4.8/25*
*IDC **06** 19:54:09.3±0.7, 17°.68N×40°.17E, h0km, mb4.4/24, mbtmp4.4/29, ML3.5/5, MS4.3/30, Error ellipse: s-maj=15.0km s-min=11.2km az=3.0*
*SGS **06** 19:54:10.6, 17°.85N×40°.23E, h16km, Ml4.0*
*MOS **06** 19:54:10.4±1.2, 17°.87N×40°.23E, h13km, mb5.0/52, MS4.3/6, Error ellipse: s-maj=8.3km s-min=4.1km az=84.2*
*GCMT **06** 19:54:12.1±0.3, 17°.62N±0°.03×40°.29E±0°.03, h12km±1km, MW5.1/85, Moment Tensor Solution. s17,c22; s85,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.94±.31; $M_{\theta\theta}$0.59±.18; $M_{\phi\phi}$3.36±.24; $M_{r\theta}$-3.95±.76; $M_{\phi\phi}$-1.89±.15; $M_{\phi r}$-3.17±.69; Best double couple: $M_0$6.05100×10^{16} NP1:ϕ_s133.00000°, δ40.00000°, λ-143.00000°. NP2: ϕ_s13.00000°, δ67.00000°, λ-56.00000°. Principal axes: T 4.6170, Plg15.0000°, Azm79.0000°; N 2.8750, Plg31.0000°, Azm178.0000°; P -7.4850, Plg55.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 19:54:12.1±1.8, 17°.92N±0°.06×40°.23E±0°.08, h10km±1km, mb5.0/83, Mww5.0/7 Error ellipse: s-maj=13.6km s-min=10.4km az=256.0*
*NEIC **06** 19:54:13.5, 18°.41N×40°.00E, h12km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.79; $M_{\theta\theta}$0.44; $M_{\phi\phi}$2.34; $M_{r\theta}$1.34; $M_{\theta\phi}$-2.12; $M_{\phi r}$-2.02; Fault plane solution: $M_0$4.06000×10^{16} NP1: ϕ_s147.70000°, δ26.65000°, λ-89.02000°. NP2: ϕ_s326.61000°, δ63.35000°, λ-90.49000°. Principal axes: T 4.5204, Plg18.0000°, Azm57.0000°; N -0.9302, Plg0.0000°, Azm327.0000°; P -3.5902, Plg72.0000°, Azm236.0000°;*
*NEIC **06** 19:54:13.5, 17°.91N×40°.23E, h12km*
*DSN **06** 19:54:17.9±2.8, 18°.29N×40°.48E, h10km, mb5.0/13, Error ellipse: s-maj=41.0km s-min=11.4km az=20.0*
*GII **06** 19:54:23.5±0.0, 18°.561N±0°.002×39°.879E±0°.001, h10km, confirmed*

ISC 06 19:54:11.6±0.3, 17°.86N±0°.03×40°.19E±0°.04, h10km, n427, σ1§72/430, mb4.8/127, MS4.4/35, 34C-5D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRK01	Al Birk	1.36	73	P	Pn	19 54 33.4	-3.3
AMGES	AMGES	1.41	65	P	Pn	19 54 33.7	-3.7
BRK03	Al Birk	1.65	79	P	Pn	19 54 37.4	-3.2
BRK03	Al Birk	1.65	79	S	Sn	19 54 56.9	-5.0
QNF02	Al Qunfudhah	1.71	46	P	Pn	19 54 37.9	-3.6
BRK04	Al Birk	1.72	63	P	Pn	19 54 38.5	-3.1
FRSS2	Sair Farasan I	1.83	123	S	Sn	19 55 02.3	-4.0
FRSS2	Sair Farasan I	1.83	123	P	Pn	19 54 39.6	-3.5
QNF01	Al Qunfudhah	1.84	34	P	Pn	19 54 40.4	-2.8
DRBS	Ad Darb	2.01	91	P	Pn	19 54 42.2	-3.4
DRBS	Ad Darb	2.01	91	S	Sn	19 55 06.6	-4.2
FRSS	Farasan al Kab	2.15	121	S	Sn	19 55 09.0	-5.3
FRSS	Farasan al Kab	2.15	121	P	Pn	19 54 44.1	-3.5
ASIR3	ASIR3	2.23	68	P	Pn	19 54 47.0	-1.9
MKHL	Mahalah	2.42	101	P	Pn	19 54 47.5	-3.8
AKWA	Algayed	2.47	104	S	Sn	19 55 17.2	-4.9
AKWA	Algayed	2.47	104	P	Pn	19 54 48.8	-3.0
ENMS	ENMS	2.56	62	P	Pn	19 54 52.2	-1.2
BESHS	BESHS	2.57	101	P	Pn	19 54 50.0	-3.3
ASIR1	ASIR1	2.70	74	P	Pn	19 54 54.5	-0.8
JAZS	Jizan	2.72	106	P	Pn	19 54 51.7	-3.6
GHMGH	GHMGH	2.72	6	P	Pn	19 54 52.8	-2.6
ASIR2	ASIR2	2.94	85	P	Pn	19 54 58.0	-0.7
KNGHS	KNGHS	3.17	82	P	Pn	19 55 00.6	-1.1
FRAS	Faraa	3.19	5	P	Pn	19 54 60.0	-2.1
NJRNS	Najran	3.82	93	P	Pn	19 55 10.0	-0.6
ATD	Arta Tunnel	6.80	157	Pn	Pn	19 55 51.7	+0.1
ATD	Arta Tunnel	6.80	157	Pn	Pn	19 55 52.9	+1.4
	0.2nm,0.3s,baz=356,slow=10.0,SNR=7.3					
ATD				Sn	Sn	19 57 08.5	-0.6
	baz=251,slow=22,SNR=0.9					
RAYN	Ar Rayn	7.51	41	Pn	Pn	19 56 00.1	-1.2
RAYN	Ar Rayn	7.51	41	P	Pn	19 56 00.1	-1.2
RAYN	Ar Rayn	7.51	41	P	Pn	19 56 00.3	-1.0
SMRA	Abu-Samra	12.04	54	P	Pn	19 57 08.0	+4.6
SMRA				S	Sn	19 59 27.2	+9.4
ABTO	Aybut	12.51	90	P	Pn	19 57 13.7	+3.9
ABTO				S	Sn	19 59 34.7	+5.4
EIL	Elat	12.69	339	Pn	Pn	19 57 13.1	+0.9
	0.2nm,0.3s,baz=169,slow=14,SNR=4.7					
EIL				Sn	Sn	19 59 37.9	+4.2
	0.2nm,0.3s,baz=59,slow=22,SNR=1.9					
EIL				LR	LR	20 01 13.7	
	comp=Z,1μm,19.7s,baz=206,slow=33					
	3.9nm,1.1s					
EIL	Elat	12.69	339	P	Pn	19 57 13.6	+1.3
WHFO	Wadi Hawf	12.93	88	P	Pn	19 57 20.2	+4.6
WHFO				S	Sn	19 59 45.9	+6.3
HRFI	Mount Harif	13.00	340	P	Pn	19 57 17.9	+1.4
DOK	Doka	13.26	85	P	P	19 57 25.8	-4.2
PRNI	Paran	13.30	340	P	Pn	19 57 22.3	+1.8
ZFRI	Zfri	13.43	341	P	Pn	19 57 24.3	+2.0
MZR	Muzera	13.46	65	P	P	19 57 30.1	-2.1
	SNR=9.2					
MZR	Muzera	13.46	65	*i* P	Pn	19 57 24.6	+1.8
	SNR=7.6					
JRN	Qarnain Island	13.73	57	P	P	19 57 34.7	-0.4
KZIT	Kziot	14.01	339	P	Pn	19 57 31.8	+1.6
GHAJ	Ghor Haditha	14.02	343	Pn	Pn	19 57 26.4	-4.0
GHAJ	Ghor Haditha	14.02	343	P	Pn	19 57 32.1	+1.7
MZWR	Madinat Zayed	14.08	63	P	P	19 57 38.5	-0.4
YTIR	Yattir	14.21	342	P	Pn	19 57 34.8	+1.8
DSI	Dead Sea	14.33	343	P	Pn	19 57 36.9	+2.3
ASF	Jabal al Asfar	14.56	349	Pn	Pn	19 57 40.2	+2.4
	0.2nm,0.3s,baz=244,slow=5.4,SNR=5.7					
ASF				Sn	Sn	20 00 23.7	+4.4
	0.3nm,0.3s,baz=206,slow=8.7,SNR=1.1					
ASF				LR	LR	20 02 40.7	
	comp=Z,562nm,21.9s,baz=225,slow=35					
	2.4nm,0.8s					
UMZA	Um Al Zommool	14.85	69	P	P	19 57 48.0	+0.4
HMDT	Nahal Hemdat	14.94	344	P	Pn	19 57 44.4	+1.5
LODK	Lodwar	15.11	199	Pn	Pn	19 57 46.8	+1.4
MMLI	Mount Malkishu	15.14	344	P	Pn	19 57 47.1	+1.5
AJN	Ajban	15.31	62	P	P	19 57 53.2	+0.4
OFRI	Ofer	15.43	343	P	P	19 57 51.8	-2.2
BLGI	Bet Lehem HaGe	15.48	344	P	P	19 57 52.3	-2.2
KSHT	Keshet	15.56	346	P	Pn	19 57 52.9	+1.7
ASUD	Al Ashush, Dub	15.63	62	P	P	19 57 56.0	-0.2
	SNR=5.5					
ASUD	Al Ashush, Dub	15.63	62	*i* P	Pn	19 57 51.3	-0.7
	SNR=5.9					
MMA0B	Mount Meron ar	15.69	345	P	Pn	19 57 54.5	+1.6
MMAI	Mount Meron Ar	15.69	345	Pn	Pn	19 57 54.2	+1.4
	0.4nm,0.3s,baz=152,slow=11,SNR=9.0					
MMAI				Sn	Sn	20 00 48.1	+1.2
	0.4nm,0.3s,baz=292,slow=35,SNR=1.1					
MMAI				LR	LR	20 03 23.7	
	comp=Z,794nm,19.1s,baz=160,slow=35					
	0.9nm,0.4s					
MMC7	Mount Meron ar	15.70	345	P	P	19 57 55.1	-2.0
ALNE	Al Ain	15.78	64	P	P	19 57 59.0	+1.0
	SNR=38					
ALNE				S	S	20 01 01.2	-2.6
ALNE	Al Ain	15.78	64	*i* P	Pn	19 57 54.9	+0.9
	SNR=12					
HNTI	Hanita	15.81	344	P	Pn	19 57 55.9	+1.5
GEM	Giv'at Ha'Em	15.82	346	P	P	19 57 56.3	-2.0
NATI	Neve Ativ	15.85	346	P	Pn	19 57 56.6	+1.8
FAQ	Al Faqa, Dubai	15.89	62	P	P	19 58 00.7	+1.5
	SNR=9.4						
NAZ	Nazwa, Dubai	16.05	61	P	P	19 58 01.7	+0.9
	SNR=6.1						
NAZ	Nazwa, Dubai	16.05	61	*i* P	Pn	19 57 58.4	+0.9
	SNR=6.7						
ARQ	Araqi	16.23	68	P	P	19 58 03.7	+0.8
ARQ				S	S	20 01 08.1	-4.9
ASHO	Ashiyiah	16.26	63	P	P	19 58 04.5	+1.2
	SNR=47						
ASHO	Ashiyiah	16.26	63	*i* P	Pn	19 58 01.6	+1.3
	SNR=35						
HATD	Hatta, Dubai	16.38	62	P	P	19 58 06.0	+1.4
	SNR=42						
HATD				S	S	20 01 12.0	-4.1
HATD	Hatta, Dubai	16.38	62	*i* P	P	19 58 03.2	-1.4
	SNR=26						
SOHO	SOHO	16.48	65	P	P	19 58 06.9	+1.2
SOHO	SOHO	16.48	65	*i* P	Pn	19 58 02.8	-0.2
	SNR=16						
UOSS	Minazif	16.48	62	Pn	Pn	19 58 02.2	-0.8
UOSS				IAmb	IAmb	19 58 09.9	
	comp=Z,57nm,0.9s						
UOSS	Minazif	16.48	62	P	P	19 58 07.3	+1.5
UOSS				S	S	20 01 17.1	-1.1
UOSS	Minazif	16.48	62	*i* P	Pn	19 58 03.6	+0.5
	SNR=25						
DQM	DQM	16.55	80	P	P	19 58 08.0	+1.6
DQM				S	S	20 01 16.8	-2.7
MSFE	Esma-Masafi	16.61	61	*i* P	Pn	19 58 05.3	+0.6
	SNR=12						
MASF	Masafi	16.61	61	P	P	19 58 06.1	-1.1
	SNR=16						
MASF				S	S	20 01 22.3	+1.4
BSY	Bisya	16.67	70	P	P	19 58 07.1	-0.8
	SNR=16						
BSY				S	S	20 01 22.8	+0.7
MDH	Madha	16.70	61	P	P	19 58 09.0	+0.9
	SNR=19						
MDH				S	S	20 01 24.5	+1.9
MDH	Madha	16.70	61	*i* P	Pn	19 58 06.5	+0.7
	SNR=20						
SHME	Shamm	16.88	58	P	P	19 58 11.3	+1.2
	SNR=6.3						
SHME				S	S	20 01 28.4	+2.2
SHME	Shamm	16.88	58	*i* P	Pn	19 58 07.8	-0.3
	SNR=7.9						
HOQ	Hoqain	16.99	68	P	P	19 58 13.0	+1.6
	SNR=33						
HOQ				S	S	20 01 28.9	+0.3
MHTO	MHTO	17.05	77	P	P	19 58 11.5	-0.5
MHTO				S	S	20 01 29.5	-0.4
JMDO	Jabal Madar	17.41	72	P	P	19 58 16.0	0.0
	SNR=22						
SMDO	Samad	17.51	70	P	P	19 58 19.0	+1.7
	SNR=22						
BIDO	Bidbid	17.69	68	P	P	19 58 23.0	+3.9
	SNR=8.0						
WSAR	Wadi Sarin	18.07	70	P	Pn	19 58 22.4	-0.5
	comp=Z,0.2nm,0.3s,baz=261,slow=6.2,SNR=9.8						
WSAR				S	S	20 01 48.1	-2.6
	comp=Z,5.1nm,0.9s,baz=328,slow=13,SNR=2.2						
WSAR				LR	LR	20 05 58.0	
	comp=Z,1μm,21.5s,baz=268,slow=39						
	comp=Z,21nm,1.0s						
CSS	Mathiatis	18.09	342	Pn	Pn	19 58 21.1	-2.0
JASK	Jask - Hormozg	18.22	61	P	P	19 58 26.5	+1.5
	SNR=16						
JASK				S	S	20 01 57.2	+3.5
WBK	Wadi Bani Khal	18.24	72	P	P	19 58 29.1	+3.8
	SNR=15						
JLN	Jalan Bani Buh	18.55	74	P	Pn	19 58 32.0	+3.1
	SNR=14						
KMBO	Kilima Mbogo	19.09	189	P	P	19 58 32.6	-2.3
KMBO	Kilima Mbogo	19.09	189	P	P	19 58 33.2	-1.6
	comp=Z,0.1nm,0.3s,baz=8.3,slow=9.2,SNR=9.1						
KMBO				LR	LR	20 05 46.3	
	comp=Z,1μm,19.6s,baz=12,slow=37						
	comp=Z,0.3nm,0.3s						
KMBO	Kilima Mbogo	19.09	189	*i* P	Pn	19 58 41.8	+6.2
MARD	Mardin	19.39	1	P	P	19 58 37.0	-0.8
KIBK	Kibwezi	20.19	186	P	P	19 58 46.9	+0.2
MBAR	Mbarara	20.57	208	*i* P	Pn	19 58 54.3	+1.1
GURO	Guroymak-BITLI	20.68	4		P	19 58 52.6	+0.8
NGCH	Negor - Chabah	20.84	65	P	Pn	19 58 57.1	+1.1
	SNR=14						
ELL	Elmali	20.89	336	P	P	19 58 53.9	-0.2
ELL	Elmali	20.89	336	P	P	19 58 53.9	-0.2
ELL				pmax	pmax		
	comp=Z,193nm,1.4s						
KARP	Karpathos	21.07	329	P	P	19 58 57.1	+1.0
KARP				IAmb	IAmb	19 59 02.3	
	comp=Z,62nm,1.1s						
ISP	Isparta	21.62	339	P	P	19 58 59.2	-2.8
ISP	Isparta	21.62	339	P	P	19 58 59.2	-2.8
ISP				pmax	pmax		
	comp=Z,22nm,0.9s						
NAX	Nakhchivan	21.73	11	P	P	19 59 07.9	+4.8
KIRS	Kirsehir-Merke	21.89	347	⇓P	P	19 59 04.7	-0.1
IDI	Anoyia	22.05	325	P	P	19 59 08.2	+1.6
	comp=Z,14nm,0.9s,baz=183,slow=11,SNR=4.5						
IDI				S	Sn	20 03 21.6	+1.1
	comp=Z,14nm,1.1s,baz=174,slow=4.9,SNR=3.7						
	comp=Z,14nm,0.9s						
KOPT	Kop Dagi	22.08	1	P	P	19 59 08.6	+1.5
KOPT				IAmb	IAmb	19 59 15.2	
	comp=Z,94nm,1.8s						
LKRN	Lenkeran, Azer	22.08	18	P	P	19 59 11.3	+4.5
BRTR	Keskin Array B	22.51	347	P	P	19 59 12.6	+1.0
BRTR	Keskin Array B	22.51	347	P	P	19 59 13.1	+1.5
	comp=Z,5.9nm,1.0s,baz=166,slow=11,SNR=30						
BRTR				S	Sn	20 03 24.7	-7.0
	comp=Z,0.2nm,0.6s,baz=100,slow=27,SNR=1.0						
BRTR				LR	LR	20 07 26.6	
	comp=Z,370nm,19.5s,baz=148,slow=35						
	comp=Z,5.9nm,1.0s						
BRTR	Keskin Array B	22.51	347	*i* P	P	19 59 13.8	+2.2
BRTR				pmax	pmax		
	comp=Z,15nm,1.0s						
BR131	Keskin Array S	22.52	347	P	P	19 59 11.2	-0.4
BR131				IAmb	IAmb	19 59 19.7	
	comp=Z,53nm,1.2s						
BR131	Keskin Array S	22.52	347	*i* P	P	19 59 13.3	+1.7
GNI	Garni	22.55	9		P	19 59 11.2	-0.9
GNI				IAmb	IAmb	19 59 19.7	
	comp=Z,67nm,1.4s						
GNI	Garni	22.55	9	P	P	19 59 13.8	+1.8
	comp=Z,4.6nm,0.9s,baz=144,slow=7.8,SNR=11						
	comp=Z,4.6nm,0.9s						
GNI	Garni	22.55	9	*i* P	P	19 59 13.2	+1.1
GNI				pmax	pmax		
	comp=Z,75nm,1.7s						
GNI	Garni	22.55	9	P	P	19 59 15.6	+3.5
KARS	Kars	22.82	6		P	19 59 12.4	-2.5
KARS	Kars	22.82	6	P	P	19 59 12.4	-2.5
KARS				pmax	pmax		
	comp=Z,252nm,1.5s						
ANTO	Ankara	22.85	345	P	P	19 59 13.6	-1.5
ANTO				IAmb	IAmb	19 59 34.0	
	comp=Z,36nm,1.1s						
ANTO	Ankara	22.85	345	⇑P	P	19 59 14.3	-0.8
ANTO	Ankara	22.85	345	P	P	19 59 13.6	-1.5
ANTO				pmax	pmax		
	comp=Z,36nm,1.1s						
MANT	Manisa	22.93	336	IAmb	IAmb	19 59 29.6	
	comp=Z,59nm,1.6s						
GANJ	Ganja	23.31	12	P	P	19 59 24.0	+4.2
MNGR	Mingechevir, A	23.59	13	P	P	19 59 27.5	+5.0
ILGA	Ilgaz	23.77	348		P	19 59 25.2	+0.6
MDUB	Mudurnu	23.83	343	P	P	19 59 24.4	-0.6
MDUB				IAmb	IAmb	19 59 44.3	
	comp=Z,44nm,0.9s						
SEKA	Sheki	24.03	13	P	P	19 59 30.8	+3.9
AKT	Akhty	24.41	14	*e*P	P	19 59 29.5	-0.9
AKT				*e*PPP	PPP	20 00 03.9	
AKT				pmax	pmax		
	comp=Z,84nm,2.4s						
AKT				MLR	MLR		
	comp=Z,1μm,14.0s						
SOC	Sochi	25.64	359	*e*P	P	19 59 40.3	-1.1
SOC				*e*		20 00 16.2	
SOC				*e*PPP	PPP	20 00 26.6	
SOC				*e*S	S	20 04 08.3	-1.3
SOC				*e*SS	SnSn	20 05 05.0	+1.2
SOC				MLR	MLR		
	comp=Z,270nm,14.0s						
HRA	Herat	25.66	46	IAmb	IAmb	19 59 48.2	
	comp=Z,33nm,1.2s						
MAK	Makhachkala	25.78	12	*e*P	P	19 59 35.3	-7.3
MAK				*e*S	S	20 04 00.0	-12
MAK				pmax	pmax		
	comp=Z,70nm,0.9s						
MAK				MLR	MLR		
	comp=Z,1μm,15.0s						
SHA1	Shidzhatmaz	25.88	4	P	P	19 59 46.0	+2.2
KBZ	Khabaz	25.89	4	P	P	19 59 45.2	+1.7
	comp=Z,9.9nm,1.0s,baz=163,slow=6.5,SNR=13						
	comp=Z,9.9nm,1.0s						
KBZ	Khabaz	25.89	4	*ce*P	P	19 59 45.1	+1.6
KBZ				pmax	pmax		
	comp=Z,39nm,2.5s						
KIV	Kislovodsk	26.10	4	P	P	19 59 45.2	-0.4
KIV				IAmb	IAmb	19 59 52.1	
	comp=Z,24nm,1.1s						
KIV	Kislovodsk	26.10	4	P	P	19 59 47.2	+1.6
KIV	Kislovodsk	26.10	4	⇑P	P	19 59 46.2	+0.6
KIV	Kislovodsk	26.10	4	*e*P	P	19 59 46.5	+0.9
KIV				*e*S	S	20 04 18.0	+1.0
KIV				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV				MLR	MLR		
	comp=Z,458nm,15.0s						
KIV	Kislovodsk	26.10	4	P	P	19 59 47.3	+1.6
KIV	Kislovodsk	26.10	4	P	P	19 59 45.5	-0.1
	comp=

HERR Herculane 30.78 335 ⇑P P 20 00 27.5 +0.3
comp=Z,7.3nm,1.5s
GZR Gura Zlata 31.06 336 ⇑P P 20 00 29.9 +0.1
GZR Gura Zlata 31.06 336 ⇑P P 20 00 29.9 +0.1
BZS Buzias 31.70 335 ⇑P P 20 00 35.6 +0.2
BZS Buzias 31.70 335 ⇑P P 20 00 35.6 +0.2
SORM Soroca 31.70 345 P **P 20 00 34.5 -0.9**
comp=Z,7.3nm,1.5s
SORM pP **sP 20 00 38.8 -0.4**
comp=Z,7.3nm,1.5s
MARR Marisel-Cluj 32.01 338 ⇑P P 20 00 38.2 0.0
BURAR Bucovina Array 32.12 341 P **P 20 00 39.3 +0.1**
BURAR Bucovina Array 32.12 341 ⇓P P 20 00 39.2 +0.1
BURAR Bucovina Array 32.12 341 ⇓P P 20 00 39.2 +0.1
DRGR 32.26 337 ⇓P P 20 00 39.9 -0.4
DRGR 32.26 337 ⇓P P 20 00 39.9 -0.4
KEST Kesra 32.59 309 P **P 20 00 43.0 -0.5**
comp=Z,2.5nm,0.7s,baz=98,slow=9.7,SNR=4.6
KEST LR LR 20 15 16.7
comp=Z,255nm,20.1s,baz=69,slow=39
comp=Z,2.5nm,0.7s
KMPD K-Podol'skiy 32.60 343 P **P 20 00 42.9 -0.3**
TAM Tamanrasset 32.83 284 P **P 20 00 46.7 +0.9**
TAM IAmb IAmb 20 00 50.7
comp=Z,14nm,1.0s
TAM Tamanrasset 32.83 284 P **P 20 00 46.7 +0.9**
TAM pmax pmax
comp=Z,14nm,1.0s
HORU Horodok 33.20 343 P **P 20 00 48.1 -0.4**
HORU pP **pP 20 00 51.7 +0.5**
VRH Novokhopyorsk 33.29 2 *eP* **P 20 00 49.0 -0.2**
VRH pmax pmax
comp=Z,90nm,2.0s
VSR Storozhevoye 33.29 359 *eP* **P 20 00 47.4 -1.8**
VSR pmax pmax
comp=Z,20nm,2.2s
BRIU Brid 33.47 339 P **P 20 00 51.3 +0.5**
NIL Nilore 33.49 56 P **P 20 00 51.4 +0.1**
NIL IAmb IAmb 20 00 54.9
comp=Z,13nm,0.8s
NIL Nilore 33.49 56 P **P 20 00 51.4 +0.1**
NIL pmax pmax
comp=Z,13nm,0.9s
BERU Beregovo 33.50 339 P **P 20 00 51.6 +0.5**
LUBAR Lubar, Ukraine 33.51 345 P **P 20 00 50.3 -0.9**
MUKU Mukachevo 33.68 339 P **P 20 00 52.3 -0.3**
VORR Voronezh 33.74 359 *eP* **P 20 00 51.6 -1.6**
VORR pmax pmax
comp=Z,40nm,1.8s
AK07 Malin Array Si 33.78 347 P **P 20 00 53.0 -0.5**
AK06 Malin Array Si 33.81 347 P **P 20 00 53.3 -0.5**
AK10 Malin Array Si 33.81 347 P **P 20 00 53.4 -0.4**
AK09 Malin Array Si 33.82 347 P **P 20 00 53.5 -0.4**
AK05 Malin Array Si 33.84 347 P **P 20 00 53.5 -0.5**
AK08 Malin Array Si 33.84 347 P **P 20 00 53.5 -0.6**
HOLU Holmets 33.85 339 P **P 20 00 53.6 -0.5**
AK14 Malin Array Si 33.87 347 P **P 20 00 53.7 -0.6**
AK12 Malin Array Si 33.88 347 P **P 20 00 53.5 -0.8**
AK02 Malin Array Si 33.88 347 P **P 20 00 54.1 -0.2**
AK01 Malin Array Si 33.91 347 P **P 20 00 54.3 -0.3**
KIEV Kiev 33.91 347 P **P 20 00 53.2 -1.4**
KIEV IAmb IAmb 20 00 57.0
comp=Z,58nm,2.0s
KIEV Kiev 33.91 347 P **P 20 00 53.2 -1.4**
KIEV pmax pmax
comp=Z,58nm,2.0s
KIEV Kiev 33.91 347 P **P 20 00 54.7 +0.1**
comp=Z,2μmcomp=Z,40nm,1.1s
AKASG Malin Array Be 33.91 347 P **P 20 00 54.2 -0.5**
comp=Z,2.9nm,1.0s,baz=167,slow=7.7,SNR=14
AKASG PcP **PcP 20 03 33.4 +0.4**
comp=Z,1.2nm,0.8s,baz=132,slow=1.4,SNR=4.8
comp=Z,2.9nm,1.0s
AKASG Malin Array Be 33.91 347 *i* P **P 20 00 54.5 -0.2**
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKBB Malin Array Si 33.91 347 IAmb IAmb 20 00 57.0
comp=Z,64nm,2.0s
AKBB Malin Array Si 33.91 347 *ceP* **P 20 00 54.7 0.0**
AKBB pmax pmax
comp=Z,28nm,1.9s
AKBB Malin Array Si 33.91 347 P **P 20 00 54.7 0.0**
AK15 Malin Array Si 33.93 347 P **P 20 00 54.8 0.0**
AK17 Malin Array Si 33.93 347 P **P 20 00 54.9 +0.1**
AK03 Malin Array Si 33.94 347 P **P 20 00 54.4 -0.5**
AK04 Malin Array Si 33.95 347 P **P 20 00 54.5 -0.4**
AK18 Malin Array Si 33.97 347 P **P 20 00 54.6 -0.5**
KOLS Kolonicke sedl 34.23 339 *eP* **P 20 01 00.2 +2.7**
KOLS pmax pmax
comp=Z,7.0nm,1.5s
KOLS Kolonicke sedl 34.23 339 *eP* **P 20 01 00.2 +2.7**
MPLH Magyarpolny 34.66 332 P **P 20 01 00.7 -0.5**
comp=Z,34nm,1.0s
LPSR Galich'ya Gora 34.68 359 *eP* **P 20 01 01.2 -0.1**
LPSR pmax pmax
comp=Z,60nm,2.0s
DRK Karamyk 34.83 45 IAmb IAmb 20 01 08.1
comp=Z,29nm,1.3s
BELG Belogornoye 34.95 8 *i* P **P 20 01 04.6 +1.0**
BELG pmax pmax
comp=Z,6.0nm,1.1s
LSZ Lusaka 34.99 200 LR LR 20 15 29.8
comp=Z,2μm,19.5s,baz=29,slow=37
IUG Iuzhnay 35.10 40 *eP* **P 20 01 05.1 -0.1**
IUG pmax pmax
comp=Z,47nm,2.2s
IUG Iuzhnay 35.10 40 *eP* **P 20 01 05.2 -0.1**
comp=Z,47nm,2.2s
VYHS Vyhne 35.15 335 *eP* **P 20 01 06.5 +1.1**
VYHS pmax pmax
comp=Z,98nm,2.4s
VYHS Vyhne 35.15 335 *eP* **P 20 01 06.5 +1.1**
RNPP5 Staryi Chortor 35.18 344 P **P 20 01 05.4 -0.2**
NIE Niedzica 35.34 337 *eP* **P 20 01 09.8 +2.7**
NIE Niedzica 35.34 337 P **P 20 01 07.3 +0.2**
comp=Z,2.8nm,2.3s
RNPP9 Sopachiv 35.35 344 P **P 20 01 06.2 -0.8**
LANS Liptovska Anna 35.43 336 *eP* **P 20 01 09.1 +1.2**
LANS pmax pmax
comp=Z,8.0nm,1.6s
LANS Liptovska Anna 35.43 336 *eP* **P 20 01 09.1 +1.2**
SOKA Soboth 35.45 330 *eP* **P 20 01 09.0 +0.9**
comp=Z,6.9nm,1.3s
BRLS Borolday 35.49 39 *eP* **P 20 01 06.3 -2.1**
BRLS pmax pmax
comp=Z,30nm,2.4s
BRLS Borolday 35.49 39 *eP* **P 20 01 06.3 -2.1**
comp=Z,30nm,2.4s
AKTO Aktyubinsk 35.49 20 LR LR 20 17 42.6
comp=Z,534nm,20.7s,baz=256,slow=40
OBKA Obir 35.56 329 *eP* **P 20 01 10.8 +1.7**
comp=Z,6.8nm,1.3s
ARSA Arzberg 35.63 331 *eP* **P 20 01 11.6 +1.9**
comp=Z,1.5nm,0.5s
MODS Modra-Piesok 35.70 334 *eP* **P 20 01 11.0 +0.8**
MODS pmax pmax
comp=Z,110nm,1.9s
MODS Modra-Piesok 35.70 334 *eP* **P 20 01 11.0 +0.8**
SMOL Smolenice 35.74 334 *eP* **P 20 01 13.2 +2.7**
SMOL pmax pmax
comp=Z,12nm,1.5s
JAVC Velka Javorina 35.91 334 *eP* **P 20 01 13.3 +1.3**
KKAR Karatay Array 35.93 39 **P 20 01 13.2 +0.9**
KKAR Karatay Array 35.93 39 IAmb IAmb 20 01 17.5
comp=Z,6.2nm,1.1s
KKAR Karatay Array 35.93 39 P **P 20 01 13.2 +0.9**
CONA Conrad Observa 35.98 332 *eP* **P 20 01 13.6 +0.9**
comp=Z,18nm,1.7s
OJC Ojcow 36.19 338 *eP* **P 20 01 13.7 -0.6**
OJC Ojcow 36.19 338 P **P 20 01 13.5 -0.8**
OJC Ojcow 36.19 338 P **P 20 01 13.5 -0.8**
OJC pmax pmax
comp=Z,13nm,1.2s
OJC Ojcow 36.19 338 P **P 20 01 13.4 -0.8**
DZA Taraz 36.31 40 *eP* **P 20 01 15.7 +0.2**
DZA Taraz 36.31 40 *eP* **P 20 01 15.7 +0.2**
HYB Hyderabad 36.52 85 *eP* **P 20 01 17.7 +0.1**
KRUC Moravsky 36.60 334 *eP* **P 20 01 18.4 +0.6**
MOA Molln 36.65 330 P **P 20 01 19.6 +1.3**
comp=Z,12nm,1.4s
MORC Moravsky Berou 36.68 335 IAmb IAmb 20 01 22.3
comp=Z,34nm,1.8s
MORC Moravsky Berou 36.68 335 *eP* **P 20 01 18.9 +0.3**
VRAC Vranov 36.70 334 *eP* **P 20 01 19.5 +0.7**
BIOA Bad Ischl, Aus 36.84 330 *eP* **P 20 01 20.8 +0.9**
comp=Z,12nm,1.4s
OPO Ambohidratompo 36.85 169 LR LR 20 15 37.5
comp=Z,188nm,20.6s,baz=163,slow=35
OBN Obninsk 37.29 357 LR LR 20 19 24.7
comp=Z,387nm,18.0s,baz=104,slow=40
OBN Obninsk 37.29 357 *eP* **P 20 01 24.9 +1.4**
OBN *e* 20 02 50.4
OBN *e* 20 03 46.2
OBN pmax pmax
comp=Z,64nm,1.7s
OBN MLR MLR
comp=Z,540nm,17.0s
TORD Torodi Ar. Bea 37.34 268 P **P 20 01 23.8 -0.9**
TORD Torodi Ar. Bea 37.34 268 P **P 20 01 23.6 -1.0**
comp=Z,5.2nm,0.4s,baz=75,slow=8.5,SNR=0.7
GEC2 GERESS Array S 37.63 331 IAmb IAmb 20 01 29.4
comp=Z,51nm,1.9s
GERES GERESS Array B 37.63 331 P **P 20 01 24.9 -1.8**
GERES GERESS Array B 37.63 331 P **P 20 01 26.4 -0.3**
comp=Z,3.5nm,0.9s,baz=142,slow=6.6,SNR=7.9
comp=Z,3.5nm,0.9s
GERES GERESS Array B 37.63 331 P **P 20 01 24.9 -1.8**
KSH Kashi 37.73 48 P **P 20 01 25.5 -2.3**
KSH pmax pmax
comp=Z,5.0nm,1.8s
MNK Minsk 37.78 348 *i* P **P 20 01 25.1 -2.6**
comp=E,8.0nm,0.8s
MNK *i* P **P 20 01 25.1 -2.6**
comp=N,11nm,1.0s
MNK *i* P **P 20 01 25.1 -2.6**
comp=Z,17nm,1.0s,baz=160
MNK *i* PP **PP 20 02 50.1 -3.9**
MNK *i* PPP PPP 20 03 07.7
MNK *i* S **S 20 07 16.4 -2.0**
MNK *i* SS **SnSn 20 09 55.8 -2.6**
MNK *i* SSS SSS 20 10 08.5
MNK *i* LQ LQ 20 15 12.3
MNK *i* LR LR 20 19 41.2
MNK *i* LRM MLR 20 22 49.1
comp=N,273nm,18.1s
MNK *i* LRM MLR 20 22 57.8
comp=Z,417nm,17.6s
MNK *i* LRM MLR 20 23 01.4
comp=E,252nm,17.1s
MNK Minsk 37.78 348 *i* P **P 20 01 25.1 -2.6**
MNK *i* 20 02 50.1
MNK *i* 20 03 43.2
MNK *i* S **S 20 07 16.3 -2.0**
MNK *i* SS **SnSn 20 09 55.8 -2.6**
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,17nm,1.0s
MOS Moscow 37.86 358 *eP* **P 20 01 26.9 -1.5**
MOS *e* 20 03 42.2
MOS pmax pmax
comp=Z,85nm,1.6s
MOS MLR MLR
comp=Z,600nm,16.0s
KHC Kasperske Hory 37.89 331 *eP* **P 20 01 26.5 -2.4**
KHC Kasperske Hory 37.89 331 *ceP* **P 20 01 29.8 +0.9**
KHC pmax pmax
comp=Z,33nm,1.7s
KSP Ksiaz 38.02 335 *eP* **P 20 01 30.7 +0.8**
AAK Ala-Archa 38.16 42 **P 20 01 31.1 -0.3**
AAK Ala-Archa 38.16 42 LR LR 20 19 56.1
comp=Z,803nm,18.1s,baz=243,slow=40
AAK Ala-Archa 38.16 42 *ceP* **P 20 01 30.0 -1.4**
AAK pmax pmax
comp=Z,23nm,2.5s
AAK Ala-Archa 38.16 42 P **P 20 01 33.9 +2.5**
NACGM Naroch 38.38 348 *eP* **P 20 01 33.5 +0.7**
baz=159
SUW Suwalki 38.41 344 *eP* **P 20 01 32.3 -0.8**
SUW Suwalki 38.41 344 IAmb IAmb 20 01 40.2
comp=Z,53nm,1.2s
SGDS Sogindy 38.65 41 *eP* **P 20 01 35.2 -0.2**
SGDS Sogindy 38.65 41 *eP* **P 20 01 35.2 -0.2**
BRG Berggiesshubel 39.01 334 *eP* **P 20 01 38.5 +0.3**
BRG Amp 20 01 41.4
comp=Z,11nm,1.2s
BTLS Baital 39.13 39 *eP* **P 20 01 39.5 +0.3**
BTLS Baital 39.13 39 *eP* **P 20 01 39.6 +0.3**
CLL Collm 39.73 333 *i* P **P 20 01 44.2 0.0**
CLL pmax pmax
comp=Z,47nm,1.9s
CLL Collm 39.73 333 *i* P **P 20 01 44.2 0.0**
comp=Z,47nm,1.9s
PALK Pallekele 40.83 100 LR LR 20 16 02.6
comp=Z,265nm,20.8s,baz=278,slow=32
ARTI Arti 40.84 15 P **P 20 01 52.9 -0.4**
ARTI IAmb IAmb 20 01 58.5
comp=Z,30nm,1.3s
ARTI Arti 40.84 15 LR LR 20 21 59.1
comp=Z,460nm,18.6s,baz=169,slow=41
ARTI Arti 40.84 15 *c i* P **P 20 01 55.0 +1.7**
ARTI 20 03 27.4
ARTI 20 03 54.9
ARTI S **S 20 08 06.1 +1.8**
ARTI SS **SS 20 11 04.3 -1.1**
ARTI pmax pmax
comp=Z,31nm,1.4s
SATY Saty 40.90 44 *eP* **P 20 01 54.5 +0.3**
SATY pmax pmax
comp=Z,38nm,2.5s
SATY Saty 40.90 44 *eP* **P 20 01 54.6 +0.3**
comp=Z,38nm,2.5s
ZHN Zhinishke 40.97 44 *eP* **P 20 01 54.9 +0.2**
ZHN pmax pmax
comp=Z,35nm,2.1s
ZHN Zhinishke 40.97 44 *eP* **P 20 01 54.9 +0.2**
comp=Z,35nm,2.1s
KIRV Kirov 41.23 7 *i* P **P 20 01 56.4 0.0**
KPKS Kokpek 41.26 43 *eP* **P 20 01 56.9 -0.2**
KPKS Kokpek 41.26 43 *eP* **P 20 01 56.9 -0.2**
BRZS Berezniki 41.28 32 *eP* **P 20 01 57.0 -0.1**
BRZS pmax pmax
comp=Z,26nm,2.1s
BRZS Berezniki 41.28 32 *eP* **P 20 01 57.0 -0.1**
comp=Z,26nm,2.1s
UZB Uzynbulak 41.34 44 *eP* **P 20 01 58.3 +0.4**
UZB pmax pmax
comp=Z,31nm,1.7s
UZB Uzynbulak 41.34 44 *eP* **P 20 01 58.3 +0.4**
comp=Z,30nm,1.7s
SHLS Shalkode 41.64 44 *eP* **P 20 02 02.5 +2.3**
SHLS pmax pmax
comp=Z,47nm,2.9s
SHLS Shalkode 41.64 44 *eP* **P 20 02 02.6 +2.3**
comp=Z,47nm,2.9s
TDK Taldyqorghan 41.78 41 *eP* **P 20 02 01.4 +0.2**
TDK pmax pmax
comp=Z,39nm,2.1s
TDK Taldyqorghan 41.78 41 *eP* **P 20 02 01.4 +0.2**
comp=Z,40nm,2.1s
SVE Sverdlovsk 41.82 17 *eP* **P 20 02 02.4 +1.1**
SVE pmax pmax
comp=Z,24nm,1.6s
BRVK Borovoye 42.23 27 *ceP* **P 20 02 06.8 +2.0**
BRVK pmax pmax
comp=Z,17nm,1.7s
BVAR Borovoye Array 42.25 27 P **P 20 02 05.9 +0.9**
comp=Z,3.8nm,0.9s,baz=218,slow=7.0,SNR=10
BVAR PcP **PcP 20 03 58.5 -0.3**
comp=Z,1.7nm,0.9s,baz=212,slow=5.1,SNR=3.0
BVAR LR LR 20 22 05.0
comp=Z,496nm,19.0s,baz=231,slow=40
comp=Z,3.8nm,0.9s
MDT Midelt 42.82 299 LR LR 20 22 45.5
comp=Z,505nm,19.7s,baz=121,slow=40
KLMR Klimovskoe 42.94 360 *eP* **P 20 02 07.4 -3.0**
KLMR pmax pmax
comp=Z,41nm,1.6s
TSUM Tsumeb 43.01 212 LR LR 20 21 44.9
comp=Z,228nm,18.8s,baz=42,slow=39
ESDC Sonseca Array 43.84 309 P **P 20 02 18.2 +0.1**
ESDC Sonseca Array 43.84 309 P **P 20 02 18.3 +0.1**
comp=Z,5.5nm,1.1s,baz=96,slow=6.5,SNR=8.6
comp=Z,5.5nm,1.1s
KURBB Kurchatov Arra 44.70 34 P **P 20 02 25.7 +1.0**
comp=Z,40nm,0.7s,baz=239,slow=8.3,SNR=12
KURBB LR LR 20 23 05.0
comp=Z,581nm,20.6s,baz=234,slow=39
comp=Z,40nm,0.7s
KURK Kurchatov 44.79 34 P **P 20 02 26.6 +1.2**
KURK IAmb IAmb 20 02 29.3
comp=Z,44nm,1.6s
KURK Kurchatov 44.79 34 *ceP* **P 20 02 27.2 +1.7**
KURK pmax pmax
comp=Z,30nm,1.7s
MAKZ Makanchi 44.82 40 P **P 20 02 26.8 +1.0**
MAKZ IAmb IAmb 20 02 30.6
comp=Z,16nm,1.3s
MAKZ Makanchi 44.82 40 P **P 20 02 26.8 +1.0**
MAKZ pmax pmax
comp=Z,15nm,1.3s
LBTB Lobatse 44.93 199 P **P 20 02 27.1 +0.2**
LBTB IAmb IAmb 20 02 31.8
comp=Z,26nm,1.2s
LBTB Lobatse 44.93 199 LR LR 20 20 53.1
comp=Z,716nm,18.6s,baz=17,slow=36
LBTB Lobatse 44.93 199 P **P 20 02 27.1 +0.2**
LBTB pmax pmax
comp=Z,26nm,1.3s
MK31 Makanchi Array 45.01 41 P **P 20 02 28.1 +0.8**
MK31 IAmb IAmb 20 02 30.8
comp=Z,25nm,1.8s
MK31 Makanchi Array 45.01 41 *ceP* **P 20 02 28.4 +1.1**
MKAR Makanchi Array 45.01 41 P **P 20 02 28.2 +0.9**
comp=Z,5.1nm,1.1s,baz=238,slow=6.3,SNR=11
MKAR PcP **PcP 20 04 08.6 +0.3**
comp=Z,1.3nm,1.0s,baz=241,slow=1.5,SNR=2.1
MKAR LR LR 20 23 44.2
comp=Z,1μm,18.2s,baz=228,slow=39
comp=Z,5.1nm,1.1s
DBIC Dimbokro 45.29 262 P **P 20 02 29.4 -0.5**
DBIC IAmb IAmb 20 02 33.0
comp=Z,28nm,1.3s
DBIC Dimbokro 45.29 262 P **P 20 02 29.7 -0.2**
comp=Z,8.8nm,0.9s,baz=63,slow=9.9,SNR=7.0
DBIC LR LR 20 21 15.4
comp=Z,881nm,20.8s,baz=66,slow=36
comp=Z,8.8nm,0.9s
DBIC Dimbokro 45.29 262 P **P 20 02 29.4 -0.5**
DBIC pmax pmax
comp=Z,28nm,1.3s
HFS Hagfors 46.33 342 P **P 20 02 37.6 +0.1**
comp=Z,10.0nm,1.1s,baz=147,slow=8.6,SNR=4.0
comp=Z,10.0nm,1.1s
ZSN Zaisan 46.88 41 *eP* **P 20 02 42.2 +0.2**
ZSN Zaisan 46.88 41 *eP* **P 20 02 42.3 +0.2**
WMQ Urumqi 47.46 46 *eP* **P 20 02 48.5 +1.8**
WMQ pP sP 20 02 55.1 +4.5
WMQ sP pP 20 02 59.9 +10
WMQ pmax pmax
comp=Z,21nm,1.9s
WMQ LR LR
comp=Z,570nm,20.9s
WMQ LR LR
comp=Z,600nm,23.9s
WMQ LR LR
comp=Z,330nm,24.3s
NAO01 NORSAR Array S 47.74 341 P **P 20 02 48.1 -0.4**
LSA Lhasa 47.76 66 IAmb IAmb 20 03 03.3
comp=Z,28nm,1.6s
NB2 NORSAR Subarra 47.79 341 P **P 20 02 48.1 -0.9**
comp=Z,85nm,2.0s,baz=142,slow=7.9
NB2 NORSAR Subarra 47.79 341 P **P 20 02 48.1 -0.9**
baz=142,slow=7.9
NOA NORSAR Array B 47.79 341 P **P 20 02 48.5 -0.4**
comp=Z,8.6nm,1.1s,baz=142,slow=8.8,SNR=7.3
comp=Z,8.6nm,1.1s
NBO00 NORSAR Array S 47.92 341 P **P 20 02 49.6 -0.3**
BRDH Bariadhala 48.31 75 LR LR 20 25 36.1
comp=Z,403nm,19.1s,baz=309,slow=39
SHL Shillong 48.39 71 P **P 20 02 54.4 +0.1**
SNR=15
BOSA Boshof 48.41 198 LR LR 20 22 50.6
comp=Z,459nm,19.3s,baz=22,slow=36
ZAA0 Zalesovo Array 49.72 33 P **P 20 03 02.3 -1.5**
ZAA0 IAmb IAmb 20 03 08.4
comp=Z,27nm,1.3s
ZALV Zalesovo Beam 49.72 33 P **P 20 03 03.9 +0.1**
comp=Z,5.7nm,0.8s,baz=248,slow=7.8,SNR=24
ZALV LR LR 20 26 14.8
comp=Z,395nm,18.2s,baz=228,slow=39
comp=Z,5.7nm,0.8s
PBA Port Blair 51.06 89 P **P 20 03 14.5 -0.1**
PBA Port Blair 51.06 89 P **P 20 03 18.4 +3.9**
SNR=8.5
GOMU GeErMu 51.30 58 P **P 20 03 18.4 +1.9**
GOMU pP sP 20 03 25.4 +5.0
GOMU sP pP 20 03 28.4 +9.1
GOMU pmax pmax
comp=Z,22nm,1.1s
SUR Sutherland 53.30 201 LR LR 20 25 47.0
comp=Z,586nm,19.4s,baz=32,slow=36
GTA Gaotai 55.54 54 P **P 20 03 48.2 +0.8**
GTA pmax pmax
comp=Z,13nm,1.4s
GTA LR LR
comp=Z,280nm,16.7s
GTA LR LR
comp=Z,340nm,15.6s
GTA LR LR
comp=Z,430nm,15.6s
CMAR Chiang Mai Arr 55.60 80 P **P 20 03 47.0 -1.0**
CMAR Chiang Mai Arr 55.60 80 P **P 20 03 48.0 0.0**
comp=Z,2.9nm,0.9s,baz=288,slow=7.9,SNR=17
CMAR LR LR 20 29 59.9
comp=Z,69nm,19.0s,baz=110,slow=39
comp=Z,2.9nm,0.9s
CMAR Chiang Mai Arr 55.60 80 P **P 20 03 47.0 -1.0**
PZH PanZhiHua 57.19 70 P **P 20 04 01.6 +2.3**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
MOY Mondy 58.14 40 *eP* **P 20 04 05.5 -0.1**
MOY pmax pmax
comp=Z,23nm,2.1s
LZH Lanzhou 58.59 58 *eP* **P 20 04 09.6 +0.5**
LZH pP sP 20 04 14.1 +1.2
LZH pmax pmax
comp=Z,20nm,1.2s
LZH LR LR
comp=Z,350nm,14.1s
LZH LR LR
comp=Z,590nm,14.4s
LZH LR LR
comp=Z,920nm,13.7s
CD2 Chengdu 58.65 64 P **P 20 04 11.0 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 59.32 42 *eP* **P 20 04 13.5 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.9s
IRK Irkutsk 60.24 40 *eP* **P 20 04 20.4 +0.4**
IRK pmax pmax
comp=Z,39nm,2.1s
KULM Kulim 60.30 94 P **P 20 04 19.3 -1.7**
SONM Songino Array 61.04 45 P **P 20 04 25.6 -0.1**
SONM IAmb IAmb 20 04 29.1
comp=Z,20nm,1.4s
SONM Songino Array 61.04 45 P **P 20 04 26.5 +0.8**
comp=Z,4.5nm,1.0s,baz=264,slow=6.5,SNR=21
SONM LR LR 20 34 31.0
comp=Z,778nm,19.8s,baz=217,slow=40
comp=Z,4.5nm,1.0s
SONM Songino Array 61.04 45 P **P 20 04 25.6 -0.1**
SONM pmax pmax
comp=Z,20nm,1.4s
SPITS Spitsbergen Ar 61.45 355 P **P 20 04 28.3 +0.5**
comp=Z,26nm,1.1s,baz=182,slow=5.2,SNR=5.3
comp=Z,26nm,1.1s
SPITS Spitsbergen Ar 61.45 355 P **P 20 04 28.0 +0.2**
SPITS pmax pmax
comp=Z,87nm,1.4s
ULN Ulaanbaatar 61.48 45 P **P 20 04 27.9 -0.9**
ULN Ulaanbaatar 61.48 45 *i* P **P 20 04 28.6 -0.1**
ULN pmax pmax
comp=Z,18nm,2.4s
GYA Guiyang 61.58 69 ⇑P **P 20 04 30.1 +0.4**
GYA pmax pmax
comp=Z,19nm,1.0s
XAN Xi'an 62.82 60 P **P 20 04 38.0 +0.2**
XAN pmax pmax
comp=Z,18nm,1.6s
BTO Baotou 63.40 53 *eP* **P 20 04 42.2 +0.5**
BTO PP **PP 20 07 00.6 -0.4**

BTO pmax pmax
comp=Z,23nm,0.6s
BTO pmax pmax
comp=Z,350nm,4.7s
BTO LR LR
comp=Z,630nm,14.5s
BTO LR LR
comp=Z,270nm,8.0s
BTO LR LR
comp=Z,290nm,6.5s
MYKOM Kota Tinggi 64.42 97 P **P 20 04 47.8 -0.8**
HHC Hu-ho-hao-te 64.57 53 *eP* **P 20 04 50.1 +0.8**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.7s
LYN LuoYang 65.70 60 *eP* **P 20 04 58.5 +1.8**
LYN pmax pmax
comp=Z,20nm,1.2s
CIT Chita 65.91 40 *eP* **P 20 04 58.4 +0.7**
CIT *e* 20 05 05.2
CIT *e* 20 05 27.8
CIT *e* 20 07 25.2
CIT *e* 20 08 56.2
CIT *e* 20 14 03.6
CIT pmax pmax
comp=Z,59nm,2.0s
MDSI Maura Dua 66.87 103 P **P 20 05 02.9 -1.5**
comp=Z,19nm,1.8s
HNS HongShan 67.24 56 ⇑P **P 20 05 07.3 +0.9**
HNS pmax pmax
comp=Z,11nm,2.3s
XLT XiLinHaoTe 67.76 49 *eP* **P 20 05 11.5 +1.8**
XLT pmax pmax
comp=Z,11nm,1.5s
BJI Beijing 68.13 53 P **P 20 05 13.3 +1.3**
BJI pmax pmax
comp=Z,5.0nm,1.9s
KSM Kuching 70.63 95 IAmb IAmb 20 05 29.8
comp=Z,12nm,0.9s
NJ2 Nanjing 71.34 61 *eP* **P 20 05 33.4 +1.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.8s
SBUM Sibu 72.15 93 P **P 20 05 36.8 -0.3**
TIXI Tiksi 72.77 19 P **P 20 05 38.5 -1.3**
TIXI IAmb IAmb 20 05 42.9
comp=Z,29nm,1.8s
TIXI Tiksi 72.77 19 *i* P **P 20 05 39.7 -0.1**
TIXI pmax pmax
comp=Z,23nm,2.3s
ZEA Zeya 74.08 38 *eP* **P 20 05 48.5 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 74.17 29 P **P 20 05 46.4 -1.7**
YAK IAmb IAmb 20 05 54.8
comp=Z,10nm,0.8s
YAK Yakutsk 74.17 29 P **P 20 05 48.1 0.0**
comp=Z,4.9nm,0.5s,baz=277,slow=11,SNR=6.8
comp=Z,4.9nm,0.5s
YAK Yakutsk 74.17 29 *i* P **P 20 05 47.2 -0.9**
YAK pmax pmax
comp=Z,15nm,1.0s
CN2 Changchun 74.50 48 P **P 20 05 50.1 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,300nm,4.0s
HEH HeiHe 74.73 42 *eP* **P 20 05 51.9 +0.2**
HEH pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 75.52 46 ⇑P **P 20 05 56.3 0.0**
BNX pmax pmax
comp=Z,11nm,1.1s
KSAR Wonju Array Be 77.58 55 P **P 20 06 07.0 -1.1**
KSAR Wonju Array Be 77.58 55 P **P 20 06 07.0 -1.1**
KSRS Korea Array 77.61 55 P **P 20 06 08.0 -0.3**
comp=Z,3.1nm,0.9s,baz=276,slow=6.9,SNR=5.1
comp=Z,3.1nm,0.9s
EUNU Eureka 78.38 352 IAmb IAmb 20 06 15.1
comp=Z,22nm,1.6s
USRK Ussuriysk Ar. 79.03 47 P **P 20 06 14.2 -1.8**
USRK Ussuriysk Ar. 79.03 47 P **P 20 06 14.2 -1.8**
RES Resolute Bay 83.42 349 P **P 20 06 39.4 +0.6**
RES IAmb IAmb 20 06 53.2
comp=Z,19nm,1.9s
RES Resolute Bay 83.42 349 P **P 20 06 39.4 +0.6**
RES pmax pmax
comp=Z,19nm,1.9s
SEY Seymchan 83.88 25 P **P 20 06 40.3 -1.1**
comp=Z,2.0nm,0.9s,baz=316,slow=7.3,SNR=5.9
comp=Z,2.0nm,0.9s
SEY Seymchan 83.88 25 *eP* **P 20 06 39.9 -1.5**
SEY pmax pmax
comp=Z,8.0nm,1.6s
MA2 Magadan 84.72 29 P **P 20 06 45.1 -0.6**
MA2 IAmb IAmb 20 06 48.2
comp=Z,23nm,1.4s
MA2 Magadan 84.72 29 P **P 20 06 45.0 -0.7**
comp=Z,1.3nm,0.3s,baz=256,slow=4.9,SNR=7.2
comp=Z,1.3nm,0.3s
MA2 Magadan 84.72 29 P **P 20 06 45.1 -0.6**
MA2 pmax pmax
comp=Z,23nm,1.4s
MJAR Matsushiro Arr 85.77 53 P **P 20 06 50.5 -1.0**
comp=Z,3.2nm,1.0s,baz=283,slow=5.2,SNR=6.4
comp=Z,3.2nm,1.0s
BILL Bilibino 85.90 18 P **P 20 06 52.1 +0.7**
BILL IAmb IAmb 20 06 53.8
comp=Z,26nm,1.6s
SYO Syowa Base 86.63 180 ⇑*i* P **P 20 06 55.8 +1.1**
A36M Sachs Harbour 89.83 356 P **P 20 07 09.6 -0.6**
A36M IAmb IAmb 20 07 14.9
comp=Z,21nm,1.4s
C18K Utukok River 92.35 8 IAmb IAmb 20 07 23.5
comp=Z,13nm,1.5s
ILAR Eielson Array 97.45 3 P **P 20 07 44.7 -0.6**
comp=Z,0.3nm,0.9s,baz=356,slow=3.6,SNR=2.7
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 97.47 348 P **P 20 07 44.7 -0.8**
comp=Z,171nm,0.7s,baz=13,slow=5.1,SNR=5.3
MVL Millersville 97.57 316 P **P 20 07 44.7 -1.7**
ASAR Alice Springs 100.27 112 P **Pdif 20 07 58.1 -0.7**
comp=Z,0.5nm,0.7s,baz=290,slow=3.8,SNR=5.9

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*IDC **06** 19:57:05.3±0.9, 1°.77N×66°.79E, h0km, mb3.7/6, mbtmp3.7/7, ML3.6/1, MS3.7/1, Error ellipse: s-maj=27.3km s-min=25.2km az=144.0*

ISC 06 19:57:06.5±0.9, 1°.8N±0°.2×66°.8E±0°.1, h10km, n13, σ1§12/10, mb3.8/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.90**	**68**	Pn	**Pn**	**20 00 36.8**	**-0.6**
	0.3nm,0.3s,baz=252,slow=19,SNR=1.5						
PALK				LR	LR	20 05 21.7	
	comp=Z,264nm,18.3s,baz=269,slow=33 2.4nm,0.7s						
MKAR	**Makanchi Array**	**46.85**	**15**	P	**P**	**20 05 37.0**	**+0.3**
	0.2nm,0.6s,baz=204,slow=6.3,SNR=1.5 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**49.69**	**10**	P	**P**	**20 05 58.4**	**-0.2**
	0.3nm,0.7s,baz=185,slow=9.2,SNR=2.6						
BOSA	**Boshof**	**49.97**	**230**	P	**P**	**20 06 00.4**	**-0.8**
	2.9nm,0.9s,baz=75,slow=11,SNR=3.6 2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**54.10**	**13**	P	**P**	**20 06 30.6**	**-0.8**
	0.9nm,0.6s,baz=224,slow=7.6,SNR=3.2 0.9nm,0.6s						
SONM	**Songino Array**	**57.22**	**31**	P	**P**	**20 06 54.5**	**+0.4**
	0.4nm,0.7s,baz=225,slow=5.9,SNR=2.6 0.4nm,0.7s						
H01W3	**Cape Leeuwin H**	**57.35**	**134**	T	T	21 08 58.0	
	baz=300,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**57.35**	**134**	T	T	21 08 58.8	
	baz=300,slow=75,SNR=35						
H01W1	**Cape Leeuwin H**	**57.36**	**134**	T	T	21 08 57.9	
	baz=300,slow=75,SNR=30						
TORD	**Torodi Ar. Bea**	**65.37**	**284**	P	**P**	**20 07 50.5**	**+0.7**
	10nm,0.3s,baz=110,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**69.58**	**112**	P	**P**	**20 08 18.7**	**+2.3**
	1.2nm,0.9s,baz=289,slow=6.1,SNR=5.5 1.2nm,0.9s						
ASAR	**Alice Springs**	**69.85**	**116**	P	**P**	**20 08 17.2**	**-0.8**
	0.5nm,0.8s,baz=284,slow=4.7,SNR=5.7 0.5nm,0.8s						
TXAR	**Lajitas Array**	**147.77**	**344**	PKPbc	**PKiKP**	**20 16 54.1**	**-0.4**
	1.3nm,0.8s,baz=10,slow=1.4,SNR=4.5						

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*SJA **06** 20:05:19.7±0.4, 23°.36S×65°.56W, h235km±4km, ML3.6, MW3.6*
*GUC **06** 20:06:02.8±0.6, 22°.18S×68°.71W, h110km±3km, ML3.1*

ISC 06 20:06:03.6±1.3, 22°.21S±0°.05×68°.68W±0°.07, h100km, n18, σ1§85/24, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.66**	**308**	⇑*i* P	**Pn**	**20 06 21.5**	**+0.7**
PB09				*e*S	**Sn**	**20 06 35.3**	**+1.5**
PB09				IAML		20 06 36.4	
	comp=N,941nm,0.5s						
PB09	**IPOC Station P**	**0.66**	**308**	*e*P	**Pn**	**20 06 21.5**	**+0.7**
PB09				IAML		20 07 09.9	
	comp=Z,40nm,0.3s						
AF01	**San Pedro de A**	**0.88**	**148**	⇓*i* P	**Pn**	**20 06 23.9**	**+0.9**
AF01				*e*S	**Sn**	**20 06 40.0**	**+2.4**
AF01	**San Pedro de A**	**0.88**	**148**	*e*P	**Pn**	**20 06 20.0**	**-3.1**
AF01				*e*S	**Sn**	**20 06 40.3**	**+2.7**
PB06	**IPOC Station P**	**0.96**	**239**	⇑*i* P	**Pn**	**20 06 24.3**	**+0.6**
PB06				*e*S	**Sn**	**20 06 40.6**	**+1.7**
PB06				IAML		20 06 41.4	
	comp=E,486nm,0.4s						
PB06	**IPOC Station P**	**0.96**	**239**	*e*P	**Pn**	**20 06 24.3**	**+0.6**
PB06				IAML		20 07 16.2	
	comp=Z,50nm,0.3s						
PB03	**IPOC Station P**	**1.00**	**279**	⇑*i* P	**Pn**	**20 06 24.5**	**+0.3**
PB03				*e*S	**Sn**	**20 06 40.6**	**+0.9**
PB03				IAML		20 06 41.7	
	comp=N,521nm,0.3s						
PB03	**IPOC Station P**	**1.00**	**279**	*e*P	**Pn**	**20 06 24.5**	**+0.3**
PB03				IAML		20 07 15.4	
	comp=Z,61nm,0.4s						
PB01	**IPOC Station P**	**1.38**	**327**	*e*P	**Pn**	**20 06 28.3**	**-0.2**
PB01				*e*S	**Sn**	**20 06 47.4**	**+0.1**
PB01				IAML		20 06 48.9	
	comp=E,260nm,0.1s						
PB01	**IPOC Station P**	**1.38**	**327**	*e*P	**Pn**	**20 06 28.6**	**+0.2**
PB01				IAML		20 07 42.3	
	comp=Z,22nm,0.6s						
PB08	**IPOC Station P**	**2.10**	**348**	*e*P	**Pn**	**20 06 38.3**	**+0.4**
PB08				IAML		20 07 07.9	
	comp=E,112nm,0.2s						
TA01	**Diego Aracena**	**2.15**	**319**	*e*P	**Pn**	**20 06 38.2**	**+0.1**
TA01				IAML		20 07 05.8	
	comp=N,150nm,0.4s						
TA01	**Diego Aracena**	**2.15**	**319**	*e*P	**Pn**	**20 06 38.0**	**0.0**
TA01				IAML		20 07 42.3	
	comp=Z,27nm,1.2s						
PB11	**IPOC Station P**	**2.60**	**339**	*e*P	**Pn**	**20 06 43.1**	**-1.1**
PB11				IAML		20 07 16.1	
	comp=E,110nm,0.3s						
PB11	**IPOC Station P**	**2.60**	**339**	*e*P	**Pn**	**20 06 43.0**	**-1.1**
PB11				IAML		20 07 51.4	
	comp=Z,38nm,1.0s						
PB14	**IPOC Station P**	**2.88**	**213**	*e*P	**Pn**	**20 06 48.8**	**+0.8**
PB14	**IPOC Station P**	**2.88**	**213**	*e*S	**Sn**	**20 07 16.5**	**-5.7**
PB14				IAML		20 07 17.4	
	comp=Z,68nm,0.4s						
PB12	**IPOC Station P**	**3.89**	**336**	*e*P	**Pn**	**20 06 59.1**	**-2.4**
PB12				IAML		20 08 20.1	
	comp=Z,12nm,3.6s						

IDC 06 20:18:14.0±2.0, 31°.99S×178°.07W, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=47.7km s-min=37.8km az=66.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.40**	**211**	Pn	Pn	20 20 01.8	-1.4
	0.6nm,0.3s,baz=31,slow=5.7,SNR=1.3						
URZ				Sn	Sn	20 21 25.9	-1.9
	1.9nm,0.3s,baz=243,slow=22,SNR=8.9 1.3nm,0.3s						
ASAR	**Alice Springs**	**42.99**	**269**	P	P	20 26 15.4	+0.1
	0.3nm,0.5s,baz=107,slow=7.3,SNR=7.5 0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	P	20 26 24.3	-0.1
	0.9nm,0.5s,baz=113,slow=7.9,SNR=11 0.9nm,0.5s						
QSPA	**South Pole Qui**	**58.13**	**180**	P	P	20 28 09.3	+0.1
	1.5nm,1.1s,baz=45,slow=4.3,SNR=1.6 1.5nm,1.1s						
FINES	**FINESS Array B**	**146.61**	**339**	PKPbc	PKPdf	20 37 55.8	+0.6
	1.5nm,0.6s,baz=33,slow=3.3,SNR=8.8						

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*VAO **06** 20:18:53.1±0.8, 24°.95S×68°.83W, h103km±6km, mb4.6*
*GUC **06** 20:19:15.3±0.8, 24°.27S×67°.26W, h183km±8km, ML3.9*
*SJA **06** 20:19:15.0±0.8, 24°.16S×67°.18W, h193km±5km, ML3.9, MW3.8*

ISC 06 20:19:14.5±0.7, 24°.26S±0°.04×67°.22W±0°.04, h201km±7km, n50, σ1§77/61, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.80**	**87**	⇓*i* P	**Pn**	**20 19 43.4**	**-0.4**
SALTA		**0.80**	**87**	*e*P	**Pn**	**20 19 43.5**	**-0.4**
SALTA				*e*S	**S**	**20 20 04.7**	**-1.6**
AF01	**San Pedro de A**	**1.58**	**326**	*e*P	**Pn**	**20 19 50.3**	**+0.9**
AF01				*i* S	**S**	**20 20 15.6**	**-0.5**
AF01				IAML		20 20 19.1	
	comp=N,470nm,0.2s						
AF01	**San Pedro de A**	**1.58**	**326**	*e*P	**Pn**	**20 19 50.7**	**+1.3**
AF01				*i* S	**S**	**20 20 15.5**	**-0.6**
AF01				IAML		20 20 34.5	
	comp=Z,325nm,0.9s						
SLA	**San Lorenzo**	**1.62**	**107**	⇓*i* P	**Pn**	**20 19 50.5**	**+0.9**
SLA	**San Lorenzo**	**1.62**	**107**	*e*P	**Pn**	**20 19 50.6**	**+0.9**
AZAP	**Zapla**	**1.96**	**89**	*e*P	**Pn**	**20 19 53.5**	**+0.5**
AZAP				*e*S	**S**	**20 20 21.4**	**-1.0**
FSA	**Cafayete**	**2.15**	**149**	*i* P	**Pn**	**20 19 56.1**	**+1.2**
FSA				*e*S	**S**	**20 20 25.0**	**-0.9**
GO02	**Mina Guanaco**	**2.34**	**247**	⇑*i* P	**Pn**	**20 19 58.2**	**+1.2**
GO02				*i* S	**S**	**20 20 30.0**	**+0.5**
GO02				IAML		20 20 31.2	
	comp=N,566nm,0.2s						
GO02	**Mina Guanaco**	**2.34**	**247**	*i* P	**Pn**	**20 19 58.2**	**+1.2**
GO02				*e*S	**S**	**20 20 30.5**	**+1.0**
PB06	**IPOC Station P**	**2.66**	**305**	⇑*i* P	**Pn**	**20 20 01.2**	**+0.7**
PB06	**IPOC Station P**	**2.66**	**305**	*i* P	**Pn**	**20 20 01.3**	**+0.7**
PB06				*e*S	**S**	**20 20 34.5**	**-1.2**
PB06				IAML		20 20 35.2	
	comp=Z,581nm,0.1s						
PB14	**IPOC Station P**	**2.93**	**262**	*e*P	**Pn**	**20 20 04.3**	**+0.6**
PB14				IAML		20 20 41.8	
	comp=E,223nm,0.4s						
PB14	**IPOC Station P**	**2.93**	**262**	*e*P	**Pn**	**20 20 04.3**	**+0.6**
PB14				*e*S	**S**	**20 20 40.7**	**-0.7**
PB14				IAML		20 20 42.6	
	comp=Z,239nm,0.6s						
PB09	**IPOC Station P**	**3.08**	**322**	*e*P	**Pn**	**20 20 06.7**	**+1.2**
PB09				IAML		20 20 44.6	
	comp=N,310nm,0.4s						
PB09	**IPOC Station P**	**3.08**	**322**	*e*P	**Pn**	**20 20 06.6**	**+1.1**
PB09				*i* S	**S**	**20 20 43.9**	**-0.7**
PB09				IAML		20 20 49.6	
	comp=Z,246nm,0.4s						
AC02	**Maricunga**	**3.09**	**214**	⇑*i* P	**Pn**	**20 20 07.5**	**+1.8**
AC02				IAML		20 20 54.0	
	comp=E,167nm,0.1s						
AC02	**Maricunga**	**3.09**	**214**	*e*P	**Pn**	**20 20 07.7**	**+2.0**
AC02				*e*S	**S**	**20 20 48.1**	**+2.9**
PB03	**IPOC Station P**	**3.21**	**313**	*e*P	**Pn**	**20 20 07.3**	**+0.4**
PB03				*e*S	**S**	**20 20 44.7**	**-2.5**
PB03				IAML		20 20 47.6	
	comp=Z,552nm,0.1s						
PB01	**IPOC Station P**	**3.83**	**326**	*e*P	**Pn**	**20 20 14.4**	**0.0**
PB01				IAML		20 21 04.1	
	comp=Z,139nm,0.1s						
TA01	**Diego Aracena**	**4.59**	**323**	*e*P	**Pn**	**20 20 23.5**	**-0.3**
TA01				IAML		20 21 19.4	
	comp=Z,48nm,0.5s						
PB11	**IPOC Station P**	**5.02**	**333**	*e*P	**Pn**	**20 20 28.4**	**-1.1**
PB11				IAML		20 21 25.6	
	comp=Z,37nm,0.7s						
ACLC	**CERRO LA CRUZ**	**5.15**	**177**	*e*P	**Pn**	**20 20 33.4**	**+2.4**
AC04	**Llanos de Chal**	**5.24**	**221**	*e*P	**Pn**	**20 20 31.3**	**-0.6**
AC04				*e*S	**S**	**20 21 24.8**	**-7.9**
AC04				IAML		20 21 38.9	
	comp=Z,48nm,0.4s						
LPAZ	**La Paz**	**7.98**	**354**	*e*P	Pn	20 20 55.5	-13
SJPY	**San Joaquin**	**10.13**	**96**	*e*P	**Pn**	**20 21 33.3**	**-2.2**
AQDB	**Aquidauana**	**11.30**	**73**	*e*P	**Pn**	**20 21 51.4**	**+0.9**
PTLB	**Pontes e Lacer**	**11.60**	**42**	*e*P	**Pn**	**20 21 54.9**	**+0.5**
RPRD	**Ribas do Rio P**	**13.06**	**76**	*e*P	**P**	**20 22 16.0**	**+0.2**
SALV	**Santo Antonio**	**13.64**	**55**	*e*P	**P**	**20 22 22.8**	**+0.5**
CPSB	**Cacapava Do Su**	**13.68**	**120**	*e*P	**Pn**	**20 22 17.0**	**-3.5**
PTGB	**Pitanga**	**13.80**	**95**	*e*P	**Pn**	**20 22 22.3**	**+0.2**
LDASE	**Londrina, Braz**	**14.76**	**90**	*e*P	**P**	**20 22 35.7**	**+1.0**
PDRB	**Porto dos Gac**	**16.04**	**40**	*e*P	**Pn**	**20 22 51.7**	**+2.3**
ITRB	**Iturama**	**16.28**	**77**	*e*P	**Pn**	**20 22 54.1**	**+1.9**
ARAG	**Araguaiana, MT**	**16.78**	**62**	*e*P	**Pn**	**20 23 01.1**	**+2.9**
BB19B	**Bebedouro**	**17.54**	**83**	*e*P	**Pn**	**20 23 08.4**	**+1.2**
VAO	**Valinhos**	**18.60**	**90**	*e*P	**Pn**	**20 23 19.4**	**-0.2**
IPMB	**Ipameri, GO**	**18.79**	**74**	*e*P	**Pn**	**20 23 21.7**	**-0.1**
SNDB	**Serra Nova Dou**	**19.43**	**54**	*e*P	**P**	**20 23 26.5**	**+0.7**
PMNB	**Patos De Minas**	**20.16**	**78**	*e*P	Pn	20 23 36.1	-2.3
ITTB	**Itaituba**	**22.66**	**31**	*e*P	**P**	**20 23 58.8**	**-0.1**
DIAM	**Diamantina, MG**	**22.71**	**79**	*e*P	**P**	**20 24 01.8**	**+2.3**
DUB01	**Friburgo-RJ**	**22.93**	**90**	*e*P	**P**	**20 24 00.5**	**-0.8**
JANB	**Januaria**	**23.40**	**71**	*e*P	**P**	**20 24 07.6**	**+2.0**
SDBA	**SAO DESIDERIO**	**24.20**	**65**	*e*P	**P**	**20 24 15.4**	**+2.6**
SMTB	**Santa Maria do**	**24.20**	**54**	*e*P	**P**	**20 24 14.6**	**+1.8**
GUA01	**Guaratinga, BA**	**26.76**	**79**	*e*P	**P**	**20 24 36.8**	**+1.0**
BOAV	**Boa Vista**	**27.29**	**15**	*e*P	**P**	**20 24 38.6**	**-1.9**
NBPB	**Pedra_Branca-C**	**32.43**	**59**	*e*P	**P**	**20 25 27.4**	**+1.6**

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*WEL **06** 20:19:55.2±0.9, 32°S±5°×17°7W±1°4, h0km, M5.7/19, mB5.9/18, ML6.5/18, MLv6.2/19, Mw(mB)5.5/18, Error ellipse: s-maj=18.8km s-min=4.4km az=103.9, confirmed*
*BJI **06** 20:19:57.5, 32°.20S×177°.70W, h10km, mB6.1/57, mb5.5/54, Ms5.8/83, Ms7 5.6/81*
*IDC **06** 20:19:57.9±0.3, 31°.91S×177°.81W, h0km, mb5.2/22, mbtmp5.1/23, ML4.3/1, MS5.7/44, Error ellipse: s-maj=15.2km s-min=14.1km az=58.0*
*ISC-PP **06** 20:19:59, 32°.25S×177°.77W, h13km±1km, Mwppsm6.3, Moment Tensor Solution. s24 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.52±.11; $M_{\theta\theta}$-0.19±.18; $M_{\phi\phi}$0.72±.17; $M_{r\theta}$-0.01±.13; $M_{r\phi}$0.28±.24; $M_{\theta r}$0.07±.09; Fault plane solution: $M_0$3.63000×10^{18} NP1:ϕ_s179.80000°, δ57.40000°, λ264.10000°. NP2:ϕ_s10.70000°, δ33.10000°, λ-80.80000°.*
*NEIC **06** 20:19:59.2±2.0, 32°.25S±0°.09×177°.8W±0°.1, h9km±3km, mb5.7/221, Ms_20 5.9/939, Mww5.8/30 Error ellipse: s-maj=15.3km s-min=12.3km az=130.0*
*NEIC **06** 20:19:59, 32°.24S×177°.80W, h20km*
*NEIC **06** 20:19:59, 32°.24S×178°.00W, h20km, Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^{17}Nm; M_{rr}5.03; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-4.26; $M_{r\theta}$2.56; $M_{\theta\phi}$-1.05; $M_{\phi r}$2.86; Fault plane solution: $M_0$6.11000×10^{17} NP1: ϕ_s184.78000°, δ28.05000°, λ67.01000°. NP2:ϕ_s30.45000°, δ64.35000°, λ101.76000°. Principal axes: T 6.5142, Plg68.0000°, Azm324.0000°; N -0.8029, Plg11.0000°, Azm205.0000°; P -5.7113, Plg19.0000°, Azm112.0000°;*
*MOS **06** 20:20:00.1±1.2, 32°.05S×178°.11W, h17km, mb5.8/21, MS5.7/19 Error ellipse: s-maj=13.8km s-min=10.3km az=126.1*
*NOU **06** 20:20:01.9, 32°.39S×177°.32W, h34km, ML5.7/101, South of Kermadec Islands*
*GCMT **06** 20:20:06.2±0.1, 32°.06S±0°.01×177°.38W±0°.01, h13km, MW5.9/164, Moment Tensor Solution. s139,c268; s164,c432; Duration: 2s1 Moment tensor: Scale 10^{17} Nm; M_{rr}3.96±.05; $M_{\theta\theta}$-0.49±.04; $M_{\phi\phi}$-3.47±.04; $M_{r\theta}$2.52±.12; $M_{\theta\phi}$-1.05±.03; $M_{\phi r}$6.65±.21; Best double couple: $M_0$8.10200×10^{17} NP1:ϕ_s195.00000°, δ14.00000°, λ85.00000°. NP2:ϕ_s20.00000°, δ76.00000°, λ91.00000°. Principal axes: T 8.1840, Plg59.0000°, Azm292.0000°; N -0.1700, Plg1.0000°, Azm200.0000°; P -8.0190, Plg31.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 20:20:00.1±0.7, 32°.21S±0°.04×177°.62W±0°.04, h17km±3km, n1279, σ1§91/867, mb5.6/190, MS5.9/524, 93C-24D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.94**	**355**	P	Pn	20 20 40.1	-6.0
GLKZ				S	**Sn**	**20 21 15.4**	**-5.6**
MXZ	**Matakaoa Point**	**6.30**	**211**		**Pn**	**20 21 30.7**	**-1.5**
MXZ	**Matakaoa Point**	**6.30**	**211**	P	**Pn**	**20 21 32.3**	**0.0**
MXZ	**Matakaoa Point**	**6.30**	**211**	S	**Sn**	**20 22 44.7**	**+0.8**
MXZ	**Matakaoa Point**	**6.30**	**211**	P	**Pn**	**20 21 31.3**	**-1.0**
MXZ				S	**Sn**	**20 22 44.9**	**+1.0**
WMGZ	**Waiomatatini S**	**6.48**	**209**	P	**Pn**	**20 21 34.4**	**-0.2**
WMGZ				S	**Sn**	**20 22 50.5**	**+2.4**
PKGZ	**Pakihiroa**	**6.66**	**211**	P	**Pn**	**20 21 36.9**	**-0.3**
PKGZ				S	**Sn**	**20 22 53.2**	**+0.6**
HAZ	**Te Kaha**	**6.70**	**213**	P	**Pn**	**20 21 38.0**	**+0.3**
HAZ				S	**Sn**	**20 22 56.2**	**+2.6**
PUZ	**Puketiti**	**6.76**	**209**	P	**Pn**	**20 21 37.4**	**-1.1**
PUZ				S	**Sn**	**20 22 54.9**	**-0.2**
RUGZ	**Raukumara Rang**	**6.92**	**213**	P	**Pn**	**20 21 40.9**	**+0.1**
RUGZ				S	**Sn**	**20 23 00.2**	**+1.0**
TWGZ	**Tauwhareparae**	**6.96**	**210**	P	**Pn**	**20 21 41.4**	**+0.1**
TWGZ				S	**Sn**	**20 23 01.1**	**+1.0**
KUZ	**Kuaotunu**	**7.12**	**229**	P	**Pn**	**20 21 46.6**	**+3.1**
CNGZ	**Carnagh Statio**	**7.13**	**207**	P	**Pn**	**20 21 42.2**	**-1.4**
WHRZ	**Whale Island**	**7.17**	**217**	P	**Pn**	**20 21 43.3**	**-0.9**
WHRZ				S	**Sn**	**20 23 07.7**	**+2.4**
TKGZ	**Te Karaka**	**7.24**	**210**	P	**Pn**	**20 21 45.4**	**+0.4**
TKGZ				S	**Sn**	**20 23 07.0**	**+0.2**
MWZ	**Matawai**	**7.29**	**212**	P	**Pn**	**20 21 46.2**	**+0.3**
OPRZ	**Ohinepanea**	**7.38**	**219**	P	**Pn**	**20 21 49.8**	**+2.7**
URZ	**Urewera**	**7.42**	**214**	Pn	**Pn**	**20 21 47.6**	**+0.1**
	4.2nm,0.3s,baz=360,slow=5.7,SNR=14						
URZ				Sn	**Sn**	**20 23 11.4**	**+0.1**
	66nm,0.3s,baz=254,slow=23,SNR=14						
URZ				LR	LR	20 25 18.8	
	comp=Z,102μm,18.3s,baz=112,slow=42 52nm,0.6s						
URZ	**Urewera**	**7.42**	**214**	P	**Pn**	**20 21 46.7**	**-0.9**
URZ	**Urewera**	**7.42**	**214**	⇓P	**Pn**	**20 21 46.6**	**-0.9**
RIGZ	**Rimuhau**	**7.50**	**209**	P	**Pn**	**20 21 48.0**	**-0.7**
WIAZ	**Waiheke Island**	**7.53**	**231**	P	**Pn**	**20 21 50.5**	**+1.4**
WCZ	**Waipu Caves**	**7.63**	**239**	P	Pn	20 21 55.0	+4.4
PRGZ	**Paritu Road**	**7.64**	**207**	P	**Pn**	**20 21 48.6**	**-2.0**
MBAZ	**Motutapu North**	**7.67**	**232**	P	Pn	20 21 56.0	+5.0
TARZ	**Mount Tarawera**	**7.70**	**217**	P	Pn	20 21 55.5	+4.0
KMRZ	**Kaimai**	**7.71**	**221**	P	**Pn**	**20 21 52.5**	**+0.8**
MUGZ	**Murupara**	**7.75**	**215**	P	**Pn**	**20 21 54.3**	**+2.1**
RTZ	**Ruatahuna**	**7.77**	**213**	Pn	**Pn**	**20 21 51.7**	**-0.7**
RTZ	**Ruatahuna**	**7.77**	**213**	P	**Pn**	**20 21 53.1**	**+0.7**
KNZ	**Kokohu**	**7.80**	**208**	P	**Pn**	**20 21 50.6**	**-2.3**
MHGZ	**Mahia Peninsul**	**7.83**	**206**	P	**Pn**	**20 21 51.2**	**-2.0**
TOZ	**Tahuroa Road**	**7.89**	**224**		**Pn**	**20 21 53.5**	**-0.5**
OUZ	**Omahuta**	**7.91**	**245**	P	**Pn**	**20 21 58.5**	**+4.2**
OUZ	**Omahuta**	**7.91**	**245**	P	**Pn**	**20 21 58.6**	**+4.2**
OUZ	**Omahuta**	**7.91**	**245**	⇑P	**Pn**	**20 21 57.4**	**+3.1**
RAHZ	**Arahi**	**7.96**	**211**	P	**Pn**	**20 21 55.5**	**+0.4**
ARHZ	**A

BFZ Birch Farm 9.79 209 Pn 20 22 17.2 -2.9
BFZ Birch Farm 9.79 209 P **Pn 20 22 18.1 -2.0**
BFZ Birch Farm 9.79 209 S **Sn 20 24 05.6 -4.1**
MRZ Mangatainoka R 10.06 211 Pn 20 22 20.4 -3.3
PAWZ Paruwai Farm 10.72 209 P **Pn 20 22 28.6 -4.2**
PAWZ S **Sn 20 24 25.6 -6.7**
MSWZ Moikau Station 10.82 210 Pn **Pn 20 22 31.9 -2.2**
PLWZ Palliser 10.94 209 Pn **Pn 20 22 34.1 -1.9**
SNZO South Karori 10.97 212 Pn **Pn 20 22 34.8 -1.4**
BHW Baring Head 10.97 211 Pn **Pn 20 22 34.0 -2.3**
TCW Tory Channel 11.09 214 Pn **Pn 20 22 35.1 -2.7**
TUWZ Tuamarina 11.41 214 Pn **Pn 20 22 41.0 -1.4**
NNZ Nelson 11.53 216 Pn **Pn 20 22 42.0 -1.9**
CTZ Chatham Island 11.54 176 Pn **Pn 20 22 41.5 -2.4**
CTZ Chatham Island 11.54 176 P **Pn 20 22 43.5 -0.5**
CTZ Chatham Island 11.54 176 S **Sn 20 24 44.7 -7.7**
CTZ Chatham Island 11.54 176 P **Pn 20 22 42.2 -1.7**
BSWZ Blackbirch Sta 11.67 213 Pn **Pn 20 22 45.0 -0.8**
QRZ Quartz Range 11.69 220 Pn **Pn 20 22 43.1 -3.0**
QRZ Quartz Range 11.69 220 P **Pn 20 22 46.8 +0.7**
QRZ Quartz Range 11.69 220 P **Pn 20 22 43.5 -2.6**
QRZ S **Sn 20 24 50.4 -5.7**
MRNZ Matariki Terra 11.98 217 Pn **Pn 20 22 48.8 -1.2**
THZ Tophouse 12.17 216 Pn **Pn 20 22 51.0 -1.7**
KHZ Kahutara 12.38 212 Pn **Pn 20 22 53.1 -2.4**
DSZ Denniston Nort 12.72 219 Pn **Pn 20 22 58.8 -1.4**
DSZ Sn Sn 20 25 10.7 -11
GVZ Greta Valley S 13.04 212 Pn **Pn 20 23 02.0 -2.5**
GVZ Sn **Sn 20 25 20.4 -8.8**
LTZ Lake Taylor 13.25 214 Pn **Pn 20 23 05.3 -2.1**
AMCZ Amberley 13.38 212 Pn **Pn 20 23 09.7 +0.6**
INZ Inchbonnie 13.61 216 Pn **Pn 20 23 11.6 -0.7**
OXZ Oxford 13.78 213 Pn 20 23 14.7 +0.2
MQZ McQueen's Vall 13.80 211 Pn **Pn 20 23 12.8 -2.0**
MQZ McQueen's Vall 13.80 211 P Pn 20 23 08.4 -6.4
LKBA Tubou, Lakemba 13.96 355 P **Pn 20 23 18.6 +1.5**
RPZ Rata Peaks 14.54 215 Pn **Pn 20 23 21.6 -3.4**
RPZ Rata Peaks 14.54 215 Pn **Pn 20 23 21.0 -4.0**
5.7nm,0.3s,baz=71,slow=1.8,SNR=11
RPZ Sn Sn 20 25 53.3 -12
5.9nm,0.3s,baz=315,slow=19,SNR=10.0
RPZ LR LR 20 29 43.2
comp=Z,66µm,18.1s,baz=38,slow=40
NIUE Niue 14.79 30 Pn Pn 20 23 21.7 -6.9
NIUE Niue 14.79 30 P Pn 20 23 16.4 -12
FOZ Fox Glacier 15.02 218 Pn **Pn 20 23 28.8 -2.7**
LBZ Lake Benmore 15.46 215 Pn 20 23 35.7 -1.6
ODZ Otahua Downs 15.74 212 Pn **Pn 20 23 37.9 -3.0**
ODZ Otahua Downs 15.74 212 P **Pn 20 23 40.6 -0.3**
JCZ Jackson Bay 15.94 218 P **Pn 20 23 44.9 +1.3**
PINNC Pines Island, 16.33 302 Pn 20 23 47.2 -1.3
PINNC Pines Island, 16.33 302 P **P 20 23 53.9 +2.5**
WKZ Wanaka 16.35 216 Pn **Pn 20 23 46.8 -2.0**
MARNC Mare, Loyalty 16.66 306 P **P 20 23 57.3 +2.2**
4.4nm,1.0s
OUENC Ouen Island, N 16.89 301 P **P 20 23 58.8 +1.2**
YATNC Mamie plateau, 17.07 302 P **P 20 24 01.1 +1.3**
MLZ Mavora Lakes 17.18 216 Pn 20 23 54.2 -5.0
ONTNC Ouen Toro 17.23 301 Pn 20 24 00.1 0.0
ONTNC IAmb IAmb 20 24 07.9
comp=Z,684nm,1.6s
ONTNC Ouen Toro 17.23 301 P **P 20 24 03.6 +2.1**
ONTNC Ouen Toro 17.23 301 ⇑P **P 20 24 01.3 -0.2**
DZM Mont Dzumac 17.39 302 Pn 20 24 02.6 +0.5
DZM Mont Dzumac 17.39 302 P **P 20 24 04.9 +1.6**
DZM Mont Dzumac 17.39 302 ⇑P **P 20 24 03.3 0.0**
SYZ Scrubby Hill 17.56 212 P **P 20 24 05.1 +0.2**
WHZ Wether Hill Ro 17.64 215 Pn 20 24 03.4 -1.6
DCZ Deep Cove 17.73 217 Pn 20 24 05.9 -0.2
AFI Afiamalu 18.98 18 P 20 24 18.2 -2.7
AFI IAmb IAmb 20 24 25.9
comp=Z,963nm,1.6s
AFI Afiamalu 18.98 18 P **P 20 24 18.7 -2.2**
AFI Afiamalu 18.98 18 P **P 20 24 18.2 -2.7**
AFI pmax pmax
comp=Z,963nm,1.6s
DVP Devils Point 19.29 315 P **Pn 20 24 29.3 +4.0**
RAR Rarotonga 19.31 60 P 20 24 21.5 -2.9
RAR Rarotonga 19.31 60 P **P 20 24 22.0 -2.4**
comp=Z,62nm,0.9s,baz=336,slow=4.4,SNR=5.4
RAR LR LR 20 30 44.6
comp=Z,16µm,20.2s,baz=230,slow=34
RAR Rarotonga 19.31 60 P **P 20 24 23.0 -1.4**
RAR Rarotonga 19.31 60 P **P 20 24 21.5 -2.9**
RAR pmax pmax
comp=Z,305nm,1.2s
LHI Lord Howe Isla 19.81 266 P **P 20 24 28.1 -1.7**
LHI Lord Howe Isla 19.81 266 P **Pn 20 24 34.5 +3.1**
comp=Z,0.0nmcomp=Z,217nm,1.7s
KOUNC Koumac, New Ca 19.90 301 P **Pn 20 24 33.1 +0.5**
KOUNC Koumac, New Ca 19.90 301 ⇑P **P 20 24 31.9 +1.0**
VLAKA Lakatoro 21.01 316 P **P 20 24 46.1 +3.2**
GC1S Gold Coast 1 S 25.24 272 P **P 20 25 28.8 +3.5**
AUWSH Wavell State H 25.86 273 P **P 20 25 33.1 +2.2**
MGCD Mangrove Creek 26.29 259 P **P 20 25 37.7 +3.0**
comp=Z,148nm,0.8s
MGCD Mangrove Creek 26.29 259 P **P 20 25 37.6 +2.9**
ARMA Armidale 26.29 266 IAms_20 IAms_20 20 35 23.4
comp=Z,28µm,18.0s
ARMA Armidale 26.29 266 P **P 20 25 38.1 +3.2**
ARMA Armidale 26.29 266 P **P 20 25 37.1 +2.2**
ARMA Armidale 26.29 266 ⇑P **P 20 25 38.3 +3.4**
TW1H Toowoomba 1 Ha 26.73 272 P **P 20 25 40.4 +1.6**
CNB Canberra Magne 27.55 254 P **P 20 25 49.1 +2.9**
MILA Mila 27.68 251 P **P 20 25 50.2 +2.9**
MCQ Macquarie Isla 27.80 210 IAms_20 IAms_20 20 38 03.2
comp=Z,35µm,18.0s
MCQ Macquarie Isla 27.80 210 P **P 20 25 53.2 +5.1**
MCQ Macquarie Isla 27.80 210 P **P 20 25 50.3 +2.2**
CAN Canberra 27.85 254 IAms_20 IAms_20 20 36 11.5
comp=Z,29µm,19.0s
CAN Canberra 27.85 254 P **P 20 25 51.2 +2.3**
comp=Z,0.0nmcomp=Z,73nm,1.8s
CAN Canberra 27.85 254 P **P 20 25 51.3 +2.5**
CAN Canberra 27.85 254 ⇓P **P 20 25 51.9 +3.1**
EIDS Eidsvold 28.20 276 IAmb IAmb 20 25 59.5
comp=Z,127nm,1.3s
EIDS Eidsvold 28.20 276 P **P 20 25 52.2 +0.2**
comp=Z,0.0nmcomp=Z,91nm,0.9s
EIDS Eidsvold 28.20 276 P **P 20 25 54.9 +3.0**
EIDS Eidsvold 28.20 276 ⇓P **P 20 25 52.5 +0.6**
YNG Young 28.42 256 P **P 20 25 56.4 +2.4**
comp=Z,257nm,1.0s
YNG Young 28.42 256 P **P 20 25 56.7 +2.8**
PPTF Pamatai, Papee 29.20 67 P **P 20 26 00.7 -0.3**
PPT Papeete 29.21 67 P **P 20 26 00.8 -0.2**
comp=Z,23nm,0.4s,baz=98,slow=17,SNR=4.3
PPT LR LR 20 35 50.5
comp=Z,16µm,18.4s,baz=244,slow=33
comp=Z,23nm,0.4s
CORO Coronation Par 29.51 242 P **P 20 26 06.9 +3.5**
TAU Tasmania Unive 29.58 239 IAms_20 IAms_20 20 38 26.1
comp=Z,31µm,18.0s
TAU Tasmania Unive 29.58 239 P **P 20 26 06.9 +2.8**
RMQ Roma 29.78 272 P **P 20 26 09.7 +3.7**
TOO Toolangi 30.59 250 P **P 20 26 10.6 -2.6**
TOO Toolangi 30.59 250 P **P 20 26 15.5 +2.4**
comp=Z,0.0nmcomp=Z,17nm,1.2s
TOO Toolangi 30.59 250 P **P 20 26 10.6 -2.6**
TOO pmax pmax
comp=Z,33nm,1.4s
TOO pmax pmax
comp=Z,11µm,18.0s
TOO Toolangi 30.59 250 ⇑P **P 20 26 15.5 +2.4**
HNR Honiara 30.74 313 P **P 20 26 12.8 -1.7**
HNR IAmb IAmb 20 26 27.0
comp=Z,162nm,1.1s
HNR Honiara 30.74 313 P **P 20 26 12.5 -2.1**
comp=Z,52nm,0.5s,baz=217,slow=5.9,SNR=4.3
HNR LR LR 20 37 05.1
comp=Z,10µm,19.0s,baz=169,slow=34
comp=Z,52nm,0.5s
HNR Honiara 30.74 313 P **P 20 26 15.9 +1.4**
HNR Honiara 30.74 313 P **P 20 26 12.8 -1.7**
HNR pmax pmax
comp=Z,162nm,1.1s
HNR pmax pmax
comp=Z,15µm,19.0s
ALEG Aligegeo Malai 30.81 315 P **P 20 26 14.3 -0.8**
CMSA Cobar Meteorol 31.07 261 P **P 20 26 17.2 -0.2**
comp=Z,0.0nmcomp=Z,158nm,1.1s
CMSA Cobar Meteorol 31.07 261 P **P 20 26 19.9 +2.5**
ARPS Mount Arapiles 33.55 251 P **P 20 26 38.4 -0.6**
comp=Z,153nm,0.9s
ARPS Mount Arapiles 33.55 251 P **P 20 26 41.2 +2.2**
QLP Quilpie 33.58 270 P **P 20 26 40.3 +0.9**
comp=Z,231nm,1.5s
QLP Quilpie 33.58 270 P **P 20 26 41.8 +2.4**
QLP Quilpie 33.58 270 ⇓P **P 20 26 40.0 +0.6**
TV1H Townsville Har 34.39 283 P **P 20 26 48.8 +2.3**
STKA Stephens Creek 34.43 259 P **P 20 26 45.3 -1.4**
STKA Stephens Creek 34.43 259 P **P 20 26 47.8 +1.0**
comp=Z,0.0nmcomp=Z,276nm,1.2s
STKA Stephens Creek 34.43 259 P **P 20 26 47.0 +0.2**
comp=Z,22nm,0.6s,baz=101,slow=11,SNR=29
STKA LR LR 20 40 39.0
comp=Z,23µm,18.1s,baz=98,slow=36
comp=Z,22nm,0.6s
STKA Stephens Creek 34.43 259 P **P 20 26 48.7 +2.0**
STKA Stephens Creek 34.43 259 *i*P **P 20 26 46.0 -0.7**
INKA Innaminka 36.18 266 P **P 20 27 03.5 +1.7**
HTT Hallett 36.35 256 P **P 20 27 04.4 +1.1**
comp=Z,86nm,0.9s
HTT Hallett 36.35 256 P **P 20 27 04.9 +1.6**
HTT Hallett 36.35 256 ⇑P **P 20 27 03.6 +0.3**
MTSU Mount Surprise 36.98 283 P **P 20 27 09.5 +0.7**
comp=Z,116nm,0.8s
MTSU Mount Surprise 36.98 283 P **P 20 27 10.0 +1.2**
WHYH Whyalla 37.53 256 P **P 20 27 14.0 +0.7**
LCRK Leigh Creek 37.57 261 P **P 20 27 14.0 +0.3**
BBOO Buckleboo 38.82 256 P **P 20 27 22.6 -1.7**
BBOO IAms_20 IAms_20 20 43 11.9
comp=Z,17µm,19.0s
BBOO Buckleboo 38.82 256 P **P 20 27 23.6 -0.6**
comp=Z,116nm,0.8s
BBOO Buckleboo 38.82 256 P **P 20 27 24.6 +0.4**
XMAS Kiritimati 39.06 33 P **P 20 27 24.6 -1.7**
XMAS IAmb IAmb 20 27 28.2
comp=Z,219nm,1.2s
XMAS Kiritimati 39.06 33 P **P 20 27 27.1 +0.8**
PMG Port Moresby 39.69 297 P **P 20 27 30.7 -0.8**
comp=Z,20nm,0.8s,baz=123,slow=7.4,SNR=7.9
PMG PcP **PcP 20 29 37.6 -0.6**
comp=Z,18nm,0.8s,baz=129,slow=0.6,SNR=3.0
PMG LR LR 20 42 30.6
comp=Z,10µm,18.9s,baz=128,slow=34
comp=Z,20nm,0.8s
RABL Rabaul 39.72 308 P **P 20 27 30.7 -1.2**
RABL IAmb IAmb 20 27 43.5
comp=Z,102nm,0.7s
RABL Rabaul 39.72 308 ⇑P **P 20 27 31.3 -0.6**
QIS Mount Isa 39.80 276 P **P 20 27 31.2 -1.3**
comp=Z,0.0nmcomp=Z,74nm,1.3s
QIS Mount Isa 39.80 276 P **P 20 27 32.6 +0.1**
COEN Coen 40.10 288 P **P 20 27 33.3 -1.8**
COEN Coen 40.10 288 P **P 20 27 33.2 -1.8**
comp=Z,0.0nmcomp=Z,79nm,1.3s
COEN Coen 40.10 288 P **P 20 27 35.9 +0.9**
COEN Coen 40.10 288 ⇑P **P 20 27 34.3 -0.7**
OOD Oodnadatta 40.43 264 P **P 20 27 38.8 +1.2**
AS19 Alice Springs 43.30 269 P **P 20 27 59.6 -1.6**
comp=Z,109nm,0.8s
AS06 Alice Springs 43.31 269 P **P 20 28 00.2 -1.2**
comp=Z,86nm,0.7s
AS01 Alice Springs 43.33 269 P **P 20 28 00.8 -0.6**
AS31 Alice Springs 43.36 269 P **P 20 28 00.4 -1.3**
comp=Z,0.0nmcomp=Z,28nm,0.6s
ASAR Alice Springs 43.36 269 P **P 20 27 59.6 -2.2**
comp=Z,34nm,0.5s,baz=105,slow=7.4,SNR=149
ASAR PcP **PcP 20 29 49.8 -0.5**
comp=Z,9.4nm,1.0s,baz=123,slow=4.5,SNR=1.0
ASAR ScP **ScP 20 33 43.4 +2.5**
comp=Z,2.7nm,0.9s,baz=130,slow=4.2,SNR=3.7
ASAR S **S 20 34 24.6 -4.5**
comp=Z,5.7nm,1.0s,baz=112,slow=13,SNR=6.0
ASAR LR LR 20 44 60.0
comp=Z,7µm,18.3s,baz=118,slow=35
comp=Z,34nm,0.5s
WR0 Warramunga Arr 44.34 274 IAmb IAmb 20 28 14.8
comp=Z,69nm,0.8s
WB2 Warramunga Arr 44.51 274 IAmb IAmb 20 28 13.5
comp=Z,106nm,0.5s
WRAB Tennant Creek 44.51 274 P **P 20 28 07.9 -3.1**
WRAB IAmb IAmb 20 28 29.2
comp=Z,87nm,0.9s
WRAB Tennant Creek 44.51 274 *i*P **P 20 28 08.6 -2.3**
WRAB pmax pmax
comp=Z,147nm,1.4s
WRA Warramunga Arr 44.52 274 P **P 20 28 08.6 -2.4**
comp=Z,71nm,0.5s,baz=114,slow=7.6,SNR=146
WRA PcP **PcP 20 29 54.2 0.0**
comp=Z,9.3nm,0.8s,baz=121,slow=3.3,SNR=1.2
WRA ScP **ScP 20 33 47.7 +2.1**
comp=Z,3.3nm,0.9s,baz=116,slow=3.4,SNR=7.3
WRA S **S 20 34 38.2 -7.6**
comp=Z,2.4nm,1.0s,baz=113,slow=14,SNR=3.0
comp=Z,71nm,0.5s
WB0 Warramunga Arr 44.55 274 IAmb IAmb 20 28 40.6
comp=Z,107nm,0.8s
MANU Manus Island 44.55 305 P **P 20 28 10.0 -1.2**
PATS Pohnpei 45.10 325 IAms_20 IAms_20 20 44 33.0
comp=Z,14µm,19.0s
FORT Forrest 45.92 257 P **P 20 28 20.4 -1.7**
FORT Forrest 45.92 257 P **P 20 28 21.0 -1.0**
comp=Z,0.0nmcomp=Z,271nm,0.7s
FORT Forrest 45.92 257 P **P 20 28 22.0 0.0**
FORT Forrest 45.92 257 ⇑P **P 20 28 20.9 -1.2**
VNDA Vanda 46.34 186 P **P 20 28 27.7 +3.0**
comp=Z,16nm,1.2s,baz=358,slow=4.0,SNR=3.8
VNDA LR LR 20 46 28.2
comp=Z,10µm,19.3s,baz=12,slow=34
comp=Z,16nm,1.2s
TABU Tabubil 46.84 296 P **P 20 28 31.8 +2.3**
WRKA Warakurna 47.60 264 P **P 20 28 32.5 -2.8**
WRKA Warakurna 47.60 264 P **P 20 28 33.7 -1.6**
WRKA Warakurna 47.60 264 ⇑P **P 20 28 32.5 -2.8**
JAY Jayapura 49.02 298 LR LR 20 47 52.9
comp=Z,6µm,21.8s,baz=110,slow=34
GENI Genyem 49.38 298 P **P 20 28 50.9 +1.9**
GENI Genyem 49.38 298 P **P 20 28 48.0 -1.0**
comp=Z,6µcomp=Z,3µcomp=Z,78nm,1.7s
KDU Kakadu 49.57 281 P **P 20 28 49.1 -1.3**
comp=Z,0.0nmcomp=Z,87nm,1.3s
KDU Kakadu 49.57 281 P **P 20 28 52.8 +2.4**
KDU Kakadu 49.57 281 ⇑P **P 20 28 49.3 -1.2**
MTN Manton Dam 50.60 280 P **P 20 28 57.3 -1.0**
MTN IAmb IAmb 20 29 12.9
comp=Z,258nm,1.6s
MTN Manton Dam 50.60 280 P **P 20 28 56.6 -1.7**
comp=Z,0.0nmcomp=Z,82nm,1.5s
MTN Manton Dam 50.60 280 P **P 20 29 00.5 +2.2**
MTN Manton Dam 50.60 280 ⇑P **P 20 28 57.4 -1.0**
KMBL Kambalda 50.81 254 P **P 20 28 58.5 -1.3**
comp=Z,52nm,2.7s
KMBL Kambalda 50.81 254 P **P 20 29 01.3 +1.5**
DRS Darwin Rock St 51.01 280 P **P 20 29 02.2 +0.8**
KNRA Kununurra 51.18 276 IAmb IAmb 20 29 19.4
comp=Z,94nm,1.0s
KNRA Kununurra 51.18 276 P **P 20 29 01.0 -1.6**
comp=Z,0.0nmcomp=Z,95nm,0.8s
FITZ Fitzroy Crossi 52.70 271 P **P 20 29 11.1 -2.8**
FITZ Fitzroy Crossi 52.70 271 LR LR 20 50 50.7
comp=Z,22µm,19.9s,baz=125,slow=35
FITZ Fitzroy Crossi 52.70 271 P **P 20 29 12.6 -1.4**
FITZ Fitzroy Crossi 52.70 271 ⇑P **P 20 29 11.9 -2.0**
SAUI Saumlaki 53.08 285 P **P 20 29 18.5 +1.7**
BAKI Biak 53.36 296 P **P 20 29 18.1 -0.7**
comp=Z,6µcomp=Z,2µcomp=Z,65nm,0.7s
WAKE Wake Island 53.37 341 IAms_20 IAms_20 20 47 44.7
comp=Z,11µm,21.0s
CASY Casey 53.71 208 P **P 20 29 20.2 -0.5**
NWAO Narrogin (SRO) 54.08 250 P **P 20 29 22.3 -1.7**
NWAO Narrogin (SRO) 54.08 250 IAms_20 IAms_20 20 56 18.5
comp=Z,10µm,19.0s
NWAO Narrogin (SRO) 54.08 250 LR LR 20 49 58.8
comp=Z,5µm,21.1s,baz=63,slow=33
NWAO Narrogin (SRO) 54.08 250 P **P 20 29 22.3 -1.7**
NWAO pmax pmax
comp=Z,49nm,1.3s
NWAO pmax pmax
comp=Z,10µm,19.0s
KLBR Kellerberrin 54.09 252 P **P 20 29 21.8 -2.2**
comp=Z,114nm,1.0s
KLBR Kellerberrin 54.09 252 P **P 20 29 23.5 -0.6**
MEEK Meekatharra 55.12 258 P **P 20 29 28.5 -3.2**
MEEK Meekatharra 55.12 258 P **P 20 29 31.4 -0.2**
MUN Mundaring 55.21 251 P **P 20 29 34.1 +1.9**
FAKI Fak Fak 55.28 291 P **P 20 29 29.6 -3.3**
FAKI IAms_20 IAms_20 20 53 50.8
comp=Z,9µm,19.0s
FAKI Fak Fak 55.28 291 P **P 20 29 32.9 0.0**
FAKI Fak Fak 55.28 291 P **P 20 29 30.4 -2.5**
comp=Z,5µcomp=Z,2µcomp=Z,62nm,1.0s
FAKI Fak Fak 55.28 291 ⇑P **P 20 29 29.8 -3.0**
PUH Pauahi 55.60 26 P **P 20 29 34.5 -0.6**
PUH IAmb IAmb 20 29 46.5
comp=Z,109nm,1.0s
KNHH Kane Nui o Ham 55.62 26 P **P 20 29 35.7 +0.5**
HMH Humu'ula Sheep 55.71 25 P **P 20 29 34.9 -1.2**
PSA00 Pilbara Seismi 56.09 264 IAmb IAmb 20 29 46.3
comp=Z,114nm,1.8s
BNDI Bandanaira 56.20 288 P **P 20 29 35.9 -3.5**
MORW Morawa 56.34 254 IAmb IAmb 20 29 40.7
comp=Z,126nm,1.9s
MORW Morawa 56.34 254 P **P 20 29 42.3 +1.9**
MORW Morawa 56.34 254 ⇑P **P 20 29 39.8 -0.6**
MBWA Marble Bar 56.37 265 P **P 20 29 36.9 -3.7**
MBWA IAmb IAmb 20 29 56.4
comp=Z,70nm,1.2s
MBWA Marble Bar 56.37 265 IAms_20 IAms_20 20 53 35.1
comp=Z,12µm,21.0s
MBWA Marble Bar 56.37 265 P **P 20 29 38.3 -2.3**
comp=Z,0.0nmcomp=Z,43nm,0.9s
MBWA Marble Bar 56.37 265 P **P 20 29 40.5 -0.1**
SWI Sorong 57.32 292 P **P 20 29 44.8 -2.6**
comp=Z,5µcomp=Z,2µcomp=Z,54nm,1.8s
MSAI Masohi 57.67 288 P **P 20 29 47.4 -2.5**
QSPA South Pole Qui 57.91 180 P **P 20 29 53.7 +2.7**
comp=Z,30nm,1.0s,baz=67,slow=1.4,SNR=33
QSPA LR LR 20 52 19.0
comp=Z,11µm,19.4s,baz=40,slow=33
comp=Z,30nm,1.0s
SOEI Soe 57.95 279 IAmb IAmb 20 30 16.4
comp=Z,146nm,1.0s
SOEI Soe 57.95 279 P **P 20 29 54.4 +2.4**
SOEI Soe 57.95 279 P **P 20 29 51.0 -1.0**
SOEI Soe 57.95 279 ⇑P **P 20 29 51.6 -0.4**
AAI Ambon 58.07 288 P **P 20 29 50.9 -1.8**
comp=Z,2µcomp=Z,60nm,0.8s
VA02 Isla de Pascua 58.57 104 IAms_20 IAms_20 20 49 25.4
comp=Z,10µm,21.0s
RPN Rapa Nui 58.66 104 IAms_20 IAms_20 20 49 14.9
comp=Z,10µm,20.0s
NLAI Namlea 59.21 287 P **P 20 29 58.3 -2.4**
comp=Z,4µcomp=Z,2µcomp=Z,66nm,1.0s
MIDW Midway 60.09 0 IAms_20 IAms_20 20 53 37.2
comp=Z,11µm,20.0s
MMRI Maumere 60.23 279 P **P 20 30 06.7 -1.1**
MMRI Maumere 60.23 279 P **P 20 30 09.8 +2.1**
MMRI Maumere 60.23 279 P **P 20 30 06.4 -1.3**
comp=Z,5µcomp=Z,3µcomp=Z,134nm,1.3s
GIRL Giralia 60.36 261 P 20 30 08.6 +0.1
BASI Baing, Sumba 60.80 276 P **P** 20 30 06.2 -5.4
SANI Sanana 60.80 288 P **P 20 30 11.7 +0.1**
SANI Sanana 60.80 288 P **P 20 30 09.1 -2.5**
comp=Z,4µcomp=Z,2µcomp=Z,66nm,1.9s
SANI Sanana 60.80 288 ⇑P **P 20 30 08.6 -3.0**
TNTI Ternate 61.38 291 P **P 20 30 13.0 -2.5**
WBSI Waikabubak, Su 62.10 276 P **P 20 30 18.9 -1.5**
comp=Z,5µcomp=Z,1µcomp=Z,69nm,1.3s
BKSI Bulukumba 63.78 281 P **P 20 30 28.8 -2.7**
comp=Z,1µcomp=Z,33nm,0.9s
PLAI Plampang 63.88 276 P **P 20 30 34.3 +2.1**
PLAI Plampang 63.88 276 P **P 20 30 28.5 -3.7**
comp=Z,5µcomp=Z,2µcomp=Z,89nm,1.1s
KMSI Cibinong 63.97 289 P **P 20 30 29.4 -3.3**
KAPI Kappang 64.26 281 LR LR 20 59 24.7
comp=Z,13µm,18.7s,baz=114,slow=37
KAPI Kappang 64.26 281 *i*P **P 20 30 32.2 -2.5**
KAPI pmax pmax
comp=Z,80nm,1.3s
SPSI Sidrap Palu 64.82 282 P **P 20 30 37.3 -1.0**
comp=Z,5µcomp=Z,1µcomp=Z,62nm,1.0s
APSI Ampana 64.99 286 P **P 20 30 39.4 -0.1**
comp=Z,102nm,1.5s
TTSI Tana Toraja 65.29 283 P **P 20 30 38.5 -2.9**
comp=Z,1µcomp=Z,57nm,1.3s
MRSI Marisa 65.55 287 P **P 20 30 40.3 -2.8**
comp=Z,3µcomp=Z,28nm,0.6s
SRBI Singaraja 66.43 275 P **P 20 30 47.3 -1.5**
PCI Palu 66.47 285 P **P 20 30 48.6 -0.5**
comp=Z,5µcomp=Z,2µcomp=Z,146nm,1.4s
DAV Davao City (W) 66.68 295 P **P 20 30 48.0 -2.3**
TOLI2 Tolitoli 66.86 287 P **P 20 30 50.3 -1.2**
TOLI2 IAmb IAmb 20 30 53.9
comp=Z,35nm,0.9s
TOLI2 Tolitoli 66.86 287 P **P 20 30 51.2 -0.3**
JAGI Jajag, Banyuwa 67.13 274 P **P 20 30 51.7 -1.5**
JAGI IAmb IAmb 20 31 23.3
comp=Z,61nm,1.0s
JAGI IAms_20 IAms_20 21 00 29.8
comp=Z,8µm,20.0s
JAGI Jajag, Banyuwa 67.13 274 P **P 20 30 54.0 +0.8**
JAGI Jajag, Banyuwa 67.13 274 P **P 20 30 51.1 -2.1**
comp=Z,4µcomp=Z,2µcomp=Z,54nm,1.4s
JAGI Jajag, Banyuwa 67.13 274 ⇑P **P 20 30 52.3 -0.9**
GMJI Gumukmas 67.83 274 P **P 20 30 54.4 -3.3**
comp=Z,1µcomp=Z,56nm,1.0s
BELA Belgrano 2 67.96 172 P **P 20 30 57.5 0.0**
PCJI Pacitan 69.79 273 P **P 20 31 10.7 +0.8**
comp=Z,150nm,1.4s
JCJ Chichijima 70.31 322 LR LR 20 58 40.1
comp=Z,2µm,21.2s,baz=118,slow=33
UGM Wanagama 70.49 273 IAms_20 IAms_20 21 03 38.7
comp=Z,8µm,19.0s
PMSA Palmer Station 70.49 155 IAms_20 IAms_20 20 59 02.4
comp=Z,6µm,19.0s
PMSA Palmer Station 70.49 155 LR LR 20 59 32.5
comp=Z,6µm,18.2s,baz=239,slow=34
MAW Mawson 70.74 201 P **P 20 31 17.6 +2.8**
comp=Z,65nm,1.0s,baz=98,slow=5.6,SNR=3.6
MAW LR LR 21 03 08.2
comp=Z,13µm,18.1s,baz=116,slow=36
comp=Z,65nm,1.0s
XMIS Christmas Isla 73.31 268 IAms_20 IAms_20 21 02 00.2
comp=Z,9µm,21.0s
LEM Lembang 73.51 272 LR LR 21 02 11.7
comp=Z,4µm,21.4s,baz=138,slow=35
LEM Lembang 73.51 272 P **P 20 31 30.5 -2.0**
comp=Z,1µcomp=Z,33nm,0.8s
MG04 Isla Riesco 73.76 143 IAms_20 IAms_20 21 03 26.4
comp=Z,6µm,19.0s
GO10 Punta Arenas 73.87 143 IAms_20 IAms_20 21 01 45.2
comp=Z,5µm,19.0s
MG05 Puerto Natales 73.90 141 IAms_20 IAms_20 21 03 23.1
comp=Z,6µm,18.0s
STKI Sintang 73.93 280 P **P 20 31 32.5 -2.3**
comp=Z,2µcomp=Z,69nm,1.1s
MG01 Puerto William 74.58 146 IAms_20 IAms_20 21 01 00.7
comp=Z,6µm,20.0s
SBUM Sibu 74.64 283 P **P 20 31 39.3 +0.4**
SBUM Sibu 74.64 283 ⇓P **P 20 31 38.0 -0.8**
TGY Tagaytay City 74.65 298 LR LR 21 06 32.6
comp=Z,632nm,18.1s,baz=150,slow=38
MG02 Cerro Sombrero 75.00 143 IAms_20 IAms_20 21 02 58.1
comp=Z,6µm,18.0s
ELIB Princess Elisa 75.10 187 *d*P **P 20 31 42.4 +1.6**
comp=Z,33nm,1.1s
CGJI Cibinong 75.25 271 P **P 20 31 40.7 -1.7**
comp=Z,1µcomp=Z,52nm,1.1s
SYO Syowa Base 75.43 193 ⇑*i*sP sP 20 31 47.2 +0.2
SYO Syowa Base 75.43 193 ⇑*i*PcP **PcP 20 31 54.6 -1.0**
KSM Kuching 75.68 281 P **P 20 31 44.2 -0.7**
TROLL Troll, Antarti 76.07 180 ⇑P **P 20 31 46.7 +0.4**
comp=Z,3µm,0.8s
TROLL ⇑S **S 20 41 31.1 +2.3**
comp=Z,17µm,3.9s
SNAA Sanae 76.35 178 P **P 20 31 47.8 -0.1**
SNAA Sanae 76.35 178 ⇑P **P 20 31 49.5 +1.7**
comp=Z,985nm,1.0s
SNAA ⇑S **S 20 41 32.6 +0.8**
comp=Z,32µm,7.6s
SNAA Sanae 76.35 178 P **P 20 31 49.7 +1.8**
comp=Z,43nm,0.9s,baz=180,slow=5.7,SNR=26
SNAA LR LR 21 02 32.9
comp=Z,7µm,20.1s,baz=196,slow=33
comp=Z,43nm,0.9s
SNAA Sanae 76.35 178 *ce*P **P 20 31 48.4 +0.5**
SNAA pmax pmax
comp=Z,89nm,1.3s
JHJ Hachijo jima 2 76.39 324 LR LR 21 00 36.7
comp=Z,3µm,21.9s,baz=152,slow=32
VNA3 Neumayer Olymp 76.49 176 ⇑P **P 20 31 50.1 +1.5**
comp=Z,122nm,0.8s
VNA2 Neumayer--Watz 76.92 177 ⇑P **P 20 31 52.2 +1.1**

comp=Z,87nm,0.8s,baz=181,slow=5.2
VNA1 Neumayer--Stat 77.15 176 ⇑P **P 20 31 52.4 +0.1**
comp=Z,116nm,1.0s
COYC Coyhaique 77.41 136 P **P 20 31 54.6 +0.4**
COYC IAmb IAmb 20 32 10.3
comp=Z,53nm,0.9s
COYC Coyhaique 77.41 136 IAMs_20 IAMs_20 20 58 26.7
comp=Z,6μm,20.0s
MDSI Maura Dua 77.64 272 P **P 20 31 53.9 -2.1**
comp=Z,1μmcomp=Z,39nm,1.2s
AY01 Puyuhuapi 77.70 135 IAMs_20 IAMs_20 21 03 21.6
comp=Z,5μm,18.0s
LL07 Hotel Espejo d 78.06 133 IAMs_20 IAMs_20 20 59 01.3
comp=Z,8μm,20.0s
JOW Kunigami 78.11 312 LR LR 21 05 28.3
comp=Z,3μm,18.5s,baz=107,slow=35
MNAI Manna 78.74 272 IAMs_20 IAMs_20 21 07 15.5
comp=Z,7μm,22.0s
LL02 Futaleuf 78.86 134 IAmb IAmb 20 32 11.5
comp=Z,61nm,0.9s
LL02 IAMs_20 IAMs_20 21 00 41.4
comp=Z,6μm,19.0s
LL01 San Ignacio de 78.97 133 IAMs_20 IAMs_20 21 00 35.3
comp=Z,7μm,19.0s
H03S2 Juan Fernandez 79.20 123 T T 21 59 37.9
baz=237,slow=74,SNR=9.3
H03S1 Juan Fernandez 79.22 123 T T 21 59 41.8
baz=237,slow=74,SNR=9.0
H03S3 Juan Fernandez 79.22 123 T T 21 59 34.9
baz=237,slow=74,SNR=8.0
VA04 Juan Fernndez 79.37 123 IAMs_20 IAMs_20 21 01 14.5
comp=Z,5μm,20.0s
H03N3 Juan Fernandez 79.40 123 T T 21 59 47.5
baz=240,slow=72,SNR=6.0
H03N2 Juan Fernandez 79.41 123 T T 21 59 46.2
baz=240,slow=72,SNR=5.4
H03N1 Juan Fernandez 79.42 123 T T 21 59 42.2
baz=240,slow=72,SNR=9.6
INU Inuyama 79.55 324 P **P 20 32 07.5 +1.6**
JGF Kuroka 79.58 324 P **P 20 32 08.6 +2.4**
LL03 Petrohue 79.66 132 IAMs_20 IAMs_20 20 59 22.7
comp=Z,7μm,20.0s
JMM Marumori 79.77 328 IAMs_20 IAMs_20 21 04 14.0
comp=Z,5μm,20.0s
MJAR Matsushiro Arr 79.91 325 P **P 20 32 05.6 -2.3**
comp=Z,14nm,1.0s,baz=157,slow=5.1,SNR=18
comp=Z,14nm,1.0s
MAJO Matsushiro 79.91 325 P **P 20 32 07.1 -0.8**
MAJO Matsushiro 79.91 325 P **P 20 32 08.0 +0.1**
MAJO Matsushiro 79.91 325 *i* P **P 20 32 05.4 -2.5**
MAJO pmax pmax
comp=Z,40nm,1.3s
LR05 Currie 80.42 132 IAMs_20 IAMs_20 20 59 45.9
comp=Z,7μm,21.0s
PLCA Paso Flores 81.05 133 P **P 20 32 15.4 +1.1**
PLCA IAmb IAmb 20 32 19.0
comp=Z,84nm,1.4s
PLCA Paso Flores 81.05 133 P **P 20 32 16.3 +2.0**
comp=Z,24nm,1.1s,baz=233,slow=7.0,SNR=9.5
PLCA LR LR 21 00 49.2
comp=Z,7μm,19.9s,baz=235,slow=30
comp=Z,24nm,1.1s
PLCA Paso Flores 81.05 133 P **P 20 32 15.4 +1.1**
PLCA pmax pmax
comp=Z,84nm,1.4s
JSD Sado 81.08 326 P **P 20 32 15.2 +1.1**
JNU Nakatsue 81.12 318 LR LR 21 02 27.3
comp=Z,2μm,22.0s,baz=149,slow=32
JNU Nakatsue 81.12 318 P **P 20 32 16.1 +1.6**
MYKOM Kota Tinggi 81.25 278 IAMs_20 IAMs_20 21 10 48.5
comp=Z,6μm,19.0s
JTM Tenmabayashi 82.05 330 IAMs_20 IAMs_20 21 04 19.5
comp=Z,5μm,22.0s
ERM Erimo 82.20 332 IAMs_20 IAMs_20 21 04 09.5
comp=Z,6μm,20.0s
BKNI Bangkinang 82.84 275 IAMs_20 IAMs_20 21 13 49.3
comp=Z,6μm,18.0s
YUK Yuzh-Kuril'sk 82.88 334 P **P 20 32 20.6 -2.8**
YUK *e*S **SKSac 20 42 44.0 +0.1**
YUK MLR MLR
comp=Z,5μm,20.0s
BI02 San Fabin de 82.91 129 IAMs_20 IAMs_20 21 04 42.2
comp=Z,5μm,18.0s
DLV Lat 83.04 289 P **P 20 32 26.2 +1.0**
DLV Lat 83.04 289 ⇑P **P 20 32 23.1 -2.1**
QZH Quanzhou 83.25 305 P **P 20 32 25.2 -0.6**
QZH S **S 20 42 37.7 -8.0**
QZH pmax pmax
comp=Z,1μm,12.0s
QZH LR LR
comp=Z,4μm,17.2s
QZH LR LR
comp=Z,4μm,14.4s
QZH LR LR
comp=Z,2μm,16.1s
ML02 Panimavida 83.33 128 IAmb IAmb 20 32 34.9
comp=Z,95nm,1.2s
ML02 IAMs_20 IAMs_20 21 01 37.4
comp=Z,7μm,20.0s
JKA Kamikawa-asahi 84.19 332 IAmb IAmb 20 32 35.0
comp=Z,52nm,1.1s
JKA IAMs_20 IAMs_20 21 05 25.2
comp=Z,5μm,20.0s
ASAJ Asahikawa 84.19 332 LR LR 21 05 46.9
comp=Z,5μm,20.2s,baz=172,slow=33
BO02 Sierra Bellavi 84.31 128 IAMs_20 IAMs_20 21 02 07.5
comp=Z,7μm,20.0s
BO01 Tunca 84.34 127 IAmb IAmb 20 33 00.9
comp=Z,130nm,1.7s
BO01 IAMs_20 IAMs_20 21 01 57.3
comp=Z,6μm,20.0s
VA01 Torpederas 84.74 126 IAMs_20 IAMs_20 21 03 01.3
comp=Z,4μm,19.0s
MT09 Talagante 84.76 127 IAmb IAmb 20 32 49.1
comp=Z,110nm,1.2s
SHEM Shemya Is, Ala 84.89 355 LR LR 21 03 06.6
comp=Z,6μm,21.9s,baz=144,slow=31
BO04 La Punta 84.89 127 IAmb IAmb 20 32 50.0
comp=Z,94nm,1.6s
BO04 IAMs_20 IAMs_20 21 02 14.0
comp=Z,5μm,20.0s
MT02 Curacav 84.95 126 IAmb IAmb 20 32 42.2
comp=Z,68nm,1.1s
SNCC San Nicolas Is 85.06 46 IAMs_20 IAMs_20 21 03 18.6
comp=Z,5μm,18.0s
MT05 Renca 85.15 127 P **P 20 32 36.1 +0.5**
ROC1 El Roble 85.20 126 *i* P **P 20 32 37.0 +0.8**
LPIG La Paz 85.21 58 LR LR 21 02 54.8
comp=Z,8μm,20.0s,baz=225,slow=30
SLBS Sierra La Lagu 85.22 58 P **P 20 32 37.4 +1.4**
MT03 Universidad Ad 85.25 127 IAmb IAmb 20 32 51.9
comp=Z,115nm,1.4s
VA06 Catapilco 85.25 126 IAMs_20 IAMs_20 21 05 44.6
comp=Z,4μm,18.0s
LMEL Las Melosas 85.25 127 IAmb IAmb 20 32 44.3
comp=Z,40nm,0.9s
LMEL IAMs_20 IAMs_20 21 02 37.3
comp=Z,6μm,21.0s
MT13 San Alfonso 85.25 127 IAMs_20 IAMs_20 21 02 26.5
comp=Z,6μm,21.0s
MT16 CCHEN 85.27 127 IAmb IAmb 20 32 44.3
comp=Z,98nm,1.1s
MT16 IAMs_20 IAMs_20 21 02 26.2
comp=Z,4μm,20.0s
SSE Sheshan 85.53 311 P **P 20 32 36.7 -0.5**
SSE pP **pP 20 32 40.3 -0.1**
SSE S **S 20 43 07.0 -1.2**
SSE pmax pmax
comp=Z,9.0nm,0.8s
SSE pmax pmax
comp=Z,270nm,3.5s
SSE LR LR
comp=Z,580nm,20.1s
MT08 Bocatoma Ro 85.61 127 IAmb IAmb 20 32 55.8
comp=Z,65nm,1.3s
MT08 IAMs_20 IAMs_20 21 02 38.0
comp=Z,5μm,21.0s
KULM Kulim 85.82 279 IAMs_20 IAMs_20 21 14 04.6
comp=Z,6μm,19.0s
KULM Kulim 85.82 279 P **P 20 32 39.5 +0.4**
SRIG Santa Rosalia 85.87 54 IAmb IAmb 20 32 41.6
comp=Z,46nm,1.1s
SRIG IAMs_20 IAMs_20 21 02 28.2
comp=Z,6μm,20.0s
KSRS Korea Array 85.93 320 P **P 20 32 38.3 -0.7**
comp=Z,8.3nm,0.9s,baz=140,slow=6.0,SNR=13
comp=Z,8.3nm,0.9s
KSAR Wonju Array Be 85.94 319 P **P 20 32 37.8 -1.3**
KSAR Wonju Array Be 85.94 319 P **P 20 32 37.8 -1.3**
PSI Prapat 85.94 276 LR LR 21 12 51.3
comp=Z,8μm,19.5s,baz=137,slow=37
PSI Prapat 85.94 276 P **P 20 32 38.0 -1.9**
QIZ Qiongzhong 86.06 295 P **P 20 32 42.0 +1.9**
QIZ PP **PP 20 36 00.2 -0.5**
QIZ S **S 20 43 10.3 -3.6**
QIZ SS **SS 20 48 47.9 -4.8**
QIZ pmax pmax
comp=Z,1μm,10.7s
QIZ LR LR
comp=Z,800nm,16.7s
QIZ LR LR
comp=Z,1μm,17.2s
QIZ LR LR
comp=Z,2μm,27.5s
CO06 Fray Jorge 86.10 124 IAMs_20 IAMs_20 21 04 24.3
comp=Z,6μm,19.0s
VTX Valle De La Tr 86.14 49 IAmb IAmb 20 32 44.1
comp=Z,127nm,1.8s
CBX Cerro Bola 86.20 48 IAmb IAmb 20 32 44.5
comp=Z,80nm,1.6s
CBX IAMs_20 IAMs_20 21 03 33.6
comp=Z,6μm,21.0s
GSI Gunungsitoli 86.29 274 IAmb IAmb 20 32 49.2
comp=Z,78nm,1.3s
GSI Gunungsitoli 86.29 274 P **P 20 32 42.8 +1.3**
GSI Gunungsitoli 86.29 274 P **P 20 32 40.8 -0.7**
comp=Z,2μmcomp=Z,41nm,1.1s
BCW Bitter Crk WRg 86.30 44 IAMs_20 IAMs_20 21 09 28.2
comp=Z,5μm,18.0s
PMPB Monarch Peak 86.38 43 IAMs_20 IAMs_20 21 03 01.1
comp=Z,6μm,20.0s
BBGB Big Mountain B 86.50 42 IAMs_20 IAMs_20 21 03 05.2
comp=Z,7μm,20.0s
YSS Yuzhno-Sakhali 86.51 334 P **P 20 32 41.4 -0.3**
YSS IAmb IAmb 20 32 43.8
comp=Z,62nm,1.0s
YSS IAMs_20 IAMs_20 21 05 32.7
comp=Z,5μm,21.0s
YSS Yuzhno-Sakhali 86.51 334 P **P 20 32 42.4 +0.7**
YSS Yuzhno-Sakhali 86.51 334 *e*P **P 20 32 41.9 +0.2**
YSS *e*S **SKSac 20 43 07.1 0.0**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=Z,900nm,5.4s
YSS smax smax
comp=E,1μm,14.2s
PASC Pasadena Art C 86.51 46 IAMs_20 IAMs_20 21 06 21.8
comp=Z,5μm,20.0s
SFX San Felipe 86.51 50 IAMs_20 IAMs_20 21 03 15.1
comp=Z,6μm,20.0s
MCCM Marconi Confer 86.58 40 IAMs_20 IAMs_20 21 03 48.4
comp=Z,7μm,20.0s
ELS Elsinore Mount 86.62 46 IAMs_20 IAMs_20 21 04 14.8
comp=Z,5μm,19.0s
AAGR Agrelo 86.62 127 *i* P **P 20 32 42.7 -0.3**
CO03 El Pedregal 86.66 124 IAmb IAmb 20 33 11.5
comp=Z,56nm,0.8s
CO03 IAMs_20 IAMs_20 21 04 42.3
comp=Z,4μm,19.0s
AUSP Uspallata 86.75 126 *i* P **P 20 32 46.5 +2.6**
YUH Yuha Desert 86.89 48 IAmb IAmb 20 32 47.8
comp=Z,135nm,1.9s
ASAL Salagasta 86.91 127 *i* P **P 20 32 46.3 +1.9**
GO04 Tololo Observa 86.97 124 IAMs_20 IAMs_20 21 03 06.6
comp=Z,5μm,20.0s
RTLS Leoncito 87.06 126 *i* P **P 20 32 47.5 +2.0**
HOPS Hopland Field 87.09 39 IAmb IAmb 20 32 56.5
comp=Z,96nm,1.2s
GDXM Geysers 87.11 40 IAmb IAmb 20 32 53.0
comp=Z,32nm,1.0s
CPBX Cerro Prieto 87.13 49 IAMs_20 IAMs_20 21 04 13.3
comp=Z,6μm,19.0s
PFO Pinyon Flats O 87.19 47 P **P 20 32 46.8 +1.3**
PFO Pinyon Flats O 87.19 47 IAMs_20 IAMs_20 21 04 22.0
comp=Z,6μm,19.0s
PFO Pinyon Flats O 87.19 47 LR LR 21 04 15.1
comp=Z,5μm,19.9s,baz=238,slow=30
PFO Pinyon Flats O 87.19 47 P **P 20 32 46.8 +1.3**
PFO pmax pmax
comp=Z,178nm,1.9s
PFO pmax pmax
comp=Z,6μm,19.0s
CCAC Calif City Air 87.28 45 IAMs_20 IAMs_20 21 09 59.1
comp=Z,5μm,18.0s
ISA Isabella, Lake 87.35 44 IAMs_20 IAMs_20 21 10 11.1
comp=Z,5μm,18.0s
PET Petropavlovsk 87.36 346 IAMs_20 IAMs_20 21 05 50.9
comp=Z,5μm,21.0s
PET Petropavlovsk 87.36 346 *e*P P 20 32 50.6 +5.0
PET *e* 20 36 17.2
PET *e* 20 43 14.3
PET *e*SS SS 20 49 14.5 +3.8
PET pmax pmax
comp=Z,800nm,12.4s
PET MLR MLR
comp=Z,3μm,19.0s
PET Petropavlovsk 87.36 346 P **P 20 32 45.3 -0.3**
comp=Z,60nm,2.3s
PAYG Puerto Ayora 87.39 89 IAMs_20 IAMs_20 21 03 23.1
comp=Z,5μm,21.0s
TEY Ternei 87.41 329 *e*P P 20 32 35.3 -11
CO01 Juntas del Tor 87.58 124 IAMs_20 IAMs_20 21 03 27.7
comp=Z,5μm,21.0s
PEA0B Petropavlovsk- 87.64 345 *ce*P **P 20 32 48.7 +1.7**
PETK Petropavlovsk- 87.64 345 P **P 20 32 46.3 -0.7**
PETK Petropavlovsk- 87.64 345 P **P 20 32 46.8 -0.2**
comp=Z,25nm,0.9s,baz=105,slow=5.1,SNR=14
comp=Z,25nm,0.9s
PETK Petropavlovsk- 87.64 345 P **P 20 32 46.3 -0.7**
ZON Zonda 87.64 126 IAmb IAmb 20 33 11.5
comp=Z,78nm,1.4s
ZON IAMs_20 IAMs_20 21 05 14.8
comp=Z,5μm,19.0s
ZON Zonda 87.64 126 *i* P **P 20 32 50.8 +2.9**
NJ2 Nanjing 87.66 310 ⇑P **P 20 32 49.6 +2.0**
NJ2 SKS **SKSac 20 43 15.6 +0.7**
NJ2 pmax pmax
comp=Z,16nm,1.0s
NJ2 pmax pmax
comp=Z,780nm,6.2s
NJ2 LR LR
comp=Z,1μm,21.8s
NJ2 LR LR
comp=Z,1μm,20.8s
NJ2 LR LR
comp=Z,2μm,24.5s
LCO Las Campanas 87.72 123 IAMs_20 IAMs_20 21 03 06.4
comp=Z,6μm,22.0s
PIX Pinacate 87.75 50 IAmb IAmb 20 32 50.9
comp=Z,33nm,1.0s
HSIG 87.82 54 IAmb IAmb 20 33 03.8
comp=Z,40nm,1.2s
HSIG IAMs_20 IAMs_20 21 09 18.9
comp=Z,4μm,18.0s
GLA Glamis 87.84 48 IAMs_20 IAMs_20 21 04 25.3
comp=Z,6μm,20.0s
CMB Columbia Colle 87.89 42 IAmb IAmb 20 32 52.8
comp=Z,56nm,1.2s
CMB IAMs_20 IAMs_20 21 03 59.0
comp=Z,5μm,20.0s
CFA Coronel Fontan 87.91 126 LR LR 21 03 49.6
comp=Z,2μm,22.0s,baz=226,slow=30
JCC Jacoby Creek, 87.91 38 IAMs_20 IAMs_20 21 07 01.3
comp=Z,6μm,20.0s
AC04 Llanos de Chal 87.92 122 IAMs_20 IAMs_20 21 05 14.9
comp=Z,5μm,20.0s
TRQA Tornquist 87.94 135 IAMs_20 IAMs_20 21 07 27.6
comp=Z,5μm,18.0s
CNBA Chernabura Isl 88.05 10 IAMs_20 IAMs_20 21 13 05.3
comp=Z,5μm,20.0s
GSC Goldstone, Bar 88.11 46 IAMs_20 IAMs_20 21 10 42.1
comp=Z,6μm,18.0s
KRPM Rodgers 88.16 37 IAMs_20 IAMs_20 21 16 30.9
comp=Z,6μm,19.0s
BLYC Blythe 88.49 48 IAMs_20 IAMs_20 21 04 55.4
comp=Z,6μm,20.0s
UGL Uglegorsk 88.54 335 *e*P **P 20 32 53.0 +1.6**
UGL *e*S **S 20 43 32.1 -4.3**
UGL pmax pmax
comp=Z,100nm,1.4s
UGL smax smax
comp=E,2μm,11.0s
UGL smax smax
comp=N,5μm,14.0s
S12K Black Hills 88.56 9 IAMs_20 IAMs_20 21 11 00.5
comp=Z,5μm,20.0s
P08K Saint George I 88.72 4 IAMs_20 IAMs_20 21 07 18.3
comp=Z,4μm,20.0s
WAKR Walker 88.75 42 IAMs_20 IAMs_20 21 06 43.9
comp=Z,6μm,19.0s
GWY Greenwater Val 88.78 45 IAmb IAmb 20 32 57.7
comp=Z,39nm,1.1s
GWY IAMs_20 IAMs_20 21 10 51.0
comp=Z,5μm,18.0s
DSP Deep Springs 88.81 43 IAmb IAmb 20 32 56.8
comp=Z,98nm,1.6s
DSP IAMs_20 IAMs_20 21 06 37.6
comp=Z,4μm,19.0s
KBO Bosley Butte 88.83 37 IAMs_20 IAMs_20 21 04 23.5
comp=Z,5μm,20.0s
USA0B Ussuriysk Arra 88.84 326 *i* P **P 20 32 50.9 -2.0**
USRK Ussuriysk Ar. 88.84 326 P **P 20 32 52.0 -0.9**
USRK Ussuriysk Ar. 88.84 326 P **P 20 32 52.3 -0.7**
comp=Z,23nm,1.0s,baz=146,slow=3.7,SNR=26
comp=Z,23nm,1.0s
USRK Ussuriysk Ar. 88.84 326 P **P 20 32 52.0 -0.9**
LHMI Lhok Sumawe 88.90 277 IAMs_20 IAMs_20 21 19 51.0
comp=Z,6μm,18.0s
AC06 Mina Casimiro 88.93 122 IAMs_20 IAMs_20 21 03 51.7
comp=Z,5μm,20.0s
AVFE Valle Fertil 89.01 126 *i* P **P 20 32 56.4 +2.0**
L02F Cave Junction 89.09 37 IAMs_20 IAMs_20 21 04 11.6
comp=Z,5μm,21.0s
LHV Little Huntoon 89.11 43 IAmb IAmb 20 33 00.9
comp=Z,49nm,1.2s
LHV IAMs_20 IAMs_20 21 04 50.4
comp=Z,5μm,20.0s
GMN Gold Mountain 89.18 44 IAmb IAmb 20 32 58.6
comp=Z,105nm,1.7s
WCT Wildcat Mounta 89.22 45 IAmb IAmb 20 32 58.9
comp=Z,109nm,1.9s
WCT IAMs_20 IAMs_20 21 11 13.4
comp=Z,5μm,19.0s
CNSH ChangSha 89.22 304 P **P 20 32 58.2 +3.1**
CNSH S S 20 43 33.9 -10
CNSH LR LR
comp=Z,920nm,20.5s
CNSH LR LR
comp=Z,960nm,22.8s
CNSH LR LR
comp=Z,1μm,24.5s
ACHE Chepes 89.25 127 *i* P **P 20 32 56.9 +1.3**
YBH Yreka Blue Hor 89.25 38 P **P 20 32 57.1 +2.1**
YBH IAmb IAmb 20 32 58.6
comp=Z,158nm,2.0s
YBH IAMs_20 IAMs_20 21 04 29.9
comp=Z,5μm,21.0s
YBH Yreka Blue Hor 89.25 38 LR LR 21 05 13.0
comp=Z,5μm,20.6s,baz=228,slow=30
YBH Yreka Blue Hor 89.25 38 P **P 20 32 57.2 +2.1**
YBH pmax pmax
comp=Z,158nm,2.0s
YBH pmax pmax
comp=Z,5μm,21.0s
HATC Hat Creek Radi 89.26 39 IAmb IAmb 20 33 27.8
comp=Z,107nm,1.4s
GULI GuiLin 89.33 301 P **P 20 32 58.1 +2.4**
GULI PP **PP 20 36 32.8 +5.8**
GULI pmax pmax
comp=Z,30nm,2.3s
GULI LR LR
comp=Z,2μm,17.3s
GULI LR LR
comp=Z,800nm,18.4s
GULI LR LR
comp=Z,3μm,20.0s
NVAR Mina Array Bea 89.34 42 P **P 20 32 55.9 +0.1**
comp=Z,11nm,0.8s,baz=216,slow=7.3,SNR=41
NVAR LR LR 21 05 00.7
comp=Z,5μm,20.8s,baz=228,slow=30
comp=Z,11nm,0.8s
RYN Ryan 89.35 42 IAmb IAmb 20 33 00.1
comp=Z,125nm,2.0s
RYN IAMs_20 IAMs_20 21 05 07.9
comp=Z,4μm,20.0s
MOIG Morelia 89.43 66 IAMs_20 IAMs_20 21 04 03.7
comp=Z,5μm,20.0s
K02D Willamette Mer 89.46 37 IAMs_20 IAMs_20 21 05 44.2
comp=Z,5μm,20.0s
TPNV Topopah Spring 89.54 45 IAmb IAmb 20 32 59.8
comp=Z,39nm,1.1s
TPNV IAMs_20 IAMs_20 21 11 33.4
comp=Z,5μm,18.0s
Y14A Wickenburg 89.58 49 IAmb IAmb 20 33 00.0
comp=Z,36nm,1.0s
V12A Nelson 89.58 46 IAmb IAmb 20 33 00.9
comp=Z,177nm,1.9s
V12A IAMs_20 IAMs_20 21 06 18.2
comp=Z,6μm,20.0s
PAHR Pah Rah Range 89.61 41 IAmb IAmb 20 33 00.1
comp=Z,138nm,1.9s
VCA Vinchina 89.64 124 *i* P **P 20 33 01.3 +3.8**
CHGN Chignik 89.66 11 IAmb IAmb 20 33 24.1
comp=Z,39nm,1.0s
CHGN IAMs_20 IAMs_20 21 14 03.7
comp=Z,4μm,19.0s
J01E Myrtle Point 89.67 36 IAMs_20 IAMs_20 21 04 39.8
comp=Z,5μm,21.0s
CHIR Chirikof Islan 89.67 12 IAMs_20 IAMs_20 21 14 11.0
comp=Z,6μm,20.0s
WHN Wuhan 89.69 307 P **P 20 32 58.3 +1.0**
WHN LR LR
comp=Z,780nm,12.7s
WHN LR LR
comp=Z,550nm,13.5s
WHN LR LR
comp=Z,2μm,19.9s
APLL PUNTA DE LOS L 89.80 126 *i* P **P 20 32 59.5 +1.3**
L04D Klamath Falls 89.81 38 IAmb IAmb 20 33 00.9
comp=Z,133nm,1.5s
L04D IAMs_20 IAMs_20 21 04 58.7
comp=Z,4μm,20.0s
TYV Tymovskoe 89.83 336 *e*P **P 20 32 58.3 +0.9**
TYV *e*S **S 20 43 49.2 +0.7**
TYV pmax pmax
comp=Z,82nm,0.9s
TYV pmax pmax
comp=Z,500nm,3.1s
TYV smax smax
comp=N,2μm,4.5s
TYV smax smax
comp=E,800nm,4.5s
CRZF Crozet Islands 89.88 212 IAMs_20 IAMs_20 21 09 06.5
comp=Z,5μm,20.0s
SHPR Sheep Range 89.91 46 IAmb IAmb 20 33 02.6
comp=Z,77nm,1.8s
DBO Dodson Butte 89.98 37 IAmb IAmb 20 33 09.5
comp=Z,54nm,1.3s
TUC Tucson 89.98 51 P **P 20 32 59.9 +1.1**
TUC Tucson 89.98 51 P **P 20 32 59.9 +1.1**
TUC pmax pmax
comp=Z,211nm,2.0s
TUC pmax pmax
comp=Z,4μm,20.0s
ACLC CERRO LA CRUZ 90.10 125 *i* P **P 20 33 01.2 +1.5**
AC02 Maricunga 90.12 122 IAMs_20 IAMs_20 21 04 30.1
comp=Z,5μm,20.0s
ZAIG Zacatecas 90.13 63 IAMs_20 IAMs_20 21 04 39.4
comp=Z,5μm,20.0s
NAYO Nakonayok 90.15 287 P **P 20 33 00.7 +0.9**
HPIG 90.26 58 IAmb IAmb 20 33 03.9
comp=Z,55nm,1.7s
Q09A Carvers 90.26 43 IAMs_20 IAMs_20 21 05 28.0
comp=Z,5μm,20.0s
MDJ Mudanjiang 90.29 325 P **P 20 32 59.1 -0.6**
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,830nm,5.3s
MDJ LR LR
comp=Z,2μm,23.4s
MDJ LR LR
comp=Z,2μm,24.4s
MDJ LR LR
comp=Z,4μm,24.7s
TLIG Tlapa 90.31 69 IAmb IAmb 20 33 05.8
comp=Z,167nm,2.0s
I03D Drain, OR 90.35 36 IAmb IAmb 20 33 03.4
comp=Z,118nm,1.5s
I03D IAMs_20 IAMs_20 21 06 32.8

comp=Z,5μm,20.0s
K04D Chiloquin, OR 90.39 38 IAmb IAmb 20 33 16.2
K04D IAMs_20 IAMs_20 21 06 09.0
comp=Z,4μm,19.0s
319A Douglas 90.41 53 IAmb IAmb 20 33 05.9
comp=Z,32nm,1.1s
DL2 Dalian 90.49 317 P **P** **20 33 01.7 +0.9**
DL2 SKS **SKSac** **20 43 29.6 -1.7**
DL2 S **ScS** **20 44 00.5 +1.8**
DL2 pmax pmax
comp=Z,43nm,1.4s
DL2 pmax pmax
comp=Z,800nm,3.9s
DL2 LR LR
comp=Z,2μm,21.5s
DL2 LR LR
comp=Z,3μm,22.8s
DL2 LR LR
comp=Z,4μm,25.5s
SII Sitkinak Islan 90.63 13 IAMs_20 IAMs_20 21 14 15.5
comp=Z,5μm,19.0s
NONG Nongkai 90.73 291 P **P** **20 33 03.2 +0.8**
UNM Universidad Na 90.81 68 IAMs_20 IAMs_20 21 04 28.4
comp=Z,4μm,20.0s
X16A Lo Mia Camp, P 90.88 49 IAmb IAmb 20 33 19.3
comp=Z,50nm,1.2s
I04A Tendick Farm, 90.89 36 IAmb IAmb 20 33 04.8
comp=Z,35nm,1.1s
BUCK Buck Mountain 90.89 36 IAmb IAmb 20 33 05.5
comp=Z,98nm,1.3s
BUCK IAMs_20 IAMs_20 21 07 20.1
comp=Z,6μm,20.0s
J05D Fort Rock, OR 91.12 37 IAMs_20 IAMs_20 21 06 32.5
comp=Z,5μm,20.0s
H04D Lebanon 91.25 36 IAMs_20 IAMs_20 21 07 30.6
comp=Z,6μm,20.0s
HEBO Mount Hebo 91.25 35 IAMs_20 IAMs_20 21 04 44.6
comp=Z,5μm,20.0s
SNY Shenyang 91.39 320 ⇑P **P** **20 33 03.2 -1.7**
SNY pmax pmax
comp=Z,30nm,1.2s
SNY pmax pmax
comp=Z,390nm,5.1s
SNY LR LR
comp=Z,2μm,21.8s
SNY LR LR
comp=Z,960nm,20.6s
SNY LR LR
comp=Z,3μm,21.0s
LCMT Little Creek M 91.40 46 IAMs_20 IAMs_20 21 07 16.4
comp=Z,5μm,19.0s
OHAK Old Harbor 91.43 13 IAMs_20 IAMs_20 21 11 09.5
comp=Z,4μm,20.0s
TIA Tai'an 91.43 313 P **P** **20 33 06.2 +0.9**
TIA PP **PP** **20 36 44.6 +1.1**
TIA SKS **SKSac** **20 43 38.1 +1.2**
TIA S **S** **20 44 00.9 -3.0**
TIA pmax pmax
comp=Z,38nm,1.3s
TIA pmax pmax
comp=Z,1μm,9.4s
TIA LR LR
comp=Z,2μm,19.8s
TIA LR LR
comp=Z,2μm,23.5s
TIA LR LR
comp=Z,5μm,23.5s
G03D McMinnville, O 91.49 35 IAMs_20 IAMs_20 21 05 03.9
comp=Z,5μm,20.0s
CYA Choya 91.50 125 *i* P **P** **20 33 08.0 +1.9**
WUAZ Wupatki 91.61 48 IAMs_20 IAMs_20 21 06 44.1
comp=Z,5μm,20.0s
PINE Pine Mountain 91.64 37 IAmb IAmb 20 33 09.0
comp=Z,54nm,1.1s
PINE IAMs_20 IAMs_20 21 06 37.9
comp=Z,5μm,20.0s
H04A Detroit Lake 91.64 36 IAMs_20 IAMs_20 21 07 43.9
comp=Z,5μm,20.0s
KNB Kanab 91.66 46 IAmb IAmb 20 33 18.1
comp=Z,50nm,1.1s
KNB IAMs_20 IAMs_20 21 07 24.3
comp=Z,5μm,19.0s
CN2 Changchun 91.77 323 P **P** **20 33 05.5 -1.1**
CN2 pP sP 20 33 10.3 -0.8
CN2 SKS **SKSac** **20 43 35.6 -2.8**
CN2 S **S** **20 44 04.4 -2.2**
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,2μm,8.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,20.0s
I05D Terrebonne, OR 91.82 37 IAmb IAmb 20 33 09.4
comp=Z,52nm,1.1s
WVOR Wild Horse Val 91.90 39 IAmb IAmb 20 33 09.9
comp=Z,31nm,1.2s
SRDT SRDT 91.96 286 P **P** **20 33 09.7 +1.5**
PSUT Pine Spring 92.02 45 IAmb IAmb 20 36 24.8
comp=Z,27nm,1.0s
PSUT IAMs_20 IAMs_20 21 13 11.5
comp=Z,5μm,18.0s
SPR3 Spring Creek 3 92.03 44 IAmb IAmb 20 33 11.4
comp=Z,69nm,1.9s
GRNR Gornyy 92.03 333 *d i* P **P** **20 33 09.1 +1.4**
GRNR pmax pmax
comp=Z,20nm,1.0s
KDAK Kodiak Island 92.09 13 IAMs_20 IAMs_20 21 11 51.0
comp=Z,5μm,20.0s
KDAK Kodiak Island 92.09 13 LR LR 21 08 06.2
comp=Z,3μm,21.2s,baz=7.4,slow=32
RADR Rader Ridge 92.11 34 IAMs_20 IAMs_20 21 08 09.3
comp=Z,4μm,20.0s
121A Cookes Peak, D 92.12 53 IAmb IAmb 20 33 13.1
comp=Z,43nm,1.6s
121A IAMs_20 IAMs_20 21 07 38.7
comp=Z,6μm,20.0s
BNX BinXian 92.17 325 ⇓P **P** **20 33 07.2 -1.2**
BNX PP **PP** **20 36 50.6 +1.4**
BNX SKS **SKSac** **20 43 35.5 -5.1**
BNX S **S** **20 44 11.6 +1.5**
BNX pmax pmax
comp=Z,48nm,1.0s
BNX pmax pmax
comp=Z,630nm,9.8s
BNX LR LR
comp=Z,1μm,20.4s
BNX LR LR
comp=Z,2μm,20.3s
BNX LR LR
comp=Z,3μm,20.4s
PKCU Pink Cliffs 92.25 46 IAmb IAmb 20 33 17.8
comp=Z,34nm,0.9s
PKCU IAMs_20 IAMs_20 21 07 43.8
comp=Z,4μm,20.0s
PB03 IPOC Station P 92.48 118 IAMs_20 IAMs_20 21 05 45.4
comp=Z,4μm,21.0s
I07A Izee 92.58 38 IAmb IAmb 20 33 13.0
comp=Z,25nm,1.1s
I07A IAMs_20 IAMs_20 21 06 20.0
comp=Z,4μm,20.0s
NNA Nana 92.62 106 IAMs_20 IAMs_20 21 06 03.4
comp=Z,4μm,19.0s
NNA Nana 92.62 106 LR LR 21 07 59.8
comp=Z,4μm,18.6s,baz=241,slow=31
WISH Wishkah 92.63 34 IAMs_20 IAMs_20 21 06 58.0
comp=Z,4μm,21.0s
ELK Elko 92.65 42 IAMs_20 IAMs_20 21 06 53.2
comp=Z,6μm,20.0s
MTPU Mount Pierson 92.71 46 IAmb IAmb 20 33 15.3
comp=Z,30nm,1.1s
MTPU IAMs_20 IAMs_20 21 08 10.9
comp=Z,5μm,20.0s
GYA Guiyang 92.72 300 ⇓P **P** **20 33 13.5 +1.9**
GYA sP sP 20 33 17.4 +1.4
GYA S **S** **20 44 18.4 +2.2**
GYA pmax pmax
comp=Z,22nm,1.8s
GYA LR LR
comp=Z,860nm,21.9s
GYA LR LR
comp=Z,1μm,20.0s
GYA LR LR
comp=Z,3μm,21.4s
KLR Kul'dur 92.75 330 LR LR 21 10 06.8
comp=Z,4μm,21.6s,baz=142,slow=33
KLR Kul'dur 92.75 330 *ce* P **P** **20 33 11.1 +0.1**
KLR pmax pmax
comp=Z,50nm,1.5s
NLWA Neilton Lookou 92.78 33 IAMs_20 IAMs_20 21 08 29.1
comp=Z,4μm,20.0s
FSA Cafayete 92.81 123 *i* P **P** **20 33 14.6 +2.3**
G06A Carlson Farm, 92.81 36 IAMs_20 IAMs_20 21 08 13.9
comp=Z,4μm,20.0s
TCRU Three Creeks R 92.91 45 IAMs_20 IAMs_20 21 10 56.2
comp=Z,4μm,18.0s
Q19K Cape Douglas, 92.97 12 IAMs_20 IAMs_20 21 08 37.1
comp=Z,5μm,21.0s
VHRN Van Horn 93.00 55 IAmb IAmb 20 33 16.5
comp=Z,38nm,1.7s
CMIG Matias Romero 93.00 72 LR LR 21 06 11.0
comp=Z,4μm,20.4s,baz=230,slow=30
PB09 IPOC Station P 93.02 118 IAMs_20 IAMs_20 21 06 53.4
comp=Z,4μm,20.0s
M13K Dall Lake 93.02 7 IAMs_20 IAMs_20 21 13 56.3
comp=Z,4μm,20.0s
TA01 Diego Aracena 93.03 116 IAMs_20 IAMs_20 21 07 42.0
comp=Z,6μm,19.0s
TX31 Lajitas Ar. Si 93.09 57 IAmb IAmb 20 33 16.1
comp=Z,39nm,1.6s
TXAR Lajitas Array 93.09 57 P **P** **20 33 13.9 +0.7**
TXAR Lajitas Array 93.09 57 P **P** **20 33 14.1 +0.8**
comp=Z,4.3nm,1.0s,baz=212,slow=4.4,SNR=22
TXAR LR LR 21 07 32.5
comp=Z,3μm,19.9s,baz=224,slow=31
comp=Z,4.3nm,1.0s
TXAR Lajitas Array 93.09 57 P **P** **20 33 13.9 +0.7**
P18K Big Mountain, 93.13 11 IAMs_20 IAMs_20 21 16 33.4
comp=Z,4μm,19.0s
N15K Kwethluk River 93.16 9 IAmb IAmb 20 33 25.1
comp=Z,43nm,1.3s
N15K IAMs_20 IAMs_20 21 18 38.5
comp=Z,4μm,20.0s
TA02 Huaiquique 93.24 116 IAMs_20 IAMs_20 21 07 57.6
comp=Z,4μm,20.0s
LYN LuoYang 93.39 309 P **P** **20 33 15.5 +1.2**
LYN SKS **SKSac** **20 43 47.1 -0.8**
LYN S **ScS** **20 44 24.2 +1.1**
LYN pmax pmax
comp=Z,24nm,1.1s
LYN pmax pmax
comp=Z,1μm,10.0s
LYN LR LR
comp=Z,2μm,25.1s
LYN LR LR
comp=Z,2μm,25.1s
LYN LR LR
comp=Z,4μm,23.7s
GNW Green Mountain 93.40 34 P **P** **20 33 15.6 +1.6**
M14K Bethel 93.51 8 IAMs_20 IAMs_20 21 14 11.0
comp=Z,4μm,20.0s
D05A Enumclaw 93.52 34 IAmb IAmb 20 33 23.7
comp=Z,70nm,1.3s
O18K Koktuh Hills 93.57 11 IAmb IAmb 20 33 15.6
comp=Z,32nm,1.1s
O18K IAMs_20 IAMs_20 21 11 51.1
comp=Z,4μm,20.0s
F07A Phinny Hill Vi 93.62 36 IAMs_20 IAMs_20 21 08 47.5
comp=Z,5μm,20.0s
Y22D IRIS PASSCAL I 93.62 52 IAMs_20 IAMs_20 21 13 20.5
comp=Z,4μm,18.0s
HNS HongShan 93.69 312 ⇑P **P** **20 33 17.0 +1.4**
HNS SKS **SKSac** **20 43 50.0 +0.7**
HNS S **ScS** **20 44 26.9 +1.5**
HNS pmax pmax
comp=Z,18nm,1.3s
HNS pmax pmax
comp=Z,670nm,12.0s
HNS LR LR
comp=Z,1μm,22.9s
HNS LR LR
comp=Z,2μm,22.6s
HNS LR LR
comp=Z,4μm,23.0s
G08A Pilot Rock 93.69 37 IAmb IAmb 20 33 18.0
comp=Z,32nm,1.2s
G08A IAMs_20 IAMs_20 21 08 33.4
comp=Z,4μm,20.0s
ALPN Alpine 93.71 56 IAmb IAmb 20 33 19.3
comp=Z,79nm,2.0s
P19K Oil Pt 93.72 12 IAMs_20 IAMs_20 21 09 00.1
comp=Z,5μm,21.0s
Q16A Castle Valley 93.88 46 IAMs_20 IAMs_20 21 08 30.8
comp=Z,4μm,20.0s
PB11 IPOC Station P 93.90 116 IAMs_20 IAMs_20 21 06 35.1
comp=Z,5μm,20.0s
MXC Moxie City 93.92 36 IAmb IAmb 20 33 19.7
comp=Z,64nm,1.8s
CNPM China Poot 93.97 13 IAMs_20 IAMs_20 21 13 02.2
comp=Z,5μm,20.0s
ATAH Atahualpa 93.98 101 LR LR 21 06 31.3
comp=Z,2μm,19.8s,baz=248,slow=30
SLA San Lorenzo 94.00 122 *i* P **P** **20 33 19.9 +2.1**
HOM Homer 94.02 13 IAMs_20 IAMs_20 21 13 04.9
comp=Z,4μm,21.0s
BGU Big Grassy Mou 94.04 43 IAMs_20 IAMs_20 21 14 36.0
comp=Z,4μm,18.0s
O19K Port Alsworth 94.04 11 IAMs_20 IAMs_20 21 16 42.5
comp=Z,4μm,20.0s
ILSW Iliamna Southw 94.05 12 IAMs_20 IAMs_20 21 09 21.7
comp=Z,4μm,22.0s
PB12 IPOC Station P 94.05 115 IAMs_20 IAMs_20 21 08 01.3
comp=Z,4μm,20.0s
CBB Campbell River 94.06 31 IAMs_20 IAMs_20 21 07 46.4
comp=Z,5μm,20.0s
PB08 IPOC Station P 94.06 117 IAMs_20 IAMs_20 21 08 14.4
comp=Z,5μm,20.0s
MFID Camas Ranch 94.08 40 IAMs_20 IAMs_20 21 07 06.0
comp=Z,4μm,21.0s
E07A Sunnyside 94.12 36 IAmb IAmb 20 33 20.7
comp=Z,133nm,2.0s
HAWA Hanford 94.17 36 IAmb IAmb 20 33 20.8
comp=Z,92nm,1.9s
AP01 Chacalluta 94.19 115 IAMs_20 IAMs_20 21 08 14.8
comp=Z,4μm,20.0s
LTY Liberty 94.21 35 IAmb IAmb 20 33 22.0
comp=Z,64nm,1.9s
LTY IAMs_20 IAMs_20 21 06 50.9
comp=Z,5μm,20.0s
BRLK Bradley Lake 94.26 13 IAMs_20 IAMs_20 21 09 22.0
comp=Z,5μm,21.0s
MPU Maple Canyon 94.29 45 IAMs_20 IAMs_20 21 14 36.6
comp=Z,5μm,18.0s
CMAR Chiang Mai Arr 94.30 289 P **P** **20 33 17.9 -1.0**
CMAR Chiang Mai Arr 94.30 289 P **P** **20 33 18.6 -0.3**
comp=Z,1.5nm,0.8s,baz=141,slow=3.7,SNR=9.7
CMAR PP **PP** **20 37 04.2 -2.1**
comp=Z,2.5nm,0.9s,baz=122,slow=7.5,SNR=6.2
CMAR PKKPbc **PKKPdf** **20 50 18.2 -0.1**
comp=Z,1.2nm,0.8s,baz=277,slow=4.8,SNR=6.9
comp=Z,1.5nm,0.8s
SRU San Rafael Swe 94.39 46 IAMs_20 IAMs_20 21 09 14.4
comp=Z,4μm,20.0s
K13K Kusilvak Mount 94.39 6 IAMs_20 IAMs_20 21 13 11.8
comp=Z,4μm,20.0s
BJI Beijing 94.43 315 P **P** **20 33 19.4 +0.4**
BJI SKS **SKSac** **20 43 52.7 -0.6**
BJI S **ScS** **20 44 34.6 +3.1**
BJI pmax pmax
comp=Z,6.0nm,1.4s
BJI pmax pmax
comp=Z,350nm,8.9s
BJI LR LR
comp=Z,560nm,21.1s
BJI LR LR
comp=Z,790nm,20.4s
BJI LR LR
comp=Z,1μm,20.7s
ANMO Albuquerque 94.45 51 P **P** **20 33 20.2 +0.7**
ANMO Albuquerque 94.45 51 IAMs_20 IAMs_20 21 08 19.3
comp=Z,5μm,20.0s
ANMO Albuquerque 94.45 51 LR LR 21 08 11.1
comp=Z,5μm,20.3s,baz=46,slow=31
ANMO Albuquerque 94.45 51 *i* P **P** **20 33 20.9 +1.4**
ANMO pmax pmax
comp=Z,8.0nm,1.7s
E08A Dider Farm, El 94.47 36 IAmb IAmb 20 33 22.1
comp=Z,52nm,1.9s
E08A IAMs_20 IAMs_20 21 09 33.9
comp=Z,6μm,20.0s
N19K Bonanza Creek 94.60 11 IAMs_20 IAMs_20 21 12 32.2
comp=Z,4μm,20.0s
AZAP Zapla 94.61 122 *i* P **P** **20 33 19.9 -0.9**
HVU Hansel Valley 94.73 43 IAMs_20 IAMs_20 21 07 59.4
comp=Z,5μm,21.0s
JLU Jordanelle 94.76 44 IAMs_20 IAMs_20 21 14 51.2
comp=Z,4μm,18.0s
P18A Preston Nutter 94.88 46 IAMs_20 IAMs_20 21 09 13.4
comp=Z,4μm,19.0s
KMI Kunming 94.92 296 ⇓P **P** **20 33 25.1 +3.2**
KMI PP **PP** **20 37 10.6 -0.8**
KMI SKS **SKSac** **20 43 58.7 +1.6**
KMI S **ScS** **20 44 37.7 +0.9**
KMI SS **SS** **20 50 59.1 -2.2**
KMI pmax pmax
comp=Z,450nm,9.5s
KMI LR LR
comp=Z,980nm,19.7s
KMI LR LR
comp=Z,1μm,20.4s
KMI LR LR
comp=Z,2μm,21.1s
E09A Wood Farm, Sta 94.95 37 IAMs_20 IAMs_20 21 09 29.5
comp=Z,4μm,20.0s
HLID Hailey 94.96 41 IAMs_20 IAMs_20 21 07 54.1
comp=Z,4μm,21.0s
K15K Wolf Creek Mou 95.06 7 IAMs_20 IAMs_20 21 15 18.5
comp=Z,4μm,20.0s
SLKM Skilak Lake 95.08 13 IAMs_20 IAMs_20 21 09 47.1
comp=Z,4μm,20.0s
TCUT Toone Canyon 95.11 44 IAMs_20 IAMs_20 21 15 11.4
comp=Z,5μm,18.0s
MA2 Magadan 95.11 344 P **P** **20 33 21.4 -0.2**
MA2 IAmb IAmb 20 33 24.7
comp=Z,36nm,1.4s
MA2 IAMs_20 IAMs_20 21 10 11.9
comp=Z,4μm,22.0s
MA2 Magadan 95.11 344 P **P** **20 33 21.9 +0.3**
MA2 Magadan 95.11 344 *ce* P **P** **20 33 21.8 +0.2**
MA2 pmax pmax
comp=Z,26nm,1.4s
MA2 Magadan 95.11 344 P **P** **20 33 21.2 -0.4**
comp=Z,18nm,1.5s
BSUT Blindstream Ca 95.13 45 IAMs_20 IAMs_20 21 15 05.0
comp=Z,4μm,18.0s
O22K Cooper Landing 95.15 13 IAMs_20 IAMs_20 21 09 37.0
comp=Z,4μm,21.0s
CRAG Craig 95.26 24 IAMs_20 IAMs_20 21 15 10.7
comp=Z,4μm,18.0s
J14K Nanvaranak Lak 95.30 6 IAMs_20 IAMs_20 21 15 30.2
comp=Z,4μm,20.0s
PB18 Visviri 95.31 114 IAMs_20 IAMs_20 21 08 43.5
comp=Z,5μm,20.0s
TIY Taiyuan 95.31 312 *e* P **P** **20 33 26.5 +3.3**
TIY SKS **SKSac** **20 44 00.1 +1.8**
TIY S **S** **20 44 38.5 +0.2**
TIY pmax pmax
comp=Z,290nm,5.4s
TIY LR LR
comp=Z,2μm,22.7s
TIY LR LR
comp=Z,870nm,21.3s
TIY LR LR
comp=Z,2μm,20.6s
HWUT Hardware Ranch 95.33 44 IAMs_20 IAMs_20 21 10 29.1
comp=Z,5μm,20.0s
HEH HeiHe 95.41 328 *e* P **P** **20 33 21.8 -1.4**
HEH SKS **SKSac** **20 43 56.8 -1.2**
HEH S **S** **20 44 35.0 -3.3**
HEH pmax pmax
comp=Z,11nm,1.2s
HEH pmax pmax
comp=Z,330nm,5.3s
HEH LR LR
comp=Z,2μm,19.9s
HEH LR LR
comp=Z,1μm,19.0s
HEH LR LR
comp=Z,2μm,20.9s
XAN Xi'an 95.46 307 P **P** **20 33 23.7 -0.2**
XAN PP **PP** **20 37 17.0 +1.8**
XAN SKS **SKSac** **20 44 00.3 +1.1**
XAN S **ScS** **20 44 41.6 +1.1**
XAN pmax pmax
comp=Z,16nm,1.4s
XAN pmax pmax
comp=Z,630nm,6.8s
XAN LR LR
comp=Z,2μm,18.7s
XAN LR LR
comp=Z,2μm,18.6s
XAN LR LR
comp=Z,3μm,21.0s
APG El Apazote 95.50 76 LR LR 21 07 39.1
comp=Z,339nm,20.7s,baz=261,slow=30
HIN Hinchinbrook I 95.74 15 IAMs_20 IAMs_20 21 13 22.7
comp=Z,4μm,20.0s
PWL Port Wells 95.77 14 IAMs_20 IAMs_20 21 17 17.5
comp=Z,4μm,19.0s
KAIM Kayak Island 95.80 16 IAMs_20 IAMs_20 21 12 59.2
comp=Z,4μm,20.0s
M20K Styx River 95.83 11 IAMs_20 IAMs_20 21 17 58.7
comp=Z,4μm,20.0s
SIT Sitka 95.83 22 IAMs_20 IAMs_20 21 09 57.7
comp=Z,4μm,20.0s
SUA Susitna One 95.86 13 IAMs_20 IAMs_20 21 10 18.7
comp=Z,6μm,21.0s
S22A 4UR Ranch, Cre 95.87 49 IAMs_20 IAMs_20 21 09 01.7
comp=Z,6μm,20.0s
RDMU Red Mountain 95.87 45 IAMs_20 IAMs_20 21 10 07.5
comp=Z,5μm,19.0s
GLI Glacier Island 96.05 14 IAMs_20 IAMs_20 21 09 56.8
comp=Z,4μm,21.0s
FID Port Fidalgo 96.07 15 IAMs_20 IAMs_20 21 09 44.1
comp=Z,4μm,21.0s
SUCK Suckling Hills 96.08 16 IAMs_20 IAMs_20 21 12 55.7
comp=Z,5μm,20.0s
MTO3 Montecristo 96.09 77 IAMs_20 IAMs_20 21 07 33.3
comp=Z,4μm,21.0s
RAGM Ragged Mountai 96.14 16 IAMs_20 IAMs_20 21 17 39.4
comp=Z,5μm,19.0s
HMT Hamilton 96.19 16 IAMs_20 IAMs_20 21 17 59.8
comp=Z,4μm,20.0s
SKT Skwentna 96.20 12 IAMs_20 IAMs_20 21 10 30.6
comp=Z,5μm,21.0s
M22K Willow 96.25 13 IAMs_20 IAMs_20 21 14 27.3
comp=Z,4μm,20.0s
KNK Knik Glacier 96.25 14 IAMs_20 IAMs_20 21 10 08.2
comp=Z,4μm,21.0s
WRAK Wrangell Islan 96.28 23 IAMs_20 IAMs_20 21 13 13.8
comp=Z,3μm,19.0s
S31K Pelican 96.30 21 IAMs_20 IAMs_20 21 13 44.0
comp=Z,4μm,19.0s
KVTX Kingsville 96.30 62 IAMs_20 IAMs_20 21 17 27.8
comp=Z,3μm,18.0s
AHID Auburn Hatcher 96.32 43 IAMs_20 IAMs_20 21 09 32.3
comp=Z,5μm,20.0s
BERG Berg Lake 96.38 16 IAMs_20 IAMs_20 21 13 05.6
comp=Z,4μm,20.0s
SNH Sunshine Point 96.40 17 IAMs_20 IAMs_20 21 13 07.2
comp=Z,5μm,20.0s
S32K Killisnoo 96.40 22 IAMs_20 IAMs_20 21 10 24.8
comp=Z,4μm,20.0s
PZH PanZhiHua 96.42 297 P **P** **20 33 30.1 +1.5**
PZH PP **PP** **20 37 22.1 -0.8**
PZH SKS **SKSac** **20 44 04.1 -0.7**
PZH sS **pS** **20 44 52.2 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,200nm,5.3s
PZH LR LR
comp=Z,2μm,17.8s
PZH LR LR
comp=Z,1μm,16.1s
PZH LR LR
comp=Z,2μm,18.3s
GHO Glory Hole Cre 96.49 13 IAmb IAmb 20 33 47.7
comp=Z,32nm,1.5s
MESA MESA 96.61 17 IAMs_20 IAMs_20 21 13 13.0
comp=Z,4μm,20.0s
SML Sawmill 96.64 14 IAMs_20 IAMs_20 21 10 31.4
comp=Z,4μm,21.0s
NEW Newport 96.64 36 LR LR 21 10 10.6
comp=Z,7μm,20.0s,baz=216,slow=31
SDCO Great Sand Dun 96.72 49 IAMs_20 IAMs_20 21 09 08.3
comp=Z,4μm,20.0s
CUT Chulitna 96.82 12 IAMs_20 IAMs_20 21 11 10.1

comp=Z,6µm,21.0s
KLU Klutina 96.85 15 IAMs_20 IAMs_20 21 10 33.1
comp=Z,4µm,21.0s
TPAW Teton Pass 96.86 42 IAMs_20 IAMs_20 21 09 48.4
comp=Z,5µm,21.0s
XLT XiLinHaoTe 96.90 318 *e*P P 20 33 35.1 +4.8
XLT PP **PP 20 37 28.5 +2.3**
XLT SKS **SKSac 20 44 06.0 -0.4**
XLT S **S 20 44 51.4 -0.4**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,280nm,4.9s
XLT LR LR
comp=Z,1µm,21.8s
XLT LR LR
comp=Z,2µm,23.0s
FXWY Fox Creek 96.91 42 IAMs_20 IAMs_20 21 09 49.8
comp=Z,5µm,20.0s
ANM Nome 96.93 5 IAMs_20 IAMs_20 21 14 32.3
comp=Z,4µm,20.0s
SNOW Snow King Moun 96.95 42 IAMs_20 IAMs_20 21 10 03.0
comp=Z,5µm,20.0s
T25A Trinidad 97.07 50 IAMs_20 IAMs_20 21 09 44.8
comp=Z,4µm,20.0s
R32K Eaglecrest 97.08 21 IAMs_20 IAMs_20 21 10 45.6
comp=Z,4µm,20.0s
DLMT Dillon 97.11 40 IAmb IAmb 20 33 47.0
DLMT comp=Z,31nm,1.4s IAMs_20 IAMs_20 21 09 27.1
comp=Z,5µm,21.0s
LPAZ La Paz 97.11 114 P **P 20 33 32.2 -0.4**
LPAZ La Paz 97.11 114 P Pdif 20 33 35.0 +2.3
comp=Z,2.7nm,0.8s,baz=218,slow=4.1,SNR=3.4
LPAZ LR LR 21 10 20.6
comp=Z,3µm,20.1s,baz=231,slow=31
comp=Z,2.7nm,0.8s
LPAZ La Paz 97.11 114 P **P 20 33 32.2 -0.4**
LPAZ pmax pmax
comp=Z,16nm,1.4s
LOHW Long Hollow 97.13 42 IAMs_20 IAMs_20 21 09 47.7
comp=Z,4µm,20.0s
MOOW Moose Ponds 97.13 42 IAMs_20 IAMs_20 21 09 26.8
comp=Z,5µm,21.0s
PDAR Pinedale Array 97.22 44 P Pdif 20 33 32.7 +0.7
comp=Z,1.8nm,0.8s,baz=223,slow=7.4,SNR=1.8
PDAR LR LR 21 10 04.4
comp=Z,3µm,20.4s,baz=260,slow=31
comp=Z,1.8nm,0.8s
N25K Chitina, Valde 97.24 15 IAMs_20 IAMs_20 21 14 10.5
comp=Z,3µm,20.0s
HERN Volcan Telica 97.26 80 IAMs_20 IAMs_20 21 07 59.3
comp=Z,2µm,20.0s
CD2 Chengdu 97.32 302 P **P 20 33 31.9 -0.6**
CD2 sP sP 20 33 37.1 +0.2
CD2 SKS **SKSac 20 44 10.7 +1.6**
CD2 S **S 20 44 54.8 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,1µm,17.1s
CD2 LR LR
comp=Z,1µm,17.1s
T35M Bob Quinn 97.44 24 IAMs_20 IAMs_20 21 16 39.4
comp=Z,4µm,18.0s
CAST Castle Rocks 97.44 11 IAMs_20 IAMs_20 21 19 10.5
comp=Z,4µm,20.0s
J19K Poorman 97.44 10 IAMs_20 IAMs_20 21 14 45.3
comp=Z,3µm,20.0s
YHB Horse Butte 97.50 41 IAMs_20 IAMs_20 21 09 48.5
comp=Z,4µm,20.0s
YHL Hebgen Lake 97.57 41 IAmb IAmb 20 33 50.7
comp=Z,16nm,1.2s
YHL IAMs_20 IAMs_20 21 09 30.3
comp=Z,4µm,20.0s
YMR Madison River 97.58 41 IAmb IAmb 20 33 38.2
comp=Z,15nm,1.0s
YMR IAMs_20 IAMs_20 21 09 51.5
comp=Z,4µm,21.0s
O29M Mount Kennedy 97.59 18 IAMs_20 IAMs_20 21 14 06.0
comp=Z,4µm,20.0s
JTS Las Juntas de 97.64 83 LR LR 21 10 06.8
comp=Z,3µm,19.1s,baz=262,slow=31
TGUH Tegucigalpa,Un 97.64 78 IAMs_20 IAMs_20 21 08 23.4
comp=Z,4µm,20.0s
HHC Hu-ho-hao-te 97.72 314 *e*P Pdif 20 33 34.7 +0.6
HHC SKS **SKSac 20 44 11.4 +0.6**
HHC sS sS 20 45 04.6 +0.4
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,380nm,6.5s
HHC LR LR
comp=Z,590nm,22.5s
HHC LR LR
comp=Z,1µm,21.1s
HHC LR LR
comp=Z,2µm,20.8s
YNM Yellowstone No 97.76 41 IAMs_20 IAMs_20 21 09 48.4
comp=Z,4µm,20.0s
KTH Kantishna Hill 97.77 12 IAMs_20 IAMs_20 21 19 10.0
comp=Z,5µm,20.0s
YNR Norris Junctio 97.77 41 IAMs_20 IAMs_20 21 09 48.6
comp=Z,4µm,20.0s
BOZ Bozeman (W) 97.79 40 IAmb IAmb 20 33 37.5
comp=Z,34nm,1.6s
BOZ IAMs_20 IAMs_20 21 10 09.0
comp=Z,4µm,20.0s
SEY Seymchan 97.80 347 *ce*P Pdif 20 33 34.5 +0.7
SEY pmax pmax
comp=Z,33nm,3.9s
LKWY Lake 97.83 42 IAmb IAmb 20 33 38.2
comp=Z,25nm,1.6s
ISCO Idaho Springs 97.84 48 IAMs_20 IAMs_20 21 11 18.9
comp=Z,5µm,21.0s
ZEA Zeya 97.97 331 *e*P Pdif 20 33 35.4 +0.6
ZEA *e* 20 44 13.2
ZEA *e*S **S 20 45 03.1 +2.9**
ZEA *e* 20 46 27.2
ZEA pmax pmax
comp=Z,10.0nm,1.3s
RND Reindeer 98.00 13 IAMs_20 IAMs_20 21 11 23.2
comp=Z,5µm,22.0s
G16K Koyuk River 98.00 6 IAMs_20 IAMs_20 21 15 22.1
comp=Z,4µm,20.0s
TNCH TengChong 98.10 294 P Pdif 20 33 39.4 +3.1
TNCH pP sP 20 33 41.7 +1.0
TNCH PP **PP 20 37 41.0 +5.1**
TNCH SKS **SKSac 20 44 16.1 +2.5**
TNCH S **S 20 45 03.5 +0.4**
TNCH SS **SS 20 51 49.8 +3.5**
TNCH pmax pmax
comp=Z,240nm,6.1s
TNCH LR LR
comp=Z,2µm,18.4s
TNCH LR LR
comp=Z,800nm,17.9s
TNCH LR LR
comp=Z,3µm,19.6s
F15K North Star Dit 98.11 5 IAMs_20 IAMs_20 21 15 29.7
comp=Z,5µm,20.0s
BPAW Bear Paw Mtn. 98.26 11 IAMs_20 IAMs_20 21 19 36.1
comp=Z,4µm,20.0s
HYT Haines Junctio 98.32 19 IAMs_20 IAMs_20 21 14 39.2
comp=Z,4µm,19.0s
YNE Yellowstone No 98.33 42 IAMs_20 IAMs_20 21 10 38.3
comp=Z,4µm,20.0s
Q32M Nakina River 98.33 22 IAMs_20 IAMs_20 21 14 34.7
comp=Z,3µm,19.0s
I20K Naaghedeneel 98.37 10 IAMs_20 IAMs_20 21 14 51.8
comp=Z,4µm,20.0s
P32M Atlin 98.39 21 IAMs_20 IAMs_20 21 16 18.3
comp=Z,4µm,18.0s
BTO Baotou 98.53 313 *e*Pdif Pdif 20 33 44.5 +6.7
BTO PP PP 20 37 49.9 +11
BTO Baotou 98.53 313 S **S 20 45 05.1 -0.7**
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,610nm,6.9s
BTO LR LR
comp=N,4µm,19.6s
BTO LR LR
comp=E,5µm,19.3s
BTO LR LR
comp=Z,9µm,19.2s
CPUP Villa Florida 98.61 128 IAmb IAmb 20 33 56.8
comp=Z,31nm,1.9s
CPUP Villa Florida 98.61 128 P Pdif 20 33 40.5 +2.0
comp=Z,2.0nm,0.8s,baz=246,slow=6.8,SNR=3.9
CPUP PKKPbc **PKKPbc 20 50 05.4 -1.2**
comp=Z,1.3nm,0.7s,baz=158,slow=4.4,SNR=3.6
CPUP LR LR 21 14 34.5
comp=Z,1µm,18.1s,baz=215,slow=33
comp=Z,2.0nm,0.8s
DLBC Dease Lake 98.65 23 IAMs_20 IAMs_20 21 14 56.3
comp=Z,4µm,19.0s
O30N Mendenhall 98.66 19 IAMs_20 IAMs_20 21 16 44.4
comp=Z,4µm,19.0s
BRU2 Volcan 98.78 85 IAMs_20 IAMs_20 21 09 07.5
comp=Z,5µm,20.0s
L26K Log Cabin Wild 98.78 15 IAMs_20 IAMs_20 21 15 32.0
comp=Z,3µm,20.0s
RLMT Red Lodge 98.81 42 IAMs_20 IAMs_20 21 10 23.2
comp=Z,4µm,21.0s
N30M Aishikik Lake 98.96 18 IAMs_20 IAMs_20 21 14 50.0
comp=Z,4µm,20.0s
NEA2 Nenana 99.05 12 IAMs_20 IAMs_20 21 12 29.9
comp=Z,6µm,22.0s
RIDG Independent Ri 99.09 14 IAMs_20 IAMs_20 21 11 57.1
comp=Z,4µm,21.0s
BRIGG Briggsdale 99.10 48 IAMs_20 IAMs_20 21 11 19.2
comp=Z,4µm,19.0s
HKT Hockley 99.11 60 IAMs_20 IAMs_20 21 23 12.3
comp=Z,4µm,18.0s
WRH Wood River Hil 99.11 12 P **Pdif 20 33 39.8 +0.2**
WRH IAmb IAmb 20 37 21.1
comp=Z,32nm,2.0s
WRH IAMs_20 IAMs_20 21 12 08.7
comp=Z,4µm,22.0s
P33M Teslin, Yukon 99.16 21 IAMs_20 IAMs_20 21 11 51.6
comp=Z,4µm,20.0s
CCB Clear Creek Bu 99.33 13 IAMs_20 IAMs_20 21 16 05.2
comp=Z,4µm,20.0s
N31M Braeburn, Yuko 99.34 19 IAMs_20 IAMs_20 21 17 15.2
comp=Z,3µm,19.0s
H21K Melozitna Rive 99.42 10 IAMs_20 IAMs_20 21 15 35.7
comp=Z,3µm,20.0s
M29M Somme Creek 99.43 17 IAMs_20 IAMs_20 21 15 06.4
comp=Z,5µm,20.0s
COLA College 99.52 12 IAMs_20 IAMs_20 21 16 10.4
comp=Z,5µm,20.0s
COLA College 99.52 12 *i* P **Pdif 20 33 41.4 0.0**
COLA pmax pmax
comp=Z,13nm,1.5s
WMOK Wichita Mounta 99.54 55 IAMs_20 IAMs_20 21 11 15.3
comp=Z,4µm,20.0s
ILAR Eielson Array 99.61 13 P **Pdif 20 33 41.1 -0.7**
comp=Z,1.0nm,0.9s,baz=221,slow=6.2,SNR=7.9
ILAR PP **PP 20 37 42.5 -3.9**
comp=Z,2.4nm,1.1s,baz=210,slow=5.8,SNR=5.5
ILAR PKiKP **PKiKP 20 38 11.0 +0.3**
comp=Z,2.5nm,0.9s,baz=245,slow=4.0,SNR=6.9
ILAR PKKPbc **PKKPbc 20 50 04.8 -0.8**
comp=Z,0.2nm,0.5s,baz=321,slow=33,SNR=4.8
comp=Z,1.0nm,0.9s
J25K Salcha River, 99.76 13 IAMs_20 IAMs_20 21 20 01.7
comp=Z,3µm,18.0s
POKR Poker Plat Res 99.82 12 IAMs_20 IAMs_20 21 16 19.7
comp=Z,4µm,20.0s
N32M Quiet Lake 99.83 20 IAMs_20 IAMs_20 21 15 26.2
comp=Z,4µm,19.0s
M30M Minto, Yukon 99.97 18 IAMs_20 IAMs_20 21 15 22.1
comp=Z,4µm,20.0s
J26L Joseph Creek 100.03 14 IAMs_20 IAMs_20 21 12 35.0
comp=Z,3µm,21.0s
LZH Lanzhou 100.05 306 *e*P **Pdif 20 33 45.2 +0.5**
LZH SKS **SKSac 20 44 24.6 +1.7**
LZH pmax pmax
comp=Z,540nm,6.9s
LZH LR LR
comp=Z,1µm,17.5s
LZH LR LR
comp=Z,1µm,18.9s
LZH LR LR
comp=Z,2µm,18.2s
L29M L29M 100.07 17 IAMs_20 IAMs_20 21 15 25.3
comp=Z,5µm,20.0s
E18K Tukpahlearik C 100.15 7 IAMs_20 IAMs_20 21 18 19.8
comp=Z,4µm,20.0s
M31M Drury Creek, Y 100.31 19 IAMs_20 IAMs_20 21 18 05.2
comp=Z,4µm,18.0s
F20K Avaraart Lake 100.34 9 IAMs_20 IAMs_20 21 16 51.7
comp=Z,4µm,20.0s
NOKA Waynoka 100.45 53 IAMs_20 IAMs_20 21 22 29.3
comp=Z,3µm,20.0s
OK038 West end E0370 100.50 54 IAMs_20 IAMs_20 21 12 57.5
comp=Z,4µm,20.0s
C16K Lisburne Hills 100.59 5 IAMs_20 IAMs_20 21 13 36.2
comp=Z,5µm,21.0s
BILL Bilibino 100.67 354 IAMs_20 IAMs_20 21 15 31.5
comp=Z,4µm,20.0s
FNO Franklin 100.77 55 IAMs_20 IAMs_20 21 11 34.0
comp=Z,5µm,20.0s
I26K Coal Creek Min 100.82 14 IAMs_20 IAMs_20 21 12 59.9
comp=Z,4µm,21.0s
G23K Bananza Creek 100.83 11 IAMs_20 IAMs_20 21 21 08.4
comp=Z,4µm,20.0s
K29M Barlow Dome 100.84 17 IAMs_20 IAMs_20 21 16 10.5
comp=Z,5µm,21.0s
OK029 Liberty Lake 101.02 55 IAMs_20 IAMs_20 21 12 02.5
comp=Z,4µm,21.0s
CROK Carrier 101.03 54 IAMs_20 IAMs_20 21 18 20.9
comp=Z,3µm,19.0s
OK032 Salt Plains WL 101.03 53 IAMs_20 IAMs_20 21 16 11.6
comp=Z,3µm,18.0s
MAYO Mayo, Yukon 101.04 18 IAMs_20 IAMs_20 21 16 06.5
comp=Z,5µm,20.0s
CBKS Cedar Bluff 101.07 51 IAMs_20 IAMs_20 21 12 11.0
comp=Z,5µm,20.0s
J29N Klondike Camp 101.18 16 IAMs_20 IAMs_20 21 20 41.0
comp=Z,4µm,19.0s
G24K Hadweenzic Riv 101.25 12 IAMs_20 IAMs_20 21 13 37.0
comp=Z,5µm,22.0s
C18K Utukok River 101.29 6 IAMs_20 IAMs_20 21 17 31.7
comp=Z,5µm,20.0s
D19K Kuna River 101.44 7 IAMs_20 IAMs_20 21 19 12.0
comp=Z,4µm,20.0s
OK031 S. Brethren Rd 101.53 55 IAMs_20 IAMs_20 21 12 08.2
comp=Z,4µm,20.0s
OK052 Battle Ridge R 101.57 55 IAMs_20 IAMs_20 21 12 09.4
comp=Z,5µm,20.0s
BLOK Blackwell 101.69 54 IAMs_20 IAMs_20 21 25 00.4
comp=Z,3µm,18.0s
OK048 Pawnee Station 101.70 54 IAMs_20 IAMs_20 21 13 57.6
comp=Z,4µm,20.0s
J30M Hart River 101.74 17 IAMs_20 IAMs_20 21 16 27.8
comp=Z,4µm,20.0s
OK051 E0350 and S346 101.82 54 IAMs_20 IAMs_20 21 14 12.8
comp=Z,5µm,19.0s
F24K Squaw Lake 101.92 11 IAMs_20 IAMs_20 21 14 23.7
comp=Z,5µm,21.0s
E23K Chandalar 102.13 10 IAMs_20 IAMs_20 21 19 15.7
comp=Z,3µm,20.0s
TUL3 Leonard 102.23 55 IAMs_20 IAMs_20 21 12 29.5
comp=Z,5µm,21.0s
T35A Sooner Cattle 102.25 54 IAMs_20 IAMs_20 21 14 36.9
comp=Z,4µm,19.0s
E24K Your Creek 102.33 11 IAMs_20 IAMs_20 21 14 48.8
comp=Z,5µm,21.0s
F25K Christian Rive 102.37 12 IAMs_20 IAMs_20 21 14 21.7
comp=Z,5µm,21.0s
G27K Doyon Strip 102.43 14 IAMs_20 IAMs_20 21 14 11.4
comp=Z,4µm,21.0s
D22K Ayikyak River 102.46 9 IAMs_20 IAMs_20 21 22 41.7
comp=Z,4µm,20.0s
F26K Sheenjek River 102.73 12 IAMs_20 IAMs_20 21 17 59.0
comp=Z,4µm,20.0s
D23K Nanushuk River 102.81 10 IAMs_20 IAMs_20 21 25 10.6
comp=Z,3µm,19.0s
E25K Arctic Village 102.85 12 IAMs_20 IAMs_20 21 14 37.8
comp=Z,5µm,21.0s
B21K Ikpikpuk River 102.91 8 IAMs_20 IAMs_20 21 20 40.1
comp=Z,4µm,20.0s
B20K Meade River 103.00 7 IAMs_20 IAMs_20 21 20 34.0
comp=Z,4µm,20.0s
WLAR White Oak Lake 103.01 58 IAMs_20 IAMs_20 21 13 04.7
comp=Z,5µm,20.0s
Z41A Richland Creek 103.02 59 IAMs_20 IAMs_20 21 13 04.0
comp=Z,4µm,20.0s
YAK Yakutsk 103.03 337 IAMs_20 IAMs_20 21 14 33.4
comp=Z,4µm,22.0s
MIAR Mount Ida 103.11 57 IAMs_20 IAMs_20 21 13 39.2
comp=Z,4µm,21.0s
H31M Peel River 103.23 17 IAMs_20 IAMs_20 21 17 15.7
comp=Z,3µm,20.0s
D24K Happy Valley 103.26 10 IAMs_20 IAMs_20 21 23 00.2
comp=Z,4µm,19.0s
KSU1 Kansas State U 103.30 52 IAMs_20 IAMs_20 21 16 46.0
comp=Z,4µm,20.0s
BGNE Belgrade 103.47 50 IAMs_20 IAMs_20 21 14 10.3
comp=Z,4µm,20.0s
DGMT Dagmar 103.59 41 IAMs_20 IAMs_20 21 19 53.8
comp=Z,3µm,18.0s
X40A Basin Creek Fa 103.61 58 IAMs_20 IAMs_20 21 14 22.5
comp=Z,4µm,20.0s
C23K Itkillik River 103.63 9 IAMs_20 IAMs_20 21 23 09.6
comp=Z,3µm,19.0s
PALK Pallekele 103.70 270 IAMs_20 IAMs_20 21 21 40.4
comp=Z,4µm,19.0s
B22K Teshekpuk Lake 103.73 8 IAMs_20 IAMs_20 21 21 13.8
comp=Z,3µm,20.0s
D25K Kavik River 103.79 11 IAMs_20 IAMs_20 21 15 34.5
comp=Z,5µm,21.0s
CCAR Cane Creek 104.10 59 IAMs_20 IAMs_20 21 16 29.4
comp=Z,5µm,19.0s
UALR University of 104.10 58 IAMs_20 IAMs_20 21 18 52.6
comp=Z,4µm,18.0s
G31M Satah River 104.15 16 IAMs_20 IAMs_20 21 18 05.5
comp=Z,3µm,20.0s
C27K Jago River 104.50 12 IAMs_20 IAMs_20 21 15 52.9
comp=Z,4µm,21.0s
E29M Blow River 104.54 14 IAMs_20 IAMs_20 21 18 54.3
comp=Z,4µm,21.0s
E28A Huff 104.58 44 IAMs_20 IAMs_20 21 14 51.3
comp=Z,4µm,19.0s
D27M Malcolm River 104.66 13 IAMs_20 IAMs_20 21 23 28.3
comp=Z,3µm,20.0s
SONM Songino Array 104.69 317 Pdiff **Pdif 20 34 03.8 -1.2**
comp=Z,0.9nm,0.9s,baz=130,slow=5.2,SNR=4.9
SONM PKiKP **PKiKP 20 38 21.4 +0.8**
comp=Z,1.0nm,1.1s,baz=112,slow=3.9,SNR=2.3
SONM PKKPbc **PKKPbc 20 49 50.2 0.0**
comp=Z,0.9nm,0.9s,baz=256,slow=3.1,SNR=4.4
N35A Tabor 104.83 51 IAMs_20 IAMs_20 21 13 45.4
comp=Z,3µm,21.0s
L34A Svendsen Farm, 104.90 50 IAMs_20 IAMs_20 21 14 53.1
comp=Z,3µm,20.0s
MGMO Mountain Grove 105.31 56 IAMs_20 IAMs_20 21 15 08.4
comp=Z,4µm,20.0s
SOR Soroa 105.50 73 IAMs_20 IAMs_20 21 14 35.8
comp=Z,3µm,20.0s
ECSD EROS Data Cent 105.62 48 IAMs_20 IAMs_20 21 15 35.2
comp=Z,5µm,19.0s
HBAR Harrisburg 105.69 58 IAMs_20 IAMs_20 21 14 52.5
comp=Z,4µm,21.0s
MDND Maddock 105.87 43 IAMs_20 IAMs_20 21 17 35.4
comp=Z,4µm,20.0s
LSA Lhasa 106.10 295 P **PKiKP 20 38 24.4 +0.3**
N38A Joes South For 106.39 52 IAMs_20 IAMs_20 21 14 56.8
comp=Z,3µm,21.0s
CCM Cathedral Cave 106.46 55 IAMs_20 IAMs_20 21 15 10.7
comp=Z,4µm,21.0s
HALT Halls 106.80 58 IAMs_20 IAMs_20 21 20 14.0
comp=Z,4µm,19.0s
YKA Yellowknife Ar 106.93 26 Pdiff **Pdif 20 34 14.3 0.0**
comp=Z,0.3nm,0.9s,baz=218,slow=4.1,SNR=2.5
YKA PKiKP **PKiKP 20 38 23.7 -0.3**
comp=Z,0.8nm,0.9s,baz=237,slow=1.9,SNR=5.3
YKA PKKPbc **PKKPbc 20 49 43.3 -0.2**
comp=Z,1.6nm,0.9s,baz=48,slow=2.8,SNR=12
SCIA State Center 106.93 51 IAMs_20 IAMs_20 21 15 02.0
comp=Z,4µm,21.0s
FVM French Village 106.99 56 IAMs_20 IAMs_20 21 17 06.9
comp=Z,4µm,18.0s
UTMT University of 107.34 58 IAMs_20 IAMs_20 21 16 51.4
comp=Z,5µm,20.0s
SLM Saint Louis 107.43 55 IAMs_20 IAMs_20 21 16 51.4
comp=Z,4µm,19.0s
VAO Valinhos 107.63 133 IAMs_20 IAMs_20 21 22 24.4
comp=Z,4µm,18.0s
I37A Lemond, Waseca 107.80 49 IAMs_20 IAMs_20 21 16 24.8
comp=Z,4µm,21.0s
WVT Waverly 107.99 58 IAMs_20 IAMs_20 21 17 55.5
comp=Z,3µm,19.0s
AGMN Agassiz Nation 108.28 44 IAMs_20 IAMs_20 21 16 51.2
comp=Z,5µm,20.0s
L40A Anamosa 108.32 52 IAMs_20 IAMs_20 21 19 42.9
comp=Z,4µm,19.0s
C36M Paulatuk 108.49 18 IAMs_20 IAMs_20 21 24 20.4
comp=Z,3µm,19.0s
V48A Smith Brothers 108.55 59 IAMs_20 IAMs_20 21 16 43.2
comp=Z,5µm,20.0s
061Z Ochoppi 108.63 71 IAMs_20 IAMs_20 21 15 48.7
comp=Z,4µm,21.0s
SPMN Marine on St. 108.73 48 IAMs_20 IAMs_20 21 17 22.4
comp=Z,4µm,20.0s
HDIL Hopedale 108.94 54 IAMs_20 IAMs_20 21 27 53.5
comp=Z,3µm,19.0s
SDV Santo Domingo 109.03 91 IAMs_20 IAMs_20 21 17 40.9
comp=Z,3µm,19.0s
ULM Lac du Bonnet 109.18 42 PKiKP **PKiKP 20 38 28.1 -0.5**
comp=Z,1.9nm,0.7s,baz=158,slow=3.8,SNR=3.4
JFWS Jewell Farm 109.35 51 IAMs_20 IAMs_20 21 20 13.9
comp=Z,4µm,19.0s
I40A Norwalk 109.53 50 IAMs_20 IAMs_20 21 17 47.9
comp=Z,4µm,20.0s
CHIV Chivirico 109.58 78 IAMs_20 IAMs_20 21 16 54.9
comp=Z,1µm,21.0s
U49A Red Boiling Sp 109.64 59 IAMs_20 IAMs_20 21 19 17.2
comp=Z,3µm,20.0s
GOGA Godfrey 110.00 63 IAMs_20 IAMs_20 21 18 59.9
comp=Z,3µm,21.0s
TIXI Tiksi 110.08 344 IAMs_20 IAMs_20 21 25 22.8
comp=Z,3µm,20.0s
M44A Midewin, Midew 110.16 53 IAMs_20 IAMs_20 21 28 38.6
comp=Z,3µm,18.0s
G40A Rib Lake 110.40 49 IAMs_20 IAMs_20 21 18 06.7
comp=Z,4µm,20.0s
K43A Burlington 110.53 52 IAMs_20 IAMs_20 21 18 32.2
comp=Z,4µm,20.0s
HYB Hyderabad 110.56 278 *e*PKiKP **PKiKP 20 38 28.0 -4.3**
HYB IVMs_BB IVMs_BB 21 27 14.1
comp=Z,1µm,19.7s
L44A Lake County Fo 110.58 53 IAMs_20 IAMs_20 21 29 01.8
comp=Z,3µm,19.0s
I42A Draeger Farm, 110.65 51 IAMs_20 IAMs_20 21 18 21.3
comp=Z,3µm,20.0s
EYMN Ely 110.74 46 IAMs_20 IAMs_20 21 18 09.4
comp=Z,4µm,20.0s
NMDO Nuevo Mundo 111.04 78 IAMs_20 IAMs_20 21 21 50.5
comp=Z,2µm,19.0s
BG3 Lake Jocassee 111.08 61 IAMs_20 IAMs_20 21 18 46.4
comp=Z,3µm,21.0s
HODGE Hodges 111.26 62 IAMs_20 IAMs_20 21 18 50.3
comp=Z,4µm,21.0s
V53A Saluda 111.45 61 IAMs_20 IAMs_20 21 19 40.3
comp=Z,4µm,20.0s
N47A Urbana 111.56 55 IAMs_20 IAMs_20 21 19 44.6
comp=Z,3µm,20.0s
L46A Eue Claire 111.61 53 IAMs_20 IAMs_20 21 24 46.0
comp=Z,3µm,19.0s
H43A Windswept, Lux 111.64 50 IAMs_20 IAMs_20 21 18 50.4
comp=Z,4µm,21.0s
O48B Farmland 111.67 55 IAMs_20 IAMs_20 21 18 14.4
comp=Z,4µm,20.0s
F42A Maple Grove Fa 111.93 49 IAMs_20 IAMs_20 21 19 12.0
comp=Z,3µm,19.0s
KMSC Kings Mountain 112.33 62 IAMs_20 IAMs_20 21 19 58.6
comp=Z,3µm,20.0s
I45A Fountain 112.47 51 IAMs_20 IAMs_20 21 23 19.6
comp=Z,3µm,18.0s
U54A Nelsons Funny 112.54 60 IAMs_20 IAMs_20 21 20 00.9
comp=Z,4µm,20.0s
Y57A Sumter 112.58 63 IAMs_20 IAMs_20 21 20 07.2
comp=Z,4µm,20.0s
Y58A Scranton 113.08 64 IAMs_20 IAMs_20 21 20 25.5
comp=Z,4µm,20.0s
J47A Sunmer 113.10 53 IAMs_20 IAMs_20 21 37 22.3
comp=Z,3µm,18.0s
W57A Gilead 113.34 62 IAMs_20 IAMs_20 21 25 20.3
comp=Z,3µm,18.0s
S54A Dingess, Beckl 113.42 59 IAMs_20 IAMs_20 21 24 21.3
comp=Z,4µm,18.0s
AAM Ann Arbor 113.52 54 IAMs_20 IAMs_20 21 19 18.7
comp=Z,3µm,20.0s
X58A Rowland 113.59 63 IAMs_20 IAMs_20 21 23 28.0
comp=Z,3µm,18.0s
M50A Fremont 113.60 55 IAMs_20 IAMs_20 21 22 49.8
comp=Z,4µm,19.0s
FCC Fort Churchill 113.76 34 IAMs_20 IAMs_20 21 18 15.3
comp=Z,4µm,21.0s
BLA Blacksburg 113.84 60 IAMs_20 IAMs_20 21 24 15.5

comp=Z,4µm,18.0s
Y60A Bolivia 114.22 64 IAMs_20 IAMs_20 21 21 00.8
comp=Z,3µm,21.0s
V58A Windy Hill, Pi 114.25 62 IAMs_20 IAMs_20 21 24 23.5
comp=Z,4µm,18.0s
K50A Casco 114.41 54 IAMs_20 IAMs_20 21 20 16.1
comp=Z,3µm,21.0s
W59A Clinton 114.51 63 IAMs_20 IAMs_20 21 26 09.3
comp=Z,3µm,19.0s
WMQ Urumqi 114.59 308 *e*PKP **PKiKP 20 38 39.9 +0.7**
WMQ LR LR
comp=Z,1µm,24.2s
WMQ LR LR
comp=Z,1µm,22.1s
WMQ LR LR
comp=Z,1µm,24.9s
E46A Sault Ste Mari 114.62 50 IAMs_20 IAMs_20 21 20 36.3
comp=Z,4µm,20.0s
I49A Point Hope 114.71 52 IAMs_20 IAMs_20 21 26 30.9
comp=Z,3µm,18.0s
S57A Dark Hollow, R 115.13 60 IAMs_20 IAMs_20 21 25 28.6
comp=Z,4µm,18.0s
Q56A Snyder Ridge, 115.44 59 IAMs_20 IAMs_20 21 21 35.6
comp=Z,4µm,20.0s
PCDR Punta Cana, DR 115.62 84 IAMs_20 IAMs_20 21 20 06.0
comp=Z,3µm,20.0s
BOSA Boshof 115.72 202 PKP **PKiKP 20 38 42.4 +0.2**
comp=Z,2.9nm,0.9s,baz=201,slow=5.6,SNR=3.2
ERPA Erie 115.99 55 IAMs_20 IAMs_20 21 25 31.1
comp=Z,4µm,18.0s
V61A Roper 116.16 63 IAMs_20 IAMs_20 21 26 30.9
comp=Z,4µm,20.0s
P57A Homestead Farm 116.45 58 IAMs_20 IAMs_20 21 22 06.4
comp=Z,4µm,20.0s
AGPR Aguadilla, PR 116.67 84 IAMs_20 IAMs_20 21 19 46.7
comp=Z,3µm,21.0s
SADO Sadowa 117.47 53 IAMs_20 IAMs_20 21 25 14.0
comp=Z,3µm,18.0s
ZSN Zaisan 117.69 311 *e*PKIKP **PKPdf 20 38 45.1 +0.1**
ZSN Zaisan 117.69 311 *e*PKP **PKPdf 20 38 45.1 +0.1**
MVL Millersville 117.83 58 IAMs_20 IAMs_20 21 22 59.0
comp=Z,4µm,20.0s
J55A Hilton 117.88 55 IAMs_20 IAMs_20 21 32 52.1
comp=Z,4µm,18.0s
R61A Willards 118.00 60 IAMs_20 IAMs_20 21 26 42.5
comp=Z,3µm,18.0s
DELO Deloro Mine 118.42 53 IAMs_20 IAMs_20 21 24 14.2
comp=Z,3µm,20.0s
PECO Prince Edward 118.66 54 IAMs_20 IAMs_20 21 31 20.7
comp=Z,3µm,19.0s
P61A Hammonton 118.85 59 IAMs_20 IAMs_20 21 27 11.0
comp=Z,3µm,20.0s
RES Resolute Bay 118.87 18 **PKPdf 20 38 46.2 -0.2**
RES IAMs_20 IAMs_20 21 27 04.6
comp=Z,3µm,20.0s
RES Resolute Bay 118.87 18 PKIKP **PKPdf 20 38 46.2 -0.2**
RES pmax pmax
comp=Z,3µm,20.0s
MK31 Makanchi Array 119.17 309 *i* PKIKP **PKPdf 20 38 46.2 -1.7**
MKAR Makanchi Array 119.17 309 **PKPdf 20 38 46.8 -1.1**
MKAR Makanchi Array 119.17 309 PKP **PKPdf 20 38 46.9 -1.0**
comp=Z,8.4nm,0.9s,baz=126,slow=0.4,SNR=9.8
MKAR PKKPbc **PKKPab 20 49 02.8 +1.1**
comp=Z,1.5nm,0.7s,baz=303,slow=4.3,SNR=9.0
J57A Williamstown 119.19 55 IAMs_20 IAMs_20 21 22 27.6
comp=Z,4µm,20.0s
MAKZ Makanchi 119.38 309 **PKPdf 20 38 47.7 -0.6**
MAKZ Makanchi 119.38 309 PKIKP **PKPdf 20 38 47.7 -0.6**
MAKZ pmax pmax
comp=Z,1µm,20.0s
SABA Saba 119.56 87 IAMs_20 IAMs_20 21 22 17.0
comp=Z,3µm,20.0s
ZALV Zalesovo Beam 119.59 318 **PKPdf 20 38 47.2 -1.2**
ZALV Zalesovo Beam 119.59 318 PKP **PKPdf 20 38 46.9 -1.5**
comp=Z,2.7nm,0.9s,baz=190,slow=5.4,SNR=8.9
ZALV Zalesovo Beam 119.59 318 PKIKP **PKPdf 20 38 47.2 -1.2**
SEUS St. Eustatius 119.72 87 IAMs_20 IAMs_20 21 21 52.3
comp=Z,3µm,20.0s
SHLS Shalkode 120.01 305 *e*PKIKP **PKPdf 20 38 49.1 -0.6**
SHLS Shalkode 120.01 305 *e*PKP **PKPdf 20 38 49.1 -0.6**
WBO Williamsburg 120.16 53 IAMs_20 IAMs_20 21 24 56.2
comp=Z,3µm,20.0s
J59A Piesco 120.24 55 IAMs_20 IAMs_20 21 24 01.5
comp=Z,3µm,21.0s
UZB Uzynbulak 120.32 304 *e*PKIKP **PKPdf 20 38 50.3 0.0**
UZB Uzynbulak 120.32 304 *e*PKP **PKPdf 20 38 50.4 0.0**
LONY Lake Ozonia 120.52 54 IAMs_20 IAMs_20 21 28 27.8
comp=Z,3µm,18.0s
NCB Newcomb 120.58 55 IAMs_20 IAMs_20 21 24 11.6
comp=Z,3µm,20.0s
KPKS Kokpek 120.64 305 *e*PKIKP **PKPdf 20 38 50.9 0.0**
KPKS *e* 20 40 17.2
KPKS Kokpek 120.64 305 *e*PKP **PKPdf 20 38 51.0 0.0**
KPKS *e*PP **PP 20 40 17.3 -1.9**
SATY Saty 120.72 304 *e*PKIKP **PKPdf 20 38 51.1 0.0**
SATY Saty 120.72 304 *e*PKP **PKPdf 20 38 51.2 0.0**
ZHN Zhinishke 120.73 304 *e*PKIKP **PKPdf 20 38 50.8 -0.3**
ZHN Zhinishke 120.73 304 *e*PKP **PKPdf 20 38 50.8 -0.3**
TRQ Mont Tremblant 120.98 52 IAMs_20 IAMs_20 21 27 48.9
comp=Z,3µm,20.0s
FRNY Flat Rock 121.26 54 IAMs_20 IAMs_20 21 36 34.4
comp=Z,3µm,18.0s
TDK Taldyqorghan 121.27 306 *e*PKIKP **PKPdf 20 38 51.8 -0.1**
TDK Taldyqorghan 121.27 306 *e*PKP **PKPdf 20 38 51.9 -0.1**
MNTQ Montreal, Queb 121.42 53 IAMs_20 IAMs_20 21 36 23.5
comp=Z,3µm,19.0s
KSH Kashi 121.42 300 PKP **PKiKP 20 38 54.0 +1.3**
KSH SKS **SKSac 20 45 58.5 +7.7**
KSH LR LR
comp=Z,2µm,21.6s
KSH LR LR
comp=Z,940nm,18.2s
KSH LR LR
comp=Z,2µm,22.7s
EUNU Eureka 121.70 12 **PKPdf 20 38 51.8 -0.1**
VT1 Waterbury 121.70 55 IAMs_20 IAMs_20 21 29 13.0
comp=Z,3µm,18.0s
TNSS Tian-Shan 121.74 304 *e*PKIKP **PKPdf 20 38 52.8 -0.6**
TNSS Tian-Shan 121.74 304 *e*PKP **PKPdf 20 38 52.9 -0.6**
KURK Kurchatov 122.52 313 **PKPdf 20 38 53.8 -0.3**
KURK Kurchatov 122.52 313 *ce*PKIKP **PKiKP 20 38 54.7 +0.4**
KURK pmax pmax
comp=Z,22nm,1.0s
KURBB Kurchatov Arra 122.56 313 PKP **PKPdf 20 38 53.4 -0.8**
comp=Z,9.4nm,0.7s,baz=108,slow=1.9,SNR=10
TKM2 Tokmak 2 122.66 303 P **PKPdf 20 38 55.3 +0.4**
SNR=13
KBK Karagaybulak 123.05 303 P **PKiKP 20 38 56.8 +0.9**
SNR=6.8
CHMS Chumysh 123.28 303 P **PKPdf 20 38 56.3 +0.4**
SNR=12
FRU1 Bishkek 123.32 303 IAMs_20 IAMs_20 21 40 06.2
comp=Z,2µm,20.0s
AAK Ala-Archa 123.37 303 **PKiKP 20 38 56.8 +0.3**
AAK Ala-Archa 123.37 303 IAMs_20 IAMs_20 21 43 00.5
comp=Z,2µm,19.0s
AAK Ala-Archa 123.37 303 PKP **PKPdf 20 38 56.4 +0.2**
comp=Z,9.7nm,0.7s,baz=140,slow=2.9,SNR=10
AAK Ala-Archa 123.37 303 P **PKiKP 20 38 57.0 +0.5**
SNR=7.0
AAK Ala-Archa 123.37 303 *i* PKIKP **PKPdf 20 38 55.8 -0.5**
G62A West of Eustis 123.45 54 IAMs_20 IAMs_20 21 27 28.5
comp=Z,3µm,19.0s
AML Almayashu 123.81 302 P **PKPdf 20 38 57.8 +0.4**
SNR=18
EKS2 Erkin-Say 123.89 303 P **PKiKP 20 38 57.9 +0.4**
SNR=5.9
LMQ La Malbaie 124.12 51 IAMs_20 IAMs_20 21 33 24.0
comp=Z,3µm,19.0s
BBSR BB Station 124.20 70 IAMs_20 IAMs_20 21 22 33.2
comp=Z,3µm,19.0s
BTLS Baital 124.27 305 *e*PKIKP **PKPdf 20 38 58.0 +0.3**
BTLS Baital 124.27 305 *e*PKP **PKPdf 20 38 58.0 +0.3**
PKME Peaks-Kenny Pk 124.32 54 IAMs_20 IAMs_20 21 28 51.5
comp=Z,3µm,19.0s
E62A Clayton Lake 124.46 53 IAMs_20 IAMs_20 21 32 24.1
comp=Z,3µm,19.0s
D62A Allapoint, All 124.87 52 IAMs_20 IAMs_20 21 32 59.4
comp=Z,4µm,19.0s
F64A Sherman 125.09 54 IAMs_20 IAMs_20 21 32 32.0
comp=Z,3µm,19.0s
KBL Kabul 125.21 292 **PKiKP 20 39 01.1 +0.6**
KBL Kabul 125.21 292 PKIKP **PKiKP 20 39 01.1 +0.6**
GAR Garm 125.49 298 **PKiKP 20 39 01.6 +0.9**
G65A Princeton 125.50 55 **PKPdf 20 39 00.3 +0.3**
BRZS Berezniki 126.13 311 *e*PKIKP **PKPdf 20 39 01.2 +0.1**
BRZS Berezniki 126.13 311 *e*PKP **PKPdf 20 39 01.2 +0.1**
CHGR Chuyangaron 126.28 297 **PKiKP 20 39 03.2 +0.9**
KKAR Karatay Array 126.33 302 **PKPdf 20 39 01.5 -0.2**
KKAR Karatay Array 126.33 302 PKIKP **PKPdf 20 39 01.5 -0.2**
SIMJ Simiganj 126.39 297 **PKiKP 20 39 03.2 +0.6**
IUG Iuzhnay 126.46 301 *e*PKIKP **PKPdf 20 39 01.8 -0.3**
IUG *e* 20 40 56.2
IUG Iuzhnay 126.46 301 *e*PKP **PKPdf 20 39 01.9 -0.3**
IUG *e*PP **PP 20 40 56.2 -2.2**
ICQ Pointe Anglais 126.47 49 **PKPdf 20 39 01.8 +0.1**
BRLS Borolday 126.80 302 *e*PKIKP **PKPdf 20 39 02.5 -0.1**
BRLS *e* 20 40 58.9
BRLS Borolday 126.80 302 *e*PKP **PKPdf 20 39 02.6 -0.1**
BRLS *e*PP **PP 20 40 59.0 -1.5**
BATG Bathurst New B 126.91 52 **PKPdf 20 39 02.3 -0.3**
SCHQ Schefferville 127.35 43 PKP **PKPdf 20 39 03.5 +0.2**
comp=Z,19nm,1.0s,baz=250,slow=3.8,SNR=11
BVAR Borovoye Array 127.91 315 PKP **PKPdf 20 39 04.8 +0.4**
comp=Z,24nm,1.0s,baz=98,slow=2.1,SNR=23
BRVK Borovoye 127.98 315 **PKPdf 20 39 04.7 +0.2**
BRVK Borovoye 127.98 315 IAMs_20 IAMs_20 21 36 45.3
comp=Z,2µm,19.0s
BRVK Borovoye 127.98 315 *ce*PKIKP **PKiKP 20 39 05.5 +0.4**
BRVK pmax pmax
comp=Z,30nm,1.3s
KULLO Kullorsuaq 128.74 17 *e*P **PKPdf 20 39 01.2 -4.2**
NEEM North Greenlan 128.90 13 *e*P **PKPdf 20 39 06.7 +0.6**
UPNV Upernavik 129.66 19 *e*P **PKPdf 20 39 06.4 -0.8**
SOHO SOHO 132.01 275 PKPdf **PKPdf 20 39 13.4 +0.3**
UOSS Minazif 132.59 276 PKPdf **PKPdf 20 39 13.7 -0.5**
HATD Hatta, Dubai 132.60 275 PKiKP **PKPdf 20 39 14.8 +0.6**
ASHO Ashiyiah 132.61 275 PKPdf **PKPdf 20 39 13.2 -1.0**
MDH Madha 132.64 276 PKPdf **PKPdf 20 39 14.2 0.0**
ALNE Al Ain 132.64 274 *i* PKPdf **PKPdf 20 39 14.7 +0.4**
SNR=6.1
MSFE Esma-Masafi 132.78 276 PKiKP **PKiKP 20 39 15.7 0.0**
KBS Kingsbay 133.00 357 IAMs_20 IAMs_20 21 31 30.1
comp=Z,2µm,22.0s
KBS Kingsbay 133.00 357 *e*PKPdf **PKiKP 20 39 14.5 0.0**
KBS *e*PP **PP 20 41 39.4 -0.2**
KBS *e*SKPdf **SKiKP 20 42 49.1 -0.6**
KBS *e*SS **SS 20 59 23.8 +3.3**
KBS Kingsbay 133.00 357 *e*P **PKiKP 20 39 14.6 0.0**
FAQ Al Faqa, Dubai 133.03 275 PKiKP **PKiKP 20 39 16.0 -0.1**
NAZ Nazwa, Dubai 133.06 275 PKPdf **PKPdf 20 39 15.3 +0.3**
ASUD Al Ashush, Dub 133.21 275 PKiKP **PKiKP 20 39 16.4 -0.1**
KMBO Kilima Mbogo 133.24 232 PKP **PKiKP 20 39 18.1 +0.8**
comp=Z,0.4nm,0.3s,baz=114,slow=4.7,SNR=3.7
KMBO SKPbc **SKPab 20 42 47.2 +1.9**
comp=Z,6.4nm,0.9s,baz=162,slow=5.1,SNR=13
KMBO Kilima Mbogo 133.24 232 *i* PKIKP **PKPdf 20 39 14.7 -1.4**
SVE Sverdlovsk 133.49 320 *e*PKIKP **PKiKP 20 39 17.3 +1.2**
SPA0 Spitsbergen Ar 133.52 356 *e*PKPdf **PKiKP 20 39 15.7 +0.1**
SPA0 *e*PP **PP 20 41 42.4 -0.5**
SPA0 *e*SKPdf **SKPdf 20 42 48.7 -0.1**
SPA0 *e*SS **SS 20 59 29.9 +3.0**
SPITS Spitsbergen Ar 133.52 356 PKP **PKPdf 20 39 14.1 -0.3**
comp=Z,12nm,0.9s,baz=52,slow=5.4,SNR=5.6
MZR Muzera 134.16 272 *i* PKiKP **PKiKP 20 39 18.4 -0.1**
SNR=7.3
DAG Danmarks Havn 134.30 7 *e*P **PKPdf 20 39 15.1 -0.7**
SUMG Summit 134.35 16 **PKPdf 20 39 16.7 +0.2**
SUMG IAMs_20 IAMs_20 21 35 16.8
comp=Z,3µm,22.0s
SUMG Summit 134.35 16 PKIKP **PKPdf 20 39 16.7 +0.2**
SUMG pmax pmax
comp=Z,3µm,22.0s
SUMG Summit 134.35 16 *e*P **PKPdf 20 39 14.0 -2.6**
HOPEN Hopen 134.37 353 *e*PP **PP 20 41 47.6 -0.6**
HOPEN *e*SKPdf **SKiKP 20 42 52.1 -0.4**
HOPEN *e*SS **SS 20 59 41.7 +4.6**
ARTI Arti 134.78 319 **PKPdf 20 39 16.7 -0.6**
ARTI IAMs_20 IAMs_20 21 37 04.2
comp=Z,2µm,20.0s
ARTI Arti 134.78 319 PKP **PKPdf 20 39 17.5 +0.2**
comp=Z,12nm,0.9s,baz=100,slow=1.3,SNR=5.0
ARTI SKPbc **SKPbc 20 42 48.0 +1.3**
comp=Z,8.6nm,0.9s,baz=260,slow=22,SNR=9.9
ARTI Arti 134.78 319 *i* PKIKP **PKiKP 20 39 19.4 +0.7**
ARTI 20 41 49.9
ARTI MLR MLR
comp=Z,2µm,20.0s
AKTO Aktyubinsk 135.54 311 PKhKP PKPpre 20 39 09.2
comp=Z,1.6nm,0.6s,baz=158,slow=2.6,SNR=5.2
AKTO PKP **PKPdf 20 39 19.0 +0.1**
comp=Z,3.1nm,0.8s,baz=12,slow=2.2,SNR=4.4
AKTO SKPbc **SKPbc 20 42 50.1 +0.8**
comp=Z,7.0nm,0.9s,baz=236,slow=17,SNR=8.8
ICESG Greenland Ices 136.15 20 *e*P **PKPdf 20 39 15.2 -4.7**
DBG Daneborg 136.34 9 *e*P **PKiKP 20 39 21.5 +0.1**
BJO1 Bjornoya 136.83 354 *e*SKPdf **SKiKP 20 42 56.3 -1.3**
BJO1 *e*PS PS 20 52 30.1 +0.4
KIRV Kirov 138.98 324 *ce*PKIKP **PKiKP 20 39 26.5 -0.6**
VADS Vadso 139.19 346 *e*PKPdf **PKPdf 20 39 25.5 +0.5**
VADS *e*PP **PP 20 42 17.9 -0.5**
VADS *e*SKPdf **SKPbc 20 43 00.7 +1.3**
VADS *e*SS **SS 21 00 37.1 +2.6**
SCO Scoresbysund 139.39 12 IAMs_20 IAMs_20 21 40 02.0
comp=Z,3µm,20.0s
SCO Scoresbysund 139.39 12 *e*P **PKiKP 20 39 27.8 +0.1**
HAMF Hammerfest 139.76 349 *e*PKPdf **PKPdf 20 39 26.2 +0.1**
HAMF *e*PP **PP 20 42 19.7 -2.3**
HAMF *e*SKPdf **SKPbc 20 43 01.7 +0.7**
HAMF *e*SS **SS 21 00 41.8 +0.6**
ARA0 ARCESS Array S 140.42 347 *e*PKPdf **PKPdf 20 39 27.1 -0.2**
ARA0 *e*PP **PP 20 42 24.6 -1.5**
ARA0 *e*PKSdf **PKSdf 20 43 03.8 +0.9**
ARA0 *e*SS SS 21 00 52.4 +3.4
ARCES ARCESS Array B 140.42 347 PKhKP PKPpre 20 39 19.6
comp=Z,6.4nm,0.8s,baz=48,slow=1.8,SNR=13
RAYN Ar Rayn 141.12 268 **PKPdf 20 39 26.2 -3.8**
RAYN Ar Rayn 141.12 268 PKIKP **PKPdf 20 39 26.2 -3.8**
RAYN pmax pmax
comp=Z,5µm,19.0s
RAYN Ar Rayn 141.12 268 PKPdf **PKPdf 20 39 27.3 -2.8**
KTK1 Kautokeino 141.28 348 *e*PKPdf **PKPdf 20 39 27.4 -1.5**
KTK1 *e*PP **PP 20 42 32.5 +1.2**
KTK1 *e*SS SS 21 01 01.7 +2.7
TRO Tromso 141.38 351 *e*PKPdf **PKPdf 20 39 28.6 -0.4**
TRO *e*PP **PP 20 42 32.3 +0.4**
TRO *e*SS SS 21 01 02.7 +2.6
KLMR Klimovskoe 142.50 331 *e*PKHKP PKPpre 20 39 24.8
KLMR pmax pmax
comp=Z,45nm,1.2s
AKT Akhty 142.91 298 *e*PKIKP **PKPdf 20 39 29.8 -3.0**
AKT *e* 20 42 39.2
AKT *e*PPP PPP 20 45 50.5
AKT pmax pmax
comp=Z,41nm,2.0s
AKT MLR MLR
comp=Z,2µm,14.0s
MAK Makhachkala 143.06 300 *i* P **Pdif 20 36 47.9 -7.6**
MAK *e* 20 42 51.7
MAK *e* 20 46 42.7
MAK *e*SS SS 21 01 10.5 -11
MAK *e*SSS SSS 21 06 31.8
MAK pmax pmax
comp=Z,74nm,0.7s
LOF Lofoten 143.45 353 *e*PKPdf **PKPdf 20 39 33.1 +0.4**
LOF *e*PP **PP 20 42 44.1 -0.2**
LOF *e*SS SS 21 01 28.9 +4.9
STEI Steigen 143.46 352 *e*PKPdf **PKPdf 20 39 32.7 0.0**
STEI *e*PP **PP 20 42 44.5 +0.2**
STEI *e*SS SS 21 01 28.4 +4.3
FAUS Fauske 143.97 352 *e*PKPdf **PKPdf 20 39 34.5 +0.8**
FAUS *e*PP **PP 20 42 46.5 -0.9**
FAUS *e*SS SS 21 01 29.9 -0.1
KONS Konsvik 145.07 352 *e*PKPbc **PKPbc 20 39 35.4 +0.3**
GNI Garni 145.16 295 **PKPbc 20 39 36.8 +0.3**
GNI Garni 145.16 295 IAMs_20 IAMs_20 21 57 06.3
comp=Z,2µm,19.0s
GNI Garni 145.16 295 *i* PKIKP **PKPbc 20 39 35.3 -1.1**
MOR8 Moi Rana 145.23 351 *e*PKPbc **PKPbc 20 39 35.5 -0.1**
MOR8 IAmb IAmb 20 39 36.6
comp=Z,166nm,1.6s
MOR8 *e*SS SS 21 01 46.4 +1.9
STOK Stokkvaagen 145.25 352 *e*PKPbc **PKPbc 20 39 35.9 +0.3**
STOK *e*SS SS 21 01 49.2 +4.6
LEIR Leirfjorden 145.45 352 *e*PKPab **PKPab 20 39 37.2 +0.7**
LEIR IAmb IAmb 20 39 37.5
comp=Z,174nm,1.2s
LEIR *e*SS SS 21 01 51.0 +4.2
VRH Novokhopyorsk 145.56 315 *e*PKP2 **PKPdf 20 39 34.8 -2.1**
VRH pmax pmax
comp=Z,80nm,0.9s
VRH MLR MLR
comp=Z,2µm,19.0s
MOS Moscow 145.99 324 *e*PKP2 **PKPdf 20 39 36.6 -0.9**
MOS *e* 20 43 08.9
MOS pmax pmax
comp=Z,2µm,2.0s
MOS pmax pmax
comp=Z,740nm,1.5s
MOS pmax pmax
comp=N,300nm,1.5s
MOS pmax pmax
comp=E,200nm,1.5s
MOS pmax pmax
comp=N,234nm,1.2s
MOS pmax pmax
comp=E,121nm,1.2s
MOS MLR MLR
comp=Z,2µm,20.0s
MOS MLR MLR
comp=E,1µm,21.0s
MOS MLR MLR
comp=N,1µm,20.0s
GOF Gofitskoye 146.09 304 *c i* PKP2 **PKPdf 20 39 38.8 +0.8**
KBZ Khabaz 146.36 302 PKPbc **PKPbc 20 39 40.0 +0.2**
comp=N,71nm,1.1s,baz=101,slow=3.9,SNR=56
KBZ Khabaz 146.36 302 *ce*PKP2 **PKPbc 20 39 39.9 +0.2**
GEVA Gevas 146.43 292 IAMs_20 IAMs_20 21 51 26.7
comp=Z,3µm,19.0s
KIV Kislovodsk 146.49 302 **PKPdf 20 39 39.0 +0.1**
KIV IAMs_20 IAMs_20 21 49 01.0
comp=Z,2µm,20.0s
KIV Kislovodsk 146.49 302 ⇑P **PKPbc 20 39 40.6 +0.3**
KIV Kislovodsk 146.49 302 *i* PKP2 **PKPdf 20 39 38.7 -0.2**
KIV *e* 20 42 58.3
KIV *e* 20 46 43.4
KIV *e*SS SS 21 01 51.9 -9.4
KIV *e*SSS SSS 21 07 26.6
KIV pmax pmax
comp=Z,66nm,1.1s
SHA1 Shidzhatmaz 146.53 302 *i* PKIKP **PKPdf 20 39 37.2 -1.9**
LPSR Galich'ya Gora 146.69 319 *e*PKIKP **PKPdf 20 39 38.6 -0.2**
LPSR pmax pmax
comp=Z,210nm,1.1s
LPSR MLR MLR
comp=Z,3µm,24.0s
PUL Pulkovo 146.76 334 *ce*PKIKP **PKPdf 20 39 39.0 +0.3**
PUL pmax pmax
comp=Z,202nm,0.7s
OBN Obninsk 146.82 324 **PKPdf 20 39 39.4 +0.5**
OBN IAMs_20 IAMs_20 21 47 38.5
comp=Z,2µm,20.0s
OBN Obninsk 146.82 324 ⇑P **PKPbc 20 39 41.3 +0.6**
OBN Obninsk 146.82 324 *ce*PKIKP **PKPdf 20 39 38.2 -0.7**
OBN *e* 20 43 03.5
OBN *e*PPP PPP 20 46 16.7
OBN pmax pmax
comp=Z,610nm,1.7s
VORR Voronezh 146.88 317 *e*PKP2 **PKPdf 20 39 39.9 +0.8**
VORR pmax pmax
comp=Z,180nm,1.2s
FINES FINESS Array B 146.94 339 **PKPdf 20 39 38.6 -0.3**
FINES FINESS Array B 146.94 339 PKPbc **PKPdf 20 39 39.1 +0.2**
comp=Z,111nm,0.8s,baz=42,slow=3.3,SNR=81
VSR Storozhevoye 147.07 316 *e*PKIKP **PKPdf 20 39 39.9 +0.4**
VSR pmax pmax
comp=Z,100nm,1.1s
VSR MLR MLR
comp=Z,2µm,20.0s
VORD Divnogorie 147.09 316 *e*PKP2 **PKPdf 20 39 40.4 +0.9**
VORD pmax pmax
comp=Z,80nm,1.2s
NSS Namsos 147.11 352 *e*PKPdf **PKPdf 20 39 39.8 +0.7**
GURO Guroymak-BITLI 147.24 292 IAMs_20 IAMs_20 21 54 44.2
comp=Z,2µm,19.0s
BCA Borcka 147.49 298 ⇑P **PKPbc 20 39 43.6 +0.4**
ERBR Yeremizino-Bor 147.76 306 *i* PKP2 **PKPbc 20 39 44.1 +0.4**
ERBR pmax pmax
comp=Z,305nm,1.4s
LABN Labinsk 147.79 304 *i* PKP2 **PKiKP 20 39 45.7 0.0**
LABN pmax pmax
comp=Z,90nm,1.2s
KOPT Kop Dagi 148.42 295 IAMs_20 IAMs_20 21 53 20.3
comp=Z,3µm,19.0s
SOC Sochi 148.67 302 *e*PKHKP PKPpre 20 39 38.6
SOC *e*SS SS 21 02 16.5 -9.1
KTUT Trabzon 148.92 297 ⇑P **PKPbc 20 39 47.2 +0.3**
MOL Molde 149.44 355 *e*PKPdf **PKPdf 20 39 43.3 +0.4**
MOL IAmb IAmb 20 39 48.5
comp=Z,102nm,1.4s
DOMB Dombas 149.84 354 *e*PKPbc **PKPbc 20 39 48.6 +0.1**
DOMB IAmb IAmb 20 39 54.1
comp=Z,58nm,1.1s
DOMB *e*SS SS 21 02 39.4 +2.9
AKN Aaknes 149.87 356 *e*PKPbc **PKPbc 20 39 48.9 +0.4**
AKN IAmb IAmb 20 40 07.8
comp=Z,306nm,1.7s
ANN Anapa 150.06 305 *i* PKP2 **PKPbc 20 39 49.7 +0.2**
ANN pmax pmax
comp=Z,156nm,1.0s
FOO Floro 150.54 357 *e*PKPbc **PKPbc 20 39 50.7 +0.6**
FOO IAmb IAmb 20 39 55.4
comp=Z,197nm,1.5s
NB2 NORSAR Subarra 150.58 351 PKP **PKPbc 20 39 50.2 -0.1**
comp=Z,138nm,1.7s,baz=17,slow=2.6
NB2 NORSAR Subarra 150.58 351 PKP **PKPbc 20 39 50.2 -0.1**
baz=17,slow=2.6
NOA NORSAR Array B 150.58 351 PKPbc **PKPbc 20 39 49.1 -1.2**
comp=Z,25nm,1.0s,baz=14,slow=4.1,SNR=29
SACV Santiago Islan 150.77 120 IAMs_20 IAMs_20 21 54 05.4
comp=Z,2µm,19.0s
NC602 NORSAR Array S 150.83 351 *e*PKPbc **PKPbc 20 39 50.9 0.0**
NC602 IAmb IAmb 20 39 51.5
comp=Z,41nm,1.0s
NC602 *e*SS SS 21 02 53.5 +6.1
HYA Hoyanger 150.92 356 *e*PKPbc **PKiKP 20 39 51.8 +0.1**
HFS Hagfors 151.07 348 PKPbc **PKPbc 20 39 50.3 -1.1**
comp=Z,34nm,0.8s,baz=90,slow=4.4,SNR=28
SUE Sulen 151.10 358 *e*PKPbc **PKiKP 20 39 52.6 +0.6**
SKAR Skarslia 151.25 354 *e*PKPbc **PKPbc 20 39 52.2 +0.3**
MNK Minsk 151.29 328 *i* PKIKP **PKiKP 20 39 52.9 +0.3**
MNK *i* 20 43 31.0
MNK *i* 20 46 52.4
MNK *i* PPP PPP 20 46 55.5
MNK *i* SS SS 21 02 48.7 -4.7
MNK *i* SSS SSS 21 08 41.2
MNK pmax pmax
comp=Z,152nm,1.0s
MNK pmax pmax
comp=N,52nm,1.3s
MNK pmax pmax
comp=E,48nm,1.0s
TOKA Tokat 151.47 296 IAMs_20 IAMs_20 21 49 35.1
comp=Z,2µm,21.0s
ASK Askoy 151.65 357 *e*PKPbc **PKPbc 20 39 53.0 +0.2**
OSL Oslo 151.71 351 *e*PKPbc **PKiKP 20 39 53.6 +0.3**
BER Bergen 151.75 357 *e*PKPbc **PKiKP 20 39 53.9 +0.5**
BER IAmb IAmb 20 39 57.7
comp=Z,77nm,1.0s
GHAJ Ghor Haditha 151.83 277 IAMs_20 IAMs_20 21 49 14.5
comp=Z,2µm,20.0s
HWQ Hawqa 151.92 283 *e*P **PKPbc 20 39 51.7 -2.7**
BNN Bunyan 152.07 293 **PKiKP 20 39 55.2 +0.2**
BHL Bhannes 152.12 283 *e*P **PKPbc 20 39 52.1 -2.8**
KONO Kongsberg 152.13 352 **PKPbc 20 39 53.1 -0.8**
KONO Kongsberg 152.13 352 *e*PKPbc **PKiKP 20 39 54.5 +0.3**
KONO Kongsberg 152.13 352 PKIKP **PKPbc 20 39 53.1 -0.8**
ODD1 Odda 152.14 355 *e*PKPbc **PKiKP 20 39 54.7 +0.4**
DIKM Dikmen 152.22 299 ⇑P **PKiKP 20 39 56.4 +1.4**
MMAI Mount Meron Ar 152.23 281 PKPbc **PKiKP 20 39 55.7 +0.3**
comp=Z,29nm,0.8s,baz=72,slow=5.4,SNR=44
SIM Simferopol' 152.30 307 *e*PKIKP **PKiKP 20 39 56.6 +1.5**
SIM pmax pmax
comp=Z,70nm,1.1s
BLS5 Blasjo 152.64 355 *e*PKPbc **PKiKP 20 39 55.9 +0.6**
AKASG Malin Array Be 152.92 321 PKPbc **PKPbc 20 39 55.9 0.0**
comp=Z,45nm,1.0s,baz=48,slow=2.4,SNR=36
KIEV Kiev 152.93 321 **PKPbc 20 39 54.9 -1.0**
KIEV Kiev 152.93 321 IAMs_20 IAMs_20 21 46 42.7
comp=Z,2µm,22.0s
KIEV Kiev 152.93 321 ⇓P **PKiKP 20 39 56.4 +0.3**
KIEV Kiev 152.93 321 PKIKP **PKPbc 20 39 54.9 -1.0**
KIEV pmax pmax

comp=Z,2μm,22.0s
BZK Bozkurt 153.09 300 ⇓P PKiKP 20 39 58.8 +2.0
ILGA Ilgaz 153.46 298 PKPbc 20 39 57.8 +0.1
KIRS Kirsehir-Merke 153.55 294 ⇑P PKiKP 20 39 58.2 +0.3
HOMB Homborsund 153.60 353 *e*PKPbc **PKPbc 20 39 57.4 +0.2**
HOMB Homborsund 153.60 353 *e*P **PKPbc 20 39 57.4 +0.2**
SUW Suwalki 153.62 332 *e*PKPdf **PKPdf 20 39 50.7 +1.1**
SUW *e*PKPbc **PKiKP 20 39 58.1 +0.6**
SUW Suwalki 153.62 332 IAMs_20 IAMs_20 21 55 36.7
comp=Z,2μm,20.0s
SNART Snartemo 153.66 354 *e*PKPbc **PKiKP 20 39 58.2 +0.8**
BR131 Keskin Array S 153.70 295 PKPdf **PKPdf 20 39 48.1 -2.3**
BR131 Keskin Array S 153.70 295 PKIKP **PKPdf 20 39 48.1 -2.3**
BRTR Keskin Array B 153.70 295 PKPdf 20 39 47.1 -3.3
BRTR Keskin Array B 153.70 295 PKP **PKPdf 20 39 50.1 -0.3**
comp=Z,1.7nm,1.1s,baz=248,slow=1.3,SNR=6.3
BRTR PKPbc **PKPbc 20 39 58.3 +0.1**
comp=Z,10nm,0.7s,baz=123,slow=1.3,SNR=35
DBIC Dimbokro 153.71 164 PKP **PKPdf 20 39 52.0 +1.0**
comp=Z,14nm,1.1s,baz=240,slow=1.9,SNR=4.4
DBIC PKPbc **PKiKP 20 40 00.2 +1.3**
comp=Z,14nm,0.9s,baz=108,slow=1.3,SNR=6.6
BLEU Blekinge 154.15 343 *e*P **PKiKP 20 40 01.3 +2.9**
FABU Falkenberg 154.20 347 *e*P **PKiKP 20 39 59.0 +0.4**
ANTO Ankara 154.33 296 PKPdf 20 39 50.8 -0.4
ANTO Ankara 154.33 296 IAMs_20 IAMs_20 21 57 07.8
comp=Z,2μm,20.0s
ANTO Ankara 154.33 296 ⇑P PKiKP 20 40 00.7 +1.2
ANTO Ankara 154.33 296 PKIKP **PKPdf 20 39 50.8 -0.4**
ANTO pmax pmax
comp=Z,2μm,20.0s
PURM Purcari 154.54 312 ⇑P PKiKP 20 40 01.8 +2.3
SORM Soroca 154.73 317 ⇓P PKPdf 20 39 53.7 +2.4
KIS Kishinev 154.99 314 *e*PKP **PKiKP 20 40 02.0 +1.5**
KIS Kishinev 154.99 314 *e*PP PP 20 43 47.0 -5.2
KIS *e*L L 21 45 46.0
KIS LRM MLR 21 54 20.0
comp=Z,600nm,18.0s
KIS Kishinev 154.99 314 *e*PKIKP **PKiKP 20 40 02.0 +1.5**
KIS *e* 20 43 47.0
BJUU Bjuv 155.00 346 *e*P PKPdf 20 39 59.5 +8.1
MILM Milestii Mici 155.03 314 *i* PKP PKPdf 20 40 04.0 +12
MILM Milestii Mici 155.03 314 ⇑P PKPdf 20 40 00.3 +8.5
MILM Milestii Mici 155.03 314 ⇑PKIKP PKPdf 20 40 00.3 +8.5
BSD Bornholm Skovb 155.45 343 *e*P PKPdf 20 40 00.7 +8.6
JURR Jurilovca 155.88 309 ⇑P PKPab 20 40 20.0 0.0
SCTR Scanteiesti 156.09 312 ⇑P PKPdf 20 40 03.5 +10
TPGR Topolog 156.15 309 ⇑P PKPab 20 40 20.3 -0.9
SSRD Sdr. Stenderup 156.18 350 *e*P **PKPdf 20 39 59.9 +6.9**
CFR Carcaliu 156.20 310 ⇑P PKPdf 20 39 56.0 +2.6
BEL Belsk 156.21 331 *e*PKPab **PKPab 20 40 22.4 +1.3**
RGN Rugen 156.35 344 IAMs_20 IAMs_20 21 46 14.4
comp=Z,2μm,22.0s
GKP Gorka Klasztor 156.38 337 *e*PKPab **PKPab 20 40 22.8 +1.0**
HARR Harsova 156.53 309 ⇑P PKPdf 20 40 02.9 +9.0
HARR Harsova 156.53 309 ⇑PKIKP PKPdf 20 40 02.9 +9.0
TESR Tescani 156.54 315 ⇑P PKPab 20 40 17.9 -4.8
EKA Eskdalemuir Ar 156.55 8 PKPbc PKPdf 20 40 01.8 +8.3
comp=Z,2.0nm,0.8s,baz=350,slow=1.7,SNR=2.7
ODBI Odobesti 156.64 313 ⇑P PKPab 20 40 24.1 +0.9
VRI Vrincioaia 156.80 313 ⇑P PKPab 20 40 25.1 +1.2
VRI Vrincioaia 156.80 313 ⇑PKP2 PKPab 20 40 25.1 +1.2
BUR08 Bucovina Ar. S 156.80 318 PKPdf 20 39 53.7 -0.6
BURAR Bucovina Array 156.81 318 PKPdf **PKPdf 20 39 54.2 -0.1**
BURAR Bucovina Array 156.81 318 ⇑P PKPab 20 40 23.3 -0.7
BURAR Bucovina Array 156.81 318 ⇑PKP2 PKPab 20 40 23.3 -0.7
PLOR Plostina 156.85 313 ⇑P PKPab 20 40 24.1 0.0
PLOR Plostina 156.85 313 ⇑PKP2 PKPab 20 40 24.1 0.0
COVR Voineasa-Covas 157.13 313 ⇑P PKPab 20 40 23.0 -2.4
OZUR 157.26 314 ⇓P PKPab 20 40 14.2 -12
MLR Muntele Rosu 157.46 313 PKPdf 20 39 50.8 -4.4
MLR Muntele Rosu 157.46 313 PKIKP **PKPdf 20 39 50.8 -4.4**
MLR pmax pmax
comp=Z,3μm,20.0s
DOPR Dopca 157.57 314 ⇓P PKPab 20 40 26.5 -0.8
KOLS Kolonicke sedl 157.58 324 *e*PKIKP **PKPdf 20 39 57.2 +2.1**
KOLS *e* 20 40 05.0
KOLS Kolonicke sedl 157.58 324 *e*PKP **PKPdf 20 39 57.2 +2.1**
KOLS *e* 20 40 05.0
KOLS *e* 20 40 28.2
SULR 157.62 311 ⇑P PKPab 20 40 26.4 -1.1
BMR Baia Mare 157.73 320 ⇑P PKPab 20 40 29.1 +1.3
BMR Baia Mare 157.73 320 ⇑PKP2 PKPab 20 40 29.1 +1.3
OJC Ojcow 157.83 329 *e*PKPdf **PKPdf 20 39 56.1 +0.8**
OJC *e*PKPab **PKPab 20 40 28.7 +0.5**
VOIR 158.03 313 ⇑P PKPdf 20 40 02.8 +6.9
VOIR 158.03 313 ⇑PKIKP PKPdf 20 40 02.8 +6.9
NIE Niedzica 158.19 327 *e*PKPdf **PKPdf 20 39 57.8 +1.9**
NIE *e*PKPab **PKPab 20 40 30.9 +1.1**
CJR Cluj-Napoca 158.22 318 ⇑P PKPab 20 40 32.2 +2.1
CJR Cluj-Napoca 158.22 318 ⇑PKP2 PKPab 20 40 32.2 +2.1
ARR Arges 158.32 314 ⇑P PKPab 20 40 31.9 +1.3
TNR Turnu Rosu 158.40 315 ⇑P PKPab 20 40 32.3 +1.4
TNR Turnu Rosu 158.40 315 ⇑PKP2 PKPab 20 40 32.3 +1.4
HUMR Humele 158.51 311 ⇑P PKPab 20 40 28.7 -2.7
MARR Marisel-Cluj 158.52 318 ⇓P PKPab 20 40 31.1 -0.3
DRGR 158.68 319 ⇑P PKPab 20 40 31.4 -0.7
DRGR 158.68 319 ⇑PKP2 PKPab 20 40 31.4 -0.7
KSP Ksiaz 158.73 335 *e*PKPdf **PKPdf 20 39 58.6 +2.2**
KSP *e*PKPab **PKPab 20 40 31.9 -0.1**
KECS Kecovo 158.76 325 *e*PKP2 **PKPab 20 40 32.4 +0.2**
KECS Kecovo 158.76 325 *e*PKP **PKPab 20 40 32.3 +0.1**
LANS Liptovska Anna 158.76 328 *e*PKIKP **PKPdf 20 39 57.8 +1.2**
LANS *e* 20 40 32.4
LANS Liptovska Anna 158.76 328 *e*PKP **PKPdf 20 39 57.8 +1.2**
LANS *e* 20 40 32.4
LOT Lotru 158.81 315 ⇑P PKPab 20 40 33.9 +1.2
OKC Ostrava-Krasne 158.82 331 AMS AMS 21 51 50.0
comp=Z,2μm,22.0s
STEB Steborice 158.90 332 *e*PKPAB **PKPab 20 40 32.5 -0.3**
OSTC Ostas 158.99 335 *e*PKPAB **PKPab 20 40 34.1 +0.9**
OSTC AMS AMS 21 56 00.0
comp=Z,3μm,21.4s
OSTC Ostas 158.99 335 *e*PKP2 **PKPab 20 40 34.1 +0.9**
OSTC MLR MLR
comp=Z,3μm,21.4s
CHVC Chvalec 159.03 335 *e*PKPAB **PKPab 20 40 33.3 0.0**
CHVC AMS AMS 21 56 10.0
comp=Z,3μm,20.6s
CHVC Chvalec 159.03 335 *e*PKP2 **PKPab 20 40 33.3 0.0**
CHVC MLR MLR
comp=Z,3μm,20.6s
UPC Upice 159.11 335 *e*PKPAB **PKPab 20 40 34.1 +0.4**
UPC AMS AMS 21 56 10.0
comp=Z,3μm,21.7s
UPC Upice 159.11 335 *e*PKP2 **PKPab 20 40 34.1 +0.4**
UPC MLR MLR
comp=Z,3μm,21.7s
MORC Moravsky Berou 159.11 332 *e*PKP **PKPab 20 40 33.7 0.0**
MORC Moravsky Berou 159.11 332 ⇑P PKPab 20 40 33.8 0.0
MORC Moravsky Berou 159.11 332 ⇑PKP2 PKPab 20 40 33.8 0.0
DPC Dobruska-Polom 159.12 334 *e*PKPAB **PKPab 20 40 34.4 +0.6**
DPC AMS AMS 21 53 30.0
comp=Z,3μm,19.6s
DPC Dobruska-Polom 159.12 334 *e*PKP2 **PKPab 20 40 34.4 +0.6**
DPC MLR MLR
comp=Z,3μm,19.6s
CLL Collm 159.37 341 IAMs_20 IAMs_20 22 06 55.3
comp=Z,2μm,20.0s
CLL Collm 159.37 341 *e*PKIKP **PKPdf 20 39 57.0 -0.1**
CLL *i* 20 40 35.0
CLL pmax pmax
comp=Z,40nm,2.0s
CLL MLR MLR
comp=Z,2μm,23.7s
GZR Gura Zlata 159.43 316 ⇑P PKPdf 20 39 59.3 +1.8
PSZ Piszkesteto 159.44 325 ⇑P PKPab 20 40 33.1 -2.2
PSZ Piszkesteto 159.44 325 ⇑PKP2 PKPab 20 40 33.1 -2.2
VYHS Vyhne 159.53 327 *e*PKIKP **PKPdf 20 39 57.1 -0.4**
VYHS *e* 20 40 35.4
VYHS Vyhne 159.53 327 *e*PKP **PKPdf 20 39 57.1 -0.4**
VYHS *e* 20 40 35.4
SIRR Siria 159.57 319 ⇓P PKPab 20 40 36.7 +0.8
PVCC Panska Ves 159.58 337 *e*PKPAB **PKPab 20 40 36.7 +1.0**
PVCC Panska Ves 159.58 337 *e*PKP2 **PKPab 20 40 36.7 +1.0**
SURR Surduc 159.61 317 ⇓P PKPab 20 40 33.1 -2.9
RICC Richard 159.72 338 *e*PKPAB **PKPab 20 40 37.0 +0.7**
RICC AMS AMS 21 52 30.0
comp=Z,2μm,20.4s
JAVC Velka Javorina 159.77 330 *e*PKP **PKPab 20 40 37.9 +1.2**
VRAC Vranov 159.86 332 *e*PKP **PKPab 20 40 37.6 +0.6**
VRAC Vranov 159.86 332 ⇓P **PKPab 20 40 36.4 -0.6**
VRAC Vranov 159.86 332 ⇓PKP2 **PKPab 20 40 36.4 -0.6**
comp=Z,3μm,20.1s
HSKC Hora Svate Kat 159.87 339 AMS AMS 21 58 10.0
comp=Z,3μm,20.1s
HERR Herculane 159.92 315 ⇑P PKPab 20 40 34.7 -2.7
BZS Buzias 159.98 318 ⇑P PKPab 20 40 36.7 -1.0
BZS Buzias 159.98 318 ⇑PKP2 PKPab 20 40 36.7 -1.0
PRA Prague 160.02 337 AMS AMS 21 58 50.0
comp=Z,3μm,19.7s
GOPC GO Pecny, Ondr 160.03 336 *e*PKPAB **PKPab 20 40 38.3 +0.6**
GOPC GO Pecny, Ondr 160.03 336 *e*PKP2 **PKPab 20 40 38.3 +0.6**
PRU Pruhonice 160.06 337 *e*PKPAB **PKPab 20 40 38.5 +0.7**
PRU AMS AMS 22 04 50.0
comp=Z,3μm,19.3s
PRU Pruhonice 160.06 337 *e*PKP2 **PKPab 20 40 38.5 +0.7**
PRU pmax pmax
comp=Z,3μm,19.3s
KRUC Moravsky 160.14 332 *e*PKP **PKPab 20 40 38.2 0.0**
SMOL Smolenice 160.14 329 *e*PKP2 **PKPab 20 40 39.1 +0.9**
TREC Trest 160.30 334 AMS AMS 21 54 20.0
comp=Z,3μm,21.1s
MODS Modra-Piesok 160.31 329 *e*PKIKP **PKPdf 20 39 59.3 +0.9**
MODS *e* 20 40 38.9
MODS Modra-Piesok 160.31 329 *e*PKP **PKPdf 20 39 59.3 +0.9**
MODS *e* 20 40 12.2
MODS *e* 20 40 38.9
MDVR Moldovita 160.40 315 ⇑P PKPab 20 40 35.9 -3.7
NKC Novy Kostel 160.49 340 *e*PKPAB **PKPab 20 40 40.6 +0.9**
NKC *ex* x 20 54 39.7
NKC AMS AMS 22 04 10.0
comp=Z,2μm,18.0s
NKC Novy Kostel 160.49 340 *e*PKP2 **PKPab 20 40 40.6 +0.9**
NKC MLR MLR
comp=Z,2μm,18.0s
ZVC Zvikov 160.64 336 *e*PKPAB **PKPab 20 40 41.0 +0.6**
ZVC AMS AMS 21 49 30.0
comp=Z,3μm,24.4s
BOVS Bovan 161.00 312 ⇑P PKPdf 20 40 00.1 +0.9
TORD Torodi Ar. Bea 161.02 178 PKPdf **PKPdf 20 40 01.2 +1.1**
TORD Torodi Ar. Bea 161.02 178 PKP **PKPdf 20 40 00.2 +0.1**
comp=Z,7.2nm,1.1s,baz=170,slow=0.5,SNR=0.5
TORD PKPab **PKPab 20 40 44.5 +1.7**
comp=Z,55nm,1.1s,baz=176,slow=2.1,SNR=1.5
KHC Kasperske Hory 161.12 337 *e*PKPDF **PKPdf 20 40 04.0 +4.8**
KHC *e*PKPAB **PKPab 20 40 41.6 -0.9**
KHC *ex* x 20 54 43.2
KHC AMS AMS 22 00 40.0
comp=Z,3μm,20.8s
KHC Kasperske Hory 161.12 337 *e*PKIKP **PKPdf 20 40 04.0 +4.8**
KHC *e* 20 40 41.6
KHC MLR MLR
comp=Z,3μm,20.8s
MORH Mrgy, Hungar 161.22 323 ⇓P PKPdf 20 39 59.1 -0.2
RONA Rosalia, Austr 161.25 330 *e*PKP **PKPdf 20 39 59.7 +0.3**
comp=Z,4.6nm,0.9s
RONA *i* PKP **PKPab 20 40 43.1 0.0**
comp=Z,77nm,1.5s,SNR=12
CONA Conrad Observa 161.25 331 *e*PKP **PKPdf 20 39 59.7 +0.2**
comp=Z,14nm,2.2s
CONA *i* PKP **PKPab 20 40 43.3 +0.1**
comp=Z,61nm,1.7s,SNR=9.1
GERES GERESS Array B 161.32 336 PKPdf **PKPdf 20 39 53.4 -6.1**
GERES GERESS Array B 161.32 336 PKP **PKPdf 20 39 59.6 +0.1**
comp=Z,1.8nm,0.9s,baz=335,slow=6.0,SNR=3.9
GERES PKPab **PKPab 20 40 41.4 -2.1**
comp=Z,4.5nm,0.8s,baz=23,slow=7.2,SNR=8.9
GRFO Grafenberg 161.32 342 PKPab 20 40 44.9 +1.6
GRFO Grafenberg 161.32 342 PKP2 **PKPab 20 40 44.9 +1.6**
BMRD Maredsous 161.83 355 *d*PKPdf **PKPdf 20 40 00.8 +0.9**
BMRD *d*PKP **PKPab 20 40 44.8 -0.6**
ARSA Arzberg 161.93 330 *i* PKP **PKPab 20 40 45.9 -0.2**
comp=Z,33nm,1.8s,SNR=6.3
MOA Molln 161.95 333 *i* PKP **PKPab 20 40 47.0 +0.8**
comp=Z,39nm,1.3s,SNR=11
BIOA Bad Ischl, Aus 162.32 334 *i* PKP **PKPab 20 40 49.1 +1.3**
comp=Z,63nm,1.5s,SNR=12
WLF Walferdange 162.33 352 *d*PKPdf **PKPdf 20 40 01.5 +1.1**
SOKA Soboth 162.59 330 *i* PKP **PKPab 20 40 47.9 -1.2**
comp=Z,46nm,1.5s,SNR=8.2
LESA Schwarzleotal 162.89 336 *e*PKP **PKPdf 20 40 01.2 0.0**
comp=Z,6.4nm,1.3s
LESA *e*PKP **PKPab 20 40 51.4 +1.0**
comp=Z,38nm,1.1s
OBKA Obir 162.93 330 *e*PKP **PKPab 20 40 50.5 -0.1**
comp=Z,2.8nm,0.6s
KBA Koelnbreinsper 162.94 334 *e*PKP **PKPab 20 40 50.7 -0.1**
comp=Z,31nm,2.0s
MYKA Terra Mystica 163.20 332 *e*PKP **PKPab 20 40 52.4 +0.7**
comp=Z,23nm,1.1s
BFO Black Forest 163.28 346 PKPab 20 40 50.3 -1.6
BFO Black Forest 163.28 346 PKP2 **PKPab 20 40 50.3 -1.6**
WATA Walderalm 163.34 338 *i* PKP **PKPab 20 40 53.0 +0.6**
comp=Z,45nm,1.2s,SNR=7.8
WTTA Wattenberg 163.38 337 *e*PKP **PKPab 20 40 53.7 +1.1**
comp=Z,29nm,1.2s
RETA Reutte 163.45 340 *i* PKP **PKPab 20 40 53.2 +0.4**
comp=Z,58nm,1.3s,SNR=9.0
ABTA Abfaltersbach 163.53 335 PKP **PKPab 20 40 52.6 -0.6**
comp=Z,30nm,1.1s
SQTA Sankt Quirin 163.56 338 *e*PKP **PKPdf 20 40 02.1 +0.2**
comp=Z,7.3nm,1.1s
SQTA *i* PKP **PKPab 20 40 54.1 +0.8**
comp=Z,46nm,1.4s,SNR=6.0
FETA Feichten 163.88 339 *e*PKP **PKPab 20 40 55.7 +0.8**
comp=Z,37nm,1.4s
DAVA Damuels 163.88 341 *i* PKP **PKPab 20 40 55.7 +0.9**
comp=Z,45nm,1.3s,SNR=6.4
DAVOX Davos/Dischmat 164.35 341 PKP **PKPdf 20 40 01.7 -1.0**
comp=Z,1.2nm,0.7s,baz=147,slow=23,SNR=2.2
DAVOX PKPab **PKPab 20 40 56.5 -0.4**
comp=Z,13nm,0.7s,baz=238,slow=0.8,SNR=14
ESDC Sonseca Array 170.95 33 PKP **PKPdf 20 40 07.4 0.0**
comp=Z,3.9nm,1.2s,baz=0.0,slow=1.5,SNR=7.6
ESDC PKPab **PKPab 20 41 25.6 -0.5**
comp=Z,2.1nm,1.0s,baz=315,slow=4.4,SNR=4.0
KEST Kesra 173.23 303 PKPab **PKPab 20 41 36.0 -0.5**
comp=Z,9.3nm,1.1s,baz=27,slow=2.3,SNR=3.6
MDT Midelt 174.07 82 PKP **PKPdf 20 40 09.9 +0.9**
comp=Z,9.1nm,1.0s,baz=219,slow=3.0,SNR=7.8

IDC 06 20:23:26.6±10.0, 30°.86S×178°.73W, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=475.1km s-min=66.7km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.46**	**268**	P	P	20 31 23.6	0.0
	1.7nm,0.7s,baz=105,slow=8.1,SNR=0.9						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**43.49**	**273**	P	P	20 31 31.6	-0.3
	1.9nm,0.3s,baz=116,slow=7.8,SNR=1.4						
	1.9nm,0.3s						
FINES	**FINESS Array B**	**145.35**	**339**	PKPbc	PKPbc	20 43 04.7	-0.9
	3.9nm,0.8s,baz=34,slow=6.7,SNR=1.9						

IDC 06 20:24:11.4±7.0, 31°.87S×178°.15W, h0km, mb4.3/2, mbtmp4.3/2, Error ellipse: s-maj=299.6km s-min=65.0km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.92**	**269**	P	P	20 32 11.9	-0.2
	2.6nm,0.8s,baz=112,slow=7.9,SNR=1.6						
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**44.04**	**274**	P	P	20 32 21.1	-0.1
	2.4nm,0.3s,baz=115,slow=8.1,SNR=7.1						
	2.4nm,0.3s						
FINES	**FINESS Array B**	**146.47**	**339**	PKPbc	PKPdf	20 43 52.9	+0.5
	2.6nm,0.7s,baz=50,slow=4.3,SNR=1.9						

*IDC **06** 20:26:59.4±1.6, 32°.33S×177°.75W, h0km, mb4.3/3, mbtmp4.3/4, ML3.7/1, Error ellipse: s-maj=57.5km s-min=29.4km az=139.0*

ISC 06 20:27:02.2±1.5, 32°.3S±0°.2×177°.7W±0°.3, h21km, n11, σ0s83/12, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.28**	**214**	Pn	**Pn**	**20 28 46.4**	**-0.9**
	1.1nm,0.3s,baz=246,slow=22,SNR=2.7						
URZ				Sn	**Sn**	**20 30 10.3**	**+0.9**
	1.8nm,0.3s,baz=245,slow=16,SNR=1.3						
	22nm,0.8s						
STKA	**Stephens Creek**	**34.35**	**260**	P	**P**	**20 33 47.6**	**+0.1**
	2.0nm,0.7s,baz=93,slow=18,SNR=1.6						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**43.31**	**269**	P	**P**	**20 35 02.8**	**0.0**
	1.4nm,0.4s,baz=102,slow=7.8,SNR=12						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**44.47**	**274**	P	**P**	**20 35 11.6**	**-0.5**
	3.3nm,0.4s,baz=113,slow=7.7,SNR=15						
	3.3nm,0.4s						
MKAR	**Makanchi Array**	**119.21**	**309**	PKP	**PKiKP**	**20 45 51.0**	**+1.6**
	0.4nm,0.9s,baz=86,slow=1.9,SNR=2.2						
ARCES	**ARCESS Array B**	**140.53**	**347**	PKP	**PKPdf**	**20 46 28.6**	**-0.4**
	2.7nm,0.8s,baz=39,slow=2.2,SNR=1.7						
KBZ	**Khabaz**	**146.38**	**302**	PKPbc	**PKPab**	**20 46 42.2**	**+0.1**
	3.3nm,1.0s,baz=63,slow=4.5,SNR=3.6						
FINES	**FINESS Array B**	**147.04**	**339**	PKPbc	**PKPbc**	**20 46 42.4**	**-0.2**
	1.7nm,0.4s,baz=45,slow=3.7,SNR=11						
HFS	**Hagfors**	**151.19**	**348**	PKPbc	**PKPbc**	**20 46 52.1**	**-1.0**
	2.5nm,0.8s,baz=42,slow=4.5,SNR=2.7						
MMAI	**Mount Meron Ar**	**152.20**	**280**	PKPbc	**PKiKP**	**20 46 57.0**	**+0.2**
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.4						
BRTR	**Keskin Array B**	**153.71**	**295**	PKPbc	**PKiKP**	**20 47 00.4**	**+0.6**
	0.6nm,0.6s,baz=96,slow=3.9,SNR=3.3						

*VAO **06** 20:28:09.3±0.6, 22°.87S×69°.79W, h10km, mb4.4*
*SJA **06** 20:28:32.8±0.7, 21°.73S×68°.92W, h105km±6km, ML4.1, MW4.0*
*GUC **06** 20:28:34.2±0.6, 21°.71S×68°.92W, h98km±2km, ML4.0*

ISC 06 20:28:32.1±0.9, 21°.69S±0°.03×68°.97W±0°.06, h115km±8km, n37, σ2s15/50, 5C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.28**	**248**	⇓*e*P	**Pn**	**20 28 49.3**	**+0.6**
PB09				*e*S	**Sn**	**20 29 00.6**	**-0.5**
PB09				IAML		20 29 01.3	
	comp=N,12μm,0.4s						
PB09	**IPOC Station P**	**0.28**	**248**	*e*P	**Pn**	**20 28 48.6**	**-0.1**
PB09				IAML		20 29 01.0	
	comp=Z,8μm,0.4s						
PB01	**IPOC Station P**	**0.81**	**323**	⇓*e*P	**Pn**	**20 28 53.0**	**+1.0**
PB01				*e*S	**Sn**	**20 29 08.0**	**+0.9**
PB01				IAML		20 29 09.0	
	comp=E,6μm,0.3s						
PB01	**IPOC Station P**	**0.81**	**323**	*e*P	**Pn**	**20 28 53.0**	**+1.0**
PB01				*e*S	**Sn**	**20 29 08.3**	**+1.2**
PB01				IAML		20 29 11.2	
	comp=Z,2μm,0.3s						
PB03	**IPOC Station P**	**0.81**	**244**	⇑*e*P	**Pn**	**20 28 53.4**	**+1.2**
PB03				*e*S	**Sn**	**20 29 07.9**	**+0.6**
PB03				IAML		20 29 08.5	
	comp=N,8μm,0.4s						
PB03	**IPOC Station P**	**0.81**	**244**	*e*P	**Pn**	**20 28 53.4**	**+1.2**
PB03				*e*S	**Sn**	**20 29 07.4**	**+0.2**
PB03				IAML		20 29 08.7	
	comp=Z,5μm,0.3s						
PB06	**IPOC Station P**	**1.16**	**209**	⇑*e*P	**Pn**	**20 28 57.0**	**+1.4**
PB06				*e*S	**Sn**	**20 29 14.3**	**+1.0**
PB06				IAML		20 29 15.0	
	comp=E,8μm,0.2s						
PB06	**IPOC Station P**	**1.16**	**209**	*e*P	**Pn**	**20 28 56.3**	**+0.8**
PB06				IAML		20 29 15.9	
	comp=Z,3μm,0.8s						
AF01	**San Pedro de A**	**1.45**	**150**	*e*P	**Pn**	**20 29 00.5**	**+1.6**
AF01				*e*S	**Sn**	**20 29 20.4**	**+1.0**
AF01	**San Pedro de A**	**1.45**	**150**	*e*P	**Pn**	**20 29 02.0**	**+3.0**
AF01				*e*S	Sn	20 29 04.9	-14
AF01				IAML		20 29 24.1	
	comp=Z,2μm,0.8s						
PB08	**IPOC Station P**	**1.55**	**353**	⇑*e*P	**Pn**	**20 29 02.8**	**+2.5**
PB08				*e*S	**Sn**	**20 29 24.4**	**+2.8**
PB08				IAML		20 29 26.5	
	comp=E,1μm,0.3s						
TA01	**Diego Aracena**	**1.59**	**314**	⇑*e*P	**Pn**	**20 29 02.6**	**+2.3**
TA01				*e*S	**Sn**	**20 29 24.0**	**+2.2**
TA01				IAML		20 29 25.6	
	comp=E,3μm,0.4s						
TA01	**Diego Aracena**	**1.59**	**314**	*e*P	**Pn**	**20 29 02.0**	**+1.7**
TA01				*e*S	**Sn**	**20 29 25.1**	**+3.3**
TA01				IAML		20 29 27.8	
	comp=Z,938nm,0.5s						
TA02	**Huaiquique**	**1.78**	**322**	*e*P	**Pn**	**20 29 04.8**	**+2.1**
TA02				*e*S	**Sn**	**20 29 28.3**	**+2.4**
TA02				IAML		20 29 34.0	
	comp=E,2μm,0.5s						
TA02	**Huaiquique**	**1.78**	**322**	*e*P	**Pn**	**20 29 04.8**	**+2.1**
TA02				*e*S	**Sn**	**20 29 29.5**	**+3.5**
TA02				IAML		20 29 36.0	
	comp=Z,669nm,0.7s						
PB11	**IPOC Station P**	**2.03**	**341**	⇑*e*P	**Pn**	**20 29 08.0**	**+2.1**
PB11				*e*S	**Sn**	**20 29 34.9**	**+3.3**
PB11				IAML		20 29 40.9	
	comp=E,2μm,0.4s						
PB11	**IPOC Station P**	**2.03**	**341**	*e*P	**Pn**	**20 29 07.3**	**+1.4**
PB11				*e*S	**Sn**	**20 29 35.9**	**+4.3**
PB11				IAML		20 29 38.1	
	comp=Z,731nm,0.3s						
PB14	**IPOC Station P**	**3.21**	**204**	*e*P	**Pn**	**20 29 22.8**	**+1.5**
PB14				*e*S	**Sn**	**20 30 01.3**	**+2.1**
PB14				IAML		20 30 11.2	
	comp=Z,652nm,0.6s						
PB12	**IPOC Station P**	**3.32**	**337**	*e*P	**Pn**	**20 29 23.8**	**+1.2**
PB12				*e*S	**Sn**	**20 30 01.8**	**+0.3**
PB12				IAML		20 30 16.8	
	comp=Z,274nm,0.5s						
SALTA		**3.50**	**137**	*e*P	**Pn**	**20 29 28.6**	**+3.4**
SALTA		**3.50**	**137**	*e*P	**Pn**	**20 29 28.7**	**+3.4**
SALTA				*e*S	Sn	20 29 53.5	-13
GO02	**Mina Guanaco**	**3.50**	**189**	*e*S	Sn	20 29 48.3	-18
AP01	**Chacalluta**	**3.55**	**338**	*e*P	**Pn**	**20 29 24.3**	**-1.2**
AP01				IAML		20 30 22.3	
	comp=Z,941nm,0.4s						
AZAP	**Zapla**	**4.39**	**126**	*e*P	**Pn**	**20 29 40.3**	**+3.3**
AC02	**Maricunga**	**5.12**	**182**	*e*P	**Pn**	**20 29 48.5**	**+1.4**
AC02				*e*S	Sn	20 30 56.6	+11
AC02				IAML		20 31 16.7	
	comp=Z,116nm,1.2s						
LPAZ	**La Paz**	**5.43**	**9**	*e*P	**Pn**	**20 29 48.3**	**-3.1**
PTLB	**Pontes e Lacer**	**11.20**	**58**	*e*P	**Pn**	**20 31 06.0**	**-2.8**
BDQN	**Bodoquena, MS**	**11.47**	**86**	*e*P	Pn	20 31 06.0	-6.4
VILB	**Vilhena**	**12.06**	**45**	*e*P	**Pn**	**20 31 19.6**	**-0.7**
SALV	**Santo Antonio**	**13.82**	**68**	*e*P	**Pn**	**20 31 40.5**	**-2.7**
PDRB	**Porto dos Gac**	**15.41**	**51**	*e*P	**P**	**20 32 05.0**	**-0.4**
ARAG	**Araguaiana, MT**	**17.30**	**73**	*e*P	**P**	**20 32 24.7**	**-1.6**
SNDB	**Serra Nova Dou**	**19.46**	**63**	*e*P	**P**	**20 32 49.9**	**-0.1**
NPGB	**Novo Progresso**	**19.61**	**44**	*e*P	**Pn**	**20 32 53.9**	**-0.2**
MACA	**Manacapuru-AM**	**20.10**	**25**	*e*P	Pn	20 32 58.7	-1.0
PMNB	**Patos De Minas**	**21.38**	**86**	*e*P	**P**	**20 33 07.1**	**-3.6**
ITTB	**Itaituba**	**21.48**	**39**	*e*P	**P**	**20 33 11.0**	**-0.6**

IDC 06 20:30:16.3±2.7, 32°.35S×177°.67W, h0km, mb4.2/2, mbtmp4.2/3, ML3.3/1, Error ellipse: s-maj=70.0km s-min=35.8km az=123.0, South of Kermadec Islands

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

HUH	**Hualalai**	**0.27**	**84**		Pn	20 32 17.2	-1.8
HUH					Sn	20 32 22.8	-3.7
HUH	**Hualalai**	**0.27**	**84**	IAML		20 32 23.6	
	comp=N,246nm,0.1s						
HUH				IAML		20 32 26.6	
	comp=E,220nm,0.2s						
ALEP	**Alea Permanent**	**0.46**	**104**		Pn	20 32 19.8	-1.0
ALEP					Sn	20 32 26.7	-1.5
MWH	**Mokuaweoweo**	**0.52**	**109**		Pn	20 32 20.2	-1.7
MWH					Sn	20 32 27.3	-2.4
MWH	**Mokuaweoweo**	**0.52**	**109**	IAML		20 32 34.3	
	comp=N,298nm,2.2s						
MWH				IAML		20 32 34.4	
	comp=E,309nm,2.8s						
MLOA	**Mauna Loa Obse**	**0.53**	**103**		Sn	20 32 27.9	-1.8
POHA	**Pohakuloa**	**0.56**	**80**		Pn	20 32 20.6	-1.6
POHA					Sn	20 32 28.0	-2.4
MHA	**Mahukona**	**0.56**	**21**		Pn	20 32 20.7	-1.5
MHA					Sn	20 32 28.6	-1.6
HMH	**Humu'ula Sheep**	**0.60**	**95**		Pn	20 32 21.5	-1.4
HMH					Sn	20 32 29.8	-1.7
HMH	**Humu'ula Sheep**	**0.60**	**95**	IAML		20 32 39.6	
	comp=N,197nm,4.1s						
HMH				IAML		20 32 41.1	
	comp=E,209nm,3.7s						
KHU	**Kahuku**	**0.63**	**131**		Pn	20 32 21.5	-1.7
KHU					Sn	20 32 29.8	-2.2
KHU	**Kahuku**	**0.63**	**131**	IAML		20 32 30.9	
	comp=N,360nm,3.8s						
KHU				IAML		20 32 32.6	
	comp=E,218nm,3.0s						
MLH	**Mauna Loa**	**0.71**	**103**		Pn	20 32 22.6	-1.6
MLH					Sn	20 32 31.6	-2.5
MLH	**Mauna Loa**	**0.71**	**103**	IAML		20 32 32.7	
	comp=N,248nm,0.2s						
HTC	**Hot Caves**	**0.80**	**121**		Pn	20 32 23.6	-1.6
WRMHI	**West Rim**	**0.81**	**108**		Pn	20 32 23.7	-1.8
WRMHI					Sn	20 32 33.9	-2.6
UWE	**Uwekahuna**	**0.81**	**107**		Pn	20 32 23.8	-1.7
UWE					Sn	20 32 34.1	-2.4
OBL	**Observatory Le**	**0.82**	**107**		Pn	20 32 23.8	-1.9
OBL					Sn	20 32 34.1	-2.6
SDHHI	**Sand Hill**	**0.82**	**109**		Pn	20 32 23.8	-1.8
SDHHI					Sn	20 32 34.0	-2.7
UWB	**Uwekahuna Bluf**	**0.83**	**106**		Pn	20 32 23.7	-2.0
UWB					Sn	20 32 34.2	-2.6
SBLHI	**Steaming Bluff**	**0.83**	**106**		Pn	20 32 23.7	-2.1
SBLHI					Sn	20 32 33.6	-3.4
HATHI	**Halema'uma'u T**	**0.84**	**106**	Pn	Pn	20 32 24.2	-1.7
STCH	**Steam Cracks**	**0.98**	**106**	IAML		20 32 37.8	
	comp=E,123nm,0.1s						
STCH				IAML		20 33 00.6	
	comp=N,112nm,3.8s						

*IDC **06** 20:32:51.3±1.3,31°.83S×177°.99W,h0km,mb4.1/4, mbtmp4.0/5,Error ellipse: s-maj=37.5km s-min=33.9km az=137.0*
*NEIC **06** 20:32:52.9±1.6,31°.69S±0°.10×178°.2W±0°.2,h10km±2km, mb4.4/10,Error ellipse: s-maj=35.1km s-min=6.6km az=116.0*

ISC 06 20:32:53.0±1.3,**31°.7S**±0°.1×**178°.3W**±0°.2,**h10**km,**n25,**
σ1§35/26,mb4.2/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.51**	**209**	Pn	**Pn**	**20 34 41.6**	**-0.9**
	4.8nm,0.7s,baz=204,slow=18,SNR=0.9						
URZ				Sn	**Sn**	**20 36 06.3**	**-1.5**
	4.0nm,0.3s,baz=243,slow=19,SNR=7.0						
RTZ	**Ruatahuna**	**7.87**	**208**	Pn	**Pn**	**20 34 48.9**	**+1.3**
BKZ	**Black Stump Fm**	**8.54**	**208**	Pn	**Pn**	**20 34 57.3**	**+0.7**
FOZ	**Fox Glacier**	**15.05**	**215**		**P**	**20 36 31.5**	**+0.6**
FOZ				IAmb	IAmb	20 36 37.1	
	comp=Z,89nm,1.4s						
STKA	**Stephens Creek**	**33.92**	**259**	P	**P**	**20 39 38.5**	**+2.1**
	comp=Z,1.8nm,0.8s,baz=90,slow=6.8,SNR=3.1						
	comp=Z,1.8nm,0.8s						
BBOO	**Buckleboo**	**38.35**	**256**	P	**P**	**20 40 15.5**	**+1.3**
COEN	**Coen**	**39.39**	**288**	P	**P**	**20 40 20.9**	**-2.1**
COEN				IAmb	IAmb	20 40 28.9	
	comp=Z,3.4nm,1.0s						
AS31	**Alice Springs**	**42.77**	**269**	P	**P**	**20 40 51.3**	**+0.4**
ASAR	**Alice Springs**	**42.77**	**269**	P	**P**	**20 40 50.3**	**-0.6**
ASAR	**Alice Springs**	**42.77**	**269**	P	**P**	**20 40 53.3**	**+2.4**
	comp=Z,1.6nm,0.7s,baz=104,slow=7.7,SNR=12						
	comp=Z,1.6nm,0.7s						
WB2	**Warramunga Arr**	**43.87**	**274**	P	**P**	**20 41 02.3**	**+2.5**
WB2				IAmb	IAmb	20 41 02.8	
	comp=Z,6.4nm,1.0s						
WRA	**Warramunga Arr**	**43.88**	**274**	P	**P**	**20 40 59.6**	**-0.3**
WRA	**Warramunga Arr**	**43.88**	**274**	P	**P**	**20 41 01.8**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=112,slow=8.0,SNR=15						
	comp=Z,2.0nm,0.5s						
WB0	**Warramunga Arr**	**43.91**	**274**	P	**P**	**20 41 00.5**	**+0.3**
WB0				IAmb	IAmb	20 41 21.1	
	comp=Z,7.9nm,1.2s						
FORT	**Forrest**	**45.45**	**256**	P	**P**	**20 41 12.6**	**+0.3**
KNRA	**Kununurra**	**50.54**	**276**	P	**P**	**20 41 49.9**	**-1.9**
KNRA				IAmb	IAmb	20 42 13.1	
	comp=Z,25nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.09**	**271**	P	**P**	**20 42 03.1**	**-0.4**
FITZ				IAmb	IAmb	20 42 12.8	
	comp=Z,1.9nm,1.4s						
QSPA	**South Pole Qui**	**58.38**	**180**	P	**P**	**20 42 48.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=47,slow=2.2,SNR=2.6						
	comp=Z,1.4nm,0.7s						
KBZ	**Khabaz**	**145.60**	**302**	PKPbc	**PKPbc**	**20 52 31.6**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=80,slow=6.1,SNR=3.0						
FINES	**FINESS Array B**	**146.29**	**339**	PKPbc	**PKPbc**	**20 52 33.1**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=56,slow=4.4,SNR=18						
GURO	**Guroymak-BITLI**	**146.50**	**293**	PKPdf	**PKPbc**	**20 52 35.2**	**+0.5**
MARD	**Mardin**	**147.47**	**291**		**PKPbc**	**20 52 37.4**	**0.0**
HFS	**Hagfors**	**150.49**	**348**	PKPbc	**PKPbc**	**20 52 42.5**	**-1.7**
	comp=Z,5.2nm,1.1s,baz=20,slow=4.6,SNR=2.5						
MMAI	**Mount Meron Ar**	**151.55**	**282**	PKPbc	**PKiKP**	**20 52 48.6**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=81,slow=3.8,SNR=5.6						
BRTR	**Keskin Array B**	**152.96**	**296**	PKPbc	**PKiKP**	**20 52 52.5**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=103,slow=3.9,SNR=2.7						

*NNC **06** 20:34:20.7±0.5,44°.69N×81°.07E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=5.2km s-min=3.0km az=126.0*
*SOME **06** 20:34:20.5,44°.67N×81°.13E,h20km*

ISC 06 20:34:18.7±1.3,**44°.67N**±0°.04×**81°.14E**±0°.04,**h3**km±11km,
n42,σ1§93/58,5C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.03**	**251**	P	**Pn**	**20 34 39.9**	**-0.2**
	6.0nm,0.2s						
DJR				S	**Sn**	**20 34 54.0**	**-1.0**
	71nm,0.3s						
DJR	**Jarkent**	**1.03**	**251**	*eP*	**Pn**	**20 34 39.9**	**-0.2**
	6.3nm,0.1s						
DJR				*eS*	**Sn**	**20 34 54.0**	**-1.0**
	42nm,0.1s						
KAPS	**Kapalarasan**	**1.41**	**296**	P	**Pb**	**20 34 46.0**	**+0.4**
	9.0nm,0.1s						
KAPS				S	**Sn**	**20 35 04.2**	**-0.2**
	196nm,0.1s						
KNOS	**Konyrlen**	**1.44**	**258**	P	**Pg**	**20 34 47.7**	**+1.4**
	66nm,0.1s						
KNOS				S	**Sg**	**20 35 07.0**	**+2.0**
	129nm,0.3s						
PDGK	**Podgornoye**	**1.80**	**222**	⇑Pn	**Pg**	**20 34 53.2**	**+0.1**
	12nm,0.5s						
PDGK				⇑Sn	**Sg**	**20 35 17.3**	**+0.9**
	66nm,0.5s						
SHLS	**Shalkode**	**1.94**	**219**	P	**Pn**	**20 34 53.0**	**+0.3**
	16nm,0.1s						
SHLS				S	**Sn**	**20 35 16.0**	**-1.6**
	185nm,0.3s						
SHLS	**Shalkode**	**1.94**	**219**	*eP*	**Pn**	**20 34 53.0**	**+0.3**
	16nm,0.1s						
SHLS				*eS*	**Sn**	**20 35 16.1**	**-1.6**
	181nm,0.2s						
TDK	**Taldyqorghan**	**1.98**	**281**	Pg	**Pg**	**20 34 57.7**	**+1.1**
	67nm,0.2s						
TDK				Lg	Lg	20 35 24.0	
	0.6nm,0.3s						
TDK	**Taldyqorghan**	**1.98**	**281**	*eP*	**Pb**	**20 34 56.3**	**+1.0**
	28nm,0.1s						
TDK				*eS*	**Sg**	**20 35 22.1**	**-0.1**
	265nm,0.1s						
KPKS	**Kokpek**	**2.14**	**237**	Pg	**Pb**	**20 34 59.3**	**+1.1**
	23nm,0.3s						
KPKS				Lg	Lg	20 35 27.7	
	196nm,0.3s						
KPKS	**Kokpek**	**2.14**	**237**	*eP*	**Pb**	**20 34 59.3**	**+1.1**
	10nm,0.1s						
KPKS				*eS*	**Sg**	**20 35 27.5**	**0.0**
	100nm,0.2s						
UZB	**Uzynbulak**	**2.16**	**226**	Pg	**Pb**	**20 34 59.0**	**+0.4**
	6.7nm,0.2s						
UZB				Lg	Lg	20 35 26.5	
	90nm,0.3s						
UZB	**Uzynbulak**	**2.16**	**226**	*eP*	**Pb**	**20 34 59.2**	**+0.6**
	6.7nm,0.2s						
UZB				*eS*	**Sb**	**20 35 26.9**	**+1.1**
	64nm,0.2s						
MAKZ	**Makanchi**	**2.21**	**15**	⇓Pn	**Pb**	**20 34 58.8**	**-0.6**
	7.1nm,0.5s						
MAKZ				⇑Lg	Lg	20 35 28.4	
	11nm,0.3s						
MK31	**Makanchi Array**	**2.27**	**20**	Pn	**Pb**	**20 34 59.5**	**-0.8**
	8.9nm,0.3s,baz=198,slow=13,SNR=530						
MK31				Lg	Lg	20 35 29.5	
	23nm,0.3s,baz=199,slow=25,SNR=53						
ARXS	**Arharly**	**2.42**	**260**	Pg	**Pb**	**20 35 04.4**	**+1.5**
	11nm,0.2s						
ARXS				Lg	Lg	20 35 36.4	
	144nm,0.3s						
KURS	**Kuram**	**2.45**	**242**	Pg	**Pb**	**20 35 04.2**	**+0.8**
	4.2nm,0.3s						
KURS				Lg	Lg	20 35 35.8	
	23nm,0.5s						
ZHN	**Zhinishke**	**2.47**	**233**	Pg	**Pg**	**20 35 05.9**	**-0.1**
	14nm,0.1s						
ZHN				Lg	Lg	20 35 38.1	
	142nm,0.2s						
ZHN	**Zhinishke**	**2.47**	**233**	*eP*	**Pb**	**20 35 04.8**	**+1.0**
	14nm,0.1s						
ZHN				*eS*	**Sg**	**20 35 36.4**	**-1.6**
	142nm,0.2s						
SATY	**Saty**	**2.55**	**232**	Pg	**Pb**	**20 35 04.8**	**-0.4**
	12nm,0.2s						
SATY				Lg	Lg	20 35 36.7	
	145nm,0.3s						
SATY	**Saty**	**2.55**	**232**	*eP*	**Pb**	**20 35 03.9**	**-1.4**
	6.1nm,0.2s						
SATY				*eS*	**Sb**	**20 35 35.2**	**-1.9**
	144nm,0.3s						
CHKK	**Chushkaly**	**3.10**	**256**	Pg	**Pb**	**20 35 16.1**	**+1.7**
	6.2nm,0.1s						
CHKK				Lg	Lg	20 35 55.9	
	74nm,0.2s						
CHKK	**Chushkaly**	**3.10**	**256**	*eP*	**Pb**	**20 35 16.1**	**+1.7**
	1.8nm,0.1s						
CHKK				*eS*	**Sg**	**20 35 55.9**	**-2.2**
	74nm,0.2s						
KOTS	**Kotyrbulak**	**3.25**	**245**	Pg	**Pb**	**20 35 19.2**	**+2.1**
	2.9nm,0.2s						
KOTS				Lg	Lg	20 36 01.0	
	28nm,0.4s						
KOTS	**Kotyrbulak**	**3.25**	**245**	*eP*	**Pb**	**20 35 18.5**	**+1.5**
	2.9nm,0.2s						
KOTS				*eS*	**Sb**	**20 35 60.0**	**+3.0**
	46nm,0.2s						
KTBS	**Karatobe**	**3.35**	**255**	Pg	**Pb**	**20 35 21.0**	**+2.3**
	1.9nm,0.3s						
KTBS				Lg	Lg	20 36 04.1	
	12nm,0.4s						
TNSS	**Tian-Shan**	**3.45**	**243**	Pg	**Pb**	**20 35 22.9**	**+2.3**
	1.6nm,0.2s						
TNSS				Lg	Lg	20 36 07.6	
	4.5nm,0.3s						
TNSS	**Tian-Shan**	**3.45**	**243**	*eP*	**Pb**	**20 35 22.3**	**+1.6**
	0.2nm,0.1s						
TNSS				*eS*	**Sg**	**20 36 06.7**	**-2.7**
	4.5nm,0.3s						
MTBS	**Maitube**	**3.74**	**247**	Pg	**Pb**	**20 35 27.7**	**+2.3**
	5.5nm,0.3s						
MTBS				Lg	Lg	20 36 15.4	
	31nm,0.4s						
MTBS	**Maitube**	**3.74**	**247**	*eP*	**Pb**	**20 35 27.7**	**+2.3**
	1.5nm,0.2s						
MTBS				*eS*	**Sg**	**20 36 15.7**	**-3.1**
	31nm,0.4s						
ZSN	**Zaisan**	**3.80**	**42**	Pg	**Pb**	**20 35 28.6**	**+2.2**
	13nm,0.5s						
ZSN				Lg	Lg	20 36 17.0	
	15nm,0.4s						
ZSN	**Zaisan**	**3.80**	**42**	*eP*	**Pb**	**20 35 29.8**	**+3.4**
	2.3nm,0.2s						
ZSN				*eS*	**Sg**	**20 36 19.4**	**-1.3**
	15nm,0.4s						
KRBS	**Karabastau**	**4.05**	**258**	Pg	**Pb**	**20 35 33.6**	**+2.9**
	0.9nm,0.2s						
KRBS				Lg	Lg	20 36 25.9	
	9.3nm,0.2s						
KST	**Kastek**	**4.08**	**248**	Pg	**Pb**	**20 35 33.8**	**+2.5**
	1.3nm,0.2s						
KST				Lg	Lg	20 36 26.1	
	12nm,0.6s						
KST	**Kastek**	**4.08**	**248**	*eP*	**Pb**	**20 35 33.8**	**+2.5**
	1.3nm,0.2s						
KST				*eS*	**Sg**	**20 36 26.1**	**-3.8**
	8.6nm,0.2s						
DGS	**Degeres**	**4.13**	**252**	Pg	**Pb**	**20 35 34.4**	**+2.2**
	1.7nm,0.4s						
DGS				Lg	Lg	20 36 27.2	
	20nm,0.6s						
TKM2	**Tokmak 2**	**4.38**	**248**	⇓Pg	**Pb**	**20 35 39.1**	**+2.7**
	1.4nm,0.4s						
TKM2				⇓Lg	Lg	20 36 40.3	
	15nm,0.8s						
BTLS	**Baital**	**5.06**	**277**	Pg	**Pg**	**20 35 53.3**	**-2.3**
	1.1nm,0.2s						
BTLS				Lg	Lg	20 36 59.5	
	3.3nm,0.3s						
BTLS	**Baital**	**5.06**	**277**	*eP*	**Pb**	**20 35 51.7**	**+3.9**
	0.5nm,0.1s						
BTLS				*eS*	**Sg**	**20 36 57.4**	**-3.8**
	1.5nm,0.1s						
AAK	**Ala-Archa**	**5.24**	**249**	⇓Lg	Lg	20 37 04.9	
	7.6nm,0.8s						
KURK	**Kurchatov**	**6.28**	**345**	⇑Lg	Lg	20 37 36.9	
	19nm,1.0s						
OTUK	**Ortayu**	**7.05**	**304**	⇑Lg	Lg	20 37 59.3	
	9.7nm,0.9s						

*NEIC **06** 20:36:31.4±2.2,43°.68N±0°.06×105°.25W±0°.08,h0km±1km, ML3.2/44,Error ellipse: s-maj=14.0km s-min=3.0km az=42.0*
*IDC **06** 20:36:31.8±2.4,43°.38N×105°.49W,h0km,mbtmp3.4/2, ML2.8/2,Error ellipse: s-maj=52.8km s-min=10.8km az=153.0*

ISC 06 20:36:30.6±1.1,**43°.61N**±0°.07×**105°.73W**±0°.07,**h0**km,**n21,**
σ1§22/12,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PD31	**Pinedale Array**	**2.92**	**255**	Pn	**Pb**	**20 37 24.4**	**+0.6**
PDAR	**Pinedale Array**	**2.92**	**255**	Pn	**Pg**	**20 37 25.4**	**-1.3**
PDAR	**Pinedale Array**	**2.92**	**255**	Pn	**Pb**	**20 37 24.5**	**+0.8**
	1.5nm,0.3s,baz=76,slow=17,SNR=66						
PDAR				Lg	Lg	20 38 06.8	
	2.2nm,0.3s,baz=77,slow=32,SNR=3.7						
	2.2nm,0.2s						
RLMT	**Red Lodge**	**2.95**	**302**	Pn	**Pb**	**20 37 25.3**	**+1.1**
LAO	**LASA Array**	**3.10**	**354**	Pn	**Pn**	**20 37 21.3**	**+0.5**
LAO				IAML		20 38 29.8	
	95nm,0.8s						
LAO				IAML		20 38 44.7	
	73nm,2.9s						
BRIGG	**Briggsdale**	**3.21**	**160**	Pn	**Pn**	**20 37 23.2**	**+0.8**
BRIGG				IAML		20 38 26.1	
	comp=N,89nm,3.9s						
BRIGG				IAML		20 38 41.8	
	comp=E,63nm,2.7s						
YNE	**Yellowstone No**	**3.37**	**296**	Pn	**Pb**	**20 37 31.6**	**+0.2**
YNE				IAML		20 38 29.0	
	comp=N,44nm,1.0s						
YNE				IAML		20 38 32.9	
	comp=E,37nm,0.6s						
YMP	**Mirror Lake Pl**	**3.38**	**291**		**Pn**	**20 37 26.0**	**+1.1**
LKWY	**Lake**	**3.50**	**287**	Pn	**Pb**	**20 37 30.9**	**-2.6**
LKWY				IAML		20 38 41.5	
	comp=E,33nm,1.9s						
LKWY				IAML		20 38 45.5	
	comp=E,38nm,0.6s						
LOHW	**Long Hollow**	**3.54**	**272**	Pn	**Pb**	**20 37 35.0**	**+0.8**
YFT	**Old Faithful**	**3.77**	**285**	IAML		20 38 44.2	
	comp=E,26nm,4.2s						
TPAW	**Teton Pass**	**3.79**	**270**	IAML		20 38 49.2	
	comp=E,32nm,1.3s						
OGNE	**Ogallala**	**3.83**	**133**	Pn	**Pn**	**20 37 30.8**	**-0.1**
OGNE				IAML		20 39 23.6	
	comp=E,64nm,4.5s						
YMR	**Madison River**	**3.91**	**287**	IAML		20 39 15.4	
	comp=E,31nm,1.8s						
AHID	**Auburn Hatcher**	**4.01**	**260**	IAML		20 39 14.1	
	comp=E,27nm,2.1s						
YHL	**Hebgen Lake**	**4.11**	**289**	IAML		20 38 52.9	
	comp=N,28nm,3.7s						
YHL				IAML		20 38 57.8	
	comp=E,20nm,1.9s						
RDMU	**Red Mountain**	**4.17**	**225**	IAML		20 38 58.1	
	comp=N,26nm,1.3s						
RDMU				IAML		20 39 06.5	
	comp=E,24nm,1.3s						
BOZ	**Bozeman (W)**	**4.66**	**297**	IAML		20 39 06.6	
	comp=E,16nm,4.4s						
BOZ				IAML		20 39 14.2	
	comp=E,14nm,0.9s						
HWUT	**Hardware Ranch**	**4.75**	**247**	IAML		20 39 21.4	
	comp=E,19nm,1.0s						
I10CA	**LAC DU BONNET**	**9.35**	**42**	I	I	21 35 20.0	
	comp=E,0.1nm,1.8s,baz=220,slow=315,SNR=3.0						
ULM	**Lac du Bonnet**	**9.46**	**42**	Pn	**Pn**	**20 38 48.1**	**+0.1**
	comp=E,0.2nm,0.3s,baz=227,slow=14,SNR=1.6						
ULM				Lg	Lg	20 41 24.2	
	comp=E,0.1nm,0.3s,baz=338,slow=18,SNR=4.2						
	comp=E,0.8nm,0.3s						

*IDC **06** 20:38:12.9±1.3,32°.22S×178°.06W,h0km,mb4.0/2, mbtmp4.0/3,ML3.6/1,Error ellipse: s-maj=53.8km s-min=28.4km az=137.0*
*WEL **06** 20:38:13.6±1.1,32°.5±7°×17°.8W±2°.1,h12km,M4.5/5, mB4.8/3,ML5.1/8,MLv4.5/5,Mw(mB)4.0/3,Error ellipse: s-maj=28.2km s-min=4.4km az=105.7,confirmed*
*NEIC **06** 20:38:16.6±1.9,32°.1S±0°.1×178°.4W±0°.2,h10km±1km, mb4.5/9,Error ellipse: s-maj=33.5km s-min=21.1km az=87.0*

ISC 06 20:38:15.3±0.9,**31°.98S**±0°.08×**178°.5W**±0°.2,**h10**km,**n36,**
σ1§32/44,mb4.4/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.75**	**10**	P	**Pn**	**20 38 58.6**	**-0.8**
GLKZ				S	**Sn**	**20 39 31.9**	**-0.7**
WMGZ	**Waiomatatini S**	**6.37**	**203**	P	**Pn**	**20 39 49.0**	**-0.2**
PKGZ	**Pakihiroa**	**6.53**	**205**	P	**Pn**	**20 39 50.7**	**-0.7**
PKGZ				S	**Sn**	**20 41 06.4**	**+0.4**
HAZ	**Te Kaha**	**6.54**	**207**	P	**Pn**	**20 39 51.0**	**-0.6**
HAZ				S	**Sn**	**20 41 07.3**	**+1.1**
RUGZ	**Raukumara Rang**	**6.76**	**207**	P	**Pn**	**20 39 53.2**	**-1.5**
RUGZ				S	**Sn**	**20 41 12.1**	**+0.2**
TWGZ	**Tauwhareparae**	**6.84**	**204**	P	**Pn**	**20 39 57.4**	**+1.7**
TWGZ				S	**Sn**	**20 41 13.3**	**-0.4**
CNGZ	**Carnagh Statio**	**7.04**	**202**	P	**Pn**	**20 39 56.7**	**-1.8**
CNGZ				S	**Sn**	**20 41 19.4**	**+0.8**
MWZ	**Matawai**	**7.14**	**206**	P	**Pn**	**20 40 02.4**	**+2.5**
MWZ				S	**Sn**	**20 41 19.9**	**-1.2**
URZ	**Urewera**	**7.24**	**209**	Pn	**Pn**	**20 39 59.9**	**-1.3**
	1.1nm,0.3s,baz=342,slow=3.5,SNR=8.7						
URZ				Sn	**Sn**	**20 41 22.0**	**-1.5**
	3.9nm,0.3s,baz=347,slow=22,SNR=7.4						
	3.9nm,0.4s						
URZ	**Urewera**	**7.24**	**209**	P	**Pn**	**20 40 00.5**	**-0.7**
URZ				S	**Sn**	**20 41 21.6**	**-2.0**
OUZ	**Omahuta**	**7.38**	**242**	P	Pn	20 40 11.4	+8.3
RTZ	**Ruatahuna**	**7.60**	**208**	Pn	**Pn**	**20 40 03.0**	**-3.2**
BKZ	**Black Stump Fm**	**8.27**	**208**	Pn	**Pn**	**20 40 13.1**	**-2.3**
THZ	**Tophouse**	**11.96**	**213**	Pn	**Pn**	**20 41 04.7**	**-1.3**
COEN	**Coen**	**39.36**	**288**	P	**P**	**20 45 46.5**	**+1.3**
COEN				IAmb	IAmb	20 46 06.6	
	comp=Z,4.5nm,1.1s						
AS31	**Alice Springs**	**42.66**	**269**	P	**P**	**20 46 11.3**	**-1.1**
ASAR	**Alice Springs**	**42.66**	**269**	P	**P**	**20 46 11.3**	**-1.1**
ASAR	**Alice Springs**	**42.66**	**269**	P	**P**	**20 46 14.2**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=108,slow=7.3,SNR=15						
	comp=Z,0.9nm,0.6s						
WB2	**Warramunga Arr**	**43.79**	**274**	P	**P**	**20 46 23.2**	**+1.8**
WB2				IAmb	IAmb	20 46 35.8	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**43.80**	**274**	P	**P**	**20 46 21.8**	**+0.2**
WRA	**Warramunga Arr**	**43.80**	**274**	P	**P**	**20 46 23.1**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=113,slow=7.8,SNR=26						
	comp=Z,2.3nm,0.5s						
WB0	**Warramunga Arr**	**43.83**	**274**	P	**P**	**20 46 23.4**	**+1.6**
WB0				IAmb	IAmb	20 46 43.6	
	comp=Z,6.1nm,1.0s						
MTN	**Manton Dam**	**49.87**	**281**	P	**P**	**20 47 09.2**	**+0.1**
KNRA	**Kununurra**	**50.46**	**276**	P	**P**	**20 47 14.2**	**+0.6**
KNRA				IAmb	IAmb	20 47 21.5	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.99**	**271**	P	**P**	**20 47 26.1**	**+1.1**
CASY	**Casey**	**53.57**	**208**	P	**P**	**20 47 35.5**	**-0.5**
QSPA	**South Pole Qui**	**58.14**	**180**		**P**	**20 48 10.5**	**+1.5**
QSPA				IAmb	IAmb	20 48 19.9	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**118.48**	**310**	PKP	**PKPdf**	**20 57 01.6**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=78,slow=1.2,SNR=1.8						
BVAR	**Borovoye Array**	**127.25**	**315**	PKP	**PKPdf**	**20 57 18.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=112,slow=2.9,SNR=4.4						
FINES	**FINESS Array B**	**146.48**	**339**	PKPbc	**PKPdf**	**20 57 55.8**	**+1.2**
	comp=Z,3.2nm,0.5s,baz=56,slow=3.7,SNR=44						
NB2	**NORSAR Subarra**	**150.24**	**351**	PKP	**PKPbc**	**20 58 06.2**	**+0.2**
	comp=Z,5.3nm,1.4s,baz=21,slow=4.0						
NOA	**NORSAR Array B**	**150.24**	**351**	PKPbc	**PKPbc**	**20 58 05.4**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=20,slow=2.8,SNR=3.7						
HFS	**Hagfors**	**150.70**	**348**	PKPbc	**PKPbc**	**20 58 07.0**	**0.0**
	comp=Z,1.0nm,0.5s,baz=50,slow=2.5,SNR=8.0						
MMAI	**Mount Meron Ar**	**151.50**	**281**	PKPbc	**PKPbc**	**20 58 10.8**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=81,slow=6.2,SNR=9.1						
AKASG	**Mal

KNRA	**Kununurra**	**37.90 263**	P	**P**	**20 56 56.4**	**-0.8**
KNRA			IAmb	IAmb	20 57 19.2	
comp=Z,18nm,1.2s						
FORT	**Forrest**	**39.94 240**	P	**P**	**20 57 12.3**	**-1.8**
FITZ	**Fitzroy Crossi**	**40.77 259**	P	**P**	**20 57 19.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**40.77 259**	P	**P**	**20 57 21.5**	**+0.4**
comp=Z,3.1nm,0.7s,baz=120,slow=7.6,SNR=6.3						
comp=Z,3.1nm,0.7s						
MORW	**Morawa**	**49.94 244**	P	**P**	**20 58 34.4**	**+0.6**
MJAR	**Matsushiro Arr**	**58.30 332**	P	**P**	**20 59 34.0**	**-0.5**
comp=Z,2.0nm,1.0s,baz=158,slow=10,SNR=2.2						
comp=Z,2.0nm,1.0s						
QSPA	**South Pole Qui**	**75.26 180**	P	**P**	**21 01 23.1**	**+0.9**
QSPA			IAmb	IAmb	21 01 26.8	
comp=Z,4.6nm,1.1s						
QSPA	**South Pole Qui**	**75.26 180**	P	**P**	**21 01 22.7**	**+0.5**
comp=Z,3.4nm,1.0s,baz=30,slow=1.8,SNR=2.8						
comp=Z,3.4nm,1.0s						
ULN	**Ulaanbaatar**	**82.63 324**	P	**P**	**21 02 03.4**	**+0.6**
ULN			IAmb	IAmb	21 02 05.2	
comp=Z,5.9nm,1.2s						
SONM	**Songino Array**	**82.99 323**	P	**P**	**21 02 06.1**	**+1.4**
SONM			IAmb	IAmb	21 02 10.8	
comp=Z,5.3nm,1.5s						
SONM	**Songino Array**	**82.99 323**	P	**P**	**21 02 04.8**	**+0.1**
comp=Z,1.0nm,0.9s,baz=132,slow=4.8,SNR=5.9						
comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**86.33 18**	P	**P**	**21 02 20.4**	**-0.6**
comp=Z,0.6nm,0.7s,baz=237,slow=5.2,SNR=11						
comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**97.77 316**	P	**P**	**21 03 15.4**	**+0.8**
MK31			IAmb	IAmb	21 03 16.6	
comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**97.77 316**	P	**P**	**21 03 15.0**	**+0.3**
MKAR	**Makanchi Array**	**97.77 316**	P	**P**	**21 03 15.7**	**+1.1**
comp=Z,1.2nm,0.7s,baz=93,slow=6.6,SNR=14						
comp=Z,1.2nm,0.7s						

*WEL **06** 20:52:35.3±1.4,32°S±9°×17°8W±2°8,h12km,M4.2/5, mB4.8/1,ML4.7/7,MLv4.2/5,Mw(mB)4.0/1,Error ellipse: s-maj=38.4km s-min=4.3km az=105.7,confirmed*
*IDC **06** 20:52:37.7±3.4,32.40S×178.03W,h0km,mb3.9/2, mbtmp3.9/3,Error ellipse: s-maj=76.4km s-min=38.4km az=114.0*

ISC 06 20:52:34.7±2.1,32°2S±0.1×177°6W±0.3,h10km,n14, σ1§86/22,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.90 354**		P	**Pn**	**20 53 20.9**	**-0.1**
GLKZ				S	**Sn**	**20 53 53.6**	**-2.3**
PKGZ	**Pakihiroa**	**6.72 211**		P	**Pn**	**20 54 14.0**	**+0.5**
PKGZ				S	**Sn**	**20 55 30.0**	**-0.1**
HAZ	**Te Kaha**	**6.76 213**		P	**Pn**	**20 54 15.1**	**+1.1**
HAZ				S	**Sn**	**20 55 32.9**	**+1.8**
RUGZ	**Raukumara Rang**	**6.98 213**		P	**Pn**	**20 54 19.1**	**+1.9**
RUGZ				S	**Sn**	**20 55 37.9**	**+1.2**
TWGZ	**Tauwhareparae**	**7.03 210**		S	**Sn**	**20 55 37.4**	**-0.3**
CNGZ	**Carnagh Statio**	**7.19 207**		P	**Pn**	**20 54 19.9**	**0.0**
CNGZ				S	**Sn**	**20 55 41.8**	**+0.1**
URZ	**Urewera**	**7.48 214**		Pn	**Pn**	**20 54 20.4**	**-3.5**
6.2nm,0.9s,baz=176,slow=9.3,SNR=1.9							
URZ				Sn	**Sn**	**20 55 45.1**	**-3.7**
1.5nm,0.3s,baz=70,slow=19,SNR=3.8							
URZ	**Urewera**	**7.48 214**		P	**Pn**	**20 54 24.1**	**+0.1**
URZ				S	**Sn**	**20 55 47.8**	**-1.1**
RIGZ	**Rimuhau**	**7.56 209**		S	**Sn**	**20 55 50.0**	**-0.9**
PRGZ	**Paritu Road**	**7.70 208**		P	**Pn**	**20 54 23.5**	**-3.5**
PRGZ				S	**Sn**	**20 55 53.1**	**-1.1**
SNGZ	**Shannon Statio**	**7.80 211**		S	**Sn**	**20 55 55.4**	**-1.4**
ASAR	**Alice Springs**	**43.41 269**		P	**P**	**21 00 39.5**	**+1.6**
0.5nm,0.6s,baz=102,slow=7.8,SNR=8.2							
0.5nm,0.6s							
WRA	**Warramunga Arr**	**44.56 274**		P	**P**	**21 00 48.4**	**+1.3**
1.5nm,0.4s,baz=113,slow=7.8,SNR=31							
1.5nm,0.4s							
FINES	**FINESS Array B**	**146.92 339**		PKPbc	**PKiKP**	**21 12 20.8**	**+1.6**
1.6nm,0.7s,baz=46,slow=4.0,SNR=1.9							

*INMG **06** 21:18:19.8±1.1,36°45N×6°91W,h31km±9km,ML1.5,Error ellipse: s-maj=3.8km s-min=2.9km az=56.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz*
*MDD **06** 21:18:19.4±1.3,36°48N×6°89W,h60km±21km,Mb3.2/6, Error ellipse: s-maj=11.0km s-min=4.9km az=5.0*
*SFS **06** 21:18:20.3,36°55N×6°88W,h60km,ML2.4/6,ML1.7/9, MLv1.3/9*
*IGIL **06** 21:18:20.4,36°45N×6°87W,h31km,ML1.3*

ISC 06 21:18:18.2±2.5,36°5N±0°1×6°88W±0°04,h66km±25km,n24, σ0§84/38,7C-1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.91**	**65**	Pn	**Pn**	**21 18 35.8**	**+0.5**
ESPR				⇑*i*Vmb_V		21 18 45.1	
253nm,SNR=1.3							
ESPR				Sn	**Sn**	**21 18 48.2**	**+0.3**
PBDV	**Barranco-do-Ve**	**1.13**	**312⇑**	*e*P	**Pn**	**21 18 38.5**	**+0.4**
PBDV				*e*S	**Sn**	**21 18 52.4**	**-0.6**
PBDV				*i* AML	AML	21 18 52.8	
PBDV				*i* AML	AML	21 18 52.8	
PVAQ	**Vaqueiros**	**1.13**	**324⇓**	*i*P	**Pn**	**21 18 38.6**	**+0.5**
PVAQ				*i* AML	AML	21 18 53.3	
PVAQ	**Vaqueiros**	**1.13**	**324**	Pn	**Pn**	**21 18 38.6**	**+0.5**
EGRO	**El Granado**	**1.15**	**335**	Pn	**Pn**	**21 18 38.9**	**+0.6**
EGRO	**El Granado**	**1.15**	**335**	Pn	**Pn**	**21 18 38.9**	**+0.6**
EGRO				⇑*i*Vmb_V		21 18 39.0	
369nm,SNR=1.9							
EGRO				Sn	**Sn**	**21 18 53.2**	**-0.2**
EMIN	**Mina Concepcio**	**1.29**	**7**	Pn	**Pn**	**21 18 40.8**	**+0.6**
EMIN				Sn	**Sn**	**21 18 55.8**	**-0.9**
EMIN	**Mina Concepcio**	**1.29**	**7**	Pn	**Pn**	**21 18 40.7**	**+0.6**
EMIN				⇑*i*Vmb_V		21 18 44.0	
203nm,SNR=1.4							
EMIN				Sn	**Sn**	**21 18 56.6**	**-0.1**
PCVE	**Castro Verde**	**1.47**	**321**	*e*P	**Pn**	**21 18 43.2**	**+0.6**
PCVE				*e*S	**Sn**	**21 19 00.7**	**-0.2**
PCVE				*i* AML	AML	21 19 02.0	
PCVE				*i* AML	AML	21 19 02.1	
PCVE				*i* AML	AML	21 19 02.2	
PCVE	**Castro Verde**	**1.47**	**321**	Pn	**Pn**	**21 18 43.2**	**+0.6**
PCVE				Sn	**Sn**	**21 19 00.3**	**-0.7**
MORF	**Marmelete**	**1.64**	**300**	*e*S	**Sn**	**21 19 03.7**	**-1.3**
MORF				IAML		21 19 04.6	
comp=E,4.9nm,0.2s							
MORF	**Marmelete**	**1.64**	**300**	*e*S	**Sn**	**21 19 03.9**	**-1.2**
MORF				*i* AML	AML	21 19 05.3	
MORF				*i* AML	AML	21 19 05.4	
MORF				*i* AML	AML	21 19 05.5	
PBAR	**Barrancos**	**1.69**	**356**	*e*P	**Pn**	**21 18 46.5**	**+0.9**
PBAR				*e*S	**Sn**	**21 19 05.8**	**-0.4**
PBAR				*i* AML	AML	21 19 06.7	
PBAR	**Barrancos**	**1.69**	**356**	Pn	**Pn**	**21 18 46.4**	**+0.9**
PBAR				Sn	**Sn**	**21 19 05.3**	**-0.9**
MESJ	**Messejana**	**1.72**	**322**	*e*P	**Pn**	**21 18 46.6**	**+0.7**
MESJ				*e*S	**Sn**	**21 19 05.9**	**-1.1**
MESJ				IAML		21 19 08.4	
comp=E,1.3nm,0.1s							
MESJ	**Messejana**	**1.72**	**322**	*e*S	**Sn**	**21 19 06.6**	**-0.4**
PTEO	**Sao Teotonio**	**1.81**	**306**	*e*S	**Sn**	**21 19 08.5**	**-0.7**
PTEO				*i* AML	AML	21 19 10.4	
PTEO				*i* AML	AML	21 19 12.2	
ECAB	**El Cabril**	**1.97**	**36**	Sn	**Sn**	**21 19 11.4**	**-1.6**
ECAB	**El Cabril**	**1.97**	**36**	Pn	**Pn**	**21 18 49.3**	**0.0**
ECAB				⇑*i*Vmb_V		21 18 51.0	
comp=E,232nm,SNR=1.5							
ECAB				Sn	**Sn**	**21 19 12.1**	**-0.9**
EVO	**Evora**	**2.23**	**337**	*e*S	**Sn**	**21 19 19.8**	**+0.5**
EBAD	**Badajoz**	**2.27**	**357**	Pn	**Pn**	**21 18 54.2**	**+0.9**
EBAD	**Badajoz**	**2.27**	**357**	Pn	**Pn**	**21 18 54.2**	**+0.9**
EBAD				⇑*i*Vmb_V		21 19 02.1	
comp=E,271nm,SNR=1.9							
EBAD				Sn	**Sn**	**21 19 19.6**	**-0.6**
EADA	**Adamuz**	**2.49**	**47**	Pn	**Pn**	**21 18 57.3**	**+1.0**
EADA				⇑*i*Vmb_V		21 18 58.0	
comp=E,181nm,SNR=0.9							
EADA				Sn	**Sn**	**21 19 24.3**	**-1.4**
PMRV	**Marv??o**	**2.96**	**352**	*e*P	**Pn**	**21 19 03.9**	**+1.1**
PMRV				*e*S	**Sn**	**21 19 35.9**	**-1.3**

NEIC 06 21:19:14.8±0.4,37°04N±0°02×104°97W±0°03,h7km±5km, mb_Lg1.9/7,ML2.3/8,Error ellipse: s-maj=3.3km s-min=1.9km az=60.0,Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.82**	**329**	Pg	Pg	21 19 30.3	-0.2
SDCO				Sg	Sg	21 19 41.1	-0.2
SDCO				IAML		21 19 41.6	
122nm,0.1s							
SDCO				IAML		21 19 41.7	
110nm,0.1s							
RTBA	**Rita Blanca**	**1.89**	**108**		Pb	21 19 48.7	-1.0
ANMO	**Albuquerque**	**2.41**	**210**	IAmb_Lg		21 20 31.1	
comp=Z,4.5nm,0.9s							
ANMO	**Albuquerque**	**2.41**	**210**	IAmb_Lg		21 20 34.1	
comp=Z,4.1nm,0.7s							
ANMO	**Albuquerque**	**2.41**	**210**	IAmb_Lg		21 20 34.4	
comp=Z,5.8nm,1.1s							
ISCO	**Idaho Springs**	**2.80**	**350**	Pn	Pn	21 19 59.9	-0.3
ISCO				IAmb_Lg		21 20 45.9	
comp=Z,7.0nm,0.9s							
MVCO	**Mesa Verde**	**2.82**	**274**	Pn	Pn	21 20 01.6	+1.1
PV15	**Paradox Valley**	**3.07**	**296**	Pn	Pn	21 20 04.8	+0.9

*NEIC **06** 21:20:22.7±0.7,37°328N±0°010×97°94W±0°02,h6km±2km, mb_Lg2.5/13,ML3.0/36,ML2.7/14,Error ellipse: s-maj=2.1km s-min=1.4km az=103.0*

NEIC 06 21:20:23.3±0.6,37°31N±0°03×97°96W±0°02,h6km±1km, Error ellipse: s-maj=3.8km s-min=2.1km az=170.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.04**	**245**		Pg	21 20 24.8	+0.2
KAN12				Sg	Sg	21 20 25.7	+0.2
KAN08	**Anthony NE Sta**	**0.09**	**187**		Pg	21 20 25.5	+0.2
KAN08				Sg	Sg	21 20 26.9	+0.3
KAN08				IAML		21 20 27.1	
comp=E,8μm,0.3s							
KAN05	**Bluff City Ner**	**0.21**	**161**		Pg	21 20 27.8	+0.3
KAN05				Sg	Sg	21 20 30.8	+0.4
KAN05				IAML		21 20 31.2	
comp=E,3μm,0.3s							
KAN10	**Anthony SW Sta**	**0.22**	**210**		Pg	21 20 27.9	+0.3
KAN10					Sg	21 20 31.1	+0.6
KAN01	**Argonia South**	**0.22**	**135**		Pg	21 20 28.0	+0.3
KAN01				Sg	Sg	21 20 31.2	+0.5
KAN01				IAML		21 20 31.4	
comp=E,3μm,0.4s							
KAN01				IAML		21 20 31.4	
comp=N,3μm,0.4s							
KAN17	**Caldwell West**	**0.31**	**150**		Pg	21 20 29.5	+0.2
KAN17				Sg	Sg	21 20 33.8	+0.4
KAN17				IAML		21 20 34.1	
comp=E,3μm,0.3s							
KAN17				IAML		21 20 35.0	
comp=N,2μm,0.3s							
KAN09	**Caldwell North**	**0.32**	**123**		Pg	21 20 29.7	+0.1
KAN09				Sg	Sg	21 20 34.2	+0.3
KAN09				IAML		21 20 34.6	
comp=N,3μm,0.3s							
KAN14	**Manchester OK**	**0.35**	**181**		Pg	21 20 30.1	-0.1
KAN14					Sg	21 20 35.4	+0.5
GC02	**Grant County #**	**0.47**	**170**		Pg	21 20 32.3	+0.1
GC02				Sg	Sg	21 20 38.7	+0.3
KAN13	**South Haven SW**	**0.49**	**128**		Pg	21 20 32.2	-0.5
KAN13				Sg	Sg	21 20 39.4	+0.4
OK032	**Salt Plains WL**	**0.55**	**202**		Pg	21 20 33.9	+0.1
OK032				Sg	Sg	21 20 41.5	+0.6
OK032				IAML		21 20 41.8	
comp=N,1μm,0.2s							
OK032				IAML		21 20 43.4	
comp=N,1μm,0.2s							
CROK	**Carrier**	**0.81**	**181**		Pg	21 20 38.4	-0.3
CROK				IAML		21 20 56.8	
comp=E,508nm,0.3s							
NOKA	**Waynoka**	**1.03**	**229**		Pg	21 20 42.8	-0.3
NOKA				IAML		21 21 01.2	
comp=E,345nm,0.3s							
NOKA				IAML		21 21 05.5	
comp=N,415nm,0.3s							
OK038	**West end E0370**	**1.04**	**217**		Pg	21 20 43.3	+0.1
OK051	**E0350 and S346**	**1.21**	**132**	Pg	Pg	21 20 44.8	-1.7
OK051				IAmb_Lg		21 21 00.5	
comp=Z,24nm,0.8s							
OK048	**Pawnee Station**	**1.21**	**137**		Pg	21 20 45.7	-0.8
OK048				IAML		21 21 03.9	
comp=Z,316nm,0.4s							
OK048				IAML		21 21 06.0	
comp=Z,350nm,0.3s							
T35A	**Sooner Cattle**	**1.22**	**108**		Pg	21 20 46.0	-0.7
T35A				IAML		21 21 06.4	
comp=Z,351nm,0.4s							
QUOK	**Quay**	**1.52**	**138**		Pn	21 20 51.1	+0.2
OK029	**Liberty Lake**	**1.57**	**165**		Pn	21 20 51.9	+0.2
OK052	**Battle Ridge R**	**1.61**	**144**		Pn	21 20 52.3	+0.1
ADOK	**Arcadia Dam**	**1.72**	**164**		Pn	21 20 54.4	+0.6
CSTR	**Hydro, Custer**	**1.77**	**200**		Pn	21 20 55.0	+0.7
DEOK	**Depew**	**1.88**	**141**		Pn	21 20 56.4	+0.5
OKCSW	**OKLAHOMA CITY**	**1.95**	**167**		Pn	21 20 57.1	+0.2
CBKS	**Cedar Bluff**	**2.05**	**317**		Pn	21 20 59.4	+1.0
KSU1	**Kansas State U**	**2.08**	**30**		Pn	21 20 59.1	+0.4
KSU1				IAmb_Lg		21 21 29.7	
comp=Z,33nm,0.8s							
FNO	**Franklin**	**2.10**	**167**		Pn	21 21 00.0	+1.0
W35A	**Tecumseh**	**2.33**	**158**	Pn	Pn	21 21 02.2	+0.1
WMOK	**Wichita Mounta**	**2.65**	**195**		Pn	21 21 07.5	+0.8
WMOK	**Wichita Mounta**	**2.65**	**195**		Pn	21 21 08.1	+1.5
SMWD	**Samnorwood**	**2.88**	**221**	Pn	Pn	21 21 08.5	-1.1
SMWD				IAmb_Lg		21 21 55.2	
comp=Z,11nm,0.7s							
BGNE	**Belgrade**	**4.09**	**358**		Pn	21 21 26.2	-0.2
DKNS	**Dickens**	**4.37**	**215**	IAmb_Lg		21 22 44.2	
comp=Z,10nm,0.8s							
MGMO	**Mountain Grove**	**4.54**	**90**		Pn	21 21 32.8	+0.3
MGMO				IAmb_Lg		21 22 46.9	
comp=Z,13nm,1.0s							

*DSN **06** 21:23:52.5±2.1,17°07N×39°66E,h10km,mb4.8/9,Error ellipse: s-maj=30.6km s-min=8.9km az=18.0*
*IDC **06** 21:24:00.1±0.9,17°80N×40°20E,h0km,mb4.3/23, mbtmp4.2/27,ML3.6/4,MS4.8/11,Error ellipse: s-maj=20.0km s-min=15.6km az=12.0*
*GCMT **06** 21:24:01.5±0.3,17°97N±0°02×40°07E±0°02,h12km, MW5.1/105,Moment Tensor Solution. s22,c24; s105,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.53±.14; $M_{\theta\theta}$1.56±.12; $M_{\phi\phi}$3.97±.15; $M_{r\theta}$2.34±.56; $M_{\theta\phi}$-1.13±.12; $M_{\phi r}$-0.75±.61; Best double couple: $M_0$5.46500×10^{16} NP1:ϕ_s169.00000°,δ37.00000°, λ-68.00000°. NP2:ϕ_s322.00000°,δ56.00000°, λ-106.00000°. Principal axes: T 4.6820, Plg10.0000°, Azm63.0000°; N 1.5660, Plg13.0000°, Azm331.0000°; P -6.2480, Plg73.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SGS **06** 21:24:01.4,17°81N×40°28E,h13km,Ml3.9*
*NEIC **06** 21:24:02.5±1.5,17°90N±0°07×40°20E±0°09,h10km±1km, mb4.7/72,Error ellipse: s-maj=15.4km s-min=11.9km az=286.0*

ISC 06 21:24:04.5±0.4,17°86N±0°04×40°22E±0°04,h28km,n235, σ1§71/248,mb4.6/74,MS4.9/10,6D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRK03	**Al Birk**	**1.62**	**78**	P	**Pn**	**21 24 27.3**	**-3.9**
BRK03	**Al Birk**	**1.62**	**78**	S	**Sn**	**21 24 47.4**	**-3.8**
FRSS2	**Sair Farasan I**	**1.80**	**123**	P	**Pn**	**21 24 30.0**	**-3.7**
DRBS	**Ad Darb**	**1.98**	**91**	P	**Pn**	**21 24 32.6**	**-3.5**
DRBS	**Ad Darb**	**1.98**	**91**	S	**Sn**	**21 24 56.2**	**-3.8**
FRSS	**Farasan al Kab**	**2.12**	**121**	P	**Pn**	**21 24 34.5**	**-3.6**
MKHL	**Mahalah**	**2.40**	**101**	P	**Pn**	**21 24 37.9**	**-3.9**
MKHL	**Mahalah**	**2.40**	**101**	S	**Sn**	**21 25 05.4**	**-4.8**
AKWA	**Algayed**	**2.44**	**104**	P	**Pn**	**21 24 38.5**	**-3.8**
BESHS	**BESHS**	**2.54**	**101**	P	**Pn**	**21 24 40.3**	**-3.6**
BESHS	**BESHS**	**2.54**	**101**	S	**Sn**	**21 25 08.5**	**-5.5**
JAZS	**Jizan**	**2.69**	**107**	P	**Pn**	**21 24 41.9**	**-4.0**
JAZS	**Jizan**	**2.69**	**107**	S	**Sn**	**21 25 12.5**	**-5.1**
BAHS2	**Abu Rakh**	**3.13**	**17**	P	**Pn**	**21 24 49.9**	**-2.1**
KNGHS	**KNGHS**	**3.14**	**82**	P	**Pn**	**21 24 50.8**	**-1.5**
SHBS		**3.17**	**351**	P	**Pn**	**21 24 48.3**	**-4.2**
FRAS	**Faraa**	**3.20**	**5**	P	**Pn**	**21 24 49.7**	**-3.4**
FDAS		**3.96**	**2**	P	**Pn**	**21 25 01.0**	**-2.3**
MDRAS	**Madrakah**	**4.21**	**357**	P	**Pn**	**21 25 04.3**	**-2.7**
MDRK2	**MDRK2**	**4.41**	**0**	P	**Pn**	**21 25 07.1**	**-2.7**
GHASH	**GHASH**	**4.83**	**0**	P	**Pn**	**21 25 12.7**	**-2.8**
HAJR	**Hajar**	**5.04**	**354**	P	**Pn**	**21 25 15.1**	**-3.2**
ATD	**Arta Tunnel**	**6.78**	**158**		**Pn**	**21 25 42.5**	**+0.3**
ATD	**Arta Tunnel**	**6.78**	**158**	Pn	**Pn**	**21 25 44.9**	**+2.6**
0.2nm,0.3s,baz=351,slow=4.4,SNR=13							
ATD				Sn	**Sn**	**21 27 01.7**	**+3.0**
baz=267,slow=23,SNR=1.3							
RAYN	**Ar Rayn**	**7.50**	**40**		**Pn**	**21 25 51.3**	**-0.7**
RAYN	**Ar Rayn**	**7.50**	**40**	P	**Pn**	**21 25 53.3**	**+1.3**
RAYN				S	**Sn**	**21 27 19.2**	**+3.0**
RAYN	**Ar Rayn**	**7.50**	**40**	P	**Pn**	**21 25 55.3**	**+3.3**
ABTO	**Aybut**	**12.48**	**90**	P	**Pn**	**21 26 59.5**	**-0.8**
EIL	**Elat**	**12.71**	**339**	LR	LR	21 31 03.6	
comp=Z,2μm,19.9s,baz=101,slow=33							
WHFO	**Wadi Hawf**	**12.90**	**88**	P	**Pn**	**21 27 06.8**	**+0.7**
KBD	**Kabd**	**13.18**	**30**	P	**Pn**	**21 27 11.9**	**+2.1**
DOK	**Doka**	**13.23**	**85**	P	**Pn**	**21 27 12.5**	**+1.9**
DOK				S	**Sn**	**21 29 39.3**	**+2.4**
MZR	**Muzera**	**13.44**	**65**	P	**Pn**	**21 27 15.8**	**+2.4**
JRN	**Qarnain Island**	**13.70**	**57**	P	**Pn**	**21 27 17.8**	**+0.9**
MZWR	**Madinat Zayed**	**14.05**	**63**	P	**Pn**	**21 27 23.3**	**+1.6**
ASF	**Jabal al Asfar**	**14.57**	**349**	Pn	**Pn**	**21 27 28.9**	**0.0**
0.2nm,0.3s,baz=1.2,slow=2.5,SNR=3.8							
0.9nm,0.5s							
UMZA	**Um Al Zommool**	**14.82**	**69**	P	**Pn**	**21 27 33.2**	**+1.0**
UMZA				S	**Sn**	**21 30 19.6**	**+4.0**
LODK	**Lodwar**	**15.12**	**199**	Pn	**Pn**	**21 27 36.2**	**-0.1**
AJN	**Ajban**	**15.29**	**62**	P	**P**	**21 27 41.1**	**-1.9**
ASUD	**Al Ashush, Dub**	**15.60**	**62**	P	**P**	**21 27 44.8**	**-1.7**
MMAI	**Mount Meron Ar**	**15.70**	**345**	Pn	**Pn**	**21 27 44.4**	**+0.5**
0.3nm,0.3s,baz=174,slow=12,SNR=9.0							
0.4nm,0.4s							
ALNE	**Al Ain**	**15.76**	**64**	P	**P**	**21 27 46.7**	**-1.5**
SNR=23							
ALNE	**Al Ain**	**15.76**	**64**	*i* P	**P**	**21 27 46.2**	**-2.0**
SNR=15							
FAQ	**Al Faqa, Dubai**	**15.87**	**62**	P	**P**	**21 27 48.4**	**-1.1**
SNR=6.8							
NAZ	**Nazwa, Dubai**	**16.02**	**61**	P	**P**	**21 27 49.9**	**-1.2**
ARQ	**Araqi**	**16.20**	**68**	P	**P**	**21 27 52.5**	**-0.7**
SNR=11							
ASHO	**Ashiyiah**	**16.24**	**63**	P	**P**	**21 27 53.0**	**-0.6**
SNR=22							
ASHO	**Ashiyiah**	**16.24**	**63**	*i* P	**P**	**21 27 51.4**	**-2.2**
SNR=19							
HATD	**Hatta, Dubai**	**16.35**	**62**	P	**P**	**21 27 54.2**	**-0.6**
SNR=21							
HATD				S	**Sn**	**21 30 58.5**	**+5.6**
HATD	**Hatta, Dubai**	**16.35**	**62**	*i* P	**P**	**21 27 53.4**	**-1.4**
SNR=6.8							
SOHO	**SOHO**	**16.45**	**65**	P	**P**	**21 27 55.6**	**-0.3**
SOHO				S	**S**	**21 31 00.9**	**-5.9**
SOHO	**SOHO**	**16.45**	**65**	*i* P	**P**	**21 27 54.5**	**-1.4**
SNR=9.4							
UOSS	**Minazif**	**16.46**	**62**	Pn	**Pn**	**21 27 52.1**	**-1.4**
UOSS				IAmb	IAmb	21 28 08.5	
comp=Z,67nm,1.3s							
UOSS	**Minazif**	**16.46**	**62**	P	**P**	**21 27 54.3**	**-1.7**
UOSS				S	**Sn**	**21 31 00.8**	**+5.3**
UOSS	**Minazif**	**16.46**	**62**	*i* P	**Pn**	**21 27 53.9**	**+0.3**
SNR=7.8							
DQM	**DQM**	**16.52**	**80**	P	**P**	**21 27 56.2**	**-0.5**
MSFE	**Esma-Masafi**	**16.58**	**61**	*i* P	**Pn**	**21 27 54.7**	**-0.4**
SNR=9.5							
MASF	**Masafi**	**16.59**	**60**	P	**P**	**21 27 56.1**	**-1.3**
SNR=6.9							
MASF				S	**Sn**	**21 31 02.1**	**+3.5**
BSY	**Bisya**	**16.65**	**70**	P	**P**	**21 27 57.0**	**-1.2**
SNR=11							
MDH	**Madha**	**16.68**	**61**	P	**P**	**21 27 57.6**	**-0.8**
SNR=12							
MDH	**Madha**	**16.68**	**61**	*i* P	**P**	**21 27 56.8**	**-1.6**
SNR=8.0							
SHME	**Shamm**	**16.86**	**58**	P	**P**	**21 28 01.3**	**+0.9**
HOQ	**Hoqain**	**16.96**	**68**	P	**P**	**21 28 00.9**	**-0.7**
SNR=24							
HOQ				S	**Sn**	**21 31 09.4**	**+1.7**
MHTO	**MHTO**	**17.02**	**77**	P	**Pn**	**21 28 00.1**	**-0.6**
SNR=22							
MHTO				S	**Sn**	**21 31 12.7**	**+3.5**
JMDO	**Jabal Madar**	**17.38**	**72**	P	**P**	**21 28 05.2**	**-1.1**
SNR=13							
JMDO				S	**S**	**21 31 21.9**	**-3.9**
SMDO	**Samad**	**17.48**	**70**	P	**P**	**21 28 07.6**	**+0.2**
SNR=18							
BIDO	**Bidbid**	**17.67**	**68**	P	**P**	**21 28 10.2**	**+0.8**
SNR=10							
BIDO				S	**Sn**	**21 31 27.4**	**+2.6**
WSAR	**Wadi Sarin**	**18.05**	**70**	P	**P**	**21 28 14.3**	**+0.8**
comp=Z,0.3nm,0.3s,baz=258,slow=10,SNR=7.7							
comp=Z,17nm,1.0s							
JASK	**Jask - Hormozg**	**18.20**	**61**	P	**P**	**21 28 16.3**	**+1.0**
SNR=10							
WBK	**Wadi Bani Khal**	**18.21**	**72**	P	**P**	**21 28 16.5**	**+1.0**
SNR=9.7							
WBK				S	**S**	**21 31 40.6**	**-2.0**
JLN	**

RDO			IAmb	IAmb	21 29 44.4	
	comp=Z,17nm,1.2s					
MLR	**Muntele Rosu**	**30.02 340**	P	**P**	**21 30 11.5**	**+0.6**
MLR	**Muntele Rosu**	**30.02 340**	P	**P**	**21 30 11.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=162,slow=3.2					
	comp=Z,1.4nm,0.7s					
KBL	**Kabul**	**30.59 51**	P	**P**	**21 30 15.2**	**-1.0**
KBL	**Kabul**	**30.59 51**	P	**P**	**21 30 18.1**	**+1.8**
KBL			P	**P**	**21 30 18.1**	**+1.8**
BURAR	**Bucovina Array**	**32.13 341**	P	**P**	**21 30 29.8**	**+0.2**
SIMJ	**Simiganj**	**32.53 45**	P	**P**	**21 30 33.3**	**+0.1**
SIMJ			IAmb	IAmb	21 30 55.9	
	comp=Z,13nm,1.4s					
KEST	**Kesra**	**32.62 309**	P	**P**	**21 30 34.9**	**+1.0**
	comp=Z,5.4nm,1.0s,baz=108,slow=9.6,SNR=4.2					
	comp=Z,5.4nm,1.0s					
CHGR	**Chuyangaron**	**32.63 45**	P	**P**	**21 30 34.2**	**+0.2**
TAM	**Tamanrasset**	**32.86 284**	P	**P**	**21 30 36.0**	**-0.3**
TAM			IAmb	IAmb	21 30 44.9	
	comp=Z,9.3nm,1.1s					
NIL	**Nilore**	**33.47 56**	P	**P**	**21 30 40.5**	**-0.9**
NIL			IAmb	IAmb	21 31 14.4	
	comp=Z,9.8nm,1.2s					
NIL	**Nilore**	**33.47 56**	P	**P**	**21 30 42.6**	**+1.2**
NIL			P	**P**	**21 30 42.6**	**+1.2**
GAR	**Garm**	**33.58 45**	P	**P**	**21 30 42.5**	**+0.2**
AKASG	**Malin Array Be**	**33.93 347**	P	**P**	**21 30 44.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=170,slow=7.6,SNR=14					
	comp=Z,0.6nm,0.3s					
DRK	**Karamyk**	**34.82 45**	P	**P**	**21 30 53.9**	**+0.6**
LSZ	**Lusaka**	**35.00 201**	P	**P**	**21 30 54.2**	**-0.6**
LSZ			IAmb	IAmb	21 31 01.9	
	comp=Z,9.7nm,1.5s					
LSZ	**Lusaka**	**35.00 201**	LR	LR	21 45 19.5	
	comp=Z,4μm,18.3s,baz=135,slow=37					
VYHS	**Vyhne**	**35.16 335**	*e*P	**P**	**21 30 56.5**	**+0.7**
LANS	**Liptovska Anna**	**35.45 336**	*e*P	**P**	**21 30 59.0**	**+0.7**
SOKA	**Soboth**	**35.47 330**	*e*P	**P**	**21 31 00.3**	**+1.7**
	comp=Z,6.2nm,1.1s					
RONA	**Rosalia, Austr**	**35.63 332**	*e*P	**P**	**21 31 00.8**	**+1.0**
	comp=Z,10nm,1.4s					
ARSA	**Arzberg**	**35.65 331**	*e*P	**P**	**21 31 01.5**	**+1.5**
	comp=Z,8.1nm,1.1s					
MODS	**Modra-Piesok**	**35.71 334**	*e*P	**P**	**21 31 01.5**	**+0.9**
KK31	**Karatay Array**	**35.92 39**	P	**P**	**21 31 03.5**	**+1.1**
KKAR	**Karatay Array**	**35.92 39**	P	**P**	**21 31 03.5**	**+1.1**
KKAR	**Karatay Array**	**35.92 39**	P	**P**	**21 31 03.1**	**+0.7**
JAVC	**Velka Javorina**	**35.93 334**	*e*P	**P**	**21 31 03.2**	**+0.8**
CONA	**Conrad Observa**	**35.99 332**	*e*P	**P**	**21 31 04.1**	**+1.0**
	comp=Z,5.2nm,1.1s					
OJC	**Ojcow**	**36.20 338**	*e*P	**P**	**21 31 05.1**	**+0.4**
ARSB	**Arslanbob**	**36.51 43**	P	**P**	**21 31 07.9**	**+0.2**
ARSB			IAmb	IAmb	21 31 12.8	
	comp=Z,18nm,1.4s					
KRUC	**Moravsky**	**36.62 334**	*e*P	**P**	**21 31 08.5**	**+0.2**
MORC	**Moravsky Berou**	**36.70 335**	P	**P**	**21 31 08.4**	**-0.6**
MORC	**Moravsky Berou**	**36.70 335**	*e*P	**P**	**21 31 09.5**	**+0.5**
VRAC	**Vranov**	**36.72 334**	P	**P**	**21 31 09.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=137,slow=7.8,SNR=4.0					
	comp=Z,1.3nm,0.5s					
VRAC	**Vranov**	**36.72 334**	*e*P	**P**	**21 31 09.4**	**+0.2**
ABTA	**Abfaltersbach**	**36.76 328**	*e*P	**P**	**21 31 10.4**	**+0.8**
	comp=Z,7.3nm,1.1s					
OBN	**Obninsk**	**37.29 357**	P	**P**	**21 31 13.2**	**-0.6**
OBN			IAmb	IAmb	21 31 18.4	
	comp=Z,39nm,1.4s					
OBN	**Obninsk**	**37.29 357**	P	**P**	**21 31 13.8**	**0.0**
	comp=Z,3.8nm,0.3s,baz=118,slow=6.1,SNR=6.0					
	comp=Z,3.8nm,0.3s					
TORD	**Torodi Ar. Bea**	**37.37 268**	P	**P**	**21 31 13.7**	**-1.4**
TORD			IAmb	IAmb	21 31 22.4	
	comp=Z,14nm,1.4s					
GEC2	**GERESS Array S**	**37.65 331**	P	**P**	**21 31 15.8**	**-1.3**
GEC2			IAmb	IAmb	21 31 18.4	
	comp=Z,26nm,1.4s					
GERES	**GERESS Array B**	**37.65 331**	P	**P**	**21 31 15.7**	**-1.3**
GERES	**GERESS Array B**	**37.65 331**	P	**P**	**21 31 17.1**	**0.0**
	comp=Z,3.6nm,1.0s,baz=139,slow=12,SNR=8.4					
	comp=Z,3.6nm,1.0s					
KSH	**Kashi**	**37.71 48**	P	**P**	**21 31 15.9**	**-2.0**
KSH			pmax	pmax		
	comp=Z,6.0nm,1.7s					
MNK	**Minsk**	**37.79 348**	*i* P	**P**	**21 31 17.8**	**-0.3**
	comp=E,24nm,0.8s					
MNK			*i* P	**P**	**21 31 17.8**	**-0.3**
	comp=N,17nm,0.8s					
MNK			*i* P	**P**	**21 31 17.8**	**-0.3**
	comp=Z,10.0nm,0.6s,baz=160					
MNK			*i* PP	**PP**	**21 32 43.1**	**-1.5**
MNK			*i* PPP	PPP	21 32 59.9	
MNK			*i* S	**S**	**21 37 08.0**	**+0.9**
MNK			*i* SS	**SnSn**	**21 39 48.9**	**+0.4**
MNK			*i* SSS	SSS	21 40 04.9	
MNK			*i* LR	LR	21 42 44.9	
MNK			*i* LRM	MLR	21 45 11.7	
	comp=N,2μm,21.4s					
MNK			*i* LRM	MLR	21 46 11.3	
	comp=E,2μm,21.5s					
MNK			*i* LRM	MLR	21 46 14.5	
	comp=Z,3μm,20.4s					
FETA	**Feichten**	**37.86 327**	*e*P	**P**	**21 31 19.9**	**+0.8**
	comp=Z,5.6nm,1.4s					
KHC	**Kasperske Hory**	**37.91 331**	*e*P	**P**	**21 31 19.5**	**+0.2**
KSP	**Ksiaz**	**38.03 335**	*e*P	**P**	**21 31 20.6**	**+0.3**
AAK	**Ala-Archa**	**38.14 42**	P	**P**	**21 31 21.5**	**0.0**
AAK	**Ala-Archa**	**38.14 42**	P	**P**	**21 31 22.2**	**+0.7**
FRU1	**Bishkek**	**38.31 42**	P	**P**	**21 31 23.1**	**+0.3**
FRU1			IAmb	IAmb	21 31 48.7	
	comp=Z,16nm,1.3s					
NACGM	**Naroch**	**38.39 348**	*e*P	**P**	**21 31 23.0**	**-0.1**
	baz=159					
SUW	**Suwalki**	**38.42 344**	*e*P	**P**	**21 31 23.6**	**+0.2**
SUW	**Suwalki**	**38.42 344**	P	**P**	**21 31 22.4**	**-1.0**
DAVA	**Damuels**	**38.48 326**	P	**P**	**21 31 24.3**	**0.0**
	comp=Z,12nm,1.3s					
BOOM	**Boomskoye usch**	**39.01 43**	P	**P**	**21 31 29.6**	**+0.8**
BOOM			IAmb	IAmb	21 31 55.8	
	comp=Z,16nm,1.3s					
BRG	**Berggiesshubel**	**39.02 334**	*e*P	**P**	**21 31 28.8**	**+0.2**
BRG			Amp		21 31 30.2	
	comp=Z,7.8nm,1.2s					
CLL	**Collm**	**39.74 333**	*i* P	**P**	**21 31 34.1**	**-0.5**
CLL			*i* x	x	21 31 39.0	
CLL			*i* x	x	21 31 44.6	
WUS	**Wushi**	**40.66 47**	P	**P**	**21 31 41.9**	**-0.6**
PALK	**Pallekele**	**40.80 100**	LR	LR	21 44 50.6	
	comp=Z,845nm,21.6s,baz=295,slow=31					
ARTI	**Arti**	**40.83 15**	P	**P**	**21 31 43.0**	**-0.6**
ARTI			IAmb	IAmb	21 31 55.0	
	comp=Z,22nm,1.4s					
BRVK	**Borovoye**	**42.22 27**	P	**P**	**21 31 54.6**	**-0.3**
BRVK			IAmb	IAmb	21 32 08.9	
	comp=Z,14nm,1.5s					
BRVK	**Borovoye**	**42.22 27**	P	**P**	**21 31 55.3**	**+0.4**
BRVK			P	**P**	**21 31 55.3**	**+0.4**
BVAR	**Borovoye Array**	**42.24 27**	P	**P**	**21 31 55.5**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=224,slow=4.0,SNR=9.3					
	comp=Z,3.3nm,1.0s					
MEM	**Membach**	**42.55 328**	*d*P	**P**	**21 31 57.7**	**+0.1**
	comp=Z,9.4nm,1.3s					
DOU	**Dourbes**	**42.97 327**	*d*P	**P**	**21 32 00.6**	**-0.4**
ESDC	**Sonseca Array**	**43.87 309**	P	**P**	**21 32 08.6**	**0.0**
ESDC	**Sonseca Array**	**43.87 309**	P	**P**	**21 32 08.8**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=98,slow=11,SNR=8.0					
	comp=Z,3.4nm,1.0s					
KURBB	**Kurchatov Arra**	**44.68 34**	P	**P**	**21 32 15.0**	**+0.2**
	comp=Z,4.6nm,1.1s,baz=238,slow=8.2,SNR=10					
KURK	**Kurchatov**	**44.78 34**	P	**P**	**21 32 16.3**	**+0.7**
KURK			IAmb	IAmb	21 32 42.5	
	comp=Z,12nm,1.4s					
KURK	**Kurchatov**	**44.78 34**	P	**P**	**21 32 17.8**	**+2.3**
MAKZ	**Makanchi**	**44.80 40**	P	**P**	**21 32 16.3**	**+0.4**
MAKZ			IAmb	IAmb	21 32 18.5	
	comp=Z,17nm,1.5s					
LBTB	**Lobatse**	**44.93 199**	P	**P**	**21 32 17.2**	**0.0**
LBTB			IAmb	IAmb	21 32 23.3	
	comp=Z,22nm,1.4s					
LBTB	**Lobatse**	**44.93 199**	LR	LR	21 52 39.1	
	comp=Z,794nm,18.4s,baz=26,slow=38					
MK31	**Makanchi Array**	**44.99 41**	P	**P**	**21 32 18.3**	**+0.9**
MK31			IAmb	IAmb	21 32 19.9	
	comp=Z,14nm,1.5s					
MKAR	**Makanchi Array**	**44.99 41**	P	**P**	**21 32 18.0**	**+0.6**
MKAR	**Makanchi Array**	**44.99 41**	P	**P**	**21 32 17.6**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=238,slow=7.0,SNR=16					
	comp=Z,2.5nm,1.0s					
DBIC	**Dimbokro**	**45.31 262**	P	**P**	**21 32 20.2**	**-0.1**
DBIC			IAmb	IAmb	21 32 27.3	
	comp=Z,17nm,1.2s					
DBIC	**Dimbokro**	**45.31 262**	P	**P**	**21 32 19.4**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=63,slow=7.3,SNR=4.4					
DBIC			LR	LR	21 51 53.9	
	comp=Z,3μm,19.6s,baz=153,slow=37					
	comp=Z,4.8nm,0.8s					
HFS	**Hagfors**	**46.34 342**	P	**P**	**21 32 26.8**	**-1.0**
	comp=Z,4.6nm,1.0s,baz=133,slow=12,SNR=2.8					
	comp=Z,4.6nm,1.0s					
WMQ	**Urumqi**	**47.45 46**	⇓*i* P	**P**	**21 32 38.9**	**+2.1**
WMQ			pmax	pmax		
	comp=Z,21nm,2.1s					
LSA	**Lhasa**	**47.73 66**	P	**P**	**21 32 39.0**	**-0.8**
LSA			IAmb	IAmb	21 33 13.4	
	comp=Z,9.3nm,1.4s					
LSA	**Lhasa**	**47.73 66**	P	**P**	**21 32 40.3**	**+0.5**
NB2	**NORSAR Subarra**	**47.81 341**	P	**P**	**21 32 38.5**	**-0.8**
	comp=Z,32nm,1.4s,baz=142,slow=7.9					
NB2	**NORSAR Subarra**	**47.81 341**	P	**P**	**21 32 38.5**	**-0.8**
	baz=142,slow=7.9					
NOA	**NORSAR Array B**	**47.81 341**	P	**P**	**21 32 38.7**	**-0.5**
	comp=Z,7.6nm,1.1s,baz=138,slow=8.2,SNR=6.5					
	comp=Z,7.6nm,1.1s					
BRDH	**Bariadhala**	**48.29 75**	LR	LR	21 56 56.1	
	comp=Z,1μm,18.5s,baz=280,slow=41					
SHL	**Shillong**	**48.36 71**	P	**P**	**21 32 43.7**	**-0.6**
SHL	**Shillong**	**48.36 71**	P	**P**	**21 32 44.4**	**+0.1**
	SNR=7.5					
ZAA0	**Zalesovo Array**	**49.70 33**	P	**P**	**21 32 53.7**	**-0.2**
ZALV	**Zalesovo Beam**	**49.70 33**	P	**P**	**21 32 53.7**	**-0.2**
ZALV	**Zalesovo Beam**	**49.70 33**	P	**P**	**21 32 53.9**	**0.0**
	comp=Z,8.5nm,1.0s,baz=237,slow=5.1,SNR=26					
	comp=Z,8.5nm,1.0s					
PBA	**Port Blair**	**51.03 89**	P	**P**	**21 33 05.2**	**+0.7**
PBA	**Port Blair**	**51.03 89**	P	**P**	**21 33 06.6**	**+2.1**
	SNR=6.0					
GOMU	**GeErMu**	**51.28 58**	P	**P**	**21 33 08.7**	**+2.2**
GOMU			pP	sP	21 33 15.4	-2.5
GOMU			sP	pP	21 33 20.3	+5.6
GOMU			pmax	pmax		
	comp=Z,25nm,1.4s					
SUR	**Sutherland**	**53.30 201**	LR	LR	21 56 10.4	
	comp=Z,1μm,18.2s,baz=57,slow=36					
BSI	**Banda Aceh**	**55.12 96**	P	**P**	**21 33 34.6**	**-0.1**
GTA	**Gaotai**	**55.52 54**	*e*P	**P**	**21 33 38.1**	**+0.7**
GTA			pP	pP	21 33 43.7	-1.9
GTA			pmax	pmax		
	comp=Z,12nm,1.5s					
CHTO	**Chiang Mai**	**55.52 79**	P	**P**	**21 33 37.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**55.58 80**	P	**P**	**21 33 38.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**55.58 80**	P	**P**	**21 33 38.5**	**+0.6**
	comp=Z,4.9nm,1.2s,baz=286,slow=8.3,SNR=22					
CMAR			LR	LR	21 58 34.1	
	comp=Z,181nm,20.0s,baz=335,slow=37					
	comp=Z,4.9nm,1.2s					
PZH	**PanZhiHua**	**57.16 70**	P	**P**	**21 33 51.2**	**+1.9**
PZH			pmax	pmax		
	comp=Z,7.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,100nm,4.7s					
KMI	**Kunming**	**58.19 71**	⇓P	**P**	**21 33 58.4**	**+1.7**
KMI			pmax	pmax		
	comp=Z,11nm,1.5s					
LZH	**Lanzhou**	**58.57 58**	*e*P	**P**	**21 34 00.8**	**+1.7**
LZH			pP	pP	21 34 05.2	-2.2
LZH			pmax	pmax		
	comp=Z,17nm,1.2s					
RPSI	**Rantau Prapat**	**59.44 98**	P	**P**	**21 34 05.3**	**+0.1**
KULM	**Kulim**	**60.27 94**	P	**P**	**21 34 11.3**	**+0.4**
SONM	**Songino Array**	**61.02 45**	P	**P**	**21 34 15.8**	**0.0**
SONM			IAmb	IAmb	21 34 20.4	
	comp=Z,13nm,1.4s					
SONM	**Songino Array**	**61.02 45**	P	**P**	**21 34 16.5**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=262,slow=7.1,SNR=24					
	comp=Z,3.7nm,1.0s					
ULN	**Ulaanbaatar**	**61.47 45**	P	**P**	**21 34 18.7**	**-0.1**
ULN			IAmb	IAmb	21 34 42.0	
	comp=Z,6.9nm,1.3s					
GYA	**Guiyang**	**61.55 69**	P	**P**	**21 34 20.3**	**+0.6**
GYA			pmax	pmax		
	comp=Z,22nm,1.2s					
PPI	**Padang Panjang**	**61.88 100**	P	**P**	**21 34 22.6**	**+0.7**
	comp=Z,16nm,2.3s					
XAN	**Xi'an**	**62.80 60**	P	**P**	**21 34 28.3**	**+0.5**
XAN			pmax	pmax		
	comp=Z,15nm,1.5s					
ENH	**Enshi**	**63.60 65**	P	**P**	**21 34 33.6**	**+0.4**
MYKOM	**Kota Tinggi**	**64.39 97**	P	**P**	**21 34 38.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**64.55 53**	*e*P	**P**	**21 34 40.7**	**+1.4**
HHC			pmax	pmax		
	comp=Z,16nm,0.5s					
HHC			pmax	pmax		
	comp=Z,230nm,4.6s					
HNS	**HongShan**	**67.22 56**	⇓P	P	21 35 00.8	+4.4
HNS			pmax	pmax		
	comp=Z,9.0nm,1.7s					
BJT	**Baijiatuau**	**68.11 53**	P	**P**	**21 35 02.1**	**+0.1**
BJT			IAmb	IAmb	21 35 12.5	
	comp=Z,15nm,1.5s					
BJI	**Beijing**	**68.11 53**	P	**P**	**21 35 03.6**	**+1.6**
BJI			pmax	pmax		
	comp=Z,5.0nm,1.8s					
HIA	**Hailar**	**69.89 43**	P	**P**	**21 35 12.9**	**0.0**
HIA			IAmb	IAmb	21 35 42.0	
	comp=Z,6.3nm,0.9s					
KSM	**Kuching**	**70.60 95**	P	**P**	**21 35 18.5**	**+0.6**
NJ2	**Nanjing**	**71.31 62**	*e*P	**P**	**21 35 22.4**	**+0.5**
NJ2			pmax	pmax		
	comp=Z,16nm,1.0s					
SBUM	**Sibu**	**72.12 93**	P	**P**	**21 35 27.9**	**+0.9**
SBUM			IAmb	IAmb	21 35 29.8	
	comp=Z,11nm,1.5s					
TIXI	**Tiksi**	**72.77 19**	P	**P**	**21 35 29.2**	**-0.6**
TIXI			IAmb	IAmb	21 35 31.0	
	comp=Z,6.7nm,1.1s					
YAK	**Yakutsk**	**74.16 29**	P	**P**	**21 35 37.3**	**-0.9**
HEH	**HeiHe**	**74.71 42**	*e*P	**P**	**21 35 40.3**	**-1.3**
HEH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KSAR	**Wonju Array Be**	**77.56 55**	P	**P**	**21 35 57.9**	**-0.2**
KSRS	**Korea Array**	**77.58 55**	LR	LR	22 14 25.7	
	comp=Z,310nm,19.7s,baz=10.0,slow=39					
USRK	**Ussuriysk Ar.**	**79.01 47**	P	**P**	**21 36 05.8**	**-0.2**
PCI	**Palu**	**80.39 94**	P	**P**	**21 36 15.5**	**+1.4**
RES	**Resolute Bay**	**83.43 349**	P	**P**	**21 36 27.9**	**-1.0**
	comp=Z,1.6nm,1.1s,baz=43,slow=12,SNR=4.1					
	comp=Z,1.6nm,1.1s					
SEY	**Seymchan**	**83.88 25**	P	**P**	**21 36 30.3**	**-1.0**
	comp=Z,4.2nm,1.0s,baz=314,slow=4.7,SNR=9.3					
	comp=Z,4.2nm,1.0s					
MA2	**Magadan**	**84.71 29**	P	**P**	**21 36 35.6**	**-0.1**
SCHQ	**Schefferville**	**85.01 326**	P	**P**	**21 36 37.3**	**-0.1**
	comp=Z,5.6nm,1.0s,baz=69,slow=8.6,SNR=2.9					
	comp=Z,5.6nm,1.0s					
MJAR	**Matsushiro Arr**	**85.75 53**	P	**P**	**21 36 41.2**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=298,slow=2.7,SNR=5.6					
	comp=Z,3.0nm,1.0s					
ELIB	**Princess Elisa**	**90.31 185**	*d*P	**P**	**21 37 05.0**	**+2.5**
SHEM	**Shemya Is, Ala**	**99.18 26**	LR	LR	22 28 02.0	
	comp=Z,405nm,18.2s,baz=88,slow=39					

IDC 06 21:28:02.0±3.4, 32°.09S×177°.89W, h0km, mb3.6/2, mbtmp3.6/3, ML2.7/1, Error ellipse: s-maj=77.4km s-min=38.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.39**	**212**	Pn	Pn	21 29 50.8	-0.3
	0.1nm,0.3s,baz=8.2,slow=11,SNR=1.5						
URZ				Sn	Sn	21 31 15.2	-0.5
	0.6nm,0.3s,baz=215,slow=10,SNR=2.2						
	4.1nm,0.8s						
ASAR	**Alice Springs**	**43.14**	**269**	P	P	21 36 04.8	+0.3
	0.2nm,0.4s,baz=108,slow=7.4,SNR=4.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.28**	**274**	P	P	21 36 13.6	-0.2
	0.5nm,0.3s,baz=113,slow=7.9,SNR=9.6						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc	PKPdf	21 47 44.3	+0.8
	4.7nm,1.1s,baz=64,slow=3.2,SNR=3.6						

IDC 06 21:32:36.7±9.1, 17°.91N×146°.03E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=334.3km s-min=29.3km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.33**	**198**	P	P	21 40 07.7	0.0
	0.6nm,0.5s,baz=20,slow=8.3,SNR=8.4						
	0.6nm,0.5s						
SONM	**Songino Array**	**43.95**	**322**	P	P	21 40 46.7	+1.1
	0.7nm,0.6s,baz=132,slow=6.9,SNR=6.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**59.23**	**314**	P	P	21 42 38.9	-1.0
	0.6nm,0.5s,baz=92,slow=8.2,SNR=12						
	0.6nm,0.5s						

*IDC **06** 21:32:51.4±1.1, 35°.10N×32°.62E, h64km±16km, mb3.7/5, mbtmp3.9/12, Error ellipse: s-maj=14.7km s-min=8.5km az=50.0*

*GRAL **06** 21:32:52.6±0.6, 35°.00N×32°.93E, h4km±166km, MD3.6*

*GII **06** 21:32:52.5±0.0, 35°.08N×32°.75E, h40km, Mws3.4, confirmed*

*ISK **06** 21:32:53.9, 35°.34N×32°.88E, h27km, ML3.7/31*

*AFAD **06** 21:32:53.4, 35°.39N×32°.85E, h38km±1km, MW3.7*

*NIC **06** 21:32:53.4, 35°.19N×32°.81E, h53km±2km, Ml3.4/9*

ISC 06 21:32:52.1±0.8, 35°.17N±0°.02×32°.78E±0°.03, h65km±5km, n148, σ1°15/177, mb3.9/5, 7C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEF	**Lefka**	**0.10**	**116**	Pg	**Pn**	**21 33 01.5**	**-0.3**
LEF	**Lefka**	**0.10**	**116**	P	**Pn**	**21 33 01.9**	**+0.1**
ALFC	**Alefka**	**0.14**	**266**	⇑*i* P	**Pn**	**21 33 01.8**	**-0.2**
ALFC				S	**Sn**	**21 33 08.9**	**-0.2**
ALFC				AML	AML	21 33 09.3	
	74nm,0.3s						
ALFC				AML	AML	21 33 09.7	
	42nm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**0.21**	**50**	Pg	**Pn**	**21 33 02.6**	**+0.4**
AKMS	**Akamas**	**0.39**	**248**	⇓*i* P	**Pn**	**21 33 04.0**	**+0.5**
AKMS				S	**Sn**	**21 33 12.5**	**+0.7**
AKMS				AML	AML	21 33 16.6	
	21nm,0.3s						
AKMS				AML	AML	21 33 17.1	
	25nm,0.4s						
NATA	**Nata**	**0.42**	**204**	⇑*e*P	**Pn**	**21 33 04.7**	**+0.9**
NATA				S	**Sn**	**21 33 14.0**	**+1.8**
NATA				AML	AML	21 33 21.8	
	19nm,0.4s						
NATA				AML	AML	21 33 23.4	
	18nm,0.9s						
APOL	**The Sanctuary**	**0.50**	**172**	⇑*i* P	**Pn**	**21 33 04.9**	**+0.4**
APOL				S	**Sn**	**21 33 14.8**	**+1.3**
APOL				AML	AML	21 33 23.3	
	3.7nm,0.6s						
APOL				AML	AML	21 33 26.0	
	5.0nm,0.4s						
CSS	**Mathiatis**	**0.50**	**114**	Pg	**Pn**	**21 33 04.5**	**+0.1**
CSS				Sg	**Sn**	**21 33 13.7**	**+0.2**
CSS	**Mathiatis**	**0.50**	**114**	P	**Pn**	**21 33 04.0**	**-0.5**
CSS	**Mathiatis**	**0.50**	**114**	⇑*i* P	**Pn**	**21 33 04.6**	**+0.1**
CSS				S	**Sn**	**21 33 14.1**	**+0.6**
CSS				AML	AML	21 33 20.0	
	5.0nm,0.4s						
CSS				AML	AML	21 33 21.4	
	5.6nm,0.6s						
ATHAL	**Athalassa**	**0.51**	**93**	⇑*i* P	**Pn**	**21 33 04.9**	**+0.3**
ATHAL				S	**Sn**	**21 33 13.9**	**+0.2**
ATHAL				AML	AML	21 33 21.7	
	15nm,0.5s						
ATHAL				AML	AML	21 33 21.7	
	9.9nm,0.5s						
ASGA	**Asgata**	**0.54**	**134**	⇑*i* P	**Pn**	**21 33 05.1**	**+0.2**
ASGA				S	**Sn**	**21 33 14.7**	**+0.4**
ASGA				AML	AML	21 33 22.1	
	3.2nm,0.5s						
ASGA				AML	AML	21 33 25.3	
	4.6nm,0.5s						
AKIN	**Akıncılar- Kıb**	**0.59**	**105**	Pg	**Pn**	**21 33 06.2**	**+0.8**
AKIN				Sg	**Sn**	**21 33 15.7**	**+0.6**
LFK	**Lefkose**	**0.63**	**79**	Pg	**Pn**	**21 33 06.1**	**+0.2**
MVOU	**Mavrovouni**	**0.72**	**102**	⇑*i* P	**Pn**	**21 33 07.1**	**+0.2**
MVOU				S	**Sn**	**21 33 17.8**	**+0.1**
MVOU				AML	AML	21 33 18.5	
	9.0nm,0.4s						
MVOU				AML	AML	21 33 19.3	
	4.1nm,0.5s						
LAR1C	**Larnaka City C**	**0.73**	**109**	P	**Pn**	**21 33 08.2**	**+1.2**
LAR1C				S	**Sn**	**21 33 18.4**	**+0.5**
BOZY	**Bozyazi-Mersin**	**0.95**	**10**	Pg	**Pn**	**21 33 09.6**	**-0.2**
BOZY				Sg	**Sn**	**21 33 20.8**	**-2.0**
PAR1C	**Paralimni Civi**	**0.99**	**97**	P	**Pn**	**21 33 11.4**	**+1.1**
TEKE	**Tekeli-Mersin**	**1.01**	**16**	Pg	**Pn**	**21 33 10.1**	**-0.4**
PARAL	**Paralimni**	**1.05**	**99**	P	**Pn**	**21 33 12.3**	**+1.3**
PARAL				S	**Sn**	**21 33 27.3**	**+2.2**
PARAL				AML	AML	21 33 31.4	
	2.3nm,0.8s						
PARAL				AML	AML	21 33 32.0	
	2.2nm,0.5s						
YORU	**Yoruktepe-Mers**	**1.11**	**27**	Pg	**Pn**	**21 33 11.3**	**-0.5**
GAZI	**Gazipasa**	**1.13**	**341**	Pg	**Pn**	**21 33 11.8**	**-0.2**
GAZI	**Gazipasa**	**1.13**	**341**	P	**Pn**	**21 33 11.9**	**-0.2**
GAZI				S	**Sn**	**21 33 24.8**	**-2.2**
GAZI				*i* AML	AML	21 33 26.0	
	comp=E,918nm,0.3s						
AKK1	**Akkuyu-Mersin**	**1.16**	**32**	Pg	**Pn**	**21 33 12.4**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.18**	**32**	Pg	**Pn**	**21 33 12.4**	**-0.2**
OREN	**Orenkoy-Mersin**	**1.18**	**28**	Pg	**Pn**	**21 33 12.1**	**-0.6**
GULN	**MERSIN_Gulnar**

BEIL	**Beino**	**2.87 102**	*e*P	**Pn**	**21 33 35.8**	**+0.2**
BEIL			*e*S	**Sn**	**21 34 07.6**	**-1.4**
HNTI	**Hanita**	**2.88 136**	P	**Pn**	**21 33 35.5**	**-0.1**
HNTI	**Hanita**	**2.88 136**	S	**Sn**	**21 34 08.6**	**-0.4**
ZAHL	**Zahle**	**2.88 116**	*e*P	**Pn**	**21 33 35.6**	**-0.1**
BCK	**Bucak**	**2.89 323**	Pn	**Pn**	**21 33 38.7**	**+2.8**
QRWL	**Qaraoun**	**2.90 123**	*e*P	**Pn**	**21 33 35.5**	**-0.4**
RCY	**Rachaya**	**3.03 122**	*e*P	**Pn**	**21 33 37.5**	**-0.3**
MMC7	**Mount Meron ar**	**3.05 134**	P	**Pn**	**21 33 38.3**	**+0.3**
MMC1	**Mount Meron ar**	**3.05 134**	P	**Pn**	**21 33 36.7**	**-1.3**
SHBL	**Chebaa**	**3.05 126**	*e*P	**Pn**	**21 33 38.0**	**-0.1**
MMA0	**Mount Meron ar**	**3.06 134**	P	**Pn**	**21 33 38.4**	**+0.3**
MMA0B	**Mount Meron ar**	**3.06 134**	P	**Pn**	**21 33 38.1**	**0.0**
MMA0B	**Mount Meron ar**	**3.06 134**	S	**Sn**	**21 34 13.3**	**-0.3**
MMAI	**Mount Meron Ar**	**3.06 134**	P	**Pn**	**21 33 38.4**	**+0.3**
	24nm,0.2s,baz=302,slow=12,SNR=404					
MMAI			S	**Sn**	**21 34 13.7**	**+0.1**
	22nm,0.3s,baz=292,slow=13,SNR=15					
MMB1	**Mount Meron ar**	**3.06 134**	P	**Pn**	**21 33 37.1**	**-1.1**
DOGA	**KONYA_Doganhis**	**3.07 343**	P	**Pn**	**21 33 40.4**	**+2.1**
GEM	**Giv'at Ha'Em**	**3.09 128**	P	**Pn**	**21 33 38.6**	**+0.2**
GEM	**Giv'at Ha'Em**	**3.09 128**	S	**Sn**	**21 34 13.0**	**-1.1**
GEM	**Giv'at Ha'Em**	**3.09 128**	P	**Pn**	**21 33 39.5**	**+1.1**
KNIK	**Mula-Seydike**	**3.09 304**	P	**Pn**	**21 33 40.1**	**+1.6**
KNIK			S	**Sn**	**21 34 12.5**	**-1.9**
KNIK			*i* AML	AML	21 34 17.0	
	comp=N,90nm,0.3s					
NATI	**Neve Ativ**	**3.10 127**	P	**Pn**	**21 33 39.1**	**+0.5**
NATI	**Neve Ativ**	**3.10 127**	S	**Sn**	**21 34 14.1**	**-0.4**
NATI	**Neve Ativ**	**3.10 127**	P	**Pn**	**21 33 39.3**	**+0.7**
ALIN	**Konya, Altinte**	**3.13 1**	P	**Pn**	**21 33 39.0**	**-0.1**
FKH	**Fakeheh**	**3.13 106**	*e*P	**Pn**	**21 33 39.3**	**+0.2**
OFRI	**`Ofer**	**3.13 143**	P	**Pn**	**21 33 39.1**	**0.0**
OFRI	**`Ofer**	**3.13 143**	S	**Sn**	**21 34 14.6**	**-0.8**
OFRI	**`Ofer**	**3.13 143**	P	**Pn**	**21 33 39.7**	**+0.6**
AKO	**Adana**	**3.15 42**	P	**Pn**	**21 33 39.9**	**+0.6**
BLGI	**Bet Lehem HaGe**	**3.15 140**	P	**Pn**	**21 33 39.7**	**+0.4**
BLGI	**Bet Lehem HaGe**	**3.15 140**	S	**Sn**	**21 34 15.3**	**-0.4**
IZZE	**Mula-Seydike**	**3.15 295**	P	**Pn**	**21 33 39.0**	**-0.3**
IZZE			S	**Sn**	**21 34 13.1**	**-2.7**
ISP	**Isparta**	**3.21 326**	P	**Pn**	**21 33 42.0**	**+1.7**
RHAN	**Hatay/Reyhanl**	**3.30 70**	P	**Pn**	**21 33 40.7**	**-0.6**
KSHT	**Keshet**	**3.33 130**	P	**Pn**	**21 33 42.3**	**+0.5**
KSHT	**Keshet**	**3.33 130**	S	**Sn**	**21 34 20.3**	**+0.1**
KOZT	**Kozan**	**3.38 46**	Pn	**Pn**	**21 33 43.1**	**+0.7**
SHMJ	**Saham**	**3.48 134**	P	**Pn**	**21 33 45.4**	**+1.6**
MMLI	**Mount Malkishu**	**3.50 140**	P	**Pn**	**21 33 44.2**	**+0.1**
MMLI	**Mount Malkishu**	**3.50 140**	S	**Sn**	**21 34 24.1**	**-0.3**
QRNJ	**Al-Qirein**	**3.66 140**	P	**Pn**	**21 33 48.1**	**+1.9**
SALP	**Salfit**	**3.69 146**	P	**Pn**	**21 33 46.9**	**+0.3**
SALP	**Salfit**	**3.69 146**	S	**Sn**	**21 34 28.7**	**-0.2**
SALP	**Salfit**	**3.69 146**	P	**Pn**	**21 33 48.1**	**+1.4**
HMDT	**Nahal Hemdat**	**3.70 141**	P	**Pn**	**21 33 47.0**	**+0.2**
HMDT	**Nahal Hemdat**	**3.70 141**	S	**Sn**	**21 34 29.1**	**-0.1**
HMDT	**Nahal Hemdat**	**3.70 141**	P	**Pn**	**21 33 48.7**	**+1.9**
UJAP	**Al Uja**	**3.91 144**	P	**Pn**	**21 33 49.9**	**+0.2**
UJAP	**Al Uja**	**3.91 144**	S	**Sn**	**21 34 34.1**	**-0.2**
AMAZ	**Amatzia**	**4.04 153**	P	**Pn**	**21 33 52.4**	**+0.9**
AMAZ	**Amatzia**	**4.04 153**	S	**Sn**	**21 34 36.9**	**-0.7**
DSI	**Dead Sea**	**4.20 148**	P	**Pn**	**21 33 53.8**	**+0.2**
DSI	**Dead Sea**	**4.20 148**	S	**Sn**	**21 34 40.9**	**-0.4**
DSI	**Dead Sea**	**4.20 148**	P	**Pn**	**21 33 51.7**	**-1.9**
YTIR	**Yattir**	**4.27 152**	P	**Pn**	**21 33 55.1**	**+0.4**
YTIR	**Yattir**	**4.27 152**	S	**Sn**	**21 34 43.0**	**-0.3**
KZIT	**Kziot**	**4.46 162**	P	**Pn**	**21 33 57.4**	**+0.2**
KZIT	**Kziot**	**4.46 162**	S	**Sn**	**21 34 47.0**	**-0.8**
GHAJ	**Ghor Haditha**	**4.50 148**	P	**Pn**	**21 33 58.1**	**+0.3**
GHAJ	**Ghor Haditha**	**4.50 148**	S	**Sn**	**21 34 48.4**	**-0.5**
GHAJ	**Ghor Haditha**	**4.50 148**	P	**Pn**	**21 33 59.5**	**+1.7**
ASF	**Jabal al Asfar**	**4.55 130**	P	**Pn**	**21 33 59.5**	**+1.0**
	6.8nm,0.3s,baz=36,slow=6.3,SNR=17					
ASF			S	**Sn**	**21 34 53.0**	**+2.8**
	26nm,0.3s,baz=101,slow=23,SNR=12					
ASF	**Jabal al Asfar**	**4.55 130**	P	**Pn**	**21 33 59.8**	**+1.2**
BRTR	**Keskin Array B**	**4.60 8**	P	**Pn**	**21 34 00.8**	**+1.5**
	2.4nm,0.6s,baz=182,slow=16,SNR=20					
BRTR			S	**Sn**	**21 34 52.8**	**+1.3**
	1.5nm,0.3s,baz=191,slow=23,SNR=7.4					
ZFRI	**Zfri**	**5.02 156**	P	**Pn**	**21 34 04.9**	**0.0**
ZFRI	**Zfri**	**5.02 156**	S	**Sn**	**21 35 00.5**	**-1.1**
ZFRI	**Zfri**	**5.02 156**	P	**Pn**	**21 34 07.3**	**+2.4**
PRNI	**Paran**	**5.15 158**	P	**Pn**	**21 34 07.0**	**+0.2**
PRNI	**Paran**	**5.15 158**	S	**Sn**	**21 35 03.4**	**-1.4**
PRNI	**Paran**	**5.15 158**	P	**Pn**	**21 34 05.2**	**-1.5**
HRFI	**Mount Harif**	**5.46 159**	P	**Pn**	**21 34 11.0**	**+0.1**
HRFI	**Mount Harif**	**5.46 159**	S	**Sn**	**21 35 11.0**	**-1.4**
HRFI	**Mount Harif**	**5.46 159**	P	**Pn**	**21 34 09.9**	**-1.0**
MBRI	**Mt Berech**	**5.65 161**	P	**Pn**	**21 34 14.0**	**+0.3**
MBRI	**Mt Berech**	**5.65 161**	S	**Sn**	**21 35 17.1**	**-0.1**
MBRI	**Mt Berech**	**5.65 161**	P	**Pn**	**21 34 15.8**	**+2.2**
EIL	**Elat**	**5.78 161**	P	**Pn**	**21 34 15.5**	**+0.2**
	7.4nm,0.3s,baz=344,slow=4.6,SNR=32					
EIL			S	**Sn**	**21 35 18.1**	**-2.1**
	20nm,0.5s,baz=98,slow=16,SNR=8.2					
EIL	**Elat**	**5.78 161**	P	**Pn**	**21 34 15.5**	**+0.2**
EIL	**Elat**	**5.78 161**	S	**Sn**	**21 35 19.1**	**-1.1**
APE	**Apeiranthos**	**6.16 290**	P	**Pn**	**21 34 20.8**	**+0.3**
IDI	**Anoyia**	**6.46 273**	P	**Pn**	**21 34 24.1**	**-0.4**
	8.2nm,0.2s,baz=94,slow=16,SNR=77					
IDI			S	**Sn**	**21 35 32.5**	**-4.3**
	22nm,0.3s,baz=295,slow=19,SNR=14					
AKASG	**Malin Array Be**	**15.74 352**	P	**Pn**	**21 36 29.7**	**+0.1**
	2.8nm,0.6s,baz=176,slow=10.0,SNR=29					
GERES	**GERESS Array B**	**19.62 320**	P	**P**	**21 37 15.0**	**-0.2**
	2.2nm,0.5s,baz=128,slow=8.5,SNR=14					
KHC	**Kasperske Hory**	**19.86 321**	*e*P	**P**	**21 37 17.0**	**-0.7**
FINES	**FINESS Array B**	**26.64 353**	P	**P**	**21 38 23.6**	**-0.7**
	1.2nm,0.3s,baz=154,slow=11,SNR=25					
	1.2nm,0.3s					
ARCES	**ARCESS Array B**	**34.66 356**	P	**P**	**21 39 34.0**	**-0.9**
	2.3nm,0.9s,baz=172,slow=10,SNR=7.1					
	2.3nm,0.9s					
MKAR	**Makanchi Array**	**38.55 57**	P	**P**	**21 40 09.3**	**+1.0**
	0.3nm,0.7s,baz=269,slow=5.8,SNR=4.4					
	0.3nm,0.7s					
ZALV	**Zalesovo Beam**	**40.51 46**	P	**P**	**21 40 24.3**	**-0.1**
	0.4nm,0.5s,baz=253,slow=7.4,SNR=2.1					
	0.4nm,0.5s					
SPITS	**Spitsbergen Ar**	**43.69 355**	P	**P**	**21 40 50.4**	**+0.3**
	11nm,1.0s,baz=176,slow=5.6,SNR=11					
	11nm,1.0s					

MOS ***06*** *21:33:13.6±0.9, 66°.29N×157°.16W, h15km, mb5.1/71, MS4.7/4, Error ellipse: s-maj=11.4km s-min=4.5km az=100.8*

AEIC ***06*** *21:33:14.0±1.2, 66°.31N±0°.02×157°.22W±0°.07, h9km±3km, ML5.4, mb5.1/108(NEIC), ML5.4/156(NEIC), Mwr5.1/90(NEIC), Mww5.2/107(NEIC), Error ellipse: s-maj=4.0km s-min=2.3km az=87.0*

NEIC ***06*** *21:33:14.3, 66°.31N×157°.19W, h9km*

NEIC ***06*** *21:33:14.3, 66°.31N×157°.19W, h12km*

NEIC ***06*** *21:33:14.3, 66°.31N×157°.00W, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16 Nm; Mrr-1.95; Mθθ3.18; Mφφ-1.23; Mrθ-2.43; Mθφ-8.05; Mφr1.02; Fault plane solution: M0 8.67000×10^16 NP1: φs353.10000°, δ76.07000°, λ3.45000°. NP2: φs262.27000°, δ86.65000°, λ166.04000°. Principal axes: T 9.8729, Plg12.0000°, Azm217.0000°; N -2.4130, Plg76.0000°, Azm69.0000°; P -7.4600, Plg7.0000°, Azm308.0000°;*

NEIC ***06*** *21:33:14.1±1.2, 66°.32N±0°.01×157°.20W±0°.06, h8km±3km Error ellipse: s-maj=3.3km s-min=2.1km az=82.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr-1.52; Mθθ2.69; Mφφ-1.16; Mrθ0.89; Mθφ-6.14; Mφr0.57; Fault plane solution: M0 6.65000×10^16 NP1: φs262.07000°, δ82.84000°, λ-169.12000°. NP2: φs170.69000°, δ79.21000°, λ-7.29000°. Principal axes: T 7.2104, Plg3.0000°, Azm36.0000°; N -1.3163, Plg77.0000°, Azm295.0000°; P -5.8941, Plg13.0000°, Azm127.0000°;*

BJI ***06*** *21:33:16.1, 66°.62N×157°.93W, h13km, mB5.5/8, mb4.7/49, Ms5.4/21, Ms7 5.2/33*

GCMT ***06*** *21:33:17.0±0.1, 66°.38N±0°.01×157°.10W±0°.02, h18km, MW5.3/137, Moment Tensor Solution. s62, c73; s137, c248; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.31±.02; Mθθ0.55±.02; Mφφ-0.24±.02; Mrθ0.24±.05; Mθφ-0.92±.01; Mφr0.18±.05; Best double couple: M0 1.06700×10^17 NP1: φs166.00000°, δ71.00000°, λ-14.00000°. NP2: φs261.00000°, δ77.00000°, λ-160.00000°. Principal axes: T 1.1630, Plg4.0000°, Azm33.0000°; N -0.1930, Plg66.0000°, Azm293.0000°; P -0.9700, Plg23.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***06*** *21:33:19.2±2.9, 66°.41N×157°.35W, h33km±24km, mb4.3/36, mbtmp4.5/40, ML4.5/5, MS4.8/52 Error ellipse: s-maj=12.6km s-min=9.4km az=8.0*

ISC 06 21:33:15.2±0.6, 66°.32N±0°.01×157°.23W±0°.02, h12km±3km, n866, σ1°31/945, mb5.0/163, MS4.8/62, 28C-10D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.19**	**162**		**Pg**	**21 33 17.6**	**-1.8**
G19K				Sg	**Sg**	**21 33 20.5**	**-1.8**
G19K				IAML		21 33 21.5	
	comp=N,759μm,0.3s						
G19K				IAML		21 33 22.2	
	comp=E,1195μm,0.8s						
G19K	**Purcell Mounta**	**0.19**	**162**	P	**Pg**	**21 33 17.7**	**-1.8**
	baz=347,SNR=1000						
G19K				S	**Sg**	**21 33 20.6**	**-1.7**
	baz=347						
F19K	**Shaleruckik Mo**	**0.56**	**337**		**Pg**	**21 33 24.5**	**-1.6**
F19K				Sg	**Sg**	**21 33 33.8**	**+0.3**
F19K	**Shaleruckik Mo**	**0.56**	**337**	P	**Pg**	**21 33 24.5**	**-1.6**
	baz=156						
F19K				S	**Sg**	**21 33 32.8**	**-0.7**
	baz=156						
G18K	**Tagagawik**	**0.72**	**234**		**Pg**	**21 33 27.5**	**-1.7**
G18K				Sg	**Sg**	**21 33 38.7**	**+0.1**
G18K	**Tagagawik**	**0.72**	**234**	P	**Pg**	**21 33 27.5**	**-1.7**
	baz=54,SNR=1000						
G18K				S	**Sg**	**21 33 38.3**	**-0.3**
	baz=54						
H19K	**Roundabout Mou**	**0.86**	**158**	Pg	**Pg**	**21 33 29.8**	**-2.0**
H19K				Sg	**Sg**	**21 33 41.4**	**-1.6**
H19K				IAML		21 33 47.0	
	comp=E,151μm,0.5s						
H19K				IAML		21 33 48.0	
	comp=N,96μm,0.6s						
H19K	**Roundabout Mou**	**0.86**	**158**	P	**Pg**	**21 33 29.9**	**-2.0**
	baz=339,SNR=1000						
H19K				S	**Sg**	**21 33 41.6**	**-1.4**
	baz=339						
F20K	**Avaraart Lake**	**0.94**	**39**		**Pg**	**21 33 31.3**	**-2.1**
F20K				Sg	**Sg**	**21 33 44.6**	**-1.2**
F20K	**Avaraart Lake**	**0.94**	**39**	P	**Pg**	**21 33 31.2**	**-2.3**
	baz=219,SNR=1000						
F20K				S	**Sg**	**21 33 45.1**	**-0.6**
	baz=219						
F18K	**Selawik**	**1.01**	**287**		**Pb**	**21 33 32.8**	**-1.8**
F18K					**Sg**	**21 33 48.1**	**+0.2**
F18K	**Selawik**	**1.01**	**287**	P	**Pb**	**21 33 33.0**	**-1.6**
	baz=105,SNR=1000						
E19K	**Redstone River**	**1.14**	**0**		**Sb**	**21 33 51.0**	**-0.7**
E19K	**Redstone River**	**1.14**	**0**		**Pb**	**21 33 35.1**	**-1.8**
E19K				IAML		21 33 56.4	
	comp=E,57μm,0.6s						
E19K				IAML		21 33 58.8	
	comp=N,77μm,0.7s						
E19K	**Redstone River**	**1.14**	**0**	P	**Pb**	**21 33 35.0**	**-1.8**
	baz=179						
E19K				S	**Sb**	**21 33 50.9**	**-0.7**
	baz=179						
H18K	**Honhosa River**	**1.26**	**202**		**Sb**	**21 33 54.0**	**-1.1**
H18K	**Honhosa River**	**1.26**	**202**		**Pn**	**21 33 36.8**	**-1.9**
H18K	**Honhosa River**	**1.26**	**202**	P	**Pn**	**21 33 37.0**	**-1.7**
	baz=22						
H18K				S	**Sb**	**21 33 54.2**	**-0.9**
	baz=22						
H20K	**Anotleneega Mo**	**1.27**	**130**		**Pn**	**21 33 38.0**	**-0.9**
H20K					**Sb**	**21 33 54.7**	**-0.7**
H20K	**Anotleneega Mo**	**1.27**	**130**	P	**Pn**	**21 33 37.4**	**-1.4**
	baz=312,SNR=1000						
H20K				S	**Sb**	**21 33 54.6**	**-0.9**
	baz=312						
G21K	**Allakaket**	**1.51**	**81**		**Sn**	**21 34 01.5**	**-0.2**
G21K	**Allakaket**	**1.51**	**81**		**Pn**	**21 33 40.9**	**-1.2**
G21K	**Allakaket**	**1.51**	**81**	P	**Pn**	**21 33 40.9**	**-1.2**
	baz=264						
G21K				S	**Sn**	**21 34 01.5**	**-0.2**
	baz=264						
GCSA	**Galena City Sc**	**1.59**	**175**		**Pn**	**21 33 42.3**	**-0.8**
GCSA					**Sn**	**21 34 03.6**	**+0.1**
GCSA	**Galena City Sc**	**1.59**	**175**	P	**Pn**	**21 33 42.3**	**-0.8**
	baz=356,SNR=1000						
GCSA				S	**Sn**	**21 34 03.2**	**-0.3**
	baz=356						
F17K	**Baldwin Pennin**	**1.62**	**276**		**Pn**	**21 33 42.5**	**-1.0**
F17K	**Baldwin Pennin**	**1.62**	**276**	P	**Pn**	**21 33 42.7**	**-0.9**
	baz=93						
F17K				S	**Sb**	**21 34 05.1**	**-0.3**
	baz=93						
G17K	**Kiwalik Mounta**	**1.63**	**241**		**Pn**	**21 33 42.2**	**-1.4**
G17K					**Sn**	**21 34 04.5**	**0.0**
G17K	**Kiwalik Mounta**	**1.63**	**241**	P	**Pn**	**21 33 42.2**	**-1.4**
	baz=59						
G17K				S	**Sn**	**21 34 05.0**	**+0.5**
	baz=59						
E18K	**Tukpahlearik C**	**1.73**	**311**		**Pn**	**21 33 45.0**	**-0.1**
E18K	**Tukpahlearik C**	**1.73**	**311**	P	**Pn**	**21 33 45.2**	**+0.1**
	baz=128						
E18K				S	**Sn**	**21 34 07.4**	**+0.4**
	baz=128						
F21K	**Alatna River**	**1.74**	**57**		**Pn**	**21 33 44.3**	**-1.0**
F21K	**Alatna River**	**1.74**	**57**	P	**Pn**	**21 33 44.4**	**-0.8**
	baz=240,SNR=1000						
F21K				S	**Sb**	**21 34 08.4**	**-0.5**
	baz=240						
H17K	**Granite Mounta**	**1.78**	**220**		**Pn**	**21 33 44.5**	**-1.3**
H17K				IAML		21 34 16.4	
	comp=E,32μm,0.9s						
H17K	**Granite Mounta**	**1.78**	**220**	P	**Pn**	**21 33 44.6**	**-1.2**
	baz=38,SNR=1000						
H17K				S	**Sn**	**21 34 09.3**	**+1.0**
	baz=38						
I20K	**Naaghedeneel**	**1.91**	**142**		**Pn**	**21 33 46.9**	**-0.7**
I20K	**Naaghedeneel**	**1.91**	**142**	P	**Pn**	**21 33 47.1**	**-0.5**
	baz=325						
I20K				Sb	**Sb**	**21 34 15.2**	**+1.4**
	baz=325						
H21K	**Melozitna Rive**	**1.93**	**108**		**Pn**	**21 33 46.4**	**-1.4**
H21K				IAML		21 34 18.6	
	comp=E,29μm,0.6s						
H21K	**Melozitna Rive**	**1.93**	**108**	P	**Pn**	**21 33 46.6**	**-1.3**
	baz=292,SNR=1000						
H21K				Sb	**Sb**	**21 34 15.3**	**+1.0**
	baz=292						
E17K	**Hotham Inlet**	**1.98**	**295**		**Pn**	**21 33 47.8**	**-0.7**
E17K	**Hotham Inlet**	**1.98**	**295**	P	**Pn**	**21 33 48.1**	**-0.3**
	baz=111						
E17K				Sb	**Sb**	**21 34 16.8**	**+1.1**
	baz=111						
E20K	**Nigu River**	**1.99**	**11**		**Pn**	**21 33 49.4**	**+0.7**
E20K	**Nigu River**	**1.99**	**11**	P	**Pn**	**21 33 49.3**	**+0.7**
	baz=192						
E20K				S	**Sb**	**21 34 15.5**	**-0.5**
	baz=192						
D19K	**Kuna River**	**2.21**	**352**		**Pn**	**21 33 51.5**	**-0.2**
D19K				IAML		21 34 29.4	
	comp=E,18μm,0.7s						
D19K				IAML		21 34 29.9	
	comp=N,20μm,0.8s						
D19K	**Kuna River**	**2.21**	**352**	P	**Pn**	**21 33 51.9**	**+0.2**
	baz=170						
D19K				Sb	**Sg**	**21 34 24.1**	**-2.0**
	baz=170						
G16K	**Koyuk River**	**2.30**	**248**		**Pn**	**21 33 51.0**	**-1.9**
G16K				IAML		21 34 29.8	
	comp=N,22μm,1.1s						
G16K	**Koyuk River**	**2.30**	**248**	P	**Pn**	**21 33 51.0**	**-1.9**
	baz=64						
G16K				Sb	**Sb**	**21 34 26.0**	**+1.0**
	baz=64						
F22K	**John River**	**2.32**	**57**	P	**Pn**	**21 33 52.7**	**-0.5**
	baz=241,SNR=1000						
D20K	**Etivluk River**	**2.41**	**5**		**Pn**	**21 33 54.7**	**+0.2**
D20K	**Etivluk River**	**2.41**	**5**	P	**Pn**	**21 33 54.7**	**+0.2**
	baz=186						
H22K	**Ishtalitna Cre**	**2.42**	**98**		**Pn**	**21 33 53.5**	**-1.0**
H22K	**Ishtalitna Cre**	**2.42**	**98**	P	**Pn**	**21 33 53.6**	**-1.0**
	baz=283						
J19K	**Poorman**	**2.44**	**163**		**Pn**	**21 33 53.9**	**-0.9**
J19K				IAML		21 34 31.4	
	comp=E,27μm,1.4s						
J19K				IAML		21 34 37.8	
	comp=N,24μm,1.1s						
J19K	**Poorman**	**2.44**	**163**	P	**Pn**	**21 33 54.1**	**-0.6**
	baz=345,SNR=1000						
I21K	**Tanana**	**2.45**	**115**		**Pn**	**21 33 54.0**	**-1.0**
I21K				IAML		21 34 38.1	
	comp=N,22μm,1.2s						
I21K				IAML		21 34 38.4	
	comp=E,17μm,1.8s						
I21K	**Tanana**	**2.45**	**115**	P	**Pn**	**21 33 54.0**	**-1.0**
	baz=300,SNR=1000						
I21K				Sb	**Sb**	**21 34 30.6**	**+1.3**
	baz=300						
E21K	**Killik River**	**2.47**	**29**		**Pn**	**21 33 55.0**	**-0.3**
E21K	**Killik River**	**2.47**	**29**	P	**Pn**	**21 33 55.3**	**0.0**
	baz=212						
J20K	**Nowinta River**	**2.52**	**148**		**Pn**	**21 33 55.1**	**-0.8**
J20K				IAML		21 34 39.4	
	comp=E,21μm,1.1s						
J20K				IAML		21 34 44.5	
	comp=N,16μm,0.6s						
J20K	**Nowinta River**	**2.52**	**148**	P	**Pn**	**21 33 55.2**	**-0.7**
	baz=330,SNR=1000						
J20K				Sb	**Sb**	**21 34 33.1**	**+2.0**
	baz=330						
D17K	**Noatak River**	**2.68**	**304**		**Pn**	**21 33 58.1**	**-0.1**
D17K	**Noatak River**	**2.68**	**304**	P	**Pn**	**21 33 58.0**	**-0.1**
	baz=118,SNR=536						
H16K	**Elim**	**2.69**	**233**		**Pn**	**21 33 57.4**	**-0.8**
H16K	**Elim**	**2.69**	**233**	P	**Pn**	**21 33 56.2**	**-2.0**
	baz=49,SNR=242						
H16K				Sb	**Sb**	**21 34 37.9**	**+1.9**
	baz=49						
E22K	**Anaktuvuk Pass**	**2.79**	**47**		**Pn**	**21 33 59.7**	**+0.1**
E22K	**Anaktuvuk Pass**	**2.79**	**47**	P	**Pn**	**21 34 00.3**	**+0.7**
	baz=231,SNR=1000						
C18K	**Utukok River**	**2.79**	**329**		**Pn**	**21 33 59.1**	**-0.6**
C18K	**Utukok River**	**2.79**	**329**	P	**Pn**	**21 33 59.4**	**-0.3**
	baz=145						
RDOG	**Red Dog Mine**	**2.81**	**311**		**Pn**	**21 34 00.4**	**+0.4**
RDOG	**Red Dog Mine**	**2.81**	**311**	P	**Pn**	**21 34 00.7**	**+0.8**
	baz=126,SNR=1000						
I17K	**Unalakleet**	**2.85**	**213**		**Pn**	**21 33 59.4**	**-1.1**
I17K	**Unalakleet**	**2.85**	**213**	P	**Pn**	**21 33 59.8**	**-0.7**
	baz=30,SNR=659						
I17K				Sb	**Sb**	**21 34 41.6**	**+0.9**
	baz=30						
J18K	**Innoko River**	**2.88**	**175**		**Pn**	**21 33 59.6**	**-1.2**
J18K				IAML		21 34 49.7	
	comp=E,12μm,1.1s						
J18K				IAML		21 34 52.1	
	comp=N,11μm,1.1s						
J18K	**Innoko River**	**2.88**	**175**	P	**Pn**	**21 34 00.0**	**-0.8**
	baz=356,SNR=480						
J18K				Sb	**Sb**	**21 34 42.3**	**+0.8**
	baz=356						
G23K	**Bananza Creek**	**2.91**	**79**		**Pn**	**21 33 59.8**	**-1.6**
G23K	**Bananza Creek**	**2.91**	**79**	P	**Pn**	**21 33 59.8**	**-1.6**
	baz=265,SNR=121						
G23K				Sb	**Sb**	**21 34 44.6**	**+2.0**
	baz=265						
COLD	**Coldfoot**	**2.93**	**69**		**Pn**	**21 34 00.1**	**-1.5**
COLD	**Coldfoot**	**2.93**	**69**	P	**Pn**	**21 34 00.3**	**-1.2**
	baz=255,SNR=388						
COLD				Sg	**Sg**	**21 34 49.9**	**+0.6**
	baz=255						
C21K	**Knifeblade Rid**	**3.00**	**17**		**Pn**	**21 34 02.1**	**-0.3**
C21K	**Knifeblade Rid**	**3.00**	**17**	P	**Pn**	**21 34 02.2**	**-0.3**
	baz=199,SNR=470						
J17K	**VABM Dome**	**3.04**	**196**		**Pn**	**21 34 02.3**	**-0.7**
J17K				IAML		21 35 01.9	
	comp=N,14μm,1.1s						
J17K	**VABM Dome**	**3.04**	**196**	P	**Pn**	**21 34 02.7**	**-0.4**
	baz=15						
J17K				Sb	**Sb**	**21 34 49.3**	**+3.0**
	baz=15						
F15K	**North Star Dit**	**3.09**	**262**		**Pn**	**21 34 02.3**	**-1.5**
F15K	**North Star Dit**	**3.09**	**262**	P	**Pn**	**21 34 01.9**	**-1.8**
	baz=75,SNR=68						
D22K	**Ayikyak River**	**3.10**	**32**	Pn	**Pn**	**21 34 03.9**	**0.0**
D22K				IAML		21 35 00.6	
	comp=E,12μm,0.8s						
D22K				IAML		21 35 01.6	
	comp=N,12μm,1.1s						
D22K	**Ayikyak River**	**3.10**	**32**	P	**Pn**	**21 34 04.1**	**+0.1**
	baz=216,SNR=428						
D22K				Sg	**Sg**	**21 34 56.5**	**+1.6**
	baz=216						
G15K	**Niukluk**	**3.12**	**248**		**Pn**	**21 34 02.0**	**-2.1**
G15K	**Niukluk**	**3.12**	**248**	P	**Pn**	**21 34 02.4**	**-1.8**
	baz=62						
G15K				Sb	**Sb**	**21 34 51.2**	**+2.8**
	baz=62						
C17K	**DeLong Mountai**	**3.15**	**316**		**Pn**	**21 34 04.5**	**-0.1**
C17K	**DeLong Mountai**	**3.15**	**316**	P	**Pn**	**21 34 04.4**	**-0.1**
	baz=130,SNR=220						
CHUM	**Lake Minchumin**	**3.21**	**137**		**Pn**	**21 34 04.8**	**-0.6**
CHUM	**Lake Minchumin**	**3.21**	**137**	P	**Pn**	**21 34 05.0**	**-0.4**
	baz=322,SNR=903						
CHUM				Sb	**Sb**	**21 34 54.4**	**+3.3**
	baz=322						
K20K	**Telida**	**3.27**

B18K S Sn 21 34 51.7 +0.8
baz=148
D23K Nanushuk River 3.65 40 Pn 21 34 11.3 -0.1
D23K IAML 21 35 23.2
comp=N,9µm,1.1s
D23K IAML 21 35 25.1
comp=E,9µm,1.0s
D23K Nanushuk River 3.65 40 P **Pn 21 34 11.8 +0.4**
baz=226,SNR=420
CAST Castle Rocks 3.65 141 Pn 21 34 10.6 -0.9
CAST IAML 21 35 18.9
comp=N,7µm,1.3s
CAST IAML 21 35 20.0
comp=E,5µm,1.4s
CAST Castle Rocks 3.65 141 P **Pn 21 34 11.3 -0.1**
baz=325,SNR=1000
CAST S Sn 21 34 54.7 +0.3
baz=325
K17K Iditarod 3.65 188 Pn 21 34 10.3 -1.1
K17K Iditarod 3.65 188 P **Pn 21 34 10.6 -0.9**
baz=7.1,SNR=133
K17K S Sn 21 34 54.9 +0.5
baz=7.1
B20K Meade River 3.70 0 Pn 21 34 11.4 -0.8
B20K IAML 21 35 17.4
comp=N,6µm,0.9s
B20K IAML 21 35 48.1
comp=E,7µm,2.1s
B20K Meade River 3.70 0 P **Pn 21 34 12.0 -0.2**
baz=180
B20K S Sn 21 34 57.4 +1.8
baz=180
C16K Lisburne Hills 3.71 306 Pn 21 34 11.8 -0.4
C16K Lisburne Hills 3.71 306 P **Pn 21 34 12.2 0.0**
baz=118
C16K S Sn 21 34 55.3 -0.3
baz=118
TOLK Toolik Lake Re 3.75 48 Pn 21 34 13.0 0.0
TOLK IAML 21 35 22.4
comp=E,9µm,0.8s
TOLK IAML 21 35 30.9
comp=N,7µm,1.0s
TOLK Toolik Lake Re 3.75 48 P **Pn 21 34 13.1 +0.2**
baz=235,SNR=527
TOLK S Sn 21 34 57.9 +0.9
baz=235
NEA2 Nenana 3.82 113 Pn 21 34 12.5 -1.3
NEA2 IAML 21 35 19.6
comp=E,6µm,1.2s
NEA2 IAML 21 35 22.0
comp=N,5µm,1.2s
NEA2 Nenana 3.82 113 P **Pn 21 34 12.9 -1.0**
baz=301,SNR=606
NEA2 Sb Sb 21 35 10.7 +2.0
baz=301
F14K Arctic Creek 3.83 261 Pn 21 34 12.6 -1.2
F14K Arctic Creek 3.83 261 P **Pn 21 34 12.7 -1.2**
baz=73
ANM Nome 3.83 246 Pn **Pn 21 34 11.8 -2.1**
ANM Nome 3.83 246 P **Pn 21 34 11.8 -2.1**
ANM Nome 3.83 246 P **Pn 21 34 12.2 -1.7**
baz=59,SNR=13
ANM Sb Sb 21 35 11.2 +2.3
baz=59
E24K Your Creek 3.83 59 Pn 21 34 13.1 -0.9
E24K IAML 21 35 25.7
comp=N,5µm,0.9s
E24K Your Creek 3.83 59 P **Pn 21 34 13.5 -0.5**
baz=246,SNR=483
E24K Sb Sb 21 35 11.9 +2.8
baz=246
H24K Noodor Dome 3.84 93 Pn 21 34 13.1 -1.0
H24K IAML 21 35 23.3
comp=N,7µm,1.4s
H24K IAML 21 35 28.2
comp=E,7µm,1.2s
H24K Noodor Dome 3.84 93 P **Pn 21 34 12.9 -1.2**
baz=281,SNR=241
H24K Sb Sb 21 35 11.2 +1.9
baz=281
KTH Kantishna Hill 3.86 133 Pn 21 34 13.7 -0.7
KTH IAML 21 35 43.7
comp=E,5µm,1.5s
F24K Squaw Lake 3.87 68 Pn 21 34 13.1 -1.4
F24K IAML 21 35 23.6
comp=E,5µm,0.9s
F24K IAML 21 35 26.2
comp=N,4µm,1.1s
F24K Squaw Lake 3.87 68 P **Pn 21 34 13.9 -0.7**
baz=256
F24K Sb Sb 21 35 13.4 +3.3
baz=256
G24K Hadweenzic Riv 3.92 80 Pn 21 34 13.4 -1.8
G24K Hadweenzic Riv 3.92 80 P **Pn 21 34 13.8 -1.5**
baz=269,SNR=116
G24K Sb Sb 21 35 14.9 +3.2
baz=269
PPLA Purkeypile 4.07 145 Pn 21 34 17.3 0.0
PPLA Purkeypile 4.07 145 P **Pn 21 34 17.4 +0.1**
baz=330,SNR=350
PPLA S Sn 21 35 05.1 +0.3
baz=330
L20K Farewell, AK 4.12 158 Pn 21 34 17.8 -0.2
L20K Farewell, AK 4.12 158 P **Pn 21 34 17.9 -0.2**
baz=341
L20K S Sn 21 35 06.4 +0.3
baz=341
L18K Granite Mounta 4.13 176 Pn **Pn 21 34 17.7 -0.3**
L18K Granite Mounta 4.13 176 P **Pn 21 34 17.6 -0.3**
baz=357,SNR=122
L18K Sb Sb 21 35 20.6 +3.2
baz=357
TRF Thorofare Moun 4.13 131 Pn 21 34 17.8 -0.4
TRF Thorofare Moun 4.13 131 P **Pn 21 34 18.1 -0.1**
baz=317,SNR=460
TRF Sb Sb 21 35 22.2 +4.4
baz=317
I53US FAIRBANKS INFR 4.15 106 Pn **Pn 21 34 20.0 +1.7**
baz=291,slow=22
I53US Lg Lg 21 35 25.1
baz=293,slow=23
I53US I I 21 52 20.6
baz=296,slow=328,SNR=0.4
A19K Wainwright 4.15 342 Pn 21 34 18.3 0.0
A19K Wainwright 4.15 342 P **Pn 21 34 18.3 0.0**
baz=158
COLA College 4.16 106 Pn 21 34 17.0 -1.4
COLA College 4.16 106 *i* P **Pn 21 34 17.6 -0.7**
COLA College 4.16 106 P **Pn 21 34 17.9 -0.4**
baz=295
COLA Sb Sb 21 35 22.4 +4.2
baz=295
POKR Poker Plat Res 4.22 102 Pn 21 34 18.1 -1.3
POKR IAML 21 35 31.6
comp=N,6µm,1.2s
POKR IAML 21 35 37.2
comp=E,4µm,1.3s
POKR Poker Plat Res 4.22 102 P **Pn 21 34 18.5 -0.9**
baz=291,SNR=625
POKR Sb Sb 21 35 22.7 +2.4
baz=291
POKR Sn Sg 21 35 23.2 -7.5
baz=291
L17K Donlin 4.23 187 Pn 21 34 18.8 -0.6
L17K Donlin 4.23 187 P **Pn 21 34 18.8 -0.6**
baz=6.1,SNR=163
L17K Sb Sb 21 35 23.2 +2.8
baz=6.1
WRH Wood River Hil 4.25 112 Pn **Pn 21 34 18.2 -1.5**
WRH IAML 21 35 37.6
comp=N,5µm,1.4s
CCB Clear Creek Bu 4.27 109 Pn **Pn 21 34 18.3 -1.7**
CCB IAML 21 35 36.9
comp=E,3µm,1.1s
B22K Teshekpuk Lake 4.28 18 Pn 21 34 18.3 -1.7
B22K IAML 21 35 37.7
comp=N,4µm,1.2s
B22K IAML 21 35 39.5
comp=E,4µm,1.7s
B22K Teshekpuk Lake 4.28 18 P **Pn 21 34 19.1 -0.9**
baz=201
B22K Sb Sb 21 35 24.1 +2.5
baz=201
D24K Happy Valley 4.28 45 Pn 21 34 19.8 -0.3
D24K IAML 21 35 44.1
comp=N,4µm,0.9s
D24K Happy Valley 4.28 45 P **Pn 21 34 19.4 -0.6**
baz=232
D24K Sb Sb 21 35 24.4 +2.7
baz=232
L19K White Mountain 4.29 165 Pn 21 34 19.6 -0.6
L19K White Mountain 4.29 165 P **Pn 21 34 19.7 -0.5**
baz=347,SNR=426
L19K S Sn 21 35 09.3 -0.7
baz=347
C23K Itkillik River 4.31 32 Pn 21 34 19.7 -0.8
C23K IAML 21 35 39.1
comp=E,3µm,0.7s
C23K IAML 21 35 55.5
comp=N,4µm,2.0s
C23K Itkillik River 4.31 32 P **Pn 21 34 20.2 -0.3**
baz=218,SNR=209
MCK McKinley 4.37 123 Pn 21 34 20.7 -0.7
MCK McKinley 4.37 123 P **Pn 21 34 20.7 -0.7**
MCK McKinley 4.37 123 P **Pn 21 34 20.5 -0.9**
baz=310,SNR=465
TNA Tin City 4.44 265 Pn 21 34 21.4 -0.9
TNA Tin City 4.44 265 P **Pn 21 34 21.7 -0.6**
baz=75,SNR=20
K15K Wolf Creek Mou 4.46 207 Pn **Pn 21 34 22.4 -0.1**
K15K Wolf Creek Mou 4.46 207 P **Pn 21 34 22.2 -0.3**
baz=23,SNR=94
K15K Sb Sb 21 35 29.3 +2.4
baz=23
G25K Bearman Lake 4.47 79 Pn 21 34 21.3 -1.4
G25K Bearman Lake 4.47 79 P **Pn 21 34 22.1 -0.6**
baz=269,SNR=139
J14K Nanvaranak Lak 4.51 220 Pn 21 34 21.8 -1.4
J14K IAML 21 35 55.4
comp=N,4µm,1.1s
J14K Nanvaranak Lak 4.51 220 P **Pn 21 34 22.1 -1.1**
baz=35,SNR=80
J14K Sb Sb 21 35 31.4 +3.1
baz=35
IL31 4.57 105 Pn 21 34 22.4 -1.7
ILAR Eielson Array 4.57 105 Pn **Pn 21 34 22.0 -2.1**
ILAR Eielson Array 4.57 105 Pn **Pn 21 34 23.2 -0.9**
comp=N,79nm,0.3s,baz=293,slow=13,SNR=2405
ILAR Sn Sn 21 35 15.3 -1.8
comp=N,60nm,0.3s,baz=294,slow=23,SNR=8.9
ILAR Lg Lg 21 35 38.0
comp=N,61nm,0.3s,baz=294,slow=25,SNR=6.8
ILAR LR LR 21 35 54.7
comp=N,4µm,20.9s,baz=196,slow=34
M19K Big River Lodg 4.61 163 Pn 21 34 24.1 -0.6
M19K Big River Lodg 4.61 163 P **Pn 21 34 24.5 -0.1**
baz=346
M19K S Sn 21 35 18.0 0.0
baz=346
H25L Birch Creek 4.61 85 Pn 21 34 23.6 -0.9
H25L Birch Creek 4.61 85 P **Pn 21 34 23.7 -0.8**
baz=276
H25L Sb Sb 21 35 35.7 +4.4
baz=276
RND Reindeer 4.62 125 Pn 21 34 24.4 -0.4
RND Reindeer 4.62 125 P **Pn 21 34 24.4 -0.4**
C24K Franklin Bluff 4.68 39 Pn 21 34 24.5 -1.0
C24K IAML 21 35 58.6
comp=N,4µm,1.1s
C24K Franklin Bluff 4.68 39 P **Pn 21 34 24.7 -0.8**
baz=227
C24K Sb Sb 21 35 36.9 +3.6
baz=227
HDA Harding Lake 4.71 109 P **Pn 21 34 24.6 -1.4**
baz=299,SNR=484
HDA Sb Sb 21 35 39.3 +5.0
baz=299
F25K Christian Rive 4.73 69 Pn 21 34 25.0 -1.3
F25K IAML 21 35 55.0
comp=N,3µm,0.9s
F25K IAML 21 35 58.0
comp=E,4µm,1.0s
F25K Christian Rive 4.73 69 P **Pn 21 34 25.4 -0.9**
baz=260,SNR=213
L16K Owhat River 4.73 193 Pn **Pn 21 34 25.1 -1.2**
L16K IAML 21 35 49.5
comp=E,4µm,1.9s
L16K IAML 21 35 50.6
comp=N,3µm,1.1s
L16K Owhat River 4.73 193 P **Pn 21 34 25.1 -1.2**
baz=11,SNR=62
L16K S Sn 21 35 20.7 -0.4
baz=11
L16K Sb Sb 21 35 39.3 +4.4
baz=11
A22K Sinclair Lake 4.78 9 Pn 21 34 25.2 -1.6
A22K Sinclair Lake 4.78 9 P **Pn 21 34 26.2 -0.6**
baz=191
A22K S Sn 21 35 21.5 -0.5
baz=191
M20K Styx River 4.81 156 Pn 21 34 27.3 -0.1
M20K IAML 21 35 53.3
comp=N,3µm,1.4s
M20K Styx River 4.81 156 P **Pn 21 34 27.9 +0.5**
baz=340,SNR=666
M20K S Sn 21 35 22.4 -0.5
baz=340
FYU Fort Yukon 4.82 82 Pn 21 34 26.4 -1.1
PRP Porcupine Dome 4.86 94 Pn **Pn 21 34 26.9 -1.4**
PRP IAML 21 35 55.5
comp=E,3µm,1.0s
PRP IAML 21 36 01.0
comp=N,4µm,1.1s
PRP Porcupine Dome 4.86 94 P **Pn 21 34 26.9 -1.4**
baz=285,SNR=247
PRP Sb Sb 21 35 42.4 +3.6
baz=285
E25K Arctic Village 4.88 63 Pn **Pn 21 34 27.1 -1.2**
E25K IAML 21 36 02.1
comp=E,3µm,1.0s
E25K IAML 21 36 04.9
comp=N,3µm,2.0s
E25K Arctic Village 4.88 63 P **Pn 21 34 27.1 -1.2**
baz=254,SNR=141
M18K Stony River 4.89 172 Pn 21 34 28.1 -0.4
M18K Stony River 4.89 172 P **Pn 21 34 28.0 -0.5**
baz=354,SNR=330
M18K S Sn 21 35 24.3 -0.6
baz=354
M17K Holitna River 4.94 181 Pn 21 34 28.7 -0.5
M17K Holitna River 4.94 181 P **Pn 21 34 28.9 -0.3**
baz=1.2,SNR=60
M17K S Sn 21 35 24.5 -1.6
baz=1.2
CUT Chulitna 4.96 139 Pn 21 34 29.7 +0.3
CUT Chulitna 4.96 139 P **Pn 21 34 29.4 0.0**
baz=326,SNR=128
SKT Skwentna 5.02 148 Pn 21 34 30.7 +0.4
SKT IAML 21 36 07.0
comp=E,4µm,1.7s
SKT IAML 21 36 16.5
comp=N,3µm,1.8s
SKT Skwentna 5.02 148 P **Pn 21 34 30.4 +0.1**
baz=333,SNR=729
L15K Ungalak Mounta 5.02 204 P **Pn 21 34 29.7 -0.6**
baz=20,SNR=63
L15K Sb Sb 21 35 45.6 +2.4
baz=20
A21K Barrow 5.03 2 P **Pn 21 34 29.3 -1.0**
baz=183,SNR=352
A21K S Sn 21 35 28.7 +0.5
baz=183
D25K Kavik River 5.09 49 Pn 21 34 30.4 -0.9
D25K IAML 21 36 07.1
comp=E,2µm,0.9s
D25K IAML 21 36 14.1
comp=N,2µm,1.1s
D25K Kavik River 5.09 49 P **Pn 21 34 30.6 -0.8**
baz=239,SNR=347
BMAR Burnt Mountain 5.11 72 Pn 21 34 29.9 -1.6
J25K Salcha River, 5.23 104 Pn 21 34 32.0 -1.2
J25K IAML 21 36 13.1
comp=E,2µm,1.3s
J25K Salcha River, 5.23 104 P **Pn 21 34 32.3 -0.9**
baz=294,SNR=195
F26K Sheenjek River 5.31 69 Pn 21 34 33.5 -0.8
F26K IAML 21 36 13.5
comp=N,2µm,1.1s
F26K IAML 21 36 26.6
comp=E,3µm,1.5s
F26K Sheenjek River 5.31 69 P **Pn 21 34 33.8 -0.5**
baz=261,SNR=68
F26K Sb Sb 21 35 57.2 +5.7
baz=261
M16K Timber Creek 5.38 189 Pn 21 34 34.2 -1.0
M16K IAML 21 36 21.6
comp=N,2µm,1.2s
M16K Timber Creek 5.38 189 P **Pn 21 34 34.1 -1.0**
baz=7.7
G26K Porcupine Rive 5.39 77 P **Pn 21 34 33.9 -1.4**
baz=269,SNR=77
STLK Strandline Lak 5.39 151 Pn 21 34 35.5 +0.1
K24K Donnelly Dome 5.46 112 P **Pn 21 34 35.2 -1.2**
baz=303,SNR=166
K13K Kusilvak Mount 5.47 220 Pn 21 34 34.7 -1.7
K13K Kusilvak Mount 5.47 220 P **Pn 21 34 34.7 -1.7**
baz=33,SNR=29
SPBG Spurr Blockage 5.52 155 Pn 21 34 37.8 +0.6
M22K Willow 5.55 142 Pn 21 34 37.3 -0.2
M22K Willow 5.55 142 P **Pn 21 34 37.5 +0.1**
baz=329
L14K Kuka Creek 5.55 208 Pn **Pn 21 34 36.9 -0.6**
L14K Kuka Creek 5.55 208 P **Pn 21 34 37.5 0.0**
baz=24,SNR=38
SPCG Spurr Capps Gl 5.55 153 Pn 21 34 38.0 +0.4
N20K Mount Spurr 5.60 154 P **Pn 21 34 38.8 +0.5**
baz=339,SNR=187
SPCR Spurr Chakacha 5.60 154 Pn 21 34 38.6 +0.3
SPCR Spurr Chakacha 5.60 154 P **Pn 21 34 38.8 +0.5**
baz=339,SNR=96
SUA Susitna One 5.65 147 P **Pn 21 34 39.4 +0.4**
baz=332,SNR=149
N19K Bonanza Creek 5.67 166 Pn 21 34 38.7 -0.5
N19K Bonanza Creek 5.67 166 P **Pn 21 34 39.1 -0.1**
baz=349,SNR=61
N18K Kilae Creek 5.70 173 P **Pn 21 34 39.6 +0.1**
baz=355,SNR=117
N18K S Sn 21 35 42.1 -2.7
baz=355
N17K Nushagak Hills 5.82 180 P **Pn 21 34 40.6 -0.6**
baz=0.0,SNR=209
N17K S Sn 21 35 46.5 -1.3
baz=0.0
GHO Glory Hole Cre 5.84 138 Pn 21 34 41.5 -0.1
C26K Camden Bay 5.85 46 Pn 21 34 41.0 -0.5
C26K Camden Bay 5.85 46 P **Pn 21 34 41.1 -0.5**
baz=238,SNR=850
C26K S Sn 21 35 48.3 0.0
baz=238
RIDG Independent Ri 5.85 111 Pn **Pn 21 34 40.2 -1.5**
RIDG Independent Ri 5.85 111 P **Pn 21 34 40.5 -1.2**
baz=302,SNR=84
M15K Kasigluk River 5.86 197 Pn 21 34 41.0 -0.7
M15K Kasigluk River 5.86 197 P **Pn 21 34 41.0 -0.7**
baz=14,SNR=44
I26K Coal Creek Min 5.88 94 Pn 21 34 40.3 -1.7
I26K Coal Creek Min 5.88 94 P **Pn 21 34 40.7 -1.3**
baz=286
N16K Nishlik Lake 5.91 187 Pn 21 34 41.7 -0.8
N16K Nishlik Lake 5.91 187 P **Pn 21 34 41.1 -1.4**
baz=6.2,SNR=64
N16K S Sn 21 35 49.5 -0.6
baz=6.2
PMR Palmer 5.94 139 P **Pn 21 34 43.4 +0.6**
baz=327
PMR S Sn 21 35 52.3 +1.7
baz=327
M14K Bethel 5.98 203 Pn **Pn 21 34 43.3 -0.1**
M14K Bethel 5.98 203 P **Pn 21 34 43.2 -0.2**
baz=19,SNR=35
M14K Sb Sb 21 36 16.5 +5.9
baz=19
SML Sawmill 5.98 135 Pn **Pn 21 34 43.3 -0.2**
SML Sawmill 5.98 135 P **Pn 21 34 43.1 -0.4**
baz=323,SNR=178
SML Sb Sb 21 36 15.1 +4.3
baz=323
J26L Joseph Creek 5.99 101 P **Pn 21 34 43.1 -0.6**
baz=294,SNR=378
SCRK Sand Creek 6.06 107 P **Pn 21 34 43.3 -1.3**
baz=299,SNR=102
C27K Jago River 6.07 51 Pn 21 34 44.5 0.0
C27K Jago River 6.07 51 P **Pn 21 34 44.5 0.0**
baz=243,SNR=183
C27K S Sn 21 35 54.8 +1.0
baz=243
PAX Paxson 6.07 118 P **Pn 21 34 44.3 -0.4**
baz=309,SNR=233
PAX S Sn 21 35 54.4 +0.4
baz=309
M23K Glacier View 6.17 133 Pn 21 34 46.1 +0.1
M23K Glacier View 6.17 133 P **Pn 21 34 46.0 0.0**
baz=322,SNR=171
RDWB Redoubt West 6.18 159 Pn 21 34 45.2 -1.1
CAPN Captain Cook N 6.20 151 P **Pn 21 34 46.3 -0.1**
baz=337,SNR=25
RC01 Rabbit Creek A 6.22 144 P **Pn 21 34 47.1 +0.4**
baz=331,SNR=39
G27K Doyon Strip 6.23 78 P **Pn 21 34 46.5 -0.4**
baz=272,SNR=87
SCM Sheep Creek Mo 6.25 131 Pn 21 34 47.3 +0.1
SCM Sheep Creek Mo 6.25 131 P **Pn 21 34 47.3 +0.1**
SCM Sheep Creek Mo 6.25 131 P **Pn 21 34 47.2 -0.1**
baz=320,SNR=153
SCM S Sn 21 36 01.2 +2.6
baz=320
RED Redoubt Volcan 6.25 159 Pn 21 34 47.4 +0.1
KNK Knik Glacier 6.26 138 P **Pn 21 34 48.5 +1.1**
baz=326,SNR=216
KNK S Sn 21 36 00.8 +2.0
baz=326
O19K Port Alsworth 6.29 167 P **Pn 21 34 46.9 -0.7**
baz=349,SNR=54
N15K Kwethluk River 6.31 193 Pn **Pn 21 34 46.6 -1.4**
N15K Kwethluk River 6.31 193 P **Pn 21 34 47.2 -0.7**
baz=11,SNR=21
H27K Steamboat Moun 6.34 84 Pn 21 34 47.7 -0.6
H27K Steamboat Moun 6.34 84 P **Pn 21 34 48.2 -0.2**
baz=278,SNR=43
H27K Sb Sb 21 36 24.7 +3.6
baz=278
E27K Coleen River 6.34 66 Pn 21 34 47.7 -0.7
E27K Coleen River 6.34 66 P **Pn 21 34 48.1 -0.3**
baz=260,SNR=60
M24K Tolsona, Glenn 6.41 126 P **Pn 21 34 49.3 -0.1**
baz=316,SNR=204
I27K Kandik River 6.42 89 Pn 21 34 48.1 -1.4
I27K Kandik River 6.42 89 P **Pn 21 34 48.6 -0.9**
baz=283,SNR=48
M13K Dall Lake 6.54 208 Pn 21 34 50.8 -0.2
M13K Dall Lake 6.54 208 P **Pn 21 34 52.1 +1.1**
baz=22
M13K Sb Sb 21 36 28.6 +2.0
baz=22
HARP HAARP 6.55 121 Pn 21 34 52.4 +1.2
HARP HAARP 6.55 121 P **Pn 21 34 52.5 +1.2**
baz=312,SNR=138
O18K Koktuh Hills 6.56 171 Pn 21 34 50.8 -0.6
O18K Koktuh Hills 6.56 171 P **Pn 21 34 50.7 -0.6**
baz=353,SNR=22
O18K S Sn 21 36 03.1 -2.9
baz=353
O17K Koliganek Bris 6.58 179 P **Pn 21 34 51.2 -0.4**
baz=360,SNR=76
O17K S Sn 21 36 04.1 -2.3
baz=360
O20K Slope Mountain 6.60 159 P **Pn 21 34 52.2 +0.2**
baz=344,SNR=13
GAMB Gambell 6.63 254 Pn **Pn 21 34 50.7 -1.6**
N14K Kuskokwak Cree 6.73 199 Pn 21 34 53.8 +0.1
N14K Kuskokwak Cree 6.73 199 P **Pn 21 34 54.0 +0.3**
baz=16,SNR=12
O22K Cooper Landing 6.76 147 P **Pn 21 34 54.8 +0.7**
baz=334,SNR=16
PWL Port Wells 6.76 140 Pn **Pn 21 34 54.1 -0.1**
PWL Port Wells 6.76 140 P **Pn 21 34 54.7 +0.5**
baz=328,SNR=63
O16K Kokwok River B 6.77 184 Pn 21 34 53.5 -0.7
O16K Kokwok River B 6.77 184 P **Pn 21 34 53.6 -0.7**
baz=3.1,SNR=72
K27K Chicken 6.78 103 Pn 21 34 53.9 -0.5
K27K Chicken 6.78 103 P **Pn 21 34 53.9 -0.5**
baz=296
L26K Log Cabin Wild 6.81 113 P **Pn 21 34 54.1 -0.7**
baz=305,SNR=94
D27M Malcolm River 6.82 57 Pn 21 34 54.6 -0.3
D27M Malcolm River 6.82 57 P **Pn 21 34 55.1 +0.1**
baz=252,SNR=390
P19K Oil Pt 6.94 163 Pn **Pn 21 34 57.2 +0.6**
P19K Oil Pt 6.94 163 P **Pn 21 34 56.9 +0.3**

baz=347,SNR=8.7
KLU Klutina 6.95 129 P Pn 21 34 57.1 +0.3
baz=319,SNR=230
P18K Big Mountain, 7.02 172 Pn 21 34 57.1 -0.6
P18K Big Mountain, 7.02 172 P Pn 21 34 56.9 -0.8
baz=354,SNR=40
GLI Glacier Island 7.08 136 P Pn 21 34 58.4 -0.1
baz=325
I28M Miner Creek 7.14 89 Pn Pn 21 34 58.5 -0.9
I28M Miner Creek 7.14 89 P Pn 21 34 58.8 -0.6
baz=285,SNR=92
HOM Homer 7.15 157 P Pn 21 34 58.3 -1.2
baz=342
SEW Seward 7.16 147 P Pn 21 34 59.9 +0.4
baz=334,SNR=22
P17K Kvichak River 7.16 177 Pn 21 34 59.1 -0.5
P17K Kvichak River 7.16 177 P Pn 21 34 59.2 -0.5
baz=358,SNR=39
E28M Babbage River 7.17 63 Pn Pn 21 34 59.1 -0.6
E28M Babbage River 7.17 63 P Pn 21 34 59.9 +0.2
baz=260,SNR=129
AUL Augustine Lava 7.18 164 Pn 21 35 00.6 +0.7
M11K Mekoryuk 7.19 218 Pn Pn 21 34 59.3 -0.6
M11K Mekoryuk 7.19 218 P Pn 21 34 59.9 -0.1
baz=30
AUCH Augustine Cone 7.20 164 Pn 21 35 01.1 +0.9
BRSE Bradley Lake S 7.23 153 Pn 21 35 01.6 +1.0
BRSE Bradley Lake S 7.23 153 P Pn 21 35 01.5 +0.9
baz=339,SNR=16
O15K Ungalikthiuk R 7.27 191 Pn 21 34 60.0 -1.1
O15K Ungalikthiuk R 7.27 191 P Pn 21 35 00.3 -0.8
baz=8.4,SNR=6.0
N25K Chitina, Valde 7.29 125 P Pn 21 35 02.3 +0.8
baz=316,SNR=149
M26K Nabesna, AK 7.31 116 P Pn 21 35 01.9 +0.1
baz=309,SNR=55
P16K Nushagak River 7.33 183 Pn 21 35 01.4 -0.5
P16K Nushagak River 7.33 183 P Pn 21 35 01.6 -0.3
baz=2.5,SNR=17
O14K Tigyukauivet M 7.33 196 P Pn 21 35 01.9 0.0
baz=13
CNPM China Poot 7.35 155 Pn 21 35 02.3 +0.1
L27K Beaver Creek, 7.36 109 P Pn 21 35 01.4 -1.0
baz=303,SNR=273
BCAR Beaver Creek A 7.38 109 Pn Pn 21 35 00.8 -1.8
Q19K Cape Douglas, 7.60 166 Pn Pn 21 35 05.7 0.0
Q19K Cape Douglas, 7.60 166 P Pn 21 35 05.8 +0.1
baz=349
D28M Stokes Point 7.61 58 P Pn 21 35 06.2 +0.6
baz=255,SNR=112
H29M Whitestone 7.61 82 Pn Pn 21 35 05.6 -0.2
H29M Whitestone 7.61 82 P Pn 21 35 05.5 -0.2
baz=279,SNR=43
G29M Pine Creek 7.66 77 Pn 21 35 05.3 -1.1
G29M Pine Creek 7.66 77 P Pn 21 35 05.9 -0.5
baz=274,SNR=58
Q16K King Salmon 7.68 178 Pn 21 35 06.2 -0.5
Q16K King Salmon 7.68 178 P Pn 21 35 06.5 -0.2
baz=358,SNR=15
E29M Blow River 7.73 66 P Pn 21 35 07.2 -0.2
baz=263,SNR=98
EYAK Cordova Ski Ar 7.74 133 P Pn 21 35 07.4 -0.1
baz=323,SNR=35
P23K Montague Islan 7.74 140 P Pn 21 35 07.4 -0.1
baz=329,SNR=23
M27K Edge Creek, AK 7.75 114 P Pn 21 35 07.3 -0.5
baz=308,SNR=154
BMRM Bremner River 7.76 128 P Pn 21 35 07.2 -0.7
baz=319,SNR=30
Q18K Katmai Hardscr 7.77 171 P Pn 21 35 07.7 -0.4
baz=354,SNR=11
DAWY Dawson 7.83 99 Pn Pn 21 35 07.9 -1.0
DAWY Dawson 7.83 99 P Pn 21 35 07.8 -1.0
baz=295,SNR=225
KAHG Katmai Hook Gl 7.96 170 Pn 21 35 10.8 +0.3
GOAT Goat Mountain 8.02 130 Pn 21 35 12.4 +1.0
Q20K Shuyak Island 8.06 162 P Pn 21 35 12.5 +0.7
baz=346,SNR=6.7
KAKN Katmai Knife C 8.12 172 Pn 21 35 12.5 -0.3
J29N Klondike Camp 8.15 95 Pn 21 35 12.5 -0.7
J29N Klondike Camp 8.15 95 P Pn 21 35 12.7 -0.5
baz=292,SNR=50
ANCK Angle Creek 8.19 174 Pn 21 35 13.3 -0.6
G30M tAoh Zraii Nji 8.36 76 P Pn 21 35 15.4 -0.7
baz=275,SNR=80
BALM Baldy 8.46 122 Pn 21 35 18.6 +1.1
F30M Barrier River 8.49 72 P Pn 21 35 20.2 +2.3
baz=271,SNR=35
KIAG Kiagna River 8.54 122 Pn 21 35 19.1 +0.5
I30M Mount Dempster 8.64 88 Pn Pn 21 35 19.4 -0.6
I30M Mount Dempster 8.64 88 P Pn 21 35 18.9 -1.1
baz=287,SNR=167
K29M Barlow Dome 8.67 97 P Pn 21 35 19.8 -0.6
baz=295,SNR=52
L29M L29M 8.77 103 P Pn 21 35 21.1 -0.6
baz=300,SNR=55
KDAK Kodiak Island 8.84 164 Pn Pn 21 35 23.0 +0.4
comp=N,8.6nm,0.3s,baz=222,slow=9.4,SNR=82
comp=N,42nm,0.5s
KDAK Kodiak Island 8.84 164 *i* P **Pn 21 35 24.7 +2.1**
KDAK Kodiak Island 8.84 164 P Pn 21 35 22.1 -0.5
baz=348
J30M Hart River 8.86 92 Pn 21 35 22.6 -0.4
J30M Hart River 8.86 92 P Pn 21 35 22.3 -0.7
baz=291,SNR=59
BARK Barkley Ridge 8.88 125 Pn 21 35 23.5 +0.3
R18K Karluk 8.88 170 P Pn 21 35 23.1 -0.1
baz=353
SNH Sunshine Point 8.93 127 Pn 21 35 24.6 +0.7
M29M Somme Creek 8.99 107 P Pn 21 35 24.3 -0.6
baz=304,SNR=79
G31M Satah River 9.13 76 P Pn 21 35 25.6 -1.0
baz=277,SNR=23
YUK8 Steele Glacier 9.21 115 Pn 21 35 28.2 +0.2
YUK8 Steele Glacier 9.21 115 P Pn 21 35 28.6 +0.7
baz=311,SNR=187
MESA MESA 9.22 125 P Pn 21 35 27.5 -0.6
baz=318,SNR=10
F31M Tsiigehtchic 9.29 72 Pn Pn 21 35 27.3 -1.3
F31M Tsiigehtchic 9.29 72 P Pn 21 35 28.3 -0.3
baz=274,SNR=26
H31M Peel River 9.30 83 P Pn 21 35 28.8 -0.2
baz=284,SNR=11
OHAK Old Harbor 9.32 167 P Pn 21 35 30.1 +1.0
baz=350
RKAV Rock Avalanche 9.34 123 Pn 21 35 30.5 +0.9
INK Inuvik 9.35 67 Pn Pn 21 35 29.1 -0.3
INK Inuvik 9.35 67 Pn Pn 21 35 29.6 +0.1
comp=N,2.0nm,0.3s,baz=280,slow=16,SNR=39
INK Sn **Sn 21 37 11.2 -3.1**
comp=N,3.3nm,0.3s,baz=200,slow=30,SNR=1.0
INK Lg Lg 21 38 13.1
comp=N,1.2nm,0.3s,baz=180,slow=9.3,SNR=4.4
INK LR LR 21 39 16.5
comp=N,5µm,19.8s,baz=256,slow=38
comp=N,41nm,0.7s
INK Inuvik 9.35 67 P Pn 21 35 29.4 -0.1
baz=269,SNR=66
O28M Mount Upton 9.40 118 P Pn 21 35 31.7 +1.1
baz=314,SNR=219
MAYO Mayo, Yukon 9.43 97 Pn Pn 21 35 29.7 -1.0
MAYO Mayo, Yukon 9.43 97 P Pn 21 35 31.2 +0.4
baz=296
ANON Aniakchak 9.45 183 Pn 21 35 31.4 +0.5
M30M Minto, Yukon 9.57 104 P Pn 21 35 32.2 -0.5
baz=302,SNR=31
YUK4 Talbot Arm 9.58 113 P Pn 21 35 31.8 -1.2
baz=309,SNR=62
YUK6 Outpost Mounta 9.95 114 P Pn 21 35 38.6 +0.6
baz=311,SNR=39
YUK5 Granite Creek 10.01 112 Pn 21 35 38.0 -0.8
CHGN Chignik 10.07 184 Pn Pn 21 35 39.3 -0.2
N30M Aishikik Lake 10.10 109 P Pn 21 35 40.0 +0.1
baz=308,SNR=76
S14K Fog Glacier 10.13 187 P Pn 21 35 40.4 0.0
baz=5.4
O29M Mount Kennedy 10.30 117 P Pn 21 35 43.2 +0.4
baz=314,SNR=20
HYT Haines Junctio 10.34 113 Pn 21 35 42.5 -0.8
HYT Haines Junctio 10.34 113 P Pn 21 35 44.1 +0.8
baz=311,SNR=29
N31M Braeburn, Yuko 10.59 107 P Pn 21 35 46.0 -0.5
baz=306,SNR=15
M31M Drury Creek, Y 10.72 102 P Pn 21 35 48.7 +0.3
baz=303,SNR=46
O30N Mendenhall 10.91 111 P Pn 21 35 50.9 -0.1
baz=310,SNR=64
P30M Million Dollar 11.02 115 P Pn 21 35 52.0 -0.5
baz=313,SNR=52
FARO Faro, Yukon 11.12 100 P Pn 21 35 53.8 -0.1
baz=302,SNR=38
SDPT Sand Point 11.12 190 P Pn 21 35 55.8 +1.9
baz=6.9
WHY Whitehorse 11.44 109 Pn Pn 21 35 57.5 -0.7
WHY Whitehorse 11.44 109 P Pn 21 35 58.5 +0.2
baz=309,SNR=22
CHNA Chernabura Isl 11.59 187 P Pn 21 35 59.7 -0.5
baz=4.8
PLBC Pleasant Camp 11.69 116 P Pn 21 36 01.2 -0.4
baz=315
MMPY Sheldon Lake, 11.75 96 P Pn 21 36 02.5 +0.1
baz=300,SNR=32
N32M Quiet Lake 11.83 105 P Pn 21 36 03.7 +0.1
baz=306,SNR=18
SKAG Skagway 12.07 114 P Pn 21 36 06.5 -0.2
baz=314,SNR=18
P33M Teslin, Yukon 12.52 108 P Pn 21 36 13.6 +0.7
baz=310,SNR=21
A36M Sachs Harbour 12.58 49 Pn Pn 21 36 10.8 -2.9
A36M Sachs Harbour 12.58 49 P Pn 21 36 11.1 -2.5
baz=259,SNR=192
P32M Atlin 12.58 111 P Pn 21 36 13.5 -0.3
baz=312,SNR=7.4
C36M Paulatuk 12.77 61 Pn 21 36 14.6 -1.7
C36M Paulatuk 12.77 61 P Pn 21 36 15.1 -1.1
baz=272,SNR=6.0
S31K Pelican 12.84 121 P Pn 21 36 14.8 -2.5
baz=319
TGTN Hyland Airport 13.53 97 P Pn 21 36 27.2 +0.6
baz=303,SNR=42
Q32M Nakina River 13.56 111 P Pn 21 36 28.2 +0.9
baz=313,SNR=15
R33M Jennings River 13.76 108 P Pn 21 36 29.7 -0.2
baz=311,SNR=18
S32K Killisnoo 13.79 119 P Pn 21 36 31.8 +1.5
baz=319
SIT Sitka 13.85 122 Pn 21 36 29.0 -2.1
SIT Sitka 13.85 122 P Pn 21 36 29.0 -2.1
SIT Sitka 13.85 122 P Pn 21 36 31.9 +0.8
baz=321
BILL Bilibino 14.13 294 Pn 21 36 33.9 -0.9
BILL Bilibino 14.13 294 *ce*P **Pn 21 36 34.7 -0.1**
BILL pmax pmax
comp=Z,70nm,2.5s
WRGLY Wrigley 14.61 86 P Pn 21 36 42.2 +0.8
baz=297
S34M Telegraph Cree 14.72 112 P Pn 21 36 44.7 +1.8
baz=316,SNR=16
DLBC Dease Lake 14.77 109 Pn Pn 21 36 45.7 +2.1
comp=Z,1.8nm,0.3s,baz=308,slow=10,SNR=40
DLBC LR LR 21 42 41.9
comp=Z,5µm,18.2s,baz=319,slow=38
comp=Z,20nm,0.7s
DLBC Dease Lake 14.77 109 P Pn 21 36 44.4 +0.8
baz=314,SNR=46
U33K Whale Pass 15.35 120 P Pn 21 36 52.0 +0.6
baz=322
WRAK Wrangell Islan 15.39 118 P Pn 21 36 52.2 +0.4
baz=320,SNR=5.5
T35M Bob Quinn 15.72 114 P Pn 21 36 56.4 +0.1
baz=318,SNR=12
CRAG Craig 15.86 122 Pn 21 36 57.0 -1.0
CRAG Craig 15.86 122 P Pn 21 36 58.6 +0.6
baz=323,SNR=13
KOTAN Kotaneelee Air 16.02 97 P Pn 21 37 00.5 +0.5
baz=307,SNR=49
TOAD Toad River Com 16.35 102 P Pn 21 37 05.4 +1.0
baz=311,SNR=18
V35K Ketchikan 16.50 120 P Pn 21 37 05.7 -0.4
baz=322,SNR=7.8
U35K Hyder 16.61 116 P P 21 37 09.8 -0.1
baz=320,SNR=6.2
DIB Dawson Inlet, 17.94 125 Pn 21 37 22.9 -1.2
YKA Yellowknife Ar 18.52 82 P P 21 37 31.0 -0.1
comp=Z,0.7nm,0.3s,baz=298,slow=10,SNR=27
comp=Z,34nm,1.0s
YKA Yellowknife Ar 18.52 82 P P 21 37 31.0 -0.1
SHEM Shemya Is, Ala 19.66 240 LR LR 21 45 19.8
comp=Z,2µm,18.2s,baz=34,slow=37
BBB Bella Bella 20.27 120 P Pn 21 37 52.0 -0.2
comp=Z,42nm,1.0s,baz=332,slow=9.8,SNR=7.3
BBB LR LR 21 45 38.8
comp=Z,2µm,21.5s,baz=327,slow=36
comp=Z,42nm,1.0s
RES Resolute Bay 21.29 40 P P 21 37 59.8 -1.3
RES Resolute Bay 21.29 40 P P 21 38 01.3 +0.3
comp=Z,11nm,1.0s,baz=283,slow=8.3,SNR=15
RES LR LR 21 48 39.0
comp=Z,2µm,19.5s,baz=254,slow=43
comp=Z,11nm,1.0s
RES Resolute Bay 21.29 40 P P 21 37 59.8 -1.3
RES pmax pmax
comp=Z,33nm,1.1s
SEY Seymchan 21.36 285 P P 21 38 02.5 +0.5
comp=Z,29nm,0.8s,baz=66,slow=11,SNR=44
comp=Z,29nm,0.8s
SEY Seymchan 21.36 285 *ce*P **P 21 38 03.1 +1.1**
SEY pmax pmax
comp=Z,136nm,1.3s
EUNU Eureka 22.49 25 P P 21 38 13.0 -1.0
EUNU IAmb IAmb 21 38 19.8
comp=Z,44nm,0.9s
CBB Campbell River 23.02 119 P P 21 38 17.6 -2.2
MA2 Magadan 23.93 279 P P 21 38 28.0 -0.7
MA2 Magadan 23.93 279 LR LR 21 47 19.3
comp=Z,2µm,20.8s,baz=64,slow=35
MA2 Magadan 23.93 279 *ce*P **P 21 38 29.0 +0.3**
MA2 pmax pmax
comp=Z,176nm,1.5s
MA2 Magadan 23.93 279 P P 21 38 28.2 -0.5
comp=Z,119nm,1.4s
PET Petropavlovsk 25.28 260 *i* P **P 21 38 42.6 +1.6**
TIXI Tiksi 25.42 315 P P 21 38 41.7 -0.3
TIXI Tiksi 25.42 315 LR LR 21 51 16.0
comp=Z,2µm,18.7s,baz=80,slow=42
TIXI Tiksi 25.42 315 *i* P **P 21 38 42.0 0.0**
TIXI pmax pmax
comp=Z,18nm,0.8s
PEA0B Petropavlovsk- 25.60 261 P P 21 38 42.0 -1.9
PEA0B IAmb IAmb 21 39 14.8
comp=Z,62nm,1.2s
PEA0B Petropavlovsk- 25.60 261 P P 21 38 42.0 -1.9
PEA0B pmax pmax
comp=Z,62nm,1.3s
PETK Petropavlovsk- 25.60 261 P P 21 38 42.2 -1.7
PETK Petropavlovsk- 25.60 261 P P 21 38 43.1 -0.8
comp=Z,3.4nm,0.6s,baz=55,slow=14,SNR=8.3
PETK LR LR 21 49 22.5
comp=Z,2µm,18.5s,baz=33,slow=38
comp=Z,3.4nm,0.6s
NLWA Neilton Lookou 25.79 121 P P 21 38 45.2 -0.5
NLWA IAmb IAmb 21 38 55.4
comp=Z,66nm,1.1s
B08A Colville Reser 26.60 114 P P 21 38 51.9 -1.1
B08A IAmb IAmb 21 39 03.3
comp=Z,61nm,1.4s
NEW Newport 27.50 111 LR LR 21 51 14.2
comp=Z,2µm,18.0s,baz=331,slow=39
FFC Flin Flon 28.52 87 P P 21 39 09.8 -0.3
FFC Flin Flon 28.52 87 P P 21 39 09.8 -0.3
FFC pmax pmax
comp=Z,28nm,1.4s
FCC Fort Churchill 28.86 74 P P 21 39 12.6 -0.4
FCC IAmb IAmb 21 39 19.3
comp=Z,31nm,0.8s
FCC Fort Churchill 28.86 74 P P 21 39 12.6 -0.4
FCC pmax pmax
comp=Z,31nm,0.8s
NEEM North Greenlan 29.77 25 *e*P **P 21 39 22.5 +1.2**
NEEM IAmb IAmb 21 39 28.2
comp=Z,42nm,1.0s
J04A Umpqua Nationa 30.02 123 P P 21 39 23.5 -0.3
KULLO Kullorsuaq 30.38 31 *e*P P 21 39 32.0 +5.7
LYMT Lyon Mountain 30.41 107 P P 21 39 26.2 -1.1
YAK Yakutsk 30.44 297 P P 21 39 26.0 -1.0
YAK Yakutsk 30.44 297 LR LR 21 53 11.6
comp=Z,2µm,19.5s,baz=50,slow=39
YAK Yakutsk 30.44 297 *e*P **P 21 39 27.2 +0.2**
YAK *e**PP **sP 21 39 36.5 +4.0**
YAK *e*PPP PPP 21 40 33.9
YAK *e* 21 42 26.8
YAK *e*S **S 21 44 28.7 +1.5**
YAK *e*SS **SnSn 21 46 04.3 +1.9**
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,24nm,1.2s
YAK pmax pmax
comp=Z,149nm,3.8s
YAK pmax pmax
comp=N,138nm,3.8s
YAK pmax pmax
comp=E,138nm,4.8s
YAK smax smax
comp=N,101nm,4.6s
YAK smax smax
comp=E,263nm,5.3s
YAK MLR MLR
comp=Z,796nm,16.0s
YAK MLR MLR
comp=N,669nm,12.0s
YAK MLR MLR
comp=E,1µm,21.0s
YBH Yreka Blue Hor 31.16 125 LR LR 21 50 55.5
comp=E,1µm,18.7s,baz=348,slow=34
UPNV Upernavik 31.77 34 *e*P P 21 39 43.6 +5.0
UPNV IAmb IAmb 21 39 46.2
comp=Z,19nm,0.9s
DGMT Dagmar 32.39 97 P P 21 39 43.6 -0.8
DGMT IAmb IAmb 21 39 50.8
comp=Z,26nm,1.0s
NUUG Nuugaatsiaq 33.28 34 *e*P **P 21 39 56.0 +4.1**
NUUG IAmb IAmb 21 39 58.1
comp=Z,28nm,1.2s
TYV Tymovskoe 33.36 272 *e*P **P 21 39 53.1 +0.3**
TYV pmax pmax
comp=Z,15nm,0.6s
TYV pmax pmax
comp=Z,300nm,3.8s
ULM Lac du Bonnet 34.34 87 P P 21 40 00.4 -0.9
ULM IAmb IAmb 21 40 07.4
comp=Z,21nm,0.9s
ULM Lac du Bonnet 34.34 87 P P 21 40 01.5 +0.2
comp=Z,7.9nm,0.7s,baz=320,slow=9.9,SNR=18
ULM PcP **PcP 21 42 36.5 -0.3**
comp=Z,3.6nm,0.7s,baz=239,slow=4.3,SNR=3.0
ULM LR LR 21 54 13.1
comp=Z,3µm,18.4s,baz=322,slow=36
comp=Z,7.9nm,0.7s
FRB Frobisher Bay 34.56 52 LR LR 21 55 43.0
comp=Z,2µm,18.7s,baz=310,slow=39
ELK Elko 34.63 117 P P 21 40 02.2 -2.0
ELK Elko 34.63 117 LR LR 21 55 32.5
comp=Z,2µm,18.2s,baz=342,slow=38
ELK Elko 34.63 117 P P 21 40 02.2 -2.0
ELK pmax pmax
comp=Z,11nm,1.2s
DAG Danmarks Havn 34.87 15 *e*P **P 21 40 05.3 -0.3**
PD31 Pinedale Array 35.00 108 P P 21 40 05.9 -1.4
PDAR Pinedale Array 35.00 108 P P 21 40 06.6 -0.7
PDAR Pinedale Array 35.00 108 P P 21 40 07.9 +0.5
comp=Z,1.9nm,0.9s,baz=328,slow=5.3,SNR=20
PDAR PcP **PcP 21 42 39.5 +0.3**
comp=Z,1.0nm,0.9s,baz=322,slow=4.3,SNR=5.0
PDAR LR LR 21 55 34.3
comp=Z,1µm,19.2s,baz=312,slow=38
comp=Z,1.9nm,0.9s
SUMG Summit 35.54 27 P P 21 40 11.6 -0.2
SUMG IAmb IAmb 21 40 18.5
comp=Z,40nm,1.2s
SUMG Summit 35.54 27 P P 21 40 11.6 -0.2
SUMG pmax pmax
comp=Z,40nm,1.2s
SUMG Summit 35.54 27 *e*P **P 21 40 14.0 +2.1**
SUMG *i* P **P 21 40 14.0 +2.1**
SUMG IAmb IAmb 21 40 18.2
comp=Z,41nm,1.2s
NVAR Mina Array Bea 35.61 122 P P 21 40 12.8 +0.2
NVAR Mina Array Bea 35.61 122 P P 21 40 14.0 +1.4
comp=Z,23nm,1.0s,baz=305,slow=7.2,SNR=18
NVAR LR LR 21 55 11.4
comp=Z,2µm,18.1s,baz=352,slow=37
comp=Z,23nm,1.0s
SPITS Spitsbergen Ar 35.67 2 P P 21 40 10.9 -1.6
comp=Z,7.9nm,0.9s,baz=354,slow=12,SNR=2.9
SPITS LR LR 21 55 22.9
comp=Z,1µm,18.6s,baz=6.0,slow=37
comp=Z,7.9nm,0.9s
AGMN Agassiz Nation 35.88 89 P P 21 40 14.0 -0.7
AGMN IAmb IAmb 21 40 20.9
comp=Z,23nm,0.8s
GRNR Gornyy 35.94 278 ⇑ *i*P **P 21 40 15.1 0.0**
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR MLR MLR
comp=E,820nm,12.0s
GRNR MLR MLR
comp=N,650nm,14.0s
YSS Yuzhno-Sakhali 36.41 268 *i* P **P 21 40 20.2 +1.1**
YSS pmax pmax
comp=Z,11nm,0.8s
BSUT Blindstream Ca 36.46 112 P P 21 40 18.6 -1.5
R11B Troy Canyon, C 36.63 119 P P 21 40 20.9 -0.3
R11B IAmb IAmb 21 40 28.2
comp=Z,28nm,1.1s
DBG Daneborg 36.88 18 *e*P **P 21 40 24.6 +1.7**
DBG IAmb IAmb 21 40 32.0
comp=Z,24nm,1.4s
ZEA Zeya 37.26 288 *e*P **P 21 40 26.5 +0.2**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=N,1µm,12.0s
SFJD Kangerlussuaq 37.27 38 LR LR 21 57 25.9
comp=N,2µm,20.4s,baz=323,slow=39
TPNV Topopah Spring 37.65 121 P P 21 40 29.3 -0.6
TPNV Topopah Spring 37.65 121 P P 21 40 29.3 -0.6
TPNV pmax pmax
comp=Z,16nm,0.9s
EYMN Ely 37.93 86 P P 21 40 32.0 0.0
EYMN IAmb IAmb 21 40 38.5
comp=Z,37nm,0.9s
ICESG Greenland Ices 38.12 31 *e*P **P 21 40 34.9 +1.1**
ICESG IAmb IAmb 21 40 39.8
comp=Z,50nm,1.0s
ASAJ Asahikawa 38.80 266 LR LR 21 57 17.7
comp=Z,1µm,19.4s,baz=44,slow=37
BOD Bodaibo 38.97 302 *e*P **P 21 40 40.3 -0.3**
BOD pmax pmax
comp=Z,60nm,1.4s
E38A The Farm, Brul 38.98 87 P P 21 40 40.5 -0.4
E38A IAmb IAmb 21 40 46.8
comp=Z,27nm,0.8s
KLR Kul'dur 39.02 280 LR LR 21 57 46.3
comp=Z,2µm,18.1s,baz=48,slow=38
KLR Kul'dur 39.02 280 *ce*P **P 21 40 40.1 -1.0**
KLR pmax pmax
comp=Z,10.0nm,0.5s
ECSD EROS Data Cent 39.30 94 P P 21 40 42.9 -0.7
HEH HeiHe 39.91 285 *e*P **P 21 40 46.9 -1.7**
HEH S **S 21 46 48.0 -4.9**
HEH pmax pmax
comp=Z,13nm,0.7s
HEH LR LR
comp=Z,4µm,12.6s
Q24A Divide 39.97 107 P P 21 40 51.9 +2.4
baz=330
S22A 4UR Ranch, Cre 40.38 109 P P 21 40 54.9 +1.9
baz=331
PFO Pinyon Flats O 40.60 123 LR LR 21 58 33.0
comp=Z,819nm,18.0s,baz=334,slow=37
JMIC Jan Mayen 41.31 15 LR LR 21 57 13.4
comp=Z,851nm,21.8s,baz=52,slow=35
SCHQ Schefferville 41.88 60 P P 21 41 04.2 -0.6
SCHQ IAmb IAmb 21 41 10.8
comp=Z,71nm,1.2s
SCHQ Schefferville 41.88 60 P P 21 41 04.8 +0.1
comp=Z,14nm,1.0s,baz=315,slow=9.1,SNR=14
SCHQ LR LR 21 59 40.7
comp=Z,1µm,19.4s,baz=333,slow=38
comp=Z,14nm,1.0s
113A Mohawk Valley, 42.29 121 P P 21 41 08.1 -0.2
ANMO Albuquerque 42.99 111 LR LR 22 02 14.0
comp=Z,682nm,18.7s,baz=154,slow=40
ANMO Albuquerque 42.99 111 *i* P **P 21 41 15.2 +1.0**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
USRK Ussuriysk Ar. 43.01 275 P P 21 41 12.8 -1.2

USRK Ussuriysk Ar. 43.01 275 P **P** **21 41 13.9 -0.2**
comp=Z,4.2nm,1.0s,baz=20,slow=6.1,SNR=5.1
USRK LR LR 21 59 30.0
comp=Z,517nm,18.6s,baz=27,slow=37
comp=Z,4.2nm,1.0s
KSU1 Kansas State U 43.22 98 P **P** **21 41 14.8 -1.0**
KSU1 IAmb IAmb 21 41 21.6
comp=Z,40nm,1.2s
VLDQ Val d'Or 43.36 74 P **P** **21 41 14.7 -2.1**
VLDQ IAmb IAmb 21 41 21.9
comp=Z,35nm,1.0s
BNX BinXian 43.57 281 ⇓P **P** **21 41 17.4 -1.2**
BNX pmax pmax
comp=Z,9.0nm,1.5s
HIA Hailar 43.67 290 P **P** **21 41 19.2 -0.1**
HIA IAmb IAmb 21 41 25.2
comp=Z,26nm,0.7s
HIA Hailar 43.67 290 P **P** **21 41 19.2 -0.1**
HIA pmax pmax
comp=Z,26nm,0.7s
CIT Chita 43.72 297 *e*P **P** **21 41 21.0 +1.2**
CIT pmax pmax
comp=Z,63nm,1.9s
TUC Tucson 43.76 117 P **P** **21 41 19.7 -0.6**
TUC Tucson 43.76 117 P **P** **21 41 19.7 -0.6**
TUC pmax pmax
comp=Z,11nm,1.0s
L44A Lake County Fo 44.11 88 P **P** **21 41 24.4 +1.4**
baz=327
ARCES ARCESS Array B 44.40 359 P **P** **21 41 26.1 +1.2**
comp=Z,6.8nm,1.1s,baz=4.5,slow=7.1,SNR=7.4
ARCES PcP **PcP** **21 43 08.5 +0.2**
comp=Z,3.6nm,0.8s,baz=14,slow=4.1,SNR=5.1
comp=Z,6.8nm,1.1s
121A Cookes Peak, D 44.65 114 P **P** **21 41 29.1 +1.5**
baz=334
BORG Borgarnes 45.41 25 LR LR 22 00 44.4
comp=Z,1μm,21.5s,baz=0.6,slow=36
SADO Sadowa 45.46 78 LR LR 22 00 21.6
comp=Z,1μm,18.6s,baz=290,slow=36
JSD Sado 45.69 265 P **P** **21 41 35.0 -0.5**
JSD IAmb IAmb 21 42 08.3
comp=Z,54nm,2.0s
LDAQ Lac Daran 45.86 69 P **P** **21 41 36.7 -0.2**
LDAQ IAmb IAmb 21 41 43.4
comp=Z,27nm,1.0s
CN2 Changchun 45.96 281 P **P** **21 41 37.7 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,900nm,13.0s
TRQ Mont Tremblant 46.04 73 P **P** **21 41 38.1 -0.2**
ICQ Pointe Anglais 46.05 65 P **P** **21 41 37.8 -0.4**
ICQ IAmb IAmb 21 41 44.4
comp=Z,27nm,1.0s
APA Apatity 46.17 354 ⇓*i*P **P** **21 41 42.1 +3.1**
APA pmax pmax
comp=Z,9.0nm,1.0s
CCM Cathedral Cave 46.27 94 P **P** **21 41 39.5 -0.6**
CCM IAmb IAmb 21 41 45.8
comp=Z,29nm,1.2s
CCM Cathedral Cave 46.27 94 P **P** **21 41 39.5 -0.6**
CCM pmax pmax
comp=Z,29nm,1.3s
LMQ La Malbaie 46.55 69 P **P** **21 41 42.0 -0.2**
FVM French Village 46.66 93 P **P** **21 41 42.6 -0.6**
FVM French Village 46.66 93 P **P** **21 41 42.6 -0.6**
FVM pmax pmax
comp=Z,65nm,1.5s
MJB9 Matsu-Tunnel 46.99 264 P **P** **21 41 44.6 -1.2**
MJAR Matsushiro Arr 47.00 264 P **P** **21 41 46.4 +0.6**
comp=Z,3.3nm,0.7s,baz=9.2,slow=8.3,SNR=9.0
MJAR LR LR 22 02 48.6
comp=Z,804nm,18.8s,baz=25,slow=38
comp=Z,3.3nm,0.7s
VHRN Van Horn 47.26 112 P **P** **21 41 48.2 +0.2**
VHRN IAmb IAmb 21 41 56.0
comp=Z,23nm,1.2s
FRNY Flat Rock 47.57 73 P **P** **21 41 49.5 -0.7**
FCAR Ozark Folk Cen 47.78 96 P **P** **21 41 50.4 -1.5**
FCAR IAmb IAmb 21 41 56.9
comp=Z,34nm,1.6s
WCI Wyandotte Cave 48.12 89 P **P** **21 41 53.3 -1.2**
WCI IAmb IAmb 21 42 10.7
comp=Z,11nm,0.8s
WCI Wyandotte Cave 48.12 89 P **P** **21 41 53.3 -1.2**
WCI pmax pmax
comp=Z,11nm,0.8s
MOY Mondy 48.36 305 *e*P **P** **21 41 57.3 +0.9**
MOY pmax pmax
comp=Z,27nm,3.0s
BATG Bathurst New B 48.37 66 P **P** **21 41 56.2 -0.1**
MIAR Mount Ida 48.37 98 P **P** **21 41 55.4 -1.1**
MIAR IAmb IAmb 21 42 02.9
comp=Z,17nm,1.0s
MIAR Mount Ida 48.37 98 P **P** **21 41 55.4 -1.1**
MIAR pmax pmax
comp=Z,17nm,1.0s
ZAK Zakamensk 48.69 303 *e*P **P** **21 41 58.5 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
BINY Binghamton 48.86 77 P **P** **21 41 59.6 -0.7**
TXAR Lajitas Array 49.06 112 P **P** **21 42 01.5 -0.4**
TXAR Lajitas Array 49.06 112 P **P** **21 42 03.1 +1.2**
comp=Z,7.0nm,0.8s,baz=330,slow=5.9,SNR=30
TXAR LR LR 22 03 25.1
comp=Z,659nm,20.4s,baz=327,slow=37
comp=Z,7.0nm,0.8s
TXAR Lajitas Array 49.06 112 P **P** **21 42 01.5 -0.4**
WVT Waverly 49.30 92 P **P** **21 42 02.7 -0.9**
WVT IAmb IAmb 21 42 13.2
comp=Z,13nm,0.8s
WVT Waverly 49.30 92 P **P** **21 42 02.7 -0.9**
WVT pmax pmax
comp=Z,13nm,0.9s
SSPA Standing Stone 49.44 80 P **P** **21 42 04.3 -0.3**
SSPA IAmb IAmb 21 42 10.1
comp=Z,35nm,1.1s
JCT Junction City 49.50 107 P **P** **21 42 04.9 -0.4**
JCT Junction City 49.50 107 P **P** **21 42 04.9 -0.4**
JCT pmax pmax
comp=Z,127nm,2.0s
ULN Ulaanbaatar 49.51 298 P **P** **21 42 04.6 -0.7**
ULN Ulaanbaatar 49.51 298 *i*P **P** **21 42 06.1 +0.8**
ULN pmax pmax
comp=Z,9.0nm,1.0s
XLT XiLinHaoTe 49.53 288 *e*P **P** **21 42 07.8 +2.4**
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT LR LR
comp=Z,960nm,17.2s
SONM Songino Array 49.77 299 P **P** **21 42 08.0 +0.7**
SONM Songino Array 49.77 299 P **P** **21 42 08.5 +1.3**
comp=Z,11nm,1.0s,baz=32,slow=6.6,SNR=42
comp=Z,11nm,1.0s
SONM Songino Array 49.77 299 P **P** **21 42 08.0 +0.7**
SONM pmax pmax
comp=Z,15nm,1.0s
L61B Northampton 49.94 74 P **P** **21 42 10.1 +1.7**
baz=328
LMN Caledonia Moun 50.03 66 P **P** **21 42 09.0 -0.1**
LMN IAmb IAmb 21 42 15.3
comp=Z,32nm,1.0s
KSRS Korea Array 50.36 274 P **P** **21 42 13.1 +1.5**
comp=Z,3.6nm,0.8s,baz=22,slow=7.5,SNR=7.7
KSRS LR LR 22 03 37.7
comp=Z,651nm,18.9s,baz=55,slow=36
comp=Z,3.6nm,0.8s
ZAA0 Zalesovo Array 51.24 318 P **P** **21 42 17.5 -0.6**
ZALV Zalesovo Beam 51.24 318 P **P** **21 42 17.4 -0.7**
ZALV Zalesovo Beam 51.24 318 P **P** **21 42 17.7 -0.4**
comp=Z,11nm,0.9s,baz=25,slow=7.3,SNR=22
comp=Z,11nm,0.9s
TKL Tuckaleechee C 51.35 88 LR LR 22 04 25.8
comp=Z,1μm,18.9s,baz=334,slow=36
LPIG La Paz 51.42 121 LR LR 22 05 25.9
comp=Z,520nm,18.0s,baz=358,slow=37
FPAL Fort Paine 51.58 91 P **P** **21 42 21.1 +0.2**
NC204 NORSAR Array S 52.40 7 P **P** **21 42 25.4 -1.3**
FINES FINESS Array B 52.51 358 P **P** **21 42 27.4 -0.1**
FINES FINESS Array B 52.51 358 P **P** **21 42 28.4 +1.0**
comp=Z,3.0nm,0.9s,baz=18,slow=8.6,SNR=9.6
comp=Z,3.0nm,0.9s
FINES FINESS Array B 52.51 358 *i*P **P** **21 42 31.2 +3.8**
FINES pmax pmax
comp=Z,3.0nm,0.9s

KLMR Klimovskoe 52.53 350 *e*P **P** **21 42 26.2 -1.3**
KLMR pmax pmax
comp=Z,37nm,1.8s
NB2 NORSAR Subarra 52.66 7 P **P** **21 42 29.0 +0.4**
comp=Z,18nm,1.7s,baz=354,slow=7.4
NOA NORSAR Array B 52.66 7 P **P** **21 42 29.8 +1.2**
comp=Z,1.7nm,0.8s,baz=353,slow=7.1,SNR=5.7
comp=Z,1.7nm,0.8s
JNU Nakatsue 52.92 269 LR LR 22 05 42.4
comp=Z,684nm,18.3s,baz=24,slow=37
JSC Jenkinsville 53.56 87 P **P** **21 42 34.9 -0.6**
JSC IAmb IAmb 21 42 45.6
comp=Z,26nm,0.9s
JSC Jenkinsville 53.56 87 P **P** **21 42 34.9 -0.6**
JSC pmax pmax
comp=Z,26nm,0.9s
HFS Hagfors 53.67 6 P **P** **21 42 35.1 -0.9**
comp=Z,2.9nm,0.8s,baz=18,slow=6.2,SNR=5.5
HFS LR LR 22 06 33.2
comp=Z,1μm,19.3s,baz=162,slow=37
comp=Z,2.9nm,0.8s
KIRV Kirov 53.83 343 *ce*P **P** **21 42 39.9 +2.8**
HHC Hu-ho-hao-te 53.87 290 *e*P **P** **21 42 34.1 -3.8**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,350nm,6.6s
SVE Sverdlovsk 53.92 335 *e*P **P** **21 42 38.7 +0.8**
BTO Baotou 54.66 291 *e*P **P** **21 42 46.9 +3.3**
BTO SS **SS** **21 54 01.5 -3.8**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO pmax pmax
comp=Z,560nm,5.6s
BTO LR LR
comp=Z,4μm,12.8s
ARTI Arti 54.71 337 P **P** **21 42 43.2 -0.4**
ARTI IAmb IAmb 21 42 52.4
comp=Z,20nm,0.7s
ARTI Arti 54.71 337 *d i*P **P** **21 42 43.6 0.0**
ARTI 21 43 47.4
ARTI 21 44 42.8
ARTI S **S** **21 50 24.5 +1.4**
ARTI SS **SS** **21 54 04.4 -0.7**
ARTI pmax pmax
comp=Z,12nm,0.9s
ZAIG Zacatecas 55.42 114 P **P** **21 42 48.9 -0.6**
BRVK Borovoye 55.62 327 P **P** **21 42 50.0 -0.2**
BRVK IAmb IAmb 21 42 55.0
comp=Z,13nm,0.9s
BRVK Borovoye 55.62 327 *ce*P **P** **21 42 50.5 +0.3**
BRVK pmax pmax
comp=Z,26nm,1.7s
BVAR Borovoye Array 55.62 327 P **P** **21 42 50.0 -0.2**
comp=Z,6.5nm,0.7s,baz=33,slow=7.6,SNR=24
BVAR LR LR 22 09 11.6
comp=Z,1μm,20.9s,baz=25,slow=39
comp=Z,6.5nm,0.7s
KURK Kurchatov 55.80 320 P **P** **21 42 51.1 -0.4**
KURK IAmb IAmb 21 43 00.2
comp=Z,20nm,0.9s
KURK Kurchatov 55.80 320 *ce*P **P** **21 42 52.0 +0.4**
KURK pmax pmax
comp=Z,34nm,1.7s
KURBB Kurchatov Arra 55.91 321 P **P** **21 42 51.8 -0.5**
comp=Z,7.2nm,0.9s,baz=25,slow=6.5,SNR=15
ZSN Zaisan 57.07 314 *e*P **P** **21 43 00.6 -0.1**
ZSN Zaisan 57.07 314 *e*P **P** **21 43 00.6 -0.1**
EKA Eskdalemuir Ar 57.10 17 P **P** **21 43 01.6 +0.8**
comp=Z,8.5nm,0.5s,baz=334,slow=4.7,SNR=30
comp=Z,8.5nm,0.5s
ESK Eskdalemuir 57.11 17 P **P** **21 43 01.2 +0.4**
ESK Eskdalemuir 57.11 17 P **P** **21 43 01.2 +0.4**
ESK pmax pmax
comp=Z,110nm,1.6s
BRZS Berezniki 57.94 324 *e*P **P** **21 43 06.3 -0.5**
BRZS Berezniki 57.94 324 *e*P **P** **21 43 06.4 -0.5**
MK31 Makanchi Array 58.40 316 P **P** **21 43 09.3 -0.7**
MK31 Makanchi Array 58.40 316 *ce*P **P** **21 43 09.9 -0.2**
MKAR Makanchi Array 58.40 316 P **P** **21 43 09.3 -0.7**
MKAR Makanchi Array 58.40 316 P **P** **21 43 09.1 -1.0**
comp=Z,5.4nm,0.8s,baz=33,slow=3.4,SNR=20
MKAR LR LR 22 10 24.1
comp=Z,887nm,20.8s,baz=2.5,slow=38
comp=Z,5.4nm,0.8s
MKAR Makanchi Array 58.40 316 P **P** **21 43 09.4 -0.7**
OBN Obninsk 58.44 351 *e*P **P** **21 43 11.6 +1.5**
OBN *e* 21 44 02.5
OBN *e* 21 45 19.2
OBN *e*PPP PPP 21 46 39.8
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,1μm,19.0s
MAKZ Makanchi 58.48 316 P **P** **21 43 09.7 -0.9**
MAKZ IAmb IAmb 21 43 16.1
comp=Z,27nm,1.6s
MAKZ Makanchi 58.48 316 P **P** **21 43 09.7 -0.9**
MAKZ pmax pmax
comp=Z,27nm,1.6s
NJ2 Nanjing 58.70 279 *e*P **P** **21 43 11.8 -0.5**
NJ2 pmax pmax
comp=Z,14nm,1.0s
NJ2 pmax pmax
comp=Z,380nm,10.4s
NJ2 LR LR
comp=Z,840nm,14.2s
NJ2 LR LR
comp=Z,920nm,11.8s
DSB Dublin 58.72 20 P **P** **21 43 12.5 +0.4**
LYN LuoYang 59.02 286 P **P** **21 43 18.7 +4.2**
LYN pmax pmax
comp=Z,27nm,0.5s
GTA Gaotai 59.45 299 *e*P **P** **21 43 17.8 +0.2**
GTA pP sP 21 43 22.7 -0.5
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,2μm,15.6s
WMQ Urumqi 59.51 310 ⇓*i*P **P** **21 43 17.1 -0.8**
WMQ pP sP 21 43 23.1 -0.4
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ LR LR
comp=Z,1μm,14.1s
WMQ LR LR
comp=Z,2μm,17.7s
WMQ LR LR
comp=Z,740nm,21.1s
JOW Kunigami 59.52 268 LR LR 22 09 50.5
comp=Z,435nm,18.7s,baz=66,slow=37
AKTO Aktyubinsk 60.50 335 LR LR 22 12 57.8
comp=Z,808nm,18.7s,baz=277,slow=39
LPSR Galich'ya Gora 60.77 349 *e*P **P** **21 43 24.9 -1.3**
LPSR pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 60.84 288 *e*P **P** **21 43 26.4 -0.7**
XAN PcP **PcP** **21 44 17.1 +6.4**
XAN pmax pmax
comp=Z,8.0nm,1.2s
LZH Lanzhou 60.94 294 *e*P **P** **21 43 29.9 +2.0**
LZH pP sP 21 43 33.2 -0.3
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=Z,2μm,14.4s
TDK Taldyqorghan 61.12 318 *e*P **P** **21 43 28.7 -0.1**
TDK pmax pmax
comp=Z,11nm,1.0s
TDK Taldyqorghan 61.12 318 *e*P **P** **21 43 28.7 -0.1**
comp=Z,11nm,1.0s
VORR Voronezh 61.67 348 *e*P **P** **21 43 36.2 +3.9**
VORR pmax pmax
comp=Z,7.0nm,0.8s
WHN Wuhan 61.82 282 P **P** **21 43 35.5 +1.9**
VRH Novokhopyorsk 61.91 347 *e*P **P** **21 43 33.6 -0.4**
VRH pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 62.12 348 *e*P **P** **21 43 34.2 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 62.22 321 *e*P **P** **21 43 36.1 0.0**
BTLS Baital 62.22 321 *e*P **P** **21 43 36.2 0.0**
CLL Collm 62.46 7 P **P** **21 43 37.5 -0.2**

CLL IAmb IAmb 21 43 40.2
comp=Z,12nm,1.2s
CLL Collm 62.46 7 P **P** **21 43 37.5 -0.2**
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 62.46 7 P **P** **21 43 37.1 -0.6**
comp=Z,7.6nm,0.8s
CLL Collm 62.46 7 *e*P **P** **21 43 40.0 +2.3**
comp=Z,12nm,1.2s
KPKS Kokpek 62.46 317 *e*P **P** **21 43 38.1 +0.2**
KPKS Kokpek 62.46 317 *e*P **P** **21 43 38.1 +0.2**
SHLS Shalkode 62.53 316 *e*P **P** **21 43 37.5 -0.9**
SHLS pmax pmax
comp=Z,11nm,1.0s
SHLS Shalkode 62.53 316 *e*P **P** **21 43 37.5 -0.9**
comp=Z,11nm,1.0s
UZB Uzynbulak 62.66 317 *e*P **P** **21 43 39.2 -0.1**
UZB Uzynbulak 62.66 317 *e*P **P** **21 43 39.3 -0.1**
SATY Saty 62.92 317 *e*P **P** **21 43 41.0 0.0**
SATY Saty 62.92 317 *e*P **P** **21 43 41.1 0.0**
BRG Berggiesshubel 62.94 6 *e*P **P** **21 43 42.1 +1.2**
BRG Amp 21 43 44.4
comp=Z,6.3nm,1.0s
BRG Berggiesshubel 62.94 6 P P 21 43 47.2 +6.3
BRG Amp 21 43 49.0
comp=Z,6.2nm,0.9s
AK20 Malin Array Si 63.17 356 P **P** **21 43 42.1 -0.3**
AK03 Malin Array Si 63.18 355 P **P** **21 43 40.9 -1.5**
AAA Alma-Ata 63.18 318 *e*P **P** **21 43 42.7 0.0**
AAA pmax pmax
comp=Z,10.0nm,1.0s
AAA Alma-Ata 63.18 318 *e*P **P** **21 43 42.8 0.0**
comp=Z,10nm,1.0s
AK04 Malin Array Si 63.18 355 P **P** **21 43 40.7 -1.8**
HSKC Hora Svate Kat 63.18 7 *e*P **P** **21 43 43.9 +1.4**
AK18 Malin Array Si 63.19 356 P **P** **21 43 40.8 -1.7**
AK19 Malin Array Si 63.19 356 P **P** **21 43 40.8 -1.7**
AKASG Malin Array Be 63.20 355 P **P** **21 43 42.6 0.0**
comp=Z,5.6nm,0.8s,baz=4.1,slow=6.4,SNR=16
comp=Z,5.6nm,0.8s
AKASG Malin Array Be 63.20 355 *i*P **P** **21 43 42.9 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 63.20 355 P **P** **21 43 42.5 -0.1**
AKBB IAmb IAmb 21 43 55.5
comp=Z,20nm,1.1s
AKBB Malin Array Si 63.20 355 P **P** **21 43 42.5 -0.1**
AKBB pmax pmax
comp=Z,20nm,1.1s
AKBB Malin Array Si 63.20 355 P **P** **21 43 40.9 -1.7**
KIEV Kiev 63.21 355 P **P** **21 43 42.6 0.0**
KIEV IAmb IAmb 21 43 55.5
comp=Z,18nm,1.1s
KIEV Kiev 63.21 355 P **P** **21 43 42.7 0.0**
KIEV pmax pmax
comp=Z,18nm,1.1s
KIEV Kiev 63.21 355 P **P** **21 43 40.9 -1.7**
comp=Z,69nm,1.1s
AK15 Malin Array Si 63.21 355 P **P** **21 43 41.5 -1.2**
AK01 Malin Array Si 63.21 355 P **P** **21 43 41.5 -1.2**
AK17 Malin Array Si 63.22 356 P **P** **21 43 41.5 -1.2**
AK11 Malin Array Si 63.23 355 P **P** **21 43 41.6 -1.2**
AK16 Malin Array Si 63.24 355 P **P** **21 43 41.6 -1.2**
AK02 Malin Array Si 63.25 355 P **P** **21 43 41.7 -1.2**
AK12 Malin Array Si 63.26 355 P **P** **21 43 41.8 -1.2**
AK08 Malin Array Si 63.27 355 P **P** **21 43 41.8 -1.2**
AK14 Malin Array Si 63.28 355 P **P** **21 43 41.9 -1.2**
AK05 Malin Array Si 63.28 355 P **P** **21 43 41.9 -1.2**
AK09 Malin Array Si 63.29 355 P **P** **21 43 41.9 -1.3**
AK13 Malin Array Si 63.30 356 P **P** **21 43 42.0 -1.2**
AK10 Malin Array Si 63.30 355 P **P** **21 43 42.0 -1.3**
AK06 Malin Array Si 63.32 355 P **P** **21 43 42.1 -1.3**
TNSS Tian-Shan 63.33 318 *e*P **P** **21 43 43.8 -0.3**
TNSS Tian-Shan 63.33 318 *e*P **P** **21 43 43.8 -0.3**
AK07 Malin Array Si 63.35 355 P **P** **21 43 42.3 -1.3**
CMIG Matias Romero 63.48 109 LR LR 22 15 47.1
comp=Z,659nm,19.2s,baz=0.5,slow=40
DPC Dobruska-Polom 63.55 5 *e*P **P** **21 43 46.0 +1.0**
DPC Dobruska-Polom 63.55 5 *e*P **P** **21 43 46.0 +1.0**
DPC Dobruska-Polom 63.55 5 P **P** **21 43 44.1 -0.9**
comp=Z,13nm,1.2s
SGDS Sogindy 63.56 320 *e*P **P** **21 43 45.1 0.0**
SGDS pmax pmax
comp=Z,20nm,1.6s
SGDS Sogindy 63.56 320 *e*P **P** **21 43 45.2 0.0**
comp=Z,20nm,1.6s
ENH Enshi 63.97 286 P **P** **21 43 47.6 -0.4**
ENH IAmb IAmb 21 44 26.6
comp=Z,15nm,1.1s
FRU1 Bishkek 64.16 320 P **P** **21 43 49.6 +0.5**
FRU1 Bishkek 64.16 320 P **P** **21 43 49.6 +0.5**
FRU1 pmax pmax
comp=Z,26nm,1.1s
MORC Moravsky Berou 64.16 4 P **P** **21 43 49.2 +0.1**
MORC Moravsky Berou 64.16 4 *e*P **P** **21 43 51.8 +2.8**
MORC Moravsky Berou 64.16 4 P **P** **21 43 49.2 +0.1**
MORC pmax pmax
comp=Z,45nm,1.9s
AAK Ala-Archa 64.35 320 P **P** **21 43 50.4 -0.1**
AAK IAmb IAmb 21 43 56.6
comp=Z,13nm,0.9s
AAK Ala-Archa 64.35 320 LR LR 22 15 39.5
comp=Z,927nm,19.3s,baz=343,slow=40
AAK Ala-Archa 64.35 320 *ce*P **P** **21 43 51.5 +1.0**
AAK pmax pmax
comp=Z,15nm,1.0s
ZVC Zvikov 64.38 6 *e*P **P** **21 43 51.8 +1.4**
WUS Wushi 64.42 316 P **P** **21 43 50.5 -0.4**
TREC Trest 64.58 5 *e*P **P** **21 43 52.5 +0.8**
TREC Trest 64.58 5 *e*P **P** **21 43 52.5 +0.8**
VRAC Vranov 64.60 4 P **P** **21 43 52.5 +0.6**
comp=Z,2.8nm,0.7s,baz=4.2,slow=7.2,SNR=4.1
comp=Z,2.8nm,0.7s
VRAC Vranov 64.60 4 *e*P **P** **21 43 53.2 +1.3**
KHC Kasperske Hory 64.66 7 *e*P **P** **21 43 53.8 +1.5**
KHC Kasperske Hory 64.66 7 *ce*P **P** **21 43 54.7 +2.4**
KHC pmax pmax
comp=Z,55nm,1.7s
LANS Liptovska Anna 64.83 2 *e*P **P** **21 43 55.4 +2.0**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 64.83 2 *e*P **P** **21 43 55.4 +2.0**
KRUC Moravsky 64.84 5 *e*P **P** **21 43 54.8 +1.4**
DZA Taraz 64.91 323 *e*P **P** **21 43 54.1 +0.1**
DZA Taraz 64.91 323 *e*P **P** **21 43 54.2 +0.1**
KK31 Karatay Array 64.91 323 P **P** **21 43 53.4 -0.6**
KK31 IAmb IAmb 21 43 59.3
comp=Z,17nm,1.6s
KK31 Karatay Array 64.91 323 P **P** **21 43 53.4 -0.6**
KK31 pmax pmax
comp=Z,17nm,1.6s
KKAR Karatay Array 64.91 323 P **P** **21 43 53.5 -0.5**
KKAR Karatay Array 64.91 323 P **P** **21 43 53.5 -0.5**
GEC2 GERESS Array S 64.95 7 P **P** **21 43 54.2 -0.1**
GEC2 IAmb IAmb 21 44 02.0
comp=Z,23nm,1.4s
GERES GERESS Array B 64.95 7 P **P** **21 43 54.8 +0.5**
GERES GERESS Array B 64.95 7 P **P** **21 43 55.4 +1.2**
comp=Z,3.7nm,0.9s,baz=338,slow=5.7,SNR=8.0
comp=Z,3.7nm,0.9s
GUMO Guam 65.02 245 LR LR 22 10 28.4
comp=Z,223nm,21.3s,baz=38,slow=34
KOLS Kolonicke sedl 65.08 0 *e*P **P** **21 43 56.3 +1.3**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 65.08 0 *e*P **P** **21 43 56.3 +1.3**
BFO Black Forest 65.14 11 P **P** **21 43 55.1 -0.3**
BFO Black Forest 65.14 11 P **P** **21 43 55.1 -0.3**
BFO pmax pmax
comp=Z,30nm,1.3s
BRLS Boroldaу 65.15 324 *e*P **P** **21 43 57.3 +1.8**
BRLS Boroldaу 65.15 324 *e*P **P** **21 43 57.3 +1.8**
ECH Echery 65.17 11 P **P** **21 43 55.8 +0.2**
ECH IAmb IAmb 21 44 03.6
comp=Z,21nm,1.3s
ECH Echery 65.17 11 P **P** **21 43 55.8 +0.2**
ECH pmax pmax
comp=Z,21nm,1.3s
STNU Starunia 65.29 359 P **P** **21 43 55.5 -0.9**
NDNU Novodnistrovsk 65.36 357 P **P** **21 43 56.6 -0.2**
KMPD K-Podol'skiy 65.41 357 P **P** **21 43 56.4 -0.7**
VYHS Vyhne 65.48 3 *e*P **P** **21 43 59.0 +1.4**
VYHS pmax pmax
comp=Z,7.0nm,1.0s

VYHS Vyhne 65.48 3 *eP* **P 21 43 59.0 +1.4**
MODS Modra-Piesok 65.56 4 *eP* **P 21 43 59.5 +1.4**
MODS pmax pmax
comp=Z,17nm,1.1s
MODS Modra-Piesok 65.56 4 *eP* **P 21 43 59.5 +1.4**
CD2 Chengdu 65.59 291 P **P 21 43 59.3 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,1μm,15.2s
CD2 LR LR
comp=Z,2μm,17.1s
SORM Soroca 65.80 356 ⇑P **P 21 43 59.8 +0.3**
SORM Soroca 65.80 356 ⇑P **P 21 43 59.8 +0.3**
CHM Chimkent 65.87 324 *eP* **P 21 44 00.2 0.0**
CHM Chimkent 65.87 324 *eP* **P 21 44 00.3 0.0**
IUG Iuzhnay 65.93 323 *eP* **P 21 44 00.6 -0.1**
IUG pmax pmax
comp=Z,13nm,1.1s
IUG Iuzhnay 65.93 323 *eP* **P 21 44 00.7 -0.1**
comp=Z,13nm,1.1s
CONA Conrad Observa 65.96 5 *epP* **P 21 44 02.3 +1.6**
comp=Z,3.5nm,0.6s
MOA Molln 65.97 6 *epP* **P 21 44 02.2 +1.4**
comp=Z,2.2nm,0.5s
PSZ Piszkesteto 66.07 2 P **P 21 44 01.9 +0.4**
PSZ IAmb IAmb 21 44 08.6
comp=Z,16nm,1.3s
PSZ Piszkesteto 66.07 2 P **P 21 44 01.9 +0.4**
PSZ pmax pmax
comp=Z,16nm,1.3s
RETA Reutte 66.15 9 *epP* **P 21 44 03.4 +1.4**
comp=Z,2.1nm,0.5s
RONA Rosalia, Austr 66.20 5 *epP* **P 21 44 03.9 +1.6**
comp=Z,2.9nm,0.5s
LESA Schwarzleotal 66.32 7 *epP* **P 21 44 04.6 +1.5**
comp=Z,6.0nm,0.8s
BUR08 Bucovina Ar. S 66.35 358 P **P 21 44 03.6 +0.3**
BUR08 IAmb IAmb 21 45 12.8
comp=Z,15nm,1.4s
BURAR Bucovina Array 66.38 358 P **P 21 44 04.0 +0.6**
BURAR Bucovina Array 66.38 358 ⇑P **P 21 44 04.1 +0.6**
BURAR Bucovina Array 66.38 358 ⇑P **P 21 44 04.1 +0.6**
SQTA Sankt Quirin 66.44 9 *epP* **P 21 44 05.7 +1.8**
comp=Z,3.5nm,0.6s
FETA Feichten 66.61 9 *epP* **P 21 44 06.8 +1.7**
comp=Z,3.3nm,0.6s
KBA Koelnbreinsper 66.70 7 *epP* **P 21 44 07.6 +1.9**
comp=Z,8.6nm,0.7s
DAVOX Davos/Dischmat 66.80 10 P **P 21 44 08.0 +1.7**
comp=Z,6.2nm,0.7s,baz=340,slow=12,SNR=9.6
comp=Z,6.2nm,0.7s
DAVOX Davos/Dischmat 66.80 10 P **P 21 44 08.0 +1.7**
KSH Kashi 66.88 318 P **P 21 44 10.5 +3.6**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,2μm,15.1s
FUORN Ofenpass-Fuorn 66.98 9 P **P 21 44 08.0 +0.5**
ABTA Abfaltersbach 66.99 8 *epP* **P 21 44 08.6 +1.2**
comp=Z,3.2nm,0.6s
TUE Stuetta 67.07 10 P **P 21 44 08.7 +0.7**
OBKA Obir 67.33 6 *epP* **P 21 44 11.1 +1.6**
comp=Z,14nm,0.7s
ROBS Robic 67.54 7 *i* P **P 21 44 11.1 +0.3**
VNDS Vrh nad Dolski 67.74 6 *i* P **P 21 44 12.6 +0.5**
CRNS Crni Vrh 67.74 6 *i* P **P 21 44 12.4 +0.3**
SIRR Siria 67.74 1 ⇑P **P 21 44 13.7 +1.6**
MORH Mrgy, Hungar 67.75 3 ⇓P **P 21 44 13.0 +1.0**
GOF Gofitskoye 67.86 345 *ceP* **P 21 44 13.3 +0.5**
DOPR Dopca 68.03 358 ⇓P **P 21 44 15.3 +1.5**
COVR Voineasa-Covas 68.14 357 ⇑P **P 21 44 16.3 +1.8**
SURR Surduc 68.26 0 ⇑P **P 21 44 16.4 +1.2**
TEOL Teolo 68.32 8 P **P 21 44 15.2 -0.5**
BZS Buzias 68.39 1 ⇑P **P 21 44 16.7 +0.6**
BZS Buzias 68.39 1 ⇑P **P 21 44 16.7 +0.6**
MLR Muntele Rosu 68.49 358 P **P 21 44 18.1 +1.2**
comp=Z,2.0nm,0.9s,baz=0.0,slow=6.1,SNR=4.1
comp=Z,2.0nm,0.9s
MLR Muntele Rosu 68.49 358 ⇑P **P 21 44 18.1 +1.2**
VOIR 68.56 358 ⇑P **P 21 44 19.5 +2.2**
VOIR 68.56 358 ⇑P **P 21 44 19.5 +2.2**
GZR Gura Zlata 68.62 360 ⇑P **P 21 44 18.6 +1.0**
GZR Gura Zlata 68.62 360 ⇑P **P 21 44 18.6 +1.0**
GAR Garm 68.84 322 P **P 21 44 18.8 -0.4**
KVAR Kislovodsk Arr 68.99 345 P **P 21 44 19.1 -0.9**
comp=Z,1.6nm,0.7s,baz=27,slow=6.8,SNR=2.0
comp=Z,1.6nm,0.7s
KIV Kislovodsk 68.99 345 P **P 21 44 19.9 -0.1**
KIV Kislovodsk 68.99 345 *eP* **P 21 44 20.2 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
HERR Herculane 69.13 0 ⇓P **P 21 44 21.1 +0.4**
KBZ Khabaz 69.19 345 P **P 21 44 22.6 +1.5**
comp=Z,1.5nm,0.8s,baz=279,slow=4.4,SNR=8.9
comp=Z,1.5nm,0.8s
KBZ Khabaz 69.19 345 *ceP* **P 21 44 21.3 +0.2**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
MDVR Moldovita 69.23 1 ⇓P **P 21 44 22.0 +0.6**
CHGR Chuyangaron 69.45 323 P **P 21 44 22.8 -0.1**
CHGR Chuyangaron 69.45 323 P **P 21 44 22.8 -0.1**
CHGR pmax pmax
comp=Z,86nm,1.2s
SIMJ Simiganj 69.49 323 P **P 21 44 23.1 -0.2**
SIMJ IAmb IAmb 21 44 32.0
comp=Z,14nm,0.8s
PZH PanZhiHua 70.32 291 P **P 21 44 23.7 -4.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
BOVS Bovan 70.37 1 ⇑P **P 21 44 28.7 +0.3**
MVO Moncorvo 70.41 23 *eP* **P 21 44 32.4 +3.6**
FDMO Fiordimonte 70.72 8 P **P 21 44 31.1 +0.6**
AKT Akhty 70.82 340 *eP* **P 21 44 31.8 +0.5**
AKT *e* 21 44 52.1
AKT *e*PPP PPP 21 48 49.9
AKT pmax pmax
comp=Z,12nm,1.2s
MTE Manteigas 71.07 24 *eP* **P 21 44 36.4 +3.6**
MTE *i* Amb 21 44 57.1
comp=Z,137nm,1.9s
LSA Lhasa 71.25 301 P **P 21 44 35.0 +0.5**
LSA IAmb IAmb 21 44 41.1
comp=Z,26nm,1.7s
LSA Lhasa 71.25 301 P **P 21 44 35.0 +0.5**
LSA pmax pmax
comp=Z,26nm,1.7s
PCAS Casmilo, Conde 71.25 25 *eP* **P 21 44 34.4 +0.6**
PCAS *i* Amb 21 44 48.5
comp=Z,171nm,1.9s
PDG Podgorica 71.55 3 P **P 21 44 35.3 -0.3**
PDG Podgorica 71.55 3 ⇓P **P 21 44 35.5 0.0**
ESDC Sonseca Array 72.34 21 P **P 21 44 40.6 +0.2**
ESDC Sonseca Array 72.34 21 P **P 21 44 41.5 +1.0**
comp=Z,4.9nm,0.8s,baz=351,slow=6.2,SNR=18
comp=Z,4.9nm,0.8s
PAB San Pablo 72.41 22 P **P 21 44 41.0 +0.1**
PAB IAmb IAmb 21 46 43.6
comp=Z,40nm,1.6s
PAB San Pablo 72.41 22 P **P 21 44 41.0 +0.1**
PAB pmax pmax
comp=Z,40nm,1.6s
EVO Evora 72.82 25 *eP* P 21 44 48.1 +4.9
EVO *i* Amb 21 44 52.2
comp=Z,76nm,2.0s
TNCH TengChong 72.86 293 *eP* **P 21 44 43.9 0.0**
TNCH pmax pmax
comp=Z,9.0nm,0.5s
NIL Nilore 73.13 318 P **P 21 44 44.6 -0.6**
NIL IAmb IAmb 21 44 52.9
comp=Z,17nm,1.0s
NIL Nilore 73.13 318 P **P 21 44 44.6 -0.6**
NIL pmax pmax
comp=Z,17nm,1.0s
FNA Florina 73.22 1 P **P 21 44 45.9 +0.2**
FNA Florina 73.22 1 P **P 21 44 45.9 +0.2**
PBAR Barrancos 73.33 24 *eP* P 21 44 52.4 +6.2
PBAR *i* Amb 21 44 54.7
comp=Z,82nm,1.4s
KBL Kabul 73.39 321 P **P 21 44 45.6 -1.3**
KBL Kabul 73.39 321 P **P 21 44 45.6 -1.3**
KBL pmax pmax
comp=Z,7.0nm,1.2s

JTS Las Juntas de 73.54 102 LR LR 22 19 50.7
comp=Z,482nm,21.6s,baz=334,slow=38
ANTO Ankara 73.86 352 P **P 21 44 49.6 +0.2**
ANTO IAmb IAmb 21 44 56.9
comp=Z,9.7nm,0.8s
ANTO Ankara 73.86 352 P **P 21 44 49.6 +0.2**
ANTO pmax pmax
comp=Z,10.0nm,0.8s
LIT Litokhoron 73.91 0 P **P 21 44 49.2 -0.4**
LIT Litokhoron 73.91 0 P **P 21 44 49.2 -0.4**
LIT pmax pmax
comp=Z,8.0nm,0.9s
QIZ Qiongzhong 73.92 280 P **P 21 44 50.8 +0.9**
QIZ S **S 21 54 23.4 +1.9**
QIZ LR LR
comp=Z,1μm,17.3s
QIZ LR LR
comp=Z,1μm,17.1s
BR131 Keskin Array S 73.95 351 P **P 21 44 49.6 -0.5**
BR131 Keskin Array S 73.95 351 P **P 21 44 49.6 -0.4**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 73.95 351 P **P 21 44 49.7 -0.4**
BRTR Keskin Array B 73.95 351 P **P 21 44 50.3 +0.2**
comp=Z,1.9nm,0.8s,baz=19,slow=1.9,SNR=12
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 73.95 351 *i* P **P 21 44 50.7 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SHL Shillong 74.78 299 P **P 21 44 53.6 -1.5**
SHL Shillong 74.78 299 P **P 21 44 53.6 -1.5**
SHL pmax pmax
comp=Z,9.0nm,1.0s
MARD Mardin 75.76 345 P **P 21 45 01.2 +0.7**
MARD IAmb IAmb 21 45 09.6
comp=Z,14nm,0.6s
KEST Kesra 77.74 11 P **P 21 45 12.8 +1.1**
comp=Z,4.6nm,0.8s,baz=15,slow=5.9,SNR=4.8
comp=Z,4.6nm,0.8s
CHTO Chiang Mai 78.36 290 P **P 21 45 14.3 -0.9**
CHTO Chiang Mai 78.36 290 P **P 21 45 14.3 -0.9**
CHTO pmax pmax
comp=Z,8.0nm,1.3s
CMAR Chiang Mai Arr 78.68 290 P **P 21 45 16.9 -0.1**
CMAR Chiang Mai Arr 78.68 290 P **P 21 45 17.1 +0.1**
comp=Z,4.1nm,0.9s,baz=5.7,slow=5.9,SNR=16
CMAR LR LR 22 23 03.8
comp=Z,1μm,18.6s,baz=30,slow=38
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 78.68 290 *i* P **P 21 45 17.5 +0.5**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
MMAI Mount Meron Ar 80.50 349 P **P 21 45 26.6 -0.3**
comp=Z,3.3nm,0.8s,baz=1.6,slow=5.0,SNR=5.3
comp=Z,3.3nm,0.8s
SDV Santo Domingo 80.56 90 *eP* **P 21 45 28.8 +1.3**
ASF Jabal al Asfar 81.22 348 P **P 21 45 30.7 0.0**
comp=Z,5.1nm,0.9s,baz=304,slow=3.6,SNR=4.1
comp=Z,5.1nm,0.9s
JAY Jayapura 81.42 243 LR LR 22 18 11.0
comp=Z,332nm,19.6s,baz=274,slow=33
BAUV El Baul 81.55 87 P **P 21 45 31.5 -1.0**
BAUV IAmb IAmb 21 45 39.0
comp=Z,20nm,1.0s
HNR Honiara 81.76 223 LR LR 22 18 37.4
comp=Z,452nm,20.0s,baz=0.5,slow=33
RUSC La Rusia 82.28 93 P **P 21 45 36.1 -0.9**
RUSC IAmb IAmb 21 46 51.2
comp=Z,38nm,1.7s
OTAV Otavalo 85.28 100 *eP* **P 21 45 53.2 +1.0**
WSAR Wadi Sarin 86.68 327 P **P 21 45 58.0 -0.5**
comp=Z,6.9nm,0.8s,baz=359,slow=3.5,SNR=5.3
WSAR LR LR 22 30 22.3
comp=Z,466nm,18.4s,baz=302,slow=40
comp=Z,6.9nm,0.8s
RAR Rarotonga 87.28 182 LR LR 22 21 45.4
comp=Z,351nm,18.4s,baz=322,slow=33
KSM Kuching 89.65 273 P **P 21 46 12.2 -0.6**
KSM IAmb IAmb 21 46 41.1
comp=Z,12nm,1.1s
COEN Coen 91.19 237 P **P 21 46 19.4 -0.4**
COEN Coen 91.19 237 P **P 21 46 18.8 -1.0**
comp=Z,5.8nm,1.9s
ATAH Atahualpa 92.02 103 LR LR 22 32 55.0
comp=Z,443nm,18.5s,baz=21,slow=39
PSI Prapat 92.99 284 LR LR 22 31 09.8
comp=Z,428nm,18.6s,baz=334,slow=37
NNA Nana 97.06 104 LR LR 22 34 34.6
comp=Z,361nm,18.6s,baz=24,slow=38
WRA Warramunga Arr 99.82 243 LR LR 22 27 18.2
comp=Z,263nm,20.1s,baz=21,slow=32
PLCA Paso Flores 125.23 112 PKP **PKPdf 21 52 14.2 -0.4**
comp=Z,3.5nm,0.9s,baz=270,slow=1.0,SNR=3.4
BOSA Boshof 142.24 356 PKP **PKPdf 21 52 45.9 -1.0**
comp=Z,2.1nm,0.8s,baz=351,slow=4.3,SNR=3.6
SYO Syowa Base 173.05 240 ‖ *e*PKPdf **PKPdf 21 53 23.6 +1.4**

IDC ***06*** *21:33:42.1±1.3, 17°.64N×40°.25E, h0km, mb4.2/19, mbtmp4.2/21, ML3.5/1, MS5.0/3, Error ellipse: s-maj=28.2km s-min=16.8km az=8.0*
NEIC ***06*** *21:33:45.8±1.3, 17°.88N±0°.10×40°.26E±0°.09, h10km±1km, mb4.5/26, Error ellipse: s-maj=18.5km s-min=11.9km az=143.0*
ISC 06 21:33:45.0±0.5,**17°.89N**±0°.07×**40°.24E**±0°.07,**h10**km,**n56**, σ0°**95**/55,**mb4.3**/33,**Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**6.81**	**158**		**Pn**	**21 35 26.4**	**+1.3**
ATD	**Arta Tunnel**	**6.81**	**158**	Pn	**Pn**	**21 35 26.6**	**+1.5**
ATD	0.1nm,0.3s,baz=163,slow=22,SNR=6.4			Sn	**Sn**	**21 36 43.5**	**+0.7**
	baz=8.6,slow=17,SNR=1.1						
RAYN	**Ar Rayn**	**7.46**	**40**	Pn	**Pn**	**21 35 35.1**	**+1.1**
MMAI	**Mount Meron Ar**	**15.68**	**345**	Pn	**Pn**	**21 37 28.0**	**+1.9**
	1.9nm,0.8s,baz=152,slow=16,SNR=1.4						
UOSS	**Minazif**	**16.43**	**62**		**Pn**	**21 37 35.3**	**-0.5**
WSAR	**Wadi Sarin**	**18.02**	**70**	P	**P**	**21 37 56.7**	**+0.5**
	0.1nm,0.3s,baz=244,slow=7.1,SNR=6.1						
WSAR				LR	LR	21 46 12.4	
	comp=Z,2μm,18.6s,baz=208,slow=42						
	13nm,1.0s						
IDI	**Anoyia**	**22.05**	**325**	P	**P**	**21 38 41.1**	**+1.0**
	12nm,1.0s,baz=148,slow=11,SNR=1.7						
	12nm,1.0s						
BRTR	**Keskin Array B**	**22.50**	**347**	P	**P**	**21 38 45.1**	**+0.2**
BRTR	**Keskin Array B**	**22.50**	**347**	P	**P**	**21 38 46.8**	**+1.9**
	7.1nm,0.9s,baz=164,slow=10,SNR=21						
	7.1nm,0.9s						
BR131	**Keskin Array S**	**22.50**	**347**	P	**P**	**21 38 44.6**	**-0.3**
GNI	**Garni**	**22.52**	**9**	P	**P**	**21 38 45.5**	**+0.4**
GNI	**Garni**	**22.52**	**9**	P	**P**	**21 38 47.9**	**+2.8**
	5.6nm,0.9s,baz=311,slow=9.7,SNR=4.9						
	5.6nm,0.9s						
KARS	**Kars**	**22.79**	**6**	P	**P**	**21 38 47.7**	**-0.3**
ANTO	**Ankara**	**22.83**	**345**	P	**P**	**21 38 49.9**	**+1.5**
ANTO				IAmb	IAmb	21 39 01.9	
	comp=Z,15nm,1.1s						
MANT	**Manisa**	**22.92**	**336**	P	**P**	**21 38 49.4**	**-0.1**
HRA	**Herat**	**25.60**	**46**	P	**P**	**21 39 15.7**	**+0.8**
HRA				IAmb	IAmb	21 39 22.3	
	comp=Z,12nm,0.9s						
KBZ	**Khabaz**	**25.86**	**4**	P	**P**	**21 39 18.7**	**+2.0**
	comp=Z,4.9nm,1.0s,baz=157,slow=6.0,SNR=8.3						
	comp=Z,4.9nm,1.0s						
KIV	**Kislovodsk**	**26.07**	**4**	P	**P**	**21 39 18.2**	**-0.6**
KIV				IAmb	IAmb	21 39 28.3	
	comp=Z,19nm,1.1s						
RDO	**Rodhopi**	**26.40**	**334**	P	**P**	**21 39 22.3**	**+0.7**
RDO				IAmb	IAmb	21 39 33.5	
	comp=Z,8.6nm,1.0s						
MLR	**Muntele Rosu**	**29.99**	**340**	P	**P**	**21 39 55.5**	**+1.6**
	comp=Z,3.1nm,0.8s,baz=150,slow=15,SNR=3.7						
	comp=Z,3.1nm,0.8s						
KBL	**Kabul**	**30.55**	**51**	P	**P**	**21 39 59.1**	**0.0**
KBL				IAmb	IAmb	21 40 06.2	
	comp=Z,6.9nm,1.1s						
BURAR	**Bucovina Array**	**32.10**	**341**	P	**P**	**21 40 12.4**	**-0.1**
SIMJ	**Simiganj**	**32.49**	**45**	P	**P**	**21 40 16.2**	**+0.1**
SIMJ				IAmb	IAmb	21 40 23.2	
	comp=Z,5.1nm,1.1s						
KEST	**Kesra**	**32.61**	**309**	P	**P**	**21 40 18.3**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=159,slow=5.9,SNR=4.9						
	comp=Z,4.6nm,0.8s						
TAM	**Tamanrasset**	**32.87**	**284**	P	**P**	**21 40 19.2**	**-0.3**
TAM				IAmb	IAmb	21 40 22.1	
	comp=Z,5.6nm,1.0s						
NIL	**Nilore**	**33.44**	**56**	P	**P**	**21 40 24.4**	**+0.1**
NIL				IAmb	IAmb	21 40 27.4	
	comp=Z,5.9nm,0.8s						
GAR	**Garm**	**33.54**	**45**	P	**P**	**21 40 25.5**	**+0.3**
AKASG	**Malin Array Be**	**33.90**	**347**	P	**P**	**21 40 27.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=162,slow=7.7,SNR=4.6						
	comp=Z,0.4nm,0.4s						
DRK	**Karamyk**	**34.78**	**45**	P	**P**	**21 40 36.4**	**+0.2**
DRK				IAmb	IAmb	21 40 44.2	
	comp=Z,14nm,1.2s						
KK31	**Karatay Array**	**35.88**	**39**	P	**P**	**21 40 45.9**	**+0.6**
KKAR	**Karatay Array**	**35.88**	**39**	P	**P**	**21 40 46.0**	**+0.7**
GERES	**GERESS Array B**	**37.63**	**331**	P	**P**	**21 40 59.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=149,slow=11,SNR=3.7						
	comp=Z,1.7nm,0.8s						
DAVOX	**Davos/Dischmat**	**38.14**	**326**	LR	LR	21 57 11.6	
	comp=Z,4μm,21.9s,baz=334,slow=37						
ARTI	**Arti**	**40.80**	**15**	P	**P**	**21 41 26.2**	**-0.2**
ARTI				IAmb	IAmb	21 41 28.8	
	comp=Z,7.9nm,0.8s						
BVAR	**Borovoye Array**	**42.20**	**27**	P	**P**	**21 41 38.6**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=219,slow=6.9,SNR=7.8						
	comp=Z,2.5nm,1.0s						
ESDC	**Sonseca Array**	**43.86**	**309**	P	**P**	**21 41 52.1**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=98,slow=9.8,SNR=5.6						
	comp=Z,1.9nm,0.9s						
KURBB	**Kurchatov Arra**	**44.65**	**34**	P	**P**	**21 41 58.0**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=235,slow=8.3,SNR=18						
FINES	**FINESS Array B**	**44.65**	**350**	P	**P**	**21 41 56.3**	**-1.3**
	comp=Z,3.5nm,0.9s,baz=141,slow=8.2,SNR=4.4						
	comp=Z,3.5nm,0.9s						
KURK	**Kurchatov**	**44.74**	**34**	P	**P**	**21 41 58.5**	**-0.1**
KURK				IAmb	IAmb	21 42 01.4	
	comp=Z,4.1nm,0.9s						
MAKZ	**Makanchi**	**44.76**	**40**	P	**P**	**21 41 58.3**	**-0.5**
MAKZ				IAmb	IAmb	21 42 01.2	
	comp=Z,4.4nm,1.0s						
MK31	**Makanchi Array**	**44.95**	**41**	P	**P**	**21 42 00.3**	**0.0**
MKAR	**Makanchi Array**	**44.95**	**41**	P	**P**	**21 42 00.4**	**+0.1**
MKAR	**Makanchi Array**	**44.95**	**41**	P	**P**	**21 41 59.7**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=237,slow=6.3,SNR=12						
	comp=Z,1.7nm,0.9s						
DBIC	**Dimbokro**	**45.34**	**262**	P	**P**	**21 42 03.5**	**-0.3**
DBIC	**Dimbokro**	**45.34**	**262**	P	**P**	**21 42 02.5**	**-1.3**
	comp=Z,4.4nm,0.8s,baz=68,slow=8.7,SNR=4.8						
	comp=Z,4.4nm,0.8s						
NOA	**NORSAR Array B**	**47.78**	**341**	P	**P**	**21 42 21.5**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=137,slow=8.0,SNR=5.9						
	comp=Z,2.6nm,0.9s						
SHL	**Shillong**	**48.33**	**71**	P	**P**	**21 42 25.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**55.55**	**80**	P	**P**	**21 43 20.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**55.55**	**80**	P	**P**	**21 43 20.4**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=284,slow=7.5,SNR=14						
	comp=Z,2.3nm,1.0s						
ASCN	**Ascension**	**59.70**	**249**	P	**P**	**21 43 50.2**	**-0.1**
SONM	**Songino Array**	**60.99**	**45**	P	**P**	**21 43 58.7**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=270,slow=5.8,SNR=4.5						
	comp=Z,4.0nm,0.9s						
TIXI	**Tixi**	**72.73**	**19**	P	**P**	**21 45 12.4**	**-0.5**
TIXI				IAmb	IAmb	21 45 13.9	
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**77.63**	**42**	P	**P**	**21 45 40.7**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=294,slow=5.4,SNR=3.9						
	comp=Z,1.2nm,0.6s						
SCHQ	**Schefferville**	**84.99**	**326**	P	**P**	**21 46 19.8**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=43,slow=4.6,SNR=3.3						
	comp=Z,4.3nm,0.8s						
MJAR	**Matsushiro Arr**	**85.71**	**53**	P	**P**	**21 46 24.3**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=284,slow=4.9,SNR=2.1						
	comp=Z,3.3nm,1.1s						
MDP	**Montagnes des**	**91.19**	**276**	LR	LR	22 27 24.9	
	comp=Z,758nm,18.5s,baz=20,slow=35						

IDC 06 21:38:45.6±2.9,**32°.27S**×**177°.95W**,**h0**km,**mb4.1**/2, **mbtmp4.0**/3,**ML3.7**/1,**Error ellipse: s-maj=68.7km s-min=35.6km az=118.0**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.21**	**213**	Pn	Pn	21 40 30.8	-1.5
	1.2nm,0.3s,baz=100,slow=5.8,SNR=6.7						
URZ				Sn	Sn	21 41 56.8	+1.9
	5.2nm,0.3s,baz=166,slow=22,SNR=19						
	2.1nm,0.3s						
ASAR	**Alice Springs**	**43.09**	**269**	P	P	21 46 47.9	+0.2
	1.1nm,0.7s,baz=104,slow=7.7,SNR=18						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**44.24**	**274**	P	P	21 46 56.8	-0.2
	1.7nm,0.4s,baz=114,slow=7.9,SNR=23						
	1.7nm,0.4s						
FINES	**FINESS Array B**	**146.90**	**339**	PKPbc	PKPbc	21 58 28.3	-0.8
	2.1nm,0.7s,baz=42,slow=4.9,SNR=10						

WEL ***06*** *21:42:50.7±0.8, 32°.5±4°×17°.7W±1°.2, h12km, mB5.1/7, ML5.6/11, MLv5.3/11, Mw(mB)4.5/7, Error ellipse: s-maj=15.7km s-min=4.3km az=104.8, confirmed*
IDC ***06*** *21:42:52.6±0.5, 32°.19S×177°.68W, h0km, mb4.8/18, mbtmp4.7/21, ML4.1/3, MS4.6/4, Error ellipse: s-maj=19.4km s-min=16.5km az=150.0*
MOS ***06*** *21:42:53.7±1.1, 32°.04S×177°.72W, h10km, mb5.3/12, Error ellipse: s-maj=14.3km s-min=13.0km az=92.5*
BJI ***06*** *21:42:54.1, 31°.95S×177°.37W, h18km, mB5.8/3, mb5.3/21, Ms5.5/3, Ms7 5.2/3*
NEIC ***06*** *21:42:54.9±1.0, 32°.16S±0°.09×177°.8W±0°.1, h10km±1km, mb5.2/54, Error ellipse: s-maj=18.0km s-min=15.4km az=105.0*
ISC 06 21:42:55.6±0.3,**32°.15S**±0°.05×**177°.62W**±0°.06,**h18**km, **n294**,σ1°**39**/307,**mb5.2**/77,**MS4.8**/3,**23C-11D**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.89**	**355**	P	**Pn**	21 43 35.9	-4.7
GLKZ				S	**Sn**	**21 44 09.6**	**-5.3**
MXZ	**Matakaoa Point**	**6.36**	**211**	Pn	**Pn**	**21 44 24.9**	**-3.4**
MXZ	**Matakaoa Point**	**6.36**	**211**	P	**Pn**	**21 44 26.0**	**-2.3**
MXZ				S	**Sn**	**21 45 40.1**	**-0.3**
WMGZ	**Waiomatatini S**	**6.53**	**209**	P	**Pn**	**21 44 29.5**	**-1.2**
WMGZ				S	**Sn**	**21 45 45.3**	**+0.6**
PKGZ	**Pakihiroa**	**6.71**	**211**	P	**Pn**	**21 44 30.5**	**-2.7**
PKGZ				P	**Sn**	**21 45 49.3**	**+0.2**
HAZ	**Te Kaha**	**6.75**	**213**	P	**Pn**	**21 44 33.0**	**-0.7**
HAZ				S	**Sn**	**21 45 49.9**	**-0.2**
PUZ	**Puketiti**	**6.81**	**209**	P	**Pn**	**21 44 32.0**	**-2.5**
PUZ				S	**Sn**	**21 45 51.1**	**-0.5**
RUGZ	**Raukumara Rang**	**6.97**	**212**	P	**Pn**	**21 44 34.3**	**-2.5**
RUGZ				S	**Sn**	**21 45 56.3**	**+0.6**
TWGZ	**Tauwhareparae**	**7.01**	**210**	P	**Pn**	**21 44 35.7**	**-1.7**
TWGZ				S	**Sn**	**21 45 56.2**	**-0.4**
CNGZ	**Carnagh Statio**	**7.18**	**207**	P	**Pn**	**21 44 37.1**	**-2.6**
MWZ	**Matawai**	**7.34**	**211**	P	**Pn**	**21 44 40.0**	**-1.9**
MWZ				S	**Sn**	**21 46 04.4**	**-0.3**
URZ	**Urewera**	**7.47**	**214**	Pn	**Pn**	**21 44 41.3**	**-2.3**
	3.6nm,0.3s,baz=332,slow=5.4,SNR=12						
URZ				Sn	**Sn**	**21 46 06.1**	**-1.7**
	8.3nm,0.3s,baz=83,slow=21,SNR=10						
	14nm,0.4s						
URZ	**Urewera**	**7.47**	**214**	P	**Pn**	**21 44 41.1**	**-2.5**
URZ				S	**Sn**	**21 46 04.8**	**-3.0**
RIGZ	**Rimuhau**	**7.55**	**209**	S	**Sn**	**21 46 09.2**	**-0.7**
WCZ	**Waipu Caves**	**7.67**	**238**	P	**Pn**	**21 44 49.7**	**+3.4**
SNGZ	**Shannon Statio**	**7.79**	**210**	P	**Pn**	**21 44 47.8**	**-0.2**
SNGZ				S	**Sn**	**21 46 14.6**	**-1.2**
MUGZ	**Murupara**	**7.80**	**214**	S	**Sn**	**21 46 15.7**	**-0.4**
RTZ	**Ruatahuna**	**7.81**	**213**	Pn	**Pn**	**21 44 44.8**	**-3.6**
TOZ	**Tahuroa Road**	**7.93**	**223**	P	**Pn**	**21 44 54.3**	**+4.4**
OUZ	**Omahuta**	**7.94**	**245**	P	**Pn**	**21 44 53.9**	**+3.9**
CTZ	**Chatham Island**	**11.60**	**176**	Pn	**Pn**	**21 45 38.0**	**-2.1**
CTZ	**Chatham Island**	**11.60**	**176**	P	Pn	21 45 35.1	-5.0
RPZ	**Rata Peaks**	**14.59**	**214**	**Pn**	**Pn**	**21 46 21.3**	**+0.3**
	3.0nm,0.3s,baz=44,slow=14,SNR=3.7						
RPZ				Sn	Sn	21 48 51.9	-10
	1.4nm,0.3s,baz=348,slow=18,SNR=3.5						
	9.0nm,0.4s						
PINNC	**Pines Island,**	**16.30**	**302**	P	**P**	**21 46 45.2**	**-1.2**
PINNC				IAmb	IAmb	21 46 50.4	
	comp=Z,115nm

AFI Afiamalu 18.92 18 P **P** **21 47 14.8 -0.7**
AFI pmax pmax
comp=Z,63nm,0.9s
RAR Rarotonga 19.28 60 P **P** **21 47 19.4 0.0**
comp=Z,1.2nm,0.3s,baz=329,slow=4.0,SNR=4.4
RAR LR LR 21 53 48.0
comp=Z,790nm,19.9s,baz=256,slow=34
comp=Z,32nm,0.8s
EIDS Eidsvold 28.19 276 P **P** **21 48 47.7 +0.5**
EIDS IAmb IAmb 21 48 49.9
comp=Z,28nm,1.1s
EIDS Eidsvold 28.19 276 P **P** **21 48 48.3 +1.1**
comp=Z,27nm,1.3s
CMSA Cobar Meteorol 31.08 261 P **P** **21 49 14.6 +1.9**
comp=Z,38nm,0.9s
ARPS Mount Arapiles 33.57 251 P **P** **21 49 36.4 +1.9**
comp=Z,97nm,0.9s
QLP Quilpie 33.58 270 P **P** **21 49 36.4 +1.7**
comp=Z,36nm,0.9s
STKA Stephens Creek 34.44 259 P **P** **21 49 41.2 -0.9**
STKA Stephens Creek 34.44 259 P **P** **21 49 42.6 +0.5**
comp=Z,102nm,0.8s
STKA Stephens Creek 34.44 259 P **P** **21 49 42.5 +0.4**
comp=Z,13nm,0.9s,baz=100,slow=9.3,SNR=16
STKA LR LR 22 03 00.5
comp=Z,1µm,18.2s,baz=96,slow=35
comp=Z,13nm,0.9s
STKA Stephens Creek 34.44 259 *i* P **P** **21 49 41.8 -0.3**
HTT Hallett 36.36 256 P **P** **21 49 59.5 +0.7**
comp=Z,39nm,1.0s
MTSU Mount Surprise 36.97 283 P **P** **21 50 04.5 +0.5**
comp=Z,40nm,0.9s
BBOO Buckleboo 38.84 256 P **P** **21 50 17.5 -2.1**
BBOO IAmb IAmb 21 50 21.5
comp=Z,30nm,0.8s
BBOO Buckleboo 38.84 256 P **P** **21 50 18.9 -0.7**
comp=Z,65nm,0.9s
RABL Rabaul 39.69 308 P **P** **21 50 26.0 -0.9**
QIS Mount Isa 39.79 276 P **P** **21 50 27.2 -0.6**
comp=Z,19nm,1.1s
COEN Coen 40.08 288 P **P** **21 50 28.9 -1.3**
COEN Coen 40.08 288 P **P** **21 50 31.2 +1.0**
comp=Z,24nm,0.9s
AS19 Alice Springs 43.30 269 P **P** **21 50 55.5 -1.0**
comp=Z,41nm,1.1s
AS06 Alice Springs 43.31 269 P **P** **21 50 55.3 -1.3**
comp=Z,35nm,0.7s
AS31 Alice Springs 43.36 269 P **P** **21 50 55.8 -1.2**
AS31 Alice Springs 43.36 269 P **P** **21 50 55.7 -1.4**
comp=Z,11nm,1.1s
ASAR Alice Springs 43.37 269 P **P** **21 50 55.8 -1.3**
comp=Z,19nm,0.6s,baz=105,slow=7.1,SNR=92
ASAR ScP **ScP** **21 56 38.1 +2.0**
comp=Z,0.8nm,1.0s,baz=131,slow=4.2,SNR=2.3
comp=Z,19nm,0.6s
WR0 Warramunga Arr 44.33 274 P **P** **21 51 03.1 -1.7**
WR0 IAmb IAmb 21 51 06.7
comp=Z,44nm,1.1s
WRAB Tennant Creek 44.51 274 *i* P **P** **21 51 05.1 -1.1**
WRAB pmax pmax
comp=Z,61nm,1.1s
WRA Warramunga Arr 44.51 274 P **P** **21 51 04.1 -2.2**
WRA Warramunga Arr 44.51 274 P **P** **21 51 04.8 -1.5**
comp=Z,23nm,0.5s,baz=112,slow=8.1,SNR=102
WRA ScP **ScP** **21 56 43.7 +2.9**
comp=Z,0.7nm,0.9s,baz=117,slow=3.7,SNR=2.5
comp=Z,23nm,0.5s
WRA Warramunga Arr 44.51 274 P **P** **21 51 04.1 -2.2**
WRA pmax pmax
comp=Z,4.0nm,1.1s
MANU Manus Island 44.51 305 P **P** **21 51 05.3 -0.9**
MANU IAmb IAmb 21 51 09.1
comp=Z,28nm,1.1s
FORT Forrest 45.94 257 P **P** **21 51 16.2 -1.2**
FORT Forrest 45.94 257 P **P** **21 51 17.6 +0.1**
comp=Z,77nm,1.0s
WRKA Warakurna 47.60 264 P **P** **21 51 28.5 -2.1**
JAY Jayapura 49.00 298 P **P** **21 51 41.1 -0.3**
comp=Z,18nm,1.0s
KNRA Kununurra 51.18 276 P **P** **21 51 54.0 -4.0**
FITZ Fitzroy Crossi 52.70 271 P **P** **21 52 08.1 -1.2**
FITZ Fitzroy Crossi 52.70 271 P **P** **21 52 08.9 -0.4**
comp=Z,7.0nm,1.0s
BAKI Biak 53.33 296 P **P** **21 52 14.8 +0.8**
comp=Z,34nm,0.9s
CASY Casey 53.76 208 P **P** **21 52 16.2 -0.2**
MEEK Meekatharra 55.13 258 P **P** **21 52 25.0 -2.0**
comp=Z,24nm,1.4s
FAKI Fak Fak 55.26 291 P **P** **21 52 26.6 -1.4**
FAKI IAmb IAmb 21 52 29.3
comp=Z,26nm,0.9s
FAKI Fak Fak 55.26 291 P **P** **21 52 27.2 -0.8**
comp=Z,31nm,0.9s
HMH Humu'ula Sheep 55.65 25 P **P** **21 52 31.3 +0.3**
MORW Morawa 56.36 254 P **P** **21 52 35.0 -0.8**
MORW IAmb IAmb 21 52 42.6
comp=Z,56nm,1.9s
MBWA Marble Bar 56.37 265 P **P** **21 52 34.9 -1.0**
MBWA IAmb IAmb 21 52 37.2
comp=Z,20nm,1.0s
MBWA Marble Bar 56.37 265 P **P** **21 52 35.2 -0.8**
comp=Z,24nm,1.0s
QSPA South Pole Qui 57.97 180 P **P** **21 52 48.9 +2.1**
QSPA IAmb IAmb 21 53 14.1
comp=Z,29nm,0.8s
SANI Sanana 60.79 288 P **P** **21 53 04.6 -2.2**
comp=Z,20nm,1.0s
LUWI Luwuk 63.98 286 P **P** **21 53 28.3 +0.1**
KAPI Kappang 64.24 281 LR LR 22 22 26.3
comp=Z,538nm,18.0s,baz=102,slow=37
SPSI Sidrap Palu 64.81 282 P **P** **21 53 32.7 -0.9**
comp=Z,23nm,1.0s
PCI Palu 66.46 285 P **P** **21 53 44.6 +0.3**
comp=Z,3µcomp=Z,54nm,1.0s
TOLI2 Tolitoli 66.84 287 P **P** **21 53 45.5 -1.2**
TOLI2 IAmb IAmb 21 53 48.5
comp=Z,16nm,0.9s
BELA Belgrano 2 68.02 172 P **P** **21 53 53.8 +0.6**
MAW Mawson 70.79 201 LR LR 22 26 30.8
comp=Z,437nm,18.0s,baz=110,slow=37
STKI Sintang 73.92 280 P **P** **21 54 29.8 -0.2**
comp=Z,2µcomp=Z,40nm,1.1s
SBUM Sibu 74.62 283 P **P** **21 54 32.0 -2.1**
ELIB Princess Elisa 75.16 187 *d*P **P** **21 54 37.7 +1.2**
comp=Z,6.8nm,1.1s
SYO Syowa Base 75.49 193⇑*ep*P **P** **21 54 39.6 +1.4**
SYO Syowa Base 75.49 193⇓*es*P **P** **21 54 41.0 +2.8**
KSM Kuching 75.67 281 P **P** **21 54 37.6 -2.6**
KSM IAmb IAmb 21 54 41.9
comp=Z,15nm,0.9s
TROLL Troll, Antarti 76.13 180 ⇑P **P** **21 54 43.6 +1.6**
comp=Z,547nm,0.9s
SNAA Sanae 76.41 178 P **P** **21 54 43.5 0.0**
SNAA IAmb IAmb 21 54 59.4
comp=Z,30nm,1.1s
SNAA Sanae 76.41 178 ⇑P **P** **21 54 43.3 -0.2**
comp=Z,187nm,0.9s
SNAA Sanae 76.41 178 P **P** **21 54 43.2 -0.3**
comp=Z,5.8nm,0.9s,baz=190,slow=6.4,SNR=5.8
comp=Z,5.8nm,0.9s
SNAA Sanae 76.41 178 *i* P **P** **21 54 43.6 0.0**
SNAA pmax pmax
comp=Z,31nm,1.1s
VNA3 Neumayer Olymp 76.55 176 ⇑P **P** **21 54 43.5 -0.8**
comp=Z,25nm,0.9s
VNA2 Neumayer--Watz 76.98 177 ⇑P **P** **21 54 48.4 +1.7**
comp=Z,17nm,0.8s,baz=176,slow=7.6
VNA1 Neumayer--Stat 77.21 176 ⇑P **P** **21 54 44.8 -3.1**
comp=Z,24nm,1.0s
MDSI Maura Dua 77.64 272 P **P** **21 54 49.9 -1.4**
LL02 Futaleuf 78.90 134 P **P** **21 54 58.2 +0.3**
LL02 IAmb IAmb 21 55 07.6
comp=Z,24nm,1.2s
MJAR Matsushiro Arr 79.86 325 P **P** **21 55 01.9 -1.0**
comp=Z,7.1nm,1.0s,baz=151,slow=6.1,SNR=9.7
comp=Z,7.1nm,1.0s
JNU Nakatsue 81.07 318 P **P** **21 55 09.4 -0.2**
JNU Nakatsue 81.07 318 P **P** **21 55 09.1 -0.5**
comp=Z,14nm,0.9s,baz=161,slow=7.0,SNR=5.0
comp=Z,14nm,0.9s
PLCA Paso Flores 81.09 133 P **P** **21 55 11.0 +1.2**
PLCA IAmb IAmb 21 55 23.4
comp=Z,49nm,1.8s
PLCA Paso Flores 81.09 133 P **P** **21 55 10.7 +0.9**
comp=Z,4.8nm,0.9s,baz=224,slow=2.6,SNR=4.6
comp=Z,4.8nm,0.9s
PLCA Paso Flores 81.09 133 P **P** **21 55 11.0 +1.2**
PLCA pmax pmax
comp=Z,49nm,1.8s
BI02 San Fabin de 82.94 129 P **P** **21 55 20.2 +0.6**
BI02 IAmb IAmb 21 55 23.4
comp=Z,11nm,1.0s
ASAJ Asahikawa 84.13 332 P **P** **21 55 26.2 +1.0**
comp=Z,13nm,1.0s,baz=135,slow=4.3,SNR=6.8
comp=Z,13nm,1.0s
BO02 Sierra Bellavi 84.35 128 P **P** **21 55 27.6 +0.7**
BO02 IAmb IAmb 21 55 31.7
comp=Z,21nm,1.1s
SLBS Sierra La Lagu 85.19 58 P **P** **21 55 31.4 +0.3**
SLBS IAmb IAmb 21 55 43.9
comp=Z,30nm,1.7s
KSRS Korea Array 85.88 320 P **P** **21 55 34.5 +0.4**
comp=Z,4.6nm,0.9s,baz=146,slow=6.5,SNR=7.4
comp=Z,4.6nm,0.9s
YSS Yuzhno-Sakhali 86.45 334 P **P** **21 55 36.9 +0.2**
YSS Yuzhno-Sakhali 86.45 334 *i* P **P** **21 55 37.8 +1.1**
YSS pmax pmax
comp=Z,22nm,0.8s
ISA Isabella, Lake 87.31 44 P **P** **21 55 42.4 +1.1**
ISA IAmb IAmb 21 55 48.2
comp=Z,20nm,1.2s
ISA Isabella, Lake 87.31 44 P **P** **21 55 42.4 +1.1**
ISA pmax pmax
comp=Z,20nm,1.2s
PETK Petropavlovsk- 87.58 345 P **P** **21 55 42.8 +0.7**
comp=Z,14nm,1.0s,baz=125,slow=7.8,SNR=7.5
comp=Z,14nm,1.0s
NJ2 Nanjing 87.62 310 *e*P **P** **21 55 44.2 +1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
GLA Glamis 87.81 48 P **P** **21 55 45.2 +1.5**
GLA IAmb IAmb 21 56 48.6
comp=Z,8.7nm,0.8s
GLA Glamis 87.81 48 P **P** **21 55 45.2 +1.5**
GLA pmax pmax
comp=Z,9.0nm,0.8s
CMB Columbia Colle 87.84 42 P **P** **21 55 44.2 +0.4**
CMB IAmb IAmb 21 55 50.2
comp=Z,9.3nm,1.0s
CMB Columbia Colle 87.84 42 P **P** **21 55 44.2 +0.4**
CMB pmax pmax
comp=Z,9.0nm,1.0s
PSTR Posyet 88.19 325 *i* P **P** **21 55 46.2 +1.0**
GWY Greenwater Val 88.74 45 P **P** **21 55 48.9 +0.7**
GWY IAmb IAmb 21 57 58.5
comp=Z,8.9nm,0.5s
DSP Deep Springs 88.77 43 P **P** **21 55 48.8 +0.8**
USA0B Ussuriysk Arra 88.79 326 P **P** **21 55 48.1 +0.1**
USA0B IAmb IAmb 21 55 50.5
comp=Z,11nm,0.9s
USA0B Ussuriysk Arra 88.79 326 *i* P **P** **21 55 48.6 +0.6**
USRK Ussuriysk Ar. 88.79 326 P **P** **21 55 48.6 +0.6**
USRK Ussuriysk Ar. 88.79 326 P **P** **21 55 48.7 +0.7**
comp=Z,9.1nm,0.8s,baz=117,slow=3.5,SNR=11
comp=Z,9.1nm,0.8s
USRK Ussuriysk Ar. 88.79 326 P **P** **21 55 48.6 +0.6**
NVAR Mina Array Bea 89.30 42 P **P** **21 55 51.8 +0.9**
NVAR Mina Array Bea 89.30 42 P **P** **21 55 52.2 +1.4**
comp=Z,5.3nm,0.8s,baz=218,slow=7.5,SNR=8.4
comp=Z,5.3nm,0.8s
SHPR Sheep Range 89.86 46 P **P** **21 55 53.9 +0.5**
MDJ Mudanjiang 90.24 325 P **P** **21 55 55.1 +0.3**
MDJ Mudanjiang 90.24 325 P **P** **21 55 56.4 +1.6**
MDJ pmax pmax
comp=Z,22nm,1.0s
X16A Lo Mia Camp, P 90.84 49 P **P** **21 55 59.6 +1.4**
X16A IAmb IAmb 21 56 01.1
comp=Z,9.0nm,0.9s
J05D Fort Rock, OR 91.08 37 P **P** **21 55 59.9 +1.0**
J05D IAmb IAmb 21 56 17.3
comp=Z,10nm,1.1s
TIA Tai'an 91.39 313 P **P** **21 56 02.5 +2.1**
TIA pmax pmax
comp=Z,16nm,1.3s
PINE Pine Mountain 91.59 37 P **P** **21 56 01.3 -0.1**
PINE IAmb IAmb 21 56 08.8
comp=Z,17nm,1.2s
H04A Detroit Lake 91.59 36 P **P** **21 56 01.6 +0.4**
H04A IAmb IAmb 21 56 24.7
comp=Z,12nm,1.1s
CN2 Changchun 91.72 323 P **P** **21 56 02.7 +1.0**
CN2 pmax pmax
comp=Z,30nm,1.0s
BNX BinXian 92.12 325 ⇓P **P** **21 56 03.2 -0.3**
BNX pmax pmax
comp=Z,22nm,0.9s
J08A Circle Bar Ran 92.58 39 P **P** **21 56 06.4 +0.5**
J08A IAmb IAmb 21 56 09.8
comp=Z,14nm,1.2s
KLR Kul'dur 92.70 330 P **P** **21 56 06.6 +0.5**
comp=Z,7.5nm,0.9s,baz=95,slow=4.6,SNR=13
comp=Z,7.5nm,0.9s
KLR Kul'dur 92.70 330 *i* P **P** **21 56 06.1 0.0**
KLR pmax pmax
comp=Z,7.0nm,0.9s
G06A Carlson Farm, 92.76 36 P **P** **21 56 07.3 +0.7**
TXAR Lajitas Array 93.06 57 P **P** **21 56 09.7 +1.3**
comp=Z,1.4nm,1.0s,baz=205,slow=5.1,SNR=4.7
comp=Z,1.4nm,1.0s
N15K Kwethluk River 93.10 9 P **P** **21 56 08.8 +1.0**
LYN LuoYang 93.35 309 P **P** **21 56 11.7 +2.2**
LYN pmax pmax
comp=Z,16nm,0.9s
O18K Koktuh Hills 93.51 11 P **P** **21 56 09.0 -0.6**
HNS HongShan 93.64 312 *e*P **P** **21 56 12.0 +1.3**
G08A Pilot Rock 93.65 37 P **P** **21 56 10.2 -0.5**
CMAR Chiang Mai Arr 94.28 289 P **P** **21 56 14.5 +0.4**
CMAR Chiang Mai Arr 94.28 289 P **P** **21 56 15.8 +1.7**
comp=Z,1.1nm,0.7s,baz=147,slow=3.7,SNR=7.8
CMAR PP **PP** **22 00 00.6 -0.8**
comp=Z,0.9nm,0.8s,baz=129,slow=6.5,SNR=5.8
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 94.28 289 *i* P **P** **21 56 16.1 +2.0**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 94.41 51 *i* P **P** **21 56 14.3 -0.3**
ANMO pmax pmax
comp=Z,8.0nm,3.7s
PLID Pearl Lake 95.06 39 P **P** **21 56 17.5 +0.1**
MA2 Magadan 95.06 344 *i* P **P** **21 56 16.9 +0.2**
MA2 pmax pmax
comp=Z,9.0nm,1.4s
HEH HeiHe 95.36 328 *e*P **P** **21 56 18.1 -0.2**
HEH pmax pmax
comp=Z,4.0nm,0.9s
PZH PanZhiHua 96.39 297 P **P** **21 56 24.8 +1.0**
PZH pmax pmax
comp=Z,7.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.4s
LPAZ La Paz 97.14 114 P **P** **21 56 27.6 -0.4**
comp=Z,1.2nm,0.8s,baz=241,slow=1.6,SNR=3.9
comp=Z,1.2nm,0.8s
PDAR Pinedale Array 97.17 44 P **P** **21 56 27.1 0.0**
comp=Z,0.9nm,0.8s,baz=204,slow=3.3,SNR=8.2
comp=Z,0.9nm,0.8s
CD2 Chengdu 97.28 302 *e*P Pdif 21 56 28.0 +0.3
HHC Hu-ho-hao-te 97.67 314 *e*P Pdif 21 56 31.2 +1.9
SEY Seymchan 97.75 347 *i* P **P** **21 56 29.0 +0.2**
SEY pmax pmax
comp=Z,3.0nm,1.1s
HKT Hockley 99.08 60 *i* P **Pdif** **21 56 33.4 -2.2**
HKT pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 99.55 13 P **Pdif** **21 56 35.8 -1.1**
comp=Z,0.3nm,0.9s,baz=236,slow=4.2,SNR=2.1
comp=Z,0.3nm,0.9s
SONM Songino Array 104.65 317 Pdiff **Pdif** **21 57 00.4 +0.2**
comp=Z,0.2nm,0.4s,baz=133,slow=6.1,SNR=2.9
YKA Yellowknife Ar 106.87 26 PKKPbc PKKPbc 22 12 37.7 -1.3
comp=Z,0.6nm,0.9s,baz=50,slow=2.8,SNR=6.5
WMQ Urumqi 114.55 308 *e*PKP **PKiKP** **22 01 35.4 +1.0**
RES Resolute Bay 118.81 18 PKP **PKPdf** **22 01 40.5 -1.1**
comp=Z,3.2nm,0.9s,baz=244,slow=3.0,SNR=8.4
MK31 Makanchi Array 119.13 309 **PKPdf** **22 01 41.7 -1.4**
MK31 Makanchi Array 119.13 309 PKIKP **PKPdf** **22 01 41.7 -1.4**
MKAR Makanchi Array 119.13 309 **PKPdf** **22 01 42.4 -0.7**
MKAR Makanchi Array 119.13 309 PKP **PKPdf** **22 01 41.9 -1.2**
comp=Z,1.7nm,0.9s,baz=130,slow=0.5,SNR=11
MKAR Makanchi Array 119.13 309 PKIKP **PKPdf** **22 01 42.4 -0.7**
MAKZ Makanchi 119.34 309 PKPdf **PKPdf** **22 01 42.0 -1.5**
MAKZ Makanchi 119.34 309 PKIKP **PKPdf** **22 01 42.0 -1.5**
ZALV Zalesovo Beam 119.54 318 PKP **PKPdf** **22 01 42.8 -0.8**
comp=Z,1.1nm,0.8s,baz=343,slow=3.0,SNR=4.8
KSH Kashi 121.39 300 PKP **PKiKP** **22 01 51.6 +3.6**
KURK Kurchatov 122.48 313 PKPdf **PKPdf** **22 01 47.8 -1.6**
KURK Kurchatov 122.48 313 *i* PKIKP **PKPdf** **22 01 49.2 -0.1**
KURK *i* 22 01 49.5
KURBB Kurchatov Arra 122.52 313 PKP **PKPdf** **22 01 48.8 -0.7**
comp=Z,3.8nm,0.9s,baz=107,slow=1.9,SNR=14
AAK Ala-Archa 123.34 303 PKP **PKPdf** **22 01 50.6 -0.9**
comp=Z,2.4nm,0.7s,baz=99,slow=5.7,SNR=9.4
AAK Ala-Archa 123.34 303 *i* PKIKP **PKPdf** **22 01 51.2 -0.3**
KBL Kabul 125.19 292 PKPdf **PKPdf** **22 01 54.3 -1.1**
KBL Kabul 125.19 292 PKIKP **PKPdf** **22 01 54.3 -1.1**
GAR Garm 125.46 298 PKPdf **PKPdf** **22 01 55.4 -0.2**
KK31 Karatay Array 126.29 303 PKPdf **PKPdf** **22 01 56.0 -1.0**
KK31 Karatay Array 126.29 303 PKIKP **PKPdf** **22 01 56.0 -1.0**
KKAR Karatay Array 126.29 303 PKPdf **PKPdf** **22 01 56.5 -0.5**
KKAR Karatay Array 126.29 303 PKIKP **PKPdf** **22 01 56.5 -0.5**
SIMJ Simiganj 126.36 297 PKPdf **PKPdf** **22 01 56.5 -0.9**
BVAR Borovoye Array 127.87 315 PKP **PKPdf** **22 01 59.3 -0.3**
comp=Z,6.3nm,1.0s,baz=90,slow=1.5,SNR=12
BRVK Borovoye 127.94 315 PKPdf **PKPdf** **22 01 59.3 -0.4**
BRVK Borovoye 127.94 315 *i* PKIKP **PKiKP** **22 02 00.4 +0.1**
ARTI Arti 134.74 320 PKP **PKPdf** **22 02 11.4 -1.1**
comp=Z,4.5nm,0.9s,baz=5.8,slow=2.2,SNR=7.0
ARTI Arti 134.74 320 *i* PKIKP **PKiKP** **22 02 14.1 +0.2**
ARTI 22 04 45.2
AKTO Aktyubinsk 135.50 311 PKP **PKPdf** **22 02 14.6 +0.4**
comp=Z,5.3nm,1.0s,baz=54,slow=1.0,SNR=9.8
ARCES ARCESS Array B 140.36 347 PKhKP PKPpre 22 02 16.2
comp=Z,7.6nm,1.0s,baz=43,slow=5.5,SNR=5.6
KLMR Klimovskoe 142.44 331 *e*PKHKP PKPpre 22 02 21.1
KLMR pmax pmax
comp=Z,27nm,1.5s
AKT Akhty 142.88 298 *e*PKIKP **PKPdf** **22 02 26.0 -2.0**
AKT *e*PPP PPP 22 08 45.9
AKT pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 145.14 295 *i* PKIKP **PKPbc** **22 02 31.6 -0.1**
GNI *i* 22 02 35.5
VRH Novokhopyorsk 145.52 315 *e*PKIKP **PKPdf** **22 02 31.4 -0.7**
VRH pmax pmax
comp=Z,41nm,1.1s
MOS Moscow 145.95 324 *e*PKIKP **PKPdf** **22 02 32.1 -0.6**
MOS pmax pmax
comp=Z,138nm,1.1s
GOF Gofitskoye 146.06 304 *ce*PKP2 **PKPab** **22 02 36.0 +1.2**
KBZ Khabaz 146.33 302 PKPbc **PKPbc** **22 02 34.8 -0.2**
comp=Z,32nm,1.1s,baz=210,slow=0.5,SNR=26
KARS Kars 146.40 296 **PKPbc** **22 02 35.5 0.0**
KARS Kars 146.40 296 PKP2 **PKPbc** **22 02 35.5 0.0**
GEVA Gevas 146.41 292 PKPbc **PKPbc** **22 02 35.7 +0.1**
KIV Kislovodsk 146.46 302 PKPbc **PKPbc** **22 02 35.9 +0.4**
KIV Kislovodsk 146.46 302 ⇓P **PKPab** **22 02 36.7 +0.3**
KIV Kislovodsk 146.46 302 *e*PKP2 **PKPbc** **22 02 35.2 -0.3**
KIV pmax pmax
comp=Z,22nm,1.1s
LPSR Galich'ya Gora 146.64 319 *e*PKP2 **PKPbc** **22 02 35.1 -0.5**
LPSR pmax pmax
comp=Z,32nm,0.9s
OBN Obninsk 146.78 324 PKPdf **PKPdf** **22 02 33.2 -0.9**
OBN Obninsk 146.78 324 ⇓P **PKPbc** **22 02 36.1 +0.2**
OBN Obninsk 146.78 324 *e*PKIKP **PKPdf** **22 02 33.1 -1.0**
OBN *i* 22 02 39.7
OBN *e* 22 05 55.8
OBN *e*PPP PPP 22 09 18.4
OBN pmax pmax
comp=Z,27nm,0.9s
OBN pmax pmax
comp=Z,25nm,1.0s
VORR Voronezh 146.84 317 *e*PKIKP **PKPdf** **22 02 34.2 -0.2**
VORR pmax pmax
comp=Z,60nm,1.0s
FINES FINESS Array B 146.89 339 PKPdf **PKPdf** **22 02 34.4 +0.3**
FINES FINESS Array B 146.89 339 PKPbc **PKPbc** **22 02 35.6 -0.5**
comp=Z,24nm,0.7s,baz=46,slow=2.8,SNR=37
VSR Storozhevoye 147.03 316 *e*PKIKP **PKPdf** **22 02 34.7 0.0**
VSR pmax pmax
comp=Z,30nm,0.9s
VORD Divnogorie 147.04 316 *e*PKIKP **PKPdf** **22 02 33.9 -0.8**
VORD pmax pmax
comp=Z,20nm,0.9s
GURO Guroymak-BITLI 147.22 292 PKPbc **PKPbc** **22 02 38.6 +0.7**
BCA Borcka 147.47 298 ⇑P **PKPbc** **22 02 38.2 -0.2**
NB2 NORSAR Subarra 150.52 351 PKP **PKPbc** **22 02 45.0 -0.5**
comp=Z,6.0nm,1.2s,baz=15,slow=2.8
NOA NORSAR Array B 150.52 351 PKPbc **PKPbc** **22 02 44.6 -0.9**
comp=Z,6.7nm,0.9s,baz=14,slow=4.2,SNR=12
HFS Hagfors 151.01 348 PKPbc **PKPbc** **22 02 45.7 -0.9**
comp=Z,13nm,0.8s,baz=42,slow=2.3,SNR=13
MNK Minsk 151.24 329 *i* PKIKP **PKPbc** **22 02 46.7 -0.6**
MNK *i* 22 06 25.8
MNK *i* 22 09 47.1
MNK *i* PPP PPP 22 09 49.4
MNK *i* SS SS 22 25 46.7 -1.4
MNK *i* SSS SSS 22 31 34.8
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,31nm,0.9s
PABE Paberze 152.16 333 **PKPdf** **22 02 42.5 -0.2**
DIKM Dikmen 152.19 299 ⇑P **PKiKP** **22 02 52.8 +2.5**
MMAI Mount Meron Ar 152.22 281 PKPbc **PKiKP** **22 02 51.3 +0.6**
comp=Z,43nm,1.1s,baz=87,slow=4.3,SNR=25
SIM Simferopol' 152.27 307 *e*PKIKP **PKiKP** **22 02 52.9 +2.6**
SIM pmax pmax
comp=Z,29nm,1.0s
AKASG Malin Array Be 152.87 321 **PKPbc** **22 02 50.3 -0.8**
AKASG Malin Array Be 152.87 321 PKPbc **PKPbc** **22 02 50.8 -0.3**
comp=Z,13nm,1.0s,baz=59,slow=2.5,SNR=16
AKASG Malin Array Be 152.87 321 PKIKP **PKPbc** **22 02 50.3 -0.8**
AKBB Malin Array Si 152.87 321 **PKPbc** **22 02 49.7 -1.4**
AKBB Malin Array Si 152.87 321 PKIKP **PKPbc** **22 02 49.7 -1.4**
KIEV Kiev 152.88 321 **PKPbc** **22 02 50.1 -1.0**
KIEV Kiev 152.88 321 PKIKP **PKPbc** **22 02 50.1 -1.0**
KIRS Kirsehir-Merke 153.53 294 ⇑P **PKPbc** **22 02 52.7 -0.4**
SUW Suwalki 153.57 332 *e*PKPdf **PKPdf** **22 02 46.5 +1.7**
SUW *e*PKPbc **pPKPbc** **22 02 54.9 -1.4**
SUW *e*PKPab **PKPab** **22 03 04.8 -0.2**
BRTR Keskin Array B 153.68 296 PKPdf **PKPdf** **22 02 44.8 -0.8**
BRTR Keskin Array B 153.68 296 PKP **PKPdf** **22 02 46.8 +1.1**
comp=Z,1.4nm,1.1s,baz=108,slow=0.4,SNR=4.7
BRTR PKPbc **PKPbc** **22 02 53.6 +0.2**
comp=Z,9.5nm,0.9s,baz=79,slow=3.1,SNR=25
DBIC Dimbokro 153.77 164 PKPbc **PKPbc** **22 02 54.5 +0.3**
comp=Z,3.1nm,1.0s,baz=194,slow=4.2,SNR=3.1
DBIC PKPab **PKPab** **22 03 05.5 -1.5**
comp=Z,5.7nm,0.9s,baz=193,slow=4.6,SNR=4.7
TPGR Topolog 156.11 310 ⇓P **PKPdf** **22 02 47.6 -1.1**
BUR08 Bucovina Ar. S 156.75 318 PKPab **PKPab** **22 03 18.7 -0.3**
VRI Vrincioaia 156.75 313 ⇑P **PKPab** **22 03 20.9 +1.9**
VRI Vrincioaia 156.75 313 ⇑PKP2 **PKPab** **22 03 20.9 +1.9**
BURAR Bucovina Array 156.76 318 ⇑P **PKPab** **22 03 19.3 +0.2**
BURAR Bucovina Array 156.76 318 ⇑PKP2 **PKPab** **22 03 19.3 +0.2**
SPBR Spulber 156.79 313 ⇑P **PKPab** **22 03 19.7 +0.5**
PLOR Plostina 156.81 313 ⇓P **PKPab** **22 03 21.2 +1.9**
PLOR Plostina 156.81 313 ⇓PKP2 **PKPab** **22 03 21.2 +1.9**
DOPR Dopca 157.53 315 ⇓P **PKPab** **22 03 22.6 +0.3**
KOLS Kolonicke sedl 157.53 324 *e*PKP2 **PKPab** **22 03 22.8 +0.6**
KOLS Kolonicke sedl 157.53 324 *e*PKP **PKPab** **22 03 22.8 +0.6**
OJC Ojcow 157.78 329 *e*PKPab **PKPab** **22 03 23.6 +0.4**
VOIR 157.99 314 ⇑P **PKPab** **22 03 25.6 +1.1**
VOIR 157.99 314 ⇑PKP2 **PKPab** **22 03 25.6 +1.1**
NIE Niedzica 158.14 327 *e*PKPdf **PKPdf** **22 02 53.6 +2.5**
NIE *e*PKPab **PKPab** **22 03 25.9 +1.0**
ARR Arges 158.28 314 ⇓P **PKPab** **22 03 26.5 +0.8**
DRGR 158.63 319 ⇑P **PKPab** **22 03 22.4 -4.8**
DRGR 158.63 319 ⇑PKP2 **PKPab** **22 03 22.4 -4.8**
KSP Ksiaz 158.68 335 *e*PKPdf **PKPdf** **22 02 55.4 +3.7**
KSP *e*PKPab **PKPab** **22 03 27.2 +0.1**
LANS Liptovska Anna 158.71 328 *e*PKP2 **PKPab** **22 03 29.3 +1.9**
LANS Liptovska Anna 158.71 328 *e*PKP **PKPab** **22 03 29.3 +1.9**
MORC Moravsky Berou 159.06 332 *e*PKP **PKPab** **22 03 29.2 +0.3**
CLL Collm 159.32 341 *e*PKP2 **PKPab** **22 03 29.0 -0.8**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 159.32 341 *e*PKPdf **PKPdf** **22 02 54.0 +1.6**
CLL *e*PKPab **PKPab** **22 03 29.0 -0.8**
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 159.39 325 ⇑P **PKPab** **22 03 31.1 +0.7**
PSZ Piszkesteto 159.39 325 ⇑PKP2 **PKPab** **22 03 31.1 +0.7**
VYHS Vyhne 159.48 327 *e*PKP2 **PKPab** **22 03 31.7 +1.0**

VYHS	Vyhne	159.48 327	*e*PKP	PKPab	22 03 31.7	+1.0
SURR	Surduc	159.57 317	⇓P	PKPab	22 03 31.1	-0.1
VRAC	Vranov	159.81 332	*e*PKP	PKPab	22 03 31.6	-0.5
KRUC	Moravsky	160.09 332	*e*PKP	PKPab	22 03 33.8	+0.5
MODS	Modra-Piesok	160.26 330	*e*PKP2	PKPab	22 03 35.4	+1.3
MODS	Modra-Piesok	160.26 330	*e*PKP	PKPab	22 03 35.4	+1.3
BOVS	Bovan	160.97 313	⇑P	PKPab	22 03 33.8	-3.5
KHC	Kasperske Hory	161.06 337	*e*PKPAB	PKPab	22 03 37.0	-0.5
KHC	Kasperske Hory	161.06 337	*e*PKP2	PKPab	22 03 37.0	-0.5
MORH	Mrgy, Hungar	161.18 323	⇑P	PKPab	22 03 38.0	-0.1
RONA	Rosalia, Austr	161.20 330	*e*PKP	PKPab	22 03 39.3	+1.0
	comp=Z,13nm,0.9s					
CONA	Conrad Observa	161.20 331	*e*PKP	PKPab	22 03 39.6	+1.3
	comp=Z,8.8nm,1.1s					
GERES	GERESS Array B	161.26 336	PKPab	PKPab	22 03 37.5	-1.0
	comp=Z,3.8nm,1.0s,baz=34,slow=3.7,SNR=5.9					
BIOA	Bad Ischl, Aus	162.26 334	*e*PKP	PKPab	22 03 44.3	+1.4
	comp=Z,13nm,1.2s					
SOKA	Soboth	162.53 330	*e*PKP	PKPab	22 03 44.5	+0.4
	comp=Z,8.2nm,1.0s					
LESA	Schwarzleotal	162.84 336	*e*PKP	PKPab	22 03 46.3	+0.9
	comp=Z,8.9nm,1.1s					
KBA	Koelnbreinsper	162.89 334	*e*PKP	PKPab	22 03 46.2	+0.4
	comp=Z,3.7nm,0.9s					
MYKA	Terra Mystica	163.15 332	PKP	PKPab	22 03 47.2	+0.4
	comp=Z,5.3nm,0.8s					
WATA	Walderalm	163.28 338	*e*PKP	PKPab	22 03 47.9	+0.4
	comp=Z,6.1nm,1.0s					
WTTA	Wattenberg	163.32 338	*e*PKP	PKPab	22 03 47.7	0.0
	comp=Z,9.0nm,0.8s					
RETA	Reutte	163.40 340	*e*PKP	PKPab	22 03 48.0	+0.2
	comp=Z,7.7nm,1.3s					
ABTA	Abfaltersbach	163.47 335	*e*PKP	PKPab	22 03 47.4	-0.8
	comp=Z,9.6nm,1.2s					
SQTA	Sankt Quirin	163.50 338	*e*PKP	PKPab	22 03 49.5	+1.2
	comp=Z,9.6nm,1.0s					
FETA	Feichten	163.82 339	*e*PKP	PKPab	22 03 49.9	+0.1
	comp=Z,7.0nm,1.3s					
FUORN	Ofenpass-Fuorn	164.33 340	PKPab	PKPab	22 03 51.5	-0.7

*JMA **06** 21:48:35.0±0.1, 41°.6N±0°.4×142°.1E±0°.6, h63km±2km, MV3.2/38, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*IDC **06** 21:48:37.0±1.8, 41°.61N×142°.00E, h73km±15km, mb3.4/9, mbtmp3.6/11, Error ellipse: s-maj=24.8km s-min=13.2km az=108.0*

ISC 06 21:48:35.4±0.9, 41°.58N±0°.04×142°.05E±0°.04, h59km±8km, n36, σ1°.00/44, mb3.7/10, 14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.62**	**240**	⇓*i*P	**Pn**	**21 48 49.0**	**+0.5**
JAHD				⇓S	**Sn**	**21 48 59.2**	**+1.0**
JARK	**Aomorirokkasho**	**0.77**	**222**	⇓P	**Pn**	**21 48 50.2**	**-0.2**
JARK				⇓S	**Sn**	**21 49 01.0**	**-0.3**
JOT	**Ohata**	**0.78**	**255**	*i*P	**Pn**	**21 48 50.5**	**0.0**
JOT				*e*S	**Sn**	**21 49 02.0**	**+0.5**
JKB	**Kayabe**	**0.82**	**292**	⇓*i*P	**Pn**	**21 48 50.8**	**-0.2**
JKB				⇓S	**Sn**	**21 49 02.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**0.88**	**37**	P	**Pn**	**21 48 51.2**	**-0.5**
JNBK				S	**Sn**	**21 49 03.5**	**-0.3**
JEM	**Erimo**	**0.94**	**62**	*i*P	**Pn**	**21 48 52.4**	**-0.2**
JEM				S	**Sn**	**21 49 05.3**	**+0.1**
JIAM	**Iburiatsuma**	**1.04**	**355**	P	**Pn**	**21 48 52.6**	**-1.4**
JIAM				S	**Sn**	**21 49 07.3**	**-0.4**
JTM	**Tenmabayashi**	**1.08**	**223**	⇓*i*P	**Pn**	**21 48 54.6**	**+0.2**
JTM				⇓S	**Sn**	**21 49 08.7**	**0.0**
JNB	**Noboribetsu**	**1.16**	**320**	⇓*i*P	**Pn**	**21 48 55.2**	**-0.3**
JNB				⇓S	**Sn**	**21 49 09.7**	**-0.8**
JBT2	**Biratori 2**	**1.22**	**11**	P	**Pn**	**21 48 56.8**	**+0.5**
JBT2				*e*S	**Sn**	**21 49 13.8**	**+2.0**
JSR	**Shiriuchi**	**1.22**	**268**	P	**Pn**	**21 48 56.6**	**+0.3**
JANG	**Nango**	**1.27**	**199**	P	**Pn**	**21 48 56.5**	**-0.5**
JANG				S	**Sn**	**21 49 12.2**	**-0.9**
JEW	**Eniwo**	**1.33**	**341**	⇓P	**Pn**	**21 48 58.3**	**+0.5**
JEW				⇓S	**Sn**	**21 49 14.9**	**+0.3**
JYM2	**Yakumo 2**	**1.36**	**294**	⇓*i*P	**Pn**	**21 48 58.7**	**+0.6**
JCH	**Churui**	**1.42**	**43**	P	**Pn**	**21 48 59.7**	**+0.7**
JOMM	**Oshimamatsumae**	**1.53**	**269**	⇓*i*P	**Pn**	**21 49 00.5**	**+0.1**
JAH	**Hinai**	**1.75**	**218**	P	**Pn**	**21 49 04.1**	**+0.6**
ASAJ	**Asahikawa**	**2.57**	**9**	P	**Pn**	**21 49 16.2**	**+1.7**
	13nm,0.4s,baz=213,slow=12,SNR=26						
ASAJ				S	**Sn**	**21 49 46.1**	**+1.5**
	14nm,0.5s,baz=216,slow=24,SNR=5.9						
MJAR	**Matsushiro Arr**	**5.85**	**212**	P	**Pn**	**21 50 01.8**	**+2.3**
	0.7nm,0.4s,baz=23,slow=10,SNR=1.6						
JHJ	**Hachijo jima 2**	**8.64**	**193**	P	**Pn**	**21 50 41.0**	**+3.4**
	330nm,1.0s,baz=11,slow=16,SNR=1.9						
SONM	**Songino Array**	**25.93**	**296**	P	**P**	**21 54 02.7**	**+0.6**
	0.4nm,0.6s,baz=96,slow=9.5,SNR=2.9						
	0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**30.33**	**128**	T	T	22 27 14.2	
	baz=322,slow=75,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**30.34**	**128**	T	T	22 27 14.9	
	baz=322,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**30.34**	**128**	T	T	22 27 16.8	
	baz=322,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.17**	**130**	T	T	22 28 17.5	
	baz=323,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**31.18**	**130**	T	T	22 28 15.2	
	baz=323,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**31.19**	**130**	T	T	22 28 18.2	
	baz=323,slow=76,SNR=8.3						
ZALV	**Zalesovo Beam**	**39.34**	**308**	P	**P**	**21 55 58.5**	**-0.1**
	0.7nm,0.5s,baz=90,slow=9.4,SNR=3.6						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**21 56 22.5**	**-0.4**
	0.7nm,0.9s,baz=87,slow=8.6,SNR=5.2						
MKAR				PcP	**PcP**	**21 58 15.1**	**-0.6**
	0.1nm,0.6s,baz=79,slow=4.6,SNR=1.5						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**43.71**	**304**	P	**P**	**21 56 34.0**	**-0.5**
	0.5nm,0.4s,baz=76,slow=8.6,SNR=4.7						
ILAR	**Eielson Array**	**45.44**	**35**	P	**P**	**21 56 49.0**	**+1.0**
	0.5nm,0.8s,baz=278,slow=6.3,SNR=4.9						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**47.97**	**309**	P	**P**	**21 57 07.6**	**-0.3**
	0.6nm,0.3s,baz=70,slow=8.6,SNR=5.7						
	0.6nm,0.3s						
INK	**Inuvik**	**50.14**	**29**	P	**P**	**21 57 24.9**	**+0.6**
	0.5nm,0.5s,baz=308,slow=6.0,SNR=1.5						
	0.5nm,0.5s						
RES	**Resolute Bay**	**58.09**	**15**	P	**P**	**21 58 21.6**	**-0.4**
	1.0nm,0.5s,baz=310,slow=6.7,SNR=3.5						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**61.63**	**188**	P	**P**	**21 58 45.1**	**-1.8**
	0.2nm,0.6s,baz=3.5,slow=6.7,SNR=2.0						
	0.2nm,0.6s						
HFS	**Hagfors**	**70.16**	**335**	P	**P**	**21 59 40.7**	**-0.6**
	0.7nm,0.5s,baz=46,slow=4.2,SNR=1.2						
	0.7nm,0.5s						

IDC 06 21:53:00.8±4.3, 16°.46S×174°.79W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=208.6km s-min=42.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.31**	**258**	P	P	22 01 44.0	-0.3
	0.5nm,0.6s,baz=97,slow=6.8,SNR=5.7						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**48.52**	**253**	P	P	22 01 45.6	-0.4
	0.5nm,0.7s,baz=91,slow=7.9,SNR=4.8						
ASAR				PcP	PcP	22 03 12.6	+0.5
	0.1nm,0.3s,baz=86,slow=3.7,SNR=4.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**83.75**	**12**	P	P	22 05 31.0	-0.3
	0.6nm,0.7s,baz=193,slow=3.7,SNR=1.8						
	0.6nm,0.7s						

*NEIC **06** 21:58:30.6±1.3, 66°.32N±0°.02×157°.20W±0°.05, h9km±8km, Error ellipse: s-maj=3.0km s-min=2.7km az=109.0*

AEIC 06 21:58:32.4±1.6, 66°.35N±0°.03×157°.19W±0°.06, h24km±7km, ML3.3, ML3.5/152(NEIC), Error ellipse: s-maj=3.9km s-min=3.3km az=170.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.21**	**169**	Pg	Pb	21 58 34.1	-3.9
G19K				Sg	Sb	21 58 36.8	-5.1
G19K				IAML		21 58 39.1	
	comp=N,7μm,0.6s						
F19K	**Shaleruckik Mo**	**0.54**	**335**		Pb	21 58 41.2	-2.1
G18K	**Tagagawik**	**0.75**	**234**	Pg	Pb	21 58 44.0	-2.7
G18K				Sg	Sb	21 58 54.0	-2.5
H19K	**Roundabout Mou**	**0.88**	**159**	Pn	Pb	21 58 47.4	-1.5
H19K				Sn	Sb	21 58 58.0	-2.2
H19K				IAML		21 59 01.8	
	comp=E,2μm,0.4s						
H19K				IAML		21 59 02.5	
	comp=N,1μm,0.4s						
F20K	**Avaraart Lake**	**0.92**	**39**		Pb	21 58 47.9	-1.7
F20K					Sb	21 59 00.6	-0.7
F18K	**Selawik**	**1.02**	**286**		Pn	21 58 49.4	-1.7
F18K					Sb	21 59 03.6	-0.7
H18K	**Honhosa River**	**1.29**	**203**	Pn	Pn	21 58 53.4	-1.5
G21K	**Allakaket**	**1.49**	**82**	Pn	Pn	21 58 57.3	-0.3
GCSA	**Galena City Sc**	**1.61**	**175**		Pn	21 58 58.9	-0.3
GCSA					Sn	21 59 19.1	0.0
F17K	**Baldwin Pennin**	**1.64**	**275**		Pn	21 58 58.9	-0.7
F17K				IAML		21 59 26.3	
	comp=N,417nm,0.9s						
F21K	**Alatna River**	**1.71**	**57**		Pn	21 59 00.8	+0.1
F21K				IAML		21 59 28.1	
	comp=E,650nm,0.5s						
F21K				IAML		21 59 28.3	
	comp=N,589nm,0.7s						
E18K	**Tukpahlearik C**	**1.73**	**310**		Pn	21 59 01.4	+0.6
H17K	**Granite Mounta**	**1.81**	**220**	Pn	Pn	21 59 01.0	-1.0
H17K				IAML		21 59 27.0	
	comp=N,367nm,0.7s						
I20K	**Naaghedeneel**	**1.92**	**143**		Pn	21 59 03.2	-0.2
H21K	**Melozitna Rive**	**1.92**	**109**		Pn	21 59 02.9	-0.6
H21K				IAML		21 59 34.2	
	comp=N,407nm,0.5s						
D19K	**Kuna River**	**2.19**	**351**	Pn	Pn	21 59 07.7	+0.5
D19K				IAML		21 59 44.2	
	comp=E,214nm,0.6s						
D19K				IAML		21 59 45.8	
	comp=N,233nm,0.8s						
G16K	**Koyuk River**	**2.33**	**248**		Pn	21 59 07.5	-1.6
G16K				IAML		21 59 50.4	
	comp=N,190nm,0.8s						
E21K	**Killik River**	**2.44**	**29**		Pn	21 59 11.2	+0.5
E21K				IAML		21 59 56.1	
	comp=N,183nm,1.0s						
E21K				IAML		21 59 58.5	
	comp=E,245nm,0.7s						
I21K	**Tanana**	**2.45**	**116**		Pn	21 59 10.4	-0.2
I21K				IAML		21 59 57.3	
	comp=N,307nm,0.6s						
J19K	**Poorman**	**2.45**	**164**		Pn	21 59 10.3	-0.5
J19K				IAML		21 59 47.0	
	comp=E,176nm,0.8s						
J20K	**Nowinta River**	**2.52**	**148**	Pn	Pn	21 59 11.9	+0.1
J20K				IAML		21 59 57.3	
	comp=E,198nm,0.6s						
J20K				IAML		21 59 59.1	
	comp=N,173nm,0.7s						
D17K	**Noatak River**	**2.68**	**303**		Pn	21 59 15.1	+1.1
H16K	**Elim**	**2.71**	**233**		Pn	21 59 12.5	-1.9
E22K	**Anaktuvuk Pass**	**2.76**	**47**		Pn	21 59 16.2	+1.2
C18K	**Utukok River**	**2.78**	**328**		Pn	21 59 15.7	+0.4
RDOG	**Red Dog Mine**	**2.81**	**310**		Pn	21 59 16.4	+0.6
I17K	**Unalakleet**	**2.88**	**213**	Pn	Pn	21 59 16.0	-0.6
G23K	**Bananza Creek**	**2.89**	**79**	Pn	Pn	21 59 15.9	-0.9
G23K				IAML		22 00 06.9	
	comp=E,142nm,0.5s						
J18K	**Innoko River**	**2.90**	**176**		Pn	21 59 16.4	-0.6
COLD	**Coldfoot**	**2.91**	**69**		Pn	21 59 16.5	-0.5
J17K	**VABM Dome**	**3.07**	**196**		Pn	21 59 18.6	-0.7
J17K				IAML		22 00 12.9	
	comp=E,126nm,0.9s						
J17K				IAML		22 00 16.2	
	comp=N,95nm,0.8s						
D22K	**Ayikyak River**	**3.08**	**32**		Pn	21 59 20.0	+0.7
D22K				IAML		22 00 17.1	
	comp=N,168nm,1.0s						
F15K	**North Star Dit**	**3.11**	**262**		Pn	21 59 18.9	-0.9
F15K				IAML		22 00 17.4	
	comp=N,92nm,0.7s						
K20K	**Telida**	**3.28**	**155**		Pn	21 59 21.8	-0.4
J16K	**Anvik River**	**3.40**	**207**		Pn	21 59 23.2	-0.6
J16K				IAML		22 00 20.5	
	comp=E,114nm,0.8s						
J16K				IAML		22 00 20.7	
	comp=N,110nm,0.9s						
E23K	**Chandalar**	**3.41**	**56**		Pn	21 59 23.6	-0.5
E23K				IAML		22 00 24.0	
	comp=E,107nm,1.1s						
E23K				IAML		22 00 30.7	
	comp=N,103nm,0.8s						
B21K	**Ikpikpuk River**	**3.43**	**15**		Pn	21 59 24.4	+0.2
B21K				IAML		22 00 29.7	
	comp=N,99nm,0.9s						
I23K	**Minto, Yukon-K**	**3.45**	**107**		Pn	21 59 24.0	-0.5
BPAW	**Bear Paw Mtn.**	**3.45**	**128**		Pn	21 59 24.0	-0.5
BPAW				IAML		22 00 26.4	
	comp=N,71nm,0.7s						
TTA	**Tatalina**	**3.47**	**171**		Pn	21 59 24.5	-0.3
B18K	**Kokolik River**	**3.50**	**332**		Pn	21 59 25.8	+0.6
D23K	**Nanushuk River**	**3.62**	**40**		Pn	21 59 27.0	+0.2
D23K				IAML		22 00 37.9	
	comp=N,91nm,0.8s						
CAST	**Castle Rocks**	**3.66**	**141**		Pn	21 59 28.1	+0.8
K17K	**Iditarod**	**3.67**	**188**	Pn	Pn	21 59 26.8	-0.8
K17K				IAML		22 00 31.1	
	comp=E,74nm,1.2s						
K17K				IAML		22 00 35.8	
	comp=N,78nm,1.2s						
B20K	**Meade River**	**3.68**	**0**		Pn	21 59 28.1	+0.4
B20K				IAML		22 00 38.2	
	comp=E,82nm,0.9s						
B20K				IAML		22 00 50.6	
	comp=N,63nm,1.4s						
C16K	**Lisburne Hills**	**3.71**	**305**	Pn	Pn	21 59 28.7	+0.8
TOLK	**Toolik Lake Re**	**3.73**	**48**		Pn	21 59 29.0	+0.7
TOLK				IAML		22 00 45.3	
	comp=N,109nm,0.9s						
E24K	**Your Creek**	**3.81**	**59**		Pn	21 59 29.5	+0.1
E24K				IAML		22 00 36.3	
	comp=N,69nm,0.7s						
E24K				IAML		22 00 37.2	
	comp=E,100nm,0.7s						
NEA2	**Nenana**	**3.81**	**114**		Pn	21 59 29.6	0.0
NEA2				IAML		22 00 34.2	
	comp=E,53nm,1.0s						
NEA2				IAML		22 00 34.5	
	comp=N,66nm,0.9s						
H24K	**Noodor Dome**	**3.83**	**93**		Pn	21 59 29.5	-0.2
H24K				IAML		22 00 36.0	
	comp=N,89nm,0.9s						
H24K				IAML		22 00 36.5	
	comp=E,85nm,0.6s						
F24K	**Squaw Lake**	**3.85**	**68**	Pn	Pn	21 59 29.9	-0.1
ANM	**Nome**	**3.85**	**246**		Pn	21 59 30.7	+0.6
KTH	**Kantishna Hill**	**3.87**	**134**		Pn	21 59 30.5	+0.2
KTH				IAML		22 00 36.0	
	comp=E,54nm,1.1s						
KTH				IAML		22 00 46.7	
	comp=N,70nm,0.8s						
G24K	**Hadweenzic Riv**	**3.90**	**80**	Pn	Pn	21 59 30.0	-0.8
PPLA	**Purkeypile**	**4.08**	**146**		Pn	21 59 33.8	+0.6
TRF	**Thorofare Moun**	**4.13**	**131**		Pn	21 59 34.4	+0.4
TRF				IAML		22 00 47.5	
	comp=E,51nm,1.1s						
TRF				IAML		22 00 52.2	
	comp=N,56nm,1.2s						
COLA	**College**	**4.14**	**107**		Pn	21 59 34.1	+0.1
L18K	**Granite Mounta**	**4.15**	**177**		Pn	21 59 34.5	+0.4
L18K				IAML		22 00 50.8	
	comp=E,38nm,1.0s						
POKR	**Poker Plat Res**	**4.21**	**103**		Pn	21 59 35.2	+0.2
POKR				IAML		22 00 46.8	
	comp=E,60nm,0.9s						
WRH	**Wood River Hil**	**4.24**	**112**		Pn	21 59 34.7	-0.7
WRH				IAML		22 00 48.0	
	comp=N,40nm,0.8s						
D24K	**Happy Valley**	**4.25**	**45**		Pn	21 59 36.1	+0.7
D24K				IAML		22 00 50.5	
	comp=N,72nm,0.8s						
B22K	**Teshekpuk Lake**	**4.25**	**17**		Pn	21 59 36.0	+0.6
B22K				IAML		22 00 53.0	
	comp=E,59nm,1.2s						
B22K				IAML		22 01 03.5	
	comp=N,56nm,0.9s						
CCB	**Clear Creek Bu**	**4.26**	**109**		Pn	21 59 35.0	-0.7
CCB				IAML		22 00 50.4	
	comp=E,43nm,0.8s						
CCB				IAML		22 00 50.9	
	comp=N,36nm,0.7s						
C23K	**Itkillik River**	**4.28**	**32**		Pn	21 59 36.6	+0.7
C23K				IAML		22 01 02.8	
	comp=E,45nm,1.4s						
C23K				IAML		22 01 05.8	
	comp=N,68nm,0.8s						
L19K	**White Mountain**	**4.30**	**165**	Pn	Pn	21 59 36.3	+0.1
L19K				IAML		22 00 57.4	
	comp=E,34nm,1.2s						
L19K				IAML		22 01 05.3	
	comp=N,36nm,1.2s						
MCK	**McKinley**	**4.37**	**123**		Pn	21 59 37.3	+0.1
K15K	**Wolf Creek Mus**	**4.48**	**207**	Pn	Pn	21 59 38.7	0.0
K15K				IAML		22 00 55.9	
	comp=N,34nm,2.0s						
K15K				IAML		22 01 01.8	
	comp=E,44nm,0.7s						
J14K	**Nanvaranak Lak**	**4.54**	**220**	Pn	Pn	21 59 38.6	-0.7
J14K				IAML		22 01 00.7	
	comp=N,49nm,0.6s						
J14K				IAML		22 01 03.3	
	comp=E,44nm,1.3s						
IL31		**4.56**	**106**		Pn	21 59 39.4	-0.3
ILAR	**Eielson Array**	**4.56**	**106**		Pn	21 59 39.7	0.0
RND	**Reindeer**	**4.62**	**126**		Pn	21 59 40.6	0.0
M19K	**Big River Lodg**	**4.62**	**163**		Pn	21 59 41.0	+0.3
M19K				IAML		22 01 05.4	
	comp=E,31nm,1.4s						
C24K	**Franklin Bluff**	**4.65**	**39**		Pn	21 59 40.3	-0.6
HDA	**Harding Lake**	**4.70**	**110**		Pn	21 59 40.5	-1.2
HDA				IAML		22 01 05.3	
	comp=N,41nm,1.0s						
HDA				IAML		22 01 06.6	
	comp=E,33nm,1.5s						
F25K	**Christian Rive**	**4.71**	**69**	Pn	Pn	21 59 41.8	+0.1
F25K				IAML		22 01 07.9	
	comp=N,47nm,1.0s						
L16K	**Owhat River**	**4.76**	**193**		Pn	21 59 41.3	-1.2
FYU	**Fort Yukon**	**4.80**	**82**		Pn	21 59 42.6	-0.4
M20K	**Styx River**	**4.82**	**156**		Pn	21 59 44.0	+0.6
M20K				IAML		22 00 41.6	
	comp=E,28nm,0.9s						
M20K				IAML		22 01 32.5	
	comp=N,24nm,3.8s						
PRP	**Porcupine Dome**	**4.85**	**94**		Pn	21 59 43.6	-0.2
PRP				IAML		22 01 14.2	
	comp=N,39nm,0.9s						
E25K	**Arctic Village**	**4.85**	**63**		Pn	21 59 43.2	-0.6
E25K				IAML		22 01 07.7	
	comp=N,39nm,0.7s						
E25K				IAML		22 01 12.6	
	comp=E,34nm,0.9s						
CUT	**Chulitna**	**4.96**	**140**	Pn	Pn	21 59 46.2	+1.0
M17K	**Holitna River**	**4.96**	**181**	Pn	Pn	21 59 44.8	-0.6
M17K				IAML		22 01 10.6	
	comp=E,38nm,1.1s						
A21K	**Barrow**	**5.01**	**2**		Pn	21 59 45.5	-0.3
SKT	**Skwentna**	**5.03**	**148**		Pn	21 59 46.9	+0.6
SKT				IAML		22 01 31.5	
	comp=E,20nm,0.9s						
D25K	**Kavik River**	**5.07**	**49**	Pn	Pn	21 59 47.7	+1.0
D25K				IAML		22 01 23.0	
	comp=E,27nm,1.4s						
D25K				IAML		22 01 24.0	
	comp=N,29nm,1.2s						
BMAR	**Burnt Mountain**	**5.08**	**72**	Pn	Pn	21 59 47.4	+0.4
J25K	**Salcha River,**	**5.22**	**104**		Pn	21 59 48.6	-0.2
J25K				IAML		22 01 19.7	
	comp=E,29nm,1.2s						
J25K				IAML		22 01 21.1	
	comp=N,32nm,0.6s						
F26K	**Sheenjek River**	**5.29**	**69**	Pn	Pn	21 59 48.8	-0.9
F26K				IAML		22 01 32.4	
	comp=E,27nm,1.2s						
M16K	**Timber Creek**	**5.40**	**189**	Pn	Pn	21 59 50.3	-1.0
STLK	**Strandline Lak**	**5.41**	**152**		Pn	21 59 51.8	+0.4
K13K	**Kusilvak Mount**	**5.50**	**220**		Pn	21 59 52.3	-0.3
L14K	**Kuka Creek**	**5.58**	**208**		Pn	21 59 53.6	-0.1
SPU	**Mount Spurr**	**5.66**	**154**	Pn	Pn	21 59 55.0	+0.1
N18K	**Kilae Creek**	**5.72**	**174**	Pn	Pn	21 59 55.7	+0.1
N17K	**Nushagak Hills**	**5.84**	**180**	Pn	Pn	21 59 57.5	+0.2
GHO	**Glory Hole Cre**	**5.85**	**138**	Pn	Pn	21 59 57.8	+0.3
I26K	**Coal Creek Min**	**5.86**	**94**		Pn	21 59 57.2	-0.4
J26L	**Joseph Creek**	**5.98**	**102**	Pn	Pn	21 59 59.4	+0.1
SML	**Sawmill**	**5.98**	**135**		Pn	21 59 59.2	-0.1
C27K	**Jago River**	**6.04**	**51**		Pn	22 00 00.8	+0.8
SCRK	**Sand Creek**	**6.05**	**107**		Pn	21 59 59.3	-1.0
PAX	**Paxson**	**6.06**	**119**	Pn	Pn	22 00 01.1	+0.7
G27K	**Doyon Strip**	**6.21**	**79**	Pn	Pn	22 00 03.0	+0.6
E27K	**Coleen River**	**6.32**	**66**	Pn	Pn	22 00 04.1	+0.3
ILSW	**Iliamna Southw**	**6.64**	**162**	Pn	Pn	22 00 08.3	-0.1
D27M	**Malcolm River**	**6.79**	**57**	Pn	Pn	22 00 12.0	+1.6
I28M	**Miner Creek**	**7.12**	**89**		Pn	22 00 14.5	-0.4
E28M	**Babbage River**	**7.14**	**64**		Pn	22 00 15.3	+0.2
N25K	**Chitina, Valde**	**7.29**	**125**	Pn	Pn	22 00 18.4	+1.1
L27K	**Beaver Creek,**	**7.35**	**109**		Pn	22 00 17.2	-0.8
BCAR	**Beaver Creek A**	**7.37**	**109**	Pn	Pn	22 00 17.3	-1.0
G29M	**Pine Creek**	**7.64**	**77**		Pn	22 00 22.1	+0.1
E29M	**Blow River**	**7.71**	**66**	Pn	Pn	22 00 24.5	+1.7
DAWY	**Dawson**	**7.81**	**99**	Pn	Pn	22 00 24.2	-0.3
G30M	**tAoh Zraii Nji**	**8.34**	**76**	Pn	Pn	22 00 30.6	-0.9

*IDC **06** 21:59:00.6±2.3, 32°.01S×177°.83W, h0km, mb4.2/2, mbtmp4.1/3, ML3.7/1, Error ellipse: s-maj=61.8km s-min=34.1km az=124.0*
*WEL **06** 21:59:01.1±1.5, 32°.5±6°.×17°.7W±2°.4, h33km, M4.3/6, mB4.6/5, ML4.9/8, MLv4.5/6, Mw(mB)3.8/5, Error ellipse: s-maj=32.0km s-min=5.1km az

URZ	Urewera	7.50 211	Sn	Sn	22 03 49.0	-7.3
	6.4nm,0.3s,baz=163,slow=21,SNR=5.9					
ASAR	Alice Springs	43.00 269	P	P	22 08 41.1	-0.3
	2.2nm,0.7s,baz=116,slow=7.8,SNR=8.9					
	2.2nm,0.7s					
WRA	Warramunga Arr	44.13 274	P	P	22 08 50.4	-0.1
	2.9nm,0.7s,baz=112,slow=8.0,SNR=13					
	2.9nm,0.7s					
FINES	FINESS Array B	146.51 339	PKPbc	PKPdf	22 20 21.4	+0.3
	2.4nm,0.8s,baz=40,slow=4.5,SNR=1.9					
BRTR	Keskin Array B	153.23 296	PKPbc	PKiKP	22 20 40.4	+0.1
	0.9nm,0.9s,baz=139,slow=2.7,SNR=2.9					

IDC 06 22:07:29.2±3.2, 32°.11S×177°.81W, h0km, mb3.6/2, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=76.7km s-min=37.6km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.41 213		Pn	Pn	22 09 18.6	-0.1
	0.2nm,0.3s,baz=260,slow=5.5,SNR=1.7						
URZ				Sn	Sn	22 10 41.9	-1.5
	1.5nm,0.3s,baz=139,slow=20,SNR=8.1						
	4.0nm,0.9s						
ASAR	Alice Springs	43.21 269		P	P	22 15 32.4	+0.1
	0.3nm,0.5s,baz=104,slow=6.7,SNR=4.4						
	0.3nm,0.5s						
WRA	Warramunga Arr	44.35 274		P	P	22 15 41.6	+0.1
	0.4nm,0.3s,baz=112,slow=7.9,SNR=7.8						
	0.4nm,0.3s						
FINES	FINESS Array B	146.80 339		PKPbc	PKPdf	22 27 11.5	+0.8
	3.1nm,1.0s,baz=65,slow=4.7,SNR=4.7						

*IDC **06** 22:13:45.8±1.3, 30°.83N×142°.14E, h0km, mb3.7/6, mbtmp3.7/7, ML3.0/1, MS4.3/2, Error ellipse: s-maj=41.9km s-min=24.3km az=75.0*
*NEIC **06** 22:13:45.8±0.4, 30°.79N±0°.06×142°.4E±0°.2, h10km±1km, mb4.2/5, Error ellipse: s-maj=33.3km s-min=7.3km az=79.0*

ISC 06 22:13:46.5±0.9, 30°.77N±0°.07×142°.3E±0°.2, h10km, n21, σ0.970/20, mb4.0/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.66 181		Pn	Pn	22 14 43.0	-0.2
JCJ				Sn	Sn	22 15 25.9	-0.6
JGF	Kuroka	6.33 321		Pn	Pn	22 15 19.9	0.0
MJAR	Matsushiro Arr	6.67 331		Pn	Pn	22 15 24.1	-0.5
	0.3nm,0.3s,baz=156,slow=11,SNR=13						
	2.5nm,0.4s						
MAJO	Matsushiro	6.68 331			Pn	22 15 24.2	-0.4
MJB9	Matsu-Tunnel	6.68 331			Pn	22 15 25.1	+0.4
JMM	Marumori	7.18 351		Pn	Pn	22 15 30.2	-1.3
JSD	Sado	7.97 337		Pn	Pn	22 15 41.7	-0.6
YULB	Yu-li	20.05 254		P	P	22 18 19.6	-0.2
SONM	Songino Array	32.21 312		P	P	22 20 15.6	+0.7
	0.5nm,0.7s,baz=107,slow=8.4,SNR=3.5						
	0.5nm,0.7s						
SEY	Seymchan	32.83 9		LR	LR	22 40 37.5	
	comp=Z,444nm,18.3s,baz=332,slow=49						
MK31	Makanchi Array	48.26 307		P	P	22 22 26.8	-0.8
MK31				IAmb	IAmb	22 22 27.4	
	comp=Z,1.7nm,1.1s						
MKAR	Makanchi Array	48.26 307		P	P	22 22 27.1	-0.5
	comp=Z,0.9nm,0.6s,baz=90,slow=9.6,SNR=14						
	comp=Z,0.9nm,0.6s						
KURK	Kurchatov	50.52 312		P	P	22 22 44.0	-0.7
KURK				IAmb	IAmb	22 22 44.8	
	comp=Z,2.3nm,0.9s						
KURBB	Kurchatov Arra	50.58 312		P	P	22 22 44.4	-0.8
	comp=Z,0.9nm,0.6s,baz=88,slow=7.5,SNR=6.2						
WB0	Warramunga Arr	50.82 190		P	P	22 22 47.1	-0.1
WB0				IAmb	IAmb	22 22 59.2	
	comp=Z,6.2nm,1.4s						
WRA	Warramunga Arr	51.00 190		P	P	22 22 49.0	+0.4
WRA	Warramunga Arr	51.00 190		P	P	22 22 49.9	+1.3
	comp=Z,0.8nm,0.4s,baz=6.8,slow=7.5,SNR=17						
	comp=Z,0.8nm,0.4s						
ILAR	Eielson Array	54.48 30		P	P	22 23 14.7	+0.9
	comp=Z,0.3nm,0.7s,baz=269,slow=7.5,SNR=4.1						
	comp=Z,0.3nm,0.7s						
BVAR	Borovoye Array	55.43 316		P	P	22 23 20.6	-0.4
	comp=Z,0.5nm,0.6s,baz=97,slow=7.5,SNR=3.0						
	comp=Z,0.5nm,0.6s						
ARCES	ARCESS Array B	70.11 340		LR	LR	22 59 58.0	
	comp=Z,169nm,18.3s,baz=360,slow=40						
FINES	FINESS Array B	74.70 333		P	P	22 25 26.3	+0.4
	comp=Z,2.5nm,1.1s,baz=339,slow=7.4,SNR=3.3						
	comp=Z,2.5nm,1.1s						

CATAC 06 22:15:11.7±0.7, 13°N±5°×8°9W±°, h25km±6km, M6.4/18, mB6.7/2, mb6.8/2, MLv6.2/18, Mw(mB)6.6/2, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	Pacayal	0.64	45	P	Pn	22 15 26.3	+0.9
LALI	Alcalda de L	0.70	312	S	Sb	22 15 34.8	+0.4
LALI	Alcalda de L	0.70	312	P	Pb	22 15 24.8	-0.5
PAVA	Las Pavas	0.70	348	P	Pn	22 15 26.4	+0.1
LOMA	Loma Larga	0.72	329	P	Pb	22 15 25.7	-0.1
JAYA	Jayaque - finc	0.90	315	P	Pb	22 15 27.5	-1.3
LCND	La Caada	0.92	72	P	Pn	22 15 29.5	+0.3
NUBE	Las Nubes	1.30	313	P	Pn	22 15 33.3	-1.2
MTO3	Montecristo	1.48	338	P	Pn	22 15 36.5	-0.5
TGUH	Tegucigalpa,Un	1.80	55	P	Pn	22 15 41.9	+0.5
PACN	Al O del Volca	2.02	105	P	Pn	22 15 43.5	-0.7
PLRN	Geotermica Pol	2.02	102	S	Pb	22 15 46.1	-1.7
PLRN	Geotermica Pol	2.02	102	P	Pn	22 15 43.5	-0.7
COPN	Copaltepe	2.30	111	P	Pn	22 15 46.7	-1.5
LIMN	Finca el Limon	2.36	89	P	Pn	22 15 48.7	-0.3
APQ2	Apoyeque	2.54	108	P	Pn	22 15 50.4	-1.0
RCPN	Sur Rio San Ju	2.67	79	P	Pn	22 15 52.4	-1.0
IZABA	Izabal, Puerto	2.70	4	P	Pb	22 16 02.8	+3.4
BOAB	BOACO BROADBAN	3.10	100	P	Pn	22 15 57.9	-1.2
HUEH	Huehuetenango	3.48	311	P	Pn	22 16 06.8	+2.2
INDI	Punta indio, G	4.50	134	P	Pn	22 16 17.7	-0.7
SOCE	Pocosol	4.85	122	P	Pn	22 16 23.8	+0.5
CDITO	Canoas	7.30	127	P	Pn	22 16 58.4	+1.5

*WEL **06** 22:15:06.9±1.1, 32°S±6°×17°8W±1°8, h12km, mB4.8/4, ML4.9/10, MLv5.0/9, Mw(mB)4.0/4, Error ellipse: s-maj=23.6km s-min=4.3km az=104.5, confirmed*
*IDC **06** 22:15:10.2±1.0, 32°.15S×178°.08W, h0km, mb4.4/4, mbtmp4.3/5, ML3.8/1, MS4.0/1, Error ellipse: s-maj=33.1km s-min=26.3km az=122.0*
*NEIC **06** 22:15:13.2±1.6, 32°.4S±0°.1×178°.17W±0°.06, h10km±1km, mb4.6/11, Error ellipse: s-maj=23.3km s-min=8.3km az=2.0*

ISC 06 22:15:12.6±0.8, 32°.08S±0°.06×178°.0W±0°.1, h24km, n45, σ1.983/54, mb4.5/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.81	1	P	Pn	22 15 53.0	-3.0
GLKZ				S	Sn	22 16 25.0	-4.1
MXZ	Matakaoa Point	6.27 208		Pn	Pn	22 16 40.7	-2.9
WMGZ	Waiomatatini S	6.45 206		P	Pn	22 16 43.1	-3.0
WMGZ				S	Sn	22 17 58.4	-0.4
PKGZ	Pakihiroa	6.62 208		P	Pn	22 16 46.1	-2.3
PKGZ				S	Sn	22 18 01.8	-1.3
HAZ	Te Kaha	6.65 210		P	Pn	22 16 46.5	-2.3
HAZ				S	Sn	22 18 06.2	+2.3
PUZ	Puketiti	6.73 206		P	Pn	22 16 47.8	-2.2
PUZ				S	Sn	22 18 04.4	-1.5
RUGZ	Raukumara Rang	6.87 210		P	Pn	22 16 50.5	-1.4
RUGZ				S	Sn	22 18 08.8	-0.6
CNGZ	Carnagh Statio	7.11 205		P	Pn	22 16 51.7	-3.4
CNGZ				S	Sn	22 18 14.0	-1.2
MWZ	Matawai	7.25 209		P	Pn	22 16 53.7	-3.3
MWZ				S	Sn	22 18 15.6	-3.0
URZ	Urewera	7.37 212		Pn	Pn	22 16 55.4	-3.1
	1.6nm,0.3s,baz=338,slow=5.0,SNR=13						
URZ				Sn	Sn	22 18 19.3	-2.1
	4.7nm,0.3s,baz=87,slow=23,SNR=14						
	6.1nm,0.4s						
URZ	Urewera	7.37 212		P	Pn	22 16 56.3	-2.3
URZ				S	Sn	22 18 18.1	-3.2
WCZ	Waipu Caves	7.45 237		P	Pn	22 17 03.2	+3.4
OUZ	Omahuta	7.70 244		P	Pn	22 17 08.1	+5.0
SNGZ	Shannon Statio	7.71 208		S	Sn	22 18 29.7	-0.1
RTZ	Ruatahuna	7.72 211			Pn	22 17 01.1	-2.4
MTHZ	Maungataniwha	7.97 211		P	Pn	22 17 06.6	-0.4
MTHZ				S	Sn	22 18 33.9	-2.6
CTZ	Chatham Island	11.69 175		Pn	Pn	22 17 56.1	-1.7
EIDS	Eidsvold	27.89 276		P	P	22 21 02.3	+1.6
EIDS				IAmb	IAmb	22 21 35.4	
	comp=Z,8.7nm,1.1s						
HNR	Honiara	30.44 313		LR	LR	22 32 26.3	
	comp=Z,225nm,18.0s,baz=330,slow=34						
STKA	Stephens Creek	34.16 259		P	P	22 21 56.5	+0.6
STKA	Stephens Creek	34.16 259		P	P	22 21 56.8	+0.8
	comp=Z,2.0nm,0.7s,baz=98,slow=13,SNR=4.7						
	comp=Z,2.0nm,0.7s						
BBOO	Buckleboo	38.57 256		P	P	22 22 33.5	-0.1
BBOO				IAmb	IAmb	22 23 14.1	
	comp=Z,38nm,1.4s						
COEN	Coen	39.78 288			P	22 22 45.9	+2.0
COEN				IAmb	IAmb	22 23 10.7	
	comp=Z,4.0nm,0.9s						
AS31	Alice Springs	43.07 269		P	P	22 23 11.2	+0.3
ASAR	Alice Springs	43.07 269		P	P	22 23 10.5	-0.4
ASAR	Alice Springs	43.07 269		P	P	22 23 11.3	+0.5
	comp=Z,1.8nm,0.5s,baz=103,slow=7.2,SNR=28						
ASAR				PcP	PcP	22 25 01.9	+1.2
	comp=Z,0.3nm,0.4s,baz=104,slow=4.2,SNR=1.1						
	comp=Z,1.8nm,0.5s						
WRA	Warramunga Arr	44.21 274		P	P	22 23 19.9	-0.2
WRA	Warramunga Arr	44.21 274		P	P	22 23 20.4	+0.4
	comp=Z,6.9nm,0.3s,baz=113,slow=7.8,SNR=72						
	comp=Z,6.9nm,0.3s						
WB0	Warramunga Arr	44.24 274		P	P	22 23 20.1	-0.2
WB0				IAmb	IAmb	22 23 22.8	
	comp=Z,7.9nm,0.7s						
FORT	Forrest	45.66 257		P	P	22 23 31.5	0.0
KNRA	Kununurra	50.88 276		P	P	22 24 12.8	+0.9
KNRA				IAmb	IAmb	22 24 31.2	
	comp=Z,17nm,1.2s						
FITZ	Fitzroy Crossi	52.40 271		P	P	22 24 23.8	+0.6
FITZ				IAmb	IAmb	22 24 37.8	
	comp=Z,1.6nm,1.2s						
QSPA	South Pole Qui	58.04 180		P	P	22 25 04.8	+1.4
QSPA				IAmb	IAmb	22 25 44.1	
	comp=Z,16nm,1.2s						
QSPA	South Pole Qui	58.04 180		P	P	22 25 05.2	+1.8
	comp=Z,4.6nm,1.2s,baz=9.6,slow=1.1,SNR=6.9						
	comp=Z,4.6nm,1.2s						
MKAR	Makanchi Array	118.86 309		PKP	PKiKP	22 34 00.0	+1.3
	comp=Z,0.5nm,0.8s,baz=202,slow=2.3,SNR=3.5						
BVAR	Borovoye Array	127.61 315		PKP	PKiKP	22 34 16.3	+0.5
	comp=Z,0.6nm,0.5s,baz=109,slow=2.2,SNR=3.6						
KBZ	Khabaz	146.04 302		PKPbc	PKiKP	22 34 53.0	-0.5
	comp=Z,2.7nm,0.8s,baz=20,slow=4.3,SNR=7.0						
OBN	Obninsk	146.55 324		PKPdf	PKPbc	22 34 51.4	0.0
FINES	FINESS Array B	146.72 339		PKPbc	PKPbc	22 34 51.5	-0.2
	comp=Z,2.1nm,0.5s,baz=50,slow=4.2,SNR=22						
NB2	NORSAR Subarra	150.41 351		PKP	PKPbc	22 35 00.7	-0.6
	comp=Z,6.8nm,1.7s,baz=17,slow=2.6						
HFS	Hagfors	150.89 348		PKPbc	PKiKP	22 35 03.2	+0.2
	comp=Z,1.7nm,0.8s,baz=62,slow=3.5,SNR=6.5						
MMAI	Mount Meron Ar	151.92 281		PKPbc	PKiKP	22 35 06.5	+0.4
	comp=Z,0.8nm,0.5s,baz=32,slow=3.2,SNR=2.7						
AKASG	Malin Array Be	152.63 321		PKPbc	PKiKP	22 35 08.3	+1.4
	comp=Z,0.7nm,0.5s,baz=71,slow=1.6,SNR=4.1						
BRTR	Keskin Array B	153.38 296		PKPbc	PKiKP	22 35 09.0	-0.1
BRTR	Keskin Array B	153.38 296		PKPbc	PKiKP	22 35 10.4	+1.3
	comp=Z,0.6nm,0.5s,baz=100,slow=4.8,SNR=4.3						

*JMA **06** 22:18:47.0±0.1, 23°.5N±0°.8×122°.4E±0°.5, h38km, MV2.7/14, NEAR ISHIGAKIJIMA ISLAND*
*TAP **06** 22:18:47.6, 23°.58N×122°.41E, h48km, ML3.3, D*

ISC 06 22:18:43.2±1.1, 23°.50N±0°.02×122°.48E±0°.02, h12km±9km, n102, σ1.908/175, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.64 346		P	Pn	22 18 58.8	+1.0
EOS4				eS	Sn	22 19 07.3	-0.5
EOS3	EOS3	0.80 349		eP	Pn	22 19 01.9	+1.7
EOS3				S	Sn	22 19 12.0	0.0
TEGC	Jichi Village	0.89 284		eP	Pn	22 19 02.7	+1.1
TEGC				eS	Sb	22 19 13.6	+1.1
SHUL	Shoufeng	0.89 289		eP	Pn	22 19 02.4	+0.8
SHUL				eS	Sb	22 19 13.8	+1.2
EOS2	EOS2	0.94 346		eP	Pn	22 19 04.4	+2.1
EOS2				eS	Sn	22 19 15.7	0.0
ECBN	Changbin	0.97 259		eP	Pn	22 19 03.7	+1.1
ECBN				S	Sg	22 19 15.2	+0.8
HGSD	Ruisui	0.97 270		i P	Pn	22 19 03.3	+0.5
HGSD				eS	Sg	22 19 14.2	-0.5
EGFH	Guangfu	0.98 280		eP	Pn	22 19 03.4	+0.5
EGFH				eS	Sg	22 19 14.7	-0.3
TWD	Chiawan	1.00 306		i P	Pn	22 19 03.6	+0.5
TWD				eS	Sg	22 19 14.9	-0.6
ESL	Shilin	1.01 288		eP	Pn	22 19 03.1	-0.2
ETM	Tongmen	1.02 297		eP	Pn	22 19 03.5	+0.1
ETL	Fush Village	1.03 310		eP	Pn	22 19 04.0	+0.5
ETL				eS	Sg	22 19 15.7	-0.7
WARBT	Fenglin Townsh	1.03 282		eP	Pn	22 19 03.8	+0.3
WARBT				eS	Sg	22 19 15.8	-0.8
JYNG	Yonagunijimaku	1.04 24		eS	Sn	22 19 18.4	+0.3
CHKH	Chenggong	1.05 253		eP	Pn	22 19 04.2	+0.5
CHKH				eS	Sg	22 19 16.2	-0.8
EHYH	Wanrong	1.05 270		eP	Pn	22 19 04.6	+0.9
EHYH				eS	Sb	22 19 17.7	+0.7
NACB	Ninganchiao	1.06 310		i P	Pn	22 19 04.4	+0.5
NACB				i S	Sg	22 19 16.3	-1.0
EHY	Hungye	1.07 271		eP	Pn	22 19 04.9	+0.9
EHY				eS	Sg	22 19 17.6	0.0
EAHA	Aohua	1.07 321		eS	Sn	22 19 18.2	-0.8
YOJ	Yonaguni jima	1.07 27		eS	Sn	22 19 21.1	+2.1
EYUL	Yuli	1.08 262		i P	Pn	22 19 05.2	+1.0
EYUL				eS	Sg	22 19 18.6	+0.5
YULB	Yu-li	1.09 265		eP	Pn	22 19 05.6	+1.1
YULB				S	Sg	22 19 19.2	+0.6
TWF1	Yuli	1.10 263		i P	Pn	22 19 05.4	+0.9
TWF1				S	Sg	22 19 18.6	-0.2
CHKT	Chengkung	1.10 249		P	Pn	22 19 05.2	+0.7
CHKT				S	Sg	22 19 17.7	-1.1
LXIB	Xiulin Townshi	1.11 298		P	Pn	22 19 05.0	+0.2
LXIB				eS	Sg	22 19 18.5	-0.6
FULB	Fuli	1.13 255		P	Pg	22 19 05.7	+0.7
FULB				eS	Sb	22 19 19.4	-0.2
EWUT	Wuta	1.14 326		eP	Pn	22 19 06.7	+1.6
EWUT				eS	Sn	22 19 19.9	-0.8
ENA	Nanau	1.15 324		eP	Pn	22 19 06.5	+1.4
ENA				eS	Sn	22 19 20.2	-0.7
ETLH	Xiulin Townshi	1.16 308		i P	Pn	22 19 06.1	+0.7
ETLH				i S	Sg	22 19 19.8	-0.8
EDH	Donghe	1.21 245		eP	Pg	22 19 06.7	+0.3
EDH				i S	Sb	22 19 20.8	-0.7
EHD	Haiduan	1.23 254		eP	Pg	22 19 07.4	+0.6
EHD				eS	Sb	22 19 21.6	-0.5
ECS	Chishang	1.23 251		eS	Sb	22 19 22.4	+0.1
LDUT	Ludao	1.24 229		eP	Pg	22 19 07.7	+0.6
LDUT				eS	Sb	22 19 21.9	-0.8
TWC	Suao	1.25 332		eP	Pg	22 19 07.8	+0.6
VWDT	VWDT	1.26 282		eP	Pg	22 19 07.9	+0.5
OWD	Renai	1.28 291		i P	Pg	22 19 07.9	+0.4
OWD				eS	Sb	22 19 23.2	-0.7
WHF	Hehuan Shan	1.29 300		eP	Pg	22 19 08.1	+0.1
HATJ	Hateruma jima	1.33 65		P	Pg	22 19 10.5	+1.7
HATJ				S	Sn	22 19 27.2	+1.9
NDS	Dongshan	1.33 328		eP	Pg	22 19 09.7	+0.9
NDS				eS	Sg	22 19 25.6	-0.5
WUSB	Renai	1.35 292		P	Pg	22 19 09.3	+0.2
LATG	Datong	1.35 320		P	Pg	22 19 09.4	+0.1
FUSS	Fushou	1.36 304		eP	Pg	22 19 09.3	-0.1
FUSS				eS	Sb	22 19 25.9	-0.3
NNSB	Datong	1.37 313		P	Pg	22 19 09.7	+0.2
NNSB				eS	Sb	22 19 25.1	-1.3
LONT	Longtian	1.38 245		eP	Pg	22 19 09.5	-0.2
LONT				eS	Sn	22 19 26.3	-0.2
NNS	Nan Shan	1.38 313		eP	Pg	22 19 10.1	+0.2
NNS				eS	Sb	22 19 25.7	-1.2
YUS	Yu-Shan	1.41 270		eP	Pn	22 19 08.5	-0.6
YUS				eS	Sn	22 19 24.7	-3.2
IRIF	Iriomote-Funau	1.41 54		P	Pg	22 19 11.6	+1.2
IRIF				S	Sg	22 19 29.5	+0.8
ENTT	Nioudou	1.41 324		eP	Pg	22 19 10.1	-0.3
TWT	Tachien	1.41 302		eP	Pg	22 19 10.6	+0.2
TWT				eS	Sn	22 19 27.6	-0.1
TWE	Neicheng	1.43 329		eP	Pg	22 19 11.3	+0.7
TWE				eS	Sb	22 19 27.8	-0.1
SSLB	Suanglung	1.43 282		P	Pg	22 19 10.3	-0.4
SSLB				eS	Sn	22 19 26.9	-1.0
TTN	Taitung	1.44 239		eS	Sn	22 19 28.6	+0.7
TWGBT	Beinan	1.46 243		P	Pg	22 19 10.9	-0.4
TWGBT				S	Sn	22 19 28.2	-0.3
TWG	Pinlang	1.46 243		eP	Pg	22 19 11.0	-0.3
TWG				S	Sn	22 19 28.3	-0.4
FUSB	Fushanzhiwuyua	1.50 327		eP	Pg	22 19 12.2	+0.1
SMLT	Sun Moon Lake	1.50 285		eP	Pb	22 19 10.9	-0.3
WHYT	Xinyi Township	1.51 278		eP	Pg	22 19 12.0	-0.2
ALS	Alishan	1.54 271		eP	Pg	22 19 13.2	+0.3
TYC	Yuchr	1.54 285		eP	Pg	22 19 12.3	-0.6
WCS	Beigang Elemen	1.54 291		eP	Pg	22 19 12.5	-0.4
YHNB	Yeheng	1.54 319		eP	Pg	22 19 12.2	-0.7
NWLT	Wulai	1.56 325		eP	Pg	22 19 14.4	+1.2
NWLT				eS	Sn	22 19 30.4	-0.6
NSK	Sanguang	1.56 319		eP	Pg	22 19 12.8	-0.4
NSK				eS	Sn	22 19 30.3	-0.8
JKRS	Kuro-shima	1.58 62		P	Pg	22 19 14.1	+0.6
JKRS				S	Sg	22 19 33.6	-0.4
TIPB	Shuangxi	1.59 338		eP	Pg	22 19 13.4	-0.2
TIPB				eS	Sb	22 19 31.6	-1.0
STYH	Taoyuan	1.60 259		eP	Pg	22 19 13.6	-0.4
STYH				eS	Sn	22 19 31.8	-0.3
WHP	Taichung City	1.61 299		eP	Pg	22 19 14.4	+0.3
WHP				eS	Sn	22 19 32.8	+0.5
WJS	Zhushan	1.64 282		eP	Pg	22 19 14.4	-0.3
CHN5	Tsauling	1.66 274		P	Pg	22 19 15.2	+0.1
CHN5				eS	Sb	22 19 35.3	+0.5
ECL	Taimali	1.67 238		eP	Pb	22 19 14.0	+0.1
ECL				eS	Sn	22 19 32.1	-1.6
SXI1	Grass Mountain	1.68 341		eP	Pg	22 19 14.2	-1.4
NFF	Wufeng Townshi	1.68 312		P	Pg	22 19 16.1	+0.6
NFF				eS	Sn	22 19 33.9	-0.2
LAY	Lan-yu	1.69 211		eP	Pb	22 19 13.7	-0.5
LYUB	Lan-yu	1.71 209		eP	Pb	22 19 13.7	-0.8
LYUB				eS	Sn	22 19 32.6	-2.0
TPUB	Ta-pu	1.71 264		eP	Pg	22 19 15.9	-0.2
TPUB				eS	Sn	22 19 36.0	+1.1
WCKO	Fanlu	1.73 268		eP	Pg	22 19 16.8	+0.4
WCKO				eS	Sb	22 19 37.0	+0.4
WTP	Ta-pu	1.74 262		eP	Pg	22 19 16.6	0.0
WTP				eS	Sn	22 19 37.0	+1.5
CHN4	Tsaushan	1.74 266		eP	Pg	22 19 16.4	-0.3
CHN4				eS	Sb	22 19 38.8	+1.8
JIJ	Ishigaki jima	1.75 60		P	Pg	22 19 16.3	-0.4
JIJ				S	Sg	22 19 36.9	-2.5
KSHI	Guanxi Townshi	1.75 317		eP	Pg	22 19 17.3	+0.5
KSHI				eS	Sb	22 19 37.7	+0.6
LIOB	Emei	1.76 311		eP	Pg	22 19 16.8	-0.2
LIOB				eS	Sn	22 19 36.8	+0.8
NSTT	Nanjuang	1.76 310		eP	Pg	22 19 16.7	-0.4
NSTT				eS	Sb	22 19 37.2	-0.4
TWQ1	Liyutan	1.78 299		eP	Pg	22 19 16.7	-0.7
TWQ1				eS	Sb	22 19 37.6	-0.5
WDLH	Douliu	1.80 276		eP	Pg	22 19 17.0	-0.7
WDLH				eS	Sb	22 19 38.6	0.0
CHN1	Nanshi	1.82 261		eP	Pg	22 19 18.2	0.0
CHN1				eS	Sb	22 19 40.0	+0.5
SNST	Tainan City	1.85 262		eP	Pg	22 19 18.2	-0.5
SNST				eS	Sb	22 19 40.6	+0.6
TWK	Hsinying	1.85 263		eP	Pg	22 19 18.0	-0.7
TWK				eS	Sb	22 19 40.1	-0.1
ZUZH	Zhuzihu	1.86 333		eS	Sn	22 19 38.5	-0.1
TAWH	Dawu Township	1.87 232		eP	Pb	22 19 17.4	+0.1
TAWH				eS	Sn	22 19 37.1	-1.6
MASBT	Mashibuluo	1.92 243		eP	Pb	22 19 18.2	0.0
JISG	Ishigakijimahi	1.99 57		eP	Pg	22 19 19.1	-2.4
JISG				S	Sg	22 19 43.0	-4.2
SLIU	Shizi	2.01 231		eP	Pb	22 19 18.7	-1.1
SCZT	Fangliau	2.05 237		eP	Pb	22 19 20.5	+0.1
WSL	Shuilin Townsh	2.07 271		eP	Pb	22 19 20.9	+0.1
WSL				eS	Sn	22 19 44.9	+1.3
PHUB	P'eng-hu	2.67 271		eP	Pn	22 19 28.0	+1.9
PHUB				eS	Sn	22 19 58.9	+0.4
VWUC	VWUC	3.14 299		eP	Pn	22 19 34.3	+1.7
VWUC				eS	Sn	22 20 08.1	-2.0
PTMZ	Houxiangcun	3.43 297		eP	Pn	22 19 38.5	+2.0
PTMZ				eS	Sn	22 20 15.9	-1.3
MATB	Ma-tsu	3.51 319		eS	Sn	22 20 16.4	-2.7
KNM	Kinmen	3.82 285		eP	Pn	22 19 45.9	+4.0
KNM				eS	Sn	22 20 27.9	+1.2
KNMB	Chin-men Tao	3.87 285		eP	Pn	22 19 44.4	+1.9
KNMB				eS	Sn	22 20 26.4	-1.5
MHZQ	Yeshan	4.07 310		eS	Sn	22 20 30.0	-2.9
AXDP	Jialang	4.35 290		eP	Pn	22 19 51.9	+2.7
AXDP				eS	Sn	22 20 37.7	-2.2

*ISK **06** 22:30:29.9, 38°.95N×26°.49E, h12km, ML2.6/38*
*ATH **06** 22:30:30.0, 38°.94N×26°.51E, h9km±3km, ML2.5/9, Manual

ZEYE *i* AML AML 22 30 57.0
comp=N,522nm,0.4s
ZEYE Izmir, Urla-Ze 0.70 179 P **Pg 22 30 43.6 -0.3**
ZEYE Izmir, Urla-Ze 0.70 179 S **Sn 22 30 56.1 -0.3**
ZEYE Izmir, Urla-Ze 0.70 179 *i* AML AML 22 30 57.0
comp=N,522nm,0.4s
ZEYE Izmir, Urla-Ze 0.70 179 *i* AML AML 22 30 57.0
comp=E,379nm,0.4s
BLCB Balcova 0.70 142 Pg **Pb 22 30 44.5 +0.2**
BLCB Sg **Sb 22 30 54.1 +0.2**
BUHA Balikesir, Bur 0.72 39 P **Pg 22 30 43.7 -0.7**
BUHA Balikesir, Bur 0.72 39 P **Pg 22 30 43.5 -0.9**
BUHA Balikesir, Bur 0.72 39 S **Sn 22 30 56.5 -0.5**
BUHA Balikesir, Bur 0.72 39 *i* AML AML 22 30 58.0
comp=E,348nm,0.6s
BAYC CANAKKALE_Bayr 0.80 3 P **Pg 22 30 45.5 -0.3**
BAYC CANAKKALE_Bayr 0.80 3 S **Sb 22 30 58.0 +1.2**
BAYC CANAKKALE_Bayr 0.80 3 P **Pg 22 30 44.8 -1.1**
EZNE Ezine-Canakkal 0.82 353 Pg **Pb 22 30 46.4 +0.1**
EZNE Sg **Sb 22 30 58.3 +1.1**
GMLD Gumuldur 0.93 159 Pg **Pb 22 30 48.3 +0.2**
GMLD Sg **Sn 22 31 01.8 -0.1**
DGB zmir 0.94 161 P **Pg 22 30 47.8 -0.6**
DGB S **Sg 22 30 59.9 -0.8**
DGB zmir 0.94 161 P **Pg 22 30 47.0 -1.4**
DGB zmir 0.94 161 S **Sn 22 31 01.9 -0.4**
BOZC Bozcaada 0.96 340 Pg **Pb 22 30 48.3 -0.4**
BOZC Sg **Sb 22 31 01.9 +0.6**
BOZC Bozcaada 0.96 340 P **Pb 22 30 48.7 -0.1**
BOZC P **Pb 22 30 48.7 -0.1**
BOZC S **Sg 22 31 01.4 -0.1**
BOZC S **Sb 22 31 01.6 +0.2**
BOZC *i* AML AML 22 31 03.0
comp=N,311nm,0.3s
BOZC Bozcaada 0.96 340 *i* AML AML 22 31 03.0
comp=E,403nm,0.2s
BOZC Bozcaada 0.96 340 P **Pb 22 30 47.8 -0.9**
BOZC Bozcaada 0.96 340 S **Sb 22 31 01.5 +0.2**
BOZC Bozcaada 0.96 340 *i* AML AML 22 31 03.0
comp=N,333nm,0.3s
AKS Akhisar 1.04 93 Pg **Pg 22 30 50.3 0.0**
AKHS Akhisar 1.04 93 P **Pb 22 30 50.0 0.0**
STEP BALIKESIR_Sava 1.05 65 P **Pb 22 30 50.3 0.0**
STEP S **Sb 22 31 04.0 +0.1**
STEP *i* AML AML 22 31 06.0
comp=E,248nm,0.5s
STEP BALIKESIR_Sava 1.05 65 P **Pb 22 30 50.2 -0.1**
STEP BALIKESIR_Sava 1.05 65 S **Sn 22 31 05.5 +0.4**
STEP BALIKESIR_Sava 1.05 65 *i* AML AML 22 31 06.0
comp=N,243nm,0.5s
STEP BALIKESIR_Sava 1.05 65 *i* AML AML 22 31 06.0
comp=E,247nm,0.5s
CNKL anakkale-Mer 1.13 356 P **Pb 22 30 51.2 -0.3**
CNKL P **Pn 22 30 51.6 0.0**
CNKL anakkale-Mer 1.13 356 P **Pb 22 30 51.0 -0.5**
CNKL anakkale-Mer 1.13 356 S **Sn 22 31 08.3 +1.4**
ECEA Canakkale, Ece 1.13 348 P **Pb 22 30 51.7 +0.1**
ECEA S **Sg 22 31 06.9 +0.1**
ECEA *i* AML AML 22 31 08.0
comp=E,148nm,0.5s
ECEA Canakkale, Ece 1.13 348 P **Pb 22 30 51.5 -0.1**
ECEA Canakkale, Ece 1.13 348 S **Sn 22 31 07.5 +0.5**
ECEA Canakkale, Ece 1.13 348 *i* AML AML 22 31 09.0
comp=E,171nm,0.4s
ECEA Canakkale, Ece 1.13 348 *i* AML AML 22 31 11.0
comp=N,179nm,0.2s
GOMA Golmarmara-Man 1.14 101 Pn **Pb 22 30 51.6 -0.2**
YENI Yenice-Canakka 1.15 30 Pn **Pg 22 30 52.5 0.0**
CANM Can-anakkale 1.16 22 Pn **Pn 22 30 52.2 +0.1**
COMU Canakkale 1.16 359 Pn **Pg 22 30 52.6 0.0**
BALY Balya 1.19 47 P **Pb 22 30 52.8 +0.2**
BALY S **Sn 22 31 08.9 +0.4**
BALY *i* AML AML 22 31 13.0
comp=E,135nm,0.4s
BALY Balya 1.19 47 P **Pn 22 30 52.4 -0.2**
BALY Balya 1.19 47 S **Sn 22 31 09.9 +1.4**
BALY Balya 1.19 47 *i* AML AML 22 31 11.0
comp=N,139nm,0.3s
BALY Balya 1.19 47 *i* AML AML 22 31 13.0
comp=E,135nm,0.4s
SMG Samos 1.26 167 P **Pn 22 30 53.4 -0.2**
SMG S **Sn 22 31 10.2 0.0**
GOAD anakkale-G¶ 1.30 340 P **Pn 22 30 53.7 -0.3**
GOAD S **Sb 22 31 10.4 -0.6**
GOAD *i* AML AML 22 31 13.0
comp=N,133nm,0.2s
GOAD anakkale-G¶ 1.30 340 P **Pn 22 30 53.8 -0.2**
GOAD anakkale-G¶ 1.30 340 S **Sb 22 31 11.2 +0.1**
GOAD anakkale-G¶ 1.30 340 *i* AML AML 22 31 13.0
comp=N,133nm,0.2s
GOAD anakkale-G¶ 1.30 340 *i* AML AML 22 31 14.0
comp=E,103nm,0.5s
EFSA Agios Efstrati 1.31 298 P **Pb 22 30 54.8 +0.2**
EFSA S **Sg 22 31 12.3 -0.2**
GORD Gordes-Manisa 1.32 91 Pn **Pn 22 30 54.3 -0.1**
GADA Gvkgeada 1.33 340 Pn **Pn 22 30 54.5 +0.1**
BKES Balkesir-Mer 1.37 54 P **Pb 22 30 56.0 +0.2**
BKES S **Sn 22 31 12.1 -0.9**
BKES *i* AML AML 22 31 17.0
comp=N,67nm,0.5s
BKES Balkesir-Mer 1.37 54 P **Pn 22 30 55.1 0.0**
BKES Balkesir-Mer 1.37 54 S **Sg 22 31 14.2 -0.2**
BKES Balkesir-Mer 1.37 54 *i* AML AML 22 31 17.0
comp=E,90nm,0.8s
GCAM G?zelcaml? 1.37 154 Pn **Pb 22 30 55.8 +0.1**
GCAM G?zelcaml? 1.37 154 P **Pg 22 30 56.2 -0.4**
LIA Limnos Island 1.39 314 P **Pn 22 30 55.4 +0.1**
LIA S **Sg 22 31 14.5 -0.6**
IZMR zmir-demi 1.40 124 P **Pn 22 30 55.7 +0.2**
ODEM Odemis-Izmir 1.41 118 Pn **Pb 22 30 56.2 -0.2**
GONE Gonen-Balikesi 1.44 40 Pn **Pn 22 30 56.3 +0.3**
LPK Lapseki 1.45 8 Pn **Pb 22 30 57.0 0.0**
GELI Tayfur-Gelibol 1.46 360 Pn **Pn 22 30 56.6 +0.4**
AYDB Zeytinkoy-Aydi 1.48 132 Pn **Pn 22 30 56.8 +0.1**
KRBG Karabiga-Canak 1.58 23 Pn **Pn 22 30 57.8 -0.1**
SUSR Susurluk-Balik 1.60 50 Pn **Pb 22 30 59.2 -0.5**
ENZZ Sultanice-Enez 1.69 151 Pn **Pn 22 31 00.1 +0.8**
SMTH Samothraki Isl 1.70 335 P **Pn 22 30 59.3 -0.2**
SMTH S **Sb 22 31 22.9 +0.4**
NAZL Nazilli-Aydin 1.72 124 Pn **Pb 22 31 01.2 -0.5**
ERIK Erikli-Kesan 1.73 1 Pn **Pn 22 31 00.2 +0.3**
KULA Kula-Manisa 1.75 103 Pn **Pn 22 31 00.8 +0.5**
EDC Edincik 1.76 37 Pn **Pn 22 31 00.5 +0.1**
ENEZ Enez 1.81 352 Pn **Pn 22 31 01.6 +0.5**
RKY Sarkoy-Tekirda 1.82 17 Pn **Pn 22 31 00.9 -0.4**
KYMI Kymi, Euboea I 1.89 261 P **Pn 22 31 01.9 -0.3**
MLSB Milas 1.93 148 Pn **Pn 22 31 03.3 +0.5**
SIMA Simav-Kutahya 1.95 85 Pn **Pn 22 31 03.9 +0.8**
KCTX Karacabey (Bur 1.96 47 Pn **Pn 22 31 03.7 +0.6**
ALN Alexandroupoli 1.98 350 Pn **Pn 22 31 03.7 +0.3**
BODT Bodrum 1.98 161 Pn **Pn 22 31 04.5 +1.0**
APE Apeiranthos 2.02 202 P **Pn 22 31 04.2 +0.3**
THAS Thassos island 2.15 321 P **Pn 22 31 06.4 +0.7**
THAS S **Sb 22 31 34.2 -1.3**
DION Dionisos Attik 2.18 248 P **Pn 22 31 06.9 +0.7**
UKOP Uzunkopru-Edir 2.19 3 Pn **Pn 22 31 07.5 +1.3**
GEDZ Gediz 2.28 86 Pn **Pn 22 31 08.7 +1.1**
RDO Rodhopi 2.32 342 P **Pn 22 31 08.3 +0.3**
MDNY Mudanya-Bursa 2.34 52 Pn **Pn 22 31 09.2 +0.9**
TVSB Tavsanli 2.37 77 Pn **Pn 22 31 09.5 +0.7**
ARMT Armutlu 2.45 48 Pn **Pn 22 31 10.3 +0.5**

*IDC **06** 22:44:31.5±2.3,32.°21S×177.°90W,h0km,mb4.2/3,*
mbtmp4.0/4,ML2.9/1,Error ellipse: s-maj=61.0km
s-min=34.6km az=126.0
ISC 06 22:44:31.0±2.6,32.°3S±0.°2×177.°6W±0.°4,h10km,n7,
σ0°73/7,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.39**	**215**	Pn	**Pn**	**22 46 18.2**	**-0.8**
	0.2nm,0.3s,baz=273,slow=20,SNR=1.6						
URZ				Sn	**Sn**	**22 47 43.6**	**+0.8**
	1.1nm,0.3s,baz=51,slow=12,SNR=6.4 3.1nm,0.8s						
ASAR	**Alice Springs**	**43.41**	**269**	P	**P**	**22 52 33.9**	**-0.2**
	0.8nm,0.4s,baz=105,slow=7.2,SNR=21 0.8nm,0.4s						
WRA	**Warramunga Arr**	**44.56**	**274**	P	**P**	**22 52 43.0**	**-0.3**
	2.3nm,0.3s,baz=113,slow=7.9,SNR=26 2.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.74**	**271**	P	**P**	**22 53 46.5**	**+0.1**
	1.5nm,0.7s,baz=112,slow=5.4,SNR=2.1 1.5nm,0.7s						
MKAR	**Makanchi Array**	**119.24**	**309**	PKhKP	PKPpre	23 03 15.9	
	0.2nm,0.5s,baz=124,slow=7.2,SNR=3.5						
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc	**PKPab**	**23 04 14.4**	**-0.2**
	1.0nm,0.4s,baz=57,slow=5.1,SNR=16						
BRTR	**Keskin Array B**	**153.77**	**295**	PKPbc	**PKiKP**	**23 04 31.4**	**+0.9**
	0.3nm,0.6s,baz=91,slow=3.9,SNR=2.1						

*IDC **06** 22:45:25.6±1.7,32.°1S±0.°1×178.°1W±0.°3,h24km,n6,*
σ0°89/7,mb3.9/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.29**	**212**	Pn	**Pn**	**22 47 09.7**	**-0.9**
	0.8nm,0.3s,baz=90,slow=8.7,SNR=2.4						
URZ				Sn	**Sn**	**22 48 33.3**	**+0.7**
	5.4nm,0.3s,baz=309,slow=5.0,SNR=15 4.2nm,0.5s						
ASAR	**Alice Springs**	**43.00**	**269**	P	**P**	**22 53 24.5**	**+1.2**
	0.6nm,0.5s,baz=107,slow=8.0,SNR=6.6 0.6nm,0.5s						
WRA	**Warramunga Arr**	**44.14**	**274**	P	**P**	**22 53 32.2**	**-0.3**
	1.0nm,0.4s,baz=115,slow=8.0,SNR=5.1 1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.33**	**271**	P	**P**	**22 54 35.2**	**-0.5**
	1.9nm,1.0s,baz=131,slow=9.3,SNR=1.3 1.9nm,1.0s						
QSPA	**South Pole Qui**	**58.00**	**180**	P	**P**	**22 55 16.3**	**+0.2**
	0.8nm,0.9s,baz=339,slow=4.7,SNR=1.3 0.8nm,0.9s						
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	**PKPdf**	**23 05 03.2**	**+0.2**
	1.8nm,0.6s,baz=49,slow=4.2,SNR=5.4						

DJA 06 22:51:38.7±0.4,8.°S±2.°×10.°7E±.°,h30km±4km,M4.1/12,
mb4.5/1,MLv3.8/12,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.59**	**347**	P	Pn	22 51 51.7	+0.6
CNJI				S	Sn	22 52 00.1	+0.4
LEM	**Lembang**	**1.11**	**19**	P	Pb	22 51 59.0	-0.5
LEM				S	Sb	22 52 13.4	-0.3
SKJI	**Sukabumi**	**1.12**	**322**	P	Pb	22 51 59.3	-0.2
CMJI	**Cimerak**	**1.18**	**85**	P	Pn	22 51 59.6	+0.4
CMJI				S	Sn	22 52 13.5	-0.8
CGJI	**Cibinong**	**2.01**	**309**	P	Pn	22 52 10.8	+0.2
CGJI				S	Sn	22 52 32.9	-1.8
SBJI	**Serang**	**2.09**	**327**	P	Pn	22 52 12.0	+0.4
UGM	**Wanagama**	**3.23**	**91**	P	Pn	22 52 27.7	+0.2
PCJI	**Pacitan**	**3.89**	**95**	P	Pn	22 52 37.2	+0.7

DJA 06 22:52:39.0±0.6,10.°S±5.°×11.°8E±.°,h10km,M4.2/7,mb4.4/1,
MLv4.0/7,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.98**	**64**	P	Pg	22 52 57.4	-0.6
WBSI				S	Sb	22 53 11.5	+0.2
PLAI	**Plampang**	**1.42**	**330**	P	Pn	22 53 04.7	-0.2
PLAI				S	Sn	22 53 23.5	-0.2
BASI	**Baing, Sumba**	**2.06**	**94**	P	Pn	22 53 14.0	+0.3
BSSI	**Bau Bau, Buton**	**4.38**	**27**	P	Pn	22 53 45.1	-0.5
JAGI	**Jajag, Banyuwa**	**4.57**	**290**	P	Pn	22 53 45.8	-2.4
BKSI	**Bulukumba**	**4.99**	**19**	P	Pn	22 53 54.9	+0.9
GMJI	**Gumukmas**	**5.29**	**289**	P	Pn	22 53 58.7	+0.5

IDC 06 22:54:56.9±10.0,31.°65S×177.°92W,h0km,mb3.4/2,
mbtmp3.4/2,Error ellipse: s-maj=501.0km
s-min=62.9km az=158.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.12**	**268**	P	P	23 02 59.1	-0.1
	0.2nm,0.5s,baz=115,slow=8.1,SNR=4.1 0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.22**	**273**	P	P	23 03 08.0	-0.2
	0.4nm,0.5s,baz=115,slow=8.2,SNR=1.9 0.4nm,0.5s						
FINES	**FINESS Array B**	**146.34**	**339**	PKPbc	PKPdf	23 14 38.0	+0.3
	2.4nm,0.8s,baz=65,slow=4.7,SNR=4.4						

WEL 06 23:04:20.5±0.9,31.°S±16.°×17.°9W±4.°3,h267km±14km,
mB4.6/8,ML4.8/7,MLv4.7/12,Mw(mB)3.8/8,Error ellipse:
s-maj=59.6km s-min=5.4km az=110.4,confirmed,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.24**	**28**	P	Pn	23 05 05.2	-1.4
GLKZ				S	S	23 05 44.0	+0.8
WMGZ	**Waiomatatini S**	**6.86**	**197**	P	Pn	23 06 00.9	+1.4
WMGZ				S	S	23 07 21.1	+1.8
HAZ	**Te Kaha**	**6.97**	**201**	P	Pn	23 06 02.4	+1.4
HAZ				S	S	23 07 23.2	+1.3
PKGZ	**Pakihiroa**	**6.99**	**199**	P	Pn	23 06 02.7	+1.5
PKGZ				S	S	23 07 23.7	+1.4
PUZ	**Puketiti**	**7.14**	**197**	P	Pn	23 06 05.3	+2.3
PUZ				S	S	23 07 25.8	+0.1
WCZ	**Waipu Caves**	**7.18**	**228**	P	Pn	23 06 04.8	+1.2
RUGZ	**Raukumara Rang**	**7.20**	**201**	P	Pn	23 06 04.1	+0.2
RUGZ				S	S	23 07 25.4	-1.7
TWGZ	**Tauwhareparae**	**7.31**	**198**	P	Pn	23 06 03.5	-1.7
TWGZ				S	S	23 07 30.5	+0.9
CNGZ	**Carnagh Statio**	**7.54**	**196**	P	Pn	23 06 08.1	+0.1
CNGZ				S	S	23 07 34.5	-0.3
MWZ	**Matawai**	**7.58**	**200**	P	Pn	23 06 06.2	-2.5
MWZ				S	S	23 07 37.2	+1.4
URZ	**Urewera**	**7.65**	**203**	P	Pn	23 06 07.9	-1.5
URZ				S	S	23 07 34.8	-2.4
RIGZ	**Rimuhau**	**7.86**	**198**	P	Pn	23 06 13.9	+1.8
RIGZ				S	S	23 07 41.2	-1.0
MUGZ	**Murupara**	**7.96**	**204**	P	Pn	23 06 13.7	+0.4
MUGZ				S	S	23 07 44.6	+0.2
PRGZ	**Paritu Road**	**8.04**	**197**	P	Pn	23 06 16.0	+1.8
PRGZ				S	S	23 07 45.3	-0.8
KNZ	**Kokohu**	**8.18**	**198**	P	Pn	23 06 13.0	-3.1
KNZ				S	S	23 07 48.0	-1.4
RAHZ	**Arahi**	**8.25**	**201**	P	Pn	23 06 17.1	+0.1
RAHZ				S	S	23 07 50.8	-0.4
MTHZ	**Maungataniwha**	**8.27**	**203**	P	Pn	23 06 17.5	+0.3
MTHZ				S	S	23 07 52.8	+1.1

*JMA **06** 23:18:19.3±0.2,25.°2N±0.°5×124.°2E±0.°4,h7km±3km,*
MD4.0/10,MV3.6/10,NW OFF ISHIGAKIJIMA IS
*IDC **06** 23:18:19.2±1.1,25.°08N×124.°06E,h0km,mb3.6/8,*
mbtmp3.6/8,MS3.4/7,Error ellipse: s-maj=38.5km
s-min=19.1km az=71.0
ISC 06 23:18:20.2±2.0,25.°13N±0.°06×124.°18E±0.°09,h9km±15km,
n28,σ0°73/24,mb3.6/9,MS3.5/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.55**	**168**	P	**Pb**	**23 18 31.5**	**-0.5**
JISG				S	**Sb**	**23 18 39.8**	**-0.1**
JISG	**Ishigakijimahi**	**0.55**	**168**	A	A	23 18 31.5	
	comp=N,6.0nm,0.6s,comp=E,10.0nm,0.6s						
JTJ	**Tarama**	**0.67**	**136**	*e*P	**Pg**	**23 18 33.5**	**+0.2**
JTJ				*e*S	**Sg**	**23 18 43.3**	**+1.2**
JIJ	**Ishigaki jima**	**0.76**	**183**	P	**Pb**	**23 18 35.1**	**-0.5**
JIJ				*e*S	**Sb**	**23 18 45.9**	**-0.1**
JIJ	**Ishigaki jima**	**0.76**	**183**	A	A	23 18 35.1	
	comp=N,5.0nm,0.4s,comp=E,3.0nm,0.8s						
IRIF	**Iriomote-Funau**	**0.89**	**208**	P	**Pb**	**23 18 37.3**	**-0.4**
IRIF				S	**Sb**	**23 18 50.2**	**+0.5**
IRIF	**Iriomote-Funau**	**0.89**	**208**	A	A	23 18 37.3	
	comp=N,7.0nm,0.4s,comp=E,6.0nm,0.5s						
JKRS	**Kuro-shima**	**0.90**	**190**	P	**Pb**	**23 18 38.0**	**+0.1**
JKRS				*e*S	**Sn**	**23 18 51.3**	**-0.7**
JKRS	**Kuro-shima**	**0.90**	**190**	A	A	23 18 38.0	
	comp=N,15nm,1.3s,comp=E,13nm,3.3s						
JIRB	**Irabujima**	**0.94**	**108**	P	**Pg**	**23 18 37.6**	**-0.8**
JIRB				*e*S	**Sg**	**23 18 51.2**	**+0.5**
HATJ	**Hateruma jima**	**1.12**	**198**	P	**Pn**	**23 18 41.7**	**-0.3**
HATJ				S	**Sn**	**23 18 57.9**	**+0.4**
HATJ	**Hateruma jima**	**1.12**	**198**	A	A	23 18 41.7	
	comp=N,13nm,3.7s,comp=E,14nm,0.7s						
JOGS	**Gusukube**	**1.17**	**108**	*e*P	**Pg**	**23 18 41.9**	**-0.7**
KSRS	**Korea Array**	**12.70**	**14**	LR	LR	23 26 30.9	
	comp=E,101nm,18.8s,baz=230,slow=39						
MJAR	**Matsushiro Arr**	**16.55**	**43**	LR	LR	23 28 21.6	
	comp=E,93nm,19.8s,baz=316,slow=36						
ASAJ	**Asahikawa**	**24.16**	**34**	LR	LR	23 32 11.2	
	comp=E,66nm,19.6s,baz=163,slow=34						
CMAR	**Chiang Mai Arr**	**24.34**	**259**	P	**P**	**23 23 37.8**	**-0.7**
	comp=E,1.5nm,0.3s,baz=70,slow=11,SNR=5.6 comp=E,1.5nm,0.3s						
KLR	**Kul'dur**	**24.78**	**12**	P	**P**	**23 23 43.3**	**+1.1**
	comp=E,0.7nm,0.5s,baz=191,slow=5.2,SNR=4.9						
KLR				LR	LR	23 34 06.5	
	comp=E,110nm,18.4s,baz=143,slow=38 comp=E,0.7nm,0.5s						
SONM	**Songino Array**	**26.67**	**333**	P	**P**	**23 23 59.9**	**+0.3**
	comp=E,0.6nm,0.5s,baz=148,slow=8.5,SNR=4.0 comp=E,0.6nm,0.5s						
MA2	**Magadan**	**39.10**	**21**	LR	LR	23 44 36.6	
	comp=E,71nm,18.1s,baz=78,slow=40						
MKAR	**Makanchi Array**	**39.61**	**314**	P	**P**	**23 25 51.9**	**-0.1**
	comp=E,0.2nm,0.7s,baz=103,slow=10,SNR=5.2 comp=E,0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**40.99**	**325**	P	**P**	**23 26 02.9**	**-0.4**
	comp=E,0.6nm,0.5s,baz=112,slow=8.3,SNR=7.1 comp=E,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**43.19**	**318**	P	**P**	**23 26 20.2**	**-1.0**
	comp=E,0.8nm,0.2s,baz=105,slow=8.8,SNR=1.2						
AAK	**Ala-Archa**	**44.13**	**306**	LR	LR	23 47 07.4	
	comp=E,62nm,19.1s,baz=16,slow=39						
WRA	**Warramunga Arr**	**45.87**	**167**	P	**P**	**23 26 42.8**	**-0.2**
	comp=E,1.8nm,0.9s,baz=350,slow=7.8,SNR=5.9 comp=E,1.8nm,0.9s						
TIXI	**Tiksi**	**46.63**	**2**	LR	LR	23 47 55.6	
	comp=E,67nm,19.1s,baz=185,slow=38						
BVAR	**Borovoye Array**	**48.70**	**320**	P	**P**	**23 27 06.4**	**+1.6**
	comp=E,0.5nm,0.5s,baz=101,slow=7.5,SNR=4.2 comp=E,0.5nm,0.5s						
ASAR	**Alice Springs**	**49.41**	**168**	P	**P**	**23 27 11.1**	**+0.6**
	comp=E,0.3nm,0.5s,baz=348,slow=9.1,SNR=4.3 comp=E,0.3nm,0.5s						

*MOS **06** 23:20:54.2,43.°24N×46.°23E,h6km,MPVA4.3*
*NORS **06** 23:20:55.3,43.°21N×46.°25E,h12km,MPVA4.3*
*DRS **06** 23:20:56.0,43.°10N×46.°20E,h3km*
*TIF **06** 23:20:56.1,43.°24N×46.°16E,h16km±1km*
ISC 06 23:20:56.3±0.9,43.°28N±0.°02×46.°27E±0.°01,h13km±7km,
n107,σ0°98/197,5C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.34**	**198**	*i* Pg	**Pg**	**23 21 02.4**	**-0.8**
	582nm,0.6s						
DVE				*e*Sg	**Sg**	**23 21 07.2**	**-0.6**
	3μm,0.5s						
DVE	**Vedeno**	**0.34**	**198**	*i* PG	**Pg**	**23 21 02.4**	**-0.8**
DVE				pmax	pmax		
	comp=Z,397nm,0.1s						
DLMR	**Dylym**	**0.34**	**128**	*e*Pg	**Pg**	**23 21 02.5**	**-0.7**
	comp=Z,70nm,0.6s						
DLMR				*e*Sg	**Sg**	**23 21 07.9**	**+0.1**
	comp=Z,2μm,0.3s						
DLMR	**Dylym**	**0.34**	**128**	*e*PG	**Pg**	**23 21 02.5**	**-0.7**
DLMR				*e*S	**Sg**	**23 21 07.9**	**+0.1**
GROC	**Groznyy**	**0.35**	**258**	*i* Pg	**Pg**	**23 21 02.5**	**-1.0**
	comp=Z,243nm,0.5s						
GROC				*e*Sg	**Sg**	**23 21 07.4**	**-0.9**
	comp=Z,778nm,0.5s						
GROC	**Groznyy**	**0.35**	**258**	*e*PG	**Pg**	**23 21 03.3**	**-0.2**
GROC				pmax	pmax		
	comp=Z,63nm,0.1s						
DBC	**Dubki**	**0.49**	**122**	*i* Pg	**Pg**	**23 21 06.1**	**+0.1**
	comp=Z,194nm,0.3s						
DBC				*e*Sg	**Sb**	**23 21 13.7**	**-0.1**
	comp=Z,887nm,0.5s						
DBC	**Dubki**	**0.49**	**122**	*e*PG	**Pg**	**23 21 06.2**	**+0.3**
DBC				pmax	pmax		
	comp=Z,119nm,0.3s						
BTLR	**Botlikh**	**0.61**	**183**	⇓*i*PG	**Pg**	**23 21 07.1**	**-1.2**
BTLR				*e*S	**Sg**	**23 21 15.9**	**-0.6**
BTLR				pmax	pmax		
	comp=Z,161nm,0.4s						
KRNR	**Karanay**	**0.65**	**133**	*i* Pg	**Pg**	**23 21 08.7**	**-0.4**
	comp=Z,116nm,0.2s						
KRNR				*e*Sg	**Sg**	**23 21 18.1**	**+0.4**
	comp=Z,402nm,0.3s						
KRNR	**Karanay**	**0.65**	**133**	*i* PG	**Pg**	**23 21 08.6**	**-0.4**
KRNR				*e*S	**Sg**	**23 21 18.0**	**+0.4**
UNCR	**Uncukul**	**0.68**	**145**	*i* Pg	**Pg**	**23 21 09.3**	**-0.4**
	comp=Z,162nm,0.3s						
UNCR				*i* Sg	**Sb**	**23 21 19.6**	**+0.1**
	comp=Z,739nm,0.3s						
UNCR	**Uncukul**	**0.68**	**145**	⇓*i*PG	**Pg**	**23 21 09.2**	**-0.4**
UNCR				*i* S	**Sb**	**23 21 19.5**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,162nm,0.3s						
BUJR	**Buynaksk**	**0.77**	**126**	*e*Pg	**Pb**	**23 21 11.9**	**+0.4**
	comp=Z,196nm,0.3s						
BUJR				*e*Sg	**Sn**	**23 21 23.6**	**-0.6**
	comp=Z,2μm,0.3s						
BUJR	**Buynaksk**	**0.77**	**126**	*e*PG	**Pb**	**23 21 11.8**	**+0.4**
BUJR				*e*S	**Sn**	**23 21 23.5**	**-0.6**
BUJR				pmax	pmax		
	comp=Z,196nm,0.3s						
HNZR	**Khunzah**	**0.79**	**155**	*i* PG	**Pg**	**23 21 11.4**	**-0.3**
HNZR				*e*S	**Sb**	**23 21 22.8**	**+0.1**
XNZR	**Khunzakh**	**0.80**	**156**	*i* Pg	**Pg**	**23 21 11.5**	**-0.5**
	comp=Z,107nm,0.3s						
XNZR				*e*Sg	**Sg**	**23 21 22.8**	**+0.3**
	comp=Z,353nm,0.7s						
ARKR	**Arakani**	**0.86**	**141**	*i* Pg	**Pb**	**23 21 12.7**	**-0.4**
	comp=Z,68nm,0.6s						
ARKR				*e*Sg	**Sg**	**23 21 25.2**	**+1.0**
	comp=Z,433nm,0.4s						
ARKR	**Arakani**	**0.86**	**141**	⇓*i*PG	**Pb**	**23 21 12.7**	**-0.4**
ARKR				*e*S	**Sg**	**23 21 25.2**	**+1.0**
ARKR				pmax	pmax		
	comp=Z,68nm,0.6s						
KANR	**Karaman**	**0.90**	**95**	*e*Pg	**Pn**	**23 21 15.1**	**+0.5**
	comp=Z,178nm,0.6s						
KANR				*e*Sg	**Sn**	**23 21 28.8**	**+1.4**
	comp=Z,500nm,0.4s						
KANR	**Karaman**	**0.90**	**95**	*e*PG	**Pn**	**23 21 15.1**	**+0.5**
KANR				*e*S	**Sn**	**23 21 28.8**	**+1.4**
MAK	**Makhachkala**	**0.96**	**109**	*e*PG	**Pn**	**23 21 16.5**	**+1.1**
MAK				*e*		23 21 30.2	
MAK				pmax	pmax		
	comp=Z,107nm,0.3s						
MAK				smax	smax		
	comp=E,666nm,0.4s						
MAK				smax	smax		
	comp=E,885nm,0.5s						
GNBR	**Gunib**	**1.02**	**150**	*i* Pg	**Pb**	**23 21 15.9**	**0.0**
	comp=E,119nm,0.3s						
GNBR				*e*Sg	**Sn**	**23 21 30.6**

SGKR	Sergokala	1.31 128	*i* Pg		Pb	23 21 21.2	+0.4
	comp=Z,205nm,0.2s						
SGKR			*e*Sg		Sg	23 21 39.6	+1.1
	comp=Z,319nm,0.4s						
SGKR	Sergokala	1.31 128	*i* PG		Pb	23 21 21.2	+0.4
SGKR			*e*S		Sg	23 21 39.6	+1.1
MTEO	Meteo	1.40 245	P		Pn	23 21 21.9	-0.1
MTEO			S		Sn	23 21 40.3	-0.2
MTEO	Meteo	1.40 245	PG		Pn	23 21 21.9	-0.1
MTEO			S		Sn	23 21 40.3	-0.2
LGD	Lagodekhi	1.44 181	P		Pn	23 21 22.7	+0.6
LGD			S		Sb	23 21 41.8	+0.6
LGD	Lagodekhi	1.44 181	PG		Pn	23 21 22.7	+0.6
LGD			S		Sb	23 21 41.8	+0.6
ARNR	Ardon	1.45 267	*e*Pg		Pn	23 21 22.8	+0.6
ARNR			*e*Sg		Sg	23 21 44.1	+1.0
ARNR	Ardon	1.45 267	*e*PG		Pn	23 21 22.8	+0.6
ARNR			*e*S		Sg	23 21 44.1	+1.0
URKR	Urkarakh	1.50 137	*i* PG		Pb	23 21 24.5	+0.4
URKR			*e*S		Sg	23 21 46.0	+1.4
LACR	Lac	1.51 253	*e*PG		Pn	23 21 22.7	-0.5
LACR			*e*S		Sn	23 21 43.2	+0.4
PRTR	Priterechnaya	1.52 289	*e*Pg		Pb	23 21 24.7	+0.4
PRTR			*e*Sg		Sg	23 21 46.1	+0.8
PRTR	Priterechnaya	1.52 289	*e*PG		Pb	23 21 24.7	+0.4
PRTR			*e*S		Sg	23 21 46.1	+0.8
GUDG	Gudauri	1.54 239	P		Pn	23 21 23.2	-0.5
GUDG			S		Sn	23 21 42.9	-0.8
GUDG	Gudauri	1.54 239	*e*Pg		Pn	23 21 23.4	-0.3
GUDG			*e*Sg		Sn	23 21 42.9	-0.8
GUDG	Gudauri	1.54 239	*e*PG		Pn	23 21 23.4	-0.3
GUDG			*e*S		Sn	23 21 42.9	-0.8
STDR	Stavd-Durt	1.61 274	*e*Pg		Pb	23 21 25.8	-0.1
STDR			*e*Sg		Sg	23 21 48.9	+0.7
STDR	Stavd-Durt	1.61 274	*e*PG		Pb	23 21 25.8	-0.1
STDR			*e*S		Sg	23 21 48.9	+0.7
KORR	Kora	1.62 264	*e*Pg		Pb	23 21 25.6	-0.4
KORR			*e*Sg		Sb	23 21 47.7	+1.3
KORR	Kora	1.62 264	*e*PG		Pb	23 21 25.6	-0.4
KORR			*e*S		Sb	23 21 47.7	+1.3
LSNR	Lesken	1.78 271	*e*Pg		Pb	23 21 28.3	-0.6
LSNR			*e*Sg		Sg	23 21 53.2	-0.5
LSNR	Lesken	1.78 271	*e*PN		Pb	23 21 28.6	-0.2
LSNR			*e*S		Sg	23 21 53.2	-0.5
SEAG	Tbilisi Sea	1.86 216	P		Pb	23 21 30.5	+0.3
SEAG			S		Sg	23 21 55.5	-0.6
SEAG	Tbilisi Sea	1.86 216	PN		Pb	23 21 30.4	+0.3
SEAG			S		Sg	23 21 55.5	-0.6
TBLG	Delisi	1.91 217	P		Pb	23 21 30.5	-0.6
TBLG	Delisi	1.91 217	PN		Pb	23 21 30.5	-0.6
BTNK	Botanikuri	1.93 215	PN		Pb	23 21 30.5	-0.8
BTNK			S		Sb	23 21 56.5	+1.3
DGRG	David-gareji	1.94 200	P		Pb	23 21 31.4	-0.2
DGRG			S		Sg	23 22 00.1	+1.4
DGRG	David-gareji	1.94 200	PN		Pb	23 21 31.3	-0.2
DGRG			S		Sg	23 22 00.1	+1.4
NCK	Nalchik	1.96 277	*e*Pg		Pn	23 21 29.0	-0.3
NCK			*e*Sg		Sn	23 21 53.5	-0.1
NCK	Nalchik	1.96 277	*i* PN		Pn	23 21 30.1	+0.9
DRN	Derbent	1.97 129	*e*Pg		Pb	23 21 31.8	-0.1
	comp=Z,82nm,0.3s						
DRN			*e*Sg		Sg	23 21 58.7	-0.9
	comp=Z,407nm,0.2s						
DRN	Derbent	1.97 129	*e*PN		Pb	23 21 32.5	+0.6
DRN			*e*S		Sg	23 22 00.0	+0.4
DIGR	Digorskoe uzhe	2.00 260	*e*PN		Pn	23 21 31.0	+1.0
VSHL	Vashlovani	2.05 177	P		Pb	23 21 33.1	-0.2
AKT	Akhty	2.10 148	*e*Pg		Pn	23 21 32.3	+1.1
	comp=Z,104nm,0.4s						
AKT			*e*Sg		Sb	23 21 59.9	-0.3
	comp=Z,274nm,0.3s						
AKT	Akhty	2.10 148	⇓*i*PN		Pb	23 21 33.9	-0.4
AKT			*e*S		Sg	23 22 03.5	-0.3
AKT			pmax		pmax		
	comp=Z,104nm,0.4s						
AKT			smax		smax		
	comp=E,274nm,0.3s						
AKT			smax		smax		
	comp=E,215nm,0.3s						
AKT			smax		smax		
	comp=N,185nm,0.4s						
AKT			MLR		MLR		
	comp=Z,56nm,2.0s						
KBTC	Kuba-Taba	2.15 286	*e*Pg		Pn	23 21 31.2	-0.6
KBTC			*e*Sg		Sn	23 21 58.7	+0.4
KBTC	Kuba-Taba	2.15 286	*e*PN		Pn	23 21 31.2	-0.6
KBTC			*e*S		Sn	23 21 58.7	+0.4
GARIG	Gari	2.16 253	P		Pn	23 21 32.1	0.0
GARIG			S		Sb	23 22 02.4	+0.3
KSMR	Kasumkent	2.17 140	*e*Pg		Pn	23 21 34.0	+1.9
	comp=Z,85nm,0.4s						
KSMR			*e*Sg		Sb	23 22 02.9	+0.6
	comp=Z,749nm,0.4s						
KSMR	Kasumkent	2.17 140	*e*PN		Pn	23 21 34.0	+1.9
KSMR			*e*S		Sb	23 22 02.8	+0.6
SEKA	Sheki	2.18 161	PN		Pb	23 21 34.4	-1.2
KZRT	Kazreti	2.34 217	P		Pn	23 21 35.6	+1.1
KZRT			S		Sb	23 22 07.8	+0.6
KZRT	Kazreti	2.34 217	PN		Pn	23 21 35.6	+1.1
KZRT			S		Sb	23 22 07.8	+0.6
TRLG	Trialeti	2.36 223	P		Pn	23 21 36.1	+1.1
TRLG	Trialeti	2.36 223	PN		Pn	23 21 36.0	+1.1
PYA1	Pyatigorsk	2.43 290	*e*Pn		Pn	23 21 35.3	-0.4
PYA1			*e*Sn		Sn	23 22 06.1	+0.8
PYA1	Pyatigorsk	2.43 290	*e*PN		Pn	23 21 35.3	-0.4
PYA1			*e*S		Sn	23 22 06.1	+0.8
KBZ	Khabaz	2.49 282	*e*Pn		Pn	23 21 35.2	-1.3
KBZ			*i* Sn		Sn	23 22 06.8	+0.1
KBZ	Khabaz	2.49 282	*e*PN		Pn	23 21 35.2	-1.3
KBZ			*i* S		Sn	23 22 06.8	+0.1
TKB	Tkibuli	2.58 250	P		Pn	23 21 38.1	+0.4
TKB	Tkibuli	2.58 250	PN		Pn	23 21 38.1	+0.4
NEUR	Neytrino	2.60 271	*i* PN		Pn	23 21 38.0	-0.2
BEYR	Belyy Ugol+	2.61 288	*e*Pn		Pn	23 21 36.9	-1.3
BEYR			*i* Sn		Sn	23 22 08.5	-1.2
BEYR	Belyy Ugol+	2.61 288	*e*PN		Pn	23 21 36.9	-1.3
BEYR			*i* S		Sn	23 22 08.5	-1.2
GANJ	Ganja	2.63 179	PN		Pn	23 21 39.4	+1.0
SHA1	Shidzhatmaz	2.67 281	*e*Pn		Pn	23 21 37.8	-1.4
SHA1			*e*Sn		Sn	23 22 10.5	-0.9
SHA1	Shidzhatmaz	2.67 281	*e*PN		Pn	23 21 37.8	-1.4
SHA1			*e*S		Sn	23 22 10.5	-0.9
KIV0	Kislovodsk Arr	2.68 286	*e*Pn		Pn	23 21 37.9	-1.3
KIV0			*e*Sn		Sn	23 22 10.7	-0.9
KIV	Kislovodsk	2.69 286	*e*Pn		Pn	23 21 38.7	-0.6
KIV			*e*Sn		Sn	23 22 11.8	+0.1
KIV	Kislovodsk	2.69 286	*e*PN		Pn	23 21 38.7	-0.6
KIV			*e*S		Sn	23 22 11.8	+0.1
ALER	Alexandrovskoy	2.84 303	*e*Pn		Pn	23 21 41.7	+0.4
ALER			*e*Sn		Sn	23 22 17.1	+1.7
ALER	Alexandrovskoy	2.84 303	*e*PN		Pn	23 21 41.7	+0.4
ALER			*e*S		Sn	23 22 17.1	+1.7
GOF	Gofitskoye	2.92 309	*e*Pn		Pn	23 21 42.8	+0.3
GOF			*e*Sn		Sn	23 22 19.6	+2.2
GOF	Gofitskoye	2.92 309	*e*PN		Pn	23 21 42.8	+0.3
GOF			*e*S		Sn	23 22 19.6	+2.2
GNI	Garni	3.33 201	*i* Pn		Pn	23 21 49.7	+1.5
GNI			*e*Sn		Sn	23 22 30.6	+3.0
GNI	Garni	3.33 201	*i* PN		Pn	23 21 49.7	+1.5
GNI			*e*S		Sn	23 22 30.6	+3.0
DOMR	Dombai	3.39 272	*e*PN		Pn	23 21 50.3	+1.3
DOMR			*e*S		Sn	23 22 29.8	+0.7
ARXR	Arkhyz	3.65 276	*e*Pn		Pn	23 21 53.1	+0.5
ARXR			*e*Sn		Sn	23 22 35.1	-0.4
ARXR	Arkhyz	3.65 276	*e*PN		Pn	23 21 53.1	+0.5
ARXR			*e*S		Sn	23 22 35.1	-0.4
AKTO	Aktyubinsk	10.76 44	⇑Pn		Pn	23 23 30.0	+0.1
	comp=Z,1.3nm,0.8s						
AKTO			⇑Sn		Sn	23 25 27.1	-3.1
	comp=Z,1.8nm,0.8s						
AB09	Akbulak array	11.18 53	⇑Pn		Pn	23 23 34.3	-1.4
	comp=Z,0.6nm,0.6s,baz=243,slow=11						
AB09			⇑Sn		Sn	23 25 35.8	-4.6
	comp=Z,1.7nm,0.6s,baz=242,slow=24						
OBN	Obninsk	13.42 335	*e*P		Pn	23 24 07.4	+1.2
OBN			pmax		pmax		
	comp=Z,4.0nm,0.4s						

*IDC **06** 23:28:06.9±1.5, 32°.05S×178°.04W, h0km, mb3.9/3, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=40.3km s-min=36.6km az=95.0*
*WEL **06** 23:28:12.3±0.6, 32°.S±23°×17°.9W±.5°.9, h33km, M4.0/7, mB4.4/6, ML4.6/8, MLv4.4/7, Mw(mB)3.6/6, Error ellipse: s-maj=82.0km s-min=4.2km az=110.9, confirmed*

ISC 06 23:28:08.0±1.2, 31°.99S±0°.09×178°.2W±0°.2, h10km, n17, σ1°58/27, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.73	4	P	Pn	23 28 52.3	+0.5
GLKZ				S	Sn	23 29 24.5	-0.3
MXZ	Matakaoa Point	6.28	207	P	Pn	23 29 39.4	-1.2
MXZ				S	Sn	23 30 50.8	-1.6
WMGZ	Waiomatatini S	6.46	205	P	Pn	23 29 46.7	+3.5
WMGZ				S	Sn	23 30 57.0	+0.1
PKGZ	Pakihiroa	6.63	207	P	Pn	23 29 47.7	+2.2
PKGZ				S	Sn	23 30 59.7	-1.4
HAZ	Te Kaha	6.65	209	P	Pn	23 29 47.0	+1.2
HAZ				S	Sn	23 31 02.5	+0.9
RUGZ	Raukumara Rang	6.87	209	P	Pn	23 29 49.7	+0.8
RUGZ				S	Sn	23 31 05.8	-1.5
TWGZ	Tauwhareparae	6.94	206	P	Pn	23 29 52.3	+2.6
TWGZ				S	Sn	23 31 08.1	-0.6
CNGZ	Carnagh Statio	7.13	204	P	Pn	23 29 51.4	-1.0
MWZ	Matawai	7.25	208	P	Pn	23 29 55.4	+1.4
MWZ				S	Sn	23 31 15.2	-1.3
URZ	Urewera	7.36	210	Pn	Pn	23 29 55.0	-0.4
	0.6nm,0.3s,baz=22,slow=19,SNR=1.5						
URZ				Sn	Sn	23 31 16.9	-2.1
	3.3nm,0.3s,baz=243,slow=17,SNR=8.9						
	2.3nm,0.4s						
URZ	Urewera	7.36	210	P	Pn	23 29 55.5	0.0
URZ				S	Sn	23 31 16.1	-2.9
ASAR	Alice Springs	42.92	269	P	P	23 36 08.7	+1.6
	0.7nm,0.5s,baz=105,slow=7.3,SNR=12						
	0.7nm,0.5s						
WRA	Warramunga Arr	44.05	274	P	P	23 36 16.8	+0.6
	1.1nm,0.4s,baz=112,slow=7.9,SNR=8.5						
	1.1nm,0.4s						
QSPA	South Pole Qui	58.13	180	P	P	23 38 01.2	-0.3
	1.2nm,0.9s,baz=166,slow=16,SNR=2.7						
	1.2nm,0.9s						
FINES	FINESS Array B	146.58	339	PKPbc	PKPab	23 47 49.4	-0.6
	14nm,1.2s,baz=46,slow=4.0,SNR=12						
HFS	Hagfors	150.77	348	PKPbc	PKiKP	23 47 59.5	-1.0
	4.1nm,1.1s,baz=47,slow=6.3,SNR=2.1						
MMAI	Mount Meron Ar	151.75	281	PKPbc	PKiKP	23 48 05.0	+1.5
	0.4nm,0.4s,baz=76,slow=6.1,SNR=2.5						

*IDC **06** 23:29:21.6±2.4, 24°.62N×123°.24E, h0km, mb3.4/5, mbtmp3.4/5, MS2.9/1, Error ellipse: s-maj=195.8km s-min=22.3km az=65.0*
*JMA **06** 23:29:22.1±0.2, 25°.2N±0°.5×124°.2E±0°.3, h11km±2km, MV3.4/13, NW OFF ISHIGAKIJIMA IS*

ISC 06 23:29:23.5±1.2, 25°.13N±0°.07×124°.20E±0°.04, h22km±10km, n17, σ0°81/27, mb3.5/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.55	169	P	Pb	23 29 34.1	-0.4
JISG				S	Sb	23 29 42.4	+0.5
JTJ	Tarama	0.67	137	P	Pb	23 29 36.0	-0.4
JTJ				S	Sb	23 29 45.8	+0.5
JIJ	Ishigaki jima	0.77	184	P	Pb	23 29 37.8	-0.3
JIJ				S	Sn	23 29 49.0	-0.8
IRIF	Iriomote-Funau	0.90	208	P	Pb	23 29 40.0	-0.3
IRIF				S	Sn	23 29 52.9	-0.1
JKRS	Kuro-shima	0.91	191	P	Pb	23 29 40.6	+0.1
JKRS				S	Sn	23 29 53.9	+0.7
JIRB	Irabujima	0.94	109	P	Pb	23 29 40.4	-0.6
JIRB				S	Sb	23 29 53.5	+0.5
JIKM	Ikemajima	0.97	102	*e*P	Pb	23 29 41.1	-0.5
JIKM				*e*S	Sn	23 29 55.2	+0.2
JMJ2	Miyako jima3	1.10	110	*e*P	Pn	23 29 43.1	-0.4
JMJ2				S	Sn	23 29 58.4	+0.4
HATJ	Hateruma jima	1.13	199	P	Pn	23 29 44.1	+0.2
HATJ				S	Sn	23 30 00.2	+1.5
JOGS	Gusukube	1.16	108	P	Pn	23 29 44.4	+0.1
JOGS				*e*S	Sb	23 29 59.5	+0.1
YOJ	Yonaguni jima	1.27	239	*e*P	Pn	23 29 45.5	-0.4
YOJ				*e*S	Sn	23 30 01.3	-0.9
KSRS	Korea Array	12.69	14	LR	LR	23 37 42.9	
	comp=Z,500nm,21.4s,baz=350,slow=38						
SONM	Songino Array	26.68	333	P	P	23 35 02.8	+1.9
	0.3nm,0.5s,baz=147,slow=7.6,SNR=2.8						
	0.3nm,0.5s						
MKAR	Makanchi Array	39.61	314	P	P	23 36 52.4	-0.9
	0.1nm,0.5s,baz=99,slow=9.1,SNR=3.9						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	40.99	325	P	P	23 37 05.5	+1.0
	0.7nm,0.7s,baz=119,slow=9.3,SNR=6.3						
	0.7nm,0.7s						
WRA	Warramunga Arr	45.88	167	P	P	23 37 44.3	0.0
	0.7nm,0.6s,baz=348,slow=7.8,SNR=3.2						
	0.7nm,0.6s						
ASAR	Alice Springs	49.41	168	P	P	23 38 10.0	-1.8
	0.2nm,0.4s,baz=346,slow=9.1,SNR=3.3						
	0.2nm,0.4s						

ISC 06 23:34:18.9±1.1, 27°.10N±0°.07×111°.43W±0°.07, h10km, n3, σ0°38/6, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.76	287	*e*P	Pb	23 34 34.0	-0.1
SRIG				*e*S	Sb	23 34 44.5	0.0
SRIG				IAML		23 34 49.7	
	comp=E,135nm,0.5s						
SRIG				⇑*e*		23 34 49.7	
SRIG				IAML		23 34 50.6	
	comp=N,86nm,0.4s						
SRIG				⇓*e*		23 34 50.6	
GUYB	Guaymas	0.94	32	*e*P	Pg	23 34 37.0	+0.1
GUYB				*e*S	Sb	23 34 49.5	-0.2
UAGRB	Rancho Ultima	1.54	174	*e*P	Pn	23 34 46.8	+0.4
UAGRB				*e*S	Sn	23 35 06.0	-0.5

*WEL **06** 23:39:19.9±1.6, 32°S±5°×17°7W±2°4, h33km, M4.3/7, mB4.7/7, ML5.0/8, MLv4.7/6, Mw(mB)3.9/7, Error ellipse: s-maj=31.8km s-min=5.6km az=98.2, confirmed*
*IDC **06** 23:39:20.2±0.6, 32°.01S×178°.14W, h0km, mb4.2/7, mbtmp4.2/8, ML4.0/1, Error ellipse: s-maj=26.4km s-min=20.9km az=164.0*
*NEIC **06** 23:39:23.2±1.4, 32°.26S±0°.09×178°.2W±0°.1, h10km±1km, mb4.8/12, Error ellipse: s-maj=19.8km s-min=14.4km az=71.0*

ISC 06 23:39:23.7±0.5, 32°.07S±0°.06×178°.11W±0°.10, h24km, n54, σ1°15/64, mb4.6/11, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.80	3	P	Pn	23 40 03.8	-3.1
GLKZ				S	Sn	23 40 40.5	+0.5
MXZ	Matakaoa Point	6.22	207	P	Pn	23 40 53.5	-0.5
MXZ				S	Sn	23 42 04.5	+0.2
WMGZ	Waiomatatini S	6.41	205	P	Pn	23 40 56.9	+0.4
WMGZ				S	Sn	23 42 08.8	-0.1
PKGZ	Pakihiroa	6.58	207	P	Pn	23 40 55.8	-3.0
PKGZ				S	Sn	23 42 13.1	0.0
HAZ	Te Kaha	6.60	210	P	Pn	23 40 58.1	-1.1
HAZ				S	Sn	23 42 15.2	+1.6
PUZ	Puketiti	6.69	205	P	Pn	23 40 59.9	-0.5
PUZ				S	Sn	23 42 14.5	-1.3
RUGZ	Raukumara Rang	6.82	209	P	Pn	23 41 00.3	-2.0
RUGZ				S	Sn	23 42 19.6	+0.3
TWGZ	Tauwhareparae	6.88	207	P	Pn	23 41 01.7	-1.4
TWGZ				S	Sn	23 42 20.6	-0.1
CNGZ	Carnagh Statio	7.07	204	P	Pn	23 41 05.7	0.0
CNGZ				S	Sn	23 42 27.1	+1.9
MWZ	Matawai	7.20	209	P	Pn	23 41 07.1	-0.3
MWZ				S	Sn	23 42 28.0	-0.4
URZ	Urewera	7.31	211	Pn	Pn	23 41 07.3	-1.7
	2.2nm,0.3s,baz=348,slow=4.2,SNR=8.5						
URZ				Sn	Sn	23 42 29.1	-2.1
	9.9nm,0.3s,baz=55,slow=23,SNR=11						
	8.4nm,0.6s						
OUZ	Omahuta	7.59	243	P	Pn	23 41 18.6	+5.7
RTZ	Ruatahuna	7.66	210		Pn	23 41 12.0	-1.8
BKZ	Black Stump Fm	8.33	210	P	Pn	23 41 23.6	+0.6
CTZ	Chatham Island	11.71	175	Pn	Pn	23 42 06.9	-2.3
EIDS	Eidsvold	27.77	276	P	P	23 45 12.6	+1.9
EIDS				IAmb	IAmb	23 45 16.8	
	comp=Z,6.8nm,0.9s						
PPT	Papeete	29.54	68	P	P	23 45 27.7	+1.2
	comp=Z,22nm,0.4s,baz=248,slow=22,SNR=2.3						
STKA	Stephens Creek	34.04	259	P	P	23 46 04.6	-1.4
STKA				IAmb	IAmb	23 46 31.3	
	comp=Z,28nm,1.2s						
STKA	Stephens Creek	34.04	259	P	P	23 46 06.9	+0.9
	comp=Z,1.3nm,0.5s,baz=102,slow=14,SNR=3.9						
	comp=Z,1.3nm,0.5s						
BBOO	Buckleboo	38.45	256	P	P	23 46 43.5	-0.2
BBOO				IAmb	IAmb	23 46 48.1	
	comp=Z,43nm,1.5s						
COEN	Coen	39.66	288	P	P	23 46 55.5	+1.5
AS31	Alice Springs	42.95	269	P	P	23 47 21.4	+0.4
ASAR	Alice Springs	42.95	269	P	P	23 47 21.7	+0.7
	comp=Z,2.7nm,0.5s,baz=105,slow=7.6,SNR=32						
	comp=Z,2.7nm,0.5s						
WRA	Warramunga Arr	44.09	274	P	P	23 47 30.0	-0.2
WRA	Warramunga Arr	44.09	274	P	P	23 47 30.4	+0.2
	comp=Z,4.9nm,0.5s,baz=114,slow=7.6,SNR=22						
	comp=Z,4.9nm,0.5s						
WB0	Warramunga Arr	44.12	274	P	P	23 47 30.2	-0.2
WB0				IAmb	IAmb	23 47 32.1	
	comp=Z,6.8nm,0.6s						
FORT	Forrest	45.55	257	P	P	23 47 40.9	-0.7
MTN	Manton Dam	50.17	280	P	P	23 48 18.3	+0.7
CASY	Casey	53.63	208	P	P	23 48 43.0	+0.3
QSPA	South Pole Qui	58.05	180	P	P	23 49 14.5	0.0
QSPA				IAmb	IAmb	23 49 27.1	
	comp=Z,10nm,0.9s						
QSPA	South Pole Qui	58.05	180	P	P	23 49 14.3	-0.2
	comp=Z,3.5nm,1.1s,baz=2.7,slow=2.9,SNR=4.5						
	comp=Z,3.5nm,1.1s						
SYO	Syowa Base	75.47	193	⇓*e*P	P	23 51 04.2	-1.1
SNAA	Sanae	76.50	178	P	P	23 51 12.4	+1.2
SNAA				IAmb	IAmb	23 51 27.8	
	comp=Z,13nm,1.3s						
SNAA	Sanae	76.50	178	P	P	23 51 12.7	+1.5
	comp=Z,1.3nm,0.8s,baz=191,slow=16,SNR=3.7						
	comp=Z,1.3nm,0.8s						
PLCA	Paso Flores	81.44	133	P	P	23 51 40.9	+2.0
	comp=Z,2.3nm,0.9s,baz=302,slow=7.0,SNR=2.8						
	comp=Z,2.3nm,0.9s						
NVAR	Mina Array Bea	89.53	43	P	P	23 52 19.6	+0.5
	comp=Z,0.5nm,0.5s,baz=233,slow=3.4,SNR=3.6						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	118.76	309	PKP	PKPdf	23 58 07.8	-1.7
	comp=Z,0.3nm,0.6s,baz=126,slow=1.6,SNR=4.3						
BVAR	Borovoye Array	127.52	315	PKP	PKPdf	23 58 25.8	-0.3
	comp=Z,0.5nm,0.4s,baz=147,slow=2.8,SNR=4.7						
ARCES	ARCESS Array B	140.19	347	PKP	PKPdf	23 58 48.6	-0.8
	comp=Z,4.6nm,0.9s,baz=28,slow=2.9,SNR=3.7						
KBZ	Khabaz	145.93	302	PKPbc	PKPab	23 59 00.7	-0.8
	comp=Z,4.4nm,1.0s,baz=142,slow=1.6,SNR=4.7						
GEVA	Gevas	145.99	292	PKPdf	PKPbc	23 59 01.3	-0.3
OBN	Obninsk	146.47	324	PKPdf	PKPbc	23 59 02.0	-0.2
FIA1	FINESS Array S	146.67	339	PKPdf	PKPbc	23 59 02.1	-0.5
FINES	FINESS Array B	146.67	339	PKPbc	PKPbc	23 59 01.8	-0.8
	comp=Z,3.3nm,0.6s,baz=53,slow=3.1,SNR=26						
GURO	Guroymak-BITLI	146.81	293	PKPdf	PKPbc	23 59 03.1	-0.9
NB2	NORSAR Subarra	150.38	351	PKP	PKiKP	23 59 13.6	+0.5
	comp=Z,0.9nm,0.7s,baz=20,slow=2.7						
NOA	NORSAR Array B	150.38	351	PKPbc	PKiKP	23 59 12.9	-0.2
	comp=Z,1.0nm,0.6s,baz=16,slow=4.2,SNR=4.4						
HFS	Hagfors	150.85	348	PKPbc	PKPbc	23 59 12.6	-0.8
	comp=Z,1.3nm,0.5s,baz=104,slow=6.1,SNR=4.5						
MMAI	Mount Meron Ar	151.80	281	PKPbc	PKiKP	23 59 17.4	+0.5
	comp=Z,2.4nm,0.6s,baz=83,slow=7.1,SNR=8.4						
PABE	Paberze	151.90	333	PKPbc	PKiKP	23 59 16.6	+0.3
AKASG	Malin Array Be	152.55	321	PKPbc	PKPbc	23 59 17.1	-0.4
AKASG	Malin Array Be	152.55	321	PKPbc	PKiKP	23 59 17.6	-0.2
	comp=Z,0.2nm,0.3s,baz=50,slow=2.1,SNR=4.9						
BRTR	Keskin Array B	153.27	296	PKPbc	PKPbc	23 59 18.9	-0.9
BRTR	Keskin Array B	153.27	296	PKPbc	PKPbc	23 59 19.2	-0.5
	comp=Z,0.6nm,0.5s,baz=137,slow=4.0,SNR=5.3						

ISC 06 23:43:30.8±1.1, 27°.12N±0°.05×111°.42W±0°.05, h10km, n5, σ1°74/9, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.76	285	⇑*e*P	Pg	23 43 46.4	+1.0
SRIG				*e*S	Sg	23 43 56.6	+1.3
SRIG				⇓*e*		23 43 58.3	
SRIG				IAML		23 43 58.3	
	comp=N,228nm,0.4s						
SRIG				IAML		23 44 05.2	
	comp=E,228nm,0.6s						
SRIG				⇑*e*		23 44 05.2	
GUYB	Guaymas	0.92	32	*e*P	Pg	23 43 49.5	+1.0
GUYB				*e*S	Sg	23 44 01.3	+0.9
GUYB				⇑*e*		23 44 02.3	
GUYB				IAML		23 44 02.3	
	comp=N,98nm,0.4s						
CDOB	Cd. Obregon	1.19	75	*e*S	Sb	23 44 09.3	+0.6
UAGRB	Rancho Última	1.56	175	*e*P	Pn	23 43 58.

BKIRB *e*S **Sn** **23 48 32.8 -1.0**

MOS ***06*** *23:53:40.4, 43.21N×46.21E, h14km, MPVA3.8*
TIF ***06*** *23:53:41.7, 43.19N×46.18E, h7km±1km*
NORS ***06*** *23:53:41.3, 43.20N×46.24E, h14km, MPVA3.7*
DRS ***06*** *23:53:43.4, 43.19N×46.25E, h6km*
ISC 06 23:53:41.8±1.0, 43.22N±0.03×46.23E±0.02, h14km±7km,
n46, σ0.99/91, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.27**	**196**	*i* Pg	**Pb**	**23 53 47.9**	**-0.6**
	213nm,0.3s						
DVE				*e*Sg	**Sg**	**23 53 51.1**	**-0.4**
	346nm,0.5s						
GROC	**Groznyy**	**0.32**	**267**	*e*Pg	**Pg**	**23 53 48.6**	**+0.3**
	62nm,0.6s						
GROC				*e*Sg	**Sg**	**23 53 53.3**	**+0.5**
	191nm,0.4s						
DLMR	**Dylym**	**0.33**	**116**	*e*Pg	**Pg**	**23 53 48.6**	**0.0**
	47nm,0.2s						
DLMR				*e*Sg	**Sg**	**23 53 52.9**	**-0.2**
	441nm,0.2s						
DBC	**Dubki**	**0.48**	**114**	*i* Pg	**Pb**	**23 53 51.7**	**-0.5**
	64nm,0.3s						
DBC				*e*Sg	**Sb**	**23 53 58.3**	**-0.8**
	180nm,0.5s						
BTLR	**Botlikh**	**0.55**	**180**	*e*Pg	**Pb**	**23 53 52.8**	**-0.6**
	52nm,0.5s						
BTLR				*e*Sg	**Sb**	**23 54 00.4**	**-0.7**
	142nm,0.2s						
KRNR	**Karanay**	**0.63**	**128**	*e*Pg	**Pb**	**23 53 54.7**	**0.0**
	15nm,0.2s						
KRNR				*e*Sg	**Sb**	**23 54 03.6**	**+0.1**
	48nm,0.3s						
UNCR	**Uncukul**	**0.65**	**140**	*i* Pg	**Pb**	**23 53 54.9**	**-0.1**
	29nm,0.2s						
UNCR				*e*Sg	**Sb**	**23 54 03.8**	**-0.2**
	151nm,0.4s						
BUJR	**Buynaksk**	**0.76**	**121**	*e*Pg	**Pn**	**23 53 58.2**	**+0.1**
	37nm,0.2s						
BUJR				*e*Sg	**Sn**	**23 54 09.5**	**+0.2**
	365nm,0.4s						
XNZR	**Khunzakh**	**0.76**	**152**	*i* Pg	**Pb**	**23 53 56.9**	**-0.1**
	20nm,0.5s						
XNZR				*e*Sg	**Sb**	**23 54 06.9**	**-0.4**
	62nm,0.4s						
ARKR	**Arakani**	**0.83**	**137**	*e*Pg	**Pb**	**23 53 58.3**	**+0.2**
	13nm,0.2s						
ARKR				*e*Sg	**Sn**	**23 54 09.8**	**-1.5**
	71nm,0.2s						
GNBR	**Gunib**	**0.99**	**147**	*e*Pg	**Pn**	**23 54 01.5**	**+0.1**
	23nm,0.5s						
GNBR				*e*Sg	**Sn**	**23 54 15.4**	**+0.2**
	166nm,0.2s						
KMGR	**Komgaron**	**1.01**	**261**	*e*Pg	**Pn**	**23 54 02.3**	**+0.6**
KMGR				*e*Sg	**Sn**	**23 54 16.1**	**+0.4**
VLKR	**Vladikavkaz**	**1.15**	**262**	*e*Pg	**Pg**	**23 54 04.2**	**+0.2**
VLKR				*e*Sg	**Sn**	**23 54 20.5**	**+1.5**
TRKR	**Terskaya**	**1.20**	**295**	*e*Pg	**Pn**	**23 54 04.2**	**+0.1**
TRKR				*e*Sg	**Sg**	**23 54 22.1**	**+1.5**
BTKR	**Batakoyurt**	**1.24**	**278**	*e*Pg	**Pg**	**23 54 05.7**	**0.0**
BTKR				*e*Sg	**Sg**	**23 54 23.8**	**+1.9**
KMKR	**Kumukh**	**1.26**	**149**	*i* Pg	**Pg**	**23 54 06.5**	**+0.4**
	45nm,0.1s						
KMKR				*e*Sg	**Sg**	**23 54 23.8**	**+1.2**
	487nm,0.2s						
SGKR	**Sergokala**	**1.30**	**125**	*e*Pg	**Pg**	**23 54 07.3**	**+0.5**
	38nm,0.3s						
SGKR				*e*Sg	**Sg**	**23 54 25.0**	**+1.4**
	65nm,0.6s						
CHRG	**Chargali**	**1.31**	**228**	P	**Pg**	**23 54 06.3**	**-0.7**
MTEO	**Meteo**	**1.36**	**247**	P	**Pg**	**23 54 07.6**	**-0.3**
MTEO				S	**Sg**	**23 54 26.4**	**+0.7**
LGD	**Lagodekhi**	**1.38**	**180**	P	**Pg**	**23 54 08.1**	**-0.3**
ARNR	**Ardon**	**1.42**	**269**	*i* Pg	**Pb**	**23 54 08.3**	**+0.2**
ARNR				*e*Sg	**Sg**	**23 54 28.3**	**+0.7**
LACR	**Lac**	**1.47**	**255**	*e*Pg	**Pn**	**23 54 07.8**	**-0.2**
LACR				*e*Sg	**Sg**	**23 54 28.3**	**-0.9**
URKR	**Urkarakh**	**1.48**	**135**	*e*Pg	**Pg**	**23 54 09.8**	**-0.4**
	16nm,0.2s						
URKR				*e*Sg	**Sg**	**23 54 30.0**	**+0.7**
	92nm,0.6s						
GUDG	**Gudauri**	**1.49**	**240**	P	**Pb**	**23 54 09.1**	**-0.3**
GUDG				S	**Sb**	**23 54 28.6**	**+0.3**
GUDG	**Gudauri**	**1.49**	**240**	*e*Pg	**Pb**	**23 54 09.1**	**-0.3**
GUDG				*e*Sg	**Sb**	**23 54 27.9**	**-0.4**
PRTR	**Priterechnaya**	**1.51**	**291**	*e*Pg	**Pn**	**23 54 09.0**	**+0.5**
PRTR				*e*Sg	**Sg**	**23 54 30.8**	**+0.2**
KORR	**Kora**	**1.59**	**266**	*e*Pg	**Pn**	**23 54 09.1**	**-0.5**
KORR				*e*Sg	**Sb**	**23 54 31.5**	**+0.6**
STDR	**Stavd-Durt**	**1.59**	**276**	*e*Pg	**Pb**	**23 54 10.6**	**-0.4**
STDR				*e*Sg	**Sn**	**23 54 29.9**	**+0.1**
DGRG	**David-gareji**	**1.88**	**200**	P	**Pg**	**23 54 18.1**	**+0.3**
DGRG				S	**Sg**	**23 54 45.8**	**+3.6**
NCK	**Nalchik**	**1.94**	**279**	*e*Pg	**Pn**	**23 54 13.1**	**-1.2**
NCK				*e*Sg	**Sn**	**23 54 38.8**	**+0.3**
DRN	**Derbent**	**1.95**	**127**	*e*Pg	**Pb**	**23 54 16.2**	**-0.9**
	25nm,0.7s						
DRN				*e*Sg	**Sb**	**23 54 41.9**	**+0.5**
	96nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.97**	**262**	*e*Pg	**Pn**	**23 54 14.9**	**0.0**
DIGR				*e*Sg	**Sn**	**23 54 40.4**	**+1.0**
VSHL	**Vashlovani**	**1.99**	**176**	P	**Pg**	**23 54 18.8**	**-1.2**
VSHL				S	**Sg**	**23 54 48.1**	**+2.3**
AKT	**Akhty**	**2.06**	**147**	*e*Pg	**Pb**	**23 54 17.5**	**-1.6**
	17nm,0.2s						
AKT				*e*Sg	**Sb**	**23 54 44.7**	**+0.1**
	77nm,0.3s						
KBTC	**Kuba-Taba**	**2.14**	**287**	*e*Pg	**Pn**	**23 54 17.0**	**-0.1**
KBTC				*e*Sg	**Sn**	**23 54 45.1**	**+1.7**
KSMR	**Kasumkent**	**2.14**	**138**	*e*Pg	**Pb**	**23 54 19.5**	**-0.9**
	16nm,0.3s						
KSMR				*e*Pg	**Pb**	**23 54 19.5**	**-0.9**
KSMR				*e*Sg	**Sb**	**23 54 47.7**	**+0.9**
	184nm,0.4s						
KSMR				*e*Sg	**Sb**	**23 54 47.7**	**+0.9**
TRLG	**Trialeti**	**2.30**	**224**	P	**Pb**	**23 54 21.7**	**-1.5**
PYA1	**Pyatigorsk**	**2.43**	**291**	*i* Pn	**Pn**	**23 54 21.6**	**+0.5**
PYA1				*e*Sn	**Sn**	**23 54 50.0**	**-0.6**
KBZ	**Khabaz**	**2.48**	**283**	*e*Pn	**Pn**	**23 54 20.3**	**-1.4**
KBZ				*e*Sn	**Sb**	**23 54 54.6**	**-1.8**
BEYR	**Belyy Ugol+**	**2.60**	**289**	*e*Pn	**Pn**	**23 54 22.5**	**-1.0**
BEYR				*e*Sn	**Sn**	**23 54 54.7**	**-0.2**
SHA1	**Shidzhatmaz**	**2.65**	**283**	*e*Pn	**Pn**	**23 54 23.3**	**-1.0**
SHA1				*e*Sn	**Sn**	**23 54 57.9**	**+1.5**
KIV0	**Kislovodsk Arr**	**2.67**	**287**	*e*Pn	**Pn**	**23 54 23.3**	**-1.2**
KIV0				*i* Sn	**Sn**	**23 54 56.0**	**-0.7**
KIV	**Kislovodsk**	**2.68**	**287**	*e*Pn	**Pn**	**23 54 24.3**	**-0.2**
KIV				*e*Sn	**Sn**	**23 54 55.5**	**-1.4**
ALER	**Alexandrovskoy**	**2.85**	**304**	*e*Pn	**Pn**	**23 54 27.1**	**+0.2**
ALER				*e*Sn	**Sn**	**23 55 02.0**	**+1.1**
GOF	**Gofitskoye**	**2.94**	**310**	*e*Pn	**Pn**	**23 54 27.2**	**-0.9**
GOF				*e*Sn	**Sn**	**23 55 03.5**	**+0.3**
GNI	**Garni**	**3.26**	**200**	*e*Pn	**Pn**	**23 54 30.3**	**-2.4**
GNI				*e*Sn	**Sn**	**23 55 13.9**	**+2.6**

MOS ***06*** *23:56:50.3±1.0, 2.14N×126.47E, h35km, mb5.0/28, Error ellipse: s-maj=13.5km s-min=5.9km az=115.3*
DJA ***06*** *23:56:52.9±0.1, 2.1N±2.12.7E±.1, h50km±2km, M4.8/49, mb4.9/49, mB5.4/15, MLv4.8/19, Mw(mB)4.8/15, MwMwp4.8/2, Mwp5.1/2*
IDC ***06*** *23:56:52.6±1.9, 2.11N×126.63E, h42km±16km, mb4.5/28, mbtmp4.7/30, ML4.6/2, MS3.6/25, Error ellipse: s-maj=18.2km s-min=8.1km az=80.0*
NEIC ***06*** *23:56:53.2±1.4, 2.13N±0.05×126.66E±0.06, h46km±3km, mb5.1/117, Error ellipse: s-maj=9.5km s-min=7.1km az=65.0*
GCMT ***06*** *23:56:56.2±0.5, 2.26N±0.03×126.67E±0.03, h35km, MW5.0/48, Moment Tensor Solution. s41,c43; s48,c62; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.46±.21; Mθθ-0.35±.13; Mφφ-3.11±.15; Mrθ-0.57±.18; Mφθ-0.64±.14; Mφr0.52±.16; Best double couple: M0 3.43500×10^16 NP1:φs202.00000°, δ43.00000°, λ105.00000°. NP2: φs2.00000°, δ49.00000°, λ77.00000°. Principal axes: T 3.5990, Plg80.0000°, Azm210.0000°; N -0.3310, Plg10.0000°, Azm11.0000°; P -3.2710, Plg3.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 06 23:56:53.5±0.4, 2.09N±0.03×126.61E±0.05, h50km±3km,
h50km:**pP-P, n588,** σ1$04/600, **mb4.9**/118, **MS3.7**/27,
11C-3D, Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.51**	**150**		**Pn**	**23 57 17.2**	**-1.0**
TNTI				Sn	**Sn**	**23 57 37.4**	**+0.7**
TNTI	**Ternate**	**1.51**	**150**	P	**Pn**	**23 57 17.6**	**-0.6**
TNTI	**Ternate**	**1.51**	**150**	P	**Pn**	**23 57 17.2**	**-1.0**
TNTI				S	**Sn**	**23 57 37.6**	**+0.9**
SGSI	**Sangihe**	**1.92**	**326**	P	**Pn**	**23 57 22.9**	**-0.9**
SGSI				S	**Sn**	**23 57 44.7**	**-2.2**
KMSI	**Cibinong**	**3.03**	**240**	P	**Pn**	**23 57 40.2**	**+1.2**
SANI	**Sanana**	**4.15**	**189**	P	**Pn**	**23 57 54.3**	**-0.2**
SANI	**Sanana**	**4.15**	**189**	S	**Sn**	**23 58 41.8**	**0.0**
SANI	**Sanana**	**4.15**	**189**	P	**Pn**	**23 57 54.0**	**-0.5**
SANI				S	**Sn**	**23 58 39.6**	**-2.2**
MRSI	**Marisa**	**4.93**	**251**	P	**Pn**	**23 58 06.8**	**+1.6**
LUWI	**Luwuk**	**4.94**	**231**	Pn	**Pn**	**23 58 07.4**	**+2.2**
LUWI	**Luwuk**	**4.94**	**231**	P	**Pn**	**23 58 06.5**	**+1.3**
LUWI	**Luwuk**	**4.94**	**231**	P	**Pn**	**23 58 08.0**	**+2.8**
DAV	**Davao City (W)**	**5.06**	**348**	Pn	**Pn**	**23 58 05.1**	**-1.8**
DAV	**Davao City (W)**	**5.06**	**348**	P	**Pn**	**23 58 04.7**	**-2.1**
	30nm,0.3s,baz=254,slow=14,SNR=1.9						
DAV				S	**Sn**	**23 59 10.5**	**+6.4**
	190nm,0.4s,baz=156,slow=9.9,SNR=2.1						
	103nm,0.3s						
NLAI	**Namlea**	**5.31**	**175**	P	**Pn**	**23 58 11.3**	**+0.9**
	0.4nm2μm116nm,0.7s						
SWI	**Sorong**	**5.50**	**122**	P	**Pn**	**23 58 14.9**	**+2.0**
	51nm,0.8s						
APSI	**Ampana**	**5.78**	**239**	P	**Pn**	**23 58 19.8**	**+3.0**
MSAI	**Masohi**	**5.87**	**157**	P	**Pn**	**23 58 22.1**	**+4.0**
	0.6nm6μm163nm,1.4s						
TOLI2	**Tolitoli**	**5.91**	**261**	Pn	**Pn**	**23 58 18.0**	**-0.5**
AAI	**Ambon**	**5.95**	**165**	P	**Pn**	**23 58 21.8**	**+2.7**
	0.3nm70nm,0.7s						
PCI	**Palu**	**7.39**	**246**	P	**Pn**	**23 58 41.0**	**+2.0**
	0.7nm7μm161nm,0.9s						
FAKI	**Fak Fak**	**7.52**	**131**	Pn	**Pn**	**23 58 39.2**	**-1.4**
FAKI	**Fak Fak**	**7.52**	**131**	P	**Pn**	**23 58 40.2**	**-0.4**
FAKI	**Fak Fak**	**7.52**	**131**	P	**Pn**	**23 58 42.2**	**+1.6**
TTSI	**Tana Toraja**	**8.49**	**233**	P	**Pn**	**23 58 55.3**	**+1.4**
	51nm,0.8s						
BBSI	**Bau Bau**	**8.54**	**208**	P	**Pn**	**23 58 57.2**	**+2.6**
	103nm,0.8s						
MYLDM	**Lahad Datu**	**8.66**	**291**	Pn	**Pn**	**23 58 56.5**	**+0.2**
MYLDM	**Lahad Datu**	**8.66**	**291**	P	**Pn**	**23 58 59.0**	**+2.8**
SPSI	**Sidrap Palu**	**9.10**	**229**	P	**Pn**	**23 59 04.3**	**+1.9**
	35nm,0.8s						
BKSI	**Bulukumba**	**9.80**	**221**	P	**Pn**	**23 59 11.1**	**-0.9**
	21nm,0.5s						
KAPI	**Kappang**	**9.83**	**224**	Pn	**Pn**	**23 59 12.2**	**-0.1**
KAPI	**Kappang**	**9.83**	**224**	P	**Pn**	**23 59 13.3**	**+0.9**
	3.5nm,0.3s,baz=169,slow=13,SNR=2.4						
KAPI				S	**Sn**	**00 01 03.0**	**+1.6**
	5.3nm,0.6s,baz=97,slow=16,SNR=1.1						
KAPI				LR	LR	00 03 46.1	
	comp=Z,368nm,20.1s,baz=74,slow=42						
	12nm,0.4s						
KAPI	**Kappang**	**9.83**	**224**	P	**Pn**	**23 59 12.2**	**-0.1**
BAKI	**Biak**	**10.04**	**109**	P	**Pn**	**23 59 17.0**	**+1.8**
	1μm94nm,0.9s						
BSSI	**Bau Bau, Buton**	**10.21**	**217**	P	**Pn**	**23 59 20.5**	**+3.0**
	108nm,0.9s						
KKM	**Kota Kinabalu**	**11.09**	**291**	Pn	**Pn**	**23 59 30.6**	**+1.0**
KKM	**Kota Kinabalu**	**11.09**	**291**	P	**Pn**	**23 59 31.9**	**+2.3**
SOEI	**Soe**	**11.99**	**191**	Pn	**Pn**	**23 59 42.7**	**+0.7**
SMPI	**Sarmi**	**12.76**	**108**	P	**Pn**	**23 59 54.4**	**+2.1**
TGY	**Tagaytay City**	**13.19**	**335**	LR	LR	00 06 22.1	
	comp=Z,219nm,18.6s,baz=163,slow=43						
PLAI	**Plampang**	**13.97**	**219**	P	**Pn**	**00 00 10.7**	**+1.9**
PLAI	**Plampang**	**13.97**	**219**	P	**P**	**00 00 18.2**	**+2.7**
GENI	**Genyem**	**14.33**	**109**	P	**Pn**	**00 00 11.5**	**-2.2**
	94nm,0.8s						
SBUM	**Sibu**	**14.38**	**272**		**Pn**	**00 00 15.9**	**+1.5**
SBUM	**Sibu**	**14.38**	**272**	P	**Pn**	**00 00 16.9**	**+2.5**
JAY	**Jayapura**	**14.81**	**108**	P	**P**	**00 00 25.3**	**+0.3**
	24nm,0.8s,baz=287,slow=14,SNR=7.2						
JAY				LR	LR	00 05 38.3	
	comp=Z,250nm,20.4s,baz=312,slow=36						
JAY	**Jayapura**	**14.81**	**108**	P	**Pn**	**00 00 20.6**	**+0.5**
	24nm,0.9s						
MTN	**Manton Dam**	**15.50**	**163**		**Pn**	**00 00 28.0**	**-1.0**
JAGI	**Jajag, Banyuwa**	**16.25**	**230**	P	**P**	**00 00 40.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**16.25**	**230**	P	**Pn**	**00 00 40.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**16.25**	**230**	P	**P**	**00 00 41.1**	**+0.1**
	60nm,0.8s						
KSM	**Kuching**	**16.30**	**268**	P	**P**	**00 00 40.8**	**-0.8**
GMJI	**Gumukmas**	**16.68**	**232**	P	**Pn**	**00 00 44.9**	**+0.9**
	34nm,1.0s						
KNRA	**Kununurra**	**17.78**	**173**		**Pn**	**00 00 56.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.08**	**183**	P	**P**	**00 01 22.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.08**	**183**	P	**P**	**00 01 22.6**	**-0.4**
	16nm,0.7s,baz=18,slow=9.1,SNR=15						
FITZ				pCP	**PcP**	**00 05 37.6**	**+0.5**
	3.4nm,0.7s,baz=0.0,slow=4.0,SNR=2.1						
FITZ				LR	LR	00 10 02.3	
	comp=Z,124nm,19.7s,baz=40,slow=39						
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.08**	**183**	P	**P**	**00 01 22.6**	**-0.4**
DLV	**Lat**	**20.46**	**299**	P	**P**	**00 01 28.1**	**+0.7**
LEM	**Lembang**	**20.92**	**245**	P	**P**	**00 01 31.3**	**-1.1**
	9.9nm,0.3s,baz=75,slow=17,SNR=4.0						
LEM				LR	LR	00 10 34.0	
	comp=Z,230nm,20.3s,baz=63,slow=39						
	9.9nm,0.3s						
BBJI	**Bungbulang**	**21.16**	**243**	P	**P**	**00 01 35.7**	**+0.9**
TWG	**Pinlang**	**21.30**	**346**	P	**P**	**00 01 34.6**	**-1.5**
GUMO	**Guam**	**21.37**	**57**	LR	LR	00 09 04.9	
	comp=Z,61nm,20.4s,baz=236,slow=34						
TPUB	**Ta-pu**	**21.87**	**345**	P	**P**	**00 01 41.1**	**-1.2**
TPUB	**Ta-pu**	**21.87**	**345**	P	**P**	**00 01 43.5**	**+1.2**
CGJI	**Cibinong**	**22.60**	**247**	P	**P**	**00 01 49.7**	**-0.5**
	41nm,0.8s						
CGJI				pP	**pP**	**00 02 00.2**	**-1.2**
	41nm,0.8s						
MYKOM	**Kota Tinggi**	**22.75**	**270**	P	**P**	**00 01 50.0**	**-1.7**
COEN	**Coen**	**22.89**	**135**	P	**P**	**00 01 52.2**	**-1.0**
COEN	**Coen**	**22.89**	**135**	P	**P**	**00 01 52.7**	**-0.5**
YHNB	**Yeheng**	**23.02**	**348**	P	**P**	**00 01 54.4**	**-0.1**
YHNB				IAmb	IAmb	00 02 09.8	
	comp=Z,216nm,1.9s						
YHNB	**Yeheng**	**23.02**	**348**	P	**P**	**00 01 56.4**	**+1.9**
WB0	**Warramunga Arr**	**23.02**	**161**	P	**P**	**00 01 52.8**	**-1.7**
WB0				IAmb	IAmb	00 01 56.9	
	comp=Z,52nm,0.7s						
WRAB	**Tennant Creek**	**23.16**	**161**	*i* P	**P**	**00 01 55.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,64nm,0.7s						
WRA	**Warramunga Arr**	**23.17**	**161**	P	**P**	**00 01 54.5**	**-1.4**
	comp=Z,42nm,0.6s,baz=338,slow=11,SNR=84						
WRA				PcP	**PcP**	**00 05 43.7**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=328,slow=2.2,SNR=4.7						
WRA				S	**S**	**00 06 04.8**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=326,slow=22,SNR=4.6						
	comp=Z,42nm,0.6s						
WRA	**Warramunga Arr**	**23.17**	**161**	*i* P	**P**	**00 01 54.5**	**-1.4**
WRA				pmax	pmax		
	comp=Z,54nm,0.6s						
WR0	**Warramunga Arr**	**23.25**	**161**	P	**P**	**00 01 55.1**	**-1.6**
WR0				IAmb	IAmb	00 01 56.5	
	comp=Z,33nm,0.6s						
MDSI	**Maura Dua**	**23.34**	**254**	P	**P**	**00 01 55.6**	**-2.1**
	comp=Z,23nm,0.8s						
MDSI				pP	**pP**	**00 02 07.8**	**-1.6**
	comp=Z,23nm,0.8s						
PMG	**Port Moresby**	**23.44**	**119**	LR	LR	00 11 58.1	
	comp=Z,304nm,21.2s,baz=296,slow=39						
QIZ	**Qiongzhong**	**23.52**	**317**	P	**P**	**00 01 58.5**	**-0.8**
QIZ				S	**S**	**00 06 11.6**	**+1.8**
QIZ				LR	LR		
	comp=Z,410nm,25.4s						
MBWA	**Marble Bar**	**24.06**	**196**	P	**P**	**00 02 03.2**	**-1.1**
MBWA	**Marble Bar**	**24.06**	**196**	P	**P**	**00 02 03.7**	**-0.6**
PSA00	**Pilbara Seismi**	**24.43**	**195**	P	**P**	**00 02 06.4**	**-1.2**
PSA00	**Pilbara Seismi**	**24.43**	**195**	P	**P**	**00 02 07.9**	**+0.3**
MNAI	**Manna**	**24.49**	**255**	P	**P**	**00 02 08.3**	**-0.1**
QIS	**Mount Isa**	**25.86**	**151**	P	**P**	**00 02 20.4**	**-0.3**
AS31	**Alice Springs**	**26.56**	**165**	P	**P**	**00 02 26.4**	**-0.6**
ASAR	**Alice Springs**	**26.56**	**165**	P	**P**	**00 02 26.6**	**-0.4**
	comp=Z,6.1nm,0.4s,baz=343,slow=7.7,SNR=46						
ASAR				PcP	**PcP**	**00 05 50.9**	**+0.2**
	comp=Z,4.9nm,0.5s,baz=350,slow=2.2,SNR=11						
ASAR				S	**S**	**00 06 59.6**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=352,slow=24,SNR=4.2						
ASAR				LR	LR	00 13 00.4	
	comp=Z,180nm,19.4s,baz=352,slow=36						
	comp=Z,6.1nm,0.4s						
AS01	**Alice Springs**	**26.57**	**165**	P	**P**	**00 02 27.0**	**-0.1**
WRKA	**Warakurna**	**27.01**	**177**	P	**P**	**00 02 31.2**	**+0.1**
GIRL	**Giralia**	**27.38**	**205**	P	**P**	**00 02 34.9**	**+0.5**
GIRL	**Giralia**	**27.38**	**205**	P	**P**	**00 02 35.4**	**+1.0**
RPSI	**Rantau Prapat**	**27.67**	**272**	P	**P**	**00 02 35.9**	**-1.1**
PSI	**Prapat**	**27.67**	**272**	LR	LR	00 16 17.8	
	comp=Z,64nm,19.6s,baz=121,slow=42						
GSI	**Gunungsitoli**	**29.03**	**269**	P	**P**	**00 02 48.5**	**-0.7**
MEEK	**Meekatharra**	**29.58**	**195**	P	**P**	**00 02 53.8**	**-0.1**
OOD	**Oodnadatta**	**30.96**	**164**	P	**P**	**00 03 05.6**	**-0.5**
JNU	**Nakatsue**	**31.13**	**7**	P	**P**	**00 03 06.5**	**-1.1**
JNU				IAmb	IAmb	00 03 18.6	
	comp=Z,43nm,1.2s						
JNU	**Nakatsue**	**31.13**	**7**	LR	LR	00 16 35.6	
	comp=Z,42nm,21.5s,baz=176,slow=38						
CMAR	**Chiang Mai Arr**	**31.63**	**303**	P	**P**	**00 03 11.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**31.63**	**303**	P	**P**	**00 03 12.2**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=108,slow=6.3,SNR=21						
CMAR				PcP	**PcP**	**00 06 04.3**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=184,slow=2.6,SNR=6.2						
CMAR				LR	LR	00 16 51.7	
	comp=Z,55nm,21.0s,baz=110,slow=38						
	comp=Z,3.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.63**	**303**	*i* P	**P**	**00 03 12.5**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**31.79**	**303**	P	**P**	**00 03 12.6**	**-0.9**
ENH	**Enshi**	**32.40**	**332**	P	**P**	**00 03 17.4**	**-1.4**
ENH				IAmb	IAmb	00 03 19.2	
	comp=Z,33nm,1.2s						
MORW	**Morawa**	**32.59**	**197**	P	**P**	**00 03 19.8**	**-0.6**
MORW				IAmb	IAmb	00 03 21.1	
	comp=Z,15nm,0.7s						
MORW	**Morawa**	**32.59**	**197**	P	**P**	**00 03 20.1**	**-0.3**
FORT	**Forrest**	**32.71**	**178**	P	**P**	**00 03 20.7**	**-0.7**
FORT	**Forrest**	**32.71**	**178**	P	**P**	**00 03 21.4**	**0.0**
KMBL	**Kambalda**	**33.57**	**187**	P	**P**	**00 03 29.1**	**+0.2**
BLDU	**Ballidu**	**33.86**	**195**	P	**P**	**00 03 31.4**	**0.0**
PZH	**PanZhiHua**	**34.05**	**318**	P	**P**	**00 03 36.1**	**+2.8**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
LCRK	**Leigh Creek**	**34.19**	**162**	P	**P**	**00 03 34.3**	**0.0**
INU	**Inuyama**	**34.48**	**15**	P	**P**	**00 03 37.2**	**+0.4**
KLBR	**Kellerberrin**	**34.53**	**193**	P	**P**	**00 03 37.1**	**-0.2**
JGF	**Kuroka**	**34.81**	**15**	P	**P**	**00 03 38.6**	**-1.0**
HNR	**Honiara**	**35.13**	**110**	LR	LR	00 18 47.7	
	comp=Z,116nm,21.6s,baz=335,slow=37						
KSRS	**Korea Array**	**35.22**	**2**	P	**P**	**00 03 43.2**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=180,slow=9.9,SNR=10						
KSRS				LR	LR	00 21 35.7	
	comp=Z,18nm,18.3s,baz=180,slow=42						
	comp=Z,4.2nm,0.9s						
MUN	**Mundaring**	**35.29**	**195**	P	**P**	**00 03 43.8**	**+0.1**
XAN	**Xi'an**	**35.83**	**334**	P	**P**	**00 03 49.6**	**+1.1**
XAN				pP	pP	00 04 00.5	-0.6
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
BBOO	**Buckleboo**	**35.84**	**166**	P	**P**	**00 03 47.9**	**-0.5**
BBOO	**Buckleboo**	**35.84**	**166**	P	**P**	**00 03 48.0**	**-0.5**
CD2	**Chengdu**	**35.91**	**325**	*e*P	**P**	**00 03 49.9**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**35.92**	**16**	P	**P**	**00 03 48.1**	**-1.1**
	comp=Z,5.1nm,0.5s,baz=180,slow=9.4,SNR=14						
	comp=Z,5.1nm,0.5s						
MAJO	**Matsushiro**	**35.92**	**16**	P	**P**	**00 03 49.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**35.93**	**16**	P	**P**	**00 03 48.3**	**-1.0**
NWAO	**Narrogin (SRO)**	**35.93**	**194**	P	**P**	**00 03 49.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**35.93**	**194**	P	**P**	**00 03 49.7**	**+0.4**
NWAO

comp=Z,12nm,0.5s
YSS Yuzhno-Sakhali 46.85 15 *i* P **P 00 05 19.2 +0.7**
YSS pmax pmax
comp=Z,14nm,1.0s
KLR Kul'dur 47.17 5 LR LR 00 30 20.4
comp=Z,38nm,18.0s,baz=196,slow=43
KLR Kul'dur 47.17 5 *ce* **P 00 05 21.5 +0.4**
KLR pmax pmax
comp=Z,7.0nm,0.9s
HIA Hailar 47.37 354 P **P 00 05 22.7 +0.1**
HIA IAmb IAmb 00 05 28.5
comp=Z,17nm,1.5s
ULN Ulaanbaatar 48.64 343 P **P 00 05 31.8 -0.8**
ULN Ulaanbaatar 48.64 343 *i* P **P 00 05 32.7 +0.1**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 48.64 343 P **P 00 05 33.9 +1.3**
SONM Songino Array 48.81 342 P **P 00 05 33.4 -0.5**
SONM Songino Array 48.81 342 P **P 00 05 33.8 -0.1**
comp=Z,2.9nm,0.8s,baz=162,slow=8.5,SNR=15
SONM PcP **PcP 00 06 58.4 +0.4**
comp=Z,2.3nm,0.8s,baz=168,slow=3.6,SNR=5.4
comp=Z,2.9nm,0.8s
HYB Hyderabad 49.57 291 *e*P **P 00 05 39.2 -0.9**
ZEA Zeya 51.49 0 *e*P **P 00 05 53.7 -0.2**
WMQ Urumqi 54.00 326 *e*P **P 00 06 13.9 +1.1**
WMQ PcP **PcP 00 07 17.2 -0.2**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,130nm,21.5s
PEA0B Petropavlovsk- 56.99 22 P **P 00 06 34.0 0.0**
PETK Petropavlovsk- 56.99 22 P **P 00 06 33.9 0.0**
comp=Z,5.6nm,0.7s,baz=190,slow=7.1,SNR=12
comp=Z,5.6nm,0.7s
WUS Wushi 57.71 319 P **P 00 06 39.2 -0.2**
WUS IAmb IAmb 00 06 45.4
comp=Z,16nm,1.3s
ZSN Zaisan 57.82 328 *e*P **P 00 06 39.2 -0.7**
ZSN pmax pmax
comp=Z,5.0nm,0.9s
ZSN Zaisan 57.82 328 *e*P **P 00 06 39.3 -0.7**
comp=Z,4.9nm,0.9s
SHLS Shalkode 58.53 321 *e*P **P 00 06 42.4 -2.8**
SHLS pmax pmax
comp=Z,6.0nm,1.2s
SHLS Shalkode 58.53 321 *e*P **P 00 06 42.4 -2.8**
comp=Z,6.4nm,1.2s
UZB Uzynbulak 58.81 321 *e*P **P 00 06 46.1 -1.0**
UZB Uzynbulak 58.81 321 *e*P **P 00 06 46.1 -1.0**
MK31 Makanchi Array 58.84 326 P **P 00 06 46.1 -0.9**
MK31 Makanchi Array 58.84 326 *i* P **P 00 06 46.2 -0.9**
MKAR Makanchi Array 58.84 326 P **P 00 06 46.4 -0.6**
MKAR Makanchi Array 58.84 326 P **P 00 06 46.6 -0.5**
comp=Z,4.5nm,0.4s,baz=131,slow=7.6,SNR=7.7
MKAR PcP **PcP 00 07 35.3 -0.8**
comp=Z,3.2nm,0.7s,baz=119,slow=4.4,SNR=5.4
MKAR ScP **ScP 00 11 32.5 -0.2**
comp=Z,0.7nm,0.8s,baz=111,slow=5.3,SNR=4.4
MKAR LR LR 00 33 41.8
comp=Z,55nm,21.7s,baz=110,slow=38
comp=Z,4.5nm,0.4s
MKAR Makanchi Array 58.84 326 *i* P **P 00 06 42.5 -4.6**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
NIL Nilore 58.84 309 P **P 00 06 46.4 -1.0**
NIL IAmb IAmb 00 07 07.4
comp=Z,17nm,1.1s
NIL Nilore 58.84 309 P **P 00 06 46.9 -0.5**
MAKZ Makanchi 59.02 326 P **P 00 06 47.3 -1.1**
MAKZ IAmb IAmb 00 06 50.7
comp=Z,8.3nm,0.6s
MAKZ Makanchi 59.02 326 P **P 00 06 47.5 -0.8**
MAKZ pP **pwP 00 07 01.6 -2.3**
KSH Kashi 59.12 316 P **P 00 06 50.1 +0.8**
KSH pP pP 00 07 00.6 -2.1
KSH pmax pmax
comp=Z,7.0nm,0.9s
SATY Saty 59.15 320 *e*P **P 00 06 48.4 -1.0**
SATY pmax pmax
comp=Z,6.0nm,0.8s
SATY Saty 59.15 320 *e*P **P 00 06 48.4 -1.0**
comp=Z,6.3nm,0.8s
KPKS Kokpek 59.18 321 *e*P **P 00 06 48.5 -1.1**
KPKS pmax pmax
comp=Z,5.0nm,1.0s
KPKS Kokpek 59.18 321 *e*P **P 00 06 48.6 -1.1**
comp=Z,5.3nm,1.0s
ZHN Zhinishke 59.19 321 *e*P **P 00 06 48.6 -1.1**
ZHN Zhinishke 59.19 321 *e*P **P 00 06 48.6 -1.1**
KDJ Kajisay 59.49 319 P **P 00 06 51.5 -0.4**
KDJ IAmb IAmb 00 06 54.0
comp=Z,7.9nm,0.8s
QRZ Quartz Range 59.73 141 P **P 00 06 52.8 -0.5**
YAK Yakutsk 59.84 2 P **P 00 06 53.5 -0.2**
YAK Yakutsk 59.84 2 LR LR 00 33 49.6
comp=Z,40nm,19.4s,baz=218,slow=37
YAK Yakutsk 59.84 2 *e*P **P 00 06 54.0 +0.4**
YAK *e**PP **sP 00 07 10.9 -1.5**
YAK *e* 00 07 39.8
YAK *e* 00 09 06.1
YAK *e*PPP PPP 00 10 28.7
YAK *e*S **S 00 15 01.5 +0.1**
YAK *e**SS **sS 00 15 28.6 +4.8**
YAK *e* 00 16 38.6
YAK *e*SS **SS 00 18 59.7 +1.4**
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,179nm,5.2s
YAK pmax pmax
comp=N,35nm,2.4s
YAK pmax pmax
comp=E,169nm,5.5s
YAK smax smax
comp=E,91nm,4.0s
YAK smax smax
comp=N,47nm,3.8s
TNSS Tian-Shan 60.08 320 *e*P **P 00 06 54.6 -1.5**
TNSS Tian-Shan 60.08 320 *e*P **P 00 06 54.7 -1.5**
TDK Taldyqorghan 60.13 322 *e*P **P 00 06 55.2 -0.8**
TDK pmax pmax
comp=Z,8.0nm,1.1s
TDK Taldyqorghan 60.13 322 *e*P **P 00 06 55.3 -0.8**
comp=Z,8.1nm,1.1s
AAA Alma-Ata 60.18 320 *e*P **P 00 06 55.5 -0.9**
AAA pmax pmax
comp=Z,5.0nm,0.4s
AAA Alma-Ata 60.18 320 *e*P **P 00 06 55.5 -0.9**
comp=Z,4.9nm,0.4s
MA2 Magadan 60.32 14 P **P 00 06 57.0 +0.1**
MA2 IAmb IAmb 00 06 59.9
comp=Z,18nm,0.6s
MA2 Magadan 60.32 14 *ce*P **P 00 06 58.1 +1.1**
MA2 pmax pmax
comp=Z,22nm,1.0s
MA2 Magadan 60.32 14 P **P 00 06 58.1 +1.1**
LBZ Lake Benmore 60.40 145 P **P 00 06 57.6 -0.3**
TKM2 Tokmak 2 60.90 319 P **P 00 07 00.8 -0.7**
SNR=7.9
KBK Karagaybulak 61.20 319 P **P 00 07 03.3 -0.3**
SNR=8.7
AAK Ala-Archa 61.50 318 P **P 00 07 05.0 -0.5**
AAK Ala-Archa 61.50 318 LR LR 00 36 05.0
comp=Z,67nm,21.5s,baz=94,slow=38
AAK Ala-Archa 61.50 318 P **P 00 07 05.5 0.0**
SNR=5.7
AAK Ala-Archa 61.50 318 *ce*P **P 00 07 04.7 -0.8**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 61.50 318 P **P 00 07 06.2 +0.7**
RTZ Ruatahuna 61.52 137 P **P 00 07 04.6 -1.0**
SGDS Sogindy 61.77 319 *e*P **P 00 07 05.9 -1.3**
SGDS Sogindy 61.77 319 *e*P **P 00 07 06.0 -1.3**
USP Ospenovka 61.77 319 P **P 00 07 06.6 -0.6**
SNR=17
AML Almayashu 61.81 318 P **P 00 07 08.1 +0.1**
SNR=19
ARSB Arslanbob 61.96 317 P **P 00 07 07.8 -0.9**
ARSB IAmb IAmb 00 07 11.6
comp=Z,7.8nm,0.6s
EKS2 Erkin-Say 61.98 318 P **P 00 07 09.0 +0.2**
SNR=7.6
ZAA0 Zalesovo Array 61.99 334 P **P 00 07 07.1 -1.3**
ZALV Zalesovo Beam 61.99 334 P **P 00 07 07.0 -1.4**
ZALV Zalesovo Beam 61.99 334 P **P 00 07 07.4 -1.0**
comp=Z,1.7nm,0.5s,baz=133,slow=7.8,SNR=10
comp=Z,1.7nm,0.5s
ZALV Zalesovo Beam 61.99 334 *i* P **P 00 07 07.4 -1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
DRK Karamyk 62.06 314 P **P 00 07 08.4 -1.1**
DRK IAmb IAmb 00 07 12.9
comp=Z,12nm,0.7s
KBL Kabul 62.43 308 P **P 00 07 10.3 -1.7**
KBL IAmb IAmb 00 07 13.1
comp=Z,11nm,0.8s
BTLS Baital 62.86 321 *e*P **P 00 07 13.2 -1.2**
BTLS Baital 62.86 321 *e*P **P 00 07 13.3 -1.2**
GAR Garm 62.95 313 P **P 00 07 14.2 -1.1**
KURBB Kurchatov Arra 63.05 328 P **P 00 07 15.1 -0.4**
comp=Z,38nm,0.6s,baz=128,slow=5.9,SNR=52
comp=Z,38nm,0.6s
KURK Kurchatov 63.06 328 P **P 00 07 15.3 -0.3**
KURK IAmb IAmb 00 07 16.5
comp=Z,17nm,0.8s
KURK Kurchatov 63.06 328 *ce*P **P 00 07 15.1 -0.5**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 63.06 328 P **P 00 07 14.9 -0.7**
SEY Seymchan 63.65 13 *ce*P **P 00 07 21.2 +1.9**
SEY pmax pmax
comp=Z,9.0nm,1.0s
CHGR Chuyangaron 63.68 313 P **P 00 07 18.6 -1.5**
DZA Taraz 63.72 318 *e*P **P 00 07 18.9 -1.2**
DZA Taraz 63.72 318 *e*P **P 00 07 19.0 -1.2**
SIMJ Simiganj 63.79 313 P **P 00 07 19.3 -1.5**
SIMJ IAmb IAmb 00 07 22.3
comp=Z,9.8nm,0.9s
SIMJ Simiganj 63.79 313 P **P 00 07 19.9 -0.9**
IUG Iuzhnay 64.31 316 *e*P **P 00 07 22.9 -1.2**
IUG pmax pmax
comp=Z,7.0nm,0.9s
IUG Iuzhnay 64.31 316 *e*P **P 00 07 23.0 -1.2**
comp=Z,7.4nm,0.9s
KK31 Karatay Array 64.35 318 P **P 00 07 23.4 -0.9**
KKAR Karatay Array 64.35 318 P **P 00 07 23.4 -0.9**
BRLS Borolday 64.78 317 *e*P **P 00 07 25.9 -1.2**
BRLS Borolday 64.78 317 *e*P **P 00 07 25.9 -1.2**
BRZS Berezniki 65.96 325 *e*P **P 00 07 33.5 -1.1**
BRZS Berezniki 65.96 325 *e*P **P 00 07 33.5 -1.1**
HRA Herat 67.80 306 P **P 00 07 46.0 -0.8**
BVAR Borovoye Array 68.63 327 P **P 00 07 51.0 -0.4**
comp=Z,4.3nm,0.6s,baz=135,slow=9.9,SNR=25
comp=Z,4.3nm,0.6s
BVAR Borovoye Array 68.63 327 P **P 00 07 51.0 -0.4**
BRVK Borovoye 68.70 327 P **P 00 07 51.0 -0.8**
BRVK Borovoye 68.70 327 *ce*P **P 00 07 52.0 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 68.70 327 P **P 00 07 51.2 -0.7**
BRVK pP **pP 00 08 04.8 -0.6**
CASY Casey 69.18 187 P **P 00 07 55.1 +0.6**
TIXI Tiksi 69.48 1 LR LR 00 39 09.9
comp=Z,53nm,21.5s,baz=192,slow=36
TIXI Tiksi 69.48 1 *i* P **P 00 07 55.9 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
P08K Saint George I 74.11 31 P **P 00 08 25.0 +0.7**
baz=249
UNV Unalaska Valle 74.84 34 P **P 00 08 29.5 +0.9**
baz=252
AKTO Aktyubinsk 74.87 322 LR LR 00 44 13.7
comp=Z,52nm,21.7s,baz=258,slow=38
SVE Sverdlovsk 75.29 329 *e*P **P 00 08 31.3 +0.1**
SVE pmax pmax
comp=Z,38nm,0.9s
GAMB Gambell 75.94 24 P **P 00 08 35.6 +0.8**
baz=245
ARTI Arti 76.34 328 P **P 00 08 36.6 -0.7**
ARTI IAmb IAmb 00 08 37.3
comp=Z,15nm,0.8s
ARTI Arti 76.34 328 *c i* P **P 00 08 36.5 -0.7**
ARTI S **S 00 18 20.0 +1.7**
ARTI SS **SS 00 23 12.7 -0.5**
M11K Mekoryuk 77.07 28 P **P 00 08 42.0 +0.8**
baz=251
S12K Black Hills 77.83 33 P **P 00 08 46.6 +1.0**
baz=256
TNA Tin City 78.14 23 P **P 00 08 48.2 +1.1**
baz=248
K13K Kusilvak Mount 78.27 27 P **P 00 08 49.0 +1.1**
K13K IAmb IAmb 00 11 06.5
comp=Z,63nm,1.8s
K13K Kusilvak Mount 78.27 27 P **P 00 08 49.0 +1.1**
baz=252
M13K Dall Lake 78.42 28 P **P 00 08 49.4 +0.7**
baz=253
SDPT Sand Point 78.62 34 P **P 00 08 50.8 +0.8**
baz=257
F14K Arctic Creek 78.73 23 P **P 00 08 51.6 +1.2**
baz=250
ANM Nome 78.81 24 P **P 00 08 52.0 +1.2**
baz=251
L14K Kuka Creek 79.00 28 P **P 00 08 52.7 +0.8**
L14K IAmb IAmb 00 08 54.6
comp=Z,24nm,1.1s
L14K Kuka Creek 79.00 28 P **P 00 08 53.4 +1.5**
baz=254
CHNA Chernabura Isl 79.00 34 P **P 00 08 52.6 +0.6**
baz=258
J14K Nanvaranak Lak 79.01 26 P **P 00 08 52.5 +0.6**
baz=253
N14K Kuskokwak Cree 79.09 29 P **P 00 08 53.1 +0.6**
baz=255
O14K Tigyukauivet M 79.13 30 P **P 00 08 53.2 +0.6**
baz=256
M14K Bethel 79.18 28 P **P 00 08 54.3 +1.4**
M14K Bethel 79.18 28 P **P 00 08 53.4 +0.5**
baz=255
LKRN Lenkeran, Azer 79.20 309 P **P 00 08 54.7 +1.2**
S14K Fog Glacier 79.33 33 P **P 00 08 53.9 -0.1**
baz=258
F15K North Star Dit 79.47 23 P **P 00 08 55.0 +0.6**
baz=251
G15K Niukluk 79.48 24 P **P 00 08 55.2 +0.7**
baz=252
L15K Ungalak Mounta 79.64 27 P **P 00 08 56.2 +0.7**
baz=255
M15K Kasigluk River 79.77 29 P **P 00 08 56.8 +0.7**
baz=256
K15K Wolf Creek Mou 79.78 27 P **P 00 08 57.7 +1.5**
baz=255
O15K Ungalikthiuk R 79.83 30 P **P 00 08 57.0 +0.5**
baz=257
N15K Kwethluk River 79.93 29 P **P 00 08 57.6 +0.5**
baz=256
CHGN Chignik 79.96 33 P **P 00 08 58.1 +0.9**
baz=258
C16K Lisburne Hills 80.06 21 P **P 00 08 58.7 +1.1**
baz=250
H16K Elim 80.11 24 P **P 00 08 58.8 +0.9**
baz=254
G16K Koyuk River 80.28 24 P **P 00 08 59.6 +0.8**
baz=253
AKT Akhty 80.29 312 *e*P **P 00 08 58.7 -0.8**
AKT *e* 00 09 04.3
AKT *e*S **S 00 19 00.0 -1.6**
AKT pmax pmax
comp=Z,7.0nm,0.8s
J16K Anvik River 80.45 26 P **P 00 09 00.7 +1.0**
baz=255
I17K Unalakleet 80.56 25 P **P 00 09 01.3 +1.0**
baz=255
L16K Owhat River 80.58 28 P **P 00 09 01.4 +0.9**
baz=257
N16K Nishlik Lake 80.64 29 P **P 00 09 01.7 +0.8**
baz=258
ABPO Ambohimpanom 80.65 250 P **P 00 09 02.3 +0.4**
ABPO IAmb IAmb 00 11 46.7
comp=Z,34nm,1.6s
R16K Pilot Point 80.65 32 P **P 00 09 01.3 +0.4**
baz=259
SEKA Sheki 80.66 311 P **P 00 09 01.9 +0.4**
M16K Timber Creek 80.67 28 P **P 00 09 02.1 +1.1**
baz=257
D17K Noatak River 80.68 21 P **P 00 09 02.3 +1.4**
baz=252
MNGR Mingechevir, A 80.71 311 P **P 00 09 01.9 +0.3**
P16K Nushagak River 80.72 30 P **P 00 09 01.9 +0.6**
baz=258
O16K Kokwok River B 80.79 30 P **P 00 09 02.3 +0.6**
baz=258
RDOG Red Dog Mine 80.85 21 P **P 00 09 02.3 +0.5**
baz=252
C17K DeLong Mountai 80.88 21 P **P 00 09 03.3 +1.3**
baz=252
E17K Hotham Inlet 80.97 22 P **P 00 09 03.6 +1.2**
baz=254
G17K Kiwalik Mounta 81.00 24 P **P 00 09 03.2 +0.5**
baz=255
F17K Baldwin Pennin 81.01 23 P **P 00 09 03.5 +0.8**
baz=254
RAYN Ar Rayn 81.02 293 P **P 00 09 02.9 -0.8**
J17K VABM Dome 81.15 26 P **P 00 09 04.9 +1.4**
baz=257
H17K Granite Mounta 81.16 24 P **P 00 09 04.8 +1.3**
baz=256
L17K Donlin 81.22 27 P **P 00 09 04.9 +1.0**
baz=258
O17K Koliganek Bris 81.32 30 P **P 00 09 05.4 +1.0**
baz=259
VOI Vohitsoka 81.33 248 P **P 00 09 05.1 -0.4**
Q16K King Salmon 81.34 31 P **P 00 09 05.6 +1.1**
baz=260
K17K Iditarod 81.34 27 P **P 00 09 05.4 +0.9**
baz=258
N17K Nushagak Hills 81.42 29 P **P 00 09 06.0 +1.1**
baz=259
M17K Holitna River 81.47 28 P **P 00 09 06.0 +0.7**
baz=259
E18K Tukpahlearik C 81.52 22 P **P 00 09 06.3 +0.9**
baz=255
P17K Kvichak River 81.54 30 P **P 00 09 05.8 +0.2**
baz=260
KIRV Kirov 81.56 329 *ce*P **P 00 09 06.1 +0.4**
B18K Kokolik River 81.62 20 P **P 00 09 06.5 +0.6**
baz=253
BELG Belogornoye 81.63 323 *i* P **P 00 09 06.2 0.0**
BELG pmax pmax
comp=Z,8.0nm,0.9s
C18K Utukok River 81.63 21 P **P 00 09 06.4 +0.4**
baz=254
F18K Selawik 81.67 23 P **P 00 09 07.1 +0.9**
baz=256
NAX Nakhchivan 81.80 309 P **P 00 09 08.5 +0.9**
VNDA Vanda 81.82 173 P **P 00 09 07.1 +0.3**
VNDA Vanda 81.82 173 P **P 00 09 06.7 -0.1**
comp=Z,8.1nm,0.8s,baz=317,slow=9.0,SNR=16
VNDA LR LR 00 45 39.8
comp=Z,74nm,20.3s,baz=355,slow=36
comp=Z,8.1nm,0.8s
H18K Honhosa River 81.84 24 P **P 00 09 07.6 +0.5**
baz=257
G18K Tagagawik 81.89 24 P **P 00 09 08.1 +0.7**
baz=257
L18K Granite Mounta 81.97 27 P **P 00 09 09.1 +1.2**
baz=259
N18K Kilae Creek 82.07 29 P **P 00 09 09.1 +0.7**
baz=260
A19K Wainwright 82.10 19 P **P 00 09 09.5 +1.1**
baz=254
MAW Mawson 82.18 200 P **P 00 09 08.5 -0.3**
MAW Mawson 82.18 200 P **P 00 09 08.7 -0.1**
comp=Z,27nm,0.9s,baz=94,slow=15,SNR=1.9
comp=Z,27nm,0.9s
Q18K Katmai Hardscr 82.18 31 P **P 00 09 10.0 +0.8**
baz=261
J18K Innoko River 82.20 26 P **P 00 09 10.0 +1.0**
baz=259,SNR=11
M18K Stony River 82.25 28 P **P 00 09 10.3 +1.0**
baz=260
O18K Koktuh Hills 82.27 30 P **P 00 09 10.5 +1.0**
baz=261
R18K Karluk 82.31 32 P **P 00 09 10.6 +0.9**
baz=262
GCSA Galena City Sc 82.38 25 P **P 00 09 10.8 +0.9**
baz=259
TTA Tatalina 82.41 27 P **P 00 09 11.3 +1.0**
baz=260,SNR=5.6
GNI Garni 82.44 310 *i* P **P 00 09 11.2 +0.2**
GNI pmax pmax
comp=Z,10.0nm,1.2s
F19K Shaleruckik Mo 82.45 23 P **P 00 09 11.4 +1.1**
baz=258
D19K Kuna River 82.69 21 P **P 00 09 12.5 +0.9**
baz=257
H19K Roundabout Mou 82.71 24 P **P 00 09 12.9 +1.3**
baz=259
J19K Poorman 82.78 26 P **P 00 09 13.1 +1.1**
baz=260
N19K Bonanza Creek 82.78 29 P **P 00 09 13.0 +0.8**
baz=261
E19K Redstone River 82.79 22 P **P 00 09 13.1 +1.1**
baz=258
L19K White Mountain 82.81 28 P **P 00 09 13.5 +1.1**
baz=261
OHAK Old Harbor 82.89 33 P **P 00 09 13.8 +1.1**
baz=263
M19K Big River Lodg 82.99 28 P **P 00 09 14.0 +0.8**
baz=261,SNR=5.7
D20K Etivluk River 83.27 21 P **P 00 09 15.7 +1.2**
baz=258
F20K Avaraart Lake 83.28 23 P **P 00 09 15.4 +0.9**
baz=259
L20K Farewell, AK 83.31 27 P **P 00 09 15.4 +0.5**
baz=262,SNR=6.6
KDAK Kodiak Island 83.34 32 P **P 00 09 15.6 +0.5**
KDAK IAmb IAmb 00 09 22.6
comp=Z,33nm,1.2s
KDAK Kodiak Island 83.34 32 P **P 00 09 16.0 +1.0**
baz=263
E20K Nigu River 83.34 21 P **P 00 09 16.1 +1.1**
baz=259
H20K Anotleneega Mo 83.34 24 P **P 00 09 16.1 +1.1**
baz=260
K20K Telida 83.35 26 P **P 00 09 15.8 +0.7**
baz=261
B20K Meade River 83.35 20 P **P 00 09 15.7 +0.8**
baz=258
I20K Naaghedeneel 83.40 25 P **P 00 09 16.1 +0.9**
baz=261
J20K Nowinta River 83.44 26 P **P 00 09 16.6 +1.1**
baz=261
M20K Styx River 83.57 28 P **P 00 09 17.1 +0.8**
baz=262
GEVA Gevas 83.65 308 P **P 00 09 17.6 +0.2**
GEVA IAmb IAmb 00 09 20.5
comp=Z,25nm,0.9s
KARS Kars 83.73 310 P **P 00 09 18.1 +0.4**
A21K Barrow 83.81 18 P **P 00 09 18.0 +0.8**
baz=258
N20K Mount Spurr 83.93 29 P **P 00 09 18.2 +0.1**
baz=263
SPCR Spurr Chakacha 83.93 29 P **P 00 09 18.2 +0.1**
baz=263
GOF Gofitskoye 83.98 315 *ce*P **P 00 09 19.7 +1.0**
C21K Knifeblade Rid 84.01 21 P **P 00 09 18.3 0.0**
baz=260
KBZ Khabaz 84.02 314 P **P 00 09 18.1 -0.7**
comp=Z,3.3nm,0.8s,baz=154,slow=1.9,SNR=6.5
comp=Z,3.3nm,0.8s
KBZ Khabaz 84.02 314 *ce*P **P 00 09 18.7 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
G21K Allakaket 84.06 23 P **P 00 09 18.8 +0.2**
baz=262
PPLA Purkeypile 84.14 27 P **P 00 09 19.9 +0.6**
baz=263
B21K Ikpikpuk River 84.15 20 P **P 00 09 20.7 +1.7**
B21K Ikpikpuk River 84.15 20 P **P 00 09 19.6 +0.7**
baz=260
F21K Alatna River 84.18 23 P **P 00 09 20.0 +0.8**
baz=261
E21K Killik River 84.18 21 P **P 00 09 20.0 +0.8**
baz=261
KIV Kislovodsk 84.18 314 P **P 00 09 20.1 +0.3**
KIV IAmb IAmb 00 09 30.5
comp=Z,9.3nm,0.9s
KIV Kislovodsk 84.18 314 *e*P **P 00 09 20.3 +0.5**
KIV pmax pmax
comp=Z,10.0nm,1.1s
CHUM Lake Minchumin 84.20 26 P **P 00 09 20.1 +0.7**
baz=263
H21K Melozitna Rive 84.22 24 P **P 00 09 20.4 +1.0**

baz=262
CNPM China Poot 84.22 30 P P 00 09 19.8 +0.2
CAST Castle Rocks 84.25 27 P P 00 09 20.5 +0.8
CAST IAmb IAmb 00 11 09.7
comp=Z,30nm,1.9s
CAST Castle Rocks 84.25 27 P P 00 09 20.6 +1.0
baz=263
A22K Sinclair Lake 84.27 19 P P 00 09 21.1 +1.6
baz=260
SKT Skwentna 84.34 28 P P 00 09 20.5 +0.3
baz=264,SNR=6.8
CAPN Captain Cook N 84.39 29 P P 00 09 21.1 +0.8
baz=264
GURO Guroymak-BITLI 84.46 308 P P 00 09 22.0 +0.6
GURO IAmb IAmb 00 09 23.7
comp=Z,19nm,0.9s
BRSE Bradley Lake S 84.50 30 P P 00 09 21.4 +0.5
baz=265
I21K Tanana 84.50 25 P P 00 09 21.6 +0.8
baz=263
SUA Susitna One 84.66 29 P P 00 09 22.1 +0.2
SUA Susitna One 84.66 29 P P 00 09 22.5 +0.6
baz=264,SNR=17
B22K Teshekpuk Lake 84.67 20 P P 00 09 23.1 +1.6
baz=261
D22K Ayikyak River 84.71 21 P P 00 09 23.3 +1.5
baz=262
F22K John River 84.72 22 P P 00 09 23.1 +1.2
baz=263
BPAW Bear Paw Mtn. 84.81 26 P P 00 09 22.8 +0.3
BPAW IAmb IAmb 00 11 08.9
comp=Z,16nm,1.8s
BPAW Bear Paw Mtn. 84.81 26 P P 00 09 22.7 +0.2
baz=264
SLKM Skilak Lake 84.82 30 P P 00 09 22.1 -0.6
SLKM IAmb IAmb 00 09 23.8
comp=Z,19nm,0.8s
H22K Ishtalitna Cre 84.84 24 P P 00 09 23.2 +0.6
baz=264
E22K Anaktuvuk Pass 84.93 22 P P 00 09 23.5 +0.5
baz=263,SNR=12
CUT Chulitna 84.97 28 P P 00 09 23.8 +0.6
baz=265
M22K Willow 84.98 28 P P 00 09 23.4 +0.1
baz=265,SNR=5.4
TRF Thorofare Moun 85.05 27 P P 00 09 23.8 -0.1
TRF IAmb IAmb 00 12 15.4
comp=Z,35nm,1.8s
TRF Thorofare Moun 85.05 27 P P 00 09 24.2 +0.3
baz=265
O22K Cooper Landing 85.07 30 P P 00 09 24.4 +0.6
baz=266
RC01 Rabbit Creek A 85.11 29 P P 00 09 24.9 +0.9
baz=265,SNR=8.0
SEW Seward 85.17 30 P P 00 09 24.7 +0.4
baz=266
VRH Novokhopyorsk 85.17 321 *e*P **P 00 09 22.7 -1.8**
VRH pmax pmax
comp=Z,30nm,0.9s
MARD Mardin 85.43 307 P P 00 09 25.7 -0.6
MARD IAmb IAmb 00 09 27.8
comp=Z,10nm,0.9s
PMR Palmer 85.44 29 P P 00 09 26.5 +0.9
baz=266
D23K Nanushuk River 85.44 21 P P 00 09 26.3 +0.8
baz=264
COLD Coldfoot 85.44 23 P P 00 09 26.7 +1.2
COLD IAmb IAmb 00 09 28.4
comp=Z,8.9nm,0.8s
COLD Coldfoot 85.44 23 P P 00 09 26.6 +1.1
baz=264
G23K Bananza Creek 85.47 23 P P 00 09 26.3 +0.6
baz=265
GHO Glory Hole Cre 85.55 28 P P 00 09 26.1 -0.1
GHO IAmb IAmb 00 09 33.9
comp=Z,6.5nm,0.8s
C23K Itkillik River 85.56 20 P P 00 09 26.8 +0.7
baz=264
I23K Minto, Yukon-K 85.60 25 P P 00 09 26.8 +0.5
baz=265
MCK McKinley 85.68 26 P P 00 09 26.9 +0.1
MCK McKinley 85.68 26 P P 00 09 27.6 +0.7
baz=266
NEA2 Nenana 85.68 26 P P 00 09 27.6 +0.8
baz=266
KOPT Kop Dagi 85.69 310 P P 00 09 27.9 +0.2
KOPT IAmb IAmb 00 09 40.2
comp=Z,26nm,1.1s
RND Reindeer 85.69 27 P P 00 09 26.5 -0.4
RND IAmb IAmb 00 09 28.3
comp=Z,7.6nm,0.9s
E23K Chandalar 85.74 22 P P 00 09 28.0 +0.9
baz=265
KNK Knik Glacier 85.75 29 P P 00 09 28.0 +0.8
KNK IAmb IAmb 00 09 29.5
comp=Z,17nm,0.8s
KNK Knik Glacier 85.75 29 P P 00 09 27.7 +0.4
baz=266,SNR=8.4
PWL Port Wells 85.78 29 P P 00 09 27.3 0.0
PWL IAmb IAmb 00 09 31.3
comp=Z,14nm,0.7s
PWL Port Wells 85.78 29 P P 00 09 27.7 +0.3
baz=267,SNR=7.7
TOLK Toolik Lake Re 85.81 21 P P 00 09 28.3 +0.9
baz=265,SNR=6.4
SML Sawmill 85.83 28 P P 00 09 28.0 +0.3
baz=267,SNR=6.3
VSLR Vesyoloye 86.09 313 *i* P **P 00 09 29.4 +0.1**
M23K Glacier View 86.12 28 P P 00 09 29.4 +0.3
baz=267,SNR=7.0
D24K Happy Valley 86.12 21 P P 00 09 29.9 +1.0
baz=266
E24K Your Creek 86.17 22 P P 00 09 30.0 +0.8
baz=266
P23K Montague Islan 86.19 30 P P 00 09 30.0 +0.6
baz=268
C24K Franklin Bluff 86.21 20 P P 00 09 30.1 +0.8
baz=266
CCB Clear Creek Bu 86.23 25 P P 00 09 28.5 -1.0
CCB IAmb IAmb 00 10 07.7
comp=Z,16nm,2.0s
H24K Noodor Dome 86.27 24 P P 00 09 30.4 +0.7
baz=267
SCM Sheep Creek Mo 86.31 28 P P 00 09 30.3 +0.3
baz=268
F24K Squaw Lake 86.36 23 P P 00 09 30.8 +0.7
baz=267
GLI Glacier Island 86.38 29 P P 00 09 30.8 +0.4
baz=268
POKR Poker Plat Res 86.41 25 P P 00 09 31.0 +0.6
baz=267
G24K Hadweenzic Riv 86.48 23 P P 00 09 30.8 +0.1
baz=267
HDA Harding Lake 86.59 26 P P 00 09 31.1 -0.2
baz=268
ILAR Eielson Array 86.63 25 P P 00 09 30.1 -1.3
ILAR Eielson Array 86.63 25 P P 00 09 30.6 -0.9
comp=Z,0.9nm,0.8s,baz=236,slow=5.0,SNR=18
comp=Z,0.9nm,0.8s
VORR Voronezh 86.76 321 *e*P **P 00 09 31.7 -0.6**
VORR pmax pmax
comp=Z,30nm,0.9s
KLMR Klimovskoe 86.77 331 *e*P **P 00 09 30.1 -2.1**
KLMR pmax pmax
comp=Z,19nm,1.0s
VSR Storozhevoye 86.78 321 *e*P **P 00 09 31.0 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
M24K Tolsona, Glenn 86.86 28 P P 00 09 32.7 -0.1
baz=268
LPSR Galich'ya Gora 86.94 322 *e*P **P 00 09 32.8 -0.4**
LPSR pmax pmax
comp=Z,30nm,0.9s
KLU Klutina 86.97 29 P P 00 09 32.9 -0.3
baz=269
D25K Kavik River 87.00 21 P P 00 09 33.1 -0.1
baz=268
G25K Bearman Lake 87.02 23 P P 00 09 33.4 +0.1
baz=268
EYAK Cordova Ski Ar 87.03 30 P P 00 09 33.1 -0.3
baz=269
K24K Donnelly Dome 87.08 26 P P 00 09 33.7 0.0
baz=269
H25L Birch Creek 87.12 24 P P 00 09 33.7 -0.1
baz=269
PAX Paxson 87.21 27 P P 00 09 34.1 -0.3
baz=269
F25K Christian Rive 87.22 23 P P 00 09 34.4 0.0
baz=269
PRP Porcupine Dome 87.23 25 P P 00 09 34.4 -0.1
baz=269
E25K Arctic Village 87.26 22 P P 00 09 34.7 +0.2
baz=269,SNR=5.2
J25K Salcha River, 87.28 26 P P 00 09 34.2 -0.5
baz=269
RIDG Independent Ri 87.50 26 P P 00 09 35.3 -0.5
RIDG IAmb IAmb 00 09 36.6
comp=Z,5.7nm,0.8s
RIDG Independent Ri 87.50 26 P P 00 09 35.6 -0.2
baz=270
C26K Camden Bay 87.53 20 P P 00 09 36.7 +1.0
baz=269
BMRM Bremner River 87.60 29 P P 00 09 37.0 +0.7
baz=270
N25K Chitina, Valde 87.60 29 P P 00 09 36.4 +0.1
baz=270
BMAR Burnt Mountain 87.63 23 P P 00 09 36.9 +0.6
F26K Sheenjek River 87.80 22 P P 00 09 37.5 +0.4
baz=270
SCRK Sand Creek 87.88 26 P P 00 09 38.0 +0.3
baz=270
G26K Porcupine Rive 87.94 23 P P 00 09 38.0 +0.3
baz=270
C27K Jago River 87.95 21 P P 00 09 38.0 +0.2
baz=270
J26L Joseph Creek 88.06 26 P P 00 09 38.4 -0.1
baz=271,SNR=5.8
L26K Log Cabin Wild 88.18 27 P P 00 09 39.0 0.0
baz=271
I26K Coal Creek Min 88.22 25 P P 00 09 39.2 +0.1
baz=271
GAZ Gaziantep 88.27 307 P P 00 09 40.2 +0.1
GAZ IAmb IAmb 00 09 42.0
comp=Z,13nm,0.9s
OBN Obninsk 88.33 325 P P 00 09 39.0 -0.8
OBN Obninsk 88.33 325||*e*P **P 00 09 38.5 -1.3**
OBN *e* 00 13 05.9
OBN *e*S **S 00 20 23.4 +2.4**
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,61nm,21.0s
M26K Nabesna, AK 88.35 28 P P 00 09 39.6 -0.2
baz=271
KIBK Kibwezi 88.65 268 P P 00 09 41.8 -0.5
KIBK IAmb IAmb 00 09 45.0
comp=Z,7.5nm,1.0s
K27K Chicken 88.72 26 P P 00 09 41.5 0.0
baz=272
E27K Coleen River 88.75 22 P P 00 09 41.6 0.0
baz=272
G27K Doyon Strip 88.78 23 P P 00 09 41.8 0.0
baz=272
I27K Kandik River 88.85 25 P P 00 09 42.4 +0.3
baz=272
H27K Steamboat Moun 88.86 24 P P 00 09 42.5 +0.3
baz=272
L27K Beaver Creek, 88.87 27 P P 00 09 42.1 -0.1
baz=272
M27K Edge Creek, AK 88.87 28 P P 00 09 42.9 +0.4
baz=272
BCAR Beaver Creek A 88.89 27 P P 00 09 42.5 +0.1
MESA MESA 88.93 30 P P 00 09 43.1 +0.3
baz=272
D27M Malcolm River 88.93 21 P P 00 09 42.6 +0.1
baz=273
KMBO Kilima Mbogo 89.40 269 P P 00 09 47.9 +1.9
comp=Z,2.2nm,1.0s,baz=346,slow=7.1,SNR=3.1
comp=Z,2.2nm,1.0s
E28M Babbage River 89.49 21 P P 00 09 45.7 +0.7
baz=274
I28M Miner Creek 89.56 25 P P 00 09 46.3 +0.8
baz=274
D28M Stokes Point 89.71 21 P P 00 09 46.4 +0.5
baz=275
O28M Mount Upton 89.77 29 P P 00 09 46.7 -0.2
baz=274
MMAI Mount Meron Ar 89.89 303 P P 00 09 48.2 +0.4
comp=Z,4.6nm,0.8s,baz=93,slow=8.7,SNR=6.7
comp=Z,4.6nm,0.8s
DAWY Dawson 89.90 26 P P 00 09 47.4 +0.3
baz=274
YUK8 Steele Glacier 89.94 29 P P 00 09 47.2 -0.3
baz=274
E29M Blow River 90.11 22 P P 00 09 48.5 +0.6
baz=276
H29M Whitestone 90.14 24 P P 00 09 48.0 -0.1
baz=275
G29M Pine Creek 90.21 23 P P 00 09 48.7 +0.3
baz=276
I29M Ogilvie Camp, 90.25 25 P P 00 09 49.0 +0.4
baz=275
M29M Somme Creek 90.45 28 P P 00 09 49.6 -0.1
baz=275
YUK4 Talbot Arm 90.47 29 P P 00 09 49.9 -0.1
baz=275
L29M L29M 90.54 27 P P 00 09 49.9 -0.2
baz=276
O29M Mount Kennedy 90.60 30 P P 00 09 50.5 0.0
baz=275
YUK6 Outpost Mounta 90.64 29 P P 00 09 50.6 -0.2
baz=275
K29M Barlow Dome 90.74 26 P P 00 09 51.0 -0.1
baz=276
SYO Syowa Base 90.86 201||*e*P **P 00 09 53.0 +1.7**
G30M tAoh Zraii Nji 90.91 23 P P 00 09 51.8 +0.1
baz=277
BR131 Keskin Array S 90.97 310 P P 00 09 51.9 -0.9
BR131 IAmb IAmb 00 09 54.6
comp=Z,6.1nm,1.2s
BRTR Keskin Array B 90.97 310 P P 00 09 51.4 -1.3
BRTR Keskin Array B 90.97 310 P P 00 09 51.3 -1.4
comp=Z,1.9nm,1.0s,baz=134,slow=5.1,SNR=9.0
BRTR LR LR 00 58 02.5
comp=Z,30nm,18.8s,baz=9.0,slow=40
comp=Z,1.9nm,1.0s
F30M Barrier River 90.99 22 P P 00 09 52.7 +0.7
baz=278
I30M Mount Dempster 91.07 25 P P 00 09 52.5 -0.1
baz=277
HYT Haines Junctio 91.07 29 P P 00 09 53.3 +0.6
baz=276
J30M Hart River 91.17 25 P P 00 09 52.6 -0.5
baz=277
N30M Aishikik Lake 91.20 29 P P 00 09 53.3 +0.1
baz=276
M30M Minto, Yukon 91.21 27 P P 00 09 53.6 +0.4
baz=277
G31M Satah River 91.67 23 P P 00 09 55.4 +0.2
baz=279
INK Inuvik 91.72 21 P P 00 09 54.8 -0.6
INK IAmb IAmb 00 11 21.1
comp=Z,17nm,1.9s
INK Inuvik 91.72 21 P P 00 09 55.6 +0.3
baz=280
F31M Tsiigehtchic 91.79 22 P P 00 09 55.9 +0.2
baz=280
N31M Braeburn, Yuko 91.82 28 P P 00 09 55.9 -0.1
baz=278
H31M Peel River 91.83 24 P P 00 09 56.2 +0.2
baz=279
ARCES ARCESS Array B 91.94 340 P P 00 09 55.6 -0.8
ARCES ARCESS Array B 91.94 340 P P 00 09 55.3 -1.1
comp=Z,13nm,1.1s,baz=57,slow=4.5,SNR=7.5
ARCES LR LR 00 55 43.8
comp=Z,70nm,18.9s,baz=109,slow=38
comp=Z,13nm,1.1s
QSPA South Pole Qui 92.00 180 P P 00 09 57.2 +0.3
QSPA South Pole Qui 92.00 180 P P 00 09 57.0 +0.2
comp=Z,2.1nm,0.5s,baz=286,slow=1.2,SNR=28
comp=Z,2.1nm,0.5s
SPITS Spitsbergen Ar 92.06 349 P P 00 09 55.9 -1.0
comp=Z,4.8nm,0.7s,baz=100,slow=3.5,SNR=7.7
comp=Z,4.8nm,0.7s
SKAG Skagway 92.32 30 P P 00 09 58.9 +0.6
baz=278
M31M Drury Creek, Y 92.37 28 P P 00 09 58.8 +0.2
baz=279
WHY Whitehorse 92.37 29 P P 00 09 59.4 +0.7
WHY Whitehorse 92.37 29 P P 00 09 59.4 +0.7
baz=278
SIT Sitka 92.66 33 P P 00 10 00.1 +0.2
baz=278
FARO Faro, Yukon 92.85 28 P P 00 10 00.9 +0.2
FARO IAmb IAmb 00 10 02.6
comp=Z,8.5nm,0.7s
FARO Faro, Yukon 92.85 28 P P 00 10 01.0 +0.2
baz=280
R32K Eaglecrest 92.91 32 P P 00 10 01.1 +0.1
baz=279
S32K Killisnoo 93.00 32 P P 00 10 01.9 +0.4
baz=278
AKASG Malin Array Be 93.08 321 P P 00 10 00.9 -1.1
comp=Z,0.3nm,0.3s,baz=75,slow=4.1,SNR=6.1
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 93.08 321 P P 00 10 01.0 -1.1
P32M Atlin 93.11 30 P P 00 10 02.5 +0.5
baz=279
N32M Quiet Lake 93.16 29 P P 00 10 03.0 +0.7
baz=280
FINES FINESS Array B 93.22 332 P P 00 10 01.3 -1.1
FINES FINESS Array B 93.22 332 P P 00 10 01.6 -0.8
comp=Z,3.0nm,0.8s,baz=78,slow=4.8,SNR=9.5
comp=Z,3.0nm,0.8s
P33M Teslin, Yukon 93.45 29 P P 00 10 04.0 +0.3
baz=280
A36M Sachs Harbour 93.58 17 P P 00 10 04.2 +0.4
baz=288
MMPY Sheldon Lake, 93.73 27 P P 00 10 04.1 -0.7
MMPY IAmb IAmb 00 10 06.8
comp=Z,4.4nm,0.9s
MMPY Sheldon Lake, 93.73 27 P P 00 10 05.7 +0.8
baz=282
Q32M Nakina River 93.95 31 P P 00 10 06.8 +0.7
baz=281
U33K Whale Pass 94.01 34 P P 00 10 06.9 +0.8
baz=280
WRAK Wrangell Islan 94.38 33 P P 00 10 08.8 +0.9
baz=280
R33M Jennings River 94.53 30 P P 00 10 09.8 +1.1
baz=282
S34M Telegraph Cree 94.74 32 P P 00 10 10.3 +0.8
baz=282
C36M Paulatuk 94.79 20 P P 00 10 08.8 -0.6
C36M IAmb IAmb 00 12 47.5
comp=Z,16nm,1.9s
C36M Paulatuk 94.79 20 P P 00 10 09.6 +0.2
baz=289
V35K Ketchikan 94.98 34 P P 00 10 10.5 -0.1
baz=281
DLBC Dease Lake 95.21 31 P P 00 10 12.6 +0.9
baz=282
TGTN Hyland Airport 95.35 28 P P 00 10 13.5 +1.2
baz=284
MLR Muntele Rosu 95.99 316 P P 00 10 15.4 -0.3
MLR IAmb IAmb 00 10 17.7
comp=Z,5.8nm,1.0s
BUR08 Bucovina Ar. S 96.15 318 P P 00 10 15.7 -0.6
BUR08 IAmb IAmb 00 10 18.3
comp=Z,3.1nm,0.8s
EUNU Eureka 96.32 5 P P 00 10 15.4 -1.0
EUNU IAmb IAmb 00 13 31.5
comp=Z,15nm,1.9s
HFS Hagfors 99.41 332 P Pdif 00 10 29.9 -0.7
comp=Z,0.9nm,0.6s,baz=77,slow=7.6,SNR=5.5
HFS LR LR 00 59 13.8
comp=Z,83nm,18.1s,baz=63,slow=38
comp=Z,0.9nm,0.6s
RES Resolute Bay 99.44 10 P Pdif 00 10 29.8 -0.6
RES IAmb IAmb 00 12 02.0
comp=Z,7.6nm,1.7s
NOA NORSAR Array B 100.20 333 P Pdif 00 10 32.5 -1.5
comp=Z,1.1nm,0.8s,baz=67,slow=4.5,SNR=3.4
YKA Yellowknife Ar 101.04 24 P Pdif 00 10 38.0 +0.3
comp=Z,0.3nm,0.6s,baz=293,slow=4.2,SNR=5.2
YKA Yellowknife Ar 101.04 24 *i* P **Pdif 00 10 37.4 -0.3**
MODS Modra-Piesok 101.17 320 *i* P **Pdif 00 10 38.6 -0.1**
MODS *e* 00 14 48.1
ULM Lac du Bonnet 116.45 29 PKP PKPdf 00 15 30.6 -1.3
comp=Z,1.1nm,0.6s,baz=38,slow=1.9,SNR=4.0
SCHQ Schefferville 122.20 9 PKP PKPdf 00 15 42.5 -0.4
comp=Z,2.9nm,0.7s,baz=270,slow=1.0,SNR=5.8
TXAR Lajitas Array 122.69 53 PKP PKiKP 00 15 45.2 +0.4
comp=Z,0.5nm,0.8s,baz=270,slow=1.6,SNR=5.0
TORD Torodi Ar. Bea 123.30 287 PKP PKPdf 00 15 45.9 -0.2
comp=Z,72nm,0.3s,baz=57,slow=2.7,SNR=4.9
DBIC Dimbokro 130.78 281 PKP PKPdf 00 16 00.8 +0.5
comp=Z,1.3nm,0.6s,baz=180,slow=1.0,SNR=1.4
PLCA Paso Flores 138.51 160 PKP PKPdf 00 16 15.3 +1.1
comp=Z,2.2nm,0.7s,baz=219,slow=6.5,SNR=4.2
CPUP Villa Florida 155.60 171 PKP PKPdf 00 16 42.0 -0.6
comp=Z,0.7nm,0.5s,baz=180,slow=3.0,SNR=2.5
CPUP PKPab sPKPbc 00 17 09.4 -2.0
comp=Z,4.4nm,0.9s,baz=186,slow=4.0,SNR=7.5
CPUP Villa Florida 155.60 171 PKIKP PKPdf 00 16 42.0 -0.6
LPAZ La Paz 159.76 135 PKP PKPdf 00 16 49.2 +0.4
comp=Z,0.9nm,0.5s,baz=231,slow=6.4,SNR=4.3

IDC ***07*** *00:18:11.7±1.7, 31°.90S×177°.80W, h0km, mb3.8/3, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=44.1km s-min=38.0km az=70.0*

ISC 07 00:18:16.4±1.6, 32°.1S±0°.2×178°.0W±0°.3, h24km, n6, σ0°64/7, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.38**	**212**	Pn	**Pn**	**00 20 01.8**	**-0.7**
	0.2nm,0.3s,baz=38,slow=19,SNR=2.4						
URZ				Sn	**Sn**	**00 21 25.7**	**+0.3**
	2.4nm,0.3s,baz=151,slow=21,SNR=9.1						
	7.7nm,1.0s						
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**00 26 14.9**	**+0.4**
	0.7nm,0.5s,baz=107,slow=7.8,SNR=14						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.19**	**274**	P	**P**	**00 26 23.9**	**+0.3**
	0.8nm,0.4s,baz=112,slow=8.1,SNR=8.0						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**58.06**	**180**	P	**P**	**00 28 08.0**	**+0.6**
	1.3nm,1.2s,baz=63,slow=4.5,SNR=1.1						
	1.3nm,1.2s						
FINES	**FINESS Array B**	**146.69**	**339**	PKPbc	**PKPdf**	**00 37 53.0**	**-0.7**
	3.5nm,0.8s,baz=37,slow=3.5,SNR=9.4						
BRTR	**Keskin Array B**	**153.35**	**296**	PKPbc	**PKPbc**	**00 38 12.6**	**-0.1**
	0.2nm,0.4s,baz=141,slow=3.6,SNR=1.8						

WEL ***07*** *00:20:40.7±1.0, 32°S±5°×17°8W±1°6, h12km, M4.8/12, mB5.1/7, ML5.4/12, MLv5.1/12, Mw(mB)4.5/7, Error ellipse: s-maj=22.2km s-min=4.1km az=105.1, confirmed*

IDC ***07*** *00:20:40.4±0.7, 31°.91S×177°.92W, h0km, mb4.3/8, mbtmp4.3/10, ML4.2/2, MS3.9/23, Error ellipse: s-maj=27.4km s-min=21.5km az=122.0*

NEIC ***07*** *00:20:44.2±1.6, 31°.9S±0°.1×178°.1W±0°.1, h10km±1km, mb4.8/17, Error ellipse: s-maj=21.3km s-min=11.8km az=36.0*

GCMT ***07*** *00:20:49.2±0.5, 31°.75S±0°.04×177°.69W±0°.03, h28km±1km, MW4.9/56, Moment Tensor Solution. s36,c46; s56,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.66±.20; $M_{\theta\theta}$0.11±.14; $M_{\phi\phi}$-2.77±.13; $M_{r\theta}$-0.12±.30; $M_{r\phi}$-0.33±.11; $M_{\theta\phi}$1.08±.20; Best double couple: M_o2.94200×10^{16} NP1:ϕ_s192.00000°, δ35.00000°, λ98.00000°. NP2: ϕ_s2.00000°, δ56.00000°, λ84.00000°. Principal axes: T 2.8780, Plg78.0000°, Azm251.0000°; N 0.1320, Plg5.0000°, Azm5.0000°; P -3.0070, Plg11.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 00:20:42.7±0.5, 31°.87S±0°.06×178°.02W±0°.10, h10km, n111, σ1°83/105, mb4.7/15, MS4.0/22, 5C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.60**	**2**	P	**Pn**	**00 21 22.7**	**-2.1**
GLKZ				S	**Sn**	**00 21 52.6**	**-3.8**
MXZ	**Matakaoa Point**	**6.44**	**207**	Pn	**Pn**	**00 22 15.0**	**-2.5**
MXZ	**Matakaoa Point**	**6.44**	**207**	P	**Pn**	**00 22 17.0**	**-0.5**
MXZ				S	**Sn**	**00 23 29.2**	**-1.9**
WMGZ	**Waiomatatini S**	**6.62**	**205**	P	**Pn**	**00 22 17.0**	**-3.1**
WMGZ				S	**Sn**	**00 23 35.8**	**+0.1**
PKGZ	**Pakihiroa**	**6.79**	**207**	P	**Pn**	**00 22 21.7**	**-0.8**
PKGZ				S	**Sn**	**00 23 39.0**	**-0.8**
HAZ	**Te Kaha**	**6.81**	**209**	P	**Pn**	**00 22 23.5**	**+0.7**
HAZ				S	**Sn**	**00 23 41.5**	**+1.2**
PUZ	**Puketiti**	**6.90**	**205**	P	**Pn**	**00 22 25.3**	**+1.3**
PUZ				S	**Sn**	**00 23 40.9**	**-1.7**
RUGZ	**Raukumara Rang**	**7.04**	**209**	P	**Pn**	**00 22 25.4**	**-0.5**

RUGZ S **Sn** **00 23 45.2 -0.8**
TWGZ Tauwhareparae 7.10 206 P **Pn** **00 22 27.5 +0.8**
TWGZ S **Sn** **00 23 46.8 -0.7**
CNGZ Carnagh Statio 7.29 204 P **Pn** **00 22 26.2 -3.1**
CNGZ S **Sn** **00 23 51.6 -0.4**
MWZ Matawai 7.41 208 P **Pn** **00 22 30.1 -0.9**
MWZ S **Sn** **00 23 53.5 -1.6**
URZ Urewera 7.52 211 Pn **Pn** **00 22 29.8 -2.7**
2.6nm,0.3s,baz=340,slow=1.7,SNR=7.1
URZ Sn **Sn** **00 23 54.5 -3.3**
12nm,0.3s,baz=255,slow=22,SNR=8.0
6.2nm,0.3s
URZ Urewera 7.52 211 P Pn 00 22 22.6 -10
URZ S **Sn** **00 23 56.3 -1.5**
WCZ Waipu Caves 7.54 235 P Pn 00 22 38.5 +5.9
OUZ Omahuta 7.76 242 P Pn 00 22 41.8 +6.1
SNGZ Shannon Statio 7.87 207 P **Pn** **00 22 37.9 +0.6**
SNGZ S **Sn** **00 24 04.0 -2.4**
RTZ Ruatahuna 7.88 210 Pn **Pn** **00 22 36.5 -0.9**
KNZ Kokohu 7.96 205 P **Pn** **00 22 35.4 -3.0**
KNZ S **Sn** **00 24 04.1 -4.3**
RAHZ Arahi 8.09 208 P **Pn** **00 22 43.4 +3.1**
RAHZ S **Sn** **00 24 09.6 -2.1**
MTHZ Maungataniwha 8.14 210 P **Pn** **00 22 41.3 +0.4**
MTHZ S **Sn** **00 24 10.2 -2.8**
BKZ Black Stump Fm 8.55 210 P **Pn** **00 22 48.9 +2.4**
BKZ S **Sn** **00 24 19.5 -3.5**
TMVZ Te Maari 8.86 214 P **Pn** **00 22 51.1 +0.2**
OTVZ Oturere 8.91 213 P **Pn** **00 22 53.6 +1.9**
BFZ Birch Farm 9.94 206 S **Sn** **00 24 48.7 -8.4**
CTZ Chatham Island 11.90 175 Pn **Pn** **00 23 32.1 -0.3**
RPZ Rata Peaks 14.63 213 Pn **Pn** **00 24 07.9 -1.9**
1.2nm,0.3s,baz=56,slow=14,SNR=1.7
RPZ Sn Sn 00 26 36.3 -16
1.0nm,0.3s,baz=278,slow=23,SNR=4.1
4.3nm,0.3s
PINNC Pines Island, 15.86 302 Pn **Pn** **00 24 28.0 +1.9**
PINNC IAmb IAmb 00 25 08.6
comp=Z,76nm,1.3s
DZM Mont Dzumac 16.92 301 **Pn** **00 24 40.9 +1.1**
DZM IAmb IAmb 00 24 49.6
comp=Z,54nm,1.3s
RAR Rarotonga 19.44 61 LR LR 00 30 40.3
comp=Z,195nm,21.3s,baz=264,slow=31
ARMA Armidale 25.98 265 P **P** **00 26 16.6 +0.8**
ARMA IAmb IAmb 00 26 51.7
comp=Z,21nm,1.3s
EIDS Eidsvold 27.82 276 P **P** **00 26 33.1 +0.8**
PPT Papeete 29.39 68 LR LR 00 35 26.6
comp=Z,134nm,19.4s,baz=220,slow=30
STKA Stephens Creek 34.16 259 P **P** **00 27 29.2 +1.1**
STKA Stephens Creek 34.16 259 P **P** **00 27 27.8 -0.3**
comp=Z,4.2nm,0.7s,baz=74,slow=10,SNR=8.1
STKA LR LR 00 40 30.2
comp=Z,403nm,18.5s,baz=57,slow=35
comp=Z,4.2nm,0.7s
BBOO Buckleboo 38.58 256 P **P** **00 28 05.8 -0.1**
BBOO IAmb IAmb 00 28 32.0
comp=Z,37nm,1.4s
PMG Port Moresby 39.24 297 LR LR 00 43 02.1
comp=Z,144nm,18.7s,baz=120,slow=34
COEN Coen 39.68 288 P **P** **00 28 16.0 +0.8**
AS31 Alice Springs 43.03 269 P **P** **00 28 42.7 -0.1**
ASAR Alice Springs 43.03 269 P **P** **00 28 42.6 -0.2**
ASAR Alice Springs 43.03 269 P **P** **00 28 42.5 -0.3**
comp=Z,7.1nm,0.9s,baz=111,slow=8.0,SNR=34
ASAR LR LR 00 46 43.6
comp=Z,205nm,18.0s,baz=110,slow=36
comp=Z,7.1nm,0.9s
WR0 Warramunga Arr 43.98 274 P **P** **00 28 50.2 -0.2**
WRA Warramunga Arr 44.15 274 P **P** **00 28 51.6 -0.2**
WRA Warramunga Arr 44.15 274 P **P** **00 28 52.1 +0.3**
comp=Z,6.4nm,0.5s,baz=112,slow=7.9,SNR=28
WRA LR LR 00 46 25.1
comp=Z,346nm,19.0s,baz=96,slow=35
comp=Z,6.4nm,0.5s
FORT Forrest 45.67 257 P **P** **00 29 05.7 +1.9**
JAY Jayapura 48.56 298 LR LR 00 48 34.3
comp=Z,100nm,21.0s,baz=348,slow=34
MTN Manton Dam 50.21 280 P **P** **00 29 38.5 -0.6**
MTN IAmb IAmb 00 29 47.1
comp=Z,10.0nm,0.7s
KNRA Kununurra 50.81 276 P **P** **00 29 43.4 -0.2**
KNRA IAmb IAmb 00 29 51.6
comp=Z,9.9nm,0.9s
FITZ Fitzroy Crossi 52.35 271 LR LR 00 51 52.7
comp=Z,458nm,18.5s,baz=117,slow=36
CASY Casey 53.84 208 P **P** **00 30 06.2 +0.8**
CASY IAmb IAmb 00 30 07.1
comp=Z,19nm,0.8s
QSPA South Pole Qui 58.25 180 P **P** **00 30 39.4 +2.2**
QSPA South Pole Qui 58.25 180 P **P** **00 30 36.0 -1.2**
comp=Z,1.7nm,0.7s,baz=37,slow=3.2,SNR=8.7
QSPA LR LR 00 53 46.6
comp=Z,221nm,18.9s,baz=48,slow=34
comp=Z,1.7nm,0.7s
KAPI Kappang 63.86 281 LR LR 00 58 13.8
comp=Z,224nm,20.2s,baz=102,slow=35
BELA Belgrano 2 68.34 172 P **P** **00 31 46.4 +2.7**
BELA IAmb IAmb 00 31 56.2
comp=Z,5.2nm,0.8s
MAW Mawson 70.94 201 LR LR 01 02 36.7
comp=Z,108nm,19.4s,baz=111,slow=36
PMSA Palmer Station 70.94 156 LR LR 01 00 06.1
comp=Z,116nm,19.6s,baz=294,slow=33
SYO Syowa Base 75.69 193‖ *e*P **P** **00 32 28.6 +0.8**
SYO Syowa Base 75.69 193‖ *e*pP pP 00 32 31.0 +1.5
TROLL Troll, Antarti 76.41 180 ⇑P **P** **00 32 33.9 +1.8**
comp=Z,184nm,0.8s
SNAA Sanae 76.70 178 P **P** **00 32 34.9 +1.3**
SNAA IAmb IAmb 00 32 44.5
comp=Z,14nm,1.1s
SNAA Sanae 76.70 178 ⇑P **P** **00 32 35.1 +1.4**
comp=Z,29nm,0.7s
SNAA Sanae 76.70 178 P **P** **00 32 33.6 0.0**
comp=Z,2.0nm,1.0s,baz=339,slow=16,SNR=1.6
comp=Z,2.0nm,1.0s
VNA3 Neumayer Olymp 76.85 176 ⇑P **P** **00 32 35.0 +0.5**
comp=Z,7.2nm,0.8s
VNA2 Neumayer--Watz 77.28 177 ⇑P **P** **00 32 37.6 +0.8**
comp=Z,9.8nm,0.9s,baz=188,slow=4.5
MJAR Matsushiro Arr 79.43 325 LR LR 01 02 46.3
comp=Z,37nm,19.7s,baz=103,slow=32
JNU Nakatsue 80.64 319 LR LR 01 05 42.6
comp=Z,28nm,20.8s,baz=174,slow=34
ASAJ Asahikawa 83.73 333 LR LR 01 06 34.5
comp=Z,58nm,18.7s,baz=252,slow=33
KSRS Korea Array 85.45 320 LR LR 01 06 43.5
comp=Z,30nm,21.4s,baz=310,slow=32
PSI Prapat 85.57 276 LR LR 01 14 53.4
comp=Z,140nm,18.1s,baz=159,slow=38
PETK Petropavlovsk- 87.22 346 P **P** **00 33 27.7 -1.1**
comp=Z,5.8nm,0.9s,baz=160,slow=5.6,SNR=4.8
PETK LR LR 01 09 50.9
comp=Z,72nm,20.0s,baz=114,slow=34
comp=Z,5.8nm,0.9s
USRK Ussuriysk Ar, 88.37 327 LR LR 01 07 37.0
comp=Z,45nm,21.4s,baz=117,slow=32
KLR Kul'dur 92.29 330 LR LR 01 12 27.0
comp=Z,39nm,18.6s,baz=126,slow=34
NNA Nana 93.04 106 LR LR 01 08 06.5
comp=Z,50nm,19.6s,baz=243,slow=31
TXAR Lajitas Array 93.19 57 P **P** **00 33 56.5 -1.0**
comp=Z,0.1nm,0.5s,baz=252,slow=5.3,SNR=2.0
comp=Z,0.1nm,0.5s
ANMO Albuquerque 94.50 51 LR LR 01 09 26.1
comp=Z,50nm,19.0s,baz=80,slow=31
LPAZ La Paz 97.56 114 LR LR 01 08 51.3
comp=Z,27nm,19.4s,baz=332,slow=30
ILAR Eielson Array 99.35 13 P **Pdif** **00 34 24.2 -0.3**
comp=Z,0.2nm,0.8s,baz=194,slow=8.4,SNR=0.8
comp=Z,0.2nm,0.8s
MK31 Makanchi Array 118.69 309 **PKPdf** **00 39 30.4 -0.4**
MKAR Makanchi Array 118.69 309 PKPdf **PKPdf** **00 39 30.6 -0.3**
MKAR Makanchi Array 118.69 309 PKP **PKPdf** **00 39 29.4 -1.5**
comp=Z,1.0nm,0.8s,baz=80,slow=1.9,SNR=7.6
KURBB Kurchatov Arra 122.08 313 PKP **PKPdf** **00 39 36.2 -0.9**
comp=Z,3.0nm,0.2s,baz=104,slow=2.1,SNR=1.4
GAR Garm 125.03 298 **PKPdf** **00 39 43.7 +0.3**
KKAR Karatay Array 125.86 303 **PKPdf** **00 39 45.0 +0.4**
BVAR Borovoye Array 127.43 315 PKP **PKPdf** **00 39 46.9 -0.4**
comp=Z,1.7nm,0.5s,baz=106,slow=3.2,SNR=8.0
ARCES ARCESS Array B 140.01 347 PKP **PKPdf** **00 40 07.2 -3.3**
comp=Z,3.6nm,1.0s,baz=42,slow=2.2,SNR=5.7
GNI Garni 144.71 296 **PKPab** **00 40 18.7 0.0**
KBZ Khabaz 145.89 302 PKPbc **PKPdf** **00 40 21.1 -0.5**
comp=Z,6.8nm,1.0s,baz=92,slow=3.2,SNR=8.9
KARS Kars 145.97 297 **PKPdf** **00 40 22.4 +0.3**
GEVA Gevas 145.99 292 **PKPdf** **00 40 22.4 +0.3**
KIV Kislovodsk 146.02 303 PKPdf **PKPdf** **00 40 22.2 +0.3**
OBN Obninsk 146.35 324 PKPdf **PKPdf** **00 40 22.4 +0.4**
FIA1 FINESS Array S 146.51 339 **PKPdf** **00 40 22.2 +0.2**
FINES FINESS Array B 146.51 339 **PKPdf** **00 40 22.0 -0.1**
FINES FINESS Array B 146.51 339 PKPbc **PKPdf** **00 40 22.7 +0.6**
comp=Z,8.8nm,0.7s,baz=65,slow=3.3,SNR=25
GURO Guroymak-BITLI 146.80 293 **PKPdf** **00 40 22.8 -0.7**
NB2 NORSAR Subarra150.19 351 PKP **PKPdf** **00 40 32.0 +3.8**
comp=Z,8.1nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B150.19 351 PKPbc **PKPdf** **00 40 32.1 +4.0**
comp=Z,2.4nm,0.7s,baz=18,slow=4.2,SNR=6.7
HFS Hagfors 150.67 348 PKPbc **PKPdf** **00 40 32.8 +3.9**
comp=Z,3.2nm,0.7s,baz=130,slow=6.0,SNR=8.7
PABE Paberze 151.75 333 **PKPbc** **00 40 37.4 +0.4**
MMAI Mount Meron Ar 151.83 281 PKPbc **PKPbc** **00 40 38.4 +0.3**
comp=Z,13nm,0.8s,baz=89,slow=6.8,SNR=22
AKASG Malin Array Be 152.44 321 **PKPbc** **00 40 38.0 -0.7**
AKASG Malin Array Be 152.44 321 PKPbc **PKPbc** **00 40 38.4 -0.3**
comp=Z,7.4nm,0.9s,baz=55,slow=2.6,SNR=14
AKBB Malin Array Si 152.44 321 **PKPbc** **00 40 37.8 -0.9**
KIEV Kiev 152.45 321 **PKPbc** **00 40 37.9 -0.8**
BR131 Keskin Array S 153.25 296 **PKPbc** **00 40 40.1 -1.0**
BRTR Keskin Array B 153.25 296 **PKPbc** **00 40 39.9 -1.2**
BRTR Keskin Array B 153.25 296 PKPbc **PKPbc** **00 40 40.0 -1.1**
comp=Z,2.2nm,0.6s,baz=135,slow=4.0,SNR=14
ANTO Ankara 153.88 296 PKPbc **PKPbc** **00 40 42.0 -0.4**
BURAR Bucovina Array 156.33 318 PKPdif PKPdf 00 40 48.4 +11
CLL Collm 158.94 340 *e*PKPab **PKPab** **00 41 16.0 -0.7**
BRG Berggiesshubel 159.04 338 *e*P **PKPab** **00 41 17.0 -0.2**
BRG Amp 00 41 18.0
comp=Z,6.0nm,1.1s
DAVOX Davos/Dischmat 163.91 340 PKPab **PKPab** **00 41 38.2 -0.6**
comp=Z,4.4nm,1.0s,baz=307,slow=8.3,SNR=4.2

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*JMA **07** 00:29:50.0±0.1, 42°.8N±0°.4×145°.2E±0°.6, h52km±1km, MV2.9/32, OFF NEMURO PENINSULA*
*SKHL **07** 00:29:51.0±0.2, 42°.80N×145°.20E, h39km±1km, mb4.2/4*
ISC 07 00:29:49.7±2.1,**42°.8N**±0°.1×**145°.25E**±0°.06,**h52**km±11km,
n12,σ0°.40/23,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.27**	**346**	*i* P	**Pn**	**00 29 59.0**	**+0.3**
JKHN				*e*S	**Sn**	**00 30 05.3**	**+0.2**
AKK	**Akkeshi**	**0.36**	**303**	*i* P	**Pn**	**00 29 59.5**	**0.0**
AKK				AMB	AMB	00 29 59.7	
	60nm,0.2s						
AKK				*i* S	**Sn**	**00 30 06.2**	**-0.3**
AKK				A	A	00 30 06.7	
	1μm,0.3s						
AKK				A	A	00 30 06.7	
	2μm,0.3s						
JAK	**Akkeshi**	**0.44**	**293**	*i* P	**Pn**	**00 30 00.4**	**0.0**
JAK				S	**Sn**	**00 30 08.0**	**0.0**
NMR	**Nemuro--Hokkai**	**0.65**	**32**	*i* P	**Pn**	**00 30 02.9**	**+0.1**
NMR				*e*S	**Sn**	**00 30 11.9**	**-0.4**
NEM2	**Nemuro 2**	**0.65**	**33**	*i* P	**Pn**	**00 30 02.9**	**+0.1**
NEM2				S	**Sn**	**00 30 12.2**	**-0.2**
JNK	**Nakash**	**0.86**	**333**	P	**Pn**	**00 30 05.4**	**-0.2**
JNK				S	**Sn**	**00 30 16.2**	**-0.9**
JOB	**Onbets**	**1.04**	**275**	P	**Pn**	**00 30 08.1**	**+0.1**
JOB				*e*S	**Sn**	**00 30 21.5**	**-0.1**
JRA	**Rausu**	**1.12**	**355**	*e*P	**Pn**	**00 30 09.2**	**+0.2**
JRA				S	**Sn**	**00 30 23.7**	**+0.3**
JAR	**Ashorobuto**	**1.19**	**294**	P	**Pn**	**00 30 10.0**	**+0.1**
JAR				S	**Sn**	**00 30 25.1**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.29**	**20**	*i* P	**Pn**	**00 30 11.8**	**+0.5**
YUK				AMB	AMB	00 30 12.0	
	150nm,0.2s						
YUK				*e*S	**Sn**	**00 30 27.4**	**-0.1**
YUK				A	A	00 30 30.3	
	280nm,0.3s						
YUK				A	A	00 30 30.3	
	480nm,0.3s						
SHO	**Shikotan**	**1.56**	**47**	*e*P	**Pn**	**00 30 15.0**	**+0.1**
SHO				AMB	AMB	00 30 16.0	
	60nm,0.2s						
SHO				*e*S	**Sn**	**00 30 33.0**	**-1.0**
SHO				A	A	00 30 34.7	
	150nm,0.3s						
SHO				A	A	00 30 34.7	
	340nm,0.3s						
KUR	**Kuril'sk**	**3.06**	**37**	*e*S	**Sn**	**00 31 11.4**	**+0.5**
KUR				A	A	00 31 17.9	
	30nm,0.3s						
KUR				A	A	00 31 17.9	
	20nm,0.3s						

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*WEL **07** 00:32:15.6±1.1, 32°.5±16°×17°.9W±4°.8, h12km, mB4.2/2, ML4.5/7, MLv4.2/5, Mw(mB)3.3/2, Error ellipse: s-maj=66.0km s-min=4.3km az=108.6, confirmed*
*IDC **07** 00:32:15.1±1.9, 31°.92S×177°.99W, h0km, mb4.0/3, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=45.8km s-min=37.4km az=66.0*
ISC 07 00:32:15.0±1.2,**32°.04S**±0°.07×**177°.9W**±0°.2,**h10**km,**n15,**
σ1°.73/23,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.77**	**359**	P	**Pn**	**00 32 58.4**	**-1.1**
GLKZ				S	**Sn**	**00 33 30.3**	**-2.7**
WMGZ	**Waiomatatini S**	**6.53**	**207**	P	**Pn**	**00 33 48.8**	**-2.4**
WMGZ				S	**Sn**	**00 35 05.3**	**-0.3**
PKGZ	**Pakihiroa**	**6.70**	**209**	P	**Pn**	**00 33 52.4**	**-1.1**
PKGZ				S	**Sn**	**00 35 08.9**	**-1.1**
PUZ	**Puketiti**	**6.81**	**207**	S	**Sn**	**00 35 10.6**	**-2.1**
RUGZ	**Raukumara Rang**	**6.96**	**211**	P	**Pn**	**00 33 57.6**	**+0.5**
RUGZ				S	**Sn**	**00 35 14.2**	**-2.2**
TWGZ	**Tauwhareparae**	**7.01**	**208**	S	**Sn**	**00 35 16.5**	**-1.1**
CNGZ	**Carnagh Statio**	**7.19**	**206**	P	**Pn**	**00 34 00.1**	**-0.1**
CNGZ				S	**Sn**	**00 35 22.4**	**+0.4**
MWZ	**Matawai**	**7.33**	**210**	P	**Pn**	**00 34 01.2**	**-1.0**
MWZ				S	**Sn**	**00 35 23.8**	**-1.6**
URZ	**Urewera**	**7.45**	**212**	Pn	**Pn**	**00 34 03.9**	**+0.1**
	0.7nm,0.3s,baz=51,slow=13,SNR=1.6						
URZ				Sn	**Sn**	**00 35 25.4**	**-2.9**
	2.1nm,0.3s,baz=252,slow=7.1,SNR=10						
	2.3nm,0.3s						
URZ	**Urewera**	**7.45**	**212**	P	**Pn**	**00 34 02.7**	**-1.1**
URZ				S	**Sn**	**00 35 26.5**	**-1.9**
OUZ	**Omahuta**	**7.81**	**244**	P	**Pn**	**00 34 10.5**	**+1.9**
ASAR	**Alice Springs**	**43.17**	**269**	P	**P**	**00 40 17.1**	**+0.8**
	0.7nm,0.4s,baz=107,slow=7.3,SNR=15						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	**00 40 25.9**	**+0.4**
	1.8nm,0.5s,baz=113,slow=7.8,SNR=14						
	1.8nm,0.5s						
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**00 42 11.0**	**+2.7**
	1.3nm,0.9s,baz=125,slow=20,SNR=1.3						
	1.3nm,0.9s						
FINES	**FINESS Array B**	**146.72**	**339**	PKPbc	**PKPdf**	**00 51 56.7**	**+2.0**
	1.7nm,0.5s,baz=55,slow=3.2,SNR=17						

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*INMG **07** 00:34:33.8±1.3, 37°.17N×1°.40W, h18km±3km, ML2.5, Error ellipse: s-maj=4.1km s-min=2.7km az=143.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cartagena*
*CNRM **07** 00:34:34.3, 37°.16N×1°.17W, h50km*
*SFS **07** 00:34:34.8, 37°.23N×1°.51W, h10km, ML3.3/11, ML2.9/13, MLv2.7/13*
*IGIL **07** 00:34:34.8, 37°.22N×1°.52W, h9km*
*MDD **07** 00:34:35.1±0.5, 37°.22N×1°.52W, h9km±3km, mb_Lg3.0/16, Error ellipse: s-maj=3.5km s-min=2.1km az=149.0*
ISC 07 00:34:33.8±1.1,**37°.24N**±0°.02×**1°.52W**±0°.02,**h17**km±9km,
n56,σ1°.03/106,**Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXMAZ	**Mazarron**	**0.40**	**26**	Pg	**Pb**	**00 34 42.2**	**-0.3**
EXMAZ				Sg	**Sb**	**00 34 48.7**	**+0.4**
ELOR	**Lorca, Murcia**	**0.44**	**337**	Pg	**Pb**	**00 34 43.9**	**+0.8**
ELOR				Sg	**Sb**	**00 34 49.8**	**+0.3**
TLOR	**Lorca, Murcia**	**0.44**	**343**	Pg	**Pb**	**00 34 43.3**	**+0.2**
TLOR				Sg	**Sb**	**00 34 49.5**	**0.0**
TLOR	**Lorca, Murcia**	**0.44**	**343**	Pg	**Pb**	**00 34 43.3**	**+0.2**
TLOR				Sg	**Sb**	**00 34 49.6**	**+0.1**
TLOR	**Lorca, Murcia**	**0.44**	**343**	Pg	**Pb**	**00 34 43.3**	**+0.2**
TLOR				Sg	**Sb**	**00 34 49.5**	**0.0**
CART	**Cartagena**	**0.55**	**50**	Pg	**Pb**	**00 34 44.9**	**0.0**
CART				Sg	**Sb**	**00 34 51.9**	**-0.5**
CART	**Cartagena**	**0.55**	**50**	P	**Pb**	**00 34 45.1**	**+0.2**
CART	**Cartagena**	**0.55**	**50**	S	**Sb**	**00 34 52.8**	**+0.3**
ENIJ	**Nijar**	**0.61**	**245**	Pg	**Pb**	**00 34 46.0**	**+0.1**
ENIJ				Sg	**Sg**	**00 34 53.8**	**0.0**
ENIJ	**Nijar**	**0.61**	**245**	Pg	**Pb**	**00 34 46.1**	**+0.2**
ENIJ				Sg	**Sg**	**00 34 53.6**	**-0.2**
ENIJ				*i* Vmb_Lg		00 34 55.9	
EXAHM	**Alhama Murcia,**	**0.61**	**7**	Pg	**Pb**	**00 34 46.5**	**+0.5**
EXAHM				Sg	**Sb**	**00 34 54.8**	**+0.4**
EMUR	**La Murta**	**0.65**	**20**	Pg	**Pb**	**00 34 46.8**	**+0.1**
EMUR				Sg	**Sb**	**00 34 55.3**	**-0.2**
EMUR	**La Murta**	**0.65**	**20**	Pg	**Pb**	**00 34 47.4**	**+0.8**
EMUR				Sg	**Sb**	**00 34 55.8**	**+0.3**
EMUR				*i* Vmb_Lg		00 34 57.7	
EZAR	**Zarzadilla de**	**0.65**	**348**	Pg	**Pb**	**00 34 47.8**	**+0.9**
EZAR				Sg	**Sb**	**00 34 56.3**	**+0.6**
EZAR				*i* Vmb_Lg		00 34 58.4	
EXTPC	**Torre Pacheco**	**0.68**	**41**	Pg	**Pn**	**00 34 48.2**	**-0.5**
EXTPC				Sg	**Sb**	**00 34 57.0**	**+0.7**
EXBUL	**Bullas, Murcia**	**0.82**	**352**	Pg	**Pn**	**00 34 50.4**	**-0.2**
EXBUL				Sg	**Sn**	**00 35 02.2**	**-0.2**
EXPDH	**Pilar de la Ho**	**0.87**	**43**	Pg	**Pb**	**00 34 50.5**	**+0.2**
EXPDH				Sg	**Sn**	**00 35 03.0**	**-0.5**
ETRV	**Los Montesinos**	**0.99**	**37**	Pg	**Pb**	**00 34 52.5**	**0.0**
ETRV				Sg	**Sn**	**00 35 06.5**	**0.0**
ETRV				*i* Vmb_Lg		00 35 06.8	
EBER	**Berja**	**1.14**	**253**	Pg	**Pn**	**00 34 55.3**	**+0.1**
EBER	**Berja**	**1.14**	**253**	Pg	**Pg**	**00 34 56.1**	**+0.2**
EBER				Sg	**Sb**	**00 35 10.3**	**+0.4**
EQES	**Quesada**	**1.35**	**295**	Pg	**Pg**	**00 34 59.7**	**-0.2**
EQES				Sg	**Sg**	**00 35 19.1**	**+1.5**
EQES				*i* Vmb_Lg		00 35 21.6	
EQUE	**Quentar**	**1.53**	**269**	Pg	**Pg**	**00 35 02.4**	**-0.8**
EQUE				Sg	**Sg**	**00 35 24.7**	**+1.6**
EQTA	**Presa de Quent**	**1.53**	**270**	Pn	**Pb**	**00 35 02.1**	**+0.3**
EQTA				Sn	**Sn**	**00 35 20.9**	**+0.8**
E0803	**Jimena (Jaen)**	**1.66**	**292**	Pn	**Pb**	**00 35 04.4**	**+0.4**
E0803				Pg	**Pg**	**00 35 06.5**	**+0.8**
E0803				Sn	**Sb**	**00 35 25.7**	**+1.0**
E0803				Sg	**Sg**	**00 35 28.5**	**+1.2**
E0802	**Ubeda,Jaen**	**1.67**	**299**	Pn	**Pb**	**00 35 03.9**	**-0.2**
E0802				Pg	**Pg**	**00 35 06.6**	**+0.8**
E0802				Sn	**Sg**	**00 35 27.0**	**-0.5**
E0802				Sg	**Sb**	**00 35 29.4**	**+4.5**
ELGU	**Los Guajares,**	**1.72**	**258**	Pn	**Pb**	**00 35 04.3**	**-0.7**
ELGU	**Los Guajares,**	**1.72**	**258**	Pn	**Pb**	**00 35 04.5**	**-0.5**
ELGU				Sn	**Sb**	**00 35 27.0**	**+0.6**
GOG	**Mont Gurugu**	**2.33**	**211**	P	**Pn**	**00 35 11.3**	**-0.2**
GOG	**Mont Gurugu**	**2.33**	**211**	S	**Sn**	**00 35 41.6**	**+1.7**
PSIM	**Granatula de C**	**2.37**	**313**	Pn	**Pn**	**00 35 12.5**	**+0.6**
PSIM				Pg	**Pg**	**00 35 18.0**	**-1.2**
PSIM				Sn	**Sn**	**00 35 40.7**	**0.0**
PSIM				Sg	**Sg**	**00 35 49.8**	**-0.1**
ECHE	**Chera**	**2.39**	**10**	Pn	**Pn**	**00 35 13.4**	**+1.1**
TAF	**Taforalt**	**2.52**	**197**	P	**Pn**	**00 35 14.3**	**+0.3**
TAF	**Taforalt**	**2.52**	**197**	S	**Sn**	**00 35 43.7**	**-0.8**
EADA	**Adamuz**	**2.59**	**292**	Pn	**Pn**	**00 35 15.3**	**+0.3**
EADA				Sn	**Sn**	**00 35 45.9**	**-0.3**
EADA				Sg	**Sg**	**00 35 57.3**	**+0.2**
EADA	**Adamuz**	**2.59**	**292**	Pn	**Pn**	**00 35 15.4**	**+0.3**
EADA				Pg	**Pg**	**00 35 22.2**	**-1.3**
EADA				Sn	**Sn**	**00 35 47.2**	**+1.0**
EADA				Sg	**Sg**	**00 35 55.6**	**-1.6**
EADA				*i* Vmb_Lg		00 35 59.9	
JBK	**JBK**	**3.02**	**197**	P	**Pn**	**00 35 21.6**	**+0.6**
JBK	**JBK**	**3.02**	**197**	S	**Sn**	**00 35 57.8**	**+0.9**
ECAB	**El Cabril**	**3.20**	**286**	Pn	**Pn**	**00 35 23.6**	**+0.2**
ECAB				Sn	**Sn**	**00 36 00.8**	**-0.5**
ECAB	**El Cabril**	**3.20**	**286**	Pn	**Pn**	**00 35 23.6**	**+0.2**
ECAB				*i* Vmb_Lg		00 35 29.0	
ECAB				Sn	**Sn**	**00 35 59.9**	**-1.3**
ECAB				Sg	**Sg**	**00 36 14.6**	**-2.1**
AKLM	**AKL**	**3.32**	**216**	P	**Pn**	**00 35 25.1**	**+0.1**
AKLM	**AKL**	**3.32**	**216**	S	**Sn**	**00 36 05.4**	**+1.3**
ETOR	**Torete**	**3.60**	**354**	Pg	**Pg**	**00 35 42.4**	**-0.4**
ETOR				*i* Vmb_Lg		00 35 51.4	
ETOR				Sg	**Sg**	**00 36 31.1**	**+1.6**
EMIN	**Mina Concepcio**	**4.13**	**279**	Pn	**Pn**	**00 35 36.7**	**+0.6**
EMIN	**Mina Concepcio**	**4.13**	**279**	Pn	**Pn**	**00 35 36.8**	**+0.7**
EMIN				Sn	**Sn**	**00 36 21.9**	**-2.1**
EMIN				*i* Vmb_Lg		00 36 38.5	
EMIN				Sg	**Sg**	**00 36 44.6**	**-1.7**
PBAR	**Barrancos**	**4.47**	**284**	*e*Pn	**Pn**	**00 35 41.2**	**+0.4**
PBAR				*e*Sn	**Sn**	**00 36 31.4**	**-1.1**
PBAR				*e*Sg	**Sg**	**00 36 55.0**	**-2.3**
PBAR				*i* AML	AML	00 36 59.9	
PBAR				*i* AML	AML	00 37 01.2	
PBAR				*i* AML	AML	00 37 08.7	
PBAR	**Barrancos**	**4.47**	**284**	Pn	**Pn**	**00 35 41.1**	**+0.3**
PVAQ	**Vaqueiros**	**4.94**	**274**	*e*Pn	**Pn**	**00 35 47.4**	**+0.2**
PVAQ	**Vaqueiros**	**4.94**	**274**	Pn	**Pn**	**00 35 47.4**	**+0.2**
MD31	**MD31**	**5.10**	**212**	P	**Pn**	**00 35 49.0**	**-0.6**
MD31	**MD31**	**5.10**	**212**	S	**Sn**	**00 36 48.7**	**+0.5**
PMRV	**Marv??o**	**5.11**	**297**	*e*Pn	**Pn**	**00 35 50.3**	**+0.8**
PMRV				*e*Sn	**Sn**	**00 36 47.9**	**-0.3**
PMRV				*e*Sg	**Sg**	**00 37 16.6**	**-1.0**
PMRV				*i* AML	AML	00 37 19.1	
PMRV				*i* AML	AML	00 37 19.2	
PMRV				*i* AML	AML	00 37 20.0	
PBDV	**Barranco-do-Ve**	**5.11**	**272**	*e*Pn	**Pn**	**00 35 50.5**	**+0.9**
PBDV				*e*Sn	**Sn**	**00 36 46.3**	**-2.0**
EVO	**Evora**	**5.29**	**286**	*e*Sn	**Sn**	**00 36 52.4**	**-0.3**
EVO				*e*Sg	**Sg**	**00 37 19.9**	**-3.8**
PCBR	**Castelo Branco**	**5.34**	**301**	*e*Pn	**Pn**	**00 35 54.2**	**+1.5**
PCBR				*e*Sn	**Sn**	**00 36 54.7**	**+0.8**
PCBR				*e*Sg	**Sg**	**00 37 23.0**	**-2.2**
PCBR				*i* AML	AML	00 37 30.7	
PCBR				*i* AML	AML	00 37 31.0	
PCBR				*i* AML	AML	00 37 41.3	
MESJ	**Messejana**	**5.36**	**278**	*e*P	**Pn**	**00 35 53.0**	**0.0**
MESJ	**Messejana**	**5.36**	**278**	*e*Pn	**Pn**	**00 35 53.5**	**+0.5**
MESJ				*e*Sn	**Sn**	**00 36 52.6**	**-1.7**

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*STR **07** 01:19:34.9±1.8, 41°.N±14°.×±1°.4, h10km

PAB					*i* Vmb_Lg			01 20 17.9	
PAB					Sg		**Sg**	**01 20 47.6**	**-1.2**
ECHI	**Chisagues Biel**	**2.33**	**48**		P		**Pn**	**01 20 13.1**	**-0.3**
ECHI					S		**Sn**	**01 20 39.7**	**-2.6**
LABF	**Labassere**	**2.54**	**40**		P		**Pn**	**01 20 16.2**	**0.0**
LABF					S		**Sn**	**01 20 45.9**	**-1.3**
EPF	**Esparros**	**2.66**	**44**	*e*Pn			**Pn**	**01 20 17.4**	**-0.5**
EPF	**Esparros**	**2.66**	**44**	*e*Pg			**Pb**	**01 20 23.9**	**+1.3**
EPF				*e*Sn			**Sn**	**01 20 49.3**	**-0.9**
EPF				*e*Sg			**Sb**	**01 20 56.9**	**+1.5**
	1.7nm,0.3s								

*NEIC **07** 01:43:22.9±1.0, 61°.90N±0°.03×152°.03W±0°.07, h107km±5km, Error ellipse: s-maj=5.3km s-min=4.8km az=51.0*

AEIC 07 01:43:24.0±1.1, 61°.91N±0°.03×151°.99W±0°.07, h100km±5km, ML2.4, ML2.7/148(NEIC), **Error ellipse: s-maj=5.0km s-min=4.5km az=80.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.23**	**72**		Pn	01 43 37.9	-0.4
SKT					Sn	01 43 49.3	+0.3
SKT	**Skwentna**	**0.23**	**72**	IAML		01 43 49.8	
	comp=E,232nm,0.5s						
STLK	**Strandline Lak**	**0.42**	**170**		Pn	01 43 38.7	-0.6
STLK				IAML		01 43 51.0	
	comp=E,216nm,0.5s						
STLK				IAML		01 43 51.1	
	comp=N,217nm,0.5s						
STLK	**Strandline Lak**	**0.42**	**170**		Sn	01 43 50.6	-0.1
M20K	**Styx River**	**0.54**	**268**		Pn	01 43 39.4	-0.8
M20K	**Styx River**	**0.54**	**268**	IAML		01 43 52.2	
	comp=E,88nm,0.6s						
SPCG	**Spurr Capps Gl**	**0.62**	**181**		Pn	01 43 39.9	-0.9
SPCG					Sn	01 43 53.2	-0.2
SPBG	**Spurr Blockage**	**0.68**	**196**		Pn	01 43 40.7	-0.6
SPCR	**Spurr Chakacha**	**0.72**	**188**		Pn	01 43 40.8	-0.9
SPCR					Sn	01 43 55.0	+0.1
SPU	**Mount Spurr**	**0.73**	**182**		Pn	01 43 40.5	-1.2
SPU					Sn	01 43 54.3	-0.7
SUA	**Susitna One**	**0.74**	**126**		Pn	01 43 41.6	-0.3
SUA				IAML		01 43 55.9	
	comp=N,143nm,0.5s						
SUA				IAML		01 43 57.7	
	comp=E,166nm,0.7s						
SUA	**Susitna One**	**0.74**	**126**		Sn	01 43 55.5	+0.1
M22K	**Willow**	**0.90**	**99**		Pn	01 43 43.1	-0.2
CUT	**Chulitna**	**0.95**	**58**		Pn	01 43 43.7	-0.1
PPLA	**Purkeypile**	**0.99**	**355**		Pn	01 43 44.2	-0.3
PPLA					Sn	01 43 59.7	-0.2
L20K	**Farewell, AK**	**1.05**	**304**		Pn	01 43 44.2	-0.8
L20K					Sn	01 43 59.9	-0.9
M19K	**Big River Lodg**	**1.14**	**271**		Pn	01 43 45.0	-0.9
M19K	**Big River Lodg**	**1.14**	**271**	IAML		01 44 02.5	
	comp=E,42nm,0.7s						
M19K				IAML		01 44 04.0	
	comp=N,58nm,0.7s						
FIS	**Fire Island**	**1.15**	**131**		Pn	01 43 46.0	0.0
FIS	**Fire Island**	**1.15**	**131**	IAML		01 44 10.5	
	comp=N,190nm,0.3s						
CAPN	**Captain Cook N**	**1.21**	**160**		Pn	01 43 47.3	+0.5
RDT	**Redoubt**	**1.35**	**189**		Pn	01 43 47.7	-0.8
RC01	**Rabbit Creek A**	**1.36**	**126**		Pn	01 43 47.9	-0.6
RC01				IAML		01 44 10.8	
	comp=N,167nm,0.2s						
RC01	**Rabbit Creek A**	**1.36**	**126**		Sn	01 44 06.8	-0.2
L19K	**White Mountain**	**1.38**	**283**		Pn	01 43 47.9	-0.8
L19K					Sn	01 44 06.8	-0.7
L19K	**White Mountain**	**1.38**	**283**	IAML		01 44 07.3	
	comp=N,63nm,0.8s						
L19K				IAML		01 44 08.0	
	comp=E,64nm,0.7s						
RDJH	**Redoubt Jeurge**	**1.38**	**197**		Pn	01 43 48.0	-0.9
PMR	**Palmer**	**1.40**	**102**		Pn	01 43 47.6	-1.4
PMR					Sn	01 44 06.9	-0.9
PMR	**Palmer**	**1.40**	**102**	IAML		01 44 11.4	
	comp=N,92nm,0.3s						
PMR				IAML		01 44 14.1	
	comp=E,64nm,0.6s						
GHO	**Glory Hole Cre**	**1.46**	**94**		Pn	01 43 49.0	-0.8
GHO	**Glory Hole Cre**	**1.46**	**94**		Sn	01 44 09.5	+0.1
RDWB	**Redoubt West**	**1.48**	**196**		Pn	01 43 49.7	-0.5
CAST	**Castle Rocks**	**1.52**	**358**		Pn	01 43 49.7	-0.7
RED	**Redoubt Volcan**	**1.54**	**195**		Pn	01 43 50.2	-0.6
N19K	**Bonanza Creek**	**1.63**	**229**		Pn	01 43 50.9	-1.0
SLKM	**Skilak Lake**	**1.65**	**148**		Pn	01 43 50.9	-1.2
SLKM	**Skilak Lake**	**1.65**	**148**	IAML		01 44 17.8	
	comp=N,112nm,0.2s						
SLKM				IAML		01 44 18.8	
	comp=E,68nm,0.3s						
KTH	**Kantishna Hill**	**1.72**	**16**		Pn	01 43 52.7	-0.3
KTH				IAML		01 44 16.2	
	comp=N,40nm,0.5s						
KTH				IAML		01 44 16.7	
	comp=E,44nm,0.5s						
TRF	**Thorofare Moun**	**1.73**	**26**		Pn	01 43 53.1	-0.2
TRF				IAML		01 44 17.8	
	comp=E,66nm,0.4s						
TRF				IAML		01 44 18.2	
	comp=N,95nm,0.5s						
SML	**Sawmill**	**1.74**	**92**		Pn	01 43 51.9	-1.3
SML	**Sawmill**	**1.74**	**92**	IAML		01 44 22.8	
	comp=N,112nm,0.5s						
K20K	**Telida**	**1.74**	**327**		Pn	01 43 52.3	-0.9
K20K	**Telida**	**1.74**	**327**	IAML		01 44 14.4	
	comp=E,53nm,0.5s						
K20K				IAML		01 44 15.0	
	comp=N,40nm,0.7s						
KNK	**Knik Glacier**	**1.76**	**105**		Pn	01 43 52.1	-1.4
O22K	**Cooper Landing**	**1.81**	**142**		Pn	01 43 53.1	-0.9
O20K	**Slope Mountain**	**1.86**	**190**		Pn	01 43 54.1	-0.7
M18K	**Stony River**	**1.87**	**259**		Pn	01 43 53.9	-1.0
ILSW	**Iliamna Southw**	**2.01**	**197**		Pn	01 43 56.3	-0.5
M23K	**Glacier View**	**2.03**	**91**		Pn	01 43 55.3	-1.6
ILS	**Iliamna Low So**	**2.03**	**195**		Pn	01 43 56.5	-0.5
PWL	**Port Wells**	**2.05**	**119**	Pn	Pn	01 43 55.5	-1.7
RND	**Reindeer**	**2.09**	**43**		Pn	01 43 57.3	-0.4
RND				IAML		01 44 25.7	
	comp=N,25nm,0.4s						
RND				IAML		01 44 26.1	
	comp=E,42nm,0.4s						
TTA	**Tatalina**	**2.13**	**300**	Pn	Pn	01 43 56.8	-1.5
SEW	**Seward**	**2.19**	**145**		Pn	01 43 57.6	-1.4
SCM	**Sheep Creek Mo**	**2.21**	**90**		Pn	01 43 57.9	-1.5
BRLK	**Bradley Lake**	**2.22**	**165**		Pn	01 43 58.1	-1.4
BRLK				IAML		01 44 30.6	
	comp=N,54nm,0.4s						
L18K	**Granite Mounta**	**2.23**	**280**		Pn	01 43 58.5	-1.0
BPAW	**Bear Paw Mtn.**	**2.25**	**11**	Pn	Pn	01 43 58.9	-0.9
BPAW				IAML		01 44 26.7	
	comp=N,31nm,0.7s						
BPAW				IAML		01 44 27.2	
	comp=E,31nm,0.5s						
N18K	**Kilae Creek**	**2.25**	**238**		Pn	01 43 58.5	-1.4
BRSE	**Bradley Lake S**	**2.26**	**164**		Pn	01 43 58.5	-1.4
MCK	**McKinley**	**2.31**	**36**		Pn	01 44 00.1	-0.4
P19K	**Oil Pt**	**2.34**	**196**		Pn	01 44 00.6	-0.4
P19K	**Oil Pt**	**2.34**	**196**	IAML		01 44 34.3	
	comp=E,36nm,1.1s						
P19K				IAML		01 45 06.9	
	comp=N,40nm,1.2s						
CNPM	**China Poot**	**2.42**	**171**		Pn	01 44 00.5	-1.6
CNPM	**China Poot**	**2.42**	**171**	IAML		01 44 34.3	
	comp=E,45nm,1.0s						
CNPM				IAML		01 44 39.4	
	comp=N,46nm,0.4s						
J20K	**Nowinta River**	**2.48**	**338**		Pn	01 44 01.6	-1.1
J20K	**Nowinta River**	**2.48**	**338**	IAML		01 44 32.3	
	comp=E,22nm,0.5s						
J20K				IAML		01 44 33.0	
	comp=N,22nm,0.6s						
GLI	**Glacier Island**	**2.57**	**112**		Pn	01 44 01.4	-2.7
GLI	**Glacier Island**	**2.57**	**112**	IAML		01 44 35.8	
	comp=N,45nm,0.3s						
GLI				IAML		01 44 38.7	
	comp=E,52nm,0.3s						
M17K	**Holitna River**	**2.65**	**261**		Pn	01 44 03.8	-1.2
M17K	**Holitna River**	**2.65**	**261**	IAML		01 44 50.0	
	comp=E,13nm,0.9s						
M17K				IAML		01 44 51.8	
	comp=N,15nm,0.9s						
J19K	**Poorman**	**2.67**	**323**		Pn	01 44 04.2	-1.1
J18K	**Innoko River**	**2.68**	**308**		Pn	01 44 04.3	-1.1
J18K	**Innoko River**	**2.68**	**308**	IAML		01 44 35.6	
	comp=N,12nm,1.0s						
M24K	**Tolsona, Glenn**	**2.75**	**83**		Pn	01 44 05.4	-1.1
N17K	**Nushagak Hills**	**2.87**	**243**		Pn	01 44 06.7	-1.3
FID	**Port Fidalgo**	**2.90**	**111**		Pn	01 44 05.3	-3.1
KLU	**Klutina**	**2.92**	**96**		Pn	01 44 06.8	-1.9
KLU				IAML		01 44 42.9	
	comp=E,37nm,0.7s						
KLU				IAML		01 44 46.3	
	comp=N,29nm,0.6s						
P23K	**Montague Islan**	**2.95**	**129**		Pn	01 44 06.2	-2.7
L17K	**Donlin**	**2.98**	**277**		Pn	01 44 08.4	-1.0
P18K	**Big Mountain,**	**2.99**	**214**		Pn	01 44 08.7	-0.8
NEA2	**Nenana**	**3.00**	**25**		Pn	01 44 08.8	-0.9
NEA2	**Nenana**	**3.00**	**25**	IAML		01 44 45.5	
	comp=E,8.2nm,0.9s						
K17K	**Iditarod**	**3.06**	**288**		Pn	01 44 09.3	-1.1
K17K	**Iditarod**	**3.06**	**288**	IAML		01 44 46.8	
	comp=N,9.7nm,1.1s						
HIN	**Hinchinbrook I**	**3.06**	**117**		Pn	01 44 08.0	-2.6
HIN	**Hinchinbrook I**	**3.06**	**117**	IAML		01 44 48.2	
	comp=E,29nm,0.6s						
HIN				IAML		01 45 00.3	
	comp=N,30nm,0.9s						
DIV	**Divide**	**3.08**	**102**		Pn	01 44 08.5	-2.3
Q19K	**Cape Douglas,**	**3.10**	**196**		Pn	01 44 10.0	-1.1
I20K	**Naaghedeneel**	**3.11**	**340**		Pn	01 44 10.3	-0.8
I20K	**Naaghedeneel**	**3.11**	**340**	IAML		01 44 51.5	
	comp=E,28nm,0.8s						
I20K				IAML		01 45 06.2	
	comp=N,26nm,0.9s						
WRH	**Wood River Hil**	**3.12**	**33**	Pn	Pn	01 44 10.7	-0.6
WRH				IAML		01 44 50.1	
	comp=E,11nm,0.4s						
WRH				IAML		01 44 50.9	
	comp=N,8.7nm,0.7s						
PAX	**Paxson**	**3.21**	**68**	Pn	Pn	01 44 12.0	-0.7
I21K	**Tanana**	**3.28**	**0**		Pn	01 44 12.7	-0.7
I21K	**Tanana**	**3.28**	**0**	IAML		01 44 53.6	
	comp=E,9.9nm,1.0s						
O17K	**Koliganek Bris**	**3.29**	**232**		Pn	01 44 12.7	-0.8
EYAK	**Cordova Ski Ar**	**3.31**	**112**		Pn	01 44 11.8	-2.0
SYI	**Shuyak Island**	**3.32**	**184**		Pn	01 44 12.3	-1.6
SYI	**Shuyak Island**	**3.32**	**184**	IAML		01 44 53.1	
	comp=E,20nm,0.8s						
SYI				IAML		01 44 59.7	
	comp=N,24nm,1.1s						
CCB	**Clear Creek Bu**	**3.34**	**33**		Pn	01 44 13.3	-0.9
CCB	**Clear Creek Bu**	**3.34**	**33**	IAML		01 44 56.3	
	comp=E,6.9nm,0.8s						
HDA	**Harding Lake**	**3.40**	**40**		Pn	01 44 14.8	-0.2
HDA				IAML		01 44 55.9	
	comp=N,20nm,0.6s						
HDA				IAML		01 45 00.4	
	comp=E,24nm,0.5s						
K24K	**Donnelly Dome**	**3.42**	**54**		Pn	01 44 14.9	-0.5
I23K	**Minto, Yukon-K**	**3.46**	**19**		Pn	01 44 15.1	-0.7
M16K	**Timber Creek**	**3.46**	**258**		Pn	01 44 14.9	-0.9
N25K	**Chitina, Valde**	**3.53**	**92**		Pn	01 44 15.2	-1.7
N25K	**Chitina, Valde**	**3.53**	**92**	IAML		01 44 58.2	
	comp=E,14nm,0.3s						
N25K				IAML		01 45 11.3	
	comp=N,20nm,0.3s						
L16K	**Owhat River**	**3.56**	**270**		Pn	01 44 15.9	-1.2
J17K	**VABM Dome**	**3.59**	**298**		Pn	01 44 16.1	-1.5
KAHC	**Katmai Hardscr**	**3.60**	**206**		Pn	01 44 16.9	-0.9
BMRM	**Bremner River**	**3.67**	**102**		Pn	01 44 16.2	-2.6
IL31		**3.68**	**36**		Pn	01 44 17.8	-1.0
WASW	**Wrangell South**	**3.70**	**86**		Pn	01 44 17.7	-1.5
GOAT	**Goat Mountain**	**3.75**	**108**		Pn	01 44 17.4	-2.4
RIDG	**Independent Ri**	**3.76**	**58**		Pn	01 44 18.8	-1.1
H21K	**Melozitna Rive**	**3.78**	**355**		Pn	01 44 19.2	-0.9
H21K	**Melozitna Rive**	**3.78**	**355**	IAML		01 45 03.3	
	comp=E,5.6nm,0.9s						
H20K	**Anotleneega Mo**	**3.82**	**342**		Pn	01 44 19.1	-1.5
GLB	**Gilahina Butte**	**3.93**	**93**		Pn	01 44 20.3	-1.9
GLB	**Gilahina Butte**	**3.93**	**93**	IAML		01 45 23.2	
	comp=E,10nm,1.0s						
GLB				IAML		01 45 29.1	
	comp=N,14nm,0.9s						
H22K	**Ishtalitna Cre**	**4.01**	**4**		Pn	01 44 22.5	-0.7
J25K	**Salcha River,**	**4.04**	**45**		Pn	01 44 23.7	+0.1
J25K				IAML		01 45 18.3	
	comp=N,8.4nm,0.5s						
J25K				IAML		01 45 19.3	
	comp=E,13nm,0.6s						
DOT	**Dot Lake**	**4.04**	**61**		Pn	01 44 22.5	-1.1
HMT	**Hamilton**	**4.07**	**109**		Pn	01 44 22.3	-1.7
KDAK	**Kodiak Island**	**4.15**	**184**		Pn	01 44 22.3	-2.9
KDAK	**Kodiak Island**	**4.15**	**184**	IAML		01 45 18.0	
	comp=E,9.0nm,1.1s						
KDAK				IAML		01 45 27.4	
	comp=E,5.2nm,0.9s						
SCRK	**Sand Creek**	**4.21**	**57**	Pn	Pn	01 44 24.7	-1.2
SCRK				IAML		01 45 22.4	
	comp=N,6.0nm,0.3s						
SCRK				IAML		01 45 24.6	
	comp=E,7.2nm,0.5s						
J26L	**Joseph Creek**	**4.62**	**52**	Pn	Pn	01 44 31.0	-0.5
J26L				IAML		01 45 30.7	
	comp=E,11nm,0.7s						
PRP	**Porcupine Dome**	**4.62**	**36**		Pn	01 44 31.3	-0.3
PRP	**Porcupine Dome**	**4.62**	**36**	IAML		01 45 28.7	
	comp=E,3.2nm,0.9s						
PRP				IAML		01 45 29.6	
	comp=N,3.8nm,1.1s						
G21K	**Allakaket**	**4.67**	**353**		Pn	01 44 31.5	-0.6
G21K				IAML		01 45 27.3	
	comp=E,8.4nm,0.8s						
G21K				IAML		01 45 29.4	
	comp=N,5.4nm,1.1s						
BALM	**Baldy**	**4.71**	**96**		Pn	01 44 31.5	-1.3
KIAG	**Kiagna River**	**4.73**	**98**		Pn	01 44 31.5	-1.7
G23K	**Bananza Creek**	**4.90**	**9**	Pn	Pn	01 44 34.9	-0.3
I26K	**Coal Creek Min**	**5.21**	**45**		Pn	01 44 39.2	-0.2
I26K				IAML		01 45 37.5	
	comp=N,5.7nm,0.5s						
I26K				IAML		01 45 45.6	
	comp=E,5.2nm,0.9s						

*IDC **07** 01:48:05.5±1.7, 32°.21S×178°.05W, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=45.5km s-min=37.6km az=81.0*

*WEL **07** 01:48:05.0±1.6, 32°S±12°×17°8W±3°8, h12km, M4.2/4, mB4.5/2, ML4.5/6, MLv4.2/4, Mw(mB)3.7/2, Error ellipse: s-maj=51.5km s-min=4.7km az=106.3, confirmed*

ISC 07 01:48:07.3±1.3, 32°.10S±0°.09×177°.9W±0°.2, h24km, n14, σ1ᵽ33/18, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.83**	**360**	P	**Pn**	**01 48 50.5**	**-0.5**
GLKZ				S	**Sn**	**01 49 23.7**	**-0.7**
HAZ	**Te Kaha**	**6.66**	**211**	P	**Pn**	**01 49 42.8**	**-0.8**
HAZ				S	**Sn**	**01 51 01.0**	**+2.4**
PUZ	**Puketiti**	**6.73**	**207**	P	**Pn**	**01 49 43.4**	**-1.2**
PUZ				S	**Sn**	**01 51 00.1**	**-0.5**
RUGZ	**Raukumara Rang**	**6.88**	**211**	P	**Pn**	**01 49 45.9**	**-0.9**
MWZ	**Matawai**	**7.25**	**210**	P	**Pn**	**01 49 48.8**	**-2.9**
MWZ				S	**Sn**	**01 51 13.4**	**+0.1**
URZ	**Urewera**	**7.37**	**212**	Pn	**Pn**	**01 49 52.7**	**-0.6**
	0.7nm,0.3s,baz=328,slow=4.1,SNR=6.4 2.5nm,0.4s						
URZ	**Urewera**	**7.37**	**212**	P	**Pn**	**01 49 52.8**	**-0.6**
URZ				S	**Sn**	**01 51 15.5**	**-0.7**
OUZ	**Omahuta**	**7.73**	**244**	P	Pn	01 50 04.4	+6.0
MTHZ	**Maungataniwha**	**7.98**	**211**	S	**Sn**	**01 51 30.1**	**-1.1**
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**01 56 07.0**	**+1.0**
	0.4nm,0.4s,baz=107,slow=7.5,SNR=4.6 0.4nm,0.4s						
WRA	**Warramunga Arr**	**44.26**	**274**	P	**P**	**01 56 15.7**	**+0.5**
	0.8nm,0.6s,baz=114,slow=7.6,SNR=5.5 0.8nm,0.6s						
QSPA	**South Pole Qui**	**58.01**	**180**	P	**P**	**01 57 58.8**	**+0.9**
	0.4nm,0.7s,baz=154,slow=12,SNR=1.2 0.4nm,0.7s						
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc	**PKiKP**	**02 07 48.5**	**-0.6**
	2.4nm,0.8s,baz=56,slow=4.9,SNR=12						
BRTR	**Keskin Array B**	**153.44**	**296**	PKPbc	**PKiKP**	**02 08 05.6**	**+1.8**
	0.7nm,0.9s,baz=54,slow=3.7,SNR=3.6						

TAP 07 01:50:11.8, 21°.51N×121°.36E, h84km, ML3.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.54**	**23**	P	Pn	01 50 26.1	-0.2
LYUB				S	Sn	01 50 36.7	-0.3
LAY	**Lan-yu**	**0.56**	**19**	*i* P	Pn	01 50 26.7	+0.1
LAY				*i* S	Sn	01 50 37.6	+0.1
TSEB	**Hengchuen, Pin**	**0.58**	**313**	P	Pn	01 50 27.6	+0.9
TSEB				*e*S	Sn	01 50 39.6	+1.9
TWKBT	**Hengchun**	**0.67**	**311**	P	Pn	01 50 28.2	+0.6
TWKBT				S	Sn	01 50 40.2	+1.0
TWK1	**Hengchun**	**0.67**	**310**	*e*P	Pn	01 50 28.4	+0.8
TWK1				*i* S	Sn	01 50 40.2	+0.9
SMST	**Manzhou Townsh**	**0.70**	**317**	*e*S	Sn	01 50 41.0	+1.1
HEN	**Hengchun**	**0.76**	**311**	*e*S	Sn	01 50 42.5	+1.6
SLIU	**Shizi**	**0.88**	**324**	*e*P	Pn	01 50 30.1	+0.3
SLIU				S	Sn	01 50 44.1	+1.0
TAWH	**Dawu Township**	**0.94**	**332**	*e*P	Pn	01 50 29.2	-1.3
TAWH				*e*S	Sn	01 50 43.5	-0.8
TAW	**Tawu**	**0.95**	**333**	*e*S	Sn	01 50 44.5	-0.1
SCZT	**Fangliau**	**1.10**	**322**	P	Pn	01 50 33.1	+0.7
SCZT				S	Sn	01 50 48.5	+0.7
ECL	**Taimali**	**1.15**	**341**	*e*P	Pn	01 50 34.0	+1.0
ECL				*e*S	Sn	01 50 47.6	-1.2
LDUT	**Ludao**	**1.17**	**5**	*e*S	Sn	01 50 48.6	-0.6
MASBT	**Mashibuluo**	**1.29**	**329**	P	Pn	01 50 35.8	+1.1
MASBT				*e*S	Sn	01 50 52.5	+0.7
TWGBT	**Beinan**	**1.33**	**349**	*e*P	Pn	01 50 34.6	-0.6
TWGBT				*e*S	Sn	01 50 52.4	-0.5
TWG	**Pinlang**	**1.33**	**349**	*e*P	Pn	01 50 37.1	+1.9
TWG				*e*S	Sn	01 50 52.0	-0.9
SSD	**Sandimen**	**1.41**	**331**	P	Pn	01 50 37.1	+0.9
SSD				*e*S	Sn	01 50 54.8	+0.3
LONT	**Longtian**	**1.41**	**351**	*e*P	Pn	01 50 37.2	+1.0
LONT				*e*S	Sn	01 50 54.5	-0.1
EDH	**Donghe**	**1.46**	**358**	*e*P	Pn	01 50 37.4	+0.5
EDH				*e*S	Sn	01 50 55.9	+0.1
WSSB	**Gushan**	**1.52**	**318**	*e*P	Pn	01 50 37.7	+0.1
WSSB				*e*S	Sn	01 50 58.3	+1.2
TWM1	**Shoushan**	**1.57**	**327**	*e*P	Pn	01 50 40.3	+2.0
TWM1				*e*S	Sn	01 51 03.3	+5.0
CHKT	**Chengkung**	**1.59**	**0**	*e*P	Pn	01 50 38.5	+0.1
CHKT				*e*S	Sn	01 50 58.2	-0.4
SCST	**Cishan**	**1.59**	**330**	*e*P	Pn	01 50 39.6	+1.1
SCST				*e*S	Sn	01 51 00.5	+1.8
CHKH	**Chenggong**	**1.68**	**1**	*e*P	Pn	01 50 39.9	+0.3
CHKH				*e*S	Sn	01 51 01.4	+0.7
FULB	**Fuli**	**1.69**	**358**	*e*P	Pn	01 50 41.3	+1.6
FULB				*e*S	Sn	01 51 02.6	+1.7
ELDTW	**Lidau**	**1.71**	**349**	*e*P	Pn	01 50 40.4	+0.2
ELDTW				*e*S	Sn	01 51 01.5	0.0
SGST	**Jiashian**	**1.73**	**336**	*e*P	Pn	01 50 41.9	+1.7
SGST				*e*S	Sn	01 51 02.6	+0.8
STYH	**Taoyuan**	**1.74**	**342**	*e*P	Pn	01 50 42.0	+1.5
STYH				*e*S	Sn	01 51 03.8	+1.6
ECBN	**Changbin**	**1.80**	**3**	*e*P	Pn	01 50 39.8	-1.5
ECBN				*e*S	Sn	01 51 04.0	+0.3
TWF1	**Yuli**	**1.84**	**358**	*e*P	Pn	01 50 43.1	+1.3
CHN1	**Nanshi**	**1.84**	**335**	*e*P	Pn	01 50 43.4	+1.6
CHN1				*e*S	Sn	01 51 05.7	+1.1
YULB	**Yu-li**	**1.88**	**358**	*e*P	Pn	01 50 43.0	+0.7
YULB				*e*S	Sn	01 51 05.0	-0.4
SNST	**Tainan City**	**1.88**	**335**	*e*P	Pn	01 50 43.9	+1.6
SNST				*e*S	Sn	01 51 06.2	+0.7
TPUB	**Ta-pu**	**1.91**	**339**	*e*P	Pn	01 50 44.4	+1.7
TPUB				*e*S	Sn	01 51 08.1	+1.9
TWK	**Hsinying**	**1.93**	**335**	P	Pn	01 50 43.9	+0.9
TWK				S	Sn	01 51 07.5	+0.8
CHN4	**Tsaushan**	**1.97**	**339**	*e*P	Pn	01 50 45.7	+2.3
CHN4				*e*S	Sn	01 51 09.0	+1.4
HGSD	**Ruisui**	**1.98**	**2**	P	Pn	01 50 44.6	+1.0
HGSD				*e*S	Sn	01 51 09.7	+1.9
SCLT	**Jiali**	**1.98**	**327**	*e*S	Sn	01 51 09.5	+1.7
EHY	**Hungye**	**1.99**	**359**	P	Pn	01 50 44.8	+1.1
EHY				*e*S	Sn	01 51 09.1	+1.0
YUS	**Yu-Shan**	**2.01**	**349**	*e*P	Pn	01 50 43.7	-0.7
YUS				*e*S	Sn	01 51 10.5	+1.3
TSCK	**Chigu Township**	**2.01**	**324**	*e*P	Pn	01 50 44.7	+0.7
TSCK				*e*S	Sn	01 51 08.8	+0.2
WCKO	**Fanlu**	**2.05**	**340**	*e*S	Sn	01 51 10.4	+1.0
ALS	**Alishan**	**2.06**	**346**	*e*S	Sn	01 51 11.7	+1.6
ICHU	**Yijhu**	**2.10**	**332**	*e*S	Sn	01 51 11.1	+0.5
CHY	**Chiayi**	**2.16**	**337**	*e*S	Sn	01 51 13.1	+0.9
CHN5	**Tsauling**	**2.17**	**343**	*e*P	Pn	01 50 47.8	+1.5
CHN5				*e*S	Sn	01 51 13.9	+1.4
WARBT	**Fenglin Townsh**	**2.20**	**1**	*e*P	Pn	01 50 47.8	+1.3
WARBT				*e*S	Sn	01 51 13.5	+0.4
WHYT	**Xinyi Township**	**2.23**	**348**	*e*P	Pn	01 50 49.0	+2.1
WHYT				*e*S	Sn	01 51 16.7	+2.9
WSL	**Shuilin Townsh**	**2.26**	**333**	*e*P	Pn	01 50 47.9	+0.5
WSL				*e*S	Sn	01 51 15.3	+0.8
SHUL	**Shoufeng**	**2.28**	**5**	*e*P	Pn	01 50 49.0	+1.4
SHUL				*i* S	Sn	01 51 16.6	+1.8
**S

THIG		**0.81**	**103**	*e*P	**Pn**	**01 55 39.7 +0.5**
THIG				*e*S	**Sn**	**01 55 52.4 -0.2**
THIG		**0.81**	**103**	*e*P	**Pn**	**01 55 39.6 +0.4**
THIG				*e*S	**Sn**	**01 55 53.0 +0.4**
THIG		**0.81**	**103**	*e*P		01 55 39.6
THIG				*e*S		01 55 53.0
PATR	**El Naranjo**	**0.82**	**88**	*e*P	**Pn**	**01 55 39.5 0.0**
PATR				*e*S	**Sn**	**01 55 51.9 -1.3**
PAVE	**Pavencul**	**0.88**	**83**	*e*P	**Pn**	**01 55 40.5 +0.3**
PAVE				*e*S	**Sn**	**01 55 53.8 -0.6**
SMCA	**Catarina**	**1.00**	**103**	*e*P	**Pn**	**01 55 41.5 +0.3**
SMCA				*i* S	**Sn**	**01 55 55.6 -0.6**
SMCA	**Catarina**	**1.00**	**103**	*e*P		01 55 41.5
SMCA				*i* S		01 55 55.6
RTAL	**Retalhuleu**	**1.45**	**112**	*e*P	**Pn**	**01 55 46.3 -0.3**
RTAL				*e*S	**Sn**	**01 56 06.7 +1.0**
CCIG	**Comitan**	**1.50**	**37**	*e*P	**Pn**	**01 55 48.7 +1.3**
CCIG				*e*S	**Sn**	**01 56 06.1 -1.0**
CCIG	**Comitan**	**1.50**	**37**	*e*P	**Pn**	**01 55 48.5 +1.2**
CCIG	**Comitan**	**1.50**	**37**	*e*P		01 55 48.5
HUEH	**Huehuetenango**	**1.54**	**81**	*e*P	**Pn**	**01 55 48.7 +0.8**
HUEH				*e*S	**Sn**	**01 56 08.1 0.0**
TGBT	**Tuxtla Gutierr**	**1.68**	**360**	*e*P	**Pn**	**01 55 50.2 +0.8**
TGBT				*e*S	**Sn**	**01 56 09.1 -1.8**
TGIG		**1.68**	**359**	*e*P	**Pn**	**01 55 49.8 +0.2**
TGIG				*e*S	**Sn**	**01 56 09.3 -1.8**
TGIG		**1.68**	**359**	*e*P	**Pn**	**01 55 49.5 -0.1**
TGIG				*e*S	**Sn**	**01 56 09.5 -1.6**
TGIG		**1.68**	**359**	*e*P		01 55 49.5
TGIG				*e*S		01 56 09.5
STG8	**El Palmar, Qui**	**1.79**	**110**	*e*S		01 56 07.0
STG0	**El Palmar, Qui**	**1.80**	**111**	*e*P		01 55 48.3
STG0				*i* S		01 56 08.3
NILT	**Santiago Nilte**	**2.09**	**315**	*e*P	**Pn**	**01 55 57.0 +2.3**
NILT				*e*S	**Sn**	**01 56 22.3 +2.0**
UXUV	**UXUV**	**2.44**	**335**	*e*P	**Pn**	**01 56 01.2 +1.8**
UXUV				*e*S	**Sn**	**01 56 28.0 -0.7**
APG	**El Apazote**	**2.53**	**92**	*e*P	**Pn**	**01 56 01.7 +1.0**
APG	**El Apazote**	**2.53**	**92**	*e*P		01 56 01.7
CMIG	**Matias Romero**	**2.64**	**319**	*e*P	**Pn**	**01 56 03.5 +1.4**
CMIG				*e*S	**Sn**	**01 56 34.5 +1.0**
HUIG	**Huatulco**	**3.00**	**283**	*e*P	**Pn**	**01 56 07.1 +0.2**
HUIG				*e*S	**Sn**	**01 56 37.9 -4.1**
PETF	**Flores**	**3.59**	**59**	*e*P	**Pn**	**01 56 15.7 +1.0**
PETF				*e*S	**Sn**	**01 56 53.5 -2.7**
PETF	**Flores**	**3.59**	**59**	*e*P	**Pn**	**01 56 15.8 +1.1**
PETF	**Flores**	**3.59**	**59**	*e*P		01 56 15.8
NEUV	**Arroyo Zacate**	**3.69**	**315**	*e*P	**Pn**	**01 56 17.6 +1.4**
NEUV				*e*S	**Sn**	**01 56 59.4 +0.6**
PEIG	**Puerto Escondi**	**4.03**	**284**	*e*P	Pn	01 56 16.4 -4.3
PEIG				*e*S	**Sn**	**01 57 03.0 -3.8**
YOIG	**Yosondua**	**4.64**	**293**	*e*P	**Pn**	**01 56 31.8 +2.5**
YOIG				*e*S	**Sn**	**01 57 20.7 -1.5**
TOIG	**Toxpalan**	**4.85**	**309**	*e*P	**Pn**	**01 56 29.5 -2.6**
TOIG				*e*S	**Sn**	**01 57 27.8 +0.7**
TXIG	**Tlaxiaco**	**4.99**	**296**	*e*P	**Pn**	**01 56 35.8 +1.8**
TXIG				*e*S	**Sn**	**01 57 29.1 -1.6**
PNIG	**Pinotepa**	**5.03**	**286**	*e*P	**Pn**	**01 56 35.8 +1.5**
PNIG				*e*S	**Sn**	**01 57 27.3 -4.0**
HLIG	**Huajuapan de L**	**5.29**	**302**	*e*P	**Pn**	**01 56 42.5 +4.5**
HLIG				*e*S	**Sn**	**01 57 38.0 +0.2**
JAUV	**Jalcomulco**	**5.55**	**321**	*e*P	**Pn**	**01 56 40.9 -0.5**
JAUV				*e*S	**Sn**	**01 57 39.1 -4.8**
FTIG	**Fresnillo de T**	**5.60**	**301**	*e*P	**Pn**	**01 56 46.1 +3.9**
FTIG				*e*S	**Sn**	**01 57 45.5 +0.2**

IDC 07 02:01:41.8±9.8, 59°.15S×86°.16E, h0km, Error ellipse: s-maj=27.3km s-min=9.4km az=168.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S1	**CROZET ISLANDS**	**23.71**	**286**	H	H	02 31 43.4	
	baz=133,slow=76,SNR=27						
H04S2	**CROZET ISLANDS**	**23.71**	**286**	H	H	02 31 46.5	
	baz=133,slow=76,SNR=36						
H04S3	**CROZET ISLANDS**	**23.73**	**286**	H	H	02 31 43.7	
	baz=133,slow=76,SNR=32						
H01W2	**Cape Leeuwin H**	**30.44**	**50**	H	H	02 39 52.8	
	baz=207,slow=76,SNR=25						
H01W1	**Cape Leeuwin H**	**30.45**	**50**	H	H	02 39 53.8	
	baz=207,slow=76,SNR=32						
H01W3	**Cape Leeuwin H**	**30.45**	**50**	H	H	02 39 53.8	
	baz=207,slow=76,SNR=25						
H08S2	**Diego Garcia H**	**52.44**	**343**	H	H	03 07 16.9	
	baz=171,slow=76,SNR=37						
H08S1	**Diego Carcia H**	**52.44**	**343**	H	H	03 07 17.7	
	baz=171,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**52.46**	**343**	H	H	03 07 17.8	
	baz=171,slow=76,SNR=22						

IDC 07 02:01:49.0±2.1, 32°.19S×177°.83W, h0km, mb3.6/3, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=51.6km s-min=39.8km az=66.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.33**	**213**	Pn	Pn	02 03 37.8	+0.5
	0.1nm,0.3s,baz=268,slow=19,SNR=1.3						
URZ				Sn	Sn	02 04 59.2	-2.0
	0.9nm,0.3s,baz=342,slow=20,SNR=6.5						
	2.8nm,0.8s						
ASAR	**Alice Springs**	**43.19**	**269**	P	P	02 09 51.5	-0.5
	0.2nm,0.3s,baz=103,slow=7.9,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.34**	**274**	P	P	02 10 01.1	-0.1
	0.3nm,0.3s,baz=115,slow=7.6,SNR=6.1						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**57.92**	**180**	P	P	02 11 42.6	-0.2
	1.3nm,1.0s,baz=59,slow=0.5,SNR=2.1						
	1.3nm,1.0s						
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	PKPbc	02 21 32.0	-0.6
	3.4nm,0.9s,baz=29,slow=3.2,SNR=4.3						

*ROM **07** 02:06:59.7±0.1, 43°.815N±0°.005×11°.972E±0°.006, h8km, ML2.3/70, Error ellipse: s-maj=0.7km s-min=0.1km az=42.0*

ISC 07 02:07:00.2±0.8, 43°.82N±0°.02×11°.98E±0°.02, h12km, n42, σ1§01/59, 1C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**312**	⇓P	**Pg**	**02 07 03.0**	**-0.5**
SFI				S	**Sg**	**02 07 05.3**	**-0.4**
SFI				AML	AML		
	comp=E,5025μm,0.1s						
SFI				AML	AML		
	comp=N,2545μm,0.1s						
SFI				AML	AML		
	comp=E,5030μm,0.1s						
SFI				AML	AML		
	comp=N,2550μm,0.1s						
SFI				AML	AML		
	comp=N,2530μm,0.1s						
SFI				AML	AML		
	comp=E,5050μm,0.1s						
CPGN	**Carpegna, Ital**	**0.25**	**94**	P	**Pg**	**02 07 05.9**	**+0.4**
PARC	**Parchiule**	**0.26**	**132**	⇓P	**Pg**	**02 07 05.3**	**-0.2**
PARC				S	**Sb**	**02 07 10.0**	**-1.1**
PARC				AML	AML		
	comp=E,362μm,0.7s						
PARC				AML	AML		
	comp=N,494μm,0.5s						
PARC				AML	AML		
	comp=N,494μm,0.5s						
SSP9	**Sansepolcro**	**0.27**	**156**	P	**Pg**	**02 07 05.7**	**0.0**
SSP9				S	**Sb**	**02 07 10.3**	**-1.2**
LMD	**Lutirano**	**0.32**	**323**	P	**Pg**	**02 07 06.5**	**-0.2**
LMD				S	**Sg**	**02 07 11.7**	**+0.5**
LMD				AML	AML		
	comp=E,1770μm,0.2s						
LMD				AML	AML		
	comp=N,1615μm,0.2s						
RUFI	**Rufina**	**0.34**	**273**	⇑P	**Pg**	**02 07 06.8**	**-0.2**
RUFI				S	**Sg**	**02 07 12.2**	**+0.6**
RUFI				AML	AML		
	comp=E,1805μm,0.2s						
RUFI				AML	AML		
	comp=N,1360μm,0.3s						
RSM	**Repubblica di**	**0.36**	**72**	P	**Pg**	**02 07 07.9**	**+0.5**
BADI	**Badiali**	**0.37**	**148**	P	**Pg**	**02 07 07.2**	**-0.3**
BADI				S	**Sg**	**02 07 13.0**	**+0.7**
BADI				AML	AML		
	comp=E,328μm,0.4s						
BADI				AML	AML		
	comp=N,388μm,0.1s						
PE3	**Peglio**	**0.40**	**108**	P	**Pg**	**02 07 08.2**	**+0.2**
PE3				S	**Sb**	**02 07 14.9**	**-0.2**
PE3				AML	AML		
	comp=E,2730μm,0.5s						
PE3				AML	AML		
	comp=N,1495μm,0.5s						
PE3				AML	AML		
	comp=E,2725μm,0.5s						
PE3				AML	AML		
	comp=N,1500μm,0.5s						
APEC	**Apecchio**	**0.41**	**129**	P	**Pg**	**02 07 08.3**	**0.0**
APEC				S	**Sb**	**02 07 15.5**	**-0.2**
APEC				AML	AML		
	comp=E,432μm,0.4s						
APEC				AML	AML		
	comp=N,330μm,1.3s						
APEC				AML	AML		
	comp=E,432μm,1.6s						
BRSN	**Barisano**	**0.47**	**9**	P	**Pb**	**02 07 10.1**	**-0.2**
BRSN				AML	AML		
	comp=E,964μm,0.5s						
BRSN				AML	AML		
	comp=N,1150μm,0.4s						
BRSN				AML	AML		
	comp=E,1240μm,0.4s						
BRSN				AML	AML		
	comp=E,964μm,0.5s						
BRSN				AML	AML		
	comp=N,1151μm,0.4s						
BRSN				AML	AML		
	comp=N,1167μm,0.4s						
BRIS	**BRISIGHELLA**	**0.47**	**314**	P	**Pg**	**02 07 08.7**	**-0.7**
BRIS				S	**Sg**	**02 07 15.8**	**+0.1**
BRIS				AML	AML		
	comp=N,821μm,0.3s						
BRIS				AML	AML		
	comp=E,1245μm,0.3s						
BRIS				AML	AML		
	comp=N,821μm,0.3s						
BRIS				AML	AML		
	comp=N,832μm,0.3s						
BRIS				AML	AML		
	comp=N,832μm,1.7s						
BRIS				AML	AML		
	comp=N,821μm,1.7s						
BRIS				AML	AML		
	comp=E,1245μm,0.3s						
BLLA	**Bellaria**	**0.48**	**48**	P	**Pg**	**02 07 09.9**	**+0.3**
ATPI	**Pietralunga -**	**0.48**	**140**	P	**Pg**	**02 07 08.9**	**-0.7**
ATPI				AML	AML		
	comp=N,165μm,1.3s						
ATPI				AML	AML		
	comp=E,202μm,0.6s						
ATPI				AML	AML		
	comp=N,165μm,0.7s						
NARO	**Abbazia di Nar**	**0.48**	**115**	P	**Pg**	**02 07 09.0**	**-0.6**
NARO				AML	AML		
	comp=E,90μm,0.4s						
NARO				AML	AML		
	comp=N,99μm,0.3s						
NARO				AML	AML		
	comp=E,90μm,1.6s						
CAFI	**Castiglion Fio**	**0.49**	**181**	P	**Pg**	**02 07 09.8**	**0.0**
CAFI				AML	AML		
	comp=E,264μm,1.2s						
CAFI				AML	AML		
	comp=N,260μm,0.4s						
CAFI				AML	AML		
	comp=N,285μm,0.3s						
CAFI				AML	AML		
	comp=N,260μm,0.4s						
CAFI				AML	AML		
	comp=E,264μm,1.2s						
CAFI				AML	AML		
	comp=E,268μm,1.2s						
PIEI	**Pieia**	**0.49**	**125**	P	**Pg**	**02 07 09.1**	**-0.8**
PIEI				AML	AML		
	comp=N,92μm,1.5s						
PIEI				AML	AML		
	comp=E,184μm,0.1s						
PIEI				AML	AML		
	comp=N,92μm,0.5s						
SEI	**Scarperia**	**0.51**	**298**	P	**Pg**	**02 07 09.7**	**-0.4**
SEI				S	**Sb**	**02 07 17.6**	**-0.8**
SEI				AML	AML		
	comp=E,670μm,1.1s						
SEI				AML	AML		
	comp=E,670μm,0.9s						
SEI				AML	AML		
	comp=N,804μm,1.4s						
ATMI	**Monte Miggiano**	**0.53**	**157**	P	**Pg**	**02 07 10.7**	**+0.1**
ATMI				AML	AML		
	comp=E,542μm,0.4s						
ATMI				AML	AML		
	comp=N,611μm,0.3s						
ATVO	**AVT- Monte Val**	**0.54**	**145**	P	**Pg**	**02 07 10.3**	**-0.4**
ATVO				S	**Sb**	**02 07 19.1**	**-0.1**
ATVO				AML	AML		
	comp=E,320μm,1.5s						
ATVO				AML	AML		
	comp=E,320μm,0.5s						
ATVO				AML	AML		
	comp=N,257μm,0.4s						
IMOL	**Imola, Italy**	**0.56**	**343**	P	**Pb**	**02 07 11.7**	**-0.3**
IMOL				AML	AML		
	comp=E,616μm,1.0s						
IMOL				AML	AML		
	comp=N,750μm,1.3s						
MOCL	**Monte Cuccoli**	**0.61**	**288**	P	**Pg**	**02 07 11.6**	**-0.3**
MOCL				S	**Sb**	**02 07 21.4**	**+0.2**
MOCL				AML	AML		
	comp=N,292μm,0.2s						
MOCL				AML	AML		
	comp=E,247μm,0.1s						
CSNT	**Castellina Chi**	**0.61**	**235**	P	**Pg**	**02 07 12.1**	**+0.1**
CSNT				AML	AML		
	comp=E,325μm,0.8s						
CSNT				AML	AML		
	comp=N,379μm,0.5s						
OSSC	**Osservatorio P**	**0.61**	**241**	P	**Pg**	**02 07 11.9**	**-0.1**
OSSC				AML	AML		
	comp=E,398μm,0.6s						
OSSC				AML	AML		
	comp=E,398μm,0.6s						
OSSC				AML	AML		
	comp=N,330μm,1.0s						
OSSC				AML	AML		
	comp=E,296μm,0.3s						
OSSC				AML	AML		
	comp=N,400μm,0.3s						
OSSC				AML	AML		
	comp=E,398μm,1.4s						
OSSC				AML	AML		
	comp=N,330μm,1.0s						
MPPT	**Montemurlo**	**0.66**	**282**	P	**Pg**	**02 07 12.7**	**-0.2**
MPPT				AML	AML		
	comp=E,342μm,0.2s						
MPPT				AML	AML		
	comp=N,528μm,0.2s						
MPPT				AML	AML		
	comp=E,342μm,1.8s						
CRMI	**Carmignano**	**0.73**	**268**	P	**Pg**	**02 07 14.0**	**-0.4**
CRMI				AML	AML		
	comp=N,264μm,1.5s						
CRMI				AML	AML		
	comp=N,107μm,1.6s						
CRMI				AML	AML		
	comp=E,83μm,0.4s						
CRMI				AML	AML		
	comp=N,107μm,0.4s						
CRMI				AML	AML		
	comp=N,264μm,0.5s						
CRMI				AML	AML		
	comp=E,208μm,0.4s						
MTCR	**Monte La Croce**	**0.74**	**287**	P	**Pg**	**02 07 13.9**	**-0.5**
MTCR				AML	AML		
	comp=E,253μm,1.0s						
MTCR				AML	AML		
	comp=N,185μm,0.5s						
MTCR				AML	AML		
	comp=E,254μm,1.0s						
ARVD	**Arcevia**	**0.77**	**114**	P	**Pg**	**02 07 14.4**	**-0.6**
ARVD				AML	AML		
	comp=E,62μm,0.3s						
ARVD				AML	AML		
	comp=N,65μm,0.4s						
ARVD				AML	AML		
	comp=N,65μm,1.6s						
POPM	**Popiglio**	**0.91**	**285**	P	**Pg**	**02 07 17.1**	**-0.7**
POPM				AML	AML		
	comp=N,214μm,0.3s						
POPM				AML	AML		
	comp=E,146μm,0.9s						
POPM				AML	AML		
	comp=N,214μm,1.7s						
MGAB	**Montegabbione**	**0.91**	**174**	P	**Pg**	**02 07 17.5**	**-0.2**
MGAB				AML	AML		
	comp=N,195μm,0.3s						
MGAB				AML	AML		
	comp=E,348μm,0.4s						
MGAB				AML	AML		
	comp=N,216μm,0.3s						
MGAB				AML	AML		
	comp=E,320μm,0.4s						
SF04	**Casetta**	**1.01**	**193**	P	**Pb**	**02 07 19.4**	**-0.2**
PII	**Pisa**	**1.06**	**265**	P	**Pb**	**02 07 19.9**	**-0.4**
PII				AML	AML		
	comp=E,175μm,0.3s						
PII				AML	AML		
	comp=N,194μm,1.0s						
PII				AML	AML		
	comp=E,175μm,1.7s						
ABTA	**Abfaltersbach**	**2.95**	**7**	*e*Pn	**Pn**	**02 07 47.0**	**+0.1**
	comp=E,0.8nm,0.4s						
OBKA	**Obir**	**3.25**	**33**	*e*Pn	**Pn**	**02 07 50.9**	**0.0**
	comp=E,0.7nm,0.4s						
OBKA				*e*Sn	**Sn**	**02 08 29.6**	**+0.1**
	comp=E,1.3nm,0.5s						
FETA	**Feichten**	**3.32**	**345**	*i* Pn	**Pn**	**02 07 52.7**	**+0.7**
	comp=E,0.4nm,0.3s						
FETA				*e*Sn	**Sn**	**02 08 33.0**	**+1.5**
	comp=E,2.0nm,0.9s						
KBA	**Koelnbreinsper**	**3.40**	**16**	*e*Pn	**Pb**	**02 07 59.3**	**-1.1**
	comp=E,1.6nm,0.9s						
SQTA	**Sankt Quirin**	**3.44**	**351**	*i* Pn	**Pb**	**02 07 57.7**	**-3.4**
	comp=E,1.3nm,0.3s						
LESA	**Schwarzleotal**	**3.64**	**7**	*i* Pn	**Pn**	**02 07 58.9**	**+2.6**
	comp=E,0.8nm,0.2s						
LESA				*e*Sn	**Sn**	**02 08 40.8**	**+1.6**
	comp=E,7.9nm,0.6s						
RETA	**Reutte**	**3.77**	**347**	*e*Pn	**Pn**	**02 08 01.2**	**+3.1**
	comp=E,0.1nm,0.2s						
DAVA	**Damuels**	**3.77**	**338**	*e*Pn	**Pn**	**02 07 57.2**	**-0.9**
	comp=E,1.0nm,0.4s						
DAVA				*e*Sn	**Sn**	**02 08 45.0**	**+2.5**
	comp=E,7.1nm,1.2s						
MOA	**Molln**	**4.33**	**21**	*e*Pn	**Pn**	**02 08 06.4**	**+0.5**
	comp=E,0.2nm,0.3s						
CONA	**Conrad Observa**	**4.92**	**32**	*e*Pn	**Pn**	**02 08 12.1**	**-1.9**
	comp=E,0.5nm,0.3s						
CONA				*e*Sn	**Sn**	**02 09 12.3**	**+1.4**
	comp=E,0.7nm,0.5s						

ROM 07 02:07:51.0±0.1, 43°.827N±0°.005×11°.977E±0°.006, h10km, ML1.3/6, 1C-2D, Error ellipse: s-maj=0.7km s-min=0.3km az=217.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.12**	**310**	⇓P	Pg	02 07 54.5	+0.5
SFI				S	Sg	02 07 56.7	+0.6
SFI				AML	AML		
	comp=E,258μm,0.1s						
SFI				AML	AML		
	comp=N,145μm,0.1s						
SFI				AML	AML		
	comp=E,251μm,0.1s						
SFI				AML	AML		
	comp=N,153μm,0.3s						
ASQU	**Asqua**	**0.14**	**258**	P	Pg	02 07 54.8	+0.6
ASQU				S	Sg	02 07 57.5	+1.0
PARC	**Parchiule**	**0.26**	**133**	P	Pg	02 07 56.8	+0.4
PARC				S	Sb	02 08 01.3	-1.1
SSP9	**Sansepolcro**	**0.28**	**156**	P	Pg	02 07 57.3	+0.7
LMD	**Lutirano**	**0.32**	**322**	⇓P	Pg	02 07 57.9	+0.5
LMD				S	Sb	02 08 03.3	-0.8
LMD				AML	AML		
	comp=E,99μm,0.2s						
LMD				AML	AML		
	comp=N,107μm,0.2s						
RUFI	**Rufina**	**0.34**	**272**	⇑P	Pg	02 07 58.3	+0.5
RUFI				S	Sb	02 08 03.8	-0.8
NARO	**Abbazia di Nar**	**0.49**	**116**	P	Pb	02 08 01.2	-0.5
NARO				S	Sb	02 08 08.6	-0.3

IDC 07 02:10:21.4±8.3, 53°.98N×159°.49E, h0km, Error ellipse: s-maj=87.0km s-min=27.6km az=52.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**1.37**	**231**	I	I	02 17 50.0	
	0.1nm,0.7s,baz=49,slow=336,SNR=5.8						
PETK	**Petropavlovsk-**	**1.38**	**231**	Pg	Pg	02 10 47.1	-0.6
	0.3nm,0.3s,baz=54,slow=17,SNR=2.7						
I53US	**FAIRBANKS INFR**	**28.04**	**46**	I	I	04 57 20.0	
	baz=270,slow=314,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**35.37**	**13**	I	I	06 54 30.0	
	baz=315,slow=347,SNR=1.7						

*WEL **07** 02:10:50.2±0.7, 33°.S±6°.×17°.8W±1°.5, h12km, M4.3/9, mB4.6/4, ML4.7/11, MLv4.5/9, Mw(mB)3.8/4, Error ellipse: s-maj=21.0km s-min=4.2km az=109.1, confirmed*

*IDC **07** 02:10:50.8±1.9, 32°.67S×178°.15W, h0km, mb4.0/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=45.6km s-min=37.1km az=68.0*

ISC 07 02:10:51.8±1.1, 32°.56S±0°.08×178°.0W±0°.2, h20km, n20, σ1§68/31, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.29**	**2**	P	**Pn**	**02 11 40.6**	**-1.7**
GLKZ				S	**Sn**	**02 12 21.0**	**+0.3**
MXZ	**Matakaoa Point**	**5.82**	**210**	P	**Pn**	**02 12 17.6**	**+0.5**
MXZ				S	**Sn**	**02 13 22.1**	**-1.1**
WMGZ	**Waiomatatini S**	**6.00**	**208**	P	**Pn**	**02 12 19.5**	**+0.1**
WMGZ				S	**Sn**	**02 13 29.6**	**+2.1**
HAZ	**Te Kaha**	**6.21**	**212**	P	**Pn**	**02 12 22.7**	**+0.3**
HAZ				S	**Sn**	**02 13 34.9**	**+2.1**
PUZ	**Puketiti**	**6.28**	**208**	P	**Pn**	**02 12 22.7**	**-0.6**
PUZ				S	**Sn**	**02 13 35.0**	**+0.5**
RUGZ	**Raukumara Rang**	**6.43**	**212**	P	**Pn**	**02 12 24.4**	**-1.1**
RUGZ				S	**Sn**	**02 13 38.7**	**+0.3**
TWGZ	**Tauwhareparae**	**6.48**	**209**	P	**Pn**	**02 12 25.9**	**-0.2**
CNGZ	**Carnagh Statio**	**6.66**	**206**	P	**Pn**	**02 12 25.9**	**-2.5**
CNGZ				S	**Sn**	**02 13 44.1**	**+0.4**
MWZ	**Matawai**	**6.80**	**211**	P	**Pn**	**02 12 31.5**	**+0.9**
MWZ				S	**Sn**	**02 13 45.5**	**-1.9**
URZ	**Urewera**	**6.93**	**214**	Pn	**Pn**	**02 12 30.0**	**-2.2**
	2.3nm,0.3s,baz=348,slow=3.7,SNR=16						
URZ				Sn	**Sn**	**02 13 47.8**	**-2.7**
	2.8nm,0.3s,baz=26,slow=22,SNR=12						
	6.6nm,0.3s						
URZ	**Urewera**	**6.93**	**214**	P	**Pn**	**02 12 31.0**	**-1.3**
URZ				S	**Sn**	**02 13 49.5**	**-1.0**
RIGZ	**Rimuhau**	**7.02**	**208**	P	**Pn**	**02 12 32.3**	**-1.3**
RIGZ				S	**Sn**	**02 13 51.9**	**-0.9**
PRGZ	**Paritu Road**	**7.16**	**206**	P	**Pn**	**02 12 31.1**	**-4.4**
OUZ	**Omahuta**	**7.45**	**247**	P	Pn	02 12 44.3	+4.9
BKZ	**Black Stump Fm**	**7.95**	**212**	P	**Pn**	**02 12 45.7**	**-0.6**
BKZ				S	**Sn**	**02 14 13.1**	**-2.5**
CTZ	**Chatham Island**	**11.21**	**175**	P	**Pn**	**02 13 29.8**	**-1.0**
ASAR	**Alice Springs**	**43.01**	**269**	P	**P**	**02 18 51.8**	**+1.6**
	2.0nm,0.7s,baz=108,slow=7.6,SNR=18						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**44.20**	**274**	P	**P**	**02 19 00.9**	**+1.2**
	2.0nm,0.6s,baz=115,slow=7.8,SNR=11						
	2.0nm,0.6s						
QSPA	**South Pole Qui**	**57.55**	**180**	P	**P**	**02 20 41.8**	**+1.9**
	1.1nm,1.1s,baz=316,slow=16,SNR=1.8						
	1.1nm,1.1s						
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc	**PKPab**	**02 30 34.0**	**-0.4**
	4.6nm,0.9s,baz=37,slow=3.3,SNR=10						

*IDC **07** 02:15:58.3±1.7, 32°.09S×178°.29W, h0km, mb3.6/3, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=47.6km s-min=38.3km az=77.0*

ISC 07 02:16:05.3±1.6, 32°.2S±0°.1×178°.5W±0°.2, h45km, n7, σ1§13/8, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.02**	**210**	Pn	**Pn**	**02 17 43.8**	**-1.7**
	0.2nm,0.3s,baz=54,slow=21,SNR=1.5						
URZ				Sn	**Sn**	**02 19 05.4**	**+1.4**
	1.0nm,0.3s,baz=135,slow=21,SNR=6.4						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**42.63**	**269**	P	**P**	**02 23 58.0**	**+0.5**
	0.2nm,0.3s,baz=109,slow=8.4,SNR=1.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.78**	**274**	P	**P**	**02 24 07.4**	**+0.6**
	0.4nm,0.3s,baz=115,slow=7.7,SNR=5.1						
	0.4nm,0.3s						
MTN	**Manton Dam**	**49.88**	**281**	P	**P**	**02 24 53.9**	**-0.5**
QSPA	**South Pole Qui**	**57.90**	**180**	P	**P**	**02 25 53.1**	**+0.6**
	1.3nm,1.1s,baz=18,slow=3.2,SNR=3.1						
	1.3nm,1.1s						
FINES	**FINESS Array B**	**146.69**	**339**	PKPbc	**PKPdf**	**02 35 39.8**	**+0.2**
	1.9nm,0.7s,baz=37,slow=3.5,SNR=10						
MMAI	**Mount Meron Ar**	**151.51**	**281**	PKPbc	**PKiKP**	**02 35 55.0**	**0.0**
	0.5nm,0.4s,baz=90,slow=4.9,SNR=4.2						

*IDC **07** 02:18:31.5±7.1, 29°.2S N×143°.26E, h0km, mb3.7/4, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=277.8km s-min=30.3km az=74.0*

ISC 07 02:18:34.2±8.2, 29°.5N±0°.7×14°4E±°, h35km, n6, σ0§96/6, mb3.9/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.54**	**327**	Pn	**Pn**	**02 20 34.9**	**-0.6**
	0.3nm,0.3s,baz=154,slow=11,SNR=4.6						
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**48.77**	**318**	P	**P**	**02 27 14.9**	**-0.6**
	0.5nm,0.4s,baz=89,slow=9.2,SNR=2.0						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**50.01**	**192**	P	**P**	**02 27 24.9**	**-0.4**
	0.3nm,0.4s,baz=13,slow=9.3,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**50.22**	**308**	P	**P**	**02 27 26.6**	**-0.1**
	0.4nm,0.6s,baz=92,slow=8.5,SNR=5.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**52.54**	**313**	P	**P**	**02 27 44.6**	**+0.6**
	0.8nm,0.5s,baz=82,slow=6.9,SNR=6.9						
BVAR	**Borovoye Array**	**57.38**	**317**	P	**P**	**02 28 20.2**	**+1.2**
	1.0nm,0.5s,baz=95,slow=6.4,SNR=6.4						
	1.0nm,0.5s						

*IDC **07** 02:20:29.0±2.4, 32°.99N×135°.04E, h0km, mb3.9/5, mbtmp3.9/7, ML3.3/2, Error ellipse: s-maj=50.8km s-min=16.4km az=151.0*

*JMA **07** 02:20:34.6±0.1, 33°.4N±0°.2×134°.8E±0°.2, h32km±1km, MD3.9/32, MV3.9/32, SE OFF SHIKOKU*

JMA Felt I J1 at SE OFF SHIKOKU .

*NIED **07** 02:20:34.6, 33°.37N×134°.80E, h32km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.00; $M_{\theta\theta}$-4.48; $M_{\phi\phi}$1.47; $M_{r\theta}$-3.52; $M_{\theta\phi}$-0.95; $M_{\phi r}$0.65; Fault plane solution: $M_0$5.31000×10^{14} NP1:ϕ_s56.00000°, δ28.00000°, λ51.00000°. NP2:ϕ_s279.00000°, δ68.00000°, λ109.00000°.*

*NEIC **07** 02:20:37.0±1.6, 33°.6N±0°.1×134°.55E±0°.05, h24km±6km, mb4.4/13 Error ellipse: s-maj=16.8km s-min=3.6km az=160.0*

ISC 07 02:20:35.2±1.5, 33°.38N±0°.10×134°.73E±0°.04, h25km±9km, n51, σ1§38/39, mb4.3/13, 4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.48**	**331**	⇓P	**Pb**	**02 20 45.0**	**-0.1**
JAI				⇓S	**Sb**	**02 20 52.2**	**+0.5**
JAI	**Aioi**	**0.48**	**331**	A	A	02 20 45.0	
	comp=N,10.0nm,1.0s,comp=E,11nm,0.7s						
MRT2	**Murotomisaki 2**	**0.49**	**272**	P	**Pb**	**02 20 45.5**	**+0.2**
MRT2				S	**Sb**	**02 20 53.2**	**+1.1**
MRT2	**Murotomisaki 2**	**0.49**	**272**	A	A	02 20 45.5	
	comp=N,6.0nm,10.0s,comp=E,6.0nm,1.5s						
JWM	**Minabe**	**0.71**	**48**	⇓P	**Pb**	**02 20 47.4**	**-1.5**
JWM				⇓S	**Sb**	**02 20 56.8**	**-1.5**
JWM	**Minabe**	**0.71**	**48**	A	A	02 20 47.4	
	comp=N,23nm,0.8s,comp=E,17nm,0.3s						
JMN	**Monobe**	**0.79**	**297**		**Sn**	**02 20 57.0**	**-4.9**
JMN	**Monobe**	**0.79**	**297**	P	**Pn**	**02 20 50.1**	**-0.8**
JMN	**Monobe**	**0.79**	**297**	A	A	02 20 50.1	
	comp=N,4.0nm,1.3s,comp=E,3.0nm,1.1s						
JMAF	**Mimaanabuki**	**0.82**	**324**	A	A	02 20 50.4	
	comp=N,7.0nm,1.1s,comp=E,6.0nm,0.9s						
JTNC	**Tanabenakahech**	**0.86**	**59**	*i* P	**Pn**	**02 20 49.4**	**-2.4**
JTNC				*e*S	**Sn**	**02 20 60.0**	**-3.6**
JTNC	**Tanabenakahech**	**0.86**	**59**	A	A	02 20 49.4	
	comp=N,13nm,1.1s,comp=E,26nm,0.3s						
JWKM	**Wakayamakushim**	**0.86**	**85**	A	A	02 20 49.5	
	comp=N,6.0nm,3.5s,comp=E,7.0nm,0.6s						
JWY	**Kouya**	**1.11**	**40**	A	A	02 20 53.7	
	comp=N,8.0nm,0.6s,comp=E,11nm,1.7s						
JJS	**Sakaide**	**1.20**	**327**	A	A	02 20 56.2	
	comp=N,5.0nm,1.3s,comp=E,3.0nm,6.4s						
JMIK	**Miki**	**1.45**	**11**	A	A	02 20 59.4	
	comp=N,6.0nm,1.2s,comp=E,4.0nm,1.2s						
INU	**Inuyama**	**2.73**	**43**	Pn	**Pn**	**02 21 17.9**	**+0.4**
INU				Sn	**Sn**	**02 21 50.7**	**+0.9**
JGF	**Kuroka**	**3.11**	**44**	Pn	**Pn**	**02 21 24.1**	**+1.4**
JNU	**Nakatsue**	**3.23**	**267**	Pn	**Pn**	**02 21 23.9**	**-0.6**
JNU	**Nakatsue**	**3.23**	**267**	Pn	**Pn**	**02 21 24.6**	**+0.1**
	comp=E,5.0nm,0.3s,baz=72,slow=3.3,SNR=19						
JNU				Lg	Lg	02 22 22.1	
	comp=E,4.5nm,0.3s,baz=183,slow=23,SNR=4.5						
	comp=E,23nm,0.5s						
MAJO	**Matsushiro**	**4.26**	**41**	Pn	**Pn**	**02 21 39.4**	**+0.9**
MJAR	**Matsushiro Arr**	**4.26**	**41**	Pn	**Pn**	**02 21 39.0**	**+0.5**
	comp=E,0.6nm,0.3s,baz=242,slow=14,SNR=8.5						
MJAR				Pg	**Pb**	**02 21 51.0**	**+1.6**
	comp=E,0.8nm,0.3s,baz=215,slow=16,SNR=12						
MJAR				Lg	Lg	02 22 49.2	
	comp=E,0.4nm,0.3s,baz=225,slow=28,SNR=4.4						
	comp=E,3.1nm,0.3s						
MJB9	**Matsu-Tunnel**	**4.26**	**41**	Pn	**Pn**	**02 21 39.9**	**+1.3**
JMM	**Marumori**	**6.67**	**46**	Pn	**Pn**	**02 22 13.0**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**31.68**	**107**	T	T	03 00 16.6	
	baz=301						
H11N1	**WAKE ISLAND Hy**	**31.68**	**107**	T	T	03 00 16.8	
	baz=301						
H11N3	**WAKE ISLAND Hy**	**31.70**	**107**	T	T	03 00 17.0	
	baz=301						
H11S3	**WAKE ISLAND Hy**	**32.18**	**109**	T	T	03 00 57.0	
	baz=305,slow=75						
H11S1	**WAKE ISLAND Hy**	**32.18**	**109**	T	T	03 00 57.2	
	baz=305,slow=75						
H11S2	**WAKE ISLAND Hy**	**32.20**	**109**	T	T	03 00 58.2	
	baz=305,slow=75						
CMAR	**Chiang Mai Arr**	**35.25**	**254**	P	**P**	**02 27 27.9**	**-0.1**
	comp=E,1.2nm,0.3s,baz=55,slow=8.4,SNR=1.7						
	comp=E,1.2nm,0.3s						
MKAR	**Makanchi Array**	**41.55**	**305**	P	**P**	**02 28 21.2**	**+0.5**
	comp=E,0.7nm,0.8s,baz=90,slow=9.1,SNR=5.2						
	comp=E,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**44.06**	**310**	P	**P**	**02 28 41.5**	**+0.6**
	comp=E,0.6nm,0.6s,baz=96,slow=9.1,SNR=2.0						
WRAB	**Tennant Creek**	**53.01**	**180**	P	P	02 29 55.4	+5.3
WRAB				IAmb	IAmb	02 29 55.7	
	comp=Z,9.5nm,0.8s						
RND	**Reindeer**	**54.73**	**32**	P	**P**	**02 30 02.5**	**+0.2**
RND				IAmb	IAmb	02 30 02.9	
	comp=Z,3.7nm,1.1s						
PWL	**Port Wells**	**55.25**	**35**	P	**P**	**02 30 06.9**	**+0.9**
PWL				IAmb	IAmb	02 30 17.5	
	comp=Z,6.7nm,1.2s						
D25K	**Kavik River**	**55.31**	**25**	P	**P**	**02 30 06.5**	**+0.1**
D25K				IAmb	IAmb	02 30 22.4	
	comp=Z,3.9nm,1.1s						
BMAR	**Burnt Mountain**	**56.13**	**27**	P	**P**	**02 30 12.5**	**+0.2**
J25K	**Salcha River,**	**56.13**	**31**	P	**P**	**02 30 11.5**	**-0.9**
SCRK	**Sand Creek**	**56.82**	**31**	P	**P**	**02 30 17.6**	**+0.2**
SCRK				IAmb	IAmb	02 30 34.2	
	comp=Z,3.2nm,1.2s						
D27M	**Malcolm River**	**57.24**	**25**	P	**P**	**02 30 21.4**	**+1.3**
I28M	**Miner Creek**	**58.27**	**29**	P	**P**	**02 30 27.6**	**+0.1**
H31M	**Peel River**	**60.44**	**28**	P	**P**	**02 30 43.2**	**+0.8**
H31M				IAmb	IAmb	02 30 54.8	
	comp=Z,1.9nm,0.9s						
DZM	**Mont Dzumac**	**62.89**	**147**	P	P	02 31 02.4	+3.0
C36M	**Paulatuk**	**62.98**	**23**	P	**P**	**02 30 58.7**	**-0.7**
C36M				IAmb	IAmb	02 31 00.6	
	comp=Z,4.0nm,1.2s						
SPB2	**Spitsbergen Ar**	**63.01**	**348**	P	**P**	**02 30 59.2**	**-0.2**
KAAM	**Kaadhehdhoo**	**66.36**	**254**	P	**P**	**02 31 23.3**	**+1.0**
KBZ	**Khabaz**	**69.04**	**309**	P	**P**	**02 31 38.6**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=57,slow=4.6,SNR=5.4						
	comp=Z,3.5nm,0.9s						
YKA	**Yellowknife Ar**	**69.65**	**28**	P	**P**	**02 31 42.1**	**-0.1**
AKASG	**Malin Array Be**	**73.72**	**320**	P	**P**	**02 32 06.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=46,slow=6.6,SNR=4.5						
	comp=Z,0.1nm,0.3s						
BRTR	**Keskin Array B**	**77.03**	**309**	P	**P**	**02 32 26.9**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=71,slow=4.9,SNR=7.3						
	comp=Z,1.4nm,0.8s						

*IDC **07** 02:23:06.5±2.0, 6°.29S×129°.51E, h0km, mb4.1/1, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=93.5km s-min=26.5km az=76.0*

ISC 07 02:23:21.8±1.3, 6°.9S±0°.1×129°.2E±0°.1, h150km, n12, σ1§73/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.79**	**163**	P	**Pn**	**02 24 49.3**	**+3.6**
KDU	**Kakadu**	**6.64**	**151**	P	**Pn**	**02 24 56.7**	**-0.4**
PLAI	**Plampang**	**11.45**	**259**	P	**Pn**	**02 26 00.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.68**	**197**	Pn	**Pn**	**02 26 05.2**	**+1.1**
	0.2nm,0.3s,baz=21,slow=12,SNR=13						
FITZ				Sn	**Sn**	**02 28 13.8**	**+0.6**
	0.7nm,0.3s,baz=214,slow=17,SNR=6.8						
	2.2nm,1.0s						
WRA	**Warramunga Arr**	**13.94**	**159**	Pn	**Pn**	**02 26 30.4**	**-2.6**
	0.7nm,0.3s,baz=341,slow=13,SNR=16						
WRA				Sn	Sn	02 28 54.5	-13
	1.0nm,0.3s,baz=307,slow=12,SNR=6.7						
	0.5nm,0.5s						
JAGI	**Jajag, Banyuwa**	**14.97**	**263**	P	**Pn**	**02 26 44.4**	**-1.6**
QIS	**Mount Isa**	**16.96**	**144**	P	**P**	**02 27 08.9**	**-0.9**
ASAR	**Alice Springs**	**17.32**	**165**	P	**Pn**	**02 27 15.0**	**+0.4**
	0.6nm,0.3s,baz=343,slow=10,SNR=14						
ASAR				S	**S**	**02 30 24.9**	**-1.7**
	0.3nm,0.4s,baz=157,slow=21,SNR=4.8						
	1.8nm,0.5s						
AS01	**Alice Springs**	**17.33**	**165**	P	**Pn**	**02 27 15.9**	**+1.2**
OOD	**Oodnadatta**	**21.72**	**164**	P	**P**	**02 28 01.6**	**+0.5**
GSI	**Gunungsitoli**	**32.55**	**283**	P	P	02 29 32.5	-6.6
MKAR	**Makanchi Array**	**67.66**	**327**	P	**P**	**02 34 03.7**	**+1.0**
	0.9nm,0.5s,baz=114,slow=8.3,SNR=17						
	0.9nm,0.5s						

*WEL **07** 02:26:53.9±0.9, 32°S±4°×17°7W±1°3, h12km, mB5.3/6, ML5.6/7, MLv5.3/7, Mw(mB)4.7/6, Error ellipse: s-maj=17.1km s-min=4.3km az=103.8, confirmed*

*IDC **07** 02:26:56.8±0.5, 31°.88S×178°.02W, h0km, mb4.6/18, mbtmp4.5/20, ML4.4/2, MS4.7/47, Error ellipse: s-maj=18.5km s-min=17.8km az=125.0*

*MOS **07** 02:26:58.2±1.2, 31°.92S×178°.15W, h10km, mb5.3/13, MS4.8/4, Error ellipse: s-maj=16.6km s-min=14.7km az=42.1*

*NEIC **07** 02:27:00.3±1.8, 32°.1S±0°.1×178°.0W±0°.1, h10km±1km, mb5.0/48, Error ellipse: s-maj=18.6km s-min=17.0km az=92.0*

*BJI **07** 02:27:01.7, 31°.58S×177°.53W, h26km, mB5.6/6, mb5.1/14, Ms5.2/9, Ms7 4.8/11*

*GCMT **07** 02:27:03.9±0.1, 31°.92S±0°.01×177°.76W±0°.01, h18km, MW5.3/134, Moment Tensor Solution. s105, c170; s134, c226; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.87±.02; $M_{\theta\theta}$-0.27±.01; $M_{\phi\phi}$-0.60±.01; $M_{r\theta}$0.43±.03; $M_{\theta\phi}$-0.41±.01; $M_{\phi r}$0.69±.03; Best double couple: $M_0$1.19800×10^{17} NP1:ϕ_s215.00000°, δ23.00000°, λ92.00000°. NP2:ϕ_s33.00000°, δ67.00000°, λ89.00000°. Principal axes: T 1.1920, Pl68.0000°, Azm301.0000°; N 0.0130, Pl9.0000°, Azm33.0000°; P -1.2040, Pl22.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **07** 02:28:26.5, 37°.84S×178°.24E, h4km, mb4.5/9, Off E. Coast of N. Island, N.Z.*

ISC 07 02:26:59.0±0.4, 32°.04S±0°.05×177°.89W±0°.08, h10km, n281, σ1§78/239, mb4.9/53, MS4.8/53, 10C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.77**	**359**	P	Pn	02 27 39.0	-4.5
GLKZ				S	**Sn**	**02 28 11.3**	**-5.8**
RIZ	**Raoul Island**	**2.79**	**359**	P	Pn	02 27 39.2	-4.5
RIZ				S	**Sn**	**02 28 12.7**	**-4.8**
MXZ	**Matakaoa Point**	**6.33**	**209**	Pn	**Pn**	**02 28 32.5**	**+0.2**
MXZ	**Matakaoa Point**	**6.33**	**209**	P	**Pn**	**02 28 32.5**	**+0.2**
MXZ	**Matakaoa Point**	**6.33**	**209**	P	**Pn**	**02 28 29.0**	**-3.3**
MXZ				S	**Sn**	**02 29 44.3**	**-0.4**
WMGZ	**Waiomatatini S**	**6.51**	**207**	P	**Pn**	**02 28 33.0**	**-1.8**
WMGZ				S	**Sn**	**02 29 46.7**	**-2.4**
PKGZ	**Pakihiroa**	**6.68**	**209**	P	**Pn**	**02 28 34.1**	**-3.1**
PKGZ				S	**Sn**	**02 29 53.0**	**-0.5**
HAZ	**Te Kaha**	**6.71**	**211**	P	**Pn**	**02 28 35.1**	**-2.5**
HAZ				S	**Sn**	**02 29 54.3**	**+0.2**
PUZ	**Puketiti**	**6.79**	**207**	P	**Pn**	**02 28 35.3**	**-3.4**
PUZ				S	**Sn**	**02 29 54.6**	**-1.5**
GRZ	**Great Barrier**	**6.93**	**231**	P	**Pn**	**02 28 40.3**	**-0.3**
RUGZ	**Raukumara Rang**	**6.94**	**210**	P	**Pn**	**02 28 37.7**	**-3.1**
RUGZ				S	**Sn**	**02 29 58.5**	**-1.3**
TWGZ	**Tauwhareparae**	**6.99**	**208**	P	**Pn**	**02 28 38.1**	**-3.3**
TWGZ				S	**Sn**	**02 30 00.2**	**-0.8**
WHRZ	**Whale Island**	**7.17**	**215**	P	**Pn**	**02 28 45.8**	**+1.9**
CNGZ	**Carnagh Statio**	**7.17**	**205**	P	**Pn**	**02 28 41.3**	**-2.6**
CNGZ				S	**Sn**	**02 30 05.7**	**+0.3**
MWZ	**Matawai**	**7.31**	**210**	P	**Pn**	**02 28 42.3**	**-3.6**
MWZ				S	**Sn**	**02 30 06.9**	**-2.0**
URZ	**Urewera**	**7.43**	**212**	Pn	**Pn**	**02 28 45.6**	**-1.8**
	3.1nm,0.3s,baz=347,slow=3.0,SNR=20						
URZ				Sn	**Sn**	**02 30 07.9**	**-3.9**
	22nm,0.3s,baz=278,slow=20,SNR=11						
	11nm,0.3s						
URZ	**Urewera**	**7.43**	**212**	P	**Pn**	**02 28 45.4**	**-2.0**
URZ	**Urewera**	**7.43**	**212**	P	**Pn**	**02 28 45.1**	**-2.3**
URZ				S	**Sn**	**02 30 08.8**	**-2.9**
WCZ	**Waipu Caves**	**7.53**	**237**	P	**Pn**	**02 28 52.9**	**+4.1**
PRGZ	**Paritu Road**	**7.68**	**205**	P	**Pn**	**02 28 49.3**	**-1.6**
SNGZ	**Shannon Statio**	**7.77**	**209**	P	**Pn**	**02 28 53.6**	**+1.5**
OUZ	**Omahuta**	**7.77**	**244**	P	Pn	02 28 56.8	+4.7
RTZ	**Ruatahuna**	**7.78**	**211**	Pn	**Pn**	**02 28 50.5**	**-1.9**
TOZ	**Tahuroa Road**	**7.85**	**222**	Pn	**Pn**	**02 28 52.5**	**-0.7**
RAHZ	**Arahi**	**7.99**	**209**	P	**Pn**	**02 28 54.0**	**-1.1**
BKZ	**Black Stump Fm**	**8.45**	**211**	Pn	**Pn**	**02 28 59.5**	**-2.0**
BKZ	**Black Stump Fm**	**8.45**	**211**	P	**Pn**	**02 29 00.1**	**-1.4**
HIZ	**Hauiti**	**8.76**	**221**	Pn	**Pn**	**02 29 05.5**	**-0.3**
BFZ	**Birch Farm**	**9.83**	**207**	P	**Pn**	**02 29 17.9**	**-2.4**
BHW	**Baring Head**	**11.00**	**210**	Pn	**Pn**	**02 29 36.9**	**+0.6**
QRZ	**Quartz Range**	**11.67**	**219**	P	**Pn**	**02 29 46.4**	**+0.9**
CTZ	**Chatham Island**	**11.71**	**175**	P	Pn	02 29 41.6	-4.6
CTZ				S	Sn	02 31 43.5	-13
KHZ	**Kahutara**	**12.39**	**211**	P	**Pn**	**02 29 53.4**	**-2.0**
OXZ	**Oxford**	**13.79**	**212**		**Pn**	**02 30 13.8**	**-0.6**
RPZ	**Rata Peaks**	**14.54**	**214**	Pn	**Pn**	**02 30 22.3**	**-2.5**
RPZ	**Rata Peaks**	**14.54**	**214**	Pn	**Pn**	**02 30 23.1**	**-1.7**
	3.2nm,0.3s,baz=44,slow=1.2,SNR=5.8						
RPZ				Sn	Sn	02 32 51.0	-15
	3.1nm,0.3s,baz=330,slow=18,SNR=7.2						
	7.1nm,0.4s						
RPZ	**Rata Peaks**	**14.54**	**214**	P	**Pn**	**02 30 24.7**	**-0.1**
ODZ	**Otahua Downs**	**15.75**	**211**	P	**Pn**	**02 30 38.3**	**-2.6**
ONTNC	**Ouen Toro**	**16.95**	**301**	P	**P**	**02 30 57.8**	**-0.5**
DZM	**Mont Dzumac**	**17.11**	**302**	Pn	**Pn**	**02 30 57.7**	**-0.7**
DZM				IAmb	IAmb	02 31 05.2	
	comp=Z,52nm,1.2s						
SYZ	**Scrubby Hill**	**17.58**	**211**	P	**Pn**	**02 31 04.6**	**+0.6**
RAR	**Rarotonga**	**19.43**	**61**	LR	LR	02 37 00.3	
	comp=Z,767nm,21.4s,baz=232,slow=31						
ARMA	**Armidale**	**26.07**	**265**	P	**P**	**02 32 33.8**	**+0.8**
EIDS	**Eidsvold**	**27.95**	**276**	P	**P**	**02 32 49.9**	**+0.2**
EIDS				IAmb	IAmb	02 33 14.1	
	comp=Z,32nm,1.2s						
PPT	**Papeete**	**29.36**	**67**	LR	LR	02 41 37.2	
	comp=Z,600nm,21.2s,baz=248,slow=30						
HNR	**Honiara**	**30.46**	**313**	LR	LR	02 44 02.9	
	comp=Z,2μm,19.4s,baz=150,slow=34						
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**02 33 44.8**	**-0.2**
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**02 33 43.2**	**-1.8**
	comp=Z,3.1nm,0.7s,baz=103,slow=11,SNR=7.9						
STKA				LR	LR	02 46 44.8	
	comp=Z,2μm,18.9s,baz=93,slow=35						
	comp=Z,3.1nm,0.7s						
STKA	**Stephens Creek**	**34.23**	**259**	*i* P	**P**	**02 33 44.8**	**-0.2**
BBOO	**Buckleboo**	**38.64**	**256**	P	**P**	**02 34 22.4**	**-0.3**
BBOO				IAmb	IAmb	02 34 31.5	
	comp=Z,31nm,1.1s						
PMG	**Port Moresby**	**39.41**	**297**	LR	LR	02 49 18.2	
	comp=Z,1μm,18.9s,baz=142,slow=34						
COEN	**Coen**	**39.83**	**288**	P	**P**	**02 34 33.4**	**+0.6**
AS31	**Alice Springs**	**43.14**	**269**	P	**P**	**02 34 59.7**	**-0.2**
ASAR	**Alice Springs**	**43.14**	**269**	P	**P**	**02 34 58.6**	**-1.3**
	comp=Z,5.7nm,0.4s,baz=114,slow=7.8,SNR=31						
	comp=Z,5.7nm,0.4s						
WR0	**Warramunga Arr**	**44.10**	**274**	P	**P**	**02 35 06.7**	**-0.9**
WR0				IAmb	IAmb	02 35 16.4	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**44.26**	**274**	P	**P**	**02 35 07.1**	**-1.9**
WB2				IAmb	IAmb	02 35 13.9	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**44.27**	**274**	*i* P	**P**	**02 35 08.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,24nm,0.9s						
WRA	**Warramunga Arr**	**44.27**	**274**	P	**P**	**02 35 07.7**	**-1.4**
WRA	**Warramunga Arr**	**44.27**	**274**	P	**P**	**02 35 07.5**	**-1.5**
	comp=Z,7.5nm,0.4s,baz=113,slow=8.0,SNR=50						
WRA				LR	LR	02 52 49.9	
	comp=Z,2μm,18.0s,baz=104,slow=35						
	comp=Z,7.5nm,0.4s						
WRA	**Warramunga Arr**	**44.27**	**274**	P	**P**	**02 35 07.7**	**-1.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WB0	**Warramunga Arr**	**44.30**	**274**	P	**P**	**02 35 07.9**	**-1.4**
WB0				IAmb	IAmb	02 35 17.9	
	comp=Z,28nm,0.8s						
FORT	**Forrest**	**45.74**	**257**	P	**P**	**02 35 20.0**	**-0.6**
VNDA	**Vanda**	**46.47**	**186**	LR	LR	02 52 12.8	
	comp=Z,681nm,19.0s,baz=22,slow=32						
JAY	**Jayapura**	**48.75**	**298**	LR	LR	02 55 56.5	
	comp=Z,540nm,18.8s,baz=168,slow=36						
MTN	**Manton Dam**	**50.35**	**280**	P	**P**	**02 35 55.1**	**-1.2**
KNRA	**Kununurra**	**50.94**	**276**	P	**P**	**02 35 59.8**	**-1.1**
KNRA				IAmb	IAmb	02 36 08.6	
	comp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.47**	**271**	P	**P**	**02 36 10.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.47**	**271**	P	**P**	**02 36 10.5**	**-1.8**
	comp=Z,5.1nm,0.9s,baz=121,slow=7.1,SNR=9.3						
FITZ				LR	LR	02 57 58.9	
	comp=Z,3μm,19.1s,baz=115,slow=36						
	comp=Z,5.1nm,0.9s						
CASY	**Casey**	**53.74**	**208**	P	**P**	**02 36 21.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**53.92**	**250**	LR	LR	02 56 59.6	
	comp=Z,725nm,21.6s,baz=56,slow=34						
GUMO	**Guam**	**57.72**	**316**	LR	LR	02 57 42.3	
	comp=Z,734nm,21.4s,baz=110,slow=32						
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**02 36 53.8**	**+1.5**
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**02 36 54.2**	**+2.0**
	comp=Z,13nm,1.1s,baz=36,slow=3.1,SNR=11						
QSPA				LR	LR	03 00 09.9	
	comp=Z,1μm,18.4s,baz=39,slow=34						
	comp=Z,13nm,1.1s						
KAPI	**Kappang**	**64.00**	**281**	LR	LR	03 04 30.4	
	comp=Z,1μm,20.5s,baz=123,slow=35						
TOLI2	**Tolitoli**	**66.59**	**287**	P	**P**	**02 37 50.8**	**+1.0**
TOLI2				IAmb	IAmb	02 38 06.2	
	comp=Z,12nm,0.9s						
JCJ	**Chichijima**	**70.04**	**323**	LR	LR	03 04 18.0	
	comp=Z,485nm,20.6s,baz=314,slow=32						
PMSA	**Palmer Station**	**70.73**	**155**	LR	LR	03 04 04.0	
	comp=Z,527nm,19.8s,baz=246,slow=31						
MAW	**Mawson**	**70.81**	**201**	LR	LR	03 07 50.3	
	comp=Z,830nm,20.9s,baz=112,slow=35						
LEM	**Lembang**	**73.27**	**272**	LR	LR	03 11 32.7	
	comp=Z,724nm,19.9s,baz=144,slow=37						
TGY	**Tagaytay City**	**74.37**	**298**	LR	LR	03 10 15.0	
	comp=Z,186nm,20.0s,baz=190,slow=35						
ELIB	**Princess Elisa**	**75.23**	**187**	*d*P	**P**	**02 38 43.0**	**+1.4**
	comp=Z,9.8nm,1

PETK	**Petropavlovsk-**	**87.42**	**346**	P	**P**	**02 39 45.5**	**-0.6**
	comp=Z,6.9nm,1.0s,baz=91,slow=5.8,SNR=4.5						
PETK				LR	LR	03 15 50.6	
	comp=Z,412nm,18.4s,baz=160,slow=34						
	comp=Z,6.9nm,1.0s						
GSC	**Goldstone, Bar**	**88.16**	**46**	P	**P**	**02 39 52.5**	**+2.3**
GSC				IAmb	IAmb	02 39 52.9	
	comp=Z,9.2nm,1.1s						
GSC	**Goldstone, Bar**	**88.16**	**46**	P	**P**	**02 39 52.5**	**+2.3**
GSC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CFA	**Coronel Fontan**	**88.19**	**126**	LR	LR	03 13 32.4	
	comp=Z,164nm,18.3s,baz=112,slow=32						
USRK	**Ussuriysk Ar.**	**88.58**	**326**	P	**P**	**02 39 51.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**88.58**	**326**	P	**P**	**02 39 50.6**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=134,slow=5.5,SNR=4.5						
USRK				LR	LR	03 13 44.3	
	comp=Z,326nm,21.8s,baz=144,slow=32						
	comp=Z,2.9nm,0.8s						
USA0B	**Ussuriysk Arra**	**88.58**	**326**	*i* P	**P**	**02 39 49.9**	**-1.9**
WAKR	**Walker**	**88.78**	**42**	P	**P**	**02 39 55.2**	**+2.0**
YBH	**Yreka Blue Hor**	**89.27**	**38**	LR	LR	03 13 12.6	
	comp=Z,308nm,19.8s,baz=228,slow=31						
NVAR	**Mina Array Bea**	**89.38**	**43**	P	**P**	**02 39 57.9**	**+1.8**
NVAR	**Mina Array Bea**	**89.38**	**43**	P	**P**	**02 39 56.1**	**0.0**
	comp=Z,1.4nm,0.8s,baz=225,slow=5.4,SNR=12						
NVAR				LR	LR	03 15 44.6	
	comp=Z,801nm,18.3s,baz=194,slow=33						
	comp=Z,1.4nm,0.8s						
NV11	**Mina Array Sit**	**89.47**	**43**	P	**P**	**02 39 58.6**	**+2.3**
TPNV	**Topopah Spring**	**89.59**	**45**	P	**P**	**02 39 59.4**	**+2.4**
TPNV				IAmb	IAmb	02 40 03.4	
	comp=Z,16nm,1.4s						
TPNV	**Topopah Spring**	**89.59**	**45**	P	**P**	**02 39 59.4**	**+2.4**
TPNV				pmax	pmax		
	comp=Z,16nm,1.4s						
TYV	**Tymovskoe**	**89.59**	**336**	*e*P	**P**	**02 39 55.7**	**-0.7**
TYV				pmax	pmax		
	comp=Z,400nm,5.6s						
TYV				pmax	pmax		
	comp=Z,12nm,0.9s						
V12A	**Nelson**	**89.64**	**46**	P	**P**	**02 39 58.9**	**+1.7**
V12A				IAmb	IAmb	02 40 03.7	
	comp=Z,11nm,1.4s						
Y14A	**Wickenburg**	**89.64**	**49**	P	**P**	**02 39 59.1**	**+2.0**
W13A	**Hualapai Mount**	**89.83**	**47**	P	**P**	**02 39 60.0**	**+1.8**
W13A				IAmb	IAmb	02 40 05.5	
	comp=Z,7.4nm,1.0s						
SHPR	**Sheep Range**	**89.96**	**46**	P	**P**	**02 40 00.4**	**+1.7**
MDJ	**Mudanjiang**	**90.03**	**325**	P	**P**	**02 40 02.8**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,180nm,9.6s						
TUC	**Tucson**	**90.06**	**51**	P	**P**	**02 40 01.1**	**+1.9**
TUC				IAmb	IAmb	02 40 11.5	
	comp=Z,30nm,2.0s						
TUC	**Tucson**	**90.06**	**51**	P	**P**	**02 40 01.1**	**+1.9**
TUC				pmax	pmax		
	comp=Z,30nm,2.0s						
PRN	**Pahroc Range**	**90.61**	**45**	P	**P**	**02 40 03.6**	**+1.9**
PRN				IAmb	IAmb	02 40 09.7	
	comp=Z,9.1nm,1.0s						
X16A	**Lo Mia Camp, P**	**90.95**	**49**	P	**P**	**02 40 05.0**	**+1.6**
X16A				IAmb	IAmb	02 40 11.0	
	comp=Z,9.5nm,1.1s						
LCMT	**Little Creek M**	**91.46**	**46**	P	**P**	**02 40 06.5**	**+0.8**
CN2	**Changchun**	**91.50**	**323**	*e*P	**P**	**02 40 05.2**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,300nm,17.0s						
CN2				LR	LR		
	comp=Z,300nm,17.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
PINE	**Pine Mountain**	**91.65**	**37**	P	**P**	**02 40 07.7**	**+1.3**
PINE				IAmb	IAmb	02 40 16.9	
	comp=Z,8.2nm,1.0s						
U15A	**North Rim**	**91.68**	**47**	P	**P**	**02 40 07.9**	**+1.1**
U15A				IAmb	IAmb	02 40 14.7	
	comp=Z,4.8nm,0.9s						
KNB	**Kanab**	**91.72**	**47**	P	**P**	**02 40 07.7**	**+0.8**
KNB				IAmb	IAmb	02 40 27.1	
	comp=Z,10nm,1.2s						
KNB	**Kanab**	**91.72**	**47**	P	**P**	**02 40 07.7**	**+0.8**
KNB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KDAK	**Kodiak Island**	**91.98**	**13**	LR	LR	03 18 01.1	
	comp=Z,220nm,18.3s,baz=62,slow=33						
KLR	**Kul'dur**	**92.50**	**330**	LR	LR	03 19 35.2	
	comp=Z,312nm,18.6s,baz=170,slow=34						
KLR	**Kul'dur**	**92.50**	**330**	*i* P	**P**	**02 40 08.6**	**-1.3**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
J08A	**Circle Bar Ran**	**92.64**	**39**	P	**P**	**02 40 12.1**	**+1.2**
ELK	**Elko**	**92.69**	**43**	P	**P**	**02 40 13.3**	**+1.9**
ELK				IAmb	IAmb	02 40 16.8	
	comp=Z,7.2nm,1.5s						
ELK	**Elko**	**92.69**	**43**	LR	LR	03 17 11.5	
	comp=Z,767nm,18.6s,baz=234,slow=32						
ELK	**Elko**	**92.69**	**43**	P	**P**	**02 40 13.3**	**+1.9**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MTPU	**Mount Pierson**	**92.76**	**46**	P	**P**	**02 40 13.6**	**+1.7**
NNA	**Nana**	**92.88**	**106**	LR	LR	03 15 22.4	
	comp=Z,339nm,18.5s,baz=220,slow=31						
NNA	**Nana**	**92.88**	**106**	*i* P	P	02 40 07.4	-5.3
NNA				pmax	pmax		
	comp=Z,68nm,1.6s						
CMIG	**Matias Romero**	**93.17**	**72**	LR	LR	03 12 17.5	
	comp=Z,144nm,21.3s,baz=180,slow=29						
TXAR	**Lajitas Array**	**93.20**	**57**	P	**P**	**02 40 13.8**	**0.0**
	comp=Z,0.7nm,0.9s,baz=237,slow=4.0,SNR=7.4						
	comp=Z,0.7nm,0.9s						
G08A	**Pilot Rock**	**93.71**	**37**	P	**P**	**02 40 16.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**94.03**	**289**	P	**P**	**02 40 17.1**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=112,slow=4.8,SNR=2.7						
	comp=Z,1.8nm,0.3s						
MFID	**Camas Ranch**	**94.11**	**40**	P	**P**	**02 40 19.1**	**+1.4**
MFID				IAmb	IAmb	02 40 35.9	
	comp=Z,5.5nm,1.1s						
ATAH	**Atahualpa**	**94.24**	**101**	LR	LR	03 16 57.0	
	comp=Z,149nm,18.1s,baz=245,slow=32						
BBB	**Bella Bella**	**94.50**	**28**	LR	LR	03 20 19.3	
	comp=Z,292nm,18.1s,baz=244,slow=34						
ANMO	**Albuquerque**	**94.53**	**51**	LR	LR	03 15 54.8	
	comp=Z,372nm,19.7s,baz=44,slow=31						
ANMO	**Albuquerque**	**94.53**	**51**	*i* P	**P**	**02 40 18.2**	**-1.7**
ANMO				pmax	pmax		
	comp=Z,7.0nm,3.5s						
HVU	**Hansel Valley**	**94.77**	**43**	P	**P**	**02 40 21.5**	**+0.7**
HVU				IAmb	IAmb	02 40 40.7	
	comp=Z,16nm,1.8s						
HVU	**Hansel Valley**	**94.77**	**43**	P	**P**	**02 40 21.5**	**+0.7**
HVU				pmax	pmax		
	comp=Z,16nm,1.8s						
MA2	**Magadan**	**94.90**	**345**	P	**P**	**02 40 18.9**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=187,slow=8.6,SNR=1.0						
	comp=Z,1.5nm,0.3s						
MA2	**Magadan**	**94.90**	**345**	*i* P	**P**	**02 40 18.7**	**-2.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.7s						
HLID	**Hailey**	**94.99**	**41**	P	**P**	**02 40 22.4**	**+0.5**
HLID				IAmb	IAmb	02 41 25.6	
	comp=Z,15nm,2.0s						
PZH	**PanZhiHua**	**96.14**	**297**	P	**P**	**02 40 29.2**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NEW	**Newport**	**96.65**	**36**	LR	LR	03 17 09.1	
	comp=Z,468nm,20.0s,baz=227,slow=31						
PDAR	**Pinedale Array**	**97.26**	**44**	P	**P**	**02 40 30.1**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=264,slow=2.8,SNR=5.4						
PDAR				LR	LR	03 20 29.9	
	comp=Z,344nm,18.4s,baz=225,slow=33						
	comp=Z,0.3nm,0.8s						
LPAZ	**La Paz**	**97.39**	**114**	P	**P**	**02 40 32.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=207,slow=2.3,SNR=2.8						
LPAZ				LR	LR	03 18 10.9	
	comp=Z,154nm,18.8s,baz=226,slow=32						
	comp=Z,0.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**97.44**	**314**	*e*P	Pdif	02 40 35.7	+2.7
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				LR	LR		
	comp=Z,220nm,17.7s						
HHC				LR	LR		
	comp=Z,200nm,13.9s						
HHC				LR	LR		
	comp=Z,330nm,18.4s						
SEY	**Seymchan**	**97.59**	**347**	P	**P**	**02 40 30.5**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=147,slow=8.3,SNR=4.2						
	comp=Z,0.6nm,0.3s						
SEY	**Seymchan**	**97.59**	**347**	*i* P	**P**	**02 40 31.1**	**-1.8**
SEY				pmax	pmax		
	comp=Z,20nm,3.2s						
JTS	**Las Juntas de**	**97.85**	**83**	LR	LR	03 18 41.1	
	comp=Z,193nm,18.1s,baz=340,slow=32						
CPUP	**Villa Florida**	**98.89**	**129**	LR	LR	03 22 59.9	
	comp=Z,214nm,18.2s,baz=222,slow=34						
ILAR	**Eielson Array**	**99.50**	**13**	LR	LR	03 26 17.1	
	comp=Z,134nm,18.1s,baz=230,slow=36						
YKA	**Yellowknife Ar**	**106.88**	**26**	PKKPbc	PKKPbc	02 56 42.3	-1.5
	comp=Z,0.4nm,0.7s,baz=52,slow=2.5,SNR=5.8						
WMQ	**Urumqi**	**114.31**	**308**	*e*PKP	**PKiKP**	**02 45 40.8**	**+2.0**
WMQ				LR	LR		
	comp=Z,160nm,24.7s						
MK31	**Makanchi Array**	**118.89**	**309**	PKPdf	**PKPdf**	**02 45 46.6**	**-0.9**
MK31	**Makanchi Array**	**118.89**	**309**	*i* PKIKP	**PKPdf**	**02 45 45.5**	**-2.0**
MKAR	**Makanchi Array**	**118.89**	**309**	PKPdf	**PKPdf**	**02 45 46.7**	**-0.7**
MKAR	**Makanchi Array**	**118.89**	**309**	PKP	**PKPdf**	**02 45 46.0**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=214,slow=1.6,SNR=11						
MKAR				PKKPbc	**PKKPbc**	**02 56 04.0**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=242,slow=3.1,SNR=4.1						
MKAR	**Makanchi Array**	**118.89**	**309**	*e*PKIKP	**PKPdf**	**02 45 47.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**119.31**	**318**	PKP	**PKPdf**	**02 45 46.2**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=96,slow=2.8,SNR=2.4						
KURK	**Kurchatov**	**122.24**	**313**	PKPdf	**PKPdf**	**02 45 52.8**	**-0.9**
KURK	**Kurchatov**	**122.24**	**313**	PKIKP	**PKPdf**	**02 45 52.2**	**-1.5**
KURBB	**Kurchatov Arra**	**122.28**	**313**	PKP	**PKPdf**	**02 45 52.2**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=113,slow=2.2,SNR=14						
KBL	**Kabul**	**124.94**	**292**	PKPdf	**PKPdf**	**02 45 58.9**	**-0.8**
KBL	**Kabul**	**124.94**	**292**	PKIKP	**PKPdf**	**02 45 58.9**	**-0.8**
GAR	**Garm**	**125.21**	**298**	PKPdf	**PKPdf**	**02 46 00.5**	**+0.5**
KKAR	**Karatay Array**	**126.05**	**303**	PKPdf	**PKPdf**	**02 46 01.7**	**+0.4**
KKAR	**Karatay Array**	**126.05**	**303**	PKPdf	**PKPdf**	**02 46 01.2**	**-0.1**
KKAR	**Karatay Array**	**126.05**	**303**	PKIKP	**PKPdf**	**02 46 01.2**	**-0.1**
KKAR						02 46 01.7	
BVAR	**Borovoye Array**	**127.64**	**315**	PKP	**PKPdf**	**02 46 02.2**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=117,slow=1.7,SNR=13						
BRVK	**Borovoye**	**127.70**	**315**	PKPdf	**PKPdf**	**02 46 04.8**	**+0.7**
BRVK	**Borovoye**	**127.70**	**315**	PKIKP	**PKPdf**	**02 46 04.8**	**+0.7**
SPITS	**Spitsbergen Ar**	**133.34**	**356**	PKP	**PKPdf**	**02 46 11.8**	**-2.4**
	comp=Z,9.8nm,1.1s,baz=136,slow=27,SNR=1.9						
ARTI	**Arti**	**134.51**	**320**	*i* PKIKP	**PKPdf**	**02 46 18.2**	**+1.3**
ARTI						02 48 47.7	
ARTI				SS	SS	03 06 35.9	-5.0
ARCES	**ARCESS Array B**	**140.21**	**347**	PKhKP	PKPpre	02 46 20.5	
	comp=Z,3.7nm,0.8s,baz=49,slow=3.0,SNR=6.9						
ARCES	**ARCESS Array B**	**140.21**	**347**	*e*PKIKP	**PKPdf**	**02 46 24.7**	**-2.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BELG	**Belogornoye**	**141.44**	**315**	*i* PKIKP	**PKPdf**	**02 46 30.3**	**+0.6**
KLMR	**Klimovskoe**	**142.25**	**331**	*e*PKHKP	PKPpre	02 46 18.9	
KLMR				pmax	pmax		
	comp=Z,28nm,1.6s						
GNI	**Garni**	**144.89**	**296**	*i* PKIKP	**PKPab**	**02 46 35.1**	**-0.5**
VRH	**Novokhopyorsk**	**145.29**	**315**	*e*PKIKP	**PKPbc**	**02 46 35.8**	**-0.5**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MOS	**Moscow**	**145.73**	**324**	*e*PKP2	**PKPdf**	**02 46 35.5**	**-1.6**
MOS				pmax	pmax		
	comp=Z,81nm,1.2s						
GOF	**Gofitskoye**	**145.81**	**304**	*ce*PKIKP	**PKPdf**	**02 46 37.2**	**-0.5**
KBZ	**Khabaz**	**146.08**	**302**	PKPbc	**PKPdf**	**02 46 38.1**	**0.0**
	comp=Z,18nm,1.1s,baz=47,slow=3.3,SNR=8.9						
KBZ	**Khabaz**	**146.08**	**302**	*e*PKP2	**PKPdf**	**02 46 39.2**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,18nm,1.0s						
KARS	**Kars**	**146.15**	**296**	PKPdf	**PKPdf**	**02 46 38.2**	**-0.4**
KARS	**Kars**	**146.15**	**296**	PKP2	**PKPdf**	**02 46 38.2**	**-0.4**
GEVA	**Gevas**	**146.16**	**292**	PKPdf	**PKPdf**	**02 46 39.0**	**+0.3**
KIV	**Kislovodsk**	**146.21**	**302**	PKPdf	**PKPdf**	**02 46 37.9**	**-0.6**
KIV	**Kislovodsk**	**146.21**	**302**	*i* PKIKP	**PKPdf**	**02 46 37.2**	**-1.3**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
LPSR	**Galich'ya Gora**	**146.42**	**319**	*e*PKP2	**PKPdf**	**02 46 38.0**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,80nm,1.0s						
OBN	**Obninsk**	**146.56**	**324**	PKPdf	**PKPdf**	**02 46 38.2**	**-0.4**
OBN	**Obninsk**	**146.56**	**324⇑**	*e*PKIKP	**PKPdf**	**02 46 38.0**	**-0.6**
OBN				*i*		02 50 08.8	
OBN				pmax	pmax		
	comp=Z,65nm,1.4s						
OBN				MLR	MLR		
	comp=Z,303nm,21.0s						
VORR	**Voronezh**	**146.61**	**317**	*e*PKP2	**PKPdf**	**02 46 38.6**	**-0.2**
VORR				pmax	pmax		
	comp=Z,30nm,0.4s						
FIA1	**FINESS Array S**	**146.71**	**339**	PKPdf	**PKPdf**	**02 46 38.5**	**-0.1**
FINES	**FINESS Array B**	**146.71**	**339**	PKPdf	**PKPdf**	**02 46 39.2**	**+0.6**
FINES	**FINESS Array B**	**146.71**	**339**	PKPbc	**PKPdf**	**02 46 38.9**	**+0.2**
	comp=Z,8.9nm,0.4s,baz=49,slow=4.2,SNR=106						
VSR	**Storozhevoye**	**146.80**	**316**	*e*PKIKP	**PKPdf**	**02 46 38.4**	**-0.7**
VSR				pmax	pmax		
	comp=Z,50nm,1.2s						
VORD	**Divnogorie**	**146.81**	**316**	*e*PKP2	**PKPdf**	**02 46 39.4**	**+0.3**
VORD				pmax	pmax		
	comp=Z,30nm,0.8s						
GURO	**Guroymak-BITLI**	**146.97**	**293**	PKPdf	**PKPdf**	**02 46 39.7**	**-0.4**
MARD	**Mardin**	**147.92**	**290**		**PKPdf**	**02 46 43.3**	**+1.6**
KOPT	**Kop Dagi**	**148.14**	**295**		**PKPdf**	**02 46 43.2**	**+1.1**
SOC	**Sochi**	**148.39**	**302**	*e*PKHKP	PKPpre	02 46 39.9	
SOC				*e*		02 50 11.1	
SOC				*e*PPP	PPP	02 53 29.6	
SOC				*e*SSS	SSS	03 14 53.7	
SOC				MLR	MLR		
	comp=Z,207nm,22.0s						
NC303	**NORSAR Array S**	**150.19**	**351**	PKPdf	**PKPdf**	**02 46 47.2**	**+2.8**
NB2	**NORSAR Subarra**	**150.38**	**351**	PKP	**PKPbc**	**02 46 49.5**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.38**	**351**	PKPbc	**PKPdf**	**02 46 48.3**	**+3.6**
	comp=Z,4.2nm,0.9s,baz=19,slow=2.5,SNR=8.9						
GAZ	**Gaziantep**	**150.77**	**290**	PKPdf	**PKPdf**	**02 46 47.4**	**+1.2**
HFS	**Hagfors**	**150.87**	**348**	PKPbc	**PKPdf**	**02 46 49.3**	**+3.8**
	comp=Z,7.7nm,0.8s,baz=91,slow=5.8,SNR=8.7						
MNK	**Minsk**	**151.04**	**328**	*i* PKIKP	**PKPbc**	**02 46 51.0**	**-0.6**
MNK				*i*		02 50 27.6	
MNK				*i* PPP	PPP	02 53 50.3	
MNK				*i*		02 53 52.2	
MNK				*i* SS	SS	03 09 50.0	-1.4
MNK				*i* SSS	SSS	03 15 31.9	
MNK				pmax	pmax		
	comp=Z,19nm,0.9s						
PABE	**Paberze**	**151.96**	**333**	PKPdf	**PKPdf**	**02 46 50.7**	**+3.5**
MMAI	**Mount Meron Ar**	**151.97**	**281**	PKPbc	**PKPbc**	**02 46 54.0**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=107,slow=1.5,SNR=26						
SIM	**Simferopol'**	**152.02**	**307**	*i* PKIKP	**PKPbc**	**02 46 55.2**	**+0.9**
SIM				pmax	pmax		
	comp=Z,28μm,1.1s						
AKASG	**Malin Array Be**	**152.65**	**321**	PKPbc	**PKPbc**	**02 46 54.1**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=54,slow=3.2,SNR=5.5						
AKBB	**Malin Array Si**	**152.65**	**321**	PKPdf	**PKPdf**	**02 46 47.9**	**-0.5**
AKBB	**Malin Array Si**	**152.65**	**321**	PKIKP	**PKPdf**	**02 46 47.9**	**-0.5**
KIEV	**Kiev**	**152.66**	**321**	PKPdf	**PKPdf**	**02 46 49.2**	**+0.8**
KIEV	**Kiev**	**152.66**	**321**	PKIKP	**PKPdf**	**02 46 49.2**	**+0.8**
ILGA	**Ilgaz**	**153.18**	**299**		**PKPbc**	**02 46 57.3**	**0.0**
SUW	**Suwalki**	**153.37**	**332**	*e*PKP	**PKiKP**	**02 47 02.8**	**+5.8**
BR131	**Keskin Array S**	**153.43**	**296**		**PKPbc**	**02 46 56.4**	**-1.3**
BR131	**Keskin Array S**	**153.43**	**296**	PKIKP	**PKPbc**	**02 46 56.4**	**-1.3**
BRTR	**Keskin Array B**	**153.43**	**296**		**PKPbc**	**02 46 56.3**	**-1.5**
BRTR	**Keskin Array B**	**153.43**	**296**	PKPbc	**PKPbc**	**02 46 56.0**	**-1.8**
	comp=Z,3.4nm,0.7s,baz=48,slow=2.1,SNR=16						
DEL	**Delary**	**154.24**	**345**	*i* P	**PKPab**	**02 47 10.0**	**-2.6**
NIE	**Niedzica**	**157.93**	**327**	*e*PKP	**PKPab**	**02 47 32.8**	**+4.0**
KSP	**Ksiaz**	**158.49**	**335**	*e*PKP	**PKPab**	**02 47 30.2**	**-0.8**
DPC	**Dobruska-Polom**	**158.88**	**334**	*e*PKPAB	**PKPab**	**02 47 34.5**	**+1.7**
DPC	**Dobruska-Polom**	**158.88**	**334**	*e*PKP2	**PKPab**	**02 47 34.5**	**+1.7**
CLL	**Collm**	**159.15**	**341**	*i* PKP2	**PKPab**	**02 47 32.9**	**-0.9**
CLL				pmax	pmax		
	comp=Z,17nm,1.3s						
CLL				MLR	MLR		
	comp=Z,300nm,22.6s						
CLL	**Collm**	**159.15**	**341**	*i* x	x	02 47 50.3	
CLL	**Collm**	**159.15**	**341**	*i* PKPab	**PKPab**	**02 47 32.9**	**-0.9**
	comp=Z,17nm,1.3s						
CLL	**Collm**	**159.15**	**341**	*i* x	x	02 47 43.2	
BRG	**Berggiesshubel**	**159.25**	**338**	Amp		02 47 34.5	
	comp=Z,3.2nm,0.9s						
BRG	**Berggiesshubel**	**159.25**	**338**	Amp		02 47 38.7	
	comp=Z,7.0nm,1.0s						
BRG	**Berggiesshubel**	**159.25**	**338**	Amp		02 47 53.8	
	comp=Z,6.7nm,1.0s						
BRG	**Berggiesshubel**	**159.25**	**338**	*e*PKP	**PKPab**	**02 47 33.5**	**-0.8**
BRG	**Berggiesshubel**	**159.25**	**338**	P	**PKPab**	**02 47 37.8**	**+3.5**
BRG	**Berggiesshubel**	**159.25**	**338**	P	PKPab	02 47 51.9	+18
VYHS	**Vyhne**	**159.27**	**327**	*e*PKP2	**PKPab**	**02 47 33.5**	**-1.1**
VYHS	**Vyhne**	**159.27**	**327**	*e*PKP	**PKPab**	**02 47 33.5**	**-1.1**
MODS	**Modra-Piesok**	**160.06**	**329**	*e*PKP2	**PKPab**	**02 47 37.3**	**-0.7**
MODS	**Modra-Piesok**	**160.06**	**329**	*e*PKP	**PKPab**	**02 47 37.3**	**-0.7**
ZVC	**Zvikov**	**160.40**	**336**	*e*PKPAB	**PKPab**	**02 47 43.2**	**+3.8**
KHC	**Kasperske Hory**	**160.88**	**337**	*e*PKPAB	**PKPab**	**02 47 42.7**	**+1.2**
KHC	**Kasperske Hory**	**160.88**	**337**	*e*PKP2	**PKPab**	**02 47 42.7**	**+1.2**
RONA	**Rosalia, Austr**	**161.00**	**329**	*e*PKP	**PKPab**	**02 47 40.5**	**-1.6**
	comp=Z,7.7nm,1.3s						
CONA	**Conrad Observa**	**161.00**	**331**	*e*PKP	**PKPab**	**02 47 41.6**	**-0.6**
	comp=Z,2.6nm,0.8s						
GERES	**GERESS Array B**	**161.08**	**336**	PKPab	**PKPab**	**02 47 41.0**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=10.0,slow=5.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**161.19**	**179**	PKP	**PKPdf**	**02 46 59.0**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=223,slow=0.4,SNR=1.6						
TORD				PKPab	**PKPab**	**02 47 43.3**	**-0.3**
	comp=Z,41nm,0.3s,baz=190,slow=3.3,SNR=12						
BCLA	**Clavier**	**161.49**	**354**	*d*PKP	**PKPab**	**02 47 43.7**	**-0.4**
BMRD	**Maredsous**	**161.65**	**355**	*d*PKPdf	**PKPdf**	**02 47 03.1**	**+3.3**
BIOA	**Bad Ischl, Aus**	**162.07**	**334**	*e*PKP	**PKPab**	**02 47 48.7**	**+1.9**
	comp=Z,6.0nm,1.0s						
SOKA	**Soboth**	**162.33**	**330**	*ep*PKP	PKPab	02 47 58.4	+10
	comp=Z,8.4nm,1.1s						
MYKA	**Terra Mystica**	**162.95**	**332**	*ep*PKP	PKPab	02 48 02.5	+12
	comp=Z,3.3nm,0.5s						
RETA	**Reutte**	**163.22**	**339**	*e*PKP	**PKPab**	**02 47 52.3**	**+0.4**
	comp=Z,11nm,1.5s						
ABTA	**Abfaltersbach**	**163.28**	**334**	*e*PKP	**PKPab**	**02 47 55.4**	**+3.2**
	comp=Z,5.3nm,1.0s						
FETA	**Feichten**	**163.65**	**339**	*e*PKP	**PKPab**	**02 47 55.8**	**+1.9**
	comp=Z,7.3nm,1.2s						
DAVA	**Damuels**	**163.66**	**341**	*e*PKP	**PKPab**	**02 47 56.4**	**+2.5**
	comp=Z,8.9nm,1.1s						

IDC 07 02:36:48.0±1.7, 10°.68S×124°.66E, h0km, mb3.8/2, mbtmp3.8/5, ML3.7/3, MS4.2/3, Error ellipse: s-maj=97.8km s-min=24.6km az=60.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.44**	**173**	Pn	Pn	02 38 37.6	-0.2
	1.6nm,0.3s,baz=1.7,slow=13,SNR=64						
FITZ				Sn	Sn	02 39 57.2	-5.8
	3.7nm,0.3s,baz=106,slow=7.1,SNR=10						
	3.9nm,0.2s						
WRA	**Warramunga Arr**	**13.11**	**136**	Pn	Pn	02 39 56.1	+0.4
	0.3nm,0.3s,baz=309,slow=14,SNR=7.5						
WRA				Sn	Sn	02 42 19.3	-3.1
	0.5nm,0.3s,baz=313,slow=22,SNR=5.3						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**15.64**	**147**	Pn	Pn	02 40 30.4	+0.5
	0.2nm,0.3s,baz=319,slow=12,SNR=8.9						
ASAR				Sn	Sn	02 43 16.4	-7.6
	0.3nm,0.3s,baz=316,slow=22,SNR=5.4						
	0.9nm,0.4s						
DAV	**Davao City (W)**	**17.66**	**3**	LR	LR	02 48 35.6	
	comp=Z,209nm,21.9s,baz=306,slow=40						
CMAR	**Chiang Mai Arr**	**38.50**	**319**	P	P	02 44 13.3	+1.1
	1.2nm,0.4s,baz=128,slow=8.4,SNR=4.0						
	1.2nm,0.4s						
**MKA

PBAR				*e*S	Sn	02 38 45.1	-0.4
PBAR				*i* AML	AML	02 38 46.8	
PBAR				*i* AML	AML	02 38 47.3	
PBAR				*i* AML	AML	02 38 47.7	
PBAR	**Barrancos**	**3.31**	**59**	Pn	**Pn**	**02 38 09.4**	**+2.1**
PBAR				Sn	**Sn**	**02 38 45.2**	**-0.2**
PSBE	**So Bento**	**3.33**	**25**	*e*P	**Pn**	**02 38 09.6**	**+2.0**
PSBE				*i* AML	AML	02 38 49.4	
EMIN	**Mina Concepcio**	**3.41**	**67**	Pn	**Pn**	**02 38 10.7**	**+2.2**
EMIN				Sn	**Sn**	**02 38 47.6**	**-0.1**
EMIN	**Mina Concepcio**	**3.41**	**67**	P	**Pn**	**02 38 10.7**	**+2.2**
EMIN				⇑*i*Vmb_V		02 38 11.9	
	comp=N,271nm,SNR=2.1						
EMIN				S	**Sn**	**02 38 46.4**	**-1.3**
EBAD	**Badajoz**	**3.65**	**51**	Pn	**Pn**	**02 38 13.3**	**+1.4**
EBAD				Sn	**Sn**	**02 38 52.8**	**-0.8**
EBAD	**Badajoz**	**3.65**	**51**	P	**Pn**	**02 38 13.5**	**+1.6**
EBAD				⇑*i*Vmb_V		02 38 14.3	
	comp=N,533nm,SNR=3.0						
EBAD				S	**Sn**	**02 38 51.0**	**-2.7**
ESPR	**Espera**	**3.86**	**83**	Pn	**Pn**	**02 38 17.7**	**+3.0**
ESPR				Sn	**Sn**	**02 38 57.6**	**-1.3**
ESPR	**Espera**	**3.86**	**83**	P	**Pn**	**02 38 17.3**	**+2.6**
ESPR				⇑*i*Vmb_V		02 38 18.7	
	comp=N,366nm,SNR=2.1						
ESPR				S	**Sn**	**02 38 58.2**	**-0.7**
PMRV	**Marv??o**	**3.88**	**40**	*e*P	**Pn**	**02 38 16.6**	**+1.5**
PMRV				*e*S	**Sn**	**02 38 57.9**	**-1.6**
PMRV				*i* AML	AML	02 39 00.1	
PMRV				*i* AML	AML	02 39 00.3	
PMRV				*i* AML	AML	02 39 00.8	
PCAS	**Casmilo, Conde**	**3.92**	**25**	*e*P	**Pn**	**02 38 17.9**	**+2.4**
PCAS				*e*S	**Sn**	**02 38 59.4**	**-0.9**
PCAS				*i* AML	AML	02 39 00.6	
PCAS				*i* AML	AML	02 39 00.7	
PCAS				*i* AML	AML	02 39 01.6	
COI	**Coimbra**	**4.08**	**25**	*e*S	**Sn**	**02 39 03.4**	**-1.0**
COI				*i* AML	AML	02 39 04.2	
COI				*i* AML	AML	02 39 04.8	
COI				*i* AML	AML	02 39 05.1	
PCBR	**Castelo Branco**	**4.15**	**36**	*e*P	**Pn**	**02 38 20.7**	**+1.9**
PCBR				*e*S	**Sn**	**02 39 04.6**	**-1.6**
PCBR				*i* AML	AML	02 39 06.2	
PCBR				*i* AML	AML	02 39 06.5	
PCBR				*i* AML	AML	02 39 10.0	
AVE	**Averroes**	**4.16**	**139**	Pn	**Pn**	**02 38 21.5**	**+2.6**
AVE				Sn	**Sn**	**02 39 06.0**	**-0.2**
AVE	**Averroes**	**4.16**	**139**	P	**Pn**	**02 38 20.0**	**+1.1**
AVE	**Averroes**	**4.16**	**139**	S	**Sn**	**02 39 01.7**	**-4.6**
SMIR	**Smir Dam**	**4.33**	**99**	P	**Pn**	**02 38 24.7**	**+3.4**
SMIR	**Smir Dam**	**4.33**	**99**	S	**Sn**	**02 39 11.4**	**+0.8**
ECAB	**El Cabril**	**4.44**	**68**	Pn	**Pn**	**02 38 25.0**	**+2.2**
ECAB				Sn	**Sn**	**02 39 13.1**	**-0.2**
ECAB	**El Cabril**	**4.44**	**68**	P	**Pn**	**02 38 25.2**	**+2.3**
ECAB				⇑*i*Vmb_V		02 38 25.6	
	comp=N,372nm,SNR=2.9						
ECAB				S	**Sn**	**02 39 10.8**	**-2.6**
ZHG	**ZHG**	**4.48**	**132**	P	**Pn**	**02 38 25.1**	**+1.7**
ZHG	**ZHG**	**4.48**	**132**	S	**Sn**	**02 39 09.9**	**-4.4**
CHEFC	**Chefchaouen**	**4.53**	**106**	P	**Pn**	**02 38 27.2**	**+3.2**
CHEFC	**Chefchaouen**	**4.53**	**106**	S	**Sn**	**02 39 14.7**	**-0.7**
MTE	**Manteigas**	**4.58**	**31**	*e*P	**Pn**	**02 38 26.4**	**+1.7**
MTE				*e*S	**Sn**	**02 39 14.8**	**-1.9**
MTE				*i* AML	AML	02 39 17.1	
MTE				*i* AML	AML	02 39 18.6	
MTE				*i* AML	AML	02 39 19.9	
PVIS	**Viseu**	**4.72**	**26**	*e*P	**Pn**	**02 38 28.6**	**+2.0**
PVIS				*e*S	**Sn**	**02 39 18.3**	**-1.8**
PTO	**Porto**	**4.89**	**18**	*e*S	**Sn**	**02 39 22.1**	**-2.1**
PTO				*i* AML	AML	02 39 25.3	
PTO				*i* AML	AML	02 39 25.6	
PTO				*i* AML	AML	02 39 27.2	
EAH	**EAH**	**4.93**	**170**	P	**Pn**	**02 38 30.8**	**+1.4**
EAH	**EAH**	**4.93**	**170**	S	**Sn**	**02 39 21.0**	**-4.2**
EPLA	**Plasencia**	**5.04**	**44**	P	**Pn**	**02 38 32.6**	**+1.5**
EPLA				⇑*i*Vmb_V		02 38 35.2	
	comp=N,238nm,SNR=1.0						
EPLA				S	**Sn**	**02 39 25.0**	**-3.1**
EADA	**Adamuz**	**5.10**	**69**	Pn	**Pn**	**02 38 34.3**	**+2.3**
EADA				Sn	**Sn**	**02 39 29.0**	**-0.6**
EADA	**Adamuz**	**5.10**	**69**	P	**Pn**	**02 38 34.2**	**+2.3**
EADA				⇑*i*Vmb_V		02 38 34.7	
	comp=N,212nm,SNR=1.3						
EADA				S	**Sn**	**02 39 28.1**	**-1.6**
PVRL	**Vila Real**	**5.28**	**25**	*e*S	**Sn**	**02 39 31.0**	**-2.9**
PVRL				*i* AML	AML	02 39 32.5	
PVRL				*i* AML	AML	02 39 33.8	
PVRL				*i* AML	AML	02 39 34.4	
POLO	**Lamas de Olo**	**5.34**	**24**	*e*S	**Sn**	**02 39 32.0**	**-3.5**
POLO				*i* AML	AML	02 39 32.8	
POLO				*i* AML	AML	02 39 33.1	
POLO				*i* AML	AML	02 39 37.2	
MVO	**Moncorvo**	**5.43**	**30**	*e*P	**Pn**	**02 38 37.7**	**+1.2**
MVO				*e*S	**Sn**	**02 39 35.0**	**-2.8**
MVO				*i* AML	AML	02 39 37.5	
MVO				*i* AML	AML	02 39 37.5	
MVO				*i* AML	AML	02 39 38.0	
LCRM	**LCR**	**5.51**	**119**	P	**Pn**	**02 38 39.1**	**+1.4**
LCRM	**LCR**	**5.51**	**119**	S	**Sn**	**02 39 36.6**	**-3.2**
PCAB	**Cabril**	**5.58**	**21**	*e*S	**Sn**	**02 39 38.0**	**-3.2**
PCAB				*i* AML	AML	02 39 40.9	
PCAB				*i* AML	AML	02 39 41.0	
PCAB				*i* AML	AML	02 39 41.7	
ELOB	**Lobios**	**5.71**	**20**	P	**Pn**	**02 38 41.6**	**+1.3**
ELOB				⇑*i*Vmb_V		02 38 43.5	
	comp=N,391nm,SNR=0.9						
ELOB				S	**Sn**	**02 39 39.2**	**-5.4**
PGAV	**Gavieira, Arco**	**5.75**	**18**	*e*P	**Pn**	**02 38 42.1**	**+1.3**
PGAV				*e*S	**Sn**	**02 39 42.3**	**-3.3**
PGAV				*i* AML	AML	02 39 43.7	
PGAV				*i* AML	AML	02 39 44.4	
PGAV				*i* AML	AML	02 39 44.7	
EQUE	**Quentar**	**5.81**	**81**	P	**Pn**	**02 38 44.7**	**+3.0**
EQUE				⇑*i*Vmb_V		02 38 49.7	
	comp=N,117nm,SNR=1.2						
EQUE				S	**Sn**	**02 39 46.0**	**-1.2**
PAB	**San Pablo**	**5.81**	**57**	P	**Pn**	**02 38 43.3**	**+1.5**
PAB				⇑*i*Vmb_V		02 38 44.2	
	comp=N,179nm,SNR=1.3						
PAB				S	**Sn**	**02 39 44.3**	**-2.9**
EZAM	**Zamans**	**5.83**	**14**	S	**Sn**	**02 39 42.3**	**-5.1**
E0803	**Jimena (Jaen)**	**5.87**	**75**	P	**Pn**	**02 38 44.5**	**+2.0**
E0803				S	**Sn**	**02 39 46.4**	**-2.2**
AKLM	**AKL**	**5.87**	**108**	P	**Pn**	**02 38 43.7**	**+1.2**
AKLM	**AKL**	**5.87**	**108**	S	**Sn**	**02 39 43.6**	**-5.1**
PSIM	**Granatula de C**	**5.92**	**65**	P	**Pn**	**02 38 45.7**	**+2.5**
PSIM				S	**Sn**	**02 39 47.4**	**-2.5**
MD31	**MD31**	**6.05**	**125**	P	**Pn**	**02 38 46.0**	**+1.0**
MD31	**MD31**	**6.05**	**125**	S	**Sn**	**02 39 48.7**	**-4.4**
PBRG	**Braganca**	**6.09**	**29**	*e*S	**Sn**	**02 39 50.0**	**-4.0**
PBRG				*i* AML	AML	02 39 52.0	
PBRG				*i* AML	AML	02 39 52.6	
PBRG				*i* AML	AML	02 39 55.1	
EQES	**Quesada**	**6.18**	**76**	P	**Pn**	**02 38 48.9**	**+2.2**
EQES				⇑*i*Vmb_V		02 38 58.2	
	comp=N,208nm,SNR=0.9						
EQES				S	**Sn**	**02 39 54.0**	**-2.2**
MDT	**Midelt**	**6.18**	**125**	P	**Pn**	**02 38 48.4**	**+1.6**
MDT	**Midelt**	**6.18**	**125**	S	**Sn**	**02 39 51.9**	**-4.5**
TTIG	**Tnine Tigouga,**	**6.22**	**162**	P	**Pn**	**02 38 45.8**	**-1.6**
TTIG	**Tnine Tigouga,**	**6.22**	**162**	S	Sn	02 39 48.4	-8.9
TIO	**Tiouine**	**6.24**	**152**	Pn	**Pn**	**02 38 49.9**	**+2.2**
TIO	**Tiouine**	**6.24**	**152**	P	**Pn**	**02 38 47.9**	**+0.3**
TIO	**Tiouine**	**6.24**	**152**	S	**Sn**	**02 39 52.5**	**-5.3**
OUZM	**OUZ**	**6.45**	**149**	P	**Pn**	**02 38 51.3**	**+0.7**
OUZM	**OUZ**	**6.45**	**149**	S	**Sn**	**02 39 58.3**	**-4.7**
EMAZ	**Mazaricos**	**6.56**	**11**	S	**Sn**	**02 39 58.0**	**-7.3**
EAGO	**Agolada(Pontev**	**6.58**	**17**	P	**Pn**	**02 38 53.5**	**+1.2**
EAGO				S	**Sn**	**02 39 59.6**	**-6.5**
JBK	**JBK**	**6.94**	**106**	P	**Pn**	**02 38 58.9**	**+1.6**
JBK	**JBK**	**6.94**	**106**	S	**Sn**	**02 40 08.7**	**-6.3**
TZRR	**Tazzarine**	**7.10**	**142**	P	**Pn**	**02 39 00.1**	**+0.7**
TZRR	**Tazzarine**	**7.10**	**142**	S	Sn	02 40 11.2	-7.7
ZGR	**Zagora**	**7.63**	**145**	P	**Pn**	**02 39 07.1**	**+0.4**
ZGR	**Zagora**	**7.63**	**145**	S	Sn	02 40 22.7	-9.3

IDC 07 02:44:45.4±1.9, 32°.06S×178°.14W, h0km, mb3.7/3, mbtmp3.7/4, ML3.1/1, MS4.3/1, Error ellipse: s-maj=44.5km s-min=33.7km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.30**	**211**	Pn	Pn	02 46 33.2	-0.2
	0.3nm,0.3s,baz=168,slow=8.1,SNR=2.0						
URZ				Sn	Sn	02 47 57.1	+0.1
	1.9nm,0.3s,baz=196,slow=6.2,SNR=8.4						
	6.0nm,1.0s						
ASAR	**Alice Springs**	**42.93**	**269**	P	P	02 52 45.8	-0.4
	0.2nm,0.4s,baz=107,slow=7.4,SNR=5.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.06**	**274**	P	P	02 52 55.7	+0.3
	0.7nm,0.4s,baz=115,slow=7.6,SNR=9.0						
	0.7nm,0.4s						
NWAO	**Narrogin (SRO)**	**53.72**	**251**	LR	LR	03 15 20.3	
	comp=Z,293nm,20.1s,baz=342,slow=34						
QSPA	**South Pole Qui**	**58.05**	**180**	P	P	02 54 40.3	+0.2
	1.1nm,1.2s,baz=0.0,slow=0.0,SNR=1.1						
	1.1nm,1.2s						
FINES	**FINESS Array B**	**146.65**	**339**	PKPbc	PKPdf	03 04 27.3	+0.6
	1.4nm,0.7s,baz=54,slow=3.5,SNR=8.2						

LDG 07 02:45:03.8±0.1, 44°.73N×6°.74E, h3km, Md0.9/1, Error ellipse: s-maj=3.0km s-min=1.1km az=43.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.02**	**90**	*e*Pg	Pg	02 45 05.1	+0.4
MBDF				*e*Sg	Sg	02 45 05.9	+0.5
	13nm,0.2s						

LDG 07 02:45:29.8±0.0, 44°.74N×6°.74E, h2km, Md0.9/1, Error ellipse: s-maj=1.7km s-min=0.7km az=36.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.02**	**114**	*e*Pg	Pg	02 45 31.0	+0.5
MBDF				*e*Sg	Sg	02 45 31.7	+0.7
	6.0nm,0.2s						

IDC 07 02:53:52.2±3.2, 32°.04S×177°.86W, h0km, mb3.4/2, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=80.9km s-min=48.1km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.45**	**212**	Pn	Pn	02 55 41.6	-0.5
	0.3nm,0.3s,baz=149,slow=12,SNR=1.7						
URZ				Sn	Sn	02 57 01.5	-5.9
	0.6nm,0.3s,baz=203,slow=20,SNR=6.3						
	3.1nm,0.6s						
ASAR	**Alice Springs**	**43.17**	**269**	P	P	03 01 55.2	+0.3
	0.2nm,0.4s,baz=107,slow=7.6,SNR=4.5						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	P	03 02 03.6	-0.5
	0.4nm,0.5s,baz=113,slow=8.1,SNR=3.0						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**146.72**	**339**	PKPbc	PKPbc	03 13 34.5	-0.8
	4.1nm,1.1s,baz=48,slow=2.8,SNR=5.2						

*JMA **07** 02:57:14.0±0.4, 47°N±1°×14°2E±°, h0km, MV2.9/11, SOUTH SAKHALIN*
*SKHL **07** 02:57:15.1±0.2, 46°.10N×142°.20E, h5km±2km, mb4.1/2*
ISC 07 02:57:13.1±3.0, 46°.8N±0°.1×141°.3E±0°.1, h10km, n5, σ2°.77/9, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	**Nevel`sk**	**0.44**	**111**	*e*Sg	**Sb**	**02 57 34.4**	**+4.9**
NEVR				A	A	02 57 34.9	
	3μm,0.7s						
NEVR				A	A	02 57 34.9	
	3μm,0.7s						
YSS	**Yuzhno-Sakhali**	**1.03**	**83**	*e*Pg	**Pg**	**02 57 32.9**	**0.0**
YSS				AMB	AMB	02 57 34.1	
	30nm,0.4s						
YSS				*e*Sg	**Sg**	**02 57 45.5**	**-0.7**
YSS				A	A	02 57 47.3	
	100nm,0.6s						
YSS				A	A	02 57 47.3	
	100nm,0.6s						
JRBN	**Rebuntou**	**1.42**	**186**	P	**Pn**	**02 57 40.2**	**+1.3**
JRBN				*e*S	**Sg**	**02 57 59.9**	**+1.1**
JWK2	**Keihoku**	**1.58**	**164**	P	**Pn**	**02 57 40.6**	**-0.7**
JWK2				*e*S	**Sn**	**02 57 59.5**	**-2.2**
JSE	**Soyaes**	**2.09**	**153**	*e*P	**Pn**	**02 57 46.5**	**-1.7**
JSE				*e*S	**Sn**	**02 58 11.0**	**-3.3**

*IDC **07** 02:59:39.8±0.6, 12°.83S×45°.16E, h0km, mb4.2/10, mbtmp4.2/12, ML5.1/2, MS3.4/4, Error ellipse: s-maj=20.6km s-min=18.6km az=89.0*
*NEIC **07** 02:59:44.9±1.9, 12°.87S±0°.03×45°.5E±0°.1, h10km±1km, mb4.5/19, Error ellipse: s-maj=21.3km s-min=4.1km az=79.0*
ISC 07 02:59:42.3±0.4, 12°.88S±0°.05×45°.48E±0°.07, h10km, n64, σ2°.13/68, mb4.5/19, 1D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.36**	**98**	P	**Pn**	**03 00 48.9**	**+0.2**
SBV				S	**Sn**	**03 01 35.2**	**-4.4**
OPO	**Ambohidratompo**	**5.89**	**164**	Pn	**Pn**	**03 01 10.4**	**+0.5**
	8.1nm,0.3s,baz=337,slow=12,SNR=341						
OPO				Sn	**Sn**	**03 02 12.7**	**-4.9**
	12nm,0.3s,baz=233,slow=24,SNR=16						
OPO				LR	LR	03 03 41.1	
	comp=Z,280nm,19.2s,baz=184,slow=40						
OPO	**Ambohidratompo**	**5.89**	**164**	P	**Pn**	**03 01 10.7**	**+0.8**
OPO				S	**Sn**	**03 02 12.7**	**-4.9**
FIRM	**Firavahana**	**5.94**	**167**	P	**Pn**	**03 01 11.4**	**+0.8**
FIRM				S	**Sn**	**03 02 15.0**	**-3.9**
ATG	**Ambohiby**	**6.00**	**174**	P	**Pn**	**03 01 11.7**	**+0.3**
ABPO	**Ambohimpanom**	**6.33**	**165**		**Pn**	**03 01 16.2**	**+0.3**
ABPO	**Ambohimpanom**	**6.33**	**165**	P	**Pn**	**03 01 16.2**	**+0.3**
ABPO				S	**Sn**	**03 02 24.2**	**-4.3**
MDSM	**Mandiavato**	**6.35**	**167**	P	**Pn**	**03 01 16.9**	**+0.7**
MDSM				S	**Sn**	**03 02 23.3**	**-5.6**
AVY	**Angavokely**	**6.39**	**160**	P	**Pn**	**03 01 16.9**	**+0.1**
DGRM	**Ambatolahisoa**	**6.41**	**172**	P	**Pn**	**03 01 17.8**	**+0.8**
DGRM				S	**Sn**	**03 02 26.4**	**-3.9**
ABM	**Ambohimiarambe**	**7.10**	**165**	P	**Pn**	**03 01 27.1**	**+0.6**
VOI	**Vohitsoka**	**9.06**	**172**	Pn	**Pn**	**03 01 53.1**	**-0.3**
FOMA	**Nahampoana Res**	**12.12**	**174**	Pn	**Pn**	**03 02 35.4**	**+0.3**
KIBK	**Kibwezi**	**12.80**	**324**	Pn	**Pn**	**03 02 41.3**	**-3.3**
MSEY	**Mahe Island**	**12.80**	**51**	Pn	**Pn**	**03 02 43.3**	**-1.4**
KMBO	**Kilima Mbogo**	**14.24**	**324**	Pn	**Pn**	**03 03 00.8**	**-3.6**
	0.4nm,0.3s,baz=196,slow=18,SNR=2.4						
KMBO				Sn	Sn	03 05 32.2	-11
	0.1nm,0.3s,baz=56,slow=21,SNR=1.8						
KMBO				LR	LR	03 07 52.6	
	comp=Z,87nm,19.2s,baz=182,slow=35						
LSZ	**Lusaka**	**16.94**	**260**	Pn	**Pn**	**03 03 39.3**	**-0.5**
LSZ				IAmb	IAmb	03 03 43.8	
	comp=Z,28nm,0.9s						
LSZ	**Lusaka**	**16.94**	**260**	Pn	**Pn**	**03 03 36.2**	**-3.6**
	comp=Z,0.7nm,0.3s,baz=80,slow=8.2,SNR=25						
LSZ				Sn	Sn	03 06 36.5	-12
	comp=Z,0.2nm,0.3s,baz=239,slow=12,SNR=2.2						
LSZ				LR	LR	03 10 03.3	
	comp=Z,86nm,18.2s,baz=94,slow=38						
	comp=Z,9.0nm,0.7s						
LODK	**Lodwar**	**19.06**	**328**	P	**P**	**03 04 04.8**	**-0.3**
POGA	**Pongola**	**19.32**	**220**	P	**Pn**	**03 04 11.6**	**+2.7**
POGA				IAmb	IAmb	03 04 13.1	
	comp=Z,23nm,1.2s						
LBTB	**Lobatse**	**22.31**	**234**	P	**P**	**03 04 40.7**	**+0.5**
LBTB				IAmb	IAmb	03 04 43.0	
	comp=Z,26nm,1.4s						
BOSA	**Boshof**	**24.49**	**227**	P	**P**	**03 05 02.3**	**+0.3**
BOSA				IAmb	IAmb	03 05 04.1	
	comp=Z,6.5nm,0.8s						
BOSA	**Boshof**	**24.49**	**227**	P	**P**	**03 04 59.5**	**-2.5**
	comp=Z,5.8nm,0.6s,baz=62,slow=9.1,SNR=24						
	comp=Z,5.8nm,0.6s						
SUR	**Sutherland**	**29.79**	**225**	P	**P**	**03 05 51.4**	**+1.7**
SUR				IAmb	IAmb	03 06 13.3	
	comp=Z,18nm,1.2s						
TORD	**Torodi Ar. Bea**	**50.53**	**299**	P	**P**	**03 08 42.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**50.53**	**299**	P	**P**	**03 08 37.5**	**-3.8**
	comp=Z,41nm,0.3s,baz=137,slow=8.5,SNR=18						
BRTR	**Keskin Array B**	**53.48**	**349**	P	**P**	**03 09 01.3**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=176,slow=5.8,SNR=2.6						
	comp=Z,0.6nm,0.9s						
SYO	**Syowa Base**	**56.21**	**183**	*e*P	**P**	**03 09 23.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**61.23**	**60**	P	**P**	**03 09 58.8**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=238,slow=5.4,SNR=1.7						
	comp=Z,2.0nm,0.3s						
VSL	**Vilasalto**	**62.01**	**329**	P	**P**	**03 10 04.5**	**+1.7**
BURAR	**Bucovina Array**	**62.88**	**345**	P	**P**	**03 10 09.5**	**+0.9**
BUR08	**Bucovina Ar. S**	**62.91**	**345**	P	**P**	**03 10 10.8**	**+1.9**
BUR08				IAmb	IAmb	03 10 40.3	
	comp=Z,1.6nm,1.2s						
MKAR	**Makanchi Array**	**67.94**	**26**	P	**P**	**03 10 42.4**	**+1.0**
MKAR	**Makanchi Array**	**67.94**	**26**	P	**P**	**03 10 42.1**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=222,slow=6.5,SNR=6.8						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**69.04**	**16**	P	**P**	**03 10 46.5**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=205,slow=6.4,SNR=2.8						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**69.52**	**22**	P	**P**	**03 10 51.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=219,slow=6.8,SNR=1.4						
ARTI	**Arti**	**69.84**	**8**	P	**P**	**03 10 54.7**	**+1.7**
ARTI				IAmb	IAmb	03 10 56.2	
	comp=Z,7.4nm,1.0s						
ARTI	**Arti**	**69.84**	**8**	LR	LR	03 44 06.2	
	comp=Z,80nm,20.6s,baz=71,slow=38						
FINES	**FINESS Array B**	**75.66**	**351**	P	P	03 11 33.6	+6.3
FITZ	**Fitzroy Crossi**	**76.89**	**106**	P	**P**	**03 11 35.4**	**0.0**
QSPA	**South Pole Qui**	**77.22**	**180**	P	**P**	**03 11 39.3**	**+2.9**
QSPA				IAmb	IAmb	03 11 42.5	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**77.22**	**180**	P	**P**	**03 11 36.3**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=295,slow=1.8,SNR=7.0						
	comp=Z,3.9nm,0.9s						
SONM	**Songino Array**	**81.04**	**37**	P	**P**	**03 11 57.7**	**0.0**
	comp=Z,1.2nm,1.0s,baz=247,slow=5.3,SNR=4.7						
	comp=Z,1.2nm,1.0s						
VNDA	**Vanda**	**83.00**	**169**	P	**P**	**03 12 11.7**	**+4.4**
VNDA				IAmb	IAmb	03 12 51.3	
	comp=Z,6.3nm,1.1s						
ASAR	**Alice Springs**	**83.51**	**113**	P	**P**	**03 12 12.8**	**+1.7**
ASAR	**Alice Springs**	**83.51**	**113**	P	**P**	**03 12 11.6**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=263,slow=4.9,SNR=26						
	comp=Z,3.2nm,0.9s						
AS31	**Alice Springs**	**83.51**	**113**	P	**P**	**03 12 12.8**	**+1.7**
AS31				IAmb	IAmb	03 12 13.9	
	comp=Z,2.5nm,1.4s						
WRA	**Warramunga Arr**	**84.64**	**109**	P	**P**	**03 12 18.3**	**+1.4**
WRA	**Warramunga Arr**	**84.64**	**109**	P	**P**	**03 12 17.6**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=262,slow=3.4,SNR=19						
	comp=Z,4.3nm,1.0s						
WB2	**Warramunga Arr**	**84.65**	**109**	P	**P**	**03 12 18.7**	**+1.7**
WB0	**Warramunga Arr**	**84.73**	**109**	P	**P**	**03 12 18.4**	**+1.1**
WB0				IAmb	IAmb	03 12 21.0	
	comp=Z,6.1nm,1.1s						
STKA	**Stephens Creek**	**88.39**	**122**	P	**P**	**03 12 36.0**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=316,slow=1.9,SNR=3.5						
	comp=Z,2.8nm,0.9s						
YKA	**Yellowknife Ar**	**128.45**	**348**	PKP	**PKPdf**	**03 18 46.4**	**-2.7**
	comp=Z,0.8nm,1.1s,baz=47,slow=2.2,SNR=4.8						
PDAR	**Pinedale Array**	**143.21**	**329**	PKhKP	PKPpre	03 19 13.9	
	comp=Z,0.8nm,0.9s,baz=333,slow=1.2,SNR=4.7						
BMO	**Blue Mountains**	**144.91**	**339**		**PKPdf**	**03 19 19.6**	**-0.4**
HWUT	**Hardware Ranch**	**145.07**	**329**		**PKPdf**	**03 19 20.4**	**-0.2**
G08A	**Pilot Rock**	**145.09**	**341**		**PKPdf**	**03 19 20.4**	**0.0**
HVU	**Hansel Valley**	**145.53**	**331**		**PKPab**	**03 19 22.0**	**+0.3**
SAND	**Sanderson**	**145.55**	**305**		**PKPbc**	**03 19 21.7**	**0.0**
MFID	**Camas Ranch**	**145.57**	**336**		**PKPab**	**03 19 22.9**	**+1.3**
PV15	**Paradox Valley**	**145.67**	**322**		**PKPab**	**03 19 22.9**	**+0.5**
TXAR	**Lajitas Array**	**147.03**	**305**	PKPbc	**PKPdf**	**03 19 23.8**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=31,slow=2.5,SNR=4.6						
J05D	**Fort Rock, OR**	**147.60**	**342**		**PKPbc**	**03 19 27.8**	**+0.4**
NVAR	**Mina Array Bea**	**150.75**	**333**	PKPbc	**PKPbc**	**03 19 34.1**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=180,slow=1.0,SNR=4.3						

*GCG **07** 03:11:23.8±1.6, 14°.30N×92°.84W, h0km±49km, MD4.1*
*MEX **07** 03:11:23.5±1.3, 14°.29N×93°.20W, h10km±44km, MD3.9*
ISC 07 03:11:21.3±3.1, 14°.2N±0°.1×93°.15W±0°.06, h17km±16km, n14, σ2°.33/24, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.10**	**51**	*e*P	**Pb**	**03 11 41.6**	**-0.3**
THIG				*e*S	**Sg**	**03 11 57.1**	**+0.1**
PATR	**El Naranjo**	**1.26**	**44**	*e*P	**Pn**	**03 11 42.9**	**-1.5**
PATR				*e*S	**Sb**	**03 11 58.5**	**-2.3**
PAVE	**Pavencul**	**1.35**	**44**	*e*P	**Pn**	**03 11 44.3**	**-1.4**
PAVE				*e*S	**Sb**	**03 12 02.4**	**-1.1**
RTAL	**

MHGZ	Mahia Peninsul	3.63 188	P	Pn	03 12 19.6	-0.3
WHHZ	Waihua	3.67 196	P	Pn	03 12 20.3	-0.1
NMHZ	Naumai	3.80 201	P	Pn	03 12 22.1	+0.1
ARHZ	Aropaoanui	3.91 198	P	Pn	03 12 22.9	-0.3
BKZ	Black Stump Fm	3.96 204	P	Pn	03 12 23.8	-0.2
BKZ	Black Stump Fm	3.96 204	P	Pn	03 12 23.6	-0.4
OUZ	Omahuta	4.06 273	P	Pn	03 12 23.3	-1.8
HIZ	Hauiti	4.18 224	P	Pn	03 12 28.6	+2.0
TMVZ	Te Maari	4.22 212	P	Pn	03 12 27.5	+0.3
KWHZ	Kaweka Forest	4.22 203	P	Pn	03 12 26.5	-0.6
ETVZ	East Tongariro	4.23 211	P	Pn	03 12 27.6	+0.2
CKHZ	Cape Kidnapper	4.26 195	P	Pn	03 12 26.8	-0.8
OTVZ	Oturere	4.28 212	P	Pn	03 12 28.2	+0.3
SNVZ	South Ngauruho	4.30 212	P	Pn	03 12 28.7	+0.4
FWVZ	Far West T-bar	4.40 212	P	Pn	03 12 29.7	+0.2
KRHZ	Kereru	4.44 202	P	Pn	03 12 28.7	-1.1
KAHZ	Kahuranaki	4.44 197	P	Pn	03 12 29.0	-0.8
PNHZ	Pukenui	4.74 202	P	Pn	03 12 32.0	-1.6
PRHZ	Porangahau	4.95 197	P	Pn	03 12 34.7	-1.4
DVHZ	Dannevirke	5.10 201	P	Pn	03 12 35.7	-2.4
BFZ	Birch Farm	5.43 199	P	Pn	03 12 40.6	-1.7
BFZ	Birch Farm	5.43 199	P	Pn	03 12 40.4	-1.9
MRZ	Mangatainoka R	5.61 204	P	Pn	03 12 42.4	-2.1
HOWZ	Holdsworth Sta	5.85 203	P	Pn	03 12 45.1	-2.5
OGWZ	Otaki Gorge	5.89 206	P	Pn	03 12 46.0	-2.0
TMWZ	Te Maipa	5.93 200	P	Pn	03 12 46.2	-2.3
KIW	Kapiti Island	6.03 207	P	Pn	03 12 48.0	-1.8
MTW	Mount Morrison	6.09 202	P	Pn	03 12 48.2	-2.4
CAW	Cannon Point	6.19 205	P	Pn	03 12 49.3	-2.6
KHZ	Kahutara	7.89 208	P	Pn	03 13 11.5	-2.1
KHZ	Kahutara	7.89 208	P	Pn	03 13 11.7	-1.9
ASAR	Alice Springs	40.27 275	P	P	03 18 40.4	+2.3
	1.5nm,0.5s,baz=114,slow=7.9,SNR=27					
	1.5nm,0.5s					
WRA	Warramunga Arr	41.74 280	P	P	03 18 51.8	+1.7
	2.2nm,0.6s,baz=118,slow=7.8,SNR=20					
	2.2nm,0.6s					
QSPA	South Pole Qui	54.57 180	P	P	03 20 34.0	+6.4
	0.8nm,0.6s,baz=63,slow=4.5,SNR=1.6					
	0.8nm,0.6s					
FINES	FINESS Array B	148.77 335	PKPbc	PKPbc	03 30 42.0	-0.8
	1.4nm,0.8s,baz=130,slow=2.2,SNR=1.4					

*WEL **07** 03:28:22.7±2.9, 32°S±13°×17°8W±7°1, h12km, M4.4/6, mB4.3/3, ML4.6/7, MLv4.5/6, Mw(mB)3.4/3, Error ellipse: s-maj=93.5km s-min=5.3km az=100.2, confirmed*
*IDC **07** 03:28:23.9±1.7, 31°76S×177°87W, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=43.6km s-min=36.6km az=77.0*
*NEIC **07** 03:28:27.2±0.8, 32°0S±0°1×178°0W±0°2, h10km±2km, mb4.4/9, Error ellipse: s-maj=30.1km s-min=13.0km az=115.0*

ISC 07 03:28:27.0±1.0, 31°84S±0°07×177°9W±0°2, h24km, n35, σ1§87/37, mb4.2/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.57	0	P	Pn	03 29 05.5	-1.6
GLKZ				S	Sn	03 29 36.1	-1.5
RIZ	Raoul Island	2.58	0	P	Pn	03 29 05.7	-1.7
WMGZ	Waiomatatini S	6.68 206		P	Pn	03 30 02.5	-1.1
PKGZ	Pakihiroa	6.84 207		P	Pn	03 30 02.6	-3.3
HAZ	Te Kaha	6.87 210		P	Pn	03 30 04.2	-2.0
RUGZ	Raukumara Rang	7.09 209		P	Pn	03 30 07.0	-2.4
CNGZ	Carnagh Statio	7.34 204		P	Pn	03 30 08.8	-3.9
MWZ	Matawai	7.47 209		P	Pn	03 30 12.3	-2.2
URZ	Urewera	7.58 211		Pn	Pn	03 30 15.5	-0.5
	0.8nm,0.3s,baz=346,slow=4.0,SNR=7.3						
URZ				Sn	Sn	03 31 37.9	-3.2
	2.4nm,0.3s,baz=295,slow=20,SNR=9.5						
	2.4nm,0.4s						
URZ	Urewera	7.58 211		P	Pn	03 30 15.2	-0.7
OUZ	Omahuta	7.83 242		P	Pn	03 30 28.7	+9.3
SNGZ	Shannon Statio	7.93 208		P	Pn	03 30 20.4	-0.4
RTZ	Ruatahuna	7.93 210		Pn	Pn	03 30 20.8	-0.1
RTZ					Sn	03 31 47.9	-2.1
KNZ	Kokohu	8.01 205		P	Pn	03 30 17.4	-4.5
BKZ	Black Stump Fm	8.60 210		Pn	Pn	03 30 29.7	-0.4
BFZ	Birch Farm	9.99 206		Pn	Pn	03 30 47.9	-1.2
MSWZ	Moikau Station	11.01 208		Pn	Pn	03 31 04.1	+1.2
QRZ	Quartz Range	11.80 218		Pn	Pn	03 31 12.9	-0.9
THZ	Tophouse	12.32 214		Pn	Pn	03 31 18.3	-2.6
KHZ	Kahutara	12.55 210		Pn	Pn	03 31 23.1	-0.9
TOO	Toolangi	30.47 249		P	P	03 34 38.3	+0.3
TOO				IAmb	IAmb	03 34 54.0	
	comp=Z,6.0nm,1.3s						
BBOO	Buckleboo	38.65 256		P	P	03 35 50.1	+1.4
BBOO				IAmb	IAmb	03 36 08.5	
	comp=Z,22nm,1.4s						
ASAR	Alice Springs	43.10 268		P	P	03 36 27.6	+2.1
ASAR	Alice Springs	43.10 268		P	P	03 36 26.8	+1.3
	comp=Z,1.3nm,0.5s,baz=106,slow=7.2,SNR=23						
	comp=Z,1.3nm,0.5s						
WB2	Warramunga Arr	44.21 274		P	P	03 36 35.7	+1.3
WB2				IAmb	IAmb	03 36 53.1	
	comp=Z,3.9nm,0.9s						
WRA	Warramunga Arr	44.22 274		P	P	03 36 35.8	+1.2
WRA	Warramunga Arr	44.22 274		P	P	03 36 35.5	+1.0
	comp=Z,8.9nm,0.4s,baz=112,slow=7.9,SNR=11						
	comp=Z,0.8nm,0.4s						
WB0	Warramunga Arr	44.25 274		P	P	03 36 35.9	+1.2
WB0				IAmb	IAmb	03 36 38.0	
	comp=Z,4.5nm,0.9s						
FITZ	Fitzroy Crossi	52.42 271		P	P	03 37 39.2	+1.5
CASY	Casey	53.90 208		P	P	03 37 49.6	+1.6
QSPA	South Pole Qui	58.28 180		P	P	03 38 20.5	+1.0
QSPA				IAmb	IAmb	03 38 36.3	
	comp=Z,4.2nm,0.8s						
QSPA	South Pole Qui	58.28 180		P	P	03 38 20.8	+1.3
	comp=Z,0.5nm,0.7s,baz=329,slow=5.9,SNR=1.1						
	comp=Z,0.5nm,0.7s						
BELA	Belgrano 2	68.36 172		P	P	03 39 27.2	+1.4
KBZ	Khabaz	145.94 302		PKPbc	PKPab	03 48 04.5	-0.4
	comp=Z,2.8nm,1.0s,baz=104,slow=4.2,SNR=3.2						
FINES	FINESS Array B	146.51 339		PKPbc	PKPab	03 48 05.4	-1.1
	comp=Z,3.2nm,0.8s,baz=39,slow=3.4,SNR=14						

*PRE **07** 03:35:39.1±0.9, 28°04S×18°12E, h5km, ML2.9*

ISC 07 03:35:39.6±1.2, 28°04S±0°05×18°14E±0°05, h10km, n20, σ1§49/36, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOMG	Komaggas	1.84 198		eP	Pn	03 36 11.9	+0.6
KOMG				eS	Sb	03 36 36.1	-0.4
KOMG				IAML		03 36 39.9	
	comp=Z,177nm,0.3s						
AUGR	Augrabies	2.01 106		eP	Pn	03 36 14.1	+0.4
AUGR				eS	Sn	03 36 40.6	+1.7
AUGR				IAML		03 36 40.7	
	comp=Z,125nm,0.4s						
AUSN	Aus	2.16 309		eP	Pn	03 36 16.7	+0.8
AUSN				eS	Sn	03 36 43.5	+0.7
KEIM	Keimoes	2.58 106		eP	Pn	03 36 22.9	+1.4
KEIM				eS	Sn	03 36 54.4	+1.5
KEIM				IAML		03 37 02.2	
	comp=Z,86nm,0.3s						
CVNA	Calvinia	3.71 158		eP	Pn	03 36 38.9	+1.8
CVNA				eS	Sn	03 37 21.8	+0.9
CVNA				IAML		03 37 37.7	
	comp=Z,63nm,0.4s						
ALKP	Alkanpan, Nort	4.06 119		eP	Pn	03 36 43.1	+1.2
ALKP				eS	Sn	03 37 30.6	+0.9
ALKP				IAML		03 37 51.0	
	comp=Z,48nm,0.7s						
FRAZ	Fraserburg	4.80 145		eP	Pn	03 36 53.7	+1.6
FRAZ				eS	Sn	03 37 47.4	-0.5
FRAZ				IAML		03 38 12.0	
	comp=Z,34nm,0.4s						
SUR	Sutherland	4.90 153		eP	Pn	03 36 54.5	+1.0
SUR				eS	Sn	03 37 49.4	-1.1
SUR				IAML		03 38 17.3	
	comp=Z,36nm,0.4s						
PRTV	Porterville,We	5.08 171		eP	Pn	03 36 56.2	+0.4
PRTV				eS	Sn	03 37 53.9	-0.6
PRTV				IAML		03 38 19.9	
	comp=Z,15nm,0.7s						
CER	Ceres	5.39 170		eP	Pn	03 37 01.1	+0.9
CER				eS	Sn	03 38 00.6	-1.8
GRAN	Grantham	5.49 142		eP	Pn	03 37 03.7	+2.1
GRAN				eS	Sn	03 38 03.3	-1.6
GRAN				IAML		03 38 32.9	
	comp=Z,20nm,0.4s						
BRAK	Brakfontein	5.56 133		eP	Pn	03 37 04.0	+1.5
BRAK				eS	Sn	03 38 06.0	-0.5
BRAK				IAML		03 38 32.5	
	comp=Z,28nm,0.3s						
BFON	Badsfontein, M	6.10 129		eP	Pn	03 37 11.4	+1.5
BFON				eS	Sn	03 38 18.1	-1.8
BFON				IAML		03 38 54.3	
	comp=Z,26nm,0.5s						
BOSA	Boshof	6.29 97		eP	Pn	03 37 13.8	+1.1
BOSA				eS	Sn	03 38 23.3	-1.4
BOSA				IAML		03 38 57.8	
	comp=Z,9.3nm,0.4s						
BOSA	Boshof	6.29 97		i P	Pn	03 37 12.2	-0.5
BOSA				i S	Sn	03 38 10.2	-15
ELIM	Elim	6.68 169		eP	Pn	03 37 18.1	+0.3
ELIM				eS	Sn	03 38 31.7	-2.3
ELIM				IAML		03 39 14.0	
	comp=Z,13nm,0.4s						
GRAF	Camdeboo Natio	6.93 129		eP	Pn	03 37 22.5	+1.2
GRAF				eS	Sn	03 38 38.6	-1.6
GRAF				IAML		03 39 19.4	
	comp=Z,30nm,0.5s						
LBTB	Lobatse	7.32 67		i P	Pn	03 37 25.3	-1.4
LBTB				i S	Sn	03 38 37.6	-12
TSUM	Tsumeb	8.81 357		i P	Pn	03 37 57.3	+10
LEPH	Lephalale, Lim	9.63 67		eP	Pn	03 37 59.6	+1.1
LEPH				eS	Sn	03 39 42.8	-4.1
LEPH				IAML		03 39 42.9	
	comp=Z,1.0nm,0.4s						

*IDC **07** 03:48:58.8±0.5, 20°82N×120°38E, h0km, mb4.3/28, mbtmp4.3/31, ML4.4/3, MS4.0/32, Error ellipse: s-maj=17.0km s-min=12.0km az=75.0*
*NEIC **07** 03:49:01.8±1.3, 20°84N±0°06×120°34E±0°09, h10km±1km, mb4.9/109, Error ellipse: s-maj=14.6km s-min=9.4km az=92.0*
*GCMT **07** 03:49:02.8±0.2, 20°87N±0°02×120°14E±0°02, h18km, MW4.9/103, Moment Tensor Solution. s29,c34; s103,c155; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=2.77±.15; $M_{\theta\theta}$1.16±.09; $M_{\phi\phi}$1.61±.10; $M_{r\theta}$0.62±.21; $M_{\theta\phi}$-1.36±.05; $M_{\phi r}$0.83±.22; Best double couple: M_o≡2.94000×10^16 NP1:ϕ_s≡303.00000°, δ45.00000°, λ-116.00000°. NP2:ϕ_s≡157.00000°, δ50.00000°, λ-66.00000°. Principal axes: T 2.7740, Plg3.0000°, Azm231.0000°; N 0.3320, Plg18.0000°, Azm321.0000°; P -3.1060, Plg72.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*TAP **07** 03:49:02.1, 21°07N×120°08E, h13km±1km, ML4.5, D*
*JMA **07** 03:49:03.4±0.5, 21°N±2°×12°0E±°, h64km, MV4.9/15, PHILIPPINE ISLE REGION*
*BJI **07** 03:49:04.0, 20°96N×120°23E, h28km, mB4.9/30, mb4.5/58, ML4.2/3, Ms4.6/70, Ms7 4.4/68*

ISC 07 03:49:02.9±0.4, 20°86N±0°04×120°25E±0°04, h21km±3km, n419, σ1§62/443, mb4.8/117, MS4.2/41, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK1	Hengchun	1.20	26	P	Pn	03 49 23.4	-1.0
TWK1				i S	Sb	03 49 38.9	-0.9
TWKBT	Hengchun	1.20	26	P	Pn	03 49 23.4	-1.0
TWKBT				S	Sb	03 49 38.8	-1.0
TSEB	Hengchuen, Pin	1.20	30	P	Pn	03 49 23.4	-1.0
HEN	Hengchun	1.23	22	eP	Pn	03 49 24.0	-0.8
SMST	Manzhou Townsh	1.28	25	P	Pn	03 49 24.6	-0.9
SLIU	Shizi	1.44	21	P	Pn	03 49 26.6	-1.2
TWP	Hsiaoliuchiu	1.48	4	eP	Pn	03 49 28.6	+0.3
WLCH	Liuqiu	1.49	5	eP	Pn	03 49 28.0	-0.4
SCZT	Fangliau	1.54	13	i P	Pn	03 49 27.6	-1.5
SCZT				eS	Sn	03 49 46.2	-2.3
TAWH	Dawu Township	1.59	22	P	Pn	03 49 28.5	-1.2
TAWH				S	Sn	03 49 46.9	-2.8
TAW	Tawu	1.61	22	P	Pn	03 49 29.0	-1.0
SSPT	Xinbi	1.64	10	eP	Pn	03 49 29.4	-1.0
LYUB	Lan-yu	1.68	47	eP	Pb	03 49 33.4	+0.2
LAY	Lan-yu	1.69	46	eP	Pb	03 49 33.3	+0.1
WSSB	Gushan	1.77	0	P	Pn	03 49 30.0	-2.3
MASBT	Mashibuluo	1.78	12	P	Pn	03 49 30.6	-1.8
MASBT				i S	Sn	03 49 52.0	-2.3
ECL	Taimali	1.85	21	eP	Pn	03 49 32.2	-1.2
SGLT	Jiouru	1.87	7	P	Pn	03 49 33.4	-0.3
TSMG	Majia	1.87	11	P	Pn	03 49 31.9	-1.8
TSMG				eS	Sn	03 49 54.1	-2.6
TWM1	Shoushan	1.96	5	P	Pn	03 49 34.6	-0.3
SCST	Cishan	2.03	6	eP	Pn	03 49 35.1	-0.7
TWG	Pinlang	2.09	21	P	Pn	03 49 35.0	-1.7
TWG	Pinlang	2.09	21	P	Pn	03 49 35.9	-0.8
TWGBT	Beinan	2.09	22	P	Pn	03 49 36.0	-0.8
TWGBT	Beinan	2.09	22	P	Pn	03 49 35.9	-0.8
LDUT	Ludao	2.13	32	eP	Pn	03 49 35.0	-2.2
SHHT	Tainan City	2.15	2	P	Pn	03 49 36.6	-0.9
LONT	Longtian	2.19	22	eP	Pn	03 49 37.1	-1.0
SGST	Jiashian	2.23	8	P	Pn	03 49 36.6	-2.1
SGST				eS	Sn	03 50 02.9	-2.8
SSHA	Shanhua	2.26	1	eS	Sn	03 50 04.4	-2.0
TSCK	Chigu Township	2.28	356	eP	Pn	03 49 37.8	-1.5
TSCK				eS	Sn	03 50 03.0	-3.8
SCLT	Jiali	2.30	359	eS	Sn	03 50 04.6	-2.7
EDH	Donghe	2.32	25	eP	Pn	03 49 39.0	-0.8
CHN1	Nanshi	2.33	6	P	Pn	03 49 38.4	-1.5
STYH	Taoyuan	2.35	12	P	Pn	03 49 39.1	-1.2
STYH				eS	Sn	03 50 05.8	-2.6
SNST	Tainan City	2.36	6	eP	Pn	03 49 39.3	-1.1
WTP	Ta-pu	2.40	8	P	Pn	03 49 39.5	-1.5
ECS	Chishang	2.40	22	eP	Pn	03 49 40.4	-0.5
TWK	Hsinying	2.40	5	eP	Pn	03 49 39.9	-1.2
ELDTW	Lidau	2.42	17	P	Pn	03 49 40.6	-0.8
EHD	Haiduan	2.44	21	eP	Pn	03 49 40.6	-1.0
WDGT	Dungji	2.45	347	eP	Pn	03 49 38.5	-3.1
WDGT				eS	Sn	03 50 06.0	-4.9
TPUB	Ta-pu	2.45	8	Pn	Pn	03 49 40.3	-1.4
TPUB	Ta-pu	2.45	8	P	Pn	03 49 40.1	-1.6
TPUB	Ta-pu	2.45	8	eP	Pn	03 49 40.0	-1.7
CHKT	Chengkung	2.46	25	eP	Pn	03 49 40.7	-1.0
VCHM	Qimei	2.46	342	eP	Pn	03 49 38.8	-3.0
VCHM				eS	Sn	03 50 05.8	-5.3
CHN8	Yiju	2.47	359	eP	Pn	03 49 40.1	-1.8
ICHU	Yijhu	2.49	1	eP	Pn	03 49 40.7	-1.4
ICHU				eS	Sn	03 50 08.5	-3.4
CHN4	Tsaushan	2.50	7	eP	Pn	03 49 40.9	-1.4
FULB	Fuli	2.52	22	eP	Pn	03 49 42.6	-0.1
FULB				eS	Sn	03 50 12.7	0.0
CHKH	Chenggong	2.55	24	eP	Pn	03 49 41.9	-1.1
WCKO	Fanlu	2.59	7	eP	Pn	03 49 42.1	-1.5
WCKO				eS	Sn	03 50 11.2	-3.2
CHY	Chiayi	2.63	4	eP	Pn	03 49 42.5	-1.6
WSL	Shuilin Townsh	2.65	360	eP	Pn	03 49 42.4	-2.0
WSL				eS	Sn	03 50 11.9	-4.0
TWF1	Yuli	2.66	21	eP	Pn	03 49 43.8	-0.8
TWF1				S	Sn	03 50 14.9	-1.3
EYUL	Yuli	2.67	22	eP	Pn	03 49 44.1	-0.5
ALS	Alishan	2.69	11	P	Pn	03 49 44.0	-1.2
ECBN	Changbin	2.69	24	eP	Pn	03 49 44.7	-0.2
YUS	Yu-Shan	2.69	14	eP	Pn	03 49 42.4	-3.1
YULB	Yu-li	2.70	21		Pn	03 49 44.3	-0.8
YULB	Yu-li	2.70	21	P	Pn	03 49 44.0	-1.1
YULB	Yu-li	2.70	21	eP	Pn	03 49 44.3	-0.8
PHUB	P'eng-hu	2.71	347	eP	Pn	03 49 42.8	-2.5
CHN5	Tsauling	2.75	8	P	Pn	03 49 44.1	-1.7
WSF	Szhu	2.76	360	eP	Pn	03 49 44.2	-1.7
WSF				eS	Sn	03 50 15.5	-3.2
PNG	Penghu	2.77	347	eP	Pn	03 49 43.5	-2.5
EHYH	Wanrong	2.81	21	eP	Pn	03 49 46.1	-0.4
EHY	Hungye	2.81	21	P	Pn	03 49 46.0	-0.7
EHY				eS	Sn	03 50 19.3	-0.7
WTK	Tuku	2.81	3	eP	Pn	03 49 44.9	-1.7
WTK				S	Sn	03 50 16.1	-3.9
WDLH	Douliu	2.83	5	P	Pn	03 49 45.3	-1.5
WDLH				eS	Sn	03 50 17.2	-3.1
HGSD	Ruisui	2.84	22	eP	Pn	03 49 47.0	+0.1
WHYT	Xinyi Township	2.88	11	eP	Pn	03 49 46.3	-1.3
WJS	Zhushan	2.98	8	eP	Pn	03 49 47.4	-1.5
SSLB	Suanglung	2.98	13	Pn	Pn	03 49 48.0	-1.0
SSLB	Suanglung	2.98	13	P	Pn	03 49 47.7	-1.3
SSLB	Suanglung	2.98	13	eP	Pn	03 49 47.8	-1.3
VWDT	VWDT	3.00	16	P	Pn	03 49 48.7	-0.5
EGFH	Guangfu	3.00	21	eP	Pn	03 49 49.0	-0.2
WNT	Mingjian	3.03	8	eP	Pn	03 49 48.3	-1.3
WARBT	Fenglin Townsh	3.03	20	eP	Pn	03 49 48.8	-0.9
WARBT				S	Sn	03 50 24.1	-1.3
SMLT	Sun Moon Lake	3.07	11	i P	Pn	03 49 48.2	-2.0
SMLT				eS	Sn	03 50 22.7	-3.7
TYC	Yuchr	3.08	10	eP	Pn	03 49 49.0	-1.3
ESL	Shilin	3.14	20	eP	Pn	03 49 50.9	-0.2
SHUL	Shoufeng	3.16	22	eP	Pn	03 49 51.9	+0.6
OWD	Renai	3.20	15	P	Pn	03 49 51.2	-0.8
OWD				eS	Sn	03 50 27.2	-2.4
WCHH	Zhanghua	3.21	5	eP	Pn	03 49 51.0	-1.2
WCHH				eS	Sn	03 50 26.9	-3.0
WUSB	Renai	3.22	14	eP	Pn	03 49 51.5	-0.8
WCS	Beigang Elemen	3.24	11	eP	Pn	03 49 51.4	-1.1
TEYL	Yanliau Villag	3.24	22	eP	Pn	03 49 51.4	-1.1
TCU	Taichung	3.29	7	eP	Pn	03 49 52.1	-1.2
ETM	Tongmen	3.30	20	eP	Pn	03 49 52.8	-0.5
LXIB	Xiulin Townshi	3.32	19	eP	Pn	03 49 53.4	-0.4
HWA	Hwalien	3.34	22	eP	Pn	03 49 54.1	+0.2
WHF	Hehuan Shan	3.40	16	eP	Pn	03 49 54.5	-0.7
TWD	Chiawan	3.44	21	eP	Pn	03 49 54.8	-0.4
WHP	Taichung City	3.46	11	eP	Pn	03 49 54.8	-0.8
TDCB	Techi	3.48	14	eP	Pn	03 49 55.1	-0.9
TWT	Tachien	3.48	14	eP	Pn	03 49 55.6	-0.4
FUSS	Fushou	3.49	15	eP	Pn	03 49 55.5	-0.7
TWQ1	Liyutan	3.50	8	eP	Pn	03 49 56.0	-0.1
ETL	Fush Village	3.52	21	eP	Pn	03 49 56.1	-0.3
ETLH	Xiulin Townshi	3.52	19	eP	Pn	03 49 56.4	-0.1
NACB	Ninganchiao	3.52	20		Pn	03 49 55.2	-1.2
NACB	Ninganchiao	3.52	20	P	Pn	03 49 55.1	-1.3
NACB	Ninganchiao	3.52	20	eP	Pn	03 49 55.2	-1.2
NMLH	Miaoli	3.69	8	eP	Pn	03 49 58.2	-0.6
NNSB	Datong	3.70	16	eP	Pn	03 49 58.7	-0.3
NNS	Nan Shan	3.71	16	eP	Pn	03 49 59.0	-0.1
EAHA	Aohua	3.72	21	eP	Pn	03 49 58.7	-0.4
EOS4	EOS4	3.77	30	eP	Pn	03 49 59.7	+0.3
ENA	Nanau	3.81	21	eP	Pn	03 49 59.5	-0.8
NSTT	Nanjuang	3.81	10	eP	Pn	03 49 59.5	-1.0
ZPLA	Ao Xicun	3.83	323	eP	Pn	03 49 58.4	-2.2
LIOB	Emei	3.83	11	eP	Pn	03 49 59.7	-1.0
EWUT	Wuta	3.84	21	eP	Pn	03 50 00.4	-0.3
NFF	Wufeng Townshi	3.84	12	eP	Pn	03 49 59.9	-0.9
LATG	Datong	3.84	18	eP	Pn	03 50 00.3	-0.5
DSXP	Dongshan	3.85	318	eP	Pn	03 49 59.6	-1.3
EOS3	EOS3	3.91	29	eP	Pn	03 50 02.1	+0.6
KNM	Kinmen	3.92	335	eP	Pn	03 50 00.4	-1.4
KNM				eS	Sn	03 50 43.2	-3.9
YHNB	Yeheng	3.93	15	Pn	Pn	03 50 02.4	+0.3
YHNB	Yeheng	3.93	15	P	Pn	03 50 01.1	-1.0
YHNB	Yeheng	3.93	15	eP	Pn	03 50 02.0	0.0
NSK	Sanguang	3.93	15	eP	Pn	03 50 02.9	+0.8
ENTT	Nioudou	3.95	18	eP	Pn	03 50 01.9	-0.4
KNMB	Chin-men Tao	3.98	335	Pn	Pn	03 50 00.9	-1.7
KNMB	Chin-men Tao	3.98	335	eP	Pn	03 50 00.4	-2.2
EOS2	EOS2	3.99	27	eP	Pn	03 50 03.1	+0.5
NDS	Dongshan	3.99	20	eP	Pn	03 50 02.7	-0.2
TWC	Suao	4.01	21	eP	Pn	03 50 03.5	+0.4
TWE	Neicheng	4.06	19	eP	Pn	03 50 03.3	-0.4
NWLT	Wulai	4.07	16	eP	Pn	03 50 03.4	-0.5
FUSB	Fushanzhiwuyua	4.07	17	eP	Pn	03 50 03.9	-0.1
VWUC	VWUC	4.17	350	eP	Pn	03 50 03.6	-1.8
VWUC				eS	Sn	03 50 48.1	-5.5
TATO	Taipei	4.25	15		Pn	03 50 06.3	-0.1
TATO	Taipei	4.25	15	P	Pn	03 50 04.9	-1.5
PTMZ	Houxiangcun	4.29	346	eP	Pn	03 50 05.3	-1.5
PTMZ				eS	Sn	03 50 50.8	-5.5
QZH	Quanzhou	4.34	340	Pn	Pn	03 50 05.2	-2.4
QZH				smax	smax		
	comp=N,220nm,0.9s						
QZH				smax	smax		
	comp=E,320nm,0.8s						
QZH				LR	LR		
	comp=N,5μm,11.1s						
QZH				LR	LR		
	comp=E,6μm,12.5s						
QZH				LR	LR		
	comp=Z,5μm,10.7s						
TIPB	Shuangxi	4.34	19	eP	Pn	03 50 07.5	-0.1
JYNG	Yonagunijimaku	4.36	34	eP	Pn	03 50 08.6	+0.7
YOJ	Yonaguni jima	4.40	35	Pn	Pn	03 50 08.7	+0.3
YOJ	Yonaguni jima	4.40	35	P	Pn	03 50 08.7	+0.3
YOJ	Yonaguni jima	4.40	35	eP	Pn	03 50 08.7	+0.3
YOJ	Yonaguni jima	4.40	35	eP	Pn	03 50 08.4	0.0
WFSB	Wu-fen Shan	4.42	18	eP	Pn	03 50 08.6	-0.1
TWB1	Santiao Chiao	4.43	21	eP	Pn	03 50 09.1	+0.3
YM01	YM01	4.43	16	eP	Pn	03 50 08.2	-0.8
ANP	Anpu	4.46	15	eP	Pn	03

DAV Davao City (W) 14.65 159 LR LR 03 58 49.7
comp=Z,985nm,18.5s,baz=351,slow=41
SLVN Son La 15.26 275 P **Pn** **03 52 37.0 -0.3**
LYN LuoYang 15.27 335 *e*P **Pn** **03 52 39.0 +1.8**
LYN PP **pwP** **03 52 52.1 +1.0**
LYN SS **S** **03 55 43.0 +0.9**
LYN pmax pmax
comp=Z,270nm,6.1s
LYN LR LR
comp=Z,2μm,11.8s
LYN LR LR
comp=Z,2μm,12.9s
LYN LR LR
comp=Z,2μm,13.3s
JNU Nakatsue 15.44 36 Pn **Pn** **03 52 37.4 -2.1**
JNU IAmb IAmb 03 52 45.8
comp=Z,84nm,0.9s
JNU Nakatsue 15.44 36 Pn **Pn** **03 52 39.2 -0.3**
comp=Z,1.0nm,0.3s,baz=186,slow=4.6,SNR=16
JNU LR LR 03 59 12.6
comp=Z,527nm,18.4s,baz=214,slow=40
comp=Z,17nm,1.0s
TIA Tai'an 15.54 351 P **Pn** **03 52 41.4 +0.7**
TIA pmax pmax
comp=Z,25nm,1.1s
TIA LR LR
comp=Z,1μm,15.2s
TIA LR LR
comp=Z,2μm,11.1s
TIA LR LR
comp=Z,2μm,13.9s
MYLDM Lahad Datu 15.68 186 Pn **Pn** **03 52 42.5 -0.2**
XAN Xi'an 16.52 325 P **Pn** **03 52 53.4 +0.1**
XAN S **Sn** **03 55 57.2 +1.1**
XAN pmax pmax
comp=Z,52nm,1.6s
XAN LR LR
comp=Z,1μm,12.6s
XAN LR LR
comp=Z,3μm,12.1s
XAN LR LR
comp=Z,3μm,11.4s
HNS HongShan 17.17 345 ⇑P **P** **03 53 02.8 -0.2**
HNS PP **pwP** **03 53 15.2 +3.0**
HNS pmax pmax
comp=Z,55nm,1.4s
HNS LR LR
comp=Z,2μm,14.9s
HNS LR LR
comp=Z,1μm,14.5s
HNS LR LR
comp=Z,1μm,14.3s
KSAR Wonju Array Be 17.80 20 **Pn** **03 53 08.7 -0.6**
KSRS Korea Array 17.83 20 P **Pn** **03 53 08.9 -0.7**
comp=Z,0.5nm,0.3s,baz=199,slow=12,SNR=11
KSRS LR LR 04 00 53.1
comp=Z,431nm,19.7s,baz=205,slow=40
comp=Z,5.1nm,0.7s
PZH PanZhiHua 17.85 292 P **P** **03 53 12.4 +1.7**
PZH S **Sn** **03 56 29.7 +1.0**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,210nm,5.3s
PZH LR LR
comp=Z,890nm,14.7s
PZH LR LR
comp=Z,620nm,10.8s
PZH LR LR
comp=Z,850nm,13.2s
DL2 Dalian 18.02 3 P **P** **03 53 13.7 +1.3**
DL2 pmax pmax
comp=Z,100nm,1.0s
DL2 LR LR
comp=Z,900nm,13.5s
DL2 LR LR
comp=Z,2μm,12.5s
DL2 LR LR
comp=Z,1μm,14.4s
BJT Baijiatuau 19.41 351 P **P** **03 53 26.6 -1.0**
BJT IAmb IAmb 03 53 40.3
comp=Z,77nm,1.1s
BJI Beijing 19.43 351 P **Pn** **03 53 29.2 +0.1**
BJI sP **pwP** **03 53 39.3 +2.1**
BJI pmax pmax
comp=Z,10.0nm,1.2s
BJI pmax pmax
comp=Z,140nm,6.9s
BJI LR LR
comp=Z,420nm,15.1s
BJI LR LR
comp=Z,630nm,15.9s
BJI LR LR
comp=Z,500nm,18.2s
SBUM Sibu 19.90 204 P **P** **03 53 33.6 +0.4**
CHTO Chiang Mai 20.14 268 **P** **03 53 36.6 +0.8**
CMAR Chiang Mai Arr 20.20 267 P Pn 03 53 38.4 -0.1
comp=Z,1.0nm,0.3s,baz=71,slow=9.4,SNR=12
CMAR LR LR 04 00 33.0
comp=Z,127nm,22.0s,baz=80,slow=34
comp=Z,1.0nm,0.3s
MRSI Marisa 20.33 175 P **P** **03 53 39.0 +1.2**
comp=Z,55nm,0.9s
TNCH TengChong 20.43 286 *e*P Pn 03 53 43.7 +2.4
TNCH S **S** **03 57 25.3 -1.9**
TNCH sS Sn 03 57 32.7 +1.6
TNCH pmax pmax
comp=Z,200nm,3.6s
TNCH LR LR
comp=Z,1μm,16.6s
TNCH LR LR
comp=Z,470nm,12.8s
TNCH LR LR
comp=Z,610nm,14.2s
KMSI Cibinong 20.49 169 P **P** **03 53 40.9 +1.3**
INU Inuyama 20.62 42 P **P** **03 53 40.1 -0.8**
INU IAmb IAmb 03 53 42.8
comp=Z,78nm,1.0s
LZH Lanzhou 20.88 320 *e*P Pn 03 53 48.7 +2.3
LZH pP pwP 03 53 55.0 +1.6
LZH SS Sn 03 58 04.6 +23
LZH pmax pmax
comp=Z,32nm,1.3s
LZH LR LR
comp=Z,1μm,13.4s
LZH LR LR
comp=Z,2μm,12.7s
LZH LR LR
comp=Z,2μm,12.7s
JGF Kuroka 21.00 42 **P** **03 53 44.2 -0.8**
JGF IAmb IAmb 03 53 46.5
comp=Z,92nm,1.0s
TNTI Ternate 21.14 160 P **P** **03 53 45.5 -1.2**
TNTI IAmb IAmb 03 53 52.1
comp=Z,34nm,0.8s
TNTI Ternate 21.14 160 P **P** **03 53 45.2 -1.4**
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 21.25 342 *e*P **P** **03 53 50.1 +2.4**
HHC sP pwP 03 53 58.3 +1.3
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,210nm,4.8s
HHC LR LR
comp=Z,1μm,18.2s
HHC LR LR
comp=Z,520nm,11.6s
HHC LR LR
comp=Z,1μm,15.7s
BTO Baotou 21.52 338 *e*P **P** **03 53 51.8 +1.1**
BTO pP **pP** **03 53 55.6 -0.1**
BTO PP **PnPn** **03 54 16.4 +5.1**
BTO pmax pmax
comp=Z,28nm,0.6s
BTO pmax pmax
comp=Z,330nm,4.4s
BTO LR LR
comp=Z,2μm,13.5s
BTO LR LR
comp=Z,950nm,11.4s
BTO LR LR
comp=Z,2μm,11.0s
PCI Palu 21.64 181 P **P** **03 53 53.0 +1.1**
comp=Z,59nm,1.0s
APSI Ampana 21.68 176 P **P** **03 53 54.4 +2.0**
comp=Z,1μmcomp=Z,141nm,1.2s
LUWI Luwuk 21.91 173 P **P** **03 53 54.2 -0.7**

LUWI Luwuk 21.91 173 P **P** **03 53 54.7 -0.1**
comp=Z,3μmcomp=Z,175nm,1.1s
MAJO Matsushiro 22.13 41 P **P** **03 53 55.9 -1.2**
MJAR Matsushiro Arr 22.13 41 P **P** **03 53 56.5 -0.6**
comp=Z,44nm,1.0s,baz=240,slow=7.4,SNR=24
MJAR LR LR 04 03 53.1
comp=Z,180nm,18.4s,baz=220,slow=40
comp=Z,44nm,1.0s
LBMI Labuha 22.52 161 P **P** **03 54 03.7 +2.3**
XLT XiLinHaoTe 23.23 352 *e*P **P** **03 54 08.6 -0.1**
XLT S **S** **03 58 16.3 -3.5**
XLT pmax pmax
comp=Z,36nm,1.2s
XLT LR LR
comp=Z,590nm,11.2s
XLT LR LR
comp=Z,480nm,12.8s
CN2 Changchun 23.28 10 *e*P **P** **03 54 07.8 -1.3**
CN2 *e*S **S** **03 58 16.0 -4.4**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,900nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
SANI Sanana 23.45 165 P **P** **03 54 08.1 -2.9**
comp=Z,43nm,0.9s
TTSI Tana Toraja 23.76 181 P **P** **03 54 12.6 -1.4**
comp=Z,2μmcomp=Z,44nm,1.3s
SWI Sorong 24.13 152 P **P** **03 54 17.2 -0.3**
comp=Z,2μmcomp=Z,94nm,1.0s
KULM Kulim 24.52 234 P **P** **03 54 20.9 -0.3**
JMM Marumori 24.56 42 P **P** **03 54 19.9 -1.4**
GUMO Guam 24.58 103 LR LR 04 03 45.3
comp=Z,86nm,19.7s,baz=76,slow=36
SPSI Sidrap Palu 24.68 181 P **P** **03 54 24.1 +1.6**
comp=Z,56nm,1.1s
IPM Ipoh 24.78 232 P **P** **03 54 22.7 -0.8**
MYKOM Kota Tinggi 24.80 222 P **P** **03 54 23.6 -0.1**
NLAI Namlea 24.88 164 P **P** **03 54 26.0 +1.7**
comp=Z,1μmcomp=Z,86nm,1.3s
MDJ Mudanjiang 24.92 16 P **P** **03 54 24.7 +0.2**
MDJ pmax pmax
comp=Z,58nm,1.1s
MDJ pmax pmax
comp=Z,330nm,4.6s
MDJ LR LR
comp=Z,740nm,16.5s
MDJ LR LR
comp=Z,770nm,15.1s
MDJ LR LR
comp=Z,940nm,14.4s
USA0B Ussuriysk Arra 25.24 20 P **P** **03 54 27.8 +0.5**
USA0B IAmb IAmb 03 54 32.0
comp=Z,25nm,0.9s
USRK Ussuriysk Ar. 25.24 20 P **P** **03 54 27.5 +0.2**
USRK Ussuriysk Ar. 25.24 20 P **P** **03 54 27.4 +0.1**
comp=Z,22nm,0.8s,baz=200,slow=9.3,SNR=22
USRK LR LR 04 04 36.7
comp=Z,424nm,21.5s,baz=198,slow=37
comp=Z,22nm,0.8s
GTA Gaotai 25.47 321 *e*P **P** **03 54 31.3 +1.6**
GTA pP pP 03 54 35.9 +0.9
GTA sS sS 03 59 12.0 +7.3
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA LR LR
comp=Z,570nm,12.4s
GTA LR LR
comp=Z,350nm,13.4s
GTA LR LR
comp=Z,680nm,11.6s
BNX BinXian 25.50 12 ⇓P **P** **03 54 30.1 +0.4**
BNX pmax pmax
comp=Z,14nm,1.1s
BNX pmax pmax
comp=Z,130nm,5.4s
BNX LR LR
comp=Z,480nm,15.9s
BNX LR LR
comp=Z,600nm,12.8s
BNX LR LR
comp=Z,580nm,13.9s
FAKI Fak Fak 26.40 152 P **P** **03 54 37.4 -0.7**
FAKI Fak Fak 26.40 152 P **P** **03 54 37.7 -0.4**
comp=Z,70nm,1.1s
TPI Tanjungpandan 26.52 209 P **P** **03 54 39.3 +0.1**
comp=Z,19nm,1.1s
BRDH Bariadhala 26.61 279 LR LR 04 07 20.8
comp=Z,276nm,19.7s,baz=146,slow=41
GOMU GeErMu 26.96 310 P **P** **03 54 47.8 +4.3**
GOMU pP sP 03 54 50.8 -0.1
GOMU sP pwP 03 54 53.5 +0.3
GOMU pmax pmax
comp=Z,10.0nm,0.5s
GOMU LR LR
comp=Z,2μm,14.6s
GOMU LR LR
comp=Z,2μm,13.4s
GOMU LR LR
comp=Z,2μm,12.2s
PSI Prapat 27.46 232 LR LR 04 05 13.7
comp=Z,280nm,19.3s,baz=50,slow=35
RPSI Rantau Prapat 27.53 232 P **P** **03 54 47.6 -0.7**
RPSI IAmb IAmb 03 54 59.5
comp=Z,22nm,1.1s
MNSI Mandailing Nat 28.38 228 P **P** **03 54 55.7 -0.2**
comp=Z,2μmcomp=Z,40nm,1.0s
BSI Banda Aceh 28.62 241 P **P** **03 54 57.9 -0.2**
comp=Z,25nm,1.1s
PPI Padang Panjang 28.74 225 P **P** **03 54 59.5 +0.4**
comp=Z,2μmcomp=Z,42nm,1.3s
ULN Ulaanbaatar 28.97 342 P **P** **03 55 01.4 +0.3**
SONM Songino Array 29.14 341 P **P** **03 55 02.9 +0.3**
SONM Songino Array 29.14 341 P **P** **03 55 02.5 0.0**
comp=Z,3.1nm,0.9s,baz=163,slow=8.6,SNR=12
SONM LR LR 04 07 50.0
comp=Z,571nm,18.4s,baz=160,slow=39
comp=Z,3.1nm,0.9s
PLAI Plampang 29.60 185 P **P** **03 55 06.4 -0.3**
comp=Z,47nm,1.2s
ASAJ Asahikawa 29.70 34 LR LR 04 07 41.1
comp=Z,316nm,19.0s,baz=202,slow=38
JKA Kamikawa-asahi 29.70 34 P **P** **03 55 07.1 -0.3**
MDSI Maura Dua 29.72 214 P **P** **03 55 07.8 0.0**
comp=Z,12nm,1.3s
KLR Kul'dur 29.76 15 LR LR 04 08 28.4
comp=Z,392nm,18.9s,baz=200,slow=39
HEH HeiHe 29.87 9 *e*P **P** **03 55 10.2 +1.4**
HEH PP **PnPn** **03 56 04.5 -0.6**
HEH S **S** **04 00 06.0 +1.3**
HEH pmax pmax
comp=Z,23nm,1.0s
HEH LR LR
comp=Z,390nm,12.1s
HEH LR LR
comp=Z,700nm,14.4s
HEH LR LR
comp=Z,850nm,15.0s
LEM Lembang 30.18 206 LR LR 04 08 12.1
comp=Z,146nm,18.2s,baz=144,slow=38
PPSI Pulau Pagai 30.73 223 P **P** **03 55 18.9 +2.1**
BATI Baumata 31.06 173 P **P** **03 55 17.9 -1.7**
WMQ Urumqi 35.42 318 *e*P **P** **03 56 00.1 +2.5**
WMQ LR LR
comp=Z,680nm,11.5s
WMQ LR LR
comp=Z,540nm,17.3s
WMQ LR LR
comp=Z,250nm,13.9s
KNRA Kununurra 37.26 166 P **P** **03 56 12.6 -0.7**
KNRA IAmb IAmb 03 56 13.5
comp=Z,27nm,1.1s
ZSN Zaisan 38.97 321 *e*P **P** **03 56 30.9 +3.4**
FITZ Fitzroy Crossi 39.08 172 P **P** **03 56 27.7 -0.9**
PMG Port Moresby 40.06 136 LR LR 04 12 57.0
comp=Z,85nm,18.9s,baz=258,slow=36
MK31 Makanchi Array 40.19 319 P **P** **03 56 38.4 +0.7**
MKAR Makanchi Array 40.19 319 P **P** **03 56 38.8 +1.1**
MKAR Makanchi Array 40.19 319 P **P** **03 56 38.5 +0.8**
comp=Z,2.2nm,0.9s,baz=111,slow=9.4,SNR=13
MKAR PcP **PcP** **03 58 40.4 -1.3**
comp=Z,0.5nm,0.6s,baz=134,slow=4.2,SNR=1.8

MKAR LR LR 04 14 25.7
comp=Z,179nm,19.8s,baz=92,slow=38
comp=Z,2.2nm,0.9s
MAKZ Makanchi 40.39 319 P **P** **03 56 40.6 +1.2**
PALK Pallekele 40.54 256 LR LR 04 14 29.8
comp=Z,91nm,18.3s,baz=62,slow=38
SHLS Shalkode 40.58 313 *e*P **P** **03 56 42.8 +1.6**
UZB Uzynbulak 40.88 313 *e*P **P** **03 56 47.6 +3.9**
KPKS Kokpek 41.22 313 *e*P **P** **03 56 50.2 +3.9**
SATY Saty 41.28 312 *e*P **P** **03 56 50.4 +3.5**
COEN Coen 41.29 145 P **P** **03 56 45.9 -1.2**
YAK Yakutsk 41.65 7 LR LR 04 16 29.4
comp=Z,268nm,18.4s,baz=184,slow=40
TDK Taldyqorghan 41.94 315 *e*P **P** **03 56 55.7 +3.5**
KSH Kashi 42.07 306 P P 03 56 58.4 +5.0
KSH sP pwP 03 57 06.8 +3.7
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH LR LR
comp=Z,380nm,13.7s
KSH LR LR
comp=Z,450nm,18.5s
KSH LR LR
comp=Z,550nm,13.4s
TNSS Tian-Shan 42.29 312 *e*P **P** **03 56 59.4 +3.9**
ZAA0 Zalesovo Array 42.61 330 P **P** **03 56 58.4 +1.0**
ZALV Zalesovo Beam 42.61 330 P **P** **03 56 57.5 +0.1**
ZALV Zalesovo Beam 42.61 330 P **P** **03 56 56.5 -0.8**
comp=Z,5.4nm,0.8s,baz=113,slow=7.1,SNR=15
ZALV PcP **PcP** **03 58 49.1 -0.2**
comp=Z,0.7nm,0.5s,baz=131,slow=4.4,SNR=1.7
ZALV LR LR 04 15 48.3
comp=Z,281nm,19.1s,baz=104,slow=38
comp=Z,5.4nm,0.8s
WB0 Warramunga Arr 42.69 160 P **P** **03 56 57.4 -1.1**
WRAB Tennant Creek 42.83 160 P **P** **03 56 58.7 -0.9**
WRA Warramunga Arr 42.83 160 P **P** **03 56 58.1 -1.5**
WRA Warramunga Arr 42.83 160 P **P** **03 56 58.1 -1.5**
comp=Z,18nm,0.8s,baz=343,slow=8.8,SNR=52
WRA PcP **PcP** **03 58 50.4 -0.3**
comp=Z,2.3nm,0.8s,baz=342,slow=3.9,SNR=4.2
comp=Z,18nm,0.8s
WB2 Warramunga Arr 42.84 160 P **P** **03 56 58.4 -1.2**
WR0 Warramunga Arr 42.91 160 P **P** **03 56 58.9 -1.3**
WR0 IAmb IAmb 03 57 04.9
comp=Z,40nm,1.1s
SEM Semipalatinsk 43.07 323 *e*P **P** **03 57 04.7 +3.1**
PETK Petropavlovsk- 43.11 32 P **P** **03 57 00.4 -1.1**
comp=Z,5.7nm,1.0s,baz=236,slow=10,SNR=2.6
comp=Z,5.7nm,1.0s
H11N1 WAKE ISLAND Hy 43.65 83 T T 04 43 57.4
baz=278
H11N2 WAKE ISLAND Hy 43.65 83 T T 04 43 56.3
baz=278
H11N3 WAKE ISLAND Hy 43.66 83 T T 04 43 56.3
baz=278
H11S3 WAKE ISLAND Hy 43.68 85 T T 04 43 55.7
baz=281,slow=75
H11S1 WAKE ISLAND Hy 43.69 85 T T 04 43 56.6
baz=281
H11S2 WAKE ISLAND Hy 43.70 85 T T 04 43 57.0
baz=281,slow=75
AAK Ala-Archa 43.91 310 P **P** **03 57 08.1 -0.2**
comp=Z,0.5nm,0.2s,baz=118,slow=8.5,SNR=4.1
AAK LR LR 04 18 06.4
comp=Z,424nm,18.9s,baz=116,slow=40
comp=Z,0.5nm,0.2s
SGDS Sogindy 44.03 312 *e*P **P** **03 57 12.7 +3.6**
KURK Kurchatov 44.13 323 P **P** **03 57 10.8 +1.0**
KURK IAmb IAmb 03 57 21.3
comp=Z,20nm,1.3s
KURBB Kurchatov Arra 44.14 323 P **P** **03 57 10.1 +0.2**
comp=Z,3.5nm,0.9s,baz=124,slow=7.6,SNR=19
comp=Z,3.5nm,0.9s
MA2 Magadan 44.38 22 P **P** **03 57 10.8 -0.8**
MA2 Magadan 44.38 22 P **P** **03 57 10.5 -1.1**
comp=Z,13nm,1.1s
BTLS Baital 44.88 314 *e*P **P** **03 57 19.7 +3.9**
AS31 Alice Springs 46.22 163 P **P** **03 57 25.7 -0.9**
ASAR Alice Springs 46.22 163 P **P** **03 57 25.7 -0.9**
ASAR Alice Springs 46.22 163 P **P** **03 57 24.9 -1.7**
comp=Z,7.5nm,0.8s,baz=339,slow=8.0,SNR=7.8
ASAR PcP **PcP** **03 59 02.0 -0.2**
comp=Z,1.5nm,0.8s,baz=352,slow=3.0,SNR=1.8
ASAR LR LR 04 19 20.4
comp=Z,54nm,18.4s,baz=4.5,slow=40
comp=Z,7.5nm,0.8s
GAR Garm 46.29 304 P **P** **03 57 27.5 +0.3**
KK31 Karatay Array 46.86 310 P **P** **03 57 32.5 +0.9**
KK31 IAmb IAmb 03 57 43.8
comp=Z,14nm,1.2s
KKAR Karatay Array 46.86 310 P **P** **03 57 32.9 +1.4**
KKAR Karatay Array 46.86 310 P **P** **03 57 32.5 +0.9**
IUG Iuzhnay 47.02 309 *e*P **P** **03 57 36.5 +3.6**
comp=Z,12nm,1.1s
CHGR Chuyangaron 47.14 304 P **P** **03 57 34.5 +0.6**
SIMJ Simiganj 47.26 304 P **P** **03 57 35.8 +0.9**
BRLS Borolday 47.33 310 *e*P **P** **03 57 39.6 +4.4**
comp=Z,5.1nm,1.2s
BRZS Berezniki 47.33 320 *e*P **P** **03 57 39.0 +3.9**
CHM Chimkent 47.37 309 *e*P **P** **03 57 39.9 +4.4**
BVAR Borovoye Array 49.73 323 P **P** **03 57 53.7 +0.1**
comp=Z,0.5nm,0.6s,baz=117,slow=8.7,SNR=1.9
BVAR PcP **PcP** **03 59 14.8 +0.4**
comp=Z,0.8nm,0.5s,baz=129,slow=2.0,SNR=2.3
comp=Z,0.5nm,0.6s
BRVK Borovoye 49.80 323 P **P** **03 57 54.1 +0.1**
TIXI Tiksi 51.05 4 P **P** **03 58 02.8 -0.3**
TIXI IAmb IAmb 03 58 14.0
comp=Z,25nm,1.3s
TIXI Tiksi 51.05 4 LR LR 04 21 50.5
comp=Z,294nm,18.2s,baz=192,slow=39
SHEM Shemya Is, Ala 51.94 39 LR LR 04 23 55.4
comp=Z,69nm,18.0s,baz=244,slow=40
BILL Bilibino 55.09 19 P **P** **03 58 33.2 +0.2**
BILL IAmb IAmb 03 58 34.3
comp=Z,16nm,1.2s
BBOO Buckleboo 55.47 164 P **P** **03 58 35.5 -0.7**
STKA Stephens Creek 56.29 158 P **P** **03 58 41.0 -1.0**
STKA Stephens Creek 56.29 158 P **P** **03 58 40.0 -2.0**
comp=Z,8.6nm,1.0s,baz=348,slow=6.8,SNR=8.2
comp=Z,8.6nm,1.0s
AKTO Aktyubinsk 56.58 317 LR LR 04 24 21.2
comp=Z,160nm,19.7s,baz=353,slow=37
ARTI Arti 57.35 324 P **P** **03 58 50.4 +1.0**
ARTI IAmb IAmb 03 59 04.5
comp=Z,15nm,1.2s
C16K Lisburne Hills 65.03 23 P **P** **03 59 42.2 +1.0**
C16K IAmb IAmb 03 59 43.2
comp=Z,13nm,1.1s
F15K North Star Dit 65.05 26 P **P** **03 59 41.6 +0.2**
RDOG Red Dog Mine 65.92 24 P **P** **03 59 47.5 +0.6**
RDOG IAmb IAmb 04 00 02.3
comp=Z,16nm,1.2s
C18K Utukok River 66.59 23 P **P** **03 59 52.1 +0.8**
KBZ Khabaz 66.90 310 P **P** **03 59 53.5 -0.1**
comp=Z,2.3nm,0.8s,baz=153,slow=7.6,SNR=3.8
comp=Z,2.3nm,0.8s
D19K Kuna River 67.71 23 P **P** **03 59 58.9 +0.4**
RAYN Ar Rayn 68.51 288 P **P** **04 00 04.9 +0.7**
RAYN IAmb IAmb 04 00 06.0
comp=Z,7.1nm,1.0s
F20K Avaraart Lake 68.66 25 P **P** **04 00 04.8 +0.4**
J19K Poorman 68.90 28 P **P** **04 00 06.9 +1.0**
J19K IAmb IAmb 04 00 25.6
comp=Z,9.7nm,1.2s
B22K Teshekpuk Lake 69.31 21 P **P** **04 00 09.1 +0.8**
G21K Allakaket 69.58 25 P **P** **04 00 10.6 +0.5**
G21K IAmb IAmb 04 00 22.1
comp=Z,19nm,1.3s
H21K Melozitna Rive 69.95 26 P **P** **04 00 12.7 +0.4**
H21K IAmb IAmb 04 00 25.3
comp=Z,19nm,1.2s
E22K Anaktuvuk Pass 70.07 23 P **P** **04 00 13.9 +0.8**
CAST Castle Rocks 70.53 28 P **P** **04 00 16.4 +0.4**
CAST IAmb IAmb 04 00 28.6
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 70.83 23 P **P** **04 00 18.2 +0.4**
TOLK IAmb IAmb 04 00 29.6
comp=Z,12nm,1.3s
BPAW Bear Paw Mtn. 70.92 28 P **P** **04 00 18.8 +0.4**
D24K Happy Valley 71.03 22 P **P** **04 00 19.3 +0.5**
D24K IAmb IAmb 04 00 31.5
comp=Z,13nm,1.0s
KDAK Kodiak Island 71.11 34 P **P** **04 00 18.4 -1.1**
comp=Z,6.7nm,1.0s,baz=280,slow=4.2,SNR=5.4

KDAK LR LR 04 32 10.6
comp=Z,87nm,20.0s,baz=78,slow=36
comp=Z,6.7nm,1.0s
SUA Susitna One 71.44 30 P **P 04 00 22.2 +0.5**
I23K Minto, Yukon-K 71.45 26 P **P 04 00 21.7 +0.3**
I23K IAmb IAmb 04 00 34.1
comp=Z,16nm,1.4s
F24K Squaw Lake 71.63 24 P **P 04 00 23.0 +0.4**
F24K IAmb IAmb 04 00 35.3
comp=Z,20nm,1.3s
NEA2 Nenana 71.66 27 P **P 04 00 23.2 +0.3**
NEA2 IAmb IAmb 04 00 35.5
comp=Z,6.4nm,0.8s
MCK McKinley 71.87 28 P **P 04 00 23.9 -0.2**
MCK IAmb IAmb 04 00 36.0
comp=Z,23nm,1.3s
G24K Hadweenzic Riv 71.94 25 P **P 04 00 25.0 +0.5**
G24K IAmb IAmb 04 00 36.6
comp=Z,19nm,1.4s
RND Reindeer 71.97 28 P **P 04 00 24.8 +0.1**
RND IAmb IAmb 04 00 36.7
comp=Z,13nm,0.9s
WRH Wood River Hil 72.10 27 P **P 04 00 26.5 +1.0**
WRH IAmb IAmb 04 00 38.2
comp=Z,10nm,1.0s
POKR Poker Plat Res 72.26 26 P **P 04 00 27.0 +0.6**
POKR IAmb IAmb 04 00 39.3
comp=Z,19nm,1.4s
ARCES ARCESS Array B 72.29 338 P **P 04 00 25.7 -0.8**
comp=Z,5.6nm,1.0s,baz=77,slow=5.3,SNR=2.2
comp=Z,5.6nm,1.0s
E25K Arctic Village 72.38 23 P **P 04 00 28.1 +1.0**
F25K Christian Rive 72.47 24 P **P 04 00 28.5 +0.9**
KNK Knik Glacier 72.53 30 P **P 04 00 28.2 +0.1**
SPITS Spitsbergen Ar 72.53 348 P **P 04 00 27.0 -0.8**
comp=Z,5.0nm,0.9s,baz=72,slow=4.7,SNR=1.4
SPITS LR LR 04 36 56.3
comp=Z,166nm,18.5s,baz=358,slow=40
comp=Z,5.0nm,0.9s
ILAR Eielson Array 72.55 27 P **P 04 00 26.6 -1.6**
comp=Z,0.4nm,0.6s,baz=276,slow=4.8,SNR=7.6
ILAR PP **PP 04 03 09.2 0.0**
comp=Z,0.4nm,0.9s,baz=280,slow=8.0,SNR=2.4
ILAR LR LR 04 36 15.8
PWL Port Wells 72.70 31 P **P 04 00 29.3 +0.3**
PWL IAmb IAmb 04 00 40.4
comp=Z,17nm,1.2s
C27K Jago River 72.71 21 P **P 04 00 29.5 +0.5**
BMAR Burnt Mountain 72.90 24 P **P 04 00 31.4 +1.2**
SCM Sheep Creek Mo 72.97 30 P **P 04 00 30.1 -0.7**
SCM IAmb IAmb 04 00 42.8
comp=Z,16nm,0.9s
PAX Paxson 73.56 28 P **P 04 00 34.7 +0.5**
PAX IAmb IAmb 04 00 41.2
comp=Z,19nm,1.6s
FID Port Fidalgo 73.61 31 P **P 04 00 34.4 0.0**
RIDG Independent Ri 73.65 28 P **P 04 00 35.3 +0.6**
RIDG IAmb IAmb 04 00 36.4
comp=Z,18nm,1.3s
D27M Malcolm River 73.75 22 P **P 04 00 35.8 +0.6**
D27M IAmb IAmb 04 00 48.0
comp=Z,17nm,1.2s
FINES FINESS Array B 73.87 330 P **P 04 00 35.8 -0.1**
comp=Z,5.0nm,0.9s,baz=60,slow=5.9,SNR=4.7
comp=Z,5.0nm,0.9s
SCRK Sand Creek 73.96 27 P **P 04 00 37.5 +0.9**
DOT Dot Lake 74.01 28 IAmb IAmb 04 00 38.7
comp=Z,14nm,1.4s
DOT P **P 04 00 39.1 +2.3**
N25K Chitina, Valde 74.29 30 P **P 04 00 39.9 +1.4**
MENT Mentasta 74.34 28 P **P 04 00 39.9 +1.2**
BMRM Bremner River 74.45 30 P **P 04 00 40.5 +1.0**
BMRM IAmb IAmb 04 00 51.4
comp=Z,16nm,1.2s
BRTR Keskin Array B 74.45 307 P **P 04 00 40.4 +0.4**
comp=Z,0.9nm,0.9s,baz=97,slow=6.3,SNR=4.1
comp=Z,0.9nm,0.9s
L26K Log Cabin Wild 74.48 28 P **P 04 00 40.8 +1.2**
L26K IAmb IAmb 04 00 52.0
comp=Z,14nm,1.4s
GLB Gilahina Butte 74.69 30 P **P 04 00 41.6 +0.8**
GLB IAmb IAmb 04 00 53.1
comp=Z,22nm,1.4s
AK09 Malin Array Si 74.76 319 P **P 04 00 41.3 0.0**
AK08 Malin Array Si 74.77 319 P **P 04 00 41.4 0.0**
AKASG Malin Array Be 74.78 319 P **P 04 00 40.9 -0.5**
comp=Z,1.7nm,0.7s,baz=63,slow=5.1,SNR=5.9
comp=Z,1.7nm,0.7s
AK10 Malin Array Si 74.78 319 P **P 04 00 41.4 -0.1**
KIEV Kiev 74.79 319 P **P 04 00 41.4 -0.1**
M26K Nabesna, AK 74.81 29 P **P 04 00 41.6 +0.2**
M26K IAmb IAmb 04 00 53.7
comp=Z,28nm,1.4s
AK06 Malin Array Si 74.82 319 P **P 04 00 41.6 -0.1**
AK12 Malin Array Si 74.83 319 P **P 04 00 41.7 0.0**
E29M Blow River 75.07 22 P **P 04 00 43.8 +1.0**
BCAR Beaver Creek A 75.16 28 P **P 04 00 43.6 +0.2**
G29M Pine Creek 75.50 24 P **P 04 00 46.4 +1.0**
DAWY Dawson 75.88 26 P **P 04 00 48.2 +0.6**
DAWY IAmb IAmb 04 00 59.7
comp=Z,22nm,1.4s
J29N Klondike Camp 76.24 26 P **P 04 00 50.2 +0.6**
J29N IAmb IAmb 04 01 02.4
comp=Z,27nm,1.6s
INK Inuvik 76.61 22 P **P 04 00 52.6 +1.1**
INK IAmb IAmb 04 01 03.4
comp=Z,11nm,1.4s
INK Inuvik 76.61 22 P **P 04 00 50.8 -0.8**
comp=Z,2.3nm,1.0s,baz=306,slow=8.0,SNR=5.8
comp=Z,2.3nm,1.0s
M29M Somme Creek 76.81 28 P **P 04 00 53.7 +0.8**
M29M IAmb IAmb 04 00 55.7
comp=Z,11nm,1.3s
F31M Tsiigehtchic 76.87 22 P **P 04 00 53.0 0.0**
F31M IAmb IAmb 04 01 05.5
comp=Z,8.0nm,0.9s
M30M Minto, Yukon 77.48 28 P **P 04 00 57.1 +0.4**
M30M IAmb IAmb 04 01 09.6
comp=Z,20nm,1.4s
A36M Sachs Harbour 77.54 17 P **P 04 00 57.4 +0.7**
A36M IAmb IAmb 04 01 11.8
comp=Z,8.1nm,0.9s
HYT Haines Junctio 77.80 29 P **P 04 00 59.5 +1.0**
HYT IAmb IAmb 04 01 11.4
comp=Z,17nm,1.3s
MLR Muntele Rosu 78.33 314 P **P 04 01 03.1 +1.3**
MLR IAmb IAmb 04 01 32.1
comp=Z,26nm,1.7s
N31M Braeburn, Yuko 78.33 28 P **P 04 01 02.9 +1.5**
O30N Mendenhall 78.46 29 P **P 04 01 03.2 +1.1**
O30N IAmb IAmb 04 01 19.1
comp=Z,22nm,1.8s
WHY Whitehorse 79.05 29 P **P 04 01 06.5 +1.0**
WHY IAmb IAmb 04 01 18.3
comp=Z,20nm,1.2s
FARO Faro, Yukon 79.10 27 P **P 04 01 06.5 +0.8**
FARO IAmb IAmb 04 01 18.0
comp=Z,14nm,1.3s
C36M Paulatuk 79.21 19 P **P 04 01 06.6 +0.7**
C36M IAmb IAmb 04 01 17.6
comp=Z,12nm,1.1s
HFS Hagfors 80.03 331 P **P 04 01 09.5 -1.1**
comp=Z,3.0nm,1.0s,baz=63,slow=6.6,SNR=2.3
HFS LR LR 04 38 04.3
comp=Z,194nm,18.4s,baz=219,slow=37
comp=Z,3.0nm,1.0s
NIE Niedzica 80.64 319 *eP* **P 04 01 14.9 +0.7**
OJC Ojcow 80.66 320 *eP* **P 04 01 17.5 +3.3**
OJC Ojcow 80.66 320 P **P 04 01 13.9 -0.3**
OJC IAmb IAmb 04 01 33.9
comp=Z,16nm,1.2s
NOA NORSAR Array B 80.74 332 P **P 04 01 13.6 -1.0**
comp=Z,1.1nm,0.9s,baz=60,slow=5.2,SNR=2.1
NOA LR LR 04 40 27.6
comp=Z,170nm,18.4s,baz=60,slow=38
comp=Z,1.1nm,0.9s
JMIC Jan Mayen 81.80 345 LR LR 04 41 03.0
comp=Z,171nm,20.6s,baz=64,slow=38
VYHS Vyhne 81.88 319 *eP* **P 04 01 25.4 +4.6**
RES Resolute Bay 82.06 9 P **P 04 01 21.4 +0.2**
RES Resolute Bay 82.06 9 P **P 04 01 19.7 -1.5**
comp=Z,2.3nm,1.0s,baz=328,slow=5.1,SNR=8.7
comp=Z,2.3nm,1.0s
KSP Ksiaz 82.48 322 *eP* **P 04 01 27.9 +4.0**
KMBO Kilima Mbogo 83.85 266 P **P 04 01 32.4 +0.5**
comp=Z,0.8nm,0.4s,baz=59,slow=5.9,SNR=2.2
comp=Z,0.8nm,0.4s
CONA Conrad Observa 83.93 319 *e*P **P 04 01 33.9 +2.3**
comp=Z,6.6nm,1.3s
CLL Collm 84.17 323 *e*P **P 04 01 32.0 -0.5**
CLL *i* x x 04 01 36.3
comp=Z,9.0nm,1.1s
ARSA Arzberg 84.42 319 *e*PcP **PcP 04 01 38.1 +0.5**
comp=Z,2.8nm,0.9s
GERES GERESS Array B 84.84 321 P **P 04 01 36.8 +0.7**
comp=Z,0.9nm,0.4s,baz=355,slow=7.2,SNR=5.7
comp=Z,0.9nm,0.4s
MOA Molln 84.94 319 *e*P **P 04 01 38.1 +1.5**
comp=Z,10nm,1.5s
SOKA Soboth 84.97 318 *e*P **P 04 01 37.1 +0.3**
comp=Z,4.7nm,1.0s
OBKA Obir 85.34 318 *e*pP pP 04 01 42.2 -2.2
comp=Z,14nm,1.8s
BIOA Bad Ischl, Aus 85.39 319 *e*PcP **PcP 04 01 41.9 0.0**
comp=Z,0.1nm,0.2s
MYKA Terra Mystica 85.85 319 *e*P **P 04 01 41.4 +0.2**
comp=Z,1.8nm,0.6s
LESA Schwarzleotal 86.09 320 *e*P **P 04 01 42.5 +0.1**
comp=Z,4.4nm,1.4s
YKA Yellowknife Ar 86.36 22 P **P 04 01 43.5 +0.3**
comp=Z,1.4nm,0.8s,baz=310,slow=4.7,SNR=23
comp=Z,1.4nm,0.8s
ABTA Abfaltersbach 86.50 319 *e*pP pP 04 01 47.6 -2.6
comp=Z,7.7nm,1.5s
WTTA Wattenberg 86.79 320 *e*P **P 04 01 46.6 +0.6**
comp=Z,6.9nm,1.0s
WATA Walderalm 86.80 320 *e*PcP **PcP 04 01 48.0 -0.2**
comp=Z,3.7nm,0.6s
SQTA Sankt Quirin 87.07 320 *e*pP pP 04 01 51.5 -1.5
comp=Z,8.7nm,1.6s
RETA Reutte 87.22 320 *e*pP pP 04 01 51.2 -2.5
comp=Z,6.8nm,1.8s
FETA Feichten 87.45 320 *e*pP pP 04 01 52.7 -2.2
comp=Z,6.6nm,1.4s
DAVA Damuels 87.84 320 *e*pP pP 04 01 54.4 -2.4
comp=Z,8.2nm,1.7s
RAR Rarotonga 88.60 113 LR LR 04 40 07.9
comp=Z,20nm,19.2s,baz=296,slow=35
FRB Frobisher Bay 95.39 4 LR LR 04 49 36.8
comp=Z,126nm,18.7s,baz=316,slow=38
SDV Santo Domingo 148.56 21 PKPbc **PKPbc 04 08 48.5 -0.9**
comp=Z,6.8nm,0.9s,baz=42,slow=6.5,SNR=6.1
SIV San Ignacio 175.00 15 PKP **PKPdf 04 09 08.8 -3.3**
comp=Z,1.2nm,1.0s,baz=128,slow=5.1,SNR=3.9

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*IDC **07** 03:53:01.8±0.6, 13°.45N×44°.93W, h0km, mb4.1/19, mbtmp4.1/20, ML3.7/1, MS3.9/24, Error ellipse: s-maj=19.3km s-min=14.5km az=110.0*
*NEIC **07** 03:53:04.5±1.0, 13°.5N±0°.1×44°.9W±0°.1, h10km±1km, mb4.9/93, Error ellipse: s-maj=26.0km s-min=18.5km az=127.0*
*GCMT **07** 03:53:05.4±0.3, 13°.46N±0°.04×44°.83W±0°.02, h13km±1km, MW4.8/81, Moment Tensor Solution. s20,c22; s81,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.17±.17; $M_{\theta\theta}$0.35±.10; $M_{\phi\phi}$1.82±.11; $M_{r\theta}$-0.77±.37; $M_{\theta\phi}$-0.34±.07; $M_{\phi r}$-0.84±.23; Best double couple: $M_0$2.29300×10^{16} NP1:ϕ_s153.00000°, δ38.00000°, λ-118.00000°. NP2: ϕ_s7.00000°, δ57.00000°, λ-70.00000°. Principal axes: T 2.0130, Plg10.0000°, Azm83.0000°; N 0.5620, Plg17.0000°, Azm176.0000°; P -2.5740, Plg70.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 03:53:04.7±0.4, **13°.44N**±0°.08×**44°.84W**±0°.08, **h15**km, **n167**, σ0=**91**/142, **mb4.8**/79, **MS4.1**/23, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.30**	**224**	Pn	**Pn**	**03 55 44.6**	**-1.2**
	0.6nm,0.3s,baz=35,slow=12,SNR=37						
MDP				Sn	Sn	03 57 38.5	-14
	0.1nm,0.3s,baz=200,slow=7.0,SNR=1.6						
MDP				LR	LR	03 59 23.1	
	comp=Z,747nm,20.1s,baz=1.5,slow=34						
	10nm,0.8s						
H05S1	**Guadeloupe/Mar**	**15.56**	**276**	T	T	04 12 25.5	
	SNR=28						
H05N1	**Guadeloupe/Mar**	**15.93**	**282**	T	T	04 12 53.8	
	SNR=4.3						
BOAV	**Boa Vista**	**19.00**	**236**	P	**P**	**03 57 24.8**	**-1.2**
BOAV	**Boa Vista**	**19.00**	**236**	*e*P	**Pn**	**03 57 27.5**	**+0.8**
PCRV	**Puerto La Cruz**	**19.64**	**263**	LR	LR	04 05 16.9	
	comp=Z,132nm,20.7s,slow=38						
SJG	**San Juan**	**21.02**	**286**	LR	LR	04 04 34.9	
	comp=Z,277nm,21.7s,baz=80,slow=33						
RCBR	**Riachuelo**	**21.10**	**155**	LR	LR	04 03 58.9	
	comp=Z,116nm,18.9s,baz=353,slow=31						
CELP	**Cerrillos**	**21.42**	**285**	P	**P**	**03 57 50.6**	**-1.7**
CELP				IAmb	IAmb	03 57 57.1	
	comp=Z,112nm,1.6s						
OBIP	**Obispado Ponce**	**21.44**	**285**	P	**P**	**03 57 54.1**	**+1.6**
OBIP				IAmb	IAmb	03 57 56.3	
	comp=Z,52nm,1.4s						
MACA	**Manacapuru-AM**	**22.79**	**225**	*e*P	**P**	**03 58 09.9**	**+2.9**
NPGB	**Novo Progresso**	**22.87**	**208**	*e*P	**P**	**03 58 08.2**	**+0.3**
BAUV	**El Baul**	**23.19**	**261**	P	**P**	**03 58 12.8**	**+1.6**
NBAN	**Anadia - AL**	**24.48**	**159**	*e*P	**P**	**03 58 23.0**	**-0.5**
SDBA	**SAO DESIDERIO**	**25.68**	**180**	*e*P	**P**	**03 58 34.4**	**-0.1**
SDV	**Santo Domingo**	**25.70**	**263**	P	**P**	**03 58 35.5**	**+0.7**
SDV	**Santo Domingo**	**25.70**	**263**	*e*P	**P**	**03 58 36.3**	**+1.5**
SNDB	**Serra Nova Dou**	**26.05**	**195**	*e*P	**P**	**03 58 38.0**	**+0.4**
JANB	**Januaria**	**28.32**	**179**	*e*P	**P**	**03 58 58.0**	**-0.2**
BDFB	**Brasilia**	**29.06**	**186**	P	**P**	**03 59 02.9**	**-2.0**
	comp=Z,3.1nm,0.8s,baz=10,slow=9.4,SNR=6.3						
BDFB				LR	LR	04 10 48.9	
	comp=Z,169nm,18.3s,baz=331,slow=37						
	comp=Z,3.1nm,0.8s						
SALV	**Santo Antonio**	**31.07**	**201**	*e*P	**P**	**03 59 22.3**	**-0.1**
PTLB	**Pontes e Lacer**	**32.00**	**207**	P	**P**	**03 59 31.2**	**+0.6**
PTLB	**Pontes e Lacer**	**32.00**	**207**	*e*P	**P**	**03 59 31.8**	**+1.2**
CZSB	**Cruzeiro do Su**	**34.76**	**234**	P	**P**	**03 59 54.0**	**-0.8**
CZSB				IAmb	IAmb	03 59 56.6	
	comp=Z,12nm,0.9s						
CZSB	**Cruzeiro do Su**	**34.76**	**234**	*e*P	**P**	**03 59 55.0**	**+0.2**
AQDB	**Aquidauana**	**35.35**	**198**	P	**P**	**04 00 01.0**	**+1.2**
AQDB	**Aquidauana**	**35.35**	**198**	*e*P	**P**	**04 00 01.4**	**+1.6**
OTAV	**Otavalo**	**35.78**	**251**	*e*P	**P**	**04 00 06.1**	**+1.9**
H10N3	**ASCENSION HYDR**	**36.81**	**123**	T	T	04 39 13.6	
	baz=305,slow=75,SNR=46						
H10N2	**ASCENSION HYDR**	**36.81**	**123**	T	T	04 39 13.9	
	baz=305,slow=75,SNR=48						
H10N1	**ASCENSION HYDR**	**36.83**	**123**	T	T	04 39 15.1	
	baz=305,slow=75,SNR=34						
LDASE	**Londrina, Braz**	**37.12**	**190**	*e*P	**P**	**04 00 16.4**	**+1.5**
H10S3	**ASCENSION HYDR**	**37.32**	**125**	T	T	04 39 47.6	
	baz=303,slow=74,SNR=43						
H10S2	**ASCENSION HYDR**	**37.34**	**125**	T	T	04 39 49.7	
	baz=277,slow=74,SNR=42						
LPAZ	**La Paz**	**37.45**	**219**	P	**P**	**04 00 18.1**	**-0.3**
LPAZ	**La Paz**	**37.45**	**219**	P	**P**	**04 00 18.5**	**0.0**
	comp=Z,2.9nm,1.1s,baz=26,slow=10,SNR=7.5						
	comp=Z,2.9nm,1.1s						
LPAZ	**La Paz**	**37.45**	**219**	*e*P	**P**	**04 00 19.7**	**+1.2**
CPUP	**Villa Florida**	**41.35**	**197**	P	**P**	**04 00 49.7**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=24,slow=5.9,SNR=3.1						
	comp=Z,1.0nm,0.7s						
TKL	**Tuckaleechee C**	**41.38**	**309**	LR	LR	04 13 48.9	
	comp=Z,196nm,20.3s,baz=149,slow=30						
MDT	**Midelt**	**41.41**	**55**	LR	LR	04 14 09.5	
	comp=Z,304nm,20.2s,baz=253,slow=31						
ESDC	**Sonseca Array**	**44.39**	**46**	P	**P**	**04 01 16.4**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=258,slow=8.7,SNR=1.7						
	comp=Z,0.5nm,0.7s						
SCHQ	**Schefferville**	**44.74**	**342**	LR	LR	04 17 37.5	
	comp=Z,198nm,18.4s,baz=188,slow=33						
TORD	**Tordi Ar. Bea**	**45.24**	**85**	P	**P**	**04 01 21.9**	**0.0**
	comp=Z,3.8nm,0.5s,baz=274,slow=8.2,SNR=1.5						
	comp=Z,3.8nm,0.5s						
TUL3	**Leonard**	**50.77**	**306**	P	**P**	**04 02 04.6**	**+0.1**
PLPT	**Palo Pinto**	**52.25**	**301**	P	**P**	**04 02 16.0**	**+0.3**
BRDY	**Brady**	**52.62**	**299**	P	**P**	**04 02 17.6**	**-0.8**
BORG	**Borgarnes**	**53.75**	**12**	LR	LR	04 20 35.7	
	comp=Z,156nm,18.4s,baz=89,slow=31						
ULM	**Lac du Bonnet**	**55.26**	**323**	P	**P**	**04 02 36.3**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=120,slow=8.1,SNR=2.1						
ULM				LR	LR	04 22 13.2	
	comp=Z,116nm,22.0s,baz=136,slow=32						
	comp=Z,1.5nm,0.8s						
TXAR	**Lajitas Array**	**56.47**	**296**	P	**P**	**04 02 46.2**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=126,slow=8.2,SNR=5.8						
TXAR				PcP	**PcP**	**04 03 41.4**	**-2.0**
	comp=Z,1.5nm,1.1s,baz=96,slow=6.0,SNR=4.4						
TXAR				LR	LR	04 25 16.8	
	comp=Z,54nm,21.9s,baz=80,slow=34						
	comp=Z,0.7nm,0.9s						
ALPN	**Alpine**	**56.51**	**298**	P	**P**	**04 02 46.4**	**-0.5**
DAVA	**Damuels**	**56.52**	**42**	*e*pP	pP	04 02 49.4	-1.1
	comp=Z,13nm,1.7s						
FETA	**Feichten**	**56.99**	**42**	*e*pP	pP	04 02 53.7	-0.2
	comp=Z,9.2nm,1.6s						
RETA	**Reutte**	**57.15**	**42**	*e*pP	**P**	**04 02 52.8**	**+1.8**
	comp=Z,9.9nm,1.9s						
SQTA	**Sankt Quirin**	**57.36**	**42**	*e*P	**P**	**04 02 52.7**	**+0.2**
	comp=Z,11nm,1.3s						
WATA	**Walderalm**	**57.63**	**42**	*e*P	**P**	**04 02 53.7**	**-0.8**
	comp=Z,8.8nm,1.9s						
WTTA	**Wattenberg**	**57.65**	**42**	*e*pP	**P**	**04 02 55.8**	**+1.1**
	comp=Z,9.1nm,1.2s						
VHRN	**Van Horn**	**57.69**	**298**	P	**P**	**04 02 55.4**	**+0.2**
ABTA	**Abfaltersbach**	**58.09**	**43**	*i* P	**P**	**04 02 58.1**	**+0.4**
	comp=Z,12nm,1.4s						
LESA	**Schwarzleotal**	**58.38**	**42**	*e*pP	**P**	**04 03 01.2**	**+1.6**
	comp=Z,12nm,2.1s						
KBA	**Koelnbreinsper**	**58.73**	**43**	*e*P	**P**	**04 03 00.6**	**-1.6**
	comp=Z,7.7nm,1.2s						
SDCO	**Great Sand Dun**	**58.75**	**306**	P	**P**	**04 03 03.2**	**+0.5**
MYKA	**Terra Mystica**	**58.81**	**43**	*e*pP	pP	04 03 05.8	-0.8
	comp=Z,10nm,1.3s						
PLCA	**Paso Flores**	**58.93**	**203**	P	**P**	**04 03 02.1**	**-1.4**
	comp=Z,3.0nm,1.0s,baz=0.0,slow=7.1,SNR=3.1						
PLCA				LR	LR	04 30 03.6	
	comp=Z,125nm,18.7s,baz=3.0,slow=38						
	comp=Z,3.0nm,1.0s						
BIOA	**Bad Ischl, Aus**	**59.08**	**42**	*e*pP	**P**	**04 03 06.1**	**+1.7**
	comp=Z,7.0nm,1.6s						
ISCO	**Idaho Springs**	**59.12**	**308**	P	**P**	**04 03 05.3**	**+0.1**
ISCO				IAmb	IAmb	04 03 07.2	
	comp=Z,12nm,1.1s						
ANMO	**Albuquerque**	**59.23**	**303**	LR	LR	04 25 53.8	
	comp=Z,167nm,21.4s,baz=261,slow=33						
OBKA	**Obir**	**59.39**	**44**	*e*P	**P**	**04 03 04.6**	**-2.2**
	comp=Z,8.3nm,1.3s						
MOA	**Molln**	**59.52**	**42**	*e*pP	**P**	**04 03 09.4**	**+1.9**
	comp=Z,6.5nm,1.2s						
CLL	**Collm**	**59.68**	**38**	*e*P	**P**	**04 03 10.0**	**+1.5**
SOKA	**Soboth**	**59.75**	**44**	*e*pP	**P**	**04 03 11.0**	**+1.8**
	comp=Z,6.7nm,1.3s						
S22A	**4UR Ranch, Cre**	**59.80**	**306**	P	**P**	**04 03 09.3**	**-0.7**
S22A				IAmb	IAmb	04 03 19.1	
	comp=Z,12nm,1.4s						
121A	**Cookes Peak, D**	**60.17**	**300**	P	**P**	**04 03 12.1**	**-0.4**
121A				IAmb	IAmb	04 03 15.8	
	comp=Z,9.5nm,1.2s						
ARSA	**Arzberg**	**60.21**	**43**	*e*P	**P**	**04 03 13.2**	**+0.9**
	comp=Z,9.9nm,1.7s						
CONA	**Conrad Observa**	**60.59**	**42**	*e*pP	**P**	**04 03 16.2**	**+1.3**
	comp=Z,11nm,1.9s						
RONA	**Rosalia, Austr**	**60.82**	**43**	*e*P	**P**	**04 03 17.5**	**+1.0**
	comp=Z,13nm,1.7s						
O20A	**White River Ci**	**61.17**	**309**	P	**P**	**04 03 19.6**	**+0.4**
PV13	**Radium Mtn., P**	**61.41**	**306**	P	**P**	**04 03 20.8**	**-0.1**
PV13				IAmb	IAmb	04 03 24.3	
	comp=Z,9.8nm,1.0s						
PV10	**Paradox Valley**	**61.60**	**306**	P	**P**	**04 03 22.0**	**-0.2**
NOA	**NORSAR Array B**	**62.22**	**27**	LR	LR	04 24 53.1	
	comp=Z,104nm,19.7s,baz=60,slow=31						
PD31	**Pinedale Array**	**62.47**	**311**	P	**P**	**04 03 27.6**	**-0.3**
PD31				IAmb	IAmb	04 03 34.6	
	comp=Z,13nm,1.6s						
PDAR	**Pinedale Array**	**62.47**	**311**	P	**P**	**04 03 27.2**	**-0.7**
	comp=Z,2.1nm,1.1s,baz=102,slow=6.5,SNR=8.2						
PDAR				LR	LR	04 27 08.6	
	comp=Z,53nm,21.7s,baz=96,slow=33						
	comp=Z,2.1nm,1.1s						
P18A	**Preston Nutter**	**62.65**	**308**	P	**P**	**04 03 29.1**	**-0.2**
TUC	**Tucson**	**62.70**	**300**	P	**P**	**04 03 28.2**	**-1.2**
TUC				IAmb	IAmb	04 03 30.6	
	comp=Z,14nm,1.6s						
SRU	**San Rafael Swe**	**62.82**	**307**	P	**P**	**04 03 29.8**	**-0.4**
HFS	**Hagfors**	**62.99**	**29**	P	**P**	**04 03 31.2**	**+0.4**
	comp=Z,6.1nm,1.0s,baz=240,slow=5.8,SNR=3.9						
	comp=Z,6.1nm,1.0s						
X16A	**Lo Mia Camp, P**	**63.30**	**302**	P	**P**	**04 03 33.4**	**-0.1**
X16A				IAmb	IAmb	04 03 35.7	
	comp=Z,16nm,1.8s						
LOHW	**Long Hollow**	**63.33**	**312**	P	**P**	**04 03 33.6**	**0.0**
TPAW	**Teton Pass**	**63.57**	**312**	P	**P**	**04 03 34.3**	**-1.0**
TPAW				IAmb	IAmb	04 03 34.9	
	comp=Z,16nm,1.6s						
FXWY	**Fox Creek**	**63.64**	**312**	P	**P**	**04 03 34.8**	**-0.9**
TCUT	**Toone Canyon**	**63.66**	**309**	P	**P**	**04 03 35.0**	**-0.9**
TCUT				IAmb	IAmb	04 03 37.2	
	comp=Z,6.8nm,1.1s						
YMR	**Madison River**	**63.72**	**313**	P	**P**	**04 03 36.2**	**0.0**
HWUT	**Hardware Ranch**	**63.83**	**310**	P	**P**	**04 03 36.4**	**-0.5**
HWUT				IAmb	IAmb	04 03 39.1	
	comp=Z,8.8nm,1.1s						
YHL	**Hebgen Lake**	**63.89**	**313**	P	**P**	**04 03 36.7**	**-0.7**
U15A	**North Rim**	**64.06**	**304**	P	**P**	**04 03 38.4**	**-0.2**
DUG	**Dugway, Tooele**	**64.66**	**308**	P	**P**	**04 03 42.4**	**0.0**
BGU	**Big Grassy Mou**	**64.87**	**309**	P	**P**	**04 03 43.8**	**0.0**
DLMT	**Dillon**	**64.95**	**314**	P	**P**	**04 03 44.1**	**0.0**
DLMT				IAmb	IAmb	04 03 46.2	
	comp=Z,14nm,1.4s						
W13A	**Hualapai Mount**	**65.32**	**303**	P	**P**	**04 03 46.7**	**-0.1**
W13A				IAmb	IAmb	04 03 49.0	
	comp=Z,8.7nm,1.5s						
PSUT	**Pine Spring**	**65.38**	**306**	P	**P**	**04 03 46.5**	**-0.6**
SPR3	**Spring Creek 3**	**65.77**	**307**	P	**P**	**04 03 49.6**	**-0.2**
SPR3				IAmb	IAmb	04 03 52.4	
	comp=Z,9.5nm,1.3s						
HLID	**Hailey**	**66.08**	**312**	P	**P**	**04 03 50.0**	**-1.6**
V12A	**Nelson**	**66.11**	**303**	P	**P**	**04 03 51.3**	**-0.5**
V12A				IAmb	IAmb	04 03 53.5	
	comp=Z,18nm,1.7s						
ELK	**Elko**	**66.54**	**309**	P	**P**	**04 03 54.1**	**-0.5**
ELK				IAmb	IAmb	04 03 55.8	
	comp=Z,10nm,1.4s						
R11B	**Troy Canyon, C**	**66.73**	**306**	P	**P**	**04 03 55.8**	**-0.1**
R11B				IAmb	IAmb	04 03 57.5	
	comp=Z,9.1nm,1.6s						
MLR	**Muntele Rosu**	**67.08**	**46**	P	**P**	**04 03 57.5**	**-0.3**
PLID	**Pearl Lake**	**67.32**	**313**	P	**P**	**04 04 00.2**	**+0.7**
PLID				IAmb	IAmb	04 04 35.0	
	comp=Z,15nm,2.0s						
PFO	**Pinyon Flats O**	**67.46**	**301**	LR	LR	04 34 37.7	
	comp=Z,112nm,18.4s,baz=162,slow=37						
WCT	**Wildcat Mounta**	**67.55**	**304**	P	**P**	**04 04 00.1**	**-0.8**
WCT				IAmb	IAmb	04 04 03.1	
	comp=Z,13nm,1.5s						
NEW	**Newport**	**68.30**	**317**	P	**P**	**04 04 05.2**	**-0.2**
NEW				IAmb	IAmb	04 04 06.5	
	comp=Z,11nm,1.1s						
YKA	**Yellowknife Ar**	**68.85**	**332**	P	**P**	**04 04 07.1**	**-1.3**
	comp=Z,1.2nm,1.0s,baz=106,slow=7.4,SNR=9.8						
YKA				LR	LR	04 31 30.5	
	comp=Z,102nm,19.9s,baz=46,slow=34						
	comp=Z,1.2nm,1.0s						
FINES	**FINESS Array B**	**69.18**	**29**	P	**P**	**04 04 10.1**	**-0.4**
	comp=Z,2.3nm,0.9s,ba

J05D Fort Rock, OR 71.04 311 P P 04 04 22.6 +0.1
J05D IAmb IAmb 04 04 24.4
comp=Z,18nm,1.4s

HATC Hat Creek Radi 71.26 309 P P 04 04 23.4 -0.4
L04D Klamath Falls 71.85 310 P P 04 04 27.1 -0.3
BRTR Keskin Array B 72.73 52 P P 04 04 32.7 0.0
comp=Z,0.4nm,0.6s,baz=258,slow=5.7,SNR=2.3
comp=Z,0.4nm,0.6s

WRGLY Wrigley 72.97 332 P P 04 04 32.5 -1.0
WRGLY IAmb IAmb 04 04 34.3
comp=Z,12nm,1.2s

A36M Sachs Harbour 74.34 341 P P 04 04 41.6 +0.3
EIL Elat 74.70 63 LR LR 04 40 01.8
comp=Z,131nm,18.0s,baz=248,slow=38

MMAI Mount Meron Ar 74.71 59 LR LR 04 39 54.2
comp=Z,66nm,18.6s,baz=322,slow=38

DLBC Dease Lake 76.15 327 P P 04 04 51.0 -1.1
comp=Z,3.0nm,1.1s,baz=118,slow=8.4,SNR=4.0
comp=Z,3.0nm,1.1s

R33M Jennings River 76.58 328 P P 04 04 54.7 +0.1
R33M IAmb IAmb 04 04 56.3
comp=Z,18nm,1.5s

INK Inuvik 77.13 338 P P 04 04 56.1 -1.2
comp=Z,2.7nm,0.9s,baz=72,slow=6.4,SNR=9.3
comp=Z,2.7nm,0.9s

F31M Tsiigehtchic 77.28 337 P P 04 04 58.1 -0.1
F31M IAmb IAmb 04 04 58.5
comp=Z,9.1nm,1.2s

P33M Teslin, Yukon 77.45 329 P P 04 04 59.2 -0.3
P33M IAmb IAmb 04 05 00.6
comp=Z,10nm,1.2s

FARO Faro, Yukon 77.53 331 P P 04 05 00.3 +0.5
FARO IAmb IAmb 04 05 01.5
comp=Z,21nm,1.9s

N31M Braeburn, Yuko 78.76 331 P P 04 05 06.3 -0.3
N31M IAmb IAmb 04 05 07.7
comp=Z,18nm,1.4s

H29M Whitestone 79.23 336 P P 04 05 09.1 0.0
H29M IAmb IAmb 04 05 09.8
comp=Z,14nm,1.2s

E28M Babbage River 79.30 338 P P 04 05 09.4 0.0
BOSA Boshof 79.56 123 P P 04 05 10.9 -0.8
comp=Z,2.4nm,0.9s,baz=281,slow=7.0,SNR=3.3
comp=Z,2.4nm,0.9s

D27M Malcolm River 79.70 339 P P 04 05 11.6 -0.1
D27M IAmb IAmb 04 07 34.1
comp=Z,17nm,0.9s

DAWY Dawson 80.01 334 P P 04 05 13.6 +0.1
E27K Coleen River 80.13 338 P P 04 05 13.5 -0.4
G27K Doyon Strip 80.42 336 P P 04 05 15.3 -0.3
C27K Jago River 80.57 339 P P 04 05 16.7 +0.4
KIRV Kirov 80.86 32 LR LR 04 36 48.7
comp=Z,118nm,21.0s,baz=262,slow=32

F26K Sheenjek River 81.18 338 P P 04 05 20.2 +0.6
BCAR Beaver Creek A 81.25 333 P P 04 05 20.3 +0.1
L27K Beaver Creek, 81.28 333 P P 04 05 20.0 -0.2
D25K Kavik River 81.56 339 P P 04 05 22.0 +0.4
E25K Arctic Village 81.59 338 P P 04 05 22.6 +0.8
PRP Porcupine Dome 82.25 336 P P 04 05 25.4 -0.1
PRP IAmb IAmb 04 05 27.0
comp=Z,7.9nm,1.1s

C23K Itkillik River 82.82 340 P P 04 05 29.1 +1.0
IL31 83.01 335 P P 04 05 29.8 +0.6
IL31 IAmb IAmb 04 05 30.4
comp=Z,7.3nm,1.0s

ILAR Eielson Array 83.01 335 P P 04 05 29.1 -0.1
comp=Z,3.5nm,0.9s,baz=69,slow=4.9,SNR=36
comp=Z,3.5nm,0.9s

CCB Clear Creek Bu 83.43 335 P P 04 05 31.4 +0.1
CCB IAmb IAmb 04 05 32.4
comp=Z,6.4nm,1.0s

B22K Teshekpuk Lake 83.55 341 P P 04 05 32.5 +0.7
B22K IAmb IAmb 04 05 34.1
comp=Z,9.9nm,1.0s

WRH Wood River Hil 83.60 335 P P 04 05 32.3 0.0
WRH IAmb IAmb 04 05 33.2
comp=Z,8.6nm,1.1s

TRF Thorofare Moun 84.84 334 P P 04 05 38.7 -0.1
B20K Meade River 84.85 341 P P 04 05 38.9 +0.4
B20K IAmb IAmb 04 05 40.6
comp=Z,8.9nm,1.0s

BPAW Bear Paw Mtn. 84.91 335 P P 04 05 39.1 +0.1
BPAW IAmb IAmb 04 05 39.7
comp=Z,6.9nm,0.9s

G21K Allakaket 85.02 338 P P 04 05 40.3 +0.9
G21K IAmb IAmb 04 05 41.3
comp=Z,12nm,1.1s

ATD Arta Tunnel 85.16 79 LR LR 04 42 29.1
comp=Z,8.4nm,20.3s,baz=310,slow=35

D19K Kuna River 85.82 340 P P 04 05 43.9 +0.5
D19K IAmb IAmb 04 05 45.3
comp=Z,13nm,1.2s

C18K Utukok River 86.75 341 P P 04 05 48.1 +0.1
E18K Tukpahlearik C 87.15 340 P P 04 05 50.5 +0.6
BVAR Borovoye Array 93.81 33 LR LR 04 44 51.2
comp=Z,107nm,21.9s,baz=284,slow=33

WSAR Wadi Sarin 96.77 64 LR LR 04 52 20.2
comp=Z,91nm,20.0s,baz=325,slow=37

WMQ Urumqi 108.47 34 Pdif Pdif 04 07 29.0 +1.7
WMQ LR LR
comp=Z,100nm,21.7s

ASAR Alice Springs 169.76 174 PKPab PKPab 04 14 28.1 +1.6
comp=Z,0.7nm,1.0s,baz=161,slow=5.9,SNR=2.3

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*IDC **07** 03:53:04.0±2.0, 31°.66S×177°.77W, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, MS3.7/2, Error ellipse: s-maj=49.3km s-min=38.5km az=69.0*

ISC 07 03:53:07.5±1.4, 31°.63S±0°.09×177°.8W±0°.3, h35km, n16, σ1$45/14, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.37**	**357**	P	**Pn**	**03 53 43.6**	**-0.2**
GLKZ				S	**Sn**	**03 54 10.7**	**-0.9**
PKGZ	**Pakihiroa**	**7.09**	**208**	P	**Pn**	**03 54 47.2**	**-1.6**
HAZ	**Te Kaha**	**7.12**	**210**	P	**Pn**	**03 54 48.1**	**-1.0**
RUGZ	**Raukumara Rang**	**7.34**	**209**	P	**Pn**	**03 54 52.3**	**0.0**
URZ	**Urewera**	**7.83**	**211**	Pn	**Pn**	**03 54 58.1**	**-0.8**
	0.5nm,0.3s,baz=192,slow=11,SNR=1.4						
URZ				Sn	**Sn**	**03 56 25.7**	**-0.5**
	2.2nm,0.3s,baz=153,slow=23,SNR=8.9						
	1.6nm,0.3s						
URZ	**Urewera**	**7.83**	**211**	P	**Pn**	**03 54 58.1**	**-0.8**
WCZ	**Waipu Caves**	**7.84**	**235**	P	Pn	03 55 06.2	+7.2
OUZ	**Omahuta**	**8.05**	**241**	P	Pn	03 55 07.3	+5.4
SNGZ	**Shannon Statio**	**8.18**	**208**	P	**Pn**	**03 55 03.7**	**0.0**
BKZ	**Black Stump Fm**	**8.85**	**210**	P	**Pn**	**03 55 10.1**	**-2.9**
STKA	**Stephens Creek**	**34.41**	**259**	LR	LR	04 12 47.4
	comp=Z,81nm,19.1s,baz=23,slow=34						
ASAR	**Alice Springs**	**43.25**	**268**	P	**P**	**04 01 07.1**	**+1.4**
	0.2nm,0.4s,baz=112,slow=8.2,SNR=1.6						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.35**	**273**	P	**P**	**04 01 16.4**	**+1.8**
	0.6nm,0.3s,baz=112,slow=7.9,SNR=10						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**04 03 01.2**	**+1.4**
	1.2nm,1.0s,baz=186,slow=4.4,SNR=1.7						
	1.2nm,1.0s						
KAPI	**Kappang**	**64.03**	**281**	LR	LR	04 31 07.4
	comp=Z,62nm,18.8s,baz=154,slow=36						
FINES	**FINESS Array B**	**146.37**	**339**	PKPbc	**PKiKP**	**04 12 45.5**	**-1.3**
	1.3nm,0.5s,baz=52,slow=3.9,SNR=7.4						

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*IDC **07** 03:54:27.2±1.2, 32°.09S×178°.06W, h0km, mb4.0/3, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=39.8km s-min=34.3km az=116.0*

*NEIC **07** 03:54:29.1±1.4, 32°.1S±0°.1×178°.06W±0°.07, h10km±1km, mb4.6/16, Error ellipse: s-maj=20.8km s-min=9.5km az=351.0*

ISC 07 03:54:30.5±0.6, 32°.02S±0°.08×178°.2W±0°.1, h24km, n44, σ0$93/36, mb4.5/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.75**	**5**	P	**Pn**	**03 55 11.9**	**-1.2**
GLKZ				S	**Sn**	**03 55 44.1**	**-1.5**
PKGZ	**Pakihiroa**	**6.58**	**207**	P	Pb	03 56 14.9	-9.3
HAZ	**Te Kaha**	**6.61**	**209**	P	Pb	03 56 17.1	-7.5
PUZ	**Puketiti**	**6.70**	**205**	P	Pb	03 56 17.2	-9.0
RUGZ	**Raukumara Rang**	**6.83**	**208**	P	Pb	03 56 20.7	-7.8
TWGZ	**Tauwhareparae**	**6.89**	**206**	P	Pb	03 56 20.5	-9.0
CNGZ	**Carnagh Statio**	**7.09**	**203**	P	Pn	03 56 20.7	+8.0
URZ	**Urewera**	**7.31**	**210**	Pn	**Pn**	**03 56 15.7**	**0.0**
	0.5nm,0.3s,baz=78,slow=18,SNR=3.0						
URZ				Sn	**Sn**	**03 57 37.3**	**-0.6**
	1.8nm,0.3s,baz=247,slow=14,SNR=6.6						
	2.9nm,0.5s						
URZ	**Urewera**	**7.31**	**210**	P	Pb	03 56 27.9	-8.7
WCZ	**Waipu Caves**	**7.32**	**236**	P	**Pb**	**03 56 34.9**	**-1.8**
OUZ	**Omahuta**	**7.54**	**243**	P	Pb	03 56 35.5	-5.1
SNGZ	**Shannon Statio**	**7.67**	**207**	P	Pb	03 56 33.1	-10
RTZ	**Ruatahuna**	**7.67**	**209**	Pn	**Pn**	**03 56 19.7**	**-1.0**
BKZ	**Black Stump Fm**	**8.34**	**210**	Pn	**Pn**	**03 56 28.6**	**-1.2**
BFZ	**Birch Farm**	**9.73**	**206**	Pn	**Pn**	**03 56 48.1**	**-0.8**
WHZ	**Wether Hill Ro**	**17.51**	**214**	Pn	**Pn**	**03 58 31.9**	**-1.0**
WHZ				IAmb	IAmb	03 58 46.5
	comp=Z,48nm,1.5s						
RAR	**Rarotonga**	**19.66**	**61**	P	**P**	**03 58 56.6**	**-1.0**
RAR				IAmb	IAmb	03 59 01.9
	comp=Z,28nm,1.1s						
BBOO	**Buckleboo**	**38.38**	**256**	P	**P**	**04 01 51.0**	**+1.1**
BBOO				IAmb	IAmb	04 01 56.9
	comp=Z,17nm,1.1s						
ASAR	**Alice Springs**	**42.87**	**269**	P	**P**	**04 02 28.3**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=106,slow=7.4,SNR=7.3						
	comp=Z,1.1nm,0.5s						
WB2	**Warramunga Arr**	**43.99**	**274**	P	**P**	**04 02 37.0**	**+0.9**
WRA	**Warramunga Arr**	**44.00**	**274**	P	**P**	**04 02 37.5**	**+1.2**
WRA	**Warramunga Arr**	**44.00**	**274**	P	**P**	**04 02 37.4**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=115,slow=7.6,SNR=7.2						
	comp=Z,3.0nm,0.8s						
WB0	**Warramunga Arr**	**44.03**	**274**	P	**P**	**04 02 37.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**52.19**	**271**	P	**P**	**04 03 41.0**	**+1.4**
CASY	**Casey**	**53.63**	**208**	P	**P**	**04 03 50.5**	**+1.0**
CASY				IAmb	IAmb	04 04 07.5
	comp=Z,24nm,1.4s						
QSPA	**South Pole Qui**	**58.10**	**180**	P	**P**	**04 04 22.0**	**+0.3**
QSPA				IAmb	IAmb	04 04 34.3
	comp=Z,9.2nm,0.9s						
QSPA	**South Pole Qui**	**58.10**	**180**	P	**P**	**04 04 21.2**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=27,slow=4.5,SNR=1.3						
	comp=Z,1.1nm,1.0s						
GIRL	**Giralia**	**59.89**	**261**	P	**P**	**04 04 35.0**	**+0.3**
HOPE	**Hope Point**	**87.92**	**159**	P	**P**	**04 07 18.1**	**+0.1**
CMB	**Columbia Colle**	**88.08**	**42**	P	**P**	**04 07 18.3**	**-0.6**
CMB				IAmb	IAmb	04 07 25.0
	comp=Z,1.9nm,0.8s						
TPNV	**Topopah Spring**	**89.76**	**45**	P	**P**	**04 07 27.4**	**+0.4**
TPNV				IAmb	IAmb	04 07 39.6
	comp=Z,3.5nm,0.8s						
O14K	**Tigyukauivet M**	**92.01**	**9**	P	**P**	**04 07 36.6**	**0.0**
RAGM	**Ragged Mountai**	**96.10**	**16**	P	**P**	**04 07 56.8**	**+1.4**
MKAR	**Makanchi Array**	**118.66**	**309**	PKPdf	**PKiKP**	**04 13 16.2**	**+0.1**
KSPA	**Keystone Colle**	**119.08**	**57**	PKPdf	**PKiKP**	**04 13 18.1**	**+1.0**
UCCT	**U. Connecticut**	**121.69**	**58**	PKPdf	**PKiKP**	**04 13 21.8**	**-0.4**
ILON	**Igloolik, Nuna**	**121.79**	**24**	PKPdf	**PKiKP**	**04 13 21.3**	**-0.2**
SPB2	**Spitsbergen Ar**	**133.30**	**356**	PKPdf	**PKiKP**	**04 13 44.7**	**+0.3**
NRS	**Narsarsuaq**	**137.84**	**32**	PKPpre	PKPpre	04 13 42.6
FINES	**FINESS Array B**	**146.59**	**339**	PKPbc	**PKPbc**	**04 14 09.6**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=48,slow=3.9,SNR=8.4						
NOA	**NORSAR Array B**	**150.31**	**351**	PKPbc	**PKiKP**	**04 14 19.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=20,slow=3.9,SNR=1.4						
HFS	**Hagfors**	**150.78**	**348**	PKPbc	**PKiKP**	**04 14 20.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=54,slow=2.5,SNR=4.8						
MMAI	**Mount Meron Ar**	**151.70**	**281**	PKPbc	**PKiKP**	**04 14 24.8**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=97,slow=6.1,SNR=4.3						
BRTR	**Keskin Array B**	**153.17**	**296**	PKPbc	**PKiKP**	**04 14 26.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=137,slow=3.3,SNR=5.0						

DJA 07 03:59:39.6±0.9, 3°N±5°×12°9E±°, h216km±5km, M4.0/6, mb4.2/2, MLv3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.25**	**211**	P	Pn	04 00 23.0	+1.2
KMSI	**Cibinong**	**5.02**	**245**	P	Pn	04 00 55.8	+1.1
	0.9nm90nm,0.8s						
SANI	**Sanana**	**5.36**	**208**	P	Pn	04 00 57.7	-1.3

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*IDC **07** 04:05:04.6±0.4, 6°.26S×79°.30W, h0km, mb4.9/20, mbtmp4.9/25, ML3.6/4, MS4.1/16, Error ellipse: s-maj=19.7km s-min=8.4km az=58.0*

*VAO **07** 04:05:08.4±0.3, 6°.36S×79°.12W, h10km, mb5.6*

*MOS **07** 04:05:09.3±1.1, 6°.35S×79°.39W, h43km, mb5.2/25, Error ellipse: s-maj=15.1km s-min=6.0km az=106.3*

*NEIC **07** 04:05:11.3±1.4, 6°.34S±0°.06×79°.24W±0°.08, h41km±2km, mb5.3/515, Mww4.9/7, Error ellipse: s-maj=12.2km s-min=8.8km az=67.0*

*RSNC **07** 04:05:13.2±1.3, 6°.5±9°×7°9W±°, h61km±19km, M5.0, mb5.3, mB5.5, ML4.5, Mw(mB)5.0, MwMwp4.6, Mwp5.0*

*BJI **07** 04:05:13.0, 6°.30S×79°.30W, h40km, mB5.5/1, Ms7 5.4/1*

*NEIC **07** 04:05:13.7, 6°.34S×79°.25W, h57km*

*NEIC **07** 04:05:13.7, 6°.24S×79°.00W, h60km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10^16Nm; Mrr=0.78; Mθθ1.34; Mφφ-0.56; Mrθ-0.46; Mθφ-1.92; Mφr-1.33; Fault plane solution: M0 2.64000×10^16 NP1: φs82.74000°, δ60.99000°, λ-157.46000°. NP2: φs341.36000°, δ70.42000°, λ-30.98000°. Principal axes: T 2.5601, Plg6.0000°, Azm34.0000°; N 0.1625, Plg54.0000°, Azm132.0000°; P -2.7227, Plg35.0000°, Azm299.0000°;*

ISC 07 04:05:10.1±0.3, 6°.39S±0°.04×79°.28W±0°.06, h39km±2km, h38km:pP-P, n909, σ1$05/760, mb5.2/274, MS4.2/16, 6C-4D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.15**	**130**	Pg	**Pn**	**04 05 29.0**	**-1.0**
	2μm,0.3s,baz=315,slow=9.0						
ATAH				Lg	Lg	04 05 45.4
	1μm,0.3s,baz=211,slow=3.3,SNR=6.2						
COHC	**Cochancay**	**3.90**	**0**	Pn	**Pn**	**04 06 07.4**	**-0.1**
PPLP	**Puerto Lpez**	**5.04**	**343**	P	**Pn**	**04 06 21.6**	**-1.6**
	6μm557nm,0.8s						
PIAT	**Ana Tenorio**	**5.45**	**11**	P	**Pn**	**04 06 30.4**	**+1.2**
	8μm1μm,0.7s						
FLF1	**Flavio Alfaro-**	**6.02**	**355**	P	**Pn**	**04 06 35.1**	**-1.6**
	7μm548nm,0.8s						
NNA	**Nana**	**6.06**	**157**	Pn	**Pn**	**04 06 37.6**	**+0.3**
NNA	**Nana**	**6.06**	**157**	Pn	**Pn**	**04 06 37.5**	**+0.2**
	289nm,0.5s,baz=323,slow=12,SNR=64						
NNA				Sn	**Sn**	**04 07 45.3**	**-0.1**
	150nm,0.3s,baz=303,slow=20,SNR=7.1						
NNA				Lg	Lg	04 08 12.3
	212nm,0.3s,baz=62,slow=22,SNR=15						
NNA	**Nana**	**6.06**	**157**	*i P*	**Pn**	**04 06 37.2**	**0.0**
PAC1	**Pacto, Paraso**	**6.63**	**4**	P	**Pn**	**04 06 46.0**	**+0.8**
	10μ1μm,0.8s						
OTAV	**Otavalo**	**6.64**	**7**		**Pn**	**04 06 46.9**	**+1.4**
OTAV	**Otavalo**	**6.64**	**7**	P	**Pn**	**04 06 46.9**	**+1.4**
OTAV	**Otavalo**	**6.64**	**7**	*eP*	**Pn**	**04 06 46.7**	**+1.1**
OTAV	**Otavalo**	**6.64**	**7**	P	**Pn**	**04 06 46.8**	**+1.3**
	5μm645nm,0.9s						
CZSB	**Cruzeiro do Su**	**6.66**	**102**		**Pn**	**04 06 46.2**	**+0.8**
CZSB	**Cruzeiro do Su**	**6.66**	**102**	*eP*	**Pn**	**04 06 46.5**	**+1.0**
CZSB	**Cruzeiro do Su**	**6.66**	**102**	P	**Pn**	**04 06 46.3**	**+0.8**
	10μ1μm,0.6s						
CUSE	**Cuicocha Este**	**6.71**	**8**	P	**Pn**	**04 06 48.4**	**+1.9**
	6μm716nm,0.9s						
CMBC	**Cumbal**	**7.43**	**11**	P	**Pn**	**04 06 58.4**	**+2.0**
GCUF	**Volcan Galeras**	**7.81**	**14**	P	**Pn**	**04 07 02.2**	**+0.5**
	3μm134nm,1.0s						
PTLC	**Puerto Leguiza**	**7.91**	**35**	P	Pn	04 06 57.7	-4.9
	8μm695nm,1.0s						
CRUC	**La Cruz**	**8.24**	**16**	P	**Pn**	**04 07 09.2**	**+1.7**
BBAC	**Balboa, Cauca**	**8.60**	**14**	P	**Pn**	**04 07 12.7**	**+0.4**
	2μm116nm,1.2s						
FLOC	**Florencia**	**8.71**	**25**		**Pn**	**04 07 12.7**	**-0.9**
FLOC	**Florencia**	**8.71**	**25**	P	**Pn**	**04 07 12.0**	**-1.6**
	3μm176nm,0.5s						
POPC	**Popayan, Colom**	**9.24**	**16**	P	**Pn**	**04 07 21.7**	**+0.6**
	2μm778nm38nm,1.0s						
GARC	**Garzon, Huila**	**9.32**	**24**	P	**Pn**	**04 07 21.3**	**-0.9**
	3μm173nm,0.4s						
GR1C	**Gorgona, Isla**	**9.40**	**7**	P	**Pn**	**04 07 23.1**	**+0.1**
TBTG	**Tabatinga, AM**	**9.59**	**77**	Pn	**Pn**	**04 07 24.0**	**-1.6**
TBTG	**Tabatinga, AM**	**9.59**	**77**	*eP*	**Pn**	**04 07 24.9**	**-0.7**
TBTG	**Tabatinga, AM**	**9.59**	**77**	P	**Pn**	**04 07 23.5**	**-2.1**
	4μm305nm,0.8s						
JAMC	**Jamundi, Valle**	**9.89**	**15**	P	**Pn**	**04 07 31.3**	**+1.3**
	1μm64nm,1.2s						
MACC	**Macarena, Meta**	**10.07**	**33**	P	**Pn**	**04 07 29.8**	**-2.4**
	2μm261nm,0.9s						
MALC	**Bahia Malaga**	**10.52**	**11**	P	**Pn**	**04 07 36.9**	**-1.4**
YOTC	**Yotoco, Valle**	**10.71**	**16**	P	**Pn**	**04 07 42.8**	**+1.6**
	274nm26nm,1.2s						
URMC	**La Uribe, Meta**	**10.75**	**27**	P	**Pn**	**04 07 40.5**	**-1.2**
	2μm231nm,1.2s						
PRAC	**Prado**	**10.96**	**24**	P	**Pn**	**04 07 43.4**	**-1.0**
	1μm65nm,0.8s						
ORTC	**Ortega, Tolima**	**11.00**	**22**	P	**Pn**	**04 07 44.3**	**-0.7**
	1μm93nm,1.1s						
GUVC	**San Jose del G**	**11.09**	**37**	P	**Pn**	**04 07 44.5**	**-1.7**
VILC	**Villavicencio,**	**11.83**	**28**	P	**Pn**	**04 07 55.9**	**-0.6**
	2μm193nm,0.6s						
CVER	**Cruz Verde, Cu**	**12.02**	**26**	P	**Pn**	**04 07 58.8**	**-0.6**
	2μm217nm,1.0s						
GUY2C	**Guyana, Caldas**	**12.18**	**19**	P	**Pn**	**04 08 01.4**	**-0.2**
	458nm32nm,1.0s						
ROSC	**El Rosal**	**12.21**	**24**	Pn	**Pn**	**04 08 02.3**	**+0.5**
ROSC	**El Rosal**	**12.21**	**24**	Pn	**Pn**	**04 07 59.0**	**-2.8**
	1.1nm,0.3s,baz=155,slow=24,SNR=1.6						
	4.3nm,0.4s						
ROSC	**El Rosal**	**12.21**	**24**	P	**Pn**	**04 08 00.2**	**-1.6**
	1μm60nm,0.7s						
CHIC	**Chingaza**	**12.27**	**27**	P	**Pn**	**04 08 01.1**	**-1.6**
	1μm74nm,1.2s						
PAYG	**Puerto Ayora**	**12.36**	**297**		**Pn**	**04 08 05.0**	**+1.4**
SOLC	**Bahia Solano**	**12.67**	**9**	P	**Pn**	**04 08 07.6**	**-0.2**
PTAC	**Punta Ardita,**	**13.53**	**6**	P	**Pn**	**04 08 17.1**	**-2.5**
	2μm160nm,1.1s						
DBBC	**Dabeiba**	**13.67**	**13**	P	**Pn**	**04 08 23.5**	**+2.0**
RUSC	**La Rusia**	**13.68**	**27**		**Pn**	**04 08 21.2**	**-0.8**
PB18	**Visviri**	**14.68**	**140**	Pn	**Pn**	**04 08 36.6**	**+0.9**
LPAZ	**La Paz**	**14.70**	**133**	Pn	**Pn**	**04 08 36.8**	**+0.8**
LPAZ	**La Paz**	**14.70**	**133**	Pn	**Pn**	**04 08 36.2**	**+0.2**
	1.1nm,0.3s,baz=323,slow=10.0,SNR=41						
LPAZ				Sn	**S**	**04 11 28.1**	**-7.7**
	0.2nm,0.3s,baz=115,slow=7.8,SNR=1.8						
	9.7nm,0.6s						
LPAZ	**La Paz**	**14.70**	**133**	*eP*	**Pn**	**04 08 38.5**	**+2.5**
LPAZ				pmax	pmax	
	comp=Z,10.0nm,0.6s						
LPAZ	**La Paz**	**14.70**	**133**	*eP*	**Pn**	**04 08 35.5**	**-0.5**
PNME	**Penonome**	**14.81**	**356**	*eP*	**P**	**04 08 39.7**	**-2.6**
TEFE	**Tefe**	**14.87**	**80**	*eP*	**Pn**	**04 08 34.6**	**-3.2**
UPD2	**Meteti**	**14.89**	**5**	*eP*	**Pn**	**04 08 38.6**	**+0.6**
PB12	**IPOC Station P**	**14.96**	**145**	Pn	**Pn**	**04 08 40.1**	**+1.2**
UPA	**Univ. de Panam**	**15.27**	**359**	*eP*	**Pn**	**04 08 43.9**	**+0.8**
UPA				*eS*	**P**	**04 08 48.8**	**+1.4**
BRU2	**Volcan**	**15.46**	**347**	Pn	**Pn**	**04 08 46.0**	**+0.3**
BRU2	**Volcan**	**15.46**	**347**	*eP*	**P**	**04 08 50.4**	**+0.7**
BCIP	**Isla Barro Col**	**15.46**	**358**	Pn	**Pn**	**04 08 46.4**	**+0.8**
BCIP				IAmb	IAmb	04 08 47.2
	comp=Z,163nm,1.1s						
BCIP	**Isla Barro Col**	**15.46**	**358**	P	**Pn**	**04 08 46.4**	**+0.8**
BCIP				pmax	pmax	
	comp=Z,163nm,1.1s						
BCIP	**Isla Barro Col**	**15.46**	**358**	*eP*	**Pn**	**04 08 45.9**	**+0.4**
EDP2	**Potrero Grande**	**15.79**	**346**	*eP*	**Pn**	**04 08 50.5**	**+0.8**
FIMO	**Fila Mora**	**15.81**	**345**	*eP*	**Pn**	**04 08 49.1**	**-1.0**
EDPE	**Pejibaye, P**	**16.03**	**344**	*eP*	**Pn**	**04 08 52.0**	**-0.9**
PB11	**IPOC Station P**	**16.25**	**146**	Pn	**Pn**	**04 08 54.8**	**-1.0**
TA02	**Huaiquique**	**16.41**	**148**	Pn	**P**	**04 08 59.0**	**-1.0**
TA01	**Diego Aracena**	**16.63**	**149**	Pn	**Pn**	**04 09 00.5**	**+0.1**
PICV	**PH. Pirrs**	**16.65**	**343**	*eP*	**P**	**04 09 03.6**	**+0.8**
ABE2	**San Pablo**	**16.68**	**343**	*eP*	**P**	**04 09 02.5**	**-0.8**
LCR2	**La Lucha 2**	**16.70**	**344**	*eP*	**Pn**	**04 09 00.8**	**-0.8**
PB08	**IPOC Station P**	**16.84**	**145**	Pn	**Pn**	**04 09 04.0**	**+0.6**
VTCV	**VTCV, Calle Va**	**16.86**	**345**	*eP*	**Pn**	**04 09 04.1**	**+0.6**
CVTV	**Tajo**	**16.88**	**345**	*eP*	**Pn**	**04 09 04.1**	**+0.2**
VTLA	**Turrialba Volc**	**16.89**	**345**	*eP*	**P**	**04 09 06.4**	**+0.7**
VICA	**Volcano Irazu**	**16.89**	**344**	*eP*	**P**	**04 09 08.5**	**+2.7**
VTR0	**Volcan Turrial**	**16.90**	**345**	*eP*	**P**	**04 09 06.8**	**+0.9**
CVTR	**Volcan Turrial**	**16.90**	**345**	*eP*	**P**	**04 09 05.3**	**-0.6**
RVLA	**Villa Bonita**	**16.94**	**345**	*eP*	**P**	**04 09 05.1**	**-0.8**
CVIMO	**Finca Echandi**	**16.95**	**344**	*eP*	**Pn**	**04 09 04.6**	**-0.1**
HDC	**Heredia**	**16.98**	**343**		**P**	**04 09 06.1**	**-0.4**
HDC				IAmb	IAmb	04 09 10.5
	comp=Z,620nm,1.9s						
HDC	**Heredia**	**16.98**	**343**	*eP*	**P**	**04 09 07.0**	**+0.5**
CVTG	**V. Turrialba,**	**17.03**	**345**	*eP*	**P**	**04 09 06.4**	**-0.5**
PB01	**IPOC Station P**	**17.38**	**148**		**P**	**04 09 10.4**	**-0.4**
SDV	**Santo Domingo**	**17.45**	**30**	P	**Pn**	**04 09 09.0**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=304,slow=7.7,SNR=4.9						
SDV				S	**S**	**04 12 28.7**	**-2.8**
	comp=Z,10nm,0.8s,baz=51,slow=21,SNR=1.6						
SDV				LR	LR	04 16 49.0
	comp=Z,798nm,21.7s,baz=242,slow=41						
	comp=Z,37nm,0.9s						
SDV	**Santo Domingo**	**17.45**	**30**	*eP*	**Pn**	**04 09 10.8**	**-0.1**
SOCE	**Pocosol**	**17.49**	**342**		**P**	**04 09 11.6**	**-0.5**
SOCE				IAmb	IAmb	04 09 16.7
	comp=Z,202nm,1.1s						
SOCE	**Pocosol**	**17.49**	**342**	*eP*	**P**	**04 09 13.1**	**+1.1**
JTS	**Las Juntas de**	**17.51**	**341**		**Pn**	**04 09 11.5**	**+0.1**
JTS	**Las Juntas de**	**17.51**	**341**	P	**Pn**	**04 09 09.1**	**-2.3**
	comp=Z,0.9nm,0.3s,ba

CO06	Fray Jorge	25.20	164	P	P	04 10 33.0	+0.8
CO06				IAmb	IAmb	04 10 36.8	
comp=Z,66nm,0.8s							
MAL2	Monte Alegre,	25.40	81	P	P	04 10 35.2	+0.9
MAL2				IAmb	IAmb	04 10 48.2	
comp=Z,143nm,1.3s							
GRGR	Grenville	25.41	44	eP	P	04 10 44.0	+10
CO03	El Pedregal	25.62	163	P	P	04 10 36.1	0.0
CO03				IAmb	IAmb	04 10 40.5	
comp=Z,68nm,0.8s							
TOSP	Speyside	25.63	47	eP	P	04 10 38.9	+2.7
CCIG	Comitan	25.87	331	P	P	04 10 38.6	0.0
CCIG				IAmb	IAmb	04 10 42.6	
comp=Z,92nm,1.6s							
MURT	Porto Murtinho	25.87	128	eP	P	04 10 39.5	+1.1
BDQN	Bodoquena, MS	25.94	125	eP	P	04 10 39.5	+0.4
SDDR	Presa de Saban	26.41	17	P	P	04 10 43.7	+0.3
SDDR				IAmb	IAmb	04 11 05.7	
comp=Z,86nm,1.2s							
SDDR	Presa de Saban	26.41	17	i P	P	04 10 44.8	+1.5
GTBY	Guantanamo Bay	26.47	9	i P	P	04 10 45.4	+1.6
AQDB	Aquidauana	26.81	124	P	P	04 10 48.0	+1.1
AQDB	Aquidauana	26.81	124	eP	P	04 10 48.2	+1.2
DR12	Loma Pena Alta	26.86	21	P	P	04 10 46.2	-0.7
DR12				IAmb	IAmb	04 10 53.4	
comp=Z,144nm,1.2s							
H03N2	Juan Fernandez	26.92	179	T	T	04 38 49.3	
baz=356,slow=76,SNR=7.7							
H03N1	Juan Fernandez	26.92	179	T	T	04 38 49.8	
baz=356,slow=76,SNR=2.7							
ZON	Zonda	26.92	160	P	P	04 10 48.9	+1.1
ZON	Zonda	26.92	160	P	P	04 10 48.9	+1.1
ZON				pmax	pmax		
comp=Z,22nm,0.8s							
H03N3	Juan Fernandez	26.93	179	T	T	04 38 49.4	
baz=356,slow=76,SNR=2.9							
SC01	Santiago de lo	27.00	18	P	P	04 10 49.1	+0.5
SC01				IAmb	IAmb	04 11 33.8	
comp=Z,136nm,1.3s							
PRSN	Puerto Rico Se	27.23	26	IAmb	IAmb	04 10 57.3	
comp=Z,80nm,1.1s							
SLBI	Saint Lucia, B	27.23	42	eP	P	04 10 54.6	+4.0
OBIP	Obispado Ponce	27.31	27	P	P	04 10 52.2	+0.8
OBIP				IAmb	IAmb	04 11 17.0	
comp=Z,77nm,1.1s							
CELP	Cerrillos	27.35	27	P	P	04 10 52.8	+1.0
CELP				IAmb	IAmb	04 11 17.7	
comp=Z,81nm,1.1s							
UUPR	Utuado, UPR, P	27.45	27	IAmb	IAmb	04 10 58.0	
comp=Z,151nm,1.4s							
VA03	San Esteban	27.47	164	P	P	04 10 53.8	+1.0
VA03				IAmb	IAmb	04 10 55.8	
comp=Z,50nm,0.8s							
IGPR	InterUniversit	27.48	28	P	P	04 10 53.8	+1.0
IGPR				IAmb	IAmb	04 11 19.2	
comp=Z,84nm,1.2s							
AOPR	Arecibo Observ	27.51	26	P	P	04 10 53.5	+0.3
PDPR	Patillas Dam,	27.56	28	P	P	04 10 54.2	+0.6
PDPR				IAmb	IAmb	04 10 55.4	
comp=Z,59nm,0.9s							
SJG	San Juan	27.58	28	P	P	04 10 54.5	+0.7
SJG				IAmb	IAmb	04 11 19.6	
comp=Z,117nm,1.2s							
SJG	San Juan	27.58	28	LR	LR	04 23 14.6	
comp=Z,190nm,19.4s,baz=214,slow=40							
SJG	San Juan	27.58	28	P	P	04 10 54.5	+0.7
SJG				pmax	pmax		
comp=Z,117nm,1.2s							
MT02	Curacav	27.79	165	P	P	04 10 57.0	+1.5
MT02				IAmb	IAmb	04 11 03.2	
comp=Z,41nm,0.7s							
DSLB	Salisbury	27.99	39	eP	P	04 10 59.2	+1.8
MT05	Renca	28.01	165	P	P	04 10 58.6	+1.0
MT05				IAmb	IAmb	04 11 03.3	
comp=Z,64nm,1.3s							
MT16	CCHEN	28.11	164	P	P	04 10 58.9	+0.4
SNDB	Serra Nova Dou	28.17	103	eP	P	04 11 00.3	+1.2
MT03	Universidad Ad	28.17	164	P	P	04 11 00.4	+1.3
MT08	Bocatoma Ro	28.26	163	P	P	04 11 00.4	+0.2
MT08				IAmb	IAmb	04 11 04.4	
comp=Z,73nm,0.9s							
MT09	Talagante	28.31	165	P	P	04 11 00.6	+0.2
MT01	Popeta	28.33	166	P	P	04 11 00.5	+0.1
MT13	San Alfonso	28.47	164	P	P	04 11 02.1	+0.4
ARAG	Araguaiana, MT	28.47	111	eP	P	04 11 02.9	+1.1
RPRD	Ribas do Rio P	28.49	122	eP	P	04 11 04.0	+2.1
LMEL	Las Melosas	28.59	164	P	P	04 11 04.1	+1.3
BO04	La Punta	28.61	165	P	P	04 11 03.9	+1.0
CPUP	Villa Florida	28.83	136	P	P	04 11 05.2	+0.3
CPUP	Villa Florida	28.83	136	P	P	04 11 05.5	+0.6
comp=Z,7.3nm,0.9s,baz=310,slow=9.3,SNR=15							
CPUP				PcP	PcP	04 14 14.8	+0.8
comp=Z,4.2nm,0.8s,baz=349,slow=3.6,SNR=3.6							
CPUP				LR	LR	04 25 02.8	
comp=Z,561nm,20.1s,baz=314,slow=41							
comp=Z,7.3nm,0.9s							
CPUP	Villa Florida	28.83	136	P	P	04 11 05.2	+0.3
CPUP				pmax	pmax		
comp=Z,12nm,1.1s							
CPUP	Villa Florida	28.83	136	eP	P	04 11 06.2	+1.3
SJPY	San Joaquin	28.89	132	eP	P	04 11 06.8	+1.3
MDP	Montagnes des	28.94	67	LR	LR	04 24 34.6	
comp=Z,248nm,20.9s,baz=242,slow=40							
BO02	Sierra Bellavi	29.33	166	P	P	04 11 10.7	+1.3
BO02				IAmb	IAmb	04 11 16.3	
comp=Z,40nm,1.0s							
BO02					PcP	04 14 16.6	+1.3
ML02	Panimavida	30.11	167	IAmb	IAmb	04 11 18.7	
comp=Z,64nm,0.8s							
ITRB	Iturama	31.06	118	eP	P	04 11 25.9	+1.1
PTGB	Pitanga	31.81	128	eP	P	04 11 32.8	+1.4
LDASE	Londrina, Braz	31.93	125	eP	P	04 11 33.4	+1.0
BDFB	Brasilia	32.00	109	P	P	04 11 34.1	+1.0
BDFB	Brasilia	32.00	109	P	P	04 11 33.7	+0.6
comp=Z,13nm,0.7s,baz=270,slow=10,SNR=22							
BDFB				PcP	PcP	04 14 23.0	+0.3
comp=Z,2.4nm,0.6s,baz=184,slow=25,SNR=2.1							
BDFB				LR	LR	04 25 18.1	
comp=Z,876nm,19.9s,baz=310,slow=38							
comp=Z,13nm,0.7s							
BDFB	Brasilia	32.00	109	P	P	04 11 34.1	+1.0
BDFB				pmax	pmax		
comp=Z,13nm,0.7s							
IPMB	Ipameri, GO	32.42	114	eP	P	04 11 37.3	+0.6
ITAB	Concordia	33.10	132	eP	P	04 11 43.1	+0.7
BB19B	Bebedouro	33.15	119	eP	P	04 11 43.4	+0.2
FRTB	Fartura	33.19	124	eP	P	04 11 46.1	+2.7
TBOT	Tacuaremb	33.31	142	eP	P	04 11 46.5	+2.2
CPSB	Cacapava Do Su	34.06	138	eP	P	04 11 52.2	+1.3
SDBA	SAO DESIDERIO	34.42	103	eP	P	04 11 55.1	+0.9
PLTB	Pedras Altas	34.82	140	eP	P	04 11 59.3	+1.8
LL04	Puerto Octay	34.92	171	IAmb	IAmb	04 12 00.2	
comp=Z,28nm,0.9s							
SPB	Sao Paulo	35.06	123	P	P	04 11 59.9	+0.3
PLCA	Paso Flores	35.08	168	IAmb	IAmb	04 12 02.2	
comp=Z,52nm,1.0s							
PLCA	Paso Flores	35.08	168	P	P	04 12 00.5	+0.9
comp=Z,27nm,0.8s,baz=341,slow=10,SNR=41							
PLCA				PcP	PcP	04 14 31.4	+0.6
comp=Z,4.4nm,0.9s,baz=332,slow=5.5,SNR=3.8							
comp=Z,27nm,0.8s							
PLCA	Paso Flores	35.08	168	eP	P	04 12 01.1	+1.5
PLCA				pmax	pmax		
comp=Z,27nm,0.8s							
PLCA	Paso Flores	35.08	168	eP	P	04 12 01.3	+1.7
PLCA	Paso Flores	35.08	168	P	P	04 12 00.8	+1.2
PLCA				PcP	PcP	04 14 31.5	+0.6
TRQA	Tornquist	35.22	156	P	P	04 12 00.9	+0.1
TRQA				IAmb	IAmb	04 12 02.6	
comp=Z,27nm,0.8s							
TRQA	Tornquist	35.22	156	P	P	04 12 00.9	+0.1
TRQA				pmax	pmax		
comp=Z,27nm,0.8s							
JANB	Januaria	35.38	107	eP	P	04 12 02.6	+0.1
DIAM	Diamantina, MG	36.66	112	eP	P	04 12 14.6	+1.1
BSFB	Barra de Sao F	39.39	112	eP	P	04 12 36.2	-0.2
HKT	Hockley	39.47	337	P	P	04 12 36.9	+0.2
HKT	Hockley	39.47	337	eP	P	04 12 35.6	-1.2
HKT				pmax	pmax		
comp=Z,35nm,1.5s							
HKT	Hockley	39.47	337	P	P	04 12 37.2	+0.5
HKT				pP	pP	04 12 48.7	+0.1
HKT				PcP	PcP	04 14 45.1	+0.9
NBPB	Pedra_Branca-C	39.48	91	eP	P	04 12 37.9	+0.6
COYC	Coyhaique	39.53	172	P	P	04 12 38.3	+1.2
GOGA	Godfrey	39.78	355	P	P	04 12 39.0	-0.4
GOGA					PcP	04 14 45.1	-0.1
GOGA	Godfrey	39.78	355	P	P	04 12 39.0	-0.4
GOGA						04 14 45.1	
GOGA				pmax	pmax		
comp=Z,19nm,1.1s							
LRAL	Lakeview Retre	39.89	350	P	P	04 12 39.7	-0.5
LRAL				IAmb	IAmb	04 12 40.9	
comp=Z,29nm,0.8s							
LRAL				PcP	PcP	04 14 45.7	+0.2
GUA01	Guaratinga, BA	39.91	108	eP	P	04 12 42.9	+2.1
RIB01	Linhares ES	39.92	112	eP	P	04 12 40.8	0.0
CMC01	Camacan, BA	39.99	106	eP	P	04 12 41.7	+0.2
JSC	Jenkinsville	40.49	357	P	P	04 12 44.9	-0.4
JSC	Jenkinsville	40.49	357	P	P	04 12 44.9	-0.4
JSC				pmax	pmax		
comp=Z,15nm,1.1s							
HODGE	Hodges	40.50	356	P	P	04 12 44.7	-0.6
HNDO	Hondo	40.56	333	P	P	04 12 46.3	+0.3
PAULI	Pauline	41.06	357	P	P	04 12 49.2	-0.7
DRIO	Del Rio	41.10	331	P	P	04 12 50.2	-0.2
DRIO				IAmb	IAmb	04 12 52.0	
comp=Z,46nm,1.0s							
FPAL	Fort Paine	41.15	352	P	P	04 12 49.1	-1.7
BG3	Lake Jocassee	41.30	355	P	P	04 12 51.6	-0.4
W57A	Gilead	41.33	359	P	P	04 12 51.6	-0.5
KMSC	Kings Mountain	41.35	357	P	P	04 12 51.5	-0.9
Z41A	Richland Creek	41.47	343	P	P	04 12 52.9	-0.4
Z41A				IAmb	IAmb	04 12 54.5	
comp=Z,60nm,1.4s							
JCT	Junction City	41.60	333	P	P	04 12 55.1	+0.6
JCT	Junction City	41.60	333	P	P	04 12 55.1	+0.6
JCT				pmax	pmax		
comp=Z,26nm,1.1s							
CCAR	Cane Creek	41.80	344	P	P	04 12 55.6	-0.3
CCAR				IAmb	IAmb	04 12 57.3	
comp=Z,71nm,1.1s							
HPIG		41.84	324	P	P	04 12 56.5	-0.2
SWET	Sewanee	41.86	352	P	P	04 12 55.8	-0.8
CPCT	Cooper Cave	41.91	354	P	P	04 12 55.3	-1.6
CPCT				PcP	PcP	04 14 51.8	-0.3
BRDY	Brady	41.94	334	P	P	04 12 57.3	0.0
V58A	Windy Hill, Pi	41.96	0	P	P	04 12 57.2	-0.1
WLAR	White Oak Lake	41.96	343	P	P	04 12 57.6	+0.2
WLAR				IAmb	IAmb	04 12 59.2	
comp=Z,95nm,1.2s							
V53A	Saluda	41.97	356	P	P	04 12 56.8	-0.7
V53A				PcP	PcP	04 14 52.4	+0.1
PLAL	Pickwick Lake	41.98	349	P	P	04 12 56.3	-1.2
PLAL				PcP	PcP	04 14 51.9	-0.4
TKL	Tuckaleechee C	42.04	355	P	P	04 12 56.7	-1.3
TKL				IAmb	IAmb	04 12 57.8	
comp=Z,52nm,1.4s							
TKL	Tuckaleechee C	42.04	355	P	P	04 12 56.6	-1.4
comp=Z,26nm,1.2s,baz=152,slow=5.4,SNR=7.2							
TKL				PcP	PcP	04 14 51.6	-0.9
comp=Z,5.5nm,0.8s,baz=209,slow=2.9,SNR=2.8							
TKL				LR	LR	04 30 08.3	
comp=Z,144nm,19.1s,baz=160,slow=36							
comp=Z,26nm,1.2s							
TKL	Tuckaleechee C	42.04	355	P	P	04 12 56.7	-1.3
TKL				pmax	pmax		
comp=Z,52nm,1.4s							
V55A	Taylorsville	42.06	358	P	P	04 12 57.4	-0.7
Z38A	Mt. Pleasant	42.16	340	P	P	04 12 59.4	+0.4
Z38A				IAmb	IAmb	04 13 00.6	
comp=Z,49nm,1.1s							
FW13	Cleburne	42.23	337	P	P	04 12 59.3	-0.3
SAND	Sanderson	42.27	330	P	P	04 12 59.2	-0.8
SLBS	Sierra La Lagu	42.31	316	P	P	04 13 01.1	+0.7
SLBS				IAmb	IAmb	04 13 02.4	
comp=Z,45nm,0.9s							
SLBS	Sierra La Lagu	42.31	316	P	P	04 13 01.2	+0.7
SLBS				PcP	PcP	04 14 53.7	0.0
V48A	Smith Brothers	42.50	351	P	P	04 12 59.9	-1.8
V48A				IAmb	IAmb	04 13 01.5	
comp=Z,43nm,1.1s							
U56A	King	42.52	359	P	P	04 13 01.1	-0.8
TXAR	Lajitas Array	42.56	328	P	P	04 13 01.8	-0.7
TXAR				PcP	PcP	04 14 55.3	+0.8
TXAR	Lajitas Array	42.56	328	P	P	04 13 02.0	-0.5
comp=Z,3.6nm,0.9s,baz=148,slow=10,SNR=29							
TXAR				PcP	PcP	04 14 54.5	0.0
comp=Z,4.5nm,0.9s,baz=154,slow=5.7,SNR=8.5							
comp=Z,3.6nm,0.9s							
TXAR	Lajitas Array	42.56	328	P	P	04 13 01.8	-0.7
TXAR						04 14 55.3	
TX31	Lajitas Ar. Si	42.57	328	P	P	04 13 02.4	-0.1
OZNA	Ozona	42.59	332	P	P	04 13 02.2	-0.4
X40A	Basin Creek Fa	42.63	343	P	P	04 13 01.7	-1.1
FW07	Weatherford	42.68	337	P	P	04 13 04.0	+0.7
FW07				IAmb	IAmb	04 13 04.6	
comp=Z,50nm,0.8s							
NBAN	Anadia - AL	42.69	97	eP	P	04 13 04.1	+0.5
U54A	Nelsons Funny	42.75	357	P	P	04 13 02.5	-1.3
UALR	University of	42.76	344	P	P	04 13 03.4	-0.4
UALR				IAmb	IAmb	04 13 04.6	
comp=Z,52nm,1.0s							
CLTN	Cedars of Leba	42.77	352	P	P	04 13 02.6	-1.3
FW06	Azle	42.83	337	P	P	04 13 04.3	-0.1
FW06				IAmb	IAmb	04 13 06.0	
comp=Z,46nm,0.9s							
TZTN	Tazewell	42.90	355	P	P	04 13 03.0	-1.9
MIAR	Mount Ida	42.90	343	P	P	04 13 04.8	-0.1
MIAR				IAmb	IAmb	04 13 06.0	
comp=Z,47nm,1.1s							
MIAR	Mount Ida	42.90	343	P	P	04 13 04.8	-0.1
MIAR				pmax	pmax		
comp=Z,47nm,1.1s							
NBCA	Caruaru-PE	42.94	95	eP	P	04 13 06.6	+0.8
PLPT	Palo Pinto	42.98	336	P	P	04 13 05.7	0.0
PLPT				IAmb	IAmb	04 13 07.1	
comp=Z,53nm,0.9s							
PLPT				PcP	PcP	04 14 55.0	-0.7
WVT	Waverly	43.05	350	P	P	04 13 04.1	-2.1
WVT				PcP	PcP	04 14 55.3	-0.5
WVT	Waverly	43.05	350	P	P	04 13 04.1	-2.1
WVT						04 14 55.3	
WVT				pmax	pmax		
comp=Z,24nm,1.1s							
WVT	Waverly	43.05	350	P	P	04 13 03.9	-2.3
WVT				pP	pP	04 13 15.0	-3.2
WVT				PcP	PcP	04 14 55.0	-0.9
HBAR	Harrisburg	43.08	346	P	P	04 13 05.9	-0.4
RCBR	Riachuelo	43.13	92	LR	LR	04 33 49.5	
comp=Z,70nm,19.0s,baz=264,slow=40							
T59A	Double "B" Far	43.17	2	P	P	04 13 06.7	-0.4
T59A				PcP	PcP	04 14 55.6	-0.6
WHAR	Wooly Hollow	43.23	344	P	P	04 13 07.5	-0.2
WHAR				IAmb	IAmb	04 13 08.3	
comp=Z,45nm,1.0s							
ALPN	Alpine	43.38	329	P	P	04 13 09.2	+0.1
BLA	Blacksburg	43.39	359	P	P	04 13 08.3	-0.6
BLA				IAmb	IAmb	04 13 10.0	
comp=Z,72nm,1.6s							
BLA				PcP	PcP	04 14 56.4	-0.6
SGCY	Sterling City	43.42	333	P	P	04 13 08.9	-0.4
SGCY				IAmb	IAmb	04 13 10.3	
comp=Z,42nm,1.0s							
LOOK	Love County	43.59	338	P	P	04 13 10.8	+0.2
LOOK				IAmb	IAmb	04 13 12.3	
comp=Z,48nm,1.0s							
RCRC	Randolf Colleg	43.59	0	P	P	04 13 09.4	-1.1
LCAR	Lake Charles	43.68	346	P	P	04 13 10.4	-0.8
LCAR				IAmb	IAmb	04 13 11.3	
comp=Z,45nm,1.0s							
WTFS	Witchita Falls	43.88	337	IAmb	IAmb	04 13 14.1	
comp=Z,50nm,0.9s							
S57A	Dark Hollow, R	43.92	0	IAmb	IAmb	04 13 14.1	
comp=Z,54nm,1.5s							
R58B	Mineral	44.15	2	IAmb	IAmb	04 13 15.8	
comp=Z,55nm,1.2s							
APMT	Aspermont	44.17	335	IAmb	IAmb	04 13 16.8	
comp=Z,44nm,0.9s							
PBMO	Poplar Bluff	44.20	347	IAmb	IAmb	04 13 15.1	
comp=Z,36nm,1.1s							
ODSA	Odessa	44.26	331	IAmb	IAmb	04 13 16.9	
comp=Z,114nm,2.0s							
R55A	Marlinton	44.45	359	IAmb	IAmb	04 15 02.3	
comp=Z,37nm,0.9s							
W35A	Tecumseh	44.53	339	IAmb	IAmb	04 13 19.4	
comp=Z,107nm,1.5s							
CGM3	Cape Girardeau	44.53	348	IAmb	IAmb	04 13 17.8	
comp=Z,50nm,1.2s							
POST	Post	44.56	333	IAmb	IAmb	04 13 19.5	
comp=Z,48nm,0.9s							
T42A	Van Buren	44.59	347	P	P	04 13 17.4	-1.1
T42A				PcP	PcP	04 15 00.8	-0.2
HHAR	Hobbs	44.62	343	P	P	04 13 18.8	0.0
HHAR				IAmb	IAmb	04 13 19.9	
comp=Z,69nm,1.1s							
HHAR				PcP	PcP	04 15 00.8	-0.4
DKNS	Dickens	44.81	334	IAmb	IAmb	04 13 21.9	
comp=Z,47nm,0.9s							
USIN	University of	44.81	351	IAmb	IAmb	04 15 02.3	
comp=Z,29nm,0.8s							
SIUC	Southern Illin	44.85	349	IAmb	IAmb	04 13 20.6	
comp=Z,41nm,1.0s							
MGMO	Mountain Grove	44.99	345	IAmb	IAmb	04 13 22.2	
comp=Z,55nm,1.1s							
Q54A	Coxs Mills	45.17	358	IAmb	IAmb	04 13 22.8	
comp=Z,46nm,1.3s							
Q56A	Snyder Ridge,	45.20	0	P	P	04 13 23.6	+0.2
Q56A				PcP	PcP	04 15 02.9	-0.2
Q56A				IAmb	IAmb	04 15 05.3	
comp=Z,60nm,1.3s							
FVM	French Village	45.35	348	IAmb	IAmb	04 13 24.9	
comp=Z,36nm,1.1s							
CCM	Cathedral Cave	45.60	347	P	P	04 13 26.5	0.0
CCM				IAmb	IAmb	04 15 05.6	
comp=Z,32nm,0.8s							
CCM	Cathedral Cave	45.60	347	P	P	04 13 26.5	0.0
CCM				pmax	pmax		
comp=Z,32nm,0.9s							
CCM	Cathedral Cave	45.60	347	P	P	04 13 25.3	-1.2
CCM				pP	pP	04 13 36.7	-2.0
CCM				PcP	PcP	04 15 04.5	0.0
CSTR	Hydro, Custer	45.63	338	P	P	04 13 27.0	+0.1
CSTR				PcP	PcP	04 15 04.3	-0.4
OLIL	Olney	45.64	350	P	P	04 13 25.6	-1.2
OLIL				PcP	PcP	04 15 04.8	+0.2
OLIL				IAmb	IAmb	04 15 06.3	
comp=Z,55nm,1.0s							
P57A	Homestead Farm	45.66	1	IAmb	IAmb	04 13 28.5	
comp=Z,72nm,2.0s							
P53A	Whipple	45.69	358	IAmb	IAmb	04 15 06.8	
comp=Z,55nm,1.2s							
OK048	Pawnee Station	45.69	340	IAmb	IAmb	04 15 07.1	
comp=Z,53nm,1.1s							
OK051	E0350 and S346	45.73	340	IAmb	IAmb	04 15 06.7	
comp=Z,38nm,0.9s							
P51A	Williamsport	45.77	356	IAmb	IAmb	04 13 27.8	
comp=Z,26nm,1.0s							
BLOK	Blackwell	46.09	340	IAmb	IAmb	04 15 08.6	
comp=Z,53nm,0.9s							
MVL	Millersville	46.24	3	IAmb	IAmb	04 13 32.7	
comp=Z,22nm,0.9s							
SRIG	Santa Rosalia	46.26	318	P	P	04 13 32.1	+0.3
O52A	Adamsville	46.34	357	IAmb	IAmb	04 13 32.4	
comp=Z,32nm,1.0s							
O54A	Avella	46.35	359	IAmb	IAmb	04 13 32.9	
comp=Z,75nm,1.7s							
O53A	New Philadelph	46.44	358	IAmb	IAmb	04 13 33.5	
comp=Z,36nm,1.2s							
ACSO	Alum Creek Sta	46.52	356	IAmb	IAmb	04 13 33.8	
comp=Z,50nm,1.0s							
KAN01	Argonia South	46.64	340	IAmb	IAmb	04 13 35.6	
comp=Z,41nm,0.9s							
O48B	Farmland	46.73	354	IAmb	IAmb	04 13 34.4	
comp=Z,35nm,1.0s							
SSPA	Standing Stone	46.81	1	P	P	04 13 36.1	+0.1
SSPA				IAmb	IAmb	04 13 36.6	
comp=Z,36nm,1.1s							
SSPA	Standing Stone	46.81	1	P	P	04 13 35.7	-0.3
SSPA				PcP	PcP	04 15 08.7	0.0
N53A	Lisbon	46.99	358	IAmb	IAmb	04 15 10.9	
comp=Z,34nm,1.1s							
N58A	Sunbury	47.06	3	IAmb	IAmb	04 13 38.6	
comp=Z,29nm,0.9s							
SFIN	Lafayette	47.09	352	IAmb	IAmb	04 13 37.6	
comp=Z,25nm,0.9s							
N51A	Ashland	47.16	357	IAmb	IAmb	04 13 38.6	
comp=Z,42nm,1.1s							
319A	Douglas	47.24	324	IAmb	IAmb	04 13 41.5	
comp=Z,41nm,1.0s							
121A	Cookes Peak, D	47.27	327	IAmb	IAmb	04 13 42.1	
comp=Z,24nm,1.0s							
121A	Cookes Peak, D	47.27	327	P	P	04 13 41.2	+1.2
baz=140							
N49A	Columbus Grove	47.30	355	IAmb	IAmb	04 13 39.1	
comp=Z,26nm,1.1s							
N47A	Urbana	47.41	353	IAmb	IAmb	04 13 40.1	
comp=Z,56nm,1.3s							
M57A	Sunshine Farm,	47.54	2	IAmb	IAmb	04 13 42.6	
comp=Z,53nm,1.2s							
HDIL	Hopedale	47.62	350	IAmb	IAmb	04 13 41.4	
comp=Z,33nm,1.0s							
BNM	Barren Site	47.91	329	P	P	04 13 45.1	+0.1
BNM				PcP	PcP	04 15 13.2	+0.1
N41A	Harden Midland	48.06	348	IAmb	IAmb	04 13 45.2	
comp=Z,33nm,1.0s							
L56A	Greenwood	48.32	2	IAmb	IAmb	04 13 47.9	
comp=Z,30nm,0.6s							
ANMO	Albuquerque	48.45	330	P	P	04 13 49.4	+0.3
ANMO				IAmb	IAmb	04 13 50.8	
comp=Z,32nm,1.0s							
ANMO	Albuquerque	48.45	330	i P	P	04 13 49.3	+0.2
ANMO				pmax	pmax		
comp=Z,20nm,1.1s							
ANMO	Albuquerque	48.45	330	P	P	04 13 49.6	+0.5
WVNY	West Valley, N	48.57	1	IAmb	IAmb	04 15 16.3	
comp=Z,33nm,0.9s							
L46A	Eue Claire	48.59	353	IAmb	IAmb	04 13 48.5	
comp=Z,46nm,1.0s							
AAM	Ann Arbor	48.62	356	IAmb	IAmb	04 13 50.3	
comp=Z,38nm,0.9s							
TUC	Tucson	48.80	324	P	P	04 13 51.2	-0.5
TUC	Tucson	48.80	324	P	P	04 13 51.2	-0.5
TUC				pmax	pmax		
comp=Z,13nm,0.9s							
TUC	Tucson	48.80	324	P	P	04 13 51.8	+0.1
TUC				sP	sP	04 14 08.5	+0.8
TUC				PcP	PcP	04 15 16.6	+0.4
MMNY	Mt

I37A	Lemond, Waseca	51.77	347	IAmb	IAmb	04 14 13.4
	comp=Z,37nm,1.1s					
MNTQ	Montreal, Queb	51.91	5	IAmb	IAmb	04 14 15.1
	comp=Z,22nm,0.7s					
ISCO	Idaho Springs	51.99	334	IAmb	IAmb	04 14 17.4
	comp=Z,30nm,1.1s					
BLYC	Blythe	52.04	322	IAmb	IAmb	04 14 17.8
	comp=Z,25nm,1.1s					
PV13	Radium Mtn., P	52.15	331	IAmb	IAmb	04 14 18.6
	comp=Z,46nm,1.0s					
PV07	Paradox Valley	52.28	331	IAmb	IAmb	04 14 19.7
	comp=Z,34nm,1.1s					
ECSD	EROS Data Cent	52.30	344	IAmb	IAmb	04 14 17.8
	comp=Z,52nm,1.1s					
CBX	Cerro Bola	52.42	320	P	P	04 14 19.1 0.0
CBX				IAmb	IAmb	04 14 21.8
	comp=Z,56nm,1.5s					
F42A	Maple Grove Fa	52.52	352	IAmb	IAmb	04 14 19.2
	comp=Z,41nm,0.9s					
TKX	Tecate	52.55	320	IAmb	IAmb	04 14 35.0
	comp=Z,19nm,0.8s					
TRQ	Mont Tremblant	52.55	4	IAmb	IAmb	04 15 30.4
	comp=Z,32nm,1.2s					
W13A	Hualapai Mount	52.59	324	IAmb	IAmb	04 14 22.4
	comp=Z,29nm,1.3s					
E46A	Sault Ste Mari	52.71	356	IAmb	IAmb	04 14 19.8
	comp=Z,30nm,1.2s					
SPMN	Marine on St.	52.80	348	IAmb	IAmb	04 14 21.6
	comp=Z,51nm,1.1s					
HMU	Henry Mountain	52.94	329	IAmb	IAmb	04 14 37.8
	comp=Z,32nm,0.9s					
COWI	Conover	52.99	351	IAmb	IAmb	04 15 32.6
	comp=Z,23nm,0.8s					
PFO	Pinyon Flats O	53.14	321	P	P	04 14 24.4 0.0
PFO	Pinyon Flats O	53.14	321	*i* P	P	04 14 23.6 -0.8
PFO				pmax	pmax	
	comp=Z,20nm,1.0s					
PFO	Pinyon Flats O	53.14	321	P	P	04 14 24.8 +0.5
PFO				PcP	PcP	04 15 32.7 +0.4
KNB	Kanab	53.36	327	IAmb	IAmb	04 14 30.2
	comp=Z,22nm,1.1s					
O20A	White River Ci	53.44	332	IAmb	IAmb	04 14 28.8
	comp=Z,46nm,1.3s					
LCMT	Little Creek M	53.59	326	IAmb	IAmb	04 14 29.7
	comp=Z,24nm,1.2s					
LMN	Caledonia Moun	53.59	13	IAmb	IAmb	04 14 28.8
	comp=Z,40nm,1.0s					
V12A	Nelson	53.59	324	IAmb	IAmb	04 14 29.4
	comp=Z,37nm,1.4s					
SRU	San Rafael Swe	53.73	330	IAmb	IAmb	04 14 30.8
	comp=Z,52nm,1.3s					
MTPU	Mount Pierson	53.77	328	IAmb	IAmb	04 14 31.1
	comp=Z,38nm,1.8s					
E38A	The Farm, Brul	53.88	350	IAmb	IAmb	04 14 29.2
	comp=Z,32nm,1.1s					
Q16A	Castle Valley	53.91	329	IAmb	IAmb	04 14 32.7
	comp=Z,40nm,1.3s					
P18A	Preston Nutter	53.99	331	IAmb	IAmb	04 15 37.6
	comp=Z,36nm,1.3s					
TMUT	Trail Mountain	54.21	330	IAmb	IAmb	04 14 33.9
	comp=Z,40nm,1.5s					
LMQ	La Malbaie	54.29	7	IAmb	IAmb	04 14 33.5
	comp=Z,28nm,1.0s					
TCRU	Three Creeks R	54.33	328	IAmb	IAmb	04 14 35.0
	comp=Z,24nm,1.0s					
GSC	Goldstone, Bar	54.47	322	IAmb	IAmb	04 14 36.1
	comp=Z,30nm,1.2s					
K22A	Casper	54.74	336	IAmb	IAmb	04 14 37.1
	comp=Z,42nm,1.0s					
BSUT	Blindstream Ca	54.94	331	IAmb	IAmb	04 14 39.4
	comp=Z,45nm,1.1s					
PSUT	Pine Spring	55.03	327	IAmb	IAmb	04 14 40.2
	comp=Z,26nm,1.0s					
EYMN	Ely	55.17	350	IAmb	IAmb	04 14 38.4
	comp=Z,31nm,1.1s					
TPNV	Topopah Spring	55.25	324	IAmb	IAmb	04 14 42.0
	comp=Z,22nm,1.0s					
WCT	Wildcat Mounta	55.37	324	IAmb	IAmb	04 14 42.7
	comp=Z,32nm,1.1s					
S11A	Rachel	55.44	325	IAmb	IAmb	04 14 43.2
	comp=Z,28nm,0.9s					
SPR3	Spring Creek 3	55.62	327	IAmb	IAmb	04 14 44.0
	comp=Z,31nm,1.1s					
DUG	Dugway, Tooele	55.70	329	IAmb	IAmb	04 14 45.0
	comp=Z,49nm,1.2s					
TCUT	Toone Canyon	55.70	331	IAmb	IAmb	04 14 44.6
	comp=Z,55nm,1.2s					
PD31	Pinedale Array	56.13	333	IAmb	IAmb	04 14 46.7
	comp=Z,23nm,1.1s					
PDAR	Pinedale Array	56.13	333	P	P	04 14 45.8 -0.3
PDAR	Pinedale Array	56.13	333	P	P	04 14 45.5 -0.6
	comp=Z,8.2nm,0.8s,baz=134,slow=8.7,SNR=61					
PDAR				PcP	PcP	04 15 43.4 -0.4
	comp=Z,5.4nm,0.8s,baz=121,slow=6.5,SNR=9.7					
	comp=Z,8.2nm,0.8s					
AHID	Auburn Hatcher	56.83	332	IAmb	IAmb	04 14 51.8
	comp=Z,26nm,1.0s					
HVU	Hansel Valley	56.87	330	IAmb	IAmb	04 14 52.3
	comp=Z,33nm,1.1s					
SNOW	Snow King Moun	57.22	333	IAmb	IAmb	04 14 55.1
	comp=Z,69nm,1.9s					
ELK	Elko	57.36	328	IAmb	IAmb	04 14 56.5
	comp=Z,36nm,1.1s					
NV11	Mina Array Sit	57.37	324	IAmb	IAmb	04 14 56.8
	comp=Z,24nm,1.1s					
LHV	Little Huntoon	57.45	324	IAmb	IAmb	04 14 57.5
	comp=Z,24nm,1.0s					
NVAR	Mina Array Bea	57.45	324	P	P	04 14 55.9 +0.4
NVAR	Mina Array Bea	57.45	324	P	P	04 14 56.3 +0.8
	comp=Z,13nm,0.8s,baz=140,slow=6.8,SNR=56					
NVAR				PcP	PcP	04 15 48.9 -0.1
	comp=Z,2.7nm,0.8s,baz=125,slow=3.3,SNR=3.6					
	comp=Z,13nm,0.8s					
RYN	Ryan	57.71	324	IAmb	IAmb	04 14 59.9
	comp=Z,30nm,1.6s					
H17A	Grant Village	57.88	334	IAmb	IAmb	04 15 05.8
	comp=Z,26nm,1.3s					
LKWY	Lake	57.94	334	IAmb	IAmb	04 15 00.9
	comp=Z,21nm,0.9s					
YNE	Yellowstone No	58.12	335	IAmb	IAmb	04 15 01.0
	comp=Z,30nm,0.9s					
WAKR	Walker	58.17	323	IAmb	IAmb	04 15 02.6
	comp=Z,19nm,1.0s					
YNR	Norris Junctio	58.18	334	IAmb	IAmb	04 15 07.1
	comp=Z,21nm,1.2s					
ULM	Lac du Bonnet	58.22	348	P	P	04 14 59.4 -0.9
	comp=Z,46nm,0.6s,baz=160,slow=7.2,SNR=120					
	comp=Z,46nm,0.6s					
ULM	Lac du Bonnet	58.22	348	*i* P	P	04 14 59.1 -1.2
YMR	Madison River	58.26	334	IAmb	IAmb	04 15 03.9
	comp=Z,34nm,1.1s					
YHB	Horse Butte	58.43	334	IAmb	IAmb	04 15 04.1
	comp=Z,37nm,1.0s					
PNTR	Pine Nut	58.65	324	IAmb	IAmb	04 15 05.8
	comp=Z,17nm,0.8s					
PAHR	Pah Rah Range	58.93	325	IAmb	IAmb	04 15 07.7
	comp=Z,32nm,1.2s					
HLID	Hailey	59.01	331	IAmb	IAmb	04 15 07.9
	comp=Z,33nm,1.0s					
PLID	Pearl Lake	60.90	331	IAmb	IAmb	04 15 20.0
	comp=Z,19nm,1.1s					
J08A	Circle Bar Ran	60.91	328	IAmb	IAmb	04 15 20.3
	comp=Z,18nm,1.0s					
BMO	Blue Mountains	61.37	330	IAmb	IAmb	04 15 23.7
	comp=Z,36nm,1.6s					
SCHQ	Schefferville	61.88	8	P	P	04 15 24.5 -0.9
	comp=Z,8.4nm,0.9s,baz=197,slow=4.1,SNR=6.9					
SCHQ				PcP	PcP	04 16 05.8 -0.2
	comp=Z,3.5nm,0.7s,baz=241,slow=2.7,SNR=5.2					
	comp=Z,8.4nm,0.9s					
YBH	Yreka Blue Hor	62.17	324	IAmb	IAmb	04 15 27.9
	comp=Z,24nm,1.0s					
J05D	Fort Rock, OR	62.34	327	IAmb	IAmb	04 15 30.7
	comp=Z,25nm,0.8s					
PINE	Pine Mountain	62.52	327	IAmb	IAmb	04 15 32.3
	comp=Z,37nm,1.1s					
L02F	Cave Junction	62.91	324	IAmb	IAmb	04 15 34.1
	comp=Z,43nm,1.2s					
E09A	Wood Farm, Sta	62.97	331	IAmb	IAmb	04 15 33.9
	comp=Z,29nm,0.9s					
I04A	Tendick Farm,	63.32	326	IAmb	IAmb	04 15 36.1
	comp=Z,28nm,1.0s					
DBO	Dodson Butte	63.35	325	IAmb	IAmb	04 15 37.0
	comp=Z,29nm,1.0s					
HAWA	Hanford	63.56	330	IAmb	IAmb	04 15 39.2
	comp=Z,26nm,1.2s					
NEW	Newport	63.76	333	IAmb	IAmb	04 15 39.2
	comp=Z,33nm,0.9s					
H04A	Detroit Lake	63.78	327	IAmb	IAmb	04 15 39.4
	comp=Z,36nm,1.1s					
I03D	Drain, OR	63.78	326	IAmb	IAmb	04 15 39.8
	comp=Z,52nm,1.3s					
FFC	Flin Flon	63.78	346	P	P	04 15 37.6 -0.4
FFC	Flin Flon	63.78	346	P	P	04 15 37.6 -0.4
FFC				pmax	pmax	
	comp=Z,11nm,0.9s					
FFC	Flin Flon	63.78	346	P	P	04 15 37.4 -0.6
MXC	Moxie City	64.07	330	IAmb	IAmb	04 15 42.5
	comp=Z,46nm,1.3s					
COR	Corvallis	64.32	327	P	P	04 15 42.7 +1.0
COR	Corvallis	64.32	327	P	P	04 15 42.7 +1.0
COR				pmax	pmax	
	comp=Z,197nm,1.5s					
COR	Corvallis	64.32	327	P	P	04 15 42.8 +1.0
LTY	Liberty	64.73	330	IAmb	IAmb	04 15 46.0
	comp=Z,17nm,0.8s					
B08A	Colville Reser	64.85	332	IAmb	IAmb	04 15 46.4
	comp=Z,19nm,0.9s					
LON	Longmire	64.95	329	IAmb	IAmb	04 15 47.1
	comp=Z,21nm,0.9s					
GNW	Green Mountain	66.01	329	IAmb	IAmb	04 15 53.9
	comp=Z,33nm,1.1s					
PGC	Sidney	67.05	330	IAmb	IAmb	04 16 01.2
	comp=Z,38nm,1.0s					
CLRS	Cowichan Lake	67.50	330	IAmb	IAmb	04 16 16.5
	comp=Z,26nm,1.1s					
CBB	Campbell River	68.90	330	P	P	04 16 11.6 +0.7
CBB				IAmb	IAmb	04 16 13.2
	comp=Z,39nm,1.0s					
PPT	Papeete	69.34	254	LR	LR	04 37 27.2
	comp=Z,39nm,20.3s,baz=108,slow=28					
FRB	Frobisher Bay	70.41	5	P	P	04 16 18.9 -1.0
	comp=Z,7.9nm,0.9s,baz=172,slow=6.9,SNR=5.5					
	comp=Z,7.9nm,0.9s					
GRNB	Grenville Isla	73.49	331	IAmb	IAmb	04 16 41.6
	comp=Z,55nm,1.6s					
YKA	Yellowknife Ar	73.83	344	P	P	04 16 39.6 -0.8
	comp=Z,8.7nm,1.0s,baz=144,slow=5.8,SNR=73					
	comp=Z,8.7nm,1.0s					
DIB	Dawson Inlet,	74.34	330	IAmb	IAmb	04 16 45.7
	comp=Z,48nm,1.2s					
TOAD	Toad River Com	74.65	337	P	P	04 16 44.6 -0.7
	baz=132					
U35K	Hyder	74.77	333	P	P	04 16 45.8 -0.2
	baz=127					
BELA	Belgrano 2	75.08	171	P	P	04 16 48.8 +1.3
BELA				IAmb	IAmb	04 16 49.5
	comp=Z,32nm,1.2s					
KOTAN	Kotaneelee Air	75.08	339	P	P	04 16 48.2 +0.5
	baz=134					
V35K	Ketchikan	75.15	332	IAmb	IAmb	04 16 50.2
	comp=Z,47nm,1.3s					
V35K	Ketchikan	75.15	332	P	P	04 16 48.4 +0.3
	baz=126					
DBIC	Dimbokro	75.39	81	P	P	04 16 51.6 +1.1
	comp=Z,13nm,0.8s,baz=251,slow=4.4,SNR=11					
DBIC				LR	LR	04 48 47.0
	comp=Z,235nm,18.3s,baz=262,slow=35					
	comp=Z,13nm,0.8s					
T35M	Bob Quinn	75.51	334	IAmb	IAmb	04 16 52.6
	comp=Z,31nm,1.1s					
T35M	Bob Quinn	75.51	334	P	P	04 16 50.7 +0.3
	baz=127,SNR=13					
CRAG	Craig	75.94	332	P	P	04 16 52.9 +0.3
	baz=124					
SFJD	Kangerlussuaq	76.05	11	*i* P	P	04 16 52.6 -0.5
SFJD				IAmb	IAmb	04 16 54.2
	comp=Z,47nm,1.3s					
U33K	Whale Pass	76.30	332	P	P	04 16 54.2 -0.6
	baz=124					
DLBC	Dease Lake	76.31	335	IAmb	IAmb	04 16 56.8
	comp=Z,47nm,1.1s					
DLBC	Dease Lake	76.31	335	P	P	04 16 55.9 +1.0
	baz=128,SNR=24					
S34M	Telegraph Cree	76.46	334	IAmb	IAmb	04 16 58.1
	comp=Z,24nm,1.1s					
S34M	Telegraph Cree	76.46	334	P	P	04 16 56.8 +1.2
	baz=126,SNR=11					
WTLY	Watson Lake, Y	76.85	337	P	P	04 16 58.3 +0.4
	baz=129					
WRGLY	Wrigley	77.04	341	P	P	04 16 59.0 +0.2
	baz=135					
R33M	Jennings River	77.28	336	P	P	04 17 01.1 +0.7
	baz=127					
VNA3	Neumayer Olymp	77.49	162	⇑P	P	04 17 02.3 +1.0
	comp=Z,24nm,0.8s					
TGTN	Hyland Airport	77.56	338	P	P	04 17 02.9 +1.0
	baz=130					
Q32M	Nakina River	77.56	335	P	P	04 17 02.7 +0.7
	baz=126,SNR=9.7					
S32K	Kilinsoo	77.72	333	P	P	04 17 03.2 +0.5
	baz=123					
VNA1	Neumayer--Stat	77.76	161	⇑P	P	04 17 04.3 +1.6
	comp=Z,44nm,1.1s					
SIT	Sitka	77.84	332	P	P	04 17 03.8 +0.5
	baz=122					
ILULI	Ilulissat	77.91	10	P	P	04 17 03.8 +0.3
ILULI	Ilulissat	77.91	10	P	P	04 17 03.8 +0.3
ILULI				pmax	pmax	
	comp=Z,125nm,1.6s					
ILULI	Ilulissat	77.91	10	*i* P	P	04 17 03.9 +0.4
ILULI				IAmb	IAmb	04 17 05.0
	comp=Z,131nm,1.6s					
VNA2	Neumayer--Watz	78.11	161	⇑P	P	04 17 05.7 +0.9
	comp=Z,8.7nm,0.5s,baz=266,slow=5.3					
R32K	Eaglecrest	78.14	334	P	P	04 17 05.7 +0.7
	baz=123					
BESE	Bessie Mountai	78.45	334	IAmb	IAmb	04 17 08.9
	comp=Z,31nm,1.0s					
P33M	Teslin, Yukon	78.51	336	IAmb	IAmb	04 17 08.8
	comp=Z,28nm,1.4s					
P33M	Teslin, Yukon	78.51	336	P	P	04 17 07.7 +0.5
	baz=125,SNR=12					
P32M	Atlin	78.53	335	P	P	04 17 07.8 +0.6
	baz=124,SNR=7.4					
MORF	Marmelete	78.69	50	*e*P	P	04 17 11.1 +2.5
PTEO	Sao Teotonio	78.70	50	*e*P	P	04 17 13.0 +4.4
S31K	Pelican	78.73	333	P	P	04 17 08.8 +0.5
	baz=122					
UMMG	Uummannaq	79.04	9	*i* P	P	04 17 09.9 +0.2
UMMG				IAmb	IAmb	04 17 10.6
	comp=Z,60nm,1.3s					
SKAG	Skagway	79.14	334	P	P	04 17 11.2 +0.7
	baz=123					
N32M	Quiet Lake	79.17	337	P	P	04 17 11.1 +0.4
	baz=125					
PCVE	Castro Verde	79.25	50	*e*P	P	04 17 10.1 -1.6
PCVE				*i* Amb		04 17 14.6
	comp=Z,100nm,1.5s					
MMPY	Sheldon Lake,	79.34	338	P	P	04 17 12.1 +0.5
	baz=127					
PMTG	Montargil	79.53	48	*e*P	P	04 17 14.8 +1.7
EVO	Evora	79.53	49	*e*P	P	04 17 15.0 +1.9
PLBC	Pleasant Camp	79.59	334	P	P	04 17 12.7 -0.2
	baz=122					
WHY	Whitehorse	79.61	336	IAmb	IAmb	04 17 15.3
	comp=Z,32nm,1.3s					
WHY	Whitehorse	79.61	336	P	P	04 17 13.1 -0.2
	baz=124					
PCAS	Casmilo, Conde	79.62	47	*e*P	P	04 17 15.6 +2.0
SNAA	Sanae	79.71	162	P	P	04 17 14.6 +1.0
SNAA				IAmb	IAmb	04 17 15.5
	comp=Z,50nm,1.1s					
SNAA	Sanae	79.71	162	⇑P	P	04 17 14.5 +1.0
	comp=Z,476nm,0.6s					
SNAA	Sanae	79.71	162	P	P	04 17 14.6 +1.0
	comp=Z,15nm,0.5s,baz=269,slow=5.9,SNR=90					
	comp=Z,15nm,0.5s					
SNAA	Sanae	79.71	162	*i* P	P	04 17 13.6 0.0
SNAA				pmax	pmax	
	comp=Z,51nm,1.1s					
COI	Coimbra	79.73	47	*e*P	P	04 17 16.4 +2.3
FARO	Faro, Yukon	79.89	337	P	P	04 17 15.3 +0.6
	baz=125					
ICESG	Greenland Ices	80.12	13	*i* P	P	04 17 16.1 0.0
O30N	Mendenhall	80.17	335	P	P	04 17 16.4 +0.2
	baz=122,SNR=11					
P30M	Million Dollar	80.19	335	P	P	04 17 16.6 +0.3
	baz=122					
PVIS	Viseu	80.25	47	*e*P	P	04 17 17.2 +0.1
M31M	Drury Creek, Y	80.28	337	P	P	04 17 17.1 +0.4
	baz=124,SNR=8.0					
UPNV	Upernavik	80.41	7	*i* P	P	04 17 16.0 -1.1
UPNV				*i* P	PcP	04 17 18.0 -6.1
MTE	Manteigas	80.42	47	*e*P	P	04 17 17.3 -0.7
N31M	Braeburn, Yuko	80.43	336	IAmb	IAmb	04 17 19.3
	comp=Z,30nm,1.2s					
N31M	Braeburn, Yuko	80.43	336	P	P	04 17 17.9 +0.3
	baz=123,SNR=7.7					
PCAB	Cabril	80.45	46	*e*P	P	04 17 19.9 +1.8
POLO	Lamas de Olo	80.52	46	*e*P	P	04 17 20.0 +1.5
HYT	Haines Junctio	80.79	335	P	P	04 17 20.4 +0.8
	baz=121					
N30M	Aishikik Lake	80.95	336	P	P	04 17 21.1 +0.8
	baz=122					
O29M	Mount Kennedy	80.98	334	P	P	04 17 20.9 +0.3
	baz=120					
MVO	Moncorvo	81.01	47	*e*P	P	04 17 22.4 +1.2
MVO				*i* Amb		04 17 25.4
	comp=Z,74nm,1.7s					
YUK6	Outpost Mounta	81.21	335	P	P	04 17 22.6 +0.6
	baz=120,SNR=11					
PBRG	Braganca	81.40	46	*e*P	P	04 17 24.4 +1.3
M30M	Minto, Yukon	81.42	337	P	P	04 17 23.1 +0.2
	baz=122,SNR=9.3					
TROLL	Troll, Antarti	81.43	162	⇑P	P	04 17 23.9 +1.1
	comp=Z,1μm,0.9s					
YUK4	Talbot Arm	81.53	335	P	P	04 17 24.0 +0.3
	baz=120,SNR=13					
C36M	Paulatuk	81.56	345	P	P	04 17 23.6 +0.3
	baz=135					
MAYO	Mayo, Yukon	81.63	338	P	P	04 17 24.2 +0.3
	baz=123					
O28M	Mount Upton	81.91	334	P	P	04 17 25.6 -0.1
	baz=119					
YUK8	Steele Glacier	81.97	335	P	P	04 17 26.8 +0.8
	baz=119,SNR=6.4					
M29M	Somme Creek	82.02	336	P	P	04 17 26.4 +0.3
	baz=120					
L29M	L29M	82.22	337	P	P	04 17 27.2 +0.2
	baz=121					
H31M	Peel River	82.31	340	P	P	04 17 27.6 +0.2
	baz=125					
J30M	Hart River	82.32	339	IAmb	IAmb	04 17 29.4
	comp=Z,25nm,1.4s					
J30M	Hart River	82.32	339	P	P	04 17 28.0 +0.3
	baz=123					
K29M	Barlow Dome	82.37	338	P	P	04 17 28.0 +0.1
	baz=122					
MESA	MESA	82.40	333	P	P	04 17 28.0 -0.2
	baz=117					
I30M	Mount Dempster	82.69	339	P	P	04 17 30.0 +0.5
	baz=123					
TORD	Torodi Ar. Bea	82.71	76	P	P	04 17 31.1 +0.5
TORD	Torodi Ar. Bea	82.71	76	P	P	04 17 30.3 -0.3
	comp=Z,9.3nm,0.7s,baz=294,slow=4.7,SNR=4.9					
	comp=Z,9.3nm,0.7s					
ESDC	Sonseca Array	82.87	49	P	P	04 17 32.2 +1.2
ESDC	Sonseca Array	82.87	49	P	P	04 17 31.8 +0.8
	comp=Z,7.2nm,0.9s,baz=274,slow=5.0,SNR=17					
	comp=Z,7.2nm,0.9s					
G31M	Satah River	82.93	341	IAmb	IAmb	04 17 31.8
	comp=Z,38nm,0.9s					
G31M	Satah River	82.93	341	P	P	04 17 30.9 +0.4
	baz=125,SNR=27					
J29N	Klondike Camp	82.95	338	P	P	04 17 31.4 +0.6
	baz=121,SNR=6.7					
SUMG	Summit	83.04	11	P	P	04 17 32.0 +0.4
SUMG	Summit	83.04	11	P	P	04 17 32.0 +0.4
SUMG				pmax	pmax	
	comp=Z,48nm,1.0s					
SUMG	Summit	83.04	11	*i* P	P	04 17 31.8 +0.3
F31M	Tsiigehtchic	83.06	342	IAmb	IAmb	04 17 32.4
	comp=Z,41nm,1.1s					
F31M	Tsiigehtchic	83.06	342	P	P	04 17 30.9 -0.3
	baz=125,SNR=23					
DAWY	Dawson	83.20	337	IAmb	IAmb	04 17 33.1
	comp=Z,25nm,1.4s					
DAWY	Dawson	83.20	337	P	P	04 17 32.2 +0.1
	baz=120,SNR=7.8					
KAIM	Kayak Island	83.40	333	P	P	04 17 33.6 +0.5
	baz=115					
I29M	Ogilvie Camp,	83.45	339	P	P	04 17 33.1 -0.2
	baz=121,SNR=12					
INK	Inuvik	83.50	342	IAmb	IAmb	04 17 34.8
	comp=Z,49nm,1.2s					
INK	Inuvik	83.50	342	P	P	04 17 33.7 +0.3
	baz=126,SNR=37					
G30M	tAoh Zraii Nji	83.59	341	P	P	04 17 34.0 -0.1
	baz=123					
BCAR	Beaver Creek A	83.66	336	P	P	04 17 35.1 +0.7
L27K	Beaver Creek,	83.67	336	P	P	04 17 34.8 +0.3
	baz=117					
A36M	Sachs Harbour	83.69	347	P	P	04 17 33.8 -0.5
	baz=134					
QSPA	South Pole Qui	83.70	180	P	P	04 17 35.8 +1.0
QSPA	South Pole Qui	83.70	180	P	P	04 17 36.0 +1.2
	comp=Z,40nm,1.0s,baz=143,slow=2.6,SNR=40					
	comp=Z,40nm,1.0s					
F30M	Barrier River	83.80	341	P	P	04 17 34.9 -0.1
	baz=124,SNR=16					
M26K	Nabesna, AK	83.85	335	P	P	04 17 35.0 -0.4
	baz=116					
H29M	Whitestone	83.92	340	P	P	04 17 36.0 +0.3
	baz=121					
BMRM	Bremner River	83.92	334	P	P	04 17 36.0 +0.2
	baz=115					
I28M	Miner Creek	84.08	339	P	P	04 17 36.7 +0.1
	baz=119					
G29M	Pine Creek	84.16	340	P	P	04 17 37.1 +0.2
	baz=121					
N25K	Chitina, Valde	84.19	334	P	P	04 17 37.5 +0.2
	baz=115					
K27K	Chicken	84.22	337	P	P	04 17 38.0 +0.7
	baz=117					
EYAK	Cordova Ski Ar	84.26	333	P	P	04 17 37.3 -0.2
	baz=114					
L26K	Log Cabin Wild	84.27	336	P	P	04 17 37.4 -0.2
	baz=116,SNR=5.6					
KLU	Klutina	84.72	334	P	P	04 17 39.6 -0.3
	baz=114					
HARP	HAARP	84.76	335	P	P	04 17 40.1 +0.1
	baz=114					
I27K	Kandik River	84.77	338	P	P	04 17 40.3 +0.2
	baz=118					
P23K	Montague Islan	84.81	332	P	P	04 17 40.0 -0.3
	baz=112					
E29M	Blow River	84.89	341	P	P	04 17 40.4 -0.1
	baz=122					
SCRK	Sand Creek	84.95	336	IAmb	IAmb	04 17 42.2
	comp=Z,23nm,1.5s					
SCRK	Sand Creek	84.95	336	P	P	04 17 40.9 -0.1
	baz=116					
GLI	Glacier Island	85.00	333	P	P	04 17 41.0 -0.3
	baz=112					
J26L	Joseph Creek	85.01	337	P	P	04 17 41.6 +0.2
	baz=116					
H27K	Steamboat Moun	85.04	339	P	P	04 17 41.1 -0.3
	baz=118					
M24K	Tolsona, Glenn	85.08	334	IAmb	IAmb	04 17 49.0
	comp=Z,18nm,0.8s					
M24K	Tolsona, Glenn	85.08	334	P	P	04 17 42.0 +0.4
	baz=113					
PAX	Paxson	85.13	335	IAmb	IAmb	04 17 42.7
	comp=Z,47nm,1.8s					
PAX	Paxson	85.13	335	P	P	04 17 41.6 -0.3
	baz=114,SNR=8.4					
RIDG	Independent Ri	85.19	336	IAmb	IAmb	04 17 43.4
	comp=Z,46nm,1.6s					
RIDG	Independent Ri	85.19	336	P	P	04 17 41.7 -0.5
	baz=115,SNR=7.1					
NEEM	North Greenlan	85.20	6	*i* P	P	04 17 43.5 +1.2
I26K	Coal Creek Min	85.21	338	P	P	04 17 42.1 -0.1
	baz=116

SEW	Seward	85.80	332	IAmb	IAmb	04 17 51.6
	comp=Z,49nm,1.7s					
SEW	Seward	85.80	332	P	P	04 17 45.5 +0.3
	baz=110					
KNK	Knik Glacier	85.81	333	P	P	04 17 45.1 -0.2
	baz=111					
SML	Sawmill	85.90	334	IAmb	IAmb	04 17 46.7
	comp=Z,19nm,1.0s					
SML	Sawmill	85.90	334	P	P	04 17 45.3 -0.5
	baz=111					
E27K	Coleen River	85.98	341	IAmb	IAmb	04 17 47.3
	comp=Z,18nm,1.1s					
E27K	Coleen River	85.98	341	P	P	04 17 46.1 0.0
	baz=118					
O22K	Cooper Landing	86.06	332	P	P	04 17 46.1 -0.4
	baz=110					
G26K	Porcupine Rive	86.17	339	P	P	04 17 46.7 -0.2
	baz=116					
PMR	Palmer	86.18	333	P	P	04 17 47.0 0.0
	baz=111					
PRP	Porcupine Dome	86.20	338	IAmb	IAmb	04 17 48.5
	comp=Z,17nm,1.3s					
PRP	Porcupine Dome	86.20	338	P	P	04 17 47.2 -0.1
	baz=114,SNR=9.0					
RC01	Rabbit Creek A	86.28	333	IAmb	IAmb	04 17 48.5
	comp=Z,34nm,1.5s					
RC01	Rabbit Creek A	86.28	333	P	P	04 17 47.1 -0.5
	baz=110,SNR=5.8					
D27M	Malcolm River	86.29	342	P	P	04 17 47.4 -0.2
	baz=119					
BRSE	Bradley Lake S	86.29	331	P	P	04 17 47.5 -0.3
	baz=109					
SLKM	Skilak Lake	86.30	332	IAmb	IAmb	04 17 48.6
	comp=Z,13nm,1.0s					
HDA	Harding Lake	86.31	336	P	P	04 17 47.3 -0.3
	baz=113,SNR=6.0					
ILAR	Eielson Array	86.42	337	P	P	04 17 47.3 -0.9
ILAR	Eielson Array	86.42	337	P	P	04 17 47.8 -0.5
	comp=Z,3.5nm,0.9s,baz=139,slow=3.4,SNR=30					
ILAR				PP	PP	04 21 10.6 +0.6
	comp=Z,2.8nm,1.0s,baz=113,slow=6.5,SNR=11					
ILAR				LR	LR	05 01 29.3
	comp=Z,49nm,18.2s,baz=33,slow=39					
	comp=Z,3.5nm,0.9s					
FYU	Fort Yukon	86.52	339	P	P	04 17 48.6 0.0
KDAK	Kodiak Island	86.58	329	*i* P	P	04 17 47.3 -1.8
KDAK				pmax	pmax	
	comp=Z,68nm,2.4s					
KDAK	Kodiak Island	86.58	329	P	P	04 17 49.0 -0.1
	baz=108					
H25L	Birch Creek	86.61	338	P	P	04 17 49.4 +0.3
	baz=114,SNR=14					
F26K	Sheenjek River	86.62	340	P	P	04 17 49.3 +0.1
	baz=116					
BMAR	Burnt Mountain	86.66	339	P	P	04 17 49.9 +0.5
M22K	Willow	86.68	333	P	P	04 17 50.0 +0.5
	baz=110					
HOM	Homer	86.70	331	P	P	04 17 49.7 0.0
	baz=108					
RND	Reindeer	86.71	335	P	P	04 17 49.5 -0.3
RND				IAmb	IAmb	04 17 51.3
	comp=Z,37nm,1.2s					
RND	Reindeer	86.71	335	P	P	04 17 49.5 -0.3
RND				pmax	pmax	
	comp=Z,37nm,1.2s					
Q20K	Shuyak Island	86.74	330	P	P	04 17 49.2 -0.7
	baz=108					
CCB	Clear Creek Bu	86.74	336	P	P	04 17 49.5 -0.3
POKR	Poker Plat Res	86.77	337	P	P	04 17 49.8 -0.2
	baz=112					
OHAK	Old Harbor	86.78	328	P	P	04 17 49.8 -0.3
	baz=107					
CAPN	Captain Cook N	86.82	332	P	P	04 17 50.0 -0.2
	baz=109					
COLA	College	86.84	337	*i* P	P	04 17 49.3 -0.9
COLA				pmax	pmax	
	comp=Z,16nm,1.5s					
COLA	College	86.84	337	P	P	04 17 49.8 -0.4
	baz=112					
MCK	McKinley	86.86	335	P	P	04 17 50.3 -0.1
	baz=111					
SUA	Susitna One	86.86	333	P	P	04 17 50.5 -0.1
	baz=109,SNR=5.2					
G25K	Bearman Lake	86.92	339	P	P	04 17 51.4 +0.8
	baz=114					
CUT	Chulitna	86.97	334	P	P	04 17 50.9 0.0
	baz=110					
SII	Sitkinak Islan	87.06	328	P	P	04 17 51.3 -0.2
	baz=106					
F25K	Christian Rive	87.10	339	P	P	04 17 51.9 +0.4
	baz=114					
H24K	Noodor Dome	87.22	337	P	P	04 17 51.8 -0.4
	baz=112					
NEA2	Nenana	87.23	336	P	P	04 17 51.7 -0.5
	baz=111,SNR=18					
E25K	Arctic Village	87.29	340	IAmb	IAmb	04 17 54.4
	comp=Z,21nm,1.1s					
E25K	Arctic Village	87.29	340	P	P	04 17 53.0 +0.6
	baz=114,SNR=20					
O20K	Slope Mountain	87.30	331	P	P	04 17 52.5 -0.1
	baz=108					
C27K	Jago River	87.33	342	P	P	04 17 53.0 +0.5
	baz=116					
TRF	Thorofare Moun	87.33	335	P	P	04 17 52.6 -0.3
	baz=110					
SKT	Skwentna	87.39	333	P	P	04 17 53.0 0.0
	baz=109,SNR=23					
EKA	Eskdalemuir Ar	87.39	34	P	P	04 17 53.0 -0.1
	comp=Z,5.0nm,0.8s,baz=246,slow=5.5,SNR=11					
	comp=Z,5.0nm,0.8s					
EKA	Eskdalemuir Ar	87.39	34	P	P	04 17 53.0 -0.1
G24K	Hadweenzic Riv	87.40	338	P	P	04 17 53.5 +0.6
	baz=112					
N20K	Mount Spurr	87.45	332	P	P	04 17 52.8 -0.5
	baz=108,SNR=8.9					
SPCR	Spurr Chakacha	87.45	332	P	P	04 17 52.9 -0.5
	baz=108					
Q19K	Cape Douglas,	87.45	330	P	P	04 17 52.3 -1.1
	baz=107					
P19K	Oil Pt	87.46	331	P	P	04 17 52.9 -0.6
	baz=107					
R18K	Karluk	87.48	329	P	P	04 17 52.9 -0.6
	baz=106					
I23K	Minto, Yukon-K	87.54	337	P	P	04 17 53.4 -0.2
	baz=111,SNR=13					
KTH	Kantishna Hill	87.63	335	IAmb	IAmb	04 17 55.1
	comp=Z,24nm,1.0s					
CHIR	Chirikof Islan	87.64	327	P	P	04 17 53.9 -0.4
	baz=105					
TAM	Tamanrasset	87.68	67	P	P	04 17 56.0 +0.6
TAM	Tamanrasset	87.68	67	P	P	04 17 56.1 +0.6
TAM				pmax	pmax	
	comp=Z,6.0nm,1.0s					
C26K	Camden Bay	87.83	342	P	P	04 17 55.4 +0.5
	baz=115					
BPAW	Bear Paw Mtn.	87.84	335	P	P	04 17 55.1 0.0
	baz=109,SNR=24					
F24K	Squaw Lake	87.86	339	P	P	04 17 55.6 +0.4
	baz=112					
ELIB	Princess Elisa	87.86	162	*d* P	P	04 17 56.2 +0.8
	comp=Z,9.9nm,1.0s					
ELIB				*d* PP	PP	04 21 19.1 -2.2
PPLA	Purkeypile	87.97	334	P	P	04 17 55.9 0.0
	baz=108,SNR=12					
D25K	Kavik River	88.05	341	P	P	04 17 56.6 +0.6
	baz=114,SNR=40					
Q18K	Katmai Hardscr	88.06	330	P	P	04 17 55.9 -0.5
	baz=105					
M20K	Styx River	88.08	333	P	P	04 17 56.3 -0.1
	baz=107,SNR=9.2					
CAST	Castle Rocks	88.08	335	P	P	04 17 56.1 -0.2
	baz=108,SNR=27					
ACHA	Angle Creek He	88.11	329	IAmb	IAmb	04 17 58.7
	comp=Z,15nm,1.2s					
O19K	Port Alsworth	88.14	331	IAmb	IAmb	04 17 56.9
	comp=Z,15nm,1.1s					
O19K	Port Alsworth	88.14	331	P	P	04 17 56.0 -0.6
	baz=106					
E24K	Your Creek	88.28	339	P	P	04 17 57.3 +0.1
	baz=112					
CHUM	Lake Minchumin	88.33	335	P	P	04 17 57.3 -0.1
	baz=108,SNR=12					
G23K	Bananza Creek	88.34	338	P	P	04 17 57.7 +0.2
	baz=110					
P18K	Big Mountain,	88.37	330	P	P	04 17 57.2 -0.5
	baz=105					
N19K	Bonanza Creek	88.39	332	IAmb	IAmb	04 17 58.4
	comp=Z,16nm,0.9s					
N19K	Bonanza Creek	88.39	332	P	P	04 17 57.2 -0.7
	baz=106,SNR=6.1					
O18K	Koktuh Hills	88.48	331	P	P	04 17 57.8 -0.4
	baz=105,SNR=5.5					
L20K	Farewell, AK	88.58	333	P	P	04 17 57.8 -0.9
	baz=106,SNR=12					
H22K	Ishtalitna Cre	88.59	337	P	P	04 17 58.3 -0.4
	baz=109					
COLD	Coldfoot	88.59	338	P	P	04 17 59.3 +0.7
	baz=110,SNR=22					
M19K	Big River Lodg	88.65	333	P	P	04 17 59.3 +0.3
	baz=106,SNR=7.1					
E23K	Chandalar	88.67	339	P	P	04 17 59.4 +0.4
	baz=110					
D24K	Happy Valley	88.79	340	P	P	04 17 59.7 +0.2
	baz=111,SNR=8.8					
TOLK	Toolik Lake Re	88.86	340	IAmb	IAmb	04 18 01.3
	comp=Z,19nm,1.1s					
TOLK	Toolik Lake Re	88.86	340	P	P	04 18 00.3 +0.4
	baz=111,SNR=12					
Q16K	King Salmon	88.90	329	P	P	04 17 59.7 -0.5
	baz=104,SNR=5.3					
P17K	Kvichak River	88.92	330	P	P	04 18 00.1 -0.2
	baz=104					
K20K	Telida	88.92	334	P	P	04 17 59.9 -0.3
	baz=106					
L19K	White Mountain	88.94	333	IAmb	IAmb	04 18 01.0
	comp=Z,21nm,1.1s					
L19K	White Mountain	88.94	333	P	P	04 18 00.0 -0.4
	baz=106					
C24K	Franklin Bluff	88.96	341	P	P	04 18 00.7 +0.4
	baz=111					
N18K	Kilae Creek	89.02	331	P	P	04 18 00.5 -0.3
	baz=105					
H21K	Melozitna Rive	89.07	337	P	P	04 18 00.6 -0.3
	baz=108					
R16K	Pilot Point	89.11	328	P	P	04 17 59.8 -1.4
	baz=103					
J20K	Nowinta River	89.18	335	P	P	04 18 01.4 -0.1
	baz=106					
M18K	Stony River	89.20	332	P	P	04 18 01.1 -0.4
	baz=105					
CHGN	Chignik	89.28	327	P	P	04 18 01.4 -0.6
	baz=102					
D23K	Nanushuk River	89.35	340	P	P	04 18 02.7 +0.6
	baz=110					
O17K	Koliganek Bris	89.38	330	P	P	04 18 02.0 -0.4
	baz=104,SNR=11					
F22K	John River	89.41	338	P	P	04 18 03.0 +0.5
	baz=108					
E22K	Anaktuvuk Pass	89.47	339	P	P	04 18 02.5 -0.2
	baz=108,SNR=25					
I20K	Naaghedeneel	89.50	336	P	P	04 18 02.6 -0.3
	baz=106					
G21K	Alakaket	89.60	337	P	P	04 18 02.7 -0.7
	baz=107					
N17K	Nushagak Hills	89.61	331	P	P	04 18 02.8 -0.7
	baz=104					
CHNA	Chernabura Isl	89.62	325	P	P	04 18 03.7 0.0
	baz=102					
C23K	Itkillik River	89.62	341	P	P	04 18 03.4 0.0
	baz=110					
TTA	Tatalina	89.65	334	P	P	04 18 03.1 -0.7
	baz=105					
P16K	Nushagak River	89.66	330	P	P	04 18 02.7 -1.0
	baz=103					
DAG	Danmarks Havn	89.73	12	*i* P	P	04 18 03.8 0.0
J19K	Poorman	89.76	335	P	P	04 18 03.2 -1.0
	baz=105					
L18K	Granite Mounta	89.78	333	P	P	04 18 03.8 -0.5
	baz=104					
F21K	Alatna River	89.80	338	P	P	04 18 04.0 -0.4
	baz=107					
O16K	Kokwok River B	89.83	330	P	P	04 18 04.1 -0.4
	baz=103					
H20K	Anotleneega Mo	89.85	336	P	P	04 18 04.8 +0.3
	baz=106					
S14K	Fog Glacier	89.89	327	P	P	04 18 05.4 +0.3
	baz=102					
M17K	Holitna River	89.93	332	P	P	04 18 05.5 +0.5
	baz=103					
D22K	Ayikyak River	90.01	340	P	P	04 18 05.5 +0.3
	baz=108					
J18K	Innoko River	90.10	334	P	P	04 18 05.9 +0.2
	baz=104					
SDPT	Sand Point	90.22	326	P	P	04 18 06.7 +0.2
	baz=101					
E21K	Killik River	90.33	339	P	P	04 18 07.1 +0.3
	baz=106					
N16K	Nishlik Lake	90.36	331	P	P	04 18 06.9 -0.1
	baz=102					
GCSA	Galena City Sc	90.48	335	P	P	04 18 07.8 +0.4
	baz=104					
H19K	Roundabout Mou	90.49	336	P	P	04 18 07.9 +0.4
	baz=104					
L17K	Donlin	90.50	333	P	P	04 18 08.4 +0.8
	baz=103					
M16K	Timber Creek	90.56	331	P	P	04 18 08.5 +0.5
	baz=102					
F20K	Avaraart Lake	90.59	338	P	P	04 18 08.6 +0.7
	baz=105					
O15K	Ungalikthiuk R	90.61	329	P	P	04 18 08.6 +0.4
	baz=101					
K17K	Iditarod	90.62	333	P	P	04 18 08.7 +0.5
	baz=103,SNR=5.2					
B22K	Teshekpuk Lake	90.69	341	P	P	04 18 09.0 +0.6
	baz=107,SNR=22					
C21K	Knifeblade Rid	90.81	340	P	P	04 18 09.5 +0.5
	baz=106					
B21K	Ikpikpuk River	90.88	340	P	P	04 18 10.4 +1.1
	baz=106					
G19K	Purcell Mounta	90.90	337	P	P	04 18 10.2 +0.8
	baz=104					
N15K	Kwethluk River	90.94	330	P	P	04 18 10.6 +0.8
	baz=101					
L16K	Owhat River	90.95	332	P	P	04 18 10.8 +1.1
	baz=102					
E20K	Nigu River	91.07	339	P	P	04 18 10.7 +0.4
	baz=104					
J17K	VABM Dome	91.12	334	P	P	04 18 11.5 +1.0
	baz=102					
S12K	Black Hills	91.17	326	P	P	04 18 10.6 -0.3
	baz=100					
H18K	Honhosa River	91.19	335	P	P	04 18 11.2 +0.4
	baz=102					
E19K	Redstone River	91.26	338	P	P	04 18 11.5 +0.4
	baz=104					
F19K	Shaluckik Mo	91.32	337	P	P	04 18 11.7 +0.4
	baz=103					
M15K	Kasigluk River	91.33	331	P	P	04 18 12.0 +0.5
	baz=100					
D20K	Etivluk River	91.34	339	P	P	04 18 12.0 +0.6
	baz=104					
O14K	Tigyukauivet M	91.36	329	P	P	04 18 12.5 +0.8
	baz=100					
A22K	Sinclair Lake	91.38	341	P	P	04 18 12.1 +0.6
	baz=106					
G18K	Tagagawik	91.46	336	P	P	04 18 12.6 +0.5
	baz=102					
N14K	Kuskokwak Cree	91.68	330	P	P	04 18 13.6 +0.5
	baz=100					
J16K	Anvik River	91.77	333	P	P	04 18 13.9 +0.4
	baz=100					
H17K	Granite Mounta	91.78	335	P	P	04 18 14.4 +0.9
	baz=101					
D19K	Kuna River	91.82	339	IAmb	IAmb	04 18 16.0
	comp=Z,20nm,1.2s					
D19K	Kuna River	91.82	339	P	P	04 18 13.9 +0.2
	baz=103					
B20K	Meade River	91.84	340	P	P	04 18 14.1 +0.4
	baz=104					
L15K	Ungalak Mounta	91.89	332	P	P	04 18 14.5 +0.4
	baz=100					
I17K	Unalakleet	91.92	334	P	P	04 18 14.8 +0.7
	baz=100					
M14K	Bethel	91.96	331	P	P	04 18 14.9 +0.5
	baz=99					
A21K	Barrow	91.98	342	P	P	04 18 14.4 +0.1
	baz=104					
F18K	Selawik	92.00	337	P	P	04 18 14.9 +0.4
	baz=101					
K15K	Wolf Creek Mou	92.01	332	P	P	04 18 15.1 +0.5
	baz=100					
L14K	Kuka Creek	92.40	331	P	P	04 18 16.7 +0.3
	baz=99					
NOR	Nord	92.41	8	*i* P	P	04 18 16.8 +0.6
E18K	Tukpahlearik C	92.53	338	P	P	04 18 17.3 +0.3
	baz=100					
M13K	Dall Lake	92.58	330	P	P	04 18 17.6 +0.4
	baz=98					
F17K	Baldwin Pennin	92.60	337	P	P	04 18 18.0 +0.7
	baz=100					
H16K	Elim	92.71	335	P	P	04 18 18.5 +0.6
	baz=99					
G16K	Koyuk River	92.88	335	P	P	04 18 19.2 +0.6
	baz=99					
E17K	Hotham Inlet	92.94	337	P	P	04 18 19.5 +0.7
	baz=99					
C18K	Utukok River	92.96	339	P	P	04 18 18.9 -0.2
	baz=100					
J14K	Nanvaranak Lak	93.01	333	P	P	04 18 19.6 +0.4
	baz=98					
A19K	Wainwright	93.19	340	P	P	04 18 20.7 +0.8
	baz=100					
B18K	Kokolik River	93.30	339	P	P	04 18 21.0 +0.6
	baz=99					
K13K	Kusilvak Mount	93.41	332	P	P	04 18 21.7 +0.6
	baz=97					
UNV	Unalaska Valle	93.47	324	P	P	04 18 21.5 0.0
	baz=96					
RDOG	Red Dog Mine	93.50	338	IAmb	IAmb	04 18 22.3
	comp=Z,8.4nm,0.9s					
D17K	Noatak River	93.51	338	P	P	04 18 22.0 +0.5
	baz=98					
G15K	Niukluk	93.53	335	P	P	04 18 22.3 +0.7
	baz=97					
C17K	DeLong Mountai	93.66	338	P	P	04 18 22.4 +0.3
	baz=98					
F15K	North Star Dit	93.87	336	P	P	04 18 23.5 +0.3
	baz=97					
M11K	Mekoryuk	93.98	330	P	P	04 18 23.9 +0.2
	baz=96					
SYO	Syowa Base	94.00	162	*e* PcP	PcP	04 18 26.0 +1.8
ANM	Nome	94.04	334	P	P	04 18 24.2 +0.2
	baz=96					
DAVA	Damuels	94.08	43	*e* PcP	PcP	04 18 26.1 +0.9
	comp=Z,8.4nm,1.3s					
TSUM	Tsumeb	94.37	110	P	P	04 18 27.2 +0.5
TSUM				IAmb	IAmb	04 18 29.5
	comp=Z,11nm,1.0s					
TSUM	Tsumeb	94.37	110	LR	LR	04 58 35.8
	comp=Z,222nm,19.1s,baz=276,slow=34					
C16K	Lisburne Hills	94.43	338	IAmb	IAmb	04 18 27.0
	comp=Z,8.4nm,0.9s					
C16K	Lisburne Hills	94.43	338	P	P	04 18 26.0 +0.4
	baz=96					
F14K	Arctic Creek	94.54	335	P	P	04 18 27.0 +0.8
	baz=95					
FETA	Feichten	94.63	43	*e* P	P	04 18 27.4 +0.1
	comp=Z,6.5nm,1.6s					
RETA	Reutte	94.69	43	*e* P	P	04 18 27.9 +0.5
	comp=Z,5.5nm,1.2s					
SQTA	Sankt Quirin	94.97	43	*e* P	P	04 18 29.1 +0.3
	comp=Z,7.9nm,1.2s					
SUR	Sutherland	95.07	123	LR	LR	05 01 21.0
	comp=Z,98nm,18.2s,baz=308,slow=36					
WTTA	Wattenberg	95.27	43	*e* PcP	P	04 18 30.8 +0.6
	comp=Z,9.5nm,1.6s					
ABTA	Abfaltersbach	95.84	44	*e* PcP	P	04 18 33.6 +0.8
	comp=Z,3.8nm,0.9s					
SPIA	Saint Paul Isl	95.85	327	P	P	04 18 33.5 +1.2
	baz=93					
LESA	Schwarzleotal	95.98	43	*e* PcP	P	04 18 34.4 +1.1
	comp=Z,8.1nm,1.4s					
KBA	Koelnbreinsper	96.42	43	*e* PcP	P	04 18 36.9 +1.4
	comp=Z,5.1nm,1.2s					
BIOA	Bad Ischl, Aus	96.64	43	*e* P	P	04 18 36.6 +0.3
	comp=Z,4.2nm,1.0s					
URZ	Urewera	96.66	230	LR	LR	04 52 59.9
	comp=Z,115nm,19.7s,baz=291,slow=30					
KHC	Kasperske Hory	96.66	41	*i* P	P	04 18 35.8 -0.5
KHC				pmax	pmax	
	comp=Z,17nm,1.5s					
GAMB	Gambell	96.76	333	P	P	04 18 37.2 +0.9
	baz=91					
BRG	Berggiesshubel	96.95	40	*e* P	P	04 18 39.6 +2.0
BRG				Amp		04 18 41.2
	comp=Z,2.8nm,0.8s					
MOA	Molln	97.07	43	*e* PcP	Pdif	04 18 39.5 +1.2
	comp=Z,6.0nm,0.9s					
OBKA	Obir	97.23	44	*e* PcP	Pdif	04 18 39.6 +0.5
	comp=Z,7.8nm,1.3s					
ARSA	Arzberg	97.91	43	*e* PcP	Pdif	04 18 42.8 +0.7
	comp=Z,6.3nm,1.5s					
CONA	Conrad Observa	98.15	43	*e* PcP	Pdif	04 18 44.4 +1.2
	comp=Z,7.1nm,1.6s					
MODS	Modra-Piesok	99.10	42	*i* P	Pdif	04 18 48.9 +1.6
MODS				*e*		04 22 52.2
MODS	Modra-Piesok	99.10	42	*e* PDIFF	Pdif	04 18 48.9 +1.6
MODS				*e* PP	PP	04 22 52.2 +2.3
BOSA	Boshof	99.59	120	LR	LR	05 00 07.9
	comp=Z,116nm,21.2s,baz=276,slow=33					
MNK	Minsk	105.12	35	*i* P	Pdif	04 19 12.6 -1.3
MNK				*i*		04 23 33.9
MNK				*i* PPP	PPP	04 25 48.2
MNK				*i*		04 30 36.0
MNK				*i* SS	SS	04 38 27.7 +0.7
MNK				*i* SSS	SSS	04 42 26.9
MNK				MLR	MLR	
	comp=N,610nm,21.0s					
MNK				MLR	MLR	
	comp=E,644nm,18.0s					
BRTR	Keskin Array B	111.65	50	*i* PKIKP	PKiKP	04 23 42.0 +0.9
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
H11N3	WAKE ISLAND Hyl	14.52	289	T	T	06 27 27.1
	baz=90					
H11N2	WAKE ISLAND Hyl	14.53	289	T	T	06 27 28.1
	baz=90					
H11N1	WAKE ISLAND Hyl	14.54	289	T	T	06 27 29.3
	baz=90					
H11S2	WAKE ISLAND Hyl	14.75	287	T	T	06 27 41.5
	baz=89					
H11S1	WAKE ISLAND Hyl	14.76	287	T	T	06 27 41.6
	baz=89					
H11S3	WAKE ISLAND Hyl	14.77	287	T	T	06 27 43.5
	baz=89					
KBZ	Khabaz	117.38	44	PKP	PKiKP	04 23 52.0 +0.3
	comp=Z,3.6nm,0.8s,baz=240,slow=2.8,SNR=6.8					
RAYN	Ar Rayn	124.36	66	PKPdf	PKiKP	04 24 06.3 +0.1
RAYN	Ar Rayn	124.36	66	PKIKP	PKiKP	04 24 06.3 +0.1
STKA	Stephens Creek	125.54	223	PKP	PKPdf	04 24 07.6 -0.2
	comp=Z,3.1nm,0.6s,baz=64,slow=1.0,SNR=9.0					
YSS	Yuzhno-Sakhali	125.89	326	PKIKP	PKPdf	04 24 07.0 -1.0
BRVK	Borovoye	127.26	23	PKPdf	PKiKP	04 24 11.4 +0.4
BRVK	Borovoye	127.26	23	*i* PKIKP	PKPdf	04 24 09.8 -0.7
BVAR	Borovoye Array	127.32	23	PKP	PKiKP	04 24 11.0 -0.1
	comp=Z,2.9nm,0.7s,baz=270,slow=1.0,SNR=12					
BVAR	Borovoye Array	127.32	23	PKIKP	PKiKP	04 24 11.0 -0.1
KLR	Kul'dur	129.93	334	*i* PKIKP	PKPdf	04 24 13.3 -2.4
ZALV	Zalesovo Beam	130.86	12	PKP	PKPdf	04 24 17.4 +0.1
	comp=Z,24nm,0.8s,baz=318,slow=2.0,SNR=62					
KURK	Kurchatov	132.13	19	PKPdf	PKiKP	04 24 20.6 -0.2
KURK	Kurchatov	132.13	19	*i* PKIKP	PKiKP	04 24 20.9 +0.1
KURBB	Kurchatov Arra	132.18	19	PKP	PKiKP	04 24 20.4 -0.6
	comp=Z,7.9nm,0.9s,baz=318,slow=2.4,SNR=40					
KURBB				SKPbc	SKPab	04 27 47.6 +3.3
	comp=Z,0.4nm,0.6s,baz=329,slow=3.4,SNR=2.3					
USRK	Ussuriysk Ar.	133.46	329	PKP	PKPdf	04 24 22.6 +0.1
	comp=Z,2.4nm,0.6s,baz=337,slow=0.8,SNR=5.9					
MJAR	Matsushiro Arr	134.48	317	PKP	PKPdf	04 24 24.2 -0.5
	comp=Z,2.9nm,0.7s,baz=108,slow=1.1,SNR=5.0					
MOY	Mondy	134.87	360	*e* PKIKP	PKPdf	04 24 25.6 +0.5
MOY				pmax	pmax	
	comp=Z,14nm,2.3s					
AS31	Alice Springs	135.93	226	PKPdf	PKPdf	04 24 27.5 -0.3
ASAR	Alice Springs	135.93	226	PKhKP	PKPpre	04 24 16.8
	comp=Z,0.4nm,0.4s,baz=121,slow=3.5,SNR=7.6					
ASAR				PKP	PKPdf	04 24 27.6 -0.2
	comp=Z,4.7nm,0.9s,baz=125,slow=2.3,SNR=23					
ASAR				PP	PP	04 27 03.5 -2.7
	comp=Z,1.9nm,1.0s,baz=126,slow=5.4,SNR=5.4					
ASAR				SKPbc	SKPab	04 28 01.9 +0.2
	comp=Z,0.4nm,0.8s,baz=108,slow=1.9,SNR=1.9					
ZAK	Zakamensk	136.10	358	*e* PKIKP	PKPdf	04 24 27.6 +0.2
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.0s					
MAKZ	Makanchi	136.62	19	PKPdf	PKPdf	04 24 28.3 -0.1
MAKZ	Makanchi	136.62	19	PKIKP	PKPdf	04 24 28.3 -0.1
MK31	Makanchi Array	136.73	18	*i* PKIKP	PKPdf	04 24 26.8 -1.8
MKAR	Makanchi Array	136.73	18	PKPdf	PKPdf	04 24 28.7 +0.1
MKAR	Makanchi Array	136.73	18	PKhKP	PKPpre	04 24 16.4
	comp=Z,0.1nm,0.3s

MKAR	**Makanchi Array**	**136.73**	**18**	*e*PKIKP	**PKPdf**	**04 24 28.9**	**+0.3**
MKAR				pmax	pmax		
comp=Z,7.0nm,0.9s							
SIMJ	**Simiganj**	**136.95**	**37**	PKPdf	**PKPdf**	**04 24 29.1**	**-0.3**
AAK	**Ala-Archa**	**137.10**	**29**	PKPdf	**PKiKP**	**04 24 30.6**	**-0.8**
AAK	**Ala-Archa**	**137.10**	**29**	*i* PKIKP	**PKPdf**	**04 24 30.1**	**+0.5**
WB2	**Warramunga Arr**	**137.82**	**231**	PKPdf	**PKPdf**	**04 24 31.3**	**-0.1**
WRAB	**Tennant Creek**	**137.82**	**231**	*i* PKIKP	**PKPdf**	**04 24 30.1**	**-1.3**
WRA	**Warramunga Arr**	**137.82**	**231**	PKP	**PKPdf**	**04 24 31.3**	**-0.1**
comp=Z,5.5nm,0.4s,baz=121,slow=1.9,SNR=5.1							
WRA	**Warramunga Arr**	**137.82**	**231**	*e*PKIKP	**PKPdf**	**04 24 28.7**	**-2.7**
WRA				pmax	pmax		
comp=Z,6.0nm,0.4s							
WB0	**Warramunga Arr**	**137.88**	**231**	PKPdf	**PKPdf**	**04 24 31.6**	**+0.1**
ULN	**Ulaanbaatar**	**138.32**	**354**	*i* PKIKP	**PKPdf**	**04 24 30.3**	**-1.4**
SONM	**Songino Array**	**138.42**	**354**	PKhKP	PKPpre	04 24 20.6	
comp=Z,1.6nm,0.7s,baz=347,slow=2.3,SNR=8.7							
SONM				PKP	**PKPdf**	**04 24 32.2**	**+0.4**
comp=Z,7.0nm,0.9s,baz=307,slow=0.9,SNR=19							
SONM				PP	**PP**	**04 27 16.8**	**-3.9**
comp=Z,1.0nm,1.1s,baz=352,slow=7.3,SNR=4.0							
KSH	**Kashi**	**140.20**	**30**	PKP	**PKiKP**	**04 24 37.3**	**-0.5**
KSRS	**Korea Array**	**140.39**	**325**	PKhKP	PKPpre	04 24 25.8	
comp=Z,0.5nm,0.4s,baz=144,slow=40,SNR=3.0							
KSRS				PKP	**PKPdf**	**04 24 35.8**	**+0.3**
comp=Z,8.4nm,0.9s,baz=44,slow=0.8,SNR=14							
KSAR	**Wonju Array Be**	**140.42**	**325**	PKPdf	**PKPdf**	**04 24 35.5**	**0.0**
KSAR	**Wonju Array Be**	**140.42**	**325**	PKIKP	**PKPdf**	**04 24 35.6**	**0.0**
WMQ	**Urumqi**	**141.00**	**15**	PKP	**PKiKP**	**04 24 38.0**	**-1.2**
WMQ				PP	**PP**	**04 27 44.0**	**+7.4**
WMQ				AMB	AMB		
comp=Z,160nm,5.5s							
BJI	**Beijing**	**143.73**	**340**	PKP	PKPab	04 24 38.4	+0.2
HHC	**Hu-ho-hao-te**	**144.34**	**346**	*e*PKP	PKPbc	04 24 41.3	+0.3
KNRA	**Kununurra**	**144.61**	**231**	PKPdf	PKPbc	04 24 42.6	+0.2
BTO	**Baotou**	**144.93**	**348**	*e*PKP	**PKPab**	**04 24 40.7**	**-2.1**
BTO				LR	LR		
comp=Z,220nm,7.5s							
PSA00	**Pilbara Seismi**	**146.47**	**214**	PKPab	**PKPbc**	**04 24 47.4**	**-0.6**
HNS	**HongShan**	**146.61**	**340**	⇓PKPbc	**PKPdf**	**04 24 47.1**	**+0.7**
TIA	**Tai'an**	**146.73**	**335**	PKPbc	**PKPdf**	**04 24 47.5**	**+0.8**
MBWA	**Marble Bar**	**146.87**	**214**	PKPab	**PKPbc**	**04 24 48.9**	**-0.3**
GTA	**Gaotai**	**147.12**	**1**	*e*PKPbc	**PKPdf**	**04 24 47.9**	**+0.5**
GTA				pPKP	pPKPbc	04 25 03.1	+0.5
NJ2	**Nanjing**	**149.37**	**329**	*e*PKPbc	**PKPbc**	**04 24 54.8**	**-0.7**
GOMU	**GeErMu**	**149.84**	**10**	PKPbc	**PKPdf**	**04 24 53.2**	**+0.9**
LYN	**LuoYang**	**149.95**	**340**	PKP	**PKPbc**	**04 24 56.8**	**-0.1**
LZH	**Lanzhou**	**150.31**	**355**	⇑PKP	**PKiKP**	**04 24 58.6**	**-0.1**
LZH				pPKP	sPKPdf	04 25 09.7	-1.1
XAN	**Xi'an**	**151.46**	**346**	PKP	**PKPbc**	**04 25 00.4**	**-0.1**
XAN				PKPab	**PKPab**	**04 25 08.7**	**-0.1**
XAN				pPKP	sPKPdf	04 25 11.4	-1.1
SOEI	**Soe**	**151.58**	**236**	PKPdf	**PKPdf**	**04 24 52.0**	**-3.2**
KAAM	**Kaadhehdhoo**	**151.72**	**101**	PKPdf	**PKPdf**	**04 24 51.8**	**-3.5**
WHN	**Wuhan**	**152.77**	**334**	PKPbc	PKPab	04 25 23.2	+8.9
CD2	**Chengdu**	**155.44**	**354**	PKP	**PKPdf**	**04 24 58.5**	**-1.7**
HYB	**Hyderabad**	**155.73**	**61**	*e*PKPdf	**PKPdf**	**04 24 59.0**	**-2.0**
HYB				*e*pPKPdf	**pPKPdf**	**04 25 12.2**	**-1.9**
PZH	**PanZhiHua**	**159.97**	**357**	PKP	**PKPdf**	**04 25 04.2**	**-1.9**
PZH				PKPab	**PKPab**	**04 25 45.1**	**-0.3**
CHTO	**Chiang Mai**	**167.53**	**8**	PKPab	**PKPab**	**04 26 15.5**	**-3.1**
CHTO	**Chiang Mai**	**167.53**	**8**	PKP2	**PKPab**	**04 26 15.5**	**-3.1**
CMAR	**Chiang Mai Arr**	**167.88**	**8**	PKP	**PKPdf**	**04 25 13.5**	**+0.2**
comp=Z,2.0nm,0.3s,baz=298,slow=1.9,SNR=28							
CMAR				PKPab	**PKPab**	**04 26 19.8**	**-0.3**
comp=Z,8.0nm,0.8s,baz=332,slow=5.1,SNR=18							
CMAR				PP	**PP**	**04 30 06.2**	**-1.0**
comp=Z,1.0nm,0.3s,baz=0.1,slow=5.1,SNR=6.2							

UPA ***07*** *04:15:51.5±0.9, 8.°22N×77.°82W, h6km±6km, ML3.9, MW4.3*
RSNC ***07*** *04:15:52.3±0.0, 8.°N±2.°×7.°8W±.°, h5km±6km, M2.3, ML2.2*
ISC 07 04:15:50.4±1.3, 8.°26N±0.°04×77.°79W±0.°03, h12km±12km, n17, σ1§15/30, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.36**	**322**	⇓*i* P	**Pn**	**04 16 00.3**	**-1.3**
UPD2				AMP		04 16 00.3	
comp=Z,20μm,0.1s							
UPD2				*e*S	**Sb**	**04 16 05.7**	**+1.2**
CAPC	**Capurgana**	**0.57**	**49**	P	**Pb**	**04 16 01.9**	**-0.5**
CAPC				S	**Sg**	**04 16 09.1**	**-0.1**
PTAC	**Punta Ardita,**	**1.10**	**181**	*e*P	**Pn**	**04 16 11.1**	**-0.6**
PTAC				AMP		04 16 13.4	
comp=Z,5μm,0.1s							
PTAC				*e*S	**Sn**	**04 16 26.7**	**-0.2**
PTAC	**Punta Ardita,**	**1.10**	**181**	P	**Pn**	**04 16 11.2**	**-0.6**
APAC	**Apartado, Choc**	**1.25**	**106**	P	**Pg**	**04 16 14.6**	**+0.1**
APAC				S	**Sg**	**04 16 32.5**	**+1.8**
CNTA3	**Canitas, Panam**	**1.45**	**311**	*e*P	**Pb**	**04 16 16.9**	**-0.5**
CNTA3				AMP		04 16 18.2	
comp=Z,526nm,0.1s							
CNTA3				*e*S	**Sb**	**04 16 36.6**	**+0.8**
LCBC	**Los crdobas,**	**1.52**	**67**	P	**Pb**	**04 16 18.6**	**-0.1**
LCBC				S	**Sg**	**04 16 39.7**	**+0.1**
CHPO	**Chepo, Panama**	**1.59**	**305**	*e*P	**Pb**	**04 16 19.4**	**-0.5**
CHPO				*e*S	**Sb**	**04 16 39.9**	**0.0**
UPA	**Univ. de Panam**	**1.87**	**293**	*e*P	**Pn**	**04 16 22.8**	**+0.5**
UPA				*e*S	**Sb**	**04 16 47.9**	**-0.1**
DBBC	**Dabeiba**	**1.99**	**128**	P	**Pb**	**04 16 25.5**	**-1.2**
BCIP	**Isla Barro Col**	**2.22**	**294**	*e*P	**Pn**	**04 16 27.7**	**+0.7**
BCIP				*e*S	**Sn**	**04 16 56.1**	**+1.7**
BCIP	**Isla Barro Col**	**2.22**	**294**	P	**Pn**	**04 16 27.5**	**+0.4**
BCIP				S	**Sb**	**04 16 57.5**	**-0.4**
AZU	**Azuero**	**2.51**	**260**	*e*P	**Pn**	**04 16 32.1**	**+1.0**
AZU				*e*S	**Sn**	**04 17 02.0**	**+0.5**
AZU	**Azuero**	**2.51**	**260**	P	**Pb**	**04 16 33.2**	**-2.2**
CBOC	**Ciudad Bolivar**	**2.96**	**143**	P	**Pn**	**04 16 39.1**	**+1.7**
SJCC	**San Jacinto, C**	**3.05**	**58**	P	**Pb**	**04 16 41.6**	**-3.1**
SJCC				S	**Sn**	**04 17 14.6**	**-0.4**
PTBC	**PUERTO BERRIO,**	**3.72**	**117**	P	**Pn**	**04 16 49.0**	**+1.3**
PTBC				S	**Sn**	**04 17 30.7**	**-0.8**

IDC 07 04:33:19.6±3.4, 32.°88S×177.°50W, h0km, mb3.5/2, mbtmp3.5/3, ML2.9/1, MS3.7/3, Error ellipse: s-maj=88.1km s-min=48.9km az=129.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.93**	**218**	Pn	Pn	04 35 02.0	-0.4
0.2nm,0.3s,baz=75,slow=21,SNR=1.1 2.9nm,0.7s							
ASAR	**Alice Springs**	**43.46**	**269**	P	P	04 41 25.4	+0.8
0.3nm,0.3s,baz=101,slow=7.9,SNR=2.1 0.3nm,0.3s							
WRA	**Warramunga Arr**	**44.67**	**274**	P	P	04 41 33.6	-0.8
0.2nm,0.3s,baz=113,slow=7.5,SNR=4.7 0.2nm,0.3s							
FITZ	**Fitzroy Crossi**	**52.82**	**272**	LR	LR	05 05 01.3	
comp=Z,56nm,21.1s,baz=85,slow=36							
JHJ	**Hachijo jima 2**	**77.00**	**324**	LR	LR	05 20 40.8	
comp=Z,89nm,18.0s,baz=20,slow=37							
JNU	**Nakatsue**	**81.69**	**318**	LR	LR	05 17 39.5	
comp=Z,39nm,21.7s,baz=7.0,slow=33							
FINES	**FINESS Array B**	**147.61**	**339**	PKPbc	PKPbc	04 53 04.4	-0.7
1.8nm,0.9s,baz=47,slow=5.3,SNR=4.4							

DNK ***07*** *05:08:54.4±1.8, 83.°91N×0.°44E, h0km±110km, ML1.7*
BER ***07*** *05:08:54.6±1.6, 84.°03N×0.°95E, h0km±110km, mb(Pn)3.5, Confirmed Earthquake*
ISC 07 05:08:57.0±4.2, 83.°7N±0.°3×0.°3E±0.°1, h10km, n13, σ0§54/19, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.00**	**235**	*e*P	**Pn**	**05 09 44.8**	**+0.4**
NOR	**Nord**	**3.00**	**235**	*e*P	**Pn**	**05 09 43.7**	**-0.7**
KBS	**Kingsbay**	**5.07**	**154**	*e*P	**Pn**	**05 10 13.4**	**+0.6**
KBS				*e*S	**Sn**	**05 11 11.4**	**+0.1**
KBS				IAML		05 11 18.9	
comp=Z,3.5nm,0.7s							
KBS	**Kingsbay**	**5.07**	**154**	*e*P	**Pn**	**05 10 13.4**	**+0.6**
KBS				*e*S	**Sn**	**05 11 11.4**	**+0.1**
KBS				IAML		05 11 18.9	
comp=Z,3.5nm,0.7s							
BRBB	**Barentsburg B**	**6.00**	**151**	*e*P	**Pn**	**05 10 25.1**	**-0.4**
BRBB				*e*S	**Sn**	**05 11 33.4**	**-0.7**
BRBB	**Barentsburg B**	**6.00**	**151**	*e*P	**Pn**	**05 10 25.1**	**-0.4**
BRBB				*e*S	**Sn**	**05 11 33.4**	**-0.7**
SPA0	**Spitsbergen Ar**	**6.04**	**147**	*e*P	**Pn**	**05 10 26.9**	**+0.7**
SPA0				*e*S	**Sn**	**05 11 35.1**	**-0.1**
SPA0				IAML		05 11 43.1	
comp=Z,2.6nm,0.9s							
SPA0	**Spitsbergen Ar**	**6.04**	**147**	*e*P	**Pn**	**05 10 26.9**	**+0.7**
SPA0				*e*S	**Sn**	**05 11 35.1**	**-0.1**
SPA0				IAML		05 11 43.1	
comp=Z,2.6nm,0.9s							
HSPB	**Hornsund (broa**	**7.13**	**151**	*e*P	**Pn**	**05 10 41.0**	**-0.1**
HSPB	**Hornsund (broa**	**7.13**	**151**	*e*P	**Pn**	**05 10 41.0**	**-0.1**
DAG	**Danmarks Havn**	**7.57**	**215**	*e*P	**Pn**	**05 10 47.5**	**+0.4**
DAG	**Danmarks Havn**	**7.57**	**215**	*i* P	**Pn**	**05 10 48.0**	**+0.9**
DBG	**Daneborg**	**10.07**	**213**	*e*P	**Pn**	**05 11 20.9**	**-0.4**

SJA ***07*** *05:10:32.5±0.7, 38.°56S×68.°83W, h7km, ML4.9, MW4.6*
GUC ***07*** *05:10:33.4±0.7, 38.°60S×68.°97W, h14km±29km, ML4.7*
IDC ***07*** *05:10:34.4±0.8, 38.°50S×68.°88W, h0km, mb4.3/6, mbtmp4.3/8, ML4.3/2, MS4.1/28, Error ellipse: s-maj=31.1km s-min=11.9km az=114.0*
VAO ***07*** *05:10:35.8±0.4, 38.°67S×68.°73W, h10km, mb4.3*
NEIC ***07*** *05:10:37.1±1.7, 38.°52S±0.°05×68.°86W±0.°09, h14km±4km, mb4.8/37, Mww5.0/11, Error ellipse: s-maj=9.7km s-min=7.5km az=103.0*
NEIC ***07*** *05:10:37.3, 38.°52S×68.°86W, h12km*
NEIC ***07*** *05:10:37.3, 38.°62S×69.°00W, h12km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}0.47; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-1.40; $M_{r\theta}$0.98; $M_{\theta\phi}$-0.97; $M_{\phi r}$3.39; Fault plane solution: $M_0$3.71000×10^{16} NP1: ϕ_s219.37000°, δ9.49000°, λ114.34000°. NP2: ϕ_s14.72000°, δ81.36000°, λ86.06000°. Principal axes: T 3.0755, Plg53.0000°, Azm280.0000°; N 1.2661, Plg4.0000°, Azm15.0000°; P -4.3416, Plg36.0000°, Azm108.0000°;*
GCMT ***07*** *05:10:38.1±0.4, 38.°58S±0.°02×68.°93W±0.°03, h12km, MW4.8/72, Moment Tensor Solution. s9,c12; s72,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.13±.09; $M_{\theta\theta}$0.60±.07; $M_{\phi\phi}$-1.73±.08; $M_{r\theta}$0.85±.23; $M_{\theta\phi}$-1.36±.07; $M_{\phi r}$0.55±.24; Best double couple: $M_0$2.18600×10^{16} NP1: ϕ_s167.00000°, δ48.00000°, λ28.00000°. NP2: ϕ_s57.00000°, δ70.00000°, λ134.00000°. Principal axes: T 1.8150, Plg46.0000°, Azm12.0000°; N 0.7440, Plg41.0000°, Azm218.0000°; P -2.5570, Plg13.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 05:10:35.0±0.4, 38.°57S±0.°03×68.°92W±0.°04, h10km, n169, σ1§94/169, mb4.8/23, MS4.1/27, 2C-1D, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**2.23**	**242**	*e*P	**Pn**	**05 11 12.1**	**-0.1**
GO06				*e*S	**Sn**	**05 11 40.7**	**+0.8**
GO06				IAML		05 11 50.3	
comp=N,3μm,0.4s							
LC01	**Cunco**	**2.34**	**261**	*e*P	**Pn**	**05 11 13.7**	**+0.2**
PLCA	**Paso Flores**	**2.50**	**210**	Pn	**Pb**	**05 11 17.5**	**-2.6**
PLCA				Sn	**Sb**	**05 11 49.8**	**-1.2**
PLCA	**Paso Flores**	**2.50**	**210**	Pn	**Pn**	**05 11 16.7**	**+0.8**
comp=N,24nm,0.3s,baz=21,slow=12,SNR=249							
PLCA				Pg	**Pb**	**05 11 20.6**	**+0.5**
comp=N,83nm,0.3s,baz=32,slow=17,SNR=74							
PLCA				Sn	**Sb**	**05 11 50.3**	**-0.7**
comp=N,222nm,0.3s,baz=293,slow=22,SNR=6.1							
PLCA				LR	LR	05 11 54.5	
comp=N,574nm,19.7s,baz=26,slow=31							
PLCA				Lg	Lg	05 11 57.5	
comp=N,214nm,0.3s,baz=136,slow=18,SNR=5.2 comp=N,176nm,0.4s							
PLCA	**Paso Flores**	**2.50**	**210**	*e*P	**Pn**	**05 11 16.6**	**+0.8**
PLCA				*i* S	**Sb**	**05 11 52.7**	**+1.6**
PLCA	**Paso Flores**	**2.50**	**210**	*e*P	**Pn**	**05 11 16.2**	**+0.3**
BI02	**San Fabin de**	**2.67**	**315**	Pn	**Pn**	**05 11 18.9**	**+0.8**
BI02	**San Fabin de**	**2.67**	**315**	⇑*e*P	**Pn**	**05 11 18.6**	**+0.5**
BI02				*e*S	**Sb**	**05 11 55.5**	**-0.2**
BI02				IAML		05 12 03.4	
comp=N,5μm,0.6s							
BI02	**San Fabin de**	**2.67**	**315**	⇑*e*P	**Pn**	**05 11 18.7**	**+0.6**
BI02				AMPN		05 11 18.8	
comp=Z,164nm,0.4s							
BI02				*e*S	**Sb**	**05 11 56.7**	**+1.0**
BI02				AMSN		05 11 57.3	
comp=Z,10μm,1.4s							
BI02				AMSN		05 11 57.7	
comp=Z,12μm,0.6s							
EDS3	**Malargue**	**2.82**	**352**	⇓*e*P	**Pn**	**05 11 21.0**	**+0.8**
EDS3				*e*S	**Sn**	**05 11 53.9**	**-0.4**
EDS3				*e*Sg	**Sg**	**05 12 04.0**	**-1.6**
LR03	**Panguipulli**	**2.87**	**247**	Pn	**Pn**	**05 11 22.5**	**+1.7**
LR03	**Panguipulli**	**2.87**	**247**	*e*P	**Pb**	**05 11 24.7**	**-1.7**
LR03				AMPN		05 11 25.1	
comp=Z,320nm,0.4s							
LR03				*e*S	**Sb**	**05 12 03.5**	**+2.0**
LR03				AMSN		05 12 03.5	
comp=Z,5μm,0.5s							
LR03				AMSN		05 12 03.9	
comp=Z,13μm,0.7s							
LR05	**Currie**	**2.91**	**234**		**Pn**	**05 11 23.0**	**+1.6**
LR05	**Currie**	**2.91**	**234**	*e*P	**Pn**	**05 11 22.8**	**+1.4**
LR05				*e*S	**Sb**	**05 12 00.9**	**-1.7**
LR05				IAML		05 12 11.9	
comp=E,3μm,0.7s							
LR05	**Currie**	**2.91**	**234**	*e*P	**Pn**	**05 11 22.8**	**+1.4**
LR05				*e*S	**Sg**	**05 12 06.1**	**-2.4**
ML02	**Panimavida**	**3.44**	**324**	Pn	**Pn**	**05 11 29.7**	**+1.1**
ML02	**Panimavida**	**3.44**	**324**	*e*P	**Pn**	**05 11 30.4**	**+1.8**
ML02				IAML		05 12 25.8	
comp=N,2μm,0.6s							
ML02	**Panimavida**	**3.44**	**324**	*e*P	**Pn**	**05 11 30.5**	**+1.8**
ML02				*i* S	**Sb**	**05 12 21.1**	**+3.3**
LC02	**Puerto Saavedr**	**3.50**	**265**		**Pn**	**05 11 31.6**	**+2.1**
LC02	**Puerto Saavedr**	**3.50**	**265**	*e*P	**Pn**	**05 11 31.6**	**+2.1**
LC02				*e*S	**Sg**	**05 12 25.6**	**-1.9**
LL04	**Puerto Octay**	**3.57**	**228**		**Pn**	**05 11 31.9**	**+1.6**
LL04	**Puerto Octay**	**3.57**	**228**	*e*P	**Pb**	**05 11 35.8**	**-2.3**
LL04				*e*S	**Sb**	**05 12 20.6**	**-0.9**
LL04	**Puerto Octay**	**3.57**	**228**	*e*P	**Pb**	**05 11 38.3**	**+0.1**
LL04				*e*S	**Sb**	**05 12 24.5**	**+3.0**
LL03	**Petrohue**	**3.71**	**225**		**Pn**	**05 11 34.5**	**+2.1**
LL03	**Petrohue**	**3.71**	**225**	*e*P	**Pb**	**05 11 40.1**	**-0.6**
LL03				*e*S	**Sg**	**05 12 33.4**	**-0.8**
LR04	**Corral**	**3.74**	**248**		**Pn**	**05 11 35.5**	**+2.7**
LR04	**Corral**	**3.74**	**248**	*e*P	**Pn**	**05 11 36.3**	**+3.5**
LR04				*e*S	**Sb**	**05 12 28.1**	**+1.6**
RFA	**San Rafael**	**3.81**	**6**	*e*P	**Pn**	**05 11 34.7**	**+1.0**
RFA				*e*S	**Sg**	**05 12 34.3**	**-3.0**
RFA				*e*Sg	**Sb**	**05 12 34.4**	**+5.9**
RFA				IAML		05 12 51.6	
comp=Z,1μm,0.9s							
BI05	**Punta Hualpn**	**3.85**	**297**		**Pn**	**05 11 35.7**	**+1.5**
BI05	**Punta Hualpn**	**3.85**	**297**	*e*P	**Pn**	**05 11 35.7**	**+1.5**
BI04	**Isla Mocha**	**3.90**	**271**	*e*S	**Sg**	**05 12 36.8**	**-3.5**
BI04				*e*P	**Sg**	**05 12 36.8**	**-3.5**
BO02	**Sierra Bellavi**	**4.05**	**338**	Pn	**Pn**	**05 11 38.0**	**+0.8**
BO02	**Sierra Bellavi**	**4.05**	**338**	*e*P	**Pn**	**05 11 38.8**	**+1.6**
BO02				*e*S	**Sg**	**05 12 40.6**	**-4.6**
LL05	**Los Muermos**	**4.50**	**230**		**Pn**	**05 11 45.9**	**+2.6**
BO01	**Tunca**	**4.52**	**337**	Pn	**Pn**	**05 11 46.0**	**+2.5**
BO01	**Tunca**	**4.52**	**337**	*e*P	**Pn**	**05 11 47.2**	**+3.7**
BO01				*e*S	**Sg**	**05 12 57.7**	**-2.4**
LL01	**San Ignacio de**	**4.65**	**214**		**Pn**	**05 11 48.2**	**+3.0**
LL01	**San Ignacio de**	**4.65**	**214**	*e*P	**Pn**	**05 11 48.2**	**+3.0**
BO04	**La Punta**	**4.77**	**343**		**Pn**	**05 11 48.3**	**+1.3**
LMEL	**Las Melosas**	**4.82**	**347**		**Pn**	**05 11 49.7**	**+1.8**
MT13	**San Alfonso**	**4.94**	**347**		**Pn**	**05 11 52.0**	**+2.7**
MT01	**Popeta**	**5.06**	**337**		**Pn**	**05 11 52.9**	**+2.0**
MT09	**Talagante**	**5.07**	**340**		**Pn**	**05 11 53.4**	**+2.3**
LL06	**Loncomilla**	**5.12**	**223**		**Pn**	**05 11 52.7**	**+1.0**
LL02	**Futaleuf**	**5.12**	**205**	Pn	**Pn**	**05 11 54.3**	**+2.5**
MT08	**Bocatoma Ro**	**5.19**	**350**		**Pn**	**05 11 55.7**	**+2.7**
MT03	**Universidad Ad**	**5.22**	**345**	Pn	**Pn**	**05 11 55.2**	**+1.9**
MT16	**CCHEN**	**5.29**	**345**		**Pn**	**05 11 56.4**	**+2.2**
VA05	**Santo Domingo**	**5.37**	**335**		**Pn**	**05 11 57.0**	**+1.9**
MT05	**Renca**	**5.37**	**343**	Pn	**Pn**	**05 11 57.6**	**+2.4**
TRQA	**Tornquist**	**5.48**	**87**	Pn	**Pn**	**05 11 56.9**	**+0.2**
LL07	**Hotel Espejo d**	**5.49**	**218**	Pn	**Pn**	**05 11 59.4**	**+2.6**
MT02	**Curacav**	**5.59**	**341**		**Pn**	**05 12 00.0**	**+1.7**
PEL	**Peldehue**	**5.60**	**345**	Pn	**Pn**	**05 12 00.0**	**+1.6**
ARCO	**CERRO ARCO**	**5.71**	**360**	IAML		05 13 48.8	
comp=Z,210nm,0.4s							
GO07	**Milladeo Hill,**	**5.79**	**217**		**Pn**	**05 12 04.3**	**+3.4**
VA03	**San Esteban**	**5.94**	**347**		**Pn**	**05 12 04.5**	**+1.4**
VA01	**Torpederas**	**5.96**	**337**		**Pn**	**05 12 05.3**	**+2.1**
VA06	**Catapilco**	**6.30**	**341**	Pn	**Pn**	**05 12 08.7**	**+0.8**
AUSP	**Uspallata**	**6.34**	**356**	*i* P	**Pn**	**05 12 12.2**	**+3.3**
AUSP				*i* S	**Sg**	**05 13 54.2**	**-4.4**
AY01	**Puyuhuapi**	**6.48**	**204**		**Pn**	**05 12 13.6**	**+3.2**
MRA	**San Martin**	**6.67**	**24**	*e*P	**Pn**	**05 12 14.3**	**+1.2**
MRA				*e*S	**Sg**	**05 14 05.1**	**-3.9**
RTLS	**Leoncito**	**6.76**	**357**	*i* P	**Pn**	**05 12 18.2**	**+3.6**
RTLS				*i* S	**Sg**	**05 14 06.7**	**-5.4**
CFA	**Coronel Fontan**	**6.97**	**5**	Pn	Pn	05 12 22.2	+5.0
comp=Z,0.4nm,0.3s,baz=203,slow=14,SNR=20							
CFA				Lg	Lg	05 14 14.1	
comp=Z,6.2nm,0.3s,baz=274,slow=21,SNR=5.9							
ZON	**Zonda**	**7.01**	**2**	Pn	**Pn**	**05 12 19.0**	**+1.2**
COYC	**Coyhaique**	**7.38**	**198**	Pn	**Pn**	**05 12 25.7**	**+2.9**
CO03	**El Pedregal**	**7.85**	**349**		**Pn**	**05 12 31.7**	**+2.4**
ACCO	**Cerro Coronel**	**7.96**	**359**	*i* P	**Pn**	**05 12 34.6**	**+3.5**
ACCO				*i* S	**Sn**	**05 13 55.3**	**-6.1**
TCA	**Tanti**	**8.04**	**27**	*i* P	**Pn**	**05 12 32.1**	**+0.2**
TCA				*e*S	Sb	05 14 19.9	-10
TCA				IAML		05 15 16.2	
comp=Z,147nm,0.6s							
ACDV	**Cuesta del Vie**	**8.38**	**359**	*i* P	Pn	05 12 40.9	+4.2
ACDV				*i* S	Sb	05 14 28.8	-11
APLL	**PUNTA DE LOS L**	**8.39**	**14**	*i* P	**Pn**	**05 12 38.0**	**+1.4**
APLL				IAML		05 16 13.9	
comp=Z,25nm,4.4s							
CO01	**Juntas del Tor**	**8.62**	**353**	Pn	**Pn**	**05 12 43.6**	**+3.5**
AGUA	**GUANDACOL**	**9.06**	**2**	*i* P	Pn	05 12 50.2	+4.2
ACLC	**CERRO LA CRUZ**	**9.26**	**11**	*i* P	**Pn**	**05 12 51.9**	**+3.1**
LCO	**Las Campanas**	**9.65**	**351**	Pn	**Pn**	**05 12 54.7**	**+0.5**
TBOT	**Tacuaremb**	**12.64**	**61**	*e*P	**Pn**	**05 13 34.4**	**-0.5**
PLTB	**Pedras Altas**	**14.24**	**66**	**Pn**	**Pn**	**05 13 55.2**	**-1.5**
PLTB	**Pedras Altas**	**14.24**	**66**	*e*P	**Pn**	**05 13 55.4**	**-1.3**
CPSB	**Cacapava Do Su**	**15.12**	**62**	*e*P	**Pn**	**05 14 07.5**	**-1.2**
EFI	**East Falkland**	**15.16**	**153**	Pn	**P**	**05 14 10.7**	**-3.5**
CPUP	**Villa Florida**	**15.62**	**42**	Pn	**Pn**	**05 14 13.8**	**-1.5**
CPUP	**Villa Florida**	**15.62**	**42**	Pn	**Pn**	**05 14 13.9**	**-1.3**
comp=Z,0.1nm,0.3s,baz=218,slow=11,SNR=4.1							
CPUP				Sn	**Sn**	**05 17 07.3**	**-1.0**
comp=Z,0.2nm,0.3s,baz=229,slow=16,SNR=2.2							
CPUP				Lg	Lg	05 18 51.1	
comp=Z,0.2nm,0.3s,baz=205,slow=17,SNR=2.3							
CPUP				LR	LR	05 20 27.5	
comp=Z,457nm,20.6s,baz=220,slow=38 comp=Z,1.4nm,0.7s							
CPUP	**Villa Florida**	**15.62**	**42**	*e*P	**Pn**	**05 14 15.1**	**-0.2**
SJPY	**San Joaquin**	**17.34**	**42**	*e*P	**P**	**05 14 37.7**	**-0.8**
CNLB	**Canela**	**17.58**	**64**	*e*P	**P**	**05 14 40.8**	**-0.4**
ITAB	**Concordia**	**18.03**	**56**		**P**	**05 14 46.2**	**+0.1**
ITAB	**Concordia**	**18.03**	**56**	*e*P	**P**	**05 14 45.5**	**-0.7**
MURT	**Porto Murtinho**	**19.45**	**33**	*e*P	**Pn**	**05 15 03.7**	**+0.7**
BDQN	**Bodoquena, MS**	**20.89**	**34**	*e*P	Pn	05 15 18.4	-1.6

TXAR				LR	LR	05 49 11.0	
	comp=Z,43nm,21.9s,baz=128,slow=31						
	comp=Z,1.3nm,1.0s						
TX31	**Lajitas Ar. Si**	**74.94 329**		P	**P**	**05 22 17.3**	**+1.0**
WLAR	**White Oak Lake**	**75.32 339**		P	**P**	**05 22 19.6**	**+1.4**
TSUM	**Tsumeb**	**75.63 103**		LR	LR	05 52 36.1	
	comp=Z,201nm,18.1s,baz=198,slow=33						
BOSA	**Boshof**	**75.78 115**		LR	LR	05 52 46.5	
	comp=Z,147nm,18.7s,baz=212,slow=33						
ALPN	**Alpine**	**75.85 329**		P	**P**	**05 22 22.1**	**+0.6**
CLTN	**Cedars of Leba**	**76.01 346**		P	**P**	**05 22 23.1**	**+1.0**
CLTN				IAmb	IAmb	05 22 24.7	
	comp=Z,21nm,1.9s						
MNHN	**Monahans**	**76.36 331**		P	**P**	**05 22 25.4**	**+1.1**
MNHN				IAmb	IAmb	05 22 26.5	
	comp=Z,8.7nm,1.2s						
LCAR	**Lake Charles**	**77.06 342**		P	**P**	**05 22 28.1**	**+0.1**
LCAR				IAmb	IAmb	05 22 29.2	
	comp=Z,9.6nm,1.3s						
LBTB	**Lobatse**	**78.16 112**		LR	LR	05 55 19.9	
	comp=Z,195nm,18.6s,baz=220,slow=34						
CCM	**Cathedral Cave**	**78.97 342**		P	**P**	**05 22 38.9**	**+0.3**
CCM				IAmb	IAmb	05 22 40.0	
	comp=Z,7.1nm,1.0s						
ANMO	**Albuquerque**	**80.99 330**			**P**	**05 22 51.1**	**+1.2**
ANMO	**Albuquerque**	**80.99 330**		LR	LR	05 54 42.8	
	comp=Z,70nm,18.3s,baz=296,slow=33						
URZ	**Urewera**	**82.41 227**		LR	LR	05 53 51.2	
	comp=Z,735nm,18.2s,baz=123,slow=32						
TORD	**Torodi Ar. Bea**	**83.50 68**		P	**P**	**05 23 03.2**	**-0.1**
PFO	**Pinyon Flats O**	**84.29 322**		LR	LR	05 53 10.7	
	comp=Z,89nm,21.6s,baz=206,slow=30						
K30B	**Basset**	**85.54 338**		P	**P**	**05 23 14.2**	**+1.2**
ECSD	**EROS Data Cent**	**85.67 340**		P	**P**	**05 23 13.7**	**+0.1**
ECSD				IAmb	IAmb	05 23 15.8	
	comp=Z,11nm,1.1s						
LSZ	**Lusaka**	**86.04 106**		LR	LR	06 00 20.0	
	comp=Z,328nm,18.3s,baz=233,slow=35						
P18A	**Preston Nutter**	**86.55 329**		IAmb	IAmb	05 23 20.9	
	comp=Z,6.4nm,1.1s						
HWUT	**Hardware Ranch**	**88.76 329**		P	**P**	**05 23 30.1**	**+1.2**
HWUT				IAmb	IAmb	05 23 31.3	
	comp=Z,10nm,1.3s						
NVAR	**Mina Array Bea**	**89.06 323**		P	**P**	**05 23 31.9**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=155,slow=7.9,SNR=3.6						
	comp=Z,0.7nm,0.7s						
ELK	**Elko**	**89.56 327**		LR	LR	06 00 42.3	
	comp=Z,113nm,18.5s,baz=180,slow=34						
TIXI	**Tiksi**	**145.62 350**			**PKPab**	**05 30 12.6**	**-0.3**
BVAR	**Borovoye Array**	**148.63 49**		PKPbc	**PKiKP**	**05 30 21.7**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=336,slow=3.3,SNR=4.7						
ARSB	**Arslanbob**	**150.81 72**		PKPbc	**PKiKP**	**05 30 28.9**	**+0.7**
PZH	**PanZhiHua**	**165.63 144**		PKP	**PKPdf**	**05 30 40.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**177.69 351**		*e*P	**PKPdf**	**05 30 43.2**	**-2.4**

*LDG **07** 05:14:05.1±0.1, 43°.10N×0°.39W, h10km, Md2.0/3, Ml2.5/16, Error ellipse: s-maj=1.9km s-min=1.7km az=177.0*
*STR **07** 05:14:05.7±0.3, 43°N±2°×±°, h6km, MLv2.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=15.1, preliminary*
*MDD **07** 05:14:06.1±0.2, 43°.08N×0°.38W, h0km, mb_Lg2.2/45, Error ellipse: s-maj=1.9km s-min=1.1km az=7.0*

ISC 07 05:14:04.0±0.9, 43°.14N±0°.02×0°.38W±0°.02, h14km±7km, n50, σ1§13/93, Pyrenees

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATE	**Arette**	**0.24**	**257**	Pg	**Pb**	**05 14 09.3**	**-0.9**
ATE				Sg	**Sg**	**05 14 12.9**	**+0.1**
PYLO	**Lourdes**	**0.25**	**100**	Pg	**Pg**	**05 14 10.1**	**+0.8**
PYLO				Sg	**Sg**	**05 14 14.1**	**+1.2**
ETSF	**Etsaut**	**0.28**	**209**	*e*Pg	**Pg**	**05 14 09.4**	**-0.4**
ETSF				*e*Sg	**Sg**	**05 14 12.2**	**-1.6**
	195nm,0.2s						
URDF	**Urds**	**0.34**	**332**	Pg	**Pn**	**05 14 13.2**	**-1.3**
URDF				Sg	**Sb**	**05 14 19.6**	**+2.6**
LABF	**Labassere**	**0.34**	**106**	Pg	**Pb**	**05 14 11.5**	**-0.4**
LABF				Sg	**Sb**	**05 14 17.2**	**-0.1**
CANF	**Canfranc**	**0.39**	**195**	Pg	**Pg**	**05 14 11.5**	**-0.3**
CANF				Sg	**Sg**	**05 14 16.0**	**-1.2**
VIEF	**Viey**	**0.39**	**131**	Pg	**Pb**	**05 14 11.9**	**-0.8**
VIEF				Sg	**Sg**	**05 14 17.2**	**0.0**
ORDF	**Ordiarp**	**0.41**	**280**	Pg	**Pb**	**05 14 12.9**	**-0.1**
ORDF				Sg	**Sb**	**05 14 19.3**	**+0.1**
IRAF	**Chalets d'Irat**	**0.49**	**258**	Pg	**Pb**	**05 14 14.0**	**-0.5**
IRAF				Sg	**Sb**	**05 14 21.2**	**-0.5**
EPF	**Esparros**	**0.54**	**102**	*e*Pg	**Pb**	**05 14 14.9**	**-0.3**
EPF				*e*Sg	**Sb**	**05 14 21.8**	**-1.1**
	25nm,0.2s						
SJPF	**Ste Jean**	**0.62**	**268**	*e*Pg	**Pg**	**05 14 15.8**	**-0.3**
SJPF				*e*Sg	**Sb**	**05 14 24.8**	**-0.4**
	25nm,0.2s						
ECHI	**Chisagues Biel**	**0.64**	**138**	Pg	**Pb**	**05 14 16.3**	**-0.6**
ECHI				Sg	**Sg**	**05 14 24.0**	**-0.8**
ECHI				*i* Vmb_Lg		05 14 25.8	
ECHI	**Chisagues Biel**	**0.64**	**138**	Pg	**Pb**	**05 14 16.4**	**-0.6**
ECHI	**Chisagues Biel**	**0.64**	**138**	Sg	**Sg**	**05 14 24.1**	**-0.8**
OSSF	**Osses**	**0.66**	**280**	Pg	**Pn**	**05 14 18.2**	**-0.7**
OSSF				Sg	**Sb**	**05 14 27.3**	**+1.1**
EORO	**Oroz-Betelu**	**0.73**	**250**	Pg	**Pb**	**05 14 18.5**	**0.0**
EORO				Sg	**Sb**	**05 14 28.0**	**-0.3**
EORO				*i* Vmb_Lg		05 14 30.6	
TERF	**Tercis-les-Bai**	**0.76**	**315**	Pg	**Pn**	**05 14 21.0**	**+0.7**
TERF				Sg	**Sn**	**05 14 32.5**	**+1.0**
EALK	**Alkurruntz**	**0.83**	**276**	Pg	**Pn**	**05 14 21.2**	**-0.1**
EALK				Sg	**Sb**	**05 14 32.8**	**+1.5**
EALK				*i* Vmb_Lg		05 14 41.9	
EALK	**Alkurruntz**	**0.83**	**276**	Pg	**Pb**	**05 14 20.8**	**+0.6**
MELF	**Melles**	**0.88**	**107**	Pg	**Pn**	**05 14 21.7**	**-0.3**
MELF				Sg	**Sn**	**05 14 33.7**	**-0.9**
EARA	**Aranguren**	**0.95**	**248**	Sg	**Sb**	**05 14 35.3**	**+0.4**
EARA				*i* Vmb_Lg		05 14 44.1	
CRAS	**Crastes**	**0.99**	**54**	Pg	**Pn**	**05 14 25.2**	**+1.7**
CRAS				Sg	**Sn**	**05 14 40.0**	**+2.6**
MLS	**Moulis**	**1.09**	**99**	Pg	**Pn**	**05 14 26.3**	**+1.4**
MLS				Sg	**Sn**	**05 14 41.3**	**+1.4**
SALF	**Salau**	**1.21**	**108**	Pg	**Pn**	**05 14 28.2**	**+1.6**
SALF				Sg	**Sn**	**05 14 44.4**	**+1.6**
ESAC	**San Caprasio**	**1.42**	**183**	Pg	**Pg**	**05 14 31.5**	**+0.3**
ESAC				Sg	**Sg**	**05 14 49.7**	**-0.1**
ESAC				*i* Vmb_Lg		05 14 54.3	
PAND	**Andorre**	**1.54**	**113**	Pn	**Pg**	**05 14 33.3**	**-0.3**
PAND				Sn	**Sg**	**05 14 54.1**	**+0.4**
DUNF	**Dun**	**1.61**	**93**	Pn	**Pg**	**05 14 34.4**	**-0.5**
DUNF				Sn	**Sg**	**05 14 55.8**	**+0.1**
MONQ	**Montcuq**	**1.68**	**42**	Pn	**Pg**	**05 14 36.1**	**0.0**
MONQ				Sn	**Sg**	**05 14 59.4**	**+1.6**
LRVF	**chteau la Riv**	**1.81**	**2**	Pn	**Pg**	**05 14 38.6**	**-0.1**
LRVF				Sn	**Sg**	**05 15 03.0**	**+0.9**
EMIR	**Miracle**	**1.87**	**130**	Pg	**Pg**	**05 14 39.5**	**-0.3**
EMIR				Sg	**Sg**	**05 15 04.3**	**+0.2**
EMIR				*i* Vmb_Lg		05 15 06.4	
MTLF	**Montolieu**	**1.91**	**83**	*e*Pg	**Pg**	**05 14 40.0**	**-0.6**
MTLF				*e*Sg	**Sg**	**05 15 05.2**	**-0.1**
	12nm,0.3s						
MTLF	**Montolieu**	**1.91**	**83**	Pn	**Pb**	**05 14 38.5**	**0.0**
MTLF				Sn	**Sg**	**05 15 04.0**	**-1.3**
LFF	**La Frestale**	**1.97**	**24**	*e*Pg	**Pg**	**05 14 42.0**	**+0.2**
LFF				*e*Sg	**Sg**	**05 15 07.3**	**-0.1**
	9.4nm,0.2s						
EPOB	**Poblet**	**2.09**	**148**	Pg	**Pg**	**05 14 43.1**	**-0.9**
EPOB				Sg	**Sg**	**05 15 10.0**	**-1.2**
EPOB				*i* Vmb_Lg		05 15 10.6	
ELAN	**Lanestosa**	**2.24**	**273**	Pn	**Pb**	**05 14 43.8**	**-0.4**
ELAN				Sn	**Sb**	**05 15 12.5**	**+0.7**
ELAN				*i* Vmb_Lg		05 15 21.4	
CAF	**Calviac**	**2.51**	**44**	*e*Pg	**Pg**	**05 14 52.1**	**+0.1**
CAF				*e*Sn	**Sn**	**05 15 14.1**	**-0.7**
CAF				*e*Sg	**Sg**	**05 15 25.4**	**+0.9**
	8.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**32**	*e*Pg	**Pg**	**05 14 52.0**	**-1.0**
RJF				*e*Sg	**Sg**	**05 15 25.9**	**-0.2**
	7.3nm,0.2s						
ETOR	**Torete**	**2.63**	**209**	Pn	**Pn**	**05 14 47.7**	**+1.5**
ETOR				Sn	**Sn**	**05 15 19.5**	**+1.5**
ETOR				*i* Vmb_Lg		05 15 27.5	
E0901	**Celadas (Terue**	**2.72**	**192**	Sn	**Sn**	**05 15 20.7**	**+0.7**
E0901				*i* Vmb_Lg		05 15 26.8	
EMOS	**Mosqueruela**	**2.78**	**181**	Sn	**Sn**	**05 15 23.1**	**+1.5**
EMOS				Sg	**Sg**	**05 15 30.6**	**-2.6**
EMOS				*i* Vmb_Lg		05 15 34.7	
LASF	**Ste Croix**	**3.21**	**72**	*e*Pn	**Pn**	**05 14 54.8**	**+0.7**
LASF				*e*Sn	**Sn**	**05 15 31.6**	**-0.6**
LASF				*e*Sg	**Sg**	**05 15 45.7**	**-1.5**
	1.3nm,0.2s						
MFF	**Saint Martin d**	**3.46**	**3**	*e*Pg	**Pg**	**05 15 09.0**	**-1.3**
MFF				*e*Sg	**Sg**	**05 15 54.8**	**-0.4**
	2.3nm,0.2s						
TCF	**Toulx Ste Croi**	**3.65**	**29**	*e*Sg	**Sg**	**05 15 59.4**	**-1.7**
	2.0nm,0.2s						
VIVF	**Saint-Julien-l**	**4.03**	**63**	*e*Pn	**Pn**	**05 15 05.6**	**+0.3**
VIVF				*e*Sg	**Sg**	**05 16 11.0**	**-2.3**
	0.9nm,0.2s						
BGF	**Bois d'Agland**	**4.12**	**33**	*e*Pg	**Pg**	**05 15 21.7**	**-1.1**
BGF				*e*Sn	**Sn**	**05 15 54.0**	**-0.3**
BGF				*e*Sg	**Sg**	**05 16 15.1**	**-0.9**
	4.5nm,0.3s						
AVF	**Avril sur Loir**	**4.51**	**35**	*e*Sg	**Sg**	**05 16 26.5**	**-2.1**
	0.7nm,0.2s						
SMF	**Signal de Mont**	**4.61**	**39**	*e*Pn	**Pn**	**05 15 13.3**	**+0.1**
SMF				*e*Sg	**Sg**	**05 16 29.5**	**-2.5**
	0.9nm,0.2s						
PAB	**San Pablo**	**4.67**	**221**	P	**Pn**	**05 15 15.7**	**+1.6**
SSF	**Saint Saulge**	**4.79**	**34**	*e*Sg	**Sg**	**05 16 34.1**	**-3.5**
	1.7nm,0.4s						
LOR	**Lormes**	**5.10**	**34**	*e*Sg	**Sg**	**05 16 46.0**	**-1.6**
	0.6nm,0.2s						

*BER **07** 05:17:02.9±1.4, 83°.78N×0°.33E, h0km±43km, mb(Pn)3.5, Confirmed Earthquake*
*DNK **07** 05:17:04.5±0.3, 83°.48N×0°.61W, h3km±18km, ML1.2*

ISC 07 05:17:04.9±3.6, 83°.4N±0°.2×0°.25W±0°.08, h10km, n11, σ1§59/15, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NOR	**Nord**	**2.79**	**239**	*e*P	**Pn**	**05 17 50.2**	**+0.8**
NOR				*e*S	**Sb**	**05 18 27.4**	**-1.3**
NOR	**Nord**	**2.79**	**239**	*e*P	**Pn**	**05 17 49.8**	**+0.4**
NOR				IAML		05 18 38.2	
	comp=Z,1.9nm,1.2s						
KBS	**Kingsbay**	**4.83**	**151**	*e*P	**Pn**	**05 18 18.6**	**+1.1**
KBS				*e*S	**Sn**	**05 19 15.4**	**+2.0**
KBS				IAML		05 19 15.9	
	comp=Z,2.4nm,0.6s						
KBS	**Kingsbay**	**4.83**	**151**	*e*P	**Pn**	**05 18 18.8**	**+1.3**
KBS				*e*S	**Sn**	**05 19 13.8**	**+0.5**
BRBB	**Barentsburg B**	**5.76**	**149**	*e*P	**Pn**	**05 18 31.9**	**+1.6**
SPA0	**Spitsbergen Ar**	**5.82**	**144**	*e*P	**Pn**	**05 18 31.9**	**+0.8**
SPA0				IAML		05 19 43.0	
	comp=Z,2.2nm,0.8s						
DAG	**Danmarks Havn**	**7.29**	**215**	*e*P	**Pn**	**05 18 52.3**	**+1.1**
DAG	**Danmarks Havn**	**7.29**	**215**	*i* P	**Pn**	**05 18 51.0**	**-0.2**
HOPEN	**Hopen**	**8.05**	**134**	*e*P	**Pn**	**05 19 01.1**	**-0.6**
HOPEN				*e*S	**Sn**	**05 20 29.1**	**-3.4**
HOPEN				IAML		05 20 43.2	
	comp=Z,4.6nm,0.9s						
DBG	**Daneborg**	**9.78**	**213**	*e*P	**Pn**	**05 19 26.2**	**+0.8**
DBG	**Daneborg**	**9.78**	**213**	*e*P	**Pn**	**05 19 23.5**	**-1.8**

*WEL **07** 05:18:04.2±1.5, 32°S±7°×17°8W±2°8, h33km, M4.3/4, mB5.1/2, ML4.5/6, MLv4.3/4, Mw(mB)4.5/2, Error ellipse: s-maj=37.5km s-min=5.0km az=102.0, confirmed*
*IDC **07** 05:18:08.0±2.1, 30°.70S×178°.42W, h0km, mb3.9/3, mbtmp3.9/3, MS3.8/1, Error ellipse: s-maj=59.4km s-min=36.4km az=45.0*

ISC 07 05:18:00.2±1.9, 31°.98S±0°.08×177°.1W±0°.2, h10km, n17, σ2§40/17, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.81**	**344**	P	**Pn**	**05 18 45.5**	**+0.4**
GLKZ				S	**Sn**	**05 19 14.3**	**-4.8**
MXZ	**Matakaoa Point**	**6.75**	**213**	S	**Sn**	**05 20 53.6**	**-2.8**
PKGZ	**Pakihiroa**	**7.10**	**213**	P	**Pn**	**05 19 44.7**	**+0.5**
PKGZ				S	**Sn**	**05 21 02.5**	**-2.5**
HAZ	**Te Kaha**	**7.16**	**215**	P	**Pn**	**05 19 45.1**	**+0.2**
HAZ				S	**Sn**	**05 21 05.2**	**-1.1**
PUZ	**Puketiti**	**7.19**	**211**	P	**Pn**	**05 19 45.0**	**-0.4**
RUGZ	**Raukumara Rang**	**7.37**	**214**	P	**Pn**	**05 19 48.9**	**+0.9**
CNGZ	**Carnagh Statio**	**7.56**	**210**	P	**Pn**	**05 19 50.6**	**+0.2**
URZ	**Urewera**	**7.88**	**216**	P	**Pn**	**05 19 54.8**	**0.0**
RIGZ	**Rimuhau**	**7.93**	**211**	P	**Pn**	**05 19 54.9**	**-0.8**
KNZ	**Kokohu**	**8.24**	**210**	P	Pn	05 19 57.7	-2.0
OUZ	**Omahuta**	**8.44**	**245**	P	**Pn**	**05 20 06.2**	**+3.6**
BKZ	**Black Stump Fm**	**8.89**	**214**	P	**Pn**	**05 20 12.2**	**+3.4**
RPZ	**Rata Peaks**	**15.00**	**215**	LR	LR	05 28 26.6	
	comp=Z,322nm,18.6s,baz=152,slow=40						
ASAR	**Alice Springs**	**43.85**	**268**	P	**P**	**05 26 07.1**	**+0.2**
	0.6nm,0.4s,baz=106,slow=7.2,SNR=8.9						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.98**	**273**	P	**P**	**05 26 15.4**	**-0.5**
	0.9nm,0.5s,baz=113,slow=7.7,SNR=6.9						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**58.14**	**180**	P	P	05 28 12.2	+18
	1.3nm,0.8s,baz=24,slow=2.5,SNR=7.9						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**146.90**	**340**	PKPbc	**PKPbc**	**05 37 46.0**	**+3.9**
	1.7nm,0.7s,baz=25,slow=3.7,SNR=7.0						

*SOME **07** 05:27:15.9, 47°.85N×79°.50E, h10km*
*NNC **07** 05:27:16.9±0.3, 47°.81N×79°.54E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=3.6km s-min=2.9km az=67.0*
*ASRS **07** 05:27:20.2±0.4, 48°N±2°×8°0E±°, h8km, MLh3.5/8, Error ellipse: s-maj=4.4km s-min=3.4km az=78.0, confirmed*

ISC 07 05:27:19.0±1.1, 47°.95N±0°.02×79°.83E±0°.03, h10km±9km, n52, σ1§95/70, 10C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.85**	**127**	⇓Pn	**Pn**	**05 27 51.4**	**+0.6**
	1.1nm,0.1s						
MAKZ				⇑Sn	**Sb**	**05 28 15.7**	**-0.5**
	31nm,0.3s						
MAKZ	**Makanchi**	**1.85**	**127**	Pn	**Pn**	**05 27 51.7**	**+0.9**
MAKZ				Pg	**Pg**	**05 27 56.8**	**+2.3**
MAKZ				Sg	**Sb**	**05 28 16.5**	**+0.3**
MK31	**Makanchi Array**	**2.03**	**124**	⇑Pn	**Pn**	**05 27 54.3**	**+1.0**
	1.5nm,0.3s,baz=63,slow=9.6,SNR=320						
MK31				⇑Sn	**Sb**	**05 28 21.9**	**+0.5**
	13nm,0.2s,baz=306,slow=26,SNR=32						
MKAR	**Makanchi Array**	**2.03**	**124**	Pn	**Pn**	**05 27 55.0**	**+1.7**
MKAR				Pg	**Pg**	**05 27 59.4**	**+1.5**
MKAR				Sg	**Sg**	**05 28 22.4**	**-1.9**
SEM	**Semipalatinsk**	**2.48**	**6**	Pg	**Pb**	**05 28 03.7**	**0.0**
	4.8nm,0.1s						
SEM				Lg	Lg	05 28 38.3	
	41nm,0.2s						
SEM	**Semipalatinsk**	**2.48**	**6**	*e*P	**Pb**	**05 28 03.7**	**0.0**
	4.8nm,0.1s						
SEM				*e*S	**Sg**	**05 28 38.3**	**-0.3**
	41nm,0.2s						
KAPS	**Kapalarasan**	**2.68**	**187**	Pg	**Pn**	**05 28 02.1**	**-0.1**
	6.8nm,0.1s						
KAPS				Lg	Lg	05 28 36.9	
	141nm,0.2s						
KURBB	**Kurchatov Arra**	**2.81**	**343**	⇑Pn	**Pn**	**05 28 04.2**	**+0.3**
	1.7nm,0.4s						
KURBB				⇑Pg	**Pb**	**05 28 09.6**	**+0.5**
	2.4nm,0.2s						
KURBB				⇑Lg	Lg	05 28 48.4	
	45nm,0.3s						
KURK	**Kurchatov**	**2.88**	**345**	⇓Pn	**Pn**	**05 28 05.4**	**+0.6**
	1.1nm,0.3s						
KURK				⇓Pg	**Pb**	**05 28 10.8**	**+0.4**
	1.7nm,0.3s						
KURK				⇓Lg	Lg	05 28 50.2	
	34nm,0.5s						
KURK	**Kurchatov**	**2.88**	**345**	Pn	**Pn**	**05 28 06.0**	**+1.1**
KURK				Pg	**Pb**	**05 28 12.4**	**+2.0**
KURK				Sg	**Sg**	**05 28 51.2**	**-0.2**
TDK	**Taldyqorghan**	**3.10**	**199**	Pg	**Pn**	**05 28 11.2**	**+3.2**
	56nm,0.2s						
TDK				Lg	Lg	05 28 51.1	
	246nm,0.4s						
TDK	**Taldyqorghan**	**3.10**	**199**	*e*P	**Pn**	**05 28 10.3**	**+2.3**
	44nm,0.3s						
TDK				*e*S	**Sn**	**05 28 49.3**	**+4.2**
	246nm,0.3s						
ZSN	**Zaisan**	**3.44**	**96**	Pg	**Pb**	**05 28 21.0**	**+1.0**
	3.0nm,0.3s						
ZSN	**Zaisan**	**3.44**	**96**	*e*P	**Pg**	**05 28 22.3**	**-2.5**
	3.8nm,0.3s						
ZSN				*e*S	**Sg**	**05 29 09.9**	**+0.6**
	17nm,0.4s						
DJR	**Jarkent**	**3.62**	**180**	*e*P	Pn	05 28 20.9	+5.8
	2.1nm,0.1s						
DJR				*e*S	**Sb**	**05 29 07.5**	**+0.6**
	20nm,0.3s						
BLB	**Baldybastay**	**3.96**	**194**	Pg	Pn	05 28 25.5	+5.6
	6.4nm,0.1s						
BLB				Lg	Lg	05 29 16.3	
	50nm,0.7s						
ARXS	**Arharly**	**3.98**	**201**	Pg	Pn	05 28 26.2	+6.0
	1.4nm,0.1s						
ARXS				Lg	Lg	05 29 17.6	
	36nm,0.4s						
UKR	**Ust'-Kan**	**4.40**	**45**	Pn	**Pn**	**05 28 23.9**	**-1.9**
UKR				Pg	**Pb**	**05 28 37.1**	**+0.7**
UKR				S	**Sn**	**05 29 20.5**	**+3.3**
UKR				Sg	**Sg**	**05 29 39.4**	**-0.8**
CHKK	**Chushkaly**	**4.55**	**207**	Pg	Pn	05 28 35.8	+8.0
	2.2nm,0.2s						
CHKK				Lg	Lg	05 29 33.8	
	30nm,0.4s						
CHKK	**Chushkaly**	**4.55**	**207**	*e*P	Pn	05 28 35.8	+8.0
	2.2nm,0.2s						
CHKK				*e*S	**Sb**	**05 29 33.8**	**+0.1**
	30nm,0.4s						
KPKS	**Kokpek**	**4.55**	**191**	Lg	Lg	05 29 33.4	
	30nm,0.7s						
KPKS	**Kokpek**	**4.55**	**191**	*e*P	**Pb**	**05 28 37.5**	**-1.5**
	1.9nm,0.1s						
KPKS				*e*S	**Sb**	**05 29 36.2**	**+2.3**
	15nm,0.3s						
KURS	**Kuram**	**4.61**	**195**	Pg	**Pb**	**05 28 39.2**	**-0.6**
	1.6nm,0.3s						
KURS				Lg	Lg	05 29 39.3	
	15nm,0.8s						
KURS	**Kuram**	**4.61**	**195**	*e*P	Pn	05 28 35.8	+7.1
	2.2nm,0.2s						
KURS				*e*S	**Sb**	**05 29 33.8**	**-1.6**
	30nm,0.4s						
PDGK	**Podgornoye**	**4.62**	**183**	⇑Pn	**Pn**	**05 28 27.7**	**-1.3**
	1.4nm,0.2s						
PDGK				⇑Sn	**Sn**	**05 29 18.9**	**-3.9**
	2.9nm,0.5s						
PDGK				⇓Lg	Lg	05 29 39.1	
	19nm,0.6s						
KTBS	**Karatobe**	**4.77**	**209**	Pg	Pb	05 28 40.7	-1.9
	1.4nm,0.2s						
KTBS				Lg	Lg	05 29 41.9	
	38nm,0.6s						
SHLS	**Shalkode**	**4.80**	**183**	Pg	**Pb**	**05 28 42.3**	**-0.8**
	2.5nm,0.1s						
SHLS				Lg	Lg	05 29 44.5	
	14nm,0.4s						
SHLS	**Shalkode**	**4.80**	**183**	*e*P	**Pb**	**05 28 42.3**	**-0.8**
	2.5nm,0.1s						
SHLS				*e*S	**Sb**	**05 29 44.5**	**+3.5**
	14nm,0.4s						
UZB	**Uzynbulak**	**4.83**	**187**	Pg	**Pb**	**05 28 42.8**	**-0.9**
	3.0nm,0.3s						
UZB				Lg	Lg	05 29 45.7	
	12nm,0.6s						
UZB	**Uzynbulak**	**4.83**	**187**	*e*P	**Pb**	**05 28 42.9**	**-0.9**
	3.0nm,0.3s						
UZB				*e*S	**Sb**	**05 29 45.8**	**+3.7**
	12nm,0.6s						
SATY	**Saty**	**4.99**	**192**	Pg	**Pb**	**05 28 45.6**	**-0.8**
	1.0nm,0.1s						
SATY				Lg	Lg	05 29 50.4	
	26nm,0.3s						
OTUK	**Ortayu**	**5.03**	**276**	Pg	Pb	05 28 45.1	-1.9
	0.5nm,0.1s						
OTUK	**Ortayu**	**5.03**	**276**	⇓Pn	Pn	05 28 32.8	-1.6
	0.4nm,0.3s						
OTUK				⇑Sn	**Sn**	**05 29 29.3**	**-3.2**
	1.5nm,0.4s						
OTUK				⇑Lg	Lg	05 29 49.4	
	8.6nm,0.5s						
KOTS	**Kotyrbulak**	**5.08**	**203**	Pg	**Pb**	**05 28 47.1**	**-0.9**
	2.4nm,0.3s						
KOTS				Lg	Lg	05 29 53.0	
	21nm,0.4s						
KOTS	**Kotyrbulak**	**5.08**	**203**	*e*P	**Pb**	**05 28 47.1**	**-0.9**
	2.4nm,0.3s						
KOTS				*e*S	**Sb**	**05 29 53.0**	**+3.8**
	21nm,0.4s						
BRZS	**Berezniki**	**5.13**	**296**	Pg	**Pb**	**05 28 47.1**	**-1.7**
	1.1nm,0.3s						
BRZS				Lg	Lg	05 29 52.5	
	14nm,0.4s						
BRZS	**Berezniki**	**5.13**	**296**	*e*P	**Pb**	**05 28 47.0**	**-1.7**
	1.1nm,0.3s						
BRZS				*e*S	**Sb**	**05 29 52.5**	**+2.1**
	14nm,0.4s						
MDOK	**Medeo**	**5.17**	**203**	*e*S	**Pn**	**05 28 36.7**	**+0.2**
	261nm,0.2s						
ELDR	**Elanda**	**5.23**	**49**	Pn	**Pn**	**05 28 38.2**	**+1.0**
ELDR				Pg	**Pg**	**05 28 56.7**	**-2.3**
ELDR				S	**Sn**	**05 29 39.5**	**+2.1**
ELDR				Sg	**Sg**	**05 30 06.2**	**-0.4**
TNSS	**

URZ	**Urewera**	**7.12 211**	P		**Pn**	**05 49 00.7**	**0.0**
URZ			S		**Sn**	**05 50 24.1**	**+2.3**
OUZ	**Omahuta**	**7.42 244**	P		Pn	05 49 12.9	+8.0
RTZ	**Ruatahuna**	**7.47 210**	Pn		**Pn**	**05 49 05.1**	**-0.6**
BKZ	**Black Stump Fm**	**8.14 210**	Pn		**Pn**	**05 49 14.5**	**-0.3**
DVHZ	**Dannevirke**	**9.24 208**	S		**Sn**	**05 51 10.8**	**-3.0**
WAZ	**Wanganui**	**9.30 214**	S		**Sn**	**05 51 19.8**	**+4.4**
POWZ	**Post Office Ro**	**9.47 209**	S		**Sn**	**05 51 16.6**	**-3.0**
PRWZ	**Pori Road**	**9.53 208**	P		**Sn**	**05 51 19.6**	**-1.4**
BFZ	**Birch Farm**	**9.54 206**	S		**Sn**	**05 51 17.5**	**-3.6**
CPWZ	**Castlepoint**	**9.75 206**	S		**Sn**	**05 51 24.0**	**-2.4**
MRZ	**Mangatainoka R**	**9.78 209**	S		**Sn**	**05 51 21.9**	**-5.2**
TMWZ	**Te Maipa**	**10.04 206**	P		**Sn**	**05 51 30.6**	**-2.9**
KIW	**Kapiti Island**	**10.23 211**	P		**Sn**	**05 51 35.2**	**-2.8**
TRWZ	**Traveller**	**10.37 206**	P		**Sn**	**05 51 37.1**	**-4.5**
MSWZ	**Moikau Station**	**10.55 208**	P		**Sn**	**05 51 41.3**	**-4.7**
TCW	**Tory Channel**	**10.79 212**	P		**Sn**	**05 51 47.2**	**-4.6**
RPZ	**Rata Peaks**	**14.23 213**	Pn		**Pn**	**05 50 38.5**	**+0.5**
	0.9nm,0.3s,baz=47,slow=19,SNR=1.3						
RPZ			Sn		**Sn**	**05 53 08.0**	**-8.0**
	0.8nm,0.3s,baz=325,slow=19,SNR=2.3						
	3.9nm,0.4s						
DZM	**Mont Dzumac**	**16.94 303**			**Pn**	**05 51 12.7**	**-1.1**
DZM			IAmb		IAmb	05 51 30.4	
	comp=Z,13nm,0.9s						
RAR	**Rarotonga**	**19.79 61**	LR		LR	05 58 07.9	
	comp=Z,294nm,19.9s,baz=235,slow=33						
EIDS	**Eidsvold**	**27.66 276**	P		**P**	**05 53 04.4**	**-0.3**
EIDS			IAmb		IAmb	05 53 17.9	
	comp=Z,12nm,1.1s						
PPT	**Papeete**	**29.71 67**	LR		LR	06 02 34.0	
	comp=Z,262nm,20.0s,baz=195,slow=31						
STKA	**Stephens Creek**	**33.90 260**	P		**P**	**05 54 01.3**	**+1.6**
	comp=Z,3.8nm,0.8s,baz=113,slow=11,SNR=5.3						
STKA			LR		LR	06 06 57.1	
	comp=Z,206nm,18.9s,baz=45,slow=35						
	comp=Z,3.8nm,0.8s						
BBOO	**Buckleboo**	**38.30 256**	P		**P**	**05 54 38.1**	**+0.8**
BBOO			IAmb		IAmb	05 54 56.6	
	comp=Z,11nm,0.9s						
COEN	**Coen**	**39.59 288**	P		**P**	**05 54 48.5**	**+0.2**
COEN			IAmb		IAmb	05 55 09.4	
	comp=Z,6.1nm,0.9s						
AS31	**Alice Springs**	**42.82 269**	P		**P**	**05 55 14.8**	**-0.2**
ASAR	**Alice Springs**	**42.83 269**	P		**P**	**05 55 14.9**	**0.0**
ASAR	**Alice Springs**	**42.83 269**	P		**P**	**05 55 16.0**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=104,slow=7.3,SNR=28						
	comp=Z,4.1nm,0.8s						
WR0	**Warramunga Arr**	**43.80 274**	P		**P**	**05 55 23.1**	**+0.3**
WR0			IAmb		IAmb	05 55 24.9	
	comp=Z,8.3nm,0.9s						
WB2	**Warramunga Arr**	**43.97 274**	P		**P**	**05 55 24.5**	**+0.4**
WB2			IAmb		IAmb	05 55 26.7	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**43.97 274**	P		**P**	**05 55 24.5**	**+0.4**
WRA	**Warramunga Arr**	**43.98 274**	P		**P**	**05 55 24.4**	**+0.1**
WRA	**Warramunga Arr**	**43.98 274**	P		**P**	**05 55 25.1**	**+0.9**
	comp=Z,5.9nm,0.4s,baz=112,slow=7.8,SNR=51						
	comp=Z,5.9nm,0.4s						
WB0	**Warramunga Arr**	**44.01 274**	P		**P**	**05 55 24.6**	**+0.1**
WB0			IAmb		IAmb	05 55 27.0	
	comp=Z,13nm,0.9s						
KNRA	**Kununurra**	**50.65 276**	P		**P**	**05 56 16.1**	**-0.1**
KNRA			IAmb		IAmb	05 56 32.4	
	comp=Z,8.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.16 271**	P		**P**	**05 56 27.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.16 271**	LR		LR	06 18 22.0	
	comp=Z,278nm,18.2s,baz=108,slow=36						
QSPA	**South Pole Qui**	**57.90 180**	P		**P**	**05 57 07.5**	**-1.1**
QSPA	**South Pole Qui**	**57.90 180**	P		**P**	**05 57 09.4**	**+0.9**
	comp=Z,4.4nm,1.1s,baz=114,slow=1.5,SNR=7.4						
	comp=Z,4.4nm,1.1s						
SNAA	**Sanae**	**76.35 179**	P		**P**	**05 59 04.8**	**-0.7**
MJAR	**Matsushiro Arr**	**79.61 326**	LR		LR	06 30 04.7	
	comp=Z,34nm,20.3s,baz=93,slow=32						
KSRS	**Korea Array**	**85.59 320**	LR		LR	06 36 42.8	
	comp=Z,25nm,19.1s,baz=85,slow=35						
PFO	**Pinyon Flats O**	**87.59 47**	LR		LR	06 31 28.5	
	comp=Z,130nm,19.7s,baz=212,slow=30						
USRK	**Ussuriysk Ar.**	**88.55 327**	LR		LR	06 32 13.3	
	comp=Z,74nm,21.9s,baz=98,slow=30						
NVAR	**Mina Array Bea**	**89.72 43**	P		**P**	**06 00 16.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=255,slow=4.3,SNR=2.3						
	comp=Z,0.5nm,0.7s						
KLR	**Kul'dur**	**92.49 330**	P		**P**	**06 00 29.7**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=63,slow=5.0,SNR=3.7						
	comp=Z,1.0nm,0.6s						
NEW	**Newport**	**96.97 36**	LR		LR	06 37 55.4	
	comp=Z,106nm,19.9s,baz=203,slow=31						
MKAR	**Makanchi Array**	**118.76 309**	PKP		**PKiKP**	**06 06 06.0**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=114,slow=2.1,SNR=4.3						
AAK	**Ala-Archa**	**122.92 303**	PKP		**PKiKP**	**06 06 15.0**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=252,slow=9.0,SNR=3.6						
BVAR	**Borovoye Array**	**127.54 315**	PKP		**PKiKP**	**06 06 22.3**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=69,slow=4.9,SNR=3.9						
AKTO	**Aktyubinsk**	**135.14 311**	PKP		**PKiKP**	**06 06 37.6**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=325,slow=6.6,SNR=4.6						
KBZ	**Khabaz**	**145.91 302**	PKPbc		**PKPab**	**06 06 56.5**	**0.0**
	comp=Z,7.7nm,1.1s,baz=350,slow=1.4,SNR=5.7						
FINES	**FINESS Array B**	**146.76 339**	PKPbc		**PKPdf**	**06 06 56.8**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=68,slow=4.0,SNR=10						
NB2	**NORSAR Subarra**	**150.50 351**	PKP		**PKPbc**	**06 07 06.0**	**-1.8**
	comp=Z,2.6nm,1.2s,baz=17,slow=2.6						
HFS	**Hagfors**	**150.97 348**	PKPbc		**PKiKP**	**06 07 10.8**	**+1.3**
	comp=Z,4.4nm,0.9s,baz=326,slow=2.1,SNR=4.7						
AKASG	**Malin Array Be**	**152.58 320**	PKPbc		**PKPbc**	**06 07 12.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=53,slow=2.2,SNR=8.4						
BRTR	**Keskin Array B**	**153.22 295**	PKPbc		**PKiKP**	**06 07 15.3**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=22,slow=4.0,SNR=4.5						

MOS ***07*** *05:50:35.8±1.6, 18°.84S×69°.50W, h114km, mb4.8/14, Error ellipse: s-maj=13.8km s-min=7.6km az=107.0*
VAO ***07*** *05:50:36.3±0.5, 18°.76S×69°.27W, h108km±4km, mb5.0*
NEIC ***07*** *05:50:36.4, 18°.78S×69°.62W, h110km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16^Nm; Mrr=1.89; Mθθ=0.20; Mφφ=1.69; Mrθ=0.67; Mθφ=-0.33; Mφr=-1.69; Fault plane solution: M0=2.57000×10^16^ NP1: φs=173.43000°, δ=22.97000°, λ=-78.94000°. NP2: φs=341.45000°, δ=67.48000°, λ=-94.65000°. Principal axes: T 2.4933, Plg=22.0000°, Azm=75.0000°; N 0.1538, Plg=4.0000°, Azm=343.0000°; P -2.6471, Plg=67.0000°, Azm=243.0000°;*
NEIC ***07*** *05:50:36.6±2.0, 18°.79S±0°.02×69°.42W±0°.04, h108km±4km, mb5.0/324, Mww4.9/21 Error ellipse: s-maj=6.7km s-min=2.5km az=114.0*
NEIC ***07*** *05:50:36.4, 18°.78S×69°.40W, h110km*
RSNC ***07*** *05:50:37.5±0.8, 19°S±6°×6°9W±°, h111km±6km, M4.8, mb4.8, mB5.3, mBc6.1, Mjma4.8, ML3.9, MLv4.7, Ms(BB)4.5, Mw(mB)5.0*
IDC ***07*** *05:50:37.6±0.4, 18°.71S×69°.33W, h120km±3km, mb4.4/24, mbtmp4.8/26, MS3.6/9, Error ellipse: s-maj=14.5km s-min=9.5km az=59.0*
GUC ***07*** *05:50:37.8±0.8, 18°.87S×69°.64W, h119km±3km, ML4.8*
GCMT ***07*** *05:50:39.7±0.3, 18°.87S±0°.02×69°.53W±0°.02, h137km±2km, MW5.0/98, Moment Tensor Solution. s32,c36; s98,c136; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.16±.13; Mθθ=0.26±.13; Mφφ=2.43±.17; Mrθ=1.37±.08; Mθφ=0.16±.15; Mφr=3.09±.11; Best double couple: M0=4.09400×10^16^ NP1:φs=203.00000°, δ=21.00000°, λ=-50.00000°. NP2: φs=341.00000°, δ=74.00000°, λ=104.00000°. Principal axes: T 4.0390, Plg=28.0000°, Azm=83.0000°; N 0.1170, Plg=13.0000°, Azm=345.0000°; P -4.1490, Plg=59.0000°, Azm=232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 05:50:36.6±0.3, 18°.80S±0°.03×69°.41W±0°.04, h115km±2km, h115km:pP-P, n450, σ1°20/374, mb5.0/176, 8C-18D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.76**	**258**	*eP*	**Pn**	**05 50 54.5**	**-1.6**
PX02				*eS*	**Sn**	**05 51 08.5**	**-2.3**
PB12	**IPOC Station P**	**0.89**	**282**	Pn	**Pn**	**05 50 56.6**	**-0.7**
PB12				Sn	**Sn**	**05 51 12.1**	**-0.7**
PB12	**IPOC Station P**	**0.89**	**282**	↑*iP*	**Pn**	**05 50 56.5**	**-0.7**
PB12				*eS*	**Sn**	**05 51 11.0**	**-1.7**
AP01	**Chacalluta**	**0.98**	**296**		**Pn**	**05 50 57.7**	**-0.4**
AP01				Sn	**Sn**	**05 51 13.5**	**-0.7**
AP01	**Chacalluta**	**0.98**	**296**	↑*iP*	**Pn**	**05 50 57.6**	**-0.4**
AP01				*eS*	**Sn**	**05 51 12.9**	**-1.3**
PB11	**IPOC Station P**	**0.98**	**193**	Pn	**Pn**	**05 50 58.5**	**+0.2**
PB11				Sn	**Sn**	**05 51 14.6**	**+0.1**
PB11	**IPOC Station P**	**0.98**	**193**	↑*iP*	**Pn**	**05 50 58.3**	**+0.1**
PB11				*eS*	**Sn**	**05 51 14.5**	**0.0**
PB11				IAML		05 51 15.7	
	comp=E,36μm,0.2s						
PB18	**Visviri**	**1.21**	**357**	Pn	**Pn**	**05 51 03.3**	**+2.3**
PB18	**Visviri**	**1.21**	**357**	↓*iP*	**Pn**	**05 51 03.3**	**+2.3**
PB18				*eS*	**Sn**	**05 51 23.4**	**+3.9**
PB18				IAML		05 51 31.8	
	comp=E,22μm,0.5s						
PB08	**IPOC Station P**	**1.35**	**170**		**Pn**	**05 51 03.8**	**+1.4**
PB08	**IPOC Station P**	**1.35**	**170**	↓*iP*	**Pn**	**05 51 03.9**	**+1.4**
PB08				*eS*	**Sn**	**05 51 23.6**	**+1.6**
PB08				IAML		05 51 24.8	
	comp=E,8μm,0.2s						
TA02	**Huaiquique**	**1.61**	**205**		**Pn**	**05 51 04.0**	**-1.0**
TA02	**Huaiquique**	**1.61**	**205**	*eP*	**Pn**	**05 51 03.9**	**-1.2**
TA01	**Diego Aracena**	**1.90**	**202**	Pn	**Pn**	**05 51 07.5**	**-1.1**
TA01	**Diego Aracena**	**1.90**	**202**	*eP*	**Pn**	**05 51 07.2**	**-1.3**
TA01				*eS*	**Sn**	**05 51 29.8**	**-3.1**
PB01	**IPOC Station P**	**2.23**	**182**		**Pn**	**05 51 13.0**	**+0.2**
PB01	**IPOC Station P**	**2.23**	**182**	↑*iP*	**Pn**	**05 51 13.1**	**+0.2**
PB01				*eS*	**Sn**	**05 51 39.5**	**-1.1**
PB01				IAML		05 51 41.1	
	comp=N,6μm,0.1s						
I08BO	**LAS PENAS INFR**	**2.73**	**20**	P	**Pn**	**05 51 20.0**	**+0.2**
	baz=221,slow=18,SNR=3.3						
LPAZ	**La Paz**	**2.79**	**26**	P	**Pn**	**05 51 23.5**	**+3.0**
	comp=N,545nm,0.6s,baz=208,slow=2.3,SNR=2808						
LPAZ				S	**Sn**	**05 51 51.8**	**-2.4**
	comp=N,343nm,0.7s,baz=200,slow=18,SNR=4.4						
LPAZ	**La Paz**	**2.79**	**26**	*eP*	**Pn**	**05 51 19.6**	**-0.9**
PB09	**IPOC Station P**	**2.98**	**177**		**Pn**	**05 51 23.8**	**+1.1**
PB09	**IPOC Station P**	**2.98**	**177**	*eP*	**Pn**	**05 51 23.3**	**+0.6**
PB03	**IPOC Station P**	**3.24**	**186**		**Pn**	**05 51 26.1**	**-0.1**
PB03	**IPOC Station P**	**3.24**	**186**	*eP*	**Pn**	**05 51 25.5**	**-0.7**
PB03				IAML		05 52 24.4	
	comp=E,2μm,0.6s						
PB06	**IPOC Station P**	**3.89**	**182**	*i P*	**Pn**	**05 51 34.1**	**-0.5**
SIV	**San Ignacio**	**8.44**	**72**	P	**Pn**	**05 52 35.6**	**-0.6**
	comp=E,234nm,0.5s,baz=266,slow=9.6,SNR=616						
NNA	**Nana**	**9.86**	**312**	Pn	**Pn**	**05 52 53.8**	**-1.5**
NNA	**Nana**	**9.86**	**312**	P	**Pn**	**05 52 53.7**	**-1.6**
	comp=E,15nm,0.3s,baz=149,slow=14,SNR=11						
NNA				S	Sn	05 54 35.3	-8.9
	comp=E,29nm,0.3s,baz=215,slow=20,SNR=5.8						
NNA	**Nana**	**9.86**	**312**	P	**Pn**	**05 52 52.5**	**-2.8**
	comp=E,74nm,0.7s						
NNA				S	Sn	05 54 34.9	-9.3
	comp=E,74nm,0.7s						
LCO	**Las Campanas**	**10.23**	**186**	Pn	Pn	05 52 55.6	-4.9
LCO	**Las Campanas**	**10.23**	**186**	P	Pn	05 52 55.6	-4.9
PTLB	**Pontes e Lacer**	**10.38**	**73**	Pn	**Pn**	**05 53 02.0**	**-0.3**
PTLB	**Pontes e Lacer**	**10.38**	**73**	*eP*	**Pn**	**05 53 00.6**	**-1.7**
VILB	**Vilhena**	**10.60**	**58**	Pn	**Pn**	**05 53 04.1**	**-1.3**
VILB	**Vilhena**	**10.60**	**58**	*eP*	**Pn**	**05 53 03.9**	**-1.5**
MURT	**Porto Murtinho**	**11.44**	**106**	*eP*	**Pn**	**05 53 14.4**	**-2.2**
CZSB	**Cruzeiro do Su**	**11.46**	**343**	Pn	**Pn**	**05 53 15.0**	**-1.9**
CZSB	**Cruzeiro do Su**	**11.46**	**343**	*eP*	**Pn**	**05 53 12.9**	**-4.0**
BDQN	**Bodoquena, MS**	**12.05**	**100**	*eP*	**Pn**	**05 53 21.9**	**-2.7**
ZON	**Zonda**	**12.71**	**177**		**Pn**	**05 53 32.6**	**-0.6**
ZON	**Zonda**	**12.71**	**177**	P	**Pn**	**05 53 32.6**	**-0.6**
CFA	**Coronel Fontan**	**12.79**	**175**	P	**Pn**	**05 53 30.6**	**-3.7**
	comp=E,1.7nm,0.3s,baz=349,slow=12,SNR=24						
CFA				S	Sn	05 55 43.2	-12
	comp=E,2.8nm,0.3s,baz=121,slow=23,SNR=5.2						
AQDB	**Aquidauana**	**13.03**	**100**		**Pn**	**05 53 36.4**	**-1.0**
AQDB	**Aquidauana**	**13.03**	**100**	*eP*	**Pn**	**05 53 35.4**	**-2.1**
SALV	**Santo Antonio**	**13.41**	**80**	*eP*	**Pn**	**05 53 39.0**	**-3.4**
CPUP	**Villa Florida**	**13.44**	**126**		**Pn**	**05 53 41.0**	**-1.7**
CPUP	**Villa Florida**	**13.44**	**126**	P	**Pn**	**05 53 40.5**	**-2.1**
	comp=E,11nm,0.4s,baz=299,slow=10,SNR=28						
CPUP				LR	LR	05 59 59.8	
	comp=E,152nm,19.3s,baz=320,slow=42						
CPUP	**Villa Florida**	**13.44**	**126**	P	**Pn**	**05 53 41.0**	**-1.7**
CPUP	**Villa Florida**	**13.44**	**126**	*eP*	**Pn**	**05 53 40.6**	**-2.0**
SJPY	**San Joaquin**	**13.80**	**119**	*eP*	**Pn**	**05 53 46.4**	**-1.1**
PDRB	**Porto dos Gac**	**14.17**	**62**	*eP*	**Pn**	**05 53 48.8**	**-3.4**
PEL	**Peldehue**	**14.33**	**184**		**Pn**	**05 53 53.3**	**-0.9**
PEL	**Peldehue**	**14.33**	**184**	P	**Pn**	**05 53 53.3**	**-0.9**
ATAH	**Atahualpa**	**14.52**	**322**	P	**Pn**	**05 53 56.0**	**-1.1**
	comp=E,7.0nm,0.7s,baz=18,slow=4.8,SNR=5.1						
TBTG	**Tabatinga, AM**	**14.54**	**358**		**Pn**	**05 53 56.8**	**0.0**
TBTG	**Tabatinga, AM**	**14.54**	**358**	*eP*	**Pn**	**05 53 57.5**	**+0.6**
RPRD	**Ribas do Rio P**	**14.90**	**99**	*eP*	**Pn**	**05 54 00.9**	**-0.5**
CLDB	**Colider**	**15.34**	**61**	*eP*	**Pn**	**05 54 05.2**	**-1.8**
C2SB	**Chapadao do Su**	**15.70**	**93**	*eP*	**Pn**	**05 54 09.7**	**-1.7**
TEFE	**Tefe**	**15.90**	**18**	*eP*	**Pn**	**05 54 13.0**	**-1.0**
H03N1	**Juan Fernandez**	**16.87**	**208**	P	**P**	**05 54 28.3**	**+2.7**
	baz=110,slow=14,SNR=50						
H03N1				T	T	06 12 26.2	
	baz=27,slow=73,SNR=62						
H03N2	**Juan Fernandez**	**16.88**	**208**	P	**P**	**05 54 28.8**	**+3.0**
	baz=110,slow=14,SNR=27						
H03N2				T	T	06 12 57.7	
	baz=27,slow=73,SNR=68						
H03N3	**Juan Fernandez**	**16.89**	**208**	P	**P**	**05 54 29.2**	**+3.3**
	baz=110,slow=14,SNR=46						
H03N3				T	T	06 12 56.8	
	baz=27,slow=73,SNR=82						
ARAG	**Araguaiana, MT**	**17.09**	**82**	*eP*	**P**	**05 54 27.7**	**-0.8**
LDASE	**Londrina, Braz**	**17.67**	**108**	*eP*	**P**	**05 54 33.8**	**-1.1**
TBOT	**Tacuaremb**	**17.67**	**139**	*eP*	**P**	**05 54 34.2**	**-0.5**
MACA	**Manacapuru-AM**	**17.74**	**30**	P	**P**	**05 54 35.0**	**-0.7**
MACA	**Manacapuru-AM**	**17.74**	**30**	*eP*	**P**	**05 54 34.9**	**-0.7**
ITAB	**Concordia**	**17.97**	**121**	P	**Pn**	**05 54 38.7**	**-0.4**
ITAB	**Concordia**	**17.97**	**121**	*eP*	**Pn**	**05 54 38.6**	**-0.6**
NPGB	**Novo Progresso**	**17.99**	**51**	*eP*	**P**	**05 54 37.4**	**-1.1**
ITRB	**Iturama**	**18.02**	**96**	*eP*	**P**	**05 54 38.8**	**+0.1**
CPSB	**Cacapava Do Su**	**18.53**	**132**	*eP*	**P**	**05 54 43.5**	**-0.8**
SNDB	**Serra Nova Dou**	**18.73**	**71**	*eP*	**P**	**05 54 46.3**	**-0.2**
FRTB	**Fartura**	**19.06**	**107**	*eP*	**P**	**05 54 49.8**	**-0.3**
PLTB	**Pedras Altas**	**19.23**	**135**	P	**P**	**05 54 51.0**	**-0.8**
PLTB	**Pedras Altas**	**19.23**	**135**	*eP*	**P**	**05 54 51.4**	**-0.4**
PIAT	**Ana Tenorio**	**19.71**	**333**	P	**P**	**05 54 58.6**	**+1.1**
	comp=E,28nm,0.8s						
PIAT				S	**Sn**	**05 58 39.4**	**-3.0**
	comp=E,28nm,0.8s						
BB19B	**Bebedouro**	**19.77**	**100**	*eP*	**P**	**05 54 56.5**	**-1.3**
CNLB	**Canela**	**19.89**	**125**	*eP*	**P**	**05 54 59.0**	**-0.1**
IPMB	**Ipameri, GO**	**20.14**	**91**	*eP*	**P**	**05 55 00.2**	**-1.7**
MAJ01	**Sao Joao Batis**	**20.60**	**118**	*eP*	**P**	**05 55 06.1**	**-0.6**
BDFB	**Brasilia**	**20.68**	**85**	P	**P**	**05 55 07.0**	**-0.7**
BDFB				IAmb	IAmb	05 55 12.1	
	comp=E,68nm,1.1s						
BDFB	**Brasilia**	**20.68**	**85**	P	**P**	**05 55 07.0**	**-0.7**
	comp=Z,32nm,0.4s,baz=264,slow=11,SNR=75						
	comp=Z,32nm,0.4s						
BDFB	**Brasilia**	**20.68**	**85**	P	**P**	**05 55 07.0**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,68nm,1.1s						
OTAV	**Otavalo**	**20.90**	**334**	P	**P**	**05 55 09.6**	**-0.8**
OTAV	**Otavalo**	**20.90**	**334**	P	**P**	**05 55 09.6**	**-0.8**
OTAV				pmax	pmax		
	comp=Z,14nm,0.8s						
OTAV	**Otavalo**	**20.90**	**334**	*eP*	**P**	**05 55 10.7**	**+0.2**
OTAV	**Otavalo**	**20.90**	**334**	P	Pn	05 55 13.8	-0.3
	comp=Z,421nmcomp=Z,17nm,0.7s						
TER01	**Tubaro-SC**	**20.92**	**121**	*eP*	**P**	**05 55 09.1**	**-1.0**
CUSE	**Cuicocha Este**	**20.94**	**334**	P	P	05 55 03.3	-7.5
FLF1	**Flavio Alfaro-**	**21.00**	**330**	P	**P**	**05 55 13.5**	**+2.5**
	comp=Z,101nm,0.9s						
SPB	**Sao Paulo**	**21.04**	**107**	P	**P**	**05 55 11.1**	**-0.3**
SPB				IAmb	IAmb	05 55 12.2	
	comp=Z,44nm,0.9s						
SPB	**Sao Paulo**	**21.04**	**107**	*eP*	**P**	**05 55 10.2**	**-1.2**
FLOC	**Florencia**	**21.17**	**342**	P	**P**	**05 55 12.7**	**-0.1**
VAO	**Valinhos**	**21.38**	**105**	P	**P**	**05 55 13.8**	**-1.4**
VAO				IAmb	IAmb	05 55 15.5	
	comp=Z,73nm,0.9s						
VAO	**Valinhos**	**21.38**	**105**	*eP*	**P**	**05 55 13.5**	**-1.6**
PMNB	**Patos De Minas**	**21.77**	**93**	*eP*	**P**	**05 55 17.2**	**-2.2**
PLCA	**Paso Flores**	**21.88**	**182**	P	**P**	**05 55 20.7**	**+0.5**
PLCA				IAmb	IAmb	05 55 22.9	
	comp=Z,111nm,0.9s						
PLCA	**Paso Flores**	**21.88**	**182**	P	**P**	**05 55 20.4**	**+0.1**
	comp=Z,69nm,0.9s,baz=360,slow=11,SNR=28						
	comp=Z,69nm,0.9s						
PLCA	**Paso Flores**	**21.88**	**182**	P	**P**	**05 55 20.7**	**+0.5**
PLCA				pmax	pmax		
	comp=Z,111nm,1.0s						
PLCA	**Paso Flores**	**21.88**	**182**	*eP*	**P**	**05 55 20.9**	**+0.6**
MAL2	**Monte Alegre,**	**22.38**	**44**	P	**P**	**05 55 24.0**	**-1.6**
PARB	**Paraibuna**	**22.65**	**106**	*eP*	**P**	**05 55 27.0**	**-1.3**
BOAV	**Boa Vista**	**22.81**	**23**	P	**P**	**05 55 28.9**	**-0.9**
BOAV				IAmb	IAmb	05 55 30.8	
	comp=Z,50nm,0.9s						
BOAV	**Boa Vista**	**22.81**	**23**	*eP*	**P**	**05 55 28.9**	**-0.9**
JAMC	**Jamundi, Valle**	**23.02**	**341**	P	**P**	**05 55 32.6**	**+0.5**
	comp=Z,18nm,1.1s						
ROSC	**El Rosal**	**23.99**	**348**	P	**P**	**05 55 40.7**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=346,slow=16,SNR=5.8						
	comp=Z,5.0nm,0.5s						
JANB	**Januaria**	**24.29**	**85**	*eP*	**P**	**05 55 41.2**	**-2.3**
DIAM	**Diamantina, MG**	**24.41**	**93**	*eP*	**P**	**05 55 42.9**	**-1.8**
SDBA	**SAO DESIDERIO**	**24.43**	**78**	*eP*	**P**	**05 55 43.5**	**-1.4**
PLMC	**San Jos del P**	**24.51**	**343**	P	**P**	**05 55 45.1**	**-0.4**
	comp=Z,33nm,1.1s						
NORC	**Norcasia**	**24.80**	**347**	P	**P**	**05 55 46.1**	**-2.0**
	comp=Z,19nm,1.0s						
RUSC	**La Rusia**	**24.80**	**351**	P	**P**	**05 55 48.5**	**-0.1**
RUSC				IAmb	IAmb	05 55 54.1	
	comp=Z,30nm,0.7s						
DUB01	**Friburgo-RJ**	**25.53**	**102**	*eP*	**P**	**05 55 52.9**	**-1.8**
CAM01	**Campos-RJ**	**26.19**	**101**	*eP*	**P**	**05 56 00.1**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**26.51**	**54**	*eP*	**P**	**05 56 03.4**	**-0.1**
SJMB	**Sao Joao De Ma**	**26.72**	**94**	*eP*	**P**	**05 56 04.8**	**-0.7**
COYC	**Coyhaique**	**26.79**	**184**	P	**P**	**05 56 05.7**	**0.0**
BSFB	**Barra de Sao F**	**27.03**	**95**	*eP*	**P**	**05 56 07.0**	**-1.2**
ALF01	**Guarapari-ES**	**27.05**	**99**	*eP*	**P**	**05 56 08.6**	**+0.2**
RIB01	**Linhares ES**	**27.42**	**96**	*eP*	**P**	**05 56 10.9**	**-0.8**
SDV	**Santo Domingo**	**27.54**	**357**	P	**P**	**05 56 12.6**	**-0.4**
SDV	**Santo Domingo**	**27.54**	**357**	LR	LR	06 10 05.7	
	comp=Z,98nm,18.2s,baz=56,slow=43						
SDV	**Santo Domingo**	**27.54**	**357**	*eP*	**P**	**05 56 11.5**	**-1.4**
BAUV	**El Baul**	**27.60**	**3**	P	**P**	**05 56 12.4**	**-0.9**
BAUV				IAmb	IAmb	05 56 18.2	
	comp=Z,40nm,0.7s						
GUA01	**Guaratinga, BA**	**28.28**	**90**	*eP*	**P**	**05 56 19.0**	**-0.3**
CMC01	**Camacan, BA**	**28.76**	**88**	*eP*	**P**	**05 56 22.9**	**-0.7**
MDP	**Montagnes des**	**28.94**	**36**	LR	LR	06 09 30.0	
	comp=Z,114nm,18.9s,baz=164,slow=39						
PCRV	**Puerto La Cruz**	**29.18**	**10**	LR	LR	06 09 30.7	
	comp=Z,121nm,18.1s,slow=39						
NBPB	**Pedra_Branca-C**	**31.93**	**69**	*eP*	**P**	**05 56 51.2**	**-0.4**
JTS	**Las Juntas de**	**32.72**	**331**	P	**P**	**05 57 00.2**	**+1.7**
JTS				pP	**pP**	**05 57 26.7**	**+1.6**
NBAN	**Anadia - AL**	**33.33**	**79**	*eP*	**P**	**05 57 02.2**	**-1.7**
NBCA	**Caruaru-PE**	**34.07**	**77**	*eP*	**P**	**05 57 09.7**	**-0.7**
**M

WVT Waverly 57.35 342 P P 06 00 11.0 -1.7
WVT pP **pP** **06 00 40.2 -1.4**
WVT sP **sP** **06 00 53.0 -1.6**
FW14 Alvarado 57.44 332 P P **06 00 13.8 +0.3**
FW14 IAmb IAmb 06 00 15.6
comp=Z,20nm,0.8s
FW13 Cleburne 57.51 332 IAmb IAmb 06 00 14.7
comp=Z,18nm,0.7s
R55A Marlinton 57.67 350 IAmb IAmb 06 00 17.0
comp=Z,27nm,1.4s
MIAR Mount Ida 57.82 336 P P **06 00 15.9 -0.1**
MIAR IAmb IAmb 06 00 16.4
comp=Z,12nm,0.9s
MIAR Mount Ida 57.82 336 P P **06 00 15.9 -0.1**
MIAR pmax pmax
comp=Z,12nm,0.9s
SAND Sanderson 57.82 326 IAmb IAmb 06 00 17.2
comp=Z,18nm,1.1s
SLBS Sierra La Lagu 57.85 315 P P **06 00 17.9 +1.3**
SLBS IAmb IAmb 06 00 18.7
comp=Z,33nm,1.4s
SLBS Sierra La Lagu 57.85 315 P P **06 00 17.7 +1.1**
SLBS pP **pP** **06 00 45.6 +0.7**
SLBS sP **sP** **06 00 57.8 0.0**
FW07 Weatherford 57.96 332 IAmb IAmb 06 00 17.9
comp=Z,19nm,0.7s
WHAR Wooly Hollow 58.01 338 IAmb IAmb 06 00 24.2
comp=Z,9.8nm,1.0s
OZNA Ozona 58.08 328 IAmb IAmb 06 00 18.5
comp=Z,28nm,1.2s
FW06 Azle 58.09 332 IAmb IAmb 06 00 19.1
comp=Z,20nm,0.9s
TX31 Lajitas Ar. Si 58.16 325 P P **06 00 18.7 0.0**
TXAR Lajitas Array 58.16 325 P P **06 00 18.8 +0.2**
TXAR Lajitas Array 58.16 325 P P **06 00 18.2 -0.4**
comp=Z,3.8nm,0.8s,baz=147,slow=7.9,SNR=38
TXAR pP **pP** **06 00 47.0 -0.1**
comp=Z,1.2nm,0.6s,baz=148,slow=10,SNR=3.4
comp=Z,3.8nm,0.8s
TXAR Lajitas Array 58.16 325 P P **06 00 18.8 +0.2**
Q56A Snyder Ridge, 58.26 351 IAmb IAmb 06 00 20.3
comp=Z,16nm,0.9s
PLPT Palo Pinto 58.29 331 IAmb IAmb 06 00 20.2
comp=Z,14nm,1.0s
LCAR Lake Charles 58.33 339 IAmb IAmb 06 00 19.2
comp=Z,7.3nm,0.8s
Q54A Coxs Mills 58.47 350 IAmb IAmb 06 00 20.9
comp=Z,14nm,0.8s
FCAR Ozark Folk Cen 58.49 338 IAmb IAmb 06 00 21.8
comp=Z,17nm,1.3s
WCI Wyandotte Cave 58.90 345 P P **06 00 22.6 -0.9**
WCI IAmb IAmb 06 00 23.0
comp=Z,15nm,0.8s
WCI Wyandotte Cave 58.90 345 P P **06 00 22.6 -0.9**
WCI pmax pmax
comp=Z,15nm,0.8s
WCI Wyandotte Cave 58.90 345 P P **06 00 22.0 -1.5**
WCI pP **pP** **06 00 52.0 -0.7**
WCI sP **sP** **06 01 04.0 -2.0**
ALPN Alpine 58.95 325 IAmb IAmb 06 00 25.7
comp=Z,7.7nm,0.8s
MCWV Mont Chateau 58.97 351 IAmb IAmb 06 00 24.9
comp=Z,17nm,0.8s
T42A Van Buren 59.18 340 IAmb IAmb 06 00 24.8
comp=Z,7.3nm,0.6s
P51A Williamsport 59.37 348 IAmb IAmb 06 00 26.4
comp=Z,14nm,0.9s
HHAR Hobbs 59.50 337 IAmb IAmb 06 00 27.8
comp=Z,20nm,1.3s
O54A Avella 59.56 350 IAmb IAmb 06 00 34.4
comp=Z,12nm,0.9s
W35A Tecumseh 59.66 334 IAmb IAmb 06 00 28.8
comp=Z,23nm,1.0s
MGMO Mountain Grove 59.69 339 IAmb IAmb 06 00 29.0
comp=Z,14nm,1.1s
O53A New Philadelph 59.77 350 IAmb IAmb 06 00 32.3
comp=Z,19nm,0.9s
PECS Pecos 59.85 326 IAmb IAmb 06 00 31.3
comp=Z,12nm,1.0s
POST Post 60.00 329 P P **06 00 31.1 -0.2**
VHRN Van Horn 60.01 325 IAmb IAmb 06 00 32.2
comp=Z,20nm,0.9s
ACSO Alum Creek Sta 60.08 348 P P **06 00 30.8 -0.8**
CCM Cathedral Cave 60.16 340 P P **06 00 31.0 -1.2**
CCM IAmb IAmb 06 00 32.1
comp=Z,21nm,1.1s
CCM Cathedral Cave 60.16 340 P P **06 00 31.0 -1.2**
CCM pmax pmax
comp=Z,21nm,1.2s
CCM Cathedral Cave 60.16 340 P P **06 00 31.0 -1.2**
CCM pP **pP** **06 01 01.2 0.0**
CCM sP **sP** **06 01 13.1 -1.1**
CCM PcP **PcP** **06 01 16.7 +0.1**
N53A Lisbon 60.25 350 IAmb IAmb 06 00 33.3
comp=Z,26nm,1.0s
O48B Farmland 60.56 346 IAmb IAmb 06 00 34.9
comp=Z,17nm,0.9s
N51A Ashland 60.62 349 IAmb IAmb 06 00 35.1
comp=Z,19nm,0.7s
T35A Sooner Cattle 61.04 335 IAmb IAmb 06 00 38.8
comp=Z,39nm,1.2s
M52A Chesterland 61.05 350 IAmb IAmb 06 00 38.0
comp=Z,17nm,0.8s
M50A Fremont 61.22 348 IAmb IAmb 06 00 39.1
comp=Z,24nm,0.8s
N47A Urbana 61.27 346 IAmb IAmb 06 00 45.6
comp=Z,18nm,0.8s
MBO M'Bour 61.30 61 P P **06 00 40.4 +0.1**
MBO M'Bour 61.30 61 P P **06 00 40.7 +0.4**
MBO pP **pP** **06 01 11.0 +1.4**
MBO sP **sP** **06 01 24.7 +2.1**
ERPA Erie 61.40 351 P P **06 00 40.5 +0.1**
BELA Belgrano 2 61.47 172 P P **06 00 41.8 +1.2**
BELA IAmb IAmb 06 00 43.0
comp=Z,35nm,1.5s
KAN13 South Haven SW 61.51 335 P P **06 00 41.4 +0.1**
J59A Piesco 62.13 356 IAmb IAmb 06 00 49.9
comp=Z,15nm,0.9s
VNA3 Neumayer Olymp 62.77 162 ⇓P P **06 00 49.6 +0.3**
comp=Z,13nm,0.8s
319A Douglas 62.88 322 IAmb IAmb 06 00 52.3
comp=Z,24nm,0.8s
121A Cookes Peak, D 62.88 324 IAmb IAmb 06 00 52.1
comp=Z,10.0nm,0.8s
KSU1 Kansas State U 62.98 336 IAmb IAmb 06 00 51.2
comp=Z,26nm,0.9s
N38A Joes South For 63.29 340 IAmb IAmb 06 00 52.8
comp=Z,13nm,0.8s
VNA2 Neumayer--Watz 63.34 161 ⇓P P **06 00 54.0 +0.9**
comp=Z,16nm,0.8s,baz=304,slow=12
DUN6 Lazy B Ranch 63.63 323 IAmb IAmb 06 00 56.9
comp=Z,25nm,0.9s
SADO Sadowa 63.88 352 P P **06 00 56.0 -0.9**
comp=Z,6.7nm,0.6s,baz=184,slow=9.4,SNR=4.5
comp=Z,6.7nm,0.6s
ANMO Albuquerque 63.99 327 P P **06 00 58.2 +0.1**
ANMO Albuquerque 63.99 327 P P **06 00 57.8 -0.3**
comp=Z,4.3nm,0.8s,baz=308,slow=7.7,SNR=22
comp=Z,4.3nm,0.8s
ANMO Albuquerque 63.99 327 ⇓*i*P P **06 00 58.1 +0.1**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 63.99 327 P P **06 00 58.3 +0.1**
ANMO pP **pP** **06 01 26.9 -0.5**
MNTQ Montreal, Queb 64.11 357 IAmb IAmb 06 01 03.2
comp=Z,29nm,0.9s
N35A Tabor 64.17 338 IAmb IAmb 06 01 00.0
comp=Z,25nm,0.7s
SCIA State Center 64.29 340 IAmb IAmb 06 00 59.6
comp=Z,26nm,0.8s
JFWS Jewell Farm 64.34 343 IAmb IAmb 06 00 59.8
comp=Z,20nm,0.6s
TUC Tucson 64.43 322 P P **06 01 01.0 +0.1**
TUC Tucson 64.43 322 P P **06 01 01.0 +0.1**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 64.43 322 P P **06 01 01.0 +0.1**
SNAA Sanae 64.97 161 P P **06 01 04.8 +1.0**
SNAA IAmb IAmb 06 01 05.5
comp=Z,9.6nm,0.8s
SNAA Sanae 64.97 161 ⇓P P **06 01 04.5 +0.7**
comp=Z,201nm,0.7s
SNAA Sanae 64.97 161 P P **06 01 03.7 -0.1**
comp=Z,6.7nm,0.7s,baz=278,slow=7.3,SNR=12
SNAA pP **pP** **06 01 34.3 +0.9**
comp=Z,12nm,0.9s,baz=287,slow=5.8,SNR=5.9
comp=Z,6.7nm,0.7s
SNAA Sanae 64.97 161 ⇓*e*P P **06 01 04.5 +0.7**
SNAA pmax pmax
comp=Z,14nm,1.1s
E62A Clayton Lake 65.11 360 P P **06 01 04.9 0.0**
E62A IAmb IAmb 06 01 09.3
comp=Z,15nm,1.1s
H43A Windswept, Lux 65.16 346 P P **06 01 04.5 -0.7**
H43A IAmb IAmb 06 01 05.0
comp=Z,27nm,0.9s
X18A Snowflake 65.57 324 IAmb IAmb 06 01 10.3
comp=Z,16nm,1.2s
D62A Allapoint, All 65.58 0 P P **06 01 07.9 +0.1**
D62A IAmb IAmb 06 01 12.5
comp=Z,15nm,0.8s
SDCO Great Sand Dun 65.70 329 P P **06 01 09.5 +0.3**
SDCO IAmb IAmb 06 01 10.6
comp=Z,16nm,0.9s
E46A Sault Ste Mari 66.25 349 IAmb IAmb 06 01 12.3
comp=Z,26nm,1.0s
I37A Lemond, Waseca 66.26 341 IAmb IAmb 06 01 12.4
comp=Z,19nm,0.7s
X16A Lo Mia Camp, P 66.33 323 IAmb IAmb 06 01 15.4
comp=Z,16nm,1.3s
Q24A Divide 66.50 330 IAmb IAmb 06 01 15.7
comp=Z,14nm,0.8s
TROLL Troll, Antarti 66.69 161 ⇓P P **06 01 15.6 +0.7**
comp=Z,378nm,0.7s
OGNE Ogallala 66.72 334 IAmb IAmb 06 01 16.3
comp=Z,12nm,0.7s
MVCO Mesa Verde 66.79 327 IAmb IAmb 06 01 17.6
comp=Z,15nm,1.1s
VTX Valle De La Tr 66.86 318 P P **06 01 16.4 -0.1**
VTX IAmb IAmb 06 01 18.8
comp=Z,31nm,1.5s
VLDQ Val d'Or 67.00 354 IAmb IAmb 06 01 17.5
comp=Z,13nm,1.0s
BRIGG Briggsdale 67.41 332 IAmb IAmb 06 01 21.7
comp=Z,27nm,1.1s
PV15 Paradox Valley 67.64 328 IAmb IAmb 06 01 23.4
comp=Z,21nm,1.0s
PV13 Radium Mtn., P 67.67 327 IAmb IAmb 06 01 23.2
comp=Z,17nm,1.2s
BLYC Blythe 67.67 320 IAmb IAmb 06 01 23.6
comp=Z,11nm,0.8s
ICQ Pointe Anglais 68.04 2 P P **06 01 23.1 -0.3**
ICQ IAmb IAmb 06 01 29.6
comp=Z,19nm,1.0s
U15A North Rim 68.26 324 IAmb IAmb 06 01 27.8
comp=Z,18nm,1.0s
DBIC Dimbokro 68.45 75 P P **06 01 25.9 -0.8**
comp=Z,43nm,0.7s,baz=236,slow=6.6,SNR=40
comp=Z,43nm,0.7s
DBIC Dimbokro 68.45 75 P P **06 01 25.9 -0.8**
DBIC pP **pP** **06 01 57.1 +0.4**
DBIC sP **sP** **06 02 10.0 +0.3**
PFO Pinyon Flats O 68.77 319 P P **06 01 28.6 +0.1**
PFO Pinyon Flats O 68.77 319 P P **06 01 29.3 +0.9**
comp=Z,9.0nm,0.8s,baz=102,slow=6.0,SNR=8.1
comp=Z,9.0nm,0.8s
PFO Pinyon Flats O 68.77 319 P P **06 01 28.6 +0.1**
PFO pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 68.77 319 P P **06 01 29.6 +1.2**
PFO pP **pP** **06 01 59.8 +2.0**
PFO sP **sP** **06 02 11.3 +0.8**
O20A White River Ci 68.90 329 IAmb IAmb 06 01 30.8
comp=Z,15nm,1.0s
KNB Kanab 68.98 324 IAmb IAmb 06 01 32.4
comp=Z,40nm,1.0s
V12A Nelson 69.23 322 IAmb IAmb 06 01 33.3
comp=Z,18nm,1.2s
TPNV Topopah Spring 70.89 322 IAmb IAmb 06 01 44.0
comp=Z,21nm,1.2s
E28A Huff 70.94 338 IAmb IAmb 06 01 42.0
comp=Z,20nm,0.8s
WCT Wildcat Mounta 71.00 321 IAmb IAmb 06 01 44.8
comp=Z,18nm,1.1s
ISA Isabella, Lake 71.37 320 P P **06 01 45.5 +1.2**
ISA Isabella, Lake 71.37 320 P P **06 01 45.5 +1.2**
ISA pmax pmax
comp=Z,10.0nm,0.9s
QSPA South Pole Qui 71.37 180 P P **06 01 45.3 +1.3**
QSPA IAmb IAmb 06 01 46.2
comp=Z,32nm,1.0s
QSPA South Pole Qui 71.37 180 P P **06 01 44.9 +0.9**
comp=Z,24nm,0.9s,baz=153,slow=1.9,SNR=48
comp=Z,24nm,0.9s
QSPA South Pole Qui 71.37 180 P P **06 01 45.0 +1.0**
QSPA pP **pP** **06 02 14.8 +1.0**
QSPA sP **sP** **06 02 28.8 +2.1**
PDAR Pinedale Array 71.55 330 P P **06 01 45.5 +0.1**
PDAR Pinedale Array 71.55 330 P P **06 01 45.1 -0.2**
comp=Z,2.3nm,0.8s,baz=151,slow=6.8,SNR=12
PDAR pP **pP** **06 02 15.3 0.0**
comp=Z,1.5nm,0.6s,baz=142,slow=7.6,SNR=4.4
comp=Z,2.3nm,0.8s
ULM Lac du Bonnet 72.61 343 P P **06 01 50.5 -0.7**
comp=Z,7.6nm,0.6s,baz=151,slow=5.5,SNR=20
ULM pP **pP** **06 02 21.0 -0.4**
comp=Z,12nm,0.6s,baz=156,slow=5.0,SNR=7.9
comp=Z,7.6nm,0.6s
ELK Elko 72.95 325 P P **06 01 53.8 0.0**
ELK Elko 72.95 325 P P **06 01 54.0 +0.2**
comp=Z,4.1nm,0.9s,baz=143,slow=2.6,SNR=14
ELK pP **pP** **06 02 23.9 +0.4**
comp=Z,2.8nm,0.7s,baz=140,slow=4.6,SNR=5.6
comp=Z,4.1nm,0.9s
ELK Elko 72.95 325 P P **06 01 53.8 0.0**
ELK pmax pmax
comp=Z,6.0nm,1.0s
LHV Little Huntoon 73.09 322 IAmb IAmb 06 01 56.9
comp=Z,13nm,0.9s
NVAR Mina Array Bea 73.09 322 P P **06 01 55.2 +0.6**
NVAR Mina Array Bea 73.09 322 P P **06 01 55.5 +0.9**
comp=Z,5.1nm,0.8s,baz=151,slow=6.3,SNR=18
comp=Z,5.1nm,0.8s
ELIB Princess Elisa 73.13 161 *d*P P **06 01 55.3 +1.0**
LAO LASA Array 73.16 334 P P **06 01 54.8 +0.2**
LAO IAmb IAmb 06 01 56.0
comp=Z,36nm,1.3s
LKWY Lake 73.32 331 IAmb IAmb 06 01 58.6
comp=Z,18nm,0.9s
SCHQ Schefferville 73.37 2 P P **06 01 55.0 -0.6**
comp=Z,2.6nm,0.6s,baz=226,slow=11,SNR=4.1
comp=Z,2.6nm,0.6s
YNE Yellowstone No 73.47 331 IAmb IAmb 06 01 58.4
comp=Z,38nm,0.8s
YMR Madison River 73.66 330 IAmb IAmb 06 02 00.3
comp=Z,30nm,1.3s
YHB Horse Butte 73.83 330 IAmb IAmb 06 02 01.0
comp=Z,16nm,0.7s
HLID Hailey 74.52 328 IAmb IAmb 06 02 05.1
comp=Z,14nm,0.9s
PAHR Pah Rah Range 74.56 322 IAmb IAmb 06 02 05.5
comp=Z,27nm,0.8s
DLMT Dillon 74.94 330 IAmb IAmb 06 02 07.0
comp=Z,24nm,1.4s
MFID Camas Ranch 75.14 327 P P **06 02 06.9 +0.7**
MFID IAmb IAmb 06 02 08.6
comp=Z,21nm,1.0s
EGMT Eagleton 75.69 333 IAmb IAmb 06 02 10.4
comp=Z,15nm,0.8s
PLID Pearl Lake 76.41 328 IAmb IAmb 06 02 15.2
comp=Z,21nm,0.9s
BMO Blue Mountains 76.90 327 P P **06 02 17.3 +1.1**
BMO IAmb IAmb 06 02 18.0
comp=Z,16nm,0.9s
BMO Blue Mountains 76.90 327 P P **06 02 17.3 +1.1**
BMO pmax pmax
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 76.92 71 P P **06 02 15.8 -1.0**
TORD IAmb IAmb 06 02 19.7
comp=Z,29nm,0.8s
TORD Torodi Ar. Bea 76.92 71 P P **06 02 15.8 -1.0**
comp=Z,29nm,0.7s,baz=271,slow=5.5,SNR=14
comp=Z,29nm,0.7s
YBH Yreka Blue Hor 77.80 322 P P **06 02 20.9 -0.4**
comp=Z,4.0nm,1.0s,baz=108,slow=4.4,SNR=4.9
comp=Z,4.0nm,1.0s
E09A Wood Farm, Sta 78.47 328 IAmb IAmb 06 02 27.4
comp=Z,22nm,1.4s
I05D Terrebonne, OR 78.69 325 IAmb IAmb 06 02 28.4
comp=Z,19nm,0.8s
HAWA Hanford 79.10 327 IAmb IAmb 06 02 30.3
comp=Z,16nm,0.9s
SYO Syowa Base 79.18 160 ⇓*e*P P **06 02 29.2 +0.8**
NEW Newport 79.19 330 P P **06 02 28.5 -0.2**
comp=Z,2.6nm,0.7s,baz=132,slow=7.4,SNR=7.0
comp=Z,2.6nm,0.7s
VNDA Vanda 79.41 190 P P **06 02 30.7 +1.2**
comp=Z,5.5nm,0.9s,baz=82,slow=4.9,SNR=4.2
comp=Z,5.5nm,0.9s
PFVI Vila Bisbo 79.68 45 *e*P P **06 02 33.3 +1.7**
MORF Marmelete 79.89 45 *e*P P **06 02 34.0 +1.3**
MORF IAmb IAmb 06 02 38.3
comp=Z,22nm,0.7s
MORF Marmelete 79.89 45 *e*P P **06 02 34.5 +1.7**
MORF Marmelete 79.89 45 *e*P P **06 02 34.0 +1.3**
LTY Liberty 80.25 327 IAmb IAmb 06 02 36.4
comp=Z,25nm,1.4s
PBDV Barranco-do-Ve 80.34 45 *e*P P **06 02 36.6 +1.4**
PBDV *i* Amb 06 02 51.8
comp=Z,107nm,1.9s
MDT Midelt 80.40 51 LR LR 06 36 33.3
comp=Z,61nm,19.2s,baz=298,slow=34
MESJ Messejana 80.47 45 *e*P P **06 02 37.0 +1.2**
MESJ IAmb IAmb 06 02 38.3
comp=Z,100nm,1.8s
MESJ Messejana 80.47 45 *e*P P **06 02 37.4 +1.6**
MESJ *i* Amb 06 02 47.9
comp=Z,72nm,2.2s
MESJ Messejana 80.47 45 *e*P P **06 02 37.0 +1.2**
PCVE Castro Verde 80.47 45 *e*P P **06 02 37.1 +1.2**
PVAQ Vaqueiros 80.57 45 *e*P P **06 02 36.9 +0.5**
PBEJ Beja 80.80 45 *e*P P **06 02 38.6 +1.1**
D05A Enumclaw 80.89 327 IAmb IAmb 06 02 39.4
comp=Z,27nm,0.9s
EVO Evora 80.97 44 *e*P P **06 02 38.5 0.0**
PSBE So Bento 81.00 43 *e*P P **06 02 39.7 +1.0**
PMTG Montargil 81.13 44 *e*P P **06 02 40.6 +1.3**
TSUM Tsumeb 81.28 107 P P **06 02 40.4 -0.4**
TSUM IAmb IAmb 06 02 42.2
comp=Z,15nm,0.8s
RADR Rader Ridge 81.36 325 P P **06 02 41.1 +0.7**
RADR IAmb IAmb 06 02 42.6
comp=Z,20nm,0.9s
PBAR Barrancos 81.43 45 *e*P P **06 02 41.5 +0.6**
PCAS Casmilo, Conde 81.48 43 *e*P P **06 02 41.6 +0.5**
PCAS *i* Amb 06 02 47.2
comp=Z,185nm,1.8s
MTE Manteigas 82.28 43 *e*P P **06 02 48.7 +3.2**
PVRL Vila Real 82.65 42 *e*P P **06 02 48.7 +1.5**
MVO Moncorvo 83.03 42 *e*P P **06 02 49.6 +0.4**
LLLB Lillooet 83.06 329 IAmb IAmb 06 02 50.2
comp=Z,15nm,1.1s
PBRG Braganca 83.55 42 *e*P P **06 02 52.4 +0.5**
PAB San Pablo 83.94 45 P P **06 02 54.5 +0.6**
PAB IAmb IAmb 06 02 55.4
comp=Z,31nm,1.2s
PAB San Pablo 83.94 45 P P **06 02 54.5 +0.6**
PAB pmax pmax
comp=Z,31nm,1.2s
ESDC Sonseca Array 84.26 45 P P **06 02 55.9 +0.4**
ESDC IAmb IAmb 06 03 01.4
comp=Z,14nm,1.0s
ESDC Sonseca Array 84.26 45 P P **06 02 55.5 -0.1**
comp=Z,6.0nm,0.9s,baz=249,slow=5.1,SNR=21
ESDC pP **pP** **06 03 27.5 +0.9**
comp=Z,8.8nm,0.9s,baz=258,slow=4.9,SNR=7.8
ESDC LR LR 06 40 05.8
comp=Z,50nm,18.4s,baz=230,slow=35
comp=Z,6.0nm,0.9s
CBB Campbell River 84.42 328 IAmb IAmb 06 02 57.6
comp=Z,15nm,0.9s
BOSA Boshof 85.13 118 P P **06 03 00.8 +0.3**
comp=Z,3.1nm,0.6s,baz=252,slow=4.8,SNR=8.1
BOSA LR LR 06 38 00.4
comp=Z,40nm,20.6s,baz=202,slow=33
comp=Z,3.1nm,0.6s
BBB Bella Bella 87.10 328 P P **06 03 09.6 +0.4**
comp=Z,5.0nm,0.7s,baz=82,slow=6.2,SNR=4.2
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 88.50 341 P P **06 03 15.5 -0.1**
comp=Z,22nm,0.8s,baz=140,slow=4.9,SNR=341
YKA pP **pP** **06 03 46.1 -0.5**
comp=Z,7.3nm,0.7s,baz=139,slow=4.8,SNR=6.5
comp=Z,22nm,0.8s
T35M Bob Quinn 90.88 331 IAmb IAmb 06 03 28.4
comp=Z,6.9nm,0.8s
DLBC Dease Lake 91.60 333 IAmb IAmb 06 03 31.9
comp=Z,15nm,0.9s
S34M Telegraph Cree 91.80 332 IAmb IAmb 06 03 33.2
comp=Z,9.4nm,1.1s
WTLY Watson Lake, Y 92.05 334 IAmb IAmb 06 03 33.6
comp=Z,8.5nm,0.8s
EKA Eskdalemuir Ar 92.58 32 P P **06 03 34.7 -0.1**
comp=Z,0.8nm,0.6s,baz=248,slow=5.4,SNR=1.5
comp=Z,0.8nm,0.6s
SUMG Summit 93.48 9 P P **06 03 42.5 +3.4**
SUMG IAmb IAmb 06 03 48.2
comp=Z,13nm,1.0s
SUMG Summit 93.48 9 P P **06 03 42.5 +3.4**
SUMG pmax pmax
comp=Z,13nm,1.0s
A36M Sachs Harbour 97.99 345 IAmb IAmb 06 03 59.2
comp=Z,4.4nm,0.8s
E29M Blow River 99.72 340 IAmb IAmb 06 04 07.9
comp=Z,5.2nm,1.1s
ILAR Eielson Array 101.62 335 P **Pdif** **06 04 15.2 -0.2**
comp=Z,0.1nm,0.6s,baz=138,slow=3.3,SNR=4.4
ILAR PP PP 06 08 18.7 -8.6
comp=Z,0.3nm,0.8s,baz=108,slow=7.3,SNR=4.2
BRTR Keskin Array B 111.65 54 PP **PP** **06 09 37.3 -4.4**
comp=Z,1.3nm,0.8s,baz=250,slow=4.5,SNR=4.5
NCK Nalchik 119.29 50 ⇓*i*PKIKP **PKiKP** **06 09 12.9 +0.5**
BILL Bilibino 119.85 339 ⇓*i*PKIKP **PKiKP** **06 09 13.8 +1.0**
STKA Stephens Creek 121.49 211 PKP **PKPdf** **06 09 17.0 0.0**
comp=Z,2.7nm,0.7s,baz=126,slow=3.5,SNR=6.0
TIXI Tiksi 126.07 353 ⇑*e*PKIKP **PKPdf** **06 09 24.1 -0.4**
H11S2 WAKE ISLAND Hyl 27.02 279 T T 08 28 51.4
baz=100,slow=75,SNR=191
H11S1 WAKE ISLAND Hyl 27.03 279 T T 08 28 52.0
baz=100,slow=75,SNR=117
H11N3 WAKE ISLAND Hyl 27.03 281 T T 08 28 54.2
baz=100,slow=75,SNR=18
H11S3 WAKE ISLAND Hyl 27.04 279 T T 08 28 52.8
baz=100,slow=75,SNR=143
H11N2 WAKE ISLAND Hyl 27.05 281 T T 08 28 55.1
baz=100,slow=75,SNR=18
H11N1 WAKE ISLAND Hyl 27.05 281 T T 08 28 51.6
baz=100,slow=75,SNR=5.6
SEY Seymchan 127.44 337 PKP **PKiKP** **06 09 28.2 +0.3**
comp=Z,12nm,0.8s,baz=110,slow=2.5,SNR=52
SEY Seymchan 127.44 337 *i* PKIKP **PKPdf** **06 09 27.4 0.0**
SEY *e* 06 10 00.4
SEY pmax pmax
comp=Z,15nm,1.0s
AKTO Aktyubinsk 127.92 40 PKP **PKiKP** **06 09 29.3 +0.1**
comp=Z,0.9nm,0.6s,baz=257,slow=2.0,SNR=3.5
AKTO pPKP **pPKPdf** **06 10 01.2 -0.2**
comp=Z,1.6nm,0.7s,baz=273,slow=4.0,SNR=4.4
ABKAR Akbulak array 129.47 41 **PKiKP** **06 09 33.2 +0.8**
MA2 Magadan 130.10 335 PKP **PKiKP** **06 09 33.1 -0.2**
comp=Z,1.3nm,0.3s,baz=75,slow=9.8,SNR=3.7
MA2 SKPbc **SKPbc** **06 12 45.6 +0.7**
comp=Z,1.9nm,0.3s,baz=125,slow=7.3,SNR=3.6
PETK Petropavlovsk- 130.11 325 PKP **PKiKP** **06 09 33.3 -0.3**
comp=Z,9.4nm,0.9s,baz=85,slow=3.1,SNR=5.0
AS31 Alice Springs 132.05 209 PKPdf **PKPdf** **06 09 37.3 -0.2**
ASAR Alice Springs 132.05 209 **PKPdf** **06 09 37.7 +0.2**
ASAR Alice Springs 132.05 209 PKP **PKPdf** **06 09 37.5 0.0**
comp=Z,4.9nm,0.8s,baz=137,slow=1.9,SNR=27
ASAR PP **PP** **06 11 57.6 -1.3**
comp=Z,2.2nm,1.1s,baz=151,slow=5.6,SNR=6.0
ASAR SKPbc **SKPbc** **06 12 52.6 -0.7**
comp=Z,4.8nm,1.1s,baz=147,slow=3.7,SNR=8.3
ASAR Alice Springs 132.05 209 PKIKP **PKPdf** **06 09 37.7 +0.2**
WRA Warramunga Arr 135.00 212 PKP **PKPdf** **06 09 43.5 +0.4**
comp=Z,5.2nm,0.6s,baz=154,slow=1.6,SNR=22
WRA pPKP **pPKPdf** **06 10 15.4 -0.2**
comp=Z,2.4nm,0.7s,baz=158,slow=1.7,SNR=3.4
WRA SKPbc **SKPbc** **06 13 02.8 -0.4**
comp=Z,3.3nm,1.1s,baz=149,slow=3.0,SNR=5.8
WRAB Tennant Creek 135.00 212 ⇓*e*PKIKP **PKPdf** **06 09 43.1 0.0**
WB0 Warramunga Arr 135.12 213 PKPdf **PKPdf** **06 09 43.6 +0.3**
KURK Kurchatov 139.31 31 ⇑*e*PKIKP **PKPdf** **06 09 50.4 +0.4**
KURBB Kurchatov Arra 139.32 31 PKP **PKPdf** **06 09 49.4 -0.6**
comp=Z,0.9nm,0.7s,baz=312,slow=2.8,SNR=6.3
ZALV Zalesovo Beam 139.70 23 PKP **PKPdf** **06 09 50.4 -0.2**
comp=Z,4.7nm,0.7s,baz=243,slow=1.0,SNR=4.9
AAK Ala-Archa 141.36 44 PKP **PKPdf** **06 09 54.4 +0.2**
comp=Z,1.5nm,0.6s,baz=258,slow=8.4,SNR=4.3
AAK Ala-Archa 141.36 44 ⇓*e*PKIKP **PKPdf** **06 09 53.5 -0.7**

YSS	**Yuzhno-Sakhali**	**141.51**	**324**	*e*PKIKP	**PKPdf**	**06 09 54.4**	**+0.3**
YSS				pmax	pmax		
comp=Z,10.0nm,0.7s							
MTN	**Manton Dam**	**142.59**	**214**		PKPpre	06 09 52.6	
MAKZ	**Makanchi**	**143.52**	**34**	PKPdf	**PKPdf**	**06 09 58.3**	**+0.6**
MAKZ	**Makanchi**	**143.52**	**34**	PKIKP	**PKPdf**	**06 09 58.3**	**+0.6**
MK31	**Makanchi Array**	**143.69**	**33⇑**	*e*PKIKP	**PKPdf**	**06 09 58.8**	**+0.7**
MKAR	**Makanchi Array**	**143.69**	**33**	PKP	PKPab	06 09 55.4	+0.3
comp=Z,0.7nm,0.5s,baz=336,slow=2.7,SNR=11							
MKAR				pPKP	pPKPdf	06 10 29.7	-1.0
comp=Z,1.9nm,0.6s,baz=300,slow=3.3,SNR=5.0							
MKAR				SKP		06 13 23.1	
comp=Z,1.8nm,0.8s,baz=343,slow=1.3,SNR=5.0							
KSH	**Kashi**	**143.72**	**48**	PKP	**PKiKP**	**06 10 00.3**	**-1.6**
KSH				PP	**PP**	**06 13 11.6**	**-0.6**
KLR	**Kul'dur**	**145.19**	**336**	PKPbc	**PKPdf**	**06 10 00.6**	**+0.1**
comp=Z,18nm,0.6s,baz=54,slow=3.4,SNR=70							
KLR	**Kul'dur**	**145.19**	**336***d*	*i*PKIKP	**PKPbc**	**06 10 00.4**	**+0.1**
HEH	**HeiHe**	**145.87**	**341**	PKPbc	**PKPbc**	**06 10 02.3**	**-0.1**
MOY	**Mondy**	**146.34**	**11**	*e*PKP2	**PKPab**	**06 10 04.8**	**-0.2**
MOY				pmax	pmax		
comp=Z,13nm,1.4s							
ZAK	**Zakamensk**	**147.96**	**9**	*e*PKP2	**PKPbc**	**06 10 07.7**	**-0.8**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.2s							
WMQ	**Urumqi**	**148.51**	**33**	*e*PKPbc	**PKPdf**	**06 10 07.2**	**+0.8**
WMQ				pPKP	pPKPdf	06 10 37.1	-2.0
SOEI	**Soe**	**148.58**	**207**	PKPab	**PKiKP**	**06 10 12.8**	**+0.1**
USA0B	**Ussuriysk Arra**	**148.97**	**329***d*	*i*PKP2	**PKPbc**	**06 10 11.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**148.97**	**329**		**PKPbc**	**06 10 11.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**148.97**	**329**	PKPbc	**PKiKP**	**06 10 11.9**	**-0.5**
comp=Z,24nm,0.9s,baz=4.4,slow=1.3,SNR=4.1							
USRK	**Ussuriysk Ar.**	**148.97**	**329**	PKP2	**PKPbc**	**06 10 11.8**	**+0.7**
BNX	**BinXian**	**149.74**	**336**	PKPbc	**PKPdf**	**06 10 05.6**	**-2.6**
MJAR	**Matsushiro Arr**	**149.98**	**312**	PKPbc	**PKPbc**	**06 10 13.9**	**0.0**
comp=Z,21nm,0.8s,baz=88,slow=1.2,SNR=30							
MJAR				pPKPbc	**pPKPbc**	**06 10 47.7**	**+1.5**
comp=Z,6.5nm,0.6s,baz=86,slow=1.6,SNR=3.4							
MAJO	**Matsushiro**	**149.98**	**312⇑**	*i*PKHKP	PKPpre	06 10 13.7	
SONM	**Songino Array**	**150.84**	**6**	PKPdf	**PKPdf**	**06 10 11.1**	**+1.1**
SONM				PKPbc	**PKiKP**	**06 10 16.7**	**+0.3**
SONM				PKPab	**PKPab**	**06 10 24.2**	**+1.0**
SONM	**Songino Array**	**150.84**	**6**	PKP	**PKPdf**	**06 10 10.6**	**+0.6**
comp=Z,2.9nm,1.0s,baz=256,slow=1.2,SNR=10							
SONM				PKPbc	**PKiKP**	**06 10 16.2**	**-0.2**
comp=Z,12nm,0.7s,baz=329,slow=1.6,SNR=57							
SONM				pPKPbc	**pPKPbc**	**06 10 49.0**	**+0.6**
comp=Z,11nm,0.7s,baz=323,slow=1.4,SNR=7.6							
SONM	**Songino Array**	**150.84**	**6**	PKIKP	**PKPdf**	**06 10 11.1**	**+1.1**
SONM						06 10 24.2	
ULN	**Ulaanbaatar**	**150.87**	**5**		**PKiKP**	**06 10 16.4**	**0.0**
ULN	**Ulaanbaatar**	**150.87**	**5**	PKIKP	**PKiKP**	**06 10 16.4**	**0.0**
CN2	**Changchun**	**152.12**	**337**	PKPbc	**PKiKP**	**06 10 18.9**	**0.0**
KSRS	**Korea Array**	**156.01**	**324**	PKP	**PKPdf**	**06 10 18.6**	**+1.0**
comp=Z,0.9nm,0.4s,baz=75,slow=5.2,SNR=2.5							
KSRS				PKPab	**PKPab**	**06 10 45.2**	**0.0**
comp=Z,3.1nm,0.9s,baz=38,slow=6.3,SNR=4.5							
GTA	**Gaotai**	**157.45**	**22**	*e*PKP	**PKPdf**	**06 10 20.5**	**+1.0**
HHC	**Hu-ho-hao-te**	**158.01**	**358**	*e*PKP	**PKPdf**	**06 10 22.4**	**+2.2**
HNS	**HongShan**	**161.12**	**350**	⇓PKP	**PKPdf**	**06 10 25.4**	**+1.8**
LZH	**Lanzhou**	**161.78**	**18**	*e*PKP	**PKPdf**	**06 10 23.3**	**-1.3**
NJ2	**Nanjing**	**164.85**	**332**	*e*PKP	**PKPdf**	**06 10 27.2**	**-0.2**
CD2	**Chengdu**	**166.45**	**26**	PKP	**PKPdf**	**06 10 28.5**	**-0.3**
PZH	**PanZhiHua**	**168.81**	**45**	PKP	**PKPdf**	**06 10 30.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**168.96**	**90**	PKPab	**PKPab**	**06 11 43.0**	**+0.3**
comp=Z,1.3nm,0.3s,baz=275,slow=6.0,SNR=6.7							

IDC 07 05:50:51.4±3.0, 31°.95S×178°.13W, h0km, mb3.7/2, mbtmp3.7/3, Error ellipse: s-maj=76.5km s-min=46.7km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.41**	**210**	Pn	Pn	05 52 39.4	-1.3
6.1nm,0.7s,baz=60,slow=15,SNR=0.8							
URZ				Sn	Sn	05 54 01.2	-4.2
1.1nm,0.3s,baz=265,slow=21,SNR=2.1							
ASAR	**Alice Springs**	**42.94**	**269**	P	P	05 58 52.4	+0.2
0.4nm,0.5s,baz=113,slow=7.7,SNR=2.4							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**44.07**	**274**	P	P	05 59 01.4	0.0
0.7nm,0.4s,baz=112,slow=7.9,SNR=4.6							
0.7nm,0.4s							
FINES	**FINESS Array B**	**146.55**	**339**	PKPbc	PKPdf	06 10 33.1	+0.7
1.1nm,0.4s,baz=45,slow=3.6,SNR=7.4							

*IDC **07** 05:57:25.2±5.0, 21°.69S×179°.52W, h606km±59km, mb3.4/14, mbtmp4.3/14, Error ellipse: s-maj=23.2km s-min=19.7km az=68.0*

ISC 07 05:57:25.1±0.7, 21°.7S±0°.2×179°.5W±0°.1, h604km, n16, σ0s74/16, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.01**	**245**	P	**P**	**06 03 37.3**	**+0.2**
4.3nm,0.5s,baz=94,slow=9.4,SNR=12							
4.3nm,0.5s							
ASAR	**Alice Springs**	**42.89**	**258**	P	**P**	**06 04 32.0**	**-0.2**
12nm,0.8s,baz=98,slow=7.9,SNR=99							
ASAR				PcP	**PcP**	**06 06 08.7**	**-0.2**
0.6nm,0.6s,baz=94,slow=5.0,SNR=3.2							
12nm,0.8s							
WRA	**Warramunga Arr**	**43.05**	**264**	P	**P**	**06 04 32.8**	**-0.7**
5.5nm,0.5s,baz=97,slow=7.6,SNR=43							
5.5nm,0.5s							
QSPA	**South Pole Qui**	**68.39**	**180**	P	**P**	**06 07 27.3**	**-0.1**
4.1nm,0.8s,baz=340,slow=1.2,SNR=11							
4.1nm,0.8s							
MJAR	**Matsushiro Arr**	**70.34**	**325**	P	**P**	**06 07 39.2**	**-0.2**
2.5nm,0.5s,baz=132,slow=5.2,SNR=4.9							
2.5nm,0.5s							
PETK	**Petropavlovsk-**	**77.06**	**346**	P	**P**	**06 08 15.7**	**-1.1**
2.1nm,0.8s,baz=157,slow=5.9,SNR=1.4							
2.1nm,0.8s							
YBH	**Yreka Blue Hor**	**82.09**	**39**	P	**P**	**06 08 43.9**	**+0.3**
1.5nm,0.8s,baz=248,slow=11,SNR=2.8							
1.5nm,0.8s							
KLR	**Kul'dur**	**82.84**	**330**	P	**P**	**06 08 47.1**	**+0.1**
1.0nm,0.7s,baz=324,slow=0.8,SNR=4.3							
1.0nm,0.7s							
NVAR	**Mina Array Bea**	**82.85**	**44**	P	**P**	**06 08 47.4**	**-0.3**
0.5nm,0.5s,baz=221,slow=11,SNR=4.4							
0.5nm,0.5s							
ELK	**Elko**	**86.10**	**43**	P	**P**	**06 09 04.4**	**+1.0**
0.4nm,0.4s,baz=302,slow=8.3,SNR=3.8							
0.4nm,0.4s							
SEY	**Seymchan**	**87.21**	**348**	P	**P**	**06 09 07.8**	**+0.1**
1.2nm,0.6s,baz=144,slow=8.2,SNR=5.8							
1.2nm,0.6s							
TXAR	**Lajitas Array**	**88.88**	**58**	P	**P**	**06 09 16.8**	**+0.3**
0.8nm,0.8s,baz=210,slow=6.4,SNR=8.4							
0.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**89.19**	**290**	P	**P**	**06 09 19.9**	**+1.8**
1.2nm,0.3s,baz=128,slow=2.9,SNR=8.0							
1.2nm,0.3s							
PLCA	**Paso Flores**	**89.48**	**134**	P	**P**	**06 09 18.8**	**-0.4**
1.9nm,0.9s,baz=72,slow=14,SNR=3.3							
1.9nm,0.9s							
AKASG	**Malin Array Be**	**143.33**	**329**	PKP	PKPab	06 15 48.8	-1.2
1.4nm,0.3s,baz=44,slow=4.4,SNR=29							
BRTR	**Keskin Array B**	**146.55**	**310**	PKPbc	**PKPbc**	**06 15 59.4**	**-0.8**
0.9nm,0.7s,baz=152,slow=5.6,SNR=5.9							

*IDC **07** 06:08:11.3±3.4, 53°.61N×88°.04E, h0km, mbtmp3.8/2, ML2.6/2, Error ellipse: s-maj=30.2km s-min=17.8km az=52.0*

ASRS 07 06:08:07.0±0.8, 53°.70N×88°.07E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**279**	I	I	06 25 00.0	
0.1nm,1.3s,baz=98,slow=313,SNR=8.2							
ZALV	**Zalesovo Beam**	**1.94**	**279**	Pg	Pg	06 08 45.5	+1.2
1.7nm,0.3s,baz=101,slow=13,SNR=15							
ZALV				Lg	Lg	06 09 12.2	
2.5nm,0.3s,baz=101,slow=27,SNR=15							
KURBB	**Kurchatov Arra**	**6.63**	**246**	Pn	Pn	06 09 50.5	+4.9
baz=60,slow=14,SNR=3.5							
KURBB				Lg	Lg	06 11 39.5	
baz=64,slow=30,SNR=8.9							
70nm,0.9s							
MKAR	**Makanchi Array**	**7.84**	**210**	Pn	Pn	06 10 06.5	+4.2
0.2nm,0.3s,baz=27,slow=12,SNR=4.4							
MKAR				Lg	Lg	06 12 17.0	
baz=32,slow=32,SNR=5.5							
1.0nm,0.9s							
MKAR	**Makanchi Array**	**7.84**	**210**	PKIKP	Pn	06 10 06.5	+4.2

IDC 07 06:18:31.0±1.1, 20°.96N×144°.71E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=56.2km s-min=24.4km az=103.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.81**	**320**	P	P	06 26 14.3	-0.1
0.2nm,0.4s,baz=101,slow=7.5,SNR=1.7							
0.2nm,0.4s							
WRA	**Warramunga Arr**	**41.90**	**195**	P	P	06 26 23.6	+0.2
0.5nm,0.5s,baz=17,slow=8.1,SNR=1.8							
0.5nm,0.5s							
ASAR	**Alice Springs**	**45.59**	**194**	P	P	06 26 52.6	-0.5
0.2nm,0.4s,baz=13,slow=7.7,SNR=4.6							
0.2nm,0.4s							
ILAR	**Eielson Array**	**62.05**	**27**	P	P	06 28 53.0	-0.1
0.5nm,0.9s,baz=264,slow=6.6,SNR=4.9							
0.5nm,0.9s							
YKA	**Yellowknife Ar**	**76.44**	**28**	P	P	06 30 22.4	+0.2
0.3nm,0.7s,baz=288,slow=5.4,SNR=5.8							
0.3nm,0.7s							

*IDC **07** 06:29:55.2±1.6, 31°.82S×177°.92W, h0km, mb4.2/4, mbtmp4.2/4, MS3.5/1, Error ellipse: s-maj=42.1km s-min=38.2km az=3.0*

*WEL **07** 06:29:56.0±1.3, 32°.5±8°.×17°.8W±2°.9, h33km, M4.2/8, mB4.5/6, ML4.9/10, MLv4.7/8, Mw(mB)3.6/6, Error ellipse: s-maj=39.3km s-min=4.6km az=105.0, confirmed*

ISC 07 06:29:58.7±1.2, 31°.9S±0°.1×178°.4W±0°.4, h35km, n20, σ1s50/24, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.68**	**8**	P	**Pn**	**06 30 38.4**	**-1.0**
GLKZ				S	**Sn**	**06 31 11.0**	**+0.4**
MXZ	**Matakaoa Point**	**6.26**	**205**	P	**Pn**	**06 31 25.9**	**-2.6**
MXZ				S	**Sn**	**06 32 38.8**	**0.0**
PKGZ	**Pakihiroa**	**6.61**	**205**	P	**Pn**	**06 31 31.4**	**-1.9**
PKGZ				S	**Sn**	**06 32 46.9**	**-0.7**
HAZ	**Te Kaha**	**6.63**	**208**	P	**Pn**	**06 31 33.6**	**0.0**
HAZ				S	**Sn**	**06 32 51.0**	**+3.2**
PUZ	**Puketiti**	**6.73**	**204**	P	**Pn**	**06 31 34.0**	**-1.1**
RUGZ	**Raukumara Rang**	**6.85**	**207**	P	**Pn**	**06 31 37.3**	**+0.6**
CNGZ	**Carnagh Statio**	**7.12**	**202**	P	**Pn**	**06 31 38.3**	**-2.1**
MWZ	**Matawai**	**7.23**	**207**	P	**Pn**	**06 31 40.4**	**-1.5**
URZ	**Urewera**	**7.33**	**209**	Pn	**Pn**	**06 31 42.3**	**-1.0**
1.5nm,0.3s,baz=56,slow=2.5,SNR=9.3							
URZ				Sn	**Sn**	**06 33 04.3**	**-0.9**
4.7nm,0.3s,baz=340,slow=23,SNR=12							
URZ	**Urewera**	**7.33**	**209**	P	**Pn**	**06 31 42.0**	**-1.2**
RIGZ	**Rimuhau**	**7.47**	**204**	P	**Pn**	**06 31 44.1**	**-1.1**
RIGZ				S	**Sn**	**06 33 08.1**	**-0.7**
SNGZ	**Shannon Statio**	**7.69**	**206**	P	**Pn**	**06 31 47.8**	**-0.4**
SNGZ				S	**Sn**	**06 33 14.5**	**+0.4**
KNZ	**Kokohu**	**7.79**	**204**	P	**Pn**	**06 31 47.8**	**-1.7**
BKZ	**Black Stump Fm**	**8.36**	**209**	P	**Pn**	**06 31 57.0**	**-0.4**
STKA	**Stephens Creek**	**33.87**	**259**	P	P	06 36 43.8	+5.7
2.0nm,0.7s,baz=107,slow=14,SNR=2.8							
STKA				LR	LR	06 48 55.7	
comp=Z,66nm,19.2s,baz=5.7,slow=33							
2.0nm,0.7s							
ASAR	**Alice Springs**	**42.75**	**269**	P	P	06 37 57.0	+4.1
1.6nm,0.6s,baz=109,slow=8.3,SNR=27							
1.6nm,0.6s							
WRA	**Warramunga Arr**	**43.88**	**274**	P	P	06 38 06.3	+4.3
3.0nm,0.3s,baz=115,slow=8.2,SNR=37							
3.0nm,0.3s							
QSPA	**South Pole Qui**	**58.19**	**180**	P	**P**	**06 39 51.1**	**+2.1**
1.5nm,0.9s,baz=101,slow=5.2,SNR=1.5							
1.5nm,0.9s							
FINES	**FINESS Array B**	**146.47**	**339**	PKPbc	**PKiKP**	**06 49 36.9**	**-1.3**
3.8nm,0.9s,baz=46,slow=5.5,SNR=6.5							
HFS	**Hagfors**	**150.67**	**348**	PKPab	**PKPab**	**06 49 55.1**	**+1.8**
2.5nm,0.9s,baz=287,slow=2.5,SNR=6.4							

*SJA **07** 06:34:08.4±0.7, 30°.19S×71°.25W, h10km±5km, ML3.7, MW3.5*

*GUC **07** 06:34:09.7±0.7, 30°.18S×71°.23W, h58km±3km, ML4.4*

*NEIC **07** 06:34:09.4±1.3, 30°.09S±0°.04×71°.35W±0°.07, h67km±3km, mb4.3/11, Error ellipse: s-maj=9.6km s-min=4.7km az=110.0*

*IDC **07** 06:34:10.8±3.5, 30°.10S×71°.33W, h72km±27km, mb4.0/4, mbtmp4.0/9, Error ellipse: s-maj=29.6km s-min=18.4km az=95.0*

ISC 07 06:34:07.8±0.7, 30°.05S±0°.04×71°.56W±0°.04, h58km±6km, n102, σ1s68/127, mb4.2/8, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.62**	**186**		**Pn**	**06 34 23.6**	**+2.5**
CO06					**Sn**	**06 34 33.6**	**+2.9**
CO06	**Fray Jorge**	**0.62**	**186⇓**	*e*P	**Pn**	**06 34 23.6**	**+2.5**
CO06				*e*S	**Sn**	**06 34 33.7**	**+3.0**
CO06				IAML		06 34 34.8	
comp=N,18μm,0.2s							
GO04	**Tololo Observa**	**0.67**	**101**		**Pn**	**06 34 21.9**	**0.0**
GO04					**Sn**	**06 34 30.9**	**-1.2**
GO04	**Tololo Observa**	**0.67**	**101⇓**	*e*P	**Pn**	**06 34 21.7**	**-0.2**
GO04				*e*S	**Sn**	**06 34 31.0**	**-1.2**
CO03	**El Pedregal**	**1.09**	**136**	Pn	**Pn**	**06 34 26.9**	**-0.2**
CO03				Sn	**Sn**	**06 34 39.7**	**-1.6**
CO03	**El Pedregal**	**1.09**	**136⇑**	*e*P	**Pn**	**06 34 26.9**	**-0.2**
CO03				*e*S	**Sn**	**06 34 39.2**	**-2.1**
CO03				IAML		06 34 40.2	
comp=E,11μm,0.2s							
CO01	**Juntas del Tor**	**1.28**	**87**	Pn	**Pn**	**06 34 29.7**	**0.0**
CO01				Sn	**Sn**	**06 34 43.9**	**-2.1**
CO01	**Juntas del Tor**	**1.28**	**87⇑**	*e*P	**Pn**	**06 34 29.7**	**0.0**
CO01				*e*S	**Sn**	**06 34 44.4**	**-1.6**
CO01				IAML		06 34 45.0	
comp=N,13μm,0.4s							
LCO	**Las Campanas**	**1.28**	**36**	Pn	**Pn**	**06 34 31.0**	**+1.2**
LCO				Sn	**Sn**	**06 34 46.7**	**+0.6**
AROD	**Rodeo**	**1.81**	**94**	*i*P	**Pn**	**06 34 37.5**	**+0.5**
AROD				*i*S	**Sn**	**06 34 59.8**	**+0.6**
AC04	**Llanos de Chal**	**1.89**	**13**	Pn	**Pn**	**06 34 39.9**	**+2.1**
ACDV	**Cuesta del Vie**	**2.12**	**94**	*i*P	**Pn**	**06 34 42.4**	**+1.3**
ACDV				*i*S	**Sn**	**06 35 07.9**	**+1.5**
ACDV				IAML		06 35 11.8	
comp=Z,484nm,0.6s							
ACCO	**Cerro Coronel**	**2.23**	**105**	*i*P	**Pn**	**06 34 44.6**	**+2.0**
ACCO				*i*S	**Sn**	**06 35 10.5**	**+1.4**
DOCA	**Reserva Natura**	**2.32**	**113**	*i*P	**Pn**	**06 34 45.0**	**+1.1**
DOCA				*i*S	**Sn**	**06 35 12.3**	**+0.7**
DOCA				IAML		06 35 14.0	
comp=Z,749nm,0.8s							
VA06	**Catapilco**	**2.51**	**175**	Pn	**Pn**	**06 34 47.3**	**+1.0**
VA06	**Catapilco**	**2.51**	**175⇑**	*e*P	**Pn**	**06 34 47.3**	**+1.0**
VA06				*e*S	**Sn**	**06 35 16.0**	**+0.3**
VA06				IAML		06 35 26.9	
comp=N,5μm,0.5s							
AGUA	**GUANDACOL**	**2.73**	**79**	*i*P	**Pn**	**06 34 51.7**	**+2.4**
AGUA				*i*S	**Sn**	**06 35 23.6**	**+2.4**
AGUA				IAML		06 35 28.1	
comp=Z,532nm,0.6s							
VA03	**San Esteban**	**2.84**	**163**	Pn	**Pn**	**06 34 52.3**	**+1.4**
VA03	**San Esteban**	**2.84**	**163⇑**	*i*P	**Pn**	**06 34 52.2**	**+1.3**
VA03				*i*S	**Sn**	**06 35 23.8**	**-0.1**
VA03				IAML		06 35 28.1	
comp=E,3μm,0.1s							
AUSP	**Uspallata**	**2.86**	**140**	*i*P	**Pn**	**06 34 53.6**	**+2.4**
AUSP				*i*S	**Sn**	**06 35 26.0**	**+1.3**
AC06	**Mina Casimiro**	**2.89**	**22**	Pn	**Pn**	**06 34 52.7**	**+1.3**
ZON	**Zonda**	**2.89**	**122**	Pn	**Pn**	**06 34 52.1**	**+0.6**
ROCH	**El Roble**	**2.95**	**171⇑**	*e*P	**Pn**	**06 34 53.3**	**+0.8**
ROCH				*e*S	**Sn**	**06 35 26.5**	**-0.3**
ROCH				IAML		06 35 41.6	
comp=N,2μm,0.4s							
RTLL	**Cerro Villicun**	**2.95**	**116**	*i*P	**Pn**	**06 34 53.4**	**+1.1**
RTLL				*i*S	**Sn**	**06 35 27.4**	**+0.9**
VA01	**Torpederas**	**2.96**	**181⇑**	*e*P	**Pn**	**06 34 52.9**	**+0.4**
VA01				*e*S	**Sn**	**06 35 25.7**	**-1.0**
VA01				IAML		06 35 27.4	
comp=N,894nm,0.2s							
PEL	**Peldehue**	**3.17**	**167**	Pn	**Pn**	**06 34 56.2**	**+0.9**
PEL	**Peldehue**	**3.17**	**167⇑**	*e*P	**Pn**	**06 34 56.3**	**+0.9**
PEL				*e*S	**Sn**	**06 35 31.5**	**-0.5**
PEL				IAML		06 35 42.0	
comp=N,703nm,0.2s							
VCA	**Vinchina**	**3.21**	**67**	*i*P	**Pn**	**06 34 58.9**	**+2.9**
VCA				IAML		06 35 59.5	
comp=Z,415nm,0.7s							
MT02	**Curacav**	**3.22**	**174**	Pn	**Pn**	**06 34 56.3**	**+0.3**
MT02	**Curacav**	**3.22**	**174⇑**	*e*P	**Pn**	**06 34 56.2**	**+0.3**
MT02				*e*S	**Sn**	**06 35 32.0**	**-1.0**
MT02				IAML		06 35 46.8	
comp=E,449nm,0.2s							
CFA	**Coronel Fontan**	**3.25**	**119**	P	**Pn**	**06 34 57.2**	**+0.8**
comp=E,21nm,0.3s,baz=297,slow=13,SNR=130							
CFA				S	**Sn**	**06 35 33.0**	**-0.9**
comp=E,90nm,0.3s,baz=188,slow=23,SNR=13							
MT10	**Hacienda Santa**	**3.33**	**165**	*e*P	**Pn**	**06 34 58.8**	**+1.3**
MT10				*e*S	**Sn**	**06 35 37.0**	**+1.0**
MT10				IAML		06 35 38.6	
comp=N,2μm,0.5s							
MT05	**Renca**	**3.40**	**168**	Pn	**Pn**	**06 34 59.2**	**+0.7**
ASAL	**Salagasta**	**3.44**	**138**	*i*P	**Pn**	**06 35 01.1**	**+2.0**
ASAL				IAML		06 36 03.5	
comp=Z,262nm,0.7s							
MT14	**Cerro Calı̧n**	**3.45**	**166**	*e*P	**Pn**	**06 35 00.7**	**+1.5**
MT14				*e*S	**Sn**	**06 35 39.1**	**+0.3**
MT14				IAML		06 35 41.4	
comp=N,1μm,0.4s							
MT14				IAML		06 35 44.3	
comp=E,1μm,0.4s							
MT16	**CCHEN**	**3.48**	**166**	Pn	**Pn**	**06 35 00.7**	**+1.1**
MT03	**Universidad Ad**	**3.55**	**166**	Pn	**Pn**	**06 35 01.6**	**+1.1**
MT04	**Ro Olivares**	**3.56**	**160⇑**	*e*P	**Pn**	**06 35 01.6**	**+0.8**
MT04				*e*S	**Sn**	**06 35 42.2**	**+0.5**
MT04				IAML		06 35 46.8	
comp=E,778nm,0.2s							
ARCO	**CERRO ARCO**	**3.58**	**142**	*i*P	**Pn**	**06 35 03.3**	**+2.3**
ARCO				IAML		06 35 54.1	
comp=Z,278nm,1.1s							
VA05	**Santo Domingo**	**3.59**	**181**	Pn	**Pn**	**06 35 01.1**	**+0.1**
MT08	**Bocatoma Ro**	**3.63**	**159**	Pn	**Pn**	**06 35 04.5**	**+2.7**
MT09	**Talagante**	**3.75**	**173**	Pn	**Pn**	**06 35 03.9**	**+0.6**
MT01	**Popeta**	**3.81**	**176**	Pn	**Pn**	**06 35 04.2**	**+0.2**
MT13	**San Alfonso**	**3.84**	**164**	Pn	**Pn**	**06 35 06.2**	**+1.6**
AC02	**Maricunga**	**3.85**	**34**	Pn	**Pn**	**06 35 06.0**	**+0.8**
LMEL	**Las Melosas**	**3.96**	**163**	Pn	**Pn**	**06 35 08.0**	**+1.8**
AC01	**Pan de Azucar**	**3.98**	**13**	Pn	**Pn**	**06 35 06.2**	**-0.3**
BO04	**La Punta**	**4.01**	**169**	Pn	**Pn**	**06 35 07.2**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.06**	**82**	*i*P	**Pn**	**06 35 08.1**	**+0.5**
ACLC				IAML		06 36 21.8	
comp=Z,90nm,0.8s							
BO01	**Tunca**	**4.35**	**175**	Pn	**Pn**	**06 35 11.7**	**+0.3**
APLL	**PUNTA DE LOS L**	**4.37**	**96**	*i*P	**Pn**	**06 35 12.0**	**+0.2**
APLL				IAML		06 36 20.7	
comp=Z,22nm,0.7s							
BO02	**Sierra Bellavi**	**4.77**	**172**	Pn	**Pn**	**06 35 17.6**	**+0.3**
GO02	**Mina Guanaco**	**5.17**	**20**	Pn	**Pn**	**06 35 22.9**	**-0.1**
PB14	**IPOC Station P**	**5.50**	**11**	Pn	**Pn**	**06 35 26.5**	**-1.1**
BI02	**San Fabin de**	**6.60**	**178**	Pn	**Pn**	**06 35 42.4**	**+0.1**
BI05	**Punta Hualpn**	**6.81**	**191**		**Pn**	**06 35 43.9**	**-1.3**
H03N1	**Juan Fernandez**	**7.11**	**240**	P	**Pn**	**06 35 52.7**	**+3.7**
baz=92,slow=74,SNR=71							
H03N1				S	**Sn**	**06 37 05.6**	**-2.7**
baz=286,slow=5.3,SNR=9.8							
H03N1				T	T	06 42 56.6	
baz=67,slow=72,SNR=564							
H03N2	**Juan Fernandez**	**7.13**	**240**	P	Pn	06 35 53.1	+3.9
baz=92,slow=74,SNR=57							
H03N2				S	**Sn**	**06 37 06.8**	**-1.8**
baz=286,slow=5.3,SNR=12							
H03N2				T	T	06 43 27.8	
baz=67,slow=72,SNR=424							
H03N3	**Juan Fernandez**	**7.13**	**240**	P	**Pn**	**06 35 52.9**	**+3.7**
baz=92,slow=74,SNR=69							
H03N3				S	**Sn**	**06 37 05.9**	**-2.8**
baz=286,slow=5.3,SNR=10.0							
H03N3				T	T	06 43 15.8	
baz=67,slow=72,SNR=407							
VA04	**Juan Fernndez**

MKAR Makanchi Array 153.74 43 PKPbc **PKPbc 06 54 01.0 +0.9**
comp=Z,0.7nm,0.9s,baz=329,slow=1.7,SNR=3.1
MKAR PKPab **sPKPdf 06 54 13.5 -1.9**
comp=Z,0.9nm,0.8s,baz=290,slow=3.5,SNR=4.8

ASRS 07 06:37:26.0±1.3, 54°.27N×87°.07E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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ASRS 07 06:37:45.0±0.8, 54°.27N×87°.08E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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*NDI **07** 06:44:12.6±2.9, 28°.55N×69°.36E, h10km, ML4.1, MW4.1, mb4.4(NEIC)*
*IDC **07** 06:44:12.4±0.7, 28°.45N×69°.59E, h0km, mb4.2/19, mbtmp4.2/21, ML4.3/2, MS3.5/13, Error ellipse: s-maj=18.1km s-min=14.8km az=37.0*
*NEIC **07** 06:44:13.8±1.1, 28°.48N±0°.08×69°.52E±0°.07, h10km±1km, mb4.4/22, Error ellipse: s-maj=15.7km s-min=6.7km az=144.0*
*MOS **07** 06:44:13.5±1.2, 28°.58N×69°.68E, h16km, mb4.5/19, Error ellipse: s-maj=9.4km s-min=5.0km az=89.3*
ISC 07 06:44:13.5±0.4, 28°.50N±0°.04×69°.59E±0°.04, h10km, n172, σ1s78/181, mb4.3/46, MS3.4/12, 5C-8D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**1.96**	**143**	*e*P		**Pb**		**06 44 48.7**	**-0.6**
JASL				*e*S		**Sb**		**06 45 13.4**	**-0.2**
JASL				IAML				06 45 21.8	
	comp=E,3μm,0.5s								
JASL				IAML				06 45 29.4	
	comp=E,3μm,0.7s								
BKNR	**BIKANER**	**3.29**	**98**	*e*P		**Pn**		**06 45 07.3**	**+2.3**
BKNR				IAML				06 46 09.2	
	comp=N,1μm,0.6s								
BKNR				IAML				06 46 12.7	
	comp=E,2μm,0.6s								
AJM	**Ajmer**	**4.92**	**113**	*e*P		**Pn**		**06 45 30.0**	**+2.5**
BHUJ	**Bhuj**	**5.23**	**179**	*e*P		**Pn**		**06 45 32.3**	**+0.5**
BHUJ				*e*S		**Sn**		**06 46 30.3**	**-1.8**
NIL	**Nilore**	**6.01**	**31**			**Pn**		**06 45 43.5**	**+0.9**
NIL	**Nilore**	**6.01**	**31**	P		**Pn**		**06 45 43.5**	**+0.9**
KBL	**Kabul**	**6.04**	**356**	Pn		**Pn**		**06 45 43.4**	**+0.3**
KBL	**Kabul**	**6.04**	**356**	P		**Pn**		**06 45 43.4**	**+0.3**
KUDL	**Kundal**	**6.09**	**92**	*e*P		**Pn**		**06 45 44.3**	**+0.8**
KUDL				IAML				06 47 33.5	
	comp=E,112nm,0.6s								
KUDL				IAML				06 47 46.9	
	comp=E,186nm,0.9s								
JMU	**Jammu**	**6.21**	**46**	*e*P		**Pn**		**06 45 46.5**	**+1.3**
JMU				*e*S		**Sn**		**06 46 56.1**	**-0.1**
THN	**Thein Dam**	**6.58**	**52**	*e*P		**Pn**		**06 45 51.6**	**+1.4**
THN				*e*S		**Sn**		**06 47 04.0**	**-1.3**
THN				IAML				06 48 17.2	
	comp=E,285nm,1.2s								
THN				IAML				06 48 19.4	
	comp=E,214nm,1.2s								
BHK	**Bhakra**	**6.59**	**62**	*e*P		**Pn**		**06 45 50.9**	**+0.3**
BHK				*e*S		**Sn**		**06 47 03.8**	**-1.9**
BHK				IAML				06 48 01.7	
	comp=E,189nm,0.7s								
BHK				IAML				06 48 05.1	
	comp=E,176nm,1.2s								
SONA	**Sohna**	**6.60**	**90**	*e*P		**Pn**		**06 45 51.3**	**+0.7**
SONA				*e*S		**Sn**		**06 47 04.9**	**-1.1**
SONA				IAML				06 47 06.1	
	comp=N,104nm,0.9s								
SONA				IAML				06 47 08.8	
	comp=E,109nm,0.9s								
NPLP	**NPLP New Delhi**	**6.66**	**87**	*e*P		**Pn**		**06 45 51.8**	**+0.3**
NDI	**New Delhi**	**6.70**	**87**	*e*P		**Pn**		**06 45 52.4**	**+0.3**
DHRM	**DHARAMSHALA**	**6.89**	**56**	*e*P		**Pn**		**06 45 56.2**	**+1.4**
DHRM				*e*S		**Sn**		**06 47 10.7**	**-2.7**
DHRM				IAML				06 47 42.0	
	comp=N,339nm,1.1s								
DHRM				IAML				06 47 47.8	
	comp=E,382nm,0.9s								
SMLA	**Simla**	**7.08**	**66**	*e*P		**Pn**		**06 45 58.2**	**+1.0**
SMLA				*e*S		**Sn**		**06 47 17.1**	**-0.7**
BHV	**Bhavnagar**	**7.11**	**160**	*e*P		**Pn**		**06 45 59.4**	**+1.8**
KLP	**Kalpa**	**8.09**	**66**	*e*P		**Pn**		**06 46 10.2**	**-1.2**
JHNI	**Jhansi**	**8.53**	**109**	*e*P		**Pn**		**06 46 17.6**	**+0.4**
HRA	**Herat**	**8.59**	**315**	Pn		**Pn**		**06 46 17.5**	**-0.6**
BHPL	**Bhopal**	**8.78**	**125**	*e*P		**Pn**		**06 46 21.4**	**+0.7**
BHPL				*e*S		**Sn**		**06 47 57.3**	**-2.5**
BHPL				IAML				06 48 52.7	
	comp=N,144nm,0.5s								
BHPL				IAML				06 48 57.4	
	comp=E,135nm,1.0s								
JOSI	**Joshimath**	**8.92**	**74**	*e*P		**Pn**		**06 46 23.5**	**+0.9**
JOSI				*e*S		**Sn**		**06 47 58.5**	**-4.8**
JOSI				IAML				06 48 58.1	
	comp=E,112nm,1.0s								
JOSI				IAML				06 49 20.4	
	comp=E,136nm,0.8s								
HNLY	**HANLEY**	**9.13**	**60**	*e*P		**Pn**		**06 46 26.5**	**+0.6**
LGTI	**Lohaghat**	**9.38**	**82**	*e*P		**Pn**		**06 46 26.2**	**-2.6**
LGTI				*e*S		**Sn**		**06 48 08.8**	**-5.5**
LGTI				IAML				06 48 27.4	
	comp=E,56nm,0.6s								
LGTI				IAML				06 48 31.4	
	comp=E,47nm,0.8s								
CHGR	**Chuyangaron**	**10.13**	**358**			**Pn**		**06 46 39.2**	**0.0**
CHGR	**Chuyangaron**	**10.13**	**358**	P		**Pn**		**06 46 39.2**	**0.0**
SIMJ	**Simiganj**	**10.14**	**357**	Pn		**Pn**		**06 46 39.2**	**0.0**
AKL	**Akola**	**10.29**	**137**	*e*P		**Pn**		**06 46 41.9**	**+0.6**
AKL				*e*S		**Sn**		**06 48 32.2**	**-4.5**
GAR	**Garm**	**10.49**	**3**			**Pn**		**06 46 44.1**	**+0.1**
DRK	**Karamyk**	**11.10**	**9**			**Pn**		**06 46 53.0**	**+0.4**
DRK	**Karamyk**	**11.10**	**9**	P		**Pn**		**06 46 53.0**	**+0.4**
WSAR	**Wadi Sarin**	**11.18**	**245**	Pn		**Pn**		**06 46 52.3**	**-1.1**
	comp=E,1.5nm,0.3s,baz=93,slow=12,SNR=17								
WSAR				Sn		**Sn**		**06 48 49.7**	**-8.8**
	comp=E,0.5nm,0.3s,baz=166,slow=18,SNR=2.6								
	comp=E,3.8nm,0.4s								
KSH	**Kashi**	**12.19**	**24**	P		Pn		06 47 03.3	-4.0
KSH				sP				06 47 08.7	
KSH				S		Sn		06 49 09.8	-14
KSH				pmax		pmax			
	comp=Z,27nm,0.8s								
OHH	**Osh**	**12.28**	**12**	P		**Pn**		**06 47 10.2**	**+1.8**
ARSB	**Arslanbob**	**13.09**	**11**			**Pn**		**06 47 18.7**	**-0.9**
ARSB	**Arslanbob**	**13.09**	**11**	P		**Pn**		**06 47 18.7**	**-0.9**
HYB	**Hyderabad**	**13.77**	**141**	*e*P		**Pn**		**06 47 27.5**	**-1.4**
HYB				*e*S		**Sn**		**06 50 03.3**	**+1.3**
AML	**Almayashu**	**14.00**	**13**	P		**Pn**		**06 47 31.0**	**-1.3**
	SNR=56								
EKS2	**Erkin-Say**	**14.53**	**12**	P		**Pn**		**06 47 38.6**	**-0.7**
	SNR=6.5								
KK31	**Karatay Array**	**14.59**	**3**			**Pn**		**06 47 38.0**	**-2.0**
KK31	**Karatay Array**	**14.59**	**3**	*i* P		**Pn**		**06 47 37.1**	**-2.9**
KK31				*i* S		**Sn**		**06 50 14.0**	**-7.7**
KKAR	**Karatay Array**	**14.59**	**3**	Pn		**Pn**		**06 47 38.1**	**-1.9**
KKAR	**Karatay Array**	**14.59**	**3**	P		**Pn**		**06 47 38.1**	**-1.9**
AAK	**Ala-Archa**	**14.65**	**14**	Pn		**Pn**		**06 47 39.8**	**-1.2**
AAK	**Ala-Archa**	**14.65**	**14**	Pn		**Pn**		**06 47 40.0**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=182,slow=11,SNR=35								
AAK				Sn		**Sn**		**06 50 16.4**	**-7.1**
	comp=Z,0.2nm,0.3s,baz=359,slow=21,SNR=2.3								
AAK				LR		LR		06 54 11.1	
	comp=Z,148nm,19.2s,baz=214,slow=41								
	comp=Z,10nm,0.6s								
AAK	**Ala-Archa**	**14.65**	**14**	P		**Pn**		**06 47 39.5**	**-1.5**
	SNR=17								
AAK	**Ala-Archa**	**14.65**	**14**	*c i* P		Pn		**06 47 39.9**	**-1.0**
AAK				pmax		pmax			
	comp=Z,11nm,0.7s								
ULHL	**Ulahol**	**14.74**	**20**	P		**Pn**		**06 47 41.1**	**-1.1**
	SNR=5.5								
KBK	**Karagaybulak**	**14.77**	**16**	P		**Pn**		**06 47 42.9**	**+0.3**
	SNR=17								
TARG	**Taragay, Kyrgy**	**14.79**	**25**	Pn		**Pn**		**06 47 43.2**	**0.0**
TARG	**Taragay, Kyrgy**	**14.79**	**25**	P		**Pn**		**06 47 43.2**	**0.0**
BOOM	**Boomskoye usch**	**14.87**	**19**			**Pn**		**06 47 42.2**	**-1.8**
BOOM	**Boomskoye usch**	**14.87**	**19**	P		**Pn**		**06 47 42.2**	**-1.8**
WUS	**Wushi**	**14.91**	**29**	Pn		**Pn**		**06 47 44.0**	**-0.5**
CHMS	**Chumysh**	**15.05**	**15**	P		**Pn**		**06 47 44.2**	**-2.1**
	SNR=11								
TKM2	**Tokmak 2**	**15.18**	**17**	P		**Pn**		**06 47 46.9**	**-1.3**
	SNR=11								
TKM2	**Tokmak 2**	**15.18**	**17**	*i* P		**Pn**		**06 47 45.6**	**-2.6**
TKM2				pmax		pmax			
	comp=Z,11nm,0.6s								
BOK	**Bokaro**	**15.36**	**104**	*e*P		**Pn**		**06 47 47.9**	**-2.6**
BOK				*e*S		Sn		06 50 28.9	-12
SHL	**Shillong**	**20.07**	**93**	P		**P**		**06 48 48.0**	**+0.7**
SHL				IAmb		IAmb		06 48 48.8	
	comp=Z,17nm,0.9s								
SHL	**Shillong**	**20.07**	**93**	P		**P**		**06 48 48.0**	**+0.7**
SHL				pmax		pmax			
	comp=Z,17nm,0.9s								
MAKZ	**Makanchi**	**20.69**	**25**	P		**P**		**06 48 53.9**	**+0.2**
MAKZ	**Makanchi**	**20.69**	**25**	P		**P**		**06 48 53.9**	**+0.2**
MAKZ				pmax		pmax			
	comp=Z,12nm,1.5s								
MK31	**Makanchi Array**	**20.79**	**25**	P		**P**		**06 48 55.1**	**+0.2**
MK31	**Makanchi Array**	**20.79**	**25**	*d i* P		**P**		**06 48 55.4**	**+0.6**
MKAR	**Makanchi Array**	**20.79**	**25**	P		**P**		**06 48 54.9**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=210,slow=11,SNR=13								
	comp=Z,2.1nm,0.7s								
WMQ	**Urumqi**	**21.08**	**39**	*e*P		**P**		**06 49 03.2**	**+5.2**
WMQ				pmax		pmax			
	comp=Z,17nm,0.7s								
AB31	**Akbulak array**	**22.01**	**343**	*i* P		**P**		**06 49 08.2**	**+0.4**
ABKAR	**Akbulak array**	**22.01**	**343**	P		**P**		**06 49 08.0**	**+0.2**
RAYN	**Ar Rayn**	**22.20**	**263**	P		**P**		**06 49 09.3**	**-0.8**
RAYN	**Ar Rayn**	**22.20**	**263**	P		**P**		**06 49 09.3**	**-0.8**
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
GOMU	**GeErMu**	**22.60**	**64**	P		**P**		**06 49 15.8**	**+1.0**
GOMU				pP		sP		06 49 21.0	+2.0
GOMU				sP		pP		06 49 24.8	+7.2
GOMU				pmax		pmax			
	comp=Z,16nm,0.8s								
KURBB	**Kurchatov Arra**	**23.11**	**15**	P		**P**		**06 49 18.9**	**-0.5**
	comp=Z,43nm,0.7s,baz=123,slow=33,SNR=1.0								
	comp=Z,43nm,0.7s								
KURK	**Kurchatov**	**23.21**	**15**	P		**P**		**06 49 20.3**	**-0.2**
KURK				IAmb		IAmb		06 49 27.9	
	comp=Z,9.9nm,0.8s								
KURK	**Kurchatov**	**23.21**	**15**	*ce*P		**P**		**06 49 20.8**	**+0.3**
KURK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GNI	**Garni**	**23.50**	**306**	P		**P**		**06 49 23.1**	**-0.6**
GNI				IAmb		IAmb		06 49 28.5	
	comp=Z,12nm,0.7s								
GNI	**Garni**	**23.50**	**306**	*e*P		**P**		**06 49 25.5**	**+1.7**
GNI				pmax		pmax			
	comp=Z,12nm,0.7s								
GNI	**Garni**	**23.50**	**306**	P		**P**		**06 49 22.6**	**-1.2**
	comp=Z,18nm,1.2s								
PALK	**Pallekele**	**23.58**	**151**	LR		LR		06 58 30.5	
	comp=Z,80nm,19.2s,baz=342,slow=36								
AKTO	**Aktyubinsk**	**23.60**	**341**	LR		LR		07 00 31.6	
	comp=Z,124nm,20.6s,baz=70,slow=41								
AKTO	**Aktyubinsk**	**23.60**	**341**	P		**P**		**06 49 31.2**	**+6.8**
BVA0	**Borovoye Array**	**24.50**	**1**	*i* P		**P**		**06 49 33.6**	**+0.7**
BVAR	**Borovoye Array**	**24.50**	**1**	P		**P**		**06 49 33.9**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=172,slow=10,SNR=13								
	comp=Z,2.5nm,0.5s								
BRVK	**Borovoye**	**24.54**	**1**	P		**P**		**06 49 33.1**	**-0.1**
BRVK				IAmb		IAmb		06 49 44.3	
	comp=Z,5.4nm,0.7s								
BRVK	**Borovoye**	**24.54**	**1**	*i* P		**P**		**06 49 34.4**	**+1.3**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KBZ	**Khabaz**	**26.23**	**313**	P		**P**		**06 49 49.5**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=187,slow=8.3,SNR=5.4								
	comp=Z,4.8nm,0.9s								
KBZ	**Khabaz**	**26.23**	**313**	*e*P		**P**		**06 49 50.8**	**+2.2**
KBZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SHA1	**Shidzhatmaz**	**26.39**	**312**	*e*P		**P**		**06 49 52.3**	**+2.0**
KIV	**Kislovodsk**	**26.47**	**313**	P		**P**		**06 49 49.8**	**-1.1**
	comp=Z,9.1nm,1.1s								
GTA	**Gaotai**	**27.21**	**59**	*e*P		**P**		**06 49 58.9**	**+1.3**
GTA				pP		sP		06 50 02.4	+0.4
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
CHTO	**Chiang Mai**	**28.50**	**103**	P		**P**		**06 50 10.0**	**+0.8**
CHTO				IAmb		IAmb		06 50 10.7	
	comp=Z,4.8nm,0.8s								
CHTO	**Chiang Mai**	**28.50**	**103**	P		**P**		**06 50 10.0**	**+0.8**
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PZH	**PanZhiHua**	**28.54**	**86**	P		**P**		**06 50 11.3**	**+1.6**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,140nm,5.5s								
CM31	**Chiang Mai Arr**	**28.65**	**104**	P		**P**		**06 50 10.3**	**-0.3**
CM31				IAmb		IAmb		06 50 15.4	
	comp=Z,5.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**28.65**	**104**	P		**P**		**06 50 10.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**28.65**	**104**	P		**P**		**06 50 10.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=295,slow=13,SNR=6.1								
CMAR				LR		LR		07 04 09.0	
	comp=Z,32nm,19.0s,baz=255,slow=42								
	comp=Z,1.2nm,0.3s								
BELG	**Belogornoye**	**28.91**	**332**	LR		LR		07 05 31.5	
	comp=Z,72nm,18.3s,baz=90,slow=44								
BELG	**Belogornoye**	**28.91**	**332**	*d i* P		**P**		**06 50 13.4**	**+0.9**
BELG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ARTI	**Arti**	**28.99**	**347**	LR		LR		07 04 02.0	
	comp=Z,106nm,20.2s,baz=17,slow=41								
ARTI	**Arti**	**28.99**	**347**	P		**P**		**06 50 15.2**	**+2.0**
ARTI								06 51 06.3	
ARTI				S		**S**		**06 55 06.6**	**+2.6**
ARTI				SS		**SnSn**		**06 56 27.2**	**+0.2**
BR131	**Keskin Array S**	**31.61**	**300**	*e*P		**P**		**06 50 38.4**	**+1.7**
BRTR	**Keskin Array B**	**31.61**	**300**	P		**P**		**06 50 37.9**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=104,slow=9.0,SNR=3.8								
	comp=Z,0.7nm,0.7s								
BRTR	**Keskin Array B**	**31.61**	**300**	*ce*P		**P**		**06 50 38.2**	**+1.5**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ANTO	**Ankara**	**32.27**	**300**	P		**P**		**06 50 42.3**	**-0.2**
	comp=Z,5.6nm,0.5s								
KHAM	**Kharkiv**	**33.16**	**320**	P		**P**		**06 50 47.1**	**-3.0**
KIRV	**Kirov**	**33.16**	**341**	LR		LR		07 06 11.4	
	comp=Z,85nm,21.1s,baz=122,slow=40								
KIRV	**Kirov**	**33.16**	**341**	*e*P		**P**		**06 50 51.5**	**+1.6**
SONM	**Songino Array**	**34.35**	**46**	P		**P**		**06 51 01.1**	**+0.5**
SONM	**Songino Array**	**34.35**	**46**	P		**P**		**06 51 02.0**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=246,slow=9.0,SNR=13								
	comp=Z,2.4nm,0.7s								
SONM	**Songino Array**	**34.35**	**46**	P		**P**		**06 51 01.1**	**+0.5**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ULN	**Ulaanbaatar**	**34.77**	**46**	*i* P		**P**		**06 51 06.2**	**+1.9**
ULN				pmax		pmax			
	comp=Z,4.0nm,1.1s								
OBN	**Obninsk**	**35.66**	**328**	P		**P**		**06 51 10.1**	**-1.4**
	comp=Z,24nm,0.5s								
HHC	**Hu-ho-hao-te**	**36.32**	**59**	*e*P		**P**		**06 51 17.8**	**+0.2**
HHC				pmax		pmax			
	comp=Z,12nm,0.8s								
HHC				pmax		pmax			
	comp=Z,99nm,5.6s								
TIRR	**Tirgusor**	**36.32**	**307**	P		**P**		**06 51 16.7**	**-0.7**
	comp=Z,5.4nm,2.0s								
SORM	**Soroca**	**37.27**	**313**	P		**P**		**06 51 25.2**	**-0.2**
	comp=Z,1μmcomp=Z,8.9nm,1.0s								
AK09	**Malin Array Si**	**37.49**	**317**	P		**P**		**06 51 27.9**	**+0.7**
AK10	**Malin Array Si**	**37.50**	**317**	P		**P**		**06 51 27.8**	**+0.5**
AK08	**Malin Array Si**	**37.51**	**317**	P		**P**		**06 51 27.9**	**+0.5**
AK07	**Malin Array Si**	**37.51**	**317**	P		**P**		**06 51 27.7**	**+0.3**
AK06	**Malin Array Si**	**37.53**	**317**	P		**P**		**06 51 27.8**	**+0.2**
AK05	**Malin Array Si**	**37.54**	**317**	P		**P**		**06 51 27.9**	**+0.3**
AK02	**Malin Array Si**	**37.55**	**317**	P		**P**		**06 51 27.7**	**0.0**
AKASG	**Malin Array Be**	**37.55**	**317**	P		**P**		**06 51 28.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=104,slow=6.9,SNR=13								
	comp=Z,0.9nm,0.6s								
AKBB	**Malin Array Si**	**37.55**	**317**	P		**P**		**06 51 28.5**	**+0.7**
AKBB				IAmb		IAmb		06 51 29.9	
	comp=Z,7.2nm,0.9s								
AKBB	**Malin Array Si**	**37.55**	**317**	P		**P**		**06 51 28.5**	**+0.7**
AKBB				pmax		pmax			
	comp=Z,7.0nm,0.9s								
AKBB	**Malin Array Si**	**37.55**	**317**	P		**P**		**06 51 28.0**	**+0.2**
AK01	**Malin Array Si**	**37.55**	**317**	P		**P**		**06 51 27.5**	**-0.3**
KIEV	**Kiev**	**37.56**	**317**	P		**P**		**06 51 27.1**	**-0.7**
KIEV				IAmb		IAmb		06 51 29.9	
	comp=Z,6.5nm,0.9s								
KIEV	**Kiev**	**37.56**	**317**	P		**P**		**06 51 27.1**	**-0.7**
KIEV				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KIEV	**Kiev**	**37.56**	**317**	P		**P**		**06 51 28.3**	**+0.5**
	comp=Z,48nm,0.9s								
AK03	**Malin Array Si**	**37.56**	**318**	P		**P**		**06 51 27.4**	**-0.5**
AK12	**Malin Array Si**	**37.57**	**317**	P		**P**		**06 51 28.0**	**0.0**
AK11	**Malin Array Si**	**37.58**	**317**	P		**P**		**06 51 28.0**	**0.0**
AK04	**Malin Array Si**	**37.59**	**317**	P		**P**		**06 51 28.1**	**0.0**
AK14	**Malin Array Si**	**37.60**	**317**	P		**P**		**06 51 26.5**	**-1.7**
PSI	**Prapat**	**37.87**	**127**	LR		LR		07 07 55.0	
	comp=Z,69nm,20.1s,baz=270,slow=38								
LUBAR	**Lubar, Ukraine**	**38.18**	**316**	P		**P**		**06 51 30.8**	**-2.3**
MI30	**MI30,Zelenitsa**	**38.19**	**317**	P		**P**		**06 51 33.3**	**+0.2**
	comp=Z,6.8nm,1.1s								
MLR	**Muntele Rosu**	**38.24**	**308**	P		**P**		**06 51 34.5**	**+0.6**
	comp=Z,4.8nm,0.9s								
BURAR	**Bucovina Array**	**39.18**	**311**	P		**P**		**06 51 41.0**	**-0.6**
KSV	**Kosov**	**39.44**	**313**	P		**P**		**06 51 42.7**	**-1.0**
BJT	**Baijiatuau**	**39.76**	**61**	P		**P**		**06 51 46.3**	**-0.2**
BJT				IAmb		IAmb		06 51 49.2	
	comp=Z,5.8nm,0.8s								
BJT	**Baijiatuau**	**39.76**	**61**	P		**P**		**06 51 46.3**	**-0.2**
BJT				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BERU	**Beregovo**	**41.00**	**312**	P		**P**		**06 51 56.3**	**-0.3**
FINES	**FINESS Array B**	**43.70**	**331**	P		**P**		**06 52 19.1**	**+0.7**
FINES	**FINESS Array B**	**43.70**	**331**	P		**P**		**06 52 18.8**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=104,slow=6.1,SNR=7.8								
FINES				LR		LR		07 14 51.8	
	comp=Z,71nm,18.4s,baz=74,slow=42								
	comp=Z,1.2nm,0.5s								
FINES	**FINESS Array B**	**43.70**	**331**	*i* P		**P**		**06 52 20.3**	**+1.9**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
MODS	**Modra-Piesok**	**44.56**	**311**	*e*P		**P**		**06 52 26.2**	**+0.7**
MODS				pmax		pmax			
	comp=Z,15nm,1.2s								
MODS	**Modra-Piesok**	**44.56**	**311**	*e*P		**P**		**06 52 26.1**	**+0.6**
KEV	**Kevo**	**47.89**	**341**	P		**P**		**06 52 52.2**	**+0.9**
KEV	**Kevo**	**47.89**	**341**	P		**P**		**06 52 52.3**	**+0.9**
KEV				pmax		pmax			
	comp=Z,37nm,1.2s								
ARCES	**ARCESS Array B**	**48.18**	**341**	P		**P**		**06 52 54.7**	**+1.0**
	comp=Z,5.9nm,0.7s,baz=132,slow=8.2,SNR=43								
ARCES				LR		LR		07 14 22.4	
	comp=Z,80nm,18.1s,baz=63,slow=38								
	comp=Z,5.9nm,0.7s								
ARCES	**ARCESS Array B**	**48.18**	**341**	P		**P**		**06 52 55.0**	**+1.3**
ARCES				pmax		pmax			
	comp=Z,16nm,1.3s								
HFS	**Hagfors**	**48.85**	**327**	LR		LR		07 17 53.8	
	comp=Z,71nm,19.0s,baz=46,slow=41								
NOA	**NORSAR Array B**	**50.26**	**327**	P		**P**		**06 53 09.4**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=107,slow=7.5,SNR=3.5								
NOA				LR		LR		07 18 51.7	
	comp=Z,31nm,18.5s,baz=270,slow=41								
	comp=Z,1.1nm,0.7s								
KLR	**Kul'dur**	**51.10**	**48**	*e*P		**P**		**06 53 16.9**	**+0.7**
KLR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
SPITS	**Spitsbergen Ar**	**55.03**	**348**	P		**P**		**06 53 46.5**	**+1.8**
	comp=Z,5.9nm,0.7s,baz=116,slow=9.5,SNR=11								
	comp=Z,5.9nm,0.7s								
SPITS	**Spitsbergen Ar**	**55.03**	**348**	P		**P**		**06 53 46.4**	**+1.6**
SPITS				pmax		pmax			
	comp=Z,21nm,1.2s								
EKA	**Eskdalemuir Ar**	**57.40**	**320**	P		**P**		**06 54 02.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=95,slow=7.6,SNR=4.4								
	comp=Z,1.1nm,0.6s								
ESDC	**Sonseca Array**	**60.39**	**302**	P		**P**		**06 54 23.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=65,slow=6.5,SNR=5.7								
	comp=Z,1.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**64.54**	**272**	P		**P**		**06 54 51.6**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=56,slow=6.2,SNR=2.8								
	comp=Z,2.6nm,0.5s								
BORG	**Borgarnes**	**64.99**	**332**	LR		LR		07 25 04.0	
	comp=Z,80nm,19.2s,baz=26,

CO06				*i* S	**Sn**	**06 46 51.2**	**-3.1**
ACLC	**CERRO LA CRUZ**	**2.46**	**42**	*e*P	**Pn**	**06 46 24.8**	**+0.2**
ACLC				*e*S	**Sn**	**06 46 54.9**	**+0.2**
ROCH	**El Roble**	**2.50**	**227**	*e*P	**Pn**	**06 46 25.2**	**+0.1**
VCA	**Vinchina**	**2.58**	**13**	*e*P	**Pn**	**06 46 26.7**	**+0.6**
VCA				*e*S	**Sn**	**06 46 57.7**	**+0.2**
VCA				IAML		06 47 01.0	
	comp=Z,200nm,0.6s						
MT02	**Curacav**	**2.77**	**224**	*e*P	**Pn**	**06 46 28.1**	**-0.3**
LMEL	**Las Melosas**	**2.81**	**204**	IAML		06 47 16.9	
	comp=N,46nm,0.1s						
BO04	**La Punta**	**3.09**	**208**	*e*P	**Pn**	**06 46 33.7**	**+1.0**
BO04				*e*S	**Sn**	**06 47 11.1**	**+1.8**
BO04				IAML		06 47 14.3	
	comp=N,49nm,0.3s						
MT01	**Popeta**	**3.29**	**217**	*e*P	**Pn**	**06 46 34.2**	**-1.0**
MT01				IAML		06 47 17.4	
	comp=E,48nm,0.2s						
RFA	**San Rafael**	**3.51**	**175**	*e*P	**Pn**	**06 46 38.4**	**+0.2**
RFA				*e*S	**Sn**	**06 47 19.0**	**-0.1**
RFA				IAML		06 47 46.3	
	comp=Z,43nm,0.3s						
AC04	**Llanos de Chal**	**3.61**	**327**	*e*P	**Pn**	**06 46 38.7**	**-0.8**
TCA	**Tanti**	**3.65**	**92**	*e*P	**Pn**	**06 46 40.2**	**+0.2**
TCA				*e*S	Sn	06 47 08.7	-14
TCA				IAML		06 47 21.8	
	comp=Z,94nm,0.7s						
CYA	**Choya**	**3.87**	**44**	*e*P	Pn	06 46 36.4	-6.6
CYA				*e*S	**Sn**	**06 47 26.0**	**-1.7**

*NEIC **07** 06:53:34.7±1.2, 61°.47N±0°.02×149°.99W±0°.04, h43km±4km, Error ellipse: s-maj=3.5km s-min=2.3km az=132.0*

AEIC 07 06:53:35.3±1.0, 61°.47N±0°.03×149°.97W±0°.04, h45km±3km, ML3.2, ML3.5/172(NEIC), Error ellipse: s-maj=4.4km s-min=2.8km az=178.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.30**	**346**		Pn	06 53 42.9	-1.1
M22K					Sn	06 53 50.0	0.0
FIS	**Fire Island**	**0.35**	**201**		Pn	06 53 44.1	-0.3
FIS				IAML		06 53 52.8	
	comp=E,4μm,0.4s						
FIS				IAML		06 53 53.3	
	comp=N,4μm,0.4s						
SUA	**Susitna One**	**0.38**	**270**		Pn	06 53 43.9	-1.0
SUA					Sn	06 53 51.3	-0.4
SUA				IAML		06 53 51.8	
	comp=E,3μm,0.8s						
SUA				IAML		06 53 52.9	
	comp=N,3μm,0.6s						
RC01	**Rabbit Creek A**	**0.40**	**164**		Pn	06 53 43.6	-1.4
RC01					Sn	06 53 51.2	-0.6
RC01				IAML		06 53 52.1	
	comp=E,2μm,0.2s						
RC01				IAML		06 53 52.2	
	comp=N,3μm,0.2s						
PMR	**Palmer**	**0.42**	**72**		Pn	06 53 43.9	-1.3
PMR				IAML	Sn	06 53 51.9	-0.4
	comp=N,2μm,0.2s						
PMR					Sn	06 53 51.9	-0.4
PMR				IAML		06 53 52.5	
	comp=E,2μm,0.3s						
GHO	**Glory Hole Cre**	**0.58**	**58**		Pn	06 53 46.5	-0.9
GHO					Sn	06 53 56.0	-0.1
GHO				IAML		06 53 56.3	
	comp=E,2μm,0.5s						
GHO				IAML		06 53 57.0	
	comp=N,3μm,0.3s						
KNK	**Knik Glacier**	**0.73**	**94**		Pn	06 53 48.4	-0.8
KNK					Sn	06 53 59.6	+0.3
KNK				IAML		06 54 01.1	
	comp=N,2μm,0.4s						
KNK				IAML		06 54 01.6	
	comp=E,2μm,0.2s						
SML	**Sawmill**	**0.85**	**66**		Pn	06 53 50.0	-1.0
SML				IAML		06 54 05.1	
	comp=E,2μm,0.8s						
SML				IAML		06 54 05.2	
	comp=N,2μm,0.6s						
STLK	**Strandline Lak**	**0.90**	**273**		Pn	06 53 50.6	-0.9
STLK					Sn	06 54 03.0	-0.5
STLK				IAML		06 54 03.7	
	comp=N,1μm,0.2s						
SKT	**Skwentna**	**0.91**	**305**		Pn	06 53 50.5	-1.1
SKT					Sn	06 54 03.1	-0.5
CAPN	**Captain Cook N**	**0.91**	**220**		Pn	06 53 52.1	+0.5
CUT	**Chulitna**	**0.95**	**351**		Pn	06 53 51.6	-0.7
SLKM	**Skilak Lake**	**0.97**	**187**		Pn	06 53 51.0	-1.5
SLKM				IAML		06 54 05.7	
	comp=N,2μm,0.2s						
SLKM				IAML		06 54 07.7	
	comp=E,2μm,0.2s						
O22K	**Cooper Landing**	**1.00**	**173**		Pn	06 53 51.6	-1.1
PWL	**Port Wells**	**1.00**	**127**	Pn	Pn	06 53 52.3	-0.6
PWL					Sn	06 54 06.4	+0.6
SPCG	**Spurr Capps Gl**	**1.00**	**261**		Pn	06 53 52.3	-0.8
SPU	**Mount Spurr**	**1.05**	**255**		Pn	06 53 52.5	-1.1
SPU					Sn	06 54 06.8	-0.3
SPU				IAML		06 54 07.3	
	comp=E,1μm,0.3s						
SPCR	**Spurr Chakacha**	**1.11**	**257**		Pn	06 53 53.5	-1.0
SPCR	**Spurr Chakacha**	**1.11**	**257**		Pn	06 53 53.7	-0.8
M23K	**Glacier View**	**1.12**	**72**		Pn	06 53 53.9	-0.6
SPBG	**Spurr Blockage**	**1.18**	**261**		Pn	06 53 54.6	-0.8
SCM	**Sheep Creek Mo**	**1.31**	**73**		Pn	06 53 56.7	-0.5
SEW	**Seward**	**1.39**	**169**	Pn	Pn	06 53 56.7	-1.5
RDT	**Redoubt**	**1.49**	**234**		Pn	06 53 58.7	-0.9
GLI	**Glacier Island**	**1.51**	**112**		Pn	06 53 58.7	-1.2
GLI				IAML		06 54 22.0	
	comp=N,520nm,0.3s						
GLI				IAML		06 54 23.4	
	comp=E,830nm,0.4s						
M20K	**Styx River**	**1.57**	**287**		Pn	06 54 00.4	-0.3
M20K				IAML		06 54 22.7	
	comp=N,320nm,1.1s						
M20K				IAML		06 54 23.4	
	comp=E,395nm,0.8s						
DFR	**Drift River**	**1.59**	**238**		Pn	06 54 00.3	-0.7
RDJH	**Redoubt Jeurge**	**1.64**	**239**		Pn	06 54 01.1	-0.6
NCT	**North Crescent**	**1.71**	**239**		Pn	06 54 02.1	-0.6
RDWB	**Redoubt West**	**1.71**	**236**		Pn	06 54 02.1	-0.7
RED	**Redoubt Volcan**	**1.73**	**234**		Pn	06 54 02.3	-0.6
BRLK	**Bradley Lake**	**1.77**	**195**	Pn	Pn	06 54 02.2	-1.2
BRLK				IAML		06 54 28.7	
	comp=E,472nm,0.3s						
BRLK				IAML		06 54 30.5	
	comp=N,353nm,0.3s						
BRSE	**Bradley Lake S**	**1.77**	**193**		Pn	06 54 02.0	-1.4
PPLA	**Purkeypile**	**1.77**	**325**		Pn	06 54 03.4	-0.2
FID	**Port Fidalgo**	**1.84**	**111**		Pn	06 54 02.7	-1.6
FID				IAML		06 54 31.4	
	comp=N,401nm,0.4s						
FID				IAML		06 54 34.1	
	comp=E,470nm,0.3s						
O20K	**Slope Mountain**	**1.91**	**224**		Pn	06 54 05.3	0.0
M24K	**Tolsona, Glenn**	**1.91**	**69**		Pn	06 54 05.7	+0.3
P23K	**Montague Islan**	**1.94**	**138**		Pn	06 54 03.8	-1.9
KLU	**Klutina**	**1.94**	**87**		Pn	06 54 04.9	-0.9
KLU				IAML		06 54 36.6	
	comp=N,353nm,0.3s						
HOM	**Homer**	**2.00**	**205**		Pn	06 54 05.8	-0.7
TRF	**Thorofare Moun**	**2.00**	**356**		Pn	06 54 06.5	-0.2
TRF				IAML		06 54 35.5	
	comp=N,293nm,0.6s						
TRF				IAML		06 54 43.0	
	comp=E,192nm,1.0s						
HIN	**Hinchinbrook I**	**2.00**	**121**		Pn	06 54 05.5	-1.2
HIN				IAML		06 54 40.8	
	comp=E,586nm,0.5s						
RND	**Reindeer**	**2.01**	**14**		Pn	06 54 06.4	-0.4
CNPM	**China Poot**	**2.05**	**198**		Pn	06 54 05.9	-1.3
CNPM				IAML		06 54 36.7	
	comp=E,392nm,0.5s						
CNPM				IAML		06 54 37.5	
	comp=N,305nm,0.3s						
DIV	**Divide**	**2.05**	**98**		Pn	06 54 06.3	-1.0
L20K	**Farewell, AK**	**2.11**	**300**		Pn	06 54 07.7	-0.4
KTH	**Kantishna Hill**	**2.14**	**348**		Pn	06 54 08.4	-0.1
KTH				IAML		06 54 37.1	
	comp=N,400nm,0.7s						
KTH				IAML		06 54 38.0	
	comp=E,277nm,0.6s						
ILS	**Iliamna Low So**	**2.15**	**227**		Pn	06 54 08.3	-0.4
M19K	**Big River Lodg**	**2.15**	**284**		Pn	06 54 08.3	-0.4
ILSW	**Iliamna Southw**	**2.16**	**228**		Pn	06 54 08.2	-0.7
CAST	**Castle Rocks**	**2.19**	**334**		Pn	06 54 09.0	-0.3
CAST				IAML		06 54 50.8	
	comp=E,183nm,0.7s						
EYAK	**Cordova Ski Ar**	**2.25**	**112**	Pn	Pn	06 54 08.8	-1.1
N19K	**Bonanza Creek**	**2.29**	**255**		Pn	06 54 10.1	-0.5
MCK	**McKinley**	**2.32**	**11**		Pn	06 54 11.2	+0.2
L19K	**White Mountain**	**2.43**	**289**		Pn	06 54 12.2	-0.3
P19K	**Oil Pt**	**2.43**	**223**		Pn	06 54 12.3	-0.2
HARP	**HAARP**	**2.46**	**66**		Pn	06 54 13.1	+0.3
O19K	**Port Alsworth**	**2.48**	**241**		Pn	06 54 12.4	-0.7
N25K	**Chitina, Valde**	**2.57**	**85**	Pn	Pn	06 54 13.5	-1.0
N25K				IAML		06 54 55.2	
	comp=N,191nm,0.5s						
N25K				IAML		06 55 04.7	
	comp=E,130nm,0.6s						
PAX	**Paxson**	**2.59**	**52**		Pn	06 54 15.5	+0.8
BMRM	**Bremner River**	**2.64**	**99**		Pn	06 54 14.0	-1.4
CHUM	**Lake Minchumin**	**2.66**	**337**		Pn	06 54 15.1	-0.4
BPAW	**Bear Paw Mtn.**	**2.69**	**350**	Pn	Pn	06 54 15.1	-0.9
BPAW				IAML		06 54 54.1	
	comp=N,109nm,0.6s						
K20K	**Telida**	**2.69**	**317**		Pn	06 54 15.5	-0.5
K20K				IAML		06 54 55.0	
	comp=E,191nm,0.8s						
K20K				IAML		06 54 55.2	
	comp=N,100nm,0.6s						
GOAT	**Goat Mountain**	**2.70**	**107**		Pn	06 54 14.8	-1.4
WACK	**Wrangell Chich**	**2.73**	**77**		Pn	06 54 16.4	-0.4
RAGM	**Ragged Mountai**	**2.80**	**110**		Pn	06 54 16.3	-1.3
M18K	**Stony River**	**2.81**	**273**		Pn	06 54 17.1	-0.6
GLB	**Gilahina Butte**	**2.96**	**88**	Pn	Pn	06 54 18.6	-1.1
GLB				IAML		06 55 04.8	
	comp=N,112nm,0.6s						
GLB				IAML		06 55 10.1	
	comp=E,83nm,0.6s						
N18K	**Kilae Creek**	**2.98**	**257**		Pn	06 54 19.3	-0.8
HMT	**Hamilton**	**3.01**	**110**		Pn	06 54 18.6	-1.8
O18K	**Koktuh Hills**	**3.05**	**240**		Pn	06 54 19.9	-1.1
O18K				IAML		06 55 12.2	
	comp=E,82nm,0.8s						
O18K				IAML		06 55 12.2	
	comp=N,75nm,0.9s						
SYI	**Shuyak Island**	**3.11**	**204**	Pn	Pn	06 54 20.6	-1.2
SYI				IAML		06 55 06.1	
	comp=N,78nm,0.8s						
SYI				IAML		06 55 06.7	
	comp=E,100nm,0.6s						
WRH	**Wood River Hil**	**3.13**	**15**	Pn	Pn	06 54 21.6	-0.6
Q19K	**Cape Douglas,**	**3.14**	**217**	Pn	Pn	06 54 21.9	-0.4
VRDI	**Verde Repeater**	**3.15**	**92**	Pn	Pn	06 54 21.0	-1.4
VRDI				IAML		06 55 12.1	
	comp=N,74nm,0.7s						
NEA2	**Nenana**	**3.17**	**7**		Pn	06 54 21.6	-0.9
TTA	**Tatalina**	**3.19**	**300**	Pn	Pn	06 54 22.4	-0.6
TTA				IAML		06 55 18.8	
	comp=N,66nm,0.7s						
BERG	**Berg Lake**	**3.24**	**107**		Pn	06 54 21.5	-2.1
BERG				IAML		06 55 17.5	
	comp=N,204nm,0.6s						
HDA	**Harding Lake**	**3.26**	**24**		Pn	06 54 24.2	+0.3
HDA				IAML		06 55 19.0	
	comp=E,99nm,0.5s						
HDA				IAML		06 55 20.8	
	comp=N,103nm,0.8s						
L18K	**Granite Mounta**	**3.28**	**286**		Pn	06 54 23.4	-0.6
MENT	**Mentasta**	**3.28**	**60**		Pn	06 54 23.5	-0.6
RIDG	**Independent Ri**	**3.29**	**44**		Pn	06 54 25.9	+1.6
RIDG				IAML		06 55 12.8	
	comp=E,143nm,0.6s						
RIDG				IAML		06 55 19.3	
	comp=N,171nm,0.7s						
J20K	**Nowinta River**	**3.33**	**327**	Pn	Pn	06 54 24.4	-0.3
J20K				IAML		06 55 03.9	
	comp=N,102nm,0.6s						
J20K				IAML		06 55 04.4	
	comp=E,102nm,0.2s						
P18K	**Big Mountain,**	**3.34**	**234**		Pn	06 54 23.9	-1.0
CCB	**Clear Creek Bu**	**3.34**	**16**	Pn	Pn	06 54 24.4	-0.5
CCB				IAML		06 55 20.4	
	comp=E,74nm,0.8s						
M26K	**Nabesna, AK**	**3.42**	**71**		Pn	06 54 25.8	-0.3
M26K				IAML		06 55 23.1	
	comp=N,108nm,0.6s						
M26K				IAML		06 55 29.3	
	comp=E,92nm,0.6s						
DOT	**Dot Lake**	**3.50**	**49**		Pn	06 54 28.4	+1.3
COLA	**College**	**3.55**	**15**		Pn	06 54 28.5	+0.7
COLA				IAML		06 55 12.5	
	comp=E,143nm,0.6s						
IL31		**3.60**	**22**		Pn	06 54 27.9	-0.5
ILAR	**Eielson Array**	**3.60**	**22**	Pn	Pn	06 54 28.0	-0.4
J19K	**Poorman**	**3.63**	**317**		Pn	06 54 28.4	-0.6
J19K				IAML		06 55 22.9	
	comp=E,77nm,0.7s						
J19K				IAML		06 55 23.9	
	comp=N,62nm,0.7s						
N17K	**Nushagak Hills**	**3.64**	**258**	Pn	Pn	06 54 28.3	-0.8
N17K				IAML		06 55 28.2	
	comp=N,52nm,1.1s						
I23K	**Minto, Yukon-K**	**3.71**	**4**		Pn	06 54 29.6	-0.3
J18K	**Innoko River**	**3.72**	**306**		Pn	06 54 29.9	-0.3
SCRK	**Sand Creek**	**3.73**	**45**		Pn	06 54 30.3	-0.1
SCRK				IAML		06 55 31.3	
	comp=E,71nm,0.6s						
SCRK				IAML		06 55 34.3	
	comp=N,55nm,0.7s						
KAHG	**Katmai Hook Gl**	**3.77**	**220**		Pn	06 54 30.0	-0.8
J25K	**Salcha River,**	**3.79**	**32**		Pn	06 54 32.2	+1.1
J25K				IAML		06 55 23.3	
	comp=E,106nm,0.6s						
J25K				IAML		06 55 33.6	
	comp=N,47nm,0.8s						
KAHC	**Katmai Hardscr**	**3.79**	**224**		Pn	06 54 30.1	-1.1
I20K	**Naaghedeneel**	**3.92**	**330**		Pn	06 54 33.0	+0.1
KDAK	**Kodiak Island**	**3.93**	**201**		Pn	06 54 30.3	-2.7
KDAK				IAML		06 55 34.3	
	comp=N,58nm,0.9s						
KDAK				IAML		06 55 35.3	
	comp=N,66nm,1.0s						
M27K	**Edge Creek, AK**	**3.93**	**73**		Pn	06 54 33.2	+0.1
M27K				IAML		06 55 39.8	
	comp=N,54nm,0.9s						
L27K	**Beaver Creek,**	**4.13**	**64**		Pn	06 54 35.7	-0.1
L27K				IAML		06 55 42.6	
	comp=N,32nm,1.1s						
MESA	**MESA**	**4.13**	**105**		Pn	06 54 34.1	-1.9
MESA				IAML		06 55 52.3	
	comp=N,60nm,1.2s						
MESA				IAML		06 56 00.4	
	comp=E,45nm,0.9s						
J26L	**Joseph Creek**	**4.22**	**41**	Pn	Pn	06 54 38.0	+1.0
J26L				IAML		06 55 44.5	
	comp=N,53nm,0.7s						
J26L				IAML		06 55 46.9	
	comp=E,60nm,0.6s						
RKAV	**Rock Avalanche**	**4.37**	**102**		Pn	06 54 38.1	-1.1
H21K	**Melozitna Rive**	**4.39**	**344**		Pn	06 54 39.4	0.0
O16K	**Kokwok River B**	**4.43**	**249**	Pn	Pn	06 54 39.2	-0.7
O16K				IAML		06 55 54.2	
	comp=N,37nm,1.1s						
PRP	**Porcupine Dome**	**4.53**	**24**	Pn	Pn	06 54 41.4	+0.1
PRP				IAML		06 55 43.1	
	comp=E,28nm,0.6s						
PRP				IAML		06 55 58.8	
	comp=N,42nm,0.6s						
L16K	**Owhat River**	**4.55**	**277**	Pn	Pn	06 54 40.8	-0.7
OHAK	**Old Harbor**	**4.58**	**203**		Pn	06 54 39.4	-2.6
OHAK				IAML		06 55 52.4	
	comp=E,28nm,0.9s						
OHAK				IAML		06 55 55.1	
	comp=N,29nm,1.1s						
I26K	**Coal Creek Min**	**4.92**	**36**		Pn	06 54 47.3	+0.7
I26K				IAML		06 56 11.9	
	comp=E,54nm,0.9s						
I26K				IAML		06 56 12.4	
	comp=N,44nm,0.7s						
J16K	**Anvik River**	**5.28**	**295**		Pn	06 54 50.8	-0.6
H18K	**Honhosa River**	**5.29**	**318**	Pn	Pn	06 54 51.4	-0.2
H18K				IAML		06 55 52.7	
	comp=E,38nm,0.6s						
H18K				IAML		06 56 29.0	
	comp=N,20nm,1.1s						
G21K	**Allakaket**	**5.30**	**344**	Pn	Pn	06 54 51.5	-0.3
G21K				IAML		06 55 52.9	
	comp=N,29nm,0.7s						
G21K				IAML		06 55 54.3	
	comp=E,21nm,0.9s						
G24K	**Hadweenzic Riv**	**5.37**	**11**	Pn	Pn	06 54 53.6	+0.9
DAWY	**Dawson**	**5.51**	**57**	Pn	Pn	06 54 54.8	0.0
M29M	**Somme Creek**	**5.52**	**75**		Pn	06 54 54.8	-0.1
O29M	**Mount Kennedy**	**5.68**	**97**		Pn	06 54 56.5	-0.7
COLD	**Coldfoot**	**5.79**	**359**	Pn	Pn	06 54 58.4	0.0
M14K	**Bethel**	**5.86**	**268**	Pn	Pn	06 54 58.8	-0.7
F21K	**Alatna River**	**5.98**	**347**		Pn	06 55 02.1	+1.0
HYT	**Haines Junctio**	**6.07**	**91**	Pn	Pn	06 55 01.6	-0.9
F20K	**Avaraart Lake**	**6.14**	**338**		Pn	06 55 03.5	+0.2
F24K	**Squaw Lake**	**6.14**	**7**	Pn	Pn	06 55 04.7	+1.3
F19K	**Shaleruckik Mo**	**6.37**	**331**		Pn	06 55 06.3	-0.2
H16K	**Elim**	**6.42**	**305**		Pn	06 55 06.2	-0.9
BMAR	**Burnt Mountain**	**6.42**	**19**	Pn	Pn	06 55 07.5	+0.3
F26K	**Sheenjek River**	**6.73**	**19**		Pn	06 55 12.0	+0.6
E25K	**Arctic Village**	**6.94**	**14**		Pn	06 55 14.9	+0.6
F17K	**Baldwin Pennin**	**7.04**	**320**	Pn	Pn	06 55 15.7	+0.2
TOLK	**Toolik Lake Re**	**7.21**	**1**	Pn	Pn	06 55 19.3	+1.3
WHY	**Whitehorse**	**7.36**	**90**	Pn	Pn	06 55 18.6	-1.6
SKAG	**Skagway**	**7.51**	**99**	Pn	Pn	06 55 21.5	-0.5
ANM	**Nome**	**7.66**	**301**	Pn	Pn	06 55 24.6	+0.5
F15K	**North Star Dit**	**7.80**	**309**	Pn	Pn	06 55 27.2	+1.2
FARO	**Faro, Yukon**	**7.90**	**77**	Pn	Pn	06 55 26.9	-0.5
P32M	**Atlin**	**8.23**	**96**	Pn	Pn	06 55 31.1	-0.9
B21K	**Ikpikpuk River**	**8.41**	**349**	Pn	Pn	06 55 34.8	+0.5
P33M	**Teslin, Yukon**	**8.47**	**91**	Pn	Pn	06 55 33.7	-1.6
E29M	**Blow River**	**8.62**	**31**	Pn	Pn	06 55 37.4	+0.2
D27M	**Malcolm River**	**8.65**	**22**	Pn	Pn	06 55 38.5	+0.8
B20K	**Meade River**	**9.06**	**344**	Pn	Pn	06 55 43.0	-0.3
Q32M	**Nakina River**	**9.15**	**98**	Pn	Pn	06 55 43.8	-0.9

*IDC **07** 07:09:26.2±3.2, 53°.52N×87°.84E, h0km, mbtmp2.5/1, ML2.4/2, Error ellipse: s-maj=29.2km s-min=17.5km az=54.0*

ASRS 07 07:09:20.0±1.1, 53°.72N×88°.17E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**278**	I	I	07 20 50.0	
	baz=106,slow=294,SNR=11						
ZALV	**Zalesovo Beam**	**2.00**	**278**	Pn	Pg	07 09 58.0	-0.2
	0.7nm,0.3s,baz=103,slow=13,SNR=13						
ZALV				Lg	Lg	07 10 24.6	
	1.6nm,0.3s,baz=104,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn	Pn	07 11 02.6	+3.2
	0.1nm,0.3s,baz=59,slow=14,SNR=1.5						
KURBB				Lg	Lg	07 12 52.2	
	0.1nm,0.3s,baz=59,slow=34,SNR=1.7						
MKAR	**Makanchi Array**	**7.89**	**211**	Pn	Pn	07 11 19.7	+3.8
	0.1nm,0.3s,baz=27,slow=13,SNR=5.2						
MKAR				Lg	Lg	07 13 28.6	
	baz=28,slow=28,SNR=3.2						
	0.1nm,0.3s						

*WEL **07** 07:13:20.7±1.5, 32°S±5°×17°7W±2°1, h12km, mB4.7/4, ML5.1/7, Mw(mB)3.9/4, Error ellipse: s-maj=28.3km s-min=3.9km az=101.0, confirmed*

*IDC **07** 07:13:24.3±1.2, 31°.59S×178°.03W, h0km, mb4.2/4, mbtmp4.2/4, MS3.5/5, Error ellipse: s-maj=40.4km s-min=33.7km az=26.0*

*NEIC **07** 07:13:26.8±2.6, 32°.10S±0°.10×178°.0W±0°.2, h10km±1km, mb4.7/10, Error ellipse: s-maj=30.0km s-min=5.9km az=121.0*

ISC 07 07:13:27.1±0.9, 31°.94S±0°.07×178°.1W±0°.2, h24km, n52, σt99/53, mb4.5/9, MS3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**3**	P	**Pn**	**07 14 05.7**	**-2.9**
GLKZ				S	**Sn**	**07 14 37.9**	**-2.3**
RIZ	**Raoul Island**	**2.69**	**3**	P	**Pn**	**07 14 06.5**	**-2.3**
RIZ				S	**Sn**	**07 14 39.8**	**-0.8**
MXZ	**Matakaoa Point**	**6.36**	**207**	Pn	**Pn**	**07 14 57.2**	**-2.0**
WMGZ	**Waiomatatini S**	**6.54**	**205**	P	**Pn**	**07 15 00.6**	**-1.2**
WMGZ				S	**Sn**	**07 16 15.0**	**-0.7**
PKGZ	**Pakihiroa**	**6.71**	**207**	P	**Pn**	**07 15 02.0**	**-2.2**
PKGZ				P	**Sn**	**07 16 19.2**	**-0.6**
RUGZ	**Raukumara Rang**	**6.96**	**209**	P	**Pn**	**07 15 06.2**	**-1.4**
TWGZ	**Tauwhareparae**	**7.02**	**206**	P	**Pn**	**07 15 08.3**	**-0.1**
TWGZ				S	**Sn**	**07 16 26.9**	**-0.6**
URZ	**Urewera**	**7.44**	**211**	Pn	**Pn**	**07 15 14.7**	**+0.5**
	1.2nm,0.3s,baz=338,slow=4.4,SNR=9.7						
URZ				Sn	**Sn**	**07 16 36.7**	**-1.1**
	8.3nm,0.3s,baz=275,slow=23,SNR=12						
WCZ	**Waipu Caves**	**7.46**	**236**	P	Pn	07 15 21.7	+7.2
RAGZ	**Rawiri**	**7.51**	**208**	S	**Sn**	**07 16 38.1**	**-1.6**
OUZ	**Omahuta**	**7.69**	**243**	P	Pn	07 15 24.6	+7.0
RTZ	**Ruatahuna**	**7.80**	**210**		**Pn**	**07 15 17.4**	**-1.7**
MTHZ	**Maungataniwha**	**8.05**	**210**	P	**Sn**	**07 16 53.5**	**+0.6**
WHHZ	**Waihua**	**8.09**	**207**	P	**Sn**	**07 16 52.7**	**-1.0**
NMHZ	**Naumai**	**8.28**	**209**	P	**Sn**	**07 16 58.2**	**-0.2**
ARHZ	**Aropaoanui**	**8.34**	**207**	P	**Sn**	**07 16 58.4**	**-1.5**
BKZ	**Black Stump Fm**	**8.46**	**210**	Pn	**Pn**	**07 15 28.1**	**-0.1**
MCHZ	**McNeill Hill**	**8.62**	**208**	P	**Sn**	**07 17 04.3**	**-2.4**
CKHZ	**Cape Kidnapper**	**8.65**	**206**	P	**Sn**	**07 17 05.3**	**-2.3**
KWHZ	**Kaweka Forest**	**8.71**	**209**	P	**Sn**	**07 17 07.1**	**-2.0**
ETVZ	**East Tongariro**	**8.79**	**213**	P	**Sn**	**07 17 09.4**	**-1.7**
KAHZ	**Kahuranaki**	**8.85**	**206**	P	**Sn**	**07 17 06.5**	**-6.0**
KRHZ	**Kereru**	**8.92**	**209**	P	**Sn**	**07 17 10.9**	**-3.2**
PXZ	**Pawanui**	**9.06**	**206**	P	**Sn**	**07 17 11.9**	**-5.7**
PNHZ	**Pukenui**	**9.21**	**209**	P	**Sn**	**07 17 17.9**	**-3.6**
BFZ	**Birch Farm**	**9.86**	**206**	Pn	**Pn**	**07 15 44.9**	**-2.4**
THZ	**Tophouse**	**12.18**	**214**	Pn	**Pn**	**07 16 20.0**	**+1.0**
ARMA	**Armidale**	**25

MMAI	Mount Meron Ar	151.81 281	PKPbc	PKiKP	07 33 21.7	+1.3
	comp=Z,1.1nm,0.3s,baz=92,slow=4.6,SNR=4.2					
AKASG	Malin Array Be	152.47 321	PKPbc	PKiKP	07 33 21.4	+0.3
	comp=Z,0.5nm,0.4s,baz=62,slow=2.4,SNR=4.4					
BRTR	Keskin Array B	153.25 296	PKPbc	PKiKP	07 33 23.6	+0.3
	comp=Z,0.5nm,0.4s,baz=325,slow=2.3,SNR=2.6					

IDC 07 07:20:21.2±3.2, 32°.03S×178°.28W, h0km, mb4.0/2, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=72.0km s-min=46.8km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.27	210	Pn	Pn	07 22 07.6	-1.1
	0.8nm,0.3s,baz=348,slow=4.3,SNR=6.6						
URZ				Sn	Sn	07 23 29.1	-2.7
	1.9nm,0.3s,baz=184,slow=18,SNR=9.5						
	2.0nm,0.3s						
ASAR	Alice Springs	42.81	269	P	P	07 28 21.0	0.0
	0.6nm,0.6s,baz=105,slow=7.2,SNR=9.5						
	0.6nm,0.6s						
WRA	Warramunga Arr	43.94	274	P	P	07 28 30.1	-0.1
	1.5nm,0.3s,baz=113,slow=7.8,SNR=30						
	1.5nm,0.3s						
FINES	FINESS Array B	146.59	339	PKPbc	PKPbc	07 40 03.1	-0.7
	1.3nm,0.7s,baz=47,slow=5.3,SNR=4.4						

IDC 07 07:22:12.7±3.6, 54°.69N×83°.76E, h0km, mbtmp2.8/1, ML2.7/1, Error ellipse: s-maj=24.6km s-min=13.2km az=151.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.97	139	I	I	07 27 50.0	
	0.1nm,0.8s,baz=318,slow=332,SNR=2.8						
ZALV	Zalesovo Beam	0.97	139	Pg	Pg	07 22 30.7	-0.5
	2.3nm,0.3s,baz=322,slow=16,SNR=16						
ZALV				Lg	Lg	07 22 45.0	
	9.0nm,0.3s,baz=320,slow=29,SNR=26						
MKAR	Makanchi Array	7.96	187	Pn	Pn	07 24 09.8	+0.3
	0.1nm,0.3s,baz=15,slow=15,SNR=1.3						
MKAR				Lg	Lg	07 26 27.2	
	0.1nm,0.3s,baz=13,slow=33,SNR=2.9						
	0.2nm,0.4s						

*ASRS **07** 07:30:14.0±1.3, 54°.63N×83°.66E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 07 07:30:15.4±2.3, 54°.63N×83°.76E, h0km, mbtmp3.4/2, ML2.3/2, Error ellipse: s-maj=18.2km s-min=11.0km az=166.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.92	137	I	I	07 35 50.0	
	0.1nm,0.8s,baz=317,slow=339,SNR=10						
ZALV	Zalesovo Beam	0.92	137	Pg	Pg	07 30 32.3	-0.8
	0.9nm,0.3s,baz=321,slow=19,SNR=5.9						
ZALV				Lg	Lg	07 30 46.4	
	4.7nm,0.3s,baz=316,slow=29,SNR=21						
KURBB	Kurchatov Arra	5.12	221	Pn	Pn	07 31 33.3	-0.1
	0.1nm,0.3s,baz=39,slow=13,SNR=3.5						
KURBB				Lg	Lg	07 32 59.0	
	0.1nm,0.3s,baz=40,slow=29,SNR=5.0						
	32nm,0.6s						
MKAR	Makanchi Array	7.90	187	Pn	Pn	07 32 11.9	+0.4
	0.1nm,0.3s,baz=15,slow=12,SNR=3.9						
MKAR				Lg	Lg	07 34 27.3	
	0.1nm,0.3s,baz=1.5,slow=28,SNR=4.3						
	0.1nm,0.4s						

*KRSC **07** 07:50:35.7±1.2, 54°.88N×164°.78E, h40km±27km, Ml4.0*
*IDC **07** 07:50:37.0±1.8, 55°.30N×164°.36E, h0km, mb3.2/3, mbtmp3.3/4, ML2.9/1, MS3.0/2, Error ellipse: s-maj=60.1km s-min=21.7km az=163.0*

ISC 07 07:50:36.3±2.2, 54°.98N±0°.06×164°.68E±0°.08, h6km±18km, n45, σ1°54/51, mbtmp3.4/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.78	72	eP	Pg	07 50 50.9	-0.3
BKI				eS	Sg	07 51 00.8	-0.5
KBTR	Krutoberegovo	1.63	320	eP	Pn	07 51 03.6	-1.9
KBG	Krutoberegovo	1.70	320	eP	Pn	07 51 04.9	-1.7
MKZ	Mys Kozlova	1.76	257	eP	Pn	07 51 07.3	-0.1
MKZ				eS	Sn	07 51 20.0	-2.1
SMKR	Semkarok	2.43	313	eP	Pn	07 51 16.8	+0.2
ZLN	Zelenaya	2.44	297	eP	Pn	07 51 18.1	+1.3
BZGR	Bezymyannyi-Gr	2.47	295	eP	Pn	07 51 17.9	+0.7
TUMD	Tumrok D	2.47	277	eP	Pn	07 51 18.1	+0.9
TUMD				eS	Sn	07 51 48.9	+1.2
CIRR	Tsirk	2.51	299	eP	Pn	07 51 19.3	+1.5
LGNR	Loginova	2.53	298	eP	Pn	07 51 19.6	+1.4
BZWR	Bezymyannyi-We	2.58	294	eP	Pn	07 51 20.3	+1.5
KRSR	Krestovskiy	2.65	300	eP	Pn	07 51 20.1	+0.4
KRSR				eS	Sn	07 51 52.2	+0.1
KLY	Klyuchi	2.65	302	eP	Pn	07 51 18.4	-1.1
KLY				eS	Sn	07 51 50.4	-1.5
KMNR	Kamenistaya	2.66	289	eP	Pn	07 51 21.2	+1.4
KIRR	Kirishev	2.66	293	eP	Pn	07 51 21.0	+1.1
KPT	Kopyto	2.73	293	eP	Pn	07 51 21.9	+1.2
KOZ	Kozyrevsk	2.94	294	eP	Pn	07 51 25.3	+1.7
SRDR	Sredinnyy	3.12	298	eP	Pn	07 51 27.8	+1.7
KII	Karymskiy	3.19	255	eP	Pn	07 51 28.4	+1.3
SPN	Mys Shipunski	3.33	238	eP	Pn	07 51 28.8	-0.1
SPN				eS	Sn	07 52 05.4	-3.3
ESO	Esso	3.54	288	eP	Pn	07 51 32.7	+0.9
NLC	Nalytchevo	3.63	242	eP	Pn	07 51 33.5	+0.6
NLC				eS	Sn	07 52 13.9	-2.1
SDLR	Sedlovina	3.81	246	eP	Pn	07 51 36.7	+1.0
KRER	Koryakskii	3.87	247	eP	Pn	07 51 37.8	+1.3
UGLR	Uglovaya	3.88	245	eP	Pn	07 51 37.5	+0.9
AVH	Avacha	3.90	246	eP	Pn	07 51 38.5	+1.8
AVH				eS	Sn	07 52 21.5	-1.3
KRX	Arik	3.90	248	eP	Pn	07 51 37.8	+0.9
KOK	Koryaka	3.94	247	eP	Pn	07 51 38.5	+1.2
DALK	Dalny	4.00	243	eP	Pn	07 51 38.8	+0.6
PET	Petropavlovsk	4.06	244	eP	Pn	07 51 40.5	+1.5
PET				eS	Sn	07 52 25.2	-1.5
GNL	Ganaly	4.15	255	eP	Pn	07 51 42.0	+1.7
KRMR	Karymshinskiy	4.43	244	eP	Pn	07 51 45.4	+1.4
KRMR				eS	Sn	07 52 34.3	-1.6
PETK	Petropavlovsk-	4.52	248	Pn	Pn	07 51 46.2	+0.9
	3.1nm,0.3s,baz=76,slow=18,SNR=33						
PETK				Sn	Sn	07 52 37.8	-0.4
	2.7nm,0.3s,baz=321,slow=24,SNR=6.6						
	4.6nm,0.4s						
GRL	Gorelyy	4.61	241	eP	Pn	07 51 48.0	+1.3
APC	Apacha	4.90	248	eP	Pn	07 51 52.5	+2.1
KDTR	Khodutka, Kamc	5.07	234	eS	Sn	07 52 47.2	-4.3
MA2	Magadan	8.83	307	LR	LR	07 56 00.3	
	comp=Z,56nm,20.1s,baz=102,slow=38						
KLR	Kul'dur	20.90	268	LR	LR	08 04 21.4	
	comp=Z,68nm,18.4s,baz=38,slow=40						
ILAR	Eielson Array	25.55	48	P	P	07 56 05.6	+0.1
	0.3nm,0.8s,baz=271,slow=9.4,SNR=7.9						
	0.3nm,0.8s						
H11N2	WAKE ISLAND Hy	35.23	176	T	T	08 35 40.2	
	baz=358,slow=76,SNR=29						
H11N3	WAKE ISLAND Hy	35.24	176	T	T	08 35 52.9	
	baz=358,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	35.24	176	T	T	08 35 27.0	
	baz=358,slow=76,SNR=19						
KURBB	Kurchatov Arra	49.12	303	P	P	07 59 23.4	-0.9
	1.4nm,0.7s,baz=56,slow=7.7,SNR=8.1						
MKAR	Makanchi Array	49.75	297	P	P	07 59 28.5	-0.8
	0.4nm,0.7s,baz=52,slow=7.9,SNR=5.6						
	0.4nm,0.7s						
TXAR	Lajitas Array	67.43	71	P	P	08 01 35.5	+2.7
	0.1nm,0.5s,baz=322,slow=8.9,SNR=1.9						
	0.1nm,0.5s						

*IDC **07** 07:51:41.9±1.3, 31°.92S×178°.21W, h0km, mb3.9/4, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=36.9km s-min=33.0km az=127.0*

ISC 07 07:51:44.8±1.3, 32°.1S±0°.1×178°.5W±0°.2, h10km, n10, σ1°45/11, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.16	209	Pn	Pn	07 53 30.4	+0.9
	0.8nm,0.3s,baz=88,slow=14,SNR=6.6						
URZ				Sn	Sn	07 54 49.9	-1.1
	1.6nm,0.3s,baz=127,slow=20,SNR=7.2						
	6.9nm,0.6s						
STKA	Stephens Creek	33.76	259	P	P	07 58 27.3	+0.6
	1.4nm,0.8s,baz=102,slow=14,SNR=3.8						
	1.4nm,0.8s						
ASAR	Alice Springs	42.66	269	P	P	07 59 42.1	+0.2
	1.6nm,0.8s,baz=106,slow=7.6,SNR=14						
	1.6nm,0.8s						
WRA	Warramunga Arr	43.80	274	P	P	07 59 51.1	+0.1
	2.2nm,0.5s,baz=113,slow=7.7,SNR=18						
	2.2nm,0.5s						
QSPA	South Pole Qui	58.04	180	P	P	08 01 37.7	-0.1
	0.6nm,0.8s,baz=270,slow=3.0,SNR=1.2						
	0.6nm,0.8s						
KBZ	Khabaz	145.69	302	PKPbc	PKPdf	08 11 22.4	-0.8
	3.2nm,0.9s,baz=141,slow=5.0,SNR=4.8						
FINES	FINESS Array B	146.57	339	PKPbc	PKPdf	08 11 23.8	-0.5
	6.0nm,0.9s,baz=46,slow=4.0,SNR=6.6						
HFS	Hagfors	150.79	348	PKPbc	PKPdf	08 11 34.3	+3.1
	2.2nm,0.8s,baz=144,slow=5.2,SNR=1.8						
AKASG	Malin Array Be	152.37	320	PKPbc	PKPbc	08 11 39.3	-1.3
	0.2nm,0.3s,baz=65,slow=1.7,SNR=4.7						
BRTR	Keskin Array B	153.01	295	PKPab	PKPab	08 11 52.6	-1.5
	1.0nm,0.8s,baz=90,slow=6.2,SNR=4.5						

*WEL **07** 07:56:11.4±1.3, 32°.5±6°×17°.7W±1°.9, h12km, M4.6/6, mB4.7/4, ML5.0/8, MLv4.7/6, Mw(mB)4.0/4, Error ellipse: s-maj=25.7km s-min=4.2km az=103.8, confirmed*
*IDC **07** 07:56:14.6±0.9, 32°.01S×178°.11W, h0km, mb4.3/5, mbtmp4.3/6, ML3.7/1, MS3.6/12, Error ellipse: s-maj=35.2km s-min=25.7km az=147.0*
*NEIC **07** 07:56:21.9±1.3, 32°.33S±0°.07×178°.4W±0°.2, h35km±2km, mb4.7/11, Error ellipse: s-maj=23.9km s-min=10.4km az=73.0*

ISC 07 07:56:17.1±0.7, 32°.11S±0°.06×177°.9W±0°.1, h24km, n63, σ1°71/62, mb4.5/10, MS3.7/11, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.84	360	P	Pn	07 56 57.5	-3.4
GLKZ				S	Sn	07 57 32.4	-1.9
RIZ	Raoul Island	2.86	360	P	Pn	07 56 58.6	-2.5
MXZ	Matakaoa Point	6.27	209	Pn	Pn	07 57 45.7	-2.2
WMGZ	Waiomatatini S	6.45	207	P	Pn	07 57 50.1	-0.3
WMGZ				S	Sn	07 59 02.9	-0.3
PKGZ	Pakihiroa	6.62	209	P	Pn	07 57 49.0	-3.8
PKGZ				S	Sn	07 59 07.1	-0.5
HAZ	Te Kaha	6.65	211	P	Pn	07 57 51.1	-2.2
HAZ				P	Sn	07 59 07.7	-0.6
PUZ	Puketiti	6.73	207	P	Pn	07 57 52.7	-1.6
PUZ				P	Sn	07 59 08.0	-2.2
RUGZ	Raukumara Rang	6.87	211	P	Pn	07 57 53.8	-2.7
RUGZ				S	Sn	07 59 13.4	-0.5
TWGZ	Tauwhareparae	6.93	208	P	Pn	07 57 53.1	-4.0
TWGZ				S	Sn	07 59 14.3	-0.8
CNGZ	Carnagh Statio	7.11	205	P	Pn	07 57 56.4	-3.1
MWZ	Matawai	7.25	210	P	Pn	07 57 57.7	-3.8
MWZ				S	Sn	07 59 21.4	-1.6
URZ	Urewera	7.37	212	Pn	Pn	07 58 01.6	-1.5
	1.1nm,0.3s,baz=337,slow=2.9,SNR=8.1						
URZ				Sn	Sn	07 59 24.9	-1.0
	7.7nm,0.3s,baz=326,slow=21,SNR=12						
	7.0nm,0.7s						
URZ	Urewera	7.37	212	P	Pn	07 58 00.3	-2.8
RIGZ	Rimuhau	7.47	207	P	Pn	07 58 03.2	-1.3
WCZ	Waipu Caves	7.48	237	P	Pn	07 58 08.0	+3.3
SNGZ	Shannon Statio	7.70	209	P	Pn	07 58 07.0	-0.8
SNGZ				S	Sn	07 59 34.2	0.0
RTZ	Ruatahuna	7.72	211	Pn	Pn	07 58 05.9	-2.0
OUZ	Omahuta	7.73	244	P	Pn	07 58 11.4	+3.2
MTHZ	Maungataniwha	7.97	211	P	Pn	07 58 10.7	-0.7
BKZ	Black Stump Fm	8.38	211	Pn	Pn	07 58 16.2	-0.9
BKZ	Black Stump Fm	8.38	211	P	Pn	07 58 17.8	+0.7
COVZ	Chateau Observ	8.86	215	P	Pn	07 58 29.5	+5.8
MSWZ	Moikau Station	10.78	209	Pn	Pn	07 58 48.0	-2.0
WHZ	Wether Hill Ro	17.58	214		Pn	08 00 20.5	+0.2
WHZ				IAmb	IAmb	08 00 35.4	
	comp=Z,34nm,1.4s						
RAR	Rarotonga	19.47	61	LR	LR	08 09 11.6	
	comp=Z,76nm,18.4s,baz=204,slow=40						
PPT	Papeete	29.39	67	LR	LR	08 13 29.8	
	comp=Z,53nm,18.2s,baz=267,slow=35						
HNR	Honiara	30.50	313	LR	LR	08 13 31.5	
	comp=Z,130nm,18.6s,baz=26,slow=34						
STKA	Stephens Creek	34.21	259	P	P	08 02 59.7	-1.1
STKA				IAmb	IAmb	08 03 08.2	
	comp=Z,14nm,0.8s						
STKA	Stephens Creek	34.21	259	P	P	08 03 01.8	+0.9
	comp=Z,1.9nm,0.6s,baz=92,slow=12,SNR=4.6						
STKA				LR	LR	08 16 18.8	
	comp=Z,156nm,18.0s,baz=37,slow=35						
	comp=Z,1.9nm,0.6s						
BBOO	Buckleboo	38.61	256	P	P	08 03 37.5	-0.9
BBOO				IAmb	IAmb	08 03 58.6	
	comp=Z,19nm,1.4s						
PMG	Port Moresby	39.44	297	LR	LR	08 18 25.7	
	comp=Z,55nm,20.4s,baz=119,slow=34						
COEN	Coen	39.85	288	P	P	08 03 48.7	-0.2
COEN				IAmb	IAmb	08 04 00.4	
	comp=Z,6.6nm,1.1s						
AS31	Alice Springs	43.13	269	P	P	08 04 15.5	-0.3
ASAR	Alice Springs	43.13	269	P	P	08 04 14.5	-1.3
ASAR	Alice Springs	43.13	269	P	P	08 04 15.2	-0.5
	comp=Z,3.8nm,0.9s,baz=106,slow=7.4,SNR=25						
ASAR				LR	LR	08 22 07.5	
	comp=Z,75nm,19.1s,baz=130,slow=36						
	comp=Z,3.8nm,0.9s						
WRA	Warramunga Arr	44.27	274	P	P	08 04 24.3	-0.7
WRA	Warramunga Arr	44.27	274	P	P	08 04 24.4	-0.7
	comp=Z,5.7nm,0.8s,baz=113,slow=7.7,SNR=30						
WRA				LR	LR	08 21 37.7	
	comp=Z,114nm,18.2s,baz=90,slow=35						
	comp=Z,5.7nm,0.8s						
WB0	Warramunga Arr	44.30	274		P	08 04 25.0	-0.3
WB0				IAmb	IAmb	08 04 25.7	
	comp=Z,7.7nm,0.8s						
FORT	Forrest	45.71	257	P	P	08 04 35.3	-1.0
JAY	Jayapura	48.77	299	LR	LR	08 23 47.2	
	comp=Z,40nm,19.8s,baz=177,slow=34						
KNRA	Kununurra	50.94	276	P	P	08 05 15.5	-1.3
KNRA				IAmb	IAmb	08 05 36.9	
	comp=Z,16nm,1.5s						
FITZ	Fitzroy Crossi	52.46	271	LR	LR	08 27 15.2	
	comp=Z,176nm,18.6s,baz=116,slow=36						
CASY	Casey	53.67	208	P	P	08 05 36.6	+0.2
CASY				IAmb	IAmb	08 05 51.0	
	comp=Z,24nm,1.4s						
QSPA	South Pole Qui	58.00	180	P	P	08 06 09.9	+2.3
QSPA	South Pole Qui	58.00	180	P	P	08 06 10.1	+2.4
	comp=Z,4.3nm,1.1s,baz=31,slow=2.5,SNR=4.1						
	comp=Z,4.3nm,1.1s						
KAPI	Kappang	64.00	281	LR	LR	08 33 48.5	
	comp=Z,78nm,20.1s,baz=122,slow=35						
SYO	Syowa Base	75.47	193	eP	P	08 07 59.2	+0.5
PLCA	Paso Flores	81.28	133	LR	LR	08 38 30.6	
	comp=Z,34nm,18.8s,baz=204,slow=31						
NVAR	Mina Array Bea	89.44	43	P	P	08 09 13.8	+1.7
	comp=Z,1.8nm,1.0s,baz=228,slow=8.3,SNR=5.5						
	comp=Z,1.8nm,1.0s						
CPUP	Villa Florida	98.86	129	LR	LR	08 51 37.2	
	comp=Z,24nm,18.4s,baz=219,slow=34						
LBTB	Lobatse	118.92	204	PKPdf	PKiKP	08 15 05.7	+1.4
MKAR	Makanchi Array	118.93	309	PKPdf	PKiKP	08 15 05.2	+1.9
MKAR	Makanchi Array	118.93	309	PKP	PKiKP	08 15 03.9	+0.6
	comp=Z,0.5nm,0.9s,baz=134,slow=4.2,SNR=3.3						
KURBB	Kurchatov Arra	122.32	313	PKP	PKiKP	08 15 11.2	+1.5
	comp=Z,0.6nm,0.7s,baz=102,slow=2.2,SNR=3.1						
BVAR	Borovoye Array	127.68	315	PKP	PKiKP	08 15 20.7	+0.3
	comp=Z,0.5nm,0.3s,baz=8.5,slow=3.0,SNR=3.7						
KBZ	Khabaz	146.11	302	PKPbc	PKPab	08 15 55.4	-0.2
	comp=Z,5.3nm,1.0s,baz=257,slow=1.7,SNR=4.9						
FIA1	FINESS Array S	146.77	339	PKPdf	PKPbc	08 15 56.3	0.0
FINES	FINESS Array B	146.77	339	PKPdf	PKPbc	08 15 55.7	-0.6
FINES	FINESS Array B	146.77	339	PKPbc	PKPbc	08 15 56.2	-0.1
	comp=Z,6.6nm,0.9s,baz=64,slow=3.2,SNR=11						
HFS	Hagfors	150.93	348	PKPbc	PKiKP	08 16 08.3	+0.7
	comp=Z,3.3nm,0.9s,baz=214,slow=5.0,SNR=4.6						
MMAI	Mount Meron Ar	151.98	281	PKPbc	PKiKP	08 16 11.5	+0.7
	comp=Z,9.8nm,0.9s,baz=83,slow=3.4,SNR=6.4						
AKASG	Malin Array Be	152.69	321	PKPbc	PKiKP	08 16 12.0	+0.5
	comp=Z,0.4nm,0.4s,baz=63,slow=1.6,SNR=4.2						
BRTR	Keskin Array B	153.45	296	PKPbc	PKPbc	08 16 13.4	-0.1
	comp=Z,0.8nm,0.7s,baz=116,slow=2.9,SNR=5.6						

*WEL **07** 08:02:40.8±1.2, 32°.5±11°×17°.8W±3°.6, h12km, mb4.3/9, mB4.4/6, Mw(mB)3.6/6, Error ellipse: s-maj=49.5km s-min=4.4km az=106.2, confirmed*
*IDC **07** 08:02:41.7±1.6, 31°.46S×178°.06W, h0km, mb3.9/3, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=44.3km s-min=31.9km az=59.0*

ISC 07 08:02:39.7±1.9, 31°.89S±0°.09×177°.4W±0°.3, h18km, n20, σ1°85/29, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.66	351	P	Pn	08 03 21.0	-0.5
GLKZ				S	Sn	08 03 51.0	-2.2
MXZ	Matakaoa Point	6.66	211	P	Pn	08 04 18.0	+1.4
WMGZ	Waiomatatini S	6.83	209	P	Pn	08 04 20.7	+1.8
	comp=Z,27nm,0.9s,comp=Z,346nm						
PKGZ	Pakihiroa	7.01	211	P	Pn	08 04 21.3	-0.1
	comp=Z,14nm,0.6s,comp=Z,244nm						
PKGZ				S	Sn	08 05 41.1	+0.4
HAZ	Te Kaha	7.05	213	P	Pn	08 04 22.9	+0.9
	comp=Z,19nm,0.7s						
HAZ				S	Sn	08 05 42.7	+1.0
PUZ	Puketiti	7.11	209	P	Pn	08 04 22.9	+0.1
	comp=Z,37nm,2.0s						
PUZ				S	Sn	08 05 41.5	-1.6
RUGZ	Raukumara Rang	7.27	212	P	Pn	08 04 25.8	+0.7
	comp=Z,9.8nm,0.6s,comp=Z,185nm						
RUGZ				S	Sn	08 05 46.1	-1.1
TWGZ	Tauwhareparae	7.31	210	P	Pn	08 04 26.2	+0.6
	comp=Z,15nm,0.7s,comp=Z,280nm						
TWGZ				S	Sn	08 05 47.7	-0.5
CNGZ	Carnagh Statio	7.48	207	P	Pn	08 04 28.1	+0.2
	comp=Z,19nm,1.1s,comp=Z,298nm						
CNGZ				S	Sn	08 05 51.3	-1.0
TKGZ	Te Karaka	7.59	209	P	Pn	08 04 29.2	-0.1
	comp=Z,11nm,0.9s						
TKGZ				S	Sn	08 05 55.3	+0.4
URZ	Urewera	7.77	214	Pn	Pn	08 04 36.2	+4.4
	comp=Z,0.5nm,0.3s,baz=186,slow=9.3,SNR=2.2						
URZ				Sn	Sn	08 05 57.3	-2.1
	comp=Z,1.5nm,0.3s,baz=263,slow=14,SNR=5.7						
	comp=Z,3.9nm,0.5s						
URZ	Urewera	7.77	214	P	Pn	08 04 30.9	-0.9
	comp=Z,11nm,1.2s						
RIGZ	Rimuhau	7.85	209	P	Pn	08 04 33.0	-0.1
	comp=Z,20nm,0.8s						
SNGZ	Shannon Statio	8.09	210	P	Pn	08 04 35.3	-1.0
	comp=Z,22nm,0.6s,comp=Z,244nm						
KNZ	Kokohu	8.16	208	P	Pn	08 04 32.7	-4.5
KNZ				S	Sn	08 06 05.1	-3.7
ASAR	Alice Springs	43.54	268	P	P	08 10 42.5	-0.1
	comp=Z,0.9nm,0.4s,baz=106,slow=7.2,SNR=22						
	comp=Z,0.9nm,0.4s						
WRA	Warramunga Arr	44.66	273	P	P	08 10 52.7	+1.1
	comp=Z,1.1nm,0.4s,baz=112,slow=7.8,SNR=11						
	comp=Z,1.1nm,0.4s						
QSPA	South Pole Qui	58.22	180	P	P	08 12 40.7	+8.1
	comp=Z,0.9nm,0.8s,baz=32,slow=1.1,SNR=17						
	comp=Z,0.9nm,0.8s						
FINES	FINESS Array B	146.71	340	PKPbc	PKiKP	08 22 22.1	-0.3
	comp=Z,3.0nm,0.8s,baz=63,slow=3.7,SNR=9.2						
MMAI	Mount Meron Ar	152.33	281	PKPbc	PKiKP	08 22 38.2	+3.2
	comp=Z,1.0nm,0.4s,baz=134,slow=4.8,SNR=3.9						

IDC 07 08:03:32.2±3.1, 31°.67S×178°.16W, h0km, mb4.1/3, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=71.5km s-min=45.3km az=124.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.63	209	Pn	Pn	08 05 22.7	-2.0
	1.1nm,0.3s,baz=226,slow=17,SNR=2.4						
URZ				Sn	Sn	08 06 41.6	-10
	3.6nm,0.3s,baz=118,slow=6.9,SNR=3.4						
	4.7nm,0.4s						
STKA	Stephens Creek	34.08	259	P	P	08 10 19.2	+0.7
	0.8nm,0.5s,baz=102,slow=8.3,SNR=3.0						
	0.8nm,0.5s						
ASAR	Alice Springs	42.92	268	P	P	08 11 32.6	-0.4
	1.3nm,0.6s,baz=105,slow=7.4,SNR=5.5						
	1.3nm,0.6s						
WRA	Warramunga Arr	44.03	274	P	P	08 11 41.9	0.0
	1.9nm,0.3s,baz=112,slow=8.0,SNR=13						
	1.9nm,0.3s						
FINES	FINESS Array B	146.29	339	PKPbc	PKPdf	08 23 13.3	+0.4
	2.1nm,0.6s,baz=46,slow=4.0,SNR=5.7						

NNC 07 08:05:13.0±7.2, 37°.22N×71°.03E, h0km, mb3.6, mpv3.4, 1C-4D, Error ellipse: s-maj=70.4km s-min=49.2km az=141.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.89	356	⇓P	Pn	08 06 43.4	+1.8
	1.0nm,0.3s,baz=188,slow=16,SNR=6.0						
KK31				⇓S	Sn	08 07 51.8	+2.0
	2.5nm,0.4s,baz=181,slow=21,SNR=6.0						
AAK	Ala-Archa	6.04	25	⇓P	Pn	08 06 43.9	+0.2
	1.3nm,0.3s						
AAK				⇑S	Sn	08 07 54.1

*IDC **07** 08:15:49.1±3.1,31°.67S×177°.92W,h0km,mb3.8/3, mbtmp3.8/4,ML3.1/1,Error ellipse: s-maj=72.9km s-min=45.4km az=125.0*
*WEL **07** 08:15:50.6±1.2,32°.S±8°.×17°8W±2°.6,h33km,M4.2/7, mB4.4/4,ML4.6/9,MLv4.4/7,Mw(mB)3.6/4,Error ellipse: s-maj=35.5km s-min=4.4km az=105.1,confirmed*
ISC 07 08:15:43.6±1.8,31°.99S±0°.07×176°.9W±0°.2,h10km,n22, σ2°.36/30,mb3.8/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.87	341	P	Pn	08 16 30.1	+0.7
GLKZ				S	Sn	08 16 58.8	-5.1
WMGZ	Waiomatatini S	6.99	212	P	Pn	08 17 30.0	+4.0
WMGZ				S	Sn	08 18 43.5	-2.0
PKGZ	Pakihiroa	7.18	214	P	Pn	08 17 30.2	+1.5
PKGZ				S	Sn	08 18 49.1	-1.2
HAZ	Te Kaha	7.24	216	P	Pn	08 17 31.2	+1.8
HAZ				S	Sn	08 18 50.1	-1.6
PUZ	Puketiti	7.27	212	P	Pn	08 17 30.5	+0.7
PUZ				S	Sn	08 18 50.6	-1.8
RUGZ	Raukumara Rang	7.45	215	P	Pn	08 17 34.1	+1.6
RUGZ				S	Sn	08 18 54.7	-2.5
TWGZ	Tauwhareparae	7.48	213	P	Pn	08 17 36.5	+3.7
TWGZ				S	Sn	08 18 56.2	-1.4
CNGZ	Carnagh Statio	7.63	211	P	Pn	08 17 34.8	0.0
TKGZ	Te Karaka	7.75	212	S	Sn	08 19 01.8	-2.5
MWZ	Matawai	7.82	214	P	Pn	08 17 39.4	+1.9
MWZ				S	Sn	08 19 03.3	-2.7
URZ	Urewera	7.96	217	Pn	Pn	08 17 41.5	+2.1
	0.3nm,0.3s,baz=51,slow=13,SNR=1.6						
URZ				Sn	Sn	08 19 06.0	-3.5
	1.1nm,0.3s,baz=279,slow=19,SNR=7.1						
	3.6nm,0.6s						
URZ	Urewera	7.96	217	P	Pn	08 17 39.6	+0.3
RIGZ	Rimuhau	8.01	212	P	Pn	08 17 40.4	+0.3
PRGZ	Paritu Road	8.13	210	P	Pn	08 17 48.6	+6.9
SNGZ	Shannon Statio	8.26	213	P	Pn	08 17 44.2	+0.7
WCZ	Waipu Caves	8.29	239	P	Pn	08 17 47.9	+4.0
KNZ	Kokohu	8.31	211	P	Pn	08 17 43.8	-0.3
OUZ	Omahuta	8.58	245	P	Pn	08 17 51.0	+3.1
STKA	Stephens Creek	35.10	259	P	P	08 22 38.0	+0.9
	0.8nm,0.6s,baz=100,slow=11,SNR=3.9						
	0.8nm,0.6s						
ASAR	Alice Springs	44.01	268	P	P	08 23 51.1	-0.5
	0.7nm,0.4s,baz=106,slow=7.2,SNR=19						
	0.7nm,0.4s						
WRA	Warramunga Arr	45.14	273	P	P	08 24 00.0	-0.6
	0.8nm,0.5s,baz=113,slow=7.8,SNR=9.5						
	0.8nm,0.5s						
FINES	FINESS Array B	146.97	340	PKPbc	PKiKP	08 35 30.4	+2.2
	3.0nm,0.9s,baz=65,slow=4.7,SNR=5.3						

*IDC **07** 08:24:57.2±1.1,55°.76S×26°.98W,h0km,mb4.3/3, mbtmp4.2/4,ML3.9/1,Error ellipse: s-maj=64.2km s-min=25.3km az=63.0*
*NEIC **07** 08:25:03.8±1.1,55°.9S±0°.1×27°.2W±0°.2,h35km±2km, mb4.5/10,Error ellipse: s-maj=27.2km s-min=9.3km az=40.0*
ISC 07 08:25:06.1±0.8,55°.9S±0°.1×27°.2W±0°.1,h63km,n23, σ0°.89/23,mb4.5/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.56	283	Pn	Pn	08 26 26.6	+0.4
SNAA	Sanae	18.86	156	P	Pn	08 29 21.1	-0.8
SNAA	Sanae	18.86	156	P	P	08 29 20.5	-0.2
	0.4nm,0.3s,baz=305,slow=12,SNR=12						
	4.9nm,0.9s						
BELA	Belgrano 2	22.19	184	P	P	08 29 56.8	+0.2
BELA				IAmb	IAmb	08 29 57.8	
	comp=Z,12nm,0.8s						
COYC	Coyhaique	29.70	271	P	P	08 31 06.1	+0.3
COYC				IAmb	IAmb	08 31 10.9	
	comp=Z,15nm,1.3s						
PLTB	Pedras Altas	30.40	312	P	P	08 31 11.8	-0.3
PLTB				IAmb	IAmb	08 31 24.6	
	comp=Z,11nm,1.2s						
QSPA	South Pole Qui	34.32	180	P	P	08 31 46.1	-0.1
QSPA				IAmb	IAmb	08 31 46.8	
	comp=Z,6.8nm,1.0s						
QSPA	South Pole Qui	34.32	180	P	P	08 31 46.3	+0.1
	comp=Z,3.9nm,0.7s,baz=196,slow=2.2,SNR=27						
	comp=Z,3.9nm,0.7s						
VNDA	Vanda	46.69	183	P	P	08 33 29.0	+1.2
PB08	IPOC Station P	47.44	302	P	P	08 33 34.3	-0.4
PB08				IAmb	IAmb	08 34 09.7	
	comp=Z,5.0nm,0.7s						
LPAZ	La Paz	50.29	305	P	P	08 33 56.8	-0.1
LPAZ				IAmb	IAmb	08 33 57.4	
	comp=Z,3.0nm,0.9s						
LPAZ	La Paz	50.29	305	P	P	08 33 57.0	+0.1
	comp=Z,1.2nm,0.7s,baz=157,slow=4.1,SNR=8.2						
	comp=Z,1.2nm,0.7s						
COHC	Cochancay	67.59	302	P	P	08 35 56.0	0.0
TORD	Torodi Ar. Bea	72.97	30	P	P	08 36 30.5	+1.8
ASAR	Alice Springs	99.11	163	P	Pdif	08 38 40.2	-0.1
	comp=Z,0.8nm,1.0s,baz=202,slow=6.3,SNR=4.4						
	comp=Z,0.8nm,1.0s						
YKA	Yellowknife Ar	136.07	318	PKP	PKPdf	08 44 17.4	-1.1
	comp=Z,0.3nm,0.7s,baz=141,slow=2.1,SNR=6.1						
INK	Inuvik	145.70	321		PKPbc	08 44 35.2	-0.9
G29M	Pine Creek	146.97	317		PKPbc	08 44 38.8	-1.2
E29M	Blow River	147.29	320		PKPbc	08 44 39.0	-1.7
D27M	Malcolm River	148.55	321		PKPbc	08 44 43.5	-0.6
ILAR	Eielson Array	150.02	312	PKPbc	PKPbc	08 44 46.6	-1.3
	comp=Z,2.3nm,0.9s,baz=124,slow=1.8,SNR=17						
E25K	Arctic Village	150.05	319		PKPbc	08 44 46.8	-1.1
SONM	Songino Array	150.75	86	PKPbc	PKiKP	08 44 50.3	-0.6
	comp=Z,1.4nm,0.6s,baz=234,slow=3.5,SNR=7.7						

IDC 07 08:27:43.4±3.3,31°.74S×178°.17W,h0km,mb3.8/2, mbtmp3.8/3,ML3.2/1,Error ellipse: s-maj=74.8km s-min=48.8km az=118.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.57	209	Pn	Pn	08 29 34.6	-0.3
	0.4nm,0.3s,baz=46,slow=17,SNR=1.1						
URZ				Sn	Sn	08 30 58.0	-3.4
	1.9nm,0.3s,baz=193,slow=16,SNR=9.3						
	1.5nm,0.3s						
ASAR	Alice Springs	42.91	268	P	P	08 35 43.1	-0.9
	0.5nm,0.4s,baz=107,slow=7.3,SNR=17						
	0.5nm,0.4s						
WRA	Warramunga Arr	44.02	274	P	P	08 35 53.7	+0.8
	0.6nm,0.3s,baz=114,slow=7.8,SNR=7.9						
	0.6nm,0.3s						
FINES	FINESS Array B	146.35	339	PKPbc	PKPdf	08 47 24.5	+0.4
	1.5nm,0.7s,baz=48,slow=4.5,SNR=3.5						

IDC 07 08:28:28.8±2.3,54°.63N×83°.74E,h0km,mbtmp2.5/1, ML2.2/2,Error ellipse: s-maj=19.4km s-min=11.7km az=166.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.93	137	I	I	08 34 00.0	
	0.1nm,0.8s,baz=318,slow=337,SNR=4.7						
ZALV	Zalesovo Beam	0.93	137	Pg	Pg	08 28 45.3	-1.3
	1.6nm,0.3s,baz=318,slow=15,SNR=15						
ZALV				Lg	Lg	08 29 00.7	
	1.5nm,0.3s,baz=315,slow=29,SNR=5.6						
KURBB	Kurchatov Arra	5.12	220	Pn	Pn	08 29 46.7	+0.1
	0.1nm,0.3s,baz=39,slow=13,SNR=4.3						
MKAR	Makanchi Array	7.90	187	Pn	Pn	08 30 25.4	+0.6
	0.1nm,0.3s,baz=8.8,slow=12,SNR=2.3						
	0.1nm,0.4s						

*NEIC **07** 08:43:41.9±1.7,8°.13S±0°.08×108°.52E±0°.07,h104km±3km, mb4.6/25,Error ellipse: s-maj=12.0km s-min=10.0km az=164.0*
*DJA **07** 08:43:42.9±0.2,8°.S±4°.×10°.9E±°.,h98km±7km,M4.7/25, mB5.2/6,mb5.0/11,MLv4.7/25,Mw(mB)4.6/6*
*IDC **07** 08:43:46.1±0.8,7°.92S×108°.69E,h141km±7km,mb4.0/13, mbtmp4.3/15,Error ellipse: s-maj=24.5km s-min=9.7km az=52.0*
ISC 07 08:43:42.4±0.7,8°.32S±0°.05×108°.59E±0°.03,h113km±7km, n113,σ1°.53/118,mb4.5/31,1D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.55	346	P	Pn	08 43 59.5	-0.5
BBJI	Bungbulang	1.26	312	P	Pn	08 44 07.1	+0.4
BBJI	Bungbulang	1.26	312	S	Sn	08 44 24.3	-0.8
CNJI	Cibinong	1.76	305	P	Pn	08 44 12.9	+0.4
CNJI				S	Sn	08 44 34.4	-1.1
YOGI	Yogyakarta	1.77	74	P	Pn	08 44 12.3	-0.3
YOGI				S	Sn	08 44 33.6	-2.1
LEM	Lembang	1.77	327	P	Pn	08 44 14.5	+1.7
	205nm,0.6s,baz=86,slow=7.7,SNR=35						
LEM				S	Sn	08 44 38.1	+2.1
	470nm,0.5s,baz=177,slow=23,SNR=11						
LEM	Lembang	1.77	327	P	Pn	08 44 14.0	+1.2
LEM				S	Sn	08 44 37.6	+1.6
UGM	Wanagama	1.96	78		Pn	08 44 15.1	-0.1
UGM	Wanagama	1.96	78	P	Pn	08 44 15.0	-0.1
UGM	Wanagama	1.96	78	S	Sn	08 44 38.5	-1.6
UGM	Wanagama	1.96	78	P	Pn	08 44 14.8	-0.3
UGM				S	Sn	08 44 37.7	-2.4
SMRI	Semarang	2.23	56	Pn	Pn	08 44 18.8	+0.3
SMRI	Semarang	2.23	56	P	Pn	08 44 19.2	+0.7
SMRI	Semarang	2.23	56	S	Sn	08 44 46.8	+0.6
SMRI	Semarang	2.23	56	P	Pn	08 44 18.8	+0.3
SKJI	Sukabumi	2.40	303	P	Pn	08 44 22.0	+1.4
SKJI				S	Sn	08 44 51.1	+1.1
PCJI	Pacitan	2.57	87	P	Pn	08 44 22.9	+0.1
PCJI				S	Sn	08 44 52.1	-1.8
NGJI	Ngawi	3.00	72	P	Pn	08 44 29.9	+1.4
SBJI	Serang	3.27	312	P	Pn	08 44 33.6	+1.5
CGJI	Cibinong	3.33	300	P	Pn	08 44 33.3	+0.4
XMI	Christmas Isla	3.56	233	S	Sn	08 45 15.3	-2.0
TBJI	Tambak Boyo	3.56	65	P	Pn	08 44 35.7	-0.3
XMIS	Christmas Isla	3.60	233	Pn	Pn	08 44 36.8	+0.2
XMIS	Christmas Isla	3.60	233	P	Pn	08 44 37.3	+0.7
XMIS	Christmas Isla	3.60	233	S	Sn	08 45 15.5	-3.0
GRJI	Gresik	4.11	70	P	Pn	08 44 43.5	+0.3
GMJI	Gumukmas	4.81	90	P	Pn	08 44 52.8	+0.1
KMMI	Kalianget	5.48	77	P	Pn	08 45 01.2	-0.6
JAGI	Jajag, Banyuwa	5.51	92	Pn	Pn	08 45 02.5	+0.3
JAGI	Jajag, Banyuwa	5.51	92	P	Pn	08 45 03.0	+0.8
JAGI	Jajag, Banyuwa	5.51	92	P	Pn	08 45 02.6	+0.4
	0.7nm5μm111nm,0.6s						
ABJI	Asem Bagus	5.62	85	P	Pn	08 45 04.5	+0.8
	1.0nm3μm262nm,0.6s						
MDSI	Maura Dua	5.80	311	P	Pn	08 45 06.8	+0.6
DNP	Denpasar	6.56	94	P	Pn	08 45 16.9	+0.4
SRBI	Singaraja	6.56	88	P	Pn	08 45 16.5	0.0
	0.5nm141nm,0.6s						
MNAI	Manna	6.84	305	Pn	Pn	08 45 19.7	-0.5
MNAI	Manna	6.84	305	P	Pn	08 45 20.2	0.0
MNAI	Manna	6.84	305	P	Pn	08 45 20.1	-0.1
	159nm,0.8s						
TWSI	Taliwang, Sumb	8.22	94	P	Pn	08 45 38.3	-0.6
	2μm81nm,0.6s						
PLAI	Plampang	9.10	94	P	Pn	08 45 50.4	-0.5
PLAI	Plampang	9.10	94	P	Pn	08 45 50.3	-0.6
	1μm157nm,1.1s						
PPSI	Pulau Pagai	10.16	302	P	Pn	08 46 04.6	-0.6
WBSI	Waikabubak, Su	10.76	98	P	Pn	08 46 12.2	-1.1
KAPI	Kappang	11.57	74	Pn	Pn	08 46 24.5	+0.4
KAPI	Kappang	11.57	74	P	Pn	08 46 25.0	+0.9
	8.6nm,0.5s,baz=254,slow=15,SNR=1.6						
GIRL	Giralia	15.24	160	Pn	Pn	08 47 11.9	+0.3
GIRL	Giralia	15.24	160	P	Pn	08 47 12.6	+0.9
	comp=Z,73nm,1.5s						
SOEI	Soe	15.55	96	P	Pn	08 47 16.8	+1.0
SOEI				IAmb	IAmb	08 47 27.0	
	comp=Z,31nm,0.7s						
FITZ	Fitzroy Crossi	19.22	122	P	P	08 47 59.8	+2.0
FITZ	Fitzroy Crossi	19.22	122	P	Pn	08 48 00.5	+0.6
	comp=Z,1.6nm,1.1s						
FITZ	Fitzroy Crossi	19.22	122	P	Pn	08 48 00.7	+0.7
	comp=Z,2.8nm,0.7s,baz=281,slow=4.6,SNR=5.9						
FITZ				S	S	08 51 23.9	-5.8
	comp=Z,1.8nm,0.5s,baz=46,slow=16,SNR=3.1						
KNRA	Kununurra	21.04	112		P	08 48 17.6	+0.3
KNRA				IAmb	IAmb	08 48 32.1	
	comp=Z,11nm,0.7s						
KNRA	Kununurra	21.04	112	P	P	08 48 19.3	+1.9
	comp=Z,15nm,0.9s						
MTN	Manton Dam	22.61	103	P	P	08 48 33.6	-0.3
MTN				IAmb	IAmb	08 48 52.3	
	comp=Z,36nm,1.4s						
MTN	Manton Dam	22.61	103	P	P	08 48 35.4	+1.5
	comp=Z,22nm,0.5s						
WRKA	Warakurna	25.10	134	P	P	08 48 59.5	+2.8
	comp=Z,8.2nm,2.3s						
WB0	Warramunga Arr	27.45	117	P	P	08 49 19.4	+1.4
WRA	Warramunga Arr	27.47	118	P	P	08 49 19.3	+1.1
WRA	Warramunga Arr	27.47	118	P	P	08 49 19.6	+1.4
	comp=Z,1.1nm,0.8s,baz=293,slow=11,SNR=5.7						
WRA				PcP	PcP	08 52 34.5	+0.5
	comp=Z,0.6nm,0.7s,baz=302,slow=3.0,SNR=2.4						
	comp=Z,1.1nm,0.8s						
WC2	Warramunga Arr	27.49	118	P	P	08 49 19.9	+1.6
CMAR	Chiang Mai Arr	28.26	340	P	P	08 49 23.1	-2.0
	comp=Z,2.7nm,0.3s,baz=180,slow=8.9,SNR=10						
	comp=Z,2.7nm,0.3s						
ASAR	Alice Springs	28.65	125	P	P	08 49 30.6	+2.0
	comp=Z,1.8nm,0.8s,baz=304,slow=8.9,SNR=21						
ASAR				PcP	PcP	08 52 37.8	+0.9
	comp=Z,0.8nm,0.4s,baz=306,slow=2.7,SNR=8.3						
	comp=Z,1.8nm,0.8s						
QIS	Mount Isa	32.34	115	P	P	08 50 02.9	+1.7
	comp=Z,5.3nm,2.2s						
COEN	Coen	34.37	103	P	P	08 50 19.1	+0.2
COEN				IAmb	IAmb	08 50 19.8	
	comp=Z,6.8nm,1.1s						
COEN	Coen	34.37	103	P	P	08 50 19.4	+0.5
	comp=Z,8.1nm,1.9s						
PZH	PanZhiHua	35.25	349	P	P	08 50 27.3	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,6.0s						
H08S2	Diego Garcia H	35.74	268	T	T	09 28 02.5	
	baz=91,slow=74,SNR=12						
H08S3	Diego Garcia H	35.75	268	T	T	09 28 07.8	
	baz=91,slow=74,SNR=17						
H08S1	Diego Carcia H	35.76	268	T	T	09 28 09.5	
	baz=91						
STKA	Stephens Creek	38.60	132	P	P	08 50 56.3	+1.7
STKA	Stephens Creek	38.60	132	P	P	08 50 57.2	+2.5
	comp=Z,49nm,1.2s						
STKA	Stephens Creek	38.60	132	P	P	08 50 57.1	+2.5
	comp=Z,8.4nm,0.6s,baz=309,slow=8.2,SNR=39						
STKA				PcP	PcP	08 53 06.0	+1.1
	comp=Z,1.9nm,0.5s,baz=331,slow=4.3,SNR=4.4						
	comp=Z,8.4nm,0.6s						
NJ2	Nanjing	41.33	13	*e*P	P	08 51 18.0	+1.0
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
XAN	Xi'an	42.13	0	*e*P	P	08 51 24.2	+0.6
HHC	Hu-ho-hao-te	49.00	3	*e*P	P	08 52 18.4	+0.7
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,6.7s						
WMQ	Urumqi	55.25	342	*e*P	P	08 53 06.3	+2.4
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SONM	Songino Array	55.94	358	P	P	08 53 07.5	-1.4
SONM				PcP	PcP	08 54 05.4	-0.7
SONM	Songino Array	55.94	358	P	P	08 53 07.7	-1.1
	comp=Z,1.9nm,0.4s,baz=177,slow=9.0,SNR=19						
	comp=Z,1.9nm,0.4s						
ULN	Ulaanbaatar	55.95	359	P	P	08 53 07.3	-1.7
ULN				IAmb	IAmb	08 53 08.9	
	comp=Z,5.0nm,0.5s						
USRK	Ussuriysk Ar.	56.40	20	P	P	08 53 09.6	-2.4
	comp=Z,1.7nm,0.5s,baz=187,slow=7.5,SNR=7.1						
	comp=Z,1.7nm,0.5s						
DRK	Karamyk	58.51	327	P	P	08 53 25.9	-1.4
BOOM	Boomskoye usch	58.69	332	P	P	08 53 27.4	-1.0
BOOM				IAmb	IAmb	08 53 28.6	
	comp=Z,3.0nm,0.7s						
GAR	Garm	58.98	326	P	P	08 53 28.3	-2.0
GAR				IAmb	IAmb	08 53 29.5	
	comp=Z,8.4nm,1.1s						
ARSB	Arslanbob	59.24	329	P	P	08 53 30.4	-1.7
ARSB				IAmb	IAmb	08 53 39.0	
	comp=Z,8.5nm,1.5s						
CHGR	Chuyangaron	59.40	325	P	P	08 53 30.5	-2.6
SIMJ	Simiganj	59.48	325	P	P	08 53 31.3	-2.6
SIMJ				IAmb	IAmb	08 53 32.3	
	comp=Z,3.5nm,0.5s						
MK31	Makanchi Array	59.66	339	P	P	08 53 32.3	-2.4
MK31				IAmb	IAmb	08 53 34.5	
	comp=Z,2.3nm,0.6s						
MKAR	Makanchi Array	59.66	339	P	P	08 53 32.3	-2.4
MKAR	Makanchi Array	59.66	339	P	P	08 53 32.7	-2.0
	comp=Z,3.3nm,0.5s,baz=152,slow=7.5,SNR=40						
	comp=Z,3.3nm,0.5s						
MAKZ	Makanchi	59.78	339	P	P	08 53 34.4	-1.2
MAKZ				IAmb	IAmb	08 54 15.5	
	comp=Z,3.6nm,1.4s						
H04N2	CROZET ISLANDS	61.31	222	T	T	10 01 07.0	
	baz=70,slow=75,SNR=85						
H04N1	CROZET ISLANDS	61.32	222	T	T	10 01 08.7	
	baz=70,slow=75,SNR=70						
H04N3	CROZET ISLANDS	61.32	222	T	T	10 01 04.1	
	baz=70,slow=75,SNR=68						
KKAR	Karatay Array	61.79	329	P	P	08 53 47.8	-1.5
KURBB	Kurchatov Arra	64.23	339	P	P	08 54 03.5	-1.6
	comp=Z,1.6nm,0.4s,baz=155,slow=5.5,SNR=9.0						
KURK	Kurchatov	64.27	339	P	P	08 54 03.6	-1.8
ZAA0	Zalesovo Array	65.20	345	P	P	08 54 08.9	-2.5
ZALV	Zalesovo Beam	65.20	345	P	P	08 54 09.3	-2.1
ZALV	Zalesovo Beam	65.20	345	P	P	08 54 09.4	-2.0
	comp=Z,2.1nm,0.3s,baz=150,slow=6.4,SNR=12						
	comp=Z,2.1nm,0.3s						
KHZ	Kahutara	65.99	133	P	P	08 54 18.4	+1.5
BKZ	Black Stump Fm	67.68	129	P	P	08 54 28.9	+1.2
BKZ				IAmb	IAmb	08 55 11.3	
	comp=Z,18nm,1.3s						
BVAR	Borovoye Array	69.19	336	P	P	08 54 35.2	-1.4
	comp=Z,4.2nm,0.5s,baz=136,slow=8.7,SNR=19						
	comp=Z,4.2nm,0.5s						
ABKAR	Akbulak array	71.35	329	P	P	08 54 48.6	-1.2
SYO	Syowa Base	74.82	200	↓*e*P	P	08 55 12.0	+2.0
ARTI	Arti	76.53	334	P	P	08 55 18.4	-1.6
QSPA	South Pole Qui	81.68	180	P	P	08 55 50.2	+2.2
QSPA				IAmb	IAmb	08 56 16.1	
	comp=Z,6.8nm,1.4s						
QSPA	South Pole Qui	81.68	180	P	P	08 55 50.7	+2.7
	comp=Z,1.0nm,0.6s,baz=276,slow=2.2,SNR=7.1						
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	83.87	311	P	P	08 55 59.5	-0.4
	comp=Z,2.0nm,0.8s,baz=143,slow=6.2,SNR=7.0						
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	89.70	321	P	P	08 56 26.4	-1.3
	comp=Z,0.2nm,0.3s,baz=90,slow=4.2,SNR=2.5						
	comp=Z,0.2nm,0.3s						
ARCES	ARCESS Array B	95.31	339	P	P	08 56 52.2	-1.1
	comp=Z,3.6nm,1.0s,baz=88,slow=2.7,SNR=7.0						
	comp=Z,3.6nm,1.0s						
YKA	Yellowknife Ar	117.53	21	PKP	PKiKP	09 02 14.1	-0.5
	comp=Z,0.3nm,0.7s,baz=320,slow=1.7,SNR=5.5						
TXAR	Lajitas Array	143.21	51	PKP	PKPbc	09 03 01.2	-0.1
	comp=Z,0.3nm,0.4s,baz=267,slow=1.0,SNR=5.6						
LPAZ	La Paz	155.34	188	PKPab	PKPab	09 03 51.9	+2.2
	comp=Z,0.6nm,0.8s,baz=310,slow=2.0,SNR=4.2						

*IDC **07** 08:43:40.6±1.1,23°.06N×124°.66E,h0km,mb3.6/5, mbtmp3.6/6,ML3.5/1,MS3.3/5,Error ellipse: s-maj=41.8km s-min=24.2km az=75.0*
*JMA **07** 08:43:44.2±0.3,23°.N±1°.×124°.6E±0°.8,h36km,MV3.7/16, NEAR ISHIGAKIJIMA ISLAND*
ISC 07 08:43:43.6±1.0,23°.09N±0°.06×124°.59E±0°.05,h24km,n27, σ1°.04/35,mb3.5/5,MS3.3/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.20	323	P	Pn	08 44 04.7	-0.3
HATJ				S	Sn	08 44 19.5	-1.0
JKRS	Kuro-shima	1.26	335	P	Pb	08 44 06.3	-0.5
JKRS				S	Sb	08 44 22.1	-0.4
JIJ	Ishigaki jima	1.33	342	*i*P	Pn	08 44 06.8	0.0
JIJ				S	Sn	08 44 23.0	-0.8
IRIF	Iriomote-Funau	1.47	328	P	Pn	08 44 09.0	+0.4
IRIF				S	Sn	08 44 27.1	0.0
JISG	Ishigakijimahi	1.51	350	P	Pn	08 44 09.4	+0.1
JISG				S	Sn	08 44 28.0	-0.2
JTJ	Tarama	1.55	4	P	Pb	08 44 10.2	-1.4
JTJ				S	Sb	08 44 29.7	-1.1
JMJ2	Miyako jima3	1.78	22	P	Pn	08 44 13.4	+0.5
JMJ2				S	Sn	08 44 35.1	+0.4
JIRB	Irabujima	1.81	17	P	Pn	08 44 13.6	+0.2
JIRB				S	Sn	08 44 35.7	+0.1
JOGS	Gusukube	1.82	24	S	Sn	08 44 36.3	+0.4
JIKM	Ikemajima	1.92	18	P	Pn	08 44 15.2	+0.4
JIKM				S	Sn	08 44 39.1	+0.8
YOJ	Yonaguni jima	1.99	314	P	Pn	08 44 16.7	+0.9
YOJ				S	Sn	08 44 39.1	-0.8
JYNG	Yonagunijimaku	2.03	312	P	Pn	08 44 16.9	+0.6
JYNG				S	Sn	08 44 40.3	-0.6
NACB	Ninganchiao	2.95	292	P	Pn	08 44 28.1	-0.9
YULB	Yu-li	3.04	276	P	Pn	08 44 28.3	-2.0
YHNB	Yeheng	3.34	299	P	Pn	08 44 35.4	+1.0
SSLB	Suanglung	3.41	282	P	Pn	08 44 35.1	-0.3
TPUB	Ta-pu	3.65	274	P	Pn	08 44 38.4	-0.3
JOW	Kunigami	5.01	41	Pn	Pn	08 44 56.9	-0.5
	3.8nm,0.3s,baz=149,slow=19,SNR=6.9						
JOW				Sn	Sn	08 45 50.5	-3.9
	5.7nm,0.3s,baz=137,slow=25,SNR=5.7						
	9.8nm,0.3s						
KSRS	Korea Array	14.60	11	LR	LR	08 53 03.3	
	comp=Z,31nm,19.5s,baz=160,slow

1.3nm,0.7s
ZAA0 ⇑Lg Lg 09 00 59.6
5.6nm,0.9s
KURK Kurchatov 7.96 252 ⇑Pn Pn 09 01 07.2 +1.5
1.4nm,0.6s
KURK ⇑Sn Sn 09 02 37.4 +1.0
6.1nm,0.8s
KURK ⇑Lg Lg 09 03 26.6
36nm,1.3s
KURBB Kurchatov Arra 8.05 252 ⇓Pn Pn 09 01 08.4 +1.4
3.1nm,0.5s
KURBB ⇓Sn Sn 09 02 39.0 +0.3
14nm,0.7s
KURBB ⇓Lg Lg 09 03 24.9
36nm,1.1s
MK31 Makanchi Array 8.76 221 ⇓Pn Pn 09 01 16.5 -0.4
0.8nm,0.6s,baz=29,slow=12,SNR=17
MK31 ⇑Sn Sn 09 02 57.3 +1.0
1.4nm,0.6s
MK31 ⇑Lg Lg 09 03 44.6
3.8nm,0.7s,baz=28,slow=30,SNR=3.9

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*FUNV **07** 09:07:36.1, 10.76N×62.29W, h94km, MW3.8*
ISC 07 09:07:34.8±1.5, 10.64N±0.09×62.40W±0.08, h100km, n9, σ1°54/13, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**2.25**	**259**	*eP*	**Pn**	**09 08 12.5**	**+1.8**
PCRV				*eS*	**Sn**	**09 08 38.1**	**0.0**
TACV	**Tcata**	**4.58**	**264**	*eP*	**Pn**	**09 08 44.1**	**+2.2**
TACV				*eS*	**Sn**	**09 09 33.7**	**-0.4**
LUEV	**Luepa**	**4.85**	**169**	*eP*	**Pn**	**09 08 47.0**	**+1.3**
LUEV				*eS*	**Sn**	**09 09 39.1**	**-1.8**
CACV	**CAICARA DEL OR**	**5.10**	**234**	*eP*	Pn	09 08 45.9	-3.1
CACV				*eS*	Sn	09 09 37.1	-10
BENV	**Beln**	**5.16**	**263**	*eP*	**Pn**	**09 08 50.8**	**+1.0**
BENV				*eS*	**Sn**	**09 09 47.6**	**-0.7**
BAUV	**El Baul**	**5.81**	**254**	*eP*	**Pn**	**09 08 59.2**	**+0.6**
BAUV				*eS*	**Sn**	**09 10 01.6**	**-2.4**
ANBD	**Bethesda, Anti**	**6.41**	**5**	*eP*	**Pn**	**09 09 06.9**	**+0.2**
TEPV	**Terepaima**	**6.72**	**265**	*eP*	**Pn**	**09 09 11.5**	**+0.5**
ANWB	**Willy Bob**	**7.02**	**5**	*eP*	**Pn**	**09 09 13.3**	**-1.7**

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*IDC **07** 09:21:29.7±2.2, 30.47S×71.22W, h0km, mb4.2/1, mbtmp3.8/3, ML3.7/2, MS2.9/2, Error ellipse: s-maj=78.6km s-min=52.2km az=157.0*
*GUC **07** 09:21:37.7±0.6, 30.23S×71.26W, h55km±2km, ML4.0*
*SJA **07** 09:21:37.1±0.8, 30.29S×71.22W, h8km±7km, ML3.7, MW3.6*
ISC 07 09:21:37.3±1.0, 30.16S±0.04×71.53W±0.06, h54km±9km, n52, σ1°26/47, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.52**	**190**	⇓*iP*	**Pn**	**09 21 50.5**	**+1.4**
CO06				*eS*	**Sn**	**09 21 59.9**	**+2.3**
CO06				IAML		09 22 01.9
comp=E,5μm,0.2s						
GO04	**Tololo Observa**	**0.64**	**92**	*eP*	**Pn**	**09 21 49.8**	**-1.0**
GO04				*eS*	**Sn**	**09 21 58.6**	**-1.8**
CO03	**El Pedregal**	**0.99**	**133**	⇑*iP*	**Pn**	**09 21 54.0**	**-1.2**
CO03				*eS*	**Sn**	**09 22 05.9**	**-2.5**
CO03				IAML		09 22 06.5
comp=N,10μm,0.3s						
CO01	**Juntas del Tor**	**1.26**	**82**	⇑*iP*	**Pn**	**09 21 58.2**	**-0.7**
CO01				*eS*	**Sn**	**09 22 13.2**	**-1.8**
CO01				IAML		09 22 13.5
comp=N,2μm,0.1s						
LCO	**Las Campanas**	**1.35**	**33**	*eP*	**Pn**	**09 22 00.3**	**+0.1**
LCO				*eS*	**Sn**	**09 22 17.2**	**0.0**
AROD	**Rodeo**	**1.78**	**91**	*eP*	**Pn**	**09 22 06.5**	**+0.4**
AC04	**Llanos de Chal**	**1.99**	**12**	*eP*	**Pn**	**09 22 09.5**	**+1.0**
AC04				IAML		09 22 42.2
comp=N,532nm,0.6s						
ACDV	**Cuesta del Vie**	**2.09**	**91**	*eP*	**Pn**	**09 22 10.8**	**+0.7**
ACCO	**Cerro Coronel**	**2.17**	**102**	*eP*	**Pn**	**09 22 12.2**	**+0.7**
VA06	**Catapilco**	**2.40**	**175**	*eP*	**Pn**	**09 22 14.2**	**0.0**
VA06				IAML		09 22 57.0
comp=E,1μm,0.3s						
RTLS	**Leoncito**	**2.52**	**131**	*eP*	**Pn**	**09 22 17.4**	**+1.2**
RTLS				*eS*	**Sn**	**09 22 47.5**	**+1.6**
RTLS				IAML		09 22 50.4
comp=Z,417nm,0.3s						
AGUA	**GUANDACOL**	**2.73**	**77**	*eP*	Pn	09 22 21.3	+2.5
AGUA				*eS*	**Sn**	**09 22 52.4**	**+1.8**
AGUA				IAML		09 23 00.8
comp=Z,379nm,0.4s						
VA03	**San Esteban**	**2.73**	**162**	*eP*	**Pn**	**09 22 19.4**	**+0.6**
VA03				IAML		09 23 05.5
comp=E,779nm,0.5s						
AUSP	**Uspallata**	**2.76**	**139**	*eP*	**Pn**	**09 22 20.7**	**+1.3**
ROCH	**El Roble**	**2.84**	**171**	*eP*	**Pn**	**09 22 20.4**	**0.0**
ROCH				IAML		09 23 05.2
comp=N,730nm,0.5s						
RTLL	**Cerro Villicun**	**2.88**	**115**	*eP*	**Pn**	**09 22 21.5**	**+0.7**
RTLL				*eS*	**Sn**	**09 22 54.5**	**+0.2**
AC06	**Mina Casimiro**	**2.98**	**21**	*eP*	**Pn**	**09 22 22.4**	**+0.3**
AC06				IAML		09 23 08.2
comp=N,190nm,0.5s						
PEL	**Peldehue**	**3.06**	**167**	*eP*	**Pn**	**09 22 23.7**	**+0.4**
PEL				IAML		09 23 15.3
comp=N,398nm,0.2s						
MT02	**Curacav**	**3.11**	**174**	*eP*	**Pn**	**09 22 23.6**	**-0.3**
MT10	**Hacienda Santa**	**3.22**	**165**	*eP*	**Pn**	**09 22 26.1**	**+0.5**
MT10				IAML		09 23 19.4
comp=E,665nm,0.5s						
VCA	**Vinchina**	**3.23**	**65**	*eP*	**Pn**	**09 22 28.3**	**+2.6**
VCA				*eS*	**Sn**	**09 23 06.5**	**+3.4**
MT05	**Renca**	**3.29**	**168**	IAML		09 23 21.6
comp=E,859nm,0.2s						
FCH	**Farellones**	**3.33**	**162**	*eP*	**Pn**	**09 22 28.4**	**+1.1**
FCH				IAML		09 23 22.2
comp=E,222nm,0.3s						
MT14	**Cerro Calıın**	**3.34**	**166**	IAML		09 23 24.5
comp=E,722nm,0.5s						
MT16	**CCHEN**	**3.37**	**165**	*eP*	**Pn**	**09 22 28.5**	**+0.9**
MT16				IAML		09 23 26.6
comp=N,195nm,0.5s						
MT03	**Universidad Ad**	**3.44**	**166**	*eP*	**Pn**	**09 22 29.2**	**+0.7**
MT03				IAML		09 23 26.9
comp=E,472nm,0.4s						
MT04	**Ro Olivares**	**3.45**	**160**	*eP*	**Pn**	**09 22 30.6**	**+1.9**
MT04				IAML		09 23 23.3
comp=E,181nm,0.5s						
MT08	**Bocatoma Ro**	**3.52**	**159**	IAML		09 23 26.8
comp=N,133nm,0.5s						
MT15	**Las Vizcachas**	**3.54**	**166**	IAML		09 23 29.0
comp=E,538nm,0.4s						
MT09	**Talagante**	**3.64**	**173**	*eP*	**Pn**	**09 22 31.3**	**+0.1**
MT09				IAML		09 23 22.3
comp=E,330nm,0.3s						
MT12	**Pirque**	**3.66**	**167**	IAML		09 23 31.1
comp=E,419nm,0.6s						
MT01	**Popeta**	**3.70**	**176**	*eP*	**Pn**	**09 22 31.6**	**-0.4**
LMEL	**Las Melosas**	**3.85**	**163**	*eP*	**Pn**	**09 22 35.5**	**+1.3**
BO04	**La Punta**	**3.90**	**169**	*eP*	**Pn**	**09 22 34.9**	**+0.1**
AC02	**Maricunga**	**3.93**	**33**	*iP*	**Pn**	**09 22 36.1**	**+0.5**
AC01	**Pan de Azucar**	**4.08**	**12**	*iP*	**Pn**	**09 22 36.2**	**-1.1**
BO01	**Tunca**	**4.24**	**175**	*eP*	**Pn**	**09 22 39.2**	**-0.2**
BO03	**Pichilemu**	**4.34**	**185**	*eP*	**Pn**	**09 22 39.4**	**-1.4**
BO02	**Sierra Bellavi**	**4.67**	**172**	*eP*	**Pn**	**09 22 45.5**	**+0.2**
H03N1	**Juan Fernandez**	**7.08**	**241**	T	T	09 30 23.7
baz=70,slow=72,SNR=400						
H03N2	**Juan Fernandez**	**7.10**	**241**	T	T	09 30 25.3
baz=70,slow=72,SNR=324						
H03N3	**Juan Fernandez**	**7.10**	**241**	T	T	09 30 24.0
baz=70,slow=72,SNR=362						
CPUP	**Villa Florida**	**13.09**	**77**	Pn	Pn	09 24 34.4	-6.1
comp=E,0.1nm,0.3s,baz=72,slow=15,SNR=2.9						
CPUP				LR	LR	09 29 13.8
comp=E,45nm,18.4s,baz=218,slow=36						
comp=E,1.4nm,0.9s						
LPAZ	**La Paz**	**14.15**	**13**	Pn	**Pn**	**09 24 55.9**	**+0.3**
comp=E,0.1nm,0.3s,baz=195,slow=6.0,SNR=7.0						
comp=E,0.9nm,0.5s						
SIV	**San Ignacio**	**17.05**	**37**	LR	LR	09 33 26.4
comp=E,34nm,18.0s,baz=300,slow=42						
BDFB	**Brasilia**	**25.97**	**61**	P	**P**	**09 27 03.5**	**-1.7**
comp=E,2.7nm,0.5s,baz=215,slow=2.6,SNR=4.0						
comp=E,2.7nm,0.5s						
H11S2	**WAKE ISLAND Hyl**	**26.17**	**272**	T	T	11 59 36.1
baz=115,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hyl**	**26.19**	**272**	T	T	11 59 32.6
baz=115,slow=75,SNR=8.1						
H11S3	**WAKE ISLAND Hyl**	**26.19**	**272**	T	T	11 59 36.2
baz=115,slow=75,SNR=7.9						
AAK	**Ala-Archa**	**150.16**	**56**	PKPbc	**PKiKP**	**09 41 22.7**	**-0.4**
comp=E,1.9nm,0.5s,baz=207,slow=4.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**150.71**	**29**	PKPbc	**PKPbc**	**09 41 23.0**	**0.0**
comp=E,2.5nm,0.6s,baz=324,slow=3.6,SNR=5.9						
MKAR	**Makanchi Array**	**153.80**	**43**	PKPab	**PKPab**	**09 41 43.1**	**-0.3**
comp=E,0.4nm,0.7s,baz=316,slow=4.0,SNR=4.1						

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*WEL **07** 09:24:14.4±1.0, 32.52S×66.17W±1.8, h12km, M4.3/9, mB4.5/4, MLv4.5/9, Mw(mB)3.6/4, Error ellipse: s-maj=24.0km s-min=4.2km az=104.9, confirmed*
*IDC **07** 09:24:14.5±3.2, 31.93S×177.99W, h0km, mb3.8/2, mbtmp3.9/3, ML3.8/1, MS3.6/3, Error ellipse: s-maj=72.9km s-min=37.6km az=114.0*
ISC 07 09:24:13.6±1.6, 31.91S±0.07×177.5W±0.2, h18km, n20, σ1°38/31, MS3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.66**	**352**	P	**Pn**	**09 24 55.5**	**-0.1**
GLKZ				S	**Sn**	**09 25 25.4**	**-2.1**
WMGZ	**Waiomatatini S**	**6.80**	**209**	P	**Pn**	**09 25 54.4**	**+2.0**
WMGZ				S	**Sn**	**09 27 08.3**	**-1.1**
PKGZ	**Pakihiroa**	**6.98**	**210**	P	**Pn**	**09 25 55.7**	**+0.7**
PKGZ				S	**Sn**	**09 27 13.2**	**-0.6**
HAZ	**Te Kaha**	**7.02**	**212**	P	**Pn**	**09 25 56.7**	**+1.2**
HAZ				S	**Sn**	**09 27 15.0**	**+0.3**
PUZ	**Puketiti**	**7.08**	**208**	P	**Pn**	**09 25 57.7**	**+1.4**
PUZ				S	**Sn**	**09 27 15.8**	**-0.5**
RUGZ	**Raukumara Rang**	**7.24**	**212**	P	**Pn**	**09 25 59.3**	**+0.7**
RUGZ				S	**Sn**	**09 27 21.8**	**+1.5**
TWGZ	**Tauwhareparae**	**7.28**	**210**	P	**Pn**	**09 26 00.1**	**+1.0**
TWGZ				S	**Sn**	**09 27 21.2**	**-0.1**
CNGZ	**Carnagh Statio**	**7.45**	**207**	P	**Pn**	**09 26 01.6**	**+0.2**
CNGZ				S	**Sn**	**09 27 22.4**	**-3.0**
TKGZ	**Te Karaka**	**7.56**	**209**	P	**Pn**	**09 26 04.9**	**+2.0**
TKGZ				S	**Sn**	**09 27 26.8**	**-1.3**
MWZ	**Matawai**	**7.61**	**211**	P	**Pn**	**09 26 02.9**	**-0.7**
MWZ				S	**Sn**	**09 27 27.4**	**-2.0**
URZ	**Urewera**	**7.74**	**213**	Pn	**Pn**	**09 26 04.6**	**-0.7**
1.6nm,0.3s,baz=190,slow=6.6,SNR=2.1						
URZ				Sn	**Sn**	**09 27 31.7**	**-0.7**
3.5nm,0.3s,baz=277,slow=17,SNR=9.8						
3.5nm,0.4s						
URZ	**Urewera**	**7.74**	**213**	P	**Pn**	**09 26 05.4**	**+0.1**
URZ				S	**Sn**	**09 27 30.4**	**-2.0**
WCZ	**Waipu Caves**	**7.90**	**237**	P	**Pn**	**09 26 07.3**	**-0.3**
SNGZ	**Shannon Statio**	**8.06**	**210**	P	**Pn**	**09 26 09.3**	**-0.5**
SNGZ				S	**Sn**	**09 27 39.1**	**-1.4**
OUZ	**Omahuta**	**8.15**	**244**	P	**Pn**	**09 26 13.5**	**+2.4**
STKA	**Stephens Creek**	**34.60**	**259**	LR	LR	09 43 13.6
comp=Z,66nm,19.5s,baz=37,slow=33						
ASAR	**Alice Springs**	**43.50**	**268**	P	**P**	**09 32 16.2**	**0.0**
0.4nm,0.3s,baz=106,slow=7.2,SNR=11						
0.4nm,0.3s						
WRA	**Warramunga Arr**	**44.62**	**273**	P	**P**	**09 32 25.4**	**+0.2**
0.6nm,0.3s,baz=112,slow=8.0,SNR=12						
WRA				LR	LR	09 51 06.3
comp=Z,65nm,18.1s,baz=220,slow=36						
0.6nm,0.3s						
SNAA	**Sanae**	**76.64**	**178**	LR	LR	10 09 09.6
comp=Z,46nm,19.4s,baz=188,slow=35						
FINES	**FINESS Array B**	**146.71**	**340**	PKPbc	**PKPab**	**09 43 56.5**	**+1.7**
1.4nm,0.6s,baz=58,slow=4.7,SNR=4.6						

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*ASRS **07** 09:24:24.0±0.6, 54.03N×86.55E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 07 09:24:27.6±2.8, 54.02N×86.51E, h0km, mbtmp2.4/1, ML2.2/2, Error ellipse: s-maj=21.6km s-min=12.2km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**266**	I	I	09 31 50.0
baz=89,slow=323,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.00**	**266**	Pg	Pg	09 24 45.5	-1.4
0.5nm,0.3s,baz=85,slow=17,SNR=6.4						
ZALV				Lg	Lg	09 25 01.1
1.0nm,0.3s,baz=82,slow=27,SNR=9.5						
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn	Pn	09 25 57.9	+0.9
0.1nm,0.3s,baz=56,slow=14,SNR=5.3						
KURBB				Lg	Lg	09 27 38.0
baz=51,slow=34						
MKAR	**Makanchi Array**	**7.72**	**202**	Pn	Pn	09 26 22.4	+1.1
baz=18,slow=14,SNR=2.3						
MKAR				Sn	Sn	09 27 49.0	-0.4
baz=23,slow=27,SNR=2.6						
MKAR				Lg	Lg	09 28 34.9
baz=17,slow=32,SNR=1.9						
0.1nm,0.3s						

ASRS 07 09:25:14.0±1.2, 54.14N×87.21E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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*BGSI **07** 09:32:16.9±1.9, 27.61S×28.72E, h0km±86km, ML4.5*
*PRE **07** 09:32:32.8±0.9, 26.39S×27.39E, h2km, ML3.7*
*NEIC **07** 09:32:34.9±1.9, 26.48S±0.03×27.56E±0.07, h5km±1km, mb4.8/34, Error ellipse: s-maj=10.5km s-min=5.2km az=103.0*
*IDC **07** 09:32:34.1±0.5, 26.44S×27.45E, h0km, mb4.4/22, mbtmp4.5/26, ML4.6/2, MS3.3/1, Error ellipse: s-maj=13.2km s-min=11.4km az=87.0*
ISC 07 09:32:34.5±0.3, 26.47S±0.04×27.50E±0.04, h5km, n138, σ1°97/161, mb4.6/40, 10C-6D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.60**	**16**	*eP*	**Pg**	**09 32 43.9**	**-2.3**
HRAO				*eS*	**Sg**	**09 32 51.1**	**-2.9**
HRAO				IAML		09 32 53.5
comp=Z,2μm,0.4s						
LBTB	**Lobatse**	**2.25**	**310**	Pn	**Pn**	**09 33 13.3**	**+0.8**
LBTB	**Lobatse**	**2.25**	**310**	Pg	**Pn**	**09 33 14.1**	**+1.6**
comp=Z,203nm,0.3s,baz=131,slow=14,SNR=996						
LBTB				Lg	Lg	09 33 43.0
comp=Z,618nm,0.3s,baz=117,slow=15,SNR=34						
LBTB				LR	LR	09 33 47.6
comp=Z,62nm,20.6s,baz=120,slow=34						
CRLN	**Carolina, Mapu**	**2.32**	**79**	*eP*	**Pn**	**09 33 14.0**	**+0.5**
CRLN				*eS*	**Sn**	**09 33 43.4**	**+0.9**
CRLN				IAML		09 33 45.7
comp=Z,537nm,0.5s						
MAKGR	**Makgori**	**2.51**	**285**	*iP*	**Pn**	**09 33 17.1**	**+0.9**
MAKGR				IAML		09 33 55.5
comp=E,4μm,0.5s						
BOSA	**Boshof**	**2.92**	**223**	Pn	**Pn**	**09 33 21.9**	**+0.2**
BOSA	**Boshof**	**2.92**	**223**	Pn	**Pn**	**09 33 22.2**	**+0.5**
comp=E,35nm,0.3s,baz=44,slow=12,SNR=874						
BOSA				Lg	Lg	09 34 05.5
comp=E,61nm,0.3s,baz=316,slow=22,SNR=15						
comp=E,136nm,0.4s						
BOSA	**Boshof**	**2.92**	**223**	*eP*	**Pn**	**09 33 21.8**	**+0.1**
BOSA				*eS*	**Sn**	**09 33 56.3**	**-1.0**
BOSA				IAML		09 34 11.4
comp=Z,308nm,0.2s						
LPHEP	**Lephephe**	**3.44**	**334**	*iP*	**Pn**	**09 33 29.9**	**+1.0**
LPHEP				IAML		09 34 25.7
comp=E,914nm,0.5s						
HOED	**Hoedspruit, Li**	**3.72**	**57**	*eP*	**Pn**	**09 33 32.4**	**-0.3**
HOED				*eS*	**Sn**	**09 34 16.9**	**-0.1**
HOED				IAML		09 34 35.5
comp=Z,270nm,0.5s						
SKOMA	**Sekoma**	**3.77**	**300**	*iP*	**Pn**	**09 33 34.0**	**+0.6**
SKOMA				IAML		09 34 37.3
comp=E,648nm,1.1s						
POGA	**Pongola**	**3.86**	**104**	Pn	**Pn**	**09 33 34.4**	**-0.2**
KDWAN	**Kaudwane**	**4.02**	**319**	*iP*	**Pn**	**09 33 37.7**	**+0.9**
KDWAN				IAML		09 34 42.0
comp=N,1μm,0.7s						
HVD	**Gariep Dam**	**4.48**	**203**	*eP*	**Pn**	**09 33 43.4**	**+0.2**
HVD				*eS*	**Sn**	**09 34 34.6**	**-1.2**
KHWEE	**KHWEE**	**4.88**	**337**	*iP*	**Pn**	**09 33 49.0**	**+0.2**
KHWEE				*iS*	**Sb**	**09 34 58.0**	**-1.7**
KHWEE				IAML		09 35 07.4
comp=E,1μm,0.3s						
BROLN	**Tlhalogang**	**5.35**	**358**	*iP*	**Pn**	**09 33 53.2**	**-2.0**
BROLN				IAML		09 35 21.6
comp=E,478nm,1.0s						
ALKP	**Alkanpan, Nort**	**5.78**	**232**	*eP*	**Pn**	**09 34 00.4**	**-0.6**
ALKP				*eS*	**Sn**	**09 35 03.6**	**-4.2**
ALKP				IAML		09 35 39.1
comp=Z,329nm,0.6s						
KGCAE	**Kacgae**	**6.01**	**306**	*iP*	**Pn**	**09 34 05.3**	**+1.0**
KGCAE				IAML		09 35 48.5
comp=E,1μm,0.7s						
KEIM	**Keimoes**	**6.21**	**248**	*eP*	**Pn**	**09 34 05.8**	**-1.1**
KEIM				*eS*	**Sn**	**09 35 14.1**	**-4.2**
KEIM				IAML		09 35 52.6
comp=Z,116nm,0.6s						
BFON	**Badsfontein, M**	**6.27**	**211**	*eP*	**Pn**	**09 34 08.5**	**+0.8**
BFON				*eS*	**Sn**	**09 35 16.2**	**-3.6**
BFON				IAML		09 36 09.4
comp=Z,128nm,0.6s						
GRAF	**Camdeboo Natio**	**6.35**	**204**	*eP*	**Pn**	**09 34 09.7**	**+0.8**
GRAF				*eS*	**Sn**	**09 35 19.4**	**-2.5**
GRAF				IAML		09 36 08.2
comp=Z,115nm,0.9s						
SOE	**Somerset East**	**6.44**	**195**		**Pn**	**09 34 09.6**	**-0.5**
BRAK	**Brakfontein**	**6.65**	**216**	*eP*	**Pn**	**09 34 13.4**	**+0.5**
BRAK				*eS*	**Sn**	**09 35 25.1**	**-4.1**
BRAK				IAML		09 36 05.6
comp=Z,145nm,0.6s						
AUGR	**Augrabies**	**6.70**	**250**	*eP*	**Pn**	**09 34 12.4**	**-1.3**
AUGR				*eS*	**Sn**	**09 35 25.6**	**-4.8**
AUGR				IAML		09 36 20.8
comp=Z,89nm,0.6s						
PHDHD	**Phuduhudu**	**6.82**	**336**	*iP*	**Pn**	**09 34 16.0**	**+0.7**
PHDHD				IAML		09 36 10.5
comp=N,680nm,0.6s						
GRHM	**Grahamstown, E**	**6.85**	**188**		**Pn**	**09 34 14.4**	**-1.3**
GRHM	**Grahamstown, E**	**6.85**	**188**	*eP*	**Pn**	**09 34 15.8**	**+0.1**
GRHM				*eS*	**Sn**	**09 35 32.6**	**-1.5**
GRHM				IAML		09 36 18.7
comp=Z,84nm,0.6s						
ARMS	**Ukamas**	**7.08**	**256**	*eP*	**Pn**	**09 34 18.3**	**-0.6**
ARMS				*eS*	**Sn**	**09 35 33.9**	**-6.0**
GRAN	**Grantham**	**7.44**	**217**	*eP*	**Pn**	**09 34 24.0**	**+0.2**
GRAN				*eS*	**Sn**	**09 35 45.2**	**-3.4**
GRAN				IAML		09 36 37.1
comp=Z,119nm,0.6s						
KOOLE	**Kule**	**7.49**	**296**	*iP*	**Pn**	**09 34 23.9**	**-0.7**
KOOLE				*iS*	**Sn**	**09 35 58.7**	**+8.7**
KOOLE				IAML		09 36 37.4
comp=N,338nm,0.8s						
FRAZ	**Fraserburg**	**7.61**	**223**	*eP*	**Pn**	**09 34 26.5**	**+0.4**
FRAZ				*eS*	**Sn**	**09 35 48.4**	**-4.5**
FRAZ				IAML		09 36 34.3
comp=Z,101nm,0.6s						
GRTLG	**Ghanzi**	**7.68**	**310**	*iP*	**Pn**	**09 34 26.9**	**-0.2**
GRTLG				IAML		09 36 44.7
comp=E,192nm,0.8s						
SUR	**Sutherland**	**8.28**	**223**	Pn	**Pn**	**09 34 35.4**	**-0.2**
SUR	**Sutherland**	**8.28**	**223**	Pn	**Pn**	**09 34 36.9**	**+1.4**
comp=E,14nm,0.3s,baz=52,slow=14,SNR=165						
SUR				Sn	**Sn**	**09 36 06.1**	**-3.5**
comp=E,4.9nm,0.3s,baz=356,slow=23,SNR=3.9						
SUR				Lg	Lg	09 36 51.2
comp=E,21nm,0.3s,baz=133,slow=22,SNR=9.4						
comp=E,107nm,0.6s						
CVNA	**Calvinia**	**8.41**	**232**	*eP*	**Pn**	**09 34 37.2**	**-0.1**
CVNA				*eS*	**Sn**	**09 36 06.7**	**-6.0**
CVNA				IAML		09 36 48.8
comp=Z,48nm,0.6s						
GMARE	**Gumare**	**8.60**	**324**	*iP*	**Pn**	**09 34 39.5**	**-0.2**
GMARE				*iS*	**Sn**	**09 36 24.2**	**+7.0**
GMARE				IAML		09 37 12.8
comp=E,770nm,1.5s						
KSANE	**Kasane**	**8.90**	**345**	*iP*	**Pn**	**09 34 41.8**	**-2.1**
KSANE				IAML		09 37 09.1
comp=E,204nm,1.2s						
QNGWA	**Qangwa**	**9.04**	**319**	*iP*	**Pn**	**09 34 45.6**	**-0.2**
QNGWA				IAML		09 37 19.8
comp=N,102nm,0.6s						
XAUDM	**Khaudum**	**9.73**	**323**	*iP*	**Pn**	**09 34 55.2**	**-0.2**
XAUDM				IAML		09 37 50.9
comp=N,369nm,0.6s						
CER	**Ceres**	**9.89**	**224**	*eP*	**Pn**	**09 34 58.0**	**+0.7**
CER				*eS*	**Sn**	**09 36 42.8**	**-5.9**
AUSN	**Aus**	**10.06**	**266**	*eP*	**Pn**	**09 34 59.0**	**-1.0**
AUSN				*eS*	Sn	09 36 44.9	-8.5
WIN	**Windhoek**	**10.23**	**290**		**Pn**	**09 35 01.6**	**-0.8**
ELIM	**Elim**	**10.50**	**218**	*eP*	**Pn**	**09 35 05.2**	**-0.4**
ELIM				*eS*	**Sn**	**09 36 56.9**	**-6.8**
ELIM				IAML		09 37 42.4
comp=Z,28nm,0.6s						
LSZ	**Lusaka**	**11.16**	**3**	Pn	**Pn**	**09 35 12.8**	**-2.2**
comp=Z,34nm,0.6s,baz=189,slow=13,SNR=51						
LSZ				Sn	**Sn**	**09 37 12.8**	**-7.4**
comp=Z,3.0nm,0.3s,baz=88,slow=16,SNR=8.7						
LSZ				Lg	Lg	09 38 18.3
comp=Z,2.5nm,0.3s,baz=277,slow=23,SNR=5.6						
LSZ				LR	LR	09 39 39.9
comp=Z,156nm,20.0s,baz=130,slow=38						
TSUM	**Tsumeb**	**11.66**	**306**	Pn	**Pn**	**09 35 20.9**	**-0.9**
TSUM	**Tsumeb**	**11.66**	**306**	Pn	**Pn**	**09 35 21.4**	**-0.4**
comp=Z,26nm,0.5s,baz=124,slow=10,SNR=36						
TSUM				Sn	**Sn**	**09 37 35.7**	**+3.3**
comp=Z,1.2nm,0.3s,baz=239,slow=21,SNR=3.5						
TSUM				Lg	Lg	09 38 35.9
comp=Z,3.6nm,0.3s,baz=351,slow=17,SNR=4.1						
VOI	**Vohitsoka**	**18.18**	**80**		**Pn**	**09 36 46.9**	**-1.0**
ABPO	**Ambohimpanom**	**19.64**	**72**	P	**P**	**09 37 03.6**	**-0.7**
MBAR	**Mbarara**	**25.91**	**7**	P	**P**	**09 38 09.0**	**+1.2**
MBAR				IAmb	IAmb	09 38 11.5
comp=Z,11nm,1.1s						
KIBK	**Kibwezi**	**26.05**	**25**	P	**P**	**09 38 10.6**	**+1.6**
KMBO	**Kilima Mbogo**	**26.89**	**22**	P	**P**	**09 38 18.1**	**+1.3**
SYO	**Syowa Base**	**43.16**	**174**	⇓*eP*	**P**	**09 40 34.0**	**-1.8**
ASCN	**Ascension**	**43

BDFB Brasilia 70.44 262 P P 09 43 50.5 0.0
comp=Z,4.4nm,0.9s,baz=78,slow=5.5,SNR=5.7
comp=Z,4.4nm,0.9s
TPGR Topolog 70.99 1 ⇑P P 09 43 53.8 +0.8
ARR Arges 71.54 358 ⇓P P 09 43 57.2 +0.9
MLR Muntele Rosu 71.63 359 P P 09 43 57.0 0.0
MLR Muntele Rosu 71.63 359 ⇑P P 09 43 58.1 +1.1
GZR Gura Zlata 71.65 356 ⇓P P 09 43 57.6 +0.5
PLOR Plostina 71.98 359 ⇑P P 09 43 59.8 +0.8
VRI Vrincioaia 72.00 359 ⇑P P 09 44 00.0 +1.0
ESDC Sonseca Array 72.05 335 P P 09 43 59.8 +0.2
ESDC Sonseca Array 72.05 335 P P 09 43 60.0 +0.4
comp=Z,4.4nm,0.6s,baz=155,slow=5.8,SNR=26
comp=Z,4.4nm,0.6s
ESBB Sonseca Array 72.05 335 P P 09 43 59.1 -0.5
PAB San Pablo 72.09 335 P P 09 43 59.9 0.0
PAB IAmb IAmb 09 45 46.0
comp=Z,15nm,1.4s
MORH Mrgy, Hungar 72.79 354 ⇓P P 09 44 04.8 +1.1
CEST Esterri de Car 72.87 340 P P 09 44 05.3 +0.9
ARCR ARCALIA 73.27 358 ⇑P P 09 44 07.9 +1.4
BNI Bardonecchia 73.67 345 P P 09 44 10.1 +0.9
BNI IAmb IAmb 09 46 32.6
comp=Z,16nm,1.4s
BURAR Bucovina Array 73.77 358 P P 09 44 11.0 +1.4
BURAR Bucovina Array 73.77 358 ⇑P P 09 44 11.0 +1.4
BUR08 Bucovina Ar. S 73.80 358 P P 09 44 11.1 +1.2
SORM Soroca 74.27 1 ⇑P P 09 44 12.6 +0.3
FUORN Ofenpass-Fuorn 74.41 348 P P 09 44 14.1 +0.5
FUORN IAmb IAmb 09 45 33.6
comp=Z,6.5nm,1.2s
TUE Stuetta 74.44 347 P P 09 44 14.2 +0.5
TUE IAmb IAmb 09 45 37.8
comp=Z,15nm,1.4s
GERES GERESS Array B 75.99 351 P P 09 44 23.1 +0.7
comp=Z,1.6nm,0.8s,baz=169,slow=6.3,SNR=2.5
comp=Z,1.6nm,0.8s
GAR Garm 76.44 33 P P 09 44 25.2 -0.1
GAR IAmb IAmb 09 44 27.1
comp=Z,13nm,1.4s
AKASG Malin Array Be 76.85 1 P P 09 44 26.9 -0.2
comp=Z,1.9nm,0.5s,baz=182,slow=5.1,SNR=9.3
comp=Z,1.9nm,0.5s
KSH Kashi 79.71 36 P P 09 44 41.0 -2.4
KSH pmax pmax
comp=Z,7.0nm,1.3s
KK31 Karatay Array 79.74 31 P P 09 44 43.3 0.0
KK31 IAmb IAmb 09 44 44.5
comp=Z,6.5nm,0.8s
KKAR Karatay Array 79.74 31 P P 09 44 43.3 0.0
ABKAR Akbulak array 80.75 21 P P 09 44 47.9 -0.8
AKTO Aktyubinsk 81.20 19 P P 09 44 50.9 -0.2
comp=Z,1.9nm,0.7s,baz=194,slow=1.7,SNR=6.2
comp=Z,1.9nm,0.7s
AAK Ala-Archa 81.26 33 P P 09 44 52.2 +0.5
comp=Z,0.8nm,0.4s,baz=209,slow=6.3,SNR=3.6
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 82.46 65 P P 09 44 59.4 +0.9
comp=Z,1.3nm,0.3s,baz=246,slow=5.1,SNR=7.2
comp=Z,1.3nm,0.3s
EKA Eskdalemuir Ar 85.60 343 P P 09 45 14.0 +0.5
comp=Z,1.7nm,0.6s,baz=140,slow=5.2,SNR=7.3
comp=Z,1.7nm,0.6s
ARTI Arti 86.60 17 P P 09 45 18.4 0.0
ARTI IAmb IAmb 09 45 19.5
comp=Z,4.7nm,0.7s
ARTI Arti 86.60 17 P P 09 45 18.8 +0.3
comp=Z,4.6nm,0.6s,baz=230,slow=2.6,SNR=6.5
comp=Z,4.6nm,0.6s
BVAR Borovoye Array 87.52 24 P P 09 45 23.1 +0.1
comp=Z,1.1nm,0.5s,baz=215,slow=4.9,SNR=6.5
comp=Z,1.1nm,0.5s
FINES FINESS Array B 87.61 359 P P 09 45 23.6 +0.4
comp=Z,3.7nm,0.6s,baz=176,slow=5.3,SNR=11
comp=Z,3.7nm,0.6s
LPAZ La Paz 87.76 253 P P 09 45 25.3 -0.6
LPAZ IAmb IAmb 09 45 27.7
comp=Z,3.5nm,1.0s
LPAZ La Paz 87.76 253 P P 09 45 25.7 -0.2
comp=Z,2.8nm,0.9s,baz=93,slow=2.0,SNR=10
comp=Z,2.8nm,0.9s
MK31 Makanchi Array 88.11 34 P P 09 45 25.5 -0.5
MKAR Makanchi Array 88.11 34 P P 09 45 25.3 -0.8
MKAR Makanchi Array 88.11 34 P P 09 45 25.8 -0.3
comp=Z,1.8nm,0.6s,baz=223,slow=3.7,SNR=20
comp=Z,1.8nm,0.6s
NOA NORSAR Array B 88.20 352 P P 09 45 27.3 +1.1
comp=Z,0.9nm,0.9s,baz=170,slow=4.3,SNR=2.1
comp=Z,0.9nm,0.9s
PZH PanZhiHua 88.78 60 P P 09 45 30.8 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.4s
KURBB Kurchatov Arra 89.01 30 P P 09 45 29.7 -0.5
comp=Z,0.7nm,0.7s,baz=232,slow=5.3,SNR=8.7
WMQ Urumqi 89.05 39 *e*P P 09 45 31.6 +1.0
WMQ LR LR
comp=N,620nm,13.9s
WMQ LR LR
comp=E,500nm,21.7s
WMQ LR LR
comp=Z,490nm,19.9s
ASAR Alice Springs 93.16 118 P P 09 45 51.6 +1.3
comp=Z,0.5nm,0.7s,baz=229,slow=4.9,SNR=7.4
comp=Z,0.5nm,0.7s
STKA Stephens Creek 94.49 129 P P 09 45 56.6 +0.3
comp=Z,2.8nm,0.8s,baz=222,slow=3.9,SNR=4.2
comp=Z,2.8nm,0.8s
WRA Warramunga Arr 95.39 115 P P 09 46 01.2 +0.6
comp=Z,0.4nm,0.8s,baz=237,slow=4.8,SNR=2.2
comp=Z,0.4nm,0.8s
HHC Hu-ho-hao-te 102.62 51 *e*P Pdif 09 46 33.3 +0.7
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,80nm,5.9s
YKA Yellowknife Ar 136.15 336 PKhKP PKPpre 09 51 49.1
comp=Z,0.3nm,0.7s,baz=56,slow=3.8,SNR=7.0
TXAR Lajitas Array 137.00 285 PKP **PKPdf 09 51 59.2 +0.1**
comp=Z,0.4nm,0.6s,baz=76,slow=3.3,SNR=5.3
PDAR Pinedale Array 141.55 306 PKhKP PKPpre 09 52 03.1
comp=Z,0.6nm,0.7s,baz=79,slow=1.8,SNR=6.4
HLID Hailey 144.82 309 PKPdf **PKPab 09 52 12.9 +1.1**
NEW Newport 144.91 318 PKP **PKPab 09 52 11.7 0.0**
comp=Z,0.7nm,0.4s,baz=93,slow=4.3,SNR=4.1
Y14A Wickenburg 145.23 292 PKPbc 09 52 13.5 +0.2
ELK Elko 146.13 304 PKPdf 09 52 15.8 +0.5
ELK Elko 146.13 304 PKPbc **PKPdf 09 52 16.4 +1.1**
comp=Z,2.5nm,0.7s,baz=32,slow=1.3,SNR=14
B08A Colville Reser 146.18 319 PKPdf 09 52 15.4 +0.6
E09A Wood Farm, Sta 146.27 315 PKPdf 09 52 16.5 +1.6
BMO Blue Mountains 146.37 312 PKPdf 09 52 16.0 +0.7
SHPR Sheep Range 146.80 297 PKPdf 09 52 18.9 +2.5
NV11 Mina Array Sit 148.84 301 PKPab **PKPbc 09 52 24.6 +1.0**
NVAR Mina Array Bea 148.95 301 PKPbc **PKPbc 09 52 25.4 +1.4**
comp=Z,2.4nm,0.6s,baz=86,slow=2.9,SNR=23
YBH Yreka Blue Hor 151.19 309 PKPbc **PKPbc 09 52 28.8 -0.4**
comp=Z,1.1nm,0.7s,baz=326,slow=14,SNR=3.2

AFAD 07 09:33:13.8,37°.41N×29°.68E,h7km±4km,ML0.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.19**	**209**	P	Pg	09 33 18.5	+0.8
GOLH				*i* AML	AML	09 33 24.0	
comp=E,44nm,0.4s							
GOLH				S	Sg	09 33 25.1	+4.7
GOLH				*i* AML	AML	09 33 26.0	
comp=N,41nm,0.4s							
INCE	**Denizli-Bozkur**	**0.31**	**345**	P	Pg	09 33 18.5	-1.5
INCE				S	Sb	09 33 26.7	-0.5
INCE				*i* AML	AML	09 33 27.0	
comp=E,18nm,0.3s							
INCE				*i* AML	AML	09 33 29.0	
comp=N,15nm,0.2s							
BRDR	**BURDUR-Merkez**	**0.42**	**46**	P	Pg	09 33 19.4	-2.7
BRDR				S	Sg	09 33 28.3	+0.8
DNZT	**Denizli-Tavas-**	**0.54**	**256**	P	Pg	09 33 23.4	-0.7
DNZT				S	Sb	09 33 33.2	-0.3
DNZT				*i* AML	AML	09 33 35.0	
comp=N,6.8nm,0.3s							
DNIZ	**Denizli-Tavas-**	**0.55**	**294**	P	Pg	09 33 17.7	-6.8
DNIZ				S	Sb	09 33 33.2	-0.8
TAVA	**DENIZLI_Tavas**	**0.61**	**276**	P	Pg	09 33 25.9	+0.3
TAVA				S	Sb	09 33 34.9	-0.9
TAVA				*i* AML	AML	09 33 40.0	
comp=E,4.9nm,0.4s							

ISK 07 09:33:22.9,37°.20N×27°.85E,h0km±1km,ML1.4/7,
Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.11**	**328**	Pg	Pg	09 33 26.3	+1.2
MLSB				Sg	Sg	09 33 28.8	+2.3
YER	**Yerkesik**	**0.35**	**101**	Pg	Pg	09 33 30.5	+0.9
YER				Sg	Sg	09 33 35.9	+1.7
BODT	**Bodrum**	**0.45**	**253**	Pg	Pg	09 33 31.7	+0.1
BODT				Sg	Sb	09 33 39.3	-1.8
DAT	**Datca**	**0.52**	**205**	Pg	Pg	09 33 33.5	+0.7
DAT				Sg	Sb	09 33 41.3	-1.7
TURN	**Turunc**	**0.53**	**143**	Pg	Pg	09 33 33.9	+0.9
TURN				Sg	Sb	09 33 41.6	-1.6
AYDB	**Zeytinkoy-Aydi**	**0.75**	**2**	Pg	Pb	09 33 38.2	-0.7
ODEM	**Odemis-Izmir**	**1.09**	**9**	Pn	Pg	09 33 44.2	+0.4

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*TEH **07** 09:45:49.4,24°.04N×61°.24E,h70km*
*OMAN **07** 09:45:52.9±0.1,24°.02N×61°.07E,h34km±3km,ml3.1/15,*
Error ellipse: s-maj=3.9km s-min=1.1km az=263.0
ISC 07 09:45:48.2±1.7,24°.03N±0°.05×61°.17E±0°.09,h10km,n23,
σ2°.08/36,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.32**	**359**	Pg	**Pn**	**09 46 13.5**	**+0.8**
NGCH				Sg	**Sb**	**09 46 30.1**	**+0.1**
NGCH	**Negor - Chabah**	**1.32**	**359**	P	**Pn**	**09 46 13.7**	**+1.0**
SNR=17							
NGCH				S	**Sb**	**09 46 30.9**	**+0.8**
SNR=10							
CHBR	**Chabahar**	**1.68**	**338**	Pg	**Pn**	**09 46 18.2**	**+0.6**
WBK	**Wadi Bani Khal**	**2.47**	**235**	Pn	**Pn**	**09 46 29.1**	**+0.6**
WBK	**Wadi Bani Khal**	**2.47**	**235**	P	**Pn**	**09 46 29.3**	**+0.7**
SNR=106							
WBK				S	**Sn**	**09 46 57.5**	**-1.4**
SNR=6.8							
JLN	**Jalan Bani Buh**	**2.48**	**221**	P	**Pn**	**09 46 29.4**	**+0.7**
JLN				S	**Sn**	**09 46 57.5**	**-1.5**
SNR=18							
BIDO	**Bidbid**	**2.84**	**260**	P	**Pn**	**09 46 34.7**	**+1.1**
BIDO				S	**Sn**	**09 47 06.1**	**-1.8**
SMDO	**Samad**	**3.03**	**252**	P	**Pn**	**09 46 37.3**	**+1.0**
SNR=32							
SMDO				S	**Sn**	**09 47 10.6**	**-2.1**
JMDO	**Jabal Madar**	**3.27**	**240**	P	**Pn**	**09 46 41.4**	**+1.8**
SNR=19							
JMDO				S	**Sn**	**09 47 18.6**	**-0.1**
JASK	**Jask - Hormozg**	**3.51**	**302**	Pn	**Pn**	**09 46 45.2**	**+2.3**
JASK	**Jask - Hormozg**	**3.51**	**302**	P	**Pn**	**09 46 44.4**	**+1.5**
JASK				S	**Sn**	**09 47 24.3**	**-0.2**
SRVN	**Saravan**	**3.53**	**18**	Pn	Pn	09 46 42.8	-0.5
HOQ	**Hoqain**	**3.57**	**264**	P	**Pn**	**09 46 44.8**	**+1.2**
SNR=9.1							
BSY	**Bisya**	**3.87**	**251**	P	**Pn**	**09 46 50.0**	**+2.2**
MHTO	**MHTO**	**4.24**	**225**	P	**Pn**	**09 46 52.9**	**0.0**
MHTO				S	**Sn**	**09 47 39.9**	**-2.5**
SOHO	**SOHO**	**4.24**	**272**	P	**Pn**	**09 46 54.0**	**+1.1**
ARQ	**Araqi**	**4.32**	**262**	P	**Pn**	**09 46 57.6**	**+3.6**
ARQ				S	**Sn**	**09 47 46.5**	**+2.0**
MDH	**Madha**	**4.61**	**287**	P	**Pn**	**09 46 58.4**	**+0.4**
MDH				S	**Sn**	**09 47 47.0**	**-4.6**
UOSS	**Minazif**	**4.62**	**282**	P	**Pn**	**09 46 58.5**	**+0.4**
UOSS				S	**Sn**	**09 47 46.9**	**-4.9**
HATD	**Hatta, Dubai**	**4.66**	**281**	P	**Pn**	**09 46 59.7**	**+1.0**
ASHO	**Ashiyiah**	**4.71**	**279**	P	**Pn**	**09 47 03.6**	**+4.2**
SNR=8.3							
ASHO				S	**Sn**	**09 47 55.3**	**+1.2**
SNR=8.9							
BANOM	**Banah**	**4.81**	**294**	P	**Pn**	**09 47 01.8**	**+1.1**
BANOM				S	**Sn**	**09 47 52.6**	**-3.9**
SHME	**Shamm**	**4.99**	**295**	P	**Pn**	**09 47 04.6**	**+1.4**

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*BJI **07** 09:45:55.8,51°.84N×175°.29W,h32km,mB5.2/23,*
mb4.8/60,Ms4.9/42,Ms7 4.7/44
*AEIC **07** 09:45:58.6±2.3,51°.58N±0°.09×175°.17W±0°.09,h28km±4km,*
Error ellipse: s-maj=13.4km s-min=7.7km az=170.0
*MOS **07** 09:45:59.2±0.9,51°.91N×175°.32W,h50km,mb5.0/31,*
MS4.6/9,Error ellipse: s-maj=9.0km s-min=7.1km
az=101.2
*GCMT **07** 09:46:00.7±0.2,51°.56N±0°.01×175°.18W±0°.02,h43km,*
MW5.2/137,Moment Tensor Solution. s104,c153;
s137,c209; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}5.56±.15; $M_{\theta\theta}$-5.41±.12; $M_{\phi\phi}$-0.15±.12; $M_{r\theta}$2.87±.12;
$M_{\theta\phi}$-2.59±.09; $M_{\phi r}$2.58±.11; Best double couple:
$M_0$7.16800×10^{16} NP1:ϕ_s261.00000°,δ31.00000°,
λ112.00000°. NP2:ϕ_s56.00000°,δ62.00000°,λ78.00000°.
Principal axes: T 6.8370, Plg71.0000°, Azm299.0000°; N
0.6570, Plg11.0000°, Azm62.0000°; P -7.4990,
Plg16.0000°, Azm155.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*NEIC **07** 09:46:00.4,51°.78N×175°.31W,h46km*
*NEIC **07** 09:46:00.4,51°.38N×175°.00W,h46km,Moment Tensor*
Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm;
M_{rr}4.53; $M_{\theta\theta}$-5.42; $M_{\phi\phi}$0.88; $M_{r\theta}$2.02; $M_{\theta\phi}$-1.38; $M_{\phi r}$2.81;
Fault plane solution: $M_0$6.26000×10^{16} NP1:
ϕ_s281.85000°,δ36.79000°,λ130.30000°. NP2:
ϕ_s55.21000°,δ62.82000°,λ64.19000°. Principal axes: T
6.1775, Plg63.0000°, Azm283.0000°; N 0.1688,
Plg23.0000°, Azm68.0000°; P -6.3463, Plg14.0000°,
Azm164.0000°;
*NEIC **07** 09:46:00.7±1.6,51°.75N±0°.10×175°.34W±0°.02,h46km±5km,*
mb5.0/503,Mww5.1/38 Error ellipse: s-maj=14.4km
s-min=1.2km az=172.0
*IDC **07** 09:46:00.6±1.6,51°.84N×175°.32W,h48km±14km,mb4.3/43,*
mbtmp4.6/47,ML4.4/4,MS4.3/80,Error ellipse:
s-maj=13.6km s-min=8.0km az=1.0
ISC 07 09:46:00.3±0.4,51°.69N±0°.06×175°.33W±0°.03,h48km±2km,
h48km:pP-P,n824,σ1s24/603,mb5.0/280,MS4.5/98,
19C-15D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.57**	**308**		**Pn**	**09 46 12.4**	**0.0**
GSCK	**Great Sitkin C**	**0.61**	**302**		**Pn**	**09 46 12.3**	**-0.5**
GSSP	**Great Sitkin S**	**0.66**	**308**		**Pn**	**09 46 13.2**	**-0.3**
ADK	**Adak**	**0.86**	**283**		**Pn**	**09 46 15.9**	**-0.2**
ADK				Sn	**Sn**	**09 46 27.4**	**-0.3**
ADK	**Adak**	**0.86**	**283**	P	**Pn**	**09 46 15.9**	**-0.2**
ADK						09 46 27.4	
ATKA	**Atka Island**	**0.87**	**53**		**Pn**	**09 46 14.7**	**-1.5**
ATKA	**Atka Island**	**0.87**	**53**	Sn	**Sn**	**09 46 25.5**	**-2.3**
ATKA	**Atka Island**	**0.87**	**53**	P	**Pn**	**09 46 14.9**	**-1.3**
ATKA	**Atka Island**	**0.87**	**53**	S	**Sn**	**09 46 26.0**	**-1.8**
KIRH	**Kanaga Island**	**1.12**	**281**		**Pn**	**09 46 20.0**	**+0.4**
KIWB	**Kanaga Island**	**1.15**	**279**		**Pn**	**09 46 19.8**	**-0.1**
TASE	**Tanaga Southea**	**1.69**	**276**		**Pn**	**09 46 28.1**	**+0.7**
GAEA	**Gareloi East**	**2.13**	**274**		**Pn**	**09 46 34.1**	**+0.7**
GANO	**Gareloi North**	**2.17**	**275**		**Pn**	**09 46 34.7**	**+0.8**
OKCE	**Okmok Cone E**	**4.70**	**66**		**Pn**	**09 47 09.0**	**+0.3**
OKNC	**Okmok New Cone**	**4.74**	**65**		**Pn**	**09 47 10.0**	**+0.9**
MAPS	**Pakushin South**	**5.52**	**64**		**Pn**	**09 47 20.6**	**+0.8**
MAPS					**Sn**	**09 48 23.2**	**+1.4**
MGOD	**Makushin Gods**	**5.55**	**64**		**Pn**	**09 47 20.8**	**+0.5**
MSW	**Makushin Switc**	**5.64**	**63**		**Pn**	**09 47 22.4**	**+0.8**
UNV	**Unalaska Valle**	**5.77**	**65**		**Sn**	**09 48 29.6**	**+1.4**
UNV	**Unalaska Valle**	**5.77**	**65**		**Pn**	**09 47 24.4**	**+1.1**
UNV	**Unalaska Valle**	**5.77**	**65**	P	**Pn**	**09 47 25.5**	**+2.2**
baz=252							
P08K	**Saint George I**	**5.97**	**32**		**Pn**	**09 47 26.3**	**+0.3**
P08K	**Saint George I**	**5.97**	**32**		**Sn**	**09 48 34.7**	**+1.6**
P08K	**Saint George I**	**5.97**	**32**	P	**Pn**	**09 47 28.3**	**+2.3**
baz=217							
ZRO	**Akutan Zero**	**6.15**	**63**		**Pn**	**09 47 29.0**	**+0.5**
ZRO					**Sn**	**09 48 40.0**	**+2.6**
AKGG	**Akutan Green G**	**6.18**	**62**		**Pn**	**09 47 29.2**	**+0.4**
SPIA	**Saint Paul Isl**	**6.24**	**26**		**Pn**	**09 47 32.0**	**+2.3**
SPIA	**Saint Paul Isl**	**6.24**	**26**	P	**Pn**	**09 47 31.7**	**+1.9**
baz=210							
SHEM	**Shemya Is, Ala**	**6.58**	**283**	P	**Pn**	**09 47 33.7**	**-0.7**
SHEM					LR	LR	09 50 19.7
comp=Z,4μm,20.1s,baz=92,slow=40							
127nm,0.8s							
ISLZ	**Isanotski Laza**	**7.61**	**62**		**Pn**	**09 47 49.6**	**+1.1**
FALS	**False Pass**	**7.81**	**61**		**Pn**	**09 47 51.0**	**-0.2**
FALS	**False Pass**	**7.81**	**61**	P	**Pn**	**09 47 50.0**	**-1.2**
FALS	**False Pass**	**7.81**	**61**	P	**Pn**	**09 47 53.3**	**+2.1**
baz=251							
SDPT	**Sand Point**	**9.57**	**62**		**Pn**	**09 48 14.9**	**-0.4**
SDPT	**Sand Point**	**9.57**	**62**	P	**Pn**	**09 48 17.2**	**+1.9**
baz=254							
CNBA	**Chernabura Isl**	**9.94**	**65**	Pn	**Pn**	**09 48 18.6**	**-1.7**
CHNA	**Chernabura Isl**	**9.94**	**65**	P	**Pn**	**09 48 22.0**	**+1.7**
baz=258							
M11K	**Mekoryuk**	**10.09**	**27**	Pn	**Pn**	**09 48 21.4**	**-0.9**
M11K	**Mekoryuk**	**10.09**	**27**	P	**Pn**	**09 48 24.6**	**+2.3**
baz=214,SNR=8.1							
S14K	**Fog Glacier**	**10.36**	**57**	P	**Pn**	**09 48 28.6**	**+2.5**
baz=250							
CHGN	**Chignik**	**10.96**	**58**	Pn	**Pn**	**09 48 34.3**	**0.0**
CHGN	**Chignik**	**10.96**	**58**	P	**Pn**	**09 48 36.3**	**+2.0**
baz=252							
O14K	**Tigyukauivet M**	**10.98**	**41**	P	**Pn**	**09 48 37.4**	**+2.8**
baz=232,SNR=6.5							
M13K	**Dall Lake**	**10.99**	**33**	P	**Pn**	**09 48 37.0**	**+2.4**
baz=223							
N14K	**Kuskokwak Cree**	**11.24**	**38**	P	**Pn**	**09 48 40.8**	**+2.7**
baz=229,SNR=10							
O15K	**Ungaliktniuk R**	**11.54**	**43**	P	**Pn**	**09 48 44.6**	**+2.4**
baz=236,SNR=5.7							
M14K	**Bethel**	**11.71**	**34**	Pn	**Pn**	**09 48 47.2**	**+2.7**
M14K	**Bethel**	**11.71**	**34**	P	**Pn**	**09 48 47.0**	**+2.5**
baz=225,SNR=5.5							
K13K	**Kusilvak Mount**	**11.79**	**25**	P	**Pn**	**09 48 48.2**	**+2.6**
baz=214							
L14K	**Kuka Creek**	**11.90**	**31**	P	**Pn**	**09 48 49.7**	**+2.6**
baz=221							
N15K	**Kwethluk River**	**12.02**	**39**	P	**Pn**	**09 48 51.4**	**+2.7**
baz=232,SNR=13							
M15K	**Kasigluk River**	**12.13**	**36**	P	**Pn**	**09 48 52.5**	**+2.3**
baz=228,SNR=9.7							
GAMB	**Gambell**	**12.27**	**8**	P	**Pn**	**09 48 54.7**	**+2.6**
baz=191							
P16K	**Nushagak River**	**12.27**	**46**	P	**Pn**	**09 48 54.7**	**+2.5**
baz=241							
CHIR	**Chirikof Islan**	**12.36**	**63**	Pn	**Pn**	**09 48 53.9**	**+0.5**
CHIR	**Chirikof Islan**	**12.36**	**63**	P	**Pn**	**09 48 53.2**	**-0.2**
CHIR	**Chirikof Islan**	**12.36**	**63**	P	**Pn**	**09 48 55.9**	**+2.5**
baz=259							
O16K	**Kokwok River B**	**12.51**	**44**	P	**Pn**	**09 48 58.6**	**+3.2**
baz=238,SNR=13							
L15K	**Ungalak Mounta**	**12.54**	**32**	P	**Pn**	**09 48 58.6**	**+2.8**
baz=223							
N16K	**Nishlik Lake**	**12.73**	**40**	P	**Pn**	**09 49 00.3**	**+1.9**
baz=234							
Q16K	**King Salmon**	**12.73**	**49**	P	**Pn**	**09 49 01.2**	**+2.8**
baz=245							
J14K	**Nanvaranak Lak**	**12.76**	**25**		**Pn**	**09 49 01.3**	**+2.5**
J14K	**Nanvaranak Lak**	**12.76**	**25**	P	**Pn**	**09 49 01.0**	**+2.3**
baz=215							
K15K	**Wolf Creek Mou**	**12.98**	**30**	P	**Pn**	**09 49 04.1**	**+2.3**
baz=221							
M16K	**Timber Creek**	**12.99**	**38**	P	**Pn**	**09 49 03.7**	**+1.8**
baz=231							
O17K	**Koliganek Bris**	**13.04**	**45**	P	**Pn**	**09 49 04.3**	**+1.7**
baz=240,SNR=7.1							
P17K	**Kvichak River**	**13.06**	**48**	P	**Pn**	**09 49 05.0**	**+2.1**
baz=243							
ACHA	**Angle Creek He**	**13.19**	**53**	Pn	**Pn**	**09 49 04.4**	**-0.3**
L16K	**Owhat River**	**13.25**	**35**	Pn	**Pn**	**09 49 07.8**	**+2.3**
L16K	**Owhat River**	**13.25**	**35**	P	**Pn**	**09 49 07.0**	**+1.6**
baz=228,SNR=13							
SII	**Sitkinak Islan**	**13.30**	**60**		**Pn**	**09 49 05.6**	**-0.6**
SII	**Sitkinak Islan**	**13.30**	**60**	P	**Pn**	**09 49 05.8**	**-0.4**
SII	**Sitkinak Islan**	**13.30**	**60**	P	**Pn**	**09 49 07.0**	**+0.8**
baz=258							
N17K	**Nushagak Hills**	**13.40**	**42**	P	**Pn**	**09 49 09.1**	**+1.5**
baz=237							
R18K	**Karluk**	**13.42**	**56**	P	**Pn**	**09 49 07.7**	**-0.1**
baz=253							
Q18K	**Katmai Hardscr**	**13.50**	**51**	P	**Pn**	**09 49 09.8**	**+0.7**
baz=248,SNR=7.1							
P18K	**Big Mountain,**	**13.70**	**48**	P	**Pn**	**09 49 12.5**	**+0.8**
baz=245							
M17K	**Holitna River**	**13.80**	**38**	P	**Pn**	**09 49 14.1**	**+1.1**
baz=233							
ANM	**Nome**	**13.91**	**18**	P	**Pn**	**09 49 14.6**	**+0.2**
baz=206							
O18K	**Koktuh Hills**	**13.92**	**46**		**Pn**	**09 49 15.6**	**+1.0**
O18K	**Koktuh Hills**	**13.92**	**46**	P	**Pn**	**09 49 14.9**	**+0.3**
baz=243							
OHAK	**Old Harbor**	**13.93**	**58**		**Pn**	**09 49 12.2**	**-2.6**
OHAK	**Old Harbor**	**13.93**	**58**	P	**Pn**	**09 49 13.2**	**-1.6**
baz=256							
L17K	**Donlin**	**13.95**	**35**	P	**Pn**	**09 49 15.2**	**+0.2**
baz=229,SNR=15							
J16K	**Anvik River**	**14.01**	**28**	P	**Pn**	**09 49 16.0**	**+0.1**
baz=221,SNR=13							
N18K	**Kilae Creek**	**14.02**	**43**	P	**Pn**	**09 49 15.8**	**-0.2**
baz=239							
Q19K	**Cape Douglas,**	**14.27**	**51**		**Pn**	**09 49 18.3**	**-1.0**
Q19K	**Cape Douglas,**	**14.27**	**51**	P	**Pn**	**09 49 18.5**	**-0.9**
baz=249,SNR=6.3							
K17K	**Iditarod**	**14.33**	**33**	P	**Pn**	**09 49 20.1**	**-0.1**
baz=227,SNR=8.2							
TNA	**Tin City**	**14.42**	**12**	Pn	**Pn**	**09 49 23.3**	**+2.1**
TNA	**Tin City**	**14.42**	**12**	P	**Pn**	**09 49 21.3**	**+0.1**
baz=199,SNR=5.2							
KDAK	**Kodiak Island**	**14.44**	**56**	Pn	**Pn**	**09 49 19.8**	**-1.8**
KDAK	**Kodiak Island**	**14.44**	**56**	P	**Pn**	**09 49 18.8**	**-2.8**
1.3nm,0.3s,baz=215,slow=0.4,SNR=54							
KDAK					LR	LR	09 55 40.1
comp=Z,3μm,20.3s,baz=92,slow=40							
4.5nm,0.4s							
KDAK	**Kodiak Island**	**14.44**	**56**	P	**Pn**	**09 49 19.8**	**-1.8**
KDAK	**Kodiak Island**	**14.44**	**56**	P	**Pn**	**09 49 20.8**	**-0.8**
baz=255							
I17K	**Unalakleet**	**14.45**	**27**	P	**P**	**09 49 26.1**	**-1.2**
I17K	**Unalakleet**	**14.45**	**27**	P	**Pn**	**09 49 20.8**	**-0.9**
baz=219							
O19K	**Port Alsworth**	**14.47**	**46**	P	**Pn**	**09 49 21.6**	**-0.3**
baz=243,SNR=14							
M18K	**Stony River**	**14.49**	**40**	P	**Pn**	**09 49 21.9**	**-0.3**
baz=236							
G15K	**Niukluk**	**14.56**	**19**	P	**Pn**	**09 49 21.8**	**-1.3**
baz=209,SNR=9.4							
J17K	**VABM Dome**	**14.56**	**30**	P

comp=Z,55nm,0.7s
M20K Styx River 15.79 41 P Pn 09 49 39.5 +0.4
baz=240,SNR=22
L20K Farewell, AK 15.80 39 P Pn 09 49 40.0 +0.7
baz=237
N20K Mount Spurr 15.85 44 P Pn 09 49 40.4 +0.4
baz=244,SNR=20
SPCR Spurr Chakacha 15.85 44 P Pn 09 49 40.2 +0.3
baz=244,SNR=12
BRLK Bradley Lake 15.88 50 Pn 09 49 39.6 -0.7
SPU Mount Spurr 15.91 44 Pn 09 49 41.0 +0.3
PET Petropavlovsk 15.93 285 Pn Pn 09 49 39.8 -1.1
PET Petropavlovsk 15.93 285 eP Pn 09 49 40.3 -0.6
PET eS Sn 09 52 29.1 -7.1
PET pmax pmax
comp=Z,200nm,19.1s
PET MLR MLR
comp=Z,400nm,15.0s
BRSE Bradley Lake S 15.95 50 P Pn 09 49 41.3 +0.2
baz=250,SNR=9.5
H18K Honhosa River 16.07 26 IAmb IAmb 09 49 49.5
comp=Z,190nm,1.9s
H18K Honhosa River 16.07 26 P P 09 49 43.4 -2.0
baz=221,SNR=34
J19K Poorman 16.09 32 P P 09 49 44.1 -1.4
baz=229,SNR=52
CAPN Captain Cook N 16.13 46 P P 09 49 46.1 +0.1
CAPN IAmb IAmb 09 49 50.0
comp=Z,46nm,0.6s
CAPN Captain Cook N 16.13 46 P Pn 09 49 43.6 +0.2
baz=247
GCSA Galena City Sc 16.20 29 P P 09 49 45.3 -1.4
baz=225,SNR=13
K20K Telida 16.23 36 P P 09 49 45.7 -1.4
baz=234,SNR=24
F17K Baldwin Pennin 16.40 20 P P 09 49 48.7 -0.2
baz=212,SNR=11
SLKM Skilak Lake 16.46 48 Pn 09 49 47.0 -0.6
PETK Petropavlovsk- 16.49 286 P Pn 09 49 48.2 +0.2
comp=Z,1.3nm,0.3s,baz=84,slow=15,SNR=9.3
PETK PcP PcP 09 54 37.3 +0.4
comp=Z,2.6nm,0.7s,baz=97,slow=1.6,SNR=5.0
PETK LR LR 09 55 45.3
comp=Z,1µm,20.6s,baz=95,slow=36
comp=Z,10nm,0.9s
SKT Skwentna 16.49 42 P P 09 49 50.7 +0.6
baz=242,SNR=19
G18K Tagagawik 16.57 24 P P 09 49 50.4 -0.4
baz=219,SNR=12
SUA Susitna One 16.60 44 P P 09 49 49.8 -1.5
SUA Susitna One 16.60 44 P P 09 49 50.6 -0.7
baz=245,SNR=8.8
O22K Cooper Landing 16.68 48 Pn 09 49 49.1 -1.2
O22K IAmb IAmb 09 49 57.6
comp=Z,107nm,0.7s
O22K Cooper Landing 16.68 48 P Pn 09 49 50.3 0.0
baz=250,SNR=12
SEW Seward 16.68 50 Pn 09 49 48.4 -1.9
SEW Seward 16.68 50 P Pn 09 49 49.0 -1.3
baz=251,SNR=20
PPLA Purkeypile 16.68 39 P Pn 09 49 50.3 -0.3
baz=238,SNR=7.3
J20K Nowinta River 16.70 33 P P 09 49 50.8 -1.6
baz=232,SNR=30
E17K Hotham Inlet 16.83 18 P P 09 49 52.1 -1.5
baz=210
F18K Selawik 16.89 22 P P 09 49 52.9 -1.4
baz=215,SNR=12
RC01 Rabbit Creek A 16.89 46 P Pn 09 49 52.5 -0.5
RC01 Rabbit Creek A 16.89 46 P Pn 09 49 52.6 -0.5
baz=248,SNR=9.2
I20K Naaghedeneel 16.99 31 P P 09 49 54.2 -1.3
baz=229,SNR=7.1
CAST Castle Rocks 17.00 37 P P 09 49 56.0 +0.3
CAST Castle Rocks 17.00 37 P Pn 09 49 54.0 -0.4
baz=237,SNR=47
D17K Noatak River 17.14 16 P P 09 49 56.5 -0.6
baz=207,SNR=35
CHUM Lake Minchumin 17.18 36 P P 09 49 56.9 -0.7
baz=236,SNR=19
CUT Chulitna 17.22 42 P P 09 49 57.6 -0.4
baz=243
C16K Lisburne Hills 17.33 13 P P 09 49 58.7 -0.5
baz=201,SNR=23
H20K Anotleneega Mo 17.33 29 P P 09 49 58.7 -0.6
baz=227
PMR Palmer 17.36 45 P P 09 49 58.9 -0.7
baz=247
E18K Tukpahlearik C 17.37 19 P P 09 49 59.3 -0.4
baz=212
PWL Port Wells 17.45 48 Pn 09 49 57.6 -2.3
PWL Port Wells 17.45 48 P Pn 09 49 58.4 -1.6
baz=250,SNR=8.0
RDOG Red Dog Mine 17.49 16 P P 09 50 01.0 0.0
baz=206,SNR=11
KTH Kantishna Hill 17.52 38 P P 09 50 01.6 +0.1
KTH IAmb IAmb 09 50 05.9
comp=Z,148nm,1.0s
F19K Shaleruckik Mo 17.52 23 P P 09 50 01.6 +0.3
baz=218,SNR=20
KNK Knik Glacier 17.59 46 P Pn 09 50 01.1 -0.5
baz=249,SNR=22
P23K Montague Islan 17.63 51 P Pn 09 50 01.0 -1.1
baz=254
TRF Thorofare Moun 17.71 39 P P 09 50 03.6 0.0
baz=240,SNR=23
BPAW Bear Paw Mtn. 17.79 36 P P 09 50 04.5 +0.1
baz=237,SNR=33
SML Sawmill 17.79 45 P Pn 09 50 03.6 -0.6
baz=248,SNR=9.8
C17K DeLong Mountai 17.83 15 P P 09 50 06.7 +1.9
baz=205,SNR=21
Q23K Middleton Isla 18.01 53 P Pn 09 50 07.0 +0.3
baz=257
GLI Glacier Island 18.03 48 P P 09 50 05.9 -1.1
baz=252,SNR=8.0
M23K Glacier View 18.05 45 P P 09 50 06.4 -0.9
baz=248,SNR=24
H21K Melozitna Rive 18.09 31 P Pn 09 50 08.8 +1.1
baz=230,SNR=33
E19K Redstone River 18.14 23 P Pn 09 50 09.6 +1.2
baz=218
F20K Avaraart Lake 18.21 25 P Pn 09 50 09.6 +0.4
baz=222,SNR=13
SCM Sheep Creek Mo 18.25 45 P P 09 50 08.8 -0.7
baz=249,SNR=15
FID Port Fidalgo 18.28 49 IAmb IAmb 09 50 11.9
comp=Z,47nm,0.6s
C18K Utukok River 18.32 17 P Pn 09 50 10.4 -0.1
baz=209,SNR=27
MCK McKinley 18.38 39 P P 09 50 10.0 -0.8
baz=241,SNR=31
G21K Allakaket 18.44 28 P Pn 09 50 11.4 -0.6
baz=227,SNR=25
EYAK Cordova Ski Ar 18.57 50 P P 09 50 11.6 -1.3
EYAK Cordova Ski Ar 18.57 50 P P 09 50 11.8 -1.1
EYAK Cordova Ski Ar 18.57 50 P P 09 50 12.6 -0.4
baz=255
BILL Biiibino 18.68 338c iP Pn 09 50 16.3 +1.5
BILL pmax pmax
comp=Z,53nm,0.9s
H22K Ishtalitna Cre 18.70 31 P Pn 09 50 14.1 -1.0
baz=232,SNR=47
DIV Divide 18.72 48 P P 09 50 13.8 -0.9
NEA2 Nenana 18.75 36 P Pn 09 50 15.1 -0.7
baz=239,SNR=38
KLU Klutina 18.76 47 P Pn 09 50 14.9 -1.1
baz=252,SNR=14
D19K Kuna River 18.78 20 P Pn 09 50 15.3 -0.8
baz=215,SNR=30
B18K Kokolik River 18.85 15 P Pn 09 50 16.3 -0.6
baz=207
M24K Tolsona, Glenn 18.85 45 IAmb IAmb 09 50 24.0
comp=Z,45nm,0.8s
M24K Tolsona, Glenn 18.85 45 P P 09 50 15.6 -0.5
baz=250,SNR=14
F21K Alatna River 18.94 27 P Pn 09 50 17.3 -0.7
baz=226,SNR=37
I23K Minto, Yukon-K 18.95 35 IAmb IAmb 09 50 30.3
comp=Z,43nm,0.6s
I23K Minto, Yukon-K 18.95 35 P Pn 09 50 16.9 -1.1
baz=237,SNR=33
E20K Nigu River 19.02 22 P Pn 09 50 18.7 -0.3
baz=219,SNR=53
RAGM Ragged Mountai 19.05 51 P P 09 50 17.5 -0.7
WRH Wood River Hil 19.06 37 IAmb IAmb 09 50 33.0
comp=Z,32nm,0.5s
KAIM Kayak Island 19.07 52 P Pn 09 50 18.8 -0.8
baz=258
BMRM Bremner River 19.22 49 P P 09 50 19.3 -0.9
BMRM Bremner River 19.22 49 P Pn 09 50 21.0 -0.4
baz=255,SNR=7.5
HMT Hamilton 19.23 51 P P 09 50 18.0 -2.2
D20K Etivluk River 19.29 21 P Pn 09 50 21.6 -0.5
baz=217
COLA College 19.35 36 IAmb IAmb 09 50 35.0
comp=Z,48nm,0.8s
COLA College 19.35 36 P P 09 50 21.1 -0.3
COLA College 19.35 36d iP P 09 50 20.7 -0.7
COLA pmax pmax
comp=Z,46nm,0.8s
COLA College 19.35 36 P P 09 50 21.0 -0.3
baz=240
HARP HAARP 19.40 45 P Pn 09 50 22.5 -1.0
baz=250,SNR=20
N25K Chitina, Valde 19.40 47 P Pn 09 50 22.5 -1.1
baz=253,SNR=11
HDA Harding Lake 19.47 38 P Pn 09 50 22.9 -1.3
baz=243,SNR=70
PAX Paxson 19.47 43 P P 09 50 22.4 -0.4
PAX Paxson 19.47 43 P P 09 50 22.4 -0.4
PAX pmax pmax
comp=Z,28nm,0.8s
PAX Paxson 19.47 43 P Pn 09 50 23.1 -1.3
baz=248,SNR=31
F22K John River 19.50 27 P Pn 09 50 24.3 -0.4
baz=227
BERG Berg Lake 19.52 51 P P 09 50 22.8 -0.5
POKR Poker Plat Res 19.62 36 IAmb IAmb 09 50 38.8
comp=Z,30nm,0.7s
POKR Poker Plat Res 19.62 36 P Pn 09 50 24.7 -1.4
baz=240
G23K Bananza Creek 19.63 30 IAmb IAmb 09 50 31.1
comp=Z,61nm,1.0s
G23K Bananza Creek 19.63 30 P Pn 09 50 25.5 -0.7
baz=232,SNR=55
ILAR Eielson Array 19.66 37 P P 09 50 23.0 -1.8
comp=Z,3.2nm,0.3s,baz=232,slow=8.5,SNR=46
ILAR ScP ScP 09 58 13.2 -0.6
comp=Z,1.1nm,0.9s,baz=236,slow=1.9,SNR=5.3
ILAR LR LR 09 59 18.1
comp=Z,833nm,18.5s,baz=234,slow=41
comp=Z,7.8nm,0.7s
K24K Donnelly Dome 19.66 41 P P 09 50 24.5 -0.4
baz=246,SNR=48
E21K Killik River 19.70 24 IAmb IAmb 09 50 35.0
comp=Z,40nm,0.8s
E21K Killik River 19.70 24 P Pn 09 50 25.7 -1.3
baz=222
A19K Wainwright 19.72 14 P Pn 09 50 26.0 -1.2
baz=207
H24K Noodor Dome 19.84 34 IAmb IAmb 09 50 30.3
comp=Z,43nm,0.7s
H24K Noodor Dome 19.84 34 P Pn 09 50 27.3 -1.4
baz=238
COLD Coldfoot 19.90 29 IAmb IAmb 09 50 34.9
comp=Z,52nm,0.9s
COLD Coldfoot 19.90 29 P Pn 09 50 28.4 -0.9
baz=231,SNR=75
RIDG Independent Ri 20.02 41 IAmb IAmb 09 50 32.0
comp=Z,47nm,0.9s
RIDG Independent Ri 20.02 41 P Pn 09 50 29.1 -1.7
baz=247,SNR=37
E22K Anaktuvuk Pass 20.04 26 IAmb IAmb 09 50 34.0
comp=Z,36nm,0.8s
E22K Anaktuvuk Pass 20.04 26 P Pn 09 50 29.5 -1.5
baz=226,SNR=40
C21K Knifeblade Rid 20.05 21 P Pn 09 50 29.4 -1.7
baz=220,SNR=49
J25K Salcha River, 20.17 39 IAmb IAmb 09 50 39.5
comp=Z,95nm,0.6s
J25K Salcha River, 20.17 39 P P 09 50 28.8 -1.6
baz=244,SNR=67
MENT Mentasta 20.21 44 P P 09 50 30.7 -0.1
MENT IAmb IAmb 09 50 40.3
comp=Z,24nm,0.5s
B20K Meade River 20.23 18 P P 09 50 31.1 +0.1
B20K Meade River 20.23 18 P P 09 50 30.9 0.0
baz=214,SNR=30
DOT Dot Lake 20.31 42 P P 09 50 31.3 -0.6
DOT IAmb IAmb 09 50 35.7
comp=Z,46nm,0.7s
D22K Ayikyak River 20.34 24 IAmb IAmb 09 50 36.8
comp=Z,40nm,0.8s
D22K Ayikyak River 20.34 24 P Pn 09 50 32.9 -1.7
baz=224,SNR=46
M26K Nabesna, AK 20.36 46 P P 09 50 32.4 0.0
baz=253,SNR=11
L26K Log Cabin Wild 20.39 44 P P 09 50 32.4 -0.4
L26K Log Cabin Wild 20.39 44 P P 09 50 32.5 -0.3
baz=251,SNR=27
B21K Ikpikpuk River 20.44 21 P Pn 09 50 33.6 -2.1
B21K IAmb IAmb 09 50 38.0
comp=Z,89nm,0.7s
B21K Ikpikpuk River 20.44 21 P Pn 09 50 34.5 -1.2
baz=219,SNR=97
G24K Hadweenzic Riv 20.45 32 IAmb IAmb 09 50 46.6
comp=Z,54nm,0.9s
G24K Hadweenzic Riv 20.45 32 P P 09 50 33.6 +0.2
baz=236,SNR=44
SCRK Sand Creek 20.46 41 P P 09 50 32.4 -1.3
SCRK Sand Creek 20.46 41 P P 09 50 32.6 -1.0
baz=248,SNR=132
SEY Seymchan 20.50 316 P P 09 50 34.9 +1.0
comp=Z,24nm,0.8s,baz=110,slow=9.8,SNR=27
SEY PcP PcP 09 54 43.5 -0.1
comp=Z,2.3nm,0.5s,baz=132,slow=4.0,SNR=5.6
SEY LR LR 09 58 12.9
comp=Z,2µm,20.8s,baz=134,slow=36
comp=Z,24nm,0.8s
SEY Seymchan 20.50 316⇑ iP P 09 50 35.0 +1.0
SEY pmax pmax
comp=Z,71nm,1.3s
MA2 Magadan 20.51 306 P P 09 50 34.9 +0.9
comp=Z,5.4nm,0.5s,baz=86,slow=9.0,SNR=10
MA2 LR LR 09 57 48.3
comp=Z,1µm,21.9s,baz=101,slow=35
comp=Z,5.4nm,0.5s
MA2 Magadan 20.51 306⇓ eP P 09 50 35.2 +1.2
MA2 pmax pmax
comp=Z,77nm,1.0s
MA2 Magadan 20.51 306 P P 09 50 35.8 +1.8
comp=Z,2µmcomp=Z,81nm,1.1s
PRP Porcupine Dome 20.52 36 P P 09 50 33.9 -0.4
PRP Porcupine Dome 20.52 36 P P 09 50 34.4 +0.2
baz=242,SNR=7.3
E23K Chandalar 20.60 28 IAmb IAmb 09 50 43.6
comp=Z,42nm,1.0s
E23K Chandalar 20.60 28 P P 09 50 35.5 +0.4
baz=230,SNR=31
H25L Birch Creek 20.78 34 P Pn 09 50 37.5 -2.3
baz=240
F24K Squaw Lake 20.79 30 IAmb IAmb 09 50 41.9
comp=Z,51nm,0.8s
F24K Squaw Lake 20.79 30 P P 09 50 36.9 -0.2
baz=234,SNR=56
J26L Joseph Creek 20.83 40 P P 09 50 37.0 -0.6
baz=247,SNR=156
M27K Edge Creek, AK 20.84 46 P P 09 50 38.1 +0.3
M27K Edge Creek, AK 20.84 46 P P 09 50 37.5 -0.4
baz=255,SNR=20
D23K Nanushuk River 20.91 25 P P 09 50 37.6 -0.7
D23K IAmb IAmb 09 50 42.6
comp=Z,48nm,0.8s
D23K Nanushuk River 20.91 25 P P 09 50 38.8 +0.5
baz=227,SNR=35
E24K Your Creek 20.94 28 IAmb IAmb 09 50 42.5
comp=Z,29nm,0.7s
E24K Your Creek 20.94 28 P P 09 50 38.8 +0.1
baz=232
G25K Bearman Lake 20.94 33 P P 09 50 39.0 +0.3
baz=238
TOLK Toolik Lake Re 20.99 26 P P 09 50 39.6 +0.3
TOLK IAmb IAmb 09 50 59.4
comp=Z,51nm,0.8s
TOLK Toolik Lake Re 20.99 26 P P 09 50 39.6 +0.3
baz=229,SNR=31
L27K Beaver Creek, 21.07 44 P P 09 50 39.6 -0.4
L27K Beaver Creek, 21.07 44 P P 09 50 39.9 -0.2
baz=253,SNR=22
BCAR Beaver Creek A 21.09 44 P P 09 50 40.2 0.0
FYU Fort Yukon 21.14 34 P P 09 50 40.9 +0.1
FYU IAmb IAmb 09 51 00.3
comp=Z,78nm,1.3s
B22K Teshekpuk Lake 21.26 20 IAmb IAmb 09 50 45.4
comp=Z,44nm,0.7s
B22K Teshekpuk Lake 21.26 20 P P 09 50 42.5 +0.5
baz=220,SNR=36
K27K Chicken 21.27 42 IAmb IAmb 09 50 50.2
comp=Z,76nm,0.8s
K27K Chicken 21.27 42 P P 09 50 41.3 -0.9
baz=250
O28M Mount Upton 21.29 51 P P 09 50 42.5 -0.3
baz=261
I26K Coal Creek Min 21.32 38 P P 09 50 41.9 -0.8
baz=246
A21K Barrow 21.43 16 P P 09 50 44.0 +0.2
baz=213
A22K Sinclair Lake 21.47 18 P P 09 50 44.4 +0.1
baz=216,SNR=96
D24K Happy Valley 21.54 26 IAmb IAmb 09 50 48.6
comp=Z,61nm,0.8s
D24K Happy Valley 21.54 26 P P 09 50 45.3 +0.4
baz=229
F25K Christian Rive 21.54 31 P P 09 50 45.3 +0.2
baz=237,SNR=24
C23K Itkillik River 21.54 23 IAmb IAmb 09 50 57.1
comp=Z,114nm,0.9s
C23K Itkillik River 21.54 23 P P 09 50 44.9 -0.2
baz=225
YUK8 Steele Glacier 21.59 50 P P 09 50 45.8 0.0
baz=260,SNR=9.3
BMAR Burnt Mountain 21.80 32 P P 09 50 48.2 +0.3
G26K Porcupine Rive 21.83 34 P P 09 50 48.4 +0.3
baz=241
E25K Arctic Village 21.85 30 IAmb IAmb 09 50 51.5
comp=Z,59nm,1.1s
E25K Arctic Village 21.85 30 P P 09 50 49.2 +0.8
baz=236,SNR=67
C24K Franklin Bluff 21.94 25 IAmb IAmb 09 50 52.3
comp=Z,58nm,0.7s
C24K Franklin Bluff 21.94 25 P P 09 50 49.5 +0.2
baz=228
O29M Mount Kennedy 22.02 53 P P 09 50 49.3 -1.1
baz=264
I27K Kandik River 22.03 38 P P 09 50 49.9 -0.5
baz=247,SNR=8.7
F26K Sheenjek River 22.08 32 P P 09 50 51.1 +0.3
baz=239,SNR=22
YUK4 Talbot Arm 22.13 50 P P 09 50 51.8 +0.2
baz=261
YUK6 Outpost Mounta 22.20 51 P P 09 50 52.0 -0.5
baz=262
H27K Steamboat Moun 22.31 36 P P 09 50 53.6 +0.2
baz=246,SNR=7.0
D25K Kavik River 22.32 27 IAmb IAmb 09 51 15.4
comp=Z,59nm,1.2s
D25K Kavik River 22.32 27 P P 09 50 53.3 -0.2
baz=232,SNR=43
DAWY Dawson 22.40 43 P P 09 50 53.7 -0.7
DAWY IAmb IAmb 09 51 10.5
comp=Z,62nm,1.3s
DAWY Dawson 22.40 43 P P 09 50 53.8 -0.6
baz=254,SNR=27
M29M Somme Creek 22.41 47 P P 09 50 54.4 -0.2
baz=258,SNR=11
G27K Doyon Strip 22.51 35 P P 09 50 54.7 -0.8
G27K Doyon Strip 22.51 35 P P 09 50 55.4 -0.1
baz=244
HYT Haines Junctio 22.60 51 P P 09 50 55.5 -1.1
baz=263
I28M Miner Creek 22.62 39 P P 09 50 55.9 -0.9
baz=250,SNR=33
L29M L29M 22.70 45 P P 09 50 56.8 -0.8
baz=257
P30M Million Dollar 22.80 53 P P 09 50 57.9 -0.8
baz=266
N30M Aishikik Lake 22.89 50 P P 09 50 58.7 -0.8
baz=262
J29N Klondike Camp 23.00 42 IAmb IAmb 09 51 17.1
comp=Z,26nm,0.8s
J29N Klondike Camp 23.00 42 P P 09 51 00.4 -0.3
baz=254
C26K Camden Bay 23.09 26 P P 09 51 01.3 -0.1
baz=233
S31K Pelican 23.12 59 P P 09 51 01.4 -0.4
baz=271
K29M Barlow Dome 23.14 44 IAmb IAmb 09 51 04.8
comp=Z,39nm,0.7s
K29M Barlow Dome 23.14 44 P P 09 51 01.8 -0.3
baz=256,SNR=48
E27K Coleen River 23.16 32 P P 09 51 02.3 +0.1
baz=242,SNR=35
M30M Minto, Yukon 23.20 47 P P 09 51 01.6 -1.0
M30M Minto, Yukon 23.20 47 P P 09 51 01.5 -1.0
baz=260
I29M Ogilvie Camp, 23.23 40 P P 09 51 01.2 -1.7
baz=252,SNR=29
C27K Jago River 23.26 28 P P 09 51 02.8 -0.3
baz=236,SNR=30
O30N Mendenhall 23.29 52 P P 09 51 02.9 -0.6
O30N Mendenhall 23.29 52 P P 09 51 02.0 -1.5
baz=265
H29M Whitestone 23.49 38 IAmb IAmb 09 51 30.3
comp=Z,98nm,1.6s
H29M Whitestone 23.49 38 P P 09 51 04.4 -1.0
baz=250
N31M Braeburn, Yuko 23.51 50 P P 09 51 05.0 -0.6
baz=264
SKAG Skagway 23.59 55 P P 09 51 06.4 0.0
SKAG Skagway 23.59 55 P P 09 51 07.2 +0.9
SKAG Skagway 23.59 55 P P 09 51 06.1 -0.2
baz=269
SIT Sitka 23.65 61 P P 09 51 07.2 +0.3
MAYO Mayo, Yukon 23.79 45 P P 09 51 08.4 +0.2
MAYO IAmb IAmb 09 51 32.6
comp=Z,20nm,0.7s
J30M Hart River 23.82 42 IAmb IAmb 09 51 19.6
comp=Z,22nm,0.7s
J30M Hart River 23.82 42 P P 09 51 07.8 -0.8
baz=256,SNR=40
G29M Pine Creek 23.87 36 IAmb IAmb 09 51 25.4
comp=Z,32nm,1.1s
G29M Pine Creek 23.87 36 P P 09 51 08.7 -0.2
baz=249,SNR=12
WHY Whitehorse 23.87 52 P P 09 51 08.5 -0.6
baz=266
D27M Malcolm River 23.88 30 IAmb IAmb 09 51 11.0
comp=Z,29nm,1.0s
D27M Malcolm River 23.88 30 P P 09 51 09.0 0.0
baz=240,SNR=30
I30M Mount Dempster 23.97 41 IAmb IAmb 09 51 24.1
comp=Z,28nm,0.6s
I30M Mount Dempster 23.97 41 P P 09 51 09.2 -0.8
baz=254
S32K Killisnoo 24.03 60 P P 09 51 10.2 -0.2
baz=274
E28M Babbage River 24.03 32 IAmb IAmb 09 51 12.4
comp=Z,42nm,1.1s
E28M Babbage River 24.03 32 P P 09 51 10.1 -0.3
baz=243,SNR=57
JIS Juneau Island 24.09 58 P P 09 51 10.9 0.0
EPYK Eagle Plains 24.17 38 IAmb IAmb 09 51 34.3
comp=Z,22nm,0.8s
EPYK Eagle Plains 24.17 38 P P 09 51 10.8 -0.9
baz=252
M31M Drury Creek, Y 24.25 48 P P 09 51 12.2 -0.3
baz=263,SNR=6.3
P32M Atlin 24.42 55 P P 09 51 14.6 +0.6
baz=270
E29M Blow River 24.48 33 IAmb IAmb 09 51 38.9
comp=Z,30nm,0.7s
E29M Blow River 24.48 33 P P 09 51 14.7 +0.2
baz=246,SNR=38
G30M tAoh Zraii Nji 24.56 37 IAmb IAmb 09 51 38.8
comp=Z,53nm,1.6s
G30M tAoh Zraii Nji 24.56 37 P P 09 51 14.1 -1.1
baz=251
D28M Stokes Point 24.62 31 P P 09 51 16.4 +0.8
baz=243,SNR=18
FARO Faro, Yukon 24.74 48 P P 09 51 16.1 -0.8
N32M Quiet Lake 24.78 51 P P 09 51 16.7 -0.5
baz=267
P33M Teslin, Yukon 24.88 53 P P 09 51 17.6 -0.5
P33M Teslin, Yukon 24.88 53 P P 09 51 18.3 +0.1
baz=269,SNR=14
F30M Barrier River 24.93 35 P P 09 51 18.8 +0.3
baz=250
H31M Peel River 24.94 40 IAmb IAmb 09 51 36.6
comp=Z,23nm,0.8s
H31M Peel River 24.94 40 P P 09 51 18.5 -0.1
baz=256,SNR=17

U33K **Whale Pass** 24.96 63 P P 09 51 19.0 +0.2
baz=278
T33K **Petersburg** 24.96 61 P P 09 51 19.4 +0.5
baz=276
CRAG **Craig** 25.05 65 P P 09 51 21.4 +1.8
CRAG IAmb IAmb 09 51 36.7
comp=Z,166nm,1.9s
CRAG **Craig** 25.05 65 P P 09 51 21.6 +1.9
CRAG **Craig** 25.05 65 P P 09 51 20.1 +0.4
baz=279
Q32M **Nakina River** 25.17 56 IAmb IAmb 09 51 53.2
comp=Z,46nm,1.4s
Q32M **Nakina River** 25.17 56 P P 09 51 20.6 -0.4
baz=272
G31M **Satah River** 25.27 37 P P 09 51 21.4 -0.1
baz=253,SNR=7.0
WRAK **Wrangell Islan** 25.35 62 P P 09 51 23.2 +0.8
WRAK IAmb IAmb 09 51 54.8
comp=Z,41nm,0.8s
WRAK **Wrangell Islan** 25.35 62 P P 09 51 22.4 0.0
baz=278
F31M **Tsiigehtchic** 25.62 36 P P 09 51 24.8 +0.1
baz=253,SNR=7.5
R33M **Jennings River** 25.82 55 P P 09 51 27.0 +0.1
baz=272,SNR=5.6
S34M **Telegraph Cree** 25.84 59 P P 09 51 27.7 +0.9
baz=275
DIB **Dawson Inlet,** 25.88 70 IAmb IAmb 09 51 49.2
comp=Z,37nm,1.1s
V35K **Ketchikan** 25.92 65 IAmb IAmb 09 51 30.9
comp=Z,34nm,0.8s
V35K **Ketchikan** 25.92 65 P P 09 51 27.7 +0.1
baz=280,SNR=12
INK **Inuvik** 25.96 34 P P 09 51 26.3 -1.5
INK **Inuvik** 25.96 34 LR LR 10 02 41.3
comp=Z,470nm,18.2s,baz=231,slow=39
INK **Inuvik** 25.96 34 P P 09 51 26.3 -1.5
INK pmax pmax
comp=Z,20nm,1.2s
INK **Inuvik** 25.96 34 P P 09 51 28.2 +0.4
baz=251,SNR=16
TYV **Tymovskoe** 26.04 285 *e*P P 09 51 32.5 +3.8
TYV pmax pmax
comp=Z,200nm,3.9s
TYV pmax pmax
comp=Z,7.0nm,1.2s
DLBC **Dease Lake** 26.37 57 LR LR 10 02 48.2
comp=Z,706nm,19.0s,baz=288,slow=38
DLBC **Dease Lake** 26.37 57 P P 09 51 31.7 0.0
baz=275
T35M **Bob Quinn** 26.42 61 IAmb IAmb 09 52 05.5
comp=Z,33nm,1.1s
T35M **Bob Quinn** 26.42 61 P P 09 51 32.1 0.0
baz=278
WTLY **Watson Lake, Y** 26.89 53 P P 09 51 37.6 +1.2
baz=273,SNR=5.2
TGTN **Hyland Airport** 27.11 50 P P 09 51 38.7 +0.4
baz=270
GRNB **Grenville Isla** 27.18 67 P P 09 51 40.8 +1.8
GRNB IAmb IAmb 09 51 49.2
comp=Z,21nm,0.8s
YSS **Yuzhno-Sakhali** 27.44 277 P P 09 51 41.8 +0.5
YSS IAmb IAmb 09 51 44.8
comp=Z,29nm,0.7s
YSS **Yuzhno-Sakhali** 27.44 277 *α e*P P 09 51 42.4 +1.0
YSS *e*S S 09 56 17.4 -0.9
YSS pmax pmax
comp=Z,40nm,0.7s
YSS pmax pmax
comp=Z,400nm,5.7s
BBB **Bella Bella** 28.71 70 IAmb IAmb 09 52 04.2
comp=Z,25nm,0.9s
BBB **Bella Bella** 28.71 70 LR LR 10 01 10.2
comp=Z,416nm,21.5s,baz=286,slow=32
TOAD **Toad River Com** 28.82 56 P P 09 51 52.9 -0.6
baz=278
JKA **Kamikawa-asahi** 28.87 272 P P 09 51 54.9 +0.8
JKA IAmb IAmb 09 51 56.9
comp=Z,22nm,0.7s
ASAJ **Asahikawa** 28.87 272 LR LR 10 03 04.7
comp=Z,270nm,20.6s,baz=342,slow=36
ASAJ **Asahikawa** 28.87 272 P P 09 51 54.9 +0.8
ASAJ pmax pmax
comp=Z,22nm,0.7s
KOTAN **Kotaneelee Air** 29.25 53 P P 09 51 56.9 -0.5
baz=276
WRGLY **Wrigley** 29.32 47 P P 09 51 57.6 -0.3
baz=271
C36M **Paulatuk** 29.55 34 P P 09 52 00.0 +0.2
baz=260,SNR=6.2
JEM **Erimo** 29.63 267 P P 09 52 02.6 +1.8
ERM **Erimo** 29.63 267 P P 09 52 02.7 +1.9
A36M **Sachs Harbour** 29.76 29 IAmb IAmb 09 52 02.8
comp=Z,25nm,0.8s
A36M **Sachs Harbour** 29.76 29 P P 09 52 01.4 -0.3
baz=254,SNR=32
YAK **Yakutsk** 30.84 311 LR LR 10 04 37.1
comp=Z,1μm,20.5s,baz=90,slow=36
YAK **Yakutsk** 30.84 311 *e*P P 09 52 18.9 +7.6
YAK *e**PP pP 09 52 28.4 +4.5
YAK *e* 09 53 18.8
YAK *e* 09 55 07.0
YAK *e*SS SS 09 58 48.8 -35
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,310nm,7.1s
YAK pmax pmax
comp=N,185nm,6.5s
YAK pmax pmax
comp=E,204nm,5.8s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,416nm,19.0s
YAK MLR MLR
comp=E,475nm,19.0s
TIXI **Tiksi** 31.44 330 LR LR 10 06 01.5
comp=E,599nm,18.5s,baz=108,slow=38
TIXI **Tiksi** 31.44 330⇓ *e*P P 09 52 17.0 +0.5
TIXI pmax pmax
comp=Z,7.0nm,1.1s
TEY **Ternei** 32.13 277⇑ *e*P P 09 52 22.7 -0.1
TEY pmax pmax
comp=Z,50nm,0.8s
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,30nm,0.8s
CLRS **Cowichan Lake** 32.31 74 IAmb IAmb 09 52 34.7
comp=Z,39nm,1.1s
LLLB **Lillooet** 32.92 70 IAmb IAmb 09 52 36.5
comp=Z,17nm,0.8s
NLWA **Neilton Lookou** 33.09 77 P P 09 52 33.0 +1.6
NLWA IAmb IAmb 09 52 42.5
comp=Z,32nm,1.1s
KLR **Kul'dur** 33.17 287 LR LR 10 06 07.3
comp=Z,514nm,20.4s,baz=78,slow=36
KLR **Kul'dur** 33.17 287 *d i*P P 09 52 31.6 -0.3
KLR pmax pmax
comp=Z,14nm,1.0s
YKA **Yellowknife Ar** 33.43 47 P P 09 52 33.4 -0.7
comp=Z,1.6nm,0.6s,baz=279,slow=8.9,SNR=29
YKA PcP PcP 09 55 14.6 +0.5
comp=Z,1.2nm,0.6s,baz=283,slow=3.3,SNR=7.9
YKA LR LR 10 07 13.1
comp=Z,1μm,21.9s,baz=286,slow=38
comp=Z,1.6nm,0.6s
GNW **Green Mountain** 33.65 76 IAmb IAmb 09 52 47.2
comp=Z,24nm,0.9s
LON **Longmire** 34.64 77 IAmb IAmb 09 52 58.3
comp=Z,12nm,0.8s
COR **Corvallis** 34.79 81 P P 09 52 48.2 +2.2
H11N2 **WAKE ISLAND Hy** 34.81 210 T T 10 30 06.6
baz=19,slow=76,SNR=394
H11N3 **WAKE ISLAND Hy** 34.82 210 T T 10 29 55.1
baz=19,slow=76,SNR=255
H11N1 **WAKE ISLAND Hy** 34.83 210 T T 10 29 40.0
baz=19,slow=76,SNR=305
LTY **Liberty** 35.09 75 IAmb IAmb 09 53 17.2
comp=Z,17nm,1.0s
HEH **HeiHe** 35.29 291 *e*P P 09 52 48.4 -1.9
HEH pmax pmax
comp=Z,7.0nm,0.5s
HEH LR LR
comp=Z,290nm,17.4s
HEH LR LR
comp=Z,570nm,18.4s
HEH LR LR
comp=Z,730nm,21.8s
B08A **Colville Reser** 35.38 73 IAmb IAmb 09 52 53.6
comp=Z,26nm,0.7s
USA0B **Ussuriysk Arra** 35.40 279 *c i*P P 09 52 51.4 +0.2
USRK **Ussuriysk Ar.** 35.40 279 P P 09 52 50.8 -0.4
comp=Z,10nm,0.7s,baz=59,slow=9.5,SNR=16
USRK PcP PcP 09 55 20.8 +0.6
comp=Z,4.3nm,0.6s,baz=74,slow=4.0,SNR=5.4
USRK LR LR 10 06 29.7
comp=Z,682nm,21.6s,baz=53,slow=35
comp=Z,10nm,0.7s
H04A **Detroit Lake** 35.43 80 IAmb IAmb 09 53 02.2
comp=Z,19nm,0.8s
MXC **Moxie City** 35.64 76 IAmb IAmb 09 53 03.9
comp=Z,24nm,1.3s
I04A **Tendick Farm,** 35.75 81 IAmb IAmb 09 53 03.2
comp=Z,20nm,0.8s
E07A **Sunnyside** 35.91 76 IAmb IAmb 09 53 05.8
comp=Z,26nm,1.2s
MAJO **Matsushiro** 35.98 264 P P 09 52 57.0 +0.7
MAJO IAmb IAmb 09 52 59.8
comp=Z,18nm,0.8s
MAJO **Matsushiro** 35.98 264⇓ *e*P P 09 52 57.4 +1.1
MAJO pmax pmax
comp=Z,85nm,2.9s
MAJO **Matsushiro** 35.98 264 P P 09 52 56.7 +0.4
MAJO pP pP 09 53 10.3 +1.7
MAJO sP sP 09 53 16.2 +2.1
MJAR **Matsushiro Arr** 35.98 264 P P 09 52 57.5 +1.2
comp=Z,6.7nm,0.7s,baz=54,slow=10.0,SNR=14
comp=Z,6.7nm,0.7s
MJB9 **Matsu-Tunnel** 35.98 264 P P 09 52 57.5 +1.2
MJB9 IAmb IAmb 09 53 00.7
comp=Z,17nm,0.8s
H11S1 **WAKE ISLAND Hy** 36.02 210 T T 10 31 28.2
baz=19,slow=76,SNR=170
VLA **Vladivostok** 36.03 278⇓ *e*P P 09 52 57.3 +0.6
VLA pmax pmax
comp=Z,19nm,0.6s
H11S2 **WAKE ISLAND Hy** 36.04 210 T T 10 31 29.3
baz=19,slow=76,SNR=765
H11S3 **WAKE ISLAND Hy** 36.04 210 T T 10 31 27.4
baz=19,slow=76,SNR=114
G06A **Carlson Farm,** 36.09 78 IAmb IAmb 09 53 08.4
comp=Z,28nm,1.3s
I05D **Terrebonne, OR** 36.13 80 IAmb IAmb 09 53 06.3
comp=Z,21nm,0.9s
HAWA **Hanford** 36.19 76 IAmb IAmb 09 53 08.1
comp=Z,28nm,0.8s
F07A **Phinny Hill Vi** 36.19 77 IAmb IAmb 09 53 11.1
comp=Z,25nm,1.0s
D08A **Wollman Farm,** 36.23 74 IAmb IAmb 09 53 08.0
comp=Z,19nm,0.9s
J04A **Umpqua Nationa** 36.23 82 IAmb IAmb 09 53 09.7
comp=Z,33nm,1.0s
C09A **Chrisman Ranch** 36.27 73 IAmb IAmb 09 53 08.3
comp=Z,31nm,1.0s
E08A **Dider Farm, El** 36.42 75 IAmb IAmb 09 53 09.9
comp=Z,28nm,1.1s
PINE **Pine Mountain** 36.66 80 IAmb IAmb 09 53 14.1
comp=Z,28nm,1.1s
YBH **Yreka Blue Hor** 36.69 85 P P 09 53 02.9 +0.4
comp=Z,2.9nm,0.8s,baz=267,slow=6.0,SNR=6.3
comp=Z,2.9nm,0.8s
NEW **Newport** 36.73 72 IAmb IAmb 09 53 21.4
comp=Z,25nm,0.8s
NEW **Newport** 36.73 72 P P 09 53 03.3 +0.6
comp=Z,19nm,0.6s,baz=300,slow=6.8,SNR=50
NEW LR LR 10 05 34.8
comp=Z,442nm,21.6s,baz=304,slow=32
comp=Z,19nm,0.6s
J05D **Fort Rock, OR** 36.75 81 IAmb IAmb 09 53 14.3
comp=Z,45nm,1.5s
MSHR **Mys Shultsa** 36.77 277 *c i*P P 09 53 03.3 +0.3
MSHR pmax pmax
comp=Z,109nm,0.7s
PSTR **Posyet** 36.95 278 *c i*P P 09 53 05.2 +0.7
E09A **Wood Farm, Sta** 36.96 75 IAmb IAmb 09 53 14.2
comp=Z,26nm,1.1s
G08A **Pilot Rock** 37.09 77 IAmb IAmb 09 53 15.5
comp=Z,32nm,1.6s
JGF **Kuroka** 37.11 263 P P 09 53 07.2 +1.2
JHJ **Hachijo jima 2** 37.28 258 LR LR 10 06 34.9
comp=Z,200nm,20.1s,baz=96,slow=33
I07A **Izee** 37.38 79 IAmb IAmb 09 53 34.5
comp=Z,15nm,0.9s
BNX **BinXian** 37.40 284 ⇑P P 09 53 07.7 -0.6
BMO **Blue Mountains** 38.31 77 IAmb IAmb 09 53 26.0
comp=Z,14nm,1.1s
J08A **Circle Bar Ran** 38.40 79 IAmb IAmb 09 53 19.3
comp=Z,12nm,0.6s
RES **Resolute Bay** 38.55 25 LR LR 10 12 27.4
comp=Z,416nm,19.8s,baz=268,slow=41
WVOR **Wild Horse Val** 38.81 81 IAmb IAmb 09 53 48.9
comp=Z,20nm,0.8s
MSO **Missoula** 39.31 72 IAmb IAmb 09 53 33.9
comp=Z,51nm,1.2s
CN2 **Changchun** 39.61 283 *e*P P 09 53 26.2 -0.6
CN2 pP pP 09 53 37.9 -1.6
CN2 sP sP 09 53 44.1 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,700nm,21.0s
CN2 LR LR
comp=Z,900nm,21.0s
CN2 LR LR
comp=Z,1μm,21.0s
PAHR **Pah Rah Range** 39.92 85 IAmb IAmb 09 54 10.1
comp=Z,18nm,1.0s
MFID **Camas Ranch** 39.98 78 IAmb IAmb 09 53 52.8
comp=Z,17nm,1.2s
PNTR **Pine Nut** 40.16 86 P P 09 53 31.3 -0.4
PNTR IAmb IAmb 09 53 46.5
comp=Z,28nm,0.7s
JCJ **Chichijima** 40.20 249 LR LR 10 06 15.1
comp=Z,332nm,21.5s,baz=338,slow=30
WAKR **Wilkes** 40.61 86 P P 09 53 35.0 -0.5
HLID **Hailey** 40.76 77 IAmb IAmb 09 53 47.0
comp=Z,16nm,1.0s
DLMT **Dillon** 40.88 73 IAmb IAmb 09 54 08.7
comp=Z,22nm,1.1s
EGMT **Eagleton** 41.16 68 IAmb IAmb 09 53 55.7
comp=Z,29nm,0.8s
BOZ **Bozeman (W)** 41.33 72 IAmb IAmb 09 53 50.5
comp=Z,35nm,1.1s
NVAR **Mina Array Bea** 41.36 86 P P 09 53 42.4 +0.7
comp=Z,1.6nm,0.7s,baz=292,slow=8.3,SNR=9.1
NVAR ScP ScP 09 59 24.6 -0.2
comp=Z,0.8nm,0.8s,baz=294,slow=4.5,SNR=4.1
comp=Z,1.6nm,0.7s
KSRS **Korea Array** 41.80 273 P P 09 53 46.2 +1.3
comp=Z,13nm,0.7s,baz=54,slow=7.9,SNR=29
comp=Z,13nm,0.7s
ELK **Elko** 41.87 81 IAmb IAmb 09 54 04.5
comp=Z,12nm,0.8s
ELK **Elko** 41.87 81 P P 09 53 46.3 +0.5
comp=Z,8.8nm,0.8s,baz=301,slow=8.4,SNR=34
comp=Z,8.8nm,0.8s
YHL **Hebgen Lake** 41.99 73 IAmb IAmb 09 53 57.1
comp=Z,65nm,1.3s
YHB **Horse Butte** 42.04 73 IAmb IAmb 09 53 56.7
comp=Z,40nm,1.1s
FFC **Flin Flon** 42.19 56 P P 09 53 47.3 -0.6
YMR **Madison River** 42.23 73 IAmb IAmb 09 54 01.1
comp=Z,51nm,1.2s
YNR **Norris Junctio** 42.37 73 IAmb IAmb 09 53 60.0
comp=Z,60nm,1.2s
YFT **Old Faithful** 42.42 73 IAmb IAmb 09 54 05.9
comp=Z,27nm,1.3s
INCN **Inchon** 42.58 274 IAmb IAmb 09 53 53.4
comp=Z,43nm,0.8s
YNE **Yellowstone No** 42.61 72 IAmb IAmb 09 54 00.5
comp=Z,23nm,1.1s
H17A **Grant Village** 42.61 73 IAmb IAmb 09 54 02.7
comp=Z,50nm,1.2s
LKWY **Lake** 42.62 73 IAmb IAmb 09 54 03.1
comp=Z,22nm,0.8s
JNU **Nakatsue** 42.76 266 LR LR 10 10 05.8
comp=Z,478nm,21.8s,baz=64,slow=34
JNU **Nakatsue** 42.76 266 P P 09 53 53.8 +0.9
HVU **Hansel Valley** 42.77 78 IAmb IAmb 09 53 55.4
comp=Z,15nm,0.7s
TPAW **Teton Pass** 42.89 75 IAmb IAmb 09 54 06.0
comp=Z,30nm,1.4s
AHID **Auburn Hatcher** 43.21 76 IAmb IAmb 09 54 22.1
comp=Z,19nm,1.1s
TPNV **Topopah Spring** 43.56 86 IAmb IAmb 09 54 17.2
comp=Z,16nm,0.8s
DUG **Dugway, Tooele** 43.68 80 IAmb IAmb 09 54 16.2
comp=Z,19nm,0.8s
LAO **LASA Array** 43.90 68 IAmb IAmb 09 54 17.1
comp=Z,22nm,0.9s
TCUT **Toone Canyon** 43.99 78 IAmb IAmb 09 54 27.9
comp=Z,20nm,0.7s
PSUT **Pine Spring** 44.05 82 IAmb IAmb 09 54 43.2
comp=Z,18nm,0.7s
DGMT **Dagmar** 44.10 65 IAmb IAmb 09 54 04.7
comp=Z,28nm,0.8s
PD31 **Pinedale Array** 44.14 75 IAmb IAmb 09 54 06.6
comp=Z,26nm,0.8s
PDAR **Pinedale Array** 44.14 75 P P 09 54 04.3 +0.2
comp=Z,24nm,0.6s,baz=308,slow=3.6,SNR=218
PDAR LR LR 10 10 00.2
comp=Z,270nm,21.6s,baz=302,slow=33
comp=Z,24nm,0.6s
FCC **Fort Churchill** 44.16 48 IAmb IAmb 09 54 43.0
comp=Z,45nm,1.8s
GSC **Goldstone, Bar** 44.27 88 P P 09 54 05.5 +0.5
GSC IAmb IAmb 09 54 24.6
comp=Z,12nm,0.8s
GSC **Goldstone, Bar** 44.27 88 P P 09 54 05.5 +0.5
GSC pmax pmax
comp=Z,12nm,0.8s
MPU **Maple Canyon** 44.51 79 P P 09 54 07.1 0.0
BSUT **Blindstream Ca** 44.73 78 IAmb IAmb 09 54 31.8
comp=Z,12nm,0.7s
DL2 **Dalian** 44.79 279 P P 09 54 09.2 +0.2
DL2 pmax pmax
comp=Z,87nm,0.7s
DL2 LR LR
comp=Z,420nm,19.5s
DL2 LR LR
comp=Z,470nm,20.4s
DL2 LR LR
comp=Z,950nm,21.4s
TCRU **Three Creeks R** 44.87 81 IAmb IAmb 09 54 31.9
comp=Z,17nm,1.1s
XLT **XiLinHaoTe** 45.17 288 *e*P P 09 54 13.1 +1.0
XLT PcP PcP 09 55 52.5 +0.8
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT LR LR
comp=Z,370nm,14.4s
XLT LR LR
comp=Z,340nm,18.4s
TMUT **Trail Mountain** 45.21 80 IAmb IAmb 09 54 32.5
comp=Z,24nm,0.9s
Q16A **Castle Valley** 45.47 80 IAmb IAmb 09 54 56.6
comp=Z,15nm,0.9s
PFO **Pinyon Flats O** 45.59 90 LR LR 10 09 19.5
comp=Z,510nm,21.6s,baz=260,slow=31
P18A **Preston Nutter** 45.59 79 IAmb IAmb 09 54 34.7
comp=Z,23nm,1.0s
KNB **Kanab** 45.64 83 IAmb IAmb 09 55 37.7
comp=Z,29nm,1.5s
SRU **San Rafael Swe** 45.74 79 IAmb IAmb 09 54 36.3
comp=Z,19nm,0.8s
K22A **Casper** 46.02 73 IAmb IAmb 09 54 40.9
comp=Z,26nm,1.1s
U15A **North Rim** 46.34 84 IAmb IAmb 09 54 50.9
comp=Z,15nm,0.9s
NOR **Nord** 46.46 4 *e*P P 09 54 21.4 -0.3
NEEM **North Greenlan** 46.60 14 *e*P P 09 54 22.7 -0.6
NEEM IAmb IAmb 09 54 23.3
comp=Z,12nm,0.8s
PV23 **Carpenter Ridg** 47.08 79 IAmb IAmb 09 54 45.6
comp=Z,29nm,0.9s
PV10 **Paradox Valley** 47.11 79 IAmb IAmb 09 55 03.1
comp=Z,26nm,0.8s
PV07 **Paradox Valley** 47.31 79 IAmb IAmb 09 54 39.5
comp=Z,14nm,0.9s
PV13 **Radium Mtn., P** 47.38 79 IAmb IAmb 09 54 45.1
comp=Z,35nm,1.0s
BJI **Beijing** 47.42 284 P P 09 54 30.5 +0.8
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,76nm,4.5s
BJI LR LR
comp=Z,310nm,23.0s
BJI LR LR
comp=Z,280nm,18.5s
BJI LR LR
comp=Z,460nm,20.2s
PV15 **Paradox Valley** 47.47 79 IAmb IAmb 09 55 02.8
comp=Z,17nm,0.7s
ULM **Lac du Bonnet** 47.68 59 IAmb IAmb 09 55 09.3
comp=Z,25nm,1.4s
ULM **Lac du Bonnet** 47.68 59 P P 09 54 30.4 -1.2
comp=Z,6.6nm,0.5s,baz=302,slow=8.3,SNR=18
ULM LR LR 10 16 13.9
comp=Z,269nm,18.2s,baz=316,slow=38
comp=Z,6.6nm,0.5s
MVCO **Mesa Verde** 48.18 80 IAmb IAmb 09 54 54.9
comp=Z,15nm,1.1s
ISCO **Idaho Springs** 48.30 75 IAmb IAmb 09 55 22.6
comp=Z,9.9nm,0.7s
SONM **Songino Array** 48.43 298 P P 09 54 36.5 -1.1
comp=Z,1.4nm,0.8s,baz=51,slow=8.1,SNR=5.4
SONM PcP PcP 09 56 03.5 +0.3
comp=Z,4.4nm,0.6s,baz=65,slow=3.0,SNR=7.1
SONM ScP ScP 09 59 54.2 +0.5
comp=Z,2.9nm,0.9s,baz=53,slow=3.1,SNR=8.0
SONM LR LR 10 15 08.1
comp=Z,528nm,21.0s,baz=54,slow=36
comp=Z,1.4nm,0.8s
BRIGG **Briggsdale** 48.59 74 IAmb IAmb 09 54 48.2
comp=Z,19nm,0.9s
ZAK **Zakamensk** 48.63 302 *e*P P 09 54 37.4 -1.7
ZAK pmax pmax
comp=Z,9.0nm,1.2s
JOW **Kunigami** 48.76 262 LR LR 10 14 24.5
comp=Z,49nm,20.4s,baz=312,slow=35
S22A **4UR Ranch, Cre** 48.86 78 IAmb IAmb 09 55 02.3
comp=Z,25nm,1.4s
S22A **4UR Ranch, Cre** 48.86 78 P P 09 54 40.7 -0.5
baz=310
UPNV **Upernavik** 48.95 20 *i* P P 09 54 40.5 -0.5
UPNV IAmb IAmb 09 54 41.4
comp=Z,16nm,0.8s
MOY **Mondy** 49.08 305 *e*P P 09 54 53.1 +11
Q24A **Divide** 49.10 76 P P 09 54 41.8 -1.3
baz=309
TIA **Tai'an** 49.26 279 P P 09 54 43.9 -0.1
TIA pmax pmax
comp=Z,60nm,0.9s
TIA LR LR
comp=Z,310nm,20.6s
TIA LR LR
comp=Z,470nm,20.1s
TIA LR LR
comp=Z,400nm,19.6s
KBS **Kingsbay** 49.57 358 P P 09 54 47.5 +1.7
SDCO **Great Sand Dun** 49.66 77 IAmb IAmb 09 54 49.7
comp=Z,7.9nm,0.8s
HHC **Hu-ho-hao-te** 49.67 288 *e*P P 09 54 47.6 +0.4
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=Z,230nm,14.7s
HHC LR LR
comp=Z,290nm,15.7s
HHC LR LR
comp=Z,570nm,18.8s
HNS **HongShan** 49.97 282 ⇓P P 09 54 50.3 +1.0
HNS pP pP 09 54 59.8 -2.5
HNS PP PP 09 56 45.1 +0.8
HNS *e*S S 10 01 58.2 +2.0
HNS pmax pmax
comp=Z,43nm,0.7s
HNS LR LR
comp=Z,350nm,14.5s
HNS LR LR
comp=Z,440nm,17.5s
HNS LR LR
comp=Z,880nm,22.8s
TUC **Tucson** 49.99 87 IAmb IAmb 09 55 36.0

comp=Z,8.0nm,0.9s
TUC Tucson 49.99 87 P **P 09 54 50.0 +0.3**
F33A 5 Mile Ranch, 50.03 64 IAmb IAmb 09 54 49.7
comp=Z,28nm,1.1s
SPITS Spitsbergen Ar 50.20 357 P **P 09 54 50.0 -0.5**
comp=Z,2.2nm,0.4s,baz=7.9,slow=7.4,SNR=39
SPITS LR LR 10 16 34.7
comp=Z,722nm,19.9s,baz=331,slow=37
comp=Z,2.2nm,0.4s
SPITS Spitsbergen Ar 50.20 357 P **P 09 54 50.0 -0.5**
T25A Trinidad 50.72 77 P **P 09 54 54.3 -1.0**
baz=311
BTO Baotou 50.74 289 *e*P **P 09 54 55.1 -0.1**
BTO pP **pP 09 55 06.4 -2.0**
BTO sP sP 09 55 09.8 -4.2
BTO S **S 10 02 08.2 +1.1**
BTO SS **SS 10 05 39.3 -2.2**
BTO pmax pmax
comp=Z,19nm,0.9s
BTO pmax pmax
comp=Z,150nm,3.9s
BTO LR LR
comp=Z,730nm,12.5s
BTO LR LR
comp=Z,670nm,9.1s
BTO LR LR
comp=Z,930nm,18.4s
ANMO Albuquerque 50.90 81 P **P 09 54 56.7 0.0**
comp=Z,1.4nm,0.9s,baz=284,slow=9.8,SNR=4.8
comp=Z,1.4nm,0.9s
ANMO Albuquerque 50.90 81⇓*e*P **P 09 54 57.1 +0.4**
ANMO pmax pmax
comp=Z,5.0nm,1.4s
ANMO Albuquerque 50.90 81 P **P 09 54 56.7 0.0**
ANMO pP **pP 09 55 10.9 +1.6**
DAG Danmarks Havn 50.95 7 *i* P **P 09 54 55.2 -1.0**
DAG IAmb IAmb 09 54 55.8
comp=Z,3.9nm,0.7s
NJ2 Nanjing 50.96 274 *e*P **P 09 54 56.9 +0.1**
NJ2 pmax pmax
comp=Z,15nm,0.7s
ECSD EROS Data Cent 51.14 66 IAmb IAmb 09 54 58.1
comp=Z,40nm,1.4s
EYMN Ely 51.37 59 IAmb IAmb 09 55 00.9
comp=Z,15nm,0.7s
FRB Frobisher Bay 51.60 33 LR LR 10 19 52.3
comp=Z,546nm,18.4s,baz=288,slow=40
XMAS Kiritimati 51.70 157 P **P 09 55 03.6 +1.2**
121A Cookes Peak, D 51.70 84 IAmb IAmb 09 55 20.3
comp=Z,7.8nm,0.7s
121A Cookes Peak, D 51.70 84 P **P 09 55 00.5 -2.1**
baz=313
RTBA Rita Blanca 52.19 77 IAmb IAmb 09 55 08.0
comp=Z,16nm,0.8s
SUMG Summit 52.45 15 *i* P **P 09 55 06.0 -1.9**
EPT El Paso 53.01 84 IAmb IAmb 09 55 59.0
comp=Z,17nm,0.8s
LYN LuoYang 53.21 281 P **P 09 55 13.7 +0.2**
LYN pP pP 09 55 23.8 -2.9
LYN pmax pmax
comp=Z,70nm,0.7s
LYN LR LR
comp=Z,690nm,26.5s
LYN LR LR
comp=Z,410nm,20.1s
LYN LR LR
comp=Z,970nm,22.4s
G40A Rib Lake 53.74 61 IAmb IAmb 09 55 18.0
comp=Z,21nm,0.7s
COWI Conover 53.78 59 IAmb IAmb 09 55 18.1
comp=Z,15nm,0.8s
KSU1 Kansas State U 54.10 70 IAmb IAmb 09 55 44.5
comp=Z,26nm,0.8s
SFJD Kangerlussuaq 54.52 23 P **P 09 55 21.7 -0.9**
VHRN Van Horn 54.63 84 IAmb IAmb 09 55 46.0
comp=Z,14nm,1.0s
WHN Wuhan 54.79 276 ⇑P **P 09 55 25.2 +0.1**
WHN pP pP 09 55 35.3 -3.0
WHN LR LR
comp=Z,1μm,20.8s
DKNS Dickens 55.15 78 IAmb IAmb 09 55 35.3
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 55.37 315 P **P 09 55 27.8 -1.1**
comp=Z,0.8nm,0.5s,baz=51,slow=9.2,SNR=4.4
ZALV LR LR 10 20 51.3
comp=Z,580nm,19.4s,baz=42,slow=38
comp=Z,0.8nm,0.5s
T35A Sooner Cattle 55.61 72 IAmb IAmb 09 55 41.2
comp=Z,43nm,1.5s
MNHN Monahans 55.62 82 IAmb IAmb 09 55 52.5
comp=Z,13nm,0.7s
OK048 Pawnee Station 55.69 73 IAmb IAmb 09 55 51.4
comp=Z,20nm,0.9s
XAN Xi'an 55.72 283 P **P 09 55 31.8 0.0**
XAN sP pP 09 55 49.8 +4.8
XAN pmax pmax
comp=Z,24nm,1.0s
XAN Xi'an 55.72 283 P **P 09 55 31.6 -0.2**
WMOK Wichita Mounta 55.72 76 IAmb IAmb 09 55 33.6
comp=Z,18nm,0.9s
ALPN Alpine 55.75 83 IAmb IAmb 09 55 53.2
comp=Z,9.2nm,0.9s
OK029 Liberty Lake 55.80 74 IAmb IAmb 09 55 33.7
comp=Z,18nm,0.8s
APMT Aspermont 55.87 78 IAmb IAmb 09 55 48.1
comp=Z,20nm,1.1s
OK052 Battle Ridge R 56.06 73 IAmb IAmb 09 55 53.8
comp=Z,25nm,1.0s
LPIG La Paz 56.08 93 LR LR 10 17 16.4
comp=Z,178nm,18.1s,baz=323,slow=33
E46A Sault Ste Mari 56.15 56 IAmb IAmb 09 55 38.4
comp=Z,21nm,0.9s
DEOK Depew 56.34 73 IAmb IAmb 09 55 54.7
comp=Z,23nm,1.0s
N41A Harden Midland 56.35 65 IAmb IAmb 09 55 35.7
comp=Z,12nm,0.7s
TX31 Lajitas Ar. Si 56.46 84 IAmb IAmb 09 56 05.2
comp=Z,16nm,1.1s
TXAR Lajitas Array 56.46 84 P **P 09 55 36.8 -0.4**
comp=Z,2.6nm,0.6s,baz=304,slow=5.4,SNR=34
TXAR LR LR 10 19 46.6
comp=Z,130nm,18.0s,baz=315,slow=36
comp=Z,2.6nm,0.6s
WTFS Witchita Falls 56.58 76 IAmb IAmb 09 56 00.3
comp=Z,16nm,0.7s
W35A Tecumseh 56.59 74 IAmb IAmb 09 55 56.4
comp=Z,26nm,0.8s
SLBS Sierra La Lagu 56.61 93 IAmb IAmb 09 56 02.7
comp=Z,11nm,0.9s
OZNA Ozona 56.92 81 IAmb IAmb 09 55 54.3
comp=Z,10.0nm,0.7s
L44A Lake County Fo 57.01 62 P **P 09 55 39.7 -1.2**
baz=312
JMIC Jan Mayen 57.26 5 LR LR 10 20 52.0
comp=Z,150nm,19.6s,baz=56,slow=37
GTA Gaotai 57.45 294 P **P 09 55 43.2 -0.9**
GTA pP pP 09 55 56.7 -0.8
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=Z,390nm,18.9s
GTA LR LR
comp=Z,370nm,18.2s
GTA LR LR
comp=Z,590nm,19.3s
HHAR Hobbs 57.56 71 IAmb IAmb 09 56 39.7
comp=Z,11nm,1.0s
FW07 Weatherford 57.72 77 IAmb IAmb 09 56 08.8
comp=Z,21nm,0.8s
CCM Cathedral Cave 57.92 68 P **P 09 55 46.3 -1.0**
CCM pP **pP 09 56 00.8 +0.1**
CCM sP **sP 09 56 06.6 +0.5**
MGMO Mountain Grove 57.94 69 IAmb IAmb 09 55 55.6
comp=Z,14nm,0.9s
BRDY Brady 57.97 79 IAmb IAmb 09 56 02.9
comp=Z,8.7nm,0.8s
JCT Junction City 58.04 80 IAmb IAmb 09 56 07.1
comp=Z,17nm,1.1s
ARCES ARCESS Array B 58.13 352 P **P 09 55 47.7 -0.6**
comp=Z,2.8nm,0.8s,baz=16,slow=7.2,SNR=10
ARCES LR LR 10 25 00.9
comp=Z,198nm,18.2s,baz=14,slow=40
comp=Z,2.8nm,0.8s
SCHQ Schefferville 58.39 40 P **P 09 55 50.0 -0.4**
comp=Z,6.0nm,0.6s,baz=330,slow=8.0,SNR=6.2
SCHQ LR LR 10 22 23.9
comp=Z,505nm,18.0s,baz=292,slow=38
comp=Z,6.0nm,0.6s
VLDQ Val d'Or 58.41 51 IAmb IAmb 09 56 26.9
comp=Z,20nm,1.1s
I49A Point Hope 58.56 58 IAmb IAmb 09 57 23.2
comp=Z,29nm,1.2s
T42A Van Buren 58.71 69 IAmb IAmb 09 56 07.6
comp=Z,45nm,1.8s
FCAR Ozark Folk Cen 58.90 70 IAmb IAmb 09 56 02.8
comp=Z,22nm,0.9s
APA Apatity 59.12 348⇓*i*P **P 09 55 52.0 -3.2**
APA *i* 09 56 37.8
APA pmax pmax
comp=Z,10.0nm,1.5s
WHAR Wooly Hollow 59.21 71 IAmb IAmb 09 56 20.8
comp=Z,25nm,1.3s
PBMO Poplar Bluff 59.27 68 IAmb IAmb 09 56 05.4
comp=Z,27nm,1.1s
LCAR Lake Charles 59.34 70 IAmb IAmb 09 56 09.6
comp=Z,10nm,1.2s
CGM3 Cape Girardeau 59.35 68 IAmb IAmb 09 56 04.8
comp=Z,7.2nm,0.6s
X40A Basin Creek Fa 59.45 72 IAmb IAmb 09 56 23.5
comp=Z,12nm,0.9s
SADO Sadowa 59.90 55 IAmb IAmb 09 56 05.0
comp=Z,18nm,1.1s
SADO Sadowa 59.90 55 P **P 09 56 00.5 -0.5**
SADO LR LR 10 23 06.2
comp=Z,9.2nm,0.6s,baz=343,slow=6.4,SNR=16
comp=Z,239nm,18.9s,baz=349,slow=37
comp=Z,9.2nm,0.6s
KURK Kurchatov 60.35 315 P **P 09 56 03.0 -0.9**
KURK Kurchatov 60.35 315*ce*P **P 09 56 02.3 -1.6**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 60.35 315 P **P 09 56 02.6 -1.3**
KURK pP **pP 09 56 17.3 0.0**
KURK sP **sP 09 56 23.3 +0.5**
KURBB Kurchatov Arra 60.45 315 P **P 09 56 04.1 -0.5**
comp=Z,46nm,0.7s,baz=42,slow=6.6,SNR=44
KURBB LR LR 10 24 03.2
comp=Z,703nm,18.6s,baz=128,slow=38
comp=Z,46nm,0.7s
WCI Wyandotte Cave 60.62 65 P **P 09 56 05.2 -0.8**
WCI Wyandotte Cave 60.62 65 P **P 09 56 05.2 -0.8**
WCI pmax pmax
comp=Z,24nm,0.9s
WCI Wyandotte Cave 60.62 65 P **P 09 56 05.4 -0.6**
HKT Hockley 60.84 78 P **P 09 56 07.8 +0.4**
HKT IAmb IAmb 09 56 16.7
comp=Z,28nm,1.5s
HKT Hockley 60.84 78 P **P 09 56 07.8 +0.4**
HKT pmax pmax
comp=Z,28nm,1.5s
HKT Hockley 60.84 78 P **P 09 56 07.4 -0.1**
WMQ Urumqi 60.97 305 *e*P **P 09 56 11.4 +3.1**
WMQ LR LR
comp=Z,660nm,16.5s
WMQ LR LR
comp=Z,580nm,18.5s
WMQ LR LR
comp=Z,490nm,19.1s
TRQ Mont Tremblant 61.15 51 IAmb IAmb 09 57 05.3
comp=Z,18nm,1.0s
WVT Waverly 61.22 67 P **P 09 56 09.8 -0.2**
WVT IAmb IAmb 09 56 19.1
comp=Z,8.8nm,0.8s
WVT Waverly 61.22 67 P **P 09 56 09.8 -0.2**
WVT pmax pmax
comp=Z,9.0nm,0.8s
WVT Waverly 61.22 67 P **P 09 56 09.8 -0.2**
MK31 Makanchi Array 61.51 310*de*P **P 09 56 10.1 -1.8**
MKAR Makanchi Array 61.51 310 P **P 09 56 10.1 -1.8**
MKAR Makanchi Array 61.51 310 P **P 09 56 11.1 -0.9**
comp=Z,2.7nm,0.5s,baz=48,slow=5.6,SNR=18
comp=Z,2.7nm,0.5s
MKAR Makanchi Array 61.51 310 *i* P **P 09 56 10.1 -1.8**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
P51A Williamsport 61.54 62 IAmb IAmb 09 56 11.9
comp=Z,14nm,0.6s
MAKZ Makanchi 61.65 310 P **P 09 56 12.2 -0.7**
MMNY Mt. Morris Dam 61.97 56 IAmb IAmb 09 56 15.8
comp=Z,10nm,0.9s
BVAR Borovoye Array 62.02 321 P **P 09 56 14.3 -0.9**
comp=Z,5.6nm,0.3s,baz=55,slow=6.8,SNR=30
comp=Z,5.6nm,0.3s
BRVK Borovoye 62.04 322 P **P 09 56 15.7 +0.3**
BRVK IAmb IAmb 09 57 32.5
comp=Z,8.5nm,0.8s
BRVK Borovoye 62.04 322*ce*P **P 09 56 15.6 +0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 62.04 322 P **P 09 56 14.8 -0.5**
BRVK pP **pP 09 56 29.0 +0.2**
V48A Smith Brothers 62.07 67 IAmb IAmb 09 56 24.7
comp=Z,9.1nm,0.8s
CLTN Cedars of Leba 62.10 66 IAmb IAmb 09 56 25.4
comp=Z,8.7nm,0.8s
U49A Red Boiling Sp 62.12 66 IAmb IAmb 09 57 14.9
comp=Z,11nm,0.8s
BORG Borgarnes 62.16 12 LR LR 10 25 31.0
comp=Z,126nm,19.7s,baz=333,slow=38
GYA Guiyang 62.43 278⇑P **P 09 56 18.4 -0.1**
GYA S **S 10 04 43.4 +1.4**
GYA pmax pmax
comp=Z,18nm,0.9s
GYA pmax pmax
comp=Z,190nm,4.4s
GYA LR LR
comp=Z,340nm,4.2s
GYA LR LR
comp=Z,85nm,3.8s
GYA LR LR
comp=Z,110nm,6.2s
GOMU GeErMu 62.52 294 P **P 09 56 18.9 -0.3**
GOMU PcP **PcP 09 56 57.7 -0.4**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU LR LR
comp=Z,970nm,17.4s
GOMU LR LR
comp=Z,510nm,16.4s
GOMU LR LR
comp=Z,1μm,18.4s
TZTN Tazewell 63.36 64 IAmb IAmb 09 56 36.5
comp=Z,25nm,0.9s
SSPA Standing Stone 63.49 57 P **P 09 56 24.8 -0.3**
SSPA Standing Stone 63.49 57 P **P 09 56 24.9 -0.2**
ARTI Arti 63.54 330 P **P 09 56 25.8 +0.5**
ARTI IAmb IAmb 09 56 26.8
comp=Z,12nm,1.0s
ARTI Arti 63.54 330 P **P 09 56 24.6 -0.7**
comp=Z,7.6nm,0.4s,baz=88,slow=2.1,SNR=13
comp=Z,7.6nm,0.4s
ARTI Arti 63.54 330*c i*P **P 09 56 25.6 +0.4**
ARTI 09 58 45.5
ARTI S **S 10 04 58.7 +4.0**
ARTI SS **SS 10 09 07.2 +5.7**
ARTI pmax pmax
comp=Z,7.0nm,0.6s
ARTI Arti 63.54 330 P **P 09 56 25.3 +0.1**
CPCT Cooper Cave 63.59 66 IAmb IAmb 09 56 26.2
comp=Z,9.3nm,0.5s
FPAL Fort Paine 63.62 67 IAmb IAmb 09 56 35.5
comp=Z,16nm,0.8s
G62A West of Eustis 63.81 50 IAmb IAmb 09 56 59.7
comp=Z,27nm,1.0s
TKL Tuckaleechee C 63.87 65 P **P 09 56 27.2 -0.5**
comp=Z,8.1nm,0.8s,baz=238,slow=3.6,SNR=7.0
TKL LR LR 10 23 13.6
comp=Z,383nm,21.6s,baz=334,slow=35
comp=Z,8.1nm,0.8s
LRAL Lakeview Retre 63.90 69 IAmb IAmb 09 57 27.6
comp=Z,23nm,1.4s
KIRV Kirov 64.21 336 P **P 09 56 29.8 +0.2**
comp=Z,12nm,0.5s,baz=41,slow=6.6,SNR=3.7
comp=Z,12nm,0.5s
KIRV Kirov 64.21 336*d i*P **P 09 56 30.3 +0.8**
V53A Saluda 64.40 64 IAmb IAmb 09 57 13.0
comp=Z,12nm,0.9s
HNR Honiara 64.50 207 LR LR 10 19 11.5
comp=Z,257nm,21.6s,baz=18,slow=31
MVL Millersville 64.75 57 IAmb IAmb 09 56 34.2
comp=Z,27nm,1.0s
BG3 Lake Jocassee 64.82 65 IAmb IAmb 09 56 34.9
comp=Z,15nm,0.7s
L61B Northampton 64.82 53 P **P 09 56 32.4 -1.4**
baz=318
ODNJ Ogdensburg 64.86 55 IAmb IAmb 09 57 08.2
comp=Z,23nm,1.0s
SDMD Soldier's Deli 64.93 58 IAmb IAmb 09 56 35.2
comp=Z,24nm,1.1s
V55A Taylorsville 65.16 63 IAmb IAmb 09 56 37.4
comp=Z,35nm,1.3s
WUPA West Chester U 65.19 57 IAmb IAmb 09 56 37.2
comp=Z,7.8nm,0.8s
PZH PanZhiHua 65.42 282 P **P 09 56 38.1 0.0**
PZH pmax pmax
comp=Z,60nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.4s
PAULI Pauline 65.58 64 IAmb IAmb 09 56 48.3
comp=Z,18nm,1.0s
JAY Jayapura 65.58 230 LR LR 10 22 14.2
comp=Z,172nm,19.9s,baz=31,slow=33
DAV Davao City (W) 65.61 249 LR LR 10 20 21.5
comp=Z,226nm,21.4s,baz=30,slow=31
GOGA Godfrey 65.67 67 IAmb IAmb 09 56 48.7
comp=Z,18nm,1.0s
HODGE Hodges 65.75 65 IAmb IAmb 09 56 41.3
comp=Z,14nm,0.6s
KMI Kunming 65.82 280⇑P **P 09 56 41.1 +0.3**
KMI pmax pmax
comp=Z,47nm,0.8s
KMI LR LR
comp=Z,300nm,15.1s
KMI LR LR
comp=Z,390nm,18.8s
KMI LR LR
comp=Z,430nm,27.9s
FINES FINESS Array B 65.93 349 P **P 09 56 40.1 -0.6**
comp=Z,2.6nm,0.8s,baz=9.8,slow=8.7,SNR=6.7
comp=Z,2.6nm,0.8s
QIZ Qiongzhong 65.94 271 P **P 09 56 41.5 +0.1**
QIZ S **S 10 05 26.4 +1.2**
QIZ LR LR
comp=Z,350nm,22.2s
QIZ LR LR
comp=Z,290nm,21.8s
QIZ LR LR
comp=Z,430nm,22.2s
LMN Caledonia Moun 65.97 46 IAmb IAmb 09 57 18.7
comp=Z,22nm,0.9s
JSC Jenkinsville 66.28 64 IAmb IAmb 09 56 44.9
comp=Z,14nm,0.5s
W57A Gilead 66.35 63 IAmb IAmb 09 56 51.3
comp=Z,33nm,1.5s
BIRD Birdtown, Kers 66.46 64 IAmb IAmb 09 56 45.0
comp=Z,21nm,1.1s
Y57A Sumter 66.96 64 IAmb IAmb 09 56 48.2
comp=Z,28nm,1.0s
WUS Wushi 67.15 308 IAmb IAmb 09 57 29.2
comp=Z,20nm,0.8s
WUS Wushi 67.15 308 P **P 09 56 48.6 -0.3**
WUS pP **pP 09 57 03.0 +0.4**
X58A Rowland 67.15 63 IAmb IAmb 09 56 50.1
comp=Z,27nm,0.9s
NB2 NORSAR Subarra 67.50 357 P **P 09 56 50.0 -0.7**
comp=Z,5.9nm,0.8s,baz=7.4,slow=6.9
NB2 NORSAR Subarra 67.50 357 P **P 09 56 50.4 -0.3**
NOA NORSAR Array B 67.50 357 P **P 09 56 50.0 -0.7**
comp=Z,2.9nm,0.8s,baz=3.5,slow=6.5,SNR=7.0
comp=Z,2.9nm,0.8s
BOOM Boomskoye usch 67.74 311 IAmb IAmb 09 57 18.8
comp=Z,6.7nm,0.8s
SLVN Son La 67.90 277 P **P 09 56 54.5 +0.6**
SLVN IAmb IAmb 09 56 55.9
comp=Z,21nm,0.9s
HFS Hagfors 68.29 355 P **P 09 56 54.9 -0.8**
comp=Z,3.7nm,0.4s,baz=7.4,slow=6.3,SNR=23
comp=Z,3.7nm,0.4s
AAK Ala-Archa 68.30 312 P **P 09 56 55.8 -0.5**
AAK IAmb IAmb 09 57 41.2
comp=Z,8.6nm,0.8s
AAK Ala-Archa 68.30 312 P **P 09 56 55.7 -0.5**
comp=Z,3.1nm,0.7s,baz=108,slow=4.5,SNR=7.9
AAK LR LR 10 29 02.8
comp=Z,406nm,19.2s,baz=30,slow=38
comp=Z,3.1nm,0.7s
AAK Ala-Archa 68.30 312 P **P 09 56 55.8 -0.5**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 68.30 312 P **P 09 56 55.7 -0.5**
AAK PcP **PcP 09 57 21.6 0.0**
TNCH TengChong 68.46 283 P **P 09 56 55.4 -2.1**
TNCH pP pP 09 57 07.4 -3.7
TNCH S **S 10 05 52.2 -3.6**
TNCH pmax pmax
comp=Z,210nm,4.3s
TNCH LR LR
comp=Z,370nm,20.8s
AKTO Aktyubinsk 68.65 327 P **P 09 56 57.7 -0.4**
comp=Z,6.7nm,0.5s,baz=43,slow=5.6,SNR=23
AKTO LR LR 10 31 30.0
comp=Z,401nm,18.1s,baz=40,slow=40
comp=Z,6.7nm,0.5s
PMG Port Moresby 68.89 220 LR LR 10 23 38.8
comp=Z,133nm,19.8s,baz=342,slow=33
ABKAR Akbulak array 68.97 325 P **P 09 56 59.1 -0.9**
MSVF Nonsavu 69.37 187 LR LR 10 22 43.2
comp=Z,287nm,19.6s,baz=19,slow=32
KK31 Karatay Array 69.74 315 IAmb IAmb 09 57 45.2
comp=Z,9.1nm,0.9s
KKAR Karatay Array 69.74 315 P **P 09 57 03.9 -1.1**
KKAR Karatay Array 69.74 315 P **P 09 57 03.9 -1.1**
KSH Kashi 70.02 309 P **P 09 57 10.4 +3.5**
KSH LR LR
comp=Z,510nm,22.0s
KSH LR LR
comp=Z,340nm,18.2s
KSH LR LR
comp=Z,590nm,22.3s
OBN Obninsk 70.31 341 LR LR 10 30 53.2
comp=Z,343nm,21.8s,baz=7.5,slow=38
OBN Obninsk 70.31 341⇑*e*P **P 09 57 06.0 -2.2**
OBN *e* 09 59 41.4
OBN *e*S **SKiKP 10 06 54.0 +5.8**
OBN *e*SS **SS 10 10 51.1 +5.0**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,414nm,22.0s
CMIG Matias Romero 70.89 87 P **P 09 57 12.6 +0.3**
comp=Z,2.6nm,0.6s,baz=319,slow=8.3,SNR=4.3
CMIG LR LR 10 23 46.9
comp=Z,349nm,21.8s,baz=315,slow=32
comp=Z,2.6nm,0.6s
UBPT Khong Chiam 71.49 271 IAmb IAmb 09 57 36.9
comp=Z,59nm,1.7s
PABE Paberze 71.98 349 IAmb IAmb 09 57 18.5
comp=Z,24nm,0.7s
SHL Shillong 72.03 288 IAmb IAmb 09 57 31.7
comp=Z,42nm,1.1s
MNK Minsk 72.42 346 *i* P **P 09 57 19.7 -1.2**
MNK *i* *PP **PcP 09 57 33.6 -5.0**
MNK *i* 10 00 01.7
MNK *i* PPP PPP 10 01 46.4
MNK *i* S **S 10 06 40.6 -0.1**
MNK *i* *SS **sS 10 07 04.6 +0.9**
MNK *i* SS **SS 10 11 21.3 +2.9**
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=E,20nm,0.9s
MNK pmax pmax
comp=N,31nm,0.9s
MNK MLR MLR
comp=Z,505nm,20.0s
MNK MLR MLR
comp=N,1μm,23.0s
MNK MLR MLR
comp=E,2μm,20.0s
PPT Papeete 72.54 154 LR LR 10 22 49.3
comp=E,616nm,20.5s,baz=332,slow=30
VRH Novokhopyorsk 72.79 337 *e*P **P 09 57 20.8 -2.4**
VRH pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 72.86 279 P **P 09 57 24.2 +0.1**
CHTO IAmb IAmb 09 57 25.4
comp=Z,16nm,1.1s
CHTO Chiang Mai 72.86 279 P **P 09 57 24.2 +0.1**
CHTO pmax pmax
comp=Z,16nm,1.2s
GAR Garm 73.11 312 IAmb IAmb 09 58 06.0

comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 73.12 278 P **P 09 57 25.9 +0.3**
CMAR Chiang Mai Arr 73.12 278 P **P 09 57 26.2 +0.5**
comp=Z,13nm,0.9s,baz=26,slow=7.2,SNR=63
CMAR LR LR 10 30 29.3
comp=Z,129nm,21.7s,baz=35,slow=36
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 73.12 278 P **P 09 57 26.0 +0.3**
EKA Eskdalemuir Ar 73.14 5 P **P 09 57 24.9 -0.4**
comp=Z,4.0nm,0.6s,baz=354,slow=4.8,SNR=14
comp=Z,4.0nm,0.6s
VSR Storozhevoye 73.39 338 *e*P **P 09 57 24.3 -2.5**
VSR pmax pmax
comp=Z,8.0nm,0.9s
VORD Divnogorie 73.60 338 *e*P **P 09 57 26.9 -1.1**
VORD pmax pmax
comp=Z,9.0nm,0.8s
RAR Rarotonga 73.86 165 LR LR 10 22 17.8
comp=Z,615nm,19.7s,baz=308,slow=29
SIMJ Simiganj 73.99 313 P **P 09 57 30.0 -0.7**
SIMJ IAmb IAmb 09 58 11.0
comp=Z,20nm,0.9s
BRDH Bariadhala 74.36 287 LR LR 10 34 57.2
comp=Z,226nm,18.2s,baz=8.0,slow=40
AKASG Malin Array Be 75.88 344 P **P 09 57 39.7 -1.5**
comp=Z,2.2nm,0.4s,baz=18,slow=6.0,SNR=9.4
AKASG LR LR 10 37 29.2
comp=Z,336nm,18.1s,baz=52,slow=41
comp=Z,2.2nm,0.4s
AKBB Malin Array Si 75.88 344⇓ *e*P **P 09 57 38.7 -2.5**
AKBB pmax pmax
comp=Z,28nm,3.4s
CLL Collm 77.13 355 *i*P **P 09 57 47.7 -0.6**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,20.5s
CLL Collm 77.13 355 *i*P **P 09 57 47.7 -0.6**
comp=Z,7.0nm,0.8s
CLL *e*SP S 10 08 12.0 +39
CLL *e*PPS PPS 10 08 30.0
CLL *e*SS SS 10 12 48.0 +18
CLL AMS AMS 10 31 00.0
comp=Z,300nm,20.5s
BRG Berggiesshubel 77.51 354 *i*P **P 09 57 50.2 -0.1**
BRG Amp 09 57 50.5
comp=Z,3.3nm,0.6s
MAK Makhachkala 78.68 329 *e*P **P 09 57 57.9 +0.9**
MAK *e* 10 00 53.7
MAK *e*PPP PPP 10 02 41.2
MAK *e*S **S 10 07 52.7 +2.5**
MAK pmax pmax
comp=Z,169nm,1.4s
MAK MLR MLR
comp=Z,559nm,19.0s
KAPI Kappang 78.76 247 LR LR 10 30 21.4
comp=Z,43nm,20.0s,baz=53,slow=34
VRAC Vranov 78.86 352 LR LR 10 34 33.3
comp=Z,212nm,20.4s,baz=357,slow=37
MTN Manton Dam 79.17 233 P **P 09 57 59.8 -0.1**
KVAR Kislovodsk Arr 79.21 333 LR LR 10 37 07.3
comp=Z,276nm,21.5s,baz=244,slow=39
KIV Kislovodsk 79.21 333 *e*P **P 09 57 57.9 -2.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,182nm,19.0s
KHC Kasperske Hory 79.27 354⇓ *e*P **P 09 58 00.0 -0.2**
KHC pmax pmax
comp=Z,17nm,1.9s
KBZ Khabaz 79.36 333 P **P 09 58 00.1 -0.6**
comp=Z,0.9nm,0.6s,baz=68,slow=11,SNR=1.4
KBZ LR LR 10 36 57.6
comp=Z,410nm,21.8s,baz=22,slow=39
comp=Z,0.9nm,0.6s
BURAR Bucovina Array 79.52 346 P **P 09 58 01.3 -0.3**
GERES GERESS Array B 79.55 354 P **P 09 58 00.4 -1.4**
comp=Z,3.2nm,0.8s,baz=28,slow=6.0,SNR=4.0
GERES LR LR 10 33 20.9
comp=Z,143nm,20.8s,baz=40,slow=36
comp=Z,3.2nm,0.8s
AKT Akhty 79.94 329 *e*P **P 09 58 01.3 -2.8**
AKT *e* 09 58 09.1
AKT *e**PP **pP 09 58 18.6 +0.6**
AKT pmax pmax
comp=Z,14nm,1.3s
SRIT Nakonsritamara 80.27 272 IAmb IAmb 09 58 08.4
comp=Z,20nm,0.7s
SOC Sochi 80.37 335 *e*P P 09 57 51.9 -14
MLR Muntele Rosu 81.47 345 P **P 09 58 12.1 -0.1**
comp=Z,4.9nm,0.7s,baz=292,slow=5.4,SNR=7.8
MLR LR LR 10 36 48.3
comp=Z,335nm,21.9s,baz=26,slow=38
comp=Z,4.9nm,0.7s
DAVOX Davos/Dischmat 81.81 356 LR LR 10 34 19.0
comp=Z,107nm,21.8s,baz=64,slow=36
GNI Garni 82.09 330 LR LR 10 40 53.7
comp=Z,184nm,18.2s,baz=46,slow=40
KULM Kulim 82.17 269 IAmb IAmb 09 58 18.2
comp=Z,10nm,0.7s
JTS Las Juntas de 82.25 83 LR LR 10 34 30.1
comp=Z,90nm,21.2s,baz=276,slow=35
WB0 Warramunga Arr 83.60 227 IAmb IAmb 09 58 23.1
comp=Z,12nm,1.1s
WR0 Warramunga Arr 83.70 227 IAmb IAmb 09 58 23.6
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 83.76 227⇑ *i*P **P 09 58 23.4 -0.7**
WRAB pmax pmax
comp=Z,12nm,1.2s
WB2 Warramunga Arr 83.77 227 IAmb IAmb 09 58 24.2
comp=Z,14nm,1.1s
WRA Warramunga Arr 83.78 227 P **P 09 58 23.6 -0.6**
WRA Warramunga Arr 83.78 227 P **P 09 58 23.6 -0.6**
comp=Z,4.1nm,0.6s,baz=35,slow=6.0,SNR=34
WRA LR LR 10 29 56.7
comp=Z,139nm,21.6s,baz=17,slow=31
comp=Z,4.1nm,0.6s
PSI Prapat 85.18 268 LR LR 10 35 29.3
comp=Z,64nm,21.9s,baz=26,slow=35
RPSI Rantau Prapat 85.26 268 IAmb IAmb 09 58 34.0
comp=Z,14nm,0.7s
BR131 Keskin Array S 85.51 338⇓ *i*P **P 09 58 33.2 +0.1**
BRTR Keskin Array B 85.51 338 P **P 09 58 32.6 -0.5**
BRTR Keskin Array B 85.51 338 P **P 09 58 33.0 -0.1**
comp=Z,1.5nm,0.8s,baz=20,slow=4.7,SNR=8.8
BRTR LR LR 10 43 14.7
comp=Z,87nm,18.1s,baz=24,slow=40
comp=Z,1.5nm,0.8s
BRTR Keskin Array B 85.51 338 P **P 09 58 32.6 -0.5**
HYB Hyderabad 86.11 293 *e*P **P 09 58 35.3 -0.9**
FITZ Fitzroy Crossi 86.39 235 LR LR 10 32 05.7
comp=Z,129nm,21.8s,baz=78,slow=32
ASAR Alice Springs 87.22 225 P **P 09 58 41.5 +0.3**
ASAR Alice Springs 87.22 225 P **P 09 58 41.4 +0.1**
comp=Z,7.5nm,0.8s,baz=27,slow=5.0,SNR=84
ASAR LR LR 10 32 19.1
comp=Z,158nm,21.8s,baz=8.0,slow=32
comp=Z,7.5nm,0.8s
SJG San Juan 87.28 64 P **P 09 58 42.7 +0.9**
SJG San Juan 87.28 64 LR LR 10 39 01.4
comp=Z,123nm,20.1s,baz=326,slow=36
SJG San Juan 87.28 64 P **P 09 58 42.7 +0.9**
SJG pmax pmax
comp=Z,33nm,0.3s
LEM Lembang 87.36 256 LR LR 10 34 27.6
comp=Z,70nm,20.5s,baz=20,slow=33
ESDC Sonseca Array 88.70 7 P **P 09 58 47.0 -1.3**
comp=Z,1.6nm,0.9s,baz=342,slow=5.9,SNR=5.2
ESDC LR LR 10 36 55.2
comp=Z,125nm,21.9s,baz=1.0,slow=34
comp=Z,1.6nm,0.9s
URZ Urewera 89.82 186 LR LR 10 31 38.7
comp=Z,284nm,21.1s,baz=104,slow=30
VAE Valguarnera 90.79 352 LR LR 10 45 48.4
comp=Z,149nm,18.2s,baz=342,slow=40
STKA Stephens Creek 91.40 216 P **P 09 59 01.3 +0.6**
comp=Z,8.3nm,0.8s,baz=350,slow=7.9,SNR=16
STKA LR LR 10 35 02.3
comp=Z,223nm,20.2s,baz=26,slow=32
comp=Z,8.3nm,0.8s
STKA Stephens Creek 91.40 216*c* *i*P **P 09 59 01.1 +0.4**
MMAI Mount Meron Ar 91.44 335 LR LR 10 46 20.8
comp=Z,89nm,19.1s,baz=18,slow=40
WSAR Wadi Sarin 91.71 312 LR LR 10 44 13.3
comp=Z,195nm,21.0s,baz=66,slow=38
ASF Jabal al Asfar 91.82 333 LR LR 10 48 18.2
comp=Z,126nm,18.1s,baz=54,slow=41

SDV Santo Domingo 92.06 73 LR LR 10 41 00.7
comp=Z,53nm,21.0s,baz=286,slow=36
PALK Pallekele 92.90 285 LR LR 10 43 23.8
comp=Z,119nm,20.9s,baz=22,slow=37
ROSC El Rosal 93.03 78 LR LR 10 43 03.1
comp=Z,68nm,19.7s,baz=12,slow=37
PCRV Puerto La Cruz 94.54 67 LR LR 10 40 40.5
comp=Z,169nm,21.9s,slow=35
EIL Elat 94.72 334 LR LR 10 49 41.4
comp=Z,127nm,18.2s,baz=68,slow=40
RPZ Rata Peaks 95.76 190 LR LR 10 38 18.7
comp=Z,271nm,19.2s,baz=358,slow=33
H03N2 Juan Fernandez 119.16 108 T T 12 15 11.3
baz=317,slow=77,SNR=109
H03N1 Juan Fernandez 119.17 108 T T 12 15 24.9
baz=317,slow=77,SNR=147
H03N3 Juan Fernandez 119.18 108 T T 12 15 24.2
baz=317,slow=77,SNR=110
DBIC Dimbokro 121.30 11 PKP **PKPdf 10 04 47.2 -0.9**
comp=Z,2.3nm,0.4s,baz=8.2,slow=1.3,SNR=5.8
KMBO Kilima Mbogo 122.66 320 PKP **PKiKP 10 04 51.8 +0.5**
comp=Z,2.4nm,0.5s,baz=50,slow=4.7,SNR=7.2
CPUP Villa Florida 127.41 86 PKP **PKPdf 10 04 59.4 0.0**
comp=Z,1.0nm,0.6s,baz=220,slow=16,SNR=3.5
PLCA Paso Flores 129.00 109 PKP **PKPdf 10 05 02.2 +0.1**
comp=Z,2.9nm,0.8s,baz=294,slow=1.5,SNR=5.3
QSPA South Pole Qui 141.45 180 PKhKP PKPpre 10 05 18.2
comp=Z,1.5nm,0.5s,baz=17,slow=0.2,SNR=12
QSPA PKP **PKiKP 10 05 26.9 -0.4**
comp=Z,4.5nm,0.8s,baz=299,slow=1.5,SNR=11
BROLN Tlhalogang 144.73 321 *i*P PKPbc 10 05 30.7 0.0
PHDHD Phuduhudu 144.93 326 *i*P **PKPdf 10 05 32.0 0.0**
TSUM Tsumeb 146.02 338 **PKPbc 10 05 34.7 -0.2**
GRTLG Ghanzi 147.10 331 *i*P **PKPbc 10 05 38.3 +0.4**
LPHEP Lephephe 147.35 322 *i*P **PKPbc 10 05 37.9 -0.6**
KDWAN Kaudwane 147.81 324 *i*P **PKPbc 10 05 39.9 +0.1**
MAW Mawson 148.06 218 PKPbc **PKPbc 10 05 39.1 +0.1**
comp=Z,41nm,0.9s,baz=171,slow=0.7,SNR=2.8
KGCAE Kacgae 148.18 328 *i*P **PKPbc 10 05 41.3 +0.4**
POGA Pongola 148.30 310 **PKPbc 10 05 41.1 +0.2**
LBTB Lobatse 148.94 321 **PKPbc 10 05 43.2 +0.5**
LBTB Lobatse 148.94 321 PKP2 **PKPbc 10 05 43.2 +0.5**
KOOLE Kule 148.94 331 *i*P **PKiKP 10 05 43.6 -0.5**
SKOMA Sekoma 149.12 324 *i*P **PKPbc 10 05 43.0 -0.1**
WIN Windhoek 149.37 337 **PKPbc 10 05 44.1 +0.1**
WIN Windhoek 149.37 337 PKP2 **PKPbc 10 05 44.1 +0.1**
MAKGR Makgori 149.97 322 *i*P **PKPbc 10 05 45.6 +0.3**
BOSA Boshof 152.28 318 PKP **PKPdf 10 05 44.2 +0.5**
comp=Z,12nm,0.9s,baz=6.2,slow=3.3,SNR=4.2
BOSA PKPbc **PKPbc 10 05 50.5 0.0**
comp=Z,18nm,0.6s,baz=50,slow=2.1,SNR=24
SYO Syowa Base 156.06 211⇑ *e*PKPdf **PKPdf 10 05 51.4 +3.8**
ELIB Princess Elisa 158.05 195 *e*PKP **PKPab 10 06 22.9 -1.2**
SNAA Sanae 159.67 173 PKPab **PKPab 10 06 31.4 +0.3**
comp=Z,2.4nm,0.6s,baz=201,slow=9.2,SNR=11

IDC 07 09:53:05.0±6.0, 30°50S×178°44W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=227.8km s-min=63.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.72**	**267**	P	P	10 01 03.9	-0.3
	0.2nm,0.3s,baz=105,slow=7.6,SNR=4.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.72**	**272**	P	P	10 01 11.5	-0.7
	0.6nm,0.3s,baz=112,slow=8.0,SNR=11						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**59.61**	**180**	P	P	10 03 04.4	-6.1
	1.3nm,0.7s,baz=39,slow=1.2,SNR=11						
FINES	**FINESS Array B**	**145.11**	**340**	PKPbc	PKPab	10 12 43.4	+0.2
	2.6nm,0.6s,baz=20,slow=4.4,SNR=2.0						

*JMA **07** 09:56:51.8±0.1, 38°4N±0°3×140°3E±0°4, h122km, MV3.1/40, SOUTHERN YAMAGATA PREF*
*IDC **07** 09:56:51.9±1.7, 38°31N×140°47E, h127km±18km, mb3.1/4, mbtmp3.5/6, Error ellipse: s-maj=29.7km s-min=13.9km az=108.0*
ISC 07 09:56:51.5±0.9, 38°42N±0°05×140°34E±0°05, h125km±6km, n21, σ1§00/32, mb3.5/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOU	**Okura**	**0.26**	**102**	*i*P	**Pn**	**09 57 09.0**	**+0.1**
JYS	**Shiratake**	**0.30**	**228**	*i*P	**Pn**	**09 57 09.0**	**-0.1**
JYK	**Kaneyama**	**0.50**	**1**	*i*P	**Pn**	**09 57 10.0**	**0.0**
JYK				S	**Sn**	**09 57 24.0**	**+0.1**
JYA	**Atsumi**	**0.52**	**289**	*i*P	**Pn**	**09 57 10.1**	**0.0**
JYA				S	**Sn**	**09 57 24.4**	**+0.2**
JMM	**Marumori**	**0.66**	**147**	*i*P	**Pn**	**09 57 10.9**	**-0.1**
JMM				S	**Sn**	**09 57 25.4**	**-0.4**
JIO	**Ouri**	**0.79**	**87**	*i*P	**Pn**	**09 57 11.9**	**-0.1**
JIO				S	**Sn**	**09 57 27.0**	**-0.6**
JAW	**Awa shima**	**0.86**	**273**	P	**Pn**	**09 57 12.6**	**0.0**
JAW				S	**Sn**	**09 57 28.3**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.86**	**181**	*i*P	**Pn**	**09 57 12.8**	**+0.1**
JOTO				*e*S	**Sn**	**09 57 27.8**	**-0.9**
JMK	**Ichinoseki**	**0.87**	**52**	*i*P	**Pn**	**09 57 12.9**	**+0.2**
JRG	**Rokugo**	**1.00**	**13**	P	**Pn**	**09 57 14.4**	**+0.5**
JRG				S	**Sn**	**09 57 31.9**	**+0.9**
JNS	**Sasagawa**	**1.01**	**234**	P	**Pn**	**09 57 13.9**	**-0.1**
JNS				S	**Sn**	**09 57 30.3**	**-0.8**
JFY	**Yanaizu**	**1.13**	**207**	P	**Pn**	**09 57 15.3**	**0.0**
JFK	**Kawauchi**	**1.13**	**158**	P	**Pn**	**09 57 14.9**	**-0.4**
JOM	**Ohasama**	**1.28**	**35**	*i*P	**Pn**	**09 57 17.5**	**+0.7**
JSD	**Sado**	**1.69**	**257**	P	**Pn**	**09 57 21.0**	**-0.4**
JSD				S	**Sn**	**09 57 42.7**	**-1.5**
MJAR	**Matsushiro Arr**	**2.53**	**223**	P	**Pn**	**09 57 32.4**	**+0.5**
	11nm,0.4s,baz=31,slow=14,SNR=45						
MJAR				S	**Sn**	**09 58 03.9**	**+1.0**
	3.3nm,0.7s,baz=45,slow=57,SNR=1.4						
ASAJ	**Asahikawa**	**5.94**	**16**	P	**Pn**	**09 58 17.5**	**+0.5**
	2.0nm,0.3s,baz=198,slow=14,SNR=6.9						
ASAJ				S	**Sn**	**09 59 19.5**	**-4.3**
	1.9nm,0.3s,baz=354,slow=28,SNR=1.5						
ILAR	**Eielson Array**	**48.78**	**33**	P	**P**	**10 05 24.4**	**+1.0**
	0.5nm,0.6s,baz=270,slow=5.7,SNR=9.4						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**58.33**	**187**	P	**P**	**10 06 32.5**	**-0.9**
	0.6nm,0.5s,baz=2.3,slow=7.3,SNR=14						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**62.05**	**187**	P	**P**	**10 06 58.5**	**-0.2**
	0.3nm,0.7s,baz=6.6,slow=6.0,SNR=5.5						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**63.04**	**30**	P	**P**	**10 07 05.3**	**+0.5**
	0.1nm,0.5s,baz=298,slow=6.4,SNR=4.3						
	0.1nm,0.5s						

*NNC **07** 10:16:45.2±2.6, 51°48N×75°75E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=64.2km s-min=16.0km az=26.0, Suspected Mining explosion.*
*IDC **07** 10:16:45.6±1.1, 51°40N×75°71E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=23.2km s-min=8.1km az=28.0*
ISC 07 10:16:45.7±1.0, 51°4N±0°1×75°69E±0°06, h0km, n9, σ1§55/10, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.94**	**112**	Pg	**Pn**	**10 17 20.4**	**+0.5**
	0.9nm,0.3s,baz=296,slow=18,SNR=56						
KURBB				Lg	Lg	10 17 47.8	
	1.0nm,0.3s,baz=296,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**1.94**	**112**	⇑Pg	**Pb**	**10 17 21.1**	**-0.9**
	6.6nm,0.3s						
KURBB				⇑Lg	Lg	10 17 47.8	
	32nm,0.3s						
KURK	**Kurchatov**	**1.96**	**108**	⇓Pg	**Pn**	**10 17 20.4**	**+0.2**
	4.4nm,0.5s						
KURK				⇑Lg	Lg	10 17 47.4	
	4.0nm,0.3s						
BVA0	**Borovoye Array**	**3.66**	**299**	⇑Pg	**Pg**	**10 17 56.7**	**+1.0**
	0.7nm,0.4s,baz=118,slow=16,SNR=4.7						
BVA0				⇑Lg	Lg	10 18 36.3	
	2.7nm,0.4s,baz=112,slow=28,SNR=6.3						
BVAR	**Borovoye Array**	**3.66**	**299**	Pn	**Pn**	**10 17 43.6**	**+0.1**
	0.1nm,0.3s,baz=114,slow=14,SNR=4.7						
BVAR				Sn	**Sn**	**10 18 25.2**	**-2.1**
	0.3nm,0.3s,baz=110,slow=21,SNR=10						
BVAR				Lg	Lg	10 18 35.4	
	0.2nm,0.3s,baz=105,slow=28,SNR=8.4						
	0.6nm,0.3s						

ZALV Zalesovo Beam 6.12 62 Pn **Pn 10 18 18.1 +0.8**
0.6nm,0.3s,baz=256,slow=15,SNR=6.6
ZALV Lg Lg 10 20 00.6
0.2nm,0.3s,baz=245,slow=32,SNR=1.7
1.5nm,0.3s
I46RU ZALESOVO INFRA 6.12 62 I I 10 52 10.0
baz=250,slow=324,SNR=2.1
MK31 Makanchi Array 6.31 134⇑Sn **Sn 10 19 34.6 +2.0**
0.4nm,0.5s
MK31 ⇓Lg Lg 10 20 02.9
1.0nm,0.5s,baz=326,slow=27,SNR=5.5
MKAR Makanchi Array 6.31 134 Pn **Pn 10 18 20.9 +1.0**
0.1nm,0.3s,baz=316,slow=10,SNR=2.6
MKAR Sn **Sn 10 19 30.4 -2.3**
0.1nm,0.3s,baz=320,slow=24,SNR=1.9
MKAR Lg Lg 10 20 01.3
0.5nm,0.3s,baz=319,slow=30,SNR=6.5
0.1nm,0.4s

*WEL **07** 10:19:21.7±1.1, 32°S±5°×17°8W±1°8, h12km, M4.2/8, mB4.5/7, ML4.9/9, MLv4.7/8, Mw(mB)3.7/7, Error ellipse: s-maj=23.8km s-min=4.4km az=103.7, confirmed*
*IDC **07** 10:19:23.9±1.3, 31°83S×178°05W, h0km, mb4.0/4, mbtmp4.0/5, ML3.4/1, Error ellipse: s-maj=36.6km s-min=30.2km az=117.0*
*NEIC **07** 10:19:32.8±0.8, 32°0S±0°1×178°44W±0°05, h35km±2km, mb4.5/10, Error ellipse: s-maj=22.5km s-min=7.1km az=3.0*
ISC 07 10:19:26.6±1.1, 31°76S±0°07×178°0W±0°2, h24km, n39, σ1§76/45, mb4.3/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.49**	**2**	P	**Pn**	**10 20 04.3**	**-1.3**
GLKZ				S	**Sn**	**10 20 30.7**	**-4.6**
MXZ	**Matakaoa Point**	**6.54**	**207**	Pn	**Pn**	**10 21 01.2**	**0.0**
WMGZ	**Waiomatatini S**	**6.72**	**205**	P	**Pn**	**10 21 01.5**	**-2.2**
PKGZ	**Pakihiroa**	**6.89**	**207**	P	**Pn**	**10 21 04.9**	**-1.2**
PKGZ				S	**Sn**	**10 22 21.5**	**-2.2**
HAZ	**Te Kaha**	**6.91**	**209**	P	**Pn**	**10 21 05.5**	**-0.8**
HAZ				S	**Sn**	**10 22 23.4**	**-0.8**
PUZ	**Puketiti**	**7.00**	**205**	S	**Sn**	**10 22 25.0**	**-1.5**
RUGZ	**Raukumara Rang**	**7.13**	**209**	P	**Pn**	**10 21 07.3**	**-2.2**
RUGZ				S	**Sn**	**10 22 29.3**	**-0.6**
TWGZ	**Tauwhareparae**	**7.20**	**206**	S	**Sn**	**10 22 30.5**	**-0.8**
CNGZ	**Carnagh Statio**	**7.39**	**204**	P	**Pn**	**10 21 09.9**	**-3.0**
MWZ	**Matawai**	**7.51**	**208**	P	**Pn**	**10 21 11.8**	**-2.8**
MWZ				S	**Sn**	**10 22 37.6**	**-1.4**
WCZ	**Waipu Caves**	**7.60**	**235**	P	Pn	10 21 22.8	+6.9
URZ	**Urewera**	**7.62**	**210**	Pn	**Pn**	**10 21 13.0**	**-3.0**
	0.5nm,0.3s,baz=360,slow=3.9,SNR=11						
URZ				Sn	**Sn**	**10 22 39.5**	**-2.1**
	3.1nm,0.3s,baz=297,slow=2.1,SNR=13						
	5.5nm,0.8s						
URZ	**Urewera**	**7.62**	**210**	P	**Pn**	**10 21 13.8**	**-2.3**
URZ				S	**Sn**	**10 22 38.3**	**-3.3**
RIGZ	**Rimuhau**	**7.74**	**205**	P	**Pn**	**10 21 14.5**	**-3.3**
RIGZ				S	**Sn**	**10 22 43.4**	**-1.4**
OUZ	**Omahuta**	**7.81**	**242**	P	Pn	10 21 24.0	+5.3
SNGZ	**Shannon Statio**	**7.97**	**207**	P	**Pn**	**10 21 20.7**	**-0.2**
RTZ	**Ruatahuna**	**7.97**	**210**	Pn	**Pn**	**10 21 21.2**	**+0.2**
RAHZ	**Arahi**	**8.19**	**208**	P	**Pn**	**10 21 23.1**	**-0.7**
RAHZ				S	**Sn**	**10 22 53.9**	**-1.8**
BKZ	**Black Stump Fm**	**8.64**	**210**	Pn	**Pn**	**10 21 31.2**	**+1.0**
STKA	**Stephens Creek**	**34.19**	**259**	P	**P**	**10 26 11.0**	**+0.8**
	1.0nm,0.8s,baz=103,slow=6.7,SNR=2.9						
	1.0nm,0.8s						
BBOO	**Buckleboo**	**38.61**	**256**	P	**P**	**10 26 48.6**	**+0.7**
BBOO				IAmb	IAmb	10 27 15.0	
	comp=Z,14nm,1.2s						
COEN	**Coen**	**39.65**	**288**	P	**P**	**10 26 57.9**	**+1.1**
COEN				IAmb	IAmb	10 27 35.3	
	comp=Z,9.6nm,1.4s						
ASAR	**Alice Springs**	**43.05**	**268**	P	**P**	**10 27 25.7**	**+1.0**
ASAR	**Alice Springs**	**43.05**	**268**	P	**P**	**10 27 25.2**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=106,slow=7.4,SNR=21						
	comp=Z,0.9nm,0.4s						
WR0	**Warramunga Arr**	**43.98**	**274**	P	**P**	**10 27 33.2**	**+1.0**
WR0				IAmb	IAmb	10 27 47.2	
	comp=Z,2.8nm,0.8s						
WB2	**Warramunga Arr**	**44.15**	**274**	P	**P**	**10 27 34.4**	**+0.9**
WB2				IAmb	IAmb	10 27 48.8	
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	**P**	**10 27 34.8**	**+1.2**
WRA	**Warramunga Arr**	**44.16**	**274**	P	**P**	**10 27 34.9**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=114,slow=7.7,SNR=17						
	comp=Z,1.5nm,0.4s						
WB0	**Warramunga Arr**	**44.19**	**274**	P	**P**	**10 27 34.6**	**+0.7**
WB0				IAmb	IAmb	10 27 48.8	
	comp=Z,5.7nm,0.7s						
KNRA	**Kununurra**	**50.81**	**275**	P	**P**	**10 28 27.3**	**+1.9**
KNRA				IAmb	IAmb	10 28 36.5	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.36**	**271**	P	**P**	**10 28 37.3**	**+0.3**
CASY	**Casey**	**53.94**	**208**	P	**P**	**10 28 48.5**	**+0.6**
QSPA	**South Pole Qui**	**58.35**	**180**	P	P	10 29 23.6	+4.0
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**10 29 21.6**	**+2.0**
	comp=Z,3.1nm,1.1s,baz=23,slow=2.8,SNR=2.6						
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**118.63**	**310**	PKP	**PKiKP**	**10 38 13.1**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=110,slow=2.4,SNR=1.8						
KURBB	**Kurchatov Arra**	**122.01**	**313**	PKP	**PKiKP**	**10 38 19.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=116,slow=2.0,SNR=2.4						
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc	**PKPab**	**10 39 04.8**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=51,slow=3.3,SNR=7.2						
MMAI	**Mount Meron Ar**	**151.82**	**282**	PKPbc	**PKiKP**	**10 39 21.2**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=100,slow=2.5,SNR=3.6						
BRTR	**Keskin Array B**	**153.21**	**296**	PKPbc	**PKiKP**	**10 39 23.1**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=100,slow=2.5,SNR=3.7						

IDC 07 10:27:36.7±3.5, 32°03S×177°86W, h0km, mb3.3/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=78.9km s-min=38.5km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.46**	**212**	Pn	Pn	10 29 26.8	+0.1
	0.2nm,0.3s,baz=149,slow=18,SNR=1.5						
URZ				Sn	Sn	10 30 52.1	0.0
	1.2nm,0.3s,baz=296,slow=21,SNR=10						
	3.2nm,0.8s						
ASAR	**Alice Springs**	**43.17**	**269**	P	P	10 35 39.2	-0.2
	0.2nm,0.4s,baz=105,slow=7.6,SNR=4.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	P	10 35 48.5	0.0
	0.3nm,0.5s,baz=111,slow=8.1,SNR=9.1						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**146.71**	**339**	PKPbc	PKPdf	10 47 18.9	+0.8
	2.7nm,0.9s,baz=48,slow=2.8,SNR=1.7						

*MEX **07** 10:34:51.1±1.0, 15°26N×94°64W, h17km±13km, MD4.1*
*GCG **07** 10:34:51.7±2.7, 15°56N×94°77W, h50km, MD4.6*
ISC 07 10:34:44.1±1.2, 15°31N±0°05×94°71W±0°02, h15km±9km, n33, σ1§68/60, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.21**	**39**	*e*P	**Pg**	**10 35 08.9**	**+1.5**
CARR				*e*S	**Sg**	**10 35 22.9**	**-0.3**
NILT	**Santiago Nilte**	**1.25**	**4**	*e*P	**Pg**	**10 35 10.0**	**+1.7**
NILT				*e*S	**Sn**	**10 35 23.5**	**-0.2**
HUIG	**Huatulco**	**1.42**	**289**	*e*P	**Pg**	**10 35 14.1**	**+2.5**
HUIG				*e*S	**Sg**	**10 35 30.3**	**+0.3**
HUIG	**Huatulco**	**1.42**	**289**	*e*P	**Pg**	**10 35 13.6**	**+2.1**
HUIG				*e*S	**Sg**	**10 35 30.2**	**+0.1**
HUIG	**Huatulco**	**1.42**	**289**	*e*P		10 35 13.6	
HUIG				*e*S		10 35 30.2	
PCIG		**1.49**	**75**	*i*P	**Pg**	**10 35 13.0**	**+0.2**
PCIG				*e*S	**Sn**	**10 35 28.4**	**-1.2**
PCIG				*i*S	**Sb**	**10 35 29.7**	**-0.5**
PCIG		**1.49**	**75**	*i*P	**Pg**	**10 35 12.9**	**+0.2**
PCIG				*i*S	**Sn**	**10 35 29.5**	**-0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG				eS	Sb	10 35 47.0	-1.2
TGIG		2.11	46	eP	Pb	10 35 23.2	+1.0
TGIG		2.11	46	eP		10 35 23.2	
TGBT	Tuxtla Gutierr	2.13	47	i P	Pg	10 35 24.2	-0.9
TGBT				i S	Sb	10 35 48.2	-0.6
THIG		2.40	99	eS	Sn	10 35 52.1	+0.1
PATR	El Naranjo	2.40	94	i P	Pb	10 35 26.1	-1.1
PATR				i S	Sn	10 35 52.1	-0.3
PEIG	Puerto Escondi	2.45	287	eP	Pb	10 35 28.3	+0.4
PEIG				eS	Sn	10 35 54.1	+0.8
PAVE	Pavencul	2.45	92	i P	Pb	10 35 27.3	-0.7
PAVE				i S	Sn	10 35 54.1	+0.5
NEUV	Arroyo Zacate	2.61	336	eP	Pb	10 35 30.9	+0.3
NEUV				eS	Sg	10 36 04.9	-3.1
VHO	Vista Hermosa	2.62	312	eP	Pg	10 35 33.0	-1.4
VHO				eS	Sb	10 36 03.2	+0.2
CCIG	Comitan	2.66	68	eP	Pb	10 35 32.2	+0.6
CCIG				eS	Sb	10 36 02.5	-1.6
CCIG	Comitan	2.66	68	eP	Pb	10 35 32.2	+0.6
CCIG	Comitan	2.66	68	eP		10 35 32.2	
YOIG	Yosondua	3.13	300	eP	Pb	10 35 41.0	+1.3
YOIG				eS	Sb	10 36 16.2	-1.6
PNIG	Pinotepa	3.46	289	eP	Pb	10 35 42.6	-2.5
PNIG				eS	Sn	10 36 19.1	+0.7
TXIG	Tlaxiaco	3.52	304	eP	Pb	10 35 46.2	-0.1
TXIG				eS	Sb	10 36 25.8	-3.2
TOIG	Toxpalan	3.57	321	eP	Pb	10 35 45.1	-2.0
TOIG				eS	Sb	10 36 28.8	-1.6
HLIG	Huajuapan de L	3.88	311	eP	Pb	10 35 50.6	-1.9
HLIG				eS	Sb	10 36 35.7	-3.8
TPIG	Tehuac#an	4.00	321	eS	Sb	10 36 41.5	-1.3
FTIG	Fresnillo de T	4.18	309	eP	Pb	10 35 54.9	-2.6
FTIG				eS	Sn	10 36 41.4	+5.3
TLIG	Tlapa	4.33	302	eP	Pb	10 35 56.8	-3.2
TLIG				eS	Sn	10 36 41.9	+2.1
CRIG	Cruz Grande	4.48	289	eP	Pn	10 35 56.2	+4.6
CRIG				eS	Sn	10 36 43.3	-0.2
PETF	Flores	4.92	70	eP	Pn	10 35 59.6	+2.0
PETF				eS	Sn	10 36 53.1	-1.3
DAIG	Los Arroyos	5.04	290	eP	Pn	10 36 04.7	+5.4
DAIG				eS	Sn	10 36 57.2	-0.2
YAIG	Yautepec	5.46	311	eP	Pb	10 36 13.6	-5.8
YAIG				eS	Sn	10 37 11.1	+3.2

IDC 07 10:50:41.6±3.3, 32°.17S×177°.84W, h0km, mb3.7/2, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=74.7km s-min=37.5km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.35	213	Pn	Pn	10 52 28.3	-1.8
URZ	1.3nm,0.3s,baz=30,slow=14,SNR=7.0			Sn	Sn	10 53 58.3	+4.2
	1.8nm,0.3s,baz=264,slow=18,SNR=4.7 2.7nm,0.3s						
ASAR	Alice Springs	43.18	269	P	P	10 58 44.6	+0.1
	0.5nm,0.6s,baz=107,slow=7.1,SNR=12 0.5nm,0.6s						
WRA	Warramunga Arr	44.33	274	P	P	10 58 53.3	-0.4
	0.5nm,0.4s,baz=111,slow=8.1,SNR=11 0.5nm,0.4s						
FINES	FINESS Array B	146.85	339	PKPbc	PKPbc	11 10 24.5	-0.5
	2.1nm,0.7s,baz=48,slow=2.1,SNR=3.9						

IDC 07 10:51:31.5±3.2, 32°.15S×178°.06W, h0km, mb3.8/2, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=75.4km s-min=37.8km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.26	212	Pn	Pn	10 53 20.1	+1.1
	0.8nm,0.3s,baz=31,slow=18,SNR=1.9						
URZ				Sn	Sn	10 54 40.4	-1.8
	1.8nm,0.3s,baz=257,slow=18,SNR=4.2 4.4nm,0.5s						
ASAR	Alice Springs	42.99	269	P	P	10 59 32.7	-0.2
	0.8nm,0.8s,baz=109,slow=7.5,SNR=4.8 0.8nm,0.8s						
WRA	Warramunga Arr	44.14	274	P	P	10 59 42.0	0.0
	1.0nm,0.4s,baz=112,slow=8.0,SNR=7.5 1.0nm,0.4s						
FINES	FINESS Array B	146.76	339	PKPbc	PKPdf	11 11 13.7	+0.8
	1.8nm,0.6s,baz=45,slow=3.1,SNR=4.3						

*IDC **07** 10:52:37.4±5.2, 30°.06N×87°.64E, h55km±47km, mb3.6/15, mbtmp3.9/18, ML3.3/2, Error ellipse: s-maj=34.9km s-min=16.1km az=49.0*

ISC 07 10:52:34.9±0.8, 30°.0N±0°.2×87°.6E±0°.2, h35km, n19, σ0°.77/19, mb3.8/15, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.42	136	P	P	10 56 13.1	-1.1
	1.0nm,0.3s,baz=325,slow=12,SNR=12						
AAK	Ala-Archa	16.45	324	P	P	10 56 24.5	-1.1
	0.1nm,0.3s,baz=133,slow=14,SNR=4.3 1.6nm,0.7s						
MKAR	Makanchi Array	17.29	348	P	P	10 56 34.2	-0.5
	0.1nm,0.3s,baz=160,slow=12,SNR=8.6 0.8nm,0.7s						
KURBB	Kurchatov Arra	21.72	344	P	P	10 57 21.5	-1.4
	1.5nm,0.8s,baz=163,slow=10,SNR=1.8 1.5nm,0.8s						
SONM	Songino Array	22.94	34	P	P	10 57 37.1	+0.9
	0.9nm,0.7s,baz=221,slow=12,SNR=3.6 0.9nm,0.7s						
ZALV	Zalesovo Beam	24.04	356	P	P	10 57 46.3	-0.2
	1.5nm,0.7s,baz=186,slow=8.9,SNR=7.6 1.5nm,0.7s						
BVAR	Borovoye Array	26.26	336	P	P	10 58 06.7	0.0
	1.2nm,0.6s,baz=146,slow=11,SNR=5.8 1.2nm,0.6s						
AKTO	Aktyubinsk	30.16	321	P	P	10 58 41.1	-0.4
	1.7nm,0.7s,baz=121,slow=7.1,SNR=5.2 1.7nm,0.7s						
ARTI	Arti	33.46	330	P	P	10 59 10.2	-0.2
	4.3nm,0.6s,baz=140,slow=4.1,SNR=7.1 4.3nm,0.6s						
BRTR	Keskin Array B	44.77	298	P	P	11 00 46.2	+0.9
	0.4nm,0.6s,baz=86,slow=8.1,SNR=2.6 0.4nm,0.6s						
FINES	FINESS Array B	50.60	327	P	P	11 01 30.0	0.0
	1.4nm,0.6s,baz=96,slow=7.7,SNR=4.5 1.4nm,0.6s						
ARCES	ARCESS Array B	52.54	337	P	P	11 01 44.9	+0.5
	2.9nm,0.9s,baz=92,slow=7.3,SNR=3.9 2.9nm,0.9s						
HFS	Hagfors	56.59	325	P	P	11 02 13.4	-0.5
	2.8nm,0.7s,baz=96,slow=6.0,SNR=4.6 2.8nm,0.7s						
NB2	NORSAR Subarra	57.75	326	P	P	11 02 21.1	-1.1
	comp=Z,2.2nm,0.9s,baz=85,slow=7.4						
NOA	NORSAR Array B	57.75	326	P	P	11 02 21.4	-0.8
	comp=Z,0.8nm,0.7s,baz=85,slow=7.2,SNR=4.1 comp=Z,0.8nm,0.7s						
WRA	Warramunga Arr	66.98	132	P	P	11 03 24.7	+0.3
	comp=Z,0.6nm,0.9s,baz=318,slow=6.3,SNR=3.5 comp=Z,0.6nm,0.9s						
ASAR	Alice Springs	69.43	135	P	P	11 03 39.7	0.0
	comp=Z,0.7nm,0.8s,baz=315,slow=5.6,SNR=6.8 comp=Z,0.7nm,0.8s						
TORD	Torodi Ar. Bea	80.08	279	P	P	11 04 42.2	+0.6
	comp=Z,2.4nm,0.4s,baz=42,slow=6.1,SNR=3.7 comp=Z,2.4nm,0.4s						
YKA	Yellowknife Ar	86.13	10	P	P	11 05 12.4	+0.4
	comp=Z,0.2nm,0.7s,baz=335,slow=4.4,SNR=4.1 comp=Z,0.2nm,0.7s						

*IDC **07** 10:56:02.7±0.5, 38°.58N×70°.01E, h0km, mb4.6/27, mbtmp4.7/36, ML4.2/8, MS3.8/38, Error ellipse: s-maj=9.3km s-min=7.2km az=156.0*

*NNC **07** 10:56:02.9±3.0, 38°.49N×69°.86E, h0km, mb5.5, mpv5.4, Error ellipse: s-maj=25.6km s-min=20.4km az=5.0*

*MOS **07** 10:56:03.1±1.2, 38°.65N×69°.94E, h8km, mb5.1/55, MS4.1/7, Error ellipse: s-maj=4.1km s-min=2.9km az=69.6*

*BJI **07** 10:56:04.0, 38°.70N×70°.00E, h10km, mB5.0/25, mb4.9/68, ML4.9/4, Ms4.5/40, Ms7 4.3/40*

*NEIC **07** 10:56:05.5±2.0, 38°.68N±0°.05×69°.83E±0°.07, h10km±1km, mb4.9/160, Mwr4.7/16, Error ellipse: s-maj=10.1km s-min=8.0km az=322.0, Moment Tensor Solution.*

Moment tensor: Scale 10^16Nm; Mrr1.01; Mθθ-0.24; Mφφ-0.77; Mrθ0.59; Mrφ-0.65; Mθφ-0.51; Fault plane solution: M0 1.36000×10^16 NP1:φ=60.45000°, δ=49.91000°, λ=132.21000°. NP2:φ=185.82000°, δ=55.48000°, λ=51.41000°. Principal axes: T 1.4725, Plg59.0000°, Azm37.0000°; N -0.2664, Plg31.0000°, Azm210.0000°; P -1.2061, Plg3.0000°, Azm302.0000°;

*NEIC **07** 10:56:05.5, 38°.67N×69°.87E, h10km*

ISC 07 10:56:04.9±0.5, 38°.66N±0°.03×69°.90E±0°.02, h12km±3km, h12km:pP-P, n825, σ1=52/809, mb4.9/203, MS3.9/46, 44C-21D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	0.47	43	Pg	Pg	10 56 13.1	-1.1
CHGR	Chuyangaron	0.58	270	Pg	Pg	10 56 16.0	-0.2
CHGR	Chuyangaron	0.58	270	PG	Pg	10 56 16.0	-0.2
SIMJ	Simiganj	0.70	270	Pg	Pg	10 56 18.0	-0.4
BTK	Batken	1.57	27		Pn	10 56 33.2	+0.5
BTK	Batken	1.57	27	PN	Pn	10 56 33.2	+0.5
DRK	Karamyk	1.69	60	i PN	Pn	10 56 34.6	0.0
DRK				i S	Sn	10 56 57.0	+0.6
OHH	Osh	2.91	49	i PN	Pn	10 56 51.6	+0.5
OHH				i S	Sn	10 57 26.3	+0.3
TRKS	Terek-Say	3.02	18	i PN	Pn	10 56 52.7	-0.1
TRKS				i S	Sn	10 57 28.3	-0.7
SFK	Sufi-Kurgan	3.11	63	i PN	Pn	10 56 54.6	+0.6
SFK				i S	Sn	10 57 31.2	0.0
IUG	Iuzhnay	3.49	2	ePN	Pn	10 57 02.3	+3.2
IUG				e		10 57 06.6	
IUG				e		10 57 39.4	
IUG				e		10 57 53.7	
IUG	Iuzhnay	3.49	2	ePn	Pn	10 57 02.4	+3.2
IUG				ePg	Pb	10 57 06.7	0.0
IUG				eSn	Sn	10 57 39.5	-0.9
IUG				eLg	Lg	10 57 53.7	
ARK	Arkit	3.51	26	i PN	Pn	10 57 00.0	+0.6
ARK				i S	Sn	10 57 41.1	+0.1
ARSB	Arslanbob	3.57	41		Pn	10 57 01.9	+1.7
ARSB	Arslanbob	3.57	41	PN	Pn	10 57 01.9	+1.7
CHM	Chimkent	3.67	357	ePN	Pn	10 57 04.6	+3.2
CHM				e		10 57 10.8	
CHM	Chimkent	3.67	357	ePn	Pn	10 57 04.6	+3.2
CHM				ePg	Pb	10 57 10.8	+1.2
SALK	Salom-Alik	3.75	52	ePN	Pn	10 57 03.4	+0.6
SALK				i S	Sn	10 57 46.8	-0.2
KBL	Kabul	4.16	190	Pn	Pn	10 57 11.6	+3.1
KBL	Kabul	4.16	190	PN	Pn	10 57 11.6	+3.1
MNAS	Manas	4.31	27	ePN	Pn	10 57 11.5	+1.1
DZA	Taraz	4.37	14	ePN	Pn	10 57 15.0	+3.9
DZA				e		10 57 22.8	
DZA				e		10 58 01.3	
DZA	Taraz	4.37	14	ePn	Pn	10 57 15.1	+3.9
DZA				ePg	Pb	10 57 22.8	+1.2
DZA				eSn	Sn	10 58 01.4	-0.6
BRLS	Borolday	4.37	359	ePN	Pn	10 57 10.4	-0.7
BRLS				e		10 58 14.5	
BRLS	Borolday	4.37	359	ePn	Pn	10 57 10.4	-0.7
BRLS				ePg	Pb	10 57 18.8	-2.8
BRLS				eSn	Sn	10 57 56.3	-5.7
BRLS				eLg	Lg	10 58 14.6	
KK31	Karatay Array	4.47	6		Pn	10 57 14.8	+2.4
KK31	Karatay Array	4.47	6	Pn	Pn	10 57 15.4	+2.9
KK31	100nm,0.5s,baz=203,slow=14,SNR=820 156nm,0.4s,baz=188,slow=13,SNR=6.6			⇑Pg	Pg	10 57 30.4	0.0
KK31	383nm,0.5s			⇑Sn	Sn	10 58 10.3	+5.9
KK31	386nm,0.5s,baz=202,slow=35,SNR=5.9			⇑Lg	Lg	10 58 28.3	
KK31	Karatay Array	4.47	6	ePN	Pn	10 57 15.3	+2.9
KK31				e		10 57 30.4	
KKAR	Karatay Array	4.47	6		Pn	10 57 14.9	+2.5
KKAR	Karatay Array	4.47	6	PN	Pn	10 57 15.0	+2.5
AML	Almayashu	4.52	39	P	Pn	10 57 15.4	+1.8
	SNR=438						
AML	Almayashu	4.52	39	i PN	Pn	10 57 14.4	+0.8
AML				i S	Sn	10 58 05.6	-0.7
ARLS	Aral	4.66	45	ePN	Pn	10 57 16.0	+0.8
ARLS				i S	Sn	10 58 08.3	-1.0
KSH	Kashi	4.80	78	Pn	Pn	10 57 14.5	-2.7
KSH				smax	smax		
	comp=N,2μm,0.9s						
KSH				smax	smax		
	comp=E,2μm,1.0s						
EKS2	Erkin-Say	4.97	35	P	Pn	10 57 23.8	+4.4
	SNR=271						
EKS2	Erkin-Say	4.97	35	ePN	Pn	10 57 20.3	+0.8
EKS2				i S	Sn	10 58 16.0	-1.0
UCH	Uchtor	5.01	43	P	Pn	10 57 22.9	+2.5
	SNR=42						
UCH	Uchtor	5.01	43	i PN	Pn	10 57 20.9	+0.6
UCH				i S	Sn	10 58 17.3	-1.1
AAK	Ala-Archa	5.29	40	Pn	Pn	10 57 25.9	+1.9
AAK	Ala-Archa	5.29	40	Pn	Pn	10 57 26.1	+2.1
AAK	393nm,0.4s,baz=188,slow=6.9,SNR=256			Pg	Pb	10 57 40.4	+2.9
AAK	86nm,0.3s,baz=210,slow=12,SNR=22			Sn	Sn	10 58 27.9	+2.9
AAK	39nm,0.3s,baz=233,slow=15,SNR=1.0			Lg	Lg	10 58 51.2	
AAK	52nm,0.3s,baz=164,slow=20,SNR=4.1 comp=Z,850nm,19.8s,baz=228,slow=44			LR	LR	10 59 57.8	
AAK	Ala-Archa	5.29	40	P	Pn	10 57 26.1	+2.1
	SNR=669						
AAK	Ala-Archa	5.29	40	⇑Pn	Pn	10 57 26.0	+2.1
AAK	250nm,0.4s			⇓Pg	Pb	10 57 40.3	+2.9
AAK	490nm,0.6s			⇑Lg	Lg	10 58 48.3	
	907nm,1.1s						
FRU1	Bishkek	5.49	39		Pn	10 57 28.7	+2.1
FRU1	Bishkek	5.49	39	PN	Pn	10 57 28.7	+2.1
KBK	Karagaybulak	5.54	42	P	Pn	10 57 29.7	+2.3
	SNR=168						
KBK	Karagaybulak	5.54	42	ePN	Pn	10 57 28.3	+0.9
KBK				i S	Sn	10 58 29.5	-1.6
NIL	Nilore	5.69	150		Pn	10 57 30.8	+1.6
NIL	Nilore	5.69	150	PN	Pn	10 57 30.8	+1.6
CHMS	Chumysh	5.69	39	P	Pn	10 57 31.6	+2.4
	SNR=21						
CHMS	Chumysh	5.69	39	ePN	Pn	10 57 30.1	+0.9
CHMS				i S	Sn	10 58 32.7	-1.8
USP	Ospenovka	5.77	36	P	Pn	10 57 34.2	+3.8
	SNR=17						
USP	Ospenovka	5.77	36	i PN	Pn	10 57 31.1	+0.7
USP				i S	Sn	10 58 34.9	-1.7
SGDS	Sogindy	5.98	35	ePN	Pn	10 57 34.8	+1.6
SGDS				e		10 57 52.2	
SGDS	Sogindy	5.98	35	ePn	Pn	10 57 34.9	+1.6
SGDS				ePg	Pb	10 57 52.2	+3.2
BOOM	Boomskoye usch	5.99	48		Pn	10 57 34.9	+1.5
BOOM	Boomskoye usch	5.99	48	PN	Pn	10 57 34.9	+1.5
ULHL	Ulahol	6.02	51	P	Pn	10 57 35.5	+1.6
	SNR=27						
ULHL	Ulahol	6.02	51	i PN	Pn	10 57 34.6	+0.6
ULHL				i S	Sn	10 58 41.0	-2.0
TKM2	Tokmak 2	6.07	44	P	Pn	10 57 36.5	+1.9
	SNR=51						
TKM2	Tokmak 2	6.07	44	⇑Pn	Pn	10 57 36.4	+1.7
TKM2	239nm,0.4s			⇑Sn	Sn	10 58 50.5	+6.3
	605nm,0.9s						
TKM2	Tokmak 2	6.07	44	i PN	Pn	10 57 36.3	+1.7
TKM2				pmax	pmax		
	comp=Z,239nm,0.4s						
KDJ	Kajisay	6.55	56		Pn	10 57 43.0	+1.7
KDJ	Kajisay	6.55	56	PN	Pn	10 57 43.0	+1.7
TARG	Taragay, Kyrgy	6.79	61	Pn	Pn	10 57 45.5	+0.8
TARG	Taragay, Kyrgy	6.79	61	PN	Pn	10 57 45.5	+0.8
TNSS	Tian-Shan	6.91	48	ePN	Pn	10 57 47.8	+1.5
TNSS				e		10 58 08.7	
TNSS	Tian-Shan	6.91	48	ePn	Pn	10 57 47.9	+1.5
TNSS				ePg	Pb	10 58 08.8	+3.7
AAA	Alma-Ata	6.99	47	ePN	Pn	10 57 49.6	+2.4
AAA				e		10 58 10.4	
AAA	Alma-Ata	6.99	47	ePn	Pn	10 57 49.7	+2.5
AAA				ePg	Pb	10 58 10.4	+4.1
KNDC	Almaty	7.03	47	⇓Pn	Pn	10 57 50.2	+2.5
KNDC	comp=Z,289nm,0.7s			⇑Sn	Sn	10 59 12.5	+5.0
KNDC	comp=Z,118nm,0.7s			⇑Lg	Lg	10 59 42.2	
	comp=Z,334nm,0.7s						
BTLS	Baital	7.09	25	ePN	Pn	10 57 51.3	+2.9
BTLS				e		10 58 12.5	
BTLS				e		10 59 08.6	
BTLS	Baital	7.09	25	ePn	Pn	10 57 51.3	+2.9
BTLS				ePg	Pb	10 58 12.5	+4.6
BTLS				eSn	Sn	10 59 08.6	-0.3
BTLS				eLg	Lg	10 59 48.1	
JMU	Jammu	7.19	144	eP	Pn	10 57 51.0	+1.3
JMU				ex	x	10 59 06.2	
JMU				ex	x	10 59 12.9	
JMU				IAML		10 59 50.7	
	comp=N,805nm,0.9s						
JMU				IAML		10 59 51.9	
	comp=E,654nm,0.8s						
HRA	Herat	7.49	238		Pn	10 57 54.6	+0.5
SATY	Saty	7.80	53	eP	Pn	10 58 00.1	+1.8
SATY	Saty	7.80	53	ePn	Pn	10 58 00.2	+1.8
SATY				ePg	Pb	10 58 25.5	+5.3
THN	Thein Dam	7.81	141	eP	Pn	10 57 59.4	+1.1
THN				eS	Sn	10 59 25.4	-1.3
THN				IAML		10 59 39.6	
	comp=E,471nm,0.7s						
THN				IAML		10 59 41.3	
	comp=N,367nm,0.6s						
ZHN	Zhinishke	7.88	52	eP	Pn	10 58 01.3	+2.0
ZHN	Zhinishke	7.88	52	ePn	Pn	10 58 01.4	+2.0
ZHN				ePg	Pb	10 58 26.9	+5.4
ARXS	Arharly	8.14	44	eP	Pn	10 58 03.2	+0.3
KPKS	Kokpek	8.19	51	eP	Pn	10 58 05.2	+1.6
KPKS	Kokpek	8.19	51	ePn	Pn	10 58 05.2	+1.6
KPKS				ePg	Pb	10 58 31.8	+5.1
UZB	Uzynbulak	8.24	54	eP	Pn	10 58 05.7	+1.4
UZB	Uzynbulak	8.24	54	ePn	Pn	10 58 05.8	+1.4
UZB				ePg	Pb	10 58 33.3	+5.8
DHRM	DHARAMSHALA	8.25	139	eP	Pn	10 58 04.2	-0.4
DHRM				eS	Sn	10 59 35.1	-2.8
DHRM				IAML		10 59 53.9	
	comp=E,736nm,0.6s						
DHRM				IAML		10 59 54.0	
	comp=N,459nm,0.6s						
SHLS	Shalkode	8.52	55	eP	Pn	10 58 13.5	+5.3
SHLS	Shalkode	8.52	55	ePn	Pn	10 58 13.6	+5.3
SHLS				ePg	Pg	10 58 43.5	-4.5
PDGK	Podgornoye	8.62	54	⇑Pn	Pn	10 58 10.0	+0.3
	comp=N,57nm,0.7s						
PDGK	Podgornoye	8.62	54	P	Pn	10 58 09.9	+0.3
BHK	Bhakra	8.98	142	eP	Pn	10 58 15.2	+0.7
BHK				eS	Sn	10 59 52.8	-2.8
BHK				IAML		11 00 06.3	
	comp=E,297nm,0.8s						
BHK				IAML		11 00 07.1	
	comp=N,215nm,0.8s						
HNLY	HANLEY	9.42	126	eP	Pn	10 58 18.9	-2.0
HNLY				eS	Sn	11 00 05.4	-1.7
HNLY				IAML		11 00 09.5	
	comp=N,436nm,1.0s						
HNLY				IAML		11 00 15.8	
	comp=E,538nm,1.0s						
SMLA	Simla	9.59	139	eP	Pn	10 58 22.4	-0.3
SMLA				eS	Sn	11 00 06.2	-4.2
SMLA				IAML		11 00 15.7	
	comp=N,239nm,0.2s						
SMLA				IAML		11 00 21.7	
	comp=E,245nm,0.4s						
OTUK	Ortayu	9.75	10	⇑Pn	Pn	10 58 25.2	+0.3
	comp=E,32nm,0.7s						
OTUK	Ortayu	9.75	10	P	Pn	10 58 25.2	+0.3
KLP	Kalpa	9.86	134	eP	Pn	10 58 26.6	-0.2
KLP				eS	Sn	11 00 12.2	-5.3
KLP				IAML		11 00 21.7	
	comp=E,264nm,0.7s						
KLP				IAML		11 00 22.4	
	comp=N,255nm,0.8s						
DDI	Dehra Dun	10.69	139	eP	Pn	10 58 37.6	-0.3
DDI				eS	Sn	11 00 32.7	-4.9
BKNR	BIKANER	10.98	164	eP	Pn	10 58 43.4	+1.6
BKNR				eS	Sn	11 00 39.9	-4.6
JOSI	Joshimath	11.34	133	eP	Pn	10 58 45.4	-1.5
JOSI				eS	Sn	11 00 47.7	-5.9
JOSI				IAML		11 01 01.1	
	comp=E,139nm,1.4s						
JOSI				IAML		11 01 05.5	
	comp=N,178nm,0.7s						
BRZS	Berezniki	11.50	9	eP	Pn	10 58 49.2	+0.4
BRZS	Berezniki	11.50	9	ePn	Pn	10 58 49.2	+0.4
BRZS				ePg		10 59 33.1	
NDI	New Delhi	11.66	146	eP	Pn	10 58 50.5	-0.6
NDI				eS	Sn	11 00 54.3	-7.0
NDI				IAML		11 01 03.3	
	comp=N,48nm,0.3s						
NPLP	NPLP New Delhi	11.68	147	eP	Pn	10 58 50.5	-0.8
AYAN	Aya Nagar	11.80	147	eP	Pn	10 58 53.0	0.0
KUDL	Kundal	11.84	150	eP	Pn	10 58 51.2	-2.3
KUDL				eS	Sn	11 00 58.0	-7.5
KUDL				IAML		11 01 03.0	
	comp=E,77nm,0.6s						
KUDL				IAML		11 01 11.7	
	comp=N,37nm,0.5s						
SONA	Sohna	11.98	148	eP	Pn	10 58 54.0	-1.5
MAKZ	Makanchi	12.04	44		Pn	10 58 57.2	+0.9
MAKZ	Makanchi	12.04	44	P	Pn	10 58 57.2	+0.9
MK31	Makanchi Array	12.20	44		Pn	10 58 58.4	0.0
MK31	Makanchi Array	12.20	44	⇑Pn	Pn	10 58 58.5	0.0
	comp=N,14nm,0.6s,baz=227,slow=11,SNR=190						
MK31	Makanchi Array	12.20	44	d i P	Pn	10 58 58.5	0.0
MKAR	Makanchi Array	12.20	44	Pn	Pn	10 58 58.6	+0.1
	comp=N,2.3nm,0.3s,baz=236,slow=13,SNR=99						
MKAR				Lg	Lg	11 02 26.8	
	comp=N,1.3nm,0.3s,baz=240,slow=26,SNR=2.4						
MKAR				LR	LR	11 04 13.5	
	comp=N,255nm,21.7s,baz=232,slow=40 comp=N,29nm,0.8s						
MKAR	Makanchi Array	12.20	44	i P	Pn	10 58 58.5	+0.1
MKAR				pmax	pmax		
	comp=Z,28nm,0.8s						
PTH	Pithoragarh	12.47	134	eP	Pn	10 58 59.6	-2.7
LGTI	Lohaghat	12.56	134	eP	Pn	10 59 00.2	-3.2
LGTI				eS	Sn	11 01 13.0	-10
LGTI				IAML		11 01 26.2	
	comp=N,59nm,0.6s						
LGTI				IAML		11 01 28.6	
	comp=E,40nm,0.6s						
AB31	Akbulak array	12.78	329	Pn	Pn	10 59 05.0	-1.4
	comp=E,21nm,0.4s,baz=146,slow=12,S

comp=Z,18nm,0.6s
BRVK Borovoye 14.41 1 Pn 10 59 27.5 -1.0
BRVK Borovoye 14.41 1*de*P Pn 10 59 27.2 -1.3
BRVK pmax pmax
comp=Z,10.0nm,0.6s
AKTO Aktyubinsk 14.48 328 Pn **Pn 10 59 28.9 -0.7**
comp=Z,1.3nm,0.3s,baz=138,slow=13,SNR=46
AKTO Sn **Sn 11 02 03.2 -6.8**
comp=Z,3.4nm,0.3s,baz=9.4,slow=15,SNR=7.2
AKTO Lg Lg 11 03 45.4
baz=308,slow=18
AKTO LR LR 11 06 08.8
comp=Z,132nm,20.9s,baz=246,slow=42
comp=Z,20nm,0.7s
AKTO Aktyubinsk 14.48 328 ⇓P **Pn 10 59 28.9 -0.7**
comp=Z,87nm,0.8s
BHUJ Bhuj 15.36 181 *e*P **Pn 10 59 38.9 -2.6**
BHUJ IAmb IAmb 10 59 52.5
comp=Z,48nm,0.7s
BHPL Bhopal 16.66 155 *e*P **Pn 11 00 00.8 +2.6**
BHPL IAmb IAmb 11 00 05.5
comp=Z,161nm,0.6s
AKT Akhty 17.20 286 *e*P **P 11 00 07.9 +1.3**
AKT *e*S **Sn 11 03 19.7 +3.5**
AKT pmax pmax
comp=Z,45nm,0.8s
AKT MLR MLR
comp=Z,567nm,15.0s
MAK Makhachkala 17.48 291 *e*P **Pn 11 00 05.4 -2.9**
MAK *e*S **Sn 11 03 20.4 -2.3**
MAK pmax pmax
comp=Z,174nm,1.1s
MAK MLR MLR
comp=Z,2μm,12.0s
SEKA Sheki 17.59 286 P **P 11 00 13.2 +2.3**
MNGR Mingechevir, A 17.67 284 P **P 11 00 15.0 +3.3**
UOSS Minazif 17.92 224 **Pn 11 00 14.8 +0.7**
WSAR Wadi Sarin 18.13 215 P **Pn 11 00 17.4 +0.8**
comp=Z,0.4nm,0.3s,baz=44,slow=6.9,SNR=4.4
comp=Z,6.5nm,0.8s
GANJ Ganja 18.25 284 P **P 11 00 21.8 +3.6**
ZAA0 Zalesovo Array 18.38 29 **Pn 11 00 17.8 -1.7**
ZAA0 IAmb IAmb 11 00 21.2
comp=Z,42nm,0.6s
ZALV Zalesovo Beam 18.38 29 P **Pn 11 00 17.6 -1.9**
ZALV Zalesovo Beam 18.38 29 P **Pn 11 00 18.1 -1.4**
comp=Z,7.5nm,0.3s,baz=228,slow=13,SNR=59
ZALV S **Sn 11 03 45.4 +0.9**
comp=Z,2.5nm,0.6s,baz=219,slow=25,SNR=4.1
ZALV Lg Lg 11 05 46.1
comp=Z,0.2nm,0.3s,baz=225,slow=31,SNR=2.1
ZALV LR LR 11 07 49.0
comp=Z,237nm,20.7s,baz=231,slow=38
comp=Z,46nm,0.6s
AKL Akola 18.92 159 *e*P **P 11 00 25.4 -0.2**
AKL IAmb IAmb 11 00 34.0
comp=Z,55nm,0.6s
NAX Nakhchivan 18.99 279 P **Pn 11 00 30.4 +3.4**
SVE Sverdlovsk 19.18 344 *e*P **P 11 00 28.9 +0.7**
SVE *e*S **Sn 11 03 56.3 -7.6**
SVE pmax pmax
comp=Z,30nm,0.8s
SVE MLR MLR
comp=Z,877nm,11.0s
GTK Tadong 19.30 120 *e*P **P 11 00 26.5 -3.4**
GTK IAmb IAmb 11 00 39.4
comp=Z,32nm,0.7s
ARTI Arti 19.32 340 P **P 11 00 29.6 -0.2**
ARTI Arti 19.32 340 P **P 11 00 30.1 +0.4**
comp=Z,1.4nm,0.3s,baz=172,slow=6.5,SNR=9.8
ARTI S **Sn 11 03 58.5 -8.7**
comp=Z,7.4nm,0.6s,baz=266,slow=23,SNR=2.4
ARTI Lg Lg 11 06 20.1
baz=310,slow=8.3
ARTI LR LR 11 08 51.5
comp=Z,519nm,20.0s,baz=184,slow=40
comp=Z,27nm,0.9s
ARTI Arti 19.32 340*c i*P **P 11 00 29.7 0.0**
ARTI S **Sn 11 04 05.7 -1.5**
ARTI pmax pmax
comp=Z,17nm,0.8s
ARTI MLR MLR
comp=Z,865nm,13.0s
GNI Garni 19.48 282 P **Pn 11 00 34.8 +1.8**
GNI IAmb IAmb 11 00 39.4
comp=Z,55nm,0.9s
GNI Garni 19.48 282 P **Pn 11 00 33.2 +0.1**
comp=Z,1.2nm,0.3s,baz=131,slow=2.7,SNR=11
GNI LR LR 11 09 46.8
comp=Z,257nm,18.4s,baz=100,slow=42
comp=Z,48nm,1.1s
GNI Garni 19.48 282*d i*P **Pn 11 00 34.5 +1.4**
GNI pmax pmax
comp=Z,79nm,1.0s
GNI Garni 19.48 282 P **Pn 11 00 34.9 +1.8**
comp=Z,1μmcomp=Z,65nm,1.5s
BLSP Bilaspur 19.53 144 *e*P **P 11 00 31.7 -0.6**
LSA Lhasa 19.69 111 P **P 11 00 34.7 +0.2**
LSA IAmb IAmb 11 00 41.7
comp=Z,40nm,0.8s
LSA Lhasa 19.69 111 P **P 11 00 34.7 +0.2**
LSA pmax pmax
comp=Z,40nm,0.8s
GOMU GeErMu 19.93 89 P **P 11 00 36.2 -0.7**
GOMU pP pP 11 00 41.1 +0.4
GOMU sP sP 11 00 42.9 +0.4
GOMU pmax pmax
comp=Z,41nm,0.7s
GOMU LR LR
comp=Z,760nm,13.3s
GOMU LR LR
comp=Z,510nm,10.3s
GOMU LR LR
comp=Z,1μm,10.3s
BOK Bokaro 20.11 133 *e*P **P 11 00 37.8 -0.8**
BOK IAmb IAmb 11 00 43.5
comp=Z,110nm,0.7s
POO Poona 20.35 169 *e*P **P 11 00 41.7 +0.5**
POO IAmb IAmb 11 00 46.9
comp=Z,56nm,0.8s
NCK Nalchik 20.37 292⇑*i*P Pn 11 00 43.9 +0.5
NCK pmax pmax
comp=Z,163nm,1.1s
BELG Belogornoye 20.68 319 P **P 11 00 44.4 -0.1**
comp=Z,196nm,0.8s,baz=308,slow=1.7,SNR=31
BELG LR LR 11 09 53.0
comp=Z,202nm,20.8s,baz=105,slow=40
comp=Z,196nm,0.8s
BELG Belogornoye 20.68 319 *i* P **P 11 00 43.8 -0.7**
BELG pmax pmax
comp=Z,45nm,0.9s
KARS Kars 20.72 284 P Pn 11 00 48.0 +0.4
KARS Kars 20.72 284 P Pn 11 00 48.1 +0.4
KARS pmax pmax
comp=Z,112nm,1.0s
KBZ Khabaz 20.90 293 P **P 11 00 46.8 -0.2**
comp=Z,22nm,0.8s,baz=128,slow=8.7,SNR=25
KBZ S Sn 11 04 43.0 -2.3
comp=Z,4.0nm,0.8s,baz=330,slow=22,SNR=1.6
KBZ LR LR 11 10 56.7
comp=Z,645nm,19.0s,baz=85,slow=43
comp=Z,22nm,0.8s
KBZ Khabaz 20.90 293*ce*P **P 11 00 48.2 +1.2**
KBZ pmax pmax
comp=Z,35nm,1.0s
GOF Gofitskoye 20.94 296*ce*P Pn 11 00 49.3 -0.8
GEVA Gevas 20.99 277 P **P 11 00 48.3 0.0**
NEUR Neytrino 21.00 291 *e*P **P 11 00 48.0 -0.4**
KVAR Kislovodsk Arr 21.06 293 P **P 11 00 49.9 +1.0**
comp=Z,5.9nm,0.6s,baz=90,slow=20,SNR=3.4
comp=Z,5.9nm,0.6s
KIV Kislovodsk 21.07 293 P **P 11 00 49.4 +0.5**
KIV IAmb IAmb 11 00 56.6
comp=Z,41nm,0.7s
KIV Kislovodsk 21.07 293 *e*P **P 11 00 48.2 -0.8**
KIV *e*S **S 11 04 44.0 +0.7**
KIV pmax pmax
comp=Z,43nm,1.0s
KIV MLR MLR
comp=Z,411nm,14.0s
KIV Kislovodsk 21.07 293 P **P 11 00 48.6 -0.4**
comp=Z,432nmcomp=Z,44nm,0.7s
KIV pP **sP 11 00 54.2 -0.4**
comp=Z,432nmcomp=Z,44nm,0.7s
SHA1 Shidzhatmaz 21.07 293*d i*P **P 11 00 49.9 +0.8**
TAWA Tawang 21.40 114 *e*P **P 11 00 49.8 -3.1**
TAWA IAmb IAmb 11 00 55.5
comp=Z,49nm,0.6s
LABN Labinsk 22.53 295 *e*P **P 11 01 03.3 -1.3**
LABN *e**PP **pP 11 01 06.3 -2.1**
LABN *e*S **S 11 05 13.9 +2.5**
LABN pmax pmax
comp=Z,26nm,0.4s
SHL Shillong 22.67 119 P **P 11 01 07.3 +0.9**
SHL IAmb IAmb 11 01 11.7
comp=Z,33nm,0.8s
SHL Shillong 22.67 119 *e*P **P 11 01 03.7 -2.6**
SHL IAmb IAmb 11 01 11.9
comp=Z,27nm,0.8s
SHL Shillong 22.67 119 P **P 11 01 07.3 +0.9**
SHL pmax pmax
comp=Z,33nm,0.8s
ERBR Yeremizino-Bor 22.82 297 *e*P **P 11 01 07.8 +0.2**
ERBR *e**PP **pP 11 01 10.0 -1.4**
ERBR *e*S **S 11 05 17.4 +0.8**
ERBR pmax pmax
comp=Z,54nm,1.0s
ZIRO ZIRO 22.87 112 *e*P **P 11 01 09.1 +0.7**
MARD Mardin 22.95 276 P **P 11 01 08.5 -0.7**
MARD IAmb IAmb 11 01 19.3
comp=Z,30nm,0.9s
VSLR Vesyoloye 22.96 292⇑*e*P **P 11 01 11.4 +2.3**
SOC Sochi 23.19 292 *e*P **P 11 01 09.9 -1.5**
SOC *e*PPP PPP 11 01 43.4
SOC *e*S **S 11 05 22.2 -0.8**
SOC *e*SS **SnSn 11 05 58.9 +2.6**
SOC MLR MLR
comp=Z,375nm,17.0s
GTA Gaotai 23.21 79 P **P 11 01 10.6 -1.2**
GTA pP pP 11 01 16.2 +0.4
GTA pmax pmax
comp=Z,23nm,0.8s
GTA pmax pmax
comp=Z,250nm,5.3s
GTA LR LR
comp=Z,220nm,11.3s
GTA LR LR
comp=Z,360nm,13.8s
GTA LR LR
comp=Z,460nm,12.0s
VRH Novokhopyorsk 23.40 312 *e*P **P 11 01 15.2 +1.8**
VRH pmax pmax
comp=Z,90nm,1.0s
KIRV Kirov 23.92 333 LR LR 11 10 03.0
comp=Z,84nm,21.9s,baz=126,slow=35
KIRV Kirov 23.92 333⇓*e*P **P 11 01 19.5 +1.1**
KOHI KOHIMA 24.13 115 *e*P **P 11 01 18.6 -2.2**
KOHI IAmb IAmb 11 01 25.5
comp=Z,97nm,0.8s
AZL Aizawl 24.43 121 *e*P **P 11 01 22.7 -0.9**
AZL IAmb IAmb 11 01 30.5
comp=Z,23nm,0.8s
BRDH Bariadhala 24.47 124 LR LR 11 12 00.8
comp=Z,96nm,19.4s,baz=330,slow=39
IMP Imphal 24.57 117 *e*P **P 11 01 24.8 -0.1**
IMP IAmb IAmb 11 01 29.0
comp=Z,64nm,1.0s
VORD Divnogorie 24.76 310 *e*P **P 11 01 26.2 0.0**
VORD pmax pmax
comp=Z,20nm,0.9s
ANN Anapa 24.89 295 *e*P **P 11 01 28.6 +1.2**
ANN *e**PP **pP 11 01 32.0 +0.6**
ANN *e* 11 02 00.1
ANN *e*S **S 11 05 54.5 +4.3**
ANN pmax pmax
comp=Z,44nm,0.7s
VSR Storozhevoye 24.92 310 *e*P **P 11 01 26.5 -1.1**
VSR pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 25.04 311 *e*P **P 11 01 29.1 +0.4**
VORR pmax pmax
comp=Z,20nm,0.9s
MOY Mondy 25.28 49 *e*P **P 11 01 31.3 +0.3**
MOY pmax pmax
comp=Z,33nm,1.6s
LPSR Galich'ya Gora 25.52 313 *e*P **P 11 01 32.3 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.9s
RAYN Ar Rayn 25.66 241 P **P 11 01 36.0 +1.3**
RAYN IAmb IAmb 11 01 39.1
comp=Z,20nm,0.9s
RAYN Ar Rayn 25.66 241 P **P 11 01 36.0 +1.3**
ZAK Zakamensk 26.31 53 *e*P **P 11 01 40.3 -0.1**
ZAK pmax pmax
comp=Z,47nm,0.9s
LZH Lanzhou 27.01 85 *e*P **P 11 01 49.4 +2.4**
LZH sP sP 11 01 55.5 +2.7
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,320nm,5.2s
LZH LR LR
comp=Z,670nm,12.7s
LZH LR LR
comp=Z,650nm,13.4s
LZH LR LR
comp=Z,640nm,13.1s
SIM Simferopol' 27.25 295 *e*P **P 11 01 48.9 +0.1**
SIM pmax pmax
comp=Z,56nm,1.1s
PLTM Poltava 27.39 305 P **P 11 01 49.5 -0.5**
MOS Moscow 27.45 319 *e*P **P 11 01 49.4 -1.0**
MOS pmax pmax
comp=Z,45nm,1.1s
ASF Jabal al Asfar 27.56 267 LR LR 11 15 14.5
comp=Z,264nm,18.2s,baz=140,slow=42
OBN Obninsk 27.75 317 LR LR 11 13 30.0
comp=Z,111nm,21.2s,baz=144,slow=38
OBN Obninsk 27.75 317⇑*e*P **P 11 01 56.0 +2.9**
OBN *e* 11 02 42.9
OBN *e*S **S 11 06 37.8 +2.6**
OBN pmax pmax
comp=Z,28nm,0.7s
ILGA Ilgaz 27.76 287 P **P 11 01 54.4 +0.8**
KIRS Kirsehir-Merke 27.90 282 ⇓P **P 11 01 56.2 +1.5**
SONM Songino Array 27.90 59 P **P 11 01 54.8 0.0**
SONM Songino Array 27.90 59 P **P 11 01 54.6 -0.2**
comp=Z,4.3nm,0.6s,baz=265,slow=8.9,SNR=34
comp=Z,4.3nm,0.6s
SONM Songino Array 27.90 59 P **P 11 01 54.8 0.0**
SONM pmax pmax
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 28.01 284 P **P 11 01 56.8 +1.0**
BR131 Keskin Array S 28.01 284 P **P 11 01 56.8 +1.0**
BR131 pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 28.01 284 P **P 11 01 55.6 -0.2**
BRTR Keskin Array B 28.01 284 P **P 11 01 57.1 +1.3**
comp=Z,2.2nm,0.6s,baz=95,slow=8.9,SNR=13
comp=Z,2.2nm,0.6s
ULN Ulaanbaatar 28.35 59 P **P 11 01 58.8 0.0**
ULN IAmb IAmb 11 01 59.5
comp=Z,11nm,0.8s
ULN Ulaanbaatar 28.35 59*c i*P **P 11 01 58.3 -0.5**
ULN pmax pmax
comp=Z,13nm,0.8s
MMAI Mount Meron Ar 28.41 269 LR LR 11 17 18.4
comp=Z,83nm,18.7s,baz=67,slow=45
KLMR Klimovskoe 29.18 329 *e*P **P 11 02 05.6 -0.2**
KLMR pmax pmax
comp=Z,23nm,1.5s
PZH PanZhiHua 29.30 105 P **P 11 02 08.7 +1.3**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,170nm,6.4s
MDUB Mudurnu 29.73 286 P **P 11 02 11.7 +0.6**
EIL Elat 30.13 263 LR LR 11 16 58.5
comp=Z,296nm,18.6s,baz=68,slow=42
BORA Eskisehir 30.39 285 P **P 11 02 18.0 +1.0**
AK09 Malin Array Si 30.89 306 P **P 11 02 21.7 +0.6**
AK10 Malin Array Si 30.91 306 P **P 11 02 21.8 +0.6**
AK07 Malin Array Si 30.93 306 P **P 11 02 22.2 +0.8**
AKASG Malin Array Be 30.94 306 P **P 11 02 21.7 +0.2**
comp=Z,3.8nm,0.7s,baz=81,slow=7.1,SNR=16
AKASG LR LR 11 17 12.3
comp=Z,192nm,19.1s,baz=72,slow=41
comp=Z,3.8nm,0.7s
AKBB Malin Array Si 30.94 306 P **P 11 02 22.1 +0.6**
AKBB Malin Array Si 30.94 306*de*P **P 11 02 21.4 0.0**
AKBB pmax pmax
comp=Z,25nm,0.8s
AKBB Malin Array Si 30.94 306 P **P 11 02 21.5 0.0**
AK02 Malin Array Si 30.95 306 P **P 11 02 21.6 +0.1**
KIEV Kiev 30.95 306 P **P 11 02 21.9 +0.4**
KIEV Kiev 30.95 306 P **P 11 02 22.0 +0.4**
KIEV pmax pmax
comp=Z,21nm,0.7s
AK11 Malin Array Si 30.97 306 P **P 11 02 21.4 -0.4**
SORM Soroca 31.30 301 P **P 11 02 26.8 +2.1**
comp=Z,16nm,1.2s
MI30 MI30,Zelenitsa 31.60 306 P **P 11 02 27.3 0.0**
comp=Z,54nm,0.8s
XAN Xi'an 31.60 86 P **P 11 02 27.2 -0.4**
XAN pP pP 11 02 31.1 -0.6
XAN pmax pmax
comp=Z,28nm,0.7s
XAN LR LR
comp=Z,690nm,16.5s
XAN LR LR
comp=Z,870nm,15.8s
XAN LR LR
comp=Z,1μm,15.8s
HHC Hu-ho-hao-te 31.89 73 *e*P **P 11 02 31.2 +1.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,92nm,4.5s
CMAR Chiang Mai Arr 32.28 120 P **P 11 02 32.2 -1.4**
comp=Z,0.6nm,0.4s,baz=316,slow=8.7,SNR=5.7
CMAR LR LR 11 19 13.8
comp=Z,99nm,18.4s,baz=345,slow=43
comp=Z,0.6nm,0.4s
CMAR Chiang Mai Arr 32.28 120 *i* P **P 11 02 33.9 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
MNK Minsk 32.37 313 *i* P **P 11 02 33.0 -1.1**
comp=E,36nm,0.9s
MNK *i* P **P 11 02 33.0 -1.1**
comp=N,24nm,0.9s
MNK *i* P **P 11 02 33.0 -1.1**
comp=Z,17nm,0.8s,baz=102
MNK *i* PP **PnPn 11 03 40.4 -0.2**
MNK *i* PPP PPP 11 03 49.5
MNK *i* S **S 11 07 48.5 +0.7**
MNK *i* SS **SnSn 11 09 43.1 +3.2**
MNK *i* SSS SSS 11 09 58.2
MNK *i* LQ LQ 11 13 46.9
MNK *i* LR LR 11 16 05.8
MNK *i* LRM MLR 11 17 43.8
comp=N,1μm,19.5s
MNK *i* LRM MLR 11 17 45.3
comp=E,723nm,21.0s
MNK *i* LRM MLR 11 18 27.8
comp=Z,511nm,15.5s
MNK Minsk 32.37 313 *i* P **P 11 02 32.9 -1.1**
MNK *i* 11 03 40.3
MNK *i* S **S 11 07 48.5 +0.7**
MNK *i* SS **SnSn 11 09 43.1 +3.2**
MNK pmax pmax
comp=E,36nm,0.9s
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=N,1μm,19.0s
MNK MLR MLR
comp=E,723nm,21.0s
MNK MLR MLR
comp=Z,511nm,16.0s
VRI Vrincioaia 32.43 297⇑P **P 11 02 37.0 +2.2**
VRI Vrincioaia 32.43 297 P **P 11 02 36.9 +2.2**
VRI Vrincioaia 32.43 297 P **P 11 02 36.8 +2.1**
comp=Z,1μmcomp=Z,31nm,1.3s
TESR Tescani 32.46 298⇑P **P 11 02 36.5 +1.5**
TESR Tescani 32.46 298 P **P 11 02 35.9 +0.9**
comp=Z,38nm,1.5s
PLOR5 Plostina Array 32.48 297 P **P 11 02 37.3 +2.1**
comp=Z,57nm,0.8s
PLOR Plostina 32.49 297⇑P **P 11 02 37.6 +2.4**
PLOR Plostina 32.49 297 P **P 11 02 37.6 +2.4**
PLOR3 Plostina Array 32.49 297 P **P 11 02 37.3 +2.0**
comp=Z,44nm,0.9s
DGPR DIGLIPUR 32.57 135 *e*P **P 11 02 36.5 +0.4**
KMPD K-Podol'skiy 32.58 302 P **P 11 02 35.8 -0.1**
ISR Istrita 32.61 296⇑P **P 11 02 38.6 +2.2**
ISR Istrita 32.61 296 P **P 11 02 38.5 +2.2**
HORU Horodok 32.62 303 P **P 11 02 37.2 +0.9**
PALK Pallekele 32.73 160 P **P 11 02 38.1 +0.5**
PALK IAmb IAmb 11 02 45.1
comp=Z,7.8nm,0.8s
PALK Pallekele 32.73 160 LR LR 11 16 25.7
comp=Z,260nm,20.2s,baz=350,slow=38
PALK Pallekele 32.73 160 P **P 11 02 38.1 +0.5**
PALK pmax pmax
comp=Z,8.0nm,0.8s
COVR Voineasa-Covas 32.80 297⇑P **P 11 02 40.3 +2.3**
MLR Muntele Rosu 33.00 296 P **P 11 02 42.1 +2.2**
MLR Muntele Rosu 33.00 296 LR LR 11 19 22.2
comp=Z,178nm,18.3s,baz=116,slow=42
MLR Muntele Rosu 33.00 296⇑P **P 11 02 42.7 +2.9**
MLR Muntele Rosu 33.00 296 P **P 11 02 42.1 +2.2**
MLR pmax pmax
comp=Z,64nm,1.1s
MLR Muntele Rosu 33.00 296 P **P 11 02 42.6 +2.7**
comp=Z,736nmcomp=Z,57nm,1.6s
GYA Guiyang 33.08 101 ⇓P **P 11 02 41.3 +0.6**
GYA pmax pmax
comp=Z,17nm,1.0s
NACGM Naroch 33.08 314 *e*P **P 11 02 44.4 +4.2**
RNPP5 Staryi Chortor 33.09 307 P **P 11 02 41.0 +0.6**
RNPP8 Varash 33.12 307 P **P 11 02 41.1 +0.4**
BURAR Bucovina Array 33.41 300 P **P 11 02 42.6 -0.7**
BURAR Bucovina Array 33.41 300⇑P **P 11 02 44.7 +1.3**
BURAR Bucovina Array 33.41 300 P **P 11 02 44.7 +1.3**
BUR08 Bucovina Ar. S 33.42 300 P **P 11 02 44.0 +0.5**
ENH Enshi 33.49 92 P **P 11 02 44.7 +0.6**
JOF Joensuu 33.57 329 *e*P **P 11 02 45.7 +1.2**
VOIR 33.63 296⇑P **P 11 02 47.3 +1.9**
VOIR 33.63 296 P **P 11 02 47.2 +1.9**
RDO Rodhopi 33.85 289 P **P 11 02 48.0 +0.9**
STNU Starunia 33.88 302 P **P 11 02 47.8 +0.5**
SLVN Son La 33.89 111 P **P 11 02 48.5 +0.8**
SLVN IAmb IAmb 11 02 54.2
comp=Z,14nm,1.1s
SLVN Son La 33.89 111 P **P 11 02 48.7 +1.0**
ARR Arges 33.93 296⇑P **P 11 02 49.8 +1.9**
VSU Vasula 33.96 320⇑*i*P **P 11 02 51.0 +3.1**
VSU pmax pmax
comp=Z,47nm,1.0s
VSU Vasula 33.96 320 *e*P **P 11 02 50.6 +2.7**
KARP Karpathos 34.00 278 P **P 11 02 49.8 +1.2**
KARP Karpathos 34.00 278 *e*P **P 11 02 49.5 +0.9**
LYN LuoYang 34.20 83 P **P 11 02 50.9 +0.7**
LYN pmax pmax
comp=Z,26nm,0.5s
LYN LR LR
comp=Z,590nm,12.0s
LYN LR LR
comp=Z,690nm,15.1s
LYN LR LR
comp=Z,580nm,12.9s
BOD Bodaibo 34.27 41 *e*P **P 11 02 49.9 -0.7**
BOD pmax pmax
comp=Z,50nm,0.7s
LOT Lotru 34.53 296⇑P **P 11 02 54.7 +1.6**
ARBE Arbavere 34.62 321 *e*P **P 11 02 55.9 +2.4**
PABE Paberze 34.77 314 P **P 11 02 55.7 +0.8**
PABE Paberze 34.77 314 *e*P **P 11 02 56.3 +1.4**
MARR Marisel-Cluj 34.88 299⇑P **P 11 02 58.2 +2.0**
HNS HongShan 35.06 78 ⇓P **P 11 02 58.0 +0.4**
HNS pmax pmax
comp=Z,17nm,1.0s
DRGR 35.16 299⇑P **P 11 03 00.5 +2.0**
DRGR 35.16 299 P **P 11 03 00.4 +2.0**
FIA1 FINESS Array S 35.21 325 P **P 11 02 59.4 +0.8**
FINES FINESS Array B 35.21 325 P **P 11 02 59.4 +0.7**
comp=Z,12nm,0.7s,baz=115,slow=9.0,SNR=24
FINES LR LR 11 19 12.6
comp=Z,88nm,21.4s,baz=96,slow=39
comp=Z,12nm,0.7s
GZR Gura Zlata 35.23 296 ⇓P **P 11 03 00.3 +1.1**
GZR Gura Zlata 35.23 296 P **P 11 03 00.2 +1.1**
KOLS Kolonicke sedl 35.35 303 *e*P P 11 03 05.4 +5.4

KOLS pmax pmax
comp=Z,19nm,0.8s
KOLS Kolonicke sedl 35.35 303 *e*P P 11 03 05.4 +5.4
KOLS *e*PP **PP** **11 04 25.7 +5.6**
SRDT SRDT 35.37 125 P **P** **11 03 00.4 -0.1**
BJI Beijing 35.50 73 P **P** **11 03 01.2 -0.2**
BJI pmax pmax
comp=Z,12nm,0.6s
BJI pmax pmax
comp=Z,45nm,4.0s
BJI LR LR
comp=Z,170nm,17.0s
BJI LR LR
comp=Z,140nm,15.3s
BJI LR LR
comp=Z,220nm,17.8s
BJT Baijiatuau 35.50 73 P **P** **11 03 01.8 +0.4**
BJT Baijiatuau 35.50 73 P **P** **11 03 01.5 +0.1**
BJT Baijiatuau 35.50 73 P **P** **11 03 01.8 +0.4**
BJT pmax pmax
comp=Z,17nm,0.6s
MTSE Matsula 35.51 320 *e*P **P** **11 03 02.7 +1.5**
MEF Metsahovi 35.61 322 *e*P **P** **11 03 03.6 +1.5**
SURR Surduc 35.65 297 ⇓P **P** **11 03 04.9 +2.3**
IDI Anoyia 35.84 279 LR LR 11 20 50.2
comp=Z,86nm,20.7s,baz=290,slow=41
BZS Buzias 36.02 297 ⇑P **P** **11 03 08.0 +2.2**
BZS Buzias 36.02 297 P **P** **11 03 08.0 +2.2**
ATD Arta Tunnel 36.20 229 LR LR 11 19 35.5
comp=Z,4.6nm,19.8s,baz=17,slow=39
LIT Litokhoron 36.33 288 P **P** **11 03 08.7 +0.1**
LIT Litokhoron 36.33 288 P **P** **11 03 08.7 +0.1**
LIT pmax pmax
comp=Z,7.0nm,0.9s
NIE Niedzica 36.63 304 *e*P **P** **11 03 12.3 +1.3**
NIE Niedzica 36.63 304 P **P** **11 03 12.5 +1.5**
comp=Z,9.0nm,1.3s
NAYO Nakonayok 36.82 123 P **P** **11 03 12.7 -0.2**
OJC Ojcow 36.93 305 *e*P **P** **11 03 14.6 +1.1**
OJC Ojcow 36.93 305 P **P** **11 03 14.6 +1.1**
OJC IAmb IAmb 11 03 19.8
comp=Z,21nm,0.8s
OJC Ojcow 36.93 305 P **P** **11 03 14.6 +1.1**
OJC pmax pmax
comp=Z,21nm,0.8s
PSZ Piszkesteto 36.98 301 P **P** **11 03 15.2 +1.1**
PSZ Piszkesteto 36.98 301 P **P** **11 03 15.2 +1.1**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 36.98 301 *e*P **P** **11 03 17.2 +3.1**
FNA Florina 37.01 289 P **P** **11 03 14.6 +0.2**
FNA IAmb IAmb 11 03 20.4
comp=Z,8.7nm,0.6s
FNA Florina 37.01 289 P **P** **11 03 14.6 +0.2**
FNA pmax pmax
comp=Z,9.0nm,0.6s
WHN Wuhan 37.18 89 ⇑P **P** **11 03 16.0 +0.2**
WHN pP **pP** **11 03 18.6 -1.4**
WHN pmax pmax
comp=Z,88nm,0.8s
WHN LR LR
comp=Z,1μm,16.1s
VAF Ylistaro 37.25 326 *e*P **P** **11 03 17.2 +1.2**
TIA Tai'an 37.26 79 P **P** **11 03 16.0 -0.5**
TIA pmax pmax
comp=Z,33nm,0.8s
TIA LR LR
comp=Z,360nm,19.6s
TIA LR LR
comp=Z,310nm,17.7s
TIA LR LR
comp=Z,400nm,13.7s
ITM Ithomi 37.53 283 P **P** **11 03 19.2 +0.4**
VYHS Vyhne 37.64 302 *e*P **P** **11 03 21.3 +1.7**
VYHS pmax pmax
comp=Z,10.0nm,1.4s
VYHS Vyhne 37.64 302 *e*P **P** **11 03 21.3 +1.7**
VADS Vadso 37.99 339 IAmb IAmb 11 03 23.3
comp=Z,203nm,1.6s
VADS *e*P **P** **11 03 23.3 +1.1**
MORH Mrgy, Hungar 38.01 298 ⇓P **P** **11 03 24.4 +1.8**
MORH Mrgy, Hungar 38.01 298 P **P** **11 03 23.8 +1.1**
comp=Z,16nm,1.1s
STEB Steborice 38.24 305 *e*P **P** **11 03 26.6 +1.9**
JAVC Velka Javorina 38.39 303 *e*P **P** **11 03 26.4 +0.5**
MORC Moravsky Berou 38.40 304 *e*P **P** **11 03 26.4 +0.3**
MORC Moravsky Berou 38.40 304 ⇑P **P** **11 03 27.4 +1.3**
MORC Moravsky Berou 38.40 304 P **P** **11 03 27.3 +1.3**
ARA0 ARCESS Array S 38.82 337 *e*P **P** **11 03 29.9 +0.7**
ARA0 IAmb IAmb 11 03 34.2
comp=Z,43nm,1.2s
ARCES ARCESS Array B 38.82 337 P **P** **11 03 29.9 +0.6**
comp=Z,9.0nm,0.9s,baz=114,slow=7.8,SNR=22
ARCES LR LR 11 20 38.3
comp=Z,322nm,21.0s,baz=120,slow=38
comp=Z,9.0nm,0.9s
VRAC Vranov 39.05 304 LR LR 11 20 49.3
comp=Z,113nm,19.1s,baz=74,slow=38
VRAC Vranov 39.05 304 *e*P **P** **11 03 33.1 +1.6**
VRAC Vranov 39.05 304 ⇑P **P** **11 03 33.9 +2.4**
VRAC Vranov 39.05 304 P **P** **11 03 33.8 +2.4**
DPC Dobruska-Polom 39.15 305 *e*P **P** **11 03 33.9 +1.6**
DPC Dobruska-Polom 39.15 305 *e*P **P** **11 03 33.9 +1.6**
DPC Dobruska-Polom 39.15 305 P **P** **11 03 34.5 +2.2**
comp=Z,11nm,2.7s
KRUC Moravsky 39.20 303 *e*P **P** **11 03 33.1 +0.4**
KTK1 Kautokeino 39.29 336 *e*P **P** **11 03 33.4 +0.1**
KTK1 IAmb IAmb 11 03 37.6
comp=Z,356nm,2.2s
RONA Rosalia, Austr 39.42 301 *e*pP **P** **11 03 36.2 +1.6**
comp=Z,7.3nm,0.7s
CONA Conrad Observa 39.68 302 *i* pP **P** **11 03 39.0 +2.2**
comp=Z,9.8nm,1.2s
QIZ Qiongzhong 39.69 108 P **P** **11 03 38.4 +1.3**
QIZ S **S** **11 09 41.5 +1.0**
QIZ LR LR
comp=Z,400nm,11.7s
QIZ LR LR
comp=Z,420nm,11.3s
QIZ LR LR
comp=Z,280nm,19.2s
DL2 Dalian 39.87 73 P **P** **11 03 38.5 +0.1**
DL2 *e*S **S** **11 09 44.4 +1.5**
DL2 pmax pmax
comp=Z,43nm,0.6s
DL2 LR LR
comp=Z,370nm,16.7s
DL2 LR LR
comp=Z,400nm,17.3s
DL2 LR LR
comp=Z,440nm,14.6s
HAMF Hammerfest 39.90 338 *e*P **P** **11 03 38.9 +0.7**
HAMF IAmb IAmb 11 03 40.0
comp=Z,45nm,1.2s
ARSA Arzberg 40.00 301 *i* pP **P** **11 03 41.2 +1.9**
comp=Z,4.7nm,0.9s
NJ2 Nanjing 40.08 84 *e*P **P** **11 03 40.6 +0.4**
NJ2 pmax pmax
comp=Z,16nm,0.7s
SOKA Soboth 40.41 300 *i* pP **P** **11 03 44.7 +1.8**
comp=Z,9.2nm,0.9s
JETT Jettan, Norway 40.44 336 *e*P **P** **11 03 43.2 +0.5**
JETT IAmb IAmb 11 03 44.7
comp=Z,260nm,2.1s
ZVC Zvikov 40.60 304 *e*P **P** **11 03 46.7 +2.4**
BRG Berggiesshubel 40.62 306 *i* P **P** **11 03 46.5 +2.0**
BRG Amp 11 03 47.8
comp=Z,5.1nm,0.7s
BRG Berggiesshubel 40.62 306 P **P** **11 03 49.3 +4.8**
BRG Amp 11 03 49.6
comp=Z,10.0nm,0.7s
MOA Molln 40.76 302 *i* pP **P** **11 03 47.5 +1.8**
comp=Z,18nm,1.6s
OBKA Obir 40.77 300 *e*pP **P** **11 03 47.8 +1.9**
comp=Z,24nm,1.8s
HFS Hagfors 40.84 321 P **P** **11 03 46.6 +0.5**
comp=Z,31nm,0.6s,baz=98,slow=11,SNR=42
HFS LR LR 11 21 44.1
comp=Z,209nm,18.9s,baz=96,slow=38
comp=Z,31nm,0.6s
GEC2 GERESS Array S 40.99 303 P **P** **11 03 47.4 -0.3**
GERES GERESS Array B 40.99 303 P **P** **11 03 45.4 -2.3**
GERES GERESS Array B 40.99 303 P **P** **11 03 45.2 -2.5**
comp=Z,1.5nm,0.6s,baz=51,slow=12,SNR=4.4
GERES LR LR 11 22 44.6
comp=Z,133nm,18.2s,baz=51,slow=39
GERES GERESS Array B 40.99 303 P **P** **11 03 45.4 -2.3**
KHC Kasperske Hory 41.04 304 *e*P **P** **11 03 49.2 +1.3**
KHC Kasperske Hory 41.04 304 ⇑*e*P **P** **11 03 49.3 +1.3**
KHC pmax pmax
comp=Z,35nm,1.7s
CLL Collm 41.18 307 *i* P **P** **11 03 52.8 +3.8**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 41.18 307 *i* Px Px 11 03 52.8
comp=Z,9.0nm,1.0s
CLL AMS AMS 11 23 00.0
comp=Z,200nm,19.3s
BIOA Bad Ischl, Aus 41.20 301 *e*pP **P** **11 03 50.9 +1.6**
comp=Z,2.7nm,0.5s
ZEA Zeya 41.29 49 *e*P **P** **11 03 50.6 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
CUC Castrocucco 41.31 290 P **P** **11 03 50.7 +0.3**
CUC IAmb IAmb 11 03 57.3
comp=Z,13nm,0.8s
MYKA Terra Mystica 41.37 300 *i* pP **P** **11 03 52.6 +1.8**
comp=Z,6.0nm,0.8s
CN2 Changchun 41.43 64 *e*P **P** **11 03 51.5 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
KBA Koelnbreinsper 41.49 301 *e*pP **P** **11 03 53.7 +1.8**
comp=Z,12nm,1.4s
MOR8 Moi Rana 41.51 330 *e*P **P** **11 03 52.0 +0.3**
MOR8 IAmb IAmb 11 03 53.8
comp=Z,39nm,1.4s
STEI Steigen 41.66 332 *e*P **P** **11 03 54.2 +1.5**
STEI IAmb IAmb 11 03 57.9
comp=Z,929nm,3.5s
HEH HeiHe 41.67 55 *e*P **P** **11 03 53.0 -0.1**
HEH pmax pmax
comp=Z,83nm,0.7s
LESA Schwarzleotal 41.88 301 *i* pP **P** **11 03 56.3 +1.3**
comp=Z,20nm,1.4s
NC405 NORSAR Array S 41.90 322 P **P** **11 03 55.3 +0.4**
NC405 IAmb IAmb 11 04 00.3
comp=Z,40nm,1.1s
NC602 NORSAR Array S 41.96 321 P **P** **11 03 55.4 +0.1**
NC602 NORSAR Array S 41.96 321 *e*P **P** **11 03 56.1 +0.8**
NC602 IAmb IAmb 11 04 00.8
comp=Z,32nm,1.0s
LEIR Leirfjorden 42.03 329 *e*P **P** **11 03 56.6 +0.9**
LEIR IAmb IAmb 11 04 00.7
comp=Z,13nm,0.8s
STOK Stokkvaagen 42.11 330 *e*P **P** **11 03 57.9 +1.4**
STOK IAmb IAmb 11 03 58.4
comp=Z,72nm,1.5s
NB2 NORSAR Subarra 42.14 322 P **P** **11 03 56.7 -0.1**
comp=Z,21nm,0.8s,baz=94,slow=8.6
NB2 NORSAR Subarra 42.14 322 P **P** **11 03 56.7 -0.1**
baz=94,slow=8.6
NB2 NORSAR Subarra 42.14 322 P **P** **11 03 54.7 -2.2**
NOA NORSAR Array B 42.14 322 P **P** **11 03 56.8 -0.1**
comp=Z,14nm,0.7s,baz=108,slow=7.2,SNR=24
NOA LR LR 11 22 45.3
comp=Z,118nm,19.4s,baz=90,slow=38
comp=Z,14nm,0.7s
NBO00 NORSAR Array S 42.35 322 IAmb IAmb 11 04 03.8
comp=Z,34nm,0.9s
BNX BinXian 42.39 61 ⇓P **P** **11 03 58.8 -0.2**
BNX pmax pmax
comp=Z,9.0nm,0.7s
FDMO Fiordimonte 42.50 295 P **P** **11 04 00.6 +0.6**
NRCA Norcia 42.53 294 P **P** **11 04 01.3 +1.0**
NRCA IAmb IAmb 11 04 13.8
comp=Z,37nm,1.5s
WTTA Wattenberg 42.61 301 *e*P **P** **11 04 01.6 +0.6**
comp=Z,16nm,1.6s
WATA Walderalm 42.63 301 *e*pP pP 11 04 04.6 -0.9
comp=Z,1.6nm,0.4s
YAK Yakutsk 42.74 37 LR LR 11 23 10.7
comp=Z,129nm,21.6s,baz=250,slow=38
YAK Yakutsk 42.74 37 *e*P **P** **11 04 00.1 -1.6**
YAK *e**PP **pP** **11 04 05.4 -0.7**
YAK *e* 11 05 38.5
YAK *e* 11 05 49.9
YAK *e*S **S** **11 10 21.4 -3.5**
YAK *e*SS **SS** **11 13 34.3 -0.9**
YAK *e*SSS SSS 11 14 10.4
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,217nm,4.2s
YAK pmax pmax
comp=N,156nm,6.6s
YAK pmax pmax
comp=E,137nm,4.3s
YAK smax smax
comp=N,235nm,6.0s
YAK smax smax
comp=E,148nm,5.3s
KONO Kongsberg 42.87 320 P **P** **11 04 03.5 +0.8**
KONO Kongsberg 42.87 320 *e*P **P** **11 04 03.5 +0.8**
KONO Kongsberg 42.87 320 P **P** **11 04 03.5 +0.8**
KONO pmax pmax
comp=Z,53nm,1.4s
SQTA Sankt Quirin 42.90 301 *e*P **P** **11 04 03.5 +0.1**
comp=Z,3.3nm,0.6s
BJO1 Bjornoya 42.95 342 *e*P **P** **11 04 03.6 +0.4**
BJO1 IAmb IAmb 11 04 04.8
comp=Z,28nm,1.0s
RETA Reutte 43.15 302 *i* pP **P** **11 04 07.6 +2.3**
comp=Z,4.8nm,1.0s
FETA Feichten 43.26 301 *i* pP pP 11 04 09.3 -1.3
comp=Z,17nm,2.2s
SKAR Skarslia 43.54 321 *e*P **P** **11 04 10.9 +2.7**
SKAR IAmb IAmb 11 04 12.0
comp=Z,478nm,2.3s
FUORN Ofenpass-Fuorn 43.65 301 P **P** **11 04 09.4 -0.2**
DAVA Damuels 43.78 302 *e*pP **P** **11 04 11.6 +1.1**
comp=Z,9.3nm,0.9s
DAVOX Davos/Dischmat 43.88 301 LR LR 11 26 05.2
comp=Z,140nm,18.2s,baz=82,slow=41
SNART Snartemo 44.11 318 *e*P **P** **11 04 14.7 +1.9**
SNART Snartemo 44.11 318 *i* P **P** **11 04 13.0 +0.3**
TIXI Tiksi 44.12 23 P **P** **11 04 12.3 -0.3**
TIXI Tiksi 44.12 23*c i* P **P** **11 04 12.1 -0.5**
TIXI pmax pmax
comp=Z,53nm,0.7s
MDJ Mudanjiang 44.14 62 P **P** **11 04 12.5 -0.7**
MDJ pmax pmax
comp=Z,9.0nm,1.0s
AKN Aaknes 44.22 323 *e*P **P** **11 04 15.9 +2.3**
TUE Stuetta 44.30 300 P **P** **11 04 15.1 +0.3**
ODD1 Odda 44.37 320 *e*P **P** **11 04 17.5 +2.6**
PSI Prapat 44.44 136 LR LR 11 24 15.4
comp=Z,57nm,18.1s,baz=344,slow=38
BLS5 Blasjo 44.47 319 *e*P **P** **11 04 18.2 +2.6**
BLS5 IAmb IAmb 11 04 20.4
comp=Z,196nm,1.9s
KLR Kul'dur 44.61 55 LR LR 11 24 26.7
comp=Z,134nm,20.6s,baz=294,slow=38
KLR Kul'dur 44.61 55*c i* P **P** **11 04 16.2 -0.7**
KLR pmax pmax
comp=Z,26nm,1.7s
KS19 Wonju Array Si 44.98 73 P **P** **11 04 20.3 +0.3**
KS19 IAmb IAmb 11 04 53.1
comp=Z,22nm,1.3s
GSI Gunungsitoli 44.99 139 P **P** **11 04 19.5 -0.7**
KSAR Wonju Array Be 45.01 73 P **P** **11 04 19.1 -1.1**
KSAR Wonju Array Be 45.01 73 P **P** **11 04 19.1 -1.1**
KSRS Korea Array 45.04 73 P **P** **11 04 19.6 -0.8**
comp=Z,11nm,0.9s,baz=284,slow=6.4,SNR=20
KSRS LR LR 11 24 36.6
comp=Z,152nm,20.5s,baz=125,slow=38
comp=Z,11nm,0.9s
ASK Askoy 45.08 321 *e*P **P** **11 04 23.2 +2.8**
SPA0 Spitsbergen Ar 45.20 346 *e*P **P** **11 04 21.8 +0.6**
SPA0 IAmb IAmb 11 04 26.4
comp=Z,182nm,2.5s
SPITS Spitsbergen Ar 45.20 346 P **P** **11 04 21.3 +0.1**
comp=Z,1.5nm,0.5s,baz=118,slow=8.1,SNR=5.8
comp=Z,1.5nm,0.5s
MSHR Mys Shultsa 45.78 65⇓*e*P **P** **11 04 27.0 +0.8**
MSHR pmax pmax
comp=Z,24nm,1.0s
USRK Ussuriysk Ar. 45.91 62 P **P** **11 04 26.0 -1.3**
comp=Z,4.0nm,0.6s,baz=269,slow=7.5,SNR=15
comp=Z,4.0nm,0.6s
KEST Kesra 47.56 286 P **P** **11 04 40.9 +0.5**
comp=Z,2.0nm,0.5s,baz=58,slow=7.5,SNR=4.6
comp=Z,2.0nm,0.5s
JOW Kunigami 49.75 85 P **P** **11 04 56.8 -0.5**
comp=Z,50nm,0.5s,baz=297,slow=5.9,SNR=10
EKA Eskdalemuir Ar 50.14 315 P **P** **11 05 00.2 +0.4**
comp=Z,8.9nm,0.6s,baz=90,slow=6.7,SNR=16
comp=Z,8.9nm,0.6s
JMIC Jan Mayen 50.26 335 LR LR 11 24 52.4
comp=Z,84nm,18.6s,baz=34,slow=34
KIBK Kibwezi 50.26 223 P **P** **11 05 02.0 +0.7**
TYV Tymovskoe 51.08 51 *e*P **P** **11 05 07.1 +0.1**
TYV pmax pmax
comp=Z,7.0nm,0.9s
TYV pmax pmax
comp=Z,300nm,5.5s
YSS Yuzhno-Sakhali 52.32 56 P **P** **11 05 15.4 -0.9**
YSS Yuzhno-Sakhali 52.32 56 P **P** **11 05 16.9 +0.6**
YSS Yuzhno-Sakhali 52.32 56*d i* P **P** **11 05 16.1 -0.2**
YSS pmax pmax
comp=Z,20nm,0.7s
DAG Danmarks Havn 52.42 343 *e*P **P** **11 05 17.1 +0.5**
SBUM Sibu 52.79 122 P **P** **11 05 20.6 +0.4**
SBUM Sibu 52.79 122 P **P** **11 05 21.3 +1.2**
KKM Kota Kinabalu 52.92 116 P **P** **11 05 21.9 +0.7**
KKM Kota Kinabalu 52.92 116 P **P** **11 05 22.3 +1.0**
MAJO Matsushiro 53.00 70⇑*e*P **P** **11 05 20.0 -1.5**
MJAR Matsushiro Arr 53.00 70 P **P** **11 05 20.6 -1.0**
comp=Z,7.9nm,0.8s,baz=292,slow=6.9,SNR=10
comp=Z,7.9nm,0.8s
MBAR Mbarara 53.09 232 P **P** **11 05 22.3 -0.2**
MBAR Mbarara 53.09 232⇑*e*P **P** **11 05 25.0 +2.4**
MBAR pmax pmax
comp=Z,11nm,1.4s
SEY Seymchan 53.13 35⇑*e*P **P** **11 05 21.6 -0.4**
MA2 Magadan 53.22 39 P **P** **11 05 22.2 -0.6**
MA2 Magadan 53.22 39 P **P** **11 05 22.4 -0.4**
comp=Z,9.8nm,0.9s
MA2 Magadan 53.22 39⇑*e*P **P** **11 05 22.1 -0.7**
MA2 pmax pmax
comp=Z,11nm,1.7s
ESDC Sonseca Array 55.70 296 P **P** **11 05 42.4 +1.2**
ESDC Sonseca Array 55.70 296 P **P** **11 05 42.0 +0.8**
comp=Z,6.9nm,0.9s,baz=60,slow=6.8,SNR=14
comp=Z,6.9nm,0.9s
BILL Bilibino 57.06 26 P **P** **11 05 50.6 +0.2**
BILL Bilibino 57.06 26⇓*e*P **P** **11 05 50.8 +0.4**
BILL pmax pmax
comp=Z,13nm,1.5s
SUMG Summit 58.74 340 P **P** **11 06 03.5 +0.9**
SUMG Summit 58.74 340 P **P** **11 06 03.5 +0.9**
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 58.74 340 *i* P **P** **11 06 03.0 +0.4**
NEEM North Greenlan 58.74 347 *e*P **P** **11 06 02.3 -0.2**
PETK Petropavlovsk- 59.04 45 P **P** **11 06 03.4 -1.1**
comp=Z,2.5nm,0.8s,baz=290,slow=7.1,SNR=5.2
comp=Z,2.5nm,0.8s
MRSI Marisa 60.88 116 P **P** **11 06 17.7 +0.1**
comp=Z,59nm,1.0s
ATG Ambohiby 61.40 206 P P 11 06 26.8 +5.7
APSI Ampana 61.65 117 P **P** **11 06 22.6 -0.2**
comp=Z,41nm,1.1s
DGRM Ambatolahisoa 61.67 205 P P 11 06 32.7 +10
KULLO Kullorsuaq 61.77 346 *e*P **P** **11 06 19.3 -3.5**
UPNV Upernavik 62.83 344 *e*P **P** **11 06 30.5 +0.6**
TORD Torodi Ar. Bea 64.92 267 P **P** **11 06 45.5 +0.9**
comp=Z,1.9nm,0.3s,baz=49,slow=7.9,SNR=2.5
comp=Z,1.9nm,0.3s
A19K Wainwright 65.36 17 P **P** **11 06 47.2 +0.7**
baz=318,SNR=8.3
SFJD Kangerlussuaq 65.43 338 LR LR 11 35 23.9
comp=Z,91nm,20.2s,baz=44,slow=36
A21K Barrow 65.46 15 P **P** **11 06 47.2 0.0**
baz=321,SNR=9.5
SANI Sanana 65.52 114 P **P** **11 06 47.6 -0.8**
SANI Sanana 65.52 114 P **P** **11 06 47.2 -1.2**
comp=Z,26nm,1.1s
C16K Lisburne Hills 65.72 20 IAmb IAmb 11 06 49.6
comp=Z,6.7nm,0.8s
C16K Lisburne Hills 65.72 20 P **P** **11 06 48.8 -0.1**
baz=315
B18K Kokolik River 65.82 18 P **P** **11 06 49.7 +0.2**
baz=318
A22K Sinclair Lake 66.04 15 P **P** **11 06 51.4 +0.4**
baz=323
C17K DeLong Mountai 66.14 19 P **P** **11 06 51.8 +0.1**
baz=317
LSZ Lusaka 66.34 225 LR LR 11 37 54.3
comp=Z,88nm,19.0s,baz=180,slow=38
B20K Meade River 66.38 16 P **P** **11 06 53.3 +0.2**
baz=321
RES Resolute Bay 66.49 356 P **P** **11 06 53.8 +0.1**
RES Resolute Bay 66.49 356 LR LR 11 39 00.6
comp=Z,64nm,18.2s,baz=17,slow=39
RES Resolute Bay 66.49 356 P **P** **11 06 53.8 +0.1**
RES pmax pmax
comp=Z,4.0nm,1.0s
C18K Utukok River 66.50 18 IAmb IAmb 11 06 54.7
comp=Z,6.8nm,0.7s
C18K Utukok River 66.50 18 P **P** **11 06 54.2 +0.2**
baz=318
RDOG Red Dog Mine 66.51 19 P **P** **11 06 53.7 -0.3**
baz=317
D17K Noatak River 66.73 19 P **P** **11 06 55.4 0.0**
baz=317,SNR=13
B22K Teshekpuk Lake 66.89 15 P **P** **11 06 55.8 -0.5**
baz=324
TNA Tin City 66.91 23 P **P** **11 06 56.6 +0.1**
baz=314
GAMB Gambell 66.93 25 P **P** **11 06 55.9 -0.8**
baz=312
B21K Ikpikpuk River 67.23 15 P **P** **11 06 58.4 -0.2**
baz=324
D19K Kuna River 67.35 17 P **P** **11 06 59.0 -0.4**
baz=321
F14K Arctic Creek 67.44 22 P **P** **11 06 58.9 -1.1**
baz=315
D20K Etivluk River 67.52 17 P **P** **11 07 00.1 -0.4**
baz=322
C21K Knifeblade Rid 67.57 16 P **P** **11 07 00.4 -0.3**
baz=324
E18K Tukpahlearik C 67.57 19 P **P** **11 07 00.2 -0.5**
baz=319
F15K North Star Dit 67.76 21 P **P** **11 07 01.8 -0.2**
baz=316
C23K Itkillik River 67.85 14 P **P** **11 07 02.6 +0.2**
baz=327
E20K Nigu River 67.98 17 P **P** **11 07 03.0 -0.4**
baz=323
F17K Baldwin Pennin 68.15 20 P **P** **11 07 04.5 +0.2**
baz=319
D22K Ayikyak River 68.23 15 IAmb IAmb 11 07 11.8
comp=Z,14nm,1.2s
D22K Ayikyak River 68.23 15 P **P** **11 07 04.9 0.0**
baz=325,SNR=6.5
C24K Franklin Bluff 68.30 14 IAmb IAmb 11 07 06.8
comp=Z,10nm,0.8s
C24K Franklin Bluff 68.30 14 P **P** **11 07 05.7 +0.4**
baz=328
E21K Killik River 68.32 16 IAmb IAmb 11 07 06.0
comp=Z,9.4nm,0.8s
E21K Killik River 68.32 16 P **P** **11 07 05.0 -0.5**
baz=324
E19K Redstone River 68.37 18 IAmb IAmb 11 07 16.6
comp=Z,6.0nm,0.9s
E19K Redstone River 68.37 18 P **P** **11 07 05.2 -0.6**
baz=322
ANM Nome 68.38 22 P **P** **11 07 04.8 -1.1**
baz=316
F18K Selawik 68.44 19 P **P** **11 07 05.7 -0.5**
baz=320
G15K Niukluk 68.46 22 P **P** **11 07 05.9 -0.4**
baz=317
D23K Nanushuk River 68.57 15 IAmb IAmb 11 07 08.2
comp=Z,7.4nm,0.9s
D23K Nanushuk River 68.57 15 P **P** **11 07 06.8 -0.2**
baz=327
G16K Koyuk River 68.64 21 P **P** **11 07 07.2 -0.3**

	baz=318						
F19K	Shaleruckik Mo	68.73	18	P	P	11 07 07.5	-0.5
	baz=322						
D24K	Happy Valley	68.77	14	IAmb	IAmb	11 07 09.3	
	comp=Z,12nm,1.4s						
D24K	Happy Valley	68.77	14	P	P	11 07 08.1	-0.1
	baz=328						
C26K	Camden Bay	68.79	12	P	P	11 07 08.4	0.0
	baz=331						
E22K	Anaktuvuk Pass	69.03	15	P	P	11 07 09.8	-0.2
E22K				IAmb	IAmb	11 07 10.6	
	comp=Z,7.5nm,0.8s						
E22K	Anaktuvuk Pass	69.03	15	P	P	11 07 09.8	-0.2
	baz=326,SNR=7.9						
F20K	Avaraart Lake	69.05	17	P	P	11 07 09.6	-0.4
	baz=323						
TOLK	Toolik Lake Re	69.06	14	P	P	11 07 10.5	+0.4
TOLK	Toolik Lake Re	69.06	14	P	P	11 07 09.9	-0.2
	baz=328,SNR=14						
D25K	Kavik River	69.06	13	P	P	11 07 10.2	0.0
	baz=330						
A36M	Sachs Harbour	69.14	5	P	P	11 07 10.6	+0.1
	baz=347,SNR=39						
H16K	Elim	69.24	21	P	P	11 07 10.8	-0.4
	baz=319						
G18K	Tagagawik	69.25	19	P	P	11 07 11.3	0.0
	baz=321						
C27K	Jago River	69.25	12	IAmb	IAmb	11 07 18.5	
	comp=Z,9.0nm,0.8s						
C27K	Jago River	69.25	12	P	P	11 07 11.3	+0.1
	baz=332,SNR=12						
F21K	Alatna River	69.43	17	IAmb	IAmb	11 07 13.1	
	comp=Z,8.5nm,1.0s						
F21K	Alatna River	69.43	17	P	P	11 07 11.9	-0.5
	baz=325,SNR=12						
G19K	Purcell Mounta	69.45	19	P	P	11 07 11.9	-0.6
	baz=322						
F22K	John River	69.48	16	P	P	11 07 12.4	-0.3
	baz=326						
E23K	Chandalar	69.55	15	IAmb	IAmb	11 07 21.4	
	comp=Z,6.7nm,0.7s						
E23K	Chandalar	69.55	15	P	P	11 07 13.0	-0.2
	baz=328						
H17K	Granite Mounta	69.66	20	P	P	11 07 13.5	-0.4
	baz=320						
E24K	Your Creek	69.75	14	IAmb	IAmb	11 07 15.5	
	comp=Z,7.3nm,0.7s						
E24K	Your Creek	69.75	14	P	P	11 07 14.5	0.0
	baz=329						
H18K	Honhosa River	69.91	20	P	P	11 07 14.8	-0.6
	baz=322						
G21K	Allakaket	70.00	17	P	P	11 07 15.8	-0.1
	baz=325						
D27M	Malcolm River	70.03	11	IAmb	IAmb	11 07 18.8	
	comp=Z,6.0nm,0.9s						
D27M	Malcolm River	70.03	11	P	P	11 07 15.9	-0.2
	baz=335						
H19K	Roundabout Mou	70.10	19	P	P	11 07 15.9	-0.5
	baz=323						
COLD	Coldfoot	70.13	15	IAmb	IAmb	11 07 18.1	
	comp=Z,12nm,0.8s						
COLD	Coldfoot	70.13	15	P	P	11 07 16.6	-0.1
	baz=328,SNR=15						
I17K	Unalakleet	70.25	21	P	P	11 07 17.6	+0.1
	baz=320						
E25K	Arctic Village	70.26	13	IAmb	IAmb	11 07 18.5	
	comp=Z,6.0nm,0.9s						
E25K	Arctic Village	70.26	13	P	P	11 07 17.5	-0.1
	baz=331,SNR=5.5						
J14K	Nanvaranak Lak	70.27	23	P	P	11 07 17.6	0.0
	baz=318						
D28M	Stokes Point	70.27	10	P	P	11 07 17.4	-0.1
	baz=337						
F24K	Squaw Lake	70.35	14	P	P	11 07 18.4	+0.3
	baz=329						
H20K	Anotleneega Mo	70.52	18	P	P	11 07 19.3	+0.2
	baz=324						
K13K	Kusilvak Mount	70.53	24	P	P	11 07 19.3	+0.1
	baz=318						
G23K	Bananza Creek	70.61	16	IAmb	IAmb	11 07 21.0	
	comp=Z,6.2nm,0.9s						
G23K	Bananza Creek	70.61	16	P	P	11 07 19.3	-0.4
	baz=328						
GCSA	Galena City Sc	70.61	19	P	P	11 07 19.1	-0.5
	baz=323						
F25K	Christian Rive	70.71	14	IAmb	IAmb	11 07 21.9	
	comp=Z,8.2nm,0.8s						
F25K	Christian Rive	70.71	14	P	P	11 07 20.3	0.0
	baz=331,SNR=13						
J16K	Anvik River	70.74	22	P	P	11 07 20.0	-0.5
	baz=320						
E28M	Babbage River	70.82	11	IAmb	IAmb	11 07 22.4	
	comp=Z,5.9nm,0.7s						
E28M	Babbage River	70.82	11	P	P	11 07 20.5	-0.4
	baz=336						
H21K	Melozitna Rive	70.88	17	IAmb	IAmb	11 07 22.0	
	comp=Z,8.3nm,1.2s						
H21K	Melozitna Rive	70.88	17	P	P	11 07 20.8	-0.5
	baz=326						
E27K	Coleen River	70.88	12	IAmb	IAmb	11 07 22.7	
	comp=Z,8.1nm,0.9s						
E27K	Coleen River	70.88	12	P	P	11 07 21.1	-0.2
	baz=334						
F26K	Sheenjek River	70.89	13	P	P	11 07 21.1	-0.3
	baz=332						
H22K	Ishtalitna Cre	71.00	17	P	P	11 07 21.7	-0.4
	baz=327						
BMAR	Burnt Mountain	71.05	13	P	P	11 07 23.1	+0.7
J17K	VABM Dome	71.09	21	P	P	11 07 22.4	-0.2
	baz=321						
G24K	Hadweenzic Riv	71.14	15	IAmb	IAmb	11 07 24.1	
	comp=Z,7.8nm,0.8s						
G24K	Hadweenzic Riv	71.14	15	P	P	11 07 22.7	-0.2
	baz=330,SNR=8.3						
M11K	Mekoryuk	71.15	26	P	P	11 07 22.4	-0.6
	baz=317						
I20K	Naaghedeneel	71.18	18	P	P	11 07 22.6	-0.6
	baz=325						
K15K	Wolf Creek Mou	71.23	23	P	P	11 07 23.6	+0.1
	baz=320						
E29M	Blow River	71.26	11	IAmb	IAmb	11 07 25.1	
	comp=Z,8.9nm,0.8s						
E29M	Blow River	71.26	11	P	P	11 07 23.8	+0.2
	baz=337,SNR=15						
G25K	Bearman Lake	71.35	14	P	P	11 07 24.2	+0.1
	baz=331						
J19K	Poorman	71.55	19	P	P	11 07 25.0	-0.4
	baz=324						
L14K	Kuka Creek	71.60	24	P	P	11 07 25.8	+0.1
	baz=319						
G26K	Porcupine Rive	71.62	13	P	P	11 07 25.6	-0.1
	baz=333						
J18K	Innoko River	71.69	20	IAmb	IAmb	11 07 26.8	
	comp=Z,6.1nm,0.8s						
J18K	Innoko River	71.69	20	P	P	11 07 25.6	-0.6
	baz=323						
FYU	Fort Yukon	71.70	14	IAmb	IAmb	11 07 34.7	
	comp=Z,8.7nm,0.8s						
L15K	Ungalak Mounta	71.71	23	P	P	11 07 26.1	-0.2
	baz=320						
J20K	Nowinta River	71.77	19	IAmb	IAmb	11 07 33.2	
	comp=Z,6.1nm,0.8s						
J20K	Nowinta River	71.77	19	P	P	11 07 26.2	-0.5
	baz=325						
H24K	Noodor Dome	71.81	15	IAmb	IAmb	11 07 28.2	
	comp=Z,7.5nm,0.9s						
H24K	Noodor Dome	71.81	15	P	P	11 07 26.9	-0.1
	baz=330						
C36M	Paulatuk	71.82	5	P	P	11 07 26.4	-0.4
	baz=349,SNR=22						
K17K	Iditarod	71.84	21	IAmb	IAmb	11 07 40.5	
	comp=Z,11nm,0.8s						
K17K	Iditarod	71.84	21	P	P	11 07 26.7	-0.5
	baz=322						
H25L	Birch Creek	71.85	14	P	P	11 07 27.2	+0.1
	baz=331						
INK	Inuvik	71.92	9	IAmb	IAmb	11 07 28.6	
	comp=Z,15nm,1.1s						
INK	Inuvik	71.92	9	LR	LR	11 41 50.5	
	comp=Z,48nm,18.1s,baz=242,slow=38						
INK	Inuvik	71.92	9	P	P	11 07 27.4	-0.1
	baz=341,SNR=14						
I23K	Minto, Yukon-K	72.08	16	IAmb	IAmb	11 07 30.2	
	comp=Z,18nm,1.5s						
I23K	Minto, Yukon-K	72.08	16	P	P	11 07 28.9	+0.3
	baz=329						
M13K	Dall Lake	72.09	25	P	P	11 07 28.7	+0.1
	baz=319						
G27K	Doyon Strip	72.12	13	P	P	11 07 28.8	0.0
	baz=335						
M14K	Bethel	72.28	24	P	P	11 07 29.6	-0.1
	baz=320						
F30M	Barrier River	72.28	10	P	P	11 07 29.7	-0.1
	baz=339						
L16K	Owhat River	72.30	22	P	P	11 07 29.9	0.0
	baz=322						
L17K	Donlin	72.31	22	P	P	11 07 29.5	-0.5
	baz=322						
TTA	Tatalina	72.31	20	P	P	11 07 30.0	0.0
	baz=324						
K20K	Telida	72.47	19	IAmb	IAmb	11 08 05.4	
	comp=Z,13nm,1.2s						
K20K	Telida	72.47	19	P	P	11 07 30.4	-0.5
	baz=325						
CHUM	Lake Minchumin	72.47	18	P	P	11 07 30.3	-0.6
	baz=327						
POKR	Poker Plat Res	72.53	16	IAmb	IAmb	11 08 09.7	
	comp=Z,12nm,1.0s						
POKR	Poker Plat Res	72.53	16	P	P	11 07 30.9	-0.3
	baz=330,SNR=5.3						
PRP	Porcupine Dome	72.57	15	P	P	11 07 31.3	-0.3
	baz=332						
BPAW	Bear Paw Mtn.	72.61	18	IAmb	IAmb	11 07 32.8	
	comp=Z,15nm,1.3s						
BPAW	Bear Paw Mtn.	72.61	18	P	P	11 07 31.4	-0.3
	baz=328						
G29M	Pine Creek	72.61	11	IAmb	IAmb	11 08 00.3	
	comp=Z,16nm,1.2s						
G29M	Pine Creek	72.61	11	P	P	11 07 31.4	-0.3
	baz=338						
NEA2	Nenana	72.63	17	IAmb	IAmb	11 07 32.4	
	comp=Z,13nm,1.0s						
NEA2	Nenana	72.63	17	P	P	11 07 31.4	-0.4
	baz=329,SNR=7.6						
COLA	College	72.65	16	P	P	11 07 32.3	+0.4
COLA				PcP	PcP	11 07 51.0	+1.6
COLA	College	72.65	16	*ce*P	P	11 07 31.8	-0.1
COLA				pmax	pmax		
	comp=Z,14nm,0.8s						
COLA	College	72.65	16	P	P	11 07 31.4	-0.5
	baz=330						
H27K	Steamboat Moun	72.67	13	P	P	11 07 32.1	0.0
	baz=335						
L18K	Granite Mounta	72.69	21	P	P	11 07 32.0	-0.3
	baz=324						
F31M	Tsiigehtchic	72.71	9	P	P	11 07 32.2	-0.1
F31M				IAmb	IAmb	11 07 33.1	
	comp=Z,12nm,0.9s						
F31M	Tsiigehtchic	72.71	9	P	P	11 07 31.8	-0.5
	baz=341,SNR=6.9						
M15K	Kasigluk River	72.72	23	P	P	11 07 32.1	-0.4
	baz=321						
G30M	tAoh Zraii Nji	72.81	10	IAmb	IAmb	11 07 41.0	
	comp=Z,11nm,1.1s						
G30M	tAoh Zraii Nji	72.81	10	P	P	11 07 32.5	-0.5
	baz=339						
CAST	Castle Rocks	72.92	18	P	P	11 07 33.8	+0.2
CAST				IAmb	IAmb	11 07 34.6	
	comp=Z,14nm,1.2s						
CAST	Castle Rocks	72.92	18	P	P	11 07 33.3	-0.3
	baz=327,SNR=7.5						
IL31		72.94	16	P	P	11 07 33.2	-0.4
ILAR	Eielson Array	72.94	16	P	P	11 07 32.9	-0.9
	comp=Z,3.0nm,0.8s,baz=324,slow=4.9,SNR=28						
	comp=Z,3.0nm,0.8s						
M16K	Timber Creek	72.99	23	P	P	11 07 34.0	-0.1
	baz=322						
N14K	Kuskokwak Cree	73.00	24	P	P	11 07 33.6	-0.4
	baz=320						
G31M	Satah River	73.14	10	IAmb	IAmb	11 08 04.1	
	comp=Z,10nm,1.2s						
G31M	Satah River	73.14	10	P	P	11 07 34.3	-0.5
	baz=340						
M17K	Holitna River	73.14	22	P	P	11 07 34.5	-0.4
	baz=323						
H29M	Whitestone	73.20	12	IAmb	IAmb	11 07 36.5	
	comp=Z,9.6nm,0.9s						
H29M	Whitestone	73.20	12	P	P	11 07 34.8	-0.4
	baz=337						
I26K	Coal Creek Min	73.21	14	P	P	11 07 34.4	-0.9
	baz=334						
I27K	Kandik River	73.22	13	P	P	11 07 34.8	-0.6
	baz=335						
L19K	White Mountain	73.23	20	P	P	11 07 35.4	-0.1
	baz=325						
L20K	Farewell, AK	73.24	20	P	P	11 07 35.0	-0.6
	baz=326						
HDA	Harding Lake	73.25	16	P	P	11 07 35.2	-0.3
	baz=331						
EPYK	Eagle Plains	73.31	11	P	P	11 07 35.1	-0.8
	baz=339						
N15K	Kwethluk River	73.32	24	P	P	11 07 35.3	-0.7
	baz=321						
TRF	Thorofare Moun	73.33	18	P	P	11 07 35.1	-1.1
	baz=328						
PPLA	Purkeypile	73.33	19	IAmb	IAmb	11 07 54.4	
	comp=Z,20nm,1.3s						
PPLA	Purkeypile	73.33	19	P	P	11 07 35.4	-0.8
	baz=327						
J25K	Salcha River,	73.40	15	P	P	11 07 35.9	-0.6
	baz=332						
MCK	McKinley	73.40	17	P	P	11 07 35.7	-0.8
	baz=329						
N16K	Nishlik Lake	73.48	23	P	P	11 07 36.6	-0.4
	baz=322						
M18K	Stony River	73.53	21	P	P	11 07 36.5	-0.7
	baz=324						
M19K	Big River Lodg	73.58	20	P	P	11 07 37.0	-0.5
	baz=325						
O14K	Tigyukauivet M	73.66	25	P	P	11 07 37.8	-0.1
	baz=321						
I28M	Miner Creek	73.66	13	P	P	11 07 37.6	-0.4
	baz=336						
J26L	Joseph Creek	73.86	14	P	P	11 07 38.7	-0.5
	baz=333,SNR=6.3						
N17K	Nushagak Hills	73.92	22	P	P	11 07 39.0	-0.5
	baz=323						
M20K	Styx River	73.94	20	P	P	11 07 39.2	-0.5
	baz=326						
DBIC	Dimbokro	73.96	266	LR	LR	11 46 17.5	
	comp=Z,78nm,19.7s,baz=74,slow=41						
I29M	Ogilvie Camp,	74.01	12	P	P	11 07 39.2	-0.8
	baz=337						
K24K	Donnelly Dome	74.03	16	P	P	11 07 39.5	-0.6
	baz=332,SNR=9.4						
N18K	Kilae Creek	74.17	22	P	P	11 07 40.7	-0.3
	baz=324						
O15K	Ungalikthiuk R	74.18	24	P	P	11 07 40.9	-0.2
	baz=322						
H31M	Peel River	74.18	10	IAmb	IAmb	11 07 54.7	
	comp=Z,7.1nm,0.8s						
H31M	Peel River	74.18	10	P	P	11 07 40.3	-0.7
	baz=340						
CUT	Chulitna	74.22	18	IAmb	IAmb	11 07 42.8	
	comp=Z,11nm,0.7s						
CUT	Chulitna	74.22	18	P	P	11 07 40.4	-0.8
	baz=328						
SCRK	Sand Creek	74.24	15	P	P	11 07 41.3	-0.2
SCRK	Sand Creek	74.24	15	P	P	11 07 40.6	-0.9
	baz=333,SNR=6.3						
SKT	Skwentna	74.27	19	IAmb	IAmb	11 07 41.5	
	comp=Z,10nm,0.7s						
SKT	Skwentna	74.27	19	P	P	11 07 40.8	-0.8
	baz=328,SNR=6.2						
RIDG	Independent Ri	74.28	15	P	P	11 07 41.0	-0.7
RIDG	Independent Ri	74.28	15	P	P	11 07 41.2	-0.5
	baz=332						
O16K	Kokwok River B	74.39	23	P	P	11 07 41.0	-1.3
	baz=323						
I30M	Mount Dempster	74.44	11	P	P	11 07 41.7	-0.9
	baz=339						
N19K	Bonanza Creek	74.46	21	P	P	11 07 41.8	-1.0
	baz=325						
O17K	Koliganek Bris	74.55	23	P	P	11 07 42.1	-1.0
	baz=324						
K27K	Chicken	74.57	14	IAmb	IAmb	11 07 44.5	
	comp=Z,9.0nm,1.0s						
K27K	Chicken	74.57	14	P	P	11 07 42.6	-0.6
	baz=335						
N20K	Mount Spurr	74.75	20	P	P	11 07 43.6	-0.8
	baz=327						
SPCR	Spurr Chakacha	74.75	20	P	P	11 07 43.7	-0.7
	baz=327						
M22K	Willow	74.82	18	P	P	11 07 44.1	-0.6
	baz=329						
PAX	Paxson	74.83	16	P	P	11 07 44.0	-0.9
	baz=332,SNR=6.0						
J29N	Klondike Camp	74.86	12	P	P	11 07 44.2	-0.9
	baz=338						
P16K	Nushagak River	74.87	23	P	P	11 07 44.2	-0.8
	baz=323						
SUA	Susitna One	74.91	19	P	P	11 07 44.3	-1.1
	baz=328						
O19K	Port Alsworth	75.02	21	P	P	11 07 45.6	-0.2
	baz=326						
DAWY	Dawson	75.02	13	P	P	11 07 45.3	-0.6
	baz=337						
O18K	Koktuh Hills	75.04	22	P	P	11 07 45.5	-0.5
	baz=325						
J30M	Hart River	75.05	11	P	P	11 07 45.7	-0.5
	baz=339						
GHO	Glory Hole Cre	75.09	18	IAmb	IAmb	11 07 52.6	
	comp=Z,9.3nm,0.9s						
PMR	Palmer	75.20	18	P	P	11 07 46.3	-0.6
	baz=329						
SML	Sawmill	75.20	18	P	P	11 07 46.3	-0.7
	baz=330,SNR=6.4						
P17K	Kvichak River	75.22	23	P	P	11 07 46.1	-0.9
	baz=324						
L26K	Log Cabin Wild	75.22	15	P	P	11 07 46.5	-0.6
	baz=334						
M23K	Glacier View	75.36	17	P	P	11 07 46.8	-1.1
	baz=330,SNR=12						
CAPN	Captain Cook N	75.39	19	P	P	11 07 47.6	-0.4
	baz=328						
HARP	HAARP	75.41	16	P	P	11 07 47.9	-0.2
	baz=332,SNR=8.1						
P18K	Big Mountain,	75.42	22	P	P	11 07 48.4	+0.1
	baz=325						
SCM	Sheep Creek Mo	75.42	17	IAmb	IAmb	11 07 48.8	
	comp=Z,12nm,0.7s						
SCM	Sheep Creek Mo	75.42	17	P	P	11 07 48.2	-0.1
	baz=331						
M24K	Tolsona, Glenn	75.44	17	P	P	11 07 48.0	-0.4
	baz=332						
RC01	Rabbit Creek A	75.48	19	IAmb	IAmb	11 07 49.5	
	comp=Z,7.3nm,0.7s						
RC01	Rabbit Creek A	75.48	19	P	P	11 07 47.7	-0.9
	baz=329						
L27K	Beaver Creek,	75.49	14	IAmb	IAmb	11 08 02.2	
	comp=Z,14nm,1.5s						
L27K	Beaver Creek,	75.49	14	P	P	11 07 48.3	-0.4
	baz=335						
BCAR	Beaver Creek A	75.50	14	P	P	11 07 49.1	+0.4
KNK	Knik Glacier	75.52	18	P	P	11 07 48.7	-0.1
KNK				IAmb	IAmb	11 07 49.6	
	comp=Z,11nm,0.9s						
KNK	Knik Glacier	75.52	18	P	P	11 07 48.1	-0.7
	baz=330						
K29M	Barlow Dome	75.55	12	IAmb	IAmb	11 07 50.2	
	comp=Z,9.9nm,1.1s						
K29M	Barlow Dome	75.55	12	P	P	11 07 49.0	0.0
	baz=338						
Q16K	King Salmon	75.57	23	P	P	11 07 48.5	-0.6
	baz=324						
O20K	Slope Mountain	75.58	20	P	P	11 07 48.9	-0.3
	baz=327						
P19K	Oil Pt	75.77	21	P	P	11 07 50.1	-0.2
	baz=327						
UNV	Unalaska Valle	75.86	31	P	P	11 07 50.8	0.0
	baz=318						
M26K	Nabesna, AK	75.86	15	P	P	11 07 50.0	-0.7
	baz=334						
O22K	Cooper Landing	76.01	19	P	P	11 07 51.3	-0.3
	baz=329						
PWL	Port Wells	76.03	18	IAmb	IAmb	11 08 12.0	
	comp=Z,7.4nm,0.8s						
PWL	Port Wells	76.03	18	P	P	11 07 50.9	-0.8
	baz=330						
KLU	Klutina	76.04	17	IAmb	IAmb	11 08 26.4	
	comp=Z,7.0nm,1.0s						
KLU	Klutina	76.04	17	P	P	11 07 51.4	-0.4
	baz=332						
MAYO	Mayo, Yukon	76.04	12	P	P	11 07 51.2	-0.6
	baz=340						
Q18K	Katmai Hardscr	76.09	22	P	P	11 07 51.8	-0.4
	baz=325						
M27K	Edge Creek, AK	76.12	15	IAmb	IAmb	11 07 54.4	
	comp=Z,18nm,1.3s						
M27K	Edge Creek, AK	76.12	15	P	P	11 07 51.8	-0.6
	baz=335						
L29M	L29M	76.13	13	IAmb	IAmb	11 08 06.5	
	comp=Z,8.4nm,1.1s						
L29M	L29M	76.13	13	P	P	11 07 52.2	-0.1
	baz=338						
R16K	Pilot Point	76.18	24	P	P	11 07 51.4	-1.1
	baz=324						
HOM	Homer	76.21	20	P	P	11 07 52.0	-0.7
	baz=328						
N25K	Chitina, Valde	76.23	16	P	P	11 07 52.3	-0.7
	baz=333						
Q19K	Cape Douglas,	76.26	22	P	P	11 07 52.3	-0.8
	baz=326						
GLI	Glacier Island	76.31	18	P	P	11 07 52.3	-1.0
	baz=331						
BRSE	Bradley Lake S	76.38	20	P	P	11 07 53.0	-0.8
	baz=328						
DIV	Divide	76.40	17	IAmb	IAmb	11 08 03.0	
	comp=Z,6.4nm,0.6s						
SEW	Seward	76.40	19	P	P	11 07 53.1	-0.7
	baz=329						
S14K	Fog Glacier	76.55	26	P	P	11 07 54.1	-0.7
	baz=322						
M29M	Somme Creek	76.69	13	P	P	11 07 54.8	-0.7
	baz=338						
BMRM	Bremner River	76.80	16	P	P	11 07 55.8	-0.4
	baz=333						
M30M	Minto, Yukon	76.85	12	IAmb	IAmb	11 08 00.1	
	comp=Z,9.9nm,1.4s						
M30M	Minto, Yukon	76.85	12	P	P	11 07 56.1	-0.3
	baz=339						
FITZ	Fitzroy Crossi	76.87	126	P	P	11 07 57.5	+0.5
Q20K	Shuyak Island	76.89	21	P	P	11 07 56.6	+0.1
	baz=327						
EYAK	Cordova Ski Ar	76.92	17	P	P	11 07 55.7	-1.0
	baz=332						
CHGN	Chignik	76.92	25	P	P	11 07 55.9	-0.9
	baz=323						
SDPT	Sand Point	76.97	27	P	P	11 07 55.4	-1.6
	baz=322						
P23K	Montague Islan	77.01	18	P	P	11 07 57.2	-0.1
	baz=331						
KNRA	Kununurra	77.12	122	P	P	11 07 58.0	-0.4
KNRA				IAmb	IAmb	11 08 42.2	
	comp=Z,12nm,0.8s						
KNRA	Kununurra	77.12	122	P	P	11 07 57.7	-0.8
	comp=Z,17nm,0.9s						
R18K	Karluk	77.16	23	P	P	11 07 57.6	-0.5
	baz=326						
YUK8	Steele Glacier	77.52	14	P	P	11 07 59.3	-1.1
	baz=337						
KDAK	Kodiak Island	77.53	22	P	P	11 07 59.3	-0.8
	baz=327						
M31M	Drury Creek, Y	77.59	11	IAmb	IAmb	11 08 07.3	
	comp=Z,7.9nm,1.0s						
M31M	Drury Creek, Y	77.59	11	P	P	11 07 59.8	-0.7
	baz=341,SNR=6.9						
YUK4	Talbot Arm	77.67	14	P	P	11 08 00.1	-1.1
	baz=338						
CHNA	Chernabura Isl	77.69	27	P	P	11 08 00.4	-0.7
	baz=323						
FARO	Faro, Yukon	77.72	11	P	P	11 08 00.8	-0.5
	baz=342						
Q23K	Middleton Isla	77.76	18	P	P	11 08 01.1	-0.4
	baz=332						
KAIM	Kayak Island	77.78	17	P	P	11 08 00.8	-0.7
	baz=333						
OHAK	Old Harbor	77.79	22	P	P	11 08 01.0	-0.6
	baz=327						
N30M	Aishikik Lake	77.84	13	P	P	11 08 01.0	-1.0
	baz=339						
WRGLY	Wrigley	77.90	6	P	P	11 08 03.0	+0.8
WRGLY				IAmb	IAmb	11 08 03.8	
	comp=Z,9.5nm,0.9s						
WRGLY	Wrigley	77.90	6	P	P	11 08 01.3	-0.9
	baz=349						
O28M	Mount Upton	77.91	15	P	P	11 08 01.7	-0.9
	baz=336						
N31M	Braeburn, Yuko	78.04	12	P	P	11 08 02.4	-0.7
	baz=340						
SII	Sitkinak Islan	78.07	23	P	P	11 08 02.5	-0.8
	baz=326						
MESA	MESA	78.09	16	P	P	11 08 02.3	-1.2
	baz=335						

YUK6	Outpost Mounta	78.10	14	P	P	11 08 02.5	-1.1
	baz=338						
CHIR	Chirikof Islan	78.23	24	P	P	11 08 03.6	-0.5
	baz=325						
HYT	Haines Junctio	78.36	13	P	P	11 08 04.1	-0.9
	baz=338						
O29M	Mount Kennedy	78.65	14	P	P	11 08 05.6	-1.0
	baz=338						
O30N	Mendenhall	78.66	13	P	P	11 08 06.7	+0.1
O30N	Mendenhall	78.66	13	P	P	11 08 05.9	-0.6
	baz=340						
N32M	Quiet Lake	78.79	11	P	P	11 08 06.3	-0.9
	baz=342						
BOSA	Boshof	78.85	219	P	P	11 08 08.1	+0.1
	comp=Z,2.3nm,0.7s,baz=29,slow=5.5,SNR=4.9						
	comp=Z,2.3nm,0.7s						
WHY	Whitehorse	78.97	12	P	P	11 08 07.5	-0.8
	baz=340						
TGTN	Hyland Airport	79.08	9	P	P	11 08 08.0	-0.8
	baz=346						
P30M	Million Dollar	79.12	13	P	P	11 08 08.4	-0.7
	baz=339						
YKA	Yellowknife Ar	79.13	2	P	P	11 08 08.8	-0.1
	comp=Z,3.1nm,0.7s,baz=351,slow=5.5,SNR=76						
	comp=Z,3.1nm,0.7s						
P33M	Teslin, Yukon	79.72	11	P	P	11 08 12.2	-0.2
	baz=342						
SCHQ	Schefferville	79.77	336	P	P	11 08 12.6	-0.1
	comp=Z,3.3nm,0.8s,baz=193,slow=9.6,SNR=4.4						
	comp=Z,3.3nm,0.8s						
PLBC	Pleasant Camp	79.85	13	P	P	11 08 12.2	-0.8
	baz=339						
SKAG	Skagway	80.03	13	P	P	11 08 13.9	0.0
	baz=340						
P32M	Atlin	80.18	12	P	P	11 08 14.7	-0.1
	baz=342						
WTLY	Watson Lake, Y	80.39	9	P	P	11 08 16.2	+0.3
WTLY	Watson Lake, Y	80.39	9	P	P	11 08 14.5	-1.3
	baz=345						
R33M	Jennings River	80.78	11	P	P	11 08 16.6	-1.6
	baz=344						
R31K	City Hall, Gus	80.94	13	P	P	11 08 17.8	-1.0
	baz=340						
Q32M	Nakina River	81.01	11	P	P	11 08 18.2	-1.2
	baz=343						
S31K	Pelican	81.28	14	P	P	11 08 19.8	-0.7
	baz=340						
R32K	Eaglecrest	81.29	13	P	P	11 08 19.3	-1.4
	baz=341						
DLBC	Dease Lake	81.84	10	P	P	11 08 22.8	-0.9
	baz=344						
FCC	Fort Churchill	82.03	352	P	P	11 08 24.3	-0.2
FCC				IAmb	IAmb	11 08 31.2	
	comp=Z,18nm,1.3s						
FCC	Fort Churchill	82.03	352	P	P	11 08 24.3	-0.2
FCC				pmax	pmax		
	comp=Z,19nm,1.3s						
TOAD	Toad River Com	82.04	8	P	P	11 08 23.8	-0.9
	baz=348						
S32K	Killisnoo	82.04	13	P	P	11 08 23.5	-1.1
	baz=341						
S34M	Telegraph Cree	82.19	11	P	P	11 08 24.8	-0.6
	baz=344						
SIT	Sitka	82.30	14	P	P	11 08 25.0	-1.0
	baz=340						
T35M	Bob Quinn	83.22	11	P	P	11 08 29.5	-1.4
	baz=344						
WRAK	Wrangell Islan	83.43	12	P	P	11 08 31.1	-0.8
	baz=343						
U33K	Whale Pass	83.59	13	P	P	11 08 31.8	-0.9
	baz=342						
WRA	Warramunga Arr	83.87	121	P	P	11 08 33.2	-1.4
	comp=Z,9.3nm,0.8s,baz=324,slow=5.1,SNR=19						
	comp=Z,9.3nm,0.8s						
WRA	Warramunga Arr	83.87	121	*i* P	P	11 08 33.2	-1.4
WRA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRAB	Tennant Creek	83.87	121	*i* P	P	11 08 33.5	-1.1
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s						
U35K	Hyder	84.28	11	P	P	11 08 35.8	-0.4
	baz=344						
V35K	Ketchikan	84.59	12	P	P	11 08 37.0	-0.8
	baz=343						
ASAR	Alice Springs	86.20	124	P	P	11 08 45.3	-1.0
	comp=Z,6.7nm,0.7s,baz=315,slow=5.3,SNR=16						
	comp=Z,6.7nm,0.7s						
ULM	Lac du Bonnet	90.59	351	P	P	11 09 05.7	-1.2
	comp=Z,1.6nm,0.6s,baz=63,slow=3.9,SNR=5.2						
	comp=Z,1.6nm,0.6s						
L61B	Northampton	92.40	333	P	P	11 09 14.3	-1.1
	baz=28						
PDAR	Pinedale Array	98.95	360	LR	LR	11 59 03.8	
	comp=Z,43nm,18.2s,baz=356,slow=38						
Q24A	Divide	102.62	356	P	Pdif	11 10 00.2	-1.9
	baz=4.0						
S22A	4UR Ranch, Cre	103.91	357	P	Pdif	11 10 05.8	-2.0
	baz=2.6						
T25A	Trinidad	104.39	355	P	Pdif	11 10 07.9	-1.9
	baz=4.6						
Y22D	IRIS PASSCAL I	107.58	357	P	PKiKP	11 14 31.3	-0.7
	baz=2.6						
QSPA	South Pole Qui	128.45	180	PKP	PKPdf	11 15 10.5	-0.1
	comp=Z,1.3nm,0.7s,baz=250,slow=1.6,SNR=5.4						
CPUP	Villa Florida	134.39	269	PKP	PKPdf	11 15 22.8	-0.1
	comp=Z,1.4nm,0.7s,baz=28,slow=3.9,SNR=3.9						
PLCA	Paso Flores	149.67	253	PKPbc	PKPbc	11 15 53.6	-0.7
	comp=Z,2.9nm,0.8s,baz=58,slow=4.9,SNR=3.1						

*IDC **07** 10:59:24.2±0.6, 21°.96S×175°.78W, h0km, mb4.5/14, mbtmp4.5/15, ML4.5/1, MS3.5/14, Error ellipse: s-maj=25.0km s-min=16.0km az=128.0*

*NEIC **07** 10:59:25.9±2.0, 22°.04S±0°.09×175°.51W±0°.08, h10km±1km, mb4.8/74, Error ellipse: s-maj=16.3km s-min=12.0km az=156.0*

*NOU **07** 10:59:32.2, 22°.25S×175°.04W, h49km, mb4.8/22, Tonga Islands Region*

ISC 07 10:59:25.4±0.3, 22°.04S±0°.05×175°.52W±0°.06, h10km, n175, σ1$90/155, mb4.8/55, MS3.6/13, 9C-8D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	4.89	320	P	Pb	11 00 49.7	-1.5
NIUE	Niue	6.01	62	Pn	Pn	11 00 54.7	+0.4
NIUE				Sn	Sn	11 01 54.0	-9.3
NIUE	Niue	6.01	62	P	Pn	11 00 54.8	+0.4
DGTI	Dogotuki	7.26	321	P	Pn	11 01 21.8	+10
MSVF	Nonsavu	7.42	304	Pn	Pb	11 01 25.1	-9.2
MSVF	Nonsavu	7.42	304	Pn	Pn	11 01 24.6	+11
	31nm,0.3s,baz=131,slow=13,SNR=174						
MSVF	Nonsavu	7.42	304	P	Pb	11 01 25.0	-9.2
RIZ	Raoul Island	7.50	196	P	Pn	11 01 19.3	+4.4
RIZ				S	Sn	11 02 40.4	+0.5
GLKZ	Green Lake	7.51	196	P	Pn	11 01 19.1	+4.1
GLKZ				S	Sn	11 02 40.0	-0.3
AFI	Afiamalu	8.83	24		Pn	11 01 33.2	0.0
AFI	Afiamalu	8.83	24	P	Pn	11 01 35.8	+2.6
RAR	Rarotonga	14.66	90	Pn	Pn	11 02 52.8	-0.3
RAR	Rarotonga	14.66	90	Pn	Pn	11 02 53.0	0.0
	7.6nm,0.3s,baz=240,slow=7.9,SNR=14						
RAR				Sn	Sn	11 05 19.9	-16
	3.7nm,0.3s,baz=288,slow=20,SNR=5.9						
RAR				LR	LR	11 07 33.6	
	comp=Z,76nm,21.6s,baz=258,slow=33						
RAR	Rarotonga	14.66	90	P	Pn	11 02 52.7	-0.3
RAR	Rarotonga	14.66	90	P	Pn	11 02 52.9	0.0
PINNC	Pines Island,	15.78	265	Pn	Pn	11 03 07.1	-0.7
PINNC				IAmb	IAmb	11 03 24.1	
	comp=Z,98nm,1.0s						
DVP	Devils Point	15.92	283	P	P	11 03 19.7	+6.5
OUZ	Omahuta	16.23	214	P	P	11 03 18.5	+1.9
OUZ	Omahuta	16.23	214	P	P	11 03 16.1	-0.5
YATNC	Mamie plateau,	16.31	267	P	P	11 03 24.4	+6.8
OUENC	Ouen Island, N	16.34	265	P	P	11 03 24.0	+6.1
	comp=Z,15nm,0.9s						
MXZ	Matakaoa Point	16.37	198	Pn	Pn	11 03 14.9	-0.3
MXZ				IAmb	IAmb	11 03 36.1	
	comp=Z,113nm,1.1s						
WMGZ	Waiomatatini S	16.58	197	P	Pn	11 03 10.5	-7.4
WMGZ				S	Sn	11 06 06.8	-15
HAZ	Te Kaha	16.70	199	P	Pn	11 03 12.9	-6.6
HAZ				S	Sn	11 06 09.5	-15
ONTNC	Ouen Toro	16.70	266	Pn	Pn	11 03 18.8	-0.9
PKGZ	Pakihiroa	16.71	198	P	Pn	11 03 13.0	-6.7
PKGZ				S	Sn	11 06 05.5	-20
DZM	Mont Dzumac	16.73	266	P	P	11 03 28.0	+5.7
PUZ	Puketiti	16.86	197	P	Pn	11 03 15.6	-5.9
PUZ				S	Sn	11 06 10.5	-18
RUGZ	Raukumara Rang	16.92	199	P	Pn	11 03 16.3	-6.1
RUGZ				S	Sn	11 06 09.5	-21
CNGZ	Carnagh Statio	17.26	197	P	Pn	11 03 20.7	-5.7
CNGZ				S	Sn	11 06 12.9	-26
MWZ	Matawai	17.31	199	P	Pn	11 03 24.5	-2.7
MWZ				S	Sn	11 06 20.0	-20
URZ	Urewera	17.37	200	P	Pn	11 03 27.2	-0.7
	comp=Z,1.5nm,0.3s,baz=352,slow=4.2,SNR=18						
URZ				S	Sn	11 06 25.7	-15
	comp=Z,14nm,0.4s,baz=165,slow=19,SNR=7.3						
	comp=Z,7.3nm,0.3s						
URZ	Urewera	17.37	200	P	Pn	11 03 18.0	-10
URZ				S	Sn	11 06 24.0	-17
RIGZ	Rimuhau	17.59	198	P	Pn	11 03 29.3	-1.3
RIGZ				S	Sn	11 06 26.7	-20
HIZ	Hauiti	18.39	205	P	P	11 03 43.4	+3.0
BKZ	Black Stump Fm	18.39	200	P	P	11 03 41.2	+0.6
BKZ	Black Stump Fm	18.39	200	P	Pn	11 03 38.3	-2.2
BKZ				S	Sn	11 06 48.9	-17
PXZ	Pawanui	19.07	198	P	P	11 03 44.4	-3.5
PXZ				S	Sn	11 06 59.9	-23
BFZ	Birch Farm	19.85	199	P	P	11 03 57.3	+0.8
QRZ	Quartz Range	21.29	206	P	P	11 04 12.6	+0.5
KHZ	Kahutara	22.29	202	P	P	11 04 24.4	+1.6
RPZ	Rata Peaks	24.32	204	P	P	11 04 42.9	-0.3
	comp=Z,13nm,0.6s,baz=282,slow=2.3,SNR=7.0						
RPZ				LR	LR	11 13 25.4	
	comp=Z,259nm,19.0s,baz=19,slow=35						
	comp=Z,13nm,0.6s						
RPZ	Rata Peaks	24.32	204	P	P	11 04 46.5	+3.3
PPT	Papeete	24.79	84	LR	LR	11 12 12.6	
	comp=Z,63nm,21.4s,baz=267,slow=31						
JCZ	Jackson Bay	25.52	207	P	P	11 04 57.8	+3.6
ODZ	Otahua Downs	25.61	203	P	P	11 04 56.7	+1.9
HNR	Honiara	26.68	294	P	P	11 05 03.3	-1.6
HNR	Honiara	26.68	294	LR	LR	11 14 11.0	
	comp=Z,42nm,19.6s,baz=81,slow=34						
SYZ	Scrubby Hill	27.43	203	P	P	11 05 12.7	+1.5
ARMA	Armidale	30.55	247	P	P	11 05 40.5	+1.2
ARMA				IAmb	IAmb	11 05 41.7	
	comp=Z,11nm,0.8s						
EIDS	Eidsvold	30.72	257	P	P	11 05 41.4	+0.6
EIDS				IAmb	IAmb	11 06 09.4	
	comp=Z,24nm,1.4s						
CAN	Canberra	33.64	239	P	P	11 06 06.4	0.0
TOO	Toolangi	36.92	236	P	P	11 06 34.5	0.0
TAU	Tasmania Unive	37.22	227	P	P	11 06 37.5	+0.5
PMG	Port Moresby	37.95	283	LR	LR	11 20 53.5	
	comp=Z,70nm,18.7s,baz=109,slow=34						
STKA	Stephens Creek	39.25	246	P	P	11 06 54.0	-0.2
STKA	Stephens Creek	39.25	246	P	P	11 06 53.4	-0.8
	comp=Z,4.7nm,0.4s,baz=94,slow=11,SNR=21						
STKA				LR	LR	11 21 15.2	
	comp=Z,84nm,19.6s,baz=30,slow=34						
	comp=Z,4.7nm,0.4s						
COEN	Coen	40.00	274	P	P	11 07 01.1	+0.4
COEN				IAmb	IAmb	11 07 01.8	
	comp=Z,14nm,0.9s						
BBOO	Buckleboo	43.97	245	P	P	11 07 31.9	-1.1
AS31	Alice Springs	46.44	258	P	P	11 07 51.2	-1.6
ASAR	Alice Springs	46.44	258	P	P	11 07 51.5	-1.2
	comp=Z,15nm,0.9s,baz=92,slow=8.3,SNR=103						
ASAR				PcP	PcP	11 09 27.0	-0.5
	comp=Z,3.2nm,0.7s,baz=108,slow=3.5,SNR=5.4						
ASAR				LR	LR	11 25 41.3	
	comp=Z,70nm,19.8s,baz=92,slow=34						
	comp=Z,15nm,0.9s						
WR0	Warramunga Arr	46.51	263	P	P	11 07 51.5	-1.8
WR0				IAmb	IAmb	11 07 54.1	
	comp=Z,6.1nm,0.7s						
WB0	Warramunga Arr	46.68	263	P	P	11 07 52.8	-1.9
WB2	Warramunga Arr	46.69	263	P	P	11 07 53.0	-1.7
WRAB	Tennant Creek	46.69	263	P	P	11 07 53.0	-1.7
WRA	Warramunga Arr	46.70	263	P	P	11 07 52.6	-2.2
WRA	Warramunga Arr	46.70	263	P	P	11 07 52.8	-2.0
	comp=Z,10.0nm,0.7s,baz=96,slow=8.0,SNR=56						
WRA				PcP	PcP	11 09 28.1	-0.4
	comp=Z,3.5nm,0.8s,baz=95,slow=3.9,SNR=5.3						
WRA				LR	LR	11 25 58.9	
	comp=Z,76nm,19.1s,baz=170,slow=34						
	comp=Z,10.0nm,0.7s						
FORT	Forrest	50.84	248	P	P	11 08 24.0	-2.4
MTN	Manton Dam	51.50	271	P	P	11 08 29.3	-2.3
MTN				IAmb	IAmb	11 08 32.3	
	comp=Z,12nm,0.8s						
KNRA	Kununurra	52.88	267	P	P	11 08 40.6	-1.2
FITZ	Fitzroy Crossi	55.13	263	P	P	11 08 57.0	-1.2
SOEI	Soe	58.86	272	P	P	11 09 24.1	-0.8
NWAO	Narrogin (SRO)	59.76	244	LR	LR	11 33 02.5	
	comp=Z,35nm,21.2s,baz=258,slow=34						
MBWA	Marble Bar	59.78	258	P	P	11 09 29.2	-1.9
MORW	Morawa	61.40	248	P	P	11 09 40.4	-1.6
MORW				IAmb	IAmb	11 09 42.8	
	comp=Z,8.1nm,1.1s						
CASY	Casey	63.58	206	P	P	11 09 56.7	+0.7
QSPA	South Pole Qui	68.04	180	P	P	11 10 26.3	+1.4
	comp=Z,8.8nm,0.7s,baz=15,slow=0.7,SNR=51						
	comp=Z,8.8nm,0.7s						
UGM	Wanagama	72.25	269	P	P	11 10 50.4	-1.1
MJAR	Matsushiro Arr	72.83	322	P	P	11 10 53.4	-1.0
	comp=Z,1.6nm,0.6s,baz=119,slow=7.2,SNR=4.7						
	comp=Z,1.6nm,0.6s						
LPIG	La Paz	78.23	58	LR	LR	11 41 37.2	
	comp=Z,25nm,18.5s,baz=332,slow=32						
PETK	Petropavlovsk-	78.36	344	P	P	11 11 25.9	+0.2
	comp=Z,9.9nm,0.7s,baz=109,slow=6.5,SNR=14						
	comp=Z,9.9nm,0.7s						
ISA	Isabella, Lake	78.78	44	P	P	11 11 29.3	+0.8
ISA				IAmb	IAmb	11 11 31.4	
	comp=Z,8.0nm,1.0s						
YBH	Yreka Blue Hor	80.07	37	P	P	11 11 37.6	+2.2
DSP	Deep Springs	80.14	43	P	P	11 11 37.8	+2.0
HATC	Hat Creek Radi	80.19	39	P	P	11 11 35.8	-0.3
HATC				IAmb	IAmb	11 11 58.3	
	comp=Z,13nm,1.1s						
NVAR	Mina Array Bea	80.58	42	P	P	11 11 40.1	+1.7
	comp=Z,3.9nm,1.0s,baz=224,slow=8.7,SNR=13						
	comp=Z,3.9nm,1.0s						
USRK	Ussuriysk Ar.	81.54	325	P	P	11 11 42.4	-0.7
	comp=Z,3.9nm,0.8s,baz=116,slow=4.4,SNR=5.9						
	comp=Z,3.9nm,0.8s						
J05D	Fort Rock, OR	81.91	37	P	P	11 11 45.9	+0.6
J05D				IAmb	IAmb	11 11 48.0	
	comp=Z,12nm,1.0s						
PINE	Pine Mountain	82.40	37	P	P	11 11 49.2	+1.2
PINE				IAmb	IAmb	11 11 50.9	
	comp=Z,9.2nm,1.0s						
NJ2	Nanjing	82.64	309	*eP*	P	11 11 50.2	+1.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WVOR	Wild Horse Val	82.85	39	IAmb	IAmb	11 11 53.2	
	comp=Z,7.3nm,1.1s						
LCMT	Little Creek M	83.00	46	P	P	11 11 52.3	+1.2
H03S2	Juan Fernandez	83.21	124	T	T	12 43 44.7	
	baz=246,slow=74,SNR=984						
H03S1	Juan Fernandez	83.23	124	T	T	12 43 48.3	
	baz=246,slow=74,SNR=836						
H03S3	Juan Fernandez	83.23	124	T	T	12 43 44.6	
	baz=246,slow=74,SNR=885						
KNB	Kanab	83.28	46	IAmb	IAmb	11 11 55.5	
	comp=Z,5.3nm,1.0s						
U15A	North Rim	83.31	46	IAmb	IAmb	11 11 56.0	
	comp=Z,6.9nm,0.9s						
I07A	Izee	83.39	37	IAmb	IAmb	11 11 55.5	
	comp=Z,3.8nm,0.8s						
SPR3	Spring Creek 3	83.42	43	P	P	11 11 52.9	-0.6
J08A	Circle Bar Ran	83.52	38	P	P	11 11 54.0	+0.4
J08A				IAmb	IAmb	11 11 56.5	
	comp=Z,6.0nm,1.0s						
ELK	Elko	83.86	42	P	P	11 11 55.7	+0.1
ELK				IAmb	IAmb	11 11 58.3	
	comp=Z,4.5nm,1.1s						
MTPU	Mount Pierson	84.27	45	P	P	11 11 57.8	-0.1
MTPU				IAmb	IAmb	11 12 00.8	
	comp=Z,4.6nm,1.0s						
121A	Cookes Peak, D	84.41	52	IAmb	IAmb	11 12 01.5	
	comp=Z,8.7nm,1.2s						
G08A	Pilot Rock	84.45	36	P	P	11 11 59.0	+0.7
G08A				IAmb	IAmb	11 12 00.7	
	comp=Z,6.7nm,0.9s						
E07A	Sunnyside	84.77	35	P	P	11 12 00.4	+0.6
E07A				IAmb	IAmb	11 12 02.3	
	comp=Z,6.4nm,0.8s						
LTY	Liberty	84.79	34	P	P	11 11 59.9	0.0
LTY				IAmb	IAmb	11 12 01.6	
	comp=Z,4.0nm,0.8s						
CN2	Changchun	84.93	321	*eP*	P	11 12 00.7	+0.1
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
BNX	BinXian	85.02	324	⇑P	P	11 12 00.9	-0.1
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MFID	Camas Ranch	85.08	39	P	P	11 12 02.1	+0.5
MFID				IAmb	IAmb	11 12 04.2	
	comp=Z,4.3nm,1.1s						
LL04	Puerto Octay	85.19	132	P	P	11 12 01.6	-0.6
ELIB	Princess Elisa	85.37	186	*dP*	P	11 12 02.0	-0.7
	comp=Z,11nm,0.8s						
STLK	Strandline Lak	85.40	11	P	P	11 12 02.1	-0.5
TMUT	Trail Mountain	85.59	45	P	P	11 12 05.5	+1.1
TMUT				IAmb	IAmb	11 12 26.7	
	comp=Z,10.0nm,1.5s						
IPM	Ipoh	85.62	277	P	P	11 12 03.6	-1.2
IPM				IAmb	IAmb	11 12 05.9	
	comp=Z,10.0nm,1.1s						
VHRN	Van Horn	85.63	54	P	P	11 12 05.8	+1.1
VHRN				IAmb	IAmb	11 12 06.7	
	comp=Z,4.1nm,0.7s						
SYO	Syowa Base	85.73	192	⇑*eP*	P	11 12 03.8	-0.5
LENM	Lemitar	85.82	51	P	P	11 12 07.1	+1.5
CRNM	Carthage	85.89	51	P	P	11 12 07.3	+1.4
MA2	Magadan	85.89	344	P	P	11 12 04.7	-0.3
MA2				IAmb	IAmb	11 12 05.1	
	comp=Z,5.6nm,0.8s						
SRU	San Rafael Swe	85.94	45	P	P	11 12 05.5	-0.6
TX31	Lajitas Ar. Si	85.95	56	P	P	11 12 06.5	+0.2
TXAR	Lajitas Array	85.95	56	P	P	11 12 07.3	+1.0
TXAR	Lajitas Array	85.95	56	P	P	11 12 07.5	+1.3
	comp=Z,1.9nm,0.8s,baz=218,slow=8.2,SNR=23						
TXAR				LR	LR	11 44 33.1	
	comp=Z,21nm,18.2s,baz=346,slow=32						
	comp=Z,1.9nm,0.8s						
B08A	Colville Reser	86.19	34	P	P	11 12 07.0	+0.2
ALPN	Alpine	86.46	55	P	P	11 12 08.3	-0.5
ALPN				IAmb	IAmb	11 12 10.4	
	comp=Z,3.3nm,0.6s						
BSUT	Blindstream Ca	86.56	44	P	P	11 12 09.2	-0.1
ANMO	Albuquerque	86.58	50	P	P	11 12 10.7	+1.4
SCM	Sheep Creek Mo	86.58	13	P	P	11 12 09.0	+0.5
N25K	Chitina, Valde	86.97	14	P	P	11 12 11.0	+0.5
N25K				IAmb	IAmb	11 12 12.1	
	comp=Z,4.1nm,0.9s						
CAST	Castle Rocks	87.15	10	P	P	11 12 11.0	-0.1
CAST				IAmb	IAmb	11 12 38.1	
	comp=Z,4.2nm,0.9s						
NEW	Newport	87.29	35	LR	LR	11 42 47.3	
	comp=Z,49nm,20.7s,baz=283,slow=30						
SAND	Sanderson	87.43	56	P	P	11 12 13.9	+0.5
SAND				IAmb	IAmb	11 12 39.2	
	comp=Z,4.9nm,1.3s						
TRF	Thorofare Moun	87.48	11	P	P	11 12 13.3	+0.3
TRF				IAmb	IAmb	11 12 40.7	
	comp=Z,7.3nm,0.9s						
RND	Reindeer	87.71	12	P	P	11 12 14.5	+0.6
HEH	HeiHe	87.84	327	*eP*	P	11 12 14.8	+0.1
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMIG	Matias Romero	87.97	71	LR	LR	11 42 17.3	
	comp=Z,23nm,20.9s,baz=3.5,slow=29						
PDAR	Pinedale Array	88.51	42	P	P	11 12 18.4	0.0
PDAR	Pinedale Array	88.51	42	P	P	11 12 19.2	+0.8
	comp=Z,0.9nm,0.9s,baz=233,slow=4.5,SNR=6.3						
	comp=Z,0.9nm,0.9s						
OVMT	Ovando	88.83	37	P	P	11 12 19.1	-0.7
ILAR	Eielson Array	89.31	12	P	P	11 12 21.4	0.0
	comp=Z,0.4nm,0.5s,baz=220,slow=5.1,SNR=21						
	comp=Z,0.4nm,0.5s						
J26L	Joseph Creek	89.75	13	P	P	11 12 24.8	+1.3
J26L				IAmb	IAmb	11 12 31.2	
	comp=Z,12nm,1.2s						
BILL	Bilibino	90.81	353	P	P	11 12 27.7	-0.6
BILL				IAmb	IAmb	11 12 30.3	
	comp=Z,5.8nm,1.0s						
XAN	Xi'an	90.90	306	*eP*	P	11 12 30.6	+1.0
J29N	Klondike Camp	90.92	15	P	P	11 12 28.9	-0.1
J29N				IAmb	IAmb	11 12 55.8	
	comp=Z,4.4nm,0.8s						
HHC	Hu-ho-hao-te	92.08	313	*eP*	P	11 12 34.0	-1.0
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,96nm,5.6s						
BMAR	Burnt Mountain	92.12	11	P	P	11 12 35.4	+0.9
CMAR	Chiang Mai Arr	92.81	289	P	P	11 12 39.0	+0.3
CMAR	Chiang Mai Arr	92.81	289	P	P	11 12 38.1	-0.6
	comp=Z,1.1nm,0.6s,baz=124,slow=2.7,SNR=9.8						
	comp=Z,1.1nm,0.6s						
PZH	PanZhiHua	93.47	297	P	P	11 12 42.5	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,170nm,6.5s						
YKA	Yellowknife Ar	96.95	24	P	P	11 12 56.7	+0.1
	comp=Z,0.3nm,0.7s,baz=238,slow=4.7,SNR=4.5						
	comp=Z,0.3nm,0.7s						
SONM	Songino Array	98.43	318	LR	LR	11 53 50.3	
	comp=Z,36nm,19.5s,baz=68,slow=33						
WMQ	Urumqi	109.68	310	Pdif	Pdif	11 13 57.5	+3.6
KURBB	Kurchatov Arra	116.75	317	PKP	PKPdf	11 18 08.1	-1.7
	comp=Z,0.7nm,0.8s,baz=102,slow=1.8,SNR=7.6						
BVAR	Borovoye Array	121.74	320	PKP	PKPdf	11 18 18.3	-1.0
	comp=Z,1.2nm,0.5s,baz=95,slow=1.9,SNR=7.0						
ARCES	ARCESS Array B	130.83	350	PKP	PKPdf	11 18 36.2	-0.1
	comp=Z,5.4nm,1.1s,baz=72,slow=1.3,SNR=4.5						
HFS	Hagfors	141.38	353	PKhKP	PKPpre	11 18 50.1

comp=Z,1.2nm,0.2s
KU2 Taivalkoski 1.55 8 PN Pn 11 21 05.2 -0.3
baz=193
KU1 Kurvinen 1.60 29 PN Pn 11 21 05.8 -0.3
baz=212
KU1 SN Sn 11 21 26.6 -0.8
SUF Sumiainen 1.62 206 PG Pn 11 21 06.5 0.0
SUF MSG 11 21 25.3
comp=Z,1.3nm,0.2s
SUF SN Sb 11 21 28.2 -0.2
RANF Ranua 1.89 348 PG Pb 11 21 11.1 -0.8
baz=168
JOF Joensuu 2.05 127 PG Pn 11 21 13.1 +0.9
baz=312
JOF SG Sn 11 21 39.0 +0.6
KU6 Riekki 2.07 25 MSG 11 21 38.0
comp=Z,0.5nm,0.2s
KU6 SG Sn 11 21 40.0 +0.9
KAF Kangasniemi 2.17 198 MSG 11 21 40.9
comp=Z,1.6nm,0.2s
KAF SG Sb 11 21 44.1 0.0
OLKF Oulanka, Finla 2.27 17 MSG 11 21 43.7
comp=Z,0.6nm,0.2s
OLKF SG Sb 11 21 48.0 +1.1
KEF Keuruu 2.40 214 PG Pb 11 21 19.1 -1.4
baz=27
KEF MSG 11 21 47.3
comp=Z,0.9nm,0.2s
KEF SG Sb 11 21 49.9 -0.7
KALU Kalix 2.50 314 SG Sb 11 21 55.3 +1.6
VAF Ylistaro 2.53 245 MSG 11 21 51.2
comp=Z,0.7nm,0.2s
VAF SG Sb 11 21 54.6 +0.3
KLF Kolari 3.44 335 SB Sb 11 22 17.5 -3.1
HEF Hetta 4.55 341 SG Sb 11 22 57.0 +4.4

*KOLA **07** 11:21:36.4, 67°.50N×30°.51E, h0km, ML2.0, Error ellipse: s-maj=3.9km s-min=2.2km az=30.0, Kovdor City, Mines*
HEL 07 11:21:34.1±0.3, 67°.64N×30°.68E, h0km, ML1.3, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.42**	**285**	PG	Pg	11 21 41.9	-0.3
VRF	**Varrio**	**0.42**	**285**	*e*P	Pg	11 21 41.9	-0.3
VRF				*e*S	Sg	11 21 47.2	-0.5
APA0	**Apatity Array**	**0.88**	**91**	P	Pb	11 21 53.0	+0.7
APA0				S	Sb	11 22 05.8	+1.2
APA	**Apatity**	**1.04**	**93**	P	Pn	11 21 56.5	+0.6
APA				S	Sn	11 22 11.8	+0.6
KVDA	**Kovda**	**1.28**	**137**	P	Pg	11 21 58.5	-0.1
KVDA				S	Sg	11 22 14.1	-1.1
OLKF	**Oulanka, Finla**	**1.42**	**201**	*e*P	Pn	11 21 59.6	-1.6
OLKF				*e*S	Sg	11 22 18.4	-1.2
LVZ	**Lovozero**	**1.53**	**79**	S	Sn	11 22 25.9	+2.7
KU6	**Riekki**	**1.65**	**191**	*e*P	Pn	11 22 03.5	-0.8
KU6				*e*S	Sn	11 22 24.9	-1.4
KU6				MSG		11 22 28.2	
comp=Z,1.9nm,0.1s							
MSF	**Maaselka**	**1.86**	**201**	*e*P	Pn	11 22 06.7	-0.4
MSF				*e*S	Sn	11 22 30.3	-0.9
MSF				MSG		11 22 33.8	
comp=Z,1.6nm,0.1s							
RNF	**Rovaniemi**	**2.10**	**243**	*e*P	Pn	11 22 10.2	-0.2
RNF				*e*S	Sn	11 22 37.4	+0.2
RNF				MSG		11 22 45.5	
comp=Z,1.9nm,0.1s							
KU1	**Kurvinen**	**2.13**	**193**	*e*P	Pn	11 22 11.2	+0.3
KU1				*e*S	Sn	11 22 38.5	+0.4
KU1				MSG		11 22 44.9	
comp=Z,1.4nm,0.1s							
KU2	**Taivalkoski**	**2.17**	**208**	*e*P	Pn	11 22 11.0	-0.5
KU2				*e*S	Sn	11 22 38.9	-0.1
KU2				MSG		11 22 44.9	
comp=Z,1.1nm,0.1s							
RANF	**Ranua**	**2.25**	**225**	*e*PB	Pn	11 22 12.9	+0.4
RANF				*e*SB	Sn	11 22 41.6	+0.8
TERR	**Teriberka**	**2.27**	**44**	S	Sg	11 22 47.1	+0.4
VADS	**Vadso**	**2.54**	**350**	P	Pb	11 22 20.1	-0.4
VADS				S	Sb	11 22 52.1	0.0
ARCES	**ARCESS Array B**	**2.69**	**317**	P	Pn	11 22 20.8	+2.2
ARCES				S	Sb	11 22 54.6	-1.8
FAUS	**Fauske**	**5.91**	**275**	S	Sn	11 24 08.4	-2.7

*MOS **07** 11:31:34.9±1.2, 30°.33N×141°.14E, h32km, mb4.9/46, Error ellipse: s-maj=9.9km s-min=4.5km az=100.5*
*NIED **07** 11:31:39.0, 30°.49N×141°.31E, h57km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=1.87; Mθθ1.59; Mφφ0.28; Mrθ-2.15; Mθφ-1.53; Mφr4.37; Fault plane solution: M0=5.39000×10^15^ NP1: φs=276.00000°, δ=18.00000°, λ=-144.00000°. NP2: φs=151.00000°, δ=79.00000°, λ=-75.00000°.*
*NEIC **07** 11:31:39.0±3.0, 30°.44N±0°.05×141°.41E±0°.09, h45km±7km, mb4.8/100 Error ellipse: s-maj=11.8km s-min=7.5km az=76.0*
*JMA **07** 11:31:39.0±0.2, 30°.5N±0°.8×14°1E±°, h57km, MV4.8/61, NEAR TORISHIMA IS*
*IDC **07** 11:31:39.1±1.3, 30°.37N×140°.78E, h55km±9km, mb4.2/26, mbtmp4.5/31, MS3.5/24, Error ellipse: s-maj=12.7km s-min=9.7km az=76.0*
ISC 07 11:31:39.8±0.5, 30°.38N±0°.03×141°.29E±0°.05, h63km±4km, h63km:pP-P, n562, σt 9.72/577, mb4.8/105, 17C-10D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.97**	**335**	*e*P	**Pn**	**11 32 23.6**	**-0.9**
JHCJ				*e*S	**Sn**	**11 32 54.4**	**-4.6**
JHJ2	**Mitsune**	**3.00**	**336**		**Pn**	**11 32 23.8**	**-1.1**
JHJ2				Sn	**Sn**	**11 32 57.4**	**-2.3**
JHJ2	**Mitsune**	**3.00**	**336**	P	**Pn**	**11 32 24.1**	**-0.8**
JHJ2	**Mitsune**	**3.00**	**336**	P	**Pn**	**11 32 23.7**	**-1.1**
JHJ2				*e*S	**Sn**	**11 32 56.2**	**-3.5**
JHJ	**Hachijo jima 2**	**3.02**	**335**	P	**Pn**	**11 32 21.9**	**-3.3**
298nm,0.4s,baz=180,slow=17,SNR=13							
JHJ				S	**Sn**	**11 32 55.9**	**-4.2**
1μm,0.4s,baz=136,slow=19,SNR=11							
CBIJ	**Chichi jima**	**3.36**	**166**	P	**Pn**	**11 32 31.7**	**+1.8**
CBIJ				*e*S	**Sn**	**11 33 07.8**	**-0.9**
JCJ	**Chichijima**	**3.36**	**166**	Pn	**Pn**	**11 32 29.8**	**-0.1**
JCJ				Sn	**Sn**	**11 33 06.8**	**-1.8**
JCJ	**Chichijima**	**3.36**	**166**	P	Pn	11 32 23.4	-6.5
194nm,0.3s,baz=274,slow=23,SNR=13							
JCJ				S	**Sn**	**11 33 01.5**	**-7.1**
788nm,0.3s,baz=285,slow=23,SNR=8.5							
JCJ	**Chichijima**	**3.36**	**166**	P	**Pn**	**11 32 29.2**	**-0.7**
BSO1	**Boso 1**	**4.27**	**357**	P	**Pn**	**11 32 42.3**	**+0.5**
BSO3	**Boso 3**	**4.46**	**352**	*e*P	**Pn**	**11 32 43.7**	**-0.9**
BSO4	**Boso 4**	**4.67**	**350**	*e*P	**Pn**	**11 32 47.3**	**-0.3**
TTO1	**TONANKAI O.B.S**	**5.01**	**311**	P	**Pn**	**11 32 51.9**	**-0.2**
JSG	**Sagara**	**5.02**	**329**	Pn	**Pn**	**11 32 52.4**	**-0.1**
JSG	**Sagara**	**5.02**	**329**	P	**Pn**	**11 32 54.4**	**+1.8**
JOD2	**Odawara 2**	**5.21**	**340**	*e*P	**Pn**	**11 32 55.5**	**+0.3**
HMMJ	**Hamamatsu 2**	**5.38**	**327**	*e*P	**Pn**	**11 32 58.6**	**+1.1**
JIE	**Ise**	**5.57**	**317**	*e*P	**Pn**	**11 33 01.6**	**+1.6**
JKN2	**Miekihoku**	**5.73**	**314**	*e*P	**Pn**	**11 33 02.3**	**+0.1**
JYT	**Yasato**	**5.91**	**351**	P	**Pn**	**11 33 04.1**	**-0.6**
JYT				S	**Sn**	**11 34 08.7**	**-2.2**
JTNC	**Tanabenakahech**	**5.91**	**307**	*e*P	**Pn**	**11 33 04.5**	**-0.3**
JAO	**Obara**	**5.94**	**326**	*e*P	**Pn**	**11 33 06.7**	**+1.6**
JRY	**Ryogami san**	**5.97**	**341**	P	**Pn**	**11 33 06.0**	**+0.4**
INU	**Inuyama**	**6.12**	**325**	Pn	**Pn**	**11 33 08.2**	**+0.6**
INU	**Inuyama**	**6.12**	**325**	P	**Pn**	**11 33 09.7**	**+2.1**
JGF	**Kuroka**	**6.17**	**329**	Pn	**Pn**	**11 33 07.6**	**-0.7**
JGF	**Kuroka**	**6.17**	**329**	P	**Pn**	**11 33 10.7**	**+2.4**
JAG	**Ashikaga**	**6.22**	**346**	P	**Pn**	**11 33 07.5**	**-1.5**
JAG				*e*S	**Sn**	**11 34 14.8**	**-3.9**
JHO	**Hitachi**	**6.25**	**355**	P	**Pn**	**11 33 07.9**	**-1.4**
JHO				*e*S	**Sn**	**11 34 13.9**	**-5.4**
MJAR	**Matsushiro Arr**	**6.66**	**338**	P	**Pn**	**11 33 12.8**	**-2.2**
7.3nm,0.4s,baz=154,slow=13,SNR=68							
MAJO	**Matsushiro**	**6.67**	**338**	Pn	**Pn**	**11 33 14.7**	**-0.3**
MAJO	**Matsushiro**	**6.67**	**338**	P	**Pn**	**11 33 15.9**	**+0.8**
MAJO	**Matsushiro**	**6.67**	**338**	*ce*P	**Pn**	**11 33 15.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**6.67**	**338**	Pn	**Pn**	**11 33 13.5**	**-1.6**
JFK	**Kawauchi**	**6.98**	**357**	*e*P	**Pn**	**11 33 16.6**	**-2.8**
JFK				*e*S	**Sn**	**11 34 30.4**	**-6.9**
JMN	**Monobe**	**7.12**	**300**	Pn	**Pn**	**11 33 20.7**	**-0.6**
JMN	**Monobe**	**7.12**	**300**	P	**Pn**	**11 33 23.5**	**+2.2**
JMM	**Marumori**	**7.48**	**357**		**Pn**	**11 33 24.6**	**-1.6**
JMM	**Marumori**	**7.48**	**357**	P	**Pn**	**11 33 24.9**	**-1.3**
JSD	**Sado**	**8.04**	**343**	Pn	**Pn**	**11 33 32.0**	**-1.8**
JSD	**Sado**	**8.04**	**343**	P	**Pn**	**11 33 31.7**	**-2.2**
JMK	**Ichinoseki**	**8.55**	**360**	P	**Pn**	**11 33 39.4**	**-1.4**
JMK				*e*S	Sn	11 35 07.6	-8.2
JOI	**OKI**	**8.94**	**313**	*e*P	**Pn**	**11 33 50.4**	**+4.2**
JNU	**Nakatsue**	**9.28**	**290**	Pn	**Pn**	**11 33 52.3**	**+1.4**
JNU	**Nakatsue**	**9.28**	**290**	P	Pn	11 33 44.8	-6.0
9.9nm,1.0s,baz=99,slow=2.7,SNR=2.0							
JMZ	**Minamidaito 2**	**9.98**	**245**	Pn	**Pn**	**11 34 01.8**	**+1.4**
JTM	**Tenmabayashi**	**10.39**	**359**	Pn	**Pn**	**11 34 04.3**	**-1.6**
JTM	**Tenmabayashi**	**10.39**	**359**	P	**Pn**	**11 34 04.2**	**-1.7**
ERM	**Erimo**	**11.71**	**7**	Pn	**Pn**	**11 34 22.5**	**-1.5**
ERM	**Erimo**	**11.71**	**7**	P	**Pn**	**11 34 22.6**	**-1.3**
ERM	**Erimo**	**11.71**	**7**	*c i*P	**Pn**	**11 34 21.5**	**-2.4**
JEM	**Erimo**	**11.71**	**7**	P	**Pn**	**11 34 22.8**	**-1.2**
JOW	**Kunigami**	**11.97**	**256**	Pn	**Pn**	**11 34 28.0**	**+0.5**
JOW	**Kunigami**	**11.97**	**256**	P	Pn	11 34 22.0	-5.6
12nm,0.5s,baz=112,slow=22,SNR=5.3							
JOW	**Kunigami**	**11.97**	**256**	P	**Pn**	**11 34 30.7**	**+3.1**
50nm,1.4s							
KSRS	**Korea Array**	**13.15**	**306**	P	**Pn**	**11 34 46.1**	**+2.6**
10.0nm,0.8s,baz=119,slow=14,SNR=21							
KS19	**Wonju Array Si**	**13.21**	**306**	Pn	**Pn**	**11 34 45.1**	**+0.7**
NMR	**Nemuro–Hokkai**	**13.44**	**14**	*e*P	Pn	11 34 43.6	-3.9
JKA	**Kamikawa-asahi**	**13.75**	**4**	Pn	**Pn**	**11 34 48.7**	**-2.9**
ASAJ	**Asahikawa**	**13.75**	**4**	P	**Pn**	**11 34 48.9**	**-2.8**
20nm,0.6s,baz=221,slow=12,SNR=41							
ASAJ				S	Sn	11 37 11.0	-12
3.2nm,0.5s,baz=180,slow=20,SNR=1.6							
ASAJ	**Asahikawa**	**13.75**	**4**	P	**Pn**	**11 34 48.7**	**-3.0**
RUSJ	**Misakicho**	**14.06**	**12**	*e*P	**Pn**	**11 34 52.5**	**-3.2**
RUSJ				*i*S	Sn	11 37 21.9	-8.2
YUK	**Yuzh-Kuril'sk**	**14.11**	**14**	P	**Pn**	**11 34 54.6**	**-1.7**
YUK				pmax	pmax		
comp=Z,29nm,0.2s							
YUK				pmax	pmax		
comp=N,88nm,0.4s							
YUK				pmax	pmax		
comp=E,37nm,0.3s							
MSHR	**Mys Shultsa**	**14.64**	**329**	⇑*e*P	**Pn**	**11 35 03.9**	**+0.6**
TEY	**Ternei**	**15.09**	**347**	*e*P	**Pn**	**11 35 08.6**	**-0.5**
USA0B	**Ussuriysk Arra**	**15.64**	**334**	Pn	**Pn**	**11 35 15.6**	**-0.6**
USA0B	**Ussuriysk Arra**	**15.64**	**334**	P	**Pn**	**11 35 15.6**	**-0.6**
USA0B				pmax	pmax		
comp=Z,7.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**15.64**	**334**	Pn	**Pn**	**11 35 15.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**15.64**	**334**	P	**Pn**	**11 35 13.5**	**-2.7**
comp=Z,1.7nm,0.6s,baz=134,slow=10,SNR=4.7							
USRK	**Ussuriysk Ar.**	**15.64**	**334**	P	**Pn**	**11 35 15.6**	**-0.6**
KUR	**Kuril'sk**	**15.71**	**17**	P	**Pn**	**11 35 14.9**	**-2.1**
KUR				*e*S	**Sn**	**11 38 01.8**	**-8.2**
KUR				pmax	pmax		
comp=Z,58nm,0.7s							
YSS	**Yuzhno-Sakhali**	**16.59**	**4**	Pn	**Pn**	**11 35 26.4**	**-1.7**
YSS	**Yuzhno-Sakhali**	**16.59**	**4**	*e*P	**Pn**	**11 35 26.7**	**-1.4**
YSS				*e*S	**Sn**	**11 38 28.6**	**-2.8**
YSS				pmax	pmax		
comp=Z,30nm,0.8s							
MDJ	**Mudanjiang**	**16.95**	**330**	Pn	**Pn**	**11 35 32.3**	**-0.3**
MDJ	**Mudanjiang**	**16.95**	**330**	P	**Pn**	**11 35 33.9**	**+1.3**
MDJ				pmax	pmax		
comp=Z,18nm,0.9s							
MDJ				pmax	pmax		
comp=Z,160nm,4.2s							
GUMO	**Guam**	**17.03**	**168**	LR	LR	11 41 34.1	
comp=Z,95nm,19.8s,baz=50,slow=35							
DL2	**Dalian**	**18.25**	**303**	*e*P	**Pn**	**11 35 51.0**	**+2.4**
DL2				pmax	pmax		
comp=Z,23nm,0.8s							
CN2	**Changchun**	**18.38**	**321**	*e*P	**P**	**11 35 48.4**	**-1.0**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
YHNB	**Yeheng**	**18.55**	**257**	P	**P**	**11 35 51.9**	**+0.4**
YHNB				IAmb	IAmb	11 35 55.5	
comp=Z,94nm,1.4s							
BNX	**BinXian**	**18.79**	**329**	⇑P	**P**	**11 35 52.7**	**-1.2**
BNX				pmax	pmax		
comp=Z,21nm,0.9s							
YULB	**Yu-li**	**19.13**	**253**	P	**P**	**11 35 57.8**	**0.0**
YULB				IAmb	IAmb	11 36 05.9	
comp=Z,77nm,1.3s							
SSLB	**Suanglung**	**19.25**	**255**	P	**Pn**	**11 36 00.3**	**-0.4**
NJ2	**Nanjing**	**19.26**	**281**	*e*P	**P**	**11 35 59.5**	**+0.3**
NJ2				sP	**pP**	**11 36 15.3**	**+3.2**
NJ2				pmax	pmax		
comp=Z,20nm,0.6s							
TWG	**Pinlang**	**19.57**	**252**	P	**Pn**	**11 36 04.5**	**+0.1**
TWG				IAmb	IAmb	11 36 09.0	
comp=Z,50nm,1.0s							
TPUB	**Ta-pu**	**19.72**	**254**	P	**Pn**	**11 36 05.9**	**-0.4**
KLR	**Kul'dur**	**20.17**	**342**	P	**P**	**11 36 07.5**	**-1.5**
comp=Z,5.0nm,0.6s,baz=171,slow=8.4,SNR=22							
KLR				S	**S**	**11 39 44.9**	**-7.0**
comp=Z,0.4nm,0.4s,baz=197,slow=20,SNR=1.3							
comp=Z,5.0nm,0.6s							
KLR	**Kul'dur**	**20.17**	**342**	⇑*e*P	**P**	**11 36 08.2**	**-0.8**
KLR				pmax	pmax		
comp=Z,8.0nm,0.6s							
TYV	**Tymovskoe**	**20.49**	**2**	*e*P	**P**	**11 36 14.4**	**+2.1**
TYV				pmax	pmax		
comp=Z,22nm,1.1s							
TYV				pmax	pmax		
comp=Z,200nm,5.1s							
GRNR	**Gornyy**	**20.69**	**351**	⇑*i*P	**P**	**11 36 15.5**	**+0.9**
GRNR				pmax	pmax		
comp=Z,6.0nm,0.6s							
HEH	**HeiHe**	**22.43**	**336**	*e*P	**P**	**11 36 31.2**	**-1.9**
HEH				pmax	pmax		
comp=Z,12nm,1.0s							
HNS	**HongShan**	**23.10**	**295**	⇑P	**P**	**11 36 41.5**	**+1.2**
WHN	**Wuhan**	**23.21**	**277**	P	**P**	**11 36 41.5**	**+0.2**
WHN				S	**S**	**11 40 45.1**	**-3.2**
HIA	**Hailar**	**24.95**	**325**	*ce*P	**P**	**11 36 57.5**	**+0.4**
HIA				pmax	pmax		
comp=Z,10.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**25.45**	**109**	T	T	12 04 58.0	
baz=300,slow=75,SNR=86							
H11N1	**WAKE ISLAND Hy**	**25.45**	**109**	T	T	12 04 58.6	
baz=300,slow=75,SNR=70							
H11N3	**WAKE ISLAND Hy**	**25.47**	**109**	T	T	12 05 00.6	
baz=300,slow=75,SNR=70							
ZEA	**Zeya**	**25.47**	**340**	*e*P	**P**	**11 37 02.2**	**+0.5**
ZEA				pmax	pmax		
comp=N,60nm,0.8s							
ZEA				pmax	pmax		
comp=E,30nm,0.8s							
ZEA				pmax	pmax		
comp=Z,110nm,0.8s							
PETK	**Petropavlovsk-**	**25.68**	**23**	P	**P**	**11 37 06.0**	**+2.3**
comp=Z,3.4nm,0.8s,baz=198,slow=5.7,SNR=9.9							
PETK				LR	LR	11 50 34.5	
comp=Z,41nm,18.5s,baz=147,slow=44							
comp=Z,3.4nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**25.91**	**111**	T	T	12 05 31.5	
baz=302,slow=74,SNR=38							
H11S1	**WAKE ISLAND Hy**	**25.91**	**111**	T	T	12 05 55.8	
baz=144,slow=74,SNR=48							
H11S2	**WAKE ISLAND Hy**	**25.93**	**111**	T	T	12 04 22.7	
SNR=29							
PET	**Petropavlovsk**	**25.94**	**24**	P	**P**	**11 37 06.4**	**+0.4**
comp=Z,42nm,1.2s							
HHC	**Hu-ho-hao-te**	**26.21**	**302**	*e*P	**P**	**11 37 10.2**	**+1.4**
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,120nm,4.0s							
DAV	**Davao City (W)**	**27.48**	**216**	LR	LR	11 46 26.2	
comp=Z,88nm,21.8s,baz=336,slow=33							
XAN	**Xi'an**	**27.57**	**286**	P	**P**	**11 37 18.8**	**-2.1**
XAN				sP	pwP	11 37 38.2	-1.1
XAN				pmax	pmax		
comp=Z,10.0nm,0.7s							
MA2	**Magadan**	**29.89**	**10**	P	**P**	**11 37 40.7**	**-0.5**
MA2				IAmb	IAmb	11 37 43.1	
comp=Z,9.1nm,0.7s							
MA2	**Magadan**	**29.89**	**10**	P	**P**	**11 37 41.2**	**0.0**
comp=Z,5.5nm,0.5s,baz=181,slow=7.7,SNR=18							
comp=Z,5.5nm,0.5s							
MA2	**Magadan**	**29.89**	**10**	⇑*i*P	**P**	**11 37 42.5**	**+1.3**
MA2				pmax	pmax		
comp=Z,24nm,2.5s							
MA2	**Magadan**	**29.89**	**10**	P	**P**	**11 37 42.7**	**+1.5**
comp=Z,16nm,1.3s							
ULN	**Ulaanbaatar**	**31.45**	**313**	P	**P**	**11 37 55.1**	**-0.2**
ULN	**Ulaanbaatar**	**31.45**	**313**	⇑*e*P	**P**	**11 37 55.5**	**+0.2**
ULN				pmax	pmax		
comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**31.45**	**313**	P	**P**	**11 37 55.9**	**+0.5**
SONM	**Songino Array**	**31.86**	**313**	P	**P**	**11 37 58.9**	**+0.1**
SONM	**Songino Array**	**31.86**	**313**	P	P	11 37 54.6	-4.2
comp=Z,0.8nm,0.5s,baz=132,slow=11,SNR=16							
SONM				PcP	**PcP**	**11 40 49.9**	**+1.7**
comp=Z,0.5nm,0.4s,baz=132,slow=4.1,SNR=2.3							
SONM				ScP	**ScP**	**11 44 24.2**	**-2.0**
comp=Z,0.6nm,0.6s,baz=113,slow=3.3,SNR=3.5							
comp=Z,0.8nm,0.5s							
YAK	**Yakutsk**	**32.56**	**350**	LR	LR	11 53 01.4	
comp=Z,78nm,18.6s,baz=114,slow=40							
YAK	**Yakutsk**	**32.56**	**350**	*e*P	**P**	**11 38 07.5**	**+2.9**
YAK				*e**PP	**pP**	**11 38 20.0**	**+0.7**
YAK				*e*		11 39 15.9	
YAK				*e*PPP	PPP	11 39 28.2	
YAK				*e*		11 40 53.3	
YAK				*e*S	**S**	**11 43 20.3**	**+5.0**
YAK				*e*SS	**SnSn**	**11 45 18.3**	**+3.5**
YAK				*e*		11 48 35.4	
YAK				pmax	pmax		
comp=Z,18nm,1.0s							
YAK				pmax	pmax		
comp=N,3.0nm,1.3s							
YAK				pmax	pmax		
comp=E,4.0nm,1.3s							
YAK				pmax	pmax		
comp=Z,258nm,4.8s							
YAK				pmax	pmax		
comp=N,52nm,3.9s							
YAK				pmax	pmax		
comp=E,99nm,4.6s							
YAK				smax	smax		
comp=E,143nm,4.9s							
YAK				smax	smax		
comp=N,128nm,4.2s							
MYLDM	**Lahad Datu**	**33.00**	**225**	P	**P**	**11 38 11.4**	**+2.4**
MYLDM				IAmb	IAmb	11 38 18.1	
comp=Z,21nm,1.0s							
SEY	**Seymchan**	**33.34**	**9**	⇑*i*P	**P**	**11 38 13.1**	**+1.6**
SEY				pmax	pmax		
comp=Z,18nm,2.5s							
ZAK	**Zakamensk**	**34.67**	**316**	*e*P	**P**	**11 38 22.0**	**-1.3**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s							
PZH	**PanZhiHua**	**34.87**	**274**	P	**P**	**11 38 26.8**	**+1.5**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,150nm,5.8s							
CHTO	**Chiang Mai**	**39.98**	**263**	P	**P**	**11 39 08.3**	**0.0**
CHTO	**Chiang Mai**	**39.98**	**263**	P	**P**	**11 39 08.4**	**0.0**
CHTO				pmax	pmax		
comp=Z,7.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**40.13**	**263**	P	**P**	**11 39 10.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**40.13**	**263**	P	P	11 39 04.9	-4.7
comp=Z,1.1nm,0.5s,baz=58,slow=6.8,SNR=15							
CMAR				ScP	**ScP**	**11 44 57.5**	**+0.7**
comp=Z,0.8nm,0.3s,baz=38,slow=3.2,SNR=11							
CMAR				LR	LR	11 56 15.7	
comp=Z,46nm,19.6s,baz=75,slow=37							
comp=Z,1.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**40.13**	**263**	*ce*P	**P**	**11 39 09.5**	**-0.2**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
BILL	**Bilibino**	**40.46**	**14**	P	**P**	**11 39 13.1**	**+1.3**
BILL	**Bilibino**	**40.46**	**14**	*d i*P	**P**	**11 39 13.6**	**+1.8**
BILL				pmax	pmax		
comp=Z,27nm,2.0s							
BILL	**Bilibino**	**40.46**	**14**	P	**P**	**11 39 12.9**	**+1.1**
KAPI	**Kappang**	**40.79**	**214**	LR	LR	11 59 14.2	
comp=Z,34nm,18.4s,baz=84,slow=41							
KSM	**Kuching**	**41.10**	**232**	P	**P**	**11 39 18.0**	**+0.3**
KSM				IAmb	IAmb	11 39 20.2	
comp=Z,8.1nm,0.5s							
TIXI	**Tiksi**	**41.88**	**354**	P	**P**	**11 39 23.3**	**0.0**
TIXI	**Tiksi**	**41.88**	**354**	LR	LR	11 58 34.2	
comp=Z,77nm,18.3s,baz=188,slow=39							
TIXI	**Tiksi**	**41.88**	**354**	⇓*i*P	**P**	**11 39 23.7**	**+0.4**
TIXI				pmax	pmax		
comp=Z,7.0nm,0.8s							
TIXI	**Tiksi**	**41.88**	**354**	P	**P**	**11 39 23.4**	**0.0**
SPIA	**Saint Paul Isl**	**42.77**	**37**	P	**P**	**11 39 30.2**	**-0.6**
baz=252							
P08K	**Saint George I**	**42.97**	**38**	P	**P**	**11 39 31.1**	**-1.3**
baz=254							
UNV	**Unalaska Valle**	**44.02**	**42**	P	**P**	**11 39 38.9**	**-1.9**
baz=259							
MTN	**Manton Dam**	**44.07**	**194**	P	**P**	**11 39 41.5**	**-0.1**
MTN				IAmb	IAmb	11 40 04.7	
comp=Z,16nm,1.1s							
GAMB	**Gambell**	**44.55**	**28**	P	**P**	**11 39 44.6**	**-0.4**
baz=244							
M11K	**Mekoryuk**	**45.74**	**33**	P	**P**	**11 39 54.1**	**-0.3**
baz=253							
FALS	**False Pass**	**45.97**	**41**	P	**P**	**11 39 57.0**	**+0.7**
baz=261							
ZAA0	**Zalesovo Array**	**46.53**	**317**	P	**P**	**11 40 00.1**	**-0.7**
ZALV	**Zalesovo Beam**	**46.53**	**317**	P	**P**	**11 40 00.6**	**-0.1**
ZALV	**Zalesovo Beam**	**46.53**	**317**	P	**P**	**11 39 58.7**	**-2.0**
comp=Z,2.5nm,0.4s,baz=88,slow=8.7,SNR=13							
ZALV				PcP	**PcP**	**11 41 33.4**	**-0.7**
comp=Z,1.0nm,0.4s,baz=123,slow=5.5,SNR=4.4							
ZALV				ScP	**ScP**	**11 45 22.9**	**+0.8**
comp=Z,1.0nm,0.6s,baz=90,slow=7.4,SNR=4.1							
ZALV				LR	LR	11 58 48.3	
comp=Z,35nm,19.2s,baz=38,slow=35							
comp=Z,2.5nm,0.4s						

L15K	Ungalak Mounta	48.29	32	P	P	11 40 15.2	+0.9
	baz=257						
S14K	Fog Glacier	48.34	40	P	P	11 40 15.4	+0.5
	baz=263						
K15K	Wolf Creek Mou	48.41	32	P	P	11 40 16.2	+0.9
	baz=256						
M15K	Kasigluk River	48.45	34	P	P	11 40 16.2	+0.6
	baz=258						
PSI	Prapat	48.53	244	LR	LR	11 59 27.7	
	comp=Z,42nm,19.9s,baz=159,slow=35						
O15K	Ungalikthiuk R	48.60	36	P	P	11 40 17.5	+0.7
	baz=260						
N15K	Kwethluk River	48.64	35	P	P	11 40 17.6	+0.5
	baz=259						
H16K	Elim	48.72	29	P	P	11 40 18.3	+0.7
	baz=253						
C16K	Lisburne Hills	48.78	23	P	P	11 40 18.5	+0.6
	baz=247						
G16K	Koyuk River	48.90	28	P	P	11 40 19.2	+0.2
	baz=253						
CHGN	Chignik	48.97	40	P	P	11 40 19.6	0.0
	baz=264						
J16K	Anvik River	49.07	31	P	P	11 40 20.4	+0.1
	baz=256						
I17K	Unalakleet	49.17	30	P	P	11 40 21.0	0.0
	baz=256						
L16K	Owhat River	49.23	33	P	P	11 40 21.4	-0.1
	baz=259						
N16K	Nishlik Lake	49.34	34	P	P	11 40 22.4	-0.1
	baz=260						
M16K	Timber Creek	49.35	34	P	P	11 40 22.1	-0.4
	baz=260						
D17K	Noatak River	49.36	25	P	P	11 40 21.5	-0.9
	baz=250,SNR=6.3						
O16K	Kokwok River B	49.54	36	P	P	11 40 23.2	-0.7
	baz=262						
RDOG	Red Dog Mine	49.55	24	P	P	11 40 23.9	0.0
	baz=250						
C17K	DeLong Mountai	49.60	24	P	P	11 40 24.7	+0.4
	baz=249						
F17K	Baldwin Pennin	49.64	26	P	P	11 40 23.8	-0.7
	baz=253						
J17K	VABM Dome	49.76	31	P	P	11 40 24.2	-1.3
	baz=258						
H17K	Granite Mounta	49.76	29	P	P	11 40 25.2	-0.4
	baz=255						
L17K	Donlin	49.86	32	P	P	11 40 25.9	-0.5
	baz=259						
K17K	Iditarod	49.97	32	P	P	11 40 26.1	-1.0
	baz=259						
O17K	Koliganek Bris	50.07	35	P	P	11 40 27.6	-0.3
	baz=262						
N17K	Nushagak Hills	50.13	34	P	P	11 40 28.9	+0.5
	baz=262						
M17K	Holitna River	50.14	33	P	P	11 40 29.0	+0.5
	baz=261						
KURK	Kurchatov	50.16	313	P	P	11 40 27.7	-1.1
KURK				IAmb	IAmb	11 40 31.5	
	comp=Z,8.3nm,0.9s						
KURK	Kurchatov	50.16	313⇓	*e*P	P	11 40 28.1	-0.7
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
Q16K	King Salmon	50.16	37	P	P	11 40 28.7	+0.1
	baz=264						
E18K	Tukpahlearik C	50.17	25	P	P	11 40 29.0	+0.4
	baz=253						
KURBB	Kurchatov Arra	50.22	313	P	P	11 40 25.9	-3.3
	comp=Z,2.6nm,0.4s,baz=91,slow=9.7,SNR=28						
KURBB				ScP	ScP	11 45 34.9	-3.0
	comp=Z,0.2nm,0.3s,baz=67,slow=5.1,SNR=1.8						
KURBB				LR	LR	12 01 38.9	
	comp=Z,48nm,18.2s,baz=178,slow=36						
	comp=Z,2.6nm,0.4s						
WB0	Warramunga Arr	50.29	188	P	P	11 40 30.0	0.0
WB0				IAmb	IAmb	11 40 53.7	
	comp=Z,11nm,1.2s						
F18K	Selawik	50.30	26	P	P	11 40 30.4	+0.8
	baz=254						
P17K	Kvichak River	50.33	36	P	P	11 40 31.0	+1.1
	baz=264						
C18K	Utukok River	50.34	24	P	P	11 40 30.9	+0.9
	baz=251						
B18K	Kokolik River	50.38	23	P	P	11 40 31.7	+1.6
	baz=250,SNR=8.2						
H18K	Honhosa River	50.45	28	P	P	11 40 31.3	+0.5
	baz=257						
WRAB	Tennant Creek	50.46	188	P	P	11 40 30.5	-0.8
WRAB				IAmb	IAmb	11 40 52.3	
	comp=Z,11nm,1.2s						
WRAB	Tennant Creek	50.46	188⇑	*e*P	P	11 40 32.2	+0.9
WR0	Warramunga Arr	50.47	188	P	P	11 40 31.0	-0.3
WB2	Warramunga Arr	50.47	188	P	P	11 40 31.0	-0.4
WB2				IAmb	IAmb	11 40 55.3	
	comp=Z,5.6nm,0.8s						
WRA	Warramunga Arr	50.47	188	P	P	11 40 30.8	-0.6
WRA	Warramunga Arr	50.47	188	P	P	11 40 30.2	-1.2
	comp=Z,2.7nm,0.3s,baz=5.7,slow=7.6,SNR=65						
WRA				PcP	PcP	11 41 50.1	+1.3
	comp=Z,0.7nm,0.4s,baz=2.4,slow=4.0,SNR=1.0						
WRA				ScP	ScP	11 45 38.2	-1.1
	comp=Z,1.5nm,0.8s,baz=5.4,slow=4.4,SNR=6.4						
WRA				S	S	11 47 33.4	-7.3
	comp=Z,0.5nm,0.8s,baz=1.6,slow=16,SNR=2.7						
	comp=Z,2.7nm,0.3s						
WRA	Warramunga Arr	50.47	188	*i*P	P	11 40 31.1	-0.3
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FITZ	Fitzroy Crossi	50.50	199	P	P	11 40 31.5	-0.1
CHIR	Chirikof Islan	50.50	41	P	P	11 40 32.1	+0.9
	baz=267						
G18K	Tagagawik	50.51	27	P	P	11 40 32.5	+1.3
G18K				IAmb	IAmb	11 40 34.7	
	comp=Z,11nm,0.8s						
G18K	Tagagawik	50.51	27	P	P	11 40 32.4	+1.3
	baz=256						
GSI	Gunungsitoli	50.52	244	P	P	11 40 32.2	+0.3
L18K	Granite Mounta	50.62	32	P	P	11 40 32.5	+0.4
	baz=261						
N18K	Kilae Creek	50.78	34	P	P	11 40 34.0	+0.7
	baz=263						
J18K	Innoko River	50.82	31	P	P	11 40 33.7	+0.1
	baz=260						
A19K	Wainwright	50.90	22	P	P	11 40 35.6	+1.6
	baz=250						
M18K	Stony River	50.92	33	P	P	11 40 35.0	+0.7
	baz=262						
P18K	Big Mountain,	50.97	36	P	P	11 40 35.7	+0.9
	baz=264						
GCSA	Galena City Sc	50.98	29	P	P	11 40 35.1	+0.3
	baz=259						
Q18K	Katmai Hardscr	51.02	37	P	P	11 40 35.3	+0.1
	baz=265						
O18K	Koktuh Hills	51.03	36	P	P	11 40 34.3	-0.9
O18K	Koktuh Hills	51.03	36	P	P	11 40 35.3	+0.1
	baz=264						
TTA	Tatalina	51.04	32	P	P	11 40 35.3	0.0
	baz=261						
F19K	Shaleruckik Mo	51.08	26	P	P	11 40 36.4	+0.9
	baz=256						
R18K	Karluk	51.24	39	P	P	11 40 37.3	+0.6
	baz=267						
H19K	Roundabout Mou	51.32	28	P	P	11 40 38.4	+1.1
	baz=258						
SII	Sitkinak Islan	51.33	40	P	P	11 40 38.0	+0.5
	baz=268						
D19K	Kuna River	51.38	24	P	P	11 40 37.5	-0.2
	baz=254						
J19K	Poorman	51.39	30	P	P	11 40 38.8	+1.0
	baz=260						
E19K	Redstone River	51.44	26	P	P	11 40 38.1	0.0
	baz=256,SNR=16						
L19K	White Mountain	51.47	33	P	P	11 40 38.5	0.0
	baz=263						
N19K	Bonanza Creek	51.48	34	P	P	11 40 38.6	-0.1
	baz=264						
O19K	Port Alsworth	51.50	35	P	P	11 40 39.1	+0.4
	baz=265						
M19K	Big River Lodg	51.65	33	P	P	11 40 40.1	+0.3
	baz=263						
Q19K	Cape Douglas,	51.75	37	P	P	11 40 40.2	-0.4
Q19K	Cape Douglas,	51.75	37	P	P	11 40 40.4	-0.2
	baz=266						
OHAK	Old Harbor	51.85	39	P	P	11 40 40.8	-0.5
OHAK	Old Harbor	51.85	39	P	P	11 40 40.6	-0.7
	baz=268						
F20K	Avaraart Lake	51.92	26	P	P	11 40 41.7	0.0
	baz=258						
L20K	Farewell, AK	51.95	32	P	P	11 40 42.0	-0.1
	baz=263						
H20K	Anotleneega Mo	51.95	28	P	P	11 40 42.9	+0.8
	baz=260						
D20K	Etivluk River	51.97	24	P	P	11 40 42.5	+0.4
	baz=256,SNR=9.8						
K20K	Telida	51.98	31	P	P	11 40 43.0	+0.8
	baz=262						
P19K	Oil Pt	52.01	36	P	P	11 40 43.0	+0.5
	baz=266						
I20K	Naaghedeneel	52.01	29	P	P	11 40 43.5	+1.1
	baz=261						
E20K	Nigu River	52.01	25	P	P	11 40 43.4	+1.0
	baz=256						
J20K	Nowinta River	52.05	30	P	P	11 40 43.8	+1.0
	baz=262						
B20K	Meade River	52.12	23	P	P	11 40 45.4	+2.3
	baz=254						
M20K	Styx River	52.24	33	P	P	11 40 45.1	+0.9
	baz=264						
KDAK	Kodiak Island	52.25	38	*ce*P	P	11 40 46.3	+2.1
KDAK				pmax	pmax		
	comp=Z,32nm,1.2s						
KDAK	Kodiak Island	52.25	38	P	P	11 40 45.2	+0.9
	baz=268						
KDAK	Kodiak Island	52.25	38	P	P	11 40 46.4	+2.1
KDAK				sP	pwP	11 41 05.3	+1.4
Q20K	Shuyak Island	52.38	37	P	P	11 40 45.9	+0.7
	baz=268						
N20K	Mount Spurr	52.62	34	P	P	11 40 47.6	+0.5
	baz=266,SNR=6.9						
SPCR	Spurr Chakacha	52.62	34	P	P	11 40 48.5	+1.4
	baz=266						
A21K	Barrow	52.65	21	P	P	11 40 48.8	+1.7
	baz=254						
G21K	Allakaket	52.68	27	P	P	11 40 49.9	+2.5
G21K				IAmb	IAmb	11 40 50.7	
	comp=Z,5.1nm,0.6s						
G21K	Allakaket	52.68	27	P	P	11 40 48.8	+1.4
	baz=260						
C21K	Knifeblade Rid	52.72	24	P	P	11 40 49.4	+1.8
	baz=257						
PPLA	Purkeypile	52.77	32	P	P	11 40 49.2	+0.9
	baz=264						
F21K	Alatna River	52.81	26	P	P	11 40 49.8	+1.4
	baz=260						
HOM	Homer	52.81	36	P	P	11 40 50.0	+1.6
	baz=267						
CHUM	Lake Minchumin	52.82	31	P	P	11 40 49.7	+1.3
	baz=264						
H21K	Melozitna Rive	52.83	28	P	P	11 40 49.8	+1.3
	baz=262						
E21K	Killik River	52.85	25	P	P	11 40 49.7	+1.0
	baz=259						
CAST	Castle Rocks	52.87	31	P	P	11 40 50.1	+1.2
	baz=264,SNR=6.5						
B21K	Ikpikpuk River	52.88	23	P	P	11 40 50.4	+1.7
	baz=257						
SKT	Skwentna	53.00	33	P	P	11 40 51.4	+1.6
	baz=266,SNR=5.1						
CNPM	China Poot	53.01	36	P	P	11 40 50.8	+0.8
A22K	Sinclair Lake	53.08	22	P	P	11 40 51.8	+1.6
	baz=256						
CAPN	Captain Cook N	53.11	35	P	P	11 40 50.4	-0.1
	baz=267						
BRLK	Bradley Lake	53.20	36	P	P	11 40 52.1	+0.8
BRSE	Bradley Lake S	53.27	36	P	P	11 40 52.2	+0.3
	baz=268						
SUA	Susitna One	53.34	34	P	P	11 40 54.3	+1.9
SUA				IAmb	IAmb	11 41 25.2	
	comp=Z,16nm,1.2s						
SUA	Susitna One	53.34	34	P	P	11 40 52.7	+0.2
	baz=267						
F22K	John River	53.36	26	P	P	11 40 53.3	+1.0
	baz=261						
D22K	Ayikyak River	53.40	24	P	P	11 40 54.6	+1.9
D22K				IAmb	IAmb	11 40 56.4	
	comp=Z,7.6nm,0.9s						
D22K	Ayikyak River	53.40	24	P	P	11 40 53.7	+1.0
	baz=260						
BPAW	Bear Paw Mtn.	53.42	30	P	P	11 40 53.3	+0.4
BPAW	Bear Paw Mtn.	53.42	30	P	P	11 40 53.6	+0.8
	baz=265						
B22K	Teshekpuk Lake	53.44	23	P	P	11 40 54.6	+1.8
B22K				IAmb	IAmb	11 42 02.2	
	comp=Z,12nm,1.2s						
B22K	Teshekpuk Lake	53.44	23	P	P	11 40 53.9	+1.1
	baz=258						
H22K	Ishtalitna Cre	53.45	28	P	P	11 40 54.3	+1.3
	baz=263						
E22K	Anaktuvuk Pass	53.59	25	P	P	11 40 55.7	+1.6
E22K				IAmb	IAmb	11 40 57.3	
	comp=Z,8.0nm,0.7s						
E22K	Anaktuvuk Pass	53.59	25	P	P	11 40 53.9	-0.2
	baz=261,SNR=12						
CUT	Chulitna	53.62	33	P	P	11 40 54.9	+0.6
	baz=267						
M22K	Willow	53.66	33	P	P	11 40 55.4	+0.9
	baz=267						
TRF	Thorofare Moun	53.68	31	P	P	11 40 55.7	+0.8
	baz=266						
AAK	Ala-Archa	53.78	303	P	P	11 40 57.4	+1.4
AAK	Ala-Archa	53.78	303⇓	*e*P	P	11 40 57.0	+0.9
AAK				pmax	pmax		
	comp=Z,10.0nm,3.4s						
RC01	Rabbit Creek A	53.81	34	P	P	11 40 55.9	+0.1
	baz=268						
SEW	Seward	53.93	35	P	P	11 40 55.4	-1.2
	baz=269						
COLD	Coldfoot	54.08	27	P	P	11 40 57.8	+0.2
	baz=263						
G23K	Bananza Creek	54.09	27	P	P	11 40 57.9	+0.2
	baz=264						
PMR	Palmer	54.12	34	P	P	11 40 58.1	+0.2
	baz=268						
D23K	Nanushuk River	54.13	24	P	P	11 40 58.5	+0.5
	baz=261						
AS31	Alice Springs	54.20	188	P	P	11 40 59.5	+0.6
ASAR	Alice Springs	54.20	188	P	P	11 40 59.5	+0.6
ASAR	Alice Springs	54.20	188	P	P	11 40 58.5	-0.5
	comp=Z,1.3nm,0.4s,baz=9.6,slow=6.7,SNR=37						
ASAR				ScP	ScP	11 45 55.4	-0.1
	comp=Z,0.2nm,0.3s,baz=7.5,slow=9.3,SNR=2.0						
ASAR				S	S	11 48 27.3	-4.3
	comp=Z,0.9nm,1.0s,baz=12,slow=13,SNR=5.4						
	comp=Z,1.3nm,0.4s						
I23K	Minto, Yukon-K	54.21	29	P	P	11 40 59.8	+1.3
	baz=265						
C23K	Itkillik River	54.29	23	P	P	11 40 59.4	+0.3
	baz=261,SNR=10						
NEA2	Nenana	54.29	30	P	P	11 41 00.2	+1.0
	baz=266,SNR=6.9						
MCK	McKinley	54.30	31	P	P	11 41 00.8	+1.5
MCK				IAmb	IAmb	11 41 03.3	
	comp=Z,18nm,1.3s						
MCK	McKinley	54.30	31	P	P	11 41 00.8	+1.5
MCK				pmax	pmax		
	comp=Z,18nm,1.3s						
MCK	McKinley	54.30	31	P	P	11 41 00.2	+0.9
	baz=267,SNR=5.6						
RND	Reindeer	54.32	31	P	P	11 41 00.3	+0.8
RND				IAmb	IAmb	11 41 01.8	
	comp=Z,5.6nm,0.6s						
RND	Reindeer	54.32	31	P	P	11 41 00.3	+0.8
RND				pmax	pmax		
	comp=Z,6.0nm,0.6s						
E23K	Chandalar	54.40	26	P	P	11 41 00.7	+0.7
	baz=263						
KNK	Knik Glacier	54.44	34	P	P	11 41 01.4	+1.1
	baz=269,SNR=6.4						
TOLK	Toolik Lake Re	54.48	25	P	P	11 41 02.2	+1.6
TOLK				IAmb	IAmb	11 41 04.3	
	comp=Z,6.4nm,0.8s						
TOLK	Toolik Lake Re	54.48	25	P	P	11 41 03.0	+2.5
	baz=263,SNR=6.4						
PWL	Port Wells	54.49	34	P	P	11 41 02.1	+1.4
PWL	Port Wells	54.49	34	P	P	11 41 02.8	+2.0
	baz=270						
SML	Sawmill	54.51	33	P	P	11 41 00.9	+0.1
SML	Sawmill	54.51	33	P	P	11 41 01.9	+1.1
	baz=269						
M23K	Glacier View	54.79	33	P	P	11 41 04.9	+2.0
	baz=269						
D24K	Happy Valley	54.82	24	P	P	11 41 06.3	+3.4
	baz=263						
E24K	Your Creek	54.82	26	P	P	11 41 03.5	+0.4
	baz=264						
COLA	College	54.83	30⇓	*i*P	P	11 41 06.0	+2.9
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
COLA	College	54.83	30	P	P	11 41 05.9	+2.8
	baz=267						
COLA	College	54.83	30	P	P	11 41 05.9	+2.8
COLA				sP	pwP	11 41 24.8	+2.2
H24K	Noodor Dome	54.88	28	P	P	11 41 05.4	+2.0
	baz=266,SNR=5.6						
C24K	Franklin Bluff	54.93	24	P	P	11 41 04.3	+0.6
	baz=263						
P23K	Montague Islan	54.96	36	P	P	11 41 06.6	+2.5
	baz=271						
SCM	Sheep Creek Mo	54.98	33	P	P	11 41 06.2	+1.8
	baz=270,SNR=5.7						
F24K	Squaw Lake	55.00	26	P	P	11 41 06.1	+1.8
F24K				IAmb	IAmb	11 41 08.1	
	comp=Z,8.4nm,0.8s						
F24K	Squaw Lake	55.00	26	P	P	11 41 07.4	+3.1
	baz=265						
POKR	Poker Plat Res	55.02	29	P	P	11 41 07.1	+2.6
	baz=267						
G24K	Hadweenzic Riv	55.09	27	P	P	11 41 07.4	+2.4
	baz=266						
GLI	Glacier Island	55.10	34	P	P	11 41 06.9	+1.8
	baz=270						
BVAR	Borovoye Array	55.12	316	P	P	11 41 03.7	-1.7
	comp=Z,7.0nm,0.5s,baz=91,slow=8.6,SNR=29						
	comp=Z,7.0nm,0.5s						
BRVK	Borovoye	55.18	316	P	P	11 41 06.2	+0.4
BRVK				IAmb	IAmb	11 41 07.7	
	comp=Z,7.0nm,0.8s						
BRVK	Borovoye	55.18	316	*de*P	P	11 41 05.8	0.0
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	Borovoye	55.18	316	P	P	11 41 06.0	+0.2
HDA	Harding Lake	55.20	30	P	P	11 41 07.4	+1.6
	baz=268,SNR=6.3						
ILAR	Eielson Array	55.24	30	P	P	11 41 06.9	+0.8
	comp=Z,3.5nm,0.7s,baz=260,slow=6.3,SNR=46						
ILAR				LR	LR	12 10 06.3	
	comp=Z,30nm,18.6s,baz=235,slow=42						
	comp=Z,3.5nm,0.7s						
Q23K	Middleton Isla	55.51	36	P	P	11 41 07.8	-0.2
	baz=272						
M24K	Tolsona, Glenn	55.53	33	P	P	11 41 10.1	+1.8
	baz=270						
G25K	Bearman Lake	55.64	27	P	P	11 41 10.7	+1.8
	baz=267						
KLU	Klutina	55.66	34	P	P	11 41 11.5	+2.3
	baz=271,SNR=7.6						
D25K	Kavik River	55.70	24	P	P	11 41 12.2	+2.9
	baz=265						
K24K	Donnelly Dome	55.70	31	P	P	11 41 10.6	+1.1
	baz=270						
H25L	Birch Creek	55.74	28	P	P	11 41 12.9	+3.3
	baz=268						
EYAK	Cordova Ski Ar	55.77	35	P	P	11 41 13.1	+3.2
	baz=272						
PRP	Porcupine Dome	55.84	29	P	P	11 41 12.9	+2.4
	baz=269						
PAX	Paxson	55.85	32	P	P	11 41 12.7	+2.2
	baz=270						
F25K	Christian Rive	55.86	26	P	P	11 41 12.1	+1.6
F25K				IAmb	IAmb	11 41 15.4	
	comp=Z,15nm,1.2s						
F25K	Christian Rive	55.86	26	P	P	11 41 12.3	+1.7
	baz=267						
J25K	Salcha River,	55.89	30	P	P	11 41 11.4	+0.6
	baz=270						
E25K	Arctic Village	55.92	26	P	P	11 41 11.9	+1.0
E25K				IAmb	IAmb	11 41 15.2	
	comp=Z,14nm,1.1s						
E25K	Arctic Village	55.92	26	P	P	11 41 12.9	+2.0
	baz=267,SNR=14						
FYU	Fort Yukon	55.98	28	P	P	11 41 13.2	+1.9
FYU				IAmb	IAmb	11 41 15.6	
	comp=Z,15nm,1.2s						
HARP	HAARP	56.00	33	P	P	11 41 13.2	+1.6
	baz=271						
RIDG	Independent Ri	56.12	31	P	P	11 41 14.2	+1.8
RIDG				IAmb	IAmb	11 41 16.7	
	comp=Z,13nm,1.3s						
RIDG	Independent Ri	56.12	31	P	P	11 41 14.3	+1.9
	baz=270						
C26K	Camden Bay	56.26	24	P	P	11 41 16.2	+3.0
	baz=266						
N25K	Chitina, Valde	56.29	34	P	P	11 41 16.3	+2.6
	baz=272						
BMRM	Bremner River	56.31	34	P	P	11 41 15.9	+2.1
	baz=273						
F26K	Sheenjek River	56.44	26	P	P	11 41 18.1	+3.5
	baz=268						
KAIM	Kayak Island	56.46	36	P	P	11 41 15.7	+0.9
	baz=274						
SCRK	Sand Creek	56.50	31	P	P	11 41 17.4	+2.2
SCRK				IAmb	IAmb	11 41 17.8	
	comp=Z,5.4nm,0.8s						
SCRK	Sand Creek	56.50	31	P	P	11 41 16.5	+1.3
	baz=271,SNR=9.9						
G26K	Porcupine Rive	56.56	27	P	P	11 41 18.9	+3.5
	baz=269,SNR=6.3						
KK31	Karatay Array	56.57	304	P	P	11 41 14.9	-1.0
KK31				IAmb	IAmb	11 41 17.9	
	comp=Z,5.3nm,0.5s						
KK31	Karatay Array	56.57	304	P	P	11 41 14.9	-1.0
KK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KKAR	Karatay Array	56.57	304	P	P	11 41 14.3	-1.6
KKAR				IAmb	IAmb	11 41 17.9	
	comp=Z,3.5nm,0.5s						
KKAR	Karatay Array	56.57	304	P	P	11 41 14.3	-1.6
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MENT	Mentasta	56.65	32	P	P	11 41 15.2	-1.0
MENT				IAmb	IAmb	11 41 44.1	
	comp=Z,7.2nm,0.8s						
C27K	Jago River	56.66	24	P	P	11 41 19.3	+3.1
	baz=268						
J26L	Joseph Creek	56.67	30	P	P	11 41 17.8	+1.4
J26L				IAmb	IAmb	11 41 19.0	
	comp=Z,9.8nm,0.7s						
J26L	Joseph Creek	56.67	30	P	P	11 41 18.8	+2.4
	baz=271						
L26K	Log Cabin Wild	56.81	32	P	P	11 41 17.1	-0.3
L26K				IAmb	IAmb	11 41 21.3	
	comp=Z,8.3nm,0.8s						
L26K	Log Cabin Wild	56.81	32	P	P	11 41 20.1	+2.8
	baz=272,SNR=8.9						
I26K	Coal Creek Min	56.83	29	P	P	11 41 19.7	+2.4
	baz=271						
M26K	Nabesna, AK	57.00	33	P	P	11 41 21.2	+2.4
	baz=273						
BGLC	Bering Glacier	57.02	35	P	P	11 41 21.7	+3.0
	baz=274						
K27K	Chicken	57.34	31	P	P	11 41 22.7	+1.7
	baz=273						
E27K	Coleen River	57.40	26	P	P	11 41 23.7	+2.3
	baz=271						
G27K	Doyon Strip	57.41	27	P	P	11 41 24.5	+3.0
	baz=271						
I27K	Kandik River	57.46	29	P	P	11 41 24.7	+2.7
	baz=272						
H27K	Steamboat Moun	57.48	28	P	P	11 41 25.0	+3.0
	baz=272						
DZM	Mont Dzumac	57.48	152	P	P	11 41 29.4	+6.9
DZM				pP	pwP	11 41 44.4	+1.2
L27K	Beaver Creek,	57.50	32	P	P	11 41 25.4	+3.2
	baz=274						
BCAR	Beaver Creek A	57.52	32	P	P	11 41 22.5	+0.2
M27K	Edge Creek, AK	57.53	33	P	P	11 41 25.5	+3.0
	baz=274						
D27M	Malcolm River	57.62	24	P	P	11 41 25.8	+2.8
	baz=270						
GAR	Garm	57.66	299	P	P	11 41 22.4	-1.4
MESA	MESA	57.67	35	P	P	11 41 26.8	+3.1
	baz=275						
E28M	Babbage River	58.16	25	P	P	11 41 29.1	+2.4
	baz=272						
I28M	Miner Creek	58.17	29	P	P	11 41 29.4	+2.5
I28M				IAmb	IAmb	11 41 30.6	
	comp=Z,6.3nm,0.8s						
I28M	Miner Creek	58.17	29	P	P	11 41 27.5	+0.6
	baz=274						
D28M	Stokes Point	58.41	24	P	P	11 41 30.7	+2.3
	baz=272						
O28M	Mount Upton	58.48	34	P	P	11 41 31.5	+2.1
	baz=276						

DAWY	Dawson	58.51	30	P		P	11 41 31.3 +2.0
	baz=275						
YUK8	Steele Glacier	58.63	34	P		P	11 41 30.9 +0.5
	baz=276						
H29M	Whitestone	58.75	28	P		P	11 41 33.7 +2.8
	baz=275						
E29M	Blow River	58.77	25	P		P	11 41 33.3 +2.4
E29M	Blow River	58.77	25	P		P	11 41 34.0 +3.1
	baz=274						
G29M	Pine Creek	58.83	27	P		P	11 41 33.7 +2.3
	baz=275						
I29M	Ogilvie Camp,	58.85	29	P		P	11 41 33.9 +2.3
	baz=275,SNR=8.8						
J29N	Klondike Camp	58.98	30	P		P	11 41 34.2 +1.6
	baz=276						
M29M	Somme Creek	59.10	32	P		P	11 41 34.7 +1.3
	baz=277						
YUK4	Talbot Arm	59.16	34	P		P	11 41 36.4 +2.4
	baz=278						
L29M	L29M	59.17	31	P		P	11 41 35.5 +1.6
	baz=277,SNR=7.8						
O29M	Mount Kennedy	59.33	35	P		P	11 41 37.3 +2.2
	baz=278						
YUK6	Outpost Mounta	59.34	34	P		P	11 41 36.7 +1.3
	baz=278						
K29M	Barlow Dome	59.36	31	P		P	11 41 35.9 +0.7
K29M				IAmb	IAmb		11 41 40.4
	comp=Z,6.7nm,1.0s						
K29M	Barlow Dome	59.36	31	P		P	11 41 36.5 +1.3
	baz=277						
EPYK	Eagle Plains	59.40	28	P		P	11 41 37.3 +2.0
	baz=276						
G30M	tAoh Zraii Nji	59.53	27	P		P	11 41 38.7 +2.4
G30M				IAmb	IAmb		11 41 39.1
	comp=Z,6.2nm,0.7s						
G30M	tAoh Zraii Nji	59.53	27	P		P	11 41 37.7 +1.4
	baz=276,SNR=6.4						
F30M	Barrier River	59.63	26	P		P	11 41 38.2 +1.2
	baz=276						
I30M	Mount Dempster	59.68	29	P		P	11 41 40.0 +2.5
I30M				IAmb	IAmb		11 41 41.3
	comp=Z,6.6nm,0.6s						
I30M	Mount Dempster	59.68	29	P		P	11 41 38.4 +1.0
	baz=277,SNR=14						
HYT	Haines Junctio	59.78	34	P		P	11 41 39.6 +1.5
	baz=279						
J30M	Hart River	59.78	30	P		P	11 41 39.1 +1.0
	baz=278						
M30M	Minto, Yukon	59.85	32	P		P	11 41 39.6 +1.1
	baz=278						
N30M	Aishikik Lake	59.88	33	P		P	11 41 38.9 +0.1
	baz=279						
MAYO	Mayo, Yukon	60.11	31	P		P	11 41 41.4 +1.2
	baz=278						
P30M	Million Dollar	60.16	35	P		P	11 41 41.7 +1.0
	baz=280						
G31M	Satah River	60.30	27	P		P	11 41 43.6 +2.2
G31M	Satah River	60.30	27	P		P	11 41 42.2 +0.8
	baz=278						
INK	Inuvik	60.39	25	P		P	11 41 43.9 +1.8
INK				IAmb	IAmb		11 41 45.0
	comp=Z,13nm,1.4s						
INK	Inuvik	60.39	25	P		P	11 41 43.9 +1.8
INK				pmax	pmax		
	comp=Z,13nm,1.5s						
INK	Inuvik	60.39	25	P		P	11 41 42.6 +0.5
	baz=278						
F31M	Tsiigehtchic	60.43	26	P		P	11 41 43.6 +1.3
	baz=278						
H31M	Peel River	60.44	28	P		P	11 41 44.1 +1.7
H31M				IAmb	IAmb		11 41 45.9
	comp=Z,7.0nm,0.6s						
H31M	Peel River	60.44	28	P		P	11 41 42.6 +0.1
	baz=278						
O30N	Mendenhall	60.47	34	P		P	11 41 42.7 -0.1
	baz=280						
N31M	Braeburn, Yuko	60.50	33	P		P	11 41 43.8 +0.8
	baz=280						
PLBC	Pleasant Camp	60.57	36	P		P	11 41 43.9 +0.4
	baz=280						
S31K	Pelican	60.92	37	P		P	11 41 45.6 -0.2
	baz=281						
M31M	Drury Creek, Y	61.02	32	P		P	11 41 46.3 -0.2
	baz=280						
WHY	Whitehorse	61.08	34	P		P	11 41 46.7 -0.3
	baz=281						
SKAG	Skagway	61.09	35	P		P	11 41 46.5 -0.4
	baz=281						
ARTI	Arti	61.48	321	P		P	11 41 49.2 -0.4
ARTI	Arti	61.48	321	P		P	11 41 49.2 -0.4
ARTI				pmax	pmax		
	comp=Z,17nm,0.5s						
ARTI	Arti	61.48	321	P		P	11 41 48.8 -0.8
FARO	Faro, Yukon	61.49	32	P		P	11 41 50.0 +0.3
	baz=281						
N32M	Quiet Lake	61.84	33	P		P	11 41 53.1 +1.1
	baz=282						
P32M	Atlin	61.87	35	P		P	11 41 54.9 +2.6
	baz=282						
S32K	Killisnoo	61.89	38	P		P	11 41 53.7 +1.4
	baz=283						
STKA	Stephens Creek	61.91	180	P		P	11 41 53.0 +0.3
	comp=Z,1.5nm,0.6s,baz=357,slow=8.2,SNR=6.4						
	comp=Z,1.5nm,0.6s						
P33M	Teslin, Yukon	62.17	34	P		P	11 41 54.0 -0.3
	baz=283						
ABKAR	Akbulak array	62.27	313	P		P	11 41 54.2 -0.9
A36M	Sachs Harbour	62.49	20	P		P	11 41 58.4 +2.3
	baz=283						
Q32M	Nakina River	62.73	36	P		P	11 41 59.9 +1.6
	baz=284						
U33K	Whale Pass	63.00	39	P		P	11 42 00.1 +0.3
	baz=285						
CRAG	Craig	63.16	40	P		P	11 42 00.1 -0.7
	baz=285						
R33M	Jennings River	63.27	35	P		P	11 42 01.9 +0.1
	baz=285						
C36M	Paulatuk	63.54	23	P		P	11 42 04.7 +1.6
C36M				IAmb	IAmb		11 42 05.1
	comp=Z,5.7nm,0.7s						
C36M	Paulatuk	63.54	23	P		P	11 42 04.9 +1.8
	baz=286						
S34M	Telegraph Cree	63.58	37	P		P	11 42 05.0 +1.3
	baz=285						
TGTN	Hyland Airport	63.99	32	P		P	11 42 07.7 +1.3
	baz=286						
DLBC	Dease Lake	64.00	36	P		P	11 42 07.2 +0.7
	baz=286						
V35K	Ketchikan	64.03	39	P		P	11 42 07.1 +0.6
	baz=286						
WTLY	Watson Lake, Y	64.14	34	P		P	11 42 08.4 +1.1
	baz=286						
T35M	Bob Quinn	64.29	37	P		P	11 42 09.6 +1.3
	baz=286						
KIRV	Kirov	65.55	325	*de*P		P	11 42 17.1 +0.7
WRGLY	Wrigley	65.62	30	P		P	11 42 18.0 +1.2
	baz=289						
TOAD	Toad River Com	66.26	35	P		P	11 42 22.4 +1.3
	baz=290						
KOTAN	Kotaneelee Air	66.39	33	P		P	11 42 23.7 +1.9
	baz=290						
ALE	Alert	66.74	3	P		P	11 42 25.2 +1.4
SPITS	Spitsbergen Ar	67.02	349	P		P	11 42 25.2 -0.4
	comp=Z,6.4nm,0.9s,baz=92,slow=5.8,SNR=9.9						
	comp=Z,6.4nm,0.9s						
BELG	Belogornoye	68.67	319	LR		LR	12 14 06.6
	comp=Z,27nm,19.0s,baz=162,slow=37						
BELG	Belogornoye	68.67	319	*d* i P		P	11 42 35.5 -0.8
BELG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KLMR	Klimovskoe	69.36	329	*e*P		P	11 42 39.6 -0.8
KLMR				pmax	pmax		
	comp=Z,33nm,2.0s						
YKA	Yellowknife Ar	69.64	29	P		P	11 42 43.4 +1.2
	comp=Z,2.2nm,0.8s,baz=292,slow=6.0,SNR=30						
YKA				PKP2bc			12 10 48.2
	comp=Z,0.1nm,0.5s,baz=301,slow=5.5,SNR=3.7						
	comp=Z,2.2nm,0.8s						
YKA	Yellowknife Ar	69.64	29	*i* P		P	11 42 43.7 +1.5
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	70.19	340	P		P	11 42 45.2 -0.3
	comp=Z,3.4nm,0.7s,baz=64,slow=6.9,SNR=12						
ARCES				LR		LR	12 17 49.6
	comp=Z,39nm,21.0s,baz=58,slow=40						
	comp=Z,3.4nm,0.7s						
NEEM	North Greenlan	72.16	3	*e*P		P	11 42 59.0 +1.4
DAG	Danmarks Havn	72.38	355	*i* P		P	11 42 58.0 -0.5
VRH	Novokhopyorsk	72.50	319	*e*P		P	11 42 58.3 -1.3
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKT	Akhty	73.04	308	*e*P		P	11 43 02.5 -0.7
AKT				*e**PP		PcP	11 43 15.3 -4.4
AKT				*e**SP		pP	11 43 20.9 +1.5
AKT				*e*S		S	11 52 27.8 +2.1
AKT				pmax	pmax		
	comp=Z,29nm,1.0s						
LPSR	Galich'ya Gora	73.39	322	*e*P		P	11 43 05.0 +0.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN	Obninsk	73.40	325	*e*P		P	11 43 07.3 +2.4
OBN				*e*			11 43 21.8
OBN				*e*			11 45 49.9
OBN				*e*SSS	SSS		12 00 21.7
OBN				pmax	pmax		
	comp=Z,15nm,0.7s						
OBN				MLR	MLR		
	comp=Z,50nm,16.0s						
H04A	Detroit Lake	73.59	48	P		P	11 43 07.6 +1.3
H04A				IAmb	IAmb		11 43 10.4
	comp=Z,11nm,0.7s						
VORR	Voronezh	73.68	321	*e*P		P	11 43 06.4 -0.2
VORR				pmax	pmax		
	comp=Z,20nm,1.0s						
B08A	Colville Reser	73.68	43	P		P	11 43 08.7 +1.9
B08A				IAmb	IAmb		11 43 10.6
	comp=Z,6.3nm,0.8s						
VSR	Storozhevoye	73.92	320	*e*P		P	11 43 07.2 -0.8
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VORD	Divnogorie	73.97	320	*e*P		P	11 43 08.2 -0.1
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
D08A	Wollman Farm,	74.53	44	P		P	11 43 12.1 +0.4
D08A				IAmb	IAmb		11 43 15.1
	comp=Z,5.6nm,0.6s						
YBH	Yreka Blue Hor	74.57	51	LR		LR	12 08 02.4
	comp=Z,54nm,21.1s,baz=298,slow=29						
FINES	FINESS Array B	74.67	333	P		P	11 43 11.1 -1.1
	comp=Z,6.4nm,0.4s,baz=60,slow=5.7,SNR=38						
	comp=Z,6.4nm,0.4s						
FINES	FINESS Array B	74.67	333	*i* P		P	11 43 12.1 -0.1
FINES				pmax	pmax		
	comp=Z,7.0nm,0.4s						
PINE	Pine Mountain	74.79	48	P		P	11 43 15.0 +1.5
J05D	Fort Rock, OR	74.83	49	P		P	11 43 13.6 -0.1
J05D				IAmb	IAmb		11 43 17.9
	comp=Z,6.3nm,0.6s						
NEW	Newport	75.03	43	P		P	11 43 14.2 -0.3
NEW	Newport	75.03	43	P		P	11 43 16.7 +2.1
	comp=Z,5.0nm,0.8s,baz=296,slow=6.6,SNR=8.7						
	comp=Z,5.0nm,0.8s						
NEW	Newport	75.03	43	P		P	11 43 14.3 -0.3
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	Khabaz	75.22	312	P		P	11 43 14.5 -1.1
	comp=Z,20nm,1.0s,baz=70,slow=12,SNR=15						
	comp=Z,20nm,1.0s						
KBZ	Khabaz	75.22	312	*d i* P		P	11 43 15.5 -0.1
KBZ				pmax	pmax		
	comp=Z,20nm,1.0s						
KIV	Kislovodsk	75.25	312	P		P	11 43 16.6 +0.6
KIV	Kislovodsk	75.25	312	*e*P		P	11 43 16.8 +0.8
KIV							12 00 56.4
KIV				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV				MLR	MLR		
	comp=Z,39nm,18.0s						
GNI	Garni	75.66	308	*e*P		P	11 43 20.5 +2.0
GNI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BMO	Blue Mountains	76.58	46	P		P	11 43 25.5 +1.9
BMO	Blue Mountains	76.58	46	P		P	11 43 25.5 +1.9
BMO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SUMG	Summit	77.32	360	*i* P		P	11 43 28.0 +0.4
PAHR	Pah Rah Range	77.75	51	P		P	11 43 30.2 -0.2
PAHR				IAmb	IAmb		11 43 34.3
	comp=Z,6.6nm,0.9s						
MNK	Minsk	77.97	327	*i* P		P	11 43 30.5 -0.5
MNK				*i* *PP		pP	11 43 45.2 -2.1
MNK				*i*			11 46 26.5
MNK				*i* PPP	PPP		11 48 15.7
MNK				*i* S		S	11 53 21.2 +1.8
MNK				*i* *SS		ScS	11 53 45.9 +1.0
MNK				*i* SS		SS	11 58 24.1 +3.6
MNK				*i* SSS	SSS		12 01 48.5
MNK				pmax	pmax		
	comp=N,29nm,1.0s						
MNK				pmax	pmax		
	comp=E,20nm,0.9s						
MNK				MLR	MLR		
	comp=Z,196nm,21.0s						
MNK				MLR	MLR		
	comp=E,2μm,21.0s						
MNK				MLR	MLR		
	comp=N,2μm,23.0s						
MFID	Camas Ranch	78.22	47	P		P	11 43 34.5 +1.8
NVAR	Mina Array Bea	79.11	52	P		P	11 43 40.5 +2.5
	comp=N,6.8nm,0.7s,baz=293,slow=5.7,SNR=53						
NVAR				LR	LR		12 11 29.0
	comp=N,32nm,20.1s,baz=192,slow=30						
	comp=N,6.8nm,0.7s						
DLMT	Dillon	79.18	44	P		P	11 43 40.1 +2.1
FFC	Flin Flon	79.38	32	P		P	11 43 40.6 +1.8
FFC	Flin Flon	79.38	32	P		P	11 43 40.6 +1.8
FFC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AK03	Malin Array Si	79.51	323	P		P	11 43 39.3 -0.2
AKASG	Malin Array Be	79.52	323	P		P	11 43 38.8 -0.8
	comp=Z,7.2nm,0.4s,baz=52,slow=5.4,SNR=30						
AKASG				LR	LR		12 20 28.9
	comp=Z,49nm,18.3s,baz=222,slow=37						
	comp=Z,7.2nm,0.4s						
AKASG	Malin Array Be	79.52	323	*i* P		P	11 43 41.7 +2.1
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.4s						
AKBB	Malin Array Si	79.52	323	P		P	11 43 39.6 0.0
AKBB	Malin Array Si	79.52	323	*c i* P		P	11 43 41.6 +2.0
AKBB				pmax	pmax		
	comp=Z,13nm,0.6s						
AKBB	Malin Array Si	79.52	323	P		P	11 43 39.9 +0.3
KIEV	Kiev	79.53	323	P		P	11 43 39.6 -0.1
KIEV	Kiev	79.53	323	P		P	11 43 39.6 -0.1
KIEV				pmax	pmax		
	comp=Z,17nm,0.5s						
KIEV	Kiev	79.53	323	P		P	11 43 39.5 -0.1
	comp=Z,2μmcomp=Z,90nm,0.8s						
ELK	Elko	79.97	49	P		P	11 43 44.9 +2.3
ELK	Elko	79.97	49	LR	LR		12 12 41.5
	comp=Z,30nm,21.7s,baz=290,slow=31						
ELK	Elko	79.97	49	P		P	11 43 44.9 +2.3
ELK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	Hagfors	80.11	336	P		P	11 43 42.1 -0.5
	comp=Z,2.1nm,0.5s,baz=87,slow=3.3,SNR=9.8						
	comp=Z,2.1nm,0.5s						
NB2	NORSAR Subarra	80.28	338	P		P	11 43 44.1 +0.5
	comp=Z,4.3nm,0.8s,baz=46,slow=5.1						
NOA	NORSAR Array B	80.28	338	P		P	11 43 42.8 -0.8
	comp=Z,3.5nm,1.0s,baz=42,slow=5.2,SNR=5.4						
NOA				LR	LR		12 24 55.8
	comp=Z,24nm,18.0s,baz=35,slow=40						
	comp=Z,3.5nm,1.0s						
RNPP9	Sopachiv	80.78	325	P		P	11 43 47.0 +0.6
GWY	Greenwater Val	81.38	53	P		P	11 43 52.2 +2.1
GWY				IAmb	IAmb		11 43 53.9
	comp=Z,12nm,0.7s						
SPR3	Spring Creek 3	81.48	50	P		P	11 43 52.6 +1.9
DUG	Dugway, Tooele	81.83	48	P		P	11 43 53.9 +1.5
DUG				IAmb	IAmb		11 43 56.0
	comp=Z,5.5nm,0.7s						
DUG	Dugway, Tooele	81.83	48	P		P	11 43 53.9 +1.5
DUG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ILGA	Ilgaz	82.42	313	P		P	11 43 55.3 -0.2
PD31	Pinedale Array	82.44	45	P		P	11 43 56.5 +0.9
PDAR	Pinedale Array	82.44	45	P		P	11 43 57.2 +1.6
	comp=Z,1.6nm,0.6s,baz=275,slow=1.7,SNR=20						
	comp=Z,1.6nm,0.6s						
SFJD	Kangerlussuaq	82.51	5	LR	LR		12 20 58.1
	comp=Z,31nm,22.0s,baz=170,slow=36						
PFO	Pinyon Flats O	82.87	55	LR	LR		12 17 15.7
	comp=Z,37nm,18.8s,baz=225,slow=33						
RAYN	Ar Rayn	83.12	293	P		P	11 43 58.7 -0.5
RAYN				IAmb	IAmb		11 44 00.8
	comp=Z,5.7nm,0.6s						
RAYN	Ar Rayn	83.12	293	P		P	11 43 58.7 -0.5
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BR131	Keskin Array S	83.21	312	P		P	11 43 60.0 +0.4
BR131	Keskin Array S	83.21	312	*c i* P		P	11 43 59.6 0.0
BRTR	Keskin Array B	83.21	312	P		P	11 43 59.6 0.0
BRTR	Keskin Array B	83.21	312	P		P	11 43 58.3 -1.2
	comp=Z,10nm,0.9s,baz=100,slow=3.0,SNR=28						
	comp=Z,10nm,0.9s						
BRTR	Keskin Array B	83.21	312	*i* P		P	11 43 59.7 +0.1
BRTR				pmax	pmax		
	comp=Z,11nm,0.9s						
BR104	Keskin Array S	83.22	312	P		P	11 43 59.8 +0.2
	comp=Z,91nmcomp=Z,15nm,0.9s						
BR106	Keskin Array S	83.22	312	P		P	11 44 00.1 +0.5
KNB	Kanab	83.55	51	P		P	11 44 01.9 +0.5
KNB				IAmb	IAmb		11 44 05.9
	comp=Z,9.7nm,0.9s						
KNB	Kanab	83.55	51	P		P	11 44 01.9 +0.5
KNB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
O20A	White River Ci	84.76	46	P		P	11 44 09.5 +2.0
O20A				IAmb	IAmb		11 44 11.0
	comp=Z,9.0nm,0.9s						
ULM	Lac du Bonnet	85.13	33	LR		LR	12 23 51.5
	comp=Z,39nm,19.0s,baz=7.5,slow=37						
MODS	Modra-Piesok	86.98	326	*e*P		P	11 44 14.0 -4.1
MODS				pmax	pmax		
	comp=Z,26nm,1.0s						
MODS	Modra-Piesok	86.98	326	*e*P		P	11 44 14.0 -4.1
S22A	4UR Ranch, Cre	87.05	47	P		P	11 44 20.2 +1.1
	baz=307						
T25A	Trinidad	88.95	47	P		P	11 44 29.7 +1.8
	baz=308						
ANMO	Albuquerque	88.97	50	LR		LR	12 17 02.3
	comp=Z,55nm,20.6s,baz=110,slow=30						
LPIG	La Paz	92.58	60	LR		LR	12 30 03.7
	comp=Z,28nm,18.4s,baz=327,slow=38						
TXAR	Lajitas Array	94.25	52	P		P	11 44 55.1 +2.6
	comp=Z,6.0nm,0.7s,baz=306,slow=3.0,SNR=88						
TXAR				LR	LR		12 23 36.0
	comp=Z,18nm,19.5s,baz=292,slow=33						
	comp=Z,6.0nm,0.7s						
L44A	Lake County Fo	94.77	34	P		P	11 44 56.9 +2.5
	baz=319						
L61B	Northampton	101.08	25	P		Pdif	11 45 22.6 -0.2
	baz=331						
ESDC	Sonseca Array	103.18	333	Pdiff		Pdif	11 45 27.6 -4.8
	comp=Z,0.4nm,0.3s,baz=295,slow=3.2,SNR=1.9						
QSPA	South Pole Qui	120.14	180	PKP		PKPdf	11 50 22.7 0.0
	comp=Z,0.8nm,0.4s,baz=15,slow=0.6,SNR=11						
LPAZ	La Paz	149.67	69	PKPbc		PKiKP	11 51 25.1 +0.4
	comp=Z,2.4nm,0.5s,baz=334,slow=4.6,SNR=12						
PLCA	Paso Flores	152.25	121	PKPbc		PKPbc	11 51 28.4 0.0
	comp=Z,1.7nm,0.6s,baz=220,slow=3.8,SNR=6.3						

IDC 07 11:46:50.2±293.0, 54°30N×160°22E, $h0^{km}$, Error ellipse: s-maj=107.2km s-min=42.4km az=53.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	PETROPAVLOVSK-	1.91	232	I	I	11 58 30.0	
	0.1nm,0.8s,baz=50,slow=329,SNR=7.0						
I53US	FAIRBANKS INFR	27.50	47	I	I	14 35 33.2	
	0.1nm,1.3s,baz=272,slow=323,SNR=2.9						
I18DK	QAANAAQ INFRAS	44.96	14	I	I	16 35 54.7	
	baz=311,slow=337,SNR=1.5						

*IDC **07** 11:49:42.5±1.5, 30°93S×177°68W, $h0^{km}$, mb4.4/4, mbtmp4.3/5, ML3.4/1, Error ellipse: s-maj=53.0km s-min=25.1km az=135.0*

*NEIC **07** 11:49:44.9±2.2, 30°8S±0°1×177°6W±0°2, $h10^{km}$±2^{km}, mb4.4/13, Error ellipse: s-maj=27.1km s-min=21.3km az=103.0*

ISC 07 11:49:46.8±0.9, 30°85S±0°06×177°7W±0°2, $h27^{km}$, n47, σ18 37/55, mb4.4/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.59	352	P	Pn	11 50 12.9	-0.3
GLKZ				S	Sn	11 50 29.0	-3.9
RIZ	Raoul Island	1.61	352	P	Pn	11 50 13.9	+0.4
MXZ	Matakaoa Point	7.48	205	S	Sn	11 52 58.6	+0.5
WMGZ	Waiomatatini S	7.67	204	P	Pn	11 51 36.0	-0.7
WMGZ				S	Sn	11 53 00.5	-2.2
PKGZ	Pakihiroa	7.83	205	P	Pn	11 51 38.2	-0.8
HAZ	Te Kaha	7.85	207	P	Pn	11 51 39.8	+0.7
HAZ				S	Sn	11 53 09.9	+2.8
PUZ	Puketiti	7.95	204	P	Pn	11 51 41.4	+0.7
PUZ				S	Sn	11 53 07.3	-2.4
RUGZ	Raukumara Rang	8.07	207	P	Pn	11 51 40.7	-1.7
RUGZ				S	Sn	11 53 12.0	-0.8
TWGZ	Tauwhareparae	8.14	205	P	Pn	11 51 43.0	-0.3
TWGZ				S	Sn	11 53 12.1	-2.3
CNGZ	Carnagh Statio	8.34	203	P	Pn	11 51 45.9	0.0
CNGZ				S	Sn	11 53 18.1	-1.0
MWZ	Matawai	8.45	207	P	Pn	11 51 44.4	-3.1
MWZ				S	Sn	11 53 22.5	+0.6
OUZ	Omahuta	8.53	237	P	Pn	11 51 54.3	+5.8
URZ	Urewera	8.55	209	Pn	Pn	11 51 47.1	-1.8
	0.4nm,0.3s,baz=347,slow=4.6,SNR=10						
URZ				Sn	Sn	11 53 23.8	-0.6
	2.9nm,0.3s,baz=72,slow=18,SNR=17						
	4.8nm,0.8s						
URZ	Urewera	8.55	209	P	Pn	11 51 47.8	-1.0
URZ				S	Sn	11 53 23.7	-0.7
RIGZ	Rimuhau	8.69	204	P	Pn	11 51 51.2	+0.4
RIGZ				S	Sn	11 53 27.6	-0.3
PRGZ	Paritu Road	8.84	203	P	Pn	11 51 52.2	-0.7
PRGZ				S	Sn	11 53 29.2	-2.4
RTZ	Ruatahuna	8.91	208	Pn	Pn	11 51 56.0	+2.2
KNZ	Kokohu	9.00	204	P	Pn	11 51 53.8	-1.2
ARHZ	Aropaoanui	9.46	206	P	Pn	11 52 00.1	-1.2
ARHZ				S	Sn	11 53 44.7	-2.1
BFZ	Birch Farm	10.98	205	Pn	Pn	11 52 22.1	0.0
STKA	Stephens Creek	34.65	258	P	P	11 56 35.8	+1.7
STKA	Stephens Creek	34.65	258	P	P	11 56 34.0	0.0
	7.3nm,0.9s,baz=85,slow=9.6,SNR=14						
	7.3nm,0.9s						
BBOO	Buckleboo	39.12	255	P	P	11 57 12.4	+0.3
BBOO				IAmb	IAmb	11 57 43.0	
	comp=Z,6.2nm,1.1s						
COEN	Coen	39.66	286	P	P	11 57 17.5	+0.7
COEN				IAmb	IAmb	11 57 21.2	
	comp=Z,12nm,1.3s						
ASAR	Alice Springs	43.37	267	P	P	11 57 48.5	+1.4
ASAR	Alice Springs	43.37	267	P	P	11 57 46.7	-0.4
	comp=Z,1.2nm,0.5s,baz=103,slow=7.5,SNR=22						
	comp=Z,1.2nm,0.5s						
WR0	Warramunga Arr	44.21	273	P	P	11 57 53.5	-0.4
WR0				IAmb	IAmb	11 58 36.8	
	comp=Z,10.0nm,1.5s						
WB2	Warramunga Arr	44.38	272	P	P	11 57 54.9	-0.4
WB2				IAmb	IAmb	11 57 56.2	
	comp=Z,2.3nm,0.8s						
WRAB	Tennant Creek	44.39	272	P	P	11 57 54.9	-0.4
WRA	Warramunga Arr	44.39	272	P	P	11 57 55.0	-0.4
WRA

baz=238,slow=74,SNR=18
PETK Petropavlovsk- 86.31 345 P **P** **12 02 27.1 +1.2**
comp=Z,5.3nm,0.9s,baz=120,slow=8.8,SNR=3.7
comp=Z,5.3nm,0.9s
BVAR Borovoye Array 126.92 316 PKP **PKPdf** **12 08 46.2 -1.6**
comp=Z,0.2nm,0.3s,baz=0.0,slow=2.9,SNR=1.4
FINES FINESS Array B 145.66 340 PKPbc **PKPbc** **12 09 21.8 -0.5**
comp=Z,3.1nm,0.5s,baz=59,slow=4.3,SNR=24
NOA NORSAR Array B 149.23 352 PKPbc **PKiKP** **12 09 32.7 -0.8**
comp=Z,0.7nm,0.5s,baz=16,slow=4.1,SNR=3.3
HFS Hagfors 149.74 349 PKPbc **PKPbc** **12 09 33.3 -0.2**
comp=Z,1.1nm,0.5s,baz=88,slow=4.9,SNR=4.6
AKASG Malin Array Be 151.82 322 PKPbc **PKiKP** **12 09 38.6 -0.4**
comp=Z,0.7nm,0.4s,baz=51,slow=2.6,SNR=4.0

IDC 07 12:04:10.0±3.5, 34°.65S×178°.36W, h0km, mb3.5/2, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=86.6km s-min=47.6km az=131.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.13**	**224**	Pn	Pn	12 05 28.1	+0.1
0.8nm,0.3s,baz=50,slow=7.9,SNR=12							
URZ				Sn	Sn	12 06 23.8	-4.2
1.6nm,0.3s,baz=114,slow=23,SNR=9.1							
2.8nm,0.3s							
ASAR	**Alice Springs**	**42.76**	**272**	P	P	12 12 09.2	-0.2
0.4nm,0.5s,baz=114,slow=7.9,SNR=14							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**44.13**	**277**	P	P	12 12 20.3	-0.1
0.5nm,0.8s,baz=119,slow=7.4,SNR=5.0							
0.5nm,0.8s							
FINES	**FINESS Array B**	**148.99**	**337**	PKPbc	PKPbc	12 23 58.6	-0.5
1.8nm,0.8s,baz=35,slow=6.3,SNR=3.5							

IDC 07 12:13:46.1±3.3, 31°.93S×177°.98W, h0km, mb3.7/2, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=72.6km s-min=37.1km az=112.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.49**	**211**	Pn	Pn	12 15 36.1	-0.4
0.5nm,0.3s,baz=18,slow=6.4,SNR=7.5							
URZ				Sn	Sn	12 17 02.9	+0.8
1.8nm,0.3s,baz=72,slow=15,SNR=9.2							
8.4nm,1.1s							
ASAR	**Alice Springs**	**43.07**	**269**	P	P	12 21 47.9	-0.2
0.8nm,0.8s,baz=110,slow=7.4,SNR=18							
0.8nm,0.8s							
WRA	**Warramunga Arr**	**44.20**	**274**	P	P	12 21 57.2	+0.1
0.7nm,0.5s,baz=113,slow=8.0,SNR=18							
0.7nm,0.5s							
QSPA	**South Pole Qui**	**58.18**	**180**	P	P	12 23 46.9	+5.2
2.2nm,0.7s,baz=35,slow=1.0,SNR=10							
FINES	**FINESS Array B**	**146.58**	**339**	PKPbc	PKPdf	12 33 27.9	+0.6
1.6nm,0.8s,baz=57,slow=5.1,SNR=3.8							

IDC 07 12:13:47.8±2.7, 50°.30N×27°.71E, h0km, mbtmp3.6/2, ML2.6/2, Error ellipse: s-maj=24.5km s-min=11.9km az=18.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**1.05**	**67**	Pg	Pg	12 14 07.4	-0.5
19nm,0.3s,baz=248,slow=14,SNR=35							
AKASG				Lg	Lg	12 14 23.7	
14nm,0.3s,baz=251,slow=22,SNR=14							
GERES	**GERESS Array B**	**9.22**	**266**	Lg	Lg	12 18 42.3	
0.4nm,0.3s,baz=75,slow=34,SNR=1.8							
FINES	**FINESS Array B**	**11.21**	**356**	Pn	Pn	12 16 22.9	-6.3
0.2nm,0.3s,baz=177,slow=32,SNR=4.0							
FINES				Lg	Lg	12 19 42.0	
0.1nm,0.3s,baz=172,slow=30,SNR=2.1							
0.8nm,0.6s							
HFS	**Hagfors**	**12.66**	**326**	Pn	Pn	12 16 43.1	-5.9
0.1nm,0.3s,baz=137,slow=15,SNR=1.4							
0.6nm,0.4s							
I31KZ	**AKTYUBINSK INF**	**19.29**	**78**	I	I	14 13 10.0	
baz=284,slow=311,SNR=0.8							

IDC 07 12:16:05.0±7.2, 30°.41S×178°.51W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=296.2km s-min=61.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.67**	**267**	P	P	12 24 03.4	-0.3
0.3nm,0.4s,baz=103,slow=7.3,SNR=5.4							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**43.66**	**272**	P	P	12 24 11.7	0.0
0.3nm,0.3s,baz=113,slow=7.9,SNR=3.1							
0.3nm,0.3s							
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	12 35 41.9	-0.8
2.9nm,1.0s,baz=22,slow=6.6,SNR=4.8							

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*IDC **07** 12:59:40.0±0.6, 43°.12S×42°.43E, h0km, mb4.2/13, mbtmp4.2/13, MS3.5/12, Error ellipse: s-maj=22.6km s-min=17.8km az=60.0*
*NEIC **07** 12:59:42.5±1.4, 43°.1S±0°.1×42°.2E±0°.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=21.7km s-min=18.1km az=33.0*

ISC 07 12:59:41.6±0.5, 43°.09S±0°.09×42°.2E±0°.1, h10km, n54, σ1§12/39, mb4.4/14, MS3.5/10, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**15.80**	**303**	Pn	**Pn**	**13 03 20.5**	**-3.6**
GRHM				IAmb	IAmb	13 03 34.1	
comp=Z,59nm,1.2s							
SOE	**Somerset East**	**16.68**	**303**	Pn	**Pn**	**13 03 33.0**	**-2.5**
SOE				IAmb	IAmb	13 03 54.7	
comp=Z,56nm,1.1s							
POGA	**Pongola**	**17.86**	**328**	P	**Pn**	**13 03 51.4**	**+1.1**
BOSA	**Boshof**	**19.86**	**311**	P	**P**	**13 04 13.6**	**+0.6**
BOSA	**Boshof**	**19.86**	**311**	P	**P**	**13 04 13.8**	**+0.8**
comp=Z,3.5nm,0.7s,baz=136,slow=12,SNR=7.7							
BOSA				S	S	13 07 38.7	-18
comp=Z,2.3nm,0.8s,baz=67,slow=12,SNR=1.7							
BOSA				LR	LR	13 11 15.2	
comp=Z,54nm,18.0s,baz=184,slow=35							
comp=Z,3.5nm,0.7s							
SUR	**Sutherland**	**19.94**	**295**	P	**P**	**13 04 15.3**	**+1.5**
SUR				IAmb	IAmb	13 04 28.5	
comp=Z,33nm,1.2s							
SUR	**Sutherland**	**19.94**	**295**	P	Pn	13 04 15.8	+0.3
comp=Z,3.8nm,0.6s,baz=134,slow=15,SNR=12							
SUR				S	S	13 07 40.8	-18
comp=Z,6.2nm,0.9s,baz=131,slow=3.9,SNR=3.2							
SUR				LR	LR	13 10 06.0	
comp=Z,78nm,20.9s,baz=138,slow=31							
comp=Z,3.8nm,0.6s							
VOI	**Vohitsoka**	**21.48**	**12**	P	**P**	**13 04 31.2**	**+0.8**
VOI				IAmb	IAmb	13 04 43.2	
comp=Z,31nm,1.3s							
LBTB	**Lobatse**	**22.59**	**318**	P	**P**	**13 04 42.4**	**0.0**
LBTB				IAmb	IAmb	13 04 47.6	
comp=Z,14nm,0.9s							
LBTB	**Lobatse**	**22.59**	**318**	LR	LR	13 11 57.8	
comp=Z,87nm,19.8s,baz=132,slow=32							
OPO	**Ambohidratompo**	**24.81**	**11**	LR	LR	13 13 09.5	
comp=Z,110nm,20.1s,baz=360,slow=33							
LSZ	**Lusaka**	**30.20**	**332**	P	**P**	**13 05 52.3**	**-0.1**
LSZ				IAmb	IAmb	13 05 57.3	
comp=Z,10.0nm,1.1s							
LSZ	**Lusaka**	**30.20**	**332**	LR	LR	13 16 10.6	
comp=Z,89nm,21.5s,baz=148,slow=33							
TSUM	**Tsumeb**	**31.57**	**311**	P	**P**	**13 06 04.6**	**+0.1**
SNAA	**Sanae**	**35.94**	**202**	P	**P**	**13 06 43.0**	**+1.2**
SNAA				IAmb	IAmb	13 06 52.1	
comp=Z,14nm,1.3s							
SNAA	**Sanae**	**35.94**	**202**	P	**P**	**13 06 42.6**	**+0.7**
comp=Z,5.5nm,0.9s,baz=103,slow=13,SNR=7.6							
SNAA				LR	LR	13 17 04.8	
comp=Z,86nm,22.0s,baz=62,slow=29							
comp=Z,5.5nm,0.9s							
KMBO	**Kilima Mbogo**	**42.01**	**353**	LR	LR	13 22 26.4	
comp=Z,70nm,20.3s,baz=90,slow=32							
H08S1	**Diego Carcia H**	**44.20**	**46**	T	T	13 55 02.5	
baz=212,slow=76,SNR=6.6							
H08S2	**Diego Garcia H**	**44.21**	**46**	T	T	13 54 58.5	
baz=212,slow=76,SNR=4.1							
H08S3	**Diego Garcia H**	**44.22**	**46**	T	T	13 55 04.2	
baz=212,slow=76,SNR=5.4							
QSPA	**South Pole Qui**	**47.12**	**180**	P	**P**	**13 08 13.7**	**+0.1**
QSPA				IAmb	IAmb	13 08 51.7	
comp=Z,9.5nm,1.4s							
QSPA	**South Pole Qui**	**47.12**	**180**	P	**P**	**13 08 12.4**	**-1.2**
comp=Z,1.8nm,0.7s,baz=279,slow=3.1,SNR=14							
comp=Z,1.8nm,0.7s							
VNDA	**Vanda**	**54.16**	**167**	P	**P**	**13 09 06.8**	**+0.4**
VNDA	**Vanda**	**54.16**	**167**	P	**P**	**13 09 06.8**	**+0.4**
comp=Z,2.0nm,0.7s,baz=233,slow=5.1,SNR=2.3							
comp=Z,2.0nm,0.7s							
H01W2	**Cape Leeuwin H**	**54.96**	**107**	T	T	14 08 52.7	
baz=239,slow=75,SNR=900							
H01W3	**Cape Leeuwin H**	**54.97**	**107**	T	T	14 08 53.4	
baz=239,slow=75,SNR=762							
H01W1	**Cape Leeuwin H**	**54.98**	**107**	T	T	14 08 54.0	
baz=239,slow=75,SNR=970							
DBIC	**Dimbokro**	**65.33**	**307**	P	**P**	**13 10 25.6**	**+1.5**
comp=Z,4.1nm,0.9s,baz=132,slow=8.6,SNR=2.4							
comp=Z,4.1nm,0.9s							
FORT	**Forrest**	**66.93**	**111**	P	**P**	**13 10 35.1**	**+0.9**
EIL	**Elat**	**72.71**	**353**	LR	LR	13 42 03.7	
comp=Z,22nm,18.5s,baz=250,slow=35							
FITZ	**Fitzroy Crossi**	**73.17**	**99**	P	**P**	**13 11 11.5**	**-1.2**
comp=Z,2.4nm,1.0s,baz=219,slow=7.5,SNR=2.7							
comp=Z,2.4nm,1.0s							
STKA	**Stephens Creek**	**75.18**	**120**	P	**P**	**13 11 24.4**	**+0.1**
STKA	**Stephens Creek**	**75.18**	**120**	P	**P**	**13 11 23.1**	**-1.2**
comp=Z,2.8nm,0.7s,baz=253,slow=6.2,SNR=2.1							
comp=Z,2.8nm,0.7s							
MMAI	**Mount Meron Ar**	**75.99**	**354**	LR	LR	13 42 16.3	
comp=Z,31nm,21.3s,baz=174,slow=34							
PLCA	**Paso Flores**	**76.85**	**226**	P	**P**	**13 11 34.1**	**+0.3**
PLCA				IAmb	IAmb	13 11 34.9	
comp=Z,7.2nm,0.9s							
PLCA	**Paso Flores**	**76.85**	**226**	P	**P**	**13 11 34.0**	**+0.1**
comp=Z,5.5nm,0.8s,baz=124,slow=5.5,SNR=8.9							
comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**78.18**	**106**	P	**P**	**13 11 40.6**	**-0.9**
comp=Z,2.3nm,0.8s,baz=230,slow=4.9,SNR=1.8							
comp=Z,2.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**80.40**	**54**	P	**P**	**13 11 53.6**	**+0.3**
comp=Z,0.4nm,0.4s,baz=219,slow=6.2,SNR=5.4							
comp=Z,0.4nm,0.4s							
CFA	**Coronel Fontan**	**82.12**	**234**	LR	LR	13 42 46.3	
comp=Z,89nm,21.9s,baz=87,slow=31							
BRTR	**Keskin Array B**	**82.80**	**353**	P	**P**	**13 12 05.6**	**-0.1**
comp=Z,1.1nm,0.8s,baz=166,slow=7.4,SNR=5.4							
comp=Z,1.1nm,0.8s							
MDT	**Midelt**	**86.83**	**322**	LR	LR	13 50 45.7	
comp=Z,80nm,18.7s,baz=167,slow=35							
ESDC	**Sonseca Array**	**92.36**	**326**	P	**P**	**13 12 52.3**	**+0.4**
comp=Z,1.6nm,0.9s,baz=142,slow=5.1,SNR=7.3							
comp=Z,1.6nm,0.9s							
DAVOX	**Davos/Dischmat**	**93.95**	**338**	LR	LR	13 56 27.6	
comp=Z,28nm,18.9s,baz=255,slow=36							
CCM	**Cathedral Cave**	**144.62**	**278**	PKPdf	**PKPab**	**13 19 16.6**	**-0.1**
JFWS	**Jewell Farm**	**145.58**	**286**	PKPdf	**PKPdf**	**13 19 19.9**	**+0.2**
TBO	**Thunder Bay**	**146.30**	**297**	PKPdf	**PKPbc**	**13 19 22.0**	**+0.2**
HNDO	**Hondo**	**146.42**	**259**		**PKPbc**	**13 19 22.6**	**-0.2**
DRIO	**Del Rio**	**147.32**	**258**		**PKPbc**	**13 19 24.6**	**-0.8**
JCT	**Junction City**	**147.32**	**260**	PKPbc	**PKPbc**	**13 19 25.0**	**-0.5**
TXAR	**Lajitas Array**	**149.44**	**255**	PKPbc	**PKiKP**	**13 19 32.1**	**0.0**
comp=Z,5.6nm,0.9s,baz=129,slow=4.0,SNR=29							
ULM	**Lac du Bonnet**	**150.65**	**299**	PKPbc	**PKPbc**	**13 19 33.1**	**-0.1**
comp=Z,12nm,0.7s,baz=94,slow=3.0,SNR=32							
YKA	**Yellowknife Ar**	**156.27**	**333**	PKP	**PKPdf**	**13 19 33.3**	**-2.0**
comp=Z,0.1nm,0.6s,baz=30,slow=1.9,SNR=4.1							
YKA				PKPab	**PKPab**	**13 20 04.2**	**+0.8**
comp=Z,1.1nm,0.8s,baz=48,slow=4.4,SNR=16							
ILAR	**Eielson Array**	**157.68**	**10**	PKPab	**PKPab**	**13 20 07.8**	**-1.6**
comp=Z,0.1nm,0.5s,baz=343,slow=2.8,SNR=3.1							
NVAR	**Mina Array Bea**	**164.50**	**259**	PKPab	**PKPab**	**13 20 41.6**	**+1.2**
comp=Z,0.3nm,0.7s,baz=68,slow=4.2,SNR=3.7							

HEL 07 13:00:14.5±0.2, 64°.51N×24°.63E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.15**	**163**	PG	Pg	13 00 17.1	-0.2
OBF0	**Syolatti, Pyha**	**0.17**	**266**	PG	Pg	13 00 16.8	-0.9
OBF4	**Vikkela, Lumij**	**0.37**	**34**	PG	Pg	13 00 20.5	-1.0
OBF4				SG	Sg	13 00 25.3	-0.9
BURU	**Burvik**	**1.41**	**274**	PG	Pn	13 00 39.9	-1.4
BURU				SN	Sn	13 01 00.5	-0.1
KALU	**Kalix**	**1.46**	**339**	PG	Pn	13 00 41.2	-0.8
baz=161							
TOF	**Tornio**	**1.58**	**355**	PG	Pn	13 00 43.2	-0.5
TOF				MSG		13 01 01.7	
comp=Z,0.5nm,0.2s							
TOF				SN	Sn	13 01 04.9	+0.1
VAF	**Ylistaro**	**1.71**	**211**	PN	Pn	13 00 46.1	+0.6
baz=25							
VAF				MSG		13 01 05.6	
comp=Z,0.6nm,0.2s							
VAF				SN	Sg	13 01 09.5	+0.1
RANF	**Ranua**	**1.76**	**30**	PG	Pn	13 00 46.8	+0.6
NIF	**Nilsia**	**1.80**	**127**	PG	Pn	13 00 46.9	+0.2
ERTU	**Ertsjaerv**	**2.29**	**335**	SG	Sb	13 01 24.5	-0.9
RMF	**Romuvaara**	**2.32**	**95**	MSG		13 01 23.2	
comp=Z,0.8nm,0.2s							
RMF				SG	Sb	13 01 26.1	-0.3
KLF	**Kolari**	**2.75**	**355**	PB	Pn	13 01 01.7	+1.9
baz=175							
KLF				MSG		13 01 35.6	
comp=Z,0.4nm,0.2s							
KLF				SG	Sb	13 01 37.8	-0.9

HEL 07 13:01:11.9±0.2, 67°.55N×34°.06E, h0km, ML1.1, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.42**	**32**	PG	Pg	13 01 19.6	-0.3
LVZ				SG	Sg	13 01 25.2	-0.1
VRF	**Varrio**	**1.71**	**279**	PG	Pn	13 01 43.0	0.0
VRF				SB	Sn	13 02 02.2	-3.3
VRF				MSG		13 02 03.0	
comp=Z,1.5nm,0.2s							
OLKF	**Oulanka, Finla**	**2.21**	**238**	PG	Pb	13 01 51.6	-1.1
OLKF				MSG		13 02 17.5	
comp=Z,0.7nm,0.2s							
OLKF				SG	Sb	13 02 20.4	-0.1
KU6	**Riekki**	**2.25**	**229**	PG	Pb	13 01 52.0	-1.4
baz=49							
KU6				MSG		13 02 18.5	
comp=Z,0.5nm,0.2s							
KU6				SG	Sb	13 02 21.8	+0.1
RAJF	**Raja-Jooseppi**	**2.35**	**296**	SB	Sn	13 02 19.6	-1.8
RAJF	**Raja-Jooseppi**	**2.35**	**296**	PB	Pn	13 01 52.4	+0.6
RAJF				SN	Sn	13 02 19.6	-1.8
MSF	**Maaselka**	**2.58**	**233**	SG	Sg	13 02 33.2	-1.6
RNF	**Rovaniemi**	**3.29**	**257**	SN	Sn	13 02 44.0	-0.3
KEV	**Kevo**	**3.40**	**314**	PN	Pn	13 02 05.2	-0.9
KEV				SN	Sn	13 02 43.7	-3.3
ARA0	**ARCESS Array S**	**3.72**	**306**	PN	Pn	13 02 08.7	-1.8
KLF	**Kolari**	**3.91**	**270**	SG	Sb	13 03 11.4	+2.0
HEF	**Hetta**	**4.01**	**287**	SN	Sn	13 02 59.1	-3.0
ERTU	**Ertsjaerv**	**4.75**	**263**	SN	Sn	13 03 19.5	-0.9

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*IDC **07** 13:02:37.5±0.6, 32°.11S×178°.14W, h0km, mb4.6/11, mbtmp4.6/15, ML4.6/3, MS4.0/24, Error ellipse: s-maj=21.7km s-min=18.1km az=144.0*
*WEL **07** 13:02:38.1±0.8, 32°.S±5°.×17°.8W±1°.4, h33km, M4.8/28, mB5.0/6, ML5.6/11, MLv5.2/28, Mw(mB)4.3/6, Error ellipse: s-maj=18.5km s-min=4.8km az=102.8, confirmed*
*NEIC **07** 13:02:40.3±2.8, 32°.2S±0°.1×178°.2W±0°.1, h10km±1km, mb4.9/27, Error ellipse: s-maj=22.1km s-min=18.6km az=122.0*
*GCMT **07** 13:02:45.3±0.4, 32°.17S±0°.04×177°.69W±0°.03, h23km±1km, MW4.9/67, Moment Tensor Solution. s16,c17; s67,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.54±.24; Mθθ0.03±.14; Mφφ-2.56±.15; Mrθ0.95±.24; Mθφ-0.64±.09; Mφr0.70±.17; Best double couple: M0=2.88200×10^16 NP1:φs178.00000°, δ38.00000°, λ65.00000°. NP2: φs28.00000°, δ56.00000°, λ108.00000°. Principal axes: T 2.9000, Plg72.0000°, Azm343.0000°; N -0.0280, Plg15.0000°, Azm198.0000°; P -2.8640, Plg10.0000°,*

Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 07 13:02:39.6±0.4, 32°.11S±0°.06×178°.15W±0°.09, h10km, n149, σ1§52/106, mb4.8/35, MS4.1/23, 7C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.85**	**4**	P	Pn	13 03 21.6	-3.5
GLKZ				S	**Sn**	**13 03 54.2**	**-5.2**
RIZ	**Raoul Island**	**2.87**	**4**	MLv			
MXZ	**Matakaoa Point**	**6.17**	**207**	Pn	**Pn**	**13 04 10.0**	**-0.7**
MXZ	**Matakaoa Point**	**6.17**	**207**	P	**Pn**	**13 04 10.0**	**-0.7**
MXZ				S	**Sn**	**13 05 21.9**	**+0.6**
WMGZ	**Waiomatatini S**	**6.35**	**205**	MLv			
PKGZ	**Pakihiroa**	**6.52**	**207**	MLv			
HAZ	**Te Kaha**	**6.55**	**210**	P	**Pn**	**13 04 15.4**	**-0.5**
WIZ	**White Island**	**6.62**	**214**	MLv			
PUZ	**Puketiti**	**6.63**	**205**	P	**Pn**	**13 04 15.5**	**-1.6**
PUZ				S	**Sn**	**13 05 31.9**	**-1.0**
RUGZ	**Raukumara Rang**	**6.77**	**209**	MLv			
TWGZ	**Tauwhareparae**	**6.83**	**207**	P	**Pn**	**13 04 18.3**	**-1.5**
KUZ	**Kuaotunu**	**6.86**	**226**	MLv			
WHRZ	**Whale Island**	**6.99**	**214**	MLv			
CNGZ	**Carnagh Statio**	**7.02**	**204**	MLv			
TKGZ	**Te Karaka**	**7.11**	**206**	P	**Pn**	**13 04 21.8**	**-1.8**
MWZ	**Matawai**	**7.14**	**208**	P	**Pn**	**13 04 22.2**	**-2.0**
MWZ				S	**Sn**	**13 05 45.3**	**-0.1**
TGRZ	**Tauranga**	**7.24**	**218**	MLv			
URZ	**Urewera**	**7.26**	**211**	Pn	**Pn**	**13 04 23.5**	**-2.1**
2.8nm,0.3s,baz=332,slow=4.2,SNR=14							
URZ				Sn	**Sn**	**13 05 47.6**	**-0.4**
28nm,0.3s,baz=321,slow=23,SNR=17							
14nm,0.5s							
URZ	**Urewera**	**7.26**	**211**	P	**Pn**	**13 04 24.1**	**-1.5**
URZ				S	**Sn**	**13 05 48.2**	**+0.2**
WCZ	**Waipu Caves**	**7.31**	**236**	MLv			
RAGZ	**Rawiri**	**7.33**	**208**	MLv			
RIGZ	**Rimuhau**	**7.38**	**206**	P	**Pn**	**13 04 26.4**	**-0.9**
OMRZ	**Omania**	**7.48**	**215**	MLv			
KMRZ	**Kaimai**	**7.50**	**219**	MLv			
TARZ	**Mount Tarawera**	**7.51**	**214**	MLv			
PRGZ	**Paritu Road**	**7.52**	**204**	P	**Pn**	**13 04 28.3**	**-1.1**
HBAZ	**Herne Bay Bore**	**7.54**	**229**	MLv			
OUZ	**Omahuta**	**7.55**	**244**	P	Pn	13 04 36.5	+6.8
NGRZ	**Ngongotaha**	**7.56**	**216**	MLv			
MUGZ	**Murupara**	**7.59**	**212**	MLv			
RRRZ	**Republican Roa**	**7.59**	**214**	P	**Pn**	**13 04 32.1**	**+1.8**
RVAZ	**Riverhead Bore**	**7.59**	**230**	MLv			
HLRZ	**Highlands Stat**	**7.60**	**215**	MLv			
SNGZ	**Shannon Statio**	**7.60**	**208**	MLv			
RTZ	**Ruatahuna**	**7.61**	**210**	Pn	**Pn**	**13 04 30.7**	**+0.1**
RTZ	**Ruatahuna**	**7.61**	**210**	MLv			
KNZ	**Kokohu**	**7.69**	**205**	MLv			
HSRZ	**Hossack Road**	**7.70**	**215**	MLv			
MHGZ	**Mahia Peninsul**	**7.72**	**203**	P	**Pn**	**13 04 29.8**	**-2.2**
HRRZ	**Handcock Road**	**7.74**	**214**	MLv			
PXZ	**Pawanui**	**8.87**	**206**	P	**Pn**	**13 04 47.3**	**-0.5**
BFZ	**Birch Farm**	**9.67**	**206**	Pn	Pn	13 04 53.6	-5.1
BFZ	**Birch Farm**	**9.67**	**206**	P	**Pn**	**13 04 57.5**	**-1.2**
MRZ	**Mangatainoka R**	**9.91**	**209**	P	**Pn**	**13 04 59.8**	**-2.3**
CTZ	**Chatham Island**	**11.67**	**175**	P	**Pn**	**13 05 23.4**	**-2.7**
KHZ	**Kahutara**	**12.22**	**210**	Pn	**Pn**	**13 05 29.3**	**-4.3**
RPZ	**Rata Peaks**	**14.36**	**213**	Pn	**Pn**	**13 06 00.0**	**-2.9**
1.6nm,0.3s,baz=54,slow=3.7,SNR=5.1							
RPZ				Sn	Sn	13 08 28.7	-14
1.7nm,0.3s,baz=22,slow=20,SNR=9.8							
11nm,0.5s							
MSVF	**Nonsavu**	**14.72**	**346**	Pn	**Pn**	**13 06 08.1**	**+0.1**
0.3nm,0.3s,baz=136,slow=11,SNR=4.2							
9.5nm,0.9s							
RAR	**Rarotonga**	**19.66**	**61**	P	**P**	**13 07 08.5**	**-0.1**
22nm,0.8s,baz=239,slow=12,SNR=3.3							
RAR				LR	LR	13 15 32.3	
comp=Z,201nm,18.5s,baz=246,slow=39							
EIDS	**Eidsvold**	**27.74**	**276**	P	**P**	**13 08 27.3**	**-1.1**
PPT	**Papeete**	**29.58**	**68**	LR	LR	13 19 34.0	
comp=Z,214nm,18.3s,baz=239,slow=34							
HNR	**Honiara**	**30.35**	**313**	LR	LR	13 19 46.3	
comp=Z,344nm,19.5s,baz=196,slow=34							
STKA	**Stephens Creek**	**34.00**	**259**	P	**P**	**13 09 24.1**	**+0.5**
STKA	**Stephens Creek**	**34.00**	**259**	P	**P**	**13 09 24.2**	**+0.6**
7.2nm,0.7s,baz=95,slow=11,SNR=17							
STKA				LR	LR	13 23 03.5	
comp=Z,487nm,18.3s,baz=64,slow=36							
7.2nm,0.7s							
BBOO	**Buckleboo**	**38.41**	**256**	P	**P**	**13 10 01.5**	**+0.2**
BBOO				IAmb	IAmb	13 10 03.9	
comp=Z,19nm,0.8s							
PMG	**Port Moresby**	**39.25**	**297**	P	**P**	**13 10 09.2**	**+0.7**
comp=Z,8.1nm,1.0s,baz=166,slow=5.4,SNR=4.2							
PMG				LR	LR	13 25 02.5	
comp=Z,234nm,18.1s,baz=110,slow=34							
comp=Z,8.1nm,1.0s							
RABL	**Rabaul**	**39.31**	**309**	P	**P**	**13 10 09.2**	**+0.2**
RABL				IAmb	IAmb	13 10 21.5	
comp=Z,15nm,0.6s							
COEN	**Coen**	**39.65**	**288**	P	**P**	**13 10 10.5**	**-1.3**
AS31	**Alice Springs**	**42.92**	**269**	P	**P**	**13 10 36.8**	**-1.9**
ASAR	**Alice Springs**	**42.92**	**269**	P	**P**	**13 10 36.4**	**-2.3**
ASAR	**Alice Springs**	**42.92**	**269**	P	**P**	**13 10 37.3**	**-1.4**
comp=Z,5.3nm,0.6s,baz=105,slow=7.4,SNR=75							
comp=Z,5.3nm,0.6s							
WR0	**Warramunga Arr**	**43.88**	**274**	P	**P**	**13 10 46.8**	**+0.3**
WR0				IAmb

comp=Z,2.9nm,0.8s
VNA3 Neumayer Olymp 76.61 176 ⇑P **P 13 14 29.9 0.0**
comp=Z,25nm,0.7s
VNA3 ⇓PcP PcP 13 14 52.5 +11
VNA2 Neumayer--Watz 77.04 177 ⇑P **P 13 14 32.6 +0.3**
comp=Z,13nm,0.8s,baz=157,slow=8.3
PLCA Paso Flores 81.44 133 LR LR 13 44 24.9
comp=Z,159nm,18.5s,baz=198,slow=31
BO02 Sierra Bellavi 84.72 128 P **P 13 15 12.3 -1.8**
BO02 IAmb IAmb 13 15 14.6
comp=Z,9.8nm,0.9s
MT01 Popeta 84.94 127 P **P 13 15 14.9 -0.2**
LPIG La Paz 85.55 58 LR LR 13 46 05.4
comp=Z,121nm,19.7s,baz=202,slow=30
KSRS Korea Array 85.57 320 LR LR 13 48 35.0
comp=Z,38nm,21.9s,baz=55,slow=32
LMEL Las Melosas 85.66 127 P **P 13 15 19.3 +0.4**
LMEL IAmb IAmb 13 15 43.4
comp=Z,11nm,0.8s
NJ2 Nanjing 87.26 311 *e*P **P 13 15 30.2 +3.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
PETK Petropavlovsk- 87.44 346 P **P 13 15 27.2 +0.5**
comp=Z,9.8nm,1.1s,baz=161,slow=5.3,SNR=3.9
comp=Z,9.8nm,1.1s
PFO Pinyon Flats O 87.46 47 LR LR 13 53 07.5
comp=Z,117nm,18.2s,baz=229,slow=35
ISA Isabella, Lake 87.60 45 P **P 13 15 28.9 +0.8**
ISA IAmb IAmb 13 15 42.3
comp=Z,8.2nm,1.1s
USRK Ussuriysk Ar. 88.52 327 P **P 13 15 31.8 -0.2**
USRK Ussuriysk Ar. 88.52 327 P **P 13 15 33.0 +0.9**
comp=Z,5.9nm,1.1s,baz=124,slow=5.8,SNR=4.5
comp=Z,5.9nm,1.1s
YBH Yreka Blue Hor 89.46 38 LR LR 13 48 13.8
comp=Z,106nm,20.5s,baz=215,slow=31
NVAR Mina Array Bea 89.58 43 P **P 13 15 37.0 -0.5**
comp=Z,2.1nm,1.0s,baz=205,slow=6.6,SNR=8.0
comp=Z,2.1nm,1.0s
Y14A Wickenburg 89.85 49 P **P 13 15 38.4 -0.3**
Y14A IAmb IAmb 13 15 51.7
comp=Z,5.1nm,1.1s
MDJ Mudanjiang 89.96 326 P **P 13 15 39.7 +0.9**
MDJ pmax pmax
comp=Z,10.0nm,1.4s
TUC Tucson 90.28 51 **P 13 15 40.7 0.0**
TUC IAmb IAmb 13 15 45.7
comp=Z,8.5nm,1.4s
X16A Lo Mia Camp, P 91.16 49 P **P 13 15 44.8 -0.1**
X16A IAmb IAmb 13 15 56.4
comp=Z,5.7nm,1.2s
CN2 Changchun 91.43 323 *e*P **P 13 15 47.7 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 91.84 325 ⇑P **P 13 15 47.2 -0.3**
BNX pmax pmax
comp=Z,7.0nm,1.4s
LYN LuoYang 92.98 309 *e*P P 13 15 59.5 +6.4
LYN pmax pmax
comp=Z,15nm,0.8s
CMIG Matias Romero 93.40 72 LR LR 13 50 51.7
comp=Z,72nm,18.5s,baz=221,slow=31
TXAR Lajitas Array 93.42 57 P **P 13 15 55.5 +0.2**
comp=Z,0.4nm,0.8s,baz=183,slow=4.8,SNR=3.0
TXAR LR LR 13 50 43.1
comp=Z,53nm,19.3s,baz=238,slow=31
comp=Z,0.4nm,0.8s
ANMO Albuquerque 94.74 51 LR LR 13 50 41.9
comp=Z,76nm,20.2s,baz=56,slow=30
MA2 Magadan 94.91 345 LR LR 14 02 08.7
comp=Z,48nm,18.1s,baz=119,slow=38
PZH PanZhiHua 95.98 297 P **P 13 16 09.3 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.0s
NEW Newport 96.83 36 LR LR 13 53 10.8
comp=Z,172nm,19.8s,baz=232,slow=31
HHC Hu-ho-hao-te 97.33 314 *e*P Pdif 13 16 14.4 +1.3
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.6s
PDAR Pinedale Array 97.46 44 LR LR 13 52 55.8
comp=Z,58nm,20.7s,baz=244,slow=31
DLBC Dease Lake 98.74 23 LR LR 14 03 31.4
comp=Z,32nm,18.2s,baz=284,slow=37
MKAR Makanchi Array 118.77 309 PKP **PKPdf 13 21 25.9 -1.9**
comp=Z,0.6nm,0.7s,baz=88,slow=1.4,SNR=5.0
KURK Kurchatov 122.13 313 **PKiKP 13 21 36.3 +2.1**
KURBB Kurchatov Arra 122.17 313 PKP **PKPdf 13 21 33.3 -0.8**
comp=Z,0.4nm,0.3s,baz=109,slow=2.2,SNR=1.7
GAR Garm 125.05 298 **PKiKP 13 21 41.7 +1.1**
GGN Saint George 126.29 55 PKPdf **PKiKP 13 21 44.6 +2.0**
BVAR Borovoye Array 127.53 315 PKP **PKPdf 13 21 44.2 -0.1**
comp=Z,1.9nm,0.7s,baz=103,slow=4.7,SNR=7.5
BRVK Borovoye 127.60 315 PKPdf **PKiKP 13 21 45.6 +0.6**
ARCES ARCESS Array B 140.23 347 PKP **PKPdf 13 22 05.7 -1.9**
comp=Z,5.9nm,1.0s,baz=20,slow=3.9,SNR=3.6
KBZ Khabaz 145.93 302 PKPbc **PKPdf 13 22 16.9 -1.5**
comp=Z,13nm,1.1s,baz=135,slow=4.3,SNR=6.9
GEVA Gevas 145.98 292 PKPbc **PKPbc 13 22 20.7 +1.0**
FINES FINESS Array B 146.70 339 PKPbc **PKPdf 13 22 19.2 0.0**
comp=Z,8.3nm,0.7s,baz=48,slow=4.3,SNR=28
NC303 NORSAR Array S 150.22 351 PKPbc **PKPbc 13 22 30.8 +0.7**
NB2 NORSAR Subarra150.42 351 PKP **PKPbc 13 22 30.7 +0.1**
comp=Z,0.5nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 150.42 351 PKPbc **PKPbc 13 22 29.0 -1.6**
comp=Z,1.4nm,0.6s,baz=14,slow=4.1,SNR=6.5
MMAI Mount Meron Ar 151.77 281 PKPbc **PKPbc 13 22 35.6 +0.9**
comp=Z,7.2nm,0.8s,baz=80,slow=6.9,SNR=5.8
DIKM Dikmen 151.78 299 **PKPdf 13 22 30.0 +2.0**
AKASG Malin Array Be 152.56 321 **PKiKP 13 22 37.6 +1.6**
AKASG Malin Array Be 152.56 321 PKPbc **PKPbc 13 22 33.3 -2.5**
comp=Z,4.1nm,0.8s,baz=50,slow=2.7,SNR=9.7
AKBB Malin Array Si 152.56 321 **PKiKP 13 22 37.9 +1.9**
KIEV Kiev 152.57 321 **PKiKP 13 22 38.0 +1.9**
ILGA Ilgaz 153.02 298 **PKPbc 13 22 37.3 -0.2**
BR104 Keskin Array S 153.26 295 PKP **PKPbc 13 22 37.9 0.0**
BR131 Keskin Array S 153.26 295 **PKiKP 13 22 38.9 +0.8**
BRTR Keskin Array B 153.26 295 **PKPbc 13 22 38.0 0.0**
BRTR Keskin Array B 153.26 295 PKPbc **PKPbc 13 22 36.1 -1.8**
comp=Z,2.1nm,0.9s,baz=101,slow=3.9,SNR=7.6
STNU Starunia 156.22 321 PKP **PKPdf 13 22 37.4 +3.4**
VYHS Vyhne 159.21 327 *e*PKP **PKPdf 13 22 40.7 +2.9**
VYHS *e* 13 23 14.6
MODS Modra-Piesok 160.00 329 *e*PKP **PKPdf 13 22 42.0 +3.3**
MODS *e* 13 23 19.1

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*NOU **07** 13:08:05.0, 21°.09S×170°.31E, h85km, MLv4.3/11, Southeast of Loyalty Islands*
*NEIC **07** 13:08:05.5±2.0, 21°.2S±0°.1×170°.13E±0°.10, h138km±7km, mb4.5/13, Error ellipse: s-maj=19.2km s-min=13.3km az=184.0*
*IDC **07** 13:08:08.3±3.4, 21°.14S×170°.15E, h173km±31km, mb3.6/7, mbtmp4.2/9, Error ellipse: s-maj=23.3km s-min=19.6km az=86.0*
ISC 07 13:08:05.1±0.7, 21°.1S±0°.1×170°.13E±0°.08, h150km, n44, σ1§30/46, mb4.4/13, 4C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.99**	**259**	P	**Pn**	**13 08 39.4**	**-0.6**
MARNC	**Mare, Loyalty**	**1.99**	**259**	S	**Sn**	**13 09 05.9**	**-1.0**
PINNC	**Pines Island,**	**2.90**	**239**		**Pn**	**13 08 51.4**	**+0.2**
PINNC				Sn	**Sn**	**13 09 24.9**	**-1.9**
PINNC	**Pines Island,**	**2.90**	**239**	P	**Pn**	**13 08 51.6**	**+0.5**
YATNC	**Mamie plateau,**	**3.15**	**252**	P	**Pn**	**13 08 53.9**	**-0.5**
YATNC	**Mamie plateau,**	**3.15**	**252**	S	**Sn**	**13 09 34.2**	**+1.6**
OUENC	**Ouen Island, N**	**3.31**	**247**	P	**Pn**	**13 08 56.7**	**+0.2**
DZM	**Mont Dzumac**	**3.56**	**254**		**Pn**	**13 08 59.5**	**-0.2**
DZM				Sn	**Sn**	**13 09 41.6**	**-0.3**
DZM	**Mont Dzumac**	**3.56**	**254**	P	**Pn**	**13 09 00.2**	**+0.5**
ONTNC	**Ouen Toro**	**3.61**	**250**		**Pn**	**13 09 00.3**	**0.0**
ONTNC				Sn	**Sn**	**13 09 41.8**	**-1.3**
ONTNC	**Ouen Toro**	**3.61**	**250**	P	**Pn**	**13 09 00.6**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.49**	**275**	P	**Pn**	**13 09 27.2**	**+2.1**
MSVF	**Nonsavu**	**8.20**	**67**	P	Pn	13 10 04.5	+3.2
	11nm,1.1s,baz=216,slow=7.9,SNR=2.6						
EIDS	**Eidsvold**	**18.00**	**253**	Pn	**Pn**	**13 12 07.9**	**+1.9**
URZ	**Urewera**	**18.11**	**162**	P	**Pn**	**13 12 07.3**	**+0.2**
	16nm,0.7s,baz=326,slow=3.6,SNR=7.6						
RTZ	**Ruatahuna**	**18.41**	**163**		**Pn**	**13 12 12.4**	**+1.7**
BKZ	**Black Stump Fm**	**18.80**	**164**	P	**P**	**13 12 11.6**	**-1.4**
BKZ				IAmb	IAmb	13 12 17.0	
	comp=Z,29nm,1.0s						
MRZ	**Mangatainoka R**	**20.02**	**168**	P	**P**	**13 12 25.8**	**-0.3**
BFZ	**Birch Farm**	**20.18**	**166**	P	**P**	**13 12 28.0**	**+0.1**
BFZ				IAmb	IAmb	13 12 30.0	
	comp=Z,21nm,0.9s						
TCW	**Tory Channel**	**20.33**	**171**	P	**P**	**13 12 27.7**	**-1.8**
OXZ	**Oxford**	**22.20**	**176**	P	**P**	**13 12 50.6**	**+1.4**
OXZ				IAmb	IAmb	13 12 59.4	
	comp=Z,16nm,0.9s						
CAN	**Canberra**	**23.31**	**228**	P	**P**	**13 12 59.4**	**-0.3**
CAN				IAmb	IAmb	13 13 16.1	
	comp=Z,9.4nm,1.1s						
BBOO	**Buckleboo**	**32.38**	**242**	P	**P**	**13 14 16.5**	**-4.1**
WRA	**Warramunga Arr**	**33.49**	**266**	P	**P**	**13 14 31.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=102,slow=7.8,SNR=1.8						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**33.53**	**259**	P	**P**	**13 14 32.3**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=90,slow=9.0,SNR=4.8						
ASAR				PcP	**PcP**	**13 17 08.7**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=94,slow=3.3,SNR=3.4						
	comp=Z,0.8nm,0.7s						
NWAO	**Narrogin (SRO)**	**48.12**	**244**	P	**P**	**13 16 30.1**	**+0.1**
NWAO				IAmb	IAmb	13 16 39.3	
	comp=Z,9.2nm,1.1s						
MORW	**Morawa**	**49.26**	**249**	P	**P**	**13 16 39.2**	**+0.5**
VNDA	**Vanda**	**56.59**	**182**	P	**P**	**13 17 32.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=100,slow=12,SNR=3.2						
	comp=Z,1.3nm,0.8s						
SBA	**Scott Base**	**56.80**	**181**	P	**P**	**13 17 35.5**	**+2.4**
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**13 18 54.5**	**+0.7**
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**13 18 54.4**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=24,slow=1.1,SNR=25						
	comp=Z,7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**80.03**	**294**	P	**P**	**13 19 58.6**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=120,slow=5.4,SNR=4.9						
	comp=Z,0.9nm,0.3s						
BELA	**Belgrano 2**	**80.16**	**175**	P	**P**	**13 19 58.2**	**+0.2**
BELA				IAmb	IAmb	13 19 58.7	
	comp=Z,6.8nm,0.6s						
TROLL	**Troll, Antarti**	**86.72**	**184**	⇑x	**P**	**13 20 32.5**	**+0.6**
	comp=Z,190nm,0.7s						
SNAA	**Sanae**	**87.32**	**182**	P	**P**	**13 20 31.9**	**-2.8**
SNAA				IAmb	IAmb	13 20 37.5	
	comp=Z,6.3nm,1.0s						
SNAA	**Sanae**	**87.32**	**182**	P	**P**	**13 20 34.6**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=198,slow=6.4,SNR=7.9						
	comp=Z,4.2nm,0.8s						
SNAA	**Sanae**	**87.32**	**182**	⇑x	**P**	**13 20 34.9**	**+0.2**
	comp=Z,67nm,0.6s						
VNA2	**Neumayer--Watz**	**88.18**	**181**	⇑x	**P**	**13 20 39.3**	**+0.6**
	comp=Z,8.3nm,0.5s,baz=175,slow=6.5						
VNA1	**Neumayer--Stat**	**88.47**	**181**	⇑P	P	13 20 45.8	+5.8
	comp=Z,17nm,1.0s						
ILAR	**Eielson Array**	**91.78**	**17**	P	**P**	**13 20 54.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=237,slow=6.2,SNR=5.8						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B 127.09**	**345**	PKP	**PKiKP**	**13 26 51.6**	**+0.3**	
	comp=Z,4.3nm,0.9s,baz=28,slow=1.8,SNR=5.2						
EKA	**Eskdalemuir Ar 145.47**	**353**	PKPbc	**PKPab**	**13 27 25.6**	**0.0**	
	comp=Z,1.5nm,0.4s,baz=358,slow=2.9,SNR=9.8						
GERES	**GERESS Array B 146.54**	**331**	PKPbc	**PKiKP**	**13 27 29.5**	**-2.1**	
GERES	**GERESS Array B 146.54**	**331**	PKPbc	**PKiKP**	**13 27 30.0**	**-1.6**	
	comp=Z,2.0nm,0.5s,baz=33,slow=5.1,SNR=3.8						

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*WEL **07** 13:15:23.9±1.1, 32°.5±7°.7×17°.7W±2°.0, h12km, M4.2/6, mB4.3/3, ML4.6/11, MLv4.3/6, Mw(mB)3.4/3, Error ellipse: s-maj=27.4km s-min=5.0km az=107.8, confirmed*
*IDC **07** 13:15:26.0±2.0, 31°.73S×178°.28W, h0km, mb3.6/3, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=47.6km s-min=37.4km az=64.0*
ISC 07 13:15:27.9±1.2, 31°.78S±0°.08×178°.1W±0°.2, h24km, n21, σ1§48/30, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.52**	**4**	P	**Pn**	**13 16 06.4**	**-0.9**
GLKZ				S	**Sn**	**13 16 36.4**	**-0.8**
RIZ	**Raoul Island**	**2.53**	**4**	P	**Pn**	**13 16 07.4**	**-0.1**
MXZ	**Matakaoa Point**	**6.48**	**206**	S	**Sn**	**13 18 14.9**	**+0.1**
WMGZ	**Waiomatatini S**	**6.67**	**204**	P	**Pn**	**13 17 02.8**	**-1.5**
PKGZ	**Pakihiroa**	**6.83**	**206**	P	**Pn**	**13 17 05.3**	**-1.3**
PKGZ				S	**Sn**	**13 18 24.1**	**+0.5**
HAZ	**Te Kaha**	**6.85**	**208**	P	**Pn**	**13 17 06.2**	**-0.6**
HAZ				S	**Sn**	**13 18 24.2**	**+0.2**
PUZ	**Puketiti**	**6.95**	**204**	P	**Pn**	**13 17 06.4**	**-1.8**
PUZ				S	**Sn**	**13 18 27.5**	**+1.0**
RUGZ	**Raukumara Rang**	**7.07**	**208**	P	**Pn**	**13 17 08.0**	**-2.0**
TWGZ	**Tauwhareparae**	**7.14**	**206**	P	**Pn**	**13 17 08.2**	**-2.7**
TWGZ				S	**Sn**	**13 18 30.7**	**-0.6**
CNGZ	**Carnagh Statio**	**7.33**	**203**	P	**Pn**	**13 17 11.8**	**-1.7**
MWZ	**Matawai**	**7.45**	**207**	P	**Pn**	**13 17 14.0**	**-1.1**
MWZ				S	**Sn**	**13 18 37.7**	**-1.2**
URZ	**Urewera**	**7.56**	**210**	Pn	**Pn**	**13 17 15.0**	**-1.5**
	0.2nm,0.3s,baz=30,slow=20,SNR=1.3						
URZ				Sn	**Sn**	**13 18 40.2**	**-1.2**
	1.8nm,0.3s,baz=90,slow=19,SNR=7.6						
	1.7nm,0.3s						
URZ	**Urewera**	**7.56**	**210**	P	**Pn**	**13 17 14.1**	**-2.5**
URZ				S	**Sn**	**13 18 41.2**	**-0.2**
RIGZ	**Rimuhau**	**7.69**	**205**	P	**Pn**	**13 17 16.7**	**-1.7**
RIGZ				S	**Sn**	**13 18 42.4**	**-2.3**
OUZ	**Omahuta**	**7.73**	**241**	P	Pn	13 17 26.2	+7.3
SNGZ	**Shannon Statio**	**7.91**	**207**	P	**Pn**	**13 17 21.9**	**+0.4**
SNGZ				S	**Sn**	**13 18 49.1**	**-1.1**
TLZ	**Tolley Road**	**8.35**	**217**	P	**Pn**	**13 17 28.8**	**+1.3**
ASAR	**Alice Springs**	**42.96**	**268**	P	**P**	**13 23 25.2**	**-0.1**
	0.3nm,0.4s,baz=107,slow=7.0,SNR=15						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**13 23 35.7**	**+1.5**
	0.3nm,0.4s,baz=111,slow=8.1,SNR=9.5						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**13 25 23.7**	**+2.9**
	0.7nm,0.7s,baz=15,slow=9.2,SNR=1.7						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**146.40**	**339**	PKPbc	**PKPab**	**13 35 06.6**	**-0.4**
	1.2nm,0.4s,baz=50,slow=2.9,SNR=9.2						

NEIC 07 13:18:31.7±0.8, 35°.14N±0°.01×97°.61W±0°.02, h7km±1km, mb_Lg2.8/46, ML2.7/41, Error ellipse: s-maj=2.1km s-min=1.8km az=123.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.21**	**55**		Pg	13 18 35.4	-0.4
OKCSW	**OKLAHOMA CITY**	**0.30**	**27**		Pg	13 18 37.8	+0.2
OKCSW				IAML		13 18 46.7	
	comp=E,822nm,0.7s						
ADOK	**Arcadia Dam**	**0.55**	**21**		Pg	13 18 41.9	-0.3
ADOK				Sg	Sb	13 18 51.0	-0.8
X34A	**Smith Ranch, M**	**0.57**	**199**		Pg	13 18 42.9	+0.3
W35A	**Tecumseh**	**0.60**	**89**		Pg	13 18 43.5	+0.2
W35A				IAML		13 18 58.0	
	comp=N,255nm,0.5s						
W35A				IAML		13 19 03.1	
	comp=E,294nm,0.3s						
OK029	**Liberty Lake**	**0.67**	**11**		Pg	13 18 44.9	+0.4
OK029				IAML		13 18 59.5	
	comp=E,254nm,0.3s						
WMOK	**Wichita Mounta**	**1.04**	**248**		Pg	13 18 50.9	-0.9
OK052	**Battle Ridge R**	**1.07**	**37**		Pg	13 18 51.5	-0.9
DEOK	**Depew**	**1.15**	**52**	IAML		13 19 14.0	
	comp=N,338nm,0.2s						
LOOK	**Love County**	**1.20**	**163**		Pg	13 18 53.8	-0.9
LOOK				IAML		13 19 19.2	
	comp=E,142nm,0.6s						
LOOK				IAML		13 19 19.8	
	comp=N,115nm,0.2s						
TUL3	**Leonard**	**1.67**	**62**	Pg	Pn	13 19 01.1	-0.3
OK032	**Salt Plains WL**	**1.73**	**344**	IAmb_Lg		13 19 31.7	
	comp=Z,33nm,0.8s						
ELIS	**Ellis County**	**1.74**	**303**		Pb	13 19 03.4	-0.7
KAN13	**South Haven SW**	**1.87**	**3**	IAmb_Lg		13 19 34.9	
	comp=Z,76nm,1.0s						
KAN17	**Caldwell West**	**1.91**	**356**	IAmb_Lg		13 19 36.9	
	comp=Z,45nm,0.7s						
T35A	**Sooner Cattle**	**1.98**	**26**		Pn	13 19 06.8	+1.1
KAN09	**Caldwell North**	**1.99**	**360**	IAmb_Lg		13 19 38.0	
	comp=Z,40nm,0.8s						
KAN01	**Argonia South**	**2.01**	**357**		Pn	13 19 06.8	+0.7
KAN01				IAmb_Lg		13 19 40.6	
	comp=Z,47nm,0.8s						
FW03	**Perrin-Whitt E**	**2.13**	**190**	IAmb_Lg		13 19 40.1	
	comp=Z,26nm,0.8s						
SMWD	**Samnorwood**	**2.16**	**270**		Pb	13 19 10.0	-1.2
SMWD				IAmb_Lg		13 19 43.9	
	comp=Z,50nm,0.8s						
FW06	**Azle**	**2.16**	**179**		Pn	13 19 09.6	+1.4
PLPT	**Palo Pinto**	**2.39**	**194**		Pn	13 19 12.6	+1.2
PLPT				IAmb_Lg		13 19 50.1	
	comp=Z,25nm,1.1s						
HHAR	**Hobbs**	**3.19**	**68**	Pn	Pn	13 19 21.2	-1.2
MIAR	**Mount Ida**	**3.37**	**99**		Pn	13 19 26.2	+1.4
MIAR				IAmb_Lg		13 20 22.9	
	comp=Z,16nm,0.8s						
SN07	**Snyder 07**	**3.41**	**234**	IAmb_Lg		13 20 25.3	
	comp=Z,17nm,0.9s						
POST	**Post**	**3.84**	**238**	IAmb_Lg		13 20 40.2	
	comp=Z,16nm,0.9s						
X40A	**Basin Creek Fa**	**3.98**	**98**	IAmb_Lg		13 20 40.1	
	comp=Z,19nm,0.8s						
CBKS	**Cedar Bluff**	**4.04**	**336**	IAmb_Lg		13 20 41.7	
	comp=Z,14nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**86**		Pn	13 19 39.4	+1.1
WHAR				IAmb_Lg		13 20 57.0	
	comp=Z,32nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.53**	**79**	IAmb_Lg		13 21 03.6	
	comp=Z,10nm,0.7s						
MGMO	**Mountain Grove**	**4.76**	**63**	IAmb_Lg		13 21 14.7	
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**5.00**	**202**	IAmb_Lg		13 21 18.9	
	comp=Z,19nm,1.1s						
T42A	**Van Buren**	**5.60**	**68**	IAmb_Lg		13 21 33.4	
	comp=Z,18nm,1.1s						
T25A	**Trinidad**	**5.86**	**292**	IAmb_Lg		13 21 51.5	
	comp=Z,12nm,0.9s						
FVM	**French Village**	**6.44**	**62**	IAmb_Lg		13 22 04.4	
	comp=Z,18nm,0.8s						
L34A	**Svendsen Farm,**	**6.88**	**8**	IAmb_Lg		13 22 25.8	
	comp=Z,16nm,0.9s						
SIUC	**Southern Illin**	**7.23**	**67**	IAmb_Lg		13 22 31.5	
	comp=Z,18nm,0.7s						
SCIA	**State Center**	**7.58**	**26**	IAmb_Lg		13 22 43.0	
	comp=Z,16nm,0.8s						
L40A	**Anamosa**	**8.53**	**34**	IAmb_Lg		13 23 16.8	
	comp=Z,12nm,0.8s						

IDC 07 13:20:58.6±4.7, 15°.24S×70°.23W, h203km±34km, mb2.8/2, mbtmp3.4/2, Error ellipse: s-maj=250.9km s-min=50.7km az=34.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.28**	**118**	P	Pn	13 21 41.2	+0.3
	226nm,0.4s,baz=297,slow=8.2,SNR=922						
LPAZ				S	S	13 22 14.1	+0.9
	22nm,0.5s,baz=18,slow=20,SNR=1.7						
TXAR	**Lajitas Array**	**54.82**	**324**	P	P	13 30 07.9	-0.2
	0.2nm,0.5s,baz=151,slow=7.8,SNR=2.0						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**84.89**	**341**	P	P	13 33 10.2	0.0
	0.3nm,0.6s,baz=139,slow=4.8,SNR=7.4						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**136.72**	**21**	PKP	PKPdf	13 39 56.2	-0.4
	0.4nm,0.4s,baz=348,slow=2.8,SNR=2.1						
SONM	**Songino Array**	**147.38**	**4**	PKPbc	PKPbc	13 40 17.9	-0.7
	1.1nm,0.7s,baz=333,slow=1.4,SNR=7.2						

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*WEL **07** 13:21:53.6±1.7, 32°.5±14°.×17°.8W±4°.3, h12km, mB4.7/2, ML4.5/5, Mw(mB)3.9/2, Error ellipse: s-maj=58.9km s-min=4.7km az=106.9, confirmed*
*IDC **07** 13:21:54.1±3.0, 32°.12S×178°.04W, h0km, mb3.9/2, mbtmp3.9/3, ML3.0/1, Error ellipse: s-maj=72.7km s-min=46.5km az=126.0*
ISC 07 13:21:50.3±1.9, 32°.21S±0°.08×177°.3W±0°.2, h10km, n10, σ2§04/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.99**	**349**	P	**Pn**	**13 22 37.0**	**-0.8**
GLKZ				S	**Sn**	**13 23 10.8**	**-2.9**
HAZ	**Te Kaha**	**6.87**	**215**	P	**Pn**	**13 23 31.6**	**+0.6**
HAZ				S	**Sn**	**13 24 49.6**	**+0.4**
PUZ	**Puketiti**	**6.90**	**211**	P	**Pn**	**13 23 31.9**	**+0.3**
PUZ				S	**Sn**	**13 24 49.5**	**-0.7**
MWZ	**Matawai**	**7.45**	**213**	P	**Pn**	**13 23 39.7**	**+0.6**
MWZ				S	**Sn**	**13 25 01.8**	**-1.8**
URZ	**Urewera**	**7.59**	**216**	Pn	**Pn**	**13 23 40.7**	**-0.3**
	0.3nm,0.3s,baz=5.7,slow=10,SNR=1.5						
URZ				Sn	**Sn**	**13 25 03.7**	**-3.3**
	1.2nm,0.3s,baz=321,slow=4.8,SNR=14						
	5.3nm,0.8s						
URZ	**Urewera**	**7.59**	**216**	P	**Pn**	**13 23 41.2**	**+0.3**
URZ				S	**Sn**	**13 25 04.7**	**-2.3**
OUZ	**Omahuta**	**8.19**	**246**	P	**Pn**	**13 23 52.1**	**+3.0**
ASAR	**Alice Springs**	**43.67**	**268**	P	**P**	**13 29 55.8**	**+0.2**
	0.5nm,0.6s,baz=106,slow=7.2,SNR=22						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.82**	**274**	P	**P**	**13 30 04.7**	**-0.1**
	1.6nm,0.5s,baz=113,slow=7.9,SNR=30						
	1.6nm,0.5s						
FINES	**FINESS Array B**	**147.06**	**340**	PKPbc	**PKPbc**	**13 41 36.5**	**+3.8**
	1.2nm,0.7s,baz=72,slow=4.4,SNR=6.6						

IDC 07 13:41:02.4±2.1, 7°.23S×129°.50E, h0km, mb3.3/1, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=85.4km s-min=29.1km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**199**	Pn	Pn	13 43 48.2	+1.1
	0.2nm,0.3s,baz=29,slow=11,SNR=9.3						
FITZ				Sn	Sn	13 45 50.0	-5.7
	0.4nm,0.3s,baz=59,slow=5.9,SNR=7.0						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**13.48**	**160**	Pn	Pn	13 44 14.4	-0.7
	0.1nm,0.3s,baz=341,slow=14,SNR=9.2						
WRA				Sn	Sn	13 46 37.3	-8.5
	0.3nm,0.3s,baz=328,slow=24,SNR=8.5						
	2.2nm,0.3s						
ASAR	**Alice Springs**	**16.88**	**166**	Pn	Pn	13 44 59.8	-0.5
	0.1nm,0.3s,baz=346,slow=9.6,SNR=7.4						
ASAR				Sn	Sn	13 47 59.7	-8.9
	0.1nm,0.3s,baz=356,slow=29,SNR=5.4						
	0.3nm,1.0s						
SONM	**Songino Array**	**58.51**	**342**	P	P	13 51 00.5	-0.1
	0.3nm,0.7s,baz=156,slow=7.4,SNR=1.5

IHRS	Heris	1.05	29	Pg	Pb	13 51 04.6	+0.1
IHRS				Sg	Sb	13 51 18.1	-0.3
ISHB	Shabestar	1.08	325	Pg	Pg	13 51 04.8	-0.1
ISRB	Sarab	1.09	67	Pg	Pb	13 51 05.2	0.0
IMRD	Marand	1.43	337	Pg	Pg	13 51 11.7	+0.2
IKRK	Kirkuk	2.60	220	*e*Pn	Pn	13 51 27.0	+0.8
baz=38							
IKRK				*e*Sn	Sn	13 51 55.0	-2.8
IKRK				AML	AML	13 52 11.9	
comp=N,3.5nm,0.6s							

*IDC **07** 13:55:44.2±1.3, 7°.26S×150°.07E, h0km, mb3.6/6, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=41.6km s-min=17.3km az=123.0*

ISC 07 13:55:49.4±1.0, 7°.2S±0°.2×150°.1E±0°.2, h35km, n8, σ1§44/11, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**233**	Pn	**Pn**	**13 56 43.0**	**-0.5**
25nm,0.3s,baz=38,slow=4.5,SNR=43							
PMG				Sn	**Sn**	**13 57 26.0**	**+0.6**
9.2nm,0.3s,baz=74,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**19.86**	**229**	P	**P**	**14 00 15.8**	**-1.8**
0.6nm,0.3s,baz=50,slow=11,SNR=35							
WRA				S	**S**	**14 04 00.0**	**+0.5**
0.3nm,0.8s,baz=51,slow=19,SNR=3.1 4.7nm,0.6s							
ASAR	**Alice Springs**	**22.58**	**222**	P	**P**	**14 00 44.9**	**-2.1**
0.8nm,0.6s,baz=57,slow=9.0,SNR=20							
ASAR				S	**S**	**14 04 54.6**	**+2.2**
0.8nm,1.2s,baz=38,slow=21,SNR=4.5 0.8nm,0.6s							
STKA	**Stephens Creek**	**25.79**	**197**	P	**P**	**14 01 16.6**	**-0.5**
1.5nm,0.9s,baz=12,slow=9.3,SNR=2.6 1.5nm,0.9s							
SONM	**Songino Array**	**67.01**	**330**	P	**P**	**14 06 38.9**	**0.0**
0.1nm,0.4s,baz=125,slow=7.8,SNR=1.7 0.1nm,0.4s							
MKAR	**Makanchi Array**	**80.43**	**320**	P	**P**	**14 07 58.4**	**+0.8**
0.3nm,0.9s,baz=121,slow=6.4,SNR=1.9 0.3nm,0.9s							
QSPA	**South Pole Qui**	**82.75**	**180**	P	**P**	**14 08 11.1**	**+1.4**
1.1nm,0.9s,baz=60,slow=2.8,SNR=1.7 1.1nm,0.9s							
NVAR	**Mina Array Bea**	**95.66**	**52**	P	**P**	**14 09 11.4**	**-0.6**
0.3nm,0.7s,baz=249,slow=5.0,SNR=2.8 0.3nm,0.7s							

IDC 07 14:06:13.8±3.4, 32°.05S×178°.08W, h0km, mb3.3/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=77.3km s-min=49.7km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.34**	**211**	Pn	Pn	14 08 01.6	-0.6
0.2nm,0.3s,baz=92,slow=14,SNR=1.2							
URZ				Sn	Sn	14 09 22.5	-3.7
0.7nm,0.3s,baz=38,slow=19,SNR=7.0 6.2nm,0.8s							
ASAR	**Alice Springs**	**42.98**	**269**	P	P	14 14 15.3	+0.4
0.1nm,0.4s,baz=106,slow=7.5,SNR=12 0.1nm,0.4s							
WRA	**Warramunga Arr**	**44.12**	**274**	P	P	14 14 23.5	-0.7
0.2nm,0.4s,baz=112,slow=8.0,SNR=7.4 0.2nm,0.4s							
FINES	**FINESS Array B**	**146.66**	**339**	PKPbc	PKPbc	14 25 56.0	-0.7
1.7nm,0.8s,baz=49,slow=3.4,SNR=1.7							

IDC 07 14:10:28.0±3.5, 31°.88S×178°.12W, h0km, mb3.2/2, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=81.2km s-min=50.2km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.47**	**210**	Pn	Pn	14 12 17.7	-0.5
0.1nm,0.3s,baz=233,slow=16,SNR=1.3 4.0nm,0.8s							
ASAR	**Alice Springs**	**42.95**	**269**	P	P	14 18 30.2	+1.2
0.1nm,0.4s,baz=106,slow=7.3,SNR=4.8 0.1nm,0.4s							
WRA	**Warramunga Arr**	**44.07**	**274**	P	P	14 18 36.4	-1.7
0.4nm,0.8s,baz=112,slow=7.5,SNR=2.5 0.4nm,0.8s							
FINES	**FINESS Array B**	**146.50**	**339**	PKPbc	PKPdf	14 30 09.7	+0.7
2.6nm,0.9s,baz=42,slow=5.6,SNR=1.7							

IDC 07 14:15:54.8±3.4, 31°.92S×177°.93W, h0km, mb3.4/3, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=78.3km s-min=48.3km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.52**	**211**	Pn	Pn	14 17 45.7	0.0
0.1nm,0.3s,baz=63,slow=2.3,SNR=1.4							
URZ				Sn	Sn	14 19 09.0	-2.5
1.0nm,0.3s,baz=73,slow=16,SNR=6.3 7.2nm,0.9s							
STKA	**Stephens Creek**	**34.22**	**259**	P	P	14 22 40.3	-2.0
0.8nm,0.7s,baz=90,slow=16,SNR=3.0 0.8nm,0.7s							
ASAR	**Alice Springs**	**43.11**	**269**	P	P	14 23 57.7	+0.6
0.2nm,0.7s,baz=113,slow=8.5,SNR=5.0 0.2nm,0.7s							
WRA	**Warramunga Arr**	**44.23**	**274**	P	P	14 24 06.8	+0.6
0.2nm,0.3s,baz=113,slow=7.6,SNR=5.4 0.2nm,0.3s							
FINES	**FINESS Array B**	**146.59**	**339**	PKPbc	PKPdf	14 35 36.6	+0.7
4.6nm,0.9s,baz=30,slow=7.3,SNR=2.7							

*IDC **07** 14:20:26.5±0.6, 10°.21N×124°.73E, h0km, mb4.1/16, mbtmp4.1/16, MS3.7/43, Error ellipse: s-maj=30.6km s-min=11.1km az=72.0*

*NEIC **07** 14:20:30.3±2.4, 10°.4N±0°.1×125°.2E±0°.1, h21km±7km, mb4.3/19, Error ellipse: s-maj=21.8km s-min=15.1km az=108.0*

ISC 07 14:20:28.2±0.5, 10°.30N±0°.07×125°.1E±0°.1, h10km, n71, σ1§42/42, mb4.2/26, MS3.7/39, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.24**	**172**	Pg	**Pb**	**14 21 24.4**	**-1.4**
106nm,0.3s,baz=34,slow=7.2,SNR=6.3							
DAV				Lg	Lg	14 22 10.3	
162nm,0.3s,baz=55,slow=15,SNR=3.6							
DAV				LR	LR	14 23 02.9	
comp=Z,3μm,22.0s,baz=358,slow=48							
MYLDM	**Lahad Datu**	**8.31**	**233**	Pn	**Pn**	**14 22 30.6**	**+1.8**
I39PW	**PALAU INFRASON**	**9.70**	**106**	I	I	15 17 15.0	
baz=288,slow=312,SNR=4.5							
SBUM	**Sibu**	**15.01**	**240**	P	**P**	**14 24 08.3**	**+2.3**
SBUM				IAmb	IAmb	14 24 11.0	
comp=Z,11nm,1.0s							
KAPI	**Kappang**	**16.13**	**200**	LR	LR	14 30 56.5	
comp=Z,271nm,21.6s,baz=3.0,slow=40							
JOW	**Kunigami**	**16.71**	**10**	LR	LR	14 29 40.1	
comp=Z,350nm,19.5s,baz=82,slow=33							
GUMO	**Guam**	**19.58**	**78**	LR	LR	14 30 55.2	
comp=Z,140nm,20.2s,baz=242,slow=32							
SOEI	**Soe**	**19.94**	**182**	P	**P**	**14 24 58.4**	**-2.2**
JNU	**Nakatsue**	**23.32**	**12**	LR	LR	14 34 01.4	
comp=Z,107nm,21.2s,baz=178,slow=35							
MTN	**Manton Dam**	**23.75**	**165**	P	**P**	**14 25 39.1**	**-1.7**
MTN				IAmb	IAmb	14 26 02.0	
comp=Z,19nm,1.1s							
LEM	**Lembang**	**24.36**	**226**	LR	LR	14 36 31.4	
comp=Z,239nm,20.1s,baz=64,slow=40							
IPM	**Ipoh**	**24.58**	**258**	P	**P**	**14 25 47.9**	**-0.8**
IPM				IAmb	IAmb	14 25 53.8	
comp=Z,9.2nm,0.7s							
KNRA	**Kununurra**	**26.06**	**172**	P	**P**	**14 26 03.8**	**+1.8**
KNRA				IAmb	IAmb	14 26 10.2	
comp=Z,13nm,1.1s							
CMAR	**Chiang Mai Arr**	**26.61**	**291**	P	**P**	**14 26 04.8**	**-2.2**
comp=Z,0.6nm,0.3s,baz=106,slow=7.1,SNR=5.5							
CMAR				LR	LR	14 37 52.0	
comp=Z,89nm,18.5s,baz=110,slow=40 comp=Z,0.6nm,0.3s							
KSRS	**Korea Array**	**27.15**	**5**	P	**P**	**14 26 10.8**	**-0.9**
comp=Z,1.3nm,0.8s,baz=179,slow=9.7,SNR=5.2							
KSRS				LR	LR	14 37 10.9	
comp=Z,117nm,20.6s,baz=180,slow=37 comp=Z,1.3nm,0.8s							

FITZ	**Fitzroy Crossi**	**28.22**	**179**	P	**P**	**14 26 21.0**	**-0.4**
MJAR	**Matsushiro Arr**	**28.69**	**22**	LR	LR	14 38 01.5	
comp=Z,164nm,19.1s,baz=204,slow=36							
WB0	**Warramunga Arr**	**31.24**	**163**	P	**P**	**14 26 46.8**	**-1.3**
WB0				IAmb	IAmb	14 27 13.0	
comp=Z,4.4nm,1.1s							
WRA	**Warramunga Arr**	**31.39**	**163**	P	**P**	**14 26 49.3**	**-0.2**
WRA	**Warramunga Arr**	**31.39**	**163**	P	**P**	**14 26 48.8**	**-0.7**
comp=Z,0.8nm,0.6s,baz=340,slow=9.7,SNR=6.6							
WRA				PcP	**PcP**	**14 29 42.2**	**-1.0**
comp=Z,0.4nm,1.0s,baz=3.0,slow=0.7,SNR=2.8 comp=Z,0.8nm,0.6s							
WB2	**Warramunga Arr**	**31.39**	**163**	P	**P**	**14 26 47.5**	**-2.0**
WB2				IAmb	IAmb	14 27 10.4	
comp=Z,3.7nm,1.0s							
WR0	**Warramunga Arr**	**31.46**	**163**	P	**P**	**14 26 50.5**	**+0.4**
WR0				IAmb	IAmb	14 27 31.3	
comp=Z,7.0nm,1.4s							
USRK	**Ussuriysk Ar.**	**34.30**	**9**	P	**P**	**14 27 16.8**	**+2.2**
comp=Z,2.7nm,0.7s,baz=190,slow=6.9,SNR=4.3							
USRK				LR	LR	14 41 51.0	
comp=Z,85nm,19.8s,baz=192,slow=37 comp=Z,2.7nm,0.7s							
BRDH	**Bariadhala**	**34.30**	**295**	LR	LR	14 43 52.5	
comp=Z,117nm,18.3s,baz=158,slow=41							
AS31	**Alice Springs**	**34.83**	**166**	P	**P**	**14 27 20.6**	**+1.1**
ASAR	**Alice Springs**	**34.83**	**166**	P	**P**	**14 27 20.5**	**+1.0**
ASAR	**Alice Springs**	**34.83**	**166**	P	**P**	**14 27 19.6**	**0.0**
comp=Z,2.1nm,0.7s,baz=344,slow=6.4,SNR=28							
ASAR				PcP	**PcP**	**14 29 52.4**	**-0.5**
comp=Z,0.6nm,0.7s,baz=342,slow=2.9,SNR=5.6							
ASAR				LR	LR	14 42 47.6	
comp=Z,126nm,19.7s,baz=12,slow=38 comp=Z,2.1nm,0.7s							
ASAJ	**Asahikawa**	**36.93**	**21**	LR	LR	14 43 34.9	
comp=Z,115nm,19.2s,baz=170,slow=37							
KLR	**Kul'dur**	**39.20**	**7**	LR	LR	14 47 19.0	
comp=Z,88nm,18.1s,baz=190,slow=41							
HNR	**Honiara**	**39.80**	**118**	LR	LR	14 43 56.3	
comp=Z,37nm,19.6s,baz=294,slow=35							
MORW	**Morawa**	**40.11**	**192**	P	**P**	**14 28 04.9**	**+0.7**
SONM	**Songino Array**	**40.61**	**341**	P	**P**	**14 28 08.3**	**0.0**
comp=Z,0.7nm,0.5s,baz=157,slow=9.7,SNR=4.9							
SONM				PcP	**PcP**	**14 30 10.7**	**+0.4**
comp=Z,0.2nm,0.3s,baz=158,slow=5.9,SNR=2.1 comp=Z,0.7nm,0.5s							
FORT	**Forrest**	**40.94**	**176**	P	**P**	**14 28 09.7**	**-1.3**
NWAO	**Narrogin (SRO)**	**43.64**	**190**	LR	LR	14 49 14.1	
comp=Z,35nm,19.2s,baz=176,slow=40							
PALK	**Pallekele**	**43.98**	**270**	LR	LR	14 47 06.1	
comp=Z,56nm,19.7s,baz=86,slow=37							
STKA	**Stephens Creek**	**44.80**	**160**	P	**P**	**14 28 44.3**	**+2.0**
STKA	**Stephens Creek**	**44.80**	**160**	P	**P**	**14 28 42.1**	**-0.2**
comp=Z,1.3nm,0.5s,baz=333,slow=8.6,SNR=6.9							
STKA				LR	LR	14 50 55.3	
comp=Z,69nm,18.9s,baz=12,slow=41 comp=Z,1.3nm,0.5s							
PETK	**Petropavlovsk-**	**50.08**	**25**	LR	LR	14 51 11.3	
comp=Z,56nm,18.5s,baz=194,slow=37							
MK31	**Makanchi Array**	**51.33**	**323**	P	**P**	**14 29 33.0**	**+0.3**
MK31				IAmb	IAmb	14 29 37.8	
comp=Z,1.9nm,0.8s							
MKAR	**Makanchi Array**	**51.33**	**323**	P	**P**	**14 29 32.3**	**-0.5**
MKAR	**Makanchi Array**	**51.33**	**323**	P	**P**	**14 29 30.6**	**-2.2**
comp=Z,0.8nm,0.6s,baz=116,slow=8.6,SNR=14							
MKAR				LR	LR	14 50 33.4	
comp=Z,107nm,19.2s,baz=92,slow=35 comp=Z,0.8nm,0.6s							
MAKZ	**Makanchi**	**51.52**	**323**	P	**P**	**14 29 32.2**	**-2.0**
MAKZ				IAmb	IAmb	14 29 53.7	
comp=Z,2.8nm,1.1s							
YAK	**Yakutsk**	**51.75**	**3**	LR	LR	14 54 33.7	
comp=Z,64nm,18.0s,baz=128,slow=40							
ZALV	**Zalesovo Beam**	**54.07**	**332**	P	**P**	**14 29 51.7**	**-1.2**
comp=Z,1.6nm,0.7s,baz=124,slow=6.8,SNR=6.5							
ZALV				LR	LR	14 53 55.3	
comp=Z,101nm,19.2s,baz=94,slow=37 comp=Z,1.6nm,0.7s							
AAK	**Ala-Archa**	**54.52**	**316**	LR	LR	14 55 43.5	
comp=Z,82nm,18.5s,baz=92,slow=39							
KURK	**Kurchatov**	**55.41**	**326**	P	**P**	**14 30 03.0**	**+0.3**
KURK				IAmb	IAmb	14 30 05.9	
comp=Z,5.0nm,0.8s							
KURBB	**Kurchatov Arra**	**55.42**	**326**	P	**P**	**14 30 01.9**	**-0.8**
comp=Z,2.0nm,0.6s,baz=125,slow=6.9,SNR=12 comp=Z,2.0nm,0.6s							
MSVF	**Nonsavu**	**59.22**	**118**	LR	LR	14 54 06.1	
comp=Z,50nm,20.2s,baz=50,slow=34							
BVAR	**Borovoye Array**	**61.01**	**326**	P	**P**	**14 30 40.1**	**-1.7**
comp=Z,1.2nm,0.9s,baz=123,slow=7.8,SNR=5.2							
BVAR				LR	LR	14 57 56.1	
comp=Z,75nm,18.6s,baz=94,slow=37 comp=Z,1.2nm,0.9s							
TIXI	**Tiksi**	**61.35**	**1**	LR	LR	14 57 22.5	
comp=Z,87nm,20.4s,baz=194,slow=36							
AKTO	**Aktyubinsk**	**67.59**	**320**	LR	LR	15 02 15.5	
comp=Z,104nm,20.8s,baz=117,slow=37							
URZ	**Urewera**	**68.43**	**138**	LR	LR	15 01 03.0	
comp=Z,44nm,20.1s,baz=28,slow=36							
ARTI	**Arti**	**68.67**	**327**	LR	LR	15 04 32.6	
comp=Z,90nm,18.4s,baz=160,slow=39							
KIRV	**Kirov**	**73.83**	**328**	LR	LR	15 07 23.9	
comp=Z,83nm,18.1s,baz=103,slow=38							
BELG	**Belogornoye**	**74.29**	**322**	LR	LR	15 06 05.9	
comp=Z,50nm,20.4s,baz=80,slow=37							
B21K	**Ikpikpuk River**	**77.02**	**21**	P	**P**	**14 32 20.9**	**-0.1**
B21K				IAmb	IAmb	14 32 26.7	
comp=Z,5.6nm,0.9s							
KBZ	**Khabaz**	**77.36**	**313**	LR	LR	15 10 06.1	
comp=Z,40nm,21.6s,baz=40,slow=39							
ILAR	**Eielson Array**	**79.90**	**26**	P	**P**	**14 32 38.6**	**+1.6**
comp=Z,0.5nm,0.7s,baz=259,slow=3.9,SNR=7.0							
ILAR				LR	LR	15 09 55.8	
comp=Z,29nm,18.2s,baz=247,slow=37 comp=Z,0.5nm,0.7s							
SPITS	**Spitsbergen Ar**	**83.77**	**349**	LR	LR	15 13 35.3	
comp=Z,68nm,20.5s,baz=24,slow=38							
ARCES	**ARCESS Array B**	**83.78**	**340**	P	**P**	**14 32 57.7**	**+0.4**
comp=Z,6.5nm,1.1s,baz=48,slow=1.8,SNR=3.9							
ARCES				LR	LR	15 12 44.7	
comp=Z,70nm,18.1s,baz=118,slow=38 comp=Z,6.5nm,1.1s							
MMAI	**Mount Meron Ar**	**84.25**	**302**	LR	LR	15 14 50.3	
comp=Z,29nm,18.7s,baz=75,slow=39							
AKASG	**Malin Array Be**	**85.83**	**321**	LR	LR	15 13 16.5	
comp=Z,47nm,18.8s,baz=64,slow=37							
A36M	**Sachs Harbour**	**86.22**	**17**	P	**P**	**14 33 08.8**	**-0.7**
KMBO	**Kilima Mbogo**	**88.11**	**269**	P	**P**	**14 33 17.4**	**-2.8**
comp=Z,1.8nm,0.4s,baz=35,slow=17,SNR=7.1							
KMBO				LR	LR	15 12 59.3	
comp=Z,38nm,18.5s,baz=88,slow=36 comp=Z,1.8nm,0.4s							
MLR	**Muntele Rosu**	**89.10**	**316**	LR	LR	15 17 33.8	
comp=Z,105nm,19.6s,baz=61,slow=39							
VNDA	**Vanda**	**90.10**	**173**	P	**P**	**14 33 29.1**	**+1.3**
comp=Z,3.5nm,0.9s,baz=352,slow=6.4,SNR=3.6 comp=Z,3.5nm,0.9s							
HFS	**Hagfors**	**91.50**	**332**	LR	LR	15 17 35.2	
comp=Z,94nm,19.8s,baz=64,slow=38							
RES	**Resolute Bay**	**91.66**	**10**	LR	LR	15 19 19.4	
comp=Z,37nm,19.0s,baz=18,slow=38							
NOA	**NORSAR Array B**	**92.24**	**334**	LR	LR	15 18 36.9	
comp=Z,91nm,18.8s,baz=60,slow=38							
VRAC	**Vranov**	**94.04**	**322**	LR	LR	15 18 00.5	
comp=Z,54nm,18.6s,baz=79,slow=37							
YKA	**Yellowknife Ar**	**94.18**	**24**	P	**P**	**14 33 48.5**	**+1.3**
comp=Z,0.3nm,0.6s,baz=298,slow=4.6,SNR=5.6 comp=Z,0.3nm,0.6s							

*MEX **07** 14:21:41.6±0.7, 14°.48N×92°.56W, h47km±23km, MD4.0*
*GCG **07** 14:21:42.5±0.5, 14°.70N×92°.33W, h69km±4km, MD4.0*

ISC 07 14:21:40.5±1.7, 14°.54N±0°.09×92°.53W±0°.06, h54km±16km, n18, σ1§04/34, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.44**	**35**	*e*P	**Pn**	**14 21 50.4**	**-1.1**
THIG				*e*S	**Sn**	**14 21 59.7**	**+0.4**
SMCA	**Catarina**	**0.54**	**55**	*e*P	**Pn**	**14 21 53.5**	**+0.9**
SMCA				*e*S	**Sn**	**14 22 02.0**	**+0.8**
SMCA	**Catarina**	**0.54**	**55**	*e*P		14 21 53.5	
SMCA				*e*S		14 22 02.0	
PATR	**El Naranjo**	**0.64**	**27**	*e*P	**Pn**	**14 21 53.9**	**-0.1**
PATR				*e*S	**Sn**	**14 22 03.4**	**-0.3**
CHUJ	**Union Juarez**	**0.68**	**37**	*i* P	**Pn**	**14 21 54.6**	**+0.1**
CHUJ				*i* S	**Sn**	**14 22 04.3**	**-0.3**
PAVE	**Pavencul**	**0.73**	**28**	*e*P	**Pn**	**14 21 55.0**	**-0.2**
PAVE				*i* S	**Sn**	**14 22 05.7**	**0.0**
RTAL	**Retalhuleu**	**0.81**	**91**	*e*P	**Pn**	**14 21 54.3**	**-1.6**
RTAL				*i* S	**Sn**	**14 22 08.0**	**+0.9**
STG8	**El Palmar, Qui**	**1.15**	**95**	*e*P		14 21 58.0	
STG0	**El Palmar, Qui**	**1.16**	**96**	*e*P		14 21 58.4	
STG0				*e*S		14 22 10.5	
HUEH	**Huehuetenango**	**1.26**	**52**	*i* P	**Pn**	**14 22 02.5**	**+0.5**
HUEH				*i* S	**Sn**	**14 22 19.4**	**+1.3**
PCIG		**1.33**	**330**	*e*P	**Pn**	**14 22 02.9**	**0.0**
PCIG				*i* S	**Sn**	**14 22 19.1**	**-0.4**
CCIG	**Comitan**	**1.77**	**12**	*e*P	**Pn**	**14 22 08.2**	**-0.8**
CCIG				*e*S	**Sn**	**14 22 29.4**	**-1.0**
CCIG	**Comitan**	**1.77**	**12**	*e*P	**Pn**	**14 22 09.4**	**+0.4**
CCIG	**Comitan**	**1.77**	**12**	*e*P		14 22 09.4	
CARR	**Arriaga**	**2.15**	**322**	*i* P	**Pn**	**14 22 15.0**	**+1.0**
CARR				*i* S	**Sn**	**14 22 40.5**	**+0.8**
TGIG		**2.29**	**346**	*e*P	**Pn**	**14 22 15.0**	**-1.0**
TGIG				*i* S	**Sn**	**14 22 41.0**	**-2.1**
NILT	**Santiago Nilte**	**2.84**	**315**	*i* P	**Pn**	**14 22 23.9**	**+0.4**
NILT				*i* S	**Sn**	**14 22 55.5**	**-1.0**
UXUV	**UXUV**	**3.17**	**331**	*i* P	**Pn**	**14 22 28.4**	**+0.5**
UXUV				*e*S	**Sn**	**14 23 05.8**	**+1.3**
CMIG	**Matias Romero**	**3.40**	**318**	*e*P	**Pn**	**14 22 32.5**	**+1.5**
CMIG				*i* S	**Sn**	**14 23 10.7**	**+0.5**
NEUV	**Arroyo Zacate**	**4.45**	**315**	*e*P	**Pn**	**14 22 47.0**	**+1.5**
NEUV				*e*S	**Sn**	**14 23 37.1**	**+1.1**
YOIG	**Yosondua**	**5.35**	**296**	*e*S	**Sn**	**14 23 56.8**	**-1.7**
TOIG	**Toxpalan**	**5.61**	**310**	*e*P	**Pn**	**14 23 01.1**	**-0.4**
TOIG				*e*S	**Sn**	**14 24 02.9**	**-1.7**

IDC 07 14:26:20.5±2.9, 9°.78N×123°.98E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=315.1km s-min=23.4km az=65.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.24**	**161**	P	P	14 32 42.5	+0.4
0.4nm,0.8s,baz=341,slow=8.6,SNR=2.0 0.4nm,0.8s							
ASAR	**Alice Springs**	**34.63**	**164**	P	P	14 33 11.3	-0.3
0.3nm,0.7s,baz=343,slow=6.9,SNR=12 0.3nm,0.7s							
MKAR	**Makanchi Array**	**51.08**	**324**	P	P	14 35 25.6	+0.7
0.4nm,0.9s,baz=109,slow=7.8,SNR=3.7 0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**55.22**	**326**	P	P	14 35 54.3	-0.9
0.4nm,0.7s,baz=123,slow=7.1,SNR=3.7 0.4nm,0.7s							

NNC 07 14:51:47.2±3.9, 38°.73N×69°.27E, h0km, mb3.7, mpv3.3, 2C-3D, Error ellipse: s-maj=29.6km s-min=29.4km az=84.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.46**	**9**	Pg	Pb	14 52 50.6	+1.1
23nm,0.4s							
IUG				Lg	Lg	14 53 36.9	
52nm,0.4s							
BRLS	**Borolday**	**4.32**	**5**	Pg	Pb	14 53 01.7	-2.3
3.5nm,0.4s							
BRLS				Lg	Lg	14 53 55.1	
11nm,0.3s							
KK31	**Karatay Array**	**4.47**	**12**	⇓Pn	Pn	14 52 54.8	-1.5
0.3nm,0.2s,baz=174,slow=8.9,SNR=9.6							
KK31				⇑Pg	Pb	14 53 08.3	+1.7
1.0nm,0.3s,baz=193,slow=15,SNR=7.4							
KK31				Lg	Lg	14 54 07.8	
7.6nm,0.5s,baz=192,slow=24,SNR=12							
MRKS	**Merke**	**5.01**	**36**	Pg	Pg	14 53 22.4	-0.8
3.5nm,0.5s							
MRKS				Lg	Lg	14 54 31.0	
10.0nm,0.5s							
AAK	**Ala-Archa**	**5.57**	**44**	Pn	Pn	14 53 09.7	-1.7
0.3nm,0.3s							
AAK				Pg	Pb	14 53 24.7	-0.7
1.0nm,0.4s							
AAK				⇑Lg	Lg	14 54 41.2	
2.5nm,0.6s							
DGS	**Degeres**	**6.67**	**45**	Pg	Pg	14 53 53.5	-1.5
2.2nm,0.5s							
AB31	**Akbulak array**	**12.47**	**331**	⇓P	Pn	14 54 47.8	+1.9
0.7nm,0.6s,baz=152,slow=12,SNR=3.8							
AKTO	**Aktyubinsk**	**14.17**	**329**	⇓P	Pn	14 55 09.6	+0.5
0.8nm,0.5s							

*AEIC **07** 14:52:48.3±0.8, 54°.5N±0°.4×164°.0W±0°.3, h81km±6km, Error ellipse: s-maj=58.9km s-min=1.5km az=151.0*

NEIC 07 14:52:47.6±0.6, 54°.4N±0°.3×163°.9W±0°.3, h78km±15km, ML2.6(AEIC), Error ellipse: s-maj=56.1km s-min=5.4km az=151.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.32**	**344**		Pn	14 52 59.7	-0.2
ISLZ	**Isanotski Laza**	**0.33**	**14**		Pn	14 52 59.5	-0.4
ISLZ					Sn	14 53 09.4	+0.3
ISNN	**Isanotski Nort**	**0.43**	**6**		Pn	14 53 01.1	+0.5
WESE	**West Dahl East**	**0.43**	**279**		Pn	14 53 00.5	-0.2
FALS	**False Pass**	**0.52**	**29**		Pn	14 53 01.1	-0.2
WEBT	**Westdahl Beart**	**0.56**	**290**		Pn	14 53 01.5	-0.2
AKSA	**Akutan Strait**	**1.12**	**257**		Pn	14 53 08.2	+0.2
AKSA					Sn	14 53 24.2	+1.1
AHB	**Akutan Harbor**	**1.19**	**257**		Pn	14 53 08.9	+0.1
AKBBA	**Akutan Broad B**	**1.26**	**257**		Pn	14 53 09.7	-0.1
AKGG	**Akutan Green G**	**1.27**	**262**		Pn	14 53 10.0	+0.2
ZRO	**Akutan Zero**	**1.29**	**257**		Pn	14 53 10.0	-0.1
LVA	**Lava Point**	**1.30**	**260**	Pn	Pn	14 53 09.5	-0.8
HAG	**Hague Volcano**	**1.45**	**50**		Pn	14 53 12.3	+0.1

s-maj=25.5km s-min=18.3km az=93.0

ISC 07 14:57:22.4±0.8, 31°.55N±0°.04×131°.71E±0°.07, h33km, n40, σ1§14/35, mb3.4/9, 6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	**Nichinankitago**	**0.30**	**292**	⇓*i*P	**Pb**	**14 57 30.2**	**-0.1**
JNKG				⇓S	**Sn**	**14 57 36.4**	**+0.8**
JNKG	**Nichinankitago**	**0.30**	**292**	A	A	14 57 30.2	
comp=N,21nm,0.5s,comp=E,16nm,0.8s							
JNAR	**Kushima--Naru**	**0.37**	**267**	⇓*i*P	**Pb**	**14 57 31.8**	**+0.7**
JNAR				⇓*e*S	**Sn**	**14 57 39.2**	**+1.7**
JNAR	**Kushima--Naru**	**0.37**	**267**	A	A	14 57 31.8	
comp=N,8.0nm,0.5s,comp=E,15nm,1.4s							
JTZ	**Takazaki**	**0.63**	**304**	*i* P	**Pb**	**14 57 35.8**	**+0.6**
JTZ				S	**Sn**	**14 57 45.7**	**+1.6**
JTZ	**Takazaki**	**0.63**	**304**	A	A	14 57 35.8	
comp=N,7.0nm,1.1s,comp=E,4.0nm,1.2s							
JTSN	**Tsuno**	**0.71**	**346**	⇓*i*P	**Pn**	**14 57 36.3**	**0.0**
JTSN				⇓S	**Sb**	**14 57 46.7**	**+0.6**
JSU	**Suzuyama**	**1.07**	**268**	*i* P	**Pb**	**14 57 42.8**	**+0.4**
JTN	**Tanegashima 3**	**1.09**	**215**	P	**Pn**	**14 57 42.4**	**+1.0**
JKIT	**Kitakata**	**1.09**	**349**	A	A	14 57 42.3	
comp=N,5.0nm,0.8s,comp=E,5.0nm,0.7s							
JZO	**Okuchi**	**1.11**	**302**	*i* P	**Pb**	**14 57 43.1**	**-0.1**
JIU3	**Izumi3**	**1.25**	**323**	*i* P	**Pb**	**14 57 45.3**	**-0.2**
JMTN	**Minamitane**	**1.34**	**211**	P	**Pn**	**14 57 45.7**	**+0.8**
JMTN				S	**Sb**	**14 58 04.4**	**+0.5**
JNU	**Nakatsue**	**1.72**	**336**	P	**Pn**	**14 57 51.5**	**+1.4**
comp=E,68nm,0.4s,baz=196,slow=7.9,SNR=378							
JNU				S	**Sb**	**14 58 14.2**	**-0.4**
comp=E,132nm,0.4s,baz=210,slow=23,SNR=18							
JNU	**Nakatsue**	**1.72**	**336**	P	**Pn**	**14 57 51.8**	**+1.7**
JTU	**Tsushima**	**3.54**	**327**	P	**Pn**	**14 58 16.4**	**+1.3**
JOW	**Kunigami**	**5.58**	**213**	P	**Pn**	**14 58 43.2**	**+0.1**
comp=E,2.5nm,0.3s,baz=77,slow=18,SNR=5.2							
JOW				S	**Sn**	**14 59 46.2**	**+0.2**
comp=E,31nm,1.0s,baz=119,slow=19,SNR=2.2							
comp=E,5.0nm,0.4s							
JOW	**Kunigami**	**5.58**	**213**	P	Pn	14 58 49.9	+6.8
comp=E,59nm,1.8s							
INU	**Inuyama**	**5.83**	**48**	P	**Pn**	**14 58 49.4**	**+2.8**
JGF	**Kuroka**	**6.21**	**48**	P	**Pn**	**14 58 54.9**	**+3.1**
KSRS	**Korea Array**	**6.67**	**333**	P	**Pn**	**14 58 58.7**	**+0.7**
comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=1.8							
KSRS				LR	LR	15 01 52.5	
comp=E,106nm,18.9s,baz=130,slow=41							
comp=E,0.6nm,0.5s							
MJAR	**Matsushiro Arr**	**7.34**	**46**	P	**Pn**	**14 59 07.9**	**+0.6**
comp=E,0.1nm,0.3s,baz=244,slow=15,SNR=4.5							
comp=E,1.2nm,0.8s							
USRK	**Ussuriysk Ar.**	**12.63**	**1**	P	**Pn**	**15 00 19.5**	**-0.2**
comp=E,0.9nm,0.6s,baz=104,slow=18,SNR=2.1							
KLR	**Kul'dur**	**17.66**	**0**	P	**Pn**	**15 01 25.3**	**-0.5**
comp=E,0.1nm,0.3s,baz=159,slow=8.7,SNR=6.3							
comp=E,0.9nm,0.5s							
SONM	**Songino Array**	**25.21**	**317**	P	**P**	**15 02 44.3**	**-0.9**
comp=E,0.6nm,0.5s,baz=132,slow=10,SNR=5.3							
SONM				LR	LR	15 14 07.5	
comp=E,76nm,20.7s,baz=80,slow=40							
comp=E,0.6nm,0.5s							
PETK	**Petropavlovsk-**	**28.59**	**34**	LR	LR	15 16 43.5	
comp=E,57nm,18.7s,baz=82,slow=40							
CMAR	**Chiang Mai Arr**	**32.30**	**254**	P	**P**	**15 03 47.6**	**-0.9**
comp=E,0.3nm,0.4s,baz=48,slow=7.1,SNR=4.1							
comp=E,0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**33.69**	**102**	T	T	15 39 41.2	
baz=298,slow=75,SNR=9.5							
H11N1	**WAKE ISLAND Hy**	**33.70**	**102**	T	T	15 39 46.0	
baz=298,slow=75,SNR=4.7							
H11N3	**WAKE ISLAND Hy**	**33.71**	**102**	T	T	15 39 45.4	
baz=298,slow=75,SNR=2.8							
H11S3	**WAKE ISLAND Hy**	**34.10**	**104**	T	T	15 40 16.4	
baz=303							
H11S1	**WAKE ISLAND Hy**	**34.11**	**104**	T	T	15 40 14.5	
baz=303							
H11S2	**WAKE ISLAND Hy**	**34.12**	**104**	T	T	15 40 14.5	
baz=303							
ZALV	**Zalesovo Beam**	**40.10**	**318**	P	**P**	**15 04 54.4**	**-0.3**
comp=E,0.3nm,0.4s,baz=108,slow=14,SNR=1.7							
comp=E,0.3nm,0.4s							
MKAR	**Makanchi Array**	**40.54**	**307**	P	**P**	**15 04 57.5**	**-1.0**
comp=E,0.4nm,0.5s,baz=90,slow=10,SNR=8.4							
comp=E,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**43.34**	**312**	P	**P**	**15 05 20.2**	**-1.1**
comp=E,0.3nm,0.7s,baz=77,slow=4.2,SNR=6.2							
comp=E,0.3nm,0.7s							
BVAR	**Borovoye Array**	**48.51**	**315**	P	**P**	**15 06 00.9**	**-1.1**
comp=E,0.6nm,0.5s,baz=96,slow=8.9,SNR=5.6							
comp=E,0.6nm,0.5s							
ASAR	**Alice Springs**	**54.94**	**178**	P	**P**	**15 06 50.5**	**+0.3**
comp=E,0.2nm,0.9s,baz=9.8,slow=12,SNR=4.6							
comp=E,0.2nm,0.9s							
FINES	**FINESS Array B**	**69.75**	**330**	P	**P**	**15 08 27.7**	**-1.2**
comp=E,0.9nm,0.4s,baz=79,slow=4.6,SNR=6.7							
comp=E,0.9nm,0.4s							
YKA	**Yellowknife Ar**	**72.43**	**26**	P	**P**	**15 08 45.7**	**+0.6**
comp=E,0.1nm,0.5s,baz=260,slow=4.8,SNR=4.2							
comp=E,0.1nm,0.5s							

SGS 07 15:22:02.7, 28°.47N×34°.68E, h14km, Ml1.9, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAYS	**Tayyib Ism**	**0.19**	**65**	P	Pg	15 22 06.8	-0.2
TAYS	**Tayyib Ism**	**0.19**	**65**	S	Sg	15 22 10.1	+0.1
RSHS		**0.20**	**149**	S	Sg	15 22 10.7	+0.4
RSHS		**0.20**	**149**	P	Pg	15 22 07.1	-0.1
BDAS	**Al Bad`**	**0.37**	**96**	P	Pg	15 22 09.9	-0.4
BDAS				S	Sg	15 22 15.4	0.0
AYUS	**`Aynunah**	**0.59**	**118**	S	Sg	15 22 21.9	-0.2
AYUS	**`Aynunah**	**0.59**	**118**	P	Pg	15 22 13.8	-0.5
HAQS	**Haql**	**0.61**	**20**	P	Pg	15 22 14.1	-0.6
HAQS	**Haql**	**0.61**	**20**	S	Sg	15 22 22.8	-0.1
KRABS	**KRABS**	**0.63**	**126**	S	Sg	15 22 22.9	-0.4
KRABS	**KRABS**	**0.63**	**126**	P	Pg	15 22 14.3	-0.6
JLOS		**0.76**	**70**	S	Sg	15 22 27.2	-0.4
JLOS		**0.76**	**70**	P	Pg	15 22 16.5	-1.0
JMOS	**Jabal al Moall**	**0.79**	**28**	P	Pg	15 22 17.2	-0.9
HQLS		**0.89**	**22**	P	Pb	15 22 19.0	-1.0

IDC 07 15:26:21.5±2.0, 31°.87S×178°.32W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=59.0km s-min=33.8km az=44.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.78**	**269**	P	P	15 34 20.9	-0.2
0.6nm,0.5s,baz=108,slow=7.6,SNR=21							
0.6nm,0.5s							
WRA	**Warramunga Arr**	**43.90**	**274**	P	P	15 34 30.0	-0.1
0.9nm,0.5s,baz=112,slow=8.1,SNR=13							
0.9nm,0.5s							
QSPA	**South Pole Qui**	**58.25**	**180**	P	P	15 36 17.5	-0.1
0.9nm,0.9s,baz=66,slow=12,SNR=13							
0.9nm,0.9s							
FINES	**FINESS Array B**	**146.42**	**339**	PKPbc	PKPdf	15 46 02.9	+0.5
1.1nm,0.5s,baz=62,slow=4.8,SNR=7.1							

*ASIES **07** 15:27:00.7, 23°.97N×121°.61E, h38km, ML4.0, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-1.37; $M_{\theta\theta}$1.76; $M_{\phi\phi}$-0.39; $M_{r\theta}$-1.24; $M_{\theta\phi}$0.93; $M_{\phi r}$0.88; Fault plane solution: $M_0$2.39686×10^{21} NP1: ϕ_s218.90000°, δ41.86000°, λ-144.98000°. NP2: ϕ_s101.34000°, δ67.48000°, λ-53.72000°. Principal axes: T Plg14.8240°, Azm165.7000°; N Plg33.1270°, Azm265.6450°; P Plg52.8850°, Azm55.2280°;*

*TAP **07** 15:27:00.7, 23°.97N×121°.61E, h38km, ML4.0, B*

*JMA **07** 15:27:00.4±0.1, 23°.9N±0°.6×12°.2E±°, h35km±1km, MV3.5/17, TAIWAN REGION*

ISC 07 15:27:01.5±1.2, 23°.96N±0°.02×121°.65E±0°.02, h35km, n166, σ1§20/286, 25C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.04**	**294**	⇓P	**Pn**	**15 27 07.7**	**+0.4**
HWA				*e*S	**Sn**	**15 27 12.3**	**+1.1**
TWD	**Chiawan**	**0.13**	**339**	⇑*i*P	**Pn**	**15 27 07.4**	**-0.3**
TWD				*e*S	**Sn**	**15 27 11.8**	**-0.1**
ETM	**Tongmen**	**0.14**	**272**	⇓*i*P	**Pn**	**15 27 07.2**	**-0.6**
ETM				*e*S	**Sn**	**15 27 11.5**	**-0.6**
SHUL	**Shoufeng**	**0.19**	**204**	⇓P	**Pn**	**15 27 08.4**	**+0.2**
SHUL				*e*S	**Sn**	**15 27 14.2**	**+1.4**
ETL	**Fush Village**	**0.20**	**354**	⇑*i*P	**Pn**	**15 27 07.7**	**-0.6**
ETL				S	**Sn**	**15 27 12.7**	**-0.3**
NACB	**Ninganchiao**	**0.22**	**348**	P	**Pn**	**15 27 07.7**	**-0.8**
NACB	**Ninganchiao**	**0.22**	**348**	S	**Sn**	**15 27 13.0**	**-0.3**
NACB	**Ninganchiao**	**0.22**	**348**	⇑*i*P	**Pn**	**15 27 07.7**	**-0.8**
NACB				*i* S	**Sn**	**15 27 12.5**	**-0.7**
LXIB	**Xiulin Townshi**	**0.22**	**286**	⇓*i*P	**Pn**	**15 27 07.8**	**-0.9**
LXIB				*i* S	**Sn**	**15 27 12.5**	**-1.1**
ESL	**Shilin**	**0.24**	**233**	⇓*i*P	**Pn**	**15 27 07.9**	**-0.9**
ESL				*e*S	**Sn**	**15 27 12.5**	**-1.2**
TEGC	**Jichi Village**	**0.27**	**201**	*e*P	**Pn**	**15 27 09.1**	**+0.1**
TEGC				*e*S	**Sn**	**15 27 15.1**	**+0.9**
ETLH	**Xiulin Townshi**	**0.29**	**329**	⇑*i*P	**Pn**	**15 27 08.4**	**-0.9**
ETLH				*i* S	**Sn**	**15 27 13.7**	**-1.1**
WARBT	**Fenglin Townsh**	**0.34**	**225**	⇓*i*P	**Pn**	**15 27 08.7**	**-1.2**
WARBT				S	**Sn**	**15 27 14.2**	**-1.5**
EGFH	**Guangfu**	**0.35**	**215**	*i* P	**Pn**	**15 27 08.9**	**-1.1**
EGFH				S	**Sn**	**15 27 14.8**	**-1.1**
EHP	**Heping Village**	**0.36**	**14**	*e*P	**Pn**	**15 27 09.5**	**-0.7**
EHP				*e*S	**Sn**	**15 27 16.6**	**+0.4**
EAHA	**Aohua**	**0.38**	**13**	⇑P	**Pn**	**15 27 09.7**	**-0.8**
EAHA				*e*S	**Sn**	**15 27 16.5**	**0.0**
WHF	**Hehuan Shan**	**0.39**	**298**	⇓*i*P	**Pn**	**15 27 10.0**	**-1.0**
WHF				S	**Sn**	**15 27 16.3**	**-1.3**
OWD	**Renai**	**0.43**	**269**	⇓*i*P	**Pn**	**15 27 10.5**	**-0.7**
OWD				*e*S	**Sn**	**15 27 16.5**	**-1.5**
FUSS	**Fushou**	**0.47**	**308**	⇑*i*P	**Pn**	**15 27 11.1**	**-0.7**
FUSS				*e*S	**Sn**	**15 27 17.9**	**-1.1**
ENA	**Nanau**	**0.47**	**11**	⇑*i*P	**Pn**	**15 27 10.8**	**-0.9**
ENA				*e*S	**Sn**	**15 27 19.1**	**+0.2**
WUSB	**Renai**	**0.48**	**274**	⇓*i*P	**Pn**	**15 27 11.4**	**-0.6**
WUSB				*e*S	**Sn**	**15 27 18.1**	**-1.2**
EWUT	**Wuta**	**0.50**	**14**	⇑P	**Pn**	**15 27 11.2**	**-0.9**
EWUT				*e*S	**Sn**	**15 27 19.2**	**-0.3**
VWDT	**VWDT**	**0.51**	**246**	⇓*i*P	**Pn**	**15 27 11.7**	**-0.5**
VWDT				*e*S	**Sn**	**15 27 18.4**	**-1.2**
HGSD	**Ruisui**	**0.51**	**204**	P	**Pn**	**15 27 11.6**	**-0.6**
HGSD				*e*S	**Sn**	**15 27 19.6**	**-0.2**
TWT	**Tachien**	**0.52**	**304**	⇑*i*P	**Pn**	**15 27 12.0**	**-0.5**
TWT				*i* S	**Sn**	**15 27 19.3**	**-0.9**
NNSB	**Datong**	**0.52**	**333**	⇑*i*P	**Pn**	**15 27 11.6**	**-1.0**
NNSB				*e*S	**Sn**	**15 27 18.6**	**-1.8**
TDCB	**Techi**	**0.53**	**303**	⇑*i*P	**Pn**	**15 27 12.0**	**-0.7**
TDCB				S	**Sn**	**15 27 19.3**	**-1.3**
NNS	**Nan Shan**	**0.54**	**333**	⇑*i*P	**Pn**	**15 27 11.8**	**-1.0**
NNS				*e*S	**Sn**	**15 27 19.2**	**-1.5**
EHYH	**Wanrong**	**0.54**	**211**	⇓*i*P	**Pn**	**15 27 11.0**	**-1.7**
EHYH				S	**Sn**	**15 27 18.4**	**-2.1**
EHY	**Hungye**	**0.54**	**213**	⇓*i*P	**Pn**	**15 27 11.0**	**-1.8**
EHY				*e*S	**Sn**	**15 27 18.5**	**-2.1**
LATG	**Datong**	**0.58**	**349**	⇑*i*P	**Pn**	**15 27 12.1**	**-1.3**
LATG				*e*S	**Sn**	**15 27 21.7**	**0.0**
EOS4	**EOS4**	**0.64**	**75**	P	**Pn**	**15 27 13.7**	**0.0**
EOS4				*e*S	**Sn**	**15 27 23.2**	**+0.8**
ESAO	**Su ao**	**0.64**	**16**	*e*P	**Pn**	**15 27 13.4**	**-0.7**
ESAO				*e*S	**Sn**	**15 27 22.8**	**-0.2**
YULB	**Yu-li**	**0.65**	**209**	P	**Pn**	**15 27 12.1**	**-2.1**
YULB	**Yu-li**	**0.65**	**209**	S	**Sn**	**15 27 20.9**	**-2.4**
YULB	**Yu-li**	**0.65**	**209**	⇓*i*P	**Pn**	**15 27 12.3**	**-1.9**
YULB				*e*S	**Sn**	**15 27 20.8**	**-2.5**
SSLB	**Suanglung**	**0.66**	**255**	S	**Sn**	**15 27 20.2**	**-3.2**
SSLB	**Suanglung**	**0.66**	**255**	P	**Pn**	**15 27 13.4**	**-0.9**
SSLB	**Suanglung**	**0.66**	**255**	⇓*i*P	**Pn**	**15 27 13.5**	**-0.9**
SSLB				*e*S	**Sn**	**15 27 21.9**	**-1.6**
ECBN	**Changbin**	**0.67**	**196**	P	**Pn**	**15 27 14.1**	**-0.3**
ECBN				*e*S	**Sn**	**15 27 22.2**	**-1.4**
TWC	**Suao**	**0.67**	**16**	⇑*i*P	**Pn**	**15 27 13.9**	**-0.6**
TWC				S	**Sn**	**15 27 24.4**	**+0.6**
NDS	**Dongshan**	**0.67**	**5**	*e*P	**Pn**	**15 27 13.5**	**-1.1**
NDS				*e*S	**Sn**	**15 27 22.6**	**-1.3**
WCS	**Beigang Elemen**	**0.68**	**278**	⇓P	**Pn**	**15 27 14.0**	**-0.6**
WCS				*e*S	**Sn**	**15 27 22.9**	**-1.0**
ENTT	**Nioudou**	**0.68**	**354**	⇑*i*P	**Pn**	**15 27 13.7**	**-0.9**
ENTT				*e*S	**Sn**	**15 27 23.1**	**-1.0**
EYUL	**Yuli**	**0.68**	**206**	*e*P	**Pn**	**15 27 13.0**	**-1.6**
EYUL				*e*S	**Sn**	**15 27 22.6**	**-1.4**
TWF1	**Yuli**	**0.69**	**208**	P	**Pn**	**15 27 12.9**	**-1.8**
TWF1				S	**Sn**	**15 27 22.0**	**-2.2**
SMLT	**Sun Moon Lake**	**0.69**	**264**	⇓*i*P	**Pn**	**15 27 13.1**	**-1.7**
SMLT				*e*S	**Sn**	**15 27 22.8**	**-1.5**
EOS3	**EOS3**	**0.69**	**62**	⇓*e*P	**Pn**	**15 27 15.2**	**+0.6**
EOS2	**EOS2**	**0.70**	**49**	*e*P	**Pn**	**15 27 15.7**	**+0.9**
WHP	**Taichung City**	**0.71**	**296**	*e*P	**Pn**	**15 27 14.9**	**-0.2**
WHP				*i* S	**Sn**	**15 27 24.3**	**-0.6**
TYC	**Yuchr**	**0.72**	**266**	⇓*i*P	**Pn**	**15 27 14.4**	**-0.7**
TYC				*e*S	**Sn**	**15 27 23.4**	**-1.3**
YHNB	**Yeheng**	**0.75**	**341**	⇑*i*P	**Pn**	**15 27 14.9**	**-0.8**
YHNB				S	**Sn**	**15 27 24.5**	**-1.3**
TWE	**Neicheng**	**0.76**	**2**	⇑*i*P	**Pn**	**15 27 14.8**	**-0.9**
TWE				*e*S	**Sn**	**15 27 24.7**	**-1.2**
NSK	**Sanguang**	**0.76**	**340**	⇑*i*P	**Pn**	**15 27 15.0**	**-0.7**
NSK				*e*S	**Sn**	**15 27 24.6**	**-1.5**
WHYT	**Xinyi Township**	**0.77**	**250**	⇓*i*P	**Pn**	**15 27 15.7**	**-0.2**
WHYT				*i* S	**Sn**	**15 27 26.2**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.80**	**356**	⇑P	**Pn**	**15 27 15.3**	**-1.0**
FUSB				*e*S	**Sn**	**15 27 25.3**	**-1.7**
CHKH	**Chenggong**	**0.80**	**197**	*e*P	**Pn**	**15 27 15.6**	**-0.6**
CHKH				*e*S	**Sn**	**15 27 26.2**	**-0.7**
ILA	**Ilan**	**0.81**	**7**	*e*P	**Pn**	**15 27 15.6**	**-0.8**
ILA				*e*S	**Sn**	**15 27 27.1**	**-0.1**
NWLT	**Wulai**	**0.82**	**351**	⇑P	**Pn**	**15 27 15.8**	**-0.9**
NWLT				*e*S	**Sn**	**15 27 26.6**	**-1.0**
FULB	**Fuli**	**0.82**	**203**	*e*P	**Pn**	**15 27 15.9**	**-0.7**
FULB				*e*S	**Sn**	**15 27 27.0**	**-0.8**
NFF	**Wufeng Townshi**	**0.82**	**324**	⇑*e*P	**Pn**	**15 27 16.4**	**-0.2**
NFF				*e*S	**Sn**	**15 27 26.9**	**-0.8**
WJS	**Zhushan**	**0.85**	**261**	P	**Pn**	**15 27 17.5**	**+0.5**
WJS				*i* S	**Sn**	**15 27 29.6**	**+1.4**
WNT	**Mingjian**	**0.88**	**265**	P	**Pn**	**15 27 17.9**	**+0.5**
WNT				*e*S	**Sn**	**15 27 29.9**	**+0.9**
TWQ1	**Liyutan**	**0.89**	**296**	*e*P	**Pn**	**15 27 17.8**	**+0.4**
TWQ1				*i* S	**Sn**	**15 27 29.6**	**+0.5**
NSTT	**Nanjuang**	**0.89**	**319**	⇑P	**Pn**	**15 27 17.9**	**+0.4**
NSTT				*e*S	**Sn**	**15 27 29.2**	**0.0**
ALS	**Alishan**	**0.89**	**240**	⇓*i*P	**Pn**	**15 27 17.6**	**-0.2**
ALS				*e*S	**Sn**	**15 27 29.4**	**-0.2**
LIOB	**Emei**	**0.89**	**320**	⇑P	**Pn**	**15 27 18.1**	**+0.5**
LIOB				*e*S	**Sn**	**15 27 29.4**	**+0.1**
CHKT	**Chengkung**	**0.90**	**197**	*e*P	**Pn**	**15 27 16.3**	**-1.4**
CHKT				S	**Sn**	**15 27 29.1**	**-0.1**
EHD	**Haiduan**	**0.90**	**207**	*e*P	**Pn**	**15 27 16.3**	**-1.4**
TCU	**Taichung**	**0.91**	**282**	*e*P	**Pn**	**15 27 18.6**	**+0.9**
TCU				*e*S	**Sn**	**15 27 30.6**	**+1.0**
KSHI	**Guanxi Townshi**	**0.92**	**332**	⇑*i*P	**Pn**	**15 27 18.4**	**+0.5**
KSHI				*e*S	**Sn**	**15 27 30.6**	**+0.7**
NSY	**Sanyi**	**0.93**	**299**	*e*P	**Pn**	**15 27 17.9**	**-0.1**
NSY				S	**Sn**	**15 27 30.7**	**+0.6**
ECS	**Chishang**	**0.95**	**204**	*e*P	**Pn**	**15 27 17.3**	**-1.0**
ECS				*e*S	**Sn**	**15 27 30.1**	**-0.4**
CHN5	**Tsauling**	**0.96**	**248**	⇓*i*P	**Pn**	**15 27 18.7**	**+0.2**
CHN5				*e*S	**Sn**	**15 27 31.9**	**+1.0**
ELDTW	**Lidau**	**0.96**	**217**	*e*P	**Pn**	**15 27 17.4**	**-1.1**
ELDTW				*e*S	**Sn**	**15 27 29.2**	**-1.8**
NMLH	**Miaoli**	**0.97**	**307**	*e*P	**Pn**	**15 27 19.0**	**+0.4**
NMLH				*e*S	**Sn**	**15 27 32.1**	**+1.0**
WDJ	**Dajia District**	**1.00**	**293**	*e*P	**Pn**	**15 27 19.4**	**+0.5**
WDJ				*e*S	**Sn**	**15 27 32.6**	**+0.8**
WCHH	**Zhanghua**	**1.00**	**277**	P	**Pn**	**15 27 19.8**	**+0.8**
WCHH				*e*S	**Sn**	**15 27 34.0**	**+2.1**
TATO	**Taipei**	**1.02**	**352**	P	**Pn**	**15 27 19.2**	**-0.1**
TATO	**Taipei**	**1.02**	**352**	S	**Sn**	**15 27 32.5**	**+0.1**
TIPB	**Shuangxi**	**1.02**	**9**	*e*P	**Pn**	**15 27 19.0**	**-0.3**
TIPB				S	**Sn**	**15 27 32.3**	**-0.1**
SBCB	**Hsinchu**	**1.02**	**324**	*e*P	**Pn**	**15 27 20.0**	**+0.6**
SBCB				*e*S	**Sn**	**15 27 34.2**	**+1.7**
WGK	**Gukeng**	**1.03**	**255**	*e*P	**Pn**	**15 27 19.9**	**+0.5**
WGK				*e*S	**Sn**	**15 27 33.7**	**+1.1**
EDH	**Donghe**	**1.03**	**198**	*e*P	**Pn**	**15 27 18.3**	**-1.2**
EDH				*e*S	**Sn**	**15 27 31.1**	**-1.6**
HSN	**Hsinchu**	**1.04**	**324**	*e*P	**Pn**	**15 27 20.2**	**+0.7**
HSN				*i* S	**Sn**	**15 27 34.0**	**+1.2**
WDL	**Douliou City**	**1.04**	**257**	*e*P	**Pn**	**15 27 20.3**	**+0.7**
WDL				*e*S	**Sn**	**15 27 34.3**	**+1.4**
WDLH	**Douliu**	**1.05**	**255**	*e*P	**Pn**	**15 27 20.5**	**+0.8**
WDLH				*i* S	**Sn**	**15 27 34.6**	**+1.5**
NHY	**Taipei**	**1.08**	**356**	*e*P	**Pn**	**15 27 19.8**	**-0.2**
WCKO	**Fanlu**	**1.09**	**242**	P	**Pn**	**15 27 20.9**	**+0.7**
WCKO				*e*S	**Sn**	**15 27 35.3**	**+1.2**
NCUH	**Zhongli**	**1.09**	**337**	*e*P	**Pn**	**15 27 20.5**	**+0.3**
NCUH				*e*S	**Sn**	**15 27 35.0**	**+0.9**
TWB1	**Santiao Chiao**	**1.09**	**17**	*e*P	**Pn**	**15 27 20.4**	**+0.2**
TWB1				*e*S	**Sn**	**15 27 35.0**	**+0.9**
NWF	**Wu-fen Shan**	**1.11**	**6**	*e*P	**Pn**	**15 27 20.4**	**-0.2**
NWF				S	**Sn**	**15 27 34.8**	**0.0**
WFSB	**Wu-fen Shan**	**1.11**	**6**	P	**Pn**	**15 27 20.3**	**-0.3**
WFSB				*e*S	**Sn**	**15 27 34.6**	**0.0**
STYH	**Taoyuan**	**1.12**	**226**	*e*P	**Pn**	**15 27 20.9**	**+0.2**
STYH				S	**Sn**	**15 27 34.6**	**-0.2**
CHN4	**Tsaushan**	**1.14**	**238**	*e*P	**Pn**	**15 27 21.7**	**+0.7**
CHN4				*e*S	**Sn**	**15 27 37.3**	**+2.0**
TPUB	**Ta-pu**	**1.14**	**235**	*e*P	**Pn**	**15 27 21.5**	**+0.5**
TPUB				*e*S	**Sn**	**15 27 36.5**	**+1.2**
SXI1	**Grass Mountain**	**1.15**	**10**	*e*P	**Pn**	**15 27 20.9**	**-0.2**
SXI1				*e*S	**Sn**	**15 27 36.1**	**+0.5**
LONT	**Longtian**	**1.15**	**204**	*e*P	**Pn**	**15 27 19.6**	**-1.5**
CHN2	**Minshiung**	**1.15**	**249**	*e*P	**Pn**	**15 27 22.7**	**+1.6**
TWS1	**Kuangyinshan**	**1.15**	**350**	*e*P	**Pn**	**15 27 19.8**	**-1.3**
WTK	**Tuku**	**1.18**	**257**	*e*P	**Pn**	**15 27 22.1**	**+0.6**
WTK				*e*S	**Sn**	**15 27 38.1**	**+1.8**
WTP	**Ta-pu**	**1.18**	**233**	*e*P	**Pn**	**15 27 22.4**	**+0.8**
WTP				*i* S	**Sn**	**15 27 37.9**	**+1.4**
YM01	**YM01**	**1.18**	**357**	*e*P	**Pn**	**15 27 20.8**	**-0.8**
YM01				*e*S	**Sn**	**15 27 36.3**	**-0.2**
ZUZH	**Zhuzihu**	**1.20**	**356**	*e*P	**Pn**	**15 27 21.1**	**-0.7**
ZUZH				S	**Sn**	**15 27 36.0**	**-0.9**
CHY	**Chiayi**	**1.21**	**248**	*e*P	**Pn**	**15 27 22.9**	**+1.0**
CHY				*i* S	**Sn**	**15 27 38.7**	**+1.6**
NTST	**Danshui**	**1.21**	**352**	*e*P	**Pn**	**15 27 21.8**	**-0.1**
YM08	**YM08**	**1.22**	**358**	*e*P	**Pn**	**15 27 20.8**	**-1.3**
ANP	**Anpu**	**1.23**	**355**	*e*P	**Pn**	**15 27 21.3**	**-0.9**
TWG	**Pinlang**	**1.25**	**205**	*e*P	**Pn**	**15 27 20.3**	**-2.1**
TWGBT	**Beinan**	**1.25**	**205**	P	**Pn**	**15 27 20.4**	**-2.1**
TWGBT	**Beinan**	**1.25**	**205**	*e*P	**Pn**	**15 27 20.3**	**-2.1**
TWGBT				*e*S	**Sn**	**15 27 35.0**	**-3.1**
WTCT	**Ta-ch'eng**	**1.25**	**266**	*e*P	**Pn**	**15 27 23.3**	**+0.8**
WTCT				*e*S	**Sn**	**15 27 40.4**	**+2.3**
CHN1	**Nanshi**	**1.28**	**233**	*e*P	**Pn**	**15 27 23.6**	**+0.7**
CHN1				*e*S	**Sn**	**15 27 40.3**	**+1.4**
JYNG	**Yonagunijimaku**	**1.28**	**67**	P	**Pn**	**15 27 23.1**	**+0.2**
JYNG				S	**Sn**	**15 27 39.2**	**+0.3**
SNST	**Tainan City**	**1.28**	**235**	*e*P	**Pn**	**15 27 24.1**	**+1.1**
SNST				S	**Sn**	**15

Triangular moment-rate function
ISC 07 15:27:28.8±0.4,**32°73S**±0'.04×**177°39W**±0'.06,**h21**km,
n652,σ2§53/490,**mb5.3**/93,**MS5.5**/186,**19C-15D**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.49 352**		P	Pn	15 28 19.5	-2.2
GLKZ				S	Sn	15 28 57.5	-4.9
MXZ	**Matakaoa Point**	**5.97 215**		Pn	Pn	15 28 54.5	-1.4
MXZ	**Matakaoa Point**	**5.97 215**		P	Pn	15 28 57.5	+1.6
	325nm,1.3s						
MXZ	**Matakaoa Point**	**5.97 215**		P	Pn	15 28 56.0	+0.1
MXZ				S	Sn	15 30 04.0	+0.3
WMGZ	**Waiomatatini S**	**6.13 213**		P	Pn	15 29 00.4	+2.4
WMGZ				S	Sn	15 30 10.2	+2.8
PKGZ	**Pakihiroa**	**6.32 215**		P	Pn	15 29 02.6	+1.8
PKGZ				S	Sn	15 30 15.8	+3.5
HAZ	**Te Kaha**	**6.38 217**		P	Pn	15 29 03.7	+2.2
HAZ				S	Sn	15 30 17.9	+4.2
PUZ	**Puketiti**	**6.41 212**		P	Pn	15 29 02.6	+0.7
PUZ				S	Sn	15 30 16.5	+2.1
RUGZ	**Raukumara Rang**	**6.60 216**		P	Pn	15 29 05.9	+1.3
RUGZ				S	Sn	15 30 19.6	+0.4
TWGZ	**Tauwhareparae**	**6.62 214**		P	Pn	15 29 06.8	+1.9
TWGZ				S	Sn	15 30 20.9	+1.3
CNGZ	**Carnagh Statio**	**6.77 211**		P	Pn	15 29 08.5	+1.6
CNGZ				S	Sn	15 30 26.0	+2.7
WHRZ	**Whale Island**	**6.88 220**		P	Pn	15 29 08.4	0.0
WHRZ				S	Sn	15 30 27.2	+1.1
MYRZ	**Mayor Island**	**6.92 227**		P	Pn	15 29 14.2	+5.2
KUZ	**Kuaotunu**	**6.94 233**		P	Pn	15 29 11.8	+2.6
	478nm,1.2s						
MWZ	**Matawai**	**6.96 215**		P	Pn	15 29 10.2	+0.7
MWZ				S	Sn	15 30 28.4	+0.4
OPRZ	**Ohinepanea**	**7.11 222**		P	Pn	15 29 13.0	+1.5
OPRZ				S	Sn	15 30 31.9	+0.3
URZ	**Urewera**	**7.11 218**		Pn	Pn	15 29 12.3	+0.8
	22nm,0.3s,baz=124,slow=2.2,SNR=48						
URZ				Sn	Sn	15 30 31.3	-0.3
	44nm,0.3s,baz=332,slow=9.3,SNR=9.2						
	69nm,0.3s						
URZ	**Urewera**	**7.11 218**		P	Pn	15 29 13.4	+1.9
	718nm,0.9s						
URZ	**Urewera**	**7.11 218**		P	Pn	15 29 11.8	+0.3
URZ				S	Sn	15 30 30.5	-1.2
RAGZ	**Rawiri**	**7.14 215**		P	Pn	15 29 12.8	+0.8
RAGZ				S	Sn	15 30 32.2	-0.3
MARZ	**Manawahe**	**7.14 221**		P	Pn	15 29 15.2	+3.2
RIGZ	**Rimuhau**	**7.15 212**		P	Pn	15 29 13.5	+1.4
RIGZ				S	Sn	15 30 32.3	-0.3
TGRZ	**Tauranga**	**7.20 224**		P	Pn	15 29 15.9	+3.1
PRGZ	**Paritu Road**	**7.27 211**		P	Pn	15 29 14.4	+0.6
PRGZ				S	Sn	15 30 35.4	-0.3
WIAZ	**Waiheke Island**	**7.37 235**		P	Pb	15 29 25.2	-11
SNGZ	**Shannon Statio**	**7.40 214**		P	Pn	15 29 16.9	+1.3
SNGZ				S	Sn	15 30 38.4	-0.5
KARZ	**Kaharoa**	**7.41 223**		P	Pn	15 29 17.1	+1.4
TARZ	**Mount Tarawera**	**7.41 220**		P	Pn	15 29 21.6	+5.8
KNZ	**Kokohu**	**7.45 211**		P	Pn	15 29 15.8	-0.3
RTZ	**Ruatahuna**	**7.45 216**		Pn	Pn	15 29 15.7	-0.5
RTZ	**Ruatahuna**	**7.45 216**		P	Pn	15 29 18.0	+1.8
MUGZ	**Murupara**	**7.45 218**		P	Pn	15 29 16.6	+0.4
MUGZ				S	Sn	15 30 37.1	-3.0
MHGZ	**Mahia Peninsul**	**7.46 209**		P	Pn	15 29 17.2	+0.9
KMRZ	**Kaimai**	**7.47 225**		P	Pn	15 29 19.5	+3.0
RRRZ	**Republican Roa**	**7.48 220**		P	Pn	15 29 19.9	+3.2
HLRZ	**Highlands Stat**	**7.51 221**		P	Pn	15 29 20.1	+3.1
WCZ	**Waipu Caves**	**7.55 243**		P	Pn	15 29 20.1	+2.5
HSRZ	**Hossack Road**	**7.61 221**		P	Pn	15 29 23.3	+4.8
RAHZ	**Arahi**	**7.63 214**		P	Pn	15 29 20.3	+1.6
HRRZ	**Handcock Road**	**7.64 221**		P	Pn	15 29 23.6	+4.7
TOZ	**Tahuroa Road**	**7.66 227**		Pn	Pn	15 29 19.5	+0.4
PRRZ	**Plateau Road**	**7.66 220**		P	Pn	15 29 21.8	+2.6
WHHZ	**Waihua**	**7.69 213**		P	Pn	15 29 23.2	+3.7
MTHZ	**Maungataniwha**	**7.70 216**		P	Pn	15 29 22.4	+2.7
GRRZ	**Galatos Road**	**7.71 222**		P	Pn	15 29 23.6	+3.7
ALRZ	**Allen Road**	**7.74 219**		P	Pn	15 29 23.4	+3.2
WPRZ	**Whakapapatarin**	**7.80 220**		P	Pn	15 29 26.1	+5.0
WTAZ	**Waiatarua**	**7.82 235**		P	Pb	15 29 33.9	-10
AWAZ	**Awhitu Peninsu**	**7.84 234**		P	Pn	15 29 30.3	+8.7
OUZ	**Omahuta**	**7.89 249**		P	Pn	15 29 24.6	+2.3
	504nm,1.4s						
OUZ	**Omahuta**	**7.89 249**		P	Pn	15 29 24.5	+2.3
MRHZ	**Matea Rd**	**7.90 218**		P	Pn	15 29 24.2	+1.8
NMHZ	**Naumai**	**7.91 215**		P	Pn	15 29 25.0	+2.4
ARHZ	**Aropaoanui**	**7.95 213**		P	Pn	15 29 24.3	+1.3
BKZ	**Black Stump Fm**	**8.11 216**		Pn	Pn	15 29 24.8	-0.6
BKZ	**Black Stump Fm**	**8.11 216**		P	Pn	15 29 26.0	+0.6
	77nm,0.4s						
BKZ	**Black Stump Fm**	**8.11 216**		P	Pn	15 29 26.2	+0.8
WATZ	**Wairara**	**8.17 221**		P	Pn	15 29 28.3	+2.1
CKHZ	**Cape Kidnapper**	**8.23 211**		P	Pn	15 29 26.7	-0.2
MCHZ	**McNeill Hill**	**8.23 214**		P	Pn	15 29 27.6	+0.7
RATZ	**Rangitukua**	**8.27 220**		P	Pn	15 29 31.4	+4.0
RITZ	**Rihia Road**	**8.30 219**		P	Pn	15 29 32.3	+4.4
KWHZ	**Kaweka Forest**	**8.35 215**		P	Pn	15 29 30.7	+2.1
KAHZ	**Kahuranaki**	**8.43 212**		P	Pn	15 29 28.3	-1.5
TMVZ	**Te Maari**	**8.48 219**		P	Pn	15 29 32.5	+2.0
NTVZ	**North Tongariro**	**8.48 220**		P	Pn	15 29 31.2	+0.7
ETVZ	**East Tongariro**	**8.49 219**		P	Pn	15 29 31.8	+1.2
OTVZ	**Oturere**	**8.54 219**		P	Pn	15 29 32.0	+0.7
KRHZ	**Kereru**	**8.54 214**		P	Pn	15 29 31.9	+0.7
HIZ	**Hauiti**	**8.55 225**		Pn	Pn	15 29 31.5	+0.2
HIZ	**Hauiti**	**8.55 225**		P	Pn	15 29 32.2	+0.9
	248nm,0.9s						
HIZ	**Hauiti**	**8.55 225**		P	Pn	15 29 34.6	+3.3
SNVZ	**South Ngauruho**	**8.57 219**		P	Pn	15 29 33.7	+2.0
NGZ	**Ngauruhoe**	**8.58 219**		P	Pn	15 29 35.3	+3.5
COVZ	**Chateau Observ**	**8.63 220**		P	Pn	15 29 35.2	+2.7
PXZ	**Pawanui**	**8.63 211**		P	Pn	15 29 32.2	-0.2
MOVZ	**Moawhango**	**8.67 218**		P	Pn	15 29 34.5	+1.5
WNVZ	**Wahianoa**	**8.69 219**		P	Pn	15 29 35.7	+2.3
PNHZ	**Pukenui**	**8.84 214**		P	Pn	15 29 34.8	-0.5
WPHZ	**Waipukurau**	**8.85 212**		P	Pn	15 29 34.7	-0.7
PRHZ	**Porangahau**	**8.93 211**		P	Pn	15 29 36.0	-0.4
VRZ	**Vera Road**	**9.01 223**		P	Pn	15 29 40.3	+2.7
TSZ	**Takapari Road**	**9.06 214**		P	Pn	15 29 38.6	+0.2
ANWZ	**Angora Road**	**9.15 211**		P	Pn	15 29 39.5	-0.1
DVHZ	**Dannevirke**	**9.16 213**		P	Pn	15 29 38.3	-1.4
WAZ	**Wanganui**	**9.33 219**		P	Pn	15 29 46.3	+4.3
POWZ	**Post Office Ro**	**9.42 214**		P	Pn	15 29 44.4	+1.2
BFZ	**Birch Farm**	**9.44 211**			Pn	15 29 41.7	-1.7
BFZ	**Birch Farm**	**9.44 211**		P	Pn	15 29 41.9	-1.5
LREZ	**Lake Rotokare**	**9.44 222**		P	Pn	15 29 48.0	+4.5
PRWZ	**Pori Road**	**9.45 212**		P	Pn	15 29 43.3	-0.4
CPWZ	**Castlepoint**	**9.64 210**		P	Pn	15 29 47.9	+1.7
TIWZ	**Tintock**	**9.67 212**		P	Pn	15 29 48.4	+1.7
MRZ	**Mangatainoka R**	**9.72 213**		Pn	Pn	15 29 44.4	-2.9
MRZ	**Mangatainoka R**	**9.72 213**		P	Pn	15 29 45.6	-1.7
HOWZ	**Holdsworth Sta**	**9.94 213**		P	Pn	15 29 48.9	-1.4
TMWZ	**Te Maipa**	**9.94 211**		P	Pn	15 29 50.3	-0.1
OGWZ	**Otaki Gorge**	**10.03 214**		P	Pn	15 29 49.6	-2.0
MTW	**Mount Morrison**	**10.15 212**		P	Pn	15 29 52.4	-0.9
KIW	**Kapiti Island**	**10.19 215**		P	Pn	15 29 52.1	-1.7
TRWZ	**Traveller**	**10.26 211**		P	Pn	15 29 55.0	+0.2
CAW	**Cannon Point**	**10.31 214**		P	Pn	15 29 53.3	-2.1
PAWZ	**Paruwai Farm**	**10.36 212**		P	Pn	15 29 53.5	-2.7
MSWZ	**Moikau Station**	**10.47 212**		P	Pn	15 29 56.1	-1.5
PLWZ	**Palliser**	**10.59 212**		P	Pn	15 29 58.4	-1.0
BHW	**Baring Head**	**10.64 213**		P	Pn	15 29 59.8	-0.1
SNZO	**South Karori**	**10.64 214**		P	Pn	15 30 01.8	+1.9
	35nm,1.4s						
DUWZ	**D'Urville Isla**	**10.65 218**		P	Pn	15 29 59.7	-0.3
TCW	**Tory Channel**	**10.77 216**		P	Pn	15 29 59.1	-2.6
CTZ	**Chatham Island**	**11.01 177**		P	Pn	15 30 05.1	+0.2
	133nm,0.6s						
CTZ	**Chatham Island**	**11.01 177**		P	Pn	15 30 12.3	+7.4
TUWZ	**Tuamarina**	**11.10 216**			Pn	15 30 03.0	-3.2
TUWZ	**Tuamarina**	**11.10 216**		P	Pn	15 30 05.4	-0.8
TKNZ	**Takaka Hill**	**11.32 220**		Pn	Pn	15 30 05.9	-3.4
MRNZ	**Matariki Terra**	**11.69 219**		Pn	Pn	15 30 12.3	-2.0
MRNZ	**Matariki Terra**	**11.69 219**		P	Pn	15 30 12.7	-1.6
THZ	**Tophouse**	**11.87 218**			Pn	15 30 14.3	-2.5
THZ	**Tophouse**	**11.87 218**		P	Pn	15 30 15.3	-1.5
KHZ	**Kahutara**	**12.04 214**		P	Pn	15 30 20.2	+1.1
	70nm,0.9s						
KHZ	**Kahutara**	**12.04 214**		P	Pn	15 30 17.8	-1.3
GVZ	**Greta Valley S**	**12.71 214**		P	Pn	15 30 26.5	-1.7
LTZ	**Lake Taylor**	**12.93 216**		P	Pn	15 30 29.3	-2.1
INZ	**Inchbonnie**	**13.31 218**		P	Pn	15 30 37.0	+0.6
OXZ	**Oxford**	**13.45 215**			Pn	15 30 34.1	-4.3
OXZ	**Oxford**	**13.45 215**		P	Pn	15 30 36.7	-1.7
MQZ	**McQueen's Vall**	**13.45 213**		P	Pn	15 30 36.4	-1.9
RPZ	**Rata Peaks**	**14.22 216**		Pn	Pn	15 30 48.1	-0.8
	4.7nm,0.3s,baz=174,slow=0.5,SNR=14						
RPZ				Sn	Sn	15 33 12.8	-13
	2.9nm,0.3s,baz=321,slow=20,SNR=9.8						
RPZ	**Rata Peaks**	**14.22 216**		P	Pn	15 30 49.7	+0.8
	58nm,1.6s						
RPZ	**Rata Peaks**	**14.22 216**		P	Pn	15 30 48.0	-0.8
ARCZ	**Arundel**	**14.33 215**		P	Pn	15 30 48.7	-1.7
FOZ	**Fox Glacier**	**14.73 219**		P	Pn	15 30 55.1	-0.8
TMZ	**Timaru**	**14.74 215**		P	Pn	15 30 52.1	-3.8
LBZ	**Lake Benmore**	**15.14 216**		P	Pn	15 30 59.8	-1.5
NIUE	**Niue**	**15.16 28**		Pn	Pn	15 30 54.5	-7.1
ODZ	**Otahua Downs**	**15.40 214**			Pn	15 31 01.8	-2.9
ODZ	**Otahua Downs**	**15.40 214**		P	Pn	15 31 05.6	+0.8
	116nm,2.5s						
ODZ	**Otahua Downs**	**15.40 214**		P	Pn	15 31 02.8	-2.0
MSVF	**Nonsavu**	**15.49 344**			Pn	15 31 00.6	-5.6
MSVF	**Nonsavu**	**15.49 344**		Pn	Pn	15 31 03.7	-2.4
	0.7nm,0.3s,baz=243,slow=18,SNR=7.5						
MSVF				LR	LR	15 36 04.6	
	comp=Z,13μm,18.1s,baz=169,slow=34						
	15nm,0.9s						
MSVF	**Nonsavu**	**15.49 344**		P	Pn	15 31 06.0	-0.1
	87nm,1.3s						
MSVF	**Nonsavu**	**15.49 344**‖*e*		P	Pn	15 31 05.6	-0.5
WKZ	**Wanaka**	**16.04 217**		P	Pn	15 31 12.1	-1.0
HHSZ	**Highcliff Hill**	**16.07 212**		P	Pn	15 31 09.6	-3.7
PINNC	**Pines Island,**	**16.77 303**		P	P	15 31 23.5	-1.1
PINNC	**Pines Island,**	**16.77 303**		P	P	15 31 25.9	+1.4
	244nm,1.6s						
SYZ	**Scrubby Hill**	**17.22 213**		P	Pn	15 31 28.0	+0.1
	94nm,1.1s						
OUENC	**Ouen Island, N**	**17.33 302**		P	P	15 31 31.5	+0.8
	57nm,1.5s						
YATNC	**Mamie plateau,**	**17.52 303**		P	P	15 31 33.5	+0.6
	246nm,1.7s						
ONTNC	**Ouen Toro**	**17.67 302**		P	Pn	15 31 32.5	-1.1
DZM	**Mont Dzumac**	**17.83 302**		P	Pn	15 31 34.8	-1.0
DZM				IAmb	IAmb	15 31 38.9	
	comp=Z,413nm,1.8s						
DZM	**Mont Dzumac**	**17.83 302**		P	P	15 31 36.8	+0.4
	comp=Z,122nm,1.3s						
RAR	**Rarotonga**	**19.41 58**		P	P	15 31 47.3	-6.4
RAR	**Rarotonga**	**19.41 58**		P	Pn	15 32 03.6	+8.7
	comp=Z,60nm,1.0s,baz=215,slow=3.6,SNR=5.7						
RAR				LR	LR	15 40 30.4	
	comp=Z,4μm,18.2s,baz=220,slow=39						
RAR	**Rarotonga**	**19.41 58**		P	P	15 31 51.9	-1.8
AFI	**Afiamalu**	**19.42 17**		P	P	15 31 47.9	-6.0
AFI	**Afiamalu**	**19.42 17**		P	P	15 31 47.9	-6.0
AFI				pmax	pmax		
	comp=Z,151nm,1.5s						
KOUNC	**Koumac, New Ca**	**20.34 302**		P	Pn	15 32 04.4	-1.5
	comp=Z,0.8nm,2.0s						
ARMA	**Armidale**	**26.45 267**		P	P	15 33 02.6	-1.8
ARMA				IAmb	IAmb	15 33 22.4	
	comp=Z,208nm,1.8s						
ARMA	**Armidale**	**26.45 267**		P	P	15 33 06.4	+1.9
	comp=Z,0.0nmcomp=Z,57nm,1.6s						
ARMA	**Armidale**	**26.45 267**		P	P	15 33 06.3	+1.9
	comp=Z,57nm,1.6s						
CNB	**Canberra Magne**	**27.61 255**		P	P	15 33 16.8	+2.0
	comp=Z,0.0nmcomp=Z,66nm,2.3s						
CNB	**Canberra Magne**	**27.61 255**		P	P	15 33 15.9	+1.1
	comp=Z,66nm,2.3s						
MILA	**Mila**	**27.69 252**		P	P	15 33 17.4	+1.9
	comp=Z,20nm,2.8s						
CAN	**Canberra**	**27.90 255**		P	P	15 33 15.2	-2.2
CAN				IAmb	IAmb	15 33 21.1	
	comp=Z,129nm,1.6s						
CAN				IAMs_20	IAMs_20	15 43 08.5	
	comp=Z,11μm,18.0s						
CAN	**Canberra**	**27.90 255**		P	P	15 33 20.3	+2.9
	comp=Z,0.0nmcomp=Z,47nm,1.6s						
CAN	**Canberra**	**27.90 255**		P	P	15 33 15.2	-2.2
CAN				pmax	pmax		
	comp=Z,129nm,1.6s						
CAN				pmax	pmax		
	comp=Z,11μm,18.0s						
EIDS	**Eidsvold**	**28.45 277**		P	P	15 33 21.3	-0.9
EIDS				IAmb	IAmb	15 33 24.4	
	comp=Z,90nm,1.4s						
EIDS	**Eidsvold**	**28.45 277**		P	P	15 33 23.3	+1.0
	comp=Z,0.0nmcomp=Z,40nm,1.0s						
EIDS	**Eidsvold**	**28.45 277**		P	P	15 33 23.6	+1.3
	comp=Z,40nm,1.0s						
YNG	**Young**	**28.49 257**		P	P	15 33 24.9	+2.2
	comp=Z,220nm,2.3s						
YNG	**Young**	**28.49 257**		P	P	15 33 24.5	+1.9
	comp=Z,82nm,2.3s						
PPT	**Papeete**	**29.24 66**		LR	LR	15 45 34.5	
	comp=Z,3μm,18.1s,baz=240,slow=36						
TAU	**Tasmania Unive**	**29.48 240**		P	P	15 33 30.7	-0.6
TAU				IAmb	IAmb	15 34 00.9	
	comp=Z,76nm,1.3s						
TAU	**Tasmania Unive**	**29.48 240**		P	P	15 33 30.7	-0.6
TAU				pmax	pmax		
	comp=Z,76nm,1.3s						
MOO	**Moorlands**	**29.51 241**		P	P	15 33 33.1	+1.5
	comp=Z,65nm,1.3s						
TOO	**Toolangi**	**30.60 250**		P	P	15 33 40.8	-0.5
TOO	**Toolangi**	**30.60 250**		P	P	15 33 42.9	+1.6
	comp=Z,14nm,1.8s						
TOO	**Toolangi**	**30.60 250**		P	P	15 33 40.8	-0.5
TOO				pmax	pmax		
	comp=Z,26nm,1.5s						
CMSA	**Cobar Meteorol**	**31.19 262**		P	P	15 33 47.0	+0.5
	comp=Z,102nm,1.5s						
CMSA	**Cobar Meteorol**	**31.19 262**		P	P	15 33 47.7	+1.2
	comp=Z,102nm,1.5s						
HNR	**Honiara**	**31.24 313**		P	P	15 33 45.0	-2.0
HNR				IAmb	IAmb	15 34 18.8	
	comp=Z,130nm,1.1s						
HNR	**Honiara**	**31.24 313**		LR	LR	15 44 58.9	
	comp=Z,4μm,18.3s,baz=176,slow=34						
HNR	**Honiara**	**31.24 313**		P	P	15 33 45.0	-2.0
HNR				pmax	pmax		
	comp=Z,130nm,1.1s						
HNR				pmax	pmax		
	comp=Z,4μm,18.0s						
TATA	**Tatamba Isabel**	**32.14 314**		P	P	15 33 55.7	+0.8
	comp=Z,47nm,1.6s						
ARPS	**Mount Arapiles**	**33.56 252**		P	P	15 34 09.0	+1.7
	comp=Z,64nm,1.0s						
ARPS	**Mount Arapiles**	**33.56 252**		P	P	15 34 09.3	+2.0
	comp=Z,64nm,1.0s						
QLP	**Quilpie**	**33.77 270**		P	P	15 34 09.9	+0.7
	comp=Z,180nm,1.7s						
QLP	**Quilpie**	**33.77 270**		P	P	15 34 10.2	+1.0
	comp=Z,180nm,1.7s						
MGBR	**Mount Gambier**	**34.49 250**		P	P	15 34 13.7	-1.6
STKA	**Stephens Creek**	**34.53 260**		P	P	15 34 15.2	-0.5
STKA	**Stephens Creek**	**34.53 260**		P	P	15 34 16.0	+0.3
	comp=Z,199nm,1.9s						
STKA	**Stephens Creek**	**34.53 260**		P	P	15 34 15.4	-0.3
	comp=Z,21nm,1.2s,baz=108,slow=9.2,SNR=17						
STKA				LR	LR	15 47 19.8	
	comp=Z,7μm,18.3s,baz=94,slow=35						
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**34.53 260**		P	P	15 34 16.7	+1.0
	comp=Z,9.8nm,1.9s						
STKA	**Stephens Creek**	**34.53 260***c*	*i*P		P	15 34 16.6	+0.9
TV1H	**Townsville Har**	**34.70 284**		P	P	15 34 18.5	+1.3
	comp=Z,25nm,0.7s						
INKA	**Innaminka**	**36.34 267**		P	P	15 34 32.1	+0.8
	comp=Z,324nm,1.3s						
HTT	**Hallett**	**36.41 257**		P	P	15 34 32.4	+0.4
	comp=Z,26nm,1.9s						
HTT	**Hallett**	**36.41 257**		P	P	15 34 32.7	+0.7
	comp=Z,26nm,1.9s						
MTSU	**Mount Surprise**	**37.29 283**		P	P	15 34 39.9	+0.4
	comp=Z,27nm,1.1s						
MTSU	**Mount Surprise**	**37.29 283**		P	P	15 34 40.3	+0.8
	comp=Z,27nm,1.1s						
LCRK	**Leigh Creek**	**37.68 261**		P	P	15 34 43.5	+0.8
	comp=Z,144nm,0.8s						
BBOO	**Buckleboo**	**38.89 257**		P	P	15 34 52.4	-0.5
BBOO	**Buckleboo**	**38.89 257**		P	P	15 34 52.6	-0.3
BBOO	**Buckleboo**	**38.89 257**		P	P	15 34 52.8	-0.1
QIS	**Mount Isa**	**40.05 277**		P	P	15 35 02.0	-0.7
	comp=Z,0.0nmcomp=Z,67nm,1.4s						
QIS	**Mount Isa**	**40.05 277**		P	P	15 35 02.6	-0.1
	comp=Z,67nm,1.4s						
PMG	**Port Moresby**	**40.10 297**		LR	LR	15 49 43.4	
	comp=Z,3μm,19.4s,baz=121,slow=34						
RABL	**Rabaul**	**40.20 308**		P	P	15 35 02.7	-1.3
RABL				IAmb	IAmb	15 35 10.6	
	comp=Z,68nm,0.6s						
COEN	**Coen**	**40.45 288**		P	P	15 35 06.2	+0.3
COEN				IAmb	IAmb	15 35 21.0	
	comp=Z,338nm,2.0s						
COEN	**Coen**	**40.45 288**		P	P	15 35 05.8	-0.1
	comp=Z,57nm,1.3s						
COEN	**Coen**	**40.45 288**		P	P	15 35 07.0	+1.0
	comp=Z,57nm,1.3s						
OOD	**Oodnadatta**	**40.57 264**		P	P	15 35 07.6	+0.7
	comp=Z,178nm,1.5s						
TAOE	**Nuku Hiva Isla**	**41.81 64**		P	P	15 35 14.5	-2.8
	comp=Z,87nm,2.4s						
AS19	**Alice Springs**	**43.48 269**		P	P	15 35 29.0	-1.8
AS06	**Alice Springs**	**43.50 269**		P	P	15 35 29.4	-1.5
AS01	**Alice Springs**	**43.51 269**		P	P	15 35 30.9	-0.1
	comp=Z,65nm,1.1s						
AS31	**Alice Springs**	**43.55 269**		P	P	15 35 30.1	-1.2
AS31	**Alice Springs**	**43.55 269**		P	P	15 35 29.8	-1.5
ASAR	**Alice Springs**	**43.55 269**		P	P	15 35 30.5	-0.8
	comp=Z,7.8nm,0.4s,baz=114,slow=7.3,SNR=58						
ASAR				LR	LR	15 53 09.3	
	comp=Z,3μm,18.7s,baz=114,slow=36						
	comp=Z,7.8nm,0.4s						
WR0	**Warramunga Arr**	**44.57 274**		P	P	15 35 38.9	-0.6
WR0				IAmb	IAmb	15 35 53.1	
	comp=Z,109nm,1.2s						
WB2	**Warramunga Arr**	**44.73 274**		P	P	15 35 40.0	-0.9
WRAB	**Tennant Creek**	**44.74 274**		P	P	15 35 39.5	-1.4
WRAB	**Tennant Creek**	**44.74 274***c*	*i*P		P	15 35 39.7	-1.2
WRA	**Warramunga Arr**	**44.74 274**		P	P	15 35 39.5	-1.4
WRA	**Warramunga Arr**	**44.74 274**		P	P	15 35 39.9	-1.0
	comp=Z,24nm,0.5s,baz=113,slow=8.1,SNR=115						
WRA				LR	LR	15 53 19.5	
	comp=Z,4μm,18.1s,baz=113,slow=35						
	comp=Z,24nm,0.5s						
WRA	**Warramunga Arr**	**44.74 274**		P	P	15 35 39.5	-1.4
WRA				pmax	pmax		
	comp=Z,15nm,1.3s						
WB0	**Warramunga Arr**	**44.78 274**		P	P	15 35 40.5	-0.7
MANU	**Manus Island**	**45.01 305**		P	P	15 35 41.6	-1.4
MANU				IAmb	IAmb	15 35 57.4	
	comp=Z,116nm,1.4s						
SBA	**Scott Base**	**45.76 185**		P	P	15 35 44.9	-3.3
SBA				IAmb	IAmb	15 36 40.7	
	comp=Z,145nm,1.6s						
SBA	**Scott Base**	**45.76 185**		P	P	15 35 44.9	-3.3
SBA				pmax	pmax		
	comp=Z,145nm,1.6s						
VNDA	**Vanda**	**45.84 186**		P	P	15 35 46.4	-2.4
VNDA				IAmb	IAmb	15 37 12.3	
	comp=Z,36nm,1.4s						
VNDA	**Vanda**	**45.84 186**		P	P	15 35 46.4	-2.4
VNDA				pmax	pmax		
	comp=Z,36nm,1.5s						
FORT	**Forrest**	**45.99 257**		P	P	15 35 49.6	-1.0
FORT	**Forrest**	**45.99 257**		P	P	15 35 49.9	-0.8
FORT	**Forrest**	**45.99 257**		P	P	15 35 50.6	-0.1
	comp=Z,112nm,1.1s						
WRKA	**Warakurna**	**47.74 265**		P	P	15 36 03.2	-1.3
JAY	**Jayapura**	**49.45 299**		LR	LR	15 56 41.5	
	comp=Z,2μm,18.2s,baz=142,slow=36						
JAY	**Jayapura**	**49.45 299**		P	P	15 36 19.2	+1.6
	comp=Z,1μmcomp=Z,64nm,1.7s						
GENI	**Genyem**	**49.79 298**		P	P	15 36 21.2	+1.0
KDU	**Kakadu**	**49.86 282**		P	P	15 36 19.9	-0.8
	comp=Z,71nm,1.8s						
KDU	**Kakadu**	**49.86 282**		P	P	15 36 20.1	-0.7
	comp=Z,71nm,1.8s						
KMBL	**Kambalda**	**50.86 254**		P	P	15 36

comp=Z,3μm,18.0s,baz=117,slow=37
KAPI Kappang 64.55 281⇑ *e*P **P 15 38 04.4 -0.2**
KAPI pmax pmax
comp=Z,53nm,1.3s
PCI Palu 66.80 285 P **P 15 38 21.5 +2.3**
comp=Z,2μmcomp=Z,26nm,1.1s
TOLI2 Tolitoli 67.20 287 P **P 15 38 18.6 -3.1**
TOLI2 IAmb IAmb 15 38 22.7
comp=Z,63nm,1.8s
TOLI2 Tolitoli 67.20 287 P **P 15 38 21.0 -0.7**
comp=Z,15nm,1.7s
JAGI Jajag, Banyuwa 67.36 274 P **P 15 38 20.2 -2.5**
JCJ Chichijima 70.84 322 LR LR 16 04 57.0
comp=Z,684nm,20.9s,baz=170,slow=32
LEM Lembang 73.72 272 LR LR 16 11 26.3
comp=Z,2μm,21.2s,baz=122,slow=36
STKI Sintang 74.22 280 P **P 15 39 06.4 +1.9**
ELIB Princess Elisa 74.60 187 *d*P P 15 39 12.3 +6.4
comp=Z,17nm,1.2s
SBUM Sibu 74.94 283 P **P 15 39 06.0 -2.6**
SYO Syowa Base 74.97 193⇑ *e*PcP **PcP 15 39 18.5 -3.2**
SYO Syowa Base 74.97 193⇑ *ep*PKiKP **PKiKP 15 44 56.8 -1.4**
SNAA Sanae 75.82 178 P **P 15 39 09.4 -3.5**
SNAA Sanae 75.82 178 P P 15 39 20.5 +7.6
comp=Z,4.0nm,0.7s,baz=179,slow=14,SNR=9.7
comp=Z,4.0nm,0.7s
SNAA Sanae 75.82 178 P **P 15 39 09.4 -3.5**
SNAA pmax pmax
comp=Z,122nm,1.3s
SNAA pmax pmax
comp=Z,3μm,18.0s
KSM Kuching 75.97 281 P **P 15 39 12.2 -2.5**
KSM IAmb IAmb 15 39 17.6
comp=Z,34nm,1.6s
JHJ Hachijo jima 2 76.93 324 LR LR 16 06 22.5
comp=Z,844nm,20.4s,baz=124,slow=31
MDSI Maura Dua 77.86 272 P **P 15 39 24.8 -0.5**
comp=Z,18nm,1.4s
PMBI Palembang 78.19 274 IAms_20 IAms_20 16 15 46.1
comp=Z,2μm,19.0s
H03S2 Juan Fernandez 78.76 123 T T 17 08 21.7
baz=236,slow=74,SNR=8.0
H03S1 Juan Fernandez 78.77 123 T T 17 08 29.7
baz=236,slow=74,SNR=9.1
H03S3 Juan Fernandez 78.77 123 T T 17 08 19.1
baz=236,slow=74,SNR=10
MNAI Manna 78.95 272 IAms_20 IAms_20 16 15 42.3
comp=Z,2μm,19.0s
H03N3 Juan Fernandez 78.96 123 T T 17 08 49.3
baz=240,slow=72,SNR=14
H03N2 Juan Fernandez 78.96 123 T T 17 08 35.5
baz=240,slow=72,SNR=9.9
H03N1 Juan Fernandez 78.97 123 T T 17 08 50.1
baz=240,slow=72,SNR=13
MJAR Matsushiro Arr 80.45 325 P **P 15 39 39.7 +0.8**
comp=Z,1.3nm,0.4s,baz=300,slow=4.7,SNR=5.4
MJAR LR LR 16 11 02.3
comp=Z,704nm,19.6s,baz=152,slow=33
comp=Z,1.3nm,0.4s
PLCA Paso Flores 80.55 132 LR LR 16 10 19.7
comp=Z,1μm,18.5s,baz=253,slow=32
JKA Kamikawa-asahi 84.74 332 P **P 15 39 58.6 -2.4**
JKA IAmb IAmb 15 40 05.8
comp=Z,74nm,1.8s
ASAJ Asahikawa 84.74 332 P **P 15 39 58.6 -2.4**
ASAJ pmax pmax
comp=Z,74nm,1.8s
SNCC San Nicolas Is 85.29 45 IAms_20 IAms_20 16 15 54.6
comp=Z,3μm,18.0s
LPIG La Paz 85.33 58 LR LR 16 11 03.6
comp=Z,1μm,19.0s,baz=196,slow=30
KULM Kulim 86.09 279 IAms_20 IAms_20 16 21 49.6
comp=Z,2μm,19.0s
RPSI Rantau Prapat 86.13 276 IAms_20 IAms_20 16 16 36.6
comp=Z,3μm,22.0s
PSI Prapat 86.19 276 LR LR 16 20 58.7
comp=Z,1μm,19.1s,baz=136,slow=38
TJX Tijuana 86.29 47 IAms_20 IAms_20 16 14 40.7
comp=Z,3μm,18.0s
VTX Valle De La Tr 86.34 49 IAms_20 IAms_20 16 15 52.7
comp=Z,2μm,18.0s
CBX Cerro Bola 86.40 48 IAms_20 IAms_20 16 15 13.6
comp=Z,2μm,18.0s
KSRS Korea Array 86.45 319 P **P 15 40 11.8 +2.1**
comp=Z,1.4nm,0.7s,baz=140,slow=5.5,SNR=5.6
KSRS LR LR 16 15 57.6
comp=Z,479nm,19.5s,baz=150,slow=34
comp=Z,1.4nm,0.7s
KSRS Korea Array 86.45 319 *e*P **P 15 40 13.3 +3.6**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
QIZ Qiongzhong 86.45 295 P **P 15 40 09.3 -0.8**
QIZ SS SS 15 56 30.2 +3.9
QIZ pmax pmax
comp=Z,840nm,10.3s
QIZ LR LR
comp=Z,510nm,16.5s
QIZ LR LR
comp=Z,700nm,22.8s
QIZ LR LR
comp=Z,740nm,21.2s
GSI Gunungsitoli 86.52 274 P **P 15 40 06.4 -4.3**
GSI IAmb IAmb 15 40 21.3
comp=Z,26nm,0.7s
GSI IAms_20 IAms_20 16 20 00.7
comp=Z,3μm,21.0s
GSI Gunungsitoli 86.52 274 P **P 15 40 11.7 +1.1**
comp=Z,37nm,0.8s
TKX Tecate 86.61 48 IAms_20 IAms_20 16 14 37.1
comp=Z,3μm,19.0s
PMPB Monarch Peak 86.63 43 IAms_20 IAms_20 16 13 16.5
comp=Z,3μm,20.0s
ESJX Sierra Juarez 86.65 48 IAms_20 IAms_20 16 11 33.9
comp=Z,3μm,20.0s
SFX San Felipe 86.70 50 IAms_20 IAms_20 16 11 16.1
comp=Z,2μm,20.0s
BBGB Big Mountain B 86.75 42 IAms_20 IAms_20 16 13 01.8
comp=Z,2μm,20.0s
ELS Elsinore Mount 86.84 46 IAms_20 IAms_20 16 15 48.4
comp=Z,2μm,18.0s
YSS Yuzhno-Sakhali 87.06 334 *e*P **P 15 40 15.5 +3.1**
YSS *e* 15 50 38.7
YSS *e*S **S 15 50 46.2 -3.8**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,300nm,6.6s
YSS smax smax
comp=N,200nm,5.5s
YSS smax smax
comp=E,200nm,5.2s
CPBX Cerro Prieto 87.33 48 IAms_20 IAms_20 16 13 36.9
comp=Z,2μm,18.0s
CCAC Calif City Air 87.51 45 IAms_20 IAms_20 16 18 16.4
comp=Z,2μm,18.0s
ISA Isabella, Lake 87.59 44 IAms_20 IAms_20 16 17 29.6
comp=Z,2μm,18.0s
PET Petropavlovsk 87.91 346 *e*P P 15 40 23.7 +7.4
PET *e*S S 15 51 07.1 +9.2
PET pmax pmax
comp=Z,40nm,1.5s
PET pmax pmax
comp=Z,200nm,10.8s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 87.91 346 P P 15 40 22.4 +6.1
HSIG 87.97 53 IAms_20 IAms_20 16 12 25.2
comp=Z,2μm,18.0s
GLA Glamis 88.05 48 IAms_20 IAms_20 16 17 33.0
comp=Z,2μm,18.0s
NJ2 Nanjing 88.15 310 *e*P **P 15 40 17.1 -0.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 LR LR
comp=Z,730nm,15.6s
NJ2 LR LR
comp=Z,490nm,19.4s
NJ2 LR LR
comp=Z,1μm,19.9s
PEA0B Petropavlovsk- 88.19 345⇓ *e*P **P 15 40 22.0 +4.3**
PETK Petropavlovsk- 88.19 345 P **P 15 40 21.1 +3.4**
comp=Z,6.0nm,0.6s,baz=121,slow=7.8,SNR=18
PETK LR LR 16 14 03.5
comp=Z,804nm,20.4s,baz=144,slow=32
comp=Z,6.0nm,0.6s
GSC Goldstone, Bar 88.34 45 IAms_20 IAms_20 16 18 51.2
comp=Z,2μm,18.0s

KRPM Rodgers 88.46 37 IAms_20 IAms_20 16 16 02.9
comp=Z,3μm,20.0s
MSHR Mys Shultsa 88.56 325⇓ *e*P **P 15 40 21.5 +1.8**
MSHR pmax pmax
comp=Z,24nm,1.5s
BLYC Blythe 88.70 48 IAms_20 IAms_20 16 16 20.3
comp=Z,3μm,18.0s
WAKR Walker 89.01 42 IAms_20 IAms_20 16 14 25.0
comp=Z,3μm,21.0s
DSP Deep Springs 89.06 43 IAms_20 IAms_20 16 14 19.6
comp=Z,2μm,20.0s
KBO Bosley Butte 89.13 36 IAms_20 IAms_20 16 16 49.9
comp=Z,3μm,20.0s
LHMI Lhok Sumawe 89.15 277 IAms_20 IAms_20 16 22 26.7
comp=Z,2μm,19.0s
LHV Little Huntoon 89.36 42 IAms_20 IAms_20 16 14 25.8
comp=Z,3μm,22.0s
USA0B Ussuriysk Arra 89.38 326⇑ *e*P **P 15 40 25.4 +1.9**
USRK Ussuriysk Ar. 89.38 326 P P 15 40 19.0 -4.5
USRK Ussuriysk Ar. 89.38 326 P **P 15 40 25.2 +1.7**
comp=Z,5.8nm,0.9s,baz=125,slow=5.6,SNR=9.5
comp=Z,5.8nm,0.9s
L02F Cave Junction 89.39 37 IAms_20 IAms_20 16 16 41.7
comp=Z,3μm,20.0s
YBH Yreka Blue Hor 89.55 38 IAms_20 IAms_20 16 16 02.7
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 89.55 38 P P 15 40 31.1 +6.6
comp=Z,1.8nm,0.9s,baz=151,slow=5.7,SNR=4.0
YBH LR LR 16 16 03.7
comp=Z,1μm,18.5s,baz=190,slow=32
comp=Z,1.8nm,0.9s
NVAR Mina Array Bea 89.60 42 P P 15 40 31.5 +6.5
comp=Z,5.4nm,1.2s,baz=223,slow=7.7,SNR=6.7
NVAR LR LR 16 16 14.2
comp=Z,2μm,18.8s,baz=186,slow=32
comp=Z,5.4nm,1.2s
RYN Ryan 89.61 42 IAms_20 IAms_20 16 14 36.5
comp=Z,2μm,21.0s
K02D Willamette Mer 89.77 36 IAms_20 IAms_20 16 16 42.0
comp=Z,2μm,20.0s
J01E Myrtle Point 89.97 36 IAms_20 IAms_20 16 16 39.4
comp=Z,2μm,19.0s
W13A Hualapai Mount 89.98 47 IAms_20 IAms_20 16 16 22.2
comp=Z,2μm,18.0s
DBO Dobson Butte 90.29 36 IAms_20 IAms_20 16 17 08.5
comp=Z,2μm,20.0s
TYV Tymovskoe 90.39 336 *e*P **P 15 40 32.4 +4.4**
TYV pmax pmax
comp=Z,400nm,4.7s
TYV pmax pmax
comp=Z,22nm,1.1s
S11A Rachel 90.54 44 IAms_20 IAms_20 16 18 41.8
comp=Z,2μm,18.0s
319A Douglas 90.57 53 IAms_20 IAms_20 16 11 29.2
comp=Z,2μm,20.0s
I03D Drain, OR 90.66 36 IAms_20 IAms_20 16 17 56.4
comp=Z,2μm,21.0s
K04D Chiloquin, OR 90.68 38 IAms_20 IAms_20 16 16 58.8
comp=Z,2μm,21.0s
I02E Swisshome, OR 90.71 35 IAms_20 IAms_20 16 21 52.0
comp=Z,2μm,18.0s
MDJ Mudanjiang 90.83 325 P **P 15 40 33.2 +2.9**
MDJ pmax pmax
comp=Z,13nm,1.3s
MDJ pmax pmax
comp=Z,410nm,11.7s
MDJ LR LR
comp=Z,380nm,19.2s
MDJ LR LR
comp=Z,760nm,22.0s
MDJ LR LR
comp=Z,1μm,17.9s
J04A Umpqua Nationa 90.95 37 IAms_20 IAms_20 16 18 26.8
comp=Z,2μm,20.0s
DL2 Dalian 91.01 317 P **P 15 40 28.9 -2.3**
DL2 S **S 15 51 24.6 -2.8**
DL2 pmax pmax
comp=Z,28nm,1.1s
DL2 pmax pmax
comp=Z,410nm,4.2s
DL2 LR LR
comp=Z,830nm,16.1s
DL2 LR LR
comp=Z,740nm,16.4s
DL2 LR LR
comp=Z,1μm,19.2s
X16A Lo Mia Camp, P 91.08 49 IAms_20 IAms_20 16 15 17.1
comp=Z,2μm,18.0s
I04A Tendick Farm, 91.19 36 IAms_20 IAms_20 16 20 23.5
comp=Z,2μm,19.0s
BUCK Buck Mountain 91.20 36 IAms_20 IAms_20 16 18 24.8
comp=Z,2μm,18.0s
H04D Lebanon 91.56 36 IAms_20 IAms_20 16 18 53.3
comp=Z,2μm,19.0s
HEBO Mount Hebo 91.57 35 IAms_20 IAms_20 16 19 35.8
comp=Z,2μm,20.0s
G03D McMinnville, O 91.80 35 IAms_20 IAms_20 16 22 26.0
comp=Z,2μm,19.0s
U15A North Rim 91.83 47 IAms_20 IAms_20 16 15 20.3
comp=Z,2μm,19.0s
KNB Kanab 91.88 46 IAms_20 IAms_20 16 15 52.9
comp=Z,2μm,20.0s
PINE Pine Mountain 91.93 37 IAms_20 IAms_20 16 18 25.9
comp=Z,2μm,19.0s
H04A Detroit Lake 91.95 36 IAms_20 IAms_20 16 19 43.5
comp=Z,3μm,20.0s
I05D Terrebonne, OR 92.12 37 IAms_20 IAms_20 16 24 07.0
comp=Z,2μm,18.0s
NNA Nana 92.29 106 LR LR 16 15 54.8
comp=Z,1μm,18.2s,baz=228,slow=31
CN2 Changchun 92.31 322 *e*P **P 15 40 40.1 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
RADR Rader Ridge 92.44 34 IAms_20 IAms_20 16 20 22.9
comp=Z,2μm,19.0s
PKCU Pink Cliffs 92.47 46 IAms_20 IAms_20 16 14 36.4
comp=Z,2μm,22.0s
F04D Rainier, OR 92.56 34 IAms_20 IAms_20 16 20 39.1
comp=Z,2μm,21.0s
GRNR Gornyy 92.59 333⇑ *i*P **P 15 40 41.6 +3.3**
GRNR pmax pmax
comp=Z,8.0nm,0.9s
BNX BinXian 92.71 325 ⇑P **P 15 40 41.4 +2.5**
BNX pmax pmax
comp=Z,8.0nm,1.4s
BNX pmax pmax
comp=Z,260nm,8.0s
BNX LR LR
comp=Z,460nm,19.4s
BNX LR LR
comp=Z,620nm,16.8s
BNX LR LR
comp=Z,690nm,16.9s
I07A Izee 92.87 38 IAms_20 IAms_20 16 18 50.7
comp=Z,2μm,20.0s
MTPU Mount Pierson 92.93 46 IAms_20 IAms_20 16 15 55.7
comp=Z,3μm,20.0s
WISH Wishkah 92.96 33 IAms_20 IAms_20 16 21 26.8
comp=Z,2μm,19.0s
CMIG Matias Romero 92.98 72 LR LR 16 16 06.8
comp=Z,570nm,18.4s,baz=178,slow=31
G06A Carlson Farm, 93.11 36 IAms_20 IAms_20 16 20 11.3
comp=Z,2μm,22.0s
NLWA Neilton Lookou 93.12 33 IAms_20 IAms_20 16 23 27.0
comp=Z,2μm,18.0s
GYA Guiyang 93.15 299 ⇑P **P 15 40 40.0 -1.7**
GYA S **S 15 51 42.0 -5.6**
GYA pmax pmax
comp=Z,7.0nm,0.7s
GYA pmax pmax
comp=Z,290nm,8.4s
GYA LR LR
comp=Z,280nm,3.8s
GYA LR LR
comp=Z,150nm,5.6s
GYA LR LR
comp=Z,170nm,5.8s
TXAR Lajitas Array 93.21 57 P P 15 40 48.2 +6.4
comp=Z,0.7nm,0.8s,baz=237,slow=4.2,SNR=4.4
comp=Z,0.7nm,0.8s
KLR Kul'dur 93.30 329 LR LR 16 20 09.1
comp=Z,843nm,19.1s,baz=144,slow=34

KLR Kul'dur 93.30 329⇓ *i*P **P 15 40 45.0 +3.4**
KLR pmax pmax
comp=Z,13nm,1.6s
LON Longmire 93.62 35 IAms_20 IAms_20 16 23 16.0
comp=Z,2μm,19.0s
HOLB Holberg 93.71 29 IAms_20 IAms_20 16 23 58.5
comp=Z,2μm,21.0s
GNW Green Mountain 93.73 34 IAms_20 IAms_20 16 22 14.1
comp=Z,2μm,20.0s
HG4B Hotspring 93.80 26 IAms_20 IAms_20 16 24 44.5
comp=Z,2μm,19.0s
D05A Enumclaw 93.85 34 IAms_20 IAms_20 16 21 18.1
comp=Z,2μm,20.0s
LYN LuoYang 93.87 309 *e*P **P 15 40 47.8 +3.2**
LYN SS SS 15 58 18.6 +5.3
LYN pmax pmax
comp=Z,20nm,0.5s
LYN pmax pmax
comp=Z,460nm,4.8s
LYN LR LR
comp=Z,680nm,17.1s
LYN LR LR
comp=Z,800nm,15.9s
LYN LR LR
comp=Z,1μm,24.9s
F07A Phinny Hill Vi 93.93 36 IAms_20 IAms_20 16 19 15.9
comp=Z,2μm,21.0s
G08A Pilot Rock 94.00 37 IAms_20 IAms_20 16 21 27.5
comp=Z,2μm,20.0s
CLRS Cowichan Lake 94.05 32 IAms_20 IAms_20 16 20 59.9
comp=Z,2μm,20.0s
DIB Dawson Inlet, 94.06 25 IAms_20 IAms_20 16 26 46.6
comp=Z,2μm,18.0s
HNS HongShan 94.18 312 ⇓P **P 15 40 49.0 +3.1**
HNS SKS **SKSac 15 51 22.0 +2.4**
HNS LR LR
comp=Z,360nm,19.1s
HNS LR LR
comp=Z,810nm,19.1s
HNS LR LR
comp=Z,580nm,20.7s
MOBC Moresby Island 94.20 25 IAms_20 IAms_20 16 23 58.1
comp=Z,2μm,18.0s
PGC Sidney 94.23 33 IAms_20 IAms_20 16 24 43.6
comp=Z,2μm,20.0s
CMAR Chiang Mai Arr 94.65 289 P **P 15 40 49.4 +0.8**
comp=Z,0.3nm,0.5s,baz=138,slow=3.5,SNR=4.8
comp=Z,0.3nm,0.5s
E08A Dider Farm, El 94.78 36 IAms_20 IAms_20 16 20 55.4
comp=Z,2μm,20.0s
BBB Bella Bella 94.90 28 IAms_20 IAms_20 16 24 19.3
comp=Z,2μm,19.0s
BSUT Blindstream Ca 95.37 45 IAms_20 IAms_20 16 16 53.4
comp=Z,2μm,20.0s
O22K Cooper Landing 95.61 13 IAms_20 IAms_20 16 29 53.2
comp=Z,2μm,19.0s
MA2 Magadan 95.67 344 P **P 15 40 48.6 -3.6**
MA2 IAmb IAmb 15 40 56.2
comp=Z,23nm,1.6s
MA2 Magadan 95.67 344⇓ *i*P **P 15 40 54.9 +2.7**
MA2 pmax pmax
comp=Z,14nm,1.6s
MA2 Magadan 95.67 344 P **P 15 40 55.1 +2.9**
comp=Z,6.4nm,1.7s
XAN Xi'an 95.93 307 *e*P P 15 40 46.7 -7.4
XAN Xi'an 95.93 307 S **S 15 52 04.4 -6.9**
XAN Xi'an 95.93 307 SS SS 15 58 37.7 -5.0
XAN LR LR
comp=N,1μm,17.5s
XAN LR LR
comp=E,960nm,19.2s
XAN LR LR
comp=Z,1μm,19.2s
B08A Colville Reser 95.94 35 IAms_20 IAms_20 16 23 13.4
comp=Z,2μm,19.0s
MTO3 Montecristo 96.02 77 P P 15 40 46.8 -8.3
RAGM Ragged Mountai 96.59 16 IAms_20 IAms_20 16 21 50.3
comp=Z,2μm,19.0s
JCT Junction City 96.61 58 IAms_20 IAms_20 16 21 31.9
comp=Z,1μm,18.0s
HMT Hamilton 96.64 16 IAms_20 IAms_20 16 21 58.6
comp=Z,2μm,20.0s
LPAZ La Paz 96.72 114 LR LR 16 15 50.3
comp=Z,493nm,20.6s,baz=231,slow=30
BERG Berg Lake 96.83 16 IAms_20 IAms_20 16 22 04.4
comp=Z,1μm,19.0s
PZH PanZhiHua 96.83 297 P **P 15 40 57.6 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,170nm,7.1s
SNH Sunshine Point 96.84 17 IAms_20 IAms_20 16 28 41.7
comp=Z,2μm,20.0s
U35K Hyder 97.08 25 IAms_20 IAms_20 16 29 36.7
comp=Z,2μm,19.0s
MOOW Moose Ponds 97.39 42 IAms_20 IAms_20 16 19 02.4
comp=Z,2μm,20.0s
R32K Eaglecrest 97.50 21 IAms_20 IAms_20 16 31 39.1
comp=Z,1μm,19.0s
JTS Las Juntas de 97.52 83 LR LR 16 17 30.5
comp=Z,715nm,19.5s,baz=33,slow=30
CD2 Chengdu 97.76 302 *e*P **P 15 41 01.0 -1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YHB Horse Butte 97.77 41 IAms_20 IAms_20 16 19 44.5
comp=Z,2μm,20.0s
YMR Madison River 97.84 41 IAms_20 IAms_20 16 21 06.5
comp=Z,2μm,18.0s
YNM Yellowstone No 98.03 41 IAms_20 IAms_20 16 19 49.3
comp=Z,2μm,20.0s
CPUP Villa Florida 98.14 128 LR LR 16 20 41.5
comp=Z,498nm,18.2s,baz=237,slow=32
HHC Hu-ho-hao-te 98.22 314 *e*P **P 15 41 02.9 -1.5**
HHC SKS **SKSac 15 51 37.4 -3.5**
HHC S **ScS 15 52 32.1 +1.2**
HHC SS **SS 15 59 17.4 +2.4**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.2s
HHC LR LR
comp=Z,380nm,15.7s
HHC LR LR
comp=Z,500nm,20.2s
HHC LR LR
comp=Z,750nm,24.0s
TRF Thorofare Moun 98.25 12 IAms_20 IAms_20 16 20 01.2
comp=Z,2μm,20.0s
S34M Telegraph Cree 98.28 23 IAms_20 IAms_20 16 27 51.6
comp=Z,1μm,19.0s
SEY Seymchan 98.36 347⇓ *i*P Pdif 15 41 07.8 +3.5
SEY pmax pmax
comp=Z,14nm,1.8s
TNCH TengChong 98.49 294 *e*P **P 15 41 03.7 -2.4**
TNCH pP Pdif 15 41 06.6 +0.5
TNCH SKS **SKSac 15 51 40.7 -2.5**
TNCH S **S 15 52 31.4 -2.6**
TNCH SS **SS 15 59 23.5 +4.0**
TNCH pmax pmax
comp=Z,12nm,0.6s
TNCH pmax pmax
comp=Z,130nm,5.0s
TNCH LR LR
comp=Z,470nm,14.1s
TNCH LR LR
comp=Z,310nm,17.8s
TNCH LR LR
comp=Z,640nm,20.5s
BTO Baotou 99.02 313 *e*P 15 41 06.4
BTO PP **PP 15 45 10.3 -0.4**
BTO SKS **SKSac 15 51 46.2 +1.2**
BTO pmax pmax
comp=Z,9.0nm,0.5s
BTO pmax pmax
comp=Z,500nm,5.3s
BTO LR LR
comp=Z,1μm,13.8s
BTO LR LR
comp=Z,1μm,15.4s
BTO LR LR
comp=Z,950nm,15.3s
RLMT Red Lodge 99.07 42 IAms_20 IAms_20 16 20 28.0
comp=Z,2μm,19.0s
O30N Mendenhall 99.09 19 IAms_20 IAms_20 16 33 35.6
comp=Z,2μm,20.0s
N30M Aishikik Lake 99.40 18 IAms_20 IAms_20 16 33 33.4
comp=Z,2μm,19.0s

NEA2	**Nenana**	99.52	12	IAMs_20	IAMs_20	16 23 20.7	
	comp=Z,1μm,20.0s						
WMOK	**Wichita Mounta**	99.68	55	IAMs_20	IAMs_20	16 15 00.5	
	comp=Z,1μm,21.0s						
N31M	**Braeburn, Yuko**	99.77	19	IAMs_20	IAMs_20	16 33 29.6	
	comp=Z,1μm,19.0s						
ILAR	**Eielson Array**	100.08	13	P	**Pdif**	**15 41 18.3**	**+6.4**
	comp=Z,0.2nm,0.6s,baz=233,slow=5.3,SNR=5.1						
ILAR				PP	**PP**	**15 45 19.6**	**+1.6**
	comp=Z,1.5nm,1.1s,baz=205,slow=8.2,SNR=5.0						
	comp=Z,0.2nm,0.6s						
J25K	**Salcha River,**	100.22	13	IAMs_20	IAMs_20	16 35 55.1	
	comp=Z,1μm,20.0s						
K27K	**Chicken**	100.39	15	IAMs_20	IAMs_20	16 36 00.1	
	comp=Z,2μm,18.0s						
OK038	**West end E0370**	100.65	54	IAMs_20	IAMs_20	16 30 16.8	
	comp=Z,1μm,18.0s						
WTLY	**Watson Lake, Y**	100.75	22	IAMs_20	IAMs_20	16 31 18.2	
	comp=Z,1μm,19.0s						
H24K	**Noodor Dome**	100.86	12	IAMs_20	IAMs_20	16 32 50.3	
	comp=Z,2μm,21.0s						
OGNE	**Ogallala**	100.95	48	IAMs_20	IAMs_20	16 25 45.4	
	comp=Z,2μm,18.0s						
OK029	**Liberty Lake**	101.16	55	IAMs_20	IAMs_20	16 25 08.8	
	comp=Z,1μm,18.0s						
OK032	**Salt Plains WL**	101.19	53	IAMs_20	IAMs_20	16 30 25.0	
	comp=Z,2μm,18.0s						
BCIP	**Isla Barro Col**	101.22	86	IAMs_20	IAMs_20	16 23 09.2	
	comp=Z,1μm,18.0s						
CBKS	**Cedar Bluff**	101.25	51	IAMs_20	IAMs_20	16 22 21.1	
	comp=Z,1μm,19.0s						
Z38A	**Mt. Pleasant**	101.56	58	IAMs_20	IAMs_20	16 22 53.8	
	comp=Z,2μm,19.0s						
J29N	**Klondike Camp**	101.63	16	IAMs_20	IAMs_20	16 35 02.8	
	comp=Z,1μm,20.0s						
G24K	**Hadweenzic Riv**	101.72	12	IAMs_20	IAMs_20	16 34 04.9	
	comp=Z,1μm,20.0s						
OK051	**E0350 and S346**	101.96	54	IAMs_20	IAMs_20	16 29 28.0	
	comp=Z,2μm,20.0s						
I28M	**Miner Creek**	102.08	15	IAMs_20	IAMs_20	16 36 41.0	
	comp=Z,2μm,19.0s						
J30M	**Hart River**	102.18	17	IAMs_20	IAMs_20	16 34 52.9	
	comp=Z,1μm,19.0s						
TUL3	**Leonard**	102.37	55	IAMs_20	IAMs_20	16 25 47.5	
	comp=Z,2μm,18.0s						
F24K	**Squaw Lake**	102.39	11	IAMs_20	IAMs_20	16 34 37.8	
	comp=Z,1μm,19.0s						
G27K	**Doyon Strip**	102.89	14	IAMs_20	IAMs_20	16 37 39.6	
	comp=Z,2μm,18.0s						
K30B	**Basset**	103.40	48	IAMs_20	IAMs_20	16 24 55.6	
	comp=Z,2μm,19.0s						
DGMT	**Dagmar**	103.86	41	IAMs_20	IAMs_20	16 28 31.6	
	comp=Z,2μm,19.0s						
SUSD	**Miller**	104.74	47	IAMs_20	IAMs_20	16 30 05.2	
	comp=Z,1μm,18.0s						
E28A	**Huff**	104.82	44	IAMs_20	IAMs_20	16 27 15.7	
	comp=Z,1μm,20.0s						
C27K	**Jago River**	104.97	12	IAMs_20	IAMs_20	16 38 06.0	
	comp=Z,2μm,20.0s						
ECSD	**EROS Data Cent**	105.83	48	IAMs_20	IAMs_20	16 27 36.7	
	comp=Z,2μm,18.0s						
MDND	**Maddock**	106.12	43	IAMs_20	IAMs_20	16 30 38.2	
	comp=Z,2μm,18.0s						
CCM	**Cathedral Cave**	106.59	55	IAMs_20	IAMs_20	16 29 03.5	
	comp=Z,1μm,19.0s						
F33A	**5 Mile Ranch,**	107.07	46	IAMs_20	IAMs_20	16 31 12.9	
	comp=Z,2μm,18.0s						
PLAL	**Pickwick Lake**	107.39	59	IAMs_20	IAMs_20	16 27 20.9	
	comp=Z,1μm,20.0s						
T45A	**Paducah**	107.93	57	IAMs_20	IAMs_20	16 28 56.4	
	comp=Z,2μm,19.0s						
FFC	**Flin Flon**	108.37	36	IAMs_20	IAMs_20	16 29 43.9	
	comp=Z,2μm,18.0s						
AGMN	**Agassiz Nation**	108.52	44	IAMs_20	IAMs_20	16 25 50.5	
	comp=Z,2μm,20.0s						
HDIL	**Hopedale**	109.10	54	IAMs_20	IAMs_20	16 31 45.4	
	comp=Z,1μm,18.0s						
L42A	**Oliver, Polo**	109.50	52	IAMs_20	IAMs_20	16 26 52.3	
	comp=Z,1μm,18.0s						
JFWS	**Jewell Farm**	109.52	51	IAMs_20	IAMs_20	16 28 12.1	
	comp=Z,2μm,18.0s						
G40A	**Rib Lake**	110.60	49	IAMs_20	IAMs_20	16 30 18.8	
	comp=Z,1μm,18.0s						
TIXI	**Tiksi**	110.64	344⇑	*i*PKIKP	**PKiKP**	**15 46 00.7**	**+2.0**
EYMN	**Ely**	110.96	46	IAMs_20	IAMs_20	16 32 00.9	
	comp=Z,2μm,18.0s						
COWI	**Conover**	111.63	48	IAMs_20	IAMs_20	16 32 53.2	
	comp=Z,2μm,18.0s						
M50A	**Fremont**	113.74	55	IAMs_20	IAMs_20	16 33 39.7	
	comp=Z,2μm,18.0s						
WMQ	**Urumqi**	115.06	307	*e*PKP	PKPdf	15 46 05.4	-2.7
WMQ				LR	LR		
	comp=Z,500nm,16.7s						
WMQ				LR	LR		
	comp=Z,550nm,17.9s						
WMQ				LR	LR		
	comp=Z,440nm,20.3s						
MSEY	**Mahe Island**	117.62	244	IAMs_20	IAMs_20	16 40 48.6	
	comp=Z,1μm,19.0s						
ZSN	**Zaisan**	118.18	310	*e*PKIKP	**PKiKP**	**15 46 18.1**	**+4.1**
ZSN	**Zaisan**	118.18	310	*e*PKP	**PKiKP**	**15 46 18.1**	**+4.1**
DELO	**Deloro Mine**	118.58	53	IAMs_20	IAMs_20	16 40 54.3	
	comp=Z,1μm,18.0s						
MK31	**Makanchi Array**	119.65	309*c*	*i*PKIKP	**PKiKP**	**15 46 19.6**	**+2.7**
MKAR	**Makanchi Array**	119.65	309	PKP	**PKiKP**	**15 46 20.4**	**+3.5**
	comp=Z,2.0nm,0.6s,baz=217,slow=1.5,SNR=29						
ZALV	**Zalesovo Beam**	120.11	317	PKP	**PKiKP**	**15 46 20.9**	**+3.4**
	comp=Z,1.6nm,0.6s,baz=157,slow=1.1,SNR=10						
SHLS	**Shalkode**	120.47	304	*e*PKIKP	**PKiKP**	**15 46 21.8**	**+3.1**
SHLS	**Shalkode**	120.47	304	*e*PKP	**PKiKP**	**15 46 21.9**	**+3.1**
WSPT	**Westport, CT**	120.50	58	IAMs_20	IAMs_20	16 38 38.1	
	comp=Z,1μm,19.0s						
UZB	**Uzynbulak**	120.77	304	*e*PKIKP	**PKiKP**	**15 46 23.1**	**+3.8**
UZB	**Uzynbulak**	120.77	304	*e*PKP	**PKiKP**	**15 46 23.2**	**+3.8**
KPKS	**Kokpek**	121.10	304	*e*PKIKP	**PKiKP**	**15 46 23.7**	**+3.8**
KPKS	**Kokpek**	121.10	304	*e*PKP	**PKiKP**	**15 46 23.8**	**+3.8**
SATY	**Saty**	121.18	304	*e*PKIKP	**PKiKP**	**15 46 23.9**	**+3.8**
SATY	**Saty**	121.18	304	*e*PKP	**PKiKP**	**15 46 24.0**	**+3.8**
ZHN	**Zhinishke**	121.19	304	*e*PKIKP	**PKiKP**	**15 46 23.8**	**+3.7**
ZHN	**Zhinishke**	121.19	304	*e*PKP	**PKiKP**	**15 46 23.9**	**+3.7**
TDK	**Taldyqorghan**	121.73	306	*e*PKIKP	**PKiKP**	**15 46 24.8**	**+3.8**
TDK	**Taldyqorghan**	121.73	306	*e*PKP	**PKiKP**	**15 46 24.9**	**+3.8**
KSH	**Kashi**	121.85	299	PKP	**PKiKP**	**15 46 25.3**	**+3.7**
KSH				LR	LR		
	comp=N,430nm,21.0s						
KSH				LR	LR		
	comp=E,420nm,19.9s						
KSH				LR	LR		
	comp=Z,740nm,22.3s						
ARXS	**Arharly**	121.91	305	*e*PKIKP	**PKiKP**	**15 46 24.9**	**+3.4**
TNSS	**Tian-Shan**	122.19	303	*e*PKIKP	**PKiKP**	**15 46 25.8**	**+3.3**
TNSS	**Tian-Shan**	122.19	303	*e*PKP	**PKiKP**	**15 46 25.9**	**+3.3**
ULHL	**Ulahol**	122.47	302	P	**PKiKP**	**15 46 27.8**	**+5.0**
	SNR=11						
KURK	**Kurchatov**	123.02	313*d*	*i*PKIKP	**PKiKP**	**15 46 26.8**	**+3.5**
KURK				pmax	pmax		
	comp=Z,40nm,1.7s						
KURBB	**Kurchatov Arra**	123.05	313	PKP	**PKiKP**	**15 46 27.3**	**+3.9**
	comp=Z,1.0nm,0.6s,baz=112,slow=4.9,SNR=50						
TKM2	**Tokmak 2**	123.11	303	P	**PKiKP**	**15 46 27.8**	**+3.7**
	SNR=12						
KBK	**Karagaybulak**	123.50	303	P	**PKiKP**	**15 46 28.8**	**+4.0**
	SNR=6.7						
CHMS	**Chumysh**	123.73	303	P	**PKiKP**	**15 46 29.6**	**+4.5**
	SNR=9.2						
AAK	**Ala-Archa**	123.82	302	P	**PKiKP**	**15 46 29.2**	**+3.8**
	SNR=8.3						
AAK	**Ala-Archa**	123.82	302 ‖	*i*PKIKP	**PKiKP**	**15 46 28.4**	**+3.0**
SGDS	**Sogindy**	123.94	303	*e*PKIKP	**PKiKP**	**15 46 29.4**	**+3.9**
SGDS	**Sogindy**	123.94	303	*e*PKP	**PKiKP**	**15 46 29.4**	**+3.9**
USP	**Ospenovka**	123.98	303	P	**PKiKP**	**15 46 28.7**	**+3.2**
	SNR=9.6						
AML	**Almayashu**	124.26	302	P	**PKiKP**	**15 46 30.6**	**+4.0**
	SNR=17						
EKS2	**Erkin-Say**	124.33	302	P	**PKiKP**	**15 46 30.6**	**+4.2**
	SNR=9.5						
BTLS	**Baital**	124.73	305	*e*PKIKP	**PKiKP**	**15 46 30.5**	**+3.6**
BTLS				*e*		15 48 14.4	
BTLS	**Baital**	124.73	305	*e*PKP	**PKiKP**	**15 46 30.5**	**+3.6**
BTLS				*e*PP	**PP**	**15 48 14.4**	**-0.3**
TULEG	**Thule**	125.88	16	IAMs_20	IAMs_20	16 48 38.5	
	comp=Z,857nm,18.0s						
DZA	**Taraz**	126.14	302	*e*PKIKP	**PKiKP**	**15 46 33.6**	**+3.8**
DZA	**Taraz**	126.14	302	*e*PKP	**PKiKP**	**15 46 33.6**	**+3.8**
BRZS	**Berezniki**	126.62	311	*e*PKIKP	**PKiKP**	**15 46 34.0**	**+3.5**
BRZS	**Berezniki**	126.62	311	*e*PKP	**PKiKP**	**15 46 34.0**	**+3.5**
IUG	**Iuzhnay**	126.90	301	*e*PKIKP	**PKiKP**	**15 46 35.1**	**+3.6**
IUG				*e*		15 48 28.8	
IUG	**Iuzhnay**	126.90	301	*e*PKP	**PKiKP**	**15 46 35.1**	**+3.6**
IUG				*e*PP	**PP**	**15 48 28.9**	**-0.5**
BRLS	**Borolday**	127.24	302	*e*PKIKP	**PKiKP**	**15 46 35.8**	**+3.8**
BRLS				*e*		15 48 31.6	
BRLS	**Borolday**	127.24	302	*e*PKP	**PKiKP**	**15 46 35.8**	**+3.8**
BRLS				*e*PP	**PP**	**15 48 31.6**	**+0.2**
BVAR	**Borovoye Array**	128.42	314	PKP	**PKiKP**	**15 46 37.5**	**+3.5**
	comp=Z,6.1nm,0.5s,baz=124,slow=1.7,SNR=40						
BRVK	**Borovoye**	128.49	314*c*	*i*PKIKP	**PKiKP**	**15 46 37.0**	**+2.9**
KMBO	**Kilima Mbogo**	133.06	231	PKP	**PKiKP**	**15 46 48.6**	**+3.7**
	comp=Z,0.7nm,0.3s,baz=147,slow=1.5,SNR=7.3						
SPITS	**Spitsbergen Ar**	134.06	356	PKP	**PKiKP**	**15 46 47.7**	**+3.0**
	comp=Z,2.8nm,0.6s,baz=57,slow=3.1,SNR=5.2						
ARTI	**Arti**	135.31	319	*i*PKIKP	**PKiKP**	**15 46 48.8**	**+1.0**
KIRV	**Kirov**	139.51	324⇑	*i*PKIKP	**PKiKP**	**15 46 57.9**	**+1.7**
ARA0	**ARCESS Array S**	140.97	347	*e*PKPdf	**PKPdf**	**15 46 52.8**	**-3.5**
ARCES	**ARCESS Array B**	140.97	347	PKhKP	PKPpre	15 46 53.8	
	comp=Z,2.8nm,0.5s,baz=19,slow=2.3,SNR=8.1						
ARCES				PKP	sPKPdf	15 47 02.4	-0.2
	comp=Z,6.0nm,0.7s,baz=32,slow=2.3,SNR=6.6						
KTK1	**Kautokeino**	141.83	348	*e*PKPdf	**PKPdf**	**15 46 54.9**	**-2.9**
BELG	**Belogornoye**	142.22	315	PKP	**PKiKP**	**15 47 04.1**	**+2.1**
	comp=Z,20nm,0.7s,baz=141,slow=3.1,SNR=10.0						
BELG	**Belogornoye**	142.22	315*c*	*i*PKIKP	**PKiKP**	**15 47 02.4**	**+0.4**
KLMR	**Klimovskoe**	143.05	331	*e*PKHKP	PKPpre	15 46 56.0	
KLMR				pmax	pmax		
	comp=Z,42nm,1.5s						
AKT	**Akhty**	143.32	297	*e*PKIKP	**PKiKP**	**15 47 06.1**	**+1.3**
AKT				pmax	pmax		
	comp=Z,27nm,1.6s						
FAUS	**Fauske**	144.52	352	*e*PKPdf	**PKPab**	**15 46 58.7**	**-2.4**
GNI	**Garni**	145.56	295	PKP	**PKiKP**	**15 47 10.6**	**+1.1**
	comp=Z,3.1nm,0.4s,baz=75,slow=6.9,SNR=6.1						
GNI	**Garni**	145.56	295*c*	*e*PKIKP	**PKiKP**	**15 47 07.7**	**+1.7**
VRH	**Novokhopyorsk**	146.07	315	*e*PKP2	**PKiKP**	**15 47 08.7**	**+1.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NCK	**Nalchik**	146.31	301 ‖	*i*PKIKP	**PKiKP**	**15 47 10.9**	**+0.1**
MOS	**Moscow**	146.53	324	*e*PKP2	**PKPbc**	**15 47 08.3**	**+0.4**
MOS				pmax	pmax		
	comp=Z,244nm,1.5s						
GOF	**Gofitskoye**	146.55	304*c*	*i*PKIKP	**PKiKP**	**15 47 10.8**	**-0.4**
KBZ	**Khabaz**	146.80	301	PKPbc	**PKiKP**	**15 47 12.4**	**+0.8**
	comp=Z,6.6nm,0.6s,baz=148,slow=6.8,SNR=21						
KBZ	**Khabaz**	146.80	301*c*	*i*PKIKP	**PKPab**	**15 47 10.7**	**+0.3**
GEVA	**Gevas**	146.80	291	PKPdf	**PKPdf**	**15 47 03.4**	**-4.3**
KIV	**Kislovodsk**	146.93	302	PKPdf	**PKPdf**	**15 47 02.6**	**-5.0**
KIV	**Kislovodsk**	146.93	302	*e*PKIKP	**PKPab**	**15 47 11.3**	**+0.3**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	146.93	302	PKP	**PKPbc**	**15 47 10.2**	**+0.6**
SHA1	**Shidzhatmaz**	146.97	301*d*	*i*PKP2	**PKiKP**	**15 47 13.1**	**+0.7**
NEUR	**Neytrino**	146.98	300	PKHKP	PKPpre	15 47 05.6	
LPSR	**Galich'ya Gora**	147.21	318	*e*PKIKP	**PKPab**	**15 47 11.7**	**0.0**
LPSR				pmax	pmax		
	comp=Z,180nm,1.4s						
PUL	**Pulkovo**	147.32	334⇑	*i*PKP2	**PKiKP**	**15 47 14.8**	**+2.5**
OBN	**Obninsk**	147.36	323	PKPbc	**PKiKP**	**15 47 13.4**	**+0.9**
	comp=Z,29nm,0.5s,baz=77,slow=2.7,SNR=29						
OBN	**Obninsk**	147.36	323*d*	*i*PKIKP	**PKPab**	**15 47 12.4**	**+0.3**
OBN				pmax	pmax		
	comp=Z,210nm,1.4s						
OBN				MLR	MLR		
	comp=Z,1μm,18.0s						
OBN	**Obninsk**	147.36	323	PKP	**PKPab**	**15 47 12.5**	**+0.3**
VORR	**Voronezh**	147.40	316	*e*PKP2	**PKiKP**	**15 47 13.5**	**+0.8**
VORR				pmax	pmax		
	comp=Z,267nm,1.4s						
FIA1	**FINESS Array S**	147.50	339	PKPdf	**PKPdf**	**15 47 03.0**	**-4.9**
FINES	**FINESS Array B**	147.50	339	PKPdf	**PKPdf**	**15 47 02.9**	**-5.0**
FINES	**FINESS Array B**	147.50	339	PKPbc	**PKiKP**	**15 47 14.2**	**+1.6**
	comp=Z,40nm,0.6s,baz=42,slow=4.0,SNR=163						
FINES				SKPbc	**SKiKP**	**15 50 56.1**	**+8.6**
	comp=Z,5.8nm,1.0s,baz=336,slow=4.2,SNR=3.8						
FINES	**FINESS Array B**	147.50	339	PKHKP	PKPpre	15 47 02.9	
VSR	**Storozhevoye**	147.59	316	*e*PKIKP	**PKPbc**	**15 47 12.0**	**+1.0**
VSR				pmax	pmax		
	comp=Z,160nm,1.7s						
VORD	**Divnogorie**	147.60	315	*e*PKIKP	**PKPab**	**15 47 12.6**	**-0.7**
VORD				pmax	pmax		
	comp=Z,50nm,1.1s						
NSS	**Namsos**	147.65	352	*e*	**PKPab**	**15 47 15.5**	**+2.4**
ERBR	**Yeremizino-Bor**	148.22	305	*i*PKP2	**PKPab**	**15 47 17.1**	**+1.1**
ERBR				pmax	pmax		
	comp=Z,91nm,1.1s						
LABN	**Labinsk**	148.24	303	*i*PKP2	**PKPab**	**15 47 17.4**	**+1.3**
LABN				pmax	pmax		
	comp=Z,30nm,0.6s						
KOPT	**Kop Dagi**	148.82	294	PKPdf	**PKPdf**	**15 47 05.8**	**-5.4**
SOC	**Sochi**	149.11	301	*e*PKIKP	**PKPbc**	**15 47 15.0**	**-0.3**
SOC				*e*		15 50 49.5	
SOC				*e*PPP	PPP	15 54 06.0	
SOC				*e*SS	SS	16 09 45.1	-13
SOC				*e*SSS	SSS	16 15 28.3	
VSU	**Vasula**	149.56	335 ‖	*i*PKIKP	**PKiKP**	**15 47 17.4**	**+0.5**
DOMB	**Dombas**	150.38	354	*e*PKPab	**PKiKP**	**15 47 21.9**	**+3.3**
AKN	**Aaknes**	150.40	356	*e*PKPab	**PKPab**	**15 47 22.7**	**-1.6**
ANN	**Anapa**	150.52	304	*i*PKP2	**PKiKP**	**15 47 22.0**	**+2.7**
ANN				*e*		15 50 56.5	
ANN				*e*SS	SS	16 10 11.2	-2.5
ANN				pmax	pmax		
	comp=Z,134nm,1.5s						
NC303	**NORSAR Array S**	150.93	351	PKPdf	**PKPdf**	**15 47 08.4**	**-5.0**
FOO	**Floro**	151.07	358	*e*PKPab	**PKiKP**	**15 47 23.4**	**+3.5**
NB2	**NORSAR Subarra**	151.13	351	PKP	**PKiKP**	**15 47 23.9**	**+3.7**
	comp=Z,141nm,1.7s,baz=17,slow=2.5						
NB2	**NORSAR Subarra**	151.13	351	PKPab	**PKiKP**	**15 47 23.9**	**+3.7**
	baz=17,slow=2.5						
NOA	**NORSAR Array B**	151.13	351	PKPbc	**PKiKP**	**15 47 24.2**	**+4.1**
	comp=Z,7.9nm,0.6s,baz=15,slow=4.1,SNR=28						
ASF	**Jabal al Asfar**	151.13	278	PKPbc	**PKiKP**	**15 47 24.0**	**+2.8**
	comp=Z,9.7nm,0.7s,baz=239,slow=0.5,SNR=11						
ASF	**Jabal al Asfar**	151.13	278	PKIKP	**PKiKP**	**15 47 24.0**	**+2.8**
NAO01	**NORSAR Array S**	151.36	352	PKPdf	**PKPdf**	**15 47 09.5**	**-4.6**
NC602	**NORSAR Array S**	151.38	351	*e*PKPab	**PKiKP**	**15 47 24.5**	**+3.8**
GAZ	**Gaziantep**	151.39	289	PKPdf	**PKPdf**	**15 47 09.9**	**-5.0**
HFS	**Hagfors**	151.62	348	PKPbc	**PKiKP**	**15 47 25.0**	**+3.8**
	comp=Z,9.8nm,0.5s,baz=97,slow=3.4,SNR=38						
HFS	**Hagfors**	151.62	348	PKIKP	**PKiKP**	**15 47 25.0**	**+3.8**
SUE	**Sulen**	151.63	358	*e*PKPab	**PKiKP**	**15 47 25.9**	**+4.8**
SKAR	**Skarslia**	151.79	354	*e*PKPab	**PKiKP**	**15 47 26.2**	**+4.7**
MNK	**Minsk**	151.84	328	*e*PKIKP	**PKPdf**	**15 47 18.0**	**+3.0**
BALJ	**Balqa**	152.17	278	PKPdf	**PKPdf**	**15 47 11.0**	**-5.2**
ASK	**Askoy**	152.19	357	*e*PKPab	**PKiKP**	**15 47 27.5**	**+5.2**
EIL	**Elat**	152.23	272	PKP	**PKPdf**	**15 47 19.4**	**+3.0**
	comp=Z,2.0nm,0.7s,baz=56,slow=5.4,SNR=4.5						
EIL				PKPbc	**pPKPbc**	**15 47 27.0**	**-0.8**
	comp=Z,24nm,0.6s,baz=49,slow=1.3,SNR=23						
BNN	**Bunyan**	152.46	292	PKPdf	**PKPdf**	**15 47 11.0**	**-5.6**
MMAI	**Mount Meron Ar**	152.51	280	PKPbc	**PKiKP**	**15 47 28.7**	**+4.7**
	comp=Z,22nm,0.5s,baz=75,slow=6.4,SNR=43						
PABE	**Paberze**	152.76	333	PKPdf	**PKPdf**	**15 47 11.1**	**-5.2**
SIM	**Simferopol'**	152.77	306	*i*PKIKP	**PKPdf**	**15 47 20.1**	**+3.4**
SIM				pmax	pmax		
	comp=Z,46nm,1.3s						
BLS5	**Blasjo**	153.18	356	*e*PKPab	**PKiKP**	**15 47 29.9**	**+5.4**
AKASG	**Malin Array Be**	153.44	320	PKP	**PKPdf**	**15 47 21.5**	**+4.0**
	comp=Z,0.1nm,0.2s,baz=59,slow=1.3,SNR=7.1						
AKASG				PKPbc	**pPKPbc**	**15 47 29.3**	**-0.5**
	comp=Z,17nm,0.9s,baz=52,slow=2.3,SNR=47						
AKBB	**Malin Array Si**	153.44	320*c*	*i*PKIKP	**PKiKP**	**15 47 27.9**	**+2.7**
BR131	**Keskin Array S**	154.10	294*d*	*i*PKIKP	**PKPdf**	**15 47 22.3**	**+3.3**
BRTR	**Keskin Array B**	154.10	294	PKP	**PKPdf**	**15 47 21.9**	**+2.9**
	comp=Z,0.9nm,0.9s,baz=126,slow=3.2,SNR=3.8						
BRTR				PKPbc	**pPKPbc**	**15 47 30.8**	**-1.0**
	comp=Z,4.6nm,0.5s,baz=132,slow=3.1,SNR=21						
HOMB	**Homborsund**	154.15	353	*i*P	**PKPbc**	**15 47 25.0**	**-1.3**
SUW	**Suwalki**	154.18	332	*e*PKP	**PKiKP**	**15 47 32.0**	**+5.4**
DEL	**Delary**	155.01	345	*i*P		15 47 33.0	
MILM	**Milestii Mici**	155.53	313	*e*PKIKP	PKPdf	15 47 29.0	+8.5
KOLS	**Kolonicke sedl**	158.12	323	*e*PKP2	**PKPab**	**15 47 58.8**	**+1.3**
KOLS	**Kolonicke sedl**	158.12	323	*e*PKP	**PKPab**	**15 47 58.8**	**+1.3**
NIE	**Niedzica**	158.74	327	*e*PKP	**PKPdf**	**15 47 29.5**	**+5.0**
KSP	**Ksiaz**	159.28	355	*e*PKP	**PKPab**	**15 48 01.2**	**-1.2**
KRLC	**Kraliky**	159.73	333	*e*PKPab	**PKPab**	**15 48 06.9**	**+2.4**
KRLC	**Kraliky**	159.73	333	*e*PKP2	**PKPab**	**15 48 06.9**	**+2.4**
CLL	**Collm**	159.93	341	*i*PKP2	**PKPab**	**15 48 08.4**	**+3.2**
CLL				pmax	pmax		
	comp=Z,60nm,1.6s						
CLL				MLR	MLR		
	comp=Z,2μm,19.3s						
VYHS	**Vyhne**	160.07	327	*e*PKP2	**PKPab**	**15 48 09.3**	**+3.3**
VYHS	**Vyhne**	160.07	327	*e*PKP	**PKPab**	**15 48 09.3**	**+3.3**
ZVC	**Zvikov**	161.20	336	*e*PKPab	**PKPab**	**15 48 14.2**	**+3.4**
KHC	**Kasperske Hory**	161.67	337	*e*PKPdf	PKPdf	15 47 43.0	+15
KHC				*e*PKPab	pPKPab	15 48 15.6	-2.0
RONA	**Rosalia, Austr**	161.80	329	*e*pPKP	**PKPab**	**15 48 17.1**	**+3.6**
	comp=Z,8.8nm,0.8s						
CONA	**Conrad Observa**	161.81	330	*i*pPKP	**PKPab**	**15 48 16.9**	**+3.3**
	comp=Z,12nm,1.2s						
GERES	**GERESS Array B**	161.88	336	PKPab	**PKPab**	**15 48 16.2**	**+2.3**
	comp=Z,2.4nm,0.8s,baz=12,slow=6.8,SNR=3.7						
BIOA	**Bad Ischl, Aus**	162.87	334	*e*pPKP	**PKPab**	**15 48 21.7**	**+3.4**
	comp=Z,11nm,1.3s						
LESA	**Schwarzleotal**	163.45	335	*e*pPKP	**PKPab**	**15 48 24.1**	**+3.3**
	comp=Z,17nm,1.5s						
KBA	**Koelnbreinsper**	163.50	333	*e*pPKP	**PKPab**	**15 48 24.5**	**+3.3**
	comp=Z,11nm,1.9s						
WATA	**Walderalm**	163.90	338	*e*pPKP	**PKPab**	**15 48 23.4**	**+0.6**
	comp=Z,12nm,1.3s						
WTTA	**Wattenberg**	163.94	337	*e*pPKP	**PKPab**	**15 48 25.0**	**+1.8**
	comp=Z,16nm,1.6s						
WTTA				*e*PP	**PP**	**15 52 05.0**	**-3.4**
	comp=Z,4.9nm,0.6s						
RETA	**Reutte**	164.01	340	*e*pPKP	**PKPab**	**15 48 27.0**	**+3.8**
	comp=Z,17nm,1.5s						
SQTA	**Sankt Quirin**	164.11	338	*e*pPKP	**PKPab**	**15 48 27.3**	**+3.5**
	comp=Z,5.0nm,0.6s						
DAVA	**Damuels**	164.44	341	*e*pPKP	**PKPab**	**15 48 28.7**	**+3.4**
	comp=Z,20nm,1.2s						
DAVOX	**Davos/Dischmat**	164.91	340	PKPab	**PKPab**	**15 48 30.8**	**+3.4**
	comp=Z,5.2nm,0.5s,baz=274,slow=5.5,SNR=7.1						

SJA ***07*** *15:34:22.7±0.7, 29°.42S×72°.89W, h8km±16km, ML5.5, MW5.2*

MOS ***07*** *15:34:25.2±1.0, 29°.48S×72°.57W, h13km, mb5.9/50, MS5.4/16, Error ellipse: s-maj=12.6km s-min=6.6km az=103.1*

NEIC ***07*** *15:34:27.7, 29°.59S×72°.63W, h30km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17^Nm; Mrr3.83; Mθθ1.19; Mφφ-5.01; Mrθ-0.90; Mθφ0.80; Mφr1.36; Fault plane solution: M0 4.79000×10^17^ NP1: φs187.32000°, δ37.70000°, λ112.02000°.

RTLS *i* S **Sb** **15 36 16.6 -2.6**
VA03 San Esteban 3.76 150 **Pn** **15 35 26.0 +1.2**
VA03 San Esteban 3.76 150 *eP* **Pn** **15 35 25.9 +1.1**
VA03 *i* S **Sn** **15 36 06.9 -1.5**
VA03 San Esteban 3.76 150 *i* P **Pn** **15 35 26.0 +1.2**
VA03 *i* S **Sn** **15 36 13.0 +4.7**
VA03 IAML 15 36 13.5
comp=Z,12µm,0.7s
ROCH El Roble 3.76 157 *eP* Pb 15 35 25.3 -8.8
ROCH ⇑*i* P **Pn** **15 35 25.3 +0.2**
ROCH *i* S **Sn** **15 36 05.0 -3.7**
ROCH *i* S **Sn** **15 36 05.6 -3.1**
AC01 Pan de Azucar 3.85 30 Pn **Pn** **15 35 24.2 -1.9**
AC01 Pan de Azucar 3.85 30 *eP* **Pn** **15 35 24.1 -1.9**
AC01 *i* S **Sn** **15 36 06.4 -4.2**
MT02 Curacav 3.99 160 **Pn** **15 35 27.8 -0.2**
MT02 Curacav 3.99 160 *eP* **Pn** **15 35 27.7 -0.2**
MT02 *i* S **Sn** **15 36 08.9 -5.1**
MT02 Curacav 3.99 160 *i* P **Pn** **15 35 28.5 +0.6**
MT02 IAML 15 36 35.8
comp=Z,4µm,1.6s
PEL Peldehue 4.03 155 Pn **Pn** **15 35 29.4 +0.9**
PEL Peldehue 4.03 155 *eP* **Pn** **15 35 29.5 +0.9**
PEL *i* S **Sn** **15 36 12.6 -2.6**
PEL Peldehue 4.03 155 P **Pn** **15 35 29.5 +0.9**
VCA Vinchina 4.05 80 *i* P **Pn** **15 35 33.1 +4.2**
ZON Zonda 4.06 121 **Pn** **15 35 31.6 +2.6**
ZON Zonda 4.06 121 P **Pn** **15 35 31.6 +2.6**
SJA San Juan 4.14 120 *i* P **Pn** **15 35 31.4 +1.3**
SJA *i* S **Sn** **15 36 22.6 +4.8**
SJA IAML 15 36 41.6
comp=Z,8µm,2.1s
AC02 Maricunga 4.16 51 Pn **Pn** **15 35 31.7 +0.9**
AC02 Maricunga 4.16 51 ⇓*i* P **Pn** **15 35 31.7 +0.9**
AC02 *i* S **Sn** **15 36 18.7 -0.2**
MT10 Hacienda Santa 4.21 154 *eP* **Pn** **15 35 32.0 +1.0**
MT10 *i* S **Sn** **15 36 17.3 -2.3**
MT05 Renca 4.24 157 Pn **Pn** **15 35 32.0 +0.6**
MT05 Renca 4.24 157 *eP* **Pn** **15 35 32.0 +0.6**
MT05 *i* S **Sn** **15 36 18.4 -1.8**
MT05 Renca 4.24 157 *i* P **Pn** **15 35 32.3 +0.9**
MT05 IAML 15 36 43.9
comp=Z,9µm,1.6s
VA05 Santo Domingo 4.25 167 **Pn** **15 35 31.2 -0.3**
MT14 Cerro Calı¡n 4.32 155 *eP* **Pn** **15 35 33.5 +1.1**
MT14 *i* S **Sn** **15 36 18.5 -3.6**
MT16 CCHEN 4.35 155 **Pn** **15 35 33.7 +0.8**
FCH Farellones 4.35 152 *eP* **Pn** **15 35 34.5 +1.3**
FCH *i* S **Sn** **15 36 19.9 -3.5**
MT03 Universidad Ad 4.41 155 Pn **Pn** **15 35 34.9 +1.1**
MT03 Universidad Ad 4.41 155 *i* P **Pn** **15 35 34.9 +1.1**
MT03 IAML 15 36 48.7
comp=Z,7µm,0.6s
CFA Coronel Fontan 4.42 119 P **Pn** **15 35 36.6 +2.7**
comp=Z,833nm,0.3s,baz=317,slow=11,SNR=1214
CFA S **Sn** **15 36 26.5 +1.8**
comp=Z,1µm,0.5s,baz=64,slow=16,SNR=12
CFA LR LR 15 37 29.8
comp=Z,20µm,19.4s,baz=282,slow=41
MT04 Ro Olivares 4.48 151 *eP* **Pn** **15 35 36.5 +1.5**
MT04 *i* S **Sn** **15 36 26.3 -0.2**
MT04 Ro Olivares 4.48 151 *i* P **Pn** **15 35 36.5 +1.5**
MT04 IAML 15 36 49.1
comp=Z,3µm,0.9s
MT09 Talagante 4.51 161 **Pn** **15 35 35.9 +0.6**
MT01 Popeta 4.53 164 **Pn** **15 35 35.2 -0.2**
MT01 Popeta 4.53 164 *i* P **Pn** **15 35 35.8 +0.4**
MT01 *i* S **Sn** **15 36 24.5 -2.8**
MT01 IAML 15 36 24.9
comp=Z,3µm,0.6s
MT08 Bocatoma Ro 4.57 150 **Pn** **15 35 38.3 +2.2**
MT08 Bocatoma Ro 4.57 150 *i* P **Pn** **15 35 38.1 +2.0**
MT08 IAML 15 36 56.2
comp=Z,3µm,1.9s
MT13 San Alfonso 4.72 154 *i* P **Pn** **15 35 40.0 +1.9**
MT13 IAML 15 37 01.8
comp=Z,4µm,1.6s
BO04 La Punta 4.83 158 **Pn** **15 35 40.2 +0.7**
LMEL Las Melosas 4.84 154 *i* P **Pn** **15 35 41.3 +1.5**
LMEL *i* S **Sn** **15 36 35.9 +0.6**
LMEL IAML 15 36 37.2
comp=Z,4µm,0.3s
BO01 Tunca 5.07 164 **Pn** **15 35 42.9 +0.1**
GO02 Mina Guanaco 5.16 34 **Pn** **15 35 43.4 -0.9**
PB14 IPOC Station P 5.29 24 Pn **Pn** **15 35 43.4 -2.8**
H03N1 Juan Fernandez 6.56 232 P **Pn** **15 36 01.6 -1.4**
baz=113,slow=18
H03N1 S **Sn** **15 37 10.5 -6.5**
baz=2.8,slow=74,SNR=11
H03N1 T T 15 44 12.8
baz=61,slow=72
H03N2 Juan Fernandez 6.57 232 P **Pn** **15 36 02.1 -1.0**
baz=113,slow=18
H03N2 S **Sn** **15 37 12.1 -5.1**
baz=2.8,slow=74,SNR=12
H03N2 T T 15 44 07.1
baz=61,slow=72
H03N3 Juan Fernandez 6.58 232 P **Pn** **15 36 01.9 -1.4**
baz=113,slow=18
H03N3 S **Sn** **15 37 13.0 -4.4**
baz=2.8,slow=74,SNR=6.5
H03N3 T T 15 43 51.4
baz=61,slow=72
VA04 Juan Fernndez 6.62 230 **Pn** **15 36 01.7 -2.4**
H03S3 Juan Fernandez 6.79 229 P **Pn** **15 36 03.3 -2.9**
baz=31,slow=19
H03S3 S Sn 15 37 13.2 -9.4
baz=325,slow=74,SNR=61
H03S1 Juan Fernandez 6.79 229 P **Pn** **15 36 03.1 -3.1**
baz=31,slow=19
H03S1 S Sn 15 37 13.0 -10
baz=215,slow=74,SNR=35
H03S2 Juan Fernandez 6.80 229 P **Pn** **15 36 03.4 -2.9**
baz=31,slow=19
H03S2 S Sn 15 37 12.1 -11
BI05 Punta Hualpn 7.23 183 Pn **Pn** **15 36 10.5 -1.9**
BI02 San Fabin de 7.24 171 Pn **Pn** **15 36 12.8 +0.1**
AF01 San Pedro de A 7.71 33 **Pn** **15 36 17.3 -2.1**
TA01 Diego Aracena 9.20 15 **Pn** **15 36 35.6 -3.9**
TA02 Huaiquique 9.50 15 **Pn** **15 36 40.6 -3.0**
PB11 IPOC Station P 10.10 17 **Pn** **15 36 47.8 -4.3**
LR05 Currie 10.72 177 **Pn** **15 36 59.4 -0.8**
PB12 IPOC Station P 11.07 12 **Pn** **15 37 01.8 -3.4**
PLCA Paso Flores 11.34 171 **Pn** **15 37 09.8 +0.2**
PLCA Paso Flores 11.34 171 P **Pn** **15 37 09.8 +1.0**
comp=Z,103nm,0.4s,baz=337,slow=12,SNR=540
PLCA S **Sn** **15 39 14.6 -0.3**
comp=Z,47nm,1.0s,baz=50,slow=15,SNR=3.0
PLCA LR LR 15 41 26.8
comp=Z,12µm,19.8s,baz=345,slow=36
PLCA Paso Flores 11.34 171 P **Pn** **15 37 09.1 +0.2**
PLCA Paso Flores 11.34 171 *eP* **Pn** **15 37 09.6 +0.7**
PB18 Visviri 12.23 15 **Pn** **15 37 20.0 -1.5**
TRQA Tornquist 12.36 136 **Pn** **15 37 21.4 -1.4**
TRQA Tornquist 12.36 136 P **Pn** **15 37 21.4 -1.4**
LL06 Loncomilla 12.70 183 **Pn** **15 37 25.7 -1.6**
LL02 Futaleuf 13.68 177 **Pn** **15 37 40.3 -0.4**
LPAZ La Paz 13.83 19 **Pn** **15 37 40.8 -2.6**
LPAZ La Paz 13.83 19 P **Pn** **15 37 41.9 -1.5**
comp=Z,13nm,0.4s,baz=199,slow=6.9,SNR=40
LPAZ S **Sn** **15 40 19.2 +2.7**
comp=Z,10nm,0.6s,baz=92,slow=7.0,SNR=1.7
LPAZ LR LR 15 43 59.4
comp=Z,6µm,19.7s,baz=214,slow=41
LPAZ La Paz 13.83 19 P **Pn** **15 37 40.8 -2.6**
LPAZ La Paz 13.83 19 *eP* **Pn** **15 37 41.7 -1.7**
CPUP Villa Florida 14.00 81 **Pn** **15 37 41.4 -3.8**
CPUP Villa Florida 14.00 81 P **Pn** **15 37 42.0 -3.2**
comp=Z,204nm,1.1s,baz=261,slow=12,SNR=93
CPUP S **Sn** **15 40 27.7 +7.8**
comp=Z,29nm,0.8s,baz=200,slow=19,SNR=1.6
CPUP LR LR 15 43 39.1
comp=Z,27µm,18.1s,baz=264,slow=39
CPUP Villa Florida 14.00 81 P **Pn** **15 37 41.4 -3.8**
CPUP Villa Florida 14.00 81 *eP* **Pn** **15 37 41.8 -3.3**
TBOT Tacuaremb 14.65 103 *eP* **Pn** **15 37 51.5 -2.5**
SJPY San Joaquin 15.47 77 *eP* **Pn** **15 38 01.9 -3.1**
MURT Porto Murtinho 15.73 64 *eP* **Pn** **15 38 04.3 -4.1**
PLTB Pedras Altas 16.64 103 P **Pn** **15 38 15.8 -4.1**
PLTB Pedras Altas 16.64 103 *eP* **Pn** **15 38 15.9 -4.1**
CPSB Cacapava Do Su 16.77 98 *eP* **Pn** **15 38 19.4 -2.2**
BDQN Bodoquena, MS 17.07 62 *eP* **Pn** **15 38 22.7 -2.7**
SIV San Ignacio 17.21 41 P **Pn** **15 38 21.6 -5.6**
comp=Z,12nm,0.6s,baz=234,slow=8.7,SNR=30
SIV S **Sn** **15 41 38.7 +0.5**
comp=Z,4.4nm,0.5s,baz=205,slow=20,SNR=1.2
SIV LR LR 15 45 52.4
comp=Z,11µm,20.8s,baz=234,slow=40
NNA Nana 17.84 347 P **Pn** **15 38 31.0 -4.0**
NNA Nana 17.84 347 P **P** **15 38 37.0 +1.4**
comp=Z,26nm,0.5s,baz=182,slow=9.8,SNR=11
NNA S **S** **15 41 57.9 -1.9**
comp=Z,6.5nm,0.3s,baz=284,slow=3.8,SNR=1.6
NNA LR LR 15 44 01.6
comp=Z,9µm,18.3s,baz=158,slow=32
NNA Nana 17.84 347 *ceP* **P** **15 38 36.8 +1.1**
AQDB Aquidauana 17.87 64 P **Pn** **15 38 32.1 -3.2**
AQDB IAmb IAmb 15 38 38.0
comp=Z,1µm,1.2s
AQDB Aquidauana 17.87 64 *eP* **Pn** **15 38 33.2 -2.1**
ITAB Concordia 18.29 88 P **Pn** **15 38 37.8 -2.7**
ITAB Concordia 18.29 88 *eP* **Pn** **15 38 39.1 -1.3**
PTLB Pontes e Lacer 18.79 45 P **P** **15 38 43.3 -2.7**
PTLB Pontes e Lacer 18.79 45 *eP* **P** **15 38 44.2 -1.8**
PTGB Pitanga 19.02 80 *eP* **P** **15 38 48.3 -0.3**
CNLB Canela 19.08 95 *eP* **P** **15 38 47.9 -1.4**
RPRD Ribas do Rio P 19.45 67 *eP* **P** **15 38 53.6 +0.4**
VILB Vilhena 20.18 38 P **P** **15 39 00.1 -1.1**
VILB Vilhena 20.18 38 *eP* **P** **15 39 00.9 -0.3**
LDASE Londrina, Braz 20.29 78 *eP* **P** **15 39 01.5 -1.0**
TER01 Tubaro-SC 20.68 93 *eP* **P** **15 39 05.8 -0.8**
SALV Santo Antonio 20.73 53 *eP* **P** **15 39 07.3 +0.1**
MAJ01 Sao Joao Batis 20.98 90 *eP* **P** **15 39 09.1 -0.7**
C2SB Chapadao do Su 21.05 64 *eP* **P** **15 39 11.6 +0.9**
FRTB Fartura 21.64 79 *eP* **P** **15 39 16.8 -0.2**
CZSB Cruzeiro do Su 21.66 0 P **P** **15 39 19.0 +1.7**
CZSB Cruzeiro do Su 21.66 0 *eP* **P** **15 39 19.7 +2.4**
MG05 Puerto Natales 22.15 180 P **P** **15 39 21.1 -1.0**
ITRB Iturama 22.54 69 *eP* **P** **15 39 26.1 -0.6**
PDRB Porto dos Gac 23.23 43 *eP* **P** **15 39 33.3 -0.5**
MG04 Isla Riesco 23.35 178 P **P** **15 39 35.3 +0.9**
SPB Sao Paulo 23.38 81 IAMs_20 IAMs_20 15 49 36.2
comp=Z,20µm,18.0s
SPB Sao Paulo 23.38 81 *eP* **P** **15 39 33.7 -1.5**
MG02 Cerro Sombrero 23.40 175 P **P** **15 39 35.0 -0.2**
BB19B Bebedouro 23.43 75 *eP* **P** **15 39 34.8 -1.1**
ARAG Araguaiana, MT 23.66 59 *eP* **P** **15 39 36.6 -1.4**
VAO Valinhos 23.99 80 *eP* **P** **15 39 40.6 -0.7**
CLDB Colider 24.37 44 *eP* **P** **15 39 44.5 -0.3**
EFI East Falkland 24.70 158 P **P** **15 39 45.9 -1.5**
EFI IAmb IAmb 15 39 56.9
comp=Z,203nm,0.8s
EFI East Falkland 24.70 158 *deP* **P** **15 39 46.0 -1.4**
PARB Paraibuna 25.03 82 *eP* **P** **15 39 49.9 -0.9**
IPMB Ipameri, GO 25.17 68 *eP* **P** **15 39 51.3 -0.7**
TBTG Tabatinga, AM 25.33 7 P **P** **15 39 52.1 -1.3**
TBTG Tabatinga, AM 25.33 7 *eP* **P** **15 39 54.8 +1.5**
MG01 Puerto William 25.68 173 IAmb IAmb 15 40 24.6
comp=Z,152nm,0.8s
PMNB Patos De Minas 26.34 71 *eP* **P** **15 40 03.5 +0.8**
SNDB Serra Nova Dou 26.51 53 *eP* **P** **15 40 04.5 +0.4**
BDFB Brasilia 26.61 64 P **P** **15 40 04.6 -0.6**
BDFB IAmb IAmb 15 40 07.1
comp=Z,199nm,1.0s
BDFB Brasilia 26.61 64 P **P** **15 40 05.7 +0.5**
comp=Z,185nm,1.0s,baz=236,slow=9.0,SNR=115
BDFB S **S** **15 44 34.7 -4.2**
comp=Z,6.7nm,0.7s,baz=168,slow=27,SNR=1.1
BDFB LR LR 15 52 17.3
comp=Z,8µm,19.1s,baz=237,slow=40
comp=Z,185nm,1.0s
BDFB Brasilia 26.61 64 P **P** **15 40 04.6 -0.6**
BDFB pmax pmax
comp=Z,199nm,1.0s
MAN01 Angra dos Reis 26.62 82 *eP* **P** **15 40 05.8 +0.6**
TEFE Tefe 26.98 18 *eP* **P** **15 40 09.3 +1.0**
NPGB Novo Progresso 27.70 40 *eP* **P** **15 40 13.4 -1.4**
DUB01 Friburgo-RJ 28.28 82 *eP* **P** **15 40 20.2 +0.3**
MACA Manacapuru-AM 28.60 26 IAmb IAmb 15 40 24.6
comp=Z,87nm,0.6s
MACA Manacapuru-AM 28.60 26 *eP* **P** **15 40 23.8 +1.0**
DIAM Diamantina, MG 28.75 74 *eP* **P** **15 40 25.2 +0.8**
SLOR San Lorenzo - 29.14 348 P **P** **15 40 29.3 +1.2**
ITTB Itaituba 29.75 36 *eP* **P** **15 40 33.3 +0.3**
JANB Januaria 29.89 67 *eP* **P** **15 40 34.5 +0.1**
OTAV Otavalo 30.07 349 P **P** **15 40 36.8 +0.4**
OTAV Otavalo 30.07 349 P **P** **15 40 36.8 +0.4**
OTAV pmax pmax
comp=Z,97nm,1.3s
OTAV pmax pmax
comp=Z,3µm,22.0s
OTAV Otavalo 30.07 349 *eP* **P** **15 40 39.4 +3.0**
ALF01 Guarapari-ES 30.25 80 *eP* **P** **15 40 38.0 +0.5**
SJMB Sao Joao De Ma 30.66 77 *eP* **P** **15 40 41.8 +0.7**
BSFB Barra de Sao F 30.90 77 *eP* **P** **15 40 43.2 +0.1**
SDBA SAO DESIDERIO 30.95 63 *eP* **P** **15 40 43.8 0.0**
FLOC Florencia 31.04 354 P **P** **15 40 46.6 +2.2**
RIB01 Linhares ES 31.07 78 *eP* **P** **15 40 45.1 +0.4**
SMTB Santa Maria do 31.28 54 *eP* **P** **15 40 47.4 +0.8**
RPN Rapa Nui 32.21 265 P **P** **15 40 54.3 -0.4**
RPN IAmb IAmb 15 40 58.6
comp=Z,200nm,1.1s
RPN Rapa Nui 32.21 265 IAMs_20 IAMs_20 15 50 03.5
comp=Z,10µm,19.0s
RPN Rapa Nui 32.21 265 P **P** **15 40 54.3 -0.4**
RPN pmax pmax
comp=Z,200nm,1.2s
RPN pmax pmax
comp=Z,10µm,19.0s
VA02 Isla de Pascua 32.29 265 IAMs_20 IAMs_20 15 49 58.6
comp=Z,9µm,20.0s
GUA01 Guaratinga, BA 32.81 74 *eP* **P** **15 41 00.4 +0.4**
ABR01 Abrolhos, BA 33.11 77 *eP* **P** **15 41 02.2 -0.4**
PAYG Puerto Ayora 33.19 327 P **P** **15 41 05.1 +1.8**
PAYG IAmb IAmb 15 41 08.1
comp=Z,275nm,1.4s
PAYG IAMs_20 IAMs_20 15 51 42.3
comp=Z,9µm,18.0s
CMC01 Camacan, BA 33.65 73 *eP* **P** **15 41 07.8 +0.5**
BOAV Boa Vista 33.81 22 *eP* **P** **15 41 09.4 +0.7**
ROSC El Rosal 34.18 357 P **P** **15 41 12.9 +0.6**
ROSC IAmb IAmb 15 41 45.5
comp=Z,164nm,1.3s
ROSC El Rosal 34.18 357 P **P** **15 41 12.2 -0.1**
comp=Z,5.8nm,0.4s,baz=184,slow=4.8,SNR=15
ROSC S **S** **15 46 37.0 -1.0**
comp=Z,10.0nm,0.4s,baz=159,slow=23,SNR=2.1
ROSC LR LR 15 56 05.0
comp=Z,3µm,19.1s,baz=209,slow=38
comp=Z,5.8nm,0.4s
ROSC El Rosal 34.18 357 P **P** **15 41 12.9 +0.6**
ROSC pmax pmax
comp=Z,164nm,1.3s
RUSC La Rusia 35.20 359 P **P** **15 41 22.4 +1.2**
PMSA Palmer Station 35.71 174 P **P** **15 41 23.8 -0.7**
PMSA IAmb IAmb 15 41 27.9
comp=Z,317nm,1.6s
PMSA Palmer Station 35.71 174 LR LR 15 54 48.7
comp=Z,3µm,21.7s,baz=330,slow=34
PMSA Palmer Station 35.71 174 *eP* **P** **15 41 27.1 +2.6**
TMAB Tom-Au,PA,Br 35.74 46 *eP* **P** **15 41 26.3 +1.0**
SDV Santo Domingo 38.22 3 P **P** **15 41 45.9 -0.7**
SDV Santo Domingo 38.22 3 LR LR 15 58 41.4
comp=Z,3µm,21.2s,baz=182,slow=38
SDV Santo Domingo 38.22 3 *eP* **P** **15 41 47.0 +0.3**
BAUV El Baul 38.49 7 IAmb IAmb 15 41 50.2
comp=Z,246nm,0.8s
BAUV IAMs_20 IAMs_20 15 56 40.0
comp=Z,13µm,22.0s
BRU2 Volcan 39.26 344 P **P** **15 41 55.8 +0.4**
BRU2 IAmb IAmb 15 42 00.1
comp=Z,720nm,1.5s
NBPB Pedra_Branca-C 39.35 59 *eP* **P** **15 41 56.7 +0.7**
NBAN Anadia - AL 39.39 67 *eP* **P** **15 41 55.6 -0.7**
MDP Montagnes des 39.46 33 LR LR 15 59 44.4
comp=Z,4µm,18.7s,baz=206,slow=38
PCRV Puerto La Cruz 40.22 12 LR LR 15 58 38.2
comp=Z,3µm,20.0s,slow=36
NBCA Caruaru-PE 40.44 66 *eP* **P** **15 42 05.6 +0.4**
JTS Las Juntas de 41.28 342 P **P** **15 42 13.0 +1.1**
JTS IAmb IAmb 15 42 16.6
comp=Z,514nm,2.0s
JTS Las Juntas de 41.28 342 LR LR 15 55 53.0
comp=Z,2µm,19.1s,baz=155,slow=31
JTS Las Juntas de 41.28 342 P **P** **15 42 13.0 +1.1**
JTS pmax pmax
comp=Z,514nm,2.0s
JTS pmax pmax
comp=Z,2µm,18.0s
RCBR Riachuelo 41.98 63 P **P** **15 42 18.2 +0.5**
RCBR Riachuelo 41.98 63 IAMs_20 IAMs_20 15 58 57.8
comp=Z,6µm,20.0s
RCBR Riachuelo 41.98 63 LR LR 15 59 09.6
comp=Z,3µm,21.4s,baz=227,slow=35
RCBR Riachuelo 41.98 63 P **P** **15 42 18.2 +0.5**
RCBR pmax pmax
comp=Z,99nm,1.2s
RCBR pmax pmax
comp=Z,6µm,20.0s
RCBR Riachuelo 41.98 63 *eP* **P** **15 42 19.0 +1.2**
PRVC Isla de Provid 43.44 348 P **P** **15 42 29.1 -0.3**
HERN Volcan Telica 44.02 340 IAMs_20 IAMs_20 15 57 15.7
comp=Z,1µm,19.0s
MPOM Morne Pois Mar 45.18 16 P **P** **15 42 42.7 -0.7**
MPOM IAmb IAmb 15 42 52.6
comp=Z,174nm,1.1s
BIM Bigot 45.20 16 P **P** **15 42 42.4 -1.1**
BIM IAmb IAmb 15 42 44.2
comp=Z,146nm,1.0s
MTO3 Montecristo 46.50 338 IAmb IAmb 15 42 57.9
comp=Z,182nm,1.4s
APG El Apazote 47.44 336 LR LR 15 58 47.1
comp=Z,204nm,20.2s,baz=243,slow=31
CRPR Cabo Rojo, PR 47.55 7 IAmb IAmb 15 43 12.6
comp=Z,117nm,0.9s
IGPR InterUniversit 47.63 9 P **P** **15 43 02.2 -0.3**
IGPR IAmb IAmb 15 43 10.4
comp=Z,106nm,0.7s
BANI BANI 47.67 3 IAmb IAmb 15 43 14.1
comp=Z,246nm,1.6s
CELP Cerrillos 47.68 8 IAmb IAmb 15 43 04.9
comp=Z,146nm,0.7s
PDPR Patillas Dam, 47.69 9 IAmb IAmb 15 43 03.5
comp=Z,81nm,0.7s
PRSN Puerto Rico Se 47.75 7 IAmb IAmb 15 43 12.3
comp=Z,240nm,1.3s
SJG San Juan 47.77 8 P **P** **15 43 02.9 -0.7**
SJG San Juan 47.77 8 LR LR 16 06 00.2
comp=Z,616nm,18.6s,baz=188,slow=40
SJG San Juan 47.77 8 P **P** **15 43 02.9 -0.7**
SJG pmax pmax
comp=Z,420nm,1.7s
HUMP Col San Antoni 47.84 9 IAmb IAmb 15 43 05.5
comp=Z,240nm,1.8s
DR12 Loma Pena Alta 48.12 4 P **P** **15 43 05.8 -0.7**
DR12 IAmb IAmb 15 43 15.1
comp=Z,177nm,1.4s
CCIG Comitan 49.22 335 IAmb IAmb 15 43 17.8
comp=Z,149nm,1.3s
CCIG IAMs_20 IAMs_20 15 59 13.7
comp=Z,3µm,19.0s
CMIG Matias Romero 51.01 332 LR LR 15 59 58.6
comp=Z,2µm,20.2s,baz=172,slow=30
BELA Belgrano 2 51.40 170 P **P** **15 43 31.2 +0.5**
BELA IAmb IAmb 15 43 33.7
comp=Z,313nm,1.6s
BELA PcP **PcP** **15 44 45.1 +0.1**
TEIG Tepich 51.66 341 P **P** **15 43 34.1 +0.9**
SOR Soroa 52.92 348 P **P** **15 43 42.5 -0.1**
SOR IAmb IAmb 15 43 45.0
comp=Z,315nm,1.4s
SOR Soroa 52.92 348 P **P** **15 43 42.5 -0.1**
SOR pmax pmax
comp=Z,315nm,1.4s
SOR pmax pmax
comp=Z,1µm,19.0s
TLIG Tlapa 53.01 329 IAmb IAmb 15 43 48.0
comp=Z,209nm,1.3s
TLIG IAMs_20 IAMs_20 16 01 43.6
comp=Z,5µm,18.0s
VNA3 Neumayer Olymp 53.75 159 ⇑P **P** **15 43 48.3 +0.1**
comp=Z,20nm,0.8s
VNA3 ⇑sP **pwP** **15 44 05.6 +4.9**
VNA1 Neumayer--Stat 54.05 158 ⇑P **P** **15 43 50.7 +0.4**
comp=Z,42nm,1.1s
VNA2 Neumayer--Watz 54.39 158 ⇑P **P** **15 43 53.2 +0.4**
comp=Z,28nm,0.8s,baz=275,slow=7.7
VNA2 ⇓sP **pwP** **15 44 08.9 +3.6**
baz=275,slow=7.4
UNM Universidad Na 54.83 329 IAMs_20 IAMs_20 16 02 36.8
comp=Z,5µm,19.0s
SNAA Sanae 55.98 159 P **P** **15 44 04.2 -0.2**
SNAA IAmb IAmb 15 44 06.4
comp=Z,194nm,1.4s
SNAA IAMs_20 IAMs_20 16 08 32.3
comp=Z,3µm,18.0s
SNAA Sanae 55.98 159 ⇑P **P** **15 44 04.7 +0.4**
comp=Z,1µm,1.2s
SNAA Sanae 55.98 159 P **P** **15 44 04.7 +0.4**
comp=Z,30nm,0.8s,baz=288,slow=4.8,SNR=23
SNAA LR LR 16 08 34.6
comp=Z,2µm,18.1s,baz=273,slow=36
comp=Z,30nm,0.8s
SNAA Sanae 55.98 159 *c iP* **P** **15 44 04.6 +0.2**
SNAA pmax pmax
comp=Z,166nm,1.4s
SNAA MLR MLR
comp=Z,3µm,18.0s
MOIG Morelia 56.06 327 IAMs_20 IAMs_20 16 02 52.2
comp=Z,6µm,19.0s
TROLL Troll, Antarti 57.69 159 ⇑P **P** **15 44 17.0 +0.5**
comp=Z,955nm,0.8s
H10N3 ASCENSION HYDR 58.61 81 T T 16 47 08.4
baz=202,slow=75
H10N1 ASCENSION HYDR 58.63 81 T T 16 47 09.1
baz=202,slow=75
H10N2 ASCENSION HYDR 58.63 81 T T 16 47 09.7
baz=202,slow=75
ASCN Ascension 58.69 81 P **P** **15 44 22.8 -1.4**
ZAIG Zacatecas 59.37 328 IAmb IAmb 15 44 33.8
comp=Z,168nm,1.5s
ZAIG IAMs_20 IAMs_20 16 04 54.0
comp=Z,5µm,20.0s
QSPA South Pole Qui 60.72 180 P **P** **15 44 38.4 +0.8**
QSPA South Pole Qui 60.72 180 P **P** **15 44 38.4 +0.8**
comp=Z,242nm,1.1s,baz=151,slow=3.9,SNR=70
QSPA PKPPKP **P'P'df** **16 13 56.5 -6.7**
comp=Z,3.6nm,1.0s,baz=317,slow=3.4,SNR=3.9
comp=Z,242nm,1.1s
KVTX Kingsville 61.62 335 IAMs_20 IAMs_20 16 11 37.2
comp=Z,2µm,18.0s
HKT Hockley 63.09 338 P **P** **15 44 54.9 +1.3**
HKT Hockley 63.09 338 ⇑*i* P **P** **15 44 55.1 +1.4**
HKT pmax pmax
comp=Z,268nm,1.8s
HKT MLR MLR
comp=Z,1µm,16.0s
Y60A Bolivia 63.38 355 IAmb IAmb 15 45 05.6
comp=Z,127nm,0.9s
GOGA Godfrey 63.39 350 IAmb IAmb 15 44 57.6
comp=Z,179nm,1.7s
LRAL Lakeview Retre 63.65 347 IAmb IAmb 15 44 59.6
comp=Z,113nm,1.5s
HNVL Huntsville, TX 63.71 338 IAmb IAmb 15 45 01.1
comp=Z,115nm,0.8s
SLBS Sierra La Lagu 63.84 322 P **P** **15 45 00.9 +1.9**
SLBS Sierra La Lagu 63.84 322 IAMs_20 IAMs_20 16 07 51.9
comp=Z,2µm,19.0s
X58A Rowland 64.02 354 IAmb IAmb 15 45 01.4
comp=Z,73nm,0.7s
ELIB Princess Elisa 64.11 160 *dP* **P** **15 45 00.5 +0.3**
comp=Z,32nm,1.2s
BIRD Birdtown, Kers 64.22 353 IAmb IAmb 15 45 03.5
comp=Z,124nm,1.4s
DRIO Del Rio 64.35 333 IAmb IAmb 15 45 05.6
comp=Z,181nm,1.4s
LPIG La Paz 64.37 322 P **P** **15 45 04.4 +2.1**
comp=Z,24nm,0.3s,baz=245,slow=0.4,SNR=17
comp=Z,24nm,0.3s
HPIG 64.37 327 IAmb IAmb 15 45 06.3
comp=Z,178nm,1.3s
HPIG IAMs_20 IAMs_20 16 08 23.6
comp=Z,4µm,19.0s
PAULI Pauline 64.55 352 P **P** **15 45 03.8 +0.5**
PAULI IAmb IAmb 15 45 05.7
comp=Z,272nm,1.8s
W57A Gilead 64.67 353 IAmb IAmb 15 45 06.3
comp=Z,193nm,1.7s
KMSC Kings Mountain 64.81 352 IAmb IAmb 15 45 07.2
comp=Z,241nm,1.8s
SACV Santiago Islan 64.83 54 IAMs_20 IAMs_20 16 13 17.0
comp=Z,3µm,19.0s
FPAL Fort Paine 64.85 348 IAmb IAmb 15 45 07.2
comp=Z,125nm,1.6s

BG3 Lake Jocassee 64.87 351 P P 15 45 05.7 +0.3
BG3 IAmb IAmb 15 45 15.4
comp=Z,141nm,1.4s
JCT Junction City 64.98 334 P P 15 45 07.3 +1.1
JCT Junction City 64.98 334 P P 15 45 07.3 +1.1
JCT pmax pmax
comp=Z,460nm,1.5s
JCT pmax pmax
comp=Z,1µm,18.0s
V58A Windy Hill, Pi 65.23 354 IAmb IAmb 15 45 17.4
comp=Z,67nm,1.0s
BRDY Brady 65.41 335 P P 15 45 10.1 +1.1
V55A Taylorsville 65.50 352 IAmb IAmb 15 45 11.8
comp=Z,226nm,1.6s
V53A Saluda 65.52 351 IAmb IAmb 15 45 19.4
comp=Z,155nm,1.4s
TXAR Lajitas Array 65.53 330 P P 15 45 11.6 +1.6
TXAR Lajitas Array 65.53 330 P P 15 45 11.8 +1.9
comp=Z,13nm,0.6s,baz=145,slow=9.0,SNR=118
TXAR LR LR 16 09 40.3
comp=Z,2µm,18.3s,baz=170,slow=32
TXAR PKP2bc 16 13 51.6
comp=Z,2.6nm,1.1s,baz=279,slow=2.4,SNR=6.3
comp=Z,13nm,0.6s
TX31 Lajitas Ar. Si 65.53 330 IAmb IAmb 15 45 13.6
comp=Z,282nm,1.9s
SWET Sewanee 65.57 348 IAmb IAmb 15 45 19.1
comp=Z,90nm,0.9s
TKL Tuckaleechee C 65.64 350 P P 15 45 11.0 +0.6
comp=Z,60nm,1.1s,baz=163,slow=7.2,SNR=31
TKL LR LR 16 12 27.7
comp=Z,594nm,21.5s,baz=170,slow=35
comp=Z,60nm,1.1s
WLAR White Oak Lake 65.74 341 P P 15 45 12.1 +1.1
PLAL Pickwick Lake 65.75 346 IAmb IAmb 15 45 20.1
comp=Z,87nm,1.1s
FW13 Cleburne 65.83 337 IAmb IAmb 15 45 14.0
comp=Z,81nm,0.7s
Z38A Mt. Pleasant 65.88 340 P P 15 45 13.2 +1.2
OZNA Ozona 65.89 333 IAmb IAmb 15 45 14.7
comp=Z,114nm,0.9s
U56A King 65.90 353 IAmb IAmb 15 45 13.8
comp=Z,51nm,0.8s
U54A Nelsons Funny 66.23 352 IAmb IAmb 15 45 23.9
comp=Z,123nm,1.1s
FW07 Weatherford 66.27 337 IAmb IAmb 15 45 16.7
comp=Z,66nm,0.8s
ALPN Alpine 66.42 331 P P 15 45 16.7 +1.0
ALPN IAmb IAmb 15 45 19.2
comp=Z,260nm,1.7s
FW06 Azle 66.44 337 IAmb IAmb 15 45 19.0
comp=Z,284nm,1.7s
TZTN Tazewell 66.48 351 IAmb IAmb 15 45 17.9
comp=Z,156nm,1.4s
PLPT Palo Pinto 66.55 337 IAmb IAmb 15 45 18.7
comp=Z,88nm,0.7s
UALR University of 66.56 342 IAmb IAmb 15 45 26.6
comp=Z,75nm,1.2s
MIAR Mount Ida 66.67 341 P P 15 45 16.8 -0.2
MIAR IAmb IAmb 15 45 19.8
comp=Z,168nm,1.4s
MIAR Mount Ida 66.67 341 P P 15 45 16.8 -0.2
MIAR pmax pmax
comp=Z,168nm,1.5s
BLA Blacksburg 66.76 353 IAmb IAmb 15 45 20.2
comp=Z,202nm,1.8s
SGCY Sterling City 66.77 334 IAmb IAmb 15 45 20.6
comp=Z,115nm,1.1s
WVT Waverly 66.81 347 P P 15 45 18.4 +0.5
WVT Waverly 66.81 347 P P 15 45 18.4 +0.5
WVT pmax pmax
comp=Z,478nm,1.9s
MNHN Monahans 66.90 332 IAmb IAmb 15 45 21.2
comp=Z,100nm,0.8s
LNXT Lenox 67.13 345 P P 15 45 20.6 +0.7
LOOK Love County 67.25 338 IAmb IAmb 15 45 23.8
comp=Z,123nm,1.1s
VHRN Van Horn 67.36 330 IAmb IAmb 15 45 24.8
comp=Z,274nm,1.7s
PECS Pecos 67.39 331 IAmb IAmb 15 45 25.4
comp=Z,140nm,1.4s
LCAR Lake Charles 67.49 344 IAmb IAmb 15 45 31.5
comp=Z,74nm,0.8s
R61A Willards 67.53 358 IAmb IAmb 15 45 25.2
comp=Z,143nm,0.8s
SN05 Snyder 5 67.53 335 IAmb IAmb 15 45 24.8
comp=Z,165nm,1.4s
FCAR Ozark Folk Cen 67.56 343 IAmb IAmb 15 45 24.1
comp=Z,117nm,1.5s
APMT Aspermont 67.65 335 IAmb IAmb 15 45 25.7
comp=Z,102nm,0.7s
R55A Marlinton 67.79 354 P P 15 45 24.7 +0.6
R55A IAmb IAmb 15 45 27.0
comp=Z,289nm,1.8s
SRIG Santa Rosalia 67.98 322 IAmb IAmb 15 45 29.4
comp=Z,278nm,1.8s
PBMO Poplar Bluff 67.99 345 IAmb IAmb 15 45 34.8
comp=Z,74nm,0.9s
W35A Tecumseh 68.22 339 P P 15 45 26.7 -0.1
W35A IAmb IAmb 15 45 28.8
comp=Z,209nm,1.6s
DKNS Dickens 68.25 335 IAmb IAmb 15 45 29.1
comp=Z,46nm,0.8s
VNDA Vanda 68.38 191 P P 15 45 29.3 +2.0
VNDA IAmb IAmb 15 45 31.6
comp=Z,152nm,1.6s
VNDA Vanda 68.38 191 P P 15 45 29.5 +2.2
comp=Z,37nm,1.3s,baz=137,slow=7.5,SNR=12
VNDA LR LR 16 11 14.9
comp=Z,517nm,18.1s,baz=122,slow=32
comp=Z,37nm,1.3s
VNDA Vanda 68.38 191 P P 15 45 29.3 +2.0
VNDA pmax pmax
comp=Z,152nm,1.7s
T42A Van Buren 68.39 344 IAmb IAmb 15 45 30.0
comp=Z,142nm,1.6s
HHAR Hobbs 68.41 342 IAmb IAmb 15 45 29.8
comp=Z,76nm,0.8s
Q56A Snyder Ridge, 68.46 355 IAmb IAmb 15 45 39.0
comp=Z,221nm,1.8s
WMOK Wichita Mounta 68.46 337 P P 15 45 28.5 +0.1
WMOK IAmb IAmb 15 45 30.8
comp=Z,139nm,1.6s
WMOK Wichita Mounta 68.46 337 P P 15 45 28.5 +0.1
WMOK pmax pmax
comp=Z,139nm,1.6s
FNO Franklin 68.48 338 IAmb IAmb 15 45 31.0
comp=Z,237nm,1.4s
WCI Wyandotte Cave 68.56 349 P P 15 45 28.8 -0.1
WCI IAmb IAmb 15 45 30.7
comp=Z,202nm,1.6s
WCI Wyandotte Cave 68.56 349 P P 15 45 28.8 -0.1
WCI pmax pmax
comp=Z,202nm,1.6s
MGMO Mountain Grove 68.79 343 IAmb IAmb 15 45 32.1
comp=Z,78nm,1.2s
EPT El Paso 68.87 330 P P 15 45 32.1 +1.0
EPT IAmb IAmb 15 45 34.1
comp=Z,263nm,1.7s
OK052 Battle Ridge R 68.97 339 IAmb IAmb 15 45 33.8
comp=Z,186nm,1.3s
P53A Whipple 69.11 353 IAmb IAmb 15 45 34.5
comp=Z,303nm,1.8s
MCWV Mont Chateau 69.13 354 IAmb IAmb 15 45 34.9
comp=Z,273nm,1.9s
WUPA West Chester U 69.14 358 IAmb IAmb 15 45 35.7
comp=Z,157nm,1.6s
FVM French Village 69.15 345 P P 15 45 33.1 +0.6
FVM French Village 69.15 345 P P 15 45 33.1 +0.6
FVM pmax pmax
comp=Z,280nm,1.4s
MVL Millersville 69.23 357 IAmb IAmb 15 45 44.0
comp=Z,138nm,1.3s
SMWD Samnorwood 69.30 336 IAmb IAmb 15 45 35.7
comp=Z,96nm,0.8s
P51A Williamsport 69.30 351 IAmb IAmb 15 45 42.4
comp=Z,72nm,0.8s
P52A Corning 69.34 352 IAmb IAmb 15 45 35.4
comp=Z,230nm,1.4s
CCM Cathedral Cave 69.40 344 P P 15 45 33.9 -0.2
CCM IAmb IAmb 15 45 35.9
comp=Z,76nm,0.9s
CCM Cathedral Cave 69.40 344 P P 15 45 33.9 -0.2
CCM pmax pmax
comp=Z,76nm,0.9s
OK048 Pawnee Station 69.41 339 IAmb IAmb 15 45 36.1
comp=Z,130nm,1.2s

OK051 E0350 and S346 69.45 339 IAmb IAmb 15 45 36.4
comp=Z,147nm,1.1s
BLO Bloomington 69.52 349 IAmb IAmb 15 45 36.9
comp=Z,222nm,1.7s
P49A Miami Univ. Ec 69.58 350 IAmb IAmb 15 45 36.9
comp=Z,223nm,1.6s
T35A Sooner Cattle 69.73 340 P P 15 45 37.0 +0.8
T35A IAmb IAmb 15 45 39.0
comp=Z,242nm,1.5s
BBTS Babate 69.77 59 LR LR 16 16 07.9
comp=Z,4µm,19.1s,baz=110,slow=36
O52A Adamsville 69.78 353 IAmb IAmb 15 45 46.0
comp=Z,211nm,1.6s
319A Douglas 69.80 327 IAmb IAmb 15 45 40.1
comp=Z,111nm,1.1s
BLOK Blackwell 69.81 339 IAmb IAmb 15 45 39.4
comp=Z,158nm,1.4s
O53A New Philadelph 69.84 353 IAmb IAmb 15 45 38.9
comp=Z,184nm,1.5s
ELIS Ellis County 69.88 337 IAmb IAmb 15 45 40.5
comp=Z,202nm,1.4s
ELIS IAMs_20 IAMs_20 16 17 58.9
comp=Z,3µm,21.0s
SSPA Standing Stone 69.95 356 P P **15 45 38.6 +1.2**
SSPA IAmb IAmb 15 45 40.3
comp=Z,208nm,1.6s
ACSO Alum Creek Sta 70.03 352 IAmb IAmb 15 45 47.1
comp=Z,95nm,0.8s
N58A Sunbury 70.09 357 IAmb IAmb 15 45 49.0
comp=Z,93nm,1.0s
KAN14 Manchester OK 70.22 339 IAmb IAmb 15 45 41.1
comp=Z,107nm,1.4s
NOKA Waynoka 70.24 338 IAmb IAmb 15 45 41.5
comp=Z,64nm,0.9s
ODNJ Ogdensburg 70.25 359 P P **15 45 39.4 +0.2**
ODNJ IAmb IAmb 15 45 42.5
comp=Z,205nm,1.7s
SYO Syowa Base 70.26 159⇑ *iP* P **15 45 39.2 +0.1**
SYO Syowa Base 70.26 159‖ *epP* P **15 45 42.0 +2.9**
SYO Syowa Base 70.26 159‖ *esP* sP 15 45 44.4 -2.7
PPTF Pamatai, Papee 70.31 261 P P **15 45 41.0 +0.7**
WSPT Westport, CT 70.32 360 IAmb IAmb 15 45 42.9
comp=Z,272nm,1.9s
KAN05 Bluff City Nor 70.33 339 IAmb IAmb 15 45 42.8
comp=Z,268nm,1.5s
PPT Papeete 70.33 261 P P **15 45 42.0 +1.6**
comp=Z,112nm,1.1s,baz=118,slow=6.9,SNR=7.5
PPT LR LR 16 08 50.3
comp=Z,4µm,18.4s,baz=96,slow=29
comp=Z,112nm,1.1s
KAN01 Argonia South 70.34 339 P P **15 45 40.4 +0.6**
N53A Lisbon 70.36 353 IAmb IAmb 15 45 42.3
comp=Z,187nm,1.6s
O48B Farmland 70.36 350 IAmb IAmb 15 45 48.7
comp=Z,63nm,0.7s
KAN08 Anthony NE Sta 70.47 339 IAmb IAmb 15 45 43.0
comp=Z,100nm,0.8s
N51A Ashland 70.64 352 IAmb IAmb 15 45 43.5
comp=Z,206nm,1.5s
KSPA Keystone Colle 70.76 358 P P **15 45 42.7 +0.3**
KSPA IAmb IAmb 15 45 45.6
comp=Z,148nm,1.6s
SFIN Lafayette 70.80 348 IAmb IAmb 15 45 44.0
comp=Z,254nm,1.7s
KSCT Kent School, K 70.88 359 IAmb IAmb 15 45 45.3
comp=Z,99nm,0.7s
BNM Barren Site 70.95 331 P P **15 45 45.0 +1.0**
Y22D IRIS PASSCAL I 71.01 330 IAMs_20 IAMs_20 16 12 47.5
comp=Z,3µm,19.0s
L64A Middleborough 71.11 2 IAmb IAmb 15 45 55.4
comp=Z,74nm,1.0s
ALLY Alegheny Colle 71.13 354 IAmb IAmb 15 45 46.8
comp=Z,236nm,1.6s
M50A Fremont 71.19 352 IAmb IAmb 15 45 54.6
comp=Z,319nm,1.7s
TUC Tucson 71.29 327 P P **15 45 47.6 +1.8**
TUC IAmb IAmb 15 45 49.6
comp=Z,180nm,1.9s
TUC Tucson 71.29 327 IAMs_20 IAMs_20 16 13 56.1
comp=Z,2µm,18.0s
TUC Tucson 71.29 327 P P **15 45 47.7 +1.8**
TUC pmax pmax
comp=Z,180nm,1.9s
TUC pmax pmax
comp=Z,2µm,18.0s
HDIL Hopedale 71.38 347 P P **15 45 46.2 +0.1**
RTBA Rita Blanca 71.39 335 IAmb IAmb 15 45 49.9
comp=Z,130nm,1.6s
BINY Binghamton 71.41 357 IAmb IAmb 15 45 49.4
comp=Z,257nm,1.8s
WES Weston 71.55 1 P P **15 45 48.2 +1.2**
WES IAmb IAmb 15 45 50.4
comp=Z,270nm,1.8s
WES Weston 71.55 1 P P **15 45 48.3 +1.2**
WES pmax pmax
comp=Z,270nm,1.8s
ANMO Albuquerque 71.56 331 P P **15 45 49.7 +2.0**
ANMO IAmb IAmb 15 45 51.6
comp=Z,153nm,1.6s
ANMO Albuquerque 71.56 331 IAMs_20 IAMs_20 16 12 49.0
comp=Z,2µm,20.0s
ANMO Albuquerque 71.56 331 *c iP* P **15 45 49.6 +2.0**
ANMO pmax pmax
comp=Z,54nm,1.5s
ANMO MLR MLR
comp=Z,1µm,16.0s
ERPA Erie 71.58 354 IAmb IAmb 15 45 57.2
comp=Z,109nm,1.1s
HRV Adam Dziewonsk 71.67 1 P P **15 45 49.2 +1.4**
HRV Adam Dziewonsk 71.67 1 P P **15 45 49.2 +1.4**
HRV pmax pmax
comp=Z,69nm,1.0s
K62A Royalston 71.82 0 IAmb IAmb 15 46 00.1
comp=Z,137nm,1.5s
K62A IAMs_20 IAMs_20 16 16 33.9
comp=Z,2µm,22.0s
N41A Harden Midland 71.85 346 IAmb IAmb 15 45 50.9
comp=Z,265nm,1.6s
TRY Troy 71.89 359 IAmb IAmb 15 45 52.5
comp=Z,293nm,1.6s
M44A Midewin, Midew 71.94 348 IAmb IAmb 15 45 51.2
comp=Z,246nm,1.5s
K57A Scipio Center 71.97 357 P P 15 45 49.7 +0.1
K57A IAmb IAmb 15 45 52.2
comp=Z,361nm,2.0s
PIX Pinacate 72.01 324 IAmb IAmb 15 45 53.8
comp=Z,206nm,1.8s
L46A Eue Claire 72.25 349 IAmb IAmb 15 45 52.8
comp=Z,353nm,1.9s
N38A Joes South For 72.48 344 P P 15 45 53.2 +0.5
N38A IAmb IAmb 15 45 54.3
comp=Z,100nm,0.8s
CBKS Cedar Bluff 72.48 338 IAmb IAmb 15 45 55.2
comp=Z,79nm,0.8s
K50A Casco 72.50 352 IAmb IAmb 15 46 02.1
comp=Z,90nm,0.7s
MEDO Medina 72.50 356 IAmb IAmb 15 45 55.3
comp=Z,158nm,2.0s
ACCN Adirondack Com 72.54 359 IAmb IAmb 15 45 56.3
comp=Z,192nm,1.8s
J55A Hilton 72.56 356 P P 15 45 53.9 +0.8
J55A IAmb IAmb 15 45 54.8
comp=Z,62nm,0.7s
J57A Williamstown 72.62 358 IAmb IAmb 15 45 56.1
comp=Z,320nm,1.9s
J59A Piesco 72.63 359 IAmb IAmb 15 45 56.4
comp=Z,137nm,1.7s
L44A Lake County Fo 72.69 348 IAmb IAmb 15 45 55.9
comp=Z,265nm,1.6s
X18A Snowflake 72.73 328 P P 15 45 55.4 +0.8
I62A Tamworth 73.04 1 IAmb IAmb 15 46 07.1
comp=Z,116nm,1.4s
VTX Valle De La Tr 73.09 322 IAmb IAmb 15 46 00.8
comp=Z,189nm,1.6s
N35A Tabor 73.16 342 IAmb IAmb 15 45 58.0
comp=Z,96nm,0.7s
PECO Prince Edward 73.19 357 P P 15 45 57.4 +0.5
L40A Anamosa 73.22 346 IAmb IAmb 15 45 58.5
comp=Z,93nm,0.9s
I63A Otisfield 73.23 2 IAmb IAmb 15 46 00.9
comp=Z,255nm,1.6s
J47A Sunmer 73.23 351 IAmb IAmb 15 45 58.9
comp=Z,145nm,1.3s
SCIA State Center 73.53 344 IAmb IAmb 15 46 01.5
comp=Z,242nm,1.4s
SDCO Great Sand Dun 73.59 333 P P 15 46 01.4 +1.7
SDCO IAmb IAmb 15 46 03.5
comp=Z,163nm,1.6s
SDCO IAMs_20 IAMs_20 16 15 07.7
comp=Z,2µm,18.0s
I49A Point Hope 73.67 352 IAmb IAmb 15 46 01.4
comp=Z,178nm,1.5s
DELO Deloro Mine 73.80 356 P P 15 46 01.0 +0.6
DELO IAmb IAmb 15 46 03.1
comp=Z,250nm,1.8s
JFWS Jewell Farm 73.84 347 IAmb IAmb 15 46 03.1
comp=Z,268nm,1.6s
GLA Glamis 73.89 324 IAmb IAmb 15 46 05.2
comp=Z,146nm,1.6s
FRNY Flat Rock 73.99 359 IAmb IAmb 15 46 12.1
comp=Z,237nm,1.9s
S22A 4UR Ranch, Cre 74.12 332 IAmb IAmb 15 46 07.0
comp=Z,200nm,1.9s
SADO Sadowa 74.15 355 IAmb IAmb 15 46 04.0
comp=Z,68nm,0.8s
SADO Sadowa 74.15 355 LR LR 16 22 42.9
comp=Z,609nm,18.9s,baz=216,slow=39
WUAZ Wupatki 74.20 328 IAmb IAmb 15 46 07.3
comp=Z,426nm,1.9s
WUAZ IAMs_20 IAMs_20 16 14 43.2
comp=Z,2µm,20.0s
HAL Halifax 74.26 7 P P 15 46 03.9 +0.8
HAL Halifax 74.26 7 P P 15 46 03.9 +0.8
HAL pmax pmax
comp=Z,41nm,0.9s
MVCO Mesa Verde 74.35 331 IAmb IAmb 15 46 07.1
comp=Z,111nm,1.2s
MVCO IAMs_20 IAMs_20 16 15 41.5
comp=Z,2µm,19.0s
DBIC Dimbokro 74.38 73 P P 15 46 05.7 +1.2
DBIC Dimbokro 74.38 73 P P 15 46 05.8 +1.2
comp=Z,163nm,0.7s,baz=225,slow=5.4,SNR=194
DBIC LR LR 16 16 56.7
comp=Z,3µm,19.2s,baz=216,slow=34
comp=Z,163nm,0.7s
DBIC Dimbokro 74.38 73 P P 15 46 05.7 +1.2
DBIC pmax pmax
comp=Z,172nm,0.7s
L34A Svendsen Farm, 74.39 342 IAmb IAmb 15 46 05.3
comp=Z,85nm,0.7s
G62A West of Eustis 74.40 2 P P 15 46 05.1 +1.2
TKX Tecate 74.44 323 IAmb IAmb 15 48 13.9
comp=Z,80nm,0.6s
Q24A Divide 74.52 334 IAmb IAmb 15 46 08.1
comp=Z,78nm,0.8s
I42A Draeger Farm, 74.53 348 IAmb IAmb 15 46 07.1
comp=Z,260nm,1.9s
I40A Norwalk 74.85 347 IAmb IAmb 15 46 08.9
comp=Z,196nm,1.6s
OGNE Ogallala 75.16 337 IAmb IAmb 15 46 12.0
comp=Z,166nm,1.6s
PFO Pinyon Flats O 75.17 323 P P 15 46 09.7 +0.9
PFO Pinyon Flats O 75.17 323 LR LR 16 12 38.1
comp=Z,986nm,20.4s,baz=184,slow=30
PFO Pinyon Flats O 75.17 323 *d iP* P **15 46 09.8 +0.9**
PFO pmax pmax
comp=Z,125nm,1.3s
PFO MLR MLR
comp=Z,3µm,14.0s
GBN Guysborough 75.26 8 P P 15 46 10.4 +1.6
GBN IAmb IAmb 15 46 12.3
comp=Z,215nm,1.8s
PV15 Paradox Valley 75.30 332 IAmb IAmb 15 46 13.9
comp=Z,320nm,1.8s
LMN Caledonia Moun 75.35 6 P P 15 46 10.8 +1.4
U15A North Rim 75.38 328 IAmb IAmb 15 46 14.4
comp=Z,280nm,1.9s
PV11 David Mesa, Pa 75.43 331 IAmb IAmb 15 46 14.0
comp=Z,202nm,1.7s
PV10 Paradox Valley 75.56 331 IAmb IAmb 15 46 13.4
comp=Z,86nm,0.9s
I37A Lemond, Waseca 75.57 345 P P 15 46 11.2 +0.5
PV23 Carpenter Ridg 75.61 331 IAmb IAmb 15 46 14.3
comp=Z,91nm,1.1s
BRIGG Briggsdale 75.63 336 IAmb IAmb 15 46 14.5
comp=Z,151nm,1.4s
BRIGG IAMs_20 IAMs_20 16 18 48.6
comp=Z,1µm,18.0s
HMU Henry Mountain 75.92 330 IAmb IAmb 15 46 18.5
comp=Z,237nm,1.5s
V12A Nelson 76.03 326 IAMs_20 IAMs_20 16 17 20.3
comp=Z,3µm,18.0s
ECSD EROS Data Cent 76.09 342 IAMs_20 IAMs_20 16 25 26.1
comp=Z,1µm,18.0s
G40A Rib Lake 76.10 347 IAmb IAmb 15 46 16.0
comp=Z,134nm,1.6s
KNB Kanab 76.10 328 P P 15 46 16.0 +1.8
KNB Kanab 76.10 328 P P 15 46 16.0 +1.8
KNB pmax pmax
comp=Z,358nm,1.6s
E46A Sault Ste Mari 76.24 352 IAmb IAmb 15 46 16.5
comp=Z,400nm,1.9s
LCMT Little Creek M 76.29 328 IAmb IAmb 15 46 19.0
comp=Z,142nm,1.7s
PASC Pasadena Art C 76.51 323 IAmb IAmb 15 46 20.3
comp=Z,120nm,1.4s
PASC IAMs_20 IAMs_20 16 17 40.5
comp=Z,2µm,19.0s
SPMN Marine on St. 76.58 346 IAmb IAmb 15 46 17.6
comp=Z,113nm,1.3s
BATG Bathurst New B 76.67 5 P P 15 46 17.9 +1.0
COWI Conover 76.70 348 IAmb IAmb 15 46 19.5
comp=Z,155nm,1.7s
O20A White River Ci 76.73 333 IAmb IAmb 15 46 20.6
comp=Z,82nm,0.9s
O20A IAMs_20 IAMs_20 16 15 45.8
comp=Z,2µm,21.0s
Q16A Castle Valley 76.92 330 IAmb IAmb 15 46 22.7
comp=Z,279nm,1.7s
P18A Preston Nutter 77.12 331 IAmb IAmb 15 46 23.9
comp=Z,264nm,1.6s
CCAC Calif City Air 77.18 323 IAmb IAmb 15 46 23.2
comp=Z,103nm,1.3s
TCRU Three Creeks R 77.23 329 IAmb IAmb 15 46 24.7
comp=Z,166nm,1.8s
TMUT Trail Mountain 77.26 330 IAmb IAmb 15 46 24.7
comp=Z,182nm,1.8s
RAR Rarotonga 77.38 253 P **P 15 46 21.5 -0.1**
comp=Z,8.9nm,0.3s,baz=109,slow=16,SNR=9.2
comp=Z,8.9nm,0.3s
VLDQ Val d'Or 77.38 357 P P 15 46 21.4 +0.6
VLDQ IAmb IAmb 15 46 23.4
comp=Z,167nm,1.8s
SUSD Miller 77.39 341 IAmb IAmb 15 46 23.4
comp=Z,379nm,1.7s
PRN Pahroc Range 77.47 327 IAmb IAmb 15 46 26.0
comp=Z,118nm,1.2s
SUR Sutherland 77.57 120 LR LR 16 15 55.5
comp=Z,2µm,20.9s,baz=230,slow=32
MAW Mawson 77.65 164 P P 15 46 23.4 +1.1
MAW Mawson 77.65 164 P P 15 46 20.9 -1.4
MAW Mawson 77.65 164 P P 15 46 22.7 +0.4
comp=Z,151nm,1.2s,baz=221,slow=10,SNR=6.7
MAW LR LR 16 20 20.8
comp=Z,2µm,20.0s,baz=192,slow=35
comp=Z,151nm,1.2s
MAW Mawson 77.65 164 P P 15 46 23.4 +1.1
MAW pmax pmax
comp=Z,39nm,1.2s
TPNV Topopah Spring 77.68 326 IAMs_20 IAMs_20 16 20 01.4
comp=Z,2µm,18.0s
ACRG Accra 77.74 76 P P 15 46 24.9 +1.1
ACRG IAmb IAmb 15 46 26.4
comp=Z,113nm,0.8s
BCW Bitter Crk WRg 77.75 322 IAmb IAmb 15 46 27.6
comp=Z,230nm,1.4s
S11A Rachel 77.99 326 P P 15 46 25.9 +1.1
MPU Maple Canyon 78.03 330 IAmb IAmb 15 46 28.5
comp=Z,176nm,1.7s
BSUT Blindstream Ca 78.10 331 IAmb IAmb 15 46 28.5
comp=Z,92nm,1.1s
K22A Casper 78.24 335 IAMs_20 IAMs_20 16 25 29.1
comp=Z,2µm,18.0s
SPR3 Spring Creek 3 78.41 328 IAmb IAmb 15 46 30.6
comp=Z,204nm,1.8s
DUG Dugway, Tooele 78.69 330 IAmb IAmb 15 46 32.3
comp=Z,248nm,1.8s
TCUT Toone Canyon 78.85 331 IAmb IAmb 15 46 33.0
comp=Z,356nm,2.0s
DSP Deep Springs 78.87 325 IAmb IAmb 15 46 33.4
comp=Z,168nm,1.7s
EYMN Ely 78.92 347 IAmb IAmb 15 46 31.5
comp=Z,204nm,1.9s
CTZ Chatham Island 79.27 226 P **P 15 46 32.9 +1.2**

CTZ IAmb IAmb 15 46 35.4
comp=Z,207nm,1.2s
HWUT Hardware Ranch 79.33 331 IAMs_20 IAMs_20 16 18 21.6
comp=Z,2µm,18.0s
BGU Big Grassy Mou 79.39 330 IAmb IAmb 15 46 35.6
comp=Z,164nm,1.7s
PMPB Monarch Peak 79.45 322 IAmb IAmb 15 46 37.0
comp=Z,249nm,1.5s
PDAR Pinedale Array 79.49 333 P **P** **15 46 33.3 +0.3**
PDAR Pinedale Array 79.49 333 P **P** **15 46 34.1 +1.1**
comp=Z,7.7nm,0.6s,baz=137,slow=7.1,SNR=81
PDAR PKKPbc **PKKPbc** **16 05 21.7 -2.0**
comp=Z,0.7nm,0.7s,baz=316,slow=0.3,SNR=6.0
PDAR PKPPKP P'P'df 16 13 31.0 +11
comp=Z,1.3nm,1.1s,baz=180,slow=0.4,SNR=5.4
comp=Z,7.7nm,0.6s
Q09A Carvers 79.62 326 IAMs_20 IAMs_20 16 16 03.3
comp=Z,2µm,19.0s
LHV Little Huntoon 79.82 325 IAmb IAmb 15 46 38.7
comp=Z,277nm,1.8s
NVAR Mina Array Bea 79.86 325 P **P** **15 46 36.6 +1.5**
NVAR Mina Array Bea 79.86 325 P **P** **15 46 37.1 +2.1**
comp=Z,14nm,0.8s,baz=155,slow=6.3,SNR=61
NVAR PKKPbc **PKKPbc** **16 05 20.2 -2.3**
comp=Z,0.8nm,0.7s,baz=238,slow=3.1,SNR=4.5
comp=Z,14nm,0.8s
HVU Hansel Valley 79.98 331 P **P** **15 46 36.0 +0.5**
HVU Hansel Valley 79.98 331 P **P** **15 46 36.0 +0.5**
HVU pmax pmax
comp=Z,108nm,1.3s
AHID Auburn Hatcher 80.10 332 IAMs_20 IAMs_20 16 19 49.0
comp=Z,3µm,18.0s
SAO San Andreas Ge 80.21 322 IAMs_20 IAMs_20 16 13 27.5
comp=Z,3µm,21.0s
ELK Elko 80.22 329 IAMs_20 IAMs_20 16 17 48.5
comp=Z,3µm,19.0s
ELK Elko 80.22 329 LR LR 16 17 60.0
comp=Z,3µm,19.8s,baz=176,slow=32
SNOW Snow King Moun 80.55 333 IAMs_20 IAMs_20 16 20 36.2
comp=Z,3µm,18.0s
CMB Columbia Colle 80.61 324 P **P** **15 46 39.4 +0.5**
CMB IAMs_20 IAMs_20 16 21 42.9
comp=Z,2µm,18.0s
CMB Columbia Colle 80.61 324 P **P** **15 46 39.4 +0.5**
CMB pmax pmax
comp=Z,56nm,1.5s
CMB pmax pmax
comp=Z,2µm,18.0s
TPAW Teton Pass 80.65 333 IAMs_20 IAMs_20 16 18 44.5
comp=Z,2µm,20.0s
MDND Maddock 80.70 342 IAMs_20 IAMs_20 16 26 47.8
comp=Z,2µm,18.0s
MOOW Moose Ponds 80.78 333 IAMs_20 IAMs_20 16 21 00.5
comp=Z,3µm,18.0s
FXWY Fox Creek 80.80 333 IAMs_20 IAMs_20 16 18 48.5
comp=Z,3µm,20.0s
SOE Somerset East 80.95 122 P **P** **15 46 41.4 +0.3**
SOE IAmb IAmb 15 46 43.7
comp=Z,107nm,1.2s
PNTR Pine Nut 81.01 325 IAmb IAmb 15 46 45.1
comp=Z,191nm,1.5s
TSUM Tsumeb 81.06 107 P P 15 46 36.1 -5.9
TSUM Tsumeb 81.06 107 LR LR 16 19 16.4
comp=Z,4µm,19.0s,baz=233,slow=33
GRHM Grahamstown, E 81.27 123 P **P** **15 46 42.0 -0.8**
LKWY Lake 81.33 334 IAMs_20 IAMs_20 16 20 56.0
comp=Z,3µm,18.0s
PAHR Pah Rah Range 81.38 325 IAmb IAmb 15 46 47.0
comp=Z,342nm,1.8s
AFDM Forest Hills D 81.60 324 IAmb IAmb 15 46 47.4
comp=Z,157nm,1.6s
YMR Madison River 81.64 334 IAmb IAmb 15 46 48.1
comp=Z,228nm,1.6s
LAO LASA Array 81.65 337 IAmb IAmb 15 46 47.1
comp=Z,110nm,1.2s
LAO IAMs_20 IAMs_20 16 25 01.2
comp=Z,1µm,18.0s
YHH Holmes Hill 81.69 334 P **P** **15 46 45.4 +0.6**
YHL Hebgen Lake 81.88 333 IAmb IAmb 15 46 49.6
comp=Z,133nm,1.5s
MCCM Marconi Confer 82.00 322 IAMs_20 IAMs_20 16 13 59.8
comp=Z,3µm,20.0s
ULM Lac du Bonnet 82.01 345 P **P** **15 46 45.9 -0.1**
ULM IAmb IAmb 15 46 47.9
comp=Z,202nm,1.4s
ULM Lac du Bonnet 82.01 345 P **P** **15 46 46.5 +0.5**
comp=Z,44nm,0.9s,baz=161,slow=5.4,SNR=59
ULM PKKPbc **PKKPdf** **16 05 12.8 +3.5**
comp=Z,0.7nm,0.5s,baz=343,slow=4.0,SNR=4.1
ULM LR LR 16 23 57.7
comp=Z,782nm,20.1s,baz=178,slow=36
comp=Z,44nm,0.9s
ULM Lac du Bonnet 82.01 345 P **P** **15 46 45.9 -0.1**
ULM pmax pmax
comp=Z,202nm,1.4s
HLID Hailey 82.13 331 P **P** **15 46 48.0 +1.0**
HLID IAmb IAmb 15 46 50.6
comp=Z,169nm,1.6s
HLID IAMs_20 IAMs_20 16 18 57.9
comp=Z,3µm,20.0s
MFID Camas Ranch 82.62 330 IAMs_20 IAMs_20 16 19 38.9
comp=Z,3µm,20.0s
BOZ Bozeman (W) 82.67 334 IAMs_20 IAMs_20 16 20 33.5
comp=Z,2µm,20.0s
BOSA Boshof 82.72 119 P **P** **15 46 50.4 -0.2**
BOSA IAmb IAmb 15 46 52.5
comp=Z,116nm,1.6s
BOSA Boshof 82.72 119 P **P** **15 46 50.8 +0.2**
comp=Z,22nm,1.1s,baz=252,slow=5.1,SNR=8.3
BOSA LR LR 16 22 05.4
comp=Z,2µm,18.1s,baz=234,slow=34
comp=Z,22nm,1.1s
BOSA Boshof 82.72 119 P **P** **15 46 50.4 -0.2**
BOSA pmax pmax
comp=Z,116nm,1.6s
HOPS Hopland Field 82.72 323 IAMs_20 IAMs_20 16 14 54.0
comp=Z,4µm,20.0s
DLMT Dillon 82.86 333 IAmb IAmb 15 46 54.1
comp=Z,146nm,1.5s
DLMT IAMs_20 IAMs_20 16 20 42.0
comp=Z,2µm,19.0s
WVOR Wild Horse Val 83.12 328 IAmb IAmb 15 46 55.4
comp=Z,103nm,1.6s
WVOR IAMs_20 IAMs_20 16 17 42.2
comp=Z,3µm,20.0s
HATC Hat Creek Radi 83.25 325 IAmb IAmb 15 46 55.2
comp=Z,90nm,0.9s
HATC IAMs_20 IAMs_20 16 16 05.8
comp=Z,3µm,20.0s
TORD Torodi Ar. Bea 83.29 71 P **P** **15 46 52.7 -0.7**
TORD IAmb IAmb 15 46 55.7
comp=Z,62nm,0.7s
TORD Torodi Ar. Bea 83.29 71 P **P** **15 46 53.9 +0.5**
comp=Z,63nm,0.4s,baz=242,slow=38,SNR=1.6
comp=Z,63nm,0.4s
KCPM Cahto Peak 83.50 323 IAmb IAmb 15 46 57.5
comp=Z,110nm,1.3s
KMRM Mail Ridge 83.96 323 IAmb IAmb 15 46 59.7
comp=Z,146nm,1.2s
EGMT Eagleton 84.02 336 IAmb IAmb 15 46 58.9
comp=Z,135nm,1.8s
EGMT IAMs_20 IAMs_20 16 22 31.0
comp=Z,3µm,20.0s
SCHQ Schefferville 84.15 3 P **P** **15 46 56.7 -0.2**
SCHQ IAmb IAmb 15 46 59.2
comp=Z,98nm,1.4s
SCHQ Schefferville 84.15 3 P **P** **15 46 57.6 +0.7**
comp=Z,56nm,1.2s,baz=182,slow=4.3,SNR=11
comp=Z,56nm,1.2s
KMPM Mount Pierce 84.31 323 IAmb IAmb 15 47 01.4
comp=Z,99nm,1.2s
BMO Blue Mountains 84.41 330 IAmb IAmb 15 47 01.6
comp=Z,124nm,1.7s
OVMT Ovando 84.42 334 P **P** **15 46 58.8 +0.1**
CASY Casey 84.49 181 P **P** **15 46 59.3 +0.6**
JCC Jacoby Creek, 84.56 324 IAMs_20 IAMs_20 16 16 48.5
comp=Z,3µm,19.0s
MSO Missoula 84.60 333 IAmb IAmb 15 47 02.9
comp=Z,111nm,1.8s
K04D Chiloquin, OR 84.75 326 IAmb IAmb 15 47 03.7
comp=Z,175nm,1.3s
LBTB Lobatse 84.77 116 P **P** **15 47 00.9 -0.1**
LBTB Lobatse 84.77 116 LR LR 16 19 36.0
comp=Z,3µm,21.5s,baz=234,slow=32
LBTB Lobatse 84.77 116 P **P** **15 47 01.0 -0.1**
LBTB pmax pmax
comp=Z,30nm,0.8s
I07A Izee 84.80 328 IAmb IAmb 15 47 04.2
comp=Z,235nm,1.7s
KRPM Rodgers 84.81 324 IAmb IAmb 15 47 05.6
comp=Z,172nm,1.4s
KRMB Red Mountain 85.01 324 IAmb IAmb 15 47 04.7
comp=Z,84nm,1.2s
PINE Pine Mountain 85.24 327 P **P** **15 47 03.8 +0.9**
L02F Cave Junction 85.28 325 IAmb IAmb 15 47 06.5
comp=Z,214nm,1.8s
BFZ Birch Farm 85.38 225 IAmb IAmb 15 47 07.1
comp=Z,223nm,1.5s
BFZ Birch Farm 85.38 225 P **P** **15 47 06.3 +2.5**
G08A Pilot Rock 85.48 329 IAmb IAmb 15 47 07.2
comp=Z,87nm,1.5s
PUZ Puketiti 85.58 228 P **P** **15 47 07.8 +2.9**
K02D Willamette Mer 85.75 325 P **P** **15 47 07.0 +1.6**
MRZ Mangatainoka R 85.80 225 IAmb IAmb 15 47 09.7
comp=Z,197nm,1.4s
MRZ Mangatainoka R 85.80 225 P **P** **15 47 08.1 +2.2**
I05D Terrebonne, OR 85.84 327 IAmb IAmb 15 47 09.4
comp=Z,238nm,1.6s
DBO Dodson Butte 85.85 326 IAmb IAmb 15 47 09.5
comp=Z,252nm,1.6s
MWZ Matawai 85.91 228 P **P** **15 47 08.9 +2.5**
TSZ Takapari Road 85.91 226 P **P** **15 47 09.3 +2.8**
I04A Tendick Farm, 85.95 326 IAmb IAmb 15 47 09.0
comp=Z,189nm,1.6s
SNZO South Karori 85.96 224 IAMs_20 IAMs_20 16 32 42.3
comp=Z,2µm,20.0s
KWHZ Kaweka Forest 85.99 227 P **P** **15 47 10.1 +3.2**
KHZ Kahutara 86.00 223 P **P** **15 47 07.9 +1.1**
RUGZ Raukumara Rang 86.02 228 P **P** **15 47 10.4 +3.3**
ODZ Otahua Downs 86.05 219 P **P** **15 47 08.2 +1.2**
HAZ Te Kaha 86.07 229 P **P** **15 47 11.0 +3.8**
E09A Wood Farm, Sta 86.08 330 P **P** **15 47 07.1 +0.3**
BKZ Black Stump Fm 86.09 227 P **P** **15 47 08.6 +1.2**
BKZ IAMs_20 IAMs_20 16 15 48.2
comp=Z,3µm,21.0s
BKZ Black Stump Fm 86.09 227 P **P** **15 47 10.5 +3.1**
RTZ Ruatahuna 86.10 227 P **P** **15 47 09.1 +1.6**
G06A Carlson Farm, 86.20 328 P **P** **15 47 08.7 +1.2**
URZ Urewera 86.22 228 P **P** **15 47 09.3 +1.4**
comp=Z,34nm,1.1s,baz=190,slow=0.9,SNR=8.5
comp=Z,34nm,1.1s
URZ Urewera 86.22 228 P **P** **15 47 10.3 +2.3**
OXZ Oxford 86.33 221 P **P** **15 47 09.3 +0.9**
I03D Drain, OR 86.33 326 IAmb IAmb 15 47 11.4
comp=Z,204nm,1.6s
TUWZ Tuamarina 86.35 224 P **P** **15 47 08.2 -0.3**
F07A Phinny Hill Vi 86.38 329 IAmb IAmb 15 47 12.0
comp=Z,163nm,1.7s
MOVZ Moawhango 86.42 226 P **P** **15 47 11.7 +2.7**
E08A Dider Farm, El 86.46 330 IAmb IAmb 15 47 11.4
comp=Z,135nm,1.8s
H04A Detroit Lake 86.50 327 IAmb IAmb 15 47 11.6
comp=Z,214nm,1.8s
LTZ Lake Taylor 86.52 222 P **P** **15 47 10.8 +1.4**
WNVZ Wahianoa 86.57 226 P **P** **15 47 12.9 +3.0**
RPZ Rata Peaks 86.65 221 P **P** **15 47 11.9 +1.9**
RPZ Rata Peaks 86.65 221 P **P** **15 47 11.1 +1.1**
comp=Z,228nm,1.2s,baz=100,slow=2.6,SNR=14
comp=Z,228nm,1.2s
LBZ Lake Benmore 86.72 220 P **P** **15 47 12.6 +2.3**
LBZ IAmb IAmb 15 47 13.9
comp=Z,210nm,1.4s
HOOD Mount Hood Mea 86.73 328 IAmb IAmb 15 47 13.5
comp=Z,234nm,1.6s
THZ Tophouse 86.77 223 P **P** **15 47 11.6 +1.0**
THZ Tophouse 86.77 223 P **P** **15 47 13.7 +3.1**
D08A Wollman Farm, 86.84 330 IAmb IAmb 15 47 13.5
comp=Z,215nm,1.9s
COR Corvallis 86.96 326 P **P** **15 47 07.0 -4.2**
COR Corvallis 86.96 326 P **P** **15 47 07.0 -4.2**
COR pmax pmax
comp=Z,275nm,1.3s
WHZ Wether Hill Ro 86.97 218 P **P** **15 47 12.6 +1.1**
NEW Newport 87.03 332 IAMs_20 IAMs_20 16 21 25.5
comp=Z,3µm,20.0s
NEW Newport 87.03 332 IAmb IAmb 15 47 13.5
comp=Z,102nm,1.9s
NEW Newport 87.03 332 P **P** **15 47 11.8 +0.3**
comp=Z,6.7nm,0.9s,baz=136,slow=5.8,SNR=12
comp=Z,6.7nm,0.9s
MXC Moxie City 87.07 329 IAmb IAmb 15 47 15.0
comp=Z,118nm,1.5s
MRNZ Matariki Terra 87.08 223 P **P** **15 47 13.1 +1.0**
WKZ Wanaka 87.08 219 P **P** **15 47 12.8 +0.7**
C09A Chrisman Ranch 87.14 331 IAmb IAmb 15 47 14.7
comp=Z,208nm,1.9s
VRZ Vera Road 87.21 226 P **P** **15 47 15.1 +2.3**
G03D McMinnville, O 87.41 327 P **P** **15 47 13.1 -0.2**
HIZ Hauiti 87.51 227 P **P** **15 47 16.2 +1.9**
TOZ Tahuroa Road 87.56 227 P **P** **15 47 16.8 +2.3**
QRZ Quartz Range 87.56 224 P **P** **15 47 15.8 +1.4**
FFC Flin Flon 87.58 344 P **P** **15 47 13.8 -0.1**
FFC IAmb IAmb 15 47 15.7
comp=Z,110nm,1.8s
FFC Flin Flon 87.58 344 P **P** **15 47 13.8 -0.1**
FFC pmax pmax
comp=Z,110nm,1.8s
LTY Liberty 87.75 330 IAmb IAmb 15 47 17.7
comp=Z,189nm,1.6s
LON Longmire 87.88 329 IAmb IAmb 15 47 18.1
comp=Z,137nm,1.8s
B08A Colville Reser 88.02 331 IAmb IAmb 15 47 18.4
comp=Z,106nm,1.7s
D05A Enumclaw 88.29 329 P **P** **15 47 18.1 +0.6**
GNW Green Mountain 88.95 329 IAmb IAmb 15 47 23.1
comp=Z,72nm,1.5s
NLWA Neilton Lookou 89.30 328 IAmb IAmb 15 47 25.4
comp=Z,88nm,1.5s
MDT Midelt 89.49 51 LR LR 16 26 42.5
comp=Z,3µm,20.5s,baz=239,slow=35
FCC Fort Churchill 89.72 349 IAmb IAmb 15 47 26.4
comp=Z,189nm,1.4s
PVAQ Vaqueiros 90.20 46 IAMs_20 IAMs_20 16 24 52.1
comp=Z,3µm,20.0s
PVAQ Vaqueiros 90.20 46 *e*P **P** **15 47 29.7 +3.0**
PVAQ *e*LR LR 16 18 47.8
PVAQ *i* AMs_20 16 25 34.5
comp=Z,3µm,20.0s
TAM Tamanrasset 91.45 65 P **P** **15 47 32.3 -0.8**
TAM IAMs_20 IAMs_20 16 27 53.9
comp=Z,2µm,20.0s
TAM Tamanrasset 91.45 65 P **P** **15 47 32.3 -0.8**
TAM pmax pmax
comp=Z,28nm,1.6s
TAM pmax pmax
comp=Z,2µm,20.0s
PMRV Marv??o 91.63 45 *e*P P 15 47 42.2 +8.9
PMRV *e*SKS **SKSac** **15 58 10.2 +5.7**
PMRV *e*LR LR 16 21 06.8
PMRV *i* AMs_20 16 26 58.0
comp=Z,2µm,20.0s
LSZ Lusaka 91.80 109 P **P** **15 47 34.2 -0.7**
LSZ IAmb IAmb 15 47 38.3
comp=Z,73nm,1.5s
LSZ Lusaka 91.80 109 IAMs_20 IAMs_20 16 35 12.4
comp=Z,2µm,18.0s
LSZ Lusaka 91.80 109 LR LR 16 25 25.4
comp=Z,1µm,20.0s,baz=228,slow=33
LSZ Lusaka 91.80 109 P **P** **15 47 34.2 -0.7**
LSZ pmax pmax
comp=Z,73nm,1.5s
LSZ pmax pmax
comp=Z,2µm,18.0s
CBB Campbell River 91.90 329 IAmb IAmb 15 47 36.8
comp=Z,56nm,1.4s
MTE Manteigas 92.13 44 IAMs_20 IAMs_20 16 29 47.3
comp=Z,2µm,18.0s
MTE Manteigas 92.13 44 *e*SKS **SKSac** **15 58 09.1 +1.7**
MTE *e*LQ LQ 16 14 08.0
MTE *e*LR LR 16 17 49.7
MTE *i* AMs_20 16 30 28.5
comp=Z,2µm,18.0s
PGAV Gavieira, Arco 92.66 42 *e*LR LR 16 19 16.5
PGAV *i* AMs_20 16 27 34.8
comp=Z,2µm,20.0s
MVO Moncorvo 92.91 44 *e*LQ LQ 16 12 59.3
MVO *e*LR LR 16 17 56.8
MVO *i* AMs_20 16 31 28.9
comp=Z,2µm,18.0s
FRB Frobisher Bay 93.00 2 LR LR 16 29 00.7
comp=Z,396nm,21.5s,baz=202,slow=35
HATHI Halema'uma'u T 93.14 290 IAMs_20 IAMs_20 16 18 01.1
comp=Z,2µm,22.0s
ESDC Sonseca Array 93.91 46 P **P** **15 47 42.0 -1.9**
ESDC Sonseca Array 93.91 46 P **P** **15 47 43.2 -0.7**
comp=Z,3.9nm,1.2s,baz=219,slow=3.8,SNR=5.9
ESDC LR LR 16 29 42.9
comp=Z,3µm,18.8s,baz=227,slow=35
comp=Z,3.9nm,1.2s
CART Cartagena 94.63 49 IAMs_20 IAMs_20 16 25 27.6
comp=Z,1µm,22.0s
BBB Bella Bella 94.65 329 P **P** **15 47 47.4 +0.6**
comp=Z,13nm,1.0s,baz=184,slow=5.2,SNR=4.5
comp=Z,13nm,1.0s
MSVF Nonsavu 97.17 245 P Pdif 15 47 60.0 +0.5
comp=Z,23nm,1.2s,baz=117,slow=7.6,SNR=4.6
comp=Z,23nm,1.2s
MSVF Nonsavu 97.17 245 ⇑ *i*P Pdif 15 48 02.0 +2.5
MSVF pmax pmax
comp=Z,46nm,1.4s
MSVF MLR MLR
comp=Z,2µm,8.0s
YKA Yellowknife Ar 97.62 342 P **P** **15 47 59.4 -0.7**
YKA Yellowknife Ar 97.62 342 P Pdif 15 48 00.2 +0.1
comp=Z,3.5nm,1.0s,baz=147,slow=4.8,SNR=28
YKA PKKPbc **PKKPbc** **16 04 37.0 -1.5**
comp=Z,0.3nm,0.4s,baz=319,slow=3.7,SNR=6.6
YKA LR LR 16 31 12.6
comp=Z,875nm,18.1s,baz=165,slow=35
comp=Z,3.5nm,1.0s
CEST Esterri de Car 98.81 46 IAMs_20 IAMs_20 16 32 47.0
comp=Z,2µm,20.0s
U33K Whale Pass 99.47 330 IAMs_20 IAMs_20 16 28 14.2
comp=Z,1µm,19.0s
DLBC Dease Lake 99.72 333 IAmb IAmb 15 48 12.4
comp=Z,44nm,1.6s
R33M Jennings River 100.72 334 IAMs_20 IAMs_20 16 31 18.5
comp=Z,1µm,19.0s
S32K Killisnoo 100.95 331 IAMs_20 IAMs_20 16 28 40.2
comp=Z,1µm,19.0s
Q32M Nakina River 100.95 333 IAMs_20 IAMs_20 16 31 18.7
comp=Z,2µm,20.0s
P32M Atlin 101.92 333 IAMs_20 IAMs_20 16 31 48.2
comp=Z,2µm,20.0s
P33M Teslin, Yukon 101.97 334 Pdif **Pdif** **15 48 19.7 0.0**
P33M IAMs_20 IAMs_20 16 22 38.3
comp=Z,1µm,20.0s
SSB Saint Sauveur 102.22 45 IAMs_20 IAMs_20 16 33 17.4
comp=Z,2µm,20.0s
VSL Villasalto 102.60 52 IAMs_20 IAMs_20 16 36 29.5
comp=Z,2µm,20.0s
N32M Quiet Lake 102.67 334 IAMs_20 IAMs_20 16 33 24.7
comp=Z,2µm,18.0s
MSSA Maissana 104.89 47 IAMs_20 IAMs_20 16 38 55.1
comp=Z,1µm,19.0s
M30M Minto, Yukon 104.93 334 IAMs_20 IAMs_20 16 35 01.6
comp=Z,1µm,18.0s
ECH Echery 105.20 43 IAMs_20 IAMs_20 16 37 01.2
comp=Z,2µm,21.0s
M29M Somme Creek 105.49 334 IAMs_20 IAMs_20 16 33 39.4
comp=Z,2µm,20.0s
OSSC Osservatorio P 105.66 49 IAMs_20 IAMs_20 16 38 30.6
comp=Z,1µm,20.0s
L29M L29M 105.74 335 IAMs_20 IAMs_20 16 35 36.0
comp=Z,1µm,18.0s
TUE Stuetta 105.75 45 IAMs_20 IAMs_20 16 33 47.7
comp=Z,2µm,22.0s
BFO Black Forest 105.95 43 IAMs_20 IAMs_20 16 36 41.0
comp=Z,1µm,20.0s
H31M Peel River 105.99 338 IAMs_20 IAMs_20 16 36 03.5
comp=Z,2µm,18.0s
CESX Cesi 106.15 50 IAMs_20 IAMs_20 16 41 44.6
comp=Z,2µm,19.0s
FUORN Ofenpass-Fuorn 106.38 45 IAMs_20 IAMs_20 16 33 48.4
comp=Z,2µm,21.0s
STU Stuttgart 106.66 43 IAMs_20 IAMs_20 16 36 51.8
comp=Z,1µm,20.0s
FDMO Fiordimonte 106.67 50 IAMs_20 IAMs_20 16 42 22.3
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 106.77 101 IAMs_20 IAMs_20 16 34 60.0
comp=Z,1µm,19.0s
F31M Tsiigehtchic 106.80 339 IAMs_20 IAMs_20 16 36 49.6
comp=Z,2µm,19.0s
KIBK Kibwezi 106.82 103 IAMs_20 IAMs_20 16 35 34.9
comp=Z,2µm,19.0s
PAOL Paolisi 106.84 52 IAMs_20 IAMs_20 16 39 41.7
comp=Z,2µm,21.0s
CTI Castel Tesino 107.00 46 IAMs_20 IAMs_20 16 38 40.0
comp=Z,1µm,19.0s
RETA Reutte 107.06 45 *e*PKKP **PKKPab** **16 04 20.5 -1.6**
comp=Z,15nm,1.8s
BCAR Beaver Creek A 107.11 334 Pdif **Pdif** **15 48 42.3 -0.2**
EPYK Eagle Plains 107.11 338 IAMs_20 IAMs_20 16 37 20.0
comp=Z,2µm,19.0s
L27K Beaver Creek, 107.12 334 IAMs_20 IAMs_20 16 35 16.7
comp=Z,2µm,18.0s
G30M tAoh Zraii Nji 107.30 338 IAMs_20 IAMs_20 16 37 45.0
comp=Z,2µm,18.0s
LODK Lodwar 107.43 96 IAMs_20 IAMs_20 16 36 22.7
comp=Z,1µm,18.0s
N25K Chitina, Valde 107.49 332 IAMs_20 IAMs_20 16 29 43.5
comp=Z,1µm,19.0s
A36M Sachs Harbour 107.49 345 IAMs_20 IAMs_20 16 40 02.7
comp=Z,1µm,19.0s
WATA Walderalm 107.50 45 *e*PKKP **PKKPab** **16 04 25.2 +4.8**
comp=Z,9.4nm,1.0s
WTTA Wattenberg 107.50 45 *e*PKKP PKKPab 16 04 07.4 -13
comp=Z,6.2nm,1.1s
WTTA *e*PKKP **PKKPab** **16 04 25.2 +4.9**
comp=Z,18nm,1.5s
ABTA Abfaltersbach 107.84 46 *e*PKKP **PKKPab** **16 04 23.0 +4.2**
comp=Z,8.2nm,1.2s
G29M Pine Creek 107.85 338 IAMs_20 IAMs_20 16 37 01.5
comp=Z,2µm,19.0s
SGRT San Giovanni R 107.94 52 IAMs_20 IAMs_20 16 43 42.9
comp=Z,2µm,18.0s
GRFO Grafenberg 108.25 43 IAMs_20 IAMs_20 16 39 54.9
comp=Z,1µm,19.0s
GRA1 Grafenberg Arr 108.25 43 IAMs_20 IAMs_20 16 39 56.0
comp=Z,1µm,20.0s
SCRK Sand Creek 108.42 334 IAMs_20 IAMs_20 16 37 03.5
comp=Z,2µm,18.0s
KBA Koelnbreinsper 108.49 46 *e*PKKP **PKKPab** **16 04 20.6 +4.7**
comp=Z,11nm,1.5s
E29M Blow River 108.63 339 IAMs_20 IAMs_20 16 37 55.0
comp=Z,2µm,19.0s
RIDG Independent Ri 108.64 333 IAMs_20 IAMs_20 16 38 39.2
comp=Z,1µm,18.0s
G27K Doyon Strip 109.01 337 IAMs_20 IAMs_20 16 38 32.4
comp=Z,2µm,18.0s
E28M Babbage River 109.25 339 IAMs_20 IAMs_20 16 35 11.9
comp=Z,2µm,20.0s
J25K Salcha River, 109.26 334 IAMs_20 IAMs_20 16 37 30.7
comp=Z,2µm,18.0s
MOA Molln 109.37 45 *e*PKKP **PKKPab** **16 04 16.6 +4.7**
comp=Z,23nm,1.9s
SOKA Soboth 109.40 47 *e*PKKP **PKKPab** **16 04 15.9 +4.0**
comp=Z,12nm,1.2s
KHC Kasperske Hory 109.44 44 *e*SP SP 16 02 33.1 -18
KHC AMS AMS 16 34 30.0
comp=Z,1µm,20.9s
E27K Coleen River 109.69 338 IAMs_20 IAMs_20 16 37 42.1
comp=Z,2µm,20.0s
CKRC Cesky Krumlov 109.77 45 AMS AMS 16 34 10.0
comp=Z,1µm,23.6s
HDA Harding Lake 109.77 334 IAMs_20 IAMs_20 16 37 31.9
comp=Z,903nm,20.0s
ILAR Eielson Array 109.91 334 Pdiff **Pdif** **15 48 55.2 +0.4**
comp=Z,1.1nm,1.0s,baz=140,slow=5.2,SNR=5.9
HSKC Hora Svate Kat 109.92 43 AMS AMS 16 33 20.0
comp=Z,900nm,20.7s
ARSA Arzberg 109.93 46 *e*PKKP **PKKPab** **16 04 14.4 +4.9**
comp=Z,9.3nm,1.3s
ZVC Zvikov 109.93 44 AMS AMS 16 33 00.0
comp=Z,1µm,23.4s
CLL Collm 109.94 42 IAMs_20 IAMs_20 16 38 23.5
comp=Z,2µm,20.0s
KEK Kerkira 109.99 55 IAMs_20 IAMs_20 16 40 34.1
comp=Z,2µm,21.0s
D27M Malcolm River 110.03 339 IAMs_20 IAMs_20 16 38 39.0
comp=Z,2µm,19.0s
F26K Sheenjek River 110.29 337 IAMs_20 IAMs_20 16 39 30.2
comp=Z,1µm,18.0s
PRU Pruhonice 110.35 43 AMS AMS 16 44 40.0
comp=Z,800nm,20.1s
CONA Conrad Observa 110.39 46 PKKP **PKKPab** **16 04 00.3 -7.1**
comp=Z,4.9nm,1.2s
CONA *e*PKKP **PKKPab** **16 04 12.6 +5.1**
comp=Z,13nm,1.7s
GOPC GO Pecny, Ondr 110.47 44 AMS AMS 16 33 00.0
comp=Z,1µm,26.1s

RONA	Rosalia, Austr	110.58	46	*e*PKKP	PKKPab	16 04 11.9	+5.3
	comp=Z,3.9nm,0.8s						
ITM	Ithomi	110.59	58	IAMs_20	IAMs_20	16 42 27.3	
	comp=Z,1μm,20.0s						
PDG	Podgorica	110.61	52	IAMs_20	IAMs_20	16 39 16.7	
	comp=Z,1μm,21.0s						
TREC	Trest	110.66	44	AMS	AMS	16 34 50.0	
	comp=Z,1μm,22.4s						
KBN	Korca	111.03	54	IAMs_20	IAMs_20	16 40 12.8	
	comp=Z,2μm,21.0s						
KONO	Kongsberg	111.30	33	IAMs_20	IAMs_20	16 47 00.3	
	comp=Z,2μm,18.0s						
RGN	Rugen	111.31	39	IAMs_20	IAMs_20	16 42 35.9	
	comp=Z,2μm,19.0s						
UPC	Upice	111.42	43	AMS	AMS	16 33 20.0	
	comp=Z,1μm,24.0s						
CHVC	Chvalec	111.47	43	AMS	AMS	16 34 10.0	
	comp=Z,1μm,22.1s						
FNA	Florina	111.50	54	IAMs_20	IAMs_20	16 41 35.5	
	comp=Z,1μm,20.0s						
DPC	Dobruska-Polom	111.55	44	AMS	AMS	16 34 00.0	
	comp=Z,1μm,34.5s						
OSTC	Ostas	111.56	43	AMS	AMS	16 34 10.0	
	comp=Z,1μm,23.8s						
LIT	Litokhoron	112.06	56	IAMs_20	IAMs_20	16 43 21.1	
	comp=Z,2μm,20.0s						
MORC	Moravsky Berou	112.09	44	IAMs_20	IAMs_20	16 40 09.5	
	comp=Z,1μm,20.0s						
E23K	Chandalar	112.31	337	IAMs_20	IAMs_20	16 40 07.9	
	comp=Z,1μm,19.0s						
OKC	Ostrava-Krasne	112.48	44	AMS	AMS	16 40 10.0	
	comp=Z,1μm,20.8s						
D24K	Happy Valley	112.48	338	IAMs_20	IAMs_20	16 40 29.4	
	comp=Z,2μm,19.0s						
TOLK	Toolik Lake Re	112.53	337	IAMs_20	IAMs_20	16 40 09.4	
	comp=Z,1μm,19.0s						
H21K	Melozitna Rive	112.55	334	IAMs_20	IAMs_20	16 38 45.7	
	comp=Z,920nm,20.0s						
C24K	Franklin Bluff	112.67	338	IAMs_20	IAMs_20	16 41 52.5	
	comp=Z,1μm,18.0s						
PSZ	Piszkesteto	112.94	47	IAMs_20	IAMs_20	16 46 53.0	
	comp=Z,2μm,18.0s						
BZS	Buzias	113.31	50	⇓P	PKiKP	15 53 04.9	+1.2
BZS	Buzias	113.31	50	⇓PKIKP	PKiKP	15 53 04.9	+1.2
KARP	Karpathos	113.95	62	IAMs_20	IAMs_20	16 47 20.5	
	comp=Z,981nm,19.0s						
DRGR		114.40	49	⇓P	PKiKP	15 53 06.9	+1.0
DRGR		114.40	49	⇓PKIKP	PKiKP	15 53 06.9	+1.0
RDO	Rodhopi	114.59	55	IAMs_20	IAMs_20	16 49 24.1	
	comp=Z,1μm,20.0s						
ALN	Alexandroupoli	114.88	56	IAMs_20	IAMs_20	16 43 54.7	
	comp=Z,1μm,20.0s						
ARR	Arges	115.25	51	⇓P	PKiKP	15 53 08.5	+0.9
B20K	Meade River	115.53	338	IAMs_20	IAMs_20	16 33 28.7	
	comp=Z,1μm,21.0s						
VOIR		115.55	51	⇑P	PKiKP	15 53 09.4	+1.2
VOIR		115.55	51	⇑PKIKP	PKiKP	15 53 09.4	+1.2
DOPR	Dopca	115.93	50	⇓P	PKiKP	15 53 09.8	+1.0
MLR	Muntele Rosu	116.17	51		PKPdf	15 53 09.1	-0.4
MLR				IAMs_20	IAMs_20	16 44 21.8	
	comp=Z,1μm,21.0s						
MLR	Muntele Rosu	116.17	51	⇑P	PKiKP	15 53 10.6	+1.1
MLR	Muntele Rosu	116.17	51	PKIKP	PKPdf	15 53 09.1	-0.4
MLR				pmax	pmax		
	comp=Z,1μm,21.0s						
BURAR	Bucovina Array	116.27	48		PKiKP	15 53 09.6	+0.1
SUW	Suwalki	116.67	41	IAMs_20	IAMs_20	16 41 57.4	
	comp=Z,1μm,20.0s						
VRI	Vrincioaia	116.80	51	⇑P	PKiKP	15 53 10.8	+0.3
VRI	Vrincioaia	116.80	51	⇑PKIKP	PKiKP	15 53 10.8	+0.3
TESR	Tescani	116.92	50	⇑P	PKiKP	15 53 11.9	+1.2
ISP	Isparta	117.24	60	IAMs_20	IAMs_20	16 49 35.6	
	comp=Z,1μm,20.0s						
PABE	Paberze	117.45	40	IAMs_20	IAMs_20	16 45 17.3	
	comp=Z,2μm,19.0s						
CFR	Carcaliu	117.57	52	⇑P	PKPdf	15 53 11.8	-0.2
CFR	Carcaliu	117.57	52	⇑PKIKP	PKPdf	15 53 11.8	-0.2
TIRR	Tirgusor	117.58	52	IAMs_20	IAMs_20	16 46 59.0	
	comp=Z,1μm,20.0s						
BORA	Eskisehir	117.79	58	PKPdf	PKPdf	15 53 12.4	-0.3
BORA				IAMs_20	IAMs_20	16 47 35.9	
	comp=Z,1μm,20.0s						
ATD	Arta Tunnel	117.81	92	IAMs_20	IAMs_20	16 43 34.3	
	comp=Z,2μm,20.0s						
CSS	Mathiatis	118.55	64	IAMs_20	IAMs_20	16 44 57.4	
	comp=Z,2μm,22.0s						
GHAJ	Ghor Haditha	119.20	69	IAMs_20	IAMs_20	16 47 45.0	
	comp=Z,2μm,18.0s						
MNK	Minsk	119.47	41	*i* PKIKP	PKiKP	15 53 15.7	+0.3
MNK				*i*		15 54 37.4	
MNK				*i* PPP	PPP	15 57 08.7	
MNK				*i*		16 00 27.9	
MNK				*i* SS	SS	16 11 01.9	+2.5
MNK				*i*		16 11 10.6	
MNK				*i* SSS	SSS	16 15 27.1	
MNK				pmax	pmax		
	comp=Z,13nm,0.9s						
MNK				MLR	MLR		
	comp=N,897nm,20.0s						
MNK				MLR	MLR		
	comp=E,644nm,23.0s						
MNK				MLR	MLR		
	comp=Z,956nm,19.0s						
ANTO	Ankara	119.52	58		PKPdf	15 53 15.0	-1.0
ANTO	Ankara	119.52	58	PKIKP	PKPdf	15 53 15.0	-1.0
KIEV	Kiev	119.54	46	PKPdf	PKPdf	15 53 14.9	-0.6
KIEV	Kiev	119.54	46	IAMs_20	IAMs_20	16 46 30.0	
	comp=Z,1μm,20.0s						
KIEV	Kiev	119.54	46	⇓P	PKiKP	15 53 15.7	+0.1
KIEV	Kiev	119.54	46	PKIKP	PKPdf	15 53 15.0	-0.6
KIEV				pmax	pmax		
	comp=Z,1μm,20.0s						
KIEV	Kiev	119.54	46	*i* PKPdf	PKPdf	15 53 15.4	-0.1
	SNR=6.9						
AKASG	Malin Array Be	119.55	46		PKPdf	15 53 14.8	-0.8
AKASG	Malin Array Be	119.55	46	PKP	PKPdf	15 53 15.4	-0.2
	comp=Z,2.3nm,0.5s,baz=266,slow=2.8,SNR=15						
AKASG				PP	PP	15 54 39.3	+0.9
	comp=Z,0.4nm,0.5s,baz=257,slow=7.4,SNR=6.1						
AKASG				PKKPbc	PKKPbc	16 03 28.2	+0.6
	comp=Z,1.0nm,0.6s,baz=60,slow=3.8,SNR=7.3						
AKASG	Malin Array Be	119.55	46	PKIKP	PKPdf	15 53 14.8	-0.8
AKBB	Malin Array Si	119.55	46	*c i* PKIKP	PKPdf	15 53 15.2	-0.4
AKBB				MLR	MLR		
	comp=Z,1μm,18.0s						
MMAI	Mount Meron Ar	119.60	67	PKP	PKiKP	15 53 17.0	+0.6
	comp=Z,0.7nm,0.3s,baz=34,slow=6.5,SNR=4.1						
FINES	FINESS Array B	119.61	33	PKP	PKiKP	15 53 16.0	+0.6
	comp=Z,2.3nm,0.9s,baz=325,slow=7.0,SNR=2.0						
FINES	FINESS Array B	119.61	33	PKIKP	PKiKP	15 53 16.0	+0.6
BR131	Keskin Array S	120.11	59	*c i* PKIKP	PKiKP	15 53 17.6	+0.3
BRTR	Keskin Array B	120.11	59	PKPdf	PKPdf	15 53 16.5	-0.7
BRTR	Keskin Array B	120.11	59	PKP	PKiKP	15 53 17.8	+0.5
	comp=Z,2.7nm,0.6s,baz=200,slow=3.5,SNR=14						
BRTR				PKKPbc	PKKPab	16 03 25.6	+0.1
	comp=Z,1.6nm,1.0s,baz=67,slow=3.2,SNR=5.9						
KIRS	Kirsehir-Merke	120.17	60	⇑P	PKiKP	15 53 18.6	+1.2
ARCES	ARCESS Array B	120.18	24	PKP	PKiKP	15 53 17.4	+1.0
	comp=Z,2.4nm,0.8s,baz=240,slow=2.7,SNR=6.7						
MTSU	Mount Surprise	120.65	222	P	PKiKP	15 53 19.9	+1.0
MTSU	Mount Surprise	120.65	222	P	PKiKP	15 53 19.3	+0.3
AS19	Alice Springs	121.19	209	P	PKPdf	15 53 19.7	-0.1
AS19	Alice Springs	121.19	209	P	PKPdf	15 53 19.3	-0.5
AS06	Alice Springs	121.23	209	P	PKPdf	15 53 19.8	-0.1
AS06	Alice Springs	121.23	209	P	PKPdf	15 53 19.3	-0.6
ASAR	Alice Springs	121.25	209	PKP	PKPdf	15 53 19.6	-0.4
	comp=Z,5.2nm,0.5s,baz=127,slow=1.7,SNR=122						
ASAR				PP	PP	15 54 47.9	-1.3
	comp=Z,8.0nm,1.3s,baz=161,slow=7.4,SNR=8.1						
ASAR				PKKPbc	PKKPbc	16 03 21.9	+0.8
	comp=Z,1.8nm,0.6s,baz=336,slow=3.2,SNR=40						
QIS	Mount Isa	121.26	216	P	PKiKP	15 53 20.5	+0.4
QIS	Mount Isa	121.26	216	P	PKPdf	15 53 19.9	-0.1
SIM	Simferopol'	121.64	53	*i* PKIKP	PKiKP	15 53 20.1	+0.1
SIM				*e*PS	PS	16 04 34.6	-12
SIM				pmax	pmax		
	comp=Z,17nm,1.2s						
WRKA	Warakurna	122.12	203	P	PKPdf	15 53 21.2	-0.3
WRKA				P	PKiKP	15 53 21.5	-0.2
APA	Apatity	123.07	26	⇓*i* PKIKP	PKPdf	15 53 17.7	-4.1
APA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ANN	Anapa	123.94	54	*i* PKIKP	PKPdf	15 53 24.1	-0.1
ANN				*e*		15 53 27.9	
ANN				*e*		16 00 25.1	
ANN				pmax	pmax		
	comp=Z,79nm,1.6s						
WB2	Warramunga Arr	124.32	211	PKPdf	PKPdf	15 53 24.9	-1.0
WRA	Warramunga Arr	124.33	211		PKPdf	15 53 24.6	-1.2
WRA	Warramunga Arr	124.33	211	PKP	PKPdf	15 53 26.0	+0.1
	comp=Z,14nm,0.5s,baz=155,slow=1.7,SNR=234						
WRA				PP	PP	15 55 09.2	-0.9
	comp=Z,1.2nm,1.0s,baz=176,slow=6.4,SNR=6.8						
WRA				PKKPbc	PKKPab	16 03 10.5	-0.9
	comp=Z,1.5nm,0.7s,baz=341,slow=4.4,SNR=14						
WRA	Warramunga Arr	124.33	211	PKIKP	PKPdf	15 53 26.0	+0.1
WRAB	Tennant Creek	124.33	211		PKPdf	15 53 24.5	-1.4
WRAB	Tennant Creek	124.33	211	*c i* PKIKP	PKPdf	15 53 25.8	-0.1
WRAB				MLR	MLR		
	comp=Z,2μm,21.0s						
OBN	Obninsk	124.53	41		PKPdf	15 53 24.6	-0.3
OBN	Obninsk	124.53	41	PKP	PKiKP	15 53 25.5	+0.3
	comp=Z,14nm,0.4s,baz=265,slow=4.9,SNR=8.2						
OBN	Obninsk	124.53	41	*c i* PKIKP	PKiKP	15 53 25.3	0.0
OBN				*e*		15 55 15.9	
OBN				*e*SS	SS	16 12 26.4	+23
OBN				pmax	pmax		
	comp=Z,58nm,1.1s						
OBN				MLR	MLR		
	comp=Z,923nm,17.0s						
OBN	Obninsk	124.53	41	PKP	PKiKP	15 53 26.0	+0.7
COEN	Coen	124.60	224	P	PKiKP	15 53 27.7	+1.0
RAYN	Ar Rayn	124.98	81	PKPdf	PKPdf	15 53 26.4	-0.6
RAYN	Ar Rayn	124.98	81	PKIKP	PKPdf	15 53 26.4	-0.6
RAYN	Ar Rayn	124.98	81	*i* PKIKP	PKiKP	15 53 28.4	+1.1
	SNR=9.8						
H11S2	WAKE ISLAND Hyl	125.09	273	T	T	18 12 43.9	
	baz=114,slow=75						
H11S1	WAKE ISLAND Hyl	125.10	273	T	T	18 12 38.5	
	baz=114,slow=75						
H11S3	WAKE ISLAND Hyl	125.11	273	T	T	18 12 44.5	
	baz=114,slow=75						
MOS	Moscow	125.16	40	*i* PKIKP	PKPdf	15 53 24.7	-1.5
MOS				pmax	pmax		
	comp=Z,65nm,1.2s						
SOC	Sochi	125.36	55	*e*PKIKP	PKPdf	15 53 26.9	-0.1
SOC				*e*		15 55 15.1	
SOC				*e*PPP	PPP	15 57 58.6	
SOC				MLR	MLR		
	comp=Z,511nm,14.0s						
H11N3	WAKE ISLAND Hyl	125.39	274	T	T	18 13 08.2	
	baz=119,slow=70						
H11N1	WAKE ISLAND Hyl	125.40	274	T	T	18 13 17.0	
	baz=119,slow=70						
H11N2	WAKE ISLAND Hyl	125.41	274	T	T	18 13 07.9	
	baz=119,slow=70						
RABL	Rabaul	125.46	240	PKPdf	PKPdf	15 53 27.1	-1.1
PMG	Port Moresby	125.46	231	PKP	PKiKP	15 53 29.1	+0.6
	comp=Z,13nm,1.0s,baz=40,slow=4.4,SNR=13						
LPSR	Galich'ya Gora	125.78	44	*e*PKIKP	PKPdf	15 53 26.1	-1.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	Storozhevoye	125.85	46	*e*PKIKP	PKPdf	15 53 25.8	-1.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VORR	Voronezh	125.90	45	*e*PKIKP	PKPdf	15 53 27.7	0.0
VORR				pmax	pmax		
	comp=Z,20nm,1.2s						
VORD	Divnogorie	125.91	46	*e*PKIKP	PKPdf	15 53 26.2	-1.6
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLMR	Klimovskoe	126.09	34	*e*PKIKP	PKPdf	15 53 26.1	-1.7
KLMR				pmax	pmax		
	comp=Z,84nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,1μm,15.0s						
ERBR	Yeremizino-Bor	126.20	53	*i* PKIKP	PKiKP	15 53 29.2	+0.2
ERBR				*e*		15 53 31.5	
ERBR				pmax	pmax		
	comp=Z,42nm,1.3s						
LABN	Labinsk	126.23	54	*i* PKIKP	PKiKP	15 53 29.4	+0.3
LABN				*e*		15 53 32.4	
LABN				pmax	pmax		
	comp=Z,44nm,0.8s						
VRH	Novokhopyorsk	127.45	46	*e*PKIKP	PKPdf	15 53 28.6	-2.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHA1	Shidzhatmaz	127.50	56	*d i* PKIKP	PKiKP	15 53 32.8	+0.9
KIV	Kislovodsk	127.54	55	PKPdf	PKPdf	15 53 30.6	-0.7
KIV	Kislovodsk	127.54	55	*i* PKIKP	PKiKP	15 53 31.9	+0.1
KIV				*e*		16 00 39.5	
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV				MLR	MLR		
	comp=Z,554nm,23.0s						
KBZ	Khabaz	127.67	56	PKP	PKiKP	15 53 32.3	+0.4
	comp=Z,11nm,1.1s,baz=272,slow=4.9,SNR=9.5						
KBZ	Khabaz	127.67	56	*c i* PKIKP	PKiKP	15 53 32.4	+0.5
KBZ				MLR	MLR		
	comp=Z,769nm,11.0s						
GIRL	Giralia	127.72	188	P	PKPpre	15 53 24.9	
PSA00	Pilbara Seismi	127.79	195		PKPdf	15 53 30.6	-1.8
PSA00	Pilbara Seismi	127.79	195	PKPdf	PKPdf	15 53 31.0	-1.4
PSA00	Pilbara Seismi	127.79	195	P	PKiKP	15 53 32.9	-0.1
PSAC1	Pilbara Seismi	127.83	195	P	PKiKP	15 53 33.0	-0.1
GOF	Gofitskoye	127.92	54	*ce*PKIKP	PKiKP	15 53 33.0	+0.6
NCK	Nalchik	128.14	56	⇑*e*PKIKP	PKiKP	15 53 32.7	-0.3
NCK				MLR	MLR		
	comp=Z,746nm,11.0s						
MBWA	Marble Bar	128.21	195		PKPdf	15 53 31.7	-1.6
MBWA	Marble Bar	128.21	195	P	PKiKP	15 53 33.8	0.0
BILL	Biiibino	128.52	336	PKPdf	PKPdf	15 53 32.2	-0.1
BILL	Biiibino	128.52	336	*c i* PKIKP	PKiKP	15 53 33.2	+0.3
GNI	Garni	128.55	60	PKPdf	PKPdf	15 53 33.2	-0.3
GNI	Garni	128.55	60	IAMs_20	IAMs_20	16 51 50.0	
	comp=Z,1μm,21.0s						
GNI	Garni	128.55	60	*c i* PKIKP	PKiKP	15 53 34.8	+0.7
GNI	Garni	128.55	60	PKP	PKiKP	15 53 35.4	+1.3
KNRA	Kununurra	130.51	208	P	PKiKP	15 53 38.4	-0.1
MAK	Makhachkala	130.94	57	*i* P	Pdif	15 50 24.3	-4.5
MAK				*i*		15 53 35.4	
MAK				*e*		15 55 51.4	
MAK				*e*		16 00 43.8	
MAK				pmax	pmax		
	comp=Z,405nm,1.6s						
AKT	Akhty	130.97	59	*e*PKIKP	PKPdf	15 53 31.0	-6.9
AKT				pmax	pmax		
	comp=Z,59nm,1.6s						
BELG	Belogornoye	131.10	45	PKP	PKPdf	15 53 38.0	+0.4
	comp=Z,25nm,0.9s,baz=27,slow=2.3,SNR=8.3						
BELG	Belogornoye	131.10	45	*c i* PKIKP	PKiKP	15 53 38.4	-0.1
KIRV	Kirov	131.34	36	*d i* PKIKP	PKiKP	15 53 39.6	+0.8
KDU	Kakadu	131.50	214	P	PKPdf	15 53 39.9	+0.3
MZR	Muzera	131.69	84	*i* PKIKP	PKiKP	15 53 40.6	-0.1
	SNR=6.2						
MTN	Manton Dam	132.00	212	P	PKiKP	15 53 41.4	-0.1
FAQ	Al Faqa, Dubai	134.08	83	PKPdf	PKPdf	15 53 44.5	+0.3
NAZ	Nazwa, Dubai	134.22	83	PKPdf	PKPdf	15 53 44.5	+0.1
ASHO	Ashiyiah	134.47	83	PKPdf	PKPdf	15 53 45.6	+0.6
HATD	Hatta, Dubai	134.58	83	PKPdf	PKPdf	15 53 45.4	+0.3
UOSS	Minazif	134.67	83	PKPdf	PKPdf	15 53 44.9	-0.4
SOHO	SOHO	134.71	84	*i* PKPdf	PKPdf	15 53 45.2	-0.1
	SNR=6.4						
SHME	Shamm	134.94	82	PKPdf	PKPdf	15 53 46.0	+0.3
SEY	Seymchan	135.81	332	PKP	PKiKP	15 53 47.3	-0.5
	comp=Z,12nm,0.7s,baz=115,slow=3.1,SNR=53						
SEY	Seymchan	135.81	332	*i* PKIKP	PKPdf	15 53 45.8	-0.4
SEY				pmax	pmax		
	comp=Z,35nm,1.4s						
PET	Petropavlovsk	135.97	317	*ce*PKIKP	PKPdf	15 53 47.4	+0.7
TIXI	Tiksi	136.18	350	PKPdf	PKPdf	15 53 44.9	-1.7
TIXI	Tiksi	136.18	350	PKP	PKPdf	15 53 46.0	-0.6
	comp=Z,3.9nm,0.5s,baz=46,slow=6.8,SNR=13						
TIXI	Tiksi	136.18	350	⇑*i* PKIKP	PKPdf	15 53 46.8	+0.2
PEA0B	Petropavlovsk-	136.52	318	⇓*e*PKIKP	PKiKP	15 53 49.4	-0.1
PETK	Petropavlovsk-	136.52	318	PKPpre	PKPpre	15 53 36.8	
PETK				PKPdf	PKPdf	15 53 47.7	-0.1
PETK	Petropavlovsk-	136.52	318	PKP	PKiKP	15 53 48.8	-0.8
	comp=Z,12nm,1.0s,baz=149,slow=3.5,SNR=6.4						
ARTI	Arti	136.57	38	PKPdf	PKPdf	15 53 48.0	+0.2
ARTI	Arti	136.57	38	*i* PKIKP	PKPdf	15 53 47.9	+0.1
ARTI						15 56 28.5	
ARTI				SS	SS	16 14 27.4	-3.8
SVE	Sverdlovsk	137.61	36	*i* PKIKP	PKiKP	15 53 51.7	+0.1
SKR	Severo-Kuril's	137.97	314	*i* PKHKP	PKPpre	15 53 38.4	
SKR				pmax	pmax		
	comp=Z,600nm,5.1s						
SKR				MLR	MLR		
	comp=Z,800nm,15.0s						
MA2	Magadan	138.03	328		PKPpre	15 53 39.2	
MA2	Magadan	138.03	328	PKP	PKPdf	15 53 50.4	0.0
	comp=Z,8.2nm,0.8s,baz=92,slow=4.6,SNR=13						
MA2	Magadan	138.03	328	*c i* PKIKP	PKPdf	15 53 50.9	+0.5
AB31	Akbulak array	139.24	48	*i* PKIKP	PKPpre	15 53 46.6	
ABKAR	Akbulak array	139.24	48		PKPpre	15 53 41.8	
ABKAR	Akbulak array	139.24	48		PKPpre	15 53 42.7	
CMJI	Cimerak	142.91	182	PKP	PKPdf	15 54 01.3	+0.6
CNJI	Cibinong	143.40	180	PKP	PKPbc	15 53 59.2	+0.6
CNJI				PKP	PKPdf	15 53 59.8	-1.7
CNJI				PKP	PKPdf	15 53 59.8	-1.7
KAPI	Kappang	143.64	201	PKPdf	PKPbc	15 53 59.8	+0.5
KAPI	Kappang	143.64	201	PKIKP	PKPbc	15 53 59.8	+0.5
LEM	Lembang	143.88	181	PKP	PKPdf	15 54 01.5	-1.1
	comp=Z,138nm,0.9s,baz=124,slow=2.9,SNR=50						
CGJI	Cibinong	144.06	177	PKP	PKPbc	15 54 00.7	+0.2
CGJI				PKP	PKPbc	15 54 00.7	+0.2
BRVK	Borovoye	144.20	38	PKPdf	PKPbc	15 54 00.3	+0.4
BRVK	Borovoye	144.20	38	*c i* PKIKP	PKPdf	15 54 01.5	-0.2
BVA0	Borovoye Array	144.28	38	*i* PKIKP	PKPbc	15 54 00.9	+0.8
BVAR	Borovoye Array	144.28	38	PKP	PKPdf	15 54 01.7	-0.1
	comp=Z,22nm,0.6s,baz=303,slow=3.0,SNR=133						
YAK	Yakutsk	144.29	342	PKPdf	PKPab	15 53 59.5	-0.1
YAK	Yakutsk	144.29	342	PKP	PKPbc	15 54 00.5	+0.7
	comp=Z,188nm,0.9s,baz=33,slow=1.0,SNR=154						
YAK	Yakutsk	144.29	342	*c i* PKIKP	PKPbc	15 53 59.9	0.0
YAK				*e*		15 54 05.1	
YAK				*e*		15 57 15.5	
YAK				pmax	pmax		
	comp=Z,279nm,1.0s						
YAK				pmax	pmax		
	comp=N,67nm,1.5s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,539nm,3.0s						
YAK				pmax	pmax		
	comp=N,209nm,2.3s						
YAK				pmax	pmax		
	comp=E,160nm,3.7s						
KUR	Kuril'sk	144.52	308	*c i* PKIKP	PKPbc	15 54 01.4	+0.3
TRD	Trivandrum	144.74	120	*e*P	PKPdf	15 54 05.3	+1.5
TRD				IAmb	IAmb	15 54 12.7	
	comp=Z,68nm,1.0s						
MNGI	Mangalore	145.73	112	*e*P	PKPbc	15 54 05.8	0.0
BHUJ	Bhuj	145.86	92	*e*P	PKPab	15 54 07.0	+0.5
BHUJ				IAmb	IAmb	15 54 10.2	
	comp=Z,527nm,1.4s						
TYV	Tymovskoe	146.03	319	*e*PKP2	PKPab	15 54 07.1	+0.8
TYV				pmax	pmax		
	comp=Z,2μm,3.7s						
TYV				pmax	pmax		
	comp=Z,233nm,1.5s						
MDSI	Maura Dua	146.07	175	PKP	PKPdf	15 54 05.7	-0.5
MDSI				PKP	PKPbc	15 54 05.9	-1.0
MDSI				PKP	PKPbc	15 54 06.0	-1.0
LUWI	Luwuk	146.19	209	PKPdf	PKPdf	15 54 04.4	-2.0
KOD	Kodaikanal	146.22	118	*e*P	PKPab	15 54 08.4	-0.1
KOD				IAmb	IAmb	15 54 12.0	
	comp=Z,323nm,1.6s						
GOA	Goa	146.26	107	*e*P	PKPab	15 54 08.7	+0.5
PALK	Pallekele	146.64	126	PKPdf	PKPdf	15 54 03.8	-3.4
PALK					PKPbc	15 54 08.3	-0.4
PALK	Pallekele	146.64	126	PKHKP	PKPpre	15 54 03.8	
PALK						15 54 08.4	
APSI	Ampana	146.77	207	PKP	PKPdf	15 54 08.1	+0.8
APSI				PKP	PKPab	15 54 10.4	+0.2
BRZS	Berezniki	146.89	42	*e*PKP2	PKPbc	15 54 07.7	-0.6
BRZS	Berezniki	146.89	42	*e*PKP	PKPbc	15 54 07.8	-0.6
KMSI	Cibinong	147.10	212	PKP	PKPbc	15 54 09.3	-0.7
KMSI				PKP	PKPab	15 54 10.6	-0.9
UGL	Uglegorsk	147.11	316	*e*PKP2	PKPbc	15 54 09.5	+0.6
UGL				pmax	pmax		
	comp=Z,100nm,1.4s						
UGL				pmax	pmax		
	comp=Z,200nm,13.0s						
CHM	Chimkent	147.21	57	*e*PKP2	PKPdf	15 54 08.1	+0.9
CHM	Chimkent	147.21	57	*e*PKP	PKPdf	15 54 08.2	+0.9
BRLS	Borolday	147.24	55	*e*PKP2	PKPdf	15 54 08.2	+0.9
BRLS	Borolday	147.24	55	*e*PKP	PKPdf	15 54 08.2	+0.9
SIMJ	Simiganj	147.24	64		PKPbc	15 54 08.8	-1.1
KBL	Kabul	147.36	71		PKPdf	15 54 08.7	+0.7
KBL	Kabul	147.36

HYB e 15 54 28.4
BOD Bodaibo 151.31 352 *e*PKIKP **PKPdf 15 54 13.4 +0.2**
BOD pmax pmax
comp=Z,390nm,1.6s
AKL Akola 151.32 101 *e*P **PKPdf 15 54 16.1 +1.7**
TKM2 Tokmak 2 151.35 54 P **PKPdf 15 54 15.2 +1.1**
SNR=8.7
TKM2 Tokmak 2 151.35 54 PKIKP **PKPdf 15 54 14.4 +0.3**
ZEA Zeya 151.74 335 *e*PKIKP **PKPdf 15 54 14.4 +0.4**
ZEA *e* 15 54 28.9
ZEA pmax pmax
comp=Z,300nm,2.3s
ZEA pmax pmax
comp=Z,50nm,1.3s
ULHL Ulahol 152.01 55 P **PKPdf 15 54 16.7 +1.6**
SNR=6.9
SRNI Srinagar 152.16 72 *e*P **PKPdf 15 54 17.9 +2.6**
JMU Jammu 152.18 75⇑*e*P **PKPdf 15 54 17.5 +2.2**
RPSI Rantau Prapat 152.19 162 **PKPdf 15 54 15.2 -0.8**
RPSI **pPKPdf 15 54 21.9 -0.3**
NRDN NARMADA NAGAR 152.21 97 *e*P **PKPdf 15 54 13.9 -1.8**
NRDN IAmb IAmb 15 54 29.8
comp=Z,58nm,0.4s
TNSS Tian-Shan 152.26 53 *e*PKIKP **PKPdf 15 54 16.3 +0.6**
TNSS Tian-Shan 152.26 53 *e*PKP **PKPdf 15 54 16.3 +0.6**
PSI Prapat 152.29 162 PKIKP **PKPdf 15 54 15.2 -1.1**
PSI 15 54 21.9
PSI pmax pmax
comp=Z,4μm,22.0s
ARXS Arharly 152.44 50 *e*PKIKP **PKPdf 15 54 16.8 +1.3**
KSH Kashi 152.48 60 PKPbc **PKPdf 15 54 17.0 +1.2**
KSH PP **PP 15 58 07.0 +1.1**
KSH SKKS 16 04 52.2
KSH SS **SS 16 17 31.0 -4.1**
KSH LR LR
comp=Z,420nm,19.2s
KSH LR LR
comp=Z,830nm,18.6s
KSH LR LR
comp=Z,960nm,21.3s
TDK Taldyqorghan 152.51 48 *e*PKIKP **PKPdf 15 54 16.5 +1.0**
TDK Taldyqorghan 152.51 48 *e*PKP **PKPdf 15 54 16.5 +1.0**
BHPL Bhopal 152.61 96 *e*P **PKPdf 15 54 17.6 +1.2**
SBUM Sibu 152.68 191 PKPdf **PKPdf 15 54 15.6 -1.1**
SBUM PKPbc **PKiKP 15 54 24.0 0.0**
SBUM PKPab **PKPab 15 54 34.8 +0.6**
SBUM IAMs_20 IAMs_20 17 16 37.0
comp=Z,1μm,20.0s
TSI Tuntungan 152.85 161 PKP **PKPdf 15 54 18.3 +1.4**
TSI PKP **PKPbc 15 54 24.2 +0.1**
THN Thein Dam 152.86 76 *e*P **PKPdf 15 54 16.5 +0.1**
KLR Kul'dur 152.88 323 PKP **PKPdf 15 54 16.2 +0.4**
comp=Z,9.9nm,1.2s,baz=90,slow=3.2,SNR=12
KLR PKPbc **PKiKP 15 54 23.6 +0.3**
comp=Z,16nm,0.7s,baz=64,slow=3.5,SNR=36
KLR Kul'dur 152.88 323*c i*PKIKP **PKPdf 15 54 15.8 -0.1**
MLSI Meulaboh, Aceh 152.88 156 PKP **PKPbc 15 54 23.9 -0.3**
GUNA GUNA 152.97 93 *e*P **PKPdf 15 54 16.9 +0.1**
GUNA IAmb IAmb 15 54 33.4
comp=Z,74nm,1.1s
KUDL Kundal 153.06 85 *e*P **PKPdf 15 54 17.9 +1.1**
KUDL IAmb IAmb 15 54 33.8
comp=Z,201nm,1.5s
RTK Rohtak 153.14 83 *e*P **PKPdf 15 54 17.4 +0.6**
MJAR Matsushiro Arr 153.19 293 PKP **PKPdf 15 54 16.7 -0.1**
comp=Z,4.2nm,1.0s,baz=5.7,slow=1.3,SNR=6.6
MJAR PKPbc **sPKPdf 15 54 24.9 -0.4**
comp=Z,12nm,1.0s,baz=62,slow=2.2,SNR=12
MAJO Matsushiro 153.19 293 PKPdf **PKPdf 15 54 14.8 -2.0**
MAJO **PKiKP 15 54 24.6 +0.2**
MAJO Matsushiro 153.19 293⇓PKIKP **PKiKP 15 54 25.1 +0.7**
NGP Nagpur 153.24 102 *e*P **PKPdf 15 54 16.7 -0.6**
NGP IAmb IAmb 15 54 26.2
comp=Z,121nm,1.7s
SATY Saty 153.25 52 *e*PKIKP **PKPdf 15 54 17.6 +0.8**
SATY Saty 153.25 52 *e*PKP **PKPdf 15 54 17.7 +0.9**
KPKS Kokpek 153.30 51 *e*PKIKP **PKPdf 15 54 17.8 +1.0**
KPKS Kokpek 153.30 51 *e*PKP **PKPdf 15 54 17.8 +1.0**
DHRM DHARAMSHALA 153.34 76 *e*P **PKPdf 15 54 18.6 +1.2**
DHRM IAmb IAmb 15 54 38.9
comp=Z,70nm,0.8s
BHK Bhakra 153.40 78 *e*P **PKPdf 15 54 18.1 +0.8**
BHGR Bahadurgarh 153.54 84 *e*P **PKPdf 15 54 17.5 +0.1**
BSI Banda Aceh 153.58 152 PKP **PKPdf 15 54 17.4 -0.6**
BSI PKP **pPKPdf 15 54 18.2 -6.0**
SONA Sohna 153.59 85 *e*P **PKPdf 15 54 17.7 +0.2**
UZB Uzynbulak 153.64 51 *e*PKIKP **PKPdf 15 54 18.3 +0.9**
UZB Uzynbulak 153.64 51 *e*PKP **PKPdf 15 54 18.4 +0.9**
AYAN Aya Nagar 153.67 85 *e*P **PKPdf 15 54 18.7 +1.0**
GNR GANAUR 153.67 83 *e*P **PKPdf 15 54 17.4 -0.3**
NPLP NPLP New Delhi 153.73 84 *e*P **PKPdf 15 54 16.2 -1.5**
NPLP IAmb IAmb 15 54 27.0
comp=Z,220nm,2.0s
LDR Lodi Road 153.76 85 *e*P **PKPdf 15 54 17.4 -0.4**
NDI New Delhi 153.78 84 *e*P **PKPdf 15 54 17.5 -0.3**
JMIU JAMIA UNIVERSI 153.82 85 *e*P **PKPdf 15 54 16.2 -1.7**
MAKZ Makanchi 153.84 42 PKPdf **PKPdf 15 54 16.1 -1.3**
MAKZ **PKPbc 15 54 25.2 -0.1**
MAKZ IAMs_20 IAMs_20 17 12 48.7
comp=Z,711nm,20.0s
MAKZ Makanchi 153.84 42 PKIKP **PKPdf 15 54 16.5 -0.9**
SHLS Shalkode 153.94 51 *e*PKIKP **PKPdf 15 54 19.0 +1.3**
SHLS Shalkode 153.94 51 *e*PKP **PKPdf 15 54 19.1 +1.3**
SMLA Simla 154.02 79 *e*P **PKPdf 15 54 19.7 +1.6**
MK31 Makanchi Array 154.03 41*c i*PKIKP **PKPdf 15 54 18.0 +0.3**
MKAR Makanchi Array 154.03 41 PKPdf **PKPdf 15 54 16.7 -1.0**
MKAR PKPbc **sPKPdf 15 54 26.1 +0.2**
MKAR Makanchi Array 154.03 41 PKP **PKPdf 15 54 17.9 +0.3**
comp=Z,1.9nm,0.9s,baz=325,slow=1.5,SNR=15
MKAR PKPbc **sPKPdf 15 54 26.1 +0.2**
comp=Z,8.8nm,0.8s,baz=321,slow=1.1,SNR=52
MKAR Makanchi Array 154.03 41 PKIKP **PKPdf 15 54 16.7 -1.0**
MKAR 15 54 26.1
JHNI Jhansi 154.25 92 *e*P **PKPdf 15 54 18.9 +0.3**
INU Inuyama 154.26 291 PKPdf **PKPdf 15 54 17.4 -0.9**
INU PKPbc **PKPbc 15 54 26.1 -0.4**
INU **PKPab 15 54 41.1 +0.5**
ASOR Ausora 154.27 84⇑*e*P **PKPdf 15 54 19.1 +0.6**
HEH HeiHe 154.29 329 PKPbc **PKPdf 15 54 17.7 -0.1**
HEH PKPab **PKPab 15 54 40.6 +0.5**
HEH PP **PP 15 58 14.5 -0.5**
HEH AMB AMB
comp=Z,720nm,4.8s
HEH LR LR
comp=Z,1μm,19.8s
HEH LR LR
comp=Z,1μm,21.0s
HEH LR LR
comp=Z,3μm,20.8s
DDI Dehra Dun 154.71 81 *e*P **PKPdf 15 54 21.8 +2.6**
KLP Kalpa 154.97 78 *e*P **PKPdf 15 54 21.2 +1.4**
KLP IAmb IAmb 15 54 30.6
comp=Z,563nm,2.1s
ZSN Zaisan 155.09 38 *e*PKIKP **PKPdf 15 54 20.1 +1.0**
ZSN Zaisan 155.09 38 *e*PKP **PKPdf 15 54 20.1 +1.0**
KULM Kulim 155.12 164 PKPdf **PKPdf 15 54 19.1 -1.1**
KULM **pPKPdf 15 54 26.8 +0.5**
KULM PKPab **PKPab 15 54 44.1 -0.4**
KKM Kota Kinabalu 155.17 202 PKPdf **PKPdf 15 54 18.8 -1.5**
KKM **PKPab 15 54 44.5 -0.4**
TKRD Thakurdwara 155.27 84⇑*e*P **PKPdf 15 54 18.9 -1.0**
USA0B Ussuriysk Arra 155.49 313 PKPdf **PKPdf 15 54 18.9 -0.8**
USA0B PKPab **PKPab 15 54 45.9 +0.4**
USA0B Ussuriysk Arra 155.49 313 PKIKP **PKPdf 15 54 18.9 -0.8**
USA0B 15 54 45.9
USRK Ussuriysk Ar. 155.49 313 **PKPdf 15 54 19.3 -0.4**
USRK Ussuriysk Ar. 155.49 313 PKP **PKPdf 15 54 20.0 +0.3**
comp=Z,2.7nm,0.7s,baz=64,slow=4.4,SNR=12
USRK Ussuriysk Ar. 155.49 313 PKIKP **PKPdf 15 54 19.3 -0.4**
BNDA BANDA 155.81 93 *e*P **PKPdf 15 54 20.1 -0.7**
JOSI Joshimath 156.03 81 *e*P **PKPdf 15 54 21.2 +0.1**
BLSP Bilaspur 156.26 102 *e*P **PKPdf 15 54 22.3 +0.9**
BLSP IAmb IAmb 15 54 34.2
comp=Z,52nm,1.3s
PTH Pithoragarh 156.50 83 *e*P **PKPdf 15 54 21.2 -0.5**
LGTI Lohaghat 156.51 83 *e*P **PKPdf 15 54 21.7 +0.2**
LGTI IAmb IAmb 15 54 35.1
comp=Z,35nm,1.3s
LKN LUCKNOW 156.61 90 *e*P **PKPdf 15 54 21.0 -0.7**
MDJ Mudanjiang 156.75 317 PKP **PKPdf 15 54 21.1 -0.3**
MDJ PP **PP 15 58 28.4 -0.7**
CIT Chita 157.03 350 *e*PKIKP **PKPdf 15 54 19.2 -2.3**
CIT *e* 15 54 28.6
CIT pmax pmax
comp=Z,119nm,2.8s
ALBI Allahabad 157.05 94 *e*P **PKPdf 15 54 22.1 -0.2**
IRK Irkutsk 157.18 5 *e*PKIKP **PKPdf 15 54 21.3 -0.4**
IRK *e* 15 58 26.9
IRK pmax pmax
comp=Z,127nm,2.3s
BNX BinXian 157.35 321⇓PKP **PKPdf 15 54 21.8 -0.3**
BNX PP **PP 15 58 31.9 -0.4**
BNX SS SS 16 18 32.5 +6.2
BNX AMB AMB
comp=Z,370nm,9.9s
BNX LR LR
comp=Z,780nm,19.6s
BNX LR LR
comp=Z,810nm,17.3s
BNX LR LR
comp=Z,930nm,18.8s
MOY Mondy 157.38 10 *e*PKIKP **PKPdf 15 54 23.7 +1.6**
MOY pmax pmax
comp=Z,148nm,2.3s
JHSG JHARSUGUGA 157.50 105 *e*P **PKPdf 15 54 22.9 -0.2**
PBA Port Blair 157.69 140 *e*P **PKPdf 15 54 24.6 +1.2**
SRIT Nakonsritamara 157.99 159 PKPdf **PKPdf 15 54 22.7 -1.2**
SRIT **PKPab 15 54 56.7 -0.2**
HIA Hailar 158.09 338 **PKPdf 15 54 22.1 -0.8**
HIA **PKPab 15 54 55.7 -0.8**
HIA Hailar 158.09 338 IAMs_20 IAMs_20 17 19 58.7
comp=Z,958nm,20.0s
HIA Hailar 158.09 338 PKIKP **PKPdf 15 54 22.1 -0.8**
HIA 15 54 55.7
HIA pmax pmax
comp=Z,1μm,20.0s
VAR Varanasi 158.10 95 *e*P **PKPdf 15 54 23.1 -0.5**
WMQ Urumqi 158.86 42 *e*PKP **PKPdf 15 54 24.9 +0.8**
WMQ PKPab **PKPab 15 55 03.0 +2.9**
WMQ PP **PP 15 58 43.0 +2.2**
WMQ AMB AMB
comp=Z,350nm,5.3s
WMQ LR LR
comp=Z,700nm,20.1s
WMQ LR LR
comp=Z,890nm,20.1s
WMQ LR LR
comp=Z,940nm,19.9s
ZAK Zakamensk 158.94 7 *e*PKIKP **PKPdf 15 54 23.6 -0.4**
ZAK pmax pmax
comp=Z,19nm,1.9s
KNTI KHUNTI 159.30 103 *e*P **PKPdf 15 54 24.6 -0.6**
CN2 Changchun 159.65 319 PKP **PKPdf 15 54 24.8 -0.1**
CN2 *e*PP **PP 15 58 47.8 +2.9**
CN2 AMB AMB
comp=Z,500nm,4.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,900nm,17.0s
KSRS Korea Array 161.04 300 PKP **PKPdf 15 54 27.4 +0.8**
comp=Z,9.7nm,1.2s,baz=120,slow=0.9,SNR=16
KSRS PKPab **PKPab 15 55 11.8 +2.1**
comp=Z,12nm,1.2s,baz=93,slow=4.2,SNR=9.8
KSAR Wonju Array Be 161.08 300 PKPdf **PKPdf 15 54 25.2 -1.5**
KSAR PKPab **PKPab 15 55 10.1 +0.2**
KSAR Wonju Array Be 161.08 300 PKP2 **PKPab 15 55 10.1 +0.2**
KSAR 16 54 25.2
ULN Ulaanbaatar 161.67 0 PKPdf **PKPdf 15 54 25.4 -1.8**
ULN PKPab **PKPab 15 55 12.7 +0.4**
ULN Ulaanbaatar 161.67 0 PKIKP **PKPdf 15 54 25.4 -1.8**
ULN 15 55 12.7
SONM Songino Array 161.69 2 PKPdf **PKPdf 15 54 26.7 -0.5**
SONM PKPab **PKPab 15 55 12.7 +0.4**
SONM Songino Array 161.69 2 PKP **PKPdf 15 54 28.1 +1.0**
comp=Z,5.5nm,1.3s,baz=220,slow=1.4,SNR=17
SONM PKPab **PKPab 15 55 13.9 +1.7**
comp=Z,3.7nm,0.8s,baz=326,slow=3.8,SNR=13
SONM PP **PP 15 58 55.1 -0.1**
comp=Z,8.0nm,1.3s,baz=339,slow=3.2,SNR=6.6
JPG JALPAIGURI 163.37 96 *e*P **PKPdf 15 54 29.6 +0.3**
GTK Tadong 163.45 93 *e*P **PKPdf 15 54 30.5 +0.9**
XLT XiLinHaoTe 164.00 336 *e*PKP **PKPdf 15 54 29.8 +0.3**
XLT PKPab **PKPab 15 55 23.4 +0.9**
XLT PP **PP 15 59 14.8 +7.1**
XLT AMB AMB
comp=Z,390nm,9.3s
XLT LR LR
comp=Z,54nm,16.6s
XLT LR LR
comp=Z,530nm,18.4s
XLT LR LR
comp=Z,820nm,18.9s
DL2 Dalian 164.87 312 PKP **PKPdf 15 54 28.7 -1.6**
DL2 AMB AMB
comp=Z,510nm,7.0s
DL2 LR LR
comp=Z,1μm,19.5s
DL2 LR LR
comp=Z,1μm,19.8s
DL2 LR LR
comp=Z,2μm,19.5s
LSA Lhasa 165.99 85 PKP **PKPdf 15 54 33.6 +1.4**
LSA Lhasa 165.99 85 *i* PKPdf **PKPdf 15 54 33.4 +1.2**
SNR=8.4
TAWA Tawang 166.35 94 *e*P **PKPdf 15 54 33.7 +1.4**
CMAR Chiang Mai Arr 166.64 144 **PKPdf 15 54 31.4 -0.9**
CMAR PKPab **PKPab 15 55 32.6 -2.1**
CMAR Chiang Mai Arr 166.64 144 PKP **PKPdf 15 54 33.1 +0.8**
comp=Z,3.8nm,0.9s,baz=260,slow=2.0,SNR=28
CMAR PKPab **PKPab 15 55 34.5 -0.2**
comp=Z,9.7nm,1.1s,baz=218,slow=4.6,SNR=15
CMAR PP **PP 15 59 20.1 -1.6**
comp=Z,1.4nm,1.0s,baz=238,slow=4.3,SNR=4.2
CHTO Chiang Mai 166.94 143 **PKPdf 15 54 31.9 -0.7**
CHTO PKPab **PKPab 15 55 34.8 -1.2**
CHTO Chiang Mai 166.94 143 PKIKP **PKPdf 15 54 31.9 -0.7**
CHTO 15 55 34.8
BJI Beijing 167.19 327 PKP **PKPdf 15 54 32.7 +0.6**
BJI PP **PP 15 59 25.4 +1.0**
BJI AMB AMB
comp=Z,310nm,12.5s
BJI LR LR
comp=Z,560nm,17.6s
BJI LR LR
comp=Z,460nm,20.6s
BJI LR LR
comp=Z,540nm,20.8s
IMP Imphal 167.28 108 *e*P **PKPdf 15 54 33.9 +1.1**
GOMU GeErMu 167.60 54 PKP **PKPdf 15 54 34.7 +1.6**
GOMU PP **PP 15 59 27.5 -0.3**
GOMU SKKS 16 06 13.6
GOMU LR LR
comp=Z,430nm,18.0s
GOMU LR LR
comp=Z,480nm,17.6s
GOMU LR LR
comp=Z,780nm,16.3s
KOHI KOHIMA 167.75 105 *e*P **PKPdf 15 54 34.6 +1.4**
ZIRO ZIRO 168.05 96 *e*P **PKPdf 15 54 34.0 +0.6**
HHC Hu-ho-hao-te 168.15 344 *e*PKP **PKPdf 15 54 29.7 -3.2**
HHC pPKP sPKPdf 15 54 41.9 +0.5
HHC PP **PP 15 59 29.1 +0.1**
HHC LR LR
comp=Z,1μm,20.0s
HHC LR LR
comp=Z,1μm,18.0s
HHC LR LR
comp=Z,1μm,20.1s
GTA Gaotai 168.38 30 PKP **PKPdf 15 54 34.3 +1.1**
GTA sPKP 15 54 42.6
GTA PKPab **PKPab 15 55 42.8 +0.8**
GTA PP **PP 15 59 28.7 -1.9**
GTA AMB AMB
comp=Z,330nm,5.4s
GTA LR LR
comp=Z,700nm,18.2s
GTA LR LR
comp=Z,500nm,17.1s
GTA LR LR
comp=Z,1μm,19.3s
BTO Baotou 168.70 349 *e*PKP **PKPdf 15 54 34.0 +0.7**
BTO PKPab **PKPab 15 55 43.8 +0.5**
BTO PP **PP 15 59 31.0 -0.7**
BTO SS SS 16 20 23.3 +0.7
BTO AMB AMB
comp=Z,1μm,9.0s
BTO LR LR
comp=Z,2μm,11.9s
BTO LR LR
comp=Z,2μm,16.4s
BTO LR LR
comp=Z,3μm,17.8s
QIZ Qiongzhong 169.31 193 PKP **PKPdf 15 54 32.0 -2.2**
QIZ AMB AMB
comp=Z,750nm,12.5s
QIZ LR LR
comp=Z,470nm,17.3s
QIZ LR LR
comp=Z,1μm,20.6s
QIZ LR LR
comp=Z,1μm,18.3s
TIA Tai'an 169.34 311 PKP **PKPdf 15 54 34.2 +0.5**
TIA AMB AMB
comp=Z,720nm,8.6s
TIA LR LR
comp=Z,570nm,16.7s
TIA LR LR
comp=Z,840nm,18.6s
TIA LR LR
comp=Z,1μm,19.6s
NJ2 Nanjing 169.70 287 PKP **PKPdf 15 54 35.1 +1.1**
LKP Lekhapani 169.73 99 *e*P **PKPdf 15 54 35.7 +1.5**
HNS HongShan 169.97 324⇑PKP **PKPdf 15 54 34.9 +0.9**
HNS PKPab **PKPab 15 55 50.7 +1.8**
HNS PP **PP 15 59 40.2 +1.6**
HNS AMB AMB
comp=Z,820nm,11.4s
HNS LR LR
comp=Z,1μm,16.7s
HNS LR LR
comp=Z,1μm,18.6s
HNS LR LR
comp=Z,1μm,17.7s
TIY Taiyuan 170.75 334 PKP **PKPdf 15 54 35.9 +1.3**
TIY PP **PP 15 59 47.7 +5.4**
TIY SS SS 16 20 42.2 -1.3
TIY AMB AMB
comp=Z,500nm,7.4s
TIY LR LR
comp=Z,710nm,19.9s
TIY LR LR
comp=Z,770nm,19.9s
TIY LR LR
comp=Z,2μm,22.0s
TNCH TengChong 171.05 118 PKP **PKPdf 15 54 29.5 -5.7**
TNCH pPKP sPKPdf 15 54 42.9 -0.6
TNCH PKPab **PKPab 15 55 53.3 -1.2**
TNCH PP **PP 15 59 42.6 -2.6**
TNCH AMB AMB
comp=Z,280nm,3.7s
TNCH LR LR
comp=Z,810nm,16.3s
TNCH LR LR
comp=Z,660nm,16.0s
TNCH LR LR
comp=Z,1μm,18.2s
LZH Lanzhou 172.84 23 *e*PKP **PKPdf 15 54 37.2 +1.5**
LZH SKKS 16 06 41.0
LZH LR LR
comp=Z,760nm,18.5s
LZH LR LR
comp=Z,850nm,19.9s
LZH LR LR
comp=Z,2μm,19.6s
LYN LuoYang 173.30 320 PKP **PKPdf 15 54 36.4 +0.7**
LYN sPKP 15 54 44.1
LYN PKPab **PKPab 15 56 05.2 +1.4**
LYN PP **PP 15 59 55.6 +0.3**
LYN AMB AMB
comp=Z,750nm,11.0s
LYN LR LR
comp=Z,2μm,17.8s
LYN LR LR
comp=Z,1μm,16.1s
LYN LR LR
comp=Z,3μm,17.9s
WHN Wuhan 173.75 281⇑PKP **PKPdf 15 54 36.9 +0.9**
WHN PKPab **PKPab 15 56 08.1 +1.9**
WHN PP **PP 16 00 01.9 +3.3**
WHN LR LR
comp=Z,5μm,17.6s
KMI Kunming 174.07 136⇑PKP **PKPdf 15 54 37.6 +1.0**
PZH PanZhiHua 174.29 120 PKP **PKPdf 15 54 36.6 +0.1**
PZH PKPab **PKPab 15 56 09.7 +1.0**
PZH PP **PP 16 00 00.3 -0.7**
PZH SKKS 16 06 46.9
PZH SS **SS 16 21 16.9 -3.3**
PZH LR LR
comp=Z,1μm,21.6s
PZH LR LR
comp=Z,760nm,18.1s
PZH LR LR
comp=Z,2μm,21.1s
GULI GuiLin 174.97 214⇓PKP **PKPdf 15 54 39.6 +3.0**
GULI PP **PP 16 00 03.9 +0.7**
GULI LR LR
comp=Z,720nm,17.9s
GULI LR LR
comp=Z,900nm,18.4s
GULI LR LR
comp=Z,2μm,19.3s
XAN Xi'an 175.26 343⇑PKP **PKPdf 15 54 37.4 +0.9**
XAN PKPab **PKPab 15 56 13.4 +0.9**
XAN PP **PP 16 00 05.1 +0.9**
XAN SS SS 16 21 31.7 +4.8
XAN AMB AMB
comp=Z,1μm,11.4s
XAN LR LR
comp=Z,2μm,18.8s
XAN LR LR
comp=Z,1μm,16.7s
XAN LR LR
comp=Z,2μm,20.2s
CD2 Chengdu 176.67 64 PKP **PKPdf 15 54 37.0 +0.1**
CD2 PP **PP 16 00 13.4 +1.0**
CD2 AMB AMB
comp=Z,500nm,9.4s
GYA Guiyang 176.92 170⇑PKP **PKPdf 15 54 37.3 +0.1**
GYA PP **PP 16 00 10.9 -1.1**
GYA SS SS 16 21 47.7 +5.1
GYA AMB AMB
comp=Z,410nm,7.3s
GYA LR LR
comp=Z,630nm,17.6s
GYA LR LR
comp=Z,490nm,16.4s
GYA LR LR
comp=Z,580nm,22.8s

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*NEIC **07** 15:35:10.9±1.1,38.°07N±0.°01×112.°76W±0.°01,h5km±1km,*
Error ellipse: s-maj=2.9km s-min=2.1km az=148.0
UUSS 07 15:35:11.4±1.3,38.°09N±0.°01×112.°78W±0.°02,h6km±5km,
ML3.0/18,**ML3.2**/140(NEIC),**Error ellipse: s-maj=1.8km**
s-min=1.5km az=73.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWU	**Dry Willow Pea**	**0.18**	**274**		Pg	15 35 15.5	+0.5
BHUT	**Beaver**	**0.21**	**30**		Pg	15 35 15.9	+0.2
NMUT	**North Mineral**	**0.43**	**352**		Pg	15 35 19.8	0.0
MTPU	**Mount Pierson**	**0.47**	**96**		Pg	15 35 20.3	-0.2
MTPU				Sg	Sg	15 35 25.7	-0.9
TCRU	**Three Creeks R**	**0.58**	**26**		Pg	15 35 22.3	-0.2
TCRU	**Three Creeks R**	**0.58**	**26**	Sg	Sg	15 35 30.7	+0.6
TCRU				IAML		15 35 39.0	
TCRU				IAML		15 35 40.4	
ARUT	**Antelope Range**	**0.61**	**240**		Pg	15 35 23.4	+0.3
IMU	**Iron Mountain**	**0.62**	**331**		Pg	15 35 23.6	+0.3
MSU	**Marysvale**	**0.63**	**48**		Pg	15 35 23.1	-0.4
PKCU	**Pink Cliffs**	**0.74**	**150**		Pg	15 35 25.4	-0.3
PKCU	**Pink Cliffs**	**0.74**	**150**	Sg	Sg	15 35 34.6	-0.7
PKCU				IAML		15 35 38.9	
PKCU				IAML		15 35 48.4	
PSUT	**Pine Spring**	**0.96**	**298**		Pg	15 35 29.8	+0.1
PSUT				Sg	Sb	15 35 43.0	-0.4

PSUT			IAML		15 35 49.7		
	comp=N,823nm,0.5s						
PSUT			IAML		15 35 49.9		
	comp=E,574nm,0.5s						
WCU	**Willow Creek**	**1.02 31**		Pg	15 35 30.7	-0.3	
KNB	**Kanab**	**1.07 182**		Pg	15 35 30.7	-1.2	
KNB			Sg	Sg	15 35 44.4	-1.6	
LCMT	**Little Creek M**	**1.14 199**		Pg	15 35 31.9	-1.3	
LCMT	**Little Creek M**	**1.14 199**	Sg	Sg	15 35 46.9	-1.2	
LCMT			IAML		15 35 53.0		
	comp=E,318nm,0.3s						
LCMT			IAML		15 35 53.5		
	comp=N,360nm,0.7s						
OWUT	**Old Woman Plat**	**1.26 57**		Pg	15 35 35.0	-0.6	
ICU	**Indian Springs**	**1.31 224**		Pn	15 35 36.2	-0.1	
FLU	**Fool Peak**	**1.37 20**		Pn	15 35 37.1	-0.1	
Q16A	**Castle Valley**	**1.50 56**		Pn	15 35 38.9	-0.1	
Q16A				Sn	15 35 58.2	-0.9	
SPR3	**Spring Creek 3**	**1.52 307**		Pn	15 35 38.9	-0.5	
SPR3			IAML		15 36 04.0		
	comp=N,349nm,0.9s						
SPR3			IAML		15 36 04.5		
	comp=E,306nm,0.8s						
LEVU	**Levan**	**1.60 28**		Pb	15 35 40.9	-0.5	
HMU	**Henry Mountain**	**1.61 95**		Pn	15 35 41.1	+0.5	
HMU	**Henry Mountain**	**1.61 95**	IAML		15 36 11.0		
	comp=N,614nm,0.6s						
U15A	**North Rim**	**1.71 167**	Pg	Pn	15 35 42.1	+0.3	
U15A			IAML		15 36 06.8		
	comp=N,208nm,0.7s						
U15A			IAML		15 36 09.8		
	comp=E,250nm,0.7s						
TMUT	**Trail Mountain**	**1.72 45**		Pn	15 35 42.6	+0.5	
TMUT			IAML		15 36 13.2		
	comp=E,195nm,0.7s						
PRN	**Pahroc Range**	**1.93 250**		Pn	15 35 45.6	+0.7	
SRU	**San Rafael Swe**	**2.04 59**		Pn	15 35 47.1	+0.8	
SRU			IAML		15 36 18.3		
	comp=E,102nm,0.6s						
DUG	**Dugway, Tooele**	**2.10 359**		Pn	15 35 46.9	-0.3	
DUG			IAML		15 36 26.3		
	comp=E,104nm,1.1s						
MPU	**Maple Canyon**	**2.12 24**		Pn	15 35 47.3	-0.1	
R11B	**Troy Canyon, C**	**2.23 277**		Pn	15 35 48.8	-0.1	
R11B			IAML		15 36 23.6		
	comp=N,130nm,0.6s						
R11B			IAML		15 36 25.6		
	comp=E,122nm,0.5s						
S11A	**Rachel**	**2.40 260**		Pn	15 35 50.8	-0.4	
SHPR	**Sheep Range**	**2.48 231**	Pn	Pn	15 35 52.7	+0.3	
P18A	**Preston Nutter**	**2.50 51**		Pn	15 35 53.9	+1.1	
P18A			IAML		15 36 38.2		
	comp=E,70nm,1.1s						
WUAZ	**Wupatki**	**2.81 156**		Pn	15 35 56.6	-0.3	
BGU	**Big Grassy Mou**	**2.84 356**		Pn	15 35 57.2	-0.1	
V12A	**Nelson**	**2.89 216**		Pn	15 35 58.0	+0.1	
BSUT	**Blindstream Ca**	**2.90 32**		Pn	15 35 57.8	-0.6	
PV10	**Paradox Valley**	**2.96 83**		Pn	15 35 59.6	+0.6	
PV23	**Carpenter Ridg**	**2.98 82**		Pn	15 36 00.2	+0.8	
TPNV	**Topopah Spring**	**2.99 249**		Pn	15 35 59.7	+0.2	
TPNV			IAML		15 36 49.8		
	comp=E,87nm,0.5s						
TPNV			IAML		15 36 50.5		
	comp=E,98nm,0.6s						
PV11	**David Mesa, Pa**	**3.08 85**		Pn	15 36 01.7	+1.0	
W13A	**Hualapai Mount**	**3.12 197**		Pn	15 36 01.9	+0.7	
W13A			IAML		15 36 56.4		
	comp=E,37nm,1.1s						
PV13	**Radium Mtn., P**	**3.12 88**		Pn	15 36 02.2	+1.0	
TCUT	**Toone Canyon**	**3.20 19**		Pn	15 36 03.2	+0.8	
TCUT			IAML		15 37 04.7		
	comp=E,50nm,0.7s						
TCUT			IAML		15 37 04.9		
	comp=N,68nm,0.8s						
ELK	**Elko**	**3.27 325**		Pn	15 36 03.3	0.0	
PV07	**Paradox Valley**	**3.27 83**		Pn	15 36 04.3	+1.0	
PV07			IAML		15 37 04.0		
	comp=N,86nm,1.2s						
PV07			IAML		15 37 06.1		
	comp=E,67nm,1.2s						
WCT	**Wildcat Mounta**	**3.33 248**		Pn	15 36 04.9	+0.9	
WCT			IAML		15 37 03.9		
	comp=E,46nm,1.3s						
WCT			IAML		15 37 04.8		
	comp=N,32nm,0.9s						
PV15	**Paradox Valley**	**3.39 84**		Pn	15 36 05.3	+0.3	
PV15			IAML		15 37 18.8		
	comp=N,102nm,0.9s						
MVCO	**Mesa Verde**	**3.51 103**		Pn	15 36 08.3	+1.7	
Q09A	**Carvers**	**3.54 283**		Pn	15 36 08.2	+1.2	
HWUT	**Hardware Ranch**	**3.63 14**		Pn	15 36 08.9	+0.6	
GMN	**Gold Mountain**	**3.64 259**		Pn	15 36 08.7	+0.2	
GMN			IAML		15 37 11.8		
	comp=N,57nm,0.8s						
GMN			IAML		15 37 13.5		
	comp=E,41nm,0.7s						
GWY	**Greenwater Val**	**3.65 240**	Pn	Pn	15 36 08.7	+0.2	
GWY			IAML		15 37 14.0		
	comp=N,43nm,0.6s						
GWY			IAML		15 37 24.6		
	comp=E,39nm,1.1s						
MZP	**Montezuma Peak**	**3.67 265**		Pn	15 36 08.8	0.0	
MZP			IAML		15 37 10.6		
	comp=E,27nm,0.6s						
MZP			IAML		15 37 10.7		
	comp=N,37nm,0.6s						
HVU	**Hansel Valley**	**3.68 360**		Pn	15 36 09.1	+0.1	
HVU			IAML		15 37 15.4		
	comp=E,26nm,1.2s						
HVU			IAML		15 37 19.9		
	comp=N,33nm,0.8s						
X16A	**Lo Mia Camp, P**	**3.82 163**		Pn	15 36 10.0	-0.9	
X16A			IAML		15 37 15.0		
	comp=N,42nm,0.7s						
X16A			IAML		15 37 15.6		
	comp=E,39nm,1.0s						
O20A	**White River Ci**	**4.07 59**		Pn	15 36 13.5	-0.9	
O20A			IAML		15 37 30.2		
	comp=E,62nm,1.1s						
O20A			IAML		15 37 36.0		
	comp=N,49nm,1.2s						
Y14A	**Wickenburg**	**4.15 183**		Pn	15 36 13.7	-1.6	
Y14A			IAML		15 37 26.2		
	comp=N,28nm,0.8s						
Y14A			IAML		15 37 35.9		
	comp=E,23nm,0.9s						
DSP	**Deep Springs**	**4.18 262**		Pn	15 36 15.1	-0.6	
DSP			IAML		15 37 28.4		
	comp=N,40nm,1.0s						
DSP			IAML		15 37 28.6		
	comp=E,32nm,0.8s						
X18A	**Snowflake**	**4.22 146**		Pn	15 36 15.0	-1.4	
NV11	**Mina Array Sit**	**4.25 276**		Pn	15 36 16.9	+0.2	
NV11			IAML		15 37 29.8		
	comp=E,25nm,0.6s						
NV11			IAML		15 37 38.1		
	comp=N,21nm,0.8s						
GSC	**Goldstone, Bar**	**4.27 231**		Pn	15 36 15.2	-1.8	
GSC			IAML		15 37 45.2		
	comp=E,28nm,2.8s						
GSC			IAML		15 37 47.9		
	comp=N,18nm,1.2s						
NVAR	**Mina Array Bea**	**4.37 276**		Pn	15 36 16.1	-2.3	
LHV	**Little Huntoon**	**4.52 274**		Pn	15 36 18.3	-2.0	
RYN	**Ryan**	**4.55 279**		Pn	15 36 18.3	-2.6	
RYN			IAML		15 37 46.8		
	comp=N,36nm,0.9s						
BLYC	**Blythe**	**4.56 199**	Pn	Pn	15 36 19.1	-1.7	
BLYC			IAML		15 37 40.9		
	comp=E,26nm,1.2s						
BLYC			IAML		15 37 55.5		
	comp=N,18nm,1.4s						
S22A	**4UR Ranch, Cre**	**4.71 92**		Pn	15 36 20.5	-2.7	
S22A			IAML		15 38 04.7		
	comp=E,16nm,4.0s						
AHID	**Auburn Hatcher**	**4.84 15**		Pn	15 36 22.4	-2.5	
WAKR	**Walker**	**5.26 277**		Pn	15 36 28.5	-2.1	
WAKR			IAML		15 38 06.3		
	comp=E,18nm,2.9s						
WAKR			IAML		15 38 20.8		
	comp=N,16nm,3.1s						
PD31	**Pinedale Array**	**5.28 27**	Pn	Pn	15 36 29.8	-1.1	
PDAR	**Pinedale Array**	**5.28 27**		Pn	15 36 29.7	-1.2	
GLA	**Glamis**	**5.30 199**		Pn	15 36 28.6	-2.5	
GLA			IAML		15 38 03.1		
	comp=N,19nm,0.7s						
PAHR	**Pah Rah Range**	**5.40 289**	Pn	Pn	15 36 30.9	-1.7	
PNTR	**Pine Nut**	**5.44 283**		Pn	15 36 31.7	-1.4	
HLID	**Hailey**	**5.60 348**		Pn	15 36 33.7	-1.6	
SDCO	**Great Sand Dun**	**5.76 91**	Pn	Pn	15 36 36.1	-1.5	

*IDC **07** 15:37:36.6±1.2, 55°.67S×26°.95W, h0km, mb4.5/3, mbtmp4.5/4, ML4.7/1, Error ellipse: s-maj=73.9km s-min=28.7km az=86.0*

ISC 07 15:37:39.8±1.6, 55°.6S±0°.2×27°.2W±0°.5, h25km, n12, σ0°65/12, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.21**	**159**	⇑P	**P**	**15 41 40.9**	**+1.5**
	comp=Z,0.8nm,0.3s						
VNA3	**Neumayer Olymp**	**17.41**	**161**	⇑P	**P**	**15 41 41.3**	**-0.4**
	comp=Z,0.5nm,0.2s						
VNA2	**Neumayer--Watz**	**17.60**	**158**	⇑P	**P**	**15 41 43.9**	**0.0**
	comp=Z,0.5nm,0.2s,baz=316,slow=13						
SNAA	**Sanae**	**19.15**	**157**	⇑P	**P**	**15 42 00.6**	**-0.4**
	comp=Z,30nm,0.3s						
SNAA	**Sanae**	**19.15**	**157**	P	**P**	**15 42 00.5**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=308,slow=8.7,SNR=24						
	comp=Z,15nm,0.6s						
TROLL	**Troll, Antarti**	**20.64**	**154**	⇑P	**P**	**15 42 17.4**	**+0.1**
	comp=Z,78nm,0.3s						
QSPA	**South Pole Qui**	**34.64**	**180**	P	**P**	**15 44 26.6**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=206,slow=2.7,SNR=51						
	comp=Z,4.5nm,0.6s						
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**15 46 08.4**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=151,slow=10,SNR=1.4						
	comp=Z,4.2nm,0.8s						
VAE	**Valguarnera**	**99.28**	**32**	P	**Pdif**	**15 51 18.6**	**-0.4**
	comp=Z,13nm,0.5s,baz=196,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**99.41**	**162**	P	**Pdif**	**15 51 19.2**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=191,slow=4.4,SNR=6.9						
	comp=Z,0.6nm,1.0s						
ILAR	**Eielson Array**	**149.82**	**312**	PKPbc	**PKiKP**	**15 57 27.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=125,slow=3.7,SNR=15						
SONM	**Songino Array**	**150.70**	**86**	PKPbc	**PKiKP**	**15 57 29.5**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=208,slow=3.8,SNR=8.7						

IDC 07 15:38:21.3±3.2, 32°.54S×178°.04W, h0km, mb3.4/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=74.1km s-min=37.5km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.94**	**213**	Pn	Pn	15 40 04.3	+0.1
	0.7nm,0.3s,baz=78,slow=19,SNR=1.8						
URZ				Sn	Sn	15 41 22.4	-1.6
	0.6nm,0.3s,baz=35,slow=11,SNR=1.8						
	12nm,1.0s						
ASAR	**Alice Springs**	**43.01**	**269**	P	P	15 46 22.8	+0.1
	0.3nm,0.7s,baz=110,slow=8.0,SNR=5.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.19**	**274**	P	P	15 46 32.3	+0.1
	0.2nm,0.3s,baz=114,slow=8.2,SNR=11						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**147.13**	**339**	PKPbc	PKPbc	15 58 04.5	-1.0
	1.3nm,0.7s,baz=48,slow=2.8,SNR=5.1						

*ISK **07** 15:40:20.9, 36°.08N×31°.22E, h15km, ML3.5/17*
*NIC **07** 15:40:22.5, 35°.97N×31°.12E, h24km±2km, Ml3.4/11*
*AFAD **07** 15:40:23.5, 36°.15N×31°.23E, h15km±1km, MW3.5*

ISC 07 15:40:20.2±1.2, 36°.08N±0°.02×31°.21E±0°.02, h14km±10km, n62, σ1°49/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVG	**Manavgat-Antal**	**0.73**	**13**	Pg	**Pb**	**15 40 35.8**	**+1.1**
MNVG				Sg	**Sb**	**15 40 46.2**	**+1.7**
AKUM	**Antalya-Kumluc**	**0.74**	**289**	P	**Pn**	**15 40 36.8**	**+0.6**
AKUM				S	**Sn**	**15 40 47.5**	**+0.2**
KEMT	**Kemer-ANTALYA**	**0.74**	**315**	Pg	**Pb**	**15 40 35.9**	**+1.0**
ALAN	**Alanya-ANTALYA**	**0.81**	**54**	Pg	**Pb**	**15 40 36.9**	**+0.8**
ALAN				Sg	**Sb**	**15 40 48.4**	**+1.4**
KEPZ	**Antalya-Kepez**	**0.88**	**21**	P	**Pn**	**15 40 38.6**	**+0.5**
KEPZ				S	**Sg**	**15 40 48.8**	**0.0**
GAZI	**Gazipasa**	**0.91**	**80**	Pg	**Pn**	**15 40 38.7**	**+0.2**
GAZI				Sg	**Sn**	**15 40 51.8**	**+0.4**
GAZI	**Gazipasa**	**0.91**	**80**	P	**Pn**	**15 40 39.5**	**+1.0**
GAZI				S	**Sb**	**15 40 49.9**	**+0.3**
ANTB	**Antalya**	**0.93**	**331**	Pg	**Pb**	**15 40 39.0**	**+0.9**
DEMR	**Demre-Antalya**	**1.07**	**279**	Pg	**Pn**	**15 40 42.1**	**+1.4**
ELL	**Elmali**	**1.24**	**303**	Pn	**Pn**	**15 40 44.6**	**+1.3**
ELL	**Elmali**	**1.24**	**303**	P	**Pn**	**15 40 44.6**	**+1.3**
ELL				S	**Sn**	**15 41 01.0**	**+1.1**
ELL				AML	AML	15 41 08.2	
	10.0nm,0.8s						
ELL				AML	AML	15 41 10.6	
	6.0nm,0.6s						
AKAS	**Kas**	**1.31**	**277**	Pn	**Pg**	**15 40 45.6**	**+0.1**
AKAS	**Kas**	**1.31**	**277**	P	**Pn**	**15 40 44.4**	**+0.2**
AKAS				S	**Sb**	**15 41 00.2**	**-1.1**
KSL	**Kastellorizon**	**1.32**	**273**	P	**Pn**	**15 40 44.4**	**+0.2**
KSL				S	**Sb**	**15 41 01.9**	**+0.4**
KSL				AML	AML	15 41 08.0	
	1.4nm,0.4s						
KSL				AML	AML	15 41 14.1	
	0.7nm,0.6s						
HDMB	**Hadim**	**1.35**	**49**	Pn	**Pn**	**15 40 45.5**	**+0.7**
AKMS	**Akamas**	**1.40**	**139**	P	**Pb**	**15 40 46.2**	**+0.1**
AKMS				S	**Sg**	**15 41 04.7**	**-0.8**
AKMS				AML	AML	15 41 14.5	
	1.6nm,0.3s						
AKMS				AML	AML	15 41 16.0	
	1.5nm,0.4s						
SEYD	**Seydisehir-KON**	**1.41**	**21**	Pn	**Pb**	**15 40 46.6**	**+0.2**
SEDI	**Konya, Seydise**	**1.43**	**18**	P	**Pg**	**15 40 47.3**	**-0.5**
SEDI				S	**Sb**	**15 41 03.2**	**-1.7**
ALFC	**Alefka**	**1.46**	**129**	P	**Pn**	**15 40 46.5**	**+0.3**
ALFC				S	**Sn**	**15 41 06.0**	**+0.9**
ALFC				AML	AML	15 41 18.1	
	1.3nm,0.3s						
ALFC				AML	AML	15 41 21.6	
	1.1nm,0.4s						
BCK	**Bucak**	**1.47**	**340**	Pn	**Pb**	**15 40 47.7**	**+0.4**
KNIK	**Mula-Seydike**	**1.52**	**300**	P	**Pb**	**15 40 49.1**	**+0.8**
KNIK				S	**Sn**	**15 41 08.0**	**+1.1**
IZZE	**Mula-Seydike**	**1.64**	**283**	P	**Pn**	**15 40 49.8**	**+1.1**
IZZE				S	**Sn**	**15 41 05.8**	**-3.8**
LEF	**Lefka**	**1.67**	**125**	P	**Pn**	**15 40 49.2**	**+0.2**
LEF				S	**Sn**	**15 41 08.0**	**-2.2**
NATA	**Nata**	**1.71**	**139**	P	**Pb**	**15 40 51.0**	**-0.4**
NATA				AML	AML	15 41 28.5	
	4.9nm,0.8s						
NATA				AML	AML	15 41 30.0	
	4.0nm,1.0s						
GOLH	**Golhisar**	**1.76**	**311**	P	**Pb**	**15 40 53.2**	**+0.9**
CAME	**Cameli-Denizli**	**1.76**	**300**	Pn	**Pn**	**15 40 52.0**	**+1.6**
KKBE	**Karaman, Kazim**	**1.79**	**50**	P	**Pg**	**15 40 54.0**	**-0.7**
KKBE				S	**Sb**	**15 41 16.1**	**+0.8**
FETY	**Fethiye**	**1.81**	**288**	Pn	**Pn**	**15 40 52.1**	**+1.2**
ISP	**Isparta**	**1.82**	**343**	Pn	**Pb**	**15 40 53.0**	**-0.4**
CAEL	**Denizli, Camel**	**1.84**	**305**	P	**Pb**	**15 40 53.6**	**-0.2**
BRDR	**BURDUR-Merkez**	**1.86**	**331**	P	**Pb**	**15 40 54.6**	**+0.6**
BRDR				S	**Sn**	**15 41 15.3**	**+0.3**
GULN	**MERSIN_Gulnar**	**1.89**	**86**	P	**Pb**	**15 40 54.2**	**-0.3**
GULN				S	**Sn**	**15 41 16.3**	**+0.7**
BAGO	**Egridir - ISPA**	**1.94**	**350**	P	**Pb**	**15 40 55.6**	**+0.3**
BAGO				S	**Sn**	**15 41 15.5**	**-1.4**
SABU	**Mula-Dalaman**	**1.95**	**293**	P	**Pn**	**15 40 53.6**	**+0.7**
SABU				S	**Sn**	**15 41 13.8**	**-3.5**
ATHAL	**Athalassa**	**2.01**	**117**	S	**Sb**	**15 41 21.5**	**+0.1**
ATHAL				AML	AML	15 41 38.7	
	1.7nm,0.7s						
ATHAL				AML	AML	15 41 39.6	
	1.8nm,1.0s						
DOGA	**KONYA_Doganhis**	**2.05**	**10**	P	**Pb**	**15 40 57.0**	**-0.3**
DOGA				S	**Sn**	**15 41 20.8**	**+0.9**
BASM	**Basmaki-Afyon**	**2.06**	**333**	Pn	**Pn**	**15 40 56.1**	**+1.7**
CSS	**Mathiatis**	**2.06**	**122**	P	**Pn**	**15 40 55.1**	**+0.8**
CSS				S	**Sn**	**15 41 21.7**	**+1.9**
CSS				AML	AML	15 41 35.6	
	0.7nm,0.7s						
CSS				AML	AML	15 41 39.6	
	0.8nm,0.7s						
APMY	**Acipayam-Deniz**	**2.07**	**313**	Pn	**Pn**	**15 40 56.4**	**+1.8**
KONT	**Konya--Tatoy**	**2.08**	**26**	P	**Pb**	**15 40 57.2**	**-0.5**
INCE	**Denizli-Bozkur**	**2.09**	**322**	P	**Pn**	**15 40 56.9**	**+2.0**
ASGA	**Asgata**	**2.11**	**127**	P	**Pn**	**15 40 56.1**	**+1.1**
ASGA				S	**Sn**	**15 41 22.7**	**+1.7**
ASGA				AML	AML	15 41 36.1	
	1.0nm,0.7s						
ASGA				AML	AML	15 41 40.0	
	0.9nm,0.6s						
DNZT	**Denizli-Tavas-**	**2.13**	**305**	P	**Pn**	**15 40 57.3**	**+1.9**
DNZT				S	**Sn**	**15 41 18.9**	**-2.7**
YVAC	**Isparta, Yalva**	**2.19**	**1**	P	**Pn**	**15 40 58.2**	**+2.0**
DALY	**Dalyan (Mula)**	**2.19**	**290**	Pn	**Pn**	**15 40 57.5**	**+1.4**
MVOU	**Mavrovouni**	**2.24**	**118**	P	**Pn**	**15 40 57.1**	**+0.2**
MVOU				S	**Sn**	**15 41 25.4**	**+1.1**
MVOU				AML	AML	15 41 40.4	
	1.2nm,0.8s						
MVOU				AML	AML	15 41 40.6	
	1.2nm,0.8s						
AFYN	**Afyon-Dinar-K**	**2.26**	**346**	P	**Pn**	**15 40 58.7**	**+1.5**
AFYN				S	**Sn**	**15 41 23.2**	**-1.7**
TAVA	**DENIZLI_Tavas**	**2.31**	**307**	P	**Pn**	**15 40 59.6**	**+1.7**
TAVA				S	**Sn**	**15 41 26.5**	**+0.4**
DNIZ	**Denizli-Tavas-**	**2.33**	**312**	P	**Pn**	**15 40 59.9**	**+1.7**
DNIZ				S	**Sn**	**15 41 26.1**	**-0.5**
KIZK	**Mersin**	**2.40**	**80**	P	**Pb**	**15 41 03.5**	**+0.4**
KIZK				S	**Sb**	**15 41 31.1**	**-1.5**
ARG	**Arkhangelos**	**2.50**	**274**	P	**Pn**	**15 41 00.9**	**+0.5**
ARG				S	**Sn**	**15 41 29.4**	**-1.3**
ARG				AML	AML	15 41 30.2	
	0.5nm,0.3s						
ARG				AML	AML	15 41 32.6	
	0.6nm,0.4s						
KDHN	**Kadinhani**	**2.54**	**16**	P	**Pn**	**15 41 02.2**	**+1.2**
UCKU	**Afyonkarahisar**	**2.56**	**4**	P	**Pn**	**15 41 02.6**	**+1.4**
UCKU				S	**Sn**	**15 41 28.2**	**-4.0**
ALIN	**Konya, Altinte**	**2.58**	**31**	P	**Pn**	**15 41 03.9**	**+2.3**
PASA	**Karahalli, USA**	**2.65**	**329**	P	**Pn**	**15 41 04.0**	**+1.5**
KURO	**Afyon-Bolvadin**	**2.66**	**355**	P	**Pn**	**15 41 04.5**	**+1.8**
KURO				S	**Sn**	**15 41 30.1**	**-4.7**
KERG	**Konya-Eregli**	**2.69**	**60**	P	**Pb**	**15 41 07.1**	**-1.1**
AFYO	**Afyonkarahisar**	**2.80**	**345**	P	**Pn**	**15 41 05.5**	**+0.9**
BYAT	**Afyon-Bayat**	**2.87**	**356**	P	**Pn**	**15 41 07.8**	**+2.2**
CBEY	**Konya-Cihanbey**	**2.89**	**25**	P	**Pn**	**15 41 08.1**	**+2.3**
CBEY				S	**Sn**	**15 41 36.6**	**-3.8**
CTIK	**Konya-Celtik**	**2.96**	**6**	P	**Pn**	**15 41 08.2**	**+1.4**
CTIK				S	**Sn**	**15 41 40.3**	**-1.9**
KARP	**Karpathos**	**3.33**	**262**	P	**Pn**	**15 41 12.4**	**+0.4**
KARP				S	**Sn**	**15 41 50.4**	**-1.0**
KARP				AML	AML	15 41 53.2	
	0.9nm,0.3s						
KARP				AML	AML	15 41 53.7	
	0.7nm,0.3s						

*ISK **07** 15:42:39.8, 36°.06N×31°.16E, h8km, ML3.1/24*
*NIC **07** 15:42:43.0, 35°.89N×31°.13E, h32km±39km, Ml3.0/7*
*AFAD **07** 15:42:43.4, 36°.15N×31°.24E, h17km±1km, ML3.2*

ISC 07 15:42:42.3±1.1, 36°.11N±0°.03×31°.19E±0°.02, h29km±12km, n76, σ1°55/102, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMT	**Kemer-ANTALYA**	**0.71**	**314**	Pg	**Pb**	**15 42 54.5**	**-1.6**
AKUM	**Antalya-Kumluc**	**0.72**	**287**	P	**Pb**	**15 42 56.5**	**+0.3**
AKUM				S	**Sn**	**15 43 07.3**	**+0.8**
AKUM				*i* AML	AML	15 43 10.0	
	comp=E,908nm,0.3s						
AKUM				*i* AML	AML	15 43 11.0	
	comp=N,1μm,0.4s						
ALAN	**Alanya-ANTALYA**	**0.81**	**57**	Pg	**Pb**	**15 42 56.9**	**-1.0**
KEPZ	**Antalya-Kepez**	**0.86**	**23**	P	**Pb**	**15 42 58.3**	**-0.3**
KEPZ				S	**Sb**	**15 43 08.5**	**-1.3**
ANTB	**Antalya**	**0.90**	**331**	Pg	**Pb**	**15 42 58.3**	**-1.0**
ANTB				Sg	**Sn**	**15 43 11.1**	**+0.2**
GAZI	**Gazipasa**	**0.92**	**82**	Pg	**Pn**	**15 42 58.6**	**-0.7**
GAZI				Sg	**Sn**	**15 43 12.0**	**+0.4**
GAZI	**Gazipasa**	**0.92**	**82**	P	**Pn**	**15 42 59.0**	**-0.2**
GAZI				S	**Sb**	**15 43 09.6**	**-2.0**
GAZI				*i* AML	AML	15 43 12.0	
	comp=N,1μm,0.6s						
GAZI				*i* AML	AML	15 43 12.0	
	comp=E,915nm,0.3s						
DEMR	**Demre-Antalya**	**1.05**	**277**	Pg	**Pn**	**15 42 59.9**	**-1.1**
KORT	**Korkueli**	**1.11**	**323**	Pn	**Pn**	**15 43 02.7**	**+0.6**
ELL	**Elmali**	**1.21**	**302**	Pn	**Pn**	**15 43 03.8**	**+0.4**
ELL	**Elmali**	**1.21**	**302**	P	**Pb**	**15 43 04.6**	**0.0**
ELL				S	**Sb**	**15 43 22.0**	**+2.0**
AKAS	**Kas**	**1.29**	**276**	Pn	**Pn**	**15 43 04.2**	**-0.2**
AKAS	**Kas**	**1.29**	**276**	P	**Pn**	**15 43 04.2**	**-0.2**
KSL	**Kastellorizon**	**1.30**	**272**	P	**Pn**	**15 43 04.4**	**-0.1**
KSL	**Kastellorizon**	**1.30**	**272**	P	**Pn**	**15 43 04.5**	**-0.1**
KSL				S	**Sn**	**15 43 21.1**	**+0.2**
BUCA	**Burdur, Bucak-**	**1.31**	**338**	P	**Pn**	**15 43 04.1**	**-0.7**
HDMB	**Hadim**	**1.35**	**50**	Pn	**Pn**	**15 43 06.4**	**+1.0**
SEYD	**Seydisehir-KON**	**1.39**	**22**	Pn	**Pn**	**15 43 06.9**	**+1.0**
SEDI	**Konya, Seydise**	**1.41**	**19**	P	**Pn**	**15 43 07.2**	**+1.1**
SEDI				S	**Sn**	**15 43 23.4**	**-0.5**
BCK	**Bucak**	**1.43**	**340**	Pn	**Pn**	**15 43 07.5**	**+1.1**
AKMS	**Akamas**	**1.44**	**139**	P	**Pn**	**15 43 06.5**	**+0.1**
AKMS				S	**Sn**	**15 43 24.0**	**-0.3**
AKMS				AML	AML	15 43 38.7	
	0.8nm,0.5s						
AKMS				AML	AML	15 43 38.9	
	0.8nm,0.6s						
ALFC	**Alefka**	**1.49**	**129**	P	**Pn**	**15 43 06.4**	**-0.8**
ALFC				S	**Sn**	**15 43 24.8**	**-1.0**
ALFC				AML	AML	15 43 35.2	
	0.7nm,0.3s						
ALFC				AML	AML	15 43 37.3

CSS			AML	AML	15 43 59.3	
	0.4nm,0.7s					
DNZT	**Denizli-Tavas-**	**2.09 304**	P	**Pn**	**15 43 17.0**	**+1.5**
ASGA	**Asgata**	**2.14 128**	P	**Pn**	**15 43 16.3**	**+0.3**
ASGA			S	**Sn**	**15 43 42.8**	**+1.2**
ASGA			AML	AML	15 44 00.5	
	0.4nm,0.5s					
ASGA			AML	AML	15 44 01.3	
	0.4nm,0.5s					
YVAC	**Isparta, Yalva**	**2.15 1**	P	**Pn**	**15 43 17.8**	**+1.4**
DALY	**Dalyan (Mula)**	**2.16 290**	Pn	**Pn**	**15 43 16.1**	**-0.2**
AFYN	**Afyon-Dinar-K**	**2.22 346**	P	**Pn**	**15 43 18.5**	**+1.2**
MVOU	**Mavrovouni**	**2.27 118**	P	**Pn**	**15 43 16.9**	**-1.0**
MVOU			S	**Sn**	**15 43 41.5**	**-3.4**
MVOU			AML	AML	15 44 00.1	
	0.5nm,0.9s					
MVOU			AML	AML	15 44 00.3	
	0.6nm,0.8s					
TAVA	**DENIZLI_Tavas**	**2.27 307**	P	**Pn**	**15 43 19.4**	**+1.4**
TAVA			*i* AML	AML	15 43 59.0	
	comp=E,133nm,0.7s					
LADK	**Ladik-KONYA**	**2.29 24**	Pn	**Pn**	**15 43 19.9**	**+1.7**
DNIZ	**Denizli-Tavas-**	**2.29 312**	P	**Pn**	**15 43 19.9**	**+1.7**
DNIZ			*i* AML	AML	15 43 59.0	
	comp=N,257nm,0.6s					
DNIZ			*i* AML	AML	15 44 03.0	
	comp=E,252nm,0.3s					
KIZK	**Mersin**	**2.42 80**	P	**Pb**	**15 43 23.0**	**-2.0**
KIZK			S	**Sn**	**15 43 51.2**	**+2.8**
TURN	**Turunc**	**2.46 286**	Pn	**Pn**	**15 43 21.3**	**+0.8**
ARG	**Arkhangelos**	**2.48 273**	Pn	**Pn**	**15 43 20.7**	**0.0**
ARG	**Arkhangelos**	**2.48 273**	P	**Pn**	**15 43 20.6**	**-0.1**
EREN	**Erenkoy**	**2.49 103**	P	**Pn**	**15 43 23.4**	**+2.5**
EREN			*i* AML	AML	15 44 00.0	
	comp=E,208nm,1.1s					
KDHN	**Kadinhani**	**2.52 17**	P	**Pn**	**15 43 22.2**	**+0.9**
UCKU	**Afyonkarahisar**	**2.53 4**	P	**Pn**	**15 43 22.8**	**+1.3**
YER	**Yerkesik**	**2.55 294**	Pn	**Pn**	**15 43 22.5**	**+0.7**
ALIN	**Konya, Altinte**	**2.57 31**	P	**Pn**	**15 43 21.7**	**-0.3**
PASA	**Karahalli, USA**	**2.61 329**	P	**Pn**	**15 43 24.1**	**+1.5**
KURO	**Afyon-Bolvadin**	**2.62 356**	P	**Pn**	**15 43 24.4**	**+1.6**
KURO			S	**Sn**	**15 43 47.9**	**-5.9**
KERG	**Konya-Eregli**	**2.69 60**	P	**Pn**	**15 43 26.9**	**+3.2**
KERG			*i* AML	AML	15 44 07.0	
	comp=N,73nm,0.4s					
BNAZ	**Uak-Banaz**	**2.77 338**	P	**Pn**	**15 43 26.7**	**+1.9**
BNAZ			*i* AML	AML	15 44 05.0	
	comp=N,113nm,0.7s					
BNAZ			*i* AML	AML	15 44 06.0	
	comp=E,116nm,0.5s					
CBEY	**Konya-Cihanbey**	**2.87 26**	P	**Pn**	**15 43 27.9**	**+1.7**
CBEY			*i* AML	AML	15 44 06.0	
	comp=E,56nm,0.8s					
CTIK	**Konya-Celtik**	**2.94 7**	P	**Pn**	**15 43 27.2**	**+0.1**
CTIK			*i* AML	AML	15 44 05.0	
	comp=E,85nm,0.4s					
CTIK			*i* AML	AML	15 44 08.0	
	comp=N,55nm,0.5s					
BSIR	**Belisirma, Guz**	**3.28 48**	P	**Pn**	**15 43 33.4**	**+1.5**
KARP	**Karpathos**	**3.32 261**	P	**Pn**	**15 43 31.9**	**-0.4**
KARP	**Karpathos**	**3.32 261**	P	**Pn**	**15 43 32.4**	**+0.1**
KARP			S	**Sn**	**15 44 09.8**	**-1.1**
KKUL	**Konya-Kulu**	**3.35 24**	P	**Pn**	**15 43 33.9**	**+1.1**
SMG	**Samos**	**3.83 296**	P	**Pn**	**15 43 39.0**	**-0.4**
ZKR	**Zakros**	**4.17 258**	P	**Pn**	**15 43 43.6**	**-0.4**

IDC 07 15:47:14.3±3.1, 32°.18S×178°.01W, h0km, mb3.8/2, mbtmp3.9/3, ML2.9/1, Error ellipse: s-maj=73.8km s-min=36.8km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.26**	**212**	Pn	Pn	15 49 01.2	-0.4
	0.2nm,0.3s,baz=93,slow=17,SNR=1.3						
URZ				Sn	Sn	15 50 25.0	+0.2
	2.8nm,0.3s,baz=345,slow=20,SNR=13						
	9.3nm,0.9s						
ASAR	**Alice Springs**	**43.03**	**269**	P	P	15 55 16.3	+0.3
	0.8nm,0.7s,baz=104,slow=7.5,SNR=4.1						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**44.18**	**274**	P	P	15 55 25.0	-0.2
	0.7nm,0.3s,baz=115,slow=8.1,SNR=6.7						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	PKPdf	16 06 56.7	+0.9
	3.2nm,0.8s,baz=64,slow=4.4,SNR=6.5						

IDC 07 15:49:13.8±3.2, 32°.55S×178°.30W, h0km, mb3.6/2, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=74.7km s-min=37.3km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.82**	**212**	Pn	Pn	15 50 54.9	-0.1
	0.4nm,0.3s,baz=346,slow=12,SNR=0.9						
URZ				Sn	Sn	15 52 12.6	-0.8
	0.7nm,0.3s,baz=354,slow=18,SNR=6.4						
	2.2nm,0.3s						
ASAR	**Alice Springs**	**42.79**	**269**	P	P	15 57 13.7	+0.3
	0.2nm,0.2s,baz=112,slow=8.5,SNR=2.0						
	0.2nm,0.2s						
WRA	**Warramunga Arr**	**43.97**	**275**	P	P	15 57 22.9	-0.1
	0.4nm,0.3s,baz=114,slow=8.0,SNR=9.2						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	PKPbc	16 08 56.8	-1.0
	7.2nm,1.2s,baz=41,slow=4.4,SNR=5.1						

WEL 07 15:57:06.1±1.0, 33°.S±7°.×17°.8W±2°.0, h12km, M3.9/10, mB4.6/10, ML4.4/11, MLv4.2/6, Mw(mB)3.8/10, Error ellipse: s-maj=26.7km s-min=4.3km az=107.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.24**	**2**	P	Pn	15 57 56.1	-0.7
GLKZ				S	Sn	15 58 33.0	-2.3
WMGZ	**Waiomatatini S**	**6.05**	**208**	P	Pn	15 58 36.7	+1.3
PKGZ	**Pakihiroa**	**6.22**	**210**	P	Pn	15 58 37.5	-0.3
HAZ	**Te Kaha**	**6.26**	**212**	P	Pn	15 58 39.4	+1.1
PUZ	**Puketiti**	**6.33**	**208**	P	Pn	15 58 40.8	+1.6
PUZ				S	Sn	15 59 51.9	+0.4
RUGZ	**Raukumara Rang**	**6.48**	**212**	P	Pn	15 58 42.6	+1.1
RUGZ				S	Sn	15 59 57.4	+2.0
TWGZ	**Tauwhareparae**	**6.53**	**209**	P	Pn	15 58 44.1	+2.1
TWGZ				S	Sn	15 59 57.2	+0.7
CNGZ	**Carnagh Statio**	**6.71**	**206**	P	Pn	15 58 43.5	-0.9
MWZ	**Matawai**	**6.85**	**211**	P	Pn	15 58 46.6	+0.1
MWZ				S	Sn	16 00 03.1	-1.3
URZ	**Urewera**	**6.98**	**213**	P	Pn	15 58 49.1	+0.9
URZ				S	Sn	16 00 06.5	-1.0
RIGZ	**Rimuhau**	**7.07**	**208**	P	Pn	15 58 50.5	+1.0
RIGZ				S	Sn	16 00 09.3	-0.5
SNGZ	**Shannon Statio**	**7.31**	**210**	P	Pn	15 58 53.9	+1.1
SNGZ				S	Sn	16 00 14.4	-1.2
OUZ	**Omahuta**	**7.48**	**247**	P	Pn	15 58 59.9	+4.9
KAHZ	**Kahuranaki**	**8.36**	**208**	S	Sn	16 00 39.3	-2.2

HEL 07 16:01:37.9±0.3, 67°.83N×20°.28E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.69**	**71**	PG	Pg	16 01 50.0	-1.0
LANU				SG	Sg	16 01 59.4	-0.5
KIF	**Kilpisjarvi**	**1.20**	**9**	PG	Pg	16 02 00.4	-0.4
KIF				MSG		16 02 15.2	
	comp=Z,1.3nm,0.2s						
KIF				SG	Sg	16 02 15.3	-1.0
HEF	**Hetta**	**1.40**	**64**	*e*P	Pg	16 02 02.5	-2.1
HEF	**Hetta**	**1.40**	**64**	PG	Pg	16 02 03.0	-1.6
	baz=245						
HEF				MSG		16 02 19.9	
	comp=Z,1.1nm,0.2s						
ERTU	**Ertsjaerv**	**1.48**	**149**	PN	Pn	16 02 05.6	-0.2
ERTU				SN	Sn	16 02 25.7	-0.1
KLF	**Kolari**	**1.54**	**111**	PN	Pn	16 02 06.3	-0.3
KLF				MSG		16 02 24.0	
	comp=Z,0.6nm,0.2s						
KTK1	**Kautokeino**	**1.62**	**41**	PG	Pn	16 02 07.2	-0.4
KTK1				SN	Sg	16 02 30.7	+0.9
TOF	**Tornio**	**2.37**	**136**	MSG		16 02 48.1	
	comp=Z,0.3nm,0.2s						
TOF				SG	Sb	16 02 51.6	+0.5
RNF	**Rovaniemi**	**2.55**	**116**	SG	Sb	16 02 55.9	-0.3
ARA0	**ARCESS Array S**	**2.57**	**46**	PB	Pn	16 02 21.2	+0.5
RAJF	**Raja-Jooseppi**	**3.07**	**74**	PG	Pb	16 02 31.7	-1.7
KEV	**Kevo**	**3.12**	**49**	PB	Pn	16 02 30.8	+2.5
	baz=236						
KEV				MSG		16 03 09.6	
	comp=Z,1.5nm,0.2s						
VRF	**Varrio**	**3.55**	**87**	PG	Pb	16 02 40.8	-0.6

*TIR **07** 16:23:15.4, 41°.90N×20°.11E, h25km, Md2.4/2, Ml2.6/4*
*SKO **07** 16:23:16.8, 41°.93N×20°.12E, h0km, ML2.1*
*BEO **07** 16:23:17.2±0.4, 41°.91N×20°.17E, h7km±6km, ML1.9/5*
ISC 07 16:23:16.3±0.9, 41°.92N±0°.02×20°.12E±0°.03, h14km±8km, n24, σ0°.66/38, 2C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.21**	**306**	⇑Pg	**Pg**	**16 23 21.2**	**+0.2**
PUK				Sg	**Sb**	**16 23 25.6**	**-0.1**
PUK				AML	AML	16 23 26.7	
	3.6nm,0.2s						
PUK				AMd		16 23 55.7	
PHP	**Peshkopia**	**0.34**	**134**	⇑Pg	**Pg**	**16 23 22.5**	**-0.7**
PHP				Sg	**Sg**	**16 23 28.2**	**+0.3**
PHP				AML	AML	16 23 28.9	
	3.0nm,0.2s						
PHP				AMd		16 23 58.8	
BCI	**Bajram Curri**	**0.45**	**355**	Pg	**Pg**	**16 23 24.1**	**-1.1**
BCI				Sg	**Sb**	**16 23 32.8**	**+0.2**
BCI				AML	AML	16 23 34.2	
	0.8nm,0.3s						
BCI				AML	AML	16 23 34.3	
	0.8nm,0.5s						
TIR	**Tirane**	**0.60**	**198**	Sg	**Sg**	**16 23 36.0**	**-0.1**
TIR	**Tirane**	**0.60**	**198**	*e*Pg	**Pb**	**16 23 29.4**	**+0.8**
TIR				*e*Sg	**Sb**	**16 23 37.0**	**0.0**
ULC	**Ulcinj**	**0.65**	**274**	P	**Pg**	**16 23 28.6**	**-0.5**
ULC	**Ulcinj**	**0.65**	**274**	*i* Pg	**Pg**	**16 23 28.5**	**-0.5**
DRME	**Dracevica, Mon**	**0.74**	**291**	⇓Pg	**Pg**	**16 23 30.0**	**-0.8**
PDG	**Podgorica**	**0.82**	**309**	*i* Pg	**Pg**	**16 23 31.7**	**-0.4**
PDG				*i* Sg	**Sg**	**16 23 42.2**	**-0.6**
PDG	**Podgorica**	**0.82**	**309**	*e*Pg	**Pg**	**16 23 31.7**	**-0.4**
PDG				*e*Sg	**Sn**	**16 23 45.1**	**-0.2**
OHR	**Ohrid**	**0.96**	**147**	*i* Pg	**Pb**	**16 23 34.0**	**-0.7**
OHR				*i* Sg	**Sn**	**16 23 47.9**	**-0.9**
OHR				*e*Lg	Lg	16 23 48.4	
	comp=N,34nm,0.4s						
OHR				*e*Lg	Lg	16 23 50.1	
	comp=E,31nm,0.5s						
BUM	**Brajici-Budva**	**0.99**	**293**	⇓Pg	**Pb**	**16 23 34.9**	**-0.3**
KOME	**Kolasin**	**1.03**	**335**	P	**Pb**	**16 23 35.0**	**-1.0**
CEME	**Cevo**	**1.09**	**305**	P	**Pb**	**16 23 36.2**	**-0.8**
NKME	**Niksic**	**1.21**	**315**	Pn	**Pn**	**16 23 38.6**	**-0.3**
SJES	**Sjenica**	**1.34**	**356**	*e*Pg	**Pb**	**16 23 41.9**	**+0.6**
SJES				*e*Sg	**Sg**	**16 24 00.6**	**+1.0**
FNA	**Florina**	**1.48**	**140**	Pn	**Pb**	**16 23 43.9**	**+0.3**
FNA				Sn	**Sg**	**16 24 03.7**	**-0.3**
FNA				AML	AML	16 24 09.3	
	comp=E,0.3nm,0.3s						
FNA	**Florina**	**1.48**	**140**	*i* Pn	**Pg**	**16 23 44.2**	**-0.5**
SELS	**Selova**	**1.49**	**29**	*e*Pg	**Pn**	**16 23 43.5**	**+0.8**
SELS				*e*Sg	**Sg**	**16 24 04.5**	**+0.1**
TREB	**Trebinje**	**1.53**	**302**	*e*Pn	**Pg**	**16 23 45.5**	**-0.2**
TREB				*e*Sg	**Sg**	**16 24 07.1**	**+1.4**
BARS	**Barje**	**1.54**	**54**	*i* Pn	**Pg**	**16 23 45.6**	**-0.3**
BARS	**Barje**	**1.54**	**54**	*e*Pg	**Pn**	**16 23 44.0**	**+0.6**
BARS				*e*Sg	**Sg**	**16 24 05.6**	**-0.4**
NEST	**Nestorio**	**1.66**	**155**	Pn	**Pn**	**16 23 45.9**	**+0.8**
NEST				Sn	**Sb**	**16 24 08.3**	**+0.8**
BBLS	**Lazi&#263i**	**2.01**	**345**	*e*Pg	**Pb**	**16 23 53.2**	**+0.5**
BBLS				*e*Sg	**Sg**	**16 24 21.9**	**+0.9**

*MOS **07** 16:25:32.4±1.7, 35°.32N×31°.01E, h8km, mb4.5/21, Error ellipse: s-maj=6.7km s-min=3.5km az=90.7*
*IDC **07** 16:25:34.4±0.7, 35°.67N×31°.09E, h0km, mb4.2/21, mbtmp4.2/34, ML4.1/11, MS5.1/2, Error ellipse: s-maj=13.8km s-min=10.7km az=17.0*
*ISK **07** 16:25:37.6, 35°.42N×31°.19E, h28km, ML4.3/26*
*AFAD **07** 16:25:37.6, 35°.59N×31°.16E, h22km±1km, MW4.3*
*NEIC **07** 16:25:39.9±2.0, 35°.58N±0°.06×31°.10E±0°.04, h42km±6km, mb4.5/58, Error ellipse: s-maj=8.5km s-min=5.2km az=187.0*
*GII **07** 16:25:39.4±0.0, 35°.480N±0°.002×31°.081E±0°.001, h20km, Mws3.8/10, confirmed*
*MCSM **07** 16:25:39.9±0.5, 35°.N±3°.×3°.1E±°, h25km±4km, mb4.4, mB4.8, MLv4.4, Mw(mB)4.0*
*NIC **07** 16:25:39.8, 35°.58N×31°.11E, h26km±3km, Ml4.2/7*
*HLW **07** 16:25:42.8, 35°.18N×30°.78E, h8km±10km, Ml4.4*
*THE **07** 16:25:43.2, 35°.70N×30°.81E, h10km±26km, ML3.9/6, Error ellipse: s-maj=35.5km s-min=2.4km az=102.0*
*NAO **07** 16:25:59.9, 38°.08N×30°.73E, h33km, mb3.8*
ISC 07 16:25:40.1±0.7, 35°.53N±0°.03×31°.04E±0°.02, h49km±8km, n449, σ1§45/499, mb4.3/52, 26C-25D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.97**	**324**	P	**Pn**	**16 25 57.5**	**0.0**
AKUM				S	**Sn**	**16 26 10.9**	**+0.7**
KEMT	**Kemer-ANTALYA**	**1.14**	**340**	Pn	**Pn**	**16 26 00.1**	**+0.4**
KEMT				Sn	**Sn**	**16 26 16.6**	**+2.4**
DEMR	**Demre-Antalya**	**1.16**	**308**	Pn	**Pn**	**16 26 00.9**	**+0.9**
DEMR				Sn	**Sn**	**16 26 17.4**	**+2.6**
AKMS	**Akamas**	**1.18**	**116**	P	**Pn**	**16 25 59.6**	**-0.6**
AKMS				S	**Sn**	**16 26 15.8**	**+0.7**
AKMS				AML	AML	16 26 25.1	
	22nm,0.4s						
AKMS				AML	AML	16 26 30.7	
	19nm,0.4s						
GAZI	**Gazipasa**	**1.25**	**55**	Pn	**Pn**	**16 25 59.2**	**-2.0**
GAZI	**Gazipasa**	**1.25**	**55**	P	**Pn**	**16 25 59.0**	**-2.2**
MNVG	**Manavgat-Antal**	**1.29**	**13**	Pn	**Pn**	**16 26 01.6**	**-0.2**
ALAN	**Alanya-ANTALYA**	**1.30**	**38**	Pn	**Pn**	**16 25 59.8**	**-2.1**
ALFC	**Alefka**	**1.33**	**106**	P	**Pn**	**16 26 01.0**	**-1.2**
ALFC				S	**Sn**	**16 26 19.0**	**+0.1**
ALFC				AML	AML	16 26 25.4	
	21nm,0.3s						
ALFC				AML	AML	16 26 25.5	
	18nm,0.6s						
KSL	**Kastellorizon**	**1.34**	**298**	P	**Pn**	**16 26 03.0**	**+0.6**
KSL				S	**Sn**	**16 26 19.1**	**+0.1**
	1µm,0.5s						
KSL	**Kastellorizon**	**1.34**	**298**	P	**Pn**	**16 26 03.3**	**+0.9**
KSL				S	**Sn**	**16 26 20.4**	**+1.4**
AKAS	**Kas**	**1.36**	**301**	Pn	**Pn**	**16 26 03.6**	**+0.8**
AKAS				Sn	**Sn**	**16 26 22.2**	**+2.4**
AKAS	**Kas**	**1.36**	**301**		**Pn**	**16 26 02.6**	**-0.2**
AKAS				Sn	**Sn**	**16 26 20.3**	**+0.4**
AKAS	**Kas**	**1.36**	**301**	P	**Pn**	**16 26 03.7**	**+0.8**
AKAS				S	**Sn**	**16 26 20.9**	**+1.0**
ANTB	**Antalya**	**1.40**	**347**	Pn	**Pn**	**16 26 03.9**	**+0.7**
ANTB				Sn	**Sn**	**16 26 22.6**	**+2.0**
KEPZ	**Antalya-Kepez**	**1.44**	**18**	P	**Pn**	**16 26 02.7**	**-1.2**
KEPZ				S	**Sn**	**16 26 18.7**	**-2.9**
NATA	**Nata**	**1.46**	**121**	P	**Pn**	**16 26 04.9**	**+0.9**
NATA				S	**Sn**	**16 26 26.4**	**+4.3**
NATA				AML	AML	16 26 36.0	
	72nm,0.5s						
NATA				AML	AML	16 26 40.7	
	42nm,0.8s						
ELL	**Elmali**	**1.52**	**323**	Pn	**Pn**	**16 26 05.9**	**+0.9**
ELL	**Elmali**	**1.52**	**323**	Pn	**Pn**	**16 26 05.2**	**+0.1**
ELL	**Elmali**	**1.52**	**323**	P	**Pn**	**16 26 05.2**	**+0.1**
ELL	**Elmali**	**1.52**	**323**	P	**Pn**	**16 26 05.7**	**+0.7**
ELL				S	Sn	16 26 33.5	+10
LEF	**Lefka**	**1.57**	**105**	P	**Pn**	**16 26 05.1**	**-0.4**
KORT	**Korkueli**	**1.57**	**339**	Pn	**Pn**	**16 26 06.4**	**+0.7**
KORT	**Korkueli**	**1.57**	**339**	P	**Pn**	**16 26 06.8**	**+1.1**
BOZY	**Bozyazi-Mersin**	**1.67**	**69**	Pn	**Pn**	**16 26 04.8**	**-2.2**
APOL	**The Sanctuary**	**1.72**	**119**	P	**Pn**	**16 26 08.3**	**+0.7**
APOL				S	**Sn**	**16 26 29.8**	**+1.4**
APOL				AML	AML	16 26 49.3	
	6.1nm,0.6s						
APOL				AML	AML	16 26 52.4	
	6.8nm,0.8s						
IZZE	**Mula-Seydike**	**1.73**	**302**	P	**Pn**	**16 26 08.1**	**+0.3**
KNIK	**Mula-Seydike**	**1.77**	**318**	P	**Pn**	**16 26 10.0**	**+1.6**
KNIK				S	**Sn**	**16 26 29.7**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.79**	**69**	Pn	**Pn**	**16 26 06.5**	**-2.1**
BUCA	**Burdur, Bucak-**	**1.83**	**348**	P	**Pn**	**16 26 09.6**	**+0.4**
HDMB	**Hadim**	**1.84**	**39**	Pn	**Pn**	**16 26 08.4**	**-1.1**
FETY	**Fethiye**	**1.93**	**305**	Pn	**Pn**	**16 26 11.7**	**+1.2**
FETY	**Fethiye**	**1.93**	**305**	P	**Pn**	**16 26 11.0**	**+0.4**
BERE	**Bereket-Mersin**	**1.95**	**65**	Pn	**Pn**	**16 26 09.0**	**-1.9**
ASGA	**Asgata**	**1.95**	**112**	P	**Pn**	**16 26 11.2**	**+0.3**
ASGA				S	**Sn**	**16 26 36.9**	**+2.8**
ASGA				AML	AML	16 26 47.5	
	7.9nm,1.0s						
ASGA				AML	AML	16 26 50.8	
	9.4nm,0.8s						
CSS	**Mathiatis**	**1.96**	**106**	Pn	**Pn**	**16 26 09.5**	**-1.4**
CSS	**Mathiatis**	**1.96**	**106**	P	**Pn**	**16 26 10.7**	**-0.2**
CSS	**Mathiatis**	**1.96**	**106**	P	**Pn**	**16 26 10.5**	**-0.4**
CSS	**Mathiatis**	**1.96**	**106**	P	**Pn**	**16 26 10.4**	**-0.5**
CSS				S	**Sn**	**16 26 33.9**	**-0.3**
CSS				AML	AML	16 26 50.7	
	3.2nm,0.7s						
CSS				AML	AML	16 26 51.0	
	5.1nm,0.5s						
BCK	**Bucak**	**1.96**	**349**	Pn	**Pn**	**16 26 11.7**	**+0.7**
ATHAL	**Athalassa**	**1.96**	**101**	P	**Pn**	**16 26 10.5**	**-0.4**
ATHAL				S	**Sn**	**16 26 36.0**	**+1.6**
ATHAL				AML	AML	16 26 54.8	
	9.2nm,0.7s						
ATHAL				AML	AML	16 26 56.9	
	11nm,1.2s						
SEYD	**Seydisehir-KON**	**1.98**	**19**	Pn	**Pn**	**16 26 11.2**	**-0.1**
CAME	**Cameli-Denizli**	**1.99**	**316**	Pn	**Pn**	**16 26 12.5**	**+1.0**
SEDI	**Konya, Seydise**	**2.00**	**16**	P	**Pn**	**16 26 11.8**	**+0.2**
SEDI				S	**Sn**	**16 26 31.3**	**-4.2**
GOLH	**Golhisar**	**2.08**	**325**	P	**Pn**	**16 26 14.7**	**+2.0**
CAEL	**Denizli, Camel**	**2.11**	**319**	P	**Pn**	**16 26 14.2**	**+1.1**
GULN	**MERSIN_Gulnar**	**2.13**	**72**	P	**Pn**	**16 26 12.6**	**-0.7**
GULN				S	**Sn**	**16 26 37.0**	**-1.5**
MVOU	**Mavrovouni**	**2.18**	**103**	P	**Pn**	**16 26 12.8**	**-1.1**
KKBE	**Karaman, Kazim**	**2.28**	**42**	P	**Pn**	**16 26 16.2**	**+0.9**
KKBE				S	**Sn**	**16 26 43.1**	**+0.9**
BRBR	**BURDUR-Merkez**	**2.30**	**340**	P	**Pn**	**16 26 17.5**	**+1.8**
DALY	**Dalyan (Mula)**	**2.32**	**304**	Pn	**Pn**	**16 26 17.0**	**+1.2**
ISP	**Isparta**	**2.32**	**350**	Pn	**Pn**	**16 26 16.8**	**+0.8**
ISP	**Isparta**	**2.32**	**350**	Pn	**Pn**	**16 26 17.0**	**+1.0**
ISP	**Isparta**	**2.32**	**350**	*e*P	**Pn**	**16 26 15.5**	**-0.5**
ISP	**Isparta**	**2.32**	**350**	P	**Pn**	**16 26 17.9**	**+1.9**
ISP	**Isparta**	**2.32**	**350**	S	**Sn**	**16 26 46.8**	**+3.4**
APMY	**Acipayam-Deniz**	**2.39**	**325**	Pn	**Pn**	**16 26 18.3**	**+1.4**
BAGO	**Egridir - ISPA**	**2.46**	**355**	P	**Pn**	**16 26 19.3**	**+1.5**
BAGO				S	**Sn**	**16 26 46.5**	**-0.3**
ARG	**Arkhangelos**	**2.46**	**287**	P	**Pn**	**16 26 18.3**	**+0.5**
ARG				S	**Sn**	**16 26 45.4**	**-1.3**
	798nm,0.4s						
ARG	**Arkhangelos**	**2.46**	**287**		**Pn**	**16 26 18.6**	**+0.8**
ARG				Sn	**Sn**	**16 26 44.7**	**-2.0**
ARG	**Arkhangelos**	**2.46**	**287**	P	**Pn**	**16 26 18.7**	**+0.8**
ARG				S	**Sn**	**16 26 46.0**	**-0.7**
INCE	**Denizli-Bozkur**	**2.47**	**332**	P	**Pn**	**16 26 19.8**	**+1.8**
INCE				S	**Sn**	**16 26 47.0**	**-0.1**
PARAL	**Paralimni**	**2.51**	**101**	P	**Pn**	**16 26 20.1**	**+1.6**
PARAL				S	Sn	16 26 58.2	+10
BASM	**Basmaki-Afyon**	**2.51**	**342**	Pn	**Pn**	**16 26 19.9**	**+1.3**
TURN	**Turunc**	**2.58**	**300**	Pn	**Pn**	**16 26 20.8**	**+1.4**
DOGA	**KONYA_Doganhis**	**2.62**	**11**	P	**Pn**	**16 26 21.5**	**+1.5**
DOGA				S	**Sn**	**16 26 47.4**	**-3.3**
KONT	**Konya--Tatoy**	**2.63**	**23**	Pn	**Pn**	**16 26 20.1**	**0.0**
KONT	**Konya--Tatoy**	**2.63**	**23**	P	**Pn**	**16 26 21.4**	**+1.2**
KONT				S	**Sn**	**16 26 50.0**	**-0.9**
KIZK	**Mersin**	**2.69**	**68**	P	**Pn**	**16 26 20.9**	**+0.1**
YVAC	**Isparta, Yalva**	**2.74**	**3**	S	**Sn**	**16 26 50.9**	**-2.7**
YER	**Yerkesik**	**2.74**	**306**	Pn	**Pn**	**16 26 23.2**	**+1.5**
AFYN	**Afyon-Dinar-K**	**2.77**	**351**	P	**Pn**	**16 26 23.3**	**+1.2**
LADK	**Ladik-KONYA**	**2.87**	**21**	Pn	**Pn**	**16 26 23.6**	**+0.2**
SHUT	**Suhut-Afyon**	**3.04**	**353**	Pn	**Pn**	**16 26 26.9**	**+1.1**
KDHN	**Kadinhani**	**3.10**	**16**	P	**Pn**	**16 26 27.3**	**+0.6**
UCKU	**Afyonkarahisar**	**3.11**	**6**	P	**Pn**	**16 26 27.8**	**+0.9**
UCKU				S	**Sn**	**16 26 59.8**	**-3.0**
KERG	**Konya-Eregli**	**3.12**	**52**	P	**Pn**	**16 26 27.8**	**+0.9**
ALIN	**Konya, Altinte**	**3.13**	**28**	P	**Pn**	**16 26 27.9**	**+0.8**
ALIN				S	**Sn**	**16 26 58.0**	**-5.2**
KARP	**Karpathos**	**3.17**	**271**	P	**Pn**	**16 26 29.3**	**+1.8**
KARP				S	**Sn**	**16 27 04.8**	**+0.8**
	2µm,0.5s						
KARP	**Karpathos**	**3.17**	**271**	Pn	**Pn**	**16 26 28.8**	**+1.3**
KARP				Sn	**Sn**	**16 27 03.4**	**-0.6**
KARP	**Karpathos**	**3.17**	**271**	P	**Pn**	**16 26 29.0**	**+1.5**
KARP	**Karpathos**	**3.17**	**271**	P	**Pn**	**16 26 29.3**	**+1.8**
KARP				S	**Sn**	**16 27 05.2**	**+1.2**
KURO	**Afyon-Bolvadin**	**3.20**	**358**	P

MDUB Mudurnu 4.93 1 Pn Pn 16 26 52.2 +0.4
DB3 El Dabaa 4.95 206 P Pn 16 26 53.3 +1.5
HMDT Nahal Hemdat 4.96 130 P Pn 16 26 52.6 +0.5
HMDT Nahal Hemdat 4.96 130 S Sn 16 27 48.4 +0.3
IDI Anoyia 5.03 269 Pn Pn 16 26 53.3 +0.2
IDI Anoyia 5.03 269 Pn Pn 16 26 53.1 0.0
38nm,0.3s,baz=305,slow=3.7,SNR=53
IDI Sn **Sn 16 27 48.8 -1.2**
51nm,0.3s,baz=288,slow=17,SNR=18
BNN Bunyan 5.07 48 Pn Pn 16 26 53.3 -0.3
UJAP Al Uja 5.13 133 P Pn 16 26 54.6 +0.2
UJAP Al Uja 5.13 133 S Sn 16 27 52.6 +0.4
AMAZ Amatzia 5.13 140 P Pn 16 26 54.6 +0.1
AMAZ Amatzia 5.13 140 S Sn 16 27 53.1 +0.7
AMAZ Amatzia 5.13 140 P Pn 16 26 55.2 +0.7
AMAZ S Sn 16 27 50.9 -1.6
BALJ Balqa 5.14 131 Pn Pn 16 26 54.2 -0.4
GAZ Gaziantep 5.24 70 Pn Pn 16 26 55.9 -0.1
MATC Matruh 5.25 218 P Pn 16 26 57.3 +1.2
BAND Balkesir-Ban 5.35 335 ⇓P Pn 16 26 58.9 +1.6
DSI Dead Sea 5.36 136 P Pn 16 26 57.6 0.0
DSI Dead Sea 5.36 136 S Sn 16 27 58.3 +0.3
YTIR Yattir 5.37 140 P Pn 16 26 58.3 +0.4
YTIR Yattir 5.37 140 S Sn 16 27 59.0 +0.6
KZIT Kziot 5.40 148 P Pn 16 26 58.4 +0.3
KZIT Kziot 5.40 148 S Sn 16 27 59.7 +0.7
KOT Kottamia 5.63 173 P Pn 16 27 02.3 +1.0
KOT S Sn 16 28 01.1 -3.6
HHGG Hagoal 5.63 171 P Pn 16 27 02.4 +1.0
GHAJ Ghor Haditha 5.66 137 Pn 16 27 01.6 -0.1
GHAJ Ghor Haditha 5.66 137 P Pn 16 27 02.0 +0.3
GHAJ Ghor Haditha 5.66 137 S Sn 16 28 05.9 +0.5
HMYD Mayadein 5.72 182 P Pn 16 27 03.8 +1.2
HNAT Natroun 5.89 184 P Pn 16 27 05.6 +0.7
ILGA Ilgaz 5.90 20 Pn Pn 16 27 05.3 +0.2
ASF Jabal al Asfar 5.91 123 Pn Pn 16 27 05.9 +0.7
6.5nm,0.3s,baz=323,slow=4.5,SNR=26
ASF Sn **Sn 16 28 12.7 +1.0**
2.4nm,0.3s,baz=299,slow=17,SNR=1.2
13nm,0.3s
ZFRI Zfri 6.06 144 P Pn 16 27 07.3 +0.2
ZFRI Zfri 6.06 144 S Sn 16 28 15.3 +0.2
PRNI Paran 6.15 146 P Pn 16 27 08.7 +0.3
PRNI Paran 6.15 146 S Sn 16 28 17.9 +0.5
SLUM Salum 6.32 232 P Pn 16 27 11.0 +0.3
SLUM S Sn 16 28 15.0 -6.6
CAVK Edirne/Enez-Ca 6.43 325 ⇓P Pn 16 27 13.7 +1.6
TOKA Tokat 6.43 40 Pn 16 27 12.5 +0.2
HRFI Mount Harif 6.43 147 P Pn 16 27 12.6 +0.4
HRFI Mount Harif 6.43 147 S Sn 16 28 24.9 +0.6
RYAN Fayoum 6.46 186 P Pn 16 27 13.5 +0.8
RYAN S Sn 16 28 20.6 -4.6
CIDE Kastamonu/Cide 6.51 13 ⇑P Pn 16 27 15.2 +1.9
MBRI Mt Berech 6.59 149 P Pn 16 27 15.0 +0.5
MBRI Mt Berech 6.59 149 S Sn 16 28 29.2 +0.9
ALN Alexandroupoli 6.64 325 Pn 16 27 15.0 -0.1
ALN Alexandroupoli 6.64 325 P Pn 16 27 15.0 -0.1
EIL Elat 6.71 149 Pn Pn 16 27 17.0 +0.9
5.7nm,0.3s,baz=336,slow=4.2,SNR=85
EIL Sn **Sn 16 28 32.9 +1.7**
7.7nm,0.3s,baz=37,slow=16,SNR=4.5
40nm,0.4s
EIL Elat 6.71 149 P Pn 16 27 16.4 +0.4
EIL Elat 6.71 149 S Sn 16 28 31.7 +0.5
BZK Bozkurt 6.82 19 Pn Pn 16 27 16.4 -1.1
NBNS Bani Suef 6.89 178 P Pn 16 27 19.5 +0.9
RDO Rodhopi 7.08 324 Pn Pn 16 27 19.5 -1.6
GRB Gharib 7.39 168 P Pn 16 27 25.7 +0.3
ITM Ithomi 7.54 285 Pn 16 27 28.6 +1.2
TAMRE El Minia 7.83 181 P Pn 16 27 32.1 +0.7
SWA2 7.85 219 P Pn 16 27 32.0 +0.3
SWA2 S Sn 16 28 52.1 -7.1
MARD Mardin 8.05 74 Pn Pn 16 27 34.5 0.0
LIT Litokhoron 8.16 307 Pn Pn 16 27 36.3 +0.4
LIT Litokhoron 8.16 307 P Pn 16 27 36.3 +0.4
HFRF Wahat Farafira 8.68 196 P Pn 16 27 43.6 +0.6
KOPT Kop Dagi 8.72 56 Pn Pn 16 27 43.3 -0.5
TIRR Tirgusor 9.14 348 Pn Pn 16 27 49.3 0.0
TIRR Tirgusor 9.14 348 ⇑P Pn 16 27 51.2 +1.9
TIRR ⇑S Sn 16 29 33.6 +2.9
TIRR Tirgusor 9.14 348 P Pn 16 27 49.3 0.0
SEV Sevastopol' 9.22 12 *e*P Pn 16 27 54.2 +3.8
SEV *e*S **Sn 16 29 33.5 +0.8**
SEV pmax pmax
comp=Z,10.0nm,0.9s
SEV smax smax
comp=N,3.0nm,0.6s
SEV smax smax
comp=E,5.0nm,0.6s
SEV Sevastopol' 9.22 12 *e*P Pn 16 27 54.2 +3.8
SEV Pm 16 27 55.8
comp=Z,10.0nm,0.9s
SEV *e*S **Sn 16 29 33.5 +0.8**
SEV Sm 16 29 34.3
comp=N,3.0nm,0.6s
SEV Sm 16 29 34.3
comp=E,5.0nm,0.6s
FNA Florina 9.24 307 Pn 16 27 52.7 +2.0
FNA Florina 9.24 307 P Pn 16 27 52.7 +2.0
YAL Yalta 9.26 14 *e*P Pn 16 27 55.5 +4.6
YAL *e*S **Sn 16 29 33.1 -0.4**
YAL pmax pmax
comp=Z,108nm,1.2s
YAL smax smax
comp=N,11nm,0.7s
YAL smax smax
comp=E,4.0nm,0.2s
YAL Yalta 9.26 14 *e*P Pn 16 27 55.5 +4.6
YAL Pm 16 27 55.7
comp=Z,108nm,1.2s
YAL *e*S **Sn 16 29 33.1 -0.4**
YAL Sm 16 29 39.9
comp=N,11nm,0.7s
YAL Sm 16 29 39.9
comp=E,4.0nm,0.2s
ALU Alushta 9.49 15 *e*P Pn 16 27 58.6 +4.5
ALU pmax pmax
comp=Z,148nm,1.4s
ALU Alushta 9.49 15 *e*P Pn 16 27 58.6 +4.5
ALU Pm 16 27 59.9
comp=Z,148nm,1.4s
TPGR Topolog 9.53 349 ⇑P Pn 16 27 55.9 +1.3
TPGR ⇑S **Sn 16 29 44.0 +3.8**
SIM Simferopol' 9.69 13 *e*P **Pn 16 27 59.5 +2.6**
SIM pmax pmax
comp=Z,51nm,1.1s
SIM Simferopol' 9.69 13 *e*P Pn 16 28 02.2 +5.3
SIM Pm 16 28 04.2
comp=Z,110nm,1.6s
SUDU Sudak 9.82 17 *e*P Pn 16 28 02.9 +4.3
SUDU *e*S **Sn 16 29 48.8 +1.4**
SUDU pmax pmax
comp=Z,24nm,0.9s
SUDU smax smax
comp=N,27nm,1.0s
SUDU smax smax
comp=E,8.0nm,0.8s
SUDU Sudak 9.82 17 *e*P Pn 16 28 02.9 +4.3
SUDU Pm 16 27 03.3
comp=Z,24nm,0.9s
SUDU *e*S **Sn 16 29 48.8 +1.4**
SUDU Sm 16 29 50.0
comp=N,27nm,1.0s
SUDU Sm 16 29 50.0
comp=E,8.0nm,0.8s
KEK Kerkira 9.85 298 Pn Pn 16 28 00.4 +1.4
CFR Carcaliu 9.89 348 ⇑P Pn 16 28 00.8 +1.3
CFR ⇓S **Sn 16 29 51.5 +2.6**
CFR Carcaliu 9.89 348 ⇑P Pn 16 28 00.8 +1.3
DNZ2 Donuzlav2 9.97 9 *e*P Pn 16 28 05.8 +5.2
DNZ2 Pm 16 27 08.9
comp=Z,7.0nm,0.2s
DNZ2 *e*S **Sn 16 29 55.5 +4.5**
DNZ2 Sm 16 29 58.3
comp=N,8.0nm,0.5s
DNZ2 Sm 16 29 58.3
comp=E,6.0nm,0.4s
GTR Jabal at Tayr 10.00 183 P Pn 16 28 01.7 +0.6
HDK1 Dakhla 10.06 189 P Pn 16 28 02.5 +0.5
SOC Sochi 10.46 37 *e*P **Pn 16 28 10.5 +3.2**
SOC *e* 16 30 09.6
SOC pmax pmax
comp=Z,46nm,1.1s

SOC MLR MLR
comp=Z,180nm,17.0s
ANN Anapa 10.46 26 *e*P **Pn 16 28 09.0 +1.6**
ANN *e*S **Sn 16 30 06.8 +3.7**
ANN pmax pmax
comp=Z,38nm,1.2s
MLR Muntele Rosu 10.68 340 Pn Pn 16 28 09.8 -0.6
MLR Muntele Rosu 10.68 340 Pn Pn 16 28 09.2 -1.2
comp=Z,0.5nm,0.3s,baz=231,slow=5.7,SNR=7.0
comp=Z,1.3nm,0.5s
MLR Muntele Rosu 10.68 340 ⇓P Pn 16 28 12.5 +2.1
VRI Vrincioaia 10.83 344 ⇓P Pn 16 28 14.7 +2.3
VRI Vrincioaia 10.83 344 ⇓P Pn 16 28 14.7 +2.3
VRI Vrincioaia 10.83 344 P Pn 16 28 13.5 +1.1
comp=Z,23nm,1.2s
PLOR Plostina 10.83 343 ⇓P Pn 16 28 13.7 +1.2
PLOR Plostina 10.83 343 ⇓P Pn 16 28 13.7 +1.2
VOIR 10.89 337 ⇓P Pn 16 28 14.1 +0.8
VOIR 10.89 337 ⇓P Pn 16 28 14.1 +0.8
VOIR 10.89 337 P Pn 16 28 17.0 +3.7
comp=Z,4.6nm,0.6s
SCTE Santa Cesarea 10.93 298 Pn Pn 16 28 12.5 -1.3
COVR Voineasa-Covas 10.94 342 ⇓P Pn 16 28 16.1 +2.3
ARR Arges 10.97 336 ⇑P Pn 16 28 15.5 +1.2
DOPR Dopca 11.27 339 ⇓P Pn 16 28 20.5 +2.1
OZUR 11.28 341 ⇑P Pn 16 28 20.6 +2.1
HERR Herculane 11.42 327 ⇓P Pn 16 28 21.1 +0.6
MDVR Moldovita 11.67 325 ⇑P Pn 16 28 25.2 +1.3
GZR Gura Zlata 11.68 330 ⇑P Pn 16 28 25.0 +0.9
GZR Gura Zlata 11.68 330 ⇑P Pn 16 28 25.0 +0.9
LABN Labinsk 11.73 36 *e*P **Pn 16 28 25.6 +0.9**
LABN *e*S **Sn 16 30 36.8 +2.8**
LABN pmax pmax
comp=Z,63nm,1.0s
GNI Garni 11.77 63 Pn Pn 16 28 24.8 -0.6
GNI Garni 11.77 63 Pn Pn 16 28 24.4 -1.0
comp=Z,1.3nm,0.3s,baz=19,slow=10,SNR=6.6
comp=Z,2.1nm,0.3s
GNI Garni 11.77 63 *d*P **Pn 16 28 25.4 0.0**
GNI Garni 11.77 63 P Pn 16 28 27.8 +2.4
comp=Z,16nm,1.0s
TIP Timpagrande 11.94 292 Pn 16 28 25.0 -2.6
TIP Timpagrande 11.94 292 ⇓P Pn 16 28 26.4 -1.2
SHA1 Shidzhatmaz 12.13 44 *d*P P 16 28 36.0 -5.7
KBZ Khabaz 12.26 45 Pn Pn 16 28 32.8 +0.9
comp=Z,0.2nm,0.3s,baz=235,slow=6.6,SNR=10.0
comp=Z,7.7nm,0.9s
KBZ Khabaz 12.26 45 *de*P Pn 16 28 36.5 +4.6
KBZ pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 12.28 43 *e*P **Pn 16 28 34.7 +2.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KVAR Kislovodsk Arr 12.29 43 Pn Pn 16 28 31.8 -0.6
baz=169,slow=24
comp=Z,1.2nm,0.3s
MATE Matera 12.39 299 ⇑P Pn 16 28 34.1 +0.4
CEL Celeste 12.43 287 Pn Pn 16 28 31.7 -2.7
ERBR Yeremizino-Bor 12.44 32 *e*P **Pn 16 28 35.6 +1.3**
ERBR *e*S **Sn 16 30 54.2 +2.9**
ERBR pmax pmax
comp=Z,31nm,1.0s
SORM Soroca 12.75 352 P Pn 16 28 40.8 +2.2
comp=Z,11nm,1.1s
BURAR Bucovina Array 12.83 342 Pn Pn 16 28 39.4 -0.4
CUC Castrocucco 12.84 295 Pn Pn 16 28 37.7 -2.3
KMPD K-Podol'skiy 13.46 347 P Pn 16 28 50.0 +1.8
SGRT San Giovanni R 13.47 302 Pn Pn 16 28 47.5 -1.0
VAE Valguarnera 13.52 283 Sn **Sn 16 31 12.9 -5.1**
comp=Z,4.4nm,0.3s,baz=234,slow=6.5,SNR=3.7
RAFF Raffo Rosso 13.55 282 Pn Pn 16 28 47.9 -1.7
BRIU Brid 14.11 338 P P 16 29 00.8 -2.6
MORH Mrgy, Hungar 14.19 323 P P 16 29 02.1 -2.2
comp=Z,5.3nm,2.0s
MUKU Mukachevo 14.31 337 P Pn 16 29 01.7 +1.9
LUBAR Lubar, Ukraine 14.58 352 P Pn 16 29 05.3 +2.0
INTR Introdacqua 14.84 301 Pn Pn 16 29 07.5 +0.6
KOLS Kolonicke sedl 14.87 337 *e*P **P 16 29 13.9 +2.0**
KOLS Kolonicke sedl 14.87 337 *e*PN **P 16 29 13.9 +2.0**
AK07 Malin Array Si 15.07 355 P P 16 29 13.3 -0.8
AK06 Malin Array Si 15.11 355 P P 16 29 13.2 -1.3
AK10 Malin Array Si 15.12 356 P P 16 29 13.9 -0.7
AK09 Malin Array Si 15.13 356 P P 16 29 13.5 -1.3
AK05 Malin Array Si 15.14 356 P P 16 29 14.0 -0.9
AK13 Malin Array Si 15.14 355 P P 16 29 14.0 -0.9
AK08 Malin Array Si 15.15 356 P P 16 29 13.8 -1.2
AK14 Malin Array Si 15.16 355 P P 16 29 14.2 -0.9
AK11 Malin Array Si 15.20 355 P P 16 29 14.7 -0.8
KIEV Kiev 15.21 356 Pn Pn 16 29 10.5 -1.1
KIEV IAmb IAmb 16 29 20.1
comp=Z,20nm,0.8s
KIEV Kiev 15.21 356 ⇑P Pn 16 29 13.3 +1.8
KIEV Kiev 15.21 356 P Pn 16 29 10.5 -1.1
KIEV pmax pmax
comp=Z,20nm,0.8s
AKASG Malin Array Be 15.22 356 Pn Pn 16 29 10.7 -0.9
AKASG Malin Array Be 15.22 356 Pn Pn 16 29 09.1 -2.6
comp=Z,0.4nm,0.3s,baz=178,slow=13,SNR=4.2
comp=Z,1.4nm,0.9s
AKASG Malin Array Be 15.22 356 *ce*P **P 16 29 15.1 -0.7**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 15.22 356 Pn Pn 16 29 11.0 -0.7
AKBB IAmb IAmb 16 29 20.1
comp=Z,23nm,0.8s
AKBB Malin Array Si 15.22 356 *de*P **P 16 29 14.7 -1.1**
AKBB pmax pmax
comp=Z,24nm,0.8s
AKBB Malin Array Si 15.22 356 P P 16 29 14.5 -1.3
AK15 Malin Array Si 15.22 355 P P 16 29 14.9 -0.9
AK03 Malin Array Si 15.24 356 P P 16 29 14.5 -1.5
NRCA Norcia 15.68 303 Pn Pn 16 29 17.6 -0.2
NIE Niedzica 15.96 334 P P 16 29 25.0 +1.0
RNPP5 Staryi Chortor 16.12 348 P P 16 29 25.2 -0.6
MODS Modra-Piesok 16.38 326 *e*P **P 16 29 29.9 +1.2**
MODS Modra-Piesok 16.38 326 *e*P **P 16 29 29.9 +1.2**
SOKA Soboth 16.38 318 *e*P **P 16 29 30.2 +1.4**
comp=Z,8.4nm,0.9s
ARSA Arzberg 16.48 320 *e*Pn **P 16 29 31.0 +1.3**
comp=Z,7.7nm,0.8s
ARSA Arzberg 16.48 320 Pn 16 29 27.5 -0.3
OBKA Obir 16.55 317 *i* P **P 16 29 32.5 +1.8**
comp=Z,17nm,0.9s
VSR Storozhevoye 16.73 18 *e*P **Pn 16 29 29.3 -1.6**
VSR pmax pmax
comp=Z,6.0nm,0.8s
CONA Conrad Observa 16.75 322 *e*P **P 16 29 34.2 +1.4**
comp=Z,4.9nm,1.0s
MYKA Terra Mystica 17.14 316 *i* Pn **P 16 29 38.1 +1.0**
comp=Z,14nm,0.7s,SNR=4.9
VORR Voronezh 17.16 17 P Pn 16 29 35.7 -0.5
VORR pmax pmax
comp=Z,8.0nm,0.6s
VRH Novokhopyorsk 17.45 23 P Pn 16 29 39.7 -0.1
VRH pmax pmax
comp=Z,14nm,1.2s
VSL Villasalto 17.63 289 Pn 16 29 41.6 -0.5
KEST Kesra 17.64 277 P Pn 16 29 41.6 -0.7
KEST Kesra 17.64 277 P Pn 16 29 43.0 +0.6
comp=Z,0.3nm,0.3s,baz=199,slow=1.9,SNR=8.4
comp=Z,9.6nm,0.8s
LPSR Galich'ya Gora 17.96 16 P P 16 29 46.8 +0.7
LPSR pmax pmax
comp=Z,16nm,1.1s
LESA Schwarzleotal 18.13 317 *i* Pn **P 16 29 49.9 +1.8**
comp=Z,9.1nm,0.8s,SNR=4.5
DPC Dobruska-Polom 18.26 329 *e*P **Pn 16 29 51.8 +2.0**
DPC Dobruska-Polom 18.26 329 *e*P **Pn 16 29 51.8 +2.0**
DPC Dobruska-Polom 18.26 329 P Pn 16 29 51.3 +1.5
comp=Z,6.8nm,1.7s
GEC2 GERESS Array S 18.44 321 P P 16 29 50.8 -0.7
GERES GERESS Array B 18.44 321 P P 16 29 50.7 -0.8
GERES GERESS Array B 18.44 321 P Pn 16 29 52.0 +0.1
comp=Z,0.6nm,0.3s,baz=121,slow=13,SNR=8.8
comp=Z,4.4nm,0.7s
GERES GERESS Array B 18.44 321 P P 16 29 50.7 -0.8
WTTA Wattenberg 18.63 315 *i* Pn **Pn 16 29 55.4 +1.0**
comp=Z,24nm,1.1s,SNR=8.2
KHC Kasperske Hory 18.68 322 *e*P **P 16 29 54.6 +0.5**
KHC Kasperske Hory 18.68 322 *c i*P **Pn 16 29 56.2 +1.3**
KHC pmax pmax
comp=Z,39nm,1.3s
KHC Kasperske Hory 18.68 322 P Pn 16 29 56.2 +1.3
comp=Z,23nm,0.8s

WATA Walderalm 18.71 315 *e*Pn **Pn 16 29 55.9 +0.6**
comp=Z,54nm,1.6s
SQTA Sankt Quirin 18.86 314 *i* Pn **Pn 16 29 58.0 +0.9**
comp=Z,17nm,0.7s,SNR=6.0
FETA Feichten 19.04 313 *i* Pn **Pn 16 30 00.3 +1.0**
comp=Z,19nm,0.8s,SNR=10.0
FUORN Ofenpass-Fuorn 19.13 312 P 16 29 59.1 -0.1
RETA Reutte 19.26 315 *i* Pn **Pn 16 30 01.6 -0.2**
comp=Z,26nm,0.6s
DAVOX Davos/Dischmat 19.43 312 P P 16 30 03.3 +0.8
comp=Z,0.8nm,0.3s,baz=119,slow=9.5,SNR=14
comp=Z,8.5nm,0.8s
NACGM Naroch 19.60 353 *e*P **Pn 16 30 06.5 +0.8**
comp=Z,7.0nm,0.8s,baz=170
DAVA Damuels 19.68 313 *i* Pn **P 16 30 06.1 +1.0**
comp=Z,22nm,0.5s
DAVA S **S 16 33 45.5 +1.1**
comp=Z,1.3nm,0.2s
BRG Berggiesshubel 19.69 326 *e*P **Pn 16 30 06.5 -0.2**
BRG Amp 16 30 07.9
comp=Z,6.1nm,0.9s
HSKC Hora Svate Kat 19.74 325 *e*P **P 16 30 06.6 +1.0**
OBN Obninsk 19.95 9⇓ *e*P **Pn 16 30 09.3 -0.5**
OBN *e* 16 30 32.1
OBN pmax pmax
comp=Z,6.0nm,0.8s
NKC Novy Kostel 19.96 323 *e*P **P 16 30 08.1 +0.1**
NKC Novy Kostel 19.96 323 *e*P **P 16 30 08.1 +0.1**
CLL Collm 20.41 326 *i* P **P 16 30 13.5 +0.6**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 20.41 326 P P 16 30 13.8 +0.9
CLL Collm 20.41 326 *i* P **P 16 30 13.5 +0.6**
comp=Z,9.0nm,1.0s
PABE Paberze 20.56 348 P P 16 30 12.5 -1.9
PABE IAmb IAmb 16 30 41.3
comp=Z,21nm,1.0s
BELG Belogornoye 20.57 30 P P 16 30 13.9 -0.6
comp=Z,13nm,0.3s,baz=226,slow=20,SNR=16
comp=Z,13nm,0.3s
BELG Belogornoye 20.57 30⇑ *e*P **P 16 30 14.2 -0.3**
BELG pmax pmax
comp=Z,5.0nm,0.9s
BNI Bardonecchia 20.81 305 P P 16 30 16.5 -0.9
BNI Bardonecchia 20.81 305 P P 16 30 16.5 -0.9
BNI pmax pmax
comp=Z,13nm,1.1s
SENIN Lac Senin/Sane 20.87 308 P P 16 30 17.3 -0.8
BFO Black Forest 21.09 314 P P 16 30 19.3 -1.0
BFO IAmb IAmb 16 30 24.7
comp=Z,17nm,0.6s
BFO Black Forest 21.09 314 P P 16 30 19.3 -1.0
BFO pmax pmax
comp=Z,17nm,0.6s
ECH Echery 21.73 313 P P 16 30 27.0 -0.1
ECH Echery 21.73 313 P P 16 30 27.0 -0.1
ECH pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 25.19 48 P P 16 31 00.1 -0.7
ABKAR Akbulak array 25.19 48 P P 16 30 60.0 -0.9
ABKAR IAmb IAmb 16 31 18.6
comp=Z,3.6nm,0.7s
KLMR Klimovskoe 25.92 10 *e*P **P 16 31 02.5 -4.8**
KLMR pmax pmax
comp=Z,12nm,0.6s
KIRV Kirov 26.07 22⇑ *e*P **P 16 31 07.2 -1.4**
FINES FINESS Array B 26.12 355 P P 16 31 07.8 -1.4
FINES FINESS Array B 26.12 355 P P 16 31 08.0 -1.1
comp=Z,3.6nm,0.4s,baz=156,slow=11,SNR=35
comp=Z,3.6nm,0.4s
FINES FINESS Array B 26.12 355 P P 16 31 07.8 -1.4
FIA1 FINESS Array S 26.12 355 P P 16 31 07.8 -1.4
HFS Hagfors 27.06 341 P P 16 31 17.0 -0.6
comp=Z,3.5nm,0.8s,baz=148,slow=8.6,SNR=12
comp=Z,3.5nm,0.8s
HFS Hagfors 27.06 341 P P 16 31 17.0 -0.6
ARTI Arti 27.90 33 P P 16 31 23.6 -1.6
ARTI IAmb IAmb 16 31 25.4
comp=Z,8.0nm,0.6s
ARTI Arti 27.90 33 P P 16 31 23.6 -1.6
ARTI pmax pmax
comp=Z,8.0nm,0.6s
ESBB Sonseca Array 27.93 289 P P 16 31 26.4 +0.6
ESBB IAmb IAmb 16 31 28.6
comp=Z,7.1nm,0.8s
ESDC Sonseca Array 27.93 289 P P 16 31 25.2 -0.5
ESDC Sonseca Array 27.93 289 P P 16 31 26.9 +1.2
comp=Z,5.8nm,0.7s,baz=81,slow=9.1,SNR=27
comp=Z,5.8nm,0.7s
NC602 NORSAR Array S 28.15 340 P P 16 31 27.2 -0.2
NC602 IAmb IAmb 16 32 03.4
comp=Z,22nm,1.4s
PAB San Pablo 28.23 289 P P 16 31 29.7 +1.2
PAB IAmb IAmb 16 32 03.0
comp=Z,20nm,1.4s
PAB San Pablo 28.23 289 P P 16 31 29.7 +1.2
PAB pmax pmax
comp=Z,20nm,1.4s
NB2 NORSAR Subarra 28.50 340 P P 16 31 29.4 -1.0
comp=Z,0.9nm,0.4s,baz=143,slow=9.3
NOA NORSAR Array B 28.50 340 P P 16 31 29.5 -1.0
comp=Z,1.5nm,0.6s,baz=161,slow=10,SNR=8.7
comp=Z,1.5nm,0.6s
NBO00 NORSAR Array S 28.61 339 P P 16 31 30.4 -1.1
EKA Eskdalemuir Ar 30.65 321 P P 16 31 48.8 -0.8
comp=Z,0.5nm,0.3s,baz=124,slow=9.1,SNR=4.4
comp=Z,0.5nm,0.3s
KK31 Karatay Array 31.23 64 P P 16 31 54.0 -0.9
KK31 IAmb IAmb 16 32 01.6
comp=Z,5.5nm,0.9s
KK31 Karatay Array 31.23 64 P P 16 31 54.0 -0.9
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 31.23 64 P P 16 31 54.0 -0.8
KKAR Karatay Array 31.23 64 P P 16 31 54.1 -0.8
KKAR IAmb IAmb 16 32 01.6
comp=Z,5.8nm,0.9s
KKAR Karatay Array 31.23 64 P P 16 31 54.1 -0.8
KKAR pmax pmax
comp=Z,6.0nm,0.9s
GAR Garm 31.28 72 P P 16 31 55.4 -0.1
GAR IAmb IAmb 16 32 05.9
comp=Z,7.8nm,0.9s
BRVK Borovoye 32.59 45 P P 16 32 05.5 -1.1
BRVK Borovoye 32.59 45⇑ *i P* **P 16 32 10.5 +3.9**
BRVK pmax pmax
comp=Z,15nm,3.1s
BVAR Borovoye Array 32.64 45 P P 16 32 06.5 -0.6
comp=Z,0.7nm,0.6s,baz=227,slow=5.7,SNR=8.9
comp=Z,0.7nm,0.6s
AAK Ala-Archa 34.17 65 P P 16 32 20.2 -0.5
AAK IAmb IAmb 16 32 28.1
comp=Z,3.1nm,0.8s
AAK Ala-Archa 34.17 65 *c i*P P 16 32 25.5 +4.8
AAK pmax pmax
comp=Z,5.0nm,1.3s
ARCES ARCESS Array B 34.20 357 P P 16 32 19.5 -0.9
comp=Z,2.2nm,0.4s,baz=167,slow=8.5,SNR=30
ARCES PcP **PcP 16 34 56.9 +0.7**
comp=Z,2.6nm,0.9s,baz=198,slow=3.5,SNR=8.6
comp=Z,2.2nm,0.4s
ARCES ARCESS Array B 34.20 357 P P 16 32 19.1 -1.3
ARCES pmax pmax
comp=Z,11nm,1.1s
BOOM Boomskoye usch 35.24 65 P P 16 32 28.6 -1.4
BOOM IAmb IAmb 16 32 48.9
comp=Z,5.2nm,1.0s
BOOM Boomskoye usch 35.24 65 P P 16 32 28.6 -1.4
BOOM pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 37.15 51 P P 16 32 45.7 -0.2
comp=Z,1.9nm,0.6s,baz=271,slow=8.8,SNR=19
comp=Z,1.9nm,0.6s
KURK Kurchatov 37.21 51 P P 16 32 46.0 -0.4
KURK IAmb IAmb 16 32 52.0
comp=Z,8.4nm,1.2s
KURK Kurchatov 37.21 51⇑ *i P* **P 16 32 50.6 +4.1**
KURK pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 39.33 57 P P 16 33 04.4 0.0
MAKZ Makanchi 39.33 57 P P 16 33 04.4 0.0
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 39.54 57 P P 16 33 06.1 -0.1
MK31 IAmb IAmb 16 33 14.4
comp=Z,3.0nm,0.7s

MK31	**Makanchi Array**	**39.54**	**57**	*d* P		**P**	**16 33 06.8 +0.6**
MKAR	**Makanchi Array**	**39.54**	**57**	P		**P**	**16 33 05.7 -0.5**
MKAR	**Makanchi Array**	**39.54**	**57**	P		**P**	**16 33 06.6 +0.4**
	comp=Z,1.9nm,0.5s,baz=288,slow=3.8,SNR=56						
	comp=Z,1.9nm,0.5s						
MKAR	**Makanchi Array**	**39.54**	**57**	P		**P**	**16 33 05.7 -0.5**
ZAA0	**Zalesovo Array**	**41.27**	**46**	P		**P**	**16 33 18.2 -2.1**
ZALV	**Zalesovo Beam**	**41.27**	**46**	P		**P**	**16 33 19.2 -1.1**
ZALV	**Zalesovo Beam**	**41.27**	**46**	P		**P**	**16 33 19.6 -0.8**
	comp=Z,1.2nm,0.4s,baz=258,slow=8.5,SNR=7.5						
	comp=Z,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.27**	**46**	P		**P**	**16 33 19.2 -1.1**
SPB3	**Spitsbergen Ar**	**43.21**	**356**	P		**P**	**16 33 33.8 -2.0**
SPA3	**Spitsbergen Ar**	**43.21**	**356**	P		**P**	**16 33 33.2 -2.7**
SPITS	**Spitsbergen Ar**	**43.21**	**356**	P		**P**	**16 33 34.3 -1.5**
	comp=Z,2.0nm,0.4s,baz=139,slow=12,SNR=13						
SPITS				PcP		**PcP**	**16 35 25.4 +1.2**
	comp=Z,1.1nm,0.4s,baz=162,slow=10.0,SNR=4.0						
	comp=Z,2.0nm,0.4s						
SPITS	**Spitsbergen Ar**	**43.21**	**356**	P		**P**	**16 33 33.8 -2.0**
SPITS				pmax		pmax	
	comp=Z,43nm,1.5s						
SPB5	**Spitsbergen Ar**	**43.22**	**356**	P		**P**	**16 33 33.1 -2.8**
DBIC	**Dimbokro**	**43.69**	**237**	P		**P**	**16 33 40.6 +0.2**
DBIC				IAmb		IAmb	16 34 16.5
	comp=Z,21nm,1.5s						
DBIC	**Dimbokro**	**43.69**	**237**	P		**P**	**16 33 41.9 +1.4**
	comp=Z,5.6nm,0.9s,baz=49,slow=6.7,SNR=4.6						
	comp=Z,5.6nm,0.9s						
DBIC	**Dimbokro**	**43.69**	**237**	P		**P**	**16 33 40.6 +0.2**
DBIC				pmax		pmax	
	comp=Z,21nm,1.5s						
KBS	**Kingsbay**	**44.22**	**355**	P		**P**	**16 33 43.7 -0.2**
KBS	**Kingsbay**	**44.22**	**355**	P		**P**	**16 33 43.7 -0.2**
KBS				pmax		pmax	
	comp=Z,33nm,1.4s						
SCO	**Scoresbysund**	**44.77**	**338**	P		**P**	**16 33 48.9 +0.6**
SCO				IAmb		IAmb	16 34 20.9
	comp=Z,9.6nm,1.4s						
SCO	**Scoresbysund**	**44.77**	**338**	P		**P**	**16 33 48.9 +0.6**
SCO				pmax		pmax	
	comp=Z,10.0nm,1.4s						
SUMG	**Summit**	**50.38**	**339**	P		**P**	**16 34 31.8 -0.5**
SUMG				IAmb		IAmb	16 34 33.8
	comp=Z,15nm,1.5s						
SUMG	**Summit**	**50.38**	**339**	P		**P**	**16 34 31.8 -0.5**
SUMG				pmax		pmax	
	comp=Z,15nm,1.5s						
BRDH	**Bariadhala**	**53.73**	**86**	LR		LR	17 03 14.0
	comp=Z,1μm,19.0s,baz=228,slow=42						
SFJD	**Kangerlussuaq**	**54.66**	**332**	P		**P**	**16 35 03.0 -0.5**
SFJD	**Kangerlussuaq**	**54.66**	**332**	P		**P**	**16 35 03.0 -0.5**
SFJD				pmax		pmax	
	comp=Z,22nm,1.3s						
SONM	**Songino Array**	**55.49**	**52**	P		**P**	**16 35 10.2 +0.1**
SONM	**Songino Array**	**55.49**	**52**	P		**P**	**16 35 10.5 +0.5**
	comp=Z,1.4nm,0.5s,baz=287,slow=8.1,SNR=8.7						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**55.49**	**52**	P		**P**	**16 35 10.2 +0.1**
SONM				pmax		pmax	
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**55.91**	**52⇑**	*e*P		**P**	**16 35 14.8 +1.7**
ULN				pmax		pmax	
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**59.09**	**21**	P		**P**	**16 35 34.4 -0.5**
TIXI	**Tiksi**	**59.09**	**21⇑**	*e*P		**P**	**16 35 39.2 +4.3**
TIXI				pmax		pmax	
	comp=Z,17nm,3.3s						
EUNU	**Eureka**	**59.71**	**350**	P		**P**	**16 35 39.1 0.0**
EUNU				IAmb		IAmb	16 36 23.5
	comp=Z,4.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.75**	**87**	P		**P**	**16 35 54.2 +0.4**
	comp=Z,1.4nm,0.7s,baz=297,slow=8.5,SNR=12						
	comp=Z,1.4nm,0.7s						
SCHQ	**Schefferville**	**65.97**	**321**	P		**P**	**16 36 20.4 -0.6**
SCHQ	**Schefferville**	**65.97**	**321**	P		**P**	**16 36 20.8 -0.3**
	comp=Z,2.9nm,0.6s,baz=39,slow=11,SNR=4.1						
	comp=Z,2.9nm,0.6s						
GBN	**Guysborough**	**67.35**	**310**	P		**P**	**16 36 29.3 -0.6**
UBPT	**Khong Chiam**	**68.72**	**86**	P		**P**	**16 36 39.1 +0.1**
ICQ	**Pointe Anglais**	**68.78**	**316**	P		**P**	**16 36 38.7 -0.1**
BATG	**Bathurst New B**	**69.20**	**314**	P		**P**	**16 36 42.1 +0.6**
BATG				IAmb		IAmb	16 36 42.7
	comp=Z,5.5nm,0.8s						
KLR	**Kul'dur**	**70.27**	**43⇓**	*e*P		**P**	**16 36 51.7 +3.6**
KLR				pmax		pmax	
	comp=Z,5.0nm,1.2s						
KULM	**Kulim**	**70.37**	**98**	P		**P**	**16 36 49.4 +0.2**
KULM				IAmb		IAmb	16 36 54.6
	comp=Z,12nm,1.3s						
D62A	**Allapoint, All**	**71.05**	**315**	P		**P**	**16 36 53.4 +0.6**
SEY	**Seymchan**	**71.31**	**24⇑**	*e*P		P	16 36 59.2 +5.1
SEY				pmax		pmax	
	comp=Z,3.0nm,0.7s						
A36M	**Sachs Harbour**	**71.49**	**352**	P		**P**	**16 36 55.6 +0.6**
A36M				IAmb		IAmb	16 36 56.4
	comp=Z,9.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**73.11**	**48**	P		**P**	**16 37 04.1 -1.1**
USRK	**Ussuriysk Ar.**	**73.11**	**48**	P		**P**	**16 37 05.3 +0.1**
	comp=Z,1.4nm,0.7s,baz=297,slow=6.1,SNR=7.7						
	comp=Z,1.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**73.11**	**48**	P		**P**	**16 37 04.1 -1.1**
C36M	**Paulatuk**	**73.83**	**351**	P		**P**	**16 37 08.7 -0.3**
C36M				IAmb		IAmb	16 37 26.0
	comp=Z,4.9nm,1.1s						
KSAR	**Wonju Array Be**	**74.16**	**55**	P		**P**	**16 37 11.8 +0.3**
KSAR	**Wonju Array Be**	**74.16**	**55**	P		**P**	**16 37 11.8 +0.3**
KSRS	**Korea Array**	**74.18**	**55**	P		**P**	**16 37 12.0 +0.4**
	comp=Z,1.9nm,0.6s,baz=306,slow=4.5,SNR=9.5						
	comp=Z,1.9nm,0.6s						
C18K	**Utukok River**	**75.73**	**5**	P		**P**	**16 37 20.2 +0.1**
C18K				IAmb		IAmb	16 37 28.2
	comp=Z,3.8nm,0.8s						
E24K	**Your Creek**	**76.71**	**360**	P		**P**	**16 37 26.1 +0.5**
E24K				IAmb		IAmb	16 37 37.8
	comp=Z,6.4nm,1.3s						
G27K	**Doyon Strip**	**77.83**	**357**	P		**P**	**16 37 33.2 +1.3**
G27K				IAmb		IAmb	16 37 33.9
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**78.48**	**344**	P		**P**	**16 37 35.0 -0.5**
	comp=Z,0.5nm,0.6s,baz=27,slow=5.1,SNR=2.6						
	comp=Z,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**78.48**	**344**	P		**P**	**16 37 35.0 -0.5**
I30M	**Mount Dempster**	**79.09**	**355**	P		**P**	**16 37 39.4 +0.4**
I30M				IAmb		IAmb	16 37 40.6
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**80.01**	**359**	P		**P**	**16 37 44.2 +0.3**
	comp=Z,0.8nm,0.8s,baz=346,slow=5.3,SNR=4.4						
	comp=Z,0.8nm,0.8s						
CCB	**Clear Creek Bu**	**80.15**	**359**	P		**P**	**16 37 44.8 +0.2**
CCB				IAmb		IAmb	16 37 52.5
	comp=Z,13nm,1.4s						
KDAK	**Kodiak Island**	**86.99**	**2**	P		**P**	**16 38 20.4 +0.6**
	comp=Z,6.7nm,1.1s,baz=225,slow=1.4,SNR=1.8						
	comp=Z,6.7nm,1.1s						
ROSC	**El Rosal**	**99.60**	**283**	LR		LR	17 21 37.8
	comp=Z,1μm,21.4s,baz=242,slow=34						

IDC ***07*** *16:29:05.9±0.3,32°.32S×178°.35W,h0km,mb4.8/19, mbtmp4.9/22,ML5.6/2,MS5.4/47,Error ellipse: s-maj=14.6km s-min=13.1km az=6.0*

WEL ***07*** *16:29:05.6±0.6,33°S±4°×17°7W±°,h33km,M5.4/31, mB5.7/15,ML6.2/21,MLv5.9/31,Mw(mB)5.2/13,Error ellipse: s-maj=12.8km s-min=3.3km az=105.4,confirmed*

BJI ***07*** *16:29:08.0,32°.60S×178°.20W,h32km,mB6.0/25, mb5.2/41,Ms5.7/41,Ms7 5.4/41*

NEIC ***07*** *16:29:08.9,32°.50S×178°.36W,h22km*

NEIC ***07*** *16:29:08.9,32°.60S×178°.13W,h22km,Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^17^Nm; Mrr3.89; Mθθ-0.45; Mφφ-3.45; Mrθ-0.04; Mrφ-1.27; Mθφ1.50; Fault plane solution: M0 4.18000×10^17^ NP1: φs207.49000°,δ35.62000°,λ102.15000°. NP2: φs12.66000°,δ55.30000°,λ81.42000°. Principal axes: T 4.2070, Plg78.0000°, Azm253.0000°; N -0.0477, Plg7.0000°, Azm18.0000°; P -4.1593, Plg10.0000°, Azm109.0000°;*

MOS ***07*** *16:29:08.0±1.1,32°.52S×178°.41W,h24km,mb5.7/27, MS5.5/13 Error ellipse: s-maj=11.9km s-min=10.1km az=114.4*

NEIC ***07*** *16:29:09.1±1.5,32°.47S±0°.10×178°.4W±0°.1,h19km±3km, mb5.5/159,Ms_20 5.7/814,Mww5.7/48,Error ellipse: s-maj=15.4km s-min=13.7km az=122.0*

NOU ***07*** *16:29:11.2,32°.76S×177°.84W,h58km,ML5.7/91,South of Kermadec Islands*

GCMT ***07*** *16:29:13.1±0.1,32°.40S±0°.01×177°.97W±0°.01,h19km, MW5.7/161,Moment Tensor Solution. s149,c257; s161,c327; Duration: 1s8 Moment tensor: Scale 10^17^ Nm; Mrr3.74±.05; Mθθ-0.54±.03; Mφφ-3.20±.04; Mrθ0.62±.09; Mθφ-0.95±.02; Mrφ3.41±.10; Best double couple: M0 5.01300×10^17^ NP1:φs202.00000°,δ23.00000°, λ98.00000°. NP2:φs13.00000°,δ67.00000°,λ86.00000°. Principal axes: T 5.1440, Plg68.0000°, Azm276.0000°; N -0.2600, Plg3.0000°, Azm14.0000°; P -4.8820, Plg22.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 16:29:06.8±0.2,32°.46S±0°.04×178°.20W±0°.05,h10km, n1240,σ1°48/850,mb5.5/162,MS5.7/449,42C-32D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.19**	**4**	P	**Pn**	**16 29 55.9**	**-1.2**
GLKZ				S	**Sn**	**16 30 33.8**	**-1.4**
RIZ	**Raoul Island**	**3.21**	**4**	P	**Pn**	**16 29 56.4**	**-0.9**
RIZ				S	**Sn**	**16 30 35.3**	**-0.3**
MXZ	**Matakaoa Point**	**5.85**	**208**	Pn	**Pn**	**16 30 32.1**	**-1.4**
MXZ	**Matakaoa Point**	**5.85**	**208**	S	**Sn**	**16 31 42.1**	**+1.5**
WMGZ	**Waiomatatini S**	**6.03**	**206**	P	**Pn**	**16 30 36.5**	**+0.5**
WMGZ				S	**Sn**	**16 31 46.8**	**+1.8**
PUZ	**Puketiti**	**6.31**	**206**	P	**Pn**	**16 30 38.8**	**-1.0**
WIZ	**White Island**	**6.32**	**216**	P	**Pn**	**16 30 41.2**	**+1.2**
RUGZ	**Raukumara Rang**	**6.45**	**210**	P	**Pn**	**16 30 41.6**	**-0.3**
RUGZ				S	**Sn**	**16 31 57.4**	**+1.7**
GRZ	**Great Barrier**	**6.47**	**232**	P	**Pn**	**16 30 45.9**	**+3.8**
TWGZ	**Tauwhareparae**	**6.51**	**208**	P	**Pn**	**16 30 42.4**	**-0.3**
TWGZ				S	**Sn**	**16 31 57.5**	**+0.6**
KUZ	**Kuaotunu**	**6.59**	**228**	P	**Pn**	**16 30 46.5**	**+2.8**
MYRZ	**Mayor Island**	**6.64**	**222**	P	**Pn**	**16 30 45.8**	**+1.4**
WHRZ	**Whale Island**	**6.68**	**215**	P	**Pn**	**16 30 47.2**	**+2.2**
CNGZ	**Carnagh Statio**	**6.69**	**205**	P	**Pn**	**16 30 43.9**	**-1.2**
CNGZ				S	**Sn**	**16 32 02.6**	**+1.2**
TKGZ	**Te Karaka**	**6.79**	**207**	P	**Pn**	**16 30 45.0**	**-1.4**
TKGZ				S	**Sn**	**16 32 03.4**	**-0.3**
MWZ	**Matawai**	**6.82**	**210**	P	**Pn**	**16 30 46.3**	**-0.6**
MWZ				S	**Sn**	**16 32 04.3**	**-0.4**
OPRZ	**Ohinepanea**	**6.88**	**217**	P	**Pn**	**16 30 47.9**	**+0.1**
MARZ	**Manawahe**	**6.93**	**216**	P	**Pn**	**16 30 50.5**	**+2.0**
URZ	**Urewera**	**6.94**	**212**	Pn	**Pn**	**16 30 48.2**	**-0.4**
	49nm,0.3s,baz=55,slow=1.4,SNR=53						
URZ				Sn	**Sn**	**16 32 05.1**	**-2.5**
	90nm,0.3s,baz=286,slow=13,SNR=8.5						
	116nm,0.3s						
URZ	**Urewera**	**6.94**	**212**	P	**Pn**	**16 30 48.7**	**+0.1**
RAGZ	**Rawiri**	**7.01**	**209**	P	**Pn**	**16 30 48.2**	**-1.3**
RIGZ	**Rimuhau**	**7.05**	**207**	P	**Pn**	**16 30 48.2**	**-1.8**
WCZ	**Waipu Caves**	**7.09**	**239**	P	Pn	16 30 57.0	+6.5
LIRZ	**Lichensteins R**	**7.09**	**217**	P	Pn	16 30 56.1	+5.5
MKAZ	**Moumakai**	**7.17**	**228**	P	**Pn**	**16 30 55.7**	**+4.0**
OMRZ	**Omania**	**7.17**	**217**	P	**Pn**	**16 30 54.4**	**+2.6**
PRGZ	**Paritu Road**	**7.20**	**205**	P	**Pn**	**16 30 49.6**	**-2.5**
TARZ	**Mount Tarawera**	**7.21**	**215**	P	**Pn**	**16 30 55.1**	**+2.8**
NGRZ	**Ngongotaha**	**7.27**	**218**	P	Pn	16 30 59.2	+6.1
MUGZ	**Murupara**	**7.28**	**213**	P	**Pn**	**16 30 52.0**	**-1.1**
SNGZ	**Shannon Statio**	**7.28**	**209**	P	**Pn**	**16 30 52.6**	**-0.7**
RRRZ	**Republican Roa**	**7.29**	**215**	P	**Pn**	**16 30 54.6**	**+1.3**
RTZ	**Ruatahuna**	**7.29**	**211**	Pn	**Pn**	**16 30 52.0**	**-1.5**
HLRZ	**Highlands Stat**	**7.30**	**216**	P	**Pn**	**16 30 55.8**	**+2.3**
KNZ	**Kokohu**	**7.36**	**206**	P	**Pn**	**16 30 51.2**	**-3.1**
OUZ	**Omahuta**	**7.36**	**246**	P	Pn	16 31 00.3	+6.0
TOZ	**Tahuroa Road**	**7.37**	**223**	Pn	**Pn**	**16 30 55.8**	**+1.3**
TOZ	**Tahuroa Road**	**7.37**	**223**	P	**Pn**	**16 30 57.3**	**+2.8**
MHGZ	**Mahia Peninsul**	**7.39**	**204**	P	**Pn**	**16 30 51.9**	**-2.8**
HSRZ	**Hossack Road**	**7.40**	**216**	P	Pn	16 30 59.5	+4.7
HRRZ	**Handcock Road**	**7.44**	**216**	P	**Pn**	**16 30 58.2**	**+2.7**
PRRZ	**Plateau Road**	**7.47**	**215**	P	**Pn**	**16 30 57.3**	**+1.5**
GRRZ	**Galatos Road**	**7.49**	**217**	P	**Pn**	**16 30 59.5**	**+3.3**
RAHZ	**Arahi**	**7.50**	**209**	P	**Pn**	**16 30 55.8**	**-0.5**
ALRZ	**Allen Road**	**7.54**	**215**	P	**Pn**	**16 30 57.6**	**+0.7**
WHHZ	**Waihua**	**7.58**	**208**	P	**Pn**	**16 30 59.1**	**+1.8**
WPRZ	**Whakapatarin**	**7.60**	**216**	P	**Pn**	**16 30 59.7**	**+2.1**
MRHZ	**Matea Rd**	**7.72**	**213**	P	**Pn**	**16 30 58.6**	**-0.7**
KUTZ	**Kaahu Road**	**7.75**	**217**	P	**Pn**	**16 31 02.8**	**+3.1**
NMHZ	**Naumai**	**7.77**	**210**	P	**Pn**	**16 31 00.1**	**+0.1**
TLZ	**Tolley Road**	**7.78**	**219**	P	**Pn**	**16 31 02.8**	**+2.8**
WHTZ	**Whakaora**	**7.81**	**216**	P	**Pn**	**16 31 03.4**	**+2.8**
ARHZ	**Aropaoanui**	**7.83**	**209**	P	**Pn**	**16 30 59.6**	**-1.2**
WATZ	**Wairara**	**7.96**	**217**	P	**Pn**	**16 31 03.8**	**+1.3**
BKZ	**Black Stump Fm**	**7.96**	**211**		**Pn**	**16 30 59.5**	**-3.1**
BKZ	**Black Stump Fm**	**7.96**	**211**	P	**Pn**	**16 31 03.1**	**+0.5**
BKZ	**Black Stump Fm**	**7.96**	**211**	P	**Pn**	**16 31 00.9**	**-1.7**
RATZ	**Rangitukua**	**8.06**	**216**	P	**Pn**	**16 31 04.8**	**+0.8**
RITZ	**Rihia Road**	**8.10**	**215**	P	**Pn**	**16 31 05.8**	**+1.2**
MCHZ	**McNeill Hill**	**8.11**	**209**	P	**Pn**	**16 31 02.8**	**-1.7**
CKHZ	**Cape Kidnapper**	**8.14**	**207**	P	**Pn**	**16 31 02.2**	**-2.8**
KATZ	**Kakaramea**	**8.18**	**216**	P	**Pn**	**16 31 07.4**	**+1.7**
KWHZ	**Kaweka Forest**	**8.21**	**211**	P	**Pn**	**16 31 04.3**	**-1.7**
HIZ	**Hauiti**	**8.28**	**221**	Pn	**Pn**	**16 31 07.7**	**+0.2**
HIZ	**Hauiti**	**8.28**	**221**	P	**Pn**	**16 31 09.5**	**+2.6**
NTVZ	**North Tongarir**	**8.29**	**215**	P	**Pn**	**16 31 07.4**	**+0.3**
TMVZ	**Te Maari**	**8.29**	**215**	P	**Pn**	**16 31 07.1**	**0.0**
ETVZ	**East Tongariro**	**8.30**	**215**	P	**Pn**	**16 31 08.3**	**+0.9**
KRVZ	**Karewarewa**	**8.30**	**215**	P	**Pn**	**16 31 07.7**	**+0.4**
KAHZ	**Kahuranaki**	**8.34**	**207**	P	Pn	16 31 03.6	-4.1
NNVZ	**North Ngauruho**	**8.34**	**215**	P	**Pn**	**16 31 09.4**	**+1.5**
WTVZ	**West Tongariro**	**8.34**	**215**	P	**Pn**	**16 31 08.9**	**+1.0**
OTVZ	**Oturere**	**8.34**	**215**	P	**Pn**	**16 31 09.2**	**+1.3**
SNVZ	**South Ngauruho**	**8.37**	**215**	P	**Pn**	**16 31 09.9**	**+1.5**
TWVZ	**Taurewa**	**8.38**	**216**	P	**Pn**	**16 31 09.8**	**+1.3**
NGZ	**Ngauruhoe**	**8.38**	**215**	P	**Pn**	**16 31 10.5**	**+2.0**
KRHZ	**Kereru**	**8.41**	**210**	P	**Pn**	**16 31 06.6**	**-2.2**
COVZ	**Chateau Observ**	**8.43**	**215**	P	**Pn**	**16 31 10.8**	**+1.7**
FWVZ	**Far West T-bar**	**8.47**	**215**	P	**Pn**	**16 31 10.7**	**+1.0**
MOVZ	**Moawhango**	**8.49**	**214**	P	**Pn**	**16 31 09.1**	**-0.9**
WNVZ	**Wahianoa**	**8.50**	**215**	P	**Pn**	**16 31 11.1**	**+0.9**
MTVZ	**Mangateitei**	**8.61**	**215**	P	**Pn**	**16 31 09.9**	**-1.6**
PNHZ	**Pukenui**	**8.71**	**210**	P	**Pn**	**16 31 09.8**	**-3.0**
WPHZ	**Waipukurau**	**8.74**	**208**	P	**Pn**	**16 31 10.1**	**-3.1**
PRHZ	**Porangahau**	**8.84**	**207**	P	**Pn**	**16 31 11.0**	**-3.5**
TSZ	**Takapari Road**	**8.93**	**210**	P	**Pn**	**16 31 13.0**	**-2.8**
DVHZ	**Dannevirke**	**9.05**	**209**	P	Pn	16 31 13.5	-3.9
ANWZ	**Angora Road**	**9.06**	**207**	P	**Pn**	**16 31 15.1**	**-2.5**
NEZ	**North Egmont**	**9.23**	**220**	P	Pn	16 31 28.3	+8.2
POWZ	**Post Office Ro**	**9.29**	**210**	P	**Pn**	**16 31 19.4**	**-1.4**
BFZ	**Birch Farm**	**9.34**	**207**		**Pn**	**16 31 18.1**	**-3.4**
BFZ	**Birch Farm**	**9.34**	**207**	P	**Pn**	**16 31 19.3**	**-2.2**
BFZ	**Birch Farm**	**9.34**	**207**	P	Pn	16 31 16.8	-4.7
PRWZ	**Pori Road**	**9.34**	**208**	P	**Pn**	**16 31 19.4**	**-2.1**
CPWZ	**Castlepoint**	**9.56**	**206**	P	**Pn**	**16 31 22.5**	**-2.0**
TIWZ	**Tintock**	**9.57**	**208**	P	**Pn**	**16 31 21.7**	**-2.9**
MRZ	**Mangatainoka R**	**9.59**	**210**	Pn	**Pn**	**16 31 21.7**	**-3.2**
MRZ	**Mangatainoka R**	**9.59**	**210**	P	Pn	16 31 20.7	-4.2
HOWZ	**Holdsworth Sta**	**9.82**	**209**	P	**Pn**	**16 31 24.9**	**-3.1**
TMWZ	**Te Maipa**	**9.85**	**207**	P	**Pn**	**16 31 25.8**	**-2.6**
OGWZ	**Otaki Gorge**	**9.90**	**211**	P	**Pn**	**16 31 25.7**	**-3.4**
MTW	**Mount Morrison**	**10.04**	**208**	P	**Pn**	**16 31 27.6**	**-3.5**
KIW	**Kapiti Island**	**10.05**	**211**	P	Pn	16 31 27.1	-4.0
TRWZ	**Traveller**	**10.18**	**207**	P	**Pn**	**16 31 30.1**	**-2.8**
MSWZ	**Moikau Station**	**10.36**	**209**		Pn	16 31 31.2	-4.3
DUWZ	**D'Urville Isla**	**10.46**	**215**	P	**Pn**	**16 31 34.7**	**-2.1**
PLWZ	**Palliser**	**10.49**	**208**		Pn	16 31 33.0	-4.3
PLWZ	**Palliser**	**10.49**	**208**	P	Pn	16 31 33.2	-4.0
SNZO	**South Karori**	**10.50**	**211**	Pn	Pn	16 31 31.0	-6.4
BHW	**Baring Head**	**10.51**	**210**		Pn	16 31 32.5	-5.0
TCW	**Tory Channel**	**10.61**	**212**	Pn	**Pn**	**16 31 36.0**	**-2.9**
TCW	**Tory Channel**	**10.61**	**212**	P	**Pn**	**16 31 35.6**	**-3.2**
TUWZ	**Tuamarina**	**10.94**	**213**		**Pn**	**16 31 39.7**	**-3.6**
TUWZ	**Tuamarina**	**10.94**	**213**	P	**Pn**	**16 31 40.2**	**-3.1**
NNZ	**Nelson**	**11.04**	**215**	Pn	**Pn**	**16 31 43.4**	**-1.3**
NNZ	**Nelson**	**11.04**	**215**	P	**Pn**	**16 31 43.6**	**-1.1**
TKNZ	**Takaka Hill**	**11.11**	**217**	Pn	Pn	16 31 41.5	-4.2
TKNZ	**Takaka Hill**	**11.11**	**217**	P	**Pn**	**16 31 47.3**	**+1.6**
QRZ	**Quartz Range**	**11.19**	**219**	Pn	**Pn**	**16 31 43.7**	**-3.0**
QRZ	**Quartz Range**	**11.19**	**219**	P	**Pn**	**16 31 47.5**	**+0.8**
QRZ	**Quartz Range**	**11.19**	**219**	P	**Pn**	**16 31 46.7**	**0.0**
BSWZ	**Blackbirch Sta**	**11.20**	**212**	Pn	**Pn**	**16 31 44.9**	**-1.9**
BSWZ	**Blackbirch Sta**	**11.20**	**212**	P	**Pn**	**16 31 43.8**	**-3.1**
CTZ	**Chatham Island**	**11.33**	**174**	Pn	Pn	16 31 45.9	-2.7
CTZ	**Chatham Island**	**11.33**	**174**	P	Pn	16 31 46.1	-2.6
CTZ	**Chatham Island**	**11.33**	**174**	P	Pn	16 31 46.0	-2.7
MRNZ	**Matariki Terra**	**11.48**	**216**	Pn	Pn	16 31 46.4	-4.4
THZ	**Tophouse**	**11.69**	**215**		**Pn**	**16 31 50.0**	**-3.6**
KHZ	**Kahutara**	**11.91**	**211**	Pn	Pn	16 31 51.2	-5.4
GVZ	**Greta Valley S**	**12.57**	**211**	Pn	**Pn**	**16 32 02.3**	**-3.4**
LTZ	**Lake Taylor**	**12.77**	**213**	Pn	Pn	16 32 04.0	-4.4
AMCZ	**Amberley**	**12.91**	**211**	P	**Pn**	**16 32 09.0**	**-1.2**
INZ	**Inchbonnie**	**13.12**	**216**	Pn	**Pn**	**16 32 10.0**	**-3.2**
INZ	**Inchbonnie**	**13.12**	**216**	P	**Pn**	**16 32 11.6**	**-1.6**
OKCZ	**Okains Bay**	**13.18**	**209**	P	Pn	16 32 09.5	-4.5
OXZ	**Oxford**	**13.30**	**213**		Pn	16 32 09.2	-6.4
MQZ	**McQueen's Vall**	**13.33**	**210**	Pn	Pn	16 32 09.5	-6.6
MHCZ	**Mount Hutt**	**13.68**	**213**	P	**Pn**	**16 32 18.4**	**-2.4**
WACZ	**Wakanui South**	**13.87**	**211**	P	**Pn**	**16 32 21.4**	**-2.0**
RPZ	**Rata Peaks**	**14.05**	**214**		Pn	16 32 19.9	-6.1
RPZ	**Rata Peaks**	**14.05**	**214**	Sn	Sn	16 34 47.1	-15
	4.0nm,0.3s,baz=309,slow=18,SNR=3.9						
RPZ	**Rata Peaks**	**14.05**	**214**	P	**Pn**	**16 32 24.3**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**14.11**	**217**	P	**Pn**	**16 32 24.9**	**-1.8**
MSVF	**Nonsavu**	**15.05**	**346**	Pn	**Pn**	**16 32 39.7**	**+0.1**
MSVF	**Nonsavu**	**15.05**	**346**	Pn	**Pn**	**16 32 37.6**	**-2.0**
	1.7nm,0.3s,baz=149,slow=14,SNR=21						
MSVF				LR	LR	16 37 39.1	
	comp=Z,28μm,18.0s,baz=170,slow=34						
	38nm,0.8s						
MSVF	**Nonsavu**	**15.05**	**346**	P	**Pn**	**16 32 43.2**	**+3.6**
MSVF	**Nonsavu**	**15.05**	**346**	*c i*P	**Pn**	**16 32 39.8**	**+0.1**
NIUE	**Niue**	**15.26**	**31**	P	Pn	16 32 34.7	-7.6
ODZ	**Otahua Downs**	**15.27**	**211**	P	**Pn**	**16 32 36.9**	**-5.5**
JCZ	**Jackson Bay**	**15.44**	**218**	P	**Pn**	**16 32 44.8**	**+0.1**
WKZ	**Wanaka**	**15.86**	**215**		**Pn**	**16 32 45.8**	**-4.3**
PINNC	**Pines Island,**	**16.06**	**304**	P	**Pn**	**16 32 49.6**	**-3.1**
PINNC	**Pines Island,**	**16.06**	**304**	P	**P**	**16 32 58.0**	**+1.9**
DGTI	**Dogotuki**	**16.19**	**353**	P	**P**	**16 32 59.6**	**+1.9**
MARNC	**Mare, Loyalty**	**16.42**	**308**	P	**P**	**16 33 04.1**	**+3.9**
TUZ	**Tuapeka**	**16.42**	**211**	P	**Pn**	**16 32 54.9**	**-2.4**
OUENC	**Ouen Island, N**	**16.61**	**303**	P	**P**	**16 33 05.8**	**+3.6**
MLZ	**Mavora Lakes**	**16.69**	**216**		**Pn**	**16 32 56.2**	**-4.6**
YATNC	**Mamie plateau,**	**16.80**	**304**	P	**P**	**16 33 07.6**	**+3.1**
ONTNC	**Ouen Toro**	**16.95**	**303**	P	**P**	**16 33 06.3**	**+0.2**
ONTNC	**Ouen Toro**	**16.95**	**303**	P	**P**	**16 33 09.2**	**+3.1**
SYZ	**Scrubby H

comp=Z,13µm,19.1s,baz=94,slow=35
comp=Z,19nm,0.9s
STKA Stephens Creek 33.90 260 P **P 16 35 51.5 +1.5**
STKA Stephens Creek 33.90 260 P **P 16 35 48.1 -1.9**
STKA pmax pmax
comp=Z,846nm,1.7s
TV1H Townsville Har 33.97 284 P **P 16 35 53.3 +2.7**
INKA Innaminka 35.67 267 P **P 16 36 07.1 +1.8**
HTT Hallett 35.81 257 P **P 16 36 06.8 +0.3**
comp=Z,38nm,1.0s
HTT Hallett 35.81 257 P **P 16 36 07.2 +0.7**
MTSU Mount Surprise 36.57 284 P **P 16 36 14.4 +1.3**
comp=Z,76nm,0.9s
MTSU Mount Surprise 36.57 284 P **P 16 36 15.2 +2.1**
WHYH Whyalla 37.00 257 P **P 16 36 17.2 +0.7**
comp=Z,80nm,0.6s
LCRK Leigh Creek 37.05 261 P **P 16 36 17.7 +0.7**
BBOO Buckleboo 38.29 257 P **P 16 36 26.6 -1.0**
BBOO PcP **PcP 16 38 40.0 -1.5**
BBOO IAMs_20 IAMs_20 16 52 16.1
comp=Z,13µm,18.0s
BBOO Buckleboo 38.29 257 P **P 16 36 27.1 -0.5**
comp=Z,45nm,0.7s
BBOO Buckleboo 38.29 257 P **P 16 36 27.5 0.0**
QIS Mount Isa 39.34 277 P **P 16 36 36.6 +0.1**
comp=Z,181nm,1.1s
QIS Mount Isa 39.34 277 P **P 16 36 37.1 +0.6**
comp=Z,181nm,1.1s
PMG Port Moresby 39.37 298 LR LR 16 51 07.6
comp=Z,5µm,19.8s,baz=118,slow=34
RABL Rabaul 39.50 309 P **P 16 36 37.0 -0.8**
COEN Coen 39.72 288 P **P 16 36 38.9 -0.8**
COEN Coen 39.72 288 P **P 16 36 40.7 +1.1**
comp=Z,228nm,1.4s
COEN Coen 39.72 288 P **P 16 36 40.7 +1.1**
BULU Kimbe 39.75 306 P **P 16 36 42.2 +2.3**
OOD Oodnadatta 39.92 264 P **P 16 36 42.0 +0.8**
AS19 Alice Springs 42.81 269 P **P 16 37 05.0 -0.1**
comp=Z,177nm,0.9s
AS06 Alice Springs 42.82 269 P **P 16 37 05.1 -0.1**
comp=Z,136nm,1.1s
AS01 Alice Springs 42.83 269 P **P 16 37 05.1 -0.1**
AS31 Alice Springs 42.87 269 P **P 16 37 05.2 -0.3**
AS31 Alice Springs 42.87 269 P **P 16 37 05.4 -0.2**
comp=Z,57nm,1.1s
ASAR Alice Springs 42.87 269 P **P 16 37 05.6 0.0**
comp=Z,53nm,0.7s,baz=105,slow=7.6,SNR=287
ASAR S **S 16 43 25.4 -4.9**
comp=Z,3.9nm,1.0s,baz=112,slow=15,SNR=4.6
ASAR LR LR 16 54 43.8
comp=Z,6µm,18.9s,baz=118,slow=36
ASAR PKKP **PKKPdf 17 00 37.7 0.0**
comp=Z,0.2nm,0.8s,baz=7.0,slow=8.5,SNR=4.1
comp=Z,53nm,0.7s
WR0 Warramunga Arr 43.87 274 P **P 16 37 13.0 -0.6**
WB2 Warramunga Arr 44.04 274 P **P 16 37 14.3 -0.6**
WRAB Tennant Creek 44.04 274 P **P 16 37 14.2 -0.8**
WRAB IAMs_20 IAMs_20 16 54 04.0
comp=Z,7µm,20.0s
WRAB Tennant Creek 44.04 274*c iP* **P 16 37 14.9 -0.1**
WRAB pmax pmax
comp=Z,210nm,1.5s
WRA Warramunga Arr 44.05 274 P **P 16 37 14.2 -0.9**
WRA Warramunga Arr 44.05 274 P **P 16 37 15.0 0.0**
comp=Z,40nm,0.3s,baz=114,slow=8.0,SNR=144
WRA ScP **ScP 16 42 52.2 -0.2**
comp=Z,6.3nm,0.8s,baz=118,slow=4.0,SNR=6.2
WRA S **S 16 43 45.4 -2.2**
comp=Z,9.5nm,1.0s,baz=118,slow=15,SNR=5.3
WRA PKiKP **PKiKP 16 46 01.3 -0.4**
comp=Z,0.4nm,0.5s,baz=136,slow=0.3,SNR=4.6
WRA LR LR 16 54 35.5
comp=Z,7µm,19.6s,baz=116,slow=35
WB0 Warramunga Arr 44.08 275 P **P 16 37 15.4 +0.1**
PATS Pohnpei 45.03 326 IAMs_20 IAMs_20 16 53 55.5
comp=Z,8µm,19.0s
FORT Forrest 45.39 257 P **P 16 37 25.1 -0.5**
FORT IAMs_20 IAMs_20 16 55 44.1
comp=Z,12µm,19.0s
FORT Forrest 45.39 257 P **P 16 37 24.5 -1.1**
FORT Forrest 45.39 257 P **P 16 37 24.4 -1.2**
VNDA Vanda 46.04 186 P **P 16 37 32.5 +2.4**
comp=Z,2.4nm,0.8s,baz=6.0,slow=8.1,SNR=14
VNDA LR LR 16 53 37.8
comp=Z,3µm,19.4s,baz=8.5,slow=32
comp=Z,2.4nm,0.8s
TABU Tabubil 46.52 297 P **P 16 37 36.8 +2.1**
WRKA Warakurna 47.09 265 P **P 16 37 38.0 -1.1**
WRKA Warakurna 47.09 265 P **P 16 37 37.7 -1.4**
JAY Jayapura 48.72 299 P **P 16 37 51.5 -0.2**
comp=Z,36nm,1.0s,baz=179,slow=9.0,SNR=18
JAY LR LR 16 58 06.9
comp=Z,3µm,18.2s,baz=124,slow=36
comp=Z,36nm,1.0s
JAY Jayapura 48.72 299 P **P 16 37 52.1 +0.3**
comp=Z,2µmcomp=Z,183nm,1.3s
GENI Genyem 49.06 299 P **P 16 37 55.5 +1.1**
GENI Genyem 49.06 299 P **P 16 37 54.8 +0.4**
KDU Kakadu 49.14 282 P **P 16 37 54.3 -0.7**
KDU Kakadu 49.14 282 P **P 16 37 54.1 -0.9**
MTN Manton Dam 50.17 281 P **P 16 38 02.2 -0.6**
MTN IAMs_20 IAMs_20 16 57 36.9
comp=Z,9µm,20.0s
MTN Manton Dam 50.17 281 P **P 16 38 01.8 -1.1**
MTN Manton Dam 50.17 281 P **P 16 38 02.5 -0.3**
KMBL Kambalda 50.28 254 P **P 16 38 02.2 -1.3**
KMBL Kambalda 50.28 254 P **P 16 38 02.2 -1.3**
SMPI Sarmi 50.55 298 P **P 16 38 06.2 +0.5**
comp=Z,1µmcomp=Z,71nm,1.6s
DRS Darwin Rock St 50.58 281 P **P 16 38 05.7 -0.2**
KNRA Kununurra 50.72 276 P **P 16 38 06.7 -0.4**
KNRA Kununurra 50.72 276 P **P 16 38 06.8 -0.2**
comp=Z,206nm,1.1s
FITZ Fitzroy Crossi 52.22 272 P **P 16 38 17.6 -0.7**
FITZ IAmb IAmb 16 38 32.8
comp=Z,61nm,1.5s
FITZ Fitzroy Crossi 52.22 272 P **P 16 38 17.5 -0.7**
comp=Z,27nm,1.4s
FITZ Fitzroy Crossi 52.22 272 LR LR 17 00 11.8
comp=Z,13µm,18.6s,baz=110,slow=36
FITZ Fitzroy Crossi 52.22 272 P **P 16 38 18.0 -0.2**
SAUI Saumlaki 52.68 286 P **P 16 38 20.7 -0.9**
SAUI IAMs_20 IAMs_20 16 59 01.8
comp=Z,9µm,19.0s
SAUI Saumlaki 52.68 286 P **P 16 38 24.0 +2.3**
SAUI Saumlaki 52.68 286 P **P 16 38 22.9 +1.2**
BAKI Biak 53.03 296 P **P 16 38 25.9 +1.7**
comp=Z,2µmcomp=Z,166nm,1.7s
CASY Casey 53.25 209 P **P 16 38 24.9 -0.3**
NWAO Narrogin (SRO) 53.54 251 P **P 16 38 25.2 -2.6**
NWAO IAmb IAmb 16 38 27.9
comp=Z,79nm,1.6s
NWAO Narrogin (SRO) 53.54 251 IAMs_20 IAMs_20 17 01 39.4
comp=Z,6µm,18.0s
NWAO Narrogin (SRO) 53.54 251 LR LR 17 00 58.6
comp=Z,3µm,18.2s,baz=61,slow=36
NWAO Narrogin (SRO) 53.54 251 P **P 16 38 27.5 -0.3**
NWAO P **P 16 38 27.5 -0.3**
NWAO Narrogin (SRO) 53.54 251 P **P 16 38 27.8 0.0**
NWAO Narrogin (SRO) 53.54 251 P **P 16 38 25.2 -2.6**
NWAO pmax pmax
comp=Z,79nm,1.6s
NWAO pmax pmax
comp=Z,6µm,18.0s
KLBR Kellerberrin 53.55 253 P **P 16 38 26.0 -1.9**
KLBR Kellerberrin 53.55 253 P **P 16 38 26.6 -1.3**
MEEK Meekatharra 54.59 259 P **P 16 38 33.4 -2.2**
MEEK Meekatharra 54.59 259 P **P 16 38 34.2 -1.4**
MUN Mundaring 54.67 252 P **P 16 38 34.4 -1.7**
MUN Mundaring 54.67 252 P **P 16 38 35.3 -0.8**
BLDU Ballidu 54.72 253 P **P 16 38 34.4 -2.1**
FAKI Fak Fak 54.92 292 P **P 16 38 35.9 -2.2**
FAKI Fak Fak 54.92 292 P **P 16 38 39.7 +1.6**
FAKI Fak Fak 54.92 292 P **P 16 38 37.1 -1.0**
comp=Z,2µmcomp=Z,199nm,1.2s
PSA00 Pilbara Seismi 55.59 265 P **P 16 38 39.7 -3.1**
PSA00 IAmb IAmb 16 38 55.5
comp=Z,41nm,1.1s
PSA00 Pilbara Seismi 55.59 265 IAmb IAmb 16 38 56.1
comp=Z,59nm,0.9s
PSA00 Pilbara Seismi 55.59 265 P **P 16 38 41.2 -1.7**
PSA00 Pilbara Seismi 55.59 265 P **P 16 38 41.8 -1.0**
PSAC1 Pilbara Seismi 55.63 265 P **P 16 38 41.2 -2.0**
MORW Morawa 55.81 255 IAmb IAmb 16 38 58.6
comp=Z,28nm,0.7s
MORW IAMs_20 IAMs_20 17 01 08.7
comp=Z,6µm,20.0s
MORW Morawa 55.81 255 P **P 16 38 42.6 -1.8**
MORW Morawa 55.81 255 P **P 16 38 42.9 -1.5**
BNDI Bandanaira 55.81 288 P **P 16 38 46.1 +1.5**
BNDI Bandanaira 55.81 288 P **P 16 38 46.0 +1.5**
MBWA Marble Bar 55.86 265 P **P 16 38 43.5 -1.3**
MBWA Marble Bar 55.86 265 IAMs_20 IAMs_20 17 02 57.5
comp=Z,7µm,19.0s
MBWA Marble Bar 55.86 265 P **P 16 38 43.1 -1.7**
MBWA Marble Bar 55.86 265 P **P 16 38 43.1 -1.7**
MBWA P **P 16 38 43.1 -1.7**
MBWA S **S 16 46 34.0 +1.6**
MBWA S **S 16 46 34.0 +1.6**
MBWA Marble Bar 55.86 265 P **P 16 38 43.7 -1.1**
SWI Sorong 56.96 293 P **P 16 38 51.7 -1.0**
comp=Z,2µmcomp=Z,87nm,1.5s
SOEI Soe 57.51 280 IAMs_20 IAMs_20 17 04 34.3
comp=Z,8µm,20.0s
SOEI Soe 57.51 280 P **P 16 38 57.9 +1.2**
SOEI Soe 57.51 280 P **P 16 38 56.2 -0.5**
comp=Z,2µmcomp=Z,172nm,1.3s
QSPA South Pole Qui 57.66 180 P **P 16 38 57.8 +0.7**
QSPA South Pole Qui 57.66 180 IAMs_20 IAMs_20 17 02 28.7
comp=Z,5µm,19.0s
QSPA South Pole Qui 57.66 180 P **P 16 38 59.2 +2.1**
comp=Z,10nm,0.6s,baz=7.4,slow=1.7,SNR=49
QSPA LR LR 17 02 50.3
comp=Z,5µm,18.4s,baz=42,slow=35
comp=Z,10nm,0.6s
GUMO Guam 57.83 316 LR LR 17 03 52.3
comp=Z,2µm,18.0s,baz=98,slow=36
NLAI Namlea 58.82 288 P **P 16 39 04.7 -1.1**
comp=Z,2µmcomp=Z,85nm,1.2s
RPN Rapa Nui 59.07 104 IAMs_20 IAMs_20 17 05 11.9
comp=Z,4µm,18.0s
MMRI Maumere 59.79 279 IAMs_20 IAMs_20 17 05 33.9
comp=Z,4µm,18.0s
GIRL Giralia 59.84 261 P **P 16 39 11.7 -1.0**
GIRL Giralia 59.84 261 P **P 16 39 12.3 -0.5**
comp=Z,149nm,1.0s
BASI Baing, Sumba 60.35 277 P **P 16 39 16.7 +0.4**
SANI Sanana 60.42 288 P **P 16 39 15.8 -1.0**
SANI Sanana 60.42 288 P **P 16 39 15.9 -0.9**
comp=Z,2µmcomp=Z,114nm,1.6s
PLAI Plampang 63.43 277 P **P 16 39 36.7 -0.4**
PLAI Plampang 63.43 277 P **P 16 39 35.9 -1.2**
comp=Z,1µmcomp=Z,105nm,1.1s
KAPI Kappang 63.83 281 IAMs_20 IAMs_20 17 07 58.9
comp=Z,6µm,19.0s
KAPI Kappang 63.83 281 P **P 16 39 39.9 +0.2**
comp=Z,7.9nm,0.4s,baz=84,slow=18,SNR=3.6
KAPI LR LR 17 08 10.0
comp=Z,6µm,18.2s,baz=122,slow=37
comp=Z,7.9nm,0.4s
KAPI Kappang 63.83 281 P **P 16 39 37.5 -2.2**
KAPI S **S 16 48 16.4 +1.3**
APSI Ampana 64.59 286 P **P 16 39 42.0 -2.7**
comp=Z,1µmcomp=Z,70nm,1.6s
TTSI Tana Toraja 64.87 283 P **P 16 39 46.7 +0.2**
comp=Z,46nm,1.0s
MRSI Marisa 65.16 288 P **P 16 39 46.5 -1.9**
comp=Z,22nm,1.1s
PCI Palu 66.07 285 P **P 16 39 54.8 +0.5**
comp=Z,2µmcomp=Z,99nm,1.3s
DAV Davao City (W) 66.35 296 LR LR 17 09 56.5
comp=Z,1µm,18.6s,baz=142,slow=37
DAV Davao City (W) 66.35 296 P **P 16 39 54.3 -1.8**
TOLI2 Tolitoli 66.47 287 P **P 16 39 54.8 -2.1**
TOLI2 IAmb IAmb 16 40 06.2
comp=Z,109nm,1.8s
TOLI2 Tolitoli 66.47 287 P **P 16 39 55.4 -1.5**
SMAI San Martin Ant 67.59 158 P **P 16 40 04.1 +1.0**
SMAI IAmb IAmb 16 40 07.4
comp=Z,45nm,1.0s
BELA Belgrano 2 67.78 172 P **P 16 40 04.5 +0.3**
PCJI Pacitan 69.31 273 P **P 16 40 13.4 -1.4**
comp=Z,102nm,0.9s
UGM Wanagama 70.01 273 IAMs_20 IAMs_20 17 10 08.4
comp=Z,4µm,19.0s
JCJ Chichijima 70.21 323 LR LR 17 05 39.0
comp=Z,1µm,21.7s,baz=152,slow=31
MAW Mawson 70.33 201 P P 16 40 29.7 +10
MAW Mawson 70.33 201 LR LR 17 09 43.7
comp=Z,3µm,20.3s,baz=115,slow=35
PMSA Palmer Station 70.47 155 LR LR 17 06 13.8
comp=Z,1µm,19.4s,baz=242,slow=32
BBJI Bungbulang 72.67 272 P **P 16 40 34.2 -1.1**
XMIS Christmas Isla 72.81 268 IAMs_20 IAMs_20 17 11 34.3
comp=Z,6µm,21.0s
LEM Lembang 73.03 273 LR LR 17 13 01.2
comp=Z,3µm,21.1s,baz=128,slow=36
KKM Kota Kinabalu 73.05 289 P **P 16 40 36.3 -1.2**
KKM IAmb IAmb 16 40 38.0
comp=Z,140nm,1.8s
KKM Kota Kinabalu 73.05 289 P **P 16 40 36.9 -0.6**
CNJI Cibinong 73.19 272 P **P 16 40 37.6 -0.7**
STKI Sintang 73.50 281 P **P 16 40 39.7 -0.4**
comp=Z,59nm,1.7s
ESPZ Base Esperanza 73.75 156 IAMs_20 IAMs_20 17 08 53.0
comp=Z,3µm,19.0s
SBUM Sibu 74.22 283 P **P 16 40 41.3 -3.0**
SBUM Sibu 74.22 283 P **P 16 40 43.8 -0.5**
TGY Tagaytay City 74.33 298 LR LR 17 10 52.6
comp=Z,946nm,21.0s,baz=118,slow=34
ELIB Princess Elisa 74.79 187 *dP* **P 16 40 47.9 +0.9**
comp=Z,39nm,1.1s
SYO Syowa Base 75.08 193⇓*iP* **P 16 40 48.7 +0.3**
SYO Syowa Base 75.08 193⇓*iP* pP 16 40 54.6 +4.7
TPI Tanjungpandan 75.16 276 P **P 16 40 48.9 -0.9**
KSM Kuching 75.25 281 P **P 16 40 47.1 -3.2**
KSM IAmb IAmb 16 40 50.5
comp=Z,135nm,1.9s
KSM IAMs_20 IAMs_20 17 12 55.7
comp=Z,3µm,21.0s
KSM Kuching 75.25 281 P **P 16 40 50.0 -0.3**
TROLL Troll, Antarti 75.82 180⇑P **P 16 40 54.4 +1.6**
comp=Z,966nm,0.8s
SNAA Sanae 76.11 178 P **P 16 40 53.5 -0.9**
SNAA IAMs_20 IAMs_20 17 14 29.3
comp=Z,4µm,18.0s
SNAA Sanae 76.11 178⇑P **P 16 40 55.6 +1.2**
comp=Z,332nm,0.8s
SNAA Sanae 76.11 178 P **P 16 40 55.5 +1.2**
comp=Z,9.9nm,0.6s,baz=193,slow=9.9,SNR=28
SNAA LR LR 17 14 13.1
comp=Z,3µm,18.1s,baz=191,slow=36
comp=Z,9.9nm,0.6s
SNAA Sanae 76.11 178 P **P 16 40 53.5 -0.9**
SNAA pmax pmax
comp=Z,124nm,1.2s
SNAA pmax pmax
comp=Z,4µm,18.0s
VNA3 Neumayer Olymp 76.27 176⇑P **P 16 40 56.1 +0.9**
comp=Z,76nm,0.7s
JHJ Hachijo jima 2 76.31 325 LR LR 17 14 12.3
comp=Z,1µm,18.0s,baz=144,slow=36
AY03 Cochrane 76.34 138 P **P 16 40 57.2 +1.2**
AY03 IAmb IAmb 16 41 12.9
comp=Z,80nm,1.2s
AY03 IAMs_20 IAMs_20 17 06 37.7
comp=Z,3µm,21.0s
VNA2 Neumayer--Watz 76.70 177⇑P **P 16 40 59.1 +1.4**
comp=Z,50nm,0.6s,baz=189,slow=4.8
VNA1 Neumayer--Stat 76.93 177⇑P **P 16 41 01.1 +2.2**
comp=Z,49nm,0.8s
MDSI Maura Dua 77.17 273 P **P 16 40 58.4 -2.8**
comp=Z,709nmcomp=Z,41nm,0.8s
PMBI Palembang 77.49 275 IAMs_20 IAMs_20 17 17 20.7
comp=Z,4µm,19.0s
COYC Coyhaique 77.56 136 P **P 16 41 04.3 +1.3**
COYC IAmb IAmb 16 41 12.7
comp=Z,62nm,1.0s
COYC Coyhaique 77.56 136 IAMs_20 IAMs_20 17 14 37.1
comp=Z,3µm,18.0s
AY01 Puyuhuapi 77.87 135 P **P 16 41 05.9 +1.2**
AY01 IAmb IAmb 16 41 12.6
comp=Z,76nm,1.4s
JOW Kunigami 77.92 313 IAMs_20 IAMs_20 17 14 40.3
comp=Z,3µm,19.0s
GO07 Milladeo Hill, 77.97 134 IAMs_20 IAMs_20 17 14 28.3
comp=Z,4µm,18.0s
LL07 Hotel Espejo d 78.24 133 IAMs_20 IAMs_20 17 14 52.4
comp=Z,3µm,18.0s
MNAI Manna 78.27 272 IAMs_20 IAMs_20 17 17 26.1
comp=Z,4µm,20.0s
LL02 Futaleuf 79.04 134 P **P 16 41 12.8 +1.6**
LL02 IAMs_20 IAMs_20 17 12 45.3
comp=Z,2µm,18.0s
H03S2 Juan Fernandez 79.47 123 T T 18 09 58.9
baz=236,slow=74,SNR=9.4
H03S1 Juan Fernandez 79.49 123 T T 18 10 00.3
baz=236,slow=74,SNR=24
H03S3 Juan Fernandez 79.49 123 T T 18 09 59.1
baz=236,slow=74,SNR=23
H03N3 Juan Fernandez 79.68 123 T T 18 10 21.4
baz=240,slow=72,SNR=38
H03N2 Juan Fernandez 79.68 123 T T 18 10 21.4
baz=240,slow=72,SNR=23
H03N1 Juan Fernandez 79.69 123 T T 18 10 20.5
baz=240,slow=72,SNR=54
JMN Monobe 79.81 321 IAMs_20 IAMs_20 17 11 21.7
comp=Z,3µm,22.0s
MJAR Matsushiro Arr 79.84 326 P **P 16 41 14.2 -1.2**
comp=Z,3.9nm,0.6s,baz=30,slow=7.2,SNR=8.2
MJAR LR LR 17 12 06.1
comp=Z,1µm,20.6s,baz=144,slow=32
comp=Z,3.9nm,0.6s
MAJO Matsushiro 79.84 326 P **P 16 41 16.4 +1.0**
MAJO Matsushiro 79.84 326⇓*eP* **P 16 41 16.7 +1.3**
MAJO pmax pmax
comp=Z,19nm,1.0s
LR04 Corral 79.91 131 IAMs_20 IAMs_20 17 07 34.8
comp=Z,3µm,20.0s
LL04 Puerto Octay 79.97 132 P **P 16 41 18.0 +1.7**
LR05 Currie 80.61 132 P **P 16 41 21.5 +1.8**
LR05 IAmb IAmb 16 41 30.2
comp=Z,120nm,1.4s
LR03 Panguipulli 80.74 131 IAMs_20 IAMs_20 17 08 22.7
comp=Z,3µm,21.0s
MYKOM Kota Tinggi 80.81 278 IAMs_20 IAMs_20 17 18 30.9
comp=Z,3µm,20.0s
JNU Nakatsue 80.98 319 IAmb IAmb 16 41 35.9
comp=Z,48nm,1.0s
JNU Nakatsue 80.98 319 LR LR 17 12 26.2
comp=Z,1µm,21.7s,baz=126,slow=32
JNU Nakatsue 80.98 319 P **P 16 41 21.8 +0.1**
PLCA Paso Flores 81.23 133 P **P 16 41 24.1 +0.9**
PLCA Paso Flores 81.23 133 P **P 16 41 24.6 +1.5**
comp=Z,15nm,1.0s,baz=226,slow=5.4,SNR=9.5
PLCA LR LR 17 12 24.6
comp=Z,2µm,18.4s,baz=240,slow=32
comp=Z,15nm,1.0s
PLCA Paso Flores 81.23 133 P **P 16 41 24.1 +0.9**
PLCA pmax pmax
comp=Z,114nm,1.4s
BI05 Punta Hualpn 81.82 128 IAMs_20 IAMs_20 17 11 32.6
comp=Z,3µm,19.0s
JTM Tenmabayashi 82.02 330 P **P 16 41 27.9 +1.0**
ERM Erimo 82.19 332 IAMs_20 IAMs_20 17 12 25.2
comp=Z,4µm,20.0s
ERM Erimo 82.19 332⇓*eP* **P 16 41 28.9 +1.2**
ERM pmax pmax
comp=Z,38nm,0.9s
DLV Lat 82.66 289 P **P 16 41 32.2 +1.1**
BI02 San Fabin de 83.13 129 IAmb IAmb 16 41 40.9
comp=Z,77nm,1.6s
BI02 IAMs_20 IAMs_20 17 14 12.2
comp=Z,2µm,18.0s
ML02 Panimavida 83.55 128 IAMs_20 IAMs_20 17 12 44.6
comp=Z,2µm,18.0s
JKA Kamikawa-asahi 84.18 333 P **P 16 41 38.6 +0.6**
JKA IAmb IAmb 16 41 59.4
comp=Z,40nm,1.0s
JKA IAMs_20 IAMs_20 17 20 29.1
comp=Z,4µm,19.0s
ASAJ Asahikawa 84.18 333 P **P 16 41 38.6 +0.6**
ASAJ pmax pmax
comp=Z,40nm,1.0s
ASAJ pmax pmax
comp=Z,4µm,19.0s
BO02 Sierra Bellavi 84.54 128 IAMs_20 IAMs_20 17 12 37.8
comp=Z,2µm,19.0s
BO01 Tunca 84.57 127 P **P 16 41 41.1 +0.6**
BO01 IAmb IAmb 16 41 47.9
comp=Z,47nm,1.3s
IPM Ipoh 84.63 279 P **P 16 41 38.5 -2.5**
IPM IAmb IAmb 16 41 57.6
comp=Z,27nm,1.3s
IPM IAMs_20 IAMs_20 17 22 12.1
comp=Z,3µm,20.0s
IPM Ipoh 84.63 279 P **P 16 41 39.3 -1.8**
VA01 Torpederas 84.99 126 IAMs_20 IAMs_20 17 14 35.1
comp=Z,2µm,18.0s
SHEM Shemya Is, Ala 85.09 355 LR LR 17 13 18.8
comp=Z,3µm,21.3s,baz=148,slow=31
BO04 La Punta 85.13 127 IAmb IAmb 16 42 12.5
comp=Z,42nm,1.3s
BO04 IAMs_20 IAMs_20 17 15 52.4
comp=Z,2µm,18.0s
MT02 Curacav 85.20 127 IAmb IAmb 16 41 51.4
comp=Z,59nm,1.4s
TJN Taejon 85.33 319 P **P 16 41 44.6 +0.6**
SSE Sheshan 85.33 311 P **P 16 41 46.0 +1.9**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,220nm,3.7s
SSE LR LR
comp=Z,340nm,24.7s
SSE LR LR
comp=Z,560nm,24.4s
KULM Kulim 85.38 279 P **P 16 41 42.8 -2.0**
KULM IAmb IAmb 16 41 44.9
comp=Z,73nm,1.8s
KULM IAMs_20 IAMs_20 17 23 15.1
comp=Z,3µm,19.0s
KULM Kulim 85.38 279 P **P 16 41 44.5 -0.3**
MT05 Renca 85.39 127 P **P 16 41 45.9 +1.2**
RPSI Rantau Prapat 85.43 276 IAmb IAmb 16 42 00.9
comp=Z,33nm,1.4s
RPSI IAMs_20 IAMs_20 17 18 34.1
comp=Z,5µm,22.0s
LMEL Las Melosas 85.48 127 IAmb IAmb 16 41 54.0
comp=Z,35nm,1.1s
LMEL IAMs_20 IAMs_20 17 15 55.8
comp=Z,2µm,18.0s
PSI Prapat 85.48 276 LR LR 17 22 33.6
comp=Z,3µm,19.3s,baz=134,slow=38
PSI Prapat 85.48 276 P **P 16 41 44.1 -1.4**
comp=Z,9.4nm,1.8s
MT03 Universidad Ad 85.48 127 IAMs_20 IAMs_20 17 16 52.9
comp=Z,2µm,18.0s
VA06 Catapilco 85.50 126 IAMs_20 IAMs_20 17 15 06.3
comp=Z,2µm,18.0s
MT16 CCHEN 85.52 127 IAMs_20 IAMs_20 17 16 10.7
comp=Z,2µm,18.0s
SNCC San Nicolas Is 85.59 46 IAMs_20 IAMs_20 17 18 42.6
comp=Z,4µm,19.0s
QIZ Qiongzhong 85.72 296 P **P 16 41 47.6 +1.2**
QIZ S **S 16 52 20.5 +1.2**
QIZ SS **SS 16 58 00.8 +4.5**
QIZ pmax pmax
comp=Z,1µm,8.6s
QIZ LR LR
comp=Z,830nm,20.0s
QIZ LR LR
comp=Z,590nm,18.4s
QIZ LR LR
comp=Z,1µm,19.6s
LPIG La Paz 85.76 58 LR LR 17 13 17.4
comp=Z,3µm,18.4s,baz=228,slow=31
SLBS Sierra La Lagu 85.77 59 P **P 16 41 46.4 -0.1**
SLBS IAmb IAmb 16 41 59.6
comp=Z,70nm,1.7s
SLBS Sierra La Lagu 85.77 59 IAMs_20 IAMs_20 17 13 07.8
comp=Z,3µm,20.0s
KSRS Korea Array 85.80 320 P **P 16 41 46.1 -0.2**
comp=Z,4.2nm,0.7s,baz=142,slow=5.6,SNR=13
KSRS LR LR 17 17 31.2
comp=Z,1µm,19.5s,baz=145,slow=34
comp=Z,4.2nm,0.7s
KSAR Wonju Array Be 85.82 320 P **P 16 41 46.3 -0.1**
KSAR Wonju Array Be 85.82 320 P **P 16 41 46.3 -0.1**
GSI Gunungsitoli 85.82 274 P **P 16 41 44.8 -2.2**
GSI Gunungsitoli 85.82 274 P **P 16 41 46.3 -0.8**
GSI Gunungsitoli 85.82 274 P **P 16 41 46.2 -0.8**
comp=Z,69nm,0.7s
SKR Severo-Kuril's 85.84 344 *eP* P 16 41 35.9 -10
SKR pmax pmax
comp=Z,600nm,9.8s
SKR MLR MLR
comp=Z,1µm,20.0s

MT08	Bocatoma Ro	85.85	127	IAMs_20	IAMs_20	17 11 23.4			
	comp=Z,2µm,22.0s								
VA03	San Esteban	85.89	126	P	P	16 41 47.5	+0.3		
VA03				IAmb	IAmb	16 42 11.7			
	comp=Z,40nm,1.2s								
CO06	Fray Jorge	86.36	124	IAMs_20	IAMs_20	17 14 28.5			
	comp=Z,2µm,19.0s								
SRIG	Santa Rosalia	86.41	54	IAMs_20	IAMs_20	17 17 39.7			
	comp=Z,4µm,18.0s								
YSS	Yuzhno-Sakhali	86.52	334	P	P	16 41 49.5	-0.1		
YSS				IAMs_20	IAMs_20	17 15 22.0			
	comp=Z,3µm,21.0s								
YSS	Yuzhno-Sakhali	86.52	334	P	P	16 41 50.8	+1.2		
YSS	Yuzhno-Sakhali	86.52	334	αeP	P	16 41 50.8	+1.2		
YSS				e		16 52 16.0			
YSS				eS	S	16 52 25.4	-0.4		
YSS				pmax	pmax				
	comp=Z,600nm,4.5s								
YSS				pmax	pmax				
	comp=Z,80nm,0.8s								
VTX	Valle De La Tr	86.68	49	IAmb	IAmb	16 42 25.4			
	comp=Z,50nm,1.7s								
BCW	Bitter Crk WRg	86.82	45	P	P	16 41 52.3	+0.8		
BCW				IAmb	IAmb	16 42 24.8			
	comp=Z,70nm,1.4s								
ESJX	Sierra Juarez	86.98	49	IAmb	IAmb	16 42 01.0			
	comp=Z,37nm,1.5s								
SFX	San Felipe	87.05	50	IAMs_20	IAMs_20	17 16 40.4			
	comp=Z,3µm,18.0s								
ELS	Elsinore Mount	87.14	47	P	P	16 41 54.6	+1.5		
ELS				IAmb	IAmb	16 42 26.2			
	comp=Z,67nm,1.7s								
YUH	Yuha Desert	87.42	48	IAmb	IAmb	16 42 02.8			
	comp=Z,34nm,1.5s								
NJ2	Nanjing	87.45	311	⇓P	P	16 41 55.5	+1.0		
NJ2				S	S	16 52 30.7	-4.8		
NJ2				pmax	pmax				
	comp=Z,20nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,700nm,8.6s								
NJ2				LR	LR				
	comp=Z,1µm,19.4s								
NJ2				LR	LR				
	comp=Z,1µm,18.0s								
NJ2				LR	LR				
	comp=Z,2µm,19.4s								
PET	Petropavlovsk	87.48	346	eP	P	16 41 54.3	+0.2		
PET				eS	S	16 52 32.4	-2.4		
PET				pmax	pmax				
	comp=Z,29nm,1.0s								
PET				MLR	MLR				
	comp=Z,2µm,18.0s								
PET	Petropavlovsk	87.48	346	P	P	16 41 54.2	+0.2		
	comp=Z,30nm,1.2s								
CPBX	Cerro Prieto	87.66	49	IAMs_20	IAMs_20	17 19 10.5			
	comp=Z,4µm,18.0s								
PFO	Pinyon Flats O	87.72	47	P	P	16 41 57.2	+1.2		
PFO				IAmb	IAmb	16 42 04.3			
	comp=Z,57nm,1.7s								
PFO	Pinyon Flats O	87.72	47	LR	LR	17 15 05.9			
	comp=Z,2µm,18.6s,baz=241,slow=32								
PFO	Pinyon Flats O	87.72	47	P	P	16 41 57.2	+1.2		
PFO				pmax	pmax				
	comp=Z,57nm,1.7s								
PFO				pmax	pmax				
	comp=Z,5µm,18.0s								
PEA0B	Petropavlovsk-	87.76	346	c iP	P	16 41 56.2	+0.7		
PETK	Petropavlovsk-	87.76	346	P	P	16 41 55.8	+0.3		
	comp=Z,15nm,0.6s,baz=134,slow=6.4,SNR=38								
	comp=Z,15nm,0.6s								
ISA	Isabella, Lake	87.87	45	IAMs_20	IAMs_20	17 20 13.1			
	comp=Z,3µm,18.0s								
ZON	Zonda	87.89	126	IAmb	IAmb	16 42 04.8			
	comp=Z,64nm,1.6s								
ZON				IAMs_20	IAMs_20	17 17 46.5			
	comp=Z,2µm,18.0s								
MSHR	Mys Shultsa	87.94	325	⇓eP	P	16 41 56.5	-0.1		
MSHR				pmax	pmax				
	comp=Z,28nm,0.9s								
LCO	Las Campanas	87.99	123	P	P	16 41 58.4	+0.6		
LCO				IAmb	IAmb	16 42 05.2			
	comp=Z,54nm,1.4s								
LCO	Las Campanas	87.99	123	IAMs_20	IAMs_20	17 17 44.8			
	comp=Z,2µm,19.0s								
LCO	Las Campanas	87.99	123	P	P	16 41 58.4	+0.6		
LCO				pmax	pmax				
	comp=Z,54nm,1.4s								
LCO				pmax	pmax				
	comp=Z,2µm,19.0s								
VLA	Vladivostok	88.00	326	⇑eP	P	16 41 59.4	+2.5		
VLA				pmax	pmax				
	comp=Z,12nm,1.2s								
TRQA	Tornquist	88.11	135	IAMs_20	IAMs_20	17 18 46.4			
	comp=Z,2µm,18.0s								
CFA	Coronel Fontan	88.15	127	LR	LR	17 12 45.4			
	comp=Z,761nm,21.6s,baz=210,slow=30								
PSTR	Posyet	88.17	325	⇑eP	P	16 41 59.1	+1.5		
PIX	Pinacate	88.29	51	IAMs_20	IAMs_20	17 15 50.4			
	comp=Z,3µm,19.0s								
HSIG		88.36	54	IAMs_20	IAMs_20	17 18 03.3			
	comp=Z,3µm,18.0s								
CMB	Columbia Colle	88.40	42	IAmb	IAmb	16 42 07.6			
	comp=Z,22nm,1.2s								
LHMI	Lhok Sumawe	88.44	277	IAMs_20	IAMs_20	17 24 12.2			
	comp=Z,2µm,19.0s								
UGL	Uglegorsk	88.56	335	eP	P	16 42 00.4	+1.1		
UGL				e		16 42 12.3			
UGL				pmax	pmax				
	comp=Z,50nm,1.4s								
GSC	Goldstone, Bar	88.63	46	P	P	16 42 01.3	+1.1		
GSC				IAmb	IAmb	16 42 30.6			
	comp=Z,40nm,1.3s								
GSC	Goldstone, Bar	88.63	46	P	P	16 42 01.3	+1.1		
GSC				pmax	pmax				
	comp=Z,40nm,1.3s								
GSC				pmax	pmax				
	comp=Z,5µm,18.0s								
AFDM	Forest Hills D	88.71	41	IAmb	IAmb	16 42 09.6			
	comp=Z,35nm,1.6s								
USA0B	Ussuriysk Arra	88.78	327	IAmb	IAmb	16 42 01.7			
	comp=Z,40nm,1.4s								
USA0B	Ussuriysk Arra	88.78	327	c iP	P	16 42 01.2	+0.7		
USRK	Ussuriysk Ar.	88.78	327	P	P	16 42 00.3	-0.1		
USRK	Ussuriysk Ar.	88.78	327	P	P	16 42 01.1	+0.6		
	comp=Z,9.2nm,0.9s,baz=147,slow=3.9,SNR=20								
USRK				LR	LR	17 19 39.9			
	comp=Z,1µm,19.0s,baz=140,slow=34								
	comp=Z,9.2nm,0.9s								
USRK	Ussuriysk Ar.	88.78	327	P	P	16 42 00.4	-0.1		
113A	Mohawk Valley,	88.87	49	IAmb	IAmb	16 42 10.7			
	comp=Z,34nm,1.5s								
BLYC	Blythe	89.02	48	P	P	16 42 02.9	+1.0		
BLYC				IAmb	IAmb	16 42 32.8			
	comp=Z,25nm,1.1s								
AC06	Mina Casimiro	89.21	122	IAMs_20	IAMs_20	17 16 52.3			
	comp=Z,2µm,19.0s								
WAKR	Walker	89.26	42	IAmb	IAmb	16 42 12.4			
	comp=Z,59nm,1.4s								
WAKR				IAMs_20	IAMs_20	17 16 37.7			
	comp=Z,4µm,19.0s								
DSP	Deep Springs	89.33	44	P	P	16 42 04.5	+1.3		
DSP				IAmb	IAmb	16 42 27.5			
	comp=Z,29nm,1.5s								
DSP				IAMs_20	IAMs_20	17 16 12.5			
	comp=Z,2µm,20.0s								
WHN	Wuhan	89.45	307	P	P	16 42 03.6	-0.4		
PNTR	Pine Nut	89.58	42	IAmb	IAmb	16 42 13.5			
	comp=Z,44nm,1.2s								
LHV	Little Huntoon	89.62	43	P	P	16 42 06.0	+1.4		
LHV				IAmb	IAmb	16 42 49.9			
	comp=Z,32nm,1.4s								
WCT	Wildcat Mounta	89.74	45	P	P	16 42 06.8	+1.5		
WCT				IAMs_20	IAMs_20	17 21 18.4			
	comp=Z,4µm,18.0s								
AC01	Pan de Azucar	89.75	121	IAMs_20	IAMs_20	17 15 53.7			
	comp=Z,2µm,20.0s								
YBH	Yreka Blue Hor	89.75	38	IAMs_20	IAMs_20	17 18 07.4			
	comp=Z,3µm,19.0s								
YBH	Yreka Blue Hor	89.75	38	LR	LR	17 17 30.5			
	comp=Z,2µm,18.5s,baz=229,slow=32								
NVAR	Mina Array Bea	89.86	43	P	P	16 42 06.6	+0.6		
NVAR	Mina Array Bea	89.86	43	P	P	16 42 07.0	+1.0		
	comp=Z,2.4nm,0.8s,baz=220,slow=8.0,SNR=12								
NVAR				LR	LR	17 17 40.1			
	comp=Z,4µm,18.7s,baz=204,slow=32								
	comp=Z,2.4nm,0.8s								
TYV	Tymovskoe	89.86	336	eP	P	16 42 06.9	+1.5		
TYV				eS	S	16 52 56.7	-0.7		
TYV				pmax	pmax				
	comp=Z,65nm,0.8s								
TYV				pmax	pmax				
	comp=Z,500nm,4.9s								
TYV				smax	smax				
	comp=N,600nm,8.4s								
TYV				smax	smax				
	comp=E,400nm,8.4s								
RYN	Ryan	89.87	43	IAmb	IAmb	16 42 42.2			
	comp=Z,31nm,1.6s								
RYN				IAMs_20	IAMs_20	17 16 48.7			
	comp=Z,3µm,19.0s								
K02D	Willamette Mer	89.95	37	IAMs_20	IAMs_20	17 18 07.5			
	comp=Z,4µm,19.0s								
MOIG	Morelia	89.98	67	IAMs_20	IAMs_20	17 17 18.3			
	comp=Z,2µm,18.0s								
CHIR	Chirikof Islan	90.02	13	IAMs_20	IAMs_20	17 27 37.7			
	comp=Z,3µm,20.0s								
TPNV	Topopah Spring	90.07	45	P	P	16 42 08.0	+1.0		
TPNV				IAmb	IAmb	16 42 30.6			
	comp=Z,18nm,0.9s								
TPNV	Topopah Spring	90.07	45	P	P	16 42 08.0	+1.0		
TPNV				pmax	pmax				
	comp=Z,18nm,1.0s								
TPNV				pmax	pmax				
	comp=Z,4µm,18.0s								
V12A	Nelson	90.11	47	IAmb	IAmb	16 42 16.6			
	comp=Z,27nm,1.3s								
PAHR	Pah Rah Range	90.12	41	P	P	16 42 07.8	+0.7		
J01E	Myrtle Point	90.16	36	IAMs_20	IAMs_20	17 18 14.0			
	comp=Z,3µm,19.0s								
MDJ	Mudanjiang	90.22	326	IAmb	IAmb	16 42 23.1			
	comp=Z,41nm,1.4s								
MDJ	Mudanjiang	90.22	326	P	P	16 42 07.5	+0.2		
MDJ				pP	pwP	16 42 15.5	-0.5		
MDJ				sP	sP	16 42 20.4	+11		
MDJ				pmax	pmax				
	comp=Z,24nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,560nm,11.0s								
MDJ				LR	LR				
	comp=Z,1µm,23.4s								
MDJ				LR	LR				
	comp=Z,830nm,23.4s								
MDJ				LR	LR				
	comp=Z,2µm,20.6s								
MDJ	Mudanjiang	90.22	326	P	P	16 42 08.0	+0.7		
W13A	Hualapai Mount	90.30	48	IAmb	IAmb	16 42 17.6			
	comp=Z,23nm,1.2s								
W13A				IAMs_20	IAMs_20	17 20 07.2			
	comp=Z,3µm,18.0s								
L04D	Klamath Falls	90.31	38	IAmb	IAmb	16 42 31.5			
	comp=Z,51nm,1.3s								
L04D				IAMs_20	IAMs_20	17 18 25.1			
	comp=Z,3µm,19.0s								
DL2	Dalian	90.34	317	P	P	16 42 09.4	+1.4		
DL2				pmax	pmax				
	comp=Z,27nm,1.1s								
DL2				pmax	pmax				
	comp=Z,790nm,8.0s								
DL2				LR	LR				
	comp=Z,770nm,17.9s								
DL2				LR	LR				
	comp=Z,680nm,21.2s								
DL2				LR	LR				
	comp=Z,2µm,23.9s								
NONG	Nongkai	90.37	291	P	P	16 42 08.9	+0.3		
AC02	Maricunga	90.40	122	IAmb	IAmb	16 42 34.7			
	comp=Z,23nm,1.1s								
AC02				IAMs_20	IAMs_20	17 16 28.7			
	comp=Z,2µm,19.0s								
SHPR	Sheep Range	90.43	46	P	P	16 42 09.7	+1.0		
SHPR				IAMs_20	IAMs_20	17 21 33.8			
	comp=Z,2µm,18.0s								
DBO	Dodson Butte	90.47	37	IAmb	IAmb	16 42 18.3			
	comp=Z,43nm,1.4s								
DBO				IAMs_20	IAMs_20	17 18 34.4			
	comp=Z,3µm,19.0s								
TUC	Tucson	90.52	51	P	P	16 42 09.7	+0.6		
TUC				IAmb	IAmb	16 42 18.9			
	comp=Z,42nm,1.6s								
TUC	Tucson	90.52	51	P	P	16 42 09.7	+0.6		
TUC				pmax	pmax				
	comp=Z,42nm,1.6s								
TUC				pmax	pmax				
	comp=Z,2µm,18.0s								
ZAIG	Zacatecas	90.68	63	IAMs_20	IAMs_20	17 17 53.0			
	comp=Z,2µm,18.0s								
Q09A	Carvers	90.78	43	IAMs_20	IAMs_20	17 17 38.9			
	comp=Z,4µm,19.0s								
HPIG		90.81	58	IAMs_20	IAMs_20	17 18 44.3			
	comp=Z,3µm,18.0s								
I03D	Drain, OR	90.84	36	IAMs_20	IAMs_20	17 23 54.0			
	comp=Z,2µm,18.0s								
K04D	Chiloquin, OR	90.89	38	IAMs_20	IAMs_20	17 18 54.4			
	comp=Z,3µm,19.0s								
I02E	Swisshome, OR	90.89	36	IAMs_20	IAMs_20	17 18 56.3			
	comp=Z,3µm,19.0s								
319A	Douglas	90.95	53	IAmb	IAmb	16 42 20.6			
	comp=Z,37nm,1.6s								
319A				IAMs_20	IAMs_20	17 18 10.9			
	comp=Z,3µm,19.0s								
GO02	Mina Guanaco	91.07	121	P	P	16 42 13.2	+0.9		
PRN	Pahroc Range	91.09	45	IAmb	IAmb	16 42 29.7			
	comp=Z,22nm,1.2s								
J04A	Umpqua Nationa	91.14	37	IAmb	IAmb	16 42 35.8			
	comp=Z,33nm,0.9s								
J04A				IAMs_20	IAMs_20	17 18 41.1			
	comp=Z,3µm,19.0s								
TIA	Tai'an	91.25	313	P	P	16 42 12.5	+0.2		
TIA				pmax	pmax				
	comp=Z,27nm,1.7s								
TIA				pmax	pmax				
	comp=Z,610nm,8.8s								
TIA				LR	LR				
	comp=Z,1µm,19.6s								
TIA				LR	LR				
	comp=Z,1µm,20.6s								
TIA				LR	LR				
	comp=Z,2µm,22.6s								
UNM	Universidad Na	91.36	68	IAMs_20	IAMs_20	17 17 51.9			
	comp=Z,2µm,18.0s								
BUCK	Buck Mountain	91.38	36	IAMs_20	IAMs_20	17 19 14.4			
	comp=Z,3µm,18.0s								
I04A	Tendick Farm,	91.38	37	P	P	16 42 14.4	+1.7		
I04A				IAmb	IAmb	16 42 21.8			
	comp=Z,57nm,1.6s								
I04A				IAMs_20	IAMs_20	17 18 54.4			
	comp=Z,2µm,19.0s								
X16A	Lo Mia Camp, P	91.41	49	IAmb	IAmb	16 42 23.6			
	comp=Z,20nm,1.2s								
X16A				IAMs_20	IAMs_20	17 21 09.0			
	comp=Z,3µm,18.0s								
J05D	Fort Rock, OR	91.62	38	P	P	16 42 15.2	+1.1		
J05D				IAmb	IAmb	16 42 22.9			
	comp=Z,22nm,1.2s								
J05D				IAMs_20	IAMs_20	17 18 58.9			
	comp=Z,4µm,20.0s								
CN2	Changchun	91.67	323	eP	P	16 42 14.0	-0.1		
CN2				pP	pwP	16 42 22.0	-0.8		
CN2				pmax	pmax				
	comp=Z,20nm,0.7s								
CN2				pmax	pmax				
	comp=Z,400nm,3.0s								
CN2				LR	LR				
	comp=Z,900nm,19.0s								
CN2				LR	LR				
	comp=Z,1µm,19.0s								
HEBO	Mount Hebo	91.74	35	IAMs_20	IAMs_20	17 17 09.7			
	comp=Z,3µm,20.0s								
H04D	Lebanon	91.74	36	IAMs_20	IAMs_20	17 23 48.8			
	comp=Z,3µm,18.0s								
G03D	McMinnville, O	91.97	35	IAMs_20	IAMs_20	17 17 09.0			
	comp=Z,3µm,20.0s								
GRNR	Gornyy	92.04	333	⇑i P	P	16 42 16.7	+1.1		
GRNR				pmax	pmax				
	comp=Z,20nm,0.8s								
BNX	BinXian	92.10	325	⇓P	P	16 42 15.6	-0.4		
BNX				pmax	pmax				
	comp=Z,18nm,1.1s								
H04A	Detroit Lake	92.13	36	P	P	16 42 17.0	+0.8		
H04A				IAmb	IAmb	16 42 18.6			
	comp=Z,35nm,1.3s								
H04A				IAMs_20	IAMs_20	17 24 19.2			
	comp=Z,3µm,18.0s								
PINE	Pine Mountain	92.13	38	IAmb	IAmb	16 42 45.5			
	comp=Z,21nm,0.8s								
PINE				IAMs_20	IAMs_20	17 30 13.3			
	comp=Z,3µm,18.0s								
U15A	North Rim	92.14	47	IAMs_20	IAMs_20	17 21 51.1			
	comp=Z,2µm,18.0s								
KNB	Kanab	92.19	47	IAMs_20	IAMs_20	17 21 45.4			
	comp=Z,3µm,18.0s								
I05D	Terrebonne, OR	92.31	37	IAmb	IAmb	16 42 25.8			
	comp=Z,24nm,1.0s								
I05D				IAMs_20	IAMs_20	17 19 26.0			
	comp=Z,2µm,20.0s								
GYA	Guiyang	92.42	300	⇓P	P	16 42 18.7	+0.6		
GYA				S	S	16 53 20.8	-1.4		
GYA				pmax	pmax				
	comp=Z,15nm,1.6s								
GYA				pmax	pmax				
	comp=Z,200nm,3.1s								
GYA				LR	LR				
	comp=Z,590nm,12.1s								
GYA				LR	LR				
	comp=Z,570nm,17.7s								
GYA				LR	LR				
	comp=Z,680nm,18.4s								
KDAK	Kodiak Island	92.44	13	IAMs_20	IAMs_20	17 28 59.8			
	comp=Z,2µm,19.0s								
O14K	Tigyukauivet M	92.45	9	IAMs_20	IAMs_20	17 20 53.8			
	comp=Z,2µm,20.0s								
X18A	Snowflake	92.45	50	IAMs_20	IAMs_20	17 21 15.4			
	comp=Z,3µm,18.0s								
SPR3	Spring Creek 3	92.55	44	IAmb	IAmb	16 43 17.2			
	comp=Z,22nm,1.7s								
RADR	Rader Ridge	92.59	34	IAMs_20	IAMs_20	17 21 03.3			
	comp=Z,3µm,19.0s								
121A	Cookes Peak, D	92.66	53	IAMs_20	IAMs_20	17 19 33.2			
	comp=Z,4µm,19.0s								
KLR	Kul'dur	92.72	330	LR	LR	17 22 21.7			
	comp=Z,1µm,18.5s,baz=156,slow=34								
KLR	Kul'dur	92.72	330	c iP	P	16 42 19.1	+0.3		
KLR				pmax	pmax				
	comp=Z,12nm,0.9s								
PKCU	Pink Cliffs	92.78	47	IAMs_20	IAMs_20	17 22 31.9			
	comp=Z,3µm,18.0s								
NNA	Nana	93.02	106	IAMs_20	IAMs_20	17 18 48.0			
	comp=Z,2µm,19.0s								
NNA	Nana	93.02	106	LR	LR	17 18 25.9			
	comp=Z,2µm,18.0s,baz=226,slow=32								
EPT	El Paso	93.08	54	IAMs_20	IAMs_20	17 21 12.2			
	comp=Z,3µm,18.0s								
I07A	Izee	93.08	38	IAmb	IAmb	16 42 37.2			
	comp=Z,16nm,1.2s								
I07A				IAMs_20	IAMs_20	17 20 07.4			
	comp=Z,3µm,19.0s								
WISH	Wishkah	93.11	34	IAMs_20	IAMs_20	17 18 27.9			
	comp=Z,2µm,20.0s								
J08A	Circle Bar Ran	93.12	39	P	P	16 42 21.4	+0.5		
J08A				IAmb	IAmb	16 42 29.5			
	comp=Z,16nm,1.1s								
LYN	LuoYang	93.17	309	P	P	16 42 22.9	+1.7		
LYN				pmax	pmax				
	comp=Z,34nm,0.8s								
LYN				pmax	pmax				
	comp=Z,440nm,5.1s								
LYN				LR	LR				
	comp=Z,2µm,17.8s								
LYN				LR	LR				
	comp=Z,1µm,16.1s								
LYN				LR	LR				
	comp=Z,3µm,17.8s								
MTPU	Mount Pierson	93.23	46	IAmb	IAmb	16 42 54.3			
	comp=Z,21nm,1.4s								
NLWA	Neilton Lookou	93.26	34	IAMs_20	IAMs_20	17 18 11.0			
	comp=Z,3µm,20.0s								
G06A	Carlson Farm,	93.30	37	IAmb	IAmb	16 42 30.1			
	comp=Z,24nm,1.2s								
G06A				IAMs_20	IAMs_20	17 19 57.1			
	comp=Z,2µm,19.0s								
Q19K	Cape Douglas,	93.31	12	IAMs_20	IAMs_20	17 21 33.8			
	comp=Z,2µm,19.0s								
C03A	Quillayute Air	93.34	33	IAMs_20	IAMs_20	17 21 58.1			
	comp=Z,2µm,19.0s								
TA01	Diego Aracena	93.35	117	IAMs_20	IAMs_20	17 17 45.7			
	comp=Z,2µm,20.0s								
HNS	HongShan	93.50	313	⇑P	P	16 42 22.9	+0.3		
HNS				SKS	SKSac	16 52 54.4	-2.6		
HNS				S	S	16 53 30.0	-0.9		
HNS				pmax	pmax				
	comp=Z,15nm,1.6s								
HNS				LR	LR				
	comp=Z,1µm,17.5s								
HNS				LR	LR				
	comp=Z,1µm,19.1s								
HNS				LR	LR				
	comp=Z,1µm,18.1s								
CMIG	Matias Romero	93.55	72	LR	LR	17 17 52.0			
	comp=Z,1µm,18.3s,baz=224,slow=31								
TXAR	Lajitas Array	93.64	57	P	P	16 42 23.9	+0.3		
TXAR	Lajitas Array	93.64	57	P	P	16 42 24.4	+0.7		
	comp=Z,1.4nm,0.9s,baz=212,slow=4.4,SNR=6.2								
TXAR				PKKPbc	PKKPdf	16 59 28.6	+0.4		
	comp=Z,0.7nm,0.9s,baz=87,slow=2.6,SNR=4.8								
TXAR				LR	LR	17 20 27.5			
	comp=Z,1µm,18.1s,baz=227,slow=33								
	comp=Z,1.4nm,0.9s								
TXAR	Lajitas Array	93.64	57	P	P	16 42 23.9	+0.3		
OZB	Mount Ozzard	93.67	32	IAMs_20	IAMs_20	17 28 24.6			
	comp=Z,2µm,19.0s								
GNW	Green Mountain	93.88	34	IAMs_20	IAMs_20	17 22 13.3			
	comp=Z,2µm,19.0s								
O18K	Koktuh Hills	93.91	11	IAMs_20	IAMs_20	17 19 23.6			
	comp=Z,2µm,21.0s								
CMAR	Chiang Mai Arr	93.92	289	P	P	16 42 24.7	-0.3		
	comp=Z,0.6nm,0.3s,baz=110,slow=14,SNR=4.1								
CMAR				PP	PP	16 46 10.1	-1.1		
	comp=Z,3.1nm,0.9s,baz=146,slow=5.4,SNR=5.7								
	comp=Z,0.6nm,0.3s								
CMAR	Chiang Mai Arr	93.92	289	i P	P	16 42 25.5	+0.5		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
P19K	Oil Pt	94.07	12	IAMs_20	IAMs_20	17 29 57.7			
	comp=Z,2µm,19.0s								
DIB	Dawson Inlet,	94.10	26	IAMs_20	IAMs_20	17 17 38.7			
	comp=Z,2µm,20.0s								
F07A	Phinny Hill Vi	94.11	37	IAMs_20	IAMs_20	17 25 14.7			
	comp=Z,3µm,18.0s								
Y22D	IRIS PASSCAL I	94.16	52	IAMs_20	IAMs_20	17 23 31.7			
	comp=Z,3µm,18.0s								
CLRS	Cowichan Lake	94.18	32	IAMs_20	IAMs_20	17 22 07.2			
	comp=Z,3µm,18.0s								
G08A	Pilot Rock	94.19	37	IAmb	IAmb	16 42 42.1			
	comp=Z,19nm,1.3s								
G08A				IAMs_20	IAMs_20	17 20 48.8			
	comp=Z,3µm,19.0s								

comp=Z,2µm,19.0s
LTY Liberty 94.69 35 IAMs_20 IAMs_20 17 18 54.9
comp=Z,2µm,20.0s
BMO Blue Mountains 94.75 39 IAmb IAmb 16 42 38.1
comp=Z,21nm,1.7s
MPU Maple Canyon 94.81 45 IAMs_20 IAMs_20 17 24 55.5
comp=Z,3µm,18.0s
SRU San Rafael Swe 94.92 46 IAMs_20 IAMs_20 17 23 35.4
comp=Z,3µm,18.0s
E08A Dider Farm, El 94.96 37 IAMs_20 IAMs_20 17 25 51.0
comp=Z,3µm,18.0s
BBB Bella Bella 94.98 28 LR LR 17 23 19.8
comp=Z,1µm,18.1s,baz=224,slow=34
ANMO Albuquerque 94.99 52 P **P 16 42 30.4 +0.6**
ANMO Albuquerque 94.99 52 IAMs_20 IAMs_20 17 21 26.5
comp=Z,3µm,18.0s
ANMO Albuquerque 94.99 52 LR LR 17 20 52.8
comp=Z,2µm,18.3s,baz=44,slow=33
ANMO Albuquerque 94.99 52 P **P 16 42 30.4 +0.6**
ANMO pmax pmax
comp=Z,7.0nm,1.4s
ANMO pmax pmax
comp=Z,3µm,18.0s
XAN Xi'an 95.22 307 P **P 16 42 31.6 +0.9**
XAN pP pwP 16 42 39.5 +0.1
XAN pmax pmax
comp=Z,15nm,2.0s
XAN LR LR
comp=Z,1µm,18.2s
XAN LR LR
comp=Z,1µm,18.6s
XAN LR LR
comp=Z,2µm,18.2s
MA2 Magadan 95.22 345 P **P 16 42 30.1 0.0**
MA2 IAmb IAmb 16 42 43.6
comp=Z,16nm,1.1s
MA2 IAMs_20 IAMs_20 17 23 43.7
comp=Z,2µm,18.0s
MA2 Magadan 95.22 345 LR LR 17 22 08.6
comp=Z,2µm,19.9s,baz=179,slow=34
MA2 Magadan 95.22 345 P **P 16 42 29.6 -0.4**
MA2 Magadan 95.22 345⇑ *e*P **P 16 42 29.2 -0.8**
MA2 pmax pmax
comp=Z,20nm,1.5s
MA2 Magadan 95.22 345 P **P 16 42 29.0 -1.0**
CCIG Comitan 95.34 74 IAMs_20 IAMs_20 17 21 04.1
comp=Z,2µm,18.0s
HEH HeiHe 95.37 328 *e*P **P 16 42 30.3 -0.6**
HEH pmax pmax
comp=Z,7.0nm,0.7s
HLID Hailey 95.47 41 IAMs_20 IAMs_20 17 20 34.7
comp=Z,3µm,19.0s
TCUT Toone Canyon 95.63 44 IAMs_20 IAMs_20 17 24 54.2
comp=Z,3µm,18.0s
BSUT Blindstream Ca 95.65 45 IAMs_20 IAMs_20 17 25 41.9
comp=Z,3µm,18.0s
HWUT Hardware Ranch 95.84 44 IAMs_20 IAMs_20 17 20 41.9
comp=Z,3µm,19.0s
APG El Apazote 96.03 76 LR LR 17 16 23.9
comp=Z,104nm,20.5s,baz=246,slow=30
V35K Ketchikan 96.10 25 IAMs_20 IAMs_20 17 18 47.3
comp=Z,2µm,20.0s
PZH PanZhiHua 96.10 297 P **P 16 42 37.1 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
HIN Hinchinbrook I 96.11 15 IAMs_20 IAMs_20 17 23 35.9
comp=Z,2µm,20.0s
KAIM Kayak Island 96.17 16 IAMs_20 IAMs_20 17 23 21.6
comp=Z,3µm,18.0s
M20K Styx River 96.17 12 IAMs_20 IAMs_20 17 20 45.8
comp=Z,2µm,20.0s
U33K Whale Pass 96.20 24 IAMs_20 IAMs_20 17 22 54.0
comp=Z,2µm,19.0s
SUA Susitna One 96.21 13 IAMs_20 IAMs_20 17 23 15.5
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 96.40 49 IAMs_20 IAMs_20 17 24 02.8
comp=Z,3µm,18.0s
GLI Glacier Island 96.42 15 IAMs_20 IAMs_20 17 24 08.9
comp=Z,2µm,19.0s
FID Port Fidalgo 96.43 15 IAMs_20 IAMs_20 17 23 36.2
comp=Z,2µm,19.0s
SUCK Suckling Hills 96.45 17 IAMs_20 IAMs_20 17 23 31.1
comp=Z,3µm,18.0s
LLLB Lillooet 96.48 32 IAMs_20 IAMs_20 17 23 30.0
comp=Z,3µm,18.0s
RAGM Ragged Mountai 96.52 16 IAMs_20 IAMs_20 17 23 25.7
comp=Z,3µm,19.0s
SKT Skwentna 96.55 12 IAMs_20 IAMs_20 17 28 47.2
comp=Z,2µm,19.0s
HMT Hamilton 96.57 16 IAMs_20 IAMs_20 17 23 26.1
comp=Z,3µm,19.0s
S31K Pelican 96.71 21 IAMs_20 IAMs_20 17 20 48.1
comp=Z,2µm,20.0s
WRAK Wrangell Islan 96.71 24 IAMs_20 IAMs_20 17 23 28.3
comp=Z,2µm,19.0s
BERG Berg Lake 96.75 16 IAMs_20 IAMs_20 17 23 31.0
comp=Z,3µm,20.0s
SNH Sunshine Point 96.78 17 IAMs_20 IAMs_20 17 29 34.6
comp=Z,3µm,18.0s
S32K Killisnoo 96.82 22 IAMs_20 IAMs_20 17 29 42.1
comp=Z,2µm,18.0s
AHID Auburn Hatcher 96.84 43 IAMs_20 IAMs_20 17 21 23.0
comp=Z,3µm,19.0s
KVTX Kingsville 96.85 62 IAMs_20 IAMs_20 17 23 43.2
comp=Z,2µm,18.0s
O20A White River Ci 96.94 47 IAMs_20 IAMs_20 17 25 33.9
comp=Z,2µm,18.0s
MESA MESA 97.00 17 IAMs_20 IAMs_20 17 23 47.5
comp=Z,2µm,20.0s
SML Sawmill 97.00 14 IAMs_20 IAMs_20 17 32 07.3
comp=Z,2µm,18.0s
JCT Junction City 97.05 58 IAMs_20 IAMs_20 17 22 51.4
comp=Z,3µm,18.0s
U35K Hyder 97.12 25 IAMs_20 IAMs_20 17 19 09.4
comp=Z,2µm,20.0s
CUT Chulitna 97.17 13 IAMs_20 IAMs_20 17 23 55.8
comp=Z,2µm,20.0s
KLU Klutina 97.22 15 IAMs_20 IAMs_20 17 24 23.2
comp=Z,2µm,19.0s
ANM Nome 97.22 6 IAMs_20 IAMs_20 17 30 30.7
comp=Z,2µm,19.0s
SDCO Great Sand Dun 97.25 50 IAMs_20 IAMs_20 17 24 13.4
comp=Z,2µm,18.0s
LPAZ La Paz 97.45 115 P **P 16 42 43.4 +1.4**
comp=Z,1.3nm,0.8s,baz=248,slow=3.2,SNR=5.5
LPAZ LR LR 17 16 06.6
comp=Z,716nm,21.6s,baz=241,slow=29
comp=Z,1.3nm,0.8s
R32K Eaglecrest 97.49 22 IAMs_20 IAMs_20 17 30 45.9
comp=Z,2µm,18.0s
HHC Hu-ho-hao-te 97.54 314 *e*P Pdif 16 42 44.1 +2.9
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,210nm,5.4s
HHC LR LR
comp=Z,980nm,21.0s
HHC LR LR
comp=Z,850nm,19.3s
HHC LR LR
comp=Z,2µm,19.8s
VRDI Verde Repeater 97.55 16 IAMs_20 IAMs_20 17 24 07.9
comp=Z,2µm,20.0s
T25A Trinidad 97.61 51 IAMs_20 IAMs_20 17 25 20.9
comp=Z,2µm,18.0s
N25K Chitina, Valde 97.61 15 IAMs_20 IAMs_20 17 24 13.7
comp=Z,2µm,20.0s
DLMT Dillon 97.62 40 IAMs_20 IAMs_20 17 22 26.6
comp=Z,3µm,19.0s
LOHW Long Hollow 97.64 43 IAMs_20 IAMs_20 17 21 57.4
comp=Z,3µm,19.0s
MOOW Moose Ponds 97.65 42 IAMs_20 IAMs_20 17 21 47.5
comp=Z,3µm,19.0s
GLB Gilahina Butte 97.65 16 IAMs_20 IAMs_20 17 24 12.7
comp=Z,2µm,19.0s
PDAR Pinedale Array 97.73 44 P **P 16 42 42.7 +0.5**
comp=Z,0.3nm,0.6s,baz=264,slow=1.3,SNR=4.7
PDAR PP **PP 16 46 43.1 +2.5**
comp=Z,3.3nm,1.3s,baz=235,slow=5.2,SNR=5.0
PDAR PKKPbc **PKKPbc 16 59 17.1 -1.2**
comp=Z,0.3nm,0.5s,baz=95,slow=7.4,SNR=5.3
comp=Z,0.3nm,0.6s
CAST Castle Rocks 97.79 12 IAMs_20 IAMs_20 17 22 06.0
comp=Z,2µm,20.0s
HERN Volcan Telica 97.79 80 IAMs_20 IAMs_20 17 18 03.0
comp=Z,1µm,22.0s
SEY Seymchan 97.94 347 LR LR 17 21 16.4
comp=Z,2µm,22.0s,baz=166,slow=32
SEY Seymchan 97.94 347⇑ *e*P **P 16 42 42.2 0.0**
SEY pmax pmax
comp=Z,21nm,1.8s
ZEA Zeya 97.95 331 *e*P **P 16 42 43.3 +0.8**
O29M Mount Kennedy 97.98 19 IAMs_20 IAMs_20 17 21 18.0
comp=Z,2µm,20.0s
YHB Horse Butte 98.01 41 IAMs_20 IAMs_20 17 21 41.0
comp=Z,3µm,19.0s
YHL Hebgen Lake 98.08 41 IAMs_20 IAMs_20 17 22 30.9
comp=Z,3µm,20.0s
YMR Madison River 98.09 42 IAMs_20 IAMs_20 17 21 52.1
comp=Z,3µm,20.0s
KTH Kantishna Hill 98.11 12 IAMs_20 IAMs_20 17 33 06.6
comp=Z,2µm,18.0s
TRF Thorofare Moun 98.13 12 IAMs_20 IAMs_20 17 22 10.0
comp=Z,3µm,21.0s
JTS Las Juntas de 98.16 83 LR LR 17 18 38.0
comp=Z,985nm,19.9s,baz=312,slow=30
SKAG Skagway 98.21 21 IAMs_20 IAMs_20 17 23 28.8
comp=Z,2µm,20.0s
YNM Yellowstone No 98.27 42 IAMs_20 IAMs_20 17 22 09.0
comp=Z,3µm,19.0s
YNR Norris Junctio 98.28 42 IAMs_20 IAMs_20 17 22 00.2
comp=Z,3µm,19.0s
HIA Hailar 98.28 324 IAMs_20 IAMs_20 17 24 55.8
comp=Z,2µm,20.0s
S34M Telegraph Cree 98.29 23 IAMs_20 IAMs_20 17 24 08.2
comp=Z,2µm,19.0s
BOZ Boman (W) 98.30 41 IAMs_20 IAMs_20 17 22 37.5
comp=Z,3µm,19.0s
BTO Baotou 98.34 313 *e*P P 16 42 41.2 -3.6
BTO S **S 16 54 07.3 -5.6**
BTO pmax pmax
comp=Z,18nm,0.7s
BTO pmax pmax
comp=Z,300nm,5.2s
BTO LR LR
comp=Z,2µm,15.4s
BTO LR LR
comp=Z,2µm,16.6s
BTO LR LR
comp=Z,2µm,15.3s
HYT Haines Junctio 98.71 19 IAMs_20 IAMs_20 17 22 02.0
comp=Z,2µm,20.0s
P32M Atlin 98.80 21 IAMs_20 IAMs_20 17 23 19.4
comp=Z,2µm,19.0s
CPUP Villa Florida 98.84 129 PKKPbc PKKPbc 16 59 13.3 -0.5
comp=Z,1.4nm,0.6s,baz=30,slow=5.2,SNR=3.7
CPUP LR LR 17 21 30.8
comp=Z,812nm,19.2s,baz=230,slow=32
M27K Edge Creek, AK 98.90 16 IAMs_20 IAMs_20 17 24 52.1
comp=Z,2µm,20.0s
O30N Mendenhall 99.06 19 IAMs_20 IAMs_20 17 21 41.2
comp=Z,2µm,20.0s
DLBC Dease Lake 99.07 23 IAMs_20 IAMs_20 17 24 42.8
comp=Z,2µm,20.0s
L26K Log Cabin Wild 99.14 15 IAMs_20 IAMs_20 17 25 15.2
comp=Z,2µm,19.0s
BRU2 Volcan 99.28 85 IAMs_20 IAMs_20 17 23 23.4
comp=Z,2µm,18.0s
RLMT Red Lodge 99.32 42 IAMs_20 IAMs_20 17 30 05.8
comp=Z,3µm,20.0s
N30M Aishikik Lake 99.35 19 IAMs_20 IAMs_20 17 22 22.0
comp=Z,2µm,20.0s
NEA2 Nenana 99.39 12 IAMs_20 IAMs_20 17 24 56.5
comp=Z,2µm,20.0s
RIDG Independent Ri 99.45 14 IAMs_20 IAMs_20 17 26 07.1
comp=Z,2µm,19.0s
WRH Wood River Hil 99.46 13 IAmb IAmb 16 43 01.1
comp=Z,29nm,1.6s
L27K Beaver Creek, 99.52 16 IAMs_20 IAMs_20 17 29 19.3
comp=Z,2µm,18.0s
P33M Teslin, Yukon 99.57 21 IAMs_20 IAMs_20 17 23 51.8
comp=Z,2µm,20.0s
BRIGG Briggsdale 99.63 48 IAMs_20 IAMs_20 17 26 10.3
comp=Z,2µm,18.0s
FW07 Weatherford 99.70 58 IAMs_20 IAMs_20 17 23 33.5
comp=Z,3µm,18.0s
N31M Braeburn, Yuko 99.73 19 IAMs_20 IAMs_20 17 22 03.0
comp=Z,2µm,20.0s
M29M Somme Creek 99.81 18 IAMs_20 IAMs_20 17 25 20.3
comp=Z,2µm,20.0s
I23K Minto, Yukon-K 99.85 12 IAMs_20 IAMs_20 17 34 00.5
comp=Z,3µm,19.0s
COLA College 99.87 13 IAMs_20 IAMs_20 17 23 34.1
comp=Z,2µm,22.0s
FW14 Alvarado 99.96 58 IAMs_20 IAMs_20 17 23 29.5
comp=Z,2µm,18.0s
ILAR Eielson Array 99.96 13 P **Pdif 16 42 51.2 -0.1**
comp=Z,0.4nm,0.7s,baz=220,slow=5.1,SNR=7.3
ILAR PP **PP 16 46 54.6 -2.3**
comp=Z,1.6nm,1.0s,baz=224,slow=6.7,SNR=6.1
ILAR PKKPbc **PKKPbc 16 59 11.9 -0.6**
comp=Z,0.4nm,0.7s,baz=44,slow=2.1,SNR=5.4
ILAR LR LR 17 21 28.8
comp=Z,524nm,20.6s,baz=209,slow=32
comp=Z,0.4nm,0.7s
WMOK Wichita Mounta 100.08 55 IAMs_20 IAMs_20 17 25 13.6
comp=Z,2µm,18.0s
J25K Salcha River, 100.12 14 IAMs_20 IAMs_20 17 34 02.9
comp=Z,2µm,18.0s
POKR Poker Flat Res 100.17 13 IAMs_20 IAMs_20 17 23 44.0
comp=Z,2µm,20.0s
N32M Quiet Lake 100.24 20 IAMs_20 IAMs_20 17 22 30.0
comp=Z,2µm,20.0s
K27K Chicken 100.30 15 IAMs_20 IAMs_20 17 26 10.2
comp=Z,2µm,20.0s
M30M Minto, Yukon 100.36 18 IAMs_20 IAMs_20 17 22 35.4
comp=Z,2µm,20.0s
J26L Joseph Creek 100.39 14 IAMs_20 IAMs_20 17 26 07.3
comp=Z,2µm,20.0s
L29M L29M 100.46 17 IAMs_20 IAMs_20 17 25 50.1
comp=Z,2µm,19.0s
M31M Drury Creek, Y 100.70 19 IAMs_20 IAMs_20 17 22 55.2
comp=Z,2µm,20.0s
H24K Noodor Dome 100.74 12 IAMs_20 IAMs_20 17 34 26.2
comp=Z,2µm,19.0s
BILL Bilibino 100.86 354⇑ *e*P **Pdif 16 42 58.1 +2.9**
NOKA Waynoka 100.99 54 IAMs_20 IAMs_20 17 23 23.6
comp=Z,3µm,21.0s
OK038 West end E0370 101.04 54 IAMs_20 IAMs_20 17 23 32.8
comp=Z,2µm,19.0s
K29M Barlow Dome 101.22 17 IAMs_20 IAMs_20 17 26 34.4
comp=Z,2µm,21.0s
NATX Nacogdoches 101.46 60 IAMs_20 IAMs_20 17 31 05.2
comp=Z,2µm,18.0s
OK029 Liberty Lake 101.56 55 IAMs_20 IAMs_20 17 27 44.8
comp=Z,2µm,19.0s
CROK Carrier 101.57 54 IAMs_20 IAMs_20 17 25 29.9
comp=Z,2µm,19.0s
OK032 Salt Plains WL 101.57 54 IAMs_20 IAMs_20 17 28 10.9
comp=Z,2µm,18.0s
G24K Hadweenzic Riv 101.59 12 IAMs_20 IAMs_20 17 35 13.4
comp=Z,2µm,18.0s
CBKS Cedar Bluff 101.61 51 IAMs_20 IAMs_20 17 24 59.9
comp=Z,3µm,19.0s
D19K Kuna River 101.75 7 IAMs_20 IAMs_20 17 33 44.4
comp=Z,2µm,19.0s
BCIP Isla Barro Col 101.88 87 IAMs_20 IAMs_20 17 25 36.1
comp=Z,2µm,18.0s
MMPY Sheldon Lake, 101.93 20 IAMs_20 IAMs_20 17 24 03.1
comp=Z,2µm,20.0s
LAO LASA Array 101.96 42 IAMs_20 IAMs_20 17 31 21.7
comp=Z,2µm,18.0s
Z38A Mt. Pleasant 101.99 58 IAMs_20 IAMs_20 17 24 29.8
comp=Z,3µm,19.0s
OK031 S. Brethren Rd 102.07 55 IAMs_20 IAMs_20 17 26 52.2
comp=Z,2µm,19.0s
DGAR Diego Garcia 102.09 253 IAMs_20 IAMs_20 17 27 00.1
comp=Z,3µm,19.0s
OK052 Battle Ridge R 102.12 55 IAMs_20 IAMs_20 17 25 41.4
comp=Z,2µm,19.0s
J30M Hart River 102.12 17 IAMs_20 IAMs_20 17 26 53.0
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 102.21 10 IAMs_20 IAMs_20 17 27 39.8
comp=Z,2µm,19.0s
BLOK Blackwell 102.23 54 IAMs_20 IAMs_20 17 16 16.4
comp=Z,2µm,18.0s
DEOK Depew 102.25 55 IAMs_20 IAMs_20 17 24 43.0
comp=Z,2µm,22.0s
F24K Squaw Lake 102.26 11 IAMs_20 IAMs_20 17 35 19.1
comp=Z,2µm,18.0s
OK051 E0350 and S346 102.36 55 IAMs_20 IAMs_20 17 25 37.8
comp=Z,3µm,20.0s
E24K Your Creek 102.66 11 IAMs_20 IAMs_20 17 35 55.0
comp=Z,2µm,18.0s
F25K Christian Rive 102.72 12 IAMs_20 IAMs_20 17 25 22.2
comp=Z,2µm,20.0s
D22K Ayikyak River 102.78 9 IAMs_20 IAMs_20 17 32 11.2
comp=Z,2µm,18.0s
G27K Doyon Strip 102.79 14 IAMs_20 IAMs_20 17 35 19.6
comp=Z,2µm,18.0s
T35A Sooner Cattle 102.79 54 IAMs_20 IAMs_20 17 28 43.8
comp=Z,2µm,18.0s
F26K Sheenjek River 103.08 13 IAMs_20 IAMs_20 17 25 33.0
comp=Z,2µm,20.0s
YAK Yakutsk 103.08 338 IAMs_20 IAMs_20 17 28 05.0
comp=Z,2µm,20.0s
D23K Nanushuk River 103.14 10 IAMs_20 IAMs_20 17 28 18.6
comp=Z,2µm,20.0s
E25K Arctic Village 103.20 12 IAMs_20 IAMs_20 17 27 15.0
comp=Z,2µm,21.0s
PALK Pallekele 103.22 270 IAMs_20 IAMs_20 17 26 26.3
comp=Z,2µm,21.0s
B20K Meade River 103.31 7 IAMs_20 IAMs_20 17 36 22.8
comp=Z,2µm,19.0s
H31M Peel River 103.61 17 IAMs_20 IAMs_20 17 27 59.7
comp=Z,2µm,20.0s
G29M Pine Creek 103.65 15 IAMs_20 IAMs_20 17 35 18.6
comp=Z,2µm,19.0s
MIAR Mount Ida 103.65 58 IAMs_20 IAMs_20 17 29 20.2
comp=Z,2µm,18.0s
545A Edgard 103.69 63 IAMs_20 IAMs_20 17 23 21.5
comp=Z,3µm,20.0s
KSU1 Kansas State U 103.84 52 IAMs_20 IAMs_20 17 26 39.0
comp=Z,2µm,19.0s
C23K Itkillik River 103.95 10 IAMs_20 IAMs_20 17 28 27.0
comp=Z,2µm,19.0s
BGNE Belgrade 104.00 50 IAMs_20 IAMs_20 17 29 17.1
comp=Z,2µm,18.0s
DGMT Dagmar 104.10 41 IAMs_20 IAMs_20 17 30 23.0
comp=Z,2µm,18.0s
UALR University of 104.65 58 IAMs_20 IAMs_20 17 27 19.6
comp=Z,2µm,19.0s
E28M Babbage River 104.75 14 IAMs_20 IAMs_20 17 36 38.2
comp=Z,2µm,18.0s
C27K Jago River 104.85 12 IAMs_20 IAMs_20 17 28 59.7
comp=Z,2µm,20.0s
E29M Blow River 104.91 14 IAMs_20 IAMs_20 17 28 37.7
comp=Z,2µm,20.0s
SUSD Miller 105.05 47 IAMs_20 IAMs_20 17 31 14.6
comp=Z,2µm,18.0s
E28A Huff 105.10 44 IAMs_20 IAMs_20 17 26 57.7
comp=Z,2µm,18.0s
N35A Tabor 105.37 51 IAMs_20 IAMs_20 17 29 20.2
comp=Z,3µm,18.0s
L34A Svendsen Farm, 105.43 50 IAMs_20 IAMs_20 17 28 43.0
comp=Z,2µm,18.0s
VILB Vilhena 105.54 117 IAMs_20 IAMs_20 17 26 45.2
comp=Z,2µm,18.0s
SOR Soroa 106.04 73 IAMs_20 IAMs_20 17 25 07.7
comp=Z,2µm,20.0s
MET Memphis--Engin 106.55 59 IAMs_20 IAMs_20 17 27 57.1
comp=Z,3µm,18.0s
N38A Joes South For 106.93 52 IAMs_20 IAMs_20 17 29 01.7
comp=Z,2µm,18.0s
CCM Cathedral Cave 107.00 56 IAMs_20 IAMs_20 17 29 47.7
comp=Z,3µm,18.0s
SPB Sao Paulo 107.09 133 IAMs_20 IAMs_20 17 31 04.8
comp=Z,2µm,18.0s
YKA Yellowknife Ar 107.36 26 PKiKP **PKiKP 16 47 33.1 +0.4**
comp=Z,0.5nm,0.6s,baz=256,slow=2.0,SNR=8.9
YKA PKKPbc **PKKPbc 16 58 48.8 -1.2**
comp=Z,0.6nm,0.7s,baz=47,slow=2.9,SNR=9.4
SCIA State Center 107.47 51 IAMs_20 IAMs_20 17 28 34.9
comp=Z,3µm,18.0s
LRAL Lakeview Retre 107.74 62 IAMs_20 IAMs_20 17 35 34.5
comp=Z,2µm,18.0s
VAO Valinhos 107.81 133 IAMs_20 IAMs_20 17 31 01.9
comp=Z,1µm,18.0s
UTMT University of 107.89 58 IAMs_20 IAMs_20 17 31 14.5
comp=Z,1µm,19.0s
SLM Saint Louis 107.97 55 IAMs_20 IAMs_20 17 30 36.4
comp=Z,2µm,18.0s
I37A Lemond, Waseca 108.33 49 IAMs_20 IAMs_20 17 30 56.6
comp=Z,3µm,18.0s
MTDJ Mount Denham 108.34 80 IAMs_20 IAMs_20 17 30 03.6
comp=Z,2µm,18.0s
WVT Waverly 108.54 59 IAMs_20 IAMs_20 17 31 55.5
comp=Z,2µm,18.0s
AGMN Agassiz Nation 108.80 44 IAMs_20 IAMs_20 17 28 04.7
comp=Z,2µm,19.0s
C36M Paulatuk 108.88 18 IAMs_20 IAMs_20 17 31 00.6
comp=Z,1µm,19.0s
SPMN Marine on St. 109.26 48 IAMs_20 IAMs_20 17 31 55.2
comp=Z,3µm,18.0s
HDIL Hopedale 109.49 54 IAMs_20 IAMs_20 17 34 44.4
comp=Z,2µm,18.0s
L42A Oliver, Polo 109.87 52 IAMs_20 IAMs_20 17 29 41.6
comp=Z,2µm,18.0s
I40A Norwalk 110.07 50 IAMs_20 IAMs_20 17 31 11.7
comp=Z,1µm,19.0s
060A Indiantown 110.14 70 IAMs_20 IAMs_20 17 31 45.2
comp=Z,1µm,18.0s
TIXI Tiksi 110.19 344 IAMs_20 IAMs_20 17 28 60.0
comp=Z,2µm,20.0s
GOGA Godfrey 110.55 63 IAMs_20 IAMs_20 17 34 11.0
comp=Z,2µm,18.0s
M44A Midewin, Midew 110.70 54 IAMs_20 IAMs_20 17 37 32.6
comp=Z,2µm,18.0s
SFIN Lafayette 110.92 55 IAMs_20 IAMs_20 17 32 43.4
comp=Z,2µm,19.0s
K43A Burlington 111.07 52 IAMs_20 IAMs_20 17 31 02.2
comp=Z,2µm,19.0s
L44A Lake County Fo 111.12 53 IAMs_20 IAMs_20 17 30 44.8
comp=Z,2µm,20.0s
MACA Manacapuru-AM 111.14 108 IAMs_20 IAMs_20 17 25 38.7
comp=Z,2µm,21.0s
I42A Draeger Farm, 111.18 51 IAMs_20 IAMs_20 17 28 27.2
comp=Z,2µm,20.0s
NMDO Nuevo Mundo 111.56 79 IAMs_20 IAMs_20 17 32 26.0
comp=Z,841nm,18.0s
BG3 Lake Jocassee 111.63 62 IAMs_20 IAMs_20 17 32 58.5
comp=Z,2µm,19.0s
TZTN Tazewell 111.83 60 IAMs_20 IAMs_20 17 31 36.7
comp=Z,2µm,19.0s
V53A Saluda 112.00 61 IAMs_20 IAMs_20 17 31 24.4
comp=Z,2µm,19.0s
N47A Urbana 112.10 55 IAMs_20 IAMs_20 17 33 55.6
comp=Z,2µm,18.0s
L46A Eue Claire 112.15 54 IAMs_20 IAMs_20 17 32 14.9
comp=Z,2µm,19.0s
H43A Windswept, Lux 112.17 51 IAMs_20 IAMs_20 17 33 18.3
comp=Z,2µm,19.0s
PAULI Pauline 112.39 62 IAMs_20 IAMs_20 17 31 41.7
comp=Z,2µm,19.0s
F42A Maple Grove Fa 112.46 49 IAMs_20 IAMs_20 17 33 35.8
comp=Z,2µm,18.0s
JSC Jenkinsville 112.58 63 IAMs_20 IAMs_20 17 30 40.8
comp=Z,1µm,20.0s
KMSC Kings Mountain 112.88 62 IAMs_20 IAMs_20 17 31 53.7
comp=Z,2µm,20.0s
NHSC New Hope 112.91 64 IAMs_20 IAMs_20 17 36 31.6
comp=Z,1µm,18.0s
CSU Charleston Sou 112.94 65 IAMs_20 IAMs_20 17 39 11.5
comp=Z,1µm,18.0s
I45A Fountain 113.01 52 IAMs_20 IAMs_20 17 34 04.5
comp=Z,2µm,18.0s
SUR Sutherland 113.06 197 IAMs_20 IAMs_20 17 35 48.5
comp=Z,2µm,18.0s
U54A Nelsons Funny 113.08 60 IAMs_20 IAMs_20 17 31 54.0
comp=Z,2µm,18.0s
V55A Taylorsville 113.26 61 IAMs_20 IAMs_20 17 32 23.7
comp=Z,2µm,18.0s
BIRD Birdtown, Kers 113.33 63 IAMs_20 IAMs_20 17 32 52.7
comp=Z,1µm,19.0s
J47A Sunmer 113.64 53 IAMs_20 IAMs_20 17 31 29.2
comp=Z,2µm,19.0s
W57A Gilead 113.89 63 IAMs_20 IAMs_20 17 35 06.4
comp=Z,1µm,18.0s
AAM Ann Arbor 114.06 54 IAMs_20 IAMs_20 17 32 13.7
comp=Z,2µm,19.0s
POGA Pongola 114.07 209 IAMs_20 IAMs_20 17 35 13.5
comp=Z,1µm,18.0s
U56A King 114.08 61 IAMs_20 IAMs_20 17 32 30.3
comp=Z,2µm,18.0s
FCC Fort Churchill 114.24 35 IAMs_20 IAMs_20 17 26 49.9
comp=Z,2µm,22.0s
WMQ Urumqi 114.35 308 *e*PKP PKPdf 16 47 43.9 -2.7
WMQ sPKP 16 47 58.0
WMQ LR LR
comp=Z,800nm,19.1s
WMQ LR LR
comp=Z,740nm,16.9s
WMQ LR LR
comp=Z,680nm,18.1s

BLA	Blacksburg	114.39	60	IAMs_20	IAMs_20	17 34 09.6		
	comp=Z,2μm,19.0s							
Y60A	Bolivia	114.77	64	IAMs_20	IAMs_20	17 35 49.9		
	comp=Z,1μm,19.0s							
V58A	Windy Hill, Pi	114.80	62	IAMs_20	IAMs_20	17 31 38.6		
	comp=Z,2μm,19.0s							
K50A	Casco	114.95	54	IAMs_20	IAMs_20	17 39 39.1		
	comp=Z,2μm,18.0s							
R55A	Marlinton	115.02	59	IAMs_20	IAMs_20	17 34 37.9		
	comp=Z,2μm,19.0s							
W59A	Clinton	115.06	63	IAMs_20	IAMs_20	17 36 11.5		
	comp=Z,2μm,18.0s							
E46A	Sault Ste Mari	115.15	50	IAMs_20	IAMs_20	17 34 52.2		
	comp=Z,2μm,19.0s							
I49A	Point Hope	115.25	53	IAMs_20	IAMs_20	17 32 45.8		
	comp=Z,2μm,20.0s							
BOSA	Boshof	115.31	203	PKP	PKiKP	16 47 50.0	+0.8	
	comp=Z,2.8nm,0.6s,baz=161,slow=2.1,SNR=12							
N53A	Lisbon	115.46	56	IAMs_20	IAMs_20	17 31 28.7		
	comp=Z,2μm,20.0s							
Q56A	Snyder Ridge,	115.99	59	IAMs_20	IAMs_20	17 35 13.7		
	comp=Z,2μm,18.0s							
T59A	Double "B" Far	116.42	62	IAMs_20	IAMs_20	17 35 37.3		
	comp=Z,2μm,18.0s							
R58B	Mineral	116.54	60	IAMs_20	IAMs_20	17 35 32.6		
	comp=Z,2μm,18.0s							
V61A	Roper	116.71	63	IAMs_20	IAMs_20	17 36 60.0		
	comp=Z,2μm,18.0s							
P57A	Homestead Farm	117.00	59	IAMs_20	IAMs_20	17 37 04.5		
	comp=Z,2μm,19.0s							
MSEY	Mahe Island	117.12	244	IAMs_20	IAMs_20	17 34 42.2		
	comp=Z,2μm,19.0s							
ZSN	Zaisan	117.49	311	*e*PKIKP	PKPdf	16 47 52.8	+0.3	
ZSN	Zaisan	117.49	311	*e*PKP	PKPdf	16 47 52.9	+0.3	
SSPA	Standing Stone	117.49	58	IAMs_20	IAMs_20	17 35 39.3		
	comp=Z,2μm,19.0s							
SADO	Sadowa	118.01	53	IAMs_20	IAMs_20	17 38 17.8		
	comp=Z,2μm,19.0s							
MVL	Millersville	118.38	59		PKPdf	16 47 52.6	-1.8	
J55A	Hilton	118.43	55	IAMs_20	IAMs_20	17 37 23.9		
	comp=Z,2μm,18.0s							
R61A	Willards	118.54	61	IAMs_20	IAMs_20	17 37 20.3		
	comp=Z,2μm,18.0s							
WUPA	West Chester U	118.89	59	IAMs_20	IAMs_20	17 36 36.4		
	comp=Z,1μm,19.0s							
MK31	Makanchi Array	118.95	309	*c i*PKIKP	PKPdf	16 47 54.4	-1.0	
MKAR	Makanchi Array	118.95	309	PKPdf	PKPdf	16 47 53.9	-1.5	
MKAR	Makanchi Array	118.95	309	PKP	PKPdf	16 47 54.9	-0.5	
	comp=Z,5.1nm,0.7s,baz=145,slow=0.6,SNR=47							
MKAR				PKKPbc	PKKPbc	16 58 11.2	+0.9	
	comp=Z,0.8nm,0.9s,baz=274,slow=4.1,SNR=5.4							
MKAR	Makanchi Array	118.95	309	PKIKP	PKPdf	16 47 53.9	-1.5	
DELO	Deloro Mine	118.96	53	IAMs_20	IAMs_20	17 35 53.9		
	comp=Z,2μm,19.0s							
MAKZ	Makanchi	119.16	309	PKPdf	PKPdf	16 47 54.3	-1.4	
MAKZ	Makanchi	119.16	309	PKIKP	PKPdf	16 47 54.3	-1.4	
PECO	Prince Edward	119.20	54	IAMs_20	IAMs_20	17 36 15.4		
	comp=Z,2μm,18.0s							
RES	Resolute Bay	119.25	18	PKPdf	PKPdf	16 47 54.4	-0.7	
RES				IAMs_20	IAMs_20	17 44 12.9		
	comp=Z,2μm,18.0s							
RES	Resolute Bay	119.25	18	PKIKP	PKPdf	16 47 54.4	-0.7	
RES				pmax	pmax			
	comp=Z,2μm,18.0s							
P61A	Hammonton	119.40	60	IAMs_20	IAMs_20	17 38 12.8		
	comp=Z,2μm,18.0s							
ZALV	Zalesovo Beam	119.44	318	PKPdf	PKPdf	16 47 54.3	-1.7	
ZALV	Zalesovo Beam	119.44	318	PKP	PKPdf	16 47 55.5	-0.5	
	comp=Z,2.2nm,0.4s,baz=144,slow=2.3,SNR=12							
ZALV	Zalesovo Beam	119.44	318	PKIKP	PKPdf	16 47 54.3	-1.7	
SHLS	Shalkode	119.75	305	*e*PKIKP	PKPdf	16 47 56.3	-0.8	
SHLS	Shalkode	119.75	305	*e*PKP	PKPdf	16 47 56.4	-0.8	
ODNJ	Ogdensburg	119.99	58	IAMs_20	IAMs_20	17 34 21.4		
	comp=Z,2μm,19.0s							
UZB	Uzynbulak	120.06	304	*e*PKIKP	PKPdf	16 47 57.5	-0.3	
UZB	Uzynbulak	120.06	304	*e*PKP	PKPdf	16 47 57.5	-0.3	
SABA	Saba	120.06	87	IAMs_20	IAMs_20	17 40 24.2		
	comp=Z,1μm,18.0s							
TRNY	Table Rock, Ra	120.28	58	IAMs_20	IAMs_20	17 34 39.1		
	comp=Z,2μm,20.0s							
KPKS	Kokpek	120.39	305	*e*PKIKP	PKPdf	16 47 58.1	-0.2	
KPKS	Kokpek	120.39	305	*e*PKP	PKPdf	16 47 58.2	-0.2	
SMRT	St. Maarten	120.39	87	IAMs_20	IAMs_20	17 40 26.3		
	comp=Z,1μm,18.0s							
SATY	Saty	120.46	304	*e*PKIKP	PKPdf	16 47 58.3	-0.2	
SATY				*e*		16 49 23.8		
SATY	Saty	120.46	304	*e*PKP	PKPdf	16 47 58.4	-0.2	
SATY				*e*PP	PP	16 49 23.8	-1.9	
ZHN	Zhinishke	120.47	304	*e*PKIKP	PKPdf	16 47 58.1	-0.4	
ZHN	Zhinishke	120.47	304	*e*PKP	PKPdf	16 47 58.2	-0.4	
WBO	Williamsburg	120.70	54	IAMs_20	IAMs_20	17 36 09.9		
	comp=Z,2μm,19.0s							
ILAM	Ilet Lapin Mar	120.71	92	IAMs_20	IAMs_20	17 38 22.4		
	comp=Z,1μm,20.0s							
TDK	Taldyqorghan	121.02	306	*e*PKIKP	PKPdf	16 47 59.1	-0.3	
TDK	Taldyqorghan	121.02	306	*e*PKP	PKPdf	16 47 59.1	-0.3	
LONY	Lake Ozonia	121.06	54	IAMs_20	IAMs_20	17 38 57.6		
	comp=Z,2μm,18.0s							
KSH	Kashi	121.12	300	PKP	PKPdf	16 48 00.7	+0.8	
KSH				LR	LR			
	comp=Z,790nm,19.6s							
KSH				LR	LR			
	comp=Z,610nm,19.2s							
KSH				LR	LR			
	comp=Z,1μm,20.3s							
TNSS	Tian-Shan	121.47	304	*e*PKIKP	PKPdf	16 48 00.0	-0.8	
TNSS	Tian-Shan	121.47	304	*e*PKP	PKPdf	16 48 00.1	-0.8	
FRNY	Flat Rock	121.80	54	IAMs_20	IAMs_20	17 37 35.2		
	comp=Z,2μm,19.0s							
MNTQ	Montreal, Queb	121.96	53	IAMs_20	IAMs_20	17 41 46.2		
	comp=Z,2μm,18.0s							
EUNU	Eureka	122.04	12		PKPdf	16 47 59.8	-0.6	
KURK	Kurchatov	122.33	313	PKPdf	PKPdf	16 48 00.6	-1.1	
KURK	Kurchatov	122.33	313	P	PKPdf	16 48 01.5	-0.1	
KURK	Kurchatov	122.33	313	*c i*PKIKP	PKPdf	16 48 01.3	-0.4	
KURK				pmax	pmax			
	comp=Z,67nm,1.7s							
KURBB	Kurchatov Arra	122.37	313	PKP	PKPdf	16 48 01.9	+0.2	
	comp=Z,2.8nm,0.5s,baz=113,slow=2.1,SNR=89							
TKM2	Tokmak 2	122.39	303	P	PKPdf	16 48 02.6	+0.2	
	SNR=13							
KBK	Karagaybulak	122.78	303	P	PKPdf	16 48 03.2	+0.2	
	SNR=10							
CHMS	Chumysh	123.01	303	P	PKPdf	16 48 03.3	0.0	
	SNR=11							
AAK	Ala-Archa	123.10	303	PKPdf	PKPdf	16 48 02.6	-1.1	
AAK	Ala-Archa	123.10	303	P	PKPdf	16 48 03.9	+0.2	
AAK	Ala-Archa	123.10	303	P	PKPdf	16 48 00.0	-3.6	
	SNR=9.1							
AAK	Ala-Archa	123.10	303	*c i*PKIKP	PKPdf	16 48 03.5	-0.1	
AAK				pmax	pmax			
	comp=Z,20nm,1.7s							
AAK	Ala-Archa	123.10	303	*i* PKPdf	PKPdf	16 48 03.6	-0.1	
	SNR=15							
SGDS	Sogindy	123.22	304	*e*PKIKP	PKPdf	16 48 03.4	-0.3	
SGDS	Sogindy	123.22	304	*e*PKP	PKPdf	16 48 03.5	-0.3	
USP	Ospenovka	123.26	303	P	PKPdf	16 48 03.8	0.0	
	SNR=13							
WIN	Windhoek	123.37	197		PKPdf	16 48 04.1	-0.8	
WIN				IAMs_20	IAMs_20	17 36 23.4		
	comp=Z,2μm,20.0s							
WIN	Windhoek	123.37	197	PKIKP	PKPdf	16 48 04.1	-0.8	
WIN				pmax	pmax			
	comp=Z,2μm,20.0s							
AML	Almayashu	123.53	302	P	PKPdf	16 48 05.2	+0.4	
	SNR=20							
EKS2	Erkin-Say	123.61	303	P	PKPdf	16 48 04.9	+0.3	
	SNR=13							
BTLS	Baital	124.02	305	*e*PKIKP	PKPdf	16 48 04.9	-0.2	
BTLS				*e*		16 49 47.9		
BTLS	Baital	124.02	305	*e*PKP	PKPdf	16 48 05.0	-0.2	
BTLS				*e*PP	PP	16 49 47.9	-1.8	
LMQ	La Malbaie	124.65	52		PKPdf	16 48 04.8	-1.5	
LMQ				IAMs_20	IAMs_20	17 43 08.4		
	comp=Z,2μm,19.0s							
KBL	Kabul	124.85	292	PKPdf	PKPdf	16 48 06.2	-1.1	
KBL	Kabul	124.85	292	P	PKPdf	16 48 07.5	+0.1	
	SNR=16							
KBL	Kabul	124.85	292	PKIKP	PKPdf	16 48 06.2	-1.1	
E62A	Clayton Lake	125.00	53	PKPdf	PKPdf	16 48 06.4	-0.5	
E62A				IAMs_20	IAMs_20	17 36 15.6		
	comp=Z,2μm,22.0s							
BRZS	Berezniki	125.92	311	*e*PKIKP	PKPdf	16 48 08.3	-0.3	
BRZS	Berezniki	125.92	311	*e*PKP	PKPdf	16 48 08.4	-0.3	
KKAR	Karatay Array	126.05	302	PKPdf	PKPdf	16 48 08.3	-0.8	
KKAR	Karatay Array	126.05	302	PKIKP	PKPdf	16 48 08.3	-0.8	
SIMJ	Simiganj	126.07	297	PKPdf	PKPdf	16 48 08.2	-1.2	
IUG	Iuzhnay	126.18	301	*e*PKIKP	PKPdf	16 48 09.2	-0.3	
IUG				*e*		16 50 02.4		
IUG	Iuzhnay	126.18	301	*e*PKP	PKPdf	16 48 09.2	-0.3	
IUG				*e*PP	PP	16 50 02.5	-1.9	
LSZ	Lusaka	126.23	212	PKPdf	PKPdf	16 48 08.7	-1.8	
LSZ	Lusaka	126.23	212	P	PKPdf	16 48 11.7	+1.2	
LSZ	Lusaka	126.23	212	PKIKP	PKPdf	16 48 08.7	-1.8	
LSZ				pmax	pmax			
	comp=Z,3μm,20.0s							
TSUM	Tsumeb	126.46	199	PKPdf	PKPdf	16 48 09.0	-1.8	
BRLS	Borolday	126.52	302	*e*PKIKP	PKPdf	16 48 10.0	0.0	
BRLS				*e*		16 50 05.0		
BRLS	Borolday	126.52	302	*e*PKP	PKPdf	16 48 10.0	0.0	
BRLS				*e*PP	PP	16 50 05.1	-1.4	
CHM	Chimkent	126.53	301	*e*PKIKP	PKPdf	16 48 09.8	-0.2	
CHM	Chimkent	126.53	301	*e*PKP	PKPdf	16 48 09.8	-0.2	
RCBR	Riachuelo	127.70	130	IAMs_20	IAMs_20	17 41 45.1		
	comp=Z,2μm,18.0s							
BVAR	Borovoye Array	127.74	315	PKP	PKPdf	16 48 12.0	0.0	
	comp=Z,12nm,0.5s,baz=120,slow=1.2,SNR=82							
BVAR	Borovoye Array	127.74	315	PKIKP	PKPdf	16 48 12.0	0.0	
BRVK	Borovoye	127.81	315	PKPdf	PKPdf	16 48 11.2	-0.9	
BRVK	Borovoye	127.81	315	P	PKPdf	16 48 12.2	+0.1	
BRVK	Borovoye	127.81	315	*c i*PKIKP	PKPdf	16 48 11.8	-0.3	
SCHQ	Schefferville	127.86	43		PKPdf	16 48 11.1	-1.1	
SCHQ	Schefferville	127.86	43	PKP	PKPdf	16 48 12.0	-0.2	
	comp=Z,12nm,1.1s,baz=33,slow=2.7,SNR=3.6							
SCHQ				SKP		16 51 49.5		
	comp=Z,5.6nm,0.8s,baz=240,slow=10.0,SNR=3.7							
NGCH	Negor - Chabah	128.14	278	P	PKPdf	16 48 14.0	+0.4	
JLN	Jalan Bani Buh	128.32	274	P	PKPdf	16 48 14.7	+0.7	
WBK	Wadi Bani Khal	128.88	274	P	PKPdf	16 48 16.4	+1.3	
DQM	DQM	128.96	270	P	PKPdf	16 48 15.8	+0.5	
MHTO	MHTO	129.05	272	P	PKPdf	16 48 16.0	+0.6	
KULLO	Kullorsuaq	129.13	17	*e*P	PKPdf	16 48 13.2	-0.8	
NEEM	North Greenlan	129.26	13	*e*P	PKPdf	16 48 15.2	+0.5	
WSAR	Wadi Sarin	129.42	275	PKP	PKPdf	16 48 16.9	+0.8	
	comp=Z,8.1nm,1.0s,baz=202,slow=5.3,SNR=8.0							
JMDO	Jabal Madar	129.52	273	P	PKPdf	16 48 16.6	+0.3	
SMDO	Samad	129.84	274	P	PKPdf	16 48 17.1	+0.1	
	SNR=6.9							
UPNV	Upernavik	130.05	19	*i* P	PKPdf	16 48 13.0	-2.8	
DMTO	DMTO	130.16	266	P	PKPdf	16 48 18.5	+0.9	
DMTO				P	PKPdf	16 48 18.5	+0.9	
NOR	Nord	130.25	4	*e*P	PKPdf	16 48 16.3	+0.3	
BSY	Bisya	130.43	273	P	PKPdf	16 48 18.2	+0.1	
HOQ	Hoqain	130.67	274	P	PKPdf	16 48 18.9	+0.4	
	SNR=7.0							
RBK	Rabkut	130.69	266	P	PKPdf	16 48 18.6	-0.1	
ARQ	Araqi	131.24	274	P	PKPdf	16 48 20.3	+0.7	
WHO	Wadi Hawf	131.24	266	P	PKPdf	16 48 20.6	+0.8	
DOK	Doka	131.26	267	P	PKPdf	16 48 20.7	+1.0	
KIBK	Kibwezi	131.27	232	PKPdf	PKPdf	16 48 16.6	-3.4	
KIBK				IAMs_20	IAMs_20	17 46 52.7		
	comp=Z,1μm,18.0s							
KIBK	Kibwezi	131.27	232	P	PKPdf	16 48 21.8	+1.7	
ABTO	Aybut	131.38	265	P	PKPdf	16 48 20.9	+0.9	
SOHO	SOHO	131.54	275	P	PKPdf	16 48 20.3	+0.2	
SOHO	SOHO	131.54	275	*i* PKPdf	PKPdf	16 48 19.8	-0.3	
	SNR=5.1							
UOSS	Minazif	132.13	276	P	PKPdf	16 48 21.7	+0.5	
UOSS	Minazif	132.13	276	PKPdf	PKPdf	16 48 20.4	-0.8	
UMZA	Um Al Zommool	132.14	272	P	PKPdf	16 48 21.7	+0.4	
HATD	Hatta, Dubai	132.14	275	P	PKPdf	16 48 21.6	+0.4	
	SNR=5.3							
HATD	Hatta, Dubai	132.14	275	PKiKP	PKPdf	16 48 21.2	0.0	
ASHO	Ashiyiah	132.15	275	P	PKPdf	16 48 22.3	+1.0	
ASHO	Ashiyiah	132.15	275	PKiKP	PKPdf	16 48 21.3	0.0	
ALNE	Al Ain	132.17	274	P	PKPdf	16 48 21.8	+0.5	
ALNE	Al Ain	132.17	274	PKiKP	PKPdf	16 48 21.6	+0.3	
MDH	Madha	132.18	276	P	PKPdf	16 48 22.5	+1.2	
MDH	Madha	132.18	276	PKPdf	PKPdf	16 48 20.6	-0.7	
MSFE	Esma-Masafi	132.32	276	PKiKP	PKPdf	16 48 21.5	-0.1	
MASF	Masafi	132.32	276	P	PKPdf	16 48 22.7	+1.1	
FAQ	Al Faqa, Dubai	132.57	275	P	PKPdf	16 48 22.4	+0.4	
KMBO	Kilima Mbogo	132.70	232	PKPdf	PKPdf	16 48 21.2	-1.8	
KMBO	Kilima Mbogo	132.70	232	IAMs_20	IAMs_20	17 43 53.9		
	comp=Z,1μm,19.0s							
KMBO	Kilima Mbogo	132.70	232	PKP	PKPdf	16 48 22.8	-0.2	
	comp=Z,1.0nm,0.3s,baz=133,slow=4.0,SNR=14							
KMBO				SKPbc	SKPbc	16 51 50.8	+0.5	
	comp=Z,4.0nm,0.8s,baz=142,slow=5.5,SNR=10							
KMBO	Kilima Mbogo	132.70	232	P	PKPdf	16 48 24.7	+1.7	
KMBO	Kilima Mbogo	132.70	232	PKIKP	PKPdf	16 48 21.2	-1.8	
KMBO				pmax	pmax			
	comp=Z,1μm,19.0s							
KMBO	Kilima Mbogo	132.70	232	*i* PKiKP	PKPdf	16 48 24.5	+1.6	
	SNR=7.9							
ASUD	Al Ashush, Dub	132.74	275	P	PKPdf	16 48 23.5	+1.1	
MZR	Muzera	133.68	272	P	PKPdf	16 48 26.2	+2.1	
MZR	Muzera	133.68	272	*i* PKiKP	PKPdf	16 48 24.5	+0.3	
	SNR=5.4							
SPA0	Spitsbergen Ar	133.74	356	*e*PKPdf	PKPdf	16 48 24.2	+1.5	
SPITS	Spitsbergen Ar	133.74	356	PKP	PKPdf	16 48 23.3	+0.6	
	comp=Z,9.1nm,0.8s,baz=10,slow=5.1,SNR=4.0							
SPITS	Spitsbergen Ar	133.74	356	PKIKP	PKPdf	16 48 22.3	-0.4	
ABKAR	Akbulak array	134.10	309	PKPpre	PKPpre	16 48 09.0		
ABKAR				PKPdf	PKPdf	16 48 22.4	-1.7	
NUUK	Nuuk	134.44	30	*e*P	PKPdf	16 48 20.8	-3.5	
DAG	Danmarks Havn	134.60	6	*i* P	PKPdf	16 48 23.0	-1.3	
ARTI	Arti	134.65	319	PKPdf	PKPdf	16 48 23.9	-1.0	
ARTI				IAMs_20	IAMs_20	17 55 14.2		
	comp=Z,2μm,20.0s							
ARTI	Arti	134.65	319	*i* PKIKP	PKPdf	16 48 24.8	-0.1	
ARTI						16 50 56.6		
SUMG	Summit	134.72	16		PKPdf	16 48 24.2	-0.9	
SUMG	Summit	134.72	16	PKIKP	PKPdf	16 48 24.2	-0.9	
SUMG	Summit	134.72	16	*i* P	PKPdf	16 48 24.0	-1.1	
AKTO	Aktyubinsk	135.34	311	PKP	PKPdf	16 48 25.8	-0.6	
	comp=Z,4.6nm,0.5s,baz=140,slow=1.2,SNR=17							
AKTO				SKPbc	SKPbc	16 51 58.4	+1.0	
	comp=Z,6.4nm,0.9s,baz=53,slow=5.0,SNR=3.8							
DBG	Daneborg	136.66	9	*e*P	PKPdf	16 48 29.4	+1.3	
BJO1	Bjornoya	137.02	353	*e*PKPdf	PKPdf	16 48 30.0	+1.1	
LODK	Lodwar	137.30	234	IAMs_20	IAMs_20	17 54 42.1		
	comp=Z,900nm,18.0s							
KIRV	Kirov	138.89	324	*de*PKIKP	PKPdf	16 48 32.0	-0.7	
HAMF	Hammerfest	139.92	349	*e*	PKPpre	16 48 29.6		
ARA0	ARCESS Array S	140.55	347	*e*PKPdf	PKPpre	16 48 30.4		
ARCES	ARCESS Array B	140.55	347		PKPpre	16 48 27.2		
ARCES	ARCESS Array B	140.55	347	PKhKP	PKPpre	16 48 29.2		
	comp=Z,6.8nm,0.5s,baz=48,slow=2.2,SNR=32							
ARCES				PKP	PKPdf	16 48 36.2	+0.8	
	comp=Z,3.3nm,0.4s,baz=70,slow=1.9,SNR=8.8							
ARCES				SKPbc	SKPbc	16 52 12.5	+0.7	
	comp=Z,3.9nm,0.7s,baz=35,slow=4.4,SNR=3.6							
RAYN	Ar Rayn	140.62	268					
RAYN				PKPdf	PKPdf	16 48 37.2	+0.2	
RAYN	Ar Rayn	140.62	268	IAMs_20	IAMs_20	17 49 46.9		
	comp=Z,1μm,19.0s							
RAYN	Ar Rayn	140.62	268	P	PKPdf	16 48 37.0	-0.1	
RAYN	Ar Rayn	140.62	268	PKIKP	PKPdf	16 48 37.2	+0.2	
RAYN	Ar Rayn	140.62	268	PKPdf	PKPdf	16 48 36.9	-0.1	
JETT	Jettan, Norway	141.40	350	*e*PKPdf	PKPdf	16 48 38.0	+0.9	
KTK1	Kautokeino	141.42	348	*e*PKPdf	PKPpre	16 48 33.1		
BELG	Belogornoye	141.55	315	PKhKP	PKPpre	16 48 30.7		
	comp=Z,6.7nm,0.3s,baz=87,slow=1.4,SNR=11							
BELG				PKP	PKPdf	16 48 37.2	-0.5	
	comp=Z,151nm,1.2s,baz=105,slow=1.7,SNR=12							
BELG				SKPbc	SKPbc	16 52 14.2	-0.7	
	comp=Z,20nm,0.8s,baz=68,slow=1.6,SNR=4.7							
BELG	Belogornoye	141.55	315	*c i*PKIKP	PKPdf	16 48 38.1	+0.4	
TRO	Tromso	141.55	350	*e*	PKPdf	16 48 35.8	-1.4	
KLMR	Klimovskoe	142.48	331	*e*PKHKP	PKPpre	16 48 31.4		
KLMR				pmax	pmax			
	comp=Z,59nm,1.4s							
AKT	Akhty	142.59	297	*e*PKIKP	PKPdf	16 48 39.3	-0.8	
AKT				pmax	pmax			
	comp=Z,29nm,0.8s							
STEI	Steigen	143.63	351	*e*PKPdf	PKPab	16 48 39.9	+2.3	
LOF	Lofoten	143.64	353	*e*PKPdf	PKPab	16 48 38.8	+1.2	
FAUS	Fauske	144.15	351	*e*PKPdf	PKPab	16 48 40.6	+1.1	
GNI	Garni	144.83	295		PKPab	16 48 43.2	0.0	
GNI	Garni	144.83	295	PKP	PKPab	16 48 43.4	+0.2	
	comp=Z,11nm,0.7s,baz=206,slow=1.9,SNR=14							
GNI	Garni	144.83	295	P	PKPab	16 48 44.4	+1.2	
GNI	Garni	144.83	295	*c i*PKIKP	PKPab	16 48 43.2	0.0	
KONS	Konsvik	145.26	352	*e*PKPbc	PKPbc	16 48 44.1	+0.6	
VRH	Novokhopyorsk	145.40	315	*e*PKIKP	PKPbc	16 48 43.3	-1.1	
VRH				pmax	pmax			
	comp=Z,60nm,0.8s							
MOR8	Moi Rana	145.41	351	*e*PKPbc	PKPbc	16 48 43.3	-0.8	
STOK	Stokkvaagen	145.43	352	*e*PKPbc	PKPbc	16 48 44.4	+0.3	
NCK	Nalchik	145.59	301	⇑*i*PKIKP	PKPdf	16 48 45.8	+0.6	
LEIR	Leirfjorden	145.63	352	*e*PKPdf	PKPdf	16 48 45.0	+0.5	
GOF	Gofitskoye	145.83	304	*c i*PKP2	PKPdf	16 48 45.6	+0.1	
MOS	Moscow	145.91	324	*e*PKIKP	PKPdf	16 48 42.4	-2.8	
MOS				pmax	pmax			
	comp=Z,489nm,1.5s							
MOS				MLR	MLR			
	comp=Z,1μm,20.0s							
KBZ	Khabaz	146.08	301	PKPbc	PKPdf	16 48 46.2	+0.3	
	comp=Z,12nm,0.6s,baz=139,slow=5.2,SNR=54							
KBZ	Khabaz	146.08	301	*c i*PKP2	PKPdf	16 48 46.0	+0.1	
KVAR	Kislovodsk Arr	146.20	302	PKPbc	PKPdf	16 48 48.1	+1.8	
	comp=Z,1.5nm,0.4s,baz=84,slow=18,SNR=1.8							
KIV	Kislovodsk	146.21	302	PKPdf	PKPdf	16 48 45.6	-0.7	
KIV	Kislovodsk	146.21	302	P	PKPdf	16 48 48.1	+1.8	
KIV	Kislovodsk	146.21	302	⇓P	PKPdf	16 48 47.7	+1.4	
KIV	Kislovodsk	146.21	302	*i* PKP2	PKPdf	16 48 46.1	-0.2	
KIV				pmax	pmax			
	comp=Z,34nm,1.1s							
SHA1	Shidzhatmaz	146.25	301	*c i*PKP2	PKPdf	16 48 46.8	+0.2	
LPSR	Galich'ya Gora	146.55	318	*e*PKP2	PKPdf	16 48 48.1	+1.7	
LPSR				pmax	pmax			
	comp=Z,240nm,1.0s							
VORR	Voronezh	146.73	316	*e*PKP2	PKPdf	16 48 47.5	+0.7	
VORR				pmax	pmax			
	comp=Z,110nm,0.4s							
OBN	Obninsk	146.74	323	PKPdf	PKPdf	16 48 47.2	+0.6	
OBN	Obninsk	146.74	323	PKPbc	PKPdf	16 48 47.3	+0.7	
	comp=Z,68nm,0.6s,baz=57,slow=2.9,SNR=42							
OBN	Obninsk	146.74	323	⇓P	PKPdf	16 48 48.9	+2.3	
OBN	Obninsk	146.74	323	*ce*PKP2	PKPdf	16 48 46.7	+0.1	
OBN				*e*		16 52 09.1		
OBN				pmax	pmax			
	comp=Z,176nm,1.2s							
OBN				MLR	MLR			
	comp=Z,1μm,20.0s							
PUL	Pulkovo	146.78	334	*ce*PKP2	PKPdf	16 48 48.8	+2.2	
VSR	Storozhevoye	146.91	316	*e*PKP2	PKPdf	16 48 47.9	+0.8	
VSR				pmax	pmax			
	comp=Z,100nm,0.8s							
VORD	Divnogorie	146.92	315	*e*PKP2	PKPdf	16 48 47.5	+0.4	
VORD				pmax	pmax			
	comp=Z,90nm,1.0s							
FINES	FINESS Array B	147.00	339	PKPdf	PKPdf	16 48 48.5	+1.6	
FINES

comp=Z,9.4nm,0.5s,baz=141,slow=2.7,SNR=58
BRTR PKPab **PKPab 16 49 18.0 +0.5**
comp=Z,17nm,0.9s,baz=103,slow=2.7,SNR=7.8
BRTR Keskin Array B 153.37 295 *c i* PKIKP **PKPbc 16 49 04.3 -1.1**
BRTR pmax pmax
comp=Z,9.0nm,0.5s
TJOU Tjoern 153.56 348 *i* P **PKPbc 16 49 05.2 +0.2**
CIDE Kastamonu/Cide 153.58 300 ⇑P **PKPbc 16 49 05.6 +0.1**
DBIC Dimbokro 153.60 165 PKP **PKPdf 16 48 58.8 0.0**
comp=Z,9.9nm,1.1s,baz=307,slow=1.4,SNR=4.9
DBIC PKPbc **PKPbc 16 49 07.4 +0.9**
comp=Z,26nm,1.1s,baz=168,slow=2.2,SNR=11
SUW Suwalki 153.61 331 *e*PKP **PKPbc 16 49 05.8 +0.6**
SUW Suwalki 153.61 331 IAMs_20 IAMs_20 18 02 03.2
comp=Z,1μm,19.0s
BORU Boraas 153.73 347 *i* P **PKPbc 16 49 05.4 0.0**
HOMB Homborsund 153.79 352 *e*PKPbc **PKPbc 16 49 06.4 +0.9**
SNART Snartemo 153.86 354 *e*PKPbc **PKPbc 16 49 07.3 +1.7**
SNART Snartemo 153.86 354 *i* P **PKPbc 16 49 06.0 +0.4**
ANTO Ankara 154.00 295 **PKPdf 16 48 57.2 -1.4**
ANTO PKPbc **PKPbc 16 49 06.7 0.0**
ANTO Ankara 154.00 295 P **PKPdf 16 48 59.1 +0.5**
ANTO Ankara 154.00 295 ⇓P **PKPdf 16 49 04.6 +6.0**
ANTO Ankara 154.00 295 PKIKP **PKPdf 16 48 57.2 -1.4**
ANTO 16 49 06.7
ANTO Ankara 154.00 295 PKP **PKPdf 16 48 59.7 +1.1**
LUBAR Lubar, Ukraine 154.01 320 PKP **PKPdf 16 48 59.2 +1.0**
ONAU Onsala 154.11 347 *i* P **PKPbc 16 49 06.4 +0.2**
BLEU Blekinge 154.24 342 *i* P **PKPbc 16 49 06.8 +0.3**
FABU Falkenberg 154.33 346 *i* P **PKPbc 16 49 06.8 +0.2**
PURM Purcari 154.34 311 ⇓P **PKPbc 16 49 08.2 +1.2**
DEL Delary 154.57 344 *i* P **PKPbc 16 49 07.0 -0.2**
SORM Soroca 154.58 316 ⇓P **PKPbc 16 49 08.0 +0.5**
SORM Soroca 154.58 316 ⇓PKIKP **PKPbc 16 49 08.0 +0.5**
MILM Milestii Mici 154.85 313 *e*PKP **PKPbc 16 49 06.0 -2.1**
MILM Milestii Mici 154.85 313 ⇓P **PKPbc 16 49 08.6 +0.5**
MILM Milestii Mici 154.85 313 *e*PKIKP **PKPbc 16 49 06.0 -2.1**
MUD Monsted U'grnd 155.46 350 *e*P PKPab 16 49 19.2 -6.3
BSD Bornholm Skovb 155.53 342 *e*P PKPab 16 49 15.7 -10
BSD IAmb IAmb 16 49 20.0
comp=Z,41nm,1.1s
TPGR Topolog 155.93 309 ⇑P PKPdf 16 49 11.3 +10
ISP Isparta 155.96 291 IAMs_20 IAMs_20 18 01 55.8
comp=Z,1μm,19.0s
CFR Carcaliu 155.99 310 ⇓P PKPdf 16 49 09.3 +8.3
CFR Carcaliu 155.99 310 ⇓PKIKP PKPdf 16 49 09.3 +8.3
TIRR Tirgusor 156.08 308 IAMs_20 IAMs_20 17 59 11.1
comp=Z,1μm,22.0s
VRI Vrincioaia 156.61 312 ⇓P **PKPab 16 49 30.4 -0.6**
VRI Vrincioaia 156.61 312 ⇓PKP2 **PKPab 16 49 30.4 -0.6**
BUR08 Bucovina Ar. S 156.66 317 PKPdf **PKPdf 16 49 00.5 -1.5**
BISRR Bisoca 156.76 311 ⇑P **PKPdf 16 49 01.2 -1.0**
MLR Muntele Rosu 157.26 312 PKPdf **PKPdf 16 49 01.6 -1.3**
MLR PKPab **PKPab 16 49 33.9 -0.1**
MLR IAMs_20 IAMs_20 18 03 28.4
comp=Z,1μm,20.0s
MLR Muntele Rosu 157.26 312 PKP **PKPdf 16 49 01.8 -1.1**
comp=Z,1.2nm,0.4s,baz=315,slow=2.3,SNR=5.5
MLR Muntele Rosu 157.26 312 ⇓P **PKPdf 16 49 03.5 +0.6**
KOLS Kolonicke sedl 157.49 323 *e*PKP2 **PKPab 16 49 34.7 +0.1**
KOLS Kolonicke sedl 157.49 323 *e*PKP **PKPab 16 49 34.7 +0.1**
OJC Ojcow 157.80 328 *e*PKP **PKPdf 16 49 03.5 +0.2**
VOIR 157.85 313 ⇓P PKPab 16 49 24.8 -12
VOIR 157.85 313 ⇓PKP2 PKPab 16 49 24.8 -12
NIE Niedzica 158.13 326 *e*PKP **PKPdf 16 49 04.9 +1.2**
NIE Niedzica 158.13 326 PKP **PKPdf 16 49 05.0 +1.2**
KSP Ksiaz 158.75 334 *e*PKP **PKPab 16 49 40.4 +0.4**
KARP Karpathos 158.77 285 IAMs_20 IAMs_20 18 14 08.0
comp=Z,1μm,20.0s
OKC Ostrava-Krasne 158.80 330 AMS AMS 18 00 00.0
comp=Z,800nm,19.6s
STEB Steborice 158.80 330 *e*PKPAB **PKPab 16 49 38.9 -1.7**
OSTC Ostas 159.01 334 AMS AMS 18 06 30.0
comp=Z,900nm,15.6s
MORC Moravsky Berou 159.10 330 *e*PKP **PKPdf 16 49 04.9 0.0**
MORC *e* 16 49 41.3
MORC Moravsky Berou 159.10 330 ⇑P **PKPdf 16 49 06.0 +1.1**
MORC Moravsky Berou 159.10 330 ⇑PKIKP **PKPdf 16 49 06.0 +1.1**
DPC Dobruska-Polom 159.13 333 *e*PKPAB **PKPab 16 49 42.1 +0.4**
DPC AMS AMS 18 06 30.0
comp=Z,1μm,20.1s
DPC Dobruska-Polom 159.13 333 *e*PKP2 **PKPab 16 49 42.1 +0.4**
DPC MLR MLR
comp=Z,1μm,20.1s
KRLC Kraliky 159.17 332 AMS AMS 18 02 20.0
comp=Z,2μm,20.5s
GZR Gura Zlata 159.26 315 ⇓P **PKPdf 16 49 05.3 +0.1**
GZR Gura Zlata 159.26 315 ⇓PKIKP **PKPdf 16 49 05.3 +0.1**
MAUC Maruska 159.29 329 *e*PKPAB **PKPab 16 49 42.3 -0.1**
PSZ Piszkesteto 159.35 324 **PKPdf 16 49 04.1 -1.2**
PSZ IAMs_20 IAMs_20 18 04 09.6
comp=Z,2μm,20.0s
PSZ Piszkesteto 159.35 324 PKIKP **PKPdf 16 49 04.1 -1.2**
PSZ pmax pmax
comp=Z,2μm,20.0s
CLL Collm 159.44 340 PKPdf **PKPdf 16 49 04.3 -0.8**
CLL PKPab **PKPab 16 49 41.8 -1.1**
CLL IAMs_20 IAMs_20 18 15 23.2
comp=Z,1μm,18.0s
CLL Collm 159.44 340 PKIKP **PKPdf 16 49 04.3 -0.8**
CLL 16 49 41.8
CLL pmax pmax
comp=Z,1μm,18.0s
VYHS Vyhne 159.47 326 *e*PKIKP **PKPdf 16 49 05.4 +0.1**
VYHS *e* 16 49 43.4
VYHS Vyhne 159.47 326 *e*PKP **PKPdf 16 49 05.3 0.0**
VYHS *e* 16 49 43.4
BRG Berggiesshubel 159.53 338 P PKPab 16 49 32.5 -11
BRG Amp 16 49 33.5
comp=Z,7.6nm,1.0s
BRG PKPab pPKPab 16 49 44.1 -0.8
BRG Amp 16 49 45.4
comp=Z,16nm,0.8s
PVCC Panska Ves 159.62 336 *e*PKPAB **PKPab 16 49 44.0 +0.2**
PVCC Panska Ves 159.62 336 *e*PKP2 **PKPab 16 49 44.0 +0.2**
JAVC Velka Javorina 159.74 329 *e*PKP **PKPdf 16 49 06.6 +0.9**
JAVC *e* 16 49 45.6
BZS Buzias 159.83 316 ⇑P **PKPdf 16 49 06.2 +0.4**
BZS Buzias 159.83 316 ⇑PKIKP **PKPdf 16 49 06.2 +0.4**
VRAC Vranov 159.85 331 PKP **PKPdf 16 49 04.9 -0.8**
comp=Z,1.2nm,0.4s,baz=135,slow=5.3,SNR=4.4
VRAC PKPab **PKPab 16 49 45.2 +0.3**
comp=Z,8.5nm,0.7s,baz=78,slow=4.2,SNR=9.2
VRAC Vranov 159.85 331 *e*PKP **PKPdf 16 49 05.4 -0.3**
VRAC *e* 16 49 44.8
VRAC Vranov 159.85 331 ⇑P **PKPab 16 49 46.2 +1.4**
HSKC Hora Svate Kat 159.93 338 AMS AMS 18 13 20.0
comp=Z,1μm,20.3s
PRA Prague 160.06 336 AMS AMS 18 14 50.0
comp=Z,2μm,18.0s
GOPC GO Pecny, Ondr 160.06 335 AMS AMS 18 12 10.0
comp=Z,2μm,18.1s
PRU Pruhonice 160.09 335 *e*PKPAB **PKPab 16 49 45.6 -0.2**
PRU AMS AMS 18 14 50.0
comp=Z,2μm,18.0s
PRU Pruhonice 160.09 335 *e*PKP2 **PKPab 16 49 45.6 -0.2**
PRU MLR MLR
comp=Z,2μm,18.0s
KRUC Moravsky 160.13 331 *e*PKP **PKPdf 16 49 05.5 -0.5**
KRUC *e* 16 49 45.9
MODS Modra-Piesok 160.27 328 *e*PKIKP **PKPdf 16 49 07.0 +0.8**
MODS *e* 16 49 47.1
MODS Modra-Piesok 160.27 328 *e*PKP **PKPdf 16 49 07.0 +0.8**
MODS *e* 16 49 47.1
TREC Trest 160.31 333 *e*PKPAB **PKPab 16 49 46.9 +0.1**
TREC Trest 160.31 333 *e*PKP2 **PKPab 16 49 46.9 +0.1**
NKC Novy Kostel 160.56 339 *e*PKPAB **PKPab 16 49 48.1 +0.2**
NKC Novy Kostel 160.56 339 *e*PKP2 **PKPab 16 49 48.1 +0.2**
IDI Anoyia 160.63 285 PKP **PKPdf 16 49 06.3 -0.8**
comp=Z,17nm,1.2s,baz=179,slow=1.5,SNR=6.8
ZVC Zvikov 160.67 335 AMS AMS 18 10 40.0
comp=Z,1μm,18.3s
TORD Torodi Ar. Bea 160.78 180 PKPdf **PKPdf 16 49 06.3 -1.4**
BOVS Bovan 160.81 311 ⇓P **PKPdf 16 49 08.0 +1.0**
MORH Mrgy, Hungar 161.12 322 ⇑P **PKPdf 16 49 06.9 -0.3**
CKRC Cesky Krumlov 161.14 334 *e*PKPAB **PKPab 16 49 50.4 -0.1**
CKRC AMS AMS 18 06 50.0
comp=Z,2μm,19.2s
CKRC Cesky Krumlov 161.14 334 *e*PKP2 **PKPab 16 49 50.4 -0.1**
CKRC MLR MLR
comp=Z,2μm,19.2s
KHC Kasperske Hory 161.15 335 *e*PKPDF **PKPdf 16 49 06.0 -1.2**
KHC *e*PKPAB **PKPab 16 49 50.7 +0.2**
KHC *ex* x 16 50 07.6
KHC AMS AMS 18 11 00.0
comp=Z,2μm,17.5s
KHC Kasperske Hory 161.15 335 *e*PKIKP **PKPdf 16 49 06.0 -1.2**
KHC *e* 16 49 50.7
KHC MLR MLR
comp=Z,2μm,17.5s
RONA Rosalia, Austr 161.21 328 *e*PKP **PKPdf 16 49 07.9 +0.6**
comp=Z,12nm,1.9s
RONA *e*PKP **PKPab 16 49 51.2 +0.4**
comp=Z,13nm,0.8s
CONA Conrad Observa 161.23 329 *e*PKP **PKPab 16 49 51.3 +0.3**
comp=Z,14nm,0.7s
GEC2 GERESS Array S 161.34 335 PKPab **PKPab 16 49 50.3 -1.1**
GERES GERESS Array B 161.34 335 PKPdf **PKPdf 16 49 07.2 -0.3**
GERES PKPab **PKPab 16 49 50.5 -1.0**
GERES GERESS Array B 161.34 335 PKP **PKPdf 16 49 07.9 +0.4**
comp=Z,0.8nm,0.7s,baz=158,slow=7.2,SNR=1.1
GERES PKPab **PKPab 16 49 51.2 -0.2**
comp=Z,5.7nm,0.7s,baz=33,slow=5.1,SNR=10
GRA1 Grafenberg Arr 161.40 341 PKPdf **PKPdf 16 49 06.6 -0.8**
GRF Grafenberg Arr 161.40 341 PKIKP **PKPdf 16 49 06.6 -0.8**
GRFO Grafenberg 161.40 341 PKPdf **PKPdf 16 49 06.5 -0.9**
GRFO **PKPab 16 49 51.0 -0.5**
GRFO Grafenberg 161.40 341 PKP2 **PKPab 16 49 51.0 -0.5**
GRFO 17 49 06.5
MEM Membach 161.60 351 *d*PKP **PKPab 16 49 53.1 +0.7**
BHOU Houvegnez 161.85 351 *d*PKP **PKPab 16 49 53.7 +0.3**
BGES Gesves 161.92 353 *d*PKP **PKPab 16 49 53.6 -0.2**
FNA Florina 162.25 303 **PKPdf 16 49 06.5 -2.0**
FNA Florina 162.25 303 PKIKP **PKPdf 16 49 06.6 -2.0**
LESA Schwarzleotal 162.91 334 *e*PKP **PKPdf 16 49 09.4 +0.3**
comp=Z,20nm,2.0s
LESA *e*PKP **PKPab 16 49 58.1 -0.3**
comp=Z,6.0nm,0.7s
MYKA Terra Mystica 163.19 331 *e*PKP **PKPab 16 49 59.3 -0.3**
comp=Z,4.8nm,0.5s
WATA Walderalm 163.38 336 *e*PKP **PKPab 16 50 00.4 0.0**
comp=Z,7.9nm,0.6s
WTTA Wattenberg 163.42 336 PKP **PKPdf 16 49 09.4 -0.3**
comp=Z,17nm,1.5s
WTTA *e*PKP **PKPab 16 50 00.8 +0.1**
comp=Z,6.2nm,0.7s
RETA Reutte 163.51 338 *i* PKP **PKPab 16 50 01.4 +0.5**
comp=Z,13nm,0.8s
ABTA Abfaltersbach 163.54 333 *e*PKP **PKPab 16 50 00.6 -0.5**
comp=Z,7.3nm,0.7s
SQTA Sankt Quirin 163.60 337 *e*PKP **PKPab 16 50 01.7 +0.3**
comp=Z,12nm,0.7s
ECH Echery 163.75 347 PKPdf **PKPdf 16 49 08.6 -1.2**
ECH PKPab **PKPab 16 50 00.3 -1.5**
ECH Echery 163.75 347 PKIKP **PKPdf 16 49 08.6 -1.2**
ECH 16 50 00.4
FETA Feichten 163.93 337 *i* PKP **PKPab 16 50 03.4 +0.5**
comp=Z,6.1nm,0.7s
DAVA Damuels 163.96 340 *i* PKP **PKPab 16 50 03.5 +0.5**
comp=Z,8.1nm,0.7s
DAVOX Davos/Dischmat 164.41 339 PKP **PKPdf 16 49 11.0 +0.3**
comp=Z,2.0nm,0.8s,baz=65,slow=6.3,SNR=3.8
DAVOX PKPab **PKPab 16 50 05.0 -0.1**
comp=Z,6.0nm,0.5s,baz=285,slow=7.3,SNR=9.4
FUORN Ofenpass-Fuorn 164.44 338 PKPdf **PKPdf 16 49 09.7 -1.1**
FUORN PKPab **PKPab 16 50 03.9 -1.4**
SENIN Lac Senin/Sane 165.48 345 PKPdf **PKPdf 16 49 09.6 -2.0**
SENIN PKPab **PKPab 16 50 08.6 -1.2**
BNI Bardonecchia 166.86 345 PKPdf **PKPdf 16 49 11.1 -1.5**
BNI PKPab **PKPab 16 50 15.6 -0.2**
BNI Bardonecchia 166.86 345 PKIKP **PKPdf 16 49 11.1 -1.5**
BNI 16 50 15.6
ESDC Sonseca Array 171.42 31 PKP **PKPdf 16 49 16.1 +0.5**
comp=Z,2.7nm,1.1s,baz=320,slow=3.5,SNR=9.8
ESDC PKPab **PKPab 16 50 36.4 +0.3**
comp=Z,2.6nm,1.1s,baz=316,slow=3.7,SNR=4.1
MDT Midelt 174.58 85 PKP **PKPdf 16 49 18.0 +0.9**
comp=Z,2.8nm,0.6s,baz=204,slow=1.3,SNR=7.9

NEIC ***07*** *16:29:49.4±2.3, 54°.78N±0°.07×164°.81W±0°.08, h166km±3km, mb4.7/171, ML4.6/20, Mww4.7/7, ML4.5(AEIC), Error ellipse: s-maj=10.6km s-min=6.0km az=159.0*
IDC ***07*** *16:29:50.6±0.5, 54°.92N×165°.01W, h170km±3km, mb3.9/28, mbtmp4.3/30, MS4.0/1, Error ellipse: s-maj=14.0km s-min=8.3km az=5.0*
AEIC ***07*** *16:29:50.1±4.2, 54°.59N±0°.07×164°.72W±0°.08, h171km±4km, Error ellipse: s-maj=11.0km s-min=6.5km az=162.0*
ISC 07 16:29:49.7±0.4, 54°.85N±0°.06×164°.83W±0°.03, h168km±2km, h168km:pP-P, n571, σ1§22/605, mb4.6/88,
Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.27**	**171**		**Pn**	**16 30 11.5**	**-0.9**
WEBT					**Sn**	**16 30 28.4**	**-1.2**
WECS	**Westdahl Cape**	**0.32**	**175**		**Pn**	**16 30 11.9**	**-0.7**
WESE	**West Dahl East**	**0.41**	**160**		**Pn**	**16 30 12.2**	**-0.7**
SSLS	**Shishaldin Sou**	**0.50**	**106**		**Pn**	**16 30 12.6**	**-0.5**
ISNN	**Isanotski Nort**	**0.61**	**91**		**Pn**	**16 30 13.8**	**+0.2**
ISNN					**Sn**	**16 30 32.2**	**+0.2**
ISLZ	**Isanotski Laza**	**0.66**	**101**		**Pn**	**16 30 13.0**	**-1.0**
FALS	**False Pass**	**0.81**	**89**		**Pn**	**16 30 14.1**	**-0.7**
FALS	**False Pass**	**0.81**	**89**	P	**Pn**	**16 30 14.7**	**-0.1**
FALS	**False Pass**	**0.81**	**89**	P	**Pn**	**16 30 14.4**	**-0.4**
baz=266,SNR=126							
AKSA	**Akutan Strait**	**0.88**	**216**		**Pn**	**16 30 14.4**	**-0.9**
AKSA					**Sn**	**16 30 33.4**	**-1.5**
AKGG	**Akutan Green G**	**0.94**	**226**		**Pn**	**16 30 14.9**	**-0.8**
AKGG					**Sn**	**16 30 33.8**	**-2.0**
LVA	**Lava Point**	**0.99**	**226**	Pn	**Pn**	**16 30 15.2**	**-0.9**
LVA				Sn	**Sn**	**16 30 34.1**	**-2.3**
AKBBA	**Akutan Broad B**	**0.99**	**221**		**Pn**	**16 30 15.1**	**-1.0**
ZRO	**Akutan Zero**	**1.02**	**222**		**Pn**	**16 30 15.4**	**-1.0**
UNV	**Unalaska Valle**	**1.41**	**225**	Pn	**Pn**	**16 30 18.3**	**-1.5**
UNV	**Unalaska Valle**	**1.41**	**225**		**Sn**	**16 30 40.7**	**-2.2**
UNV	**Unalaska Valle**	**1.41**	**225**	P	**Pn**	**16 30 18.6**	**-1.1**
UNV	**Unalaska Valle**	**1.41**	**225**	S	**Sn**	**16 30 41.0**	**-1.8**
UNV	**Unalaska Valle**	**1.41**	**225**	P	**Pn**	**16 30 18.4**	**-1.3**
baz=46,SNR=141							
MSW	**Makushin Switc**	**1.48**	**231**		**Pn**	**16 30 19.5**	**-1.0**
MSW					**Sn**	**16 30 41.9**	**-2.2**
MGOD	**Makushin Gods**	**1.60**	**229**		**Pn**	**16 30 20.8**	**-0.9**
MAPS	**Pakushin South**	**1.62**	**231**		**Sn**	**16 30 45.0**	**-1.7**
HAG	**Hague Volcano**	**1.74**	**73**		**Pn**	**16 30 23.5**	**+0.4**
PS4A	**Pavlof South-4**	**1.78**	**73**		**Pn**	**16 30 23.8**	**+0.3**
S12K	**Black Hills**	**1.80**	**61**		**Pn**	**16 30 23.4**	**-0.3**
S12K				IAML		16 30 50.6	
comp=N,2μm,0.8s							
S12K	**Black Hills**	**1.80**	**61**	P	**Pn**	**16 30 23.9**	**+0.2**
baz=241							
PVV	**Pavlof Volcano**	**1.82**	**72**		**Pn**	**16 30 24.1**	**+0.2**
PS1A	**Pavlof South-1**	**1.86**	**71**		**Pn**	**16 30 24.6**	**+0.2**
OKCE	**Okmok Cone E**	**2.43**	**235**		**Pn**	**16 30 30.1**	**-0.8**
SDPT	**Sand Point**	**2.55**	**77**		**Pn**	**16 30 31.7**	**-0.5**
SDPT				Sn	**Sn**	**16 31 02.8**	**-2.4**
SDPT				IAML		16 31 04.0	
comp=N,3μm,0.8s							
SDPT				IAML		16 31 08.0	
comp=E,2μm,0.9s							
SDPT	**Sand Point**	**2.55**	**77**	P	**Pn**	**16 30 31.9**	**-0.3**
SDPT	**Sand Point**	**2.55**	**77**	P	**Pn**	**16 30 31.7**	**-0.5**
baz=259,SNR=32							
CHNA	**Chernabura Isl**	**3.03**	**88**	P	**Pn**	**16 30 36.9**	**-1.2**
CHNA	**Chernabura Isl**	**3.03**	**88**	S	**Sn**	**16 31 12.4**	**-3.3**
CHNA	**Chernabura Isl**	**3.03**	**88**	P	**Pn**	**16 30 37.1**	**-1.0**
baz=271,SNR=16							
CNBA	**Chernabura Isl**	**3.03**	**88**		**Pn**	**16 30 36.8**	**-1.3**
CNBA				Sn	**Sn**	**16 31 11.7**	**-4.0**
CNBA				IAML		16 31 18.2	
comp=N,881nm,0.7s							
P08K	**Saint George I**	**3.19**	**305**		**Pn**	**16 30 40.4**	**+0.4**
P08K	**Saint George I**	**3.19**	**305**	P	**Pn**	**16 30 40.4**	**+0.4**
baz=122,SNR=5.5							
S14K	**Fog Glacier**	**3.32**	**62**	P	**Pn**	**16 30 42.5**	**+0.7**
baz=246,SNR=16							
VNFG	**Fog Glacier, M**	**3.32**	**62**		**Pn**	**16 30 42.6**	**+0.8**
VNFG				IAML		16 31 23.4	
comp=N,1μm,0.9s							
VNSS	**Veniaminof 8**	**3.35**	**64**		**Pn**	**16 30 42.9**	**+0.6**
VNSG	**Veniaminof 6**	**3.51**	**66**		**Pn**	**16 30 44.3**	**+0.1**
SPIA	**Saint Paul Isl**	**3.83**	**310**		**Pn**	**16 30 48.8**	**+0.6**
SPIA	**Saint Paul Isl**	**3.83**	**310**	P	**Pn**	**16 30 49.1**	**+1.0**
SPIA	**Saint Paul Isl**	**3.83**	**310**	P	**Pn**	**16 30 48.5**	**+0.4**
baz=126							
CHGN	**Chignik**	**3.92**	**66**		**Pn**	**16 30 49.0**	**-0.2**
CHGN				Sn	**Sn**	**16 31 33.5**	**-2.3**
CHGN				IAML		16 31 34.9	
comp=E,881nm,0.5s							
CHGN				IAML		16 31 36.9	
comp=N,802nm,0.5s							
CHGN	**Chignik**	**3.92**	**66**	P	**Pn**	**16 30 49.1**	**-0.2**
baz=250,SNR=17							
ANPB	**Aniakchak Plen**	**4.18**	**59**		**Pn**	**16 30 53.2**	**+0.6**
ANNE	**Aniakchak Nort**	**4.33**	**59**		**Pn**	**16 30 55.6**	**+0.9**
O14K	**Tigyukauivet M**	**4.82**	**22**	Pn	**Pn**	**16 31 01.6**	**+0.7**
O14K				IAML		16 32 40.0	
comp=N,279nm,0.8s							
O14K	**Tigyukauivet M**	**4.82**	**22**	P	**Pn**	**16 31 02.1**	**+1.2**
baz=205,SNR=32							
R16K	**Pilot Point**	**4.88**	**53**		**Pn**	**16 31 01.9**	**+0.2**
R16K				IAML		16 32 58.6	
comp=E,504nm,1.6s							
R16K	**Pilot Point**	**4.88**	**53**	P	**Pn**	**16 31 02.5**	**+0.9**
baz=238							
O15K	**Ungalikthiuk R**	**5.12**	**30**		**Pn**	**16 31 05.8**	**+0.9**
O15K	**Ungalikthiuk R**	**5.12**	**30**	P	**Pn**	**16 31 05.8**	**+0.9**
baz=214							
PLBL	**Peulik Blue Cr**	**5.30**	**54**		**Pn**	**16 31 07.7**	**+0.5**
CHIR	**Chirikof Islan**	**5.34**	**76**	Pn	**Pn**	**16 31 06.4**	**-1.4**
CHIR				IAML		16 32 23.7	
comp=E,349nm,0.9s							
CHIR	**Chirikof Islan**	**5.34**	**76**	P	**Pn**	**16 31 06.3**	**-1.5**
CHIR	**Chirikof Islan**	**5.34**	**76**	P	**Pn**	**16 31 06.4**	**-1.4**
baz=263							
N14K	**Kuskokwak Cree**	**5.36**	**17**		**Pn**	**16 31 09.4**	**+1.5**
N14K	**Kuskokwak Cree**	**5.36**	**17**	P	**Pn**	**16 31 09.2**	**+1.3**
baz=200,SNR=36							
M11K	**Mekoryuk**	**5.60**	**353**		**Pn**	**16 31 11.1**	**0.0**
M11K	**Mekoryuk**	**5.60**	**353**	P	**Pn**	**16 31 12.9**	**+1.8**
baz=172							
P16K	**Nushagak River**	**5.62**	**39**	P	**Pn**	**16 31 12.9**	**+1.6**
baz=224,SNR=22							
M13K	**Dall Lake**	**5.63**	**7**		**Pn**	**16 31 13.3**	**+1.8**
M13K	**Dall Lake**	**5.63**	**7**	P	**Pn**	**16 31 13.4**	**+1.8**
baz=188,SNR=40							
Q16K	**King Salmon**	**5.91**	**46**		**Pn**	**16 31 16.5**	**+1.3**
Q16K	**King Salmon**	**5.91**	**46**	P	**Pn**	**16 31 16.4**	**+1.3**
baz=232,SNR=16							
N15K	**Kwethluk River**	**5.91**	**24**		**Pn**	**16 31 16.7**	**+1.4**
N15K	**Kwethluk River**	**5.91**	**24**	P	**Pn**	**16 31 16.6**	**+1.4**
baz=207,SNR=61							
O16K	**Kokwok River B**	**6.00**	**35**		**Pn**	**16 31 16.5**	**+0.2**
O16K	**Kokwok River B**	**6.00**	**35**	P	**Pn**	**16 31 17.2**	**+0.8**
baz=220							
M14K	**Bethel**	**6.11**	**13**	Pn	**Pn**	**16 31 18.8**	**+1.0**
M14K	**Bethel**	**6.11**	**13**	P	**Pn**	**16 31 19.2**	**+1.4**
baz=196,SNR=144							
ATKA	**Atka Island**	**6.18**	**248**		**Pn**	**16 31 17.5**	**-1.4**
ATKA	**Atka Island**	**6.18**	**248**	P	**Pn**	**16 31 18.1**	**-0.8**
ACHA	**Angle Creek He**	**6.24**	**54**	Pn	**Pn**	**16 31 19.9**	**+0.2**
SII	**Sitkinak Islan**	**6.25**	**70**	Pn	**Pn**	**16 31 18.3**	**-1.6**
SII	**Sitkinak Islan**	**6.25**	**70**	P	**Pn**	**16 31 18.4**	**-1.4**
SII	**Sitkinak Islan**	**6.25**	**70**	P	**Pn**	**16 31 18.4**	**-1.4**
baz=258,SNR=18							
M15K	**Kasigluk River**	**6.26**	**19**		**Pn**	**16 31 20.8**	**+0.9**
M15K	**Kasigluk River**	**6.26**	**19**	P	**Pn**	**16 31 20.7**	**+0.9**
baz=202							
P17K	**Kvichak River**	**6.32**	**43**	P	**Pn**	**16 31 21.9**	**+1.3**
baz=230,SNR=43							
R18K	**Karluk**	**6.39**	**61**		**Pn**	**16 31 20.4**	**-1.3**
R18K	**Karluk**	**6.39**	**61**	P	**Pn**	**16 31 20.2**	**-1.4**
baz=249,SNR=21							
O17K	**Koliganek Bris**	**6.47**	**37**	P	**Pn**	**16 31 23.4**	**+0.8**
baz=223,SNR=26							
N16K	**Nishlik Lake**	**6.50**	**27**		**Pn**	**16 31 24.5**	**+1.4**
N16K	**Nishlik Lake**	**6.50**	**27**	P	**Pn**	**16 31 24.3**	**+1.2**
baz=212,SNR=72							
Q18K	**Katmai Hardscr**	**6.60**	**51**	P	**Pn**	**16 31 24.8**	**+0.3**
baz=238,SNR=53							
L14K	**Kuka Creek**	**6.61**	**9**		**Pn**	**16 31 24.6**	**+0.3**
L14K	**Kuka Creek**	**6.61**	**9**	P	**Pn**	**16 31 25.4**	**+1.1**
baz=191,SNR=64							
OHAK	**Old Harbor**	**6.89**	**65**	Pn	**Pn**	**16 31 25.9**	**-2.2**
OHAK	**Old Harbor**	**6.89**	**65**	P	**Pn**	**16 31 25.9**	**-2.2**
baz=254,SNR=18							
P18K	**Big Mountain,**	**6.93**	**45**		**Pn**	**16 31 29.7**	**+1.0**
P18K	**Big Mountain,**	**6.93**	**45**	P	**Pn**	**16 31 29.7**	**+1.0**
baz=233,SNR=39							
M16K	**Timber Creek**	**6.93**	**24**		**Pn**	**16 31 29.3**	**+0.6**
M16K	**Timber Creek**	**6.93**	**24**	P	**Pn**	**16 31 29.4**	**+0.8**
baz=209,SNR=37							
N17K	**Nushagak Hills**	**7.01**	**33**		**Pn**	**16 31 30.8**	**+1.1**
N17K	**Nushagak Hills**	**7.01**	**33**	P	**Pn**	**16 31 30.6**	**+0.9**
baz=219							
L15K	**Ungalak Mounta**	**7.07**	**13**		**Pn**	**16 31 31.2**	**+0.7**
L15K	**Ungalak Mounta**	**7.07**	**13**	P	**Pn**	**16 31 31.2**	**+0.7**
baz=196							
K13K	**Kusilvak Mount**	**7.10**	**1**		**Pn**	**16 31 31.9**	**+0.9**
K13K	**Kusilvak Mount**	**7.10**	**1**	P	**Pn**	**16 31 32.1**	**+1.2**
baz=181,SNR=19							
O18K	**Koktuh Hills**	**7.22**	**42**		**Pn**	**16 31 33.8**	**+1.2**
O18K	**Koktuh Hills**	**7.22**	**42**	P	**Pn**	**16 31 34.0**	**+1.4**
baz=230,SNR=88							
GSTR	**Great Sitkin T**	**7.25**	**252**	Pn	**Pn**	**16 31 32.5**	**-0.6**
Q19K	**Cape Douglas,**	**7.36**	**52**		**Pn**	**16 31 34.4**	**0.0**
Q19K	**Cape Douglas,**	**7.36**	**52**	P	**Pn**	**16 31 34.5**	**0.0**
baz=241,SNR=24							
KDAK	**Kodiak Island**	**7.41**	**62**	Pn	**Pn**	**16 31 33.0**	**-2.1**
KDAK	**Kodiak Island**	**7.41**	**62**	P	**Pn**	**16 31 33.3**	**-1.8**
comp=E,68nm,0.5s,baz=255,slow=2.2,SNR=616							
KDAK				S	**Sn**	**16 32 52.1**	**-6.1**
comp=E,51nm,0.5s,baz=347,slow=22,SNR=6.2							
KDAK				LR	LR	16 34 54.2	
comp=E,1μm,19.1s,baz=6.4,slow=41							
KDAK	**Kodiak Island**	**7.41**	**62**	P	**Pn**	**16 31 32.9**	**-2.2**
baz=251							
L16K	**Owhat River**	**7.43**	**20**		**Pn**	**16 31 35.6**	**+0.3**
L16K	**Owhat River**	**7.43**	**20**	P	**Pn**	**16 31 35.8**	**

	baz=220,SNR=24							
BRSE	Bradley Lake S	9.06	52	P		Pn	16 31 55.7	-1.1
	baz=243,SNR=9.5							
J17K	VABM Dome	9.06	17			Pn	16 31 57.6	+0.8
J17K	VABM Dome	9.06	17	P		Pn	16 31 57.9	+1.1
	baz=201							
SPBG	Spurr Blockage	9.20	41			Pn	16 32 00.2	+1.5
N20K	Mount Spurr	9.22	41	P		Pn	16 31 59.6	+0.6
	baz=232,SNR=17							
SPCR	Spurr Chakacha	9.22	41	P		Pn	16 31 59.7	+0.6
	baz=232,SNR=14							
SPU	Mount Spurr	9.27	42			Pn	16 32 00.1	+0.4
TTA	Tatalina	9.29	26	Pn		Pn	16 32 00.4	+0.5
TTA	Tatalina	9.29	26	P		Pn	16 32 00.7	+0.8
	baz=213							
I17K	Unalakleet	9.30	11			Pn	16 32 01.0	+1.1
I17K	Unalakleet	9.30	11	P		Pn	16 32 01.1	+1.1
	baz=195,SNR=14							
M20K	Styx River	9.34	36			Pn	16 32 02.6	+2.0
M20K	Styx River	9.34	36	P		Pn	16 32 01.5	+0.9
	baz=226							
CAPN	Captain Cook N	9.39	45	P		Pn	16 32 01.9	+0.7
	baz=236							
L20K	Farewell, AK	9.53	32			Pn	16 32 04.1	+1.1
L20K	Farewell, AK	9.53	32	P		Pn	16 32 03.8	+0.8
	baz=221							
STLK	Strandline Lak	9.55	41			Pn	16 32 03.7	+0.3
J18K	Innoko River	9.58	22			Pn	16 32 04.7	+1.0
J18K	Innoko River	9.58	22	P		Pn	16 32 04.4	+0.7
	baz=209							
SLKM	Skilak Lake	9.65	48			Pn	16 32 04.2	-0.4
ANM	Nome	9.75	359			Pn	16 32 06.7	+0.8
ANM	Nome	9.75	359	P		Pn	16 32 06.7	+0.8
	baz=178,SNR=8.6							
SEW	Seward	9.80	51			Pn	16 32 04.8	-1.7
SEW	Seward	9.80	51	P		Pn	16 32 05.4	-1.1
	baz=244,SNR=48							
O22K	Cooper Landing	9.85	49	P		Pn	16 32 06.1	-1.1
	baz=241,SNR=94							
H16K	Elim	9.90	6	P		Pn	16 32 08.8	+0.9
	baz=189,SNR=13							
SUA	Susitna One	9.95	43			Pn	16 32 07.5	-1.1
SUA	Susitna One	9.95	43	P		Pn	16 32 08.8	+0.2
	baz=234,SNR=20							
SKT	Skwentna	9.97	39			Pn	16 32 09.1	+0.3
SKT	Skwentna	9.97	39	P		Pn	16 32 09.1	+0.3
	baz=230,SNR=24							
RC01	Rabbit Creek A	10.15	46			Pn	16 32 09.2	-1.9
RC01	Rabbit Creek A	10.15	46	P		Pn	16 32 10.2	-1.0
	baz=238,SNR=20							
K20K	Telida	10.15	29	P		Pn	16 32 11.0	-0.2
	baz=218							
G15K	Niukluk	10.18	2	P		Pn	16 32 12.1	+0.5
	baz=182							
J19K	Poorman	10.29	23	P		Pn	16 32 14.1	+1.2
	baz=211,SNR=43							
M22K	Willow	10.36	42	P		Pn	16 32 14.8	+0.9
	baz=234							
PPLA	Purkeypile	10.37	34	P		Pn	16 32 15.8	+1.7
	baz=224,SNR=41							
H17K	Granite Mounta	10.41	12			Pn	16 32 14.7	+0.2
H17K	Granite Mounta	10.41	12	P		Pn	16 32 16.3	+1.7
	baz=196,SNR=27							
PWL	Port Wells	10.63	49	P		Pn	16 32 15.5	-2.0
	baz=242,SNR=52							
G16K	Koyuk River	10.65	6	P		Pn	16 32 18.9	+1.3
	baz=188							
PMR	Palmer	10.66	44			Pn	16 32 16.9	-1.0
PMR	Palmer	10.66	44	P		Pn	16 32 17.7	-0.1
	baz=237							
F14K	Arctic Creek	10.68	357	P		Pn	16 32 18.1	0.0
	baz=175							
GCSA	Galena City Sc	10.69	19	P		Pn	16 32 18.5	+0.3
	baz=205,SNR=31							
CUT	Chulitna	10.70	39	P		Pn	16 32 17.8	-0.5
	baz=231,SNR=5.9							
P23K	Montague Islan	10.70	54	P		Pn	16 32 16.4	-2.0
	baz=248,SNR=17							
CAST	Castle Rocks	10.78	32	P		Pn	16 32 19.7	+0.3
	baz=223,SNR=59							
J20K	Nowinta River	10.79	26	P		Pn	16 32 20.3	+0.7
	baz=215,SNR=55							
H18K	Honhosa River	10.82	15	P		Pn	16 32 21.0	+1.1
	baz=200,SNR=22							
KNK	Knik Glacier	10.85	46	P		Pn	16 32 19.5	-0.8
	baz=240,SNR=20							
TNA	Tin City	10.85	353			Pn	16 32 20.3	+0.1
TNA	Tin City	10.85	353	P		Pn	16 32 21.2	+0.9
	baz=170,SNR=15							
F15K	North Star Dit	10.89	0	P		Pn	16 32 21.4	+0.5
	baz=180							
Q23K	Middleton Isla	11.02	58	P		Pn	16 32 20.7	-1.9
	baz=253							
CHUM	Lake Minchumin	11.05	30	P		Pn	16 32 24.7	+1.8
	baz=221,SNR=46							
SML	Sawmill	11.10	44			Pn	16 32 21.7	-1.9
SML	Sawmill	11.10	44	P		Pn	16 32 22.6	-1.0
	baz=238,SNR=14							
GLI	Glacier Island	11.19	50			Pn	16 32 21.6	-3.1
GLI	Glacier Island	11.19	50	P		Pn	16 32 22.1	-2.6
	baz=245,SNR=12							
I20K	Naaghedeneel	11.23	23	P		Pn	16 32 26.4	+1.2
	baz=212,SNR=14							
HIN	Hinchinbrook I	11.27	53			Pn	16 32 23.0	-2.7
M23K	Glacier View	11.34	45	P		Pn	16 32 25.5	-1.2
	baz=240,SNR=35							
TRF	Thorofare Moun	11.37	35	P		Pn	16 32 26.4	-0.9
	baz=227,SNR=18							
H19K	Roundabout Mou	11.48	18	P		Pn	16 32 29.5	+1.2
	baz=205,SNR=33							
G18K	Tagagawik	11.48	13	P		Pn	16 32 30.3	+1.8
	baz=198,SNR=34							
SCM	Sheep Creek Mo	11.52	46	P		Pn	16 32 27.5	-1.6
	baz=240,SNR=28							
BPAW	Bear Paw Mtn.	11.61	31	P		Pn	16 32 31.5	+1.3
	baz=223,SNR=48							
EYAK	Cordova Ski Ar	11.67	53			Pn	16 32 28.1	-2.7
EYAK	Cordova Ski Ar	11.67	53	P		Pn	16 32 28.6	-2.3
	baz=249,SNR=13							
H20K	Anotlenee ga Mo	11.74	21	P		Pn	16 32 32.9	+1.0
	baz=209,SNR=42							
F17K	Baldwin Pennin	11.76	7	P		Pn	16 32 32.9	+0.9
	baz=190							
G19K	Purcell Mounta	11.94	15	P		Pn	16 32 35.4	+1.0
	baz=202,SNR=8.4							
KLU	Klutina	11.96	49	P		Pn	16 32 32.6	-2.2
	baz=244,SNR=124							
MCK	McKinley	12.01	36			Pn	16 32 33.1	-2.2
MCK	McKinley	12.01	36	P		Pn	16 32 35.8	+0.4
	baz=229,SNR=19							
F18K	Selawik	12.05	10	P		Pn	16 32 37.2	+1.4
	baz=194,SNR=19							
KAIM	Kayak Island	12.10	57	P		Pn	16 32 35.1	-1.5
	baz=254							
M24K	Tolsona, Glenn	12.13	46			Pn	16 32 35.0	-2.0
M24K	Tolsona, Glenn	12.13	46	P		Pn	16 32 35.5	-1.4
	baz=241,SNR=41							
H21K	Melozitna Rive	12.34	24	P		Pn	16 32 39.6	0.0
	baz=214,SNR=49							
BMRM	Bremner River	12.34	52	P		Pn	16 32 37.6	-2.0
	baz=249,SNR=37							
F19K	Shaleruckik Mo	12.49	13	P		Pn	16 32 42.0	+0.6
	baz=199							
NEA2	Nenana	12.55	33	P		Pn	16 32 41.9	-0.3
	baz=226,SNR=20							
N25K	Chitina, Valde	12.59	49			Pn	16 32 40.7	-2.1
N25K	Chitina, Valde	12.59	49	P		Pn	16 32 40.8	-2.1
	baz=246,SNR=26							
HARP	HAARP	12.69	46	P		Pn	16 32 43.7	-0.4
	baz=242,SNR=17							
E18K	Tukpahlearik C	12.77	7	P		Pn	16 32 46.6	+1.5
	baz=191,SNR=33							
PAX	Paxson	12.84	43	P		Pn	16 32 45.9	-0.2
	baz=239,SNR=26							
I23K	Minto, Yukon-K	12.85	30	P		Pn	16 32 46.6	+0.6
	baz=224,SNR=48							
GLB	Gilahina Butte	12.87	51			Pn	16 32 43.6	-2.8
H22K	Ishtalitna Cre	12.88	25	P		Pn	16 32 47.9	+1.5
	baz=217							
G21K	Allakaket	12.92	21	P		Pn	16 32 48.3	+1.4
	baz=210							
D17K	Noatak River	12.92	3	P		Pn	16 32 48.7	+1.8
	baz=184,SNR=47							
VRDI	Verde Repeater	12.96	52			Pn	16 32 45.3	-2.3
F20K	Avaraaat Lake	12.99	16	P		P	16 32 50.0	-2.0
	baz=204							
HDA	Harding Lake	13.12	36	P		Pn	16 32 49.1	-0.4
	baz=231,SNR=18							
COLA	College	13.12	33			Pn	16 32 47.8	-1.7
COLA	College	13.12	33	P		Pn	16 32 48.6	-0.9
	baz=228							
E19K	Redstone River	13.15	13	P		Pn	16 32 50.4	+0.6
	baz=200,SNR=58							
K24K	Donnelly Dome	13.17	39	P		Pn	16 32 49.3	-0.9
	baz=236,SNR=16							
RDOG	Red Dog Mine	13.28	3	P		Pn	16 32 51.9	+0.4
	baz=185,SNR=60							
MESA	MESA	13.36	57	P		Pn	16 32 52.2	-0.6
	baz=256,SNR=6.6							
IL31		13.37	35			Pn	16 32 50.3	-2.3
ILAR	Eielson Array	13.37	35			Pn	16 32 50.1	-2.6
ILAR	Eielson Array	13.37	35	P		Pn	16 32 50.6	-2.0
	comp=E,5.6nm,0.7s,baz=227,slow=11,SNR=69							
ILAR				ScP		ScP	16 41 25.4	+1.2
	comp=E,1.4nm,0.7s,baz=280,slow=3.0,SNR=13							
POKR	Poker Plat Res	13.42	33	P		Pn	16 32 51.9	-1.4
	baz=228,SNR=8.4							
C16K	Lisburne Hills	13.47	359			Pn	16 32 54.7	+0.8
C16K	Lisburne Hills	13.47	359	P		P	16 32 56.0	-1.3
	baz=179,SNR=60							
RIDG	Independent Ri	13.48	41	P		Pn	16 32 54.4	+0.3
	baz=238,SNR=18							
F21K	Alatna River	13.54	19	P		Pn	16 32 56.1	+1.4
	baz=209,SNR=63							
M26K	Nabesna, AK	13.60	47	P		Pn	16 32 55.0	-0.6
	baz=246,SNR=57							
C17K	DeLong Mountai	13.69	3	P		Pn	16 32 57.6	+0.9
	baz=184,SNR=75							
L26K	Log Cabin Wild	13.72	45	P		Pn	16 32 57.6	+0.5
	baz=243,SNR=79							
H24K	Noodor Dome	13.78	30	P		Pn	16 32 57.0	-0.8
	baz=225,SNR=67							
J25K	Salcha River,	13.79	37	P		Pn	16 32 56.7	-1.3
	baz=234							
G23K	Bananza Creek	13.86	25	P		P	16 33 00.4	-1.3
	baz=218,SNR=74							
SCRK	Sand Creek	13.93	41			Pn	16 32 56.7	-3.2
SCRK	Sand Creek	13.93	41	P		Pn	16 32 59.0	-0.9
	baz=238,SNR=38							
C18K	Utukok River	13.95	6	P		Pn	16 32 59.8	-0.1
	baz=189,SNR=43							
F22K	John River	14.04	20	P		Pn	16 33 01.1	0.0
	baz=211							
D19K	Kuna River	14.04	10	P		Pn	16 33 01.3	+0.2
	baz=196,SNR=29							
E20K	Nigu River	14.04	13	P		Pn	16 33 02.2	+1.1
	baz=201							
M27K	Edge Creek, AK	14.06	48	P		Pn	16 33 00.5	-1.0
	baz=248							
COLD	Coldfoot	14.23	24	P		Pn	16 33 04.2	+0.8
	baz=216,SNR=82							
PRP	Porcupine Dome	14.29	34	P		Pn	16 33 01.8	-2.5
	baz=231,SNR=8.7							
O28M	Mount Upton	14.35	56	P		Pn	16 33 05.1	-0.2
	baz=256,SNR=82							
L27K	Beaver Creek,	14.36	46	P		Pn	16 33 04.0	-1.1
	baz=245,SNR=25							
J26L	Joseph Creek	14.37	39	P		Pn	16 33 04.9	-0.4
	baz=238							
BCAR	Beaver Creek A	14.38	46			Pn	16 33 03.2	-2.2
D20K	Etivluk River	14.42	12	P		Pn	16 33 06.9	+1.1
	baz=199,SNR=72							
G24K	Hadweenzic Riv	14.52	28	P		Pn	16 33 07.5	+0.5
	baz=223							
E21K	Killik River	14.54	16	P		Pn	16 33 08.1	+0.9
	baz=206							
B18K	Kokolik River	14.63	4	P		P	16 33 10.0	-0.2
	baz=187,SNR=61							
E22K	Anaktuvuk Pass	14.65	19	P		Pn	16 33 09.6	+0.9
	baz=211,SNR=89							
YUK8	Steele Glacier	14.68	54	P		Pn	16 33 09.0	-0.3
	baz=255,SNR=30							
H25L	Birch Creek	14.69	31	P		Pn	16 33 08.5	-0.5
	baz=228,SNR=11							
K27K	Chicken	14.69	42	P		Pn	16 33 08.8	-0.4
	baz=242,SNR=14							
G25K	Bearman Lake	14.95	30	P		Pn	16 33 12.1	-0.2
	baz=226,SNR=14							
I26K	Coal Creek Min	14.96	37	P		Pn	16 33 10.8	-1.7
	baz=236							
F24K	Squaw Lake	15.02	26	IAmb		IAmb	16 33 18.5	
	comp=Z,63nm,0.9s							
F24K	Squaw Lake	15.02	26	P		Pn	16 33 13.9	+0.6
	baz=220							
O29M	Mount Kennedy	15.04	58	P		Pn	16 33 14.2	+0.6
	baz=260,SNR=71							
E23K	Chandalar	15.04	22	IAmb		IAmb	16 33 26.3	
	comp=Z,39nm,0.8s							
E23K	Chandalar	15.04	22	P		Pn	16 33 14.2	+0.7
	baz=216,SNR=30							
FYU	Fort Yukon	15.06	31	IAmb		IAmb	16 33 19.5	
	comp=Z,60nm,1.4s							
C21K	Knifeblade Rid	15.07	14	P		Pn	16 33 14.5	+0.6
	baz=203							
D22K	Ayikyak River	15.14	17	IAmb		IAmb	16 33 20.3	
	comp=Z,55nm,0.9s							
D22K	Ayikyak River	15.14	17	P		P	16 33 15.5	-0.4
	baz=208							
YUK4	Talbot Arm	15.21	54	P		Pn	16 33 16.2	+0.4
	baz=256,SNR=29							
YUK6	Outpost Mounta	15.26	56	P		Pn	16 33 16.5	0.0
	baz=258,SNR=100							
E24K	Your Creek	15.31	24	IAmb		IAmb	16 33 19.9	
	comp=Z,29nm,0.8s							
E24K	Your Creek	15.31	24	P		P	16 33 18.2	+0.4
	baz=218							
A19K	Wainwright	15.50	5	P		P	16 33 20.3	+0.5
	baz=188							
TOLK	Toolik Lake Re	15.53	21	P		P	16 33 20.8	+0.6
TOLK				IAmb		IAmb	16 33 23.1	
	comp=Z,46nm,0.9s							
TOLK	Toolik Lake Re	15.53	21	P		P	16 33 21.1	+0.9
	baz=214,SNR=38							
B21K	Ikpikpuk River	15.53	13	P		P	16 33 20.3	+0.2
	baz=202							
D23K	Nanushuk River	15.58	19	P		Pn	16 33 20.3	+0.2
	baz=212							
M29M	Somme Creek	15.59	50	IAmb		IAmb	16 33 26.6	
	comp=Z,81nm,1.2s							
M29M	Somme Creek	15.59	50	P		Pn	16 33 19.8	-0.6
	baz=253,SNR=54							
B20K	Meade River	15.60	10	IAmb		IAmb	16 33 24.2	
	comp=Z,37nm,1.0s							
B20K	Meade River	15.60	10	P		Pn	16 33 20.2	0.0
	baz=197							
HYT	Haines Junctio	15.65	56	P		Pn	16 33 21.2	+0.1
HYT	Haines Junctio	15.65	56	P		Pn	16 33 21.4	+0.3
	baz=260,SNR=86							
F25K	Christian Rive	15.66	28	P		Pn	16 33 21.2	+0.1
	baz=225,SNR=75							
I27K	Kandik River	15.66	37	P		Pn	16 33 20.8	-0.3
	baz=237,SNR=16							
G26K	Porcupine Rive	15.75	31	P		Pn	16 33 20.4	-1.7
	baz=230,SNR=18							
DAWY	Dawson	15.77	44	IAmb		IAmb	16 33 26.2	
	comp=Z,74nm,1.2s							
DAWY	Dawson	15.77	44	P		Pn	16 33 22.1	-0.4
	baz=246,SNR=47							
P30M	Million Dollar	15.81	59	P		P	16 33 23.5	+0.1
	baz=263,SNR=31							
BMAR	Burnt Mountain	15.84	29			Pn	16 33 20.4	-2.8
L29M	L29M	15.94	48	P		Pn	16 33 24.2	-0.4
	baz=251,SNR=80							
N30M	Aishikik Lake	15.97	54	IAmb		IAmb	16 33 29.5	
	comp=Z,106nm,0.8s							
N30M	Aishikik Lake	15.97	54	P		Pn	16 33 24.7	-0.2
	baz=258,SNR=108							
H27K	Steamboat Moun	16.04	35	P		Pn	16 33 25.4	-0.2
	baz=236,SNR=18							
PLBC	Pleasant Camp	16.04	62	P		Pn	16 33 24.9	-0.9
	baz=266,SNR=5.5							
E25K	Arctic Village	16.06	27	P		P	16 33 27.5	+1.5
	baz=223,SNR=145							
S31K	Pelican	16.07	67	IAmb		IAmb	16 33 29.8	
	comp=Z,53nm,0.8s							
S31K	Pelican	16.07	67	P		Pn	16 33 26.0	-0.1
	baz=271,SNR=8.1							
D24K	Happy Valley	16.10	21	P		P	16 33 27.9	+1.5
	baz=215							
F26K	Sheenjek River	16.14	29	IAmb		IAmb	16 33 28.9	
	comp=Z,31nm,0.7s							
F26K	Sheenjek River	16.14	29	P		P	16 33 27.7	+0.7
	baz=227,SNR=43							
I28M	Miner Creek	16.18	39	IAmb		IAmb	16 33 31.7	
	comp=Z,32nm,0.6s							
I28M	Miner Creek	16.18	39	P		Pn	16 33 28.2	+0.7
	baz=241,SNR=42							
O30N	Mendenhall	16.32	57	P		Pn	16 33 29.6	+0.4
	baz=261,SNR=28							
G27K	Doyon Strip	16.33	34	P		P	16 33 29.1	+0.1
	baz=234,SNR=16							
R31K	City Hall, Gus	16.33	66	P		P	16 33 29.0	0.0
	baz=270							
C23K	Itkillik River	16.34	18	P		Pn	16 33 30.0	+0.7
	baz=210,SNR=72							
B22K	Teshekpuk Lake	16.35	14	P		Pn	16 33 30.2	+0.8
	baz=204							
M30M	Minto, Yukon	16.37	51	P		P	16 33 29.5	0.0
M30M				IAmb		IAmb	16 33 32.5	
	comp=Z,35nm,0.9s							
M30M	Minto, Yukon	16.37	51	P		Pn	16 33 30.1	+0.3
	baz=254,SNR=34							
J29N	Klondike Camp	16.39	43	P		Pn	16 33 30.2	+0.1
	baz=246							
K29M	Barlow Dome	16.45	46	IAmb		IAmb	16 33 33.2	
	comp=Z,61nm,0.9s							
K29M	Barlow Dome	16.45	46	P		Pn	16 33 31.0	+0.2
	baz=249							
SKAG	Skagway	16.57	62	P		Pn	16 33 32.4	+0.2
	baz=266,SNR=30							
N31M	Braeburn, Yuko	16.59	55	P		Pn	16 33 32.7	+0.2
	baz=259,SNR=44							
C24K	Franklin Bluff	16.60	20	P		Pn	16 33 33.0	+0.7
	baz=214							
SIT	Sitka	16.61	70	IAmb		IAmb	16 33 45.1	
	comp=Z,59nm,1.2s							
SIT	Sitka	16.61	70	P		Pn	16 33 32.4	-0.1
	baz=275							
I29M	Ogilvie Camp,	16.74	41	IAmb		IAmb	16 33 35.5	
	comp=Z,40nm,1.2s							
I29M	Ogilvie Camp,	16.74	41	P		Pn	16 33 34.2	0.0
	baz=244							
D25K	Kavik River	16.77	23	IAmb		IAmb	16 33 36.6	
	comp=Z,33nm,0.8s							
D25K	Kavik River	16.77	23	P		Pn	16 33 35.1	+0.6
	baz=219							
A22K	Sinclair Lake	16.78	11	P		Pn	16 33 34.4	-0.1
	baz=200							
BESE	Bessie Mountai	16.79	65	P		Pn	16 33 35.3	+0.4
BESE				IAmb		IAmb	16 33 39.1	
	comp=Z,49nm,0.8s							
WHY	Whitehorse	16.90	58	P		Pn	16 33 36.7	+0.5
	baz=263,SNR=66							
A21K	Barrow	16.91	9	P		Pn	16 33 36.2	+0.1
	baz=196,SNR=12							
R32K	Eaglecrest	16.97	66	P		Pn	16 33 38.2	+1.2
	baz=271							
S32K	Killisnoo	16.98	69	P		Pn	16 33 38.4	+1.3
	baz=274,SNR=17							
MAYO	Mayo, Yukon	17.05	48	P		P	16 33 36.1	-0.9
MAYO	Mayo, Yukon	17.05	48	P		Pn	16 33 38.2	+0.2
	baz=252							
H29M	Whitestone	17.12	38	IAmb		IAmb	16 33 40.2	
	comp=Z,46nm,0.8s							
H29M	Whitestone	17.12	38	P		P	16 33 37.7	0.0
	baz=241,SNR=35							
E27K	Coleen River	17.19	30	P		Pn	16 33 40.3	+0.8
	baz=230,SNR=17							
J30M	Hart River	17.20	44	IAmb		IAmb	16 33 41.5	
	comp=Z,35nm,0.7s							
J30M	Hart River	17.20	44	P		P	16 33 39.3	+0.6
	baz=249,SNR=40							
M31M	Drury Creek, Y	17.38	53	P		Pn	16 33 43.4	+1.6
	baz=259							
P32M	Atlin	17.40	62	P		Pn	16 33 43.8	+1.7
	baz=268,SNR=50							
I30M	Mount Dempster	17.42	42	P		P	16 33 39.9	-1.2
I30M				IAmb		IAmb	16 33 43.4	
	comp=Z,58nm,1.4s							
I30M	Mount Dempster	17.42	42	P		P	16 33 40.7	-0.5
	baz=247,SNR=42							
C26K	Camden Bay	17.55	23	P		Pn	16 33 43.8	0.0
	baz=221,SNR=100							
G29M	Pine Creek	17.59	36	P		P	16 33 42.7	-0.1
	baz=240,SNR=34							
C27K	Jago River	17.62	25	P		Pn	16 33 44.0	-0.5
	baz=223							
EPYK	Eagle Plains	17.78	38	P		P	16 33 44.6	-0.3
	baz=243,SNR=52							
N32M	Quiet Lake	17.83	56	P		Pn	16 33 47.7	+0.5
	baz=263,SNR=110							
FARO	Faro, Yukon	17.86	53	P		Pn	16 33 47.2	-0.3
	baz=260,SNR=98							
P33M	Teslin, Yukon	17.88	60	P		Pn	16 33 47.2	-0.6
P33M	Teslin, Yukon	17.88	60	P		Pn	16 33 48.6	+0.8
	baz=266,SNR=128							
U33K	Whale Pass	17.93	73	IAmb		IAmb	16 33 54.2	
	comp=Z,44nm,0.8s							
U33K	Whale Pass	17.93	73	P		P	16 33 47.3	+0.7
	baz=279,SNR=12							
CRAG	Craig	18.05	75	P		P	16 33 48.3	+0.4
	baz=281							
E28M	Babbage River	18.05	30	P		P	16 33 48.3	+0.5
E28M				IAmb		IAmb	16 33 55.1	
	comp=Z,17nm,0.8s							
E28M	Babbage River	18.05	30	P		Pn	16 33 49.3	-0.3
	baz=233,SNR=32							
D27M	Malcolm River	18.05	28	P		Pn	16 33 49.2	-0.6
	baz=229							
Q32M	Nakina River	18.14	64	P		Pn	16 33 52.0	+1.0
	baz=271,SNR=46							
G30M	tAoh Zraii Nji	18.24	37	P		P	16 33 49.5	-0.4
	baz=242,SNR=93							
WRAK	Wrangell Islan	18.31	72	P		Pn	16 33 52.6	-0.2
	baz=279,SNR=8.6							
E29M	Blow River	18.42	32	IAmb		IAmb	16 33 52.9	
	comp=Z,25nm,0.8s							
E29M	Blow River	18.42	32	P		P	16 33 52.3	+0.5
	baz=236,SNR=35							
H31M	Peel River	18.43	41	P		P	16 33 51.1	-1.0
	baz=248							
F30M	Barrier River	18.69	35	P		P	16 33 54.5	-0.2
	baz=241,SNR=70							
D28M	Stokes Point	18.72	29	P		Pn	16 33 56.3	-1.1
	baz=232,SNR=26							
S34M	Telegraph Cree	18.79	67	P		Pn	16 33 58.2	-0.1
	baz=275,SNR=37							
R33M	Jennings River	18.80	62	P		Pn	16 33 58.8	+0.2
	baz=271,SNR=67							
BILL	Bilibino	18.85	326	P		P	16 33 57.5	+1.0
BILL				IAmb		IAmb	16 33 59.

baz=277,SNR=12
PEA0B Petropavlovsk- 21.94 281 P P 16 34 29.3 -0.2
PEA0B IAmb IAmb 16 35 08.2
comp=Z,28nm,0.8s
PETK Petropavlovsk- 21.94 281 P P 16 34 28.8 -0.7
PETK Petropavlovsk- 21.94 281 P P 16 34 28.0 -1.6
comp=Z,7.3nm,0.6s,baz=82,slow=12,SNR=46
PETK pP **pP 16 34 58.2 -0.5**
comp=Z,30nm,0.8s,baz=78,slow=13,SNR=6.3
comp=Z,7.3nm,0.6s
KOTAN Kotaneelee Air 22.26 60 P P 16 34 33.3 +0.7
baz=274,SNR=29
HOLB Holberg 22.43 86 P P 16 34 34.3 -0.1
WRGLY Wrigley 22.49 51 P P 16 34 33.9 -0.8
WRGLY IAmb IAmb 16 34 37.5
comp=Z,50nm,1.1s
WRGLY Wrigley 22.49 51 P P 16 34 35.7 +0.9
baz=267,SNR=18
C36M Paulatuk 23.34 36 P P 16 34 41.2 -1.1
C36M Paulatuk 23.34 36 P P 16 34 43.3 +0.9
baz=252,SNR=51
A36M Sachs Harbour 23.93 29 P P 16 34 48.7 +0.9
A36M Sachs Harbour 23.93 29 P P 16 34 49.1 +1.3
baz=245,SNR=122
MA2 Magadan 24.14 299 P P 16 34 49.9 0.0
CLRS Cowichan Lake 25.57 87 P P 16 35 05.2 +2.4
LLLB Lillooet 26.04 81 P P 16 35 08.3 +1.2
YKA Yellowknife Ar 26.57 53 P P 16 35 12.8 +1.1
comp=Z,5.8nm,0.7s,baz=276,slow=10,SNR=88
YKA pP **pP 16 35 47.6 +1.5**
comp=Z,2.9nm,0.7s,baz=277,slow=9.9,SNR=3.1
YKA PcP **PcP 16 38 32.0 +0.8**
comp=Z,1.4nm,0.8s,baz=274,slow=2.7,SNR=5.2
YKA ScP **ScP 16 41 56.5 +1.5**
comp=Z,1.2nm,0.8s,baz=275,slow=3.1,SNR=12
comp=Z,5.8nm,0.7s
LON Longmire 27.98 89 P P 16 35 26.1 +1.6
LTY Liberty 28.37 87 P P 16 35 29.9 +2.0
B08A Colville Reser 28.57 84 P P 16 35 30.8 +1.2
B08A IAmb IAmb 16 35 33.3
comp=Z,13nm,0.8s
H04A Detroit Lake 28.93 93 P P 16 35 33.9 +1.0
H04A IAmb IAmb 16 35 36.7
comp=Z,23nm,1.2s
E07A Sunnyside 29.22 88 P P 16 35 37.5 +2.2
DBO Dodson Butte 29.27 96 P P 16 35 37.7 +1.8
DBO IAmb IAmb 16 36 03.0
comp=Z,19nm,1.3s
I04A Tendick Farm, 29.33 94 P P 16 35 38.5 +2.0
I04A IAmb IAmb 16 35 44.4
comp=Z,28nm,1.5s
D08A Wollman Farm, 29.49 86 P P 16 35 40.0 +2.3
D08A IAmb IAmb 16 35 41.1
comp=Z,14nm,1.0s
HAWA Hanford 29.50 88 P P 16 35 39.6 +1.8
HAWA IAmb IAmb 16 35 41.5
comp=Z,22nm,0.9s
F07A Phinny Hill Vi 29.54 89 P P 16 35 40.7 +2.5
F07A IAmb IAmb 16 35 42.1
comp=Z,14nm,1.0s
I05D Terrebonne, OR 29.62 93 P P 16 35 40.4 +1.4
I05D IAmb IAmb 16 35 48.0
comp=Z,17nm,1.3s
E08A Dider Farm, El 29.71 87 P P 16 35 42.0 +2.3
E08A IAmb IAmb 16 35 43.2
comp=Z,10nm,1.0s
NEW Newport 29.89 83 P P 16 35 42.6 +1.3
NEW IAmb IAmb 16 35 44.7
comp=Z,9.5nm,0.8s
E09A Wood Farm, Sta 30.23 86 P P 16 35 45.8 +1.6
E09A IAmb IAmb 16 35 47.7
comp=Z,15nm,1.0s
J05D Fort Rock, OR 30.32 94 P P 16 35 45.7 +0.4
J05D IAmb IAmb 16 35 49.6
comp=Z,12nm,0.9s
G08A Pilot Rock 30.45 89 P P 16 35 46.5 +0.2
YBH Yreka Blue Hor 30.45 98 P P 16 35 47.4 +1.1
I07A Izee 30.84 91 P P 16 35 49.6 -0.2
KMRM Mail Ridge 30.87 101 P P 16 35 51.4 +1.3
KMRM IAmb IAmb 16 36 09.0
comp=Z,27nm,1.2s
BMO Blue Mountains 31.66 88 P P 16 35 57.4 +0.4
BMO IAmb IAmb 16 36 00.6
comp=Z,16nm,1.4s
HATC Hat Creek Radi 31.76 98 P P 16 35 59.5 +1.7
HATC IAmb IAmb 16 36 02.1
comp=Z,14nm,0.9s
JTMT Jette 31.78 82 P P 16 35 59.4 +1.3
J08A Circle Bar Ran 31.87 92 P P 16 35 59.1 +0.3
J08A IAmb IAmb 16 36 02.5
comp=Z,14nm,1.1s
TIXI Tiksi 32.06 327 P P 16 36 00.4 +0.4
TIXI IAmb IAmb 16 36 01.4
comp=Z,9.2nm,0.8s
TIXI **pP 16 36 34.9 -0.2**
PLID Pearl Lake 32.27 87 P P 16 36 03.8 +1.3
WVOR Wild Horse Val 32.35 93 P P 16 36 04.1 +1.0
WVOR IAmb IAmb 16 36 06.8
comp=Z,14nm,1.0s
RES Resolute Bay 32.94 27 P P 16 36 07.4 -0.2
YSS Yuzhno-Sakhali 33.28 278 pP 16 36 47.2 +1.1
LYMT Lyon Mountain 33.34 81 P P 16 36 12.7 +0.9
YAK Yakutsk 33.63 309 P P 16 36 12.9 -0.9
YAK **pP 16 36 48.5 -0.5**
YAK IAmb IAmb 16 36 53.2
comp=Z,18nm,0.9s
PAHR Pah Rah Range 33.68 98 P P 16 36 16.0 +1.3
PAHR IAmb IAmb 16 36 18.3
comp=Z,14nm,0.9s
EGMT Eagleton 34.21 78 P P 16 36 20.7 +1.6
MCMT McKenzie Canyo 34.24 85 P P 16 36 21.1 +1.6
WAKR Walker 34.47 99 P P 16 36 23.6 +2.1
WAKR IAmb IAmb 16 36 25.6
comp=Z,12nm,0.8s
EUNU Eureka 34.55 17 P P 16 36 22.2 +0.7
QLMT Earthquake Lak 35.06 84 P P 16 36 27.6 +1.1
FFC Flin Flon 35.15 64 P P 16 36 28.6 +1.7
NVAR Mina Array Bea 35.16 98 P P 16 36 29.3 +1.8
comp=Z,7.5nm,0.8s,baz=299,slow=8.5,SNR=37
comp=Z,7.5nm,0.8s
YHL Hebgen Lake 35.19 84 P P 16 36 29.0 +1.3
YHL IAmb IAmb 16 36 30.9
comp=Z,11nm,0.8s
ELK Elko 35.39 93 P P 16 36 31.1 +1.8
ELK IAmb IAmb 16 36 32.9
comp=Z,12nm,0.9s
YNE Yellowstone No 35.77 83 P P 16 36 33.7 +1.1
DSP Deep Springs 36.09 99 P P 16 36 36.8 +1.8
DSP IAmb IAmb 16 36 39.9
comp=Z,11nm,1.0s
LOHW Long Hollow 36.26 85 P P 16 36 38.0 +1.3
BGU Big Grassy Mou 36.55 90 P P 16 36 40.6 +1.4
R11B Troy Canyon, C 36.78 96 P P 16 36 42.7 +1.5
R11B IAmb IAmb 16 36 44.4
comp=Z,13nm,1.0s
WCT Wildcat Mounta 37.26 99 P P 16 36 45.7 +0.6
FCC Fort Churchill 37.28 54 IAmb IAmb 16 36 47.0
comp=Z,16nm,0.9s
PD31 Pinedale Array 37.39 85 P P 16 36 47.1 +0.9
PDAR Pinedale Array 37.39 85 P P 16 36 47.1 +0.9
PDAR Pinedale Array 37.39 85 P P 16 36 48.2 +1.9
comp=Z,1.5nm,0.5s,baz=296,slow=3.8,SNR=20
comp=Z,1.5nm,0.5s
P18A Preston Nutter 39.01 90 P P 16 37 00.7 +0.7
P18A IAmb IAmb 16 37 04.2
comp=Z,17nm,1.4s
LCMT Little Creek M 39.05 95 P P 16 37 00.7 +0.6
LCMT IAmb IAmb 16 37 38.9
comp=Z,9.2nm,0.8s
LCMT Little Creek M 39.05 95 pP 16 37 36.2 0.0
SRU San Rafael Swe 39.19 91 P P 16 37 02.2 +0.9
SRU IAmb IAmb 16 37 04.8
comp=Z,34nm,1.2s
PFO Pinyon Flats O 39.64 102 P P 16 37 05.8 +0.8
ULM Lac du Bonnet 40.64 67 P P 16 37 14.2 +1.3
comp=Z,6.2nm,0.5s,baz=307,slow=7.9,SNR=13
ULM ScP **ScP 16 42 45.2 +0.7**
comp=Z,1.7nm,0.6s,baz=302,slow=4.5,SNR=4.9
comp=Z,6.2nm,0.5s
PV07 Paradox Valley 40.73 90 P P 16 37 14.3 +0.3
NEEM North Greenlan 41.83 17 *i* P **P 16 37 23.7 +1.1**
NEEM IAmb IAmb 16 37 24.6
comp=Z,26nm,0.8s
X16A Lo Mia Camp, P 41.91 97 P P 16 37 25.0 +1.3
S22A 4UR Ranch, Cre 42.25 89 P P 16 37 26.8 +0.3

baz=313
Q24A Divide 42.39 87 P P 16 37 28.6 +0.9
baz=312
NOR Nord 42.71 7 *e*P **P 16 37 30.4 +1.1**
NOR IAmb IAmb 16 37 31.4
comp=Z,8.7nm,0.9s
TUC Tucson 43.82 98 P P 16 37 39.2 +0.3
TUC IAmb IAmb 16 37 42.4
comp=Z,20nm,1.4s
T25A Trinidad 44.06 88 P P 16 37 41.7 +0.8
baz=314
ECSD EROS Data Cent 44.14 75 P P 16 37 41.5 +0.2
EYMN Ely 44.32 67 P P 16 37 43.0 +0.3
ANMO Albuquerque 44.41 92 P P 16 37 44.5 +0.8
E38A The Farm, Brul 45.12 69 P P 16 37 49.5 +0.6
E38A IAmb IAmb 16 37 55.5
comp=Z,21nm,0.6s
121A Cookes Peak, D 45.38 95 P P 16 37 52.1 +0.7
baz=317,SNR=7.1
I37A Lemond, Waseca 45.75 73 IAmb IAmb 16 38 02.0
comp=Z,19nm,0.8s
DAG Danmarks Havn 46.90 10 *i* P **P 16 38 01.0 -1.4**
DAG *i* P **P 16 38 02.4 0.0**
DAG IAmb IAmb 16 38 04.0
comp=Z,24nm,0.8s
SPITS Spitsbergen Ar 47.23 360 P **P 16 38 05.1 +0.2**
comp=Z,5.0nm,0.7s,baz=64,slow=7.7,SNR=4.6
comp=Z,5.0nm,0.7s
SUMG Summit 47.58 19 P P 16 38 08.8 +0.7
SUMG IAmb IAmb 16 38 11.0
comp=Z,17nm,0.8s
SUMG Summit 47.58 19 *i* P **P 16 38 08.0 -0.2**
KSRS Korea Array 47.78 278 P P 16 38 09.0 -0.7
comp=Z,2.2nm,0.8s,baz=64,slow=5.9,SNR=6.1
KSRS pP **pP 16 38 48.8 +1.8**
comp=Z,2.3nm,0.8s,baz=45,slow=7.1,SNR=4.9
comp=Z,2.2nm,0.8s
DBG Daneborg 48.95 12 *e*P **P 16 38 18.6 +0.4**
ALPN Alpine 49.36 94 P **P 16 38 22.5 +0.5**
XLT XiLinHaoTe 50.00 292 *e*P **P 16 38 26.7 +0.1**
XLT pmax pmax
comp=Z,3.0nm,0.8s
XLT LR LR
comp=N,54nm,17.3s
XLT LR LR
comp=E,530nm,18.2s
XLT LR LR
comp=Z,820nm,18.4s
ICESG Greenland Ices 50.07 22 *e*P **P 16 38 27.7 +0.6**
TX31 Lajitas Ar. Si 50.12 95 IAmb IAmb 16 38 30.5
comp=Z,21nm,1.0s
TXAR Lajitas Array 50.12 95 P P 16 38 27.9 +0.1
TXAR Lajitas Array 50.12 95 P P 16 38 29.4 +1.7
comp=Z,13nm,0.8s,baz=298,slow=5.6,SNR=43
TXAR pP **pP 16 39 07.6 +2.2**
comp=Z,2.9nm,0.8s,baz=308,slow=6.2,SNR=3.2
comp=Z,13nm,0.8s
SLBS Sierra La Lagu 50.89 105 P P 16 38 33.6 0.0
SFIN Lafayette 51.66 72 IAmb IAmb 16 38 40.4
comp=Z,12nm,0.9s
SCHQ Schefferville 51.76 47 P P 16 38 39.8 +0.2
comp=Z,7.7nm,0.9s,baz=288,slow=6.9,SNR=5.1
comp=Z,7.7nm,0.9s
T42A Van Buren 51.77 78 P P 16 38 38.3 -1.5
ULN Ulaanbaatar 51.98 301 P P 16 38 41.0 -0.5
ULN **pP 16 39 20.5 +1.2**
ULN IAmb IAmb 16 39 22.9
comp=Z,31nm,0.9s
N47A Urbana 52.08 71 IAmb IAmb 16 38 42.8
comp=Z,12nm,0.8s
SCO Scoresbysund 52.16 15 P P 16 38 42.9 +0.7
SCO IAmb IAmb 16 39 23.9
comp=Z,15nm,1.4s
SCO Scoresbysund 52.16 15 *e*P **P 16 38 42.2 0.0**
SONM Songino Array 52.32 302 P P 16 38 43.6 -0.3
SONM **pP 16 39 21.9 0.0**
SONM IAmb IAmb 16 39 25.4
comp=Z,22nm,1.0s
SONM Songino Array 52.32 302 P P 16 38 43.5 -0.5
comp=Z,0.8nm,0.6s,baz=43,slow=7.7,SNR=5.2
SONM pP **pP 16 39 22.3 +0.4**
comp=Z,14nm,0.8s,baz=55,slow=7.0,SNR=42
SONM ScP **ScP 16 43 32.6 -0.9**
comp=Z,1.7nm,1.0s,baz=108,slow=4.7,SNR=3.8
comp=Z,0.8nm,0.6s
HHC Hu-ho-hao-te 54.52 292 *e*P **P 16 39 00.6 +0.6**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,240nm,5.1s
HHC LR LR
comp=N,410nm,21.9s
HHC LR LR
comp=E,700nm,22.7s
HHC LR LR
comp=Z,1μm,23.0s
CLTN Cedars of Leba 55.12 75 P P 16 39 04.7 +0.5
CLTN IAmb IAmb 16 39 05.8
comp=Z,8.6nm,0.9s
ARCES ARCESS Array B 55.69 356 P P 16 39 08.1 +0.2
comp=Z,2.0nm,0.7s,baz=12,slow=7.0,SNR=9.8
comp=Z,2.0nm,0.7s
NJ2 Nanjing 56.84 280 *e*P **P 16 39 16.5 0.0**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 57.37 319 P P 16 39 19.7 -0.2
ZALV **pP 16 39 59.0 +0.5**
ZALV Zalesovo Beam 57.37 319 P P 16 39 19.9 0.0
comp=Z,0.3nm,0.3s,baz=315,slow=20,SNR=2.2
ZALV pP **pP 16 39 59.6 +1.1**
comp=Z,2.5nm,0.9s,baz=48,slow=6.6,SNR=5.8
comp=Z,0.3nm,0.3s
Y58A Scranton 60.42 72 P P 16 39 40.5 -0.6
TLIG Tlapa 62.18 99 P P 16 39 53.1 -0.2
KURK Kurchatov 62.26 320 P P 16 39 53.1 -0.2
KURK **PcP 16 40 29.4 -2.1**
KURBB Kurchatov Arra 62.37 320 P P 16 39 53.8 -0.2
comp=Z,0.8nm,0.6s,baz=39,slow=6.8,SNR=6.6
KURBB pP **pP 16 40 33.5 +0.3**
comp=Z,2.9nm,0.9s,baz=37,slow=6.8,SNR=7.3
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 63.20 326 P P 16 40 00.2 +0.7
comp=Z,3.7nm,0.7s,baz=40,slow=7.2,SNR=23
BVAR pP **pP 16 40 40.1 +1.3**
comp=Z,4.3nm,0.6s,baz=67,slow=8.2,SNR=4.2
comp=Z,3.7nm,0.7s
BRVK Borovoye 63.20 326 P P 16 39 59.4 0.0
BRVK **PcP 16 40 36.4 +1.1**
BRVK IAmb IAmb 16 40 43.1
comp=Z,10nm,0.9s
ARTI Arti 63.66 335 P P 16 40 01.6 -0.8
ARTI **PcP 16 40 38.8 +1.7**
ARTI IAmb IAmb 16 40 45.4
comp=Z,17nm,0.9s
FINES FINESS Array B 63.73 354 P P 16 40 02.9 +0.1
comp=Z,3.9nm,0.7s,baz=4.4,slow=8.3,SNR=13
FINES pP **pP 16 40 42.4 +0.2**
comp=Z,7.5nm,0.8s,baz=14,slow=8.6,SNR=7.1
comp=Z,3.9nm,0.7s
MK31 Makanchi Array 64.00 315 P P 16 40 04.1 -0.7
MK31 **PcP 16 40 38.9 +0.1**
MKAR Makanchi Array 64.00 315 P P 16 40 03.6 -1.2
MKAR **PcP 16 40 39.2 +0.5**
MKAR Makanchi Array 64.00 315 P P 16 40 04.5 -0.4
comp=Z,0.7nm,0.7s,baz=41,slow=6.0,SNR=6.9
MKAR pP **pP 16 40 45.1 +0.8**
comp=Z,1.5nm,0.6s,baz=49,slow=5.8,SNR=8.7
comp=Z,0.7nm,0.7s
WMQ Urumqi 64.07 310 *e*P **P 16 40 07.8 +2.4**
WMQ LR LR
comp=N,650nm,18.3s
WMQ LR LR
comp=E,890nm,19.1s
WMQ LR LR
comp=Z,550nm,21.3s
NB2 NORSAR Subarra 64.41 2 P P 16 40 07.7 +0.4
comp=Z,4.1nm,0.9s,baz=1.2,slow=6.5
NB2 pP **pP 16 40 48.3 +1.6**
comp=Z,9.2nm,0.9s,baz=359,slow=6.9
NOA NORSAR Array B 64.41 2 P P 16 40 07.7 +0.4
comp=Z,1.4nm,0.7s,baz=358,slow=6.6,SNR=5.1
NOA pP **pP 16 40 46.9 +0.2**
comp=Z,5.8nm,0.9s,baz=357,slow=6.7,SNR=9.7
NOA PP **PP 16 42 24.9 -5.4**
comp=Z,1.2nm,0.9s,baz=158,slow=6.2,SNR=3.3
comp=Z,1.4nm,0.7s
HFS Hagfors 65.36 1 P P 16 40 13.6 +0.2

comp=Z,4.1nm,0.4s,baz=45,slow=4.4,SNR=39
HFS pP **pP 16 40 52.5 -0.4**
comp=Z,14nm,0.9s,baz=23,slow=4.8,SNR=8.1
comp=Z,4.1nm,0.4s
EKA Eskdalemuir Ar 69.15 11 P P 16 40 37.0 -0.3
comp=Z,1.5nm,0.5s,baz=350,slow=4.5,SNR=9.2
EKA pP **pP 16 41 16.9 -0.4**
comp=Z,6.3nm,0.8s,baz=354,slow=4.2,SNR=4.5
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 69.67 331 P P 16 40 40.9 +0.3
ABKAR **pP 16 41 18.7 -1.9**
ABKAR Akbulak array 69.67 331 P P 16 40 40.6 +0.1
ABKAR **pP 16 41 19.3 -1.3**
ABKAR IAmb IAmb 16 41 24.1
comp=Z,24nm,0.8s
PABE Paberze 69.77 355 P P 16 40 41.4 +0.4
PABE **pP 16 41 19.7 -1.3**
BELG Belogornoye 69.78 339 P P 16 40 40.7 -0.4
comp=Z,7.2nm,0.8s,baz=341,slow=5.6,SNR=5.0
BELG pP **pP 16 41 22.5 +1.4**
comp=Z,16nm,0.7s,baz=281,slow=2.0,SNR=8.0
comp=Z,7.2nm,0.8s
KDJ Kajisay 69.92 316 P P 16 40 42.3 -0.2
KDJ **pP 16 41 20.5 -2.0**
KDJ IAmb IAmb 16 41 25.7
comp=Z,8.3nm,1.0s
BOOM Boomskoye usch 70.11 317 P P 16 40 43.4 -0.3
BOOM **pP 16 41 21.7 -2.0**
BOOM IAmb IAmb 16 41 27.2
comp=Z,8.8nm,0.8s
AAK Ala-Archa 70.56 318 P P 16 40 46.0 -0.3
AAK **pP 16 41 24.7 -1.8**
AAK IAmb IAmb 16 41 29.9
comp=Z,11nm,0.9s
PZH PanZhiHua 70.66 289 P P 16 40 47.1 0.0
PZH pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 71.66 321 P P 16 40 52.4 -0.4
KKAR **pP 16 41 31.7 -1.3**
KKAR Karatay Array 71.66 321 P P 16 40 52.6 -0.1
KKAR **pP 16 41 31.7 -1.3**
KKAR IAmb IAmb 16 41 35.8
comp=Z,6.3nm,0.9s
ARSB Arslanbob 72.26 318 P P 16 40 56.6 0.0
ARSB **pP 16 41 35.1 -1.7**
ARSB IAmb IAmb 16 41 40.6
comp=Z,18nm,1.0s
KSH Kashi 72.61 315 P P 16 41 02.6 +4.0
KSH pP pP 16 41 44.4 +5.5
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH LR LR
comp=N,420nm,20.6s
KSH LR LR
comp=E,830nm,18.5s
KSH LR LR
comp=Z,1μm,18.9s
AKASG Malin Array Be 74.16 351 P P 16 41 07.0 -0.2
comp=Z,2.1nm,0.6s,baz=14,slow=6.0,SNR=9.2
AKASG pP **pP 16 41 48.5 +0.8**
comp=Z,10nm,0.9s,baz=11,slow=5.6,SNR=6.7
comp=Z,2.1nm,0.6s
KIEV Kiev 74.17 351 P P 16 41 06.2 -1.1
KIEV **pP 16 41 45.9 -1.9**
KIEV IAmb IAmb 16 41 49.6
comp=Z,20nm,1.1s
BTK Batken 74.19 319 P P 16 41 06.2 -1.5
BTK IAmb IAmb 16 41 13.7
comp=Z,5.4nm,0.6s
BTK **pP 16 41 46.1 -2.1**
CLL Collm 74.19 1 *i* P **P 16 41 10.9 +3.5**
comp=Z,6.0nm,0.9s
GAR Garm 75.30 319 P P 16 41 13.7 -0.5
SIMJ Simiganj 76.09 319 P P 16 41 18.3 -0.4
SIMJ **pP 16 41 57.2 -2.2**
SIMJ IAmb IAmb 16 42 02.5
comp=Z,26nm,0.9s
GERES GERESS Array B 76.67 1 P P 16 41 22.9 +1.2
comp=Z,0.8nm,0.7s,baz=56,slow=39,SNR=2.5
GERES pP **pP 16 42 02.8 +0.4**
comp=Z,0.5nm,0.4s,baz=12,slow=6.8,SNR=3.0
comp=Z,0.8nm,0.7s
DLV Lat 78.44 274 P P 16 41 30.6 -1.5
CMAR Chiang Mai Arr 78.63 286 P P 16 41 31.9 -1.0
CMAR Chiang Mai Arr 78.63 286 P P 16 41 33.0 +0.1
comp=Z,2.4nm,0.8s,baz=18,slow=5.7,SNR=24
CMAR pP **pP 16 42 14.2 +0.4**
comp=Z,1.7nm,0.7s,baz=23,slow=6.2,SNR=3.8
comp=Z,2.4nm,0.8s
KBZ Khabaz 79.00 340 P P 16 41 35.1 +0.6
comp=Z,2.0nm,0.8s,baz=21,slow=7.5,SNR=4.8
KBZ pP **pP 16 42 16.4 +0.9**
comp=Z,6.2nm,0.9s,baz=256,slow=2.3,SNR=6.7
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 84.43 15 P P 16 42 02.9 -0.2
ESDC IAmb IAmb 16 42 05.0
comp=Z,27nm,1.4s
ESDC Sonseca Array 84.43 15 P P 16 42 04.7 +1.6
comp=Z,3.0nm,0.9s,baz=348,slow=5.3,SNR=10
ESDC pP **pP 16 42 45.4 +0.9**
comp=Z,1.7nm,0.8s,baz=343,slow=5.4,SNR=3.4
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 84.47 346 P P 16 42 02.8 -0.7
BRTR **pP 16 42 43.6 -1.3**
BRTR Keskin Array B 84.47 346 P P 16 42 04.4 +1.0
comp=Z,1.4nm,0.8s,baz=354,slow=3.4,SNR=8.2
BRTR pP **pP 16 42 46.5 +1.6**
comp=Z,3.2nm,1.0s,baz=47,slow=2.5,SNR=6.5
comp=Z,1.4nm,0.8s
BAUV El Baul 86.65 79 P P 16 42 13.2 -1.1
WRA Warramunga Arr 90.66 235 P P 16 42 32.9 -0.1
comp=Z,2.8nm,0.8s,baz=38,slow=5.6,SNR=4.3
comp=Z,2.8nm,0.8s
ASAR Alice Springs 94.06 234 P P 16 42 48.5 -0.1
comp=Z,2.1nm,0.8s,baz=92,slow=3.6,SNR=2.8
comp=Z,2.1nm,0.8s
QSPA South Pole Qui 144.62 180 PKP **PKPdf 16 49 04.4 -0.3**
comp=Z,66nm,0.8s,baz=295,slow=0.3,SNR=152
SNAA Sanae 161.43 162 PKPab **PKPab 16 50 13.3 -0.8**
comp=Z,2.4nm,0.5s,baz=218,slow=7.8,SNR=12

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*IDC **07** 16:44:15.9±1.1, 31°.84S×178°.25W, h0km, mb4.0/3, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=37.9km s-min=28.3km az=116.0*
*WEL **07** 16:44:15.6±1.1, 32°S±6°×17°7W±2°1, h33km, M4.6/9, mB4.9/6, ML5.0/12, MLv4.9/9, Mw(mB)4.2/8, Error ellipse: s-maj=27.6km s-min=4.3km az=103.9, confirmed*
*NEIC **07** 16:44:19.6±1.6, 32°.0S±0°.1×178°.3W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=27.1km s-min=20.4km az=106.0*

ISC 07 16:44:18.0±0.9, 31°.81S±0°.08×178°.3W±0°.2, h10km, n50, σ1§74/59, mb4.3/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.56**	**8**	P	Pn	16 44 56.4	-3.2
GLKZ				S	Sn	16 45 28.2	-2.6
WMGZ	**Waiomatatini S**	**6.57**	**203**	P	**Pn**	**16 45 54.0**	**-0.7**
WMGZ				S	**Sn**	**16 47 12.8**	**+3.1**
PKGZ	**Pakihiroa**	**6.73**	**205**	P	**Pn**	**16 45 54.0**	**-2.9**
PKGZ				S	**Sn**	**16 47 16.0**	**+2.3**
HAZ	**Te Kaha**	**6.75**	**207**	P	**Pn**	**16 45 55.9**	**-1.2**
HAZ				S	**Sn**	**16 47 16.3**	**+2.3**
PUZ	**Puketiti**	**6.85**	**203**	P	**Pn**	**16 45 59.3**	**+0.7**
PUZ				S	**Sn**	**16 47 16.5**	**-0.2**
RUGZ	**Raukumara Rang**	**6.97**	**207**	P	**Pn**	**16 45 58.4**	**-1.9**
TWGZ	**Tauwhareparae**	**7.04**	**205**	P	**Pn**	**16 46 00.2**	**-1.1**
TWGZ				S	**Sn**	**16 47 21.5**	**+0.1**
CNGZ	**Carnagh Statio**	**7.24**	**202**	P	**Pn**	**16 45 59.7**	**-4.2**
CNGZ				S	**Sn**	**16 47 27.0**	**+0.8**
TKGZ	**Te Karaka**	**7.32**	**204**	mB			
MWZ	**Matawai**	**7.35**	**206**	P	**Pn**	**16 46 02.6**	**-2.8**
URZ	**Urewera**	**7.45**	**209**	Pn	**Pn**	**16 46 04.1**	**-2.6**
	1.0nm,0.3s,baz=352,slow=5.2,SNR=10						
URZ				Sn	**Sn**	**16 47 31.4**	**+0.1**
	5.0nm,0.3s,baz=303,slow=20,SNR=13						
	2.9nm,0.3s						
URZ	**Urewera**	**7.45**	**209**	P	**Pn**	**16 46 04.1**	**-2.6**
OUZ	**Omahuta**	**7.56**	**241**	P	Pn	16 46 15.2	+6.9
RIGZ	**Rimuhau**	**7.59**	**204**	P	**Pn**	**16 46 08.6**	**-0.1**
RIGZ				S	**Sn**	**16 47 35.6**	**+0.7**
RTZ	**Ruatahuna**	**7.80**	**208**	Pn	**Pn**	**16 46 08.7**	**-3.1**
SNGZ	**Shannon Statio**	**7.81**	**206**	P	**Pn**	**16 46 11.2**	**-0.6**

SNGZ			S	Sn	16 47 41.5	+1.2
RAHZ	Arahi	8.02 207	P	Pn	16 46 14.2	-0.5
RAHZ			S	Sn	16 47 46.4	+0.9
BKZ	Black Stump Fm	8.47 209	P	Pn	16 46 20.3	-0.6
MCHZ	McNeill Hill	8.63 207	P	Pn	16 46 22.4	-0.7
MCHZ			S	Sn	16 48 01.2	+0.8
KWHZ	Kaweka Forest	8.72 208	P	Pn	16 46 23.9	-0.4
TSZ	Takapari Road	9.45 208	P	Pn	16 46 35.1	+0.8
BFZ	Birch Farm	9.88 205	Pn	Pn	16 46 38.3	-1.9
THZ	Tophouse	12.17 213	P	Pn	16 47 10.5	-1.0
KHZ	Kahutara	12.42 209	Pn	Pn	16 47 12.2	-2.6
INZ	Inchbonnie	13.60 214	P	Pn	16 47 32.3	+1.4
RPZ	Rata Peaks	14.54 212	P	Pn	16 47 42.3	-1.6
BBOO	Buckleboo	38.35 256	P	P	16 51 39.9	+0.6
BBOO			IAmb	IAmb	16 51 55.0	
comp=Z,11nm,1.2s						
COEN	Coen	39.42 288	P	P	16 51 49.9	+1.5
COEN			IAmb	IAmb	16 51 59.4	
comp=Z,6.4nm,0.9s						
AS31	Alice Springs	42.78 269	P	P	16 52 16.3	+0.2
ASAR	Alice Springs	42.78 269	P	P	16 52 16.8	+0.7
ASAR	Alice Springs	42.78 269	P	P	16 52 16.1	0.0
comp=Z,1.1nm,0.8s,baz=108,slow=7.6,SNR=22						
ASAR			PP	PP	16 53 50.4	-4.9
comp=Z,0.6nm,0.9s,baz=190,slow=9.7,SNR=4.1						
comp=Z,1.1nm,0.8s						
WR8	Warramunga Arr	43.76 274	P	P	16 52 24.8	+0.8
WR8			IAmb	IAmb	16 52 29.6	
comp=Z,6.8nm,1.1s						
WRA	Warramunga Arr	43.90 274	P	P	16 52 25.1	-0.1
comp=Z,2.7nm,0.7s,baz=114,slow=7.8,SNR=11						
comp=Z,2.7nm,0.7s						
WB0	Warramunga Arr	43.93 274	P	P	16 52 25.5	+0.1
WB0			IAmb	IAmb	16 52 46.4	
comp=Z,4.5nm,0.8s						
MTN	Manton Dam	49.95 280	P	P	16 53 14.7	+2.2
KNRA	Kununurra	50.56 276	P	P	16 53 18.9	+1.8
KNRA			IAmb	IAmb	16 54 05.2	
comp=Z,12nm,1.2s						
FITZ	Fitzroy Crossi	52.10 271	P	P	16 53 29.6	+0.9
CASY	Casey	53.77 208	P	P	16 53 40.5	+0.3
QSPA	South Pole Qui	58.31 180	P	P	16 54 13.0	+0.1
QSPA	South Pole Qui	58.31 180	P	P	16 54 12.7	-0.2
comp=Z,1.8nm,1.0s,baz=45,slow=4.3,SNR=2.5						
comp=Z,1.8nm,1.0s						
SNAA	Sanae	76.76 179	P	P	16 56 09.0	-0.3
SNAA			IAmb	IAmb	16 56 20.9	
comp=Z,6.3nm,1.1s						
MKAR	Makanchi Array	118.46 310	PKP	PKPdf	17 03 05.5	-0.2
comp=Z,0.2nm,0.5s,baz=107,slow=1.3,SNR=1.8						
KURBB	Kurchatov Arra	121.86 313	PKP	PKPdf	17 03 12.4	+0.4
comp=Z,0.1nm,0.4s,baz=117,slow=1.9,SNR=2.5						
BVAR	Borovoye Array	127.22 315	PKP	PKPdf	17 03 21.0	-1.2
comp=Z,0.3nm,0.4s,baz=104,slow=3.0,SNR=2.3						
FIA1	FINESS Array S	146.36 339	PKPdf	PKPdf	17 03 56.3	-0.8
FINES	FINESS Array B	146.37 339	PKPdf	PKPdf	17 03 56.7	-0.4
FINES	FINESS Array B	146.37 339	PKPbc	PKPdf	17 03 56.3	-0.8
comp=Z,1.8nm,0.5s,baz=66,slow=4.6,SNR=11						
HFS	Hagfors	150.56 348	PKPbc	PKPdf	17 04 08.6	+4.6
comp=Z,1.6nm,0.7s,baz=108,slow=3.8,SNR=6.4						
MMAI	Mount Meron Ar	151.58 282	PKPbc	PKPbc	17 04 12.1	-0.7
comp=Z,2.9nm,0.6s,baz=103,slow=6.9,SNR=4.9						
BRTR	Keskin Array B	153.00 296	PKPbc	PKPbc	17 04 15.9	+0.1
comp=Z,1.1nm,0.8s,baz=113,slow=3.1,SNR=6.3						

*IDC **07** 17:17:33.1±0.8, 2°.10N×126°.45E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=62.9km s-min=15.6km az=70.0*
*NEIC **07** 17:17:39.8±0.9, 2°.1N±0°.1×126°.8E±0°.1, h47km±11km, mb4.2/14, Error ellipse: s-maj=24.3km s-min=9.9km az=222.0*

ISC 07 17:17:39.8±0.8, 2°.07N±0°.09×126°.66E±0°.09, h47km, n43, σ0s95/45, mb4.2/14, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.47 151			Pn	17 18 04.0	+0.1
SANI	Sanana	4.15 189		P	Pn	17 18 40.7	0.0
TOLI2	Tolitoli	5.95 261			Pn	17 19 04.8	-0.7
TOLI2	Tolitoli	5.95 261		P	Pn	17 19 04.7	-0.7
TOLI2	Tolitoli	5.95 261		S	Sn	17 20 09.7	-2.7
MYLDM	Lahad Datu	8.71 291		Pn	Pn	17 19 44.9	+1.6
KKM	Kota Kinabalu	11.14 291		P	Pn	17 20 19.2	+2.5
SBUM	Sibu	14.43 272		P	P	17 21 08.6	+1.4
KDU	Kakadu	15.76 159		P	P	17 21 21.1	-0.8
KNRA	Kununurra	17.76 173			Pn	17 21 43.4	-0.3
KNRA				IAmb	IAmb	17 21 56.4	
comp=Z,15nm,1.2s							
FITZ	Fitzroy Crossi	20.07 183		P	P	17 22 09.6	+0.2
FITZ	Fitzroy Crossi	20.07 183		P	P	17 22 09.9	+0.5
comp=Z,1.8nm,0.4s,baz=14,slow=9.7,SNR=22							
comp=Z,1.8nm,0.4s							
FITZ	Fitzroy Crossi	20.07 183		P	P	17 22 09.5	+0.2
WB0	Warramunga Arr	22.99 161		P	P	17 22 39.7	-1.0
WB0				IAmb	IAmb	17 22 43.4	
comp=Z,7.3nm,0.6s							
WRA	Warramunga Arr	23.14 161		P	P	17 22 41.4	-0.8
WRA	Warramunga Arr	23.14 161		P	P	17 22 41.7	-0.5
comp=Z,4.8nm,0.5s,baz=332,slow=11,SNR=41							
WRA				PcP	PcP	17 26 30.4	+0.5
comp=Z,0.3nm,0.6s,baz=340,slow=2.2,SNR=2.2							
comp=Z,4.8nm,0.5s							
WB2	Warramunga Arr	23.14 161		P	P	17 22 41.6	-0.7
WB2				IAmb	IAmb	17 22 44.2	
comp=Z,6.5nm,0.7s							
WR0	Warramunga Arr	23.22 161		P	P	17 22 41.8	-1.2
WR0				IAmb	IAmb	17 22 43.2	
comp=Z,3.4nm,0.6s							
QIS	Mount Isa	25.82 151		P	P	17 23 08.1	+1.2
AS31	Alice Springs	26.54 165		P	P	17 23 12.8	-0.5
ASAR	Alice Springs	26.54 165		P	P	17 23 13.0	-0.4
ASAR	Alice Springs	26.54 165		P	P	17 23 13.1	-0.4
comp=Z,0.8nm,0.4s,baz=346,slow=11,SNR=20							
ASAR				PcP	PcP	17 26 38.1	+0.8
comp=Z,0.6nm,0.4s,baz=347,slow=2.1,SNR=8.6							
comp=Z,0.8nm,0.4s							
AS01	Alice Springs	26.55 165		P	P	17 23 14.0	+0.5
WRKA	Warakurna	26.99 177		P	P	17 23 18.3	+0.8
OOD	Oodnadatta	30.94 164		P	P	17 23 53.4	+1.0
FORT	Forrest	32.69 178		P	P	17 24 07.7	-0.2
FORT	Forrest	32.69 178		P	P	17 24 08.5	+0.7
LCRK	Leigh Creek	34.16 162		P	P	17 24 21.4	+0.7
KLBR	Kellerberrin	34.53 193		P	P	17 24 24.6	+0.8
BBOO	Buckleboo	35.81 166		P	P	17 24 34.4	-0.5
BBOO	Buckleboo	35.81 166		P	P	17 24 35.1	+0.2
STKA	Stephens Creek	36.62 158		P	P	17 24 41.6	-0.2
STKA	Stephens Creek	36.62 158		P	P	17 24 42.3	+0.6
comp=Z,0.9nm,0.4s,baz=346,slow=6.5,SNR=7.2							
comp=Z,0.9nm,0.4s							
MK31	Makanchi Array	58.88 326		P	P	17 27 33.4	-0.6
MK31				IAmb	IAmb	17 27 35.4	
comp=Z,0.7nm,0.9s							
MKAR	Makanchi Array	58.88 326		P	P	17 27 33.0	-0.9
MKAR	Makanchi Array	58.88 326		P	P	17 27 33.4	-0.6
comp=Z,0.8nm,0.3s,baz=118,slow=7.4,SNR=24							
comp=Z,0.8nm,0.3s							
MAKZ	Makanchi	59.06 326		P	P	17 27 34.2	-1.1
MAKZ				IAmb	IAmb	17 27 36.7	
comp=Z,3.3nm,1.4s							
KDJ	Kajisay	59.54 319		P	P	17 27 38.6	-0.3
KDJ				IAmb	IAmb	17 28 22.2	
comp=Z,2.6nm,1.1s							
KURBB	Kurchatov Arra	63.09 328		P	P	17 28 01.5	-0.9
comp=Z,1.1nm,0.6s,baz=130,slow=6.5,SNR=8.4							
comp=Z,1.1nm,0.6s							
KURK	Kurchatov	63.10 328		P	P	17 28 01.8	-0.6
KURK				IAmb	IAmb	17 28 04.4	
comp=Z,2.7nm,0.9s							
BVAR	Borovoye Array	68.67 327		P	P	17 28 37.1	-1.2
comp=Z,0.3nm,0.4s,baz=139,slow=9.6,SNR=5.3							
comp=Z,0.3nm,0.4s							
ABKAR	Akbulak array	73.39 321		P	P	17 29 06.4	-0.6
ILAR	Eielson Array	86.62 25		P	P	17 30 17.2	-0.9
comp=Z,0.2nm,0.6s,baz=257,slow=4.4,SNR=4.9							
comp=Z,0.2nm,0.6s							

FUNV 07 17:32:07.4, 10°.38N×68°.17W, h17km, MW2.3, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPV	Macapo	0.61 208		eP	Pg	17 32 19.1	-0.5
MAPV				eS	Sg	17 32 27.2	-0.6
MAPV	Macapo	0.61 208		eP	Pg	17 32 19.2	-0.3
MAPV				eS	Sg	17 32 27.5	-0.4
BENV	Beln	0.69 126		eP	Pg	17 32 21.0	0.0
BENV				eS	Sg	17 32 29.9	-0.4
BENV	Beln	0.69 126		eP	Pg	17 32 20.3	-0.7
BENV				eS	Sg	17 32 30.3	0.0
TEPV	Terepaima	1.09 248		eP	Pg	17 32 29.9	+1.3
TEPV				eS	Sg	17 32 44.1	+1.2
TEPV	Terepaima	1.09 248		eP	Pb	17 32 27.5	-0.4
TEPV				eS	Sn	17 32 42.4	-0.4
BAUV	El Baul	1.43 175		eP	Pn	17 32 32.7	0.0
BAUV				eS	Sn	17 32 50.4	-0.6
BAUV	El Baul	1.43 175		eP	Pn	17 32 31.9	-0.7
BAUV				eS	Sn	17 32 51.0	-0.1

*AEIC **07** 17:34:01.0±1.7, 51°.8N±0°.1×175°.22W±0°.03, h51km±8km, Error ellipse: s-maj=16.5km s-min=2.5km az=174.0*
NEIC 07 17:34:00.6±1.3, 51°.61N±0°.08×175°.17W±0°.05, h37km±22km, mb3.6/18, ML3.0(AEIC), Error ellipse: s-maj=12.1km s-min=3.9km az=172.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.70	309		Pn	17 34 13.9	-0.1
GSCK	Great Sitkin C	0.73	304		Pn	17 34 14.3	-0.1
GSCK					Sn	17 34 24.5	+0.2
GSSP	Great Sitkin S	0.79	308		Pn	17 34 15.4	+0.3
ATKA	Atka Island	0.85	45		Pn	17 34 15.8	-0.2
ATKA	Atka Island	0.85	45		Sn	17 34 27.3	+0.1
ADK	Adak	0.98	287		Pn	17 34 16.9	-0.8
KIWB	Kanaga Island	1.25	282		Pn	17 34 21.1	-0.4
KINC	Kanaga Island	1.26	286		Pn	17 34 21.5	0.0
KIKV	Kanaga Island	1.27	283		Pn	17 34 21.8	0.0
TAFP	Tanaga Falls P	1.77	280		Pn	17 34 29.0	+0.4
TAFP					Sn	17 34 50.6	+0.7
TASE	Tanaga Southea	1.80	278		Pn	17 34 29.5	+0.5
GANE	Gareloi Northe	2.25	277		Pn	17 34 36.0	+0.8
KDAK	Kodiak Island	14.41	56	P	P	17 37 27.1	-0.8
G16K	Koyuk River	15.31	21	P	P	17 37 37.9	+0.1
H21K	Melozitna Rive	18.11	30	Pn	P	17 38 11.3	+2.4
RND	Reindeer	18.25	40	P	Pn	17 38 10.9	+0.2
RND				IAmb	IAmb	17 38 35.6	
comp=Z,7.5nm,1.4s							
D19K	Kuna River	18.83	20	P	Pn	17 38 17.4	-0.1
IL31		19.66	37	P	P	17 38 25.5	-0.3
IL31				IAmb	IAmb	17 38 27.6	
comp=Z,4.9nm,1.5s							
E21K	Killik River	19.73	23	P	P	17 38 26.2	-0.4
H24K	Noodor Dome	19.85	34	P	P	17 38 27.9	-0.2
RIDG	Independent Ri	20.02	41	P	P	17 38 29.2	-0.6
J25K	Salcha River,	20.17	38	P	P	17 38 30.7	-0.8
DOT	Dot Lake	20.30	42	P	P	17 38 32.2	-0.7
SCRK	Sand Creek	20.46	41	P	P	17 38 33.8	-0.9
SCRK				IAmb	IAmb	17 38 48.9	
comp=Z,3.3nm,1.0s							
B21K	Ikpikpuk River	20.48	21	P	P	17 38 35.1	+0.3
J26L	Joseph Creek	20.83	40	P	P	17 38 37.8	-0.9
K27K	Chicken	21.26	42	P	P	17 38 43.9	+0.7
I26K	Coal Creek Min	21.32	38	P	P	17 38 43.3	-0.6
C23K	Itkillik River	21.57	23	P	P	17 38 46.8	+0.3
I30M	Mount Dempster	23.97	41	P	P	17 39 10.4	-0.8

*IDC **07** 18:00:04.2±1.3, 6°.02S×130°.71E, h0km, mb4.3/3, mbtmp4.2/6, ML4.1/3, Error ellipse: s-maj=64.0km s-min=21.0km az=72.0*
*NEIC **07** 18:00:23.3±1.7, 6°.54S±0°.08×129°.79E±0°.10, h155km±12km, mb4.4/9, Error ellipse: s-maj=14.4km s-min=11.7km az=71.0*

ISC 07 18:00:22.9±0.8, 6°.70S±0°.07×129°.80E±0°.07, h150km, n33, σ2s32/34, mb4.2/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.96	131		Pn	18 01 01.0	+3.5
SAUI	Saumlaki	1.96	131	S	Sn	18 01 28.3	+4.2
BNDI	Bandanaira	2.17	3	P	Pn	18 01 01.0	+1.0
FAKI	Fak Fak	4.48	33	Pn	Pn	18 01 27.7	-1.8
FAKI	Fak Fak	4.48	33	P	Pn	18 01 27.8	-1.8
DRS	Darwin Rock St	5.79	169	P	Pn	18 01 50.5	+3.6
SANI	Sanana	5.98	320	P	Pn	18 01 52.2	+2.8
MTN	Manton Dam	6.24	168		Pn	18 01 54.8	+1.9
MTN	Manton Dam	6.24	168	P	Pn	18 01 54.9	+2.1
SOEI	Soe	6.26	241	Pn	Pn	18 01 54.9	+1.7
SOEI	Soe	6.26	241	P	Pn	18 01 57.5	+4.3
KDU	Kakadu	6.50	156	P	Pn	18 01 57.9	+1.6
KNRA	Kununurra	8.97	186		Pn	18 02 30.6	+1.3
FITZ	Fitzroy Crossi	12.03	199	Pn	Pn	18 03 10.0	+0.4
0.7nm,0.3s,baz=29,slow=12,SNR=20							
FITZ				Sn	Sn	18 05 17.8	-4.9
0.9nm,0.3s,baz=188,slow=22,SNR=7.8							
1.7nm,0.3s							
WB0	Warramunga Arr	13.73	161	P	Pn	18 03 30.2	-1.3
WRAB	Tennant Creek	13.87	162	Pn	Pn	18 03 31.9	-1.3
WRA	Warramunga Arr	13.88	162	Pn	Pn	18 03 31.6	-1.8
WRA	Warramunga Arr	13.88	162	Pn	Pn	18 03 29.8	-3.6
0.8nm,0.3s,baz=346,slow=12,SNR=22							
WRA				Sn	Sn	18 05 54.9	-12
1.2nm,0.3s,baz=337,slow=22,SNR=12							
1.0nm,0.6s							
WB2	Warramunga Arr	13.88	162	Pn	Pn	18 03 32.0	-1.4
COEN	Coen	15.00	120		Pn	18 03 48.7	+1.3
COEN				IAmb	IAmb	18 04 25.0	
comp=Z,23nm,1.4s							
JAGI	Jajag, Banyuwa	15.61	263		Pn	18 03 55.1	+0.1
AS31	Alice Springs	17.32	167	P	P	18 04 16.6	+1.8
ASAR	Alice Springs	17.32	167	P	P	18 04 16.1	+1.3
ASAR	Alice Springs	17.32	167	P	P	18 04 14.7	-0.1
comp=Z,1.1nm,0.3s,baz=346,slow=11,SNR=122							
ASAR				S	S	18 07 22.5	-5.3
comp=Z,1.0nm,0.6s,baz=357,slow=25,SNR=6.5							
comp=Z,3.0nm,0.5s							
FORT	Forrest	24.01 184		P	P	18 05 24.5	+0.7
FORT				IAmb	IAmb	18 05 42.4	
comp=Z,31nm,1.4s							
BBOO	Buckleboo	26.62 168		P	P	18 05 47.3	-0.2
BBOO				IAmb	IAmb	18 06 16.5	
comp=Z,12nm,1.3s							
STKA	Stephens Creek	27.36 158		P	P	18 05 54.2	+0.2
STKA	Stephens Creek	27.36 158		P	P	18 05 52.9	-1.2
comp=Z,0.8nm,0.3s,baz=323,slow=11,SNR=6.4							
comp=Z,0.8nm,0.3s							
NWAO	Narrogin (SRO)	28.59 202		P	P	18 06 06.6	+1.6
NWAO				IAmb	IAmb	18 06 11.7	
comp=Z,36nm,1.4s							
MK31	Makanchi Array	67.87 327		P	P	18 11 04.1	-1.0
MKAR	Makanchi Array	67.87 327		P	P	18 11 04.5	-0.6
comp=Z,1.7nm,0.5s,baz=117,slow=7.5,SNR=49							
comp=Z,1.7nm,0.5s							
MAKZ	Makanchi	68.05 327		P	P	18 11 05.4	-0.8
MAKZ				IAmb	IAmb	18 11 06.0	
comp=Z,1.4nm,0.5s							
KURBB	Kurchatov Arra	72.16 329		P	P	18 11 29.6	-1.5
comp=Z,1.1nm,0.2s,baz=126,slow=4.8,SNR=4.4							
comp=Z,1.1nm,0.2s							

*WEL **07** 18:10:45.0±0.6, 32°.5±17°.×17°.9W±4°.3, h33km, M4.2/7, mB4.8/6, ML4.5/9, MLv4.4/7, Mw(mB)4.0/6, Error ellipse: s-maj=60.0km s-min=4.1km az=111.8, confirmed*
*IDC **07** 18:10:46.4±7.1, 31°.21S×178°.97W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=295.9km s-min=58.6km az=157.0*

ISC 07 18:10:45.1±1.2, 32°.3S±0°.2×179°.1W±0°.5, h35km, n16, σ0s90/24, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.21	18	P	Pn	18 11 31.8	-1.2
GLKZ				S	Sn	18 12 11.3	+1.4
MXZ	Matakaoa Point	5.66	202	S	Sn	18 13 10.8	+0.5
WMGZ	Waiomatatini S	5.86	200	P	Pn	18 12 10.4	+0.9
HAZ	Te Kaha	6.01	205	P	Pn	18 12 12.3	+0.8
HAZ				S	Sn	18 13 21.3	+2.4
RUGZ	Raukumara Rang	6.23	205	P	Pn	18 12 14.7	+0.1
TWGZ	Tauwhareparae	6.32	202	P	Pn	18 12 14.9	-0.9
TWGZ				S	Sn	18 13 26.3	-0.5
CNGZ	Carnagh Statio	6.54	199	P	Pn	18 12 18.7	0.0
CNGZ				S	Sn	18 13 32.6	+0.5
MWZ	Matawai	6.61	204	P	Pn	18 12 19.7	-0.1
MWZ				S	Sn	18 13 33.4	-0.6
URZ	Urewera	6.70	207	P	Pn	18 12 21.7	+0.8
URZ				S	Sn	18 13 36.2	+0.2
RIGZ	Rimuhau	6.87	201	P	Pn	18 12 23.7	+0.3
RIGZ				S	Sn	18 13 39.9	-0.5
SNGZ	Shannon Statio	7.08	204	P	Pn	18 12 26.5	+0.3
SNGZ				S	Sn	18 13 45.1	-0.3
MTHZ	Maungataniwha	7.32	206	P	Pn	18 12 29.9	+0.4
MTHZ				S	Sn	18 13 50.6	-0.8
BKZ	Black Stump Fm	7.72	207	P	Pn	18 12 34.7	-0.3
BKZ				S	Sn	18 13 59.8	-1.6
ASAR	Alice Springs	42.15	270	P	P	18 18 41.1	+6.7
1.2nm,0.6s,baz=113,slow=8.1,SNR=11							
1.2nm,0.6s							
WRA	Warramunga Arr	43.31	275	P	P	18 18 50.5	+6.7
1.2nm,0.3s,baz=114,slow=7.7,SNR=5.4							
1.2nm,0.3s							
FINES	FINESS Array B	146.62	338	PKPbc	PKiKP	18 30 25.2	+0.3
4.2nm,0.9s,baz=67,slow=3.6,SNR=5.6							

*IDC **07** 18:10:48.8±0.7, 10°.76N×125°.57E, h0km, mb4.1/15, mbtmp4.1/16, ML4.5/1, MS3.3/5, Error ellipse: s-maj=32.4km s-min=13.1km az=76.0*
*NEIC **07** 18:10:58.6±1.2, 10°.82N±0°.07×125°.7E±0°.1, h73km±9km, mb4.4/23, Error ellipse: s-maj=16.8km s-min=8.6km az=106.0*

ISC 07 18:10:59.3±0.5, 10°.77N±0°.05×125°.7E±0°.1, h88km, n56, σ0s99/47, mb4.3/27, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.68	181	Pn	Pn	18 11 54.1	+0.1
DAV	Davao City (W)	3.68	181	Pn	Pn	18 11 45.1	-8.9
35nm,0.3s,baz=251,slow=7.6,SNR=1.8							
DAV				Sn	Sn	18 12 32.9	-3.5
baz=65,slow=22							
DAV				LR	LR	18 13 41.0	
comp=Z,686nm,18.0s,baz=315,slow=47							
98nm,0.4s							
TGY	Tagaytay City	5.67	306	LR	LR	18 15 10.3	
comp=Z,96nm,19.9s,baz=290,slow=46							
MYLDM	Lahad Datu	9.00	232	Pn	Pn	18 13 08.3	+1.8
YULB	Yu-li	13.22	342	Pn	Pn	18 14 01.4	-2.3
TPUB	Ta-pu	13.35	340		Pn	18 14 04.2	-1.2
SSLB	Suanglung	13.70	342	P	P	18 14 14.2	-1.4
FAKI	Fak Fak	15.10	154	P	P	18 14 31.7	+0.4
FAKI				IAmb	IAmb	18 15 06.3	
comp=Z,63nm,1.3s							
SBUM	Sibu	15.69	239		P	18 14 37.2	-0.5
KAPI	Kappang	16.75	201	LR	LR	18 20 46.8	
comp=Z,121nm,21.0s,baz=316,slow=36							
MTN	Manton Dam	24.08	167	P	P	18 16 07.6	+0.8
MTN				IAmb	IAmb	18 16 10.3	
comp=Z,11nm,0.9s							
KNRA	Kununurra	26.46	173	P	P	18 16 28.9	+0.6
KNRA				IAmb	IAmb	18 16 59.0	
comp=Z,12nm,1.1s							
KSRS	Korea Array	26.65	4	P	P	18 16 29.8	0.0
comp=Z,2.0nm,0.9s,baz=184,slow=9.9,SNR=4.6							
KSRS				LR	LR	18 25 41.5	
comp=Z,39nm,21.2s,baz=305,slow=34							
comp=Z,2.0nm,0.9s							
CMAR	Chiang Mai Arr	26.92	290	P	P	18 16 32.7	+0.1
comp=Z,0.3nm,0.5s,baz=96,slow=10,SNR=2.0							
comp=Z,0.3nm,0.5s							
FITZ	Fitzroy Crossi	28.68	180	P	P	18 16 48.8	+0.6
WB0	Warramunga Arr	31.54	164	P	P	18 17 12.8	-0.6
WB0				IAmb	IAmb	18 17 47.1	
comp=Z,4.4nm,1.1s							
WRA	Warramunga Arr	31.70	164	P	P	18 17 14.2	-0.6
comp=Z,0.9nm,0.5s,baz=347,slow=9.1,SNR=11							
comp=Z,0.9nm,0.5s							
WB2	Warramunga Arr	31.70	164	P	P	18 17 14.0	-0.8
WR0	Warramunga Arr	31.77	164	P	P	18 17 14.6	-0.8
WR0				IAmb	IAmb	18 17 18.5	
comp=Z,5.2nm,1.2s							
USRK	Ussuriysk Ar.	33.76	8	P	P	18 17 32.4	-0.1
comp=Z,2.8nm,0.7s,baz=173,slow=7.7,SNR=4.5							
comp=Z,2.8nm,0.7s							
AS31	Alice Springs	35.16	167	P	P	18 17 45.1	+0.1
AS31				IAmb	IAmb	18 17 49.5	
comp=Z,1.7nm,0.3s							
ASAR	Alice Springs	35.16	167	P	P	18 17 45.1	+0.1
ASAR	Alice Springs	35.16	167	P	P	18 17 45.0	0.0
comp=Z,1.2nm,0.3s,baz=348,slow=6.4,SNR=68							
comp=Z,1.2nm,0.3s							
SONM	Songino Array	40.34	340	P	P	18 18 29.3	+0.9
comp=Z,0.6nm,0.6s,baz=147,slow=8.6,SNR=3.3							
comp=Z,0.6nm,0.6s							
H11S3	WAKE ISLAND Hy	40.37	74	T	T	19 01 42.7	
baz=265,slow=75,SNR=12							
H11S1	WAKE ISLAND Hy	40.38	74	T	T	19 01 24.9	
baz=265,slow=75,SNR=6.6							
H11S2	WAKE ISLAND Hy	40.38	74	T	T	19 01 22.4	
baz=265,slow=75,SNR=8.8							
MORW	Morawa	40.68	193	P	P	18 18 29.6	-1.7
H11N1	WAKE ISLAND Hy	40.68	72	T	T	19 01 55.3	
baz=265,slow=75,SNR=23							
H11N2	WAKE ISLAND Hy	40.69	72	T	T	19 02 06.8	
baz=265,slow=75,SNR=22							
H11N3	WAKE ISLAND Hy	40.70	72	T	T	19 01 48.6	
baz=265,slow=75,SNR=21							
FORT	Forrest	41.38	177	P	P	18 18 37.9	+1.0
BBOO	Buckleboo	44.46	167	P	P	18 19 02.5	+0.7
STKA	Stephens Creek	45.07	161	P	P	18 19 07.3	+0.6
STKA	Stephens Creek	45.07	161	P	P	18 19 07.5	+0.8
comp=Z,4.3nm

s-min=44.5km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.74**	**317**	P	P	18 21 59.7	0.0
	4.9nm,0.4s,baz=131,slow=20,SNR=9.6						
STKA	**Stephens Creek**	**36.97**	**245**	P	P	18 27 08.1	-0.6
	1.4nm,0.5s,baz=92,slow=11,SNR=6.7						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**43.82**	**258**	P	P	18 28 04.0	0.0
	3.0nm,0.6s,baz=93,slow=8.6,SNR=47						
ASAR				PcP	PcP	18 29 41.1	-0.3
	0.2nm,0.4s,baz=101,slow=3.7,SNR=6.3						
	3.0nm,0.6s						
WRA	**Warramunga Arr**	**43.97**	**263**	P	P	18 28 05.1	-0.1
	1.2nm,0.5s,baz=96,slow=8.1,SNR=43						
	1.2nm,0.5s						
ARCES	**ARCESS Array B**	**129.57**	**349**	PKP	PKPdf	18 38 55.1	-0.4
	3.3nm,0.9s,baz=46,slow=2.0,SNR=4.3						

IDC 07 18:25:46.4±4.0, 47°58N×92°53W, h0km, mbtmp2.7/2, ML1.0/1, Error ellipse: s-maj=46.8km s-min=19.2km az=79.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.46**	**322**	Pn	Pn	18 26 40.5	-1.1
	0.2nm,0.3s,baz=156,slow=10.0,SNR=1.8						
ULM				Pg	Pb	18 26 48.4	-0.2
	0.2nm,0.3s,baz=136,slow=13,SNR=2.5						
ULM				Lg	Lg	18 27 33.1	
	1.5nm,0.3s,baz=224,slow=15,SNR=18						
	0.6nm,0.3s						
I10CA	**LAC DU BONNET**	**3.49**	**320**	I	I	18 45 20.0	
	0.1nm,1.3s,baz=134,slow=339,SNR=4.8						
PDAR	**Pinedale Array**	**12.94**	**254**	Pn	Pn	18 28 48.6	-3.0
	0.1nm,0.4s,baz=55,slow=10,SNR=2.3						

*IDC **07** 18:35:15.3±2.6, 6°00S×131°04E, h0km, mb3.8/1, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=117.1km s-min=28.3km az=78.0*
*NEIC **07** 18:35:29.6±1.5, 6°29S±0°05×130°6E±0°1, h115km±14km, mb4.0/4, Error ellipse: s-maj=20.6km s-min=5.1km az=103.0*

ISC 07 18:35:28.6±0.8, 6°30S±0°06×130°63E±0°09, h100km, n32, σ1§66/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.80**	**158**	Pn	**Pn**	**18 35 59.5**	**+0.9**
SAUI				Sn	**Sn**	**18 36 24.8**	**+3.3**
BNDI	**Bandanaira**	**1.91**	**338**	P	**Pn**	**18 36 02.7**	**+2.7**
FAKI	**Fak Fak**	**3.72**	**26**		**Pn**	**18 36 25.9**	**+1.8**
FAKI				Sn	**Sn**	**18 37 07.5**	**+0.5**
FAKI	**Fak Fak**	**3.72**	**26**	P	**Pn**	**18 36 26.1**	**+2.0**
DRS	**Darwin Rock St**	**6.10**	**178**	P	**Pn**	**18 36 57.9**	**+1.6**
SANI	**Sanana**	**6.27**	**312**	P	**Pn**	**18 37 01.4**	**+2.8**
MTN	**Manton Dam**	**6.52**	**176**		**Pn**	**18 37 03.5**	**+1.4**
MTN				Sn	Sn	18 38 06.2	-8.8
MTN	**Manton Dam**	**6.52**	**176**	P	**Pn**	**18 37 03.2**	**+1.2**
KDU	**Kakadu**	**6.60**	**164**	P	**Pn**	**18 37 04.1**	**+1.0**
SOEI	**Soe**	**7.18**	**241**	Pn	**Pn**	**18 37 11.5**	**+0.5**
SOEI	**Soe**	**7.18**	**241**	P	**Pn**	**18 37 13.3**	**+2.2**
KNRA	**Kununurra**	**9.50**	**191**		**Pn**	**18 37 41.5**	**-1.1**
KNRA					Sn	18 39 19.2	-8.3
FITZ	**Fitzroy Crossi**	**12.70**	**202**	Pn	**Pn**	**18 38 22.1**	**-3.5**
	1.0nm,0.3s,baz=29,slow=12,SNR=38						
FITZ				Sn	Sn	18 40 34.0	-11
	2.2nm,0.3s,baz=357,slow=22,SNR=9.5						
	2.3nm,0.3s						
WB0	**Warramunga Arr**	**13.88**	**165**		Pn	18 38 36.4	-4.6
WRAB	**Tennant Creek**	**14.03**	**165**	Pn	Pn	18 38 38.8	-4.2
WRAB					Sn	18 41 07.0	-11
WRA	**Warramunga Arr**	**14.03**	**165**	Pn	Pn	18 38 36.8	-6.3
	0.4nm,0.3s,baz=341,slow=13,SNR=12						
WRA				Sn	Sn	18 41 04.6	-13
	1.0nm,0.3s,baz=337,slow=23,SNR=11						
	0.8nm,0.5s						
WB2	**Warramunga Arr**	**14.04**	**165**		Pn	18 38 36.1	-7.0
WR0	**Warramunga Arr**	**14.10**	**165**	Pn	Pn	18 38 40.0	-3.9
COEN	**Coen**	**14.50**	**123**	Pn	**Pn**	**18 38 48.1**	**-0.9**
COEN	**Coen**	**14.50**	**123**	P	**Pn**	**18 38 49.4**	**+0.4**
QIS	**Mount Isa**	**16.63**	**149**	P	**Pn**	**18 39 16.6**	**+0.8**
AS31	**Alice Springs**	**17.55**	**170**		**P**	**18 39 26.7**	**0.0**
AS31				IAmb	IAmb	18 39 28.9	
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**17.55**	**170**	P	**P**	**18 39 25.0**	**-1.7**
ASAR	**Alice Springs**	**17.55**	**170**	P	**P**	**18 39 26.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=4.8,slow=12,SNR=54						
ASAR				S	Sn	18 42 31.5	-11
	comp=Z,0.4nm,0.4s,baz=91,slow=8.4,SNR=4.9						
	comp=Z,1.9nm,0.4s						
AS01	**Alice Springs**	**17.56**	**170**	P	**P**	**18 39 27.4**	**+0.6**
	comp=Z,4.4nm,0.7s						
WRKA	**Warakurna**	**18.77**	**187**	P	**P**	**18 39 40.5**	**+0.5**
OOD	**Oodnadatta**	**21.91**	**168**	P	**P**	**18 40 14.0**	**+0.2**
BBOO	**Buckleboo**	**26.86**	**170**	P	**P**	**18 40 59.2**	**-0.8**
BBOO				IAmb	IAmb	18 41 12.4	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**27.43**	**159**	P	**P**	**18 41 03.7**	**-1.4**
MK31	**Makanchi Array**	**67.99**	**326**	P	**P**	**18 46 15.7**	**-1.3**
MKAR	**Makanchi Array**	**67.99**	**326**	P	**P**	**18 46 15.9**	**-1.2**
MKAR	**Makanchi Array**	**67.99**	**326**	P	**P**	**18 46 16.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=116,slow=8.2,SNR=7.0						
	comp=Z,0.6nm,0.6s						

*SOME **07** 18:52:09.8, 39°40N×76°73E, h10km*
*KRNET **07** 18:52:10.7±0.1, 39°25N×76°83E, mb3.4*
*NNC **07** 18:52:14.4±2.0, 39°55N×76°76E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.5km s-min=10.7km az=171.0*

ISC 07 18:52:12.8±1.5, 39°31N±0°07×76°78E±0°04, h10km, n58, σ2§55/91, 40C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.54**	**18**	⇑eP	**Pb**	**18 52 56.1**	**-2.6**
TARG				⇑iS	**Sb**	**18 53 29.2**	**-0.9**
SFK	**Sufi-Kurgan**	**2.63**	**287**	⇑iP	**Pb**	**18 52 57.3**	**-2.8**
SFK				⇓iS	**Sb**	**18 53 31.2**	**-1.3**
SALK	**Salom-Alik**	**2.76**	**306**	⇓iP	**Pb**	**18 52 59.0**	**-3.3**
SALK				⇓iS	**Sb**	**18 53 34.5**	**-1.8**
KDJ	**Kajisay**	**2.83**	**6**	⇑eP	**Pb**	**18 53 00.1**	**-3.4**
KDJ				⇑iS	**Sb**	**18 53 36.2**	**-2.1**
ULHL	**Ulahol**	**2.96**	**352**	⇑iP	**Pb**	**18 53 02.1**	**-3.6**
ULHL				⇑iS	**Sb**	**18 53 39.6**	**-2.4**
ARLS	**Aral**	**3.16**	**324**	⇑eP	**Pn**	**18 53 04.7**	**+2.0**
ARLS				⇑iS	**Sb**	**18 53 44.2**	**-3.6**
BOOM	**Boomskoye usch**	**3.24**	**349**	⇑iP	**Pn**	**18 53 05.9**	**+2.1**
BOOM				⇑iS	**Sb**	**18 53 46.3**	**-3.7**
OHH	**Osh**	**3.30**	**293**	⇑eP	**Pn**	**18 53 06.5**	**+1.9**
OHH				⇑eS	**Sn**	**18 53 47.2**	**+3.2**
PRZ	**Przheval'sk**	**3.40**	**21**	⇑eP	**Pn**	**18 53 07.9**	**+1.9**
PRZ				⇑eS	**Sn**	**18 53 49.6**	**+3.1**
ANVS	**Anan'yevo**	**3.53**	**11**	⇑eP	**Pn**	**18 53 09.6**	**+1.7**
ANVS				⇑eS	**Sn**	**18 53 52.8**	**+3.0**
ARSB	**Arslanbob**	**3.53**	**306**	⇑eP	**Pn**	**18 53 09.6**	**+1.8**
ARSB				⇑eS	**Sn**	**18 53 53.1**	**+3.4**
KBK	**Karagaybulak**	**3.62**	**338**	⇑iP	**Pn**	**18 53 11.2**	**+2.2**
KBK				⇑iS	**Sn**	**18 53 55.5**	**+3.6**
AML	**Almayashu**	**3.67**	**321**	⇓iP	**Pn**	**18 53 12.1**	**+2.2**
AML				⇓iS	**Sn**	**18 53 56.8**	**+3.4**
TKM2	**Tokmak 2**	**3.71**	**346**	⇑Pn	**Pn**	**18 53 12.4**	**+2.0**
	1.4nm,0.3s						
TKM2				⇓Pg	**Pg**	**18 53 22.1**	**-1.8**
	7.3nm,0.5s						
TKM2				⇑Lg	Lg	18 54 05.5	
	19nm,0.8s						
TKM2	**Tokmak 2**	**3.71**	**346**	⇓eP	**Pn**	**18 53 12.7**	**+2.3**
TKM2				⇓iS	**Sn**	**18 53 57.7**	**+3.4**
TNSS	**Tian-Shan**	**3.72**	**2**	Pg	**Pb**	**18 53 16.6**	**-2.3**
	17nm,0.2s						
TNSS				Lg	Lg	18 54 05.8	
	11nm,0.7s						
TNSS	**Tian-Shan**	**3.72**	**2**	eP	**Pb**	**18 53 16.6**	**-2.3**
	8.1nm,0.4s						
TNSS				eS	**Sb**	**18 54 04.9**	**+0.6**
	8.4nm,0.4s						
AAK	**Ala-Archa**	**3.75**	**333**	⇓Pg	**Pg**	**18 53 21.6**	**-3.0**
	4.6nm,0.4s						
AAK				⇓Lg	Lg	18 54 07.3	
	40nm,0.6s						
AAK	**Ala-Archa**	**3.75**	**333**	⇑iP	**Pn**	**18 53 13.0**	**+2.2**
AAK				⇑iS	**Sn**	**18 53 58.5**	**+3.5**
KST	**Kastek**	**3.78**	**351**	Pg	**Pb**	**18 53 18.7**	**-1.0**
	4.4nm,0.3s						
KST				Lg	Lg	18 54 08.3	
	15nm,0.8s						
KST	**Kastek**	**3.78**	**351**	eP	**Pb**	**18 53 17.4**	**-2.2**
	1.3nm,0.1s						
KST				eS	**Sb**	**18 54 06.0**	**+0.5**
	14nm,0.3s						
MTBS	**Maitube**	**3.82**	**356**	Pg	**Pb**	**18 53 17.8**	**-2.6**
	6.5nm,0.3s						
MTBS				Lg	Lg	18 54 06.7	
	12nm,0.3s						
MTBS	**Maitube**	**3.82**	**356**	eP	**Pb**	**18 53 17.8**	**-2.6**
	6.5nm,0.3s						
MTBS				eS	**Sb**	**18 54 06.7**	**-0.1**
	12nm,0.3s						
FRU1	**Bishkek**	**3.85**	**336**	⇑eP	**Pn**	**18 53 14.5**	**+2.3**
FRU1				⇑eS	**Sn**	**18 54 01.5**	**+3.9**
DRK	**Karamyk**	**3.86**	**274**	⇑eP	**Pn**	**18 53 14.5**	**+2.0**
DRK				⇑eS	**Sn**	**18 54 00.8**	**+2.7**
KOTS	**Kotyrbulak**	**3.93**	**4**	Pg	**Pb**	**18 53 21.5**	**-0.7**
	12nm,0.3s						
KOTS				Lg	Lg	18 54 12.7	
	33nm,0.6s						
KOTS	**Kotyrbulak**	**3.93**	**4**	eP	**Pb**	**18 53 21.3**	**-0.9**
	8.1nm,0.4s						
KOTS				eS	**Sb**	**18 54 12.9**	**+3.1**
	33nm,0.6s						
SATY	**Saty**	**3.94**	**18**	Pg	**Pb**	**18 53 20.9**	**-1.5**
	5.2nm,0.4s						
SATY				Lg	Lg	18 54 12.1	
	16nm,0.5s						
SATY	**Saty**	**3.94**	**18**	eP	Pg	18 53 39.7	+11
	3.9nm,0.5s						
SATY				eS	Sg	18 54 44.3	+25
	12nm,0.5s						
CHMS	**Chumysh**	**3.99**	**338**	⇓Pg	**Pb**	**18 53 23.1**	**-0.1**
	7.7nm,0.7s						
CHMS				⇓Lg	Lg	18 54 13.3	
	28nm,0.6s						
CHMS	**Chumysh**	**3.99**	**338**	⇑eP	**Pn**	**18 53 16.3**	**+2.3**
CHMS				⇑iS	**Sn**	**18 54 04.2**	**+3.3**
DGS	**Degeres**	**4.00**	**349**	Pg	**Pb**	**18 53 22.4**	**-1.0**
	6.0nm,0.6s						
DGS				Lg	Lg	18 54 14.7	
	16nm,0.6s						
EKS2	**Erkin-Say**	**4.05**	**327**	⇑iP	**Pn**	**18 53 17.1**	**+2.2**
EKS2				⇑iS	**Sn**	**18 54 05.5**	**+3.1**
UZB	**Uzynbulak**	**4.19**	**23**	Pg	**Pb**	**18 53 25.7**	**-0.9**
	8.5nm,0.5s						
UZB				Lg	Lg	18 54 20.2	
	12nm,0.9s						
UZB	**Uzynbulak**	**4.19**	**23**	eP	**Pb**	**18 53 25.7**	**-0.9**
	8.5nm,0.5s						
UZB				eS	**Sb**	**18 54 20.2**	**+2.9**
	12nm,0.9s						
KURS	**Kuram**	**4.30**	**14**	Pg	**Pb**	**18 53 30.2**	**+1.7**
	4.9nm,0.4s						
KURS				Lg	Lg	18 54 28.1	
	20nm,0.8s						
KURS	**Kuram**	**4.30**	**14**	eP	**Pg**	**18 53 31.8**	**-3.3**
	4.8nm,0.1s						
KURS				eS	**Sg**	**18 54 30.8**	**-0.1**
	16nm,0.5s						
SHLS	**Shalkode**	**4.34**	**27**	Pg	**Pg**	**18 53 32.5**	**-3.4**
	5.5nm,0.3s						
SHLS				Lg	Lg	18 54 31.8	
	26nm,0.3s						
SHLS	**Shalkode**	**4.34**	**27**	eP	**Pg**	**18 53 32.5**	**-3.4**
	5.5nm,0.3s						
SHLS				eS	**Sg**	**18 54 31.8**	**-0.3**
	26nm,0.3s						
MRKS	**Merke**	**4.36**	**323**	Pg	**Pb**	**18 53 28.7**	**-0.8**
	4.1nm,0.4s						
MRKS				Lg	Lg	18 54 25.8	
	26nm,0.5s						
MRKS	**Merke**	**4.36**	**323**	eP	**Pb**	**18 53 28.7**	**-0.8**
	4.1nm,0.4s						
MRKS				eS	**Sb**	**18 54 25.8**	**+3.6**
	26nm,0.5s						
KPKS	**Kokpek**	**4.39**	**18**	eP	**Pn**	**18 53 22.4**	**+2.8**
	6.0nm,0.6s						
KPKS				eS	**Sn**	**18 54 14.7**	**+3.9**
	16nm,0.6s						
KTBS	**Karatobe**	**4.40**	**359**	Pg	**Pb**	**18 53 28.7**	**-1.4**
	7.9nm,0.3s						
KTBS				Lg	Lg	18 54 26.2	
	17nm,0.4s						
ARK	**Arkit**	**4.43**	**306**	⇑eP	**Pn**	**18 53 22.5**	**+2.3**
ARK				⇑eS	**Sn**	**18 54 15.0**	**+3.1**
SGDS	**Sogindy**	**4.44**	**339**	Pg	**Pb**	**18 53 28.8**	**-2.1**
	2.0nm,0.4s						
SGDS				Lg	Lg	18 54 25.6	
	13nm,0.4s						
KRBS	**Karabastau**	**4.46**	**350**	Pg	**Pb**	**18 53 30.9**	**-0.3**
	2.5nm,0.4s						
KRBS				Lg	Lg	18 54 29.2	
	9.6nm,0.3s						
PDGK	**Podgornoye**	**4.50**	**26**	⇑Pg	**Pg**	**18 53 35.5**	**-3.5**
	6.5nm,0.7s						
PDGK				⇑Lg	Lg	18 54 35.6	
	34nm,0.7s						
MNAS	**Manas**	**4.54**	**316**	⇓eP	**Pn**	**18 53 23.6**	**+2.0**
MNAS				⇓eS	**Sn**	**18 54 17.5**	**+3.0**
CHKK	**Chushkaly**	**4.54**	**2**	Pg	**Pb**	**18 53 31.0**	**-1.6**
	6.5nm,0.3s						
CHKK				Lg	Lg	18 54 30.3	
	16nm,0.5s						
CHKK	**Chushkaly**	**4.54**	**2**	eP	**Pb**	**18 53 31.8**	**-0.8**
	4.8nm,0.1s						
CHKK				eS	**Sb**	**18 54 30.8**	**+3.4**
	16nm,0.5s						
BTK	**Batken**	**4.66**	**281**	⇑eP	**Pn**	**18 53 25.3**	**+2.0**
BTK				⇑eS	**Sn**	**18 54 19.6**	**+2.1**
TRKS	**Terek-Say**	**4.84**	**299**	⇓eP	**Pn**	**18 53 27.7**	**+1.8**
TRKS				⇓eS	**Sn**	**18 54 23.4**	**+1.3**
BLB	**Baldybastay**	**4.95**	**14**	Pg	**Pb**	**18 53 39.0**	**-0.5**
	9.9nm,0.5s						
BLB				Lg	Lg	18 54 43.7	
	28nm,0.8s						
ARXS	**Arharly**	**4.96**	**9**	Pg	**Pb**	**18 53 39.7**	**0.0**
	3.9nm,0.5s						
ARXS				Lg	Lg	18 54 44.3	
	12nm,0.5s						
DJR	**Jarkent**	**5.50**	**23**	Pg	**Pb**	**18 53 50.1**	**+1.3**
	3.0nm,0.6s						
DJR				Lg	Lg	18 55 02.2	
	8.7nm,0.4s						
DJR	**Jarkent**	**5.50**	**23**	eP	**Pb**	**18 53 50.1**	**+1.3**
	3.0nm,0.6s						
DJR				eS	**Sg**	**18 55 02.2**	**-6.9**
	8.7nm,0.4s						
KK31	**Karatay Array**	**6.06**	**311**	Pg	**Pb**	**18 54 01.8**	**+3.4**
	0.4nm,0.3s,baz=147,slow=21,SNR=4.6						
KK31				⇑Lg	Lg	18 55 19.9	
	8.3nm,0.7s,baz=128,slow=27,SNR=3.6						
MK31	**Makanchi Array**	**8.49**	**27**	⇑Lg	Lg	18 56 41.6	
	1.3nm,0.7s,baz=205,slow=27,SNR=4.0						

IDC 07 18:52:46.5±3.2, 32°29S×177°87W, h0km, mb3.7/2, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=73.5km s-min=37.1km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.23**	**213**	Pn	Pn	18 54 32.6	-0.8
	0.5nm,0.3s,baz=328,slow=4.9,SNR=8.0						
URZ				Sn	Sn	18 55 58.6	+2.5
	1.1nm,0.3s,baz=316,slow=6.8,SNR=10						
	8.3nm,0.9s						
ASAR	**Alice Springs**	**43.15**	**269**	P	P	19 00 49.0	0.0
	0.4nm,0.5s,baz=109,slow=7.5,SNR=15						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.31**	**274**	P	P	19 00 58.1	-0.3
	0.6nm,0.4s,baz=112,slow=8.1,SNR=13						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**146.95**	**339**	PKPbc	PKPbc	19 12 29.5	-0.7
	2.1nm,0.8s,baz=45,slow=2.6,SNR=4.4						

*IDC **07** 18:59:46.3±1.3, 32°17S×177°96W, h0km, mb4.1/3, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=52.6km s-min=27.1km az=141.0*
*WEL **07** 18:59:49.0±1.1, 32°S±7°×17°8W±2°, h33km, M4.6/8, mB4.6/4, ML5.0/9, MLv4.8/8, Mw(mB)3.8/4, Error ellipse: s-maj=26.8km s-min=4.3km az=106.2, confirmed*
*NEIC **07** 18:59:49.8±1.1, 32°3S±0°2×178°30W±0°05, h10km±2km, mb4.5/12, Error ellipse: s-maj=29.4km s-min=7.6km az=180.0*

ISC 07 18:59:48.8±1.1, 32°13S±0°09×178°0W±0°2, h24km, n68, σ2§73/76, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.86**	**1**	P	**Pn**	**19 00 31.3**	**-1.6**
GLKZ				S	**Sn**	**19 01 02.7**	**-3.8**
PKGZ	**Pakihiroa**	**6.57**	**208**	P	**Pn**	**19 01 24.7**	**+0.8**
PKGZ				S	**Sn**	**19 02 40.4**	**+2.3**
HAZ	**Te Kaha**	**6.60**	**210**	P	**Pn**	**19 01 25.5**	**+1.2**
HAZ				S	**Sn**	**19 02 43.0**	**+4.2**
RUGZ	**Raukumara Rang**	**6.82**	**210**	P	**Pn**	**19 01 29.8**	**+2.4**
RUGZ				S	**Sn**	**19 02 45.1**	**+0.8**
TWGZ	**Tauwhareparae**	**6.88**	**207**	P	**Pn**	**19 01 27.8**	**-0.3**
TWGZ				S	**Sn**	**19 02 47.6**	**+2.0**
CNGZ	**Carnagh Statio**	**7.06**	**205**	P	**Pn**	**19 01 31.3**	**+0.6**
MWZ	**Matawai**	**7.19**	**209**	P	**Pn**	**19 01 33.8**	**+1.3**
MWZ				S	**Sn**	**19 02 54.3**	**+0.8**
URZ	**Urewera**	**7.31**	**212**	Pn	**Pn**	**19 01 34.3**	**+0.3**
	1.3nm,0.3s,baz=117,slow=2.2,SNR=6.5						
URZ				Sn	**Sn**	**19 02 56.7**	**+0.4**
	4.1nm,0.3s,baz=270,slow=17,SNR=9.0						
	8.5nm,0.5s						
URZ	**Urewera**	**7.31**	**212**	P	**Pn**	**19 01 34.4**	**+0.3**
URZ				S	**Sn**	**19 02 56.2**	**-0.1**
SNGZ	**Shannon Statio**	**7.65**	**208**	P	**Pn**	**19 01 40.9**	**+2.1**
SNGZ				P	**Sn**	**19 03 05.0**	**+0.3**
OUZ	**Omahuta**	**7.66**	**244**	P	Pn	19 01 45.9	+7.0
RTZ	**Ruatahuna**	**7.66**	**211**	Pn	**Pn**	**19 01 37.3**	**-1.7**
RAHZ	**Arahi**	**7.87**	**209**	P	**Pn**	**19 01 45.5**	**+3.7**
RAHZ				P	**Sn**	**19 03 11.5**	**+1.4**
MTHZ	**Maungataniwha**	**7.92**	**211**	P	**Pn**	**19 01 44.5**	**+2.0**
MTHZ				P	**Sn**	**19 03 10.7**	**-0.7**
NMHZ	**Naumai**	**8.14**	**210**	P	**Sn**	**19 03 17.0**	**+0.3**
BKZ	**Black Stump Fm**	**8.33**	**211**	Pn	**Pn**	**19 01 44.9**	**-3.2**
MCHZ	**McNeill Hill**	**8.48**	**209**	P	**Sn**	**19 03 22.2**	**-2.8**
CKHZ	**Cape Kidnapper**	**8.51**	**207**	P	**Sn**	**19 03 23.7**	**-2.1**
KWHZ	**Kaweka Forest**	**8.57**	**210**	P	**Sn**	**19 03 26.4**	**-1.1**
TMVZ	**Te Maari**	**8.65**	**215**	P	**Sn**	**19 03 29.6**	**+0.1**
KAHZ	**Kahuranaki**	**8.70**	**207**	P	**Sn**	**19 03 28.9**	**-1.8**
SNVZ	**South Ngauruho**	**8.74**	**215**	P	**Sn**	**19 03 31.7**	**0.0**
KRHZ	**Kereru**	**8.78**	**210**	P	**Sn**	**19 03 30.4**	**-2.1**
MOVZ	**Moawhango**	**8.86**	**213**	P	**Sn**	**19 03 31.2**	**-3.3**
PXZ	**Pawanui**	**8.91**	**206**	P	**Sn**	**19 03 32.1**	**-3.6**
PNHZ	**Pukenui**	**9.08**	**210**	P	**Sn**	**19 03 36.8**	**-3.0**
PRHZ	**Porangahau**	**9.21**	**207**	P	**Sn**	**19 03 37.9**	**-5.0**
DVHZ	**Dannevirke**	**9.42**	**208**	P	**Sn**	**19 03 43.1**	**-5.0**
POWZ	**Post Office Ro**	**9.66**	**210**	P	**Sn**	**19 03 50.9**	**-3.2**
PRWZ	**Pori Road**	**9.71**	**208**	P	**Sn**	**19 03 51.9**	**-3.4**
BFZ	**Birch Farm**	**9.71**	**207**	P	**Sn**	**19 03 51.8**	**-3.6**
CPWZ	**Castlepoint**	**9.93**	**206**	P	**Sn**	**19 03 57.4**	**-3.2**
TIWZ	**Tintock**	**9.94**	**208**	P	**Sn**	**19 03 58.1**	**-2.8**
MRZ	**Mangatainoka R**	**9.96**	**209**	Pn	Pn	19 02 05.2	-5.3
MRZ	**Mangatainoka R**	**9.96**	**209**	P	**Sn**	**19 03 56.0**	**-5.5**
HOWZ	**Holdsworth Sta**	**10.19**	**209**	P	**Sn**	**19 04 00.9**	**-6.1**
TMWZ	**Te Maipa**	**10.21**	**207**	P	**Sn**	**19 04 01.6**	**-6.1**
OGWZ	**Otaki Gorge**	**10.27**	**210**	P	**Sn**	**19 04 04.6**	**-4.3**
MTW	**Mount Morrison**	**10.41**	**208**	P	**Sn**	**19 04 07.0**	**-5.5**
KIW	**Kapiti Island**	**10.41**	**211**	P	**Sn**	**19 04 07.0**	**-5.5**
TRWZ	**Traveller**	**10.54**	**207**	P	**Sn**	**19 04 09.2**	**-6.5**
PAWZ	**Paruwai Farm**	**10.63**	**208**	P	**Sn**	**19 04 11.6**	**-6.3**
MSWZ	**Moikau Station**	**10.73**	**208**	P	Sn	19 04 13.4	-7.0
PLWZ	**Palliser**	**10.86**	**208**	P	Sn	19 04 16.3	-7.2
STKA	**Stephens Creek**	**34.13**	**259**	P	**P**	**19 06 32.6**	**+0.7**
STKA	**Stephens Creek**	**34.13**	**259**	P	**P**	**19 06 34.6**	**+2.7**
	0.9nm,0.6s,baz=111,slow=9.8,SNR=4.2						
	0.9nm,0.6s						
BBOO	**Buckleboo**	**38.53**	**256**	P	**P**	**19 07 10.6**	**+1.1**
BBOO				IAmb	IAmb	19 07 25.2	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**43.05**	**269**	P	**P**	**19 07 47.6**	**+0.7**
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**19 07 47.0**	**+0.1**
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**19 07 47.9**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=108,slow=7.4,SNR=66						
ASAR				PcP	**PcP**	**19 09 37.9**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=101,slow=4.1,SNR=1.2						
	comp=Z,1.6nm,0.5s						
WR0	**Warramunga Arr**	**44.01**	**274**	P	**P**	**19 07 55.4**	**+0.7**
WR0				IAmb	IAmb	19 08 12.0	
	comp=Z,5.2nm,1.1s						
WB2	**Warramunga Arr**	**44.18**	**274**	P	**P**	**19 07 56.7**	**+0.7**
WB2				IAmb	IAmb	19 08 01.5	
	comp=Z,9.6nm,1.3s						
WRAB	**Tennant Creek**	**44.18**	**274**	P	**P**	**19 07 54.5**	**-1.5**
WRAB				IAmb	IAmb	19 08 17.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.19**	**274**	P	**P**	**19 07 56.4**	**+0.3**
WRA	**Warramunga Arr**	**44.19**	**274**	P	**P**	**19 07 56.9**	**+0.7**
	comp=Z,2.4n

H17A	**Grant Village**	**3.83 281**		**Pn**	**19 03 40.1 -0.1**
LOHW	**Long Hollow**	**3.83 269**		**Pn**	**19 03 41.8 +1.6**
MOOW	**Moose Ponds**	**3.92 271**		**Pn**	**19 03 43.6 +2.1**
SNOW	**Snow King Moun**	**3.95 267**		**Pn**	**19 03 41.7 -0.3**
SNOW			IAML		19 04 59.2
	comp=E,72nm,1.4s				
SNOW			IAML		19 05 03.8
	comp=E,54nm,1.4s				
ISCO	**Idaho Springs**	**4.00 183**	Pn	**Pn**	**19 03 43.6 +1.0**
YHH	**Holmes Hill**	**4.09 286**	Pn	**Pn**	**19 03 41.5 -2.3**
TPAW	**Teton Pass**	**4.09 268**		**Pn**	**19 03 42.6 -1.2**
TPAW			IAML		19 05 10.1
	comp=E,63nm,1.1s				
FXWY	**Fox Creek**	**4.13 270**		**Pn**	**19 03 43.1 -1.3**
YMR	**Madison River**	**4.14 284**		**Pn**	**19 03 42.9 -1.7**
YMR			IAML		19 05 06.7
	comp=E,75nm,1.0s				
YMR			IAML		19 05 23.4
	comp=N,64nm,1.1s				
O20A	**White River Ci**	**4.25 212**	IAML		19 04 56.9
	comp=E,55nm,1.4s				
O20A			IAML		19 05 08.5
	comp=N,86nm,1.8s				
K30B	**Basset**	**4.32 103**		**Pn**	**19 03 44.9 -1.9**
YHL	**Hebgen Lake**	**4.33 286**		**Pn**	**19 03 46.5 -0.6**
YHL			IAML		19 05 03.1
	comp=N,59nm,1.2s				
AHID	**Auburn Hatcher**	**4.34 258**		**Pn**	**19 03 45.9 -1.3**
AHID			IAML		19 05 06.9
	comp=N,58nm,1.0s				
AHID			IAML		19 05 13.1
	comp=N,46nm,1.2s				
RDMU	**Red Mountain**	**4.51 226**		**Pn**	**19 03 48.9 -0.6**
RDMU			IAML		19 05 06.7
	comp=E,65nm,1.2s				
RDMU			IAML		19 05 07.6
	comp=N,42nm,1.1s				
DGMT	**Dagmar**	**4.74 9**	Pn	**Pn**	**19 03 54.9 +2.3**
Q24A	**Divide**	**4.83 178**	IAML		19 05 17.1
	comp=E,37nm,0.9s				
BOZ	**Bozeman (W)**	**4.84 294**		**Pn**	**19 03 53.9 -0.2**
BOZ			IAML		19 05 13.1
	comp=E,29nm,1.4s				
BSUT	**Blindstream Ca**	**5.19 233**	IAML		19 05 43.5
	comp=E,23nm,3.1s				
EGMT	**Eagleton**	**5.24 325**	Pn	**Pn**	**19 03 59.2 -0.2**
MDND	**Maddock**	**5.70 43**		Pn	19 04 12.8 +7.2
PV07	**Paradox Valley**	**5.91 206**		**Pn**	**19 04 09.7 +0.9**
MVCO	**Mesa Verde**	**7.01 201**		**Pn**	**19 04 26.1 +2.2**
I10CA	**LAC DU BONNET**	**9.02 41**	I	I	19 56 10.0
	baz=225,slow=326,SNR=0.8				
ULM	**Lac du Bonnet**	**9.13 42**	Pn	**Pn**	**19 04 51.1 -1.5**
	comp=E,1.4nm,0.3s,baz=231,slow=13,SNR=9.6				
ULM			Lg	Lg	19 07 20.8
	comp=E,0.6nm,0.3s,baz=130,slow=21,SNR=4.5				
	comp=E,2.7nm,0.3s				
MKAR	**Makanchi Array**	**89.54 355**	P	**P**	**19 15 39.0 +0.1**
	comp=E,0.2nm,0.7s,baz=357,slow=2.9,SNR=2.4				
	comp=E,0.2nm,0.7s				

IDC 07 19:03:16.1±6.0,31°.13S×178°.94W,h0km,mb3.4/2, mbtmp3.4/2,Error ellipse: s-maj=230.5km s-min=61.8km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.27**	**268**	P	P	19 11 11.2	-0.3
	0.2nm,0.3s,baz=112,slow=8.5,SNR=5.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.32**	**273**	P	P	19 11 20.2	+0.1
	0.2nm,0.3s,baz=114,slow=8.0,SNR=6.1						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**145.55**	**339**	PKPbc	PKPdf	19 22 54.7	-0.9
	3.2nm,1.0s,baz=18,slow=4.8,SNR=4.0						

*CNRM **07** 19:07:34.0,33°.18N×6°.46W,h51km,ML3.0*
*MDD **07** 19:07:35.0±0.5,33°.30N×6°.43W,h25km±5km,Mb4.5/16, M_mb4.0/16,Error ellipse: s-maj=4.7km s-min=3.5km az=163.0*
*INMG **07** 19:07:35.1±1.5,33°.29N×6°.36W,h31km±13km,ML2.9, Error ellipse: s-maj=5.1km s-min=3.4km az=113.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
*SFS **07** 19:07:35.9,33°.31N×6°.41W,h40km,ML3.9/16,ML3.8/17, MLv3.6/17*
*IGIL **07** 19:07:36.7,33°.29N×6°.36W,h31km,ML2.9*
ISC 07 19:07:34.4±1.2,33°.36N±0°.03×6°.43W±0°.03,h35km,n103, σ2°.13/158,10C,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.20**	**296**	P	**Pn**	**19 07 43.3**	**+2.0**
ZHG	**ZHG**	**0.20**	**296**	S	**Sn**	**19 07 49.4**	**+3.4**
AVE	**Averroes**	**0.83**	**266**	Sn	**Sn**	**19 08 01.5**	**+1.0**
AVE				Pn	**Pn**	**19 07 51.0**	**+1.4**
AVE	**Averroes**	**0.83**	**266**	P	**Pn**	**19 07 50.2**	**+0.7**
AVE	**Averroes**	**0.83**	**266**	S	**Sn**	**19 08 00.9**	**+0.3**
IFR	**Ifrane**	**1.10**	**82**	Sn	**Sn**	**19 08 07.5**	**-0.1**
IFR				Pn	**Pn**	**19 07 54.5**	**+1.1**
LCRM	**LCR**	**1.35**	**76**	P	**Pn**	**19 07 56.8**	**-0.1**
LCRM	**LCR**	**1.35**	**76**	S	**Sn**	**19 08 13.4**	**-0.4**
MD31	**MD31**	**1.49**	**109**	P	**Pn**	**19 07 59.3**	**+0.6**
MD31	**MD31**	**1.49**	**109**	S	**Sn**	**19 08 16.6**	**-0.3**
SRHM	**Skhour des Reh**	**1.52**	**235**	P	**Pn**	**19 07 59.8**	**+0.6**
SRHM	**Skhour des Reh**	**1.52**	**235**	S	**Sn**	**19 08 21.2**	**+3.4**
MDT	**Midelt**	**1.62**	**109**	P	**Pn**	**19 08 00.9**	**+0.2**
TISM	**Timmit**	**1.64**	**180**	P	**Pn**	**19 07 58.0**	**-2.7**
TISM	**Timmit**	**1.64**	**180**	S	**Sn**	**19 08 16.3**	**-4.1**
CHEFC	**Chefchaouen**	**1.96**	**27**	P	**Pn**	**19 08 07.4**	**+2.2**
CHEFC	**Chefchaouen**	**1.96**	**27**	S	**Sn**	**19 08 33.0**	**+4.3**
GOLM	**Goulmima**	**2.07**	**143**	P	**Pn**	**19 08 05.9**	**-0.9**
GOLM	**Goulmima**	**2.07**	**143**	S	**Sn**	**19 08 30.8**	**-0.7**
AKLM	**AKL**	**2.42**	**61**	P	**Pn**	**19 08 12.3**	**+0.7**
AKLM	**AKL**	**2.42**	**61**	S	**Sn**	**19 08 42.3**	**+2.2**
OUZM	**OUZ**	**2.46**	**187**	P	**Pn**	**19 08 11.2**	**-1.0**
OUZM	**OUZ**	**2.46**	**187**	S	**Sn**	**19 08 39.8**	**-1.3**
SMIR	**Smir Dam**	**2.47**	**20**	P	**Pn**	**19 08 14.1**	**+1.9**
SMIR	**Smir Dam**	**2.47**	**20**	S	**Sn**	**19 08 45.0**	**+3.9**
TIO	**Tiouine**	**2.53**	**196**	Pn	**Pn**	**19 08 12.8**	**-0.3**
TIO				Sn	**Sn**	**19 08 40.2**	**-2.5**
TIO	**Tiouine**	**2.53**	**196**	P	**Pn**	**19 08 11.1**	**-2.0**
TIO	**Tiouine**	**2.53**	**196**	S	**Sn**	**19 08 38.6**	**-4.1**
CEU	**Ceuta**	**2.68**	**19**	Pn	**Pn**	**19 08 18.0**	**+3.0**
CEU				Sn	**Sn**	**19 08 47.5**	**+1.3**
PALE	**Palemas**	**2.77**	**47**	P	**Pn**	**19 08 18.0**	**+1.7**
PALE	**Palemas**	**2.77**	**47**	S	**Sn**	**19 08 52.1**	**+3.6**
EAH	**EAH**	**3.17**	**238**	P	**Pn**	**19 08 20.1**	**-1.6**
EJIF	**Jimena Fronter**	**3.18**	**14**	Pn	**Pn**	**19 08 23.9**	**+2.0**
EJIF				Sn	**Sn**	**19 09 01.0**	**+2.3**
TTIG	**Tnine Tigouga,**	**3.29**	**212**	P	**Pn**	**19 08 20.5**	**-3.0**
ZGR	**Zagora**	**3.31**	**168**	P	**Pn**	**19 08 22.1**	**-1.7**
ZGR	**Zagora**	**3.31**	**168**	S	**Sn**	**19 08 57.7**	**-4.1**
JBK	**JBK**	**3.36**	**72**	S	**Sn**	**19 09 02.2**	**-1.1**
GOG	**Mont Gurugu**	**3.40**	**56**	P	**Pn**	**19 08 26.1**	**+1.1**
GOG	**Mont Gurugu**	**3.40**	**56**	S	**Sn**	**19 09 07.4**	**+3.4**
ESPR	**Espera**	**3.53**	**7**	Pn	**Pn**	**19 08 29.1**	**+2.3**
ESPR				Sn	**Sn**	**19 09 06.4**	**-0.9**
ESPR	**Espera**	**3.53**	**7**	Pn	**Pn**	**19 08 27.2**	**+0.5**
ESPR				Sn	**Sn**	**19 09 08.9**	**+1.6**
TAF	**Taforalt**	**3.63**	**65**	P	**Pn**	**19 08 29.3**	**+1.0**
TAF	**Taforalt**	**3.63**	**65**	S	**Sn**	**19 09 12.4**	**+2.5**
LIJA	**Lijar**	**3.64**	**13**	Pn	**Pn**	**19 08 29.7**	**+1.4**
EMAL	**Malaga-Limoner**	**3.77**	**25**	Sn	**Sn**	**19 09 12.6**	**-0.6**
PBDV	**Barranco-do-Ve**	**4.06**	**343**	*eP*	**Pn**	**19 08 35.4**	**+1.3**
PBDV				*eS*	**Sn**	**19 09 19.1**	**-1.3**
PBDV				*i* AML	AML	19 09 23.0	
PBDV				*i* AML	AML	19 09 24.1	
PBDV				*i* AML	AML	19 09 25.7	
PVAQ	**Vaqueiros**	**4.17**	**346**	*eP*	**Pn**	**19 08 37.0**	**+1.5**
PVAQ	**Vaqueiros**	**4.17**	**346**	Pn	**Pn**	**19 08 36.9**	**+1.5**
ELGU	**Los Guajares,**	**4.19**	**33**	Pn	**Pn**	**19 08 36.2**	**+0.4**
ELGU				Sn	**Sn**	**19 09 21.5**	**-2.0**
ELGU	**Los Guajares,**	**4.19**	**33**	Pn	**Pn**	**19 08 36.4**	**+0.5**
ELGU				⇑*i*Vmb_V		19 08 38.6	
	493nm,SNR=2.7						
ELGU				Sn	**Sn**	**19 09 22.2**	**-1.4**
EGOR	**Sierra Gorda,**	**4.20**	**26**	Pn	**Pn**	**19 08 38.0**	**+2.0**
EGOR				Sn	**Sn**	**19 09 22.8**	**-1.1**
EGOR	**Sierra Gorda,**	**4.20**	**26**	Pn	**Pn**	**19 08 38.3**	**+2.2**
EGOR				Sn	**Sn**	**19 09 26.1**	**+2.3**
PFVI	**Vila Bisbo**	**4.24**	**333**	*eP*	**Pn**	**19 08 38.3**	**+1.7**
PFVI				*eS*	**Sn**	**19 09 23.8**	**-1.1**
PFVI				*i* AML	AML	19 09 25.2	
PFVI				*i* AML	AML	19 09 27.7	
PFVI				*i* AML	AML	19 09 29.1	
PFVI	**Vila Bisbo**	**4.24**	**333**	Pn	**Pn**	**19 08 37.9**	**+1.3**
PFVI				Sn	**Sn**	**19 09 24.4**	**-0.4**
EGRO	**El Granado**	**4.25**	**349**	Pn	**Pn**	**19 08 38.2**	**+1.5**
EGRO				Sn	**Sn**	**19 09 23.5**	**-1.5**
EGRO	**El Granado**	**4.25**	**349**	Pn	**Pn**	**19 08 38.5**	**+1.9**
EGRO				Sn	**Sn**	**19 09 24.1**	**-0.9**
MORF	**Marmelete**	**4.33**	**336**	*eP*	**Pn**	**19 08 39.4**	**+1.5**
MORF				*eS*	**Sn**	**19 09 25.4**	**-1.8**
MORF				IAML		19 09 28.2	
	comp=E,36nm,0.3s						
MORF	**Marmelete**	**4.33**	**336**	*eP*	**Pn**	**19 08 39.6**	**+1.7**
MORF				*eS*	**Sn**	**19 09 26.3**	**-0.9**
MORF				*i* AML	AML	19 09 28.1	
MORF				*i* AML	AML	19 09 28.1	
MORF				*i* AML	AML	19 09 28.6	
EMIN	**Mina Concepcio**	**4.40**	**357**	Pn	**Pn**	**19 08 40.0**	**+1.3**
EMIN				Sn	**Sn**	**19 09 26.2**	**-2.5**
EMIN	**Mina Concepcio**	**4.40**	**357**	Pn	**Pn**	**19 08 40.0**	**+1.3**
EMIN				⇑*i*Vmb_V		19 08 41.9	
	comp=E,238nm,SNR=2.1						
EMIN				Sn	**Sn**	**19 09 26.5**	**-2.2**
PCVE	**Castro Verde**	**4.46**	**343**	*eP*	**Pn**	**19 08 41.3**	**+1.8**
PCVE				*eS*	**Sn**	**19 09 29.0**	**-1.2**
PCVE				*i* AML	AML	19 09 30.3	
PCVE				*i* AML	AML	19 09 31.0	
PCVE				*i* AML	AML	19 09 32.0	
PCVE	**Castro Verde**	**4.46**	**343**	Pn	**Pn**	**19 08 41.2**	**+1.7**
PCVE				Sn	**Sn**	**19 09 28.8**	**-1.4**
EQTA	**Presa de Quent**	**4.55**	**32**	Pn	**Pn**	**19 08 42.2**	**+1.4**
EQTA				Sn	**Sn**	**19 09 31.4**	**-1.1**
EBER	**Berja**	**4.57**	**38**	Pn	**Pn**	**19 08 42.2**	**+1.0**
EBER	**Berja**	**4.57**	**38**	Pn	**Pn**	**19 08 41.4**	**+0.2**
EBER				⇑*i*Vmb_V		19 08 41.5	
	comp=E,874nm,SNR=2.3						
EBER				Sn	**Sn**	**19 09 31.9**	**-1.2**
PTEO	**Sao Teotonio**	**4.58**	**336**	*eP*	**Pn**	**19 08 43.2**	**+2.1**
PTEO				*eS*	**Sn**	**19 09 33.1**	**0.0**
PTEO				*i* AML	AML	19 09 34.6	
PTEO				*i* AML	AML	19 09 34.6	
PTEO				*i* AML	AML	19 09 35.9	
MESJ	**Messejana**	**4.70**	**342**	*eP*	**Pn**	**19 08 44.2**	**+1.4**
MESJ				*eS*	**Sn**	**19 09 33.8**	**-2.4**
MESJ				IAML		19 09 38.3	
	comp=E,13nm,0.2s						
MESJ	**Messejana**	**4.70**	**342**	*eP*	**Pn**	**19 08 44.6**	**+1.8**
MESJ				*eS*	**Sn**	**19 09 34.6**	**-1.6**
MESJ				*i* AML	AML	19 09 37.4	
MESJ				*i* AML	AML	19 09 38.2	
MESJ				*i* AML	AML	19 09 39.6	
EXCBR	**El Cabril**	**4.78**	**10**	Pn	**Pn**	**19 08 45.4**	**+1.5**
EXCBR				Sn	**Sn**	**19 09 35.7**	**-2.3**
ECAB	**El Cabril**	**4.78**	**10**	Pn	**Pn**	**19 08 45.9**	**+2.0**
ECAB				Sn	**Sn**	**19 09 35.3**	**-2.6**
ECAB	**El Cabril**	**4.78**	**10**	Pn	**Pn**	**19 08 45.7**	**+1.8**
ECAB				⇑*i*Vmb_V		19 08 53.5	
	comp=E,157nm,SNR=1.3						
ECAB				Sn	**Sn**	**19 09 35.4**	**-2.6**
PBEJ	**Beja**	**4.80**	**346**	*eP*	**Pn**	**19 08 45.6**	**+1.5**
PBEJ				*eS*	**Sn**	**19 09 37.2**	**-1.3**
PBEJ				*i* AML	AML	19 09 39.2	
PBEJ				*i* AML	AML	19 09 39.8	
PBEJ				*i* AML	AML	19 09 41.1	
PBAR	**Barrancos**	**4.83**	**354**	*eP*	**Pn**	**19 08 46.2**	**+1.6**
PBAR				*eS*	**Sn**	**19 09 36.4**	**-2.9**
PBAR				*i* AML	AML	19 09 40.2	
PBAR				*i* AML	AML	19 09 41.5	
PBAR				*i* AML	AML	19 09 41.7	
PBAR	**Barrancos**	**4.83**	**354**	Pn	**Pn**	**19 08 46.2**	**+1.6**
PBAR				Sn	**Sn**	**19 09 36.7**	**-2.6**
EADA	**Adamuz**	**5.03**	**17**	Pn	**Pn**	**19 08 49.0**	**+1.6**
EADA				Sn	**Sn**	**19 09 40.7**	**-3.5**
EADA	**Adamuz**	**5.03**	**17**	Pn	**Pn**	**19 08 48.9**	**+1.5**
EADA				⇑*i*Vmb_V		19 08 54.5	
	comp=E,230nm,SNR=1.9						
EADA				Sn	**Sn**	**19 09 41.4**	**-2.8**
E0803	**Jimena (Jaen)**	**5.07**	**28**	Pn	**Pn**	**19 08 49.0**	**+1.0**
E0803				Sn	**Sn**	**19 09 45.6**	**+0.2**
EQES	**Quesada**	**5.21**	**31**	Pn	**Pn**	**19 08 52.4**	**+2.5**
EQES				⇑*i*Vmb_V		19 08 56.7	
	comp=E,146nm,SNR=1.3						
EQES				Sn	**Sn**	**19 09 48.5**	**-0.3**
EVO	**Evora**	**5.32**	**346**	*eP*	**Pn**	**19 08 53.3**	**+2.0**
EVO				*eS*	**Sn**	**19 09 49.5**	**-1.8**
EVO				*i* AML	AML	19 09 50.9	
EVO				*i* AML	AML	19 09 51.0	
EVO				*i* AML	AML	19 09 53.3	
EBAD	**Badajoz**	**5.40**	**355**	Pn	**Pn**	**19 08 53.9**	**+1.4**
EBAD				Sn	**Sn**	**19 09 51.5**	**-1.9**
EBAD	**Badajoz**	**5.40**	**355**	Pn	**Pn**	**19 08 53.9**	**+1.4**
EBAD				Sn	**Sn**	**19 09 50.9**	**-2.6**
PESTR	**Estremoz**	**5.58**	**351**	*eP*	**Pn**	**19 08 56.7**	**+1.8**
PESTR				*eS*	**Sn**	**19 09 56.0**	**-1.7**
PESTR				*i* AML	AML	19 09 57.9	
PESTR				*i* AML	AML	19 09 58.0	
PESTR				*i* AML	AML	19 10 04.3	
PESTR	**Estremoz**	**5.58**	**351**	Pn	**Pn**	**19 08 56.6**	**+1.8**
PESTR				Sn	**Sn**	**19 09 55.7**	**-1.9**
PSIM	**Granatula de C**	**5.86**	**21**	Pn	**Pn**	**19 09 00.5**	**+1.7**
PSIM				Sn	**Sn**	**19 10 01.6**	**-3.2**
PMTG	**Montargil**	**5.88**	**346**	*eP*	**Pn**	**19 09 00.4**	**+1.5**
PMTG				*eS*	**Sn**	**19 10 03.9**	**-1.2**
PMTG				*i* AML	AML	19 10 04.0	
PMTG				*i* AML	AML	19 10 05.8	
PMTG				*i* AML	AML	19 10 06.5	
PMAFR	**Mafra**	**6.04**	**338**	*eP*	**Pn**	**19 09 03.3**	**+2.1**
PMAFR	**Mafra**	**6.04**	**338**	Pn	**Pn**	**19 09 03.1**	**+1.8**
PMAFR				Sn	**Sn**	**19 10 07.5**	**-1.6**
PMRV	**Marv??o**	**6.11**	**353**	*eP*	**Pn**	**19 09 03.9**	**+1.8**
PMRV				*eS*	**Sn**	**19 10 07.5**	**-3.3**
PMRV				*i* AML	AML	19 10 09.5	
PMRV				*i* AML	AML	19 10 09.6	
PMRV				*i* AML	AML	19 10 10.7	
PAB	**San Pablo**	**6.40**	**15**	Pn	**Pn**	**19 09 07.1**	**+0.9**
PAB				⇑*i*Vmb_V		19 09 09.0	
	comp=E,137nm,SNR=1.3						
PAB				Sn	**Sn**	**19 10 15.1**	**-3.0**
PSBE	**So Bento**	**6.43**	**343**	*eP*	**Pn**	**19 09 08.9**	**+2.3**
PCBR	**Castelo Branco**	**6.52**	**353**	*eP*	**Pn**	**19 09 09.8**	**+2.0**
PCBR				*eS*	**Sn**	**19 10 17.3**	**-3.7**
PCBR				*i* AML	AML	19 10 19.7	
PCBR				*i* AML	AML	19 10 19.8	
PCBR				*i* AML	AML	19 10 19.8	
ESDC	**Sonseca Array**	**6.61**	**17**	Pn	**Pn**	**19 09 10.2**	**+1.1**
ESDC				⇑*i*Vmb_V		19 09 12.6	
	comp=E,155nm,SNR=1.4						
ESDC				Sn	**Sn**	**19 10 19.1**	**-4.1**
ESBB	**Sonseca Array**	**6.61**	**17**	Sn	**Sn**	**19 10 18.9**	**-4.3**
EPLA	**Plasencia**	**6.70**	**2**	Pn	**Pn**	**19 09 11.9**	**+1.6**
EPLA				⇑*i*Vmb_V		19 09 13.1	
	comp=E,171nm,SNR=1.0						
EPLA				Sn	**Sn**	**19 10 22.4**	**-2.9**
PCAS	**Casmilo, Conde**	**6.88**	**347**	*eP*	**Pn**	**19 09 15.4**	**+2.6**
PCAS				*eS*	**Sn**	**19 10 28.0**	**-1.9**
MTE	**Manteigas**	**7.08**	**353**	*eP*	**Pn**	**19 09 13.6**	**-2.0**
PVIS	**Viseu**	**7.43**	**351**	*eS*	**Sn**	**19 10 40.2**	**-3.3**
GUD	**Guadarrama**	**7.49**	**13**	Pn	**Pn**	**19 09 22.6**	**+1.3**
GUD				Sn	**Sn**	**19 10 39.9**	**-5.2**
MVO	**Moncorvo**	**7.80**	**357**	*eP*	**Pn**	**19 09 27.0**	**+1.5**
MVO				*i* AML	AML	19 10 49.5	
MVO				*eS*	**Sn**	**19 10 49.6**	**-3.0**
MVO				*i* AML	AML	19 10 51.0	
MVO				*i* AML	AML	19 10 51.0	
PVRL	**Vila Real**	**7.97**	**353**	*eS*	**Sn**	**19 10 53.8**	**-2.8**
POLO	**Lamas de Olo**	**8.07**	**353**	*eP*	**Pn**	**19 09 30.5**	**+1.3**
POLO				*eS*	**Sn**	**19 10 54.9**	**-4.4**
POLO				*i* AML	AML	19 10 58.3	
POLO				*i* AML	AML	19 10 58.6	
POLO				*i* AML	AML	19 11 01.1	
ETOR	**Torete**	**8.22**	**24**	Pn	**Pn**	**19 09 32.2**	**+1.0**
ETOR				⇑*i*Vmb_V		19 09 33.9	
	comp=E,225nm,SNR=1.8						
ETOR				Sn	**Sn**	**19 10 58.7**	**-4.2**
PGAV	**Gavieira, Arco**	**8.71**	**351**	*eS*	**Sn**	**19 11 11.1**	**-3.9**

*NEIC **07** 19:07:52.9±2.6,46°.38N±0°.06×17°.35E±0°.06,h10km±1km, mb4.5/1,Error ellipse: s-maj=10.5km s-min=7.4km az=165.0*
*IDC **07** 19:07:52.9±1.3,46°.28N×17°.31E,h0km,mb3.5/4, mbtmp3.6/10,ML3.6/7,MS3.2/2,Error ellipse: s-maj=21.2km s-min=9.3km az=26.0*
*PRU **07** 19:07:54.0,46°.38N×17°.25E,h1km,M4.5*
*BGR **07** 19:07:54.6±0.4,46°.36N×17°.52E,h10km,ML3.7/15,Error ellipse: s-maj=10.0km s-min=6.7km az=32.0*
*BEO **07** 19:07:54.3±0.7,46°.37N×17°.30E,h18km±4km,ML3.8/10*
*RHSSO **07** 19:07:54.2±0.3,46°.29N×17°.26E,h13km±2km,ML3.9/21*
ISC 07 19:07:54.0±1.0,46°.34N±0°.02×17°.32E±0°.02,h14km±7km, n210,σ1°.27/315,mb3.4/4,56C-11D,Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEHE	**Becsehely**	**0.40**	**290**		**Pb**	**19 08 02.2**	**-0.7**
BEHE	**Becsehely**	**0.40**	**290**	⇓*i*Pg	**Pg**	**19 08 01.9**	**-0.1**
BEHE				*e*Sg	**Sb**	**19 08 08.7**	**-0.2**
KALN	**Kalnik**	**0.63**	**251**	*i* Pg	**Pg**	**19 08 05.9**	**-0.5**
KOGS	**Kog**	**0.75**	**279**	*i* Pg	**Pb**	**19 08 08.3**	**-0.5**
KOGS				*i* Sg	**Sb**	**19 08 18.7**	**-0.2**
KOGS				IAML		19 08 27.0	
	comp=Z,2μm,0.3s						
MOSL	**Moslavina**	**0.82**	**209**	*i* Pg	**Pg**	**19 08 09.6**	**-0.4**
MORH	**Mrgy, Hungar**	**0.93**	**97**	⇑*i*Pg	**Pg**	**19 08 11.9**	**0.0**
MORH				*e*Sg	**Sb**	**19 08 24.9**	**+0.8**
MORH	**Mrgy, Hungar**	**0.93**	**97**	⇑P	**Pg**	**19 08 12.0**	**0.0**
MORH				⇑S	**Sg**	**19 08 23.5**	**-0.5**
PTJ	**Puntijarka**	**1.03**	**246**	*e*Pg	**Pg**	**19 08 13.1**	**-0.9**
ZAG	**Zagreb**	**1.06**	**242**	*e*Pg	**Pg**	**19 08 13.8**	**-0.7**
A051A	**Mrakovica**	**1.36**	**192**	⇑*i*Pg	**Pn**	**19 08 18.0**	**-0.6**
A051A				*e*Sg	**Sb**	**19 08 35.2**	**-1.3**
CRES	**Cresnjevec Ost**	**1.39**	**249**	⇑*i*Pg	**Pn**	**19 08 17.8**	**-1.3**
CRES				*e*Sg	**Sb**	**19 08 37.3**	**-0.2**
PRIJ	**Prijedor**	**1.43**	**198**	*e*Pg	**Pn**	**19 08 18.6**	**-0.9**
PRIJ				*e*Sg	**Sn**	**19 08 38.0**	**-0.1**
OZLJ	**Ozalj**	**1.48**	**241**	*i* Pn	**Pn**	**19 08 19.3**	**-1.0**
RONA	**Rosalia, Austr**	**1.53**	**333**	*i* Pn	**Pn**	**19 08 21.0**	**0.0**
	comp=Z,12nm,0.3s,SNR=44						
RONA				*e*Sn	**Sn**	**19 08 40.2**	**-0.6**
	comp=Z,384nm,0.6s						
ARSA	**Arzberg**	**1.54**	**307**	*i* Pn	**Pn**	**19 08 20.7**	**-0.4**
	comp=Z,10nm,0.2s,SNR=24						
ARSA				Sg	**Sg**	**19 08 44.2**	**+0.7**
	comp=Z,170nm,0.5s						
ARSA	**Arzberg**	**1.54**	**307**		**Pn**	**19 08 20.0**	**-1.1**
ARSA	**Arzberg**	**1.54**	**307**	⇑*i*Pn	**Pn**	**19 08 20.7**	**-0.4**
ARSA				*e*Sn	**Sb**	**19 08 41.7**	**+0.1**
ARSA	**Arzberg**	**1.54**	**307**	*e*Pn	**Pn**	**19 08 20.7**	**-0.4**
ARSA				*e*Sn	**Sg**	**19 08 44.2**	**+0.7**
BLY	**Banja Luka**	**1.59**	**183**	⇑*i*Pn	**Pn**	**19 08 21.3**	**-0.5**
BLY				*e*Sn	**Sn**	**19 08 40.8**	**-1.4**
BLY	**Banja Luka**	**1.59**	**183**	*e*Pg	**Pn**	**19 08 21.5**	**-0.3**
BLY				*e*Sg	**Sg**	**19 08 44.9**	**-0.3**
SOKA	**Soboth**	**1.61**	**283**	*i* Pn	**Pn**	**19 08 21.2**	**-1.0**
	comp=Z,39nm,0.3s,SNR=42						
SOKA				*e*Sn	**Sn**	**19 08 41.3**	**-1.6**
	comp=Z,105nm,0.3s						
SRO	**Srobarova**	**1.63**	**24**	*e*PG	**Pb**	**19 08 23.8**	**0.0**
SUBS	**Subotica**	**1.63**	**97**	*e*Pg	**Pn**	**19 08 22.8**	**+0.4**
BOJS	**Bojanci**	**1.67**	**241**	*i* Pn	**Pn**	**19 08 21.8**	**-1.1**
BOJS				*i* Pg	**Pg**	**19 08 25.4**	**-0.6**
DOB	**Doboj**	**1.70**	**161**	*e*Pn	**Pn**	**19 08 22.4**	**-0.8**
DOB				*e*Sn	**Sn**	**19 08 45.3**	**+0.6**
VISS	**Visnje**	**1.81**	**254**	*i* Pn	**Pn**	**19 08 23.7**	**-1.1**
VISS				*i* Pg	**Pb**	**19 08 27.1**	**+0.2**
VISS				*i* Sn	**Sn**	**19 08 45.3**	**-2.2**
VNDS	**Vrh nad Dolski**	**1.83**	**264**	*i* Pn	**Pn**	**19 08 24.1**	**-1.0**
CONA	**Conrad Observa**	**1.88**	**329**	*e*Pn	**Pn**	**19 08 25.8**	**-0.1**
	comp=Z,5.8nm,0.2s						
CONA				Sg	**Sg**	**19 08 55.1**	**+0.7**
PLIT	**Plitvice**	**1.88**	**220**	*e*Pn	**Pn**	**19 08 25.4**	**-0.5**
OBKA	**Obir**	**1.92**	**276**	*e*Pn	**Pn**	**19 08 25.4**	**-1.1**
	comp=Z,20nm,0.4s						
OBKA				*e*Sn	**Sn**	**19 08 50.7**	**+0.2**
	comp=Z,66nm,0.4s						
OBKA

BZS	Buzias	3.08 102	⇑P	Pn	19 08 42.2	-0.1
RUDO	Rudo	3.08 151	*e*Pn	Pn	19 08 41.8	-0.5
RUDO			*e*Sn	Sn	19 09 18.9	-0.1
UPM	Unac-Piva	3.33 160	*e*Pn	Pn	19 08 45.2	-0.7
ABTA	Abfaltersbach	3.34 279	*i* Pn	Pn	19 08 46.1	+0.1
	comp=Z,2.1nm,0.3s					
ABTA			*e*Pg	Pg	19 08 57.4	-0.6
	comp=Z,23nm,0.5s					
ABTA			*e*Sn	Sg	19 09 45.2	+3.9
	comp=Z,116nm,0.8s					
LESA	Schwarzleotal	3.36 291	*i* Pn	Pn	19 08 46.6	+0.3
	comp=Z,12nm,0.3s,SNR=8.9					
LESA			*i* Pg	Pg	19 08 59.7	+1.2
	comp=Z,26nm,0.4s					
LESA			*i* Sn	Sn	19 09 25.9	-0.2
	comp=Z,23nm,0.3s					
RJOB	Jochberg	3.40 296	*e*Pn	Pn	19 08 47.4	+0.7
RJOB			*e*Sn	Sn	19 09 27.8	+1.0
SURR	Surduc	3.40 98	⇑P	Pn	19 08 46.5	-0.2
GRUS	Gruza	3.43 134	*e*Pn	Pn	19 08 47.6	+0.5
SVIS	Svilajnac	3.44 126	*e*Pn	Pn	19 08 47.1	-0.1
MORC	Moravsky Berou	3.44 2	Pn	Pn	19 08 47.7	+0.4
MORC	Moravsky Berou	3.44 2	*e*PN	Pn	19 08 47.8	+0.4
MORC	Moravsky Berou	3.44 2	⇑P	Pn	19 08 48.0	+0.7
MORC			⇑S	Sn	19 09 27.4	-0.6
MDVR	Moldovita	3.46 115	⇓P	Pn	19 08 47.3	-0.2
STON	Ston	3.48 175	⇑*i*Pn	Pn	19 08 47.4	-0.3
STON			*e*Sn	Sn	19 09 27.0	-1.6
GEC2	GERESS Array S	3.50 317	Pn	Pn	19 08 48.9	+0.7
GEC2	GERESS Array S	3.50 317	*e*Pn	Pn	19 08 49.4	+1.2
GEC2			*e*Pg	Pg	19 09 01.3	+0.2
GEC2			*e*Sn	Sn	19 09 29.4	-0.1
GEC2			*e*Sg	Sg	19 09 45.5	-1.0
GERES	GERESS Array B	3.50 317	Pn	Pn	19 08 48.6	+0.4
GERES	GERESS Array B	3.50 317	Pn	Pn	19 08 49.4	+1.2
	comp=Z,4.0nm,0.3s,baz=133,slow=14,SNR=34					
GERES			Lg	Lg	19 09 47.0	
	comp=Z,9.2nm,0.3s,baz=130,slow=32,SNR=7.0					
	comp=Z,8.2nm,0.5s					
BRY	Bratogost	3.54 165	*e*Pn	Pn	19 08 48.3	-0.5
OKC	Ostrava-Krasne	3.55 9	*e*SN	Sn	19 09 29.3	-1.1
SJES	Sjenica	3.61 147	⇑*i*Pn	Pn	19 08 49.9	+0.2
SJES			*e*Sn	Sn	19 09 30.9	-1.2
SJES	Sjenica	3.61 147	*e*Pn	Pn	19 08 50.4	+0.7
KUBS	Kucevo	3.62 121	*e*Pn	Pn	19 08 48.6	-1.2
TREB	Trebinje	3.69 168	*e*Pn	Pn	19 08 50.7	0.0
TREB			*e*Sn	Sn	19 09 33.1	-1.0
TREB	Trebinje	3.69 168	*e*Pn	Pn	19 08 52.4	+1.7
DRGR		3.75 81	⇑P	Pn	19 08 51.8	+0.3
DRGR			⇑S	Sn	19 09 33.9	-1.6
ZVC	Zvikov	3.75 327	*e*PN	Pn	19 08 52.1	+0.6
GOCS	Kraljevo Serbi	3.75 136	*e*Pn	Pn	19 08 52.1	+0.5
KHC	Kasperske Hory	3.77 319	*e*PN	Pn	19 08 53.3	+1.6
KHC			*e*SN	Sn	19 09 35.5	-0.4
KHC			*e*SG	Sg	19 09 51.7	-3.2
HERR	Herculane	3.86 110	⇑P	Pn	19 08 53.6	+0.6
HERR			⇑S	Sn	19 09 37.8	-0.4
DEV	Deva	3.91 95	⇑P	Pn	19 08 53.0	-0.7
DEV			⇑S	Sn	19 09 38.0	-1.4
GZR	Gura Zlata	3.93 102	⇑P	Pn	19 08 54.1	+0.1
GZR			⇑S	Sn	19 09 39.9	-0.1
CTI	Castel Tesino	3.95 268	Pn	Pn	19 08 53.3	-1.0
MESR	Meseseni	3.96 76	⇑P	Pn	19 08 54.5	+0.2
MESR			⇑S	Sn	19 09 39.3	-1.2
GOPC	GO Pecny, Ondr	3.96 336	*e*PN	Pn	19 08 54.7	+0.3
HCY	Herceg Novi	3.98 167	*e*Pn	Pn	19 08 54.3	-0.3
BORS2	Bor- Borsko je	4.01 122	*e*Pn	Pn	19 08 54.2	-0.9
WTTA	Wattenberg	4.01 285	*e*Pn	Pn	19 08 56.0	+0.7
	comp=Z,2.8nm,0.2s					
WTTA			*i* Sn	Sn	19 09 43.9	+1.8
	comp=Z,36nm,0.5s					
WTTA	Wattenberg	4.01 285	*e*Pn	Pn	19 08 56.0	+0.7
WTTA			*e*Sn	Sn	19 09 42.8	+0.7
WTTA			*e*Sg	Sg	19 10 07.9	+5.1
MARR	Marisel-Cluj	4.02 83	⇑P	Pn	19 08 55.5	+0.3
MARR			⇓S	Sn	19 09 40.8	-1.5
WATA	Walderalm	4.07 286	*i* Pn	Pn	19 08 56.8	+0.9
	comp=Z,2.6nm,0.2s					
WATA			*e*Pg	Pg	19 09 11.8	-0.1
	comp=Z,7.8nm,0.4s					
WATA			*i* Sn	Sn	19 09 43.8	+0.4
	comp=Z,24nm,0.4s					
TEOL	Teolo	4.07 258	Pn	Pn	19 08 54.6	-1.3
DPC	Dobruska-Polom	4.07 351	*e*PN	Pn	19 08 56.7	+0.8
PRU	Pruhonice	4.10 334	*e*PN	Pn	19 08 56.4	+0.1
PRU			*e*SG	Sg	19 10 02.4	-3.2
WET	Wettzell	4.11 315	*e*Pn	Pn	19 08 57.7	+1.3
WET			*e*Sg	Sg	19 10 06.6	+0.8
BOVS	Bovan	4.12 129	⇑P	Pn	19 08 56.9	+0.3
BOVS			⇑S	Sn	19 09 46.1	+1.5
BOVS	Bovan	4.12 129	*e*Pn	Pn	19 08 56.8	+0.3
SELS	Selova	4.13 138	*e*Pn	Pn	19 08 57.2	+0.5
RMGR	Halanga-Turnu	4.13 112	⇑P	Pn	19 08 56.6	-0.2
PDG	Podgorica	4.14 160	Pn	Pn	19 08 55.4	-1.5
PDG	Podgorica	4.14 160	*e*Pn	Pn	19 08 56.8	-0.1
PDG			*e*Sn	Sn	19 09 43.8	-1.4
PDG	Podgorica	4.14 160	⇑P	Pn	19 08 58.2	+1.3
PDG			⇑S	Sn	19 09 48.5	+3.3
OJC	Ojcow	4.22 22	Pn	Pn	19 08 55.5	-2.5
KOLS	Kolonicke sedl	4.24 50	*e*PG	Pn	19 08 59.5	+1.3
UPC	Upice	4.26 349	*e*PN	Pn	19 08 59.8	+1.3
OSTC	Ostas	4.29 351	*e*PN	Pn	19 08 59.4	+0.5
SQTA	Sankt Quirin	4.29 284	*i* Pn	Pn	19 09 00.1	+1.1
	comp=Z,4.0nm,0.3s					
SQTA			*e*Pg	Pg	19 09 15.5	-0.7
	comp=Z,34nm,0.5s					
SQTA			*e*Sn	Sn	19 09 50.8	+1.8
	comp=Z,20nm,0.4s					
ZAGS	Zajecar	4.30 124	*e*Pn	Pn	19 08 59.0	0.0
GUMA	Gualdo di Mace	4.33 222		Pn	19 09 00.3	+0.7
CJR	Cluj-Napoca	4.35 83	⇑P	Pn	19 08 59.9	+0.1
CJR			⇓S	Sn	19 09 50.7	+0.4
DRME	Dracevica, Mon	4.36 161	*e*Pn	Pn	19 08 59.7	-0.2
DRME			*e*Sn	Sn	19 09 48.7	-1.8
BMR	Baia Mare	4.43 70	⇑P	Pn	19 09 00.6	-0.2
PUNG	Punghina	4.46 115	⇓P	Pn	19 09 01.4	+0.1
SRE	Strehaia	4.46 110	⇑P	Pn	19 09 01.5	+0.2
FDMO	Fiordimonte	4.47 224		Pn	19 09 01.0	-0.5
FUR	Furstenfeldbru	4.50 296	*e*Pn	Pn	19 09 02.2	+0.3
FETA	Feichten	4.59 281	*e*Pn	Pn	19 09 04.2	+1.0
	comp=Z,1.3nm,0.3s					
FETA			*e*Sn	Sn	19 09 55.1	-1.2
	comp=Z,4.8nm,0.4s					
LOT	Lotru	4.59 99	⇓P	Pn	19 09 03.3	+0.1
LOT			⇑S	Sn	19 09 55.8	-0.5
NRCA	Norcia	4.61 222		Pn	19 09 02.2	-1.2
RETA	Reutte	4.64 287	*e*Sn	Sn	19 09 57.3	-0.1
	comp=Z,8.9nm,0.3s					
PUK	Puka	4.67 156	Pn	Pn	19 09 04.9	+0.7
CAMP	Campotosto	4.72 218	Pn	Pn	19 09 02.9	-2.1
SGRT	San Giovanni R	4.72 194	Pn	Pn	19 09 04.0	-0.9
BARS	Barje	4.76 136	*e*Pn	Pn	19 09 05.7	+0.3
ROTZ	Rotzenmuhle	4.85 317	*e*Pn	Pn	19 09 07.2	+0.6
ROTZ			*e*Sn	Sn	19 10 00.6	-2.0
ZAPS	Zavoj	4.87 127	*e*Pn	Pn	19 09 07.2	+0.3
FUORN	Ofenpass-Fuorn	4.88 276	Pn	Pn	19 09 07.4	+0.2
ZCCA	Zocca	4.89 248	Pn	Pn	19 09 06.8	-0.4
ARCR	ARCALIA	4.90 79	⇑S	Sn	19 10 02.8	-0.9
OBER	Oberstdorf	4.94 285	*e*Pn	Pn	19 09 09.0	+1.2
OBER			*e*Sg	Sg	19 10 32.9	+0.5
INTR	Introdacqua	4.97 211		Pn	19 09 07.4	-0.9
CESX	Cesi	5.04 224		Pn	19 09 07.4	-1.8
MANZ	Manzenberg	5.05 318	*e*Pn	Pn	19 09 10.2	+0.9
MANZ			*e*Sg	Sg	19 10 36.9	+0.9
BRG	Berggiesshubel	5.06 335	Pn	Pn	19 09 10.8	+1.3
BRG			Amp		19 09 17.7	
	comp=Z,3.5nm,0.4s					
BRG	Berggiesshubel	5.06 335	Pg	Pg	19 09 32.9	+2.0
BRG			Sn	Sn	19 10 06.7	-1.1
BRG			Sg	Sg	19 10 32.5	-3.9
BRG			Amp		19 10 44.1	
	comp=Z,30nm,0.7s					
NKC	Novy Kostel	5.08 322	*e*PN	Pn	19 09 10.3	+0.6
UBR	Ueberruh	5.11 288	*e*Pn	Pn	19 09 10.4	+0.1
UBR			*e*Sn	Sn	19 10 06.8	-2.3
UBR			*e*Sg	Sg	19 10 40.1	+2.0
NORI	Noerdlinger Ri	5.12 300	*e*Pn	Pn	19 09 10.2	-0.1
NORI			*e*Sn	Sn	19 10 07.2	-2.1
OSSC	Osservatorio P	5.15 239	Pn	Pn	19 09 06.7	-4.0
DAVOX	Davos/Dischmat	5.15 278	Pn	Pn	19 09 11.9	+1.0
	comp=Z,1.5nm,0.3s,baz=41,slow=4.1,SNR=15					
DAVOX			Lg	Lg	19 10 39.1	
	comp=Z,0.4nm,0.3s,baz=313,slow=22,SNR=1.3					
	comp=Z,3.1nm,0.3s					
DAVA	Damuels	5.20 283	*e*Pn	Pn	19 09 11.9	+0.4
	comp=Z,4.5nm,0.3s					
DAVA			*e*Sn	Sn	19 10 10.9	-0.4
	comp=Z,16nm,0.3s					
DAVA	Damuels	5.20 283	*e*Pn	Pn	19 09 12.0	+0.5
DAVA			*e*Sn	Sn	19 10 10.7	-0.6
DAVA			*e*Sg	Sg	19 10 43.1	+2.4
ARR	Arges	5.20 98	⇑P	Pn	19 09 10.7	-0.8
ARR			⇑S	Sn	19 10 12.0	+0.7
GRA1	Grafenberg Arr	5.29 312	Pn	Pn	19 09 11.9	-0.8
GRF	Grafenberg Arr	5.29 312	*e*Pn	Pn	19 09 13.2	+0.6
GRF			*e*Sn	Sn	19 10 11.7	-1.7
GRF			*e*Sg	Sg	19 10 44.0	+0.2
GRFO	Grafenberg	5.29 312	Pn	Pn	19 09 12.4	-0.3
VOIR		5.47 97	⇑P	Pn	19 09 15.0	-0.2
VOIR			⇑S	Sn	19 10 17.8	-0.2
TUE	Stuetta	5.52 274	Pn	Pn	19 09 16.1	+0.2
BUR08	Bucovina Ar. S	5.55 74		Pn	19 09 16.9	+0.6
BURAR	Bucovina Array	5.55 74		Pn	19 09 16.7	+0.4
BURAR	Bucovina Array	5.55 74	⇑P	Pn	19 09 16.3	-0.1
BURAR			⇑S	Sn	19 10 18.8	-1.2
DOPR	Dopca	5.62 91	⇑P	Pn	19 09 16.6	-0.6
MATE	Matera	5.70 185	⇓P	Pn	19 09 20.8	+2.5
CLL	Collm	5.73 332	Pn	Pn	19 09 19.3	+0.6
CLL	Collm	5.73 332	*i* Pn	Pn	19 09 19.1	+0.4
	comp=Z,10.0nm,0.5s					
CLL			*ex*	x	19 10 26.0	
CLL			*i* Sg	Sg	19 10 58.7	+0.8
	comp=Z,71nm,0.9s					
MOX	Moxa	5.74 321	*e*Pn	Pn	19 09 19.8	+1.0
MOX			*e*Sg	Sg	19 10 56.4	-1.7
OHR	Ohrid	5.80 153	*i* Pn	Pn	19 09 23.8	+4.1
MSSA	Maissana	5.86 253	Pn	Pn	19 09 20.2	-0.3
OZUR		5.88 89	⇑P	Pn	19 09 20.0	-0.8
PEHC	Pehcevo	6.08 137	*i* Pn	Pn	19 09 24.9	+1.4
MLR	Muntele Rosu	6.08 95	Pn	Pn	19 09 23.9	+0.3
MLR	Muntele Rosu	6.08 95	Pn	Pn	19 09 24.9	+1.3
	comp=Z,1.8nm,0.3s,baz=138,slow=16,SNR=14					
MLR			Lg	Lg	19 11 07.7	
	comp=Z,0.3nm,0.3s,baz=308,slow=20,SNR=1.3					
MLR			LR	LR	19 11 20.6	
	comp=Z,55nm,21.4s,baz=269,slow=34					
	comp=Z,4.0nm,0.3s					
MLR	Muntele Rosu	6.08 95	⇓P	Pn	19 09 23.9	+0.3
SLE	Schleitheim	6.20 287	*e*Pn	Pn	19 09 25.1	0.0
SLE			*e*Sn	Sn	19 10 29.7	-6.1
FNA	Florina	6.28 151	Pn	Pn	19 09 26.2	-0.2
NEHR	Nehoiu	6.33 95	⇑P	Pn	19 09 27.5	+0.5
BFO	Black Forest	6.43 291		Pn	19 09 27.1	-1.2
BFO	Black Forest	6.43 291	*e*Pn	Pn	19 09 27.7	-0.5
BFO			*e*Sn	Sn	19 10 35.0	-6.4
CUC	Castrocucco	6.43 190	Pn	Pn	19 09 27.2	-1.2
TESR	Tescani	6.45 85	⇑P	Pn	19 09 27.8	-0.8
VRI	Vrincioaia	6.56 91	⇑P	Pn	19 09 30.1	0.0
KEK	Kerkira	6.87 164	Pn	Pn	19 09 35.2	+0.9
TNS	Taunus Mts	7.08 307	*e*Pn	Pn	19 09 38.6	+1.3
TNS			*e*Sn	Sn	19 10 53.2	-4.3
TNS			*e*Sg	Sg	19 11 43.2	+2.1
TIP	Timpagrande	7.17 183	Pn	Pn	19 09 38.4	-0.1
BNI	Bardonecchia	7.56 264	Pn	Pn	19 09 43.0	-1.0
RDO	Rodhopi	7.89 128	Pn	Pn	19 09 48.3	-0.1
WLF	Walferdange	8.20 298	*e*Pn	Pn	19 09 53.7	+1.2
WLF			*e*Sn	Sn	19 11 20.9	-4.0
SSB	Saint Sauveur	8.99 268	Pn	Pn	19 10 01.8	-1.6
AKASG	Malin Array Be	9.03 57	Pn	Pn	19 10 05.3	+1.5
	comp=Z,0.3nm,0.3s,baz=253,slow=12,SNR=1.6					
EKA	Eskdalemuir Ar	15.71 312	Pn	Pn	19 11 36.0	+1.2
	baz=120,slow=9.5					
	comp=Z,2.5nm,0.7s					
FINES	FINESS Array B	15.97 15	Pn	Pn	19 11 34.0	-4.0
FINES	FINESS Array B	15.97 15	Pn	Pn	19 11 35.4	-2.6
	comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=9.2					
	comp=Z,3.4nm,1.1s					
FIA1	FINESS Array S	15.97 15	Pn	Pn	19 11 36.4	-1.6
FIA1			IAmb	IAmb	19 12 10.9	
	comp=Z,39nm,1.2s					
ZALV	Zalesovo Beam	42.41 54	P	P	19 15 48.8	+1.0
	comp=Z,0.2nm,0.3s,baz=276,slow=5.7,SNR=2.1					
	comp=Z,0.2nm,0.3s					
MKAR	Makanchi Array	43.50 65	P	P	19 15 58.0	+1.2
	comp=Z,0.4nm,0.7s,baz=306,slow=7.0,SNR=4.8					
	comp=Z,0.4nm,0.7s					
SONM	Songino Array	57.29 53	P	P	19 17 42.4	+1.2
	comp=Z,0.4nm,0.7s,baz=311,slow=7.5,SNR=2.6					
	comp=Z,0.4nm,0.7s					
YKA	Yellowknife Ar	64.93 338	P	P	19 18 33.9	+1.3
	comp=Z,0.4nm,0.8s,baz=33,slow=5.8,SNR=4.4					
	comp=Z,0.4nm,0.8s					
KSRS	Korea Array	75.96 50	LR	LR	19 55 59.3	
	comp=Z,58nm,18.2s,baz=0.0,slow=38					

IDC ***07*** *19:16:41.0±1.0,3°.66S×138°.58E,h0km,mb3.7/5, mbtmp3.8/8,ML3.4/2,MS3.3/1,Error ellipse: s-maj=24.3km s-min=21.9km az=129.0*

DJA ***07*** *19:16:43.9±0.4,4°.5±4°×13°.9E±°,h10km,M3.9/5,mb4.3/1, MLv3.6/5*

ISC 07 19:16:47.4±1.4,**3°.87S**±0°.09×**138°.82E**±0°.08,**h50**km±19km, **n14**,σ2°13/13,**mb3.4**/4,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WAMI	Wamena		0.11 264	P		Pn	19 16 49.1	-6.0
GENI	Genyem		1.85 47	P		Pn	19 17 15.1	-1.6
SMPI	Sarmi		1.87 357	P		Pn	19 17 15.4	-1.6
JAY	Jayapura		2.32 54	Pn		Pn	19 17 22.9	-0.2
	5.1nm,0.3s,baz=218,slow=11,SNR=24							
JAY				Sn		Sn	19 17 53.0	+2.6
	8.0nm,0.3s,baz=152,slow=22,SNR=8.3							
	97nm,0.9s							
JAY	Jayapura		2.32 54	P		Pn	19 17 21.0	-2.1
BAKI	Biak		3.80 314	P		Pn	19 17 44.4	+1.0
PMG	Port Moresby		9.94 124	Pn		Pn	19 19 09.2	+1.5
	4.9nm,0.9s,baz=273,slow=14,SNR=2.1							
WRA	Warramunga Arr		16.56 195	Pn		Pn	19 20 32.2	-4.0
	0.4nm,0.3s,baz=16,slow=12,SNR=8.8							
WRA				Sn		Sn	19 23 26.8	-12
	baz=6.4,slow=22,SNR=2.3							
FITZ	Fitzroy Crossi		19.14 221	P		P	19 21 07.2	+0.6
	0.1nm,0.3s,baz=43,slow=14,SNR=6.5							
FITZ				S		Sn	19 24 20.6	-21
	1.7nm,0.8s,baz=70,slow=2.6,SNR=3.5							
	2.0nm,0.8s							
ASAR	Alice Springs		20.24 193	P		P	19 21 19.7	+1.0
	6.2nm,0.7s,baz=22,slow=8.9,SNR=107							
ASAR				S		S	19 24 56.8	-6.4
	0.2nm,0.6s,baz=14,slow=27,SNR=1.7							
	6.2nm,0.7s							
CMAR	Chiang Mai Arr		45.11 301	P		P	19 24 58.3	-0.9
	0.3nm,0.7s,baz=104,slow=8.6,SNR=2.4							
CMAR				LR		LR	19 45 31.5	
	comp=Z,30nm,18.3s,baz=290,slow=39							
	0.3nm,0.7s							
MKAR	Makanchi Array		70.77 323	P		P	19 27 55.8	-2.9
	0.2nm,0.6s,baz=112,slow=7.2,SNR=4.5							
	0.2nm,0.6s							
KURBB	Kurchatov Arra		74.73 325	P		P	19 28 21.5	-0.5
	0.9nm,1.1s,baz=120,slow=5.4,SNR=4.4							
	0.9nm,1.1s							
QSPA	South Pole Qui		86.08 180	P		P	19 29 24.2	+1.4
	1.4nm,0.7s,baz=9.2,slow=1.0,SNR=8.5							
	1.4nm,0.7s							

IDC ***07*** *19:37:19.8±0.6,23°.88N×99°.27E,h0km,mb4.1/19, mbtmp4.1/20,ML4.1/1,MS3.5/22,Error ellipse: s-maj=25.5km s-min=12.0km az=71.0*

BJI ***07*** *19:37:20.4,23°.94N×99°.31E,h11km,mB4.6/14,mb4.2/34, ML4.6/8,Ms4.4/40,Ms7 4.0/33*

NEIC ***07*** *19:37:22.1±1.9,23°.96N±0°.05×99°.4E±0°.1,h10km±1km, mb4.4/25,Error ellipse: s-maj=16.5km s-min=6.5km az=69.0*

BKK ***07*** *19:37:24.4±0.6,24°.N±3°.×9°.9E±°,h0km,M4.9/12,mb5.6/6, mB5.5/6,Mjma4.7/12,ML5.4/8,MLv5.2/12,Mw(mB)5.0/6, MwMwp3.3/5,Mwp4.0/5*

ISC 07 19:37:22.2±0.4,**23°.95N**±0°.03×**99°.35E**±0°.04,**h10**km,**n110**, σ1°.95/107,**mb4.4**/39,**MS3.5**/23,**2C,Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNCH	TengChong		1.31 325	Pn		Pn	19 37 45.6	-1.2
TNCH				Sg		Sb	19 38 03.5	-0.6
TNCH				smax		smax		
	comp=N,44μm,0.5s							
TNCH				smax		smax		
	comp=E,35μm,0.4s							
KMI	Kunming		3.30 69	⇑Pn		Pn	19 38 14.9	+0.7
KMI				Pg		Pg	19 38 24.3	-1.2
KMI				Sg		Sg	19 39 06.8	-1.6
KMI				smax		smax		
	comp=N,3μm,1.2s							
KMI				smax		smax		
	comp=E,1μm,1.4s							
KMI				LR		LR		
	comp=N,4μm,4.9s							
KMI				LR		LR		
	comp=E,3μm,3.6s							
KMI				LR		LR		
	comp=Z,2μm,6.5s							
PZH	PanZhiHua		3.34 40	Pn		Pn	19 38 15.0	+0.3
PZH				Pg		Pb	19 38 20.7	-1.0
PZH				Sg		Sg	19 39 07.6	-2.1
PZH				smax		smax		
	comp=N,2μm,0.9s							
PZH				smax		smax		
	comp=E,2μm,1.1s							
LKP	Lekhapani		4.62 318	*e*P		Pn	19 38 33.5	+1.4
LKP				*e*S		Sb	19 39 37.0	-2.2
LKP				IAML			19 39 53.9	
	comp=N,440nm,1.0s							
LKP				IAML			19 40 03.5	
	comp=E,464nm,1.2s							
IMP	Imphal		5.00 281	*e*P		Pn	19 38 39.0	+1.6
IMP				*e*S		Sb	19 39 48.1	-2.1
IMP				IAML			19 40 05.7	
	comp=N,453nm,1.0s							
IMP				IAML			19 40 10.3	
	comp=E,471nm,1.6s							
KOHI	KOHIMA		5.08 291	*e*P		Pn	19 38 42.3	+3.8
KOHI				*e*S		Sb	19 39 49.5	-2.9
KOHI				IAML			19 40 14.4	
	comp=E,298nm,1.1s							
KOHI				IAML			19 40 17.2	
	comp=N,382nm,1.2s							
CHTO	Chiang Mai		5.12 184			Pn	19 38 38.8	-0.3
LAMP	Lampang		5.40 177	Pg		Pg	19 39 03.8	-2.0
LAMP				Pn		Pn	19 38 43.0	+0.1
CM31	Chiang Mai Arr		5.47 184			Pn	19 38 44.2	+0.3
CM31	Chiang Mai Arr		5.47 184	Pn		Pn	19 38 44.0	+0.1
CMAR	Chiang Mai Arr		5.47 184			Pn	19 38 44.4	+0.5
CMAR	Chiang Mai Arr		5.47 184	Pn		Pn	19 38 43.8	-0.1
	comp=N,1.8nm,0.3s,baz=0.5,slow=13,SNR=26							
CMAR				Pg		Pb	19 39 02.6	+4.6
	comp=N,44nm,0.3s,baz=2.0,slow=17,SNR=76							
CMAR				Lg		Lg	19 40 12.5	
	comp=N,10nm,0.3s,baz=320,slow=18,SNR=6.4							
	comp=N,12nm,0.6s							
CM15	Chiang Mai Arr		5.48 184	Pn		Pn	19 38 44.3	+0.3
	comp=N,2.1nmcomp=N,1.3nmcomp=N,6μmcomp=N,549nm,0.7s							
CM09	Chiang Mai Arr		5.49 184	Pn		Pn	19 38 44.5	+0.5
	comp=N,2.5nmcomp=N,2.0nmcomp=N,49nmcomp=N,4μm							
	comp=N,508nm,0.7s							
CM09				Sg		Sg	19 40 18.0	-0.4
	comp=N,2.5nmcomp=N,2.0nmcomp=N,49nmcomp=N,4μm							
	comp=N,508nm,0.7s							
CM01	Chiang Mai Arr		5.51 184	Pg		Pg	19 39 05.1	-2.7
	comp=N,3.5nmcomp=N,2.9nmcomp=N,57nmcomp=N,4μm							
	comp=N,535nm,0.7s							
CM01				Pn		Pn	19 38 44.2	-0.2
	comp=N,3.5nmcomp=N,2.9nmcomp=N,57nmcomp=N,4μm							
	comp=N,535nm,0.7s							
CM01				Sg		Sg	19 40 18.8	-0.4
	comp=N,3.5nmcomp=N,2.9nmcomp=N,57nmcomp=N,4μm							
	comp=N,535nm,0.7s							
SHL	Shillong		6.97 285	Pn		Pn	19 39 03.9	-0.7
SHL	Shillong		6.97 285	*e*P		Pn	19 39 07.0	+2.3
BRDH	Bariadhala		7.20 261	LR		LR	19 41 51.7	
	comp=N,96nm,20.0s,baz=20,slow=38							
TAWA	Tawang		7.66 300	IAmb		IAmb	19 39 43.9	
	comp=Z,22nm,0.8s							
TAWA				*e*S		Sn	19 40 46.3	+5.0
LSA	Lhasa		9.29 310			Pn	19 39 37.0	+0.3
LSA	Lhasa		9.29 310	P		Pn	19 39 37.5	+0.8
LSA				LR		LR		
	comp=Z,420nm,12.2s							
LSA				LR		LR		
	comp=Z,430nm,10.4s							
GULI	GuiLin		10.11 80	P		Pn	19 39 47.5	-0.1
GULI				S		Sn	19 41 49.3	+8.2
GULI				LR		LR		
	comp=Z,1μm,6.5s							
GULI				LR		LR		
	comp=Z,300nm,5.4s							
GULI				LR		LR		
	comp=Z,510nm,9.3s							
GTK	Tadong		10.26 291	*e*P		Pn	19 39 51.2	+1.5
GTK				IAmb		IAmb	19 40 10.7	
	comp=Z,10nm,0.6s							
GTK				*e*S		Sn	19 41 47.3	+2.4
UBPT	Khong Chiam		10.37 145	Pn		Pn	19

BTO pmax pmax
comp=Z,26nm,0.6s
BTO pmax pmax
comp=Z,290nm,5.8s
BTO LR LR
comp=Z,530nm,8.1s
BTO LR LR
comp=Z,590nm,6.0s
BTO LR LR
comp=Z,420nm,7.3s
TIA Tai'an 19.61 47 P **Pn 19 41 52.0 -0.1**
TIA pmax pmax
comp=Z,7.0nm,0.9s
TIA LR LR
comp=Z,630nm,17.2s
TIA LR LR
comp=Z,600nm,13.7s
TIA LR LR
comp=Z,460nm,16.7s
HHC Hu-ho-hao-te 19.72 28 *e*P **Pn 19 41 54.2 +0.7**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,160nm,5.1s
HHC LR LR
comp=Z,330nm,10.0s
HHC LR LR
comp=Z,690nm,11.6s
HHC LR LR
comp=Z,180nm,10.5s
BHPL Bhopal 20.11 272 *e*P Pn 19 41 58.6 +0.6
BHPL IAmb IAmb 19 42 03.5
comp=Z,19nm,0.8s
SMLA Simla 20.91 295 *e*P **P 19 42 04.5 -0.3**
SMLA IAmb IAmb 19 42 12.7
comp=Z,30nm,0.7s
KUDL Kundal 20.95 286 *e*P **P 19 42 06.0 +0.7**
KUDL IAmb IAmb 19 42 13.1
comp=Z,7.7nm,0.7s
PSI Prapat 21.03 181 P **P 19 42 06.1 -0.2**
comp=Z,2.1nm,0.3s,baz=338,slow=9.3,SNR=7.9
PSI LR LR 19 50 08.6
comp=Z,141nm,18.9s,baz=352,slow=36
comp=Z,2.1nm,0.3s
RPSI Rantau Prapat 21.13 181 P **P 19 42 06.1 -1.2**
RPSI Rantau Prapat 21.13 181 P **P 19 42 07.5 +0.2**
RPSI IAmb IAmb 19 42 14.9
comp=Z,12nm,0.8s
BJT Baijiatuau 21.39 38 P **P 19 42 08.2 -1.9**
BJT IAmb IAmb 19 42 20.1
comp=Z,22nm,1.3s
BJI Beijing 21.41 37 P **P 19 42 10.9 +0.7**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI pmax pmax
comp=Z,110nm,5.1s
BJI LR LR
comp=Z,300nm,14.0s
BJI LR LR
comp=Z,290nm,14.3s
BJI LR LR
comp=Z,100nm,17.3s
DHRM DHARAMSHALA 21.92 297 *e*P **P 19 42 17.3 +1.3**
DHRM IAmb IAmb 19 42 26.2
comp=Z,26nm,0.8s
WMQ Urumqi 22.02 337 *e*P **P 19 42 17.9 +1.1**
WMQ pP sP 19 42 21.4 -0.2
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.3s
GSI Gunungsitoli 22.57 185 **P 19 42 24.0 +1.1**
GSI IAmb IAmb 19 42 32.5
comp=Z,11nm,1.0s
TGY Tagaytay City 22.61 112 LR LR 19 51 02.4
comp=Z,99nm,18.6s,baz=301,slow=36
WUS Wushi 24.07 320 P **P 19 42 36.9 -0.9**
DL2 Dalian 24.07 46 *e*P **P 19 42 42.5 +4.7**
DL2 S **S 19 47 03.6 +8.4**
DL2 pmax pmax
comp=Z,20nm,1.0s
DL2 LR LR
comp=N,380nm,10.3s
DL2 LR LR
comp=E,490nm,10.0s
DL2 LR LR
comp=Z,330nm,10.1s
XLT XiLinHaoTe 24.18 31 *e*P **P 19 42 38.0 -0.8**
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT LR LR
comp=Z,450nm,9.5s
XLT LR LR
comp=Z,180nm,6.4s
PALK Pallekele 24.39 230 LR LR 19 52 45.1
comp=Z,84nm,19.3s,baz=53,slow=38
SONM Songino Array 24.49 12 P **P 19 42 41.8 +0.1**
SONM Songino Array 24.49 12 P **P 19 42 42.0 +0.3**
comp=Z,3.8nm,0.8s,baz=195,slow=10.0,SNR=19
SONM LR LR 19 53 22.6
comp=Z,157nm,21.4s,baz=204,slow=39
comp=Z,3.8nm,0.8s
ULN Ulaanbaatar 24.64 13 P **P 19 42 42.0 -1.1**
SBUM Sibu 24.73 148 P **P 19 42 42.4 -1.6**
NIL Nilore 24.77 299 P **P 19 42 41.8 -2.4**
KSH Kashi 25.12 314 P **P 19 42 48.9 +1.5**
KSH pmax pmax
comp=Z,20nm,0.8s
KDJ Kajisay 25.84 320 P **P 19 42 55.0 +1.0**
JOW Kunigami 26.27 78 LR LR 19 54 28.8
comp=Z,136nm,18.3s,baz=68,slow=39
MK31 Makanchi Array 26.59 333 P **P 19 43 00.9 +0.3**
MK31 IAmb IAmb 19 43 02.0
comp=Z,6.6nm,0.9s
MKAR Makanchi Array 26.59 333 P **P 19 43 00.6 +0.1**
MKAR Makanchi Array 26.59 333 P **P 19 43 01.1 +0.6**
comp=Z,6.3nm,0.7s,baz=142,slow=10.0,SNR=90
MKAR LR LR 19 54 13.3
comp=Z,65nm,18.1s,baz=180,slow=38
comp=Z,6.3nm,0.7s
MAKZ Makanchi 26.73 333 P **P 19 43 02.2 +0.3**
DRK Karamyk 27.94 310 IAmb IAmb 19 43 18.4
comp=Z,7.5nm,0.9s
KBL Kabul 28.37 299 P **P 19 43 16.4 -0.5**
KBL IAmb IAmb 19 43 44.5
comp=Z,6.1nm,0.7s
BTK Batken 28.87 311 IAmb IAmb 19 43 37.8
comp=Z,6.8nm,1.0s
JNU Nakatsue 29.08 65 LR LR 19 54 47.5
comp=Z,140nm,18.5s,baz=264,slow=36
SIMJ Simiganj 29.62 307 P **P 19 43 27.3 -0.6**
SIMJ IAmb IAmb 19 43 32.2
comp=Z,8.1nm,1.4s
KURBB Kurchatov Arra 31.14 334 P **P 19 43 40.4 -0.6**
comp=Z,1.9nm,0.7s,baz=140,slow=9.3,SNR=18
comp=Z,1.9nm,0.7s
KURK Kurchatov 31.18 334 P **P 19 43 41.0 -0.3**
ZALV Zalesovo Beam 31.89 344 P **P 19 43 44.8 -2.7**
ZALV Zalesovo Beam 31.89 344 P **P 19 43 47.4 -0.1**
comp=Z,0.4nm,0.2s,baz=167,slow=9.9,SNR=4.7
comp=Z,0.4nm,0.2s
USRK Ussuriysk Ar. 33.43 45 P **P 19 44 01.7 +0.6**
comp=Z,2.1nm,0.8s,baz=227,slow=8.2,SNR=5.1
comp=Z,2.1nm,0.8s
HEH HeiHe 34.13 33 *e*P **P 19 44 06.6 -0.6**
HEH pmax pmax
comp=Z,2.0nm,0.5s
KAPI Kappang 34.99 143 LR LR 20 00 46.2
comp=Z,68nm,18.1s,baz=304,slow=40
MJAR Matsushiro Arr 35.61 60 LR LR 19 59 30.1
comp=Z,131nm,20.5s,baz=257,slow=37
BVAR Borovoye Array 36.37 330 P **P 19 44 26.5 +0.1**
comp=Z,4.0nm,0.6s,baz=130,slow=9.6,SNR=35
BVAR LR LR 20 00 35.0
comp=Z,62nm,22.0s,baz=110,slow=38
comp=Z,4.0nm,0.6s
BRVK Borovoye 36.44 330 P **P 19 44 27.0 0.0**
BRVK IAmb IAmb 19 44 28.0
comp=Z,5.9nm,0.7s
WSAR Wadi Sarin 37.23 277 LR LR 20 00 49.1
comp=Z,54nm,21.4s,baz=153,slow=38
ABKAR Akbulak array 39.82 319 P **P 19 44 55.7 +0.2**
ABKAR Akbulak array 39.82 319 IAmb IAmb 19 45 00.8
comp=Z,3.9nm,0.8s
AKTO Aktyubinsk 41.44 320 LR LR 20 04 28.1
comp=Z,79nm,18.5s,baz=55,slow=39
YAK Yakutsk 43.26 20 P **P 19 45 21.7 -1.8**
YAK IAmb IAmb 19 45 28.0
comp=Z,6.5nm,0.6s
ARTI Arti 43.97 328 LR LR 20 05 27.5
comp=Z,84nm,20.2s,baz=344,slow=38
BELG Belogornoye 48.22 320 LR LR 20 09 14.9
comp=Z,42nm,18.7s,baz=64,slow=40
RAYN Ar Rayn 49.03 281 P **P 19 46 09.4 -0.3**
RAYN IAmb IAmb 19 46 13.2
comp=Z,3.6nm,0.9s
KIRV Kirov 49.28 328 LR LR 20 08 31.1
comp=Z,70nm,19.7s,baz=96,slow=38
MA2 Magadan 50.37 31 P **P 19 46 18.8 -0.5**
MA2 IAmb IAmb 19 46 19.6
comp=Z,4.5nm,0.8s
TIXI Tiksi 50.58 12 P **P 19 46 19.6 -1.0**
TIXI IAmb IAmb 19 46 25.3
comp=Z,4.1nm,0.8s
WRA Warramunga Arr 55.37 139 P **P 19 46 55.2 -1.5**
comp=Z,1.3nm,1.0s,baz=328,slow=7.5,SNR=4.5
comp=Z,1.3nm,1.0s
BRTR Keskin Array B 56.83 303 P **P 19 47 05.1 -2.1**
comp=Z,0.4nm,0.7s,baz=76,slow=7.6,SNR=2.6
comp=Z,0.4nm,0.7s
EIL Elat 57.12 291 LR LR 20 18 11.5
comp=Z,33nm,18.7s,baz=76,slow=43
ASAR Alice Springs 58.01 142 P **P 19 47 13.9 -1.5**
comp=Z,0.7nm,0.9s,baz=324,slow=7.3,SNR=6.7
comp=Z,0.7nm,0.9s
AKASG Malin Array Be 59.38 316 P **P 19 47 23.1 -1.6**
comp=Z,0.8nm,0.6s,baz=82,slow=6.1,SNR=4.5
comp=Z,0.8nm,0.6s
FINES FINESS Array B 61.28 328 P **P 19 47 36.4 -1.1**
comp=Z,2.3nm,0.8s,baz=106,slow=4.9,SNR=4.4
comp=Z,2.3nm,0.8s
MLR Muntele Rosu 61.92 310 LR LR 20 17 57.4
comp=Z,70nm,18.2s,baz=42,slow=39
ARCES ARCESS Array B 62.14 338 P **P 19 47 42.3 -0.8**
comp=Z,3.6nm,0.9s,baz=80,slow=7.5,SNR=6.7
comp=Z,3.6nm,0.9s
KMBO Kilima Mbogo 65.15 257 LR LR 20 18 27.4
comp=Z,30nm,18.0s,baz=88,slow=38
MODS Modra-Piesok 67.36 314 *e*P **P 19 48 16.5 -1.1**
HFS Hagfors 67.41 327 P **P 19 48 17.0 -0.7**
comp=Z,4.7nm,0.9s,baz=106,slow=3.1,SNR=7.0
comp=Z,4.7nm,0.9s
VRAC Vranov 67.62 315 LR LR 20 19 46.8
comp=Z,46nm,18.1s,baz=76,slow=38
NB2 NORSAR Subarra 68.46 328 P **P 19 48 22.9 -1.4**
comp=Z,1.6nm,0.7s,baz=79,slow=6.5
NOA NORSAR Array B 68.46 328 P **P 19 48 23.1 -1.2**
comp=Z,2.0nm,0.7s,baz=80,slow=6.2,SNR=8.1
NOA LR LR 20 20 38.6
comp=Z,38nm,20.1s,baz=290,slow=38
comp=Z,2.0nm,0.7s
STKA Stephens Creek 68.65 142 P **P 19 48 25.2 -0.6**
comp=Z,1.6nm,0.8s,baz=342,slow=6.5,SNR=5.1
comp=Z,1.6nm,0.8s
CLL Collm 69.46 318 *e*P **P 19 48 31.0 +0.3**
DAVOX Davos/Dischmat 72.60 314 LR LR 20 23 02.7
comp=Z,55nm,18.5s,baz=72,slow=38
EKA Eskdalemuir Ar 77.41 325 P **P 19 49 16.5 -0.9**
comp=Z,2.3nm,0.8s,baz=74,slow=6.2,SNR=3.7
comp=Z,2.3nm,0.8s
ILAR Eielson Array 78.07 24 P **P 19 49 19.9 -1.0**
comp=Z,0.6nm,1.0s,baz=271,slow=6.7,SNR=4.3
comp=Z,0.6nm,1.0s
ESDC Sonseca Array 84.60 311 P **P 19 49 55.5 -0.7**
comp=Z,0.8nm,0.8s,baz=42,slow=4.3,SNR=4.3
comp=Z,0.8nm,0.8s

IDC 07 19:50:18.4±5.8, 31°.51S×179°.74W, h0^{km}, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=226.3km s-min=57.4km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.58**	**269**	P	P	19 58 07.8	-0.3
	0.3nm,0.4s,baz=111,slow=7.9,SNR=11						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.67**	**274**	P	P	19 58 17.1	+0.1
	1.5nm,0.4s,baz=114,slow=7.9,SNR=24						
	1.5nm,0.4s						
FINES	**FINESS Array B**	**145.65**	**338**	PKPbc	PKPdf	20 09 57.3	-0.7
	1.0nm,0.5s,baz=44,slow=4.2,SNR=5.9						

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*KRNET **07** 19:51:32.5±0.1, 39°.05N×77°.01E, mb3.1*
*SOME **07** 19:51:34.8, 39°.43N×76°.73E, h5^{km}*
*NNC **07** 19:51:38.5±2.2, 39°.53N×76°.74E, h0^{km}, mb3.6, mpv3.3,*
Error ellipse: s-maj=15.1km s-min=12.1km az=168.0
ISC 07 19:51:35.3±1.7, 39°.16N±0°.08×76°.89E±0°.05, h10^{km}, n46, σ^{s} 76/76, 32C-22D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.75**	**289**	⇑*i*P	**Pb**	**19 52 21.8**	**-3.0**
SFK				⇑*i*S	**Sb**	**19 52 57.8**	**-0.9**
SALK	**Salom-Alik**	**2.92**	**307**	⇑*i*P	**Pb**	**19 52 24.3**	**-3.2**
SALK				⇑*i*S	**Sb**	**19 53 01.9**	**-1.4**
KDJ	**Kajisay**	**2.97**	**4**	⇑*i*P	**Pb**	**19 52 24.6**	**-3.9**
KDJ				⇑*i*S	**Sb**	**19 53 02.5**	**-2.4**
ULHL	**Ulahol**	**3.12**	**351**	⇑*i*P	**Pn**	**19 52 26.8**	**+2.0**
ULHL				⇑*i*S	**Sb**	**19 53 06.6**	**-2.6**
ARLS	**Aral**	**3.33**	**325**	⇓*i*P	**Pn**	**19 52 30.0**	**+2.4**
ARLS				⇓*i*S	**Sn**	**19 53 11.8**	**+4.4**
BOOM	**Boomskoye usch**	**3.40**	**348**	⇑*e*P	**Pn**	**19 52 31.0**	**+2.4**
BOOM				⇑*e*S	**Sn**	**19 53 13.2**	**+4.1**
OHH	**Osh**	**3.44**	**295**	⇑*e*P	**Pn**	**19 52 31.0**	**+1.9**
OHH				⇑*e*S	**Sn**	**19 53 13.9**	**+3.9**
PRZ	**Przheval'sk**	**3.51**	**19**	⇓*e*P	**Pn**	**19 52 31.7**	**+1.6**
PRZ				⇓*e*S	**Sn**	**19 53 15.0**	**+3.2**
ANVS	**Anan'yevo**	**3.67**	**9**	⇑*e*P	**Pn**	**19 52 34.0**	**+1.8**
ANVS				⇑*i*S	**Sn**	**19 53 19.1**	**+3.5**
ARSB	**Arslanbob**	**3.69**	**307**	⇑*e*P	**Pn**	**19 52 35.1**	**+2.6**
ARSB				⇑*e*S	**Sn**	**19 53 20.6**	**+4.4**
KBK	**Karagaybulak**	**3.79**	**338**	⇓*i*P	**Pn**	**19 52 36.3**	**+2.4**
KBK				⇓*i*S	**Sn**	**19 53 22.8**	**+4.1**
AML	**Almayashu**	**3.84**	**322**	⇑*i*P	**Pn**	**19 52 37.3**	**+2.5**
AML				⇑*i*S	**Sn**	**19 53 24.4**	**+4.3**
TNSS	**Tian-Shan**	**3.87**	**1**	Pg	**Pb**	**19 52 40.9**	**-3.0**
	7.7nm,0.5s						
TNSS				Lg	Lg	19 53 30.5	
	4.1nm,0.3s						
TNSS	**Tian-Shan**	**3.87**	**1**	*e*P	**Pb**	**19 52 40.9**	**-3.0**
	3.5nm,0.3s						
TNSS				*e*S	**Sb**	**19 53 28.6**	**-2.4**
	4.6nm,0.6s						
TKM2	**Tokmak 2**	**3.88**	**346**	⇑Pn	**Pn**	**19 52 35.4**	**+0.2**
	1.2nm,0.6s						
TKM2				⇓Pg	**Pg**	**19 52 46.9**	**-2.8**
	4.1nm,0.4s						
TKM2				⇓Lg	Lg	19 53 30.8	
	4.7nm,0.5s						
TKM2	**Tokmak 2**	**3.88**	**346**	⇓*i*P	**Pn**	**19 52 37.5**	**+2.3**
TKM2				⇓*i*S	**Sn**	**19 53 25.1**	**+4.1**
AAK	**Ala-Archa**	**3.92**	**333**	⇑Pg	**Pb**	**19 52 43.6**	**-1.0**
	3.1nm,0.5s						
AAK				⇑Lg	Lg	19 53 30.8	
	12nm,0.6s						
AAK	**Ala-Archa**	**3.92**	**333**	⇓*i*P	**Pn**	**19 52 38.1**	**+2.4**
AAK				⇓*i*S	**Sn**	**19 53 26.0**	**+4.2**
KST	**Kastek**	**3.94**	**350**	*e*P	**Pb**	**19 52 42.2**	**-2.7**
	1.2nm,0.3s						
KST				*e*S	**Sb**	**19 53 30.5**	**-2.3**
	1.5nm,0.2s						
DRK	**Karamyk**	**3.96**	**276**	⇑*e*P	**Pn**	**19 52 38.4**	**+2.0**
DRK				⇑*e*S	**Sn**	**19 53 26.2**	**+3.1**
MTBS	**Maitube**	**3.98**	**355**	Pg	**Pb**	**19 52 42.2**	**-3.3**
	3.3nm,0.3s						
MTBS				Lg	Lg	19 53 32.2	
	7.0nm,0.6s						
MTBS	**Maitube**	**3.98**	**355**	*e*P	**Pb**	**19 52 42.2**	**-3.3**
	3.3nm,0.3s						
MTBS				*e*S	**Sb**	**19 53 30.6**	**-3.2**
	4.4nm,0.3s						
FRU1	**Bishkek**	**4.03**	**336**	⇓*e*P	**Pn**	**19 52 39.6**	**+2.5**
FRU1				⇓*e*S	**Sn**	**19 53 28.8**	**+4.4**
SATY	**Saty**	**4.06**	**16**	Pg	**Pb**	**19 52 46.0**	**-1.0**
	2.9nm,0.6s						
SATY				Lg	Lg	19 53 37.5	
	14nm,0.5s						
KOTS	**Kotyrbulak**	**4.07**	**2**	Pg	**Pb**	**19 52 46.2**	**-0.9**
	4.3nm,0.2s						
KOTS				Lg	Lg	19 53 37.8	
	14nm,0.5s						
KOTS	**Kotyrbulak**	**4.07**	**2**	*e*P	**Pb**	**19 52 45.7**	**-1.5**
	2.9nm,0.2s						
KOTS				*e*S	**Sb**	**19 53 36.7**	**+0.2**
	16nm,0.5s						
CHMS	**Chumysh**	**4.16**	**338**	⇑Pg	**Pb**	**19 52 47.2**	**-1.4**
	5.0nm,0.7s						
CHMS				⇑Lg	Lg	19 53 38.4	
	11nm,0.6s						
CHMS	**Chumysh**	**4.16**	**338**	⇓*i*P	**Pn**	**19 52 41.3**	**+2.4**
CHMS				⇓*i*S	**Sn**	**19 53 31.5**	**+3.9**
DGS	**Degeres**	**4.16**	**349**	Pg	**Pb**	**19 52 47.3**	**-1.4**
	3.5nm,0.5s						
DGS				Lg	Lg	19 53 39.7	
	8.1nm,0.6s						
EKS2	**Erkin-Say**	**4.22**	**327**	⇑*e*P	**Pn**	**19 52 42.3**	**+2.5**
EKS2				⇑*i*S	**Sn**	**19 53 33.2**	**+4.0**
UZB	**Uzynbulak**	**4.29**	**21**	Pg	**Pb**	**19 52 50.8**	**-0.1**
	5.6nm,0.6s						
UZB				Lg	Lg	19 53 45.5	
	6.6nm,0.5s						
UZB	**Uzynbulak**	**4.29**	**21**	*e*P	**Pb**	**19 52 50.8**	**-0.1**
	5.6nm,0.6s						
UZB				*e*S	**Sb**	**19 53 45.5**	**+2.6**
	6.6nm,0.5s						
KURS	**Kuram**	**4.43**	**12**	*e*P	**Pg**	**19 52 57.1**	**-3.0**
	1.0nm,0.0s						
KURS				*e*S	**Sg**	**19 53 56.1**	**-1.3**
	8.3nm,0.3s						
KPKS	**Kokpek**	**4.51**	**17**	*e*P	Pn	19 52 47.3	+3.6
	3.5nm,0.5s						
KPKS				*e*S	**Sn**	**19 53 39.7**	**+3.5**
	8.1nm,0.6s						
MRKS	**Merke**	**4.53**	**323**	Pg	**Pb**	**19 52 53.2**	**-1.7**
	1.3nm,0.3s						
MRKS				Lg	Lg	19 53 49.7	
	14nm,0.4s						
MRKS	**Merke**	**4.53**	**323**	*e*P	**Pb**	**19 52 53.2**	**-1.7**
	1.3nm,0.3s						
MRKS				*e*S	**Sb**	**19 53 49.7**	**+0.1**
	14nm,0.4s						
ARK	**Arkit**	**4.59**	**307**	⇓*e*P	**Pn**	**19 52 47.0**	**+2.1**
ARK				⇓*e*S	**Sn**	**19 53 41.9**	**+3.6**
PDGK	**Podgornoye**	**4.60**	**24**	⇑Pg	**Pg**	**19 52 59.2**	**-4.2**
	1.8nm,0.5s						
PDGK				⇓Lg	Lg	19 53 59.1	
	28nm,0.9s						
CHKK	**Chushkaly**	**4.69**	**1**	Pg	**Pb**	**19 52 55.7**	**-1.9**
	0.6nm,0.1s						
CHKK				Lg	Lg	19 53 55.0	
	8.3nm,0.3s						
CHKK	**Chushkaly**	**4.69**	**1**	*e*P	**Pb**	**19 52 57.1**	**-0.5**
	1.0nm,0.0s						
CHKK				*e*S	**Sb**	**19 53 56.1**	**+2.0**
	8.3nm,0.3s						
MNAS	**Manas**	**4.70**	**316**	⇓*e*P	**Pn**	**19 52 48.9**	**+2.5**
MNAS				⇓*e*S	**Sn**	**19 53 44.5**	**+3.4**
BTK	**Batken**	**4.78**	**283**	⇑*e*P	**Pn**	**19 52 49.6**	**+2.2**
BTK				⇑*e*S	**Sn**	**19 53 45.6**	**+2.7**
TRKS	**Terek-Say**	**4.99**	**300**	⇑*e*P	**Pn**	**19 52 52.2**	**+1.8**
TRKS				⇑*e*S	**Sn**	**19 53 50.5**	**+2.2**
BLB	**Baldybastay**	**5.07**	**13**	Pg	**Pb**	**19 53 04.4**	**+0.1**
	5.8nm,0.2s						
BLB				Lg	Lg	19 54 08.3	
	8.9nm,0.6s						
ARXS	**Arharly**	**5.10**	**8**	Pg	**Pb**	**19 53 04.4**	**-0.2**
	3.3nm,0.5s						
ARXS				Lg	Lg	19 54 09.0	
	11nm,0.6s						
KK31	**Karatay Array**	**6.22**	**311**	⇓Lg	Lg	19 54 44.2	
	3.1nm,0.7s,baz=127,slow=29,SNR=3.6						

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*ISK **07** 19:54:31.4, 39°.92N×43°.30E, h6^{km}, ML2.5/11*
*AFAD **07** 19:54:32.0, 39°.90N×43°.26E, h16^{km}, ML2.5*
ISC 07 19:54:31.9±0.9, 39°.92N±0°.02×43°.29E±0°.03, h13^{km}±7^{km}, n34, σ^{s} 60/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.13**	**210**	P	**Pb**	**19 54 35.8**	**-0.6**
KOTA				S	**Sg**	**19 54 38.2**	**+0.2**
KOTA				*i* AML	AML	19 54 39.0	
	comp=N,2μm,0.4s						
KOTA				*i* AML	AML	19 54 39.0	
	comp=E,2μm,0.6s						
AGRB	**Hanur-Agry**	**0.41**	**214**	Pg	**Pg**	**19 54 40.3**	**+0.1**
AGRB				Sg	**Sb**	**19 54 46.8**	**-0.6**
DYDN	**Diyadin**	**0.48**	**140**	P	**Pb**	**19 54 41.9**	**-0.5**
DYDN				S	**Sb**	**19 54 48.8**	**-0.6**
DYDN				*i* AML	AML	19 54 52.0	
	comp=N,540nm,0.3s						
DYDN				*i* AML	AML	19 54 52.0	
	comp=E,685nm,0.4s						
DIGO	**Kars**	**0.50**	**7**	P	**Pb**	**19 54 42.5**	**-0.3**
DIGO				S	**Sb**	**19 54 50.0**	**-0.1**
DIGO				*i* AML	AML	19 55 01.0	
	comp=N,478nm,0.6s						
DIGO				*i* AML	AML	19 55 03.0	
	comp=E,409nm,1.0s						
EATA	**Eleskirt**	**0.62**	**265**	P	**Pg**	**19 54 43.9**	**-0.2**
EATA				S	**Sg**	**19 54 52.4**	**+0.1**
EATA				*i* AML	AML	19 54 56.0	
	comp=N,199nm,0.3s						
DORK	**Agr/Tutak/Do**	**0.66**	**217**	P	**Pg**	**19 54 44.7**	**-0.1**
DORK				S	**Sg**	**19 54 53.0**	**-0.5**
DORK				*i* AML	AML	19 54 54.0	
	comp=E,276nm,0.5s						
DORK				*i* AML	AML	19 54 55.0	
	comp=N,222nm,0.5s						
BOZK	**Kars-Merkez-Bo**	**0.71**	**340**	P	**Pg**	**19 54 46.0**	**+0.1**
KARS	**Kars**	**0.73**	**347**	Pg	**Pg**	**19 54 45.6**	**-0.5**
TASB	**TASBURUN-IGDIR**	**0.73**	**84**	Pg	**Pg**	**19 54 45.7**	**-0.4**
EAK	**Akyaka**	**0.81**	**17**	P	**Pn**	**19 54 48.7**	**-0.4**
EAK				S	**Sn**	**19 55 01.0**	**0.0**
EAK				*i* AML	AML	19 55 10.0	
	comp=E,156nm,0.7s						
EAK				*i* AML	AML	19 55 14.0	
	comp=N,166nm,0.8s						
ERCV	**ERCIS-VAN**	**0.90**	**178**	Pg	**Pg**	**19 54 48.7**	**-0.6**
VMUR	**Van-Muradiye**	**0.95**	**167**	P	**Pn**	**19 54 50.9**	**-0.2**
VMUR				S	**Sb**	**19 55 03.5**	**+0.6**
MLAZ	**Malazgirt-MUS**	**0.96**	**217**	Pg	**Pb**	**19 54 50.4**	**-0.2**
MLAZ				Sg	**Sn**	**19 55 04.2**	**-0.7**
SENK	**Senkaya-Erzuru**	**0.97**	**312**	Pg	**Pg**	**19 54 50.3**	**-0.3**
GOLE	**Ardahan-G¶le**	**1.06**	**330**	P	**Pn**	**19 54 52.6**	**-0.1**
GOLE				S	**Sb**	**19 55 06.6**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**1.11**	**274**	Pn	**Pg**	**19 54 53.0**	**-0.3**
ADCV	**BITLIS_Adilcev**	**1.19**	**202**	P	**Pg**	**19 54 54.6**	**-0.3**
VANB	**Van**	**1.32**	**177**	Pn	**Pg**	**19 54 58.5**	**+1.1**
AHAN	**Ardahan-Merkez**	**1.35**	**338**	P	**Pg**	**19 54 58.8**	**+1.0**
AHAN				S	**Sg**	**19 55 17.1**	**+1.8**
AHAN				*i* AML	AML	19 55 26.0	
	comp=E,63nm,1.6s						
OZAP	**Van, Ozalp-Mer**	**1.37**	**156**	P	**Pg**	**19 54 59.1**	**+0.9**
OZAP				S	**Sn**	**19 55 15.1**	**+0.1**
TVAN	**Van**	**1.39**	**176**	P	**Pg**	**19 54 59.3**	**+0.6**
TVAN				S	**Sg**	**19 55 17.1**	**+0.4**
TVAN				*i* AML	AML	19 55 22.0	
	comp=E,102nm,0.4s						
TVAN				*i* AML	AML	19 55 24.0	
	comp=N,80nm,0.6s						
ERZM	**Erzurum**	**1.48**	**270**	P	**Pg**	**19 55 00.9**	**+0.5**
DDEM	**Demirkent**	**1.53**	**310**	P	**Pg**	**19 55 01.2**	**-0.1**
DAGI	**Agillar**	**1.56**	**318**	P	**Pg**	**19 55 01.5**	**-0.5**
GEVA	**Gevas**	**1.61**	**187**	P	**Pg**	**19 55 02.8**	**-0.1**
GEVA				S	**Sn**	**19 55 21.0**	**+0.1**
GEVA				*i* AML	AML	19 55 29.0	
	comp=N,49nm,0.8s						
DBAD	**Bademkaya**	**1.64**	**313**	P	**Pg**	**19 55 03.1**	**-0.3**
DBAD				S	**Sg**	**19 55 23.9**	**-0.9**
ETEKE	**Tekederesi - E**	**1.66**	**266**	P	**Pg**	**19 55 03.4**	**-0.5**
ETEKE				S	**Sb**	**19 55 23.2**	**-0.2**
ETEKE				*i* AML	AML	19 55 26.0	
	comp=N,53nm,1.2s						
ETEKE				*i* AML	AML	19 55 39.0	
	comp=E,49nm,0.8s						
GURO	**Guroymak-BITLI**	**1.68**	**216**	Pn	**Pb**	**19 55 02.4**	**-0.3**
BLIS	**Bitlis-Merkez**	**1.76**	**212**	P	**Pb**	**19 55 04.3**	**+0.2**
BLIS				S	**Sn**	**19 55 24.8**	**+0.2**
BLIS				*i* AML	AML	19 56 07.0	
	comp=N,42nm,1.5s						
BLIS				*i* AML	AML	19 56 07.0	
	comp=E,85nm,1.4s						
EMRE	**Erzurum,Aziziy**	**1.78**	**274**	P	**Pb**	**19 55 04.8**	**+0.2**
ECAT	**Cat-ERZURUM**	**1.81**	**261**	P	**Pb**	**19 55 04.2**	**-0.8**
ECAT				S	**Sb**	**19 55 28.6**	**+0.9**

MUSM	Mu-Merkez	1.82 230	P	Pb	19 55 04.8	-0.4
MUSM			S	Sb	19 55 27.0	-1.0
YEDI	Yedisu-Bingol	2.17 258	Pn	Pn	19 55 09.3	+1.4
BNGB	Bingl	2.22 246	Pn	Pn	19 55 09.3	+0.7

*IDC **07** 19:57:21.7±1.9, 11°.15N×125°.75E, h0km, mb3.8/7, mbtmp3.8/7, MS3.2/2, Error ellipse: s-maj=195.7km s-min=16.8km az=66.0*
*NEIC **07** 19:57:26.0±0.9, 11°.1N±0°.1×125°.9E±0°.1, h35km±2km, mb4.0/9, Error ellipse: s-maj=21.5km s-min=18.0km az=93.0.*

ISC 07 19:57:26.1±0.9, 11°.18N±0°.10×125°.8E±0°.2, h35km, n23, σ1§14/21, mb3.9/12, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.09 183		Pn	Pn	19 58 26.2	+0.1
TGY	Tagaytay City	5.54 302		LR	LR	20 01 31.6	
	comp=Z,94nm,21.1s,baz=140,slow=45						
SBUM	Sibu	16.00 238			Pn	20 01 08.4	-0.2
KSAR	Wonju Array Be	26.22 4		P	P	20 02 57.3	-0.4
CM31	Chiang Mai Arr	26.90 289		P	P	20 03 03.9	-0.2
CM31				IAmb	IAmb	20 03 06.8	
	comp=Z,2.9nm,0.9s						
CMAR	Chiang Mai Arr	26.90 289		P	P	20 03 04.3	+0.2
WRA	Warramunga Arr	32.06 165		P	P	20 03 46.7	-3.1
WRA	Warramunga Arr	32.06 165		P	P	20 03 48.9	-0.9
	comp=Z,0.9nm,0.6s,baz=346,slow=9.1,SNR=7.8						
	comp=Z,0.9nm,0.6s						
WB2	Warramunga Arr	32.06 165		P	P	20 03 48.2	-1.6
ASAR	Alice Springs	35.54 167		P	P	20 04 20.5	+0.5
	comp=Z,0.6nm,0.4s,baz=352,slow=6.9,SNR=18						
	comp=Z,0.6nm,0.4s						
SONM	Songino Array	40.00 340		P	P	20 04 57.2	-0.4
SONM				IAmb	IAmb	20 05 05.7	
	comp=Z,2.0nm,1.2s						
STKA	Stephens Creek	45.42 161		P	P	20 05 43.1	+1.6
	comp=Z,0.6nm,0.4s,baz=348,slow=9.3,SNR=5.4						
	comp=Z,0.6nm,0.4s						
MK31	Makanchi Array	51.01 323		P	P	20 06 24.9	+0.3
MK31				IAmb	IAmb	20 06 37.4	
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	51.01 323		P	P	20 06 23.2	-1.4
MKAR	Makanchi Array	51.01 323		P	P	20 06 25.9	+1.3
	comp=Z,0.8nm,0.7s,baz=117,slow=8.4,SNR=8.6						
	comp=Z,0.8nm,0.7s						
MAKZ	Makanchi	51.20 322		P	P	20 06 26.8	+0.7
MAKZ				IAmb	IAmb	20 06 38.8	
	comp=Z,2.2nm,0.9s						
ZALV	Zalesovo Beam	53.59 331		P	P	20 06 44.2	+0.6
	comp=Z,0.2nm,0.3s,baz=119,slow=6.7,SNR=1.9						
	comp=Z,0.2nm,0.3s						
KURK	Kurchatov	55.04 325		P	P	20 06 54.3	+0.1
KURBB	Kurchatov Arra	55.05 325		P	P	20 06 55.2	+1.0
	comp=Z,1.2nm,0.7s,baz=124,slow=7.1,SNR=13						
	comp=Z,1.2nm,0.7s						
KK31	Karatay Array	57.27 314		P	P	20 07 09.3	-1.0
KK31				IAmb	IAmb	20 07 32.4	
	comp=Z,1.6nm,0.9s						
KKAR	Karatay Array	57.27 314		P	P	20 07 10.3	0.0
BVAR	Borovoye Array	60.64 325		P	P	20 07 34.3	+0.8
	comp=Z,1.1nm,0.7s,baz=100,slow=7.8,SNR=5.4						
	comp=Z,1.1nm,0.7s						
ILAR	Eielson Array	78.84 26		LR	LR	20 46 26.4	
	comp=Z,39nm,18.9s,baz=227,slow=37						

*NEIC **07** 19:58:02.3±0.5, 36°.877N±0°.006×97°.44W±0°.01, h5km±1km, mb_Lg2.6/5, ML2.3/55, ML2.6/28, Error ellipse: s-maj=2.4km s-min=1.4km az=38.0*

NEIC 07 19:58:02.3±0.4, 36°.88N±0°.01×97°.44W±0°.01, h8km±2km, Error ellipse: s-maj=1.7km s-min=1.1km az=213.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.14 346			Pg	19 58 05.8	+0.5
KAN13					Sg	19 58 08.1	+0.7
BLOK	Blackwell	0.21 123			Pg	19 58 06.9	+0.4
BLOK					Sg	19 58 09.9	+0.4
BLOK				IAML		19 58 12.6	
	comp=N,977nm,0.2s						
KAN09	Caldwell North	0.30 330			Pg	19 58 08.6	+0.4
KAN09					Sg	19 58 12.9	+0.7
KAN17	Caldwell West	0.31 302			Pg	19 58 08.9	+0.4
KAN17					Sg	19 58 13.3	+0.7
KAN17				IAML		19 58 13.5	
	comp=E,568nm,0.3s						
KAN17				IAML		19 58 13.5	
	comp=N,567nm,0.2s						
GC02	Grant County #	0.34 266			Pg	19 58 09.3	+0.3
GC02					Sg	19 58 13.9	+0.4
KAN01	Argonia South	0.38 317			Pg	19 58 10.1	+0.4
KAN01					Sg	19 58 15.5	+0.8
KAN01				IAML		19 58 15.6	
	comp=E,357nm,0.3s						
KAN01				IAML		19 58 17.4	
	comp=N,330nm,0.3s						
KAN05	Bluff City Nor	0.42 303			Pg	19 58 10.8	+0.3
KAN05					Sg	19 58 16.7	+0.7
KAN05				IAML		19 58 16.8	
	comp=E,339nm,0.2s						
KAN05				IAML		19 58 18.5	
	comp=N,402nm,0.3s						
KAN14	Manchester OK	0.43 281			Pg	19 58 10.9	+0.3
KAN14					Sg	19 58 16.8	+0.4
KAN14				IAML		19 58 18.5	
	comp=E,338nm,0.1s						
KAN08	Anthony NE Sta	0.55 309			Pg	19 58 13.4	+0.4
KAN08					Sg	19 58 21.0	+0.8
KAN08				IAML		19 58 22.7	
	comp=N,320nm,0.4s						
KAN08				IAML		19 58 24.4	
	comp=E,149nm,0.4s						
CROK	Carrier	0.58 230			Pg	19 58 13.6	+0.1
CROK					Sg	19 58 21.4	+0.4
CROK				IAML		19 58 23.6	
	comp=N,304nm,0.3s						
CROK				IAML		19 58 23.6	
	comp=E,213nm,0.4s						
OK048	Pawnee Station	0.61 139			Pg	19 58 14.2	+0.2
OK048					Sg	19 58 22.2	+0.2
OK051	E0350 and S346	0.61 127			Pg	19 58 14.3	+0.3
OK051					Sg	19 58 22.4	+0.4
OK051				IAML		19 58 29.3	
	comp=E,125nm,0.5s						
KAN12	Harper NE Stat	0.61 313		Pg	Pg	19 58 13.7	-0.5
OK032	Salt Plains WL	0.63 263			Pg	19 58 14.6	+0.2
OK032					Sg	19 58 23.0	+0.4
OK032				IAML		19 58 25.1	
	comp=E,158nm,0.2s						
OK032				IAML		19 58 28.4	
	comp=E,125nm,0.2s						
T35A	Sooner Cattle	0.74 87			Pg	19 58 16.8	+0.3
T35A					Sg	19 58 26.2	0.0
QUOK	Quay	0.92 140			Pg	19 58 20.1	+0.2
QUOK					Sg	19 58 31.4	-0.4
QUOK				IAML		19 58 33.8	
	comp=N,79nm,0.2s						
QUOK				IAML		19 58 39.0	
	comp=E,98nm,0.2s						
OK052	Battle Ridge R	1.02 150			Pg	19 58 21.7	-0.1
OK052					Sg	19 58 35.1	+0.1
OK052				IAML		19 58 40.8	
	comp=E,109nm,0.2s						
OK052				IAML		19 58 43.1	
	comp=E,73nm,0.2s						
OK029	Liberty Lake	1.08 181			Pg	19 58 22.7	-0.3
OK029					Sb	19 58 37.5	0.0
OK038	West end E0370	1.12 250			Pg	19 58 23.5	-0.4
OK038					Sg	19 58 38.6	+0.1
NOKA	Waynoka	1.23 259			Pb	19 58 25.3	-0.5
NOKA					Sg	19 58 41.5	-0.2
W35A	Tecumseh	1.78 165			Pn	19 58 34.3	+0.9
W35A					Sb	19 58 58.4	+0.7
WMOK	Wichita Mounta	2.40 208			Pb	19 58 44.0	-1.8
WMOK	Wichita Mounta	2.40 208		IAmb_Lg		19 59 16.9	
	comp=Z,6.8nm,0.9s						
FW03	Perrin-Whitt E	3.86 188			Pg	19 59 18.4	+2.1

*IDC **07** 19:59:49.1±1.2, 32°.66S×178°.19W, h0km, mb4.5/2, mbtmp4.4/3, ML4.0/1, MS3.9/16, Error ellipse: s-maj=53.3km s-min=28.0km az=139.0*
*WEL **07** 19:59:51.3±0.9, 33°.5±5°.×17°.8W±1°.6, h33km, mB5.0/12, ML5.1/15, MLv5.0/13, Mw(mB)4.3/12, Error ellipse: s-maj=22.0km s-min=3.4km az=106.1, confirmed*
*NEIC **07** 19:59:52.0±1.0, 32°.55±0°.1×178°.4W±0°.2, h10km±2km, mb4.5/10, Error ellipse: s-maj=38.3km s-min=9.3km az=59.0*

ISC 07 19:59:49.7±0.8, 32°.55S±0°.06×178°.1W±0°.1, h10km, n73, σ1§46/74, mb4.5/8, MS3.9/14, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.27	2	P	Pn	20 00 40.7	-0.4
GLKZ				S	Sn	20 01 18.6	-1.4
RIZ	Raoul Island	3.29	2	S	Sn	20 01 19.4	-1.1
MXZ	Matakaoa Point	5.83	210	Pn	Pn	20 01 15.1	-1.0
MXZ	Matakaoa Point	5.83	210	P	Pn	20 01 16.0	-0.2
MXZ				S	Sn	20 02 23.8	+0.8
WMGZ	Waiomatatini S	6.00	208	P	Pn	20 01 20.7	+2.2
WMGZ				S	Sn	20 02 27.7	+0.3
PKGZ	Pakihiroa	6.18	210	P	Pn	20 01 20.7	-0.3
PKGZ				S	Sn	20 02 31.6	-0.1
HAZ	Te Kaha	6.22	212	P	Pn	20 01 21.7	+0.2
HAZ				S	Sn	20 02 33.4	+0.8
PUZ	Puketiti	6.28	208	P	Pn	20 01 24.5	+2.1
PUZ				S	Sn	20 02 34.9	+0.6
RUGZ	Raukumara Rang	6.44	212	P	Pn	20 01 25.2	+0.5
RUGZ				S	Sn	20 02 39.4	+1.2
TWGZ	Tauwhareparae	6.49	209	P	Pn	20 01 26.1	+0.8
TWGZ				S	Sn	20 02 40.7	+1.4
CNGZ	Carnagh Statio	6.66	206	P	Pn	20 01 26.7	-0.9
CNGZ				S	Sn	20 02 44.9	+1.3
MWZ	Matawai	6.81	211	P	Pn	20 01 28.1	-1.5
MWZ				S	Sn	20 02 47.2	0.0
URZ	Urewera	6.93	213	Pn	Pn	20 01 30.4	-1.0
	3.0nm,0.3s,baz=346,slow=3.4,SNR=22						
URZ				Sn	Sn	20 02 46.9	-3.4
	8.0nm,0.3s,baz=336,slow=21,SNR=8.9						
	5.9nm,0.3s						
URZ	Urewera	6.93	213	P	Pn	20 01 30.3	-1.0
URZ				S	Sn	20 02 47.2	-3.0
RIGZ	Rimuhau	7.03	208	P	Pn	20 01 29.7	-2.9
RIGZ				S	Sn	20 02 52.0	-0.6
RTZ	Ruatahuna	7.28	212	Pn	Pn	20 01 35.6	-0.6
RTZ	Ruatahuna	7.28	212	P	Pn	20 01 36.7	+0.5
MHGZ	Mahia Peninsul	7.36	205	P	Pn	20 01 37.1	-0.1
MHGZ				S	Sn	20 02 59.7	-1.1
TOZ	Tahuroa Road	7.39	224	Pn	Pn	20 01 36.4	-1.2
OUZ	Omahuta	7.44	247	P	Pn	20 01 42.8	+4.6
RAHZ	Arahi	7.48	210	P	Pn	20 01 40.2	+1.3
RAHZ				S	Sn	20 03 02.6	-1.3
MTHZ	Maungataniwha	7.54	212	P	Pn	20 01 41.2	+1.5
NMHZ	Naumai	7.75	211	P	Pn	20 01 43.6	+0.9
NMHZ				S	Sn	20 03 09.3	-1.3
BKZ	Black Stump Fm	7.95	212		Pn	20 01 43.7	-1.7
BKZ	Black Stump Fm	7.95	212	P	Pn	20 01 45.4	+0.1
NTVZ	North Tongarir	8.29	216	P	Pn	20 01 50.9	+0.8
NTVZ				S	Sn	20 03 20.4	-3.3
KAHZ	Kahuranaki	8.31	208	P	Pn	20 01 47.3	-3.0
OTVZ	Oturere	8.34	216	P	Pn	20 01 51.6	+0.8
PNHZ	Pukenui	8.69	211	P	Pn	20 01 53.8	-1.7
BFZ	Birch Farm	9.32	208	Pn	Pn	20 02 01.8	-2.3
MRZ	Mangatainoka R	9.58	210	Pn	Pn	20 02 05.1	-2.5
TUWZ	Tuamarina	10.93	214	Pn	Pn	20 02 24.2	-1.9
CTZ	Chatham Island	11.23	175	Pn	Pn	20 02 29.1	-1.1
LTZ	Lake Taylor	12.76	214	Pn	Pn	20 02 50.6	-0.6
MSVF	Nonsavu	15.16	346	LR	LR	20 08 25.3	
	comp=Z,485nm,18.1s,baz=167,slow=34						
RAR	Rarotonga	19.80	60	LR	LR	20 12 50.6	
	comp=Z,203nm,18.1s,baz=261,slow=39						
PPT	Papeete	29.68	67	LR	LR	20 18 04.3	
	comp=Z,122nm,18.2s,baz=210,slow=37						
HNR	Honiara	30.70	314	LR	LR	20 17 18.3	
	comp=Z,185nm,18.2s,baz=134,slow=34						
PMG	Port Moresby	39.52	298	LR	LR	20 21 32.6	
	comp=Z,153nm,19.7s,baz=157,slow=33						
COEN	Coen	39.86	288	P	P	20 07 23.1	-0.5
COEN				IAmb	IAmb	20 07 31.5	
	comp=Z,6.8nm,0.9s						
AS31	Alice Springs	42.99	269	P	P	20 07 48.4	-1.0
AS31				IAmb	IAmb	20 08 00.4	
	comp=Z,1.7nm,0.6s						
ASAR	Alice Springs	42.99	269	P	P	20 07 49.0	-0.4
ASAR	Alice Springs	42.99	269	P	P	20 07 49.2	-0.2
	comp=Z,4.8nm,0.8s,baz=108,slow=7.1,SNR=29						
ASAR				LR	LR	20 25 26.8	
	comp=Z,166nm,18.3s,baz=111,slow=36						
	comp=Z,4.8nm,0.8s						
WR0	Warramunga Arr	44.00	274	P	P	20 07 57.3	-0.2
WR0				IAmb	IAmb	20 08 11.6	
	comp=Z,9.1nm,1.1s						
WB2	Warramunga Arr	44.16	274	P	P	20 07 58.8	-0.1
WB2				IAmb	IAmb	20 08 04.0	
	comp=Z,15nm,1.1s						
WRAB	Tennant Creek	44.17	274	P	P	20 07 58.0	-0.9
WRAB				IAmb	IAmb	20 08 12.3	
	comp=Z,8.2nm,0.8s						
WRA	Warramunga Arr	44.17	274	P	P	20 07 58.1	-0.8
WRA	Warramunga Arr	44.17	274	P	P	20 07 58.8	-0.1
	comp=Z,4.7nm,0.5s,baz=113,slow=7.9,SNR=23						
WRA				LR	LR	20 25 28.8	
	comp=Z,152nm,19.2s,baz=343,slow=35						
	comp=Z,4.7nm,0.5s						
WB0	Warramunga Arr	44.21	275	P	P	20 07 59.0	-0.2
FORT	Forrest	45.49	257	P	P	20 08 07.7	-1.6
FITZ	Fitzroy Crossi	52.34	272	P	P	20 09 01.2	-0.8
FITZ	Fitzroy Crossi	52.34	272	LR	LR	20 30 36.6	
	comp=Z,273nm,19.6s,baz=108,slow=35						
NWAO	Narrogin (SRO)	53.62	251	LR	LR	20 32 07.7	
	comp=Z,79nm,18.1s,baz=353,slow=36						
QSPA	South Pole Qui	57.57	180	P	P	20 09 41.8	+2.4
QSPA				IAmb	IAmb	20 10 15.5	
	comp=Z,7.8nm,1.1s						
KAPI	Kappang	63.96	281	LR	LR	20 39 22.1	
	comp=Z,113nm,18.7s,baz=107,slow=37						
SYO	Syowa Base	75.02	193	‖eP	P	20 11 31.4	+0.5
TROLL	Troll, Antarti	75.73	180	⇑P	P	20 11 42.8	+7.6
	comp=Z,74nm,0.8s						
SNAA	Sanae	76.02	178	⇑P	P	20 11 48.5	+12
	comp=Z,79nm,0.8s						
PLCA	Paso Flores	81.08	133	LR	LR	20 42 21.4	
	comp=Z,58nm,18.1s,baz=188,slow=32						
LPIG	La Paz	85.70	58	LR	LR	20 43 43.6	
	comp=Z,58nm,18.9s,baz=181,slow=31						
NNA	Nana	92.88	106	LR	LR	20 47 55.1	
	comp=Z,38nm,18.3s,baz=214,slow=31						
TXAR	Lajitas Array	93.58	57	LR	LR	20 51 20.1	
	comp=Z,34nm,18.7s,baz=284,slow=33						
LPAZ	La Paz	97.31	114	LR	LR	20 47 36.7	
	comp=Z,29nm,21.0s,baz=350,slow=30						
CPUP	Villa Florida	98.69	129	LR	LR	20 51 41.6	
	comp=Z,28nm,19.2s,baz=216,slow=32						
MKAR	Makanchi Array	119.10	309	PKP	PKPdf	20 18 38.9	+0.3
	comp=Z,0.6nm,0.9s,baz=64,slow=2.8,SNR=5.7						
KURBB	Kurchatov Arra	122.52	313	PKP	PKPdf	20 18 45.8	+0.9
	comp=Z,1.4nm,1.0s,baz=110,slow=2.5,SNR=9.5						
BVAR	Borovoye Array	127.89	315	PKP	PKiKP	20 18 56.9	+1.1
	comp=Z,2.2nm,1.0s,baz=96,slow=3.0,SNR=5.8						
FINES	FINESS Array B	147.13	339	PKPbc	PKPbc	20 19 33.3	+1.1
	comp=Z,8.4nm,0.8s,baz=61,slow=4.1,SNR=28						
NOA	NORSAR Array B	150.86	351	PKPbc	PKPbc	20 19 41.0	-0.7
	comp=Z,0.5nm,0.8s,baz=15,slow=2.5,SNR=1.4						
HFS	Hagfors	151.33	348	PKPbc	PKPbc	20 19 43.6	+0.7
	comp=Z,6.0nm,1.0s,baz=174,slow=1.4,SNR=6.5						
MMAI	Mont Meron Ar	151.93	280	PKPbc	PKPbc	20 19 46.0	+0.8
	comp=Z,5.4nm,0.8s,baz=94,slow=5.9,SNR=5.8						
AKASG	Malin Array Be	152.94	320	PKPbc	PKPbc	20 19 48.1	+1.3
	comp=Z,2.0nm,0.8s,baz=58,slow=2.2,SNR=8.4						
BRTR	Keskin Array B	153.52	295	PKPbc	PKPbc	20 19 49.8	+1.2
	comp=Z,2.2nm,1.0s,baz=119,slow=1.5,SNR=7.2						

*IDC **07** 20:08:32.0±1.1, 35°.09N×74°.35E, h0km, mb3.8/9, mbtmp3.7/14, ML3.2/5, MS3.1/2, Error ellipse: s-maj=32.6km s-min=16.3km az=57.0*

ISC 07 20:08:37.0±1.2, 35°.2N±0°.1×74°.4E±0°.2, h34km, n15, σ1§13/14, mb3.7/8, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.47	1	Pn	Pn	20 10 29.3	+5.7
	0.3nm,0.3s,baz=166,slow=16,SNR=5.7						
AAK				Sn	Sn	20 11 48.3	+1.1
	0.4nm,0.3s,baz=178,slow=15,SNR=1.4						
AAK				LR	LR	20 13 31.4	
	comp=Z,32nm,19.9s,baz=148,slow=40						
	1.1nm,0.5s						
MKAR	Makanchi Array	13.06	25	Pn	Pn	20 11 39.6	-0.5
	baz=200,slow=12,SNR=4.2						
	0.3nm,0.9s						
KURBB	Kurchatov Arra	15.75	10	Pn	Pn	20 12 14.1	-2.0
	0.1nm,0.3s,baz=200,slow=10,SNR=13						
	0.3nm,0.8s						
BVAR	Borovoye Array	18.08	352	P	P	20 12 44.5	-1.0
	0.1nm,0.3s,baz=156,slow=9.8,SNR=8.7						
	1.4nm,0.5s						
AKTO	Aktyubinsk	19.35	327	P	P	20 12 58.5	-0.9
	0.4nm,0.3s,baz=130,slow=8.3,SNR=7.2						
	1.5nm,0.5s						
ZALV	Zalesovo Beam	20.16	18	P	P	20 13 07.4	-0.9
	1.6nm,0.4s,baz=217,slow=12,SNR=9.9						
	1.6nm,0.4s						
ARTI	Arti	23.86	338	P	P	20 13 47.0	-0.1
	1.6nm,0.6s,baz=162,slow=13,SNR=3.5						
	1.6nm,0.6s						
SONM	Songino Array	26.92	52	P	P	20 14 16.2	+1.1
	0.5nm,0.8s,baz=243,slow=9.4,SNR=3.0						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	27.42	121	P	P	20 14 19.9	+0.3
	0.9nm,0.8s,baz=310,slow=9.4,SNR=9.0						
	0.9nm,0.8s						
FINES	FINESS Array B	40.12	326	P	P	20 16 11.0	+1.9
	1.9nm,0.8s,baz=111,slow=10,SNR=5.2						
	1.9nm,0.8s						
ARCES	ARCESS Array B	43.43	337	P	P	20 16 36.8	+0.7
	6.8nm,1.2s,baz=113,slow=9.3,SNR=1.9						
	6.8nm,1.2s						
HFS	Hagfors	45.80	323	P	P	20 16 54.4	-0.7
	1.1nm,0.5s,baz=105,slow=11,SNR=5.1						
	1.1nm,0.5s						
MJAR	Matsushiro Arr	50.89	69	LR	LR	20 41 03.1	
	comp=Z,80nm,18.3s,baz=116,slow=38						
WRA	Warramunga Arr	78.97	124	P	P	20 20 37.1	-0.4
	0.4nm,0.7s,baz=316,slow=5.7,SNR=2.4						
	0.4nm,0.7s						
ASAR	Alice Springs	81.25	127	P	P	20 20 49.6	-0.2
	0.6nm,0.8s,baz=308,slow=5.6,SNR=6.9						
	0.6nm,0.8s						

HEL 07 20:12:21.4±0.1, 67°.65N×33°.77E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.42	53	PG	Pg	20 12 29.1	-0.2
LVZ				SG	Sg	20 12 34.1	-0.7
VRF	Varrio	1.59	275	PG	Pn	20 12 50.1	-0.7
	baz=91						
VRF				MSG		20 13 09.1	
	comp=Z,3.4nm,0.2s						
VRF				SG	Sn	20 13 09.2	-2.8
OLKF	Oulanka, Finla	2.17	234	PG	Pb	20 13 00.3	-1.3
OLKF				MSG		20 13 25.9	
	comp=Z,1.4nm,0.2s						
OLKF				SG	Sb	20 13 28.5	-0.6
RAJF	Raja-Jooseppi	2.21	295	SN	Sn	20 13 25.8	-1.5
KU6	Riekki	2.24	225	MSG		20 13 27.7	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	20 13 29.9	-1.0
MSF	Maaselka	2.56	229	SG	Sb	20 13 40.0	-0.1
RNF	Rovaniemi	3.20	255	SN	Sn	20 13 52.1	+0.3
RANF	Ranua	3.21	242	SG	Sb	20 13 58.4	-0.4
KEV	Kevo	3.25	314	PN	Pn	20 13 13.5	-0.1
KEV				SN	Sn	20 13 51.1	-1.8
ARA0	ARCESS Array S	3.57	306	PN	Pn	20 13 17.2	-0.7
KLF	Kolari	3.80	268	SB	Sb	20 14 14.6	-1.2
HEF	Hetta	3.88	286	SN	Sn	20 14 06.7	-1.6
ERTU	Ertsjaerv	4.66	262	SN	Sn	20 14 25.6	-1.9

KOLA 07 20:13:07.0, 67°.67N×33°.72E, h0km, ML1.4, Error ellipse: s-maj=2.7km s-min=1.8km az=130.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.16	231	P	Pg	20 13 09.6	-0.3
APA				S	Sg	20 13 11.9	0.0
APA0	Apatity Array	0.29	258	P	Pg	20 13 11.9	-0.6
APA0				S	Sg	20 13 15.7	-0.4
LVZ	Lovozero	0.42	56	S	Sg	20 13 20.2	-0.3
KVDA	Kovda	1.03	199	S	Sg	20 13 39.0	-1.1
PRVG	Vayda Guba	2.16	346	S	Sn	20 14 12.7	+1.0
VADS	Vadso	2.93	329	S	Sn	20 14 29.4	-1.1
ARCES	ARCESS Array B	3.55	306	S	Sn	20 14 43.9	-1.9

*IDC **07** 20:13:05.3±0.7, 42°.41N×144°.47E, h0km, mb4.0/22, mbtmp3.9/26, ML3.8/4, MS3.2/3, Error ellipse: s-maj=18.6km s-min=15.2km az=152.0*
*SKHL **07** 20:13:08.2±0.5, 42°.10N×144°.60E, h33km±2km, mb4.8/4*
*NIED **07** 20:13:09.0, 42°.27N×144°.52E, h27km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.84; Mθθ-0.37; Mφφ-0.48; Mrθ0.59; Mθφ-0.51; Mφr0.19; Fault plane solution: M0 1.09000×10^15 NP1: φs205.00000°, δ32.00000°, λ60.00000°. NP2: φs59.00000°, δ63.00000°, λ107.00000°.*
*JMA **07** 20:13:09.0±0.1, 42°.3N±0°.2×144°.5E±0°.5, h27km±1km, MD4.1/34, MV4.1/34, SE OFF TOKACHI*
*NEIC **07** 20:13:10.5±1.6, 42°.22N±0°.08×144°.4E±0°.1, h40km±10km, mb4.3/37, Error ellipse: s-maj=15.4km s-min=10.0km az=120.0*

ISC 07 20:13:08.9±1.3, 42°.28N±0°.05×144°.52E±0°.04, h28km±9km, n112, σ1§13/107, mb4.2/41, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.73	10	P	Pn	20 13 23.1	-0.2
JAK				eS	Sn	20 13 32.3	-1.2
JAK	Akkeshi	0.73	10	A	A	20 13 23.1	
	comp=N,9.0nm,2.9s,comp=E,11nm,1.9s						
AKK	Akkeshi	0.77	18	eP	Pn	20 13 23.8	-0.1
AKK				AMB	AMB	20 13 24.4	
	comp=E,640nm,0.3s						
AKK				eS	Sb	20 13 35.8	+1.8
AKK				A	A	20 13 36.1	
	comp=E,2μm,0.4s						
AKK				A	A	20 13 36.1	
	comp=E,4μm,0.4s						
JOB	Onbets	0.80

JMP Maruseppu 1.92 334 A A 20 13 41.1
comp=N,5.0nm,1.0s,comp=E,4.0nm,1.2s
JIAM Iburiatsuma 1.95 281 A A 20 13 41.4
comp=N,8.0nm,1.2s,comp=E,7.0nm,3.4s
YUK Yuzh-Kuril'sk 2.01 29 *e*P **Pn 20 13 41.3 +0.4**
YUK AMB AMB 20 13 46.0
comp=E,90nm,0.3s
YUK AMB AMB 20 13 46.0
comp=E,170nm,0.3s
YUK AMB AMB 20 13 46.0
comp=E,330nm,0.3s
YUK *e*S **Sn 20 14 05.9 +0.8**
YUK A A 20 14 13.3
comp=E,1μm,0.3s
YUK A A 20 14 13.3
comp=E,910nm,0.3s
JKA Kamikawa-asahi 2.31 323 Pn 20 13 46.1 +1.1
ASAJ Asahikawa 2.31 323 Pn **Pn 20 13 46.5 +1.5**
comp=E,8.7nm,0.3s,baz=185,slow=14,SNR=85
ASAJ Sn **Sb 20 14 17.4 -0.6**
comp=E,48nm,0.3s,baz=230,slow=23,SNR=7.8
ASAJ LR LR 20 14 53.1
comp=E,395nm,20.3s,baz=140,slow=49
SHO Shikotan 2.32 46 *e*P **Pn 20 13 45.5 +0.3**
SHO AMB AMB 20 13 47.7
comp=E,60nm,0.2s
SHO *e*S **Sn 20 14 13.0 +0.2**
SHO A A 20 14 17.9
comp=E,170nm,0.3s
SHO A A 20 14 17.9
comp=E,500nm,0.3s
JTM Tenmabayashi 2.99 241 Pn 20 13 54.4 0.0
KUR Kuril'sk 3.82 38 *e*P **Pn 20 14 07.1 +1.3**
KUR AMB AMB 20 14 11.7
comp=E,50nm,0.3s
KUR AMB AMB 20 14 11.7
comp=E,50nm,0.3s
KUR AMB AMB 20 14 11.7
comp=E,50nm,0.3s
KUR *e*S **Sn 20 14 50.3 +0.6**
KUR A A 20 14 56.0
comp=E,50nm,0.3s
KUR A A 20 14 56.0
comp=E,40nm,0.3s
YSS Yuzhno-Sakhali 4.84 346 Pn **Pn 20 14 20.2 +0.4**
YSS Yuzhno-Sakhali 4.84 346 *e*P **Pn 20 14 22.6 +2.8**
YSS AMB AMB 20 14 22.9
comp=E,30nm,0.4s
YSS *e*S **Sn 20 15 18.1 +3.3**
YSS A A 20 15 20.4
comp=E,20nm,0.4s
YSS A A 20 15 20.4
comp=E,10.0nm,0.4s
JMM Marumori 5.25 214 Pn **Pn 20 14 23.9 -1.6**
MJB9 Matsu-Tunnel 7.53 223 Pn **Pn 20 14 56.7 -0.1**
MAJO Matsushiro 7.53 223 Pn **Pn 20 14 56.1 -0.7**
MJAR Matsushiro Arr 7.53 222 Pn **Pn 20 14 57.0 +0.2**
comp=E,0.2nm,0.3s,baz=29,slow=16,SNR=9.4
MJAR LR LR 20 18 01.4
comp=E,76nm,20.4s,baz=26,slow=39
comp=E,1.9nm,0.4s
JGF Kuroka 8.69 222 Pn **Pn 20 15 11.0 -1.8**
KLR Kul'dur 11.30 312 Pn **Pn 20 15 48.2 -0.1**
comp=E,0.1nm,0.3s,baz=123,slow=14,SNR=4.1
comp=E,1.5nm,0.9s
KSRS Korea Array 13.62 255 Pn **Pn 20 16 22.2 +2.0**
comp=E,0.1nm,0.3s,baz=65,slow=15,SNR=1.9
comp=E,0.4nm,0.5s
MA2 Magadan 17.75 10 P 20 17 13.7 -0.6
MA2 Magadan 17.75 10 P **Pn 20 17 11.2 -2.4**
comp=E,0.3nm,0.3s,baz=199,slow=7.8,SNR=9.0
comp=E,1.6nm,0.3s
SEY Seymchan 21.20 10 P **P 20 17 49.3 -2.6**
comp=E,2.2nm,0.8s,baz=184,slow=8.6,SNR=9.2
comp=E,2.2nm,0.8s
YAK Yakutsk 21.67 341 P **P 20 17 53.3 -3.7**
YAK IAmb IAmb 20 17 57.9
comp=Z,14nm,0.9s
YAK Yakutsk 21.67 341 P **P 20 17 53.1 -3.8**
comp=Z,9.8nm,0.5s,baz=107,slow=0.9,SNR=6.1
ULN Ulaanbaatar 26.85 295 P **P 20 18 45.9 -1.2**
SONM Songino Array 27.30 295 P **P 20 18 49.3 -1.8**
SONM Songino Array 27.30 295 P **P 20 18 50.0 -1.0**
comp=Z,1.5nm,0.7s,baz=82,slow=8.0,SNR=6.8
comp=Z,1.5nm,0.7s
H11N2 WAKE ISLAND Hy 29.38 133 T T 20 50 29.1
baz=325,slow=75,SNR=124
H11N1 WAKE ISLAND Hy 29.39 133 T T 20 50 31.4
baz=325,slow=75,SNR=77
H11N3 WAKE ISLAND Hy 29.40 133 T T 20 50 43.1
baz=325,slow=75,SNR=66
H11S1 WAKE ISLAND Hy 30.28 135 T T 20 51 35.3
baz=326,slow=76,SNR=124
H11S3 WAKE ISLAND Hy 30.28 135 T T 20 51 29.5
baz=326,slow=76,SNR=84
H11S2 WAKE ISLAND Hy 30.30 135 T T 20 51 26.9
baz=326,slow=76,SNR=71
C18K Utukok River 38.52 29 P **P 20 20 28.4 -0.1**
C18K IAmb IAmb 20 20 30.4
comp=Z,2.6nm,0.9s
K17K Iditarod 38.72 38 P **P 20 20 31.2 +1.2**
G18K Tagagawik 38.93 33 P **P 20 20 32.8 +1.0**
G18K IAmb IAmb 20 20 44.2
comp=Z,5.2nm,1.1s
H18K Honhosa River 38.95 34 P **P 20 20 32.9 +0.9**
M17K Holitna River 39.05 40 P **P 20 20 34.6 +1.7**
F19K Shaleruckik Mo 39.43 32 P **P 20 20 37.7 +1.8**
L18K Granite Mounta 39.44 39 P **P 20 20 38.3 +2.2**
D19K Kuna River 39.59 29 P **P 20 20 37.5 +0.1**
G19K Purcell Mounta 39.60 33 P **P 20 20 37.7 +0.3**
G19K IAmb IAmb 20 20 51.4
comp=Z,6.2nm,1.2s
E19K Redstone River 39.73 31 P **P 20 20 39.4 +0.9**
E19K IAmb IAmb 20 21 23.4
comp=Z,7.5nm,1.4s
H19K Roundabout Mou 39.79 34 P **P 20 20 40.0 +1.1**
B20K Meade River 40.23 27 P **P 20 20 43.0 +0.4**
B20K IAmb IAmb 20 20 44.5
comp=Z,3.7nm,0.7s
ZAA0 Zalesovo Array 40.36 308 P **P 20 20 42.8 -1.0**
ZAA0 IAmb IAmb 20 20 45.6
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 40.36 308 P **P 20 20 42.9 -0.9**
ZALV Zalesovo Beam 40.36 308 P **P 20 20 43.5 -0.3**
comp=Z,4.1nm,0.7s,baz=91,slow=8.2,SNR=14
ZALV PcP **PcP 20 22 47.6 +1.0**
comp=Z,1.2nm,0.5s,baz=66,slow=3.5,SNR=5.2
comp=Z,4.1nm,0.7s
J20K Nowinta River 40.67 36 P **P 20 20 45.8 -0.5**
J20K IAmb IAmb 20 21 20.2
comp=Z,7.0nm,1.3s
E22K Anaktuvuk Pass 41.86 30 P **P 20 20 56.8 +0.7**
COLD Coldfoot 42.42 32 P **P 20 21 02.0 +1.4**
H23K Yukon River 42.66 34 P **P 20 21 02.2 -0.4**
H23K IAmb IAmb 20 21 05.9
comp=Z,4.3nm,0.8s
TOLK Toolik Lake Re 42.72 30 P **P 20 21 02.6 -0.5**
TOLK IAmb IAmb 20 21 24.8
comp=Z,7.3nm,1.4s
MCK McKinley 42.97 37 P **P 20 21 06.2 +1.1**
MCK IAmb IAmb 20 21 37.7
comp=Z,8.2nm,1.4s
D24K Happy Valley 43.02 29 P **P 20 21 06.1 +0.7**
D24K IAmb IAmb 20 21 16.1
comp=Z,3.3nm,0.7s
SML Sawmill 43.39 40 P **P 20 21 09.6 +1.0**
MK31 Makanchi Array 43.56 298 P 20 21 10.2 0.0
MKAR Makanchi Array 43.56 298 P **P 20 21 10.4 +0.3**
MKAR Makanchi Array 43.56 298 P **P 20 21 10.1 -0.1**
comp=Z,1.1nm,0.7s,baz=79,slow=8.7,SNR=14
comp=Z,1.1nm,0.7s
MAKZ Makanchi 43.77 298 P 20 21 11.7 -0.1
ILAR Eielson Array 43.81 35 P **P 20 21 12.2 +0.3**
comp=Z,0.9nm,0.7s,baz=262,slow=6.3,SNR=13
comp=Z,0.9nm,0.7s
D25K Kavik River 43.90 29 P **P 20 21 13.3 +0.7**
BMAR Burnt Mountain 44.60 31 P **P 20 21 18.2 +0.1**
KURK Kurchatov 44.76 305 P **P 20 21 18.6 -1.0**
KURK IAmb IAmb 20 21 33.9
comp=Z,6.6nm,1.2s
KURBB Kurchatov Arra 44.84 304 P **P 20 21 20.0 -0.3**
comp=Z,3.2nm,0.8s,baz=73,slow=8.8,SNR=15
KURBB PcP **PcP 20 23 02.3 +0.7**
comp=Z,0.4nm,0.6s,baz=82,slow=3.6,SNR=4.4
comp=Z,3.2nm,0.8s
SCRK Sand Creek 45.13 36 P **P 20 21 23.2 +0.6**
SCRK IAmb IAmb 20 21 48.1
comp=Z,7.3nm,1.5s
CMAR Chiang Mai Arr 45.25 253 P **P 20 21 24.7 +0.8**
comp=Z,0.5nm,0.3s,baz=40,slow=7.4,SNR=2.3
comp=Z,0.5nm,0.3s
BCAR Beaver Creek A 46.24 37 P **P 20 21 32.6 +1.4**
I30M Mount Dempster 48.17 34 P **P 20 21 47.6 +1.3**
I30M IAmb IAmb 20 22 10.0
comp=Z,6.2nm,1.3s
HYT Haines Junctio 48.70 40 P **P 20 21 50.4 -0.1**
BVAR Borovoye Array 48.95 310 P **P 20 21 52.5 +0.2**
comp=Z,2.6nm,0.4s,baz=77,slow=8.7,SNR=41
comp=Z,2.6nm,0.4s
BRVK Borovoye 49.00 310 P **P 20 21 53.3 +0.6**
BRVK IAmb IAmb 20 22 03.3
comp=Z,7.3nm,1.4s
ARTI Arti 54.20 317 P **P 20 22 31.2 -0.3**
comp=Z,5.7nm,0.9s,baz=106,slow=4.8,SNR=6.1
comp=Z,5.7nm,0.9s
SIMJ Simiganj 55.78 294 P **P 20 22 42.9 -0.5**
SIMJ IAmb IAmb 20 22 44.1
comp=Z,4.3nm,0.8s
SPITS Spitsbergen Ar 55.85 349 P **P 20 22 42.8 -0.3**
comp=Z,3.0nm,0.8s,baz=23,slow=7.8,SNR=1.4
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 56.47 309 P **P 20 22 47.7 -0.3**
ABKAR IAmb IAmb 20 22 48.7
comp=Z,2.1nm,0.7s
RES Resolute Bay 56.92 16 IAmb IAmb 20 22 53.7
comp=Z,3.3nm,1.0s
AKTO Aktyubinsk 57.02 310 P **P 20 22 52.4 +0.4**
comp=Z,0.9nm,0.5s,baz=45,slow=6.5,SNR=2.4
comp=Z,0.9nm,0.5s
YKA Yellowknife Ar 58.09 32 P **P 20 22 59.2 +0.1**
comp=Z,0.5nm,0.7s,baz=300,slow=6.6,SNR=6.8
comp=Z,0.5nm,0.7s
ARCES ARCESS Array B 59.94 339 LR LR 20 52 40.3
comp=Z,58nm,18.6s,baz=48,slow=40
WRA Warramunga Arr 62.62 191 P **P 20 23 32.3 +1.7**
comp=Z,0.7nm,1.1s,baz=8.2,slow=6.5,SNR=1.9
comp=Z,0.7nm,1.1s
FINES FINESS Array B 65.29 332 P **P 20 23 47.0 -0.7**
comp=Z,1.9nm,0.6s,baz=54,slow=6.9,SNR=10
comp=Z,1.9nm,0.6s
ASAR Alice Springs 66.34 191 P **P 20 23 55.3 +0.4**
comp=Z,0.1nm,0.4s,baz=2.7,slow=5.4,SNR=1.9
comp=Z,0.1nm,0.4s
KBZ Khabaz 69.31 311 P **P 20 24 13.9 +0.4**
comp=Z,1.6nm,0.8s,baz=78,slow=4.9,SNR=4.1
comp=Z,1.6nm,0.8s
NVAR Mina Array Bea 70.00 56 P **P 20 24 18.8 +0.7**
comp=Z,0.6nm,0.6s,baz=290,slow=6.6,SNR=5.0
comp=Z,0.6nm,0.6s
NB2 NORSAR Subarra 70.26 338 P **P 20 24 18.8 -0.2**
comp=Z,0.8nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 70.26 338 P **P 20 24 18.9 -0.2**
comp=Z,1.2nm,0.7s,baz=29,slow=5.5,SNR=5.4
comp=Z,1.2nm,0.7s
HFS Hagfors 70.28 336 P **P 20 24 19.1 0.0**
comp=Z,1.6nm,0.5s,baz=44,slow=8.7,SNR=10
comp=Z,1.6nm,0.5s
AKASG Malin Array Be 71.60 323 P **P 20 24 27.2 -0.1**
comp=Z,0.4nm,0.4s,baz=40,slow=6.6,SNR=4.7
comp=Z,0.4nm,0.4s
PDAR Pinedale Array 72.33 48 P **P 20 24 33.3 +1.2**
comp=Z,0.4nm,0.4s,baz=307,slow=7.5,SNR=2.0
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 85.07 54 P **P 20 25 43.6 +1.3**
comp=Z,0.4nm,0.6s,baz=301,slow=4.6,SNR=6.1
comp=Z,0.4nm,0.6s

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*NEIC **07** 20:16:16.1±1.5,48°.43N±0°.08×153°.1E±0°.1,h122km±6km, mb4.9/257, Error ellipse: s-maj=11.9km s-min=10.6km az=120.0*
*KRSC **07** 20:16:16.1±1.4,48°.21N×153°.66E,h174km±28km,Ml5.4*
*MOS **07** 20:16:18.1±1.0,48°.35N×153°.38E,h171km,mb4.8/45, Error ellipse: s-maj=6.3km s-min=3.1km az=71.9*
*SKHL **07** 20:16:18.5±0.0,48°.30N×153°.40E,h149km±7km,mb5.7/8, mbv5.3/3,msh5.0/4,msha6.2/5*
*IDC **07** 20:16:20.4±0.5,48°.48N×153°.12E,h158km±3km,mb4.4/35, mbtmp4.9/43,MS3.4/7, Error ellipse: s-maj=8.6km s-min=7.5km az=143.0*
*JMA **07** 20:16:22.0±0.8,47°.N±5°.×15°.4E±°.,h224km,MV4.3/16, KURILE ISLANDS REGION*
*GCMT **07** 20:16:21.1±0.5,48°.36N±0°.03×153°.50E±0°.04, h161km±5km,MW4.9/80,Moment Tensor Solution. s4,c4; s80,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.59±.13; Mθθ1.79±.13; Mφφ-1.20±.11; Mrθ1.42±.10; Mθφ-0.59±.12; Mφr1.05±.09; Best double couple: M0=2.44200×10^16 NP1:φs=141.00000°,δ42.00000°, λ-14.00000°. NP2:φs=241.00000°,δ81.00000°, λ-131.00000°. Principal axes: T 2.4550, Plg24.0000°, Azm2.0000°; N -0.0260, Plg40.0000°, Azm249.0000°; P -2.4280, Plg40.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 20:16:19.4±0.4,48°.35N±0°.04×153°.33E±0°.04,h158km±2km, h158km:pP-P,n988,σ1°.45/969,mb4.9/248,67C-54D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.96**	**37**	↑*i*PN	**Pn**	**20 17 06.2**	**-0.2**
SKR				*i* S	**Sn**	**20 17 41.1**	**-1.9**
SKR	comp=Z,1μm,0.7s			pmax	pmax		
SKR	comp=N,3μm,0.6s			smax	smax		
SKR	comp=E,4μm,0.7s			smax	smax		
SKR	comp=Z,800nm,12.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**2.96**	**37**	*e*P	**Pn**	**20 17 06.2**	**-0.2**
SKR				*e*S	**Sn**	**20 17 41.9**	**-1.1**
SKR	**Severo-Kuril's**	**2.96**	**37**	*i* P	**Pn**	**20 17 06.3**	**-0.2**
SKR	comp=Z,1μm,0.7s			AMB	AMB	20 17 07.0	
SKR				*e*S	**Sn**	**20 17 42.6**	**-0.4**
SKR	comp=Z,3μm,0.7s			A	A	20 17 46.5	
SKR	comp=Z,4μm,0.7s			A	A	20 17 46.5	
SKR	comp=Z,800nm,12.0s			AMS	AMS	20 18 25.0	
PAU	**Pauzhetka**	**3.85**	**34**	PN	**Pn**	**20 17 17.2**	**-0.5**
PAU				S	**Sn**	**20 18 01.5**	**-1.8**
PAU	**Pauzhetka**	**3.85**	**34**	*i* P	**Pn**	**20 17 17.2**	**-0.5**
PAU				*e*S	**Sn**	**20 18 01.5**	**-1.8**
PAU	**Pauzhetka**	**3.85**	**34**	*i* P	**Pn**	**20 17 17.3**	**-0.5**
PAU	comp=Z,920nm,0.4s			AMB	AMB	20 17 18.5	
PAU				*e*S	**Sn**	**20 18 02.2**	**-1.1**
PAU	comp=Z,3μm,0.3s			A	A	20 18 03.3	
PAU	comp=Z,5μm,0.3s			A	A	20 18 03.3	
KDTR	**Khodutka, Kamc**	**4.62**	**40**	PN	**Pn**	**20 17 25.9**	**-1.9**
KDTR				S	**Sn**	**20 18 15.6**	**-5.6**
KDTR	**Khodutka, Kamc**	**4.62**	**40**	*e*P	**Pn**	**20 17 26.0**	**-1.9**
KDTR				*e*S	**Sn**	**20 18 15.6**	**-5.6**
KDTR	**Khodutka, Kamc**	**4.62**	**40**	*e*P	**Pn**	**20 17 25.9**	**-1.9**
KUR	**Kuril'sk**	**4.88**	**232**	*e*PN	**Pn**	**20 17 31.4**	**+0.1**
KUR				*i* S	**Sn**	**20 18 29.4**	**+2.1**
KUR	comp=Z,257nm,0.5s			pmax	pmax		
KUR	comp=N,55nm,0.2s			pmax	pmax		
KUR	comp=E,83nm,0.3s			pmax	pmax		
KUR	comp=Z,652nm,1.1s			smax	smax		
KUR	comp=N,491nm,0.6s			smax	smax		
KUR	comp=E,507nm,0.2s			smax	smax		
KUR	**Kuril'sk**	**4.88**	**232**	*e*P	**Pn**	**20 17 31.3**	**+0.1**
KUR				*e*S	**Sn**	**20 18 27.9**	**+0.6**
KUR	**Kuril'sk**	**4.88**	**232**	*i* P	**Pn**	**20 17 32.3**	**+1.1**
KUR	comp=E,260nm,0.5s			AMB	AMB	20 17 36.2	
KUR	comp=E,700nm,1.1s			AMB	AMB	20 17 49.9	
KUR				*e*S	**Sn**	**20 18 28.9**	**+1.6**
KUR	comp=E,490nm,0.6s			A	A	20 18 34.8	
KUR	comp=E,640nm,0.6s			A	A	20 18 34.8	
GRL	**Gorelyy**	**5.19**	**34**	PN	**Pn**	**20 17 35.1**	**-0.3**
GRL				S	**Sn**	**20 18 33.9**	**-0.9**
GRL	**Gorelyy**	**5.19**	**34**	*e*P	**Pn**	**20 17 35.1**	**-0.3**
GRL				*e*S	**Sn**	**20 18 34.0**	**-0.9**
APC	**Apacha**	**5.19**	**27**	PN	**Pn**	**20 17 34.6**	**-0.6**
APC	**Apacha**	**5.19**	**27**	*e*P	**Pn**	**20 17 34.7**	**-0.6**
RUS	**Russkaya**	**5.26**	**37**	PN	**Pn**	**20 17 34.6**	**-1.7**
RUS				S	**Sn**	**20 18 31.1**	**-5.3**
RUS	**Russkaya**	**5.26**	**37**	*e*P	**Pn**	**20 17 34.6**	**-1.7**
RUS				*e*S	**Sn**	**20 18 31.2**	**-5.3**
KRMR	**Karymshinskiy**	**5.43**	**32**	PN	**Pn**	**20 17 37.8**	**-0.6**
KRMR				S	**Sn**	**20 18 37.2**	**-3.1**
KRMR	**Karymshinskiy**	**5.43**	**32**	*e*P	**Pn**	**20 17 37.9**	**-0.6**
KRMR				*e*S	**Sn**	**20 18 37.3**	**-3.1**
PEA0B	**Petropavlovsk-**	**5.51**	**29**	Pn	**Pn**	**20 17 35.4**	**-4.2**
PEA0B	**Petropavlovsk-**	**5.51**	**29**	*c i*PN	**Pn**	**20 17 39.5**	**-0.1**
PETK	**Petropavlovsk-**	**5.51**	**29**		**Pn**	**20 17 37.7**	**-1.9**
PETK	**Petropavlovsk-**	**5.51**	**29**	P	**Pn**	**20 17 40.4**	**+0.8**
PETK	comp=E,289nm,0.6s,baz=197,slow=14,SNR=199			S	**Sn**	**20 18 38.1**	**-4.3**
PETK	comp=E,43nm,0.6s,baz=153,slow=13,SNR=1.3			LR	LR	20 19 37.9	
PETK	comp=E,203nm,19.4s,baz=195,slow=36						
PET	**Petropavlovsk**	**5.78**	**34**		Pn	20 17 38.1	-4.9
PET	**Petropavlovsk**	**5.78**	**34**	*e*PN	**Pn**	**20 17 42.1**	**-0.9**
PET				*e*S	**Sn**	**20 18 44.5**	**-4.1**
PET	comp=Z,107nm,0.4s			pmax	pmax		
PET	comp=N,538nm,0.6s			smax	smax		
PET	comp=E,437nm,0.8s			smax	smax		
PET	**Petropavlovsk**	**5.78**	**34**	*e*P	**Pn**	**20 17 41.4**	**-1.6**
PET				*e*S	**Sn**	**20 18 44.5**	**-4.1**
PET	**Petropavlovsk**	**5.78**	**34**	*e*P	**Pn**	**20 17 42.2**	**-0.8**
PET				AMB	AMB	20 17 44.7	
PET	comp=E,1μm,0.4s			*e*S	**Sn**	**20 18 46.0**	**-2.6**
PET				A	A	20 18 49.2	
PET	comp=E,980nm,0.3s			A	A	20 18 49.2	
PET	**Petropavlovsk**	**5.78**	**34**	P	**Pn**	**20 17 44.2**	**+1.2**
INSR	**Institute**	**5.79**	**33**	PN	**Pn**	**20 17 42.6**	**-0.6**
INSR				S	**Sn**	**20 18 46.0**	**-2.9**
INSR	**Institute**	**5.79**	**33**	*e*P	**Pn**	**20 17 42.7**	**-0.6**
INSR				*e*S	**Sn**	**20 18 46.0**	**-2.9**
DALK	**Dalny**	**5.82**	**34**	PN	**Pn**	**20 17 42.4**	**-1.2**
DALK				S	**Sn**	**20 18 44.9**	**-4.7**
DALK	**Dalny**	**5.82**	**34**	*e*P	**Pn**	**20 17 42.4**	**-1.2**
DALK				*e*S	**Sn**	**20 18 44.9**	**-4.7**
KOK	**Koryaka**	**5.98**	**32**	PN	**Pn**	**20 17 46.3**	**+0.4**
KOK	**Koryaka**	**5.98**	**32**	*e*P	**Pn**	**20 17 46.4**	**+0.4**
KOK	**Koryaka**	**5.98**	**32**	*e*P	**Pn**	**20 17 46.3**	**+0.4**
UGLR	**Uglovaya**	**5.99**	**34**	PN	**Pn**	**20 17 45.4**	**-0.5**
UGLR	**Uglovaya**	**5.99**	**34**	*e*P	**Pn**	**20 17 45.4**	**-0.5**
AVH	**Avacha**	**6.00**	**33**	PN	**Pn**	**20 17 46.1**	**+0.1**
AVH	**Avacha**	**6.00**	**33**	*e*P	**Pn**	**20 17 46.2**	**+0.1**
AVH	**Avacha**	**6.00**	**33**	*e*P	**Pn**	**20 17 46.1**	**+0.1**
KRER	**Koryakskii**	**6.03**	**33**	PN	**Pn**	**20 17 46.4**	**-0.2**
KRER	**Koryakskii**	**6.03**	**33**	*e*P	**Pn**	**20 17 46.5**	**-0.2**
KRX	**Arik**	**6.04**	**32**	PN	**Pn**	**20 17 46.6**	**-0.1**
KRX	**Arik**	**6.04**	**32**	*e*P	**Pn**	**20 17 46.7**	**-0.1**
SDLR	**Sedlovina**	**6.06**	**33**	PN	**Pn**	**20 17 46.2**	**-0.7**
SDLR	**Sedlovina**	**6.06**	**33**	*e*P	**Pn**	**20 17 46.3**	**-0.7**
GNL	**Ganaly**	**6.09**	**27**	PN	**Pn**	**20 17 47.1**	**-0.2**
GNL	**Ganaly**	**6.09**	**27**	*e*P	**Pn**	**20 17 47.2**	**-0.2**
NLC	**Nalytchevo**	**6.15**	**36**	PN	**Pn**	**20 17 45.5**	**-2.5**
NLC	**Nalytchevo**	**6.15**	**36**	*e*P	**Pn**	**20 17 45.5**	**-2.5**
SHO	**Shikotan**	**6.36**	**228**	PN	**Pn**	**20 17 48.2**	**-2.7**
SHO	**Shikotan**	**6.36**	**228**	*e*P	**Pn**	**20 17 48.2**	**-2.7**
SHO	**Shikotan**	**6.36**	**228**	*e*P	**Pn**	**20 17 48.2**	**-2.7**
SHO				AMB	AMB	20 17 49.5	
SHO	comp=E,150nm,0.3s						
SPN	**Mys Shipunski**	**6.38**	**39**	PN	**Pn**	**20 17 49.2**	**-1.8**
SPN	**Mys Shipunski**	**6.38**	**39**	*e*P	**Pn**	**20 17 49.2**	**-1.8**
SPN	**Mys Shipunski**	**6.38**	**39**	*e*P	**Pn**	**20 17 49.2**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**6.74**	**233**	*e*PN	**Pn**	**20 17 55.3**	**-0.6**
YUK				*e*S	**Sn**	**20 19 11.6**	**-0.1**
YUK	comp=Z,437nm,0.3s			pmax	pmax		
YUK	comp=N,141nm,0.2s			pmax	pmax		
YUK	comp=E,170nm,0.3s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**6.74**	**233**	*e*P	**Pn**	**20 17 54.9**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**6.74**	**233**	*e*P	**Pn**	**20 17 55.3**	**-0.6**
YUK				AMB	AMB	20 17 56.5	
YUK	comp=E,140nm,0.3s			AMB	AMB	20 17 56.5	
YUK	comp=E,170nm,0.3s			AMB	AMB	20 17 56.5	
YUK	comp=E,440nm,0.3s						
YUK				*e*S	**Sn**	**20 19 11.6**	**-0.1**
RUSJ	**Misakicho**	**7.03**	**236**	*e*PN	**Pn**	**20 17 59.7**	**0.0**
RUSJ				*i* S	**Sn**	**20 19 21.1**	**+2.5**
JRA	**Rausu**	**7.21**	**235**	*e*P	**Pn**	**20 18 01.5**	**-0.6**
NEM2	**Nemuro 2**	**7.27**	**230**	P	**Pn**	**20 17 59.6**	**-3.3**
NEM2				*e*S	**Sn**	**20 19 15.9**	**-8.4**
NMR	**Nemuro--Hokkai**	**7.27**	**230**	*e*PN	**Pn**	**20 17 59.3**	**-3.7**
YSS	**Yuzhno-Sakhali**	**7.28**	**263**	Pn	**Pn**	**20 18 04.4**	**+1.4**
YSS	**Yuzhno-Sakhali**	**7.28**	**263**	*d i*PN	**Pn**	**20 18 05.0**	**+2.0**
YSS	**Yuzhno-Sakhali**	**7.28**	**263**	*e*P	**Pn**	**20 18 04.8**	**+1.8**
YSS				*e*P	**Pn**	**20 18 04.8**	**+1.8**
YSS				AMB	AMB	20 18 05.7	
YSS	comp=E,200nm,2.4s			AMB	AMB	20 18 07.0	
YSS	comp=E,30nm,0.8s			AMB	AMB	20 18 07.0	
YSS	comp=E,30nm,0.8s			AMB	AMB	20 18 07.0	
YSS	comp=E,80nm,0.8s						
YSS				*e*S	**Sn**	**20 19 26.0**	**+1.5**
YSS				A	A	20 19 30.3	
YSS	comp=E,30nm,0.8s			A	A	20 19 30.3	
YSS	comp=E,30nm,0.8s			A	A	20 19 31.9	
YSS	comp=E,300nm,4.6s			A	A	20 19 31.9	
YSS	comp=E,400nm,4.6s			AMS	AMS	20 20 20.1	
YSS	comp=E,300nm,14.0s						
TYV	**Tymovskoe**	**7.38**	**294**	*e*PN	**Pn**	**20 18 06.3**	**+2.0**
TYV				*e*S	**Sn**	**20 19 30.8**	**+3.9**
TYV	comp=Z,53nm,1.1s			pmax	pmax		
TYV	comp=Z,400nm,3.5s			pmax	pmax		
TYV	comp=E,26nm,1.0s			smax	smax		
TYV	comp=N,300nm,3.6s			smax	smax		
TYV	comp=E,500nm,3.6s			smax	smax		
TYV	**Tymovskoe**	**7.38**	**294**	*e*P	**Pn**	**20 18 05.9**	**+1.6**
TYV	**Tymovskoe**	**7.38**	**294**	*e*P	**Pn**	**20 18 06.3**	**+2.0**
TYV				AMB	AMB	20 18 07.2	
TYV	comp=E,50nm,0.7s			AMB	AMB	20 18 07.2	
TYV	comp=E,400nm,3.5s						
TYV				*e*S	**Sn**	**20 19 27.8**	**+0.9**
TYV				A	A	20 19 31.7	
TYV	comp=E,30nm,0.8s			A	A	20 19 31.7	
TYV	comp=E,30nm,0.8s			A	A	20 19 35.1	
TYV	comp=E,300nm,3.6s			A	A	20 19 35.1	
TYV	comp=E,500nm,3.6s						
UGL	**Uglegorsk**	**7.49**	**280**	*de*PN	**Pn**	**20 18 08.3**	**+2.5**
UGL	comp=Z,122nm,0.9s			pmax	pmax		
UGL	**Uglegorsk**	**7.49**	**280**	*e*P	**Pn**	**20 18 08.1**	**+2.3**
UGL				AMB	AMB	20 18 09.5	
UGL	comp=Z,120nm,0.6s						
UGL				*e*S	**Sn**	**20 19 30.5**	**+1.0**
UGL				A	A	20 19 51.0	

comp=Z,800nm,7.1s
UGL A A 20 19 51.0
comp=Z,1µm,7.1s
JNK Nakash 7.66 235 P **Pn 20 18 06.9 -1.2**
JNK *e*S **Sn 20 19 29.6 -4.1**
JTKR Abashiri--Toko 7.87 240 P **Pn 20 18 10.8 -0.1**
JAK Akkeshi 8.07 232 P **Pn 20 18 10.7 -2.9**
JAK *e*S **Sn 20 19 36.0 -7.6**
MKZ Mys Kozlova 8.13 37 PN **Pn 20 18 11.2 -3.0**
MKZ Mys Kozlova 8.13 37 *e*P **Pn 20 18 11.3 -3.0**
TUMD Tumrok D 8.14 30 PN **Pn 20 18 14.3 -0.1**
TUMD S **Sn 20 19 41.6 -3.5**
TUMD Tumrok D 8.14 30 *e*P **Pn 20 18 14.4 -0.1**
TUMD *e*S **Sn 20 19 41.7 -3.5**
ESO Esso 8.27 21 PN **Pn 20 18 16.4 +0.2**
ESO Esso 8.27 21 *e*P **Pn 20 18 16.5 +0.2**
ESO Esso 8.27 21 *e*P **Pn 20 18 16.4 +0.2**
JAR Ashorobuto 8.37 236 P **Pn 20 18 17.5 -0.1**
JAR S **Sn 20 19 47.0 -3.7**
OKH Okha 8.38 312 *de*PN **Pn 20 18 15.5 -2.0**
OKH *e*S **Sn 20 19 54.8 +4.1**
OKH smax smax
comp=E,200nm,9.0s
OKH Okha 8.38 312 *e*P **Pn 20 18 18.8 +1.3**
OKH AMB AMB 20 18 21.5
comp=E,80nm,0.5s
OKH *e*S **Sn 20 19 52.2 +1.5**
OKH A A 20 20 03.7
comp=E,200nm,9.0s
OKH A A 20 20 03.7
comp=E,200nm,9.0s
JWK2 Keihoku 8.40 253 *e*P **Pn 20 18 21.1 +3.1**
KMNR Kamenistaya 8.55 27 PN **Pn 20 18 19.5 -0.5**
KMNR Kamenistaya 8.55 27 *e*P **Pn 20 18 19.5 -0.5**
JKA Kamikawa-asahi 8.55 244 Pn **Pn 20 18 21.1 +1.1**
JKA Kamikawa-asahi 8.55 244 *e*P **Pn 20 18 21.1 +1.1**
ASAJ Asahikawa 8.56 244 P **Pn 20 18 20.8 +0.7**
comp=E,76nm,0.7s,baz=70,slow=12,SNR=15
ASAJ Asahikawa 8.56 244 PN **Pn 20 18 21.1 +1.0**
JOB Onbets 8.59 234 P **Pn 20 18 18.1 -2.4**
JOB *e*S **Sn 20 19 49.0 -7.1**
JKK2 Kamakawa 2 8.60 243 P **Pn 20 18 20.4 -0.3**
KOZ Kozyrevsk 8.70 25 PN **Pn 20 18 21.5 -0.4**
KOZ Kozyrevsk 8.70 25 *e*P **Pn 20 18 21.6 -0.4**
KOZ Kozyrevsk 8.70 25 *e*P **Pn 20 18 21.5 -0.4**
KPT Kopyto 8.72 26 PN **Pn 20 18 21.7 -0.5**
KPT Kopyto 8.72 26 *e*P **Pn 20 18 21.7 -0.5**
KIRR Kirishev 8.75 27 PN **Pn 20 18 22.8 +0.2**
KIRR Kirishev 8.75 27 *e*P **Pn 20 18 22.9 +0.2**
BZGR Bezymyannyi-Gr 8.85 28 PN **Pn 20 18 24.0 +0.1**
BZGR Bezymyannyi-Gr 8.85 28 *e*P **Pn 20 18 24.1 +0.1**
JRBN Rebuntou 8.89 255 *e*P **Pn 20 18 26.7 +2.2**
ZLN Zelenaya 8.94 28 PN **Pn 20 18 25.0 -0.2**
ZLN Zelenaya 8.94 28 *e*P **Pn 20 18 25.0 -0.2**
CIRR Tsirk 9.01 28 PN **Pn 20 18 25.6 -0.4**
CIRR Tsirk 9.01 28 *e*P **Pn 20 18 25.7 -0.4**
KRSR Krestovskiy 9.04 27 PN **Pn 20 18 25.5 -0.9**
KRSR Krestovskiy 9.04 27 *e*P **Pn 20 18 25.6 -0.9**
JCH Churui 9.04 234 P **Pn 20 18 23.8 -2.8**
JCH S **Sn 20 19 58.7 -8.3**
KLY Klyuchi 9.15 27 PN **Pn 20 18 26.8 -0.9**
KLY Klyuchi 9.15 27 *e*P **Pn 20 18 26.9 -0.9**
ERM Erimo 9.57 232 Pn **Pn 20 18 30.4 -3.1**
ERM Erimo 9.57 232 *de*PN **Pn 20 18 31.3 -2.2**
JNBK Urakawa-nobuka 9.60 235 P **Pn 20 18 30.6 -3.3**
JNBK *e*S Sn 20 20 10.3 -10
SMKR Semkarok 9.62 28 PN **Pn 20 18 33.7 -0.4**
SMKR Semkarok 9.62 28 *e*P **Pn 20 18 33.8 -0.4**
KBG Krutoberegovo 9.77 32 PN **Pn 20 18 34.6 -1.4**
KBG Krutoberegovo 9.77 32 *e*P **Pn 20 18 34.7 -1.4**
KBTR Krutoberegovo 9.78 33 PN **Pn 20 18 33.2 -2.9**
KBTR Krutoberegovo 9.78 33 *e*P **Pn 20 18 33.2 -2.9**
BKI Bering 10.41 44 PN **Pn 20 18 41.8 -2.5**
BKI Bering 10.41 44 *e*P **Pn 20 18 41.9 -2.5**
GRNR Gornyy 11.25 289 *e*P **Pn 20 18 57.3 +1.8**
GRNR AMB AMB 20 18 58.5
comp=E,10.0nm,0.8s
MA2 Magadan 11.35 353 Pn **Pn 20 18 55.0 -1.7**
MA2 Magadan 11.35 353 P **Pn 20 18 55.9 -0.7**
comp=E,29nm,0.9s,baz=171,slow=10,SNR=35
MA2 Magadan 11.35 353 *c i*PN **Pn 20 18 55.8 -0.9**
MA2 pmax pmax
comp=Z,40nm,1.0s
MA2 Magadan 11.35 353 P **Pn 20 18 56.0 -0.7**
comp=Z,60nm,1.1s
PALN Palana 11.45 17 PN **Pn 20 18 57.5 -0.5**
PALN Palana 11.45 17 *e*P **Pn 20 18 57.5 -0.5**
JTM Tenmabayashi 11.55 234 Pn Pn 20 18 53.9 -5.6
JANG Nango 11.61 231 *e*P Pn 20 18 54.3 -6.0
JANG *e*S Sn 20 20 52.7 -16
TEY Ternei 11.95 260 *e*P **Pn 20 19 07.2 +2.5**
TEY AMB AMB 20 19 10.6
comp=Z,10.0nm,0.5s
KHBR Khabarovsk 12.15 277 *e*P **Pn 20 19 09.1 +2.0**
KHBR AMB AMB 20 19 10.2
comp=Z,10.0nm,0.4s
OSSR Ossora 12.33 24 PN **Pn 20 19 06.6 -2.7**
OSSR Ossora 12.33 24 *e*P **Pn 20 19 06.7 -2.7**
EKMR Ekimchan 13.74 298 *e*P **P 20 19 29.6 -1.2**
EKMR AMB AMB 20 19 33.6
comp=Z,30nm,0.8s
JMM Marumori 13.89 226 Pn **Pn 20 19 25.5 -4.0**
SHEM Shemya Is, Ala 13.90 64 P **P 20 19 32.5 -0.1**
comp=Z,152nm,0.9s,baz=274,slow=17,SNR=3.1
SHEM S **Sn 20 21 57.1 -6.4**
comp=Z,161nm,0.7s,baz=259,slow=22,SNR=8.4
TILK Tilichiki 14.20 27 P **Pn 20 19 31.6 -1.4**
TILK Tilichiki 14.20 27 *e*P **Pn 20 19 31.7 -1.4**
KLR Kul'dur 14.25 282 P **P 20 19 35.9 -0.6**
comp=Z,4.7nm,0.7s,baz=88,slow=13,SNR=15
KLR Kul'dur 14.25 282 *e*P **Pn 20 19 34.8 +0.9**
KLR pmax pmax
comp=Z,29nm,1.4s
KLR Kul'dur 14.25 282 *e*P **Pn 20 19 34.8 +0.9**
KLR AMB AMB 20 19 42.0
comp=Z,30nm,1.0s
SEY Seymchan 14.63 358 P **Pn 20 19 38.4 -0.1**
comp=Z,52nm,0.6s,baz=174,slow=10,SNR=54
SEY Seymchan 14.63 358 ⇑ *e*P **Pn 20 19 38.2 -0.3**
SEY pmax pmax
comp=Z,63nm,0.8s
SEY Seymchan 14.63 358 *e*P **Pn 20 19 38.2 -0.3**
JSD Sado 15.04 232 Pn **Pn 20 19 40.5 -3.3**
USRK Ussuriysk Ar. 15.32 262 **Pn 20 19 42.6 -4.5**
USRK Ussuriysk Ar. 15.32 262 P **P 20 19 48.2 -0.1**
comp=Z,4.0nm,0.6s,baz=69,slow=13,SNR=9.7
KMSK Kamenskaya 15.88 22 P **Pn 20 19 53.4 -0.4**
KMSK Kamenskaya 15.88 22 *e*P **Pn 20 19 53.5 -0.4**
MJB9 Matsu-Tunnel 16.20 229 **Pn 20 19 57.5 -0.6**
MAJO Matsushiro 16.20 229 **Pn 20 19 56.9 -1.2**
MAJO Matsushiro 16.20 229 *d i*P **Pn 20 19 57.4 -0.7**
MJAR Matsushiro Arr 16.20 229 P **Pn 20 19 57.6 -0.5**
comp=Z,12nm,0.9s,baz=27,slow=14,SNR=14
MSHR Mys Shultsa 16.56 258 ⇓ *e*P **P 20 19 59.9 -2.2**
MSHR pmax pmax
comp=Z,31nm,1.2s
MDJ Mudanjiang 16.75 266 **P 20 20 01.4 -2.8**
MDJ Mudanjiang 16.75 266 P **Pn 20 20 05.0 +0.4**
MDJ pmax pmax
comp=Z,6.0nm,1.1s
HEH HeiHe 16.98 286 *e*P **Pn 20 20 07.2 -0.2**
HEH pmax pmax
comp=Z,31nm,0.8s
ZEA Zeya 17.21 298 *e*P **Pn 20 20 09.9 -0.2**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA Zeya 17.21 298 *e*P **P 20 20 08.3 -0.8**
ZEA AMB AMB 20 20 14.1
comp=Z,10.0nm,0.4s
JGF Kuroka 17.37 229 P **Pn 20 20 11.7 -0.5**
INU Inuyama 17.74 229 P **P 20 20 13.2 -1.8**
BNX BinXian 17.83 271 ⇓ P **Pn 20 20 19.0 +1.5**
BNX pmax pmax
comp=Z,9.0nm,0.6s
YAK Yakutsk 19.08 325 P **P 20 20 26.7 -2.7**
YAK Yakutsk 19.08 325 P **P 20 20 29.1 -0.2**
comp=Z,146nm,0.6s,baz=111,slow=2.1,SNR=35
YAK S **S 20 23 53.5 -3.6**
comp=Z,22nm,0.8s,baz=332,slow=23,SNR=6.6

YAK Yakutsk 19.08 325 *e*P **P 20 20 29.3 -0.1**
YAK *e*S **S 20 23 57.9 +0.8**
YAK pmax pmax
comp=Z,102nm,1.0s
YAK pmax pmax
comp=N,25nm,1.3s
YAK pmax pmax
comp=E,42nm,1.6s
YAK smax smax
comp=N,117nm,2.7s
YAK smax smax
comp=E,120nm,1.8s
YAK Yakutsk 19.08 325 *e*P **P 20 20 29.3 -0.1**
CN2 Changchun 19.82 267 *e*P **P 20 20 36.3 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,4.0s
BILL Bilibino 20.80 14 P **P 20 20 46.5 -1.3**
BILL Bilibino 20.80 14 *d i*P **P 20 20 46.7 -1.1**
BILL pmax pmax
comp=Z,77nm,0.7s
BILL Bilibino 20.80 14 *i*P **P 20 20 46.7 -1.1**
KSRS Korea Array 21.46 249 P **P 20 20 56.0 +0.9**
comp=Z,1.9nm,0.5s,baz=51,slow=9.8,SNR=8.7
KSAR Wonju Array Be 21.49 249 P **P 20 20 54.6 -0.9**
KSAR Wonju Array Be 21.49 249 P **P 20 20 54.6 -0.9**
KSAR Wonju Array Be 21.49 249 *e*P **P 20 20 54.6 -0.9**
JNU Nakatsue 22.70 236 P **P 20 21 09.1 +1.6**
comp=Z,16nm,1.1s,baz=79,slow=5.2,SNR=2.1
comp=Z,16nm,1.1s
SPIA Saint Paul Isl 23.49 54 P **P 20 21 15.4 +1.0**
baz=264
P08K Saint George I 23.82 56 P **P 20 21 18.4 +1.0**
baz=266
GAMB Gambell 24.45 38 P **P 20 21 24.1 +1.0**
baz=248
CIT Chita 25.51 293 *e*P **P 20 21 32.6 -0.3**
UNV Unalaska Valle 25.56 62 P **P 20 21 34.4 +1.2**
baz=274
TIXI Tiksi 25.98 343 P **P 20 21 34.8 -2.1**
TIXI IAmb IAmb 20 21 39.2
comp=Z,33nm,0.8s
TIXI Tiksi 25.98 343 ⇑ *i*P **P 20 21 35.2 -1.6**
TIXI pmax pmax
comp=Z,37nm,0.9s
TIXI Tiksi 25.98 343 *i*P **P 20 21 35.2 -1.6**
M11K Mekoryuk 26.02 47 P **P 20 21 37.8 +0.5**
baz=261
XLT XiLinHaoTe 26.02 274 *e*P **P 20 21 37.2 -0.5**
XLT pP pP 20 22 10.9 +1.5
XLT pmax pmax
comp=Z,4.0nm,0.9s
TNA Tin City 26.63 36 P **P 20 21 43.2 +0.4**
TNA IAmb IAmb 20 21 48.4
comp=Z,123nm,1.9s
TNA Tin City 26.63 36 P **P 20 21 43.5 +0.8**
baz=249
K13K Kusilvak Mount 27.03 44 P **P 20 21 46.4 +0.1**
baz=260
F14K Arctic Creek 27.23 36 P **P 20 21 48.7 +0.7**
baz=251
FALS False Pass 27.28 60 P **P 20 21 49.7 +1.1**
baz=275
ANM Nome 27.33 38 P **P 20 21 50.0 +1.0**
ANM IAmb IAmb 20 21 58.2
comp=Z,90nm,1.8s
ANM Nome 27.33 38 P **P 20 21 50.0 +1.0**
ANM pmax pmax
comp=Z,91nm,1.8s
ANM Nome 27.33 38 P **P 20 21 49.7 +0.7**
baz=254
M13K Dall Lake 27.43 48 P **P 20 21 50.8 +1.0**
baz=264
J14K Nanvaranak Lak 27.69 43 P **P 20 21 53.0 +0.9**
baz=259
L14K Kuka Creek 27.86 46 P **P 20 21 54.8 +1.1**
baz=263
F15K North Star Dit 27.96 36 P **P 20 21 55.0 +0.4**
baz=253
S12K Black Hills 28.00 58 P **P 20 21 56.5 +1.4**
baz=274
G15K Niukluk 28.00 38 P **P 20 21 55.7 +0.8**
baz=254
M14K Bethel 28.14 47 P **P 20 21 57.5 +1.3**
baz=265
N14K Kuskokwak Cree 28.21 49 P **P 20 21 57.6 +0.8**
baz=266
O14K Tigyukauivet M 28.39 50 P **P 20 21 59.2 +0.8**
baz=268
L15K Ungalak Mounta 28.47 45 P **P 20 21 59.7 +0.5**
baz=263
K15K Wolf Creek Mou 28.54 44 P **P 20 21 59.8 +0.1**
baz=262
C16K Lisburne Hills 28.61 31 P **P 20 22 00.5 +0.2**
baz=247,SNR=11
H16K Elim 28.66 39 P **P 20 22 01.6 +0.8**
baz=257
M15K Kasigluk River 28.76 47 P **P 20 22 02.5 +0.8**
baz=266
G16K Koyuk River 28.79 37 P **P 20 22 02.0 +0.1**
baz=256
N15K Kwethluk River 29.02 48 P **P 20 22 04.5 +0.4**
baz=267
J16K Anvik River 29.11 42 P **P 20 22 05.3 +0.6**
baz=261
O15K Ungalikthiuk R 29.12 51 P **P 20 22 05.9 +0.9**
baz=269
I17K Unalakleet 29.17 41 P **P 20 22 06.1 +0.8**
baz=260
D17K Noatak River 29.19 33 P **P 20 22 05.8 +0.3**
baz=251,SNR=8.1
S14K Fog Glacier 29.36 56 P **P 20 22 07.7 +0.5**
baz=275
RDOG Red Dog Mine 29.37 32 P **P 20 22 08.0 +0.9**
RDOG IAmb IAmb 20 22 15.6
comp=Z,35nm,1.0s
RDOG Red Dog Mine 29.37 32 P **P 20 22 07.0 -0.1**
baz=250
C17K DeLong Mountai 29.43 31 P **P 20 22 08.2 +0.6**
baz=249,SNR=9.4
L16K Owhat River 29.43 45 P **P 20 22 08.5 +0.8**
baz=265
CHNA Chernabura Isl 29.49 59 P **P 20 22 09.5 +1.3**
baz=277
M16K Timber Creek 29.63 47 P **P 20 22 10.6 +1.2**
baz=267
N16K Nishlik Lake 29.69 48 P **P 20 22 10.8 +0.7**
baz=268
H17K Granite Mounta 29.70 39 P **P 20 22 10.6 +0.6**
baz=259
J17K VABM Dome 29.80 42 P **P 20 22 11.6 +0.7**
baz=263
CHGN Chignik 29.99 56 P **P 20 22 13.8 +1.2**
baz=276
E18K Tukpahlearik C 30.01 34 P **P 20 22 13.6 +0.9**
baz=254
O16K Kokwok River B 30.02 50 P **P 20 22 14.0 +1.2**
baz=270
L17K Donlin 30.02 45 P **P 20 22 14.0 +1.1**
baz=266
HNS HongShan 30.05 263 ⇑ P **P 20 22 13.6 +0.3**
P16K Nushagak River 30.07 51 P **P 20 22 14.5 +1.2**
baz=271
K17K Iditarod 30.07 43 P **P 20 22 14.0 +0.7**
baz=265
F18K Selawik 30.16 36 P **P 20 22 14.9 +0.9**
baz=257,SNR=14
C18K Utukok River 30.17 31 IAmb IAmb 20 22 16.1
comp=Z,15nm,0.8s
C18K Utukok River 30.17 31 P **P 20 22 14.6 +0.4**
baz=251,SNR=12
B18K Kokolik River 30.21 30 P **P 20 22 15.2 +0.8**
baz=250,SNR=18
R16K Pilot Point 30.35 54 P **P 20 22 16.4 +0.6**
baz=274
HHC Hu-ho-hao-te 30.36 271 *e*P **P 20 22 17.0 +0.8**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.1s
H18K Honhosa River 30.38 39 P **P 20 22 16.9 +0.9**
baz=260
M17K Holitna River 30.38 46 P **P 20 22 16.9 +0.8**
baz=268
G18K Tagagawik 30.40 37 IAmb IAmb 20 22 18.5
comp=Z,24nm,0.7s

G18K Tagagawik 30.40 37 P **P 20 22 16.8 +0.7**
baz=259,SNR=16
N17K Nushagak Hills 30.48 48 P **P 20 22 17.6 +0.7**
baz=269
O17K Koliganek Bris 30.52 49 P **P 20 22 18.0 +0.8**
baz=271
ULN Ulaanbaatar 30.54 287 P **P 20 22 16.8 -1.0**
ULN Ulaanbaatar 30.54 287 *de*P **P 20 22 17.6 -0.2**
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 30.54 287 P **P 20 22 17.5 -0.4**
ULN pP **pwP 20 22 55.0 +0.6**
H11N2 WAKE ISLAND Hy 30.58 154 T T 20 54 32.5
baz=342,slow=76,SNR=26
H11N1 WAKE ISLAND Hy 30.60 154 T T 20 54 34.5
baz=342,slow=76,SNR=38
H11N3 WAKE ISLAND Hy 30.60 154 T T 20 54 37.1
baz=342,slow=76,SNR=32
NJ2 Nanjing 30.64 251 *e*P **P 20 22 18.2 -0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
A19K Wainwright 30.75 28 P **P 20 22 20.1 +1.0**
baz=249
Q16K King Salmon 30.78 51 P **P 20 22 20.8 +1.3**
baz=273
L18K Granite Mounta 30.78 45 P **P 20 22 20.6 +1.0**
baz=267
J18K Innoko River 30.87 42 P **P 20 22 21.1 +0.8**
baz=265,SNR=6.6
P17K Kvichak River 30.87 50 P **P 20 22 21.0 +0.7**
baz=272
F19K Shaleruckik Mo 30.94 35 P **P 20 22 21.7 +0.8**
baz=258
GCSA Galena City Sc 30.94 40 P **P 20 22 21.8 +0.9**
baz=262
SONM Songino Array 30.97 287 P **P 20 22 21.2 -0.4**
SONM Songino Array 30.97 287 P **P 20 22 21.7 +0.1**
comp=Z,2.9nm,0.9s,baz=73,slow=7.4,SNR=11
SONM pP **pP 20 22 54.5 +0.6**
comp=Z,2.4nm,0.9s,baz=72,slow=9.7,SNR=4.9
SONM ScP **ScP 20 28 41.9 +0.5**
comp=Z,1.1nm,0.8s,baz=101,slow=4.7,SNR=4.9
comp=Z,2.9nm,0.9s
SONM Songino Array 30.97 287 P **P 20 22 21.2 -0.4**
SONM pmax pmax
comp=Z,10.0nm,1.1s
G19K Purcell Mounta 31.08 37 IAmb IAmb 20 22 24.0
comp=Z,18nm,0.9s
G19K Purcell Mounta 31.08 37 P **P 20 22 22.9 +0.8**
baz=260,SNR=10
N18K Kilae Creek 31.12 48 P **P 20 22 23.2 +0.7**
baz=270
TTA Tatalina 31.14 43 **P 20 22 23.5 +0.7**
TTA IAmb IAmb 20 22 24.6
comp=Z,11nm,0.6s
TTA Tatalina 31.14 43 P **P 20 22 23.5 +0.7**
TTA pmax pmax
comp=Z,11nm,0.6s
TTA Tatalina 31.14 43 P **P 20 22 23.3 +0.5**
baz=266,SNR=8.0
M18K Stony River 31.16 46 P **P 20 22 23.8 +0.9**
baz=269
D19K Kuna River 31.21 32 P **P 20 22 23.9 +0.6**
baz=255
H19K Roundabout Mou 31.23 38 P **P 20 22 24.7 +1.3**
baz=262
E19K Redstone River 31.28 34 P **P 20 22 24.8 +0.9**
baz=258
J19K Poorman 31.40 41 P **P 20 22 25.5 +0.6**
baz=265,SNR=7.8
O18K Koktuh Hills 31.47 49 P **P 20 22 26.9 +1.3**
baz=272
P18K Big Mountain, 31.48 50 P **P 20 22 26.9 +1.1**
baz=273
BTO Baotou 31.51 272 *e*P P 20 22 31.4 +5.1
BTO pP pwP 20 23 03.9 +0.9
BTO sP sP 20 23 19.4 +3.1
BTO PP **PP 20 23 45.2 +4.7**
BTO S S 20 27 34.8 +12
BTO pmax pmax
comp=Z,7.0nm,0.6s
BTO pmax pmax
comp=Z,200nm,5.7s
BTO LR LR
comp=N,360nm,5.6s
BTO LR LR
comp=E,400nm,5.4s
BTO LR LR
comp=Z,300nm,4.9s
CHIR Chirikof Islan 31.61 57 P **P 20 22 27.4 +0.6**
baz=278
Q18K Katmai Hardscr 31.64 51 P **P 20 22 27.7 +0.5**
baz=274
L19K White Mountain 31.64 45 P **P 20 22 27.6 +0.5**
baz=269
H11S1 WAKE ISLAND Hy 31.69 155 T T 20 56 02.7
baz=343,slow=76,SNR=158
H11S3 WAKE ISLAND Hy 31.70 155 T T 20 56 05.0
baz=343,slow=76,SNR=270
H11S2 WAKE ISLAND Hy 31.71 155 T T 20 56 03.7
baz=343,slow=76,SNR=108
F20K Avaraart Lake 31.77 35 P **P 20 22 28.7 +0.5**
baz=260,SNR=8.4
D20K Etivluk River 31.80 32 P **P 20 22 29.0 +0.6**
baz=256
N19K Bonanza Creek 31.81 47 P **P 20 22 29.8 +1.2**
baz=271
E20K Nigu River 31.84 33 P **P 20 22 29.6 +0.7**
baz=258
M19K Big River Lodg 31.85 45 P **P 20 22 29.4 +0.5**
baz=270
H20K Anotleneega Mo 31.88 38 P **P 20 22 30.0 +0.8**
baz=263,SNR=15
B20K Meade River 31.95 30 P **P 20 22 30.1 +0.4**
baz=254
R18K Karluk 32.03 53 P **P 20 22 30.2 -0.2**
baz=276
K20K Telida 32.05 42 P **P 20 22 32.3 +1.7**
baz=268
J20K Nowinta River 32.06 41 IAmb IAmb 20 22 33.1
comp=Z,20nm,0.9s
J20K Nowinta River 32.06 41 P **P 20 22 31.3 +0.6**
baz=266,SNR=8.7
L20K Farewell, AK 32.10 44 P **P 20 22 31.8 +0.6**
baz=269
ZAK Zakamensk 32.16 293 *e*P **P 20 22 31.7 -0.2**
ZAK *e* 20 23 09.2
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
SII Sitkinak Islan 32.30 55 P **P 20 22 33.6 +0.7**
baz=278
Q19K Cape Douglas, 32.32 51 P **P 20 22 33.0 -0.1**
baz=275
M20K Styx River 32.45 45 P **P 20 22 34.8 +0.6**
baz=271
A21K Barrow 32.52 27 P **P 20 22 35.5 +0.9**
baz=252
C21K Knifeblade Rid 32.54 32 P **P 20 22 35.6 +0.7**
baz=258
G21K Allakaket 32.56 37 P **P 20 22 35.5 +0.4**
baz=263
F21K Alatna River 32.67 35 P **P 20 22 37.2 +1.2**
baz=262,SNR=16
E21K Killik River 32.69 33 P **P 20 22 36.5 +0.3**
baz=260
OHAK Old Harbor 32.70 54 P **P 20 22 37.5 +1.2**
baz=278
B21K Ikpikpuk River 32.71 31 P **P 20 22 37.1 +0.9**
baz=257,SNR=96
H21K Melozitna Rive 32.75 38 P **P 20 22 37.6 +0.8**
baz=265,SNR=19
O20K Slope Mountain 32.76 49 P **P 20 22 38.1 +1.2**
baz=274
CHUM Lake Minchumin 32.85 42 P **P 20 22 39.0 +1.5**
baz=268,SNR=5.8
PPLA Purkeypile 32.89 43 IAmb IAmb 20 23 12.2
comp=Z,60nm,1.7s
PPLA Purkeypile 32.89 43 P **P 20 22 39.1 +0.9**
baz=270
N20K Mount Spurr 32.91 46 P **P 20 22 39.2 +1.0**
baz=272
SPCR Spurr Chakacha 32.91 46 P **P 20 22 39.4 +1.2**
baz=272
A22K Sinclair Lake 32.93 28 P **P 20 22 38.7 +0.5**
baz=255
CAST Castle Rocks 32.94 42 P **P 20 22 39.6 +1.2**

CAST IAmb IAmb 20 22 41.1
comp=Z,13nm,0.8s
CAST Castle Rocks 32.94 42 P P 20 22 39.4 +1.0
baz=269,SNR=12
SPU Mount Spurr 32.98 47 P P 20 22 40.5 +1.7
KDAK Kodiak Island 33.00 53 P P 20 22 39.8 +0.8
baz=278
KDAK Kodiak Island 33.00 53 P P 20 22 39.3 +0.3
KDAK PcP PcP 20 25 21.1 +2.3
Q20K Shuyak Island 33.00 51 P P 20 22 39.6 +0.6
baz=276
STLK Strandline Lak 33.08 46 IAmb IAmb 20 22 42.4
comp=Z,13nm,0.7s
SKT Skwentna 33.20 45 P P 20 22 41.7 +1.0
baz=272
MOY Mondy 33.20 296 *e*P **P 20 22 41.0 0.0**
F22K John River 33.21 35 P **P 20 22 41.5 +0.8**
baz=263
D22K Ayikyak River 33.23 32 IAmb IAmb 20 22 43.5
comp=Z,28nm,1.2s
D22K Ayikyak River 33.23 32 P P 20 22 41.9 +1.0
baz=260
B22K Teshekpuk Lake 33.27 30 P P 20 22 41.8 +0.7
baz=257
HOM Homer 33.29 49 P P 20 22 41.9 +0.5
baz=275
H22K Ishtalitna Cre 33.36 38 P P 20 22 42.8 +0.8
baz=266
E22K Anaktuvuk Pass 33.43 34 IAmb IAmb 20 22 45.0
comp=Z,37nm,1.0s
E22K Anaktuvuk Pass 33.43 34 P P 20 22 43.1 +0.4
baz=262,SNR=28
BPAW Bear Paw Mtn. 33.44 41 IAmb IAmb 20 22 45.2
comp=Z,18nm,0.8s
BPAW Bear Paw Mtn. 33.44 41 P P 20 22 43.6 +0.8
baz=269,SNR=11
CAPN Captain Cook N 33.44 47 P P 20 22 42.6 -0.1
baz=274
SUA Susitna One 33.60 46 P P 20 22 44.6 +0.3
baz=273
BRSE Bradley Lake S 33.73 49 P P 20 22 45.5 +0.2
baz=276
TRF Thorofare Moun 33.75 42 IAmb IAmb 20 22 47.8
comp=Z,18nm,0.7s
TRF Thorofare Moun 33.75 42 P P 20 22 46.1 +0.5
baz=271,SNR=11
COLD Coldfoot 33.94 36 IAmb IAmb 20 22 49.2
comp=Z,23nm,0.7s
COLD Coldfoot 33.94 36 P P 20 22 48.5 +1.5
baz=265,SNR=27
D23K Nanushuk River 33.96 32 P P 20 22 48.0 +0.9
baz=262,SNR=16
G23K Bananza Creek 33.97 36 IAmb IAmb 20 22 49.5
comp=Z,20nm,0.8s
G23K Bananza Creek 33.97 36 P P 20 22 48.1 +0.8
baz=266,SNR=21
H23K Yukon River 34.11 38 P P 20 22 49.7 +1.2
baz=268
RC01 Rabbit Creek A 34.11 47 IAmb IAmb 20 22 50.6
comp=Z,16nm,1.0s
RC01 Rabbit Creek A 34.11 47 P P 20 22 49.8 +1.2
baz=275
C23K Itkillik River 34.12 31 P P 20 22 49.5 +1.0
baz=261,SNR=28
I23K Minto, Yukon-K 34.16 39 IAmb IAmb 20 22 51.5
comp=Z,14nm,0.8s
I23K Minto, Yukon-K 34.16 39 P P 20 22 50.1 +1.2
baz=269,SNR=14
O22K Cooper Landing 34.17 48 P P 20 22 49.5 +0.5
baz=276
E23K Chandalar 34.24 34 P P 20 22 50.8 +1.2
baz=264,SNR=30
NEA2 Nenana 34.28 40 P P 20 22 50.9 +0.9
baz=270,SNR=34
TOLK Toolik Lake Re 34.32 33 P P 20 22 51.1 +0.8
baz=264,SNR=16
SEW Seward 34.34 48 P P 20 22 51.6 +1.1
baz=276
MCK McKinley 34.35 42 IAmb IAmb 20 22 52.6
comp=Z,26nm,0.9s
MCK McKinley 34.35 42 P P 20 22 51.7 +1.2
baz=272,SNR=14
PMR Palmer 34.36 46 P P 20 22 52.0 +1.4
baz=274
RND Reindeer 34.40 42 IAmb IAmb 20 22 52.7
comp=Z,27nm,0.8s
GHO Glory Hole Cre 34.45 45 IAmb IAmb 20 23 01.4
comp=Z,24nm,1.4s
D24K Happy Valley 34.65 32 P P 20 22 54.0 +1.0
baz=264
E24K Your Creek 34.66 34 P P 20 22 54.3 +1.1
baz=266,SNR=34
KNK Knik Glacier 34.70 46 IAmb IAmb 20 22 55.5
comp=Z,26nm,0.8s
KNK Knik Glacier 34.70 46 P P 20 22 54.9 +1.3
baz=275,SNR=6.8
WRH Wood River Hil 34.71 41 IAmb IAmb 20 23 00.7
comp=Z,24nm,0.8s
SML Sawmill 34.73 45 P P 20 22 55.1 +1.2
baz=275,SNR=23
C24K Franklin Bluff 34.76 31 P P 20 22 54.8 +0.9
baz=263
H24K Noodor Dome 34.79 38 IAmb IAmb 20 22 57.2
comp=Z,20nm,0.8s
H24K Noodor Dome 34.79 38 P P 20 22 56.0 +1.6
baz=269
COLA College 34.80 40 P **P 20 22 55.3 +0.9**
COLA College 34.80 40*c i*P **P 20 22 55.9 +1.5**
COLA pmax pmax
comp=Z,77nm,0.7s
COLA College 34.80 40 P P 20 22 55.7 +1.3
baz=271
COLA College 34.80 40 P P 20 22 56.0 +1.5
PWL Port Wells 34.81 47 P **P 20 22 55.5 +0.9**
baz=276
CCB Clear Creek Bu 34.83 40 IAmb IAmb 20 22 57.3
comp=Z,20nm,0.6s
F24K Squaw Lake 34.85 35 IAmb IAmb 20 22 57.0
comp=Z,13nm,0.6s
F24K Squaw Lake 34.85 35 P P 20 22 55.9 +1.0
baz=267,SNR=24
G24K Hadweenzic Riv 34.98 37 P P 20 22 57.4 +1.5
baz=269,SNR=38
POKR Poker Plat Res 34.98 39 P P 20 22 57.9 +1.9
baz=271,SNR=27
M23K Glacier View 35.01 45 P P 20 22 57.7 +1.4
baz=275
SCM Sheep Creek Mo 35.20 45 P P 20 22 59.4 +1.4
baz=276,SNR=8.2
HDA Harding Lake 35.20 41 P P 20 22 58.4 +0.6
baz=272,SNR=30
IL31 35.22 40 IAmb IAmb 20 23 01.0
comp=Z,16nm,0.7s
ILAR Eielson Array 35.22 40 P P 20 22 58.3 +0.3
ILAR Eielson Array 35.22 40 P P 20 22 58.8 +0.8
comp=Z,12nm,0.8s,baz=261,slow=5.7,SNR=106
comp=Z,12nm,0.8s
ILAR Eielson Array 35.22 40 P P 20 22 58.3 +0.3
P23K Montague Islan 35.38 48 P P 20 22 59.8 +0.4
baz=278
GLI Glacier Island 35.41 47 P P 20 23 00.1 +0.4
baz=277
G25K Bearman Lake 35.52 36 P P 20 23 02.0 +1.4
baz=270,SNR=12
D25K Kavik River 35.53 32 P P 20 23 01.7 +1.0
baz=266
H25L Birch Creek 35.64 37 P P 20 23 02.8 +1.3
baz=271,SNR=14
M24K Tolsona, Glenn 35.71 45 P P 20 23 03.4 +1.1
baz=276
F25K Christian Rive 35.72 35 IAmb IAmb 20 23 05.2
comp=Z,51nm,1.8s
F25K Christian Rive 35.72 35 P P 20 23 03.8 +1.5
baz=269,SNR=15
K24K Donnelly Dome 35.75 42 P P 20 23 03.6 +1.0
baz=274,SNR=18
E25K Arctic Village 35.76 34 IAmb IAmb 20 23 05.5
comp=Z,17nm,0.8s
E25K Arctic Village 35.76 34 P P 20 23 03.8 +1.2
baz=268,SNR=21
PRP Porcupine Dome 35.77 39 P P 20 23 03.3 +0.4
baz=272,SNR=57
J25K Salcha River, 35.88 40 IAmb IAmb 20 23 05.2
comp=Z,20nm,0.7s
J25K Salcha River, 35.88 40 P P 20 23 03.8 +0.1
baz=273,SNR=25
KLU Klutina 35.90 46 IAmb IAmb 20 23 10.1
comp=Z,11nm,0.8s
KLU Klutina 35.90 46 P P 20 23 06.2 +2.2
baz=277,SNR=5.6
PAX Paxson 35.95 43 P P 20 23 06.2 +1.8
baz=276
DIV Divide 36.02 46 IAmb IAmb 20 23 07.0
comp=Z,14nm,0.7s
C26K Camden Bay 36.09 31 P P 20 23 07.0 +1.8
baz=266,SNR=34
EYAK Cordova Ski Ar 36.11 47 P P 20 23 07.3 +1.7
baz=279
BMAR Burnt Mountain 36.12 35 P P 20 23 07.5 +1.7
HARP HAARP 36.16 44 P P 20 23 07.4 +1.3
baz=277,SNR=5.6
RIDG Independent Ri 36.16 42 IAmb IAmb 20 23 08.1
comp=Z,35nm,1.0s
RIDG Independent Ri 36.16 42 P P 20 23 06.9 +0.7
baz=275,SNR=13
F26K Sheenjek River 36.29 35 P P 20 23 08.9 +1.7
baz=270
G26K Porcupine Rive 36.44 36 P P 20 23 10.3 +1.9
baz=272,SNR=36
C27K Jago River 36.49 32 P P 20 23 10.2 +1.5
baz=268,SNR=53
N25K Chitina, Valde 36.52 45 P P 20 23 10.4 +1.3
baz=278
DOT Dot Lake 36.52 42 IAmb IAmb 20 23 11.1
comp=Z,16nm,0.7s
SCRK Sand Creek 36.52 41 IAmb IAmb 20 23 10.7
comp=Z,31nm,1.3s
SCRK Sand Creek 36.52 41 P P 20 23 09.8 +0.5
baz=275,SNR=21
BMRM Bremner River 36.60 46 IAmb IAmb 20 23 21.8
comp=Z,12nm,0.9s
BMRM Bremner River 36.60 46 P P 20 23 11.3 +1.4
baz=279
J26L Joseph Creek 36.66 40 IAmb IAmb 20 23 13.8
comp=Z,9,7nm,0.8s
J26L Joseph Creek 36.66 40 P P 20 23 10.9 +0.5
baz=275,SNR=16
MENT Mentasta 36.75 43 IAmb IAmb 20 23 17.0
comp=Z,17nm,1.0s
I26K Coal Creek Min 36.77 39 P P 20 23 11.8 +0.6
baz=274
KAIM Kayak Island 36.87 48 P P 20 23 13.9 +1.8
baz=280
L26K Log Cabin Wild 36.91 43 P P 20 23 13.7 +1.3
baz=277,SNR=8.9
VRDI Verde Repeater 37.12 46 IAmb IAmb 20 23 17.4
comp=Z,26nm,1.6s
M26K Nabesna, AK 37.15 44 P P 20 23 16.5 +1.9
baz=278,SNR=20
E27K Coleen River 37.24 34 IAmb IAmb 20 23 18.0
comp=Z,17nm,0.8s
E27K Coleen River 37.24 34 P P 20 23 17.0 +1.8
baz=272,SNR=21
G27K Doyon Strip 37.28 36 P P 20 23 17.3 +1.7
baz=274,SNR=16
K27K Chicken 37.36 41 P P 20 23 17.4 +1.3
baz=277
H27K Steamboat Moun 37.38 37 P P 20 23 18.0 +1.7
baz=275,SNR=28
I27K Kandik River 37.39 38 P P 20 23 17.2 +0.8
baz=275,SNR=6.9
D27M Malcolm River 37.45 32 IAmb IAmb 20 23 19.6
comp=Z,24nm,0.8s
D27M Malcolm River 37.45 32 P P 20 23 18.8 +1.8
baz=271
L27K Beaver Creek, 37.59 43 P P 20 23 20.0 +1.8
baz=278,SNR=53
BCAR Beaver Creek A 37.61 43 P P 20 23 19.9 +1.6
M27K Edge Creek, AK 37.67 44 P P 20 23 20.5 +1.5
baz=279
E28M Babbage River 37.99 33 IAmb IAmb 20 23 25.8
comp=Z,9.8nm,0.7s
E28M Babbage River 37.99 33 P P 20 23 23.1 +1.7
baz=273
MESA MESA 38.04 47 P P 20 23 23.5 +1.4
baz=282
I28M Miner Creek 38.10 38 P P 20 23 23.8 +1.3
baz=277
D28M Stokes Point 38.24 32 P P 20 23 25.2 +1.7
baz=273
DAWY Dawson 38.52 41 IAmb IAmb 20 23 30.4
comp=Z,16nm,1.2s
DAWY Dawson 38.52 41 P P 20 23 27.6 +1.6
baz=279,SNR=9.1
E29M Blow River 38.61 34 IAmb IAmb 20 23 29.7
comp=Z,28nm,0.9s
E29M Blow River 38.61 34 P P 20 23 27.9 +1.4
baz=275
H29M Whitestone 38.65 37 P P 20 23 28.6 +1.6
baz=277,SNR=14
G29M Pine Creek 38.70 36 P P 20 23 29.1 +1.7
baz=277,SNR=21
O28M Mount Upton 38.76 46 P P 20 23 29.3 +1.0
baz=283
I29M Ogilvie Camp, 38.79 38 IAmb IAmb 20 23 31.1
comp=Z,32nm,0.8s
I29M Ogilvie Camp, 38.79 38 P P 20 23 29.4 +1.3
baz=278,SNR=19
GTA Gaotai 38.89 277 P P 20 23 30.0 +0.6
GTA sP pwP 20 24 07.6 +0.5
GTA pmax pmax
comp=Z,7.0nm,0.8s
M29M Somme Creek 39.23 43 P P 20 23 33.4 +1.5
baz=282,SNR=9.4
L29M L29M 39.24 42 P P 20 23 33.8 +1.9
baz=281,SNR=20
EPYK Eagle Plains 39.29 37 IAmb IAmb 20 23 35.1
comp=Z,35nm,1.1s
EPYK Eagle Plains 39.29 37 P P 20 23 34.2 +2.0
baz=278,SNR=14
YUK4 Talbot Arm 39.37 45 P P 20 23 34.9 +1.7
baz=283
K29M Barlow Dome 39.37 41 IAmb IAmb 20 23 36.8
comp=Z,12nm,0.8s
K29M Barlow Dome 39.37 41 P P 20 23 34.5 +1.4
baz=281
G30M tAoh Zraii Nji 39.40 36 IAmb IAmb 20 23 35.7
comp=Z,18nm,0.8s
G30M tAoh Zraii Nji 39.40 36 P P 20 23 35.6 +2.4
baz=278
F30M Barrier River 39.48 35 P P 20 23 36.1 +2.3
baz=278,SNR=34
YUK6 Outpost Mounta 39.60 45 P P 20 23 37.1 +1.9
baz=284
I30M Mount Dempster 39.61 38 P P 20 23 36.8 +1.8
baz=280,SNR=60
O29M Mount Kennedy 39.65 46 P P 20 23 37.7 +2.3
baz=284
J30M Hart River 39.75 39 P P 20 23 38.2 +2.0
baz=281,SNR=9.6
M30M Minto, Yukon 39.95 43 P P 20 23 40.1 +2.3
baz=283,SNR=8.0
HYT Haines Junctio 40.03 45 P P 20 23 39.4 +0.8
HYT IAmb IAmb 20 23 42.2
comp=Z,41nm,1.7s
HYT Haines Junctio 40.03 45 P P 20 23 41.3 +2.7
baz=284,SNR=7.2
N30M Aishikik Lake 40.08 44 P P 20 23 41.2 +2.3
baz=284
MAYO Mayo, Yukon 40.13 41 P P 20 23 41.5 +2.3
baz=282
INK Inuvik 40.23 33 P P 20 23 41.1 +1.2
INK IAmb IAmb 20 23 42.5
comp=Z,19nm,0.8s
INK Inuvik 40.23 33 P P 20 23 41.1 +1.2
INK pmax pmax
comp=Z,19nm,0.9s
INK Inuvik 40.23 33 P P 20 23 41.7 +1.8
baz=279,SNR=17
F31M Tsiigehtchic 40.28 35 P P 20 23 41.4 +1.1
F31M IAmb IAmb 20 23 43.0
comp=Z,24nm,0.8s
F31M Tsiigehtchic 40.28 35 P P 20 23 42.2 +1.8
baz=280,SNR=11
H31M Peel River 40.34 37 IAmb IAmb 20 23 43.6
comp=Z,18nm,0.8s
H31M Peel River 40.34 37 P P 20 23 42.5 +1.6
baz=281
P30M Million Dollar 40.48 46 P P 20 23 45.0 +2.8
baz=286
N31M Braeburn, Yuko 40.68 44 IAmb IAmb 20 23 47.4
comp=Z,16nm,0.9s
N31M Braeburn, Yuko 40.68 44 P P 20 23 46.5 +2.8
baz=285,SNR=9.6
O30N Mendenhall 40.72 45 P P 20 23 46.9 +2.7
baz=286,SNR=8.6
M31M Drury Creek, Y 41.13 43 P P 20 23 50.0 +2.5
baz=285,SNR=8.1
WHY Whitehorse 41.32 45 IAmb IAmb 20 23 57.7
comp=Z,15nm,0.7s
WHY Whitehorse 41.32 45 P P 20 23 51.3 +2.1
baz=287,SNR=7.7
SKAG Skagway 41.45 47 P P 20 23 52.5 +2.5
baz=288
S31K Pelican 41.47 49 P P 20 23 52.1 +2.0
baz=289
FARO Faro, Yukon 41.59 43 P P 20 23 53.5 +2.3
baz=286,SNR=5.6
ZAA0 Zalesovo Array 41.81 304 IAmb IAmb 20 23 52.9
comp=Z,15nm,0.7s
ZALV Zalesovo Beam 41.81 304 P P 20 23 51.2 -1.8
ZALV Zalesovo Beam 41.81 304 P P 20 23 52.2 -0.9
comp=Z,14nm,0.5s,baz=61,slow=7.1,SNR=45
ZALV PcP **PcP 20 25 46.8 +0.9**
comp=Z,5.6nm,0.8s,baz=85,slow=4.3,SNR=7.7
ZALV LR LR 20 40 40.6
comp=Z,32nm,19.6s,baz=77,slow=35
comp=Z,14nm,0.5s
GYA Guiyang 42.22 256 ⇓P **P 20 23 57.7 +0.8**
GYA pmax pmax
comp=Z,10.0nm,0.7s
SIT Sitka 42.22 50 P P 20 23 59.0 +2.7
baz=290
R32K Eaglecrest 42.23 48 P P 20 23 58.6 +2.2
baz=289
A36M Sachs Harbour 42.36 27 P P 20 23 59.0 +1.8
baz=282,SNR=36
MMPY Sheldon Lake, 42.42 42 P P 20 24 00.4 +2.5
baz=287,SNR=10
P33M Teslin, Yukon 42.43 45 P P 20 23 59.9 +1.8
P33M Teslin, Yukon 42.43 45 P P 20 24 00.6 +2.4
baz=288,SNR=8.7
Q32M Nakina River 43.10 47 P P 20 24 05.6 +1.9
baz=290
C36M Paulatuk 43.37 31 IAmb IAmb 20 24 07.3
comp=Z,21nm,0.7s
C36M Paulatuk 43.37 31 P P 20 24 06.9 +1.6
baz=286,SNR=27
R33M Jennings River 43.59 46 P P 20 24 09.6 +2.2
baz=291,SNR=7.2
U33K Whale Pass 43.70 51 P P 20 24 10.8 +2.6
baz=292
GOMU GeErMu 43.96 276 P P 20 24 10.3 -0.7
GOMU pmax pmax
comp=Z,14nm,0.7s
S34M Telegraph Cree 44.04 48 P P 20 24 13.3 +2.4
baz=292
TGTN Hyland Airport 44.10 42 P P 20 24 14.0 +2.5
baz=290
DLBC Dease Lake 44.39 47 P P 20 24 14.0 +0.2
DLBC Dease Lake 44.39 47 P P 20 24 16.5 +2.8
baz=292
ZSN Zaisan 44.49 296 *e*P **P 20 24 14.3 -0.4**
ZSN Zaisan 44.49 296 *e*P **P 20 24 14.3 -0.4**
WMQ Urumqi 44.50 290 *e*P **P 20 24 15.3 +0.4**
WMQ sP pwP 20 24 54.4 +1.8
WMQ pmax pmax
comp=Z,16nm,0.7s
T35M Bob Quinn 44.83 49 P P 20 24 19.6 +2.4
baz=293
PZH PanZhiHua 45.41 260 P P 20 24 22.3 0.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,160nm,5.3s
KMI Kunming 45.70 258 ⇑P **P 20 24 25.3 +0.6**
KMI pmax pmax
comp=Z,13nm,1.1s
MK31 Makanchi Array 46.35 296 P P 20 24 28.1 -1.2
MK31 IAmb IAmb 20 24 30.3
comp=Z,16nm,0.8s
MK31 Makanchi Array 46.35 296*c i*P **P 20 24 28.5 -0.8**
MKAR Makanchi Array 46.35 296 P P 20 24 27.9 -1.5
MKAR Makanchi Array 46.35 296 P P 20 24 28.6 -0.8
comp=Z,16nm,0.8s,baz=66,slow=6.9,SNR=119
MKAR pP **pP 20 25 04.8 +1.0**
comp=Z,5.4nm,0.7s,baz=67,slow=9.3,SNR=4.4
MKAR ScP **ScP 20 29 40.9 +1.1**
comp=Z,0.5nm,0.3s,baz=62,slow=3.4,SNR=7.5
comp=Z,16nm,0.8s
TOAD Toad River Com 46.52 45 P P 20 24 33.1 +2.6
baz=295,SNR=7.4
MAKZ Makanchi 46.53 296 P P 20 24 30.0 -0.7
MAKZ Makanchi 46.53 296 P P 20 24 30.0 -0.7
MAKZ pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 46.53 296 P P 20 24 29.8 -0.9
MAKZ pP **pwP 20 25 08.5 0.0**
KURK Kurchatov 46.62 302 P **P 20 24 30.3 -1.0**
KURK Kurchatov 46.62 302*c i*P **P 20 24 30.4 -0.8**
KURK pmax pmax
comp=Z,81nm,0.8s
KURK Kurchatov 46.62 302 *i* P **P 20 24 30.4 -0.8**
KURK Kurchatov 46.62 302 P P 20 24 30.7 -0.5
KURK pP **pwP 20 25 09.5 +0.6**
KURK PcP **PcP 20 26 04.3 +1.8**
KURBB Kurchatov Arra 46.71 302 P P 20 24 31.4 -0.6
comp=Z,65nm,0.7s,baz=66,slow=8.5,SNR=229
KURBB pP **pP 20 25 07.0 +0.5**
comp=Z,14nm,0.7s,baz=67,slow=7.7,SNR=3.4
comp=Z,65nm,0.7s
TNCH TengChong 48.53 262 P P 20 24 47.7 +1.1
TNCH pP pP 20 25 17.4 -3.7
TNCH pmax pmax
comp=Z,13nm,0.9s
RES Resolute Bay 49.27 19 P P 20 24 51.9 +0.6
RES Resolute Bay 49.27 19 P P 20 24 51.9 +0.6
RES pmax pmax
comp=Z,31nm,0.8s
YKA Yellowknife Ar 49.56 38 P P 20 24 55.1 +1.5
comp=Z,17nm,0.8s,baz=298,slow=7.3,SNR=117
comp=Z,17nm,0.8s
YKA Yellowknife Ar 49.56 38 *i* P **P 20 24 55.0 +1.4**
YKA pmax pmax
comp=Z,15nm,0.8s
TDK Taldyqorghan 49.60 296 *e*P **P 20 24 53.8 -0.5**
TDK pmax pmax
comp=Z,35nm,0.7s
TDK Taldyqorghan 49.60 296 *e*P **P 20 24 53.8 -0.5**
comp=Z,35nm,0.7s
SHLS Shalkode 49.96 293 *e*P **P 20 24 54.4 -2.7**
SHLS Shalkode 49.96 293 *e*P **P 20 24 54.4 -2.7**
BVAR Borovoye Array 49.97 308 P **P 20 24 56.3 -0.6**
comp=Z,50nm,0.5s,baz=57,slow=8.1,SNR=282
BVAR pP **pP 20 25 32.5 +0.7**
comp=Z,13nm,0.5s,baz=58,slow=7.5,SNR=4.1
BVAR PcP **PcP 20 26 15.6 +1.0**
comp=Z,7.0nm,0.8s,baz=77,slow=2.0,SNR=5.2
BVAR ScP **ScP 20 29 57.5 +2.5**
comp=Z,1.2nm,0.8s,baz=75,slow=6.1,SNR=3.7
BVAR LR LR 20 46 05.6
comp=Z,36nm,18.9s,baz=47,slow=36
comp=Z,50nm,0.5s
BRVK Borovoye 50.01 309 P **P 20 24 56.4 -0.7**
BRVK Borovoye 50.01 309*c i*P **P 20 24 56.6 -0.6**
BRVK pmax pmax
comp=Z,48nm,0.6s
BRVK Borovoye 50.01 309 *i* P **P 20 24 56.6 -0.6**
BRVK Borovoye 50.01 309 P P 20 24 56.5 -0.7
BRVK pP **pwP 20 25 36.4 +1.0**
BRVK PcP **PcP 20 26 15.1 +0.5**
NOR Nord 50.19 358 *e*P **P 20 24 57.1 -1.1**
UZB Uzynbulak 50.23 294 *e*P **P 20 24 58.5 -0.7**
UZB Uzynbulak 50.23 294 *e*P **P 20 24 58.5 -0.7**
KPKS Kokpek 50.26 294 *e*P **P 20 24 58.8 -0.5**
KPKS Kokpek 50.26 294 *e*P **P 20 24 58.9 -0.5**
BRZS Berezniki 50.29 304 *e*P **P 20 24 58.5 -0.8**
BRZS pmax pmax
comp=Z,11nm,0.7s
BRZS Berezniki 50.29 304 *e*P **P 20 24 58.6 -0.8**
comp=Z,11nm,0.7s
LSA Lhasa 50.35 272 *i* P **P 20 25 02.0 +1.4**
SNR=6.9
LSA Lhasa 50.35 272 P P 20 25 01.8 +1.2
LSA pP **pwP 20 25 40.9 +1.0**
ZHN Zhinishke 50.58 294 *e*P **P 20 25 01.2 -0.5**
ZHN Zhinishke 50.58 294 *e*P **P 20 25 01.3 -0.5**
SATY Saty 50.66 294 *e*P **P 20 25 01.7 -0.6**
SATY Saty 50.66 294 *e*P **P 20 25 01.8 -0.6**
KBS Kingsbay 50.94 351 P **P 20 25 02.6 -1.2**
KBS IAmb IAmb 20 25 03.9
comp=Z,13nm,0.7s

KBS Kingsbay 50.94 351 *eP* **P 20 25 03.2 -0.6**
KBS IAmb IAmb 20 25 05.3
comp=Z,72nm,1.9s
KBS Kingsbay 50.94 351 P **P 20 25 02.6 -1.2**
KBS pmax pmax
comp=Z,13nm,0.7s
KBS Kingsbay 50.94 351 P **P 20 25 02.9 -0.9**
KBS pP **pwP 20 25 42.0 -0.4**
SPA0 Spitsbergen Ar 51.07 350 *eP* **P 20 25 03.7 -1.1**
SPA0 IAmb IAmb 20 25 07.3
comp=Z,22nm,1.0s
SPITS Spitsbergen Ar 51.07 350 P **P 20 25 03.7 -1.1**
comp=Z,7.7nm,0.7s,baz=74,slow=11,SNR=25
comp=Z,7.7nm,0.7s
SPITS Spitsbergen Ar 51.07 350 P **P 20 25 04.6 -0.2**
SPITS pmax pmax
comp=Z,38nm,1.4s
HOPEN Hopen 51.17 346 *eP* **P 20 25 04.1 -1.4**
HOPEN IAmb IAmb 20 25 05.4
comp=Z,95nm,1.5s
WUS Wushi 51.20 291 IAmb IAmb 20 25 08.1
comp=Z,16nm,0.9s
AAA Alma-Ata 51.48 295 *eP* **P 20 25 07.8 -0.6**
AAA Alma-Ata 51.48 295 *eP* **P 20 25 07.9 -0.5**
AAA Alma-Ata 51.48 295 *eP* **P 20 25 07.8 -0.6**
TNSS Tian-Shan 51.56 295 *eP* **P 20 25 08.4 -1.0**
TNSS Tian-Shan 51.56 295 *eP* **P 20 25 08.5 -1.0**
KDJ Kajisay 51.93 293 IAmb IAmb 20 25 13.4
comp=Z,10nm,0.9s
BTLS Baital 52.17 298 *eP* **P 20 25 12.5 -0.9**
BTLS Baital 52.17 298 *eP* **P 20 25 12.6 -0.9**
TKM2 Tokmak 2 52.44 295 P **P 20 25 16.0 +0.3**
SNR=5.9
SHL Shillong 52.57 267 P **P 20 25 16.9 +0.1**
SHL Shillong 52.57 267 P **P 20 25 16.9 +0.1**
SHL pmax pmax
comp=Z,20nm,0.6s
CHTO Chiang Mai 52.64 256 P **P 20 25 18.3 +1.1**
CHTO **pwP 20 25 56.6 -0.1**
CHTO Chiang Mai 52.64 256 P **P 20 25 18.3 +1.1**
CHTO *SP **pwP 20 25 56.6 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
SVE Sverdlovsk 52.77 316 *eP* **P 20 25 17.2 -0.4**
SVE pmax pmax
comp=Z,22nm,1.1s
SVE Sverdlovsk 52.77 316 *eP* **P 20 25 17.2 -0.4**
USP Ospenovka 52.90 296 P **P 20 25 19.0 +0.1**
SNR=16
CMAR Chiang Mai Arr 52.90 255 P **P 20 25 20.2 +1.1**
comp=Z,1.7nm,0.6s,baz=37,slow=7.1,SNR=16
CMAR pP **pP 20 25 54.8 +0.6**
comp=Z,1.8nm,0.9s,baz=37,slow=7.1,SNR=1.8
comp=Z,1.7nm,0.6s
CMAR Chiang Mai Arr 52.90 255 *i* P **P 20 25 20.8 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
KBK Karagaybulak 52.98 295 P **P 20 25 19.7 0.0**
SNR=5.5
AAK Ala-Archa 53.27 295 P **P 20 25 21.1 -0.7**
AAK Ala-Archa 53.27 295 LR LR 20 49 09.6
comp=Z,56nm,19.1s,baz=54,slow=37
AAK Ala-Archa 53.27 295 P **P 20 25 21.6 -0.1**
SNR=14
AAK Ala-Archa 53.27 295*c* *i* P **P 20 25 21.3 -0.4**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 53.27 295 P **P 20 25 21.3 -0.4**
AAK Ala-Archa 53.27 295 *i* P **P 20 25 21.3 -0.4**
AAK Ala-Archa 53.27 295 P **P 20 25 21.6 -0.1**
AAK pP **pwP 20 26 01.2 +0.3**
AAK PcP **PcP 20 26 27.8 +0.5**
NEEM North Greenlan 53.56 6 *eP* **P 20 25 23.0 -0.5**
EKS2 Erkin-Say 53.68 296 P **P 20 25 24.7 0.0**
SNR=12
BJO1 Bjornoya 53.69 346 *eP* **P 20 25 22.7 -1.4**
AML Almayashu 54.04 295 P **P 20 25 28.0 +0.3**
SNR=5.2
ARTI Arti 54.05 317 P **P 20 25 25.5 -1.4**
ARTI **pwP 20 26 06.8 +0.6**
ARTI Arti 54.05 317 P **P 20 25 25.9 -1.0**
comp=Z,13nm,0.5s,baz=47,slow=4.0,SNR=34
ARTI pP **pP 20 26 03.4 +1.1**
comp=Z,11nm,0.6s,baz=62,slow=3.1,SNR=6.0
ARTI PcP **PcP 20 26 29.9 +0.2**
comp=Z,9.1nm,0.8s,baz=68,slow=5.0,SNR=5.9
ARTI LR LR 20 48 49.3
comp=Z,35nm,18.8s,baz=52,slow=36
comp=Z,13nm,0.5s
ARTI Arti 54.05 317*c* *i* P **P 20 25 25.8 -1.1**
ARTI *PP **pwP 20 26 05.9 -0.2**
ARTI 20 26 28.7
ARTI 20 27 30.8
ARTI S **S 20 32 48.4 -2.0**
ARTI SS **SS 20 36 28.3 -5.0**
ARTI pmax pmax
comp=Z,45nm,1.4s
ARTI Arti 54.05 317 P **P 20 25 26.0 -1.0**
ARTI pP **pwP 20 26 06.5 +0.4**
ARTI PcP **PcP 20 26 30.1 +0.3**
KSH Kashi 54.19 291 P **P 20 25 32.6 +4.2**
KSH pmax pmax
comp=Z,6.0nm,0.9s
ARSB Arslanbob 54.95 295 IAmb IAmb 20 25 36.4
comp=Z,7.7nm,0.6s
DZA Taraz 55.01 297 *eP* **P 20 25 33.5 -0.6**
DZA Taraz 55.01 297 *eP* **P 20 25 33.6 -0.6**
DAG Danmarks Havn 55.05 358 *i* P **P 20 25 33.0 -0.9**
KKAR Karatay Array 55.37 298 P **P 20 25 35.5 -1.2**
KKAR **pwP 20 26 16.5 +0.2**
KKAR Karatay Array 55.37 298 IAmb IAmb 20 25 37.9
comp=Z,3.5nm,0.8s
KKAR Karatay Array 55.37 298 P **P 20 25 35.5 -1.2**
KKAR *SP **pwP 20 26 16.5 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KULLO Kullorsuaq 55.66 9 *eP* **P 20 25 37.3 -1.0**
KULLO IAmb IAmb 20 25 39.0
comp=Z,44nm,0.7s
BRLS Borolday 55.81 298 *eP* **P 20 25 40.6 +0.8**
BRLS Borolday 55.81 298 *eP* **P 20 25 40.6 +0.8**
APA Apatity 55.93 336⇓*iP* **P 20 25 37.9 -2.4**
APA pmax pmax
comp=Z,13nm,0.8s
IUG Iuzhnay 56.22 297 *eP* **P 20 25 42.3 -0.6**
IUG pmax pmax
comp=Z,10.0nm,0.6s
IUG Iuzhnay 56.22 297 *eP* **P 20 25 42.3 -0.6**
comp=Z,10nm,0.6s
ARA0 ARCESS Array S 56.39 341 *eP* **P 20 25 42.4 -1.2**
ARCES ARCESS Array B 56.39 341 P **P 20 25 42.6 -1.0**
comp=Z,7.0nm,0.6s,baz=30,slow=7.4,SNR=21
comp=Z,7.0nm,0.6s
KIRV Kirov 56.59 322 P **P 20 25 44.4 -0.7**
comp=Z,8.9nm,0.5s,baz=47,slow=5.5,SNR=10
comp=Z,8.9nm,0.5s
KIRV Kirov 56.59 322*c* *i* P **P 20 25 44.0 -1.1**
PINE Pine Mountain 56.65 60 IAmb IAmb 20 25 49.9
comp=Z,7.5nm,0.7s
BTK Batken 57.02 295 IAmb IAmb 20 25 50.1
comp=Z,14nm,0.7s
KTK1 Kautokeino 57.31 341 *eP* **P 20 25 49.4 -0.6**
KTK1 IAmb IAmb 20 25 49.8
comp=Z,12nm,0.7s
UPNV Upernavik 57.44 10 *i* P **P 20 25 49.0 -1.8**
UPNV IAmb IAmb 20 25 51.4
comp=Z,53nm,0.9s
JETT Jettan, Norway 57.46 342 *eP* **P 20 25 50.3 -0.8**
ABKAR Abkulak array 57.52 309 P **P 20 25 49.9 -1.9**
ABKAR Abkulak array 57.52 309 IAmb IAmb 20 25 52.2
comp=Z,26nm,0.7s
TRO Tromso 57.70 343 *eP* **P 20 25 51.8 -0.9**
TRO IAmb IAmb 20 25 52.2
comp=Z,85nm,1.5s
AKTO Aktyubinsk 57.78 311 P **P 20 25 52.8 -0.7**
comp=Z,7.3nm,0.5s,baz=54,slow=7.3,SNR=25
AKTO pP **pP 20 26 30.6 +1.3**
comp=Z,2.7nm,0.6s,baz=51,slow=2.7,SNR=1.4
AKTO LR LR 20 52 01.8
comp=Z,36nm,20.2s,baz=262,slow=37
comp=Z,7.3nm,0.5s
PLID Pearl Lake 58.65 56 IAmb IAmb 20 26 03.0
comp=Z,11nm,0.7s
KLMR Klimovskoe 58.82 328 *eP* **P 20 25 57.8 -2.8**
KLMR pmax pmax
comp=Z,34nm,1.8s
SIMJ Simiganj 58.99 295 P **P 20 26 01.8 -0.5**
SIMJ Simiganj 58.99 295 P **P 20 26 01.9 -0.5**
SIMJ pP **pwP 20 26 42.4 +0.1**
SIMJ PcP **PcP 20 26 49.7 +0.1**
SUMG Summit 59.09 4 *i* P **P 20 26 03.0 +0.2**
SUMG IAmb IAmb 20 26 04.7
comp=Z,61nm,1.1s
FFC Flin Flon 59.42 41 P **P 20 26 06.1 +1.2**
FFC IAmb IAmb 20 26 07.4
comp=Z,15nm,0.8s
FFC Flin Flon 59.42 41 P **P 20 26 06.1 +1.2**
FFC pmax pmax
comp=Z,15nm,0.8s
FFC Flin Flon 59.42 41 P **P 20 26 06.3 +1.4**
NIL Nilore 59.55 288 P **P 20 26 05.9 -0.2**
NIL **pwP 20 26 46.3 +0.1**
NIL Nilore 59.55 288 P **P 20 26 06.5 +0.4**
NIL pP **pwP 20 26 46.0 -0.2**
STEI Steigen 59.86 343 *eP* **P 20 26 06.6 -1.0**
STEI IAmb IAmb 20 26 09.7
comp=Z,33nm,1.5s
LOF Lofoten 60.01 344 *eP* **P 20 26 07.5 -1.1**
LOF IAmb IAmb 20 26 08.9
comp=Z,35nm,1.1s
FAUS Fauske 60.32 343 *eP* **P 20 26 09.8 -0.9**
FAUS IAmb IAmb 20 26 11.3
comp=Z,15nm,0.6s
PNTR Pine Nut 60.37 63 IAmb IAmb 20 26 15.6
comp=Z,6.0nm,0.7s
SCO Scoresbysund 61.43 358 IAmb IAmb 20 26 19.8
comp=Z,14nm,1.2s
BELG Belogornoye 61.44 318 P **P 20 26 18.0 -0.5**
comp=Z,28nm,0.5s,baz=323,slow=0.7,SNR=34
BELG pP **pwP 20 26 56.8 -1.7**
comp=Z,28nm,1.0s,baz=255,slow=0.9,SNR=4.2
comp=Z,28nm,0.5s
BELG Belogornoye 61.44 318*c* *i* P **P 20 26 17.6 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.6s
KONS Konsvik 61.52 343 *eP* **P 20 26 18.9 +0.1**
MOR8 Moi Rana 61.54 342 *eP* **P 20 26 17.2 -1.8**
MOR8 IAmb IAmb 20 26 17.5
comp=Z,44nm,1.3s
NVAR Mina Array Bea 61.57 63 P **P 20 26 21.9 +1.9**
comp=Z,2.4nm,0.6s,baz=298,slow=7.5,SNR=14
comp=Z,2.4nm,0.6s
KBL Kabul 61.62 291 P **P 20 26 18.9 -1.4**
KBL IAmb IAmb 20 26 21.1
comp=Z,9.6nm,1.1s
KBL **PcP 20 27 00.4 0.0**
KBL Kabul 61.62 291 P **P 20 26 18.9 -1.4**
KBL 20 27 00.4
KBL pmax pmax
comp=Z,10.0nm,1.1s
STOK Stokkvaagen 61.68 343 *eP* **P 20 26 19.3 -0.6**
LEIR Leirfjorden 61.86 343 *eP* **P 20 26 20.5 -0.6**
LEIR IAmb IAmb 20 26 22.0
comp=Z,7.6nm,0.7s
DSP Deep Springs 62.47 64 IAmb IAmb 20 27 53.8
comp=Z,23nm,1.9s
ICESG Greenland Ices 62.49 5 *eP* **P 20 26 26.1 +0.4**
FINES FINESS Array B 62.66 334 P **P 20 26 25.9 -0.6**
comp=Z,14nm,0.6s,baz=33,slow=7.9,SNR=76
comp=Z,14nm,0.6s
FINES FINESS Array B 62.66 334 *i* P **P 20 26 25.8 -0.7**
FINES pmax pmax
comp=Z,15nm,0.6s
NSS Namsos 63.49 342 *eP* **P 20 26 31.1 -0.8**
NSS IAmb IAmb 20 26 32.4
comp=Z,66nm,1.6s
PDAR Pinedale Array 63.69 55 P **P 20 26 34.8 +0.8**
PDAR Pinedale Array 63.69 55 P **P 20 26 35.6 +1.7**
comp=Z,2.2nm,0.7s,baz=289,slow=2.1,SNR=11
comp=Z,2.2nm,0.7s
MTN Manton Dam 64.03 204 P **P 20 26 36.1 +0.1**
MTN IAmb IAmb 20 26 37.7
comp=Z,18nm,1.1s
OBN Obninsk 64.08 325⇑*eP* **P 20 26 33.8 -2.1**
OBN *e*PP **pwP 20 27 14.9 -1.5**
OBN *e* 20 28 56.1
OBN pmax pmax
comp=Z,32nm,2.5s
VRH Novokhopyorsk 64.88 320 *eP* **P 20 26 37.6 -3.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 65.02 322 *eP* **P 20 26 39.2 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
RDMU Red Mountain 65.18 56 IAmb IAmb 20 26 52.6
comp=Z,13nm,0.9s
ULM Lac du Bonnet 65.22 41 P **P 20 26 44.1 +0.7**
comp=Z,5.9nm,0.6s,baz=305,slow=6.2,SNR=15
comp=Z,5.9nm,0.6s
VORR Voronezh 65.60 321 *eP* **P 20 26 42.7 -3.1**
VORR pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael Swe 65.64 58 IAmb IAmb 20 26 54.7
comp=Z,10.0nm,0.9s
VSR Storozhevoye 65.96 321 *eP* **P 20 26 44.8 -3.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
DOMB Dombas 66.31 343 *eP* **P 20 26 49.9 -0.4**
DOMB IAmb IAmb 20 26 50.4
comp=Z,21nm,0.8s
U15A North Rim 66.46 61 IAmb IAmb 20 27 03.4
comp=Z,12nm,0.8s
AKN Aaknes 66.58 344 *eP* **P 20 26 52.5 +0.5**
AKN IAmb IAmb 20 26 54.5
comp=Z,79nm,1.6s
NC405 NORSAR Array S 66.59 341 IAmb IAmb 20 26 53.6
comp=Z,20nm,0.8s
NB2 NORSAR Subarra 66.76 341 P **P 20 26 52.8 -0.4**
comp=Z,7.0nm,0.6s,baz=26,slow=6.5
NB2 NORSAR Subarra 66.76 341 P **P 20 26 52.8 -0.4**
baz=26,slow=6.5
NOA NORSAR Array B 66.76 341 P **P 20 26 52.8 -0.4**
comp=Z,9.3nm,0.6s,baz=26,slow=6.4,SNR=45
comp=Z,9.3nm,0.6s
NC602 NORSAR Array S 66.97 341 *eP* **P 20 26 54.5 +0.1**
PV10 Paradox Valley 66.99 58 IAmb IAmb 20 27 03.7
comp=Z,20nm,0.9s
HFS Hagfors 67.01 339 P **P 20 26 54.4 -0.3**
comp=Z,14nm,0.6s,baz=56,slow=4.9,SNR=63
comp=Z,14nm,0.6s
BORG Borgarnes 67.17 358 P **P 20 26 57.6 +2.1**
BORG Borgarnes 67.17 358 P **P 20 26 57.6 +2.1**
BORG pmax pmax
comp=Z,77nm,1.2s
BORG Borgarnes 67.17 358 P **P 20 26 57.4 +1.8**
PV13 Radium Mtn., P 67.26 58 IAmb IAmb 20 28 42.9
comp=Z,12nm,0.9s
HYA Hoyanger 67.67 343 *eP* **P 20 26 59.4 +0.7**
HYA IAmb IAmb 20 27 00.6
comp=Z,109nm,1.7s
MNK Minsk 67.70 329 *i* P **P 20 26 57.1 -2.0**
MNK *i* *PP **pwP 20 27 39.4 -0.6**
MNK *i* 20 29 29.5
MNK *i* PPP PPP 20 31 08.1
MNK *i* S **S 20 35 40.7 -2.6**
MNK *i* SS **SS 20 40 07.1 +0.7**
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=E,23nm,1.3s
MNK pmax pmax
comp=N,15nm,1.1s
MNK MLR MLR
comp=Z,37nm,15.0s
MNK MLR MLR
comp=E,230nm,17.0s
MNK MLR MLR
comp=N,272nm,18.0s
MVCO Mesa Verde 68.11 58 IAmb IAmb 20 28 23.5
comp=Z,17nm,1.0s
ODD1 Odda 68.74 343 *eP* **P 20 27 06.2 +0.6**
GOF Gofitskoye 68.80 315*c*e*P* **P 20 27 06.3 +0.2**
AKT Akhty 69.10 309 *eP* **P 20 27 07.9 -0.3**
AKT *e* 20 27 31.8
AKT *e*PP **pP 20 27 46.6 +1.4**
AKT *e* 20 29 41.3
AKT pmax pmax
comp=Z,19nm,0.9s
BLS5 Blasjo 69.23 343 *eP* **P 20 27 08.7 +0.2**
BLS5 IAmb IAmb 20 27 09.7
comp=Z,104nm,1.3s
MSVF Nonsavu 69.39 155 LR LR 20 53 48.0
comp=Z,35nm,19.9s,baz=45,slow=32
IVI Ivigtut 69.43 11 P **P 20 27 11.3 +1.6**
KMY Karmoy 69.66 343 *eP* **P 20 27 10.7 -0.4**
SUW Suwalki 69.66 331 *eP* **P 20 27 11.0 -0.2**
ECSD EROS Data Cent 69.67 47 IAmb IAmb 20 27 19.2
comp=Z,22nm,1.6s
NCK Nalchik 69.69 313⇓*iP* **P 20 27 12.4 +0.7**
NCK pmax pmax
comp=Z,23nm,0.9s
KIV Kislovodsk 69.79 314 P **P 20 27 11.7 -0.7**
KIV IAmb IAmb 20 27 14.7
comp=Z,11nm,0.8s
KIV Kislovodsk 69.79 314 ⇑P **P 20 27 13.3 +1.0**
KIV Kislovodsk 69.79 314 *eP* **P 20 27 12.7 +0.4**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,41nm,17.0s
KIV Kislovodsk 69.79 314 P **P 20 27 12.8 +0.4**
KIV Kislovodsk 69.79 314 *eP* **P 20 27 12.7 +0.4**
KIV Kislovodsk 69.79 314 P **P 20 27 13.1 +0.8**
E38A The Farm, Brul 69.86 42 IAmb IAmb 20 27 13.7
comp=Z,12nm,0.7s
KBZ Khabaz 69.86 314 P **P 20 27 12.7 +0.1**
comp=Z,11nm,0.8s,baz=39,slow=3.4,SNR=20
comp=Z,11nm,0.8s
KBZ Khabaz 69.86 314*c* *i* P **P 20 27 12.6 0.0**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 69.86 314 *i* P **P 20 27 12.6 0.0**
WB0 Warramunga Arr 69.89 199 IAmb IAmb 20 27 14.1
comp=Z,13nm,0.8s
SHA1 Shidzhatmaz 69.97 314*d* *iP* **P 20 27 14.3 +0.7**
WRAB Tennant Creek 70.06 199 P **P 20 27 14.1 +0.1**
WRAB Tennant Creek 70.06 199*ce*P **P 20 27 14.6 +0.6**
WRAB pmax pmax
comp=Z,14nm,1.0s
WB2 Warramunga Arr 70.07 199 IAmb IAmb 20 27 15.3
comp=Z,12nm,0.8s
WRA Warramunga Arr 70.07 199 P **P 20 27 13.5 -0.6**
WRA Warramunga Arr 70.07 199 P **P 20 27 14.7 +0.6**
comp=Z,8.4nm,0.8s,baz=17,slow=6.3,SNR=30
WRA pP **pP 20 27 51.8 -0.3**
comp=Z,2.0nm,0.7s,baz=17,slow=6.6,SNR=3.3
comp=Z,8.4nm,0.8s
SNART Snartemo 70.08 342 *eP* **P 20 27 14.8 +1.1**
SNART Snartemo 70.08 342 *i* P **P 20 27 13.0 -0.7**
AK03 Malin Array Si 70.28 326 P **P 20 27 13.8 -1.3**
AKASG Malin Array Be 70.30 326 P **P 20 27 14.4 -0.8**
comp=Z,6.5nm,0.6s,baz=35,slow=6.2,SNR=38
comp=Z,6.5nm,0.6s
AKASG Malin Array Be 70.30 326 *i* P **P 20 27 14.3 -0.9**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 70.30 326 IAmb IAmb 20 27 15.3
comp=Z,17nm,0.9s
AKBB Malin Array Si 70.30 326⇓*iP* **P 20 27 14.4 -0.8**
AKBB pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 70.31 326 P **P 20 27 13.8 -1.5**
KIEV IAmb IAmb 20 27 15.3
comp=Z,15nm,0.9s
KIEV Kiev 70.31 326 ⇑P **P 20 27 14.9 -0.4**
KIEV Kiev 70.31 326 P **P 20 27 13.8 -1.5**
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV Kiev 70.31 326 *i* P **P 20 27 14.2 -1.0**
SNR=7.7
KIEV Kiev 70.31 326 P **P 20 27 14.3 -1.0**
comp=Z,75nm,0.9s
KIEV Kiev 70.31 326 P **P 20 27 14.2 -1.0**
KIEV PcP **PcP 20 27 35.7 -0.2**
ANMO Albuquerque 70.88 59 P **P 20 27 19.5 +0.3**
ANMO Albuquerque 70.88 59 P **P 20 27 19.5 +0.3**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
RNPP9 Sopachiv 70.92 328 P **P 20 27 17.8 -1.1**
I37A Lemond, Waseca 70.99 45 IAmb IAmb 20 27 21.6
comp=Z,19nm,0.7s
RNPP5 Staryi Chortor 71.08 328 P **P 20 27 19.3 -0.6**
LUBAR Lubar, Ukraine 71.48 326 P **P 20 27 20.9 -1.4**
SCHQ Schefferville 71.78 23 IAmb IAmb 20 27 25.9
comp=Z,30nm,1.1s
SCHQ Schefferville 71.78 23 P **P 20 27 24.9 +0.8**
comp=Z,13nm,0.7s,baz=330,slow=5.1,SNR=20
comp=Z,13nm,0.7s
NDNU Novodnistrovsk 72.72 326 P **P 20 27 29.6 -0.1**
SORM Soroca 72.72 325 ⇑P **P 20 27 29.7 -0.1**
SORM Soroca 72.72 325 P **P 20 27 29.6 -0.1**
KMPD K-Podol'skiy 73.08 326 P **P 20 27 31.1 -0.7**
MILM Milestii Mici 73.54 324 ⇓P **P 20 27 34.4 -0.1**
MILM Milestii Mici 73.54 324 P **P 20 27 34.4 -0.1**
STNU Starunia 73.68 327 P **P 20 27 35.4 +0.1**
ASAR Alice Springs 73.77 199 P **P 20 27 36.4 +0.3**
ASAR Alice Springs 73.77 199 P **P 20 27 37.1 +1.1**
comp=Z,3.9nm,0.8s,baz=14,slow=5.4,SNR=34
ASAR pP **pP 20 28 14.0 -0.4**
comp=Z,3.9nm,0.8s,baz=12,slow=5.4,SNR=9.0
comp=Z,3.9nm,0.8s
KSV Kosov 73.80 327 P **P 20 27 36.0 -0.1**
OJC Ojcow 73.99 331 *eP* **P 20 27 37.9 +0.8**
OJC Ojcow 73.99 331 IAmb IAmb 20 27 38.4
comp=Z,24nm,0.8s
MEZ Mezhgor'ye 74.19 328 P **P 20 27 37.3 -1.1**
KOLS Kolonicke sedl 74.27 329 *eP* **P 20 27 39.5 +0.7**
KOLS pmax pmax
comp=Z,18nm,0.8s
KOLS Kolonicke sedl 74.27 329 *eP* **P 20 27 39.5 +0.7**
KOLS *e*PP **PP 20 30 24.2 -1.9**
VLDQ Val d'Or 74.32 33 P **P 20 27 37.7 -1.3**
VLDQ IAmb IAmb 20 27 39.9
comp=Z,28nm,1.0s
BURAR Bucovina Array 74.34 326 ⇓P **P 20 27 39.4 0.0**
BURAR Bucovina Array 74.34 326 P **P 20 27 39.3 0.0**
BRIU Brid 74.52 328 P **P 20 27 40.6 +0.4**
NIE Niedzica 74.52 330 *eP* **P 20 27 40.8 +0.6**
NIE Niedzica 74.52 330 P **P 20 27 40.8 +0.6**
comp=Z,13nm,1.0s
MUKU Mukachevo 74.54 328 P **P 20 27 40.6 +0.3**
KSP Ksiaz 74.54 333 *eP* **P 20 27 41.0 +0.7**
KSP Ksiaz 74.54 333 P **P 20 27 40.9 +0.6**
comp=Z,36nm,1.0s
HOLU Holmets 74.58 329 P **P 20 27 41.1 +0.6**
VLDR Vladesti 74.72 324 ⇑P **P 20 27 41.7 +0.4**
TESR Tescani 74.72 325 ⇑P **P 20 27 41.7 +0.3**
TESR Tescani 74.72 325 P **P 20 27 41.1 -0.3**
comp=Z,45nm,0.8s
BERU Beregovo 74.74 328 P **P 20 27 41.9 +0.5**
TRSU Trosnyk 74.75 328 P **P 20 27 42.4 +0.9**
OSTC Ostas 74.81 333 *eP* **P 20 27 42.8 +0.9**
OSTC Ostas 74.81 333 *eP* **P 20 27 42.8 +0.9**
EKA Eskdalemuir Ar 74.82 346 P **P 20 27 42.3 +0.5**
comp=Z,11nm,0.7s,baz=21,slow=5.0,SNR=28
comp=Z,11nm,0.7s
CHVC Chvalec 74.83 333 *eP* **P 20 27 42.6 +0.6**
CHVC Chvalec 74.83 333 *eP* **P 20 27 42.6 +0.6**
STEB Steborice 74.88 332 *eP* **P 20 27 43.1 +0.8**
UPC Upice 74.92 333 *eP* **P 20 27 43.1 +0.6**
UPC Upice 74.92 333 *eP* **P 20 27 43.1 +0.6**
DPC Dobruska-Polom 74.96 333 *eP* **P 20 27 43.8 +1.0**
DPC Dobruska-Polom 74.96 333 *eP* **P 20 27 43.8 +1.0**
DPC Dobruska-Polom 74.96 333 P **P 20 27 43.1 +0.3**
comp=Z,28nm,1.1s
ONER Baraj Valea Uz 74.96 325 ⇓P **P 20 27 43.7 +0.9**
TLCR 74.97 323 ⇑P **P 20 27 43.2 +0.4**
TLCR 74.97 323 P **P 20 27 43.2 +0.4**
PANC Panciu 75.06 324 ⇓P **P 20 27 44.6 +1.3**
KRLC Kraliky 75.07 333 *eP* **P 20 27 44.3 +0.9**
KRLC Kraliky 75.07 333 *eP* **P 20 27 44.3 +0.9**
CLL Collm 75.07 335⇑*iP* **P 20 27 43.1 -0.2**
CLL pmax pmax
comp=Z,64nm,0.9s
CLL Collm 75.07 335 P **P 20 27 43.0 -0.2**
comp=Z,75nm,1.0s
CLL Collm 75.07 335⇑*iP* **P 20 27 43.1 -0.2**
comp=Z,64nm,0.9s
MORC Moravsky Berou 75.09 332 IAmb IAmb 20 27 45.1
comp=Z,28nm,0.8s
MORC Moravsky Berou 75.09 332 *eP* **P 20 27 43.7 +0.1**
MORC Moravsky Berou 75.09 332 ⇓P **P 20 27 44.5 +1.0**
MORC Moravsky Berou 75.09 332 P **P 20 27 44.5 +1.0**
ARCR ARCALIA 75.10 327 ⇑P **P 20 27 43.8 +0.2**
ODBI Odobesti 75.19 324 ⇑P **P 20 27 44.6 +0.6**

ODBI Odobesti 75.19 324 P P 20 27 45.0 +0.9
comp=Z,30nm,0.9s
BRG Berggiesshubel 75.20 335 ⇓iP P 20 27 44.5 +0.4
BRG Amp 20 27 45.2
comp=Z,21nm,1.0s
VRI Vrincioaia 75.23 325 ⇑P P 20 27 45.3 +1.0
VRI Vrincioaia 75.23 325 P P 20 27 45.3 +1.0
VRI Vrincioaia 75.23 325 P P 20 27 45.3 +1.0
comp=Z,12nm,1.0s
CFR Carcaliu 75.24 323 ⇓P P 20 27 44.8 +0.3
CFR Carcaliu 75.24 323 P P 20 27 44.7 +0.3
KECS Kecovo 75.27 330 eP P 20 27 45.3 +0.8
KECS Kecovo 75.27 330 eP P 20 27 45.2 +0.8
PLOR3 Plostina Array 75.27 325 P P 20 27 45.4 +0.8
comp=Z,9.0nm,1.0s
PLOR Plostina 75.27 325 ⇑P P 20 27 44.7 +0.1
PLOR Plostina 75.27 325 P P 20 27 44.7 +0.1
PVCC Panska Ves 75.33 334 eP P 20 27 45.6 +0.8
PVCC Panska Ves 75.33 334 eP P 20 27 45.6 +0.8
MAUC Maruska 75.36 332 eP P 20 27 45.8 +0.7
OZUR 75.40 325 ⇑P P 20 27 46.1 +0.7
TPGR Topolog 75.40 323 ⇓P P 20 27 46.1 +0.8
COVR Voineasa-Covas 75.44 325 ⇓P P 20 27 46.8 +1.1
RICC Richard 75.45 335 eP P 20 27 46.6 +1.1
MESR Meseseni 75.55 328 ⇓P P 20 27 47.3 +1.1
HSKC Hora Svate Kat 75.58 335 eP P 20 27 47.0 +0.7
DOPR Dopca 75.65 325 ⇓P P 20 27 47.9 +1.1
CBBR Cluj-Babes-Bol 75.66 327 ⇑P P 20 27 47.8 +1.0
CJR Cluj-Napoca 75.69 327 ⇓P P 20 27 47.9 +0.9
CJR Cluj-Napoca 75.69 327 P P 20 27 47.9 +0.9
TIRR Tirgusor 75.73 323 IAmb IAmb 20 27 48.4
comp=Z,19nm,0.9s
TIRR Tirgusor 75.73 323 ⇑P P 20 27 47.3 +0.2
TIRR Tirgusor 75.73 323 P P 20 27 47.3 +0.2
TIRR Tirgusor 75.73 323 P P 20 27 47.4 +0.2
comp=Z,22nm,0.9s
HARR Harsova 75.73 323 ⇑P P 20 27 48.1 +0.9
HARR Harsova 75.73 323 P P 20 27 48.0 +0.9
MARD Mardin 75.78 311 IAmb IAmb 20 27 49.3
comp=Z,12nm,0.6s
VRAC Vranov 75.80 332 P P 20 27 48.7 +1.1
comp=Z,22nm,0.7s,baz=32,slow=5.6,SNR=29
comp=Z,22nm,0.7s
VRAC Vranov 75.80 332 eP P 20 27 48.2 +0.7
VRAC Vranov 75.80 332 ⇑P P 20 27 48.3 +0.7
VRAC Vranov 75.80 332 P P 20 27 48.2 +0.7
TLBR Topalu 75.80 323 ⇓P P 20 27 48.5 +0.9
VYHS Vyhne 75.80 331 eP P 20 27 47.9 +0.3
VYHS pmax pmax
comp=Z,16nm,0.7s
VYHS Vyhne 75.80 331 eP P 20 27 48.8 +0.2
GOPC GO Pecny, Ondr 75.81 334 eP P 20 27 48.5 +0.9
GOPC GO Pecny, Ondr 75.81 334 eP P 20 27 48.5 +0.9
PRU Pruhonice 75.81 334 eP P 20 27 48.2 +0.6
PRU Pruhonice 75.81 334 eP P 20 27 48.2 +0.6
MLR Muntele Rosu 75.84 325 IAmb IAmb 20 27 50.1
comp=Z,33nm,1.0s
MLR Muntele Rosu 75.84 325 ⇑P P 20 27 48.9 +0.8
MLR Muntele Rosu 75.84 325 P P 20 27 48.8 +0.8
MLR Muntele Rosu 75.84 325 P P 20 27 48.8 +0.8
comp=Z,39nm,1.2s
JAVC Velka Javorina 75.86 332 eP P 20 27 49.3 +1.4
MDB Medias 75.89 326 ⇑P P 20 27 49.2 +1.0
MDB Medias 75.89 326 P P 20 27 49.1 +1.0
MARR Marisel-Cluj 75.90 327 ⇑P P 20 27 48.6 +0.4
ISR Istrita 75.92 324 ⇓P P 20 27 49.3 +0.9
ISR Istrita 75.92 324 P P 20 27 49.2 +0.9
DRGR 75.94 327 ⇓P P 20 27 49.0 +0.5
DRGR 75.94 327 P P 20 27 48.9 +0.5
PSZ Piszkesteto 75.95 330 IAmb IAmb 20 27 50.2
comp=Z,16nm,0.8s
PSZ Piszkesteto 75.95 330 ⇓P P 20 27 49.6 +1.1
PSZ Piszkesteto 75.95 330 P P 20 27 49.6 +1.1
KRUC Moravsky 76.08 332 eP P 20 27 49.5 +0.4
TREC Trest 76.15 333 eP P 20 27 50.3 +0.8
TREC Trest 76.15 333 eP P 20 27 50.3 +0.8
NKC Novy Kostel 76.19 335 eP P 20 27 50.7 +0.9
NKC Novy Kostel 76.19 335 eP P 20 27 50.7 +0.9
VOIR 76.23 325 ⇓P P 20 27 51.2 +1.0
VOIR 76.23 325 P P 20 27 51.1 +1.0
VOIR 76.23 325 P P 20 27 51.0 +0.9
comp=Z,46nm,0.9s
ICOR Ion Corvin 76.26 323 ⇓P P 20 27 51.5 +1.3
HATD Hatta, Dubai 76.40 292 P P 20 27 51.5 +0.2
MTUR Matau 76.40 325 ⇑P P 20 27 51.9 +0.8
MTUR Matau 76.40 325 P P 20 27 51.9 +0.8
SULR 76.40 324 ⇓P P 20 27 51.8 +0.9
ZVC Zvikov 76.41 334 eP P 20 27 51.9 +0.9
MODS Modra-Piesok 76.41 332 eP P 20 27 51.8 +0.8
MODS pmax pmax
comp=Z,51nm,1.0s
MODS Modra-Piesok 76.41 332 eP P 20 27 51.8 +0.8
ARR Arges 76.44 326 ⇑P P 20 27 52.3 +0.9
LDAQ Lac Daran 76.57 29 P P 20 27 51.7 -0.3
LDAQ IAmb IAmb 20 27 53.5
comp=Z,11nm,0.7s
TX31 Lajitas Ar. Si 76.58 61 IAmb IAmb 20 28 00.6
comp=Z,27nm,1.9s
TXAR Lajitas Array 76.58 61 P P 20 27 53.3 +0.9
TXAR Lajitas Array 76.58 61 P P 20 27 53.8 +1.4
comp=Z,2.8nm,0.8s,baz=294,slow=4.2,SNR=22
TXAR pP pP 20 28 34.2 +3.4
comp=Z,1.3nm,0.6s,baz=309,slow=5.2,SNR=2.8
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 76.58 61 P P 20 27 53.3 +0.9
DEV Deva 76.65 327 ⇑P P 20 27 53.5 +1.1
DEV Deva 76.65 327 P P 20 27 53.5 +1.1
LOT Lotru 76.70 326 ⇓P P 20 27 52.7 -0.1
KHC Kasperske Hory 76.86 334 eP P 20 27 54.6 +1.0
KHC ex x 20 38 00.5
KHC Kasperske Hory 76.86 334c iP P 20 27 54.2 +0.6
KHC pmax pmax
comp=Z,90nm,0.9s
KHC Kasperske Hory 76.86 334 P P 20 27 54.5 +1.0
CKRC Cesky Krumlov 76.93 334 eP P 20 27 54.5 +0.6
CKRC Cesky Krumlov 76.93 334 eP P 20 27 54.5 +0.6
TRQ Mont Tremblant 76.97 32 IAmb IAmb 20 27 55.4
comp=Z,15nm,0.8s
GRFO Grafenberg 77.02 336 P P 20 27 54.6 +0.2
GRFO Grafenberg 77.02 336 P P 20 27 54.6 +0.2
GRFO pmax pmax
comp=Z,73nm,0.8s
HUMR Humele 77.02 325 ⇑P P 20 27 54.3 -0.2
SURR Surduc 77.04 327 ⇓P P 20 27 55.1 +0.6
GEC2 GERESS Array S 77.08 334 IAmb IAmb 20 27 56.1
comp=Z,13nm,0.8s
GERES GERESS Array B 77.08 334 P P 20 27 54.3 -0.6
GERES GERESS Array B 77.08 334 P P 20 27 55.3 +0.4
comp=Z,13nm,0.8s,baz=30,slow=6.2,SNR=32
comp=Z,13nm,0.8s
GERES GERESS Array B 77.08 334 P P 20 27 54.3 -0.6
GZR Gura Zlata 77.11 327 ⇑P P 20 27 55.1 0.0
GZR Gura Zlata 77.11 327 P P 20 27 55.0 0.0
CONA Conrad Observa 77.25 332 iP P 20 27 56.9 +1.1
comp=Z,30nm,0.8s,SNR=13
RONA Rosalia, Austr 77.32 332 iP P 20 27 57.3 +1.2
comp=Z,47nm,1.0s,SNR=8.7
BR131 Keskin Array S 77.33 317 IAmb IAmb 20 27 58.0
comp=Z,15nm,1.0s
BR131 Keskin Array S 77.33 317c iP P 20 27 56.8 +0.4
BRTR Keskin Array B 77.33 317 P P 20 27 55.0 -1.5
BRTR Keskin Array B 77.33 317 P P 20 27 56.9 +0.4
comp=Z,8.3nm,0.9s,baz=60,slow=3.8,SNR=42
comp=Z,8.3nm,0.9s
BRTR Keskin Array B 77.33 317 P P 20 27 55.0 -1.5
BZS Buzias 77.34 328 ⇓P P 20 27 56.5 +0.3
BZS Buzias 77.34 328 P P 20 27 56.5 +0.3
MEM Membach 77.50 339 dP P 20 27 57.6 +0.5
comp=Z,45nm,0.9s
ANTO Ankara 77.60 317 P P 20 27 57.7 -0.2
ANTO IAmb IAmb 20 27 59.6
comp=Z,20nm,0.6s
ANTO Ankara 77.60 317 ⇑P P 20 27 58.9 +1.1
ANTO Ankara 77.60 317 P P 20 27 57.7 -0.2
ANTO pmax pmax
comp=Z,20nm,0.6s
BSTI Sart Tilman 77.63 340 dP P 20 27 58.5 +0.8
comp=Z,12nm,0.7s
KIRS Kirsehir-Merke 77.67 316 ⇑P P 20 27 58.8 +0.4
HERR Herculane 77.69 327 ⇓P P 20 27 58.2 0.0
UCC Uccle 77.70 340 dP P 20 27 57.6 -0.5
comp=Z,18nm,1.0s
BHOU Houvegnez 77.74 339 dP P 20 27 59.0 +0.6
comp=Z,26nm,1.0s
MOA Molln 77.81 333 iP P 20 27 59.6 +0.7
comp=Z,16nm,0.8s,SNR=5.2
BCLA Clavier 77.84 340 dP P 20 27 59.5 +0.6
comp=Z,22nm,0.9s
MORH Mrgy, Hungar 77.86 330 ⇓P P 20 27 58.6 -0.5
BGES Gesves 77.92 340 dP P 20 27 59.8 +0.4
comp=Z,22nm,0.9s
ARSA Arzberg 77.96 332 iP P 20 28 00.5 +0.8
comp=Z,205nm,3.2s
PUNG Punghina 78.01 326 ⇑P P 20 28 00.2 +0.3
MDVR Moldovita 78.03 327 ⇓P P 20 28 00.3 +0.1
BMRD Maredsous 78.08 340 dP P 20 28 00.7 +0.5
comp=Z,27nm,1.0s
RCHB Rochefort 78.11 340 dP P 20 28 00.7 +0.3
comp=Z,23nm,1.1s
BIOA Bad Ischl, Aus 78.14 333 iP P 20 28 01.5 +0.9
comp=Z,61nm,1.4s,SNR=8.2
DOU Dourbes 78.31 340 dP P 20 28 02.0 +0.5
comp=Z,11nm,1.0s
WLF Walferdange 78.35 339 dP P 20 28 01.1 -0.6
comp=Z,11nm,1.0s
FRGS Fruska Gora 78.38 328 ⇑iP P 20 28 02.2 +0.2
SOKA Soboth 78.62 332 iP P 20 28 04.0 +0.6
comp=Z,108nm,1.9s,SNR=9.0
LESA Schwarzleotal 78.66 334 iP P 20 28 04.7 +1.0
comp=Z,33nm,0.6s,SNR=12
KBA Koelnbreinsper 78.78 333 iP P 20 28 05.3 +1.0
comp=Z,80nm,0.7s,SNR=21
BATG Bathurst New B 78.78 26 P P 20 28 05.0 +0.8
BATG IAmb IAmb 20 28 13.6
comp=Z,13nm,0.7s
OBKA Obir 78.92 332 iP P 20 28 05.5 +0.5
comp=Z,19nm,0.8s
OBKA Obir 78.92 332 ⇑iP P 20 28 04.7 -0.3
TEKS Tekeris 79.01 328 ⇑iP P 20 28 04.7 -0.8
BOVS Bovan 79.02 326 ⇑P P 20 28 05.9 +0.4
BFO Black Forest 79.04 337 P P 20 28 05.7 +0.1
BFO IAmb IAmb 20 28 07.0
comp=Z,31nm,0.9s
BFO Black Forest 79.04 337 P P 20 28 05.7 +0.1
BFO pmax pmax
comp=Z,31nm,0.9s
WATA Walderalm 79.06 335 iP P 20 28 06.8 +1.0
comp=Z,98nm,1.2s,SNR=15
WTTA Wattenberg 79.11 335 iP P 20 28 07.2 +1.1
comp=Z,87nm,0.7s,SNR=23
RETA Reutte 79.15 335 eP P 20 28 07.6 +1.3
comp=Z,65nm,1.1s,SNR=7.8
CRES Cresnjevec Ost 79.25 331 ⇑iP P 20 28 06.5 -0.2
BAND Balkesir-Ban 79.26 321 ⇓P P 20 28 07.8 +1.0
SQTA Sankt Quirin 79.27 335 iP P 20 28 08.0 +1.0
comp=Z,76nm,1.0s,SNR=18
ABTA Abfaltersbach 79.32 334 iP P 20 28 07.6 +0.4
comp=Z,22nm,1.0s,SNR=6.1
MZR Muzera 79.38 293 iP P 20 28 07.9 +0.1
SNR=9.6
MZR P P 20 28 08.2 +0.4
O53A New Philadelph 79.44 39 IAmb IAmb 20 28 09.7
comp=Z,14nm,0.9s
ECH Echery 79.44 338 IAmb IAmb 20 28 09.3
comp=Z,39nm,1.0s
A051A Mrakovica 79.50 330 ⇑iP P 20 28 07.6 -0.6
DAVA Damuels 79.58 336 iP P 20 28 09.3 +0.6
comp=Z,53nm,0.9s,SNR=13
FETA Feichten 79.59 335 iP P 20 28 09.6 +0.9
comp=Z,33nm,0.9s,SNR=9.5
HAPS Han Pijesak,Bl 79.61 328 ⇑iP P 20 28 09.1 +0.2
BLY Banja Luka 79.64 330 ⇑iP P 20 28 06.0 -2.8
BBLS Lazi&#263i 79.65 328 ⇑iP P 20 28 09.3 +0.3
ALN Alexandroupoli 79.66 322 IAmb IAmb 20 28 10.3
comp=Z,34nm,1.0s
CAVK Edirne/Enez-Ca 79.78 322 ⇓P P 20 28 10.4 +0.7
SSFO Shawnee State 79.87 42 IAmb IAmb 20 28 11.9
comp=Z,16nm,0.8s
RUDO Rudo 79.88 328 ⇑iP P 20 28 09.8 -0.4
SKDS Skadanscina 79.95 332 ⇑iP P 20 28 09.3 -1.2
SJES Sjenica 79.97 327 ⇑iP P 20 28 11.2 +0.4
FUORN Ofenpass-Fuorn 80.08 335 IAmb IAmb 20 28 13.7
comp=Z,27nm,0.9s
A050A Klekovaca 80.09 330 ⇑iP P 20 28 09.9 -1.5
PEHC Pehcevo 80.16 325 iP P 20 28 12.3 +0.5
CTI Castel Tesino 80.21 334 IAmb IAmb 20 28 12.5
comp=Z,18nm,0.8s
UPM Unac-Piva 80.40 328 ⇑iP P 20 28 12.5 -0.7
STKA Stephens Creek 80.55 190 P P 20 28 14.3 +0.7
comp=Z,2.5nm,0.8s,baz=12,slow=4.2,SNR=6.0
comp=Z,2.5nm,0.8s
STKA Stephens Creek 80.55 190 ⇓iP P 20 28 14.1 +0.5
MANT Manisa 80.61 319 IAmb IAmb 20 28 15.5
comp=Z,29nm,0.7s
VAY Valandovo 80.68 325 iP P 20 28 15.1 +0.6
BRY Bratogost 80.80 328 ⇑iP P 20 28 14.4 -0.9
PDG Podgorica 80.95 327 ⇑iP P 20 28 15.6 -0.3
TREB Trebinje 81.02 328 ⇑iP P 20 28 15.6 -0.7
DRME Dracevica, Mon 81.19 327 ⇑iP P 20 28 16.8 -0.4
OHR Ohrid 81.53 326 iP P 20 28 19.4 +0.3
FNA Florina 81.60 325 IAmb IAmb 20 28 20.0
comp=Z,23nm,0.8s
LIT Litokhoron 81.76 324 IAmb IAmb 20 28 20.4
comp=Z,16nm,1.0s
MMAI Mount Meron Ar 81.87 311 P P 20 28 22.0 +1.0
comp=Z,26nm,0.7s,baz=32,slow=6.9,SNR=29
comp=Z,26nm,0.7s
FORT Forrest 81.96 202 P P 20 28 21.5 +0.4
FORT IAmb IAmb 20 28 23.2
comp=Z,18nm,0.8s
KBN Korca 81.96 326 IAmb IAmb 20 28 25.3
comp=Z,27nm,0.9s
BNI Bardonecchia 82.50 337 IAmb IAmb 20 28 26.0
comp=Z,18nm,1.1s
SSB Saint Sauveur 82.83 338 IAmb IAmb 20 28 28.5
comp=Z,31nm,1.0s
GHAJ Ghor Haditha 83.16 310 IAmb IAmb 20 28 29.3
comp=Z,39nm,1.4s
INTR Introdacqua 83.16 331 IAmb IAmb 20 28 29.6
comp=Z,23nm,0.8s
RAYN Ar Rayn 83.79 298 P P 20 28 31.3 +0.3
RAYN IAmb IAmb 20 28 32.6
comp=Z,18nm,1.0s
RAYN Ar Rayn 83.79 298 P P 20 28 31.7 +0.7
RAYN Ar Rayn 83.79 298 iP P 20 28 31.4 +0.4
SNR=18
TIP Timpagrande 84.71 328 IAmb IAmb 20 28 38.0
comp=Z,32nm,1.2s
TIP Timpagrande 84.71 328 ⇓P P 20 28 36.0 +0.6
IDI Anoyia 84.89 320 IAmb IAmb 20 28 36.4
comp=Z,18nm,0.7s
VSL Villasalto 86.87 333 IAmb IAmb 20 28 48.4
comp=Z,28nm,1.1s
ESDC Sonseca Array 90.07 343 P P 20 28 59.6 -1.5
ESDC IAmb IAmb 20 29 21.4
comp=Z,36nm,1.9s
ESDC Sonseca Array 90.07 343 P P 20 29 00.6 -0.5
comp=Z,3.0nm,1.0s,baz=2.7,slow=4.4,SNR=10
comp=Z,3.0nm,1.0s
KEST Kesra 90.34 331 IAmb IAmb 20 29 05.1
comp=Z,20nm,1.1s
KEST Kesra 90.34 331 P P 20 29 03.0 +0.5
comp=Z,11nm,0.8s,baz=4.1,slow=5.3,SNR=12
comp=Z,11nm,0.8s
QSPA South Pole Qui 138.08 180 PKP PKPdf 20 35 24.9 +0.9
comp=Z,1.4nm,0.5s,baz=257,slow=1.0,SNR=6.3
H03N2 Juan Fernandez 138.59 89 T T 23 09 38.3
baz=309,slow=77,SNR=22
H03N1 Juan Fernandez 138.61 89 T T 23 09 39.7
baz=309,slow=77,SNR=18
H03N3 Juan Fernandez 138.61 89 T T 23 09 34.9
baz=309,slow=77,SNR=4.3
ELIB Princess Elisa 147.30 206 dPKPdf PKPbc 20 35 42.9 +0.1
CPUP Villa Florida 147.53 58 PKPbc PKPab 20 35 47.3 +0.1
comp=Z,1.8nm,0.8s,baz=331,slow=2.8,SNR=3.4
PLCA Paso Flores 148.17 93 PKPbc PKPbc 20 35 46.4 +0.3
comp=Z,2.2nm,0.7s,baz=297,slow=4.5,SNR=4.5

*NEIC **07** 20:17:21.0±1.1, 19°.1N±0°.1×68°.15W±0°.08, h89km±21km, ML2.2/11, Md3.0/3(RSPR), Error ellipse: s-maj=22.2km s-min=7.2km az=200.0*
*RSPR **07** 20:17:20.2, 18°.97N×68°.15W, h114km±4km, MD3.0/3*
ISC 07 20:17:20.4±2.1, **19°.0N**±0°.3×**68°.16W**±0°.09, **h100**km, **n15**, σ0°48/14, **2C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	1.18	259	Pn	Pn	20 17 42.5	-0.4
CRPR	Cabo Rojo, PR	1.42	135		Sn	20 18 05.2	+0.4
CRPR	Cabo Rojo, PR	1.42	135	Pn	Pn	20 17 45.8	+0.1
CRPR				IAML		20 18 33.2	
	comp=N,25nm,2.9s						
CRPR	Cabo Rojo, PR	1.42	135	eS	Sn	20 18 05.2	+0.4
AOPR	Arecibo Observ	1.49	116		Pn	20 17 46.9	+0.3
AOPR					Sn	20 18 06.8	+0.3
AOPR	Arecibo Observ	1.49	116	IAML		20 18 11.4	
	comp=E,34nm,1.1s						
AOPR				IAML		20 18 49.6	
	comp=N,28nm,1.7s						
AOPR	Arecibo Observ	1.49	116⇑	eP	Pn	20 17 46.9	+0.3
AOPR	Arecibo Observ	1.49	116	eS	Sn	20 18 06.8	+0.3
OBIP	Obispado Ponce	1.77	123	Pn	Pn	20 17 48.8	-1.2
OBIP				IAML		20 18 28.8	
	comp=N,18nm,2.2s						
OBIP				IAML		20 18 43.2	
	comp=E,18nm,4.5s						
CELP	Cerrillos	1.77	122		Pn	20 17 49.8	-0.3
CELP				IAML		20 18 32.0	
	comp=N,19nm,3.4s						
CELP	Cerrillos	1.77	122		Sn	20 18 12.5	-0.1
CELP	Cerrillos	1.77	122	IAML		20 18 09.0	
	comp=E,19nm,3.2s						
CELP	Cerrillos	1.77	122⇑	eP	Pn	20 17 49.8	-0.3
CELP	Cerrillos	1.77	122	eS	Sn	20 18 12.5	-0.1
SDDR	Presa de Saban	2.96	270	Pn	Pn	20 18 05.8	+0.1

*IDC **07** 20:31:28.3±1.9, 32°.32S×178°.05W, h0km, mb3.9/3, mbtmp3.9/4, ML3.5/1, MS3.4/2, Error ellipse: s-maj=63.4km s-min=35.3km az=147.0*
ISC 07 20:31:30.3±2.0, **32°.5S**±0°.2×**177°.9W**±0°.4, **h20**km, **n9**, σ0°84/8, **mb4.0**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.04	214	Pn	Pn	20 33 13.0	+0.7
	0.9nm,0.3s,baz=210,slow=12,SNR=1.2						
URZ				Sn	Sn	20 34 30.8	-1.0
	0.8nm,0.3s,baz=48,slow=22,SNR=1.8						
	12nm,0.9s						
ASAR	Alice Springs	43.14	269	P	P	20 39 29.4	-0.2
	0.8nm,0.7s,baz=106,slow=7.6,SNR=13						
	0.8nm,0.7s						
WRA	Warramunga Arr	44.31	274	P	P	20 39 38.7	-0.5
	1.2nm,0.5s,baz=114,slow=8.1,SNR=14						
	1.2nm,0.5s						
VNDA	Vanda	46.02	186	LR	LR	20 54 23.2	
	comp=Z,49nm,21.0s,baz=260,slow=30						
FITZ	Fitzroy Crossi	52.48	271	P	P	20 40 42.6	+0.5
	2.1nm,1.0s,baz=90,slow=8.1,SNR=3.1						
	2.1nm,1.0s						
KSRS	Korea Array	86.01	320	LR	LR	21 18 34.6	
	comp=Z,23nm,21.6s,baz=185,slow=33						
KURBB	Kurchatov Arra	122.60	313	PKP	PKiKP	20 50 24.8	+0.6
	0.3nm,0.4s,baz=96,slow=1.4,SNR=4.1						
FINES	FINESS Array B	147.15	339	PKPbc	PKPab	20 51 12.5	-0.3
	3.0nm,0.7s,baz=43,slow=3.3,SNR=18						
HFS	Hagfors	151.32	348	PKPbc	PKPbc	20 51 20.7	-1.0
	5.8nm,0.9s,baz=122,slow=5.4,SNR=4.5						

*IDC **07** 20:31:34.5±1.8, 13°.21N×87°.86W, h0km, mb3.4/4, mbtmp3.5/6, ML2.7/3, MS2.6/1, Error ellipse: s-maj=66.3km s-min=20.7km az=40.0*
*CATAC **07** 20:31:40.2±0.4, 13°N±5°×8°8W±°, h41km±18km, M3.8/15, MLv3.8/15, Error ellipse: s-maj=11.7km s-min=2.6km az=26.1, confirmed*
*SNET **07** 20:31:41.4±1.7, 12°.80N×88°.37W, h54km, ML3.8*
ISC 07 20:31:39.5±1.2, **12°.59N**±0°.07×**88°.42W**±0°.04, **h59**km±12km, **n98**, σ0°69/113, **mb3.5**/4, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.85	10	eP	Pn	20 31 55.2	-0.6
RANC	El Ranchito	0.85	9	P	Pn	20 31 55.9	+0.1
RANC	El Ranchito	0.85	9	S	Sn	20 32 08.0	+0.3
RANC	El Ranchito	0.85	9	P	Pn	20 31 55.8	+0.1
RANC	El Ranchito	0.85	9	S	Sn	20 32 07.7	0.0
PACA	Pacayal	0.88	6	eP	Pn	20 31 55.9	-0.3
PACA				eS	Sn	20 32 07.5	-0.9
PACA	Pacayal	0.88	6	P	Pn	20 31 56.3	+0.2
PACA	Pacayal	0.88	6	S	Sn	20 32 08.7	+0.4
PACA	Pacayal	0.88	6	P	Pn	20 31 56.3	+0.2
PACA	Pacayal	0.88	6	S	Sn	20 32 08.8	+0.4
LCND	La Caada	0.88	36	eP	Pn	20 31 55.4	-0.6
LCND	La Caada	0.88	36	P	Pn	20 31 56.1	+0.1
LCND	La Caada	0.88	36	P	Pn	20 31 56.1	+0.1
CNCH	Conchagua	0.89	40	eP	Pn	20 31 55.9	-0.4
CNCH				eS	Sn	20 32 09.4	+0.8
TECA	Tecapa	0.91	355	eP	Pn	20 31 56.3	-0.2
TECA				eS	Sn	20 32 07.4	-1.6
CSGN	Cosiguina Volc	0.93	65	P	Pn	20 31 57.0	+0.3
CSGN				S	Sn	20 32 09.5	+0.3
CSGN	Cosiguina Volc	0.93	65	P	Pn	20 31 56.7	+0.1
POTN	Potosi Cosigui	0.98	65	P	Pn	20 31 57.4	+0.1
POTN				S	Sn	20 32 10.5	+0.1
POTN	Potosi Cosigui	0.98	65	P	Pn	20 31 57.2	0.0
TECO	Alcaldia de Te	1.01	340	eP	Pn	20 31 56.5	-1.2
COEG	Centro de Oper	1.12	336	eP	Pn	20 31 58.4	-0.8
COEG	Centro de Oper	1.12	336	P	Pn	20 31 59.5	+0.3
COEG	Centro de Oper	1.12	336	S	Sn	20 32 14.3	+0.5
COEG	Centro de Oper	1.12	336	S	Sn	20 32 14.2	+0.5
COEG	Centro de Oper	1.12	336	P	Pn	20 31 59.2	0.0
SCLA	Alcaldia de Sa	1.15	345	eP	Pn	20 31 59.7	+0.1
SCLA	Alcaldia de Sa	1.15	345	P	Pn	20 32 00.1	+0.6
SCLA	Alcaldia de Sa	1.15	345	S	Sn	20 32 14.4	0.0
SCLA	Alcaldia de Sa	1.15	345	S	Sn	20 32 14.3	-0.1
SCLA	Alcaldia de Sa	1.15	345	P	Pn	20 31 60.0	+0.4
LFRS	El Faro	1.21	329	eP	Pn	20 31 60.0	-0.4
PAVA	Las Pavas	1.23	336	eP	Pn	20 32 00.7	0.0
PAVA	Las Pavas	1.23	336	P	Pn	20 32 01.4	+0.7
PAVA	Las Pavas	1.23	336	S	Sn	20 32 16.6	+0.2
PAVA	Las Pavas	1.23	336	S	Sn	20 32 16.5	+0.1
PAVA	Las Pavas	1.23	336	P	Pn	20 32 01.2	+0.6
LOMA	Loma Larga	1.28	325	eP	Pn	20 32 01.2	-0.2
LOMA	Loma Larga	1.28	325	S	Sn	20 32 18.2	+0.5
LOMA	Loma Larga	1.28	325	P	Pn	20 32 01.5	+0.1
LOMA	Loma Larga	1.28	325	S	Sn	20 32 18.7	+1.0
LOMA	Loma Larga	1.28	325	P	Pn	20 32 01.5	+0.1
LFU	La Fuente	1.34	330	eP	Pn	20 32 02.1	0.0
CRIN	San Cristobal	1.34	85	P	Pn	20 32 02.8	+0.7
CRIN	San Cristobal	1.34	85	S	Sn	20 32 20.5	+1.4
CRIN	San Cristobal	1.34	85	P	Pn	20 32 02.6	+0.5
PIC2	El Picacho	1.41	325	eP	Pn	20 32 03.8	+0.6
BOQS	Boqueron	1.42	324	eP	Pn	20 32 03.8	+0.5
BOQS				eS	Sn	20 32 21.2	+0.1
PMON	Piamonte	1.42	322	eP	Pn	20 32 02.7	-0.5
PMON				eS	Sn	20 32 20.4	-0.5
PMON	Piamonte	1.42	322	P	Pn	20 32 04.0	+0.8
PMON	Piamonte	1.42	322	P	Pn	20 32 03.8	+0.6
JAYA	Jayaque - finc	1.46	317	eP	Pn	20 32 03.0	-0.8
JAYA				eS	Sn	20 32 20.4	-1.6
JAYA	Jayaque - finc	1.46	317	P	Pn	20 32 04.0	+0.2
JAYA	Jayaque - finc	1.46	317	S	Sn	20 32 22.4	+0.4
JAYA	Jayaque - finc	1.46	317	P	Pn	20 32 03.6	-0.2
CHOHN	Orocuina	1.52	54	P	Pn	20 32 04.8	+0.3
CHOHN	Orocuina	1.52	54	S	Sn	20 32 23.5	+0.2
CHOHN	Orocuina	1.52	54	P	Pn	20 32 04.5	0.0
QUEN	Al S del Volca	1.53	90	P	Sn	20 32 25.1	+1.5
HERN	Volcan Telica	1.55	89	P	Pn	20 32 04.8	-0.1
HERN	Volcan Telica	1.55	89	S	Sn	20 32 24.4	+0.2
HERN	Volcan Telica	1.55	89	P	Sn	20 32 24.3	+0.2
HERN	Volcan Telica	1.55	89	P	Pn	20 32 03.6	-1.4
POLN	Al Sur del Vol	1.57	88	P	Pn	20 32 05.4	+0.3
POLN				S	Sn	20 32 24.2	-0.2
POLN	Al Sur del Vol	1.57	88	P	Sn	20 32 24.3	-0.2
POLN	Al Sur del Vol	1.57	88	P	Pn	20 32 05.2	0.0
PACN	Al O del Volca	1.59	93	P	Pn	20 32 05.5	+0.1
PACN	Al O del Volca	1.59	93	S	Sn	20 32 25.9	+0.9
PACN	Al O del Volca	1.59	93	P	Pn	20 32 05.7	+0.3
PLRN	Geotermica Pol	1.61	90	P	Pn	20 32 24.7	-0.8
ROCN	Rota Cerro Neg	1.64	92	P	Sn	20 32 26.0	-0.2
CNGA	Al SSO del Vol	1.68	93	P	Sn	20 32 28.0	+0.7
CNGN	Cerro Negro	1.68	93	P	Pn	20 32 06.7	-0.1
CNGN	Cerro Negro	1.68	93	S	Sn	20 32 28.2	+0.9
CNGN	Cerro Negro	1.68	93	P	Pn	20 32 06.6	-0.1
CEVE	Cerro Verde	1.70	317	eP	Pn	20 32 07.4	+0.2
CEVE				eS	Sn	20 32 28.5	+0.5
SBLS	San Blas	1.71	317	eP	Pn	20 32 07.9	+0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	San Jose	1.72 318		eP	Pn	20 32 07.8	+0.5
COPN	Copaltepe	1.83 103		P	Pn	20 32 08.6	0.0
COPN	Copaltepe	1.83 103		P	Pn	20 32 08.4	-0.3
MOMN	Momotombo	1.84 95		P	Pn	20 32 08.9	0.0
MOMN				S	Sn	20 32 31.0	-0.2
MOMN	Momotombo	1.84 95		P	Pn	20 32 08.8	-0.1
NUBE	Las Nubes	1.86 315		eP	Pn	20 32 09.5	+0.3
NUBE				eS	Sn	20 32 31.6	-0.1
NUBE	Las Nubes	1.86 315		P	Pn	20 32 10.0	+0.7
NUBE	Las Nubes	1.86 315		S	Sn	20 32 32.2	+0.5
NUBE	Las Nubes	1.86 315		S	Sn	20 32 32.0	+0.3
NUBE	Las Nubes	1.86 315		P	Pn	20 32 09.7	+0.5
SAPS	Ciudad Sandino	2.01 102		P	Sn	20 32 36.7	+1.4
MTO3	Montecristo	2.02 333		eP	Pn	20 32 12.1	+0.6
MTO3	Montecristo	2.02 333		P	Pn	20 32 12.3	+0.9
LIMN	Finca el Limon	2.06 76		P	Sn	20 32 36.6	+0.1
NANN	Nandasmo	2.34 106		P	Sn	20 32 43.8	+0.6
APG	El Apazote	3.12 321		Pn	Pn	20 32 25.1	-1.3
	0.1nm,0.3s,baz=106,slow=9.1,SNR=4.4						
APG				Sn	Sn	20 33 04.7	+2.1
	0.2nm,0.3s,baz=63,slow=23,SNR=2.4						
JTS	Las Juntas de	4.09 124		Pn	Pn	20 32 39.2	-0.4
	2.1nm,0.3s,baz=316,slow=7.6,SNR=5.1						
JTS				Sn	Sn	20 33 26.4	+0.1
	2.5nm,0.3s,baz=310,slow=22,SNR=1.6						
JTS				LR	LR	20 33 47.3	
	comp=Z,78nm,21.6s,baz=100,slow=33 4.2nm,0.5s						
CMIG	Matias Romero	7.69 306		Pn	Pn	20 33 30.0	+1.1
	0.2nm,0.3s,baz=119,slow=13,SNR=2.6						
CMIG				Sn	Sn	20 34 57.3	+2.7
	0.2nm,0.3s,baz=48,slow=18,SNR=2.2 2.7nm,0.7s						
TXAR	Lajitas Array	21.88 322		P	P	20 36 29.1	+1.5
	2.1nm,0.6s,baz=135,slow=11,SNR=14 1.6nm,0.6s						
PDAR	Pinedale Array	35.21 333		P	P	20 38 27.9	-0.5
	0.3nm,0.5s,baz=143,slow=8.2,SNR=3.3 0.3nm,0.5s						
YKA	Yellowknife Ar	53.23 345		P	P	20 40 51.5	-0.3
	0.6nm,0.9s,baz=148,slow=7.3,SNR=8.3 0.6nm,0.9s						
ILAR	Eielson Array	65.52 336		P	P	20 42 15.4	-1.0
	0.2nm,0.6s,baz=107,slow=7.0,SNR=2.5 0.2nm,0.6s						

AUST ***07*** *20:40:06.9±0.5, 18°S±4°×11°9E±°, h10km, mb4.1/5, ML3.1/3, Error ellipse: s-maj=11.8km s-min=7.8km az=116.9*

NOU ***07*** *20:40:08.2, 17°.74S×119°.39E, h0km, mb4.1/17, Northwest of Australia*

NEIC ***07*** *20:40:08.9±1.9, 17°.68S±0°.09×119°.41E±0°.09, h10km±2km, mb4.4/5, Error ellipse: s-maj=15.4km s-min=14.2km az=303.0*

IDC ***07*** *20:40:14.8±3.2, 18°.26S×120°.01E, h0km, mb3.3/1, mbtmp3.8/4, ML4.0/3, MS3.4/1, Error ellipse: s-maj=93.5km s-min=25.7km az=23.0*

ISC 07 20:40:08.3±0.8, 17°.66S±0°.08×119°.52E±0°.08, h10km, n62, σ1§84/61, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	3.49 177		Pn	Pn	20 41 02.9	+0.3
MBWA	Marble Bar	3.49 177		P	Pn	20 41 04.2	+1.6
MBWA	Marble Bar	3.49 177		P	Pn	20 41 03.8	+1.2
PSA00	Pilbara Seismi	3.90 176		Pn	Pn	20 41 09.4	+1.0
PSA00	Pilbara Seismi	3.90 176		Pn	Pn	20 41 08.2	-0.2
PSA00	Pilbara Seismi	3.90 176		P	Pn	20 41 09.6	+1.3
PSA00	Pilbara Seismi	3.90 176		P	Pn	20 41 10.0	+1.6
FITZ	Fitzroy Crossi	5.85 95		Pn	Pn	20 41 37.5	+2.4
FITZ	Fitzroy Crossi	5.85 95		P	Pn	20 41 38.0	+2.9
FITZ	Fitzroy Crossi	5.85 95		Pn	Pn	20 41 38.1	+3.0
	7.2nm,0.3s,baz=272,slow=11,SNR=161						
FITZ				Sn	Sn	20 42 37.4	-4.8
	1.2nm,0.3s,baz=262,slow=5.5,SNR=3.6 16nm,0.3s						
GIRL	Giralia	7.01 224		Pn	Pn	20 41 51.1	0.0
GIRL	Giralia	7.01 224		P	Pn	20 41 51.1	0.0
GIRL	Giralia	7.01 224		P	Pn	20 41 51.1	0.0
PLAI	Plampang	8.94 349		P	Pn	20 42 15.0	-2.7
MEEK	Meekatharra	8.97 185		P	Pn	20 42 18.2	+0.2
MEEK	Meekatharra	8.97 185		P	Pn	20 42 17.8	-0.3
KNRA	Kununurra	9.08 79		Pn	Pn	20 42 21.7	+2.3
KNRA	Kununurra	9.08 79		P	Pn	20 42 21.7	+2.3
JAGI	Jajag, Banyuwa	10.52 330		Pn	Pn	20 42 38.9	-0.4
WRKA	Warakurna	10.99 133		P	Pn	20 42 47.5	+1.9
WRKA	Warakurna	10.99 133		P	Pn	20 42 47.5	+1.9
MORW	Morawa	11.79 195		Pn	Pn	20 42 53.8	-2.9
MORW	Morawa	11.79 195		P	Pn	20 42 54.5	-2.1
	comp=Z,11nm,1.4s						
MORW	Morawa	11.79 195		P	Pn	20 42 54.8	-1.9
DRS	Darwin Rock St	12.16 66		P	Pn	20 43 03.6	+1.9
	comp=Z,9.2nm,1.2s						
DRS	Darwin Rock St	12.16 66		P	Pn	20 43 05.0	+3.3
MTN	Manton Dam	12.19 68		Pn	Pn	20 43 03.0	+0.9
MTN	Manton Dam	12.19 68		P	Pn	20 43 03.6	+1.5
MTN	Manton Dam	12.19 68		P	Pn	20 43 03.9	+1.8
BLDU	Ballidu	13.15 191		P	Pn	20 43 13.4	-1.7
BLDU	Ballidu	13.15 191		P	Pn	20 43 14.6	-0.6
KDU	Kakadu	13.44 70		P	Pn	20 43 21.5	+2.3
KDU	Kakadu	13.44 70		P	Pn	20 43 22.6	+3.3
KMBL	Kambalda	13.81 172		P	Pn	20 43 22.5	-1.7
KMBL	Kambalda	13.81 172		P	Pn	20 43 24.3	0.0
KLBR	Kellerberrin	13.96 186		P	Pn	20 43 24.8	-1.5
	comp=Z,12nm,0.5s						
KLBR	Kellerberrin	13.96 186		P	Pn	20 43 25.6	-0.7
WRA	Warramunga Arr	14.22 102		Pn	Pn	20 43 28.8	-1.0
WRA	Warramunga Arr	14.22 102		Pn	Pn	20 43 29.0	-0.9
	comp=Z,0.7nm,0.3s,baz=280,slow=14,SNR=42						
WRA				Sn	Sn	20 46 00.5	-7.3
	comp=Z,0.5nm,0.3s,baz=274,slow=22,SNR=5.6 comp=Z,1.3nm,0.3s						
WRAB	Tennant Creek	14.23 101		Pn	Pn	20 43 30.6	+0.6
WB2	Warramunga Arr	14.23 102			Pn	20 43 29.5	-0.5
WB0	Warramunga Arr	14.25 101		Pn	Pn	20 43 29.3	-1.0
WR0	Warramunga Arr	14.41 101		Pn	Pn	20 43 31.5	-0.9
MUN	Mundaring	14.57 191		P	Pn	20 43 32.4	-2.2
	comp=Z,20nm,2.8s						
MUN	Mundaring	14.57 191		P	Pn	20 43 32.6	-2.0
ASAR	Alice Springs	14.72 116		Pn	Pn	20 43 36.1	-0.7
	comp=Z,0.4nm,0.3s,baz=292,slow=12,SNR=20						
ASAR				Sn	Sn	20 46 10.3	-10
	comp=Z,0.6nm,0.3s,baz=285,slow=24,SNR=8.0 comp=Z,1.1nm,0.5s						
AS31	Alice Springs	14.73 116		Pn	Pn	20 43 36.9	+0.1
AS01	Alice Springs	14.77 116		P	Pn	20 43 39.0	+1.6
AS06	Alice Springs	14.78 116		P	Pn	20 43 37.8	+0.3
FORT	Forrest	15.20 151		Pn	Pn	20 43 41.6	-1.5
FORT				IAmb	IAmb	20 44 07.1	
	comp=Z,22nm,1.3s						
FORT	Forrest	15.20 151		P	Pn	20 43 41.5	-1.6
FORT	Forrest	15.20 151		P	Pn	20 43 43.1	0.0
NWAO	Narrogin (SRO)	15.34 187		Pn	Pn	20 43 41.1	-3.9
NWAO				IAmb	IAmb	20 43 54.6	
	comp=Z,22nm,1.2s						
NWAO	Narrogin (SRO)	15.34 187		P	Pn	20 43 41.8	-3.2
OOD	Oodnadatta	17.99 127		P	Pn	20 44 18.8	+0.2
	comp=Z,5.3nm,1.8s						
OOD	Oodnadatta	17.99 127		P	P	20 44 20.0	+0.9
QIS	Mount Isa	19.20 102		P	Pn	20 44 36.0	+2.6
BBOO	Buckleboo	21.20 138		P	P	20 44 53.7	-0.5
BBOO				IAmb	IAmb	20 45 23.4	
	comp=Z,20nm,1.5s						
COEN	Coen	23.05 84		P	P	20 45 13.9	-0.2
STKA	Stephens Creek	24.47 129		P	P	20 45 28.1	+0.4
KRVT	Keravat (AS076	34.48 71		LR	LR	21 03 08.6	
	comp=Z,64nm,19.9s,baz=195,slow=40						
MKAR	Makanchi Array	72.39 334		P	P	20 51 46.8	+12
	comp=Z,0.2nm,0.6s,baz=160,slow=5.5,SNR=2.6 comp=Z,0.2nm,0.6s						

IDC ***07*** *20:56:45.9±0.4, 1°.78N×126°.64E, h0km, mb4.5/25, mbtmp4.5/27, ML4.6/2, MS3.6/33, Error ellipse: s-maj=24.4km s-min=8.4km az=76.0*

NEIC ***07*** *20:56:52.0±1.5, 1°.89N±0°.09×126°.78E±0°.03, h45km±8km, mb4.7/82, Error ellipse: s-maj=13.3km s-min=2.0km az=196.0*

DJA ***07*** *20:56:53.7±0.2,2°N±2°×12°7E±°, h54km±3km, M4.7/31, mB5.2/9, mb4.9/31, MLv4.7/17, Mw(mB)4.6/9, MwMwp4.5/1, Mwp4.9/1*

ISC 07 20:56:52.7±0.3, 1°.89N±0°.04×126°.73E±0°.05, h47km, n185, σ1§60/148, mb4.7/72, MS3.6/31, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28 150		Pn	Pn	20 57 13.6	-0.5
TNTI	Ternate	1.28 150		P	Pn	20 57 13.9	-0.2
TNTI	Ternate	1.28 150		P	Pn	20 57 13.8	-0.3
TNTI				S	Sn	20 57 33.0	+2.8
SGSI	Sangihe	2.15 326		P	Pn	20 57 25.5	-0.6
SGSI				S	Sn	20 57 53.3	+1.7
KMSI	Cibinong	3.04 245		P	Pn	20 57 39.7	+1.4
SANI	Sanana	3.98 191		P	Pn	20 57 51.3	+0.1
SANI	Sanana	3.98 191		P	Pn	20 57 51.1	-0.1
LUWI	Luwuk	4.91 234		Pn	Pn	20 58 03.6	-0.4
LUWI	Luwuk	4.91 234		P	Pn	20 58 06.2	+2.2
MRSI	Marisa	4.99 254		P	Pn	20 58 06.1	+1.1
NLAI	Namlea	5.11 176		P	Pn	20 58 06.7	0.0
	0.5nm2μm88nm,0.8s						
DAV	Davao City (W)	5.27 347		Pn	Pn	20 58 08.8	-0.1
	15nm,0.3s,baz=50,slow=20,SNR=1.2 66nm,0.3s						
MSAI	Masohi	5.64 157		P	Pn	20 58 16.4	+2.3
	0.6nm3μm129nm,0.8s						
AAI	Ambon	5.73 165		P	Pn	20 58 16.5	+1.3
	0.3nm79nm,0.6s						
APSI	Ampana	5.79 241		P	Pn	20 58 17.1	+1.1
	2μm189nm,1.3s						
TOLI2	Tolitoli	5.99 263		Pn	Pn	20 58 18.7	-0.2
FAKI	Fak Fak	7.30 131		Pn	Pn	20 58 34.9	-1.9
FAKI	Fak Fak	7.30 131		P	Pn	20 58 37.4	+0.6
PCI	Palu	7.43 248		P	Pn	20 58 45.9	+7.3
MYLDM	Lahad Datu	8.84 292		Pn	Pn	20 59 00.6	+2.8
MYLDM	Lahad Datu	8.84 292		P	Pn	20 59 01.5	+3.6
KAPI	Kappang	9.78 225		LR	LR	21 03 39.7	
	comp=Z,174nm,19.9s,baz=54,slow=43						
BAKI	Biak	9.86 108		P	Pn	20 59 25.1	+13
KKM	Kota Kinabalu	11.27 292		Pn	Pn	20 59 32.8	+1.5
SOEI	Soe	11.82 192		Pn	Pn	20 59 38.2	-0.7
SOEI	Soe	11.82 192		P	Pn	20 59 47.9	+9.0
SMPI	Sarmi	12.58 108		P	P	21 00 06.8	+7.3
PLAI	Plampang	13.89 220		P	Pn	21 00 08.5	+1.5
GENI	Genyem	14.15 108		P	P	21 00 19.8	+2.8
SBUM	Sibu	14.51 272		Pn	Pn	21 00 15.2	-0.1
JAY	Jayapura	14.64 107		LR	LR	21 05 14.4	
	comp=Z,572nm,20.6s,baz=296,slow=35						
JAY	Jayapura	14.64 107		P	Pn	21 00 18.8	+1.7
	41nm,0.8s						
MTN	Manton Dam	15.28 163		Pn	Pn	21 00 23.8	-1.6
MTN	Manton Dam	15.28 163		P	Pn	21 00 25.1	-0.2
STKI	Sintang	15.36 263		P	Pn	21 00 27.7	+1.3
KDU	Kakadu	15.56 159		P	P	21 00 30.6	-2.0
JAGI	Jajag, Banyuwa	16.22 230		Pn	Pn	21 00 37.4	-0.1
JAGI				IAmb	IAmb	21 01 02.1	
	comp=Z,86nm,1.2s						
KNRA	Kununurra	17.57 173			Pn	21 00 53.5	-0.8
KNRA				IAmb	IAmb	21 00 59.8	
	comp=Z,56nm,1.1s						
UGM	Wanagama	18.87 239		P	P	21 01 09.1	-0.1
UGM				IAmb	IAmb	21 01 40.1	
	comp=Z,97nm,1.5s						
FITZ	Fitzroy Crossi	19.89 183		P	P	21 01 19.4	-0.8
FITZ	Fitzroy Crossi	19.89 183		P	P	21 01 18.8	-1.4
	comp=Z,1.7nm,0.3s,baz=12,slow=8.1,SNR=40						
FITZ				LR	LR	21 09 22.2	
	comp=Z,109nm,21.8s,baz=15,slow=38 comp=Z,7.1nm,0.5s						
DLV	Lat	20.66 300		P	P	21 01 29.6	+0.7
LEM	Lembang	20.95 245		P	P	21 01 32.9	+0.9
	comp=Z,19nm,0.8s						
PPBI	Pangkal Pinang	20.98 259		P	Pn	21 01 33.2	-2.0
GUMO	Guam	21.38 56		LR	LR	21 09 30.9	
	comp=Z,76nm,18.5s,baz=238,slow=36						
YULB	Yu-li	22.02 347		P	P	21 01 39.7	-3.5
YULB				IAmb	IAmb	21 01 48.9	
	comp=Z,22nm,0.9s						
YULB	Yu-li	22.02 347		P	P	21 01 44.3	+1.1
TPUB	Ta-pu	22.09 345		P	P	21 01 40.6	-3.4
TPUB	Ta-pu	22.09 345		P	P	21 01 45.3	+1.3
SSLB	Suanglung	22.48 346		P	P	21 01 46.2	-1.9
SSLB				IAmb	IAmb	21 01 49.9	
	comp=Z,56nm,1.2s						
SSLB	Suanglung	22.48 346		P	P	21 01 48.2	0.0
CGJI	Cibinong	22.63 248		P	P	21 01 48.4	-1.5
	comp=Z,22nm,0.6s						
COEN	Coen	22.66 134		P	P	21 01 47.8	-2.4
COEN	Coen	22.66 134		P	P	21 01 50.4	+0.2
WB0	Warramunga Arr	22.80 161		P	P	21 01 49.6	-1.9
MYKOM	Kota Tinggi	22.87 270		P	P	21 01 50.0	-2.4
MYKOM				IAmb	IAmb	21 01 54.0	
	comp=Z,18nm,0.8s						
WRAB	Tennant Creek	22.94 161		P	P	21 01 51.3	-1.7
WRA	Warramunga Arr	22.94 161		P	P	21 01 50.5	-2.6
WRA	Warramunga Arr	22.94 161		P	P	21 01 51.9	-1.2
	comp=Z,36nm,0.7s,baz=338,slow=11,SNR=124						
WRA				PcP	PcP	21 05 42.7	+0.4
	comp=Z,1.5nm,0.7s,baz=320,slow=2.1,SNR=1.3						
WRA				S	S	21 05 58.5	-1.4
	comp=Z,1.2nm,0.8s,baz=334,slow=19,SNR=4.8 comp=Z,36nm,0.7s						
WB2	Warramunga Arr	22.95 161		P	P	21 01 51.4	-1.8
WR0	Warramunga Arr	23.03 161		P	P	21 01 52.0	-1.9
WR0				IAmb	IAmb	21 01 53.7	
	comp=Z,27nm,0.8s						
PMG	Port Moresby	23.24 119		LR	LR	21 11 42.6	
	comp=Z,335nm,21.9s,baz=306,slow=38						
MDSI	Maura Dua	23.41 254		P	P	21 01 55.9	-1.8
	comp=Z,19nm,0.9s						
LWLI	Liwa	23.66 253		P	P	21 01 59.8	-0.5
	comp=Z,70nm,0.7s						
QIZ	Qiongzhong	23.74 317		P	P	21 01 59.2	-1.7
QIZ				IAmb	IAmb	21 02 32.4	
	comp=Z,51nm,1.4s						
QIZ	Qiongzhong	23.74 317		P	P	21 02 01.7	+0.9
QIZ				S	S	21 06 19.4	+6.4
QIZ				LR	LR		
	comp=N,300nm,12.0s						
QIZ				LR	LR		
	comp=E,470nm,12.0s						
QIZ				LR	LR		
	comp=Z,430nm,20.3s						
MBWA	Marble Bar	23.91 196		P	P	21 01 58.6	-3.7
PSA00	Pilbara Seismi	24.27 196		P	P	21 02 03.8	-1.8
PSA00	Pilbara Seismi	24.27 196		P	P	21 02 04.7	-0.9
PSA00				IAmb	IAmb	21 02 21.1	
	comp=Z,15nm,0.9s						
PSA00	Pilbara Seismi	24.27 196		P	P	21 02 06.2	+0.6
UBPT	Khong Chiam	24.84 304		P	P	21 02 10.5	-0.3
UBPT	Khong Chiam	24.84 304		P	P	21 02 12.4	+1.6
QIS	Mount Isa	25.63 151		P	P	21 02 18.2	+0.2
AS31	Alice Springs	26.34 165		P	P	21 02 23.3	-1.2
ASAR	Alice Springs	26.34 165		P	P	21 02 23.6	-0.9
	comp=Z,14nm,0.8s,baz=344,slow=6.4,SNR=58						
ASAR				PcP	PcP	21 05 50.0	+0.3
	comp=Z,2.0nm,0.6s,baz=351,slow=2.0,SNR=7.5						
ASAR				S	S	21 07 02.2	+7.8
	comp=Z,2.8nm,1.1s,baz=341,slow=17,SNR=6.8						
ASAR				LR	LR	21 12 59.4	
	comp=Z,65nm,20.7s,baz=346,slow=37 comp=Z,14nm,0.8s						
AS01	Alice Springs	26.35 165		P	P	21 02 24.5	-0.1
WRKA	Warakurna	26.81 177		P	P	21 02 28.7	+0.1
GIRL	Giralia	27.26 206		P	P	21 02 33.6	+0.9
PSI	Prapat	27.80 272		LR	LR	21 14 07.8	
	comp=Z,205nm,21.3s,baz=96,slow=38						
JCJ	Chichijima	29.12 29		LR	LR	21 14 56.7	
	comp=Z,41nm,18.7s,baz=192,slow=37						
GSI	Gunungsitoli	29.15 269		P	P	21 02 46.3	-3.3
GSI				IAmb	IAmb	21 02 50.3	
	comp=Z,20nm,0.7s						
GSI	Gunungsitoli	29.15 269		P	P	21 02 50.8	+1.1
GSI	Gunungsitoli	29.15 269		P	P	21 02 49.3	-0.4
	comp=Z,29nm,0.9s						
MEEK	Meekatharra	29.42 195		P	P	21 02 52.2	+0.3
JNU	Nakatsue	31.31 7		P	P	21 03 09.2	+0.7
JNU				IAmb	IAmb	21 03 10.6	
	comp=Z,18nm,0.8s						
CMAR	Chiang Mai Arr	31.83 303		P	P	21 03 13.3	0.0
	comp=Z,2.1nm,0.9s,baz=127,slow=7.4,SNR=14						
CMAR				LR	LR	21 17 23.7	
	comp=Z,60nm,18.8s,baz=125,slow=39 comp=Z,2.1nm,0.9s						
CHTO	Chiang Mai	32.00 304		P	P	21 03 14.4	-0.3
MORW	Morawa	32.44 198		P	P	21 03 17.4	-1.1
MORW				IAmb	IAmb	21 03 31.8	
	comp=Z,10nm,1.1s						
FORT	Forrest	32.51 178		P	P	21 03 18.5	-0.6
HNR	Honiara	34.95 109		LR	LR	21 20 12.2	
	comp=Z,92nm,18.3s,baz=289,slow=40						
KSRS	Korea Array	35.41 2		P	P	21 03 45.1	+1.0
	comp=Z,3.5nm,0.6s,baz=179,slow=9.7,SNR=17 comp=Z,3.5nm,0.6s						
BBOO	Buckleboo	35.62 166		IAmb	IAmb	21 03 48.2	
	comp=Z,15nm,1.2s						
MJAR	Matsushiro Arr	36.08 16		P	P	21 03 49.5	-0.4
	comp=Z,6.2nm,0.8s,baz=182,slow=9.2,SNR=11						
MJAR				LR	LR	21 18 09.3	
	comp=Z,114nm,21.3s,baz=197,slow=35 comp=Z,6.2nm,0.8s						
STKA	Stephens Creek	36.42 158		P	P	21 03 51.9	-1.0
STKA	Stephens Creek	36.42 158		P	P	21 03 51.5	-1.4
	comp=Z,7.0nm,0.7s,baz=336,slow=8.9,SNR=16						
STKA				LR	LR	21 21 09.3	
	comp=Z,118nm,20.6s,baz=16,slow=40 comp=Z,7.0nm,0.7s						
DL2	Dalian	37.14 353		P	P	21 04 00.2	+1.3
DL2				pmax	pmax		
	comp=Z,27nm,0.8s						
BJT	Baijiatuau	39.15 347		P	P	21 04 14.5	-1.3
BJT				IAmb	IAmb	21 04 19.9	
	comp=Z,9.0nm,0.9s						
BRDH	Bariadhala	39.83 304		LR	LR	21 22 18.2	
	comp=Z,94nm,20.1s,baz=127,slow=38						
SHL	Shillong	40.98 308		P	P	21 04 30.3	-1.2
SHL				IAmb	IAmb	21 04 31.6	
	comp=Z,16nm,0.7s						
BTO	Baotou	41.41 341		eP	P	21 04 37.7	+3.1
BTO				PP	PP	21 06 09.6	-1.4
BTO				S	S	21 10 48.1	+1.7
BTO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,360nm,4.8s						
BTO				LR	LR		
	comp=N,220nm,4.9s						
BTO				LR	LR		
	comp=E,290nm,4.4s						
BTO				LR	LR		
	comp=Z,260nm,7.2s						
CN2	Changchun	41.75 359		eP	P	21 04 37.8	+0.5
CN2				ePP	PnPn	21 06 19.4	-0.3
USRK	Ussuriysk Ar.	42.39 6		P	P	21 04 42.0	-0.5
USRK	Ussuriysk Ar.	42.39 6		P	P	21 04 43.4	+0.9
	comp=Z,11nm,0.9s,baz=176,slow=6.0,SNR=9.8 comp=Z,11nm,0.9s						
USA0B	Ussuriysk Arra	42.39 6		P	P	21 04 41.9	-0.6
USA0B				IAmb	IAmb	21 04 47.1	
	comp=Z,9.2nm,0.8s						
XLT	XiLinHaoTe	42.89 349		eP	P	21 04 47.8	+1.1
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSA	Lhasa	43.66 313		P	P	21 04 52.9	-0.7
LSA				IAmb	IAmb	21 04 54.7	
	comp=Z,6.5nm,0.6s						
BNX	BinXian	43.68 1		⇓P	P	21 04 52.3	-0.5
BNX				pmax	pmax		
	comp=Z,4.0nm,1.8s						
ASAJ	Asahikawa	44.35 16		P	P	21 04 59.2	+1.0
	comp=Z,4.1nm,0.4s,baz=230,slow=10.0,SNR=10						
ASAJ				LR	LR	21 23 01.3	
	comp=Z,89nm,22.0s,baz=180,slow=35 comp=Z,4.1nm,0.4s						
GTA	Gaotai	44.67 330		eP	P	21 05 01.6	+0.5
GTA				sP	pP	21 05 08.2	-5.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PALK	Pallekele	46.17 278		LR	LR	21 28 29.6	
	comp=Z,46nm,18.1s,baz=106,slow=41						
KLR	Kul'dur	47.36 4		P	P	21 05 23.1	+1.1
	comp=Z,2.9nm,0.8s,baz=215,slow=3.9,SNR=7.5 comp=Z,2.9nm,0.8s						
HEH	HeiHe	48.19 1		eP	P	21 05 29.3	+0.9
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	Ulaanbaatar	48.86 342		P	P	21 05 32.7	-1.0
ULN				IAmb	IAmb	21 05 35.9	
	comp=Z,4.8nm,0.7s						
SONM	Songino Array	49.03 342		P	P	21 05 35.2	+0.2
SONM	Songino Array	49.03 342		P	P	21 05 35.0	-0.1
	comp=Z,2.4nm,0.6s,baz=156,slow=8.0,SNR=16						
SONM				LR	LR	21 26 45.2	
	comp=Z,63nm,21.1s,baz=204,slow=37 comp=Z,2.4nm,0.6s						
MSVF	Nonsavu	54.17 113		LR	LR	21 31 01.8	
	comp=Z,55nm,18.6s,baz=63,slow=38						
PETK	Petropavlovsk-	57.13 22		P	P	21 06 35.6	+1.2
	comp=Z,3.6nm,0.7s,baz=188,slow=5.4,SNR=13 comp=Z,3.6nm,0.7s						
MK31	Makanchi Array	59.06 326		P	P	21 06 47.1	-1.0
MKAR	Makanchi Array	59.06 326		P	P	21 06 47.1	-1.0
MKAR	Makanchi Array	59.06 326		P	P	21 06 47.9	-0.2
	comp=Z,3.3nm,0.5s,baz=120,slow=7.9,SNR=98						
MKAR				LR	LR	21 34 10.7	
	comp=Z,64nm,18.2s,baz=102,slow=38 comp=Z,3.3nm,0.5s						
MAKZ	Makanchi	59.25 326		P	P	21 06 48.7	-0.7
MAKZ				IAmb	IAmb	21 06 50.8	
	comp=Z,4.1nm,0.7s						
KSH	Kashi	59.35 316		P	P	21 06 52.2	+1.9
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KDJ	Kajisay	59.72 319		P	P	21 06 52.5	-0.4
KDJ				IAmb	IAmb	21 06 58.0	
	comp=Z,5.3nm,0.7s						
YAK	Yakutsk	60.04 2		P	P	21 06 54.0	-0.5
MA2	Magadan	60.48 14		LR	LR	21 32 43.9	
	comp=Z,44nm,20.8s,baz=174,slow=36						
URZ	Urewera	61.21 136		LR	LR	21 33 20.0	
	comp=Z,130nm,19.6s,baz=112,slow=36						
AAK	Ala-Archa	61.72 319		P	P	21 07 04.6	-1.9
ZAA0	Zalesovo Array	62.22 333	

comp=Z,7.8nm,0.8s
D19K Kuna River 82.83 21 IAmb IAmb 21 09 14.7
comp=Z,7.8nm,0.8s
J19K Poorman 82.90 26 IAmb IAmb 21 09 35.4
comp=Z,14nm,1.4s
E19K Redstone River 82.93 22 IAmb IAmb 21 09 17.6
comp=Z,11nm,0.9s
M20K Styx River 83.69 28 IAmb IAmb 21 09 19.8
KBZ Khabaz 84.24 314 P **P 21 09 19.4 0.0**
comp=Z,3.5nm,0.9s,baz=152,slow=6.6,SNR=5.9
comp=Z,3.5nm,0.9s
E21K Killik River 84.32 21 IAmb IAmb 21 09 22.5
comp=Z,4.0nm,0.7s
SLKM Skilak Lake 84.94 30 P **P 21 09 22.5 -0.2**
COLD Coldfoot 85.58 23 IAmb IAmb 21 09 29.4
comp=Z,5.2nm,1.2s
C23K Itkillik River 85.70 20 IAmb IAmb 21 09 29.3
comp=Z,4.0nm,0.7s
E23K Chandalar 85.88 22 IAmb IAmb 21 10 08.1
comp=Z,8.4nm,1.3s
D24K Happy Valley 86.26 21 IAmb IAmb 21 09 32.6
comp=Z,4.7nm,0.6s
ILAR Eielson Array 86.76 25 P **P 21 09 31.2 -0.3**
comp=Z,0.6nm,0.8s,baz=255,slow=4.8,SNR=5.3
comp=Z,0.6nm,0.8s
C27K Jago River 88.09 21 IAmb IAmb 21 10 13.3
comp=Z,7.0nm,1.4s
D27M Malcolm River 89.07 21 IAmb IAmb 21 10 07.6
comp=Z,5.5nm,1.4s
KMBO Kilima Mbogo 89.51 269 LR LR 21 47 18.8
comp=Z,32nm,20.8s,baz=84,slow=34
MMAI Mount Meron Ar 90.10 303 P **P 21 09 48.4 +0.2**
comp=Z,3.0nm,0.9s,baz=108,slow=4.7,SNR=1.8
MMAI LR LR 21 55 16.2
comp=Z,15nm,19.8s,baz=97,slow=39
comp=Z,3.0nm,0.9s
EIL Elat 90.62 300 LR LR 21 54 04.8
comp=Z,11nm,20.5s,baz=50,slow=38
SYO Syowa Base 90.72 201⇓*e*PcP **PcP 21 09 54.2 +3.0**
BRTR Keskin Array B 91.19 310 P **P 21 09 52.2 -1.0**
comp=Z,0.9nm,0.8s,baz=116,slow=3.4,SNR=7.6
comp=Z,0.9nm,0.8s
QSPA South Pole Qui 91.81 180 P **P 21 09 54.6 -0.8**
comp=Z,1.4nm,0.8s,baz=311,slow=9.0,SNR=6.7
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 92.17 340 P **P 21 09 56.6 -0.3**
comp=Z,6.4nm,1.2s,baz=78,slow=5.1,SNR=1.4
ARCES LR LR 21 56 07.3
comp=Z,41nm,19.5s,baz=90,slow=39
comp=Z,6.4nm,1.2s
FARO Faro, Yukon 92.97 28 IAmb IAmb 21 10 02.9
comp=Z,3.3nm,0.8s
AKASG Malin Array Be 93.31 321 P **P 21 10 02.2 -0.3**
comp=Z,0.2nm,0.4s,baz=70,slow=4.6,SNR=1.6
comp=Z,0.2nm,0.4s
FINES FINESS Array B 93.44 332 P **P 21 10 03.5 +0.6**
comp=Z,1.1nm,0.7s,baz=64,slow=4.4,SNR=6.4
FINES LR LR 21 55 29.4
comp=Z,36nm,19.4s,baz=44,slow=38
comp=Z,1.1nm,0.7s
C36M Paulatuk 94.94 20 IAmb IAmb 21 10 10.6
comp=Z,2.3nm,0.8s
MLR Muntele Rosu 96.22 316 LR LR 22 01 08.3
comp=Z,23nm,18.7s,baz=78,slow=40
BUR08 Bucovina Ar. S 96.37 318 IAmb IAmb 21 10 20.1
comp=Z,1.8nm,0.8s
LSZ Lusaka 98.73 255 LR LR 21 50 16.9
comp=Z,66nm,20.2s,baz=97,slow=33
RES Resolute Bay 99.61 10 LR LR 21 57 39.3
comp=Z,21nm,21.1s,baz=16,slow=37
HFS Hagfors 99.64 332 P **Pdif 21 10 32.9 +1.8**
comp=Z,3.5nm,0.9s,baz=29,slow=3.3,SNR=1.9
HFS LR LR 21 58 07.6
comp=Z,36nm,21.5s,baz=66,slow=37
comp=Z,3.5nm,0.9s
NOA NORSAR Array B 100.42 333 P **Pdif 21 10 36.1 +1.5**
comp=Z,0.7nm,0.8s,baz=70,slow=4.4,SNR=3.5
YKA Yellowknife Ar 101.17 25 P **Pdif 21 10 38.2 +0.4**
comp=Z,0.2nm,0.6s,baz=295,slow=4.8,SNR=2.7
TXAR Lajitas Array 122.71 53 PKP **PKiKP 21 15 44.9 +0.5**
comp=Z,0.6nm,0.7s,baz=197,slow=2.1,SNR=4.7

*IDC **07** 21:00:58.5±2.0, 31°.91S×177°.81W, h0km, mb3.9/2, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=59.3km s-min=33.2km az=127.0*
*WEL **07** 21:00:58.6±1.2, 32°.5±5°.×17°.8W±1°.9, h12km, M4.8/7, ML5.0/8, MLv4.8/7, Error ellipse: s-maj=25.1km s-min=4.3km az=102.9, confirmed*
ISC 07 21:00:59.7±1.6, 31°.7S±0°.1×178°.1W±0°.3, h10km, n40, σ2§45/36, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.42**	**3**	P	**Pn**	**21 01 38.7**	**-0.6**
GLKZ				S	**Sn**	**21 02 06.7**	**-2.3**
MXZ	**Matakaoa Point**	**6.58**	**206**	P	**Pn**	**21 02 35.3**	**-1.2**
WMGZ	**Waiomatatini S**	**6.77**	**204**	P	**Pn**	**21 02 41.3**	**+2.2**
WMGZ				S	**Sn**	**21 03 55.7**	**-0.5**
PKGZ	**Pakihiroa**	**6.93**	**206**	S	**Sn**	**21 04 00.9**	**+0.6**
HAZ	**Te Kaha**	**6.95**	**208**	P	**Pn**	**21 02 43.4**	**+1.8**
HAZ				S	**Sn**	**21 04 02.6**	**+1.9**
PUZ	**Puketiti**	**7.05**	**204**	P	**Pn**	**21 02 45.6**	**+2.6**
PUZ				S	**Sn**	**21 04 02.7**	**-0.5**
TWGZ	**Tauwhareparae**	**7.24**	**206**	P	**Pn**	**21 02 48.0**	**+2.3**
TWGZ				S	**Sn**	**21 04 08.2**	**+0.2**
CNGZ	**Carnagh Statio**	**7.44**	**203**	P	**Pn**	**21 02 47.2**	**-1.1**
CNGZ				S	**Sn**	**21 04 13.3**	**+0.6**
TKGZ	**Te Karaka**	**7.52**	**205**	S	**Sn**	**21 04 14.4**	**-0.4**
MWZ	**Matawai**	**7.55**	**207**	P	**Pn**	**21 02 51.4**	**+1.5**
MWZ				S	**Sn**	**21 04 15.3**	**-0.3**
WCZ	**Waipu Caves**	**7.61**	**234**	P	Pn	21 02 58.8	+8.2
URZ	**Urewera**	**7.66**	**210**	Pn	**Pn**	**21 02 50.4**	**-0.9**
URZ				Sn	**Sn**	**21 04 17.4**	**-0.7**
URZ	**Urewera**	**7.66**	**210**	P	**Pn**	**21 02 51.9**	**+0.6**
URZ				S	**Sn**	**21 04 17.3**	**-0.7**
OUZ	**Omahuta**	**7.81**	**241**	P	Pn	21 03 02.3	+9.0
MTHZ	**Maungataniwha**	**8.27**	**209**	S	**Sn**	**21 04 32.8**	**-0.5**
NMHZ	**Naumai**	**8.49**	**208**	P	**Sn**	**21 04 36.2**	**-2.6**
ARHZ	**Aropaoanui**	**8.56**	**207**	P	**Sn**	**21 04 39.5**	**-0.9**
BKZ	**Black Stump Fm**	**8.68**	**209**	P	**Sn**	**21 04 40.4**	**-3.0**
NGZ	**Ngauruhoe**	**9.08**	**213**	P	Sn	21 05 19.6	+26
KRHZ	**Kereru**	**9.14**	**208**	P	**Sn**	**21 04 49.9**	**-4.6**
TRVZ	**Turoa**	**9.21**	**213**	P	Sn	21 05 17.1	+21
PNHZ	**Pukenui**	**9.44**	**208**	P	**Sn**	**21 04 57.1**	**-4.8**
PRHZ	**Porangahau**	**9.58**	**205**	P	Sn	21 04 57.8	-7.5
DVHZ	**Dannevirke**	**9.78**	**207**	P	Sn	21 05 03.6	-6.7
ANWZ	**Angora Road**	**9.80**	**205**	P	**Sn**	**21 05 07.6**	**-3.2**
BFZ	**Birch Farm**	**10.08**	**205**	P	**Sn**	**21 05 12.2**	**-5.5**
CPWZ	**Castlepoint**	**10.30**	**205**	P	**Sn**	**21 05 18.7**	**-4.2**
TIWZ	**Tintock**	**10.30**	**207**	P	**Sn**	**21 05 17.6**	**-5.4**
MRZ	**Mangatainoka R**	**10.32**	**208**	P	Sn	21 05 16.4	-7.1
HOWZ	**Holdsworth Sta**	**10.55**	**208**	P	Sn	21 05 22.0	-7.1
KIW	**Kapiti Island**	**10.76**	**210**	P	Sn	21 05 27.6	-6.9
TRWZ	**Traveller**	**10.91**	**206**	P	Sn	21 05 30.4	-7.7
PAWZ	**Paruwai Farm**	**11.00**	**207**	P	Sn	21 05 33.6	-6.6
MSWZ	**Moikau Station**	**11.09**	**207**	P	Sn	21 05 32.4	-10
PLWZ	**Palliser**	**11.22**	**207**	P	Sn	21 05 37.4	-8.4
ASAR	**Alice Springs**	**43.00**	**268**	P	**P**	**21 09 01.6**	**+2.1**
	0.7nm,0.5s,baz=107,slow=7.5,SNR=9.3						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.10**	**274**	P	**P**	**21 09 10.5**	**+2.0**
	0.7nm,0.3s,baz=112,slow=8.1,SNR=18						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**121.92**	**313**	PKP	**PKPdf**	**21 19 54.8**	**+1.0**
	0.4nm,0.7s,baz=127,slow=2.3,SNR=2.1						
FINES	**FINESS Array B**	**146.33**	**339**	PKPbc	**PKPbc**	**21 20 40.8**	**+0.9**
	1.4nm,0.5s,baz=44,slow=3.7,SNR=11						
BRTR	**Keskin Array B**	**153.14**	**296**	PKPbc	**PKPbc**	**21 20 58.3**	**+0.5**
	0.5nm,0.5s,baz=190,slow=4.0,SNR=4.1						

IDC 07 21:14:30.6±3.0, 32°.51S×178°.44W, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=68.7km s-min=36.0km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.79**	**211**	Pn	Pn	21 16 11.6	+0.2
	1.8nm,0.3s,baz=51,slow=13,SNR=11						
URZ				Sn	Sn	21 17 27.7	-1.6
	1.5nm,0.3s,baz=121,slow=24,SNR=9.6						
	4.3nm,0.3s						
ASAR	**Alice Springs**	**42.66**	**269**	P	P	21 22 28.9	-0.3
	0.5nm,0.5s,baz=110,slow=7.5,SNR=9.6						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.84**	**275**	P	P	21 22 39.0	+0.2
	0.6nm,0.4s,baz=113,slow=8.2,SNR=17						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**146.98**	**339**	PKPbc	PKPbc	21 34 13.4	-1.0
	2.2nm,0.9s,baz=42,slow=4.3,SNR=6.3						

*NNC **07** 21:15:03.5±0.3, 43°.00N×77°.56E, h0km, mb3.1, mpv3.5, Error ellipse: s-maj=3.2km s-min=1.2km az=177.0*
*KRNET **07** 21:15:04.0±0.1, 43°.00N×77°.55E, h17km, mb3.0*
*SOME **07** 21:15:04.5, 43°.02N×77°.52E, h15km*
*KNET **07** 21:15:05.4±0.6, 42°.95N×77°.47E, h19km±5km, ml2.5, Error ellipse: s-maj=7.8km s-min=4.6km az=125.0*
ISC 07 21:15:04.1±0.9, 42°.98N±0°.02×77°.52E±0°.01, h8km±8km, n80, σ1§62/145, 27C-33D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.23**	**151**	⇑*iP*	**Pg**	**21 15 08.7**	**0.0**
ANVS				⇑*iS*	**Sg**	**21 15 11.9**	**+0.1**
KOTS	**Kotyrbulak**	**0.39**	**310**	P	**Pg**	**21 15 12.1**	**+0.4**
KOTS	56nm,0.2s			S	**Sg**	**21 15 17.6**	**+0.7**
	967nm,0.2s						
KOTS	**Kotyrbulak**	**0.39**	**310**	*e*P	**Pg**	**21 15 12.1**	**+0.4**
KOTS				*e*S	**Sg**	**21 15 17.6**	**+0.7**
KOTS	**Kotyrbulak**	**0.39**	**310**	*e*P	**Pg**	**21 15 12.1**	**+0.4**
KOTS	56nm,0.2s			*e*S	**Sg**	**21 15 17.6**	**+0.7**
	967nm,0.2s						
TNSS	**Tian-Shan**	**0.42**	**278**	P	**Pg**	**21 15 12.7**	**+0.3**
TNSS	61nm,0.1s			S	**Sg**	**21 15 19.0**	**+1.0**
	85nm,0.2s						
TNSS	**Tian-Shan**	**0.42**	**278**	*e*P	**Pg**	**21 15 12.7**	**+0.3**
TNSS				*e*S	**Sg**	**21 15 19.0**	**+1.0**
TNSS	**Tian-Shan**	**0.42**	**278**	*e*P	**Pg**	**21 15 12.7**	**+0.3**
TNSS	61nm,0.1s			*e*S	**Sg**	**21 15 19.0**	**+1.0**
	85nm,0.2s						
KNDC	**Almaty**	**0.47**	**300**	⇓P	**Pg**	**21 15 13.3**	**+0.2**
KNDC	3.6nm,0.2s			⇓S	**Sg**	**21 15 20.4**	**+1.1**
	17nm,0.2s						
AAA	**Alma-Ata**	**0.50**	**297**	P	**Pb**	**21 15 14.6**	**-0.5**
AAA	189nm,0.1s			S	**Sb**	**21 15 21.9**	**-0.7**
	167nm,0.2s						
AAA	**Alma-Ata**	**0.50**	**297**	*e*P	**Pb**	**21 15 14.6**	**-0.5**
AAA	189nm,0.1s			*e*S	**Sb**	**21 15 21.9**	**-0.7**
	167nm,0.2s						
SATY	**Saty**	**0.66**	**83**	P	**Pg**	**21 15 16.2**	**-0.5**
SATY	28nm,0.1s			S	**Sg**	**21 15 24.7**	**-0.6**
	378nm,0.1s						
SATY	**Saty**	**0.66**	**83**	*e*P	**Pg**	**21 15 16.2**	**-0.5**
SATY				*e*S	**Sg**	**21 15 24.7**	**-0.6**
KURS	**Kuram**	**0.69**	**43**	P	**Pg**	**21 15 16.8**	**-0.7**
KURS	9.9nm,0.1s			S	**Sg**	**21 15 25.4**	**-1.2**
	34nm,0.3s						
KURS	**Kuram**	**0.69**	**43**	*e*P	**Pn**	**21 15 22.1**	**+1.8**
KURS	13nm,0.2s			*e*S	**Sn**	**21 15 34.7**	**+3.4**
	165nm,0.5s						
ZHN	**Zhinishke**	**0.70**	**74**	P	**Pg**	**21 15 16.7**	**-0.8**
ZHN	46nm,0.1s			S	**Sg**	**21 15 25.7**	**-0.9**
	459nm,0.1s						
ZHN	**Zhinishke**	**0.70**	**74**	*e*P	**Pg**	**21 15 16.7**	**-0.8**
ZHN	46nm,0.1s			*e*S	**Sg**	**21 15 25.8**	**-0.9**
	459nm,0.1s						
MTBS	**Maitube**	**0.81**	**281**	P	**Pb**	**21 15 19.8**	**-0.7**
MTBS	53nm,0.2s			S	**Sb**	**21 15 30.8**	**-0.9**
	73nm,0.2s						
MTBS	**Maitube**	**0.81**	**281**	*e*P	**Pb**	**21 15 19.8**	**-0.7**
MTBS	53nm,0.2s			*e*S	**Sb**	**21 15 30.8**	**-0.9**
	73nm,0.2s						
PRZ	**Przheval'sk**	**0.82**	**127**	⇑*e*P	**Pg**	**21 15 19.9**	**+0.1**
PRZ				⇑*e*S	**Sg**	**21 15 30.6**	**+0.1**
KDJ	**Kajisay**	**0.89**	**196**	⇓*iP*	**Pb**	**21 15 21.1**	**-0.7**
KDJ				⇓*iS*	**Sg**	**21 15 33.5**	**+0.8**
KTBS	**Karatobe**	**0.95**	**320**	P	**Pb**	**21 15 22.2**	**-0.7**
KTBS	13nm,0.2s			S	**Sb**	**21 15 34.5**	**-1.1**
	17nm,0.3s						
CHKK	**Chushkaly**	**0.95**	**336**	P	**Pb**	**21 15 22.1**	**-0.8**
CHKK	13nm,0.2s			S	**Sg**	**21 15 34.7**	**-0.1**
	165nm,0.5s						
CHKK	**Chushkaly**	**0.95**	**336**	*e*P	**Pb**	**21 15 22.1**	**-0.8**
CHKK				*e*S	**Sg**	**21 15 34.7**	**-0.1**
CHKK	**Chushkaly**	**0.95**	**336**	*e*P	**Pb**	**21 15 22.1**	**-0.8**
CHKK	13nm,0.2s			*e*S	**Sg**	**21 15 34.7**	**-0.1**
	165nm,0.5s						
KPKS	**Kokpek**	**0.98**	**60**	P	**Pb**	**21 15 22.1**	**-1.3**
KPKS	18nm,0.1s			S	**Sb**	**21 15 34.8**	**-1.7**
	86nm,0.2s						
KPKS	**Kokpek**	**0.98**	**60**	*e*P	**Pb**	**21 15 22.1**	**-1.3**
KPKS				*e*S	**Sb**	**21 15 34.8**	**-1.7**
KPKS	**Kokpek**	**0.98**	**60**	*e*P	**Pb**	**21 15 22.1**	**-1.3**
KPKS	18nm,0.1s			*e*S	**Sb**	**21 15 34.8**	**-1.7**
	86nm,0.2s						
KPKS	**Kokpek**	**0.98**	**60**	*e*P	Pn	21 15 28.6	+4.3
KPKS	29nm,0.2s			*e*S	Sn	21 15 45.8	+7.4
	40nm,0.2s						
UZB	**Uzynbulak**	**1.11**	**81**	P	**Pb**	**21 15 24.2**	**-1.5**
UZB	64nm,0.3s			S	**Sb**	**21 15 38.3**	**-2.2**
	169nm,0.1s						
UZB	**Uzynbulak**	**1.11**	**81**	*e*P	**Pb**	**21 15 24.2**	**-1.5**
UZB	64nm,0.3s			*e*S	**Sb**	**21 15 38.2**	**-2.2**
	169nm,0.1s						
KST	**Kastek**	**1.14**	**274**	P	**Pb**	**21 15 25.8**	**-0.4**
KST	7.6nm,0.1s			S	**Sn**	**21 15 40.8**	**-1.5**
	39nm,0.4s						
KST	**Kastek**	**1.14**	**274**	*e*P	**Pb**	**21 15 25.8**	**-0.4**
KST				*e*S	**Sn**	**21 15 40.9**	**-1.5**
KST	**Kastek**	**1.14**	**274**	*e*P	**Pb**	**21 15 25.8**	**-0.4**
KST	7.6nm,0.1s			*e*S	**Sn**	**21 15 40.8**	**-1.5**
	39nm,0.4s						
ULHL	**Ulahol**	**1.20**	**232**	⇑P	**Pn**	**21 15 26.6**	**-0.7**
ULHL	10nm,0.1s,SNR=60			⇑S	**Sn**	**21 15 42.8**	**-1.0**
	28nm,0.1s						
ULHL	**Ulahol**	**1.20**	**232**	⇓*iP*	**Pn**	**21 15 26.5**	**-0.7**
ULHL				⇓*iS*	**Sg**	**21 15 43.2**	**+0.7**
ARXS	**Arharly**	**1.25**	**10**	P	**Pb**	**21 15 27.1**	**-0.8**
ARXS	25nm,0.1s			S	**Sn**	**21 15 43.2**	**-1.8**
	52nm,0.1s						
BOOM	**Boomskoye usch**	**1.26**	**248**	⇑*e*P	**Pn**	**21 15 27.3**	**-0.9**
BOOM				⇑*e*S	**Sg**	**21 15 45.2**	**+0.6**
DGS	**Degeres**	**1.30**	**282**	P	**Pb**	**21 15 28.6**	**-0.3**
DGS	29nm,0.2s			S	**Sb**	**21 15 45.8**	**-0.1**
	40nm,0.2s						
BLB	**Baldybastay**	**1.31**	**32**	P	**Pb**	**21 15 28.1**	**-1.0**
BLB	102nm,0.1s			S	**Sn**	**21 15 45.0**	**-1.7**
	50nm,0.3s						
TKM2	**Tokmak 2**	**1.41**	**268**	⇓P	**Pb**	**21 15 30.5**	**-0.3**
TKM2	7.5nm,0.1s,SNR=50			⇑S	**Sg**	**21 15 50.2**	**+0.7**
	52nm,0.1s						
TKM2	**Tokmak 2**	**1.41**	**268**	⇑Pn	**Pb**	**21 15 30.7**	**-0.1**
TKM2	2.6nm,0.3s			⇑Sn	**Sg**	**21 15 50.3**	**+0.9**
	5.6nm,0.2s						
TKM2	**Tokmak 2**	**1.41**	**268**	⇑*iP*	**Pb**	**21 15 30.5**	**-0.3**
TKM2				⇑*iS*	**Sg**	**21 15 49.6**	**+0.1**
SHLS	**Shalkode**	**1.44**	**82**	P	**Pg**	**21 15 35.6**	**+4.0**
SHLS	9.0nm,0.2s			S	**Sg**	**21 15 58.5**	**+8.2**
	25nm,0.3s						
SHLS	**Shalkode**	**1.44**	**82**	*e*P	**Pg**	**21 15 35.6**	**+4.0**
SHLS	9.0nm,0.1s			*e*S	**Sg**	**21 15 57.8**	**+7.6**
	25nm,0.3s						
PDGK	**Podgornoye**	**1.48**	**76**	⇑Pn	**Pb**	**21 15 30.4**	**-1.6**
PDGK	2.3nm,0.3s			⇓Sn	**Sb**	**21 15 49.6**	**-1.4**
	20nm,0.5s						
KRBS	**Karabastau**	**1.52**	**299**	P	**Pb**	**21 15 32.2**	**-0.3**
KRBS	57nm,0.1s			S	**Sb**	**21 15 52.2**	**+0.1**
	93nm,0.1s						
KNOS	**Konyrlen**	**1.83**	**41**	P	**Pb**	**21 15 37.4**	**-0.5**
KNOS	10nm,0.2s			S	**Sg**	**21 16 00.7**	**-2.1**
	26nm,0.5s						
KBK	**Karagaybulak**	**1.92**	**261**	⇑P	**Pb**	**21 15 39.6**	**+0.2**
KBK	16nm,0.1s,SNR=34			⇓S	**Sg**	**21 16 05.9**	**+0.2**
	79nm,0.4s						
KBK	**Karagaybulak**	**1.92**	**261**	⇓*iP*	**Pb**	**21 15 39.3**	**-0.1**
KBK				⇓*iS*	**Sg**	**21 16 04.8**	**-0.9**
CHMS	**Chumysh**	**2.03**	**271**	⇓P	**Pb**	**21 15 41.0**	**-0.2**
CHMS	6.4nm,0.1s,SNR=14			⇓S	**Sg**	**21 16 08.3**	**-0.9**
	26nm,0.2s						
CHMS	**Chumysh**	**2.03**	**271**	⇓Pg	**Pb**	**21 15 41.8**	**+0.6**
CHMS	2.0nm,0.2s			⇓Lg	Lg	21 16 10.4	
	8.5nm,0.3s						
CHMS	**Chumysh**	**2.03**	**271**	⇑*iP*	**Pb**	**21 15 40.7**	**-0.5**
CHMS				⇑*iS*	**Sb**	**21 16 07.3**	**+0.7**
TDK	**Taldyqorghan**	**2.12**	**17**	Pg	**Pb**	**21 15 42.2**	**-0.5**
TDK	14nm,0.3s			Lg	Lg	21 16 09.1	
	98nm,0.2s						
TDK	**Taldyqorghan**	**2.12**	**17**	*e*P	**Pb**	**21 15 42.2**	**-0.5**
TDK	14nm,0.3s			*e*S	**Sb**	**21 16 09.1**	**-0.1**
	98nm,0.2s						
KTMS	**Ketmen**	**2.12**	**76**	Pg	**Pb**	**21 15 41.6**	**-1.3**
KTMS	2.5nm,0.2s			Lg	Lg	21 16 08.8	
	18nm,0.2s						
KTMS	**Ketmen**	**2.12**	**76**	*e*P	**Pb**	**21 15 41.6**	**-1.3**
KTMS	2.1nm,0.1s			*e*S	**Sb**	**21 16 08.1**	**-1.4**
	20nm,0.2s						
FRU1	**Bishkek**	**2.13**	**266**	⇓*iP*	**Pb**	**21 15 42.3**	**-0.6**
FRU1				⇓*iS*	**Sb**	**21 16 09.6**	**+0.1**
DJR	**Jarkent**	**2.13**	**50**	Pg	**Pb**	**21 15 42.3**	**-0.6**
DJR	2.6nm,0.1s			Lg	Lg	21 16 09.4	
	29nm,0.4s						
DJR	**Jarkent**	**2.13**	**50**	*e*P	**Pb**	**21 15 42.3**	**-0.6**
DJR	2.6nm,0.1s			*e*S	**Sb**	**21 16 09.4**	**-0.2**
	29nm,0.4s						
SGDS	**Sogindy**	**2.16**	**284**	Pg	**Pb**	**21 15 43.0**	**-0.5**
SGDS	16nm,0.2s			Lg	Lg	21 16 11.8	
	14nm,0.2s						
USP	**Ospenovka**	**2.23**	**278**	⇑P	**Pb**	**21 15 43.5**	**-1.2**
USP	9.7nm,0.1s,SNR=19			⇑S	**Sb**	**21 16 13.7**	**+1.4**
	26nm,0.2s						
USP	**Ospenovka**	**2.23**	**278**	⇓*iP*	**Pb**	**21 15 43.4**	**-1.2**
USP				⇓*iS*	**Sb**	**21 16 12.0**	**-0.3**
AAK	**Ala-Archa**	**2.25**	**262**	⇓P	**Pb**	**21 15 45.1**	**0.0**
AAK	5.1nm,0.2s,SNR=14			⇑S	**Sb**	**21 16 14.6**	**+1.5**
	16nm,0.3s						
AAK	**Ala-Archa**	**2.25**	**262**	Pg	**Pb**	**21 15 46.0**	**+1.0**
AAK	2.3nm,0.3s			⇓Lg	Lg	21 16 15.4	
	11nm,0.5s						
AAK	**Ala-Archa**	**2.25**	**262**	⇓*iP*	**Pb**	**21 15 43.9**	**-1.2**
AAK				⇓*iS*	**Sb**	**21 16 12.7**	**-0.4**
UCH	**Uchtor**	**2.34**	**252**	⇓*iP*	**Pb**	**21 15 45.3**	**-1.5**
UCH				⇓*iS*	**Sb**	**21 16 15.2**	**-0.8**
ARLS	**Aral**	**2.62**	**246**	⇓*iP*	**Pb**	**21 15 49.4**	**-1.9**
ARLS				⇓*iS*	**Sb**	**21 16 21.4**	**-2.3**
KAPS	**Kapalarasan**	**2.66**	**29**	Pg	**Pb**	**21 15 52.0**	**+0.1**
KAPS	1.4nm,0.1s			Lg	Lg	21 16 26.0	
	60nm,0.2s						
EKS2	**Erkin-Say**	**2.77**	**265**	⇑P	**Pb**	**21 15 51.7**	**-2.2**
EKS2	2.0nm,0.1s,SNR=10						
EKS2	**Erkin-Say**	**2.77**	**265**	⇓*iP*	**Pb**	**21 15 51.1**	**-2.8**
EKS2				⇓*iS*	**Sb**	**21 16 25.2**	**-2.8**
AML	**Almayashu**	**2.95**	**255**	⇓*iP*	**Pb**	**21 15 53.9**	**-3.2**
AML				⇓*iS*	**Sb**	**21 16 29.8**	**-3.7**
MRKS	**Merke**	**3.16**	**267**	Pg	**Pb**	**21 16 02.3**	**+1.7**
MRKS	2.9nm,0.4s			Lg	Lg	21 16 43.7	
	9.5nm,0.3s						
MRKS	**Merke**	**3.16**	**267**	*e*P	**Pb**	**21 16 02.3**	**+1.7**
MRKS	2.9nm,0.4s			*e*S	**Sg**	**21 16 43.6**	**-2.0**
	9.5nm,0.3s						
BTLS	**Baital**	**3.24**	**311**	Pg	**Pb**	**21 16 01.8**	**0.0**
BTLS	1.0nm,0.2s			Lg	Lg	21 16 42.8	
	9.5nm,0.5s						
BTLS	**Baital**	**3.24**	**311**	*e*P	**Pb**	**21 16 01.8**	**0.0**
BTLS	1.0nm,0.2s			*e*S	**Sb**	**21 16 42.8**	**+1.4**
	9.5nm,0.5s						
SALK	**Salom-Alik**	**3.46**	**234**	⇑*iP*	**Pn**	**21 16 01.2**	**+2.8**
SALK				⇑*iS*	**Sn**	**21 16 41.8**	**+2.1**
MNAS	**Manas**	**3.73**	**264**	⇑*iP*	**Pn**	**21 16 04.4**	**+2.4**
MNAS				⇑*iS*	**Sn**	**21 16 48.0**	**+1.8**
MK31	**Makanchi Array**	**5.10**	**40**	⇑Pn	**Pn**	**21 16 21.9**	**+1.1**
	baz=218,slow=15,SNR=6.2						
MK31				⇑Pg	**Pg**	**21 16 38.9**	**-2.8**
	0.1nm,0.3s,baz=219,slow=16,SNR=4.8						
MK31				Sn	**Sn**	**21 17 20.4**	**+0.5**
	0.6nm,0.5s,baz=217,slow=27,SNR=6.0						
MK31				⇓Lg	Lg	21 17 41.5	
	0.3nm,0.3s,baz=222,slow=28,SNR=6.4						
KK31	**Karatay Array**	**5.14**	**274**	Lg	Lg	21 17 44.8	
	0.8nm,0.4s,baz=92,slow=30,SNR=8.2						
OTUK	**Ortayu**	**6.39**	**327**	⇓Lg	Lg	21 18 21.4	
	2.5nm,0.5s						

IDC 07 21:17:48.0±4.5, 51°.61N×157°.13E, h109km±29km, mb2.9/4, mbtmp3.3/4, Error ellipse: s-maj=52.1km s-min=28.1km az=170.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.54**	**13**	P	Pn	21 18 15.7	+0.4
	9.1nm,0.6s,baz=192,slow=11,SNR=102						
PETK				S	Sn	21 18 35.9	0.0
	4.3nm,0.6s,baz=196,slow=9.6,SNR=8.0						
ILAR	**Eielson Array**	**31.15**	**43**	P	P	21 23 54.4	-1.6
	0.4nm,0.9s,baz=270,slow=7.8,SNR=4.5						
	0.4nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.61**	**2**	P	Pn	21 24 30.7	-3.2
GLKZ				S	**Sn**	**21 25 02.5**	**-3.1**
MXZ	**Matakaoa Point**	**6.43 207**		Pn	**Pn**	**21 25 27.3**	**+0.8**
MXZ	**Matakaoa Point**	**6.43 207**		P	**Pn**	**21 25 26.3**	**-0.2**
WMGZ	**Waiomatatini S**	**6.61 205**		P	**Pn**	**21 25 29.7**	**+0.7**
PKGZ	**Pakihiroa**	**6.78 207**		P	**Pn**	**21 25 30.8**	**-0.5**
PKGZ				S	**Sn**	**21 26 47.1**	**-1.5**
HAZ	**Te Kaha**	**6.81 209**		P	**Pn**	**21 25 31.6**	**-0.1**
HAZ				S	**Sn**	**21 26 50.8**	**+1.6**
PUZ	**Puketiti**	**6.89 205**		P	**Pn**	**21 25 32.2**	**-0.7**
PUZ				S	**Sn**	**21 26 50.0**	**-1.4**
GRZ	**Great Barrier**	**6.95 229**		P	Pn	21 25 42.0	+8.3
RUGZ	**Raukumara Rang**	**7.03 209**		P	**Pn**	**21 25 35.4**	**+0.5**
RUGZ				S	**Sn**	**21 26 55.0**	**+0.2**
TWGZ	**Tauwhareparae**	**7.09 206**		P	**Pn**	**21 25 35.1**	**-0.5**
TWGZ				S	**Sn**	**21 26 55.4**	**-0.9**
CNGZ	**Carnagh Statio**	**7.28 204**		P	**Pn**	**21 25 36.9**	**-1.3**
MWZ	**Matawai**	**7.40 208**		P	**Pn**	**21 25 40.7**	**+0.8**
URZ	**Urewera**	**7.52 211**		Pn	**Pn**	**21 25 38.4**	**-3.0**
	2.5nm,0.3s,baz=358,slow=3.0,SNR=24						
URZ				Sn	**Sn**	**21 27 04.5**	**-2.1**
	12nm,0.3s,baz=208,slow=13,SNR=9.0						
	8.7nm,0.4s						
URZ	**Urewera**	**7.52 211**		P	**Pn**	**21 25 39.7**	**-1.7**
URZ				S	**Sn**	**21 27 04.7**	**-2.0**
WCZ	**Waipu Caves**	**7.53 235**		P	Pn	21 25 47.3	+5.7
RIGZ	**Rimuhau**	**7.64 206**		P	**Pn**	**21 25 43.1**	**0.0**
RIGZ				S	**Sn**	**21 27 08.4**	**-1.3**
OUZ	**Omahuta**	**7.75 242**		P	Pn	21 25 50.7	+6.0
RTZ	**Ruatahuna**	**7.87 210**			**Pn**	**21 25 46.2**	**-0.1**
RTZ				Sn	**Sn**	**21 27 12.3**	**-3.1**
TOZ	**Tahuroa Road**	**7.91 221**		Pn	**Pn**	**21 25 47.6**	**+0.9**
BKZ	**Black Stump Fm**	**8.54 210**		Pn	**Pn**	**21 25 56.5**	**+1.1**
BKZ				Sn	**Sn**	**21 27 29.1**	**-2.8**
BKZ	**Black Stump Fm**	**8.54 210**		P	**Pn**	**21 25 56.1**	**+0.6**
BKZ				S	**Sn**	**21 27 28.8**	**-3.1**
HIZ	**Hauiti**	**8.82 219**		Pn	**Pn**	**21 25 59.5**	**+0.2**
BFZ	**Birch Farm**	**9.93 206**		Pn	**Pn**	**21 26 13.1**	**-1.4**
NNZ	**Nelson**	**11.60 214**		Pn	**Pn**	**21 26 38.7**	**+1.4**
CTZ	**Chatham Island**	**11.89 175**		Pn	**Pn**	**21 26 41.7**	**+0.4**
CTZ	**Chatham Island**	**11.89 175**		P	**Pn**	**21 26 40.9**	**-0.4**
MRNZ	**Matariki Terra**	**12.04 215**		Pn	**Pn**	**21 26 43.9**	**+0.5**
THZ	**Tophouse**	**12.25 214**		Pn	**Pn**	**21 26 46.9**	**+0.6**
KHZ	**Kahutara**	**12.48 210**		Pn	**Pn**	**21 26 49.5**	**+0.1**
LTZ	**Lake Taylor**	**13.34 213**		Pn	**Pn**	**21 27 00.1**	**-1.1**
RPZ	**Rata Peaks**	**14.62 213**		Pn	**Pn**	**21 27 15.7**	**-3.0**
RPZ	**Rata Peaks**	**14.62 213**		Pn	Pn	21 27 13.6	-5.0
	0.7nm,0.3s,baz=82,slow=16,SNR=1.6						
RPZ				Sn	Sn	21 29 44.8	-16
	1.1nm,0.3s,baz=234,slow=23,SNR=6.5						
ODZ	**Otahua Downs**	**15.84 211**		Pn	**Pn**	**21 27 34.6**	**-0.3**
WKZ	**Wanaka**	**16.42 214**		P	**P**	**21 27 45.2**	**+0.1**
WKZ				IAmb	IAmb	21 27 55.1	
	comp=Z,79nm,1.4s						
MLZ	**Mavora Lakes**	**17.25 215**		Pn	**Pn**	**21 27 51.9**	**-0.9**
WHZ	**Wether Hill Ro**	**17.72 214**		Pn	**Pn**	**21 27 56.4**	**-2.1**
RAR	**Rarotonga**	**19.45 61**		LR	LR	21 33 48.1	
	comp=Z,97nm,20.8s,baz=284,slow=31						
ARMA	**Armidale**	**25.98 265**		P	**P**	**21 29 28.2**	**+3.4**
ARMA				IAmb	IAmb	21 29 45.8	
	comp=Z,24nm,1.3s						
EIDS	**Eidsvold**	**27.83 276**		P	**P**	**21 29 43.1**	**+1.7**
EIDS				IAmb	IAmb	21 29 48.2	
	comp=Z,12nm,1.1s						
PPT	**Papeete**	**29.39 68**		LR	LR	21 38 44.3	
	comp=Z,69nm,21.6s,baz=202,slow=31						
HNR	**Honiara**	**30.27 313**		LR	LR	21 40 53.9	
	comp=Z,129nm,18.6s,baz=186,slow=34						
STKA	**Stephens Creek**	**34.16 259**		P	**P**	**21 30 39.7**	**+2.5**
STKA	**Stephens Creek**	**34.16 259**		P	**P**	**21 30 37.9**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=97,slow=11,SNR=8.2						
	comp=Z,2.6nm,0.6s						
BBOO	**Buckleboo**	**38.58 256**		P	**P**	**21 31 14.7**	**-0.2**
BBOO				IAmb	IAmb	21 31 27.0	
	comp=Z,10nm,0.8s						
PMG	**Port Moresby**	**39.24 297**		LR	LR	21 44 17.7	
	comp=Z,65nm,21.7s,baz=111,slow=31						
COEN	**Coen**	**39.68 288**		P	**P**	**21 31 25.5**	**+1.2**
COEN				IAmb	IAmb	21 31 28.2	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**43.03 269**		P	**P**	**21 31 52.6**	**+0.8**
ASAR	**Alice Springs**	**43.03 269**		P	**P**	**21 31 52.2**	**+0.4**
ASAR	**Alice Springs**	**43.03 269**		P	**P**	**21 31 52.5**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=107,slow=7.2,SNR=50						
ASAR				LR	LR	21 49 34.6	
	comp=Z,131nm,18.2s,baz=116,slow=36						
	comp=Z,4.5nm,0.7s						
WR0	**Warramunga Arr**	**43.98 274**		P	**P**	**21 31 59.9**	**+0.4**
WR0				IAmb	IAmb	21 32 12.0	
	comp=Z,8.1nm,0.6s						
WB2	**Warramunga Arr**	**44.15 274**		P	**P**	**21 32 01.1**	**+0.3**
WB2				IAmb	IAmb	21 32 13.6	
	comp=Z,16nm,0.5s						
WRAB	**Tennant Creek**	**44.15 274**		P	**P**	**21 32 01.0**	**+0.2**
WRAB				IAmb	IAmb	21 32 13.6	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**44.16 274**		P	**P**	**21 32 01.2**	**+0.4**
WRA	**Warramunga Arr**	**44.16 274**		P	**P**	**21 32 01.0**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=112,slow=8.1,SNR=83						
WRA				LR	LR	21 49 33.4	
	comp=Z,177nm,18.6s,baz=274,slow=35						
	comp=Z,5.7nm,0.5s						
WB0	**Warramunga Arr**	**44.19 274**		P	**P**	**21 32 01.1**	**0.0**
FORT	**Forrest**	**45.67 257**		P	**P**	**21 32 12.6**	**-0.2**
FORT				IAmb	IAmb	21 32 25.7	
	comp=Z,20nm,0.9s						
VNDA	**Vanda**	**46.63 186**		P	**P**	**21 32 20.4**	**+0.6**
VNDA				IAmb	IAmb	21 32 29.6	
	comp=Z,12nm,1.5s						
MTN	**Manton Dam**	**50.21 280**		P	**P**	**21 32 48.2**	**0.0**
MTN				IAmb	IAmb	21 32 50.6	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**50.81 276**		P	**P**	**21 32 53.2**	**+0.6**
KNRA				IAmb	IAmb	21 33 09.6	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.35 271**		P	**P**	**21 33 04.4**	**+0.2**
CASY	**Casey**	**53.84 208**		P	**P**	**21 33 14.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**53.88 250**		P	**P**	**21 33 14.9**	**-0.3**
NWAO				IAmb	IAmb	21 33 17.9	
	comp=Z,12nm,1.1s						
FAKI	**Fak Fak**	**54.84 291**		P	**P**	**21 33 22.0**	**-0.5**
QSPA	**South Pole Qui**	**58.24 180**		P	**P**	**21 33 47.9**	**+1.7**
KAPI	**Kappang**	**63.86 281**		LR	LR	22 01 12.0	
	comp=Z,93nm,20.3s,baz=119,slow=35						
MAW	**Mawson**	**70.93 201**		LR	LR	22 05 24.1	
	comp=Z,145nm,19.7s,baz=320,slow=35						
PMSA	**Palmer Station**	**70.93 156**		LR	LR	22 00 04.9	
	comp=Z,89nm,19.5s,baz=184,slow=31						
LEM	**Lembang**	**73.16 272**		LR	LR	22 10 03.6	
	comp=Z,66nm,18.1s,baz=175,slow=38						
JNU	**Nakatsue**	**80.65 319**		LR	LR	22 09 29.7	
	comp=Z,19nm,19.3s,baz=88,slow=34						
LPIG	**La Paz**	**85.33 58**		LR	LR	22 08 20.8	
	comp=Z,56nm,18.2s,baz=262,slow=31						
PSI	**Prapat**	**85.57 276**		LR	LR	22 16 34.7	
	comp=Z,73nm,18.2s,baz=160,slow=37						
TKX	**Tecate**	**86.43 48**		P	**P**	**21 36 36.7**	**+2.2**
PETK	**Petropavlovsk-**	**87.23 346**		P	**P**	**21 36 36.0**	**-1.9**
	comp=Z,3.0nm,0.8s,baz=160,slow=5.4,SNR=2.6						
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**89.33 43**		P	**P**	**21 36 47.2**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=243,slow=5.0,SNR=1.8						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**118.70 309**		PKP	**PKPdf**	**21 42 38.4**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=185,slow=0.5,SNR=8.0						
KURBB	**Kurchatov Arra**	**122.08 313**		PKP	**PKPdf**	**21 42 44.8**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=110,slow=1.8,SNR=21						
BVAR	**Borovoye Array**	**127.44 315**		PKP	**PKPdf**	**21 42 55.8**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=132,slow=2.3,SNR=8.3						
ARCES	**ARCESS Array B**	**140.02 347**		PKhKP	PKPpre	21 43 13.3	
	comp=Z,3.2nm,0.9s,baz=44,slow=3.9,SNR=5.9						
KBZ	**Khabaz**	**145.90 302**		PKPbc	**PKPdf**	**21 43 28.9**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=118,slow=5.8,SNR=5.7						
FINES	**FINESS Array B**	**146.52 339**		PKPbc	**PKPdf**	**21 43 31.3**	**+0.2**
	comp=Z,8.6nm,0.5s,baz=61,slow=3.4,SNR=60						
NB2	**NORSAR Subarra**	**150.20 351**		PKP	**PKPdf**	**21 43 41.5**	**+4.3**
	comp=Z,8.3nm,1.1s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**150.20 351**		PKPbc	**PKPdf**	**21 43 41.0**	**+3.8**
	comp=Z,1.1nm,0.8s,baz=62,slow=1.9,SNR=5.3						
HFS	**Hagfors**	**150.68 348**		PKPbc	**PKPdf**	**21 43 41.7**	**+3.7**
	comp=Z,4.1nm,0.7s,baz=112,slow=2.4,SNR=15						
MMAI	**Mount Meron Ar**	**151.84 281**		PKPbc	**PKPbc**	**21 43 47.5**	**+0.4**
	comp=Z,7.0nm,0.4s,baz=90,slow=5.8,SNR=38						
AKASG	**Malin Array Be**	**152.45 321**		PKPbc	**PKPbc**	**21 43 46.5**	**-1.2**
	comp=Z,4.6nm,0.9s,baz=55,slow=2.7,SNR=17						
BRTR	**Keskin Array B**	**153.26 296**		PKPbc	**PKPbc**	**21 43 49.0**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=128,slow=4.1,SNR=17						

*IDC **07** 21:29:41.3±0.8, 58°.87S×25°.40W, h0km, mb4.3/5, mbtmp4.3/6, ML4.5/1, MS3.4/2, Error ellipse: s-maj=36.7km s-min=22.6km az=70.0*
*NEIC **07** 21:29:48.9±1.7, 59°.1S±0°.1×26°.1W±0°.2, h35km±1km, mb4.6/17, Error ellipse: s-maj=22.2km s-min=8.9km az=34.0*
ISC 07 21:29:46.8±0.6, 59°.0S±0°.1×25°.5W±0°.1, h35km, n45, σ0§96/36, mb4.6/12, 2C-7D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.65**	**303**	Pn	**Pn**	**21 31 34.2**	**-1.4**
VNA1	**Neumayer--Stat**	**13.76**	**155**	⇓P	**Pn**	**21 32 59.0**	**-0.6**
	comp=Z,6.6nm,0.2s						
VNA3	**Neumayer Olymp**	**13.95**	**158**	⇓P	**Pn**	**21 33 01.0**	**-0.6**
	comp=Z,10nm,0.2s						
VNA3				⇑S	Sn	21 35 20.0	-15
VNA2	**Neumayer--Watz**	**14.16**	**155**	⇓P	**Pn**	**21 33 03.4**	**-1.1**
	comp=Z,2.4nm,0.2s,baz=314,slow=10						
VNA2				⇑S	Sn	21 35 26.0	-14
	baz=250,slow=32						
SNAA	**Sanae**	**15.72**	**153**		**Pn**	**21 33 25.3**	**0.0**
SNAA	**Sanae**	**15.72**	**153**	⇓P	**Pn**	**21 33 25.2**	**-0.2**
	comp=Z,116nm,0.4s						
SNAA	**Sanae**	**15.72**	**153**	Pn	**Pn**	**21 33 24.4**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=317,slow=17,SNR=49						
SNAA				Sn	Sn	21 36 02.2	-16
	comp=Z,0.4nm,0.3s,baz=167,slow=12,SNR=4.0						
SNAA				LR	LR	21 38 28.2	
	comp=Z,77nm,18.5s,baz=18,slow=33						
	comp=Z,5.0nm,0.4s						
TROLL	**Troll, Antarti**	**17.25**	**150**	⇓P	**P**	**21 33 45.5**	**-0.4**
	comp=Z,141nm,0.4s						
BELA	**Belgrano 2**	**19.25**	**186**	P	**P**	**21 34 07.4**	**-0.3**
SYO	**Syowa Base**	**28.79**	**137**	⇓eP	**P**	**21 35 38.2**	**-2.6**
SYO	**Syowa Base**	**28.79**	**137**	⇓esP	**P**	**21 35 41.4**	**+0.6**
QSPA	**South Pole Qui**	**31.29**	**180**	P	**P**	**21 36 04.5**	**+1.3**
QSPA				IAmb	IAmb	21 36 04.8	
	comp=Z,10nm,1.3s						
QSPA	**South Pole Qui**	**31.29**	**180**	P	**P**	**21 36 04.0**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=13,slow=20,SNR=4.1						
	comp=Z,3.0nm,0.6s						
TRQA	**Tornquist**	**31.35**	**296**	P	**P**	**21 36 04.0**	**+0.2**
TRQA				IAmb	IAmb	21 36 17.2	
	comp=Z,13nm,1.5s						
PLCA	**Paso Flores**	**33.47**	**283**	P	**P**	**21 36 22.0**	**-0.4**
PLCA				IAmb	IAmb	21 37 05.2	
	comp=Z,7.7nm,1.1s						
PLCA	**Paso Flores**	**33.47**	**283**	P	**P**	**21 36 21.9**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=150,slow=8.1,SNR=2.4						
	comp=Z,2.2nm,0.9s						
MAW	**Mawson**	**37.29**	**141**	P	**P**	**21 36 54.1**	**-0.7**
	comp=Z,15nm,0.9s,baz=250,slow=18,SNR=1.2						
	comp=Z,15nm,0.9s						
MT09	**Talagante**	**39.11**	**290**	P	**P**	**21 37 10.1**	**-0.6**
MT09				IAmb	IAmb	21 37 10.2	
	comp=Z,31nm,1.4s						
MT01	**Popeta**	**39.16**	**289**	P	**P**	**21 37 11.1**	**+0.1**
MT01				IAmb	IAmb	21 37 18.9	
	comp=Z,14nm,1.1s						
MT02	**Curacav**	**39.60**	**290**	P	**P**	**21 37 13.2**	**-1.4**
MT02				IAmb	IAmb	21 37 43.8	
	comp=Z,30nm,1.3s						
SUR	**Sutherland**	**40.66**	**70**	LR	LR	21 50 19.2	
	comp=Z,87nm,18.1s,baz=137,slow=30						
CO03	**El Pedregal**	**41.37**	**293**	P	**P**	**21 37 29.9**	**+0.5**
CO03				IAmb	IAmb	21 37 45.2	
	comp=Z,19nm,1.4s						
CO01	**Juntas del Tor**	**41.80**	**294**	P	**P**	**21 37 33.9**	**+0.8**
CO01				IAmb	IAmb	21 37 50.2	
	comp=Z,15nm,1.5s						
VNDA	**Vanda**	**43.70**	**182**	P	**P**	**21 37 49.1**	**+1.5**
VNDA				IAmb	IAmb	21 38 14.1	
	comp=Z,12nm,1.4s						
VNDA	**Vanda**	**43.70**	**182**	P	**P**	**21 37 49.0**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=153,slow=6.7,SNR=5.7						
	comp=Z,1.5nm,0.6s						
SHEL	**Horse Pasture**	**45.35**	**27**	P	P	21 38 07.8	+6.4
H04S2	**CROZET ISLANDS**	**45.61**	**110**	T	T	22 28 27.9	
	baz=225,slow=75,SNR=8.5						
H04S3	**CROZET ISLANDS**	**45.62**	**110**	T	T	22 28 28.6	
	baz=225,slow=75,SNR=8.4						
H04S1	**CROZET ISLANDS**	**45.63**	**110**	T	T	22 28 29.1	
	baz=225,slow=75,SNR=7.6						
H10S2	**ASCENSION HYDR**	**50.57**	**14**	T	T	22 33 14.4	
	baz=33,slow=74,SNR=5.4						
H10S3	**ASCENSION HYDR**	**50.58**	**14**	T	T	22 33 13.8	
	baz=167,slow=74,SNR=6.7						
H10N1	**ASCENSION HYDR**	**51.69**	**14**	T	T	22 34 34.8	
	baz=197						
H10N3	**ASCENSION HYDR**	**51.69**	**14**	T	T	22 34 38.7	
	baz=197						
H10N2	**ASCENSION HYDR**	**51.71**	**14**	T	T	22 34 35.9	
	baz=197						
TORD	**Torodi Ar. Bea**	**75.19**	**27**	P	**P**	**21 41 26.7**	**+1.3**
TORD	**Torodi Ar. Bea**	**75.19**	**27**	P	**P**	**21 41 26.0**	**+0.6**
	comp=Z,42nm,0.3s,baz=197,slow=6.5,SNR=1.7						
DSZ	**Denniston Nort**	**78.63**	**193**	P	**P**	**21 41 45.6**	**+0.9**
ILAM	**Ilet Lapin Mar**	**78.92**	**325**	P	**P**	**21 41 48.0**	**+1.7**
MORW	**Morawa**	**86.67**	**147**	P	**P**	**21 42 26.6**	**-0.1**
ASAR	**Alice Springs**	**95.94**	**161**	P	**P**	**21 43 09.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=186,slow=3.7,SNR=7.9						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**126.54**	**28**	PKP	**PKPdf**	**21 48 43.8**	**-0.7**
	comp=Z,4.0nm,1.1s,baz=128,slow=3.1,SNR=7.3						
ARCES	**ARCESS Array B**	**133.31**	**22**	PKP	**PKPdf**	**21 48 56.6**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=221,slow=3.0,SNR=7.7						
YKA	**Yellowknife Ar**	**138.91**	**315**	PKP	**PKPdf**	**21 49 07.8**	**0.0**
	comp=Z,1.7nm,0.6s,baz=134,slow=2.5,SNR=27						
SONM	**Songjino Array**	**149.91**	**90**	PKPbc	**PKPbc**	**21 49 31.7**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=233,slow=0.7,SNR=5.8						
ILAR	**Eielson Array**	**152.66**	**307**	PKPbc	**PKPbc**	**21 49 37.9**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=172,slow=1.5,SNR=12						
ILAR				PKPab	**pPKPbc**	**21 49 48.8**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=139,slow=3.9,SNR=4.2						

*IDC **07** 21:39:49.1±1.3, 25°.13N×142°.56E, h227km±9km, mb3.5/6, mbtmp4.0/7, Error ellipse: s-maj=38.7km s-min=17.0km az=78.0*
*NEIC **07** 21:39:52.0±0.8, 25°.18N±0°.07×142°.5E±0°.2, h250km±7km, mb4.0/20, Error ellipse: s-maj=23.6km s-min=10.1km az=79.0*
ISC 07 21:39:51.7±0.8, 25°.23N±0°.09×142°.5E±0°.1, h250km, n32, σ1§43/35, mb3.8/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.88**	**352**	Pn	**Pn**	**21 40 34.0**	**+0.9**
JCJ				Sn	**S**	**21 41 06.8**	**+1.0**
JCJ	**Chichijima**	**1.88**	**352**	P	**Pn**	**21 40 29.9**	**-3.2**
	81nm,0.4s,baz=283,slow=21,SNR=4.1						
JCJ				S	**S**	**21 41 01.9**	**-3.9**
	240nm,0.3s,baz=263,slow=23,SNR=14						
JMN	**Monobe**	**1.31**	**320**	P	**P**	**21 42 31.9**	**+1.3**
KSRS	**Korea Array**	**17.40**	**318**	P	**P**	**21 43 37.9**	**+0.3**
	1.1nm,0.6s,baz=137,slow=12,SNR=4.6						
YOJ	**Yonaguni jima**	**17.70**	**272**	P	**P**	**21 43 39.6**	**-1.5**
PETK	**Petropavlovsk-**	**30.11**	**18**	P	**P**	**21 45 36.8**	**-1.2**
	2.5nm,0.9s,baz=218,slow=9.3,SNR=1.1						
	2.5nm,0.9s						
COEN	**Coen**	**38.95**	**179**	P	**P**	**21 46 54.6**	**+0.7**
WB0	**Warramunga Arr**	**45.41**	**191**	P	**P**	**21 47 44.8**	**-1.1**
WB0				IAmb	IAmb	21 48 16.3	
	comp=Z,6.6nm,1.4s						
WR8	**Warramunga Arr**	**45.58**	**191**	P	**P**	**21 47 46.3**	**-0.8**
WRAB	**Tennant Creek**	**45.58**	**191**	P	**P**	**21 47 46.1**	**-1.1**
WRAB				IAmb	IAmb	21 48 09.4	
	comp=Z,7.0nm,1.4s						
WB2	**Warramunga Arr**	**45.59**	**191**	P	**P**	**21 47 46.4**	**-0.8**
WB2				IAmb	IAmb	21 47 51.8	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**45.59**	**191**	P	**P**	**21 47 46.2**	**-1.0**
WRA	**Warramunga Arr**	**45.59**	**191**	P	**P**	**21 47 45.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=9.0,slow=8.7,SNR=15						
	comp=Z,0.7nm,0.4s						
SPIA	**Saint Paul Isl**	**46.35**	**34**	P	**P**	**21 47 52.9**	**+0.3**
MK31	**Makanchi Array**	**51.89**	**311**	P	**P**	**21 48 35.0**	**+0.3**
MKAR	**Makanchi Array**	**51.89**	**311**	P	**P**	**21 48 35.0**	**+0.2**
MKAR	**Makanchi Array**	**51.89**	**311**	P	**P**	**21 48 34.8**	**0.0**
	comp=Z,1.5nm,0.5s,baz=87,slow=9.3,SNR=49						
	comp=Z,1.5nm,0.5s						
MAKZ	**Makanchi**	**52.11**	**311**	P	**P**	**21 48 36.3**	**-0.1**
KURK	**Kurchatov**	**54.50**	**315**	P	**P**	**21 48 54.1**	**+0.5**
KURK				PcP	**pwP**	**21 49 52.5**	**+1.1**
KURBB	**Kurchatov Arra**	**54.55**	**315**	P	**P**	**21 48 54.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=90,slow=7.5,SNR=12						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**59.61**	**318**	P	**P**	**21 49 29.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=91,slow=8.2,SNR=8.6						
	comp=Z,0.6nm,0.3s						
DOT	**Dot Lake**	**60.36**	**29**	P	**P**	**21 49 35.2**	**+1.0**
DOT				IAmb	IAmb	21 49 36.3	
	comp=Z,4.9nm,1.0s						
KK31	**Karatay Array**	**60.41**	**307**	P	**P**	**21 49 35.1**	**+0.1**
KK31				IAmb	IAmb	21 49 35.6	
	comp=Z,1.7nm,0.7s						
KKAR	**Karatay Array**	**60.41**	**307**	P	**P**	**21 49 35.2**	**+0.2**
SCRK	**Sand Creek**	**60.41**	**29**	P	**P**	**21 49 35.0**	**+0.3**
BMAR	**Burnt Mountain**	**60.42**	**25**	P	**P**	**21 49 37.7**	**+3.1**
F26K	**Sheenjek River**	**60.61**	**25**	P	**P**	**21 49 37.9**	**+2.0**
F26K				IAmb	IAmb	21 49 38.5	
	comp=Z,4.2nm,0.8s						
J26L	**Joseph Creek**	**60.62**	**29**	P	**P**	**21 49 35.8**	**-0.3**
J26L				IAmb	IAmb	21 49 36.1	
	comp=Z,4.6nm,1.0s						
I26K	**Coal Creek Min**	**60.84**	**28**	P	**P**	**21 49 35.2**	**-2.2**
C27K	**Jago River**	**60.95**	**23**	P	**P**	**21 49 38.0**	**-0.1**
C27K				IAmb	IAmb	21 49 38.5	
	comp=Z,2.4nm,0.6s						
GAR	**Garm**	**61.21**	**302**	P	**P**	**21 49 40.0**	**-0.5**
GAR				IAmb	IAmb	21 49 59.0	
	comp=Z,4.2nm,1.2s						
FINES	**FINESS Array B**	**79.74**	**334**	P	**P**	**21 51 33.8**	**+2.2**
	comp=Z,1.4nm,0.9s,baz=68,slow=5.6,SNR=4.7						
	comp=Z,1.4nm,0.9s						

*TEH **07** 21:44:53.5, 27°.54N×56°.69E, h12km±91km*
*DSN **07** 21:44:54.9±1.6, 27°.60N×56°.46E, h10km, ML2.6/6, Error ellipse: s-maj=55.4km s-min=15.4km az=102.0*
*OMAN **07** 21:44:56.9±1.8, 27°.38N×56°.66E, h10km, ml2.8/9, Error ellipse: s-maj=18.0km s-min=10.0km az=23.0*
ISC 07 21:44:54.3±1.2, 27°.55N±0°.05×56°.69E±0°.05, h9km±9km, n35, σ1§03/43, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.17**	**234**	Pg	**Pg**	**21 44 57.5**	**-0.3**
IBND				Sg	**Sg**	**21 45 01.0**	**+0.7**
BNDS	**Bandar-Abbas**	**0.49**	**252**	Pg	**Pg**	**21 45 02.5**	**-1.3**
KHNJ	**Kahnooj**	**0.98**	**66**	Pg	**Pg**	**21 45 12.4**	**-0.8**
SHME	**Shamm**	**1.57**	**198**	P	**Pb**	**21 45 24.1**	**+0.6**
	SNR=11						
SHME				S	**Sg**	**21 45 44.5**	**-0.3**
	SNR=15						
SHME	**Shamm**	**1.57**	**198**	P	**Pn**	**21 45 22.8**	**+0.4**
SHME				S	**Sb**	**21 45 44.1**	**+0.6**
JASK	**Jask - Hormozg**	**1.98**	**148**	Pn	**Pb**	**21 45 30.4**	**-0.1**
JASK	**Jask - Hormozg**	**1.98**	**148**	P	**Pb**	**21 45 30.7**	**+0.3**
JASK				S	**Sb**	**21 45 56.0**	**+0.8**
NGRK	**Negar Kerman**	**2.09**	**1**	Pn	**Pn**	**21 45 30.0**	**+0.1**
KBAM	**BAM**	**2.21**	**44**	Pn	**Pn**	**21 45 32.9**	**+1.6**
MASF	**Masafi**	**2.22**	**193**	P	**Pn**	**21 45 32.1**	**+0.7**
MASF				S	**Sn**	**21 45 59.9**	**+1.0**
**

CRPR IAML 21 58 37.4
comp=N,30nm,2.4s
CRPR Cabo Rojo, PR 2.72 240 Sn 21 58 21.4 -1.2
CRPR Cabo Rojo, PR 2.72 240‖*e*P Pn 21 57 50.8 -0.2
CRPR Cabo Rojo, PR 2.72 240 *e*S Sn 21 58 21.4 -1.2

BJI ***07*** *22:11:47.1,58.°66N×155.°40W,h128km,mB5.1/12, mb4.8/57*
IDC ***07*** *22:11:48.7±0.7,58.°76N×155.°13W,h121km±6km,mb4.2/31, mbtmp4.7/36,MS3.4/11,Error ellipse: s-maj=9.4km s-min=8.2km az=13.0*
NEIC ***07*** *22:11:50.7,58.°50N×155.°00W,h120km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}0.35; $M_{\theta\theta}$-2.25; $M_{\phi\phi}$1.89; $M_{r\theta}$-0.43; $M_{r\phi}$-0.33; $M_{\theta\phi}$0.84; Fault plane solution: M_o2.32000×10^{16} NP1:ϕ_s42.85000°, δ66.97000°,λ11.94000°. NP2:ϕ_s308.12000°,δ79.02000°, λ156.51000°. Principal axes: T 2.3122, Plg24.0000°, Azm263.0000°; N 0.0115, Plg64.0000°, Azm104.0000°; P -2.3236, Plg8.0000°, Azm357.0000°;*
NEIC ***07*** *22:11:50.0±1.7,58.°59N±0.°04×155.°09W±0.°07, h136km±3km Error ellipse: s-maj=5.8km s-min=5.2km az=176.0*
NEIC ***07*** *22:11:50.7,58.°60N×155.°15W,h120km*
AEIC ***07*** *22:11:51.3±1.9,58.°60N±0.°04×155.°06W±0.°06, h132km±3km,ML4.8,mb4.8/92(NEIC),ML4.9/144(NEIC), Mww4.8/95(NEIC),Error ellipse: s-maj=5.8km s-min=4.8km az=182.0*
GCMT ***07*** *22:11:52.3±0.4,58.°81N±0.°02×154.°94W±0.°04, h159km±4km,MW5.0/92,Moment Tensor Solution. s12,c12; s92,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.15±.14; $M_{\theta\theta}$-4.71±.18; $M_{\phi\phi}$2.56±.15; $M_{r\theta}$0.10±.13; $M_{\theta\phi}$0.37±.14; $M_{\phi r}$1.38±.09; Best double couple: M_o4.24600×10^{16} NP1:ϕ_s310.00000°,δ62.00000°, λ149.00000°. NP2:ϕ_s56.00000°,δ63.00000°,λ31.00000°. Principal axes: T 3.7640, Plg41.0000°, Azm273.0000°; N 0.9650, Plg49.0000°, Azm93.0000°; P -4.7290, Plg0.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 22:11:49.9±0.4,58.°63N±0.°03×155.°10W±0.°03, h136km±3km,n780,σ1§46/938,mb4.7/104,15C-4D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHC	**Katmai Hardscr**	**0.05**	**71**		**Pn**	**22 12 08.3**	**0.0**
KAHC	**Katmai Hardscr**	**0.05**	**71**		**Pn**	**22 12 08.5**	**+0.1**
KAHC					**Sn**	**22 12 21.9**	**-0.4**
Q18K	**Katmai Hardscr**	**0.05**	**70**	P	**Pn**	**22 12 08.4**	**0.0**
	baz=264,SNR=1000						
Q18K				S	**Sn**	**22 12 21.9**	**-0.4**
	baz=264						
KAHG	**Katmai Hook Gl**	**0.32**	**115**		**Pn**	**22 12 09.2**	**+0.3**
KAHG					**Sn**	**22 12 23.7**	**+0.4**
KAKN	**Katmai Knife C**	**0.34**	**177**		**Pn**	**22 12 09.1**	**0.0**
KAKN					**Sn**	**22 12 23.5**	**+0.1**
ACHA	**Angle Creek He**	**0.44**	**196**	Pn	**Pn**	**22 12 09.6**	**+0.1**
ACHA				Sn	**Sn**	**22 12 22.8**	**-1.4**
ANCK	**Angle Creek**	**0.48**	**206**		**Pn**	**22 12 09.7**	**+0.1**
ANCK					**Sn**	**22 12 24.3**	**-0.2**
P18K	**Big Mountain,**	**0.77**	**355**		**Pn**	**22 12 11.7**	**+0.3**
P18K				Sn	**Sn**	**22 12 27.0**	**-0.8**
P18K				IAML		22 12 28.6	
	comp=N,11μm,1.0s						
P18K	**Big Mountain,**	**0.77**	**355**	P	**Pn**	**22 12 11.7**	**+0.3**
	baz=177,SNR=379						
P18K				S	**Sn**	**22 12 27.4**	**-0.4**
	baz=177						
Q16K	**King Salmon**	**0.81**	**274**		**Pn**	**22 12 12.3**	**+0.6**
Q16K					**Sn**	**22 12 28.5**	**+0.2**
Q16K	**King Salmon**	**0.81**	**274**	P	**Pn**	**22 12 12.1**	**+0.4**
	baz=92,SNR=147						
Q16K				S	**Sn**	**22 12 28.2**	**0.0**
	baz=92						
Q19K	**Cape Douglas,**	**0.81**	**68**		**Pn**	**22 12 12.2**	**+0.4**
Q19K				Sn	**Sn**	**22 12 29.0**	**+0.6**
Q19K				IAML		22 12 32.2	
	comp=N,13μm,0.8s						
Q19K				IAML		22 12 33.8	
	comp=E,15μm,0.9s						
Q19K	**Cape Douglas,**	**0.81**	**68**	P	**Pn**	**22 12 12.3**	**+0.6**
	baz=250,SNR=1000						
Q19K				S	**Sn**	**22 12 29.1**	**+0.7**
	baz=250						
P17K	**Kvichak River**	**0.90**	**310**		**Pn**	**22 12 12.9**	**+0.6**
P17K					**Sn**	**22 12 29.9**	**+0.5**
P17K	**Kvichak River**	**0.90**	**310**	P	**Pn**	**22 12 12.8**	**+0.4**
	baz=129,SNR=131						
P17K				S	**Sn**	**22 12 29.7**	**+0.3**
	baz=129						
R18K	**Karluk**	**1.12**	**162**		**Pn**	**22 12 13.7**	**-0.7**
R18K	**Karluk**	**1.12**	**162**	P	**Pn**	**22 12 13.6**	**-0.8**
	baz=342						
R18K				S	**Sn**	**22 12 31.2**	**-1.9**
	baz=342						
O18K	**Koktuh Hills**	**1.23**	**357**		**Pn**	**22 12 16.1**	**+0.6**
O18K				Sn	**Sn**	**22 12 35.3**	**+0.2**
O18K				IAML		22 12 36.0	
	comp=E,7μm,0.9s						
O18K				IAML		22 12 37.3	
	comp=N,6μm,1.1s						
O18K	**Koktuh Hills**	**1.23**	**357**	P	**Pn**	**22 12 16.2**	**+0.6**
	baz=178,SNR=471						
O18K				S	**Sn**	**22 12 35.5**	**+0.4**
	baz=178						
PLBL	**Peulik Blue Cr**	**1.30**	**225**		**Pn**	**22 12 16.4**	**+0.1**
P19K	**Oil Pt**	**1.41**	**42**		**Pn**	**22 12 18.4**	**+1.0**
P19K				Sn	**Sn**	**22 12 38.9**	**+0.6**
P19K				IAML		22 12 40.5	
	comp=E,18μm,0.8s						
P19K				IAML		22 12 40.9	
	comp=N,13μm,0.6s						
P19K	**Oil Pt**	**1.41**	**42**	P	**Pn**	**22 12 18.6**	**+1.3**
	baz=225,SNR=204						
P19K				S	**Sn**	**22 12 39.1**	**+0.7**
	baz=225						
Q20K	**Shuyak Island**	**1.42**	**90**	P	**Pn**	**22 12 17.6**	**+0.2**
	baz=272,SNR=589						
Q20K				S	**Sn**	**22 12 38.1**	**-0.3**
	baz=272						
SYI	**Shuyak Island**	**1.42**	**90**		**Pn**	**22 12 18.0**	**+0.5**
SYI				Sn	**Sn**	**22 12 38.2**	**-0.2**
SYI				IAML		22 12 40.4	
	comp=N,9μm,0.6s						
SYI				IAML		22 12 41.2	
	comp=E,10μm,0.5s						
O17K	**Koliganek Bris**	**1.54**	**319**	P	**Pn**	**22 12 19.4**	**+0.7**
	baz=138,SNR=724						
O17K				S	**Sn**	**22 12 41.1**	**+0.3**
	baz=138						
P16K	**Nushagak River**	**1.56**	**286**		**Pn**	**22 12 19.6**	**+0.6**
P16K	**Nushagak River**	**1.56**	**286**	P	**Pn**	**22 12 19.6**	**+0.6**
	baz=104,SNR=79						
P16K				S	**Sn**	**22 12 41.6**	**+0.5**
	baz=104						
KDAK	**Kodiak Island**	**1.58**	**122**		**Pn**	**22 12 18.5**	**-0.8**
KDAK				Sn	**Sn**	**22 12 39.9**	**-1.8**
KDAK				IAML		22 12 42.3	
	comp=E,13μm,0.5s						
KDAK				IAML		22 12 45.8	
	comp=E,14μm,0.4s						
KDAK	**Kodiak Island**	**1.58**	**122**	P	**Pn**	**22 12 18.7**	**-0.6**
	comp=E,931nm,0.3s,baz=331,slow=2.2,SNR=6314						
KDAK				S	**Sn**	**22 12 39.5**	**-2.1**
	comp=E,3μm,0.3s,baz=244,slow=21,SNR=7.0						
KDAK				LR	LR	22 12 59.8	
	comp=E,692nm,21.0s,baz=140,slow=43						
KDAK	**Kodiak Island**	**1.58**	**122**	P	**Pn**	**22 12 18.8**	**-0.5**
	baz=304						
KDAK				S	**Sn**	**22 12 40.1**	**-1.5**
	baz=304						
O19K	**Port Alsworth**	**1.62**	**14**		**Pn**	**22 12 20.4**	**+0.7**
O19K				Sn	**Sn**	**22 12 42.5**	**+0.1**
O19K				IAML		22 12 43.6	
	comp=N,12μm,0.5s						
O19K				IAML		22 12 45.2	
	comp=E,12μm,0.5s						
O19K	**Port Alsworth**	**1.62**	**14**	P	**Pn**	**22 12 20.4**	**+0.7**
	baz=195,SNR=222						
O19K				S	**Sn**	**22 12 42.8**	**+0.4**
	baz=195						
ILSW	**Iliamna Southw**	**1.69**	**36**		**Pn**	**22 12 21.4**	**+0.8**
ILSW				Sn	**Sn**	**22 12 43.6**	**-0.5**
ILSW				IAML		22 12 45.2	
	comp=E,4μm,0.8s						
ILSW				IAML		22 12 45.5	
	comp=N,7μm,1.2s						
R16K	**Pilot Point**	**1.69**	**232**		**Pn**	**22 12 20.5**	**+0.1**
R16K				Sn	**Sn**	**22 12 42.9**	**-1.0**
R16K				IAML		22 12 45.4	
	comp=N,17μm,1.0s						
R16K				IAML		22 12 49.5	
	comp=E,9μm,1.1s						
R16K	**Pilot Point**	**1.69**	**232**	P	**Pn**	**22 12 20.6**	**+0.1**
	baz=49,SNR=25						
R16K				S	**Sn**	**22 12 43.5**	**-0.4**
	baz=49						
OHAK	**Old Harbor**	**1.71**	**145**		**Pn**	**22 12 20.1**	**-0.6**
OHAK				Sn	**Sn**	**22 12 42.1**	**-2.2**
OHAK				IAML		22 12 43.0	
	comp=E,10μm,0.6s						
OHAK	**Old Harbor**	**1.71**	**145**	P	**Pn**	**22 12 20.2**	**-0.6**
OHAK	**Old Harbor**	**1.71**	**145**	S	**Sn**	**22 12 42.4**	**-1.9**
OHAK	**Old Harbor**	**1.71**	**145**	P	**Pn**	**22 12 20.1**	**-0.6**
	baz=326,SNR=189						
OHAK				S	**Sn**	**22 12 42.1**	**-2.2**
	baz=326						
O16K	**Kokwok River B**	**1.82**	**303**	Pn	**Pn**	**22 12 22.6**	**+0.6**
O16K				IAML		22 12 48.0	
	comp=N,3μm,0.8s						
O16K	**Kokwok River B**	**1.82**	**303**	P	**Pn**	**22 12 22.6**	**+0.6**
	baz=121						
O16K				S	**Sn**	**22 12 46.5**	**-0.1**
	baz=121						
O20K	**Slope Mountain**	**1.93**	**40**	P	**Pn**	**22 12 24.8**	**+1.4**
	baz=223,SNR=112						
O20K				S	**Sn**	**22 12 49.3**	**+0.3**
	baz=223						
HOM	**Homer**	**2.06**	**58**		**Pn**	**22 12 25.7**	**+0.9**
HOM				Sn	**Sn**	**22 12 52.0**	**+0.4**
HOM	**Homer**	**2.06**	**58**	P	**Pn**	**22 12 25.9**	**+1.1**
	baz=242,SNR=31						
HOM				S	**Sn**	**22 12 52.0**	**+0.4**
	baz=242						
N18K	**Kilae Creek**	**2.09**	**349**		**Pn**	**22 12 25.9**	**+0.6**
N18K				IAML		22 12 53.8	
	comp=E,3μm,1.0s						
N18K	**Kilae Creek**	**2.09**	**349**	P	**Pn**	**22 12 26.5**	**+1.2**
	baz=169,SNR=1000						
N18K				S	**Sn**	**22 12 53.1**	**+0.7**
	baz=169						
SII	**Sitkinak Islan**	**2.14**	**166**		**Pn**	**22 12 25.2**	**-0.6**
SII				Sn	**Sn**	**22 12 50.9**	**-2.4**
SII	**Sitkinak Islan**	**2.14**	**166**	P	**Pn**	**22 12 25.2**	**-0.6**
SII	**Sitkinak Islan**	**2.14**	**166**	P	**Pn**	**22 12 25.3**	**-0.6**
	baz=346,SNR=191						
SII				S	**Sn**	**22 12 51.3**	**-2.1**
	baz=346						
N17K	**Nushagak Hills**	**2.18**	**332**	Pn	**Pn**	**22 12 27.0**	**+0.7**
N17K				IAML		22 12 56.0	
	comp=E,2μm,1.0s						
N17K	**Nushagak Hills**	**2.18**	**332**	P	**Pn**	**22 12 27.4**	**+1.1**
	baz=150						
N17K				S	**Sn**	**22 12 54.0**	**-0.3**
	baz=150						
CNPM	**China Poot**	**2.19**	**64**		**Pn**	**22 12 26.6**	**+0.1**
CNPM				Sn	**Sn**	**22 12 53.7**	**-0.8**
CNPM				IAML		22 12 55.3	
	comp=N,12μm,0.5s						
CNPM				IAML		22 12 55.4	
	comp=E,9μm,0.6s						
N19K	**Bonanza Creek**	**2.21**	**8**		**Pn**	**22 12 27.6**	**+0.8**
N19K				IAML		22 12 56.9	
	comp=N,3μm,1.1s						
N19K				IAML		22 12 58.4	
	comp=E,3μm,1.0s						
N19K	**Bonanza Creek**	**2.21**	**8**	P	**Pn**	**22 12 28.2**	**+1.4**
	baz=189,SNR=781						
N19K				S	**Sn**	**22 12 54.3**	**-0.9**
	baz=189						
ANNE	**Aniakchak Nort**	**2.34**	**224**		**Pn**	**22 12 28.5**	**+0.1**
ANON	**Aniakchak**	**2.38**	**225**		**Pn**	**22 12 29.2**	**+0.4**
AZAC	**Aniakchak**	**2.42**	**225**		**Pn**	**22 12 29.7**	**+0.3**
BRLK	**Bradley Lake**	**2.45**	**61**		**Pn**	**22 12 29.5**	**-0.1**
BRLK				IAML		22 13 02.7	
	comp=N,6μm,0.4s						
BRLK				IAML		22 13 03.5	
	comp=E,5μm,0.4s						
BRSE	**Bradley Lake S**	**2.50**	**62**	P	**Pn**	**22 12 30.8**	**+0.5**
	baz=246,SNR=132						
BRSE				S	**Sn**	**22 12 59.9**	**-1.6**
	baz=246						
O15K	**Ungalikthiuk R**	**2.51**	**285**		**Pn**	**22 12 30.7**	**+0.3**
O15K	**Ungalikthiuk R**	**2.51**	**285**	P	**Pn**	**22 12 30.9**	**+0.5**
	baz=100						
O15K				S	**Sn**	**22 12 59.7**	**-1.9**
	baz=100						
N16K	**Nishlik Lake**	**2.63**	**316**		**Pn**	**22 12 33.2**	**+1.3**
N16K	**Nishlik Lake**	**2.63**	**316**	P	**Pn**	**22 12 33.2**	**+1.3**
	baz=133						
N16K				S	**Sn**	**22 13 02.7**	**-1.6**
	baz=133						
CHIR	**Chirikof Islan**	**2.83**	**186**		**Pn**	**22 12 33.1**	**-1.4**
CHIR				IAML		22 13 06.5	
	comp=N,3μm,0.5s						
CHIR				IAML		22 13 22.4	
	comp=E,3μm,0.8s						
CHIR	**Chirikof Islan**	**2.83**	**186**	P	**Pn**	**22 12 33.3**	**-1.2**
CHIR	**Chirikof Islan**	**2.83**	**186**	S	**Sn**	**22 13 05.9**	**-3.0**
CHIR	**Chirikof Islan**	**2.83**	**186**	P	**Pn**	**22 12 33.4**	**-1.1**
	baz=5.1,SNR=62						
CHIR				S	**Sn**	**22 13 05.6**	**-3.3**
	baz=5.1						
M18K	**Stony River**	**2.89**	**353**		**Pn**	**22 12 36.4**	**+1.2**
M18K	**Stony River**	**2.89**	**353**	P	**Pn**	**22 12 36.6**	**+1.4**
	baz=173,SNR=549						
M18K				S	**Sn**	**22 13 10.7**	**+0.5**
	baz=173						
CAPN	**Captain Cook N**	**2.93**	**41**		**Pn**	**22 12 37.5**	**+1.8**
CAPN	**Captain Cook N**	**2.93**	**41**	P	**Pn**	**22 12 38.1**	**+2.4**
	baz=225,SNR=22						
CAPN				S	**Sn**	**22 13 13.3**	**+2.2**
	baz=225						
CHGN	**Chignik**	**2.94**	**219**		**Pn**	**22 12 35.4**	**-0.5**
CHGN				IAML		22 13 10.7	
	comp=N,4μm,0.5s						
CHGN				IAML		22 13 10.8	
	comp=E,4μm,0.3s						
CHGN	**Chignik**	**2.94**	**219**	P	**Pn**	**22 12 35.7**	**-0.2**
	baz=36,SNR=106						
CHGN				S	**Sn**	**22 13 09.0**	**-2.4**
	baz=36						
N20K	**Mount Spurr**	**2.96**	**28**	P	**Pn**	**22 12 37.6**	**+1.4**
	baz=211,SNR=460						
N20K				S	**Sn**	**22 13 13.1**	**+1.2**
	baz=211						
SPCR	**Spurr Chakacha**	**2.96**	**28**		**Pn**	**22 12 37.5**	**+1.4**
SPCR	**Spurr Chakacha**	**2.96**	**28**	P	**Pn**	**22 12 37.6**	**+1.4**
	baz=211,SNR=223						
SPCR				S	**Sn**	**22 13 12.3**	**+0.3**
	baz=211						
N15K	**Kwethluk River**	**2.98**	**303**		**Pn**	**22 12 36.9**	**+0.5**
N15K				IAML		22 13 14.7	
	comp=N,2μm,0.8s						
N15K				IAML		22 13 15.9	
	comp=E,2μm,0.8s						
N15K	**Kwethluk River**	**2.98**	**303**	P	**Pn**	**22 12 37.9**	**+1.5**
	baz=119,SNR=51						
N15K				S	**Sn**	**22 13 12.8**	**+0.5**
	baz=119						
SPU	**Mount Spurr**	**2.98**	**30**		**Pn**	**22 12 36.9**	**+0.4**
M17K	**Holitna River**	**3.02**	**338**		**Pn**	**22 12 38.1**	**+1.3**
M17K	**Holitna River**	**3.02**	**338**	IAML		22 13 19.1	
	comp=E,2μm,1.1s						
M17K				IAML		22 13 31.6	
	comp=N,2μm,1.1s						
M17K	**Holitna River**	**3.02**	**338**	P	**Pn**	**22 12 38.2**	**+1.4**
	baz=156,SNR=460						
M17K				S	**Sn**	**22 13 13.0**	**-0.1**
	baz=156						
M16K	**Timber Creek**	**3.09**	**323**		**Pn**	**22 12 39.1**	**+1.3**
M16K	**Timber Creek**	**3.09**	**323**	P	**Pn**	**22 12 39.3**	**+1.5**
	baz=140,SNR=273						
M16K				S	**Sn**	**22 13 16.0**	**+1.2**
	baz=140						
SLKM	**Skilak Lake**	**3.12**	**51**		**Pn**	**22 12 39.3**	**+1.1**
SLKM	**Skilak Lake**	**3.12**	**51**	IAML		22 13 16.7	
	comp=N,5μm,0.4s						
SLKM				IAML		22 13 18.1	
	comp=E,5μm,0.3s						
SEW	**Seward**	**3.25**	**61**		**Pn**	**22 12 41.1**	**+1.3**
SEW	**Seward**	**3.25**	**61**	P	**Pn**	**22 12 40.6**	**+0.8**
	baz=246,SNR=82						
SEW				S	**Sn**	**22 13 16.1**	**-2.3**
	baz=246						
O14K	**Tigyukauivet M**	**3.25**	**284**		**Pn**	**22 12 40.4**	**+0.5**
O14K	**Tigyukauivet M**	**3.25**	**284**	P	**Pn**	**22 12 40.4**	**+0.5**
	baz=98,SNR=50						
O14K				S	**Sn**	**22 13 16.5**	**-2.0**
	baz=98						
M19K	**Big River Lodg**	**3.30**	**6**		**Pn**	**22 12 41.9**	**+1.3**
M19K	**Big River Lodg**	**3.30**	**6**	P	**Pn**	**22 12 42.2**	**+1.6**
	baz=187,SNR=584						
M19K				S	**Sn**	**22 13 20.9**	**+1.1**
	baz=187						
O22K	**Cooper Landing**	**3.31**	**54**		**Pn**	**22 12 40.9**	**+0.4**
O22K	**Cooper Landing**	**3.31**	**54**	P	**Pn**	**22 12 41.5**	**+0.9**
	baz=238,SNR=163						
O22K				S	**Sn**	**22 13 18.6**	**-1.2**
	baz=238						
STLK	**Strandline Lak**	**3.31**	**28**		**Pn**	**22 12 41.4**	**+0.7**
VNSG	**Veniaminof 6**	**3.31**	**222**		**Pn**	**22 12 40.9**	**+0.2**
S14K	**Fog Glacier**	**3.37**	**228**	P	**Pn**	**22 12 41.8**	**+0.3**
	baz=43,SNR=18						
S14K				S	**Sn**	**22 13 19.0**	**-2.3**
	baz=43						
VNFG	**Fog Glacier, M**	**3.37**	**228**		**Pn**	**22 12 41.9**	**+0.4**
VNFG	**Fog Glacier, M**	**3.37**	**228**	IAML		22 13 22.0	
	comp=N,4μm,1.0s						
VNFG				IAML		22 13 25.7	
	comp=E,3μm,1.2s						
VNSS	**Veniaminof 8**	**3.37**	**226**		**Pn**	**22 12 41.8**	**+0.2**
M20K	**Styx River**	**3.41**	**16**		**Pn**	**22 12 43.4**	**+1.4**
M20K	**Styx River**	**3.41**	**16**	P	**Pn**	**22 12 43.5**	**+1.5**
	baz=198						
M20K				S	**Sn**	**22 13 23.3**	**+1.0**
	baz=198						
VNKR	**Veniaminof 5**	**3.48**	**223**		**Pn**	**22 12 43.2**	**+0.2**
M15K	**Kasigluk River**	**3.51**	**309**		**Pn**	**22 12 44.4**	**+1.1**
M15K	**Kasigluk River**	**3.51**	**309**	P	**Pn**	**22 12 44.6**	**+1.3**
	baz=124,SNR=59						
M15K				S	**Sn**	**22 13 24.6**	**0.0**
	baz=124						
FIS	**Fire Island**	**3.52**	**42**		**Pn**	**22 12 44.5**	**+1.1**
FIS				IAML		22 13 27.4	
	comp=E,4μm,0.7s						
FIS				IAML		22 13 33.9	
	comp=N,4μm,0.6s						
L19K	**White Mountain**	**3.56**	**2**		**Pn**	**22 12 44.7**	**+0.8**
L19K				IAML		22 13 46.8	
	comp=E,826nm,0.9s						
L19K	**White Mountain**	**3.56**	**2**	P	**Pn**	**22 12 45.5**	**+1.6**
	baz=182,SNR=1000						
L19K				S	**Sn**	**22 13 26.8**	**+0.9**
	baz=182						
SUA	**Susitna One**	**3.58**	**36**		**Pn**	**22 12 44.7**	**+0.4**
SUA				IAML		22 13 27.4	
	comp=E,4μm,0.7s						
SUA				IAML		22 13 27.7	
	comp=N,3μm,0.7s						
SUA	**Susitna One**	**3.58**	**36**	P	**Pn**	**22 12 45.1**	**+0.8**
	baz=220,SNR=177						
SUA				S	**Sn**	**22 13 26.4**	**-0.1**
	baz=220						
N14K	**Kuskokwak Cree**	**3.62**	**294**		**Pn**	**22 12 45.5**	**+0.8**
N14K	**Kuskokwak Cree**	**3.62**	**294**	P	**Pn**	**22 12 45.7**	**+1.0**
	baz=108,SNR=66						
N14K				S	**Sn**	**22 13 28.3**	**+1.3**
	baz=108						
RC01	**Rabbit Creek A**	**3.66**	**45**		**Pn**	**22 12 45.6**	**+0.4**
RC01				IAML		22 13 29.5	
	comp=N,4μm,0.5s						
RC01	**Rabbit Creek A**	**3.66**	**45**	P	**Pn**	**22 12 45.9**	**+0.7**
	baz=230,SNR=128						
RC01				S	**Sn**	**22 13 25.9**	**-2.2**
	baz=230						
L18K	**Granite Mounta**	**3.69**	**348**		**Pn**	**22 12 46.5**	**+1.0**
L18K	**Granite Mounta**	**3.69**	**348**	P	**Pn**	**22 12 46.9**	**+1.3**
	baz=167,SNR=279						
L16K	**Owhat River**	**3.78**	**327**	Pn	**Pn**	**22 12 47.4**	**+0.6**
L16K	**Owhat River**	**3.78**	**327**	P	**Pn**	**22 12 47.9**	**+1.1**
	baz=143,SNR=190						
L16K				S	**Sn**	**22 13 31.0**	**0.0**
	baz=143						
SKT	**Skwentna**	**3.80**	**26**		**Pn**	**22 12 47.3**	**+0.3**
SKT				IAML		22 13 35.9	
	comp=E,1μm,0.3s						
SKT				IAML		22 13 36.1	
	comp=N,950nm,0.3s						
SKT	**Skwentna**	**3.80**	**26**	P	**Pn**	**22 12 48.2**	**+1.1**
	baz=210,SNR=155						
SKT				S	**Sn**	**22 13 31.5**	**+0.1**
	baz=210						
L17K	**Donlin**	**3.86**	**337**		**Pn**	**22 12 48.8**	**+1.1**
L17K	**Donlin**	**3.86**	**337**	P	**Pn**	**22 12 49.1**	**+1.3**
	baz=155						
L17K				S	**Sn**	**22 13 32.2**	**-0.5**
	baz=155						
L20K	**Farewell, AK**	**3.91**	**8**		**Pn**	**22 12 49.7**	**+1.3**
L20K	**Farewell, AK**	**3.91**	**8**	P	**Pn**	**22 12 50.0**	**+1.6**
	baz=190						
L20K				S	**Sn**	**22 13 35.0**	**+1.0**
	baz=190						
M22K	**Willow**	**4.00**	**36**	Pn	**Pn**	**22 12 50.1**	**+0.5**
M22K	**Willow**	**4.00**	**36**	P	**Pn**	**22 12 50.1**	**+0.5**
	baz=221						
M22K				S	**Sn**	**22 13 35.4**	**-0.6**
	baz=221						
M14K	**Bethel**	**4.08**	**304**	Pn	**Pn**	**22 12 51.6**	**+1.0**
M14K				IAML		22 13 59.7	
	comp=E,490nm,1.2s						
M14K	**Bethel**	**4.08**	**304**	P	**Pn**	**22 12 52.2**	**+1.5**
	baz=119,SNR=98						
M14K				S	**Sn**	**22 13 38.6**	**+0.8**
	baz=119						
PWL	**Port Wells**	**4.09**	**54**		**Pn**	**22 12 51.0**	**+0.1**
PWL	**Port Wells**	**4.09**	**54**	P	**Pn**	**22 12 50.9**	**0.0**
	baz=240,SNR=105						
PWL				S	**Sn**	**22 13 34.8**	**-3.4**
	baz=240						
P23K	**Montague Islan**	**4.18**	**68**	P	**Pn**	**22 12 52.6**	**+0.6**
	baz=254,SNR=89						
P23K				S	**Sn**	**22 13 37.2**	**-3.0**
	baz=254						
PMR	**Palmer**	**4.21**	**43**		**Pn**	**22 12 52.3**	**-0.2**
PMR	**Palmer**	**4.21**	**43**	IAML		22 13 40.5	
	comp=E,2μm,0.6s						
PMR				IAML		22 13 45.9	
	comp=N,1μm,0.8s						
PMR	**Palmer**	**4.21**	**43**	S	**Sn**	**22 13 37.0**	**-4.1**
	baz=228						
TTA	**Tatalina**	**4.34**	**354**	Pn	**Pn**	**22 12 55.0**	**+0.8**
TTA	**Tatalina**	**4.34**	**354**	P	**Pn**	**22 12 55.3**	**+1.1**
TTA	**Tatalina**	**4.34**	**354**	P	**Pn**	**22 12 55.5**	**+1.3**
	baz=174,SNR=326						
KNK	**Knik Glacier**	**4.34**	**47**		**Pn**	**22 12 54.5**	**+0.2**
KNK	**Knik Glacier**	**4.34**	**47**	P	**Pn**	**22 12 54.3**	**0.0**
	baz=233,SNR=65						
KNK				S	**Sn**	**22 13 41.1**	**-3.2**
	baz=233						
K17K	**Iditarod**	**4.39**	**340**		**Pn**	**22 12 55.3**	**+0.5**
K17K				IAML		22 14 20.1	
	comp=E,715nm,1.1s						
K17K				IAML		22 14 25.6	
	comp=N,382nm,1.0s						
K17K	**Iditarod**	**4.39**	**340**	P	**Pn**	**22 12 56.5**	**+1.

L15K	Ungalak Mounta	4.42	316		Pn	Pn	22 12 56.3 +1.1
L15K	Ungalak Mounta	4.42	316	P	Pn	Pn	22 12 56.5 +1.3
	baz=131						
L15K				S	Sn	Sn	22 13 46.3 +0.4
	baz=131						
CUT	Chulitna	4.47	30		Pn	Pn	22 12 56.6 +0.7
CUT	Chulitna	4.47	30	P	Pn	Pn	22 12 56.3 +0.3
	baz=215,SNR=112						
CUT				S	Sn	Sn	22 13 45.6 -1.7
	baz=215						
PPLA	Purkeypile	4.51	17	Pn	Pn	Pn	22 12 57.4 +0.8
PPLA	Purkeypile	4.51	17	P	Pn	Pn	22 12 58.4 +1.8
	baz=200,SNR=162						
PPLA				S	Sn	Sn	22 13 48.1 -0.3
	baz=200						
CHNA	Chernabura Isl	4.54	215	P	Pn	Pn	22 12 55.3 -1.6
CHNA	Chernabura Isl	4.54	215	S	Sn	Sn	22 13 45.8 -3.1
CHNA	Chernabura Isl	4.54	215	P	Pn	Pn	22 12 55.4 -1.6
	baz=31,SNR=41						
CHNA				S	Sn	Sn	22 13 44.0 -4.9
	baz=31						
CNBA	Chernabura Isl	4.55	215	Pn	Pn	Pn	22 12 55.5 -1.5
CNBA				IAML			22 13 46.5
	comp=N,2µm,0.3s						
CNBA				IAML			22 13 48.0
	comp=E,1µm,0.6s						
M13K	Dall Lake	4.57	297	Pn	Pn	Pn	22 12 57.9 +0.8
M13K	Dall Lake	4.57	297	P	Pn	Pn	22 12 58.4 +1.3
	baz=110,SNR=28						
Q23K	Middleton Isla	4.59	76	Pn	Pn	Pn	22 12 58.0 +0.5
Q23K	Middleton Isla	4.59	76	P	Pn	Pn	22 12 58.0 +0.5
	baz=264,SNR=40						
Q23K				S	Sn	Sn	22 13 46.2 -3.8
	baz=264						
GLI	Glacier Island	4.63	57	Pn	Pn	Pn	22 12 57.9 -0.2
GLI	Glacier Island	4.63	57	P	Pn	Pn	22 12 57.7 -0.3
	baz=245,SNR=21						
GLI				S	Sn	Sn	22 13 46.9 -4.2
	baz=245						
SML	Sawmill	4.64	44		Pn	Pn	22 12 57.9 -0.3
SML				IAML			22 13 51.6
	comp=N,2µm,0.6s						
SML				IAML			22 13 58.6
	comp=E,2µm,1.0s						
SML	Sawmill	4.64	44	P	Pn	Pn	22 12 57.6 -0.6
	baz=230,SNR=37						
SML				S	Sn	Sn	22 13 46.9 -4.4
	baz=230						
L14K	Kuka Creek	4.68	309	Pn	Pn	Pn	22 12 59.8 +1.2
L14K				IAML			22 14 12.0
	comp=E,580nm,1.1s						
L14K				IAML			22 14 13.4
	comp=N,917nm,1.1s						
L14K	Kuka Creek	4.68	309	P	Pn	Pn	22 13 00.3 +1.7
	baz=122						
L14K				S	Sn	Sn	22 13 52.3 +0.2
	baz=122						
HIN	Hinchinbrook I	4.72	64		Pn	Pn	22 12 60.0 +0.7
K20K	Telida	4.77	6		Pn	Pn	22 13 01.1 +1.2
K20K	Telida	4.77	6	IAML			22 14 14.9
	comp=E,300nm,1.1s						
K20K	Telida	4.77	6	P	Pn	Pn	22 13 01.2 +1.4
	baz=187						
K20K				S	Sn	Sn	22 13 54.2 -0.1
	baz=187						
S12K	Black Hills	4.79	235		Pn	Pn	22 13 00.1 -0.1
S12K				IAML			22 13 55.8
	comp=N,797nm,1.1s						
S12K				IAML			22 13 56.0
	comp=E,680nm,0.9s						
S12K	Black Hills	4.79	235	P	Pn	Pn	22 13 00.9 +0.7
	baz=49,SNR=9.9						
S12K				S	Sn	Sn	22 13 53.3 -1.6
	baz=49						
M23K	Glacier View	4.86	46	P	Pn	Pn	22 13 00.8 -0.2
	baz=233,SNR=117						
M23K				S	Sn	Sn	22 13 52.8 -3.7
	baz=233						
FID	Port Fidalgo	4.86	60	Pn	Pn	Pn	22 13 01.1 +0.1
K15K	Wolf Creek Mou	4.86	322	Pn	Pn	Pn	22 13 02.2 +1.1
K15K	Wolf Creek Mou	4.86	322	P	Pn	Pn	22 13 03.0 +2.0
	baz=136,SNR=88						
K15K				S	Sn	Sn	22 13 56.3 -0.2
	baz=136						
PVV	Pavlof Volcano	4.90	231		Pn	Pn	22 13 02.3 +0.6
J18K	Innoko River	4.91	351	Pn	Pn	Pn	22 13 03.2 +1.4
J18K	Innoko River	4.91	351	P	Pn	Pn	22 13 03.6 +1.8
	baz=170,SNR=1000						
HAG	Hague Volcano	4.99	231		Pn	Pn	22 13 03.5 +0.7
CAST	Castle Rocks	5.02	16		Pn	Pn	22 13 04.2 +1.0
CAST	Castle Rocks	5.02	16	P	Pn	Pn	22 13 04.5 +1.2
	baz=199,SNR=453						
SCM	Sheep Creek Mo	5.03	47		Pn	Pn	22 13 03.5 +0.1
SCM	Sheep Creek Mo	5.03	47	P	Pn	Pn	22 13 03.1 -0.3
	baz=234,SNR=80						
SCM				S	Sn	Sn	22 13 57.6 -3.1
	baz=234						
EYAK	Cordova Ski Ar	5.12	64	Pn	Pn	Pn	22 13 04.5 -0.1
EYAK	Cordova Ski Ar	5.12	64	P	Pn	Pn	22 13 04.8 +0.2
EYAK	Cordova Ski Ar	5.12	64	P	Pn	Pn	22 13 04.9 +0.2
	baz=252,SNR=95						
EYAK				S	Sn	Sn	22 13 59.8 -3.0
	baz=252						
J17K	VABM Dome	5.16	340		Pn	Pn	22 13 06.5 +1.4
J17K	VABM Dome	5.16	340	IAML			22 14 56.9
	comp=E,235nm,1.1s						
J17K	VABM Dome	5.16	340	P	Pn	Pn	22 13 06.5 +1.4
	baz=156						
DIV	Divide	5.32	58		Pn	Pn	22 13 08.0 +0.7
KTH	Kantishna Hill	5.34	21	Pn	Pn	Pn	22 13 07.4 -0.1
KTH				IAML			22 14 07.9
	comp=E,270nm,1.0s						
KTH				IAML			22 14 08.6
	comp=N,457nm,1.1s						
TRF	Thorofare Moun	5.37	24		Pn	Pn	22 13 08.3 +0.3
TRF				IAML			22 14 11.6
	comp=E,716nm,0.5s						
TRF				IAML			22 14 11.7
	comp=N,761nm,0.6s						
TRF	Thorofare Moun	5.37	24	P	Pn	Pn	22 13 08.2 +0.2
	baz=208,SNR=300						
TRF				S	Sn	Sn	22 14 06.1 -2.8
	baz=208						
J16K	Anvik River	5.38	332	Pn	Pn	Pn	22 13 08.7 +0.7
J16K	Anvik River	5.38	332	P	Pn	Pn	22 13 09.4 +1.4
	baz=148,SNR=281						
J19K	Poorman	5.39	358	Pn	Pn	Pn	22 13 09.2 +1.0
J19K	Poorman	5.39	358	P	Pn	Pn	22 13 09.6 +1.4
	baz=177,SNR=1000						
KLU	Klutina	5.42	54		Pn	Pn	22 13 08.7 +0.2
KLU	Klutina	5.42	54	P	Pn	Pn	22 13 08.8 +0.2
	baz=242,SNR=602						
KLU				S	Sn	Sn	22 14 06.9 -3.1
	baz=242						
CHUM	Lake Minchumin	5.44	13		Pn	Pn	22 13 10.0 +1.3
CHUM	Lake Minchumin	5.44	13	P	Pn	Pn	22 13 09.6 +0.8
	baz=196,SNR=133						
J20K	Nowinta River	5.58	4	Pn	Pn	Pn	22 13 11.3 +0.5
J20K	Nowinta River	5.58	4	P	Pn	Pn	22 13 11.9 +1.1
	baz=185						
RAGM	Ragged Mountai	5.59	67		Pn	Pn	22 13 11.6 +0.7
GOAT	Goat Mountain	5.62	65		Pn	Pn	22 13 12.1 +0.8
KAIM	Kayak Island	5.63	72	Pn	Pn	Pn	22 13 11.9 +0.6
KAIM	Kayak Island	5.63	72	P	Pn	Pn	22 13 12.3 +1.0
	baz=261,SNR=80						
KAIM				S	Sn	Sn	22 14 12.5 -2.4
	baz=261						
M24K	Tolsona, Glenn	5.63	48	Pn	Pn	Pn	22 13 12.0 +0.5
M24K	Tolsona, Glenn	5.63	48	P	Pn	Pn	22 13 11.7 +0.2
	baz=236,SNR=89						
M24K				S	Sn	Sn	22 14 12.7 -2.4
	baz=236						
RND	Reindeer	5.67	30	Pn	Pn	Pn	22 13 11.2 -0.7
HMT	Hamilton	5.78	68		Pn	Pn	22 13 13.8 +0.4
K13K	Kusilvak Mount	5.79	309		Pn	Pn	22 13 14.6 +1.1
K13K	Kusilvak Mount	5.79	309	P	Pn	Pn	22 13 14.5 +1.0
	baz=121						
K13K				S	Sn	Sn	22 14 17.8 -1.0
	baz=121						
BMRM	Bremner River	5.79	62		Pn	Pn	22 13 14.0 +0.4
BMRM	Bremner River	5.79	62	P	Pn	Pn	22 13 14.0 +0.4
	baz=251,SNR=148						
BMRM				S	Sn	Sn	22 14 16.6 -2.3
	baz=251						
BPAW	Bear Paw Mtn.	5.83	18	Pn	Pn	Pn	22 13 13.9 -0.2
BPAW	Bear Paw Mtn.	5.83	18	P	Pn	Pn	22 13 13.9 -0.2
	baz=202,SNR=389						
BPAW				S	Sn	Sn	22 14 16.3 -3.5
	baz=202						
J14K	Nanvaranak Lak	5.85	318	Pn	Pn	Pn	22 13 14.9 +0.6
J14K	Nanvaranak Lak	5.85	318	P	Pn	Pn	22 13 16.0 +1.7
	baz=131,SNR=39						
M11K	Mekoryuk	5.92	292	Pn	Pn	Pn	22 13 15.4 +0.2
M11K	Mekoryuk	5.92	292	P	Pn	Pn	22 13 15.4 +0.2
	baz=102						
MCK	McKinley	5.92	28	Pn	Pn	Pn	22 13 15.6 +0.3
MCK	McKinley	5.92	28	P	Pn	Pn	22 13 14.9 -0.3
	baz=213,SNR=211						
MCK				S	Sn	Sn	22 14 19.2 -2.7
	baz=213						
I17K	Unalakleet	5.92	335	Pn	Pn	Pn	22 13 16.6 +1.4
I17K	Unalakleet	5.92	335	P	Pn	Pn	22 13 17.1 +1.9
	baz=151,SNR=65						
FALS	False Pass	5.94	234		Pn	Pn	22 13 15.7 +0.1
FALS	False Pass	5.94	234	P	Pn	Pn	22 13 16.0 +0.5
FALS	False Pass	5.94	234	P	Pn	Pn	22 13 15.6 +0.1
	baz=47,SNR=6.3						
FALS				S	Sn	Sn	22 14 20.8 -1.5
	baz=47						
SUCK	Suckling Hills	5.97	71		Pn	Pn	22 13 16.6 +0.7
N25K	Chitina, Valde	6.04	56	Pn	Pn	Pn	22 13 17.6 +0.7
N25K	Chitina, Valde	6.04	56	P	Pn	Pn	22 13 17.3 +0.4
	baz=245,SNR=530						
N25K				S	Sn	Sn	22 14 22.2 -2.6
	baz=245						
BERG	Berg Lake	6.07	68		Pn	Pn	22 13 17.6 +0.4
ISNN	Isanotski Nort	6.11	235		Pn	Pn	22 13 18.7 +0.8
ISLZ	Isanotski Laza	6.15	234		Pn	Pn	22 13 19.0 +0.6
HARP	HAARP	6.19	48		Pn	Pn	22 13 19.3 +0.3
HARP	HAARP	6.19	48	P	Pn	Pn	22 13 19.2 +0.3
	baz=237,SNR=88						
HARP				S	Sn	Sn	22 14 27.7 -0.8
	baz=237						
I20K	Naaghedeneel	6.19	2		Pn	Pn	22 13 19.3 +0.4
I20K	Naaghedeneel	6.19	2	P	Pn	Pn	22 13 20.2 +1.4
	baz=183,SNR=60						
GCSA	Galena City Sc	6.20	353	P	Pn	Pn	22 13 20.2 +1.4
	baz=172,SNR=240						
BGLC	Bering Glacier	6.22	71		Pn	Pn	22 13 20.8 +1.6
BGLC	Bering Glacier	6.22	71	P	Pn	Pn	22 13 20.2 +0.9
	baz=261,SNR=8.5						
BGLC				S	Sn	Sn	22 14 27.3 -1.8
	baz=261						
GLB	Gilahina Butte	6.32	59	Pn	Pn	Pn	22 13 21.4 +0.7
WASW	Wrangell South	6.36	54		Pn	Pn	22 13 22.3 +0.9
VRDI	Verde Repeater	6.41	61	Pn	Pn	Pn	22 13 22.7 +0.8
PAX	Paxson	6.41	43	Pn	Pn	Pn	22 13 21.6 -0.2
PAX	Paxson	6.41	43	P	Pn	Pn	22 13 21.7 -0.2
	baz=232,SNR=170						
PAX				S	Sn	Sn	22 14 29.7 -4.1
	baz=232						
WAZA	Wrangell Mount	6.43	53		Pn	Pn	22 13 23.9 +1.5
SNH	Sunshine Point	6.45	71		Pn	Pn	22 13 23.3 +0.8
CYK	Cape Yakataga	6.61	72		Pn	Pn	22 13 25.5 +1.0
NEA2	Nenana	6.63	23		Pn	Pn	22 13 24.2 -0.6
NEA2	Nenana	6.63	23	P	Pn	Pn	22 13 23.5 -1.3
	baz=209,SNR=257						
H18K	Honhosa River	6.72	348		Pn	Pn	22 13 27.2 +1.2
H18K	Honhosa River	6.72	348	P	Pn	Pn	22 13 27.2 +1.2
	baz=166						
H17K	Granite Mounta	6.72	342	Pn	Pn	Pn	22 13 27.1 +1.1
H17K	Granite Mounta	6.72	342	P	Pn	Pn	22 13 27.9 +1.8
	baz=158,SNR=355						
I21K	Tanana	6.74	11		Pn	Pn	22 13 27.0 +0.9
I21K	Tanana	6.74	11	P	Pn	Pn	22 13 26.8 +0.6
	baz=194						
WRH	Wood River Hil	6.75	27	Pn	Pn	Pn	22 13 25.4 -0.8
K24K	Donnelly Dome	6.86	37	P	Pn	Pn	22 13 28.8 +0.9
	baz=225,SNR=84						
K24K				S	Sn	Sn	22 14 41.7 -2.9
	baz=225						
H20K	Anotleneega Mo	6.89	1		Pn	Pn	22 13 29.4 +1.2
H20K	Anotleneega Mo	6.89	1	P	Pn	Pn	22 13 29.4 +1.2
	baz=181,SNR=323						
MESA	MESA	6.89	71		Pn	Pn	22 13 29.8 +1.3
MESA	MESA	6.89	71	P	Pn	Pn	22 13 29.6 +1.2
	baz=263,SNR=72						
MESA				S	Sn	Sn	22 14 42.8 -2.7
	baz=263						
H16K	Elim	6.92	334	P	Pn	Pn	22 13 30.6 +2.0
	baz=148,SNR=201						
H19K	Roundabout Mou	6.95	355	Pn	Pn	Pn	22 13 29.4 +0.4
H19K	Roundabout Mou	6.95	355	P	Pn	Pn	22 13 29.8 +0.8
	baz=174,SNR=111						
CCB	Clear Creek Bu	6.96	27		Pn	Pn	22 13 28.3 -0.8
HDA	Harding Lake	6.98	30		Pn	Pn	22 13 29.4 -0.1
HDA	Harding Lake	6.98	30	P	Pn	Pn	22 13 28.4 -1.1
	baz=218,SNR=847						
HDA				S	Sn	Sn	22 14 43.0 -4.4
	baz=218						
MENT	Mentasta	7.04	47		Pn	Pn	22 13 30.6 +0.3
MENT	Mentasta	7.04	47	P	Pn	Pn	22 13 31.2 +0.9
M26K	Nabesna, AK	7.07	53	Pn	Pn	Pn	22 13 31.7 +1.0
M26K	Nabesna, AK	7.07	53	P	Pn	Pn	22 13 31.3 +0.6
	baz=243,SNR=352						
M26K				S	Sn	Sn	22 14 46.9 -2.7
	baz=243						
I23K	Minto, Yukon-K	7.08	20		Pn	Pn	22 13 30.4 -0.3
I23K	Minto, Yukon-K	7.08	20	P	Pn	Pn	22 13 29.8 -0.9
	baz=205,SNR=492						
I23K				S	Sn	Sn	22 14 48.1 -1.6
	baz=205						
RIDG	Independent Ri	7.12	40	Pn	Pn	Pn	22 13 31.1 -0.3
RIDG	Independent Ri	7.12	40	P	Pn	Pn	22 13 31.3 -0.1
	baz=229,SNR=206						
RIDG				S	Sn	Sn	22 14 46.8 -4.0
	baz=229						
H21K	Melozitna Rive	7.13	8	Pn	Pn	Pn	22 13 32.6 +1.1
H21K	Melozitna Rive	7.13	8	P	Pn	Pn	22 13 32.6 +1.1
	baz=190						
COLA	College	7.14	26		Pn	Pn	22 13 31.0 -0.6
COLA	College	7.14	26	P	Pn	Pn	22 13 30.9 -0.6
COLA	College	7.14	26	P	Pn	Pn	22 13 30.9 -0.6
	baz=212						
COLA				S	Sn	Sn	22 14 48.2 -3.0
	baz=212						
L26K	Log Cabin Wild	7.23	48		Pn	Pn	22 13 33.2 +0.3
L26K	Log Cabin Wild	7.23	48	P	Pn	Pn	22 13 33.6 +0.7
	baz=238,SNR=86						
L26K				S	Sn	Sn	22 14 52.2 -1.4
	baz=238						
IL31		7.29	29		Pn	Pn	22 13 32.5 -1.0
ILAR	Eielson Array	7.29	29	P	Pn	Pn	22 13 32.5 -1.0
	comp=N,158nm,0.5s,baz=214,slow=13,SNR=1951						
ILAR				S	Sn	Sn	22 14 48.3 -6.4
	comp=N,116nm,0.8s,baz=215,slow=22,SNR=15						
ILAR				ScP	ScP	ScP	22 23 23.6 0.0
	comp=N,1.1nm,0.7s,baz=251,slow=2.9,SNR=8.2						
DOT	Dot Lake	7.33	42		Pn	Pn	22 13 33.3 -0.9
G17K	Kiwalik Mounta	7.37	342	P	Pn	Pn	22 13 36.0 +1.4
	baz=157,SNR=120						
AKSA	Akutan Strait	7.41	237		Pn	Pn	22 13 35.8 +0.6
POKR	Poker Plat Res	7.44	26		Pn	Pn	22 13 35.1 -0.5
POKR	Poker Plat Res	7.44	26	P	Pn	Pn	22 13 34.8 -0.9
	baz=213,SNR=169						
POKR				S	Sn	Sn	22 14 54.5 -4.0
	baz=213						
G18K	Tagagawik	7.47	349	Pn	Pn	Pn	22 13 36.4 +0.4
G18K	Tagagawik	7.47	349	P	Pn	Pn	22 13 37.0 +0.9
	baz=166,SNR=222						
G18K				S	Sn	Sn	22 14 57.0 -2.2
	baz=166						
H22K	Ishtalitna Cre	7.49	12	P	Pn	Pn	22 13 36.8 +0.5
	baz=195						
H22K				S	Sn	Sn	22 14 57.4 -2.3
	baz=195						
M27K	Edge Creek, AK	7.52	55		Pn	Pn	22 13 37.3 +0.5
M27K	Edge Creek, AK	7.52	55	P	Pn	Pn	22 13 38.1 +1.3
	baz=246						
M27K				S	Sn	Sn	22 14 58.7 -1.9
	baz=246						
AKBBA	Akutan Broad B	7.53	238		Pn	Pn	22 13 37.1 +0.2
LVA	Lava Point	7.54	238	Pn	Pn	Pn	22 13 36.3 -0.7
ZRO	Akutan Zero	7.56	238		Pn	Pn	22 13 37.5 +0.1
SCRK	Sand Creek	7.57	40	Pn	Pn	Pn	22 13 36.8 -0.7
SCRK	Sand Creek	7.57	40	P	Pn	Pn	22 13 36.4 -1.0
	baz=230,SNR=85						
SCRK				S	Sn	Sn	22 14 58.5 -3.2
	baz=230						
J25K	Salcha River,	7.58	34	Pn	Pn	Pn	22 13 36.9 -0.6
J25K	Salcha River,	7.58	34	P	Pn	Pn	22 13 36.8 -0.8
	baz=222,SNR=269						
J25K				S	Sn	Sn	22 14 55.9 -5.9
	baz=222						
G16K	Koyuk River	7.59	336	Pn	Pn	Pn	22 13 38.9 +1.3
G16K	Koyuk River	7.59	336	P	Pn	Pn	22 13 39.7 +2.1
	baz=150						
G19K	Purcell Mounta	7.60	354	Pn	Pn	Pn	22 13 37.8 +0.1
G19K	Purcell Mounta	7.60	354	P	Pn	Pn	22 13 38.2 +0.5
	baz=172,SNR=124						
G15K	Niukluk	7.65	330	P	Pn	Pn	22 13 40.5 +2.1
	baz=142						
H23K	Yukon River	7.67	17		Pn	Pn	22 13 37.8 -0.9
H23K	Yukon River	7.67	17	P	Pn	Pn	22 13 38.0 -0.7
	baz=202						
H23K				S	Sn	Sn	22 15 01.7 -2.3
	baz=202						
ANM	Nome	7.70	325		Pn	Pn	22 13 39.8 +0.7
ANM	Nome	7.70	325	P	Pn	Pn	22 13 41.2 +2.1
	baz=136,SNR=24						
ANM				S	Sn	Sn	22 15 04.9 +0.2
	baz=136						
O28M	Mount Upton	7.84	68	P	Pn	Pn	22 13 42.8 +1.5
	baz=261,SNR=569						
O28M				S	Sn	Sn	22 15 06.0 -2.5
	baz=261						
L27K	Beaver Creek,	7.85	50	Pn	Pn	Pn	22 13 42.0 +0.8
L27K	Beaver Creek,	7.85	50	P	Pn	Pn	22 13 42.1 +0.9
	baz=242						
L27K				S	Sn	Sn	22 15 05.4 -3.1
	baz=242						
BCAR	Beaver Creek A	7.87	50	Pn	Pn	Pn	22 13 42.1 +0.7
YUK3	Moose Creek	7.94	60	P	Pn	Pn	22 13 44.0 +1.5
	baz=253,SNR=280						
YUK3				S	Sn	Sn	22 15 08.9 -2.0
	baz=253						
G21K	Allakaket	7.95	5		Pn	Pn	22 13 43.4 +1.0
G21K	Allakaket	7.95	5	P	Pn	Pn	22 13 43.4 +1.0
	baz=186						
UNV	Unalaska Valle	7.96	238	Pn	Pn	Pn	22 13 41.6 -0.9
UNV	Unalaska Valle	7.96	238	P	Pn	Pn	22 13 41.7 -0.9
UNV	Unalaska Valle	7.96	238	P	Pn	Pn	22 13 41.7 -0.8
	baz=48,SNR=7.8						
UNV				S	Sn	Sn	22 15 06.9 -4.1
	baz=48						
H24K	Noodor Dome	7.97	22	Pn	Pn	Pn	22 13 41.0 -1.9
H24K	Noodor Dome	7.97	22	P	Pn	Pn	22 13 41.2 -1.6
	baz=208,SNR=221						
H24K				S	Sn	Sn	22 15 07.3 -4.1
	baz=208						
BVCY	Beaver Creek	7.98	56	P	Pn	Pn	22 13 44.1 +1.2
	baz=248,SNR=74						
BVCY				S	Sn	Sn	22 15 10.5 -1.0
	baz=248						
YKU2	Yakutat	8.00	77	Pn	Pn	Pn	22 13 43.8 +0.7
P08K	Saint George I	8.02	262	Pn	Pn	Pn	22 13 41.6 -1.8
P08K	Saint George I	8.02	262	P	Pn	Pn	22 13 43.1 -0.3
	baz=69						
J26L	Joseph Creek	8.05	38	Pn	Pn	Pn	22 13 43.7 -0.2
J26L	Joseph Creek	8.05	38	P	Pn	Pn	22 13 43.2 -0.7
	baz=228,SNR=244						
J26L				S	Sn	Sn	22 15 06.9 -6.4
	baz=228						
MREP	Makushin Rep't	8.09	238		Pn	Pn	22 13 44.1 -0.4
YUK8	Steele Glacier	8.14	64	P	Pn	Pn	22 13 47.1 +1.8
	baz=258,SNR=331						
YUK8				S	Sn	Sn	22 15 13.8 -1.9
	baz=258						
SPIA	Saint Paul Isl	8.20	266	Pn	Pn	Pn	22 13 46.2 +0.5
SPIA	Saint Paul Isl	8.20	266	P	Pn	Pn	22 13 46.3 +0.5
	baz=73						
PRP	Porcupine Dome	8.23	29		Pn	Pn	22 13 45.3 -1.1
PRP	Porcupine Dome	8.23	29	P	Pn	Pn	22 13 44.8 -1.6
	baz=218,SNR=260						
PRP				S	Sn	Sn	22 15 11.6 -6.2
	baz=218						
F18K	Selawik	8.27	347	P	Pn	Pn	22 13 47.2 +0.6
	baz=163,SNR=66						
K27K	Chicken	8.27	44	Pn	Pn	Pn	22 13 46.8 0.0
K27K	Chicken	8.27	44	P	Pn	Pn	22 13 46.9 +0.2
	baz=235						
K27K				S	Sn	Sn	22 15 20.1 +1.7
	baz=235						
F15K	North Star Dit	8.38	332	Pn	Pn	Pn	22 13 49.3 +1.1
F15K	North Star Dit	8.38	332	P	Pn	Pn	22 13 49.0 +0.9
	baz=144						
G23K	Bananza Creek	8.44	14	Pn	Pn	Pn	22 13 48.1 -0.9
G23K	Bananza Creek	8.44	14	P	Pn	Pn	22 13 48.0 -0.9
	baz=198,SNR=214						
F20K	Avaraart Lake	8.46	358	Pn	Pn	Pn	22 13 50.4 +1.2
F20K	Avaraart Lake	8.46	358	P	Pn	Pn	22 13 50.9 +1.8
	baz=178,SNR=448						
O29M	Mount Kennedy	8.58	72	Pn	Pn	Pn	22 13 52.4 +1.4
O29M	Mount Kennedy	8.58	72	P	Pn	Pn	22 13 52.1 +1.1
	baz=266,SNR=343						
O29M				S	Sn	Sn	22 15 23.9 -2.2
	baz=266						
F14K	Arctic Creek	8.64	327	P	Pn	Pn	22 13 53.6 +1.9
	baz=138						
F21K	Alatna River	8.65	4	Pn	Pn	Pn	22 13 52.4 +0.5
F21K	Alatna River	8.65	4	P	Pn	Pn	22 13 53.0 +1.1
	baz=186,SNR=185						
YUK4	Taibot Arm	8.68	65	P	Pn	Pn	22 13 54.4 +1.9
	baz=259,SNR=64						
I26K	Coal Creek Min	8.73	35	Pn	Pn	Pn	22 13 52.4 -0.5
I26K	Coal Creek Min	8.73	35	P	Pn	Pn	22 13 52.1 -0.8
	baz=226						
I26K				S	Sn	Sn	22 15 22.0 -7.5
	baz=226						
YUK6	Outpost Mounta	8.75	68	P	Pn	Pn	22 13 54.8 +1.3
	baz=262,SNR=66						
YUK6				S	Sn	Sn	22 15 27.3 -3.1
	baz=262						
H25L	Birch Creek	8.78	25	P	Pn	Pn	22 13 51.6 -1.8
	baz=214,SNR=97						
H25L				S	Sn	Sn	22 15 27.2 -3.4
	baz=214						
G24K	Hadweenzic Riv	8.82	20	Pn	Pn	Pn	22 13 52.3 -1.8
G24K	Hadweenzic Riv	8.82	20	P	Pn	Pn	22 13 51.9 -2.2
	baz=207,SNR=111						
G24K				S	Sn	Sn	22 15 26.6 -5.1
	baz=207						
OKER	Okmok East Rim	8.91	240		P

I27K S Sn 22 15 41.7 -4.2
baz=228
N30M Aishikik Lake 9.44 65 Pn Pn 22 14 02.6 +0.1
N30M Aishikik Lake 9.44 65 P Pn 22 14 02.8 +0.3
baz=261,SNR=211
N30M S Sn 22 15 41.4 -5.4
baz=261
F24K Squaw Lake 9.49 17 Pn Pn 22 14 01.6 -1.5
F24K Squaw Lake 9.49 17 P Pn 22 14 01.6 -1.5
baz=204,SNR=51
F24K S Sn 22 15 42.8 -5.2
baz=204
GAMB Gambell 9.51 310 P Pn 22 14 01.8 -1.6
baz=115
E22K Anaktuvuk Pass 9.65 7 Pn Pn 22 14 05.1 -0.2
E22K Anaktuvuk Pass 9.65 7 P Pn 22 14 05.5 +0.3
baz=190,SNR=53
E20K Nigu River 9.68 358 P Pn 22 14 06.8 +1.2
baz=177
PLBC Pleasant Camp 9.69 77 P Pn 22 14 07.1 +1.4
baz=273,SNR=43
PLBC S Sn 22 15 52.4 -0.3
baz=273
E23K Chandalar 9.77 12 Pn Pn 22 14 05.3 -1.6
E23K Chandalar 9.77 12 P Pn 22 14 06.0 -0.9
baz=197,SNR=34
D17K Noatak River 9.78 342 P Pn 22 14 07.8 +1.0
baz=155,SNR=25
G26K Porcupine Rive 9.80 27 Pn Pn 22 14 05.3 -2.0
G26K Porcupine Rive 9.80 27 P Pn 22 14 04.5 -2.7
baz=217,SNR=86
G26K S Sn 22 15 49.6 -5.8
baz=217
M30M Minto, Yukon 9.82 59 Pn Pn 22 14 08.5 +1.0
M30M Minto, Yukon 9.82 59 P Pn 22 14 08.4 +0.9
baz=255,SNR=50
M30M S Sn 22 15 52.9 -3.0
baz=255
O30N Mendenhall 9.84 69 Pn Pn 22 14 08.3 +0.5
O30N Mendenhall 9.84 69 P Pn 22 14 08.7 +0.9
baz=266,SNR=41
O30N S Sn 22 15 54.7 -1.7
baz=266
I28M Miner Creek 9.85 40 Pn Pn 22 14 08.1 +0.1
I28M Miner Creek 9.85 40 P Pn 22 14 07.2 -0.7
baz=233
I28M S Sn 22 15 52.9 -3.8
baz=233
H27K Steamboat Moun 9.86 34 Pn Pn 22 14 07.5 -0.5
H27K Steamboat Moun 9.86 34 P Pn 22 14 06.9 -1.1
baz=226
E21K Killik River 9.86 2 Pn Pn 22 14 08.8 +0.8
E21K Killik River 9.86 2 P Pn 22 14 08.5 +0.5
baz=184
E21K S Sn 22 15 57.1 +0.3
baz=184
E24K Your Creek 9.93 15 Pn Pn 22 14 08.1 -0.9
E24K Your Creek 9.93 15 P Pn 22 14 07.5 -1.4
baz=201,SNR=49
J29N Klondike Camp 9.93 47 Pn Pn 22 14 09.9 +0.9
J29N Klondike Camp 9.93 47 P Pn 22 14 10.0 +0.9
baz=242,SNR=23
K29M Barlow Dome 9.93 51 Pn Pn 22 14 09.3 +0.2
K29M Barlow Dome 9.93 51 P Pn 22 14 10.3 +1.2
baz=246
K29M S Sn 22 15 56.7 -2.1
baz=246
F25K Christian Rive 9.95 21 Pn Pn 22 14 05.8 -3.4
F25K Christian Rive 9.95 21 P Pn 22 14 06.4 -2.8
baz=210,SNR=93
S31K Pelican 9.95 86 Pn Pn 22 14 09.4 +0.2
S31K Pelican 9.95 86 P Pn 22 14 09.1 -0.2
baz=282,SNR=36
S31K S Sn 22 15 57.5 -1.6
baz=282
D19K Kuna River 9.99 354 P Pn 22 14 11.5 +1.7
baz=171
BMAR Burnt Mountain 10.02 24 Pn Pn 22 14 07.8 -2.3
N31M Braeburn, Yuko 10.06 65 Pn Pn 22 14 11.6 +0.8
N31M Braeburn, Yuko 10.06 65 P Pn 22 14 11.6 +0.8
baz=262,SNR=87
RDOG Red Dog Mine 10.08 343 Pn Pn 22 14 11.8 +0.9
RDOG Red Dog Mine 10.08 343 P Pn 22 14 12.4 +1.5
baz=156,SNR=32
R31K City Hall, Gus 10.13 83 P Pn 22 14 13.1 +1.5
baz=280,SNR=13
D20K Etivluk River 10.14 357 P Pn 22 14 12.8 +1.0
baz=176
SKAG Skagway 10.21 77 Pn Pn 22 14 14.0 +1.2
SKAG Skagway 10.21 77 P Pn 22 14 14.0 +1.2
baz=274,SNR=86
G27K Doyon Strip 10.24 31 Pn Pn 22 14 10.9 -2.2
G27K Doyon Strip 10.24 31 P Pn 22 14 10.8 -2.3
baz=223,SNR=62
F26K Sheenjek River 10.33 24 Pn Pn 22 14 12.1 -2.2
F26K Sheenjek River 10.33 24 P Pn 22 14 12.2 -2.1
baz=214
TOLK Toolik Lake Re 10.34 11 Pn Pn 22 14 14.2 -0.2
TOLK Toolik Lake Re 10.34 11 P Pn 22 14 13.9 -0.5
baz=196,SNR=38
D22K Ayikyak River 10.34 5 Pn Pn 22 14 14.6 +0.1
D22K Ayikyak River 10.34 5 P Pn 22 14 14.2 -0.3
baz=187,SNR=45
I29M Ogilvie Camp, 10.36 42 Pn Pn 22 14 14.9 +0.2
I29M Ogilvie Camp, 10.36 42 P Pn 22 14 15.1 +0.4
baz=237,SNR=62
C18K Utukok River 10.41 348 Pn Pn 22 14 15.5 +0.2
C18K Utukok River 10.41 348 P Pn 22 14 15.6 +0.2
baz=162,SNR=39
E25K Arctic Village 10.42 20 Pn Pn 22 14 13.2 -2.3
E25K Arctic Village 10.42 20 P Pn 22 14 13.0 -2.6
baz=209,SNR=67
WHY Whitehorse 10.43 70 Pn Pn 22 14 17.0 +1.3
WHY Whitehorse 10.43 70 P Pn 22 14 16.9 +1.3
baz=268,SNR=101
C17K DeLong Mountai 10.50 343 P Pn 22 14 17.7 +1.1
baz=156,SNR=31
MAYO Mayo, Yukon 10.52 54 Pn Pn 22 14 17.8 +1.0
MAYO Mayo, Yukon 10.52 54 P Pn 22 14 17.1 +0.3
baz=251,SNR=5.9
D23K Nanushuk River 10.55 9 Pn Pn 22 14 16.1 -1.1
D23K Nanushuk River 10.55 9 P Pn 22 14 16.9 -0.4
baz=193
BESE Bessie Mountai 10.56 82 Pn Pn 22 14 18.1 +0.6
C21K Knifeblade Rid 10.57 1 P Pn 22 14 17.8 +0.3
baz=181
SIT Sitka 10.65 90 Pn Pn 22 14 18.5 -0.1
SIT Sitka 10.65 90 P Pn 22 14 18.2 -0.4
baz=287,SNR=24
C16K Lisburne Hills 10.69 339 Pn Pn 22 14 19.9 +0.9
C16K Lisburne Hills 10.69 339 P Pn 22 14 20.9 +1.9
baz=150,SNR=63
J30M Hart River 10.71 48 Pn Pn 22 14 21.1 +1.6
J30M Hart River 10.71 48 P Pn 22 14 21.2 +1.7
baz=245,SNR=99
R32K Eaglecrest 10.78 83 Pn Pn 22 14 22.0 +1.6
R32K Eaglecrest 10.78 83 P Pn 22 14 21.5 +1.1
baz=281,SNR=43
H29M Whitestone 10.83 38 Pn Pn 22 14 20.5 -0.4
H29M Whitestone 10.83 38 P Pn 22 14 20.9 -0.1
baz=233,SNR=66
M31M Drury Creek, Y 10.83 62 Pn Pn 22 14 22.3 +1.4
M31M Drury Creek, Y 10.83 62 P Pn 22 14 21.4 +0.5
baz=260,SNR=42
D24K Happy Valley 10.91 12 Pn Pn 22 14 20.0 -2.0
D24K Happy Valley 10.91 12 P Pn 22 14 21.1 -0.9
baz=198
S32K Killisnoo 10.93 87 Pn Pn 22 14 23.0 +0.7
S32K Killisnoo 10.93 87 P Pn 22 14 23.0 +0.7
baz=285,SNR=149
I30M Mount Dempster 10.98 45 Pn Pn 22 14 23.7 +0.6
I30M Mount Dempster 10.98 45 P Pn 22 14 23.8 +0.6
baz=242,SNR=47
P32M Atlin 11.03 76 Pn Pn 22 14 24.6 +1.0
P32M Atlin 11.03 76 P Pn 22 14 24.1 +0.5
baz=274,SNR=43
B21K Ikpikpuk River 11.04 1 Pn Pn 22 14 22.6 -1.0
B21K Ikpikpuk River 11.04 1 P Pn 22 14 23.3 -0.3
baz=181,SNR=43
B18K Kokolik River 11.16 348 P Pn 22 14 25.4 +0.2
baz=162,SNR=38
E27K Coleen River 11.30 26 Pn Pn 22 14 24.4 -2.8
E27K Coleen River 11.30 26 P Pn 22 14 24.1 -3.1
baz=219,SNR=43
FARO Faro, Yukon 11.31 62 Pn Pn 22 14 28.0 +0.6
FARO Faro, Yukon 11.31 62 P Pn 22 14 28.5 +1.2
baz=261,SNR=31
N32M Quiet Lake 11.33 68 P Pn 22 14 28.8 +1.2
baz=267
G29M Pine Creek 11.36 36 Pn Pn 22 14 27.7 -0.3
G29M Pine Creek 11.36 36 P Pn 22 14 27.2 -0.8
baz=231,SNR=37
D25K Kavik River 11.38 16 Pn Pn 22 14 25.6 -2.6
D25K Kavik River 11.38 16 P Pn 22 14 25.8 -2.4
baz=204,SNR=38
C23K Itkillik River 11.41 8 Pn Pn 22 14 27.2 -1.4
C23K Itkillik River 11.41 8 P Pn 22 14 26.8 -1.8
baz=192,SNR=33
P33M Teslin, Yukon 11.45 73 Pn Pn 22 14 29.4 +0.3
P33M Teslin, Yukon 11.45 73 P Pn 22 14 29.2 0.0
baz=272,SNR=48
B20K Meade River 11.46 356 Pn Pn 22 14 28.8 -0.4
B20K Meade River 11.46 356 P Pn 22 14 29.4 +0.2
baz=175
EPYK Eagle Plains 11.46 40 Pn Pn 22 14 29.5 +0.2
EPYK Eagle Plains 11.46 40 P Pn 22 14 28.8 -0.5
baz=236,SNR=184
C24K Franklin Bluff 11.47 11 Pn Pn 22 14 26.5 -2.8
C24K Franklin Bluff 11.47 11 P Pn 22 14 27.5 -1.7
baz=197
B22K Teshekpuk Lake 11.78 3 Pn Pn 22 14 32.1 -1.2
B22K Teshekpuk Lake 11.78 3 P Pn 22 14 32.3 -1.1
baz=184,SNR=76
Q32M Nakina River 11.83 79 Pn Pn 22 14 34.6 +0.2
Q32M Nakina River 11.83 79 P Pn 22 14 35.1 +0.7
baz=278,SNR=76
A19K Wainwright 11.89 350 P Pn 22 14 35.1 +0.3
baz=165
G30M tAoh Zraii Nji 11.97 38 Pn Pn 22 14 35.1 -0.8
G30M tAoh Zraii Nji 11.97 38 P Pn 22 14 34.9 -1.1
baz=235
H31M Peel River 12.01 45 Pn Pn 22 14 36.3 -0.2
H31M Peel River 12.01 45 P Pn 22 14 36.5 0.0
baz=243
C27K Jago River 12.07 19 Pn Pn 22 14 36.3 -1.0
C27K Jago River 12.07 19 P Pn 22 14 35.3 -1.9
baz=210,SNR=33
U33K Whale Pass 12.11 93 Pn Pn 22 14 37.9 0.0
U33K Whale Pass 12.11 93 P Pn 22 14 38.5 +0.7
baz=291,SNR=59
E28M Babbage River 12.12 28 Pn Pn 22 14 35.6 -2.2
E28M Babbage River 12.12 28 P Pn 22 14 35.2 -2.6
baz=222,SNR=19
C26K Camden Bay 12.14 17 P Pn 22 14 37.1 -0.9
baz=206,SNR=24
D27M Malcolm River 12.28 24 Pn Pn 22 14 38.0 -2.0
D27M Malcolm River 12.28 24 P Pn 22 14 37.4 -2.6
baz=217,SNR=55
MMPY Sheldon Lake, 12.33 61 Pn Pn 22 14 41.0 +0.3
MMPY Sheldon Lake, 12.33 61 P Pn 22 14 42.1 +1.4
baz=262,SNR=50
CRAG Craig 12.36 95 Pn Pn 22 14 41.3 +0.3
CRAG Craig 12.36 95 P Pn 22 14 40.5 -0.6
baz=294,SNR=9.4
E29M Blow River 12.38 31 Pn Pn 22 14 39.7 -1.5
E29M Blow River 12.38 31 P Pn 22 14 40.0 -1.2
baz=226
WRAK Wrangell Islan 12.41 90 Pn Pn 22 14 42.8 +1.1
WRAK Wrangell Islan 12.41 90 P Pn 22 14 43.3 +1.6
baz=290,SNR=32
A22K Sinclair Lake 12.43 0 P Pn 22 14 40.3 -1.4
baz=180
R33M Jennings River 12.44 76 Pn Pn 22 14 43.7 +1.4
R33M Jennings River 12.44 76 P Pn 22 14 42.4 +0.1
baz=277,SNR=71
F30M Barrier River 12.48 36 P Pn 22 14 41.5 -1.0
baz=233,SNR=37
ATKA Atka Island 12.59 248 Pn Pn 22 14 43.6 -0.4
S34M Telegraph Cree 12.62 83 Pn Pn 22 14 47.0 +2.6
S34M Telegraph Cree 12.62 83 P Pn 22 14 46.1 +1.7
baz=284,SNR=71
A21K Barrow 12.76 358 P Pn 22 14 44.9 -1.2
baz=176,SNR=14
D28M Stokes Point 12.85 27 P Pn 22 14 46.2 -1.1
baz=222,SNR=52
F31M Tsiigehtchic 13.03 39 Pn Pn 22 14 49.0 -0.6
F31M Tsiigehtchic 13.03 39 P Pn 22 14 48.4 -1.3
baz=238,SNR=49
DLBC Dease Lake 13.08 80 Pn Pn 22 14 52.5 +2.1
DLBC Dease Lake 13.08 80 P Pn 22 14 51.0 +0.6
comp=N,32nm,0.4s,baz=262,slow=7.7,SNR=76
DLBC S Sn 22 17 10.5 -4.1
comp=N,7.1nm,0.4s,baz=160,slow=21,SNR=2.1
DLBC LR LR 22 20 20.3
comp=N,88nm,19.5s,baz=292,slow=39
DLBC ScP ScP 22 23 32.7 +1.6
comp=N,6.8nm,1.1s,baz=271,slow=4.0,SNR=5.8
DLBC Dease Lake 13.08 80 P Pn 22 14 51.8 +1.4
baz=282,SNR=100
V35K Ketchikan 13.20 94 Pn Pn 22 14 53.4 +1.5
V35K Ketchikan 13.20 94 P Pn 22 14 53.6 +1.6
baz=294,SNR=15
T35M Bob Quinn 13.33 86 Pn Pn 22 14 55.9 +2.2
T35M Bob Quinn 13.33 86 P Pn 22 14 55.8 +2.2
baz=288,SNR=34
GSTR Great Sitkin T 13.56 250 Pn Pn 22 14 57.6 +0.9
INK Inuvik 13.58 36 Pn Pn 22 14 56.5 -0.1
INK Inuvik 13.58 36 P Pn 22 14 56.1 -0.6
comp=N,35nm,0.4s,baz=216,slow=10,SNR=218
INK S Sn 22 17 20.4 -6.0
comp=N,9.2nm,0.9s,baz=166,slow=14,SNR=1.9
INK ScP ScP 22 23 32.4 +0.8
comp=N,4.5nm,0.8s,baz=286,slow=2.1,SNR=11
INK Inuvik 13.58 36 P Pn 22 14 55.6 -1.1
baz=235,SNR=73
TGTN Hyland Airport 13.65 66 P P 22 15 00.1 -1.8
baz=270,SNR=42
DIB Dawson Inlet, 13.77 103 Pn Pn 22 14 59.5 +0.4
U35K Hyder 13.80 91 P P 22 15 02.3 -1.2
U35K Hyder 13.80 91 P P 22 15 02.4 -1.1
baz=292,SNR=29
ADK Adak 14.00 251 Pn Pn 22 15 02.2 +0.1
MOBC Moresby Island 14.05 103 P Pn 22 15 03.3 +0.4
KIWB Kanaga Island 14.25 251 Pn Pn 22 15 03.8 -1.5
GRNB Grenville Isla 14.73 98 P Pn 22 15 11.8 +0.4
HG4B Hotspring 14.92 105 P Pn 22 15 14.0 +0.3
TOAD Toad River Com 15.45 76 P P 22 15 22.6 +0.8
baz=282,SNR=15
KOTAN Kotaneelee Air 15.81 71 P P 22 15 27.2 +1.5
baz=278,SNR=17
BBB Bella Bella 16.55 101 P P 22 15 35.5 +1.6
comp=N,12nm,1.1s,baz=306,slow=12,SNR=6.0
BBB S Sn 22 18 34.9 -3.0
comp=N,1.9nm,0.4s,baz=49,slow=21,SNR=5.5
C36M Paulatuk 17.09 38 P P 22 15 38.4 -1.3
C36M Paulatuk 17.09 38 P P 22 15 37.7 -1.9
baz=247,SNR=156
A36M Sachs Harbour 17.99 30 P P 22 15 48.6 -0.9
A36M Sachs Harbour 17.99 30 P P 22 15 48.2 -1.3
baz=238,SNR=82
SHEM Shemya Is, Ala 18.23 265 P P 22 15 52.7 +0.3
comp=N,323nm,0.8s,baz=14,slow=4.5,SNR=10
CBB Campbell River 19.21 104 P P 22 16 03.2 +0.1
BILL Bilibino 19.37 315 P P 22 16 04.2 -0.4
YKA Yellowknife Ar 20.03 62 P P 22 16 12.8 +1.0
comp=N,23nm,0.8s,baz=278,slow=9.9,SNR=242
YKA PcP PcP 22 20 21.2 -0.2
comp=N,0.6nm,0.3s,baz=264,slow=2.0,SNR=4.4
YKA ScP ScP 22 23 45.5 +0.8
comp=N,6.0nm,0.9s,baz=276,slow=2.3,SNR=34
LLLB Lillooet 20.66 98 P P 22 16 18.7 +0.1
D05A Enumclaw 22.76 106 P P 22 16 40.4 0.0
D05A IAmb IAmb 22 17 12.8
comp=Z,54nm,1.3s
LON Longmire 23.15 106 P P 22 16 45.1 +1.1
B08A Colville Reser 23.35 100 P P 22 16 46.0 +0.2
B08A IAmb IAmb 22 17 17.7
comp=Z,26nm,1.1s
E07A Sunnyside 24.27 104 P P 22 16 53.9 -0.2
E07A IAmb IAmb 22 17 26.4
comp=Z,53nm,1.6s
PET Petropavlovsk 26.14 278 P P 22 17 10.1 -0.8
PET Petropavlovsk 26.14 278 P P 22 17 11.8 +0.8
comp=Z,76nm,1.6s
JTMT Jette 26.35 96 P P 22 17 14.2 +1.1
PETK Petropavlovsk- 26.59 279 P P 22 17 14.0 -1.0
PETK Petropavlovsk- 26.59 279 P P 22 17 14.2 -0.8
comp=Z,22nm,0.6s,baz=70,slow=13,SNR=82
comp=Z,22nm,0.6s
MA2 Magadan 27.17 295 P P 22 17 20.1 -0.1
MA2 Magadan 27.17 295 LR LR 22 28 08.2
comp=Z,79nm,20.2s,baz=86,slow=36
LYMT Lyon Mountain 27.89 96 P P 22 17 26.7 -0.3
HRY Holter Researc 28.30 96 P P 22 17 31.4 +0.9
FCC Fort Churchill 30.74 63 P P 22 17 52.7 +1.0
FCC IAmb IAmb 22 17 55.6
comp=Z,11nm,0.9s
NVAR Mina Array Bea 31.07 114 PcP PcP 22 20 49.2 +2.0
comp=Z,0.7nm,0.7s,baz=348,slow=4.4,SNR=3.8
NVAR ScP ScP 22 24 19.6 +2.5
comp=Z,1.0nm,0.7s,baz=323,slow=4.5,SNR=3.6
TIXI Tiksi 31.96 325 P P 22 18 02.8 +0.5
TIXI Tiksi 31.96 325 P P 22 18 03.2 +0.9
TIXI ScP ScP 22 24 18.3 -0.9
PDAR Pinedale Array 32.18 99 P P 22 18 06.5 +1.7
comp=Z,0.9nm,0.6s,baz=310,slow=8.1,SNR=9.8
PDAR ScP ScP 22 24 21.3 +0.5
comp=Z,0.2nm,0.3s,baz=281,slow=3.2,SNR=2.1
comp=Z,0.9nm,0.6s
ALE Alert 32.69 14 P P 22 18 06.7 -1.9
ALE ScP ScP 22 24 22.1 +0.5
ULM Lac du Bonnet 34.38 78 P P 22 18 24.9 +1.4
comp=Z,0.9nm,0.3s,baz=303,slow=11,SNR=4.9
ULM LR LR 22 32 12.4
comp=Z,72nm,20.0s,baz=2.0,slow=36
comp=Z,0.9nm,0.3s
YAK Yakutsk 35.46 308 P P 22 18 32.6 0.0
YAK Yakutsk 35.46 308 P P 22 18 32.3 -0.3
NEEM North Greenlan 36.50 21 eP P 22 18 40.1 -1.6
NEEM IAmb IAmb 22 18 41.7
comp=Z,12nm,0.8s
YSS Yuzhno-Sakhali 37.97 280 P P 22 18 53.7 -0.4
EYMN Ely 38.07 78 P P 22 18 56.8 +1.9
EYMN IAmb IAmb 22 19 28.7
comp=Z,12nm,0.8s
NOR Nord 38.23 9 eP P 22 18 54.9 -1.0
FRB Frobisher Bay 38.98 45 LR LR 22 35 45.7
comp=Z,114nm,19.3s,baz=305,slow=37
JKA Kamikawa-asahi 39.97 277 P P 22 19 11.0 +0.2
JKA IAmb IAmb 22 19 12.0
comp=Z,23nm,1.0s
ERM Erimo 41.16 274 P P 22 19 21.3 +0.8
DAG Danmarks Havn 42.09 14 iP P 22 19 25.0 -2.7
DAG IAmb IAmb 22 19 27.4
comp=Z,9.3nm,0.6s
E46A Sault Ste Mari 42.77 74 P P 22 19 34.7 +1.2
E46A IAmb IAmb 22 20 06.9
comp=Z,23nm,1.0s
SFJD Kangerlussuaq 42.92 34 P P 22 19 34.4 -0.1
SFJD Kangerlussuaq 42.92 34 eP P 22 19 34.0 -0.4
SFJD Kangerlussuaq 42.92 34 P P 22 19 35.0 +0.5
SFJD pP pP 22 20 06.5 +1.5
SPITS Spitsbergen Ar 43.34 3 P P 22 19 36.4 -1.4
comp=Z,1.5nm,0.4s,baz=30,slow=5.1,SNR=29
comp=Z,1.5nm,0.4s
HEH HeiHe 43.43 294 eP P 22 19 37.4 -1.3
HEH pmax pmax
comp=Z,48nm,0.8s
DBG Daneborg 43.98 16 eP P 22 19 41.6 -1.2
SGCY Sterling City 44.76 102 P P 22 19 50.3 +0.6
VLDQ Val d'Or 44.96 68 P P 22 19 49.7 -1.2
VLDQ IAmb IAmb 22 20 47.7
comp=Z,15nm,0.7s
CCM Cathedral Cave 45.16 88 P P 22 19 53.8 +1.1
CCM IAmb IAmb 22 20 00.1
comp=Z,19nm,1.5s
SCHQ Schefferville 45.23 55 P P 22 19 52.9 -0.2
SCHQ IAmb IAmb 22 20 25.0
comp=Z,20nm,0.9s
SCHQ Schefferville 45.23 55 P P 22 19 53.9 +0.8
comp=Z,13nm,0.4s,baz=318,slow=7.6,SNR=100
comp=Z,13nm,0.4s
USA0B Ussuriysk Arra 45.36 285 P P 22 19 53.0 -1.1
USA0B IAmb IAmb 22 19 54.0
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 45.36 285 P P 22 19 53.2 -0.9
USRK Ussuriysk Ar. 45.36 285 P P 22 19 53.0 -1.1
comp=Z,7.6nm,0.8s,baz=50,slow=6.9,SNR=16
USRK PcP PcP 22 21 31.8 +0.7
comp=Z,1.5nm,0.8s,baz=50,slow=2.3,SNR=4.1
comp=Z,7.6nm,0.8s
JMM Marumori 45.43 272 P P 22 19 54.8 0.0
PLPT Palo Pinto 45.50 99 P P 22 19 57.5 +2.1
TXAR Lajitas Array 45.56 107 P P 22 19 58.2 +2.1
TXAR Lajitas Array 45.56 107 P P 22 19 57.5 +1.5
comp=Z,1.0nm,0.9s,baz=304,slow=8.9,SNR=5.3
comp=Z,1.0nm,0.9s
MDJ Mudanjiang 46.27 287 P P 22 20 00.8 -0.5
MDJ pmax pmax
comp=Z,15nm,1.0s
SADO Sadowa 46.48 72 P P 22 20 04.5 +1.5
SADO IAmb IAmb 22 20 35.4
comp=Z,11nm,0.9s
SADO Sadowa 46.48 72 LR LR 22 39 40.0
comp=Z,78nm,19.6s,baz=42,slow=36
BNX BinXian 46.55 290 ⇑P P 22 20 03.3 -0.2
BNX pmax pmax
comp=Z,45nm,0.9s
JSD Sado 46.63 274 P P 22 20 04.4 +0.2
JSD IAmb IAmb 22 20 05.2
comp=Z,29nm,0.9s
SCO Scoresbysund 46.96 20 P P 22 20 06.5 +0.1
SCO IAmb IAmb 22 21 13.8
comp=Z,33nm,1.9s
SCO Scoresbysund 46.96 20 eP P 22 20 06.3 0.0
DELO Deloro Mine 47.42 72 P P 22 20 11.7 +1.5
DELO IAmb IAmb 22 20 47.5
comp=Z,20nm,1.2s
237A Washetta, Mont 47.43 97 P P 22 20 11.3 +0.8
TRQ Mont Tremblant 47.70 68 P P 22 20 13.4 +1.0
TRQ IAmb IAmb 22 20 45.4
comp=Z,34nm,1.3s
MAJO Matsushiro 47.78 273 P P 22 20 13.8 +0.6
MAJO Matsushiro 47.78 273 P P 22 20 13.2 0.0
MJAR Matsushiro Arr 47.78 273 P P 22 20 13.3 +0.1
comp=Z,6.3nm,0.7s,baz=27,slow=7.3,SNR=14
MJAR PcP PcP 22 21 40.3 +0.4
comp=Z,4.0nm,0.8s,baz=40,slow=3.2,SNR=5.9
comp=Z,6.3nm,0.7s
MJB9 Matsu-Tunnel 47.78 273 P P 22 20 14.7 +1.5
LDAQ Lac Daran 48.03 64 P P 22 20 16.8 +1.8
LDAQ IAmb IAmb 22 20 48.5
comp=Z,17nm,1.2s
WBO Williamsburg 48.23 69 P P 22 20 17.9 +1.5
WBO IAmb IAmb 22 20 48.9
comp=Z,15nm,0.9s
WVNY West Valley, N 48.46 74 P P 22 20 20.3 +2.0
WVNY IAmb IAmb 22 20 51.6
comp=Z,24nm,0.8s
N53A Lisbon 48.51 77 P P 22 20 19.9 +1.2
N53A IAmb IAmb 22 20 52.1
comp=Z,26nm,1.1s
MMNY Mt. Morris Dam 48.57 73 P P 22 20 20.9 +1.8
NRS Narsarsuaq 48.70 37 P P 22 20 19.9 +0.1
ICQ Pointe Anglais 48.75 60 P P 22 20 21.6 +1.2
ICQ IAmb IAmb 22 20 52.7
comp=Z,26nm,0.9s
LMQ La Malbaie 48.76 64 P P 22 20 22.0 +1.5
LMQ IAmb IAmb 22 20 22.4
comp=Z,22nm,1.3s
CN2 Changchun 48.91 289 eP P 22 20 21.5 -0.2
CN2 pmax pmax
comp=Z,70nm,0.8s
CN2 pmax pmax
comp=Z,290nm,4.5s
JGF Kuroka 48.95 273 P P 22 20 22.5 +0.4
J57A Williamstown 49.03 71 P P 22 20 23.9 +1.4
J57A IAmb IAmb 22 20 56.0
comp=Z,23nm,1.1s
PLAL Pickwick Lake 49.15 88 P P 22 20 25.5 +1.9
PLAL IAmb IAmb 22 21 11.5
comp=Z,24nm,0.9s
FRNY Flat Rock 49.17 68 P P 22 20 24.0 +0.4
FRNY IAmb IAmb 22 20 56.0
comp=Z,17nm,1.1s
L56A Greenwood 49.19 74 P P 22 20 25.9 +2.0
O54A Avella 49.21 77 P P 22 20 25.2 +1.2
O54A IAmb IAmb 22 20 56.9
comp=Z,15nm,0.8s
INU Inuyama 49.32 273 P P 22 20 26.8 +1.9
SSPA Standing Stone 50.13 75 P P 22 20 32.8 +1.8
SSPA pP pP 22 21 03.6 +1.1
TKL Tuckaleechee C 50.87 84 LR LR 22 41 23.8
comp=Z,57nm,18.5s,baz=358,slow=35
SNY Shenyang 51.30 289 ⇑P P 22 20 40.1 +0.4
SNY pmax pmax
comp=Z,32nm,0.9s

BORG Borgarnes 52.07 23 LR LR 22 46 55.4
comp=Z,34nm,18.6s,baz=325,slow=40
ARCES ARCESS Array B 52.13 360 P **P** **22 20 44.2 -1.3**
comp=Z,5.5nm,0.9s,baz=31,slow=6.5,SNR=14
ARCES PcP **PcP** **22 21 56.1 +0.7**
comp=Z,5.8nm,0.9s,baz=357,slow=4.3,SNR=4.1
comp=Z,5.5nm,0.9s
KS19 Wonju Array Si 52.41 282 P **P** **22 20 49.2 +1.2**
KS19 IAmb IAmb 22 20 49.9
comp=Z,21nm,0.9s
KSRS Korea Array 52.42 282 P **P** **22 20 48.7 +0.7**
comp=Z,17nm,0.7s,baz=40,slow=7.0,SNR=55
KSRS PcP **PcP** **22 21 58.0 +1.1**
comp=Z,3.2nm,0.8s,baz=53,slow=3.3,SNR=5.1
KSRS ScP **ScP** **22 25 41.7 +0.8**
comp=Z,1.9nm,0.8s,baz=44,slow=3.8,SNR=7.0
comp=Z,17nm,0.7s
KSAR Wonju Array Be 52.45 282 P **P** **22 20 49.2 +0.9**
M63A Gales Ferry 52.47 70 P **P** **22 20 49.8 +1.4**
DRLN Deer Lake 53.23 54 P **P** **22 20 54.5 +0.6**
DRLN IAmb IAmb 22 21 26.3
comp=Z,22nm,0.9s
XLT XiLinHaoTe 53.37 296 *e*P **P** **22 20 55.2 +0.2**
XLT pmax pmax
comp=Z,9.0nm,0.8s
TJN Taejon 53.53 282 P **P** **22 20 57.4 +1.2**
ULN Ulaanbaatar 54.41 305 P **P** **22 21 03.8 +1.1**
ULN IAmb IAmb 22 21 04.1
comp=Z,19nm,0.9s
ULN Ulaanbaatar 54.41 305 P **P** **22 21 03.4 +0.8**
GBN Guysborough 54.42 60 P **P** **22 21 04.2 +1.7**
SONM Songino Array 54.71 305 P **P** **22 21 06.2 +1.4**
SONM Songino Array 54.71 305 P **P** **22 21 05.5 +0.7**
comp=Z,40nm,0.8s,baz=46,slow=7.0,SNR=170
SONM ScP **ScP** **22 25 51.6 +0.6**
comp=Z,0.6nm,0.9s,baz=29,slow=3.3,SNR=2.3
comp=Z,40nm,0.8s
BJI Beijing 56.28 293 P **P** **22 21 16.0 +0.1**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,60nm,5.7s
BJT Baijiatuau 56.30 293 IAmb IAmb 22 21 17.2
comp=Z,12nm,0.8s
BJT Baijiatuau 56.30 293 P **P** **22 21 16.6 +0.5**
BJT pP **pP** **22 21 48.6 +0.7**
ZAA0 Zalesovo Array 57.83 323 P **P** **22 21 27.4 +0.8**
ZAA0 IAmb IAmb 22 21 27.7
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 57.83 323 P **P** **22 21 27.1 +0.5**
ZALV Zalesovo Beam 57.83 323 P **P** **22 21 26.5 -0.1**
comp=Z,9.6nm,0.7s,baz=29,slow=7.7,SNR=38
ZALV ScP **ScP** **22 26 03.0 -1.5**
comp=Z,1.3nm,0.8s,baz=31,slow=4.0,SNR=4.8
comp=Z,9.6nm,0.7s
HHC Hu-ho-hao-te 57.84 297 *e*P **P** **22 21 27.6 +0.5**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,150nm,6.1s
HNS HongShan 59.07 292 ⇑P **P** **22 21 35.9 +0.5**
HNS pmax pmax
comp=Z,26nm,1.0s
NB2 NORSAR Subarra 60.19 8 P **P** **22 21 41.5 -1.3**
comp=Z,2.2nm,0.6s,baz=352,slow=6.9
NOA NORSAR Array B 60.19 8 P **P** **22 21 41.7 -1.1**
comp=Z,3.1nm,0.8s,baz=353,slow=6.8,SNR=11
comp=Z,3.1nm,0.8s
FINES FINESS Array B 60.26 359 P **P** **22 21 41.9 -1.2**
comp=Z,0.7nm,0.3s,baz=6.2,slow=6.5,SNR=19
FINES ScP **ScP** **22 26 13.9 -1.2**
comp=Z,2.0nm,0.7s,baz=8.7,slow=1.8,SNR=6.0
comp=Z,0.7nm,0.3s
JOW Kunigami 60.61 274 P **P** **22 21 46.0 -0.1**
comp=Z,47nm,0.9s,baz=34,slow=3.6,SNR=4.6
comp=Z,47nm,0.9s
HFS Hagfors 61.25 6 P **P** **22 21 48.6 -1.3**
comp=Z,4.5nm,0.4s,baz=33,slow=5.7,SNR=32
HFS LR LR 22 48 31.8
comp=Z,37nm,18.4s,baz=360,slow=36
comp=Z,4.5nm,0.4s
NJ2 Nanjing 61.27 285 ⇑P **P** **22 21 50.2 -0.2**
NJ2 pmax pmax
comp=Z,32nm,0.7s
ARTI Arti 62.25 340 P **P** **22 21 56.1 -0.5**
ARTI IAmb IAmb 22 21 56.6
comp=Z,9.7nm,1.0s
ARTI Arti 62.25 340 P **P** **22 21 55.8 -0.8**
ARTI pP **pP** **22 22 29.0 -0.2**
LYN LuoYang 62.43 292 ⇑P **P** **22 21 58.6 +0.4**
LYN pmax pmax
comp=Z,60nm,0.9s
KURK Kurchatov 62.54 325 P **P** **22 21 58.8 +0.1**
KURK Kurchatov 62.54 325 P **P** **22 21 58.5 -0.2**
KURK pP **pP** **22 22 31.9 +0.6**
KURBB Kurchatov Arra 62.65 325 P **P** **22 21 59.5 +0.1**
comp=Z,1.4nm,0.4s,baz=28,slow=6.3,SNR=18
comp=Z,1.4nm,0.4s
BRVK Borovoye 62.76 331 P **P** **22 22 00.1 0.0**
BRVK IAmb IAmb 22 22 34.1
comp=Z,8.1nm,0.8s
BVAR Borovoye Array 62.76 331 P **P** **22 21 59.8 -0.4**
comp=Z,1.5nm,0.3s,baz=113,slow=8.6,SNR=26
comp=Z,1.5nm,0.3s
EKA Eskdalemuir Ar 64.17 17 P **P** **22 22 08.8 -0.5**
comp=Z,0.6nm,0.3s,baz=337,slow=5.0,SNR=10
comp=Z,0.6nm,0.3s
GTA Gaotai 64.31 304 P **P** **22 22 10.6 -0.1**
GTA pP pP 22 22 43.4 0.0
GTA sP sP 22 22 58.2 0.0
GTA pmax pmax
comp=Z,12nm,1.3s
XAN Xi'an 64.56 294 P **P** **22 22 12.3 0.0**
XAN pP pP 22 22 43.3 -1.7
XAN pmax pmax
comp=Z,23nm,1.3s
WHN Wuhan 64.75 287 ⇓P **P** **22 22 13.8 +0.4**
WHN pmax pmax
comp=Z,50nm,0.8s
MK31 Makanchi Array 64.81 320 P **P** **22 22 14.0 +0.3**
MKAR Makanchi Array 64.81 320 P **P** **22 22 13.9 +0.2**
MKAR Makanchi Array 64.81 320 P **P** **22 22 13.6 -0.1**
comp=Z,1.7nm,0.3s,baz=33,slow=7.0,SNR=46
comp=Z,1.7nm,0.3s
MAKZ Makanchi 64.91 320 P **P** **22 22 14.0 -0.2**
MAKZ IAmb IAmb 22 22 15.0
comp=Z,5.9nm,0.9s
MAKZ Makanchi 64.91 320 P **P** **22 22 14.1 -0.2**
LZH Lanzhou 65.26 299 *e*P **P** **22 22 16.7 -0.2**
LZH pP pP 22 22 49.5 -0.2
LZH sP sP 22 23 04.7 +0.3
LZH pmax pmax
comp=Z,20nm,1.2s
ABKAR Akbulak array 68.70 336 P **P** **22 22 37.9 -0.4**
ABKAR Akbulak array 68.70 336 P **P** **22 22 38.1 -0.1**
ABKAR IAmb IAmb 22 22 38.8
comp=Z,3.1nm,0.6s
GOMU GeErMu 69.16 306 P **P** **22 22 42.0 +0.3**
GOMU pmax pmax
comp=Z,12nm,1.0s
CLL Collm 69.99 8 *e*Px Px 22 22 46.0
BRG Berggiesshubel 70.49 7 *e*P **P** **22 22 49.1 -0.1**
BRG Amp 22 22 50.5
comp=Z,6.8nm,1.1s
KDJ Kajisay 70.64 321 P **P** **22 22 50.2 -0.3**
WUS Wushi 70.79 320 P **P** **22 22 51.2 -0.2**
WUS IAmb IAmb 22 22 53.0
comp=Z,12nm,1.2s
AK21 Malin Array Si 70.90 357 P **P** **22 22 50.2 -1.4**
AK23 Malin Array Si 70.91 357 P **P** **22 22 50.3 -1.4**
AK22 Malin Array Si 70.91 357 P **P** **22 22 50.3 -1.4**
AK20 Malin Array Si 70.93 357 P **P** **22 22 50.5 -1.3**
AK03 Malin Array Si 70.94 357 P **P** **22 22 50.5 -1.4**
AK04 Malin Array Si 70.95 357 P **P** **22 22 50.6 -1.3**
AKASG Malin Array Be 70.97 357 P **P** **22 22 50.9 -1.2**
comp=Z,1.9nm,0.3s,baz=4.3,slow=5.9,SNR=22
comp=Z,1.9nm,0.3s
AKBB Malin Array Si 70.97 357 IAmb IAmb 22 22 51.8
comp=Z,13nm,1.0s
AKBB Malin Array Si 70.97 357 P **P** **22 22 50.7 -1.4**
KIEV Kiev 70.98 357 P **P** **22 22 50.9 -1.2**
KIEV IAmb IAmb 22 22 51.8
comp=Z,11nm,1.0s
KIEV Kiev 70.98 357 P **P** **22 22 50.8 -1.3**
AK15 Malin Array Si 70.98 357 P **P** **22 22 50.4 -1.7**
AK01 Malin Array Si 70.98 357 P **P** **22 22 50.4 -1.7**

AK02 Malin Array Si 71.01 357 P **P** **22 22 50.6 -1.7**
AAK Ala-Archa 71.03 324 P **P** **22 22 53.4 +0.6**
AAK Ala-Archa 71.03 324 P **P** **22 22 53.3 +0.5**
AAK pP **pP** **22 23 26.9 +0.8**
AK05 Malin Array Si 71.05 357 P **P** **22 22 51.5 -1.1**
AK05 IAmb IAmb 22 22 52.2
comp=Z,9.2nm,0.9s
LUBAR Lubar, Ukraine 71.78 358 P **P** **22 22 54.6 -2.4**
KKAR Karatay Array 71.80 327 P **P** **22 22 56.6 -0.7**
GYA Guiyang 71.91 291 ⇓P **P** **22 22 58.6 +0.3**
GYA pmax pmax
comp=Z,16nm,1.0s
VRAC Vranov 72.21 6 LR LR 22 56 59.8
comp=Z,18nm,18.1s,baz=343,slow=38
GERES GERESS Array B 72.49 8 P **P** **22 23 01.2 -0.2**
comp=Z,2.2nm,0.6s,baz=318,slow=1.8,SNR=6.4
comp=Z,2.2nm,0.6s
STNU Starunia 73.02 0 P **P** **22 23 03.3 -1.0**
NDNU Novodnistrovsk 73.12 358 P **P** **22 23 03.7 -1.2**
VYHS Vyhne 73.12 4 *e*P **P** **22 23 04.1 -0.9**
KMPD K-Podol'skiy 73.16 359 P **P** **22 23 03.9 -1.2**
MODS Modra-Piesok 73.17 5 *e*P **P** **22 23 05.4 +0.1**
KSH Kashi 73.39 321 P **P** **22 23 10.6 +3.8**
KSH pP pP 22 23 44.6 +4.3
KSH pmax pmax
comp=Z,4.0nm,0.8s
SORM Soroca 73.56 358 ⇑P **P** **22 23 06.5 -0.9**
SORM Soroca 73.56 358 P **P** **22 23 05.1 -2.4**
comp=Z,13nm,0.8s
WATA Walderalm 73.83 9 *e*P **P** **22 23 09.6 +0.3**
comp=Z,6.6nm,0.7s
WTTA Wattenberg 73.90 9 *i*P **P** **22 23 10.0 +0.2**
comp=Z,9.3nm,0.8s,SNR=4.8
SQTA Sankt Quirin 73.91 10 *i*P **P** **22 23 09.9 +0.2**
comp=Z,10nm,1.0s,SNR=5.9
FETA Feichten 74.06 10 *i*P **P** **22 23 10.8 +0.1**
comp=Z,5.9nm,0.9s,SNR=5.8
BUR08 Bucovina Ar. S 74.09 360 P **P** **22 23 10.2 -0.5**
BURAR Bucovina Array 74.12 360 P **P** **22 23 09.8 -1.1**
BURAR Bucovina Array 74.12 360 ⇑P **P** **22 23 10.6 -0.3**
KBA Koelnbreinsper 74.22 8 *i*P **P** **22 23 12.0 +0.4**
comp=Z,6.5nm,0.5s,SNR=9.5
PZH PanZhiHua 74.24 295 P **P** **22 23 11.7 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,170nm,5.9s
FUORN Ofenpass-Fuorn 74.42 10 IAmb IAmb 22 23 14.4
comp=Z,8.5nm,1.1s
BIZ Bicaz 74.79 359 ⇑P P 22 23 23.6 +8.9
OBKA Obir 74.87 7 *i*P **P** **22 23 15.1 -0.2**
comp=Z,10nm,0.7s,SNR=8.3
DRGR 74.92 2 ⇑P **P** **22 23 15.3 -0.2**
GAR Garm 75.64 325 IAmb IAmb 22 23 54.7
comp=Z,17nm,1.1s
VRI Vrincioaia 75.86 359 ⇑P **P** **22 23 17.4 -3.4**
PLOR Plostina 75.87 359 ⇑P **P** **22 23 20.9 0.0**
BZS Buzias 76.08 2 ⇑P **P** **22 23 21.7 -0.3**
CHGR Chuyangaron 76.30 326 P **P** **22 23 23.8 +0.3**
LSA Lhasa 76.30 305 P **P** **22 23 24.2 +0.1**
GZR Gura Zlata 76.32 2 ⇓P **P** **22 23 23.2 -0.3**
SIMJ Simiganj 76.34 326 P **P** **22 23 23.3 -0.5**
ARR Arges 76.36 0 ⇑P **P** **22 23 23.8 +0.1**
CFR Carcaliu 76.52 358 ⇓P **P** **22 23 23.3 -1.2**
KIV Kislovodsk 76.72 347 P **P** **22 23 25.7 -0.1**
KIV IAmb IAmb 22 23 26.5
comp=Z,13nm,1.0s
KIV Kislovodsk 76.72 347 ⇑P **P** **22 23 26.1 +0.3**
HERR Herculane 76.83 2 ⇑P **P** **22 23 25.8 -0.5**
KBZ Khabaz 76.91 347 P **P** **22 23 26.6 -0.1**
comp=Z,6.1nm,0.9s,baz=112,slow=5.3,SNR=11
comp=Z,6.1nm,0.9s
SLVN Son La 77.57 290 IAmb IAmb 22 23 32.3
comp=Z,24nm,1.1s
ESDC Sonseca Array 79.14 22 P **P** **22 23 40.0 +0.8**
ESDC IAmb IAmb 22 24 15.8
comp=Z,39nm,1.5s
ESDC Sonseca Array 79.14 22 P **P** **22 23 39.6 +0.4**
comp=Z,2.9nm,0.9s,baz=342,slow=5.1,SNR=14
comp=Z,2.9nm,0.9s
GNI Garni 80.20 345 LR LR 23 04 35.3
comp=Z,14nm,18.1s,baz=66,slow=40
ALN Alexandroupoli 80.83 359 P **P** **22 23 48.0 -0.2**
LIT Litokhoron 81.61 2 P **P** **22 23 51.7 -0.6**
BR106 Keskin Array S 81.72 353 P **P** **22 23 52.6 -0.5**
comp=Z,43nmcomp=Z,3.8nm,1.0s
BR131 Keskin Array S 81.73 353 P **P** **22 23 52.7 -0.5**
BRTR Keskin Array B 81.73 353 P **P** **22 23 53.0 -0.1**
comp=Z,1.5nm,0.5s,baz=30,slow=3.0,SNR=12
comp=Z,1.5nm,0.5s
BORA Eskisehir 81.74 356 P **P** **22 23 53.0 -0.1**
BR105 Keskin Array S 81.74 353 P **P** **22 23 53.3 +0.1**
comp=Z,50nmcomp=Z,4.3nm,1.1s
BR104 Keskin Array S 81.75 353 P **P** **22 23 53.4 +0.2**
comp=Z,33nmcomp=Z,4.2nm,1.0s
PMG Port Moresby 82.12 237 P **P** **22 23 55.7 +0.5**
comp=Z,22nm,0.9s,baz=41,slow=6.6,SNR=10
comp=Z,22nm,0.9s
CHTO Chiang Mai 82.13 293 P **P** **22 23 54.6 -0.7**
CMAR Chiang Mai Arr 82.43 293 P **P** **22 23 56.2 -0.7**
CMAR **P** **22 23 56.3 -0.6**
CMAR Chiang Mai Arr 82.43 293 P **P** **22 23 56.8 -0.2**
comp=Z,2.4nm,0.4s,baz=19,slow=5.5,SNR=27
CMAR LR LR 23 06 31.2
comp=Z,12nm,19.1s,baz=75,slow=40
comp=Z,2.4nm,0.4s
BNN Bunyan 82.45 351 P **P** **22 23 56.5 -0.4**
MARD Mardin 83.49 347 P **P** **22 24 02.6 +0.3**
MYLDM Lahad Datu 83.73 270 P **P** **22 24 04.0 +0.4**
KEST Kesra 85.09 13 P **P** **22 24 11.0 +0.7**
comp=Z,5.3nm,0.8s,baz=143,slow=2.7,SNR=16
comp=Z,5.3nm,0.8s
MMAI Mount Meron Ar 88.28 351 P **P** **22 24 26.2 +0.4**
comp=Z,3.9nm,0.7s,baz=30,slow=7.1,SNR=6.4
comp=Z,3.9nm,0.7s
SBUM Sibu 89.33 274 IAmb IAmb 22 24 32.2
comp=Z,4.8nm,1.1s
WRA Warramunga Arr 97.19 243 P **P** **22 25 06.2 -0.6**
comp=Z,2.6nm,0.8s,baz=38,slow=5.7,SNR=18
comp=Z,2.6nm,0.8s
FITZ Fitzroy Crossi 99.81 252 P **Pdif** **22 25 19.1 +0.6**
comp=Z,3.3nm,0.9s,baz=99,slow=4.1,SNR=5.3
comp=Z,3.3nm,0.9s
ASAR Alice Springs 100.60 242 P **Pdif** **22 25 21.8 -0.1**
comp=Z,0.9nm,0.8s,baz=21,slow=5.9,SNR=8.2
QSPA South Pole Qui 148.42 180 PKPbc **PKiKP** **22 31 19.5 -0.7**
comp=Z,19nm,0.7s,baz=305,slow=0.2,SNR=58
BOSA Boshof 149.99 359 PKPbc **PKPbc** **22 31 24.2 +0.2**
comp=Z,4.4nm,0.6s,baz=14,slow=2.6,SNR=16
SNAA Sanae 162.74 150 PKPab **PKPab** **22 32 23.6 -0.1**
comp=Z,4.3nm,0.8s,baz=250,slow=6.6,SNR=8.2

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*IDC **07** 22:22:44.7±1.8, 1°.73N×126°.06E, h0km, mb3.5/4, mbtmp3.5/4, MS3.5/1, Error ellipse: s-maj=180.8km s-min=21.7km az=66.0*
*DJA **07** 22:22:49.9±0.4, 2°.N±5°×12°6E±°, h10km, M3.6/7, MLv3.6/7*
ISC 07 22:22:46.3±1.2, 1°.7N±0°.2×126°.2E±0°.3, h10km, n7, σ0°84/6, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.50**	**126**	P	**Pb**	**22 23 14.1**	**-0.2**
SGSI	**Sangihe**	**2.11**	**343**	P	**Pg**	**22 23 27.3**	**+0.5**
WRA	**Warramunga Arr**	**22.92**	**160**	P	**P**	**22 27 51.1**	**+0.4**
	0.7nm,0.3s,baz=338,slow=10,SNR=17						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**26.28**	**164**	P	**P**	**22 28 23.0**	**+0.8**
	0.3nm,0.3s,baz=344,slow=7.4,SNR=6.1						
	0.3nm,0.3s						
ASAJ	**Asahikawa**	**44.73**	**17**	LR	LR	22 48 13.6	
	comp=Z,65nm,21.6s,baz=298,slow=34						
MKAR	**Makanchi Array**	**58.93**	**326**	P	**P**	**22 32 45.2**	**-0.6**
	0.2nm,0.5s,baz=128,slow=7.8,SNR=5.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.17**	**328**	P	**P**	**22 33 13.8**	**-0.8**
	0.2nm,0.6s,baz=126,slow=5.9,SNR=4.1						
	0.2nm,0.6s						

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*IDC **07** 22:23:55.5±0.5, 2°.32S×140°.15E, h0km, mb4.3/13, mbtmp4.3/15, ML4.4/1, MS3.7/19, Error ellipse: s-maj=16.1km s-min=7.4km az=25.0*
*NEIC **07** 22:23:57.2±0.9, 2°.4S±0°.1×140°.26E±0°.10, h10km±1km, mb4.6/26, Error ellipse: s-maj=19.0km s-min=16.3km az=156.0*
*DJA **07** 22:23:58.1±0.4, 2°.S±4°×14°0E±°, h16km±2km, M4.5/25, mb4.7/25, MLv4.5/5*
ISC 07 22:23:57.0±0.4, 2°.49S±0°.06×140°.26E±0°.05, h10km, n87, σ1°71/72, mb4.5/32, MS3.8/15, 2C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.13**	**223**	P	Pg	22 24 06.9	+6.8
JAY	**Jayapura**	**0.45**	**93**	Pg	**Pb**	**22 24 07.5**	**+0.6**
	2μm,0.3s,baz=274,slow=7.7,SNR=1330						
JAY				Lg	Lg	22 24 14.8	
	4μm,0.3s,baz=110,slow=21,SNR=30						
JAY	**Jayapura**	**0.45**	**93**	P	**Pb**	**22 24 07.9**	**+0.9**
SMPI	**Sarmi**	**1.63**	**288**	P	**Pn**	**22 24 26.0**	**+0.3**
WAMI	**Wamena**	**2.07**	**228**	P	**Pb**	**22 24 36.3**	**+1.6**
SRPI	**Serui, Papua**	**4.06**	**279**	P	**Pn**	**22 25 00.4**	**+1.1**
MANU	**Manus Island**	**7.12**	**87**	Pn	**Pn**	**22 25 40.9**	**-0.3**
FAKI	**Fak Fak**	**8.01**	**267**	P	**Pn**	**22 25 56.7**	**+3.1**
	44nm,1.2s						
PMG	**Port Moresby**	**9.71**	**135**	Pn	**Pn**	**22 26 18.9**	**+2.1**
	6.1nm,0.4s,baz=334,slow=7.5,SNR=4.8						
PMG				LR	LR	22 31 19.3	
	comp=Z,790nm,18.0s,baz=5.5,slow=45						
MTN	**Manton Dam**	**13.69**	**221**	Pn	**Pn**	**22 27 11.4**	**+0.1**
GUMO	**Guam**	**16.62**	**16**	LR	LR	22 34 11.6	
	comp=Z,227nm,18.4s,baz=194,slow=37						
KNRA	**Kununurra**	**17.32**	**220**		**Pn**	**22 27 59.1**	**+0.1**
KNRA				IAmb	IAmb	22 28 07.5	
	comp=Z,23nm,0.8s						
SOEI	**Soe**	**17.45**	**245**	P	**Pn**	**22 28 01.9**	**+1.1**
SOEI	**Soe**	**17.45**	**245**	P	**P**	**22 28 04.7**	**+2.6**
DAV	**Davao City (W)**	**17.46**	**303**	LR	LR	22 35 39.8	
	comp=Z,90nm,18.3s,baz=24,slow=41						
WB0	**Warramunga Arr**	**18.10**	**198**		**Pn**	**22 28 09.2**	**+0.4**
WR0	**Warramunga Arr**	**18.24**	**197**	P	**Pn**	**22 28 11.1**	**+0.7**
WRAB	**Tennant Creek**	**18.27**	**198**	P	**Pn**	**22 28 09.8**	**-1.0**
WRAB				IAmb	IAmb	22 28 20.6	
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**18.28**	**198**		**Pn**	**22 28 09.6**	**-1.3**
WB2				IAmb	IAmb	22 28 24.5	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**18.28**	**198**	P	**Pn**	**22 28 10.3**	**-0.6**
WRA	**Warramunga Arr**	**18.28**	**198**	P	**Pn**	**22 28 12.0**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=20,slow=12,SNR=32						
WRA				S	Sn	22 31 26.2	-9.1
	comp=Z,4.5nm,0.9s,baz=14,slow=34,SNR=5.2						
WRA				LR	LR	22 35 51.3	
	comp=Z,235nm,21.6s,baz=28,slow=39						
	comp=Z,8.2nm,0.6s						
MRSI	**Marisa**	**18.55**	**279**	P	**Pn**	**22 28 14.5**	**+0.2**
	comp=Z,25nm,1.2s						
TOLI2	**Tolitoli**	**19.80**	**280**	P	**P**	**22 28 26.4**	**-1.4**
PCI	**Palu**	**20.47**	**274**	P	Pn	22 28 37.8	+0.5
	comp=Z,64nm,1.0s						
SPSI	**Sidrap Palu**	**20.51**	**265**	P	Pn	22 28 37.4	-0.3
KAPI	**Kappang**	**20.61**	**262**	LR	LR	22 37 54.0	
	comp=Z,51nm,20.6s,baz=79,slow=41						
FITZ	**Fitzroy Crossi**	**21.12**	**222**	P	**P**	**22 28 42.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.12**	**222**	P	**P**	**22 28 43.2**	**+1.1**
	comp=Z,9.1nm,0.8s,baz=59,slow=11,SNR=18						
FITZ				S	**S**	**22 32 29.1**	**-8.2**
	comp=Z,16nm,0.8s,baz=174,slow=16,SNR=4.0						
FITZ				LR	LR	22 37 36.0	
	comp=Z,226nm,18.5s,baz=60,slow=39						
	comp=Z,9.1nm,0.8s						
AS31	**Alice Springs**	**21.93**	**196**	P	**P**	**22 28 51.0**	**+0.2**
ASAR	**Alice Springs**	**21.93**	**196**	P	**P**	**22 28 52.6**	**+1.9**
	comp=Z,6.8nm,0.7s,baz=27,slow=11,SNR=56						
ASAR				S	**S**	**22 32 46.7**	**-6.4**
	comp=Z,0.7nm,0.6s,baz=2.7,slow=23,SNR=2.4						
ASAR				LR	LR	22 38 14.3	
	comp=Z,239nm,18.4s,baz=24,slow=39						
	comp=Z,6.8nm,0.7s						
MYLDM	**Lahad Datu**	**23.04**	**289**	P	**P**	**22 29 02.5**	**-0.1**
EIDS	**Eidsvold**	**25.02**	**156**	P	**P**	**22 29 22.1**	**+0.8**
EIDS				IAmb	IAmb	22 29 34.6	
	comp=Z,35nm,1.3s						
MBWA	**Marble Bar**	**27.27**	**226**	P	**P**	**22 29 42.5**	**+0.7**
MBWA				IAmb	IAmb	22 30 00.4	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**29.25**	**178**	P	**P**	**22 29 59.5**	**+0.2**
STKA	**Stephens Creek**	**29.25**	**178**	P	**P**	**22 30 00.0**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=354,slow=9.6,SNR=6.8						
	comp=Z,2.7nm,0.7s						
FORT	**Forrest**	**30.41**	**201**	P	**P**	**22 30 09.5**	**-0.1**
FORT				IAmb	IAmb	22 30 12.2	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**30.41**	**187**	P	**P**	**22 30 09.9**	**+0.3**
BBOO				IAmb	IAmb	22 30 13.6	
	comp=Z,8.7nm,1.1s						
YOJ	**Yonaguni jima**	**31.60**	**329**	P	**P**	**22 30 19.6**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**34.22**	**49**	T	T	23 06 40.7	
	baz=229,slow=76,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**34.24**	**49**	T	T	23 06 45.7	
	baz=229,slow=76,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**34.24**	**49**	T	T	23 06 48.2	
	baz=229,slow=76,SNR=4.2						
MDSI	**Maura Dua**	**36.06**	**266**	P	**P**	**22 30 58.2**	**-1.0**
	comp=Z,11nm,1.2s						
NWAO	**Narrogin (SRO)**	**37.19**	**213**	LR	LR	22 47 45.2	
	comp=Z,263nm,18.3s,baz=286,slow=38						
MJAR	**Matsushiro Arr**	**38.88**	**357**	LR	LR	22 44 19.4	
	comp=Z,55nm,18.4s,baz=142,slow=32						
PPI	**Padang Panjang**	**39.90**	**272**	P	**P**	**22 31 30.6**	**-0.9**
PPI				pP	**pP**	**22 31 34.8**	**+0.1**
NJ2	**Nanjing**	**39.91**	**331**	*e*P	**P**	**22 31 32.6**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MSVF	**Nonsavu**	**40.04**	**115**	LR	LR	22 47 53.2	
	comp=Z,135nm,20.6s,baz=162,slow=36						
KSRS	**Korea Array**	**41.36**	**345**	LR	LR	22 46 38.1	
	comp=Z,74nm,21.3s,baz=155,slow=33						
GSI	**Gunungsitoli**	**42.84**	**275**	P	**P**	**22 31 54.4**	**-1.4**
GSI				IAmb	IAmb	22 31 55.5	
	comp=Z,14nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.68**	**299**	P	**P**	**22 32 18.3**	**-0.2**
	comp=Z,5.9nm,1.0s,baz=117,slow=6.0,SNR=26						
	comp=Z,5.9nm,1.0s						
XAN	**Xi'an**	**46.80**	**324**	P	**P**	**22 32 27.2**	**+0.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
PZH	**PanZhiHua**	**47.05**	**310**	P	**P**	**22 32 31.8**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,5.3s						
USRK	**Ussuriysk Ar.**	**47.07**	**352**	P	**P**	**22 32 26.3**	**-2.6**
	comp=Z,0.6nm,0.6s,baz=152,slow=6.4,SNR=3.2						
	comp=Z,0.6nm,0.6s						
CN2	**Changchun**	**47.97**	**346**	*e*P	**P**	**22 32 37.4**	**+1.5**
BNX	**BinXian**	**49.36**	**348**	⇑P	**P**	**22 32 45.7**	**-0.9**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**50.46**	**332**	*e*P	**P**	**22 32 56.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH	**Lanzhou**	**51.25**	**322**	*e*P	**P**	**22 33 02.5**	**+1.2**
LZH				sP	sP	22 33 09.2	+3.3
LZH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KLR	**Kul'dur**	**52.04**	**353**	P	**P**	**22 33 05.0**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=258,slow=6.1,SNR=3.1						
KLR				LR	LR	22 52 34.9	
	comp=Z,53nm,19.8s,baz=142,slow=33						
	comp=Z,1.1nm,0.7s						
YAK	**Yakutsk**	**64.86**	**355**	LR	LR	23 02 04.2	
	comp=Z,50nm,18.2s,baz=188,slow=35						
WMQ	**Urumqi**	**65.81**	**321**	*e*P	**P**	**22 34 42.5**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
MK31	**Makanchi Array**	**70.57**	**322**	P	**P**	**22 35 11.8**	**-0.6**
MK31				IAmb	IAmb	22 35 13.3	
	comp=Z,5.4nm,1.1s						
MKAR	**Makanchi Array**	**70.57**	**322**	P	**P**	**22 35 11.4**	**-1.1**
MKAR	**Makanchi Array**	**70.57**	**322**	P	**P**	**22 35 11.7**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=113,slow=8.0,SNR=26						
	comp=Z,3.2nm,0.9s						
MAKZ	**Makanchi**	**70.77**	**322**	P	**P**	**22 35 13.2**	**-0.5**
MAKZ				IAmb	IAmb	22 35 14.4	
	comp=Z,6.0nm,0.9s			

KSH pmax pmax
comp=Z,4.0nm,1.2s
ZALV Zalesovo Beam 72.53 329 P **P** **22 35 22.4 -1.6**
comp=Z,2.2nm,0.8s,baz=111,slow=7.0,SNR=7.2
comp=Z,2.2nm,0.8s
KURBB Kurchatov Arra 74.45 324 P **P** **22 35 34.4 -1.0**
comp=Z,2.9nm,0.9s,baz=114,slow=5.5,SNR=4.4
comp=Z,2.9nm,0.9s
GAMB Gambell 75.05 20 P **P** **22 35 38.6 +0.1**
VNDA Vanda 75.86 175 P **P** **22 35 44.0 +0.9**
VNDA IAmb IAmb 22 35 45.0
comp=Z,7.1nm,1.1s
VNDA Vanda 75.86 175 P **P** **22 35 43.8 +0.7**
comp=Z,2.9nm,0.8s,baz=326,slow=8.7,SNR=3.6
VNDA LR LR 23 09 15.5
comp=Z,139nm,18.4s,baz=296,slow=36
comp=Z,2.9nm,0.8s
GAR Garm 76.12 311 P **P** **22 35 44.4 -1.1**
KKAR Karatay Array 77.06 315 P **P** **22 35 50.1 -0.6**
BVAR Borovoye Array 80.02 325 P **P** **22 36 06.4 -0.3**
comp=Z,4.6nm,0.8s,baz=108,slow=8.6,SNR=26
comp=Z,4.6nm,0.8s
BRVK Borovoye 80.09 325 P **P** **22 36 06.0 -1.1**
BRVK IAmb IAmb 22 36 07.6
comp=Z,5.7nm,0.9s
CCB Clear Creek Bu 84.58 24 P **P** **22 36 30.1 -0.2**
CCB IAmb IAmb 22 36 31.1
comp=Z,2.7nm,0.8s
ILAR Eielson Array 85.00 24 P **P** **22 36 31.5 -0.9**
comp=Z,1.4nm,0.8s,baz=270,slow=4.2,SNR=9.5
comp=Z,1.4nm,0.8s
ABKAR Abkulak array 85.56 320 P **P** **22 36 33.1 -2.4**
ABKAR IAmb IAmb 22 36 36.3
comp=Z,2.1nm,0.9s
QSPA South Pole Qui 87.45 180 P **P** **22 36 44.8 +0.1**
comp=Z,9.6nm,1.0s,baz=358,slow=4.1,SNR=3.2
QSPA LR LR 23 16 33.7
comp=Z,112nm,19.3s,baz=306,slow=36
comp=Z,9.6nm,1.0s
ARTI Arti 87.56 327 LR LR 23 17 34.1
comp=Z,33nm,19.8s,baz=206,slow=37
SYO Syowa Base 91.51 201⇑ *e*P **P** **22 37 04.0 +0.6**
BBB Bella Bella 92.95 38 LR LR 23 12 37.6
comp=Z,39nm,19.6s,baz=207,slow=32
YBH Yreka Blue Hor 96.90 48 LR LR 23 13 41.6
comp=Z,45nm,19.5s,baz=276,slow=31
SPITS Spitsbergen Ar 99.04 350 LR LR 23 21 56.3
comp=Z,35nm,20.1s,baz=7.5,slow=35
VYHS Vyhne 112.26 322 *e*PDIFF **Pdif** **22 38 39.1 +2.0**
DBIC Dimbokro 144.99 278 PKP **PKPab** **22 43 34.4 -0.6**
comp=Z,21nm,0.9s,baz=84,slow=3.4,SNR=18
LPAZ La Paz 146.31 125 PKPbc **PKPbc** **22 43 39.7 -0.1**
comp=Z,5.8nm,0.8s,baz=249,slow=1.8,SNR=18
CPUP Villa Florida 146.68 150 PKPbc **PKPbc** **22 43 39.6 -0.3**
comp=Z,4.5nm,0.7s,baz=266,slow=3.1,SNR=12

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*SKHL **07** 22:34:21.7±0.5, 47.°00N×152.°80E, h26km±5km, mb4.7/4*
*NEIC **07** 22:34:22.5±1.6, 46.°8N±0.°1×153.°0E±0.°2, h52km±10km, mb4.3/6, Error ellipse: s-maj=23.7km s-min=4.5km az=127.0*
*IDC **07** 22:34:24.9±2.5, 46.°94N×152.°89E, h71km±21km, mb3.4/15, mbtmp3.8/20, MS3.1/2, Error ellipse: s-maj=24.2km s-min=14.4km az=140.0*
ISC 07 22:34:22.7±0.7, 46.°84N±0.°09×152.°94E±0.°09, h56km, n56, σ1°05/53, mb3.8/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**247**	*e*P		**Pn**		**22 35 20.3**	**+0.5**
KUR					AMB	AMB		22 35 22.4	
	80nm,0.3s								
KUR				*e*S		**Sn**		**22 36 04.0**	**-0.1**
KUR				A		A		22 36 26.9	
	150nm,0.4s								
KUR				A		A		22 36 26.9	
	70nm,0.4s								
SKR	**Severo-Kuril's**	**4.38**	**27**	*e*P		**Pn**		**22 35 26.2**	**-0.5**
SKR					AMB	AMB		22 35 28.4	
	20nm,0.3s								
SKR				*e*S		**Sn**		**22 36 14.2**	**-2.2**
SKR				A		A		22 36 18.4	
	140nm,0.2s								
SKR				A		A		22 36 18.4	
	50nm,0.2s								
SHO	**Shikotan**	**5.23**	**238**	*e*P		**Pn**		**22 35 38.8**	**+0.5**
SHO					AMB	AMB		22 35 41.2	
	20nm,0.3s								
SHO				*e*S		**Sn**		**22 36 37.0**	**-0.2**
SHO				A		A		22 37 02.8	
	60nm,0.4s								
SHO				A		A		22 37 02.8	
	110nm,0.4s								
PAU	**Pauzhetka**	**5.28**	**27**	*e*P		**Pn**		**22 35 39.2**	**+0.2**
PAU				*e*S		**Sn**		**22 36 37.2**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**5.71**	**243**	*e*P		**Pn**		**22 35 45.1**	**+0.2**
YUK				*e*S		**Sn**		**22 36 46.4**	**-2.7**
NMR	**Nemuro--Hokkai**	**6.17**	**238**	*e*P		**Pn**		**22 35 50.1**	**-1.1**
NMR				*e*S		**Sn**		**22 36 57.9**	**-2.4**
AKK	**Akkeshi**	**6.90**	**239**	*e*P		**Pn**		**22 36 01.9**	**+0.7**
AKK				*e*S		**Sn**		**22 37 17.2**	**-1.0**
YSS	**Yuzhno-Sakhali**	**6.98**	**275**	Pn		**Pn**		**22 36 01.8**	**-0.5**
YSS	**Yuzhno-Sakhali**	**6.98**	**275**	*e*P		**Pn**		**22 36 03.5**	**+1.2**
YSS					AMB	AMB		22 36 07.2	
	30nm,0.2s								
PEA0B	**Petropavlovsk-**	**6.99**	**24**	Pn		**Pn**		**22 36 01.9**	**-0.5**
PETK	**Petropavlovsk-**	**6.99**	**24**	Pn		**Pn**		**22 36 01.6**	**-0.7**
PETK	**Petropavlovsk-**	**6.99**	**24**	P		**Pn**		**22 36 02.9**	**+0.5**
	2.2nm,0.8s,baz=182,slow=11,SNR=7.5								
PETK				S		**Sn**		**22 37 21.8**	**+1.5**
	2.3nm,0.9s,baz=227,slow=27,SNR=1.6								
PET	**Petropavlovsk**	**7.21**	**29**	*e*P		**Pn**		**22 36 05.9**	**+0.6**
PET					AMB	AMB		22 36 06.5	
	10.0nm,0.4s								
JKA	**Kamikawa-asahi**	**7.76**	**253**			**Pn**		**22 36 12.6**	**-0.3**
ASAJ	**Asahikawa**	**7.76**	**253**	P		**Pn**		**22 36 14.8**	**+1.9**
	2.8nm,0.4s,baz=77,slow=24,SNR=4.0								
ERM	**Erimo**	**8.50**	**239**	Pn		**Pn**		**22 36 22.9**	**-0.2**
MA2	**Magadan**	**12.83**	**355**	Pn		**Pn**		**22 37 23.5**	**+1.5**
MA2	**Magadan**	**12.83**	**355**	P		**Pn**		**22 37 22.8**	**+0.7**
	1.3nm,0.3s,baz=180,slow=14,SNR=3.9								
KLR	**Kul'dur**	**14.37**	**287**	LR		LR		22 43 28.0	
	comp=Z,38nm,20.5s,baz=55,slow=38								
USA0B	**Ussuriysk Arra**	**14.92**	**267**	Pn		**Pn**		**22 37 52.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**14.92**	**267**	Pn		**Pn**		**22 37 52.2**	**+2.1**
USRK	**Ussuriysk Ar.**	**14.92**	**267**	P		**Pn**		**22 37 50.6**	**+0.5**
	1.6nm,0.6s,baz=71,slow=12,SNR=8.7								
MJAR	**Matsushiro Arr**	**15.04**	**232**	P		**Pn**		**22 37 54.0**	**+2.2**
	1.7nm,0.8s,baz=38,slow=8.1,SNR=4.5								
KSRS	**Korea Array**	**20.71**	**252**	P		Pn		22 39 00.3	-0.8
	1.1nm,0.7s,baz=56,slow=9.9,SNR=2.2								
	1.1nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**29.35**	**152**	T		T		23 11 43.4	
	baz=340,slow=75,SNR=55								
H11N1	**WAKE ISLAND Hy**	**29.37**	**152**	T		T		23 11 46.6	
	baz=340,slow=75,SNR=56								
H11N3	**WAKE ISLAND Hy**	**29.37**	**152**	T		T		23 11 38.2	
	baz=340,slow=75,SNR=47								
H11S1	**WAKE ISLAND Hy**	**30.44**	**154**	T		T		23 13 06.6	
	baz=341,slow=76,SNR=73								
H11S3	**WAKE ISLAND Hy**	**30.45**	**154**	T		T		23 13 04.9	
	baz=341,slow=76,SNR=82								
H11S2	**WAKE ISLAND Hy**	**30.46**	**154**	T		T		23 13 09.7	
	baz=341,slow=76,SNR=71								
B20K	**Meade River**	**33.40**	**29**	P		**P**		**22 40 56.3**	**+0.9**
B20K					IAmb	IAmb		22 40 58.5	
	comp=Z,4.4nm,0.8s								
B21K	**Ikpikpuk River**	**34.15**	**30**	P		**P**		**22 41 02.1**	**+0.3**
B21K					IAmb	IAmb		22 41 05.2	
	comp=Z,3.1nm,0.8s								
D25K	**Kavik River**	**36.96**	**31**	P		**P**		**22 41 27.4**	**+1.3**
D25K					IAmb	IAmb		22 42 06.1	
	comp=Z,6.3nm,1.5s								
DLBC	**Dease Lake**	**45.62**	**46**	LR		LR		23 04 51.6	
	comp=Z,40nm,18.3s,baz=301,slow=40								
MKAR	**Makanchi Array**	**46.80**	**297**	P		**P**		**22 42 45.9**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=61,slow=7.7,SNR=1.9								
MKAR				PcP		**PcP**		**22 44 18.7**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=67,slow=4.8,SNR=3.6								
	comp=Z,0.2nm,0.7s								
KURBB	**Kurchatov Arra**	**47.31**	**303**	P		**P**		**22 42 49.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=70,slow=8.1,SNR=2.7								
	comp=Z,0.5nm,0.8s								
YKA	**Yellowknife Ar**	**50.92**	**37**	P		**P**		**22 43 17.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=293,slow=7.5,SNR=2.5								
	comp=Z,0.3nm,0.6s								
SPITS	**Spitsbergen Ar**	**52.51**	**350**	P		**P**		**22 43 29.0**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=44,slow=8.9,SNR=1.6								
	comp=Z,5.0nm,0.9s								
ARCES	**ARCESS Array B**	**57.73**	**341**	P		**P**		**22 44 06.6**	**-0.6**
	comp=Z,6.0nm,1.0s,baz=20,slow=8.5,SNR=1.6								
	comp=Z,6.0nm,1.0s								
NVAR	**Mina Array Bea**	**62.50**	**62**	P		**P**		**22 44 41.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=301,slow=6.4,SNR=2.2								
	comp=Z,0.4nm,0.7s								
FINES	**FINESS Array B**	**63.91**	**335**	P		**P**		**22 44 49.1**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=40,slow=7.6,SNR=14								
	comp=Z,1.0nm,0.4s								
PDAR	**Pinedale Array**	**64.79**	**54**	P		**P**		**22 44 56.2**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=280,slow=6.0,SNR=2.1								
	comp=Z,0.2nm,0.7s								
NB2	**NORSAR Subarra**	**68.11**	**341**	P		**P**		**22 45 16.3**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=22,slow=6.2								
NOA	**NORSAR Array B**	**68.11**	**341**	P		**P**		**22 45 16.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=27,slow=6.4,SNR=2.3								
	comp=Z,0.8nm,0.6s								
HFS	**Hagfors**	**68.33**	**339**	P		**P**		**22 45 17.7**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=49,slow=6.8,SNR=15								
	comp=Z,1.4nm,0.4s								
WR0	**Warmunga Arr**	**68.53**	**199**	P		**P**		**22 45 18.8**	**-0.4**
WRA	**Warramunga Arr**	**68.56**	**199**	P		**P**		**22 45 19.5**	**+0.1**
AKASG	**Malin Array Be**	**71.41**	**326**	P		**P**		**22 45 36.4**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=37,slow=6.4,SNR=5.1								
	comp=Z,1.1nm,0.4s								
ASAR	**Alice Springs**	**72.25**	**198**	P		**P**		**22 45 42.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=9.8,slow=6.8,SNR=1.8								
	comp=Z,0.2nm,0.5s								
BUR08	**Bucovina Ar. S**	**75.43**	**326**	P		**P**		**22 46 00.7**	**+0.2**
BUR08					IAmb	IAmb		22 46 01.4	
	comp=Z,1.0nm,0.6s								
BURAR	**Bucovina Array**	**75.45**	**326**	P		**P**		**22 46 00.3**	**-0.2**
TXAR	**Lajitas Array**	**77.55**	**60**	P		**P**		**22 46 12.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=323,slow=6.1,SNR=3.1								
	comp=Z,0.3nm,0.5s								
BRTR	**Keskin Array B**	**78.24**	**317**	P		**P**		**22 46 16.6**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=29,slow=9.1,SNR=2.3								
	comp=Z,0.4nm,0.8s								
H03N2	**Juan Fernandez**	**138.87**	**90**	T		T		01 28 39.6	
	baz=308,slow=77,SNR=11								
H03N1	**Juan Fernandez**	**138.89**	**90**	T		T		01 28 54.5	
	baz=308,slow=77,SNR=16								
H03N3	**Juan Fernandez**	**138.89**	**90**	T		T		01 28 47.1	
	baz=308,slow=77,SNR=13								

IDC 07 22:57:03.0±3.1, 32.°10S×177.°50W, h0km, mb3.6/2, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=80.9km s-min=37.1km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.56**	**214**	Pn		Pn	Pn	22 58 55.1	+0.7
	0.4nm,0.3s,baz=205,slow=12,SNR=1.9								
URZ				Sn		Sn	Sn	23 00 20.8	-0.1
	0.6nm,0.3s,baz=116,slow=16,SNR=1.9								
	10nm,1.0s								
ASAR	**Alice Springs**	**43.47**	**268**	P		P	P	23 05 08.4	+0.2
	0.2nm,0.4s,baz=115,slow=8.1,SNR=2.0								
	0.2nm,0.4s								
WRA	**Warramunga Arr**	**44.61**	**274**	P		P	P	23 05 16.9	-0.4
	0.3nm,0.3s,baz=116,slow=7.9,SNR=2.9								
	0.3nm,0.3s								
FINES	**FINESS Array B**	**146.88**	**339**	PKPbc		PKPdf		23 16 45.6	+0.9
	2.2nm,1.0s,baz=59,slow=3.7,SNR=8.2								

IDC 07 23:00:08.2±17.0, 7.°39S×127.°96E, h111km±186km, mb2.7/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=164.5km s-min=61.1km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.88**	**192**	P		Pn		23 02 41.3	+0.5
	0.2nm,0.3s,baz=6.7,slow=15,SNR=1.6								
FITZ				S		Sn	Sn	23 04 34.8	-5.8
	1.4nm,0.3s,baz=272,slow=10,SNR=6.8								
	1.0nm,0.5s								
WRA	**Warramunga Arr**	**13.93**	**154**	P		Pn		23 03 19.8	-1.2
	0.5nm,0.3s,baz=325,slow=13,SNR=11								
WRA				S		Sn	Sn	23 05 44.5	-10
	1.4nm,0.6s,baz=330,slow=23,SNR=7.7								
	1.4nm,0.7s								
ASAR	**Alice Springs**	**17.16**	**161**	P		Pn		23 04 01.6	+0.3
	0.5nm,0.3s,baz=341,slow=11,SNR=44								
ASAR				S		Sn	Sn	23 07 01.4	-11
	0.2nm,0.4s,baz=341,slow=25,SNR=4.5								
	2.5nm,0.5s								
MKAR	**Makanchi Array**	**67.46**	**328**	P		P	P	23 10 52.1	0.0
	0.1nm,0.3s,baz=130,slow=7.9,SNR=1.8								
	0.1nm,0.3s								

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*IDC **07** 23:15:57.6±1.0, 32.°67S×178.°34W, h0km, mb4.1/3, mbtmp4.2/4, ML4.1/1, MS3.5/3, Error ellipse: s-maj=35.7km s-min=27.2km az=116.0*
*NEIC **07** 23:15:59.5±1.3, 32.°7S±0.°1×178.°4W±0.°2, h10km±1km, mb4.6/11, Error ellipse: s-maj=28.3km s-min=18.1km az=115.0*
ISC 07 23:16:02.3±0.9, 32.°7S±0.°1×178.°4W±0.°2, h33km, n31, σ0°99/29, mb4.5/9, MS3.5/3, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.56**	**208**	Pn		**Pn**		**23 17 21.3**	**-1.5**
URZ	**Urewera**	**6.66**	**212**	Pn		**Pn**		**23 17 36.5**	**-1.2**
	4.2nm,0.3s,baz=54,slow=8.5,SNR=22								
URZ				Sn		**Sn**		**23 18 53.5**	**+1.1**
	4.2nm,0.3s,baz=0.1,slow=2.5,SNR=9.5								
	10nm,0.3s								
RTZ	**Ruatahuna**	**7.01**	**211**	Pn		**Pn**		**23 17 42.1**	**-0.5**
BKZ	**Black Stump Fm**	**7.68**	**211**	Pn		**Pn**		**23 17 51.2**	**-0.6**
PLWZ	**Palliser**	**10.21**	**208**	Pn		**Pn**		**23 18 24.4**	**-2.1**
THZ	**Tophouse**	**11.40**	**215**	Pn		**Pn**		**23 18 42.5**	**-0.3**
LTZ	**Lake Taylor**	**12.48**	**213**	Pn		**Pn**		**23 18 56.0**	**-1.5**
PPT	**Papeete**	**30.02**	**67**	LR		LR		23 30 23.3	
	comp=Z,32nm,21.5s,baz=177,slow=29								
STKA	**Stephens Creek**	**33.67**	**260**	LR		LR		23 35 44.3	
	comp=Z,84nm,18.2s,baz=37,slow=35								
ASAR	**Alice Springs**	**42.67**	**270**	P		**P**		**23 23 57.2**	**+1.1**
	1.3nm,0.5s,baz=111,slow=7.8,SNR=16								
	1.3nm,0.5s								
WB2	**Warramunga Arr**	**43.85**	**275**	P		**P**		**23 24 07.0**	**+1.4**
WB2					IAmb	IAmb		23 24 35.9	
	comp=Z,15nm,1.5s								
WRAB	**Tennant Creek**	**43.85**	**275**	P		**P**		**23 24 04.5**	**-1.2**
WRAB					IAmb	IAmb		23 24 23.5	
	comp=Z,6.9nm,0.8s								
WRA	**Warramunga Arr**	**43.86**	**275**	P		**P**		**23 24 06.2**	**+0.5**
WRA	**Warramunga Arr**	**43.86**	**275**	P		**P**		**23 24 06.7**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=113,slow=8.0,SNR=31								
	comp=Z,1.5nm,0.3s								
WB0	**Warramunga Arr**	**43.89**	**275**	P		**P**		**23 24 07.0**	**+1.1**
WB0					IAmb	IAmb		23 24 21.0	
	comp=Z,4.6nm,0.8s								
FORT	**Forrest**	**45.15**	**257**	P		**P**		**23 24 15.4**	**-0.5**
FORT					IAmb	IAmb		23 24 40.3	
	comp=Z,8.9nm,0.8s								
JOHN	**Johnston Islan**	**49.85**	**11**	P		**P**		**23 24 51.8**	**-0.5**
MTN	**Manton Dam**	**50.01**	**281**	P		**P**		**23 24 54.2**	**+0.5**
MTN					IAmb	IAmb		23 25 31.7	
	comp=Z,22nm,1.4s								
KNRA	**Kununurra**	**50.54**	**276**	P		**P**		**23 24 58.0**	**+0.2**
KNRA					IAmb	IAmb		23 25 31.1	
	comp=Z,13nm,1.2s								
FITZ	**Fitzroy Crossi**	**52.02**	**272**	P		**P**		**23 25 08.6**	**-0.2**
QSPA	**South Pole Qui**	**57.45**	**180**	P		**P**		**23 25 49.3**	**+1.6**
QSPA					IAmb	IAmb		23 26 15.8	
	comp=Z,6.8nm,1.1s								
QSPA	**South Pole Qui**	**57.45**	**180**	P		**P**		**23 25 48.7**	**+1.0**
	comp=Z,2.4nm,1.1s,baz=327,slow=4.1,SNR=5.4								
	comp=Z,2.4nm,1.1s								
SYO	**Syowa Base**	**74.83**	**193⇓**	*e*P		**P**		**23 27 38.8**	**-0.1**
PSI	**Prapat**	**85.30**	**276**	LR		LR		00 11 09.7	
	comp=Z,60nm,18.1s,baz=204,slow=39								
KURBB	**Kurchatov Arra**	**122.36**	**313**	PKP		**PKPdf**		**23 34 53.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=124,slow=1.4,SNR=4.4								
BVAR	**Borovoye Array**	**127.75**	**315**	PKP		**PKiKP**		**23 35 04.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=86,slow=2.0,SNR=3.8								
FINES	**FINESS Array B**	**147.13**	**338**	PKPbc		**PKPbc**		**23 35 41.5**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=60,slow=3.7,SNR=9.7								
NOA	**NORSAR Array B**	**150.92**	**350**	PKPbc		**PKiKP**		**23 35 52.2**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=16,slow=2.7,SNR=3.4								
HFS	**Hagfors**	**151.38**	**347**	PKPbc		**PKiKP**		**23 35 53.0**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=94,slow=2.0,SNR=2.5								
AKASG	**Malin Array Be**	**152.83**	**320**	PKPbc		**PKPbc**		**23 35 54.4**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=68,slow=1.0,SNR=4.1								
BRTR	**Keskin Array B**	**153.27**	**294**	PKPbc		**PKPbc**		**23 35 56.9**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=4.5,SNR=4.6								

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*ISK **07** 23:53:22.4, 36.°54N×28.°81E, h16km, ML3.1/24*
*AFAD **07** 23:53:22.5, 36.°55N×28.°82E, h7km±2km, MW3.5*
*ATH **07** 23:53:22.7, 36.°57N×28.°82E, h18km±2km, ML2.9/6, Manual Solution by S.Liakopoulos First location: 2019/03/07 23:54:53, This location: 2019/03/08 07:19:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*THE **07** 23:53:22.1, 36.°52N×28.°80E, h0km, ML2.9/4, Error ellipse: s-maj=1.6km s-min=0.6km az=7.0*
*IDC **07** 23:53:25.6±3.6, 36.°36N×29.°07E, h68km±38km, mb3.2/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=29.2km s-min=18.0km az=96.0*
ISC 07 23:53:22.4±0.8, 36.°53N±0.°02×28.°84E±0.°02, h25km±6km, n65, σ0°96/103, mb3.6/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.23**	**61**	Pg		**Pb**		**23 53 28.3**	**-0.1**
FETY				Sg		**Sb**		**23 53 32.7**	**+0.2**
SABU	**Mula-Dalaman**	**0.32**	**19**	P		**Pb**		**23 53 29.7**	**0.0**
SABU				S		**Sb**		**23 53 34.6**	**0.0**
IZZE	**Mula-Seydike**	**0.33**	**106**	P		**Pb**		**23 53 29.9**	**+0.1**
IZZE				S		**Sb**		**23 53 34.5**	**-0.3**
DALY	**Dalyan (Mula)**	**0.33**	**333**	Pg		**Pb**		**23 53 29.6**	**-0.2**
DALY				Sg		**Sb**		**23 53 34.7**	**-0.2**
RODB	**Rodos**	**0.50**	**261**	P		**Pb**		**23 53 33.1**	**+0.4**
RODB				S		**Sb**		**23 53 39.4**	**-0.2**
TURN	**Turunc**	**0.54**	**298**	Pg		**Pb**		**23 53 33.3**	**+0.1**
TURN				Sg		**Sb**		**23 53 40.6**	**0.0**
TURN	**Turunc**	**0.54**	**298**	P		**Pb**		**23 53 33.2**	**-0.1**
TURN				S		**Sb**		**23 53 40.2**	**-0.5**
CAME	**Cameli-Denizli**	**0.56**	**42**	Pg		**Pb**		**23 53 33.7**	**0.0**
CAME				Sg		**Sb**		**23 53 41.8**	**+0.4**
ARG	**Arkhangelos**	**0.65**	**242**	Pg		**Pb**		**23 53 35.1**	**-0.1**
ARG				Sg		**Sb**		**23 53 44.8**	**+1.0**
ARG	**Arkhangelos**	**0.65**	**242**	P		**Pb**		**23 53 34.9**	**-0.2**
ARG				S		**Sn**		**23 53 45.5**	**0.0**
	815nm,0.8s								
ARG	**Arkhangelos**	**0.65**	**242**	P		**Pb**		**23 53 35.1**	**-0.1**
ARG				S		**Sb**		**23 53 45.0**	**+1.1**
KNIK	**Mula-Seydike**	**0.67**	**61**	P		**Pb**		**23 53 35.5**	**0.0**
KNIK				S		**Sb**		**23 53 45.1**	**+0.6**
AKAS	**Kas**	**0.69**	**115**	Pg		**Pn**		**23 53 36.8**	**+0.2**
AKAS				Sg		**Sn**		**23 53 47.7**	**+1.2**
AKAS	**Kas**	**0.69**	**115**	P		**Pb**		**23 53 36.3**	**+0.5**
AKAS				S		**Sn**		**23 53 46.6**	**+0.2**
KSL	**Kastellorizon**	**0.71**	**122**	P		**Pn**		**23 53 36.9**	**+0.1**
KSL				S		**Sn**		**23 53 49.0**	**+2.2**
	830nm,0.5s								
KSL	**Kastellorizon**	**0.71**	**122**	P		**Pn**		**23 53 37.1**	**+0.3**
KSL				S		**Sn**		**23 53 47.3**	**+0.5**
CAEL	**Denizli, Camel**	**0.71**	**33**	P		**Pb**		**23 53 36.2**	**0.0**
CAEL				S		**Sb**		**23 53 44.5**	**-1.2**
YER	**Yerkesik**	**0.75**	**324**	Pg		**Pb**		**23 53 37.1**	**+0.2**
YER				Sg		**Sn**		**23 53 47.7**	**-0.4**
DNZT	**Denizli-Tavas-**	**0.77**	**11**	P		**Pb**		**23 53 37.4**	**+0.3**
DNZT				S		**Sb**		**23 53 47.1**	**-0.1**
ELL	**Elmali**	**0.89**	**75**	Pg		**Pn**		**23 53 39.9**	**+0.5**
ELL				Sg		**Sn**		**23 53 53.4**	**+1.9**
ELL	**Elmali**	**0.89**	**75**	P		**Pb**		**23 53 39.4**	**+0.2**
ELL				S		**Sn**		**23 53 52.4**	**+0.9**
DEMR	**Demre-Antalya**	**0.91**	**108**	Pg		**Pn**		**23 53 40.9**	**+1.4**
GOLH	**Golhisar**	**0.92**	**39**	P		**Pn**		**23 53 40.2**	**+0.5**
GOLH				S		**Sn**		**23 53 52.9**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.94**	**4**	P		**Pb**		**23 53 40.1**	**0.0**
TAVA				S		**Sn**		**23 53 52.4**	**-0.3**
DATC	**Datca-Mugla**	**0.97**	**284**	Pg		**Pn**		**23 53 41.1**	**+0.7**
APMY	**Acipayam-Deniz**	**1.01**	**21**	Pg		**Pn**		**23 53 41.5**	**+0.4**
DAT	**Datca**	**1.03**	**282**	Pg		**Pb**		**23 53 42.3**	**+0.6**
DAT	**Datca**	**1.03**	**282**	P		**Pb**		**23 53 43.2**	**+1.6**
DAT				S		**Sn**		**23 53 56.5**	**+1.4**
DNIZ	**Den

0.9nm,1.0s,baz=98,slow=10,SNR=2.4
0.9nm,1.0s
MKAR Makanchi Array 48.09 307 P **P 00 08 42.2 -0.1**
0.6nm,0.8s,baz=86,slow=9.0,SNR=7.6
0.6nm,0.8s
KURBB Kurchatov Arra 50.41 312 P **P 00 08 59.0 -0.9**
1.0nm,0.2s,baz=85,slow=7.8,SNR=6.2
1.0nm,0.2s
WRA Warramunga Arr 51.01 189 P **P 00 09 04.4 -0.3**
0.9nm,0.4s,baz=4.5,slow=7.5,SNR=20
0.9nm,0.4s
ILAR Eielson Array 54.53 30 P **P 00 09 29.8 -0.5**
0.7nm,0.7s,baz=258,slow=6.5,SNR=7.8
0.7nm,0.7s
ASAR Alice Springs 54.73 189 P **P 00 09 31.9 -0.2**
0.4nm,0.4s,baz=8.1,slow=7.3,SNR=8.9
0.4nm,0.4s
BVAR Borovoye Array 55.27 316 P **P 00 09 34.3 -1.4**
0.6nm,0.6s,baz=117,slow=9.5,SNR=3.0
0.6nm,0.6s
YKA Yellowknife Ar 68.94 29 P **P 00 11 06.9 -0.4**
0.2nm,0.4s,baz=286,slow=5.8,SNR=3.9
0.2nm,0.4s
FINES FINESS Array B 74.58 333 P **P 00 11 42.9 +1.7**
1.9nm,0.9s,baz=42,slow=2.3,SNR=3.6
1.9nm,0.9s
AKASG Malin Array Be 79.57 323 P **P 00 12 08.8 -0.6**
0.3nm,0.4s,baz=58,slow=5.6,SNR=1.6
0.3nm,0.4s
TXAR Lajitas Array 93.46 53 P **P 00 13 19.5 +0.9**
0.5nm,0.9s,baz=318,slow=2.5,SNR=4.7
0.5nm,0.9s

*IDC **08** 00:00:35.3±0.7,30.°73N×142.°01E,h0km,mb4.0/16, mbtmp4.0/19,ML3.6/3,MS3.0/5,Error ellipse: s-maj=19.9km s-min=16.5km az=71.0*

ISC 08 00:00:38.4±0.6,30.°64N±0.°07×142.°0E±0.°1,h23km,n23, σ0.°81/21,mb4.0/16,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.54**	**177**	Pn	**Pn**	**00 01 31.3**	**-0.6**
	18nm,0.3s,baz=293,slow=23,SNR=2.0						
JCJ				Sn	**Sn**	**00 02 11.9**	**-1.1**
	22nm,0.3s,baz=288,slow=22,SNR=2.2						
	57nm,0.4s						
MJAR	**Matsushiro Arr**	**6.67**	**333**	Pn	**Pn**	**00 02 14.1**	**-0.9**
	0.5nm,0.3s,baz=148,slow=10,SNR=16						
MJAR				LR	LR	00 05 00.6	
	comp=Z,84nm,18.8s,baz=159,slow=40						
	18nm,0.8s						
JNU	**Nakatsue**	**9.75**	**288**	LR	LR	00 06 29.2	
	comp=Z,58nm,18.1s,baz=96,slow=36						
JOW	**Kunigami**	**12.60**	**256**	LR	LR	00 08 29.2	
	comp=Z,68nm,18.6s,baz=29,slow=37						
KSRS	**Korea Array**	**13.47**	**304**	Pn	**Pn**	**00 03 47.0**	**-1.1**
	0.1nm,0.3s,baz=118,slow=12,SNR=2.5						
KSRS				LR	LR	00 09 03.1	
	comp=Z,59nm,18.7s,baz=120,slow=38						
	0.7nm,0.5s						
KLR	**Kul'dur**	**20.12**	**340**	P	Pn	00 05 13.9	+1.5
	3.3nm,0.8s,baz=168,slow=7.4,SNR=9.7						
SONM	**Songino Array**	**32.11**	**312**	P	**P**	**00 07 04.5**	**+0.5**
	1.0nm,0.8s,baz=109,slow=8.3,SNR=3.9						
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.74**	**263**	P	**P**	**00 08 17.8**	**0.0**
	1.0nm,0.3s,baz=70,slow=8.4,SNR=2.3						
CMAR				LR	LR	00 25 56.8	
	comp=Z,24nm,18.1s,baz=175,slow=37						
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**46.73**	**317**	P	**P**	**00 09 05.3**	**-0.2**
	1.3nm,0.8s,baz=105,slow=11,SNR=4.9						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**48.13**	**307**	P	**P**	**00 09 16.8**	**+0.2**
	1.3nm,0.8s,baz=89,slow=9.9,SNR=8.9						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**50.47**	**312**	P	**P**	**00 09 34.4**	**0.0**
	1.4nm,0.7s,baz=88,slow=7.5,SNR=11						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**50.82**	**189**	P	**P**	**00 09 38.5**	**+1.3**
	2.7nm,0.7s,baz=5.8,slow=7.6,SNR=10						
	2.7nm,0.7s						
ASAR	**Alice Springs**	**54.55**	**189**	P	**P**	**00 10 06.2**	**+1.4**
	1.0nm,0.7s,baz=13,slow=9.0,SNR=8.2						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**54.72**	**30**	P	**P**	**00 10 04.8**	**-0.8**
	1.2nm,0.7s,baz=257,slow=6.0,SNR=9.7						
	1.2nm,0.7s						
BVAR	**Borovoye Array**	**55.34**	**316**	P	**P**	**00 10 10.1**	**-0.2**
	1.1nm,0.6s,baz=106,slow=11,SNR=6.0						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**69.13**	**29**	P	**P**	**00 11 42.0**	**-0.5**
	1.1nm,1.1s,baz=294,slow=5.9,SNR=4.7						
	1.1nm,1.1s						
FINES	**FINESS Array B**	**74.70**	**333**	P	**P**	**00 12 17.1**	**+1.2**
	0.7nm,0.6s,baz=93,slow=4.0,SNR=3.8						
	0.7nm,0.6s						
NVAR	**Mina Array Bea**	**78.49**	**52**	P	**P**	**00 12 38.3**	**+0.2**
	0.9nm,0.6s,baz=294,slow=4.8,SNR=4.1						
	0.9nm,0.6s						
AKASG	**Malin Array Be**	**79.66**	**323**	P	**P**	**00 12 43.7**	**-0.2**
	1.0nm,0.6s,baz=50,slow=5.8,SNR=5.9						
	1.0nm,0.6s						
PDAR	**Pinedale Array**	**81.84**	**45**	P	**P**	**00 12 55.7**	**-0.4**
	0.5nm,0.5s,baz=332,slow=5.0,SNR=4.3						
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**83.47**	**313**	P	**P**	**00 13 04.8**	**+0.3**
	0.9nm,0.9s,baz=42,slow=2.3,SNR=3.9						
	0.9nm,0.9s						
TXAR	**Lajitas Array**	**93.63**	**53**	P	**P**	**00 13 54.2**	**+0.9**
	0.8nm,0.7s,baz=304,slow=2.9,SNR=10						
	0.8nm,0.7s						
LPAZ	**La Paz**	**149.03**	**69**	PKPbc	**PKiKP**	**00 20 26.7**	**-0.6**
	1.6nm,1.0s,baz=355,slow=4.3,SNR=5.3						

DJA 08 00:05:17.1±0.5,1.°N±2.°×10.°0E±.°,h198km±5km,M3.8/11, mb4.1/2,MLv3.7/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.62**	**265**	P	Pn	00 05 45.1	+0.6
MNSI				S	Sn	00 06 07.5	+1.9
BKNI	**Bangkinang**	**0.99**	**122**	P	Pn	00 05 47.6	+1.0
PBSI	**Pulau Batu**	**2.12**	**245**	P	Pn	00 05 57.4	+0.7
PBSI				S	Sn	00 06 28.5	+1.0
SISI	**Saibi**	**2.43**	**207**	P	Pn	00 05 59.7	-0.4
SISI				S	Sn	00 06 34.4	+0.7
GSI	**Gunungsitoli**	**2.66**	**280**	P	Pn	00 06 02.8	+0.1
GSI				S	Sn	00 06 37.9	-0.4
PPSI	**Pulau Pagai**	**3.59**	**183**	P	Pn	00 06 13.4	-0.4
PPSI				S	Sn	00 06 57.6	-0.8
SNSI	**Sinabang, Aceh**	**4.17**	**292**	P	Pn	00 06 21.6	+0.6
MLSI	**Meulaboh, Aceh**	**5.09**	**312**	P	Pn	00 06 32.2	-0.4
	36nm,1.0s						

*NEIC **08** 00:20:05.3±1.6,61.°518N±0.°009×149.°73W±0.°04, h33km±9km,Error ellipse: s-maj=3.0km s-min=1.2km az=84.0*

AEIC 08 00:20:05.7±1.9,61.°52N±0.°02×149.°69W±0.°04,h33km±1km, ML2.7,ML2.9/152(NEIC),Error ellipse: s-maj=3.4km s-min=3.0km az=161.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.28**	**74**	Pg	Pb	00 20 12.2	-0.9
PMR				Sg	Sb	00 20 18.6	+0.4
PMR				IAML		00 20 18.9	
	comp=E,1μm,0.3s						
PMR				IAML		00 20 19.0	
	comp=N,766nm,0.2s						
M22K	**Willow**	**0.31**	**319**		Pb	00 20 12.6	-1.1
M22K				Sg	Sn	00 20 18.9	0.0
RC01	**Rabbit Creek A**	**0.43**	**183**		Pb	00 20 14.1	-1.2
RC01				Sg	Sb	00 20 21.4	-0.5
GHO	**Glory Hole Cre**	**0.45**	**55**		Pb	00 20 14.4	-1.2
GHO				Sg	Sn	00 20 23.0	+0.3
FIS	**Fire Island**	**0.46**	**214**		Pb	00 20 14.4	-1.2
FIS				IAML		00 20 26.0	
	comp=N,1μm,0.5s						
FIS				IAML		00 20 32.3	
	comp=E,975nm,0.4s						
SUA	**Susitna One**	**0.51**	**264**		Sb	00 20 22.9	-1.1
SUA	**Susitna One**	**0.51**	**264**		Pb	00 20 14.8	-1.7
SUA				IAML		00 20 23.4	
	comp=E,523nm,0.4s						
SUA				IAML		00 20 23.5	
	comp=N,682nm,0.8s						
KNK	**Knik Glacier**	**0.60**	**100**		Sb	00 20 26.2	-0.1
KNK	**Knik Glacier**	**0.60**	**100**		Pn	00 20 16.8	-1.1
KNK				IAML		00 20 27.3	
	comp=N,794nm,0.4s						
KNK				IAML		00 20 28.1	
	comp=E,573nm,0.6s						
SML	**Sawmill**	**0.71**	**65**		Pn	00 20 17.9	-1.6
SML				Sn	Sn	00 20 28.0	-1.2
SML				IAML		00 20 29.6	
	comp=E,640nm,0.8s						
SML				IAML		00 20 30.6	
	comp=N,593nm,0.7s						
CUT	**Chulitna**	**0.93**	**343**		Pn	00 20 20.8	-1.6
CUT				IAML		00 20 37.8	
	comp=N,404nm,0.3s						
PWL	**Port Wells**	**0.93**	**135**		Pn	00 20 21.1	-1.4
PWL				Sg	Sb	00 20 35.4	-0.1
PWL				IAML		00 20 35.8	
	comp=E,414nm,0.5s						
PWL				IAML		00 20 36.7	
	comp=N,473nm,0.3s						
M23K	**Glacier View**	**0.98**	**73**		Pn	00 20 22.0	-1.1
SKT	**Skwentna**	**0.99**	**299**		Pn	00 20 21.8	-1.5
SKT					Sn	00 20 35.1	-1.0
SKT				IAML		00 20 35.3	
	comp=E,321nm,0.4s						
STLK	**Strandline Lak**	**1.03**	**270**		Pn	00 20 22.4	-1.4
STLK				Sn	Sn	00 20 36.2	-0.9
STLK				IAML		00 20 37.6	
	comp=N,301nm,0.4s						
STLK				IAML		00 20 40.2	
	comp=E,188nm,0.3s						
CAPN	**Captain Cook N**	**1.04**	**224**	Pn	Pn	00 20 23.9	0.0
O22K	**Cooper Landing**	**1.04**	**181**		Pn	00 20 22.6	-1.3
O22K				Sn	Sn	00 20 37.7	+0.3
SLKM	**Skilak Lake**	**1.05**	**195**	Pn	Pn	00 20 22.6	-1.5
SCM	**Sheep Creek Mo**	**1.17**	**73**		Sn	00 20 41.2	+0.5
SPU	**Mount Spurr**	**1.19**	**254**		Pn	00 20 24.6	-1.5
SPU					Sn	00 20 41.7	+0.6
SPU				IAML		00 20 42.5	
	comp=E,137nm,0.3s						
SPU				IAML		00 20 42.8	
	comp=N,229nm,0.3s						
SPCR	**Spurr Chakacha**	**1.26**	**256**		Sn	00 20 42.7	-0.1
SPCR	**Spurr Chakacha**	**1.26**	**256**		Pn	00 20 25.7	-1.2
SPBG	**Spurr Blockage**	**1.32**	**260**		Pn	00 20 26.8	-1.0
SPBG					Sn	00 20 44.6	+0.3
GLI	**Glacier Island**	**1.41**	**116**	Pn	Pn	00 20 28.1	-0.9
GLI				Sn	Sn	00 20 46.7	+0.3
GLI				IAML		00 20 48.2	
	comp=N,182nm,0.6s						
GLI				IAML		00 20 52.9	
	comp=E,172nm,0.4s						
SEW	**Seward**	**1.42**	**175**		Pn	00 20 28.3	-0.9
M20K	**Styx River**	**1.68**	**284**		Pn	00 20 32.7	-0.2
M20K				IAML		00 20 55.9	
	comp=N,114nm,0.8s						
M20K				IAML		00 20 57.5	
	comp=E,98nm,0.8s						
FID	**Port Fidalgo**	**1.74**	**115**	Pn	Pn	00 20 32.5	-1.1
FID				IAML		00 20 56.6	
	comp=E,126nm,0.3s						
FID				IAML		00 20 57.1	
	comp=N,99nm,0.3s						
M24K	**Tolsona, Glenn**	**1.77**	**69**	Pn	Pn	00 20 34.3	+0.3
M24K				IAML		00 21 03.8	
	comp=N,125nm,0.5s						
KLU	**Klutina**	**1.81**	**89**		Pn	00 20 33.8	-0.7
KLU				IAML		00 21 00.0	
	comp=N,107nm,0.3s						
KLU				IAML		00 21 02.0	
	comp=E,95nm,0.5s						
PPLA	**Purkeypile**	**1.81**	**321**		Pn	00 20 34.0	-0.7
BRLK	**Bradley Lake**	**1.86**	**199**		Pn	00 20 33.9	-1.3
BRLK				IAML		00 21 00.8	
	comp=E,112nm,0.4s						
BRLK				IAML		00 21 01.9	
	comp=N,108nm,0.3s						
BRSE	**Bradley Lake S**	**1.86**	**197**		Pn	00 20 33.7	-1.5
HIN	**Hinchinbrook I**	**1.92**	**125**		Pn	00 20 35.2	-0.8
HIN				IAML		00 21 06.3	
	comp=E,99nm,0.8s						
HIN				IAML		00 21 06.9	
	comp=N,71nm,0.7s						
DIV	**Divide**	**1.93**	**100**		Pn	00 20 35.3	-0.9
RND	**Reindeer**	**1.93**	**11**	Pn	Pn	00 20 36.1	-0.2
TRF	**Thorofare Moun**	**1.96**	**352**		Pn	00 20 36.3	-0.4
TRF				IAML		00 21 03.8	
	comp=N,64nm,0.6s						
TRF				IAML		00 21 11.5	
	comp=E,74nm,0.6s						
O20K	**Slope Mountain**	**2.04**	**226**		Pn	00 20 37.6	-0.1
HOM	**Homer**	**2.10**	**208**	Pn	Pn	00 20 36.1	-2.4
KTH	**Kantishna Hill**	**2.12**	**345**		Pn	00 20 38.5	-0.3
KTH				IAML		00 21 07.9	
	comp=N,44nm,0.8s						
CNPM	**China Poot**	**2.14**	**202**		Pn	00 20 38.5	-0.6
CNPM				IAML		00 21 11.6	
	comp=E,82nm,0.5s						
CNPM				IAML		00 21 12.1	
	comp=N,96nm,0.4s						
EYAK	**Cordova Ski Ar**	**2.15**	**115**		Pn	00 20 39.4	+0.2
L20K	**Farewell, AK**	**2.20**	**298**		Pn	00 20 39.4	-0.5
CAST	**Castle Rocks**	**2.21**	**331**		Pn	00 20 39.3	-0.8
MCK	**McKinley**	**2.25**	**9**	Pn	Pn	00 20 39.9	-0.7
M19K	**Big River Lodg**	**2.27**	**282**		Pn	00 20 39.7	-1.2
ILSW	**Iliamna Southw**	**2.29**	**229**		Pn	00 20 40.7	-0.6
ILSW				IAML		00 21 28.7	
	comp=E,45nm,1.0s						
HARP	**HAARP**	**2.32**	**66**		Pn	00 20 41.8	+0.3
N19K	**Bonanza Creek**	**2.43**	**255**		Pn	00 20 42.4	-0.8
N25K	**Chitina, Valde**	**2.44**	**86**		Pn	00 20 43.4	+0.2
N25K				IAML		00 21 19.4	
	comp=N,49nm,0.4s						
N25K				IAML		00 21 22.1	
	comp=E,38nm,0.6s						
PAX	**Paxson**	**2.45**	**52**		Pn	00 20 44.4	+1.0
BMRM	**Bremner River**	**2.52**	**100**		Pn	00 20 45.5	+1.2
L19K	**White Mountain**	**2.54**	**287**		Pn	00 20 44.0	-0.5
L19K	**White Mountain**	**2.54**	**287**	IAML		00 21 15.6	
	comp=N,32nm,0.6s						
L19K				IAML		00 21 16.8	
	comp=E,35nm,0.8s						
P19K	**Oil Pt**	**2.56**	**225**	Pn	Pn	00 20 46.2	+1.3
GOAT	**Goat Mountain**	**2.59**	**109**		Pn	00 20 44.1	-1.2
O19K	**Port Alsworth**	**2.63**	**242**	Pn	Pn	00 20 45.0	-0.7
BPAW	**Bear Paw Mtn.**	**2.66**	**348**		Pn	00 20 45.7	-0.5
WASW	**Wrangell South**	**2.66**	**79**		Pn	00 20 46.1	-0.3
CHUM	**Lake Minchumin**	**2.66**	**334**		Pn	00 20 46.0	-0.2
WAZA	**Wrangell Mount**	**2.69**	**76**		Pn	00 20 46.9	+0.1
RAGM	**Ragged Mountai**	**2.70**	**113**		Pn	00 20 47.5	+0.8
K20K	**Telida**	**2.75**	**314**		Pn	00 20 46.6	-0.8
GLB	**Gilahina Butte**	**2.82**	**89**		Pn	00 20 49.5	+1.1
GLB				IAML		00 21 29.8	
	comp=N,39nm,0.7s						
GLB				IAML		00 21 32.0	
	comp=E,28nm,0.4s						
HMT	**Hamilton**	**2.90**	**112**		Pn	00 20 49.7	+0.1
M18K	**Stony River**	**2.94**	**272**		Pn	00 20 49.2	-0.9
VRDI	**Verde Repeater**	**3.02**	**93**		Pn	00 20 51.5	+0.3
VRDI				IAML		00 21 36.5	
	comp=N,28nm,0.8s						
WRH	**Wood River Hil**	**3.05**	**13**	Pn	Pn	00 20 51.1	-0.4
NEA2	**Nenana**	**3.10**	**5**	Pn	Pn	00 20 50.3	-1.9
MENT	**Mentasta**	**3.14**	**60**		Pn	00 20 52.4	-0.4
RIDG	**Independent Ri**	**3.16**	**43**		Pn	00 20 53.3	+0.2
RIDG				IAML		00 21 40.2	
	comp=N,35nm,0.8s						
RIDG				IAML		00 21 41.6	
	comp=E,48nm,0.7s						
HDA	**Harding Lake**	**3.16**	**22**		Pn	00 20 52.9	-0.2
HDA				IAML		00 21 47.5	
	comp=E,29nm,0.7s						
HDA				IAML		00 21 47.7	
	comp=N,42nm,0.7s						
SYI	**Shuyak Island**	**3.22**	**206**	Pn	Pn	00 20 53.7	-0.2
SYI				IAML		00 21 41.5	
	comp=E,36nm,0.9s						
SYI				IAML		00 21 42.4	
	comp=N,24nm,0.6s						
SUCK	**Suckling Hills**	**3.24**	**114**	Pn	Pn	00 20 54.2	0.0
SUCK				IAML		00 21 52.6	
	comp=N,32nm,0.9s						
SUCK				IAML		00 22 05.0	
	comp=E,18nm,1.2s						
CCB	**Clear Creek Bu**	**3.25**	**14**	Pn	Pn	00 20 54.6	+0.3
Q19K	**Cape Douglas,**	**3.26**	**219**		Pn	00 20 54.8	+0.3
TTA	**Tatalina**	**3.28**	**298**	Pn	Pn	00 20 53.6	-1.2
M26K	**Nabesna, AK**	**3.28**	**71**		Pn	00 20 55.0	+0.2
M26K				IAML		00 21 50.8	
	comp=N,18nm,0.7s						
M26K				IAML		00 21 51.0	
	comp=E,16nm,0.7s						
L26K	**Log Cabin Wild**	**3.33**	**60**		Pn	00 20 56.1	+0.7
L26K				IAML		00 21 49.8	
	comp=E,28nm,0.5s						
L26K				IAML		00 21 54.9	
	comp=N,32nm,0.4s						
J20K	**Nowinta River**	**3.36**	**324**		Pn	00 20 54.3	-1.5
J20K				IAML		00 21 37.0	
	comp=N,20nm,0.3s						
J20K				IAML		00 21 56.7	
	comp=E,25nm,1.0s						
DOT	**Dot Lake**	**3.37**	**48**		Pn	00 20 57.6	+1.7
COLA	**College**	**3.47**	**13**	Pn	Pn	00 20 56.4	-0.8
P18K	**Big Mountain,**	**3.48**	**235**	Pn	Pn	00 20 56.5	-1.0
IL31		**3.50**	**20**	Pn	Pn	00 20 57.4	-0.3
ILAR	**Eielson Array**	**3.50**	**20**	Pn	Pn	00 20 57.4	-0.4
IL03	**Eielson Array**	**3.51**	**20**	Pn	Pn	00 20 57.6	-0.2
BALM	**Baldy**	**3.58**	**95**		Pn	00 20 57.8	-1.1
KIAG	**Kiagna River**	**3.59**	**96**		Pn	00 20 57.7	-1.5
SCRK	**Sand Creek**	**3.60**	**44**		Pn	00 20 59.4	+0.2
SCRK				IAML		00 21 58.2	
	comp=N,18nm,1.0s						
SCRK				IAML		00 21 58.2	
	comp=E,22nm,0.6s						
SNH	**Sunshine Point**	**3.61**	**109**	Pn	Pn	00 20 60.0	+0.7
SNH				IAML		00 21 48.8	
	comp=N,23nm,1.2s						
SNH				IAML		00 22 40.9	
	comp=E,20nm,1.1s						
I23K	**Minto, Yukon-K**	**3.65**	**2**	Pn	Pn	00 20 59.8	0.0
I23K				IAML		00 22 06.0	
	comp=E,12nm,1.1s						
J19K	**Poorman**	**3.69**	**315**	Pn	Pn	00 20 59.7	-0.7
J19K				IAML		00 22 13.9	
	comp=N,13nm,1.1s						
POKR	**Poker Plat Res**	**3.75**	**15**		Pn	00 21 01.4	+0.1
POKR				IAML		00 21 49.0	
	comp=N,11nm,0.9s						
POKR				IAML		00 22 02.5	
	comp=E,14nm,1.0s						
J18K	**Innoko River**	**3.80**	**304**	Pn	Pn	00 21 01.2	-0.7
BCAR	**Beaver Creek A**	**4.00**	**64**		Pn	00 21 05.0	+0.3
MESA	**MESA**	**4.02**	**106**	Pn	Pn	00 21 03.9	-1.2
MESA				IAML		00 22 10.0	
	comp=E,22nm,0.9s						
KDAK	**Kodiak Island**	**4.03**	**203**	Pn	Pn	00 21 03.8	-1.1
KDAK				IAML		00 21 53.5	
	comp=E,8.9nm,1.2s						
KDAK				IAML		00 22 19.8	
	comp=E,9.2nm,1.1s						
J26L	**Joseph Creek**	**4.09**	**40**		Pn	00 21 06.9	+0.9
J26L				IAML		00 22 00.4	
	comp=N,24nm,0.6s						
J26L				IAML		00 22 01.4	
	comp=E,12nm,0.4s						
K27K	**Chicken**	**4.31**	**51**	Pn	Pn	00 21 09.3	+0.5
K27K				IAML		00 22 25.4	
	comp=N,7.1nm,0.8s						
H23K	**Yukon River**	**4.32**	**1**	Pn	Pn	00 21 07.1	-2.0
H21K	**Melozitna Rive**	**4.38**	**343**		Pn	00 21 09.6	-0.2
I26K	**Coal Creek Min**	**4.80**	**35**		Pn	00 21 17.1	+1.5
I26K				IAML		00 22 41.7	
	comp=N,10.0nm,1.1s						
I26K				IAML		00 22 43.0	
	comp=E,12nm,1.1s						
G24K	**Hadweenzic Riv**	**5.29**	**10**	Pn	Pn	00 21 21.6	-0.7
DAWY	**Dawson**	**5.37**	**57**	Pn	Pn	00 21 23.8	+0.3
DAWY				IAML		00 23 01.8	
	comp=N,5.8nm,0.8s						
DAWY				IAML		00 23 03.2	
	comp=E,4.1nm,0.7s						
M29M	**Somme Creek**	**5.38**	**75**	Pn	Pn	00 21 22.9	-0.7
FYU	**Fort Yukon**	**5.43**	**19**	Pn	Pn	00 21 23.9	-0.3
COLD	**Coldfoot**	**5.74**	**358**	Pn	Pn	00 21 26.7	-1.7
G18K	**Tagagawik**	**5.93**	**322**	Pn	Pn	00 21 30.0	-1.1
K29M	**Barlow Dome**	**6.07**	**62**	Pn	Pn	00 21 33.1	+0.1
F24K	**Squaw Lake**	**6.07**	**7**	Pn	Pn	00 21 33.0	0.0
M30M	**Minto, Yukon**	**6.16**	**74**	Pn	Pn	00 21 34.3	+0.1
L14K	**Kuka Creek**	**6.24**	**274**	Pn	Pn	00 21 35.0	-0.3
BMAR	**Burnt Mountain**	**6.33**	**18**	Pn	Pn	00 21 37.2	+0.6
F25K	**Christian Rive**	**6.34**	**14**	Pn	Pn	00 21 35.9	-0.8
I29M	**Ogilvie Camp,**	**6.39**	**48**	Pn	Pn	00 21 38.0	+0.6
E25K	**Arctic Village**	**6.86**	**13**	Pn	Pn	00 21 43.6	-0.2
TOLK	**Toolik Lake Re**	**7.15**	**0**	Pn	Pn	00 21 47.5	-0.3
M31M	**Drury Creek, Y**	**7.27**	**78**	Pn	Pn	00 21 49.3	-0.1
G29M	**Pine Creek**	**7.42**	**38**	Pn	Pn	00 21 52.6	+1.1
EPYK	**Eagle Plains**	**7.49**	**44**	Pn	Pn	00 21 54.4	+1.8
D24K	**Happy Valley**	**7.68**	**2**	Pn	Pn	00 21 55.4	+0.4
G30M	**tAoh Zraii Nji**	**8.01**	**41**	Pn	Pn	00 22 01.6	+2.0
H31M	**Peel River**	**8.05**	**51**	Pn	Pn	00 22 01.6	+1.4
E29M	**Blow River**	**8.50**	**31**	Pn	Pn	00 22 07.7	+1.4

*IDC **08** 00:52:52.7±1.1,14.°42N×54.°90E,h0km,mb3.8/14, mbtmp3.8/14,MS2.9/4,Error ellipse: s-maj=28.3km s-min=19.8km az=17.0*

ISC 08 00:52:54.9±1.1,14.°4N±0.°2×54.°9E±0.°1,h14km,n23, σ0.°91/17,mb3.9/15,MS2.9/3,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.45**	**21**	LR	LR	00 58 27.7	
	comp=Z,38nm,21.4s,baz=226,slow=35						
MMAI	**Mount Meron Ar**	**25.63**	**320**	P	**P**	**00 58 25.3**	**+1.2**
	2.9nm,0.8s,baz=119,slow=12,SNR=1.9						
MMAI				LR	LR	01 09 23.4	
	comp=Z,33nm,19.2s,baz=129,slow=39						
	2.9nm,0.8s						
BRTR	**Keskin Array B**	**31.35**	**327**	P	**P**	**00 59 15.7**	**+0.3**
	0.2nm,0.6s,baz=139,slow=11,SNR=2.0						
	0.2nm,0.6s						
AKTO	**Aktyubinsk**	**36.00**	**3**	LR	LR	01 15 41.2	
	comp=Z,34nm,19.3s,baz=173,slow=38						
MKAR	**Makanchi Array**	**39.56**	**30**	P	**P**	**01 00 25.9**	**+0.2**
	0.7nm,0.7s,baz=216,slow=9.2,SNR=9.8						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**40.42**	**14**	P	**P**	**01 00 32.4**	**-0.3**
	0.4nm,0.6s,baz=208,slow=9.0,SNR=2.8						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**40

ASAR	Alice Springs	85.95	116	P	P	01 05 35.5	+0.2
	0.7nm,0.8s,baz=283,slow=4.7,SNR=5.2						
	0.7nm,0.8s						
PDAR	Pinedale Array	121.32	347	PKP	PKPdf	01 11 48.7	+0.4
	0.1nm,0.6s,baz=104,slow=3.1,SNR=1.8						
NVAR	Mina Array Bea	127.04	353	PKP	PKiKP	01 12 00.7	+0.8
	0.4nm,0.6s,baz=328,slow=1.8,SNR=2.7						

RSPR ***08*** *00:58:20.1, 18°.01N×68°.33W, h103km±2km, MD3.3/11*
NEIC ***08*** *00:58:20.9±2.5, 17°.87N±0°.08×68°.42W±0°.04, h35km±2km, ML2.3/24, Md3.3/11(RSPR), Error ellipse: s-maj=13.4km s-min=6.9km az=9.0*

ISC 08 00:58:20.1±1.6, 18°.0N±0°.1×68°.35W±0°.06, h95km, n46, σ0s67/50, 10C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.49	356	Pn	Pn	00 58 33.7	-1.6
PCDR				IAML		00 58 55.8	
	comp=N,86nm,1.7s						
IDE	Isla Desecheo	0.91	66		Pn	00 58 39.0	-0.2
IDE					Sn	00 58 54.6	+1.1
IDE	Isla Desecheo	0.91	66	↑eP	Pn	00 58 39.0	-0.2
IDE	Isla Desecheo	0.91	66	eS	Sn	00 58 54.6	+1.1
CRPR	Cabo Rojo, PR	1.18	91		Pn	00 58 41.1	-1.1
CRPR	Cabo Rojo, PR	1.18	91		Sn	00 58 59.0	+0.1
CRPR	Cabo Rojo, PR	1.18	91	↑eP	Pn	00 58 42.1	-0.1
CRPR	Cabo Rojo, PR	1.18	91	eS	Sn	00 58 59.0	+0.1
LSP	Las Mesas	1.21	83		Pn	00 58 43.2	+0.6
LSP					Sn	00 59 00.2	+0.5
LSP	Las Mesas	1.21	83	↑eP	Pn	00 58 43.2	+0.6
LSP	Las Mesas	1.21	83	eS	Sn	00 59 00.2	+0.5
DR12	Loma Pena Alta	1.24	308	Pn	Pn	00 58 42.7	-0.4
MLPR	Magueyes Islan	1.24	92	↓eP	Pn	00 58 42.5	-0.4
MLPR	Magueyes Islan	1.24	92	eS	Sn	00 59 00.3	+0.1
AGPR	Aguadilla, PR	1.26	69		Pn	00 58 42.3	-0.8
AGPR				IAML		00 59 07.6	
	comp=E,78nm,1.5s						
AGPR				IAML		00 59 25.5	
	comp=N,72nm,1.8s						
AGPR	Aguadilla, PR	1.26	69		Sn	00 59 01.9	+1.4
AGPR	Aguadilla, PR	1.26	69	↑eP	Pn	00 58 43.5	+0.3
AGPR	Aguadilla, PR	1.26	69	eS	Sn	00 59 01.9	+1.4
AOPR	Arecibo Observ	1.55	78		Sn	00 59 07.1	+0.1
AOPR	Arecibo Observ	1.55	78		Pn	00 58 46.1	-0.7
AOPR				IAML		00 59 09.5	
	comp=N,78nm,0.3s						
AOPR	Arecibo Observ	1.55	78	↑eP	Pn	00 58 46.4	-0.4
AOPR	Arecibo Observ	1.55	78	eS	Sn	00 59 07.1	+0.1
UUPR	Utuado, UPR, P	1.56	81		Pn	00 58 47.2	+0.3
UUPR					Sn	00 59 07.8	+0.5
UUPR	Utuado, UPR, P	1.56	81	↑eP	Pn	00 58 47.2	+0.3
UUPR	Utuado, UPR, P	1.56	81	eS	Sn	00 59 07.8	+0.5
OBIP	Obispado Ponce	1.66	89		Pn	00 58 47.5	-0.6
OBIP				IAML		00 59 31.9	
	comp=E,23nm,2.8s						
OBIP	Obispado Ponce	1.66	89		Sn	00 59 09.2	-0.2
OBIP	Obispado Ponce	1.66	89	↑eP	Pn	00 58 48.2	0.0
OBIP	Obispado Ponce	1.66	89	eS	Sn	00 59 09.2	-0.2
CELP	Cerrillos	1.68	88		Pn	00 58 47.1	-1.3
CELP				IAML		00 59 13.1	
	comp=E,19nm,0.8s						
CELP				IAML		00 59 14.8	
	comp=N,21nm,0.7s						
CELP	Cerrillos	1.68	88		Sn	00 59 09.9	-0.1
CELP	Cerrillos	1.68	88	↓eP	Pn	00 58 47.9	-0.5
CELP	Cerrillos	1.68	88	eS	Sn	00 59 09.9	-0.1
EMPR	Esperanza - Ma	1.79	75		Pn	00 58 48.7	-1.0
EMPR					Sn	00 59 12.1	-0.2
EMPR	Esperanza - Ma	1.79	75	↓eP	Pn	00 58 48.7	-1.0
EMPR	Esperanza - Ma	1.79	75	eS	Sn	00 59 12.1	-0.2
ECPR	Experimental S	1.91	81	↑eP	Pn	00 58 50.7	-0.6
ECPR	Experimental S	1.91	81	eS	Sn	00 59 14.9	-0.3
PDPR	Patillas Dam,	2.21	90	Pn	Pn	00 58 54.7	-0.6
PDPR				IAML		00 59 31.0	
	comp=N,14nm,2.4s						
PDPR				IAML		00 59 36.1	
	comp=E,12nm,1.7s						
PDPR	Patillas Dam,	2.21	90	↑eP	Pn	00 58 55.9	+0.6
PDPR	Patillas Dam,	2.21	90	eS	Sn	00 59 22.4	+0.1
HUMP	Col San Antoni	2.38	87		Pn	00 58 56.9	-0.6
HUMP				IAML		00 59 26.7	
	comp=E,16nm,0.2s						
HUMP				IAML		00 59 30.3	
	comp=N,13nm,0.2s						
HUMP	Col San Antoni	2.38	87		Sn	00 59 26.8	+0.6
HUMP	Col San Antoni	2.38	87	↑eP	Pn	00 58 57.6	+0.1
HUMP	Col San Antoni	2.38	87	eS	Sn	00 59 26.8	+0.6
SDDR	Presa de Saban	2.95	289	Pn	Pn	00 59 05.5	+0.3
SDDR				IAML		01 00 25.5	
	comp=N,23nm,3.0s						

IDC ***08*** *01:07:42.2±2.4, 19°.08S×175°.45W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=65.3km s-min=42.7km az=25.0*
NEIC ***08*** *01:08:10.5±1.6, 20°.1S±0°.2×175°.59W±0°.09, h230km±10km, mb4.2/14, Error ellipse: s-maj=24.8km s-min=11.9km az=190.0*

ISC 08 01:08:09.3±0.8, 20°.0S±0°.2×175°.72W±0°.09, h200km, n21, σ2s19/21, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.54	81		Pn	01 09 31.0	+0.4
MSVF	Nonsavu	6.33	290		Pn	01 09 43.8	+2.9
PINNC	Pines Island,	15.90	258	P	Pn	01 11 45.6	+3.2
DZM	Mont Dzumac	16.78	260	P	P	01 11 54.0	+2.1
COEN	Coen	39.70	272	P	P	01 15 20.5	-2.0
COEN				IAmb	IAmb	01 15 55.2	
	comp=Z,19nm,1.5s						
STKA	Stephens Creek	39.92	244	P	P	01 15 24.4	+0.3
	comp=Z,0.5nm,0.3s,baz=102,slow=9.3,SNR=3.1						
	comp=Z,0.5nm,0.3s						
BBOO	Buckleboo	44.67	243	P	P	01 16 00.6	-1.8
BBOO				IAmb	IAmb	01 16 25.5	
	comp=Z,12nm,1.4s						
AS31	Alice Springs	46.71	256	P	P	01 16 17.1	-1.4
AS31				IAmb	IAmb	01 16 18.5	
	comp=Z,2.7nm,0.6s						
ASAR	Alice Springs	46.71	256	P	P	01 16 17.2	-1.3
ASAR	Alice Springs	46.71	256	P	P	01 16 17.0	-1.5
	comp=Z,7.9nm,0.6s,baz=94,slow=8.4,SNR=95						
	comp=Z,7.9nm,0.6s						
WB0	Warramunga Arr	46.77	261	P	P	01 16 16.7	-2.3
WB0				IAmb	IAmb	01 16 17.8	
	comp=Z,4.9nm,0.8s						
WRA	Warramunga Arr	46.79	261	P	P	01 16 16.7	-2.5
WRA	Warramunga Arr	46.79	261	P	P	01 16 16.5	-2.6
	comp=Z,2.5nm,0.5s,baz=96,slow=8.0,SNR=39						
	comp=Z,2.5nm,0.5s						
KNRA	Kununurra	52.83	265	P	P	01 17 02.5	-2.2
KNRA				IAmb	IAmb	01 17 24.9	
	comp=Z,21nm,1.4s						
FITZ	Fitzroy Crossi	55.22	261	P	P	01 17 20.9	-1.0
PSA00	Pilbara Seismi	59.86	256	P	P	01 17 51.1	-3.2
PSA00				IAmb	IAmb	01 17 54.0	
	comp=Z,27nm,1.4s						
QSPA	South Pole Qui	70.03	180	P	P	01 19 01.4	+2.2
QSPA				IAmb	IAmb	01 19 15.6	
	comp=Z,6.6nm,1.4s						
QSPA	South Pole Qui	70.03	180	P	P	01 19 01.5	+2.3
	comp=Z,1.6nm,0.6s,baz=62,slow=1.1,SNR=5.6						
	comp=Z,1.6nm,0.6s						
KCPM	Cahto Peak	76.78	39	P	P	01 19 37.9	-1.0
GWY	Greenwater Val	78.99	45	P	P	01 19 51.2	0.0
GWY				IAmb	IAmb	01 19 52.7	
	comp=Z,6.6nm,0.7s						
MMAI	Mount Meron Ar	149.43	301	PKPbc	PKPdf	01 27 32.8	+2.3
	comp=Z,6.2nm,1.2s,baz=78,slow=7.8,SNR=5.7						

IDC ***08*** *01:19:45.0±4.2, 20°.33S×178°.87W, h616km±29km, mb2.8/5, mbtmp3.7/6, Error ellipse: s-maj=114.3km s-min=22.1km az=144.0*

ISC 08 01:19:42.7±1.4, 20°.7S±0°.3×178°.6W±0°.3, h600km, n10, σ1s09/10, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.32	312	P	P	01 21 11.0	+0.4
	5.0nm,0.6s,baz=128,slow=17,SNR=5.2						
STKA	Stephens Creek	37.23	244	P	P	01 26 05.6	+0.7
	1.2nm,0.6s,baz=86,slow=13,SNR=2.1						
	1.2nm,0.6s						
ASAR	Alice Springs	43.96	257	P	P	01 26 58.1	-0.2
	1.2nm,0.5s,baz=94,slow=7.9,SNR=15						
	1.2nm,0.5s						
WRA	Warramunga Arr	44.05	262	P	P	01 26 58.2	-0.9
	0.5nm,0.3s,baz=97,slow=7.7,SNR=14						
	0.5nm,0.3s						
ILAR	Eielson Array	88.59	13	P	P	01 31 32.2	-0.1
	0.3nm,0.7s,baz=215,slow=5.0,SNR=4.1						
	0.3nm,0.7s						
PDAR	Pinedale Array	89.45	43	P	P	01 31 37.6	+0.5
	0.2nm,0.6s,baz=279,slow=5.1,SNR=2.3						
	0.2nm,0.6s						
BVAR	Borovoye Array	118.86	320	PKP	PKPdf	01 37 23.6	-0.1
	0.4nm,0.4s,baz=82,slow=1.7,SNR=5.0						
AKASG	Malin Array Be	142.90	331	PKP	PKPdf	01 38 06.4	-2.4
	0.5nm,0.5s,baz=44,slow=3.7,SNR=8.5						
BRTR	Keskin Array B	146.55	312	PKPbc	PKPdf	01 38 16.0	+0.4
	0.3nm,0.8s,baz=107,slow=1.5,SNR=2.3						
MMAI	Mount Meron Ar	147.43	299	PKPbc	PKPbc	01 38 21.7	+1.0
	3.5nm,0.9s,baz=89,slow=7.4,SNR=1.0						

IDC ***08*** *01:24:49.9±5.1, 56°.37S×27°.15W, h115km±44km, mb4.0/7, mbtmp4.4/9, Error ellipse: s-maj=28.3km s-min=14.8km az=67.0*
NEIC ***08*** *01:24:50.7±0.7, 56°.5S±0°.1×27°.5W±0°.2, h121km±7km, mb4.4/13, Error ellipse: s-maj=16.5km s-min=14.0km az=180.0*

ISC 08 01:24:49.2±0.5, 56°.44S±0°.08×27°.3W±0°.1, h112km, n43, σ0s80/41, mb4.5/10, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.65	289	Pn	Pn	01 26 11.9	+1.2
VNA3	Neumayer Olymp	16.65	160	↑P	P	01 28 37.2	+1.2
	comp=Z,0.8nm,0.2s						
VNA2	Neumayer--Watz	16.86	157	↑P	P	01 28 38.8	+0.5
	comp=Z,0.4nm,0.2s,baz=306,slow=11						
SNAA	Sanae	18.42	155	P	Pn	01 28 55.7	-1.2
SNAA				IAmb	IAmb	01 28 57.7	
	comp=Z,25nm,1.5s						
SNAA	Sanae	18.42	155	↑P	P	01 28 55.2	-0.2
	comp=Z,120nm,0.6s						
SNAA	Sanae	18.42	155	P	P	01 28 55.1	-0.4
	comp=Z,4.0nm,0.5s,baz=296,slow=11,SNR=32						
SNAA				PcP	PcP	01 33 20.4	-0.4
	comp=Z,0.8nm,0.4s,baz=243,slow=2.3,SNR=6.6						
PMSA	Palmer Station	19.59	230	P	Pn	01 29 10.0	-0.5
	comp=Z,18nm,0.8s,baz=41,slow=5.3,SNR=5.1						
TROLL	Troll, Antarti	19.93	153	↑P	P	01 29 11.9	-0.1
	comp=Z,43nm,0.3s						
BELA	Belgrano 2	21.68	184	P	P	01 29 29.8	-0.7
PLTB	Pedras Altas	30.70	312	P	P	01 30 53.6	+0.3
PLTB				IAmb	IAmb	01 31 34.2	
	comp=Z,17nm,1.4s						
QSPA	South Pole Qui	33.81	180	P	P	01 31 21.4	+1.1
	comp=Z,1.4nm,0.3s,baz=139,slow=13,SNR=16						
QSPA				PcP	PcP	01 33 56.6	+0.1
	comp=Z,1.2nm,0.6s,baz=152,slow=2.9,SNR=2.4						
	comp=Z,1.4nm,0.3s						
CPUP	Villa Florida	37.01	312	P	P	01 31 47.7	-0.1
CPUP				IAmb	IAmb	01 32 14.9	
	comp=Z,6.6nm,1.4s						
CPUP	Villa Florida	37.01	312	P	P	01 31 47.6	-0.1
	comp=Z,1.6nm,0.5s,baz=159,slow=12,SNR=7.3						
CPUP				PcP	PcP	01 34 06.8	+0.4
	comp=Z,1.5nm,0.6s,baz=55,slow=0.3,SNR=4.7						
	comp=Z,1.6nm,0.5s						
MT09	Talagante	37.36	289	P	P	01 31 49.1	-1.8
BDFB	Brasília	43.66	330	P	P	01 32 42.4	-0.4
	comp=Z,1.1nm,0.5s,baz=88,slow=16,SNR=2.0						
	comp=Z,1.1nm,0.5s						
VNDA	Vanda	46.18	183	P	P	01 33 02.9	+0.9
VNDA				IAmb	IAmb	01 33 18.9	
	comp=Z,12nm,1.4s						
VNDA	Vanda	46.18	183	P	P	01 33 03.4	+1.5
	comp=Z,2.7nm,0.8s,baz=182,slow=6.4,SNR=7.1						
	comp=Z,2.7nm,0.8s						
PTLB	Pontes e Lacer	47.52	316	P	P	01 33 13.3	+0.2
H10S2	ASCENSION HYDR	48.39	17	T	T	02 26 02.2	
	baz=189						
H10S3	ASCENSION HYDR	48.40	17	T	T	02 26 06.6	
	baz=31						
LBTB	Lobatse	49.20	73	P	P	01 33 26.6	+0.6
LBTB				IAmb	IAmb	01 33 53.0	
	comp=Z,6.6nm,1.1s						
H10N1	ASCENSION HYDR	49.51	17	T	T	02 27 10.9	
	baz=189						
H10N3	ASCENSION HYDR	49.51	17	T	T	02 27 29.5	
	baz=189						
H10N2	ASCENSION HYDR	49.53	17	T	T	02 27 13.3	
	baz=189						
LPAZ	La Paz	50.54	306	P	P	01 33 37.7	+0.9
LPAZ	La Paz	50.54	306	P	P	01 33 37.7	+0.9
	comp=Z,9.6nm,0.5s,baz=121,slow=3.3,SNR=48						
LPAZ				PcP	PcP	01 34 53.7	+0.6
	comp=Z,0.8nm,0.3s,baz=194,slow=4.2,SNR=14						
	comp=Z,9.6nm,0.5s						
BOAV	Boa Vista	64.54	323	P	P	01 35 13.9	-0.3
BOAV				IAmb	IAmb	01 35 15.7	
	comp=Z,8.8nm,1.4s						
DBIC	Dimbokro	65.55	25	P	P	01 35 21.4	+0.7
DBIC				IAmb	IAmb	01 35 24.1	
	comp=Z,11nm,1.1s						
DBIC	Dimbokro	65.55	25	P	P	01 35 20.8	+0.1
	comp=Z,3.8nm,0.9s,baz=203,slow=5.4,SNR=2.2						
	comp=Z,3.8nm,0.9s						
TORD	Torodi Ar. Bea	73.43	30	P	P	01 36 10.0	+1.0
TORD	Torodi Ar. Bea	73.43	30	P	P	01 36 09.7	+0.6
	comp=Z,44nm,0.4s,baz=201,slow=5.7,SNR=1.3						
BBOO	Buckleboo	89.99	166	P	P	01 37 35.8	0.0
ASAR	Alice Springs	98.64	163	P	Pdif	01 38 15.4	-0.2
	comp=Z,0.5nm,0.4s,baz=182,slow=4.6,SNR=6.5						
	comp=Z,0.5nm,0.4s						
WRA	Warramunga Arr	102.36	162	P	Pdif	01 38 31.7	-0.5
	comp=Z,0.3nm,0.6s,baz=191,slow=4.8,SNR=1.8						
PDAR	Pinedale Array	120.48	302	PKP	PKPdf	01 43 25.3	-1.6
	comp=Z,0.1nm,0.3s,baz=202,slow=3.8,SNR=3.9						
NVAR	Mina Array Bea	121.47	293	PKP	PKiKP	01 43 29.4	+0.3
	comp=Z,0.1nm,0.4s,baz=169,slow=3.0,SNR=4.0						
FINES	FINESS Array B	124.76	28	PKP	PKiKP	01 43 34.0	-0.5
	comp=Z,1.0nm,0.4s,baz=168,slow=1.6,SNR=20						
ARCES	ARCESS Array B	131.33	22	PKP	PKiKP	01 43 46.5	-1.0
	comp=Z,4.9nm,1.1s,baz=229,slow=2.8,SNR=6.6						
BVAR	Borovoye Array	135.05	58	PKP	PKPdf	01 43 54.1	+0.1
	comp=Z,0.3nm,0.3s,baz=170,slow=3.2,SNR=4.1						
YKA	Yellowknife Ar	136.41	318	PKP	PKPdf	01 43 55.9	-0.2
	comp=Z,0.8nm,0.7s,baz=136,slow=2.2,SNR=11						
MKAR	Makanchi Array	137.08	72	PKP	PKPdf	01 43 57.0	-1.0
	comp=Z,0.1nm,0.5s,baz=246,slow=3.6,SNR=2.5						
ILAR	Eielson Array	150.31	311	PKPbc	PKiKP	01 44 25.9	-0.6
	comp=Z,5.1nm,0.7s,baz=134,slow=1.9,SNR=58						
SONM	Songino Array	150.83	87	PKPbc	PKPbc	01 44 26.5	-1.1
	comp=Z,1.4nm,0.8s,baz=200,slow=2.4,SNR=6.2						

IDC 08 01:29:07.5±3.1, 32°.59S×178°.35W, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=75.8km s-min=37.0km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.76	212	Pn	Pn	01 30 48.1	+0.1
	0.9nm,0.3s,baz=3.7,slow=5.7,SNR=6.3						
URZ				Sn	Sn	01 32 04.5	-1.2
	0.7nm,0.3s,baz=66,slow=20,SNR=1.6						
	5.2nm,0.5s						
ASAR	Alice Springs	42.74	269	P	P	01 37 07.5	+0.7
	0.2nm,0.3s,baz=107,slow=8.3,SNR=2.1						
	0.2nm,0.3s						
WRA	Warramunga Arr	43.93	275	P	P	01 37 15.8	-0.5
	0.3nm,0.4s,baz=113,slow=8.1,SNR=5.2						
	0.3nm,0.4s						
FINES	FINESS Array B	147.08	339	PKPbc	PKPbc	01 48 50.7	-0.9
	2.7nm,0.9s,baz=11,slow=3.9,SNR=5.3						

ISU ***08*** *01:30:38, 41°.97N×70°.58E, h4km*
NNC ***08*** *01:30:39.7±0.5, 42°.10N×70°.42E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=3.3km s-min=2.4km az=178.0*
KRNET ***08*** *01:30:39.3±0.1, 42°.07N×70°.41E, h14km, mb2.5*
SOME ***08*** *01:30:39.5, 42°.05N×70°.43E, h10km*

ISC 08 01:30:38.4±1.1, 42°.17N±0°.02×70°.46E±0°.02, h4km±10km, n33, σ1s48/57, 25C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	0.32	266	P	Pg	01 30 45.5	+0.8
	306nm,0.1s						
IUG				S	Sg	01 30 49.7	+0.8
	175nm,0.2s						
CHMG	Chimgan	0.70	209	P	Pg	01 30 51.4	-0.6
CHMG				S	Sg	01 31 00.8	-0.3
TRKS	Terek-Say	0.81	141	↑iP	Pb	01 30 55.1	-0.1
TRKS				↑iS	Sb	01 31 06.5	-0.1
KK31	Karatay Array	0.93	2	↓iP	Pn	01 30 58.9	+0.5
	0.5nm,0.2s,baz=190,slow=18,SNR=104						
KK31				↓iS	Sn	01 31 13.1	+0.9
	5.6nm,0.2s,baz=194,slow=28,SNR=21						
KKAR	Karatay Array	0.93	2	↑iP	Pn	01 30 59.0	+0.7
KKAR				↑iS	Sn	01 31 13.4	+1.2
BRLS	Borolday	0.98	332	P	Pg	01 30 56.9	-0.3
	1.5nm,0.2s						
BRLS				S	Sg	01 31 09.3	-0.6
	33nm,0.2s						
BRLS	Borolday	0.98	332	eP	Pg	01 30 56.9	-0.3
	1.5nm,0.2s						
BRLS				eS	Sg	01 31 09.3	-0.6
	33nm,0.2s						
TGS	TashGRES	1.03	224	P	Pn	01 31 00.6	+1.0
TGS				S	Sn	01 31 16.8	+2.4
ARK	Arkit	1.18	108	↓iP	Pn	01 31 01.8	0.0
ARK				↓iS	Sn	01 31 18.2	-0.1
MNAS	Manas	1.55	77	↑iP	Pg	01 31 09.4	+1.3
MNAS				↑iS	Sg	01 31 31.1	+3.0
ARSB	Arslanbob	2.06	113	↓eP	Pg	01 31 17.4	-0.6
ARSB				↓eS	Sg	01 31 44.5	-0.3
MRKS	Merke	2.12	73	Pg	Pg	01 31 20.7	+1.6
	2.7nm,0.3s						
MRKS				Lg	Lg	01 31 50.1	
	22nm,0.3s						
MRKS	Merke	2.12	73	eP	Pg	01 31 20.7	+1.6
	2.7nm,0.3s						
MRKS				eS	Sg	01 31 50.1	+3.5
	22nm,0.3s						
BTK	Batken	2.13	173	↑iP	Pb	01 31 16.3	-1.2
BTK				↑iS	Sb	01 31 43.2	-1.1
AML	Almayashu	2.40	90	↓iP	Pb	01 31 22.3	-0.1
AML				↓iS	Sb	01 31 53.6	+1.1
EKS2	Erkin-Say	2.50	78	↑iP	Pb	01 31 23.7	-0.3
EKS2				↑iS	Sb	01 31 56.2	+1.0
SALK	Salom-Alik	2.83	116	↑iP	Pb	01 31 27.4	-2.2
SALK				↑iS	Sb	01 32 02.5	-2.1
ARLS	Aral	2.89	95	↑iP	Pb	01 31 28.8	-1.8
ARLS				↑iS	Sb	01 32 04.9	-1.5
UCH	Uchtor	3.01	88	↑iP	Pb	01 31 30.8	-2.0
UCH				↑iS	Sb	01 32 08.4	-1.7
AAK	Ala-Archa	3.02	80	Pg	Pg	01 31 35.0	-1.3
	1.5nm,0.4s						
AAK				Lg	Lg	01 32 17.8	
	2.7nm,0.5s						
AAK	Ala-Archa	3.02	80	↑iP	Pb	01 31 31.0	-1.8
AAK				↑iS	Sb	01 32 08.7	-1.4
GAR	Garm	3.17	182	↓iP	Pn	01 31 30.8	+1.7
GAR				↓iS	Sn	01 32 08.3	+0.9
USP	Ospenovka	3.17	68	↑iP	Pb	01 31 33.2	-2.1
USP				↑iS	Sb	01 32 12.5	-1.8
CHMS	Chumysh	3.27	74	↑Pg	Pb	01 31 38.1	+1.1
	0.9nm,0.6s						
CHMS				↑Lg	Lg	01 32 22.9	
	4.1nm,0.5s						
SGDS	Sogindy	3.32	66	Pg	Pg	01 31 41.8	-0.3
	1.4nm,0.2s						
SGDS				Lg	Lg	01 32 25.8	
	3.9nm,0.5s						
KBK	Karagaybulak	3.36	80	↑iP	Pb	01 31 35.7	-2.9
KBK				↑iS	Sb	01 32 16.6	-3.2
TKM2	Tokmak 2	3.87	77	↓Pg	Pg	01 31 51.1	-1.4
	0.6nm,0.5s						
TKM2				↑Lg	Lg	01 32 41.5	
	2.6nm,0.5s						
DGS	Degeres	4.06	73	Pg	Pg	01 31 55.5	-0.7
	1.8nm,0.5s						
DGS				Lg	Lg	01 32 49.6	
	6.6nm,0.5s						
KST	Kastek	4.15	76	Pg	Pg	01 31 57.3	-0.7
	0.8nm,0.3s						
KST				Lg	Lg	01 32 52.6	
	4.4nm,0.4s						
KST	Kastek	4.15	76	eP	Pg	01 31 57.3	-0.7
	0.8nm,0.3s						
KST				eS	Sg	01 32 52.6	+0.9
	4.4nm,0.4s						
MTBS	Maitube	4.50	76	Pg	Pg	01 32 04.2	-0.5
	0.9nm,0.2s						
MTBS				Lg	Lg	01 33 05.4	
	3.6nm,0.3s						
MTBS	Maitube	4.50	76	eP	Pg	01 32 04.2	-0.5
	0.9nm,0.2s						
MTBS				eS	Sg	01 33 05.4	+2.4
	3.6nm,0.3s						
KTBS	Karatobe	4.82	69	Pg	Pg	01 32 09.4	-1.3
	0.3nm,0.3s						
KTBS				Lg	Lg	01 33 13.2	
	4.8nm,0.5s						

IDC 08 02:05:36.5±6.9, 31°.82S×176°.31W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=310.6km s-min=62.6km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.49	268	P	P	02 13 49.5	-0.4
	0.3nm,0.7s,baz=106,slow=8.1,SNR=2.5						
	0.3nm,0.7s						
WRA	Warramunga Arr	45.61	273	P	P	02 13 58.9	+0.1
	0.6nm,0.6s,baz=116,slow=8.1,SNR=5.4						
	0.6nm,0.6s						
FINES	FINESS Array B	146.97	340	PKPbc	PKPbc	02 25 19.4	-0.9
	2.3nm,0.9s,baz=29

APG	El Apazote	1.61	33	Pn	Pb	02 08 23.1	-1.0
	9.5nm,0.3s,baz=184,slow=11,SNR=408						
APG				Sn	Sb	02 08 46.0	+1.9
	14nm,0.3s,baz=240,slow=24,SNR=7.0						
APG				LR	LR	02 08 58.1	
	comp=Z,121nm,20.2s,baz=270,slow=50						
APG	El Apazote	1.61	33	*i* P	Pb	02 08 23.3	-0.7
APG	El Apazote	1.61	33	*i* P		02 08 23.3	
HUEH	Huehuetenango	1.67	356		Pb	02 08 23.9	-1.2
HUEH	Huehuetenango	1.67	356	P	Pb	02 08 25.1	+0.1
HUEH	Huehuetenango	1.67	356	P	Pb	02 08 25.2	+0.1
HUEH	Huehuetenango	1.67	356	*e*P	Pb	02 08 24.9	-0.2
HUEH	Huehuetenango	1.67	356	*e*P		02 08 24.9	
RTR	El Retiro	1.69	81	*e*P	Pn	02 08 23.1	+0.2
CEVE	Cerro Verde	1.71	84	*e*P	Pn	02 08 23.0	0.0
CEVE	Cerro Verde	1.71	84	P	Pn	02 08 23.1	0.0
CEVE	Cerro Verde	1.71	84	P	Pn	02 08 23.1	0.0
SBLS	San Blas	1.71	83	*e*P	Pn	02 08 22.9	-0.2
SNJE	San Jose	1.73	82	*e*P	Pn	02 08 23.3	0.0
SNJE				*e*P	Pb	02 08 23.5	-2.4
JUAM	Asuncion Mita	1.75	67	*e*P	Pn	02 08 24.4	+0.9
JUAM				*e*S	Sb	02 08 47.5	-0.5
JUAM	Asuncion Mita	1.75	67	*e*P		02 08 24.4	
JUAM				*e*S		02 08 47.5	
UNIC	Universidad Ca	1.80	79	P	Pn	02 08 24.6	+0.3
UNIC	Universidad Ca	1.80	79	P	Pn	02 08 25.5	+1.3
JAYA	Jayaque - finc	1.87	89	*e*P	Pn	02 08 26.5	+1.3
JAYA	Jayaque - finc	1.87	89	P	Pn	02 08 25.0	-0.2
JAYA	Jayaque - finc	1.87	89	S	Sb	02 08 51.8	+0.5
JAYA	Jayaque - finc	1.87	89	P	Pn	02 08 24.8	-0.4
JAYA	Jayaque - finc	1.87	89	*e*P	Pn	02 08 24.4	-0.8
JAYA	Jayaque - finc	1.87	89	*e*P		02 08 24.4	
CEDA	San Andres	1.92	85	P	Pn	02 08 27.0	+1.1
CEDA	San Andres	1.92	85	S	Sb	02 08 52.5	-0.3
LALI	Alcalda de L	2.00	94	*e*P	Pn	02 08 27.6	+0.8
LALI	Alcalda de L	2.00	94	P	Pn	02 08 27.7	+0.8
LALI	Alcalda de L	2.00	94	S	Sb	02 08 53.3	-1.5
LALI	Alcalda de L	2.00	94	P	Pn	02 08 27.6	+0.8
LALI	Alcalda de L	2.00	94	*e*P	Pn	02 08 26.9	+0.1
LALI	Alcalda de L	2.00	94	*e*P		02 08 26.9	
PMON	Piamonte	2.00	88	*e*P	Pn	02 08 27.5	+0.6
PMON	Piamonte	2.00	88	P	Pn	02 08 27.1	+0.1
PMON	Piamonte	2.00	88	S	Sn	02 08 52.8	+1.6
PMON	Piamonte	2.00	88	P	Pn	02 08 27.2	+0.1
BOQS	Boqueron	2.03	87	*e*P	Pn	02 08 28.2	+0.7
ITCA	Escuela Especi	2.03	89	*e*P	Pn	02 08 28.3	+0.8
ITCA				*e*S	Sn	02 08 52.6	+0.5
ITCA	Escuela Especi	2.03	89	P	Pn	02 08 28.9	+1.5
ITCA	Escuela Especi	2.03	89	S	Sb	02 08 54.3	-1.7
ITCA	Escuela Especi	2.03	89	P	Pn	02 08 28.7	+1.3
PIC2	El Picacho	2.06	87	*e*P	Pn	02 08 29.5	+1.6
UEES	Universidad Ev	2.07	88	P	Pn	02 08 29.4	+1.4
UEES	Universidad Ev	2.07	88	S	Sb	02 08 56.5	-0.6
UEES	Universidad Ev	2.07	88	P	Pn	02 08 29.3	+1.4
SEMO	Seminario San	2.08	88	P	Pn	02 08 29.3	+1.1
SEMO	Seminario San	2.08	88	P	Pn	02 08 29.5	+1.3
MTO3	Montecristo	2.09	69		Pn	02 08 29.0	+0.7
MTO3	Montecristo	2.09	69	*e*P	Pn	02 08 29.1	+0.7
MTO3				*e*S	Sn	02 08 55.4	+1.8
MTO3	Montecristo	2.09	69	P	Pn	02 08 29.5	+1.2
MTO3	Montecristo	2.09	69	S	Sb	02 08 57.8	0.0
MTO3	Montecristo	2.09	69	P	Pn	02 08 29.3	+1.0
MTO3	Montecristo	2.09	69	*e*P	Pn	02 08 29.1	+0.7
MTO3	Montecristo	2.09	69	*e*P		02 08 29.1	
UTEC	Universidad Te	2.11	88	P	Pn	02 08 29.4	+1.0
UTEC	Universidad Te	2.11	88	S	Sb	02 08 56.7	-1.4
UESS	Universidad de	2.11	88	*e*P	Pn	02 08 30.0	+1.5
UESS				*e*S	Sn	02 08 55.1	+1.3
PANCS	Alcalda de	2.13	91	*e*P	Pn	02 08 29.1	+0.4
PANCS				*e*S	Sn	02 08 53.8	-0.6
PANCS	Alcalda de	2.13	91	P	Pn	02 08 29.5	+0.8
PANCS	Alcalda de	2.13	91	S	Sn	02 08 55.6	+1.3
PANCS	Alcalda de	2.13	91	P	Pn	02 08 29.7	+1.0
LOMA	Loma Larga	2.14	90	*e*P	Pn	02 08 29.0	+0.1
LOMA				*e*S	Sn	02 08 55.7	+1.0
LOMA	Loma Larga	2.14	90	P	Pn	02 08 29.3	+0.4
LOMA	Loma Larga	2.14	90	S	Sn	02 08 56.6	+1.9
LOMA	Loma Larga	2.14	90	P	Pn	02 08 29.3	+0.4
IGN	Direccin Gen	2.14	88	P	Pn	02 08 30.2	+1.4
IGN	Direccin Gen	2.14	88	S	Sb	02 08 57.9	-1.1
IGN	Direccin Gen	2.14	88	P	Pn	02 08 30.3	+1.4
UDBS	Universidad Do	2.15	88	P	Pn	02 08 30.0	+1.0
UDBS	Universidad Do	2.15	88	S	Sn	02 08 56.1	+1.1
UDBS	Universidad Do	2.15	88	P	Pn	02 08 31.1	+2.1
ESQI	Esquipulas	2.17	65	Pn	Pn	02 08 30.4	+1.1
ESQI	Esquipulas	2.17	65	*e*P	Pn	02 08 30.6	+1.3
ESQI	Esquipulas	2.17	65	P	Pn	02 08 30.7	+1.3
ESQI	Esquipulas	2.17	65	S	Sb	02 08 59.6	-0.3
ESQI	Esquipulas	2.17	65	P	Pn	02 08 30.6	+1.3
AEIL	Aeropuerto Ilo	2.19	88	*e*P	Pn	02 08 30.9	+1.3
LFRS	El Faro	2.24	90	*e*P	Pn	02 08 31.0	+0.7
PAVA	Las Pavas	2.36	88	*e*P	Pn	02 08 32.5	+0.5
PAVA	Las Pavas	2.36	88	P	Pn	02 08 33.1	+1.1
PAVA	Las Pavas	2.36	88	S	Sb	02 09 03.8	-1.7
PAVA	Las Pavas	2.36	88	P	Pn	02 08 32.9	+0.9
LLGN	La Laguna	2.41	77	*e*P	Pn	02 08 33.3	+0.6
LLGN	La Laguna	2.41	77	P	Pn	02 08 33.2	+0.6
LLGN	La Laguna	2.41	77	S	Sb	02 09 05.2	-1.1
LLGN	La Laguna	2.41	77	P	Pn	02 08 33.5	+0.9
COEG	Centro de Oper	2.42	90	*e*P	Pn	02 08 33.7	+1.0
COEG	Centro de Oper	2.42	90	P	Pn	02 08 33.8	+1.0
COEG	Centro de Oper	2.42	90	S	Sn	09 04.2	+2.7
COEG	Centro de Oper	2.42	90	P	Pn	02 08 33.8	+1.0
UESV	Universidad de	2.51	90	P	Pn	02 08 35.1	+1.2
UESV	Universidad de	2.51	90	S	Sb	02 09 07.4	-2.3
UESV	Universidad de	2.51	90	P	Pn	02 08 36.0	+2.1
TECO	Alcaldia de Te	2.52	92	P	Pn	02 08 34.9	+0.9
TECO	Alcaldia de Te	2.52	92	S	Sn	02 09 05.9	+1.9
TECO	Alcaldia de Te	2.52	92	P	Pn	02 08 35.0	+0.9
SCLA	Alcaldia de Sa	2.57	88	*e*P	Pn	02 08 35.6	+0.9
SCLA	Alcaldia de Sa	2.57	88	P	Pn	02 08 36.0	+1.2
SCLA	Alcaldia de Sa	2.57	88	S	Sb	02 09 08.9	-2.4
SCLA	Alcaldia de Sa	2.57	88	P	Pn	02 08 35.8	+1.0
CCIG	Comitan	2.73	344		Pn	02 08 39.4	+2.3
CCIG	Comitan	2.73	344	P	Pb	02 08 40.3	-2.7
CCIG	Comitan	2.73	344	S	Sb	02 09 15.7	-2.4
CCIG	Comitan	2.73	344	P	Pn	02 08 40.0	+2.9
CCIG	Comitan	2.73	344	*e*P	Pn	02 08 39.6	+2.5
CCIG	Comitan	2.73	344	*e*P		02 08 39.6	
PQSS	Presa 15 de Se	2.73	90	P	Pn	02 08 38.1	+1.2
PQSS	Presa 15 de Se	2.73	90	S	Sn	02 09 12.6	+3.5
ALJI	Alcalda de J	2.74	96	*e*P	Pn	02 08 38.2	+1.2
ALJI	Alcalda de J	2.74	96	P	Pn	02 08 38.6	+1.5
ALJI	Alcalda de J	2.74	96	S	Sn	02 09 11.3	+2.0
PACA	Pacayal	2.97	93	P	Pn	02 08 43.6	+3.3
PACA	Pacayal	2.97	93	S	Sn	02 09 19.0	+3.9
PACA	Pacayal	2.97	93	P	Pn	02 08 43.6	+3.3
RANC	El Ranchito	3.00	94	*e*P	Pn	02 08 42.2	+1.4
RANC	El Ranchito	3.00	94	P	Pn	02 08 42.9	+2.1
RANC	El Ranchito	3.00	94	S	Sn	02 09 19.5	+3.4
RANC	El Ranchito	3.00	94	P	Pn	02 08 42.7	+1.9
INTHN	La Esperanza I	3.24	78	P	Pn	02 08 45.1	+1.0
LCND	La Caada	3.40	95	*e*P	Pn	02 08 47.3	+1.1
LCND	La Caada	3.40	95	P	Pn	02 08 47.5	+1.4
LCND	La Caada	3.40	95	P	Pn	02 08 47.3	+1.1
CNCH	Conchagua	3.46	96	*e*P	Pn	02 08 49.4	+2.3
CNCH	Conchagua	3.46	96	P	Pn	02 08 49.0	+2.0
CNCH	Conchagua	3.46	96	P	Pn	02 08 48.7	+1.6
TGIG		3.55	332	*e*P	Pn	02 08 49.7	+1.4
TGIG		3.55	332	*e*P		02 08 49.7	
PETF	Flores	3.56	24		Pn	02 08 50.5	+2.1
PETF	Flores	3.56	24	P	Pn	02 08 51.3	+2.9
PETF	Flores	3.56	24	*e*P	Pn	02 08 50.6	+2.1
PETF	Flores	3.56	24	*e*P		02 08 50.6	
COMHN	El Horno	3.78	77	P	Pn	02 08 52.2	+0.6
POTN	Potosi Cosigui	3.81	99	P	Pn	02 08 52.8	+1.0
NISHN	Nisperales Com	3.98	57	P	Pn	02 08 55.4	+1.1
NISHN	Nisperales Com	3.98	57	*e*P	Pn	02 08 55.9	+1.6
NISHN	Nisperales Com	3.98	57	*e*P		02 08 55.9	
TGUH	Tegucigalpa,Un	4.00	84	Pn	Pn	02 08 55.1	+0.6
TGUH	Tegucigalpa,Un	4.00	84	P	Pn	02 08 55.6	+1.0
CHOHN	Orocuina	4.10	92	P	Pn	02 08 57.3	+1.4
CRIN	San Cristobal	4.31	102		Pn	02 09 00.6	+1.8
CRIN	San Cristobal	4.31	102	P	Pn	02 09 00.9	+2.2
CRIN	San Cristobal	4.31	102	P	Pn	02 09 00.8	+2.1
YUSH	Yuscaran	4.41	85	P	Pn	02 09 01.2	+1.1
QUEN	Al S del Volca	4.52	103	P	Pn	02 09 01.5	-0.2
HERN	Volcan Telica	4.54	103	P	Pn	02 09 02.7	+0.8
POLN	Al Sur del Vol	4.54	102	P	Pn	02 09 04.1	+2.1
PLRN	Geotermica Pol	4.60	103	P	Pn	02 09 04.4	+1.7
PLRN				S	Sn	02 09 52.4	-3.0
ROCN	Rota Cerro Neg	4.64	103	P	Pn	02 08 59.1	-4.2
CNGA	Al SSO del Vol	4.69	104	P	Pn	02 09 05.2	+1.3
CNGA	Al SSO del Vol	4.69	104	P	Pn	02 09 05.4	+1.5
CNGN	Cerro Negro	4.69	103		Pn	02 09 05.1	+1.1
CNGN	Cerro Negro	4.69	103	P	Pn	02 09 05.2	+1.3
MACN	El Madrono	4.72	104	P	Pn	02 09 05.8	+1.4
CMIG	Matias Romero	4.82	316	Pn	Pn	02 09 05.7	-0.1
	5.5nm,0.3s,baz=133,slow=10.0,SNR=30						
CMIG				Sn	Sn	02 10 02.3	+1.5
	5.6nm,0.3s,baz=127,slow=17,SNR=3.9						
CMIG				LR	LR	02 11 14.7	
	comp=Z,773nm,20.5s,baz=134,slow=40						
	14nm,0.3s						
MOMN	Momotombo	4.86	104	P	Pn	02 09 07.4	+1.1
MOMN	Momotombo	4.86	104	P	Pn	02 09 07.9	+1.6
COPN	Copaltepe	4.88	107	P	Pn	02 09 06.9	+0.4
LIMN	Finca el Limon	4.90	96	P	Pn	02 09 08.1	+1.2
LIMN	Finca el Limon	4.90	96	P	Pn	02 09 07.9	+1.0
RCVN	Varillal2	5.03	90	P	Pn	02 09 10.3	+1.5
RCVN	Varillal2	5.03	90	P	Pn	02 09 11.7	+3.0
SAPS	Ciudad Sandino	5.05	106	P	Pn	02 09 12.7	+3.7
SAPS	Ciudad Sandino	5.05	106	P	Pn	02 09 12.2	+3.3
RCPN	Sur Rio San Ju	5.13	91	P	Pn	02 09 12.4	+2.3
TISN	Laguna Tiscapa	5.19	106	P	Pn	02 09 11.7	+0.9
NADN	Granada	5.54	109	P	Pn	02 09 16.8	+1.2
ACON	Acoyapa	6.27	105		Pn	02 09 26.9	+1.3
INDI	Punta indio, G	6.86	123	P	Pn	02 09 35.4	+1.7
ESPN	Las Esperanzas	7.04	101		Pn	02 09 38.3	+2.1
JTS	Las Juntas de	7.11	117	Pn	Pn	02 09 39.2	+2.1
	2.3nm,0.3s,baz=295,slow=22,SNR=7.8						
JTS				Sn	Sn	02 10 52.5	-4.6
	3.6nm,0.3s,baz=258,slow=17,SNR=1.4						
JTS				Lg	Lg	02 11 15.5	
	2.6nm,0.3s,baz=241,slow=20,SNR=4.9						
TEIG	Tepich	7.19	24	Pn	Pn	02 09 40.1	+1.9
TEIG	Tepich	7.19	24	Pn	Pn	02 09 40.7	+2.5
	baz=216,slow=24,SNR=67						
TEIG				Sn	Sn	02 10 56.5	-2.5
	baz=180,slow=20,SNR=1.3						
TLIG	Tlapa	7.96	300	Pn	Pn	02 09 51.0	+2.1
BRU2	Volcan	9.78	119		Pn	02 10 17.4	+3.5
HNDO	Hondo	17.43	336	P	P	02 11 59.3	+2.1
BRDY	Brady	18.91	339		Pn	02 12 14.0	-0.4
ROSC	El Rosal	18.95	116	P	P	02 12 14.5	0.0
	7.4nm,0.5s,baz=36,slow=14,SNR=4.7						
SAND	Sanderson	19.04	330		Pn	02 12 16.9	+1.0
TX31	Lajitas Ar. Si	19.34	326	P	Pn	02 12 20.3	+0.8
TXAR	Lajitas Array	19.34	326	P	Pn	02 12 20.6	+1.0
TXAR	Lajitas Array	19.34	326	P	Pn	02 12 20.7	+1.2
	0.4nm,0.3s,baz=154,slow=12,SNR=76						
TXAR				LR	LR	02 20 58.5	
	comp=Z,59nm,19.2s,baz=122,slow=40						
	4.8nm,0.7s						
OZNA	Ozona	19.41	334		Pn	02 12 21.5	+1.1
FLOC	Florencia	19.63	126	P	Pn	02 12 25.4	+2.4
LRAL	Lakeview Retre	19.71	11	P	Pn	02 12 26.6	+2.7
PLPT	Palo Pinto	20.11	343	P	Pn	02 12 29.1	+0.4
ALPN	Alpine	20.14	328	P	Pn	02 12 29.9	+0.7
SGCY	Sterling City	20.27	335	P	Pn	02 12 29.9	-0.7
SGCY				IAmb	IAmb	02 12 31.4	
	comp=Z,14nm,0.6s						
MNHN	Monahans	20.49	331	P	Pn	02 12 32.9	-0.2
LPIG	La Paz	20.70	303	LR	LR	02 21 06.3	
	comp=Z,134nm,18.4s,baz=172,slow=38						
GOGA	Godfrey	20.95	19	P	Pn	02 12 38.1	-0.3
GOGA				IAmb	IAmb	02 12 57.3	
	comp=Z,15nm,1.1s						
APMT	Aspermont	21.16	339	IAmb	IAmb	02 12 43.7	
	comp=Z,8.0nm,0.7s						
VHRN	Van Horn	21.18	326	IAmb	IAmb	02 12 44.6	
	comp=Z,8.1nm,0.8s						
DKNS	Dickens	21.75	338	IAmb	IAmb	02 12 49.4	
	comp=Z,7.5nm,0.5s						
LCAR	Lake Charles	22.33	0	P	P	02 12 49.5	-1.1
LCAR				IAmb	IAmb	02 12 52.1	
	comp=Z,6.1nm,0.7s						
TKL	Tuckaleechee C	22.96	16	P	P	02 12 55.3	-2.0
	comp=Z,2.9nm,0.5s,baz=221,slow=6.8,SNR=4.3						
TKL				LR	LR	02 22 41.8	
	comp=Z,212nm,21.2s,baz=188,slow=39						
	comp=Z,2.9nm,0.5s						
PBMO	Poplar Bluff	23.06	2	IAmb	IAmb	02 12 59.9	
	comp=Z,7.1nm,0.7s						
T42A	Van Buren	23.29	1	P	P	02 12 59.7	-0.8
T42A				IAmb	IAmb	02 13 02.1	
	comp=Z,5.0nm,0.5s						
CGM3	Cape Girardeau	23.61	3	IAmb	IAmb	02 13 06.2	
	comp=Z,5.3nm,0.6s						
121A	Cookes Peak, D	24.06	324	IAmb	IAmb	02 13 26.6	
	comp=Z,12nm,1.2s						
CCM	Cathedral Cave	24.32	0	P	P	02 13 08.8	-1.5
RTBA	Rita Blanca	24.89	338	IAmb	IAmb	02 13 47.4	
	comp=Z,6.2nm,1.0s						
TUC	Tucson	25.70	320	P	P	02 13 25.0	+1.9
MVCO	Mesa Verde	28.02	330	IAmb	IAmb	02 13 46.2	
	comp=Z,3.4nm,0.8s						
PV23	Carpenter Ridg	29.25	331	IAmb	IAmb	02 13 58.8	
	comp=Z,5.6nm,0.8s						
KNB	Kanab	30.15	324	IAmb	IAmb	02 14 09.5	
	comp=Z,2.8nm,0.7s						
PFO	Pinyon Flats O	30.25	315	LR	LR	02 25 05.9	
	comp=Z,4.5nm,0.9s						
SADO	Sadowa	32.73	16	LR	LR	02 28 34.9	
	comp=Z,170nm,19.5s,baz=255,slow=38						
HWUT	Hardware Ranch	32.94	332	IAmb	IAmb	02 14 31.0	
	comp=Z,4.3nm,1.1s						
PDAR	Pinedale Array	33.00	335	P	P	02 14 28.1	+0.1
	comp=Z,0.3nm,0.6s,baz=127,slow=12,SNR=4.7						
PDAR				PcP	PcP	02 17 10.6	-1.0
	comp=Z,0.2nm,0.6s,baz=124,slow=3.7,SNR=2.2						
PDAR				LR	LR	02 30 06.7	
	comp=Z,43nm,19.7s,baz=142,slow=40						
	comp=Z,0.3nm,0.6s						
BGU	Big Grassy Mou	33.12	329	IAmb	IAmb	02 14 32.0	
	comp=Z,2.6nm,0.8s						
ELK	Elko	34.13	327	IAmb	IAmb	02 14 41.3	
	comp=Z,2.0nm,0.7s						
ELK	Elko	34.13	327	LR	LR	02 30 17.0	
	comp=Z,112nm,20.0s,baz=157,slow=39						
NV11	Mina Array Sit	34.25	321	IAmb	IAmb	02 14 42.1	
	comp=Z,4.4nm,1.1s						
NVAR	Mina Array Bea	34.34	321	P	P	02 14 41.5	+1.9
	comp=Z,2.0nm,0.6s,baz=133,slow=8.1,SNR=27						
NVAR				PcP	PcP	02 17 14.8	-0.6
	comp=Z,0.5nm,0.6s,baz=81,slow=3.6,SNR=3.9						
NVAR				LR	LR	02 31 12.6	
	comp=Z,112nm,18.5s,baz=150,slow=41						
	comp=Z,2.0nm,0.6s						
LHV	Little Huntoon	34.35	320	IAmb	IAmb	02 14 46.1	
	comp=Z,6.4nm,1.1s						
MFID	Camas Ranch	36.36	329	IAmb	IAmb	02 15 01.3	
	comp=Z,3.5nm,0.9s						
ULM	Lac du Bonnet	36.69	355	P	P	02 14 56.6	-2.9
	comp=Z,1.4nm,0.6s,baz=165,slow=10,SNR=3.7						
ULM				LR	LR	02 32 26.5	
	comp=Z,85nm,20.7s,baz=166,slow=40						
	comp=Z,1.4nm,0.6s						
WVOR	Wild Horse Val	37.13	326	IAmb	IAmb	02 15 06.7	
	comp=Z,4.1nm,1.0s						
LPAZ	La Paz	37.57	142	LR	LR	02 30 25.7	
	comp=Z,123nm,20.4s,baz=313,slow=36						
PLID	Pearl Lake	37.68	331	IAmb	IAmb	02 15 09.5	
	comp=Z,3.8nm,0.8s						
YBH	Yreka Blue Hor	39.03	322	LR	LR	02 31 55.4	
	comp=Z,83nm,18.3s,baz=148,slow=37						
H04A	Detroit Lake	40.55	326	P	P	02 15 32.9	+0.9
H04A				IAmb	IAmb	02 15 33.9	
	comp=Z,5.8nm,0.7s						
NEW	Newport	40.59	333	LR	LR	02 35 04.2	
	comp=Z,124nm,18.8s,baz=132,slow=40						
E07A	Sunnyside	40.60	330	P	P	02 15 33.9	+1.5
HOOD	Mount Hood Mea	40.68	327	P	P	02 15 35.3	+2.1
LON	Longmire	41.72	328	IAmb	IAmb	02 15 47.0	
	comp=Z,4.5nm,0.8s						
SIV	San Ignacio	42.00	134	LR	LR	02 32 26.6	
	comp=Z,123nm,20.6s,baz=294,slow=35						
SCHQ	Schefferville	45.35	20	P	P	02 16 07.8	-2.9
	comp=Z,3.0nm,0.8s,baz=215,slow=4.7,SNR=3.8						
SCHQ				LR	LR	02 36 31.9	
	comp=Z,170nm,19.3s,baz=136,slow=38						
	comp=Z,3.0nm,0.8s						
H03N2	Juan Fernandez	48.30	166	T	T	03 08 19.9	
	baz=347,slow=76,SNR=4.7						
H03N1	Juan Fernandez	48.30	166	T	T	03 08 21.5	
	baz=347,slow=76,SNR=6.2						
H03N3	Juan Fernandez	48.31	166	T	T	03 08 16.6	
	baz=347,slow=76,SNR=6.6						
YKA	Yellowknife Ar	51.52	346	P	P	02 16 56.6	-1.4
	comp=Z,1.4nm,0.7s,baz=153,slow=7.8,SNR=29						
	comp=Z,1.4nm,0.7s						
CPUP	Villa Florida	51.72	140	LR	LR	02 40 28.2	
	comp=Z,97nm,18.1s,baz=280,slow=38						
FRB	Frobisher Bay	52.53	13	LR	LR	02 40 24.7	
	comp=Z,117nm,18.3s,baz=274,slow=37						
DLBC	Dease Lake	53.23	336	IAmb	IAmb	02 17 12.6	
	comp=Z,4.2nm,0.8s						
PLCA	Paso Flores	57.44	161	LR	LR	02 37 34.7	
	comp=Z,106nm,19.1s,baz=326,slow=31						
SFJD	Kangerlussuaq	59.67	17	LR	LR	02 44 14.8	
	comp=Z,137nm,18.6s,baz=232,slow=37						
RES	Resolute Bay	61.07	359	LR	LR	02 46 44.4	
	comp=Z,122nm,18.1s,baz=346,slow=38						
ILAR	Eielson Array	63.41	337	P	P	02 18 21.1	-0.7
	comp=Z,1.5nm,0.9s,baz=167,slow=4.9,SNR=16						
	comp=Z,1.5nm,0.9s						
MKAR	Makanchi Array	119.58	5	PKP	PKPdf	02 26 40.4	-2.0
	comp=Z,0.4nm,0.3s,baz=321,slow=1.8,SNR=2.9						
WRA	Warramunga Arr	135.90	255	PKP	PKPdf	02 27 13.4	-0.8
	comp=Z,0.5nm,0.8s,baz=92,slow=2.4,SNR=2.8						
ASAR	Alice Springs	136.12	250	PKP	PKPdf	02 27 14.1	-0.5
	comp=Z,0.4nm,1.0s,baz=78,slow=3.3,SNR=1.6						
CMAR	Chiang Mai Arr	146.52	342	PKPbc	PKPbc	02 27 34.4	-0.3
	comp=Z,1.6nm,0.3s,baz=345,slow=4.3,SNR=17						

GCG ***08*** *02:10:00.7±1.8, 13°.70N×91°.42W, h56km±36km, MD4.3, MW4.2*

SNET ***08*** *02:10:03.7±1.3, 14°.17N×91°.06W, h13km±9km, ML3.4*

ISC 08 02:09:57.9±2.0, 13°.59N±0°.10×91°.47W±0°.08, h21km±5km, n21, σ19°30/26, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.85	8	*e*P		02 10 19.1	
STG8	El Palmar, Qui	0.87	8	*e*P		02 10 19.6	
ESSJ	San Jos, E	0.94	91	||*e*P		02 10 14.6	
RTAL	Retalhuleu	0.96	347	*e*P	Pn	02 10 17.1	+0.9
RTAL				*e*S	Sb	02 10 26.6	-1.5
ESSG	Sabana Grande	1.01	38	*e*P	Pn	02 10 17.0	+0.1
ESSG				*e*S	Sn	02 10 30.1	-0.5
ESSG	Sabana Grande	1.01	38	*e*P		02 10 17.0	
ESSG				*e*S		02 10 30.1	
FG8	Yepocapa, Chim	1.11	53	*e*P		02 10 17.2	
SOKI	Kika Raxquin	1.23	3	*e*P	Pb	02 10 21.5	+0.8
SOKI	Kika Raxquin	1.23	3	*e*P		02 10 21.5	
GCG4	OSOP	1.35	42	*i* S	Sb	02 10 41.3	+1.8
GCG4	OSOP	1.35	42	*i* S		02 10 41.3	
SMCA	Catarina	1.39	335	*e*P	Pn	02 10 22.2	0.0
SMCA	Catarina	1.39	335	*e*P		02 10 22.2	
THIG		1.52	330	*i* S	Sb	02 10 44.8	+0.5
THIG		1.52	330	*i* S		02 10 44.8	
NUBE	Las Nubes	1.67	79	*e*P	Pn	02 10 26.3	+0.1
NUBE				*e*S	Sn	02 10 44.0	-3.1
NUBE	Las Nubes	1.67	79	*e*P	Pn	02 10 26.3	+0.1
NUBE	Las Nubes	1.67	79	*e*P		02 10 26.3	
LOAL	Lomas de Alarc	1.69	76	*e*P	Pn	02 10 26.6

Triangular moment-rate function
ISC 08 02:32:14.1±0.5,22°41N±0°01×121°45E±0°02,h18km±2km,
n1426,σ1s50/1431,mb5.3/371,MS5.0/114,65C-130D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.27**	**4**	⇑*i*P	**Pb**	**02 32 20.9**	**+0.5**
LDUT				*i* S	**Sb**	**02 32 25.7**	**+1.2**
LAY	**Lan-yu**	**0.38**	**166**	⇓*i*P	**Pg**	**02 32 23.1**	**+1.1**
LAY				*e*S	**Sb**	**02 32 29.2**	**+1.4**
LYUB	**Lan-yu**	**0.42**	**163**	⇓*i*P	**Pg**	**02 32 22.6**	**-0.1**
LYUB				S	**Sg**	**02 32 28.1**	**-0.4**
TTN	**Taitung**	**0.45**	**321**	⇑*i*P	**Pb**	**02 32 23.7**	**+0.2**
TTN				S	**Sb**	**02 32 31.2**	**+1.4**
ECL	**Taimali**	**0.50**	**293**	⇓*i*P	**Pg**	**02 32 23.4**	**-0.7**
ECL				S	**Sg**	**02 32 29.6**	**-1.2**
TAW	**Tawu**	**0.52**	**265**	⇓*i*P	**Pg**	**02 32 23.8**	**-0.6**
TAW				S	**Sg**	**02 32 30.2**	**-1.2**
TAWH	**Dawu Township**	**0.53**	**263**	⇓*i*P	**Pg**	**02 32 24.0**	**-0.6**
TAWH				*e*S	**Sg**	**02 32 30.4**	**-1.3**
TWGBT	**Beinan**	**0.53**	**320**	P	**Pg**	**02 32 24.4**	**-0.4**
TWGBT	**Beinan**	**0.53**	**320**	⇓*e*P	**Pg**	**02 32 24.4**	**-0.4**
TWGBT				*e*S	**Sb**	**02 32 31.3**	**-1.0**
TWG	**Pinlang**	**0.54**	**320**		**Pg**	**02 32 24.4**	**-0.5**
TWG	**Pinlang**	**0.54**	**320**	⇓*i*P	**Pg**	**02 32 24.4**	**-0.5**
TWG				*e*S	**Sg**	**02 32 31.3**	**-0.9**
LONT	**Longtian**	**0.58**	**329**	⇓*e*P	**Pg**	**02 32 25.2**	**-0.4**
LONT				*e*S	**Sb**	**02 32 33.3**	**-0.4**
EDH	**Donghe**	**0.58**	**346**	⇑*e*P	**Pg**	**02 32 25.0**	**-0.7**
EDH				*e*S	**Sg**	**02 32 32.7**	**-0.8**
SLIU	**Shizi**	**0.63**	**253**	⇓*i*P	**Pg**	**02 32 25.8**	**-0.9**
SLIU				*e*S	**Sb**	**02 32 35.3**	**+0.1**
SMST	**Manzhou Townsh**	**0.69**	**236**	⇑*i*P	**Pg**	**02 32 26.9**	**-0.7**
SMST				*i* S	**Sg**	**02 32 35.2**	**-1.6**
CHKT	**Chengkung**	**0.69**	**353**	⇑*i*P	**Pg**	**02 32 26.6**	**-1.1**
CHKT				*e*S	**Sg**	**02 32 35.6**	**-1.4**
TSEB	**Hengchuen, Pin**	**0.72**	**225**	⇑*i*P	**Pg**	**02 32 28.1**	**-0.1**
TSEB				S	**Sg**	**02 32 38.1**	**+0.3**
ECS	**Chishang**	**0.72**	**343**	P	**Pg**	**02 32 27.8**	**-0.4**
ECS				*e*S	**Sb**	**02 32 38.1**	**+0.4**
TWKBT	**Hengchun**	**0.75**	**232**	⇑*i*P	**Pg**	**02 32 28.1**	**-0.8**
TWKBT				*e*S	**Sg**	**02 32 37.2**	**-1.6**
TWK1	**Hengchun**	**0.76**	**233**	⇑*i*P	**Pg**	**02 32 28.0**	**-0.9**
TWK1				S	**Sg**	**02 32 37.7**	**-1.2**
SCZT	**Fangliau**	**0.77**	**268**	⇓*i*P	**Pg**	**02 32 27.9**	**-1.3**
SCZT				S	**Sg**	**02 32 37.3**	**-2.1**
HEN	**Hengchun**	**0.77**	**239**	⇑*i*P	**Pg**	**02 32 28.6**	**-0.7**
HEN				S	**Sg**	**02 32 38.0**	**-1.4**
EHD	**Haiduan**	**0.77**	**343**	*e*P	**Pg**	**02 32 28.0**	**-1.3**
EHD				*e*S	**Sg**	**02 32 38.5**	**-1.0**
CHKH	**Chenggong**	**0.78**	**356**	⇑*e*P	**Pg**	**02 32 28.2**	**-1.3**
CHKH				*e*S	**Sg**	**02 32 38.8**	**-1.1**
MASBT	**Mashibuluo**	**0.78**	**285**	⇓*i*P	**Pg**	**02 32 28.0**	**-1.4**
MASBT				*e*S	**Sg**	**02 32 36.1**	**-3.7**
FULB	**Fuli**	**0.80**	**350**	*e*P	**Pg**	**02 32 29.0**	**-0.8**
FULB				*e*S	**Sg**	**02 32 38.9**	**-1.5**
TSMG	**Majia**	**0.80**	**292**	⇓*i*P	**Pg**	**02 32 28.2**	**-1.5**
TSMG				*e*S	**Sg**	**02 32 36.6**	**-3.9**
SSPT	**Xinbi**	**0.82**	**276**	*e*P	**Pg**	**02 32 29.3**	**-0.8**
SSPT				*e*S	**Sg**	**02 32 39.0**	**-2.0**
SSD	**Sandimen**	**0.83**	**294**	⇓*i*P	**Pg**	**02 32 28.5**	**-1.8**
SSD				*e*S	**Sg**	**02 32 38.6**	**-2.6**
ELDTW	**Lidau**	**0.88**	**333**	⇓*i*P	**Pg**	**02 32 29.1**	**-2.1**
ELDTW				*e*S	**Sg**	**02 32 41.3**	**-1.5**
ECBN	**Changbin**	**0.91**	**0**	*e*P	**Pg**	**02 32 30.1**	**-1.7**
ECBN				*e*S	**Sg**	**02 32 41.7**	**-2.0**
SGLT	**Jiouru**	**0.94**	**290**	*e*P	**Pg**	**02 32 31.5**	**-1.0**
EYUL	**Yuli**	**0.94**	**353**	⇓*e*P	**Pg**	**02 32 30.4**	**-2.0**
EYUL				*e*S	**Sb**	**02 32 44.8**	**+0.6**
TWF1	**Yuli**	**0.95**	**351**	⇓*e*P	**Pg**	**02 32 30.4**	**-2.2**
TWF1				*e*S	**Sg**	**02 32 42.7**	**-2.5**
STYH	**Taoyuan**	**0.98**	**321**	⇓*i*P	**Pb**	**02 32 31.5**	**-1.1**
YULB	**Yu-li**	**0.99**	**352**		**Pb**	**02 32 30.8**	**-2.0**
YULB	**Yu-li**	**0.99**	**352**	P	**Pb**	**02 32 32.4**	**-0.4**
YULB	**Yu-li**	**0.99**	**352**	⇓*i*P	**Pb**	**02 32 30.8**	**-2.0**
YULB				*e*S	**Sg**	**02 32 44.3**	**-2.1**
WLCH	**Liuqiu**	**0.99**	**267**	⇓*e*P	**Pn**	**02 32 34.5**	**+1.4**
WLCH				*e*S	**Sn**	**02 32 46.9**	**+0.2**
SCST	**Cishan**	**1.00**	**299**	⇓P	**Pb**	**02 32 32.8**	**-0.2**
SCST				*e*S	**Sb**	**02 32 45.5**	**-0.4**
TWP	**Hsiaoliuchiu**	**1.01**	**267**	⇓*e*P	**Pn**	**02 32 35.8**	**+2.5**
TWM1	**Shoushan**	**1.04**	**294**	⇓*i*P	**Pn**	**02 32 33.9**	**+0.1**
SGST	**Jiashian**	**1.05**	**310**	⇓*i*P	**Pb**	**02 32 32.4**	**-1.4**
SGST				*e*S	**Sb**	**02 32 46.5**	**-0.6**
KAU	**Kaohsiung**	**1.07**	**279**	*e*P	**Pb**	**02 32 33.3**	**-0.7**
HGSD	**Ruisui**	**1.08**	**359**	⇑*i*P	**Pb**	**02 32 32.2**	**-2.1**
HGSD				*e*S	**Sg**	**02 32 48.7**	**-0.6**
EHYH	**Wanrong**	**1.09**	**355**	*e*P	**Pb**	**02 32 32.6**	**-1.8**
EHYH				*e*S	**Sb**	**02 32 46.3**	**-1.9**
SNJT	**Kaohsiung City**	**1.09**	**289**	*e*P	**Pb**	**02 32 33.7**	**-0.7**
EHY	**Hungye**	**1.10**	**354**	*e*P	**Pb**	**02 32 32.8**	**-1.9**
EHY				*e*S	**Sb**	**02 32 47.4**	**-1.3**
WSSB	**Gushan**	**1.12**	**282**	*e*P	**Pb**	**02 32 34.4**	**-0.7**
WSSB				*e*S	**Sn**	**02 32 51.6**	**+1.5**
WTP	**Ta-pu**	**1.14**	**317**	⇓*i*P	**Pb**	**02 32 34.7**	**-0.6**
WTP				*e*S	**Sn**	**02 32 50.3**	**-0.1**
CHN1	**Nanshi**	**1.15**	**312**	⇓*i*P	**Pb**	**02 32 35.4**	**-0.1**
CHN1				*i* S	**Sn**	**02 32 51.8**	**+1.0**
TPUB	**Ta-pu**	**1.17**	**320**	Pn	**Pb**	**02 32 35.2**	**-0.6**
TPUB	**Ta-pu**	**1.17**	**320**	⇓*i*P	**Pb**	**02 32 35.2**	**-0.6**
TPUB				*e*S	**Sb**	**02 32 49.5**	**-1.1**
SHHT	**Tainan City**	**1.19**	**301**	⇓P	**Pg**	**02 32 37.0**	**-0.1**
SHHT				*e*S	**Sn**	**02 32 54.3**	**+2.8**
SNST	**Tainan City**	**1.20**	**313**	⇓*i*P	**Pb**	**02 32 36.0**	**-0.2**
SNST				*e*S	**Sb**	**02 32 50.8**	**-0.6**
CHN3	**Shinhua**	**1.20**	**304**	⇓*i*P	**Pg**	**02 32 37.4**	**0.0**
CHN3				S	**Sn**	**02 32 54.6**	**+2.7**
CHN4	**Tsaushan**	**1.23**	**320**	⇓*i*P	**Pn**	**02 32 36.4**	**-0.1**
CHN4				*e*S	**Sn**	**02 32 54.3**	**+1.7**
TWK	**Hsinying**	**1.23**	**314**	⇓*i*P	**Pn**	**02 32 36.5**	**-0.1**
TWK				*e*S	**Sb**	**02 32 52.2**	**-0.3**
ALS	**Alishan**	**1.25**	**332**	⇓*i*P	**Pn**	**02 32 36.1**	**-0.9**
ALS				*e*S	**Sb**	**02 32 53.0**	**-0.3**
WCKO	**Fanlu**	**1.29**	**323**	⇓*i*P	**Pn**	**02 32 37.3**	**0.0**
WCKO				*e*S	**Sg**	**02 32 55.5**	**-0.5**
TAI1	**Yung-k'ang**	**1.29**	**299**	*e*P	**Pn**	**02 32 37.4**	**+0.2**
SSHA	**Shanhua**	**1.30**	**304**	*e*P	**Pb**	**02 32 38.1**	**+0.2**
SSHA				*e*S	**Sg**	**02 32 55.4**	**-0.7**
TEGC	**Jichi Village**	**1.30**	**4**	*e*P	**Pn**	**02 32 36.4**	**-1.0**
TEGC				*e*S	**Sb**	**02 32 53.3**	**-1.1**
WARBT	**Fenglin Townsh**	**1.31**	**357**	*e*P	**Pn**	**02 32 36.5**	**-1.0**
VWDT	**VWDT**	**1.37**	**348**	*e*P	**Pn**	**02 32 37.3**	**-1.0**
SHUL	**Shoufeng**	**1.38**	**4**	⇑*i*P	**Pn**	**02 32 37.2**	**-1.2**
SHUL				*e*S	**Sn**	**02 32 55.5**	**-0.8**
CHN5	**Tsauling**	**1.38**	**329**	⇓*i*P	**Pn**	**02 32 38.6**	**0.0**
CHN5				*e*S	**Sg**	**02 32 57.6**	**-1.2**
SCLT	**Jiali**	**1.39**	**304**	⇓*i*P	**Pn**	**02 32 39.0**	**+0.4**
SCLT				*i* S	**Sg**	**02 32 57.5**	**-1.6**
WHYT	**Xinyi Township**	**1.40**	**337**	⇓*i*P	**Pn**	**02 32 38.5**	**-0.3**
WHYT				*e*S	**Sb**	**02 32 56.7**	**-0.5**
ESL	**Shilin**	**1.40**	**359**	⇑*e*P	**Pn**	**02 32 37.6**	**-1.2**
ESL				*e*S	**Sn**	**02 32 56.0**	**-0.9**
CHN2	**Minshiung**	**1.44**	**321**	*e*P	**Pb**	**02 32 40.0**	**-0.4**
ICHU	**Yijhu**	**1.44**	**312**	⇓*e*P	**Pn**	**02 32 39.6**	**+0.3**
ICHU				*i* S	**Sg**	**02 32 58.6**	**-2.0**
CHY	**Chiayi**	**1.44**	**319**	⇓P	**Pn**	**02 32 39.8**	**+0.5**
CHY				*e*S	**Sg**	**02 32 58.9**	**-1.8**
SSLB	**Suanglung**	**1.45**	**342**	Pn	**Pn**	**02 32 38.8**	**-0.7**
SSLB	**Suanglung**	**1.45**	**342**	⇓*i*P	**Pn**	**02 32 38.8**	**-0.7**
SSLB				*e*S	**Sn**	**02 32 56.8**	**-1.3**
TSCK	**Chigu Township**	**1.46**	**301**	⇓*i*P	**Pn**	**02 32 39.5**	**0.0**
TSCK				*e*S	**Sb**	**02 32 58.6**	**-0.4**
TEYL	**Yanliau Villag**	**1.46**	**5**	*e*P	**Pn**	**02 32 37.0**	**-2.6**
CHN8	**Yiju**	**1.48**	**310**	⇓*i*P	**Pn**	**02 32 40.0**	**+0.2**
CHN8				*i* S	**Sb**	**02 32 59.3**	**-0.2**
WGK	**Gukeng**	**1.51**	**327**	⇓*i*P	**Pn**	**02 32 41.3**	**-0.4**
WGK				*e*S	**Sn**	**02 32 59.8**	**+0.2**
WDLH	**Douliu**	**1.53**	**327**	⇓*e*P	**Pb**	**02 32 41.4**	**-0.5**
WDLH				*e*S	**Sg**	**02 33 02.3**	**-1.2**
WDL	**Douliou City**	**1.55**	**327**	*e*P	**Pb**	**02 32 41.7**	**-0.6**
ETM	**Tongmen**	**1.55**	**1**	*e*P	**Pn**	**02 32 40.5**	**-0.4**
ETM				*e*S	**Sn**	**02 32 59.3**	**-1.3**
SMLT	**Sun Moon Lake**	**1.56**	**341**	⇓*e*P	**Pn**	**02 32 40.1**	**-0.9**
SMLT				*e*S	**Sg**	**02 33 02.6**	**-1.8**
WJS	**Zhushan**	**1.56**	**335**	⇓P	**Pb**	**02 32 42.1**	**-0.3**
WJS				*e*S	**Sg**	**02 33 03.5**	**-0.9**
OWD	**Renai**	**1.56**	**351**	*e*P	**Pn**	**02 32 40.4**	**-0.7**
HWA	**Hwalien**	**1.57**	**5**	*e*P	**Pn**	**02 32 40.8**	**-0.3**
HWA				*e*S	**Sn**	**02 33 01.1**	**+0.1**
WSL	**Shuilin Townsh**	**1.58**	**315**	⇓*e*P	**Pn**	**02 32 41.5**	**+0.2**
WSL				*i* S	**Sn**	**02 33 01.6**	**+0.3**
TYC	**Yuchr**	**1.59**	**340**	⇓*i*P	**Pn**	**02 32 42.3**	**+0.9**
WTK	**Tuku**	**1.61**	**323**	⇓P	**Pn**	**02 32 42.0**	**+0.4**
WTK				*i* S	**Sb**	**02 33 03.2**	**0.0**
LXIB	**Xiulin Townshi**	**1.61**	**359**	*e*P	**Pn**	**02 32 40.6**	**-1.1**
WUSB	**Renai**	**1.61**	**349**	⇓P	**Pn**	**02 32 41.3**	**-0.5**
WNT	**Mingjian**	**1.63**	**334**	⇓P	**Pb**	**02 32 43.2**	**-0.4**
WNT				*e*S	**Sb**	**02 33 04.3**	**+0.5**
WSF	**Szhu**	**1.67**	**318**	⇓*i*P	**Pn**	**02 32 42.1**	**-0.4**
WSF				*i* S	**Sb**	**02 33 04.2**	**-0.8**
TWD	**Chiawan**	**1.67**	**5**	*e*P	**Pn**	**02 32 41.6**	**-0.9**
TWD				*e*S	**Sn**	**02 33 02.3**	**-1.2**
WCS	**Beigang Elemen**	**1.72**	**343**	*e*P	**Pn**	**02 32 44.1**	**+1.0**
WCS				*e*S	**Sn**	**02 33 04.2**	**-0.4**
WHF	**Hehuan Shan**	**1.74**	**354**	*e*P	**Pn**	**02 32 43.4**	**-0.5**
WHF				*e*S	**Sn**	**02 33 04.1**	**-1.7**
ETL	**Fush Village**	**1.75**	**5**	*e*P	**Pn**	**02 32 42.9**	**-0.8**
ETL				*e*S	**Sn**	**02 33 05.2**	**-0.4**
NACB	**Ninganchiao**	**1.76**	**4**		**Pn**	**02 32 42.7**	**-1.1**
NACB	**Ninganchiao**	**1.76**	**4**	⇑*e*P	**Pn**	**02 32 42.5**	**-1.3**
NACB				*e*S	**Sn**	**02 33 04.7**	**-1.1**
WRL	**Guolierlin Hig**	**1.79**	**327**	*e*P	**Pn**	**02 32 43.6**	**-0.5**
ETLH	**Xiulin Townshi**	**1.79**	**1**	*e*P	**Pn**	**02 32 43.8**	**-0.4**
ETLH				*e*S	**Sn**	**02 33 06.5**	**-0.1**
WTCT	**Ta-ch'eng**	**1.81**	**324**	*e*P	**Pn**	**02 32 43.9**	**-0.4**
WTCT				*i* S	**Sn**	**02 33 07.6**	**+0.8**
FUSS	**Fushou**	**1.84**	**354**	*e*P	**Pn**	**02 32 45.2**	**+0.1**
FUSS				*e*S	**Sn**	**02 33 08.9**	**+0.8**
TWT	**Tachien**	**1.86**	**352**	*e*P	**Pn**	**02 32 45.0**	**-0.2**
WCHH	**Zhanghua**	**1.86**	**334**	⇓*e*P	**Pn**	**02 32 46.1**	**+1.1**
TDCB	**Techi**	**1.86**	**352**	*e*P	**Pn**	**02 32 45.2**	**0.0**
TDCB				*e*S	**Sn**	**02 33 07.4**	**-1.0**
WDGT	**Dungji**	**1.86**	**298**	*e*P	**Pn**	**02 32 44.3**	**-0.8**
WDGT				*e*S	**Sn**	**02 33 05.3**	**-2.8**
TCU	**Taichung**	**1.87**	**338**	*e*P	**Pn**	**02 32 45.8**	**+0.5**
TCU				*e*S	**Sb**	**02 33 10.0**	**-1.0**
EOS4	**EOS4**	**1.88**	**25**	*e*P	**Pn**	**02 32 45.6**	**+0.5**
EOS4				*e*S	**Sn**	**02 33 07.0**	**-1.2**
WHP	**Taichung City**	**1.92**	**346**	P	**Pn**	**02 32 47.5**	**+1.5**
WHP				*i* S	**Sb**	**02 33 12.5**	**+0.1**
EAHA	**Aohua**	**1.93**	**8**	*e*P	**Pn**	**02 32 45.5**	**-0.6**
EAHA				*e*S	**Sn**	**02 33 10.1**	**+0.2**
NNSB	**Datong**	**2.01**	**358**	*e*P	**Pn**	**02 32 46.9**	**-0.4**
NNS	**Nan Shan**	**2.03**	**358**	*e*P	**Pn**	**02 32 47.4**	**-0.1**
NNS				*e*S	**Sn**	**02 33 12.4**	**-0.1**
VCHM	**Qimei**	**2.03**	**294**	*e*P	**Pn**	**02 32 46.2**	**-1.2**
VCHM				*e*S	**Sn**	**02 33 10.1**	**-2.3**
ENA	**Nanau**	**2.03**	**7**	*e*P	**Pn**	**02 32 47.3**	**-0.1**
ENA				*e*S	**Sn**	**02 33 11.8**	**-0.6**
TWQ1	**Liyutan**	**2.03**	**342**	⇓*e*P	**Pn**	**02 32 48.8**	**+1.3**
TWQ1				*e*S	**Sb**	**02 33 14.3**	**-1.1**
EOS3	**EOS3**	**2.03**	**23**	*e*P	**Pn**	**02 32 47.0**	**-0.3**
EOS3				S	**Sn**	**02 33 11.7**	**-0.5**
EWUT	**Wuta**	**2.05**	**8**	*e*P	**Pn**	**02 32 48.7**	**+1.0**
EWUT				*e*S	**Sn**	**02 33 13.4**	**+0.5**
PHUB	**P'eng-hu**	**2.05**	**303**	*e*P	**Pn**	**02 32 46.8**	**-1.0**
PHUB				*e*S	**Sn**	**02 33 10.1**	**-2.8**
WDJ	**Dajia District**	**2.07**	**339**	*e*P	**Pn**	**02 32 49.1**	**+1.1**
WDJ				*e*S	**Sb**	**02 33 15.9**	**-0.7**
PNG	**Penghu**	**2.10**	**304**	⇓*e*P	**Pn**	**02 32 47.4**	**-0.9**
PNG				*e*S	**Sn**	**02 33 10.9**	**-3.0**
NSY	**Sanyi**	**2.10**	**343**	*e*P	**Pn**	**02 32 49.6**	**+1.2**
NSY				S	**Sb**	**02 33 16.5**	**-0.9**
LATG	**Datong**	**2.12**	**2**	*e*P	**Pn**	**02 32 48.8**	**0.0**
EOS2	**EOS2**	**2.13**	**20**	*e*P	**Pn**	**02 32 49.0**	**+0.3**
ESAO	**Su ao**	**2.19**	**9**	*e*P	**Pn**	**02 32 50.0**	**+0.4**
ESAO				*e*S	**Sn**	**02 33 15.4**	**-0.9**
NMLH	**Miaoli**	**2.21**	**344**	*e*P	**Pn**	**02 32 51.1**	**+1.2**
NMLH				*e*S	**Sb**	**02 33 19.6**	**-0.9**
TWC	**Suao**	**2.22**	**9**	*e*P	**Pn**	**02 32 50.1**	**0.0**
TWC				*e*S	**Sn**	**02 33 18.2**	**+1.1**
ENTT	**Nioudou**	**2.23**	**3**	*e*P	**Pn**	**02 32 50.3**	**+0.2**
ENTT				*e*S	**Sn**	**02 33 16.0**	**-1.2**
NDS	**Dongshan**	**2.23**	**6**	*e*P	**Pn**	**02 32 50.8**	**+0.6**
NFF	**Wufeng Townshi**	**2.24**	**352**	*e*P	**Pn**	**02 32 51.1**	**+0.7**
NFF				*e*S	**Sb**	**02 33 20.9**	**-0.5**
NSTT	**Nanjuang**	**2.25**	**350**	*e*P	**Pn**	**02 32 51.4**	**+0.9**
NSTT				*e*S	**Sn**	**02 33 19.6**	**+1.8**
YHNB	**Yeheng**	**2.25**	**358**	Pn	**Pn**	**02 32 51.0**	**+0.4**
YHNB	**Yeheng**	**2.25**	**358**	P	**Pn**	**02 32 52.0**	**+1.4**
YHNB	**Yeheng**	**2.25**	**358**	*e*P	**Pn**	**02 32 51.0**	**+0.4**
YHNB				*e*S	**Sn**	**02 33 16.9**	**-1.1**
NSK	**Sanguang**	**2.26**	**358**	*e*P	**Pn**	**02 32 51.0**	**+0.3**
NSK				*e*S	**Sn**	**02 33 17.0**	**-1.2**
LIOB	**Emei**	**2.27**	**350**	*e*P	**Pn**	**02 32 51.4**	**+0.7**
TWE	**Neicheng**	**2.31**	**5**	*e*P	**Pn**	**02 32 52.0**	**+0.7**
TWE				*e*S	**Sn**	**02 33 18.2**	**-1.2**
FUSB	**Fushanzhiwuyua**	**2.35**	**3**	*e*P	**Pn**	**02 32 52.7**	**+0.9**
FUSB				*e*S	**Sn**	**02 33 20.3**	**0.0**
NWLT	**Wulai**	**2.36**	**1**	*e*P	**Pn**	**02 32 53.3**	**+1.3**
NWLT				*e*S	**Sn**	**02 33 19.2**	**-1.4**
ILA	**Ilan**	**2.36**	**7**	*e*P	**Pn**	**02 32 52.8**	**+0.7**
ILA				*e*S	**Sn**	**02 33 21.4**	**+0.8**
KSHI	**Guanxi Townshi**	**2.37**	**354**	*e*P	**Pn**	**02 32 53.9**	**+1.8**
SBCB	**Hsinchu**	**2.41**	**350**	*e*P	**Pn**	**02 32 52.9**	**+0.1**
HSN	**Hsinchu**	**2.42**	**350**	*e*P	**Pb**	**02 32 55.4**	**-1.8**
JYNG	**Yonagunijimaku**	**2.46**	**34**	*e*P	**Pn**	**02 32 53.7**	**+0.4**
JYNG				*e*S	**Sn**	**02 33 21.9**	**-0.9**
JYNG	**Yonagunijimaku**	**2.46**	**34**	A	A	02 32 53.7	
	comp=N,30nm,3.8s,comp=E,26nm,2.6s						
EGS		**2.47**	**10**	*e*P	**Pn**	**02 32 54.3**	**+0.8**
EGS				*e*S	**Sn**	**02 33 23.4**	**+0.3**
YOJ	**Yonaguni jima**	**2.50**	**35**	Pn	**Pn**	**02 32 54.3**	**+0.5**
YOJ	**Yonaguni jima**	**2.50**	**35**	P	**Pn**	**02 32 54.8**	**+0.9**
YOJ	**Yonaguni jima**	**2.50**	**35**	P	**Pn**	**02 32 54.3**	**+0.5**
YOJ	**Yonaguni jima**	**2.50**	**35**	*e*P	**Pn**	**02 32 54.4**	**+0.5**
YOJ				*e*S	**Sn**	**02 33 23.9**	**0.0**
YOJ	**Yonaguni jima**	**2.50**	**35**	P	**Pn**	**02 32 54.4**	**+0.6**
YOJ	**Yonaguni jima**	**2.50**	**35**	A	A	02 32 54.4	
	comp=N,30nm,6.9s,comp=E,21nm,6.8s						
TATO	**Taipei**	**2.56**	**1**		**Pn**	**02 32 55.9**	**+1.3**
TATO	**Taipei**	**2.56**	**1**	P	**Pn**	**02 32 55.4**	**+0.7**
NCUH	**Zhongli**	**2.56**	**355**	*e*P	**Pn**	**02 32 54.7**	**-0.1**
TIPB	**Shuangxi**	**2.58**	**8**	*e*P	**Pn**	**02 32 55.7**	**+0.7**
TWB1	**Santiao Chiao**	**2.64**	**11**	*e*P	**Pn**	**02 32 56.5**	**+0.7**
TWB1				*e*S	**Sn**	**02 33 27.1**	**-0.2**
NWF	**Wu-fen Shan**	**2.67**	**6**	*e*P	**Pn**	**02 32 57.5**	**+1.2**
WFSB	**Wu-fen Shan**	**2.67**	**6**	*e*P	**Pn**	**02 32 57.0**	**+0.7**
TWS1	**Kuangyinshan**	**2.68**	**359**	*e*P	**Pn**	**02 32 57.1**	**+0.7**
TWS1				*e*S	**Sb**	**02 33 31.6**	**-2.6**
SXI1	**Grass Mountain**	**2.70**	**8**	*e*P	**Pn**	**02 32 57.9**	**+1.2**
HATJ	**Hateruma jima**	**2.72**	**52**	P	**Pn**	**02 32 57.3**	**+0.4**
HATJ				S	**Sn**	**02 33 27.4**	**-1.9**
HATJ	**Hateruma jima**	**2.72**	**52**	A	A	02 32 57.3	
	comp=N,26nm,2.6s,comp=E,31nm,1.0s						
YM01	**YM01**	**2.73**	**2**	*e*P	**Pn**	**02 32 58.0**	**+0.9**
ZUZH	**Zhuzihu**	**2.75**	**2**	*e*P	**Pn**	**02 32 57.6**	**+0.3**
NTST	**Danshui**	**2.75**	**360**	*e*P	**Pn**	**02 32 57.6**	**+0.4**
ANP	**Anpu**	**2.77**	**1**	*e*P	**Pn**	**02 32 59.7**	**+2.0**
IRIF	**Iriomote-Funau**	**2.84**	**47**	P	**Pn**	**02 32 59.1**	**+0.5**
IRIF				S	**Sn**	**02 33 32.6**	**+0.3**
IRIF	**Iriomote-Funau**	**2.84**	**47**	A	A	02 32 59.1	
	comp=N,34nm,2.1s,comp=E,26nm,0.8s						
TWY	**Chenhua**	**2.86**	**3**	*e*P	**Pn**	**02 32 59.6**	**+0.8**
JKRS	**Kuro-shima**	**2.98**	**52**	P	**Pn**	**02 33 01.2**	**+0.8**
JKRS				S	**Sn**	**02 33 35.9**	**+0.2**
JKRS	**Kuro-shima**	**2.98**	**52**	A	A	02 33 01.2	
	comp=N,46nm,3.1s,comp=E,25nm,3.1s						
JIJ	**Ishigaki jima**	**3.15**	**51**	P	**Pn**	**02 33 02.9**	**+0.1**
JIJ	**Ishigaki jima**	**3.15**	**51**	A	A	02 33 02.9	
	comp=N,12nm,2.3s,comp=E,8.0nm,8.8s						
VWUC	**VWUC**	**3.16**	**325**	*e*P	**Pn**	**02 33 02.0**	**-1.0**
PCYT	**Pengchaiyu**	**3.26**	**10**	*e*P	**Pn**	**02 33 05.2**	**+0.9**
PTMZ	**Houxiangcun**	**3.38**	**321**	⇓*e*P	**Pn**	**02 33 05.5**	**-0.5**
JISG	**Ishigakijimahi**	**3.41**	**50**	P	**Pn**	**02 33 06.4**	**+0.1**
JISG	**Ishigakijimahi**	**3.41**	**50**	A	A	02 33 06.4	
	comp=N,12nm,5.2s,comp=E,9.0nm,2.1s						
KNM	**Kinmen**	**3.42**	**306**	⇓*e*P	**Pn**	**02 33 07.1**	**+0.6**
KNMB	**Chin-men Tao**	**3.48**	**307**	Pn	**Pn**	**02 33 06.6**	**-0.8**
KNMB	**Chin-men Tao**	**3.48**	**307**	*e*P	**Pn**	**02 33 06.4**	**-0.9**
QZH	**Quanzhou**	**3.64**	**314**	⇑*i*Pn	**Pn**	**02 33 08.5**	**-1.1**
QZH				Sn	**Sn**	**02 33 49.0**	**-3.1**
QZH				smax	smax		
	comp=E,3μm,0.6s						
QZH				smax	smax		
	comp=E,3μm,1.0s						
QZH				LR	LR		
	comp=E,30μm,15.5s						
JTJ	**Tarama**	**3.72**	**53**	P	**Pn**	**02 33 11.7**	**+1.0**
JTJ				S	**Sn**	**02 33 53.7**	**-0.4**
JTJ	**Tarama**	**3.72**	**53**	A	A	02 33 11.7	
	comp=N,16nm,2.7s,comp=E,19nm,2.8s						
ZPLA	**Ao Xicun**	**3.73**	**295**	*e*P	**Pn**	**02 33 10.1**	**-0.7**
DSXP	**Dongshan**	**3.93**	**290**	*e*P	**Pn**	**02 33 12.6**	**-0.9**
MATB	**Ma-tsu**	**3.97**	**340**	*e*P	**Pn**	**02 33 13.3**	**-0.9**
AXDP	**Jialang**	**4.04**	**309**	⇓*e*P	**Pn**	**02 33 14.3**	**-0.9**
JMJ	**Miyako jima 2**	**4.26**	**55**	P	**Pn**	**02 33 18.4**	**+0.3**
MHZQ	**Yeshan**	**4.29**	**329**	*e*P	**Pn**	**02 33 18.0**	**-0.5**
SXFK	**Yanhouchang**	**5.28**	**320**	*e*P	**Pn**	**02 33 31.3**	**-0.8**
HKPS	**Hong Kong Po S**	**6.77**	**270**	Pn	**Pn**	**02 33 52.2**	**-0.4**
HKPS	**Hong Kong Po S**	**6.77**	**270**	P	**Pn**	**02 33 53.0**	**+0.4**
MCO	**Taipa Grande**	**7.32**	**269**	P	**Pn**	**02 33 59.0**	**-1.1**
GZH	**Guangzhou**	**7.51**	**277**	Pn	**Pn**	**02 33 58.7**	**-4.1**
GZH				Sn	**Sn**	**02 35 20.0**	**-7.6**
GZH				smax	smax		
	comp=E,1μm,1.1s		

HNS				S	**Sn**	**02 39 02.6 +6.5**
HNS				SS	**S**	**02 39 15.0 +5.4**
HNS				pmax	pmax	
	comp=Z,100nm,1.6s					
HNS				LR	LR	
	comp=Z,17μm,14.3s					
HNS				LR	LR	
	comp=Z,16μm,13.5s					
HNS				LR	LR	
	comp=Z,21μm,15.1s					
DLV	**Lat**	**16.16**	**232**	P	**Pn**	**02 36 02.6 +1.9**
SLVN	**Son La**	**16.32**	**270**	P	**Pn**	**02 36 03.0 +0.4**
DL2	**Dalian**	**16.45**	**0**	P	**P**	**02 36 09.9 +3.3**
DL2				S	**S**	**02 39 14.2 -3.8**
DL2				pmax	pmax	
	comp=Z,66nm,1.2s					
DL2				pmax	pmax	
	comp=Z,1μm,4.2s					
DL2				LR	LR	
	comp=Z,8μm,16.2s					
DL2				LR	LR	
	comp=Z,6μm,13.8s					
DL2				LR	LR	
	comp=Z,9μm,15.1s					
UBPT	**Khong Chiam**	**16.70**	**248**	P	**P**	**02 36 11.3 +1.8**
UBPT	**Khong Chiam**	**16.70**	**248**	P	**Pn**	**02 36 08.4 +1.1**
KKM	**Kota Kinabalu**	**17.04**	**198**	P	**Pn**	**02 36 13.4 +1.8**
KKM				IAmb	IAmb	02 36 17.2
	comp=Z,282nm,1.2s					
TIY	**Taiyuan**	**17.12**	**335**	*e*P	**P**	**02 36 15.7 +1.5**
TIY				S	**Sn**	**02 39 25.1 +2.5**
TIY				SS	**SnSn**	**02 39 42.6 +6.5**
TIY				pmax	pmax	
	comp=Z,87nm,0.9s					
TIY				pmax	pmax	
	comp=Z,2μm,5.1s					
TIY				LR	LR	
	comp=Z,24μm,12.6s					
TIY				LR	LR	
	comp=Z,13μm,12.2s					
TIY				LR	LR	
	comp=Z,24μm,12.7s					
KMI	**Kunming**	**17.34**	**283**	⇓P	**Pn**	**02 36 15.4 -0.2**
KMI				S	**Sn**	**02 39 28.7 +0.4**
KMI				pmax	pmax	
	comp=Z,24nm,0.5s					
KMI				pmax	pmax	
	comp=Z,410nm,4.1s					
KMI				LR	LR	
	comp=Z,5μm,20.1s					
KMI				LR	LR	
	comp=Z,6μm,18.2s					
KMI				LR	LR	
	comp=Z,9μm,16.6s					
MYLDM	**Lahad Datu**	**17.36**	**190**	P	**P**	**02 36 18.5 +1.6**
MYLDM				IAmb	IAmb	02 36 25.7
	comp=Z,156nm,1.1s					
MYLDM	**Lahad Datu**	**17.36**	**190**	P	**Pn**	**02 36 16.5 +0.9**
CD2	**Chengdu**	**17.92**	**302**	P	**Pn**	**02 36 21.8 -0.8**
CD2				pP	P	02 36 25.0 +1.9
CD2				S	**Sn**	**02 39 43.2 +1.1**
CD2				pmax	pmax	
	comp=Z,80nm,0.8s					
CD2				pmax	pmax	
	comp=Z,1μm,7.8s					
CD2				LR	LR	
	comp=Z,9μm,15.7s					
CD2				LR	LR	
	comp=Z,12μm,13.1s					
BJT	**Baijiatuau**	**18.12**	**347**	P	**P**	**02 36 26.2 +1.1**
BJT	**Baijiatuau**	**18.12**	**347**	P	**P**	**02 36 27.8 +2.7**
BJT	**Baijiatuau**	**18.12**	**347**	P	**P**	**02 36 26.2 +1.1**
BJT				pmax	pmax	
	comp=Z,27nm,0.8s					
BJI	**Beijing**	**18.14**	**347**	P	**P**	**02 36 26.0 +0.7**
BJI				pP	**pP**	**02 36 28.5 -1.3**
BJI				S	**S**	**02 39 50.8 -1.7**
BJI				PcP	**PcP**	**02 40 58.4 +0.1**
BJI				pmax	pmax	
	comp=Z,15nm,0.9s					
BJI				pmax	pmax	
	comp=Z,770nm,7.2s					
BJI				LR	LR	
	comp=Z,4μm,13.1s					
BJI				LR	LR	
	comp=Z,2μm,19.4s					
BJI				LR	LR	
	comp=Z,5μm,13.7s					
PZH	**PanZhiHua**	**18.40**	**287**	P	**P**	**02 36 30.4 +2.0**
PZH				S	**Sn**	**02 39 52.2 -1.5**
PZH				pmax	pmax	
	comp=Z,50nm,1.3s					
PZH				pmax	pmax	
	comp=Z,1μm,8.0s					
PZH				LR	LR	
	comp=Z,9μm,19.4s					
PZH				LR	LR	
	comp=Z,8μm,16.7s					
PZH				LR	LR	
	comp=Z,8μm,18.0s					
INU	**Inuyama**	**18.73**	**43**	P	**Pn**	**02 36 34.9 +2.5**
INU				IAmb	IAmb	02 36 42.7
	comp=Z,149nm,0.7s					
INU	**Inuyama**	**18.73**	**43**	P	**Pn**	**02 36 33.3 +0.9**
JGF	**Kuroka**	**19.11**	**43**	P	**Pn**	**02 36 41.1 +4.2**
JGF				IAmb	IAmb	02 36 44.2
	comp=Z,181nm,0.8s					
JHJ	**Hachijo jima 2**	**19.39**	**53**	P	**Pn**	**02 36 43.8 +3.5**
	comp=Z,620nm,0.9s,baz=230,slow=14,SNR=4.7					
JHJ				LR	LR	02 44 01.0
	comp=Z,1μm,18.4s,baz=244,slow=36					
JCJ	**Chichijima**	**19.39**	**72**	LR	LR	02 43 12.8
	comp=Z,798nm,20.7s,baz=227,slow=34					
SNY	**Shenyang**	**19.45**	**5**	⇑P	**P**	**02 36 39.8 +0.1**
SNY				S	**Sn**	**02 40 10.2 -8.4**
SNY				pmax	pmax	
	comp=Z,790nm,11.2s					
SNY				LR	LR	
	comp=Z,3μm,18.5s					
SNY				LR	LR	
	comp=Z,4μm,14.2s					
SNY				LR	LR	
	comp=Z,7μm,14.2s					
HHC	**Hu-ho-hao-te**	**20.20**	**338**	⇓*i*P	Pn	02 36 49.6 -0.3
HHC				sP	sP	02 36 57.1 +2.3
HHC				PP	**PnPn**	**02 37 08.4 +3.7**
HHC				sS	Sn	02 40 38.5 +1.6
HHC				pmax	pmax	
	comp=Z,57nm,1.2s					
HHC				pmax	pmax	
	comp=Z,1μm,4.0s					
HHC				LR	LR	
	comp=Z,10μm,14.7s					
HHC				LR	LR	
	comp=Z,4μm,17.2s					
HHC				LR	LR	
	comp=Z,12μm,15.5s					
MAJO	**Matsushiro**	**20.23**	**42**	P	Pn	02 36 51.8 +1.4
MAJO				IAmb	IAmb	02 36 55.4
	comp=Z,154nm,0.9s					
MAJO	**Matsushiro**	**20.23**	**42**	P	Pn	02 36 50.9 +0.6
MAJO	**Matsushiro**	**20.23**	**42***d*	*i*P	Pn	02 36 51.1 +0.8
MAJO				pmax	pmax	
	comp=Z,177nm,1.0s					
MJB9	**Matsu-Tunnel**	**20.23**	**42**	P	Pn	02 36 52.4 +2.1
MJB9				IAmb	IAmb	02 36 56.3
	comp=Z,148nm,0.9s					
MJAR	**Matsushiro Arr**	**20.24**	**42**	P	**P**	**02 36 49.8 +1.4**
	comp=Z,197nm,1.0s,baz=233,slow=8.3,SNR=114					
MJAR				LR	LR	02 44 59.6
	comp=Z,2μm,21.1s,baz=220,slow=38					
	comp=Z,197nm,1.0s					
MJAR	**Matsushiro Arr**	**20.24**	**42**	P	**P**	**02 36 49.8 +1.4**
LZH	**Lanzhou**	**20.49**	**316**	⇓P	Pn	02 36 53.4 -0.1
LZH				pP	pwP	02 36 58.1 -0.8
LZH				sP	sP	02 37 01.2 +3.1
LZH				pmax	pmax	
	comp=Z,130nm,1.2s					
LZH				pmax	pmax	
	comp=Z,3μm,5.5s					
LZH				LR	LR	
	comp=Z,9μm,13.1s					
LZH				LR	LR	
	comp=Z,5μm,13.7s					
LZH				LR	LR	
	comp=Z,9μm,13.1s					

BTO	**Baotou**	**20.56**	**335**	*e*P	Pn	02 36 55.2 +1.0
BTO				pP	sP	02 36 59.7 +1.0
BTO				sP	pP	02 37 02.2 +5.6
BTO				PP	**PnPn**	**02 37 17.4 +7.7**
BTO				sS	sS	02 40 50.7 +1.8
BTO				pmax	pmax	
	comp=Z,62nm,1.7s					
BTO				pmax	pmax	
	comp=Z,2μm,6.9s					
BTO				LR	LR	
	comp=Z,42μm,14.2s					
BTO				LR	LR	
	comp=Z,19μm,14.5s					
BTO				LR	LR	
	comp=Z,54μm,14.0s					
NAYO	**Nakonayok**	**20.71**	**251**	P	**P**	**02 36 55.6 +1.9**
TNCH	**TengChong**	**21.15**	**282**	⇓P	**P**	**02 37 00.5 +1.9**
TNCH				pP	pP	02 37 01.8 -1.6
TNCH				sP	sP	02 37 03.5 -1.8
TNCH				S	**S**	**02 40 50.5 -2.9**
TNCH				sS	sS	02 40 57.6 -3.5
TNCH				SS	**SnSn**	**02 41 24.8 +9.5**
TNCH				pmax	pmax	
	comp=Z,120nm,0.9s					
TNCH				pmax	pmax	
	comp=Z,370nm,3.5s					
TNCH				LR	LR	
	comp=Z,3μm,12.8s					
TNCH				LR	LR	
	comp=Z,2μm,11.3s					
TNCH				LR	LR	
	comp=Z,6μm,18.4s					
TOLI2	**Tolitoli**	**21.18**	**182**	P	**P**	**02 36 58.4 -0.3**
TOLI2	**Tolitoli**	**21.18**	**182**	P	**P**	**02 36 58.5 -0.1**
JSD	**Sado**	**21.25**	**39**	P	**P**	**02 37 01.3 +2.1**
JSD	**Sado**	**21.25**	**39**	P	**P**	**02 37 00.5 +1.3**
CHTO	**Chiang Mai**	**21.36**	**264**	P	**P**	**02 37 02.4 +1.7**
CHTO	**Chiang Mai**	**21.36**	**264**	P	**P**	**02 37 02.4 +1.7**
CHTO				pmax	pmax	
	comp=Z,44nm,0.9s					
CM31	**Chiang Mai Arr**	**21.45**	**264**	IAmb	IAmb	02 37 11.6
	comp=Z,121nm,1.6s					
CMAR	**Chiang Mai Arr**	**21.45**	**264**	P	**P**	**02 37 03.2 +1.6**
CMAR	**Chiang Mai Arr**	**21.45**	**264**	P	**P**	**02 37 02.1 +0.6**
	comp=Z,23nm,0.9s,baz=70,slow=9.2,SNR=99					
CMAR				PcP	**PcP**	**02 41 04.7 -0.1**
	comp=Z,5.3nm,0.8s,baz=60,slow=0.9,SNR=12					
CMAR				ScP	**ScP**	**02 44 38.5 -2.6**
	comp=Z,1.5nm,0.3s,baz=67,slow=1.2,SNR=11					
CMAR				LR	LR	02 46 21.8
	comp=Z,5μm,19.1s,baz=80,slow=39					
	comp=Z,23nm,0.9s					
CMAR	**Chiang Mai Arr**	**21.45**	**264**	P	**P**	**02 37 02.2 +0.6**
CMAR						02 41 04.7
CN2	**Changchun**	**21.59**	**8**	⇑P	**P**	**02 37 05.7 +2.8**
CN2				*es*P	pwP	02 37 12.0 +4.4
CN2				*eS*	**S**	**02 41 00.4 -1.1**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CN2				pmax	pmax	
	comp=Z,200nm,6.0s					
CN2				LR	LR	
	comp=Z,3μm,13.0s					
CN2				LR	LR	
	comp=Z,2μm,13.0s					
CN2				LR	LR	
	comp=Z,3μm,14.0s					
PSTR	**Posyet**	**21.64**	**19***d*	*i*P	**P**	**02 37 04.8 +1.4**
MSHR	**Mys Shultsa**	**21.69**	**20**⇑	*e*P	**P**	**02 37 04.7 +0.8**
MSHR				pmax	pmax	
	comp=Z,92nm,1.1s					
SBUM	**Sibu**	**21.77**	**206**	P	**P**	**02 37 05.2 +0.2**
SBUM				IAmb	IAmb	02 37 08.6
	comp=Z,79nm,0.8s					
SBUM	**Sibu**	**21.77**	**206**	P	**P**	**02 37 05.4 +0.4**
MRSI	**Marisa**	**21.80**	**179**	P	**P**	**02 37 07.2 +1.9**
	comp=Z,4μmcomp=Z,3μmcomp=Z,315nm,0.6s					
KMSI	**Cibinong**	**21.84**	**173**	P	**P**	**02 37 05.5 -0.2**
XLT	**XiLinHaoTe**	**21.89**	**350**	*e*P	**P**	**02 37 06.9 +0.7**
XLT				sP	pwP	02 37 14.5 +1.4
XLT				PP	**PnPn**	**02 37 31.6 +3.7**
XLT				S	**S**	**02 41 06.0 -1.4**
XLT				sS	Sn	02 41 17.0 -0.6
XLT				SS	**SnSn**	**02 41 41.7 +8.5**
XLT				pmax	pmax	
	comp=Z,40nm,1.1s					
XLT				pmax	pmax	
	comp=Z,470nm,6.1s					
XLT				LR	LR	
	comp=Z,560nm,14.9s					
XLT				LR	LR	
	comp=Z,4μm,13.2s					
XLT				LR	LR	
	comp=Z,7μm,15.3s					
TNTI	**Ternate**	**22.26**	**164**	IAmb	IAmb	02 37 14.0
	comp=Z,125nm,0.8s					
TNTI	**Ternate**	**22.26**	**164**	P	**P**	**02 37 08.9 -1.4**
TNTI	**Ternate**	**22.26**	**164**	P	**P**	**02 37 08.4 -1.9**
	comp=Z,2μmcomp=Z,172nm,0.8s					
VLA	**Vladivostok**	**22.41**	**20**⇓	*e*P	**P**	**02 37 13.6 +2.0**
VLA				pmax	pmax	
	comp=Z,44nm,1.0s					
SRDT	**SRDT**	**22.63**	**253**	P	**P**	**02 37 15.5 +1.2**
JMM	**Marumori**	**22.67**	**43**	P	**P**	**02 37 14.1 -0.4**
JMM				IAmb	IAmb	02 37 29.6
	comp=Z,172nm,1.1s					
JMM	**Marumori**	**22.67**	**43**	P	**P**	**02 37 15.9 +1.4**
SMKI	**Samarinda**	**23.09**	**191**	P	**P**	**02 37 19.9 +0.9**
MDJ	**Mudanjiang**	**23.14**	**15**	P	**P**	**02 37 19.1 -0.3**
MDJ				PcP	**PcP**	**02 41 07.7 0.0**
MDJ				S	**S**	**02 41 28.8 -1.2**
MDJ				sS	sS	02 41 41.1 +2.7
MDJ				pmax	pmax	
	comp=Z,100nm,3.5s					
MDJ				LR	LR	
	comp=Z,5μm,15.5s					
MDJ				LR	LR	
	comp=Z,1μm,16.4s					
MDJ				LR	LR	
	comp=Z,5μm,14.9s					
MDJ	**Mudanjiang**	**23.14**	**15**	P	**P**	**02 37 21.2 +1.8**
APSI	**Ampana**	**23.18**	**179**	P	**P**	**02 37 20.3 +0.4**
PCI	**Palu**	**23.22**	**184**	P	**P**	**02 37 20.6 +0.2**
	comp=Z,4μmcomp=Z,7μmcomp=Z,280nm,0.9s					
LUWI	**Luwuk**	**23.34**	**177**	P	**P**	**02 37 21.1 -0.5**
LUWI	**Luwuk**	**23.34**	**177**	P	**P**	**02 37 21.4 -0.2**
	comp=Z,5μmcomp=Z,358nm,0.8s					
USA0B	**Ussuriysk Arra**	**23.41**	**19***d*	*i*P	**P**	**02 37 24.1 +2.0**
USRK	**Ussuriysk Ar.**	**23.41**	**19**	P	**P**	**02 37 23.2 +1.2**
USRK	**Ussuriysk Ar.**	**23.41**	**19**	P	**P**	**02 37 23.8 +1.8**
	comp=Z,22nm,0.7s,baz=207,slow=10.0,SNR=44					
USRK				PcP	**PcP**	**02 41 07.4 -0.8**
	comp=Z,4.8nm,0.8s,baz=238,slow=2.7,SNR=5.5					
USRK				LR	LR	02 47 10.1
	comp=Z,2μm,19.9s,baz=193,slow=38					
	comp=Z,22nm,0.7s					
USRK	**Ussuriysk Ar.**	**23.41**	**19**	P	**P**	**02 37 23.8 +1.8**
USRK						02 41 07.4
KSM	**Kuching**	**23.46**	**209**	P	**P**	**02 37 22.1 -0.7**
KSM	**Kuching**	**23.46**	**209**	P	**P**	**02 37 22.5 -0.3**
LBMI	**Labuha**	**23.65**	**165**	P	**P**	**02 37 24.5 -0.1**
BNX	**BinXian**	**23.78**	**10**	⇑P	**P**	**02 37 28.3 +2.7**
BNX				S	**S**	**02 41 37.4 -2.9**
BNX				pmax	pmax	
	comp=Z,39nm,0.9s					
BNX				pmax	pmax	
	comp=Z,420nm,9.3s					
BNX				LR	LR	
	comp=Z,3μm,15.2s					
BNX				LR	LR	
	comp=Z,3μm,16.2s					
BNX				LR	LR	
	comp=Z,4μm,14.5s					
GUMO	**Guam**	**23.91**	**108**	LR	LR	02 44 29.0
	comp=Z,1μm,21.6s,baz=272,slow=31					
BKB	**Balikpapan**	**23.94**	**191**	P	**P**	**02 37 27.8 +0.5**
BKB	**Balikpapan**	**23.94**	**191**	P	**P**	**02 37 26.2 -1.2**
BKB	**Balikpapan**	**23.94**	**191**	P	**P**	**02 37 27.6 +0.2**
STKI	**Sintang**	**24.24**	**205**	P	**P**	**02 37 30.3 +0.1**
JTM	**Tenmabayashi**	**24.70**	**38**	P	**P**	**02 37 35.8 +1.6**
SANI	**Sanana**	**24.71**	**169**	P	**P**	**02 37 30.5 -3.9**
	comp=Z,2μmcomp=Z,2μmcomp=Z,201nm,0.7s					
SWI	**Sorong**	**25.03**	**156**	P	**P**	**02 37 36.4 -0.9**
	comp=Z,116nm,0.8s					
GTA	**Gaotai**	**25.04**	**318**	P	**P**	**02 37 38.5 +1.1**

GTA				pP	pP	02 37 41.9 -0.2
GTA				S	**S**	**02 42 00.6 -0.3**
GTA				ScP	**ScP**	**02 44 50.2 -0.2**
GTA				ScS	**ScS**	**02 48 36.5 -2.3**
GTA				pmax	pmax	
	comp=Z,15nm,1.2s					
GTA				pmax	pmax	
	comp=Z,270nm,5.5s					
GTA				LR	LR	
	comp=Z,3μm,14.9s					
GTA				LR	LR	
	comp=Z,4μm,12.4s					
GTA				LR	LR	
	comp=Z,4μm,16.7s					
SRIT	**Nakonsritamara**	**25.09**	**240**	IAmb	IAmb	02 37 43.5
	comp=Z,96nm,1.0s					
SRIT	**Nakonsritamara**	**25.09**	**240**	P	**P**	**02 37 39.1 +1.2**
TTSI	**Tana Toraja**	**25.35**	**184**	P	**P**	**02 37 40.3 +0.1**
	comp=Z,3μmcomp=Z,139nm,1.0s					
TEY	**Ternei**	**25.77**	**25**⇑	*e*P	**P**	**02 37 44.5 +0.7**
TEY				pmax	pmax	
	comp=N,10.0nm,1.0s					
TEY				pmax	pmax	
	comp=E,10.0nm,1.0s					
TEY				pmax	pmax	
	comp=Z,20nm,1.0s					
NLAI	**Namlea**	**26.08**	**167**	P	**P**	**02 37 46.6 -0.3**
SPSI	**Sidrap Palu**	**26.26**	**184**	P	**P**	**02 37 48.0 -0.5**
	comp=Z,2μmcomp=Z,91nm,1.2s					
KULM	**Kulim**	**26.34**	**233**	P	**P**	**02 37 49.9 +0.6**
KULM	**Kulim**	**26.34**	**233**	P	**P**	**02 37 51.3 +2.0**
MSAI	**Masohi**	**26.62**	**163**	P	**P**	**02 37 51.2 -0.5**
	comp=Z,174nm,0.7s					
IPM	**Ipoh**	**26.62**	**231**	IAmb	IAmb	02 38 03.6
	comp=Z,41nm,0.9s					
IPM	**Ipoh**	**26.62**	**231**	P	**P**	**02 37 53.0 +1.2**
ERM	**Erimo**	**26.69**	**38**	P	**P**	**02 37 55.1 +2.9**
ERM	**Erimo**	**26.69**	**38**	P	**P**	**02 37 53.9 +1.7**
ERM	**Erimo**	**26.69**	**38**⇓	*i*P	**P**	**02 37 54.4 +2.2**
ERM				pmax	pmax	
	comp=Z,402nm,1.8s					
JEM	**Erimo**	**26.69**	**38**	P	**P**	**02 37 54.1 +1.9**
MYKOM	**Kota Tinggi**	**26.70**	**222**	P	**P**	**02 37 53.4 +1.0**
AAI	**Ambon**	**26.76**	**165**	P	**P**	**02 37 51.7 -1.3**
	comp=Z,2μmcomp=Z,201nm,0.8s					
HIA	**Hailar**	**26.84**	**358**	P	**P**	**02 37 55.7 +2.2**
GOMU	**GeErMu**	**26.88**	**307**	P	**P**	**02 37 55.7 +1.2**
GOMU				pP	pwP	02 38 03.7 +1.6
GOMU				sP	sP	02 38 09.4 +7.9
GOMU				S	**S**	**02 42 31.5 +0.8**
GOMU				pmax	pmax	
	comp=Z,25nm,1.0s					
GOMU				LR	LR	
	comp=Z,10μm,12.7s					
GOMU				LR	LR	
	comp=Z,11μm,14.1s					
GOMU				LR	LR	
	comp=Z,14μm,12.9s					
TPRI	**Tanjung Pinang**	**26.97**	**220**	P	**P**	**02 37 55.7 +0.8**
SHL	**Shillong**	**27.17**	**283**	P	**P**	**02 37 57.4 +0.5**
SHL				IAmb	IAmb	02 38 21.7
	comp=Z,125nm,1.3s					
SHL	**Shillong**	**27.17**	**283**	P	**P**	**02 37 57.4 +0.5**
SHL				pmax	pmax	
	comp=Z,125nm,1.3s					
FAKI	**Fak Fak**	**27.29**	**156**	P	**P**	**02 37 57.5 -0.2**
FAKI	**Fak Fak**	**27.29**	**156**	P	**P**	**02 37 58.4 +0.6**
FAKI	**Fak Fak**	**27.29**	**156**	P	**P**	**02 37 57.6 -0.2**
KAPI	**Kappang**	**27.30**	**184**	P	**P**	**02 37 57.6 -0.2**
KAPI	**Kappang**	**27.30**	**184**	LR	LR	02 49 01.8
	comp=Z,2μm,21.7s,baz=4.5,slow=37					
KAPI	**Kappang**	**27.30**	**184**	P	**P**	**02 37 58.3 +0.4**
KAPI	**Kappang**	**27.30**	**184***c*	*i*P	**P**	**02 37 57.3 -0.6**
KAPI				pmax	pmax	
	comp=Z,145nm,1.3s					
BRDH	**Bariadhala**	**27.51**	**276**	LR	LR	02 51 20.9
	comp=Z,3μm,19.4s,baz=116,slow=42					
BKSI	**Bulukumba**	**27.59**	**183**	P	**P**	**02 37 59.5 -0.9**
ASAJ	**Asahikawa**	**27.80**	**34**	LR	LR	02 50 04.4
	comp=Z,2μm,21.1s,baz=286,slow=38					
ULN	**Ulaanbaatar**	**27.90**	**339**	P	**P**	**02 38 02.8 -0.4**
ULN				IAmb	IAmb	02 38 07.8
	comp=Z,40nm,1.1s					
ULN	**Ulaanbaatar**	**27.90**	**339***d*	*i*P	**P**	**02 38 02.9 -0.3**
ULN				pmax	pmax	
	comp=Z,47nm,1.2s					
KLR	**Kul'dur**	**27.99**	**14**	ScP	**ScP**	**02 44 54.0 -4.6**
	comp=Z,6.6nm,0.8s,baz=279,slow=2.2,SNR=11					
KLR				LR	LR	02 50 31.5
	comp=Z,3μm,18.7s,baz=200,slow=39					
KLR	**Kul'dur**	**27.99**	**14***c*	*i*P	**P**	**02 38 06.8 +3.1**
KLR				pmax	pmax	
	comp=Z,33nm,1.1s					
SONM	**Songino Array**	**28.10**	**338**	P	**P**	**02 38 04.3 -0.7**
SONM				IAmb	IAmb	02 38 09.4
	comp=Z,36nm,0.9s					
SONM	**Songino Array**	**28.10**	**338**	P	**P**	**02 38 04.9 0.0**
	comp=Z,30nm,0.9s,baz=156,slow=9.6,SNR=38					
SONM				PcP	**PcP**	**02 41 18.9 -0.1**
	comp=Z,7.3nm,0.9s,baz=85,slow=0.3,SNR=5.4					
SONM				ScP	**ScP**	**02 44 56.5 -2.8**
	comp=Z,3.5nm,0.9s,baz=166,slow=3.1,SNR=6.1					
SONM				LR	LR	02 50 25.9
	comp=Z,11μm,18.7s,baz=150,slow=38					
	comp=Z,30nm,0.9s					
SONM	**Songino Array**	**28.10**	**338**	P	**P**	**02 38 04.9 0.0**
SONM						02 41 18.9
LSA	**Lhasa**	**28.12**	**291**	P	**P**	**02 38 07.8 +2.1**
LSA				S	**S**	**02 42 42.7 -7.8**
LSA				LR	LR	
	comp=Z,1μm,13.3s					
LSA				LR	LR	
	comp=Z,4μm,14.3s					
HEH	**HeiHe**	**28.18**	**8**	*e*P	**P**	**02 38 09.4 +3.9**
HEH				pP	**sP**	**02 38 12.1 -0.5**
HEH				S	**S**	**02 42 59.0 +8.9**
HEH				sS	sS	02 43 05.8 +8.0
HEH				pmax	pmax	
	comp=Z,21nm,0.8s					
HEH				pmax	pmax	
	comp=Z,430nm,5.5s					
HEH				LR	LR	
	comp=Z,2μm,13.9s					
HEH				LR	LR	
	comp=Z,3μm,14.4s					
HEH				LR	LR	
	comp=Z,7μm,14.6s					
TPI	**Tanjungpandan**	**28.41**	**210**	P	**P**	**02 38 08.4 +0.6**
	comp=Z,2μmcomp=Z,2μmcomp=Z,103nm,1.0s					
LHMI	**Lhok Sumawe**	**29.20**	**238**	P	**P**	**02 38 16.6 +1.7**
LHMI	**Lhok Sumawe**	**29.20**	**238**	P	P	02 38 19.9 +5.0
PSI	**Prapat**	**29.29**	**231**	LR	LR	02 49 35.2
	comp=Z,2μm,21.1s,baz=40,slow=35					
PSI	**Prapat**	**29.29**	**231**	P	**P**	**02 38 16.8 +1.0**
RPSI	**Rantau Prapat**	**29.36**	**231**	IAmb	IAmb	02 38 20.9
	comp=Z,44nm,1.0s					
YSS	**Yuzhno-Sakhali**	**29.92**	**30**	P	**P**	**02 38 22.6 +1.7**
YSS	**Yuzhno-Sakhali**	**29.92**	**30**	P	**P**	**02 38 23.2 +2.3**
YSS	**Yuzhno-Sakhali**	**29.92**	**30**κ	*e*P	**P**	**02 38 22.6 +1.7**
YSS				*e*		02 41 23.4
YSS				*e*S	**S**	**02 43 19.1 +1.6**
YSS				pmax	pmax	
	comp=Z,600nm,4.1s					
YSS				pmax	pmax	
	comp=Z,120nm,0.9s					
YSS				MLR	MLR	
	comp=Z,2μm,15.0s					
KMMI	**Kalianget**	**30.18**	**195**	P	**P**	**02 38 23.7 +0.2**
	comp=Z,66nm,0.8s					
MLSI	**Meulaboh, Aceh**	**30.22**	**237**	P	**P**	**02 38 24.1 +0.2**
	comp=Z,127nm,1.1s					
MNSI	**Mandailing Nat**	**30.24**	**228**	P	**P**	**02 38 24.8 +0.7**
	comp=Z,89nm,0.9s					
BSI	**Banda Aceh**	**30.35**	**240**	P	**P**	**02 38 25.2 +0.1**
	comp=Z,658nmcomp=Z,63nm,1.1s					
GRJI	**Gresik**	**30.44**	**198**	P	**P**	**02 38 25.9 +0.1**
	comp=Z,149nm,0.8s					
TBJI	**Tambak Boyo**	**30.53**	**199**	P	**P**	**02 38 26.9 +0.3**
	comp=Z,157nm,1.3s					
PPI	**Padang Panjang**	**30.62**	**225**	P	**P**	**02 38 27.9 +0.5**
	comp=Z,2μmcomp=Z,98nm,1.1s					
GRNR	**Gornyy**	**30.63**	**19**⇑	*i*P	**P**	**02 38 30.1 +2.9**
GRNR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
GRNR				MLR	MLR	
	comp=E,1μm,14.0s					

ABJI	Asem Bagus	30.84	194	P	P	02 38 29.2 -0.1
	comp=E,82nm,2.0s					
MMRI	Maumere	30.86	178	P	P	02 38 29.9 +0.4
MMRI	Maumere	30.86	178	P	P	02 38 28.8 -0.7
	comp=E,3µmcomp=E,181nm,1.6s					
SRBI	Singaraja	30.91	192	P	P	02 38 29.9 -0.1
	comp=E,51nm,0.8s					
JAY	Jayapura	31.10	140	LR	LR	02 48 45.9
	comp=E,1µm,20.6s,baz=336,slow=32					
NGJI	Ngawi	31.17	199	P	P	02 38 33.5 +1.3
	comp=E,133nm,1.5s					
UGL	Uglegorsk	31.23	27	eP	P	02 38 34.9 +2.4
UGL				eS	S	02 43 34.5 -3.5
UGL				pmax	pmax	
	comp=Z,60nm,1.2s					
UGL				smax	smax	
	comp=E,1µm,5.6s					
UGL				smax	smax	
	comp=N,1µm,8.9s					
PLAI	Plampang	31.25	187	P	P	02 38 33.3 +0.4
PLAI	Plampang	31.25	187	P	P	02 38 33.1 +0.2
	comp=N,1µmcomp=N,108nm,1.0s					
GSI	Gunungsitoli	31.29	231	IAmb	IAmb	02 38 35.2
	comp=Z,27nm,0.6s					
GSI	Gunungsitoli	31.29	231	P	P	02 38 34.7 +1.3
GSI	Gunungsitoli	31.29	231	P	P	02 38 34.4 +1.0
	comp=Z,2µmcomp=Z,44nm,0.8s					
ZAK	Zakamensk	31.35	337	eP	P	02 38 32.5 -1.1
ZAK				pmax	pmax	
	comp=Z,12nm,1.1s					
SNSI	Sinabang, Aceh	31.47	234	P	P	02 38 35.7 +0.8
	comp=Z,91nm,1.1s					
GMJI	Gumukmas	31.48	195	P	P	02 38 34.8 -0.2
	comp=Z,55nm,0.8s					
DNP	Denpasar	31.49	192	P	P	02 38 34.9 -0.1
JAGI	Jajag, Banyuwa	31.51	194	P	P	02 38 35.2 0.0
	comp=Z,61nm,0.9s					
ZEA	Zeya	31.59	7	eP	P	02 38 39.7 +4.1
ZEA				eS	S	02 43 46.2 +2.7
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
ZEA				pmax	pmax	
	comp=Z,100nm,8.6s					
ZEA				smax	smax	
	comp=N,200nm,13.8s					
ZEA				MLR	MLR	
	comp=N,3µm,14.0s					
ZEA				MLR	MLR	
	comp=Z,2µm,13.0s					
MDSI	Maura Dua	31.62	214	P	P	02 38 36.7 +0.5
	comp=Z,1µmcomp=Z,65nm,1.2s					
WBSI	Waikabubak, Su	31.91	184	P	P	02 38 39.0 +0.2
	comp=Z,88nm,0.9s					
UGM	Wanagama	31.98	201	P	P	02 38 39.8 +0.4
UGM	Wanagama	31.98	201	P	P	02 38 38.6 -0.8
	comp=Z,121nm,1.6s					
SOEI	Soe	32.08	175	P	P	02 38 40.2 -0.2
SOEI	Soe	32.08	175	P	P	02 38 40.7 +0.3
	comp=Z,106nm,0.8s					
LWLI	Liwa	32.13	214	P	P	02 38 42.2 +1.3
BASI	Baing, Sumba	32.43	182	P	P	02 38 43.8 +0.5
BBJI	Bungbulang	32.62	206	P	P	02 38 45.4 +0.3
CNJI	Cibinong	32.70	207	P	P	02 38 44.3 -1.3
	comp=Z,38nm,1.2s					
CGJI	Cibinong	32.71	210	P	P	02 38 46.7 +0.9
	comp=Z,52nm,0.8s					
TYV	Tymovskoe	32.87	25	eP	P	02 38 49.8 +3.0
TYV				eS	S	02 44 12.2 +8.7
TYV				pmax	pmax	
	comp=Z,500nm,3.4s					
TYV				pmax	pmax	
	comp=Z,34nm,1.0s					
TYV				smax	smax	
	comp=N,700nm,5.3s					
TYV				smax	smax	
	comp=E,400nm,5.3s					
TYV				MLR	MLR	
	comp=Z,2µm,15.0s					
MOY	Mondy	33.23	337	eP	P	02 38 49.8 -0.3
MOY				pmax	pmax	
	comp=Z,42nm,1.4s					
MANU	Manus Island	35.08	131	P	P	02 39 07.0 +0.6
MANU				IAmb	IAmb	02 39 16.1
	comp=Z,23nm,0.8s					
WMQ	Urumqi	35.08	316	eP	P	02 39 10.1 +3.9
WMQ				PcP	PcP	02 41 38.6 +0.8
WMQ				S	S	02 44 39.6 +1.6
WMQ				ScP	ScP	02 45 20.3 -2.4
WMQ				pmax	pmax	
	comp=Z,34nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,590nm,4.7s					
WMQ				LR	LR	
	comp=Z,3µm,18.3s					
WMQ				LR	LR	
	comp=Z,2µm,13.9s					
WMQ				LR	LR	
	comp=Z,1µm,20.9s					
DRS	Darwin Rock St	35.84	164	P	P	02 39 10.7 -2.2
MTN	Manton Dam	36.30	164	P	P	02 39 13.5 -3.3
	comp=Z,56nm,0.7s					
KDU	Kakadu	36.51	162	P	P	02 39 15.2 -3.4
	comp=Z,41nm,1.0s					
ZSN	Zaisan	38.49	319	eP	P	02 39 35.8 +0.6
ZSN				eS	S	02 45 32.1 +2.1
ZSN	Zaisan	38.49	319	eP	P	02 39 35.9 +0.6
ZSN				eS	S	02 45 32.1 +2.1
KNRA	Kununurra	38.52	169	IAmb	IAmb	02 39 34.5
	comp=Z,101nm,1.4s					
KNRA	Kununurra	38.52	169	P	P	02 39 33.3 -2.4
	comp=Z,63nm,0.8s					
PATS	Pohnpei	38.74	108	P	P	02 39 38.5 +0.9
PATS	Pohnpei	38.74	108	P	P	02 39 37.1 -0.5
	comp=Z,256nm,1.4s					
MK31	Makanchi Array	39.79	317	P	P	02 39 46.9 +0.8
MK31				IAmb	IAmb	02 39 51.5
	comp=Z,57nm,0.9s					
MK31	Makanchi Array	39.79	317	d iP	P	02 39 46.6 +0.5
MKAR	Makanchi Array	39.79	317	P	P	02 39 46.6 +0.6
MKAR	Makanchi Array	39.79	317	P	P	02 39 47.0 +0.9
	comp=Z,71nm,1.0s,baz=110,slow=7.2,SNR=131					
MKAR				PcP	PcP	02 41 52.2 +0.1
	comp=Z,11nm,0.8s,baz=104,slow=5.1,SNR=5.3					
MKAR				ScP	ScP	02 45 38.1 -2.2
	comp=Z,8.1nm,1.1s,baz=104,slow=5.1,SNR=11					
MKAR				LR	LR	02 57 37.0
	comp=Z,2µm,21.3s,baz=107,slow=38					
	comp=Z,71nm,1.0s					
MKAR	Makanchi Array	39.79	317	i P	P	02 39 46.7 +0.6
MKAR				pmax	pmax	
	comp=Z,36nm,0.7s					
MAKZ	Makanchi	39.99	317	P	P	02 39 48.2 +0.4
MAKZ	Makanchi	39.99	317	P	P	02 39 48.2 +0.4
MAKZ				pmax	pmax	
	comp=Z,152nm,1.3s					
YAK	Yakutsk	40.00	6	P	P	02 39 47.7 +0.2
YAK				IAmb	IAmb	02 40 03.0
	comp=Z,36nm,0.8s					
YAK	Yakutsk	40.00	6	LR	LR	02 57 47.0
	comp=Z,2µm,18.1s,baz=190,slow=38					
YAK	Yakutsk	40.00	6	eP	P	02 39 47.7 +0.2
YAK				e*PP	sP	02 39 52.9 -1.8
YAK				e		02 41 19.8
YAK				e		02 41 52.3
YAK				eS	S	02 45 54.4 +2.3
YAK				eSS	SnSn	02 48 52.4 -0.4
YAK				e		02 49 54.9
YAK				pmax	pmax	
	comp=Z,20nm,0.9s					
YAK				pmax	pmax	
	comp=N,9.0nm,1.5s					
YAK				pmax	pmax	
	comp=E,4.0nm,1.4s					
YAK				pmax	pmax	
	comp=Z,152nm,4.2s					
YAK				pmax	pmax	
	comp=N,195nm,6.7s					
YAK				pmax	pmax	
	comp=E,195nm,4.9s					
YAK				smax	smax	
	comp=N,309nm,7.8s					
YAK				smax	smax	
	comp=E,91nm,4.8s					
YAK				MLR	MLR	
	comp=N,2µm,26.0s					
YAK				MLR	MLR	
	comp=E,2µm,24.0s					
SHLS	Shalkode	40.39	311	eP	P	02 39 49.5 -1.8
SHLS	Shalkode	40.39	311	eP	P	02 39 49.5 -1.8
PDGK	Podgornoye	40.42	311	P	P	02 39 51.9 +0.4
PMG	Port Moresby	40.43	139	LR	LR	02 54 08.3
	comp=E,562nm,21.6s,baz=310,slow=33					
FITZ	Fitzroy Crossi	40.46	174	P	P	02 39 49.7 -2.1
FITZ	Fitzroy Crossi	40.46	174	P	P	02 39 49.4 -2.4
	comp=Z,14nm,1.1s					
FITZ	Fitzroy Crossi	40.46	174	LR	LR	02 59 57.8
	comp=Z,230nm,18.4s,baz=352,slow=41					
FITZ	Fitzroy Crossi	40.46	174	P	P	02 39 49.7 -2.1
HYB	Hyderabad	40.54	271	eP	P	02 39 52.7 0.0
UZB	Uzynbulak	40.70	311	eP	P	02 39 53.9 +0.1
UZB				eS	S	02 46 04.7 +1.3
UZB	Uzynbulak	40.70	311	eP	P	02 39 53.9 +0.1
UZB				eS	S	02 46 04.7 +1.3
KPKS	Kokpek	41.02	311	eP	P	02 39 57.0 +0.6
KPKS	Kokpek	41.02	311	eP	P	02 39 57.0 +0.6
SATY	Saty	41.10	310	eP	P	02 39 57.4 +0.2
SATY	Saty	41.10	310	eP	P	02 39 57.4 +0.2
PEA0B	Petropavlovsk-	41.21	33	IAmb	IAmb	02 40 09.4
	comp=Z,46nm,1.1s					
PEA0B	Petropavlovsk-	41.21	33	eP	P	02 39 56.8 -0.9
PETK	Petropavlovsk-	41.21	33	P	P	02 39 58.1 +0.4
PETK	Petropavlovsk-	41.21	33	P	P	02 39 57.9 +0.2
	comp=Z,23nm,0.9s,baz=220,slow=6.7,SNR=12					
PETK				LR	LR	02 57 48.3
	comp=Z,856nm,19.9s,baz=235,slow=37					
	comp=Z,23nm,0.9s					
PETK	Petropavlovsk-	41.21	33	P	P	02 39 58.1 +0.4
PET	Petropavlovsk	41.65	33	P	P	02 40 02.3 +1.1
PET	Petropavlovsk	41.65	33	P	P	02 40 02.3 +1.1
PET	Petropavlovsk	41.65	33	eP	P	02 40 02.8 +1.6
PET				eS	S	02 46 19.5 +2.7
PET				pmax	pmax	
	comp=Z,107nm,1.0s					
PET	Petropavlovsk	41.65	33	P	P	02 40 02.6 +1.4
	comp=Z,103nm,1.1s					
TDK	Taldyqorghan	41.68	313	eP	P	02 40 02.2 +0.5
TDK				pmax	pmax	
	comp=Z,57nm,0.8s					
TDK	Taldyqorghan	41.68	313	eP	P	02 40 02.3 +0.5
	comp=Z,58nm,0.8s					
ARXS	Arharly	41.84	312	eP	P	02 40 03.5 +0.4
ZAA0	Zalesovo Array	41.87	328	P	P	02 40 02.6 -0.4
ZAA0				IAmb	IAmb	02 40 07.9
	comp=Z,50nm,0.8s					
ZALV	Zalesovo Beam	41.87	328	P	P	02 40 02.5 -0.6
ZALV	Zalesovo Beam	41.87	328	P	P	02 40 03.1 0.0
	comp=Z,48nm,0.8s,baz=119,slow=6.8,SNR=72					
ZALV				PcP	PcP	02 41 57.4 -1.2
	comp=Z,5.5nm,0.8s,baz=106,slow=3.1,SNR=1.7					
ZALV				ScP	ScP	02 45 46.5 -1.8
	comp=Z,5.8nm,0.9s,baz=129,slow=4.0,SNR=7.3					
ZALV				LR	LR	02 59 12.7
	comp=Z,2µm,18.4s,baz=126,slow=38					
	comp=Z,48nm,0.8s					
ZALV	Zalesovo Beam	41.87	328	i P	P	02 40 03.0 0.0
ZALV				pmax	pmax	
	comp=Z,48nm,0.8s					
COEN	Coen	41.95	147	P	P	02 40 03.0 -1.1
COEN	Coen	41.95	147	P	P	02 40 03.0 -1.1
	comp=Z,95nm,0.7s					
COEN	Coen	41.95	147	P	P	02 40 03.1 -1.0
PALK	Pallekele	42.00	255	P	P	02 40 07.2 +2.5
PALK	Pallekele	42.00	255	LR	LR	02 58 43.0
	comp=Z,2µm,18.9s,baz=59,slow=38					
PALK	Pallekele	42.00	255	P	P	02 40 07.2 +2.5
PALK				pmax	pmax	
	comp=Z,19nm,1.0s					
KSH	Kashi	42.09	305	P	P	02 40 09.3 +4.0
KSH				pP	pwP	02 40 15.2 +2.2
KSH				PP	PcP	02 41 53.7 -6.2
KSH				S	S	02 46 31.2 +7.1
KSH				pmax	pmax	
	comp=Z,20nm,1.2s					
KSH				pmax	pmax	
	comp=Z,430nm,7.4s					
KSH				LR	LR	
	comp=Z,2µm,18.9s					
KSH				LR	LR	
	comp=Z,2µm,19.6s					
KSH				LR	LR	
	comp=Z,3µm,17.5s					
TNSS	Tian-Shan	42.13	310	eP	P	02 40 06.2 +0.3
TNSS	Tian-Shan	42.13	310	eP	P	02 40 06.2 +0.3
AAA	Alma-Ata	42.20	310	eP	P	02 40 05.5 -0.5
AAA	Alma-Ata	42.20	310	eP	P	02 40 06.3 +0.3
	comp=Z,37nm,1.0s					
H11N1	WAKE ISLAND Hy	42.37	85	T	T	03 25 35.1
	baz=282,slow=74,SNR=360					
H11N2	WAKE ISLAND Hy	42.37	85	T	T	03 25 37.8
	baz=282,slow=74,SNR=822					
H11N3	WAKE ISLAND Hy	42.39	85	T	T	03 25 39.0
	baz=282,slow=74,SNR=568					
ULHL	Ulahol	42.44	309	P	P	02 40 10.0 +1.7
	SNR=33					
H11S3	WAKE ISLAND Hy	42.45	87	T	T	03 25 43.2
	baz=284,slow=75,SNR=721					
H11S1	WAKE ISLAND Hy	42.45	87	T	T	03 25 26.9
	baz=284,slow=75,SNR=668					
H11S2	WAKE ISLAND Hy	42.46	87	T	T	03 25 44.4
	baz=284,slow=75,SNR=576					
MA2	Magadan	42.53	22	P	P	02 40 08.6 +0.2
MA2	Magadan	42.53	22	LR	LR	02 59 34.9
	comp=Z,1µm,18.3s,baz=219,slow=38					
MA2	Magadan	42.53	22	P	P	02 40 09.4 +1.0
MA2	Magadan	42.53	22	ceP	P	02 40 08.4 0.0
MA2				pmax	pmax	
	comp=Z,22nm,0.8s					
TKM2	Tokmak 2	43.06	309	P	P	02 40 15.0 +1.7
	SNR=34					
TKM2	Tokmak 2	43.06	309	i P	P	02 40 14.1 +0.9
TKM2				pmax	pmax	
	comp=Z,45nm,1.0s					
MBWA	Marble Bar	43.33	182	P	P	02 40 13.0 -2.2
MBWA	Marble Bar	43.33	182	P	P	02 40 13.3 -2.0
	comp=Z,28nm,1.3s					
KBK	Karagaybulak	43.47	309	P	P	02 40 18.4 +1.9
	SNR=32					
KURK	Kurchatov	43.62	321	P	P	02 40 18.4 +1.1
KURK				IAmb	IAmb	02 40 21.9
	comp=Z,80nm,1.1s					
KURK	Kurchatov	43.62	321	d iP	P	02 40 17.4 +0.1
KURK				pmax	pmax	
	comp=Z,113nm,1.3s					
KURBB	Kurchatov Arra	43.63	321	P	P	02 40 17.7 +0.3
	comp=Z,60nm,0.9s,baz=118,slow=7.3,SNR=178					
KURBB				PcP	PcP	02 42 03.7 -0.9
	comp=Z,5.0nm,0.9s,baz=109,slow=2.9,SNR=1.8					
KURBB				ScP	ScP	02 45 53.1 -2.4
	comp=Z,2.4nm,0.9s,baz=109,slow=4.1,SNR=5.8					
KURBB				LR	LR	03 00 56.4
	comp=Z,746nm,19.0s,baz=155,slow=39					
	comp=Z,60nm,0.9s					
NIL	Nilore	43.65	296	P	P	02 40 18.4 +0.6
NIL				IAmb	IAmb	02 40 47.5
	comp=Z,34nm,1.0s					
NIL	Nilore	43.65	296	P	P	02 40 18.5 +0.6
NIL				pmax	pmax	
	comp=Z,34nm,1.0s					
CHMS	Chumysh	43.69	309	P	P	02 40 19.5 +1.4
	SNR=24					
PSAC1	Pilbara Seismi	43.70	182	P	P	02 40 16.1 -2.1
	comp=Z,46nm,1.5s					
PSA00	Pilbara Seismi	43.74	182	P	P	02 40 16.1 -2.5
PSA00				IAmb	IAmb	02 40 18.2
	comp=Z,92nm,1.9s					
PSA00	Pilbara Seismi	43.74	182	IAmb	IAmb	02 40 18.3
	comp=Z,29nm,0.8s					
PSA00	Pilbara Seismi	43.74	182	P	P	02 40 16.5 -2.1
	comp=Z,46nm,1.7s					
PSA00	Pilbara Seismi	43.74	182	P	P	02 40 17.3 -1.2
WB0	Warramunga Arr	43.78	162	IAmb	IAmb	02 40 17.5
	comp=Z,35nm,0.7s					
AAK	Ala-Archa	43.79	309	P	P	02 40 20.3 +1.2
AAK	Ala-Archa	43.79	309	LR	LR	03 01 20.9
	comp=Z,3µm,18.4s,baz=98,slow=40					
AAK	Ala-Archa	43.79	309	P	P	02 40 20.7 +1.6
	SNR=17					
AAK	Ala-Archa	43.79	309	d iP	P	02 40 20.1 +1.0
AAK				pmax	pmax	
	comp=Z,25nm,1.3s					
USP	Ospenovka	43.92	310	P	P	02 40 21.3 +1.3
	SNR=18					
WRAB	Tennant Creek	43.93	162	P	P	02 40 17.7 -2.4
WRAB				IAmb	IAmb	02 40 18.8
	comp=Z,44nm,0.7s					
WRAB	Tennant Creek	43.93	162	c iP	P	02 40 17.5 -2.6
WRAB				pmax	pmax	
	comp=Z,39nm,0.6s					
WRA	Warramunga Arr	43.93	162	P	P	02 40 16.5 -3.6
WRA	Warramunga Arr	43.93	162	P	P	02 40 17.7 -2.4
	comp=Z,43nm,0.7s,baz=344,slow=8.8,SNR=196					
WRA				PcP	PP	02 42 03.6 +0.8
	comp=Z,3.6nm,0.9s,baz=341,slow=3.3,SNR=2.5					
WRA				ScP	ScP	02 45 53.4 -3.7
	comp=Z,0.4nm,0.7s,baz=339,slow=4.1,SNR=3.7					
WRA				S	S	02 46 44.1 -6.9
	comp=Z,4.9nm,1.2s,baz=342,slow=15,SNR=9.0					
	comp=Z,43nm,0.7s					
WRA	Warramunga Arr	43.93	162	P	P	02 40 16.5 -3.7
WRA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
AML	Almayashu	44.27	308	P	P	02 40 24.9 +1.7
	SNR=36					
EKS2	Erkin-Say	44.31	309	P	P	02 40 24.6 +1.4
	SNR=12					
DRK	Karamyk	45.27	304	IAmb	IAmb	02 40 54.5
	comp=Z,36nm,1.1s					
GIRL	Giralia	45.33	189	P	P	02 40 31.3 +0.1
	comp=Z,976nm,0.9s					
GIRL	Giralia	45.33	189	P	P	02 40 31.9 +0.7
SEY	Seymchan	45.56	19	LR	LR	03 01 59.5
	comp=Z,1µm,18.3s,baz=220,slow=39					
SEY	Seymchan	45.56	19	eP	P	02 40 34.3 +1.7
SEY				pmax	pmax	
	comp=Z,8.0nm,1.0s					
MTSU	Mount Surprise	46.08	149	P	P	02 40 37.1 -0.2
	comp=Z,40nm,0.7s					
MTSU	Mount Surprise	46.08	149	P	P	02 40 36.7 -0.6
BTK	Batken	46.10	305	IAmb	IAmb	02 41 00.4
	comp=Z,27nm,1.1s					
DZA	Taraz	46.13	309	eP	P	02 40 37.8 +0.4
DZA				pmax	pmax	
	comp=Z,12nm,0.7s					
DZA	Taraz	46.13	309	eP	P	02 40 37.9 +0.4
	comp=Z,12nm,0.7s					
QIS	Mount Isa	46.23	156	P	P	02 40 37.1 -1.4
	comp=Z,72nm,0.9s					
QIS	Mount Isa	46.23	156	P	P	02 40 37.1 -1.4
OTUK	Ortayu	46.62	316	P	P	02 40 41.7 +0.4
KK31	Karatay Array	46.75	309	IAmb	IAmb	02 40 48.4
	comp=Z,33nm,0.9s					
KK31	Karatay Array	46.75	309	i P	P	02 40 43.2 +0.8
KKAR	Karatay Array	46.75	309	P	P	02 40 43.3 +0.9
KKAR	Karatay Array	46.75	309	IAmb	IAmb	02 40 48.3
	comp=Z,21nm,0.9s					
KKAR	Karatay Array	46.75	309	P	P	02 40 43.3 +0.9
BRZS	Berezniki	46.91	318	eP	P	02 40 44.0 +0.5
BRZS				eS	S	02 47 35.4 +1.8
BRZS	Berezniki	46.91	318	eP	P	02 40 44.0 +0.5
BRZS				eS	S	02 47 35.5 +1.8
IUG	Iuzhnay	46.96	307	eP	P	02 40 44.4 +0.3
IUG				pmax	pmax	
	comp=Z,24nm,1.0s					
IUG	Iuzhnay	46.96	307	eP	P	02 40 44.4 +0.3
	comp=Z,24nm,1.0s					
KBL	Kabul	47.16	297	P	P	02 40 47.2 +1.3
KBL				IAmb	IAmb	02 41 13.3
	comp=Z,30nm,0.9s					
KBL	Kabul	47.16	297	P	P	02 40 47.3 +1.3
KBL				pmax	pmax	
	comp=Z,30nm,1.0s					
BRLS	Borolday	47.23	308	eP	P	02 40 47.1 +1.0
BRLS	Borolday	47.23	308	eP	P	02 40 47.1 +1.0
SIMJ	Simiganj	47.36	302	P	P	02 40 47.8 +0.5
SIMJ				IAmb	IAmb	02 42 19.5
	comp=Z,19nm,0.9s					
AS06	Alice Springs	47.37	164	P	P	02 40 45.7 -1.6
	comp=Z,38nm,0.7s					
AS31	Alice Springs	47.37	164	IAmb	IAmb	02 40 51.6
	comp=Z,12nm,0.6s					
AS31	Alice Springs	47.37	164	P	P	02 40 45.8 -1.5
	comp=Z,16nm,0.7s					
ASAR	Alice Springs	47.37	164	P	P	02 40 45.6 -1.7
	comp=Z,15nm,0.5s,baz=352,slow=14,SNR=242					
ASAR				PcP	PcP	02 42 16.6 -1.3
	comp=Z,6.5nm,0.8s,baz=339,slow=3.9,SNR=2.7					
ASAR				ScP	ScP	02 46 07.5 -3.8
	comp=Z,0.4nm,0.4s,baz=348,slow=4.1,SNR=4.5					
ASAR				S	S	02 47 36.5 -4.1
	comp=Z,1.5nm,1.1s,baz=351,slow=13,SNR=4.6					
ASAR				LR	LR	03 03 36.1
	comp=Z,300nm,18.1s,baz=341,slow=40					
	comp=Z,15nm,0.5s					
ASAR	Alice Springs	47.37	164	P	P	02 40 45.6 -1.7
ASAR						02 42 16.6
ASAR				S	S	02 47 36.5 -4.1
AS01	Alice Springs	47.38	164	P	P	02 40 46.0 -1.4
AS19	Alice Springs	47.42	164	P	P	02 40 46.1 -1.6
	comp=Z,38nm,0.8s					
WRKA	Warakurna	47.63	172	P	P	02 40 47.7 -1.6
	comp=Z,92nm,0.8s					
WRKA	Warakurna	47.63	172	P	P	02 40 48.1 -1.2
MEEK	Meekatharra	48.83	183	P	P	02 40 56.8 -1.8
	comp=Z,94nm,1.2s					
MEEK	Meekatharra	48.83	183	P	P	02 40 57.0 -1.6
BVA0	Borovoye Array	49.21	322	i P	P	02 41 01.5 +0.3
BVAR	Borovoye Array	49.21	322	P	P	02 41 01.9 +0.7
	comp=Z,14nm,0.6s,baz=110,slow=9.2,SNR=93					
BVAR				PcP	PcP	02 42 24.1 -0.1
	comp=Z,7.5nm,0.7s,baz=112,slow=4.6,SNR=3.7					
BVAR				ScP	ScP	02 46 17.6 -1.1
	comp=Z,13nm,1.0s,baz=122,slow=5.4,SNR=11					
BVAR				LR	LR	03 04 29.7
	comp=Z,809nm,18.8s,baz=104,slow=39					
	comp=Z,14nm,0.6s					
BVAR	Borovoye Array	49.21	322	P	P	02 41 01.9 +0.7
BVAR						02 42 24.1
HNR	Honiara	49.24	126	LR	LR	03 00 15.8
	comp=Z,242nm,19.6s,baz=318,slow=34					
BRVK	Borovoye	49.28	322	P	P	02 41 02.2 +0.5
BRVK				IAmb	IAmb	02 41 04.3
	comp=Z,29nm,0.8s					
BRVK	Borovoye	49.28	322	c iP	P	02 41 02.5 +0.8
BRVK				pmax	pmax	
	comp=Z,31nm,0.8s					
TIXI	Tiksi	49.45	3	P	P	02 41 02.5 -0.2
TIXI				IAmb	IAmb	02 41 45.4
	comp=Z,20nm,1.1s					
TIXI	Tiksi	49.45	3	LR	LR	03 04 32.9
	comp=Z,2µm,18.2s,baz=198,slow=39					
TIXI	Tiksi	49.45	3	eP	P	02 41 01.2 -1.5
TIXI				pmax	pmax	
	comp=Z,11nm,0.7s					
SHEM	Shemya Is, Ala	50.04	39	LR	LR	03 01 20.0
	comp=Z,298nm,21.2s,baz=277,slow=35					
MORW	Morawa	51.44	186	P	P	02 41 16.8 -1.4
	comp=Z,74nm,1.2s					
MORW	Morawa	51.44	186	P	P	02 41 17.3 -1.0
OOD	Oodnadatta	51.77	164	P	P	02 41 19.6 -1.1
KAAM	Kaadhehdhoo	51.91	252	P	P	02 41 23.7 +1.5
KAAM				IAmb	IAmb	02 41 27.9
	comp=Z,35nm,1.1s					
BLDU	Ballidu	52.91	185	P	P	02 41 27.3 -1.9
	comp=Z,43nm,1.0s					
BLDU	Ballidu	52.91	185	P	P	02 41 27.8 -1.4
INKA	Innaminka	53.23	159	P	P	02 41 31.6 +0.1
FORT	Forrest	53.26	173	P	P	02 41 30.5 -1.3
	comp=Z,197nm,0.8s					
FORT	Forrest	53.26	173	P	P	02 41 31.7 -0.1
BILL	Bilibino	53.27	19	P	P	02 41 31.6 +0.2
BILL	Bilibino	53.27	19	i P	P	02 41 31.5 +0.1
BILL				pmax	pmax	
	comp=Z,17nm,1.0s					
QLP	Quilpie	53.46	154	P	P	02 41 31.9 -1.4
	comp=Z,46nm,1.3s					
QLP	Quilpie	53.46	154	P	P	02 41 33.4 +0.1
KMBL	Kambalda	53.47	180	P	P	02 41 31.7 -1.6
	comp=Z,85nm,1.9s					
KMBL	Kambalda	53.47	180	P	P	02 41 32.0 -1.3
RK1H	Rockhampton Ha	53.58	146	P	P	02 41 33.7 -0.5
KLBR	Kellerberrin

ABKAR	**Akbulak array**	54.86	315	IAmb	IAmb	02 41 48.5
	comp=Z,36nm,0.9s					
LCRK	**Leigh Creek**	54.96	162	P	**P**	**02 41 43.2 -1.0**
NWAO	**Narrogin (SRO)**	55.17	184	P	**P**	**02 41 44.3 -1.4**
NWAO	**Narrogin (SRO)**	55.17	184	P	**P**	**02 41 44.4 -1.3**
	comp=Z,124nm,1.2s					
NWAO	**Narrogin (SRO)**	55.17	184	LR	LR	03 07 25.5
	comp=Z,185nm,21.7s,baz=9.5,slow=38					
NWAO	**Narrogin (SRO)**	55.17	184	P	**P**	**02 41 45.1 -0.6**
NWAO	**Narrogin (SRO)**	55.17	184	P	**P**	**02 41 45.3 -0.4**
NWAO	**Narrogin (SRO)**	55.17	184	P	**P**	**02 41 44.3 -1.4**
NWAO				pmax	pmax	
	comp=Z,93nm,1.3s					
EIDS	**Eidsvold**	55.51	147	P	**P**	**02 41 46.4 -1.9**
EIDS	**Eidsvold**	55.51	147	P	**P**	**02 41 47.1 -1.2**
EIDS	**Eidsvold**	55.51	147	P	**P**	**02 41 48.4 +0.1**
SVE	**Sverdlovsk**	55.62	324	*e*P	**P**	**02 41 49.4 +0.7**
SVE				*e*S	**S**	**02 49 31.1 -2.6**
SVE				pmax	pmax	
	comp=Z,43nm,1.0s					
SVE				MLR	MLR	
	comp=Z,1μm,16.0s					
AKTO	**Aktyubinsk**	56.22	317	LR	LR	03 07 59.1
	comp=Z,2μm,20.1s,baz=87,slow=38					
AKTO	**Aktyubinsk**	56.22	317	P	**P**	**02 41 53.3 +0.2**
BBOO	**Buckleboo**	56.65	165	P	**P**	**02 41 55.1 -1.2**
	comp=Z,110nm,0.8s					
BBOO	**Buckleboo**	56.65	165	P	**P**	**02 41 55.4 -0.9**
ARTI	**Arti**	56.76	324	P	**P**	**02 41 56.9 0.0**
ARTI				IAmb	IAmb	02 41 58.8
	comp=Z,27nm,0.7s					
ARTI	**Arti**	56.76	324	LR	LR	03 06 06.9
	comp=Z,1μm,20.9s,baz=101,slow=36					
ARTI	**Arti**	56.76	324	P	**P**	**02 41 56.9 0.0**
ARTI				pmax	pmax	
	comp=Z,27nm,0.7s					
WHYH	**Whyalla**	57.24	164	P	**P**	**02 41 59.7 -0.7**
STKA	**Stephens Creek**	57.32	160	P	**P**	**02 41 59.5 -1.5**
STKA	**Stephens Creek**	57.32	160	P	**P**	**02 41 59.8 -1.3**
	comp=Z,173nm,0.8s					
STKA	**Stephens Creek**	57.32	160	P	**P**	**02 41 59.8 -1.3**
	comp=Z,21nm,0.6s,baz=337,slow=7.3,SNR=84					
STKA				LR	LR	03 09 32.6
	comp=Z,314nm,19.9s,baz=335,slow=39					
	comp=Z,21nm,0.6s					
STKA	**Stephens Creek**	57.32	160	P	**P**	**02 42 00.0 -1.0**
STKA	**Stephens Creek**	57.32	160	*c iP*	**P**	**02 41 59.7 -1.3**
WSAR	**Wadi Sarin**	57.49	284	LR	LR	03 09 30.4
	comp=Z,1μm,20.6s,baz=94,slow=39					
HTT	**Hallett**	57.97	163	P	**P**	**02 42 04.6 -1.1**
	comp=Z,24nm,0.7s					
HTT	**Hallett**	57.97	163	P	**P**	**02 42 05.0 -0.7**
CMSA	**Cobar Meteorol**	58.45	156	P	**P**	**02 42 08.6 -0.4**
	comp=Z,49nm,1.5s					
CMSA	**Cobar Meteorol**	58.45	156	P	**P**	**02 42 09.0 0.0**
KOUNC	**Koumac, New Ca**	59.76	132	P	**P**	**02 42 18.3 +0.1**
GAMB	**Gambell**	59.92	28	P	**P**	**02 42 18.9 +0.2**
	baz=260					
ARMA	**Armidale**	59.99	150	P	**P**	**02 42 19.8 0.0**
ARMA				IAmb	IAmb	02 42 22.4
	comp=Z,22nm,0.8s					
ARMA	**Armidale**	59.99	150	P	**P**	**02 42 19.9 +0.1**
	comp=Z,33nm,0.8s					
ARMA	**Armidale**	59.99	150	P	**P**	**02 42 19.8 0.0**
UNV	**Unalaska Valle**	61.68	40	P	**P**	**02 42 31.3 +0.4**
	baz=270					
KIRV	**Kirov**	61.81	326	LR	LR	03 11 39.8
	comp=Z,2μm,19.1s,baz=95,slow=38					
KIRV	**Kirov**	61.81	326	*de*P	**P**	**02 42 32.2 +0.5**
TNA	**Tin City**	61.81	26	P	**P**	**02 42 32.1 +0.5**
	baz=262					
ARPS	**Mount Arapiles**	61.92	162	P	**P**	**02 42 31.6 -1.1**
	comp=Z,53nm,0.7s					
ARPS	**Mount Arapiles**	61.92	162	P	**P**	**02 42 32.2 -0.5**
YNG	**Young**	61.94	155	P	**P**	**02 42 32.5 -0.4**
YNG	**Young**	61.94	155	P	**P**	**02 42 32.8 -0.1**
M11K	**Mekoryuk**	62.08	32	P	**P**	**02 42 33.6 +0.1**
	baz=266					
DZM	**Mont Dzumac**	62.26	132	IAmb	IAmb	02 42 41.3
	comp=Z,40nm,1.3s					
DZM	**Mont Dzumac**	62.26	132	P	**P**	**02 42 35.7 +0.3**
ANM	**Nome**	62.77	28	P	**P**	**02 42 38.3 +0.2**
	baz=265					
BELG	**Belogornoye**	62.78	319	*c iP*	**P**	**02 42 38.3 0.0**
BELG				pmax	pmax	
	comp=Z,13nm,1.0s					
K13K	**Kusilvak Mount**	62.91	31	P	**P**	**02 42 38.8 -0.3**
	baz=267					
CAN	**Canberra**	63.08	155	P	**P**	**02 42 40.0 -0.5**
CAN				IAmb	IAmb	02 42 41.0
	comp=Z,28nm,1.1s					
CAN	**Canberra**	63.08	155	P	**P**	**02 42 40.1 -0.5**
	comp=Z,30nm,1.0s					
CAN	**Canberra**	63.08	155	P	**P**	**02 42 40.5 0.0**
CAN	**Canberra**	63.08	155	P	**P**	**02 42 40.0 -0.5**
CAN				pmax	pmax	
	comp=Z,28nm,1.1s					
C16K	**Lisburne Hills**	63.17	24	IAmb	IAmb	02 42 44.5
	comp=Z,12nm,0.9s					
C16K	**Lisburne Hills**	63.17	24	P	**P**	**02 42 41.1 +0.5**
	baz=263					
F15K	**North Star Dit**	63.18	26	IAmb	IAmb	02 42 45.2
	comp=Z,16nm,0.9s					
F15K	**North Star Dit**	63.18	26	P	**P**	**02 42 41.6 +0.8**
	baz=265					
CNB	**Canberra Magne**	63.21	155	P	**P**	**02 42 41.2 -0.2**
	comp=Z,41nm,1.1s					
CNB	**Canberra Magne**	63.21	155	P	**P**	**02 42 41.2 -0.2**
G15K	**Niukluk**	63.38	27	P	**P**	**02 42 43.0 +0.9**
	baz=266					
J14K	**Nanvaranak Lak**	63.47	30	P	**P**	**02 42 43.5 +0.8**
	baz=268					
FALS	**False Pass**	63.48	39	P	**P**	**02 42 44.1 +1.2**
	baz=272					
M13K	**Dall Lake**	63.49	32	P	**P**	**02 42 43.4 +0.6**
	baz=269					
MAK	**Makhachkala**	63.56	308	*e*P	P	02 42 38.4 -5.3
MAK				*e*		02 45 02.9
MAK				*e*S	**S**	**02 51 11.3 -5.3**
MAK				*e*SS	**SS**	**02 55 19.1 -4.6**
MAK				*e*SSS	SSS	02 58 17.3
MAK				pmax	pmax	
	comp=Z,144nm,1.2s					
MAK				MLR	MLR	
	comp=Z,1μm,14.0s					
AKT	**Akhty**	63.58	306	*e*P	**P**	**02 42 45.1 +1.1**
AKT				*e*		02 43 17.8
AKT				pmax	pmax	
	comp=Z,49nm,1.1s					
AKT				MLR	MLR	
	comp=Z,1μm,18.0s					
TOO	**Toolangi**	63.81	159	IAmb	IAmb	02 42 46.0
	comp=Z,17nm,1.1s					
TOO	**Toolangi**	63.81	159	P	**P**	**02 42 44.8 -0.5**
	comp=Z,19nm,1.1s					
L14K	**Kuka Creek**	63.83	31	IAmb	IAmb	02 42 50.6
	comp=Z,35nm,1.1s					
L14K	**Kuka Creek**	63.83	31	P	**P**	**02 42 46.1 +1.0**
	baz=269					
D17K	**Noatak River**	63.96	24	P	**P**	**02 42 47.0 +1.0**
	baz=266					
C17K	**DeLong Mountai**	63.99	23	P	**P**	**02 42 47.3 +1.1**
	baz=265					
RDOG	**Red Dog Mine**	64.06	24	P	**P**	**02 42 47.7 +1.2**
	baz=266					
G16K	**Koyuk River**	64.11	27	P	**P**	**02 42 47.7 +0.8**
	baz=267					
H16K	**Elim**	64.13	28	P	**P**	**02 42 48.5 +1.5**
	baz=268					
M14K	**Bethel**	64.18	32	P	**P**	**02 42 48.9 +1.5**
	baz=270					
S12K	**Black Hills**	64.23	38	P	**P**	**02 42 48.8 +0.9**
	baz=272					
N14K	**Kuskokwak Cree**	64.32	33	P	**P**	**02 42 48.8 +0.4**
	baz=271					
K15K	**Wolf Creek Mou**	64.39	30	P	**P**	**02 42 49.7 +0.8**
	baz=270					
E17K	**Hotham Inlet**	64.41	25	P	**P**	**02 42 50.0 +1.1**
	baz=267					
L15K	**Ungalak Mounta**	64.41	31	P	**P**	**02 42 50.2 +1.3**
	baz=270					
O14K	**Tigyukauivet M**	64.55	34	P	**P**	**02 42 50.6 +0.7**
	baz=271					
B18K	**Kokolik River**	64.56	22	P	**P**	**02 42 50.8 +1.0**
	baz=266					
C18K	**Utukok River**	64.73	23	IAmb	IAmb	02 42 54.5
	comp=Z,17nm,1.1s					
C18K	**Utukok River**	64.73	23	P	**P**	**02 42 51.7 +0.6**
	baz=267,SNR=5.5					
I17K	**Unalakleet**	64.78	29	P	**P**	**02 42 52.2 +0.9**
	baz=270					
M15K	**Kasigluk River**	64.81	32	P	**P**	**02 42 52.6 +1.1**
	baz=271					
J16K	**Anvik River**	64.82	29	P	**P**	**02 42 52.4 +0.7**
	baz=270					
A19K	**Wainwright**	64.87	22	P	**P**	**02 42 52.6 +0.8**
	baz=266,SNR=5.1					
E18K	**Tukpahlearik C**	64.90	25	IAmb	IAmb	02 42 59.7
	comp=Z,12nm,0.8s					
E18K	**Tukpahlearik C**	64.90	25	P	**P**	**02 42 53.1 +1.0**
	baz=268					
N15K	**Kwethluk River**	65.11	33	P	**P**	**02 42 54.6 +1.0**
	baz=272,SNR=5.2					
H17K	**Granite Mounta**	65.13	27	IAmb	IAmb	02 43 08.4
	comp=Z,18nm,1.0s					
H17K	**Granite Mounta**	65.13	27	P	**P**	**02 42 54.3 +0.7**
	baz=270,SNR=6.0					
F18K	**Selawik**	65.25	26	P	**P**	**02 42 55.5 +1.2**
	baz=269					
O15K	**Ungalikthiuk R**	65.29	34	P	**P**	**02 42 55.9 +1.2**
	baz=273					
L16K	**Owhat River**	65.37	31	P	**P**	**02 42 55.8 +0.7**
	baz=272					
J17K	**VABM Dome**	65.51	29	IAmb	IAmb	02 43 06.4
	comp=Z,31nm,1.1s					
J17K	**VABM Dome**	65.51	29	P	**P**	**02 42 56.9 +0.8**
	baz=271					
M16K	**Timber Creek**	65.64	32	IAmb	IAmb	02 43 01.6
	comp=Z,17nm,0.9s					
M16K	**Timber Creek**	65.64	32	P	**P**	**02 42 57.9 +0.9**
	baz=272					
G18K	**Tagagawik**	65.66	26	P	**P**	**02 42 57.6 +0.6**
	baz=270,SNR=5.4					
CHNA	**Chernabura Isl**	65.69	39	P	**P**	**02 42 57.7 +0.3**
	baz=275					
N16K	**Nishlik Lake**	65.76	32	P	**P**	**02 42 58.3 +0.5**
	baz=273					
H18K	**Honhosa River**	65.79	27	IAmb	IAmb	02 43 12.6
	comp=Z,14nm,1.1s					
H18K	**Honhosa River**	65.79	27	P	**P**	**02 42 58.5 +0.6**
	baz=271					
D19K	**Kuna River**	65.86	23	IAmb	IAmb	02 43 04.6
	comp=Z,28nm,0.9s					
D19K	**Kuna River**	65.86	23	P	**P**	**02 42 58.7 +0.4**
	baz=270					
K17K	**Iditarod**	65.88	30	P	**P**	**02 42 59.2 +0.7**
	baz=272					
L17K	**Donlin**	65.91	30	P	**P**	**02 42 59.4 +0.7**
	baz=273					
GNI	**Garni**	66.02	305	LR	LR	03 15 34.9
	comp=Z,611nm,18.5s,baz=80,slow=39					
GNI	**Garni**	66.02	305⇓	*e*P	**P**	**02 43 00.1 +0.1**
GNI				pmax	pmax	
	comp=Z,56nm,1.6s					
GNI	**Garni**	66.02	305	P	**P**	**02 43 01.3 +1.3**
	comp=Z,33nm,1.1s					
O16K	**Kokwok River B**	66.15	33	P	**P**	**02 43 01.0 +0.7**
	baz=274					
E19K	**Redstone River**	66.20	25	P	**P**	**02 43 01.7 +1.3**
	baz=271					
B20K	**Meade River**	66.20	22	IAmb	IAmb	02 43 04.3
	comp=Z,16nm,0.8s					
B20K	**Meade River**	66.20	22	P	**P**	**02 43 01.6 +1.2**
	baz=270					
G19K	**Purcell Mounta**	66.29	26	P	**P**	**02 43 01.8 +0.7**
	baz=272,SNR=94					
NCK	**Nalchik**	66.32	309⇓	*e*P	**P**	**02 43 02.7 +1.0**
NCK				pmax	pmax	
	comp=Z,25nm,1.0s					
M17K	**Holitna River**	66.36	31	P	**P**	**02 43 02.5 +0.9**
	baz=274					
A21K	**Barrow**	66.38	20	P	**P**	**02 43 02.5 +0.9**
	baz=270					
D20K	**Etivluk River**	66.41	23	P	**P**	**02 43 02.7 +0.8**
	baz=271					
GCSA	**Galena City Sc**	66.43	28	P	**P**	**02 43 02.9 +1.0**
	baz=273					
GOF	**Gofitskoye**	66.47	311	*ce*P	**P**	**02 43 04.0 +1.4**
VRH	**Novokhopyorsk**	66.52	318	*e*P	**P**	**02 43 02.6 -0.2**
VRH				pmax	pmax	
	comp=Z,51nm,0.7s					
N17K	**Nushagak Hills**	66.54	32	P	**P**	**02 43 04.1 +1.4**
	baz=274					
J18K	**Innoko River**	66.57	29	IAmb	IAmb	02 43 12.4
	comp=Z,19nm,1.1s					
J18K	**Innoko River**	66.57	29	P	**P**	**02 43 04.1 +1.1**
	baz=273					
E20K	**Nigu River**	66.58	24	P	**P**	**02 43 03.7 +0.8**
	baz=272,SNR=18					
H19K	**Roundabout Mou**	66.58	27	IAmb	IAmb	02 43 08.0
	comp=Z,26nm,0.8s					
H19K	**Roundabout Mou**	66.58	27	P	**P**	**02 43 04.0 +1.1**
	baz=273					
R16K	**Pilot Point**	66.58	35	P	**P**	**02 43 03.9 +0.9**
	baz=275					
O17K	**Koliganek Bris**	66.64	33	P	**P**	**02 43 03.9 +0.5**
	baz=275					
L18K	**Granite Mounta**	66.66	30	IAmb	IAmb	02 44 19.4
	comp=Z,44nm,1.5s					
L18K	**Granite Mounta**	66.66	30	P	**P**	**02 43 04.8 +1.3**
	baz=274					
KBZ	**Khabaz**	66.78	309	P	**P**	**02 43 05.3 +0.7**
	comp=Z,28nm,0.9s,baz=109,slow=4.7,SNR=38					
KBZ				LR	LR	03 15 46.7
	comp=Z,561nm,18.2s,baz=71,slow=39					
	comp=Z,28nm,0.9s					
KBZ	**Khabaz**	66.78	309	P	**P**	**02 43 05.3 +0.7**
KLMR	**Klimovskoe**	66.79	328	*e*P	**P**	**02 43 03.2 -1.1**
KLMR				pmax	pmax	
	comp=Z,76nm,1.3s					
KLMR				MLR	MLR	
	comp=Z,3μm,17.0s					
F20K	**Avaraart Lake**	66.80	25	P	**P**	**02 43 05.2 +0.9**
	baz=273					
KIV	**Kislovodsk**	66.90	310	P	**P**	**02 43 06.4 +0.9**
KIV	**Kislovodsk**	66.90	310	⇑P	**P**	**02 43 06.2 +0.7**
KIV	**Kislovodsk**	66.90	310	*e*P	**P**	**02 43 06.3 +0.8**
KIV				*e*S	**S**	**02 51 59.5 +1.7**
KIV				pmax	pmax	
	comp=Z,28nm,3.5s					
KIV				pmax	pmax	
	comp=Z,43nm,1.0s					
KIV				MLR	MLR	
	comp=Z,564nm,17.0s					
KIV	**Kislovodsk**	66.90	310	P	**P**	**02 43 06.4 +0.9**
	comp=Z,463nmcomp=Z,44nm,0.9s					
A22K	**Sinclair Lake**	66.92	21	P	**P**	**02 43 05.6 +0.6**
	baz=272					
TTA	**Tatalina**	66.92	30	P	**P**	**02 43 06.3 +1.1**
TTA	**Tatalina**	66.92	30	P	**P**	**02 43 06.7 +1.4**
TTA	**Tatalina**	66.92	30	P	**P**	**02 43 06.3 +1.1**
TTA				pmax	pmax	
	comp=Z,11nm,0.9s					
TTA	**Tatalina**	66.92	30	P	**P**	**02 43 06.3 +1.1**
	baz=274,SNR=5.3					
SHA1	**Shidzhatmaz**	66.95	309	*d iP*	**P**	**02 43 07.3 +1.3**
Q16K	**King Salmon**	66.96	34	P	**P**	**02 43 06.0 +0.6**
	baz=276					
J19K	**Poorman**	67.02	28	IAmb	IAmb	02 43 16.1
	comp=Z,20nm,0.9s					
J19K	**Poorman**	67.02	28	P	**P**	**02 43 06.7 +0.9**
	baz=274					
P17K	**Kvichak River**	67.03	34	P	**P**	**02 43 06.9 +1.1**
	baz=275					
C21K	**Knifeblade Rid**	67.06	23	P	**P**	**02 43 06.5 +0.6**
	baz=273,SNR=7.8					
B21K	**Ikpikpuk River**	67.09	22	IAmb	IAmb	02 43 32.7
	comp=Z,28nm,0.9s					
B21K	**Ikpikpuk River**	67.09	22	P	**P**	**02 43 06.7 +0.5**
	baz=273,SNR=22					
M18K	**Stony River**	67.12	31	P	**P**	**02 43 07.4 +0.9**
	baz=275					
H20K	**Anotleneega Mo**	67.23	27	P	**P**	**02 43 07.9 +0.8**
	baz=274,SNR=7.3					
E21K	**Killik River**	67.39	23	P	**P**	**02 43 08.5 +0.5**
	baz=274					
I20K	**Naaghedeneel**	67.45	27	P	**P**	**02 43 09.9 +1.4**
	baz=275					
B22K	**Teshekpuk Lake**	67.47	21	P	**P**	**02 43 09.0 +0.6**
	baz=273,SNR=25					
L19K	**White Mountain**	67.52	30	IAmb	IAmb	02 43 19.7
	comp=Z,25nm,1.1s					
L19K	**White Mountain**	67.52	30	P	**P**	**02 43 09.9 +0.9**
	baz=276					
O18K	**Koktuh Hills**	67.58	33	P	**P**	**02 43 10.3 +0.9**
	baz=276					
P18K	**Big Mountain,**	67.62	33	P	**P**	**02 43 10.7 +0.9**
	baz=276					
J20K	**Nowinta River**	67.65	28	P	**P**	**02 43 11.0 +1.3**
	baz=275,SNR=6.6					
F21K	**Alatna River**	67.66	25	P	**P**	**02 43 10.8 +1.0**
	baz=275					
G21K	**Allakaket**	67.71	26	P	**P**	**02 43 11.7 +1.6**
	baz=275,SNR=9.4					
K20K	**Telida**	67.76	29	P	**P**	**02 43 12.0 +1.5**
	baz=276					
M19K	**Big River Lodg**	67.76	31	P	**P**	**02 43 11.7 +1.2**
	baz=276					
Q18K	**Katmai Hardscr**	67.82	34	P	**P**	**02 43 12.0 +1.0**
	baz=277					
D22K	**Ayikyak River**	67.83	23	IAmb	IAmb	02 43 23.0
	comp=Z,23nm,0.9s					
D22K	**Ayikyak River**	67.83	23	P	**P**	**02 43 12.2 +1.4**
	baz=275					
N19K	**Bonanza Creek**	67.84	32	IAmb	IAmb	02 43 54.9
	comp=Z,35nm,1.6s					
N19K	**Bonanza Creek**	67.84	32	P	**P**	**02 43 12.1 +1.0**
	baz=276					
CHIR	**Chirikof Islan**	67.84	37	P	**P**	**02 43 11.8 +0.8**
	baz=278					
L20K	**Farewell, AK**	67.94	30	P	**P**	**02 43 12.9 +1.2**
	baz=276					
O19K	**Port Alsworth**	67.99	32	P	**P**	**02 43 13.0 +1.1**
	baz=277					
VORR	**Voronezh**	68.02	318	*e*P	**P**	**02 43 11.9 -0.4**
VORR				pmax	pmax	
	comp=Z,31nm,0.4s					
LPSR	**Galich'ya Gora**	68.05	319	*e*P	**P**	**02 43 11.4 -1.1**
LPSR				pmax	pmax	
	comp=Z,40nm,0.8s					
H21K	**Melozitna Rive**	68.08	26	IAmb	IAmb	02 43 17.5
	comp=Z,18nm,0.8s					
H21K	**Melozitna Rive**	68.08	26	P	**P**	**02 43 14.1 +1.7**
	baz=276					
VSR	**Storozhevoye**	68.11	318	*e*P	**P**	**02 43 11.9 -1.0**
VSR				pmax	pmax	
	comp=Z,30nm,1.0s					
F22K	**John River**	68.14	24	P	**P**	**02 43 14.5 +1.7**
	baz=276					
ERBR	**Yeremizino-Bor**	68.15	312	*e*P	**P**	**02 43 14.1 +0.9**
ERBR				*e*		02 45 40.7
ERBR				*e*S	**S**	**02 52 12.6 +0.1**
ERBR				pmax	pmax	
	comp=Z,77nm,1.1s					
ERBR				MLR	MLR	
	comp=Z,787nm,15.0s					
LABN	**Labinsk**	68.17	311	*e*P	**P**	**02 43 10.4 -3.0**
LABN				*e*S	**S**	**02 52 12.2 -0.6**
LABN				*e*SS	**SS**	**02 56 35.2 -0.1**
LABN				pmax	pmax	
	comp=Z,11nm,0.5s					
LABN				MLR	MLR	
	comp=Z,2μm,22.0s					
E22K	**Anaktuvuk Pass**	68.22	24	IAmb	IAmb	02 43 20.0
	comp=Z,23nm,0.9s					
E22K	**Anaktuvuk Pass**	68.22	24	P	**P**	**02 43 15.1 +1.8**
	baz=276					
MSVF	**Nonsavu**	68.24	121	P	**P**	**02 43 15.1 +0.9**
MSVF				IAmb	IAmb	02 43 15.8
	comp=Z,22nm,0.8s					
MSVF	**Nonsavu**	68.24	121	LR	LR	03 08 00.7
	comp=Z,435nm,21.9s,baz=350,slow=32					
MSVF	**Nonsavu**	68.24	121	P	**P**	**02 43 14.4 +0.2**
MSVF	**Nonsavu**	68.24	121⇑	*e*P	**P**	**02 43 14.2 0.0**
MSVF				pmax	pmax	
	comp=Z,28nm,0.9s					
MOS	**Moscow**	68.36	323	*e*P	**P**	**02 43 12.2 -2.1**
MOS				*e*		02 43 36.6
MOS				*e*		02 45 44.1
MOS				*e*S	**S**	**02 52 15.5 +0.9**
MOS				pmax	pmax	
	comp=Z,48nm,1.2s					
MOS				MLR	MLR	
	comp=Z,1μm,19.0s					
M20K	**Styx River**	68.36	31	IAmb	IAmb	02 43 31.0
	comp=Z,17nm,1.1s					
M20K	**Styx River**	68.36	31	P	**P**	**02 43 15.9 +1.5**
	baz=277					
GURO	**Guroymak-BITLI**	68.38	304	IAmb	IAmb	02 43 22.0
	comp=Z,31nm,1.5s					
C23K	**Itkillik River**	68.47	22	IAmb	IAmb	02 43 21.5
	comp=Z,13nm,0.8s					
C23K	**Itkillik River**	68.47	22	P	**P**	**02 43 16.2 +1.5**
	baz=276,SNR=12					
I21K	**Tanana**	68.47	27	IAmb	IAmb	02 43 23.2
	comp=Z,25nm,1.1s					
I21K	**Tanana**	68.47	27	P	**P**	**02 43 16.3 +1.4**
	baz=277					
CHUM	**Lake Minchumin**	68.48	28	P	**P**	**02 43 16.2 +1.2**
	baz=277					
Q19K	**Cape Douglas,**	68.49	34	P	**P**	**02 43 16.1 +0.9**
	baz=278					
SII	**Sitkinak Islan**	68.54	36	P	**P**	**02 43 16.8 +1.3**
	baz=278					
D23K	**Nanushuk River**	68.54	23	IAmb	IAmb	02 43 22.4
	comp=Z,24nm,0.8s					
D23K	**Nanushuk River**	68.54	23	P	**P**	**02 43 17.0 +1.7**
	baz=276					
H22K	**Ishtalitna Cre**	68.64	26	P	**P**	**02 43 17.3 +1.3**
	baz=277					
CAST	**Castle Rocks**	68.64	29	IAmb	IAmb	02 43 21.0
	comp=Z,18nm,0.9s					
CAST	**Castle Rocks**	68.64	29	P	**P**	**02 43 17.3 +1.2**
	baz=277,SNR=18					
PPLA	**Purkeypile**	68.67	29	P	**P**	**02 43 17.6 +1.3**
	baz=278					
APA	**Apatity**	68.77	336	*i iP*	**P**	**02 43 16.0 -0.7**
APA				*i*		02 43 39.0
APA				pmax	pmax	
	comp=Z,23nm,0.9s					
APA				MLR	MLR	
	comp=Z,2μm,12.0s					
VSLR	**Vesyoloye**	68.88	309⇓	*i iP*	**P**	**02 43 18.8 +0.9**
VSLR				pmax	pmax	
	comp=Z,54nm,0.9s					
N20K	**Mount Spurr**	68.89	31	P	**P**	**02 43 18.9 +1.2**
	baz=278					
SPCR	**Spurr Chakacha**	68.89	31	P	**P**	**02 43 18.7 +1.1**
	baz=278					
OHAK	**Old Harbor**	68.92	36	P	**P**	**02 43 18.4 +0.6**
	baz=279					
COLD	**Coldfoot**	68.93	25	P	**P**	**02 43 19.3 +1.5**
	baz=278					
SPU	**Mount Spurr**	68.97	31	IAmb	IAmb	02 44 17.7
	comp=Z,28nm,1.6s					
TOLK	**Toolik Lake Re**	68.98	23	IAmb	IAmb	02 43 21.9
	comp=Z,13nm,0.8s					
TOLK	**Toolik Lake Re**	68.98	23	P	**P**	**02 43 18.8 +0.7**
	baz=278,SNR=9.4					
BPAW	**Bear Paw Mtn.**	69.04	28	IAmb	IAmb	02 43 37.2
	comp=Z,12nm,1.0s					
BPAW	**Bear Paw Mtn.**	69.04	28	P	**P**	**02 43 19.2 +0.7**
	baz=278,SNR=8.3					
E23K	**Chandalar**	69.04	24	IAmb	IAmb	02 43 30.1
	comp=Z,26nm,1.1s					
E23K	**Chandalar**	69.04	24	P	**P**	**02 43 19.7 +1.2**
	baz=278,SNR=17					
OBN	**Obninsk**	69.05	322	P	**P**	**02 43 18.6 0.0**
OBN				IAmb	IAmb	02 43 20.9
	comp=Z,31nm,1.0s					
OBN	**Obninsk**	69.05	322	LR	LR	03 16 53.8
	comp=Z,1μm,18.3s,baz=68,slow=39					
OBN	**Obninsk**	69.05	322	*i* P	**P**	**02 43 17.3 -1.3**
OBN				*i*		02 45 51.5
OBN				*i* S	S	02 52 14.8 -8.0
OBN				pmax	pmax	
	comp=Z,42nm,1.3s					
OBN				MLR	MLR	
	comp=Z,1μm,17.0s					
OBN	**Obninsk**	69.05	322	P	**P**	**02 43 18.7 +0.1**
	comp=Z,35

SOC MLR MLR
comp=Z,1µm,22.0s
SKT Skwentna 69.10 30 IAmb IAmb 02 43 24.6
comp=Z,15nm,1.0s
SKT Skwentna 69.10 30 P **P 02 43 19.5 +0.6**
baz=278
RAYN Ar Rayn 69.11 288 P **P 02 43 20.0 +0.3**
RAYN IAmb IAmb 02 43 30.0
comp=Z,27nm,1.1s
RAYN Ar Rayn 69.11 288 P **P 02 43 20.0 +0.3**
RAYN pmax pmax
comp=Z,27nm,1.2s
C24K Franklin Bluff 69.14 22 IAmb IAmb 02 43 22.7
comp=Z,26nm,0.9s
C24K Franklin Bluff 69.14 22 P **P 02 43 20.1 +1.1**
baz=278
KTH Kantishna Hill 69.14 29 IAmb IAmb 02 43 22.9
comp=Z,13nm,1.0s
D24K Happy Valley 69.18 23 IAmb IAmb 02 43 23.2
comp=Z,20nm,0.8s
D24K Happy Valley 69.18 23 P **P 02 43 20.1 +0.8**
baz=278
Q20K Shuyak Island 69.18 34 P **P 02 43 20.1 +0.7**
baz=279
KDAK Kodiak Island 69.21 35 P **P 02 43 20.5 +0.9**
baz=279
H23K Yukon River 69.39 26 IAmb IAmb 02 43 29.2
comp=Z,24nm,0.9s
H23K Yukon River 69.39 26 P **P 02 43 22.4 +1.8**
baz=279
TRF Thorofare Moun 69.44 29 P **P 02 43 22.1 +1.0**
baz=279
E24K Your Creek 69.46 24 IAmb IAmb 02 43 25.0
comp=Z,14nm,0.8s
E24K Your Creek 69.46 24 P **P 02 43 22.3 +1.2**
baz=279,SNR=16
SUA Susitna One 69.55 31 IAmb IAmb 02 43 25.7
comp=Z,24nm,0.8s
SUA Susitna One 69.55 31 P **P 02 43 23.3 +1.5**
baz=279,SNR=8.5
I23K Minto, Yukon-K 69.57 27 P **P 02 43 22.4 +0.7**
baz=279
CUT Chulitna 69.61 30 P **P 02 43 22.8 +0.8**
baz=279
BRLK Bradley Lake 69.76 33 IAmb IAmb 02 43 30.3
comp=Z,25nm,0.9s
F24K Squaw Lake 69.77 24 IAmb IAmb 02 43 30.2
comp=Z,18nm,0.8s
F24K Squaw Lake 69.77 24 P **P 02 43 24.4 +1.4**
baz=280,SNR=28
NEA2 Nenana 69.79 27 IAmb IAmb 02 43 27.8
comp=Z,20nm,0.8s
NEA2 Nenana 69.79 27 P **P 02 43 24.2 +1.2**
baz=280,SNR=18
M22K Willow 69.79 30 P **P 02 43 24.2 +1.1**
baz=280
BRSE Bradley Lake S 69.83 33 P **P 02 43 24.5 +1.1**
baz=280
VADS Vadso 69.84 339 *e*P **P 02 43 23.6 +0.3**
HOPEN Hopen 69.88 346 *e*P **P 02 43 24.5 +1.1**
HOPEN IAmb IAmb 02 43 26.4
comp=Z,58nm,1.1s
MCK McKinley 69.99 28 IAmb IAmb 02 43 37.3
comp=Z,18nm,1.0s
MCK McKinley 69.99 28 P **P 02 43 25.4 +1.1**
baz=280,SNR=9.6
D25K Kavik River 70.01 22 IAmb IAmb 02 43 29.7
comp=Z,18nm,0.8s
D25K Kavik River 70.01 22 P **P 02 43 25.8 +1.3**
baz=280,SNR=28
H24K Noodor Dome 70.07 26 IAmb IAmb 02 43 33.0
comp=Z,15nm,0.9s
H24K Noodor Dome 70.07 26 P **P 02 43 26.8 +2.0**
baz=280,SNR=12
G24K Hadweenzic Riv 70.07 25 IAmb IAmb 02 43 29.4
comp=Z,15nm,0.9s
G24K Hadweenzic Riv 70.07 25 P **P 02 43 26.6 +1.8**
baz=280,SNR=12
RC01 Rabbit Creek A 70.09 31 P **P 02 43 26.0 +1.0**
baz=280
O22K Cooper Landing 70.20 32 P **P 02 43 27.2 +1.5**
baz=281
WRH Wood River Hil 70.22 27 IAmb IAmb 02 43 39.7
comp=Z,56nm,1.8s
COLA College 70.25 27 P **P 02 43 28.9 +3.0**
COLA IAmb IAmb 02 43 34.2
comp=Z,17nm,0.9s
COLA College 70.25 27 P **P 02 43 27.5 +1.6**
COLA College 70.25 27⇓ *e*P **P 02 43 28.8 +3.0**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 70.25 27 P **P 02 43 27.2 +1.4**
baz=281
PMR Palmer 70.28 31 IAmb IAmb 02 43 28.1
comp=Z,14nm,0.9s
PMR Palmer 70.28 31 P **P 02 43 28.1 +2.0**
PMR Palmer 70.28 31 P **P 02 43 27.0 +0.9**
baz=281
GHO Glory Hole Cre 70.35 30 IAmb IAmb 02 43 31.0
comp=Z,18nm,1.0s
JOF Joensuu 70.37 331 *e*P **P 02 43 26.9 +0.3**
POKR Poker Plat Res 70.38 27 IAmb IAmb 02 43 35.0
comp=Z,18nm,0.9s
POKR Poker Plat Res 70.38 27 P **P 02 43 28.2 +1.4**
baz=281,SNR=12
C26K Camden Bay 70.40 21 P **P 02 43 28.3 +1.5**
baz=281,SNR=8.5
SEW Seward 70.41 32 P **P 02 43 28.0 +1.1**
baz=281
ANN Anapa 70.44 311 *e*P **P 02 43 27.8 +0.4**
ANN *e*PPP PPP 02 47 46.5
ANN *e*S **S 02 52 38.0 -1.5**
ANN pmax pmax
comp=Z,95nm,1.0s
ANN MLR MLR
comp=Z,1µm,17.0s
E25K Arctic Village 70.53 23 IAmb IAmb 02 43 37.0
comp=Z,38nm,1.8s
E25K Arctic Village 70.53 23 P **P 02 43 28.7 +1.1**
baz=282
G25K Bearman Lake 70.60 25 P **P 02 43 29.2 +1.3**
baz=282,SNR=12
F25K Christian Rive 70.61 24 IAmb IAmb 02 43 32.5
comp=Z,17nm,0.8s
F25K Christian Rive 70.61 24 P **P 02 43 29.6 +1.4**
baz=282,SNR=22
SML Sawmill 70.62 30 IAmb IAmb 02 43 32.3
comp=Z,17nm,0.9s
SML Sawmill 70.62 30 P **P 02 43 29.2 +0.9**
baz=281
KNK Knik Glacier 70.64 31 IAmb IAmb 02 43 44.8
comp=Z,20nm,1.0s
KNK Knik Glacier 70.64 31 P **P 02 43 29.3 +0.9**
baz=281
ILAR Eielson Array 70.68 27 P **P 02 43 28.6 +0.1**
comp=Z,2.9nm,0.8s,baz=294,slow=5.1,SNR=24
ILAR LR LR 03 18 39.9
comp=Z,439nm,18.1s,baz=270,slow=39
comp=Z,2.9nm,0.8s
ILAR Eielson Array 70.68 27 P **P 02 43 28.6 +0.1**
HDA Harding Lake 70.72 27 P **P 02 43 29.6 +0.8**
baz=282,SNR=5.7
PWL Port Wells 70.80 31 P **P 02 43 30.7 +1.3**
baz=282
H25L Birch Creek 70.81 25 P **P 02 43 30.6 +1.4**
baz=282,SNR=7.5
C27K Jago River 70.87 22 IAmb IAmb 02 43 39.9
comp=Z,30nm,1.4s
C27K Jago River 70.87 22 P **P 02 43 30.9 +1.2**
baz=283,SNR=12
M23K Glacier View 70.90 30 P **P 02 43 30.6 +0.6**
baz=282
FYU Fort Yukon 70.98 25 IAmb IAmb 02 44 09.3
comp=Z,58nm,1.8s
BMAR Burnt Mountain 71.04 24 P **P 02 43 32.1 +1.4**
SCM Sheep Creek Mo 71.08 30 IAmb IAmb 02 43 35.4
comp=Z,27nm,0.8s
SCM Sheep Creek Mo 71.08 30 P **P 02 43 32.2 +1.1**
baz=282
PRP Porcupine Dome 71.08 26 P **P 02 43 32.2 +1.0**
baz=282
F26K Sheenjek River 71.14 24 IAmb IAmb 02 43 35.7
comp=Z,17nm,0.9s
F26K Sheenjek River 71.14 24 P **P 02 43 33.0 +1.6**
baz=283
SPA0 Spitsbergen Ar 71.27 348 *e*P **P 02 43 32.0 +0.1**
SPA0 IAmb IAmb 02 43 35.2
comp=Z,41nm,0.9s
SPITS Spitsbergen Ar 71.27 348 P **P 02 43 31.8 -0.1**
comp=Z,22nm,0.7s,baz=76,slow=7.8,SNR=24
SPITS LR LR 03 19 47.3
comp=Z,980nm,18.8s,baz=35,slow=40
comp=Z,22nm,0.7s
SPITS Spitsbergen Ar 71.27 348 P **P 02 43 32.0 +0.1**
SPITS pmax pmax
comp=Z,42nm,0.9s
ARA0 ARCESS Array S 71.27 338 *e*P **P 02 43 32.8 +0.7**
ARA0 IAmb IAmb 02 43 33.1
comp=Z,279nm,2.1s
ARCES ARCESS Array B 71.27 338 P **P 02 43 32.8 +0.7**
comp=Z,12nm,0.8s,baz=61,slow=6.0,SNR=14
ARCES LR LR 03 19 16.3
comp=Z,965nm,18.7s,baz=68,slow=40
comp=Z,12nm,0.8s
ARCES ARCESS Array B 71.27 338 P **P 02 43 32.8 +0.7**
J25K Salcha River, 71.35 27 P **P 02 43 33.3 +0.7**
baz=283
K24K Donnelly Dome 71.35 28 P **P 02 43 34.0 +1.3**
baz=283,SNR=12
GLI Glacier Island 71.39 31 P **P 02 43 33.8 +0.8**
baz=283
G26K Porcupine Rive 71.45 24 P **P 02 43 34.9 +1.7**
baz=284,SNR=18
PUL Pulkovo 71.48 328⇓ *e*P **P 02 43 34.0 +0.6**
PUL pmax pmax
comp=Z,69nm,0.9s
M24K Tolsona, Glenn 71.55 30 IAmb IAmb 02 43 38.4
comp=Z,29nm,0.8s
M24K Tolsona, Glenn 71.55 30 P **P 02 43 34.9 +1.0**
baz=283
PAX Paxson 71.67 29 P **P 02 43 35.8 +1.1**
baz=283
RIDG Independent Ri 71.77 28 IAmb IAmb 02 43 56.9
comp=Z,23nm,1.2s
RIDG Independent Ri 71.77 28 P **P 02 43 35.8 +0.5**
baz=284
KLU Klutina 71.81 30 P **P 02 43 36.4 +0.8**
baz=283
KBS Kingsbay 71.81 349 *e*P **P 02 43 35.5 +0.3**
KBS IAmb IAmb 02 43 36.0
comp=Z,15nm,0.9s
KBS Kingsbay 71.81 349 *i* P **P 02 43 34.7 -0.5**
HSPB Hornsund (broa 71.84 347 *e*P **P 02 43 35.8 +0.4**
HSPB Hornsund (broa 71.84 347 *e*P **P 02 43 35.7 +0.4**
BJO1 Bjornoya 71.86 344 *e*P **P 02 43 36.6 +1.1**
D27M Malcolm River 71.91 22 IAmb IAmb 02 43 42.6
comp=Z,18nm,1.0s
D27M Malcolm River 71.91 22 P **P 02 43 37.4 +1.4**
baz=285,SNR=18
HARP HAARP 71.95 29 P **P 02 43 37.1 +0.8**
baz=284
E27K Coleen River 71.96 23 P **P 02 43 37.2 +0.9**
baz=285,SNR=9.6
DIV Divide 71.97 31 IAmb IAmb 02 43 41.4
comp=Z,26nm,1.0s
SCRK Sand Creek 72.08 28 P **P 02 43 37.8 +0.6**
baz=284,SNR=9.7
I26K Coal Creek Min 72.10 26 P **P 02 43 38.3 +1.2**
baz=285
EYAK Cordova Ski Ar 72.11 31 P **P 02 43 38.3 +1.1**
baz=284
J26L Joseph Creek 72.13 27 P **P 02 43 38.0 +0.6**
baz=284,SNR=15
KTK1 Kautokeino 72.19 338 *e*P **P 02 43 38.3 +0.7**
KTK1 IAmb IAmb 02 43 41.2
comp=Z,191nm,2.1s
G27K Doyon Strip 72.30 24 P **P 02 43 39.3 +0.9**
baz=285,SNR=13
N25K Chitina, Valde 72.40 30 P **P 02 43 39.9 +0.8**
baz=284
GAZ Gaziantep 72.41 304 IAmb IAmb 02 43 46.9
comp=Z,36nm,1.1s
H27K Steamboat Moun 72.51 25 P **P 02 43 40.6 +1.0**
baz=286
BMRM Bremner River 72.56 31 IAmb IAmb 02 43 46.5
comp=Z,29nm,1.0s
BMRM Bremner River 72.56 31 P **P 02 43 40.9 +1.0**
baz=285
E28M Babbage River 72.58 22 P **P 02 43 41.5 +1.5**
baz=287,SNR=21
L26K Log Cabin Wild 72.60 28 P **P 02 43 41.6 +1.4**
baz=285
I27K Kandik River 72.64 26 P **P 02 43 41.9 +1.5**
baz=286,SNR=14
D28M Stokes Point 72.64 22 P **P 02 43 41.9 +1.6**
baz=287,SNR=9.9
SIM Simferopol' 72.70 312 *e*P **P 02 43 41.4 +0.3**
SIM *e*S S 02 52 56.3 -9.4
SIM pmax pmax
comp=Z,66nm,0.9s
GLB Gilahina Butte 72.81 30 IAmb IAmb 02 43 47.8
comp=Z,13nm,0.8s
K27K Chicken 72.88 27 IAmb IAmb 02 43 50.2
comp=Z,17nm,0.9s
K27K Chicken 72.88 27 P **P 02 43 43.2 +1.4**
baz=286
KAIM Kayak Island 72.91 32 P **P 02 43 43.1 +1.0**
baz=285
M26K Nabesna, AK 72.92 29 IAmb IAmb 02 43 47.2
comp=Z,21nm,0.9s
M26K Nabesna, AK 72.92 29 P **P 02 43 43.7 +1.6**
baz=286,SNR=15
JETT Jettan, Norway 72.99 339 *e*P **P 02 43 43.3 +1.0**
JETT IAmb IAmb 02 43 54.6
comp=Z,82nm,1.4s
FINES FINESS Array B 73.10 330 P **P 02 43 42.8 -0.2**
FINES FINESS Array B 73.10 330 P **P 02 43 43.0 -0.1**
comp=Z,20nm,0.8s,baz=58,slow=5.2,SNR=27
FINES LR LR 03 19 47.4
comp=Z,1µm,20.8s,baz=75,slow=39
comp=Z,20nm,0.8s
FINES FINESS Array B 73.10 330 P **P 02 43 43.0 -0.1**
E29M Blow River 73.22 22 P **P 02 43 45.0 +1.3**
baz=288,SNR=14
L27K Beaver Creek, 73.26 28 P **P 02 43 45.5 +1.4**
baz=286
BCAR Beaver Creek A 73.28 28 P **P 02 43 45.1 +0.9**
I28M Miner Creek 73.36 26 P **P 02 43 46.1 +1.4**
baz=287,SNR=17
BGLC Bering Glacier 73.41 31 P **P 02 43 46.4 +1.5**
baz=286
M27K Edge Creek, AK 73.44 29 P **P 02 43 46.2 +1.0**
baz=287
KEF Keuruu 73.45 331 *e*P **P 02 43 46.5 +1.4**
TRO Tromso 73.46 339 *e*P **P 02 43 45.3 +0.2**
TRO IAmb IAmb 02 43 47.0
comp=Z,107nm,1.7s
VSU Vasula 73.59 327⇑ *e*P **P 02 43 45.9 -0.1**
VSU pmax pmax
comp=Z,61nm,1.1s
VSU Vasula 73.59 327 *e*P **P 02 43 46.8 +0.7**
G29M Pine Creek 73.64 24 IAmb IAmb 02 43 50.4
comp=Z,33nm,1.2s
G29M Pine Creek 73.64 24 P **P 02 43 47.6 +1.4**
baz=289,SNR=20
ARBE Arbavere 73.70 328 *e*P **P 02 43 47.5 +0.8**
H29M Whitestone 73.73 25 P **P 02 43 48.0 +1.2**
baz=288,SNR=8.1
BVCY Beaver Creek 73.87 29 P **P 02 43 49.1 +1.4**
baz=287,SNR=6.1
DAWY Dawson 74.00 27 IAmb IAmb 02 43 52.3
comp=Z,18nm,1.0s
DAWY Dawson 74.00 27 P **P 02 43 49.3 +0.9**
baz=286,SNR=17
ASF Jabal al Asfar 74.02 299 LR LR 03 21 53.3
comp=Z,527nm,19.7s,baz=73,slow=40
I29M Ogilvie Camp, 74.03 25 P **P 02 43 49.5 +0.9**
baz=289
MNK Minsk 74.08 323 *i* P **P 02 43 46.9 -2.1**
MNK *i* 02 44 01.2
MNK *i* 02 46 31.6
MNK *i* PPP PPP 02 48 16.8
MNK *i* S **S 02 53 20.3 -0.7**
MNK *i* 02 53 54.7
MNK *i* SS **SS 02 58 06.3 +0.9**
MNK *i* SSS SSS 03 01 27.9
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=Z,33nm,0.9s
MNK MLR MLR
comp=E,791nm,17.0s
MNK MLR MLR
comp=N,784nm,17.0s
MNK MLR MLR
comp=Z,642nm,16.0s
NOR Nord 74.13 354 *i* P **P 02 43 47.1 -1.7**
NOR IAmb IAmb 02 43 53.9
comp=Z,17nm,1.0s
VAF Ylistaro 74.16 332 *e*P **P 02 43 50.1 +0.8**
F30M Barrier River 74.23 23 P **P 02 43 50.8 +1.2**
baz=290,SNR=19
MEF Metsahovi 74.24 329 *e*P **P 02 43 50.9 +1.1**
YUK3 Moose Creek 74.25 29 P **P 02 43 50.9 +0.7**
baz=288,SNR=11
G30M tAoh Zraii Nji 74.29 24 IAmb IAmb 02 43 53.9
comp=Z,20nm,0.9s
G30M tAoh Zraii Nji 74.29 24 P **P 02 43 50.5 +0.5**
baz=290
EPYK Eagle Plains 74.31 24 IAmb IAmb 02 43 52.6
comp=Z,16nm,0.8s
EPYK Eagle Plains 74.31 24 P **P 02 43 50.9 +0.7**
baz=290,SNR=11
AK09 Malin Array Si 74.34 319 P **P 02 43 50.8 +0.2**
AK03 Malin Array Si 74.35 319 P **P 02 43 50.6 0.0**
AK08 Malin Array Si 74.36 319 P **P 02 43 50.6 -0.1**
AKASG Malin Array Be 74.36 319 P **P 02 43 51.3 +0.6**
AKASG Malin Array Be 74.36 319 P **P 02 43 50.5 -0.2**
comp=Z,11nm,0.8s,baz=62,slow=6.0,SNR=33
AKASG LR LR 03 20 00.5
comp=Z,717nm,18.3s,baz=70,slow=38
comp=Z,11nm,0.8s
AKASG Malin Array Be 74.36 319 P **P 02 43 51.3 +0.6**
AKASG pmax pmax
comp=Z,15nm,1.1s
AKBB Malin Array Si 74.36 319 IAmb IAmb 02 43 58.6
comp=Z,21nm,0.9s
AKBB Malin Array Si 74.36 319 *d i* P **P 02 43 51.6 +0.9**
AKBB pmax pmax
comp=Z,24nm,0.9s
AKBB Malin Array Si 74.36 319 P **P 02 43 50.6 -0.1**
J29N Klondike Camp 74.36 26 IAmb IAmb 02 43 57.4
comp=Z,18nm,0.7s
J29N Klondike Camp 74.36 26 P **P 02 43 51.9 +1.3**
baz=289,SNR=14
AK01 Malin Array Si 74.37 319 P **P 02 43 50.7 0.0**
KIEV Kiev 74.37 319 P **P 02 43 50.6 -0.2**
KIEV IAmb IAmb 02 43 58.6
comp=Z,19nm,0.9s
KIEV Kiev 74.37 319 ⇑P **P 02 43 50.9 +0.2**
KIEV Kiev 74.37 319 P **P 02 43 50.6 -0.2**
KIEV pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 74.37 319 P **P 02 43 50.4 -0.3**
comp=Z,94nm,1.9s
KIRS Kirsehir-Merke 74.38 306 ⇑P **P 02 43 51.6 +0.4**
AK05 Malin Array Si 74.39 319 P **P 02 43 50.8 -0.1**
AK07 Malin Array Si 74.41 319 P **P 02 43 51.0 0.0**
AK12 Malin Array Si 74.42 319 P **P 02 43 51.0 0.0**
BR131 Keskin Array S 74.42 307 IAmb IAmb 02 43 56.0
comp=Z,17nm,0.8s
BR131 Keskin Array S 74.42 307 *d i* P **P 02 43 52.0 +0.4**
BRTR Keskin Array B 74.42 307 P **P 02 43 52.1 +0.6**
BRTR Keskin Array B 74.42 307 P **P 02 43 51.9 +0.4**
comp=Z,19nm,1.0s,baz=124,slow=5.3,SNR=70
BRTR LR LR 03 21 00.4
comp=Z,443nm,19.9s,baz=48,slow=39
comp=Z,19nm,1.0s
BRTR Keskin Array B 74.42 307 P **P 02 43 51.9 +0.4**
BR104 Keskin Array S 74.43 307 P **P 02 43 51.1 -0.4**
comp=Z,128nmcomp=Z,17nm,1.1s
AK22 Malin Array Si 74.44 319 P **P 02 43 50.3 -0.8**
BR106 Keskin Array S 74.44 307 P **P 02 43 51.9 +0.3**
comp=Z,158nmcomp=Z,23nm,1.2s
AK16 Malin Array Si 74.44 319 P **P 02 43 50.8 -0.4**
BR105 Keskin Array S 74.44 307 P **P 02 43 52.3 +0.7**
comp=Z,172nmcomp=Z,22nm,1.0s
AK18 Malin Array Si 74.45 319 P **P 02 43 50.9 -0.3**
O28M Mount Upton 74.68 30 P **P 02 43 54.1 +1.3**
baz=288
YUK8 Steele Glacier 74.72 30 P **P 02 43 54.1 +1.2**
baz=289
IIGN Ignalina 74.76 324 *e*P **P 02 43 53.8 +0.9**
INK Inuvik 74.77 22 LR LR 03 20 24.9
comp=Z,461nm,19.1s,baz=267,slow=39
INK Inuvik 74.77 22 P **P 02 43 53.5 +0.8**
baz=292,SNR=18
I30M Mount Dempster 74.84 25 P **P 02 43 54.5 +1.0**
baz=290,SNR=16
L29M L29M 74.84 28 IAmb IAmb 02 43 58.1
comp=Z,16nm,0.8s
L29M L29M 74.84 28 P **P 02 43 54.7 +1.3**
baz=290,SNR=24
K29M Barlow Dome 74.86 27 P **P 02 43 54.9 +1.4**
baz=290
BAL3X Bal3x, Balta 74.91 316 P **P 02 43 53.7 -0.2**
M29M Somme Creek 74.92 28 P **P 02 43 55.7 +1.8**
baz=289,SNR=16
MTSE Matsula 74.98 328 *e*P **P 02 43 55.2 +1.1**
MMAI Mount Meron Ar 74.98 300 P **P 02 43 55.7 +1.0**
comp=Z,12nm,1.0s,baz=77,slow=8.6,SNR=7.0
MMAI LR LR 03 19 13.4
comp=Z,773nm,20.5s,baz=52,slow=38
comp=Z,12nm,1.0s
ANTO Ankara 75.01 307 P **P 02 43 55.5 +0.7**
ANTO IAmb IAmb 02 43 59.3
comp=Z,31nm,0.8s
ANTO Ankara 75.01 307 ⇑P **P 02 43 55.2 +0.4**
ANTO Ankara 75.01 307 P **P 02 43 55.5 +0.7**
ANTO pmax pmax
comp=Z,31nm,0.8s
ANTO Ankara 75.01 307 P **P 02 43 54.6 -0.2**
comp=Z,254nmcomp=Z,23nm,1.2s
F31M Tsiigehtchic 75.03 23 IAmb IAmb 02 43 56.5
comp=Z,18nm,0.7s
F31M Tsiigehtchic 75.03 23 P **P 02 43 54.8 +0.5**
baz=292,SNR=24
J30M Hart River 75.09 26 P **P 02 43 56.2 +1.4**
baz=291,SNR=6.1
YUK4 Talbot Arm 75.21 29 P **P 02 43 57.2 +1.5**
baz=290
RAF Rauma 75.22 330 *e*P **P 02 43 56.0 +0.6**
MI28 Mi28,Pidlybu 75.24 319 P **P 02 43 55.7 -0.1**
ATD Arta Tunnel 75.26 277 LR LR 03 18 14.3
comp=Z,22nm,18.6s,baz=40,slow=37
STEI Steigen 75.33 338 *e*P **P 02 43 55.4 -0.6**
STEI IAmb IAmb 02 43 55.9
comp=Z,272nm,2.1s
GHAJ Ghor Haditha 75.36 298 IAmb IAmb 02 44 20.5
comp=Z,38nm,1.2s
H31M Peel River 75.42 24 P **P 02 43 57.5 +0.9**
baz=292
YUK6 Outpost Mounta 75.47 30 P **P 02 43 57.9 +0.6**
baz=290
LUBAR Lubar, Ukraine 75.48 318 P **P 02 43 57.1 -0.1**
LUBAR pP **pP 02 44 01.2 -1.2**
FAUS Fauske 75.53 337 *e*P **P 02 43 56.8 -0.3**
FAUS IAmb IAmb 02 44 00.5
comp=Z,38nm,1.2s
O29M Mount Kennedy 75.59 30 P **P 02 43 58.4 +0.6**
baz=290
M30M Minto, Yukon 75.60 28 P **P 02 43 59.2 +1.5**
baz=291,SNR=15
MAYO Mayo, Yukon 75.62 27 P **P 02 43 59.0 +1.2**
baz=291
SORM Soroca 75.65 316 ⇑P **P 02 43 58.3 +0.2**
SORM Soroca 75.65 316 P **P 02 43 56.9 -1.3**
MILM Milestii Mici 75.72 315 *e*P **P 02 43 59.0 +0.4**
comp=Z,360nm,5.8s
MILM Milestii Mici 75.72 315 *e*P **P 02 43 59.0 +0.4**
MILM *e*PPP PPP 02 48 34.0
MILM *i* S **S 02 53 36.0 -3.4**
MILM pmax pmax
comp=Z,360nm,5.8s
MILM MLR MLR
comp=Z,700nm,14.5s
A36M Sachs Harbour 75.74 17 IAmb IAmb 02 44 03.2
comp=Z,15nm,0.8s
A36M Sachs Harbour 75.74 17 P **P 02 43 59.1 +0.9**
baz=299,SNR=16
VSVD Vaisvydziai 75.80 325 *e*P **P 02 43 59.8 +1.0**
N30M Aishikik Lake 75.87 29 P **P 02 44 00.7 +1.3**
baz=291,SNR=5.8
HYT Haines Junctio 75.91 30 P **P 02 44 00.7 +1.1**
baz=291
PABE Paberze 75.93 324 *e*P **P 02 44 00.6 +0.9**
CSS Mathiatis 76.05 302 P **P 02 44 00.8 0.0**
comp=Z,66nm,0.8s
NDNU Novodnistrovsk 76.13 317 P **P 02 44 01.2 +0.2**

RNPP9 **Sopachiv** 76.15 320 P P 02 44 01.3 +0.3
RNPP8 **Varash** 76.20 320 P P 02 44 01.3 0.0
RNPP5 **Staryi Chortor** 76.22 320 P P 02 44 01.4 0.0
TLCR 76.24 313 ⇓P P 02 44 02.3 +0.7
TLCR 76.24 313 ⇓P P 02 44 02.3 +0.7
MOR8 **Moi Rana** 76.33 336 *e*P P 02 44 00.8 -1.0
MOR8 IAmb IAmb 02 44 13.9
comp=Z,663nm,3.5s
EIL **Elat** 76.36 297 LR LR 03 20 51.2
comp=Z,711nm,20.2s,baz=71,slow=38
P30M **Million Dollar** 76.41 30 P P 02 44 03.8 +1.4
baz=291
N31M **Braeburn, Yuko** 76.45 29 P P 02 44 04.1 +1.5
baz=292
VLDR **Vladesti** 76.53 314 ⇑P P 02 44 04.5 +1.3
O30N **Mendenhall** 76.57 30 P P 02 44 05.0 +1.7
baz=292,SNR=6.0
TPGR **Topolog** 76.61 313 ⇓P P 02 44 04.4 +0.6
EUNU **Eureka** 76.64 5 IAmb IAmb 02 44 10.0
comp=Z,54nm,1.8s
KONS **Konsvik** 76.68 337 *e*P P 02 44 04.3 +0.6
KONS IAmb IAmb 02 44 05.7
comp=Z,32nm,1.1s
CFR **Carcaliu** 76.70 313 ⇓P P 02 44 05.3 +1.2
CFR **Carcaliu** 76.70 313 ⇓P P 02 44 05.4 +1.2
KMPD **K-Podol'skiy** 76.72 317 P P 02 44 04.3 +0.1
BORA **Eskisehir** 76.72 308 IAmb IAmb 02 44 08.6
comp=Z,18nm,0.8s
M31M **Drury Creek, Y** 76.78 28 P P 02 44 05.5 +1.1
baz=293,SNR=12
STOK **Stokkvaagen** 76.78 337 *e*P P 02 44 04.4 +0.1
STOK IAmb IAmb 02 44 06.3
comp=Z,24nm,1.1s
LEIR **Leirfjorden** 76.84 337 *e*P P 02 44 04.5 -0.2
LEIR IAmb IAmb 02 44 07.3
comp=Z,124nm,1.8s
SUW **Suwalki** 76.86 323 *e*P P 02 44 05.4 +0.5
SUW **Suwalki** 76.86 323 *e*P P 02 44 05.6 +0.7
HARR **Harsova** 76.99 313 ⇑P P 02 44 06.3 +0.4
HARR **Harsova** 76.99 313 ⇑P P 02 44 06.3 +0.4
PANC **Panciu** 77.14 314 ⇑P P 02 44 07.8 +1.2
WHY **Whitehorse** 77.17 29 IAmb IAmb 02 44 13.6
comp=Z,18nm,0.8s
WHY **Whitehorse** 77.17 29 P P 02 44 08.5 +1.7
baz=293,SNR=8.2
FARO **Faro, Yukon** 77.22 28 IAmb IAmb 02 44 18.4
comp=Z,20nm,1.0s
FARO **Faro, Yukon** 77.22 28 P P 02 44 09.0 +2.1
baz=294,SNR=15
ODBI **Odobesti** 77.23 314 ⇑P P 02 44 08.8 +1.6
ODBI **Odobesti** 77.23 314 P P 02 44 08.9 +1.6
comp=Z,212nmcomp=Z,23nm,0.8s
PRAR **RASCA** 77.25 316 ⇑P P 02 44 08.4 +1.1
TESR **Tescani** 77.26 315 ⇑P P 02 44 08.3 +0.9
TESR **Tescani** 77.26 315 P P 02 44 08.1 +0.7
comp=Z,40nm,1.2s
C36M **Paulatuk** 77.39 19 IAmb IAmb 02 44 12.8
comp=Z,43nm,1.4s
C36M **Paulatuk** 77.39 19 P P 02 44 07.7 +0.1
baz=300,SNR=14
VRI **Vrincioaia** 77.42 314 ⇓P P 02 44 09.8 +1.5
VRI **Vrincioaia** 77.42 314 ⇓P P 02 44 09.8 +1.5
VRI **Vrincioaia** 77.42 314 P P 02 44 09.5 +1.2
comp=Z,625nmcomp=Z,44nm,1.5s
SKAG **Skagway** 77.42 31 IAmb IAmb 02 44 14.1
comp=Z,16nm,0.8s
SKAG **Skagway** 77.42 31 P P 02 44 09.1 +1.1
baz=293
PLOR5 **Plostina Array** 77.47 314 P P 02 44 09.8 +1.2
comp=Z,40nm,1.1s
PLOR **Plostina** 77.47 314 ⇑P P 02 44 10.0 +1.4
PLOR **Plostina** 77.47 314 ⇑P P 02 44 10.0 +1.4
PLOR3 **Plostina Array** 77.47 314 P P 02 44 10.4 +1.7
comp=Z,29nm,1.0s
BISRR **Bisoca** 77.53 314 ⇑P P 02 44 10.2 +1.2
S31K **Pelican** 77.56 32 P P 02 44 09.7 +0.9
baz=292
KSV **Kosov** 77.67 317 P P 02 44 09.2 -0.5
N32M **Quiet Lake** 77.78 29 IAmb IAmb 02 44 32.8
comp=Z,24nm,1.1s
N32M **Quiet Lake** 77.78 29 P P 02 44 11.2 +1.1
baz=294
BURAR **Bucovina Array** 77.81 317 ⇓P P 02 44 11.9 +1.3
BURAR **Bucovina Array** 77.81 317 ⇓P P 02 44 11.9 +1.3
NEHR **Nehoiu** 77.85 314 ⇓P P 02 44 12.2 +1.5
STNU **Starunia** 77.89 318 P P 02 44 11.3 +0.4
MMPY **Sheldon Lake,** 77.94 27 P P 02 44 12.3 +1.4
baz=296,SNR=7.7
OZUR 77.96 315 ⇓P P 02 44 12.4 +1.1
NSS **Namsos** 77.98 335 *e*P P 02 44 10.6 -0.4
MLR **Muntele Rosu** 78.06 314 IAmb IAmb 02 44 17.7
comp=Z,26nm,1.0s
MLR **Muntele Rosu** 78.06 314 LR LR 03 23 34.2
comp=Z,1μm,20.3s,baz=57,slow=39
MLR **Muntele Rosu** 78.06 314 ⇑P P 02 44 13.4 +1.4
MLR **Muntele Rosu** 78.06 314 ⇑P P 02 44 13.4 +1.4
MLR **Muntele Rosu** 78.06 314 P P 02 44 12.7 +0.7
comp=Z,33nm,1.0s
P32M **Atlin** 78.13 30 P P 02 44 13.1 +1.1
baz=294
DAG **Danmarks Havn** 78.15 351 *i*P P 02 44 10.0 -1.8
DAG IAmb IAmb 02 44 16.8
comp=Z,27nm,1.1s
DOPR **Dopca** 78.26 315 ⇑P P 02 44 14.3 +1.2
R32K **Eaglecrest** 78.28 32 P P 02 44 13.8 +1.0
baz=294
P33M **Teslin, Yukon** 78.28 29 P P 02 44 14.1 +1.2
baz=295,SNR=7.1
RAKU **Rahkiv** 78.34 317 P P 02 44 14.0 +0.6
SIT **Sitka** 78.36 33 P P 02 44 14.8 +1.5
baz=293
AKAS **Kas** 78.53 304 IAmb IAmb 02 44 31.8
comp=Z,35nm,0.9s
ARCR **ARCALIA** 78.55 316 ⇑P P 02 44 16.1 +1.5
MANT **Manisa** 78.56 307 IAmb IAmb 02 44 20.4
comp=Z,29nm,1.0s
S32K **Killisnoo** 78.57 32 P P 02 44 15.5 +1.1
baz=294
VOIR 78.67 314 ⇑P P 02 44 16.6 +1.3
VOIR 78.67 314 ⇑P P 02 44 16.6 +1.3
KORU **Korolevo** 78.94 318 P P 02 44 17.9 +1.3
BRIU **Brid** 78.94 318 P P 02 44 17.9 +1.2
ARR **Arges** 78.97 315 ⇓P P 02 44 18.0 +1.0
BEL **Belsk** 78.99 322 *e*P P 02 44 17.7 +0.8
Q32M **Nakina River** 79.06 30 IAmb IAmb 02 44 28.2
comp=Z,46nm,1.9s
Q32M **Nakina River** 79.06 30 P P 02 44 18.3 +0.9
baz=295
MUKU **Mukachevo** 79.11 318 P P 02 44 18.9 +1.3
CJR **Cluj-Napoca** 79.16 316 ⇑P P 02 44 19.4 +1.4
CJR **Cluj-Napoca** 79.16 316 ⇑P P 02 44 19.4 +1.4
CBBR **Cluj-Babes-Bol** 79.17 316 ⇓P P 02 44 20.1 +2.1
KOLS **Kolonicke sedl** 79.19 318 *e*P P 02 44 19.4 +1.4
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS **Kolonicke sedl** 79.19 318 *e*P P 02 44 19.4 +1.4
BERU **Beregovo** 79.22 318 P P 02 44 19.4 +1.3
HFS **Hagfors** 79.23 331 P P 02 44 18.1 +0.1
comp=Z,13nm,0.7s,baz=124,slow=2.7,SNR=17
HFS LR LR 03 22 42.4
comp=Z,3μm,19.5s,baz=64,slow=38
comp=Z,13nm,0.7s
HFS **Hagfors** 79.23 331 P P 02 44 18.1 +0.1
HOLU **Holmets** 79.27 318 P P 02 44 19.7 +1.3
R33M **Jennings River** 79.48 30 P P 02 44 20.4 +0.9
baz=296
MARR **Marisel-Cluj** 79.48 316 ⇓P P 02 44 20.9 +1.0
LOT **Lotru** 79.51 315 ⇑P P 02 44 20.1 +0.2
CAVK **Edirne/Enez-Ca** 79.55 310 ⇓P P 02 44 20.7 +0.5
ALN **Alexandroupoli** 79.57 310 P P 02 44 19.7 -0.5
ALN **Alexandroupoli** 79.57 310 IAmb IAmb 02 44 25.5
comp=Z,57nm,1.5s
ARG **Arkhangelos** 79.66 305 IAmb IAmb 02 44 21.9
comp=Z,38nm,0.8s
DRGR 79.70 316 ⇓P P 02 44 21.7 +0.7
DRGR 79.70 316 ⇓P P 02 44 21.7 +0.7
NC303 **NORSAR Array S** 79.75 332 IAmb IAmb 02 44 23.4
comp=Z,32nm,1.1s
URZ **Urewera** 79.79 139 LR LR 03 17 49.9
comp=Z,169nm,19.8s,baz=46,slow=34
RDO **Rodhopi** 79.84 310 P P 02 44 20.0 -1.7
RDO **Rodhopi** 79.84 310 IAmb IAmb 02 44 26.3
comp=Z,40nm,1.3s
U33K **Whale Pass** 79.86 33 P P 02 44 22.4 +1.0
baz=295

NB201 **NORSAR Array S** 79.87 332 IAmb IAmb 02 44 23.8
comp=Z,35nm,1.1s
NB2 **NORSAR Subarra** 79.91 332 P P 02 44 21.4 -0.3
comp=Z,17nm,0.9s,baz=62,slow=5.3
NB2 **NORSAR Subarra** 79.91 332 P P 02 44 21.4 -0.3
baz=62,slow=5.3
NOA **NORSAR Array B** 79.91 332 P P 02 44 21.0 -0.7
comp=Z,12nm,0.8s,baz=64,slow=5.1,SNR=22
NOA LR LR 03 22 39.3
comp=Z,2μm,19.4s,baz=60,slow=38
comp=Z,12nm,0.8s
NOA **NORSAR Array B** 79.91 332 P P 02 44 21.0 -0.7
NC602 **NORSAR Array S** 79.91 332 *e*P P 02 44 21.6 -0.1
DEV **Deva** 79.91 315 ⇓P P 02 44 23.5 +1.5
DEV **Deva** 79.91 315 ⇓P P 02 44 23.5 +1.5
PRK **Paraskevi** 79.98 308 P P 02 44 22.5 0.0
RPZ **Rata Peaks** 79.99 146 P P 02 44 21.7 -0.5
S34M **Telegraph Cree** 80.06 31 P P 02 44 23.9 +1.3
baz=296
SMG **Samos** 80.11 307 P P 02 44 23.6 +0.3
WRAK **Wrangell Islan** 80.12 33 P P 02 44 23.6 +0.7
baz=296
WTLY **Watson Lake, Y** 80.13 29 P P 02 44 23.9 +0.9
baz=298
CRAG **Craig** 80.13 34 P P 02 44 23.9 +1.0
baz=295
GZR **Gura Zlata** 80.18 315 ⇑P P 02 44 24.9 +1.4
GZR **Gura Zlata** 80.18 315 ⇑P P 02 44 24.9 +1.4
OJC **Ojcow** 80.19 320 *e*P P 02 44 23.6 +0.2
OJC **Ojcow** 80.19 320 IAmb IAmb 02 44 32.3
comp=Z,25nm,0.8s
OJC **Ojcow** 80.19 320 P P 02 44 23.7 +0.3
comp=Z,35nm,0.8s
NIE **Niedzica** 80.20 319 *e*P P 02 44 24.5 +0.9
NIE **Niedzica** 80.20 319 P P 02 44 24.5 +0.9
comp=Z,11nm,1.2s
NEEM **North Greenlan** 80.27 358 *i*P P 02 44 22.6 -1.1
NEEM IAmb IAmb 02 44 26.4
comp=Z,53nm,0.9s
DOMB **Dombas** 80.32 334 *e*P P 02 44 24.0 +0.1
DOMB IAmb IAmb 02 44 25.2
comp=Z,14nm,0.8s
DLBC **Dease Lake** 80.35 30 LR LR 03 21 21.2
comp=Z,196nm,20.6s,baz=314,slow=37
DLBC **Dease Lake** 80.35 30 P P 02 44 24.9 +0.7
baz=297,SNR=5.9
RES **Resolute Bay** 80.37 9 LR LR 03 21 34.9
comp=Z,448nm,21.7s,baz=358,slow=37
DBG **Daneborg** 80.38 350 *i*P P 02 44 22.6 -1.4
DBG IAmb IAmb 02 44 30.0
comp=Z,29nm,1.0s
SURR **Surduc** 80.47 316 ⇓P P 02 44 25.5 +0.5
JMIC **Jan Mayen** 80.60 345 LR LR 03 22 58.8
comp=Z,716nm,21.9s,baz=35,slow=38
HERR **Herculane** 80.61 315 ⇓P P 02 44 26.8 +1.0
THAS **Thassos island** 80.61 310 P P 02 44 25.8 -0.1
KAVA **Kavala** 80.61 310 P P 02 44 25.9 0.0
KARP **Karpathos** 80.62 304 P P 02 44 26.2 +0.1
KARP **Karpathos** 80.62 304 *e*P P 02 44 26.9 +0.8
KARP **Karpathos** 80.62 304 P P 02 44 25.7 -0.4
comp=Z,1μmcomp=Z,145nm,1.1s
OSL **Oslo** 80.64 331 *e*P P 02 44 26.4 +0.8
OSL IAmb IAmb 02 44 29.4
comp=Z,52nm,1.3s
WRGLY **Wrigley** 80.78 25 P P 02 44 26.9 +0.6
baz=302
BORU **Boraas** 80.79 329 *i*P P 02 44 26.6 +0.1
LANS **Liptovska Anna** 80.81 319 *e*P P 02 44 29.0 +2.2
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS **Liptovska Anna** 80.81 319 *e*P P 02 44 29.0 +2.2
BZS **Buzias** 80.85 316 ⇓P P 02 44 27.6 +0.5
BZS **Buzias** 80.85 316 ⇓P P 02 44 27.6 +0.5
T35M **Bob Quinn** 80.91 32 P P 02 44 27.9 +0.7
baz=297
NVR **Nevrokopi** 80.94 311 P P 02 44 29.4 +1.7
PSZ **Piszkesteto** 81.04 318 IAmb IAmb 02 44 37.1
comp=Z,22nm,1.1s
PSZ **Piszkesteto** 81.04 318 ⇓P P 02 44 29.7 +1.5
PSZ **Piszkesteto** 81.04 318 ⇓P P 02 44 29.7 +1.5
PSZ **Piszkesteto** 81.04 318 *e*P P 02 44 29.8 +1.6
KOKK **Kokkinochori,** 81.04 310 P P 02 44 28.1 -0.1
AKN **Aaknes** 81.09 334 *e*P P 02 44 29.4 +1.4
AKN IAmb IAmb 02 44 30.8
comp=Z,39nm,1.1s
MDVR **Moldovita** 81.11 315 ⇓P P 02 44 29.7 +1.1
SRS **Serrai** 81.22 311 P P 02 44 28.6 -0.5
OKC **Ostrava-Krasne** 81.32 320 AMS AMS 03 26 30.0
comp=Z,800nm,14.6s
SKAR **Skarslia** 81.32 333 *e*P P 02 44 29.9 +0.6
SKAR IAmb IAmb 02 44 32.3
comp=Z,41nm,1.2s
PEHC **Pehcevo** 81.45 312 *i*P P 02 44 31.1 +0.7
VYHS **Vyhne** 81.46 319 *e*P P 02 44 32.1 +1.8
VYHS pmax pmax
comp=Z,22nm,1.0s
VYHS **Vyhne** 81.46 319 *e*P P 02 44 32.1 +1.8
STEB **Steborice** 81.50 321 *e*P P 02 44 30.4 0.0
BOVS **Bovan** 81.55 314 ⇓P P 02 44 31.8 +0.9
PLG **Polygyros** 81.60 310 P P 02 44 30.9 -0.3
PAIG **Paliouri** 81.60 310 P P 02 44 31.0 -0.2
THR6 **Thira Island,** 81.67 306 P P 02 44 30.8 -0.8
KNT **Kendrikon** 81.69 311 P P 02 44 31.8 +0.2
MORC **Moravsky Berou** 81.70 321 IAmb IAmb 02 44 48.9
comp=Z,51nm,1.9s
MORC **Moravsky Berou** 81.70 321 *e*P P 02 44 30.8 -0.8
MORC **Moravsky Berou** 81.70 321 ⇓P P 02 44 32.4 +0.8
MORC **Moravsky Berou** 81.70 321 ⇓P P 02 44 32.4 +0.8
MAUC **Maruska** 81.70 320 *e*P P 02 44 33.0 +1.4
KYMI **Kymi, Euboea I** 81.78 308 P P 02 44 32.1 -0.1
VAY **Valandovo** 81.86 311 *i*P P 02 44 32.9 +0.4
HYA **Hoyanger** 81.95 334 *e*P P 02 44 33.0 +0.5
KSP **Ksiaz** 81.97 322 *e*P P 02 44 33.3 +0.5
KSP **Ksiaz** 81.97 322 P P 02 44 33.4 +0.5
comp=Z,29nm,0.8s
JAVC **Velka Javorina** 82.01 320 *e*P P 02 44 33.1 -0.1
KRLC **Kraliky** 82.02 321 AMS AMS 03 26 00.0
comp=Z,1μm,14.4s
SRO **Srobarova** 82.06 318 *e*P P 02 44 35.4 +2.0
SRO pmax pmax
comp=Z,10.0nm,0.8s
SRO **Srobarova** 82.06 318 *e*P P 02 44 35.4 +2.0
OSTC **Ostas** 82.14 322 *e*P P 02 44 37.6 +3.8
OSTC AMS AMS 03 26 00.0
comp=Z,2μm,17.9s
OSTC **Ostas** 82.14 322 *e*P P 02 44 37.6 +3.8
OSTC MLR MLR
comp=Z,2μm,17.9s
DPC **Dobruska-Polom** 82.17 321 *e*P P 02 44 34.7 +0.7
DPC AMS AMS 03 25 20.0
comp=Z,1μm,17.2s
DPC **Dobruska-Polom** 82.17 321 *e*P P 02 44 34.7 +0.7
DPC MLR MLR
comp=Z,1μm,17.2s
DPC **Dobruska-Polom** 82.17 321 P P 02 44 34.7 +0.7
comp=Z,14nm,1.0s
KOTAN **Kotaneelee Air** 82.18 27 P P 02 44 34.5 +0.6
baz=302
CHVC **Chvalec** 82.22 322 AMS AMS 03 26 00.0
comp=Z,2μm,17.3s
UPC **Upice** 82.28 322 *e*P P 02 44 36.3 +1.8
UPC AMS AMS 03 26 00.0
comp=Z,2μm,17.3s
UPC **Upice** 82.28 322 *e*P P 02 44 36.3 +1.8
UPC MLR MLR
comp=Z,2μm,17.3s
SMOL **Smolenice** 82.30 319 *e*P P 02 44 36.9 +2.2
TOAD **Toad River Com** 82.34 29 P P 02 44 35.9 +1.2
baz=301,SNR=7.4
LIT **Litokhoron** 82.38 310 P P 02 44 34.9 -0.4
ODD1 **Odda** 82.44 333 *e*P P 02 44 36.0 +0.7
IDI **Anoyia** 82.45 305 IAmb IAmb 02 44 58.3
comp=Z,26nm,1.1s
MODS **Modra-Piesok** 82.45 319 *e*P P 02 44 37.2 +1.7
MODS pmax pmax
comp=Z,171nm,2.6s
MODS **Modra-Piesok** 82.45 319 *e*P P 02 44 37.2 +1.7
VRAC **Vranov** 82.46 320 LR LR 03 24 46.5
comp=Z,807nm,20.6s,baz=66,slow=38
VRAC **Vranov** 82.46 320 *e*P P 02 44 36.3 +0.8
VRAC **Vranov** 82.46 320 ⇑P P 02 44 37.1 +1.6
VRAC **Vranov** 82.46 320 ⇑P P 02 44 37.1 +1.6
HOMB **Homborsund** 82.47 331 *i*P P 02 44 32.5 -2.8
MORH **Mrgy, Hungar** 82.51 317 ⇓P P 02 44 36.6 +0.7

MORH **Mrgy, Hungar** 82.51 317 P P 02 44 35.7 -0.1
comp=Z,20nm,1.4s
KRUC **Moravsky** 82.68 320 *e*P P 02 44 37.4 +0.7
TYRN **Tyrnavos** 82.71 310 P P 02 44 36.1 -0.9
BLS5 **Blasjo** 82.77 332 *e*P P 02 44 37.7 +0.7
BLS5 IAmb IAmb 02 44 39.9
comp=Z,39nm,1.1s
MPLH **Magyarpolny** 82.80 318 P P 02 44 37.6 +0.3
comp=Z,88nm,1.3s
KZN **Kozani** 82.81 311 P P 02 44 38.1 +0.5
FNA **Florina** 82.90 311 P P 02 44 37.3 -0.7
KRND **KRANIDI** 82.95 307 P P 02 44 36.5 -1.8
MAKR **Makrakomi, Fth** 83.06 309 P P 02 44 38.0 -0.9
MUD **Monsted U'grnd** 83.08 329 *i*P P 02 44 39.4 +0.9
MUD IAmb IAmb 02 44 42.4
comp=Z,51nm,1.1s
PVCC **Panska Ves** 83.09 322 AMS AMS 03 26 20.0
comp=Z,2μm,16.6s
TREC **Trest** 83.12 321 *e*P P 02 44 40.1 +1.2
TREC **Trest** 83.12 321 *e*P P 02 44 40.1 +1.2
OHR **Ohrid** 83.17 312 *i*P P 02 44 39.4 0.0
GOPC **GO Pecny, Ondr** 83.25 321 AMS AMS 03 26 50.0
comp=Z,1μm,18.6s
BRG **Berggiesshubel** 83.29 323⇑*i*P P 02 44 41.1 +1.4
BRG Amp 02 44 42.1
comp=Z,20nm,1.2s
BRG **Berggiesshubel** 83.29 323 P P 02 44 44.1 +4.4
BRG Amp 02 44 45.3
comp=Z,14nm,1.0s
BRG **Berggiesshubel** 83.29 323 S S 02 55 05.0 +5.4
RONA **Rosalia, Austr** 83.34 319 *i*pP P 02 44 41.7 +1.6
comp=Z,3.3nm,0.7s,SNR=6.6
PRU **Pruhonice** 83.35 322 *e*P P 02 44 41.3 +1.2
PRU AMS AMS 03 26 50.0
comp=Z,2μm,18.1s
PRU **Pruhonice** 83.35 322 *e*P P 02 44 41.3 +1.2
PRU MLR MLR
comp=Z,2μm,18.1s
RICC **Richard** 83.36 322 AMS AMS 03 26 50.0
comp=Z,2μm,15.4s
VLI **Veliai** 83.37 307 P P 02 44 38.4 -2.0
KBN **Korca** 83.37 311 P P 02 44 40.1 -0.4
ANX **Ano Chora** 83.38 309 P P 02 44 39.8 -0.8
PRA **Prague** 83.38 322 AMS AMS 03 26 40.0
comp=Z,2μm,19.2s
ABPO **Ambohimpanom** 83.38 246 P P 02 44 41.3 +0.4
ABPO **Ambohimpanom** 83.38 246 P P 02 44 41.3 +0.4
ABPO pmax pmax
comp=Z,24nm,0.7s
CONA **Conrad Observa** 83.50 319 *i*pP P 02 44 42.7 +1.6
comp=Z,9.0nm,1.0s,SNR=14
CLL **Collm** 83.61 323 IAmb IAmb 02 44 44.2
comp=Z,25nm,1.0s
CLL **Collm** 83.61 323 *i*P P 02 44 42.3 +0.9
CLL *e*S SKSac 02 55 06.0 +2.7
CLL pmax pmax
comp=Z,26nm,1.0s
CLL **Collm** 83.61 323 P P 02 44 41.7 +0.3
comp=Z,28nm,1.1s
HSKC **Hora Svate Kat** 83.70 322 *e*P P 02 44 43.0 +1.1
HSKC AMS AMS 03 26 50.0
comp=Z,2μm,14.4s
TIR **Tirane** 83.71 312 ⇓P P 02 44 42.3 +0.2
TIR **Tirane** 83.71 312 ⇓P P 02 44 42.3 +0.2
TIR **Tirane** 83.71 312 P P 02 44 44.2 +2.1
comp=Z,98nm,1.3s
DRO **Drossia** 83.78 308 P P 02 44 42.4 -0.2
ZVC **Zvikov** 83.81 321 *e*P P 02 44 43.6 +1.1
ZVC AMS AMS 03 27 20.0
comp=Z,1μm,17.4s
SCO **Scoresbysund** 83.84 348 IAmb IAmb 02 44 55.7
comp=Z,33nm,1.2s
SCO **Scoresbysund** 83.84 348 *e*P P 02 44 41.0 -1.2
SCO IAmb IAmb 02 44 49.5
comp=Z,11nm,0.9s
KOGS **Kog** 83.91 318 *i*P P 02 44 43.7 +0.7
ITM **Ithomi** 83.93 308 P P 02 44 42.4 -1.0
ARSA **Arzberg** 84.00 319 *i*P P 02 44 44.9 +1.3
comp=Z,2.3nm,0.5s,SNR=5.1
ARSA **Arzberg** 84.00 319 IAmb IAmb 02 44 49.1
comp=Z,21nm,1.1s
CKRC **Cesky Krumlov** 84.02 321 *e*P P 02 44 45.0 +1.4
CKRC *e*SKS SKSac 02 55 00.4 -5.7
CKRC AMS AMS 03 27 40.0
comp=Z,1μm,16.6s
CKRC **Cesky Krumlov** 84.02 321 *e*P P 02 44 45.0 +1.4
CKRC *e* 02 55 00.4
CKRC MLR MLR
comp=Z,1μm,16.6s
NYDR **Nydri-Lefkada** 84.20 309 P P 02 44 43.9 -0.8
BBB **Bella Bella** 84.28 35 LR LR 03 23 36.7
comp=Z,89nm,19.9s,baz=310,slow=36
SUMG **Summit** 84.29 354 P P 02 44 43.8 -1.2
SUMG **Summit** 84.29 354 P P 02 44 43.8 -1.2
SUMG pmax pmax
comp=Z,50nm,1.0s
SUMG **Summit** 84.29 354 *e*P P 02 44 43.2 -1.7
SUMG IAmb IAmb 02 44 48.5
comp=Z,50nm,1.0s
KHC **Kasperske Hory** 84.31 321 *e*P P 02 44 46.1 +1.0
KHC *e*SKS SKSac 02 55 08.0 0.0
KHC AMS AMS 03 26 50.0
comp=Z,1μm,17.4s
KHC **Kasperske Hory** 84.31 321 *e*P P 02 44 46.1 +1.0
KHC *e* 02 55 08.0
KHC MLR MLR
comp=Z,1μm,17.4s
KHC **Kasperske Hory** 84.31 321 P P 02 44 45.4 +0.3
comp=Z,20nm,1.2s
GEC2 **GERESS Array S** 84.37 321 IAmb IAmb 02 44 51.1
comp=Z,21nm,1.0s
GERES **GERESS Array B** 84.37 321 P P 02 44 45.7 +0.2
GERES **GERESS Array B** 84.37 321 P P 02 44 45.9 +0.4
comp=Z,15nm,0.8s,baz=70,slow=4.4,SNR=24
GERES LR LR 03 26 35.7
comp=Z,918nm,18.3s,baz=64,slow=39
comp=Z,15nm,0.8s
GERES **GERESS Array B** 84.37 321 P P 02 44 45.7 +0.2
RTZL **Ratzakli, Kefa** 84.41 309 P P 02 44 45.4 -0.3
MOA **Molln** 84.49 320 *e*P P 02 44 47.0 +1.0
comp=Z,10nm,0.7s
VLS **Valsamata** 84.50 309 P P 02 44 45.8 -0.4
YKA **Yellowknife Ar** 84.51 23 P P 02 44 44.9 -0.8
comp=Z,5.3nm,0.8s,baz=313,slow=4.7,SNR=43
YKA PKiKP PKiKP 02 49 57.4 -1.9
comp=Z,0.3nm,0.6s,baz=323,slow=1.7,SNR=3.8
YKA PKKPbc PKKPdf 03 02 53.6 +4.9
comp=Z,0.9nm,0.8s,baz=136,slow=2.4,SNR=13
YKA LR LR 03 24 57.6
comp=Z,290nm,21.4s,baz=318,slow=37
comp=Z,5.3nm,0.8s
YKA **Yellowknife Ar** 84.51 23 *i*P P 02 44 45.2 -0.5
YKA pmax pmax
comp=Z,5.0nm,0.8s
SOKA **Soboth** 84.56 318 *i*P P 02 44 47.6 +1.1
comp=Z,14nm,0.8s,SNR=8.3
DMLN **Damoulianata-K** 84.63 309 P P 02 44 46.6 -0.3
KIBK **Kibwezi** 84.79 265 P P 02 44 49.3 +1.1
KIBK IAmb IAmb 02 44 50.2
comp=Z,40nm,1.6s
OBKA **Obir** 84.94 318 *i*P P 02 44 49.4 +1.0
comp=Z,9.4nm,0.7s,SNR=5.1
UPNV **Upernavik** 85.04 359 *i*P P 02 44 45.9 -2.3
UPNV IAmb IAmb 02 44 53.7
comp=Z,12nm,0.7s
KMBO **Kilima Mbogo** 85.06 267 P P 02 44 51.4 +1.6
KMBO IAmb IAmb 02 45 04.8
comp=Z,17nm,1.0s
KMBO **Kilima Mbogo** 85.06 267 P P 02 44 50.6 +0.9
comp=Z,8.1nm,0.9s,baz=48,slow=6.8,SNR=17
KMBO LR LR 03 22 58.2
comp=Z,452nm,19.9s,baz=82,slow=36
comp=Z,8.1nm,0.9s
KMBO **Kilima Mbogo** 85.06 267 P P 02 44 51.4 +1.6
KMBO pmax pmax
comp=Z,17nm,1.0s
LJU **Ljubljana** 85.16 318 *e*P P 02 44 50.1 +0.7
CRNS **Crni Vrh** 85.31 318 *i*P P 02 44 50.6 +0.4
KBA **Koelnbreinsper** 85.41 319 *e*P P 02 44 51.2 +0.4
comp=Z,18nm,0.9s
LESA **Schwarzleotal** 85.64 320 *e*P P 02 44 52.4 +0.6
comp=Z,4.7nm,0.7s
ABTA **Abfaltersbach** 86.06 319 *i*P P 02 44 53.8 -0.2
comp=Z,8.0nm,0.7s,SNR=8.8
WTTA **Wattenberg** 86.34 320 *i*P P 02 44 56.0 +0.5

comp=Z,14nm,0.7s,SNR=13
WATA Walderalm 86.34 320 *i* P **P 02 44 55.8 +0.4**
comp=Z,6.2nm,0.5s,SNR=6.1
SQTA Sankt Quirin 86.61 320 *i* P **P 02 44 57.1 +0.4**
comp=Z,6.6nm,0.6s,SNR=7.1
CTI Castel Tesino 86.93 319 IAmb IAmb 02 45 06.1
comp=Z,21nm,1.4s
FETA Feichten 87.00 320 *i* P **P 02 44 59.2 +0.5**
comp=Z,6.9nm,0.8s,SNR=9.7
UMMG Uummannaq 87.06 358 *i* P **P 02 44 55.5 -2.7**
UMMG IAmb IAmb 02 45 01.6
comp=Z,16nm,1.1s
DAVA Damuels 87.36 321 PcP **P 02 45 01.0 +0.5**
comp=Z,6.5nm,0.7s
FUORN Ofenpass-Fuorn 87.47 320 IAmb IAmb 02 45 13.0
comp=Z,24nm,1.2s
AQU L'Aquila 87.60 315 P **P 02 45 01.8 +0.3**
comp=Z,38nm,1.3s
DAVOX Davos/Dischmat 87.62 320 LR LR 03 28 41.4
comp=Z,1μm,19.2s,baz=51,slow=39
ICESG Greenland Ices 87.74 353 *i* P **P 02 45 00.7 -1.4**
ICESG IAmb IAmb 02 45 05.7
comp=Z,37nm,1.0s
CEL Celeste 87.80 311 P **P 02 45 02.3 -0.3**
comp=Z,732nmcomp=Z,46nm,1.2s
TUE Stuetta 88.09 320 IAmb IAmb 02 45 15.6
comp=Z,15nm,0.8s
TUE Stuetta 88.09 320 P **P 02 45 04.0 0.0**
comp=Z,81nm,1.5s
RAR Rarotonga 88.18 114 LR LR 03 17 49.3
comp=Z,89nm,20.9s,baz=276,slow=31
WLF Walferdange 88.22 324 *d*P **P 02 45 04.8 +0.6**
comp=Z,20nm,0.9s
LLLB Lilloet 88.43 35 IAmb IAmb 02 45 12.2
comp=Z,16nm,1.1s
RCHB Rochefort 88.44 325 *d*P **P 02 45 05.8 +0.6**
comp=Z,15nm,0.9s
BORG Borgarnes 88.50 345 LR LR 03 27 47.7
comp=Z,1μm,19.9s,baz=25,slow=38
UCC Uccle 88.54 326 *d*P **P 02 45 05.5 -0.2**
comp=Z,8.8nm,0.8s
BMRD Maredsous 88.61 325 *d*P **P 02 45 06.4 +0.4**
comp=Z,13nm,1.0s
DOU Dourbes 88.81 325 *d*P **P 02 45 07.2 +0.2**
comp=Z,14nm,0.9s
EKA Eskdalemuir Ar 89.39 332 P **P 02 45 09.6 0.0**
comp=Z,7.3nm,0.8s,baz=45,slow=3.9,SNR=11
comp=Z,7.3nm,0.8s
EKA Eskdalemuir Ar 89.39 332 P **P 02 45 09.6 0.0**
BNI Bardonecchia 90.43 320 IAmb IAmb 02 45 29.1
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 90.67 357 *i* P **P 02 45 13.1 -2.3**
SFJD IAmb IAmb 02 45 16.8
comp=Z,790nm,3.5s
ANGG Ammassalik, Gr 90.81 351 *i* P **P 02 45 17.2 +1.2**
ANGG IAmb IAmb 02 45 19.3
comp=Z,36nm,1.0s
B08A Colville Reser 91.08 36 IAmb IAmb 02 45 29.8
comp=Z,11nm,1.1s
MXC Moxie City 91.59 37 IAmb IAmb 02 45 33.1
comp=Z,12nm,1.0s
E07A Sunnyside 91.85 37 IAmb IAmb 02 46 13.7
comp=Z,29nm,1.7s
I04A Tendick Farm, 91.94 41 IAmb IAmb 02 45 22.9
comp=Z,12nm,1.1s
C09A Chrisman Ranch 91.98 36 IAmb IAmb 02 45 31.9
comp=Z,17nm,1.6s
NEW Newport 92.32 35 IAmb IAmb 02 45 28.3
comp=Z,8.3nm,0.9s
NEW Newport 92.32 35 P **P 02 45 23.6 +0.1**
comp=Z,6.5nm,0.8s,baz=304,slow=2.1,SNR=9.2
comp=Z,6.5nm,0.8s
NEW Newport 92.32 35 P **P 02 45 23.6 +0.1**
J04A Umpqua Nationa 92.43 41 P **P 02 45 25.3 +1.0**
J04A IAmb IAmb 02 45 27.1
comp=Z,14nm,0.8s
E09A Wood Farm, Sta 92.83 37 IAmb IAmb 02 46 16.1
comp=Z,24nm,1.8s
L04D Klamath Falls 92.88 42 P **P 02 45 26.2 -0.1**
KEST Kesra 93.61 311 IAmb IAmb 02 45 34.7
comp=Z,11nm,0.8s
KEST Kesra 93.61 311 P **P 02 45 30.0 +0.2**
comp=Z,11nm,0.8s,baz=26,slow=1.7,SNR=16
KEST LR LR 03 36 11.4
comp=Z,321nm,18.4s,baz=43,slow=41
comp=Z,11nm,0.8s
FRB Frobisher Bay 93.78 4 LR LR 03 32 44.6
comp=Z,325nm,19.9s,baz=338,slow=39
PPT Papeete 95.62 107 LR LR 03 23 33.2
comp=Z,137nm,19.1s,baz=315,slow=32
DLMT Dillon 96.56 35 IAmb IAmb 02 45 57.4
comp=Z,9.3nm,1.3s
HLID Hailey 96.73 37 IAmb IAmb 02 47 01.6
comp=Z,14nm,1.9s
NVAR Mina Array Bea 97.56 43 P **P 02 45 48.0 +0.2**
comp=Z,1.0nm,0.8s,baz=286,slow=6.0,SNR=5.5
comp=Z,1.0nm,0.8s
LSZ Lusaka 98.63 257 LR LR 03 28 20.3
comp=Z,646nm,20.6s,baz=76,slow=34
MAW Mawson 99.51 199 LR LR 03 26 19.0
comp=Z,207nm,19.4s,baz=27,slow=33
PDAR Pinedale Array 99.93 36 P **Pdif 02 45 59.1 +0.7**
comp=Z,0.1nm,0.6s,baz=66,slow=36,SNR=2.4
ESDC Sonseca Array 99.95 320 P **Pdif 02 45 59.7 +1.3**
comp=Z,1.0nm,1.1s,baz=21,slow=37,SNR=1.9
ESDC PP PP 02 49 51.1 -12
comp=Z,0.9nm,0.9s,baz=39,slow=9.4,SNR=3.4
MVO Moncorvo 100.73 323 *e*LQ LQ 03 15 19.0
MVO *e*LR LR 03 19 24.3
MVO *i* AMs_20 03 33 50.5
comp=Z,491nm,18.0s
PGAV Gavieira, Arco 100.87 324 *e*LQ LQ 03 13 18.5
PGAV *e*LR LR 03 19 06.0
PGAV *i* AMs_20 03 37 52.8
comp=Z,857nm,18.0s
MTE Manteigas 101.54 323 *e*LR LR 03 16 33.9
MTE *i* AMs_20 03 38 52.7
comp=Z,789nm,20.0s
PMRV Marv??o 102.11 322 *e*LR LR 03 18 42.6
PMRV *i* AMs_20 03 38 37.3
comp=Z,979nm,20.0s
SCHQ Schefferville 102.75 5 PKKPbc PKKPbc 03 02 06.9 -3.5
comp=Z,1.9nm,0.7s,baz=242,slow=12,SNR=3.8
PVAQ Vaqueiros 103.66 321 *e*LR LR 03 22 10.6
PVAQ *i* AMs_20 03 39 00.6
comp=Z,607nm,20.0s
SYO Syowa Base 107.84 202⇓*e*pPdiff pPdif 02 46 38.4 +0.7
121A Cookes Peak, D 107.91 42 P **PKiKP 02 50 41.2 -0.1**
baz=313
QSPA South Pole Qui 112.20 180 PKKPbc PKKPbc 03 01 38.1 -3.7
comp=Z,0.8nm,0.7s,baz=250,slow=2.4,SNR=5.6
TXAR Lajitas Array 112.67 42 PKiKP **PKiKP 02 50 49.4 -0.9**
comp=Z,2.1nm,0.8s,baz=246,slow=1.3,SNR=17
TXAR PKKPbc **PKKPbc 03 01 36.6 -2.1**
comp=Z,0.2nm,0.7s,baz=178,slow=7.5,SNR=3.5
TXAR Lajitas Array 112.67 42 *i* PKIKP **PKiKP 02 50 49.4 -0.9**
ELIB Princess Elisa 113.63 200 *d*PKiKP **PKiKP 02 50 49.5 -1.2**
WVT Waverly 115.53 26 **PKiKP 02 50 53.9 -1.5**
WVT Waverly 115.53 26 PKIKP **PKiKP 02 50 53.9 -1.5**
CPCT Cooper Cave 117.41 24 PKPdif **PKPdf 02 50 57.5 -1.6**
TKL Tuckaleechee C 117.50 23 PKP **PKPdf 02 50 58.2 -1.1**
comp=Z,7.8nm,0.6s,baz=186,slow=2.3,SNR=11
TKL Tuckaleechee C 117.50 23 PKIKP **PKPdf 02 50 58.2 -1.1**
T59A Double "B" Far 118.28 17 PKPdif **PKPdf 02 50 59.9 -0.8**
LRAL Lakeview Retre 118.55 27 PKPdif **PKPdf 02 51 00.1 -1.2**
TROLL Troll, Antarti 119.95 198 ⇓P **PKPdf 02 51 00.8 -2.1**
comp=Z,312nm,0.6s
DBIC Dimbokro 120.04 292 PKP **PKPdf 02 51 03.6 -1.0**
comp=Z,7.8nm,0.8s,baz=40,slow=4.1,SNR=7.6
DBIC PKKPbc **PKKPbc 03 01 10.6 -1.7**
comp=Z,4.3nm,0.8s,baz=207,slow=6.0,SNR=4.0
DBIC Dimbokro 120.04 292 PKIKP **PKPdf 02 51 03.6 -1.0**
SNAA Sanae 121.63 198 PKP **PKPdf 02 51 04.2 -1.9**
comp=Z,2.3nm,1.0s,baz=190,slow=4.9,SNR=5.8
SNAA Sanae 121.63 198 PKIKP **PKPdf 02 51 04.2 -1.9**
VNA2 Neumayer--Watz 123.28 198 ⇓P **PKPdf 02 51 07.7 -1.5**
comp=Z,18nm,0.6s,baz=2.0,slow=0.6
VNA1 Neumayer--Stat 123.67 198 ⇓P PKPdf 02 51 01.6 -8.3
comp=Z,4.6nm,0.9s
VNA3 Neumayer Olymp 123.74 197 ⇓P **PKPdf 02 51 07.1 -3.0**
comp=Z,9.5nm,0.7s
CMIG Matias Romero 127.03 45 PKP **PKPdf 02 51 17.2 -0.7**
comp=Z,8.7nm,0.9s,baz=12,slow=1.8,SNR=10
SDV Santo Domingo 146.72 22 **PKPdf 02 51 53.3 -1.2**
RUSC La Rusia 148.48 29 PKPdf **PKPdf 02 51 56.7 -1.0**
ROSC El Rosal 148.83 32 PKPdf **PKPdf 02 51 57.9 -0.3**
ROSC El Rosal 148.83 32 PKPbc **PKPdf 02 51 58.3 +0.1**
comp=Z,23nm,0.6s,baz=251,slow=2.3,SNR=9.1
ROSC El Rosal 148.83 32 PKIKP **PKPdf 02 51 57.9 -0.3**
OTAV Otavalo 150.29 43 PKPdif **PKPdf 02 51 59.9 -0.7**
OTAV Otavalo 150.29 43 PKIKP **PKPdf 02 51 59.9 -0.7**
OTAV Otavalo 150.29 43 *e*P **PKPdf 02 52 01.1 +0.5**
RCBR Riachuelo 152.61 304 **PKPbc 02 52 10.3 -0.3**
RCBR Riachuelo 152.61 304 PKIKP **PKPbc 02 52 10.3 -0.3**
BOAV Boa Vista 155.27 5 PKPdif **PKPdf 02 52 06.1 -1.2**
TMAB Tom-Au,PA,Br 157.65 332 *e*P **PKPdf 02 52 10.5 +0.1**
TBTG Tabatinga, AM 158.81 33 *e*P **PKPdf 02 52 11.1 -0.7**
PLCA Paso Flores 159.10 154 PKP **PKPdf 02 52 10.1 -1.4**
comp=Z,1.0nm,0.9s,baz=166,slow=4.2,SNR=1.4
PLCA Paso Flores 159.10 154 PKIKP **PKPdf 02 52 10.1 -1.4**
MAL2 Monte Alegre, 159.29 348 **PKPdf 02 52 11.8 -0.6**
CZSB Cruzeiro do Su 160.03 45 PKPdif **PKPdf 02 52 12.3 -1.0**
CZSB Cruzeiro do Su 160.03 45 *e*P **PKPdf 02 52 12.6 -0.7**
TEFE Tefe 160.31 18 *e*P **PKPdf 02 52 13.0 -0.6**
BO02 Sierra Bellavi 163.66 142 **PKPab 02 53 07.5 -0.7**
NPGB Novo Progresso 164.42 348 *e*P **PKPdf 02 52 16.9 -0.7**
JANB Januaria 164.67 296 *e*P **PKPdf 02 52 20.3 +2.4**
BDFB Brasilia 167.98 302 PKP **PKPdf 02 52 19.3 -1.2**
comp=Z,3.4nm,0.9s,baz=194,slow=6.2,SNR=5.3
BDFB PKPab **PKPab 02 53 27.8 -0.1**
comp=Z,2.8nm,0.7s,baz=102,slow=7.3,SNR=6.0
BDFB Brasilia 167.98 302 PKIKP **PKPdf 02 52 19.3 -1.2**
BDFB 02 53 27.8
LPAZ La Paz 169.10 58 PKP **PKPdf 02 52 21.1 -0.7**
comp=Z,8.2nm,1.1s,baz=21,slow=3.1,SNR=15
LPAZ PKPab **PKPab 02 53 32.6 -0.8**
comp=Z,2.9nm,1.0s,baz=359,slow=11,SNR=2.6
LPAZ La Paz 169.10 58 PKIKP **PKPdf 02 52 21.1 -0.7**
LPAZ 02 53 32.6
LPAZ La Paz 169.10 58 *e*P **PKPdf 02 52 21.7 -0.1**
ARAG Araguaiana, MT 170.78 315 *e*P **PKPdf 02 52 21.9 -0.1**
PTLB Pontes e Lacer 173.06 5 *e*P **PKPdf 02 52 23.0 -0.1**
CPUP Villa Florida 175.94 196 PKP **PKPdf 02 52 22.5 -1.3**
comp=Z,5.5nm,1.1s,baz=31,slow=2.0,SNR=5.0
CPUP PKPab **PKPab 02 54 00.1 -2.3**
comp=Z,3.6nm,0.8s,baz=147,slow=6.0,SNR=7.2
CPUP Villa Florida 175.94 196 PKIKP **PKPdf 02 52 22.5 -1.3**
CPUP 02 54 00.2
BDQN Bodoquena, MS 177.43 319 *e*P **PKPdf 02 52 25.9 +1.7**

TAP ***08*** *02:42:40.3, 22°.38N×121°.36E, h25km, ML3.6, C*
ISC 08 02:42:39.7±1.0, 22°.36N±0°.02×121°.42E±0°.03, h24km±9km, n114, σ1§07/177, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.31**	**9**	*e*P	**Pb**	**02 42 46.9**	**0.0**
LDUT				S	**Sb**	**02 42 51.5**	**-0.2**
LAY	**Lan-yu**	**0.34**	**159**	*i* P	**Pb**	**02 42 48.1**	**+0.8**
LAY				*e*S	**Sb**	**02 42 53.7**	**+1.2**
LYUB	**Lan-yu**	**0.39**	**156**	*e*P	**Pb**	**02 42 47.7**	**-0.4**
LYUB				*e*S	**Sb**	**02 42 53.2**	**-0.5**
TTN	**Taitung**	**0.46**	**328**	P	**Pb**	**02 42 49.8**	**+0.5**
TTN				S	**Sn**	**02 42 57.1**	**-1.3**
TAW	**Tawu**	**0.48**	**270**	P	**Pb**	**02 42 49.3**	**-0.2**
TAW				S	**Sb**	**02 42 55.6**	**-0.7**
ECL	**Taimali**	**0.49**	**299**⇓	*i* P	**Pb**	**02 42 49.2**	**-0.5**
ECL				S	**Sb**	**02 42 55.1**	**-1.4**
TAWH	**Dawu Township**	**0.49**	**268**	*e*P	**Pb**	**02 42 48.2**	**-1.5**
TAWH				*e*S	**Sb**	**02 42 54.7**	**-1.7**
TWGBT	**Beinan**	**0.55**	**326**	P	**Pb**	**02 42 50.8**	**+0.1**
TWGBT	**Beinan**	**0.55**	**326**	S	**Sn**	**02 42 59.5**	**-1.0**
TWGBT	**Beinan**	**0.55**	**326**	P	**Pb**	**02 42 50.4**	**-0.4**
TWGBT				S	**Sn**	**02 42 59.2**	**-1.4**
TWG	**Pinlang**	**0.56**	**325**⇓	*i* P	**Pb**	**02 42 50.4**	**-0.4**
TWG				*e*S	**Sb**	**02 42 58.0**	**-0.4**
SLIU	**Shizi**	**0.59**	**256**	P	**Pb**	**02 42 51.2**	**-0.2**
SLIU				*e*S	**Sb**	**02 42 58.6**	**-0.7**
LONT	**Longtian**	**0.60**	**334**	*i* P	**Pb**	**02 42 51.2**	**-0.4**
EDH	**Donghe**	**0.62**	**350**	P	**Pb**	**02 42 52.0**	**+0.1**
EDH				S	**Sb**	**02 43 01.0**	**+0.8**
SMST	**Manzhou Townsh**	**0.63**	**238**	*e*P	**Pb**	**02 42 52.1**	**0.0**
SMST				S	**Sb**	**02 42 59.7**	**-0.9**
TSEB	**Hengchuen, Pin**	**0.66**	**226**	*e*P	**Pb**	**02 42 52.0**	**-0.6**
TSEB				*e*S	**Sn**	**02 43 03.3**	**0.0**
TWKBT	**Hengchun**	**0.70**	**233**	*e*P	**Pb**	**02 42 53.4**	**+0.2**
TWKBT				*e*S	**Sb**	**02 43 03.0**	**+0.5**
TWK1	**Hengchun**	**0.70**	**234**	*e*P	**Pb**	**02 42 53.5**	**+0.2**
TWK1				*e*S	**Sn**	**02 43 03.3**	**-0.9**
HEN	**Hengchun**	**0.72**	**241**	*e*P	**Pn**	**02 42 54.2**	**-0.2**
HEN				*e*S	**Sb**	**02 43 03.5**	**+0.5**
CHKT	**Chengkung**	**0.74**	**356**	P	**Pb**	**02 42 53.3**	**-0.5**
CHKT				S	**Sb**	**02 43 02.7**	**-0.9**
SCZT	**Fangliau**	**0.74**	**271**	*e*P	**Pb**	**02 42 53.5**	**-0.3**
ECS	**Chishang**	**0.75**	**346**	P	**Pn**	**02 42 55.0**	**+0.1**
ECS				*e*S	**Sn**	**02 43 05.3**	**-0.3**
MASBT	**Mashibuluo**	**0.77**	**289**	⇓P	**Pb**	**02 42 53.7**	**-0.7**
TSMG	**Majia**	**0.79**	**296**	*e*P	**Pb**	**02 42 54.1**	**-0.7**
EHD	**Haiduan**	**0.81**	**346**	P	**Pb**	**02 42 54.9**	**-0.2**
CHKH	**Chenggong**	**0.83**	**359**	P	**Pb**	**02 42 55.5**	**+0.1**
CHKH				*e*S	**Sb**	**02 43 05.2**	**-0.9**
FULB	**Fuli**	**0.84**	**352**	P	**Pb**	**02 42 55.3**	**-0.3**
FULB				S	**Sb**	**02 43 06.6**	**0.0**
ELDTW	**Lidau**	**0.90**	**336**	*e*P	**Pb**	**02 42 56.5**	**-0.3**
ECBN	**Changbin**	**0.95**	**2**	P	**Pn**	**02 42 56.8**	**-0.8**
ECBN				*e*S	**Sb**	**02 43 09.1**	**-0.6**
WLCH	**Liuqiu**	**0.96**	**270**	*e*P	**Pn**	**02 42 59.2**	**+1.5**
EYUL	**Yuli**	**0.98**	**355**	*e*P	**Pn**	**02 42 56.2**	**-1.9**
EYUL				*e*S	**Sn**	**02 43 11.8**	**+0.5**
TWF1	**Yuli**	**0.99**	**354**	*e*P	**Pn**	**02 42 57.6**	**-0.6**
TWF1				*e*S	**Sn**	**02 43 11.3**	**-0.2**
SCST	**Cishan**	**1.00**	**302**	*e*P	**Pb**	**02 42 58.6**	**+0.3**
STYH	**Taoyuan**	**1.00**	**324**	*e*P	**Pn**	**02 42 57.7**	**-0.5**
TWM1	**Shoushan**	**1.03**	**297**	*e*P	**Pb**	**02 42 59.9**	**+1.1**
YULB	**Yu-li**	**1.03**	**354**	P	**Pb**	**02 42 59.6**	**+0.7**
YULB	**Yu-li**	**1.03**	**354**	*e*P	**Pn**	**02 42 58.0**	**-0.7**
SGST	**Jiashian**	**1.05**	**313**	P	**Pn**	**02 42 58.5**	**-0.5**
SGST				S	**Sn**	**02 43 14.1**	**+1.1**
WSSB	**Gushan**	**1.10**	**285**	*e*P	**Pb**	**02 43 00.8**	**+0.7**
HGSD	**Ruisui**	**1.12**	**0**	*e*P	**Pn**	**02 43 00.3**	**+0.3**
EHY	**Hungye**	**1.14**	**356**	*e*P	**Pn**	**02 42 59.0**	**-1.3**
WTP	**Ta-pu**	**1.15**	**320**	P	**Pb**	**02 43 01.1**	**+0.1**
WTP				*e*S	**Sb**	**02 43 15.8**	**+0.3**
CHN1	**Nanshi**	**1.16**	**315**	*e*P	**Pb**	**02 43 01.5**	**+0.4**
CHN1				*e*S	**Sb**	**02 43 17.6**	**+1.9**
TPUB	**Ta-pu**	**1.18**	**322**	P	**Pb**	**02 43 02.6**	**+1.1**
TPUB	**Ta-pu**	**1.18**	**322**	S	**Sb**	**02 43 19.5**	**+3.1**
TPUB	**Ta-pu**	**1.18**	**322**	*e*P	**Pb**	**02 43 01.3**	**-0.2**
SHHT	**Tainan City**	**1.18**	**304**	*e*P	**Pb**	**02 43 03.5**	**+2.0**
SHHT				*e*S	**Sb**	**02 43 20.5**	**+4.1**
CHN3	**Shinhua**	**1.20**	**306**	*e*P	**Pb**	**02 43 02.4**	**+0.6**
CHN3				*e*S	**Sb**	**02 43 20.5**	**+3.5**
SNST	**Tainan City**	**1.20**	**315**	*e*P	**Pb**	**02 43 02.4**	**+0.6**
SNST				*e*S	**Sb**	**02 43 18.6**	**+1.7**
TWK	**Hsinying**	**1.24**	**317**	*e*P	**Pb**	**02 43 02.8**	**+0.2**
TWK				*e*S	**Sb**	**02 43 19.1**	**+0.9**
CHN4	**Tsaushan**	**1.24**	**323**	*e*P	**Pb**	**02 43 02.6**	**+0.1**
CHN4				*e*S	**Sb**	**02 43 18.4**	**+0.3**
ALS	**Alishan**	**1.27**	**334**	*e*P	**Pb**	**02 43 03.9**	**+0.7**
EGFH	**Guangfu**	**1.30**	**0**	*e*P	**Pn**	**02 43 02.7**	**+0.3**
WCKO	**Fanlu**	**1.31**	**325**	*e*P	**Pb**	**02 43 03.8**	**+0.2**
WCKO				*e*S	**Sb**	**02 43 21.0**	**+1.0**
WARBT	**Fenglin Townsh**	**1.35**	**359**	*e*P	**Pn**	**02 43 02.2**	**-1.0**
CHN5	**Tsauling**	**1.41**	**331**	*e*P	**Pb**	**02 43 05.5**	**+0.2**
CHN5				*e*S	**Sb**	**02 43 24.9**	**+2.0**
VWDT	**VWDT**	**1.41**	**350**	*e*P	**Pn**	**02 43 04.2**	**+0.4**
SHUL	**Shoufeng**	**1.43**	**5**	*e*P	**Pn**	**02 43 04.3**	**+0.2**
SHUL				*e*S	**Sn**	**02 43 22.5**	**+0.4**
WHYT	**Xinyi Township**	**1.43**	**339**	*e*P	**Pb**	**02 43 05.2**	**-0.4**
ICHU	**Yijhu**	**1.45**	**314**	*e*P	**Pb**	**02 43 05.3**	**-0.6**
ICHU				*e*S	**Sb**	**02 43 23.9**	**0.0**
CHY	**Chiayi**	**1.45**	**321**	*e*P	**Pb**	**02 43 05.8**	**-0.3**
CHY				*e*S	**Sb**	**02 43 25.1**	**+1.0**
TSCK	**Chigu Township**	**1.46**	**303**	*e*P	**Pb**	**02 43 05.5**	**-0.5**
TSCK				*e*S	**Sb**	**02 43 23.9**	**-0.3**
CHN8	**Yiju**	**1.48**	**312**	*e*P	**Pb**	**02 43 05.6**	**-1.0**
CHN8				*e*S	**Sb**	**02 43 26.0**	**+1.0**
SSLB	**Suanglung**	**1.48**	**343**	P	**Pb**	**02 43 06.6**	**0.0**
SSLB	**Suanglung**	**1.48**	**343**	*e*P	**Pb**	**02 43 06.4**	**-0.2**
WGK	**Gukeng**	**1.54**	**329**	*e*P	**Pn**	**02 43 06.3**	**+0.7**
WGK				*e*S	**Sb**	**02 43 27.2**	**+0.8**
WDLH	**Douliu**	**1.55**	**329**	*e*P	**Pb**	**02 43 07.2**	**-0.5**
WDLH				S	**Sb**	**02 43 28.2**	**+1.4**
WJS	**Zhushan**	**1.58**	**337**	*e*P	**Pb**	**02 43 09.6**	**+1.3**
SMLT	**Sun Moon Lake**	**1.59**	**343**	*e*P	**Pb**	**02 43 08.5**	**+0.1**
WSL	**Shuilin Townsh**	**1.59**	**317**	*e*P	**Pb**	**02 43 07.4**	**-1.0**
WSL				S	**Sb**	**02 43 27.6**	**-0.5**
ETM	**Tongmen**	**1.60**	**3**	*e*P	**Pn**	**02 43 07.0**	**+0.5**
OWD	**Renai**	**1.60**	**352**	*e*P	**Pn**	**02 43 07.5**	**+0.9**
TYC	**Yuchr**	**1.62**	**342**	*e*P	**Pb**	**02 43 08.5**	**-0.4**
WTK	**Tuku**	**1.62**	**325**	*e*P	**Pn**	**02 43 07.7**	**+0.9**
WTK				*e*S	**Sb**	**02 43 29.3**	**+0.3**
WUSB	**Renai**	**1.65**	**350**	*e*P	**Pb**	**02 43 09.0**	**-0.5**
LXIB	**Xiulin Townshi**	**1.65**	**360**	*e*P	**Pn**	**02 43 07.7**	**+0.3**
WNT	**Mingjian**	**1.65**	**336**	*e*P	**Pb**	**02 43 09.4**	**-0.1**
WNT				*e*S	**Sb**	**02 43 30.8**	**+0.9**
WSF	**Szhu**	**1.68**	**319**	*e*P	**Pb**	**02 43 09.3**	**-0.6**
WSF				*e*S	**Sb**	**02 43 30.3**	**-0.4**
TWD	**Chiawan**	**1.72**	**6**	*e*P	**Pn**	**02 43 07.7**	**-0.4**
TWD				*e*S	**Sn**	**02 43 29.3**	**-0.1**
WCS	**Beigang Elemen**	**1.75**	**345**	*e*P	**Pb**	**02 43 10.3**	**-0.8**
WCS				*e*S	**Sb**	**02 43 32.8**	**+0.1**
WHF	**Hehuan Shan**	**1.78**	**356**	*e*P	**Pb**	**02 43 11.2**	**-0.7**
WHF				*e*S	**Sb**	**02 43 32.9**	**-1.1**
NACB	**Ninganchiao**	**1.81**	**5**	P	**Pb**	**02 43 11.4**	**-0.8**
NACB	**Ninganchiao**	**1.81**	**5**	*e*P	**Pn**	**02 43 10.1**	**+0.6**
NACB				*e*S	**Sn**	**02 43 30.7**	**-1.0**
ETLH	**Xiulin Townshi**	**1.84**	**2**	*e*P	**Pn**	**02 43 11.2**	**+1.3**
WDGT	**Dungji**	**1.85**	**299**	*e*P	**Pn**	**02 43 10.6**	**+0.6**
WDGT				S	**Sb**	**02 43 33.2**	**-2.4**
FUSS	**Fushou**	**1.88**	**355**	*e*P	**Pb**	**02 43 13.0**	**-0.6**
TWT	**Tachien**	**1.90**	**353**	*e*P	**Pn**	**02 43 11.4**	**+0.6**
TDCB	**Techi**	**1.90**	**353**	*e*P	**Pn**	**02 43 11.0**	**+0.2**
TCU	**Taichung**	**1.90**	**339**	*e*P	**Pb**	**02 43 12.6**	**-1.2**
TCU				*e*S	**Sb**	**02 43 36.1**	**-1.0**
EOS4	**EOS4**	**1.94**	**25**	*e*P	**Pb**	**02 43 13.1**	**-1.0**
EOS4				*e*S	**Sn**	**02 43 33.3**	**-1.0**
WHP	**Taichung City**	**1.96**	**347**	*e*P	**Pb**	**02 43 14.0**	**-0.7**
WHP				*e*S	**Sb**	**02 43 39.2**	**+0.5**
VCHM	**Qimei**	**2.02**	**295**	*e*P	**Pn**	**02 43 12.0**	**-0.2**
VCHM				*e*S	**Sn**	**02 43 35.2**	**-1.6**
PHUB	**P'eng-hu**	**2.05**	**304**	*e*P	**Pn**	**02 43 13.1**	**+0.4**
PHUB				S	**Sn**	**02 43 36.0**	**-1.5**
NNSB	**Datong**	**2.06**	**359**	*e*P	**Pb**	**02 43 15.1**	**-1.4**
TWQ1	**Liyutan**	**2.06**	**344**	*e*P	**Pb**	**02 43 15.3**	**-1.2**
TWQ1				*e*S	**Sb**	**02 43 41.0**	**-0.7**
NNS	**Nan Shan**	**2.07**	**359**	*e*P	**Pb**	**02 43 16.7**	**0.0**
ENA	**Nanau**	**2.08**	**8**	*e*P	**Pb**	**02 43 15.4**	**-1.4**
ENA				*e*S	**Sn**	**02 43 38.0**	**-0.3**
EOS3	**EOS3**	**2.09**	**23**	*e*P	**Pn**	**02 43 13.4**	**+0.3**
EOS3				*e*S	**Sn**	**02 43 37.7**	**-0.5**
PNG	**Penghu**	**2.09**	**305**	*e*P	**Pn**	**02 43 13.5**	**+0.2**
PNG				*e*S	**Sn**	**02 43 37.8**	**-0.8**
NSY	**Sanyi**	**2.13**	**344**	*e*P	**Pb**	**02 43 16.0**	**-1.7**
NSY				*e*S	**Sb**	**02 43 42.7**	**-1.0**
LATG	**Datong**	**2.17**	**3**	*e*P	**Pn**	**02 43 16.6**	**+2.1**
ENTT	**Nioudou**	**2.27**	**3**	*e*P	**Pn**	**02 43 18.8**	**-1.3**
TWC	**Suao**	**2.27**	**10**	*e*P	**Pn**	**02 43 17.2**	**+1.5**
TWC				*e*S	**Sn**	**02 43 43.5**	**+0.4**
NFF	**Wufeng Townshi**	**2.28**	**353**	*e*P	**Pn**	**02 43 17.9**	**+2.0**
YHNB	**Yeheng**	**2.30**	**359**	P	**Pb**	**02 43 18.9**	**-1.6**
YHNB	**Yeheng**	**2.30**	**359**	*e*P	**Pn**	**02 43 18.6**	**+2.4**
LIOB	**Emei**	**2.30**	**351**	*e*P	**Pn**	**02 43 18.4**	**+2.1**
NSK	**Sanguang**	**2.31**	**359**	*e*P	**Pn**	**02 43 18.6**	**+2.3**
NSK				*e*S	**Sn**	**02 43 45.3**	**+1.4**
TWE	**Neicheng**	**2.36**	**6**	*e*P	**Pn**	**02 43 19.5**	**+2.5**
FUSB	**Fushanzhiwuyua**	**2.39**	**4**	*e*P	**Pn**	**02 43 20.1**	**+2.6**
FUSB				*e*S	**Sn**	**02 43 47.3**	**+1.2**
NWLT	**Wulai**	**2.41**	**2**	*e*P	**Pn**	**02 43 20.1**	**+2.4**
VWUC	**VWUC**	**3.18**	**326**	*e*P	**Pn**	**02 43 28.9**	**+0.7**
VWUC				*e*S	**Sn**	**02 44 05.0**	**-0.4**
KNMB	**Chin-men Tao**	**3.48**	**308**	*e*P	**Pn**	**02 43 33.3**	**+0.9**
AXDP	**Jialang**	**4.05**	**309**	*e*P	**Pn**	**02 43 40.5**	**+0.3**

KRSC ***08*** *02:47:18.2±0.7, 54°.11N×160°.52E, h104km±11km, Ml4.6, Felt [IV-V] at kordon Kronoki; [III-IV] at kordon Aerodrom.*
MOS ***08*** *02:47:19.2±1.0, 54°.21N×160°.16E, h118km, mb4.3/10, Error ellipse: s-maj=9.4km s-min=3.8km az=78.5*
NEIC ***08*** *02:47:20.8±1.7, 54°.30N±0°.09×159°.8E±0°.2, h109km±8km, mb4.5/26, Error ellipse: s-maj=17.2km s-min=11.9km az=114.0*
IDC ***08*** *02:47:21.6±0.6, 54°.39N×159°.84E, h112km±5km, mb3.6/28, mbtmp4.0/31, Error ellipse: s-maj=13.7km s-min=7.8km az=136.0*
ISC 08 02:47:19.8±0.5, 54°.17N±0°.03×160°.33E±0°.03, h107km±4km, n185, σ1§26/232, mb4.2/49, 8C-6D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.54**	**256**	PN	**Pn**	**02 47 36.4**	**-0.3**
KII	**Karymskiy**	**0.54**	**256**	*e*P	**Pn**	**02 47 36.5**	**-0.3**
MKZ	**Mys Kozlova**	**0.91**	**64**	PN	**Pn**	**02 47 39.2**	**-0.6

KOZ	Kozyrevsk	1.91	352		PN	Pn	02 47 52.2	+0.7
KOZ	Kozyrevsk	1.91	352	e	P	Pn	02 47 52.2	+0.7
LGNR	Loginova	1.93	6		PN	Pn	02 47 53.3	+1.3
LGNR	Loginova	1.93	6	e	P	Pn	02 47 53.4	+1.3
CIRR	Tsirk	1.96	7		PN	Pn	02 47 53.7	+1.4
CIRR	Tsirk	1.96	7	e	P	Pn	02 47 53.8	+1.4
ESO	Esso	2.00	333		PN	Pn	02 47 53.0	+0.4
ESO					S	Sn	02 48 18.1	+0.5
ESO	Esso	2.00	333	i	P	Pn	02 47 53.1	+0.4
ESO				e	S	Sn	02 48 18.1	+0.5
RUS	Russkaya	2.05	213		PN	Pn	02 47 53.0	-0.3
RUS					S	Sn	02 48 18.2	-0.7
RUS	Russkaya	2.05	213	i	P	Pn	02 47 53.1	-0.3
RUS				e	S	Sn	02 48 18.3	-0.7
KRSR	Krestovskiy	2.06	4		PN	Pn	02 47 53.9	+0.5
KRSR	Krestovskiy	2.06	4	e	P	Pn	02 47 54.0	+0.5
GRL	Gorelyy	2.11	221		PN	Pn	02 47 54.9	+0.7
GRL					S	Sn	02 48 21.2	+0.7
GRL	Gorelyy	2.11	221	e	P	Pn	02 47 55.0	+0.7
GRL				e	S	Sn	02 48 21.2	+0.7
KLY	Klyuchi	2.16	5		PN	Pn	02 47 55.6	+1.0
KLY	Klyuchi	2.16	5	e	P	Pn	02 47 55.7	+1.0
SRDR	Sredinnyy	2.18	351		PN	Pn	02 47 55.1	+0.1
SRDR	Sredinnyy	2.18	351	e	P	Pn	02 47 55.2	+0.1
APC	Apacha	2.27	238		PN	Pn	02 47 57.0	+0.9
APC					S	Sn	02 48 25.8	+2.0
APC	Apacha	2.27	238	e	P	Pn	02 47 57.0	+0.9
APC				e	S	Sn	02 48 25.8	+2.0
KBTR	Krutoberegovo	2.49	34		PN	Pn	02 47 59.2	+0.2
KBTR					S	Sn	02 48 28.6	-0.4
KBTR	Krutoberegovo	2.49	34	e	P	Pn	02 47 59.2	+0.2
KBTR				e	S	Sn	02 48 28.6	-0.4
KBG	Krutoberegovo	2.49	32	e	S	Sn	02 48 28.7	-0.4
SMKR	Semkarok	2.50	15		PN	Pn	02 48 00.1	+0.9
SMKR					S	Sn	02 48 31.6	+2.1
SMKR	Semkarok	2.50	15	e	P	Pn	02 48 00.2	+0.9
SMKR				e	S	Sn	02 48 31.6	+2.1
KDTR	Khodutka, Kamc	2.73	211		PN	Pn	02 48 01.6	-0.5
KDTR	Khodutka, Kamc	2.73	211	e	P	Pn	02 48 01.7	-0.5
BKI	Bering	3.43	70		PN	Pn	02 48 11.1	-0.3
BKI					S	Sn	02 48 48.0	-3.3
BKI	Bering	3.43	70	e	P	Pn	02 48 11.2	-0.3
BKI				e	S	Sn	02 48 48.0	-3.3
PAU	Pauzhetka	3.45	220		PN	Pn	02 48 12.4	+0.8
PAU	Pauzhetka	3.45	220	e	P	Pn	02 48 12.5	+0.8
SKR	Severo-Kuril's	4.34	218	e	PN	Pn	02 48 24.0	+0.4
SKR				e	S	Sn	02 49 11.5	-1.7
SKR					pmax	pmax		
	comp=Z,210nm,0.5s							
SKR					smax	smax		
	comp=N,260nm,0.6s							
SKR					smax	smax		
	comp=E,130nm,0.4s							
SKR	Severo-Kuril's	4.34	218	e	P	Pn	02 48 23.3	-0.3
PALN	Palana	4.94	358		PN	Pn	02 48 32.4	+0.8
PALN	Palana	4.94	358	e	P	Pn	02 48 32.4	+0.8
OSSR	Ossora	5.31	15		PN	Pn	02 48 36.6	0.0
OSSR	Ossora	5.31	15	e	P	Pn	02 48 36.6	0.0
MA2	Magadan	7.53	320		Pn	Pn	02 49 08.0	+1.2
MA2	Magadan	7.53	320		P	Pn	02 49 07.8	+1.1
	comp=E,21nm,0.6s,baz=133,slow=9.4,SNR=52							
MA2					S	Sn	02 50 25.7	-4.8
	comp=E,1.9nm,0.4s,baz=127,slow=20,SNR=1.2							
MA2	Magadan	7.53	320	⇓e	PN	Pn	02 49 06.6	-0.2
SEY	Seymchan	9.71	338		P	Pn	02 49 35.6	-0.7
	comp=E,0.4nm,0.4s,baz=163,slow=13,SNR=1.9							
YSS	Yuzhno-Sakhali	13.28	244	e	PN	Pn	02 50 25.8	+1.9
YSS					pmax	pmax		
	comp=Z,10.0nm,1.2s							
BILL	Bilibino	14.20	9⇑	e	P	Pn	02 50 36.4	+0.7
GRNR	Gornyy	14.94	267⇑	i	P	P	02 50 49.8	+1.6
GRNR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
GRNR					MLR	MLR		
	comp=E,660nm,15.0s							
GRNR					MLR	MLR		
	comp=N,570nm,14.0s							
GRNR					MLR	MLR		
	comp=Z,560nm,14.0s							
ASAJ	Asahikawa	15.31	236		P	Pn	02 50 51.1	+1.1
	comp=Z,3.2nm,0.5s,baz=141,slow=9.0,SNR=5.1							
ERM	Erimo	16.66	230	⇓e	P	Pn	02 51 05.3	-1.4
YAK	Yakutsk	17.86	308		P	Pn	02 51 19.5	-1.5
YAK					IAmb	IAmb	02 51 20.3	
	comp=Z,43nm,0.6s							
YAK	Yakutsk	17.86	308		P	P	02 51 19.0	-1.2
	comp=Z,34nm,0.5s,baz=118,slow=14,SNR=7.1							
YAK	Yakutsk	17.86	308	e	P	P	02 51 18.9	-1.3
YAK					pmax	pmax		
	comp=Z,28nm,0.8s							
YAK					pmax	pmax		
	comp=N,3.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,3.0nm,0.7s							
KLR	Kul'dur	18.32	266		P	Pn	02 51 26.1	-0.6
	comp=E,2.5nm,0.5s,baz=64,slow=10.0,SNR=14							
KLR	Kul'dur	18.32	266	⇑i	P	Pn	02 51 26.6	-0.1
KLR					pmax	pmax		
	comp=Z,11nm,1.3s							
JTM	Tenmabayashi	18.59	232		P	P	02 51 28.3	-0.1
ZEA	Zeya	19.38	282	e	P	P	02 51 37.0	+0.1
HEH	HeiHe	20.44	272	e	P	P	02 51 47.0	-1.3
HEH					pmax	pmax		
	comp=Z,13nm,0.7s							
USRK	Ussuriysk Ar.	20.91	253		P	P	02 51 53.0	-0.4
	comp=Z,1.3nm,0.6s,baz=59,slow=12,SNR=3.1							
	comp=Z,1.3nm,0.6s							
JMM	Marumori	21.10	227		P	P	02 51 56.2	+0.7
JMM					IAmb	IAmb	02 52 34.8	
	comp=Z,77nm,1.4s							
TIXI	Tiksi	22.17	334		P	P	02 52 05.2	-1.4
	comp=Z,1.2nm,0.4s,baz=149,slow=8.9,SNR=4.4							
TIXI					pP	pP	02 52 25.7	-1.4
	comp=Z,2.1nm,0.5s,baz=126,slow=8.0,SNR=3.1							
	comp=Z,1.2nm,0.4s							
BNX	BinXian	22.63	262	⇑	P	P	02 52 09.7	-1.8
BNX					pmax	pmax		
	comp=Z,15nm,1.0s							
MJA0	Matsu Arr-Jizo	23.32	230	e	P	P	02 52 18.2	-0.1
MJA0					pmax	pmax		
	comp=Z,4.0nm,0.5s							
MAJO	Matsushiro	23.34	230		P	P	02 52 18.7	+0.2
MAJO					IAmb	IAmb	02 52 27.8	
	comp=Z,12nm,1.0s							
MAJO	Matsushiro	23.34	230	⇓e	P	P	02 52 18.8	+0.4
MAJO					pmax	pmax		
	comp=Z,13nm,1.0s							
MJAR	Matsushiro Arr	23.34	230		P	P	02 52 18.9	+0.5
	comp=Z,3.9nm,0.5s,baz=26,slow=11,SNR=7.8							
	comp=Z,3.9nm,0.5s							
MJAR	Matsushiro Arr	23.34	230		P	P	02 52 19.0	+0.5
JGF	Kuroka	24.50	230		P	P	02 52 29.9	+0.9
JGF					IAmb	IAmb	02 52 32.1	
	comp=Z,30nm,1.5s							
B20K	Meade River	24.69	34		P	P	02 52 31.3	+1.1
HIA	Hailar	25.36	276	⇓e	P	P	02 52 35.9	-0.7
HIA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
F21K	Alatna River	25.37	41		P	P	02 52 35.6	-0.9
B21K	Ikpikpuk River	25.43	35		P	P	02 52 38.4	+1.4
B21K					IAmb	IAmb	02 53 04.1	
	comp=Z,8.7nm,1.0s							
KSRS	Korea Array	27.77	246		P	P	02 52 58.7	+0.4
	comp=Z,1.6nm,0.6s,baz=37,slow=10,SNR=4.9							
	comp=Z,1.6nm,0.6s							
ILAR	Eielson Array	27.96	47		P	P	02 53 02.3	+2.5
	comp=Z,0.4nm,0.8s,baz=252,slow=6.1,SNR=4.4							
ILAR					pP	pP	02 53 26.2	+2.7
	comp=Z,0.5nm,0.7s,baz=258,slow=8.0,SNR=2.7							
	comp=Z,0.4nm,0.8s							
SONM	Songino Array	33.80	282		P	P	02 53 50.4	-1.1
	comp=Z,0.7nm,0.6s,baz=58,slow=8.3,SNR=4.7							
SONM					PcP	PcP	02 56 28.3	+0.3
	comp=Z,1.0nm,0.5s,baz=67,slow=1.9,SNR=4.3							
	comp=Z,0.7nm,0.6s							
SONM	Songino Array	33.80	282	e	P	P	02 53 49.7	-1.8
SONM					pmax	pmax		
	comp=Z,1.0nm,0.6s							
TIA	Tai'an	34.68	257		P	P	02 53 58.8	-0.1
TIA					pmax	pmax		
	comp=Z,6.0nm,0.4s							
H11N2	WAKE ISLAND Hy	34.74	169		T	T	03 31 26.9	
	baz=354,slow=76,SNR=7.2							
H11N3	WAKE ISLAND Hy	34.76	169		T	T	03 31 34.5	
	baz=354,slow=76,SNR=9.6							
H11N1	WAKE ISLAND Hy	34.76	169		T	T	03 31 31.3	
	baz=354,slow=76,SNR=3.3							
HHC	Hu-ho-hao-te	34.81	268	e	P	P	02 53 58.9	-1.3
HHC					pmax	pmax		
	comp=Z,8.0nm,0.6s							
HHC					pmax	pmax		
	comp=Z,250nm,5.4s							
A36M	Sachs Harbour	35.13	31		P	P	02 54 03.9	+1.5
EUNU	Eureka	40.87	14		P	P	02 54 51.3	+0.8
EUNU					IAmb	IAmb	02 54 51.7	
	comp=Z,5.8nm,0.7s							
RES	Resolute Bay	42.27	22		P	P	02 55 02.9	+1.0
RES	Resolute Bay	42.27	22		P	P	02 55 02.9	+1.0
RES					pmax	pmax		
	comp=Z,3.0nm,1.5s							
YKA	Yellowknife Ar	42.28	43		P	P	02 55 03.5	+1.4
	comp=Z,0.3nm,0.8s,baz=297,slow=8.2,SNR=3.1							
YKA					pP	pP	02 55 27.9	+1.1
	comp=Z,0.6nm,0.7s,baz=300,slow=8.1,SNR=4.1							
YKA					PcP	PcP	02 56 55.0	+1.2
	comp=Z,0.1nm,0.3s,baz=310,slow=3.9,SNR=1.8							
	comp=Z,0.3nm,0.8s							
ZALV	Zalesovo Beam	42.32	302		P	P	02 55 00.2	-2.4
	comp=Z,1.4nm,0.5s,baz=52,slow=8.7,SNR=6.4							
	comp=Z,1.4nm,0.5s							
GTA	Gaotai	42.64	275	e	P	P	02 55 05.2	-0.3
GTA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
TULEG	Thule	45.87	14		P	P	02 55 37.1	+6.5
SPITS	Spitsbergen Ar	46.10	350		P	P	02 55 31.8	-0.6
	comp=Z,9.0nm,1.1s,baz=57,slow=8.1,SNR=1.7							
	comp=Z,9.0nm,1.1s							
KURK	Kurchatov	47.29	301		P	P	02 55 39.6	-2.4
KURK					IAmb	IAmb	02 55 40.3	
	comp=Z,7.2nm,0.5s							
KURK	Kurchatov	47.29	301	de	P	P	02 55 39.6	-2.4
KURK					pmax	pmax		
	comp=Z,4.0nm,0.5s							
KURBB	Kurchatov Arra	47.39	301		P	P	02 55 40.5	-2.3
	comp=Z,3.2nm,0.5s,baz=58,slow=6.7,SNR=32							
KURBB					pP	pP	02 56 07.9	-0.2
	comp=Z,1.0nm,0.5s,baz=56,slow=7.4,SNR=3.3							
KURBB					PcP	PcP	02 57 11.0	-0.6
	comp=Z,0.6nm,0.5s,baz=49,slow=3.3,SNR=5.9							
	comp=Z,3.2nm,0.5s							
MK31	Makanchi Array	47.82	295		P	P	02 55 44.0	-2.2
MK31					IAmb	IAmb	02 55 45.2	
	comp=Z,3.1nm,0.7s							
MK31	Makanchi Array	47.82	295	c i	P	P	02 55 43.9	-2.3
MKAR	Makanchi Array	47.82	295		P	P	02 55 43.7	-2.5
	comp=Z,3.3nm,0.6s,baz=56,slow=7.5,SNR=47							
MKAR					PcP	PcP	02 57 13.0	-0.3
	comp=Z,0.3nm,0.6s,baz=57,slow=5.3,SNR=2.2							
	comp=Z,3.3nm,0.6s							
MAKZ	Makanchi	47.98	295		P	P	02 55 45.3	-2.1
MAKZ	Makanchi	47.98	295		P	P	02 55 45.3	-2.1
MAKZ					pmax	pmax		
	comp=Z,3.0nm,0.7s							
BVAR	Borovoye Array	49.84	308		P	P	02 55 59.2	-2.2
	comp=Z,4.1nm,0.6s,baz=58,slow=7.7,SNR=20							
BVAR					PcP	PcP	02 57 20.1	-0.4
	comp=Z,2.5nm,0.5s,baz=66,slow=2.8,SNR=10							
	comp=Z,4.1nm,0.6s							
BRVK	Borovoye	49.86	308	de	P	P	02 55 59.8	-1.9
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.7s							
PZH	PanZhiHua	50.68	261		P	P	02 56 06.9	-1.4
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
QIZ	Qiongzhong	51.97	248		P	P	02 56 17.5	-0.4
QIZ					S	S	03 03 33.7	+0.9
QIZ					LR	LR		
	comp=N,400nm,13.3s							
QIZ					LR	LR		
	comp=E,390nm,13.4s							
QIZ					LR	LR		
	comp=Z,520nm,14.5s							
ARCES	ARCESS Array B	52.31	342		PcP	PcP	02 57 29.4	+0.1
	comp=Z,3.1nm,0.7s,baz=30,slow=5.5,SNR=9.0							
WUS	Wushi	53.18	291		IAmb	IAmb	02 56 26.5	
	comp=Z,3.7nm,0.9s							
AAK	Ala-Archa	54.73	296		P	P	02 56 35.6	-2.4
AAK					IAmb	IAmb	02 56 36.8	
	comp=Z,2.5nm,0.8s							
AAK	Ala-Archa	54.73	296	⇑e	P	P	02 56 35.6	-2.4
AAK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
NVAR	Mina Array Bea	55.25	71		P	P	02 56 45.0	+3.2
	comp=Z,0.3nm,0.6s,baz=300,slow=7.0,SNR=2.5							
NVAR					pP	pP	02 57 10.2	+2.5
	comp=Z,0.4nm,0.6s,baz=290,slow=7.8,SNR=3.2							
	comp=Z,0.3nm,0.6s							
KK31	Karatay Array	56.49	299		P	P	02 56 47.9	-2.5
KK31					IAmb	IAmb	02 56 48.9	
	comp=Z,2.4nm,0.8s							
KK31	Karatay Array	56.49	299		P	P	02 56 47.9	-2.5
KK31					pmax	pmax		
	comp=Z,2.0nm,0.8s							
KKAR	Karatay Array	56.49	299		P	P	02 56 48.0	-2.3
KKAR	Karatay Array	56.49	299		P	P	02 56 48.1	-2.3
KKAR					IAmb	IAmb	02 56 49.0	
	comp=Z,2.5nm,0.8s							
KKAR	Karatay Array	56.49	299		P	P	02 56 48.1	-2.3
PDAR	Pinedale Array	56.88	62		P	P	02 56 57.1	+3.7
	comp=Z,0.2nm,0.5s,baz=304,slow=2.7,SNR=2.1							
	comp=Z,0.2nm,0.5s							
ABKAR	Akbulak array	57.21	310		P	P	02 56 53.7	-1.6
CCAC	Calif City Air	57.75	73		P	P	02 57 03.3	+3.9
CMAR	Chiang Mai Arr	58.55	258		P	P	02 57 04.6	-0.4
	comp=Z,1.0nm,0.3s,baz=29,slow=6.6,SNR=4.3							
	comp=Z,1.0nm,0.3s							
RABL	Rabaul	58.55	190		P	P	02 57 06.0	+1.0
FIA1	FINESS Array S	59.19	336		P	P	02 57 07.3	-1.6
FINES	FINESS Array B	59.19	336		P	P	02 57 07.1	-1.8
FINES	FINESS Array B	59.19	336		P	P	02 57 07.7	-1.2
	comp=Z,1.4nm,0.6s,baz=43,slow=8.1,SNR=8.7							
FINES					PcP	PcP	02 57 55.6	-0.5
	comp=Z,1.8nm,0.6s,baz=39,slow=2.8,SNR=6.5							
	comp=Z,1.4nm,0.6s							
FINES	FINESS Array B	59.19	336	e	P	P	02 57 08.1	-0.8
FINES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
GAR	Garm	59.55	295		IAmb	IAmb	02 57 10.3	
	comp=Z,4.9nm,0.9s							
NC204	NORSAR Array S	62.40	344		P	P	02 57 29.7	-1.1
NOA	NORSAR Array B	62.55	344		P	P	02 57 31.0	-0.7
	comp=Z,0.5nm,0.7s,baz=28,slow=6.0,SNR=1.2							
NOA					PcP	PcP	02 58 09.5	-0.3
	comp=Z,0.4nm,0.7s,baz=20,slow=4.2,SNR=3.3							
	comp=Z,0.5nm,0.7s							
HFS	Hagfors	62.97	342		P	P	02 57 33.1	-1.3
	comp=Z,0.8nm,0.4s,baz=355,slow=5.1,SNR=5.5							
HFS					PcP	PcP	02 58 11.1	-0.4
	comp=Z,1.4nm,0.5s,baz=64,slow=6.8,SNR=7.6							
	comp=Z,0.8nm,0.4s							
AKASG	Malin Array Be	67.76	329		P	P	02 58 04.2	-1.3
	comp=Z,0.4nm,0.3s,baz=30,slow=6.3,SNR=6.1							
	comp=Z,0.4nm,0.3s							
AKASG	Malin Array Be	67.76	329	e	P	P	02 58 04.1	-1.4
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.9s							
KBZ	Khabaz	68.85	316		P	P	02 58 11.4	-0.9
	comp=Z,2.7nm,1.0s,baz=39,slow=14,SNR=2.7							
	comp=Z,2.7nm,1.0s							
EKA	Eskdalemuir Ar	70.02	350		P	P	02 58 18.7	-0.7
	comp=Z,0.9nm,0.5s,baz=14,slow=5.5,SNR=2.0							
	comp=Z,0.9nm,0.5s							
TXAR	Lajitas Array	70.09	67		P	P	02 58 22.8	+2.4
	comp=Z,0.2nm,0.6s,baz=298,slow=5.0,SNR=6.0							
	comp=Z,0.2nm,0.6s							
PSI	Prapat	71.32	248		P	P	02 58 28.0	+0.1
PSI					pmax	pmax		
	comp=Z,5.0nm,0.7s							
RPSI	Rantau Prapat	71.41	248		P	P	02 58 28.0	-0.3
RPSI					IAmb	IAmb	02 58 30.3	
	comp=Z,4.5nm,0.7s							
BRTR	Keskin Array B	75.88	320		P	P	02 58 52.9	-1.5
	comp=Z,0.4nm,0.6s,baz=42,slow=4.9,SNR=3.7							
	comp=Z,0.4nm,0.6s							
BRTR	Keskin Array B	75.88	320	ce	P	P	02 58 54.2	-0.2
WRA	Warramunga Arr	77.12	205		P	P	02 59 01.8	+0.5
	comp=Z,0.8nm,0.6s,baz=21,slow=6.1,SNR=5.2							
	comp=Z,0.8nm,0.6s							
WRA	Warramunga Arr	77.12	205	e	P	P	02 59 01.9	+0.7
WRA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
ASAR	Alice Springs	80.80	204		P	P	02 59 22.4	+1.2
	comp=Z,0.6nm,0.6s,baz=19,slow=5.0,SNR=5.6							
	comp=Z,0.6nm,0.6s							
MMAI	Mount Meron Ar	81.04	316		P	P	02 59 22.1	-0.6
	comp=Z,2.2nm,0.6s,baz=19,slow=6.6,SNR=3.0							
	comp=Z,2.2nm,0.6s							
ESDC	Sonseca Array	85.56	348		P	P	02 59 46.2	+0.4
	comp=Z,2.3nm,0.9s,baz=7.6,slow=4.6,SNR=13							
	comp=Z,2.3nm,0.9s							
KEST	Kesra	87.02	337		P	P	02 59 52.9	-0.2
	comp=Z,3.3nm,0.7s,baz=50,slow=1.8,SNR=5.2							
	comp=Z,3.3nm,0.7s							

IDC ***08*** *02:54:56.7±0.8, 22°.25N×121°.49E, h0km, mb3.9/13, mbtmp3.9/15, ML3.3/1, Error ellipse: s-maj=25.2km s-min=15.7km az=67.0*

JMA ***08*** *02:54:57.9±0.1, 22°.2N±0°.7×12°1E±°, h39km±4km, MV4.0/15, TAIWAN REGION*

ASIES ***08*** *02:54:59.9, 22°.40N×121°.39E, h20km, ML4.1, Mw4.0. Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}0.89; $M_{\theta\theta}$0.11; $M_{\phi\phi}$-1.00; $M_{r\theta}$-0.27; $M_{\theta\phi}$-0.19; $M_{\phi r}$-0.45; Fault plane solution: $M_0$1.09992×10^{22} NP1: ϕ_s356.28000°, δ32.95000°, λ69.03000°. NP2: ϕ_s200.83000°, δ59.48000°, λ103.06000°. Principal axes: T Plg72.2680°, Azm142.4710°; N Plg11.2240°, Azm14.1090°; P Plg13.5470°, Azm281.3680°;*

TAP ***08*** *02:54:59.9, 22°.40N×121°.39E, h20km, ML4.1, C*

ISC 08 02:55:00.1±0.6, 22°.38N±0°.02×121°.43E±0°.02, h21km±2km, n173, σ1§05/271, mb3.8/12, 2C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LDUT	Ludao	0.30	8⇑	eP		Pb	02 55 06.6	-0.1
LDUT				S		Sb	02 55 11.6	+0.2
LAY	Lan-yu	0.36	161	⇓iP		Pb	02 55 07.9	+0.2
LAY				eS		Sb	02 55 13.5	+0.6
LYUB	Lan-yu	0.40	159	⇓iP		Pb	02 55 07.4	-1.0
LYUB				eS		Sb	02 55 14.5	+0.4
TTN	Taitung	0.46	325	⇑iP		Pb	02 55 09.5	+0.1
TTN				S		Sn	02 55 17.1	-1.8
ECL	Taimali	0.49	297	⇓eP		Pb	02 55 09.0	-1.0
ECL				eS		Sb	02 55 15.1	-1.6
TAW	Tawu	0.49	268	⇓iP		Pb	02 55 09.2	-0.9
TAW				S		Sb	02 55 15.6	-1.2
TAWH	Dawu Township	0.50	266	⇓iP		Pb	02 55 09.3	-0.9
TAWH				eS		Sb	02 55 16.0	-1.1
TWGBT	Beinan	0.54	324	P		Pb	02 55 10.0	-1.0
TWGBT	Beinan	0.54	324	S		Sn	02 55 19.3	-1.8
TWGBT	Beinan	0.54	324	⇓P		Pb	02 55 10.2	-0.8
TWGBT				eS		Sb	02 55 17.8	-0.7
TWG	Pinlang	0.55	323	⇓iP		Pb	02 55 10.2	-0.9
TWG				eS		Sn	02 55 19.1	-2.1
LONT	Longtian	0.59	332	eP		Pb	02 55 10.5	-1.4
LONT				S		Sb	02 55 19.7	-0.2
EDH	Donghe	0.60	349	eP		Pb	02 55 11.6	-0.5
EDH				eS		Sb	02 55 20.2	+0.1
SLIU	Shizi	0.60	255	⇓iP		Pb	02 55 11.0	-1.0
SLIU				S		Sb	02 55 18.4	-1.8
SMST	Manzhou Townsh	0.65	237	eP		Pb	02 55 12.3	-0.6
SMST				iS		Sb	02 55 20.6	-0.9
TSEB	Hengchuen, Pin	0.68	226	eP		Pb	02 55 13.5	+0.2
TSEB				eS		Sn	02 55 23.1	-1.4
TWKBT	Hengchun	0.72	233	eP		Pb	02 55 13.2	-0.7
TWKBT				iS		Sb	02 55 22.4	-0.9
CHKT	Chengkung	0.72	355	eP		Pb	02 55 12.9	-1.1
CHKT				iS		Sb	02 55 22.1	-1.3
TWK1	Hengchun	0.72	233	eP		Pb	02 55 13.1	-0.9
TWK1				iS		Sb	02 55 22.7	-0.8
ECS	Chishang	0.74	345	eP		Pn	02 55 14.8	-0.5
ECS				eS		Sn	02 55 24.7	-1.2
HEN	Hengchun	0.74	240	eP		Pb	02 55 14.0	-0.3
HEN				eS		Sb	02 55 23.3	-0.6
SCZT	Fangliau	0.75	270	⇓P		Pb	02 55 13.2	-1.2
SCZT				S		Sb	02 55 21.7	-2.4
MASBT	Mashibuluo	0.77	288	⇓iP		Pb	02 55 13.4	-1.4
MASBT				eS		Sn	02 55 24.8	-1.8
EHD	Haiduan	0.79	345	eP		Pn	02 55 15.7	-0.4
EHD				eS		Sn	02 55 25.9	-1.3
TSMG	Majia	0.79	294	⇓iP		Pb	02 55 13.8	-1.4
TSMG				eS		Sb	02 55 23.2	-2.3
CHKH	Chenggong	0.81	358	eP		Pb	02 55 14.5	-1.0
CHKH				eS		Sb	02 55 25.0	-1.0
FULB	Fuli	0.82	351	eP		Pb	02 55 14.8	-1.0
FULB				eS		Sn	02 55 26.5	-1.6
ELDTW	Lidau	0.89	335	eP		Pb	02 55 15.3	-1.6
ECBN	Changbin	0.93	1	eP		Pn	02 55 17.5	-0.5
ECBN				eS		Sb	02 55 29.1	-0.5
EYUL	Yuli	0.97	354	eP		Pn	02 55 18.3	-0.2
EYUL				eS		Sn	02 55 31.4	-0.3
WLCH	Liuqiu	0.97	269	eP		Pn	02 55 20.3	+1.8

SSLB	**Suanglung**	**1.47**	**343**	*e*P	**Pb**	**02 55 25.8**	**-0.9**
SSLB				S	**Sb**	**02 55 44.5**	**-0.5**
CHN8	**Yiju**	**1.48**	**311**	*e*P	**Pb**	**02 55 26.1**	**-0.7**
CHN8				*e*S	**Sb**	**02 55 45.4**	**+0.2**
TEYL	**Yanliau Villag**	**1.49**	**6**	*e*P	**Pn**	**02 55 24.2**	**-1.4**
WGK	**Gukeng**	**1.53**	**329**	P	**Pb**	**02 55 27.4**	**-0.3**
WGK				*e*S	**Sb**	**02 55 48.0**	**+1.4**
WDLH	**Douliu**	**1.54**	**328**	P	**Pb**	**02 55 27.4**	**-0.5**
WDLH				*i* S	**Sb**	**02 55 47.8**	**+0.8**
WDL	**Douliou City**	**1.56**	**329**	*e*P	**Pb**	**02 55 27.0**	**-1.3**
WDL				*e*S	**Sb**	**02 55 48.9**	**+1.3**
SMLT	**Sun Moon Lake**	**1.57**	**342**	*e*P	**Pn**	**02 55 26.6**	**-0.3**
SMLT				*i* S	**Sb**	**02 55 47.4**	**-0.7**
WJS	**Zhushan**	**1.57**	**336**	*e*P	**Pb**	**02 55 28.4**	**-0.1**
WJS				*i* S	**Sb**	**02 55 49.8**	**+1.8**
OWD	**Renai**	**1.59**	**352**	*e*P	**Pn**	**02 55 27.2**	**+0.1**
WSL	**Shuilin Townsh**	**1.59**	**316**	*i* P	**Pb**	**02 55 27.4**	**-1.3**
WSL				*e*S	**Sb**	**02 55 48.4**	**0.0**
HWA	**Hwalien**	**1.60**	**6**	*e*P	**Pb**	**02 55 28.4**	**-0.6**
TYC	**Yuchr**	**1.61**	**341**	*e*P	**Pb**	**02 55 28.4**	**-0.6**
TYC				*e*S	**Sb**	**02 55 49.7**	**+0.8**
WTK	**Tuku**	**1.62**	**324**	P	**Pb**	**02 55 28.4**	**-0.9**
WTK				*i* S	**Sb**	**02 55 48.9**	**-0.3**
WUSB	**Renai**	**1.63**	**350**	*e*P	**Pn**	**02 55 27.7**	**0.0**
WUSB				*e*S	**Sn**	**02 55 48.0**	**-0.1**
LXIB	**Xiulin Townshi**	**1.64**	**360**	*e*P	**Pn**	**02 55 26.3**	**-1.5**
LXIB				*e*S	**Sn**	**02 55 48.0**	**-0.2**
WNT	**Mingjian**	**1.64**	**336**	*e*P	**Pb**	**02 55 29.3**	**-0.3**
WNT				*e*S	**Sb**	**02 55 50.5**	**+0.6**
WSF	**Szhu**	**1.68**	**319**	*e*P	**Pb**	**02 55 28.7**	**-1.5**
WSF				*i* S	**Sb**	**02 55 50.3**	**-0.6**
TWD	**Chiawan**	**1.70**	**5**	*e*P	**Pn**	**02 55 27.8**	**-0.8**
WCS	**Beigang Elemen**	**1.74**	**344**	*e*P	**Pb**	**02 55 30.1**	**-1.1**
WCS				*e*S	**Sb**	**02 55 52.4**	**-0.2**
WHF	**Hehuan Shan**	**1.77**	**355**	*e*P	**Pn**	**02 55 30.1**	**+0.3**
WHF				*e*S	**Sb**	**02 55 52.4**	**-1.4**
NACB	**Ninganchiao**	**1.79**	**5**	P	**Pb**	**02 55 30.7**	**-1.6**
NACB	**Ninganchiao**	**1.79**	**5**	P	**Pn**	**02 55 29.4**	**-0.4**
NACB				S	**Sn**	**02 55 51.0**	**-0.9**
ETLH	**Xiulin Townshi**	**1.82**	**2**	*e*P	**Pn**	**02 55 31.0**	**+0.7**
ETLH				*e*S	**Sn**	**02 55 52.0**	**-0.7**
WDGT	**Dungji**	**1.85**	**299**	*e*P	**Pn**	**02 55 29.9**	**-0.7**
FUSS	**Fushou**	**1.87**	**355**	*e*P	**Pn**	**02 55 31.2**	**+0.1**
FUSS				*e*S	**Sn**	**02 55 54.2**	**+0.1**
WCHH	**Zhanghua**	**1.87**	**335**	*e*P	**Pb**	**02 55 31.9**	**-1.7**
WCHH				*e*S	**Sb**	**02 55 56.2**	**-0.3**
TWT	**Tachien**	**1.88**	**353**	*e*P	**Pb**	**02 55 33.2**	**-0.7**
TDCB	**Techi**	**1.88**	**353**	*e*P	**Pb**	**02 55 32.5**	**-1.3**
TDCB				*e*S	**Sn**	**02 55 54.6**	**+0.2**
TCU	**Taichung**	**1.89**	**339**	*e*P	**Pb**	**02 55 32.7**	**-1.2**
TCU				*e*S	**Sb**	**02 55 57.0**	**-0.1**
EOS4	**EOS4**	**1.92**	**25**	*e*P	**Pn**	**02 55 31.6**	**+0.4**
EOS4				*e*S	**Sn**	**02 55 52.7**	**-1.8**
WHP	**Taichung City**	**1.94**	**347**	*i* P	**Pb**	**02 55 34.1**	**-0.8**
WHP				S	**Sb**	**02 55 58.9**	**+0.3**
VCHM	**Qimei**	**2.02**	**295**	*i* P	**Pn**	**02 55 32.1**	**-0.8**
VCHM				*e*S	**Sn**	**02 55 55.5**	**-2.1**
NNSB	**Datong**	**2.04**	**359**	*e*P	**Pn**	**02 55 34.3**	**+1.0**
NNSB				*e*S	**Sn**	**02 55 58.7**	**+0.4**
PHUB	**P'eng-hu**	**2.05**	**304**	*e*P	**Pn**	**02 55 32.6**	**-0.7**
PHUB				*e*S	**Sn**	**02 55 56.2**	**-2.0**
TWQ1	**Liyutan**	**2.05**	**343**	*i* P	**Pb**	**02 55 35.2**	**-1.4**
TWQ1				*i* S	**Sb**	**02 56 01.1**	**-0.6**
NNS	**Nan Shan**	**2.05**	**359**	*e*P	**Pb**	**02 55 36.5**	**-0.3**
ENA	**Nanau**	**2.06**	**8**	*e*P	**Pn**	**02 55 33.7**	**+0.2**
ENA				*e*S	**Sn**	**02 55 58.6**	**+0.1**
EOS3	**EOS3**	**2.07**	**23**	*e*P	**Pn**	**02 55 34.5**	**+1.1**
EOS3				*e*S	**Sn**	**02 55 58.3**	**-0.2**
EWUT	**Wuta**	**2.08**	**9**	*e*P	**Pn**	**02 55 33.8**	**0.0**
EWUT				*e*S	**Sn**	**02 55 59.1**	**0.0**
WDJ	**Dajia District**	**2.09**	**340**	*e*P	**Pb**	**02 55 35.1**	**-2.2**
WDJ				*e*S	**Sb**	**02 56 03.0**	**+0.2**
PNG	**Penghu**	**2.09**	**305**	*e*P	**Pn**	**02 55 32.9**	**-1.0**
PNG				*e*S	**Sn**	**02 55 58.0**	**-1.3**
NSY	**Sanyi**	**2.12**	**343**	*e*P	**Pn**	**02 55 35.3**	**+1.0**
NSY				*i* S	**Sb**	**02 56 03.1**	**-0.6**
LATG	**Datong**	**2.15**	**2**	*e*P	**Pn**	**02 55 35.2**	**+0.4**
LATG				*e*S	**Sn**	**02 56 01.3**	**+0.4**
ESAO	**Su ao**	**2.22**	**10**	*e*P	**Pn**	**02 55 37.0**	**+1.3**
NMLH	**Miaoli**	**2.23**	**345**	*e*P	**Pn**	**02 55 36.3**	**+0.5**
NMLH				*e*S	**Sb**	**02 56 05.5**	**-1.3**
TWC	**Suao**	**2.25**	**10**	*e*P	**Pn**	**02 55 37.4**	**+1.2**
ENTT	**Nioudou**	**2.25**	**3**	*e*P	**Pn**	**02 55 36.7**	**+0.5**
NFF	**Wufeng Townshi**	**2.26**	**353**	*e*P	**Pn**	**02 55 36.9**	**+0.6**
NFF				*e*S	**Sb**	**02 56 06.3**	**-1.5**
NSTT	**Nanjuang**	**2.28**	**350**	*e*P	**Pn**	**02 55 37.6**	**+1.2**
NSTT				*e*S	**Sb**	**02 56 07.3**	**-0.9**
YHNB	**Yeheng**	**2.28**	**359**	P	**Pb**	**02 55 38.3**	**-2.3**
YHNB	**Yeheng**	**2.28**	**359**	*e*P	**Pn**	**02 55 37.5**	**+0.9**
YHNB				S	**Sn**	**02 56 04.6**	**+0.5**
LIOB	**Emei**	**2.29**	**351**	*e*P	**Pn**	**02 55 38.1**	**+1.5**
LIOB				*e*S	**Sn**	**02 56 04.6**	**+0.4**
NSK	**Sanguang**	**2.29**	**358**	*e*P	**Pn**	**02 55 37.8**	**+1.1**
TWE	**Neicheng**	**2.34**	**5**	*e*P	**Pn**	**02 55 38.4**	**+1.1**
TWE				*e*S	**Sn**	**02 56 05.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**2.38**	**4**	*e*P	**Pn**	**02 55 38.7**	**+0.9**
NWLT	**Wulai**	**2.39**	**2**	*e*P	**Pb**	**02 55 40.0**	**-2.4**
JYNG	**Yonaguni jima**	**2.49**	**34**	*e*P	**Pn**	**02 55 38.8**	**-0.5**
JYNG				*e*S	**Sn**	**02 56 09.0**	**-0.1**
YOJ	**Yonaguni jima**	**2.53**	**35**	*e*P	**Pn**	**02 55 41.0**	**+1.0**
YOJ				*e*S	**Sn**	**02 56 10.6**	**+0.4**
YOJ	**Yonaguni jima**	**2.53**	**35**	P	**Pn**	**02 55 40.9**	**+1.0**
TIPB	**Shuangxi**	**2.61**	**8**	*e*P	**Pn**	**02 55 42.4**	**+1.4**
TIPB				*e*S	**Sn**	**02 56 12.2**	**+0.2**
WFSB	**Wu-fen Shan**	**2.70**	**7**	*e*P	**Pn**	**02 55 43.8**	**+1.5**
SXI1	**Grass Mountain**	**2.73**	**9**	*e*P	**Pn**	**02 55 44.0**	**+1.2**
SXI1				*e*S	**Sn**	**02 56 16.5**	**+1.2**
HATJ	**Hateruma jima**	**2.75**	**52**	*e*P	**Pn**	**02 55 43.0**	**0.0**
HATJ				*e*S	**Sn**	**02 56 14.3**	**-1.3**
YM01	**YM01**	**2.76**	**3**	*e*P	**Pn**	**02 55 44.6**	**+1.5**
ZUZH	**Zhuzihu**	**2.77**	**2**	*e*P	**Pn**	**02 55 44.7**	**+1.4**
IRIF	**Iriomote-Funau**	**2.88**	**47**	*e*P	**Pn**	**02 55 44.9**	**+0.2**
IRIF				*e*S	**Sn**	**02 56 18.7**	**0.0**
JKRS	**Kuro-shima**	**3.01**	**52**	*e*P	**Pn**	**02 55 46.8**	**+0.3**
JKRS				*e*S	**Sn**	**02 56 22.8**	**+0.8**
VWUC	**VWUC**	**3.17**	**326**	*e*P	**Pn**	**02 55 48.2**	**-0.6**
JIJ	**Ishigaki jima**	**3.18**	**51**	*e*P	**Pn**	**02 55 48.8**	**-0.1**
JIJ				*e*S	**Sn**	**02 56 23.2**	**-3.1**
PTMZ	**Houxiangcun**	**3.39**	**322**	*e*P	**Pn**	**02 55 51.1**	**-0.6**
KNM	**Kinmen**	**3.42**	**307**	*e*P	**Pn**	**02 55 52.7**	**+0.6**
JISG	**Ishigakijimahi**	**3.44**	**50**	*e*P	**Pn**	**02 55 52.1**	**-0.3**
JISG				*e*S	**Sn**	**02 56 31.4**	**-1.2**
KNMB	**Chin-men Tao**	**3.48**	**307**	*e*P	**Pn**	**02 55 52.3**	**-0.7**
ZPLA	**Ao Xicun**	**3.72**	**295**	*e*P	**Pn**	**02 55 55.8**	**-0.5**
JTJ	**Tarama**	**3.76**	**53**	*e*P	**Pn**	**02 55 56.7**	**-0.1**
DSXP	**Dongshan**	**3.92**	**291**	*e*P	**Pn**	**02 55 58.2**	**-0.8**
MATB	**Ma-tsu**	**3.99**	**341**	*e*P	**Pn**	**02 55 59.1**	**-1.0**
AXDP	**Jialang**	**4.04**	**309**	*e*P	**Pn**	**02 56 00.1**	**-0.6**
JIRB	**Irabujima**	**4.21**	**54**	*e*P	**Pn**	**02 56 03.3**	**+0.3**
MHZQ	**Yeshan**	**4.30**	**330**	*e*P	**Pn**	**02 56 03.8**	**-0.5**
SXFK	**Yanhouchang**	**5.28**	**320**	*e*P	**Pn**	**02 56 17.0**	**-0.8**
JOW	**Kunigami**	**7.65**	**53**	Pn	**Pn**	**02 56 49.6**	**-0.7**
	1.1nm,0.3s,baz=141,slow=18,SNR=1.5						
	12nm,0.8s						
KSRS	**Korea Array**	**16.04**	**19**	Pn	**Pn**	**02 58 45.2**	**+0.9**
	2.2nm,0.8s,baz=193,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**20.27**	**42**	P	Pn	02 59 35.7	-0.6
	3.9nm,0.8s,baz=225,slow=9.6,SNR=6.0						
	3.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.43**	**264**	P	**P**	**02 59 47.9**	**+1.0**
	0.5nm,0.3s,baz=58,slow=8.0,SNR=4.5						
	0.5nm,0.3s						
SONM	**Songino Array**	**28.12**	**338**	P	**P**	**03 00 51.6**	**+1.1**
	0.4nm,0.4s,baz=149,slow=7.3,SNR=2.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**39.80**	**317**	P	**P**	**03 02 32.4**	**+0.7**
	1.1nm,0.7s,baz=107,slow=9.9,SNR=11						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**41.88**	**328**	P	**P**	**03 02 49.4**	**+0.7**
	3.1nm,0.9s,baz=113,slow=7.6,SNR=8.3						
	3.1nm,0.9s						
H11N1	**WAKE ISLAND Hy 42.40**	**85**	T	T		03 48 20.4	
	baz=282,slow=74,SNR=18						
H11N2	**WAKE ISLAND Hy 42.40**	**85**	T	T		03 48 21.7	
	baz=282,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy 42.41**	**85**	T	T		03 48 22.8	
	baz=282,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hy 42.47**	**87**	T	T		03 48 34.4	
	baz=284,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy 42.48**	**87**	T	T		03 48 30.4	
	baz=284,slow=75,SNR=47						
H11S2	**WAKE ISLAND Hy 42.49**	**87**	T	T		03 48 32.1	
	baz=284,slow=75,SNR=40						
KURBB	**Kurchatov Arra**	**43.64**	**321**	P	**P**	**03 03 03.4**	**+0.4**
	2.4nm,0.9s,baz=117,slow=7.5,SNR=12						
	2.4nm,0.9s						
WRA	**Warramunga Arr**	**43.91**	**162**	P	**P**	**03 03 03.3**	**-2.2**
	0.6nm,0.7s,baz=344,slow=9.0,SNR=5.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**47.35**	**164**	P	**P**	**03 03 31.4**	**-1.2**
	0.2nm,0.3s,baz=353,slow=12,SNR=8.5						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**49.21**	**322**	P	**P**	**03 03 47.8**	**+1.0**
	0.9nm,0.6s,baz=99,slow=9.2,SNR=3.9						
	0.9nm,0.6s						
STKA	**Stephens Creek**	**57.30**	**160**	P	**P**	**03 04 45.6**	**-0.8**
	0.7nm,0.6s,baz=4.5,slow=8.1,SNR=4.7						
	0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**71.29**	**348**	P	**P**	**03 06 17.9**	**+0.3**
	9.1nm,1.0s,baz=90,slow=5.8,SNR=5.7						
	9.1nm,1.0s						
FINES	**FINESS Array B**	**73.11**	**330**	P	**P**	**03 06 30.0**	**+1.4**
	0.9nm,0.6s,baz=48,slow=6.6,SNR=1.2						
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**74.42**	**307**	P	**P**	**03 06 38.0**	**+1.1**
	0.4nm,0.5s,baz=108,slow=9.3,SNR=6.3						
	0.4nm,0.5s						

*WEL **08** 03:05:16.8±1.4, 32°S±5′×17°7W±2°2, h12km, M4.7/7, mB4.8/3, ML4.9/8, MLv4.7/7, Mw(mB)4.0/3, Error ellipse: s-maj=28.7km s-min=5.1km az=99.9, confirmed*
*IDC **08** 03:05:18.1±0.9, 31°76S×178°14W, h0km, mb4.0/5, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=31.1km s-min=28.8km az=82.0*

ISC 08 03:05:19.5±0.8, 32°01S±0°06×177°7W±0°1, h18km, n30, σ1§97/35, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.74**	**356**	P	**Pn**	**03 06 01.5**	**-1.1**
GLKZ				S	**Sn**	**03 06 32.8**	**-2.5**
RIZ	**Raoul Island**	**2.76**	**356**	P	**Pn**	**03 06 02.4**	**-0.5**
WMGZ	**Waiomatatini S**	**6.61**	**208**	P	**Pn**	**03 06 58.0**	**+2.2**
PKGZ	**Pakihiroa**	**6.79**	**209**	P	**Pn**	**03 06 57.5**	**-0.8**
PKGZ				S	**Sn**	**03 08 13.6**	**-1.5**
HAZ	**Te Kaha**	**6.83**	**212**	P	**Pn**	**03 06 59.1**	**+0.4**
TWGZ	**Tauwhareparae**	**7.09**	**209**	P	**Pn**	**03 07 02.8**	**+0.3**
TWGZ				S	**Sn**	**03 08 21.2**	**-1.5**
CNGZ	**Carnagh Statio**	**7.27**	**206**	P	**Pn**	**03 07 04.7**	**-0.2**
MWZ	**Matawai**	**7.42**	**210**	P	**Pn**	**03 07 06.5**	**-0.4**
MWZ				S	**Sn**	**03 08 27.2**	**-3.4**
URZ	**Urewera**	**7.54**	**213**	Pn	**Pn**	**03 07 07.6**	**-0.9**
	2.1nm,0.3s,baz=81,slow=4.4,SNR=8.2						
URZ				Sn	**Sn**	**03 08 29.8**	**-3.8**
	4.0nm,0.3s,baz=12,slow=22,SNR=13						
	8.6nm,0.8s						
URZ	**Urewera**	**7.54**	**213**	P	**Pn**	**03 07 07.7**	**-0.9**
RIGZ	**Rimuhau**	**7.64**	**208**	P	**Pn**	**03 07 10.9**	**+1.0**
WCZ	**Waipu Caves**	**7.68**	**237**	P	**Pn**	**03 07 14.9**	**+4.5**
SNGZ	**Shannon Statio**	**7.87**	**210**	P	**Pn**	**03 07 13.2**	**+0.1**
OUZ	**Omahuta**	**7.93**	**244**	P	**Pn**	**03 07 17.9**	**+4.0**
MTHZ	**Maungataniwha**	**8.15**	**212**	P	**Pn**	**03 07 18.2**	**+1.3**
BKZ	**Black Stump Fm**	**8.56**	**212**	P	**Pn**	**03 07 23.2**	**+0.6**
KAHZ	**Kahuranaki**	**8.92**	**208**	P	**Pn**	**03 07 25.3**	**-2.2**
STKA	**Stephens Creek**	**34.39**	**259**	P	**P**	**03 12 04.2**	**-1.6**
	1.5nm,0.9s,baz=83,slow=12,SNR=2.9						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**43.30**	**269**	P	**P**	**03 13 19.2**	**-1.3**
	0.6nm,0.5s,baz=104,slow=7.7,SNR=11						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**44.43**	**274**	P	**P**	**03 13 28.0**	**-1.6**
	2.0nm,0.5s,baz=114,slow=7.7,SNR=20						
	2.0nm,0.5s						
QSPA	**South Pole Qui**	**58.11**	**180**	P	**P**	**03 15 15.7**	**+4.0**
	1.6nm,1.1s,baz=59,slow=0.4,SNR=5.2						
	1.6nm,1.1s						
SNAA	**Sanae**	**76.55**	**178**	P	**P**	**03 17 11.4**	**+3.1**
	2.1nm,0.9s,baz=167,slow=3.5,SNR=3.6						
	2.1nm,0.9s						
MKAR	**Makanchi Array**	**118.99**	**309**	PKP	**PKiKP**	**03 24 07.3**	**+0.5**
	0.3nm,0.7s,baz=122,slow=1.9,SNR=2.1						
KURBB	**Kurchatov Arra**	**122.37**	**313**	PKP	**PKiKP**	**03 24 13.3**	**0.0**
	0.5nm,0.5s,baz=111,slow=1.8,SNR=5.8						
BVAR	**Borovoye Array**	**127.72**	**315**	PKP	**PKiKP**	**03 24 23.8**	**-0.1**
	0.5nm,0.4s,baz=132,slow=2.1,SNR=3.6						
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc	**PKPab**	**03 25 00.0**	**-0.8**
	3.1nm,0.6s,baz=54,slow=4.5,SNR=26						
HFS	**Hagfors**	**150.87**	**348**	PKPbc	**PKiKP**	**03 25 10.4**	**-0.4**
	2.8nm,0.9s,baz=35,slow=5.3,SNR=2.0						
MMAI	**Mount Meron Ar**	**152.12**	**281**	PKPbc	**PKiKP**	**03 25 15.2**	**+0.8**
	2.4nm,0.7s,baz=108,slow=2.2,SNR=4.1						
AKASG	**Malin Array Be**	**152.72**	**321**	PKPbc	**PKiKP**	**03 25 14.4**	**-0.6**
	0.3nm,0.4s,baz=46,slow=3.5,SNR=2.2						
BRTR	**Keskin Array B**	**153.55**	**296**	PKPbc	**PKiKP**	**03 25 17.5**	**+0.2**
	0.6nm,0.6s,baz=118,slow=4.3,SNR=5.8						

*DJA **08** 03:21:29.6±1.6, 2°S±13°×13°9E±°, h17km±8km, M3.4/4, MLv3.4/4*
*IDC **08** 03:21:37.3±1.6, 2°51S×139°20E, h0km, mb3.1/3, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=30.3km s-min=14.5km az=170.0*

ISC 08 03:21:28.9±1.6, 1°5S±0°1×139°02E±0°05, h10km, n9, σ1§70/12, mb3.3/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.58**	**212**	P	**Pg**	**03 21 39.9**	**-0.3**
SMPI				S	**Sg**	**03 21 47.7**	**-0.2**
GENI	**Genyem**	**1.59**	**134**	P	**Pn**	**03 21 58.0**	**+0.9**
GENI				S	**Sb**	**03 22 18.6**	**+0.1**
JAY	**Jayapura**	**1.97**	**121**	Pg	**Pn**	**03 22 03.4**	**+1.0**
	4.5nm,0.3s,baz=250,slow=11,SNR=17						
JAY				Lg	Lg	03 22 26.2	
	10nm,0.3s,baz=188,slow=16,SNR=11						
JAY	**Jayapura**	**1.97**	**121**	P	**Pn**	**03 22 02.9**	**+0.5**
JAY				S	**Sn**	**03 22 24.5**	**-2.7**
BAKI	**Biak**	**2.92**	**276**	P	**Pn**	**03 22 14.5**	**-1.0**
BAKI				S	**Sn**	**03 22 51.0**	**+0.3**
WRA	**Warramunga Arr**	**18.90**	**194**	P	**P**	**03 25 48.0**	**-1.8**
	0.2nm,0.3s,baz=16,slow=11,SNR=7.4						
	0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.09**	**218**	P	**P**	**03 26 17.1**	**+3.4**
	0.8nm,0.5s,baz=31,slow=12,SNR=1.3						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**22.59**	**192**	P	**P**	**03 26 29.1**	**-0.8**
	0.4nm,0.6s,baz=21,slow=10,SNR=8.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**69.02**	**322**	P	P	03 32 51.0	+16
	0.2nm,0.9s,baz=121,slow=4.7,SNR=1.4						
	0.2nm,0.9s						

*AEIC **08** 03:23:53.6±2.2, 56°49N±0°05×169°3W±0°1, h13km±7km, Error ellipse: s-maj=10.1km s-min=5.8km az=54.0*

NEIC 08 03:23:52.3±1.2, 56°55N±0°05×169°13W±0°08, h10km±2km, mb3.7/4, ML3.7/14, ML3.7(AEIC), Error ellipse: s-maj=10.1km s-min=5.5km az=216.0, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	**Saint George I**	**0.24**	**282**		Pg	03 23 57.4	+0.3
P08K					Sg	03 24 01.1	+0.6
P08K	**Saint George I**	**0.24**	**282**	IAML		03 24 03.7	
	comp=E,8μm,0.6s						
P08K				IAML		03 24 04.1	
	comp=N,10μm,0.6s						
SPIA	**Saint Paul Isl**	**0.88**	**316**		Pg	03 24 08.5	-0.7
SPIA					Sb	03 24 21.7	+0.3
MTBL	**Makushin Table**	**2.94**	**151**		Pn	03 24 39.3	+0.2
MTBL					Sn	03 25 15.1	+0.6
AKGG	**Akutan Green G**	**2.96**	**142**		Pn	03 24 39.2	-0.1
MSW	**Makushin Switc**	**2.96**	**152**		Pn	03 24 38.9	-0.5
LVA	**Lava Point**	**2.98**	**142**		Pn	03 24 39.8	+0.3
LVA	**Lava Point**	**2.98**	**142**	IAML		03 25 35.0	
	comp=E,500nm,0.8s						
MAPS	**Pakushin South**	**3.02**	**155**		Pn	03 24 39.9	-0.2
MGOD	**Makushin Gods**	**3.05**	**154**		Pn	03 24 40.5	0.0
UNV	**Unalaska Valle**	**3.10**	**150**		Pn	03 24 40.6	-0.6
OKNC	**Okmok New Cone**	**3.15**	**169**		Pn	03 24 40.6	-1.4
WEBT	**Westdahl Beart**	**3.17**	**127**		Pn	03 24 42.5	+0.3
WESE	**West Dahl East**	**3.32**	**127**		Pn	03 24 44.4	+0.2
ISNN	**Isanotski Nort**	**3.48**	**117**		Pn	03 24 47.2	+0.8
ISLZ	**Isanotski Laza**	**3.57**	**119**		Pn	03 24 47.9	+0.2
FALS	**False Pass**	**3.65**	**115**		Pn	03 24 49.3	+0.6
S12K	**Black Hills**	**4.04**	**99**		Pn	03 24 54.0	-0.2
S12K	**Black Hills**	**4.04**	**99**	IAML		03 25 45.5	
	comp=N,83nm,1.5s						
M11K	**Mekoryuk**	**4.14**	**21**		Pn	03 24 56.4	+0.9
M11K	**Mekoryuk**	**4.14**	**21**	IAML		03 26 12.9	
	comp=N,69nm,1.4s						
M11K				IAML		03 26 32.5	
	comp=E,137nm,1.4s						
HAG	**Hague Volcano**	**4.25**	**104**		Pn	03 24 58.3	+1.4
O14K	**Tigyukauivet M**	**4.99**	**54**		Pn	03 25 07.8	+0.6
O14K	**Tigyukauivet M**	**4.99**	**54**	IAML		03 26 49.6	
	comp=N,45nm,1.4s						
O14K				IAML		03 27 03.4	
	comp=E,47nm,0.9s						
SDPT	**Sand Point**	**5.01**	**100**		Pn	03 25 07.3	-0.1
SDPT	**Sand Point**	**5.01**	**100**	IAML		03 25 44.4	
	comp=E,43nm,1.4s						
SDPT				IAML		03 27 09.6	
	comp=N,41nm,1.4s						
N14K	**Kuskokwak Cree**	**5.18**	**46**		Pn	03 25 10.6	+0.8
VNFG	**Fog Glacier, M**	**5.32**	**89**		Pn	03 25 12.2	+0.4
VNWF	**Veniaminof 8**	**5.33**	**90**		Pn	03 25 12.3	+0.3
VNHG	**Veniaminof 1**	**5.55**	**89**		Pn	03 25 14.9	0.0
O15K	**Ungalikthiuk R**	**5.62**	**58**		Pn	03 25 15.8	+0.1
M14K	**Bethel**	**5.63**	**39**		Pn	03 25 16.3	+0.3
CHGN	**Chignik**	**5.95**	**88**		Pn	03 25 20.2	-0.1
M15K	**Kasigluk River**	**6.05**	**43**		Pn	03 25 22.4	+0.7
P16K	**Nushagak River**	**6.45**	**63**		Pn	03 25 27.9	+0.7
L15K	**Ungalak Mounta**	**6.47**	**34**		Pn	03 25 28.4	+1.0
O16K	**Kokwok River B**	**6.60**	**58**		Pn	03 25 29.4	+0.1
N16K	**Nishlik Lake**	**6.70**	**50**		Pn	03 25 31.7	+1.1
ANCK	**Angle Creek**	**7.55**	**72**		Pn	03 25 43.2	+0.8
KAHC	**Katmai Hardscr**	**7.87**	**69**		Pn	03 25 47.4	+0.6
O18K	**Koktuh Hills**	**8.06**	**60**		Pn	03 25 50.1	+0.8
KAHG	**Katmai Hook Gl**	**8.09**	**70**		Pn	03 25 49.9	+0.2
M18K	**Stony River**	**8.45**	**49**		Pn	03 25 54.5	-0.2
L18K	**Granite Mounta**	**8.51**	**43**		Pn	03 25 56.2	+0.8
ILSW	**Iliamna Southw**	**9.09**	**61**	Pn	Pn	03 26 02.8	-0.7
M19K	**Big River Lodg**	**9.25**	**48**	Pn	Pn	03 26 06.4	+0.8
C16K	**Lisburne Hills**	**11.89**	**7**	Pn	Pn	03 26 41.0	-0.6
TOLK	**Toolik Lake Re**	**14.99**	**28**	Pn	Pn	03 27 21.7	-2.3
C23K	**Itkillik River**	**15.62**	**24**	Pn	Pn	03 27 30.2	-1.9
BMAR	**Burnt Mountain**	**15.72**	**36**	P	P	03 27 37.2	-0.4
L29M	**L29M**	**16.77**	**54**	Pn	Pn	03 27 45.7	-1.3
L29M				IAmb	IAmb	03 28 07.0	
	comp=Z,6.4nm,1.4s						
WHY	**Whitehorse**	**18.17**	**63**	Pn	Pn	03 28 01.6	-2.9
WHY		

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MT01                                  eS      Sb     03 42 59.5 -0.1
MT01                                  IAML           03 43 12.7
     comp=Z,83nm,0.7s
TCA  Tanti            3.90 104  eP              Pn     03 42 04.2 +0.7
TCA                                   eS      Sb     03 42 56.5 -3.2
TCA                                   IAML           03 43 15.1
     comp=Z,120nm,0.6s
BO01 Tunca            4.31 203  eP              Pn     03 42 10.4 +1.4
BO01                                  eS      Sb     03 43 12.8 +1.6
BO01                                  IAML           03 43 33.0
     comp=Z,51nm,1.2s
AC01 Pan de Azucar    4.50 342  eP              Pn     03 42 13.8 +2.1
AC01                                  eS      Sg     03 43 22.9 -5.6
AC01                                  IAML           03 43 24.7
     comp=Z,71nm,0.7s
BO02 Sierra Bellavi   4.59 198  eP              Pn     03 42 16.0 +3.1
BO02                                  IAML           03 43 41.7
     comp=Z,68nm,0.6s
FSA  Cafayete         5.08  33  eP              Pn     03 42 22.7 +2.9
FSA                                   eS      Sb     03 43 36.5 +2.9
```

*IDC **08** 03:48:20.4±1.3, 10°.19S×152°.32E, h0km, mb3.7/6, mbtmp3.8/8, ML3.7/1, MS2.7/2, Error ellipse: s-maj=31.7km s-min=26.3km az=140.0*
*NEIC **08** 03:48:28.5±1.6, 11°.6S±0°.1×152°.1E±0°.1, h10km±2km, mb4.0/5, Error ellipse: s-maj=25.6km s-min=17.6km az=42.0*
ISC 08 03:48:21.9±1.1, 10°.3S±0°.2×152°.3E±0°.1, h10km, n18, σ1§10/16, mb3.7/6, D'Entrecasteaux Islands region

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Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
PMG  Port Moresby     5.18 280      Pn    Pn          03 49 39.2 -0.4
     4.4nm,0.3s,baz=94,slow=13,SNR=1.5
PMG                                  Sn    Sn          03 50 41.1 +1.6
     2.4nm,0.3s,baz=78,slow=20,SNR=1.3
PMG                                  LR    LR          03 50 60.0
     comp=Z,42nm,19.2s,baz=32,slow=31
COEN Coen             9.65 247      Pn    Pn          03 50 38.4 -2.6
EIDS Eidsvold        15.00 184      Pn    Pn          03 51 42.8 -11
WB2  Warramunga Arr  19.80 239      P     P           03 52 53.3 +0.7
WRA  Warramunga Arr  19.81 239      P     P           03 52 53.6 +0.8
     0.3nm,0.3s,baz=62,slow=10,SNR=8.1
     1.5nm,0.5s
MTN  Manton Dam      20.92 261      P     P           03 53 04.5 -0.4
MTN                                  IAmb  IAmb        03 53 05.7
     comp=Z,9.9nm,0.8s
ASAR Alice Springs   22.02 231      P     P           03 53 17.7 +1.0
     comp=Z,1.2nm,0.8s,baz=57,slow=9.7,SNR=13
     comp=Z,1.2nm,0.8s
KNRA Kununurra       23.57 254      P     P           03 53 32.3 -0.5
STKA Stephens Creek  23.63 203      P     P           03 53 34.8 +1.4
     comp=Z,0.5nm,0.3s,baz=27,slow=15,SNR=1.5
     comp=Z,0.5nm,0.3s
FITZ Fitzroy Crossi  26.98 250      P     P           03 54 04.2 +0.1
FITZ                                 IAmb  IAmb        03 54 41.8
     comp=Z,2.4nm,1.4s
FITZ Fitzroy Crossi  26.98 250      P     P           03 54 03.9 -0.2
     comp=Z,3.2nm,0.6s,baz=81,slow=7.9,SNR=15
     comp=Z,3.2nm,0.6s
KSRS Korea Array     52.76 336      LR    LR          04 17 17.7
     comp=Z,11nm,20.4s,baz=330,slow=33
USRK Ussuriysk Ar.   57.33 343      P     P           03 58 23.8 +14
QSPA South Pole Qui  79.66 180      P     P           04 00 30.0 +0.4
QSPA                                 IAmb  IAmb        04 00 37.9
     comp=Z,1.4nm,0.8s
QSPA South Pole Qui  79.66 180      P     P           04 00 30.6 +1.0
     comp=Z,1.3nm,0.7s,baz=331,slow=1.8,SNR=7.7
     comp=Z,1.3nm,0.7s
MKAR Makanchi Array  84.19 320      P     P           04 00 53.1 -0.5
     comp=Z,0.3nm,0.7s,baz=110,slow=7.0,SNR=3.7
     comp=Z,0.3nm,0.7s
ILAR Eielson Array   87.43  22      P     P           04 01 08.9 -0.4
     comp=Z,0.3nm,0.6s,baz=226,slow=4.2,SNR=2.3
     comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 151.13 278      PKPbc PKPbc       04 08 16.3 -0.1
     comp=Z,42nm,0.3s,baz=95,slow=2.3,SNR=2.0
```

*IDC **08** 03:51:55.8±1.1, 1°.13S×127°.23E, h0km, mb3.8/5, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=55.3km s-min=21.2km az=71.0*
*NEIC **08** 03:52:02.4±0.1, 0°.9S±0°.1×127°.4E±0°.1, h35km±2km, mb4.1/5, Error ellipse: s-maj=27.7km s-min=8.2km az=52.0*
ISC 08 03:52:00.8±0.8, 0°.91S±0°.10×127°.4E±0°.1, h31km, n15, σ1§47/14, mb4.0/7, Halmahera

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Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
TNTI Ternate          1.67   0      Pb    Pb          03 52 28.8 -2.2
FAKI Fak Fak          5.28 112      Pn    Pn          03 53 18.7 +1.1
UGM  Wanagama        18.16 247      P     Pn          03 56 11.4 +0.6
WRA  Warramunga Arr  20.11 161      P     P           03 56 29.9 -2.4
     0.1nm,0.3s,baz=339,slow=11,SNR=5.8
     0.2nm,0.3s
WB2  Warramunga Arr  20.11 161      P     P           03 56 31.2 -1.1
COEN Coen            20.32 130      P     Pn          03 56 36.8 +0.1
COEN                                 IAmb  IAmb        03 57 02.2
     comp=Z,7.0nm,1.1s
ASAR Alice Springs   23.49 165      P     P           03 57 05.6 -2.6
     comp=Z,0.4nm,0.6s,baz=345,slow=11,SNR=5.4
     comp=Z,0.4nm,0.6s
SONM Songino Array   51.87 342      P     P           04 01 07.3 +0.8
     comp=Z,0.6nm,0.6s,baz=140,slow=8.6,SNR=2.5
     comp=Z,0.6nm,0.6s
PETK Petropavlovsk-  59.49  21      P     P           04 02 02.3 +1.5
     comp=Z,6.8nm,1.2s,baz=228,slow=8.2,SNR=12
     comp=Z,6.8nm,1.2s
MK31 Makanchi Array  61.73 326      P     P           04 02 16.7 +0.4
MK31                                 IAmb  IAmb        04 02 35.6
     comp=Z,2.0nm,1.5s
MKAR Makanchi Array  61.73 326      P     P           04 02 16.9 +0.7
MKAR Makanchi Array  61.73 326      P     P           04 02 17.0 +0.7
     comp=Z,0.6nm,0.4s,baz=114,slow=8.2,SNR=22
     comp=Z,0.6nm,0.4s
KURBB Kurchatov Arra 65.98 328      P     P           04 02 44.4 +0.2
     comp=Z,0.7nm,0.6s,baz=131,slow=6.1,SNR=13
     comp=Z,0.7nm,0.6s
KURK Kurchatov       65.98 328      P     P           04 02 44.6 +0.4
KURK                                 IAmb  IAmb        04 03 20.2
     comp=Z,6.4nm,1.5s
ABKAR Akbulak array  76.13 321      P     P           04 03 45.9 +0.1
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*IDC **08** 04:05:49.8±0.8, 28°.89N×142°.50E, h0km, mb3.8/12, mbtmp3.8/14, ML3.3/2, MS3.4/3, Error ellipse: s-maj=26.7km s-min=15.0km az=72.0*
*NEIC **08** 04:05:53.5±1.7, 29°.18N±0°.06×142°.6E±0°.2, h10km±1km, mb4.3/13, Error ellipse: s-maj=26.8km s-min=10.9km az=88.0*
ISC 08 04:05:54.4±0.6, 29°.02N±0°.05×142°.5E±0°.1, h27km, n41, σ1§59/40, mb4.2/20, MS3.7/3, Southeast of Honshu

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Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
JCJ  Chichijima       1.93 188      Pn    Pb          04 06 29.1 +0.2
JCJ  Chichijima       1.93 188      Pn    Pn          04 06 22.9 -2.6
     10nm,0.3s,baz=282,slow=15,SNR=1.5
JCJ                                  Sn    Sn          04 06 46.1 -2.8
     27nm,0.3s,baz=316,slow=17,SNR=6.4
MJAR Matsushiro Arr   8.32 335      Pn    Pn          04 07 52.3 -0.9
     0.3nm,0.3s,baz=151,slow=10,SNR=12
MJAR                                 Sn    Sn          04 09 21.5 -4.9
     baz=135,slow=16,SNR=1.5
     2.1nm,0.4s
MAJO Matsushiro       8.32 335      Pn    Pn          04 07 52.7 -0.6
MJB9 Matsu-Tunnel     8.33 335      Pn    Pn          04 07 53.7 +0.3
JMM  Marumori         8.94 351      Pn    Pn          04 07 59.1 -2.5
KSRS Korea Array     14.80 308      Pn    Pn          04 09 22.8 +1.0
     0.2nm,0.3s,baz=115,slow=13,SNR=1.5
     0.8nm,0.5s
KLR  Kul'dur         21.79 341      P     P           04 10 44.6 +0.5
     2.1nm,0.9s,baz=140,slow=8.7,SNR=5.8
     2.1nm,0.9s
PETK Petropavlovsk-  26.55  21      LR    LR          04 22 13.6
     comp=Z,29nm,20.2s,baz=68,slow=37
MYLDM Lahad Datu     32.83 228      P     P           04 12 29.6 +3.7
SONM Songino Array   33.54 314      P     P           04 12 30.6 -1.3
     1.4nm,0.8s,baz=118,slow=6.6,SNR=5.6
     1.4nm,0.8s
ZAA0 Zalesovo Array  48.23 318      P     P           04 14 33.0 +0.4
ZAA0                                 IAmb  IAmb        04 14 47.7
     comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam   48.23 318      P     P           04 14 32.9 +0.4
     comp=Z,0.8nm,0.4s,baz=95,slow=8.0,SNR=5.7
     comp=Z,0.8nm,0.4s
PSI  Prapat          48.90 246      LR    LR          04 34 33.3
     comp=Z,67nm,18.2s,baz=242,slow=35
WB0  Warramunga Arr  49.12 190      P     P           04 14 41.6 +1.8
WRA  Warramunga Arr  49.31 190      P     P           04 14 39.7 -1.5
     comp=Z,0.8nm,0.8s,baz=7.9,slow=8.3,SNR=6.7
     comp=Z,0.8nm,0.8s
MK31 Makanchi Array  49.48 308      P     P           04 14 42.5 +0.1
MKAR Makanchi Array  49.48 308      P     P           04 14 42.3 -0.1
MKAR Makanchi Array  49.48 308      P     P           04 14 42.7 +0.3
     comp=Z,0.6nm,0.4s,baz=85,slow=9.0,SNR=11
     comp=Z,0.6nm,0.4s
KURK Kurchatov       51.85 313      P     P           04 15 01.2 +1.1
KURK                                 IAmb  IAmb        04 15 14.1
     comp=Z,5.5nm,0.8s
KURBB Kurchatov Arra 51.91 313      P     P           04 15 01.1 +0.6
     comp=Z,2.0nm,0.6s,baz=91,slow=7.1,SNR=22
     comp=Z,2.0nm,0.6s
TOLK Toolik Lake Re  55.28  24      P     P           04 15 26.4 +1.4
TOLK                                 IAmb  IAmb        04 15 27.0
     comp=Z,2.4nm,0.9s
BVAR Borovoye Array  56.82 317      P     P           04 15 37.2 +0.9
     comp=Z,1.2nm,0.5s,baz=83,slow=8.0,SNR=4.8
     comp=Z,1.2nm,0.5s
C27K Jago River      57.48  24      P     P           04 15 42.2 +1.5
C27K                                 IAmb  IAmb        04 15 56.1
     comp=Z,2.7nm,0.8s
KK31 Karatay Array   58.19 305      P     P           04 15 47.2 +1.1
KK31                                 IAmb  IAmb        04 15 49.6
     comp=Z,2.7nm,0.8s
KKAR Karatay Array   58.19 305      P     P           04 15 47.1 +1.0
KKAR Karatay Array   58.19 305      P     P           04 15 47.3 +1.2
KKAR                                 IAmb  IAmb        04 15 49.5
     comp=Z,1.8nm,0.8s
G30M tAoh Zraii Nji  60.27  27      P     P           04 16 01.2 +1.0
G30M                                 IAmb  IAmb        04 16 23.0
     comp=Z,5.5nm,1.4s
ABKAR Akbulak array  63.96 314      P     P           04 16 25.9 +0.8
ABKAR                                IAmb  IAmb        04 16 43.1
     comp=Z,1.9nm,0.9s
ABKAR Akbulak array  63.96 314      P     P           04 16 25.9 +0.8
EUNU Eureka          67.97   8      P     P           04 16 50.3 -0.2
YKA  Yellowknife Ar  70.33  29      P     P           04 17 05.3  0.0
YKA  Yellowknife Ar  70.33  29      P     P           04 17 05.1 -0.1
     comp=Z,0.2nm,0.6s,baz=292,slow=6.7,SNR=4.4
     comp=Z,0.2nm,0.6s
URZ  Urewera         74.35 152      P     P           04 17 27.9 -1.5
     comp=Z,16nm,0.9s,baz=332,slow=15,SNR=6.7
FIA1 FINESS Array S  76.34 334      P     P           04 17 41.3 +0.6
FINES FINESS Array B 76.35 334      P     P           04 17 41.2 +0.5
KBZ  Khabaz          76.90 313      P     P           04 17 45.9 +1.7
     comp=Z,2.1nm,1.0s,baz=97,slow=10,SNR=3.7
     comp=Z,2.1nm,1.0s
NVAR Mina Array Bea  79.13  52      P     P           04 17 58.7 +1.7
     comp=Z,0.4nm,0.7s,baz=300,slow=5.9,SNR=2.5
     comp=Z,0.4nm,0.7s
FRB  Frobisher Bay   84.35  13      LR    LR          05 00 00.6
     comp=Z,36nm,19.2s,baz=216,slow=38
BRTR Keskin Array B  84.89 313      P     P           04 18 25.6 -1.6
     comp=Z,0.2nm,0.5s,baz=90,slow=3.5,SNR=1.8
     comp=Z,0.2nm,0.5s
TXAR Lajitas Array   94.24  53      P     P           04 19 10.9 -0.7
     comp=Z,0.1nm,0.4s,baz=316,slow=4.7,SNR=1.3
     comp=Z,0.1nm,0.4s
```

*IDC **08** 04:07:27.2±1.9, 32°.48S×179°.55W, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=51.1km s-min=31.7km az=57.0*
ISC 08 04:07:30.5±1.5, 32°.3S±0°.1×179°.4W±0°.2, h35km, n6, σ1§65/7, mb3.8/4, South of Kermadec Islands

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
URZ  Urewera          6.64 205      Pn    Pn          04 09 03.3 -2.2
     0.9nm,0.3s,baz=288,slow=23,SNR=1.8
URZ                                  Sn    Sn          04 10 21.8 +1.9
     2.7nm,0.3s,baz=66,slow=20,SNR=11
     16nm,1.0s
ASAR Alice Springs   41.90 270      P     P           04 15 18.6 +0.8
     0.2nm,0.4s,baz=105,slow=8.1,SNR=1.6
     0.2nm,0.4s
WRA  Warramunga Arr  43.06 275      P     P           04 15 26.9 -0.3
     0.5nm,0.3s,baz=113,slow=8.1,SNR=6.2
     0.5nm,0.3s
QSPA South Pole Qui  57.84 180      P     P           04 17 18.0 -0.4
     2.4nm,1.2s,baz=59,slow=1.6,SNR=5.5
     2.4nm,1.2s
SNAA Sanae           76.32 179      P     P           04 19 16.8 +1.3
     1.4nm,0.9s,baz=150,slow=6.6,SNR=1.3
     1.4nm,0.9s
FINES FINESS Array B 146.47 338     PKPbc PKiKP       04 27 10.1  0.0
     3.2nm,0.9s,baz=41,slow=3.1,SNR=5.3
```

*NEIC **08** 04:11:40.1±1.1, 19°.64N±0°.06×65°.45W±0°.07, h10km±2km, ML2.3/24, Md3.4/16(RSPR), Error ellipse: s-maj=14.0km s-min=4.6km az=309.0*
*OSPL **08** 04:12:09.6±0.3, 18°.43N×67°.19W, h25km, ML1.5*
RSPR 08 04:11:42.0, 19°.74N×65°.38W, h30km±26km, MD3.4/16, 8C-8D, Puerto Rico region

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
GCPR Guaynabo City    1.57 205      Pn                04 12 05.9 -2.0
GCPR                                                  Sn    04 12 25.8 -1.5
GCPR Guaynabo City    1.57 205‖eP                     Pn    04 12 05.9 -2.0
GCPR Guaynabo City    1.57 205 eS                     Sn    04 12 25.8 -1.5
HUMP Col San Antoni   1.65 196      Pn                04 12 07.1 -1.9
HUMP                                                  Sn    04 12 27.5 -1.7
HUMP Col San Antoni   1.65 196  IAML                  04 12 33.2
     comp=N,29nm,0.3s
HUMP Col San Antoni   1.65 196‖eP                     Pn    04 12 07.1 -1.9
HUMP Col San Antoni   1.65 196 eS                     Sn    04 12 27.5 -1.7
EMPR Esperanza - Ma   1.67 221      Pn                04 12 07.7 -1.4
EMPR                                                  Sn    04 12 27.2 -2.2
EMPR Esperanza - Ma   1.67 221‖eP                     Pn    04 12 07.7 -1.4
EMPR Esperanza - Ma   1.67 221 eS                     Sn    04 12 27.2 -2.2
ECPR Experimental S   1.70 214‖eP                     Pn    04 12 07.8 -1.8
ECPR Experimental S   1.70 214 eS                     Sn    04 12 27.9 -2.3
SJG  San Juan         1.78 204      Pn                04 12 08.8 -1.9
SJG  San Juan         1.78 204  IAML                  04 12 42.8
     comp=N,25nm,0.7s
SJG  San Juan         1.78 204‖eP                     Pn    04 12 08.8 -1.9
SJG  San Juan         1.78 204 eS                     Sn    04 12 30.4 -1.9
PDPR Patillas Dam,    1.82 200      Pn                04 12 09.4 -1.9
PDPR Patillas Dam,    1.82 200‖eP                     Pn    04 12 09.8 -1.4
PDPR Patillas Dam,    1.82 200 eS                     Sn    04 12 31.7 -1.6
IGPR InterUniversit   1.90 201      Pn                04 12 10.6 -1.7
IGPR                                                  Sn    04 12 34.0 -1.2
IGPR InterUniversit   1.90 201  IAML                  04 12 37.1
     comp=E,37nm,0.3s
IGPR                                 IAML             04 12 41.1
     comp=N,44nm,0.2s
IGPR InterUniversit   1.90 201‖eP                     Pn    04 12 10.6 -1.7
IGPR InterUniversit   1.90 201 eS                     Sn    04 12 34.0 -1.2
AOPR Arecibo Observ   1.90 223      Pn                04 12 10.9 -1.5
AOPR                                                  Sn    04 12 33.9 -1.5
AOPR Arecibo Observ   1.90 223  IAML                  04 12 37.6
     comp=N,61nm,0.5s
AOPR Arecibo Observ   1.90 223‖eP                     Pn    04 12 10.9 -1.5
AOPR Arecibo Observ   1.90 223 eS                     Sn    04 12 33.9 -1.5
UUPR Utuado, UPR, P   1.95 221      Pn                04 12 11.8 -1.3
UUPR                                                  Sn    04 12 34.2 -2.4
UUPR Utuado, UPR, P   1.95 221‖eP                     Pn    04 12 11.8 -1.3
UUPR Utuado, UPR, P   1.95 221 eS                     Sn    04 12 34.2 -2.4
CELP Cerrillos        2.01 215      Pn                04 12 12.4 -1.5
CELP                                                  Sn    04 12 36.4 -1.6
CELP Cerrillos        2.01 215  IAML                  04 12 48.9
     comp=E,19nm,2.8s
CELP                                 IAML             04 12 58.2
     comp=N,17nm,2.1s
CELP Cerrillos        2.01 215‖eP                     Pn    04 12 12.4 -1.5
CELP Cerrillos        2.01 215 eS                     Sn    04 12 36.4 -1.6
OBIP Obispado Ponce   2.05 215      Pn                04 12 12.6 -1.9
OBIP                                                  Sn    04 12 37.1 -1.9
OBIP Obispado Ponce   2.05 215  IAML                  04 12 37.4
     comp=E,20nm,3.3s
OBIP                                 IAML             04 13 06.7
     comp=N,17nm,1.7s
OBIP Obispado Ponce   2.05 215‖eP                     Pn    04 12 12.6 -1.9
OBIP Obispado Ponce   2.05 215 eS                     Sn    04 12 37.1 -1.9
AGPR Aguadilla, PR    2.07 233      Pn                04 12 13.9 -0.9
AGPR Aguadilla, PR    2.07 233                        Sn    04 12 38.2 -1.3
AGPR Aguadilla, PR    2.07 233  IAML                  04 12 33.6
     comp=E,46nm,3.0s
AGPR Aguadilla, PR    2.07 233‖eP                     Pn    04 12 13.9 -0.9
AGPR Aguadilla, PR    2.07 233 eS                     Sn    04 12 38.2 -1.3
AGPR Aguadilla, PR    2.07 233 iP                     Pn    04 12 13.8 -1.0
AGPR                                 IAML             04 12 40.7
     comp=Z,46nm,1.5s
LSP  Las Mesas        2.25 226      Pn                04 12 16.1 -1.1
LSP                                                   Sn    04 12 41.6 -2.3
LSP  Las Mesas        2.25 226‖eP                     Pn    04 12 16.1 -1.1
LSP  Las Mesas        2.25 226 eS                     Sn    04 12 41.6 -2.3
MLPR Magueyes Islan   2.37 222‖eP                     Pn    04 12 17.6 -1.2
MLPR Magueyes Islan   2.37 222 eS                     Sn    04 12 44.8 -2.0
CRPR Cabo Rojo, PR    2.38 224      Pn                04 12 17.8 -1.2
CRPR Cabo Rojo, PR    2.38 224  IAML                  04 13 03.9
     comp=E,29nm,3.1s
CRPR                                 IAML             04 13 08.9
     comp=N,28nm,2.9s
CRPR Cabo Rojo, PR    2.38 224‖eP                     Pn    04 12 17.8 -1.2
CRPR Cabo Rojo, PR    2.38 224 iP                     Pn    04 12 17.9 -1.1
CRPR                                 IAML             04 12 53.5
     comp=Z,37nm,1.8s
IDE  Isla Desecheo    2.40 236      Pn                04 12 18.1 -1.1
IDE                                                   Sn    04 12 45.8 -1.9
IDE  Isla Desecheo    2.40 236‖eP                     Pn    04 12 18.1 -1.1
IDE  Isla Desecheo    2.40 236 eS                     Sn    04 12 45.8 -1.9
PCDR Punta Cana, DR   3.09 247 iP                     Pn    04 12 28.5 -0.3
PCDR                                 IAML             04 13 05.8
     comp=Z,64nm,1.9s
```

*AFAD **08** 04:29:33.6, 36°.93N×27°.59E, h12km±1km, ML3.1*
*ISK **08** 04:29:33.7, 36°.95N×27°.59E, h6km, ML3.2/19*
*ATH **08** 04:29:34.0, 36°.96N×27°.61E, h10km±6km, ML3.0/6, Manual Solution by S.Koutrakis First location: 2019/03/08 04:30:56, This location: 2019/03/08 05:30:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 5 km*
*THE **08** 04:29:34.6, 36°.92N×27°.57E, h5km±3km, ML3.1/4, Error ellipse: s-maj=3.2km s-min=1.1km az=235.0*
ISC 08 04:29:33.9±0.8, 36°.95N±0°.02×27°.59E±0°.02, h12km±6km, n64, σ0§51/90, Dodecanese Islands

```
Code Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
BDRM Kayabasi         0.17 316      P     Pg          04 29 38.0 +0.2
BDRM                                 S     Sg          04 29 40.8 +0.3
DATC Datca-Mugla      0.19 163      Pg    Pg          04 29 38.4 +0.2
DAT  Datca            0.22 183      P     Pg          04 29 38.4 -0.3
DAT                                  S     Sg          04 29 41.0 -0.8
DAT                                  i AML AML         04 29 44.0
     comp=E,3μm,0.2s
DAT                                  i AML AML         04 29 45.0
     comp=N,2μm,0.2s
BODT Bodrum           0.25 298      Pg    Pg          04 29 39.3 +0.1
BODT                                 Sg    Sb          04 29 44.1 -0.7
YAZI Mula-Dat§a-      0.29 203      P     Pg          04 29 39.8 -0.1
YAZI                                 S     Sg          04 29 42.9 -0.8
YKAV Yalikavak-Bodr   0.31 306      Pg    Pg          04 29 40.0 -0.2
YKAV                                 Sg    Sg          04 29 44.9 +0.5
MLSB Milas            0.38  23      Pg    Pg          04 29 41.5 -0.1
MLSB                                 Sg    Sg          04 29 47.6 +0.9
KLNA Kalymnos         0.49 272      P     Pg          04 29 43.9 +0.3
KLNA                                 S     Sb          04 29 51.3 -0.4
NISR Nisiros          0.50 228      P     Pg          04 29 43.9 +0.2
NISR                                 S     Sb          04 29 51.9 +0.1
     3μm,0.2s
TURN Turunc           0.55 108      Pg    Pg          04 29 44.5 -0.2
TURN                                 Sg    Sb          04 29 52.9 -0.4
TURN Turunc           0.55 108      P     Pg          04 29 44.4 -0.3
TURN                                 S     Sg          04 29 52.2 +0.2
TURN                                 i AML AML         04 29 54.0
     comp=N,1μm,0.2s
TURN                                 i AML AML         04 29 54.0
     comp=E,1μm,0.2s
DDIM Aydin, Didim     0.58 331      P     Pg          04 29 45.1 -0.2
DDIM                                 S     Sg          04 29 53.0 -0.1
DDIM                                 i AML AML         04 29 56.0
     comp=E,1μm,0.3s
DDIM                                 i AML AML         04 29 57.0
     comp=N,1μm,0.3s
YER  Yerkesik         0.58  71      Pg    Pg          04 29 45.4  0.0
MULA Mugla, Merkez-   0.66  62      P     Pg          04 29 46.8  0.0
AYDN Tasoluk          0.75  18      P     Pg          04 29 48.6 +0.1
AYDN                                 S     Sg          04 29 58.7 +0.3
AYDN                                 i AML AML         04 30 03.0
     comp=N,2μm,0.4s
AYDN                                 i AML AML         04 30 04.0
     comp=E,1μm,0.5s
GCAM G?zelcaml?       0.81 339      Pg    Pg          04 29 49.5  0.0
GCAM G?zelcaml?       0.81 339      P     Pg          04 29 49.3 -0.2
GCAM                                 S     Sg          04 29 59.9 -0.2
GCAM                                 i AML AML         04 30 04.0
     comp=E,648nm,0.2s
GCAM                                 i AML AML         04 30 07.0
     comp=N,636nm,0.5s
ARG  Arkhangelos      0.85 149      Pg    Pg          04 29 50.1 -0.2
ARG  Arkhangelos      0.85 149      P     Pg          04 29 49.9 -0.4
ARG                                  S     Sb          04 30 02.9 +1.1
     1μm,0.5s
ARG  Arkhangelos      0.85 149      P     Pg          04 29 49.9 -0.4
ARG                                  S     Sb          04 30 02.3 +0.4
DALY Dalyan (Mula)    0.86  98      Pg    Pg          04 29 50.7 +0.1
SMG  Samos            0.97 322      P     Pg          04 29 52.3 -0.3
SMG                                  S     Sn          04 30 07.1  0.0
     1μm,0.5s
SMG  Samos            0.97 322      P     Pg          04 29 52.4 -0.3
SMG                                  S     Sb          04 30 06.3 +0.9
AYDB Zeytinkoy-Aydi   1.03  13      Pg    Pg          04 29 53.4 -0.4
ESEN Aydn-Nazilli     1.04  35      P     Pg          04 29 53.3 -0.8
ESEN                                 S     Sg          04 30 06.7 -0.9
ASTA Astypalaia       1.07 248      P     Pg          04 29 54.7 +0.2
ASTA                                 S     Sn          04 30 10.2 +0.7
SABU Mula-Dalaman     1.11  96      P     Pb          04 29 55.0 -0.1
SABU                                 S     Sg          04 30 09.7 -0.2
SABU                                 i AML AML         04 30 14.0
     comp=N,278nm,0.3s
NAZL Nazilli-Aydin    1.16  29      Pn    Pn          04 29 56.4 +0.4
TAVA DENIZLI_Tavas    1.18  63      P     Pb          04 29 56.0 -0.2
TAVA                                 S     Sb          04 30 10.8 -0.7
DNZT Denizli-Tavas-   1.19  73      P     Pb          04 29 56.7 +0.1
DNZT                                 S     Sn          04 30 13.0 +0.3
IZMR zmir-demi        1.22  13      P     Pn          04 29 56.7 -0.1
IZMR                                 S     Sb          04 30 13.0 +0.3
IZMR                                 i AML AML         04 30 19.0
     comp=N,377nm,0.5s
IZMR                                 i AML AML         04 30 19.0
     comp=E,430nm,0.5s
FETY Fethiye          1.24 104      Pn    Pg          04 29 57.7  0.0
DGB  zmir             1.24 333      P     Pn          04 29 56.8 -0.3
GMLD Gumuldur         1.25 335      Pn    Pg          04 29 58.3 +0.3
DNIZ Denizli-Tavas-   1.34  59      P     Pb          04 29 59.1  0.0
DNIZ                                 i AML AML         04 30 23.0
     comp=N,300nm,0.3s
DNIZ                                 i AML AML         04 30 24.0
     comp=E,273nm,0.3s
CAME Cameli-Denizli   1.37  90      Pn    Pg          04 30 00.5 +0.2
ODEM Odemis-Izmir     1.38  16      Pn    Pn          04 29 58.4 -0.7
CAEL Denizli, Camel   1.40  82      P     Pg          04 30 00.7  0.0
CAEL                                 i AML AML         04 30 37.0
     comp=E,220nm,0.8s
KIRA zmir-Kiraz       1.41  27      P     Pn          04 29 59.3 -0.1
KIRA                                 i AML AML         04 30 27.0
     comp=N,172nm,0.9s
IZZE Mula-Seydike     1.41 111      P     Pb          04 30 00.2 +0.1
IZZE                                 S     Sg          04 30 19.0 -0.3
KARP Karpathos        1.44 194      P     Pn          04 29 59.1 -0.7
KARP                                 S     Sn          04 30 17.5 -1.1
     310nm,0.4s
KARP Karpathos        1.44 194      P     Pb          04 30 00.7  0.0
APMY Acipayam-Deniz   1.46  68      Pn    Pb          04 30 01.1  0.0
ZEYE Izmir, Urla-Ze   1.55 327      P     Pn          04 30 00.8 -0.6
URLA Izmir            1.62 331      P     Pn          04 30 02.0 -0.3
MANT Manisa           1.72  26      P     Pn          04 30 03.8 -0.1
AKAS Kas              1.77 113      Pn    Pn          04 30 05.5 +1.0
GOMA Golmarmara-Man   1.78   8      Pn    Pb          04 30 05.8 -0.6
KULA Kula-Manisa      1.78  28      Pn    Pn          04 30 05.0 +0.4
KSL  Kastellorizon    1.79 116      P     Pb          04 30 06.0 -0.6
KSL                                  S     Sb          04 30 29.1 +0.1
KSL  Kastellorizon    1.79 116      P     Pn          04 30 05.5 +0.9
```

THR3	Thira Island,	1.84	254	P	Pn	04 30 05.5	+0.2
THR6	Thira Island,	1.86	252	P	Pn	04 30 05.7	+0.1
ELL	Elmali	1.87	95	Pn	Pb	04 30 07.2	-0.9
GORD	Gordes-Manisa	2.01	13	Pn	Pn	04 30 08.9	+1.1
ZKR	Zakros	2.14	212	P	Pn	04 30 09.6	+0.2
DKL	Dikili	2.19	346	P	Pn	04 30 10.0	-0.1
KORT	Korkueli	2.21	88	Pn	Pn	04 30 11.8	+1.3
PRK	Paraskevi	2.52	336	P	Pn	04 30 14.9	+0.2
PRK	Paraskevi	2.52	336	P	Pn	04 30 14.9	+0.2
SIGR	SIGRI	2.64	329	P	Pn	04 30 16.4	+0.1
KARY	Karystos	2.73	294	P	Pn	04 30 18.1	+0.6
IDI	Anoyia	2.74	234	P	Pn	04 30 19.2	+1.4
SMTH	Samothraki Isl	3.87	336	P	Pn	04 30 33.5	+0.3

*IDC **08** 04:32:03.5±1.5, 6°.79N×72°.95W, h163km±15km, mb3.3/8, mbtmp3.9/11, Error ellipse: s-maj=19.7km s-min=15.6km az=114.0*
*NEIC **08** 04:32:03.7±2.7, 6°.81N±0°.07×73°.03W±0°.09, h150km±5km, mb4.3/13, Error ellipse: s-maj=13.1km s-min=10.0km az=97.0*

ISC 08 04:32:02.8±0.5, 6°.76N±0°.06×73°.01W±0°.07, h150km, n52, σ1§41/56, mb4.0/15, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	La Rusia	0.86	185		Pn	04 32 28.2	+1.1
RUSC				Sn	Sn	04 32 46.9	+1.3
ROSC	El Rosal	2.31	215		Pn	04 32 43.9	+1.9
ROSC	El Rosal	2.31	215	P	Pn	04 32 44.1	+2.0
	568nm,0.3s,baz=306,slow=16,SNR=557						
ROSC				S	Sn	04 33 10.7	-1.5
	734nm,0.4s,baz=122,slow=18,SNR=10						
SDV	Santo Domingo	3.16	48		Pn	04 32 54.0	+1.5
SMRC	Santa Marta, M	4.54	345		Pn	04 33 08.7	-1.6
FLOC	Florencia	5.78	207		Pn	04 33 26.3	-0.4
OTAV	Otavalo	8.45	220		Pn	04 34 03.6	+0.8
PCRV	Puerto La Cruz	8.95	67	P	Pn	04 34 09.9	+0.9
	15nm,1.0s,baz=194,slow=5.2,SNR=7.3						
PCRV				S	Sn	04 35 47.3	-1.1
	11nm,0.6s,baz=246,slow=20,SNR=3.3						
COHC	Cochancay	11.08	214		Pn	04 34 39.1	+1.9
MTDJ	Mount Denham	12.23	339	Pn	Pn	04 34 53.8	+1.6
MTDJ	Mount Denham	12.23	339	*i* P	Pn	04 34 53.9	+1.7
MTDJ				IAmb	IAmb	04 35 04.1	
	comp=Z,100nm,1.8s						
JTS	Las Juntas de	12.33	287		P	04 34 59.6	+0.2
JTS	Las Juntas de	12.33	287	P	P	04 34 59.4	-0.1
	comp=Z,8.7nm,0.5s,baz=28,slow=23,SNR=6.0						
CELP	Cerrillos	12.88	29	Pn	Pn	04 34 58.3	-2.2
PDPR	Patillas Dam,	13.10	31	Pn	Pn	04 35 02.3	-1.1
SJG	San Juan	13.12	30	P	Pn	04 35 02.7	-0.9
	comp=Z,6.2nm,0.4s,baz=205,slow=13,SNR=7.8						
BOAV	Boa Vista	13.17	109		Pn	04 35 04.1	-0.3
GTBY	Guantanamo Bay	13.25	351	*i* P	Pn	04 35 07.4	+2.1
GTBY				IAmb	IAmb	04 35 34.2	
	comp=Z,64nm,2.3s						
MASC	Masc	13.39	355	*i* P	Pn	04 35 09.3	+2.2
MASC				IAmb	IAmb	04 35 29.8	
	comp=Z,50nm,1.4s						
RCC	Rio Carpintero	13.42	349	*i* P	Pn	04 35 09.4	+2.0
RCC				IAmb	IAmb	04 35 11.3	
	comp=Z,17nm,0.7s						
MARVS	Santiago de Cu	13.46	348	*i* P	Pn	04 35 10.4	+2.4
MARVS				IAmb	IAmb	04 35 12.8	
	comp=Z,16nm,1.2s						
QMBU	Quimbuelo	13.48	353	*i* P	Pn	04 35 10.0	+1.8
QMBU				IAmb	IAmb	04 35 12.1	
	comp=Z,35nm,1.5s						
LMGC	Las Mercedes	13.79	344	*i* P	Pn	04 35 13.9	+1.8
LMGC				IAmb	IAmb	04 35 17.1	
	comp=Z,9.0nm,2.2s						
PINC	Pinares de May	13.91	349	*i* P	Pn	04 35 16.0	+2.3
PINC				IAmb	IAmb	04 35 17.8	
	comp=Z,19nm,0.8s						
HLGC	Holguin	14.36	348	IAmb	IAmb	04 35 22.4	
	comp=Z,29nm,1.3s						
HLGC				*i* P	P	04 35 23.9	+1.9
ESQI	Esquipulas	17.82	297	P	P	04 35 57.8	-2.6
LPAZ	La Paz	23.40	168	P	P	04 36 58.9	-0.1
LPAZ	La Paz	23.40	168	P	P	04 36 59.0	-0.1
	comp=Z,0.3nm,0.3s,baz=272,slow=10,SNR=2.3						
	comp=Z,0.3nm,0.3s						
HNDO	Hondo	33.55	316	P	P	04 38 23.3	-5.3
HNDO				IAmb	IAmb	04 38 26.2	
	comp=Z,5.0nm,0.5s						
FCAR	Ozark Folk Cen	33.88	332	P	P	04 38 30.4	-0.9
FCAR				IAmb	IAmb	04 38 31.0	
	comp=Z,2.0nm,0.6s						
BRDY	Brady	34.45	318	P	P	04 38 34.5	-1.8
BRDY				IAmb	IAmb	04 38 36.0	
	comp=Z,5.1nm,1.4s						
CCM	Cathedral Cave	35.28	335	P	P	04 38 42.9	-0.4
CCM				IAmb	IAmb	04 38 43.6	
	comp=Z,3.7nm,0.7s						
SAND	Sanderson	35.80	314	P	P	04 38 48.5	+0.5
SAND				IAmb	IAmb	04 39 00.4	
	comp=Z,3.9nm,1.4s						
TXAR	Lajitas Array	36.59	312	P	P	04 38 54.4	-0.3
TXAR	Lajitas Array	36.59	312	P	P	04 38 54.3	-0.5
	comp=Z,1.1nm,0.6s,baz=123,slow=9.0,SNR=19						
TXAR				PcP	PcP	04 41 15.5	+0.6
	comp=Z,0.2nm,0.5s,baz=117,slow=4.4,SNR=3.7						
	comp=Z,1.1nm,0.6s						
TX31	Lajitas Ar. Si	36.59	312	P	P	04 38 54.4	-0.4
D62A	Allapoint, All	40.32	4	P	P	04 39 26.4	+0.9
D62A				IAmb	IAmb	04 39 49.3	
	comp=Z,13nm,1.5s						
LMQ	La Malbaie	40.71	3	P	P	04 39 29.9	+1.3
BATG	Bathurst New B	40.81	7	P	P	04 39 29.3	-0.2
BATG				IAmb	IAmb	04 39 52.2	
	comp=Z,18nm,1.4s						
ULM	Lac du Bonnet	47.38	340	P	P	04 40 20.5	-1.3
	comp=Z,1.6nm,0.4s,baz=136,slow=5.3,SNR=6.4						
	comp=Z,1.6nm,0.4s						
MSU	Marysvale	47.43	318	P	P	04 40 22.9	+0.3
BSUT	Blindstream Ca	47.62	321	P	P	04 40 24.2	0.0
SCHQ	Schefferville	48.20	5	P	P	04 40 28.1	+0.1
	comp=Z,2.2nm,0.6s,baz=206,slow=6.3,SNR=7.8						
	comp=Z,2.2nm,0.6s						
PDAR	Pinedale Array	48.20	324	P	P	04 40 27.9	-0.5
PDAR	Pinedale Array	48.20	324	P	P	04 40 27.7	-0.8
	comp=Z,0.6nm,0.6s,baz=128,slow=9.0,SNR=7.0						
PDAR				PcP	PcP	04 41 52.2	-1.2
	comp=Z,0.1nm,0.4s,baz=117,slow=4.5,SNR=1.7						
	comp=Z,0.6nm,0.6s						
NVAR	Mina Array Bea	51.61	315	P	P	04 40 54.4	+0.1
	comp=Z,0.3nm,0.6s,baz=101,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	63.36	340	P	P	04 42 14.9	-0.9
	comp=Z,0.9nm,0.6s,baz=138,slow=6.6,SNR=26						
	comp=Z,0.9nm,0.6s						
DBIC	Dimbokro	67.62	86	P	P	04 42 44.6	+0.5
ILAR	Eielson Array	77.07	335	P	P	04 43 36.9	-2.3
	comp=Z,0.2nm,0.5s,baz=98,slow=5.9,SNR=2.8						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	122.34	20	PKP	PKPdf	04 50 39.5	-0.9
	comp=Z,0.2nm,0.7s,baz=291,slow=5.6,SNR=1.7						
ASAR	Alice Springs	149.17	234	PKPbc	PKPdf	04 51 32.8	+2.6
	comp=Z,0.6nm,0.5s,baz=120,slow=3.4,SNR=9.6						
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	04 51 36.3	-1.3
	comp=Z,0.7nm,0.4s,baz=107,slow=2.8,SNR=9.9						

*WEL **08** 04:50:27.1±1.3, 32°.S±7°.×17°.8W±2°.2, h12km, M4.6/3, mB4.8/2, ML5.0/6, MLv4.6/3, Mw(mB)4.1/2, Error ellipse: s-maj=29.7km s-min=4.1km az=105.4, confirmed*
*IDC **08** 04:50:30.1±1.1, 32°.04S×178°.05W, h0km, mb4.1/4, mbtmp4.1/5, ML3.7/1, MS3.3/3, Error ellipse: s-maj=33.6km s-min=30.7km az=130.0*
*NEIC **08** 04:50:34.5±0.3, 32°.4S±0°.2×178°.34W±0°.09, h10km±1km, mb4.6/9, Error ellipse: s-maj=27.6km s-min=8.5km az=157.0*

ISC 08 04:50:31.0±0.9, 32°.13S±0°.07×178°.1W±0°.2, h10km, n36, σ1§83/40, mb4.4/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.87	3	P	Pn	04 51 14.3	-2.5
GLKZ				S	Sn	04 51 48.5	-2.8
RIZ	Raoul Island	2.88	3	P	Pn	04 51 14.7	-2.3
MXZ	Matakaoa Point	6.17	208	S	Sn	04 53 11.0	-1.9
WMGZ	Waiomatatini S	6.36	206	P	Pn	04 52 04.5	-0.3
WMGZ				S	Sn	04 53 15.5	-1.9
PKGZ	Pakihiroa	6.53	208	P	Pn	04 52 05.0	-2.1
PKGZ				S	Sn	04 53 20.2	-1.4
HAZ	Te Kaha	6.55	210	P	Pn	04 52 05.8	-1.6
HAZ				S	Sn	04 53 22.7	+0.5
PUZ	Puketiti	6.64	206	P	Pn	04 52 08.4	-0.2
PUZ				S	Sn	04 53 21.2	-3.2
MWZ	Matawai	7.15	209	P	Pn	04 52 12.6	-3.0
MWZ				S	Sn	04 53 33.9	-3.1
URZ	Urewera	7.26	211	Pn	Pn	04 52 17.2	0.0
	1.2nm,0.3s,baz=337,slow=3.4,SNR=10						
URZ				Sn	Sn	04 53 35.9	-3.9
	6.3nm,0.3s,baz=72,slow=20,SNR=11						
	7.7nm,0.6s						
URZ	Urewera	7.26	211	P	Pn	04 52 12.6	-4.6
URZ				S	Sn	04 53 36.9	-2.8
OUZ	Omahuta	7.58	244	P	Pn	04 52 27.9	+6.3
RTZ	Ruatahuna	7.62	211		Pn	04 52 21.0	-1.1
BKZ	Black Stump Fm	8.29	211	Pn	Pn	04 52 28.4	-2.8
RAR	Rarotonga	19.62	61	LR	LR	05 01 17.9	
	comp=Z,51nm,21.0s,baz=252,slow=33						
PPT	Papeete	29.55	67	LR	LR	05 05 12.3	
	comp=Z,47nm,19.6s,baz=148,slow=30						
STKA	Stephens Creek	34.05	259	P	P	04 57 16.8	+1.3
	2.4nm,0.7s,baz=100,slow=12,SNR=6.8						
	2.4nm,0.7s						
BBOO	Buckleboo	38.45	256	P	P	04 57 54.1	+0.9
BBOO				IAmb	IAmb	04 58 01.4	
	comp=Z,18nm,1.5s						
COEN	Coen	39.70	288	P	P	04 58 05.7	+1.9
ASAR	Alice Springs	42.97	269	P	P	04 58 31.4	+0.8
	comp=Z,1.6nm,0.7s,baz=106,slow=7.7,SNR=18						
	comp=Z,1.6nm,0.7s						
WB2	Warramunga Arr	44.10	274	P	P	04 58 40.7	+0.9
WB2				IAmb	IAmb	04 58 50.4	
	comp=Z,5.8nm,0.9s						
WRA	Warramunga Arr	44.11	274	P	P	04 58 40.5	+0.7
	comp=Z,3.5nm,0.5s,baz=113,slow=8.0,SNR=37						
WRA				LR	LR	05 15 34.1	
	comp=Z,82nm,19.5s,baz=146,slow=34						
	comp=Z,3.5nm,0.5s						
WB0	Warramunga Arr	44.14	274	P	P	04 58 41.0	+0.9
WB0				IAmb	IAmb	04 59 09.3	
	comp=Z,9.0nm,1.1s						
FORT	Forrest	45.55	257	P	P	04 58 51.3	+0.1
KNRA	Kununurra	50.78	276	P	P	04 59 33.1	+1.4
FITZ	Fitzroy Crossi	52.30	271	P	P	04 59 44.1	+1.1
QSPA	South Pole Qui	57.98	180	P	P	05 00 25.5	+1.9
QSPA				IAmb	IAmb	05 00 36.7	
	comp=Z,6.6nm,0.8s						
QSPA	South Pole Qui	57.98	180	P	P	05 00 25.6	+1.9
	comp=Z,1.1nm,0.7s,baz=33,slow=1.1,SNR=6.4						
	comp=Z,1.1nm,0.7s						
KBZ	Khabaz	145.98	302	PKPbc	PKPab	05 10 12.6	+1.3
	comp=Z,2.1nm,0.9s,baz=174,slow=5.8,SNR=4.3						
FIA1	FINESS Array S	146.74	339	PKPdf	PKPbc	05 10 13.1	+0.7
FINES	FINESS Array B	146.74	339	PKPdf	PKPbc	05 10 13.2	+0.8
FINES	FINESS Array B	146.74	339	PKPbc	PKPbc	05 10 13.0	+0.5
	comp=Z,2.0nm,0.5s,baz=40,slow=4.4,SNR=15						
HFS	Hagfors	150.92	348	PKPbc	PKPbc	05 10 21.6	-1.6
	comp=Z,1.0nm,0.5s,baz=54,slow=2.5,SNR=5.4						
MMAI	Mount Meron Ar	151.83	281	PKPbc	PKPbc	05 10 26.4	+0.1
	comp=Z,5.2nm,0.8s,baz=97,slow=3.4,SNR=5.2						
AKASG	Malin Array Be	152.61	321	PKPbc	PKPbc	05 10 28.1	+0.7
	comp=Z,1.4nm,0.9s,baz=61,slow=2.1,SNR=5.2						
BRTR	Keskin Array B	153.31	295	PKPbc	PKPbc	05 10 30.1	+0.6
	comp=Z,0.6nm,0.9s,baz=48,slow=2.1,SNR=2.7						
TORD	Torodi Ar. Bea	161.10	179	PKPab	PKPab	05 11 15.9	+0.6

CATAC 08 05:02:01.3±0.3, 12°.N±2°.×8°.7W±°., h66km±3km, M3.4/25, MLv3.4/25, Error ellipse: s-maj=6.7km s-min=2.8km az=39.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.53	76	P	Pn	05 02 15.3	+1.1
COPN				S	Sn	05 02 24.9	+1.3
COPN	Copaltepe	0.53	76	P	Pn	05 02 15.5	+1.3
PACN	Al O del Volca	0.55	36	P	Pn	05 02 16.1	+1.7
PACN				S	Sn	05 02 27.4	+3.5
PACN	Al O del Volca	0.55	36	P	Pn	05 02 16.1	+1.8
MIRN	Miramar	0.56	46	P	Pn	05 02 16.1	+1.6
MIRN	Miramar	0.56	46	P	Pn	05 02 16.0	+1.5
QUEN	Al S del Volca	0.60	26	P	Pn	05 02 15.8	+0.9
QUEN				S	Sn	05 02 26.9	+2.1
QUEN	Al S del Volca	0.60	26	P	Pn	05 02 15.9	+1.0
MACN	El Madrono	0.60	47	P	Pn	05 02 16.2	+1.2
MACN				S	Sn	05 02 27.2	+2.3
CNGA	Al SSO del Vol	0.60	43	P	Pn	05 02 15.2	+0.3
CNGA				S	Sn	05 02 26.3	+1.4
CNGA	Al SSO del Vol	0.60	43	P	Pn	05 02 15.2	+0.2
LEVN	Ruinas Leon Vi	0.60	55	P	Pn	05 02 15.9	+1.0
LEVN	Ruinas Leon Vi	0.60	55	P	Sn	05 02 26.2	+1.3
CNGN	Cerro Negro	0.61	43	P	Pn	05 02 16.1	+1.1
CNGN	Cerro Negro	0.61	43	S	Sn	05 02 27.3	+2.3
CNGN	Cerro Negro	0.61	43	P	Pn	05 02 16.1	+1.1
CRIN	San Cristobal	0.65	6	P	Pn	05 02 17.4	+1.9
CRIN	San Cristobal	0.65	6	S	Sn	05 02 29.2	+3.3
CRIN	San Cristobal	0.65	6	P	Pn	05 02 17.3	+1.8
ILCN	San Idelfonso	0.67	38	P	Pn	05 02 10.3	-5.4
ILCN				S	Sn	05 02 21.8	-4.4
ILCN	San Idelfonso	0.67	38	P	Pn	05 02 10.3	-5.3
ILCN				S	Sn	05 02 23.7	-2.4
ILCN	San Idelfonso	0.67	38	P	Pn	05 02 10.3	-5.3
MOMN	Momotombo	0.67	58	P	Pn	05 02 16.4	+0.7
MOMN				S	Sn	05 02 28.1	+1.8
MOMN	Momotombo	0.67	58	P	Pn	05 02 16.5	+0.8
SAPS	Ciudad Sandino	0.71	81	P	Pn	05 02 17.0	+0.8
SAPS	Ciudad Sandino	0.71	81	S	Sn	05 02 28.9	+1.9
SAPS	Ciudad Sandino	0.71	81	P	Pn	05 02 17.1	+0.9
APYN	Apoyeque	0.78	76	P	Sn	05 02 30.2	+1.8
APQ2	Apoyeque	0.79	79	P	Pn	05 02 17.8	+0.7
APQ2				S	Sn	05 02 30.4	+1.7
APQ2	Apoyeque	0.79	79	P	Sn	05 02 29.2	+0.6
CRUN	El Crucero	0.81	95	P	Pn	05 02 13.0	-4.4
UNAN	Cigeo UNAN	0.83	86	P	Pn	05 02 18.4	+0.8
UNAN				S	Sn	05 02 29.8	+0.2
UNAN	Cigeo UNAN	0.83	86	P	Pn	05 02 18.3	+0.7
TISN	Laguna Tiscapa	0.84	84	P	Pn	05 02 17.2	-0.4
TISN	Laguna Tiscapa	0.84	84	P	Pn	05 02 17.3	-0.4
R4DEC	Barrio San Lui	0.86	84	P	Pn	05 02 18.1	+0.2
R4DEC	Barrio San Lui	0.86	84	S	Sn	05 02 29.4	-0.8
MGAN	Managua	0.86	84	P	Pn	05 02 18.3	+0.3
MGAN	Managua	0.86	84	S	Sn	05 02 31.6	+1.4
MGAN	Managua	0.86	84	P	Sn	05 02 31.1	+0.9
MAS3	Al N del Volca	0.93	92	P	Pn	05 02 19.0	+0.3
MAS3				S	Sn	05 02 32.9	+1.3
MAS3	Al N del Volca	0.93	92	P	Pn	05 02 19.1	+0.4
SABN	Sabanita	0.94	96	P	Sn	05 02 32.9	+0.8
NANN	Nandasmo	0.98	96	P	Pn	05 02 20.8	+1.3
NANN	Nandasmo	0.98	96	P	Pn	05 02 21.1	+1.6
NANN	Nandasmo	0.98	96	S	Sn	05 02 35.9	+2.9
NANN	Nandasmo	0.98	96	P	Pn	05 02 21.1	+1.6
CSGN	Cosiguina Volc	1.01	335	P	Pn	05 02 21.6	+1.7
CSGN				S	Sn	05 02 36.9	+3.2
CSGN	Cosiguina Volc	1.01	335	P	Pn	05 02 21.6	+1.7
POTN	Potosi Cosigui	1.01	338	P	Pn	05 02 21.1	+1.2
POTN				S	Sn	05 02 36.6	+3.0
POTN	Potosi Cosigui	1.01	338	P	Sn	05 02 36.8	+3.2
SBEN	San Benito	1.07	76	P	Pn	05 02 20.1	-0.4
NADN	Granada	1.11	106	P	Pn	05 02 21.7	+0.7
NADN				S	Sn	05 02 36.8	+1.1
LIMN	Finca el Limon	1.25	36	P	Pn	05 02 22.9	-0.1
LIMN	Finca el Limon	1.25	36	S	Sn	05 02 39.0	-0.1
LIMN	Finca el Limon	1.25	36	P	Pn	05 02 22.9	-0.1
CNCH	Conchagua	1.40	330	P	Pn	05 02 26.7	+1.7
CNCH	Conchagua	1.40	330	S	Sn	05 02 44.9	+2.1
CNCH	Conchagua	1.40	330	P	Sn	05 02 44.9	+2.2
CHOHN	Orocuina	1.42	359	P	Pn	05 02 26.0	+0.7
CHOHN	Orocuina	1.42	359	S	Sn	05 02 44.9	+1.7
RCVN	Varilla2	1.77	31	P	Pn	05 02 30.0	0.0
RCVN	Varilla2	1.77	31	S	Sn	05 02 51.2	-0.4
RCVN	Varilla2	1.77	31	P	Pn	05 02 30.0	0.0
RCPN	Sur Rio San Ju	1.77	34	P	Pn	05 02 30.0	0.0
RCPN	Sur Rio San Ju	1.77	34	P	Pn	05 02 30.0	0.0
RANC	El Ranchito	1.78	320	P	Pn	05 02 31.9	+1.8
RANC	El Ranchito	1.78	320	S	Sn	05 02 54.5	+2.5
PACA	Pacayal	1.83	320	P	Pn	05 02 33.1	+2.3
PACA	Pacayal	1.83	320	S	Sn	05 02 56.0	+2.9
ACON	Acoyapa	1.91	92	P	Pn	05 02 30.8	-0.8
ACON	Acoyapa	1.91	92	S	Sn	05 02 53.5	-1.2
ACON	Acoyapa	1.91	92	P	Pn	05 02 31.0	-0.7
YUSH	Yuscaran	1.91	8	P	Pn	05 02 32.1	+0.2
YUSH	Yuscaran	1.91	8	S	Sn	05 02 55.0	+0.1
TGUH	Tegucigalpa,Un	2.00	356	P	Pn	05 02 33.6	+0.6
TGUH				S	Sn	05 02 57.7	+0.6
TGUH	Tegucigalpa,Un	2.00	356	P	Pn	05 02 33.5	+0.5
PQSS	Presa 15 de Se	2.10	318	P	Pn	05 02 36.7	+2.4
PQSS	Presa 15 de Se	2.10	318	S	Sn	05 03 02.7	+3.3
SCLA	Alcaldia de Sa	2.27	316	P	Pn	05 02 38.4	+1.8
INDI	Punta indio, G	2.69	144	P	Pn	05 02 43.2	+0.9
ESPN	Las Esperanzas	2.76	87	P	Pn	05 02 38.6	-4.6
NUBE	Las Nubes	3.18	306	P	Pn	05 02 51.1	+2.0

*IDC **08** 05:05:24.3±1.0, 18°.39N×146°.54E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=44.6km s-min=22.7km az=115.0*

ISC 08 05:05:32.7±1.0, 18°.4N±0°.2×146°.5E±0°.3, h64km, n12, σ0§73/6, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy 19.19	86		T	T	05 30 55.3	
	baz=274,slow=75,SNR=7.6						
H11S1	WAKE ISLAND Hy 19.20	86		T	T	05 30 54.8	
	baz=274,slow=75,SNR=8.3						
H11S2	WAKE ISLAND Hy 19.21	86		T	T	05 30 57.7	
	baz=274,slow=75,SNR=8.3						
H11N1	WAKE ISLAND Hy 19.36	83		T	T	05 31 06.3	
	baz=267						
H11N2	WAKE ISLAND Hy 19.36	83		T	T	05 31 07.3	
	baz=267						
H11N3	WAKE ISLAND Hy 19.38	83		T	T	05 31 06.4	
	baz=267						
PETK	Petropavlovsk-	35.75	12	P	P	05 12 24.9	-0.3
	2.3nm,0.8s,baz=226,slow=7.6,SNR=2.3						
	2.3nm,0.8s						
WRA	Warramunga Arr	39.90	198	P	P	05 13 00.1	-0.5
	1.2nm,0.7s,baz=19,slow=8.8,SNR=5.4						
	1.2nm,0.7s						
ASAR	Alice Springs	43.55	197	P	P	05 13 30.5	+0.1
	0.3nm,0.4s,baz=14,slow=8.0,SNR=5.7						
	0.3nm,0.4s						
CMAR	Chiang Mai Arr	44.98	278	P	P	05 13 42.3	+0.3
	0.8nm,0.3s,baz=74,slow=8.4,SNR=4.8						
	0.8nm,0.3s						
YKA	Yellowknife Ar	77.93	28	P	P	05 17 22.9	-0.6
	0.2nm,0.6s,baz=282,slow=5.4,SNR=4.4						
	0.2nm,0.6s						
NVAR	Mina Array Bea	82.76	52	P	P	05 17 51.2	+0.9
	0.5nm,0.7s,baz=252,slow=5.6,SNR=4.7						
	0.5nm,0.7s						

*WEL **08** 05:11:18.6±1.5, 32°.S±6°.×17°.7W±2°.2, h12km, M4.5/3, ML5.0/7, MLv4.5/3, Error ellipse: s-maj=29.2km s-min=4.3km az=103.9, confirmed*
*IDC **08** 05:11:23.0±3.1, 32°.24S×178°.13W, h0km, mb3.8/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=72.0km s-min=36.5km az=114.0*

ISC 08 05:11:17.3±1.9, 32°.24S±0°.08×177°.1W±0°.2, h10km, n12, σ2§04/19, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.05	346	P	Pn	05 12 06.2	+0.6
GLKZ				S	Sn	05 12 40.0	-2.2
RIZ	Raoul Island	3.07	346	P	Pn	05 12 03.3	-2.6
PKGZ	Pakihiroa	6.87	214	P	Pn	05 12 58.0	-0.2
PKGZ				S	Sn	05 14 15.5	-1.0
HAZ	Te Kaha	6.93	216	P	Pn	05 13 00.6	+1.7
HAZ				S	Sn	05 14 18.7	+0.9
PUZ	Puketiti	6.96	212	P	Pn	05 13 00.2	+0.8
PUZ				S	Sn	05 14 18.0	-0.6
MWZ	Matawai	7.51	214	P	Pn	05 13 08.4	+1.5
MWZ				S	Sn	05 14 30.4	-1.8
URZ	Urewera	7.66	217	Pn	Pn	05 13 08.2	-0.7
	1.2nm,0.3s,baz=49,slow=9.3,SNR=17						
URZ				Sn	Sn	05 14 32.1	-3.6
	3.8nm,0.3s,baz=280,slow=20,SNR=11						
	16nm,0.9s						
URZ	Urewera	7.66	217	P	Pn	05 13 08.4	-0.5
URZ				S	Sn	05 14 32.8	-2.9
OUZ	Omahuta	8.31	246	P	Pn	05 13 21.1	+3.3
ASAR	Alice Springs	43.81	268	P	P	05 19 24.4	+0.7
	0.5nm,0.6s,baz=107,slow=7.9,SNR=6.3						
	0.5nm,0.6s						
WRA	Warramunga Arr	44.97	273	P	P	05 19 32.5	-0.4
	0.8nm,0.4s,baz=112,slow=8.1,SNR=16						
	0.8nm,0.4s						
FINES	FINESS Array B	147.13	340	PKPbc	PKiK

FYU	Fort Yukon	17.68	30	P	P	05 20 02.4	+0.6
M29M	Somme Creek	18.23	47	P	Pn	05 20 07.8	-0.2
HYT	Haines Junctio	18.24	52	P	Pn	05 20 07.6	-0.5
HYT				IAmb	IAmb	05 20 15.3	
	comp=Z,2.9nm,0.7s						
BMAR	Burnt Mountain	18.43	29	P	P	05 20 09.0	-1.1
N30M	Aishikik Lake	18.58	50	P	P	05 20 11.6	-0.2
N30M				IAmb	IAmb	05 20 15.5	
	comp=Z,3.7nm,0.7s						
L29M	L29M	18.59	45	P	P	05 20 11.3	-0.5
L29M				IAmb	IAmb	05 20 15.6	
	comp=Z,6.0nm,1.3s						
E25K	Arctic Village	18.63	26	P	Pn	05 20 12.8	+0.1
E25K				IAmb	IAmb	05 20 51.8	
	comp=Z,4.6nm,1.4s						
C23K	Itkillik River	18.79	19	P	P	05 20 13.7	-0.2
I28M	Miner Creek	18.84	37	P	P	05 20 13.5	-1.1
I28M				IAmb	IAmb	05 20 16.3	
	comp=Z,6.7nm,1.4s						
O30N	Mendenhall	18.91	53	P	P	05 20 15.3	-0.1
O30N				IAmb	IAmb	05 20 18.4	
	comp=Z,3.2nm,0.7s						
N31M	Braeburn, Yuko	19.20	51		Pn	05 20 19.1	-0.5
H29M	Whitestone	19.77	36	P	P	05 20 23.1	-1.7
M31M	Drury Creek, Y	20.00	49	P	P	05 20 27.2	0.0
M31M				IAmb	IAmb	05 20 29.3	
	comp=Z,2.2nm,0.7s						

JSN ***08*** *05:16:15.3±1.8, 18°.25N×75°.91W, h0km±28km, MD3.4*
SSNC ***08*** *05:16:17.6±1.5, 18°.30N×75°.99W, h4km±10km, MD3.4, ML2.4*

ISC 08 05:16:15.1±1.9, 18°.33N±0°.08×75°.96W±0°.06, h8km±15km, n15, σ1ᵗ19/26, 1C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJ	Hope	0.82	247	‖ *i* P	Pg	05 16 30.5	-0.3
STH	Stony Hill	0.85	253	‖ *i* P	Pg	05 16 31.4	0.0
MTDJ	Mount Denham	1.50	266	*e* P	Pn	05 16 42.5	+0.1
MTDJ				*e* S	Sb	05 17 00.5	-2.0
MTDJ				IAML		05 17 05.5	
	comp=Z,120nm,0.4s						
MTDJ				IAML		05 17 05.9	
	186nm,0.3s						
MTDJ	Mount Denham	1.50	266	*i* P	Pn	05 16 42.6	+0.1
MTDJ				*i* S	Sb	05 17 02.8	+0.3
MARVS	Santiago de Cu	1.66	2	*i* P	Pn	05 16 45.6	+1.1
MARVS				*e* S	Sn	05 17 06.8	+0.8
MARVS				IAML		05 17 07.7	
	comp=E,14nm,0.2s						
MARVS				IAML		05 17 08.1	
	comp=N,16nm,0.2s						
RCC	Rio Carpintero	1.67	9	*e* P	Pn	05 16 45.7	+1.0
RCC				*e* S	Sn	05 17 07.0	+0.7
RCC				IAML		05 17 09.1	
	comp=E,5.2nm,0.1s						
RCC				IAML		05 17 09.1	
	comp=N,7.7nm,0.1s						
MCJ	Malvern	1.69	256	*i* P	Pn	05 16 45.7	+0.7
MCJ				*i* S	Sn	05 17 09.0	+2.1
GTBY	Guantanamo Bay	1.78	27	*e* P	Pn	05 16 46.9	+0.8
GTBY				*e* S	Sn	05 17 09.2	+0.2
LMGC	Las Mercedes	1.98	330	*e* P	Pn	05 16 48.9	-0.1
LMGC				*e* S	Sn	05 17 12.5	-1.5
LMGC				IAML		05 17 15.4	
	comp=E,50nm,0.1s						
LMGC				IAML		05 17 15.4	
	comp=N,54nm,0.1s						
PILO	Pilon	2.08	319	*e* P	Pn	05 16 50.7	+0.4
PILO				*i* S	Sn	05 17 15.3	-1.2
PILO				IAML		05 17 20.6	
	comp=E,48nm,0.2s						
PILO				IAML		05 17 20.6	
	comp=N,49nm,0.3s						
PINC	Pinares de May	2.15	4	*i* P	Pn	05 16 51.9	+0.7
PINC				*i* S	Sn	05 17 16.8	-1.3
QMBU	Quimbuelo	2.15	30	*e* P	Pn	05 16 51.6	+0.3
QMBU				*e* S	Sn	05 17 17.0	-1.2
QMBU				IAML		05 17 25.0	
	comp=E,35nm,0.2s						
QMBU				IAML		05 17 25.1	
	comp=N,48nm,0.3s						
MASC	Masc	2.46	41	*i* P	Pn	05 16 55.6	+0.2
MASC				*i* S	Sn	05 17 24.5	-1.1
HLGC	Holguin	2.55	358	*i* P	Pn	05 16 59.0	+2.3
LTUP	Las Tunas	2.79	340	*i* P	Pn	05 17 02.2	+2.1

WEL ***08*** *05:17:54.0±0.9, 39°.S±4°×17°.6E±°, h59km±7km, M2.5/17, ML2.9/18, MLv2.5/17, Error ellipse: s-maj=6.8km s-min=4.6km az=77.9, confirmed*
NOU ***08*** *05:17:54.9, 38°.86S×176°.39E, h49km, MLv3.6/12, North Island, New Zealand*

ISC 08 05:17:53.9±1.3, 38°.80S±0°.03×176°.41E±0°.03, h73km±6km, n130, σ0ᵗ96/142, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	Matea Rd	0.04	169	P	Pn	05 18 04.3	-0.3
MRHZ				S	Sn	05 18 11.5	-0.9
ALRZ	Allen Road	0.24	348	P	Pn	05 18 04.7	-0.4
ALRZ				S	Sn	05 18 13.1	-0.2
PRRZ	Plateau Road	0.30	358	P	Pn	05 18 05.0	-0.4
PRRZ				S	Sn	05 18 13.5	-0.4
WPRZ	Whakapapatarin	0.34	325	P	Pn	05 18 05.5	-0.3
MTHZ	Maungataniwha	0.34	100	P	Pn	05 18 05.8	0.0
MTHZ				S	Sn	05 18 14.7	+0.1
BKZ	Black Stump Fm	0.38	170	P	Pn	05 18 06.1	0.0
BKZ	Black Stump Fm	0.38	170	P	Pn	05 18 06.2	+0.2
BKZ				S	Sn	05 18 15.3	+0.3
WHTZ	Whakaora	0.38	290	P	Pn	05 18 06.6	+0.5
HRRZ	Handcock Road	0.42	346	P	Pn	05 18 06.1	-0.3
HRRZ				S	Sn	05 18 15.5	0.0
MUGZ	Murupara	0.43	42	P	Pn	05 18 05.9	-0.5
MUGZ				S	Sn	05 18 14.8	-0.8
NMHZ	Naumai	0.43	134	P	Pn	05 18 07.5	+1.0
NMHZ				S	Sn	05 18 18.1	+2.2
RRRZ	Republican Roa	0.46	10	P	Pn	05 18 06.2	-0.5
RRRZ				S	Sn	05 18 15.5	-0.7
RITZ	Rihia Road	0.47	247	P	Pn	05 18 07.3	+0.5
RITZ				S	Sn	05 18 17.3	+1.0
RTZ	Ruatahuna	0.48	68	P	Pn	05 18 06.7	-0.3
RTZ				S	Sn	05 18 16.7	+0.1
HSRZ	Hossack Road	0.50	345	P	Pn	05 18 06.8	-0.2
HSRZ				S	Sn	05 18 16.2	-0.6
RATZ	Rangitukua	0.50	262	P	Pn	05 18 07.3	+0.2
GRRZ	Galatos Road	0.50	332	P	Pn	05 18 07.2	+0.1
WATZ	Wairara	0.54	279	P	Pn	05 18 07.5	+0.1
RAHZ	Arahi	0.54	103	P	Pn	05 18 08.0	+0.5
HLRZ	Highlands Stat	0.55	355	P	Pn	05 18 08.1	+0.6
TARZ	Mount Tarawera	0.56	8	P	Pn	05 18 07.6	-0.2
KATZ	Kakaramea	0.58	252	P	Pn	05 18 08.3	+0.3
KWHZ	Kaweka Forest	0.63	179	P	Pn	05 18 09.2	+0.8
TMVZ	Te Maari	0.64	240	P	Pn	05 18 09.0	+0.5
ETVZ	East Tongariro	0.64	238	P	Pn	05 18 09.0	+0.5
UTU	Utuhina	0.64	345	P	Pn	05 18 08.4	-0.1
NTVZ	North Tongarir	0.65	242	P	Pn	05 18 09.1	+0.5
ARHZ	Aropaoanui	0.65	136	P	Pn	05 18 09.5	+0.9
KRVZ	Karewarewa	0.67	243	P	Pn	05 18 09.4	+0.5
MCHZ	McNeill Hill	0.69	161	P	Pn	05 18 10.2	+1.3
OTVZ	Oturere	0.69	237	P	Pn	05 18 09.6	+0.5
NNVZ	North Ngauruho	0.70	241	P	Pn	05 18 10.0	+0.7
WHHZ	Waihua	0.70	114	P	Pn	05 18 09.7	+0.6
WTVZ	West Tongariro	0.71	243	P	Pn	05 18 09.8	+0.5
SNVZ	South Ngauruho	0.71	237	P	Pn	05 18 10.0	+0.6
SNGZ	Shannon Statio	0.73	89	P	Pn	05 18 09.7	+0.3
NGZ	Ngauruhoe	0.73	239	P	Pn	05 18 10.3	+0.6
TUVZ	Tukino	0.75	231	P	Pn	05 18 10.4	+0.6
URZ	Urewera	0.77	46	P	Pn	05 18 09.1	-0.7
URZ	Urewera	0.77	46	P	Pn	05 18 09.2	-0.7
KARZ	Kaharoa	0.79	351	P	Pn	05 18 09.8	-0.3
COVZ	Chateau Observ	0.79	239	P	Pn	05 18 10.7	+0.6
MOVZ	Moawhango	0.80	220	P	Pn	05 18 10.6	+0.4
WHVZ	Whangaehu Hut	0.80	232	P	Pn	05 18 11.0	+0.5
TWVZ	Taurewa	0.81	250	P	Pn	05 18 10.6	+0.3
FWVZ	Far West T-bar	0.81	235	P	Pn	05 18 11.1	+0.6
MAVZ	Matarangi	0.81	234	P	Pn	05 18 11.2	+0.5
WNVZ	Wahianoa	0.82	230	P	Pn	05 18 11.2	+0.5
TLZ	Tolley Road	0.83	304	P	Pn	05 18 10.7	+0.1
MARZ	Manawahe	0.84	15	P	Pn	05 18 10.1	-0.6
TRVZ	Turoa	0.84	233	P	Pn	05 18 11.4	+0.5
RAGZ	Rawiri	0.84	70	P	Pn	05 18 10.7	0.0
KRHZ	Kereru	0.85	182	P	Pn	05 18 11.5	+0.8
MTVZ	Mangateitei	0.94	231	P	Pn	05 18 12.6	+0.7
OPRZ	Ohinepanea	0.96	7	P	Pn	05 18 11.2	-0.8
PKVZ	Pokaka	0.96	239	P	Pn	05 18 12.8	+0.6
MWZ	Matawai	0.99	63	P	Pn	05 18 12.2	-0.3
CKHZ	Cape Kidnapper	1.01	149	P	Pn	05 18 13.4	+0.7
KNZ	Kokohu	1.01	103	P	Pn	05 18 13.2	+0.5
KMRZ	Kaimai	1.02	339	P	Pn	05 18 12.7	-0.2
KAHZ	Kahuranaki	1.06	160	P	Pn	05 18 14.0	+0.6
RIGZ	Rimuhau	1.06	86	P	Pn	05 18 14.0	+0.6
TGRZ	Tauranga	1.07	354	P	Pn	05 18 13.1	-0.4
PNHZ	Pukenui	1.13	188	P	Pn	05 18 14.5	+0.3
PRGZ	Paritu Road	1.16	97	P	Pn	05 18 14.9	+0.3
TKGZ	Te Karaka	1.18	73	P	Pn	05 18 14.8	-0.1
MHGZ	Mahia Peninsul	1.22	107	P	Pn	05 18 15.8	+0.4
HIZ	Hauiti	1.25	283	P	Pn	05 18 16.1	+0.5
HIZ	Hauiti	1.25	283	P	Pn	05 18 16.2	+0.5
WPHZ	Waipukurau	1.27	179	P	Pn	05 18 16.1	+0.1
TOZ	Tahuroa Road	1.28	326	P	Pn	05 18 16.1	0.0
PXZ	Pawanui	1.28	164	P	Pn	05 18 16.2	+0.1
RUGZ	Raukumara Rang	1.30	51	P	Pn	05 18 15.9	-0.6
TSZ	Takapari Road	1.31	195	P	Pn	05 18 16.6	+0.1
TWGZ	Tauwhareparae	1.38	64	P	Pn	05 18 18.0	+0.6
CNGZ	Carnagh Statio	1.44	78	P	Pn	05 18 18.8	+0.6
WAZ	Wanganui	1.46	229	P	Pn	05 18 20.1	+1.6
PRHZ	Porangahau	1.48	173	P	Pn	05 18 18.5	-0.2
HAZ	Te Kaha	1.50	47	P	Pn	05 18 18.1	-0.9
DVHZ	Dannevirke	1.51	187	P	Pn	05 18 18.6	-0.6
MYRZ	Mayor Island	1.52	355	P	Pn	05 18 19.4	+0.1
PKGZ	Pakihiroa	1.61	55	P	Pn	05 18 20.5	0.0
PUZ	Puketiti	1.62	64	P	Pn	05 18 20.4	-0.2
OHWZ	Ohakea	1.64	211	P	Pn	05 18 22.2	+1.4
ANWZ	Angora Road	1.66	178	P	Pn	05 18 20.9	-0.3
POWZ	Post Office Ro	1.67	197	P	Pn	05 18 20.8	-0.4
PRWZ	Pori Road	1.79	191	P	Pn	05 18 22.5	-0.3
PREZ	Palmer Road	1.83	252	P	Pn	05 18 25.5	+2.1
WMGZ	Waiomatatini S	1.86	59	P	Pn	05 18 23.6	-0.1
NEZ	North Egmont	1.86	255	P	Pn	05 18 25.6	+1.7
BFZ	Birch Farm	1.89	184	P	Pn	05 18 23.0	-1.1
BFZ	Birch Farm	1.89	184	P	Pn	05 18 23.2	-0.9
KHEZ	Kahui Hut	1.93	254	P	Pn	05 18 26.4	+1.6
KHEZ	Kahui Hut	1.93	254	P	Pn	05 18 26.4	+1.6
MXZ	Matakaoa Point	1.94	51	P	Pn	05 18 27.4	+2.6
MXZ	Matakaoa Point	1.94	51	S	Sn	05 18 51.5	+3.2
MXZ	Matakaoa Point	1.94	51	P	Pn	05 18 25.3	+0.5
MKAZ	Moumakai	1.96	329	P	Pn	05 18 25.1	+0.1
MRZ	Mangatainoka R	1.97	199	P	Pn	05 18 24.3	-0.9
TIWZ	Tintock	2.02	191	P	Pn	05 18 25.0	-0.9
CPWZ	Castlepoint	2.12	184	P	Pn	05 18 26.5	-0.7
KUZ	Kuaotunu	2.12	345	P	Pn	05 18 26.9	-0.3
KUZ	Kuaotunu	2.12	345	P	Pn	05 18 27.0	-0.3
ETAZ	East Tamaki Re	2.18	327	P	Pn	05 18 28.4	+0.3
HOWZ	Holdsworth Sta	2.21	198	P	Pn	05 18 27.0	-1.5
OGWZ	Otaki Gorge	2.23	205	P	Pn	05 18 27.7	-1.1
WIAZ	Waiheke Island	2.24	333	P	Pn	05 18 28.9	+0.1
TMWZ	Te Maipa	2.34	190	P	Pn	05 18 28.7	-1.5
MBAZ	Motutapu North	2.35	329	P	Pn	05 18 30.7	+0.3
KIW	Kapiti Island	2.36	209	P	Pn	05 18 29.4	-1.1
MTW	Mount Morrison	2.46	196	P	Pn	05 18 29.9	-2.0
CAW	Cannon Point	2.53	204	P	Pn	05 18 31.0	-1.8
GRZ	Great Barrier	2.65	343	P	Pn	05 18 34.5	+0.1
TRWZ	Traveller	2.66	192	P	Pn	05 18 32.4	-2.1
PAWZ	Paruwai Farm	2.69	196	P	Pn	05 18 32.7	-2.3
MSWZ	Moikau Station	2.76	198	P	Pn	05 18 33.9	-2.1
DUWZ	D'Urville Isla	2.77	223	P	Pn	05 18 35.2	-0.9
SNZO	South Karori	2.83	207	P	Pn	05 18 36.0	-0.8
SNZO	South Karori	2.83	207	S	Sn	05 19 09.6	-0.2
PLWZ	Palliser	2.91	197	P	Pn	05 18 35.4	-2.5
TCW	Tory Channel	2.92	213	P	Pn	05 18 36.1	-1.8
TUWZ	Tuamarina	3.24	215	P	Pn	05 18 40.6	-1.8
NNZ	Nelson	3.35	223	P	Pn	05 18 42.9	-1.1
TKNZ	Takaka Hill	3.47	229	P	Pn	05 18 46.7	+1.1
QRZ	Quartz Range	3.61	235	P	Pn	05 18 49.2	+1.8
QRZ	Quartz Range	3.61	235	P	Pn	05 18 47.6	+0.1
MRNZ	Matariki Terra	3.82	226	P	Pn	05 18 48.6	-1.7
THZ	Tophouse	3.99	221	P	Pn	05 18 50.9	-1.8
KHZ	Kahutara	4.22	210	P	Pn	05 18 54.2	-1.5
KHZ	Kahutara	4.22	210	P	Pn	05 18 54.3	-1.5

WEL ***08*** *05:26:43.0±1.0, 32°.S±5°×17°.8W±1°.7, h12km, M4.6/7, ML5.0/9, MLv4.6/7, Error ellipse: s-maj=23.2km s-min=3.7km az=104.8, confirmed*
IDC ***08*** *05:26:44.6±1.2, 31°.60S×177°.90W, h0km, mb4.1/5, mbtmp4.1/5, MS3.1/1, Error ellipse: s-maj=38.5km s-min=31.4km az=13.0*
NEIC ***08*** *05:26:46.4±2.1, 31°.95S±0°.09×177°.9W±0°.2, h10km±1km, mb4.7/9, Error ellipse: s-maj=24.9km s-min=15.3km az=266.0*

ISC 08 05:26:45.3±0.7, 31°.83S±0°.07×178°.0W±0°.1, h10km, n49, σ1ᵗ70/59, mb4.3/8, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.56	1	P	Pn	05 27 25.4	-1.4
GLKZ				S	Sn	05 27 56.6	-1.4
RIZ	Raoul Island	2.58	1	P	Pn	05 27 26.6	-0.4
MXZ	Matakaoa Point	6.49	207	Pn	Pn	05 28 19.1	-1.7
WMGZ	Waiomatatini S	6.67	205	P	Pn	05 28 25.5	+2.1
WMGZ				S	Sn	05 29 42.2	+2.7
PKGZ	Pakihiroa	6.84	207	P	Pn	05 28 23.6	-2.1
PKGZ				S	Sn	05 29 42.7	-0.9
HAZ	Te Kaha	6.87	209	P	Pn	05 28 25.4	-0.6
HAZ				P	Sn	05 29 45.6	+1.4
PUZ	Puketiti	6.95	205	P	Pn	05 28 29.8	+2.5
PUZ				S	Sn	05 29 45.5	-1.0
TWGZ	Tauwhareparae	7.15	207	P	Pn	05 28 28.0	-2.0
TWGZ				S	Sn	05 29 51.0	-0.3
CNGZ	Carnagh Statio	7.34	204	P	Pn	05 28 29.4	-3.1
CNGZ				S	Sn	05 29 59.1	+3.2
MWZ	Matawai	7.46	208	P	Pn	05 28 34.1	-0.2
MWZ				S	Sn	05 29 57.8	-1.2
URZ	Urewera	7.58	211	Pn	Pn	05 28 34.4	-1.4
	0.9nm,0.3s,baz=15,slow=23,SNR=1.5						
URZ				Sn	Sn	05 30 00.1	-1.6
	4.1nm,0.3s,baz=98,slow=20,SNR=9.7						
URZ	Urewera	7.58	211	P	Pn	05 28 34.6	-1.2
URZ				S	Sn	05 30 00.4	-1.3
RIGZ	Rimuhau	7.70	206	P	Pn	05 28 38.1	+0.6
RIGZ				S	Sn	05 30 01.9	-2.8
OUZ	Omahuta	7.81	242	P	Pn	05 28 46.8	+7.8
SNGZ	Shannon Statio	7.92	208	P	Pn	05 28 40.3	-0.3
SNGZ				S	Sn	05 30 07.9	-2.4
RTZ	Ruatahuna	7.93	210	Pn	Pn	05 28 38.0	-2.7
KNZ	Kokohu	8.01	205	P	Pn	05 28 35.1	-6.5
KNZ				S	Sn	05 30 10.0	-2.3
RAHZ	Arahi	8.14	208	P	Pn	05 28 43.1	-0.5
RAHZ				S	Sn	05 30 15.6	0.0
MTHZ	Maungataniwha	8.19	210	S	Sn	05 30 18.3	+1.5
WHHZ	Waihua	8.22	207	S	Sn	05 30 16.8	-0.8
MRHZ	Matea Rd	8.36	212	P	Pn	05 28 43.2	-3.3
BKZ	Black Stump Fm	8.60	210	Pn	Pn	05 28 46.8	-3.1
MRZ	Mangatainoka R	10.23	209	Pn	Pn	05 29 09.1	-3.2
MSVF	Nonsavu	14.49	345	LR	LR	05 34 27.0	
	comp=Z,74nm,21.4s,baz=149,slow=32						
NIUE	Niue	14.62	32	Pn	Pn	05 30 12.8	+0.5
STKA	Stephens Creek	34.20	259	P	P	05 33 32.4	+1.3
STKA				IAmb	IAmb	05 33 41.5	
	comp=Z,13nm,0.8s						
STKA	Stephens Creek	34.20	259	P	P	05 33 32.2	+1.2
	comp=Z,1.6nm,0.7s,baz=63,slow=9.0,SNR=4.8						
	comp=Z,1.6nm,0.7s						
BBOO	Buckleboo	38.62	256	P	P	05 34 09.1	+0.2
AS31	Alice Springs	43.07	268	P	P	05 34 47.1	+1.4
AS31				IAmb	IAmb	05 34 51.7	
	comp=Z,2.3nm,0.3s						
ASAR	Alice Springs	43.07	268	P	P	05 34 47.4	+1.7
ASAR	Alice Springs	43.07	268	P	P	05 34 47.1	+1.4
	comp=Z,1.4nm,0.5s,baz=108,slow=7.6,SNR=14						
	comp=Z,1.4nm,0.5s						
WB2	Warramunga Arr	44.18	274	P	P	05 34 55.5	+0.8
WB2				IAmb	IAmb	05 35 02.2	
	comp=Z,11nm,1.2s						
WRA	Warramunga Arr	44.19	274	P	P	05 34 55.7	+0.9
WRA	Warramunga Arr	44.19	274	P	P	05 34 56.1	+1.4
	comp=Z,1.9nm,0.5s,baz=113,slow=7.7,SNR=20						
	comp=Z,1.9nm,0.5s						
FITZ	Fitzroy Crossi	52.39	271	P	P	05 35 59.1	+1.1
	comp=Z,2.5nm,0.8s,baz=139,slow=5.7,SNR=6.3						
	comp=Z,2.5nm,0.8s						
QSPA	South Pole Qui	58.29	180	P	P	05 36 41.8	+1.8
QSPA				IAmb	IAmb	05 37 07.3	
	comp=Z,5.0nm,0.9s						
QSPA	South Pole Qui	58.29	180	P	P	05 36 42.5	+2.5
	comp=Z,1.7nm,1.0s,baz=89,slow=1.0,SNR=8.9						
	comp=Z,1.7nm,1.0s						
PMSA	Palmer Station	70.96	156	P	P	05 38 02.0	-0.6
SYO	Syowa Base	75.73	193 ‖ *e* sP		sP	05 38 34.5	+1.6
SNAA	Sanae	76.73	178	P	P	05 38 34.3	-2.1
SNAA				IAmb	IAmb	05 39 00.1	
	comp=Z,17nm,1.5s						
KS19	Wonju Array Si	85.51	320	P	P	05 39 24.9	+1.5
FIA1	FINESS Array S	146.49	339	PKPdf	PKPbc	05 46 25.6	-0.4
FINES	FINESS Array B	146.49	339	PKPdf	PKPbc	05 46 25.5	-0.5
FINES	FINESS Array B	146.49	339	PKPbc	PKPbc	05 46 26.1	+0.1
	comp=Z,3.8nm,0.7s,baz=39,slow=3.4,SNR=14						
HFS	Hagfors	150.64	348	PKPbc	PKPbc	05 46 36.2	-0.7
	comp=Z,3.2nm,1.0s,baz=45,slow=2.2,SNR=1.6						
MMAI	Mount Meron Ar	151.86	281	PKPbc	PKiKP	05 46 42.4	+1.3
	comp=Z,0.9nm,0.4s,baz=87,slow=5.9,SNR=2.1						
AKASG	Malin Array Be	152.43	321	PKPbc	PKPbc	05 46 41.3	+0.1
	comp=Z,0.9nm,0.6s,baz=63,slow=2.5,SNR=4.3						
BRTR	Keskin Array B	153.27	296	PKPbc	PKiKP	05 46 44.7	+0.8
	comp=Z,0.5nm,0.5s,baz=123,slow=5.3,SNR=3.2						
DBIC	Dimbokro	154.16	164	PKPdf	PKPdf	05 46 37.2	-0.9

BJI ***08*** *05:32:53.1, 3°.97S×140°.36E, h25km, mB5.1/19, mb4.9/64, Ms4.7/13, Ms7 4.4/15*
IDC ***08*** *05:32:54.2±0.5, 3°.75S×139°.83E, h0km, mb4.4/15, mbtmp4.5/18, ML5.1/2, MS4.1/38, Error ellipse: s-maj=18.4km s-min=9.9km az=92.0*
MOS ***08*** *05:32:54.1±0.8, 3°.80S×139°.93E, h14km, mb5.1/40, Error ellipse: s-maj=9.5km s-min=5.6km az=110.9*
NEIC ***08*** *05:32:55.7±1.7, 3°.79S±0°.06×139°.94E±0°.07, h10km±1km, mb5.2/107, Mww5.2/24, Error ellipse: s-maj=12.4km s-min=10.1km az=126.0*
NEIC ***08*** *05:32:55.7, 3°.90S×139°.93E, h26km*
NEIC ***08*** *05:32:55.7, 3°.80S×139°.83E, h26km, Moment Tensor Solution. Duration: 1ᵗ8 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.43; $M_{\theta\theta}$-2.47; $M_{\phi\phi}$4.90; $M_{r\theta}$-4.99; $M_{\theta\phi}$1.82; $M_{\phi r}$1.96; Fault plane solution: $M_0$6.73000×10^{16} NP1:ϕ_s46.31000°, δ52.51000°, λ-27.83000°. NP2:ϕ_s154.12000°, δ68.25000°, λ-139.06000°. Principal axes: T 5.4594, Plg10.0000°, Azm277.0000°; N 2.5392, Plg45.0000°, Azm177.0000°; P -7.9986, Plg44.0000°, Azm16.0000°;*
DJA ***08*** *05:32:57.2±0.2, 4°S±2°×14°0E±°, h19km±1km, M5.2/84, mb5.3/84, mB5.7/38, MLv5.7/8, Mw(mB)5.2/38, MwMwp4.9/7, Mwp5.2/7*
GCMT ***08*** *05:32:58.7±0.2, 3°.79S±0°.01×139°.96E±0°.01, h26km, MW5.2/123, Moment Tensor Solution. s61,c74; s123,c190; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.34±.17; $M_{\theta\theta}$-4.46±.13; $M_{\phi\phi}$5.80±.14; $M_{r\theta}$-2.67±.28; $M_{\theta\phi}$2.76±.10; $M_{\phi r}$2.20±.27; Best double couple: $M_0$6.87300×10^{16} NP1:ϕ_s56.00000°, δ61.00000°, λ-14.00000°. NP2:ϕ_s153.00000°, δ78.00000°, λ-150.00000°. Principal axes: T 6.7950, Plg11.0000°, Azm281.0000°; N 0.1550, Plg58.0000°, Azm173.0000°; P -6.9500, Plg30.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 05:32:56.5±0.5, 3°.80S±0°.03×139°.90E±0°.04, h15km±2km, h16km: pP-P, n419, σ1ᵗ47/402, mb5.0/138, MS4.1/40, 10C-8D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.23	13	P	Pn	05 33 18.2	-1.0
JAY	Jayapura	1.51	32	Pn	Pn	05 33 20.8	-2.3
	228nm,0.3s,baz=160,slow=22,SNR=105						
JAY				Sn	Sn	05 33 38.1	-4.5
	439nm,0.3s,baz=92,slow=12,SNR=5.2						
JAY				LR	LR	05 34 01.5	
	comp=Z,7μm,19.6s,baz=120,slow=45						
JAY	Jayapura	1.51	32	P	Pn	05 33 20.0	-3.1
TABU	Tabubil	1.96	138	P	Pb	05 33 31.3	-0.7
SMPI	Sarmi	2.16	327	P	Pb	05 33 34.4	-0.9
SRPI	Serui, Papua	4.13	298	P	Pn	05 34 01.6	+2.5
BAKI	Biak	4.59	304	P	Pn	05 34 10.3	+4.9
MMPI	Merauke	4.66	174	P	Pn	05 34 09.8	+3.5
KMPI	Kaimana, Papua	6.18	271	P	Pn	05 34 30.9	+3.6
MANU	Manus

DAV **Davao City (W) 17.91 307** LR LR 05 44 43.5
comp=Z,343nm,18.6s,baz=132,slow=40
GUMO **Guam 17.97 16** LR LR 05 44 30.2
comp=Z,776nm,18.5s,baz=194,slow=39
MRSI **Marisa 18.44 283** P **P** **05 37 11.8 +0.1**
comp=Z,2µmcomp=Z,232nm,1.0s
APSI **Ampana 18.46 279** P **Pn** **05 37 13.3 +1.3**
comp=Z,4µmcomp=Z,262nm,1.2s
BSSI **Bau Bau, Buton 19.47 262** P **Pn** **05 37 27.2 +2.9**
comp=Z,127nm,0.9s
TOLI2 **Tolitoli 19.72 284** P **P** **05 37 26.2 +0.5**
TOLI2 IAmb IAmb 05 37 36.4
comp=Z,150nm,0.9s
TOLI2 **Tolitoli 19.72 284** P **Pn** **05 37 27.6 +0.4**
BKSI **Bulukumba 19.77 265** P **Pn** **05 37 27.9 +0.1**
comp=Z,71nm,0.9s
FITZ **Fitzroy Crossi 19.92 223** P **P** **05 37 27.4 -0.5**
FITZ **Fitzroy Crossi 19.92 223** P **P** **05 37 27.3 -0.5**
comp=Z,6.2nm,0.3s,baz=37,slow=11,SNR=95
FITZ S S 05 41 00.9 -11
comp=Z,38nm,0.7s,baz=71,slow=22,SNR=7.4
FITZ LR LR 05 45 58.8
comp=Z,2µm,20.3s,baz=47,slow=39
comp=Z,67nm,0.8s
TTSI **Tana Toraja 20.06 272** P Pn 05 37 32.6 +1.4
comp=Z,2µmcomp=Z,142nm,1.0s
SPSI **Sidrap Palu 20.08 269** P Pn 05 37 31.7 +0.2
KAPI **Kappang 20.12 266** P Pn 05 37 31.5 -0.5
KAPI **Kappang 20.12 266** P **P** **05 37 29.0 -1.2**
comp=Z,15nm,0.8s,baz=108,slow=6.8,SNR=5.4
comp=Z,15nm,0.8s
KAPI **Kappang 20.12 266** P Pn 05 37 32.6 +0.6
KAPI **Kappang 20.12 266**⇑*e*P **P** **05 37 30.9 +0.8**
KAPI pmax pmax
comp=Z,111nm,1.5s
BASI **Baing, Sumba 20.20 251** P **P** **05 37 31.8 +0.9**
PCI **Palu 20.25 278** P Pn 05 37 34.8 +1.3
TATA **Tatamba Isabel 20.30 104** P Pn 05 37 35.2 +1.1
SAVO **Savo Central 20.48 106** P Pn 05 37 37.8 +1.6
AS06 **Alice Springs 20.54 196** P **P** **05 37 35.4 +0.7**
comp=Z,374nm,0.8s
AS16 **Alice Springs 20.54 196** P **P** **05 37 35.0 +0.3**
comp=Z,592nm,0.8s
AS01 **Alice Springs 20.56 196** P **P** **05 37 35.4 +0.5**
AS31 **Alice Springs 20.58 196** P **P** **05 37 35.1 +0.1**
AS31 IAmb IAmb 05 37 44.8
comp=Z,99nm,0.8s
AS31 **Alice Springs 20.58 196** P **P** **05 37 35.9 +0.9**
comp=Z,141nm,0.7s
ASAR **Alice Springs 20.58 196** P **P** **05 37 35.7 +0.7**
comp=Z,140nm,0.6s,baz=28,slow=9.6,SNR=274
ASAR S **S** **05 41 26.6 +1.8**
comp=Z,31nm,0.9s,baz=13,slow=23,SNR=5.8
ASAR LR LR 05 45 28.2
comp=Z,837nm,21.7s,baz=22,slow=37
AS19 **Alice Springs 20.60 196** P **P** **05 37 35.9 +0.7**
comp=Z,376nm,0.8s
HNR **Honiara 20.68 107** LR LR 05 45 44.1
comp=Z,515nm,18.1s,baz=262,slow=37
WBSI **Waikabubak, Su 21.17 253** P **P** **05 37 40.4 -1.1**
comp=Z,157nm,0.8s
PATS **Pohnpei 21.20 60** P **P** **05 37 44.4 +2.6**
comp=Z,242nm,1.1s
PATS **Pohnpei 21.20 60** P **P** **05 37 47.9 +6.1**
RK1H **Rockhampton Ha 22.00 153** P **P** **05 37 51.0 +0.7**
PLAI **Plampang 22.54 256** P **P** **05 37 55.4 -0.8**
PLAI **Plampang 22.54 256** P **P** **05 37 55.0 -1.2**
comp=Z,108nm,0.8s
SMKI **Samarinda 22.92 278** P **P** **05 38 03.6 +3.4**
QLP **Quilpie 23.03 170** P **P** **05 37 59.8 -1.3**
comp=Z,284nm,0.9s
QLP **Quilpie 23.03 170** P **P** **05 38 00.1 -1.1**
BKB **Balikpapan 23.12 276** P **P** **05 38 03.9 +1.7**
BKB **Balikpapan 23.12 276** P **P** **05 38 05.4 +3.2**
BKB **Balikpapan 23.12 276** P **P** **05 38 05.3 +3.1**
comp=Z,3µmcomp=Z,240nm,1.1s
MYLDM **Lahad Datu 23.16 293** P **P** **05 38 01.2 -1.5**
MYLDM **Lahad Datu 23.16 293** P **P** **05 38 06.2 +3.5**
TWSI **Taliwang, Sumb 23.39 257** P **P** **05 38 05.0 0.0**
comp=Z,50nm,0.8s
INKA **Innaminka 23.82 178** P **P** **05 38 08.4 -0.6**
WRKA **Warakurna 23.88 207** P **P** **05 38 09.0 -0.7**
comp=Z,224nm,0.8s
WRKA **Warakurna 23.88 207** P **P** **05 38 08.6 -1.1**
EIDS **Eidsvold 23.98 154** P **P** **05 38 09.8 -0.8**
EIDS **Eidsvold 23.98 154** P **P** **05 38 10.7 +0.1**
comp=Z,124nm,1.0s
EIDS **Eidsvold 23.98 154** P **P** **05 38 10.5 -0.1**
OOD **Oodnadatta 24.19 189** P **P** **05 38 12.8 +0.3**
KKM **Kota Kinabalu 25.59 292** P **P** **05 38 26.3 +0.7**
KKM IAmb IAmb 05 38 50.7
comp=Z,77nm,1.0s
KKM **Kota Kinabalu 25.59 292** P **P** **05 38 27.1 +1.6**
TGY **Tagaytay City 25.89 314** LR LR 05 50 00.5
comp=Z,462nm,18.9s,baz=188,slow=40
JAGI **Jajag, Banyuwa 26.01 259** P **P** **05 38 27.3 -1.9**
JAGI IAmb IAmb 05 38 56.8
comp=Z,68nm,1.0s
KMMI **Kalianget 26.01 262** P **P** **05 38 31.7 +2.5**
MBWA **Marble Bar 26.12 227** P **P** **05 38 29.0 -1.1**
MBWA IAmb IAmb 05 39 00.9
comp=Z,64nm,0.8s
MBWA **Marble Bar 26.12 227** P **P** **05 38 30.8 +0.7**
comp=Z,84nm,0.9s
MBWA **Marble Bar 26.12 227** P **P** **05 38 31.4 +1.3**
PSAD1 **Pilbara Seismi 26.23 226** P **P** **05 38 31.7 +0.6**
comp=Z,73nm,1.0s
TW1H **Toowoomba 1 Ha 26.27 155** P **P** **05 38 31.6 +0.1**
PSA00 **Pilbara Seismi 26.29 226** P **P** **05 38 30.7 -1.0**
PSA00 IAmb IAmb 05 38 56.8
comp=Z,59nm,0.9s
PSA00 **Pilbara Seismi 26.29 226** P **P** **05 38 30.9 -0.8**
PSA00 IAmb IAmb 05 38 57.2
comp=Z,18nm,0.8s
PSA00 **Pilbara Seismi 26.29 226** P **P** **05 38 32.9 +1.2**
comp=Z,66nm,1.1s
PSA00 **Pilbara Seismi 26.29 226** P **P** **05 38 31.6 -0.1**
PSAC1 **Pilbara Seismi 26.29 226** P **P** **05 38 32.8 +1.1**
comp=Z,65nm,1.1s
PSAD3 **Pilbara Seismi 26.38 226** P **P** **05 38 33.6 +1.1**
comp=Z,45nm,1.1s
LCRK **Leigh Creek 26.55 183** P **P** **05 38 33.3 -0.6**
STKA **Stephens Creek 27.97 177** P **P** **05 38 46.5 -0.2**
STKA **Stephens Creek 27.97 177** P **P** **05 38 47.2 +0.5**
comp=Z,114nm,0.8s
STKA **Stephens Creek 27.97 177** P **P** **05 38 47.5 +0.9**
comp=Z,2.6nm,0.6s,baz=336,slow=10,SNR=6.8
STKA LR LR 05 50 59.8
comp=Z,1µm,18.7s,baz=350,slow=39
comp=Z,2.6nm,0.6s
STKA **Stephens Creek 27.97 177** P **P** **05 38 48.2 +1.5**
STKA **Stephens Creek 27.97 177** P **P** **05 38 46.5 -0.2**
STKA pmax pmax
comp=Z,352nm,1.6s
CMSA **Cobar Meteorol 28.12 169** P **P** **05 38 48.7 +0.7**
comp=Z,28nm,0.9s
CMSA **Cobar Meteorol 28.12 169** P **P** **05 38 47.7 -0.3**
SBUM **Sibu 28.35 282** P **P** **05 38 51.2 +1.0**
SBUM **Sibu 28.35 282** P **P** **05 38 53.2 +2.9**
ARMA **Armidale 28.70 159** P **P** **05 38 54.5 +1.2**
comp=Z,15nm,1.1s
FORT **Forrest 29.07 201** P **P** **05 38 56.2 -0.2**
FORT **Forrest 29.07 201** P **P** **05 38 57.6 +1.2**
comp=Z,80nm,0.7s
FORT **Forrest 29.07 201** P **P** **05 38 56.2 -0.2**
BBOO **Buckleboo 29.08 187** P **P** **05 38 55.5 -1.1**
BBOO **Buckleboo 29.08 187** P **P** **05 38 56.3 -0.3**
comp=Z,18nm,0.8s
BBOO **Buckleboo 29.08 187** P **P** **05 38 58.0 +1.5**
HTT **Hallett 29.49 182** P **P** **05 39 00.6 +0.3**
comp=Z,28nm,0.9s
HTT **Hallett 29.49 182** P **P** **05 38 59.8 -0.4**
MEEK **Meekatharra 30.51 220** P **P** **05 39 09.3 0.0**
comp=Z,15nm,0.9s
YNG **Young 31.35 166** P **P** **05 39 16.9 +0.3**
TPI **Tanjungpandan 32.21 271** P **P** **05 39 25.9 +1.5**
comp=Z,23nm,1.0s
KMBL **Kambalda 32.24 210** P **P** **05 39 25.0 +0.5**
comp=Z,17nm,0.8s
BBJI **Bungbulang 32.29 262** P **P** **05 39 23.9 -1.3**
MORW **Morawa 33.83 220** P **P** **05 39 36.7 -1.7**
MORW IAmb IAmb 05 40 48.2
comp=Z,21nm,0.9s
MORW **Morawa 33.83 220** P **P** **05 39 38.4 0.0**
comp=Z,27nm,0.9s
MORW **Morawa 33.83 220** P **P** **05 39 36.5 -1.9**

TOO **Toolangi 34.00 172** P **P** **05 39 38.8 -0.9**
TOO **Toolangi 34.00 172** P **P** **05 39 38.8 -0.9**
TOO pmax pmax
comp=Z,24nm,1.9s
H11S3 **WAKE ISLAND Hy 34.46 49** T T 06 14 44.1
baz=231,slow=75,SNR=16
H11S2 **WAKE ISLAND Hy 34.47 49** T T 06 14 42.8
baz=231,slow=75,SNR=12
H11S1 **WAKE ISLAND Hy 34.48 49** T T 06 14 43.7
baz=231,slow=75,SNR=7.7
BLDU **Ballidu 34.50 217** P **P** **05 39 44.7 +0.5**
comp=Z,30nm,1.3s
BLDU **Ballidu 34.50 217** P **P** **05 39 45.2 +1.0**
KLBR **Kellerberrin 34.61 214** P **P** **05 39 49.7 +4.6**
KLBR **Kellerberrin 34.61 214** P **P** **05 39 44.2 -0.9**
DLV **Lat 34.93 297** P **P** **05 39 48.6 +0.3**
DLV **Lat 34.93 297** P **P** **05 39 49.7 +1.4**
KASI **Kota Agung 35.32 266** P **P** **05 39 53.5 +2.0**
comp=Z,18nm,0.9s
MDSI **Maura Dua 35.63 268** P **P** **05 39 53.3 -0.9**
comp=Z,31nm,1.0s
LWLI **Liwa 35.75 267** P **P** **05 39 56.3 +1.0**
NWAO **Narrogin (SRO) 35.90 214** P **P** **05 39 56.3 0.0**
NWAO **Narrogin (SRO) 35.90 214** LR LR 05 54 36.2
comp=Z,508nm,18.2s,baz=342,slow=36
MYKOM **Kota Tinggi 36.45 278** P **P** **05 40 01.1 -0.1**
MYKOM IAmb IAmb 05 40 07.5
comp=Z,37nm,1.2s
MYKOM **Kota Tinggi 36.45 278** P **P** **05 40 01.9 +0.7**
JHJ **Hachijo jima 2 36.72 360** LR LR 05 52 12.4
comp=Z,296nm,19.3s,baz=264,slow=32
QIZ **Qiongzhong 37.28 309** P **P** **05 40 08.3 +0.1**
QIZ S **S** **05 45 55.0 -0.3**
QIZ LR LR
comp=Z,440nm,9.3s
QIZ LR LR
comp=Z,470nm,12.5s
QIZ LR LR
comp=Z,460nm,20.0s
JMN **Monobe 37.76 352** P **P** **05 40 12.8 +0.8**
JMN IAmb IAmb 05 40 32.7
comp=Z,64nm,1.3s
UBPT **Khong Chiam 39.01 300** P **P** **05 40 23.1 +0.3**
UBPT **Khong Chiam 39.01 300** P **P** **05 40 23.3 +0.5**
BKNI **Bangkinang 39.05 275** P **P** **05 40 23.2 0.0**
BKNI **Bangkinang 39.05 275** P **P** **05 40 24.4 +1.2**
PPI **Padang Panjang 39.61 274** P **P** **05 40 27.9 0.0**
comp=Z,811nmcomp=Z,83nm,1.0s
PPI pP **sP** **05 40 38.2 +3.4**
comp=Z,811nmcomp=Z,83nm,1.0s
IPM **Ipoh 39.70 282** P **P** **05 40 28.4 -0.2**
IPM **Ipoh 39.70 282** P **P** **05 40 29.5 +0.8**
MSVF **Nonsavu 39.84 113** P **P** **05 40 29.9 0.0**
MSVF **Nonsavu 39.84 113** LR LR 05 56 13.1
comp=Z,648nm,21.0s,baz=296,slow=35
MSVF **Nonsavu 39.84 113** P **P** **05 40 29.9 0.0**
MSVF pmax pmax
comp=Z,29nm,1.0s
MJAR **Matsushiro Arr 40.17 358** P **P** **05 40 32.0 -0.2**
comp=Z,0.8nm,0.4s,baz=165,slow=10,SNR=2.0
comp=Z,0.8nm,0.4s
MJAR **Matsushiro Arr 40.17 358** P **P** **05 40 32.0 -0.2**
KULM **Kulim 40.23 283** P **P** **05 40 32.9 -0.2**
KULM **Kulim 40.23 283** P **P** **05 40 33.6 +0.6**
MNSI **Mandailing Nat 40.55 276** P **P** **05 40 36.1 +0.4**
comp=Z,39nm,1.1s
NJ2 **Nanjing 40.89 332** *e*P **P** **05 40 39.0 +0.9**
NJ2 pmax pmax
comp=Z,12nm,0.8s
DGTI **Dogotuki 41.05 110** P **P** **05 40 41.9 +2.1**
RPSI **Rantau Prapat 41.46 278** P **P** **05 40 43.0 -0.2**
RPSI IAmb IAmb 05 40 44.3
comp=Z,56nm,1.0s
PSI **Prapat 41.47 279** P **P** **05 40 43.2 -0.2**
PSI **Prapat 41.47 279** P **P** **05 40 43.0 -0.4**
PSI pmax pmax
comp=Z,56nm,1.0s
SRIT **Nakonsritamara 42.03 287** P **P** **05 40 48.4 +0.6**
SRIT IAmb IAmb 05 40 54.7
comp=Z,36nm,0.9s
SRIT **Nakonsritamara 42.03 287** P **P** **05 40 48.9 +1.1**
NONG **Nongkai 42.25 302** P **P** **05 40 50.5 +1.0**
KSRS **Korea Array 42.53 346** P **P** **05 40 50.5 -1.1**
comp=Z,2.0nm,0.6s,baz=159,slow=8.7,SNR=8.9
comp=Z,2.0nm,0.6s
GSI **Gunungsitoli 42.60 276** P **P** **05 40 51.4 -1.1**
GSI IAmb IAmb 05 41 06.1
comp=Z,110nm,1.6s
GSI **Gunungsitoli 42.60 276** P **P** **05 40 51.8 -0.7**
GSI **Gunungsitoli 42.60 276** P **P** **05 40 50.6 -1.9**
comp=Z,51nm,1.0s
SLVN **Son La 43.21 307** P **P** **05 40 59.7 +2.3**
LHMI **Lhok Sumawe 43.83 282** P **P** **05 41 02.1 -0.3**
LHMI **Lhok Sumawe 43.83 282** P **P** **05 41 02.3 -0.2**
LHMI **Lhok Sumawe 43.83 282** P **P** **05 41 02.6 +0.1**
SNSI **Sinabang, Aceh 43.98 277** P **P** **05 41 03.9 +0.2**
comp=Z,81nm,1.2s
SNSI pP **sP** **05 41 09.1 -1.6**
comp=Z,81nm,1.2s
GYA **Guiyang 44.03 315** ⇓P P 05 40 53.1 -11
GYA pmax pmax
comp=Z,25nm,1.5s
MLSI **Meulaboh, Aceh 44.19 280** P **P** **05 41 04.8 -0.6**
SRDT **SRDT 44.27 295** P **P** **05 41 07.5 +1.6**
TIA **Tai'an 45.15 334** P **P** **05 41 12.3 -0.3**
TIA pmax pmax
comp=Z,13nm,0.8s
BSI **Banda Aceh 45.50 281** P **P** **05 41 14.7 -1.1**
comp=Z,39nm,0.9s
BSI pP **sP** **05 41 20.1 -2.7**
comp=Z,39nm,0.9s
CM31 **Chiang Mai Arr 46.01 300** P **P** **05 41 20.1 +0.4**
CM31 IAmb IAmb 05 41 33.7
comp=Z,21nm,1.1s
CMAR **Chiang Mai Arr 46.01 300** P **P** **05 41 20.0 +0.2**
CMAR **Chiang Mai Arr 46.01 300** P **P** **05 41 20.7 +1.0**
comp=Z,4.7nm,0.7s,baz=122,slow=6.4,SNR=19
CMAR PcP **PcP** **05 42 57.6 +1.3**
comp=Z,6.4nm,0.9s,baz=115,slow=4.1,SNR=4.8
CMAR LR LR 06 02 17.0
comp=Z,82nm,18.8s,baz=100,slow=38
comp=Z,4.7nm,0.7s
LYN **LuoYang 46.07 328** ⇑P **P** **05 41 20.0 +0.1**
LYN pmax pmax
comp=Z,58nm,0.8s
LYN LR LR
comp=Z,200nm,9.8s
LYN LR LR
comp=Z,310nm,13.5s
LYN LR LR
comp=Z,350nm,18.8s
CHTO **Chiang Mai 46.16 301** P **P** **05 41 21.3 +0.4**
CHTO **Chiang Mai 46.16 301** P **P** **05 41 21.3 +0.4**
CHTO pmax pmax
comp=Z,13nm,1.1s
HNS **HongShan 47.22 332** ⇑P **P** **05 41 28.8 -0.1**
HNS S **S** **05 48 22.9 +1.5**
HNS pmax pmax
comp=Z,23nm,1.0s
HNS LR LR
comp=Z,290nm,19.1s
HNS LR LR
comp=Z,260nm,17.5s
HNS LR LR
comp=Z,340nm,18.0s
PZH **PanZhiHua 47.63 311** P **P** **05 41 34.6 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,220nm,5.7s
XAN **Xi'an 47.65 325** P **P** **05 41 31.6 -0.8**
XAN pmax pmax
comp=Z,25nm,1.1s
XAN LR LR
comp=Z,380nm,17.5s
XAN LR LR
comp=Z,270nm,17.3s
XAN LR LR
comp=Z,430nm,17.8s
ASAJ **Asahikawa 47.76 3** LR LR 06 00 46.8
comp=Z,71nm,21.3s,baz=184,slow=35
WKZ **Wanaka 48.19 152** P **P** **05 41 35.6 -0.9**
URZ **Urewera 48.22 140** LR LR 06 01 47.4
comp=Z,623nm,18.6s,baz=36,slow=36
TUWZ **Tuamarina 48.30 146** P **P** **05 41 37.1 -0.1**

USA0B **Ussuriysk Arra 48.31 352**⇓*e*P **P** **05 41 39.6 +2.4**
USRK **Ussuriysk Ar. 48.31 352** P **P** **05 41 36.6 -0.7**
comp=Z,2.5nm,0.7s,baz=152,slow=9.7,SNR=4.3
USRK LR LR 05 59 06.0
comp=Z,285nm,21.2s,baz=171,slow=33
comp=Z,2.5nm,0.7s
KHZ **Kahutara 48.74 147** P **P** **05 41 39.4 -1.2**
BJI **Beijing 48.77 336** P **P** **05 41 40.4 -0.4**
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,81nm,5.7s
BJI LR LR
comp=Z,170nm,18.9s
BJI LR LR
comp=Z,75nm,16.5s
BJI LR LR
comp=Z,140nm,21.1s
CD2 **Chengdu 48.78 318** P **P** **05 41 41.8 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 **Changchun 49.14 346** *e*P **P** **05 41 46.0 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BNX **BinXian 50.56 349** ⇑P **P** **05 41 53.8 -0.6**
BNX pmax pmax
comp=Z,22nm,1.2s
YSS **Yuzhno-Sakhali 50.60 3** *e*P **P** **05 41 54.3 -0.4**
YSS pmax pmax
comp=Z,10.0nm,0.7s
HHC **Hu-ho-hao-te 51.44 333** *e*P **P** **05 42 01.7 +0.4**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.3s
HHC LR LR
comp=Z,190nm,15.9s
HHC LR LR
comp=Z,130nm,17.1s
HHC LR LR
comp=Z,240nm,17.2s
BTO **Baotou 51.98 331** *e*P **P** **05 42 07.0 +1.7**
BTO pP **sP** **05 42 11.4 -0.9**
BTO sP **pP** **05 42 13.9 +3.6**
BTO pmax pmax
comp=Z,19nm,0.8s
BTO pmax pmax
comp=Z,550nm,5.0s
LZH **Lanzhou 52.06 323** *e*P **P** **05 42 06.8 +0.7**
LZH pP sP 05 42 13.1 0.0
LZH pmax pmax
comp=Z,29nm,1.2s
XLT **XiLinHaoTe 52.10 338** *e*P **P** **05 42 05.3 -0.8**
XLT pmax pmax
comp=Z,7.0nm,0.8s
KLR **Kul'dur 53.29 353** LR LR 06 04 22.5
comp=Z,114nm,18.4s,baz=176,slow=36
KLR **Kul'dur 53.29 353**⇓*i*P **P** **05 42 14.1 -0.6**
KLR pmax pmax
comp=Z,10.0nm,1.0s
TYV **Tymovskoe 54.50 2** *e*P **P** **05 42 22.5 -1.0**
TYV pmax pmax
comp=Z,200nm,4.2s
TYV pmax pmax
comp=Z,7.0nm,1.2s
HEH **HeiHe 54.91 350** *e*P **P** **05 42 25.9 -0.6**
HEH pmax pmax
comp=Z,13nm,0.9s
SHL **Shillong 54.93 305** P **P** **05 42 27.4 0.0**
SHL IAmb IAmb 05 42 29.4
comp=Z,17nm,0.8s
SHL **Shillong 54.93 305** P **P** **05 42 27.4 0.0**
SHL pmax pmax
comp=Z,17nm,0.8s
HIA **Hailar 55.68 344**⇓*e*P **P** **05 42 32.8 +0.7**
HIA pmax pmax
comp=Z,7.0nm,0.8s
GTA **Gaotai 56.65 323** P **P** **05 42 40.6 +1.2**
GTA sP sP 05 42 57.7 +11
GTA pmax pmax
comp=Z,9.0nm,1.2s
GOMU **GeErMu 57.92 317** P **P** **05 42 49.3 +0.6**
GOMU pP sP 05 42 53.5 -2.3
GOMU sP pP 05 42 56.6 +2.8
GOMU pmax pmax
comp=Z,8.0nm,0.8s
ZEA **Zeya 58.31 351** *e*P **P** **05 42 50.4 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
PETK **Petropavlovsk- 58.65 12** P **P** **05 42 54.0 +0.9**
comp=Z,2.1nm,0.8s,baz=213,slow=6.9,SNR=2.1
PETK LR LR 06 05 01.6
comp=Z,105nm,21.5s,baz=208,slow=33
comp=Z,2.1nm,0.8s
PETK **Petropavlovsk- 58.65 12** P **P** **05 42 54.0 +0.9**
ULN **Ulaanbaatar 58.95 335** P **P** **05 42 55.2 -0.2**
ULN **Ulaanbaatar 58.95 335**⇓*e*P **P** **05 42 55.4 0.0**
ULN pmax pmax
comp=Z,7.0nm,0.9s
SONM **Songino Array 59.21 334** P **P** **05 42 57.5 +0.3**
comp=Z,1.5nm,0.7s,baz=159,slow=8.0,SNR=8.9
SONM LR LR 06 09 47.0
comp=Z,182nm,19.5s,baz=114,slow=37
comp=Z,1.5nm,0.7s
PALK **Pallekele 60.09 281** P **P** **05 43 03.8 0.0**
PALK **Pallekele 60.09 281** P **P** **05 43 03.8 0.0**
PALK pmax pmax
comp=Z,8.0nm,0.8s
RAR **Rarotonga 61.01 112** LR LR 06 07 51.1
comp=Z,113nm,21.3s,baz=269,slow=34
ZAK **Zakamensk 62.48 334** *e*P **P** **05 43 18.5 -0.9**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
SHEM **Shemya Is, Ala 63.28 23** LR LR 06 06 05.3
comp=Z,251nm,21.7s,baz=257,slow=32
MA2 **Magadan 63.77 6** P **P** **05 43 27.1 -0.5**
MA2 IAmb IAmb 05 43 28.3
comp=Z,13nm,1.0s
MA2 **Magadan 63.77 6** LR LR 06 09 04.8
comp=Z,91nm,21.2s,baz=196,slow=34
MA2 **Magadan 63.77 6**⇑*i*P **P** **05 43 27.4 -0.2**
MA2 pmax pmax
comp=Z,11nm,0.9s
MA2 **Magadan 63.77 6** P **P** **05 43 27.3 -0.3**
comp=Z,13nm,1.5s
MOY **Mondy 64.40 334** *e*P **P** **05 43 31.4 -0.7**
MOY pmax pmax
comp=Z,15nm,1.6s
CASY **Casey 65.67 193** P **P** **05 43 39.2 -0.7**
YAK **Yakutsk 66.12 355** P **P** **05 43 41.9 -0.9**
YAK **Yakutsk 66.12 355** LR LR 06 11 42.7
comp=Z,118nm,20.0s,baz=180,slow=35
YAK **Yakutsk 66.12 355** *e*P **P** **05 43 42.2 -0.6**
YAK *e**PP **sP** **05 43 48.1 -1.8**
YAK *e* 05 44 10.8
YAK *e* 05 46 07.7
YAK *e*PPP PPP 05 47 42.0
YAK *e*S **S** **05 52 31.6 +1.1**
YAK *e* 05 53 37.0
YAK *e*SS **SS** **05 56 47.8 +1.3**
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=N,15nm,1.8s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=Z,272nm,7.6s
YAK pmax pmax
comp=N,235nm,8.3s
YAK pmax pmax
comp=E,441nm,6.6s
YAK smax smax
comp=E,233nm,8.8s
YAK smax smax
comp=N,169nm,7.2s
WMQ **Urumqi 66.60 321** *e*P **P** **05 43 49.3 +2.9**
SEY **Seymchan 67.23 6**⇑*i*P **P** **05 43 49.8 -0.1**
SEY pmax pmax
comp=Z,6.0nm,1.0s
ZSN **Zaisan 70.14 324** *e*P **P** **05 44 08.5 +0.1**
ZSN **Zaisan 70.14 324** *e*P **P** **05 44 08.6 +0.1**
PPT **Papeete 70.30 107** LR LR 06 11 29.1
comp=Z,110nm,20.5s,baz=278,slow=33
WUS **Wushi 71.01 316** P **P** **05 44 13.3 -0.7**
WUS IAmb IAmb 05 44 36.4

comp=Z,28nm,1.3s
MK31 Makanchi Array 71.37 322 P **P 05 44 15.9 -0.1**
MK31 IAmb IAmb 05 44 40.9
comp=Z,19nm,1.1s
MK31 Makanchi Array 71.37 322 *de*P **P 05 44 15.6 -0.4**
MKAR Makanchi Array 71.37 322 P **P 05 44 15.4 -0.6**
MKAR Makanchi Array 71.37 322 P **P 05 44 16.1 +0.1**
comp=Z,3.5nm,0.6s,baz=112,slow=7.8,SNR=45
comp=Z,3.5nm,0.6s
MAKZ Makanchi 71.57 322 P **P 05 44 17.8 +0.6**
MAKZ IAmb IAmb 05 44 41.9
comp=Z,22nm,1.1s
MAKZ Makanchi 71.57 322 P **P 05 44 17.8 +0.6**
MAKZ pmax pmax
comp=Z,22nm,1.1s
SHLS Shalkode 71.62 318 *e*P **P 05 44 16.4 -1.3**
SHLS Shalkode 71.62 318 *e*P **P 05 44 16.5 -1.3**
UZB Uzynbulak 71.91 318 *e*P **P 05 44 19.8 +0.4**
UZB Uzynbulak 71.91 318 *e*P **P 05 44 19.8 +0.4**
ZHN Zhinishke 72.31 318 *e*P **P 05 44 22.1 +0.3**
ZHN Zhinishke 72.31 318 *e*P **P 05 44 22.1 +0.3**
KSH Kashi 72.69 313 P **P 05 44 25.8 +1.6**
KSH pP sP 05 44 32.8 +1.5
KSH pmax pmax
comp=Z,15nm,1.1s
KDJ Kajisay 72.77 316 P **P 05 44 25.8 +1.1**
KDJ IAmb IAmb 05 44 41.2
comp=Z,12nm,0.9s
KDJ Kajisay 72.77 316 P **P 05 44 25.8 +1.1**
KDJ pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 72.93 307 P **P 05 44 25.5 -0.1**
NIL Nilore 72.93 307 P **P 05 44 25.5 -0.1**
NIL pmax pmax
comp=Z,42nm,0.9s
TDK Taldyqorghan 73.06 319 *e*P **P 05 44 26.4 +0.3**
TDK pmax pmax
comp=Z,7.0nm,0.6s
TDK Taldyqorghan 73.06 319 *e*P **P 05 44 26.4 +0.3**
comp=Z,6.5nm,0.6s
TNSS Tian-Shan 73.27 317 *e*P **P 05 44 27.8 0.0**
TNSS Tian-Shan 73.27 317 *e*P **P 05 44 27.9 0.0**
AAA Alma-Ata 73.36 317 *e*P **P 05 44 28.0 +0.1**
AAA pmax pmax
comp=Z,10.0nm,0.6s
AAA Alma-Ata 73.36 317 *e*P **P 05 44 28.1 +0.1**
comp=Z,9.6nm,0.6s
ZAA0 Zalesovo Array 73.47 330 P **P 05 44 26.4 -1.9**
ZALV Zalesovo Beam 73.47 330 P **P 05 44 26.9 -1.4**
ZALV Zalesovo Beam 73.47 330 P **P 05 44 26.5 -1.8**
comp=Z,2.7nm,0.7s,baz=112,slow=5.5,SNR=12
ZALV LR LR 06 16 58.0
comp=Z,72nm,21.1s,baz=140,slow=36
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 73.47 330 P **P 05 44 26.9 -1.4**
BOOM Boomskoye usch 73.76 316 P **P 05 44 30.2 -0.2**
BOOM IAmb IAmb 05 44 44.8
comp=Z,12nm,0.6s
BOOM Boomskoye usch 73.76 316 P **P 05 44 30.3 -0.2**
BOOM pmax pmax
comp=Z,12nm,0.6s
BILL Bilibino 74.03 10 *i* P **P 05 44 32.2 +0.9**
BILL pmax pmax
comp=Z,5.0nm,1.3s
VNDA Vanda 74.59 175 P **P 05 44 34.2 -0.3**
VNDA IAmb IAmb 05 44 42.2
comp=Z,66nm,1.9s
VNDA Vanda 74.59 175 P **P 05 44 35.4 +0.9**
comp=Z,3.6nm,0.6s,baz=320,slow=8.3,SNR=14
VNDA LR LR 06 16 13.8
comp=Z,386nm,19.1s,baz=350,slow=35
comp=Z,3.6nm,0.6s
VNDA Vanda 74.59 175 P **P 05 44 34.2 -0.3**
VNDA pmax pmax
comp=Z,66nm,1.9s
AAK Ala-Archa 74.81 316 P **P 05 44 36.3 -0.3**
AAK Ala-Archa 74.81 316↑ *e*P **P 05 44 37.1 +0.5**
AAK pmax pmax
comp=Z,10.0nm,1.7s
KURK Kurchatov 75.29 325 P **P 05 44 38.2 -0.7**
KURK IAmb IAmb 05 45 03.4
comp=Z,19nm,1.3s
KURK Kurchatov 75.29 325 *ce*P **P 05 44 38.9 0.0**
KURK pmax pmax
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 75.30 325 P **P 05 44 38.4 -0.6**
comp=Z,4.0nm,0.9s,baz=120,slow=4.7,SNR=19
ARSB Arslanbob 75.44 314 P **P 05 44 37.9 -2.4**
ARSB IAmb IAmb 05 44 57.9
comp=Z,15nm,0.8s
ARSB Arslanbob 75.44 314 P **P 05 44 37.9 -2.4**
ARSB pmax pmax
comp=Z,15nm,0.8s
TIXI Tiksi 75.66 356 P **P 05 44 39.2 -1.5**
TIXI Tiksi 75.66 356 LR LR 06 18 22.0
comp=Z,58nm,19.2s,baz=189,slow=36
TIXI Tiksi 75.66 356 *i* P **P 05 44 39.3 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
DRK Karamyk 75.74 312 P **P 05 44 41.6 -0.6**
DRK IAmb IAmb 05 44 50.6
comp=Z,38nm,1.6s
DRK Karamyk 75.74 312 P **P 05 44 41.6 -0.6**
DRK pmax pmax
comp=Z,38nm,1.6s
BTLS Baital 75.94 318 *e*P **P 05 44 43.0 +0.2**
BTLS Baital 75.94 318 *e*P **P 05 44 43.0 +0.2**
KBL Kabul 76.53 307 P **P 05 44 46.4 -0.3**
KBL Kabul 76.53 307 P **P 05 44 46.4 -0.3**
KBL pmax pmax
comp=Z,10.0nm,0.8s
BTK Batken 76.63 313 P **P 05 44 47.3 +0.3**
BTK Batken 76.63 313 P **P 05 44 47.3 +0.3**
BTK pmax pmax
comp=Z,13nm,1.1s
GAR Garm 76.71 311 P **P 05 44 47.5 0.0**
DZA Taraz 77.10 315 *e*P **P 05 44 49.8 +0.3**
DZA pmax pmax
comp=Z,4.0nm,0.5s
DZA Taraz 77.10 315 *e*P **P 05 44 49.9 +0.3**
comp=Z,4.4nm,0.5s
SIMJ Simiganj 77.60 311 P **P 05 44 52.1 -0.4**
SIMJ IAmb IAmb 05 45 03.4
comp=Z,17nm,0.8s
KK31 Karatay Array 77.74 315 P **P 05 44 52.8 -0.3**
KK31 Karatay Array 77.74 315 P **P 05 44 52.8 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 77.74 315 P **P 05 44 52.4 -0.7**
KKAR Karatay Array 77.74 315 P **P 05 44 52.7 -0.4**
KKAR Karatay Array 77.74 315 P **P 05 44 52.4 -0.7**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
IUG Iuzhnay 77.80 314 *e*P **P 05 44 53.7 +0.2**
IUG pmax pmax
comp=Z,7.0nm,1.1s
IUG Iuzhnay 77.80 314 *e*P **P 05 44 53.7 +0.2**
comp=Z,7.4nm,1.1s
CHM Chimkent 78.15 314 *e*P **P 05 44 55.8 +0.4**
CHM Chimkent 78.15 314 *e*P **P 05 44 55.9 +0.4**
BRLS Borolday 78.19 315 *e*P **P 05 44 55.9 +0.3**
BRLS Borolday 78.19 315 *e*P **P 05 44 55.9 +0.3**
BRZS Berezniki 78.52 323 *e*P **P 05 44 56.8 -0.4**
BRZS Berezniki 78.52 323 *e*P **P 05 44 56.9 -0.4**
ACHA Angle Creek He 80.26 29 P **P 05 45 06.2 -0.4**
K17K Iditarod 80.86 24 P **P 05 45 09.2 -0.4**
K17K IAmb IAmb 05 45 20.3
comp=Z,25nm,1.0s
J17K VABM Dome 80.86 24 P **P 05 45 09.5 -0.1**
J17K IAmb IAmb 05 45 50.9
comp=Z,19nm,1.1s
BVAR Borovoye Array 80.88 325 P **P 05 45 09.7 -0.3**
comp=Z,4.3nm,0.5s,baz=112,slow=6.6,SNR=27
BVAR LR LR 06 23 28.9
comp=Z,39nm,18.7s,baz=105,slow=38
comp=Z,4.3nm,0.5s
BRVK Borovoye 80.95 325 *ce*P **P 05 45 10.1 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
KDAK Kodiak Island 81.44 30 LR LR 06 18 22.6
comp=Z,122nm,21.4s,baz=83,slow=34
MAW Mawson 81.56 202 LR LR 06 20 53.3
comp=Z,273nm,18.3s,baz=55,slow=35
TTA Tatalina 81.90 25 P **P 05 45 14.6 -0.7**
TTA IAmb IAmb 05 46 33.3
comp=Z,26nm,1.6s
TTA Tatalina 81.90 25 P **P 05 45 14.6 -0.7**
TTA pmax pmax
comp=Z,26nm,1.6s
HRA Herat 81.99 305 P **P 05 45 16.7 +0.1**
HRA IAmb IAmb 05 45 18.5
comp=Z,40nm,1.9s
L19K White Mountain 82.08 25 P **P 05 45 15.9 -0.2**
G18K Tagagawik 82.20 21 P **P 05 45 15.8 -0.8**
J19K Poorman 82.51 24 P **P 05 45 17.7 -0.6**
J19K IAmb IAmb 05 45 33.2
comp=Z,23nm,1.3s
C18K Utukok River 82.68 18 P **P 05 45 18.7 -0.5**
H19K Roundabout Mou 82.84 22 P **P 05 45 19.3 -0.7**
H19K IAmb IAmb 05 45 33.7
comp=Z,12nm,0.8s
CAST Castle Rocks 83.73 25 P **P 05 45 23.8 -0.9**
CAST IAmb IAmb 05 45 38.2
comp=Z,20nm,1.5s
KTH Kantishna Hill 84.27 25 P **P 05 45 26.6 -0.9**
KTH IAmb IAmb 05 46 01.6
comp=Z,23nm,1.4s
TRF Thorofare Moun 84.50 25 P **P 05 45 28.1 -0.7**
KNK Knik Glacier 84.64 27 P **P 05 45 28.4 -1.0**
KNK IAmb IAmb 05 45 44.5
comp=Z,17nm,0.9s
SML Sawmill 84.82 27 P **P 05 45 29.3 -1.0**
RND Reindeer 85.09 25 P **P 05 45 29.8 -1.9**
RND IAmb IAmb 05 45 51.4
comp=Z,14nm,1.0s
RND Reindeer 85.09 25 P **P 05 45 29.8 -1.9**
RND pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 85.16 25 P **P 05 45 30.7 -1.2**
MCK IAmb IAmb 05 45 42.1
comp=Z,16nm,1.0s
MCK McKinley 85.16 25 P **P 05 45 30.7 -1.2**
MCK pmax pmax
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 85.28 27 P **P 05 45 31.9 -0.8**
SCM Sheep Creek Mo 85.28 27 P **P 05 45 31.9 -0.8**
SCM pmax pmax
comp=Z,20nm,0.8s
I23K Minto, Yukon-K 85.45 24 P **P 05 45 33.1 -0.2**
I23K IAmb IAmb 05 46 26.0
comp=Z,17nm,1.4s
H23K Yukon River 85.60 23 P **P 05 45 32.8 -1.3**
H23K IAmb IAmb 05 45 54.5
comp=Z,13nm,1.1s
WRH Wood River Hil 85.75 24 P **P 05 45 33.8 -1.0**
COLD Coldfoot 85.83 22 P **P 05 45 35.0 -0.1**
CCB Clear Creek Bu 85.92 24 P **P 05 45 33.7 -2.0**
CCB IAmb IAmb 05 46 00.3
comp=Z,11nm,1.0s
QSPA South Pole Qui 86.15 180 P **P 05 45 36.7 -0.3**
QSPA IAmb IAmb 05 45 42.8
comp=Z,23nm,1.1s
QSPA South Pole Qui 86.15 180 P **P 05 45 37.0 +0.1**
comp=Z,7.8nm,0.9s,baz=28,slow=3.6,SNR=9.3
QSPA LR LR 06 24 07.7
comp=Z,303nm,19.1s,baz=6.5,slow=36
comp=Z,7.8nm,0.9s
ABKAR Akbulak array 86.32 320 P **P 05 45 37.0 -1.0**
ILAR Eielson Array 86.33 24 P **P 05 45 35.2 -2.5**
ILAR Eielson Array 86.33 24 P **P 05 45 36.0 -1.7**
comp=Z,1.8nm,0.5s,baz=264,slow=4.5,SNR=24
ILAR LR LR 06 19 48.9
comp=Z,129nm,20.1s,baz=252,slow=33
comp=Z,1.8nm,0.5s
ILAR Eielson Array 86.33 24 P **P 05 45 36.0 -1.7**
TOLK Toolik Lake Re 86.53 20 P **P 05 45 37.9 -0.7**
F24K Squaw Lake 86.77 22 P **P 05 45 39.9 +0.1**
F24K IAmb IAmb 05 45 41.2
comp=Z,34nm,1.5s
GLB Gilahina Butte 86.80 28 P **P 05 45 39.0 -1.1**
GLB IAmb IAmb 05 45 50.8
comp=Z,11nm,0.8s
VRDI Verde Repeater 86.92 28 P **P 05 45 39.6 -1.3**
VRDI IAmb IAmb 05 45 55.3
comp=Z,22nm,1.6s
D24K Happy Valley 86.95 20 P **P 05 45 40.5 -0.1**
D24K IAmb IAmb 05 45 51.3
comp=Z,20nm,0.9s
FYU Fort Yukon 87.49 23 P **P 05 45 43.0 -0.3**
AKTO Aktyubinsk 87.74 321 LR LR 06 26 42.5
comp=Z,70nm,19.9s,baz=302,slow=37
E25K Arctic Village 87.78 21 P **P 05 45 44.4 -0.3**
E25K IAmb IAmb 05 45 55.5
comp=Z,12nm,0.9s
BMAR Burnt Mountain 87.96 22 P **P 05 45 46.0 +0.3**
BCAR Beaver Creek A 88.09 26 P **P 05 45 46.5 +0.2**
ARTI Arti 88.45 327 LR LR 06 27 00.6
comp=Z,57nm,21.2s,baz=118,slow=37
ARTI Arti 88.45 327 P **P 05 45 48.0 -0.1**
DAWY Dawson 89.33 26 P **P 05 45 51.8 -0.3**
DAWY IAmb IAmb 05 46 12.0
comp=Z,10nm,0.9s
M29M Somme Creek 89.48 27 P **P 05 45 52.2 -0.7**
M29M IAmb IAmb 05 46 03.1
comp=Z,23nm,1.3s
HYT Haines Junctio 89.68 29 P **P 05 45 54.1 +0.2**
HYT IAmb IAmb 05 46 10.1
comp=Z,11nm,1.1s
SYO Syowa Base 90.16 201‖ *e*PcP **PcP 05 45 58.4 +1.3**
M30M Minto, Yukon 90.26 27 P **P 05 45 55.8 -0.7**
M30M IAmb IAmb 05 46 11.7
comp=Z,19nm,1.6s
N31M Braeburn, Yuko 90.60 29 P **P 05 45 57.6 -0.5**
FARO Faro, Yukon 91.82 28 P **P 05 46 02.6 -1.1**
INK Inuvik 92.24 22 LR LR 06 26 51.3
comp=Z,58nm,19.1s,baz=242,slow=35
BBB Bella Bella 94.20 38 LR LR 06 26 14.8
comp=Z,106nm,18.4s,baz=249,slow=34
BELG Belogornoye 94.38 322 LR LR 06 31 22.8
comp=Z,51nm,21.2s,baz=71,slow=37
ELIB Princess Elisa 94.39 196 *d*P **P 05 46 15.3 -0.3**
A36M Sachs Harbour 95.10 18 P **P 05 46 16.6 -2.0**
A36M IAmb IAmb 05 46 31.1
comp=Z,5.9nm,0.8s
RAYN Ar Rayn 95.53 293 P **P 05 46 20.8 -0.9**
RAYN IAmb IAmb 05 46 21.8
comp=Z,14nm,1.6s
RAYN Ar Rayn 95.53 293 P **P 05 46 20.8 -0.9**
RAYN pmax pmax
comp=Z,14nm,1.6s
KBZ Khabaz 97.68 313 P **P 05 46 29.1 -1.7**
comp=Z,1.0nm,0.8s,baz=82,slow=7.1,SNR=1.7
comp=Z,1.0nm,0.8s
KIV Kislovodsk 97.82 314 *e*P **P 05 46 30.8 -0.9**
KIV pmax pmax
comp=Z,4.0nm,1.1s
YBH Yreka Blue Hor 98.03 49 LR LR 06 24 23.7
comp=Z,91nm,19.5s,baz=279,slow=32
VRH Novokhopyorsk 98.08 321 *e*P Pdif 05 46 34.0 +1.5
VRH pmax pmax
comp=Z,6.0nm,0.9s
VORR Voronezh 99.60 322 P **Pdif 05 46 27.1 -12**
VORR pmax pmax
comp=Z,10.0nm,0.7s
YKA Yellowknife Ar 100.49 27 P **Pdif 05 46 42.5 -0.6**
comp=Z,0.4nm,0.8s,baz=282,slow=5.0,SNR=6.6
OBN Obninsk 100.73 325 *i* P **Pdif 05 46 45.7 +1.5**
OBN pmax pmax
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 101.60 52 P **Pdif 05 46 50.0 +1.1**
comp=Z,0.1nm,0.3s,baz=292,slow=4.7,SNR=1.4
ARCES ARCESS Array B 101.92 341 P **Pdif 05 46 49.0 -0.3**
comp=Z,1.8nm,0.8s,baz=78,slow=5.1,SNR=3.6
ARCES ARCESS Array B 101.92 341 P **Pdif 05 46 49.0 -0.3**
MNK Minsk 105.77 326 *i* P **Pdif 05 47 04.2 -2.5**
comp=E,31nm,0.8s
MNK *i* P **Pdif 05 47 04.2 -2.5**
comp=N,10.0nm,0.7s
MNK *i* P **Pdif 05 47 04.2 -2.5**
comp=Z,8.0nm,1.0s,baz=74
MNK *i* PP **PP 05 51 27.4 -1.9**
MNK *i* PPP PPP 05 53 41.1
MNK *i* SKS **SKSdf 05 58 28.7 -2.0**
MNK *i* PS **PS 06 00 45.2 -1.0**
MNK *i* SS **SKKPbc 06 06 31.1 +3.1**
MNK *i* SSS SSS 06 10 28.0
MNK *i* LQ LQ 06 29 34.2
MNK *i* LR LR 06 34 11.5
MNK *i* LRM MLR 06 36 22.4
comp=Z,38nm,12.8s
MNK *i* LRM MLR 06 36 34.9
comp=E,303nm,21.0s
MNK *i* LRM MLR 06 37 01.7
comp=N,251nm,21.9s
MNK Minsk 105.77 326 *i* P **Pdif 05 47 04.2 -2.5**
MNK *i* 05 51 27.3
MNK *i* PPP PPP 05 53 41.1
MNK *i* 05 58 28.7
MNK *i* PS PS 06 00 45.2 -1.0
MNK *i* SS SS 06 06 31.0 +3.5
MNK *i* SSS SSS 06 10 28.0
MNK pmax pmax
comp=E,31nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,1.0s
MNK MLR MLR
comp=Z,38nm,13.0s
MNK MLR MLR
comp=E,303nm,21.0s
MNK MLR MLR
comp=N,251nm,22.0s
TXAR Lajitas Array 114.83 59 PKP **PKiKP 05 51 39.2 +1.7**
comp=N,0.4nm,1.1s,baz=255,slow=2.3,SNR=2.0
PLCA Paso Flores 127.65 151 PKP **PKPdf 05 52 01.2 -0.5**
comp=N,0.9nm,0.7s,baz=180,slow=2.0,SNR=3.7
DBIC Dimbokro 144.79 276 PKP **PKPdf 05 52 33.7 -0.3**
comp=N,19nm,0.8s,baz=90,slow=4.7,SNR=17
CPUP Villa Florida 145.71 152 PKPbc **PKPab 05 52 36.3 +0.4**
comp=N,6.5nm,0.6s,baz=217,slow=3.9,SNR=9.4
LPAZ La Paz 145.84 127 PKPbc **PKPab 05 52 38.0 +0.5**
comp=N,6.2nm,0.7s,baz=251,slow=0.6,SNR=33
LPAZ La Paz 145.84 127 PKP2 **PKPab 05 52 38.0 +0.5**
ROSC El Rosal 145.87 87 PKPbc **PKPab 05 52 38.1 +0.7**
comp=N,7.3nm,0.5s,baz=180,slow=3.0,SNR=4.9
BDFB Brasilia 159.15 158 PKP **PKPdf 05 52 57.3 +1.9**
comp=N,1.2nm,0.7s,baz=146,slow=3.6,SNR=2.1
BDFB PKPab **PKPab 05 53 31.4 -0.6**
comp=N,2.2nm,0.7s,baz=179,slow=4.6,SNR=3.5

IDC 08 05:48:01.8±4.8, 4°.51S×150°.58E, h121km±44km, mb3.2/3, mbtmp3.7/4, Error ellipse: s-maj=129.1km s-min=30.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.93**	**215**	P	Pn	05 49 28.4	+1.1
	15nm,0.3s,baz=40,slow=16,SNR=7.3						
PMG				S	Sn	05 50 33.6	-0.4
	41nm,0.5s,baz=337,slow=15,SNR=8.3						
WRA	**Warramunga Arr**	**22.03**	**225**	P	P	05 52 47.0	+0.2
	0.6nm,0.3s,baz=50,slow=10,SNR=13						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**24.93**	**219**	P	P	05 53 14.1	+0.2
	0.7nm,0.4s,baz=54,slow=9.0,SNR=11						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**82.73**	**23**	P	P	06 00 11.5	-0.3
	0.4nm,0.8s,baz=246,slow=5.1,SNR=4.7						
	0.4nm,0.8s						

AFAD 08 05:48:15.1, 37°.01N×44°.92E, h3km±1km, ML2.4
TEH 08 05:48:18.2, 37°.27N×44°.97E, h10km±10km
ISN 08 05:48:18.6±2.8, 37°.21N×44°.95E, h25km, ML2.8
ISC 08 05:48:17.7±1.3, 37°.18N±0°.04×44°.94E±0°.04, h6km±15km, n13, σ0°.93/19, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.66**	**308**	P	**Pg**	**05 48 30.1**	**-0.3**
YOVA				S	**Sb**	**05 48 41.5**	**+0.4**
YOVA				*i* AML	AML	05 48 46.0	
	comp=E,99nm,0.4s						
YOVA				*i* AML	AML	05 48 47.0	
	comp=N,104nm,0.6s						
MAHB	**Mahabad**	**0.74**	**124**	Pg	**Pg**	**05 48 33.0**	**+1.0**
IAZR	**Azarshahr**	**0.96**	**59**	Pg	**Pb**	**05 48 36.6**	**-0.4**
HAKT	**HAKKARI**	**1.05**	**291**	P	**Pg**	**05 48 36.6**	**-1.3**
HAKT				S	**Sb**	**05 48 52.8**	**+0.2**
HAKT				*i* AML	AML	05 48 56.0	
	comp=E,94nm,0.6s						
HAKT				*i* AML	AML	05 48 58.0	
	comp=N,102nm,0.5s						
CUKT	**Cukurca**	**1.06**	**274**	P	**Pg**	**05 48 37.5**	**-0.6**
CUKT				S	**Sg**	**05 48 51.6**	**-0.3**
CUKT				*i* AML	AML	05 49 01.0	
	comp=N,149nm,0.7s						
ISHB	**Shabestar**	**1.22**	**26**	Pg	**Pb**	**05 48 40.0**	**-1.4**
ITBZ	**Tabriz**	**1.42**	**42**	Pg	**Pn**	**05 48 43.8**	**-0.4**
IMRD	**Marand**	**1.64**	**21**	Pg	**Pb**	**05 48 48.1**	**-0.4**
IKRK	**Kirkuk**	**1.84**	**195**	*e*Pg	**Pn**	**05 48 50.0**	**+0.1**
	baz=15						
IKRK				*e*Sg	**Sg**	**05 49 18.0**	**+1.0**
IKRK				AML	AML	05 49 19.9	
	comp=E,142nm,0.2s						
IKRK				AML	AML	05 49 21.6	
	comp=N,83nm,0.6s						
GEVA	**Gevas**	**1.87**	**308**	P	**Pb**	**05 48 52.7**	**+0.4**
GEVA				S	**Sg**	**05 49 19.2**	**+1.5**
GEVA				*i* AML	AML	05 49 26.0	
	comp=N,26nm,0.8s						
GEVA				*i* AML	AML	05 49 43.0	
	comp=N,22nm,1.3s						
PERV	**Siirt/Pervari-**	**2.05**	**293**	P	**Pb**	**05 48 56.0**	**+0.6**
PERV				S	**Sg**	**05 49 23.4**	**-0.2**
PERV				*i* AML	AML	05 49 28.0	
	comp=N,46nm,0.6s						
PERV				*i* AML	AML	05 49 31.0	
	comp=N,81nm,0.6s						
MAKU	**Maku**	**2.18**	**355**	Pn	**Pn**	**05 48 55.6**	**+1.0**
IDHR	**Dehrash**	**2.74**	**154**	Pn	**Pb**	**05 49 05.7**	**-1.6**

AEIC 08 05:57:19.1±1.0, 53°.18N±0°.05×166°.86W±0°.09, h29km±4km, Error ellipse: s-maj=10.2km s-min=3.0km az=136.0
NEIC 08 05:57:19.1±0.8, 53°.17N±0°.04×166°.91W±0°.06, h28km±9km, ML2.6(AEIC), **Error ellipse: s-maj=6.6km s-min=3.5km az=137.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	**Makushin Gods**	**0.63**	**2**		Pb	05 57 31.8	+0.2
MGOD					Sn	05 57 41.3	+0.1
MAPS	**Pakushin South**	**0.64**	**358**		Pn	05 57 32.1	-0.1
MAPS					Sn	05 57 42.0	+0.5
OKFG	**Magazine Ridge**	**0.65**	**292**		Pn	05 57 32.2	-0.2
OKFG					Sn	05 57 42.2	+0.6
OKTU	**Okmok Mt. Tuli**	**0.71**	**288**		Pn	05 57 33.2	-0.1
UNV	**Unalaska Valle**	**0.72**	**19**		Pb	05 57 32.2	-0.8
UNV	**Unalaska Valle**	**0.72**	**19**		Sb	05 57 42.5	-0.1
OKER	**Okmok East Rim**	**0.74**	**293**		Pn	05 57 33.8	+0.1
MSW	**Makushin Switc**	**0.75**	**6**		Pb	05 57 33.5	-0.1
OKNC	**Okmok New Cone**	**0.78**	**292**		Pn	05 57 34.2	0.0
MTBL	**Makushin Table**	**0.81**	**10**		Pb	05 57 34.7	0.0
MTBL					Sn	05 57 46.3	+0.5
OKWE	**Okmok W'ng Wal**	**0.85**	**291**		Pn	05 57 35.2	0.0
ZRO	**Akutan Zero**	**1.08**	**31**		Pn	05 57 37.6	-0.6
AKRB	**Akutan Reef Bi**	**1.09**	**27**		Pn	05 57 38.5	+0.1
AKRB					Sb	05 57 53.0	-0.1
LVA	**Lava Point**	**1.12**	**27**	Pn	Pn	05 57 38.0	-0.9
AHB	**Akutan Harbor**	**1.15**	**34**		Pn	05 57 38.7	-0.6
AKGG	**Akutan Green G**	**1.17**	**27**		Pn	05 57 39.2	-0.3
AKSA	**Akutan Strait**	**1.21**	**36**		Pn	05 57 39.1	-0.9
AKSA					Sn	05 57 55.4	-0.1
WECS	**Westdahl Cape**	**1.86**	**42**		Pn	05 57 49.2	+0.2
WEBT	**Westdahl Beart**	**1.91**	**41**		Pn	05 57 49.9	+0.2
ISLZ	**Isanotski Laza**	**2.45**	**49**		Pn	05 57 57.7	+0.5
ISNN	**Isanotski Nort**	**2.49**	**47**		Pn	05 57 58.0	+0.3

ISN 08 06:18:28.7±0.5, 33°.75N×45°.72E, h14km±12km, ML2.6
TEH 08 06:18:29.0, 33°.79N×45°.78E, h10km±149km
ISC 08 06:18:29.1±0.9, 33°.79N±0°.04×45°.79E±0°.05, h10km, n10, σ0°.52/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.34**	**18**	Pg	**Pg**	**06 18 35.4**	**-0.6**
ILBA	**Ilam Banvizeh**	**0.39**	**115**	Pg	**Pg**	**06 18 36.9**	**+0.2**
IBDR	**Badra**	**0.69**	**170**	*e*Pg	**Pg**	**06 18 42.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**06 18 51.0**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.73**	**347**	Pg	**Pb**	**06 18 43.7**	**-0.3**

IGHG	Ghaleghazi	0.84	50	Pg	Pb	06 18 46.2	+0.2
IDHR	Dehrash	1.04	29	Pg	Pg	06 18 48.6	-0.4
KCHF	Cheshme Sefid,	1.15	65	Pg	Pn	06 18 51.5	+0.1
BHD	Baghdad	1.28	247	*e*Pn	Pn	06 18 53.0	0.0
BHD				*e*Sn	Sg	06 19 11.0	+0.7
ILIN	Lien	1.49	40	Pg	Pg	06 18 57.9	+0.2
IKRK	Kirkuk	2.00	324	*e*Pn	Pn	06 19 04.0	+1.0
IKRK				*e*Sn	Sb	06 19 30.0	-0.6
IKRK				AML	AML	06 19 40.0	

comp=N,10nm,0.6s

IDC 08 06:21:23.9±3.2, 32°74S×177°88W, h0km, mb3.7/2, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=78.0km s-min=37.3km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.86	215	Pn	Pn	06 23 06.3	+0.6
	0.3nm,0.3s,baz=122,slow=4.0,SNR=3.8						
URZ				Sn	Sn	06 24 23.8	-0.6
	1.2nm,0.3s,baz=105,slow=22,SNR=5.8 26nm,1.2s						
ASAR	Alice Springs	43.13	269	P	P	06 29 26.9	+0.7
	0.7nm,0.7s,baz=111,slow=8.3,SNR=4.4 0.7nm,0.7s						
WRA	Warramunga Arr	44.33	274	P	P	06 29 35.0	-1.0
	0.5nm,0.5s,baz=116,slow=6.5,SNR=6.1 0.5nm,0.5s						
FINES	FINESS Array B	147.36	339	PKPbc	PKPbc	06 41 08.0	-0.7
	1.1nm,0.6s,baz=46,slow=4.0,SNR=5.8						

IDC 08 06:26:02.7±1.8, 14°61S×175°03E, h598km±27km, mb3.3/4, mbtmp4.3/5, Error ellipse: s-maj=59.7km s-min=21.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.25	137	P	P	06 27 30.3	+0.4
	8.8nm,0.5s,baz=288,slow=16,SNR=8.4						
STKA	Stephens Creek	35.01	235	P	P	06 32 06.9	+0.1
	4.3nm,0.7s,baz=86,slow=7.9,SNR=11 4.3nm,0.7s						
WRA	Warramunga Arr	39.15	256	P	P	06 32 40.4	-0.3
	3.2nm,0.6s,baz=92,slow=8.5,SNR=31 3.2nm,0.6s						
ASAR	Alice Springs	39.77	251	P	P	06 32 45.5	-0.2
	4.1nm,0.3s,baz=84,slow=8.7,SNR=70						
ASAR				ScP	ScP	06 37 29.6	+0.2
	0.2nm,0.6s,baz=97,slow=4.1,SNR=4.3 4.1nm,0.3s						
ILAR	Eielson Array	84.26	15	P	P	06 37 31.8	-0.2
	0.6nm,0.6s,baz=233,slow=5.5,SNR=14 0.6nm,0.6s						

*IDC **08** 06:32:31.7±0.5, 13°82N×144°88E, h126km±4km, mb3.3/8, mbtmp3.6/8, MS2.7/1, Error ellipse: s-maj=26.8km s-min=18.8km az=88.0*
*NEIC **08** 06:32:32.3±1.1, 13°8N±0°1×145°0E±0°2, h132km±3km, mb4.1/16, Error ellipse: s-maj=31.3km s-min=11.5km az=121.0*

ISC 08 06:32:31.6±0.7, 13°9N±0°1×144°9E±0°2, h125km, n38, σ1°24/32, mb4.0/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.28	187	Pn	Pn	06 32 51.0	+2.0
GUMO				Sn	Sn	06 33 03.8	+1.5
GUMO	Guam	0.28	187	P	Pn	06 32 50.7	+1.6
	1μm,0.3s,baz=169,slow=7.4,SNR=31						
GUMO				S	Sn	06 33 03.6	+1.4
	2μm,0.3s,baz=310,slow=21,SNR=82						
DAV	Davao City (W)	20.16	252	LR	LR	06 45 38.5	
	comp=Z,19nm,19.4s,baz=344,slow=39						
H11S3	WAKE ISLAND Hy	21.41	75	T	T	06 59 45.9	
	baz=260						
H11S1	WAKE ISLAND Hy	21.43	75	T	T	06 59 58.4	
	baz=260						
H11S2	WAKE ISLAND Hy	21.43	75	T	T	06 59 50.5	
	baz=260						
WAKE	Wake Island	21.52	73	P	P	06 37 08.5	-2.4
H11N1	WAKE ISLAND Hy	21.83	72	T	T	07 00 15.6	
	baz=257						
H11N2	WAKE ISLAND Hy	21.84	72	T	T	07 00 17.9	
	baz=257						
H11N3	WAKE ISLAND Hy	21.85	72	T	T	07 00 18.6	
	baz=257						
WB0	Warramunga Arr	34.98	197	P	P	06 39 10.5	-1.6
WB2	Warramunga Arr	35.16	197	P	P	06 39 12.1	-1.5
WRA	Warramunga Arr	35.17	197	P	P	06 39 12.2	-1.4
	0.3nm,0.5s,baz=17,slow=8.6,SNR=2.3 0.3nm,0.5s						
FITZ	Fitzroy Crossi	37.01	211	P	P	06 39 27.6	-1.7
ASAR	Alice Springs	38.82	196	P	P	06 39 43.7	-0.9
	0.1nm,0.4s,baz=18,slow=13,SNR=6.7 0.1nm,0.4s						
SONM	Songino Array	46.53	325	P	P	06 40 44.8	-1.9
	0.3nm,0.5s,baz=139,slow=7.5,SNR=1.8 0.3nm,0.5s						
MK31	Makanchi Array	61.32	316	P	P	06 42 34.5	+0.5
MK31				IAmb	IAmb	06 42 43.2	
	comp=Z,2.7nm,1.4s						
MKAR	Makanchi Array	61.32	316	P	P	06 42 34.3	+0.3
MKAR	Makanchi Array	61.32	316	P	P	06 42 34.8	+0.8
	comp=Z,0.5nm,0.5s,baz=92,slow=8.7,SNR=9.2 comp=Z,0.5nm,0.5s						
KURBB	Kurchatov Arra	64.44	320	P	P	06 42 54.9	+0.4
	comp=Z,1.8nm,0.7s,baz=103,slow=6.7,SNR=15						
D19K	Kuna River	65.39	20	P	P	06 43 00.1	-0.4
D19K				IAmb	IAmb	06 43 23.4	
	comp=Z,3.4nm,1.4s						
B20K	Meade River	66.36	19	P	P	06 43 06.4	-0.1
D22K	Ayikyak River	67.36	20	P	P	06 43 13.4	+0.4
D22K				IAmb	IAmb	06 43 39.1	
	comp=Z,5.9nm,1.5s						
I23K	Minto, Yukon-K	67.39	25	P	P	06 43 12.8	-0.4
I23K				IAmb	IAmb	06 43 54.6	
	comp=Z,4.9nm,1.5s						
ILAR	Eielson Array	68.31	25	P	P	06 43 17.6	-1.4
	comp=Z,0.3nm,0.5s,baz=246,slow=6.1,SNR=9.3 comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	69.73	322	P	P	06 43 28.6	+0.6
	comp=Z,1.2nm,0.6s,baz=101,slow=6.6,SNR=6.5 comp=Z,1.2nm,0.6s						
BMAR	Burnt Mountain	69.84	23	P	P	06 43 28.8	+0.4
I28M	Miner Creek	71.32	25	P	P	06 43 37.4	-0.1
I28M				IAmb	IAmb	06 43 54.4	
	comp=Z,3.8nm,1.4s						
L29M	L29M	71.84	28	P	P	06 43 40.8	+0.2
L29M				IAmb	IAmb	06 44 08.6	
	comp=Z,5.2nm,1.5s						
H29M	Whitestone	72.06	25	P	P	06 43 42.4	+0.7
H29M				IAmb	IAmb	06 43 51.7	
	comp=Z,7.9nm,1.4s						
K29M	Barlow Dome	72.18	27	P	P	06 43 44.1	+1.4
R32K	Eaglecrest	73.37	33	P	P	06 43 51.3	+1.6
R33M	Jennings River	75.20	32	P	P	06 44 01.0	+0.5
YKA	Yellowknife Ar	82.60	27	P	P	06 44 40.7	+0.2
	comp=Z,0.2nm,0.6s,baz=268,slow=5.4,SNR=3.5 comp=Z,0.2nm,0.6s						
J05D	Fort Rock, OR	83.40	47	P	P	06 44 46.9	+1.6
J05D				IAmb	IAmb	06 45 06.3	
	comp=Z,4.9nm,1.2s						
NVAR	Mina Array Bea	86.72	51	P	P	06 45 03.4	+1.3
	comp=Z,0.9nm,0.8s,baz=256,slow=4.4,SNR=5.4 comp=Z,0.9nm,0.8s						
DBIC	Dimbokro	143.71	302	PKP	PKPbc	06 51 50.7	0.0
	comp=Z,1.6nm,0.5s,baz=27,slow=2.3,SNR=2.1						
LPAZ	La Paz	148.03	99	PKPbc	PKiKP	06 52 05.1	-0.8
	comp=Z,0.8nm,0.8s,baz=204,slow=2.5,SNR=4.2						

*CNRM **08** 06:40:43.9, 35°51N×3°74W, h26km*
*SFS **08** 06:40:44.5, 35°52N×3°77W, h18km, ML2.7/6, ML2.4/7, MLv2.2/7*
*MDD **08** 06:40:46.7±0.9, 35°92N×2°79W, h1km±7km, mb_Lg2.1/5, Error ellipse: s-maj=8.5km s-min=4.5km az=79.0*

ISC 08 06:40:42.4±1.1, 35°56N±0°02×3°71W±0°03, h16km±9km, n33, σ1°20/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.39	209	P	Pb	06 40 51.3	+0.4
PALE	Palemas	0.39	209	S	Sb	06 40 56.9	+0.3
PVLZ	Pen de Vlez	0.62	232	Pg	Pb	06 40 55.5	+0.7
PVLZ				Sg	Sg	06 41 01.6	-1.2
WMELI	Melilla	0.66	111	Pg	Pn	06 40 57.6	+0.6
WMELI				Sg	Sn	06 41 06.5	-0.5
EMEL	Melilla	0.67	113	P	Pn	06 40 58.1	+1.1
EMEL				S	Sn	06 41 06.8	-0.3
EMLI	Melilla	0.67	113	Pg	Pn	06 40 57.7	+0.6
EMLI				Sg	Sn	06 41 07.2	0.0
GOG	Mont Gurugu	0.67	120	P	Pn	06 40 57.5	+0.3
GOG	Mont Gurugu	0.67	120	S	Sn	06 41 06.8	-0.7
AKLM	AKL	1.05	187	P	Pb	06 41 01.4	-0.9
AKLM	AKL	1.05	187	S	Sb	06 41 14.2	-1.7
CHAS	Isla Isabel II	1.11	109	Pn	Pg	06 41 04.0	+0.2
CHAS				Sn	Sg	06 41 18.4	0.0
TAF	Taforalt	1.29	125	P	Pb	06 41 06.3	0.0
TAF	Taforalt	1.29	125	S	Sn	06 41 23.5	+0.7
ELGU	Los Guajares,	1.31	3	Pn	Pg	06 41 07.6	0.0
ELGU	Los Guajares,	1.31	3	P	Pg	06 41 07.8	+0.2
ELGU				S	Sg	06 41 24.2	-0.5
ELGU				*i* Vmb_Lg		06 41 29.8	
SMIR	Smir Dam	1.37	276	P	Pn	06 41 07.4	+0.6
SMIR	Smir Dam	1.37	276	S	Sb	06 41 25.3	+0.5
CEU	Ceuta	1.40	284	Pn	Pn	06 41 06.6	-0.5
CHEFC	Chefchaouen	1.41	252	P	Pn	06 41 07.4	0.0
CHEFC	Chefchaouen	1.41	252	S	Sn	06 41 25.4	-0.2
JBK	JBK	1.54	142	P	Pn	06 41 09.3	0.0
JBK	JBK	1.54	142	S	Sn	06 41 28.6	-0.4
EGOR	Sierra Gorda,	1.58	348	P	Pg	06 41 14.3	+1.5
EGOR				S	Sg	06 41 35.4	+2.0
EGOR				*i* Vmb_Lg		06 41 41.5	
EQUE	Quentar	1.66	7	P	Pg	06 41 13.6	-0.6
EQUE				S	Sn	06 41 30.4	-1.4
EQUE				*i* Vmb_Lg		06 41 36.6	
IFR	Ifrane	2.35	210	Pn	Pn	06 41 21.2	+0.8
IFR				Sn	Sn	06 41 47.6	-1.4
ELOR	Lorca, Murcia	2.61	37	P	Pn	06 41 17.9	-5.9
ELOR				S	Sn	06 41 44.0	-11
EADA	Adamuz	2.69	345	P	Pb	06 41 29.3	-0.9
EADA				S	Sb	06 42 01.2	-1.8
EADA				*i* Vmb_Lg		06 42 04.1	
MD31	MD31	2.82	198	P	Pn	06 41 27.5	+0.6
MDT	Midelt	2.84	195	P	Pn	06 41 27.4	+0.4
ECAB	El Cabril	2.86	332	P	Pb	06 41 33.5	+0.4
ECAB				S	Sb	06 42 09.7	+1.9
ECAB				*i* Vmb_Lg		06 42 15.8	
PVAQ	Vaqueiros	3.72	301	*e*P	Pb	06 41 44.5	-3.1
PBAR	Barrancos	3.73	315	*e*P	Pb	06 41 45.7	-2.2
PBAR				*e*S	Sn	06 42 25.5	+2.6
PBAR				IAML		06 42 31.0	
OUZM	OUZ	5.30	210	P	Pn	06 42 03.3	+2.4

*IDC **08** 07:06:20.7±1.8, 31°63S×177°83W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=49.7km s-min=39.4km az=25.0*

ISC 08 07:06:25.6±1.5, 32°0S±0°1×178°1W±0°2, h24km, n7, σ1°30/8, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.36	211	Pn	Pn	07 08 09.7	-1.9
	0.5nm,0.3s,baz=348,slow=4.6,SNR=6.3						
URZ				Sn	Sn	07 09 35.1	+0.8
	2.5nm,0.3s,baz=262,slow=22,SNR=8.1						
STKA	Stephens Creek	34.09	259	P	P	07 13 08.9	+0.6
	1.9nm,0.8s,baz=127,slow=5.1,SNR=4.0 1.9nm,0.8s						
ASAR	Alice Springs	42.99	269	P	P	07 14 23.7	+0.5
	1.1nm,0.6s,baz=106,slow=7.8,SNR=15 1.1nm,0.6s						
WRA	Warramunga Arr	44.13	274	P	P	07 14 32.6	+0.2
	1.0nm,0.4s,baz=113,slow=7.9,SNR=13 1.0nm,0.4s						
QSPA	South Pole Qui	58.08	180	P	P	07 16 18.2	+1.5
	0.6nm,0.6s,baz=67,slow=4.2,SNR=1.9 0.6nm,0.6s						
KBZ	Khabaz	145.95	302	PKPbc	PKPdf	07 26 01.3	-0.8
	1.4nm,0.8s,baz=43,slow=5.6,SNR=3.6						
FINES	FINESS Array B	146.65	339	PKPbc	PKPdf	07 26 01.9	-0.9
	0.8nm,0.4s,baz=59,slow=4.1,SNR=8.3						

IDC 08 07:12:46.7±3.0, 31°63S×177°98W, h0km, mb3.7/2, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=74.2km s-min=46.2km az=124.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.75	210	Pn	Pn	07 14 39.1	-1.6
	0.2nm,0.3s,baz=164,slow=5.9,SNR=2.1						
URZ				Sn	Sn	07 16 06.1	-3.0
	0.7nm,0.3s,baz=306,slow=20,SNR=6.2 11nm,1.0s						
ASAR	Alice Springs	43.08	268	P	P	07 20 48.6	-0.1
	0.5nm,0.7s,baz=105,slow=7.1,SNR=7.1 0.5nm,0.7s						
WRA	Warramunga Arr	44.18	273	P	P	07 20 57.8	+0.2
	0.6nm,0.3s,baz=111,slow=8.0,SNR=5.8 0.6nm,0.3s						
FINES	FINESS Array B	146.30	339	PKPbc	PKPdf	07 32 27.8	+0.4
	1.1nm,0.5s,baz=29,slow=4.4,SNR=7.8						

*NEIC **08** 07:24:24.6±1.1, 3°2N±0°1×122°6E±0°1, h555km±7km, mb4.3/28, Error ellipse: s-maj=24.6km s-min=10.2km az=50.0*
*IDC **08** 07:24:25.9±2.9, 3°09N×122°45E, h574km±43km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=46.2km s-min=12.9km az=63.0*

ISC 08 07:24:24.2±0.5, 3°17N±0°07×122°61E±0°10, h552km, n63, σ0°90/64, mb4.2/20, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	2.74	222	P	P	07 25 37.2	-0.7
TOLI2	Tolitoli	2.74	222	P	P	07 25 37.6	-0.3
TOLI2	Tolitoli	2.74	222	S	S	07 26 36.5	-1.3
MYLDM	Lahad Datu	4.56	296	P	P	07 25 50.9	+0.3
MYLDM	Lahad Datu	4.56	296	P	P	07 25 52.4	+1.8
SANI	Sanana	6.18	147	P	P	07 26 04.0	-0.7
SANI	Sanana	6.18	147	S	S	07 27 24.5	-2.3
KAPI	Kappang	8.61	199	P	P	07 26 29.8	+1.7
	4.3nm,0.3s,baz=12,slow=11,SNR=4.1						
SBUM	Sibu	10.40	266	P	P	07 26 46.7	+0.3
PLAI	Plampang	12.85	202	P	P	07 27 11.5	-0.1
MTN	Manton Dam	18.02	152	P	P	07 28 02.4	+0.1
MTN				IAmb	IAmb	07 28 30.5	
	comp=Z,22nm,1.4s						
MTN	Manton Dam	18.02	152	P	P	07 28 03.4	+1.1
KDU	Kakadu	18.55	148	P	P	07 28 07.5	+0.4
MYKOM	Kota Tinggi	18.79	266	P	P	07 28 08.9	-0.5
MYKOM				IAmb	IAmb	07 28 12.0	
	comp=Z,10nm,0.9s						
KNRA	Kununurra	19.69	162	P	P	07 28 17.9	+0.5
KNRA				IAmb	IAmb	07 28 20.8	
	comp=Z,10nm,0.8s						
FITZ	Fitzroy Crossi	21.34	172	P	P	07 28 32.4	0.0
FITZ	Fitzroy Crossi	21.34	172	P	P	07 28 32.7	+0.3
	comp=Z,3.0nm,0.5s,baz=2.7,slow=7.7,SNR=14 comp=Z,3.0nm,0.5s						
BKNI	Bangkinang	21.74	263	P	P	07 28 37.1	+1.0
PSA00	Pilbara Seismi	24.73	186	P	P	07 29 02.3	-0.3
PSA00				IAmb	IAmb	07 29 05.5	
	comp=Z,6.7nm,1.1s						
WB0	Warramunga Arr	25.56	154	P	P	07 29 09.2	-0.8
WRA	Warramunga Arr	25.69	154	P	P	07 29 09.0	-2.2
WRA	Warramunga Arr	25.69	154	P	P	07 29 10.3	-0.8
	comp=Z,4.2nm,0.5s,baz=337,slow=9.5,SNR=43 comp=Z,4.2nm,0.5s						
WRKA	Warakurna	28.57	169	P	P	07 29 37.5	+1.2
AS31	Alice Springs	28.85	158	P	P	07 29 38.9	+0.2
AS31				IAmb	IAmb	07 29 41.4	
	comp=Z,2.4nm,0.3s						
ASAR	Alice Springs	28.85	158	P	P	07 29 39.1	+0.3
ASAR	Alice Springs	28.85	158	P	P	07 29 39.2	+0.5
	comp=Z,2.0nm,0.3s,baz=340,slow=7.2,SNR=67 comp=Z,2.0nm,0.3s						
QIS	Mount Isa	28.88	145	P	P	07 29 39.5	+0.5
MEEK	Meekatharra	29.88	187	P	P	07 29 47.7	+0.1
OOD	Oodnadatta	33.26	159	P	P	07 30 17.3	+0.9
FORT	Forrest	34.15	172	P	P	07 30 24.7	+0.9
FORT	Forrest	34.15	172	P	P	07 30 25.6	+1.8
KMBL	Kambalda	34.35	181	P	P	07 30 25.7	+0.2
KLBR	Kellerberrin	34.87	187	P	P	07 30 30.0	+0.1
NWAO	Narrogin (SRO)	36.26	188	P	P	07 30 42.1	+0.9
STKA	Stephens Creek	39.24	154	P	P	07 31 06.4	+0.7
STKA	Stephens Creek	39.24	154	P	P	07 31 06.2	+0.6
	comp=Z,2.7nm,0.4s,baz=322,slow=9.0,SNR=13 comp=Z,2.7nm,0.4s						
ARMA	Armidale	43.40	142	P	P	07 31 40.2	+1.5
ARMA				IAmb	IAmb	07 31 41.7	
	comp=Z,10nm,1.0s						
MGBR	Mount Gambier	43.97	159	P	P	07 31 43.8	+0.9
CAN	Canberra	45.58	149	P	P	07 31 56.6	+1.2
CAN				IAmb	IAmb	07 32 19.1	
	comp=Z,21nm,1.4s						
SONM	Songino Array	46.65	345	P	P	07 32 03.0	-0.3
	comp=Z,1.1nm,0.6s,baz=158,slow=9.4,SNR=6.4 comp=Z,1.1nm,0.6s						
MK31	Makanchi Array	55.74	327	P	P	07 33 08.9	-0.2
MKAR	Makanchi Array	55.74	327	P	P	07 33 08.6	-0.4
MKAR	Makanchi Array	55.74	327	P	P	07 33 09.0	0.0
	comp=Z,1.6nm,0.3s,baz=124,slow=8.0,SNR=43						
MKAR				PcP	PcP	07 33 59.4	-0.7
	comp=Z,0.7nm,0.6s,baz=116,slow=4.0,SNR=7.5 comp=Z,1.6nm,0.3s						
MAKZ	Makanchi	55.92	327	P	P	07 33 09.8	-0.4
KURBB	Kurchatov Arra	60.05	329	P	P	07 33 37.5	-0.6
	comp=Z,0.8nm,0.3s,baz=123,slow=6.8,SNR=6.7						
KURK	Kurchatov	60.06	329	P	P	07 33 37.4	-0.8
KURK				IAmb	IAmb	07 33 38.1	
	comp=Z,5.5nm,0.4s						
MA2	Magadan	60.31	16	P	P	07 33 41.6	+1.9
	comp=Z,0.8nm,0.3s,baz=219,slow=8.7,SNR=3.7 comp=Z,0.8nm,0.3s						
KKAR	Karatay Array	60.88	319	P	P	07 33 42.6	-1.2
MRNZ	Matariki Terra	63.56	140	P	P	07 34 00.3	-0.8
BKZ	Black Stump Fm	64.97	136	P	P	07 34 09.8	-0.4
BVAR	Borovoye Array	65.59	328	P	P	07 34 13.1	-0.7
	comp=Z,0.4nm,0.4s,baz=123,slow=7.8,SNR=4.3 comp=Z,0.4nm,0.4s						
CASY	Casey	69.83	185	P	P	07 34 37.5	-1.7
ABKAR	Akbulak array	70.01	322	P	P	07 34 39.6	-1.1
L16K	Owhat River	81.50	28	P	P	07 35 44.1	+0.1
L16K				IAmb	IAmb	07 35 47.8	
	comp=Z,14nm,1.4s						
M16K	Timber Creek	81.64	29	P	P	07 35 44.6	-0.1
M16K				IAmb	IAmb	07 36 27.1	
	comp=Z,16nm,1.4s						
J17K	VABM Dome	81.95	26	P	P	07 35 46.1	-0.2
J17K				IAmb	IAmb	07 36 23.5	
	comp=Z,9.6nm,1.2s						
E18K	Tukpahlearik C	82.03	22	P	P	07 35 46.7	+0.1
K17K	Iditarod	82.20	27	P	P	07 35 47.9	+0.4
K17K				IAmb	IAmb	07 36 10.2	
	comp=Z,20nm,1.5s						
J18K	Innoko River	83.01	27	P	P	07 35 51.4	-0.2
D19K	Kuna River	83.14	21	P	P	07 35 52.1	-0.1
B20K	Meade River	83.70	20	P	P	07 35 55.0	+0.2
B20K				IAmb	IAmb	07 36 19.4	
	comp=Z,10nm,1.4s						
P19K	Oil Pt	84.33	31	P	P	07 35 59.4	+1.2
E21K	Killik River	84.65	22	P	P	07 35 59.6	-0.1
E21K				IAmb	IAmb	07 36 05.4	
	comp=Z,7.0nm,1.4s						

*IDC **08** 07:26:09.2±1.6, 16°62S×177°82W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=111.5km s-min=22.2km az=149.0*

ISC 08 07:26:14.5±1.5, 16°7S±0°6×177°8W±0°4, h35km, n6, σ0°51/6, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.72	240	P	P	07 33 43.9	+0.1
	2.3nm,0.8s,baz=63,slow=9.0,SNR=4.3 2.3nm,0.8s						
WRA	Warramunga Arr	45.41	258	P	P	07 34 30.4	+0.2
	0.8nm,0.5s,baz=96,slow=7.5,SNR=13 0.8nm,0.5s						
ASAR	Alice Springs	45.67	253	P	P	07 34 31.9	-0.3
	3.2nm,0.6s,baz=87,slow=8.7,SNR=51 3.2nm,0.6s						
NVAR	Mina Array Bea	78.15	44	P	P	07 38 10.0	-0.6
	0.2nm,0.5s,baz=247,slow=5.1,SNR=1.7 0.2nm,0.5s						
ILAR	Eielson Array	84.56	13	P	P	07 38 43.9	+0.2
	0.2nm,0.5s,baz=220,slow=5.0,SNR=5.0 0.2nm,0.5s						
TXAR	Lajitas Array	84.87	58	P	P	07 38 46.6	+0.5
	0.4nm,0.7s,baz=212,slow=6.4,SNR=6.6 0.4nm,0.7s						

*WEL **08** 07:55:19.9±1.3, 32°3S±5°×17°7W±1°9, h12km, M4.7/6, ML5.0/8, MLv4.7/6, Error ellipse: s-maj=25.4km s-min=4.2km az=102.0, confirmed*
*IDC **08** 07:55:23.3±1.2, 30°85S×178°11W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=37.5km s-min=31.4km az=22.0*
*NEIC **08** 07:55:30.1±1.6, 31°8S±0°1×178°31W±0°09, h35km±2km, mb4.5/8, Error ellipse: s-maj=24.6km s-min=12.3km az=175.0*

ISC 08 07:55:24.8±0.7, 31°75S±0°07×178°3W±0°1, h10km, n40, σ1°83/46, mb4.2/8, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.50	7	P	Pn	07 56 02.6	-2.9
RIZ	Raoul Island	2.51	7	P	Pn	07 56 02.6	-3.1
RIZ				S	Sn	07 56 34.7	-1.7
MXZ	Matakaoa Point	6.45	205	Pn	Pn	07 57 02.2	+2.5
WMGZ	Waiomatatini S	6.64	203	P	Pn	07 57 01.2	-1.2
WMGZ				S	Sn	07 58 18.0	-0.1
HAZ	Te Kaha	6.81	207	P	Pn	07 57 04.3	-0.5
HAZ				S	Sn	07 58 23.6	+1.3
PUZ	Puketiti	6.92	203	P	Pn	07 57 06.6	+0.3
PUZ				S	Sn	07 58 23.8	-1.3
TWGZ	Tauwhareparae	7.11	205	P	Pn	07 57 08.3	-0.6
TWGZ				S	Sn	07 58 28.5	-1.3
MWZ	Matawai	7.42	206	P	Pn	07 57 10.4	-2.7
MWZ				S	Sn	07 58 35.0	-2.3
WCZ	Waipu Caves	7.42	234	P	Pn	07 57 20.7	+7.6
URZ	Urewera	7.52	209	P	Pn	07 57 11.5	-2.9
URZ				S	Sn	07 58 36.8	-2.9
OUZ	Omahuta	7.62	241	P	Pn	07 57 24.5	+8.6
RIGZ	Rimuhau	7.66	204	P	Pn	07 57 14.3	-2.1
RIGZ				S	Sn	07 58 41.5	-1.8
KNZ	Kokohu	7.97	203	S	Sn	07 58 46.3	-4.6
BKZ	Black Stump Fm	8.54	209	Pn	Pn	07 57 28.7	+0.1
BKZ	Black Stump Fm	8.54	209	P	Pn	07 57 27.4	-1.2
BKZ				S	Sn	07 59 01.2	-3.8
BFZ	Birch Farm	9.95	205	Pn	Pn	07 57 48.7	+0.9
THZ	Tophouse	12.23	213	Pn	Pn	07 58 21.1	+2.0
STKA	Stephens Creek	33.97	259	P	P	08 02 10.5	+2.0
STKA	Stephens Creek	33.97

comp=Z,2.2nm,0.7s
SYO Syowa Base 75.75 193 ⇓*eP* **P 08 07 11.1 +0.9**
FIA1 FINESS Array S 146.32 339 PKPdf **PKPdf 08 15 03.5 -0.3**
FINES FINESS Array B 146.32 339 PKPbc **PKPdf 08 15 03.6 -0.2**
comp=Z,3.4nm,0.6s,baz=48,slow=3.2,SNR=13
KOPT Kop Dagi 147.72 296 PKPbc **PKPbc 08 15 10.3 +0.3**
HFS Hagfors 150.51 348 PKPbc **PKPdf 08 15 12.4 +1.7**
comp=Z,6.1nm,1.1s,baz=60,slow=3.5,SNR=2.3
AKASG Malin Array Be 152.21 321 PKPbc **PKPbc 08 15 19.0 -1.3**
comp=Z,0.3nm,0.5s,baz=54,slow=3.7,SNR=2.3
ILGA Ilgaz 152.75 299 PKPbc **PKPbc 08 15 21.8 -0.3**
BRTR Keskin Array B 153.00 296 PKPbc **PKPbc 08 15 20.8 -1.8**
comp=Z,0.7nm,0.6s,baz=123,slow=5.3,SNR=3.8

*IDC **08** 08:02:33.1±1.4,2°.99S×130°.01E,h0km,mb4.0/5, mbtmp4.0/7,ML4.0/2,MS3.3/1,Error ellipse: s-maj=111.4km s-min=18.9km az=71.0*
*DJA **08** 08:02:39.5±0.7,3°.S±3°×13°.0E±°,h26km±8km,M3.9/12, mb4.0/1,MLv3.8/12*
ISC 08 08:02:36.0±0.8,2°.91S±0°.05×129°.99E±0°.06,h25km,n16, σ2°.26/18,mb4.0/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.15**	**248**	P	**Pn**	**08 02 56.7**	**+0.2**
MSAI				S	**Sb**	**08 03 12.3**	**+0.6**
BNDI	**Bandanaira**	**1.61**	**183**	P	**Pb**	**08 03 07.3**	**+2.2**
AAI	**Ambon**	**1.95**	**247**	P	**Pn**	**08 03 08.5**	**+0.9**
FAKI	**Fak Fak**	**2.26**	**90**	P	**Pb**	**08 03 18.4**	**+2.2**
SWI	**Sorong**	**2.40**	**32**	P	**Pb**	**08 03 18.6**	**+0.1**
SWI				S	**Sb**	**08 03 49.9**	**+2.3**
NLAI	**Namlea**	**2.90**	**263**	P	**Pn**	**08 03 21.5**	**+0.8**
KMPI	**Kaimana, Papua**	**3.78**	**102**	P	**Pb**	**08 03 38.0**	**-4.2**
SANI	**Sanana**	**4.09**	**282**	P	**Pn**	**08 03 36.9**	**-0.1**
SANI				S	**Sn**	**08 04 19.0**	**-5.1**
FITZ	**Fitzroy Crossi**	**15.69**	**195**	Pn	**Pn**	**08 06 13.5**	**-2.0**
	0.3nm,0.3s,baz=22,slow=11,SNR=7.6 2.5nm,0.6s						
WRA	**Warramunga Arr**	**17.46**	**166**	P	**Pn**	**08 06 35.7**	**-2.3**
	0.6nm,0.3s,baz=351,slow=12,SNR=16 1.4nm,0.5s						
ASAR	**Alice Springs**	**20.98**	**170**	P	**P**	**08 07 17.9**	**+0.3**
	11nm,0.7s,baz=352,slow=10,SNR=113 11nm,0.7s						
LEM	**Lembang**	**22.62**	**259**	LR	LR	08 18 59.0	
	comp=Z,67nm,19.1s,baz=204,slow=44						
STKA	**Stephens Creek**	**30.82**	**160**	P	**P**	**08 08 50.5**	**+0.4**
	1.2nm,0.4s,baz=341,slow=8.7,SNR=8.9 1.2nm,0.4s						
MKAR	**Makanchi Array**	**64.83**	**326**	P	**P**	**08 13 14.7**	**+1.7**
	0.2nm,0.4s,baz=111,slow=8.1,SNR=5.8 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**67.94**	**333**	P	**P**	**08 13 33.9**	**+1.2**
	0.3nm,0.3s,baz=125,slow=6.8,SNR=2.1 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**69.05**	**328**	P	**P**	**08 13 41.2**	**+1.6**
	1.1nm,0.5s,baz=107,slow=5.0,SNR=7.4 1.1nm,0.5s						

IDC 08 08:11:53.8±2.1,31°.98S×178°.02W,h0km,mb3.6/3, mbtmp3.8/4,ML3.2/1,Error ellipse: s-maj=50.0km s-min=37.8km az=64.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.42**	**211**	Pn	Pn	08 13 41.6	-1.8
	0.4nm,0.3s,baz=346,slow=3.2,SNR=6.4						
URZ				Sn	Sn	08 15 06.6	-1.7
	1.5nm,0.3s,baz=310,slow=20,SNR=16 25nm,1.1s						
ASAR	**Alice Springs**	**43.03**	**269**	P	P	08 19 55.3	-0.2
	0.3nm,0.4s,baz=104,slow=7.7,SNR=8.3 0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	P	08 20 04.9	+0.3
	0.5nm,0.3s,baz=112,slow=7.9,SNR=8.8 0.5nm,0.3s						
QSPA	**South Pole Qui**	**58.13**	**180**	P	P	08 21 49.3	+0.2
	0.7nm,0.9s,baz=341,slow=3.8,SNR=1.5 0.7nm,0.9s						
FINES	**FINESS Array B**	**146.62**	**339**	PKPbc	PKPdf	08 31 35.5	+0.5
	2.8nm,1.0s,baz=36,slow=3.6,SNR=4.3						

IDC 08 08:21:00.3±3.2,31°.99S×178°.05W,h0km,mb3.6/2, mbtmp3.6/3,ML2.9/1,Error ellipse: s-maj=74.7km s-min=37.5km az=114.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.41**	**211**	Pn	Pn	08 22 48.7	-0.9
	0.2nm,0.3s,baz=63,slow=23,SNR=1.1						
URZ				Sn	Sn	08 24 14.5	+0.1
	1.1nm,0.3s,baz=126,slow=21,SNR=13 3.3nm,0.6s						
ASAR	**Alice Springs**	**43.00**	**269**	P	P	08 29 02.0	+0.3
	0.2nm,0.3s,baz=107,slow=7.5,SNR=5.9 0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.14**	**274**	P	P	08 29 10.6	-0.2
	0.4nm,0.3s,baz=112,slow=8.0,SNR=7.1 0.4nm,0.3s						
FINES	**FINESS Array B**	**146.61**	**339**	PKPbc	PKPdf	08 40 42.1	+0.6
	2.6nm,1.0s,baz=42,slow=3.1,SNR=4.5						

*MDD **08** 08:34:18.6±0.3,35°.53N×4°.62W,h81km±5km,Mb3.6/26, Error ellipse: s-maj=2.5km s-min=2.2km az=154.0*
*INMG **08** 08:34:18.5±1.9,35°.55N×4°.69W,h61km±8km,ML3.0,Error ellipse: s-maj=3.7km s-min=3.4km az=103.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
*SFS **08** 08:34:18.4,35°.54N×4°.61W,h79km,ML3.4/19,ML3.4/20, MLv3.3/20*
*IGIL **08** 08:34:19.4,35°.53N×4°.62W,h81km,ML3.2*
*CNRM **08** 08:34:19.3,35°.35N×4°.61W,h83km*
ISC 08 08:34:16.3±1.2,35°.54N±0°.03×4°.60W±0°.02,h100km±7km, n108,σ1°.79/178,20C-13D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Pen de Vlez**	**0.44**	**147**	P	**Pn**	**08 34 31.3**	**-0.4**
PVLZ				S	**Sn**	**08 34 40.4**	**-2.8**
PALE	**Palemas**	**0.63**	**121**	P	**Pn**	**08 34 33.7**	**+0.5**
PALE	**Palemas**	**0.63**	**121**	S	**Sn**	**08 34 44.8**	**-1.0**
SMIR	**Smir Dam**	**0.65**	**283**	P	**Pn**	**08 34 35.1**	**+1.8**
SMIR	**Smir Dam**	**0.65**	**283**	S	**Sn**	**08 34 48.3**	**+2.2**
CEU	**Ceuta**	**0.72**	**300**	P	**Pn**	**08 34 33.3**	**-0.6**
CEU				S	**Sn**	**08 34 44.1**	**-3.0**
ECEU	**Ceuta**	**0.73**	**299**	P	**Pn**	**08 34 34.5**	**+0.6**
ECEU				S	**Sn**	**08 34 46.2**	**-1.0**
ECEU	**Ceuta**	**0.73**	**299**	⇓P	**Pn**	**08 34 34.5**	**+0.6**
ECEU				S	**Sn**	**08 34 46.1**	**-1.2**
CHEFC	**Chefchaouen**	**0.75**	**235**	P	**Pn**	**08 34 36.2**	**+2.0**
CHEFC	**Chefchaouen**	**0.75**	**235**	S	**Sn**	**08 34 45.9**	**-1.8**
TARIF	**Tarifa**	**0.93**	**302**	P	**Pn**	**08 34 38.1**	**+2.2**
CPS	**Cap Spartel**	**1.09**	**283**	P	**Pn**	**08 34 40.1**	**+2.4**
CPS	**Cap Spartel**	**1.09**	**283**	S	**Sn**	**08 34 56.3**	**+2.3**
EJIF	**Jimena Fronter**	**1.15**	**322**	⇓P	**Pn**	**08 34 40.6**	**+2.2**
EJIF				S	**Sn**	**08 34 55.6**	**+0.6**
AKLM	**AKL**	**1.19**	**149**	P	**Pn**	**08 34 40.5**	**+1.5**
AKLM	**AKL**	**1.19**	**149**	S	**Sn**	**08 34 50.9**	**-5.2**
EALB	**Alboran**	**1.33**	**72**	P	**Pn**	**08 34 40.8**	**+0.4**
EALB				S	**Sn**	**08 34 57.6**	**-1.2**
EALB	**Alboran**	**1.33**	**72**	⇑P	**Pn**	**08 34 40.8**	**+0.4**
EALB				⇑*iVmb_V*		08 34 41.1	
	2μm,SNR=3.6						
EALB				S	**Sn**	**08 34 57.2**	**-1.5**
GOG	**Mont Gurugu**	**1.35**	**103**	P	**Pn**	**08 34 42.0**	**+1.2**
GOG	**Mont Gurugu**	**1.35**	**103**	S	**Sn**	**08 34 59.8**	**+0.5**
EMEL	**Melilla**	**1.36**	**100**	P	**Pn**	**08 34 41.5**	**+0.6**
EMEL				⇑*iVmb_V*		08 34 41.5	
	4μm,SNR=2.2						
EMEL				S	**Sn**	**08 34 58.3**	**-1.2**
WMELI	**Melilla**	**1.36**	**99**	P	**Pn**	**08 34 41.1**	**+0.3**
WMELI				S	**Sn**	**08 34 57.7**	**-1.8**
ELGU	**Los Guajares,**	**1.54**	**30**	P	**Pn**	**08 34 43.0**	**-0.1**
ELGU				S	**Sn**	**08 35 01.3**	**-2.1**
ELGU	**Los Guajares,**	**1.54**	**30**	⇓P	**Pn**	**08 34 43.0**	**-0.1**
ELGU				⇑*iVmb_V*		08 34 43.6	
	3μm,SNR=28						
ELGU				S	**Sn**	**08 35 01.6**	**-1.8**
EGOR	**Sierra Gorda,**	**1.61**	**14**	P	**Pn**	**08 34 44.8**	**+0.7**
EGOR	**Sierra Gorda,**	**1.61**	**14**	P	**Pn**	**08 34 45.2**	**+1.1**
EGOR				⇑*iVmb_V*		08 34 50.2	
	548nm,SNR=6.7						
EGOR				S	**Sn**	**08 35 06.4**	**+1.2**
ESPR	**Espera**	**1.67**	**323**	P	**Pn**	**08 34 46.2**	**+1.6**
ESPR				S	**Sn**	**08 35 07.1**	**+0.9**
ESPR	**Espera**	**1.67**	**323**	⇓P	**Pn**	**08 34 46.2**	**+1.6**
ESPR				⇑*iVmb_V*		08 34 46.7	
	1μm,SNR=9.3						
ESPR				S	**Sn**	**08 35 06.7**	**+0.5**
CHAS	**Isla Isabel II**	**1.81**	**101**	S	**Sn**	**08 35 07.6**	**-1.7**
LCRM	**LCR**	**1.86**	**187**	P	**Pn**	**08 34 48.1**	**+0.8**
LCRM	**LCR**	**1.86**	**187**	S	**Sn**	**08 35 11.4**	**+0.5**
EQUE	**Quentar**	**1.90**	**29**	P	**Pn**	**08 34 49.5**	**+1.8**
EQUE				S	**Sn**	**08 35 12.3**	**+0.6**
EQTA	**Presa de Quent**	**1.91**	**29**	P	**Pn**	**08 34 48.6**	**+0.9**
EQTA				S	**Sn**	**08 35 11.3**	**-0.4**
TAF	**Taforalt**	**1.93**	**111**	P	**Pn**	**08 34 49.4**	**+1.3**
TAF	**Taforalt**	**1.93**	**111**	S	**Sn**	**08 35 13.1**	**+0.9**
EBER	**Berja**	**1.93**	**45**	P	**Pn**	**08 34 49.1**	**+0.9**
EBER				⇑*iVmb_V*		08 34 51.5	
	2μm,SNR=2.4						
EBER				S	**Sn**	**08 35 10.2**	**-2.2**
JBK	**JBK**	**2.06**	**125**	P	**Pn**	**08 34 50.5**	**+0.7**
JBK	**JBK**	**2.06**	**125**	S	**Sn**	**08 35 14.3**	**-1.1**
IFR	**Ifrane**	**2.07**	**192**	P	**Pn**	**08 34 50.6**	**+0.7**
IFR				S	**Sn**	**08 35 13.2**	**-2.3**
ENIJ	**Nijar**	**2.40**	**53**	P	**Pn**	**08 34 55.5**	**+1.4**
ENIJ				S	**Sn**	**08 35 24.0**	**+0.9**
ENIJ	**Nijar**	**2.40**	**53**	P	**Pn**	**08 34 55.3**	**+1.2**
ENIJ				S	**Sn**	**08 35 23.2**	**0.0**
E0803	**Jimena (Jaen)**	**2.46**	**21**	P	**Pn**	**08 34 56.2**	**+1.3**
E0803				S	**Sn**	**08 35 26.4**	**+1.9**
EQES	**Quesada**	**2.57**	**28**	P	**Pn**	**08 34 59.0**	**+2.6**
EQES				⇑*iVmb_V*		08 35 02.9	
	337nm,SNR=3.1						
EQES				S	**Sn**	**08 35 28.5**	**+1.3**
EXCBR	**El Cabril**	**2.61**	**346**	⇓P	**Pn**	**08 34 57.8**	**+1.0**
EXCBR				S	**Sn**	**08 35 25.9**	**-2.1**
ECAB	**El Cabril**	**2.61**	**346**	P	**Pn**	**08 34 57.7**	**+0.8**
ECAB				S	**Sn**	**08 35 25.9**	**-2.2**
ECAB	**El Cabril**	**2.61**	**346**	⇓P	**Pn**	**08 34 57.7**	**+0.8**
ECAB				⇑*iVmb_V*		08 35 01.0	
	335nm,SNR=3.3						
ECAB				S	**Sn**	**08 35 26.1**	**-1.9**
EADA	**Adamuz**	**2.62**	**0**	P	**Pn**	**08 34 58.4**	**+1.4**
EADA				S	**Sn**	**08 35 27.6**	**-0.6**
EADA	**Adamuz**	**2.62**	**0**	⇓P	**Pn**	**08 34 58.4**	**+1.4**
EADA				⇑*iVmb_V*		08 34 59.0	
	1μm,SNR=13						
EADA				S	**Sn**	**08 35 27.7**	**-0.6**
MD31	**MD31**	**2.67**	**183**	P	**Pn**	**08 34 59.1**	**+1.3**
MD31	**MD31**	**2.67**	**183**	S	**Sn**	**08 35 27.7**	**-1.9**
ZHG	**ZHG**	**2.69**	**219**	P	**Pn**	**08 34 59.0**	**+1.1**
ZHG	**ZHG**	**2.69**	**219**	S	**Sn**	**08 35 32.8**	**+2.8**
MDT	**Midelt**	**2.72**	**180**	P	**Pn**	**08 34 59.6**	**+1.2**
MDT	**Midelt**	**2.72**	**180**	S	**Sn**	**08 35 29.0**	**-1.9**
EMIN	**Mina Concepcio**	**2.78**	**324**	P	**Pn**	**08 34 59.9**	**+0.9**
EMIN				S	**Sn**	**08 35 29.6**	**-2.4**
EMIN	**Mina Concepcio**	**2.78**	**324**	⇓P	**Pn**	**08 34 59.9**	**+0.9**
EMIN				⇑*iVmb_V*		08 35 00.2	
	983nm,SNR=8.8						
EMIN				S	**Sn**	**08 35 29.8**	**-2.1**
EGRO	**El Granado**	**3.06**	**311**	P	**Pn**	**08 35 03.7**	**+0.9**
EGRO				S	**Sn**	**08 35 36.6**	**-2.0**
EGRO	**El Granado**	**3.06**	**311**	⇓P	**Pn**	**08 35 03.7**	**+0.9**
EGRO				⇑*iVmb_V*		08 35 03.8	
	2μm,SNR=17						
EGRO				S	**Sn**	**08 35 36.7**	**-1.9**
PVAQ	**Vaqueiros**	**3.12**	**307**	*eP*	**Pn**	**08 35 04.6**	**+0.9**
PVAQ				*eS*	**Sn**	**08 35 38.6**	**-1.6**
PVAQ				*i* AML	AML	08 35 40.1	
PVAQ	**Vaqueiros**	**3.12**	**307**	P	**Pn**	**08 35 04.6**	**+0.9**
PVAQ				S	**Sn**	**08 35 38.3**	**-2.0**
PBDV	**Barranco-do-Ve**	**3.18**	**303**	*eP*	**Pn**	**08 35 05.3**	**+0.9**
PBDV				*eS*	**Sn**	**08 35 40.1**	**-1.5**
PBDV				*i* AML	AML	08 35 40.6	
PBDV				*i* AML	AML	08 35 40.7	
PBDV				*i* AML	AML	08 35 41.0	
AVE	**Averroes**	**3.23**	**227**	P	**Pn**	**08 35 06.1**	**+1.0**
PBAR	**Barrancos**	**3.28**	**324**	*eP*	**Pn**	**08 35 06.8**	**+1.1**
PBAR				*eS*	**Sn**	**08 35 41.8**	**-2.0**
PBAR				*i* AML	AML	08 35 43.2	
PBAR				*i* AML	AML	08 35 43.5	
PBAR				*i* AML	AML	08 35 44.2	
PBAR	**Barrancos**	**3.28**	**324**	P	**Pn**	**08 35 06.7**	**+1.0**
PBAR				S	**Sn**	**08 35 42.1**	**-1.8**
PSIM	**Granatula de C**	**3.34**	**11**	⇓P	**Pn**	**08 35 08.2**	**+1.6**
PSIM				S	**Sn**	**08 35 44.9**	**-0.6**
PCVE	**Castro Verde**	**3.47**	**308**	*eP*	**Pn**	**08 35 09.2**	**+0.9**
PCVE				*eS*	**Sn**	**08 35 46.8**	**-1.6**
PCVE				*i* AML	AML	08 35 48.0	
PCVE				*i* AML	AML	08 35 48.8	
PCVE				*i* AML	AML	08 35 49.9	
PCVE	**Castro Verde**	**3.47**	**308**	P	**Pn**	**08 35 09.1**	**+0.9**
PCVE				S	**Sn**	**08 35 46.6**	**-1.8**
PBEJ	**Beja**	**3.61**	**314**	*eP*	**Pn**	**08 35 11.6**	**+1.4**
PBEJ				*eS*	**Sn**	**08 35 49.9**	**-2.0**
PBEJ				*i* AML	AML	08 35 51.8	
PBEJ				*i* AML	AML	08 35 52.6	
PBEJ				*i* AML	AML	08 35 53.2	
MESJ	**Messejana**	**3.71**	**309**	*eP*	**Pn**	**08 35 12.5**	**+1.0**
MESJ				*eS*	**Sn**	**08 35 51.4**	**-2.8**
MESJ				IAML		08 35 54.2	
	comp=N,51nm,0.2s						
MESJ	**Messejana**	**3.71**	**309**	*eP*	**Pn**	**08 35 12.5**	**+1.0**
MESJ				*eS*	**Sn**	**08 35 52.4**	**-1.7**
MESJ				*i* AML	AML	08 35 53.4	
MESJ				*i* AML	AML	08 35 54.7	
MESJ				*i* AML	AML	08 35 55.2	
MORF	**Marmelete**	**3.71**	**299**	*eP*	**Pn**	**08 35 12.5**	**+0.9**
MORF				*eS*	**Sn**	**08 35 51.4**	**-3.0**
MORF				IAML		08 35 53.6	
	comp=N,68nm,0.1s						
MORF	**Marmelete**	**3.71**	**299**	*eP*	**Pn**	**08 35 12.5**	**+0.9**
MORF				*eS*	**Sn**	**08 35 52.4**	**-2.0**
MORF				*i* AML	AML	08 35 53.7	
MORF				*i* AML	AML	08 35 54.3	
MORF				*i* AML	AML	08 35 54.4	
EBAD	**Badajoz**	**3.74**	**330**	P	**Pn**	**08 35 13.2**	**+1.3**
EBAD				S	**Sn**	**08 35 53.1**	**-1.9**
EBAD	**Badajoz**	**3.74**	**330**	⇓P	**Pn**	**08 35 13.2**	**+1.3**
EBAD				⇑*iVmb_V*		08 35 13.8	
	comp=N,2μm,SNR=17						
EBAD				S	**Sn**	**08 35 53.2**	**-1.9**
PFVI	**Vila Bisbo**	**3.76**	**296**	*eP*	**Pn**	**08 35 13.7**	**+1.5**
PFVI				*eS*	**Sn**	**08 35 53.4**	**-2.2**
PFVI				*i* AML	AML	08 35 55.0	
PFVI				*i* AML	AML	08 35 55.2	
PFVI				*i* AML	AML	08 35 56.3	
PFVI	**Vila Bisbo**	**3.76**	**296**	P	**Pn**	**08 35 13.3**	**+1.1**
PFVI				S	**Sn**	**08 35 53.2**	**-2.4**
PTEO	**Sao Teotonio**	**3.88**	**302**	*eP*	**Pn**	**08 35 13.9**	**+0.2**
PTEO				*eS*	**Sn**	**08 35 56.6**	**-1.7**
PTEO				*i* AML	AML	08 35 58.2	
PTEO				*i* AML	AML	08 35 59.2	
PTEO				*i* AML	AML	08 36 00.1	
PAB	**San Pablo**	**4.00**	**3**	⇓P	**Pn**	**08 35 16.7**	**+1.2**
PAB				⇑*iVmb_V*		08 35 17.7	
	comp=N,198nm,SNR=2.7						
PAB				S	**Sn**	**08 35 59.3**	**-2.1**
EVO	**Evora**	**4.04**	**319**	*eP*	**Pn**	**08 35 17.5**	**+1.4**
EVO				*eS*	**Sn**	**08 36 00.2**	**-2.1**
EVO				*i* AML	AML	08 36 02.0	
EVO				*i* AML	AML	08 36 02.1	
EVO				*i* AML	AML	08 36 02.2	
EVO	**Evora**	**4.04**	**319**	P	**Pn**	**08 35 17.3**	**+1.3**
EVO				S	**Sn**	**08 36 00.3**	**-2.1**
PESTR	**Estremoz**	**4.09**	**325**	*eP*	**Pn**	**08 35 18.2**	**+1.6**
PESTR				*eS*	**Sn**	**08 36 01.2**	**-2.2**
PESTR				*i* AML	AML	08 36 03.5	
PESTR				*i* AML	AML	08 36 03.5	
PESTR				*i* AML	AML	08 36 03.7	
PESTR	**Estremoz**	**4.09**	**325**	P	**Pn**	**08 35 18.1**	**+1.5**
PESTR				S	**Sn**	**08 36 01.2**	**-2.2**
TISM	**Timmit**	**4.11**	**202**	P	**Pn**	**08 35 17.3**	**+0.4**
TISM	**Timmit**	**4.11**	**202**	S	**Sn**	**08 36 03.1**	**-0.9**
PMRV	**Marv??o**	**4.47**	**331**	*eP*	**Pn**	**08 35 23.2**	**+1.4**
PMRV				*eS*	**Sn**	**08 36 10.1**	**-2.5**
PMRV				*i* AML	AML	08 36 12.5	
PMRV				*i* AML	AML	08 36 24.0	
PMRV				*i* AML	AML	08 36 24.9	
PMTG	**Montargil**	**4.55**	**322**	*eP*	**Pn**	**08 35 24.3**	**+1.4**
PMTG				*eS*	**Sn**	**08 36 12.0**	**-2.7**
PMTG				*i* AML	AML	08 36 14.8	
PMTG				*i* AML	AML	08 36 15.0	
PMTG				*i* AML	AML	08 36 26.1	
EVIV	**Cofrentes, Val**	**4.64**	**36**	⇑*iVmb_V*		08 35 26.0	
	comp=N,166nm,SNR=1.3						
EVIV				P	**Pn**	**08 35 26.1**	**+2.0**
EPLA	**Plasencia**	**4.66**	**346**	P	**Pn**	**08 35 25.9**	**+1.4**
EPLA				⇑*iVmb_V*		08 35 26.3	
	comp=N,538nm,SNR=5.2						
EPLA				S	**Sn**	**08 36 15.4**	**-2.0**
PCBR	**Castelo Branco**	**4.86**	**333**	*eP*	**Pn**	**08 35 28.5**	**+1.5**
PCBR				*eS*	**Sn**	**08 36 19.0**	**-3.0**
PCBR				*i* AML	AML	08 36 22.1	
PCBR				*i* AML	AML	08 36 22.7	
PCBR				*i* AML	AML	08 36 22.7	
OUZM	**OUZ**	**4.96**	**202**	P	**Pn**	**08 35 30.6**	**+1.9**
OUZM	**OUZ**	**4.96**	**202**	S	**Sn**	**08 36 27.3**	**+2.4**
ECHE	**Chera**	**4.96**	**34**	P	**Pn**	**08 35 30.4**	**+1.9**
PMAFR	**Mafra**	**5.06**	**314**	*eP*	**Pn**	**08 35 31.5**	**+1.8**
PMAFR				*eS*	**Sn**	**08 36 24.4**	**-2.5**
PMAFR				*i* AML	AML	08 36 28.1	
PMAFR				*i* AML	AML	08 36 41.1	
PMAFR				*i* AML	AML	08 36 46.0	
GUD	**Guadarrama**	**5.10**	**4**	P	**Pn**	**08 35 32.2**	**+1.7**
GUD				⇑*iVmb_V*		08 35 33.7	
	comp=N,107nm,SNR=1.4						
GUD				S	**Sn**	**08 36 25.2**	**-3.0**
TIO	**Tiouine**	**5.12**	**207**	P	**Pn**	**08 35 31.8**	**+1.1**
TIO				S	**Sn**	**08 36 27.4**	**-1.2**
PSBE	**So Bento**	**5.18**	**321**	*eP*	**Pn**	**08 35 33.1**	**+1.7**
MTE	**Manteigas**	**5.38**	**335**	*eP*	**Pn**	**08 35 36.0**	**+1.9**
MTE				*eS*	**Sn**	**08 36 32.6**	**-2.2**
PCAS	**Casmilo, Conde**	**5.46**	**327**	*eP*	**Pn**	**08 35 37.0**	**+1.9**
PCAS				*eS*	**Sn**	**08 36 33.4**	**-3.2**
PCAS				*i* AML	AML	08 36 35.8	
PCAS				*i* AML	AML	08 36 36.6	
PCAS				*i* AML	AML	08 36 36.8	
ETOR	**Torete**	**5.64**	**20**	⇓P	**Pn**	**08 35 39.3**	**+1.7**
ETOR				⇑*iVmb_V*		08 35 40.2	
	comp=N,289nm,SNR=3.2						
ETOR				S	**Sn**	**08 36 37.9**	**-3.2**
PVIS	**Viseu**	**5.78**	**334**	*eP*	**Pn**	**08 35 40.8**	**+1.3**
MVO	**Moncorvo**	**5.93**	**342**	*eP*	**Pn**	**08 35 43.1**	**+1.5**
MVO				*eS*	**Sn**	**08 36 44.9**	**-3.2**
MVO				*i* AML	AML	08 36 59.0	
MVO				*i* AML	AML	08 37 11.4	
POLO	**Lamas de Olo**	**6.34**	**338**	*eP*	**Pn**	**08 35 49.1**	**+1.9**
POLO				*eS*	**Sn**	**08 36 55.1**	**-3.1**
POLO				*i* AML	AML	08 36 55.5	
POLO				*i* AML	AML	08 36 58.2	
POLO				*i* AML	AML	08 36 58.5	
PBRG	**Braganca**	**6.47**	**346**	*eP*	**Pn**	**08 35 51.1**	**+2.1**
PBRG				*eS*	**Sn**	**08 36 59.6**	**-1.7**
PCAB	**Cabril**	**6.72**	**337**	*eP*	**Pn**	**08 35 54.2**	**+1.9**
PCAB				*eS*	**Sn**	**08 37 04.2**	**-3.0**
ELOB	**Lobios**	**6.87**	**338**	P	**Pn**	**08 35 56.2**	**+1.8**
ELOB				⇑*iVmb_V*		08 35 56.7	
	comp=N,285nm,SNR=1.3						
ELOB				S	**Sn**	**08 37 07.9**	**-3.2**
PGAV	**Gavieira, Arco**	**7.02**	**337**	*eP*	**Pn**	**08 35 58.4**	**+1.9**
PGAV				*eS*	**Sn**	**08 37 11.3**	**-3.5**
PGAV				*i* AML	AML	08 37 14.3	
PGAV				*i* AML	AML	08 37 15.0	
PGAV				*i* AML	AML	08 37 26.9	
EALK	**Alkurruntz**	**8.03**	**16**	P	**Pn**	**08 36 13.9**	**+3.8**
EALK				⇑*iVmb_V*		08 36 15.0	
	comp=N,152nm,SNR=0.7						
EMAZ	**Mazaricos**	**8.14**	**337**	P	**Pn**	**08 36 13.6**	**+2.1**

IDC 08 08:45:31.2±2.4,31°.76S×178°.22W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=68.3km s-min=43.2km az=43.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.87**	**268**	P	P	08 53 31.8	+0.3
	0.2nm,0.5s,baz=109,slow=8.0,SNR=5.2 0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.98**	**274**	P	P	08 53 39.8	-0.7
	0.3nm,0.4s,baz=115,slow=8.0,SNR=2.1 0.3nm,0.4s						
QSPA	**South Pole Qui**	**58.35**	**180**	P	P	08 55 28.0	0.0
	2.0nm,1.2s,baz=279,slow=19,SNR=2.0 2.0nm,1.2s						
FINES	**FINESS Array B**	**146.35**	**339**	PKPbc	PKPdf	09 05 12.3	+0.4
	1.0nm,0.4s,baz=8.5,slow=2.8,SNR=3.4						

*IDC **08** 08:47:01.9±6.6,6°.39S×150°.27E,h52km±57km,mb3.2/4, mbtmp3.5/5,ML1.5/1,Error ellipse: s-maj=71.6km s-min=35.5km az=119.0*
ISC 08 08:46:59.4±1.4,6°.4S±0°.3×150°.5E±0°.4,h33km,n6,σ0°.71/7, mb3.6/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.43**	**228**	P	**Pn**	**08 48 05.2**	**+0.9**
	1.9nm,0.3s,baz=320,slow=1.2,SNR=4.2						
PMG	

2.3nm,0.9s,baz=7.6,slow=4.2,SNR=1.8

*NEIC **08** 09:14:11.2±1.4,52.°05N±0.°07×169.°3W±0.°1,h10km±1km, mb3.6/13,ML2.9(AEIC),Error ellipse: s-maj=16.2km s-min=3.9km az=132.0*
*AEIC **08** 09:14:12.8±1.9,51.°99N±0.°05×169.°1W±0.°1,h30km±6km, Error ellipse: s-maj=12.2km s-min=4.8km az=123.0*
*IDC **08** 09:14:18.5±5.9,52.°91N×169.43W,h81km±51km,mb2.8/3, mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=76.7km s-min=22.9km az=2.0*
ISC 08 09:14:12.4±1.1,52.°0N±0.°1×169.°27W±0.°08,h30km,n46, σ1§29/42,mb3.4/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**1.55**	**28**		**Pn**	**09 14 38.2**	**+0.3**
OKWR	**Okmok West Rim**	**1.55**	**24**		**Pn**	**09 14 38.5**	**+0.5**
OKWE	**Okmok W'ng Wal**	**1.57**	**23**		**Pn**	**09 14 38.8**	**+0.6**
OKER	**Okmok East Rim**	**1.61**	**27**		**Pn**	**09 14 39.5**	**+0.7**
OKFG	**Magazine Ridge**	**1.61**	**30**		**Pn**	**09 14 39.3**	**+0.5**
OKFG					**Sb**	**09 15 00.6**	**-0.8**
MAPS	**Pakushin South**	**2.27**	**37**		**Pn**	**09 14 48.5**	**+0.7**
MAPS					**Sn**	**09 15 15.9**	**+1.1**
MSW	**Makushin Switc**	**2.41**	**38**		**Pn**	**09 14 50.6**	**+0.8**
UNV	**Unalaska Valle**	**2.47**	**41**		**Pn**	**09 14 50.5**	**0.0**
UNV	**Unalaska Valle**	**2.47**	**41**		**Sn**	**09 15 20.2**	**+0.5**
MTBL	**Makushin Table**	**2.50**	**38**		**Pn**	**09 14 51.8**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.86**	**41**		**Pn**	**09 14 56.6**	**+0.7**
ZRO	**Akutan Zero**	**2.87**	**43**		**Sn**	**09 15 30.8**	**+1.3**
LVA	**Lava Point**	**2.89**	**41**	Pn	**Pn**	**09 14 55.5**	**-0.9**
AHB	**Akutan Harbor**	**2.95**	**44**		**Sn**	**09 15 33.4**	**+1.9**
ATKA	**Atka Island**	**3.04**	**275**	Pn	**Pn**	**09 14 58.4**	**0.0**
GSTR	**Great Sitkin T**	**4.19**	**274**	Pn	**Pn**	**09 15 15.7**	**+1.4**
KDAK	**Kodiak Island**	**11.19**	**52**	P	**Pn**	**09 16 49.3**	**-0.7**
	0.2nm,0.3s,baz=143,slow=16,SNR=1.8 7.7nm,0.9s						
PPLA	**Purkeypile**	**14.19**	**33**	Pn	**Pn**	**09 17 30.9**	**-0.3**
GHO	**Glory Hole Cre**	**14.72**	**41**	Pn	**Pn**	**09 17 38.3**	**0.0**
KLU	**Klutina**	**15.84**	**44**	Pn	**Pn**	**09 17 51.8**	**-1.1**
SCRK	**Sand Creek**	**17.80**	**38**	Pn	**Pn**	**09 18 17.5**	**-0.2**
E21K	**Killik River**	**18.03**	**18**	Pn	**Pn**	**09 18 19.7**	**-0.7**
J26L	**Joseph Creek**	**18.23**	**37**		**P**	**09 18 23.5**	**+0.6**
I26K	**Coal Creek Min**	**18.81**	**35**	P	**P**	**09 18 29.4**	**+0.3**
I26K				IAmb	IAmb	09 19 12.8	
	comp=Z,6.2nm,1.4s						
B21K	**Ikpikpuk River**	**18.94**	**16**	P	**Pn**	**09 18 32.0**	**+0.7**
B21K				IAmb	IAmb	09 18 56.1	
	comp=Z,3.0nm,1.4s						
F25K	**Christian Rive**	**19.40**	**28**	P	**Pn**	**09 18 37.2**	**+0.3**
M29M	**Somme Creek**	**19.46**	**46**	P	**Pn**	**09 18 37.2**	**-0.5**
M29M				IAmb	IAmb	09 19 20.0	
	comp=Z,8.1nm,1.5s						
BMAR	**Burnt Mountain**	**19.60**	**29**	P	**Pn**	**09 18 39.2**	**-0.1**
PETK	**Petropavlovsk-**	**20.01**	**286**	P	**P**	**09 18 40.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=86,slow=11,SNR=8.3 comp=Z,0.7nm,0.5s						
N31M	**Braeburn, Yuko**	**20.43**	**49**	P	**P**	**09 18 47.4**	**+0.6**
H29M	**Whitestone**	**20.98**	**36**	P	**P**	**09 18 52.4**	**-0.4**
H29M				IAmb	IAmb	09 19 18.1	
	comp=Z,7.0nm,1.4s						
G29M	**Pine Creek**	**21.43**	**34**	P	**P**	**09 18 57.3**	**-0.2**
G29M				IAmb	IAmb	09 19 10.9	
	comp=Z,2.4nm,0.9s						
E29M	**Blow River**	**22.21**	**31**	P	**P**	**09 19 06.4**	**+0.5**
E29M				IAmb	IAmb	09 19 44.7	
	comp=Z,2.0nm,1.2s						
INK	**Inuvik**	**23.60**	**33**	P	**P**	**09 19 19.7**	**-0.5**
INK				IAmb	IAmb	09 19 46.0	
	comp=Z,3.5nm,1.4s						
YKA	**Yellowknife Ar**	**30.42**	**48**	P	**P**	**09 20 18.1**	**-3.5**
	comp=Z,0.1nm,0.5s,baz=264,slow=8.3,SNR=4.2 comp=Z,0.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**37.23**	**219**	T	T	10 01 15.1	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**37.23**	**219**	T	T	10 01 16.2	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**37.24**	**219**	T	T	10 01 16.8	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**38.41**	**218**	T	T	10 02 45.1	
	baz=23,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.43**	**218**	T	T	10 02 44.3	
	baz=23,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.43**	**218**	T	T	10 02 47.2	
	baz=23						
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**09 23 25.7**	**+1.7**
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**09 23 25.2**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=321,slow=7.9,SNR=6.2 comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**64.08**	**314**	P	**P**	**09 24 44.9**	**+1.7**
MKAR	**Makanchi Array**	**64.08**	**314**	P	**P**	**09 24 39.1**	**-4.1**
	comp=Z,0.2nm,0.7s,baz=40,slow=7.4,SNR=1.9 comp=Z,0.2nm,0.7s						
ABKAR	**Akbulak array**	**70.76**	**328**	P	**P**	**09 25 28.1**	**+2.8**

*IDC **08** 09:15:00.3±1.2,10.°20S×152.°39E,h0km,mb3.8/8, mbtmp3.8/10,ML3.5/1,MS3.4/8,Error ellipse: s-maj=31.6km s-min=22.1km az=108.0*
ISC 08 09:15:05.3±1.0,10.°2S±0.°1×152.°5E±0.°1,h35km,n17, σ1§29/11,mb4.0/8,MS3.4/8,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**279**	Pn	**Pn**	**09 16 21.8**	**-0.1**
	6.3nm,0.6s,baz=128,slow=18,SNR=1.9						
PMG				Sn	**Sn**	**09 17 23.5**	**+1.8**
	1.8nm,0.3s,baz=196,slow=2.6,SNR=3.5						
WRA	**Warramunga Arr**	**19.96**	**239**	P	**P**	**09 19 32.9**	**-1.8**
	0.1nm,0.3s,baz=61,slow=11,SNR=4.6 2.1nm,0.9s						
ASAR	**Alice Springs**	**22.17**	**231**	P	**P**	**09 19 57.9**	**-0.6**
	0.6nm,0.7s,baz=62,slow=10,SNR=7.9 0.6nm,0.7s						
STKA	**Stephens Creek**	**23.76**	**203**	P	**P**	**09 20 14.4**	**-0.2**
	0.7nm,0.4s,baz=21,slow=7.2,SNR=2.9 0.7nm,0.4s						
URZ	**Urewera**	**35.59**	**146**	LR	LR	09 35 27.7	
	comp=Z,144nm,19.5s,baz=38,slow=34						
RPZ	**Rata Peaks**	**37.05**	**157**	LR	LR	09 35 40.4	
	comp=Z,224nm,19.8s,baz=322,slow=33						
TGY	**Tagaytay City**	**39.53**	**307**	LR	LR	09 40 11.9	
	comp=Z,49nm,19.7s,baz=332,slow=38						
JOW	**Kunigami**	**43.70**	**328**	LR	LR	09 39 09.7	
	comp=Z,70nm,20.4s,baz=96,slow=33						
JHJ	**Hachijo jima 2**	**44.78**	**345**	LR	LR	09 39 45.7	
	comp=Z,45nm,21.9s,baz=187,slow=33						
JNU	**Nakatsue**	**47.78**	**335**	LR	LR	09 41 38.5	
	comp=Z,18nm,19.9s,baz=167,slow=34						
MJAR	**Matsushiro Arr**	**48.43**	**345**	P	**P**	**09 23 43.3**	**-0.9**
	3.1nm,1.1s,baz=172,slow=9.8,SNR=2.7						
MJAR				LR	LR	09 42 34.1	
	comp=Z,30nm,19.8s,baz=158,slow=34 3.1nm,1.1s						
ASAJ	**Asahikawa**	**54.84**	**351**	LR	LR	09 46 58.4	
	comp=Z,18nm,19.4s,baz=196,slow=35						
CMAR	**Chiang Mai Arr**	**60.01**	**298**	P	**P**	**09 25 08.2**	**-0.8**
	0.7nm,0.3s,baz=116,slow=8.0,SNR=4.2 0.7nm,0.3s						
SONM	**Songino Array**	**70.76**	**329**	P	**P**	**09 26 17.1**	**-1.0**
	0.7nm,0.8s,baz=155,slow=4.9,SNR=5.8 0.7nm,0.8s						
QSPA	**South Pole Qui**	**79.75**	**180**	P	**P**	**09 27 10.8**	**+1.1**
	1.4nm,0.8s,baz=18,slow=9.6,SNR=2.4 1.4nm,0.8s						
MKAR	**Makanchi Array**	**84.20**	**319**	P	**P**	**09 27 34.0**	**+0.8**
	1.4nm,1.1s,baz=108,slow=6.5,SNR=6.5 1.4nm,1.1s						
ILAR	**Eielson Array**	**87.30**	**22**	P	**P**	**09 27 49.5**	**+1.4**
	0.8nm,0.9s,baz=240,slow=3.8,SNR=4.4 0.8nm,0.9s						

*GCG **08** 09:15:28.8±1.6,15.°17N×93.°09W,h47km±54km,MD4.3, MW2.6*
*MEX **08** 09:15:28.7±0.8,15.°11N×93.°13W,h76km±8km,MD3.9*
ISC 08 09:15:27.4±1.1,15.°07N±0.°06×93.°17W±0.°04,h64km±15km, n21,σ1§01/39,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.63**	**356**	*eP*	**Pn**	**09 15 41.3**	**+0.1**
PCIG				*eS*	**Sn**	**09 15 51.5**	**+0.3**
THIG		**0.89**	**100**	*eP*	**Pn**	**09 15 44.6**	**+0.4**
THIG				*eS*	**Sn**	**09 15 56.9**	**+0.2**
THIG		**0.89**	**100**	*eP*	**Pn**	**09 15 44.5**	**+0.3**
THIG				*eS*	**Sn**	**09 15 56.3**	**-0.4**
THIG		**0.89**	**100**	*eP*		09 15 44.5	
THIG				*eS*		09 15 56.3	
PATR	**El Naranjo**	**0.91**	**87**	*eP*	**Pn**	**09 15 44.3**	**-0.4**
PATR				*eS*	**Sn**	**09 15 57.0**	**-0.5**
PAVE	**Pavencul**	**0.97**	**83**	*eP*	**Pn**	**09 15 45.5**	**0.0**
PAVE				*eS*	**Sn**	**09 15 58.9**	**+0.1**
SMCA	**Catarina**	**1.08**	**101**	*eP*	**Pn**	**09 15 46.4**	**-0.3**
SMCA				*i* S	**Sn**	**09 16 00.4**	**-0.7**
SMCA	**Catarina**	**1.08**	**101**	*eP*		09 15 46.4	
SMCA				*i* S		09 16 00.4	
CARR	**Arriaga**	**1.37**	**329**	*eP*	**Pn**	**09 15 51.6**	**+1.1**
CARR				*eS*	**Sn**	**09 16 09.1**	**+1.3**
RTAL	**Retalhuleu**	**1.53**	**111**	*eP*	**Pn**	**09 15 53.3**	**+0.7**
RTAL				*eS*	**Sn**	**09 16 11.4**	**-0.2**
CCIG	**Comitan**	**1.56**	**39**	*eP*	**Pn**	**09 15 52.9**	**-0.4**
CCIG				*i* S	**Sn**	**09 16 10.4**	**-2.3**
CCIG	**Comitan**	**1.56**	**39**	*i* P	**Pn**	**09 15 54.1**	**+0.8**
CCIG	**Comitan**	**1.56**	**39**	*i* P		09 15 54.1	
HUEH	**Huehuetenango**	**1.63**	**81**	*eP*	**Pn**	**09 15 55.0**	**+0.8**
HUEH				*eS*	**Sn**	**09 16 15.9**	**+1.5**
TGIG		**1.70**	**2**	*eP*	**Pn**	**09 15 54.4**	**-0.6**
TGIG				*i* S	**Sn**	**09 16 14.5**	**-1.4**
TGIG		**1.70**	**2**	*i* P	**Pn**	**09 15 54.4**	**-0.6**
TGIG				*i* S	**Sn**	**09 16 14.8**	**-1.0**
TGIG		**1.70**	**2**	*i* P		09 15 54.4	
TGIG				*i* S		09 16 14.8	
STG0	**El Palmar, Qui**	**1.88**	**110**	*eS*		09 16 13.0	
NILT	**Santiago Nilte**	**2.04**	**317**	*i* P	**Pn**	**09 16 00.2**	**+0.8**
NILT				*eS*	**Sn**	**09 16 24.6**	**+0.7**
UXUV	**UXUV**	**2.42**	**337**	*eP*	**Pn**	**09 16 05.3**	**+0.5**
UXUV				*eS*	**Sn**	**09 16 33.4**	**+0.1**
CMIG	**Matias Romero**	**2.60**	**321**	*eP*	**Pn**	**09 16 07.4**	**+0.2**
CMIG				*i* S	**Sn**	**09 16 37.8**	**+0.2**
APG	**El Apazote**	**2.62**	**91**	*i* P	**Pn**	**09 16 08.9**	**+1.4**
APG	**El Apazote**	**2.62**	**91**	*i* P		09 16 08.9	
HUIG	**Huatulco**	**2.92**	**284**	*eP*	**Pn**	**09 16 09.4**	**-2.0**
HUIG				*eS*	**Sn**	**09 16 43.4**	**-2.0**
NEUV	**Arroyo Zacate**	**3.64**	**317**	*eP*	**Pn**	**09 16 23.1**	**+1.7**
NEUV				*eS*	**Sn**	**09 17 04.1**	**+0.9**
PETF	**Flores**	**3.67**	**60**	*eP*	**Pn**	**09 16 21.8**	**0.0**
PETF				*eS*	**Sn**	**09 17 02.0**	**-1.8**
PETF	**Flores**	**3.67**	**60**	*eP*	**Pn**	**09 16 22.3**	**+0.6**
PETF	**Flores**	**3.67**	**60**	*eP*		09 16 22.3	

*IDC **08** 09:20:43.2±1.2,10.°38S×152.°28E,h0km,mb3.7/7, mbtmp3.7/9,ML3.4/1,MS3.6/1,Error ellipse: s-maj=31.3km s-min=24.0km az=110.0*
ISC 08 09:20:48.5±1.0,10.°4S±0.°2×152.°3E±0.°1,h35km,n9, σ0§84/10,mb3.9/7,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**281**	Pn	**Pn**	**09 22 03.2**	**0.0**
	11nm,0.7s,baz=132,slow=8.9,SNR=4.0						
PMG				Sn	**Sn**	**09 23 02.3**	**+0.8**
	baz=151,slow=18						
WRA	**Warramunga Arr**	**19.71**	**239**	P	**P**	**09 25 14.3**	**-0.8**
	0.1nm,0.3s,baz=62,slow=11,SNR=6.0						
WRA				LR	LR	09 32 15.1	
	comp=Z,142nm,18.0s,baz=68,slow=35 1.3nm,0.8s						
ASAR	**Alice Springs**	**21.91**	**231**	P	**P**	**09 25 38.9**	**-0.1**
	0.8nm,0.7s,baz=60,slow=9.2,SNR=9.8 0.8nm,0.7s						
STKA	**Stephens Creek**	**23.52**	**203**	P	**P**	**09 25 55.9**	**+0.5**
	0.6nm,0.3s,baz=344,slow=15,SNR=3.4 0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**59.95**	**298**	P	**P**	**09 30 51.7**	**0.0**
	0.8nm,0.3s,baz=104,slow=12,SNR=1.7 0.8nm,0.3s						
SONM	**Songino Array**	**70.83**	**329**	P	**P**	**09 32 00.7**	**-1.1**
	0.9nm,0.7s,baz=131,slow=4.1,SNR=5.0 0.9nm,0.7s						
QSPA	**South Pole Qui**	**79.56**	**180**	P	**P**	**09 32 51.7**	**0.0**
	1.5nm,1.0s,baz=166,slow=9.2,SNR=2.8 1.5nm,1.0s						
MKAR	**Makanchi Array**	**84.24**	**320**	P	**P**	**09 33 16.0**	**-0.6**
	0.4nm,0.9s,baz=117,slow=4.8,SNR=4.3 0.4nm,0.9s						
ILAR	**Eielson Array**	**87.54**	**22**	P	**P**	**09 33 33.8**	**+1.3**
	0.6nm,0.9s,baz=239,slow=4.9,SNR=5.7 0.6nm,0.9s						

*WEL **08** 09:29:45.6±2.1,32.°S±10.°×17.°7W±2.°8,h12km,M4.2/1, mB4.9/2,MLv4.2/1,Mw(mB)4.2/2,Error ellipse: s-maj=37.4km s-min=7.4km az=106.6,confirmed*
*IDC **08** 09:29:49.9±2.0,31.°73S×178.°09W,h0km,mb3.7/3, mbtmp3.7/4,ML3.0/1,MS3.7/1,Error ellipse: s-maj=48.1km s-min=37.6km az=66.0*
ISC 08 09:29:41.6±1.9,32.°29S±0.°09×176.°4W±0.°2,h10km,n22, σ4§43/20,mb3.8/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.28**	**337**	P	**Pn**	**09 30 31.0**	**-2.0**
PUZ	**Puketiti**	**7.22**	**216**	P	Pn	09 31 32.7	+5.4
PUZ				S	**Sn**	**09 32 49.4**	**+0.1**
HAZ	**Te Kaha**	**7.22**	**219**	P	Pn	09 31 31.6	+4.3
HAZ				S	**Sn**	**09 32 49.4**	**0.0**
MWZ	**Matawai**	**7.79**	**218**	P	**Pn**	**09 31 38.1**	**+3.0**
MWZ				S	**Sn**	**09 33 01.8**	**-1.5**
URZ	**Urewera**	**7.95**	**220**	Pn	**Pn**	**09 31 40.4**	**+3.1**
	0.2nm,0.3s,baz=290,slow=21,SNR=1.9						
URZ				Sn	**Sn**	**09 33 04.2**	**-3.1**
	3.8nm,0.3s,baz=297,slow=22,SNR=19 4.8nm,0.8s						
URZ	**Urewera**	**7.95**	**220**	P	**Pn**	**09 31 35.8**	**-1.5**
URZ				S	**Sn**	**09 33 04.2**	**-3.1**
WCZ	**Waipu Caves**	**8.46**	**242**	P	**Pn**	**09 31 46.1**	**+1.8**
OUZ	**Omahuta**	**8.80**	**248**	P	**Pn**	**09 31 50.0**	**+1.1**
BFZ	**Birch Farm**	**10.23**	**213**	P	**Sn**	**09 33 57.3**	**-6.1**
MRZ	**Mangatainoka R**	**10.53**	**215**	P	**Pn**	**09 32 11.0**	**-1.6**
MRZ				S	**Sn**	**09 34 03.1**	**-7.7**
TMWZ	**Te Maipa**	**10.73**	**213**	S	**Sn**	**09 34 08.5**	**-7.2**
OGWZ	**Otaki Gorge**	**10.85**	**216**	P	**Sn**	**09 34 10.6**	**-8.0**
CAW	**Cannon Point**	**11.12**	**215**	P	**Sn**	**09 34 18.1**	**-7.2**
GVZ	**Greta Valley S**	**13.52**	**215**	P	Sn	09 35 11.0	-13
MQZ	**McQueen's Vall**	**14.26**	**214**	P	Sn	09 35 27.2	-15
OXZ	**Oxford**	**14.28**	**216**	P	Pn	09 32 59.7	-4.2
OXZ				P	Sn	09 35 26.4	-16
PPT	**Papeete**	**28.32**	**65**	LR	LR	09 45 03.5	
	comp=Z,12nm,20.2s,baz=269,slow=31						
ASAR	**Alice Springs**	**44.36**	**268**	P	**P**	**09 37 51.4**	**-1.1**
	0.5nm,0.6s,baz=107,slow=7.7,SNR=6.3 0.5nm,0.6s						
WRA	**Warramunga Arr**	**45.52**	**273**	P	**P**	**09 37 59.9**	**-1.8**
	0.8nm,0.4s,baz=112,slow=7.9,SNR=15 0.8nm,0.4s						
QSPA	**South Pole Qui**	**57.83**	**180**	P	P	09 39 47.0	+14
	0.9nm,1.0s,baz=22,slow=12,SNR=1.3 0.9nm,1.0s						
ASAJ	**Asahikawa**	**84.73**	**332**	LR	LR	10 14 05.1	
	comp=Z,44nm,20.3s,baz=176,slow=32						
FINES	**FINESS Array B**	**147.37**	**340**	PKPbc	**PKiKP**	**09 49 30.9**	**+3.9**
	1.5nm,0.5s,baz=54,slow=2.6,SNR=8.4						

*NEIC **08** 09:34:37.9±1.0,60.°90N±0.°03×151.°34W±0.°06,h70km±5km, Error ellipse: s-maj=4.1km s-min=4.0km az=125.0*
AEIC 08 09:34:38.8±1.1,60.°90N±0.°03×151.°28W±0.°06,h61km±6km, ML2.3,ML2.5/132(NEIC),Error ellipse: s-maj=4.7km s-min=3.9km az=190.0,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.14**	**154**		Pn	09 34 49.4	+1.3
SPU	**Mount Spurr**	**0.47**	**308**		Pn	09 34 50.0	-0.6
SPU					Sn	09 34 59.3	+0.1
SPU				IAML		09 35 00.2	
	comp=E,292nm,0.2s						
SPCG	**Spurr Capps Gl**	**0.54**	**318**		Pn	09 34 50.7	-0.7
SPCG					Sn	09 35 00.3	-0.2
SPCR	**Spurr Chakacha**	**0.55**	**304**		Pn	09 34 50.6	-0.8
SPCR					Sn	09 35 00.4	-0.2
CKL	**Chakachamna La**	**0.60**	**301**		Pn	09 34 51.1	-0.9
SUA	**Susitna One**	**0.63**	**24**		Pn	09 34 51.8	-0.6
SUA				IAML		09 35 03.3	
	comp=N,181nm,0.8s						
SUA				IAML		09 35 03.3	
	comp=E,202nm,0.6s						
RDT	**Redoubt**	**0.64**	**240**		Pn	09 34 51.5	-1.0
RDT					Sn	09 35 02.0	-0.4
SPBG	**Spurr Blockage**	**0.64**	**305**		Pn	09 34 51.8	-0.8
SPBG					Sn	09 35 02.6	0.0
SLKM	**Skilak Lake**	**0.65**	**126**		Pn	09 34 51.8	-0.8
SLKM				IAML		09 35 04.8	
	comp=E,200nm,0.2s						
STLK	**Strandline Lak**	**0.66**	**336**		Pn	09 34 52.1	-0.6
STLK					Sn	09 35 02.6	-0.3
STLK				IAML		09 35 03.2	
	comp=N,123nm,0.2s						
STLK				IAML		09 35 05.2	
	comp=E,97nm,0.5s						
DFR	**Drift River**	**0.76**	**247**		Pn	09 34 52.8	-1.0
DFR					Sn	09 35 04.5	-0.5
RC01	**Rabbit Creek A**	**0.78**	**75**		Pn	09 34 53.6	-0.4
RC01					Sn	09 35 05.5	+0.3
RC01				IAML		09 35 06.7	
	comp=E,144nm,0.4s						
RC01				IAML		09 35 06.8	
	comp=N,209nm,0.5s						
RDJH	**Redoubt Jeurge**	**0.81**	**248**		Pn	09 34 53.6	-0.9
RDJH					Sn	09 35 05.9	-0.2
RDWB	**Redoubt West**	**0.87**	**243**		Pn	09 34 54.5	-0.9
RDWB					Sn	09 35 07.3	-0.2
O22K	**Cooper Landing**	**0.87**	**118**		Pn	09 34 55.0	-0.2
M22K	**Willow**	**1.03**	**33**		Pn	09 34 57.2	0.0
M22K				IAML		09 35 13.1	
	comp=N,153nm,0.8s						
O20K	**Slope Mountain**	**1.05**	**220**		Pn	09 34 57.2	-0.4
SKT	**Skwentna**	**1.09**	**354**		Pn	09 34 57.6	-0.5
BRLK	**Bradley Lake**	**1.15**	**170**		Pn	09 34 58.7	-0.2
BRSE	**Bradley Lake S**	**1.19**	**167**		Pn	09 34 58.9	-0.5
SEW	**Seward**	**1.20**	**130**		Pn	09 34 59.2	-0.3
PMR	**Palmer**	**1.25**	**55**		Pn	09 34 59.9	-0.2
PMR				IAML		09 35 18.5	
	comp=N,57nm,0.3s						
PMR				IAML		09 35 18.7	
	comp=E,62nm,0.5s						
HOM	**Homer**	**1.25**	**188**		Pn	09 35 00.3	+0.1
ILS	**Iliamna Low So**	**1.29**	**224**		Pn	09 35 00.2	-0.6
ILSW	**Iliamna Southw**	**1.30**	**226**		Pn	09 34 60.0	-1.0
M20K	**Styx River**	**1.33**	**319**		Pn	09 35 00.4	-0.9
M20K				IAML		09 35 19.6	
	comp=E,37nm,0.6s						
CNPM	**China Poot**	**1.38**	**179**		Pn	09 35 01.6	-0.3
GHO	**Glory Hole Cre**	**1.44**	**51**		Pn	09 35 02.7	0.0
GHO				IAML		09 35 24.3	
	comp=N,69nm,0.4s						
PWL	**Port Wells**	**1.44**	**90**		Pn	09 35 01.8	-1.0
PWL				IAML		09 35 20.7	
	comp=E,89nm,0.1s						
KNK	**Knik Glacier**	**1.46**	**68**	Pn	Pn	09 35 01.9	-1.1
KNK				IAML		09 35 24.9	
	comp=N,83nm,0.6s						
KNK				IAML		09 35 25.3	
	comp=E,89nm,0.4s						
N19K	**Bonanza Creek**	**1.57**	**268**		Pn	09 35 03.5	-1.0
P19K	**Oil Pt**	**1.58**	**219**		Pn	09 35 04.2	-0.4
P19K				IAML		09 35 25.5	
	comp=E,59nm,0.5s						
P19K				IAML		09 35 25.9	
	comp=N,63nm,1.1s						
O19K	**Port Alsworth**	**1.66**	**246**	Pn	Pn	09 35 02.8	-2.8
O19K				IAML		09 35 27.4	
	comp=N,42nm,0.4s						
O19K				IAML		09 35 32.4	
	comp=E,38nm,0.4s						
SML	**Sawmill**	**1.69**	**56**		Pn	09 35 05.3	-0.8
SML				IAML		09 35 31.8	
	comp=E,28nm,0.7s						
SML				IAML		09 35 33.5	
	comp=N,37nm,1.1s						
M19K	**Big River Lodg**	**1.81**	**305**		Pn	09 35 07.5	-0.2
L20K	**Farewell, AK**	**2.01**	**323**		Pn	09 35 09.5	-1.0
GLI	**Glacier Island**	**2.05**	**89**		Pn	09 35 10.0	-0.8
GLI				IAML		09 35 33.9	
	comp=N,50nm,0.9s						
GLI				IAML		09 35 37.0	
	comp=E,48nm,1.0s						
PPLA	**Purkeypile**	**2.05**	**348**		Pn	09 35 10.7	-0.4
SCM	**Sheep Creek Mo**	**2.12**	**62**		Pn	09 35 10.5	-1.5
SCM				IAML		09 35 42.1	
	comp=E,30nm,0.6s						
SCM				IAML		09 35 43.7	
	comp=N,44nm,0.8s						
L19K	**White Mountain**	**2.14**	**309**		Pn	09 35 11.7	-0.5
O18K	**Koktuh Hills**	**2.21**	**244**		Pn	09 35 12.3	-0.9
N18K	**Kilae Creek**	**2.27**	**267**		Pn	09 35 12.1	-1.8
M18K	**Stony River**	**2.28**	**287**		Pn	09 35 12.6	-1.5
Q19K	**Cape Douglas,**	**2.31**	**212**		Pn	09 35 12.7	-1.7
FID	**Port Fidalgo**	**2.36**	**91**		Pn	09 35 12.8	-2.3
FID				IAML		09 35 53.4	
	comp=N,39nm,1.0s						
SYI	**Shuyak Island**	**2.36**	**194**		Pn	09 35 14.1	-1.1
SYI				IAML		09 35 50.1	
	comp=E,36nm,1.1s						
SYI				IAML		09 35 53.1	
	comp=N,30nm,1.1s						
CAST	**Castle Rocks**	**2.56**	**352**		Pn	09 35 17.3	-0.6
CAST				IAML		09 35 52.1	
	comp=E,12nm,0.7s						
CAST				IAML		09 35 57.3	
	comp=N,11nm,1.0s						
TRF	**Thorofare Moun**	**2.61**	**10**		Pn	09 35 20.4	+1.7
KLU	**Klutina**	**2.66**	**75**		Pn	09 35 19.0	-0.4
KLU				IAML		09 35 57.6	
	comp=E,12nm,0.8s						
KLU				IAML		09 36 04.5	
	comp=

IL31		4.38	25		Pn	09 35 41.4	-1.3
N15K	Kwethluk River	4.41	264	Pn	Pn	09 35 43.0	-0.1
N15K				IAML		09 37 02.9	
	comp=E,5.2nm,0.6s						
J17K	VABM Dome	4.43	308	Pn	Pn	09 35 43.0	-0.5
J17K				IAML		09 37 42.6	
	comp=E,2.2nm,1.1s						
SCRK	Sand Creek	4.59	44	Pn	Pn	09 35 45.2	-0.4
SCRK				IAML		09 36 51.0	
	comp=E,2.2nm,0.9s						
J25K	Salcha River,	4.61	33	Pn	Pn	09 35 46.3	+0.3
J25K				IAML		09 36 50.6	
	comp=N,4.9nm,0.5s						
H21K	Melozitna River	4.83	352		Pn	09 35 48.6	-0.3
L27K	Beaver Creek,	4.96	60	Pn	Pn	09 35 50.5	-0.2
BCAR	Beaver Creek A	4.98	60	Pn	Pn	09 35 50.7	-0.3
J16K	Anvik River	4.99	303	Pn	Pn	09 35 50.4	-0.6
J16K				IAML		09 38 07.8	
	comp=N,2.3nm,1.0s						
J16K				IAML		09 38 46.7	
	comp=E,2.9nm,1.1s						
J26L	Joseph Creek	5.07	41	Pn	Pn	09 35 51.9	-0.3
J26L				IAML		09 37 01.7	
	comp=E,4.3nm,0.9s						
J26L				IAML		09 37 01.8	
	comp=N,4.5nm,0.4s						
K15K	Wolf Creek Mou	5.09	290	Pn	Pn	09 35 52.7	+0.2
K15K				IAML		09 38 53.5	
	comp=E,2.8nm,1.2s						
H24K	Noodor Dome	5.19	16	Pn	Pn	09 35 54.8	+1.0
H24K				IAML		09 36 55.0	
	comp=E,2.6nm,1.1s						
H19K	Roundabout Mou	5.20	336	Pn	Pn	09 35 53.1	-0.8
H19K				IAML		09 39 25.8	
	comp=E,2.3nm,1.0s						
I17K	Unalakleet	5.31	308	Pn	Pn	09 35 54.4	-1.0
I17K				IAML		09 38 11.3	
	comp=N,2.8nm,1.1s						
I17K				IAML		09 38 33.3	
	comp=E,3.7nm,1.1s						
PRP	Porcupine Dome	5.32	27	Pn	Pn	09 35 55.5	-0.1
PRP				IAML		09 37 05.9	
	comp=E,1.3nm,0.5s						
PRP				IAML		09 37 31.8	
	comp=N,1.9nm,1.1s						
H18K	Honhosa River	5.35	326	Pn	Pn	09 35 55.7	-0.3
H18K				IAML		09 38 53.5	
	comp=E,1.1nm,1.1s						
L14K	Kuka Creek	5.55	280	Pn	Pn	09 35 58.0	-0.6
G21K	Allakaket	5.73	351	Pn	Pn	09 36 00.9	-0.2
I26K	Coal Creek Min	5.76	36	Pn	Pn	09 36 01.0	-0.5
G18K	Tagagawik	6.01	330	Pn	Pn	09 36 05.0	0.0
G24K	Hadweenzic Riv	6.07	14	Pn	Pn	09 36 05.5	-0.2
E19K	Redstone River	7.08	341	Pn	Pn	09 36 19.7	+0.1
BMAR	Burnt Mountain	7.18	21	Pn	Pn	09 36 21.0	0.0
E18K	Tukpahlearik C	7.70	332	Pn	Pn	09 36 28.5	+0.4

*IDC **08** 09:38:30.9±0.6, 7°.81S×118°.90E, h0km, mb4.2/13, mbtmp4.1/16, ML4.0/3, MS3.3/1, Error ellipse: s-maj=34.7km s-min=12.7km az=66.0*
*NEIC **08** 09:38:33.4±0.6, 7°.81S±0°.07×118°.97E±0°.07, h10km±1km, mb4.5/24, Error ellipse: s-maj=11.8km s-min=10.9km az=46.0*
*DJA **08** 09:38:36.1±1.0, 8°S±2°×11°9E±°, h34km±17km, M4.5/18, mb4.7/3, MLv4.5/18*

ISC 08 09:38:32.3±3.6, 7°.81S±0°.04×118°.99E±0°.04, h5km±23km, n94, σ1§12/98, mb4.5/29, 1C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.57	230	P	Pn	09 39 01.5	+0.6
PLAI	Plampang	1.57	230	S	Sn	09 39 21.1	-0.6
PLAI	Plampang	1.57	230	P	Pn	09 39 01.6	+0.6
PLAI				S	Sn	09 39 20.5	-1.2
WBSI	Waikabubak, Su	1.86	168	P	Pn	09 39 06.7	+1.7
WBSI				S	Sn	09 39 28.5	-0.5
BSSI	Bau Bau, Buton	2.22	42	P	Pn	09 39 10.1	+0.2
BSSI				S	Sn	09 39 36.3	-1.5
TWSI	Taliwang, Sumb	2.28	246	P	Pn	09 39 11.2	+0.5
TWSI				S	Sn	09 39 39.3	0.0
BKSI	Bulukumba	2.71	25	P	Pn	09 39 16.9	+0.3
BASI	Baing, Sumba	2.86	147	P	Pn	09 39 19.9	+1.2
KAPI	Kappang	2.88	15	Pn	Pn	09 39 19.4	+0.6
KAPI	Kappang	2.88	15	Pn	Pn	09 39 19.0	+0.2
	11nm,0.3s,baz=196,slow=9.4,SNR=38						
KAPI				Sn	Sn	09 39 52.2	-1.6
	31nm,0.3s,baz=0.0,slow=23,SNR=5.9						
	62nm,0.5s						
KAPI	Kappang	2.88	15	P	Pn	09 39 19.1	+0.2
MMRI	Maumere	3.32	105	Pn	Pn	09 39 25.7	+0.8
MMRI	Maumere	3.32	105	P	Pn	09 39 26.0	+1.0
MMRI	Maumere	3.32	105	S	Sn	09 40 04.3	-0.5
MMRI	Maumere	3.32	105	P	Pn	09 39 25.3	+0.3
SRBI	Singaraja	3.75	266	P	Pn	09 39 30.4	-0.5
DNP	Denpasar	3.84	257	P	Pn	09 39 31.8	-0.4
SPSI	Sidrap Palu	3.90	12	P	Pn	09 39 34.9	+2.0
BBSI	Bau Bau	4.24	57	P	Pn	09 39 38.9	+1.3
ABJI	Asem Bagus	4.71	270	P	Pn	09 39 44.2	0.0
TTSI	Tana Toraja	4.80	10	P	Pn	09 39 47.5	+2.1
JAGI	Jajag, Banyuwa	4.84	262	Pn	Pn	09 39 46.0	+0.1
JAGI	Jajag, Banyuwa	4.84	262	P	Pn	09 39 45.9	+0.1
KMMI	Kalianget	5.04	278	P	Pn	09 39 49.9	+1.3
	0.3nm91nm,0.7s						
GMJI	Gumukmas	5.51	265	P	Pn	09 39 56.0	+0.8
	0.2nm60nm,1.1s						
SOEI	Soe	5.56	111	Pn	Pn	09 39 56.4	+0.5
SOEI	Soe	5.56	111	P	Pn	09 39 57.7	+1.7
LUWI	Luwuk	7.70	29	Pn	Pn	09 40 25.6	+0.3
UGM	Wanagama	8.39	269	Pn	Pn	09 40 33.4	-1.3
LEM	Lembang	11.32	274	LR	LR	09 46 40.9	
	comp=Z,166nm,19.6s,baz=330,slow=44						
FITZ	Fitzroy Crossi	12.11	148	Pn	Pn	09 41 23.0	-2.6
FITZ	Fitzroy Crossi	12.11	148	Pn	Pn	09 41 24.7	-0.9
	0.3nm,0.3s,baz=335,slow=15,SNR=7.7						
FITZ				Sn	Sn	09 43 28.1	-13
	1.7nm,0.3s,baz=171,slow=21,SNR=10.0						
	1.1nm,0.5s						
KNRA	Kununurra	12.35	130		Pn	09 41 27.5	-1.6
MTN	Manton Dam	12.95	114	Pn	Pn	09 41 36.4	-0.8
MBWA	Marble Bar	13.29	177	Pn	Pn	09 41 41.5	-0.4
PSA00	Pilbara Seismi	13.71	177	Pn	Pn	09 41 46.3	-1.3
KKM	Kota Kinabalu	14.04	349	Pn	Pn	09 41 51.8	-0.4
GIRL	Giralia	15.45	197	Pn	Pn	09 42 10.6	-0.5
MEEK	Meekatharra	18.73	181	P	Pn	09 42 53.9	+1.4
WB0	Warramunga Arr	19.09	130	P	P	09 42 55.8	-0.2
WRA	Warramunga Arr	19.15	131	P	P	09 42 56.4	-0.3
WRA	Warramunga Arr	19.15	131	P	P	09 42 56.0	-0.7
	1.2nm,0.3s,baz=311,slow=33,SNR=50						
WRA				S	Sn	09 46 18.2	-14
	0.5nm,0.5s,baz=284,slow=19,SNR=2.0						
	2.9nm,0.4s						
WRAB	Tennant Creek	19.15	131	P	P	09 42 56.5	-0.3
WB2	Warramunga Arr	19.16	131	P	P	09 42 56.6	-0.2
WRKA	Warakurna	19.30	154	P	P	09 42 59.6	+1.2
WR0	Warramunga Arr	19.31	130	P	P	09 42 58.3	-0.2
WR0				IAmb	IAmb	09 43 05.9	
	comp=Z,7.9nm,0.6s						
AS31	Alice Springs	21.29	139	P	P	09 43 19.3	-0.7
AS31				IAmb	IAmb	09 43 23.6	
	comp=Z,7.1nm,0.4s						
ASAR	Alice Springs	21.29	139	P	P	09 43 19.6	-0.4
ASAR	Alice Springs	21.29	139	P	P	09 43 20.2	+0.2
	comp=Z,12nm,0.6s,baz=328,slow=14,SNR=55						
ASAR				S	S	09 47 04.2	-13
	comp=Z,1.1nm,0.8s,baz=325,slow=22,SNR=7.1						
	comp=Z,12nm,0.6s						
AS01	Alice Springs	21.32	139	P	P	09 43 20.3	0.0
MORW	Morawa	21.33	187		P	09 43 21.5	+1.1
MORW				IAmb	IAmb	09 43 23.7	
	comp=Z,8.8nm,0.7s						
QIS	Mount Isa	23.63	125	P	P	09 43 44.5	-0.2
FORT	Forrest	24.38	161	P	P	09 43 51.4	-0.3
FORT				IAmb	IAmb	09 44 03.1	
	comp=Z,14nm,0.8s						
COEN	Coen	24.51	107	P	P	09 43 52.5	-0.5
COEN				IAmb	IAmb	09 43 53.8	
	comp=Z,14nm,0.9s						
COEN	Coen	24.51	107	P	P	09 43 52.6	-0.4
NWAO	Narrogin (SRO)	25.05	183		P	09 43 58.5	+0.8
OOD	Oodnadatta	25.39	144	P	P	09 44 00.6	-0.2
MTSU	Mount Surprise	26.69	115	P	P	09 44 13.2	+0.4
BBOO	Buckleboo	29.49	150	P	P	09 44 37.4	-0.2
BBOO				IAmb	IAmb	09 44 37.9	
	comp=Z,7.7nm,0.7s						
STKA	Stephens Creek	31.88	142	P	P	09 44 58.8	+0.1
STKA	Stephens Creek	31.88	142	P	P	09 44 58.2	-0.5
	comp=Z,3.1nm,0.4s,baz=317,slow=9.4,SNR=13						
	comp=Z,3.1nm,0.4s						
CMAR	Chiang Mai Arr	32.75	323	P	P	09 45 05.8	-0.7
	comp=Z,0.7nm,0.3s,baz=140,slow=9.7,SNR=1.4						
	comp=Z,0.7nm,0.3s						
ARMA	Armidale	37.93	131	P	P	09 45 50.6	-0.6
ARMA				IAmb	IAmb	09 46 07.5	
	comp=Z,13nm,1.1s						
PZH	PanZhiHua	37.99	334	P	P	09 45 54.6	+3.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
TOO	Toolangi	38.14	145	P	P	09 45 50.9	-1.8
NJ2	Nanjing	39.63	360	eP	P	09 46 07.5	+2.4
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	Korea Array	45.79	10	P	P	09 46 56.4	+1.3
	comp=Z,0.4nm,0.3s,baz=187,slow=7.3,SNR=2.2						
	comp=Z,0.4nm,0.3s						
HHC	Hu-ho-hao-te	48.90	353	eP	P	09 47 22.5	+3.1
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.0s						
GTA	Gaotai	50.23	341	eP	P	09 47 30.8	+1.2
GTA				sP	pwP	09 47 41.5	+6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
XLT	XiLinHaoTe	51.53	357	eP	P	09 47 39.6	+0.3
XLT				sP	sP	09 47 46.2	+6.3
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
USRK	Ussuriysk Ar.	53.08	12	P	P	09 47 48.8	-1.8
	comp=Z,2.0nm,0.7s,baz=186,slow=5.8,SNR=3.0						
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	56.51	350	P	P	09 48 14.8	-0.8
	comp=Z,0.6nm,0.7s,baz=168,slow=7.6,SNR=4.4						
	comp=Z,0.6nm,0.7s						
HEH	HeiHe	58.28	6	eP	P	09 48 26.8	-1.1
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBL	Kabul	63.24	315	P	P	09 49 01.0	-1.4
MK31	Makanchi Array	63.40	333	P	P	09 49 02.6	-0.3
MK31				IAmb	IAmb	09 49 14.8	
	comp=Z,3.9nm,1.1s						
MKAR	Makanchi Array	63.40	333	P	P	09 49 01.9	-1.0
MKAR	Makanchi Array	63.40	333	P	P	09 49 02.0	-0.9
	comp=Z,2.7nm,0.7s,baz=144,slow=7.7,SNR=29						
	comp=Z,2.7nm,0.7s						
BOOM	Boomskoye usch	63.59	326	P	P	09 49 04.1	-0.4
BOOM				IAmb	IAmb	09 49 26.1	
	comp=Z,3.6nm,1.0s						
AAK	Ala-Archa	64.50	325	P	P	09 49 10.5	+0.1
AAK				IAmb	IAmb	09 49 10.8	
	comp=Z,2.0nm,0.7s						
AAK	Ala-Archa	64.50	325	P	P	09 49 09.6	-0.8
	comp=Z,1.7nm,0.6s,baz=134,slow=6.8,SNR=6.4						
	comp=Z,1.7nm,0.6s						
ARSB	Arslanbob	64.56	323	P	P	09 49 10.3	-0.5
KURBB	Kurchatov Arra	67.90	334	P	P	09 49 31.2	-0.7
	comp=Z,1.1nm,0.5s,baz=142,slow=6.1,SNR=6.9						
KURK	Kurchatov	67.93	334	P	P	09 49 32.0	0.0
KURK				IAmb	IAmb	09 49 32.2	
	comp=Z,2.8nm,0.8s						
ZALV	Zalesovo Beam	67.93	339	P	P	09 49 31.4	-0.6
ZALV	Zalesovo Beam	67.93	339	P	P	09 49 30.7	-1.2
	comp=Z,1.5nm,0.6s,baz=151,slow=4.5,SNR=8.0						
	comp=Z,1.5nm,0.6s						
VNDA	Vanda	73.16	171	P	P	09 50 04.3	+0.7
VNDA				IAmb	IAmb	09 50 04.7	
	comp=Z,1.8nm,0.6s						
VNDA	Vanda	73.16	171	P	P	09 50 03.9	+0.3
	comp=Z,1.4nm,0.5s,baz=315,slow=7.7,SNR=8.5						
	comp=Z,1.4nm,0.5s						
BVAR	Borovoye Array	73.25	332	P	P	09 50 03.5	-1.0
	comp=Z,1.7nm,0.7s,baz=137,slow=7.7,SNR=11						
	comp=Z,1.7nm,0.7s						
ABKAR	Akbulak array	76.59	325	P	P	09 50 23.4	-0.5
AKTO	Aktyubinsk	78.25	325	P	P	09 50 32.1	-1.1
	comp=Z,2.0nm,0.8s,baz=24,slow=1.8,SNR=4.9						
	comp=Z,2.0nm,0.8s						
SYO	Syowa Base	78.96	201⇑	ePcP	PcP	09 50 49.0	+3.7
QSPA	South Pole Qui	82.18	180	P	P	09 50 54.5	+0.2
QSPA	South Pole Qui	82.18	180	P	P	09 50 54.0	-0.3
	comp=Z,1.2nm,0.7s,baz=322,slow=0.5,SNR=7.9						
	comp=Z,1.2nm,0.7s						
CPUP	Villa Florida	145.88	186	PKPbc	PKPdf	09 58 11.4	-1.7
	comp=Z,1.1nm,0.3s,baz=304,slow=1.3,SNR=4.1						

*IDC **08** 09:42:20.6±1.5, 10°.17S×152°.13E, h0km, mb3.7/7, mbtmp3.7/9, ML3.4/1, MS2.9/1, Error ellipse: s-maj=37.6km s-min=23.7km az=123.0*

ISC 08 09:42:25.5±1.2, 10°.3S±0°.2×152°.1E±0°.1, h35km, n9, σ1§65/10, mb3.7/7, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.97	279	Pn	Pn	09 43 34.4	-3.2
	3.4nm,0.4s,baz=96,slow=9.2,SNR=1.5						
PMG				Sn	Sn	09 44 36.7	+2.8
	3.6nm,0.3s,baz=98,slow=8.7,SNR=4.9						
PMG				LR	LR	09 45 09.2	
	comp=Z,141nm,20.5s,baz=104,slow=34						
WRA	Warramunga Arr	19.67	239	P	Pn	09 46 53.0	-0.3
	0.1nm,0.3s,baz=64,slow=10,SNR=6.2						
	0.8nm,0.5s						
ASAR	Alice Springs	21.91	230	P	P	09 47 16.3	+0.4
	0.5nm,0.6s,baz=72,slow=9.2,SNR=7.3						
	0.5nm,0.6s						
STKA	Stephens Creek	23.62	203	P	P	09 47 33.8	+0.4
	0.7nm,0.6s,baz=29,slow=10,SNR=1.5						
	0.7nm,0.6s						
FITZ	Fitzroy Crossi	26.81	250	P	P	09 48 02.8	+0.2
	1.9nm,0.8s,baz=66,slow=10.0,SNR=1.7						
	1.9nm,0.8s						
CMAR	Chiang Mai Arr	59.73	298	P	P	09 52 27.7	+0.5
	0.7nm,0.3s,baz=106,slow=4.8,SNR=4.2						
	0.7nm,0.3s						
SONM	Songino Array	70.60	329	P	P	09 53 37.6	+0.2
	1.1nm,0.9s,baz=122,slow=5.4,SNR=5.2						
	1.1nm,0.9s						
MKAR	Makanchi Array	84.00	320	P	P	09 54 52.8	+0.5
	0.4nm,0.8s,baz=119,slow=4.5,SNR=4.6						
	0.4nm,0.8s						
ILAR	Eielson Array	87.43	22	P	P	09 55 08.9	0.0
	0.4nm,0.9s,baz=274,slow=8.4,SNR=5.0						
	0.4nm,0.9s						

*IDC **08** 09:42:57.2±1.4, 10°.12S×152°.20E, h0km, mb3.9/7, mbtmp4.0/8, ML3.4/1, MS3.7/5, Error ellipse: s-maj=43.2km s-min=25.8km az=107.0*

ISC 08 09:43:02.7±1.3, 10°.1S±0°.2×152°.1E±0°.3, h35km, n12, σ0§81/8, mb4.1/7, MS3.6/4, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	13.64	303	LR	LR	09 52 23.0	
	comp=Z,342nm,18.1s,baz=109,slow=41						
WRA	Warramunga Arr	19.74	238	P	P	09 47 29.5	-0.2
	0.1nm,0.3s,baz=63,slow=11,SNR=5.5						
	5.0nm,0.9s						
ASAR	Alice Springs	21.99	230	P	P	09 47 54.0	0.0
	1.4nm,0.7s,baz=52,slow=10,SNR=5.8						
	1.4nm,0.7s						
STKA	Stephens Creek	23.74	203	LR	LR	09 57 58.0	
	comp=Z,236nm,18.4s,baz=19,slow=38						
RAR	Rarotonga	47.44	109	LR	LR	10 08 20.1	
	comp=Z,45nm,19.6s,baz=228,slow=32						
KSRS	Korea Array	52.49	336	P	P	09 52 11.2	-1.1
	0.9nm,0.8s,baz=132,slow=8.4,SNR=4.2						
	0.9nm,0.8s						
USRK	Ussuriysk Ar.	57.08	343	LR	LR	10 15 31.6	
	comp=Z,68nm,19.2s,baz=170,slow=34						
CMAR	Chiang Mai Arr	59.67	298	P	P	09 53 03.6	-0.4
	0.4nm,0.3s,baz=118,slow=5.9,SNR=5.0						
	0.4nm,0.3s						
SONM	Songino Array	70.49	329	P	P	09 54 14.7	+0.8
	1.4nm,0.8s,baz=139,slow=5.9,SNR=4.7						
SONM				LR	LR	10 28 20.6	
	comp=Z,29nm,18.1s,baz=242,slow=39						
	1.4nm,0.8s						
QSPA	South Pole Qui	79.87	180	P	P	09 55 07.5	-0.1
	2.7nm,0.9s,baz=16,slow=2.2,SNR=3.8						
	2.7nm,0.9s						
MKAR	Makanchi Array	83.90	320	P	P	09 55 30.1	+1.1
	1.5nm,1.0s,baz=101,slow=6.5,SNR=5.6						
	1.5nm,1.0s						
ILAR	Eielson Array	87.31	22	P	P	09 55 45.4	-0.2
	1.3nm,1.1s,baz=258,slow=3.7,SNR=4.9						
	1.3nm,1.1s						

*IDC **08** 09:45:18.5±1.3, 10°.15S×152°.29E, h0km, mb3.7/6, mbtmp3.8/8, ML3.7/1, Error ellipse: s-maj=42.4km s-min=23.3km az=131.0*

ISC 08 09:45:23.8±1.2, 10°.2S±0°.2×152°.3E±0°.2, h35km, n8, σ0§84/8, mb3.6/6, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.08	278	Pn	Pn	09 46 38.0	+0.5
	9.9nm,0.6s,baz=290,slow=20,SNR=0.6						
WRA	Warramunga Arr	19.82	239	P	P	09 49 50.4	-1.2
	0.2nm,0.3s,baz=61,slow=10,SNR=6.2						
	1.3nm,0.5s						
ASAR	Alice Springs	22.05	230	P	P	09 50 15.9	+0.2
	1.0nm,0.6s,baz=59,slow=9.6,SNR=12						
	1.0nm,0.6s						
FITZ	Fitzroy Crossi	26.95	250	P	P	09 51 02.5	+0.2
	2.2nm,0.6s,baz=88,slow=7.8,SNR=7.8						
	2.2nm,0.6s						
PETK	Petropavlovsk-	63.21	4	P	P	09 55 47.6	-0.8
	3.1nm,0.9s,baz=183,slow=6.4,SNR=3.5						
	3.1nm,0.9s						
QSPA	South Pole Qui	79.81	180	P	P	09 57 28.6	+0.1
	0.7nm,1.0s,baz=44,slow=2.5,SNR=1.3						
	0.7nm,1.0s						
MKAR	Makanchi Array	84.03	320	P	P	09 57 50.4	-0.4
	0.4nm,0.9s,baz=103,slow=7.1,SNR=2.4						
	0.4nm,0.9s						
ILAR	Eielson Array	87.32	22	P	P	09 58 07.7	+1.0
	0.2nm,0.7s,baz=232,slow=4.4,SNR=4.8						
	0.2nm,0.7s						

*WEL **08** 09:48:01.1±1.0, 32°S±5°×17°7W±1°5, h12km, M4.7/12, mB4.9/7, ML5.0/15, MLv5.1/12, Mw(mB)4.2/7, Error ellipse: s-maj=19.7km s-min=4.3km az=103.5, confirmed*
*IDC **08** 09:48:02.9±0.6, 31°.90S×177°.87W, h0km, mb4.4/12, mbtmp4.4/14, ML4.7/2, MS3.8/17, Error ellipse: s-maj=21.3km s-min=20.2km az=152.0*
*NEIC **08** 09:48:05.8±1.9, 31°.99S±0°.09×177°.9W±0°.1, h10km±1km, mb4.9/25, Error ellipse: s-maj=19.1km s-min=13.2km az=115.0*

ISC 08 09:48:04.8±0.4, 31°.92S±0°.05×177°.95W±0°.08, h10km, n131, σ1§37/134, mb4.8/28, MS3.8/16, 1C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.65	0	P	Pn	09 48 45.5	-2.1
GLKZ				S	Sn	09 49 17.0	-2.8
MXZ	Matakaoa Point	6.42	208	Pn	Pn	09 49 37.7	-1.6
MXZ				Sn	Sn	09 50 53.6	+1.1
MXZ	Matakaoa Point	6.42	208	P	Pn	09 49 35.6	-3.7
MXZ				S	Sn	09 50 50.6	-2.0
WMGZ	Waiomatatini S	6.60	206	P	Pn	09 49 40.6	-1.2
WMGZ				S	Sn	09 50 57.9	+0.8
PKGZ	Pakihiroa	6.77	208	P	Pn	09 49 41.7	-2.4
PKGZ				S	Sn	09 51 00.3	-1.0
HAZ	Te Kaha	6.80	210	P	Pn	09 49 43.3	-1.3
HAZ				S	Sn	09 51 03.1	+1.2
PUZ	Puketiti	6.88	206	P	Pn	09 49 43.5	-2.2
PUZ				S	Sn	09 51 02.2	-1.9
GRZ	Great Barrier	6.97	230	P	Pn	09 49 55.3	+8.4
RUGZ	Raukumara Rang	7.02	210	P	Pn	09 49 46.8	-0.9
RUGZ				S	Sn	09 51 06.7	-0.9
TWGZ	Tauwhareparae	7.08	207	P	Pn	09 49 47.4	-1.1
TWGZ				S	Sn	09 51 08.7	-0.3
CNGZ	Carnagh Statio	7.26	205	P	Pn	09 49 48.1	-2.8
CNGZ				S	Sn	09 51 14.4	+1.0
TKGZ	Te Karaka	7.36	207	S	Sn	09 51 14.2	-1.5
MWZ	Matawai	7.39	209	P	Pn	09 49 50.3	-2.5
MWZ				S	Sn	09 51 15.8	-0.9
URZ	Urewera	7.51	211	Pn	Pn	09 49 52.8	-1.4
	1.4nm,0.3s,baz=345,slow=4.6,SNR=16						
URZ				Sn	Sn	09 51 16.1	-3.4
	6.3nm,0.3s,baz=169,slow=2.1,SNR=9.7						
	6.7nm,0.5s						
URZ	Urewera	7.51	211	P	Pn	09 49 52.0	-2.3
URZ				S	Sn	09 51 18.4	-1.1
WCZ	Waipu Caves	7.55	236	P	Pn	09 50 03.3	+8.3
OUZ	Omahuta	7.79	243	P	Pn	09 50 04.5	+6.3
MUGZ	Murupara	7.84	212	P	Pn	09 49 57.6	-1.2
SNGZ	Shannon Statio	7.85	208	P	Pn	09 49 57.4	-1.6
RTZ	Ruatahuna	7.86	210	Pn	Pn	09 49 58.8	-0.4
RTZ				Sn	Sn	09 51 26.4	-1.8
TOZ	Tahuroa Road	7.91	221	Pn	Pn	09 49 59.6	-0.2
RAHZ	Arahi	8.07	209	P	Pn	09 50 01.9	-0.2
MTHZ	Maungataniwha	8.12	210	P	Pn	09 50 03.7	+1.0
BKZ	Black Stump Fm	8.53	211	Pn	Pn	09 50 08.4	0.0
BKZ	Black Stump Fm	8.53	211	P	Pn	09 50 05.6	-2.8
MCHZ	McNeill Hill	8.68	209	P	Pn	09 50 09.1	-1.2
TMVZ	Te Maari	8.85	214	P	Pn	09 50 13.3	+0.5
OTVZ	Oturere	8.90	214	P	Pn	09 50 14.2	+0.6
NGZ	Ngauruhoe	8.94	214	P	Pn	09 50 14.6	+0.5
BFZ	Birch Farm	9.91	207	Pn	Pn	09 50 27.6	+0.2
CTZ	Chatham Island	11.84	175	P	Pn	09 50 53.7	+0.1
KHZ	Kahutara	12.47	211	Pn	Pn	09 51 02.3	0.0
MSVF	Nonsavu	14.59	345	Pn	Pn	09 51 32.8	+1.4
MSVF	Nonsavu	14.59	345	Pn	Pn	09 51 31.3

comp=Z,13nm,0.8s
FORT Forrest 45.72 257 P **P 09 56 26.7 +0.5**
FORT IAmb IAmb 09 56 26.8
comp=Z,17nm,0.8s
JAY Jayapura 48.65 298 LR LR 10 15 17.5
comp=Z,92nm,18.4s,baz=198,slow=34
KNRA Kununurra 50.88 276 P **P 09 57 06.6 +0.4**
KNRA IAmb IAmb 09 57 39.1
comp=Z,40nm,1.9s
FITZ Fitzroy Crossi 52.42 271 P **P 09 57 17.6 -0.1**
FITZ Fitzroy Crossi 52.42 271 P **P 09 57 17.8 +0.1**
comp=Z,6.9nm,0.7s,baz=170,slow=9.1,SNR=17
FITZ LR LR 10 19 36.7
comp=Z,256nm,18.3s,baz=119,slow=36
comp=Z,6.9nm,0.7s
PSA00 Pilbara Seismi 55.85 264 P **P 09 57 42.1 -0.6**
MBWA Marble Bar 56.12 265 P **P 09 57 44.1 -0.6**
MBWA IAmb IAmb 09 57 46.2
comp=Z,7.9nm,0.7s
KIP Kipapa 56.38 22 P **P 09 57 47.2 +1.0**
GUMO Guam 57.60 316 LR LR 10 18 42.6
comp=Z,40nm,21.9s,baz=131,slow=32
QSPA South Pole Qui 58.19 180 P **P 09 57 59.8 +1.0**
QSPA IAmb IAmb 09 58 19.8
comp=Z,10nm,0.8s
QSPA South Pole Qui 58.19 180 P **P 09 57 59.3 +0.4**
comp=Z,2.5nm,0.8s,baz=9.3,slow=2.6,SNR=8.7
comp=Z,2.5nm,0.8s
KAPI Kappang 63.93 281 LR LR 10 26 37.6
comp=Z,105nm,19.3s,baz=108,slow=36
DAV Davao City (W) 66.31 295 LR LR 10 29 02.7
comp=Z,23nm,18.1s,baz=338,slow=37
BELA Belgrano 2 68.27 172 P **P 09 59 07.1 +1.7**
BELA IAmb IAmb 10 00 12.1
comp=Z,17nm,1.5s
MAW Mawson 70.90 201 LR LR 10 29 49.4
comp=Z,301nm,18.6s,baz=52,slow=35
JHJ Hachijo jima 2 76.00 324 LR LR 10 35 09.8
comp=Z,38nm,18.1s,baz=250,slow=37
TROLL Troll, Antarti 76.35 180 ⇓P **P 09 59 51.6 -2.2**
comp=Z,177nm,0.7s
SNAA Sanae 76.64 178 P **P 09 59 56.2 +0.9**
SNAA Sanae 76.64 178 ⇓P **P 09 59 55.8 +0.4**
comp=Z,54nm,0.6s
SNAA Sanae 76.64 178 P **P 09 59 55.7 +0.4**
comp=Z,2.7nm,0.8s,baz=197,slow=6.5,SNR=5.9
comp=Z,2.7nm,0.8s
VNA3 Neumayer Olymp 76.79 176 ⇓P **P 09 59 55.9 -0.2**
comp=Z,16nm,0.8s
VNA2 Neumayer--Watz 77.22 177 ⇓P **P 09 59 58.7 +0.1**
comp=Z,7.3nm,0.7s,baz=203,slow=4.6
VNA1 Neumayer--Stat 77.45 176 ⇓P **P 10 00 01.1 +1.3**
comp=Z,12nm,0.9s
JMM Marumori 79.38 328 P **P 10 00 09.4 -1.4**
PLCA Paso Flores 81.44 133 P **P 10 00 22.0 -0.2**
PLCA IAmb IAmb 10 01 43.2
comp=Z,34nm,1.9s
PLCA Paso Flores 81.44 133 P **P 10 00 21.4 -0.9**
comp=Z,2.5nm,0.9s,baz=253,slow=6.3,SNR=4.2
comp=Z,2.5nm,0.9s
LPIG La Paz 85.30 58 LR LR 10 31 06.4
comp=Z,42nm,20.4s,baz=214,slow=30
KSRS Korea Array 85.54 320 P **P 10 00 42.9 0.0**
comp=Z,1.1nm,0.8s,baz=141,slow=6.3,SNR=5.1
KSRS LR LR 10 38 33.2
comp=Z,17nm,18.1s,baz=105,slow=35
comp=Z,1.1nm,0.8s
PSI Prapat 85.64 276 LR LR 10 41 30.9
comp=Z,103nm,18.6s,baz=148,slow=38
PETK Petropavlovsk- 87.30 346 P **P 10 00 51.7 +0.4**
PETK Petropavlovsk- 87.30 346 P **P 10 00 50.4 -0.9**
comp=Z,3.3nm,0.8s,baz=152,slow=6.7,SNR=3.8
comp=Z,3.3nm,0.8s
NVAR Mina Array Bea 89.32 43 P **P 10 01 00.9 -0.6**
comp=Z,1.2nm,0.9s,baz=219,slow=7.9,SNR=8.3
comp=Z,1.2nm,0.9s
CN2 Changchun 91.38 323 *eP* **P 10 01 13.8 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BNX BinXian 91.78 325 ⇑P **P 10 01 10.8 -1.7**
BNX pmax pmax
comp=Z,5.0nm,0.7s
KLR Kul'dur 92.37 330 LR LR 10 39 29.6
comp=Z,35nm,18.4s,baz=132,slow=33
ELK Elko 92.63 43 LR LR 10 43 17.2
comp=Z,34nm,18.1s,baz=236,slow=36
CMAR Chiang Mai Arr 93.94 289 P **P 10 01 24.0 +0.8**
comp=Z,0.6nm,0.3s,baz=110,slow=3.8,SNR=1.2
comp=Z,0.6nm,0.3s
ANMO Albuquerque 94.49 51 LR LR 10 38 39.0
comp=Z,27nm,18.5s,baz=74,slow=32
XLT XiLinHaoTe 96.51 318 *eP* **P 10 01 39.0 +4.6**
XLT sP pwP 10 01 46.5 +3.9
XLT pmax pmax
comp=Z,5.0nm,0.6s
PDAR Pinedale Array 97.20 44 P **P 10 01 37.8 0.0**
comp=Z,0.2nm,0.8s,baz=276,slow=6.0,SNR=2.5
PDAR LR LR 10 42 55.4
comp=Z,35nm,18.5s,baz=247,slow=34
comp=Z,0.2nm,0.8s
MKAR Makanchi Array 118.78 309 PKPdf **PKPdf 10 06 52.4 -0.7**
MKAR Makanchi Array 118.78 309 PKP **PKPdf 10 06 51.9 -1.1**
comp=Z,0.6nm,0.7s,baz=70,slow=4.0,SNR=5.6
SMRT St. Maarten 120.15 87 PKPdf **PKPdf 10 06 55.6 -0.9**
EUNU Eureka 121.48 12 PKPdf **PKPdf 10 06 56.9 -0.4**
KURK Kurchatov 122.13 313 PKPdf **PKPdf 10 06 59.0 -0.2**
KURBB Kurchatov Arra 122.16 313 PKP **PKPdf 10 06 58.3 -1.0**
comp=Z,1.5nm,0.7s,baz=90,slow=1.6,SNR=11
TULEG Thule 125.23 16 PKPdf **PKPdf 10 07 05.2 +0.7**
KKAR Karatay Array 125.94 303 PKPdf **PKPdf 10 07 06.8 0.0**
KUQ Kuujjuuaa 126.65 39 PKPdf **PKPdf 10 07 07.0 -0.7**
BVAR Borovoye Array 127.52 315 PKP **PKPdf 10 07 08.9 -0.7**
comp=Z,1.6nm,0.7s,baz=70,slow=2.2,SNR=6.3
ARCES ARCESS Array B 140.08 347 PKP **PKPdf 10 07 29.9 -2.7**
comp=Z,6.4nm,1.1s,baz=0.0,slow=4.0,SNR=4.0
KBZ Khabaz 145.98 302 PKPbc **PKPdf 10 07 44.8 +1.0**
comp=Z,4.2nm,0.9s,baz=157,slow=6.6,SNR=8.8
FINES FINESS Array B 146.59 339 PKPdf **PKPdf 10 07 45.3 +1.1**
FINES FINESS Array B 146.59 339 PKPbc **PKPdf 10 07 44.8 +0.6**
comp=Z,10nm,0.8s,baz=31,slow=3.2,SNR=8.7
MARD Mardin 147.84 290 PKPbc **PKPbc 10 07 50.4 +0.2**
KOPT Kop Dagi 148.05 296 PKPbc **PKPdf 10 07 48.4 +0.6**
NC303 NORSAR Array S 150.06 351 PKPbc **PKPbc 10 07 54.7 -0.3**
NB2 NORSAR Subarra 150.26 351 PKP **PKPbc 10 07 54.7 -0.8**
comp=Z,17nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 150.26 351 PKPbc **PKPdf 10 07 53.1 +2.8**
comp=Z,1.3nm,0.6s,baz=14,slow=2.4,SNR=4.9
NC602 NORSAR Array S 150.51 351 PKPbc **PKPbc 10 07 56.0 0.0**
HFS Hagfors 150.74 348 PKPbc **PKPbc 10 07 56.8 +0.3**
comp=Z,3.5nm,0.7s,baz=94,slow=5.9,SNR=7.0
GHAJ Ghor Haditha 151.52 278 PKPbc **PKiKP 10 08 01.2 +1.5**
MMAI Mount Meron Ar 151.91 281 PKPbc **PKPbc 10 08 00.6 +0.3**
comp=Z,2.6nm,0.5s,baz=87,slow=5.9,SNR=6.8
AKASG Malin Array Be 152.52 321 PKPbc **PKPbc 10 08 01.1 +0.1**
AKASG Malin Array Be 152.52 321 PKPbc **PKPbc 10 08 00.4 -0.5**
comp=Z,2.6nm,0.7s,baz=60,slow=2.3,SNR=10
ILGA Ilgaz 153.08 299 PKPbc **PKPbc 10 08 03.5 +0.7**
BR131 Keskin Array S 153.33 296 PKPbc **PKPbc 10 08 03.5 +0.1**
BRTR Keskin Array B 153.33 296 PKPbc **PKPbc 10 08 02.9 -0.4**
BRTR Keskin Array B 153.33 296 PKPbc **PKPbc 10 08 03.2 -0.1**
comp=Z,2.4nm,0.6s,baz=145,slow=4.1,SNR=13
BUR08 Bucovina Ar. S 156.41 318 PKPdf **PKPdf 10 07 56.9 -2.8**
BUR08 PKPab **PKPab 10 08 28.8 +0.7**
BURAR Bucovina Array 156.41 318 PKPdf **PKPdf 10 07 57.7 -2.0**
BURAR PKPab **PKPab 10 08 28.3 +0.1**
KECS Kecovo 158.37 325 *e*PKP **PKPab 10 08 37.8 +1.4**
CLL Collm 159.02 341 *e*PKPab **PKPab 10 08 39.0 -0.1**
VYHS Vyhne 159.14 327 *e*PKP **PKPab 10 08 40.5 +0.7**
GERES GERESS Array B 160.95 336 PKPab **PKPab 10 08 45.9 -1.8**
LIT Litokhoron 161.59 302 PKPdf **PKPdf 10 08 03.0 -2.9**
LIT PKPab **PKPab 10 08 48.6 -2.2**

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*SOME **08** 10:11:22.5, 40°.45N×72°.65E, h10km*
*KRNET **08** 10:11:23.9±0.1, 40°.50N×72°.65E, h21km, mb2.2*
*ISU **08** 10:11:28, 39°.89N×71°.15E, h68km*
NNC 08 10:11:23.3±5.9, 40°.53N×72°.11E, h0km, mb2.6, mpv2.3, 13C-16D, Error ellipse: s-maj=48.5km s-min=22.8km az=3.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.51**	**90⇑**	*eP*	Pg	10 11 27.5	-5.6
OHH			⇑	*eS*	Sg	10 11 29.7	-10
CHMI	**Chimion**	**0.52**	**240**	P	Pn	10 11 42.2	+4.1
CHMI				S	Sn	10 11 52.1	+4.4
ARSB	**Arslanbob**	**1.03**	**39⇓**	*eP*	Pg	10 11 39.6	-3.5
ARSB			⇓	*eS*	Sg	10 11 52.1	-4.4
DRK	**Karamyk**	**1.08**	**193⇓**	*eP*	Pn	10 11 46.0	+0.1
DRK			⇓	*eS*	Sn	10 12 02.3	+0.6
BTK	**Batken**	**1.10**	**245⇓**	*eP*	Pn	10 11 50.9	+4.9
BTK			⇓	*eS*	Sn	10 12 10.2	+8.2
SFK	**Sufi-Kurgan**	**1.18**	**115⇓**	*eP*	Pg	10 11 39.2	-6.8
SFK			⇓	*eS*	Sg	10 11 50.4	-11
TRKS	**Terek-Say**	**1.24**	**324⇓**	*eP*	Pn	10 11 50.9	+2.8
TRKS			⇓	*eS*	Sn	10 12 10.6	+4.9
ARK	**Arkit**	**1.27**	**355⇓**	*eP*	Pn	10 11 49.8	+1.3
ARK			⇓	*eS*	Sn	10 12 08.7	+2.3
SALK	**Salom-Alik**	**1.34**	**74⇓**	*eP*	Pg	10 11 42.3	-6.8
SALK			⇓	*eS*	Sg	10 11 55.5	-11
MNAS	**Manas**	**1.98**	**8⇓**	*eP*	Pn	10 11 59.2	+1.0
MNAS			⇓	*eS*	Sb	10 12 24.9	-0.7
AML	**Almayashu**	**1.99**	**36⇑**	*eP*	Pn	10 11 56.6	-2.1
AML			⇑	*eS*	Sn	10 12 20.6	-3.9
ARLS	**Aral**	**2.13**	**51⇑**	*eP*	Pn	10 11 57.4	-3.0
ARLS			⇑	*eS*	Sn	10 12 21.8	-5.8
MRKS	**Merke**	**2.37**	**20**	*eP*	Pb	10 12 05.7	-1.2
	5.7nm,0.4s						
MRKS				*eS*	Sb	10 12 37.1	+0.4
	15nm,0.5s						
EKS2	**Erkin-Say**	**2.47**	**30⇓**	*eP*	Pn	10 12 03.4	-1.5
EKS2			⇓	*eS*	Sn	10 12 32.9	-3.0
AAK	**Ala-Archa**	**2.76**	**40**	⇓Pn	Pn	10 12 09.9	+0.9
	2.1nm,0.5s						
AAK			⇑	Sn	Sn	10 12 44.1	+1.0
	4.6nm,0.8s						
KK31	**Karatay Array**	**2.84**	**336**	⇑Pg	Pb	10 12 13.6	-1.3
	0.1nm,0.2s,baz=137,slow=13,SNR=3.8						
KK31				Lg	Lg	10 12 56.3	
	1.4nm,0.6s,baz=131,slow=28,SNR=4.8						
BRLS	**Borolday**	**3.02**	**326**	*eP*	Pg	10 12 21.2	-0.1
	0.6nm,0.2s						
BRLS				*eS*	Sg	10 13 03.2	+2.7
	1.0nm,0.3s						
TKM2	**Tokmak 2**	**3.54**	**46**	⇓Pg	Pb	10 12 27.3	+0.4
	0.4nm,0.4s						
TKM2			⇑	Lg	Lg	10 13 14.8	
	0.9nm,0.5s						

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*WEL **08** 10:20:01.3±1.1, 32°.5±5°.×17°.7W±1°.6, h12km, M4.6/7, mB5.0/4, ML5.0/8, MLv4.7/7, Mw(mB)4.3/4, Error ellipse: s-maj=22.0km s-min=4.8km az=101.9, confirmed*
*IDC **08** 10:20:03.2±1.0, 32°.16S×177°.78W, h0km, mb3.9/5, mbtmp3.9/6, ML3.5/1, MS3.7/5, Error ellipse: s-maj=34.7km s-min=26.9km az=147.0*
*NEIC **08** 10:20:05.7±1.2, 32°.1S±0°.1×177°.8W±0°.2, h10km±1km, mb4.5/12, Error ellipse: s-maj=26.7km s-min=19.9km az=121.0*
ISC 08 10:20:04.6±0.7, 31°.95S±0°.07×177°.9W±0°.1, h10km, n54, σ1§39/55, mb4.3/10, MS3.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**360**	P	**Pn**	**10 20 46.0**	**-1.7**
GLKZ				S	**Sn**	**10 21 17.2**	**-3.0**
MXZ	**Matakaoa Point**	**6.41**	**208**	Pn	**Pn**	**10 21 37.8**	**-1.2**
WMGZ	**Waiomatatini S**	**6.59**	**206**	P	**Pn**	**10 21 41.8**	**+0.3**
PKGZ	**Pakihiroa**	**6.76**	**208**	P	**Pn**	**10 21 42.6**	**-1.2**
HAZ	**Te Kaha**	**6.79**	**210**	P	**Pn**	**10 21 44.2**	**0.0**
HAZ				S	**Sn**	**10 23 04.0**	**+2.5**
PUZ	**Puketiti**	**6.87**	**206**	S	**Sn**	**10 23 03.0**	**-0.6**
RUGZ	**Raukumara Rang**	**7.01**	**210**	P	**Pn**	**10 21 45.7**	**-1.6**
TWGZ	**Tauwhareparae**	**7.07**	**207**	P	**Pn**	**10 21 46.7**	**-1.4**
CNGZ	**Carnagh Statio**	**7.25**	**205**	P	**Pn**	**10 21 48.5**	**-2.0**
MWZ	**Matawai**	**7.38**	**209**	P	**Pn**	**10 21 52.8**	**+0.4**
MWZ				S	**Sn**	**10 23 16.1**	**-0.2**
URZ	**Urewera**	**7.50**	**212**	Pn	**Pn**	**10 21 52.5**	**-1.5**
	0.8nm,0.3s,baz=6.1,slow=3.4,SNR=10.0						
URZ				Sn	**Sn**	**10 23 15.3**	**-3.7**
	4.4nm,0.3s,baz=352,slow=7.4,SNR=10						
	6.2nm,1.0s						
URZ	**Urewera**	**7.50**	**212**	P	**Pn**	**10 21 53.2**	**-0.8**
URZ				S	**Sn**	**10 23 18.2**	**-0.9**
WCZ	**Waipu Caves**	**7.56**	**236**	P	Pn	10 22 04.2	+9.3
RIGZ	**Rimuhau**	**7.61**	**206**	P	**Pn**	**10 21 56.3**	**+0.7**
OUZ	**Omahuta**	**7.80**	**243**	P	Pn	10 22 05.7	+7.7
SNGZ	**Shannon Statio**	**7.84**	**208**	P	**Pn**	**10 21 58.2**	**-0.5**
RTZ	**Ruatahuna**	**7.85**	**211**	Pn	**Pn**	**10 21 59.6**	**+0.7**
KNZ	**Kokohu**	**7.92**	**206**	P	Pn	10 21 56.6	-3.2
BKZ	**Black Stump Fm**	**8.52**	**211**	Pn	**Pn**	**10 22 07.7**	**-0.3**
BKZ	**Black Stump Fm**	**8.52**	**211**	P	**Pn**	**10 22 07.3**	**-0.8**
BKZ				S	**Sn**	**10 23 41.4**	**-2.9**
PRHZ	**Porangahau**	**9.40**	**206**	P	**Pn**	**10 22 18.6**	**-1.4**
DVHZ	**Dannevirke**	**9.61**	**208**	P	**Pn**	**10 22 22.9**	**-0.1**
BFZ	**Birch Farm**	**9.90**	**207**	Pn	**Pn**	**10 22 27.1**	**+0.1**
MRZ	**Mangatainoka R**	**10.15**	**209**	Pn	**Pn**	**10 22 30.2**	**-0.1**
MRZ	**Mangatainoka R**	**10.15**	**209**	P	**Pn**	**10 22 28.2**	**-2.2**
MSVF	**Nonsavu**	**14.61**	**345**	LR	LR	10 28 16.1	
	comp=Z,177nm,18.2s,baz=190,slow=33						
TOO	**Toolangi**	**30.45**	**249**	P	**P**	**10 26 16.4**	**-1.0**
TOO				IAmb	IAmb	10 26 39.4	
	comp=Z,5.1nm,1.2s						
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**10 26 50.3**	**-0.3**
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**10 26 51.8**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=123,slow=4.8,SNR=5.1						
STKA				LR	LR	10 40 04.6	
	comp=Z,121nm,18.1s,baz=86,slow=35						
	comp=Z,1.6nm,0.8s						
BBOO	**Buckleboo**	**38.64**	**256**	P	**P**	**10 27 28.3**	**0.0**
BBOO				IAmb	IAmb	10 27 31.0	
	comp=Z,9.0nm,1.2s						
PMG	**Port Moresby**	**39.35**	**297**	LR	LR	10 42 08.6	
	comp=Z,70nm,19.9s,baz=210,slow=34						
AS31	**Alice Springs**	**43.12**	**269**	P	**P**	**10 28 06.2**	**+0.8**
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**10 28 06.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=106,slow=7.1,SNR=21						
	comp=Z,1.5nm,0.6s						
WB2	**Warramunga Arr**	**44.23**	**274**	P	**P**	**10 28 15.4**	**+1.1**
WB2				IAmb	IAmb	10 28 21.5	
	comp=Z,11nm,1.3s						
WRAB	**Tennant Creek**	**44.24**	**274**	P	**P**	**10 28 15.7**	**+1.3**
WRAB				IAmb	IAmb	10 28 40.4	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**10 28 15.7**	**+1.3**
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**10 28 15.2**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=112,slow=8.0,SNR=29						
WRA				LR	LR	10 45 59.6	
	comp=Z,120nm,18.7s,baz=125,slow=35						
	comp=Z,1.5nm,0.3s						
WB0	**Warramunga Arr**	**44.27**	**274**	P	**P**	**10 28 15.8**	**+1.2**
WB0				IAmb	IAmb	10 28 17.5	
	comp=Z,5.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.44**	**271**	P	**P**	**10 29 18.9**	**+1.3**
QSPA	**South Pole Qui**	**58.17**	**180**	P	**P**	**10 29 58.5**	**0.0**
QSPA				IAmb	IAmb	10 30 36.4	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**58.17**	**180**	P	**P**	**10 29 57.2**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=82,slow=1.9,SNR=5.1						
	comp=Z,0.6nm,0.8s						
KAPI	**Kappang**	**63.96**	**281**	LR	LR	10 57 59.2	
	comp=Z,45nm,19.5s,baz=110,slow=36						
BO01	**Tunca**	**84.69**	**127**	P	**P**	**10 32 38.0**	**-0.9**
NVAR	**Mina Array Bea**	**89.32**	**43**	P	**P**	**10 33 02.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=232,slow=3.5,SNR=2.2						
	comp=Z,0.3nm,0.6s						
M24K	**Tolsona, Glenn**	**97.16**	**14**	P	**P**	**10 33 36.2**	**-0.5**
KURBB	**Kurchatov Arra**	**122.19**	**313**	PKP	**PKPdf**	**10 38 59.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=103,slow=1.7,SNR=3.8						
BVAR	**Borovoye Array**	**127.55**	**315**	PKP	**PKPdf**	**10 39 09.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=108,slow=3.2,SNR=2.4						
KBZ	**Khabaz**	**146.01**	**302**	PKPbc	**PKPdf**	**10 39 45.2**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=94,slow=3.9,SNR=3.7						
FIA1	**FINESS Array S**	**146.61**	**339**	PKPbc	**PKPbc**	**10 39 47.5**	**+1.9**
FINES	**FINESS Array B**	**146.61**	**339**	PKPbc	**PKPdf**	**10 39 46.8**	**+2.7**
FINES	**FINESS Array B**	**146.61**	**339**	PKPbc	**PKPdf**	**10 39 46.1**	**+2.1**
	comp=Z,6.0nm,0.7s,baz=40,slow=3.3,SNR=18						
HFS	**Hagfors**	**150.77**	**348**	PKPbc	**PKPbc**	**10 39 57.4**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=50,slow=5.3,SNR=2.2						
BRTR	**Keskin Array B**	**153.36**	**296**	PKPbc	**PKPbc**	**10 40 03.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=106,slow=2.7,SNR=4.4						
MSSA	**Maissana**	**166.34**	**337**	PKPdf	**PKPdf**	**10 40 09.0**	**-1.0**
MSSA				PKPab	**PKPab**	**10 41 11.7**	**+0.4**

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*NAO **08** 10:22:52.2±999.0, 72°.76N×4°.15E, h9km±246km, ML2.5*
*BER **08** 10:22:55.1±3.6, 72°.90N×4°.01E, h20km±21km, mb(Pn)4.0, ML2.5(NAO), Confirmed Earthquake*

ISC 08 10:22:53.4±1.6, 72°.73N±0°.06×5°.0E±0°.1, h10km, n35, σ1§82/44, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**4.36**	**59**	*eP*	**Pn**	**10 23 59.8**	**+0.3**
BJO1				*eS*	**Sn**	**10 24 48.8**	**-1.4**
BJO1				IAML		10 24 53.6	
	comp=Z,3.7nm,0.7s						
HSPB	**Hornsund (broa**	**5.11**	**28**	*eP*	**Pn**	**10 24 08.8**	**-1.0**
HSPB	**Hornsund (broa**	**5.11**	**28**	Pn	**Pn**	**10 24 09.4**	**-0.3**
LOF	**Lofoten**	**5.44**	**144**	*eP*	**Pn**	**10 24 16.1**	**+1.7**
LOF				IAML		10 25 24.9	
	comp=Z,3.6nm,0.8s						
LOF	**Lofoten**	**5.44**	**144**	Pn	**Pn**	**10 24 16.5**	**+2.1**
LOF				Sn	**Sn**	**10 25 12.9**	**-3.9**
TRO	**Tromso**	**5.48**	**118**	*eP*	**Pn**	**10 24 17.0**	**+2.0**
TRO				*eS*	**Sn**	**10 25 17.2**	**-0.7**
TRO				IAML		10 25 19.4	
	comp=Z,3.6nm,0.9s						
TRO	**Tromso**	**5.48**	**118**	Pn	**Pn**	**10 24 16.9**	**+2.0**
TRO				Sn	**Sn**	**10 25 14.9**	**-2.9**
JETT	**Jettan, Norway**	**5.92**	**115**	Pn	**Pn**	**10 24 23.1**	**+2.0**
JETT	**Jettan, Norway**	**5.92**	**115**	Pn	**Pn**	**10 24 23.1**	**+2.0**
STEI	**Steigen**	**5.93**	**139**	*eP*	**Pn**	**10 24 23.3**	**+2.2**
STEI				*eS*	**Sn**	**10 25 27.4**	**-1.6**
STEI				IAML		10 25 33.3	
	comp=Z,2.8nm,0.7s						
STEI	**Steigen**	**5.93**	**139**	Pn	**Pn**	**10 24 22.9**	**+1.8**
SPA0	**Spitsbergen Ar**	**6.17**	**22**	Pn	**Pn**	**10 24 25.0**	**+0.6**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**6.17**	**22**	Pn	**Pn**	**10 24 25.0**	**+0.6**
	baz=207,slow=18						
HAMF	**Hammerfest**	**6.25**	**100**	*eP*	**Pn**	**10 24 26.6**	**+1.1**
KIF	**Kilpisjarvi**	**6.40**	**118**	*eP*	**Pn**	**10 24 29.4**	**+1.9**
KIF	**Kilpisjarvi**	**6.40**	**118**	Pn	**Pn**	**10 24 29.5**	**+2.0**
FAUS	**Fauske**	**6.42**	**142**	*eP*	**Pn**	**10 24 31.0**	**+3.2**
FAUS				*eS*	**Sn**	**10 25 39.7**	**-1.2**
FAUS				IAML		10 25 46.4	
	comp=Z,2.0nm,0.4s						
KBS	**Kingsbay**	**6.46**	**12**	*eP*	**Pn**	**10 24 28.2**	**-0.1**
KBS				IAML		10 25 44.5	
	comp=Z,1.6nm,1.0s						
KBS	**Kingsbay**	**6.46**	**12**	Pn	**Pn**	**10 24 28.2**	**-0.1**
KONS	**Konsvik**	**6.87**	**152**	*eP*	**Pn**	**10 24 35.8**	**+1.9**
KONS				*eS*	**Sn**	**10 25 50.8**	**-1.2**
KONS				IAML		10 25 52.5	
	comp=Z,3.1nm,1.1s						
STOK	**Stokkvaagen**	**7.01**	**152**	*eP*	**Pn**	**10 24 37.5**	**+1.6**
STOK				*eS*	**Sn**	**10 25 53.6**	**-1.9**
STOK				IAML		10 25 59.6	
	comp=Z,2.6nm,0.6s						
KTK1	**Kautokeino**	**7.05**	**113**	*eP*	**Pn**	**10 24 38.8**	**+2.3**
KTK1				*eS*	**Sn**	**10 25 57.5**	**+1.0**
KTK1				IAML		10 25 57.6	
	comp=Z,1.6nm,0.3s						
LEIR	**Leirfjorden**	**7.23**	**153**	*eP*	**Pn**	**10 24 40.1**	**+1.2**
LEIR				*eS*	**Sn**	**10 25 59.3**	**-1.7**
LEIR				IAML		10 26 03.5	
	comp=Z,3.4nm,0.6s						
DBG	**Daneborg**	**7.30**	**294**	*eP*	Pn	10 24 33.6	-6.3
DBG	**Daneborg**	**7.30**	**294**	Pn	Pn	10 24 34.6	-5.2
ARA0	**ARCESS Array S**	**7.37**	**106**	Pn	**Pn**	**10 24 43.1**	**+2.3**
	baz=319,slow=14						
ARA0	**ARCESS Array S**	**7.37**	**106**	Pn	**Pn**	**10 24 43.1**	**+2.3**
	baz=319,slow=14						
MOR8	**Moi Rana**	**7.37**	**149**	*eP*	**Pn**	**10 24 43.0**	**+2.1**
MOR8				*eS*	**Sn**	**10 26 02.7**	**-1.8**
MOR8				IAML		10 26 05.8	
	comp=Z,1.6nm,0.4s						
DAG	**Danmarks Havn**	**7.38**	**314**	*eP*	Pn	10 24 35.3	-5.6
DAG				*eS*	Sn	10 25 45.1	-19
HEF	**Hetta**	**7.57**	**116**	*eP*	**Pn**	**10 24 45.5**	**+1.9**
HEF				*eS*	**Sn**	**10 26 06.9**	**-2.3**
KEV	**Kevo**	**7.68**	**102**	*eP*	**Pn**	**10 24 45.9**	**+0.8**
KEV	**Kevo**	**7.68**	**102**	Pn	**Pn**	**10 24 45.3**	**+0.3**
VADS	**Vadso**	**8.18**	**97**	*eP*	**Pn**	**10 24 53.4**	**+1.4**
HFS	**Hagfors**	**13.10**	**160**	Pn	**Pn**	**10 26 00.1**	**+1.0**
	baz=343,slow=14						
HFS	**Hagfors**	**13.10**	**160**	Pn	**Pn**	**10 26 00.1**	**+1.0**
	baz=343,slow=14						

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*SOME **08** 10:23:48.5, 41°.93N×70°.35E, h10km*
NNC 08 10:23:53.0±3.2, 42°.18N×70°.37E, h0km, mb2.9, mpv2.2, 3C-3D, Error ellipse: s-maj=18.8km s-min=12.8km az=31.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.93**	**6**	⇓P	Pg	10 24 10.3	-0.6
	0.3nm,0.3s,baz=191,slow=18,SNR=31						
KK31			⇑	S	Sb	10 24 24.2	-0.8
	2.2nm,0.3s,baz=184,slow=31,SNR=22						
BRLS	**Borolday**	**0.94**	**335**	*eP*	Pg	10 24 09.0	-2.0
	0.6nm,0.1s						
BRLS				*eS*	Sg	10 24 23.4	+0.1
	6.7nm,0.1s						
AAK	**Ala-Archa**	**3.09**	**80**	⇑Pn	Pn	10 24 45.5	+2.4
	0.5nm,0.3s						
AAK			⇓	Lg	Lg	10 25 27.9	
	2.1nm,1.1s						
TKM2	**Tokmak 2**	**3.93**	**77**	⇓Pg	Pb	10 25 05.5	+2.2
	1.0nm,0.7s						
TKM2			⇑	L

NEST				AML	AML	10 31 37.5	
	comp=E,0.5nm,0.2s						
NEST				AMd		10 32 12.3	
FNA	**Florina**	**0.49**	**85**	⇑Pg	**Pb**	**10 31 33.9**	**-0.2**
FNA				Sg	**Sb**	**10 31 42.4**	**+0.9**
FNA				AML	AML	10 31 44.9	
	comp=E,0.4nm,0.4s						
FNA	**Florina**	**0.49**	**85**	*i* Pg	**Pn**	**10 31 34.9**	**-1.7**
FNA				*i* Sg	**Sb**	**10 31 43.2**	**+1.8**
LSK	**Leskovik**	**0.60**	**190**	Pg	**Pg**	**10 31 33.2**	**-1.6**
LSK				Sg	**Sg**	**10 31 41.8**	**-0.8**
LSK				AML	AML	10 31 43.1	
	comp=E,1.6nm,0.6s						
LSK				AML	AML	10 31 43.6	
	comp=E,0.8nm,0.3s						
LSK				AMd		10 32 19.6	
PHP	**Peshkopia**	**0.97**	**347**	Pg	**Pn**	**10 31 42.2**	**-1.0**
PHP				Sg	**Sn**	**10 31 55.9**	**-1.3**
SRN	**Sarande**	**1.03**	**213**	Pg	**Pg**	**10 31 42.2**	**-0.7**
SRN				Sg	**Sg**	**10 31 55.7**	**-0.5**
IGT	**Igoumenitsa**	**1.24**	**195**	Pn	**Pn**	**10 31 46.6**	**-0.3**
IGT				Sn	**Sg**	**10 32 03.4**	**+0.1**
IGT	**Igoumenitsa**	**1.24**	**195**	*i* Pg	**Pg**	**10 31 48.7**	**+1.6**
IGT				*i* Sg	**Sn**	**10 32 04.9**	**+1.1**

*THE **08** 10:37:12.9, 36°.41N×28°.56E, h6km±2km, ML2.5/2, Error ellipse: s-maj=2.9km s-min=1.1km az=341.0*
*ISK **08** 10:37:12.6, 36°.46N×28°.52E, h17km, ML2.7/24*
*ATH **08** 10:37:13.2, 36°.43N×28°.52E, h24km±4km, ML2.6/7, Manual Solution by D.Makaris First location: 2019/03/08 10:38:49, This location: 2019/03/08 18:48:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 3 km*
*AFAD **08** 10:37:15.1, 36°.53N×28°.62E, h8km±6km, ML2.5*
ISC 08 10:37:13.0±0.9, 36°.45N±0°.03×28°.54E±0°.02, h16km±7km, n46, σ0°.83/65, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODB	**Rodos**	**0.25**	**270**	P	**Pb**	**10 37 19.6**	**+0.5**
RODB				S	**Sg**	**10 37 23.2**	**+0.8**
DALY	**Dalyan (Mula)**	**0.38**	**14**	Pg	**Pg**	**10 37 20.7**	**-0.1**
DALY				Sg	**Sb**	**10 37 26.7**	**-0.3**
ARG	**Arkhangelos**	**0.40**	**235**	Pg	**Pg**	**10 37 21.1**	**-0.1**
ARG				Sg	**Sg**	**10 37 27.5**	**+0.8**
ARG	**Arkhangelos**	**0.40**	**235**	P	**Pg**	**10 37 21.1**	**-0.1**
ARG				S	**Sg**	**10 37 27.1**	**+0.4**
	692nm,0.4s						
ARG	**Arkhangelos**	**0.40**	**235**	P	**Pg**	**10 37 21.2**	**-0.1**
ARG				S	**Sg**	**10 37 27.8**	**+1.1**
TURN	**Turunc**	**0.40**	**325**	Pg	**Pg**	**10 37 21.2**	**0.0**
TURN	**Turunc**	**0.40**	**325**	P	**Pg**	**10 37 20.2**	**-1.0**
TURN				*i* AML	AML	10 37 28.0	
	comp=N,1μm,0.4s						
TURN				*i* AML	AML	10 37 28.0	
	comp=E,731nm,0.3s						
TURN				S	**Sb**	**10 37 29.2**	**+1.6**
FETY	**Fethiye**	**0.48**	**67**	Pg	**Pb**	**10 37 22.8**	**-0.3**
FETY				Sg	**Sb**	**10 37 30.2**	**+0.3**
FETY	**Fethiye**	**0.48**	**67**	P	**Pb**	**10 37 23.5**	**+0.4**
FETY				S	**Sn**	**10 37 33.3**	**0.0**
SABU	**Mula-Dalaman**	**0.51**	**43**	P	**Pg**	**10 37 22.7**	**-0.6**
SABU				S	**Sg**	**10 37 29.2**	**-0.9**
SABU				*i* AML	AML	10 37 32.0	
	comp=N,250nm,0.4s						
SABU				*i* AML	AML	10 37 35.0	
	comp=E,148nm,0.2s						
IZZE	**Mula-Seydike**	**0.56**	**91**	P	**Pb**	**10 37 25.1**	**+0.8**
IZZE				S	**Sb**	**10 37 32.5**	**+0.4**
IZZE				*i* AML	AML	10 37 39.0	
	comp=N,390nm,0.3s						
YER	**Yerkesik**	**0.72**	**344**	Pg	**Pb**	**10 37 26.7**	**-0.4**
DATC	**Datca-Mugla**	**0.77**	**294**	Pg	**Pb**	**10 37 27.6**	**-0.4**
DATC				Sg	**Sb**	**10 37 38.3**	**+0.1**
CAME	**Cameli-Denizli**	**0.79**	**51**	Pg	**Pg**	**10 37 28.5**	**0.0**
DAT	**Datca**	**0.82**	**290**	Pg	**Pb**	**10 37 28.7**	**-0.2**
AKAS	**Kas**	**0.89**	**104**	Pg	**Pg**	**10 37 30.2**	**-0.1**
AKAS	**Kas**	**0.89**	**104**	P	**Pb**	**10 37 28.4**	**-1.7**
AKAS				S	**Sn**	**10 37 46.4**	**+2.9**
KSL	**Kastellorizon**	**0.90**	**109**	P	**Pb**	**10 37 29.4**	**-0.7**
KSL	**Kastellorizon**	**0.90**	**109**	P	**Pb**	**10 37 29.9**	**-0.2**
KSL				S	**Sg**	**10 37 42.0**	**-0.2**
CAEL	**Denizli, Camel**	**0.92**	**43**	P	**Pn**	**10 37 31.7**	**+0.3**
CAEL				S	**Sn**	**10 37 46.4**	**+2.0**
CAEL				*i* AML	AML	10 37 47.0	
	comp=E,243nm,0.5s						
CAEL				*i* AML	AML	10 37 52.0	
	comp=N,232nm,0.5s						
KNIK	**Mula-Seydike**	**0.93**	**64**	P	**Pb**	**10 37 29.2**	**-1.5**
KNIK				S	**Sb**	**10 37 42.3**	**-0.5**
KNIK				*i* AML	AML	10 37 46.0	
	comp=E,83nm,0.4s						
MLSB	**Milas**	**1.04**	**325**	Pg	**Pb**	**10 37 32.7**	**0.0**
GOLH	**Golhisar**	**1.14**	**46**	P	**Pg**	**10 37 35.0**	**-0.1**
GOLH				S	**Sg**	**10 37 51.3**	**+1.4**
GOLH				*i* AML	AML	10 37 52.0	
	comp=E,165nm,0.8s						
GOLH				*i* AML	AML	10 37 53.0	
	comp=N,214nm,0.4s						
ELL	**Elmali**	**1.15**	**74**	Pn	**Pg**	**10 37 34.8**	**-0.4**
ELL	**Elmali**	**1.15**	**74**	P	**Pg**	**10 37 35.2**	**+0.1**
BODT	**Bodrum**	**1.16**	**302**	Pn	**Pn**	**10 37 33.7**	**-0.8**
APMY	**Acipayam-Deniz**	**1.19**	**31**	Pn	**Pn**	**10 37 34.9**	**-0.2**
KARP	**Karpathos**	**1.43**	**232**	Pn	**Pn**	**10 37 38.4**	**+0.1**
KARP	**Karpathos**	**1.43**	**232**	P	**Pn**	**10 37 37.9**	**-0.3**
KARP				S	**Sn**	**10 37 56.4**	**-0.3**
	220nm,0.4s						
KARP	**Karpathos**	**1.43**	**232**	P	**Pn**	**10 37 37.9**	**-0.3**
KARP				S	**Sn**	**10 37 55.8**	**-0.9**
NAZL	**Nazilli-Aydin**	**1.53**	**353**	Pn	**Pn**	**10 37 39.8**	**+0.2**
KORT	**Korkueli**	**1.56**	**69**	Pn	**Pn**	**10 37 40.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.58**	**341**	Pn	**Pn**	**10 37 40.3**	**-0.2**
GCAM	**G?zelcaml?**	**1.63**	**321**	Pn	**Pn**	**10 37 40.9**	**0.0**
SMG	**Samos**	**1.85**	**313**	P	**Pn**	**10 37 43.7**	**-0.3**
SMG	**Samos**	**1.85**	**313**	P	**Pn**	**10 37 43.6**	**-0.5**
SMG				S	**Sn**	**10 38 06.1**	**-1.1**
ODEM	**Odemis-Izmir**	**1.86**	**349**	Pn	**Pn**	**10 37 44.2**	**-0.1**
KULA	**Kula-Manisa**	**2.07**	**3**	Pn	**Pn**	**10 37 47.3**	**+0.2**
ZKR	**Zakros**	**2.31**	**235**	Pn	**Pn**	**10 37 50.7**	**+0.4**
ZKR	**Zakros**	**2.31**	**235**	P	**Pn**	**10 37 50.9**	**+0.6**
GORD	**Gordes-Manisa**	**2.48**	**354**	Pn	**Pn**	**10 37 51.8**	**-0.9**
TVSB	**Tavsanli**	**3.09**	**13**	Pn	**Pn**	**10 38 00.4**	**-0.7**
IDI	**Anoyia**	**3.18**	**250**	P	**Pn**	**10 38 00.8**	**-1.6**
HDMB	**Hadím**	**3.22**	**80**	Pn	**Pn**	**10 38 04.0**	**+1.0**
ALFC	**Alefka**	**3.55**	**110**	P	**Pn**	**10 38 06.0**	**-1.4**
NATA	**Nata**	**3.68**	**116**	P	**Pn**	**10 38 07.9**	**-1.4**

*IDC **08** 10:40:14.1±0.9, 37°.55N×20°.68E, h0km, mb3.8/13, mbtmp3.7/19, ML3.5/4, MS3.2/4, Error ellipse: s-maj=19.6km s-min=15.1km az=163.0*
*NEIC **08** 10:40:15.0±2.4, 37°.46N±0°.06×20°.43E±0°.03, h10km±1km, mb4.4/12, Error ellipse: s-maj=9.6km s-min=4.3km az=347.0*
*THE **08** 10:40:17.4, 37°.48N×20°.49E, h0km±3km, ML3.7/7, Error ellipse: s-maj=4.6km s-min=1.3km az=214.0*
*ATH **08** 10:40:18.4, 37°.54N×20°.55E, h8km±2km, ML3.5/46, Manual Solution by D.Makaris First location: 2019/03/08 10:40:36, This location: 2019/03/08 20:04:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
ISC 08 10:40:15.5±1.2, 37°.45N±0°.03×20°.47E±0°.03, h11km±7km, n154, σ1°.50/195, mb3.8/19, MS3.4/4, 5C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.39**	**49**	P	**Pg**	**10 40 23.8**	**+0.7**
LTHK				S	**Sb**	**10 40 29.2**	**-1.2**
	29μm,0.4s						
LTHK	**Lithakia**	**0.39**	**49**	P	**Pb**	**10 40 24.0**	**-0.4**
LTHK				S	**Sb**	**10 40 28.2**	**-2.2**
ORTH	**Orthonies,Zaky**	**0.44**	**24**	P	**Pb**	**10 40 25.1**	**-0.1**
ORTH				S	**Sb**	**10 40 30.3**	**-1.5**
KYPS	**Kipseli, Zakin**	**0.46**	**38**	P	**Pb**	**10 40 25.7**	**0.0**
KYPS				S	**Sg**	**10 40 30.1**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.67**	**8**	P	**Pg**	**10 40 29.0**	**+0.6**
PSDA				S	**Sb**	**10 40 39.4**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.67**	**8**	P	**Pb**	**10 40 29.3**	**+0.2**
PSDA				S	**Sb**	**10 40 37.4**	**-1.0**
RTZL	**Ratzakli, Kefa**	**0.67**	**21**	P	**Pb**	**10 40 28.9**	**-0.2**
RTZL				S	**Sb**	**10 40 38.8**	**+0.4**
CLEM	**Kylliini,Ilia,G**	**0.68**	**50**	P	**Pb**	**10 40 29.9**	**+0.4**
CLEM				S	**Sb**	**10 40 37.5**	**-1.4**
VLS	**Valsamata**	**0.73**	**8**	P	**Pb**	**10 40 30.2**	**0.0**
VLS				S	**Sg**	**10 40 38.8**	**-0.3**
DMLN	**Damoulianata-K**	**0.79**	**355**	P	**Pg**	**10 40 31.3**	**+0.6**
DMLN				S	**Sb**	**10 40 43.2**	**+1.3**
	14μm,0.9s						
DMLN	**Damoulianata-K**	**0.79**	**355**	P	**Pb**	**10 40 31.7**	**+0.5**
DMLN				S	**Sb**	**10 40 41.9**	**0.0**
SMHA	**Samh**	**0.81**	**10**	P	**Pb**	**10 40 32.2**	**+0.7**
SMHA				S	**Sb**	**10 40 41.3**	**-1.2**
ZARO	**Zacharo**	**0.94**	**88**	P	**Pb**	**10 40 34.8**	**+1.0**
AMT	**Artemida-Makis**	**0.99**	**85**	P	**Pg**	**10 40 35.1**	**+0.6**
AMT				S	**Sb**	**10 40 47.9**	**+0.1**
RLS	**Riolos of Patr**	**0.99**	**52**	P	**Pb**	**10 40 35.1**	**+0.4**
RLS				S	**Sb**	**10 40 46.6**	**-1.2**
FSK	**Fiskardo**	**1.01**	**4**	P	**Pg**	**10 40 34.8**	**0.0**
FSK				S	**Sn**	**10 40 50.0**	**+0.2**
	4μm,0.8s						
FSK	**Fiskardo**	**1.01**	**4**	P	**Pb**	**10 40 35.7**	**+0.8**
FSK				S	**Sb**	**10 40 48.1**	**-0.1**
AXS	**Araxos**	**1.03**	**44**	P	**Pb**	**10 40 35.8**	**+0.4**
AXS				S	**Sb**	**10 40 48.4**	**-0.5**
DRO	**Drossia**	**1.10**	**63**	P	**Pb**	**10 40 36.9**	**+0.3**
DRO				S	**Sn**	**10 40 52.7**	**+0.5**
	3μm,0.7s						
DRO	**Drossia**	**1.10**	**63**	P	**Pb**	**10 40 37.1**	**+0.5**
DRO				S	**Sb**	**10 40 50.4**	**-0.6**
EVGI	**Lefkada island**	**1.17**	**7**	P	**Pg**	**10 40 38.2**	**+0.2**
EVGI				S	**Sn**	**10 40 55.0**	**+1.1**
	2μm,0.2s						
EVGI	**Lefkada island**	**1.17**	**7**	P	**Pn**	**10 40 38.7**	**+0.8**
EVGI				S	**Sb**	**10 40 52.9**	**-0.1**
ITM	**Ithomi**	**1.20**	**103**	Pn	**Pg**	**10 40 38.4**	**0.0**
ITM	**Ithomi**	**1.20**	**103**	P	**Pg**	**10 40 39.6**	**+1.2**
ITM				S	**Sb**	**10 40 54.7**	**+1.1**
DRAG	**Dragano-Lefkad**	**1.23**	**4**	P	**Pg**	**10 40 39.0**	**-0.1**
DRAG				S	**Sn**	**10 40 58.4**	**+3.1**
DRAG	**Dragano-Lefkad**	**1.23**	**4**	P	**Pb**	**10 40 39.4**	**+0.6**
DRAG				S	**Sb**	**10 40 54.9**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.27**	**8**	P	**Pn**	**10 40 41.3**	**+2.1**
NYDR				S	**Sn**	**10 40 58.9**	**+2.7**
	1μm,0.6s						
UPR	**University Cam**	**1.33**	**51**	P	**Pg**	**10 40 43.3**	**+2.3**
UPR				S	**Sn**	**10 41 00.6**	**+2.8**
LKD2	**Lefkada island**	**1.34**	**6**	P	**Pg**	**10 40 41.7**	**+0.4**
LKD2				S	**Sn**	**10 40 58.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.38**	**6**	P	**Pg**	**10 40 42.1**	**+0.2**
TSLK				S	**Sn**	**10 41 03.0**	**+4.1**
	2μm,0.8s						
TSLK	**Tsoukalades, L**	**1.38**	**6**	P	**Pg**	**10 40 42.2**	**+0.3**
TSLK				S	**Sn**	**10 40 59.5**	**+0.6**
PVO	**Paravola**	**1.43**	**35**	P	**Pg**	**10 40 43.5**	**+0.6**
PVO				S	**Sn**	**10 40 59.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.46**	**66**	P	**Pg**	**10 40 43.7**	**+0.2**
KLV				S	**Sg**	**10 41 02.2**	**-0.2**
EFP	**Efpalio**	**1.50**	**49**	P	**Pg**	**10 40 43.9**	**-0.2**
EFP	**Efpalio**	**1.50**	**49**	P	**Pb**	**10 40 43.5**	**+0.2**
EFP				S	**Sg**	**10 41 01.8**	**-1.8**
ALIK	**Aliki, Aigiali**	**1.53**	**58**	P	**Pg**	**10 40 45.8**	**+1.0**
GUR	**Goura**	**1.56**	**71**	P	**Pb**	**10 40 45.1**	**+0.6**
GUR	**Goura**	**1.56**	**71**	P	**Pb**	**10 40 45.0**	**+0.6**
GUR				S	**Sg**	**10 41 04.6**	**-1.2**
ANX	**Ano Chora**	**1.61**	**45**	P	**Pg**	**10 40 46.8**	**+0.3**
ANX	**Ano Chora**	**1.61**	**45**	P	**Pg**	**10 40 47.2**	**+0.8**
ANX				S	**Sg**	**10 41 06.8**	**-0.6**
KALE	**Kalithea**	**1.62**	**54**	P	**Pg**	**10 40 46.7**	**+0.2**
KALE	**Kalithea**	**1.62**	**54**	P	**Pg**	**10 40 46.9**	**+0.3**
KALE				S	**Sb**	**10 41 05.5**	**-0.4**
EVR	**Evrytania**	**1.80**	**35**	P	**Pb**	**10 40 48.6**	**0.0**
TETR	**Tetrakomo, Epi**	**1.99**	**18**	P	**Pb**	**10 40 51.7**	**-0.1**
TETR				S	**Sb**	**10 41 15.1**	**-1.6**
MAKR	**Makrakomi, Fth**	**2.03**	**40**	P	**Pb**	**10 40 53.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.03**	**40**	P	**Pb**	**10 40 53.0**	**+0.5**
LTK	**Loutraki**	**2.06**	**73**	P	**Pn**	**10 40 51.4**	**+1.3**
LTK				S	**Sb**	**10 41 17.9**	**-0.6**
IGT	**Igoumenitsa**	**2.08**	**357**	P	**Pb**	**10 40 53.3**	**+0.1**
IGT				S	**Sn**	**10 41 17.4**	**+1.2**
VLI	**Veliai**	**2.11**	**110**	P	**Pn**	**10 40 53.2**	**+2.5**
VLI				S	**Sb**	**10 41 20.9**	**+1.1**
KRND	**KRANIDI**	**2.14**	**91**	P	**Pn**	**10 40 53.6**	**+2.5**
KRND				S	**Sn**	**10 41 19.4**	**+1.8**
AXAR	**Agios Charalam**	**2.17**	**52**	P	**Pb**	**10 40 53.9**	**-0.8**
AXAR	**Agios Charalam**	**2.17**	**52**	P	**Pb**	**10 40 54.0**	**-0.8**
AXAR				S	**Sn**	**10 41 19.3**	**+0.8**
JAN	**Janina**	**2.22**	**8**	P	**Pn**	**10 40 54.4**	**+2.1**
KEK	**Kerkira**	**2.32**	**347**		**Pn**	**10 40 51.9**	**-1.7**
KEK	**Kerkira**	**2.32**	**347**	P	**Pn**	**10 40 56.1**	**+2.5**
LKR	**Lokris**	**2.33**	**58**	P	**Pn**	**10 40 55.2**	**+1.5**
MET4	**Agioi Theodoro**	**2.34**	**85**	P	**Pn**	**10 40 55.3**	**+1.5**
VIL2	**Platees**	**2.34**	**70**	P	**Pn**	**10 40 56.2**	**+2.2**
VILL	**Villia**	**2.36**	**72**	P	**Pn**	**10 40 55.0**	**+0.8**
THL	**Klokotos Trika**	**2.43**	**29**	P	**Pn**	**10 40 57.5**	**+2.3**
KPRO	**Kipourio**	**2.59**	**15**	P	**Pn**	**10 40 60.0**	**+2.5**
TYRN	**Tyrnavos**	**2.64**	**31**	P	**Pn**	**10 40 60.0**	**+1.9**
VLY	**Voula,Athens**	**2.67**	**80**	P	**Pn**	**10 41 00.1**	**+1.6**
ATHU	**Athens Univers**	**2.68**	**78**	P	**Pn**	**10 41 00.2**	**+1.7**
ANKY	**Antikythira Is**	**2.77**	**124**	P	**Pn**	**10 41 03.6**	**+3.7**
PENT	**Pentalofos**	**2.79**	**11**	P	**Pn**	**10 41 02.6**	**+2.5**
DION	**Dionisos Attik**	**2.81**	**76**	P	**Pn**	**10 41 01.7**	**+1.2**
NEO	**Neokhori**	**2.85**	**49**	P	**Pn**	**10 41 02.2**	**+1.3**
XOR	**Xorichti**	**2.87**	**47**	P	**Pn**	**10 41 02.6**	**+1.4**
NEST	**Nestorio**	**2.99**	**9**	P	**Pn**	**10 41 06.2**	**+3.2**
KZN	**Kozani**	**3.02**	**19**	P	**Pn**	**10 41 06.3**	**+2.9**
SCTE	**Santa Cesarea**	**3.05**	**330**	Pn	**Pn**	**10 41 02.0**	**-1.6**
LIT	**Litokhoron**	**3.08**	**30**	Pn	**Pn**	**10 41 04.9**	**+0.8**
LIT	**Litokhoron**	**3.08**	**30**	P	**Pn**	**10 41 05.8**	**+1.7**
KYMI	**Kymi, Euboea I**	**3.10**	**67**	P	**Pn**	**10 41 05.3**	**+1.0**
KARY	**Karystos**	**3.20**	**78**	P	**Pn**	**10 41 08.1**	**+2.3**
TIP	**Timpagrande**	**3.39**	**302**	Pn	**Pn**	**10 41 09.4**	**+1.0**
TIP	**Timpagrande**	**3.39**	**302**	⇑P	**Pb**	**10 41 15.6**	**+0.1**
TIP	**Timpagrande**	**3.39**	**302**	P	**Pn**	**10 41 11.5**	**+3.1**
FNA	**Florina**	**3.40**	**12**	Pn	**Pn**	**10 41 09.4**	**+0.8**
FNA	**Florina**	**3.40**	**12**	P	**Pn**	**10 41 10.7**	**+2.1**
OHR	**Ohrid**	**3.66**	**4**	*i* Pn	**Pn**	**10 41 15.8**	**+3.7**
CEL	**Celeste**	**3.71**	**284**	Pn	**Pn**	**10 41 12.1**	**-0.7**
THE	**Thessaloniki**	**3.72**	**31**	P	**Pn**	**10 41 14.4**	**+1.5**
PLG	**Polygyros**	**3.73**	**38**	P	**Pn**	**10 41 14.5**	**+1.4**
HORT	**Hortiatis**	**3.75**	**32**	P	**Pn**	**10 41 15.1**	**+1.7**
GRG	**Griva**	**3.81**	**23**	P	**Pn**	**10 41 15.9**	**+1.8**
TIR	**Tirane**	**3.92**	**353**	Pn	**Pn**	**10 41 13.9**	**-1.7**
OUR	**Ouranopolis**	**3.97**	**43**	P	**Pn**	**10 41 17.4**	**+1.1**
SOH	**Sokhos**	**4.04**	**33**	P	**Pn**	**10 41 19.4**	**+2.1**
KNT	**Kendrikon**	**4.15**	**26**	P	**Pn**	**10 41 20.3**	**+1.5**
IDI	**Anoyia**	**4.17**	**120**	Pn	**Pn**	**10 41 18.3**	**-0.8**
IDI	**Anoyia**	**4.17**	**120**	Pn	**Pn**	**10 41 19.9**	**+0.8**
	1.5nm,0.3s,baz=225,slow=20,SNR=2.4						
IDI				Sn	**Sn**	**10 42 06.0**	**-2.0**
	2.3nm,0.3s,baz=156,slow=24,SNR=3.9						
IDI	**Anoyia**	**4.17**	**120**	P	**Pn**	**10 41 22.7**	**+3.5**
VAY	**Valandovo**	**4.19**	**22**	*i* Pn	**Pn**	**10 41 21.0**	**+1.7**
CUC	**Castrocucco**	**4.43**	**306**		**Pn**	**10 41 22.6**	**-0.1**
THAS	**Thassos island**	**4.57**	**45**	P	**Pn**	**10 41 26.0**	**+1.5**
PUK	**Puka**	**4.60**	**355**	Pn	**Pn**	**10 41 25.9**	**+0.8**
PEHC	**Pehcevo**	**4.71**	**23**	*i* Pn	**Pn**	**10 41 27.8**	**+1.3**
KAVA	**Kavala**	**4.73**	**40**	P	**Pn**	**10 41 28.4**	**+1.6**
VAE	**Valguarnera**	**4.82**	**272**	Pn	**Pn**	**10 41 32.3**	**+4.2**
	12nm,0.5s,baz=165,slow=13,SNR=4.2						
VAE				Sn	**Sn**	**10 42 22.7**	**-1.2**
	3.4nm,0.3s,baz=12,slow=21,SNR=2.6						
RAFF	**Raffo Rosso**	**4.87**	**269**		**Pn**	**10 41 28.0**	**-0.7**
PDG	**Podgorica**	**5.06**	**350**	Pn	**Pn**	**10 41 29.2**	**-2.1**
RDO	**Rodhopi**	**5.39**	**45**	Pn	**Pn**	**10 41 34.8**	**-1.0**
ALN	**Alexandroupoli**	**5.53**	**50**	Pn	**Pn**	**10 41 36.1**	**-1.7**
KARP	**Karpathos**	**5.72**	**107**	Pn	**Pn**	**10 41 40.2**	**-0.2**
BOVS	**Bovan**	**6.25**	**8**	⇓P	**Pn**	**10 41 47.9**	**+0.3**
ARG	**Arkhangelos**	**6.26**	**99**	Pn	**Pn**	**10 41 46.4**	**-1.4**
HERR	**Herculane**	**7.56**	**11**	⇓P	**Pn**	**10 42 06.0**	**+0.3**
GZR	**Gura Zlata**	**8.12**	**12**	⇓P	**Pn**	**10 42 14.2**	**+0.9**
VOIR		**8.68**	**22**	⇓P	**Pn**	**10 42 23.4**	**+2.3**
MLR	**Muntele Rosu**	**9.02**	**25**		**Pn**	**10 42 24.1**	**-1.6**
MLR	**Muntele Rosu**	**9.02**	**25**	Pn	**Pn**	**10 42 24.8**	**-0.9**
	0.2nm,0.3s,baz=30,slow=3.5,SNR=3.8						
	2.4nm,0.8s						
MLR	**Muntele Rosu**	**9.02**	**25**	⇑P	**Pn**	**10 42 29.4**	**+3.7**
KEST	**Kesra**	**9.11**	**262**	Pn	**Pn**	**10 42 30.6**	**+3.7**
	0.5nm,0.3s,baz=252,slow=12,SNR=3.2						
	3.7nm,0.7s						
DOPR	**Dopca**	**9.27**	**22**	⇑P	**Pn**	**10 42 30.1**	**+1.1**
PLOR	**Plostina**	**9.58**	**27**	⇑P	**Pn**	**10 42 36.6**	**+3.3**
VRI	**Vrincioaia**	**9.62**	**27**	⇑P	**Pn**	**10 42 35.5**	**+1.7**
BRTR	**Keskin Array B**	**10.56**	**74**	Pn	**Pn**	**10 42 45.1**	**-1.7**
	0.1nm,0.3s,baz=259,slow=12,SNR=1.3						
	0.3nm,0.7s						
KIEV	**Kiev**	**14.63**	**22**	Pn	**Pn**	**10 43 39.7**	**-2.7**
AKASG	**Malin Array Be**	**14.65**	**23**	Pn	**Pn**	**10 43 39.8**	**-2.7**
AKASG	**Malin Array Be**	**14.65**	**23**	Pn	**Pn**	**10 43 40.2**	**-2.3**
	0.4nm,0.3s,baz=209,slow=8.2,SNR=2.5						
	0.6nm,0.6s						
AKBB	**Malin Array Si**	**14.65**	**23**	Pn	**Pn**	**10 43 39.6**	**-2.9**
PABE	**Paberze**	**18.21**	**6**	P	**Pn**	**10 44 28.0**	**-0.1**
PABE				IAmb	IAmb	10 44 28.3	
	comp=Z,33nm,0.9s						
MDT	**Midelt**	**21.00**	**265**	P	**P**	**10 45 00.4**	**+1.4**
	comp=Z,4.7nm,0.9s,baz=107,slow=7.0,SNR=3.9						
	comp=Z,4.7nm,0.9s						
HFS	**Hagfors**	**23.11**	**351**	P	**P**	**10 45 20.1**	**-1.1**
	comp=Z,4.9nm,0.7s,baz=163,slow=10,SNR=6.5						
	comp=Z,4.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	**P**	**10 45 30.4**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=136,slow=8.4,SNR=1.4						
	comp=Z,2.5nm,1.0s						
FINES	**FINESS Array B**	**24.27**	**7**	P	**P**	**10 45 32.6**	**+0.2**
FINES	**FINESS Array B**	**24.27**	**7**	P	**P**	**10 45 30.8**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=168,slow=9.7,SNR=7.0						
	comp=Z,1.4nm,0.5s						
FIA1	**FINESS Array S**	**24.27**	**7**	P	**P**	**10 45 32.5**	**+0.1**
NC405	**NORSAR Array S**	**24.32**	**350**	P	**P**	**10 45 32.4**	**-0.4**
NOA	**NORSAR Array B**	**24.32**	**349**	P	**P**	**10 45 31.9**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=160,slow=11,SNR=3.3						
NOA				LR	LR	10 57 03.4	
	comp=Z,15nm,18.3s,baz=75,slow=42						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.44**	**220**	P	**P**	**10 46 19.7**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=32,slow=9.9,SNR=1.4						
	comp=Z,2.7nm,0.4s						
ABKAR	**Akbulak array**	**30.69**	**55**	P	**P**	**10 46 30.5**	**+0.4**
BVAR	**Borovoye Array**	**37.62**	**49**	P	**P**	**10 47 29.2**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=253,slow=7.6,SNR=3.6						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**42.70**	**53**	P	**P**	**10 48 10.3**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=280,slow=8.5,SNR=7.2						
MK31	**Makanchi Array**	**45.72**	**58**	P	**P**	**10 48 35.6**	**-1.0**
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**10 48 35.3**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=275,slow=6.8,SNR=11						
	comp=Z,0.7nm,0.6s						
ZAA0	**Zalesovo Array**	**46.21**	**48**	P	**P**	**10 48 38.7**	**-1.5**
ZAA0				IAmb	IAmb	10 48 48.9	
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**46.21**	**48**	P	**P**	**10 48 38.9**	**-1.3**
ZALV	**Zalesovo Beam**	**46.21**	**48**	P	**P**	**10 48 39.0**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=272,slow=8.6,SNR=5.7

TOZ Tahuroa Road 8.48 208 P Pn 11 02 09.4 +4.1
RTZ Ruatahuna 8.77 198 Pn Pn 11 02 03.6 -5.4
RTZ Sn S 11 03 44.4 -4.7
RTZ Ruatahuna 8.77 198 P **Pn** **11 02 10.5 +1.5**
TLZ Tolley Road 8.99 206 P **Pn** **11 02 14.8 +3.2**
HIZ Hauiti 9.41 208 Pn Pn 11 02 12.9 -3.9
HIZ Hauiti 9.41 208 P Pn 11 02 20.4 +3.7
BKZ Black Stump Fm 9.42 199 Pn 11 02 15.1 -1.9
BKZ Sn **S** **11 03 59.5 -4.2**
BKZ Black Stump Fm 9.42 199 P Pn 11 02 14.4 -2.5
BKZ Black Stump Fm 9.42 199 P **Pn** **11 02 17.8 +0.8**
PXZ Pawanui 10.14 196 P **Pn** **11 02 26.1 +0.5**
TSZ Takapari Road 10.40 200 P **Pn** **11 02 28.0 -1.0**
WAZ Wanganui 10.45 204 P **Pn** **11 02 30.4 +0.9**
BFZ Birch Farm 10.91 197 Pn Pn 11 02 32.5 -2.5
BFZ Birch Farm 10.91 197 P Pn 11 02 32.5 -2.6
MRZ Mangatainoka R 11.07 200 Pn Pn 11 02 33.0 -4.1
MSWZ Moikau Station 11.86 200 Pn Pn 11 02 44.2 -2.5
SNZO South Karori 11.93 202 **Pn** **11 02 46.2 -1.3**
SNZO South Karori 11.93 202 P Pn 11 02 43.9 -3.6
BHW Baring Head 11.97 201 Pn Pn 11 02 45.7 -2.3
TCW Tory Channel 11.99 203 **Pn** **11 02 47.0 -1.1**
PLWZ Palliser 12.00 199 Pn Pn 11 02 43.2 -5.2
TUWZ Tuamarina 12.29 204 Pn Pn 11 02 48.4 -3.5
NNZ Nelson 12.31 206 Pn Pn 11 02 48.2 -3.9
TKNZ Takaka Hill 12.32 208 Pn Pn 11 02 47.7 -4.5
QRZ Quartz Range 12.33 210 Pn Pn 11 02 48.8 -3.5
QRZ Quartz Range 12.33 210 P Pn 11 02 47.7 -4.6
BSWZ Blackbirch Sta 12.57 203 Pn Pn 11 02 52.2 -3.0
MRNZ Matariki Terra 12.71 207 Pn Pn 11 02 53.7 -3.3
MSVF Nonsavu 12.73 349 Pn **Pn** **11 02 58.6 +1.1**
MSVF Nonsavu 12.73 349 P **Pn** **11 02 57.8 +0.3**
35nm,0.7s,baz=184,slow=5.4,SNR=24
THZ Tophouse 12.96 206 Pn Pn 11 02 56.0 -4.1
KHZ Kahutara 13.31 203 Pn P 11 03 00.4 -3.8
KHZ Kahutara 13.31 203 P P 11 03 00.1 -4.1
DSZ Denniston Nort 13.39 209 Pn P 11 02 59.4 -5.8
CTZ Chatham Island 13.59 171 P Pn 11 03 28.1 +21
GVZ Greta Valley S 13.97 203 P P 11 03 08.4 -3.1
PINNC Pines Island, 13.99 300 **P** **11 03 10.2 -1.7**
LTZ Lake Taylor 14.08 206 P P 11 03 09.8 -3.0
NIUE Niue 14.16 40 P P 11 03 09.2 -4.6
AMCZ Amberley 14.29 204 P 11 03 11.0 -4.0
INZ Inchbonnie 14.36 208 P 11 03 12.0 -3.8
OXZ Oxford 14.64 205 P P 11 03 15.0 -3.9
MQZ McQueen's Vall 14.75 203 P P 11 03 16.1 -4.0
MQZ McQueen's Vall 14.75 203 P P 11 03 16.3 -3.9
RPZ Rata Peaks 15.34 207 P **P** **11 03 25.9 -0.8**
4.1nm,0.6s,baz=296,slow=3.3,SNR=9.1
RPZ S S 11 06 06.0 -7.2
9.0nm,0.4s,baz=94,slow=16,SNR=12
RPZ Rata Peaks 15.34 207 P **P** **11 03 26.2 -0.4**
JCZ Jackson Bay 16.58 211 P **P** **11 03 41.4 +1.2**
ODZ Otahua Downs 16.63 205 P **P** **11 03 42.4 +1.8**
ARMA Armidale 24.90 262 P **P** **11 05 02.6 +0.2**
ARMA IAmb IAmb 11 05 43.2
comp=Z,21nm,1.4s
EIDS Eidsvold 26.45 274 P **P** **11 05 17.8 +1.6**
EIDS IAmb IAmb 11 05 20.1
comp=Z,18nm,1.1s
TOO Toolangi 29.82 247 P **P** **11 05 44.8 -1.0**
TOO IAmb IAmb 11 05 58.7
comp=Z,9.6nm,1.4s
STKA Stephens Creek 33.24 257 P **P** **11 06 16.3 +0.7**
STKA Stephens Creek 33.24 257 P **P** **11 06 16.1 +0.5**
comp=Z,4.9nm,0.6s,baz=86,slow=9.4,SNR=13
comp=Z,4.9nm,0.6s
BBOO Buckleboo 37.75 254 P **P** **11 06 54.5 +0.8**
BBOO IAmb IAmb 11 07 24.6
comp=Z,12nm,1.4s
AS31 Alice Springs 41.83 268 P **P** **11 07 27.2 -0.1**
ASAR Alice Springs 41.83 268 P **P** **11 07 27.2 -0.1**
ASAR Alice Springs 41.83 268 P **P** **11 07 27.1 -0.2**
comp=Z,2.1nm,0.6s,baz=106,slow=7.3,SNR=32
ASAR PcP **PP** **11 09 16.1 +5.0**
comp=Z,0.6nm,0.4s,baz=109,slow=3.8,SNR=4.9
ASAR ScP **ScP** **11 12 35.9 -2.4**
comp=Z,0.8nm,0.8s,baz=100,slow=3.6,SNR=6.1
comp=Z,2.1nm,0.6s
WR0 Warramunga Arr 42.63 273 P **P** **11 07 33.8 +0.1**
WB2 Warramunga Arr 42.80 273 P **P** **11 07 35.2 +0.1**
WB2 IAmb IAmb 11 07 37.2
comp=Z,14nm,1.0s
WRA Warramunga Arr 42.81 273 P **P** **11 07 35.4 +0.2**
WRA Warramunga Arr 42.81 273 P **P** **11 07 34.8 -0.4**
comp=Z,3.8nm,0.3s,baz=110,slow=8.0,SNR=102
WRA PcP **PcP** **11 09 19.6 -0.8**
comp=Z,0.7nm,0.8s,baz=118,slow=3.1,SNR=5.2
WRA ScP **ScP** **11 12 38.0 -4.3**
comp=Z,1.6nm,1.0s,baz=105,slow=3.7,SNR=7.1
WRA S **S** **11 13 32.0 -4.4**
comp=Z,0.7nm,1.0s,baz=110,slow=15,SNR=3.0
comp=Z,3.8nm,0.3s
WB0 Warramunga Arr 42.83 273 P **P** **11 07 35.3 0.0**
WB0 IAmb IAmb 11 07 37.4
comp=Z,12nm,0.9s
FORT Forrest 44.82 255 P **P** **11 07 50.8 -0.1**
FORT IAmb IAmb 11 08 25.7
comp=Z,24nm,1.4s
KNRA Kununurra 49.42 275 P **P** **11 08 26.6 +0.3**
FITZ Fitzroy Crossi 51.07 271 P **P** **11 08 38.1 -0.5**
FITZ Fitzroy Crossi 51.07 271 P **P** **11 08 38.5 -0.2**
comp=Z,7.5nm,0.8s,baz=113,slow=5.4,SNR=14
comp=Z,7.5nm,0.8s
MORW Morawa 55.32 254 P **P** **11 09 08.8 -0.5**
MORW IAmb IAmb 11 09 38.0
comp=Z,11nm,1.3s
QSPA South Pole Qui 59.79 180 P **P** **11 09 41.0 +1.2**
QSPA IAmb IAmb 11 09 41.8
comp=Z,8.8nm,0.7s
QSPA South Pole Qui 59.79 180 P **P** **11 09 40.2 +0.4**
comp=Z,7.9nm,0.7s,baz=28,slow=1.4,SNR=53
comp=Z,7.9nm,0.7s
BELA Belgrano 2 70.03 173 P **P** **11 10 44.1 -0.9**
BELA IAmb IAmb 11 10 49.2
comp=Z,5.2nm,1.1s
JOW Kunigami 75.66 313 P **P** **11 11 16.7 -1.9**
JSG Sagara 75.97 325 P **P** 11 11 16.8 -3.4
JGF Kuroka 77.12 325 P **P** **11 11 27.0 +0.4**
JGF IAmb IAmb 11 11 40.9
comp=Z,14nm,1.3s
MJAR Matsushiro Arr 77.45 326 P **P** **11 11 27.2 -1.2**
comp=Z,4.4nm,1.0s,baz=133,slow=6.0,SNR=6.4
comp=Z,4.4nm,1.0s
TROLL Troll, Antarti 77.94 181 ⇓P **P** **11 11 30.9 0.0**
comp=Z,433nm,0.6s
SNAA Sanae 78.27 179 P **P** **11 11 32.5 0.0**
SNAA IAmb IAmb 11 11 50.3
comp=Z,15nm,1.5s
SNAA Sanae 78.27 179 ⇓P **P** **11 11 32.2 -0.4**
comp=Z,70nm,0.7s
SNAA Sanae 78.27 179 P **P** **11 11 32.2 -0.4**
comp=Z,2.5nm,0.7s,baz=191,slow=14,SNR=12
comp=Z,2.5nm,0.7s
TPUB Ta-pu 78.38 306 P **P** **11 11 32.9 -0.9**
VNA3 Neumayer Olymp 78.47 177 ⇓P **P** **11 11 33.2 -0.4**
comp=Z,17nm,0.8s
SSLB Suanglung 78.47 306 P **P** **11 11 33.3 -1.0**
JNU Nakatsue 78.65 319 P **P** **11 11 34.9 -0.2**
VNA2 Neumayer--Watz 78.89 177 ⇓P **P** **11 11 35.8 -0.1**
comp=Z,7.3nm,0.6s,baz=180,slow=5.2
JKA Kamikawa-asahi 81.78 333 P **P** **11 11 52.6 +1.2**
JKA IAmb IAmb 11 12 30.2
comp=Z,23nm,1.3s
KSRS Korea Array 83.46 320 P **P** **11 12 00.4 +0.3**
comp=Z,2.7nm,0.8s,baz=150,slow=5.4,SNR=8.7
comp=Z,2.7nm,0.8s
PLCA Paso Flores 83.50 134 P **P** **11 11 58.6 -2.0**
PLCA Paso Flores 83.50 134 P **P** **11 12 00.3 -0.3**
comp=Z,1.4nm,0.8s,baz=229,slow=0.4,SNR=4.6
comp=Z,1.4nm,0.8s
KULM Kulim 83.94 280 P **P** **11 12 03.4 +0.3**
KULM IAmb IAmb 11 12 06.6
comp=Z,20nm,1.5s
PETK Petropavlovsk- 85.42 346 P **P** **11 12 08.2 -1.4**
comp=Z,1.7nm,0.8s,baz=129,slow=6.4,SNR=7.2
comp=Z,1.7nm,0.8s
USRK Ussuriysk Ar. 86.39 327 P **P** **11 12 14.4 0.0**
comp=Z,3.2nm,0.8s,baz=132,slow=2.8,SNR=6.2
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 89.06 43 P **P** **11 12 27.0 -0.5**
comp=Z,1.2nm,0.9s,baz=251,slow=5.5,SNR=5.8
comp=Z,1.2nm,0.9s
BNX BinXian 89.72 326 ⇑P **P** **11 12 29.4 -0.7**
BNX pmax pmax
comp=Z,10.0nm,1.0s
XLT XiLinHaoTe 94.43 319 *e*P **P** **11 12 53.3 +1.3**
XLT pP pwP 11 14 15.0 +9.3
XLT pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 116.74 310 PKP **PKPdf** **11 18 12.4 -2.0**
comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=8.6
KURBB Kurchatov Arra 120.10 314 PKP **PKPdf** **11 18 18.8 -1.9**
comp=Z,0.6nm,0.6s,baz=185,slow=11,SNR=7.9
BVAR Borovoye Array 125.45 316 PKP **PKPdf** **11 18 29.6 -1.3**
comp=Z,0.9nm,0.3s,baz=96,slow=1.5,SNR=9.0
ARTI Arti 132.31 320 PKPdf **PKPdf** **11 18 43.8 0.0**
ARCES ARCESS Array B 138.23 347 PKhKP PKPpre 11 18 44.6
comp=Z,4.9nm,1.0s,baz=62,slow=2.5,SNR=8.8
ARCES PKP **PKPdf** **11 18 52.5 -2.1**
comp=Z,2.6nm,0.7s,baz=39,slow=1.8,SNR=5.9
KBZ Khabaz 144.00 304 PKP PKPab 11 19 03.3 -0.6
comp=Z,3.3nm,0.4s,baz=69,slow=1.6,SNR=21
KIV Kislovodsk 144.12 304 PKPdf **PKPab** **11 19 06.0 +1.4**
GEVA Gevas 144.22 295 PKPbc **PKPab** **11 19 04.3 -0.9**
FIA1 FINESS Array S 144.62 339 PKPbc **PKPab** **11 19 04.3 -1.4**
FINES FINESS Array B 144.62 339 PKPbc **PKPab** **11 19 04.3 -1.4**
FINES FINESS Array B 144.62 339 PKP **PKPab** **11 19 03.9 -1.8**
comp=Z,10nm,0.5s,baz=51,slow=4.5,SNR=74
GURO Guroymak-BITLI 145.02 295 PKPbc **PKPdf** **11 19 08.4 +0.6**
MARD Mardin 146.02 293 PKPbc **PKPdf** **11 19 11.1 +1.6**
NC303 NORSAR Array S 148.26 350 PKPdf **PKPdf** **11 19 12.2 -0.1**
NC405 NORSAR Array S 148.32 350 PKPbc **PKPdf** **11 19 15.7 +3.3**
NB201 NORSAR Array S 148.44 350 PKPdf **PKPdf** **11 19 12.2 -0.4**
NB201 PKPbc **PKPbc** **11 19 15.4 -1.2**
NB201 PKPab **PKiKP** **11 19 20.6 +2.6**
NB2 NORSAR Subarra148.46 350 PKP **PKPdf** **11 19 15.3 +2.6**
comp=Z,1.2nm,0.5s,baz=14,slow=2.5
NOA NORSAR Array B 148.46 350 PKPbc **PKPdf** **11 19 14.7 +2.0**
comp=Z,2.2nm,0.6s,baz=16,slow=4.2,SNR=7.1
NBO00 NORSAR Array S 148.54 350 PKPbc **PKPdf** **11 19 16.0 +3.2**
NC602 NORSAR Array S 148.70 350 PKPbc **PKPdf** **11 19 16.0 +3.0**
HFS Hagfors 148.90 347 PKPbc **PKPdf** **11 19 14.5 +1.2**
comp=Z,3.0nm,0.3s,baz=48,slow=4.5,SNR=17
MMAI Mount Meron Ar 150.26 284 PKPbc **PKPbc** **11 19 21.8 -0.1**
comp=Z,5.9nm,0.3s,baz=82,slow=7.7,SNR=19
AKASG Malin Array Be 150.45 322 PKPbc **PKPbc** **11 19 21.1 -0.5**
AKASG Malin Array Be 150.45 322 PKPbc **PKPdf** **11 19 20.2 +4.1**
comp=Z,4.3nm,0.6s,baz=54,slow=2.7,SNR=22
AKASG PKPab **PKPab** **11 19 28.0 -1.4**
comp=Z,1.7nm,0.4s,baz=47,slow=4.4,SNR=8.3
ILGA Ilgaz 151.14 301 PKPbc **PKPbc** **11 19 23.4 -0.5**
BRTR Keskin Array B 151.43 298 PKPbc **PKPdf** **11 19 21.9 +3.7**
comp=Z,1.4nm,0.6s,baz=107,slow=3.0,SNR=8.7
BRTR PKPab **PKPab** **11 19 33.2 -0.9**
comp=Z,1.3nm,0.7s,baz=92,slow=3.7,SNR=5.7
BURAR Bucovina Array 154.34 319 PKPdf **PKPdf** **11 19 20.5 -1.5**
BURAR PKPbc **PKPbc** **11 19 31.1 +0.5**
BURAR PKPab **PKPab** **11 19 46.3 +0.2**

MEX 08 11:07:04.0±2.0, 18°.39N×95°.37W, h15km, MD4.0, 1C, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMUV	**Sontecomapan**	**0.28**	**56**	⇑*i*P	Pg	11 07 08.8	-1.3
	baz=248,slow=3.4						
PMUV				*i* S	Sg	11 07 13.9	-0.3
NEUV	**Arroyo Zacate**	**0.79**	**212**	*e*P	Pg	11 07 16.2	-3.1
NEUV				*i* S	Sg	11 07 26.4	-3.3
CMIG	**Matias Romero**	**1.37**	**160**	*e*P	Pn	11 07 22.4	-6.2
CMIG				*e*S	Sn	11 07 38.8	-7.7
TOIG	**Toxpalan**	**1.64**	**260**	*e*P	Pn	11 07 30.8	-1.6
TOIG				*i* S	Sn	11 07 52.3	-1.0
LVIG	**Laguna Verde**	**1.66**	**323**	*e*S	Sn	11 07 48.9	-4.7
JAUV	**Jalcomulco**	**1.67**	**306**	*e*P	Pn	11 07 30.4	-2.4
JAUV				*i* S	Sn	11 07 49.5	-4.6
VHO	**Vista Hermosa**	**1.84**	**225**	*e*P	Pn	11 07 30.3	-5.0
VHO				*e*S	Sn	11 07 52.3	-6.2
POHV	**Veracruz**	**1.94**	**291**	*e*P	Pn	11 07 36.3	-0.6
POHV				*i* S	Sn	11 07 47.7	-13
NILT	**Santiago Nilte**	**1.95**	**158**	*e*P	Pn	11 07 37.6	+1.1
NILT				*e*S	Sn	11 07 53.4	-7.4
TXIG	**Tlaxiaco**	**2.55**	**244**	*e*P	Pn	11 07 44.2	-0.8
TXIG				*e*S	Sn	11 08 14.1	-1.9
YOIG	**Yosondua**	**2.57**	**234**	*e*P	Pn	11 07 44.8	-0.6
YOIG				*e*S	Sn	11 08 14.3	-2.3
FTIG	**Fresnillo de T**	**2.67**	**260**	*e*P	Pn	11 07 45.8	-0.8
FTIG				*e*S	Sn	11 08 17.4	-1.4
CXUV	**Coxquihui**	**2.75**	**311**	*e*P	Pn	11 07 43.9	-3.7
CXUV				*e*S	Sn	11 08 18.6	-2.1
PEIG	**Puerto Escondi**	**2.92**	**216**	*e*P	Pn	11 07 46.7	-3.2
PEIG				*i* S	Sn	11 08 21.0	-3.8
TLIG	**Tlapa**	**3.15**	**255**	*e*P	Pn	11 07 52.0	-1.2
TLIG				*i* S	Sn	11 08 26.0	-4.7
PNIG	**Pinotepa**	**3.30**	**233**	*e*P	Pn	11 07 52.2	-3.0
PNIG				*e*S	Sn	11 08 27.4	-6.7
MGIG	**Malinaltepec**	**3.31**	**250**	*e*P	Pn	11 07 54.3	-1.2
MGIG				*i* S	Sn	11 08 34.2	-0.6
PCIG		**3.37**	**142**	*e*P	Pn	11 07 50.6	-5.5
PCIG				*e*S	Sn	11 08 17.3	-18
CCIG	**Comitan**	**3.73**	**124**	*i* S	Sn	11 08 27.7	-17

*IDC **08** 11:07:12.5±1.1, 13°.50N×91°.43W, h0km, mb3.8/5, mbtmp3.8/8, ML0.5/1, MS2.6/2, Error ellipse: s-maj=20.1km s-min=16.7km az=138.0*
*GCG **08** 11:07:16.1±2.0, 13°.63N×91°.48W, h22km±9km, MD4.5, MW3.8*
*CATAC **08** 11:07:16.1±0.4, 14°N±2°×9°1W±°, h9km±3km, M4.8/35, mb5.7/1, MLv4.4/35, Error ellipse: s-maj=5.4km s-min=4.1km az=50.0, confirmed*
*SNET **08** 11:07:17.5±1.1, 13°.71N×91°.30W, h15km, ML3.9*
*NEIC **08** 11:07:22.2±1.7, 13°.91N±0°.07×91°.23W±0°.07, h45km±9km, mb4.1/55, Error ellipse: s-maj=12.7km s-min=7.1km az=219.0*

ISC 08 11:07:18.6±1.5, 13°.75N±0°.05×91°.34W±0°.04, h29km±10km, n216, σ1°.23/221, mb4.1/23, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.68**	**360**	*e*P		11 07 35.4	
STG8	**El Palmar, Qui**	**0.70**	**359**	*e*P		11 07 35.9	
ESSG	**Sabana Grande**	**0.81**	**38**	*e*P	**Pn**	**11 07 33.6**	**-0.5**
ESSG				*e*S	**Sn**	**11 07 47.1**	**+2.0**
ESSG	**Sabana Grande**	**0.81**	**38**	*e*P		11 07 33.6	
ESSG				*e*S		11 07 47.1	
ESSJ	**San Jos, E**	**0.84**	**102**	*i* P		11 07 30.8	
RTAL	**Retalhuleu**	**0.85**	**336**		**Pn**	**11 07 33.9**	**-0.7**
RTAL				Sn	**Sn**	**11 07 46.2**	**+0.2**
RTAL	**Retalhuleu**	**0.85**	**336**	P	**Pn**	**11 07 33.9**	**-0.7**
RTAL	**Retalhuleu**	**0.85**	**336**	S	**Sn**	**11 07 46.5**	**+0.5**
RTAL	**Retalhuleu**	**0.85**	**336**	P	**Pn**	**11 07 33.9**	**-0.7**
FG8	**Yepocapa, Chim**	**0.91**	**56**	*e*P		11 07 33.9	
SOKI	**Kika Raxquin**	**1.07**	**357**	*e*P	**Pn**	**11 07 37.8**	**-0.2**
SOKI	**Kika Raxquin**	**1.07**	**357**	*e*P		11 07 37.8	
GCG4	**OSOP**	**1.15**	**43**	*e*P	**Pb**	**11 07 39.9**	**0.0**
GCG4				*i* S	**Sb**	**11 07 57.7**	**+3.1**
GCG4	**OSOP**	**1.15**	**43**	*e*P		11 07 39.9	
GCG4				*i* S		11 07 57.7	
SMCA	**Catarina**	**1.31**	**327**	*e*P	**Pn**	**11 07 39.7**	**-1.3**
SMCA	**Catarina**	**1.31**	**327**	*e*P		11 07 39.7	
THIG		**1.46**	**322**	*e*P	**Pn**	**11 07 41.1**	**-1.9**
THIG				*i* S	**Sn**	**11 08 01.2**	**0.0**
THIG		**1.46**	**322**	*e*P		11 07 41.1	
THIG				*i* S		11 08 01.2	
APG	**El Apazote**	**1.51**	**34**	Pn	**Pb**	**11 07 45.5**	**-0.6**
	7.4nm,0.3s,baz=171,slow=10,SNR=239						
APG				Lg	Lg	11 08 08.9	
	6.3nm,0.3s,baz=232,slow=19,SNR=4.9						
APG				LR	LR	11 08 30.6	
	comp=Z,43nm,21.5s,baz=122,slow=44						
APG	**El Apazote**	**1.51**	**34**	*i* P	**Pb**	**11 07 45.5**	**-0.6**
APG	**El Apazote**	**1.51**	**34**	*i* P		11 07 45.5	
NUBE	**Las Nubes**	**1.52**	**84**	*e*P	**Pn**	**11 07 42.9**	**-1.1**
NUBE				*e*S	**Sn**	**11 08 00.1**	**-2.9**
NUBE	**Las Nubes**	**1.52**	**84**	P	**Pn**	**11 07 43.1**	**-0.9**
NUBE	**Las Nubes**	**1.52**	**84**	P	**Pn**	**11 07 42.9**	**-1.1**
NUBE	**Las Nubes**	**1.52**	**84**	*e*P	**Pn**	**11 07 42.9**	**-1.1**
NUBE	**Las Nubes**	**1.52**	**84**	*e*P		11 07 42.9	
LOAL	**Lomas de Alarc**	**1.54**	**80**	*e*P	**Pn**	**11 07 44.0**	**-0.1**
LOAL				*e*S	**Sn**	**11 08 01.4**	**-1.7**
LOAL	**Lomas de Alarc**	**1.54**	**80**	P	**Pn**	**11 07 44.1**	**0.0**
LOAL	**Lomas de Alarc**	**1.54**	**80**	S	**Sb**	**11 08 04.8**	**-0.8**
LOAL	**Lomas de Alarc**	**1.54**	**80**	P	**Pn**	**11 07 44.1**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.54**	**79**	*e*P	**Pn**	**11 07 44.0**	**-0.1**
SLOZ				*e*S	**Sn**	**11 08 00.4**	**-2.8**
SLOZ	**Alcaldia de Sa**	**1.54**	**79**	P	**Pn**	**11 07 43.6**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.54**	**79**	S	**Sb**	**11 08 05.5**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.54**	**79**	P	**Pn**	**11 07 43.8**	**-0.3**
HUEH	**Huehuetenango**	**1.57**	**354**		**Pn**	**11 07 45.2**	**+0.5**
HUEH				Sn	**Sn**	**11 08 01.5**	**-2.7**
HUEH	**Huehuetenango**	**1.57**	**354**	P	**Pb**	**11 07 47.0**	**-0.2**
HUEH	**Huehuetenango**	**1.57**	**354**	P	**Pb**	**11 07 46.8**	**-0.4**
HUEH	**Huehuetenango**	**1.57**	**354**	*e*P	**Pn**	**11 07 45.6**	**+0.9**
HUEH	**Huehuetenango**	**1.57**	**354**	*e*P		11 07 45.6	
CEVE	**Cerro Verde**	**1.67**	**87**	*e*P	**Pn**	**11 07 45.4**	**-0.7**
CEVE				*e*S	**Sn**	**11 08 04.3**	**-2.4**
CEVE	**Cerro Verde**	**1.67**	**87**	P	**Pn**	**11 07 45.9**	**-0.2**
CEVE	**Cerro Verde**	**1.67**	**87**	S	**Sb**	**11 08 09.0**	**-0.6**
CEVE	**Cerro Verde**	**1.67**	**87**	P	**Pn**	**11 07 45.6**	**-0.5**
SBLS	**San Blas**	**1.67**	**87**	*e*P	**Pn**	**11 07 45.3**	**-0.8**
SNJE	**San Jose**	**1.69**	**86**	*e*P	**Pn**	**11 07 46.0**	**-0.3**
JUAM	**Asuncion Mita**	**1.69**	**70**	*e*P	**Pn**	**11 07 46.8**	**+0.6**
JUAM	**Asuncion Mita**	**1.69**	**70**	*e*P		11 07 46.8	
UNIC	**Universidad Ca**	**1.76**	**82**	P	**Pn**	**11 07 46.8**	**-0.3**
UNIC	**Universidad Ca**	**1.76**	**82**	S	**Sb**	**11 08 10.8**	**-1.0**
UNIC	**Universidad Ca**	**1.76**	**82**	P	**Pn**	**11 07 47.7**	**+0.5**
JAYA	**Jayaque - finc**	**1.84**	**93**	P	**Pn**	**11 07 47.6**	**-0.7**
JAYA	**Jayaque - finc**	**1.84**	**93**	S	**Sn**	**11 08 10.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.84**	**93**	P	**Pn**	**11 07 47.9**	**-0.5**
JAYA	**Jayaque - finc**	**1.84**	**93**	*e*P	**Pn**	**11 07 47.9**	**-0.5**
JAYA	**Jayaque - finc**	**1.84**	**93**	*e*P		11 07 47.9	
PMON	**Piamonte**	**1.97**	**91**	*e*P	**Pn**	**11 07 49.6**	**-0.5**
PMON	**Piamonte**	**1.97**	**91**	P	**Pn**	**11 07 49.6**	**-0.5**
PMON	**Piamonte**	**1.97**	**91**	S	**Sb**	**11 08 16.9**	**-1.1**
PMON	**Piamonte**	**1.97**	**91**	P	**Pn**	**11 07 49.6**	**-0.5**
LALI	**Alcalda de L**	**1.98**	**97**	*e*P	**Pn**	**11 07 49.6**	**-0.6**
LALI	**Alcalda de L**	**1.98**	**97**	P	**Pn**	**11 07 49.9**	**-0.2**
LALI	**Alcalda de L**	**1.98**	**97**	S	**Sn**	**11 08 14.8**	**+0.9**
LALI	**Alcalda de L**	**1.98**	**97**	P	**Pn**	**11 07 50.0**	**-0.2**
LALI	**Alcalda de L**	**1.98**	**97**	*e*P	**Pn**	**11 07 49.8**	**-0.3**
LALI	**Alcalda de L**	**1.98**	**97**	*e*P		11 07 49.8	
BOQS	**Boqueron**	**2.00**	**90**	*e*P	**Pn**	**11 07 50.0**	**-0.6**
BOQS				IAML		11 08 22.7	
	comp=Z,1μm,0.3s						
MTO3	**Montecristo**	**2.03**	**71**		**Pn**	**11 07 51.3**	**+0.3**
MTO3	**Montecristo**	**2.03**	**71**	*e*P	**Pn**	**11 07 51.4**	**+0.4**
MTO3	**Montecristo**	**2.03**	**71**	P	**Pn**	**11 07 51.6**	**+0.6**
MTO3	**Montecristo**	**2.03**	**71**	S	**Sb**	**11 08 19.4**	**-0.4**
MTO3	**Montecristo**	**2.03**	**71**	P	**Pn**	**11 07 51.6**	**+0.6**
MTO3	**Montecristo**	**2.03**	**71**	*e*P	**Pn**	**11 07 51.4**	**+0.4**
MTO3	**Montecristo**	**2.03**	**71**	*e*P		11 07 51.4	
UEES	**Universidad Ev**	**2.04**	**91**	*e*P	**Pn**	**11 07 50.7**	**-0.4**
UEES	**Universidad Ev**	**2.04**	**91**	P	**Pn**	**11 07 51.5**	**+0.4**
UEES	**Universidad Ev**	**2.04**	**91**	S	**Sn**	**11 08 17.8**	**+2.1**
UEES	**Universidad Ev**	**2.04**	**91**	P	**Pn**	**11 07 51.5**	**+0.4**
SEMO	**Seminario San**	**2.06**	**91**	P	**Pn**	**11 07 51.4**	**+0.2**
SEMO	**Seminario San**	**2.06**	**91**	S	**Sn**	**11 08 15.6**	**-0.4**
UTEC	**Universidad Te**	**2.08**	**91**	P	**Pn**	**11 07 51.9**	**+0.4**
UTEC	**Universidad Te**	**2.08**	**91**	S	**Sn**	**11 08 17.6**	**+1.0**
UESS	**Universidad de**	**2.08**	**90**	*e*P	**Pn**	**11 07 51.5**	**-0.1**
ESQI	**Esquipulas**	**2.10**	**67**		**Pn**	**11 07 52.6**	**+0.6**
ESQI	**Esquipulas**	**2.10**	**67**	*e*P	**Pn**	**11 07 52.7**	**+0.8**
ESQI				*e*S	**Sn**	**11 08 16.9**	**-0.2**
ESQI	**Esquipulas**	**2.10**	**67**	P	**Pn**	**11 07 53.0**	**+1.0**
ESQI	**Esquipulas**	**2.10**	**67**	P	**Pn**	**11 07 53.0**	**+1.0**
PANCS	**Alcalda de**	**2.10**	**93**	P	**Pn**	**11 07 51.9**	**0.0**
PANCS	**Alcalda de**	**2.10**	**93**	S	**Sn**	**11 08 17.4**	**+0.3**
PANCS	**Alcalda de**	**2.10**	**93**	P	**Pn**	**11 07 52.0**	**0.0**
IGN	**Direccin Gen**	**2.11**	**91**	P	**Pn**	**11 07 52.2**	**+0.2**
IGN	**Direccin Gen**	**2.11**	**91**	S	**Sn**	**11 08 19.7**	**+2.4**
UDBS	**Universidad Do**	**2.12**	**91**	P	**Pn**	**11 07 51.8**	**-0.4**
UDBS	**Universidad Do**	**2.12**	**91**	S	**Sn**	**11 08 19.4**	**+1.7**
LFU	**La Fuente**	**2.16**	**90**	*e*P	**Pn**	**11 07 53.0**	**+0.3**
LFRS	**El Faro**	**2.22**	**93**	*e*P	**Pn**	**11 07 53.4**	**-0.2**
PAVA	**Las Pavas**	**2.34**	**90**	P	**Pn**	**11 07 55.5**	**+0.3**
PAVA	**Las Pavas**	**2.34**	**90**	S	**Sb**	**11 08 27.1**	**-1.5**
PAVA	**Las Pavas**	**2.34**	**90**	P	**Pn**	**11 07 55.3**	**+0.1**
LLGN	**La Laguna**	**2.36**	**80**	*e*P	**Pn**	**11 07 55.4**	**-0.1**
LLGN	**La Laguna**	**2.36**	**80**	P	**Pn**	**11 07 55.7**	**+0.2**
LLGN	**La Laguna**	**2.36**	**80**	S	**Sb**	**11 08 28.9**	**-0.5**
LLGN	**La Laguna**	**2.36**	**80**	P	**Pn**	**11 07 55.7**	**+0.2**
COEG	**Centro de Oper**	**2.39**	**93**	*e*P	**Pn**	**11 07 56.0**	**+0.1**
COEG	**Centro de Oper**	**2.39**	**93**	P	**Pn**	**11 07 56.7**	**+0.8**
COEG	**Centro de Oper**	**2.39**	**93**	S	**Sb**	**11 08 27.6**	**-2.6**
COEG	**Centro de Oper**	**2.39**	**93**	P	**Pn**	**11 07 56.1**	**+0.1**
UESV	**Universidad de**	**2.48**	**92**	S	**Sn**	**11 08 29.7**	**+3.2**
TECO	**Alcaldia de Te**	**2.50**	**94**	P	**Pn**	**11 07 54.1**	**-3.1**
TECO	**Alcaldia de Te**	**2.50**	**94**	P	**Pn**	**11 07 54.0**	**-3.3**
SCLA	**Alcaldia de Sa**	**2.54**	**91**	*e*P	**Pn**	**11 07 57.9**	**0.0**
SCLA	**Alcaldia de Sa**	**2.54**	**91**	P	**

BRDY	Brady	18.82 339	P	P	11 11 36.3	+0.2
SAND	Sanderson	18.96 330	P	Pn	11 11 39.3	+0.8
WHTX	Lake Whitney,	19.01 344	P	Pn	11 11 39.8	+0.9
TX31	Lajitas Ar. Si	19.26 326		Pn	11 11 42.8	+0.6
TXAR	Lajitas Array	19.26 326	P	Pn	11 11 42.3	+0.2
TXAR	Lajitas Array	19.26 326	P	Pn	11 11 41.6	-0.5
	comp=Z,1.8nm,0.8s,baz=154,slow=12,SNR=29					
OZNA	Ozona	19.32 334	P	Pn	11 11 43.4	+0.6
LRAL	Lakeview Retre	19.61 11	P	P	11 11 44.5	0.0
LRAL			IAmb	IAmb	11 11 51.9	
	comp=Z,12nm,1.2s					
FLOC	Florencia	19.67 127	P	Pn	11 11 47.4	+0.3
FLOC			IAmb	IAmb	11 11 50.7	
	comp=Z,11nm,1.1s					
ALPN	Alpine	20.07 328		P	11 11 50.1	+0.3
SGCY	Sterling City	20.19 335		P	11 11 52.0	+1.0
SGCY			IAmb	IAmb	11 11 53.5	
	comp=Z,9.7nm,0.8s					
ABTX	Abilene, Hawle	20.27 339	P	Pn	11 11 53.1	-0.8
ABTX			IAmb	IAmb	11 11 53.8	
	comp=Z,9.6nm,0.9s					
MNHN	Monahans	20.42 331	P	Pn	11 11 54.9	-0.8
UALR	University of	20.96 358		P	11 11 59.7	+0.5
UALR			IAmb	IAmb	11 12 02.7	
	comp=Z,9.5nm,0.8s					
ODSA	Odessa	20.97 333	P	P	11 12 00.3	+0.8
ODSA			IAmb	IAmb	11 12 08.6	
	comp=Z,8.5nm,1.0s					
PECS	Pecos	20.98 329	P	P	11 12 00.9	+1.3
PECS			IAmb	IAmb	11 12 02.6	
	comp=Z,10.0nm,1.0s					
APMT	Aspermont	21.07 339	P	P	11 12 01.2	+0.7
APMT			IAmb	IAmb	11 12 01.8	
	comp=Z,5.6nm,0.8s					
VHRN	Van Horn	21.11 326	P	P	11 12 02.1	+1.0
CLNB	Carlsbad	21.71 330	P	P	11 12 08.0	+0.5
HTMS	Hat Mesa	21.77 331	P	P	11 12 08.2	+0.1
SWET	Sewanee	21.93 12	P	P	11 12 09.1	-0.7
SWET			IAmb	IAmb	11 12 12.0	
	comp=Z,6.7nm,1.0s					
FCAR	Ozark Folk Cen	22.06 358	P	P	11 12 11.3	+0.2
LCAR	Lake Charles	22.23 0	P	P	11 12 11.6	-1.3
SMWD	Samnorwood	22.73 341	P	P	11 12 17.9	-0.4
SMWD			IAmb	IAmb	11 12 19.3	
	comp=Z,11nm,1.1s					
TKL	Tuckaleechee C	22.86 16	P	P	11 12 19.7	+0.1
	comp=Z,2.2nm,0.4s,baz=186,slow=9.7,SNR=4.1					
	comp=Z,2.2nm,0.4s					
MGMO	Mountain Grove	23.33 358	IAmb	IAmb	11 12 24.5	
	comp=Z,5.2nm,0.9s					
TZTN	Tazewell	23.75 16	P	P	11 12 28.0	-0.5
TZTN			IAmb	IAmb	11 12 50.8	
	comp=Z,13nm,1.2s					
V55A	Taylorsville	23.82 21	P	P	11 12 29.0	-0.1
V55A			IAmb	IAmb	11 12 42.7	
	comp=Z,7.2nm,1.3s					
CCM	Cathedral Cave	24.21 0	P	P	11 12 31.8	-0.9
CCM			IAmb	IAmb	11 12 32.6	
	comp=Z,6.1nm,0.9s					
U54A	Nelsons Funny	24.23 19	P	P	11 12 33.1	0.0
CRNM	Carthage	24.49 328	P	P	11 12 36.5	+0.9
BNM	Barren Site	24.59 328	P	P	11 12 37.6	+1.1
SJG	San Juan	24.60 77	LR	LR	11 22 45.5	
	comp=Z,39nm,20.4s,baz=348,slow=38					
LENM	Lemitar	24.78 328	P	P	11 12 39.6	+1.4
RTBA	Rita Blanca	24.80 338	P	P	11 12 38.5	+0.2
RTBA			IAmb	IAmb	11 12 39.7	
	comp=Z,3.7nm,0.9s					
ANMO	Albuquerque	25.14 330	P	P	11 12 41.5	0.0
N38A	Joes South For	27.00 357	IAmb	IAmb	11 12 59.8	
	comp=Z,4.7nm,0.6s					
TCRU	Three Creeks R	31.02 327	IAmb	IAmb	11 13 36.6	
	comp=Z,4.1nm,1.0s					
MPU	Maple Canyon	31.66 330	P	P	11 13 39.9	+0.3
MPU			IAmb	IAmb	11 13 41.3	
	comp=Z,2.9nm,1.1s					
PSUT	Pine Spring	31.73 325	IAmb	IAmb	11 13 43.2	
	comp=Z,2.2nm,0.8s					
PDAR	Pinedale Array	32.92 335	P	P	11 13 51.1	+0.4
	comp=Z,0.3nm,0.7s,baz=147,slow=7.7,SNR=2.7					
	comp=Z,0.3nm,0.7s					
NVAR	Mina Array Bea	34.27 321	P	P	11 14 03.4	+0.9
	comp=Z,1.6nm,0.7s,baz=135,slow=8.3,SNR=13					
NVAR			PcP	PcP	11 16 38.2	-0.4
	comp=Z,0.3nm,0.4s,baz=151,slow=3.4,SNR=3.9					
	comp=Z,1.6nm,0.7s					
MCMT	McKenzie Canyo	35.98 334	P	P	11 14 18.0	+0.8
MFID	Camas Ranch	36.28 329	IAmb	IAmb	11 14 35.8	
	comp=Z,2.2nm,0.9s					
WVOR	Wild Horse Val	37.06 326	IAmb	IAmb	11 14 29.4	
	comp=Z,3.6nm,0.9s					
PLID	Pearl Lake	37.60 331	IAmb	IAmb	11 14 32.0	
	comp=Z,3.6nm,1.1s					
E07A	Sunnyside	40.53 330	P	P	11 14 55.9	+0.7
E07A			IAmb	IAmb	11 14 57.1	
	comp=Z,4.3nm,1.0s					
HOOD	Mount Hood Mea	40.61 327	P	P	11 14 57.5	+1.5
YKA	Yellowknife Ar	51.42 346	P	P	11 16 18.6	-2.1
	comp=Z,1.1nm,0.7s,baz=157,slow=8.0,SNR=20					
YKA			PcP	PcP	11 17 32.8	-2.1
	comp=Z,0.2nm,0.6s,baz=68,slow=6.9,SNR=3.9					
	comp=Z,1.1nm,0.7s					
DLBC	Dease Lake	53.15 336	P	P	11 16 34.3	+0.6
R33M	Jennings River	54.14 336	P	P	11 16 41.7	+0.7
M29M	Somme Creek	58.90 337	P	P	11 17 14.5	-0.3
BCAR	Beaver Creek A	60.53 336	P	P	11 17 25.5	-0.5
GHO	Glory Hole Cre	62.91 333	P	P	11 17 41.9	-0.2
ILAR	Eielson Array	63.33 337	P	P	11 17 44.3	-0.4
ILAR	Eielson Array	63.33 337	P	P	11 17 43.1	-1.6
	comp=Z,1.2nm,0.9s,baz=130,slow=4.5,SNR=12					
	comp=Z,1.2nm,0.9s					
BMAR	Burnt Mountain	63.75 340	P	P	11 17 46.8	-0.7
E23K	Chandalar	65.74 339	P	P	11 17 59.8	-0.7
E23K			IAmb	IAmb	11 18 11.1	
	comp=Z,2.6nm,1.1s					
EUNU	Eureka	66.37 1	P	P	11 18 04.0	-0.4
EUNU			IAmb	IAmb	11 18 04.1	
	comp=Z,1.7nm,0.7s					
G21K	Allakaket	66.54 337	P	P	11 18 04.6	-0.9
F21K	Alatna River	66.78 338	P	P	11 18 07.0	-0.1
BELA	Belgrano 2	96.78 170	P	P	11 20 48.5	+2.6
WRA	Warramunga Arr	135.95 255	PKP	PKPdf	11 26 36.7	-1.0
	comp=Z,0.4nm,0.8s,baz=86,slow=2.5,SNR=1.7					
ASAR	Alice Springs	136.18 250	PKP	PKPdf	11 26 36.4	-1.6
	comp=Z,0.4nm,0.9s,baz=94,slow=2.7,SNR=2.4					
CMAR	Chiang Mai Arr	146.43 342	PKPbc	PKPdf	11 26 56.7	+0.2
	comp=Z,2.3nm,0.7s,baz=343,slow=4.2,SNR=15					

*IDC **08** 11:13:54.6±3.0, 1°.40S×99°.71E, h0km, mb3.7/4,*
mbtmp3.6/5, ML4.0/1, MS2.9/1, Error ellipse:
s-maj=126.0km s-min=28.8km az=56.0
*DJA **08** 11:14:00.4±0.9, 1°.5±3°×10°.0E±°, h17km±10km, M3.6/11,*
MLv3.6/11
ISC 08 11:14:00.2±0.8, 1°.31S±0°.05×99°.74E±0°.06, h30km, n22,
σ1°39/15, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.65	268	P	Pb	11 14 13.5	+0.4
PPI	Padang Panjang	1.07	38	P	Pb	11 14 20.2	0.0
PPSI	Pulau Pagai	1.47	169	P	Pb	11 14 26.4	-0.6
PBSI	Pulau Batu	1.91	310	P	Pn	11 14 31.9	+1.1
BKNI	Bangkinang	2.08	39	P	Pn	11 14 34.7	+1.6
MNSI	Mandailing Nat	2.09	356	P	Pn	11 14 34.9	+1.6
GSI	Gunungsitoli	3.37	320	P	Pn	11 14 52.5	+1.6
MNAI	Manna	4.42	133	P	Pn	11 15 08.0	+2.6
CMAR	Chiang Mai Arr	19.65	358	P	P	11 18 27.5	+0.7
	0.2nm,0.3s,baz=168,slow=10,SNR=1.6						
	0.7nm,0.5s						
H08S2	Diego Garcia H	27.87	256	T	T	11 48 14.7	
	baz=80						
H08S3	Diego Garcia H	27.87	256	T	T	11 48 09.4	
	baz=80						
H08S1	Diego Carcia H	27.89	256	T	T	11 48 17.1	
	baz=80						
WRA	Warramunga Arr	38.57	121	P	P	11 21 19.7	-1.1
	0.2nm,0.6s,baz=298,slow=8.6,SNR=1.5						
	0.2nm,0.6s						
KSRS	Korea Array	46.56	31	LR	LR	11 43 55.1	
	comp=Z,12nm,18.8s,baz=40,slow=39						
SONM	Songino Array	49.28	6	P	P	11 22 44.9	-1.6
	0.3nm,0.5s,baz=185,slow=8.7,SNR=2.5						
	0.3nm,0.5s						
MKAR	Makanchi Array	50.29	344	P	P	11 22 53.4	-0.7
	0.4nm,0.3s,baz=154,slow=8.2,SNR=23						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	54.81	344	P	P	11 23 28.3	+0.9
	0.2nm,0.5s,baz=159,slow=7.1,SNR=2.0						
ZALV	Zalesovo Beam	56.44	349	P	P	11 23 37.8	-1.2
	2.0nm,0.5s,baz=152,slow=6.5,SNR=9.2						
	2.0nm,0.5s						
H04N2	CROZET ISLANDS	61.20	216	T	T	12 29 53.4	
	baz=57,slow=76,SNR=58						
H04N1	CROZET ISLANDS	61.21	216	T	T	12 29 53.9	
	baz=57,slow=76,SNR=54						
H04N3	CROZET ISLANDS	61.22	216	T	T	12 29 52.6	
	baz=57,slow=76,SNR=53						
TXAR	Lajitas Array	144.31	36	PKP	PKPab	11 33 32.0	-0.2
	0.2nm,0.5s,baz=253,slow=1.8,SNR=4.2						

*IDC **08** 11:14:29.2±1.1, 29°.46N×104°.72E, h0km, mb3.6/5,*
mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=61.0km
s-min=19.0km az=62.0
ISC 08 11:14:34.2±1.3, 29°.4N±0°.2×104°.7E±0°.3, h35km, n7,
σ0°59/7, mb3.4/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	18.41	4	P	Pn	11 18 47.0	+0.3
	0.1nm,0.3s,baz=197,slow=9.0,SNR=2.4						
	0.4nm,0.5s						
MKAR	Makanchi Array	24.56	321	P	P	11 19 51.0	+0.3
	0.5nm,0.6s,baz=114,slow=10,SNR=7.6						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	28.42	335	P	P	11 20 26.0	+0.6
	0.4nm,0.3s,baz=118,slow=12,SNR=2.0						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	28.86	324	P	P	11 20 28.7	-0.6
	0.3nm,0.5s,baz=129,slow=9.6,SNR=3.3						
WRA	Warramunga Arr	56.83	146	P	P	11 24 15.3	0.0
	0.8nm,0.7s,baz=338,slow=8.1,SNR=7.1						
	0.8nm,0.7s						
ASAR	Alice Springs	59.83	149	P	P	11 24 36.6	+0.4
	0.8nm,0.7s,baz=331,slow=6.5,SNR=11						
	0.8nm,0.7s						
ILAR	Eielson Array	71.12	25	P	P	11 25 48.2	-0.6
	0.1nm,0.5s,baz=303,slow=5.9,SNR=1.9						
	0.1nm,0.5s						

*GCG **08** 11:16:23.8±0.7, 13°.24N×89°.59W, h58km±7km, MD3.9*
*SNET **08** 11:16:23.4±0.9, 13°.21N×89°.62W, h56km, ML3.6*
*CATAC **08** 11:16:23.3±0.4, 13°.N±2°×9°.0W±°, h33km±2km, M3.7/27,*
MLv3.7/27, Error ellipse: s-maj=5.7km s-min=3.4km
az=31.8, confirmed
ISC 08 11:16:24.1±1.7, 13°.20N±0°.07×89°.60W±0°.05, h53km±10km,
n122, σ0°56/130, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.40	43	↓↓P	Pn	11 16 34.1	-0.3
LALI				eS	Sn	11 16 41.7	-0.1
LALI	Alcalda de L	0.40	43	P	Pn	11 16 34.2	-0.3
LALI	Alcalda de L	0.40	43	P	Pn	11 16 34.1	-0.3
LALI	Alcalda de L	0.40	43	S	Sn	11 16 42.3	+0.5
LALI	Alcalda de L	0.40	43	i P	Pn	11 16 34.1	-0.3
LALI	Alcalda de L	0.40	43	i P		11 16 34.1	
JAYA	Jayaque - finc	0.48	17	eP	Pn	11 16 35.0	-0.4
JAYA				eS	Sn	11 16 43.1	-0.5
JAYA	Jayaque - finc	0.48	17	P	Pn	11 16 35.1	-0.3
JAYA	Jayaque - finc	0.48	17	P	Pn	11 16 35.0	-0.4
JAYA	Jayaque - finc	0.48	17	i P	Pn	11 16 35.1	-0.4
JAYA				i S	Sn	11 16 43.8	+0.2
JAYA	Jayaque - finc	0.48	17	i P		11 16 35.1	
JAYA				i S		11 16 43.8	
ITCA	Escuela Especi	0.57	33	eP	Pn	11 16 35.9	-0.5
ITCA	Escuela Especi	0.57	33	P	Pn	11 16 36.0	-0.5
ITCA	Escuela Especi	0.57	33	S	Sn	11 16 45.5	+0.1
ITCA	Escuela Especi	0.57	33	P	Pn	11 16 36.1	-0.3
PANCS	Alcalda de	0.58	44	P	Pn	11 16 36.1	-0.5
PANCS	Alcalda de	0.58	44	P	Pn	11 16 36.0	-0.6
PANCS	Alcalda de	0.58	44	S	Sn	11 16 44.9	-0.6
PMON	Piamonte	0.58	28	eP	Pn	11 16 36.2	-0.4
PMON	Piamonte	0.58	28	P	Pn	11 16 36.3	-0.4
PMON	Piamonte	0.58	28	P	Pn	11 16 36.4	-0.3
PMON	Piamonte	0.58	28	S	Sn	11 16 46.3	+0.7
LOMA	Loma Larga	0.61	43	eP	Pn	11 16 36.5	-0.4
LOMA	Loma Larga	0.61	43	P	Pn	11 16 36.6	-0.4
LOMA	Loma Larga	0.61	43	P	Pn	11 16 36.6	-0.4
LOMA	Loma Larga	0.61	43	S	Sn	11 16 47.4	+1.2
BOQS	Boqueron	0.62	30	eP	Pn	11 16 36.8	-0.4
SEMO	Seminario San	0.62	36	P	Pn	11 16 36.5	-0.6
SEMO	Seminario San	0.62	36	S	Sn	11 16 47.4	+0.9
UEES	Universidad Ev	0.62	34	eP	Pn	11 16 36.8	-0.3
UEES	Universidad Ev	0.62	34	P	Pn	11 16 36.9	-0.3
UEES	Universidad Ev	0.62	34	P	Pn	11 16 37.0	-0.1
UEES	Universidad Ev	0.62	34	S	Sn	11 16 47.1	+0.6
CEVE	Cerro Verde	0.63	357	eP	Pn	11 16 36.8	-0.5
CEVE	Cerro Verde	0.63	357	P	Pn	11 16 37.1	-0.3
CEVE	Cerro Verde	0.63	357	P	Pn	11 16 37.3	-0.1
UTEC	Universidad Te	0.63	37	P	Pn	11 16 36.9	-0.3
UTEC	Universidad Te	0.63	37	S	Sn	11 16 47.1	+0.4
UTEC	Universidad Te	0.63	37	P	Pn	11 16 37.0	-0.2
CEDA	San Andres	0.63	18	P	Pn	11 16 36.5	-0.6
CEDA	San Andres	0.63	18	P	Pn	11 16 36.6	-0.6
CEDA	San Andres	0.63	18	S	Sn	11 16 48.1	+1.4
SBLS	San Blas	0.64	358	eP	Pn	11 16 37.3	-0.2
UESS	Universidad de	0.65	36	eP	Pn	11 16 37.1	-0.3
IGN	Direccin Gen	0.66	39	P	Pn	11 16 37.4	-0.2
IGN	Direccin Gen	0.66	39	S	Sn	11 16 48.2	+0.9
IGN	Direccin Gen	0.66	39	P	Pn	11 16 37.4	-0.2
SNJE	San Jose	0.67	359	eP	Pn	11 16 37.6	-0.2
LFRS	El Faro	0.67	51	eP	Pn	11 16 37.2	-0.5
UDBS	Universidad Do	0.67	40	P	Pn	11 16 37.5	-0.2
UDBS	Universidad Do	0.67	40	S	Sn	11 16 48.2	+0.6
UDBS	Universidad Do	0.67	40	P	Pn	11 16 37.7	0.0
LFU	La Fuente	0.72	40	eP	Pn	11 16 38.2	-0.1
NUBE	Las Nubes	0.72	346	eP	Pn	11 16 38.1	-0.4
NUBE				eS	Sn	11 16 49.3	+0.4
NUBE	Las Nubes	0.72	346	P	Pn	11 16 38.1	-0.4
NUBE	Las Nubes	0.72	346	P	Pn	11 16 38.0	-0.4
NUBE	Las Nubes	0.72	346	i P	Pn	11 16 38.1	-0.4
NUBE				eS	Sn	11 16 49.3	+0.4
NUBE	Las Nubes	0.72	346	i P		11 16 38.1	
NUBE				eS		11 16 49.3	
FAME	Alcaldia de Sa	0.76	328	P	Pn	11 16 38.4	-0.4
FAME	Alcaldia de Sa	0.76	328	S	Sn	11 16 49.9	+0.4
UNIC	Universidad Ca	0.78	3	P	Pn	11 16 39.0	-0.1
UNIC	Universidad Ca	0.78	3	S	Sn	11 16 50.8	+0.7
UNIC	Universidad Ca	0.78	3	P	Pn	11 16 39.0	-0.1
COEG	Centro de Oper	0.81	59	eP	Pn	11 16 39.1	-0.4
COEG				eS	Sn	11 16 50.6	-0.2
COEG	Centro de Oper	0.81	59	P	Pn	11 16 38.9	-0.7
COEG	Centro de Oper	0.81	59	S	Sn	11 16 51.1	+0.3
COEG	Centro de Oper	0.81	59	P	Pn	11 16 39.1	-0.4
LOAL	Lomas de Alarc	0.82	347	eP	Pn	11 16 39.5	0.0
LOAL	Lomas de Alarc	0.82	347	P	Pn	11 16 39.7	+0.2
LOAL	Lomas de Alarc	0.82	347	S	Sn	11 16 52.2	+1.3
LOAL	Lomas de Alarc	0.82	347	P	Pn	11 16 39.8	+0.2
PAVA	Las Pavas	0.82	51	eP	Pn	11 16 39.6	0.0
PAVA				eS	Sn	11 16 51.4	+0.4
PAVA	Las Pavas	0.82	51	P	Pn	11 16 39.7	0.0
PAVA	Las Pavas	0.82	51	P	Pn	11 16 39.8	+0.2
PAVA	Las Pavas	0.82	51	S	Sn	11 16 52.2	+1.1
SNVI	San Vicente	0.84	61	eP	Pn	11 16 39.7	-0.3
SLOZ	Alcaldia de Sa	0.84	348	P	Pn	11 16 37.6	-2.3
SLOZ	Alcaldia de Sa	0.84	348	S	Sn	11 16 52.1	+0.6
SLOZ	Alcaldia de Sa	0.84	348	P	Pn	11 16 37.7	-2.2
TECO	Alcaldia de Te	0.86	67	eP	Pn	11 16 39.4	-0.7
TECO	Alcaldia de Te	0.86	67	P	Pn	11 16 39.5	-0.6
TECO	Alcaldia de Te	0.86	67	S	Sn	11 16 51.5	-0.4
TECO	Alcaldia de Te	0.86	67	P	Pn	11 16 39.4	-0.7
UESV	Universidad de	0.90	61	P	Pn	11 16 40.3	-0.3
UESV	Universidad de	0.90	61	S	Sn	11 16 52.7	-0.1
UESV	Universidad de	0.90	61	P	Pn	11 16 40.3	-0.3
SCLA	Alcaldia de Sa	0.98	59	eP	Pn	11 16 41.7	-0.1
SCLA	Alcaldia de Sa	0.98	59	P	Pn	11 16 41.6	-0.2
SCLA	Alcaldia de Sa	0.98	59	P	Pn	11 16 41.4	-0.3
ALJI	Alcalda de J	1.01	82	P	Pn	11 16 41.2	-0.8
ALJI	Alcalda de J	1.01	82	S	Sn	11 16 54.6	-0.6
PQSS	Presa 15 de Se	1.09	67	eP	Pn	11 16 42.8	-0.4
PQSS	Presa 15 de Se	1.09	67	P	Pn	11 16 43.0	-0.2
PQSS	Presa 15 de Se	1.09	67	S	Sn	11 16 57.6	+0.3
PQSS	Presa 15 de Se	1.09	67	P	Pn	11 16 42.9	-0.2
JUAM	Asuncion Mita	1.14	355	i P	Pn	11 16 43.5	-0.4
JUAM				i S	Sn	11 16 58.8	+0.3
JUAM	Asuncion Mita	1.14	355	i P		11 16 43.5	
JUAM				i S		11 16 58.8	
LLGN	La Laguna	1.15	33	P	Pn	11 16 43.4	-0.6
LLGN	La Laguna	1.15	33	S	Sn	11 16 58.6	-0.2
LLGN	La Laguna	1.15	33	P	Pn	11 16 43.4	-0.6
MTO3	Montecristo	1.22	11	P	Pn	11 16 44.6	-0.5
MTO3	Montecristo	1.22	11	S	Sn	11 17 00.2	-0.4
MTO3	Montecristo	1.22	11	P	Pn	11 16 44.5	-0.5
MTO3	Montecristo	1.22	11	eP	Pn	11 16 44.5	-0.6
MTO3	Montecristo	1.22	11	eP		11 16 44.5	
PACA	Pacayal	1.27	78	P	Pn	11 16 46.3	+0.6
PACA	Pacayal	1.27	78	S	Sn	11 17 02.5	+0.8
PACA	Pacayal	1.27	78	P	Pn	11 16 46.4	+0.8
LCY	Lacayo	1.29	80	eP	Pn	11 16 46.0	+0.1
RANC	El Ranchito	1.29	79	P	Pn	11 16 46.0	0.0
RANC	El Ranchito	1.29	79	S	Sn	11 17 02.9	+0.6
BLLM	Bellamira	1.34	79	eP	Pn	11 16 46.5	-0.1
ESQI	Esquipulas	1.38	10	eP	Pn	11 16 46.9	-0.3
ESQI	Esquipulas	1.38	10	P	Pn	11 16 46.8	-0.3
ESQI	Esquipulas	1.38	10	S	Sn	11 17 04.7	+0.4
ESQI	Esquipulas	1.38	10	P	Pn	11 16 46.9	-0.3
CNCH	Conchagua	1.72	87	eP	Pn	11 16 51.6	-0.1
CNCH	Conchagua	1.72	87	P	Pn	11 16 51.7	-0.1
CNCH	Conchagua	1.72	87	P	Pn	11 16 51.5	-0.3
APG	El Apazote	1.98	335	eP	Pn	11 16 55.6	+0.1
APG	El Apazote	1.98	335	eP		11 16 55.6	
STG0	El Palmar, Qui	2.09	306	eP		11 17 01.7	
CHOHN	Orocuina	2.39	83	P	Pn	11 17 00.5	-0.5
TGUH	Tegucigalpa,Un	2.41	69	P	Pn	11 17 00.2	-1.1
CRIN	San Cristobal	2.53	101	P	Pn	11 17 02.8	-0.1
CRIN	San Cristobal	2.53	101	S	Sn	11 17 33.2	+0.7
YUSH	Yuscaran	2.78	74	P	Pn	11 17 06.1	-0.2
COPN	Copaltepe	3.10	109	P	Pn	11 17 10.2	-0.4
LIMN	Finca el Limon	3.15	92	P	Pn	11 17 10.9	-0.4

IDC 08 11:22:07.7±1.1, 14°.21N×144°.77E, h0km, mb3.4/6,
mbtmp3.4/6, MS2.9/1, Error ellipse: s-maj=49.5km
s-min=23.4km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	19.37	347	LR	LR	11 33 48.2	
	comp=Z,33nm,18.1s,baz=283,slow=36						
WRA	Warramunga Arr	35.46	197	P	P	11 29 05.8	-0.3
	0.5nm,0.7s,baz=19,slow=9.1,SNR=3.3						
	0.5nm,0.7s						
ASAR	Alice Springs	39.12	196	P	P	11 29 37.2	+0.1
	0.3nm,0.6s,baz=16,slow=9.2,SNR=6.1						
	0.3nm,0.6s						
MKAR	Makanchi Array	60.98	316	P	P	11 32 23.6	+0.6
	0.2nm,0.5s,baz=86,slow=6.6,SNR=4.5						
	0.2nm,0.5s						
ILAR	Eielson Array	68.05	25	P	P	11 33 08.8	0.0
	0.2nm,0.4s,baz=249,slow=5.9,SNR=7.7						
	0.2nm,0.4s						
BVAR	Borovoye Array	69.39	322	P	P	11 33 16.4	-1.0
	0.6nm,0.6s,baz=76,slow=6.1,SNR=3.6						
	0.6nm,0.6s						
YKA	Yellowknife Ar	82.36	27	P	P	11 34 31.7	+0.4
	0.1nm,0.5s,baz=275,slow=4.7,SNR=2.4						
	0.1nm,0.5s						

IDC 08 11:31:59.1±3.1, 32°.12S×178°.02W, h0km, mb3.6/2,
mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=72.6km
s-min=37.1km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.30	212	Pn	Pn	11 33 46.9	-0.1
	0.5nm,0.3s,baz=268,slow=19,SNR=1.2						
URZ				Sn	Sn	11 35 09.6	-1.0
	1.7nm,0.3s,baz=260,slow=19,SNR=8.7						
	5.6nm,0.8s						
ASAR	Alice Springs	43.03	269	P	P	11 40 01.4	+0.7
	0.3nm,0.5s,baz=105,slow=7.4,SNR=9.3						
	0.3nm,0.5s						
WRA	Warramunga Arr	44.17	274	P	P	11 40 09.2	-0.7
	0.5nm,0.5s,baz=113,slow=7.8,SNR=8.6						
	0.5nm,0.5s						
FINES	FINESS Array B	146.75	339	PKPbc	PKPdf	11 51 41.3	+0.8
	1.5nm,0.8s,baz=56,slow=3.5,SNR=5.8						

IDC 08 11:54:40.5±3.0, 32°.51S×178°.31W, h0km, mb3.5/2,
mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=69.7km
s-min=36.3km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.85	212	Pn	Pn	11 56 21.9	-0.3
	0.7nm,0.3s,baz=53,slow=5.1,SNR=8.3						
URZ				Sn	Sn	11 57 40.

AKAS	**Kas**	**1.14 278**	Pn	**Pn**	**11 55 57.2**	**+1.1**	
AKAS	**Kas**	**1.14 278**	P	**Pb**	**11 55 56.2**	**+0.2**	
AKAS			S	**Sn**	**11 56 18.9**	**+7.4**	
AKAS			*i* AML	AML	11 56 20.0		
	comp=N,1μm,0.5s						
AKAS			*i* AML	AML	11 56 24.0		
	comp=E,1μm,0.5s						
KSL	**Kastellorizon**	**1.15 274**	P	**Pn**	**11 55 56.6**	**+0.5**	
KSL			S	**Sn**	**11 56 11.8**	**+0.3**	
	590nm,0.4s						
KSL	**Kastellorizon**	**1.15 274**	P	**Pn**	**11 55 56.6**	**+0.5**	
KSL			S	**Sn**	**11 56 12.5**	**+1.0**	
KSL			AML	AML	11 56 19.5		
	1.0nm,0.5s						
KSL			AML	AML	11 56 25.1		
	1.8nm,0.5s						
BUCA	**Burdur, Bucak-**	**1.30 344**	P	**Pn**	**11 55 58.1**	**-0.1**	
BUCA			S	**Sg**	**11 56 20.7**	**+4.1**	
BUCA			*i* AML	AML	11 56 28.0		
	comp=N,212nm,0.6s						
BUCA			*i* AML	AML	11 56 34.0		
	comp=E,264nm,0.9s						
KNIK	**Mula-Seydike**	**1.38 304**	P	**Pg**	**11 56 01.1**	**0.0**	
KNIK			*i* AML	AML	11 56 21.0		
	comp=N,529nm,0.5s						
KNIK			*i* AML	AML	11 56 21.0		
	comp=E,504nm,0.5s						
BCK	**Bucak**	**1.42 347**	Pn	**Pn**	**11 56 00.7**	**+0.8**	
IZZE	**Mula-Seydike**	**1.48 285**	P	**Pb**	**11 56 01.6**	**-0.1**	
IZZE			S	**Sb**	**11 56 20.3**	**0.0**	
IZZE			*i* AML	AML	11 56 21.0		
	comp=E,736nm,0.4s						
IZZE			*i* AML	AML	11 56 24.0		
	comp=N,650nm,0.4s						
SEYD	**Seydisehir-KON**	**1.49 27**	Pn	**Pn**	**11 56 01.5**	**+0.6**	
HDMB	**Hadim**	**1.49 53**	Pn	**Pn**	**11 56 00.4**	**-0.6**	
SEDI	**Konya, Seydise**	**1.50 24**	P	**Pn**	**11 56 01.2**	**+0.1**	
SEDI			S	**Sn**	**11 56 19.5**	**-1.1**	
SEDI			*i* AML	AML	11 56 23.0		
	comp=E,326nm,0.6s						
SEDI			*i* AML	AML	11 56 26.0		
	comp=N,405nm,0.5s						
AKMS	**Akamas**	**1.52 134**	P	**Pn**	**11 56 01.6**	**+0.4**	
AKMS			S	**Sn**	**11 56 21.6**	**+0.9**	
AKMS			AML	AML	11 56 32.8		
	1.4nm,0.6s						
AKMS			AML	AML	11 56 33.1		
	1.1nm,0.5s						
ALFC	**Alefka**	**1.59 125**	P	**Pn**	**11 56 01.7**	**-0.5**	
ALFC			S	**Sn**	**11 56 23.9**	**+1.3**	
ALFC			AML	AML	11 56 34.0		
	0.6nm,0.4s						
ALFC			AML	AML	11 56 34.7		
	0.8nm,0.5s						
BOZY	**Bozyazi-Mersin**	**1.60 88**	Pn	**Pn**	**11 56 02.9**	**+0.6**	
CAME	**Cameli-Denizli**	**1.62 303**	Pn	**Pb**	**11 56 04.2**	**0.0**	
GOLH	**Golhisar**	**1.64 316**	P	**Pb**	**11 56 04.6**	**+0.1**	
GOLH			S	**Sg**	**11 56 27.1**	**-0.2**	
GOLH			*i* AML	AML	11 56 35.0		
	comp=E,387nm,1.3s						
GOLH			*i* AML	AML	11 56 39.0		
	comp=N,318nm,0.7s						
FETY	**Fethiye**	**1.65 291**	Pn	**Pn**	**11 56 03.9**	**+0.9**	
FETY	**Fethiye**	**1.65 291**	P	**Pn**	**11 56 03.8**	**+0.9**	
FETY			S	**Sb**	**11 56 24.8**	**-0.3**	
CAEL	**Denizli, Camel**	**1.71 308**	P	**Pg**	**11 56 06.7**	**-0.7**	
CAEL			S	**Sb**	**11 56 27.8**	**+0.6**	
CAEL			*i* AML	AML	11 56 44.0		
	comp=N,606nm,0.7s						
CAEL			*i* AML	AML	11 56 47.0		
	comp=E,629nm,0.9s						
TEKE	**Tekeli-Mersin**	**1.71 87**	Pn	**Pn**	**11 56 04.9**	**+1.1**	
TEKE			Sn	**Sn**	**11 56 27.4**	**+1.9**	
BRDR	**BURDUR-Merkez**	**1.79 335**	P	**Pb**	**11 56 06.3**	**-0.7**	
BRDR			S	**Sg**	**11 56 33.8**	**+1.7**	
BRDR			*i* AML	AML	11 56 36.0		
	comp=N,129nm,0.8s						
BRDR			*i* AML	AML	11 56 36.0		
	comp=E,196nm,0.7s						
ISP	**Isparta**	**1.79 348**	Pn	**Pn**	**11 56 05.8**	**+0.8**	
SABU	**Mula-Dalaman**	**1.80 295**	P	**Pn**	**11 56 05.6**	**+0.5**	
SABU			S	**Sn**	**11 56 28.0**	**+0.3**	
SABU			*i* AML	AML	11 56 33.0		
	comp=N,147nm,0.3s						
SABU			*i* AML	AML	11 56 47.0		
	comp=E,152nm,0.7s						
LEF	**Lefka**	**1.81 121**	Pn	**Pn**	**11 56 04.8**	**-0.4**	
LEF	**Lefka**	**1.81 121**	P	**Pn**	**11 56 05.5**	**+0.4**	
LEF			S	**Sn**	**11 56 28.7**	**+0.8**	
BERE	**Bereket-Mersin**	**1.82 81**	Pn	**Pn**	**11 56 06.5**	**+1.1**	
NATA	**Nata**	**1.82 135**	P	**Pn**	**11 56 06.5**	**+1.2**	
NATA			AML	AML	11 56 48.7		
	5.2nm,0.9s						
NATA			AML	AML	11 56 51.0		
	2.3nm,0.8s						
BAGO	**Egridir - ISPA**	**1.92 355**	P	**Pn**	**11 56 07.2**	**+0.4**	
BAGO			S	**Sg**	**11 56 34.9**	**-1.4**	
KKBE	**Karaman, Kazim**	**1.94 53**	P	**Pn**	**11 56 08.6**	**+1.6**	
KKBE			S	**Sn**	**11 56 33.0**	**+1.9**	
KKBE			*i* AML	AML	11 56 36.0		
	comp=N,202nm,1.1s						
KKBE			*i* AML	AML	11 56 36.0		
	comp=E,267nm,0.6s						
APMY	**Acipayam-Deniz**	**1.95 316**	Pn	**Pn**	**11 56 08.7**	**+1.5**	
INCE	**Denizli-Bozkur**	**1.99 325**	P	**Pn**	**11 56 09.1**	**+1.3**	
INCE			S	**Sb**	**11 56 34.7**	**-0.5**	
INCE			*i* AML	AML	11 56 35.0		
	comp=N,213nm,0.9s						
INCE			*i* AML	AML	11 56 36.0		
	comp=E,248nm,1.2s						
BASM	**Basmaki-Afyon**	**1.99 338**	Pn	**Pn**	**11 56 09.1**	**+1.3**	
OREN	**Orenkoy-Mersin**	**2.00 85**	Pn	**Pn**	**11 56 08.9**	**+1.2**	
TEVE	**Tevekalti-Mers**	**2.01 79**	Pn	**Pn**	**11 56 09.2**	**+1.2**	
KMER	**Konya-Meram**	**2.02 33**	S	**Sn**	**11 56 33.0**	**-0.2**	
AKK1	**Akkuyu-Mersin**	**2.06 87**	Pn	**Pn**	**11 56 10.1**	**+1.5**	
GULN	**MERSIN_Gulnar**	**2.06 86**	P	**Pn**	**11 56 10.2**	**+1.6**	
GULN			S	**Sb**	**11 56 37.2**	**+0.1**	
GULN			*i* AML	AML	11 56 41.0		
	comp=N,135nm,0.5s						
GULN			*i* AML	AML	11 56 42.0		
	comp=E,202nm,0.7s						
TEPK	**Tepekoy-MERSIN**	**2.07 85**	Pn	**Pn**	**11 56 10.1**	**+1.4**	
AKKU	**Akkuyu-Mersin**	**2.07 87**	Pn	**Pn**	**11 56 10.1**	**+1.4**	
APOL	**The Sanctuary**	**2.07 132**	P	**Pn**	**11 56 09.2**	**+0.5**	
APOL			AML	AML	11 56 52.1		
	0.5nm,0.6s						
APOL			AML	AML	11 56 57.4		
	0.7nm,0.8s						
DOGA	**KONYA_Doganhis**	**2.10 15**	P	**Pn**	**11 56 10.4**	**+1.2**	
DOGA			S	**Sn**	**11 56 36.1**	**+0.8**	
DOGA			*i* AML	AML	11 56 38.0		
	comp=N,338nm,0.5s						
DOGA			*i* AML	AML	11 56 40.0		
	comp=E,293nm,0.7s						
YESI	**Yesilovacik-Me**	**2.14 86**	Pn	**Pn**	**11 56 11.3**	**+1.6**	
KONT	**Konya--Tatoy**	**2.16 30**	Pn	**Pn**	**11 56 11.0**	**+0.9**	
KONT	**Konya--Tatoy**	**2.16 30**	P	**Pn**	**11 56 10.8**	**+0.8**	
KONT			*i* AML	AML	11 56 39.0		
	comp=N,114nm,1.8s						
KONT			*i* AML	AML	11 56 39.0		
	comp=E,135nm,0.7s						
TISA	**Tisan-Mersin**	**2.17 87**	Pn	**Pn**	**11 56 11.6**	**+1.5**	
TAVA	**DENIZLI_Tavas**	**2.18 310**	P	**Pn**	**11 56 11.8**	**+1.5**	
TAVA			S	**Sb**	**11 56 41.7**	**+1.2**	
TAVA			*i* AML	AML	11 56 42.0		
	comp=E,278nm,0.6s						
TAVA			*i* AML	AML	11 56 50.0		
	comp=N,180nm,0.6s						
IKL	**Isikli**	**2.18 85**	Pn	**Pn**	**11 56 11.9**	**+1.7**	
CSS	**Mathiatis**	**2.20 120**	Pn	**Pn**	**11 56 12.5**	**+1.9**	
CSS	**Mathiatis**	**2.20 120**	P	**Pn**	**11 56 11.0**	**+0.4**	
CSS			S	**Sn**	**11 56 37.7**	**+0.2**	
CSS			AML	AML	11 56 55.8		
	0.2nm,0.5s						
CSS			AML	AML	11 56 57.7		
	0.3nm,0.7s						
YVAC	**Isparta, Yalva**	**2.20 5**	P	**Pn**	**11 56 11.1**	**+0.4**	
LFK	**Lefkose**	**2.21 110**	Pn	**Pn**	**11 56 12.7**	**+2.0**	
KEBE	**Keben-Mersin**	**2.23 80**	Pn	**Pn**	**11 56 12.6**	**+1.7**	
ASGA	**Asgata**	**2.24 124**	S	**Sn**	**11 56 39.7**	**+1.2**	
ASGA			AML	AML	11 56 56.7		
	0.5nm,1.1s						
ASGA			AML	AML	11 57 00.4		
	0.5nm,0.9s						
KZIL	**AFYON_Kizioren**	**2.29 343**	P	**Pn**	**11 56 12.8**	**+0.9**	
KZIL			S	**Sb**	**11 56 42.3**	**-1.4**	
KZIL			*i* AML	AML	11 56 43.0		
	comp=N,70nm,0.5s						
KZIL			*i* AML	AML	11 56 49.0		
	comp=E,96nm,0.7s						
TURN	**Turunc**	**2.33 288**	P	**Pn**	**11 56 13.1**	**+0.8**	
TURN			S	**Sn**	**11 56 39.7**	**-1.0**	
TURN			*i* AML	AML	11 56 42.0		
	comp=N,170nm,0.3s						
TURN			*i* AML	AML	11 56 42.0		
	comp=E,132nm,0.3s						
ARG	**Arkhangelos**	**2.33 274**	P	**Pn**	**11 56 12.3**	**0.0**	
ARG			S	**Sn**	**11 56 39.3**	**-1.4**	
	232nm,0.7s						
ARG	**Arkhangelos**	**2.33 274**	P	**Pn**	**11 56 12.2**	**-0.1**	
ARG			S	**Sn**	**11 56 40.0**	**-0.6**	
ARG			AML	AML	11 56 42.2		
	0.3nm,0.4s						
ARG			AML	AML	11 56 50.6		
	0.4nm,0.5s						
SILI	**Silifke-Mersin**	**2.38 82**	Pn	**Pn**	**11 56 14.4**	**+1.4**	
LADK	**Ladik-KONYA**	**2.39 27**	Pn	**Pn**	**11 56 14.3**	**+1.1**	
MVOU	**Mavrovouni**	**2.39 115**	P	**Pn**	**11 56 12.8**	**-0.3**	
MVOU			S	**Sn**	**11 56 42.9**	**+0.7**	
MVOU			AML	AML	11 56 56.2		
	0.3nm,1.0s						
MVOU			AML	AML	11 56 59.0		
	0.3nm,0.7s						
MULA	**Mugla, Merkez-**	**2.46 300**	P	**Pn**	**11 56 15.2**	**+1.1**	
MULA			S	**Sn**	**11 56 43.1**	**-0.9**	
MULA			*i* AML	AML	11 56 47.0		
	comp=N,76nm,0.8s						
MULA			*i* AML	AML	11 57 04.0		
	comp=E,142nm,0.9s						
SHUT	**Suhut-Afyon**	**2.50 352**	Pn	**Pn**	**11 56 15.9**	**+1.1**	
PASA	**Karahalli, USA**	**2.57 332**	P	**Pn**	**11 56 15.3**	**-0.5**	
PASA			S	**Sn**	**11 56 46.1**	**-0.7**	
PASA			*i* AML	AML	11 56 48.0		
	comp=N,115nm,0.7s						
PASA			*i* AML	AML	11 56 48.0		
	comp=E,200nm,0.6s						
KIZK	**Mersin**	**2.57 80**	Pn	**Pn**	**11 56 17.4**	**+1.7**	
KIZK	**Mersin**	**2.57 80**	P	**Pb**	**11 56 19.6**	**-0.8**	
KIZK			S	**Sb**	**11 56 51.5**	**-0.3**	
KIZK			*i* AML	AML	11 56 59.0		
	comp=E,97nm,0.7s						
KIZK			*i* AML	AML	11 57 00.0		
	comp=N,120nm,0.9s						
UCKU	**Afyonkarahisar**	**2.58 7**	P	**Pn**	**11 56 16.0**	**+0.1**	
UCKU			S	**Sn**	**11 56 48.1**	**+1.0**	
UCKU			*i* AML	AML	11 56 49.0		
	comp=N,97nm,0.8s						
KDHN	**Kadinhani**	**2.60 20**	P	**Pn**	**11 56 15.9**	**-0.3**	
KDHN			S	**Sn**	**11 56 46.7**	**-0.9**	
EREN	**Erenkoy**	**2.63 101**	Pn	**Pn**	**11 56 18.5**	**+2.0**	
EREN	**Erenkoy**	**2.63 101**	P	**Pn**	**11 56 19.6**	**+3.1**	
EREN			*i* AML	AML	11 57 07.0		
	comp=N,110nm,0.9s						
EREN			*i* AML	AML	11 57 09.0		
	comp=E,125nm,0.6s						
KURO	**Afyon-Bolvadin**	**2.66 359**	P	**Pn**	**11 56 17.3**	**+0.4**	
ALIN	**Konya, Altinte**	**2.68 33**	P	**Pn**	**11 56 16.3**	**-1.0**	
ESEN	**Aydn-Nazilli**	**2.73 310**	P	**Pn**	**11 56 18.2**	**+0.3**	
ESEN			*i* AML	AML	11 57 07.0		
	comp=N,62nm,1.0s						
ESEN			*i* AML	AML	11 57 09.0		
	comp=E,69nm,0.7s						
BNAZ	**Uak-Banaz**	**2.75 341**	P	**Pn**	**11 56 18.6**	**+0.4**	
BNAZ			S	**Sn**	**11 56 52.3**	**+1.1**	
BNAZ			*i* AML	AML	11 56 55.0		
	comp=N,247nm,0.8s						
BNAZ			*i* AML	AML	11 56 56.0		
	comp=E,315nm,0.7s						
YESY	**Yesilyurt**	**2.78 51**	Pn	**Pn**	**11 56 19.2**	**+0.5**	
KERG	**Konya-Eregli**	**2.84 61**	P	**Pn**	**11 56 22.0**	**+2.5**	
KERG			S	**Sn**	**11 56 55.6**	**+2.0**	
KERG			*i* AML	AML	11 56 59.0		
	comp=N,89nm,0.6s						
KERG			*i* AML	AML	11 56 59.0		
	comp=E,123nm,1.2s						
KIZT	**Kizilcal**	**2.89 14**	Pn	**Pn**	**11 56 20.9**	**+0.8**	
CHBY	**Cihanbeyli**	**2.92 30**	Pn	**Pn**	**11 56 21.5**	**+0.9**	
YAZI	**Mula-Dat§a-**	**2.92 283**	P	**Pn**	**11 56 20.9**	**+0.4**	
YAZI			S	**Sn**	**11 56 53.9**	**-1.5**	
YAZI			*i* AML	AML	11 56 57.0		
	comp=E,73nm,0.3s						
YAZI			*i* AML	AML	11 56 59.0		
	comp=N,52nm,0.7s						
MERS	**Mersin**	**2.95 73**	Pn	Pn	11 56 02.1	-19	
AYDN	**Tasoluk**	**2.96 303**	P	**Pn**	**11 56 21.3**	**+0.3**	
AYDN			S	**Sn**	**11 56 55.2**	**-1.2**	
AYDN			*i* AML	AML	11 57 06.0		
	comp=N,68nm,0.8s						
AYDN			*i* AML	AML	11 57 10.0		
	comp=E,67nm,0.6s						
KIRA	**zmir-Kiraz**	**2.97 316**	P	**Pn**	**11 56 21.2**	**+0.1**	
KIRA			S	**Sn**	**11 56 55.4**	**-1.2**	
KIRA			*i* AML	AML	11 56 58.0		
	comp=E,49nm,0.6s						
KIRA			*i* AML	AML	11 57 01.0		
	comp=N,62nm,0.7s						
CBEY	**Konya-Cihanbey**	**2.97 28**	P	**Pn**	**11 56 21.2**	**-0.1**	
CBEY			S	**Sn**	**11 56 54.0**	**-2.7**	
CBEY			*i* AML	AML	11 56 59.0		
	comp=N,166nm,0.7s						
CBEY			*i* AML	AML	11 57 15.0		
	comp=E,104nm,1.0s						
BDRM	**Kayabasi**	**3.03 290**	P	**Pn**	**11 56 22.4**	**+0.5**	
BDRM			S	**Sn**	**11 56 56.9**	**-1.1**	
BDRM			*i* AML	AML	11 56 58.0		
	comp=E,156nm,0.6s						
USAK	**Uak-Merkez**	**3.07 330**	P	**Pn**	**11 56 22.9**	**+0.3**	
USAK			*i* AML	AML	11 56 59.0		
	comp=N,72nm,0.5s						
USAK			S	**Sn**	**11 56 59.3**	**+0.2**	
USAK			*i* AML	AML	11 57 00.0		
	comp=E,72nm,0.7s						
MANT	**Manisa**	**3.10 322**	P	**Pn**	**11 56 23.2**	**+0.1**	
MANT			S	**Sn**	**11 56 59.9**	**-0.1**	
MANT			*i* AML	AML	11 57 04.0		
	comp=E,88nm,0.8s						
KARP	**Karpathos**	**3.16 262**	P	**Pn**	**11 56 24.8**	**+1.0**	
KARP			S	**Sn**	**11 56 59.4**	**-1.9**	
	322nm,0.4s						
KARP	**Karpathos**	**3.16 262**	P	**Pn**	**11 56 24.5**	**+0.7**	
KARP			S	**Sn**	**11 57 00.9**	**-0.5**	
KARP			AML	AML	11 57 03.4		
	0.8nm,0.4s						
KARP			AML	AML	11 57 05.3		
	0.5nm,0.3s						
GDZ	**Gediz**	**3.24 339**	P	**Pn**	**11 56 24.5**	**-0.5**	
CIFT	**Cifteler, Eski**	**3.28 1**	Pn	**Pn**	**11 56 26.2**	**+0.7**	
KULU	**Kulu**	**3.37 28**	Pn	**Pn**	**11 56 28.2**	**+1.6**	
GCAM	**G?zelcaml?**	**3.43 299**	P	**Pn**	**11 56 26.9**	**-0.4**	
GCAM			S	**Sn**	**11 57 04.7**	**-3.1**	
GCAM			*i* AML	AML	11 57 06.0		
	comp=E,71nm,0.3s						
GCAM			*i* AML	AML	11 57 07.0		
	comp=N,108nm,0.3s						
KARA	**Karaisali**	**3.47 69**	Pn	**Pn**	**11 56 30.1**	**+2.1**	
DEMI	**Demirci**	**3.48 329**	P	**Pn**	**11 56 27.8**	**-0.4**	
DEMI			*i* AML	AML	11 57 10.0		
	comp=E,44nm,0.5s						
ANDZ	**Kutahya, Merke**	**3.54 346**	P	**Pn**	**11 56 29.4**	**+0.3**	
ANDZ			S	**Sn**	**11 57 08.8**	**-2.0**	
ANDZ			*i* AML	AML	11 58 29.0		
	comp=N,33nm,4.0s						
CMRD	**Camardi-Nigde**	**3.57 62**	Pn	**Pn**	**11 56 31.3**	**+1.8**	
DGB	**zmir**	**3.84 302**	P	**Pn**	**11 56 32.7**	**-0.4**	
DGB			S	**Sn**	**11 57 13.7**	**-4.2**	
DGB			*i* AML	AML	11 57 17.0		
	comp=N,37nm,0.4s						
DGB			*i* AML	AML	11 57 17.0		
	comp=E,41nm,0.7s						
KAMT	**Kaman**	**3.93 32**	Pn	**Pn**	**11 56 36.2**	**+1.8**	
BR131	**Keskin Array S**	**4.20 29**	Pn	**Pn**	**11 56 38.7**	**+0.5**	
BRTR	**Keskin Array B**	**4.20 29**	Pn	**Pn**	**11 56 38.1**	**-0.1**	
	1.9nm,0.3s,baz=206,slow=16,SNR=40						
BRTR			Sn	**Sn**	**11 57 26.2**	**-0.8**	
	1.6nm,0.3s,baz=209,slow=26,SNR=8.8						
	7.3nm,0.5s						
THR3	**Thira Island,**	**4.54 276**	P	**Pn**	**11 56 42.9**	**+0.3**	
THR6	**Thira Island,**	**4.54 275**	P	**Pn**	**11 56 43.2**	**+0.5**	
MMAI	**Mount Meron Ar**	**4.75 129**	Pn	**Pn**	**11 56 44.7**	**-0.9**	
	3.7nm,0.3s,baz=319,slow=12,SNR=5.7						
MMAI			Sn	**Sn**	**11 57 39.8**	**-0.6**	
	8.1nm,0.3s,baz=313,slow=24,SNR=11						
	0.7nm,0.3s						
IDI	**Anoyia**	**5.03 263**	Pn	**Pn**	**11 56 49.6**	**+0.1**	
	6.9nm,0.3s,baz=74,slow=14,SNR=33						
IDI			Sn	**Sn**	**11 57 43.1**	**-4.4**	
	6.8nm,0.3s,baz=150,slow=12,SNR=12						
	15nm,0.3s						
ASF	**Jabal al Asfar**	**6.25 127**	Pn	**Pn**	**11 57 05.2**	**-1.1**	
	baz=315,slow=14,SNR=1.1						
	0.7nm,0.4s						
EIL	**Elat**	**7.20 151**	Pn	**Pn**	**11 57 19.2**	**0.0**	
	0.8nm,0.3s,baz=336,slow=20,SNR=8.9						
EIL			Sn	**Sn**	**11 58 37.1**	**-3.7**	
	0.4nm,0.3s,baz=42,slow=15,SNR=2.3						
	5.8nm,0.6s						
AKASG	**Malin Array Be**	**14.68 356**	Pn	**Pn**	**11 59 03.8**	**+2.2**	
	0.3nm,0.3s,baz=178,slow=9.5,SNR=12						
FINES	**FINESS Array B**	**25.58 355**	P	**P**	**12 01 02.2**	**-0.5**	
	1.1nm,0.4s,baz=157,slow=10,SNR=9.4						
	1.1nm,0.4s						
ARCES	**ARCESS Array B**	**33.65 357**	P	**P**	**12 02 14.3**	**0.0**	
	2.1nm,0.8s,baz=176,slow=7.1,SNR=7.6						
	2.1nm,0.8s						
MKAR	**Makanchi Array**	**39.28 58**	P	**P**	**12 03 00.9**	**-1.7**	
	0.2nm,0.6s,baz=269,slow=9.7,SNR=4.2						
	0.2nm,0.6s						

WEL ***08*** *11:57:14.0±0.9, 32°S±5°×17°7W±1°5, h12km, mB5.5/25, ML6.1/31, MLv5.8/31, Mw(mB)5.0/25, Error ellipse: s-maj=19.9km s-min=4.7km az=102.8, confirmed*

IDC ***08*** *11:57:16.1±0.4, 32°04S×178°20W, h0km, mb4.8/26, mbtmp4.7/30, ML5.0/3, MS4.8/46, Error ellipse: s-maj=15.2km s-min=14.0km az=113.0*

BJI ***08*** *11:57:16.6, 32°22S×177°84W, h20km, mB5.8/9, mb5.2/20, Ms5.2/9, Ms7 4.8/11*

MOS ***08*** *11:57:17.5±1.1, 32°05S×178°30W, h13km, mb5.2/20, Error ellipse: s-maj=12.0km s-min=10.2km az=87.7*

NEIC ***08*** *11:57:18.7, 32°15S×178°13W, h22km*

NEIC ***08*** *11:57:18.7, 32°15S×177°00W, h22km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}6.01; $M_{\theta\theta}$0.57; $M_{\phi\phi}$-6.58; $M_{r\theta}$0.26; $M_{\theta\phi}$-1.49; $M_{\phi r}$4.94; Fault plane solution: $M_0$8.13000×10^{16} NP1: ϕ_s198.03000°, δ26.67000°, λ100.97000°. NP2: ϕ_s5.79000°, δ63.85000°, λ84.54000°. Principal axes: T 7.7255, Plg71.0000°, Azm264.0000°; N 0.8050, Plg5.0000°, Azm8.0000°; P -8.5305, Plg19.0000°, Azm100.0000°;*

NEIC ***08*** *11:57:18.7±2.0, 32°15S±0°09×178°1W±0°1, h10km±1km, mb5.0/90, Mww5.2/25 Error ellipse: s-maj=17.6km s-min=15.1km az=98.0*

GCMT ***08*** *11:57:22.7±0.1, 32°13S±0°01×177°63W±0°01, h18km, MW5.3/132, Moment Tensor Solution. s92, c138; s132, c213; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.67±.02; $M_{\theta\theta}$-0.03±.01; $M_{\phi\phi}$-0.63±.01; $M_{r\theta}$0.17±.03; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$0.76±.04; Best double couple: $M_0$1.02900×10^{17} NP1: ϕ_s196.00000°, δ21.00000°, λ93.00000°. NP2: ϕ_s13.00000°, δ70.00000°, λ89.00000°. Principal axes: T 1.0210, Plg65.0000°, Azm281.0000°; N 0.0150, Plg1.0000°, Azm13.0000°; P -1.0360, Plg25.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***08*** *11:58:12.4, 36°37S×179°38W, h54km, mb4.9/10, East of North Island, N.Z.*

ISC 08 11:57:17.7±0.9, 32°17S±0°04×177°94W±0°06, h13km±5km, n459, σ1§57/422, mb5.0/108, MS4.8/54, 16C-10D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.90**	**0**	P	**Pn**	**11 58 01.0**	**-2.6**
GLKZ				S	**Sn**	**11 58 35.6**	**-2.6**
MXZ	**Matakaoa Point**	**6.20**	**209**	Pn	**Pn**	**11 58 47.5**	**-1.4**
MXZ	**Matakaoa Point**	**6.20**	**209**	P	**Pn**	**11 58 46.6**	**-2.3**
MXZ	**Matakaoa Point**	**6.20**	**209**	P	**Pn**	**11 58 46.9**	**-2.0**
MXZ				S	**Sn**	**11 59 58.3**	**-1.4**
WMGZ	**Waiomatatini S**	**6.38**	**207**	P	**Pn**	**11 58 50.1**	**-1.3**
WMGZ				S	**Sn**	**12 00 04.4**	**+0.4**
PKGZ	**Pakihiroa**	**6.55**	**209**	P	**Pn**	**11 58 51.6**	**-2.2**
HAZ	**Te Kaha**	**6.59**	**211**	P	**Pn**	**11 58 52.8**	**-1.4**
HAZ				S	**Sn**	**12 00 08.7**	**-0.4**
PUZ	**Puketiti**	**6.66**	**207**	P	**Pn**	**11 58 52.8**	**-2.4**
PUZ				S	**Sn**	**12 00 10.6**	**-0.4**
RUGZ	**Raukumara Rang**	**6.81**	**211**	P	**Pn**	**11 58 55.9**	**-1.4**
GRZ	**Great Barrier**	**6.82**	**232**	P	**Pn**	**11 59 00.7**	**+3.3**
TWGZ	**Tauwhareparae**	**6.86**	**208**	P	**Pn**	**11 58 55.5**	**-2.5**
WHRZ	**Whale Island**	**7.04**	**215**	P	**Pn**	**11 58 56.6**	**-3.9**
CNGZ	**Carnagh Statio**	**7.04**	**205**	P	**Pn**	**11 58 57.5**	**-3.0**
TKGZ	**Te Karaka**	**7.14**	**208**	P	**Pn**	**11 59 01.5**	**-0.2**
MWZ	**Matawai**	**7.18**	**210**	P	**Pn**	**11 59 00.1**	**-2.3**
OPRZ	**Ohinepanea**	**7.24**	**217**	P	**Pn**	**11 59 03.6**	**+0.4**
MARZ	**Manawahe**	**7.29**	**216**	P	**Pn**	**11 59 03.5**	**-0.4**
URZ	**Urewera**	**7.30**	**212**	Pn	**Pn**	**11 59 01.9**	**-2.1**
	11nm,0.3s,baz=112,slow=5.3,SNR=29						
URZ				Sn	**Sn**	**12 00 24.9**	**-1.8**
	89nm,0.3s,baz=105,slow=20,SNR=15						
	45nm,0.4s						
URZ	**Urewera**	**7.30**	**212**	P	**Pn**	**11 59 02.2**	**-1.8**
URZ	**Urewera**	**7.30**	**212**	P	**Pn**	**11 59 01.7**	**-2.3**
URZ				S	**Sn**	**12 00 25.1**	**-1.6**
TGRZ	**Tauranga**	**7.31**	**219**	P	**Pn**	**11 59 04.5**	**+0.4**
RAGZ	**Rawiri**	**7.36**	**210**	P	**Pn**	**11 59 03.0**	**-1.9**
RIGZ	**Rimuhau**	**7.40**	**207**	P	**Pn**	**11 59 02.6**	**-2.9**
WCZ	**Waipu Caves**	**7.42**	**237**	P	**Pn**	**11 59 08.4**	**+2.7**
MKAZ	**Moumakai**	**7.52**	**

MOVZ Moawhango 8.85 214 P **Pn 11 59 23.3 -2.0**
WNVZ Wahianoa 8.86 215 P **Pn 11 59 24.5 -1.1**
PXZ Pawanui 8.90 207 P **Pn 11 59 22.9 -3.0**
PNHZ Pukenui 9.06 210 P **Pn 11 59 25.0 -3.3**
WPHZ Waipukurau 9.09 208 P Pn 11 59 24.2 -4.4
VRZ Vera Road 9.13 219 P **Pn 11 59 32.0 +2.9**
PRHZ Porangahau 9.19 207 P **Pn 11 59 26.3 -3.6**
TSZ Takapari Road 9.29 210 P **Pn 11 59 28.3 -3.0**
DVHZ Dannevirke 9.40 209 P **Pn 11 59 28.3 -4.6**
ANWZ Angora Road 9.42 207 P **Pn 11 59 30.1 -2.9**
KHEZ Kahui Hut 9.65 220 P **Pn 11 59 38.4 +2.0**
491nm,1.4s
BFZ Birch Farm 9.70 207 Pn **Pn 11 59 35.1 -1.8**
BFZ Birch Farm 9.70 207 P Pn 11 59 31.7 -5.2
80nm,0.9s
BFZ Birch Farm 9.70 207 P Pn 11 59 31.6 -5.3
BHW Baring Head 10.87 210 Pn **Pn 11 59 51.1 -1.8**
TCW Tory Channel 10.97 212 Pn **Pn 11 59 52.2 -2.1**
TUWZ Tuamarina 11.29 213 Pn **Pn 11 59 55.4 -3.3**
NNZ Nelson 11.40 215 Pn **Pn 11 59 57.4 -2.8**
CTZ Chatham Island 11.59 175 P **Pn 12 00 01.1 -1.7**
109nm,0.9s
KHZ Kahutara 12.26 211 P **Pn 12 00 08.0 -4.0**
63nm,1.2s
RPZ Rata Peaks 14.41 214 Pn **Pn 12 00 38.5 -2.9**
RPZ Rata Peaks 14.41 214 Pn **Pn 12 00 39.2 -2.2**
3.1nm,0.3s,baz=17,slow=2.6,SNR=12
RPZ Sn Sn 12 03 06.1 -15
13nm,0.3s,baz=7.2,slow=16,SNR=17
21nm,0.6s
RPZ Rata Peaks 14.41 214 P **Pn 12 00 38.3 -3.1**
54nm,0.5s
MSVF Nonsavu 14.82 345 Pn **Pn 12 00 46.3 -0.9**
MSVF Nonsavu 14.82 345 Pn **Pn 12 00 45.7 -1.5**
0.5nm,0.3s,baz=144,slow=14,SNR=6.4
MSVF LR LR 12 05 25.8
comp=Z,3µm,18.1s,baz=173,slow=34
20nm,0.9s
MSVF Nonsavu 14.82 345 P **Pn 12 00 46.3 -0.9**
ODZ Otahua Downs 15.62 211 P **Pn 12 00 53.5 -4.1**
41nm,1.1s
ONTNC Ouen Toro 16.98 301 Pn **Pn 12 01 12.9 -2.1**
AFI Afiamalu 19.03 19 **P 12 01 39.8 +0.2**
AFI IAmb IAmb 12 01 42.8
comp=Z,94nm,0.9s
AFI Afiamalu 19.03 19 P **P 12 01 39.8 +0.2**
AFI pmax pmax
comp=Z,94nm,1.0s
RAR Rarotonga 19.53 60 P **Pn 12 01 46.0 -0.2**
comp=Z,5.3nm,0.4s,baz=233,slow=12,SNR=1.5
RAR LR LR 12 10 04.8
comp=Z,2µm,18.2s,baz=226,slow=39
RAR Rarotonga 19.53 60 P **Pn 12 01 46.0 -0.2**
ARMA Armidale 26.02 266 P **P 12 02 49.9 -0.8**
ARMA IAmb IAmb 12 03 07.2
comp=Z,23nm,0.9s
ARMA Armidale 26.02 266 P **P 12 02 53.9 +3.2**
comp=Z,27nm,1.0s
MGCD Mangrove Creek 26.03 259 P **P 12 02 51.9 +1.4**
comp=Z,76nm,0.6s
CNB Canberra Magne 27.30 254 P **P 12 03 04.4 +2.3**
comp=Z,23nm,1.5s
CAN Canberra 27.60 254 P **P 12 03 03.2 -1.6**
CAN IAmb IAmb 12 03 23.0
comp=Z,21nm,1.0s
CAN Canberra 27.60 254 P **P 12 03 03.2 -1.6**
CAN pmax pmax
comp=Z,21nm,1.0s
EIDS Eidsvold 27.92 276 P **P 12 03 08.6 +0.9**
EIDS IAmb IAmb 12 03 14.1
comp=Z,25nm,0.9s
EIDS Eidsvold 27.92 276 P **P 12 03 08.8 +1.1**
comp=Z,35nm,0.8s
YNG Young 28.17 256 P **P 12 03 11.3 +1.4**
comp=Z,87nm,0.9s
TAU Tasmania Unive 29.37 239 P **P 12 03 18.8 -1.6**
TAU IAmb IAmb 12 03 41.1
comp=Z,28nm,1.1s
TAU Tasmania Unive 29.37 239 P **P 12 03 18.8 -1.6**
TAU pmax pmax
comp=Z,28nm,1.1s
PPT Papeete 29.44 67 LR LR 12 14 24.7
comp=Z,2µm,18.4s,baz=242,slow=35
TOO Toolangi 30.35 250 P **P 12 03 29.1 -0.1**
TOO Toolangi 30.35 250 P **P 12 03 29.1 -0.1**
TOO pmax pmax
comp=Z,8.0nm,1.1s
HNR Honiara 30.52 313 LR LR 12 14 26.5
comp=Z,2µm,19.3s,baz=176,slow=34
CMSA Cobar Meteorol 30.81 261 P **P 12 03 34.6 +1.4**
comp=Z,62nm,0.8s
ARPS Mount Arapiles 33.30 251 P **P 12 03 56.2 +1.1**
comp=Z,72nm,0.8s
QLP Quilpie 33.31 270 P **P 12 03 56.6 +1.4**
comp=Z,58nm,1.3s
STKA Stephens Creek 34.17 259 P **P 12 04 01.5 -1.2**
STKA Stephens Creek 34.17 259 P **P 12 04 03.5 +0.8**
comp=Z,83nm,0.7s
STKA Stephens Creek 34.17 259 P **P 12 04 01.6 -1.2**
comp=Z,14nm,0.7s,baz=98,slow=9.9,SNR=40
STKA LR LR 12 17 41.5
comp=Z,3µm,18.2s,baz=95,slow=36
comp=Z,14nm,0.7s
STKA Stephens Creek 34.17 259 *i* P **P 12 04 01.8 -0.9**
MGBR Mount Gambier 34.25 249 P **P 12 04 03.0 -0.3**
HTT Hallett 36.09 256 P **P 12 04 19.5 +0.1**
comp=Z,23nm,1.3s
MTSU Mount Surprise 36.71 283 P **P 12 04 25.6 +0.9**
comp=Z,33nm,0.9s
BBOO Buckleboo 38.57 256 P **P 12 04 39.6 -0.7**
BBOO IAmb IAmb 12 04 41.3
comp=Z,30nm,0.7s
BBOO Buckleboo 38.57 256 P **P 12 04 39.1 -1.2**
comp=Z,47nm,0.8s
PMG Port Moresby 39.44 297 LR LR 12 20 00.1
comp=Z,1µm,18.1s,baz=126,slow=35
RABL Rabaul 39.49 309 P **P 12 04 48.4 +0.2**
RABL IAmb IAmb 12 04 57.8
comp=Z,34nm,0.6s
QIS Mount Isa 39.53 276 P **P 12 04 47.7 -0.8**
comp=Z,19nm,1.4s
COEN Coen 39.83 288 P **P 12 04 50.6 -0.4**
COEN IAmb IAmb 12 04 54.1
comp=Z,21nm,0.8s
COEN Coen 39.83 288 P **P 12 04 52.2 +1.2**
comp=Z,31nm,0.8s
AS19 Alice Springs 43.03 269 P **P 12 05 17.0 -0.3**
comp=Z,29nm,1.0s
AS06 Alice Springs 43.05 269 P **P 12 05 16.8 -0.6**
comp=Z,28nm,0.6s
AS31 Alice Springs 43.09 269 P **P 12 05 16.9 -0.9**
AS31 Alice Springs 43.09 269 P **P 12 05 17.3 -0.4**
comp=Z,11nm,0.7s
ASAR Alice Springs 43.09 269 P **P 12 05 17.2 -0.6**
comp=Z,12nm,0.6s,baz=108,slow=7.7,SNR=7.4
ASAR ScP **ScP 12 10 59.2 +0.7**
comp=Z,1.0nm,0.8s,baz=108,slow=4.1,SNR=4.4
ASAR LR LR 12 23 20.2
comp=Z,2µm,18.2s,baz=116,slow=36
comp=Z,12nm,0.6s
WR0 Warramunga Arr 44.06 274 P **P 12 05 25.0 -0.6**
WR0 IAmb IAmb 12 05 44.7
comp=Z,33nm,1.1s
WB2 Warramunga Arr 44.23 274 P **P 12 05 26.4 -0.6**
WRAB Tennant Creek 44.24 274 P **P 12 05 26.4 -0.6**
WRAB Tennant Creek 44.24 274 *i* P **P 12 05 26.0 -1.0**
WRAB pmax pmax
comp=Z,69nm,1.4s
WRA Warramunga Arr 44.24 274 P **P 12 05 26.2 -0.8**
WRA Warramunga Arr 44.24 274 P **P 12 05 26.2 -0.8**
comp=Z,29nm,0.4s,baz=113,slow=7.6,SNR=130
WRA ScP **ScP 12 11 04.1 +0.9**
comp=Z,1.0nm,0.7s,baz=116,slow=3.7,SNR=3.9
WRA LR LR 12 23 20.3
comp=Z,2µm,18.4s,baz=110,slow=36
comp=Z,29nm,0.4s
WB0 Warramunga Arr 44.27 274 P **P 12 05 26.7 -0.6**
FORT Forrest 45.67 257 P **P 12 05 37.5 -0.7**
FORT Forrest 45.67 257 P **P 12 05 37.0 -1.3**
comp=Z,134nm,0.8s
VNDA Vanda 46.34 186 P **P 12 05 44.3 +1.4**
comp=Z,2.6nm,0.7s,baz=354,slow=5.8,SNR=6.4
VNDA LR LR 12 21 46.8
comp=Z,1µm,19.9s,baz=14,slow=32
comp=Z,2.6nm,0.7s
WRKA Warakurna 47.33 264 P **P 12 05 50.0 -1.5**
comp=Z,65nm,1.2s
JAY Jayapura 48.77 299 P **P 12 06 01.4 -1.2**
comp=Z,12nm,0.7s,baz=180,slow=1.0,SNR=8.5
JAY LR LR 12 24 54.0
comp=Z,617nm,19.8s,baz=124,slow=34
comp=Z,12nm,0.7s
KDU Kakadu 49.29 281 P **P 12 06 06.5 -0.1**
comp=Z,0.0nmcomp=Z,38nm,1.2s
MTN Manton Dam 50.33 280 P **P 12 06 14.0 -0.5**
MTN Manton Dam 50.33 280 P **P 12 06 14.0 -0.5**
comp=Z,36nm,0.8s
KNRA Kununurra 50.91 276 P **P 12 06 18.6 -0.2**
KNRA IAmb IAmb 12 06 32.2
comp=Z,23nm,0.9s
KNRA Kununurra 50.91 276 P **P 12 06 18.5 -0.3**
comp=Z,27nm,1.2s
FITZ Fitzroy Crossi 52.43 271 P **P 12 06 29.3 -0.9**
FITZ Fitzroy Crossi 52.43 271 P **P 12 06 28.7 -1.5**
comp=Z,15nm,0.8s,baz=113,slow=5.5,SNR=24
FITZ LR LR 12 28 29.2
comp=Z,3µm,18.9s,baz=112,slow=36
comp=Z,15nm,0.8s
CASY Casey 53.61 208 P **P 12 06 39.0 +0.8**
NWAO Narrogin (SRO) 53.84 251 P **P 12 06 39.0 -1.5**
NWAO IAmb IAmb 12 06 50.0
comp=Z,21nm,1.1s
NWAO Narrogin (SRO) 53.84 251 LR LR 12 26 13.9
comp=Z,520nm,20.6s,baz=68,slow=32
NWAO Narrogin (SRO) 53.84 251 P **P 12 06 39.0 -1.5**
NWAO pmax pmax
comp=Z,21nm,1.1s
KLBR Kellerberrin 53.84 252 P **P 12 06 38.8 -1.7**
comp=Z,32nm,0.9s
MEEK Meekatharra 54.86 258 P **P 12 06 46.7 -1.3**
comp=Z,21nm,1.3s
FAKI Fak Fak 55.01 291 P **P 12 06 48.9 -0.3**
PSAB2 Pilbara Seismi 55.82 264 P **P 12 06 53.5 -1.4**
comp=Z,9.2nm,0.9s
PSAC1 Pilbara Seismi 55.88 264 P **P 12 06 54.4 -1.0**
comp=Z,12nm,1.1s
MORAW Morawa 56.09 255 P **P 12 06 55.3 -1.6**
comp=Z,17nm,2.6s
SOEI Soe 57.67 279 P **P 12 07 06.8 -1.5**
SOEI Soe 57.67 279 P **P 12 07 12.0 +3.7**
comp=Z,81nm,1.0s
GUMO Guam 57.78 316 LR LR 12 30 50.0
comp=Z,675nm,18.7s,baz=100,slow=35
QSPA South Pole Qui 57.95 180 P **P 12 07 11.7 +2.1**
QSPA South Pole Qui 57.95 180 P **P 12 07 11.6 +2.1**
comp=Z,31nm,1.1s,baz=39,slow=2.6,SNR=35
QSPA LR LR 12 30 12.5
comp=Z,2µm,18.7s,baz=43,slow=34
comp=Z,31nm,1.1s
KAPI Kappang 63.98 281 LR LR 12 35 41.4
comp=Z,1µm,19.5s,baz=120,slow=36
DAV Davao City (W) 66.42 295 LR LR 12 37 11.0
comp=Z,332nm,20.0s,baz=137,slow=36
BELA Belgrano 2 68.03 172 P **P 12 08 17.4 +1.1**
JCJ Chichijima 70.11 323 LR LR 12 34 07.6
comp=Z,296nm,20.1s,baz=121,slow=32
PMSA Palmer Station 70.64 155 LR LR 12 33 37.8
comp=Z,580nm,19.0s,baz=258,slow=31
LEM Lembang 73.24 272 LR LR 12 42 20.2
comp=Z,774nm,18.9s,baz=146,slow=37
STKI Sintang 73.66 281 P P 12 09 00.8 +9.4
SBUM Sibu 74.36 283 P **P 12 08 55.2 -0.3**
ELIB Princess Elisa 75.10 187 *d*P **P 12 08 60.0 +0.9**
comp=Z,13nm,1.0s
SYO Syowa Base 75.41 193⇑*e*P **P 12 09 02.0 +1.3**
SYO Syowa Base 75.41 193⇑*i*sP sP 12 09 05.4 +1.3
TROLL Troll, Antarti 76.11 180 ⇓PcP **PcP 12 09 16.3 -0.7**
TROLL ⇓pP **P 12 09 06.6 +1.7**
comp=Z,783nm,0.8s
JHJ Hachijo jima 2 76.20 324 LR LR 12 36 19.1
comp=Z,364nm,20.1s,baz=122,slow=31
SNAA Sanae 76.39 178 P **P 12 09 07.2 +0.8**
SNAA Sanae 76.39 178 ⇓PcP **PcP 12 09 18.3 +0.1**
SNAA ⇓pP **P 12 09 07.6 +1.2**
comp=Z,256nm,0.9s
SNAA Sanae 76.39 178 P **P 12 09 07.5 +1.2**
comp=Z,15nm,1.0s,baz=184,slow=4.6,SNR=13
SNAA LR LR 12 42 00.2
comp=Z,582nm,18.0s,baz=194,slow=35
comp=Z,15nm,1.0s
SNAA Sanae 76.39 178*ce*P **P 12 09 07.1 +0.8**
SNAA pmax pmax
comp=Z,37nm,1.7s
VNA3 Neumayer Olymp 76.54 176 ⇓PcP **pwP 12 09 18.0 +1.0**
VNA3 ⇓pP **P 12 09 08.2 +1.0**
comp=Z,42nm,0.8s
VNA2 Neumayer--Watz 76.97 177 ⇓PcP **PcP 12 09 21.1 +0.5**
baz=177,slow=5.5
VNA2 ⇓pP **P 12 09 11.1 +1.5**
comp=Z,31nm,0.8s,baz=181,slow=4.8
VNA1 Neumayer--Stat 77.20 176 ⇓pP **P 12 09 12.3 +1.5**
comp=Z,51nm,1.0s
MDSI Maura Dua 77.37 273 P **P 12 09 11.2 -1.5**
comp=Z,20nm,0.8s
H03S2 Juan Fernandez 79.45 123 T T 13 38 11.5
baz=236,slow=74,SNR=7.0
H03S1 Juan Fernandez 79.46 123 T T 13 38 29.5
baz=236,slow=74,SNR=6.0
H03S3 Juan Fernandez 79.47 123 T T 13 38 25.0
baz=236,slow=74,SNR=6.3
H03N3 Juan Fernandez 79.65 123 T T 13 38 28.2
baz=240,slow=72,SNR=7.2
H03N2 Juan Fernandez 79.65 123 T T 13 38 46.0
baz=240,slow=72,SNR=6.3
H03N1 Juan Fernandez 79.67 123 T T 13 38 28.4
baz=240,slow=72,SNR=12
MJAR Matsushiro Arr 79.72 325 P **P 12 09 23.3 -1.8**
comp=Z,6.6nm,1.1s,baz=147,slow=5.8,SNR=5.3
comp=Z,6.6nm,1.1s
JNU Nakatsue 80.91 319 LR LR 12 41 44.6
comp=Z,207nm,19.9s,baz=124,slow=33
PLCA Paso Flores 81.27 133 P **P 12 09 34.9 +1.1**
PLCA Paso Flores 81.27 133 P **P 12 09 34.6 +0.9**
comp=Z,4.3nm,1.0s,baz=240,slow=3.9,SNR=4.6
PLCA LR LR 12 38 44.2
comp=Z,912nm,19.4s,baz=236,slow=30
comp=Z,4.3nm,1.0s
PLCA Paso Flores 81.27 133 P **P 12 09 34.9 +1.1**
PLCA pmax pmax
comp=Z,7.0nm,1.1s
ASAJ Asahikawa 84.03 333 P **P 12 09 47.1 -0.5**
comp=Z,9.0nm,0.7s,baz=117,slow=9.0,SNR=10
ASAJ LR LR 12 45 59.2
comp=Z,330nm,18.0s,baz=168,slow=35
comp=Z,9.0nm,0.7s
BO02 Sierra Bellavi 84.55 128 P **P 12 09 52.0 +1.2**
LPIG La Paz 85.42 58 LR LR 12 40 25.9
comp=Z,918nm,20.1s,baz=224,slow=30
SLBS Sierra La Lagu 85.43 59 P **P 12 09 56.8 +1.5**
SLBS IAmb IAmb 12 10 25.3
comp=Z,8.4nm,1.1s
SKR Severo-Kuril's 85.62 344 *e*P P 12 09 50.0 -5.4
SKR *e*S **SKSac 12 20 18.5 -1.6**
SKR pmax pmax
comp=Z,500nm,5.1s
SKR MLR MLR
comp=Z,900nm,17.0s
PSI Prapat 85.67 276 LR LR 12 51 57.9
comp=Z,999nm,18.0s,baz=130,slow=38
KSRS Korea Array 85.73 320 P **P 12 09 55.4 -0.9**
comp=Z,1.6nm,0.7s,baz=139,slow=5.3,SNR=6.5
KSRS LR LR 12 45 13.0
comp=Z,228nm,20.0s,baz=140,slow=34
comp=Z,1.6nm,0.7s
QIZ Qiongzhong 85.80 295 P **P 12 09 57.3 +0.2**
QIZ S **S 12 20 33.1 +3.1**
QIZ LR LR
comp=Z,340nm,11.8s
QIZ LR LR
comp=Z,440nm,14.1s
QIZ LR LR
comp=Z,370nm,25.5s
YSS Yuzhno-Sakhali 86.36 334 P **P 12 09 59.8 +0.6**
YSS Yuzhno-Sakhali 86.36 334 *e*P **P 12 10 00.2 +1.0**
YSS *e* 12 13 18.6
YSS *e* 12 20 22.7
YSS *e*S **S 12 20 33.8 -0.5**
YSS *e*PPS PPS 12 22 02.0
YSS *e*SS **SS 12 26 09.8 -5.1**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,6.6s
YSS smax smax
comp=N,300nm,9.4s
YSS smax smax
comp=E,300nm,6.3s
PFO Pinyon Flats O 87.37 47 P **P 12 10 06.9 +2.3**
comp=E,1.3nm,0.3s,baz=230,slow=6.9,SNR=3.8
PFO LR LR 12 43 03.2
comp=E,703nm,18.9s,baz=238,slow=31
comp=E,1.3nm,0.3s
NJ2 Nanjing 87.43 311 *e*P **P 12 10 06.2 +1.4**
NJ2 pmax pmax
comp=E,9.0nm,0.5s
ISA Isabella, Lake 87.52 45 IAmb IAmb 12 10 09.0
comp=Z,14nm,0.9s
PEA0B Petropavlovsk- 87.53 346*ce*P **P 12 10 06.2 +1.4**
PETK Petropavlovsk- 87.53 346 P **P 12 10 04.1 -0.7**
comp=Z,8.7nm,0.8s,baz=144,slow=5.5,SNR=9.2
PETK LR LR 12 42 19.3
comp=Z,207nm,20.7s,baz=162,slow=31
comp=Z,8.7nm,0.8s
MSHR Mys Shultsa 87.83 325 *i* P **P 12 10 05.7 -0.8**
MSHR pmax pmax
comp=Z,19nm,1.0s
CMB Columbia Colle 88.04 42 IAmb IAmb 12 10 11.7
comp=Z,6.8nm,0.8s
AFDM Forest Hills D 88.35 41 IAmb IAmb 12 10 14.7
comp=Z,7.5nm,1.1s
USRK Ussuriysk Ar. 88.66 327 P **P 12 10 10.7 +0.4**
USRK Ussuriysk Ar. 88.66 327 P **P 12 10 10.4 +0.1**
comp=Z,5.3nm,0.8s,baz=151,slow=4.5,SNR=12
USRK LR LR 12 46 09.6
comp=Z,251nm,20.0s,baz=148,slow=33
comp=Z,5.3nm,0.8s
WAKR Walker 88.91 42 IAmb IAmb 12 10 16.3
comp=Z,7.5nm,1.0s
GWY Greenwater Val 88.95 45 IAmb IAmb 12 10 15.5
comp=Z,7.3nm,0.9s
PNTR Pine Nut 89.22 41 P **P 12 10 14.9 +1.5**
PNTR IAmb IAmb 12 10 18.0
comp=Z,11nm,0.8s
LHV Little Huntoon 89.26 43 IAmb IAmb 12 10 28.2
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 89.39 38 P **P 12 10 15.1 +1.1**
comp=Z,2.3nm,0.9s,baz=241,slow=9.5,SNR=4.1
YBH LR LR 12 45 19.9
comp=Z,610nm,18.9s,baz=225,slow=32
comp=Z,2.3nm,0.9s
NVAR Mina Array Bea 89.50 43 P **P 12 10 16.0 +1.2**
comp=Z,5.9nm,0.8s,baz=222,slow=8.5,SNR=40
NVAR LR LR 12 45 30.4
comp=Z,732nm,19.0s,baz=198,slow=32
comp=Z,5.9nm,0.8s
NV11 Mina Array Sit 89.59 43 IAmb IAmb 12 10 18.3
comp=Z,5.6nm,0.8s
TYV Tymovskoe 89.69 336 *e*P **P 12 10 15.9 +0.9**
TYV pmax pmax
comp=Z,22nm,0.8s
TYV pmax pmax
comp=Z,300nm,5.4s
TPNV Topopah Spring 89.71 45 IAmb IAmb 12 10 19.4
comp=Z,9.5nm,0.8s
W13A Hualapai Mount 89.95 48 IAmb IAmb 12 10 20.9
comp=Z,10nm,0.9s
SHPR Sheep Range 90.08 46 P **P 12 10 18.4 +1.0**
MDJ Mudanjiang 90.11 326 P **P 12 10 18.1 +0.9**
MDJ S **S 12 21 08.5 -1.6**
MDJ sS sS 12 21 19.5 +5.2
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ LR LR
comp=Z,570nm,23.8s
TUC Tucson 90.17 51 P **P 12 10 19.6 +1.7**
TUC IAmb IAmb 12 10 22.1
comp=Z,7.9nm,0.9s
TUC Tucson 90.17 51 P **P 12 10 19.6 +1.7**
TUC pmax pmax
comp=Z,8.0nm,1.0s
TLIG Tlapa 90.56 70 IAmb IAmb 12 10 24.6
comp=Z,9.0nm,0.9s
PRN Pahroc Range 90.73 45 IAmb IAmb 12 10 24.1
comp=Z,7.4nm,0.8s
TIA Tai'an 91.21 313 P **P 12 10 23.3 +0.8**
TIA pmax pmax
comp=Z,7.0nm,0.5s
LCMT Little Creek M 91.57 46 IAmb IAmb 12 10 28.1
comp=Z,8.6nm,0.8s
CN2 Changchun 91.58 323 *e*P **P 12 10 23.9 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KNB Kanab 91.84 47 P **P 12 10 27.4 +1.8**
KNB Kanab 91.84 47 P **P 12 10 27.4 +1.8**
KNB pmax pmax
comp=Z,11nm,0.8s
I05D Terrebonne, OR 91.95 37 P **P 12 10 27.8 +2.0**
I05D IAmb IAmb 12 10 28.9
comp=Z,7.9nm,0.9s
BNX BinXian 91.99 325 ⇑P **P 12 10 25.6 -0.2**
BNX pmax pmax
comp=Z,11nm,0.8s
WVOR Wild Horse Val 92.05 40 P **P 12 10 27.6 +1.2**
WVOR IAmb IAmb 12 10 29.0
comp=Z,4.1nm,0.9s
WVOR Wild Horse Val 92.05 40 P **P 12 10 27.6 +1.2**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
KDAK Kodiak Island 92.11 13 LR LR 12 45 15.7
comp=Z,326nm,21.6s,baz=65,slow=31
PSUT Pine Spring 92.18 45 P **P 12 10 28.3 +1.1**
SPR3 Spring Creek 3 92.20 44 P **P 12 10 28.8 +1.3**
KLR Kul'dur 92.58 330 P **P 12 10 28.2 -0.3**
comp=Z,4.6nm,0.7s,baz=89,slow=2.4,SNR=22
KLR LR LR 12 51 50.2
comp=Z,288nm,18.1s,baz=137,slow=35
comp=Z,4.6nm,0.7s
KLR Kul'dur 92.58 330*ce*P **P 12 10 28.8 +0.3**
KLR pmax pmax
comp=Z,35nm,3.8s
I07A Izee 92.72 38 P **P 12 10 30.5 +1.0**
I07A IAmb IAmb 12 10 32.6
comp=Z,7.0nm,1.0s
J08A Circle Bar Ran 92.76 39 P **P 12 10 30.8 +1.1**
J08A IAmb IAmb 12 10 32.7
comp=Z,6.1nm,1.0s
ELK Elko 92.81 43 P **P 12 10 31.5 +1.4**
ELK Elko 92.81 43 P **P 12 10 31.3 +1.2**
comp=Z,2.7nm,0.8s,baz=249,slow=4.9,SNR=12
ELK LR LR 12 47 43.7
comp=Z,830nm,18.8s,baz=254,slow=33
comp=Z,2.7nm,0.8s
ELK Elko 92.81 43 P **P 12 10 31.5 +1.4**
ELK pmax pmax
comp=Z,3.0nm,0.9s
MTPU Mount Pierson 92.88 46 P **P 12 10 31.3 +0.6**
MTPU IAmb IAmb 12 10 35.0
comp=Z,5.7nm,0.9s
NNA Nana 92.89 106 LR LR 12 45 19.1
comp=Z,989nm,18.8s,baz=240,slow=31
G06A Carlson Farm, 92.94 37 P **P 12 10 31.6 +1.2**
G06A IAmb IAmb 12 10 33.3
comp=Z,5.7nm,0.9s
LYN LuoYang 93.16 309 *e*P **P 12 10 30.6 -0.9**
LYN pmax pmax
comp=Z,21nm,0.6s
LYN pmax pmax
comp=Z,400nm,5.8s
LYN LR LR
comp=Z,430nm,15.7s
LYN LR LR
comp=Z,290nm,15.5s
LYN LR LR
comp=Z,510nm,17.0s
VHRN Van Horn 93.21 55 P **P 12 10 33.5 +1.5**
CMIG Matias Romero 93.25 72 LR LR 12 45 41.8
comp=Z,550nm,18.3s,baz=238,slow=31
TX31 Lajitas Ar. Si 93.30 57 P **P 12 10 33.8 +1.4**
TXAR Lajitas Array 93.30 57 P **P 12 10 34.1 +1.6**
TXAR Lajitas Array 93.30 57 P **P 12 10 33.9 +1.4**
comp=Z,1.1nm,0.9s,baz=211,slow=7.6,SNR=11
TXAR PKKPbc **PKKPdf 12 27 38.7 -0.4**
comp=Z,0.4nm,0.8s,baz=57,slow=4.6,SNR=4.0
TXAR LR LR 12 45 23.1
comp=Z,357nm,19.4s,baz=224,slow=31
comp=Z,1.1nm,0.9s
TXAR Lajitas Array 93.30 57 P **P 12 10 34.1 +1.6**
HNS HongShan 93.46 313 ⇑P **P 12 10 35.1 +2.2**
HNS SKS **SKSac 12 21 06.5 -0.3**
HNS S **ScS 12 21 42.6 +0.4**

HNS LR LR
comp=Z,200nm,16.9s
HNS LR LR
comp=Z,190nm,16.5s
HNS LR LR
comp=Z,310nm,18.1s
G08A Pilot Rock 93.83 37 P **P 12 10 35.3 +0.8**
ALPN Alpine 93.92 57 P **P 12 10 36.3 +0.9**
ALPN IAmb IAmb 12 10 38.1
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 94.03 289 P **P 12 10 35.0 -0.9**
comp=Z,0.8nm,0.4s,baz=112,slow=5.9,SNR=2.8
comp=Z,0.8nm,0.4s
MFID Camas Ranch 94.23 40 P **P 12 10 37.3 +0.9**
MFID IAmb IAmb 12 10 39.3
comp=Z,6.8nm,0.8s
BMO Blue Mountains 94.39 38 P **P 12 10 37.8 +0.7**
BMO Blue Mountains 94.39 38 P **P 12 10 37.8 +0.7**
BMO pmax pmax
comp=Z,2.0nm,0.9s
SRU San Rafael Swe 94.56 46 IAmb IAmb 12 10 41.0
comp=Z,4.8nm,0.8s
BBB Bella Bella 94.63 28 LR LR 12 48 01.0
comp=Z,370nm,18.8s,baz=201,slow=32
ANMO Albuquerque 94.64 51 LR LR 12 46 01.8
comp=Z,473nm,19.1s,baz=44,slow=31
HVU Hansel Valley 94.89 43 IAmb IAmb 12 10 42.5
comp=Z,4.3nm,0.9s
MA2 Magadan 95.01 345 P **P 12 10 38.7 -0.8**
comp=Z,2.1nm,0.7s,baz=130,slow=3.1,SNR=7.5
MA2 LR LR 12 48 35.3
comp=Z,289nm,21.4s,baz=156,slow=32
comp=Z,2.1nm,0.7s
MA2 Magadan 95.01 345 *ce*P **P 12 10 39.2 -0.2**
MA2 pmax pmax
comp=Z,4.0nm,0.9s
MA2 Magadan 95.01 345 P **P 12 10 38.8 -0.6**
comp=Z,5.8nm,1.2s
D08A Wollman Farm, 95.06 36 P **P 12 10 41.2 +1.2**
D08A IAmb IAmb 12 10 42.8
comp=Z,4.6nm,1.0s
HLID Hailey 95.11 41 P **P 12 10 41.8 +1.3**
HLID IAmb IAmb 12 10 43.6
comp=Z,3.3nm,0.8s
XAN Xi'an 95.22 307 *e*P **P 12 10 42.6 +1.5**
XAN LR LR
comp=Z,310nm,17.2s
XAN LR LR
comp=Z,360nm,17.2s
XAN LR LR
comp=Z,490nm,15.8s
HEH HeiHe 95.24 328 *e*P **P 12 10 40.4 -0.3**
PLID Pearl Lake 95.24 39 P **P 12 10 41.5 +0.3**
PLID IAmb IAmb 12 10 43.3
comp=Z,4.9nm,0.9s
TCUT Toone Canyon 95.28 44 P **P 12 10 42.1 +0.7**
TCUT IAmb IAmb 12 11 02.6
comp=Z,5.5nm,1.2s
APG El Apazote 95.75 76 LR LR 12 46 42.2
comp=Z,34nm,18.7s,baz=270,slow=31
SUA Susitna One 95.89 13 P **P 12 10 43.5 0.0**
PZH PanZhiHua 96.16 297 P **P 12 10 41.1 -4.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.3s
XLT XiLinHaoTe 96.69 318 *e*P **P 12 10 51.5 +3.9**
XLT sP pwP 12 10 58.0 +0.5
XLT pmax pmax
comp=Z,13nm,0.9s
NEW Newport 96.77 36 LR LR 12 48 12.1
comp=Z,1μm,19.7s,baz=220,slow=32
FXWY Fox Creek 97.06 42 P Pdif 12 10 50.8 +1.2
CD2 Chengdu 97.07 302 *e*P Pdif 12 10 50.0 +0.3
LPAZ La Paz 97.37 114 P Pdif 12 10 54.1 +1.9
comp=Z,0.7nm,0.6s,baz=259,slow=1.6,SNR=3.6
LPAZ LR LR 12 47 57.7
comp=Z,347nm,19.7s,baz=236,slow=31
comp=Z,0.7nm,0.6s
PDAR Pinedale Array 97.38 44 P Pdif 12 10 51.4 +0.4
comp=Z,0.8nm,0.8s,baz=196,slow=3.8,SNR=7.9
PDAR PKKPbc **PKKPbc 12 27 30.1 +0.3**
comp=Z,0.6nm,0.7s,baz=99,slow=4.8,SNR=6.9
PDAR LR LR 12 47 36.5
comp=Z,401nm,20.2s,baz=229,slow=31
comp=Z,0.8nm,0.8s
HHC Hu-ho-hao-te 97.50 314 *e*P Pdif 12 10 53.0 +1.6
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,86nm,6.9s
SEY Seymchan 97.71 347 P **P 12 10 51.3 -0.3**
comp=Z,0.8nm,0.3s,baz=155,slow=4.8,SNR=9.1
comp=Z,0.8nm,0.3s
SEY Seymchan 97.71 347 *ce*P **P 12 10 51.1 -0.5**
SEY pmax pmax
comp=Z,22nm,3.8s
YHL Hebgen Lake 97.72 41 IAmb IAmb 12 10 57.0
comp=Z,2.6nm,0.9s
BOZ Bozeman (W) 97.94 40 P Pdif 12 10 55.1 +1.8
BOZ Bozeman (W) 97.94 40 P Pdif 12 10 55.1 +1.8
BOZ pmax pmax
comp=Z,1.0nm,0.9s
YNE Yellowstone No 98.48 42 IAmb IAmb 12 10 59.3
comp=Z,3.9nm,1.1s
CPUP Villa Florida 98.85 129 LR LR 12 49 32.0
comp=Z,233nm,19.9s,baz=220,slow=32
ILAR Eielson Array 99.64 13 P **Pdif 12 10 59.9 -0.3**
comp=Z,0.3nm,0.7s,baz=201,slow=3.8,SNR=4.7
ILAR LR LR 12 51 38.6
comp=Z,250nm,19.6s,baz=210,slow=33
comp=Z,0.3nm,0.7s
BILL Biiibino 100.60 354 *i* P **Pdif 12 11 06.2 +1.8**
BILL pmax pmax
comp=Z,1.0nm,1.1s
YAK Yakutsk 102.90 337 *i* P **Pdif 12 11 13.9 -0.8**
YAK pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 107.01 26 PKKPbc PKKPbc 12 26 58.9 -2.7
comp=Z,0.6nm,0.8s,baz=44,slow=2.9,SNR=8.2
WMQ Urumqi 114.35 308 *e*PKP **PKiKP 12 15 58.9 +1.9**
WMQ LR LR
comp=Z,170nm,22.3s
MK31 Makanchi Array 118.94 309 PKPdf **PKPdf 12 16 05.1 -0.6**
MK31 Makanchi Array 118.94 309 *c i*PKIKP **PKPdf 12 16 05.5 -0.2**
MKAR Makanchi Array 118.94 309 **PKPdf 12 16 05.8 +0.1**
MKAR Makanchi Array 118.94 309 PKP **PKPdf 12 16 05.2 -0.6**
comp=Z,2.4nm,0.8s,baz=72,slow=1.9,SNR=19
MKAR Makanchi Array 118.94 309 PKIKP **PKPdf 12 16 05.8 +0.1**
WUS Wushi 119.34 302 PKPdf **PKPdf 12 16 06.7 -0.1**
ZAA0 Zalesovo Array 119.38 318 PKPdf **PKPdf 12 16 05.5 -0.8**
ZALV Zalesovo Beam 119.38 318 PKPdf **PKPdf 12 16 06.5 +0.2**
ZALV Zalesovo Beam 119.38 318 PKP **PKPdf 12 16 05.9 -0.4**
comp=Z,1.1nm,0.5s,baz=127,slow=6.4,SNR=8.0
PAL Palisades 120.13 58 PKPdf **PKiKP 12 16 08.5 +0.3**
PAL Palisades 120.13 58 PKIKP **PKiKP 12 16 08.5 +0.3**
BOOM Boomskoye usch 122.06 303 **PKiKP 12 16 12.5 +0.3**
BOOM Boomskoye usch 122.06 303 PKIKP **PKiKP 12 16 12.5 +0.3**
KURK Kurchatov 122.30 313 **PKPdf 12 16 11.6 -0.3**
KURK Kurchatov 122.30 313 *c i*PKIKP **PKPdf 12 16 12.1 +0.1**
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURBB Kurchatov Arra 122.33 313 PKP **PKPdf 12 16 10.7 -1.3**
comp=Z,2.5nm,0.6s,baz=111,slow=1.9,SNR=6.7
AAK Ala-Archa 123.13 303 PKPdf **PKPdf 12 16 13.8 -0.2**
AAK Ala-Archa 123.13 303 *c i*PKIKP **PKiKP 12 16 15.0 +0.7**
AAK pmax pmax
comp=Z,3.0nm,1.0s
KBL Kabul 124.95 292 PKPdf **PKiKP 12 16 18.7 +0.4**
KBL Kabul 124.95 292 PKIKP **PKiKP 12 16 18.7 +0.4**
BTK Batken 125.14 299 PKPdf **PKPdf 12 16 17.7 -0.2**
BTK Batken 125.14 299 PKIKP **PKPdf 12 16 17.7 -0.2**
GAR Garm 125.23 298 PKPdf **PKPdf 12 16 18.3 +0.1**
KK31 Karatay Array 126.08 303 PKPdf **PKPdf 12 16 19.5 0.0**
KK31 Karatay Array 126.08 303 PKIKP **PKPdf 12 16 19.5 0.0**
KKAR Karatay Array 126.08 303 **PKiKP 12 16 20.7 +0.7**
KKAR Karatay Array 126.08 303 PKIKP **PKiKP 12 16 20.7 +0.7**
BVAR Borovoye Array 127.69 315 PKP **PKiKP 12 16 22.8 -0.1**
comp=Z,3.6nm,0.5s,baz=116,slow=0.8,SNR=22
BRVK Borovoye 127.76 315 PKPdf **PKPdf 12 16 22.8 +0.4**
BRVK Borovoye 127.76 315 *c i*PKIKP **PKiKP 12 16 23.4 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 133.47 356 PKP **PKPdf 12 16 31.7 -0.9**
comp=Z,7.9nm,1.0s,baz=54,slow=7.3,SNR=1.8
ABKAR Abkulak array 134.08 309 PKPdf **PKPdf 12 16 35.1 +0.7**
ABKAR Akbulak array 134.08 309 **PKPdf 12 16 34.6 +0.1**
ARTI Arti 134.58 319 PKPdf **PKiKP 12 16 36.2 -0.3**
ARTI Arti 134.58 319 *i* PKIKP **PKiKP 12 16 37.7 +1.1**
ARTI 12 19 08.1
ARTI SS SS 12 36 58.5 -1.1
ARA0 ARCESS Array S 140.32 347 *e*PKPdf **PKPdf 12 16 42.6 -2.8**
ARCES ARCESS Array B 140.32 347 PKhKP PKPpre 12 16 39.9
comp=Z,1.2nm,0.5s,baz=49,slow=2.3,SNR=7.6
RAYN Ar Rayn 140.85 268 PKPdf **PKPdf 12 16 47.9 +0.1**
RAYN Ar Rayn 140.85 268 PKIKP **PKPdf 12 16 47.9 +0.1**
JETT Jettan, Norway 141.16 350 *e*PKPdf **PKPdf 12 16 45.3 -1.7**
KTK1 Kautokeino 141.19 348 *e*PKPdf **PKPdf 12 16 44.4 -2.6**
KLMR Klimovskoe 142.34 331 *e*PKHKP PKPpre 12 16 42.6
KLMR pmax pmax
comp=Z,9.0nm,0.9s
STEI Steigen 143.38 352 *e*PKPdf **PKPdf 12 16 51.6 +0.7**
GNI Garni 144.90 295 PKPdf **PKPdf 12 16 54.9 +0.2**
GNI Garni 144.90 295 PKIKP **PKPdf 12 16 54.9 +0.2**
KONS Konsvik 145.00 352 *e*PKPbc PKPbc 12 16 53.2 +0.1
MOR8 Moi Rana 145.16 351 *e*PKPbc **PKPdf 12 16 54.2 +0.1**
STOK Stokkvaagen 145.18 352 *e*PKPbc **PKPbc 12 16 53.3 -0.3**
VRH Novokhopyorsk 145.35 315 *e*PKIKP **PKiKP 12 16 57.9 -0.8**
VRH pmax pmax
comp=Z,10.0nm,1.0s
LEIR Leirfjorden 145.38 352 *e*PKPbc **PKPbc 12 16 54.4 +0.1**
MOS Moscow 145.81 324 *e*PKP2 **PKPdf 12 16 53.9 -1.6**
MOS pmax pmax
comp=Z,95nm,1.2s
KBZ Khabaz 146.11 302 PKPbc **PKPdf 12 16 56.9 +0.5**
comp=Z,18nm,0.9s,baz=121,slow=2.1,SNR=31
KBZ Khabaz 146.11 302 *c i*PKP2 **PKPbc 12 16 57.7 +0.4**
GEVA Gevas 146.17 292 PKPbc **PKPab 12 16 58.8 +0.2**
KARS Kars 146.17 296 PKPbc **PKPab 12 16 58.4 -0.1**
KARS Kars 146.17 296 PKP2 **PKPab 12 16 58.4 -0.1**
KIV Kislovodsk 146.24 302 PKPbc **PKPbc 12 16 58.0 +0.1**
KIV Kislovodsk 146.24 302 *i* PKP2 **PKPbc 12 16 58.2 +0.3**
KIV pmax pmax
comp=Z,17nm,1.1s
SHA1 Shidzhatmaz 146.28 302 *e*PKP2 **PKPbc 12 16 58.7 +0.5**
NEUR Neytrino 146.30 301 *i* PKHKP PKPpre 12 16 51.6
LPSR Galich'ya Gora 146.48 318 *e*PKIKP **PKPdf 12 16 56.6 -0.1**
LPSR pmax pmax
comp=Z,60nm,0.9s
OBN Obninsk 146.64 324 PKPbc **PKPab 12 17 00.2 +0.7**
OBN Obninsk 146.64 324 *i* PKP2 **PKPab 12 17 00.0 +0.4**
OBN *i* 12 20 24.0
OBN pmax pmax
comp=Z,44nm,1.0s
OBN MLR MLR
comp=Z,169nm,19.0s
VORR Voronezh 146.67 317 *e*PKP2 **PKPdf 12 16 57.3 +0.2**
VORR pmax pmax
comp=Z,40nm,0.9s
FIA1 FINESS Array S 146.81 339 PKPbc **PKPab 12 16 59.8 -0.3**
FINES FINESS Array B 146.82 339 **PKPab 12 16 59.7 -0.4**
FINES FINESS Array B 146.82 339 PKPbc **PKPbc 12 16 58.1 -0.7**
comp=Z,19nm,0.6s,baz=44,slow=3.3,SNR=71
VSR Storozhevoye 146.86 316 *e*PKP2 **PKPdf 12 16 57.8 +0.4**
VSR pmax pmax
comp=Z,30nm,0.9s
GURO Guroymak-BITLI 146.98 292 PKPbc **PKPbc 12 17 00.6 +0.3**
NSS Namsos 147.04 352 *e*PKPdf **PKPdf 12 16 57.1 -0.1**
ERBR Yeremizino-Bor 147.52 306 *i* PKP2 **PKPab 12 17 03.3 -0.1**
ERBR *e* 12 20 22.7
ERBR *e* 12 24 06.6
ERBR pmax pmax
comp=Z,70nm,1.1s
LABN Labinsk 147.54 304 *i* PKP2 **PKPbc 12 17 02.4 +1.0**
LABN *e* 12 24 06.2
LABN *e*SS SS 12 39 28.9 -2.7
LABN pmax pmax
comp=Z,18nm,0.4s
MARD Mardin 147.93 290 PKPbc **PKPbc 12 17 03.1 +0.2**
KOPT Kop Dagi 148.16 295 PKPbc **PKiKP 12 17 05.0 -0.3**
VSU Vasula 148.85 335 *c i*PKIKP **PKPbc 12 17 03.0 -1.4**
VSU pmax pmax
comp=Z,52nm,1.0s
DOMB Dombas 149.77 353 *e*PKPdf **PKPdf 12 17 03.1 +1.2**
AKN Aaknes 149.81 355 *e*PKPdf **PKPdf 12 17 02.7 +0.8**
ANN Anapa 149.82 305 *i* PKP2 **PKiKP 12 17 09.6 +1.4**
ANN pmax pmax
comp=Z,144nm,1.5s
NC303 NORSAR Array S 150.30 351 PKPbc **PKPbc 12 17 08.1 +0.2**
NB201 NORSAR Array S 150.48 351 PKPbc **PKiKP 12 17 11.0 +1.9**
FOO Floro 150.50 357 *e*PKPdf **PKPdf 12 17 03.9 +0.9**
NB2 NORSAR Subarra 150.50 351 PKP **PKPbc 12 17 08.0 -0.5**
comp=Z,17nm,1.0s,baz=16,slow=4.1
NOA NORSAR Array B 150.50 351 PKPbc **PKPbc 12 17 08.0 -0.5**
comp=Z,2.4nm,0.6s,baz=14,slow=4.1,SNR=11
NOA NORSAR Array B 150.50 351 PKIKP **PKPbc 12 17 08.0 -0.5**
NBO00 NORSAR Array S 150.57 351 PKPbc **PKiKP 12 17 09.5 +0.2**
NAO01 NORSAR Array S 150.74 351 PKPbc **PKiKP 12 17 10.0 +0.4**
NC602 NORSAR Array S 150.75 350 *e*PKPdf **PKPdf 12 17 04.9 +1.5**
GAZ Gaziantep 150.77 290 PKPbc **PKiKP 12 17 10.8 +0.2**
HFS Hagfors 150.98 348 PKPbc **PKPbc 12 17 09.0 -0.5**
comp=Z,13nm,0.7s,baz=80,slow=1.6,SNR=16
HFS Hagfors 150.98 348 PKIKP **PKPbc 12 17 09.0 -0.5**
MNK Minsk 151.12 328 *i* PKIKP **PKiKP 12 17 11.1 +0.5**
MNK *i* 12 20 48.5
MNK *i* PPP PPP 12 24 11.8
MNK *i* 12 24 11.8
MNK *i* SS SS 12 40 12.5 +2.3
MNK pmax pmax
comp=E,38nm,0.8s
MNK pmax pmax
comp=Z,28nm,0.7s
MNK pmax pmax
comp=N,19nm,0.9s
SKAR Skarslia 151.19 354 *e*PKPdf **PKPdf 12 17 05.1 +1.0**
GHAJ Ghor Haditha 151.55 277 PKPbc **PKiKP 12 17 12.5 +0.3**
MMAI Mount Meron Ar 151.96 281 PKPbc **PKiKP 12 17 13.2 +0.1**
comp=N,30nm,0.8s,baz=81,slow=6.3,SNR=21
PABE Paberze 152.06 333 **PKiKP 12 17 12.9 +0.4**
SIM Simferopol' 152.07 306 *i* PKIKP **PKiKP 12 17 16.7 +3.9**
SIM pmax pmax
comp=Z,30nm,1.1s
SIM pmax pmax
comp=Z,44nm,1.3s
ODD1 Odda 152.09 355 *e*PKPdf **PKPdf 12 17 05.6 +0.1**
BLS5 Blasjo 152.58 355 *e*PKPdf **PKPdf 12 17 07.1 +0.9**
AKASG Malin Array Be 152.72 321 PKPbc **PKPbc 12 17 13.4 -0.4**
comp=Z,2.0nm,0.4s,baz=60,slow=2.5,SNR=21
AKBB Malin Array Si 152.72 321 **PKiKP 12 17 14.1 +0.1**
AKBB Malin Array Si 152.72 321 *c i*PKIKP **PKiKP 12 17 14.6 +0.6**
KIEV Kiev 152.73 321 **PKiKP 12 17 14.1 +0.1**
KIEV Kiev 152.73 321 PKIKP **PKiKP 12 17 14.1 +0.1**
BZK Bozkurt 152.84 300 PKPbc **PKiKP 12 17 14.7 +0.2**
ILGA Ilgaz 153.21 298 **PKiKP 12 17 16.1 +0.4**
BR131 Keskin Array S 153.44 295 **PKPbc 12 17 16.1 +0.2**
BR131 Keskin Array S 153.44 295 PKIKP **PKPbc 12 17 16.2 +0.2**
BRTR Keskin Array B 153.44 295 PKPbc **PKPbc 12 17 16.0 0.0**
comp=Z,2.5nm,0.6s,baz=114,slow=3.1,SNR=13
DBIC Dimbokro 153.82 164 PKPbc **PKiKP 12 17 18.7 +1.3**
comp=Z,4.7nm,0.8s,baz=225,slow=5.2,SNR=6.0
DBIC PKPab **pPKPab 12 17 32.1 -0.6**
comp=Z,6.1nm,0.7s,baz=183,slow=4.7,SNR=5.4
CSS Mathiatis 153.85 285 PKPbc **PKiKP 12 17 17.4 +0.5**
ANTO Ankara 154.07 296 PKPbc **PKiKP 12 17 17.7 +0.4**
ANTO Ankara 154.07 296 PKIKP **PKiKP 12 17 17.7 +0.4**
ESK Eskdalemuir 156.56 8 PKPdf **PKPdf 12 17 11.2 -0.7**
ESK PKPab **PKPab 12 17 42.5 +1.7**
ESK Eskdalemuir 156.56 8 PKP2 **PKPab 12 17 42.5 +1.7**
ESK 13 17 11.2
BUR08 Bucovina Ar. S 156.59 318 PKPdf **PKPdf 12 17 10.8 -1.5**
BUR08 PKPab **PKPab 12 17 40.6 -0.8**
BURAR Bucovina Array 156.60 318 PKPdf **PKPdf 12 17 11.9 -0.4**
BURAR PKPab **PKPab 12 17 41.2 -0.1**
KOLS Kolonicke sedl 157.39 324 *e*PKP2 **PKPab 12 17 46.3 +1.7**
KOLS Kolonicke sedl 157.39 324 *e*PKP **PKPab 12 17 46.3 +1.7**
STHS Stebnicka Huta 157.57 326 *e*PKP2 **PKPab 12 17 45.5 +0.1**
STHS Stebnicka Huta 157.57 326 *e*PKP **PKPab 12 17 45.5 +0.1**
LANS Liptovska Anna 158.59 327 *e*PKP2 **PKPab 12 17 52.1 +2.3**
LANS Liptovska Anna 158.59 327 *e*PKP **PKPab 12 17 52.1 +2.3**
MORC Moravsky Berou 158.95 331 *e*PKP **PKPab 12 17 49.7 -1.7**
CLL Collm 159.25 340 *i* PKP2 **PKPab 12 17 52.8 +0.3**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL MLR MLR
comp=Z,400nm,21.3s
CLL Collm 159.25 340 *i* PKPab **PKPab 12 17 52.8 +0.3**
comp=Z,8.0nm,0.7s
CLL AMS AMS 13 31 00.0
comp=Z,400nm,21.3s
BRG Berggiesshubel 159.35 338 *e*PKP **PKPab 12 17 53.9 +0.9**
BRG Amp 12 17 55.6
comp=Z,12nm,1.1s
BRG Berggiesshubel 159.35 338 P **PKPab 12 17 59.8 +6.8**
BRG Amp 12 18 01.4
comp=Z,7.4nm,1.1s
VYHS Vyhne 159.35 327 *e*PKP2 **PKPab 12 17 53.2 +0.1**
VYHS Vyhne 159.35 327 *e*PKP **PKPab 12 17 53.2 +0.1**
JAVC Velka Javorina 159.60 329 *e*PKP **PKPab 12 17 54.0 -0.2**
VRAC Vranov 159.71 332 *e*PKP **PKPab 12 17 53.5 -1.1**
KRUC Moravsky 159.98 332 *e*PKP **PKPab 12 17 54.4 -1.4**
MODS Modra-Piesok 160.14 329 *e*PKP2 **PKPab 12 17 57.7 +1.2**
MODS Modra-Piesok 160.14 329 *e*PKP **PKPab 12 17 57.7 +1.2**
TORD Torodi Ar. Bea 161.06 179 PKPab **PKPab 12 18 02.8 +1.5**
TORD Torodi Ar. Bea 161.06 179 PKPab **PKPab 12 18 01.9 +0.7**
comp=Z,3.8nm,0.5s,baz=162,slow=0.5,SNR=3.7
GEC2 GERESS Array S 161.18 336 PKPab **PKPab 12 17 56.9 -4.2**
GERES GERESS Array B 161.18 336 PKPab **PKPab 12 17 56.9 -4.2**
GERES GERESS Array B 161.18 336 PKP2 **PKPab 12 17 56.9 -4.2**
FUORN Ofenpass-Fuorn 164.25 339 PKPab **PKPab 12 18 14.9 +0.1**
TUE Stuetta 164.66 341 PKPab **PKPab 12 18 18.6 +2.0**
SENIN Lac Senin/Sane 165.26 346 PKPab **PKPab 12 18 18.5 -0.7**
FDMO Fiordimonte 166.08 324 PKPab **PKPab 12 18 22.7 -0.1**
ESDC Sonseca Array 171.06 31 PKPab **PKPab 12 18 44.8 -0.1**
comp=Z,0.7nm,0.6s,baz=334,slow=5.3,SNR=4.3

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*IDC **08** 11:59:47.5±2.1, 1°.75S×127°.40E, h0km, mb3.4/2, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=125.9km s-min=27.1km az=69.0*
*DJA **08** 11:59:50.1±0.3, 1°.5±3°×12°.8E±°, h18km±3km, M3.8/12, MLv3.8/12*
ISC 08 11:59:49.6±1.0, 1°.49S±0°.07×127°.73E±0°.05, h25km, n13, σ1°33/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.83**	**252**	P	**Pb**	**12 00 20.8**	**-1.6**
SANI				S	**Sb**	**12 00 45.5**	**+0.6**
NLAI	**Namlea**	**1.85**	**200**	P	**Pb**	**12 00 22.9**	**+0.1**
NLAI				S	**Sb**	**12 00 45.9**	**+0.3**
MSAI	**Masohi**	**2.20**	**147**	P	**Pb**	**12 00 28.4**	**-0.4**
AAI	**Ambon**	**2.24**	**168**	P	**Pb**	**12 00 28.7**	**-0.7**
TNTI	**Ternate**	**2.27**	**351**	P	**Pn**	**12 00 24.2**	**-1.4**
SWI	**Sorong**	**3.58**	**80**	P	**Pn**	**12 00 44.7**	**+1.1**
KMSI	**Cibinong**	**4.27**	**299**	P	**Pn**	**12 00 54.0**	**+0.9**
FAKI	**Fak Fak**	**4.74**	**108**	P	**Pn**	**12 00 59.0**	**-0.5**
LUWI	**Luwuk**	**4.98**	**275**	P	**Pn**	**12 01 04.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**16.64**	**187**	Pn	**Pn**	**12 03 38.7**	**-2.5**
	0.1nm,0.3s,baz=0.0,slow=11,SNR=2.3						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**19.45**	**161**	P	**P**	**12 04 14.2**	**-0.4**
	0.3nm,0.3s,baz=342,slow=12,SNR=19						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**22.85**	**165**	P	**P**	**12 04 51.1**	**-0.1**
	1.9nm,0.7s,baz=346,slow=11,SNR=43						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**62.41**	**326**	P	**P**	**12 10 12.4**	**+1.9**
	0.1nm,0.5s,baz=120,slow=8.5,SNR=1.6						
	0.1nm,0.5s						

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*WEL **08** 12:07:11.4±1.4, 32°S±7°×17°8W±2°2, h12km, M5.0/6, ML5.1/7, MLv5.0/6, Error ellipse: s-maj=29.3km s-min=4.3km az=105.2, confirmed*
*IDC **08** 12:07:12.9±3.1, 32°.24S×178°.05W, h0km, mb3.8/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=71.2km s-min=36.6km az=115.0*
*NEIC **08** 12:07:16.7±1.4, 32°.3S±0°.1×178°.22W±0°.06, h10km±2km, mb4.3/5, Error ellipse: s-maj=20.8km s-min=9.2km az=352.0*
ISC 08 12:07:13.3±1.1, 32°.22S±0°.07×177°.6W±0°.2, h18km, n35, σ2°22/42, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.95**	**355**	P	**Pn**	**12 07 58.3**	**-1.0**
GLKZ				S	**Sn**	**12 08 31.9**	**-2.4**
HAZ	**Te Kaha**	**6.68**	**213**	P	**Pn**	**12 08 52.5**	**+1.9**
HAZ				S	**Sn**	**12 10 06.9**	**+0.7**
PUZ	**Puketiti**	**6.74**	**209**	P	**Pn**	**12 08 48.5**	**-2.8**
PUZ				S	**Sn**	**12 10 05.4**	**-2.3**
GRZ	**Great Barrier**	**6.99**	**233**	P	**Pn**	**12 08 52.2**	**-2.6**
MWZ	**Matawai**	**7.27**	**212**	P	**Pn**	**12 08 58.2**	**-0.5**
MWZ				S	**Sn**	**12 10 19.8**	**-1.0**
URZ	**Urewera**	**7.40**	**214**	Pn	**Pn**	**12 08 58.5**	**-1.9**
	1.2nm,0.3s,baz=344,slow=5.1,SNR=6.6						
URZ				Sn	**Sn**	**12 10 22.2**	**-1.7**
	4.2nm,0.3s,baz=293,slow=3.6,SNR=18						
	22nm,1.1s						
URZ	**Urewera**	**7.40**	**214**	P	**Pn**	**12 09 00.8**	**+0.4**
URZ				S	**Sn**	**12 10 21.4**	**-2.5**
WCZ	**Waipu Caves**	**7.62**	**239**	P	Pn	12 09 10.0	+6.7
SNGZ	**Shannon Statio**	**7.72**	**211**	S	**Sn**	**12 10 29.9**	**-2.0**
RTZ	**Ruatahuna**	**7.75**	**213**	Pn	**Pn**	**12 09 04.3**	**-0.9**
RTZ				Sn	**Sn**	**12 10 27.8**	**-4.8**
KNZ	**Kokohu**	**7.79**	**208**	S	**Sn**	**12 10 31.1**	**-2.3**
OUZ	**Omahuta**	**7.89**	**245**	P	**Pn**	**12 09 11.6**	**+4.5**
RAHZ	**Arahi**	**7.95**	**211**	P	**Pn**	**12 09 09.6**	**+1.6**
RAHZ				S	**Sn**	**12 10 35.8**	**-1.5**
WHHZ	**Waihua**	**8.02**	**210**	S	**Sn**	**12 10 37.3**	**-1.8**
NMHZ	**Naumai**	**8.22**	**212**	S	**Sn**	**12 10 43.1**	**-1.1**
BKZ	**Black Stump Fm**	**8.42**	**213**	Pn	**Pn**	**12 09 13.6**	**-0.8**
BKZ				Sn	**Sn**	**12 10 45.5**	**-3.5**
BKZ	**Black Stump Fm**	**8.42**	**213**	S	**Sn**	**12 10 46.2**	**-2.8**
KWHZ	**Kaweka Forest**	**8.66**	**212**	P	**Pn**	**12 09 17.7**	**0.0**
KAHZ	**Kahuranaki**	**8.77**	**209**	S	**Sn**	**12 10 54.2**	**-3.4**
PXZ	**Pawanui**	**8.97**	**208**	S	**Sn**	**12 10 58.0**	**-4.6**
WAZ	**Wanganui**	**9.60**	**216**	P	**Pn**	**12 09 31.8**	**+1.1**
BFZ	**Birch Farm**	**9.78**	**208**	P	**Pn**	**12 09 34.1**	**+1.1**
MRZ	**Mangatainoka R**	**10.04**	**211**	P	**Pn**	**12 09 34.8**	**-1.8**
QRZ	**Quartz Range**	**11.67**	**220**	P	**Pn**	**12 10 00.0**	**+1.1**
THZ	**Tophouse**	**12.15**	**216**	S	Sn	12 12 11.4	-9.2
BBOO	**Buckleboo**	**38.81**	**256**	P	**P**	**12 14 37.6**	**+0.5**
BBOO				IAmb	IAmb	12 15 12.2	
	comp=Z,8.9nm,1.3s						
AS31	**Alice Springs**	**43.35**	**269**	P	**P**	**12 15 14.5**	**-0.2**
ASAR	**Alice Springs**	**43.35**	**269**	P	**P**	**12 15 14.1**	**-0.6**
ASAR	**Alice Springs**	**43.35**	**269**	P	**P**	**12 15 14.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=106,slow=7.5,SNR=14						
	comp=Z,0.5nm,0.5s						
WRAB	**Tennant Creek**	**44.49**	**274**	P	**P**	**12 15 22.7**	**-1.2**
WRAB				IAmb	IAmb	12 15 29.1	
	comp=Z,4.6nm,1.2s						
WRA	**Warramunga Arr**	**44.50**	**274**	P	**P**	**12 15 24.6**	**+0.7**
WRA	**Warramunga Arr**	**44.50**	**274**	P	**P**	**12 15 23.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=113,slow=7.8,SNR=19						
	comp=Z,1.1nm,0.5s						
VNDA	**Vanda**	**46.33**	**186**	P	**P**	**12 15 39.8**	**+2.1**
VNDA				IAmb	IAmb	12 16 06.1	
	comp=Z,8.4nm,1.4s						
QSPA	**South Pole Qui**	**57.90**	**180**	P	**P**	**12 17 08.3**	**+4.2**
FINES	**FINESS Array B**	**146.95**	**339**	PKPbc	**PKPab**	**12 26 55.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=46,slow=4.0,SNR=5.1						

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*JMA **08** 12:13:02.9±0.8, 30°N±5°×13°9E±°, h460km, MV3.4/18, NEAR TORISHIMA IS*
*IDC **08** 12:13:04.1±2.1, 29°.91N×138°.93E, h453km±28km, mb2.8/7, mbtmp3.7/11, Error ellipse: s-maj=33.6km s-min=16.3km az=80.0*
ISC 08 12:13:03.8±1.1, 29°.91N±0°.10×139°.0E±0°.1, h450km, n19, σ1°00/23, mb3.2/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**4.82**	**325**	P	**P**	**12 14 28.0**	**+1.7**
BSO1	**Boso 1**	**5.03**	**19**	*e*P	**P**	**12 14 28.9**	**+1.2**
BSO1				*e*S	**S**	**12 15 36.4**	**+0.1**
BSO3	**Boso 3**	**5.05**	**15**	*e*S	**S**	**12 15 36.5**	**-0.7**
JOD2	**Odawara 2**	**5.34**	**1**	*e*P	**P**	**12 14 31.6**	**+0.3**
JOD2				*e*S	**S**	**12 15 43.4**	**+0.5**
JTO	**Tosashimizu**	**6.03**	**301**	*e*P	**P**	**12 14 39.8**	**

0.6nm,0.4s,baz=125,slow=9.8,SNR=4.0
ASAJ Asahikawa 14.47 11 P **P 12 16 09.4 +0.3**
2.9nm,0.8s,baz=211,slow=8.2,SNR=4.7
USRK Ussuriysk Ar. 15.30 341 P **P 12 16 18.6 +0.8**
5.8nm,0.5s,baz=144,slow=9.8,SNR=22
KLR Kul'dur 20.06 346 P **P 12 17 06.6 +1.1**
0.8nm,0.5s,baz=157,slow=8.6,SNR=3.9
0.8nm,0.5s
CMAR Chiang Mai Arr 38.06 262 P **P 12 19 42.6 +0.1**
1.0nm,0.5s,baz=75,slow=5.1,SNR=8.0
1.0nm,0.5s
MKAR Makanchi Array 46.50 308 P **P 12 20 47.9 -1.1**
0.2nm,0.3s,baz=84,slow=9.3,SNR=4.2
0.2nm,0.3s
WRA Warramunga Arr 49.76 186 P **P 12 21 13.7 0.0**
0.1nm,0.4s,baz=0.8,slow=7.7,SNR=6.2
0.1nm,0.4s
ASAR Alice Springs 53.49 186 P **P 12 21 40.5 -0.3**
0.1nm,0.5s,baz=9.4,slow=7.7,SNR=1.7
0.1nm,0.5s
BVAR Borovoye Array 54.05 316 P **P 12 21 44.3 -0.2**
1.4nm,0.4s,baz=98,slow=7.6,SNR=10
1.4nm,0.4s
FINES FINESS Array B 74.16 333 P **P 12 23 52.6 -0.3**
1.9nm,0.9s,baz=46,slow=6.0,SNR=3.6
1.9nm,0.9s

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*SJA **08** 12:26:47.3±1.1, 19°.73S×69°.55W, h91km±5km, ML3.6, MW3.6*
*GUC **08** 12:26:49.1±0.8, 19°.73S×69°.55W, h81km±3km, ML3.5*
ISC 08 12:26:49.1±1.6, 19°.73S±0°.04×69°.55W±0°.07, h85km±10km, n17, σ0°.48/30, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.11**	**253**	⇓*iP*	**Pn**	**12 27 01.3**	**-0.2**
PB11				*eS*	**Sn**	**12 27 10.6**	**-0.1**
PB11				IAML		12 27 11.5	
	comp=E,10μm,0.4s						
PB11	**IPOC Station P**	**0.11**	**253**	*eP*	**Pn**	**12 27 01.4**	**-0.2**
PB11				*eS*	**Sn**	**12 27 11.2**	**+0.5**
PB11				IAML		12 27 12.8	
	comp=Z,3μm,0.1s						
PB08	**IPOC Station P**	**0.55**	**138**	⇓*iP*	**Pn**	**12 27 04.0**	**-0.3**
PB08				*eS*	**Sn**	**12 27 15.4**	**-0.1**
PB08				IAML		12 27 16.4	
	comp=N,2μm,0.1s						
PB08	**IPOC Station P**	**0.55**	**138**	*eP*	**Pn**	**12 27 04.1**	**-0.3**
PB08				*eS*	**Sn**	**12 27 15.6**	**+0.1**
PB08				IAML		12 27 16.0	
	comp=Z,768nm,0.2s						
TA02	**Huaiquique**	**0.77**	**226**	*eP*	**Pn**	**12 27 05.8**	**-0.1**
TA02				*eS*	**Sn**	**12 27 19.4**	**+0.9**
TA02	**Huaiquique**	**0.77**	**226**	*eP*	**Pn**	**12 27 05.2**	**-0.7**
TA02				*eS*	**Sn**	**12 27 19.2**	**+0.7**
TA02				IAML		12 27 22.5	
	comp=Z,3μm,0.4s						
TA01	**Diego Aracena**	**1.02**	**216**	⇑*iP*	**Pn**	**12 27 08.7**	**-0.1**
TA01				*eS*	**Sn**	**12 27 23.3**	**-0.2**
TA01				IAML		12 27 24.8	
	comp=E,2μm,0.4s						
TA01	**Diego Aracena**	**1.02**	**216**	*eP*	**Pn**	**12 27 08.7**	**-0.1**
TA01				*eS*	**Sn**	**12 27 23.2**	**-0.2**
TA01				IAML		12 27 29.2	
	comp=Z,414nm,0.2s						
PB01	**IPOC Station P**	**1.31**	**178**	*eP*	**Pn**	**12 27 12.4**	**+0.1**
PB01				*eS*	**Sn**	**12 27 30.4**	**+0.5**
PB01				IAML		12 27 32.8	
	comp=N,1μm,0.2s						
PB01	**IPOC Station P**	**1.31**	**178**	*eP*	**Pn**	**12 27 11.6**	**-0.8**
PB01				*eS*	**Sn**	**12 27 30.5**	**+0.6**
PB01				IAML		12 27 33.4	
	comp=Z,651nm,0.1s						
PB12	**IPOC Station P**	**1.33**	**326**	*eP*	**Pn**	**12 27 12.4**	**-0.2**
PB12				*eS*	**Sn**	**12 27 31.0**	**+0.6**
PB12				IAML		12 27 33.0	
	comp=N,1μm,0.2s						
PB12	**IPOC Station P**	**1.33**	**326**	*eP*	**Pn**	**12 27 12.2**	**-0.5**
PB12				*eS*	**Sn**	**12 27 30.2**	**-0.2**
PB12				IAML		12 27 33.8	
	comp=Z,760nm,0.2s						
AP01	**Chacalluta**	**1.55**	**331**	*eP*	**Pn**	**12 27 15.6**	**+0.3**
AP01				*eS*	**Sn**	**12 27 35.0**	**-0.1**
AP01				IAML		12 27 43.9	
	comp=Z,932nm,0.2s						
PB09	**IPOC Station P**	**2.08**	**172**	*eP*	**Pn**	**12 27 23.0**	**+0.7**
PB09				IAML		12 27 56.6	
	comp=N,260nm,0.7s						
PB09	**IPOC Station P**	**2.08**	**172**	*eP*	**Pn**	**12 27 22.3**	**-0.1**
PB09				IAML		12 28 01.5	
	comp=Z,193nm,0.3s						
PB03	**IPOC Station P**	**2.32**	**185**	*eP*	**Pn**	**12 27 24.5**	**-1.0**
PB03				IAML		12 28 01.2	
	comp=Z,447nm,0.2s						
PB06	**IPOC Station P**	**2.96**	**180**	*eP*	**Pn**	**12 27 34.1**	**-0.1**
PB06				IAML		12 28 21.2	
	comp=Z,120nm,0.2s						

IDC 08 12:47:49.7±3.5, 31°.97S×177°.70W, h0km, mb3.6/2, mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=77.0km s-min=38.3km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.58**	**213**	Pn	Pn	12 49 39.8	-1.6
URZ				Sn	Sn	12 51 08.9	+0.9
	0.2nm,0.3s,baz=257,slow=20,SNR=1.3						
	1.4nm,0.3s,baz=239,slow=20,SNR=13						
	8.4nm,1.0s						
ASAR	**Alice Springs**	**43.30**	**268**	P	P	12 55 53.6	+0.1
	0.2nm,0.3s,baz=106,slow=7.1,SNR=10						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.43**	**274**	P	P	12 56 02.5	0.0
	0.4nm,0.3s,baz=112,slow=8.0,SNR=18						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**146.70**	**339**	PKPbc	PKPdf	13 07 31.8	+0.8
	1.9nm,0.9s,baz=50,slow=4.3,SNR=1.4						

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*WEL **08** 12:51:44.9±0.7, 32°.S±4°.×17°.8W±1°.2, h12km, M4.9/12, mB5.1/7, ML5.7/15, MLv5.2/12, Mw(mB)4.5/7, Error ellipse: s-maj=15.6km s-min=3.4km az=103.3, confirmed*
*IDC **08** 12:51:47.0±0.5, 32°.05S×178°.02W, h0km, mb4.5/15, mbtmp4.5/17, ML5.5/1, MS4.1/21, Error ellipse: s-maj=18.1km s-min=13.4km az=178.0*
*NEIC **08** 12:51:50.0±1.6, 32°.31S±0°.08×178°.0W±0°.1, h10km±1km, mb4.8/67, Error ellipse: s-maj=16.2km s-min=12.4km az=111.0*
*NOU **08** 12:51:58.1, 32°.98S×177°.85W, h71km, mb5.0/28, South of Kermadec Islands*
ISC 08 12:51:50.8±0.3, 32°.16S±0°.05×177°.97W±0°.07, h24km, n215, σ1°.89/218, mb4.8/54, MS4.1/20, 1C-7D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.89**	**1**	P	**Pn**	**12 52 32.0**	**-3.3**
GLKZ				S	**Sn**	**12 53 06.3**	**-3.0**
RIZ	**Raoul Island**	**2.91**	**1**	P	**Pn**	**12 52 31.5**	**-4.0**
RIZ				S	**Sn**	**12 53 07.1**	**-2.7**
MXZ	**Matakaoa Point**	**6.20**	**209**	Pn	**Pn**	**12 53 17.2**	**-3.6**
MXZ				Sn	**Sn**	**12 54 28.6**	**-2.2**
MXZ	**Matakaoa Point**	**6.20**	**209**	P	**Pn**	**12 53 18.1**	**-2.7**
MXZ	**Matakaoa Point**	**6.20**	**209**	P	**Pn**	**12 53 18.1**	**-2.7**
MXZ				S	**Sn**	**12 54 28.9**	**-1.9**
PKGZ	**Pakihiroa**	**6.55**	**209**	P	**Pn**	**12 53 23.2**	**-2.4**
PKGZ				S	**Sn**	**12 54 38.9**	**-0.7**
HAZ	**Te Kaha**	**6.58**	**211**	P	**Pn**	**12 53 24.5**	**-1.5**
HAZ				S	**Sn**	**12 54 40.8**	**+0.5**
PUZ	**Puketiti**	**6.66**	**207**	P	**Pn**	**12 53 23.7**	**-3.4**
PUZ				S	**Sn**	**12 54 41.5**	**-0.7**
RUGZ	**Raukumara Rang**	**6.80**	**210**	P	**Pn**	**12 53 26.9**	**-2.2**
RUGZ				S	**Sn**	**12 54 45.0**	**-0.8**
TWGZ	**Tauwhareparae**	**6.86**	**208**	P	**Pn**	**12 53 27.2**	**-2.7**
TWGZ				S	**Sn**	**12 54 44.7**	**-2.5**
CNGZ	**Carnagh Statio**	**7.04**	**205**	P	**Pn**	**12 53 29.0**	**-3.3**
CNGZ				S	**Sn**	**12 54 48.6**	**-2.9**
TKGZ	**Te Karaka**	**7.13**	**207**	P	**Pn**	**12 53 30.4**	**-3.2**
TKGZ				S	**Sn**	**12 54 51.0**	**-2.9**
MWZ	**Matawai**	**7.17**	**210**	P	**Pn**	**12 53 31.2**	**-3.1**
URZ	**Urewera**	**7.29**	**212**	Pn	**Pn**	**12 53 32.4**	**-3.4**
	2.2nm,0.3s,baz=307,slow=5.2,SNR=16						
URZ				Sn	**Sn**	**12 54 55.3**	**-2.5**
	20nm,0.3s,baz=284,slow=18,SNR=20						
URZ	**Urewera**	**7.29**	**212**	P	**Pn**	**12 53 34.5**	**-1.3**
URZ	**Urewera**	**7.29**	**212**	P	**Pn**	**12 53 32.6**	**-3.2**
RIGZ	**Rimuhau**	**7.40**	**207**	P	**Pn**	**12 53 33.8**	**-3.5**
WCZ	**Waipu Caves**	**7.41**	**237**	P	Pn	12 53 41.2	+3.9
MKAZ	**Moumakai**	**7.51**	**227**	P	**Pn**	**12 53 41.5**	**+2.7**
PRGZ	**Paritu Road**	**7.54**	**205**	P	**Pn**	**12 53 34.8**	**-4.5**
RTZ	**Ruatahuna**	**7.64**	**211**	Pn	**Pn**	**12 53 39.1**	**-1.7**
RTZ				Sn	**Sn**	**12 55 04.0**	**-2.6**
RTZ	**Ruatahuna**	**7.64**	**211**	P	**Pn**	**12 53 39.3**	**-1.4**
RTZ				S	**Sn**	**12 55 03.8**	**-2.8**
OUZ	**Omahuta**	**7.66**	**244**	P	Pn	12 53 45.7	+4.8
KNZ	**Kokohu**	**7.71**	**206**	P	**Pn**	**12 53 37.3**	**-4.2**
TOZ	**Tahuroa Road**	**7.72**	**222**	Pn	**Pn**	**12 53 38.5**	**-3.2**
BKZ	**Black Stump Fm**	**8.31**	**211**		**Pn**	**12 53 47.3**	**-2.6**
BKZ				Sn	**Sn**	**12 55 20.0**	**-3.0**
BKZ	**Black Stump Fm**	**8.31**	**211**	P	**Pn**	**12 53 46.6**	**-3.3**
BKZ	**Black Stump Fm**	**8.31**	**211**	P	**Pn**	**12 53 46.3**	**-3.6**
HIZ	**Hauiti**	**8.63**	**221**	Pn	**Pn**	**12 53 51.9**	**-2.2**
BFZ	**Birch Farm**	**9.69**	**207**	Pn	**Pn**	**12 54 06.0**	**-2.8**
BFZ	**Birch Farm**	**9.69**	**207**	P	**Pn**	**12 54 04.2**	**-4.5**
MRZ	**Mangatainoka R**	**9.95**	**210**	Pn	**Pn**	**12 54 09.7**	**-2.4**
MSWZ	**Moikau Station**	**10.71**	**209**	Pn	**Pn**	**12 54 20.0**	**-2.7**
TCW	**Tory Channel**	**10.96**	**212**	Pn	**Pn**	**12 54 23.6**	**-2.5**
CTZ	**Chatham Island**	**11.60**	**175**	S	Sn	12 56 29.2	-14
CTZ	**Chatham Island**	**11.60**	**175**	P	**Pn**	**12 54 31.4**	**-3.4**
KHZ	**Kahutara**	**12.26**	**211**	P	**Pn**	**12 54 42.1**	**-1.7**
KHZ	**Kahutara**	**12.26**	**211**	S	Sn	12 56 49.3	-10
OXZ	**Oxford**	**13.65**	**212**		**Pn**	**12 55 02.3**	**-0.5**
RPZ	**Rata Peaks**	**14.41**	**214**	Pn	**Pn**	**12 55 08.7**	**-4.5**
	1.5nm,0.3s,baz=56,slow=3.0,SNR=6.1						
RPZ				Sn	Sn	12 57 38.0	-14
	1.7nm,0.3s,baz=91,slow=22,SNR=10						
RPZ	**Rata Peaks**	**14.41**	**214**	P	**Pn**	**12 55 09.6**	**-3.6**
MSVF	**Nonsavu**	**14.81**	**345**	Pn	**Pn**	**12 55 20.5**	**+1.7**
MSVF	**Nonsavu**	**14.81**	**345**	Pn	**Pn**	**12 55 16.5**	**-2.4**
	0.7nm,0.3s,baz=142,slow=13,SNR=12						
	26nm,0.9s						
ODZ	**Otahua Downs**	**15.62**	**211**	P	**Pn**	**12 55 26.1**	**-3.2**
JCZ	**Jackson Bay**	**15.79**	**217**	P	**Pn**	**12 55 28.6**	**-3.0**
DZM	**Mont Dzumac**	**17.11**	**302**	Pn	**P**	**12 55 49.0**	**-1.1**
SYZ	**Scrubby Hill**	**17.44**	**211**	P	**Pn**	**12 55 47.6**	**-4.8**
DCZ	**Deep Cove**	**17.59**	**217**	Pn	**Pn**	**12 55 52.6**	**-1.6**
AFI	**Afiamalu**	**19.03**	**19**	P	**Pn**	**12 56 12.7**	**+0.7**
AFI				IAmb	IAmb	12 56 15.5	
	comp=Z,50nm,0.8s						
RAR	**Rarotonga**	**19.55**	**61**	P	**P**	**12 56 16.6**	**-0.1**
RAR				IAmb	IAmb	12 56 36.6	
	comp=Z,38nm,1.1s						
RAR	**Rarotonga**	**19.55**	**61**	P	**P**	**12 56 15.0**	**-1.7**
	comp=Z,40nm,0.9s,baz=199,slow=4.1,SNR=6.3						
RAR				LR	LR	13 02 43.2	
	comp=Z,405nm,20.0s,baz=240,slow=34						
ARMA	**Armidale**	**26.00**	**266**	P	**P**	**12 57 21.5**	**-0.5**
ARMA				IAmb	IAmb	12 57 48.3	
	comp=Z,18nm,1.1s						
CAN	**Canberra**	**27.58**	**254**	P	**P**	**12 57 34.1**	**-2.0**
EIDS	**Eidsvold**	**27.90**	**276**	P	**P**	**12 57 37.6**	**-1.3**
EIDS				IAmb	IAmb	12 57 51.0	
	comp=Z,14nm,0.9s						
YNG	**Young**	**28.14**	**256**	P	**P**	**12 57 43.8**	**+2.6**
TAU	**Tasmania Unive**	**29.35**	**239**	P	**P**	**12 57 50.1**	**-1.7**
TAU				IAmb	IAmb	12 58 06.2	
	comp=Z,27nm,1.1s						
PPT	**Papeete**	**29.46**	**67**	LR	LR	13 07 57.8	
	comp=Z,443nm,18.5s,baz=270,slow=33						
TOO	**Toolangi**	**30.33**	**250**	P	**P**	**12 57 59.7**	**-0.8**
HNR	**Honiara**	**30.49**	**313**	LR	LR	13 09 08.3	
	comp=Z,258nm,18.2s,baz=176,slow=34						
CMSA	**Cobar Meteorol**	**30.78**	**261**	P	**P**	**12 58 07.3**	**+2.7**
ARPS	**Mount Arapiles**	**33.28**	**251**	P	**P**	**12 58 28.0**	**+1.6**
TV1H	**Townsville Har**	**34.09**	**283**	P	P	12 58 40.7	+7.1
STKA	**Stephens Creek**	**34.14**	**259**	P	**P**	**12 58 33.4**	**-0.6**
STKA	**Stephens Creek**	**34.14**	**259**	P	**P**	**12 58 34.5**	**+0.5**
	comp=Z,9.4nm,0.9s,baz=100,slow=11,SNR=19						
STKA				LR	LR	13 11 28.3	
	comp=Z,398nm,18.2s,baz=49,slow=35						
	comp=Z,9.4nm,0.9s						
STKA	**Stephens Creek**	**34.14**	**259**	P	**P**	**12 58 36.0**	**+2.0**
MGBR	**Mount Gambier**	**34.23**	**249**	P	**P**	**12 58 34.1**	**-0.5**
INKA	**Innaminka**	**35.89**	**266**	P	**P**	**12 58 52.5**	**+3.5**
HTT	**Hallett**	**36.07**	**256**	P	**P**	**12 58 52.0**	**+1.4**
MTSU	**Mount Surprise**	**36.69**	**283**	P	**P**	**12 58 58.6**	**+2.6**
LCRK	**Leigh Creek**	**37.28**	**261**	P	**P**	**12 59 02.6**	**+1.7**
BBOO	**Buckleboo**	**38.55**	**256**	P	**P**	**12 59 11.7**	**+0.1**
BBOO				IAmb	IAmb	12 59 24.2	
	comp=Z,24nm,0.8s						
BBOO	**Buckleboo**	**38.55**	**256**	P	**P**	**12 59 13.1**	**+1.5**
PMG	**Port Moresby**	**39.41**	**297**	LR	LR	13 14 43.5	
	comp=Z,183nm,18.1s,baz=131,slow=35						
QIS	**Mount Isa**	**39.50**	**276**	P	**P**	**12 59 21.0**	**+1.3**
COEN	**Coen**	**39.81**	**288**	P	**P**	**12 59 22.8**	**+0.6**
COEN				IAmb	IAmb	12 59 29.7	
	comp=Z,18nm,0.9s						
COEN	**Coen**	**39.81**	**288**	P	P	12 59 26.6	+4.3
OOD	**Oodnadatta**	**40.14**	**264**	P	**P**	**12 59 27.6**	**+2.7**
AS31	**Alice Springs**	**43.07**	**269**	P	**P**	**12 59 49.2**	**+0.1**
ASAR	**Alice Springs**	**43.07**	**269**	P	**P**	**12 59 48.8**	**-0.3**
ASAR	**Alice Springs**	**43.07**	**269**	P	**P**	**12 59 48.5**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=106,slow=7.4,SNR=64						
ASAR				PcP	**PcP**	**13 01 39.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=101,slow=3.0,SNR=1.1						
ASAR				ScP	**ScP**	**13 05 31.4**	**+2.9**
	comp=Z,0.9nm,1.0s,baz=70,slow=1.9,SNR=4.4						
ASAR				S	**S**	**13 06 14.3**	**+0.6**
	comp=Z,1.6nm,1.0s,baz=116,slow=16,SNR=8.0						
ASAR				LR	LR	13 17 12.2	
	comp=Z,128nm,18.1s,baz=113,slow=35						
	comp=Z,5.7nm,0.8s						
WR0	**Warramunga Arr**	**44.04**	**274**	P	**P**	**12 59 56.8**	**-0.1**
WR0				IAmb	IAmb	13 00 09.9	
	comp=Z,21nm,0.9s						
WB2	**Warramunga Arr**	**44.21**	**274**	P	**P**	**12 59 58.2**	**0.0**
WRAB	**Tennant Creek**	**44.21**	**274**	P	**P**	**12 59 58.7**	**+0.5**
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**12 59 58.3**	**0.0**
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**12 59 58.2**	**-0.1**
	comp=Z,14nm,0.5s,baz=113,slow=7.8,SNR=90						
WRA				PcP	**PcP**	**13 01 42.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=126,slow=3.7,SNR=1.2						
WRA				ScP	**ScP**	**13 05 35.1**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=110,slow=3.9,SNR=4.6						
WRA				S	**S**	**13 06 31.6**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=118,slow=16,SNR=6.0						
WRA				LR	LR	13 17 36.9	
	comp=Z,222nm,19.0s,baz=62,slow=35						
	comp=Z,14nm,0.5s						
WB0	**Warramunga Arr**	**44.25**	**274**	P	**P**	**12 59 58.7**	**+0.1**
MANU	**Manus Island**	**44.28**	**305**	P	**P**	**13 00 00.4**	**+1.6**
MANU				IAmb	IAmb	13 00 07.2	
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**45.65**	**257**	P	**P**	**13 00 09.7**	**+0.2**
FORT	**Forrest**	**45.65**	**257**	P	**P**	**13 00 12.1**	**+2.6**
VNDA	**Vanda**	**46.35**	**186**	P	**P**	**13 00 16.0**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=0.2,slow=6.9,SNR=5.3						
VNDA				LR	LR	13 16 46.6	
	comp=Z,162nm,19.7s,baz=20,slow=32						
	comp=Z,2.7nm,0.9s						
WRKA	**Warakurna**	**47.31**	**264**	P	**P**	**13 00 22.2**	**-0.5**
KDU	**Kakadu**	**49.27**	**281**	P	P	13 00 43.2	+5.4
MTN	**Manton Dam**	**50.30**	**280**	P	**P**	**13 00 45.6**	**-0.1**
MTN				IAmb	IAmb	13 00 52.6	
	comp=Z,25nm,1.1s						
KNRA	**Kununurra**	**50.88**	**276**	P	**P**	**13 00 50.5**	**+0.4**
KNRA				IAmb	IAmb	13 01 02.6	
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.40**	**271**	P	**P**	**13 01 01.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.40**	**271**	LR	LR	13 23 30.3	
	comp=Z,452nm,18.2s,baz=116,slow=36						
CASY	**Casey**	**53.60**	**208**	P	**P**	**13 01 11.1**	**+1.5**
KLBR	**Kellerberrin**	**53.82**	**252**	P	**P**	**13 01 12.0**	**+0.2**
MORW	**Morawa**	**56.07**	**255**	P	**P**	**13 01 27.4**	**-0.7**
MBWA	**Marble Bar**	**56.08**	**265**	P	**P**	**13 01 28.2**	**0.0**
MBWA				IAmb	IAmb	13 01 40.0	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**57.95**	**180**	P	**P**	**13 01 43.0**	**+2.0**
QSPA	**South Pole Qui**	**57.95**	**180**	P	**P**	**13 01 42.0**	**+1.0**
	comp=Z,13nm,0.9s,baz=35,slow=1.4,SNR=26						
	comp=Z,13nm,0.9s						
KAPI	**Kappang**	**63.96**	**281**	LR	LR	13 30 51.2	
	comp=Z,260nm,18.4s,baz=106,slow=37						
TOLI2	**Tolitoli**	**66.57**	**287**	P	**P**	**13 02 39.8**	**+0.5**
BELA	**Belgrano 2**	**68.04**	**172**	P	**P**	**13 02 48.0**	**+0.3**
SBUM	**Sibu**	**74.34**	**283**	P	**P**	**13 03 27.4**	**+0.7**
ELIB	**Princess Elisa**	**75.11**	**187**	*dP*	**P**	**13 03 32.3**	**+1.8**
	comp=Z,8.4nm,0.9s						
SYO	**Syowa Base**	**75.41**	**193**	⇓*eP*	**P**	**13 03 33.6**	**+1.6**
TROLL	**Troll, Antarti**	**76.12**	**180**	⇓P	**P**	**13 03 38.2**	**+1.9**
	comp=Z,353nm,0.8s						
JHJ	**Hachijo jima 2**	**76.18**	**324**	LR	LR	13 36 02.5	
	comp=Z,51nm,19.5s,baz=95,slow=35						
SNAA	**Sanae**	**76.40**	**178**	P	**P**	**13 03 37.8**	**0.0**
SNAA				IAmb	IAmb	13 03 51.0	
	comp=Z,18nm,1.1s						
SNAA	**Sanae**	**76.40**	**178**	⇓P	**P**	**13 03 38.5**	**+0.7**
	comp=Z,161nm,0.9s						
SNAA	**Sanae**	**76.40**	**178**	P	**P**	**13 03 38.0**	**+0.3**
	comp=Z,11nm,1.1s,baz=174,slow=2.6,SNR=7.8						
	comp=Z,11nm,1.1s						
VNA3	**Neumayer Olymp**	**76.55**	**176**	⇓P	**P**	**13 03 39.0**	**+0.4**
	comp=Z,20nm,0.8s						
VNA2	**Neumayer--Watz**	**76.98**	**177**	⇓P	**P**	**13 03 41.9**	**+0.9**
	comp=Z,20nm,0.8s,baz=189,slow=6.1						
VNA1	**Neumayer--Stat**	**77.22**	**176**	⇓P	**P**	**13 03 44.3**	**+2.0**
	comp=Z,31nm,1.0s						
MDSI	**Maura Dua**	**77.34**	**273**	P	**P**	**13 03 42.0**	**-2.0**
COYC	**Coyhaique**	**77.64**	**136**	P	**P**	**13 03 45.9**	**+0.7**
AY01	**Puyuhuapi**	**77.94**	**135**	P	**P**	**13 03 48.1**	**+1.3**
AY01				IAmb	IAmb	13 03 48.4	
	comp=Z,12nm,1.1s						
LL02	**Futaleuf**	**79.10**	**134**	P	**P**	**13 03 54.0**	**+0.7**
MJAR	**Matsushiro Arr**	**79.70**	**325**	P	**P**	**13 03 55.3**	**-1.1**
	comp=Z,5.2nm,1.0s,baz=147,slow=6.3,SNR=6.5						
MJAR				LR	LR	13 35 11.4	
	comp=Z,44nm,19.5s,baz=143,slow=33						
	comp=Z,5.2nm,1.0s						
JNU	**Nakatsue**	**80.89**	**319**	LR	LR	13 37 35.4	
	comp=Z,47nm,18.6s,baz=130,slow=34						
PLCA	**Paso Flores**	**81.29**	**133**	P	**P**	**13 04 06.0**	**+0.8**
PLCA				IAmb	IAmb	13 04 07.5	
	comp=Z,8.6nm,1.1s						
PLCA	**Paso Flores**	**81.29**	**133**	P	**P**	**13 04 04.0**	**-1.3**
	comp=Z,5.3nm,1.0s,baz=239,slow=6.9,SNR=6.5						
	comp=Z,5.3nm,1.0s						
BI02	**San Fabin de**	**83.17**	**129**	P	**P**	**13 04 15.6**	**+0.5**
BI02				IAmb	IAmb	13 04 16.9	
	comp=Z,11nm,1.0s						
ASAJ	**Asahikawa**	**84.01**	**333**	LR	LR	13 37 56.3	
	comp=Z,90nm,18.4s,baz=168,slow=33						
BO02	**Sierra Bellavi**	**84.57**	**128**	P	**P**	**13 04 22.6**	**+0.2**
MT01	**Popeta**	**84.79**	**127**	P	**P**	**13 04 23.7**	**+0.3**
LPIG	**La Paz**	**85.44**	**58**	LR	LR	13 34 54.1	
	comp=Z,203nm,20.1s,baz=198,slow=30						
PEL	**Peldehue**	**85.59**	**127**	P	**P**	**13 04 27.9**	**+0.4**
PEL				IAmb	IAmb	13 04 52.0	
	comp=Z,8.9nm,0.9s						
PSI	**Prapat**	**85.64**	**276**	LR	LR	13 44 36.6	
	comp=Z,234nm,18.4s,baz=114,slow=37						
KSRS	**Korea Array**	**85.70**	**320**	P	**P**	**13 04 27.4**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=128,slow=6.6,SNR=7.2						
	comp=Z,2.1nm,0.9s						
YSS	**Yuzhno-Sakhali**	**86.34**	**334**	P	**P**	**13 04 31.5**	**+1.0**
CO03	**El Pedregal**	**86.93**	**125**	P	**P**	**13 04 34.5**	**+0.3**
NJ2	**Nanjing**	**87.41**	**311**	*eP*	**P**	**13 04 32.5**	**-3.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PETK	**Petropavlovsk-**	**87.52**	**346**	P	**P**	**13 04 35.8**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=158,slow=5.0,SNR=5.9						
	comp=Z,4.4nm,0.9s						
ISA	**Isabella, Lake**	**87.53**	**45**	P	**P**	**13 04 38.5**	**+1.8**
ISA				IAmb	IAmb	13 04 51.7	
	comp=Z,8.2nm,1.1s						
CMB	**Columbia Colle**	**88.05**	**42**	P	**P**	**13 04 39.9**	**+0.8**
CMB				IAmb	IAmb	13 04 41.5	
	comp=Z,4.2nm,1.1s						
GSC	**Goldstone, Bar**	**88.29**	**46**	P	**P**	**13 04 42.1**	**+1.7**
USRK	**Ussuriysk Ar.**	**88.64**	**327**	P	**P**	**13 04 42.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**88.64**	**327**	P	**P**	**13 04 41.8**	**+0.2**
	comp=Z,5.4nm,1.0s,baz=160,slow=4.4,SNR=6.2						
USRK				LR	LR	13 41 38.9	
	comp=Z,64nm,18.8s,baz=133,slow=34						
	comp=Z,5.4nm,1.0s						
WAKR	**Walker**	**88.92**	**42**	P	**P**	**13 04 45.3**	**+2.0**
WAKR				IAmb	IAmb	13 04 51.5	
	comp=Z,5.3nm,1.0s						
GWY	**Greenwater Val**	**88.96**	**45**	P	**P**	**13 04 45.1**	**+1.5**
G

comp=Z,1.9nm,0.9s,baz=60,slow=0.3,SNR=11
MAKZ Makanchi 119.12 309 PKPdf **PKiKP 13 10 38.6 +1.2**
ZALV Zalesovo Beam 119.36 318 PKP **PKiKP 13 10 36.9 -0.7**
comp=Z,0.4nm,0.6s,baz=100,slow=1.6,SNR=2.2
KURK Kurchatov 122.27 313 PKPdf **PKiKP 13 10 45.0 +1.6**
KURBB Kurchatov Arra 122.31 313 PKP **PKiKP 13 10 43.0 -0.4**
comp=Z,2.7nm,0.7s,baz=106,slow=2.1,SNR=17
AAK Ala-Archa 123.10 303 PKPdf **PKiKP 13 10 47.0 +1.5**
GAR Garm 125.21 298 **PKiKP 13 10 51.0 +1.2**
KK31 Karatay Array 126.05 303 **PKiKP 13 10 51.8 +0.6**
KKAR Karatay Array 126.05 303 PKPdf **PKiKP 13 10 51.4 +0.1**
SIMJ Simiganj 126.11 297 PKPdf **PKiKP 13 10 52.0 +0.3**
BVAR Borovoye Array 127.67 315 PKP **PKiKP 13 10 53.7 -0.4**
comp=Z,3.0nm,0.7s,baz=90,slow=3.0,SNR=14
BRVK Borovoye 127.74 315 PKPdf **PKiKP 13 10 54.6 +0.4**
ABKAR Akbulak array 134.06 309 PKPdf **PKiKP 13 11 06.0 -1.0**
ARTI Arti 134.56 319 PKPdf **PKiKP 13 11 08.8 +0.9**
BORG Borgarnes 144.34 17 PKPdf **PKiKP 13 11 26.7 -0.8**
KBZ Khabaz 146.09 302 PKPbc **PKPbc 13 11 27.8 -0.7**
comp=Z,22nm,1.0s,baz=155,slow=1.9,SNR=29
FIA1 FINESS Array S 146.80 339 PKPdf **PKPbc 13 11 30.0 0.0**
FINES FINESS Array B 146.80 339 PKPdf **PKPab 13 11 30.1 -1.2**
FINES FINESS Array B 146.80 339 PKPbc **PKPbc 13 11 29.6 -0.5**
comp=Z,14nm,0.8s,baz=49,slow=4.2,SNR=26
NC303 NORSAR Array S 150.29 351 PKPbc **PKPab 13 11 42.2 -3.3**
NB201 NORSAR Array S 150.47 351 PKPbc **PKPab 13 11 43.3 -2.9**
NB2 NORSAR Subarra150.49 351 PKP **PKiKP 13 11 41.5 +1.1**
comp=Z,8.0nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 150.49 351 PKPbc **PKPbc 13 11 39.0 -0.7**
comp=Z,7.4nm,1.1s,baz=14,slow=4.1,SNR=7.8
HFS Hagfors 150.97 348 PKPbc **PKiKP 13 11 41.7 +0.3**
comp=Z,12nm,1.0s,baz=101,slow=3.0,SNR=7.0
MMAI Mount Meron Ar 151.93 281 PKPbc **PKiKP 13 11 45.5 +1.2**
comp=Z,5.7nm,0.7s,baz=61,slow=6.8,SNR=5.6
AKASG Malin Array Be 152.69 321 PKPbc **PKiKP 13 11 44.7 -0.6**
comp=Z,11nm,1.0s,baz=56,slow=2.5,SNR=17
ILGA Ilgaz 153.18 298 PKPdf **PKPdf 13 11 39.4 +0.1**
ILGA PKPbc **sPKPdf 13 11 48.6 +1.0**
ILGA PKPab **PKPab 13 12 00.0 +1.5**
BRTR Keskin Array B 153.42 295 PKPdf **PKPdf 13 11 39.8 +0.2**
BRTR PKPbc **sPKPdf 13 11 49.0 +1.1**
BRTR PKPab **PKPab 13 12 01.1 +1.6**
BRTR Keskin Array B 153.42 295 PKPbc **PKiKP 13 11 47.5 +0.2**
comp=Z,1.7nm,0.8s,baz=151,slow=2.8,SNR=7.5
BRTR PKPab **PKPab 13 11 59.6 +0.1**
comp=Z,2.8nm,0.8s,baz=132,slow=4.1,SNR=9.5
BURAR Bucovina Array 156.57 318 PKPdf **PKPdf 13 11 45.3 +1.8**
BURAR PKPab **PKPab 13 12 13.5 +0.9**
CLL Collm 159.23 340 *e*PKPab **PKPab 13 12 24.0 +0.3**
VYHS Vyhne 159.33 327 *e*PKP **PKPab 13 12 25.2 +0.9**
BRG Berggiesshubel 159.34 338 *e*PKP **PKPab 13 12 26.5 +2.3**
BRG Amp 13 12 27.8
comp=Z,6.7nm,1.0s
MODS Modra-Piesok 160.12 329 *e*PKP **PKPab 13 12 28.2 +0.4**
TORD Torodi Ar. Bea 161.07 179 PKPdf **PKPdf 13 11 49.8 +0.5**
TORD PKPab **PKPab 13 12 32.7 +0.1**
GERES GERESS Array B 161.16 336 PKPdf **PKPdf 13 11 49.0 +0.1**
GERES PKPab **PKPab 13 12 33.7 +1.3**
ESDC Sonseca Array 171.07 31 PKPab **PKPab 13 13 18.8 +2.5**
AVE Averroes 171.96 79 PKPdf **PKPdf 13 11 58.8 +1.2**

IDC 08 13:00:34.4±3.2, 32°.29S×178°.02W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=74.2km s-min=37.4km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.17**	**212**	Pn	Pn	13 02 20.1	-0.4
	0.2nm,0.3s,baz=114,slow=18,SNR=1.6						
URZ				Sn	Sn	13 03 43.2	+0.6
	3.7nm,0.3s,baz=149,slow=21,SNR=14						
	8.8nm,0.8s						
ASAR	**Alice Springs**	**43.02**	**269**	P	P	13 08 36.2	+0.2
	0.2nm,0.3s,baz=105,slow=7.6,SNR=4.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.18**	**274**	P	P	13 08 45.0	-0.3
	0.5nm,0.3s,baz=112,slow=8.0,SNR=12						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**146.90**	**339**	PKPbc	PKPbc	13 20 17.2	-0.8
	1.9nm,0.9s,baz=22,slow=2.1,SNR=5.1						

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*ISK **08** 13:03:04.9, 39°.46N×25°.68E, h8km, ML2.5/20*
*ATH **08** 13:03:04.9, 39°.45N×25°.65E, h11km±3km, ML2.5/11, Manual Solution by A.Andreou First location: 2019/03/08 13:04:07, This location: 2019/03/08 14:12:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*AFAD **08** 13:03:04.2, 39°.48N×25°.59E, h7km±4km, ML2.4*
*THE **08** 13:03:05.1, 39°.48N×25°.64E, h7km±1km, ML2.4/7, Error ellipse: s-maj=1.3km s-min=0.5km az=203.0*
ISC 08 13:03:04.9±0.9, 39°.47N±0'.02×25°.64E±0'.02, h10km±8km, n54, σ0°58/83, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.31**	**147**	Pg	**Pg**	**13 03 11.3**	**+0.3**
SIGR	**SIGRI**	**0.31**	**147**	P	**Pg**	**13 03 11.2**	**+0.3**
SIGR				S	**Sg**	**13 03 15.9**	**+0.8**
	542nm,0.4s						
SIGR	**SIGRI**	**0.31**	**147**	P	**Pg**	**13 03 11.0**	**0.0**
SIGR				S	**Sg**	**13 03 13.5**	**-1.6**
GPNR	**Gulpinar-Canak**	**0.38**	**92**	Pg	**Pg**	**13 03 12.4**	**0.0**
GPNR				Sg	**Sg**	**13 03 17.7**	**+0.2**
KOCA	**Canakkale, Ayv**	**0.39**	**85**	P	**Pg**	**13 03 11.8**	**-0.7**
KOCA				S	**Sb**	**13 03 19.3**	**-0.6**
KOCA				*i* AML	AML	13 03 20.0	
	comp=E,447nm,0.4s						
KOCA				*i* AML	AML	13 03 24.0	
	comp=N,389nm,0.8s						
BOZC	**Bozcaada**	**0.49**	**40**	Pg	**Pg**	**13 03 14.7**	**+0.2**
BOZC	**Bozcaada**	**0.49**	**40**	P	**Pg**	**13 03 14.3**	**-0.1**
BOZC				S	**Sb**	**13 03 21.8**	**-1.1**
BOZC				*i* AML	AML	13 03 27.0	
	comp=E,182nm,0.3s						
BOZC				*i* AML	AML	13 03 28.0	
	comp=N,226nm,0.2s						
EFSA	**Agios Efstrati**	**0.51**	**278**	P	**Pg**	**13 03 15.1**	**+0.3**
EFSA				S	**Sg**	**13 03 22.2**	**+0.7**
PRK	**Paraskevi**	**0.54**	**114**	P	**Pg**	**13 03 15.6**	**+0.3**
PRK				S	**Sb**	**13 03 23.6**	**-0.6**
	510nm,0.5s						
PRK	**Paraskevi**	**0.54**	**114**	P	**Pg**	**13 03 15.5**	**+0.2**
PRK				S	**Sg**	**13 03 21.4**	**-1.0**
LIA	**Limnos Island**	**0.56**	**321**	P	**Pg**	**13 03 15.8**	**+0.1**
LIA				S	**Sg**	**13 03 23.6**	**+0.6**
	1μm,0.3s						
LIA	**Limnos Island**	**0.56**	**321**	P	**Pg**	**13 03 15.9**	**+0.3**
LIA				S	**Sg**	**13 03 23.7**	**+0.7**
EZNE	**Ezine-Canakkal**	**0.63**	**63**	Pg	**Pg**	**13 03 17.2**	**+0.1**
ECEA	**Canakkale, Ece**	**0.71**	**35**	P	**Pg**	**13 03 18.2**	**-0.4**
ECEA				S	**Sn**	**13 03 31.7**	**-0.3**
ECEA				*i* AML	AML	13 03 33.0	
	comp=E,200nm,0.3s						
ECEA				*i* AML	AML	13 03 35.0	
	comp=N,279nm,0.4s						
GOAD	**anakkale-G¶**	**0.72**	**17**	P	**Pg**	**13 03 18.6**	**-0.3**
GOAD				S	**Sb**	**13 03 30.6**	**+1.0**
GOAD				*i* AML	AML	13 03 32.0	
	comp=N,183nm,0.3s						
GOAD				*i* AML	AML	13 03 32.0	
	comp=E,225nm,0.3s						
GADA	**Gvkgeada**	**0.75**	**15**	Pg	**Pb**	**13 03 19.9**	**-0.1**
GADA				Sg	**Sb**	**13 03 30.8**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.75**	**68**	P	**Pg**	**13 03 18.8**	**-0.6**
BAYC				S	**Sb**	**13 03 30.0**	**-0.4**
BAYC				*i* AML	AML	13 03 32.0	
	comp=N,248nm,0.2s						
BAYC				*i* AML	AML	13 03 32.0	
	comp=E,178nm,0.2s						
AYVA	**Ayvalik**	**0.83**	**101**	P	**Pg**	**13 03 20.0**	**-0.9**
AYVA				S	**Sn**	**13 03 34.4**	**-0.5**
AYVA				*i* AML	AML	13 03 39.0	
	comp=N,115nm,0.4s						
AYVA				*i* AML	AML	13 03 41.0	
	comp=E,111nm,0.6s						
COMU	**Canakkale**	**0.90**	**45**	Pg	**Pb**	**13 03 22.5**	**-0.1**
COMU				Sg	**Sb**	**13 03 35.4**	**+0.7**
KARB	**zmir-Karabur**	**1.00**	**143**	P	**Pn**	**13 03 25.0**	**0.0**
KARB				S	**Sn**	**13 03 39.8**	**+0.5**
KARB				*i* AML	AML	13 03 44.0	
	comp=E,74nm,0.4s						
KARB				*i* AML	AML	13 03 45.0	
	comp=N,70nm,0.4s						
SMTH	**Samothraki Isl**	**1.01**	**355**	P	**Pg**	**13 03 23.8**	**-0.4**
SMTH				S	**Sb**	**13 03 37.5**	**-0.2**
	75nm,0.3s						
SMTH	**Samothraki Isl**	**1.01**	**355**	P	**Pg**	**13 03 23.8**	**-0.4**
SMTH				S	**Sb**	**13 03 37.6**	**-0.1**
SKY	**Skiros Island**	**1.03**	**236**	P	**Pg**	**13 03 24.1**	**-0.6**
SKY				S	**Sg**	**13 03 38.5**	**+0.3**
CAND	**Candarli**	**1.04**	**119**	Pg	**Pg**	**13 03 24.6**	**-0.2**
DKL	**Dikili**	**1.06**	**112**	Pg	**Pg**	**13 03 24.9**	**-0.3**
BUHA	**Balikesir, Bur**	**1.11**	**88**	P	**Pg**	**13 03 25.5**	**-0.7**
BUHA				S	**Sn**	**13 03 43.2**	**+1.3**
BUHA				*i* AML	AML	13 03 44.0	
	comp=N,83nm,0.4s						
BUHA				*i* AML	AML	13 03 56.0	
	comp=E,106nm,0.5s						
GELI	**Tayfur-Gelibol**	**1.13**	**34**	Pn	**Pn**	**13 03 26.6**	**-0.2**
CANM	**Can-anakkale**	**1.22**	**63**	Pn	**Pg**	**13 03 28.2**	**-0.1**
ZEDA	**zmir-Bergama**	**1.22**	**114**	P	**Pg**	**13 03 28.7**	**+0.3**
ZEDA				S	**Sn**	**13 03 46.5**	**+1.8**
ZEDA				*i* AML	AML	13 03 53.0	
	comp=E,48nm,0.5s						
ZEDA				*i* AML	AML	13 03 57.0	
	comp=N,47nm,0.8s						
LPK	**Lapseki**	**1.25**	**43**	Pn	**Pg**	**13 03 28.7**	**-0.2**
YENI	**Yenice-Canakka**	**1.32**	**69**	Pn	**Pb**	**13 03 29.6**	**-0.2**
ENEZ	**Enez**	**1.33**	**17**	Pn	**Pg**	**13 03 29.9**	**-0.4**
THAS	**Thassos island**	**1.34**	**328**	P	**Pn**	**13 03 28.7**	**-0.9**
THAS				S	**Sb**	**13 03 47.0**	**-0.3**
	200nm,0.3s						
THAS	**Thassos island**	**1.34**	**328**	P	**Pn**	**13 03 28.7**	**-0.9**
ERIK	**Erikli-Kesan**	**1.38**	**29**	Pn	**Pb**	**13 03 30.6**	**-0.1**
ERIK				Sn	**Sg**	**13 03 49.2**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.46**	**236**	P	**Pn**	**13 03 30.0**	**-1.3**
KYMI				S	**Sn**	**13 03 50.1**	**-0.4**
ALN	**Alexandroupoli**	**1.46**	**12**	Pn	**Pb**	**13 03 32.1**	**-0.1**
ALN	**Alexandroupoli**	**1.46**	**12**	P	**Pn**	**13 03 30.9**	**-0.4**
ALN				S	**Sb**	**13 03 50.6**	**-0.2**
	62nm,0.7s						
OUR	**Ouranopolis**	**1.54**	**305**	Pn	**Pb**	**13 03 33.6**	**+0.1**
OUR	**Ouranopolis**	**1.54**	**305**	P	**Pn**	**13 03 32.1**	**-0.3**
OUR				S	**Sb**	**13 03 53.0**	**-0.1**
	142nm,0.5s						
OUR	**Ouranopolis**	**1.54**	**305**	P	**Pn**	**13 03 32.8**	**+0.4**
OUR				S	**Sn**	**13 03 52.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.57**	**54**	Pn	**Pn**	**13 03 33.3**	**+0.4**
PAIG	**Paliouri**	**1.58**	**288**	Pn	**Pb**	**13 03 34.2**	**0.0**
RDO	**Rodhopi**	**1.68**	**357**	Pn	**Pn**	**13 03 34.4**	**+0.1**
RDO	**Rodhopi**	**1.68**	**357**	P	**Pn**	**13 03 34.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.68**	**69**	Pn	**Pn**	**13 03 34.9**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.70**	**44**	Pn	**Pn**	**13 03 35.1**	**+0.5**
KAVA	**Kavala**	**1.75**	**331**	P	**Pn**	**13 03 34.8**	**-0.6**
KAVA				S	**Sn**	**13 03 58.1**	**+0.4**
KOKK	**Kokkinochori,**	**1.84**	**318**	P	**Pn**	**13 03 36.0**	**-0.6**
SUSR	**Susurluk-Balik**	**1.95**	**75**	Pn	**Pn**	**13 03 38.8**	**+0.7**
SMG	**Samos**	**1.99**	**152**	P	**Pn**	**13 03 38.7**	**0.0**
VIL2	**Platees**	**2.24**	**237**	P	**Pn**	**13 03 42.1**	**+0.1**
ODEM	**Odemis-Izmir**	**2.24**	**121**	Pn	**Pn**	**13 03 42.7**	**+0.6**
LTK	**Loutraki**	**2.54**	**236**	P	**Pn**	**13 03 46.5**	**+0.3**

IDC 08 13:46:13.6±1.9, 0°.98S×128°.41E, h0km, mb3.3/2, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=114.2km s-min=26.9km az=77.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.23**	**189**	P	P	13 50 16.7	-0.7
	0.1nm,0.3s,baz=0.0,slow=10,SNR=2.2						
	4.4nm,1.2s						
WRA	**Warramunga Arr**	**19.72**	**163**	P	P	13 50 44.3	-0.6
	0.1nm,0.3s,baz=341,slow=11,SNR=7.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**23.17**	**167**	P	P	13 51 22.1	+0.2
	0.9nm,0.7s,baz=345,slow=12,SNR=9.5						
	0.9nm,0.7s						
SONM	**Songino Array**	**52.27**	**341**	P	P	13 55 26.7	-0.2
	0.2nm,0.5s,baz=134,slow=6.2,SNR=1.6						
	0.2nm,0.5s						

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*NOU **08** 13:52:11.4, 41°.29S×174°.76E, h45km, MLv4.0/19, Cook Strait, New Zealand*
*WEL **08** 13:52:12.0±0.3, 41°.3S±3°.3S×17°.5E±°, h27km±2km, M3.6/25, ML3.9/24, MLv3.6/25, Error ellipse: s-maj=3.9km s-min=2.9km az=160.9, confirmed*
ISC 08 13:52:12.6±0.9, 41°.20S±0'.02×174°.63E±0'.02, h33km±5km, n86, σ1°.00/110, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKBS	**Makara Bunker**	**0.06**	**120**	P	**Pb**	**13 52 18.5**	**+0.4**
MKBS				S	**Sb**	**13 52 23.2**	**+1.3**
MKVS	**Makara Village**	**0.09**	**140**	P	**Pb**	**13 52 17.4**	**-0.8**
MKVS				S	**Sb**	**13 52 22.1**	**+0.1**
WNKS	**Wellington Kar**	**0.12**	**136**	P	**Pb**	**13 52 17.7**	**-0.8**
WNKS				S	**Sb**	**13 52 22.6**	**+0.1**
SNZO	**South Karori**	**0.13**	**153**	P	**Pn**	**13 52 19.1**	**+0.8**
SNZO	**South Karori**	**0.13**	**153**	S	**Sb**	**13 52 24.2**	**+1.8**
POTA	**Wellington Pot**	**0.13**	**125**	P	**Pn**	**13 52 19.0**	**+0.6**
POTA				S	**Sb**	**13 52 24.0**	**+1.4**
WEL	**Wellington**	**0.14**	**130**	P	**Pn**	**13 52 19.0**	**+0.6**
WEL				S	**Sb**	**13 52 24.3**	**+1.7**
WEMS	**Wellington Eme**	**0.14**	**125**	P	**Pn**	**13 52 19.1**	**+0.7**
WEMS				S	**Sb**	**13 52 24.2**	**+1.7**
BOWS	**Bowen St Turnb**	**0.14**	**127**	P	**Pb**	**13 52 18.1**	**-0.4**
BOWS				S	**Sb**	**13 52 23.4**	**+0.8**
TFSS	**Wellington Tho**	**0.14**	**124**	P	**Pb**	**13 52 17.9**	**-0.6**
TFSS				S	**Sb**	**13 52 23.2**	**+0.6**
VUWS	**Victoria Unive**	**0.14**	**127**	P	**Pb**	**13 52 17.8**	**-0.7**
VUWS				S	**Sb**	**13 52 23.0**	**+0.4**
FKPS	**Wellington Fra**	**0.14**	**129**	P	**Pb**	**13 52 17.9**	**-0.6**
FKPS				S	**Sn**	**13 52 23.0**	**+0.8**
NEWS	**Newlands**	**0.15**	**104**	P	**Pn**	**13 52 19.2**	**+0.6**
NEWS				S	**Sn**	**13 52 24.3**	**+2.1**
PWES	**Porirua West**	**0.16**	**65**	P	**Pn**	**13 52 19.0**	**+0.2**
PWES				S	**Sn**	**13 52 24.2**	**+1.6**
POKS	**Katoa Kinderga**	**0.17**	**65**	P	**Pb**	**13 52 17.5**	**-1.2**
POKS				S	**Sb**	**13 52 22.7**	**-0.3**
POLS	**Porirua Librar**	**0.17**	**68**	P	**Pb**	**13 52 17.8**	**-1.0**
POLS				S	**Sb**	**13 52 23.0**	**-0.1**
PFAS	**Porirua Free A**	**0.17**	**71**	P	**Pb**	**13 52 17.7**	**-1.1**
PFAS				S	**Sb**	**13 52 22.9**	**-0.2**
TCW	**Tory Channel**	**0.27**	**267**	P	**Pb**	**13 52 19.7**	**-0.2**
TCW				S	**Sb**	**13 52 24.8**	**0.0**
BHW	**Baring Head**	**0.28**	**139**	P	**Pn**	**13 52 20.7**	**+0.3**
BHW				S	**Sn**	**13 52 26.9**	**+1.4**
CAW	**Cannon Point**	**0.34**	**75**	P	**Pb**	**13 52 21.0**	**+0.2**
CAW				S	**Sn**	**13 52 27.9**	**+0.8**
KIW	**Kapiti Island**	**0.40**	**32**	P	**Pb**	**13 52 21.2**	**-0.4**
KIW				S	**Sb**	**13 52 27.6**	**-0.2**
MSWZ	**Moikau Station**	**0.52**	**115**	P	**Pb**	**13 52 23.7**	**+0.3**
MSWZ				S	**Sn**	**13 52 32.4**	**+1.0**
OGWZ	**Otaki Gorge**	**0.56**	**47**	P	**Pb**	**13 52 23.7**	**-0.3**
OGWZ				S	**Sb**	**13 52 32.0**	**0.0**
TUWZ	**Tuamarina**	**0.57**	**246**	P	**Pb**	**13 52 24.0**	**-0.2**
PLWZ	**Palliser**	**0.60**	**129**	P	**Pb**	**13 52 24.7**	**-0.1**
PLWZ				S	**Sn**	**13 52 34.3**	**+0.8**
PAWZ	**Paruwai Farm**	**0.63**	**107**	P	**Pb**	**13 52 25.1**	**-0.2**
PAWZ				S	**Sn**	**13 52 34.8**	**+0.6**
CMWZ	**Cape Campbell**	**0.63**	**209**	P	**Pn**	**13 52 26.1**	**+0.8**
MTW	**Mount Morrison**	**0.66**	**87**	P	**Pb**	**13 52 25.4**	**-0.3**
DUWZ	**D'Urville Isla**	**0.67**	**306**	P	**Pb**	**13 52 24.8**	**-1.0**
HOWZ	**Holdsworth Sta**	**0.73**	**66**	P	**Pn**	**13 52 26.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.77**	**227**	P	**Pn**	**13 52 26.9**	**-0.2**
TRWZ	**Traveller**	**0.82**	**105**	P	**Pn**	**13 52 27.6**	**-0.3**
MRZ	**Mangatainoka R**	**0.90**	**54**	P	**Pn**	**13 52 28.5**	**-0.4**
NNZ	**Nelson**	**0.94**	**268**	P	**Pn**	**13 52 29.0**	**-0.5**
TMWZ	**Te Maipa**	**0.96**	**85**	P	**Pn**	**13 52 29.2**	**-0.5**
TIWZ	**Tintock**	**1.04**	**67**	P	**Pn**	**13 52 30.2**	**-0.7**
OHWZ	**Ohakea**	**1.12**	**28**	P	**Pn**	**13 52 32.5**	**+0.5**
POWZ	**Post Office Ro**	**1.18**	**47**	P	**Pn**	**13 52 32.1**	**-0.7**
PRWZ	**Pori Road**	**1.20**	**58**	P	**Pn**	**13 52 32.4**	**-0.7**
CPWZ	**Castlepoint**	**1.22**	**77**	P	**Pn**	**13 52 33.3**	**-0.1**
TKNZ	**Takaka Hill**	**1.27**	**277**	P	**Pn**	**13 52 33.8**	**-0.3**
BFZ	**Birch Farm**	**1.33**	**68**	P	**Pn**	**13 52 33.6**	**-1.2**
BFZ	**Birch Farm**	**1.33**	**68**	S	**Sn**	**13 52 49.0**	**-2.4**
BFZ	**Birch Farm**	**1.33**	**68**	P	**Pn**	**13 52 33.7**	**-1.2**
THZ	**Tophouse**	**1.41**	**246**	P	**Pn**	**13 52 35.7**	**-0.4**
MRNZ	**Matariki Terra**	**1.43**	**261**	P	**Pn**	**13 52 36.3**	**+0.2**
KHZ	**Kahutara**	**1.47**	**213**	P	**Pn**	**13 52 36.3**	**-0.4**
KHZ	**Kahutara**	**1.47**	**213**	S	**Sn**	**13 52 53.9**	**-0.9**
KHZ	**Kahutara**	**1.47**	**213**	P	**Pn**	**13 52 36.3**	**-0.4**
WAZ	**Wanganui**	**1.47**	**11**	P	**Pn**	**13 52 37.7**	**+0.9**
WAZ				S	**Sb**	**13 52 58.1**	**+0.6**
TSZ	**Takapari Road**	**1.52**	**42**	P	**Pn**	**13 52 36.6**	**-0.9**
QRZ	**Quartz Range**	**1.63**	**282**	P	**Pn**	**13 52 39.1**	**+0.1**
QRZ	**Quartz Range**	**1.63**	**282**	S	**Sn**	**13 53 00.2**	**+1.3**
QRZ	**Quartz Range**	**1.63**	**282**	P	**Pn**	**13 52 39.1**	**+0.1**
LREZ	**Lake Rotokare**	**1.74**	**354**	P	**Pn**	**13 52 41.2**	**+0.7**
PNHZ	**Pukenui**	**1.75**	**44**	P	**Pn**	**13 52 39.4**	**-1.3**
NMEZ	**Namu Road**	**1.87**	**342**	P	**Pn**	**13 52 43.0**	**+0.7**
KHEZ	**Kahui Hut**	**1.96**	**346**	P	**Pn**	**13 52 44.6**	**+1.0**
KHEZ	**Kahui Hut**	**1.96**	**346**	S	**Sn**	**13 53 09.1**	**+2.1**
MOVZ	**Moawhango**	**1.98**	**26**	P	**Pn**	**13 52 43.3**	**-0.6**
WNVZ	**Wahianoa**	**2.01**	**22**	P	**Pn**	**13 52 44.3**	**0.0**
NBEZ	**Newall Road No**	**2.01**	**343**	P	**Pn**	**13 52 44.8**	**+0.6**
TRVZ	**Turoa**	**2.02**	**21**	P	**Pn**	**13 52 45.1**	**+0.5**
MAVZ	**Matarangi**	**2.05**	**21**	P	**Pn**	**13 52 47.1**	**+2.0**
FWVZ	**Far West T-bar**	**2.06**	**20**	P	**Pn**	**13 52 45.7**	**+0.5**
TUVZ	**Tukino**	**2.08**	**22**	P	**Pn**	**13 52 45.6**	**+0.3**
COVZ	**Chateau Observ**	**2.11**	**20**	P	**Pn**	**13 52 46.0**	**+0.3**
NGZ	**Ngauruhoe**	**2.15**	**21**	P	**Pn**	**13 52 46.8**	**+0.5**
SNVZ	**South Ngauruho**	**2.15**	**21**	P	**Pn**	**13 52 46.4**	**0.0**
DSZ	**Denniston Nort**	**2.19**	**255**	P	**Pn**	**13 52 46.4**	**-0.4**
NNVZ	**North Ngauruho**	**2.20**	**20**	P	**Pn**	**13 52 47.2**	**+0.3**
WTVZ	**West Tongariro**	**2.21**	**20**	P	**Pn**	**13 52 47.1**	**+0.1**
ETVZ	**East Tongariro**	**2.22**	**22**	P	**Pn**	**13 52 47.3**	**+0.1**
TMVZ	**Te Maari**	**2.24**	**22**	P	**Pn**	**13 52 47.4**	**-0.1**
KRVZ	**Karewarewa**	**2.24**	**21**	P	**Pn**	**13 52 48.0**	**+0.6**
KWHZ	**Kaweka Forest**	**2.24**	**38**	P	**Pn**	**13 52 45.9**	**-1.5**
RITZ	**Rihia Road**	**2.41**	**23**	P	**Pn**	**13 52 52.5**	**+2.7**
BKZ	**Black Stump Fm**	**2.48**	**36**	P	**Pn**	**13 52 48.9**	**-1.8**
HIZ	**Hauiti**	**2.69**	**4**	P	**Pn**	**13 52 54.8**	**+1.3**
URZ	**Urewera**	**3.50**	**34**	P	**Pn**	**13 53 01.9**	**-2.8**
RPZ	**Rata Peaks**	**3.65**	**225**	P	**Pn**	**13 53 03.8**	**-3.0**
KUZ	**Kuaotunu**	**4.53**	**11**	P	**Pn**	**13 53 18.3**	**-0.5**
MXZ	**Matakaoa Point**	**4.61**	**39**	P	**Pn**	**13 53 18.4**	**-1.6**
ODZ	**Otahua Downs**	**4.83**	**216**	P	**Pn**	**13 53 21.6**	**-1.3**
JCZ	**Jackson Bay**	**5.18**	**234**	P	**Pn**	**13 53 26.3**	**-1.6**
OUZ	**Omahuta**	**6.02**	**352**	P	**Pn**	**13 53 39.5**	**+0.1**

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*SOME **08** 14:16:31.2, 40°.77N×74°.15E, h15km*
*KRNET **08** 14:16:31.1±0.1, 40°.81N×74°.17E, h16km, mb3.2*
*NNC **08** 14:16:33.8±2.2, 40°.82N×74°.07E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=17.0km s-min=10.3km az=160.0*
*KNET **08** 14:16:34.6±0.6, 40°.98N×74°.21E, h3km±3km, ml2.8, Error ellipse: s-maj=4.3km s-min=3.1km az=46.0*
ISC 08 14:16:30.2±1.2, 40°.78N±0'.03×74°.21E±0'.02, h3km±11km, n59, σ1°.33/106, 49C-29D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.31**	**289**	⇓*iP*	**Pg**	**14 16 37.0**	**+0.7**
SALK				⇓*iS*	**Sg**	**14 16 40.4**	**0.0**
SFK	**Sufi-Kurgan**	**0.94**	**215**	⇑*iP*	**Pb**	**14 16 49.0**	**-0.3**
SFK				⇑*iS*	**Sg**	**14 17 02.1**	**+1.7**
ARSB	**Arslanbob**	**1.08**	**301**	⇑*iP*	**Pb**	**14 16 50.8**	**-0.8**
ARSB				⇑*iS*	**Sg**	**14 17 05.0**	**+0.2**
ARLS	**Aral**	**1.08**	**4**	⇓*eP*	**Pb**	**14 16 51.0**	**-0.6**
ARLS				⇓*eS*	**Sg**	**14 17 05.2**	**+0.3**
OHH	**Osh**	**1.12**	**257**	⇓*iP*	**Pb**	**14 16 51.7**	**-0.5**
OHH				⇓*iS*	**Sn**	**14 17 06.8**	**-2.0**
AML	**Almayashu**	**1.40**	**344**	⇑P	**Pg**	**14 16 57.4**	**+0.4**
	82nm,0.2s,SNR=147						
AML				⇓S	**Sg**	**14 17 15.9**	**+0.6**
	195nm,0.4s						
AML	**Almayashu**	**1.40**	**344**	⇑*iP*	**Pb**	**14 16 56.7**	**-0.6**
AML				⇑*iS*	**Sg**	**14 17 15.3**	**0.0**
UCH	**Uchtor**	**1.46

BTK				⇑iS		Sb	14 17 49.9	-2.6
DGS	**Degeres**	**2.72**	**25**	Pg		**Pg**	**14 17 21.9**	**-0.4**
	11nm,0.4s							
DGS				Lg		Lg	14 17 59.0	
	94nm,0.5s							
TARG	**Taragay, Kyrgy**	**2.87**	**70**	⇓iP		**Pb**	**14 17 19.7**	**-2.6**
TARG				⇓iS		Sb	14 17 55.2	-2.7
MTBS	**Maitube**	**2.87**	**34**	Pg		**Pg**	**14 17 24.6**	**-0.5**
	9.0nm,0.2s							
MTBS				Lg		Lg	14 18 03.3	
	68nm,0.3s							
MTBS	**Maitube**	**2.87**	**34**	*eP*		**Pg**	**14 17 24.6**	**-0.5**
	9.0nm,0.2s							
MTBS				*eS*		**Sg**	**14 18 03.3**	**+0.9**
	68nm,0.3s							
TNSS	**Tian-Shan**	**3.04**	**41**	Pg		**Pg**	**14 17 28.3**	**-0.1**
	7.9nm,0.2s							
TNSS				Lg		Lg	14 18 09.3	
	18nm,0.5s							
TNSS	**Tian-Shan**	**3.04**	**41**	*eP*		**Pg**	**14 17 28.3**	**-0.1**
	7.9nm,0.2s							
TNSS				*eS*		**Sg**	**14 18 09.4**	**+1.5**
	18nm,0.5s							
KRBS	**Karabastau**	**3.11**	**20**	Pg		**Pg**	**14 17 29.0**	**-0.7**
	23nm,0.3s							
KRBS				Lg		Lg	14 18 10.5	
	29nm,0.5s							
KOTS	**Kotyrbulak**	**3.27**	**40**	Pg		**Pg**	**14 17 32.1**	**-0.7**
	11nm,0.3s							
KOTS				Lg		Lg	14 18 16.2	
	40nm,0.3s							
KOTS	**Kotyrbulak**	**3.27**	**40**	*eP*		**Pg**	**14 17 32.1**	**-0.7**
	11nm,0.3s							
KOTS				*eS*		**Sg**	**14 18 16.2**	**+1.1**
	40nm,0.3s							
IUG	**Iuzhnay**	**3.42**	**295**	Pg		**Pb**	**14 17 32.7**	**+1.1**
	9.1nm,0.2s							
IUG				Lg		Lg	14 18 17.4	
	59nm,0.3s							
KTBS	**Karatobe**	**3.45**	**31**	Pg		**Pg**	**14 17 34.8**	**-1.5**
	2.7nm,0.2s							
KTBS				Lg		Lg	14 18 20.7	
	1.1nm,0.3s							
GAR	**Garm**	**3.49**	**241**	⇓iP		**Pn**	**14 17 27.9**	**+2.4**
GAR				⇓iS		Sn	14 18 09.3	+2.0
KK31	**Karatay Array**	**3.60**	**311**	⇓Pg		**Pb**	**14 17 35.9**	**+1.4**
	1.1nm,0.2s,baz=129,slow=16,SNR=21							
KK31				⇑Lg		Lg	14 18 23.0	
	7.3nm,0.4s,baz=124,slow=29,SNR=8.4							
KKAR	**Karatay Array**	**3.60**	**311**	⇑iP		**Pn**	**14 17 28.9**	**+1.9**
KKAR				⇑iS		Sn	14 18 11.3	+1.2
CHKK	**Chushkaly**	**3.69**	**33**	*eP*		**Pg**	**14 17 39.0**	**-2.0**
	0.8nm,0.1s							
CHKK				*eS*		**Sg**	**14 18 28.0**	**-0.9**
	18nm,0.3s							
BRLS	**Borolday**	**3.96**	**306**	Pg		**Pb**	**14 17 42.9**	**+2.2**
	3.8nm,0.3s							
BRLS				Lg		Lg	14 18 34.9	
	11nm,0.4s							
BRLS	**Borolday**	**3.96**	**306**	*eP*		**Pb**	**14 17 42.9**	**+2.2**
	3.8nm,0.3s							
BRLS				*eS*		**Sg**	**14 18 34.9**	**-2.6**
	11nm,0.4s							
KURS	**Kuram**	**4.00**	**46**	*eP*		**Pb**	**14 17 39.0**	**-2.3**
	0.8nm,0.1s							
KURS				*eS*		**Sb**	**14 18 28.0**	**-2.0**
	18nm,0.3s							
BTLS	**Baital**	**4.26**	**358**	*eP*		**Pg**	**14 17 49.0**	**-2.7**
	3.5nm,0.4s							
BTLS				*eS*		**Sg**	**14 18 45.6**	**-1.3**
	5.2nm,0.5s							
UZB	**Uzynbulak**	**4.29**	**55**	*eP*		**Pg**	**14 17 50.5**	**-1.9**
	5.0nm,0.2s							
UZB				*eS*		**Sg**	**14 18 47.8**	**-0.3**
	5.3nm,0.4s							
PDGK	**Podgornoye**	**4.68**	**55**	⇑Pg		**Pg**	**14 18 02.3**	**+2.4**
	2.6nm,0.5s							
PDGK				⇑Lg		Lg	14 19 03.6	
	7.3nm,0.6s							

*NOU **08** 14:32:54.3, 40°.16S×176°.63E, h53km, MLv3.7/17, North Island, New Zealand*
*WEL **08** 14:32:55.0±0.8, 40°S±3°×17°7E±°, h40km±6km, M3.5/65, ML3.8/13, MLv3.5/65, Error ellipse: s-maj=5.3km s-min=3.9km az=110.7, confirmed*

ISC 08 14:32:54.3±1.3, 40°.16S±0°.03×176°.67E±0°.04, h57km±6km, n143, σ1§00/150, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.11**	**194**	P	**Pn**	**14 33 03.6**	**+0.6**
PRHZ				S	**Sn**	**14 33 09.9**	**+0.6**
PXZ	**Pawanui**	**0.20**	**48**	P	**Pn**	**14 33 03.8**	**+0.4**
PXZ				S	**Sn**	**14 33 10.2**	**+0.2**
WPHZ	**Waipukurau**	**0.20**	**299**	P	**Pn**	**14 33 03.3**	**-0.2**
WPHZ				S	**Sn**	**14 33 09.2**	**-0.9**
WPWS	**Waipawa Distri**	**0.23**	**343**	P	**Pn**	**14 33 03.2**	**-0.4**
WPWS				S	**Sn**	**14 33 08.9**	**-1.3**
ANWZ	**Angora Road**	**0.33**	**207**	P	**Pn**	**14 33 05.5**	**+1.1**
ANWZ				S	**Sn**	**14 33 13.1**	**+1.4**
KAHZ	**Kahuranaki**	**0.40**	**23**	P	**Pn**	**14 33 05.6**	**+0.5**
KAHZ				S	**Sn**	**14 33 13.8**	**+0.9**
DVHZ	**Dannevirke**	**0.41**	**250**	P	**Pn**	**14 33 05.3**	**+0.2**
DVHZ				S	**Sn**	**14 33 12.7**	**-0.2**
PNHZ	**Pukenui**	**0.44**	**304**	P	**Pn**	**14 33 05.0**	**-0.5**
PNHZ				S	**Sn**	**14 33 11.9**	**-1.6**
TSZ	**Takapari Road**	**0.55**	**281**	P	**Pn**	**14 33 06.4**	**-0.2**
KRHZ	**Kereru**	**0.57**	**336**	P	**Pn**	**14 33 06.4**	**-0.4**
KRHZ				S	**Sn**	**14 33 14.3**	**-1.6**
CKHZ	**Cape Kidnapper**	**0.59**	**32**	P	**Pn**	**14 33 07.6**	**+0.5**
BFZ	**Birch Farm**	**0.61**	**212**	P	**Pn**	**14 33 08.3**	**+1.0**
BFZ	**Birch Farm**	**0.61**	**212**	S	**Sn**	**14 33 18.7**	**+1.9**
BFZ	**Birch Farm**	**0.61**	**212**	P	**Pn**	**14 33 08.4**	**+1.0**
BFZ				S	**Sn**	**14 33 18.6**	**+1.9**
PRWZ	**Pori Road**	**0.66**	**234**	P	**Pn**	**14 33 09.0**	**+1.1**
MCHZ	**McNeill Hill**	**0.72**	**2**	P	**Pn**	**14 33 09.2**	**+0.5**
POWZ	**Post Office Ro**	**0.73**	**251**	P	**Pn**	**14 33 09.3**	**+0.6**
KWHZ	**Kaweka Forest**	**0.76**	**345**	P	**Pn**	**14 33 09.2**	**-0.1**
CPWZ	**Castlepoint**	**0.83**	**205**	P	**Pn**	**14 33 11.8**	**+1.8**
TIWZ	**Tintock**	**0.86**	**224**	P	**Pn**	**14 33 11.3**	**+1.0**
ARHZ	**Aropaoanui**	**0.93**	**16**	P	**Pn**	**14 33 12.2**	**+0.8**
MRZ	**Mangatainoka R**	**0.97**	**239**	P	**Pn**	**14 33 12.5**	**+0.7**
BKZ	**Black Stump Fm**	**1.00**	**352**	P	**Pn**	**14 33 12.4**	**+0.1**
BKZ	**Black Stump Fm**	**1.00**	**352**	S	**Sn**	**14 33 25.3**	**-0.4**
BKZ	**Black Stump Fm**	**1.00**	**352**	P	**Pn**	**14 33 12.5**	**+0.2**
MOVZ	**Moawhango**	**1.03**	**317**	P	**Pn**	**14 33 13.3**	**+0.6**
OHWZ	**Ohakea**	**1.04**	**267**	P	**Pn**	**14 33 14.2**	**+1.5**
NMHZ	**Naumai**	**1.07**	**6**	P	**Pn**	**14 33 14.0**	**+0.8**
TMWZ	**Te Maipa**	**1.11**	**212**	P	**Pn**	**14 33 14.5**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.15**	**230**	P	**Pn**	**14 33 14.6**	**+0.4**
WHHZ	**Waihua**	**1.17**	**22**	P	**Pn**	**14 33 15.2**	**+0.8**
WNVZ	**Wahianoa**	**1.18**	**315**	P	**Pn**	**14 33 15.7**	**+1.0**
TUVZ	**Tukino**	**1.19**	**318**	P	**Pn**	**14 33 16.1**	**+1.2**
MTVZ	**Mangateitei**	**1.21**	**310**	P	**Pn**	**14 33 16.2**	**+1.2**
WHVZ	**Whangaehu Hut**	**1.21**	**316**	P	**Pn**	**14 33 16.5**	**+1.2**
TRVZ	**Turoa**	**1.22**	**315**	P	**Pn**	**14 33 16.5**	**+1.1**
MAVZ	**Matarangi**	**1.24**	**316**	P	**Pn**	**14 33 16.7**	**+1.1**
FWVZ	**Far West T-bar**	**1.25**	**316**	P	**Pn**	**14 33 16.8**	**+1.0**
SNVZ	**South Ngauruho**	**1.26**	**321**	P	**Pn**	**14 33 16.8**	**+1.0**
OTVZ	**Oturere**	**1.26**	**322**	P	**Pn**	**14 33 17.0**	**+1.1**
ETVZ	**East Tongariro**	**1.27**	**324**	P	**Pn**	**14 33 17.0**	**+1.1**
TMVZ	**Te Maari**	**1.28**	**324**	P	**Pn**	**14 33 17.2**	**+1.0**
NGZ	**Ngauruhoe**	**1.28**	**320**	P	**Pn**	**14 33 17.2**	**+1.1**
RAHZ	**Arahi**	**1.29**	**15**	P	**Pn**	**14 33 16.6**	**+0.5**
COVZ	**Chateau Observ**	**1.30**	**318**	P	**Pn**	**14 33 17.3**	**+1.0**
NTVZ	**North Tongarir**	**1.31**	**324**	P	**Pn**	**14 33 17.4**	**+1.0**
NNVZ	**North Ngauruho**	**1.31**	**321**	P	**Pn**	**14 33 17.7**	**+1.1**
MTHZ	**Maungataniwha**	**1.31**	**6**	P	**Pn**	**14 33 16.8**	**+0.3**
OGWZ	**Otaki Gorge**	**1.32**	**240**	P	**Pn**	**14 33 16.9**	**+0.5**
KRVZ	**Karewarewa**	**1.33**	**323**	P	**Pn**	**14 33 18.1**	**+1.3**
MTW	**Mount Morrison**	**1.33**	**221**	P	**Pn**	**14 33 16.7**	**+0.1**
WTVZ	**West Tongariro**	**1.34**	**321**	P	**Pn**	**14 33 17.9**	**+1.0**
RITZ	**Rihia Road**	**1.34**	**332**	P	**Pn**	**14 33 17.9**	**+1.1**
MRHZ	**Matea Rd**	**1.34**	**352**	P	**Pn**	**14 33 17.5**	**+0.7**
PKVZ	**Pokaka**	**1.34**	**310**	P	**Pn**	**14 33 17.9**	**+1.0**
HATZ	**Hinemaiaia**	**1.35**	**340**	P	Pn	14 33 22.9	+6.0
WAZ	**Wanganui**	**1.36**	**287**	P	**Pn**	**14 33 18.8**	**+1.8**
KNZ	**Kokohu**	**1.38**	**35**	P	**Pn**	**14 33 17.6**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.39**	**44**	P	**Pn**	**14 33 18.2**	**+0.8**
KATZ	**Kakaramea**	**1.41**	**327**	P	**Pn**	**14 33 18.7**	**+0.9**
TRWZ	**Traveller**	**1.44**	**211**	P	**Pn**	**14 33 18.5**	**+0.4**
TWVZ	**Taurewa**	**1.45**	**318**	P	**Pn**	**14 33 19.3**	**+1.0**
RATZ	**Rangitukua**	**1.47**	**332**	P	**Pn**	**14 33 19.8**	**+1.2**
SNGZ	**Shannon Statio**	**1.47**	**21**	P	**Pn**	**14 33 19.1**	**+0.5**
KIW	**Kapiti Island**	**1.51**	**242**	P	**Pn**	**14 33 19.6**	**+0.5**
PAWZ	**Paruwai Farm**	**1.54**	**217**	P	**Pn**	**14 33 19.5**	**0.0**
CAW	**Cannon Point**	**1.54**	**232**	P	**Pn**	**14 33 19.6**	**+0.2**
PRGZ	**Paritu Road**	**1.55**	**38**	P	**Pn**	**14 33 20.0**	**+0.4**
RTZ	**Ruatahuna**	**1.56**	**9**	P	**Pn**	**14 33 20.4**	**+0.5**
WHTZ	**Whakaora**	**1.59**	**340**	P	**Pn**	**14 33 21.8**	**+1.6**
ALRZ	**Allen Road**	**1.62**	**351**	P	**Pn**	**14 33 20.9**	**+0.4**
WATZ	**Wairara**	**1.62**	**333**	P	**Pn**	**14 33 21.4**	**+0.8**
MSWZ	**Moikau Station**	**1.65**	**220**	P	**Pn**	**14 33 20.6**	**-0.4**
PRRZ	**Plateau Road**	**1.68**	**353**	P	**Pn**	**14 33 21.7**	**+0.4**
RIGZ	**Rimuhau**	**1.68**	**31**	P	**Pn**	**14 33 21.8**	**+0.4**
MUGZ	**Murupara**	**1.69**	**3**	P	**Pn**	**14 33 21.6**	**+0.2**
WPRZ	**Whakapapatarin**	**1.69**	**346**	P	Pn	14 33 26.8	+5.3
RAGZ	**Rawiri**	**1.76**	**19**	P	**Pn**	**14 33 22.8**	**+0.3**
PLWZ	**Palliser**	**1.77**	**217**	P	**Pn**	**14 33 22.1**	**-0.4**
HRRZ	**Handcock Road**	**1.79**	**350**	P	**Pn**	**14 33 23.6**	**+0.6**
KUTZ	**Kaahu Road**	**1.80**	**338**	P	**Pn**	**14 33 23.4**	**+0.5**
VRZ	**Vera Road**	**1.80**	**304**	P	**Pn**	**14 33 24.0**	**+1.0**
RRRZ	**Republican Roa**	**1.82**	**356**	P	**Pn**	**14 33 23.7**	**+0.4**
HSRZ	**Hossack Road**	**1.88**	**350**	P	**Pn**	**14 33 24.4**	**+0.4**
LREZ	**Lake Rotokare**	**1.88**	**291**	P	**Pn**	**14 33 23.9**	**-0.2**
SNZO	**South Karori**	**1.88**	**232**	P	**Pn**	**14 33 23.9**	**-0.2**
SNZO	**South Karori**	**1.88**	**232**	S	**Sn**	**14 33 46.8**	**+0.1**
HLRZ	**Highlands Stat**	**1.92**	**353**	P	**Pn**	**14 33 29.3**	**+4.6**
TARZ	**Mount Tarawera**	**1.93**	**356**	P	**Pn**	**14 33 25.2**	**+0.4**
URZ	**Urewera**	**1.93**	**10**	P	**Pn**	**14 33 24.5**	**-0.3**
URZ	**Urewera**	**1.93**	**10**	S	**Sn**	**14 33 47.4**	**-0.5**
URZ	**Urewera**	**1.93**	**10**	P	**Pn**	**14 33 24.6**	**-0.1**
MWZ	**Matawai**	**1.94**	**20**	P	**Pn**	**14 33 24.8**	**-0.1**
TKGZ	**Te Karaka**	**1.95**	**28**	P	**Pn**	**14 33 25.1**	**+0.1**
TLZ	**Tolley Road**	**2.03**	**334**	P	**Pn**	**14 33 26.3**	**+0.1**
CNGZ	**Carnagh Statio**	**2.06**	**36**	P	**Pn**	**14 33 26.8**	**+0.4**
TCW	**Tory Channel**	**2.10**	**239**	P	**Pn**	**14 33 27.2**	**+0.2**
PREZ	**Palmer Road**	**2.10**	**292**	P	**Pn**	**14 33 29.4**	**+2.3**
KARZ	**Kaharoa**	**2.17**	**351**	P	Pn	14 33 33.1	+5.1
HIZ	**Hauiti**	**2.17**	**319**	P	**Pn**	**14 33 28.1**	**+0.1**
HIZ	**Hauiti**	**2.17**	**319**	S	**Sn**	**14 33 53.7**	**0.0**
HIZ	**Hauiti**	**2.17**	**319**	P	**Pn**	**14 33 28.6**	**+0.6**
NEZ	**North Egmont**	**2.18**	**293**	P	**Pn**	**14 33 30.4**	**+2.2**
DUWZ	**D'Urville Isla**	**2.19**	**252**	P	**Pn**	**14 33 28.5**	**+0.2**
KHEZ	**Kahui Hut**	**2.22**	**292**	P	**Pn**	**14 33 28.7**	**-0.1**
KHEZ	**Kahui Hut**	**2.22**	**292**	P	**Pn**	**14 33 32.0**	**+3.1**
TWGZ	**Tauwhareparae**	**2.23**	**28**	P	**Pn**	**14 33 29.3**	**+0.4**
PKE	**Pukeiti**	**2.29**	**294**	P	**Pn**	**14 33 31.8**	**+2.2**
OPRZ	**Ohinepanea**	**2.32**	**358**	P	**Pn**	**14 33 30.7**	**+0.7**
RUGZ	**Raukumara Rang**	**2.33**	**20**	P	**Pn**	**14 33 30.3**	**0.0**
KMRZ	**Kaimai**	**2.38**	**346**	P	**Pn**	**14 33 31.2**	**+0.3**
PUZ	**Puketiti**	**2.43**	**31**	P	**Pn**	**14 33 31.0**	**-0.5**
TUWZ	**Tuamarina**	**2.43**	**238**	P	**Pn**	**14 33 31.2**	**-0.3**
PKGZ	**Pakihiroa**	**2.54**	**26**	P	**Pn**	**14 33 32.9**	**-0.2**
HAZ	**Te Kaha**	**2.56**	**20**	P	**Pn**	**14 33 32.8**	**-0.5**
TOZ	**Tahuroa Road**	**2.59**	**339**	P	**Pn**	**14 33 34.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**2.62**	**233**	P	**Pn**	**14 33 33.7**	**-0.5**
WMGZ	**Waiomatatini S**	**2.71**	**31**	P	**Pn**	**14 33 35.0**	**-0.3**
NNZ	**Nelson**	**2.71**	**246**	P	**Pn**	**14 33 35.3**	**-0.1**
MXZ	**Matakaoa Point**	**2.89**	**27**	P	**Pn**	**14 33 38.2**	**+0.3**
MXZ	**Matakaoa Point**	**2.89**	**27**	S	**Sn**	**14 34 12.5**	**+1.0**
MXZ	**Matakaoa Point**	**2.89**	**27**	P	**Pn**	**14 33 38.0**	**+0.1**
TKNZ	**Takaka Hill**	**2.96**	**252**	P	**Pn**	**14 33 38.7**	**0.0**
MRNZ	**Matariki Terra**	**3.22**	**246**	P	**Pn**	**14 33 42.6**	**+0.2**
QRZ	**Quartz Range**	**3.23**	**257**	P	**Pn**	**14 33 41.9**	**-0.5**
QRZ	**Quartz Range**	**3.23**	**257**	P	**Pn**	**14 33 42.2**	**-0.2**
KHZ	**Kahutara**	**3.26**	**225**	P	**Pn**	**14 33 43.3**	**+0.4**
KHZ	**Kahutara**	**3.26**	**225**	S	**Sn**	**14 34 18.7**	**-1.7**
KHZ	**Kahutara**	**3.26**	**225**	P	**Pn**	**14 33 41.5**	**-1.3**
THZ	**Tophouse**	**3.27**	**240**	P	**Pn**	**14 33 42.2**	**-0.9**
MKAZ	**Moumakai**	**3.27**	**338**	P	**Pn**	**14 33 44.0**	**+0.9**
ETAZ	**East Tamaki Re**	**3.48**	**336**	P	**Pn**	**14 33 47.0**	**+1.0**
KUZ	**Kuaotunu**	**3.49**	**347**	P	**Pn**	**14 33 46.7**	**+0.6**
KUZ	**Kuaotunu**	**3.49**	**347**	P	**Pn**	**14 33 46.6**	**+0.6**
MBAZ	**Motutapu North**	**3.66**	**337**	P	**Pn**	**14 33 49.3**	**+0.9**
GVZ	**Greta Valley S**	**3.91**	**223**	P	**Pn**	**14 33 52.0**	**+0.2**
LTZ	**Lake Taylor**	**4.21**	**230**	P	**Pn**	**14 33 55.0**	**-1.0**
OKCZ	**Okains Bay**	**4.46**	**216**	P	**Pn**	**14 33 57.8**	**-1.6**
MQZ	**McQueen's Vall**	**4.64**	**219**	P	**Pn**	**14 34 00.4**	**-1.3**
AKCZ	**Akaroa Harbour**	**4.64**	**216**	P	**Pn**	**14 34 01.0**	**-0.8**
TMZ	**Timaru**	**5.95**	**223**	P	**Pn**	**14 34 18.3**	**-1.5**
CTZ	**Chatham Island**	**6.15**	**128**	P	**Pn**	**14 34 24.7**	**+2.3**
ODZ	**Otahua Downs**	**6.60**	**220**	P	**Pn**	**14 34 27.7**	**-0.9**

*IDC **08** 14:33:00.0±1.0, 26°.70N×143°.58E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=26.3km s-min=20.5km az=47.0*

ISC 08 14:33:05.4±1.0, 26°.7N±0°.2×143°.5E±0°.1, h38km, n8, σ1§49/9, mb3.6/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.26**	**289**	Pn	**Pn**	**14 33 23.9**	**-2.5**
	7.7nm,0.3s,baz=280,slow=22,SNR=1.5						
JCJ				Sn	**Sn**	**14 33 43.1**	**+1.0**
	29nm,0.3s,baz=256,slow=21,SNR=4.7						
WRA	**Warramunga Arr**	**47.20**	**192**	P	**P**	**14 41 35.0**	**+0.4**
	1.1nm,0.7s,baz=12,slow=8.5,SNR=8.7						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**50.91**	**191**	P	**P**	**14 42 03.0**	**0.0**
	0.2nm,0.6s,baz=13,slow=7.2,SNR=6.6						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**51.65**	**310**	P	**P**	**14 42 10.1**	**+1.7**
	0.5nm,0.7s,baz=94,slow=8.6,SNR=6.7						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**54.17**	**315**	P	**P**	**14 42 27.5**	**+0.7**
	0.4nm,0.5s,baz=89,slow=8.0,SNR=3.5						
BVAR	**Borovoye Array**	**59.15**	**318**	P	**P**	**14 43 03.5**	**+1.3**
	0.5nm,0.5s,baz=84,slow=6.3,SNR=4.0						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**71.93**	**29**	P	**P**	**14 44 23.8**	**-0.8**
	0.1nm,0.5s,baz=293,slow=5.9,SNR=2.7						
	0.1nm,0.5s						
NVAR	**Mina Array Bea**	**79.83**	**52**	P	**P**	**14 45 10.0**	**-0.4**
	0.5nm,0.7s,baz=307,slow=5.5,SNR=3.0						
	0.5nm,0.7s						

IDC 08 14:37:21.2±3.3, 32°.67S×178°.05W, h0km, mb3.3/2, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=76.6km s-min=38.2km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.83**	**214**	Pn	Pn	14 39 02.9	+0.2
	0.2nm,0.3s,baz=14,slow=23,SNR=1.2						
URZ				Sn	Sn	14 40 22.0	+0.9
	0.4nm,0.3s,baz=351,slow=3.1,SNR=2.0						
	6.7nm,1.0s						
ASAR	**Alice Springs**	**42.99**	**269**	P	P	14 45 22.6	0.0
	0.1nm,0.3s,baz=112,slow=8.0,SNR=7.1						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**44.18**	**275**	P	P	14 45 31.6	-0.6
	0.3nm,0.4s,baz=116,slow=6.6,SNR=9.7						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**147.25**	**339**	PKPbc	PKPbc	14 57 05.4	-0.4
	1.9nm,0.8s,baz=62,slow=5.5,SNR=3.9						

*NEIC **08** 14:43:12.0±2.4, 47°.465N±0°.009×122°.31W±0°.01, h10km±1km, Error ellipse: s-maj=1.9km s-min=1.5km az=19.0*

SEA 08 14:43:12.9±1.9, 47°.484N±0°.005×122°.29W±0°.01, h15km±1km, ML2.3/36, ML2.2/42(NEIC), Error ellipse: s-maj=1.3km s-min=0.5km az=120.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSFP	**Boeing Fire Pr**	**0.04**	**352**		Pg	14 43 15.0	-0.6
BSFP					Sg	14 43 17.9	+0.5
GTWN	**Georgetown Pla**	**0.07**	**343**		Pg	14 43 15.3	-0.6
GTWN					Sg	14 43 17.9	+0.1
MPL	**Maple valley S**	**0.07**	**102**		Pg	14 43 15.2	-0.6
MPL					Sg	14 43 17.7	-0.1
SP2	**Seward Park 2**	**0.08**	**21**		Pg	14 43 15.3	-0.7
SP2					Sg	14 43 18.0	+0.1
KIMB	**Kimball Elemen**	**0.09**	**355**		Pg	14 43 16.1	0.0
HICC	**Highline Commu**	**0.09**	**184**		Pg	14 43 15.8	-0.3
HICC					Sg	14 43 19.0	+0.8
SSS1	**John Stanford**	**0.10**	**344**		Pg	14 43 16.4	+0.2
HOLY	**Holy Rosary Sc**	**0.10**	**322**		Pb	14 43 20.2	+3.5
KNEL	**Kent Elementar**	**0.11**	**166**		Pb	14 43 20.0	+3.3
HART	**Harbor Island**	**0.11**	**338**		Pb	14 43 16.7	-0.1
HART					Sb	14 43 20.9	+1.6
KDKW	**Coast Env Seat**	**0.12**	**345**		Pg	14 43 16.6	+0.2
KDKW					Sb	14 43 21.0	+1.5
ALKI	**Alki Wastewate**	**0.13**	**317**		Pb	14 43 16.9	-0.1
VVHS	**Vashon High Sc**	**0.13**	**242**		Pg	14 43 16.0	-0.5
VVHS					Sg	14 43 18.7	-0.1
WISC	**Wilburton Inst**	**0.15**	**32**		Pb	14 43 21.4	+4.0
NOWS	**NOAA--Sand Poi**	**0.20**	**7**		Pb	14 43 18.1	-0.4
NOWS					Sb	14 43 23.7	+1.6
ALCT	**Alcott Element**	**0.24**	**46**		Pg	14 43 18.4	+0.3
ALCT					Sb	14 43 23.7	+0.7
FINN	**Finn Hill Juni**	**0.24**	**10**		Pb	14 43 18.7	-0.3
UPS	**University of**	**0.26**	**211**		Pg	14 43 18.4	-0.1
UPS					Sb	14 43 23.7	+0.2
NIHS	**Ingelmoor High**	**0.26**	**10**		Pb	14 43 19.0	-0.4
NIHS					Sb	14 43 25.2	+1.5
SCCW	**Shoreline CC**	**0.27**	**350**		Pg	14 43 19.1	+0.3
SCCW					Sb	14 43 25.5	+1.6
BRKS	**Brookside Elem**	**0.27**	**0**		Pg	14 43 19.1	+0.3
BRKS					Sb	14 43 25.0	+0.9
ELW	**Echo Lake**	**0.28**	**88**		Sg	14 43 23.2	+0.2
RAW	**Raver**	**0.28**	**121**		Pg	14 43 18.9	0.0
RAW					Sb	14 43 24.2	-0.1
EARN	**East Ridge Ele**	**0.31**	**33**		Pg	14 43 19.4	+0.1
EARN					Sb	14 43 25.6	+0.5
RATT	**Rattlesnake La**	**0.34**	**100**		Pg	14 43 19.2	-0.7
RATT					Sg	14 43 24.8	+0.2
GMW	**Gold Mountain**	**0.34**	**281**		Pg	14 43 19.4	-0.6
GMW					Sg	14 43 25.4	+0.6
LYNC	**Lynnwood City**	**0.34**	**360**		Pg	14 43 19.9	-0.1
D05A	**Enumclaw**	**0.36**	**145**		Pg	14 43 20.2	-0.1
D05A					Sb	14 43 26.2	-0.3
D05A				IAML		14 43 26.8	
	comp=N,345nm,0.6s						
D05A				IAML		14 43 26.9	
	comp=E,278nm,0.6s						
CDMR	**Cedar Moraine**	**0.37**	**99**		Pg	14 43 19.8	-0.6
GNW	**Green Mountain**	**0.37**	**283**		Pg	14 43 19.7	-0.8
GNW					Sg	14 43 25.8	+0.2
GNW				IAML		14 43 26.0	
	comp=N,207nm,0.5s						
BLH	**Bald Hill**	**0.39**	**26**		Pg	14 43 19.9	-1.0
GHW	**Garrison Hill**	**0.44**	**178**		Pg	14 43 21.0	-0.8
GHW					Sg	14 43 28.0	+0.2
C05A	**Tolt Reservoir**	**0.46**	**62**		Pg	14 43 21.1	-1.0
C05A					Sg	14 43 27.7	-0.6
HTW	**Haystack Looko**	**0.48**	**48**		Pg	14 43 21.3	-1.2
HTW					Sg	14 43 28.0	-0.8
B941	**Kapowsin**	**0.50**	**174**		Pg	14 43 21.8	-1.1
B941					Sg	14 43 29.1	-0.4
PCFR	**Pierce County**	**0.50**	**192**		Sg	14 43 29.3	-0.3
C04A	**Brinnon**	**0.52**	**297**		Pg	14 43 21.8	-1.4
C04A					Sg	14 43 29.5	-0.6
SWID	**South Whidbey**	**0.53**	**351**		Pg	14 43

mb4.5/47, Error ellipse: s-maj=11.9km s-min=8.8km az=183.0

ISC 08 14:48:26.0±0.5, 7°20N±0°06×124°90E±0°07, h13km, n88, σ1°23/84, mb4.4/38, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.69**	**101**	Pg	**Pb**	**14 48 41.1**	**+1.1**
	1μm,0.3s,baz=303,slow=2.5,SNR=142						
DAV				Lg	Lg	14 48 54.6	
	1μm,0.3s,baz=314,slow=22,SNR=8.9						
DAV	**Davao City (W)**	**0.69**	**101**	P	**Pg**	**14 48 40.0**	**+0.5**
SGSI	**Sangihe**	**3.54**	**170**	P	**Pn**	**14 49 22.7**	**+1.9**
SGSI				S	**Sn**	**14 50 05.7**	**+3.0**
KMSI	**Cibinong**	**6.64**	**188**	P	**Pn**	**14 50 04.1**	**+0.7**
MYLDM	**Lahad Datu**	**6.67**	**253**	Pn	**Pn**	**14 50 07.1**	**+3.3**
TNTI	**Ternate**	**6.84**	**159**	Pn	**Pn**	**14 50 04.2**	**-2.0**
TNTI	**Ternate**	**6.84**	**159**	P	**Pn**	**14 50 05.7**	**-0.5**
	0.2nm48nm,1.0s						
MRSI	**Marisa**	**7.30**	**204**	P	**Pn**	**14 50 12.1**	**-0.3**
	0.6nm2μm156nm,0.6s						
TOLI2	**Tolitoli**	**7.31**	**214**	Pn	**Pn**	**14 50 10.2**	**-2.3**
TGY	**Tagaytay City**	**7.89**	**331**	LR	LR	14 54 23.3	
	comp=Z,168nm,18.2s,baz=116,slow=45						
LUWI	**Luwuk**	**8.46**	**195**	Pn	**Pn**	**14 50 30.4**	**+2.1**
LUWI	**Luwuk**	**8.46**	**195**	P	**Pn**	**14 50 30.2**	**+1.9**
APSI	**Ampana**	**8.68**	**202**	P	**Pn**	**14 50 33.0**	**+1.6**
	65nm,0.9s						
SANI	**Sanana**	**9.25**	**173**	P	**Pn**	**14 50 39.8**	**+0.5**
	34nm,0.8s						
SWI	**Sorong**	**10.22**	**141**	P	**Pn**	**14 50 55.0**	**+2.5**
NLAI	**Namlea**	**10.60**	**168**	P	**Pn**	**14 51 00.2**	**+2.5**
	1μm51nm,0.9s						
KAPI	**Kappang**	**13.17**	**203**	LR	LR	14 57 36.5	
	comp=Z,36nm,18.7s,baz=60,slow=42						
SOEI	**Soe**	**16.85**	**182**	Pn	**Pn**	**14 52 20.9**	**-1.1**
SOEI				IAmb	IAmb	14 52 42.5	
	comp=Z,36nm,1.0s						
JAY	**Jayapura**	**18.49**	**121**	LR	LR	14 59 14.6	
	comp=Z,93nm,21.4s,baz=20,slow=35						
GUMO	**Guam**	**20.64**	**70**	LR	LR	15 01 15.5	
	comp=Z,18nm,19.9s,baz=310,slow=37						
UBPT	**Khong Chiam**	**20.66**	**295**	P	**P**	**14 53 06.6**	**+0.8**
MTN	**Manton Dam**	**20.85**	**163**	P	**P**	**14 53 06.7**	**-1.2**
MTN				IAmb	IAmb	14 53 19.9	
	comp=Z,38nm,1.4s						
KNRA	**Kununurra**	**23.05**	**170**	P	**P**	**14 53 29.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**25.15**	**178**	P	**P**	**14 53 50.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**25.15**	**178**	P	**P**	**14 53 50.2**	**-0.9**
	comp=Z,12nm,0.7s,baz=28,slow=9.2,SNR=24						
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.62**	**296**	P	**P**	**14 54 16.4**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=112,slow=5.0,SNR=2.1						
COEN	**Coen**	**27.77**	**139**	P	**P**	**14 54 12.6**	**-2.2**
GSI	**Gunungsitoli**	**27.86**	**259**	P	**P**	**14 54 15.4**	**-0.3**
GSI				IAmb	IAmb	14 54 20.9	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**28.38**	**161**	P	**P**	**14 54 18.0**	**-2.2**
WRA	**Warramunga Arr**	**28.53**	**161**	P	**P**	**14 54 19.9**	**-1.7**
WRA	**Warramunga Arr**	**28.53**	**161**	P	**P**	**14 54 19.7**	**-1.9**
	comp=Z,1.7nm,0.8s,baz=330,slow=11,SNR=11						
	comp=Z,1.7nm,0.8s						
WB2	**Warramunga Arr**	**28.53**	**161**	P	**P**	**14 54 19.8**	**-1.8**
WB2				IAmb	IAmb	14 54 44.6	
	comp=Z,11nm,1.3s						
WR0	**Warramunga Arr**	**28.61**	**161**	P	**P**	**14 54 20.9**	**-1.4**
AS31	**Alice Springs**	**31.91**	**164**	P	**P**	**14 54 50.1**	**-1.4**
ASAR	**Alice Springs**	**31.91**	**164**	P	**P**	**14 54 50.8**	**-0.7**
ASAR	**Alice Springs**	**31.91**	**164**	P	**P**	**14 54 50.2**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=341,slow=7.0,SNR=61						
	comp=Z,0.9nm,0.5s						
MORW	**Morawa**	**37.05**	**193**	P	**P**	**14 55 34.6**	**-1.3**
MORW				IAmb	IAmb	14 55 43.3	
	comp=Z,9.6nm,1.2s						
XLT	**XiLinHaoTe**	**37.37**	**349**	*e*P	**P**	**14 55 39.0**	**+0.5**
XLT				pP	pP	14 55 43.6	+1.0
XLT				sP	sP	14 55 46.1	+1.9
XLT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**37.38**	**8**	P	**P**	**14 55 37.9**	**-0.6**
FORT	**Forrest**	**37.88**	**176**	P	**P**	**14 55 42.1**	**-0.8**
GTA	**Gaotai**	**39.20**	**329**	*e*P	P	14 56 00.2	+6.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BBOO	**Buckleboo**	**41.18**	**166**	P	**P**	**14 56 09.3**	**-1.1**
STKA	**Stephens Creek**	**42.00**	**159**	P	**P**	**14 56 16.3**	**-0.9**
STKA	**Stephens Creek**	**42.00**	**159**	P	**P**	**14 56 16.5**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=332,slow=8.5,SNR=19						
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**43.45**	**342**	P	**P**	**14 56 29.0**	**0.0**
SONM	**Songino Array**	**43.45**	**342**	P	**P**	**14 56 28.7**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=160,slow=8.1,SNR=12						
	comp=Z,1.9nm,0.9s						
CAN	**Canberra**	**48.01**	**153**	P	**P**	**14 57 03.7**	**-1.4**
TOO	**Toolangi**	**48.52**	**158**	P	**P**	**14 57 08.7**	**-0.1**
TOO				IAmb	IAmb	14 57 38.1	
	comp=Z,6.3nm,1.4s						
PETK	**Petropavlovsk-**	**52.98**	**24**	P	**P**	**14 57 43.0**	**+0.7**
PETK	**Petropavlovsk-**	**52.98**	**24**	P	**P**	**14 57 41.4**	**-0.9**
	comp=Z,6.0nm,1.0s,baz=214,slow=6.2,SNR=3.7						
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array**	**53.69**	**325**	P	**P**	**14 57 47.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=129,slow=8.2,SNR=7.1						
	comp=Z,0.6nm,0.7s						
MAKZ	**Makanchi**	**53.87**	**325**	P	**P**	**14 57 48.9**	**-0.2**
MAKZ				IAmb	IAmb	14 57 55.2	
	comp=Z,3.4nm,0.9s						
KURBB	**Kurchatov Arra**	**57.85**	**327**	P	**P**	**14 58 18.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=129,slow=5.8,SNR=1.4						
GAR	**Garm**	**58.26**	**312**	P	**P**	**14 58 21.0**	**+0.3**
KK31	**Karatay Array**	**59.47**	**316**	P	**P**	**14 58 28.8**	**-0.2**
KK31				IAmb	IAmb	14 58 34.4	
	comp=Z,2.3nm,0.8s						
KKAR	**Karatay Array**	**59.47**	**316**	P	**P**	**14 58 29.0**	**+0.1**
BVAR	**Borovoye Array**	**63.44**	**327**	P	**P**	**14 58 56.0**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=123,slow=7.3,SNR=7.4						
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**63.51**	**327**	P	**P**	**14 58 55.8**	**-0.2**
BRVK				IAmb	IAmb	14 59 23.4	
	comp=Z,3.3nm,1.1s						
ABKAR	**Akbulak array**	**68.33**	**320**	P	**P**	**14 59 26.5**	**-0.6**
C18K	**Utukok River**	**77.50**	**21**	P	**P**	**15 00 20.5**	**-0.6**
D19K	**Kuna River**	**78.58**	**22**	P	**P**	**15 00 26.1**	**-1.0**
D19K				IAmb	IAmb	15 00 56.7	
	comp=Z,7.3nm,1.4s						
H19K	**Roundabout Mou**	**78.79**	**25**	P	**P**	**15 00 28.2**	**-0.1**
H19K				IAmb	IAmb	15 00 49.0	
	comp=Z,8.1nm,1.4s						
B20K	**Meade River**	**79.16**	**20**	P	**P**	**15 00 29.7**	**-0.5**
B20K				IAmb	IAmb	15 00 36.0	
	comp=Z,4.1nm,0.9s						
KBZ	**Khabaz**	**79.29**	**313**	P	**P**	**15 00 33.1**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=126,slow=8.7,SNR=2.9						
	comp=Z,1.3nm,0.9s						
B21K	**Ikpikpuk River**	**79.98**	**21**	P	**P**	**15 00 34.8**	**0.0**
B21K				IAmb	IAmb	15 00 40.9	
	comp=Z,4.6nm,0.8s						
E21K	**Killik River**	**80.08**	**22**	P	**P**	**15 00 34.8**	**-0.6**
E21K				IAmb	IAmb	15 00 49.3	
	comp=Z,6.1nm,1.4s						
PPLA	**Purkeypile**	**80.40**	**27**	P	**P**	**15 00 37.7**	**+0.3**
B22K	**Teshekpuk Lake**	**80.46**	**20**	P	**P**	**15 00 37.2**	**-0.1**
B22K				IAmb	IAmb	15 00 43.0	
	comp=Z,5.3nm,1.0s						
BPAW	**Bear Paw Mtn.**	**81.00**	**26**	P	**P**	**15 00 39.7**	**-0.6**
BPAW				IAmb	IAmb	15 00 46.0	
	comp=Z,5.5nm,1.1s						
SLKM	**Skilak Lake**	**81.26**	**30**	P	**P**	**15 00 41.7**	**-0.1**
C23K	**Itkillik River**	**81.39**	**20**	P	**P**	**15 00 41.9**	**-0.4**
C23K				IAmb	IAmb	15 01 16.4	
	comp=Z,9.0nm,1.4s						
TOLK	**Toolik Lake Re**	**81.71**	**22**	P	**P**	**15 00 44.4**	**+0.3**
TOLK				IAmb	IAmb	15 00 57.7	
	comp=Z,4.8nm,1.3s						
I23K	**Minto, Yukon-K**	**81.72**	**25**	P	**P**	**15 00 44.2**	**+0.1**
I23K				IAmb	IAmb	15 01 03.7	
	comp=Z,6.7nm,1.1s						
MCK	**McKinley**	**81.90**	**27**	P	**P**	**15 00 44.3**	**-0.9**
D24K	**Happy Valley**	**82.00**	**21**	P	**P**	**15 00 45.2**	**-0.3**
D24K				IAmb	IAmb	15 00 51.5	
	comp=Z,4.5nm,1.0s						
C24K	**Franklin Bluff**	**82.05**	**21**	P	**P**	**15 00 45.4**	**-0.3**
C24K				IAmb	IAmb	15 00 55.2	
	comp=Z,6.3nm,1.4s						
ILAR	**Eielson Array**	**82.78**	**26**	P	**P**	**15 00 48.4**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=250,slow=3.8,SNR=5.3						
	comp=Z,0.3nm,0.7s						
D25K	**Kavik River**	**82.87**	**21**	P	**P**	**15 00 49.9**	**-0.2**
E25K	**Arctic Village**	**83.20**	**22**	P	**P**	**15 00 50.8**	**-1.0**
BMAR	**Burnt Mountain**	**83.61**	**23**	P	**P**	**15 00 54.3**	**+0.3**
C27K	**Jago River**	**83.79**	**21**	P	**P**	**15 00 55.1**	**+0.2**
E27K	**Coleen River**	**84.68**	**22**	P	**P**	**15 00 58.7**	**-0.7**
E27K				IAmb	IAmb	15 01 05.1	
	comp=Z,5.3nm,1.2s						
BCAR	**Beaver Creek A**	**85.14**	**27**	P	**P**	**15 01 01.7**	**-0.2**
E28M	**Babbage River**	**85.39**	**21**	P	**P**	**15 01 02.8**	**-0.1**
I28M	**Miner Creek**	**85.66**	**25**	P	**P**	**15 01 04.4**	**0.0**
I28M				IAmb	IAmb	15 01 13.3	
	comp=Z,3.0nm,0.7s						
H29M	**Whitestone**	**86.18**	**24**	P	**P**	**15 01 06.0**	**-0.9**
H29M				IAmb	IAmb	15 01 16.0	
	comp=Z,3.8nm,1.0s						
G29M	**Pine Creek**	**86.21**	**23**	P	**P**	**15 01 06.0**	**-1.0**
G29M				IAmb	IAmb	15 01 16.0	
	comp=Z,3.5nm,0.9s						
BRTR	**Keskin Array B**	**86.42**	**309**	P	**P**	**15 01 09.2**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=97,slow=3.6,SNR=1.8						
	comp=Z,0.5nm,0.8s						

WEL 08 14:52:03.9±1.2, 34°S±23°×17°9W±3°0, h261km±31km, mB4.2/2, mL4.1/11, MLv3.7/8, Mw(mB)3.2/2, Error ellipse: s-maj=44.3km s-min=19.8km az=123.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.93**	**209**	P	Pn	14 53 08.0	+0.6
MXZ				S	S	14 53 57.5	-0.5
WMGZ	**Waiomatatini S**	**4.12**	**206**	P	Pn	14 53 10.6	+1.1
WMGZ				S	S	14 54 02.2	+0.4
PKGZ	**Pakihiroa**	**4.29**	**209**	P	Pn	14 53 10.6	-0.9
PKGZ				S	S	14 54 06.3	+0.8
HAZ	**Te Kaha**	**4.32**	**212**	P	Pn	14 53 10.9	-0.9
PUZ	**Puketiti**	**4.40**	**206**	P	Pn	14 53 11.4	-1.4
PUZ				S	S	14 54 07.5	-0.3
RUGZ	**Raukumara Rang**	**4.54**	**212**	P	Pn	14 53 15.1	+0.5
TWGZ	**Tauwhareparae**	**4.59**	**208**	P	Pn	14 53 17.3	+2.1
TWGZ				S	S	14 54 13.3	+1.2
CNGZ	**Carnagh Statio**	**4.79**	**204**	P	Pn	14 53 17.1	-0.3
MYRZ	**Mayor Island**	**4.79**	**228**	P	Pn	14 53 19.2	+1.7
MWZ	**Matawai**	**4.91**	**210**	P	Pn	14 53 17.1	-1.9
MWZ				S	S	14 54 18.6	-0.4
URZ	**Urewera**	**5.04**	**214**	P	Pn	14 53 18.9	-1.5
URZ				S	S	14 54 20.6	-0.9
RIGZ	**Rimuhau**	**5.14**	**206**	P	Pn	14 53 22.4	+0.7
RIGZ				S	S	14 54 25.6	+1.7
MUGZ	**Murupara**	**5.37**	**215**	P	Pn	14 53 24.7	+0.2
SNGZ	**Shannon Statio**	**5.37**	**209**	P	Pn	14 53 24.1	-0.4
SNGZ				S	S	14 54 29.4	+0.5
RTZ	**Ruatahuna**	**5.38**	**213**	P	Pn	14 53 25.5	+0.8
KNZ	**Kokohu**	**5.45**	**206**	P	Pn	14 53 25.4	0.0
RAHZ	**Arahi**	**5.59**	**210**	P	Pn	14 53 27.2	+0.1
RAHZ				S	S	14 54 34.5	+0.7
MTHZ	**Maungataniwha**	**5.64**	**212**	P	Pn	14 53 29.0	+1.1
BKZ	**Black Stump Fm**	**6.05**	**213**	P	Pn	14 53 30.8	-2.1

*IDC **08** 14:54:52.4±1.9, 6°50S×130°61E, h0km, mb3.7/2, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=73.3km s-min=27.5km az=72.0*

*NEIC **08** 14:55:05.5±2.4, 6°70S±0°04×130°4E±0°1, h137km±14km, mb4.2/6, Error ellipse: s-maj=16.6km s-min=4.2km az=80.0*

*DJA **08** 14:55:06.3±0.4, 7°S±3°×13°0E±°, h105km±16km, M4.5/12, mB4.8/1, mb4.4/6, MLv4.5/12, Mw(mB)4.0/1*

ISC 08 14:55:05.2±0.7, 6.74S±0°05×130°4E±0°06, h150km, n51, σ2°82/54, mb4.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.48**	**147**	Pn	**Pn**	**14 55 35.3**	**+0.8**
SAUI					**Sn**	**14 55 56.7**	**-0.3**
SAUI	**Saumlaki**	**1.48**	**147**	P	**Pn**	**14 55 32.9**	**-1.6**
SAUI				S	**Sn**	**14 55 55.7**	**-1.3**
BNDI	**Bandanaira**	**2.27**	**345**	P	**Pn**	**14 55 42.2**	**-1.4**
FAKI	**Fak Fak**	**4.17**	**25**	Pn	**Pn**	**14 56 07.9**	**+0.1**
FAKI				Sn	**Sn**	**14 56 53.8**	**-2.7**
FAKI	**Fak Fak**	**4.17**	**25**	P	**Pn**	**14 56 07.9**	**+0.1**
FAKI	**Fak Fak**	**4.17**	**25**	S	**Sn**	**14 56 53.8**	**-2.7**
FAKI	**Fak Fak**	**4.17**	**25**	P	**Pn**	**14 56 07.7**	**-0.1**
KMPI	**Kaimana, Papua**	**4.42**	**47**	P	**Pn**	**14 56 11.9**	**+0.9**
NLAI	**Namlea**	**4.84**	**316**	P	**Pn**	**14 56 16.5**	**-0.1**
DRS	**Darwin Rock St**	**5.67**	**176**	S	**Sn**	**14 57 27.3**	**-4.7**
SWI	**Sorong**	**5.88**	**8**	P	**Pn**	**14 56 30.2**	**-0.2**
	0.6nm16nm,0.6s						
MTN	**Manton Dam**	**6.10**	**174**		**Pn**	**14 56 33.0**	**-0.3**
MTN				Sn	**Sn**	**14 57 39.7**	**-2.6**
MTN	**Manton Dam**	**6.10**	**174**	P	**Pn**	**14 56 33.0**	**-0.3**
MTN	**Manton Dam**	**6.10**	**174**	S	**Sn**	**14 57 38.8**	**-3.5**
KDU	**Kakadu**	**6.23**	**162**	P	**Pn**	**14 56 34.5**	**-0.5**
KDU	**Kakadu**	**6.23**	**162**	S	**Sn**	**14 57 40.3**	**-5.0**
SOEI	**Soe**	**6.85**	**244**		**Pn**	**14 56 43.1**	**-0.4**
SOEI	**Soe**	**6.85**	**244**	P	**Pn**	**14 56 43.8**	**+0.4**
SOEI	**Soe**	**6.85**	**244**	S	**Sn**	**14 57 58.4**	**-2.0**
SOEI	**Soe**	**6.85**	**244**	P	**Pn**	**14 56 43.6**	**+0.2**
	0.2nm43nm,0.5s						
BAKI	**Biak**	**7.85**	**46**	P	**Pn**	**14 56 59.8**	**+3.1**
KNRA	**Kununurra**	**9.05**	**191**	Pn	**Pn**	**14 57 11.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**12.24**	**202**	Pn	**Pn**	**14 57 52.2**	**-2.5**
FITZ	**Fitzroy Crossi**	**12.24**	**202**	Pn	**Pn**	**14 57 52.1**	**-2.6**
	1.3nm,0.3s,baz=23,slow=9.7,SNR=33						
FITZ				Sn	Sn	14 59 57.1	-13
	1.6nm,0.3s,baz=56,slow=6.2,SNR=9.4						
	3.2nm,0.3s						
PLAI	**Plampang**	**12.77**	**260**	P	**Pn**	**14 58 03.4**	**+1.9**
WB0	**Warramunga Arr**	**13.50**	**164**	Pn	**Pn**	**14 58 08.8**	**-2.1**
WRAB	**Tennant Creek**	**13.64**	**164**	Pn	**Pn**	**14 58 10.3**	**-2.3**
WRA	**Warramunga Arr**	**13.65**	**164**	Pn	Pn	14 58 08.5	-4.3
WRA	**Warramunga Arr**	**13.65**	**164**	Pn	**Pn**	**14 58 11.0**	**-1.7**
	0.5nm,0.3s,baz=347,slow=13,SNR=16						
WRA				Sn	Sn	15 00 30.8	-13
	1.3nm,0.3s,baz=327,slow=24,SNR=13						
	0.5nm,0.3s						
WB2	**Warramunga Arr**	**13.65**	**164**	Pn	**Pn**	**14 58 09.6**	**-3.2**
WR8	**Warramunga Arr**	**13.71**	**164**	Pn	**Pn**	**14 58 10.9**	**-2.6**
WR0	**Warramunga Arr**	**13.72**	**164**	Pn	**Pn**	**14 58 11.7**	**-1.9**
COEN	**Coen**	**14.39**	**121**	P	**P**	**14 58 25.4**	**+0.7**
COEN	**Coen**	**14.39**	**121**	P	**P**	**14 58 25.5**	**+0.7**
AS31	**Alice Springs**	**17.15**	**169**	P	**P**	**14 58 55.7**	**+0.4**
ASAR	**Alice Springs**	**17.15**	**169**	P	**P**	**14 58 56.2**	**+1.0**
ASAR	**Alice Springs**	**17.15**	**169**	P	**Pn**	**14 58 57.0**	**+1.1**
	0.3nm,0.3s,baz=348,slow=12,SNR=23						
ASAR				S	**S**	**15 01 59.0**	**-7.5**
	1.0nm,0.5s,baz=325,slow=19,SNR=9.6						
	1.3nm,0.5s						
AS01	**Alice Springs**	**17.16**	**169**	P	**Pn**	**14 58 58.9**	**+2.8**
MBWA	**Marble Bar**	**17.72**	**215**	P	**P**	**14 59 01.9**	**+0.4**
MBWA				IAmb	IAmb	14 59 13.7	
	comp=Z,16nm,1.2s						
PSA00	**Pilbara Seismi**	**17.99**	**214**	P	**P**	**14 59 04.2**	**-0.2**
PSA00				IAmb	IAmb	14 59 15.6	
	comp=Z,4.2nm,0.9s						
WRKA	**Warakurna**	**18.32**	**186**	P	**Pn**	**14 59 11.8**	**+1.9**
OOD	**Oodnadatta**	**21.52**	**167**	P	**P**	**14 59 46.8**	**+4.4**
FORT	**Forrest**	**24.03**	**185**	P	**P**	**15 00 09.8**	**+3.5**
FORT				IAmb	IAmb	15 00 24.9	
	comp=Z,11nm,1.0s						
FORT	**Forrest**	**24.03**	**185**	P	**P**	**15 00 10.8**	**+4.5**
LCRK	**Leigh Creek**	**24.68**	**164**	P	**P**	**15 00 17.7**	**+5.4**
BBOO	**Buckleboo**	**26.46**	**169**	P	**P**	**15 00 31.9**	**+3.6**
BBOO				IAmb	IAmb	15 00 56.5	
	comp=Z,15nm,1.5s						
BBOO	**Buckleboo**	**26.46**	**169**	P	**P**	**15 00 34.2**	**+5.9**
STKA	**Stephens Creek**	**27.08**	**159**	P	**P**	**15 00 37.7**	**+3.8**
STKA	**Stephens Creek**	**27.08**	**159**	P	**P**	**15 00 37.8**	**+4.0**
	comp=Z,0.9nm,0.3s,baz=350,slow=6.9,SNR=7.0						
	comp=Z,0.9nm,0.3s						
STKA	**Stephens Creek**	**27.08**	**159**	P	**P**	**15 00 38.4**	**+4.5**
MKAR	**Makanchi Array**	**68.27**	**327**	P	P	15 05 54.6	+4.7
	comp=Z,0.2nm,0.6s,baz=120,slow=7.6,SNR=2.7						
	comp=Z,0.2nm,0.6s						

*NEIC **08** 15:06:12.6±1.9, 10°38N±0°07×126°01E±0°09, h30km±1km, mb6.0/395, Ms_20 5.7/722, Mwb6.0/68, Mww6.0/51, Error ellipse: s-maj=14.4km s-min=11.6km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.16; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-1.38; $M_{r\theta}$0.21; $M_{r\phi}$0.16; $M_{\theta\phi}$0.37; Fault plane solution: $M_0$1.36000×10^{18} NP1:ϕ_s7.13000°, δ54.11000°, λ106.29000°. NP2:ϕ_s160.63000°, δ38.95000°, λ68.81000°. Principal axes: T 1.2616, Plg75.0000°, Azm326.0000°; N 0.1842, Plg13.0000°, Azm177.0000°; P -1.4457, Plg8.0000°, Azm86.0000°;*

*IDC **08** 15:06:12.4±1.5, 10°31N×125°93E, h29km±9km, mb5.4/34, mbtmp5.5/35, ML4.7/1, MS5.5/78 Error ellipse: s-maj=13.7km s-min=7.1km az=67.0*

*MAN **08** 15:06:12.5, 10°38N×126°19E, h23km, mb6.3, ML5.4, MS6.0*

MAN INTENSITY V - SURIGAO CITY; ALEGRIA BACUAG BURGOS CLAVER DAPA GENERAL LUNA GIGAQUIT PILAR PLACER & SAN BENITO SURIGAO DEL NORTE; SAN JOSE DINAGAT ISLANDS; INTENSITY IV - BUTUAN CITY; TACLOBAN CITY; ABUYOG AND PALO LEYTE; ANAHAWAN HINUNANGAN HINUNDAYAN LIMASAWA SAINT BERNARD SAN FRANCISCO SAN JUAN AND SAN RICARDO ; SOUTHERN LEYTE; MALIMONO SURIGAO DEL NORTE; SAN FRANCISCO AGUSAN DEL SUR; INTENSITY III - GINGOOG CITY MISAMIS ORIENTAL; TANDAG CITY SURIGAO DEL SUR; SALCEDO EASTERN SAMAR; INTENSITY II - CAGAYAN DE ORO CITY; ORMOC CITY; BISLIG CITY SURIGAO DEL SUR; MAHINOG AND MAMBAJAO CAMIGUIN; INTENSITY I - DAVAO CITY.

*BJI **08** 15:06:12.3, 10°45N×126°10E, h30km, mB6.0/80, mb5.7/94, Ms6.0/99, Ms7 5.7/99*

*MOS **08** 15:06:12.3±0.9, 10°42N×125°84E, h40km, mb6.0/84, MS5.7/28, Error ellipse: s-maj=7.5km s-min=3.9km az=114.5*

*NEIC **08** 15:06:13.6, 10°39N×126°07E, h36km*

*NEIC **08** 15:06:13.6, 10°39N×126°27E, h36km, Moment Tensor Solution. Duration: 4s7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.92; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-1.12; $M_{r\theta}$0.35; $M_{r\phi}$0.23; $M_{\theta\phi}$0.29; Fault plane solution: $M_0$1.15000×10^{18} NP1: ϕ_s147.49000°, δ43.98000°, λ54.19000°. NP2:ϕ_s12.56000°, δ55.73000°, λ119.45000°. Principal axes: T 1.1188, Plg65.0000°, Azm338.0000°; N 0.0694, Plg24.0000°, Azm175.0000°; P -1.1882, Plg6.0000°, Azm82.0000°;*

*NEIC **08** 15:06:13.9, 10°38N×126°07E, h32km*

*GCMT **08** 15:06:15.6±0.1, 10°35N×126°20E, h43km, MW6.1/170, Moment Tensor Solution. s170,c389; s165,c560; Duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}1.31±.01; $M_{\theta\theta}$0.17±.01; $M_{\phi\phi}$-1.47±.01; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$0.19±.01; $M_{r\phi}$0.56±.01; Best double couple: $M_0$1.53100×10^{18} NP1:ϕ_s160.00000°, δ36.00000°, λ69.00000°. NP2:ϕ_s5.00000°, δ57.00000°, λ104.00000°. Principal axes: T 1.4710, Plg74.0000°, Azm315.0000°; N 0.1260, Plg12.0000°, Azm177.0000°; P -1.5920, Plg11.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*RSNC **08** 15:06:16.5±0.3, 10°N±6°×12°6E±°, h54km, MLv4.0, MwMwp6.0, Mwp5.3*

*IPGP **08** 15:06:16.0, 10°39N×126°08E, h36km, Mw6.1, Fault plane solution: NP1:ϕ_s184.00000°, δ34.00000°, λ78.00000°. NP2:ϕ_s18.00000°, δ57.00000°, λ98.00000°.*

*DJA **08** 15:06:17.6±0.3, 10°N±2°×12°6E±°, h74km±3km, M6.0/102, mB6.4/100, mb5.9/102, MLv7.1/4, Mw(mB)6.1/100, MwMwp5.9/91, Mwp5.9/91*

ISC 08 15:06:14.0±0.3, 10°41N±0°02×126°02E±0°03, h41km±1km, h41km:pP-P, n2086, σ1°75/2098, mb5.9/445, MS5.7/512, 192C-23D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.35**	**187**	Pn	**Pn**	**15 07 03.2**	**-0.6**
DAV	**Davao City (W)**	**3.35**	**187**	Pn	**Pn**	**15 07 07.0**	**+3.2**
	2μm,0.3s,baz=33,slow=2.7,SNR=47						
DAV				Lg	Lg	15 07 53.2	
	786nm,0.3s,baz=346,slow=19,SNR=5.9						
DAV				LR	LR	15 08 46.5	
	comp=Z,249μm,19.7s,baz=32,slow=48						
DAV	**Davao City (W)**	**3.35**	**187**	P	**Pn**	**15 07 07.8**	**+4.0**
DAV				S	**Sn**	**15 07 43.9**	**+1.5**
DAV	**Davao City (W)**	**3.35**	**187**	P	**Pn**	**15 07 08.0**	**+4.2**
DAV	**Davao City (W)**	**3.35**	**187**	⇑P	**Pn**	**15 07 06.9**	**+3.1**
DAV	**Davao City (W)**

KDI	**Kendari**	**14.67 194**	P	**P**	**15 09 43.0**	**-1.4**
TTSI	**Tana Toraja**	**14.72 205**	P	**P**	**15 09 43.4**	**-1.6**
27μm16μm1μm,1.2s						
BKB	**Balikpapan**	**14.72 219**	P	**Pn**	**15 09 40.8**	**+1.2**
BKB	**Balikpapan**	**14.72 219**	P	**P**	**15 09 42.2**	**-2.9**
25μm1μm,1.3s						
BKB	**Balikpapan**	**14.72 219**	⇑P	**P**	**15 09 42.9**	**-2.2**
YHNB	**Yeheng**	**14.85 343**	P	**P**	**15 09 45.1**	**-1.4**
YHNB	**Yeheng**	**14.85 343**	P	**P**	**15 09 46.7**	**+0.2**
TATO	**Taipei**	**15.11 344**	P	**P**	**15 09 50.6**	**+1.3**
TATO	**Taipei**	**15.11 344**	P	**Pn**	**15 09 45.1**	**+0.4**
TATO			S	**S**	**15 12 42.3**	**-4.5**
TATO	**Taipei**	**15.11 344**	P	**P**	**15 09 49.5**	**+0.2**
BAKI	**Biak**	**15.29 138**	P	**Pn**	**15 09 48.6**	**+1.5**
47μm20μm1μm,1.9s						
BNDI	**Bandanaira**	**15.33 165**	P	**P**	**15 09 50.7**	**-1.1**
BNDI	**Bandanaira**	**15.33 165**	P	**P**	**15 09 50.5**	**-1.3**
21μm880nm,1.7s						
SPSI	**Sidrap Palu**	**15.58 204**	P	**P**	**15 09 53.5**	**-1.0**
35μm25μm732nm,1.0s						
KNMB	**Chin-men Tao**	**15.75 334**	P	**P**	**15 09 55.1**	**-1.3**
SBUM	**Sibu**	**15.82 241**	P	**Pn**	**15 09 55.1**	**+1.2**
SBUM	**Sibu**	**15.82 241**	P	**P**	**15 09 57.0**	**-0.2**
SBUM	**Sibu**	**15.82 241**	⇑P	**P**	**15 09 56.6**	**-0.7**
SRPI	**Serui, Papua**	**15.89 140**	P	**Pn**	**15 09 55.3**	**+0.5**
27μm379nm,0.8s						
KMPI	**Kaimana, Papua**	**15.94 151**	P	**Pn**	**15 09 55.7**	**+0.2**
27μm19μm1μm,1.5s						
QZH	**Quanzhou**	**16.08 335**	⇑*i*P	**Pn**	**15 09 56.7**	**-0.5**
QZH			S	**Sn**	**15 12 49.7**	**-4.9**
QZH			pmax	pmax		
comp=Z,460nm,0.9s						
QZH			pmax	pmax		
comp=Z,8μm,5.5s						
QZH			LR	LR		
comp=N,28μm,18.9s						
QZH			LR	LR		
comp=E,13μm,18.2s						
QZH			LR	LR		
comp=Z,45μm,18.9s						
BBSI	**Bau Bau**	**16.16 192**	P	**P**	**15 10 01.2**	**+0.2**
428nm,1.1s						
HKC	**Hong Kong Obse**	**16.39 318**	⇑P	**Pn**	**15 10 02.0**	**+0.9**
HKPS	**Hong Kong Po S**	**16.39 318**	P	**P**	**15 10 06.0**	**+2.5**
JOW	**Kunigami**	**16.47 7**	P	**P**	**15 10 06.7**	**+2.3**
JOW	**Kunigami**	**16.47 7**	Pn	**P**	**15 10 05.7**	**+1.2**
7.4nm,0.3s,baz=186,slow=13,SNR=4.7						
JOW			Sn	**S**	**15 13 11.0**	**-3.7**
2.7nm,0.3s,baz=104,slow=22,SNR=1.1						
JOW			LR	LR	15 15 34.0	
comp=Z,26μm,22.0s,baz=169,slow=34						
JOW	**Kunigami**	**16.47 7**	P	**P**	**15 10 07.1**	**+2.7**
JOW	**Kunigami**	**16.47 7**	⇑P	**P**	**15 10 05.3**	**+0.9**
KAPI	**Kappang**	**16.55 202**		**Pn**	**15 10 02.5**	**-0.7**
KAPI	**Kappang**	**16.55 202**	Pn	**Pn**	**15 10 03.3**	**+0.1**
1.1nm,0.3s,baz=12,slow=11,SNR=26						
KAPI			Sn	**Sn**	**15 13 03.1**	**-2.9**
4.3nm,0.3s,baz=198,slow=13,SNR=1.5						
KAPI			LR	LR	15 16 33.8	
comp=Z,28μm,21.9s,baz=11,slow=38						
KAPI	**Kappang**	**16.55 202**	P	**P**	**15 10 04.2**	**-1.1**
KAPI			P	**P**	**15 10 04.2**	**-1.1**
KAPI			S	**Sn**	**15 13 08.2**	**+2.2**
KAPI			S	**Sn**	**15 13 08.2**	**+2.2**
KAPI	**Kappang**	**16.55 202**	P	**P**	**15 10 05.5**	**+0.2**
KAPI	**Kappang**	**16.55 202**	*c i*P	**Pn**	**15 10 03.5**	**+0.3**
KAPI			pmax	pmax		
comp=Z,752nm,1.1s						
KAPI	**Kappang**	**16.55 202**	⇑P	**P**	**15 10 04.0**	**-1.3**
MCO	**Taipa Grande**	**16.68 316**	P	**P**	**15 10 06.0**	**-0.7**
BKSI	**Bulukumba**	**16.70 201**	P	**P**	**15 10 06.0**	**-0.9**
comp=Z,28μmcomp=Z,16μmcomp=Z,554nm,1.6s						
DLV	**Lat**	**17.27 277**	P	**P**	**15 10 15.1**	**+1.6**
DLV	**Lat**	**17.27 277**	⇑P	**P**	**15 10 16.1**	**+2.6**
BSSI	**Bau Bau, Buton**	**17.34 199**	P	**P**	**15 10 15.2**	**+1.1**
GZH	**Guangzhou**	**17.48 318**	P	**P**	**15 10 16.8**	**+1.2**
GZH			pP	**pP**	**15 10 26.0**	**+0.4**
GZH			S	**S**	**15 13 36.3**	**+1.1**
GZH			pmax	pmax		
comp=Z,250nm,1.2s						
GZH			pmax	pmax		
comp=Z,13μm,7.5s						
GZH			LR	LR		
comp=Z,51μm,19.8s						
GZH			LR	LR		
comp=Z,36μm,20.0s						
GZH			LR	LR		
comp=Z,81μm,19.8s						
SMPI	**Sarmi**	**17.65 134**	P	**P**	**15 10 17.1**	**-0.4**
comp=Z,23μmcomp=Z,1μm,1.3s						
STKI	**Sintang**	**17.74 235**	P	**P**	**15 10 20.6**	**+2.1**
comp=Z,35μmcomp=Z,872nm,1.4s						
QIZ	**Qiongzhong**	**17.82 301**	P	**P**	**15 10 20.9**	**+1.5**
QIZ			pP	**sP**	**15 10 32.4**	**-2.2**
QIZ			S	**Sn**	**15 13 39.1**	**+2.2**
QIZ			pmax	pmax		
comp=Z,250nm,2.1s						
QIZ			pmax	pmax		
comp=Z,14μm,4.2s						
QIZ			LR	LR		
comp=Z,19μm,18.5s						
QIZ			LR	LR		
comp=Z,29μm,19.0s						
QIZ			LR	LR		
comp=Z,45μm,19.7s						
QIZ	**Qiongzhong**	**17.82 301**	P	**P**	**15 10 22.4**	**+3.0**
KSM	**Kuching**	**17.96 241**	P	**P**	**15 10 23.7**	**+2.8**
KSM	**Kuching**	**17.96 241**	⇑P	**P**	**15 10 22.6**	**+1.7**
GUMO	**Guam**	**18.71 78**	P	**Pn**	**15 10 33.9**	**+4.0**
comp=Z,338nm,1.1s,baz=148,slow=5.2,SNR=6.5						
GUMO			S	**Sn**	**15 13 57.5**	**-0.8**
comp=Z,31nm,0.7s,baz=86,slow=15,SNR=1.2						
GUMO			LR	LR	15 16 14.9	
comp=Z,13μm,19.8s,baz=284,slow=32						
SAUI	**Saumlaki**	**19.01 164**	P	**P**	**15 10 32.1**	**-0.4**
SAUI			IAmb	IAmb	15 10 42.2	
comp=Z,1μm,1.2s						
SAUI	**Saumlaki**	**19.01 164**	P	**Pn**	**15 10 36.0**	**+2.5**
SAUI	**Saumlaki**	**19.01 164**	S	**Sn**	**15 14 05.5**	**-0.2**
SAUI	**Saumlaki**	**19.01 164**	P	**Pn**	**15 10 34.1**	**+0.6**
comp=Z,17μmcomp=Z,20μmcomp=Z,915nm,0.8s						
GENI	**Genyem**	**19.11 132**	P	**Pn**	**15 10 36.4**	**+1.6**
GENI	**Genyem**	**19.11 132**	P	**Pn**	**15 10 36.1**	**+1.3**
comp=Z,37μmcomp=Z,2μm,1.5s						
GENI	**Genyem**	**19.11 132**	⇑P	**Pn**	**15 10 35.1**	**+0.4**
MMRI	**Maumere**	**19.29 191**	P	**Pn**	**15 10 37.5**	**+0.6**
MMRI	**Maumere**	**19.29 191**	P	**Pn**	**15 10 37.1**	**+0.2**
comp=Z,22μmcomp=Z,15μmcomp=Z,903nm,0.9s						
MMRI	**Maumere**	**19.29 191**	⇑P	**P**	**15 10 35.1**	**-0.4**
JAY	**Jayapura**	**19.46 131**	P	**Pn**	**15 10 38.4**	**-0.5**
comp=Z,2.4nm,0.3s,baz=270,slow=6.7,SNR=21						
JAY			S	**S**	**15 14 12.2**	**-3.3**
comp=Z,19nm,1.0s,baz=3.8,slow=21,SNR=1.2						
JAY			LR	LR	15 17 38.8	
comp=Z,34μm,19.4s,baz=330,slow=35						
comp=Z,122nm,0.9s						
JAY	**Jayapura**	**19.46 131**	P	**P**	**15 10 38.0**	**+0.5**
comp=Z,10μmcomp=Z,888nm,1.0s						
SOEI	**Soe**	**20.11 185**	P	**P**	**15 10 43.2**	**-1.4**
SOEI			S	**S**	**15 14 23.7**	**-4.8**
SOEI	**Soe**	**20.11 185**	P	Pn	15 10 46.4	-0.3
SOEI	**Soe**	**20.11 185**	P	Pn	15 10 46.0	-0.7
comp=Z,27μmcomp=Z,29μmcomp=Z,2μm,1.0s						
SOEI	**Soe**	**20.11 185**	⇑P	**P**	**15 10 44.4**	**-0.2**
PLAI	**Plampang**	**20.80 204**	P	Pn	15 10 54.9	+0.3
PLAI	**Plampang**	**20.80 204**	S	**S**	**15 14 41.6**	**-0.4**
PLAI	**Plampang**	**20.80 204**	P	Pn	15 10 53.9	-0.7
comp=Z,17μmcomp=Z,12μmcomp=Z,543nm,1.0s						
GULI	**GuiLin**	**20.96 317**	P	Pn	15 10 55.3	-1.2
GULI			S	**S**	**15 14 45.5**	**+0.3**
GULI			pmax	pmax		
comp=Z,160nm,2.0s						
GULI			LR	LR		
comp=Z,19μm,22.7s						
GULI			LR	LR		
comp=Z,22μm,23.7s						
GULI			LR	LR		
comp=Z,43μm,24.1s						
WBSI	**Waikabubak, Su**	**20.98 199**	P	Pn	15 10 56.8	0.0
comp=Z,12μmcomp=Z,638nm,1.1s						
SSE	**Sheshan**	**21.07 348**	P	**P**	**15 10 56.7**	**+2.0**
SSE			S	**S**	**15 14 49.3**	**+2.2**
SSE			pmax	pmax		
comp=Z,330nm,1.1s						
SSE			pmax	pmax		
comp=Z,4μm,3.5s						
TWSI	**Taliwang, Sumb**	**21.08 206**	P	**P**	**15 10 56.7**	**+1.7**
comp=Z,15μmcomp=Z,10μmcomp=Z,676nm,1.1s						
KMMI	**Kalianget**	**21.09 215**	P	**P**	**15 10 56.7**	**+1.6**
comp=Z,27μmcomp=Z,22μmcomp=Z,879nm,1.1s						
BASI	**Baing, Sumba**	**21.20 195**	P	**P**	**15 10 58.9**	**+2.7**
comp=Z,11μmcomp=Z,398nm,1.2s						
SRBI	**Singaraja**	**21.29 211**	P	**P**	**15 10 59.0**	**+1.8**
comp=Z,16μmcomp=Z,9μmcomp=Z,463nm,1.1s						
JSU	**Suzuyama**	**21.39 10**	P	**P**	**15 11 00.3**	**+2.1**
CNSH	**ChangSha**	**21.53 327**	P	**P**	**15 11 00.2**	**+0.5**
CNSH			S	**S**	**15 14 59.5**	**+3.2**
CNSH			pmax	pmax		
comp=Z,100nm,2.2s						
CNSH			LR	LR		
comp=Z,11μm,19.2s						
CNSH			LR	LR		
comp=Z,20μm,17.7s						
CNSH			LR	LR		
comp=Z,23μm,17.2s						
ABJI	**Asem Bagus**	**21.56 213**	P	**P**	**15 11 01.8**	**+1.7**
comp=Z,18μmcomp=Z,11μmcomp=Z,408nm,1.2s						
DNP	**Denpasar**	**21.80 210**	P	**P**	**15 11 05.6**	**+2.9**
comp=Z,21μmcomp=Z,24μmcomp=Z,803nm,0.9s						
GRJI	**Gresik**	**21.86 219**	P	**P**	**15 11 05.3**	**+1.9**
comp=Z,21μmcomp=Z,24μmcomp=Z,1μm,1.2s						
JAGI	**Jajag, Banyuwa**	**22.16 213**	P	**P**	**15 11 09.2**	**+2.6**
JAGI			IAmb	IAmb	15 11 23.3	
comp=Z,668nm,1.1s						
JAGI	**Jajag, Banyuwa**	**22.16 213**	P	**P**	**15 11 08.0**	**+1.3**
JAGI	**Jajag, Banyuwa**	**22.16 213**	P	**P**	**15 11 08.5**	**+1.8**
comp=Z,16μmcomp=Z,12μmcomp=Z,809nm,1.3s						
JAGI	**Jajag, Banyuwa**	**22.16 213**	⇑P	**P**	**15 11 05.3**	**-1.4**
TBJI	**Tambak Boyo**	**22.18 220**	P	**P**	**15 11 08.3**	**+1.5**
comp=Z,30μmcomp=Z,846nm,1.5s						
GMJI	**Gumukmas**	**22.39 214**	P	**P**	**15 11 10.9**	**+1.9**
comp=Z,9μmcomp=Z,487nm,1.9s						
TPI	**Tanjungpandan**	**22.48 235**	P	**P**	**15 11 10.0**	**-0.1**
comp=Z,26μmcomp=Z,9μmcomp=Z,372nm,1.4s						
NJ2	**Nanjing**	**22.53 344**	⇑*i*P	**P**	**15 11 11.5**	**+1.1**
NJ2			S	**S**	**15 15 17.8**	**+2.8**
NJ2			pmax	pmax		
comp=Z,470nm,0.9s						
NJ2			pmax	pmax		
comp=Z,5μm,7.8s						
NJ2			LR	LR		
comp=Z,6μm,22.3s						
NJ2			LR	LR		
comp=Z,6μm,15.2s						
NJ2			LR	LR		
comp=Z,10μm,22.3s						
JCJ	**Chichijima**	**22.54 40**	P	**P**	**15 11 10.2**	**-0.3**
JCJ			IAmb	IAmb	15 11 18.0	
comp=Z,486nm,0.9s						
JCJ	**Chichijima**	**22.54 40**	P	**P**	**15 11 05.0**	**-5.5**
comp=Z,424nm,0.8s,baz=311,slow=6.9,SNR=9.1						
JCJ			S	**S**	**15 15 05.6**	**-10**
comp=Z,92nm,0.7s,baz=294,slow=18,SNR=2.2						
JCJ			LR	LR	15 18 01.2	
comp=Z,13μm,21.5s,baz=248,slow=31						
JCJ	**Chichijima**	**22.54 40**	P	**P**	**15 11 14.7**	**+4.2**
WHN	**Wuhan**	**22.79 333**	⇑P	**P**	**15 11 13.9**	**+0.8**
WHN			pP	**pP**	**15 11 22.3**	**-1.0**
WHN			sP	**sP**	**15 11 24.3**	**-4.2**
WHN			S	**S**	**15 15 22.2**	**+2.8**
WHN			pmax	pmax		
comp=Z,590nm,1.0s						
WHN			pmax	pmax		
comp=Z,18μm,7.4s						
WHN			LR	LR		
comp=Z,34μm,14.3s						
WHN			LR	LR		
comp=Z,32μm,16.1s						
WHN			LR	LR		
comp=Z,61μm,16.6s						
NGJI	**Ngawi**	**22.85 220**	P	**P**	**15 11 15.5**	**+1.6**
comp=Z,1μm,1.1s						
JNU	**Nakatsue**	**23.04 10**	P	**P**	**15 11 12.5**	**-3.3**
JNU	**Nakatsue**	**23.04 10**	P	**P**	**15 11 16.0**	**+0.2**
comp=Z,244nm,0.9s,baz=186,slow=3.3,SNR=76						
JNU			PcP	**PcP**	**15 15 03.8**	**-0.6**
comp=Z,14nm,0.9s,baz=123,slow=3.9,SNR=2.1						
JNU			LR	LR	15 20 03.8	
comp=Z,8μm,21.8s,baz=173,slow=36						
comp=Z,244nm,0.9s						
JNU	**Nakatsue**	**23.04 10**	P	**P**	**15 11 16.6**	**+0.8**
JNU	**Nakatsue**	**23.04 10**	⇑P	**P**	**15 11 15.8**	**0.0**
JNU	**Nakatsue**	**23.04 10**	P	**P**	**15 11 15.8**	**0.0**
DRS	**Darwin Rock St**	**23.20 168**	P	**P**	**15 11 18.0**	**+0.5**
SMRI	**Semarang**	**23.27 222**	P	**P**	**15 11 19.7**	**+1.5**
SMRI	**Semarang**	**23.27 222**	P	**P**	**15 11 19.4**	**+1.2**
comp=Z,11μmcomp=Z,746nm,1.3s						
SMRI	**Semarang**	**23.27 222**	⇑P	**P**	**15 11 19.3**	**+1.1**
TPRI	**Tanjung Pinang**	**23.35 248**	P	**P**	**15 11 19.4**	**+0.4**
PPBI	**Pangkal Pinang**	**23.40 239**	P	**P**	**15 11 22.3**	**+2.8**
NONG	**Nongkai**	**23.42 292**	P	**P**	**15 11 19.2**	**-0.4**
MMPI	**Merauke**	**23.58 142**	P	**P**	**15 11 21.8**	**+0.6**
MYKOM	**Kota Tinggi**	**23.63 250**	P	**P**	**15 11 23.9**	**+2.3**
MYKOM	**Kota Tinggi**	**23.63 250**	⇑P	**P**	**15 11 21.8**	**+0.2**
MTN	**Manton Dam**	**23.66 167**	P	**P**	**15 11 20.7**	**-1.2**
MTN			IAmb	IAmb	15 11 41.6	
comp=Z,370nm,0.8s						
MTN	**Manton Dam**	**23.66 167**	P	**P**	**15 11 21.1**	**-0.7**
comp=Z,0.0nmcomp=Z,452nm,1.0s						
MTN	**Manton Dam**	**23.66 167**	P	**P**	**15 11 21.3**	**-0.5**
MTN	**Manton Dam**	**23.66 167**	⇑P	**P**	**15 11 20.6**	**-1.2**
PCJI	**Pacitan**	**23.66 219**	P	**P**	**15 11 21.0**	**-0.9**
comp=Z,16μmcomp=Z,19μmcomp=Z,657nm,2.4s						
KDU	**Kakadu**	**23.83 164**	P	**P**	**15 11 22.6**	**-0.9**
comp=Z,0.0nmcomp=Z,709nm,0.8s						
KDU	**Kakadu**	**23.83 164**	P	**P**	**15 11 22.4**	**-1.0**
KDU	**Kakadu**	**23.83 164**	S	**S**	**15 15 31.3**	**-5.3**
KDU	**Kakadu**	**23.83 164**	⇑P	**P**	**15 11 22.3**	**-1.1**
SLVN	**Son La**	**23.85 300**	P	**P**	**15 11 23.3**	**-0.5**
SLVN	**Son La**	**23.85 300**	P	**P**	**15 11 22.5**	**-1.2**
UGM	**Wanagama**	**23.86 221**	P	**P**	**15 11 25.0**	**+1.2**
UGM	**Wanagama**	**23.86 221**	S	**S**	**15 15 35.4**	**-1.9**
UGM	**Wanagama**	**23.86 221**	P	**P**	**15 11 25.3**	**+1.5**
comp=Z,14μmcomp=Z,26μmcomp=Z,921nm,1.5s						
YOGI	**Yogyakarta**	**23.93 221**	P	**P**	**15 11 26.1**	**+1.6**
comp=Z,21μmcomp=Z,565nm,2.1s						
JTU	**Tsushima**	**24.20 7**	P	**P**	**15 11 28.8**	**+2.0**
JTU	**Tsushima**	**24.20 7**	⇑P	**P**	**15 11 27.9**	**+1.1**
GYA	**Guiyang**	**24.27 314**	⇑P	**P**	**15 11 27.7**	**0.0**
GYA			pP	sP	15 11 41.0	-2.6
GYA			S	**S**	**15 15 43.5**	**-0.5**
GYA			sS	sS	15 16 02.2	+0.6
GYA			pmax	pmax		
comp=Z,210nm,2.0s						
GYA			pmax	pmax		
comp=Z,6μm,5.1s						
GYA			LR	LR		
comp=Z,24μm,18.6s						
GYA			LR	LR		
comp=Z,17μm,17.8s						
GYA			LR	LR		
comp=Z,31μm,19.4s						
JMN	**Monobe**	**24.30 16**	P	**P**	**15 11 25.9**	**-1.9**
JMN			IAmb	IAmb	15 11 32.6	
comp=Z,382nm,0.9s						
JMN	**Monobe**	**24.30 16**	P	**P**	**15 11 29.5**	**+1.7**
JMN	**Monobe**	**24.30 16**	⇑P	**P**	**15 11 29.3**	**+1.5**
JMN	**Monobe**	**24.30 16**	P	**P**	**15 11 29.4**	**+1.7**
JCJI	**Jatiwangi**	**24.38 227**	P	**P**	**15 11 31.7**	**+3.1**
comp=Z,26μmcomp=Z,1μm,0.9s						
NAYO	**Nakonayok**	**24.43 282**	P	**P**	**15 11 30.5**	**+1.5**
NAYO	**Nakonayok**	**24.43 282**	S	**S**	**15 15 42.8**	**-3.7**
PMBI	**Palembang**	**24.96 239**	P	**P**	**15 11 36.0**	**+2.1**
PMBI	**Palembang**	**24.96 239**	P	**P**	**15 11 36.2**	**+2.3**
comp=Z,21μmcomp=Z,17μmcomp=Z,932nm,1.1s						
ENH	**Enshi**	**25.05 324**	P	**P**	**15 11 33.8**	**-0.8**
ENH			IAmb	IAmb	15 12 00.6	
comp=Z,334nm,1.3s						
ENH	**Enshi**	**25.05 324**	P	**P**	**15 11 34.2**	**-0.4**
LEM	**Lembang**	**25.08 228**	P	**P**	**15 11 36.1**	**+1.1**
comp=Z,250nm,0.8s,baz=35,slow=8.7,SNR=26						
LEM			S	**S**	**15 16 03.6**	**+6.4**
comp=Z,11nm,0.4s,baz=115,slow=23,SNR=1.1						
LEM			LR	LR	15 23 37.1	
comp=Z,13μm,18.5s,baz=62,slow=42						
LEM	**Lembang**	**25.08 228**	P	**P**	**15 11 36.2**	**+1.1**
comp=Z,20μmcomp=Z,18μmcomp=Z,913nm,1.1s						
CMJI	**Cimerak**	**25.15 225**	P	**P**	**15 11 37.1**	**+1.5**
comp=Z,13μmcomp=Z,8μmcomp=Z,206nm,1.1s						
TNG	**Tangerang**	**25.37 230**	P	**P**	**15 11 39.6**	**+2.0**
comp=Z,705nm,0.9s						
TNG			P	pP	15 11 40.0	-8.6
IPM	**Ipoh**	**25.46 258**	P	**P**	**15 11 38.6**	**+0.2**
IPM			IAmb	IAmb	15 11 58.4	
comp=Z,342nm,0.9s						
IPM	**Ipoh**	**25.46 258**	P	**P**	**15 11 39.6**	**+1.1**
IPM	**Ipoh**	**25.46 258**	⇑P	**P**	**15 11 38.4**	**0.0**
BBJI	**Bungbulang**	**25.49 227**	P	**P**	**15 11 40.1**	**+1.4**
JAD	**Aida**	**25.53 16**	P	**P**	**15 11 39.8**	**+1.0**
KULM	**Kulim**	**25.63 260**	P	**P**	**15 11 40.2**	**+0.2**
KULM			IAmb	IAmb	15 12 06.7	
comp=Z,769nm,1.5s						
KULM	**Kulim**	**25.63 260**	P	**P**	**15 11 41.3**	**+1.3**
KULM	**Kulim**	**25.63 260**	⇑P	**P**	**15 11 40.3**	**+0.3**
SBJI	**Serang**	**25.73 231**	P	**P**	**15 11 42.3**	**+1.5**
CNJI	**Cibinong**	**25.76 228**	P	**P**	**15 11 42.2**	**+1.1**
comp=Z,329nm,1.2s						
TJN	**Taejon**	**25.88 2**	P	**P**	**15 11 43.3**	**+1.3**
JHJ	**Hachijo jima 2**	**25.91 27**	LR	LR	15 21 53.0	
comp=Z,7μm,20.1s,baz=235,slow=36						
BLSI	**Bandar Lampung**	**25.95 234**	P	**P**	**15 11 44.1**	**+1.2**
comp=Z,11μmcomp=Z,524nm,0.9s						
SKJI	**Sukabumi**	**25.98 229**	P	**P**	**15 11 47.0**	**+3.9**
KNRA	**Kununurra**	**26.06 174**	P	**P**	**15 11 42.9**	**-0.9**
KNRA			IAmb	IAmb	15 12 12.8	
comp=Z,351nm,0.8s						
KNRA	**Kununurra**	**26.06 174**	P	**P**	**15 11 43.2**	**-0.6**
comp=Z,0.0nmcomp=Z,458nm,1.3s						
SRIT	**Nakonsritamara**	**26.11 268**	IAmb	IAmb	15 12 18.0	
comp=Z,412nm,1.4s						
SRIT	**Nakonsritamara**	**26.11 268**	P	**P**	**15 11 46.4**	**+2.0**
MDSI	**Maura Dua**	**26.30 237**	P	**P**	**15 11 45.7**	**-0.4**
comp=Z,18μmcomp=Z,5μmcomp=Z,200nm,0.7s						
CGJI	**Cibinong**	**26.37 231**	P	**P**	**15 11 47.5**	**+0.8**
comp=Z,8μmcomp=Z,367nm,1.6s						
KMI	**Kunming**	**26.49 307**	⇑P	**P**	**15 11 48.0**	**0.0**
KMI			sP	sP	15 12 04.9	+0.9
KMI			S	**S**	**15 16 18.9**	**-0.7**
KMI			ScP	**ScP**	**15 18 48.2**	**-1.1**
KMI			pmax	pmax		
comp=Z,57nm,1.0s						
KMI			pmax	pmax		
comp=Z,2μm,10.9s						
KMI			LR	LR		
comp=Z,9μm,18.4s						
KMI			LR	LR		
comp=Z,13μm,19.7s						
KMI			LR	LR		
comp=Z,22μm,18.6s						
SRDT	**SRDT**	**26.55 281**	P	**P**	**15 11 50.2**	**+1.9**
LWLI	**Liwa**	**26.70 236**	P	**P**	**15 11 49.4**	**-0.4**
INU	**Inuyama**	**26.77 20**	P	**P**	**15 11 50.1**	**+0.1**
INU			IAMs_20	IAMs_20	15 20 18.4	
comp=Z,18μm,22.0s						
INU	**Inuyama**	**26.77 20**	P	**P**	**15 11 50.9**	**+0.8**
INU	**Inuyama**	**26.77 20**	⇑P	**P**	**15 11 50.6**	**+0.6**
BKNI	**Bangkinang**	**26.78 250**	P	**P**	**15 11 48.1**	**-2.3**
BKNI			S	**S**	**15 16 21.9**	**-1.9**
BKNI	**Bangkinang**	**26.78 250**	P	**P**	**15 11 51.5**	**+1.1**
BKNI	**Bangkinang**	**26.78 250**	P	**P**	**15 11 51.1**	**+0.7**
comp=Z,20μmcomp=Z,6μmcomp=Z,491nm,1.0s						
TIA	**Tai'an**	**26.92 344**	P	**P**	**15 11 52.0**	**+0.6**
TIA			sP	**sP**	**15 12 05.8**	**-1.5**
TIA			PcP	**PcP**	**15 15 14.6**	**+1.7**
TIA			S	**S**	**15 16 23.3**	**-2.4**
TIA			ScP	**ScP**	**15 18 49.2**	**-0.8**
TIA			pmax	pmax		
comp=Z,4μm,4.5s						
TIA			LR	LR		
comp=Z,6μm,19.2s						
TIA			LR	LR		
comp=Z,7μm,22.0s						
TIA			LR	LR		
comp=Z,13μm,20.6s						
INCN	**Inchon**	**26.96 1**	P	**P**	**15 11 52.2**	**+0.5**
INCN			P	**P**	**15 11 52.2**	**+0.5**
INCN			S	**S**	**15 16 27.7**	**+1.4**
INCN			S	**S**	**15 16 27.7**	**+1.4**
INCN	**Inchon**	**26.96 1**	P	**P**	**15 11 53.6**	**+1.8**
INCN	**Inchon**	**26.96 1**	⇑P	**P**	**15 11 51.8**	**0.0**
KSAR	**Wonju Array Be**	**26.97 3**	P	**P**	**15 11 50.5**	**-1.3**
KSAR				**PcP**	**15 15 14.0**	**+1.1**
KSAR	**Wonju Array Be**	**26.97 3**	P	**P**	**15 11 50.5**	**-1.3**
KSAR					15 15 14.0	
KSRS	**Korea Array**	**26.98 3**	P	**P**	**15 11 53.0**	**+1.1**
comp=Z,78nm,0.8s,baz=188,slow=10.0,SNR=82						
KSRS			PcP	**PcP**	**15 15 14.0**	**+1.1**
comp=Z,6.4nm,0.7s,baz=196,slow=2.5,SNR=7.9						
KSRS			ScP	**ScP**	**15 18 53.8**	**+3.7**
comp=Z,3.8nm,1.0s,baz=199,slow=2.5,SNR=4.1						
KSRS			LR	LR	15 22 24.9	
comp=Z,11μm,21.7s,baz=185,slow=36						
comp=Z,78nm,0.8s						
KS19	**Wonju Array Si**	**27.02 3**	P	**P**	**15 11 51.6**	**-0.8**
LYN	**LuoYang**	**27.03 335**	⇑P	**P**	**15 11 53.2**	**+0.8**
LYN			sP	sP	15 12 07.8	-0.4
LYN			PcP	**PcP**	**15 15 14.5**	**+1.4**
LYN			S	**S**	**15 16 27.9**	**+0.4**
LYN			sS	sS	15 16 45.7	+0.5
LYN			ScP	**ScP**	**15 18 50.0**	**-0.4**
LYN			ScS	**ScS**	**15 22 41.4**	**-0.1**
LYN			pmax	pmax		
comp=Z,350nm,1.1s						
LYN			pmax	pmax		
comp=Z,6μm,7.5s						
LYN			LR	LR		
comp=Z,7μm,16.3s						
LYN			LR	LR		
comp=Z,14μm,17.9s						
LYN			LR	LR		
comp=Z,23μm,27.5s						
JGF	**

XAN pP pP 15 12 15.1 +0.5
XAN S **S** **15 16 45.8 -1.1**
XAN pmax pmax
comp=Z,280nm,0.9s
XAN pmax pmax
comp=Z,4μm,4.2s
XAN LR LR
comp=Z,18μm,22.3s
XAN LR LR
comp=Z,19μm,18.1s
XAN LR LR
comp=Z,21μm,23.9s
MJAR Matsushiro Arr 28.26 21 P **P** **15 12 02.5 -1.0**
comp=Z,13nm,0.8s,baz=191,slow=8.8,SNR=20
MJAR PcP **PcP** **15 15 16.6 +0.5**
comp=Z,11nm,0.7s,baz=166,slow=2.9,SNR=5.8
MJAR ScP **ScP** **15 18 57.8 +3.7**
comp=Z,11nm,1.1s,baz=174,slow=2.4,SNR=6.6
MJAR LR LR 15 23 38.1
comp=Z,13μm,18.7s,baz=202,slow=37
MJAR P3KPbc 15 44 23.2
comp=Z,4.9nm,1.1s,baz=1.3,slow=5.2,SNR=6.6
comp=Z,13nm,0.8s
MAJO Matsushiro 28.26 21 P **P** **15 12 01.6 -1.9**
MAJO Matsushiro 28.26 21 P **P** **15 12 03.8 +0.4**
MAJO Matsushiro 28.26 21 *i* P **P** **15 12 02.5 -0.9**
MAJO pmax pmax
comp=Z,96nm,2.4s
MAJO Matsushiro 28.26 21 ⇑P **P** **15 12 03.2 -0.3**
FITZ Fitzroy Crossi 28.33 181 P **P** **15 12 02.5 -1.6**
FITZ Fitzroy Crossi 28.33 181 P **P** **15 12 03.8 -0.3**
comp=Z,42nm,1.1s
FITZ Fitzroy Crossi 28.33 181 P **P** **15 12 02.9 -1.3**
comp=Z,125nm,1.0s,baz=9.8,slow=8.8,SNR=67
FITZ S **S** **15 16 39.9 -8.2**
comp=Z,30nm,1.0s,baz=179,slow=23,SNR=1.6
FITZ LR LR 15 25 13.1
comp=Z,6μm,21.9s,baz=46,slow=40
comp=Z,125nm,1.0s
FITZ Fitzroy Crossi 28.33 181 P **P** **15 12 04.2 +0.1**
FITZ Fitzroy Crossi 28.33 181 ⇑P **P** **15 12 03.0 -1.1**
PYAG Pyongyang 28.52 360 P **P** **15 12 07.0 +1.4**
PYAG S **S** **15 16 54.0 +3.3**
PYAG AmB
comp=Z,3μm,5.1s
PYAG AMS AMS
comp=Z,9μm,20.0s
DL2 Dalian 28.65 353 P **P** **15 12 07.9 +1.1**
DL2 S **S** **15 16 53.2 +0.5**
DL2 pmax pmax
comp=Z,460nm,0.8s
DL2 pmax pmax
comp=Z,2μm,10.0s
DL2 LR LR
comp=Z,8μm,20.2s
DL2 LR LR
comp=Z,4μm,24.9s
DL2 LR LR
comp=Z,12μm,25.1s
HNS HongShan 28.74 341 ⇑P **P** **15 12 08.4 +0.8**
HNS pP **pP** **15 12 20.8 +2.2**
HNS PcP **PcP** **15 15 19.3 +2.1**
HNS S **S** **15 16 53.3 -0.9**
HNS ScP **ScP** **15 18 55.6 +0.1**
HNS ScS **ScS** **15 22 48.9 -0.1**
HNS pmax pmax
comp=Z,250nm,1.1s
HNS LR LR
comp=Z,15μm,16.9s
HNS LR LR
comp=Z,8μm,18.3s
HNS LR LR
comp=Z,16μm,18.6s
PMG Port Moresby 28.81 132 S **S** **15 16 48.6 -7.2**
comp=Z,12nm,1.0s,baz=160,slow=17,SNR=1.2
BULU Kimbe 28.92 122 P **P** **15 12 12.4 +2.9**
XMI Christmas Isla 28.95 225 P **P** **15 12 10.0 +0.2**
CD2 Chengdu 29.04 318 P **P** **15 12 10.1 -0.4**
CD2 pP sP 15 12 24.0 -2.4
CD2 sP pP 15 12 28.5 +6.9
CD2 S **S** **15 16 56.3 -3.0**
CD2 pmax pmax
comp=Z,130nm,0.5s
CD2 pmax pmax
comp=Z,3μm,9.8s
CD2 LR LR
comp=Z,30μm,21.0s
CD2 LR LR
comp=Z,37μm,21.6s
LHMI Lhok Sumawe 29.24 262 P **P** **15 12 14.7 +2.3**
LHMI Lhok Sumawe 29.24 262 P **P** **15 12 15.6 +3.2**
comp=Z,24μmcomp=Z,10μmcomp=Z,534nm,1.2s
LHMI Lhok Sumawe 29.24 262 ⇑P **P** **15 12 13.7 +1.3**
PBSI Pulau Batu 29.48 251 P **P** **15 12 18.2 +3.7**
comp=Z,16μmcomp=Z,7μmcomp=Z,211nm,1.1s
COEN Coen 29.59 145 P **P** **15 12 12.7 -2.8**
COEN IAmb IAmb 15 12 51.2
comp=Z,189nm,0.9s
COEN Coen 29.59 145 P **P** **15 12 14.9 -0.6**
comp=Z,0.0nmcomp=Z,170nm,0.9s
COEN Coen 29.59 145 P **P** **15 12 15.2 -0.3**
COEN Coen 29.59 145 ⇑P **P** **15 12 14.9 -0.6**
SUJ Sinuiju 29.60 358 P **P** **15 12 17.2 +1.9**
SUJ S **S** **15 17 10.6 +2.9**
SUJ AmB
comp=Z,5μm,3.9s
SUJ AMS AMS
comp=Z,12μm,23.8s
GSI Gunungsitoli 29.67 254 P **P** **15 12 17.0 +0.8**
GSI IAmb IAmb 15 12 40.0
comp=Z,241nm,0.9s
GSI Gunungsitoli 29.67 254 P **P** **15 12 17.4 +1.2**
GSI Gunungsitoli 29.67 254 P **P** **15 12 16.0 -0.2**
comp=Z,19μmcomp=Z,5μmcomp=Z,324nm,0.9s
GSI Gunungsitoli 29.67 254 ⇑P **P** **15 12 15.4 -0.9**
RABL Rabaul 29.80 118 ⇑P **P** **15 12 18.5 +1.1**
TIY Taiyuan 29.81 338 P **P** **15 12 18.2 +1.0**
TIY S **S** **15 17 11.6 +0.4**
TIY pmax pmax
comp=Z,100nm,0.8s
TIY pmax pmax
comp=Z,3μm,4.9s
TIY LR LR
comp=Z,11μm,17.3s
TIY LR LR
comp=Z,6μm,14.9s
TIY LR LR
comp=Z,14μm,17.8s
TNCH TengChong 29.87 303 ⇑*i* P **P** **15 12 17.6 -0.5**
TNCH pP pP 15 12 28.4 -0.8
TNCH sP sP 15 12 31.5 -2.6
TNCH PP **PnPn** **15 13 14.6 -0.6**
TNCH S **S** **15 17 11.2 -1.5**
TNCH sS sS 15 17 26.0 -4.5
TNCH ScP **ScP** **15 18 58.2 -1.5**
TNCH PcS **PcS** **15 19 03.1 -1.2**
TNCH pmax pmax
comp=Z,87nm,1.5s
TNCH pmax pmax
comp=Z,2μm,4.8s
TNCH LR LR
comp=Z,5μm,12.7s
TNCH LR LR
comp=Z,6μm,22.5s
TNCH LR LR
comp=Z,16μm,19.9s
JMM Marumori 30.39 24 P **P** **15 12 22.3 0.0**
JMM Marumori 30.39 24 P **P** **15 12 23.6 +1.3**
JMM Marumori 30.39 24 ⇑P **P** **15 12 22.9 +0.6**
BJT Baijiatuau 30.76 345 P **P** **15 12 28.0 +2.5**
BJT Baijiatuau 30.76 345 P **P** **15 12 26.6 +1.1**
BJT PcP **PcP** **15 15 23.2 +0.8**
BJT ScP **ScP** **15 19 02.6 +0.6**
BJI Beijing 30.78 345 P **P** **15 12 26.4 +0.8**
BJI pP **sP** **15 12 39.4 -2.1**
BJI PcP **PcP** **15 15 23.4 +1.0**
BJI S **S** **15 17 25.7 -0.5**
BJI ScP **ScP** **15 19 01.9 -0.1**
BJI ScS **ScS** **15 23 00.6 +2.0**
BJI pmax pmax
comp=Z,73nm,2.2s
BJI pmax pmax
comp=Z,2μm,4.0s
BJI LR LR
comp=Z,2μm,19.1s
BJI LR LR
comp=Z,2μm,16.7s
BJI LR LR
comp=Z,3μm,20.7s
WB0 Warramunga Arr 31.10 165 P **P** **15 12 25.1 -3.6**
WB0 IAmb IAmb 15 12 35.6
comp=Z,118nm,0.7s
WRAB Tennant Creek 31.25 165 *c i* P **P** **15 12 28.3 -1.7**
WRAB pmax pmax
comp=Z,132nm,1.5s
WRA Warramunga Arr 31.25 165 P **P** **15 12 28.4 -1.7**
comp=Z,46nm,0.7s,baz=344,slow=9.2,SNR=104
WRA S S 15 17 23.9 -10
comp=Z,58nm,1.0s,baz=346,slow=15,SNR=14
WRA LR LR 15 27 25.3
comp=Z,4μm,21.1s,baz=338,slow=41
WRA P3KPbc 15 44 10.6
comp=Z,0.7nm,0.7s,baz=165,slow=4.0,SNR=6.5
comp=Z,46nm,0.7s
WRA Warramunga Arr 31.25 165 *i* P **P** **15 12 28.3 -1.7**
WRA pmax pmax
comp=Z,49nm,0.7s
WB2 Warramunga Arr 31.26 165 P **P** **15 12 26.7 -3.4**
WR0 Warramunga Arr 31.32 164 P **P** **15 12 27.2 -3.5**
SNY Shenyang 31.37 356 ⇑P **P** **15 12 32.2 +1.4**
SNY pmax pmax
comp=Z,170nm,1.6s
SNY pmax pmax
comp=Z,3μm,11.2s
SNY LR LR
comp=Z,5μm,21.8s
SNY LR LR
comp=Z,2μm,18.5s
SNY LR LR
comp=Z,9μm,21.8s
CMBY CAMPBELL BAY 31.89 267 *e*P **P** **15 12 35.5 -0.3**
MBWA Marble Bar 31.97 191 P **P** **15 12 34.7 -1.7**
MBWA Marble Bar 31.97 191 P **P** **15 12 35.5 -0.9**
comp=Z,0.0nmcomp=Z,84nm,1.4s
MBWA Marble Bar 31.97 191 P **P** **15 12 34.9 -1.4**
MBWA P **P** **15 12 34.9 -1.4**
MBWA S **S** **15 17 42.8 -2.4**
MBWA S **S** **15 17 42.8 -2.4**
MBWA Marble Bar 31.97 191 P **P** **15 12 37.3 +0.9**
MBWA Marble Bar 31.97 191 ⇑P **P** **15 12 35.2 -1.2**
PSAC1 Pilbara Seismi 32.32 191 P **P** **15 12 38.1 -1.3**
comp=Z,97nm,0.7s
PSA00 Pilbara Seismi 32.36 191 P **P** **15 12 38.0 -1.7**
PSA00 IAmb IAmb 15 13 05.8
comp=Z,141nm,1.0s
PSA00 Pilbara Seismi 32.36 191 P **P** **15 12 39.4 -0.3**
comp=Z,119nm,0.7s
PSA00 Pilbara Seismi 32.36 191 P **P** **15 12 40.7 +1.0**
MSHR Mys Shultsa 32.36 7 *i* P **P** **15 12 39.6 +0.1**
MSHR pmax pmax
comp=Z,40nm,0.8s
DGPR DIGLIPUR 32.49 278 *e*P **P** **15 12 40.1 -0.9**
DGPR IAmb IAmb 15 13 11.8
comp=Z,324nm,1.6s
LZH Lanzhou 32.52 325 ⇑P **P** **15 12 42.1 +0.8**
LZH pP pP 15 12 52.9 +0.5
LZH sP sP 15 12 58.6 +1.3
LZH PP **PP** **15 13 52.8 -2.5**
LZH PcP **PcP** **15 15 29.4 +1.9**
LZH S **S** **15 17 53.9 0.0**
LZH sS sS 15 18 10.9 -0.9
LZH pmax pmax
comp=Z,290nm,1.3s
LZH pmax pmax
comp=Z,4μm,5.2s
LZH LR LR
comp=Z,19μm,14.1s
LZH LR LR
comp=Z,21μm,15.5s
LZH LR LR
comp=Z,30μm,15.1s
PBA Port Blair 32.67 275 P **P** **15 12 42.4 -0.3**
PBA Port Blair 32.67 275 *e*P **P** **15 12 42.5 -0.1**
HHC Hu-ho-hao-te 32.90 340 ⇑*i* P **P** **15 12 45.5 +1.1**
HHC pP sP 15 12 59.8 -0.5
HHC S **S** **15 17 57.9 -1.6**
HHC SS **SnSn** **15 20 04.0 +4.9**
HHC pmax pmax
comp=Z,160nm,1.6s
HHC pmax pmax
comp=Z,2μm,4.6s
HHC LR LR
comp=Z,14μm,17.2s
HHC LR LR
comp=Z,5μm,18.1s
HHC LR LR
comp=Z,16μm,17.7s
LKP Lekhapani 33.01 305 *e*P **P** **15 12 43.9 -1.5**
LKP IAMs_20 IAMs_20 15 26 41.1
comp=Z,16μm,19.9s
JTM Tenmabayashi 33.05 21 IAMs_20 IAMs_20 15 23 56.9
comp=Z,17μm,22.0s
JTM Tenmabayashi 33.05 21 ⇑P **P** **15 12 46.3 +0.7**
BTO Baotou 33.24 337 *e*P **P** **15 12 49.2 +1.8**
BTO pP **sP** **15 13 01.2 -2.1**
BTO sP pP 15 13 06.9 +8.4
BTO PP **PP** **15 14 02.6 -0.5**
BTO S **S** **15 18 10.1 +5.3**
BTO pmax pmax
comp=Z,320nm,2.3s
BTO pmax pmax
comp=Z,9μm,6.8s
BTO LR LR
comp=Z,16μm,21.1s
BTO LR LR
comp=Z,14μm,18.9s
BTO LR LR
comp=Z,18μm,21.6s
CN2 Changchun 33.27 359 ⇑P **P** **15 12 48.0 +0.5**
CN2 *ep*P pP 15 12 59.0 +0.8
CN2 *e*S **S** **15 18 04.9 -0.1**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,2μm,6.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,2μm,13.0s
QIS Mount Isa 33.55 157 P **P** **15 12 49.5 -0.7**
comp=Z,0.0nmcomp=Z,298nm,1.0s
QIS Mount Isa 33.55 157 P **P** **15 12 49.5 -0.7**
MTSU Mount Surprise 33.63 147 P **P** **15 12 51.1 +0.1**
comp=Z,134nm,0.8s
MTSU Mount Surprise 33.63 147 P **P** **15 12 52.4 +1.5**
IMP Imphal 33.65 299 *e*P **P** **15 12 49.2 -2.0**
IMP IAmb IAmb 15 13 05.1
comp=Z,234nm,0.9s
IMP IAMs_20 IAMs_20 15 27 54.9
comp=Z,16μm,21.1s
KOHI KOHIMA 33.82 301 *e*P **P** **15 12 50.8 -2.0**
KOHI IAmb IAmb 15 13 11.9
comp=Z,176nm,1.1s
KOHI IAMs_20 IAMs_20 15 27 37.6
comp=Z,20μm,21.5s
USA0B Ussuriysk Arra 34.06 8 IAmb IAmb 15 13 13.3
comp=Z,114nm,0.9s
USA0B Ussuriysk Arra 34.06 8 *c i* P **P** **15 12 55.3 +1.0**
USRK Ussuriysk Ar. 34.06 8 P **P** **15 12 54.1 -0.3**
USRK Ussuriysk Ar. 34.06 8 P **P** **15 12 55.7 +1.4**
comp=Z,75nm,0.8s,baz=192,slow=8.1,SNR=74
USRK PcP **PcP** **15 15 31.8 +0.5**
comp=Z,16nm,0.6s,baz=182,slow=2.0,SNR=6.1
USRK LR LR 15 25 55.9
comp=Z,9μm,21.5s,baz=187,slow=35
comp=Z,75nm,0.8s
MDJ Mudanjiang 34.22 5 P **P** **15 12 57.3 +1.5**
MDJ PcP **PcP** **15 15 31.5 -0.3**
MDJ S **S** **15 18 21.1 +1.4**
MDJ PcS **PcS** **15 19 19.3 +1.4**
MDJ ScS **ScS** **15 23 17.1 +1.1**
MDJ pmax pmax
comp=Z,150nm,1.6s
MDJ pmax pmax
comp=Z,4μm,10.0s
MDJ LR LR
comp=Z,5μm,24.5s
MDJ LR LR
comp=Z,2μm,16.6s
MDJ LR LR
comp=Z,10μm,24.1s
MDJ Mudanjiang 34.22 5 P **P** **15 12 57.7 +1.9**
MDJ Mudanjiang 34.22 5 P **P** **15 12 57.2 +1.5**
MDJ PcP **PcP** **15 15 32.3 +0.5**
XLT XiLinHaoTe 34.46 347 ⇑*i* P **P** **15 12 58.7 +0.7**
XLT pP pP 15 13 10.7 +1.6
XLT sP sP 15 13 16.2 +2.3
XLT PP **PP** **15 14 17.8 +1.2**
XLT PcP **PcP** **15 15 33.5 +0.8**
XLT S **S** **15 18 22.7 -0.9**
XLT sS sS 15 18 44.4 +2.9
XLT SS **SnSn** **15 20 37.9 +1.0**
XLT pmax pmax
comp=Z,180nm,0.9s
XLT pmax pmax
comp=Z,5μm,3.5s
XLT LR LR
comp=Z,6μm,16.2s
XLT LR LR
comp=Z,8μm,24.2s
ZIRO ZIRO 34.71 304 *e*P **P** **15 13 00.7 +0.3**
ZIRO IAmb IAmb 15 13 03.9
comp=Z,105nm,0.5s
ZIRO IAMs_20 IAMs_20 15 30 08.8
comp=Z,8μm,19.7s
AS31 Alice Springs 34.73 167 P **P** **15 12 59.1 -1.3**
ASAR Alice Springs 34.73 167 P **P** **15 12 59.5 -1.0**
comp=Z,54nm,0.6s,baz=352,slow=6.8,SNR=344
ASAR PcP **PcP** **15 15 33.4 -0.4**
comp=Z,16nm,0.6s,baz=338,slow=2.7,SNR=5.0
ASAR S **S** **15 18 20.2 -7.8**
comp=Z,95nm,1.0s,baz=4.9,slow=26,SNR=21
ASAR ScP **ScP** **15 19 19.1 +3.1**
comp=Z,10.0nm,0.9s,baz=332,slow=3.1,SNR=1.5
ASAR LR LR 15 28 55.7
comp=Z,5μm,19.3s,baz=359,slow=39
ASAR P3KPbc 15 43 55.4
comp=Z,0.9nm,0.7s,baz=160,slow=4.7,SNR=16
ASAR PKPPKP **P'P'df** **15 46 11.1 -0.4**
comp=Z,1.7nm,1.1s,baz=176,slow=2.4,SNR=4.1
comp=Z,54nm,0.6s
AS01 Alice Springs 34.74 167 P **P** **15 13 00.3 -0.2**
GIRL Giralia 34.82 199 P **P** **15 13 03.0 +1.9**
comp=Z,0.0nmcomp=Z,280nm,1.1s
GIRL Giralia 34.82 199 P **P** **15 13 01.9 +0.8**
GIRL Giralia 34.82 199 ⇑P **P** **15 13 03.5 +2.3**
BRDH Bariadhala 35.04 295 LR LR 15 27 28.2
comp=Z,21μm,21.9s,baz=146,slow=36
BNX BinXian 35.23 2 ⇑P **P** **15 13 04.9 +0.5**
BNX pP **pP** **15 13 16.0 +0.8**
BNX S **S** **15 18 34.2 -0.9**
BNX pmax pmax
comp=Z,85nm,1.0s
BNX pmax pmax
comp=Z,3μm,7.0s
BNX LR LR
comp=Z,7μm,22.3s
BNX LR LR
comp=Z,7μm,20.3s
BNX LR LR
comp=Z,11μm,20.8s
WRKA Warakurna 35.30 176 P **P** **15 13 04.9 -0.4**
comp=Z,0.0nmcomp=Z,289nm,0.9s
WRKA Warakurna 35.30 176 P **P** **15 13 04.8 -0.6**
WRKA Warakurna 35.30 176 ⇑P **P** **15 13 04.8 -0.6**
SHL Shillong 35.66 300 P **P** **15 13 06.7 -2.0**
SHL IAmb IAmb 15 13 36.8
comp=Z,203nm,1.0s
SHL Shillong 35.66 300 P **P** **15 13 07.8 -0.8**
SNR=56
SHL Shillong 35.66 300 *e*P **P** **15 13 07.2 -1.4**
SHL IAmb IAmb 15 13 12.3
comp=Z,74nm,0.7s
SHL IAMs_20 IAMs_20 15 28 43.9
comp=Z,12μm,19.6s
SHL Shillong 35.66 300 P **P** **15 13 06.7 -2.0**
SHL pmax pmax
comp=Z,203nm,1.0s
TEY Ternei 35.69 13 ⇑*e*P **P** **15 13 09.5 +1.2**
TEY *e* 15 14 33.9
TEY pmax pmax
comp=N,20nm,2.8s
TEY pmax pmax
comp=N,200nm,4.5s
TEY pmax pmax
comp=Z,400nm,4.1s
TEY pmax pmax
comp=Z,30nm,2.7s
TEY pmax pmax
comp=E,100nm,4.4s
TEY MLR MLR
comp=E,100nm,12.0s
TV1H Townsville Har 35.90 145 P **P** **15 13 12.2 +1.7**
TAWA Tawang 36.36 303 *e*P **P** **15 13 15.0 +0.1**
TAWA IAmb IAmb 15 13 17.6
comp=Z,234nm,0.8s
TAWA IAMs_20 IAMs_20 15 29 41.8
comp=Z,5μm,17.8s
ASAJ Asahikawa 36.52 20 P **P** **15 13 17.1 +1.5**
comp=Z,28nm,0.7s,baz=220,slow=7.7,SNR=23
ASAJ LR LR 15 28 19.1
comp=Z,7μm,20.0s,baz=214,slow=36
comp=Z,28nm,0.7s
ASAJ Asahikawa 36.52 20 P **P** **15 13 14.7 -0.8**
ASAJ 15 15 40.1
ASAJ pmax pmax
comp=Z,166nm,1.2s
ASAJ pmax pmax
comp=Z,7μm,20.0s
ASAJ Asahikawa 36.52 20 P **P** **15 13 17.3 +1.8**
JKA Kamikawa-asahi 36.52 20 P **P** **15 13 14.7 -0.8**
JKA IAmb IAmb 15 14 08.2
comp=Z,166nm,1.2s
JKA PcP **PcP** **15 15 40.1 +1.5**
JKA Kamikawa-asahi 36.52 20 ⇑P **P** **15 13 17.2 +1.7**
COCO West Island 36.67 233 P **P** **15 13 18.3 +1.2**
GTA Gaotai 37.12 325 P **P** **15 13 22.3 +1.4**
GTA pP pP 15 13 32.2 0.0
GTA PP **PnPn** **15 14 48.2 +1.5**
GTA PcP **PcP** **15 15 43.3 +2.6**
GTA S **S** **15 19 02.9 -1.8**
GTA SS **SnSn** **15 21 36.9 -4.6**
GTA ScS **ScS** **15 23 31.2 -1.2**
GTA pmax pmax
comp=Z,410nm,1.2s
GTA pmax pmax
comp=Z,3μm,8.0s
GTA LR LR
comp=Z,14μm,17.8s
GTA LR LR
comp=Z,12μm,18.5s
GTA LR LR
comp=Z,22μm,18.2s
MEEK Meekatharra 37.52 191 P **P** **15 13 23.7 -0.6**
comp=Z,0.0nmcomp=Z,249nm,1.4s
MEEK Meekatharra 37.52 191 P **P** **15 13 24.0 -0.2**
YUK Yuzh-Kuril'sk 37.65 24 *e*P **P** **15 13 26.7 +1.6**
YUK *i* 15 15 12.0
YUK *e*S **S** **15 19 14.4 +2.2**
YUK *i* SS **SnSn** **15 21 55.9 +2.1**
YUK pmax pmax
comp=Z,728nm,1.4s
YUK pmax pmax
comp=N,544nm,1.4s
YUK pmax pmax
comp=Z,515nm,1.4s
YUK pmax pmax
comp=E,169nm,1.2s
LSA Lhasa 37.74 306 IAMs_20 IAMs_20 15 29 36.9
comp=Z,13μm,20.0s
LSA Lhasa 37.74 306 P **P** **15 13 26.8 +0.1**
LSA S **S** **15 19 23.0 +8.0**
LSA LR LR
comp=Z,5μm,20.6s
LSA LR LR
comp=Z,12μm,19.6s
LSA Lhasa 37.74 306 *i* P **P** **15 13 27.2 +0.5**
SNR=20
LSA Lhasa 37.74 306 P **P** **15 13 27.1 +0.5**
LSA PcP **PcP** **15 15 44.5 +1.3**
GOMU GeErMu 38.17 317 P **P** **15 13 30.9 +0.8**
GOMU pP pP 15 13 36.2 -5.2
GOMU sP sP 15 13 39.8 -6.4
GOMU PP **PnPn** **15 15 00.5 +0.9**

GOMU pmax pmax
comp=Z,180nm,1.5s
GOMU LR LR
comp=Z,24μm,20.0s
GOMU LR LR
comp=Z,38μm,21.0s
GOMU LR LR
comp=Z,81μm,22.0s
TATA Tatamba Isabel 38.47 118 P **P 15 13 34.6 +2.2**
JPG JALPAIGURI 38.67 300 *e*P **P 15 13 33.7 -0.3**
SAVO Savo Central 38.84 119 P **P 15 13 37.8 +2.2**
KLR Kul'dur 38.99 6 P 15 13 37.4 +1.0
comp=Z,30nm,0.5s,baz=199,slow=5.9,SNR=129
KLR PcP **PcP 15 15 46.8 +0.7**
comp=Z,26nm,0.7s,baz=181,slow=3.6,SNR=6.2
KLR S **S 15 19 29.2 -3.2**
comp=Z,3.3nm,0.9s,baz=189,slow=16,SNR=1.4
KLR LR LR 15 28 17.9
comp=Z,5μm,21.2s,baz=188,slow=34
comp=Z,30nm,0.5s
KLR Kul'dur 38.99 6 *c e*P **P 15 13 37.1 +0.8**
KLR pmax pmax
comp=Z,288nm,2.5s
KLR MLR MLR
comp=Z,7μm,23.0s
GTK Tadong 39.00 301 *e*P **P 15 13 37.0 +0.1**
GTK IAmb IAmb 15 13 55.5
comp=Z,134nm,0.8s
HIA Hailar 39.09 353 P **P 15 13 36.6 -0.6**
HIA Hailar 39.09 353 P **P 15 13 38.3 +1.1**
HIA Hailar 39.09 353 P **P 15 13 36.6 -0.6**
HIA pmax pmax
comp=Z,72nm,0.9s
HIA Hailar 39.09 353 P **P 15 13 37.8 +0.6**
HIA PcP **PcP 15 15 47.3 +0.9**
YSS Yuzhno-Sakhali 39.09 18 P **P 15 13 39.0 +1.8**
YSS Yuzhno-Sakhali 39.09 18 *e*P **P 15 13 38.4 +1.2**
YSS *e**SP **sP 15 13 50.8 -2.3**
YSS *e* 15 15 48.3
YSS *e*S **S 15 19 34.2 +0.3**
YSS *e*SS **SS 15 22 22.5 -5.0**
YSS *e* 15 23 40.1
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=Z,900nm,7.0s
YSS smax smax
comp=N,800nm,11.1s
YSS smax smax
comp=E,700nm,11.5s
YSS Yuzhno-Sakhali 39.09 18 ⇑P **P 15 13 38.4 +1.2**
HNR Honiara 39.09 119 IAms_20 IAms_20 15 27 39.0
comp=Z,10μm,22.0s
HNR Honiara 39.09 119 LR LR 15 29 10.7
comp=Z,2μm,19.0s,baz=296,slow=35
OOD Oodnadatta 39.12 166 P **P 15 13 37.4 -0.2**
ALEG Aligegeo Malai 39.42 118 P **P 15 13 42.7 +2.4**
KUR Kuril'sk 39.45 24 P **P 15 13 41.7 +1.5**
KUR 15 15 17.7
KUR S **S 15 19 36.1 -3.2**
KUR pmax pmax
comp=Z,3μm,5.8s
HEH HeiHe 39.74 1 *e*P **P 15 13 43.3 +0.8**
HEH PP **PnPn 15 15 17.4 -0.3**
HEH PcP **PcP 15 15 47.2 -1.2**
HEH S **S 15 19 43.2 -0.3**
HEH ScS **ScS 15 23 43.8 -2.9**
HEH pmax pmax
comp=Z,150nm,0.9s
HEH pmax pmax
comp=Z,5μm,6.3s
HEH LR LR
comp=Z,6μm,18.6s
HEH LR LR
comp=Z,6μm,17.8s
HEH LR LR
comp=Z,10μm,20.1s
NGOA Tingoa Renbel 40.26 122 P **P 15 13 49.3 +2.0**
MORW Morawa 40.41 194 P **P 15 13 47.0 -1.3**
MORW Morawa 40.41 194 P **P 15 13 47.6 -0.8**
comp=Z,0.0nmcomp=Z,130nm,1.1s
MORW Morawa 40.41 194 P **P 15 13 48.4 0.0**
MORW Morawa 40.41 194 ⇑P **P 15 13 46.7 -1.7**
BOK Bokaro 40.45 294 *e*P **P 15 13 49.3 +0.5**
BOK IAmb IAmb 15 14 08.3
comp=Z,595nm,2.1s
BOK IAms_20 IAms_20 15 31 18.9
comp=Z,14μm,25.7s
H11N1 WAKE ISLAND Hy 40.45 72 T T 15 57 04.2
baz=264,slow=74,SNR=3719
H11N2 WAKE ISLAND Hy 40.46 72 T T 15 57 15.1
baz=264,slow=74,SNR=2378
H11N3 WAKE ISLAND Hy 40.47 72 T T 15 57 05.6
baz=264,slow=74,SNR=2570
INKA Innaminka 40.52 160 P **P 15 13 50.7 +1.4**
ULN Ulaanbaatar 40.61 340 P **P 15 13 48.2 -1.8**
ULN Ulaanbaatar 40.61 340 IAms_20 IAms_20 15 33 01.5
comp=Z,9μm,19.0s
ULN Ulaanbaatar 40.61 340 P **P 15 13 51.1 +1.1**
ULN P **P 15 13 51.1 +1.1**
ULN S **S 15 19 57.6 +0.7**
ULN S **S 15 19 57.6 +0.7**
ULN Ulaanbaatar 40.61 340 *c i*P **P 15 13 50.4 +0.4**
ULN pmax pmax
comp=Z,581nm,2.2s
ULN Ulaanbaatar 40.61 340 ⇑P **P 15 13 51.1 +1.1**
ULN Ulaanbaatar 40.61 340 P **P 15 13 51.2 +1.2**
ULN pP **pP 15 13 59.9 -1.4**
ULN PcP **PcP 15 15 52.5 +1.0**
ULN ScP **ScP 15 19 37.8 -0.1**
SONM Songino Array 40.80 340 P **P 15 13 51.3 -0.3**
SONM IAmb IAmb 15 13 53.7
comp=Z,545nm,2.0s
SONM Songino Array 40.80 340 P **P 15 13 52.4 +0.8**
comp=Z,32nm,0.5s,baz=161,slow=7.1,SNR=189
SONM PcP **PcP 15 15 52.1 0.0**
comp=Z,25nm,0.8s,baz=162,slow=2.8,SNR=11
SONM ScP **ScP 15 19 40.0 +1.3**
comp=Z,7.8nm,1.1s,baz=184,slow=4.5,SNR=5.0
SONM LR LR 15 33 16.6
comp=Z,10μm,19.0s,baz=154,slow=40
comp=Z,32nm,0.5s
SONM Songino Array 40.80 340 P **P 15 13 51.3 -0.3**
SONM pmax pmax
comp=Z,545nm,2.0s
UGL Uglegorsk 40.81 16 ⇑*i*P **P 15 13 53.5 +2.1**
UGL *e* 15 15 28.2
UGL *e*S **S 15 19 57.1 -2.4**
UGL *e*SS **SS 15 22 56.0 -5.7**
UGL pmax pmax
comp=Z,4μm,6.2s
UGL pmax pmax
comp=Z,100nm,0.9s
UGL smax smax
comp=E,5μm,11.0s
UGL smax smax
comp=N,3μm,8.6s
QLP Quilpie 40.81 155 P **P 15 13 50.3 -1.3**
comp=Z,0.0nmcomp=Z,176nm,0.8s
QLP Quilpie 40.81 155 P **P 15 13 51.9 +0.2**
QLP Quilpie 40.81 155 ⇑P **P 15 13 49.7 -2.0**
KNTI KHUNTI 40.84 293 *e*P **P 15 13 52.2 0.0**
KNTI IAmb IAmb 15 14 11.1
comp=Z,123nm,1.2s
KNTI IAms_20 IAms_20 15 33 52.0
comp=Z,10μm,19.3s
FORT Forrest 41.00 177 P **P 15 13 53.0 -0.1**
FORT Forrest 41.00 177 P **P 15 13 53.1 0.0**
comp=Z,0.0nmcomp=Z,650nm,0.8s
FORT Forrest 41.00 177 P **P 15 13 53.8 +0.6**
FORT Forrest 41.00 177 ⇑P **P 15 13 52.8 -0.4**
GRNR Gornyy 41.14 10 ⇑*i*P **P 15 13 56.0 +1.8**
GRNR *e*S **S 15 20 10.1 +5.6**
GRNR pmax pmax
comp=E,9.0nm,1.0s
GRNR pmax pmax
comp=N,30nm,1.1s
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR smax smax
comp=N,7.0nm,1.1s
GRNR MLR MLR
comp=E,2μm,15.0s
RK1H Rockhampton Ha 41.26 145 P **P 15 13 55.8 +0.4**
KMBL Kambalda 41.73 185 P **P 15 13 59.0 -0.2**
comp=Z,0.0nmcomp=Z,252nm,0.8s
KMBL Kambalda 41.73 185 P **P 15 13 59.0 -0.2**
BLDU Ballidu 41.76 192 P **P 15 13 58.9 -0.5**
comp=Z,143nm,1.4s
BLDU Ballidu 41.76 192 P **P 15 13 59.1 -0.3**
VIS Vishakhapatnam 41.97 285 *e*P **P 15 14 01.6 +0.3**
VIS IAmb IAmb 15 14 05.4
comp=Z,197nm,0.9s
VIS IAms_20 IAms_20 15 33 29.2
comp=Z,4μm,19.7s
RAGD RAYAGADA 41.98 287 *e*P **P 15 14 02.5 +1.1**
RAGD IAmb IAmb 15 14 28.8
comp=Z,104nm,0.9s
JHSG JHARSUGUGA 42.00 291 *e*P **P 15 14 02.0 +0.4**
LCRK Leigh Creek 42.28 164 P **P 15 14 03.9 +0.2**
KLBR Kellerberrin 42.51 190 P **P 15 14 05.6 +0.1**
comp=Z,395nm,0.7s
KLBR Kellerberrin 42.51 190 P **P 15 14 05.9 +0.4**
TYV Tymovskoe 42.59 16 *e*P **P 15 14 08.2 +2.2**
TYV *e*S **S 15 20 30.6 +4.7**
TYV pmax pmax
comp=Z,59nm,1.5s
TYV pmax pmax
comp=Z,4μm,4.9s
TYV smax smax
comp=E,20nm,2.8s
TYV smax smax
comp=N,5μm,8.0s
TYV smax smax
comp=E,3μm,8.0s
CIT Chita 42.72 349 *e*P **P 15 14 08.8 +1.7**
CIT *e* 15 14 20.2
CIT *e* 15 15 56.8
CIT *e* 15 20 27.1
CIT pmax pmax
comp=Z,1μm,2.2s
EIDS Eidsvold 43.14 146 P **P 15 14 10.3 -0.4**
EIDS IAms_20 IAms_20 15 32 32.9
comp=Z,8μm,20.0s
EIDS Eidsvold 43.14 146 P **P 15 14 09.9 -0.9**
comp=Z,0.0nmcomp=Z,86nm,1.1s
EIDS Eidsvold 43.14 146 P **P 15 14 12.6 +1.8**
EIDS Eidsvold 43.14 146 ⇑P **P 15 14 10.1 -0.7**
MUN Mundaring 43.18 192 P **P 15 14 10.9 -0.1**
comp=Z,0.0nmcomp=Z,200nm,0.9s
MUN Mundaring 43.18 192 P **P 15 14 11.2 +0.2**
ZEA Zeya 43.22 1 *e*P **P 15 14 11.0 0.0**
ZEA *e* 15 15 57.3
ZEA *e* 15 24 00.1
ZEA pmax pmax
comp=N,20nm,2.2s
ZEA pmax pmax
comp=Z,50nm,2.2s
ZEA pmax pmax
comp=N,700nm,6.5s
ZEA pmax pmax
comp=Z,1μm,7.5s
MTKN Mount Kenneth 43.23 193 P **P 15 14 12.9 +1.6**
comp=Z,165nm,0.9s
MTKN Mount Kenneth 43.23 193 P **P 15 14 13.3 +2.0**
BLSP Bilaspur 43.56 291 *e*P **P 15 14 14.5 +0.2**
BLSP IAmb IAmb 15 14 19.1
comp=Z,80nm,0.7s
BLSP IAms_20 IAms_20 15 33 58.2
comp=Z,10μm,20.3s
NWAO Narrogin (SRO) 43.90 191 P **P 15 14 16.4 -0.4**
NWAO IAmb IAmb 15 14 24.5
comp=Z,208nm,0.8s
NWAO Narrogin (SRO) 43.90 191 P **P 15 14 16.9 +0.1**
comp=Z,475nm,0.7s
NWAO Narrogin (SRO) 43.90 191 LR LR 15 36 14.1
comp=Z,2μm,18.5s,baz=336,slow=41
NWAO Narrogin (SRO) 43.90 191 P **P 15 14 16.9 +0.1**
NWAO S **S 15 20 42.1 -3.4**
NWAO Narrogin (SRO) 43.90 191 P **P 15 14 17.1 +0.3**
NWAO Narrogin (SRO) 43.90 191 P **P 15 14 17.4 +0.6**
NWAO Narrogin (SRO) 43.90 191 P **P 15 14 16.4 -0.4**
NWAO pmax pmax
comp=Z,208nm,0.8s
BBOO Buckleboo 44.03 168 P **P 15 14 17.5 -0.3**
BBOO Buckleboo 44.03 168 P **P 15 14 17.7 -0.2**
comp=Z,0.0nmcomp=Z,464nm,0.6s
BBOO Buckleboo 44.03 168 P **P 15 14 17.5 -0.3**
ZAK Zakamensk 44.05 339 *e*P **P 15 14 17.6 -0.3**
ZAK *e* 15 16 03.4
ZAK pmax pmax
comp=Z,98nm,1.8s
ZAK pmax pmax
comp=Z,48nm,1.7s
ZAK pmax pmax
comp=Z,29nm,1.6s
NKL Nikolayevsk 44.23 13 *e*P **P 15 14 16.2 -2.9**
NKL *e*S **S 15 20 46.9 -2.8**
NKL pmax pmax
comp=N,146nm,1.1s
NKL pmax pmax
comp=E,116nm,1.2s
NKL pmax pmax
comp=Z,377nm,1.2s
NKL smax smax
comp=E,2μm,5.0s
NKL smax smax
comp=N,932nm,4.1s
NKL MLR MLR
comp=E,6μm,13.0s
NKL MLR MLR
comp=N,9μm,18.0s
NKL MLR MLR
comp=Z,13μm,17.0s
ALBI Allahabad 44.39 296 *e*P **P 15 14 20.4 -0.5**
ALBI IAmb IAmb 15 14 25.6
comp=Z,87nm,0.8s
ALBI IAms_20 IAms_20 15 34 06.4
comp=Z,8μm,20.2s
WHYH Whyalla 44.58 166 P **P 15 14 23.0 +0.8**
STKA Stephens Creek 44.61 161 P **P 15 14 21.0 -1.5**
STKA Stephens Creek 44.61 161 P **P 15 14 22.2 -0.3**
comp=Z,0.0nmcomp=Z,747nm,0.7s
STKA Stephens Creek 44.61 161 P **P 15 14 22.2 -0.3**
comp=Z,38nm,0.6s,baz=335,slow=8.3,SNR=104
STKA S **S 15 20 53.5 -2.4**
comp=Z,29nm,0.8s,baz=105,slow=19,SNR=8.2
STKA LR LR 15 34 31.8
comp=Z,4μm,21.1s,baz=348,slow=38
comp=Z,38nm,0.6s
STKA Stephens Creek 44.61 161 P **P 15 14 22.1 -0.4**
STKA Stephens Creek 44.61 161 *c i*P **P 15 14 21.6 -0.9**
MDRS Chennai 44.85 278 *e*P **P 15 14 25.6 +1.0**
MDRS IAmb IAmb 15 14 29.2
comp=Z,552nm,1.5s
MDRS IAms_20 IAms_20 15 30 05.3
comp=Z,12μm,32.9s
MDRS IAms_20 IAms_20 15 30 32.4
comp=Z,13μm,25.1s
MDRS IAms_20 IAms_20 15 30 55.6
comp=Z,14μm,29.0s
MDRS IAms_20 IAms_20 15 33 23.6
comp=Z,9μm,21.3s
PALK Pallekele 44.86 270 P **P 15 14 25.0 +0.2**
PALK IAmb IAmb 15 14 27.8
comp=Z,379nm,1.8s
PALK Pallekele 44.86 270 LR LR 15 32 32.0
comp=Z,10μm,21.5s,baz=94,slow=35
PALK Pallekele 44.86 270 P **P 15 14 26.1 +1.3**
PALK P **P 15 14 26.1 +1.3**
PALK S **S 15 21 00.0 -0.1**
PALK S **S 15 21 00.0 -0.1**
PALK Pallekele 44.86 270 *c i*P **P 15 14 25.0 +0.2**
PALK pmax pmax
comp=Z,252nm,1.7s
PALK Pallekele 44.86 270 ⇑P **P 15 14 25.6 +0.8**
PALK Pallekele 44.86 270 P **P 15 14 25.6 +0.8**
PALK ScP **ScP 15 19 55.4 -0.2**
LUES Luesalemba Tem 44.86 117 P **P 15 14 26.9 +2.2**
MALK Mahakanadarawa 44.88 271 P **P 15 14 23.4 -1.6**
MALK S **S 15 20 59.6 -0.7**
MALK Mahakanadarawa 44.88 271 ⇑P **P 15 14 25.9 +0.9**
HALK Hakmana 45.04 268 ⇑P **P 15 14 26.9 +0.6**
HTT Hallett 45.30 165 P **P 15 14 28.1 +0.2**
comp=Z,0.0nmcomp=Z,248nm,1.7s
HTT Hallett 45.30 165 P **P 15 14 28.3 +0.4**
HTT Hallett 45.30 165 ⇑P **P 15 14 27.9 0.0**
IRK Irkutsk 45.30 341 *e*P **P 15 14 28.2 +0.5**
IRK *e*S **S 15 21 08.1 +2.8**
IRK pmax pmax
comp=Z,848nm,2.9s
TW1H Toowoomba 1 Ha 45.35 147 P **P 15 14 29.4 +0.9**
LKN LUCKNOW 45.50 297 IAms_20 IAms_20 15 34 19.4
comp=Z,6μm,22.5s
BNDA BANDA 45.73 295 IAms_20 IAms_20 15 34 45.1
comp=Z,12μm,21.1s
CMSA Cobar Meteorol 45.77 156 P **P 15 14 31.6 0.0**
comp=Z,92nm,1.2s
CMSA Cobar Meteorol 45.77 156 P **P 15 14 31.7 0.0**
AUWSH Wavell State H 45.82 146 P **P 15 14 34.4 +2.3**
NGP Nagpur 46.29 289 *e*P **P 15 14 36.4 +0.4**
NGP IAmb IAmb 15 14 51.0
comp=Z,122nm,1.1s
NGP IAms_20 IAms_20 15 33 48.8
comp=Z,8μm,24.7s
HYB Hyderabad 46.50 284 ⇑*e*P **P 15 14 38.1 +0.4**
HYB IVmB_BB 15 14 39.0
comp=Z,5μm,2.2s
HYB *e*PP **PP 15 16 26.7 -0.8**
HYB *e*ScP **ScP 15 20 01.9 -0.4**
HYB *e*PcS **PcS 15 20 05.8 -1.1**
HYB *e* 15 20 08.1
HYB *e*S **S 15 21 24.0 +0.4**
HYB IVms_BB IVms_BB 15 30 46.2
comp=Z,2μm,28.0s
GHSS Government Hou 46.63 166 P **P 15 14 39.3 +1.0**
LGTI Lohaghat 46.66 301 *e*P **P 15 14 37.5 -1.3**
LGTI IAms_20 IAms_20 15 34 26.6
comp=Z,4μm,24.1s
PTH Pithoragarh 46.71 301 *e*P **P 15 14 37.8 -1.6**
PTH IAms_20 IAms_20 15 35 17.0
comp=Z,5μm,23.1s
SALM Salem 46.91 276 *e*P **P 15 14 42.3 +1.4**
SALM IAmb IAmb 15 14 45.0
comp=Z,246nm,1.1s
WMQ Urumqi 46.96 322 ⇑P **P 15 14 41.3 +0.3**
WMQ PP **PP 15 16 33.1 +1.2**
WMQ S **S 15 21 29.3 -0.3**
WMQ ScS **ScS 15 24 28.9 -3.4**
WMQ pmax pmax
comp=Z,110nm,2.1s
WMQ pmax pmax
comp=Z,2μm,5.3s
WMQ LR LR
comp=Z,20μm,18.7s
WMQ LR LR
comp=Z,21μm,16.9s
WMQ LR LR
comp=Z,17μm,18.7s
WMQ Urumqi 46.96 322 P **P 15 14 41.5 +0.5**
SKR Severo-Kuril's 47.16 26 *e*P **P 15 14 41.4 -0.9**
SKR pmax pmax
comp=Z,2μm,7.7s
JHNI Jhansi 47.33 295 *e*P **P 15 14 41.8 -2.2**
JHNI IAmb IAmb 15 14 54.5
comp=Z,92nm,1.0s
JHNI IAms_20 IAms_20 15 34 44.5
comp=Z,8μm,23.6s
ARMA Armidale 47.48 150 P **P 15 14 43.5 -1.7**
ARMA IAmb IAmb 15 15 10.2
comp=Z,123nm,1.1s
ARMA IAms_20 IAms_20 15 37 27.6
comp=Z,8μm,18.0s
ARMA Armidale 47.48 150 P **P 15 14 45.3 0.0**
comp=Z,0.0nmcomp=Z,97nm,1.4s
ARMA Armidale 47.48 150 P **P 15 14 46.3 +1.1**
ARMA Armidale 47.48 150 ⇑P **P 15 14 46.0 +0.8**
JOSI Joshimath 47.51 302 *e*P **P 15 14 44.9 -0.8**
JOSI IAmb IAmb 15 14 59.3
comp=Z,106nm,0.6s
JOSI IAms_20 IAms_20 15 35 58.7
comp=Z,3μm,19.1s
KOD Kodaikanal 47.73 274 *e*P **P 15 14 48.2 +0.5**
KOD IAms_20 IAms_20 15 34 11.2
comp=Z,15μm,20.4s
BHPL Bhopal 48.02 292 *e*P **P 15 14 49.2 -0.3**
BHPL IAmb IAmb 15 15 06.4
comp=Z,98nm,1.0s
BHPL IAms_20 IAms_20 15 32 25.7
comp=Z,4μm,22.3s
BHPL IAms_20 IAms_20 15 32 53.2
comp=Z,7μm,27.4s
BHPL IAms_20 IAms_20 15 33 19.7
comp=Z,7μm,29.2s
AKL Akola 48.14 288 *e*P **P 15 14 51.0 +0.6**
AKL IAms_20 IAms_20 15 33 53.2
comp=Z,5μm,24.9s
NRDN NARMADA NAGAR 48.19 291 *e*P **P 15 14 52.1 +1.2**
NRDN IAmb IAmb 15 15 10.2
comp=Z,129nm,0.9s
NRDN IAms_20 IAms_20 15 33 58.7
comp=Z,8μm,23.5s
BOD Bodaibo 48.20 351 *e*P **P 15 14 51.2 +1.0**
BOD pmax pmax
comp=Z,400nm,1.6s
GUNA GUNA 48.28 294 *e*P **P 15 14 51.0 -0.5**
GUNA IAmb IAmb 15 15 11.5
comp=Z,207nm,1.0s
GUNA IAms_20 IAms_20 15 35 12.8
comp=Z,9μm,22.2s
TRD Trivandrum 48.39 272 *e*P **P 15 14 53.4 +0.9**
TRD IAms_20 IAms_20 15 33 47.8
comp=Z,10μm,23.5s
ASOR Ausora 48.61 299 IAms_20 IAms_20 15 34 18.4
comp=Z,9μm,28.7s
ASOR IAms_20 IAms_20 15 34 48.4
comp=Z,6μm,24.9s
KOUNC Koumac, New Ca 48.61 129 P **P 15 14 55.9 +1.9**
DDI Dehra Dun 48.72 301 *e*P **P 15 14 53.6 -1.2**
DDI IAmb IAmb 15 15 30.1
comp=Z,2μm,2.1s
DDI IAms_20 IAms_20 15 34 08.6
comp=Z,3μm,18.9s
KLP Kalpa 48.85 303 *e*P **P 15 14 55.4 -0.7**
KLP IAmb IAmb 15 15 15.0
comp=Z,106nm,0.8s
JMIU JAMIA UNIVERSI 48.99 299 IAms_20 IAms_20 15 34 54.3
comp=Z,5μm,22.5s
LDR Lodi Road 49.05 299 IAms_20 IAms_20 15 34 55.9
comp=Z,5μm,21.5s
SONA Sohna 49.10 298 *e*P **P 15 14 55.6 -2.1**
SONA IAmb IAmb 15 15 17.3
comp=Z,126nm,0.7s
NPLP NPLP New Delhi 49.11 299 IAms_20 IAms_20 15 35 25.9
comp=Z,4μm,20.7s
ARPS Mount Arapiles 49.23 163 P **P 15 14 58.6 +0.1**
comp=Z,212nm,0.7s
ARPS Mount Arapiles 49.23 163 P **P 15 15 00.0 +1.5**
YNG Young 49.28 155 P **P 15 14 59.2 +0.3**
comp=Z,963nm,1.6s
YNG Young 49.28 155 P **P 15 15 00.0 +1.1**
KUDL Kundal 49.60 298 *e*P **P 15 14 59.4 -2.1**
KUDL IAmb IAmb 15 15 19.4
comp=Z,74nm,0.9s
PEA0B Petropavlovsk- 49.61 25 IAmb IAmb 15 15 28.6
comp=Z,207nm,1.2s
PETK Petropavlovsk- 49.61 25 P **P 15 15 02.6 +1.4**
PETK Petropavlovsk- 49.61 25 P **P 15 15 03.1 +1.8**
comp=Z,26nm,0.6s,baz=194,slow=4.4,SNR=32
PETK PcP **PcP 15 16 23.6 +1.3**
comp=Z,32nm,0.8s,baz=208,slow=3.0,SNR=1.9
PETK LR LR 15 36 02.3
comp=Z,5μm,19.7s,baz=218,slow=36
comp=Z,26nm,0.6s
SMLA Simla 49.65 302 *e*P **P 15 15 01.1 -0.8**
SMLA IAmb IAmb 15 15 37.1
comp=Z,578nm,1.6s
SYDH Sydney Hard Ro 49.83 153 P **P 15 15 04.6 +1.6**
RTK Rohtak 49.83 299 *e*P **P 15 15 01.8 -1.5**
RTK IAms_20 IAms_20 15 34 55.3
comp=Z,6μm,24.3s
PET Petropavlovsk 49.95 25 P **P 15 15 03.7 0.0**
PET IAmb IAmb 15 15 21.3
comp=Z,358nm,1.7s
PET Petropavlovsk 49.95 25 P **P 15 15 05.9 +2.2**
PET Petropavlovsk 49.95 25 *e*P **P 15 15 05.1 +1.4**
PET *e**PP **sP 15 15 19.4 +0.9**
PET *e*S **S 15 22 12.5 +1.3**
PET *e*SS **SS 15 25 36.5 -8.0**
PET pmax pmax
comp=Z,2μm,15.9s
PET Petropavlovsk 49.95 25 ⇑P **P 15 15 05.1 +1.4**
PET Petropavlovsk 49.95 25 P **P 15 15 05.2 +1.4**
comp=Z,5μmcomp=Z,114nm,1.5s
PET Petropavlovsk 49.95 25 P **P 15 15 05.1 +1.4**
RIV Riverview 50.07 153 P **P 15 15 05.5 +0.6**

comp=Z,220nm,0.9s
RIV Riverview 50.07 153 P **P 15 15 06.2 +1.3**
RIV Riverview 50.07 153 ⇑P **P 15 15 08.6 +3.7**
MNGI Mangalore 50.13 278 *e*P **P 15 15 05.9 +0.1**
MNGI IAMs_20 IAMs_20 15 34 17.9
comp=Z,9μm,22.0s
BHK Bhakra 50.34 302 *e*P **P 15 15 07.3 +0.1**
CAN Canberra 50.41 156 P **P 15 15 08.7 +1.1**
CAN IAMs_20 IAMs_20 15 38 52.2
comp=Z,7μm,20.0s
CAN Canberra 50.41 156 P **P 15 15 08.3 +0.8**
comp=Z,264nm,1.3s
CAN Canberra 50.41 156 P **P 15 15 08.8 +1.3**
CAN Canberra 50.41 156 P **P 15 15 08.7 +1.1**
CAN pmax pmax
comp=Z,508nm,1.4s
CAN pmax pmax
comp=Z,7μm,20.0s
CAN Canberra 50.41 156 ⇑P **P 15 15 08.1 +0.5**
CAN Canberra 50.41 156 P **P 15 15 08.5 +0.9**
WOLH Wollongong Har 50.43 153 P **P 15 15 09.1 +1.5**
CNB Canberra Magne 50.55 155 P **P 15 15 09.6 +1.0**
ZSN Zaisan 50.61 325 *e*P **P 15 15 08.5 -0.4**
ZSN pmax pmax
comp=Z,100nm,1.4s
ZSN Zaisan 50.61 325 *e*P **P 15 15 08.5 -0.4**
comp=Z,100nm,1.4s
DHRM DHARAMSHALA 50.63 303 *e*P **P 15 15 08.4 -1.2**
DHRM IAmb IAmb 15 15 47.6
comp=Z,142nm,1.0s
DHRM IAMs_20 IAMs_20 15 35 18.9
comp=Z,2μm,22.3s
KAD Karad 50.67 284 *e*P **P 15 15 09.8 -0.1**
KAD IAMs_20 IAMs_20 15 34 16.1
comp=Z,9μm,21.8s
POO Poona 51.01 285 *e*P **P 15 15 11.7 -0.7**
POO IAMs_20 IAMs_20 15 34 24.5
comp=Z,6μm,23.2s
GOA Goa 51.02 282 *e*P **P 15 15 12.7 +0.3**
GOA IAmb IAmb 15 15 15.5
comp=Z,245nm,1.0s
GOA IAMs_20 IAMs_20 15 34 25.4
comp=Z,9μm,23.2s
TOO Toolangi 51.10 160 P **P 15 15 12.4 -0.3**
TOO IAmb IAmb 15 15 38.0
comp=Z,296nm,1.9s
TOO Toolangi 51.10 160 P **P 15 15 13.2 +0.5**
comp=Z,58nm,1.1s
TOO Toolangi 51.10 160 P **P 15 15 12.4 -0.3**
TOO pmax pmax
comp=Z,297nm,1.9s
TOO Toolangi 51.10 160 ⇑P **P 15 15 13.4 +0.8**
DZM Mont Dzumac 51.13 129 IAmb IAmb 15 15 34.1
comp=Z,190nm,0.9s
DZM Mont Dzumac 51.13 129 P **P 15 15 15.0 +1.8**
DZM Mont Dzumac 51.13 129 ⇑P **P 15 15 14.3 +1.1**
DZM Mont Dzumac 51.13 129 P **P 15 15 15.0 +1.8**
MLBS Spotswood, Mel 51.14 161 P **P 15 15 14.3 +1.4**
THN Thein Dam 51.16 303 *e*P **P 15 15 11.6 -1.6**
THN IAmb IAmb 15 15 52.4
comp=Z,128nm,1.0s
ONTNC Ouen Toro 51.27 130 IAmb IAmb 15 15 34.2
comp=Z,124nm,0.9s
ONTNC Ouen Toro 51.27 130 P **P 15 15 16.2 +2.0**
ONTNC Ouen Toro 51.27 130 ⇑P **P 15 15 15.1 +0.9**
GEXS Deakin Univers 51.29 162 P **P 15 15 15.6 +1.6**
YATNC Mamie plateau, 51.46 129 P **P 15 15 18.3 +2.7**
YAK Yakutsk 51.60 2 P **P 15 15 14.8 -1.2**
YAK Yakutsk 51.60 2 IAMs_20 IAMs_20 15 38 19.4
comp=Z,6μm,20.0s
YAK Yakutsk 51.60 2 LR LR 15 38 18.4
comp=Z,5μm,20.1s,baz=176,slow=37
YAK Yakutsk 51.60 2*c i*P **P 15 15 16.8 +0.8**
YAK *e**PP **sP 15 15 31.7 -0.2**
YAK *e* 15 16 29.7
YAK *e* 15 17 14.7
YAK *e*PPP PPP 15 18 15.9
YAK *e*S **S 15 22 33.9 +0.1**
YAK *e* 15 25 02.1
YAK *e*SS **SS 15 26 11.8 +1.4**
YAK *e*SSS SSS 15 27 51.6
YAK pmax pmax
comp=Z,622nm,1.1s
YAK pmax pmax
comp=N,107nm,1.4s
YAK pmax pmax
comp=E,32nm,1.4s
YAK pmax pmax
comp=Z,2μm,7.4s
YAK pmax pmax
comp=N,1μm,6.4s
YAK pmax pmax
comp=E,417nm,5.8s
YAK smax smax
comp=E,555nm,3.3s
YAK smax smax
comp=N,527nm,3.3s
YAK MLR MLR
comp=Z,6μm,26.0s
YAK MLR MLR
comp=N,3μm,14.0s
YAK MLR MLR
comp=E,3μm,21.0s
YAK Yakutsk 51.60 2 ⇑P **P 15 15 16.6 +0.6**
YAK Yakutsk 51.60 2 P **P 15 15 16.6 +0.6**
YAK PcP **PcP 15 16 29.1 -0.2**
OUENC Ouen Island, N 51.63 130 P **P 15 15 19.0 +2.2**
MK31 Makanchi Array 51.77 323 P **P 15 15 17.1 -0.5**
MK31 IAmb IAmb 15 15 18.5
comp=Z,473nm,2.0s
MK31 Makanchi Array 51.77 323*ce*P **P 15 15 17.4 -0.2**
MKAR Makanchi Array 51.77 323 P **P 15 15 17.3 -0.3**
MKAR Makanchi Array 51.77 323 P **P 15 15 17.6 0.0**
comp=Z,57nm,0.7s,baz=121,slow=8.0,SNR=341
MKAR PcP **PcP 15 16 31.8 +1.3**
comp=Z,55nm,0.9s,baz=120,slow=3.8,SNR=1.9
MKAR LR LR 15 39 31.5
comp=Z,10μm,19.9s,baz=116,slow=39
MKAR PKPPKP **P'P'df 15 45 52.4 -4.0**
comp=Z,0.6nm,0.8s,baz=293,slow=2.6,SNR=4.6
MKAR PKP2bc 15 46 08.4
comp=Z,1.6nm,1.0s,baz=321,slow=1.8,SNR=4.9
MKAR PKP2ab 15 46 36.4
comp=Z,0.8nm,0.9s,baz=291,slow=1.2,SNR=3.6
comp=Z,57nm,0.7s
SHLS Shalkode 51.87 318 *e*P **P 15 15 15.8 -2.8**
SHLS pmax pmax
comp=Z,131nm,1.3s
SHLS Shalkode 51.87 318 *e*P **P 15 15 15.9 -2.8**
comp=Z,131nm,1.3s
MAKZ Makanchi 51.96 323 P **P 15 15 18.5 -0.5**
MAKZ IAmb IAmb 15 15 20.9
comp=Z,421nm,1.6s
MAKZ Makanchi 51.96 323 P **P 15 15 18.5 -0.5**
MAKZ pmax pmax
comp=Z,421nm,1.7s
MAKZ pmax pmax
comp=Z,13μm,19.0s
MAKZ Makanchi 51.96 323 ⇑P **P 15 15 18.9 -0.1**
MAKZ Makanchi 51.96 323 P **P 15 15 18.9 -0.1**
MAKZ PcP **PcP 15 16 32.5 +1.3**
MILA Mila 51.98 156 P **P 15 15 19.9 +0.6**
comp=Z,33nm,1.7s
MILA Mila 51.98 156 ⇑P **P 15 15 20.5 +1.3**
UZB Uzynbulak 52.16 317 *e*P **P 15 15 20.2 -0.5**
UZB Uzynbulak 52.16 317 *e*P **P 15 15 20.3 -0.5**
PINNC Pines Island, 52.20 129 P **P 15 15 22.9 +1.8**
HMDM Hanimaadhoo 52.32 271 P **P 15 15 22.7 +0.5**
HMDM Hanimaadhoo 52.32 271 P **P 15 15 23.6 +1.4**
SNR=5.6
LHI Lord Howe Isla 52.35 144 P **P 15 15 22.9 +0.8**
comp=Z,0.0nmcomp=Z,140nm,0.7s
BKNR BIKANER 52.38 297 *e*P **P 15 15 19.2 -3.2**
MA2 Magadan 52.47 16 P **P 15 15 23.4 +0.9**
MA2 IAmb IAmb 15 15 26.4
comp=Z,101nm,0.9s
MA2 PcP **PcP 15 16 34.5 +1.8**
MA2 Magadan 52.47 16 LR LR 15 35 27.9
comp=Z,3μm,21.4s,baz=204,slow=33
MA2 Magadan 52.47 16 P **P 15 15 23.3 +0.7**
MA2 Magadan 52.47 16*ce*P **P 15 15 23.6 +1.0**
MA2 pmax pmax
comp=Z,326nm,2.5s
MA2 Magadan 52.47 16 ⇑P **P 15 15 23.5 +0.9**
MA2 Magadan 52.47 16 P **P 15 15 23.2 +0.7**
comp=Z,4μmcomp=Z,154nm,0.9s
MA2 Magadan 52.47 16 P **P 15 15 23.6 +1.0**
MA2 PcP **PcP 15 16 33.8 +1.1**
MA2 ScP **ScP 15 20 26.1 -0.7**
KPKS Kokpek 52.52 318 *e*P **P 15 15 22.9 -0.4**
KPKS pmax pmax
comp=Z,169nm,1.7s
KPKS Kokpek 52.52 318 *e*P **P 15 15 23.0 -0.4**
comp=Z,169nm,1.7s
SATY Saty 52.54 317 *e*P **P 15 15 23.1 -0.4**
SATY pmax pmax
comp=Z,178nm,1.8s
SATY Saty 52.54 317 *e*P **P 15 15 23.1 -0.4**
comp=Z,178nm,1.8s
ZHN Zhinishke 52.56 317 *e*P **P 15 15 23.1 -0.6**
ZHN pmax pmax
comp=Z,156nm,2.0s
ZHN Zhinishke 52.56 317 *e*P **P 15 15 23.2 -0.6**
comp=Z,156nm,2.0s
KSH Kashi 52.95 312 P **P 15 15 27.8 +1.1**
KSH PP PP 15 17 34.6 +8.0
KSH S **S 15 22 52.0 -1.5**
KSH pmax pmax
comp=Z,62nm,1.9s
KSH pmax pmax
comp=Z,2μm,4.8s
KSH LR LR
comp=Z,10μm,18.2s
KSH LR LR
comp=Z,10μm,17.2s
KSH LR LR
comp=Z,19μm,19.6s
KDJ Kajisay 53.01 315 P **P 15 15 27.3 +0.2**
KDJ Kajisay 53.01 315 P **P 15 15 27.3 +0.2**
KDJ pmax pmax
comp=Z,104nm,1.3s
TDK Taldyqorghan 53.34 319 *e*P **P 15 15 29.0 -0.3**
TDK pmax pmax
comp=Z,58nm,0.8s
TDK Taldyqorghan 53.34 319 *e*P **P 15 15 29.0 -0.3**
comp=Z,58nm,0.8s
ARXS Arharly 53.39 318 *e*P **P 15 15 28.2 -1.5**
NIL Nilore 53.45 304 P **P 15 15 29.6 -0.7**
NIL IAmb IAmb 15 16 10.6
comp=Z,232nm,1.1s
NIL Nilore 53.45 304 P **P 15 15 29.9 -0.4**
NIL Nilore 53.45 304 P **P 15 15 29.6 -0.7**
NIL pmax pmax
comp=Z,232nm,1.1s
TNSS Tian-Shan 53.51 316 *e*P **P 15 15 30.1 -1.0**
TNSS Tian-Shan 53.51 316 *e*P **P 15 15 30.1 -1.0**
AAA Alma-Ata 53.60 317 *e*P **P 15 15 30.8 -0.5**
AAA pmax pmax
comp=Z,32nm,0.7s
AAA Alma-Ata 53.60 317 *e*P **P 15 15 30.9 -0.4**
comp=Z,32nm,0.7s
KAAM Kaadhehdhoo 53.61 263 P **P 15 15 32.9 +1.2**
SNR=37
KAAM Kaadhehdhoo 53.61 263 ⇑P **P 15 15 32.7 +1.0**
ULHL Ulahol 53.70 315 P **P 15 15 32.3 +0.1**
SNR=52
CHKK Chushkaly 53.80 317 *e*P **P 15 15 32.3 -0.4**
CHKK Chushkaly 53.80 317 *e*P **P 15 15 32.3 -0.4**
BOOM Boomskoye usch 54.00 315 IAmb IAmb 15 16 41.3
comp=Z,285nm,1.7s
KUU Kurty 54.25 317 *e*P **P 15 15 35.3 -0.6**
KUU pmax pmax
comp=Z,83nm,1.1s
KUU Kurty 54.25 317 *e*P **P 15 15 35.4 -0.6**
comp=Z,83nm,1.1s
JASL Jaisalmer 54.32 296 *e*P **P 15 15 36.7 -0.1**
ZAA0 Zalesovo Array 54.38 331 P **P 15 15 36.0 -0.7**
ZALV Zalesovo Beam 54.38 331 P **P 15 15 36.1 -0.6**
comp=Z,91nm,0.7s,baz=122,slow=6.5,SNR=153
ZALV PcP **PcP 15 16 40.1 0.0**
comp=Z,31nm,1.0s,baz=126,slow=5.0,SNR=1.5
ZALV LR LR 15 41 13.9
comp=Z,7μm,19.0s,baz=126,slow=39
ZALV PKP2bc 15 46 02.5
comp=Z,1.0nm,0.8s,baz=304,slow=3.4,SNR=4.5
comp=Z,91nm,0.7s
TKM2 Tokmak 2 54.39 316 P **P 15 15 37.1 -0.1**
SNR=48
KBK Karagaybulak 54.74 315 P **P 15 15 40.0 +0.2**
SNR=47
UCH Uchtor 54.90 315 P **P 15 15 41.4 +0.2**
SNR=20
CHMS Chumysh 55.00 316 P **P 15 15 40.8 -0.7**
SNR=25
AAK Ala-Archa 55.05 315 P **P 15 15 40.6 -1.3**
AAK IAmb IAmb 15 16 24.1
comp=Z,162nm,1.8s
AAK Ala-Archa 55.05 315 LR LR 15 42 12.8
comp=Z,13μm,19.6s,baz=97,slow=39
AAK Ala-Archa 55.05 315 P **P 15 15 42.3 +0.3**
AAK P **P 15 15 42.3 +0.3**
AAK S **S 15 23 22.4 +0.6**
AAK S **S 15 23 22.4 +0.6**
AAK Ala-Archa 55.05 315 P **P 15 15 42.9 +0.9**
SNR=31
AAK Ala-Archa 55.05 315*ce*P **P 15 15 41.8 -0.2**
AAK pmax pmax
comp=Z,142nm,2.5s
AAK Ala-Archa 55.05 315 *i* P **P 15 15 41.6 -0.4**
SNR=39
AAK Ala-Archa 55.05 315 ⇑P **P 15 15 41.7 -0.2**
BHUJ Bhuj 55.13 291 *e*P **P 15 15 42.5 -0.1**
BHUJ IAmb IAmb 15 16 01.9
comp=Z,2μm,2.6s
BHUJ IAMs_20 IAMs_20 15 34 39.5
comp=Z,3μm,24.0s
CORO Coronation Par 55.15 161 P **P 15 15 43.0 +0.7**
SGDS Sogindy 55.24 316 *e*P **P 15 15 42.5 -0.7**
SGDS pmax pmax
comp=Z,83nm,2.0s
SGDS Sogindy 55.24 316 *e*P **P 15 15 42.6 -0.7**
comp=Z,83nm,2.0s
USP Ospenovka 55.27 316 P **P 15 15 43.0 -0.3**
SNR=43
AML Almayashu 55.44 314 P **P 15 15 45.2 +0.1**
SNR=146
EKS2 Erkin-Say 55.56 315 P **P 15 15 45.8 +0.3**
SNR=16
ARSB Arslanbob 55.69 313 IAmb IAmb 15 16 47.6
comp=Z,310nm,1.8s
SEY Seymchan 55.75 14 LR LR 15 38 21.3
comp=Z,5μm,21.8s,baz=216,slow=34
SEY Seymchan 55.75 14*ce*P **P 15 15 48.5 +2.1**
SEY pmax pmax
comp=Z,61nm,0.8s
KURK Kurchatov 55.81 326 P **P 15 15 47.1 +0.1**
KURK Kurchatov 55.81 326 P **P 15 15 47.2 +0.1**
KURK P **P 15 15 47.2 +0.1**
KURK S **S 15 23 30.0 -1.3**
KURK S **S 15 23 30.0 -1.3**
KURK Kurchatov 55.81 326*ce*P **P 15 15 46.8 -0.2**
KURK pmax pmax
comp=Z,148nm,0.8s
KURK Kurchatov 55.81 326 ⇑P **P 15 15 46.9 -0.1**
KURK Kurchatov 55.81 326 P **P 15 15 46.8 -0.2**
KURBB Kurchatov Arra 55.82 325 P **P 15 15 46.9 -0.2**
comp=Z,146nm,0.8s,baz=128,slow=6.5,SNR=297
KURBB LR LR 15 42 39.0
comp=Z,8μm,18.8s,baz=134,slow=39
comp=Z,146nm,0.8s
BTLS Baital 56.20 318*c i*P **P 15 15 49.4 -0.6**
BTLS pmax pmax
comp=Z,132nm,1.9s
BTLS Baital 56.20 318 ⇑*i*P **P 15 15 49.4 -0.6**
comp=Z,132nm,1.9s
H08S2 Diego Garcia H 56.22 254 P **P 15 15 51.0 +0.8**
baz=37,slow=11,SNR=3.1
H08S3 Diego Garcia H 56.23 254 P **P 15 15 51.0 +0.7**
baz=37,slow=11,SNR=4.7
H08S1 Diego Carcia H 56.24 254 P **P 15 15 52.5 +2.1**
baz=37,slow=11,SNR=7.1
TAU Tasmania Unive 56.52 161 ⇑P **P 15 15 54.2 +2.0**
BTK Batken 56.91 311 IAmb IAmb 15 16 31.6
comp=Z,154nm,1.3s
KBL Kabul 57.05 304 P **P 15 15 55.5 -1.0**
KBL Kabul 57.05 304 P **P 15 15 55.8 -0.7**
SNR=28
KBL P **P 15 15 55.8 -0.7**
SNR=28
KBL Kabul 57.05 304 P **P 15 15 55.5 -1.0**
KBL pmax pmax
comp=Z,94nm,1.1s
SHEM Shemya Is, Ala 57.17 33 LR LR 15 37 53.3
comp=Z,2μm,19.8s,baz=246,slow=33
SHEM PKPPKP 15 45 46.1
comp=Z,31nm,0.7s,baz=5.7,slow=10,SNR=9.1
DZA Taraz 57.34 315 *e*P **P 15 15 57.5 -0.6**
DZA pmax pmax
comp=Z,32nm,0.9s
DZA Taraz 57.34 315 *e*P **P 15 15 57.6 -0.6**
comp=Z,32nm,0.9s
SIMJ Simiganj 57.92 309 P **P 15 16 02.2 -0.3**
KK31 Karatay Array 57.98 315 IAmb IAmb 15 16 55.7
comp=Z,182nm,1.5s
KKAR Karatay Array 57.98 315 P **P 15 16 01.8 -0.8**
KKAR Karatay Array 57.98 315 P **P 15 16 01.4 -1.2**
KKAR Karatay Array 57.98 315 P **P 15 16 01.4 -1.2**
KKAR Karatay Array 57.98 315 ⇑P **P 15 16 01.8 -0.8**
IUG Iuzhnay 58.04 313 *e*P **P 15 16 02.3 -0.9**
IUG pmax pmax
comp=Z,55nm,0.8s
IUG Iuzhnay 58.04 313 *e*P **P 15 16 02.4 -0.9**
comp=Z,55nm,0.8s
CHM Chimkent 58.40 313 *e*P **P 15 16 04.7 -0.8**
CHM Chimkent 58.40 313 *e*P **P 15 16 04.8 -0.8**
BRLS Borolday 58.43 314*c i*P **P 15 16 05.2 -0.6**
BRLS pmax pmax
comp=Z,24nm,0.8s
BRLS Borolday 58.43 314 ⇑*i*P **P 15 16 05.2 -0.6**
comp=Z,24nm,0.8s
MSVF Nonsavu 58.50 118 P **P 15 16 08.4 +1.7**
comp=Z,55nm,0.7s,baz=273,slow=8.2,SNR=34
MSVF LR LR 15 36 59.8
comp=Z,5μm,21.8s,baz=317,slow=32
comp=Z,55nm,0.7s
MSVF Nonsavu 58.50 118 P **P 15 16 09.6 +2.9**
MSVF Nonsavu 58.50 118 ⇑P **P 15 16 08.7 +2.0**
BRZS Berezniki 58.92 323*c i*P **P 15 16 08.4 -0.6**
BRZS pmax pmax
comp=Z,23nm,0.8s
BRZS Berezniki 58.92 323 ⇑*i*P **P 15 16 08.4 -0.6**
comp=Z,23nm,0.8s
DGTI Dogotuki 59.41 116 P **P 15 16 14.8 +1.9**
TIXI Tiksi 61.22 1 P **P 15 16 25.2 +0.9**
TIXI Tiksi 61.22 1 LR LR 15 42 58.4
comp=Z,8μm,21.9s,baz=196,slow=36
TIXI Tiksi 61.22 1*c i*P **P 15 16 24.0 -0.3**
TIXI Tiksi 61.22 1 ⇑P **P 15 16 24.6 +0.2**
BVAR Borovoye Array 61.41 325 P **P 15 16 25.4 -0.6**
comp=Z,53nm,0.8s,baz=126,slow=8.2,SNR=172
BVAR PcP **PcP 15 17 08.0 +0.1**
comp=Z,38nm,0.7s,baz=118,slow=4.5,SNR=6.2
BVAR PKP2bc 15 45 48.9
comp=Z,1.6nm,1.0s,baz=214,slow=5.0,SNR=5.1
BVAR LR LR 15 45 50.8
comp=Z,6μm,19.1s,baz=114,slow=39
comp=Z,53nm,0.8s
LKBA Tubou, Lakemba 61.43 117 P **P 15 16 28.8 +2.1**
BRVK Borovoye 61.48 325 P **P 15 16 26.1 -0.4**
BRVK IAmb IAmb 15 16 27.8
comp=Z,96nm,0.8s
BRVK Borovoye 61.48 325 P **P 15 16 26.1 -0.4**
BRVK P **P 15 16 26.1 -0.4**
BRVK Borovoye 61.48 325*ce*P **P 15 16 25.9 -0.6**
BRVK pmax pmax
comp=Z,104nm,0.8s
BRVK Borovoye 61.48 325 ⇑P **P 15 16 26.0 -0.4**
BRVK Borovoye 61.48 325 P **P 15 16 25.8 -0.7**
HRA Herat 62.58 303 P **P 15 16 33.6 -0.9**
HRA IAmb IAmb 15 17 14.7
comp=Z,297nm,1.9s
NGCH Negor - Chabah 62.98 293 P **P 15 16 38.0 +1.0**
SNR=8.9
BILL Bilibino 63.34 16 P **P 15 16 39.4 +0.7**
BILL IAmb IAmb 15 16 42.0
comp=Z,126nm,1.1s
BILL IAMs_20 IAMs_20 15 41 58.4
comp=Z,4μm,21.0s
BILL Bilibino 63.34 16*ce*P **P 15 16 39.5 +0.9**
BILL pmax pmax
comp=Z,46nm,0.9s
BILL MLR MLR
comp=Z,5μm,22.0s
BILL Bilibino 63.34 16 P **P 15 16 39.4 +0.7**
ATKA Atka Island 63.50 36 P **P 15 16 42.3 +2.3**
ATKA Atka Island 63.50 36 ⇑P **P 15 16 41.1 +1.2**
OUZ Omahuta 63.88 138 IAMs_20 IAMs_20 15 43 08.9
comp=Z,4μm,21.0s
OUZ Omahuta 63.88 138 P **P 15 16 44.4 +1.7**
OUZ Omahuta 63.88 138 ⇑P **P 15 16 44.8 +2.1**
JLN Jalan Bani Buh 64.57 290 P **P 15 16 46.8 -0.7**
SNR=14
JLN P **P 15 16 46.8 -0.7**
SNR=14
WCZ Waipu Caves 64.79 138 P **P 15 16 50.3 +1.6**
WBK Wadi Bani Khal 64.97 290 P **P 15 16 49.5 -0.7**
SNR=12
WBK P **P 15 16 49.5 -0.7**
SNR=12
WSAR Wadi Sarin 65.27 291 LR LR 15 49 05.3
comp=Z,2μm,18.7s,baz=101,slow=39
GRZ Great Barrier 65.71 138 P **P 15 16 56.1 +1.6**
BIDO Bidbid 65.72 291 P **P 15 16 54.5 -0.5**
SNR=23
JMDO Jabal Madar 65.77 290 P **P 15 16 54.6 -0.8**
SNR=18
JMDO P **P 15 16 54.6 -0.8**
SNR=18
SMDO Samad 65.81 291 P **P 15 16 55.0 -0.7**
SNR=27
SMDO P **P 15 16 55.0 -0.7**
SNR=27
SMDO S **S 15 25 43.4 +3.4**
SMDO S **S 15 25 43.4 +3.4**
JASK Jask - Hormozg 65.94 294 P **P 15 16 57.3 +0.9**
SNR=16
MHTO MHTO 65.95 288 P **P 15 16 55.6 -0.9**
SNR=53
MHTO P **P 15 16 55.6 -0.9**
SNR=53
KUZ Kuaotunu 66.17 138 P **P 15 16 58.5 +1.0**
KUZ Kuaotunu 66.17 138 P **P 15 16 59.0 +1.5**
DQM DQM 66.40 287 P **P 15 16 58.9 -0.6**
SNR=18
HOQ Hoqain 66.47 291 P **P 15 16 59.2 -0.7**
SNR=21
HOQ P **P 15 16 59.2 -0.7**
SNR=21
TOZ Tahuroa Road 66.59 139 IAmb IAmb 15 17 17.1
comp=Z,109nm,1.2s
TOZ IAMs_20 IAMs_20 15 42 13.7
comp=Z,6μm,22.0s
TOZ Tahuroa Road 66.59 139 P **P 15 17 01.7 +1.5**
BSY Bisya 66.60 290 P **P 15 17 00.0 -0.7**
SNR=25
BSY P **P 15 17 00.0 -0.7**
SNR=25
ABKAR Akbulak array 66.61 319 P **P 15 16 59.4 -0.9**
ABKAR Akbulak array 66.61 319 ⇑P **P 15 16 59.3 -0.9**
HIZ Hauiti 66.63 140 IAMs_20 IAMs_20 15 42 04.8
comp=Z,5μm,22.0s
HIZ Hauiti 66.63 140 P **P 15 17 03.1 +2.6**
MSZ Milford Sound 66.64 149 P **P 15 17 02.7 +2.4**
JCZ Jackson Bay 66.67 148 P **P 15 17 02.6 +1.9**
JCZ Jackson Bay 66.67 148 P **P 15 17 02.5 +1.9**
DSZ Denniston Nort 66.78 144 P **P 15 17 03.2 +1.8**
DCZ Deep Cove 66.81 150 IAmb IAmb 15 17 36.6
comp=Z,109nm,1.1s
VRZ Vera Road 66.93 141 P **P 15 17 05.1 +2.7**
WVZ Waitaha Valley 67.04 146 P **P 15 17 03.6 +0.6**
PYZ Puysegur Point 67.08 151 IAMs_20 IAMs_20 15 48 55.3
comp=Z,5μm,18.0s
SOHO SOHO 67.17 292 P **P 15 17 03.6 -0.7**
SOHO P **P 15 17 03.6 -0.7**
SOHO SOHO 67.17 292 *i* P **P 15 17 02.6 -1.6**
SNR=24
SPIA Saint Paul Isl 67.19 32 P **P 15 17 02.4 -1.4**
baz=253
ARQ Araqi 67.20 291 P **P 15 17 04.0 -0.6**
SNR=23
ARQ P **P 15 17 04.0 -0.6**
SNR=23
INZ Inchbonnie 67.21 145 IAMs_20 IAMs_20 15 43 37.9
comp=Z,4μm,21.0s
MLZ Mavora Lakes 67.22 149 IAMs_20 IAMs_20 15 44 01.2
comp=Z,6μm,22.0s
MLZ Mavora Lakes 67.22 149 P **P 15 17 05.8 +1.7**

WKZ	**Wanaka**	**67.30 148**	IAmb	IAmb	15 17 48.7
	comp=Z,160nm,1.1s				
WKZ			IAMs_20	IAMs_20	15 43 59.4
	comp=Z,5µm,22.0s				
WKZ	**Wanaka**	**67.30 148**	P	**P**	**15 17 06.7 +2.0**
MDH	**Madha**	**67.36 293**	P	**P**	**15 17 03.8 -1.7**
MDH			P	**P**	**15 17 03.8 -1.7**
MDH	**Madha**	**67.36 293**	*i* P	**P**	**15 17 03.6 -1.9**
	SNR=6.1				
NNZ	**Nelson**	**67.36 143**	IAMs_20	IAMs_20	15 45 32.1
	comp=Z,5µm,20.0s				
NNZ	**Nelson**	**67.36 143**	P	**P**	**15 17 06.0 +1.0**
OMRZ	**Omania**	**67.37 139**	P	**P**	**15 17 07.7 +2.4**
P08K	**Saint George I**	**67.40 33**	P	**P**	**15 17 06.7 +1.7**
	baz=254				
RATZ	**Rangitukua**	**67.42 140**	P	**P**	**15 17 07.7 +2.1**
THZ	**Tophouse**	**67.43 144**	IAmb	IAmb	15 17 22.7
	comp=Z,129nm,1.2s				
THZ	**Tophouse**	**67.43 144**	P	**P**	**15 17 05.7 +0.1**
KATZ	**Kakaramea**	**67.44 140**	P	**P**	**15 17 07.9 +2.1**
UOSS	**Minazif**	**67.45 293**	P	**P**	**15 17 05.2 -0.9**
UOSS	**Minazif**	**67.45 293**	P	**P**	**15 17 05.0 -1.1**
UOSS			P	**P**	**15 17 05.0 -1.1**
UOSS	**Minazif**	**67.45 293**	*i* P	**P**	**15 17 04.2 -1.9**
	SNR=9.5				
WAZ	**Wanganui**	**67.45 141**	P	**P**	**15 17 08.7 +3.0**
WTVZ	**West Tongariro**	**67.45 140**	P	**P**	**15 17 08.2 +2.3**
COVZ	**Chateau Observ**	**67.47 140**	P	**P**	**15 17 08.2 +2.3**
HRRZ	**Handcock Road**	**67.47 139**	P	**P**	**15 17 08.4 +2.5**
MASF	**Masafi**	**67.48 293**	P	**P**	**15 17 05.9 -0.4**
	SNR=12				
MSFE	**Esma-Masafi**	**67.48 293**	*i* P	**P**	**15 17 05.3 -1.0**
	SNR=14				
SHME	**Shamm**	**67.49 294**	P	**P**	**15 17 05.8 -0.4**
	SNR=5.4				
SHME	**Shamm**	**67.49 294**	*i* P	**P**	**15 17 05.3 -0.9**
	SNR=8.7				
WHZ	**Wether Hill Ro**	**67.50 150**	IAMs_20	IAMs_20	15 44 44.6
	comp=Z,5µm,22.0s				
HATD	**Hatta, Dubai**	**67.52 293**	P	**P**	**15 17 06.0 -0.5**
	SNR=20				
HATD			P	**P**	**15 17 06.0 -0.5**
	SNR=20				
HATD	**Hatta, Dubai**	**67.52 293**	*i* P	**P**	**15 17 05.3 -1.2**
	SNR=20				
TMVZ	**Te Maari**	**67.52 140**	P	**P**	**15 17 08.9 +2.7**
OTVZ	**Oturere**	**67.53 140**	P	**P**	**15 17 08.9 +2.6**
ETVZ	**East Tongariro**	**67.54 140**	P	**P**	**15 17 09.3 +2.9**
ASHO	**Ashiyiah**	**67.59 292**	P	**P**	**15 17 06.4 -0.5**
	SNR=19				
ASHO	**Ashiyiah**	**67.59 292**	*i* P	**P**	**15 17 06.0 -1.0**
	SNR=28				
PRRZ	**Plateau Road**	**67.61 139**	P	**P**	**15 17 08.6 +1.9**
LBZ	**Lake Benmore**	**67.62 147**	IAmb	IAmb	15 17 36.7
	comp=Z,194nm,1.1s				
LBZ	**Lake Benmore**	**67.62 147**	P	**P**	**15 17 07.8 +1.1**
RPZ	**Rata Peaks**	**67.64 146**	P	**P**	**15 17 07.2 +0.4**
RPZ			IAmb	IAmb	15 17 44.6
	comp=Z,119nm,0.8s				
RPZ	**Rata Peaks**	**67.64 146**	P	**P**	**15 17 06.9 +0.2**
	comp=Z,38nm,0.5s,baz=331,slow=2.2,SNR=26				
RPZ			LR	LR	15 45 32.8
	comp=Z,5µm,21.8s,baz=298,slow=35				
	comp=Z,38nm,0.5s				
RPZ	**Rata Peaks**	**67.64 146**	P	**P**	**15 17 07.2 +0.4**
LTZ	**Lake Taylor**	**67.71 145**	IAmb	IAmb	15 17 33.7
	comp=Z,166nm,1.3s				
LTZ	**Lake Taylor**	**67.71 145**	P	**P**	**15 17 08.4 +1.1**
EAZ	**Earnscleugh**	**67.73 148**	P	**P**	**15 17 07.8 +0.5**
TUWZ	**Tuamarina**	**67.83 143**	P	**P**	**15 17 07.5 -0.5**
ALNE	**Al Ain**	**67.89 292**	P	**P**	**15 17 08.3 -0.5**
	SNR=43				
ALNE	**Al Ain**	**67.89 292**	*i* P	**P**	**15 17 08.6 -0.3**
	SNR=24				
UMQ	**Umm Al-Quwin**	**67.93 293**	P	**P**	**15 17 09.1 0.0**
UMQ			P	**P**	**15 17 09.1 0.0**
OXZ	**Oxford**	**67.93 145**	IAmb	IAmb	15 17 45.5
	comp=Z,65nm,0.9s				
OXZ	**Oxford**	**67.93 145**	P	**P**	**15 17 08.6 0.0**
URZ	**Urewera**	**67.93 139**	LR	LR	15 48 04.2
	comp=Z,4µm,18.7s,baz=35,slow=37				
URZ	**Urewera**	**67.93 139**	P	**P**	**15 17 09.5 +0.8**
NAZ	**Nazwa, Dubai**	**67.94 293**	P	**P**	**15 17 08.3 -0.9**
	SNR=10.0				
NAZ			P	**P**	**15 17 08.3 -0.9**
	SNR=10.0				
NAZ	**Nazwa, Dubai**	**67.94 293**	*i* P	**P**	**15 17 10.0 +0.8**
	SNR=6.3				
SVE	**Sverdlovsk**	**67.96 327**	*d i* P	**P**	**15 17 08.1 -0.5**
SVE			*e* S	**S**	**15 26 01.9 -2.7**
SVE			*e* SS	**SS**	**15 30 32.6 +5.7**
SVE			pmax	pmax	
	comp=Z,126nm,0.9s				
SVE			MLR	MLR	
	comp=Z,5µm,18.0s				
FAQ	**Al Faqa, Dubai**	**68.01 292**	P	**P**	**15 17 08.9 -0.7**
	SNR=13				
FAQ	**Al Faqa, Dubai**	**68.01 292**	*i* P	**P**	**15 17 08.4 -1.1**
	SNR=11				
BKZ	**Black Stump Fm**	**68.05 140**	IAMs_20	IAMs_20	15 43 11.4
	comp=Z,6µm,22.0s				
BKZ	**Black Stump Fm**	**68.05 140**	P	**P**	**15 17 10.8 +1.3**
BKZ	**Black Stump Fm**	**68.05 140**	P	**P**	**15 17 10.3 +0.8**
TMZ	**Timaru**	**68.05 147**	P	**P**	**15 17 10.5 +1.1**
AKTO	**Aktyubinsk**	**68.06 320**	LR	LR	15 49 13.6
	comp=Z,17µm,20.3s,baz=100,slow=38				
HAZ	**Te Kaha**	**68.09 138**	P	**P**	**15 17 10.5 +0.8**
APZ	**The Paps**	**68.18 150**	P	**P**	**15 17 12.5 +2.3**
KHZ	**Kahutara**	**68.20 144**	IAmb	IAmb	15 17 29.5
	comp=Z,240nm,1.6s				
KHZ	**Kahutara**	**68.20 144**	⇑P	**P**	**15 17 10.3 0.0**
SNZO	**South Karori**	**68.21 142**	P	**P**	**15 17 09.0 -1.3**
SNZO			IAmb	IAmb	15 17 37.9
	comp=Z,164nm,1.1s				
SNZO	**South Karori**	**68.21 142**	⇑P	**P**	**15 17 10.7 +0.3**
TSZ	**Takapari Road**	**68.23 141**	P	**P**	**15 17 11.6 +1.0**
MWZ	**Matawai**	**68.25 138**	P	**P**	**15 17 11.2 +0.5**
ASUD	**Al Ashush, Dub**	**68.25 292**	P	**P**	**15 17 10.8 -0.3**
	SNR=8.0				
ASUD			P	**P**	**15 17 10.8 -0.3**
	SNR=8.0				
ASUD	**Al Ashush, Dub**	**68.25 292**	*i* P	**P**	**15 17 10.5 -0.6**
	SNR=17				
GVZ	**Greta Valley S**	**68.26 145**	IAmb	IAmb	15 17 32.8
	comp=Z,227nm,1.3s				
GVZ	**Greta Valley S**	**68.26 145**	P	**P**	**15 17 11.4 +0.7**
ODZ	**Otahua Downs**	**68.30 148**	P	**P**	**15 17 12.1 +1.2**
MXZ	**Matakaoa Point**	**68.33 137**	IAMs_20	IAMs_20	15 47 50.9
	comp=Z,4µm,20.0s				
MCHZ	**McNeill Hill**	**68.34 140**	P	**P**	**15 17 13.2 +1.9**
MRZ	**Mangatainoka R**	**68.35 141**	IAmb	IAmb	15 17 32.4
	comp=Z,322nm,1.9s				
MRZ			IAMs_20	IAMs_20	15 48 40.3
	comp=Z,5µm,20.0s				
MRZ	**Mangatainoka R**	**68.35 141**	P	**P**	**15 17 11.2 -0.1**
BHW	**Baring Head**	**68.37 142**	IAMs_20	IAMs_20	15 48 55.8
	comp=Z,4µm,20.0s				
TUZ	**Tuapeka**	**68.39 149**	P	**P**	**15 17 12.5 +1.1**
UNV	**Unalaska Valle**	**68.42 36**	P	**P**	**15 17 12.7 +1.2**
	baz=258,SNR=9.3				
UMZA	**Um Al Zommool**	**68.48 290**	P	**P**	**15 17 11.7 -0.9**
UMZA			P	**P**	**15 17 11.7 -0.9**
MQZ	**McQueen's Vall**	**68.52 145**	P	**P**	**15 17 12.7 +0.5**
AJN	**Ajban**	**68.57 292**	P	**P**	**15 17 12.2 -0.8**
	SNR=8.2				
AJN	**Ajban**	**68.57 292**	*i* P	**P**	**15 17 12.0 -1.0**
	SNR=7.7				
PUZ	**Puketiti**	**68.58 138**	P	**P**	**15 17 14.9 +2.1**
GAMB	**Gambell**	**68.65 25**	IAmb	IAmb	15 17 25.6
	comp=Z,154nm,1.3s				
GAMB	**Gambell**	**68.65 25**	P	**P**	**15 17 14.2 +1.4**
	baz=249				
KNZ	**Kokohu**	**68.73 139**	P	**P**	**15 17 15.1 +1.4**
BFZ	**Birch Farm**	**68.78 141**	P	**P**	**15 17 14.6 +0.6**
BFZ	**Birch Farm**	**68.78 141**	P	**P**	**15 17 14.1 +0.1**
PXZ	**Pawanui**	**68.78 140**	P	**P**	**15 17 15.3 +1.4**
DMTO	**DMTO**	**68.99 285**	P	**P**	**15 17 17.0 +1.2**
	SNR=43				
ARTI	**Arti**	**69.06 327**	P	**P**	**15 17 14.2 -1.2**
ARTI			IAMs_20	IAMs_20	15 49 07.6
	comp=Z,6µm,22.0s				
ARTI	**Arti**	**69.06 327**	LR	LR	15 49 21.8
	comp=Z,5µm,21.4s,baz=112,slow=38				
ARTI	**Arti**	**69.06 327**	*c i* P	**P**	**15 17 14.3 -1.2**
ARTI					15 17 42.0
ARTI					15 19 46.2
ARTI			PPP	PPP	15 21 27.0
ARTI			S	**S**	**15 26 16.0 -1.7**
ARTI			SS	**SS**	**15 30 40.0 -3.9**
ARTI			pmax	pmax	
	comp=Z,168nm,1.9s				
ARTI			MLR	MLR	
	comp=Z,5µm,19.0s				
ARTI	**Arti**	**69.06 327**	P	**P**	**15 17 14.1 -1.4**
ARTI			pP	**pP**	**15 17 24.0 -3.4**
ARTI			sP	**sP**	**15 17 28.3 -3.7**
MZWR	**Madinat Zayed**	**69.61 292**	P	**P**	**15 17 18.9 -0.7**
DOK	**Doka**	**69.70 286**	P	**P**	**15 17 20.0 -0.2**
	SNR=52				
RBK	**Rabkut**	**69.72 285**	P	**P**	**15 17 20.4 +0.1**
	SNR=36				
MZR	**Muzera**	**70.02 291**	P	**P**	**15 17 21.9 -0.2**
	SNR=38				
MZR	**Muzera**	**70.02 291**	*i* P	**P**	**15 17 21.7 -0.4**
	SNR=44				
M11K	**Mekoryuk**	**70.09 29**	P	**P**	**15 17 24.2 +2.4**
	baz=256,SNR=5.2				
WHFO	**Wadi Hawf**	**70.09 285**	P	**P**	**15 17 22.2 -0.5**
	SNR=19				
FALS	**False Pass**	**70.38 35**	P	**P**	**15 17 25.7 +2.1**
FALS	**False Pass**	**70.38 35**	P	**P**	**15 17 23.8 +0.2**
	baz=260				
GHWR	**Ruwais**	**70.52 292**	P	**P**	**15 17 24.6 -0.5**
ABTO	**Aybut**	**70.59 285**	P	**P**	**15 17 25.7 0.0**
	SNR=31				
TNA	**Tin City**	**70.77 24**	P	**P**	**15 17 27.2 +1.4**
	baz=252				
TNA			S	**S**	**15 26 40.7 +3.3**
	baz=252				
K13K	**Kusilvak Mount**	**71.19 28**	P	**P**	**15 17 29.9 +1.5**
	baz=256				
K13K			S	**S**	**15 26 45.2 +2.8**
	baz=256				
S12K	**Black Hills**	**71.29 35**	P	**P**	**15 17 30.1 +0.9**
	baz=261				
F14K	**Arctic Creek**	**71.38 24**	P	**P**	**15 17 31.5 +1.9**
	baz=254				
F14K			S	**S**	**15 26 47.6 +3.1**
	baz=254				
M13K	**Dall Lake**	**71.47 30**	IAmb	IAmb	15 17 34.8
	comp=Z,116nm,0.8s				
M13K	**Dall Lake**	**71.47 30**	P	**P**	**15 17 32.0 +1.8**
	baz=258				
ANM	**Nome**	**71.53 25**	P	**P**	**15 17 30.8 +0.4**
ANM			IAmb	IAmb	15 17 33.4
	comp=Z,268nm,1.9s				
ANM			IAMs_20	IAMs_20	15 46 40.1
	comp=Z,4µm,22.0s				
ANM	**Nome**	**71.53 25**	P	**P**	**15 17 30.8 +0.4**
ANM			pmax	pmax	
	comp=Z,268nm,1.9s				
ANM			pmax	pmax	
	comp=Z,4µm,22.0s				
ANM	**Nome**	**71.53 25**	P	**P**	**15 17 32.0 +1.5**
	baz=255,SNR=8.1				
ANM			S	**S**	**15 26 51.7 +5.4**
	baz=255				
SLWR	**Sila**	**71.59 292**	P	**P**	**15 17 31.5 -0.1**
MSEY	**Mahe Island**	**71.81 262**	P	**P**	**15 17 33.0 -0.2**
MSEY	**Mahe Island**	**71.81 262**	P	**P**	**15 17 33.7 +0.5**
MSEY	**Mahe Island**	**71.81 262**	P	**P**	**15 17 33.0 -0.2**
MSEY			pmax	pmax	
	comp=Z,636nm,1.7s				
MSEY	**Mahe Island**	**71.81 262**	*i* P	**P**	**15 17 33.2 +0.1**
	SNR=16				
MSEY	**Mahe Island**	**71.81 262**	P	**P**	**15 17 33.1 -0.1**
MSEY			pP	**pP**	**15 17 43.7 -1.6**
J14K	**Nanvaranak Lak**	**71.88 27**	IAmb	IAmb	15 17 35.4
	comp=Z,342nm,1.9s				
J14K	**Nanvaranak Lak**	**71.88 27**	P	**P**	**15 17 34.5 +2.0**
	baz=257				
J14K			S	**S**	**15 26 53.1 +2.8**
	baz=257				
L14K	**Kuka Creek**	**71.98 29**	P	**P**	**15 17 35.5 +2.3**
	baz=258				
L14K			S	**S**	**15 26 53.9 +2.4**
	baz=258				
TRNA	**Turayna**	**71.99 293**	P	**P**	**15 17 33.7 -0.2**
	SNR=16				
F15K	**North Star Dit**	**72.12 24**	P	**P**	**15 17 36.0 +2.0**
	baz=255				
F15K			S	**S**	**15 26 56.8 +3.7**
	baz=255				
SDPT	**Sand Point**	**72.13 35**	IAmb	IAmb	15 17 37.5
	comp=Z,158nm,0.8s				
SDPT	**Sand Point**	**72.13 35**	P	**P**	**15 17 36.6 +2.4**
SDPT	**Sand Point**	**72.13 35**	P	**P**	**15 17 34.7 +0.5**
	baz=262,SNR=8.3				
SDPT			S	**S**	**15 26 52.3 -1.1**
	baz=262				
SHMA	**Al-Shehemyia**	**72.15 294**	P	**P**	**15 17 34.6 -0.3**
	SNR=9.2				
N14K	**Kuskokwak Cree**	**72.20 30**	P	**P**	**15 17 36.5 +2.0**
	baz=260				
N14K			S	**S**	**15 26 57.0 +3.0**
	baz=260				
M14K	**Bethel**	**72.21 29**	IAmb	IAmb	15 17 38.3
	comp=Z,198nm,0.8s				
M14K	**Bethel**	**72.21 29**	P	**P**	**15 17 36.7 +2.1**
	baz=259,SNR=50				
M14K			S	**S**	**15 26 57.8 +3.6**
	baz=259				
O14K	**Tigyukauivet M**	**72.29 31**	IAmb	IAmb	15 17 47.7
	comp=Z,197nm,1.4s				
O14K	**Tigyukauivet M**	**72.29 31**	P	**P**	**15 17 36.5 +1.4**
	baz=260				
O14K			S	**S**	**15 26 57.2 +2.1**
	baz=260				
SMRA	**Abu-Samra**	**72.34 293**	P	**P**	**15 17 36.0 -0.1**
	SNR=19				
SAKB	**Bahrain**	**72.53 294**	P	**P**	**15 17 36.7 -0.5**
C16K	**Lisburne Hills**	**72.54 21**	P	**P**	**15 17 38.2 +1.8**
	baz=254				
C16K			S	**S**	**15 27 00.8 +3.1**
	baz=254				
CNBA	**Chernabura Isl**	**72.57 36**	IAMs_20	IAMs_20	15 42 59.8
	comp=Z,5µm,22.0s				
CHNA	**Chernabura Isl**	**72.57 36**	P	**P**	**15 17 38.1 +1.3**
	baz=263				
CHNA			S	**S**	**15 26 59.5 +1.0**
	baz=263				
L15K	**Ungalak Mounta**	**72.61 28**	P	**P**	**15 17 38.7 +1.8**
	baz=259				
L15K			S	**S**	**15 26 59.8 +1.1**
	baz=259				
K15K	**Wolf Creek Mou**	**72.70 28**	P	**P**	**15 17 39.7 +2.1**
	baz=259,SNR=21				
K15K			S	**S**	**15 27 02.8 +3.0**
	baz=259				
M15K	**Kasigluk River**	**72.82 30**	P	**P**	**15 17 39.9 +1.6**
	baz=260,SNR=34				
M15K			S	**S**	**15 27 03.1 +1.9**
	baz=260				
H16K	**Elim**	**72.86 25**	P	**P**	**15 17 39.8 +1.4**
	baz=258,SNR=32				
H16K			S	**S**	**15 27 03.5 +2.1**
	baz=258				
G16K	**Koyuk River**	**72.97 25**	IAMs_20	IAMs_20	15 51 12.5
	comp=Z,3µm,21.0s				
G16K	**Koyuk River**	**72.97 25**	P	**P**	**15 17 40.8 +1.8**
	baz=257				
G16K			S	**S**	**15 27 04.5 +1.8**
	baz=257				
O15K	**Ungalikthiuk R**	**73.01 31**	S	**S**	**15 27 04.7 +1.3**
	baz=262				
N15K	**Kwethluk River**	**73.03 30**	IAmb	IAmb	15 17 51.7
	comp=Z,199nm,1.1s				
N15K	**Kwethluk River**	**73.03 30**	P	**P**	**15 17 41.5 +2.0**
	baz=261,SNR=21				
N15K			S	**S**	**15 27 05.5 +1.9**
	baz=261				
D17K	**Noatak River**	**73.21 22**	P	**P**	**15 17 42.4 +1.9**
	baz=256,SNR=109				
D17K			S	**SKiKP**	**15 27 08.4 -0.6**
	baz=256				
J16K	**Anvik River**	**73.30 27**	IAmb	IAmb	15 17 44.1
	comp=Z,318nm,1.9s				
J16K	**Anvik River**	**73.30 27**	P	**P**	**15 17 43.2 +2.2**
	baz=260,SNR=14				
J16K			S	**SKiKP**	**15 27 08.9 -0.4**
	baz=260				
RDOG	**Red Dog Mine**	**73.36 22**	IAmb	IAmb	15 17 44.2
	comp=Z,378nm,1.8s				
RDOG	**Red Dog Mine**	**73.36 22**	P	**P**	**15 17 43.5 +2.1**
	baz=256,SNR=36				
RDOG			S	**SKiKP**	**15 27 08.8 -0.5**
	baz=256				
C17K	**DeLong Mountai**	**73.37 21**	P	**P**	**15 17 43.2 +1.8**
	baz=256				
C17K			S	**S**	**15 27 08.1 +0.9**
	baz=256				
I17K	**Unalakleet**	**73.37 26**	P	**P**	**15 17 43.5 +2.1**
	baz=259,SNR=18				
I17K			S	**SKiKP**	**15 27 08.8 -0.5**
	baz=259				
CHGN	**Chignik**	**73.40 34**	IAmb	IAmb	15 17 52.3
	comp=Z,119nm,0.9s				
CHGN			IAMs_20	IAMs_20	15 47 27.7
	comp=Z,3µm,20.0s				
CHGN	**Chignik**	**73.40 34**	P	**P**	**15 17 42.0 +0.3**
	baz=264,SNR=7.8				
CHGN			S	**S**	**15 27 07.0 -0.9**
	baz=264				
E17K	**Hotham Inlet**	**73.55 23**	P	**P**	**15 17 44.5 +2.1**
	baz=257				
E17K			S	**SKiKP**	**15 27 10.7 +1.2**
	baz=257				
L16K	**Owhat River**	**73.56 29**	P	**P**	**15 17 44.6 +2.0**
	baz=261				
L16K			S	**S**	**15 27 12.4 +2.9**
	baz=261				
F17K	**Baldwin Pennin**	**73.64 24**	IAmb	IAmb	15 17 48.2
	comp=Z,429nm,1.9s				
F17K	**Baldwin Pennin**	**73.64 24**	P	**P**	**15 17 44.8 +1.9**
	baz=258				
F17K			S	**S**	**15 27 13.6 +3.4**
	baz=258				
M16K	**Timber Creek**	**73.70 29**	IAmb	IAmb	15 17 55.6
	comp=Z,236nm,1.4s				
M16K	**Timber Creek**	**73.70 29**	P	**P**	**15 17 45.4 +2.0**
	baz=262,SNR=24				
M16K			S	**S**	**15 27 13.6 +2.4**
	baz=262				
N16K	**Nishlik Lake**	**73.72 30**	P	**P**	**15 17 45.6 +2.0**
	baz=262,SNR=35				
N16K			S	**S**	**15 27 14.4 +2.9**
	baz=262				
H17K	**Granite Mounta**	**73.89 25**	P	**P**	**15 17 46.5 +2.0**
	baz=260,SNR=50				
H17K			S	**S**	**15 27 15.4 +2.2**
	baz=260				
P16K	**Nushagak River**	**73.93 31**	P	**P**	**15 17 46.5 +1.7**
	baz=263,SNR=7.0				
O16K	**Kokwok River B**	**73.94 31**	IAmb	IAmb	15 17 48.3
	comp=Z,168nm,1.1s				
O16K	**Kokwok River B**	**73.94 31**	P	**P**	**15 17 46.6 +1.7**
	baz=263				
O16K			S	**S**	**15 27 16.3 +2.4**
	baz=263				
R16K	**Pilot Point**	**73.99 33**	P	**P**	**15 17 46.2 +1.1**
	baz=264				
J17K	**VABM Dome**	**74.00 27**	IAmb	IAmb	15 17 50.3
	comp=Z,408nm,1.8s				
J17K	**VABM Dome**	**74.00 27**	P	**P**	**15 17 47.3 +2.1**
	baz=261				
J17K			S	**S**	**15 27 16.4 +1.9**
	baz=261				
B18K	**Kokolik River**	**74.06 21**	P	**P**	**15 17 47.9 +2.5**
	baz=257				
B18K			S	**S**	**15 27 17.8 +2.8**
	baz=257				
E18K	**Tukpahlearik C**	**74.08 23**	IAmb	IAmb	15 17 49.4
	comp=Z,141nm,0.9s				
E18K	**Tukpahlearik C**	**74.08 23**	P	**P**	**15 17 47.6 +2.1**
	baz=258,SNR=128				
E18K			S	**S**	**15 27 16.5 +1.3**
	baz=258				
C18K	**Utukok River**	**74.12 21**	IAmb	IAmb	15 17 50.5
	comp=Z,106nm,0.9s				
C18K	**Utukok River**	**74.12 21**	P	**P**	**15 17 47.7 +1.8**
	baz=258				
C18K			S	**S**	**15 27 17.4 +1.7**
	baz=258				
L17K	**Donlin**	**74.17 28**	P	**P**	**15 17 48.5 +2.3**
	baz=262				
L17K			S	**S**	**15 27 18.4 +1.9**
	baz=262				
KIRV	**Kirov**	**74.20 328**	LR	LR	15 53 43.4
	comp=Z,6µm,19.9s,baz=102,slow=38				
KIRV	**Kirov**	**74.20 328**	*ce* P	**P**	**15 17 45.4 -0.9**
K17K	**Iditarod**	**74.25 28**	IAmb	IAmb	15 17 59.1
	comp=Z,176nm,1.1s				
K17K	**Iditarod**	**74.25 28**	P	**P**	**15 17 48.7 +2.1**
	baz=262				
K17K			S	**S**	**15 27 20.5 +3.2**
	baz=262				
F18K	**Selawik**	**74.29 24**	P	**P**	**15 17 48.4 +1.6**
	baz=260,SNR=113				
F18K			S	**S**	**15 27 20.5 +2.9**
	baz=260				
AKT	**Akhty**	**74.42 310**	*e* P	**P**	**15 17 47.1 -1.1**
AKT			*e**PP	**pP**	**15 17 59.7 -0.7**
AKT			*e*		15 20 35.4
AKT			*e*PPP	PPP	15 22 21.8
AKT			*e*S	**S**	**15 27 18.9 -1.4**
AKT			pmax	pmax	
	comp=Z,120nm,1.7s				
AKT			MLR	MLR	
	comp=Z,9µm,22.0s				
O17K	**Koliganek Bris**	**74.47 31**	P	**P**	**15 17 49.6 +1.7**
	baz=264,SNR=22				
O17K			S	**S**	**15 27 22.5 +2.7**
	baz=264				
M17K	**Holitna River**	**74.48 29**	IAmb	IAmb	15 17 52.8
	comp=Z,132nm,0.8s				
M17K	**Holitna River**	**74.48 29**	P	**P**	**15 17 50.4 +2.4**
	baz=263				
M17K			S	**S**	**15 27 23.1 +3.1**
	baz=263				
A19K	**Wainwright**	**74.50 20**	P	**P**	**15 17 50.1 +2.2**
	baz=257				
A19K			S	**S**	**15 27 21.7 +1.9**
	baz=257				
N17K	**Nushagak Hills**	**74.50 30**	IAmb	IAmb	15 17 52.2
	comp=Z,136nm,0.9s				
N17K	**Nushagak Hills**	**74.50 30**	P	**P**	**15 17 50.6 +2.4**
	baz=264,SNR=40				
N17K			S	**S**	**15 27 23.4 +3.1**
	baz=264				
G18K	**Tagagawik**	**74.57 24**	IAmb	IAmb	15 17 50.6
	comp=Z,383nm,2.0s				
G18K	**Tagagawik**	**74.57 24**	P	**P**	**15 17 49.9 +1.4**
	baz=261,SNR=50				
G18K			S	**S**	**15 27 22.8 +1.9**
	baz=261				
H18K	**Honhosa River**	**74.58 25**	IAmb	IAmb	15 17 51.1
	comp=Z,382nm,1.9s				
H18K			IAMs_20	IAMs_20	15 48 45.7
	comp=Z,3µm,21.0s				
H18K	**Honhosa River**	**74.58 25**	P	**P**	**15 17 49.9 +1.4**
	baz=261				
H18K			S	**S**	**15 27 21.9 +1.0**
	baz=261				
Q16K	**King Salmon**	**74.58 32**	P	**P**	**15 17 49.3 +0.8**
	baz=265,SNR=5.8				
MAK	**Makhachkala**	**74.59 312**	*e* P	**P**	**15 17 48.0 -1.0**
MAK			*e*		15 20 40.9
MAK			*e*PPP	PPP	15 22 16.5
MAK			*e*S	**S**	**15 27 21.3 -0.5**
MAK			*e*SS	**SS**	**15 32 12.5 +3.3**
MAK			pmax	pmax	
	comp=Z,179nm,1.2s				
MAK			MLR	MLR	
	comp=Z,9µm,21.0s				
BELG	**Belogornoye**	**74.74 322**	LR	LR	15 54 47.6
	comp=Z,2µm,18.3s,baz=87,slow=39				
BELG	**Belogornoye**	**74.74 322**	*c i* P	**P**	**15 17 48.1 -1.5**
BELG			pmax	pmax	
	comp=Z,37nm,0.8s				
P17K	**Kvichak River**	**74.74 31**	P	**P**	**15 17 51.2 +1.7**
	baz=265,SNR=29				
P17K			S	**S**	**15 27 24.0 +1.2**
	baz=265				
CTZ	**Chatham Island**	**74.88 141**	IAMs_20	IAMs_20	15 47 59.0
	comp=Z,4µm,22.0s				
CHIR	**Chirikof Islan**	**74.92 35**	P	**P**	**15 17 52.5 +1.9**
	baz=266				
CHIR			S	**S**	**15 27 26.7 +1.8**
	baz=266				
L18K	**Granite Mounta**	**74.93 28**	IAmb	IAmb	15 17 56.0

comp=Z,423nm,1.9s
L18K Granite Mounta 74.93 28 P **P 15 17 52.8 +2.2**
baz=264,SNR=28
L18K S **S 15 27 27.2 +2.3**
baz=264
J18K Innoko River 75.06 27 IAmb IAmb 15 17 53.8
comp=Z,268nm,1.9s
J18K Innoko River 75.06 27 P **P 15 17 52.8 +1.5**
baz=263
J18K S **S 15 27 26.9 +0.6**
baz=263
F19K Shaleruckik Mo 75.07 23 P **P 15 17 52.7 +1.4**
baz=261
F19K S **S 15 27 27.0 +0.7**
baz=261
GCSA Galena City Sc 75.15 26 P **P 15 17 53.4 +1.7**
baz=263,SNR=51
GCSA S **S 15 27 29.3 +2.2**
baz=263
N18K Kilae Creek 75.16 30 P **P 15 17 53.8 +1.8**
baz=265,SNR=22
N18K S **S 15 27 30.0 +2.5**
baz=265
D19K Kuna River 75.20 22 IAmb IAmb 15 17 55.7
comp=Z,269nm,1.1s
D19K Kuna River 75.20 22 P **P 15 17 53.7 +1.6**
baz=261
D19K S **S 15 27 29.0 +1.2**
baz=261
G19K Purcell Mounta 75.24 24 IAmb IAmb 15 17 57.0
comp=Z,376nm,1.8s
G19K Purcell Mounta 75.24 24 P **P 15 17 53.8 +1.5**
baz=262
G19K S **S 15 27 30.0 +1.8**
baz=262
M18K Stony River 75.26 29 P **P 15 17 54.4 +1.9**
baz=264,SNR=40
M18K S **S 15 27 31.7 +3.0**
baz=264
TTA Tatalina 75.32 28 P **P 15 17 54.1 +1.2**
TTA Tatalina 75.32 28 P **P 15 17 55.8 +2.9**
TTA Tatalina 75.32 28 P **P 15 17 54.1 +1.2**
TTA pmax pmax
comp=Z,50nm,1.0s
TTA Tatalina 75.32 28 P **P 15 17 54.5 +1.6**
baz=264,SNR=26
TTA S **S 15 27 31.0 +1.6**
baz=264
E19K Redstone River 75.37 23 P **P 15 17 54.9 +1.9**
baz=262,SNR=141
E19K S **S 15 27 31.1 +1.5**
baz=262
P18K Big Mountain, 75.38 31 IAmb IAmb 15 17 55.3
comp=Z,260nm,1.8s
P18K Big Mountain, 75.38 31 P **P 15 17 54.5 +1.2**
baz=266,SNR=7.9
P18K S **S 15 27 30.1 0.0**
baz=266
H19K Roundabout Mou 75.42 25 IAmb IAmb 15 17 57.1
comp=Z,164nm,1.0s
H19K IAMs_20 IAMs_20 15 53 00.6
comp=Z,3µm,20.0s
H19K Roundabout Mou 75.42 25 P **P 15 17 55.4 +2.0**
baz=263
H19K S **S 15 27 31.7 +1.5**
baz=263
O18K Koktuh Hills 75.43 31 P **P 15 17 55.5 +2.0**
O18K Koktuh Hills 75.43 31 P **P 15 17 55.6 +2.1**
baz=266,SNR=61
O18K S **S 15 27 31.7 +1.2**
baz=266
Q18K Katmai Hardscr 75.44 32 P **P 15 17 53.9 +0.2**
baz=266,SNR=15
Q18K S **S 15 27 29.7 -1.2**
baz=266
HPAH Hawaii Prepara 75.59 72 IAMs_20 IAMs_20 15 46 30.7
comp=Z,3µm,20.0s
J19K Poorman 75.60 26 IAmb IAmb 15 17 57.1
comp=Z,251nm,1.9s
J19K Poorman 75.60 26 P **P 15 17 56.3 +1.8**
baz=264
J19K S **S 15 27 33.6 +1.3**
baz=264
R18K Karluk 75.67 33 P **P 15 17 55.5 +0.7**
baz=267
R18K S **S 15 27 32.0 -1.1**
baz=267
MWH Mokuaweoweo 75.74 72 IAMs_20 IAMs_20 15 46 16.7
comp=Z,4µm,20.0s
KHU Kahuku 75.75 73 IAMs_20 IAMs_20 15 43 56.9
comp=Z,4µm,18.0s
SII Sitkinak Islan 75.76 34 IAmb IAmb 15 17 59.6
comp=Z,124nm,1.0s
SII Sitkinak Islan 75.76 34 P **P 15 17 56.2 +0.7**
baz=267
SII S **S 15 27 35.8 +1.5**
baz=267
POHA Pohakuloa 75.77 72 IAMs_20 IAMs_20 15 46 25.5
comp=Z,4µm,19.0s
B20K Meade River 75.78 20 P **P 15 17 57.5 +2.3**
baz=261
B20K S **S 15 27 36.0 +2.0**
baz=261
D20K Etivluk River 75.78 22 P **P 15 17 57.2 +1.8**
baz=262
D20K S **S 15 27 35.0 +0.8**
baz=262
L19K White Mountain 75.78 28 P **P 15 17 57.5 +2.0**
baz=265,SNR=35
L19K S **S 15 27 37.0 +2.6**
baz=265
N19K Bonanza Creek 75.86 30 IAmb IAmb 15 18 00.5
comp=Z,112nm,0.9s
N19K Bonanza Creek 75.86 30 P **P 15 17 58.1 +2.1**
baz=266,SNR=35
N19K S **S 15 27 37.2 +1.8**
baz=266
E20K Nigu River 75.87 22 P **P 15 17 57.6 +1.6**
baz=262
E20K S **S 15 27 35.9 +0.6**
baz=262
O19K Port Alsworth 75.89 30 IAmb IAmb 15 18 00.7
comp=Z,124nm,1.0s
O19K Port Alsworth 75.89 30 P **P 15 17 57.6 +1.5**
baz=266,SNR=27
O19K S **S 15 27 36.8 +1.2**
baz=266
F20K Avaraart Lake 75.90 23 IAmb IAmb 15 18 01.0
comp=Z,315nm,1.5s
F20K Avaraart Lake 75.90 23 P **P 15 17 58.2 +2.2**
baz=263
F20K S **S 15 27 37.0 +1.6**
baz=263
M19K Big River Lodg 75.98 29 P **P 15 17 58.7 +2.1**
baz=266
M19K S **S 15 27 39.7 +3.1**
baz=266
HATHI Halema'uma'u T 76.06 72 IAMs_20 IAMs_20 15 46 36.2
comp=Z,4µm,19.0s
H20K Anotleneega Mo 76.07 25 P **P 15 17 59.0 +1.9**
baz=264,SNR=114
H20K S **S 15 27 39.7 +2.2**
baz=264
A21K Barrow 76.16 19 P **P 15 17 59.4 +2.0**
baz=261,SNR=34
A21K S **S 15 27 39.7 +1.6**
baz=261
Q19K Cape Douglas, 76.17 32 IAmb IAmb 15 18 00.9
comp=Z,99nm,0.8s
Q19K Cape Douglas, 76.17 32 P **P 15 17 58.2 +0.5**
baz=267,SNR=7.1
Q19K S **S 15 27 36.6 -2.2**
baz=267
I20K Naaghedeneel 76.17 26 IAmb IAmb 15 18 01.5
comp=Z,178nm,0.9s
I20K Naaghedeneel 76.17 26 P **P 15 17 59.8 +2.2**
baz=265
I20K S **S 15 27 41.0 +2.4**
baz=265
K20K Telida 76.24 27 P **P 15 18 00.1 +2.1**
baz=266,SNR=28
K20K S **S 15 27 42.1 +2.8**
baz=266
L20K Farewell, AK 76.26 28 P **P 15 18 00.1 +1.9**
baz=266,SNR=14
L20K S **S 15 27 41.9 +2.2**
baz=266
J20K Nowinta River 76.27 26 IAmb IAmb 15 18 03.5
comp=Z,443nm,1.9s
J20K Nowinta River 76.27 26 P **P 15 18 00.1 +1.9**
baz=265,SNR=43
J20K S **S 15 27 42.3 +2.7**
baz=265
OHAK Old Harbor 76.28 34 P **P 15 18 01.0 +2.6**
OHAK Old Harbor 76.28 34 P **P 15 17 59.8 +1.5**
baz=268,SNR=8.4
OHAK S **S 15 27 40.5 +0.5**
baz=268
XMAS Kiritimati 76.39 90 P **P 15 18 01.9 +2.0**
P19K Oil Pt 76.41 31 P **P 15 17 59.9 +0.7**
baz=267
C21K Knifeblade Rid 76.49 21 P **P 15 18 01.7 +2.3**
baz=264
C21K S **S 15 27 42.3 +0.3**
baz=264
M20K Styx River 76.57 29 P **P 15 18 02.1 +2.0**
baz=267
M20K S **S 15 27 45.1 +1.8**
baz=267
B21K Ikpikpuk River 76.60 21 P **P 15 18 02.1 +2.1**
baz=264
B21K S **S 15 27 44.8 +1.7**
baz=264
A22K Sinclair Lake 76.64 19 P **P 15 18 02.4 +2.3**
baz=263
A22K S **S 15 27 45.3 +1.9**
baz=263
KDAK Kodiak Island 76.68 33 P **P 15 18 00.1 -0.6**
KDAK IAmb IAmb 15 18 03.1
comp=Z,89nm,0.7s
KDAK Kodiak Island 76.68 33 LR LR 15 47 37.6
comp=Z,3µm,21.7s,baz=111,slow=32
KDAK Kodiak Island 76.68 33 *c i* P **P 15 18 01.8 +1.2**
KDAK pmax pmax
comp=Z,70nm,0.8s
KDAK Kodiak Island 76.68 33 P **P 15 18 01.8 +1.2**
baz=268
KDAK S **S 15 27 44.6 +0.3**
baz=268
E21K Killik River 76.71 22 P **P 15 18 02.3 +1.6**
baz=264
E21K S **S 15 27 44.2 -0.3**
baz=264
G21K Allakaket 76.72 24 IAmb IAmb 15 18 05.7
G21K Allakaket 76.72 24 P **P 15 18 02.4 +1.7**
baz=265,SNR=126
G21K S **S 15 27 46.3 +1.7**
baz=265
GNI Garni 76.72 309 LR LR 15 56 55.7
comp=Z,5µm,21.8s,baz=80,slow=40
GNI Garni 76.72 309 P **P 15 18 02.0 +0.5**
GNI Garni 76.72 309 *c i* P **P 15 18 01.2 -0.3**
GNI pmax pmax
comp=Z,241nm,1.8s
GNI Garni 76.72 309 P **P 15 18 01.6 +0.1**
GNI Garni 76.72 309 P **P 15 18 01.5 +0.1**
comp=Z,3µmcomp=Z,109nm,2.1s
O20K Slope Mountain 76.74 31 P **P 15 18 01.6 +0.6**
baz=268
O20K S **S 15 27 44.8 -0.3**
baz=268
F21K Alatna River 76.79 23 P **P 15 18 02.5 +1.4**
baz=265,SNR=44
F21K S **S 15 27 46.1 +0.8**
baz=265
Q20K Shuyak Island 76.80 32 P **P 15 18 02.1 +0.8**
baz=268,SNR=7.3
Q20K S **S 15 27 45.1 -0.5**
baz=268
SYI Shuyak Island 76.81 32 IAmb IAmb 15 18 05.1
comp=Z,109nm,0.8s
H21K Melozitna Rive 76.94 25 IAMs_20 IAMs_20 15 49 55.2
comp=Z,3µm,22.0s
H21K Melozitna Rive 76.94 25 P **P 15 18 04.1 +2.0**
baz=266
H21K S **S 15 27 49.2 +2.2**
baz=266
N20K Mount Spurr 76.98 29 P **P 15 18 03.3 +0.9**
baz=268
N20K S **S 15 27 45.8 -1.9**
baz=268
SPCR Spurr Chakacha 76.98 29 P **P 15 18 03.4 +1.0**
baz=268,SNR=12
SPCR S **S 15 27 45.8 -1.9**
baz=268
CHUM Lake Minchumin 77.05 27 P **P 15 18 04.1 +1.5**
baz=267,SNR=26
CHUM S **S 15 27 49.6 +1.5**
baz=267
SPU Mount Spurr 77.06 29 IAmb IAmb 15 18 08.8
comp=Z,164nm,1.8s
PPLA Purkeypile 77.06 28 IAmb IAmb 15 18 16.5
comp=Z,253nm,1.8s
PPLA Purkeypile 77.06 28 P **P 15 18 04.5 +1.6**
baz=267,SNR=11
PPLA S **S 15 27 48.0 -0.7**
baz=267
B22K Teshekpuk Lake 77.08 20 P **P 15 18 04.2 +1.5**
baz=265
B22K S **S 15 27 50.0 +1.7**
baz=265
CAST Castle Rocks 77.13 27 IAmb IAmb 15 18 07.6
comp=Z,96nm,1.0s
CAST Castle Rocks 77.13 27 P **P 15 18 04.5 +1.4**
baz=267,SNR=67
CAST S **S 15 27 49.9 +0.7**
baz=267
D22K Ayikyak River 77.22 22 P **P 15 18 05.6 +2.1**
baz=266
D22K S **S 15 27 51.6 +1.7**
baz=266
HOM Homer 77.22 31 P **P 15 18 04.1 +0.4**
baz=269
I21K Tanana 77.26 25 IAmb IAmb 15 18 08.7
comp=Z,146nm,0.8s
I21K Tanana 77.26 25 P **P 15 18 05.6 +1.8**
baz=267,SNR=112
I21K S **S 15 27 51.7 +1.3**
baz=267
RAYN Ar Rayn 77.29 292 P **P 15 18 03.6 -1.2**
RAYN IAmb IAmb 15 18 05.8
comp=Z,167nm,0.8s
RAYN Ar Rayn 77.29 292 P **P 15 18 04.4 -0.4**
RAYN Ar Rayn 77.29 292 P **P 15 18 03.6 -1.2**
RAYN pmax pmax
comp=Z,167nm,0.8s
RAYN Ar Rayn 77.29 292 *i* P **P 15 18 04.2 -0.6**
SNR=264
F22K John River 77.31 23 P **P 15 18 05.9 +1.8**
baz=266
F22K S **S 15 27 51.6 +0.7**
baz=266
CASY Casey 77.33 186 P **P 15 18 01.6 -2.3**
CASY Casey 77.33 186 IAMs_20 IAMs_20 15 51 02.7
comp=Z,4µm,21.0s
SKT Skwentna 77.33 29 P **P 15 18 04.7 +0.5**
baz=268,SNR=19
SKT S **S 15 27 51.9 +0.5**
baz=268
CAPN Captain Cook N 77.49 30 P **P 15 18 06.7 +1.6**
baz=269
E22K Anaktuvuk Pass 77.49 22 P **P 15 18 06.9 +1.8**
baz=267,SNR=60
E22K S **S 15 27 53.6 +0.7**
baz=267
H22K Ishtalitna Cre 77.54 25 P **P 15 18 07.5 +2.1**
baz=268
H22K S **S 15 27 55.8 +2.3**
baz=268
BRLK Bradley Lake 77.60 31 IAmb IAmb 15 18 45.0
comp=Z,100nm,1.0s
BPAW Bear Paw Mtn. 77.64 27 IAmb IAmb 15 18 09.2
comp=Z,218nm,1.1s
BPAW Bear Paw Mtn. 77.64 27 P **P 15 18 07.5 +1.5**
baz=268,SNR=94
BPAW S **S 15 27 55.5 +0.8**
baz=268
KTH Kantishna Hill 77.66 27 IAmb IAmb 15 18 12.4
comp=Z,322nm,1.9s
BRSE Bradley Lake S 77.68 31 P **P 15 18 07.0 +0.7**
baz=269,SNR=7.9
BRSE S **S 15 27 52.4 -2.8**
baz=269
SUA Susitna One 77.70 29 IAmb IAmb 15 18 09.9
comp=Z,155nm,1.1s
SUA Susitna One 77.70 29 P **P 15 18 06.9 +0.4**
baz=269,SNR=24
SUA S **S 15 27 52.7 -2.8**
baz=269
GOF Gofitskoye 77.76 314 *c i* P **P 15 18 05.9 -1.1**
KBZ Khabaz 77.93 313 P **P 15 18 06.8 -1.1**
comp=Z,25nm,0.9s,baz=107,slow=5.1,SNR=46
KBZ LR LR 15 56 50.2
comp=Z,6µm,19.8s,baz=74,slow=39
comp=Z,25nm,0.9s
KBZ Khabaz 77.93 313 *ce* P **P 15 18 07.0 -0.9**
KBZ pmax pmax
comp=Z,41nm,1.0s
CUT Chulitna 77.94 28 IAmb IAmb 15 18 13.2
comp=Z,266nm,1.4s
CUT Chulitna 77.94 28 P **P 15 18 08.0 +0.4**
baz=269,SNR=14
CUT S **S 15 27 56.6 -1.2**
baz=269
TRF Thorofare Moun 77.94 27 IAmb IAmb 15 18 11.6
comp=Z,131nm,1.0s
TRF Thorofare Moun 77.94 27 P **P 15 18 08.5 +0.7**
baz=269,SNR=42
TRF S **S 15 27 56.8 -1.4**
baz=269
SLKM Skilak Lake 77.94 30 IAmb IAmb 15 18 12.4
comp=Z,390nm,1.8s
D23K Nanushuk River 77.95 22 P **P 15 18 09.7 +2.1**
baz=268
D23K S **S 15 27 59.4 +1.7**
baz=268
M22K Willow 78.00 29 P **P 15 18 08.3 +0.4**
baz=270
M22K S **S 15 27 56.1 -2.4**
baz=270
C23K Itkillik River 78.01 21 IAMs_20 IAMs_20 15 50 59.9
comp=Z,3µm,22.0s
C23K Itkillik River 78.01 21 P **P 15 18 09.7 +1.8**
baz=267
C23K S **S 15 27 59.4 +1.1**
baz=267
COLD Coldfoot 78.06 23 IAmb IAmb 15 18 13.3
comp=Z,194nm,1.2s
COLD Coldfoot 78.06 23 P **P 15 18 10.2 +2.0**
baz=268,SNR=118
COLD S **S 15 28 01.4 +2.4**
baz=268
KIV Kislovodsk 78.07 313 P **P 15 18 07.5 -1.4**
KIV Kislovodsk 78.07 313 P **P 15 18 08.6 -0.3**
KIV Kislovodsk 78.07 313 ⇑P **P 15 18 08.7 -0.2**
KIV Kislovodsk 78.07 313 *e* P **P 15 18 07.0 -1.9**
KIV *e* 15 21 04.3
KIV *e* S **S 15 27 57.6 -2.6**
KIV pmax pmax
comp=Z,317nm,3.6s
KIV pmax pmax
comp=Z,68nm,1.0s
KIV MLR MLR
comp=Z,4µm,19.0s
KIV Kislovodsk 78.07 313 *i* P **P 15 18 07.9 -1.0**
SNR=29
KIV Kislovodsk 78.07 313 P **P 15 18 08.4 -0.5**
comp=Z,2µmcomp=Z,77nm,0.8s
SHA1 Shidzhatmaz 78.10 313 *c i* P **P 15 18 07.7 -1.5**
G23K Bananza Creek 78.12 24 IAmb IAmb 15 18 13.9
comp=Z,290nm,1.4s
G23K Bananza Creek 78.12 24 P **P 15 18 10.7 +2.1**
baz=269,SNR=78
G23K S **S 15 28 01.9 +2.1**
baz=269
RC01 Rabbit Creek A 78.18 30 IAmb IAmb 15 18 12.7
comp=Z,146nm,1.5s
RC01 Rabbit Creek A 78.18 30 P **P 15 18 09.3 +0.3**
baz=270,SNR=11
RC01 S **S 15 27 57.4 -3.1**
baz=270
O22K Cooper Landing 78.19 30 IAmb IAmb 15 18 41.4
comp=Z,163nm,0.8s
O22K Cooper Landing 78.19 30 P **P 15 18 09.6 +0.6**
baz=270
O22K S **S 15 27 58.1 -2.4**
baz=270
E23K Chandalar 78.31 22 IAMs_20 IAMs_20 15 50 59.2
comp=Z,3µm,22.0s
E23K Chandalar 78.31 22 P **P 15 18 12.0 +2.3**
baz=269
E23K S **S 15 28 03.3 +1.4**
baz=269
SEW Seward 78.33 31 IAmb IAmb 15 18 15.5
comp=Z,70nm,0.8s
SEW Seward 78.33 31 P **P 15 18 10.7 +0.9**
baz=270
SEW S **S 15 28 01.1 -0.9**
baz=270
TOLK Toolik Lake Re 78.34 22 IAmb IAmb 15 18 12.8
comp=Z,91nm,0.8s
TOLK Toolik Lake Re 78.34 22 P **P 15 18 11.7 +1.9**
baz=269,SNR=97
TOLK S **S 15 28 02.1 0.0**
baz=269
I23K Minto, Yukon-K 78.37 25 P **P 15 18 11.5 +1.6**
baz=270,SNR=68
I23K S **S 15 28 03.1 +0.8**
baz=270
VRH Novokhopyorsk 78.40 320 *e* P **P 15 18 07.2 -3.2**
VRH pmax pmax
comp=Z,130nm,0.8s
VRH MLR MLR
comp=Z,2µm,19.0s
PMR Palmer 78.47 29 IAmb IAmb 15 18 12.1
comp=Z,342nm,1.9s
PMR Palmer 78.47 29 P **P 15 18 12.6 +2.1**
PMR Palmer 78.47 29 P **P 15 18 11.2 +0.6**
baz=270,SNR=17
PMR S **S 15 28 02.1 -1.4**
baz=270
NEA2 Nenana 78.49 26 IAmb IAmb 15 18 13.7
comp=Z,97nm,0.8s
NEA2 Nenana 78.49 26 P **P 15 18 11.5 +0.8**
baz=270,SNR=78
NEA2 S **S 15 28 02.9 -0.8**
baz=270
MCK McKinley 78.55 27 IAmb IAmb 15 18 14.6
comp=Z,178nm,0.8s
MCK McKinley 78.55 27 P **P 15 18 11.8 +0.8**
baz=270,SNR=79
MCK S **S 15 28 03.4 -1.1**
baz=270
GHO Glory Hole Cre 78.57 29 IAmb IAmb 15 18 46.5
comp=Z,175nm,1.5s
RND Reindeer 78.59 27 IAmb IAmb 15 18 14.9
comp=Z,403nm,1.8s
D24K Happy Valley 78.62 21 IAmb IAmb 15 18 16.2
comp=Z,147nm,0.8s
D24K Happy Valley 78.62 21 P **P 15 18 13.2 +2.0**
baz=269
D24K S **S 15 28 06.9 +1.9**
baz=269
C24K Franklin Bluff 78.67 21 IAMs_20 IAMs_20 15 51 31.4
comp=Z,3µm,21.0s
C24K Franklin Bluff 78.67 21 P **P 15 18 13.2 +1.7**
baz=269,SNR=80
C24K S **S 15 28 06.6 +1.2**
baz=269
E24K Your Creek 78.73 22 IAmb IAmb 15 18 15.7
comp=Z,111nm,1.1s
E24K Your Creek 78.73 22 P **P 15 18 14.0 +2.0**
baz=270
E24K S **S 15 28 06.8 +0.5**
baz=270
KNK Knik Glacier 78.80 29 IAmb IAmb 15 18 25.6
comp=Z,136nm,1.1s
KNK Knik Glacier 78.80 29 P **P 15 18 13.4 +1.0**
baz=271,SNR=19
KNK S **S 15 28 04.7 -2.4**
baz=271
SML Sawmill 78.85 29 IAmb IAmb 15 18 35.7
comp=Z,118nm,1.0s
SML Sawmill 78.85 29 P **P 15 18 13.7 +1.0**
baz=271,SNR=22
SML S **S 15 28 06.4 -1.4**
baz=271
PWL Port Wells 78.87 30 IAmb IAmb 15 18 16.6
comp=Z,131nm,0.8s
PWL Port Wells 78.87 30 P **P 15 18 13.6 +0.8**
baz=271,SNR=13
PWL S **S 15 28 08.2 +0.3**
baz=271

WRH	**Wood River Hil**	**78.91**	**26**	IAmb	IAmb	15 18 16.7
	comp=Z,118nm,1.2s					
GURO	**Guroymak-BITLI**	**78.92**	**307**	IAmb	IAmb	15 18 16.8
	comp=Z,73nm,0.8s					
F24K	**Squaw Lake**	**78.96**	**23**	IAmb	IAmb	15 18 17.7
	comp=Z,101nm,0.8s					
F24K	**Squaw Lake**	**78.96**	**23**	P	**P**	**15 18 15.3 +2.1**
	baz=270					
F24K				S	**S**	**15 28 10.4 +1.7**
	baz=270					
H24K	**Noodor Dome**	**78.98**	**25**	IAmb	IAmb	15 18 17.6
	comp=Z,114nm,0.9s					
H24K	**Noodor Dome**	**78.98**	**25**	P	**P**	**15 18 15.2 +1.8**
	baz=271					
H24K				S	**S**	**15 28 10.7 +1.7**
	baz=271					
COLA	**College**	**79.01**	**26**	P	**P**	**15 18 13.9 +0.5**
COLA	**College**	**79.01**	**26**	P	**P**	**15 18 15.4 +2.0**
COLA	**College**	**79.01**	**26***c*	*i*P	**P**	**15 18 13.0 -0.4**
COLA				pmax	pmax	
	comp=Z,64nm,0.9s					
COLA	**College**	**79.01**	**26**	P	**P**	**15 18 13.9 +0.5**
	baz=271					
COLA				S	**S**	**15 28 08.6 -0.6**
	baz=271					
G24K	**Hadweenzic Riv**	**79.13**	**24**	IAmb	IAmb	15 18 19.2
	comp=Z,338nm,1.6s					
G24K	**Hadweenzic Riv**	**79.13**	**24**	P	**P**	**15 18 16.3 +2.1**
	baz=271					
G24K				S	**S**	**15 28 12.6 +2.0**
	baz=271					
M23K	**Glacier View**	**79.14**	**29**	P	**P**	**15 18 15.3 +1.1**
	baz=272,SNR=15					
M23K				S	**S**	**15 28 09.5 -1.3**
	baz=272					
SBV	**Sambava**	**79.14**	**254**	P	**P**	**15 18 14.6 -0.5**
	SNR=10					
POKR	**Poker Plat Res**	**79.18**	**25**	P	**P**	**15 18 15.1 +0.7**
	baz=271,SNR=29					
POKR				S	**S**	**15 28 09.2 -1.9**
	baz=271					
KLMR	**Klimovskoe**	**79.28**	**330**	*e*P	**P**	**15 18 12.4 -2.6**
KLMR				*e*		15 21 11.0
KLMR				S	**S**	**15 28 08.1 -4.1**
KLMR				pmax	pmax	
	comp=Z,245nm,1.7s					
KLMR				MLR	MLR	
	comp=Z,4µm,18.0s					
SCM	**Sheep Creek Mo**	**79.32**	**29**	IAmb	IAmb	15 18 19.5
	comp=Z,221nm,1.2s					
SCM	**Sheep Creek Mo**	**79.32**	**29**	P	**P**	**15 18 16.6 +1.3**
	baz=272,SNR=25					
SCM				S	**S**	**15 28 14.1 +1.2**
	baz=272					
RAR	**Rarotonga**	**79.33**	**114**	LR	LR	15 47 38.2
	comp=Z,3µm,21.3s,baz=277,slow=31					
P23K	**Montague Islan**	**79.36**	**31**	P	**P**	**15 18 17.0 +1.5**
	baz=272					
HDA	**Harding Lake**	**79.41**	**26**	P	**P**	**15 18 15.7 0.0**
	baz=272,SNR=74					
HDA				S	**S**	**15 28 11.3 -2.2**
	baz=272					
ILAR	**Eielson Array**	**79.42**	**26**	P	**P**	**15 18 15.2 -0.5**
	comp=Z,29nm,0.8s,baz=239,slow=4.7,SNR=172					
ILAR				PKKPbc	**PKKPbc**	**15 37 05.4 -1.9**
	comp=Z,0.7nm,0.5s,baz=122,slow=1.8,SNR=11					
ILAR				PKPPKP	**P'P'df**	**15 45 07.3 -3.0**
	comp=Z,0.7nm,1.0s,baz=46,slow=3.9,SNR=4.1					
ILAR				LR	LR	15 51 56.9
	comp=Z,3µm,21.8s,baz=261,slow=34					
	comp=Z,29nm,0.8s					
LABN	**Labinsk**	**79.44**	**314**	*e*P	**P**	**15 18 12.9 -3.3**
LABN				*e**PP	**pP**	**15 18 27.0 -1.4**
LABN				*e*		15 21 14.6
LABN				*e*PPP	PPP	15 23 01.1
LABN				*e*S	**S**	**15 28 13.6 -0.9**
LABN				*e*		15 28 26.4
LABN				*e*SSS	SSS	15 36 45.6
LABN				pmax	pmax	
	comp=Z,121nm,1.8s					
LABN				MLR	MLR	
	comp=Z,12µm,20.0s					
GLI	**Glacier Island**	**79.47**	**30**	IAmb	IAmb	15 18 21.6
	comp=Z,68nm,0.7s					
GLI	**Glacier Island**	**79.47**	**30**	P	**P**	**15 18 17.1 +1.0**
	baz=272,SNR=6.8					
GLI				S	**S**	**15 28 13.9 -0.5**
	baz=272					
D25K	**Kavik River**	**79.49**	**21**	IAmb	IAmb	15 18 20.8
	comp=Z,150nm,1.1s					
D25K	**Kavik River**	**79.49**	**21**	P	**P**	**15 18 17.6 +1.5**
	baz=271					
D25K				S	**S**	**15 28 15.4 +1.0**
	baz=271					
ERBR	**Yeremizino-Bor**	**79.53**	**315***c*	*i*P	**P**	**15 18 15.6 -1.1**
ERBR				*e**PP	**pP**	**15 18 26.9 -2.0**
ERBR				*e*		15 21 15.8
ERBR				*e*PPP	PPP	15 23 03.9
ERBR				*e*S	**S**	**15 28 12.5 -3.0**
ERBR				pmax	pmax	
	comp=Z,344nm,2.0s					
G25K	**Bearman Lake**	**79.68**	**24**	P	**P**	**15 18 19.2 +2.2**
	baz=272,SNR=65					
G25K				S	**S**	**15 28 19.6 +3.4**
	baz=272					
FID	**Port Fidalgo**	**79.78**	**30**	IAmb	IAmb	15 18 19.9
	comp=Z,381nm,1.9s					
HIN	**Hinchinbrook I**	**79.79**	**30**	IAmb	IAmb	15 18 49.8
	comp=Z,104nm,1.0s					
H25L	**Birch Creek**	**79.81**	**24**	P	**P**	**15 18 20.1 +2.3**
	baz=272,SNR=74					
H25L				S	**S**	**15 28 21.0 +3.4**
	baz=272					
F25K	**Christian Rive**	**79.82**	**23**	S	**S**	**15 28 20.4 +2.5**
	baz=272					
E25K	**Arctic Village**	**79.83**	**22**	IAmb	IAmb	15 18 23.1
	comp=Z,373nm,1.6s					
E25K	**Arctic Village**	**79.83**	**22**	P	**P**	**15 18 20.1 +2.2**
	baz=272,SNR=80					
E25K				S	**S**	**15 28 19.9 +2.0**
	baz=272					
M24K	**Tolsona, Glenn**	**79.86**	**29**	IAmb	IAmb	15 18 22.3
	comp=Z,128nm,0.8s					
M24K	**Tolsona, Glenn**	**79.86**	**29**	P	**P**	**15 18 19.6 +1.3**
	baz=273,SNR=17					
M24K				S	**S**	**15 28 19.0 +0.5**
	baz=273					
VORR	**Voronezh**	**79.95**	**321**	*e*P	**P**	**15 18 17.7 -1.1**
VORR				S	**S**	**15 28 15.4 -4.2**
VORR				pmax	pmax	
	comp=Z,124nm,0.6s					
K24K	**Donnelly Dome**	**79.95**	**27**	P	**P**	**15 18 19.4 +0.8**
	baz=273,SNR=27					
K24K				S	**S**	**15 28 16.8 -2.5**
	baz=273					
PRP	**Porcupine Dome**	**79.97**	**25**	P	**P**	**15 18 18.8 0.0**
	baz=273,SNR=20					
PRP				S	**S**	**15 28 18.6 -1.1**
	baz=273					
KOPT	**Kop Dagi**	**79.98**	**309**	IAmb	IAmb	15 19 23.4
	comp=Z,186nm,1.3s					
C26K	**Camden Bay**	**79.98**	**21**	P	**P**	**15 18 21.1 +2.4**
	baz=273					
C26K				S	**S**	**15 28 21.4 +2.1**
	baz=273					
VSR	**Storozhevoye**	**80.00**	**320**	*e*P	**P**	**15 18 15.8 -3.3**
VSR				pmax	pmax	
	comp=Z,90nm,0.8s					
VSR				MLR	MLR	
	comp=Z,3µm,20.0s					
KLU	**Klutina**	**80.01**	**29**	P	**P**	**15 18 20.5 +1.4**
	baz=273,SNR=11					
KLU				S	**S**	**15 28 20.3 +0.2**
	baz=273					
VSLR	**Vesyoloye**	**80.03**	**312***c*	*i*P	**P**	**15 18 18.5 -1.0**
VSLR				pmax	pmax	
	comp=Z,99nm,1.0s					
FYU	**Fort Yukon**	**80.03**	**24**	IAmb	IAmb	15 18 24.1
	comp=Z,276nm,1.3s					
LPSR	**Galich'ya Gora**	**80.05**	**322**⇑	*i*P	**P**	**15 18 18.3 -1.1**
LPSR				*e*S	**S**	**15 28 15.4 -5.3**
LPSR				pmax	pmax	
	comp=Z,151nm,0.8s					
J25K	**Salcha River,**	**80.08**	**26**	P	**P**	**15 18 19.3 -0.1**
	baz=273,SNR=44					
J25K				S	**S**	**15 28 17.5 -3.3**
	baz=273					
PAX	**Paxson**	**80.13**	**28**	P	**P**	**15 18 20.9 +1.2**
	baz=273,SNR=52					
PAX				S	**S**	**15 28 21.0 -0.4**
	baz=273					
EYAK	**Cordova Ski Ar**	**80.15**	**30**	P	**P**	**15 18 21.6 +1.9**
EYAK	**Cordova Ski Ar**	**80.15**	**30**	P	**P**	**15 18 21.5 +1.8**
	baz=274,SNR=5.5					
EYAK				S	**S**	**15 28 21.8 +0.4**
	baz=274					
BMAR	**Burnt Mountain**	**80.24**	**23**	P	**P**	**15 18 22.0 +1.8**
SOC	**Sochi**	**80.24**	**313***c*	*i*P	**P**	**15 18 18.4 -2.2**
SOC				*e*		15 21 22.1
SOC				*e*PPP	PPP	15 23 09.4
SOC				*e*S	**S**	**15 28 20.5 -2.6**
SOC				*e*SSS	SSS	15 37 01.0
SOC				MLR	MLR	
	comp=Z,5µm,17.0s					
HARP	**HAARP**	**80.31**	**28**	P	**P**	**15 18 22.1 +1.5**
	baz=274,SNR=15					
HARP				S	**S**	**15 28 23.9 +0.7**
	baz=274					
RIDG	**Independent Ri**	**80.36**	**27**	IAmb	IAmb	15 18 24.6
	comp=Z,139nm,0.8s					
RIDG				IAMs_20	IAMs_20	15 50 45.2
	comp=Z,3µm,22.0s					
RIDG	**Independent Ri**	**80.36**	**27**	P	**P**	**15 18 21.6 +0.7**
	baz=274,SNR=64					
RIDG				S	**S**	**15 28 22.3 -1.5**
	baz=274					
F26K	**Sheenjek River**	**80.39**	**23**	IAmb	IAmb	15 18 24.3
	comp=Z,315nm,1.9s					
F26K	**Sheenjek River**	**80.39**	**23**	P	**P**	**15 18 23.1 +2.2**
	baz=274					
F26K				S	**S**	**15 28 26.5 +2.7**
	baz=274					
C27K	**Jago River**	**80.41**	**21**	IAmb	IAmb	15 18 25.5
	comp=Z,104nm,0.8s					
C27K				IAMs_20	IAMs_20	15 52 25.4
	comp=Z,3µm,22.0s					
C27K	**Jago River**	**80.41**	**21**	P	**P**	**15 18 23.1 +2.1**
	baz=274,SNR=130					
C27K				S	**S**	**15 28 24.9 +1.0**
	baz=274					
G26K	**Porcupine Rive**	**80.58**	**24**	P	**P**	**15 18 24.1 +2.2**
	baz=274,SNR=62					
G26K				S	**S**	**15 28 27.3 +1.6**
	baz=274					
MOS	**Moscow**	**80.58**	**325**	*e*P	**P**	**15 18 18.4 -3.7**
MOS				*e*		15 18 25.2
MOS				*e**PP	**pP**	**15 18 33.1 -1.2**
MOS				*e*		15 21 22.4
MOS				*e*S	**S**	**15 28 21.8 -4.3**
MOS				pmax	pmax	
	comp=Z,1µm,2.5s					
MOS				pmax	pmax	
	comp=Z,104nm,0.8s					
MOS				MLR	MLR	
	comp=Z,3µm,18.0s					
MOS				MLR	MLR	
	comp=E,3µm,17.0s					
N25K	**Chitina, Valde**	**80.63**	**29**	P	**P**	**15 18 23.7 +1.3**
	baz=274,SNR=21					
N25K				S	**S**	**15 28 26.2 -0.5**
	baz=274					
BMRM	**Bremner River**	**80.68**	**30**	IAmb	IAmb	15 18 27.1
	comp=Z,140nm,1.3s					
BMRM	**Bremner River**	**80.68**	**30**	P	**P**	**15 18 24.1 +1.4**
	baz=274,SNR=12					
BMRM				S	**S**	**15 28 26.8 -0.3**
	baz=274					
SCRK	**Sand Creek**	**80.73**	**27**	IAMs_20	IAMs_20	15 51 07.8
	comp=Z,3µm,22.0s					
SCRK	**Sand Creek**	**80.73**	**27**	P	**P**	**15 18 23.9 +0.9**
	baz=274,SNR=46					
SCRK				S	**S**	**15 28 26.1 -1.6**
	baz=274					
KAIM	**Kayak Island**	**80.86**	**31**	P	**P**	**15 18 25.6 +2.0**
	baz=275					
J26L	**Joseph Creek**	**80.87**	**26**	P	**P**	**15 18 24.4 +0.8**
	baz=275					
J26L				S	**S**	**15 28 27.8 -1.2**
	baz=275					
LVZ	**Lovozero**	**80.95**	**337**	*i* P	**P**	**15 18 24.3 +0.3**
LVZ				pmax	pmax	
	comp=Z,25nm,1.0s					
LVZ	**Lovozero**	**80.95**	**337**	P	**P**	**15 18 25.3 +1.3**
	comp=Z,3µmcomp=Z,67nm,1.5s					
I26K	**Coal Creek Min**	**80.97**	**25**	P	**P**	**15 18 24.9 +0.8**
	baz=275					
I26K				S	**S**	**15 28 29.6 -0.3**
	baz=275					
GLB	**Gilahina Butte**	**81.03**	**29**	IAmb	IAmb	15 18 50.4
	comp=Z,118nm,1.1s					
L26K	**Log Cabin Wild**	**81.09**	**27**	P	**P**	**15 18 26.6 +1.7**
	baz=275,SNR=14					
L26K				S	**S**	**15 28 31.9 +0.6**
	baz=275					
BERG	**Berg Lake**	**81.17**	**30**	IAmb	IAmb	15 18 31.3
	comp=Z,101nm,0.8s					
VRDI	**Verde Repeater**	**81.22**	**29**	IAmb	IAmb	15 18 32.1
	comp=Z,180nm,1.6s					
OBN	**Obninsk**	**81.23**	**324**	P	**P**	**15 18 23.3 -2.3**
OBN	**Obninsk**	**81.23**	**324**	LR	LR	15 57 25.3
	comp=Z,4µm,19.7s,baz=86,slow=38					
OBN	**Obninsk**	**81.23**	**324**	⇑P	**P**	**15 18 25.8 +0.1**
OBN	**Obninsk**	**81.23**	**324**	*i* P	**P**	**15 18 24.6 -1.1**
OBN				*i*		15 18 37.7
OBN				pmax	pmax	
	comp=Z,231nm,1.7s					
OBN				MLR	MLR	
	comp=Z,4µm,20.0s					
OBN	**Obninsk**	**81.23**	**324**	P	**P**	**15 18 24.5 -1.1**
	comp=Z,3µmcomp=Z,113nm,1.7s					
E27K	**Coleen River**	**81.30**	**22**	IAmb	IAmb	15 18 28.8
	comp=Z,441nm,1.9s					
E27K	**Coleen River**	**81.30**	**22**	P	**P**	**15 18 27.9 +2.0**
	baz=276,SNR=65					
E27K				S	**S**	**15 28 34.6 +1.3**
	baz=276					
M26K	**Nabesna, AK**	**81.32**	**28**	IAmb	IAmb	15 18 37.7
	comp=Z,310nm,1.9s					
M26K	**Nabesna, AK**	**81.32**	**28**	P	**P**	**15 18 27.6 +1.5**
	baz=276					
M26K				S	**S**	**15 28 33.4 -0.3**
	baz=276					
ATD	**Arta Tunnel**	**81.35**	**280**	IAMs_20	IAMs_20	15 53 18.7
	comp=Z,3µm,22.0s					
ATD	**Arta Tunnel**	**81.35**	**280**	LR	LR	15 53 30.0
	comp=Z,102nm,19.7s,baz=80,slow=35					
BGLC	**Bering Glacier**	**81.41**	**30**	P	**P**	**15 18 28.6 +2.2**
	baz=276					
D27M	**Malcolm River**	**81.42**	**21**	IAmb	IAmb	15 18 30.3
	comp=Z,132nm,1.1s					
D27M				IAMs_20	IAMs_20	15 53 09.0
	comp=Z,3µm,22.0s					
D27M	**Malcolm River**	**81.42**	**21**	P	**P**	**15 18 28.7 +2.2**
	baz=276					
D27M				S	**S**	**15 28 35.7 +1.2**
	baz=276					
G27K	**Doyon Strip**	**81.43**	**24**	IAmb	IAmb	15 18 32.9
	comp=Z,261nm,1.9s					
G27K	**Doyon Strip**	**81.43**	**24**	P	**P**	**15 18 28.9 +2.3**
	baz=276					
G27K				S	**S**	**15 28 35.8 +1.1**
	baz=276					
APA	**Apatity**	**81.45**	**337**⇓	*i*P	**P**	**15 18 26.2 -0.4**
APA				*i*		15 18 39.8
APA				*i*		15 21 30.0
APA				*i* S	**S**	**15 28 32.0 -2.8**
APA				*i* PS	**PnS**	**15 29 27.0 +0.7**
APA				*i* SS	**SS**	**15 33 50.0 -1.3**
APA				pmax	pmax	
	comp=Z,34nm,0.8s					
H27K	**Steamboat Moun**	**81.55**	**24**	P	**P**	**15 18 29.7 +2.5**
	baz=276					
H27K				S	**S**	**15 28 38.4 +2.5**
	baz=276					
K27K	**Chicken**	**81.56**	**26**	IAmb	IAmb	15 18 31.3
	comp=Z,150nm,1.1s					
K27K	**Chicken**	**81.56**	**26**	P	**P**	**15 18 29.7 +2.4**
	baz=276					
K27K				S	**S**	**15 28 36.6 +0.6**
	baz=276					
I27K	**Kandik River**	**81.58**	**25**	P	**P**	**15 18 29.4 +2.0**
	baz=276,SNR=124					
I27K				S	**S**	**15 28 37.6 +1.2**
	baz=276					
ANN	**Anapa**	**81.76**	**314**	*e*P	**P**	**15 18 25.9 -2.7**
ANN				*e**PP	**pP**	**15 18 39.5 -1.3**
ANN				*e*		15 21 33.5
ANN				*e*PPP	PPP	15 23 23.3
ANN				*e*S	**S**	**15 28 34.3 -4.4**
ANN				pmax	pmax	
	comp=Z,139nm,1.0s					
ANN				MLR	MLR	
	comp=Z,7µm,20.0s					
L27K	**Beaver Creek,**	**81.78**	**27**	IAmb	IAmb	15 18 34.6
	comp=Z,175nm,1.5s					
L27K	**Beaver Creek,**	**81.78**	**27**	P	**P**	**15 18 30.4 +1.9**
	baz=277					
L27K				S	**S**	**15 28 40.3 +1.9**
	baz=277					
BCAR	**Beaver Creek A**	**81.80**	**27**	P	**P**	**15 18 29.5 +0.9**
M27K	**Edge Creek, AK**	**81.84**	**28**	IAmb	IAmb	15 18 31.6
	comp=Z,299nm,2.0s					
M27K				IAMs_20	IAMs_20	15 57 23.3
	comp=Z,4µm,21.0s					
M27K	**Edge Creek, AK**	**81.84**	**28**	P	**P**	**15 18 31.0 +2.1**
	baz=277					
M27K				S	**S**	**15 28 40.3 +1.0**
	baz=277					
E28M	**Babbage River**	**82.01**	**22**	IAmb	IAmb	15 18 34.5
	comp=Z,111nm,1.1s					
E28M	**Babbage River**	**82.01**	**22**	P	**P**	**15 18 31.3 +1.8**
	baz=278,SNR=120					
E28M				S	**S**	**15 28 41.5 +1.0**
	baz=278					
MESA	**MESA**	**82.06**	**30**	IAmb	IAmb	15 18 35.4
	comp=Z,96nm,0.8s					
MESA	**MESA**	**82.06**	**30**	P	**P**	**15 18 32.4 +2.2**
	baz=277					
D28M	**Stokes Point**	**82.19**	**21**	P	**P**	**15 18 32.2 +1.8**
	baz=278,SNR=30					
D28M				S	**S**	**15 28 43.9 +1.6**
	baz=278					
I28M	**Miner Creek**	**82.29**	**25**	P	**P**	**15 18 33.3 +2.1**
	baz=278					
I28M				S	**S**	**15 28 45.4 +1.6**
	baz=278					
BVCY	**Beaver Creek**	**82.30**	**28**	P	**P**	**15 18 33.3 +2.1**
	baz=278,SNR=17					
BVCY				S	**S**	**15 28 45.3 +1.4**
	baz=278					
HOPEN	**Hopen**	**82.51**	**347**⇑	*i*P	**P**	**15 18 32.4 +0.4**
HOPEN				IVmB_BB		15 18 33.5
	comp=Z,5µm,3.0s					
HOPEN				*e*SKSac	**SKSac**	**15 28 48.2 -1.2**
HOPEN				IVMs_BB	IVMs_BB	15 57 54.6
	comp=Z,2µm,20.7s					
VADS	**Vadso**	**82.55**	**340**	*e*P	**P**	**15 18 32.6 +0.4**
VADS				IVmB_BB		15 18 33.2
	comp=Z,3µm,3.9s					
VADS				*e*SKSac	**SKSac**	**15 28 48.3 -1.6**
VADS				IVMs_BB	IVMs_BB	15 56 10.3
	comp=Z,2µm,3.9s					
YUK3	**Moose Creek**	**82.58**	**29**	P	**P**	**15 18 34.7 +1.8**
	baz=278,SNR=18					
YUK3				S	**S**	**15 28 47.4 +0.3**
	baz=278					
E29M	**Blow River**	**82.64**	**22**	IAmb	IAmb	15 18 35.3
	comp=Z,302nm,1.9s					
E29M	**Blow River**	**82.64**	**22**	P	**P**	**15 18 34.4 +1.6**
	baz=279					
E29M				S	**S**	**15 28 48.6 +1.6**
	baz=279					
DAWY	**Dawson**	**82.73**	**26**	P	**P**	**15 18 35.1 +1.7**
	baz=279,SNR=67					
DAWY				S	**S**	**15 28 50.4 +2.2**
	baz=279					
H29M	**Whitestone**	**82.81**	**24**	IAmb	IAmb	15 18 37.8
	comp=Z,132nm,0.8s					
H29M	**Whitestone**	**82.81**	**24**	P	**P**	**15 18 35.5 +1.8**
	baz=279,SNR=97					
H29M				S	**S**	**15 28 50.3 +1.4**
	baz=279					
G29M	**Pine Creek**	**82.84**	**23**	P	**P**	**15 18 35.9 +2.0**
	baz=280					
G29M				S	**S**	**15 28 49.6 +0.5**
	baz=280					
O28M	**Mount Upton**	**82.85**	**30**	P	**P**	**15 18 36.5 +2.1**
	baz=278					
O28M				S	**S**	**15 28 50.8 +0.8**
	baz=278					
ABPO	**Ambohimpanom**	**82.95**	**249**	P	**P**	**15 18 34.1 -1.4**
ABPO	**Ambohimpanom**	**82.95**	**249**	P	**P**	**15 18 34.1 -1.4**
ABPO				pmax	pmax	
	comp=Z,56nm,1.0s					
YUK8	**Steele Glacier**	**82.98**	**29**	P	**P**	**15 18 37.1 +2.1**
	baz=279,SNR=62					
YUK8				S	**S**	**15 28 51.1 -0.1**
	baz=279					
I29M	**Ogilvie Camp,**	**82.98**	**25**	IAMs_20	IAMs_20	15 54 24.4
	comp=Z,3µm,21.0s					
I29M	**Ogilvie Camp,**	**82.98**	**25**	P	**P**	**15 18 36.3 +1.6**
	baz=279,SNR=44					
I29M				S	**S**	**15 28 50.7 0.0**
	baz=279					
TOKA	**Tokat**	**83.00**	**310**	IAmb	IAmb	15 18 37.0
	comp=Z,281nm,1.9s					
J29N	**Klondike Camp**	**83.17**	**26**	IAMs_20	IAMs_20	15 55 51.4
	comp=Z,3µm,21.0s					
J29N	**Klondike Camp**	**83.17**	**26**	P	**P**	**15 18 38.0 +2.3**
	baz=280					
J29N				S	**S**	**15 28 52.0 -0.7**
	baz=280					
M29M	**Somme Creek**	**83.40**	**28**	P	**P**	**15 18 39.5 +2.5**
	baz=280					
M29M				S	**S**	**15 28 53.1 -2.0**
	baz=280					
KEV	**Kevo**	**83.42**	**340**	P	**P**	**15 18 36.6 -0.1**
KEV				IAmb	IAmb	15 19 15.5
	comp=Z,99nm,1.3s					
KEV				IAMs_20	IAMs_20	16 02 04.7
	comp=Z,3µm,19.0s					
KEV	**Kevo**	**83.42**	**340**	P	**P**	**15 18 36.6 -0.1**
KEV				pmax	pmax	
	comp=Z,99nm,1.3s					
KEV				pmax	pmax	
	comp=Z,3µm,19.0s					
L29M	**L29M**	**83.44**	**27**	P	**P**	**15 18 39.7 +2.6**
	baz=280					
L29M				S	**S**	**15 28 55.7 +0.3**
	baz=280					
YUK4	**Talbot Arm**	**83.50**	**29**	P	**P**	**15 18 39.9 +2.2**
	baz=280,SNR=37					
YUK4				S	**S**	**15 28 55.0 -1.4**
	baz=280					
G30M	**tAoh Zraii Nji**	**83.52**	**23**	P	**P**	**15 18 38.6 +1.1**
	baz=281,SNR=69					
G30M				S	**S**	**15 28 54.1 -2.0**
	baz=281					
F30M	**Barrier River**	**83.56**	**22**	P	**P**	**15 18 39.5 +1.9**
	baz=282					
F30M				S	**S**	**15 28 55.5 -0.9**
	baz=282					
K29M	**Barlow Dome**	**83.58**	**26**	IAmb	IAmb	15 18 43.0
	comp=Z,190nm,1.2s					
K29M	**Barlow Dome**	**83.58**	**26**	P	**P**	**15 18 40.3 +2.4**
	baz=280					
K29M				S	**S**	**15 28 56.3 -0.7**
	baz=280					
YUK6	**Outpost Mounta**	**83.70**	**29**	P	**P**	**15 18 41.1 +2.4**
	baz=280,SNR=24					
YUK6				S	**SKSac**	**15 28 57.8 -0.7**
	baz=280					
O29M	**Mount Kennedy**	**83.71**	**30**	P	**P**	**15 18 41.0 +2.3**
	baz=280					
O29M				S	**SKSac**	**15 28 57.5 -0.8**
	baz=280					
ASF	**Jabal al Asfar**	**83.80**	**301**	LR	LR	16 01 10.7
	comp=Z,4µm,22.0s,baz=105,slow=39					
I30M	**Mount Dempster**	**83.80**	**25**	IAmb	IAmb	15 18 43.6
	comp=Z,195nm,1.3s					
I30M	**Mount Dempster**	**83.80**	**25**	P	**P**	**15 18 40.6 +1.5**
	baz=281					
I30M				S	**SKSac**	**15 28 56.3 -2.4**
	baz=281					
SPA0	**Spitsbergen Ar**	**83.83**	**349**⇑	*i*P	**P**	**15 18 39.0 +0.2**
SPA0				IVmB_BB		15 18 39.9
	comp=Z,5µm,2.5s					
SPA0				*e*PP	**PP**	**15 21 52.8 +0.8**
SPA0				*e*SKSac	**SKSac**	**15 28 57.2 -1.0**
SPA0				IVMs_BB	IVMs_BB	16 00 28.6
	comp=Z,2µm,21.9s					

SPITS	**Spitsbergen Ar**	**83.83**	**349**	P	**P**	**15 18 38.8**	**+0.1**
	comp=Z,129nm,0.8s,baz=95,slow=7.7,SNR=79						
SPITS				PKKPbc	**PKKPbc**	**15 36 57.7**	**+0.1**
	comp=Z,12nm,1.1s,baz=104,slow=4.6,SNR=5.1						
SPITS				LR	LR	16 00 30.8	
	comp=Z,5µm,21.5s,baz=38,slow=39						
	comp=Z,129nm,0.8s						
SPITS	**Spitsbergen Ar**	**83.83**	**349**	P	**P**	**15 18 38.9**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,248nm,1.0s						
FKH	**Fakeheh**	**83.91**	**304**	*e*P	**P**	**15 18 40.3**	**+0.1**
J30M	**Hart River**	**83.95**	**25**	P	**P**	**15 18 41.8**	**+2.0**
	baz=281						
J30M				S	**SKSac**	**15 28 59.0**	**-0.7**
	baz=281						
ARA0	**ARCESS Array S**	**83.98**	**340**	⇑*i*P	**P**	**15 18 39.3**	**-0.4**
ARA0				IVmB_BB		15 18 40.5	
	comp=Z,3µm,3.6s						
ARA0				*e*SKSac	**SKSac**	**15 28 57.8**	**-1.6**
ARA0				IVMs_BB	IVMs_BB	16 00 38.0	
	comp=Z,2µm,15.7s						
ARCES	**ARCESS Array B**	**83.98**	**340**	P	**P**	**15 18 39.6**	**-0.1**
ARCES	**ARCESS Array B**	**83.98**	**340**	P	**P**	**15 18 39.0**	**-0.7**
	comp=Z,36nm,0.6s,baz=81,slow=5.8,SNR=120						
ARCES				LR	LR	16 00 58.0	
	comp=Z,3µm,18.0s,baz=92,slow=39						
	comp=Z,36nm,0.6s						
ARCES	**ARCESS Array B**	**83.98**	**340**	P	**P**	**15 18 39.6**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,354nm,2.0s						
VOI	**Vohitsoka**	**84.02**	**247**	P	**P**	**15 18 39.7**	**-1.2**
VOI				IAmb	IAmb	15 18 41.1	
	comp=Z,224nm,1.5s						
BEIL	**Beino**	**84.05**	**304**	*e*P	**P**	**15 18 40.6**	**-0.2**
SIM	**Simferopol'**	**84.07**	**314**	*e*P	**P**	**15 18 38.7**	**-2.0**
SIM				*e*S	**SKSac**	**15 29 00.9**	**-0.1**
SIM				pmax	pmax		
	comp=Z,66nm,0.8s						
M30M	**Minto, Yukon**	**84.14**	**28**	P	**P**	**15 18 43.0**	**+2.3**
	baz=281,SNR=87						
M30M				S	**SKSac**	**15 29 00.8**	**0.0**
	baz=281						
HYT	**Haines Junctio**	**84.14**	**29**	P	**P**	**15 18 43.0**	**+2.2**
	baz=281,SNR=93						
HYT				S	**SKSac**	**15 29 00.8**	**-0.2**
	baz=281						
N30M	**Aishikik Lake**	**84.22**	**29**	IAMs_20	IAMs_20	15 53 57.3	
	comp=Z,3µm,22.0s						
N30M	**Aishikik Lake**	**84.22**	**29**	P	**P**	**15 18 43.4**	**+2.3**
	baz=281						
N30M				S	**SKSac**	**15 29 02.6**	**+1.2**
	baz=281						
INK	**Inuvik**	**84.25**	**22**	PKKPbc	PKKPbc	15 36 54.0	-2.4
	comp=Z,2.6nm,1.0s,baz=104,slow=1.5,SNR=4.0						
INK				LR	LR	15 57 19.4	
	comp=Z,1µm,22.0s,baz=278,slow=36						
INK	**Inuvik**	**84.25**	**22**	P	**P**	**15 18 42.1**	**+1.1**
	baz=284,SNR=76						
INK				S	**SKSac**	**15 28 59.7**	**-1.4**
	baz=284						
HWQ	**Hawqa**	**84.28**	**304**	*e*P	**P**	**15 18 41.7**	**-0.4**
G31M	**Satah River**	**84.29**	**23**	P	**P**	**15 18 42.1**	**+0.9**
	baz=283,SNR=58						
G31M				S	**SKSac**	**15 29 00.7**	**-0.7**
	baz=283						
HAMF	**Hammerfest**	**84.31**	**341**	⇑*i*P	**P**	**15 18 40.9**	**-0.4**
HAMF				IVmB_BB		15 18 41.7	
	comp=Z,3µm,3.8s						
HAMF				*e*SKSac	**SKSac**	**15 29 00.9**	**-0.5**
HAMF				IVMs_BB	IVMs_BB	16 01 22.6	
	comp=Z,2µm,4.9s						
MAYO	**Mayo, Yukon**	**84.34**	**26**	P	**P**	**15 18 43.9**	**+2.2**
	baz=282,SNR=50						
MAYO				S	**SKSac**	**15 29 01.8**	**-0.1**
	baz=282						
KBS	**Kingsbay**	**84.34**	**350**	P	**P**	**15 18 41.0**	**-0.4**
KBS				IAmb	IAmb	15 18 43.1	
	comp=Z,68nm,0.8s						
KBS	**Kingsbay**	**84.34**	**350**	⇑*i*P	**P**	**15 18 41.2**	**-0.2**
KBS				IVmB_BB		15 18 42.4	
	comp=Z,2µm,3.8s						
KBS				*e*SKSac	**SKSac**	**15 28 58.6**	**-2.9**
KBS				IVMs_BB	IVMs_BB	16 02 08.3	
	comp=Z,2µm,19.0s						
KBS	**Kingsbay**	**84.34**	**350**	P	**P**	**15 18 41.0**	**-0.4**
KBS				pmax	pmax		
	comp=Z,68nm,0.8s						
KBS				pmax	pmax		
	comp=Z,5µm,18.0s						
KBS	**Kingsbay**	**84.34**	**350**	*i*P	**P**	**15 18 41.8**	**+0.4**
F31M	**Tsiigehtchic**	**84.37**	**22**	P	**P**	**15 18 42.6**	**+0.9**
	baz=283,SNR=42						
F31M				S	**SKSac**	**15 29 01.1**	**-0.8**
	baz=283						
HSPB	**Hornsund (broa**	**84.44**	**348**	*e*P	**P**	**15 18 41.8**	**0.0**
HSPB				*e*L	L	15 55 26.7	
	comp=Z,5µm,25.4s						
HSPB	**Hornsund (broa**	**84.44**	**348**	*e*P	**P**	**15 18 42.7**	**+0.8**
RCY	**Rachaya**	**84.49**	**303**	*e*P	**P**	**15 18 43.3**	**+0.1**
H31M	**Peel River**	**84.51**	**24**	P	**P**	**15 18 43.8**	**+1.3**
	baz=283						
H31M				S	**SKSac**	**15 29 01.8**	**-1.2**
	baz=283						
BJO1	**Bjornoya**	**84.52**	**345**	⇑*i*P	**P**	**15 18 41.8**	**-0.5**
BJO1				IVmB_BB		15 18 42.6	
	comp=Z,2µm,4.0s						
BJO1				*e*SKSac	**SKSac**	**15 28 59.1**	**-3.6**
BJO1				IVMs_BB	IVMs_BB	16 05 51.1	
	comp=Z,1µm,3.9s						
P30M	**Million Dollar**	**84.54**	**30**	P	**P**	**15 18 44.9**	**+2.2**
	baz=281						
P30M				S	**SKSac**	**15 29 03.4**	**-0.1**
	baz=281						
BHL	**Bhannes**	**84.58**	**303**	*e*P	**P**	**15 18 43.5**	**0.0**
SHBL	**Chebaa**	**84.59**	**303**	*e*P	**P**	**15 18 43.8**	**+0.1**
QRWL	**Qaraoun**	**84.61**	**303**	*e*P	**P**	**15 18 43.8**	**0.0**
DQRL	**Deir Qamar**	**84.68**	**303**	*e*P	**P**	**15 18 44.0**	**0.0**
N31M	**Braeburn, Yuko**	**84.83**	**28**	P	**P**	**15 18 46.6**	**+2.4**
	baz=282,SNR=46						
N31M				S	**SKSac**	**15 29 06.2**	**+1.0**
	baz=282						
O30N	**Mendenhall**	**84.83**	**29**	IAmb	IAmb	15 18 49.3	
	comp=Z,85nm,1.0s						
O30N	**Mendenhall**	**84.83**	**29**	P	**P**	**15 18 46.2**	**+2.0**
	baz=282,SNR=44						
O30N				S	**SKSac**	**15 29 06.0**	**+0.7**
	baz=282						
KTK1	**Kautokeino**	**84.89**	**339**	⇑*i*P	**P**	**15 18 43.7**	**-0.6**
KTK1				IVmB_BB		15 18 44.5	
	comp=Z,2µm,4.0s						
KTK1				*e*SKSac	**SKSac**	**15 29 04.1**	**-1.2**
KTK1				IVMs_BB	IVMs_BB	16 01 27.3	
	comp=Z,2µm,21.0s						
MMAI	**Mount Meron Ar**	**84.92**	**302**	P	**P**	**15 18 45.6**	**+0.3**
	comp=Z,59nm,1.0s,baz=73,slow=3.7,SNR=41						
MMAI				LR	LR	16 01 40.6	
	comp=Z,2µm,20.1s,baz=71,slow=39						
	comp=Z,59nm,1.0s						
PLBC	**Pleasant Camp**	**84.97**	**31**	P	**P**	**15 18 46.9**	**+2.0**
	baz=282						
PLBC				S	**S**	**15 29 10.0**	**-0.7**
	baz=282						
GHAJ	**Ghor Haditha**	**85.06**	**301**	IAMs_20	IAMs_20	16 01 39.1	
	comp=Z,3µm,21.0s						
KIRS	**Kirsehir-Merke**	**85.14**	**309**	⇑P	**P**	**15 18 45.2**	**-1.0**
BR131	**Keskin Array S**	**85.25**	**309**	IAmb	IAmb	15 18 46.8	
	comp=Z,258nm,1.9s						
BR131	**Keskin Array S**	**85.25**	**309**	*i*P	**P**	**15 18 45.7**	**-1.2**
BRTR	**Keskin Array B**	**85.25**	**309**	P	**P**	**15 18 45.1**	**-1.8**
BRTR	**Keskin Array B**	**85.25**	**309**	P	**P**	**15 18 45.5**	**-1.4**
	comp=Z,28nm,0.7s,baz=120,slow=4.6,SNR=113						
BRTR				LR	LR	16 02 02.8	
	comp=Z,3µm,21.7s,baz=74,slow=39						
	comp=Z,28nm,0.7s						
BRTR	**Keskin Array B**	**85.25**	**309**	P	**P**	**15 18 45.1**	**-1.8**
BR104	**Keskin Array S**	**85.25**	**309**	P	**P**	**15 18 45.5**	**-1.4**
	comp=Z,405nmcomp=Z,40nm,0.8s						
BR106	**Keskin Array S**	**85.27**	**309**	P	**P**	**15 18 45.9**	**-1.1**
	comp=Z,497nmcomp=Z,52nm,0.7s						
BR105	**Keskin Array S**	**85.27**	**309**	P	**P**	**15 18 45.9**	**-1.1**
	comp=Z,546nmcomp=Z,52nm,0.7s						
M31M	**Drury Creek, Y**	**85.31**	**28**	IAMs_20	IAMs_20	15 54 30.1	
	comp=Z,3µm,21.0s						
M31M	**Drury Creek, Y**	**85.31**	**28**	P	**P**	**15 18 48.2**	**+1.7**
	baz=283,SNR=53						
M31M				S	**S**	**15 29 14.6**	**+0.5**
	baz=283						
S31K	**Pelican**	**85.34**	**32**	P	**P**	**15 18 48.6**	**+1.9**
	baz=282,SNR=8.3						
S31K				S	**S**	**15 29 17.0**	**+2.6**
	baz=282						
CIDE	**Kastamonu/Cide**	**85.41**	**312**	⇑P	**P**	**15 18 46.5**	**-0.9**
WHY	**Whitehorse**	**85.44**	**29**	P	**P**	**15 18 49.3**	**+2.0**
	baz=283,SNR=91						
WHY				S	**S**	**15 29 17.4**	**+1.9**
	baz=283						
SKAG	**Skagway**	**85.48**	**30**	IAmb	IAmb	15 18 52.5	
	comp=Z,126nm,0.9s						
SKAG	**Skagway**	**85.48**	**30**	P	**P**	**15 18 49.6**	**+2.2**
SKAG	**Skagway**	**85.48**	**30**	P	**P**	**15 18 49.8**	**+2.4**
	baz=283,SNR=66						
SKAG				S	**S**	**15 29 17.1**	**+1.4**
	baz=283						
R31K	**City Hall, Gus**	**85.50**	**32**	P	**P**	**15 18 49.5**	**+2.0**
	baz=282						
R31K				S	**S**	**15 29 17.5**	**+1.5**
	baz=282						
FINES	**FINESS Array B**	**85.65**	**332**	P	**P**	**15 18 47.3**	**-0.9**
	comp=Z,23nm,0.4s,baz=72,slow=4.3,SNR=213						
FINES				LR	LR	16 02 36.0	
	comp=Z,3µm,18.4s,baz=80,slow=40						
	comp=Z,23nm,0.4s						
JETT	**Jettan, Norway**	**85.69**	**340**	⇑*i*P	**P**	**15 18 47.6**	**-0.7**
JETT				IVmB_BB		15 18 48.2	
	comp=Z,3µm,3.2s						
JETT				*e*SKSac	**SKSac**	**15 29 11.1**	**+0.6**
JETT				IVMs_BB	IVMs_BB	16 01 41.5	
	comp=Z,2µm,20.0s						
FARO	**Faro, Yukon**	**85.78**	**27**	P	**P**	**15 18 50.8**	**+1.9**
	baz=284						
FARO				S	**S**	**15 29 18.3**	**-0.4**
	baz=284						
EIL	**Elat**	**85.84**	**299**	LR	LR	16 02 19.1	
	comp=Z,3µm,21.6s,baz=78,slow=39						
A36M	**Sachs Harbour**	**85.85**	**17**	IAMs_20	IAMs_20	16 00 36.1	
	comp=Z,3µm,22.0s						
A36M	**Sachs Harbour**	**85.85**	**17**	P	**P**	**15 18 50.2**	**+1.2**
	baz=291,SNR=395						
A36M				S	**S**	**15 29 20.6**	**+1.7**
	baz=291						
ANTO	**Ankara**	**85.87**	**310**	P	**P**	**15 18 49.3**	**-0.6**
ANTO	**Ankara**	**85.87**	**310**	⇑P	**P**	**15 18 48.5**	**-1.4**
ANTO	**Ankara**	**85.87**	**310**	P	**P**	**15 18 48.5**	**-1.4**
ANTO	**Ankara**	**85.87**	**310**	P	**P**	**15 18 48.9**	**-1.0**
	comp=Z,1µmcomp=Z,62nm,1.3s						
BESE	**Bessie Mountai**	**85.92**	**31**	IAmb	IAmb	15 18 55.0	
	comp=Z,91nm,1.1s						
SIT	**Sitka**	**86.02**	**33**	IAmb	IAmb	15 18 55.4	
	comp=Z,124nm,1.3s						
SIT	**Sitka**	**86.02**	**33**	P	**P**	**15 18 51.9**	**+1.8**
SIT	**Sitka**	**86.02**	**33**	P	**P**	**15 18 52.2**	**+2.1**
	baz=283,SNR=7.5						
SIT				S	**S**	**15 29 23.9**	**+2.8**
	baz=283						
VSU	**Vasula**	**86.03**	**329**	*ce*P	**P**	**15 18 47.8**	**-2.3**
VSU				pmax	pmax		
	comp=Z,114nm,1.3s						
TRO	**Tromso**	**86.16**	**340**	*e*P	**P**	**15 18 51.4**	**+0.8**
TRO				*e*SKSac	**SKSac**	**15 29 13.1**	**-0.1**
TRO				IVMs_BB	IVMs_BB	16 03 04.0	
	comp=Z,2µm,4.7s						
R32K	**Eaglecrest**	**86.16**	**31**	IAmb	IAmb	15 18 53.9	
	comp=Z,245nm,2.0s						
R32K	**Eaglecrest**	**86.16**	**31**	P	**P**	**15 18 52.9**	**+2.0**
	baz=283,SNR=11						
R32K				S	**S**	**15 29 26.6**	**+4.1**
	baz=283						
N32M	**Quiet Lake**	**86.17**	**29**	P	**P**	**15 18 52.9**	**+2.0**
	baz=284						
N32M				S	**S**	**15 29 24.6**	**+2.0**
	baz=284						
JIS	**Juneau Island**	**86.23**	**31**	P	**P**	**15 18 53.1**	**+2.0**
P32M	**Atlin**	**86.25**	**30**	IAmb	IAmb	15 18 54.1	
	comp=Z,171nm,1.9s						
P32M	**Atlin**	**86.25**	**30**	P	**P**	**15 18 53.2**	**+1.9**
	baz=284,SNR=17						
P32M				S	**S**	**15 29 25.4**	**+1.9**
	baz=284						
AK09	**Malin Array Si**	**86.28**	**321**	P	**P**	**15 18 50.3**	**-1.2**
AK08	**Malin Array Si**	**86.29**	**321**	P	**P**	**15 18 50.3**	**-1.3**
MNK	**Minsk**	**86.29**	**325**	*i* P	**P**	**15 18 50.6**	**-0.9**
MNK				*i* *PP	**pP**	**15 19 05.2**	**+1.3**
MNK				*i*		15 22 11.9	
MNK				*i* PPP	PPP	15 24 06.0	
MNK				*i* S	**SKSac**	**15 29 11.7**	**-2.9**
MNK				*i* SS	**SS**	**15 35 04.1**	**+0.8**
MNK				*i* SSS	SSS	15 38 36.4	
MNK				pmax	pmax		
	comp=N,78nm,1.2s						
MNK				pmax	pmax		
	comp=E,19nm,0.8s						
MNK				pmax	pmax		
	comp=Z,91nm,1.2s						
MNK				MLR	MLR		
	comp=N,4µm,19.0s						
MNK				MLR	MLR		
	comp=Z,4µm,18.0s						
MNK				MLR	MLR		
	comp=E,2µm,19.0s						
AK03	**Malin Array Si**	**86.30**	**321**	P	**P**	**15 18 50.0**	**-1.6**
AKASG	**Malin Array Be**	**86.30**	**321**	P	**P**	**15 18 50.0**	**-1.7**
AKASG	**Malin Array Be**	**86.30**	**321**	P	**P**	**15 18 50.2**	**-1.4**
	comp=E,5.3nm,0.3s,baz=67,slow=4.7,SNR=121						
AKASG				S	**SKSac**	**15 29 18.1**	**+3.4**
	comp=E,0.1nm,0.3s,baz=78,slow=8.9,SNR=5.8						
AKASG				LR	LR	16 01 30.3	
	comp=E,3µm,20.0s,baz=78,slow=38						
	comp=E,5.3nm,0.3s						
AKASG	**Malin Array Be**	**86.30**	**321**	P	**P**	**15 18 50.0**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,486nm,1.8s						
AKBB	**Malin Array Si**	**86.30**	**321**	IAmb	IAmb	15 19 14.9	
	comp=Z,128nm,1.1s						
AKBB	**Malin Array Si**	**86.30**	**321**	*ce*P	**P**	**15 18 49.9**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,302nm,2.4s						
AKBB	**Malin Array Si**	**86.30**	**321**	P	**P**	**15 18 50.0**	**-1.7**
CSS	**Mathiatis**	**86.30**	**305**	IAMs_20	IAMs_20	16 02 56.0	
	comp=Z,3µm,21.0s						
KIEV	**Kiev**	**86.31**	**321**	P	**P**	**15 18 50.0**	**-1.7**
KIEV				IAmb	IAmb	15 19 14.9	
	comp=Z,115nm,1.1s						
KIEV	**Kiev**	**86.31**	**321**	IAMs_20	IAMs_20	16 01 09.8	
	comp=Z,3µm,19.0s						
KIEV	**Kiev**	**86.31**	**321**	⇑P	**P**	**15 18 50.6**	**-1.1**
KIEV	**Kiev**	**86.31**	**321**	P	**P**	**15 18 50.0**	**-1.7**
KIEV	**Kiev**	**86.31**	**321**	*i* P	**P**	**15 18 50.1**	**-1.6**
	SNR=39						
KIEV	**Kiev**	**86.31**	**321**	P	**P**	**15 18 50.0**	**-1.7**
	comp=Z,14µmcomp=Z,329nm,1.0s						
S32K	**Killisnoo**	**86.32**	**32**	P	**P**	**15 18 53.2**	**+1.6**
	baz=283						
S32K				S	**S**	**15 29 25.7**	**+1.7**
	baz=283						
NOR	**Nord**	**86.42**	**355**	*i* P	**P**	**15 18 51.5**	**-0.2**
NOR				IAmb	IAmb	15 18 53.4	
	comp=Z,1µm,2.2s						
P33M	**Teslin, Yukon**	**86.54**	**29**	IAmb	IAmb	15 18 55.3	
	comp=Z,248nm,1.9s						
P33M				IAMs_20	IAMs_20	15 52 36.5	
	comp=Z,3µm,22.0s						
P33M	**Teslin, Yukon**	**86.54**	**29**	P	**P**	**15 18 54.1**	**+1.4**
	baz=285,SNR=41						
P33M				S	**S**	**15 29 28.1**	**+1.9**
	baz=285						
BAL3X	**Bal3x, Balta**	**86.62**	**318**	P	**P**	**15 18 52.3**	**-1.0**
PURM	**Purcari**	**86.72**	**317**	⇓P	**P**	**15 18 52.9**	**-0.8**
PURM	**Purcari**	**86.72**	**317**	P	**P**	**15 18 52.5**	**-1.3**
	comp=Z,5µmcomp=Z,276nm,1.5s						
Q32M	**Nakina River**	**87.13**	**31**	IAmb	IAmb	15 18 58.7	
	comp=Z,133nm,1.9s						
Q32M	**Nakina River**	**87.13**	**31**	P	**P**	**15 18 57.6**	**+1.8**
	baz=285						
Q32M				S	**S**	**15 29 32.7**	**+0.4**
	baz=285						
C36M	**Paulatuk**	**87.19**	**20**	P	**P**	**15 18 56.5**	**+0.9**
	baz=292						
C36M				S	**S**	**15 29 30.6**	**-1.4**
	baz=292						
MI28	**Mi28,Pidlybu**	**87.21**	**321**	P	**P**	**15 18 55.1**	**-1.0**
KIS	**Kishinev**	**87.33**	**317**	⇑*i*P	**P**	**15 18 55.0**	**-1.8**
	comp=Z,580nm,6.8s						
KIS	**Kishinev**	**87.33**	**317**	*e*PP	PP	15 22 20.0	-1.2
KIS				*e*S	**S**	**15 29 32.0**	**-2.3**
KIS	**Kishinev**	**87.33**	**317**	*c i*P	**P**	**15 18 55.0**	**-1.8**
KIS				*e*		15 22 20.0	
KIS				*e*S	**S**	**15 29 32.0**	**-2.3**
KIS				*e*PS	**PnS**	**15 30 36.0**	**-2.6**
KIS				pmax	pmax		
	comp=Z,580nm,6.8s						
T33K	**Petersburg**	**87.34**	**33**	P	**P**	**15 18 58.5**	**+1.9**
	baz=285						
MILM	**Milestii Mici**	**87.36**	**317**	⇑*i*P	**P**	**15 18 55.0**	**-1.9**
	comp=Z,540nm,2.1s						
MILM	**Milestii Mici**	**87.36**	**317**	*e*PP	PP	15 22 22.0	+0.7
MILM				*e*SKS	**S**	**15 29 27.5**	**-7.0**
MILM				*e*S	**SKKSac**	**15 29 31.0**	**+0.3**
MILM	**Milestii Mici**	**87.36**	**317**	⇑P	**P**	**15 18 55.6**	**-1.3**
MILM	**Milestii Mici**	**87.36**	**317**	*c i*P	**P**	**15 18 55.0**	**-1.9**
MILM				*e*		15 22 22.0	
MILM				*e*S	**SKKSac**	**15 29 31.0**	**+0.3**
MILM				*e*PS	**PS**	**15 30 41.0**	**0.0**
MILM				pmax	pmax		
	comp=Z,540nm,2.1s						
LUBAR	**Lubar, Ukraine**	**87.38**	**320**	P	**P**	**15 18 55.9**	**-1.1**
SORM	**Soroca**	**87.40**	**318**	⇑P	**P**	**15 18 55.8**	**-1.2**
SORM	**Soroca**	**87.40**	**318**	P	**P**	**15 18 55.8**	**-1.2**
SORM	**Soroca**	**87.40**	**318**	P	**P**	**15 18 55.5**	**-1.5**
	comp=Z,3µmcomp=Z,126nm,2.0s						
U33K	**Whale Pass**	**87.43**	**33**	P	**P**	**15 18 58.9**	**+1.9**
	baz=285						
U33K				S	**S**	**15 29 37.9**	**+3.2**
	baz=285						
CRAG	**Craig**	**87.59**	**34**	P	**P**	**15 19 00.0**	**+2.2**
	baz=285						
CRAG				S	**S**	**15 29 39.7**	**+3.4**
	baz=285						
R33M	**Jennings River**	**87.66**	**30**	IAmb	IAmb	15 19 01.2	
	comp=Z,159nm,1.9s						
R33M	**Jennings River**	**87.66**	**30**	P	**P**	**15 19 00.3**	**+2.1**
	baz=286						
R33M				S	**S**	**15 29 37.3**	**+0.1**
	baz=286						
TLCR		**87.72**	**315**	⇑P	**P**	**15 18 58.0**	**-0.7**
TLCR		**87.72**	**315**	P	**P**	**15 18 58.0**	**-0.7**
WRAK	**Wrangell Islan**	**87.77**	**33**	P	**P**	**15 19 00.1**	**+1.4**
	baz=285,SNR=8.6						
WRAK				S	**S**	**15 29 38.1**	**+0.2**
	baz=285						
JURR	**Jurilovca**	**87.77**	**315**	⇑P	**P**	**15 18 58.3**	**-0.6**
PPT	**Papeete**	**87.84**	**108**	LR	LR	15 50 53.7	
	comp=Z,4µm,21.8s,baz=260,slow=30						
ISP	**Isparta**	**87.99**	**308**	IAmb	IAmb	15 19 05.5	
	comp=Z,47nm,0.7s						
S34M	**Telegraph Cree**	**87.99**	**31**	P	**P**	**15 19 01.4**	**+1.7**
	baz=286,SNR=18						
S34M				S	**S**	**15 29 39.6**	**-0.6**
	baz=286						
STEI	**Steigen**	**88.03**	**339**	⇑*i*P	**P**	**15 18 59.3**	**-0.3**
STEI				*e*SKSac	**SKSac**	**15 29 25.1**	**+0.4**
STEI				IVMs_BB	IVMs_BB	16 03 42.5	
	comp=Z,2µm,5.0s						
TPGR	**Topolog**	**88.07**	**315**	⇑P	**P**	**15 18 59.6**	**-0.7**
VLDR	**Vladesti**	**88.08**	**316**	⇓P	**P**	**15 18 59.7**	**-0.7**
TIRR	**Tirgusor**	**88.16**	**315**	IAmb	IAmb	15 19 00.4	
	comp=Z,186nm,1.9s						
TIRR				IAMs_20	IAMs_20	16 03 52.5	
	comp=Z,3µm,20.0s						
TIRR	**Tirgusor**	**88.16**	**315**	⇑P	**P**	**15 18 59.8**	**-1.0**
TIRR	**Tirgusor**	**88.16**	**315**	P	**P**	**15 18 59.8**	**-1.0**
TIRR	**Tirgusor**	**88.16**	**315**	P	**P**	**15 19 00.0**	**-0.8**
	comp=Z,2µmcomp=Z,60nm,2.2s						
MANR	**Mangalia**	**88.18**	**314**	⇓P	**P**	**15 19 00.7**	**-0.2**
RNPP9	**Sopachiv**	**88.19**	**322**	P	**P**	**15 18 59.9**	**-0.8**
CFR	**Carcaliu**	**88.19**	**315**	⇑P	**P**	**15 18 59.8**	**-1.2**
CFR	**Carcaliu**	**88.19**	**315**	P	**P**	**15 18 59.7**	**-1.2**
RNPP8	**Varash**	**88.23**	**322**	P	**P**	**15 19 00.1**	**-0.8**
FAUS	**Fauske**	**88.23**	**339**	IVmB_BB		15 18 59.9	
	comp=Z,1µm,4.6s						
FAUS				*e*P	**P**	**15 18 60.0**	**-0.7**
FAUS				*e*SKSac	**SKSac**	**15 29 26.4**	**+0.5**
FAUS				IVMs_BB	IVMs_BB	16 04 09.4	
	comp=Z,3µm,23.0s						
PABE	**Paberze**	**88.23**	**326**	IAmb	IAmb	15 19 11.6	
	comp=Z,72nm,1.0s						
PABE				IAMs_20	IAMs_20	16 03 23.2	
	comp=Z,3µm,20.0s						
IZVR	**Izvoarele**	**88.36**	**316**	⇑P	**P**	**15 19 01.1**	**-0.6**
TLBR	**Topalu**	**88.40**	**315**	⇓P	**P**	**15 19 01.5**	**-0.4**
DLBC	**Dease Lake**	**88.40**	**31**	IAmb	IAmb	15 19 04.5	
	comp=Z,116nm,1.8s						
DLBC	**Dease Lake**	**88.40**	**31**	LR	LR	15 54 04.5	
	comp=Z,1µm,21.8s,baz=292,slow=32						
DLBC	**Dease Lake**	**88.40**	**31**	P	**P**	**15 19 03.6**	**+1.9**
	baz=287,SNR=15						
DLBC				S	**S**	**15 29 42.9**	**-1.3**
	baz=287						
KIBK	**Kibwezi**	**88.42**	**267**	IAMs_20	IAMs_20	15 56 51.8	
	comp=Z,3µm,20.0s						
KIBK	**Kibwezi**	**88.42**	**267**	P	**P**	**15 19 01.5**	**-1.3**
KIBK	**Kibwezi**	**88.42**	**267**	P	**P**	**15 19 03.1**	**+0.3**
	SNR=30						
HARR	**Harsova**	**88.44**	**315**	⇑P	**P**	**15 19 01.4**	**-0.7**
HARR	**Harsova**	**88.44**	**315**	P	**P**	**15 19 01.4**	**-0.7**
V35K	**Ketchikan**	**88.46**	**34**	P	**P**	**15 19 03.2**	**+1.3**
	baz=286						
V35K				S	**S**	**15 29 44.2**	**-0.5**
	baz=286						
WTLY	**Watson Lake, Y**	**88.49**	**29**	IAmb	IAmb	15 19 06.0	
	comp=Z,80nm,0.8s						
WTLY				IAMs_20	IAMs_20	15 53 47.1	
	comp=Z,3µm,22.0s						
WTLY	**Watson Lake, Y**	**88.49**	**29**	P	**P**	**15 19 04.0**	**+2.0**
	baz=288						
WTLY				S	**S**	**15 29 44.3**	**-0.6**
	baz=288						
KMPD	**K-Podol'skiy**	**88.53**	**319**	P	**P**	**15 19 00.4**	**-2.0**
LOF	**Lofoten**	**88.53**	**340**	*e*P	**P**

ISR Istrita 89.30 316 ⇑P **P 15 19 05.5 -0.8**
ISR Istrita 89.30 316 P **P 15 19 05.4 -0.8**
COVR Voineasa-Covas 89.36 316 ⇓P **P 15 19 05.8 -0.7**
NEHR Nehoiu 89.40 316 ⇑P **P 15 19 06.3 -0.4**
STOK Stokkvaagen 89.48 338 IVmB_BB 15 19 05.6
comp=Z,1μm,5.7s
STOK *e*P **P 15 19 07.2 +0.7**
STOK *e*SKSac **SKSac 15 29 32.8 -0.5**
STOK IVMs_BB IVMs_BB 16 03 57.1
comp=Z,2μm,18.6s
LEIR Leirfjorden 89.54 338 ⇑*i*P **P 15 19 05.1 -1.7**
LEIR IVmB_BB 15 19 06.2
comp=Z,1μm,4.5s
LEIR *e*SKSac **SKSac 15 29 31.9 -1.8**
LEIR IVMs_BB IVMs_BB 16 03 57.4
comp=Z,2μm,20.6s
BURAR Bucovina Array 89.57 318 ⇑P **P 15 19 06.8 -0.7**
BURAR Bucovina Array 89.57 318 P **P 15 19 06.8 -0.7**
MLR Muntele Rosu 89.62 316 LR LR 16 04 31.7
comp=Z,7μm,21.4s,baz=66,slow=39
MLR Muntele Rosu 89.62 316 ⇑P **P 15 19 06.9 -1.0**
MLR Muntele Rosu 89.62 316 P **P 15 19 06.8 -1.0**
MLR Muntele Rosu 89.62 316 P **P 15 19 07.0 -0.8**
comp=Z,2μmcomp=Z,53nm,2.1s
MAW Mawson 89.74 200 P **P 15 19 07.1 -0.4**
MAW IAmb IAmb 15 19 08.9
comp=Z,107nm,1.5s
MAW Mawson 89.74 200 P **P 15 19 07.4 -0.1**
comp=Z,177nm,1.2s,baz=93,slow=7.4,SNR=7.3
MAW LR LR 15 55 57.1
comp=Z,1μm,21.9s,baz=56,slow=33
comp=Z,177nm,1.2s
MAW Mawson 89.74 200 P **P 15 19 07.1 -0.4**
MAW pmax pmax
comp=Z,107nm,1.5s
LVV L'vov 89.75 321 P **P 15 19 07.4 -0.7**
STNU Starunia 89.75 320 P **P 15 19 07.4 -0.8**
WRGLY Wrigley 89.78 25 IAmb IAmb 15 19 12.2
comp=Z,107nm,1.1s
WRGLY Wrigley 89.78 25 P **P 15 19 09.3 +1.3**
baz=293
WRGLY S **S 15 29 55.5 -1.2**
baz=293
GRNB Grenville Isla 89.81 35 IAmb IAmb 15 19 10.8
comp=Z,104nm,1.8s
DOPR Dopca 89.88 317 ⇓P **P 15 19 08.6 -0.3**
EDRB Edirne 89.95 312 P **P 15 19 07.4 -1.9**
LODK Lodwar 90.03 273 P **P 15 19 10.3 0.0**
SNR=18
VNDA Vanda 90.10 173 P **P 15 19 08.1 -1.0**
VNDA IAmb IAmb 15 19 32.0
comp=Z,73nm,1.1s
VNDA Vanda 90.10 173 P **P 15 19 08.9 -0.2**
comp=Z,17nm,0.6s,baz=329,slow=5.7,SNR=28
VNDA PKKPbc **PKKPbc 15 36 41.4 -1.7**
comp=Z,2.8nm,0.8s,baz=305,slow=1.3,SNR=3.8
VNDA SKKP 15 40 04.5
comp=Z,4.9nm,0.4s,baz=332,slow=4.6,SNR=28
VNDA LR LR 15 59 00.1
comp=Z,3μm,21.1s,baz=354,slow=35
comp=Z,17nm,0.6s
VNDA Vanda 90.10 173 P **P 15 19 08.1 -1.0**
VNDA pmax pmax
comp=Z,73nm,1.1s
SZH Strazhitsa 90.15 314 *i* P **P 15 19 09.0 -1.2**
ARG Arkhangelos 90.21 307 P **P 15 19 09.0 -1.6**
VOIR 90.25 316 ⇓P **P 15 19 09.6 -1.1**
VOIR 90.25 316 P **P 15 19 09.6 -1.1**
VOIR 90.25 316 P **P 15 19 09.1 -1.6**
comp=Z,1μmcomp=Z,9.9nm,1.6s
ARCR ARCALIA 90.28 318 ⇑P **P 15 19 10.1 -0.6**
MEZ Mezhgor'ye 90.43 320 P **P 15 19 11.4 0.0**
ARR Arges 90.55 316 ⇑P **P 15 19 11.3 -0.7**
DAG Danmarks Havn 90.58 352 P **P 15 19 09.6 -1.9**
DAG Danmarks Havn 90.58 352 *i* P **P 15 19 10.0 -1.5**
DAG IAmb IAmb 15 19 12.8
comp=Z,58nm,0.7s
TOAD Toad River Com 90.63 29 P **P 15 19 13.1 +1.0**
baz=291
TOAD S **S 15 30 00.8 -4.1**
baz=291
ENEZ Enez 90.65 312 P **P 15 19 11.3 -1.2**
CAVK Edirne/Enez-Ca 90.65 311 ⇑P **P 15 19 11.0 -1.5**
NSS Namsos 90.66 337 IVmB_BB 15 19 11.1
comp=Z,1μm,4.6s
NSS *e*P **P 15 19 12.1 0.0**
NSS *e*SKSac **SKSac 15 29 40.7 +0.4**
NSS IVMs_BB IVMs_BB 16 04 23.6
comp=Z,2μm,21.3s
BMR Baia Mare 90.68 319 ⇓P **P 15 19 12.2 -0.4**
BMR Baia Mare 90.68 319 P **P 15 19 12.1 -0.4**
ALN Alexandroupoli 90.69 312 P **P 15 19 10.4 -2.3**
KOTAN Kotaneelee Air 90.71 28 P **P 15 19 13.7 +1.3**
baz=292
KOTAN S **S 15 30 03.9 -1.6**
baz=292
SMG Samos 90.87 308 P **P 15 19 11.7 -2.0**
CJR Cluj-Napoca 90.88 318 ⇓P **P 15 19 13.5 0.0**
CJR Cluj-Napoca 90.88 318 P **P 15 19 13.5 0.0**
NISR Nisiros 90.90 307 P **P 15 19 11.5 -2.3**
PRK Paraskevi 90.93 310 P **P 15 19 11.8 -2.1**
KOLS Kolonicke sedl 91.10 320 *e*P **P 15 19 13.9 -0.6**
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 91.10 320 *e*P **P 15 19 13.9 -0.6**
LOT Lotru 91.11 317 ⇑P **P 15 19 14.2 -0.6**
BEL Belsk 91.12 323 *e*P **P 15 19 13.7 -0.8**
BEL *e*L L 16 05 05.6
comp=Z,5μm,21.7s
KARP Karpathos 91.12 306 P **P 15 19 13.4 -1.5**
KARP Karpathos 91.12 306 IAms_20 IAms_20 16 08 32.6
comp=Z,3μm,21.0s
KARP Karpathos 91.12 306 P **P 15 19 13.6 -1.3**
comp=Z,3μmcomp=Z,147nm,1.6s
MARR Marisel-Cluj 91.20 318 ⇓P **P 15 19 14.5 -0.7**
SIGR SIGRI 91.25 310 P **P 15 19 13.2 -2.1**
BBB Bella Bella 91.39 36 LR LR 15 56 23.3
comp=Z,785nm,20.3s,baz=286,slow=33
RES Resolute Bay 91.40 10 IAmb IAmb 15 19 18.1
comp=Z,88nm,0.9s
RES Resolute Bay 91.40 10 PKKPbc PKKPbc 15 36 37.7 -1.4
comp=Z,1.3nm,0.8s,baz=99,slow=4.5,SNR=4.5
RES LR LR 16 04 48.3
comp=Z,1μm,18.8s,baz=330,slow=38
DRGR 91.44 318 ⇑P **P 15 19 15.3 -0.9**
DRGR 91.44 318 P **P 15 19 15.3 -0.9**
LIA Limnos Island 91.58 311 P **P 15 19 14.5 -2.4**
STHS Stebnicka Huta 91.60 321 *e*P **P 15 19 15.8 -1.0**
STHS pmax pmax
comp=Z,54nm,1.8s
STHS Stebnicka Huta 91.60 321 *e*P **P 15 19 15.8 -1.0**
MPEP Malo Peshtene 91.70 315 *i* P **P 15 19 16.5 -0.9**
THAS Thassos island 91.74 312 P **P 15 19 15.5 -2.1**
KAVA Kavala 91.79 312 P **P 15 19 15.9 -1.9**
GZR Gura Zlata 91.80 317 ⇑P **P 15 19 17.0 -0.9**
GZR Gura Zlata 91.80 317 P **P 15 19 17.0 -0.9**
HFS Hagfors 91.81 332 P **P 15 19 16.2 -1.3**
comp=Z,13nm,0.6s,baz=96,slow=4.5,SNR=39
HFS PP **PP 15 22 50.5 -5.8**
comp=Z,6.9nm,0.8s,baz=81,slow=8.9,SNR=3.7
HFS LR LR 16 04 20.2
comp=Z,4μm,21.0s,baz=64,slow=38
comp=Z,13nm,0.6s
VALD Valchedram 91.83 315 *i* P **P 15 19 17.6 -0.3**
HOLB Holberg 91.87 38 IAmb IAmb 15 19 22.6
comp=Z,45nm,0.9s
ZKR Zakros 91.97 306 P **P 15 19 17.4 -1.4**
SURR Surduc 92.13 317 ⇓P **P 15 19 18.5 -0.8**
NIE Niedzica 92.18 321 *e*P **P 15 19 19.4 -0.2**
NIE *e*PP **PP 15 23 02.7 +3.0**
NIE *e*L L 16 05 21.8
comp=Z,4μm,22.6s
NIE Niedzica 92.18 321 P **P 15 19 19.8 +0.3**
comp=Z,704nmcomp=Z,17nm,1.5s
HERR Herculane 92.19 316 ⇓P **P 15 19 19.1 -0.5**
KOKK Kokkinochori, 92.21 312 P **P 15 19 17.7 -2.1**
OJC Ojcow 92.23 322 *e*P **P 15 19 18.8 -0.9**
OJC *e*PP **PP 15 23 02.4 +2.4**
OJC Ojcow 92.23 322 P **P 15 19 19.1 -0.6**
comp=Z,1μmcomp=Z,41nm,0.9s
VTS Vitosha 92.27 314 *i* P **P 15 19 19.3 -0.9**
NC405 NORSAR Array S 92.27 334 IAmb IAmb 15 19 58.1
comp=Z,48nm,1.1s
NEEM North Greenlan 92.28 359 *i* P **P 15 19 19.9 +0.2**
NEEM IAmb IAmb 15 19 22.6
comp=Z,258nm,1.0s
SIRR Siria 92.29 318 ⇑P **P 15 19 19.4 -0.6**
SKY Skiros Island 92.32 310 P **P 15 19 18.1 -2.2**
OUR Ouranopolis 92.35 312 P **P 15 19 17.1 -3.3**
KECS Kecovo 92.36 320 *e*P **P 15 19 20.1 -0.2**
KECS pmax pmax
comp=Z,30nm,0.9s
KECS Kecovo 92.36 320 *e*P **P 15 19 20.1 -0.2**
SRS Serrai 92.42 312 P **P 15 19 18.6 -2.2**
BZS Buzias 92.51 317 ⇑P **P 15 19 19.7 -1.4**
BZS Buzias 92.51 317 P **P 15 19 19.6 -1.4**
NC602 NORSAR Array S 92.52 333 *e*P **P 15 19 19.1 -1.7**
NC602 IVmB_BB 15 19 20.1
comp=Z,1μm,3.9s
NC602 *e*SKSac **SKSac 15 29 57.5 +6.5**
NC602 IVMs_BB IVMs_BB 16 03 43.2
comp=Z,3μm,25.0s
NB2 NORSAR Subarra 92.52 334 P **P 15 19 19.0 -1.8**
comp=Z,44nm,1.0s,baz=65,slow=4.6
NB2 PP **PP 15 23 04.3 +2.3**
comp=Z,7.9nm,1.1s,baz=32,slow=7.9
NB2 NORSAR Subarra 92.52 334 P **P 15 19 19.0 -1.8**
baz=65,slow=4.6
NOA NORSAR Array B 92.52 334 P **P 15 19 19.4 -1.4**
comp=Z,11nm,0.8s,baz=63,slow=4.6,SNR=36
NOA PP **PP 15 23 05.2 +3.3**
comp=Z,6.6nm,0.9s,baz=56,slow=7.9,SNR=5.5
NOA LR LR 16 05 07.8
comp=Z,5μm,19.4s,baz=60,slow=38
comp=Z,11nm,0.8s
KKB Krupnik 92.56 313 *i* P **P 15 19 19.9 -1.5**
SOH Sokhos 92.68 312 P **P 15 19 19.7 -2.3**
PAIG Paliouri 92.69 311 P **P 15 19 19.5 -2.5**
MDVR Moldovita 92.70 316 ⇑P **P 15 19 21.3 -0.7**
KYMI Kymi, Euboea I 92.72 310 P **P 15 19 19.7 -2.5**
AOS Alonnisos 92.74 310 P **P 15 19 19.6 -2.7**
NAO01 NORSAR Array S 92.75 334 IAmb IAmb 15 20 33.9
comp=Z,81nm,1.5s
TULEG Thule 92.77 3 IAmb IAmb 15 19 24.8
comp=Z,53nm,0.9s
TULEG IAms_20 IAms_20 15 59 41.8
comp=Z,2μm,22.0s
TULEG Thule 92.77 3 *i* P **P 15 19 22.7 +1.1**
TULEG IAmb IAmb 15 19 23.8
comp=Z,56nm,1.0s
LANS Liptovska Anna 92.78 321 *e*P **P 15 19 22.4 +0.1**
LANS pmax pmax
comp=Z,20nm,1.5s
LANS Liptovska Anna 92.78 321 *e*P **P 15 19 22.4 +0.1**
DBG Daneborg 92.86 351 *i* P **P 15 19 21.1 -1.0**
DBG IAmb IAmb 15 19 23.9
comp=Z,98nm,1.2s
KNT Kendrikon 92.92 313 P **P 15 19 20.2 -2.9**
PSZ Piszkesteto 92.92 320 ⇓P **P 15 19 22.5 -0.6**
PSZ Piszkesteto 92.92 320 P **P 15 19 22.4 -0.6**
DOMB Dombas 92.97 335 *e*P **P 15 19 22.0 -0.9**
DOMB IVMsBB 16 05 49.2
comp=Z,2μm,16.1s
IDI Anoyia 92.98 307 IAmb IAmb 15 19 23.8
comp=Z,52nm,1.1s
IDI Anoyia 92.98 307 P **P 15 19 21.6 -2.0**
IDI Anoyia 92.98 307 LR LR 16 08 14.2
comp=Z,2μm,20.1s,baz=72,slow=40
BOVS Bovan 93.04 315 ⇑P **P 15 19 22.4 -1.2**
NEO Neokhori 93.19 311 P **P 15 19 21.2 -3.2**
XOR Xorichti 93.20 311 P **P 15 19 21.1 -3.3**
JMIC Jan Mayen 93.24 346 LR LR 16 07 15.9
comp=Z,1μm,19.1s,baz=50,slow=39
OSL Oslo 93.24 333 *e*P **P 15 19 24.2 +0.1**
OSL *e*SKSac **SKSac 15 29 56.0 +1.1**
OKC Ostrava-Krasne 93.36 322 AMS AMS 16 05 30.0
comp=Z,3μm,17.1s
VYHS Vyhne 93.40 320 *e*P **P 15 19 24.4 -0.7**
VYHS pmax pmax
comp=Z,191nm,2.1s
VYHS Vyhne 93.40 320 *e*P **P 15 19 24.4 -0.7**
LIT Litokhoron 93.52 312 P **P 15 19 22.0 -3.9**
LKR Lokris 93.55 310 P **P 15 19 22.3 -3.7**
STEB Steborice 93.56 322 *e*P **P 15 19 25.1 -0.7**
YKA Yellowknife Ar 93.73 24 P **P 15 19 26.5 +0.2**
comp=Z,31nm,0.8s,baz=299,slow=4.7,SNR=224
YKA S **SKSac 15 29 56.1 -1.4**
comp=Z,0.4nm,0.8s,baz=307,slow=5.1,SNR=5.2
YKA PKKPbc **PKKPdf 15 36 28.8 -2.0**
comp=Z,1.7nm,0.8s,baz=132,slow=2.4,SNR=11
YKA LR LR 16 02 38.0
comp=Z,1μm,21.0s,baz=306,slow=36
comp=Z,31nm,0.8s
YKA Yellowknife Ar 93.73 24 *i* P **P 15 19 27.2 +0.9**
YKA pmax pmax
comp=Z,32nm,0.8s
GVD Gavdhos 93.74 306 P **P 15 19 24.8 -2.2**
AKN Aaknes 93.75 336 *e*P **P 15 19 26.4 0.0**
MORC Moravsky Berou 93.75 322 IAmb IAmb 15 19 27.3
comp=Z,90nm,2.0s
MORC Moravsky Berou 93.75 322 *e*P **P 15 19 26.2 -0.5**
MORC Moravsky Berou 93.75 322 ⇑P **P 15 19 26.4 -0.4**
MORC Moravsky Berou 93.75 322 P **P 15 19 26.3 -0.5**
KRND KRANIDI 93.78 309 P **P 15 19 23.6 -3.5**
KONO Kongsberg 93.88 333 *e*P **P 15 19 26.8 -0.3**
KONO IVmB_BB 15 19 43.1
comp=Z,2μm,4.0s
KONO *e*SKSac **SKSac 15 29 59.8 +1.3**
KONO IVMs_BB IVMs_BB 16 00 25.7
comp=Z,1μm,4.5s
SKAR Skarslia 93.95 334 *e*P **P 15 19 27.1 -0.3**
SKAR *e*SKSac **SKSac 15 29 55.8 -3.3**
SKAR IVMs_BB IVMs_BB 16 05 31.7
comp=Z,2μm,19.5s
SRO Srobarova 93.96 320 *e*P **P 15 19 28.2 +0.5**
SRO Srobarova 93.96 320 *e*P **P 15 19 28.2 +0.5**
JAVC Velka Javorina 94.00 321 *e*P **P 15 19 28.4 +0.5**
ANKY Antikythira Is 94.08 307 P **P 15 19 25.5 -3.0**
KRLC Kraliky 94.10 322 AMS AMS 16 08 40.0
comp=Z,4μm,19.1s
KSP Ksiaz 94.11 323 *e*P **P 15 19 27.4 -0.9**
KSP *e*L L 16 01 55.3
comp=Z,4μm,27.2s
KSP Ksiaz 94.11 323 P **P 15 19 27.9 -0.4**
FNA Florina 94.13 313 IAmb IAmb 15 19 26.7
comp=Z,87nm,1.9s
VLI Veliai 94.13 308 P **P 15 19 25.4 -3.3**
GUR Goura 94.24 310 P **P 15 19 26.1 -3.3**
OSTC Ostas 94.26 323 AMS AMS 16 05 20.0
comp=Z,3μm,19.5s
KALE Kalithea 94.27 310 P **P 15 19 26.5 -2.9**
SMOL Smolenice 94.27 321 *e*P **P 15 19 28.7 -0.4**
SMOL pmax pmax
comp=Z,105nm,2.6s
DPC Dobruska-Polom 94.28 323 *e*P **P 15 19 30.8 +1.6**
DPC AMS AMS 16 02 30.0
comp=Z,4μm,20.7s
DPC Dobruska-Polom 94.28 323 *e*P **P 15 19 30.8 +1.6**
DPC MLR MLR
comp=Z,4μm,20.7s
MORH Mrgy, Hungar 94.29 318 ⇑P **P 15 19 28.5 -0.7**
KLV Kalavryta, Ach 94.36 310 P **P 15 19 26.9 -2.9**
ANX Ano Chora 94.37 310 P **P 15 19 27.1 -2.8**
UPC Upice 94.40 323 AMS AMS 16 05 30.0
comp=Z,4μm,19.3s
MODS Modra-Piesok 94.41 321 *e*P **P 15 19 29.3 -0.5**
MODS pmax pmax
comp=Z,182nm,1.9s
MODS Modra-Piesok 94.41 321 *e*P **P 15 19 29.3 -0.5**
VRAC Vranov 94.50 322 LR LR 16 06 50.5
comp=Z,4μm,19.8s,baz=78,slow=38
VRAC Vranov 94.50 322 *e*P **P 15 19 29.8 -0.4**
VRAC Vranov 94.50 322 ⇑P **P 15 19 29.4 -0.7**
VRAC Vranov 94.50 322 P **P 15 19 29.4 -0.7**
HYA Hoyanger 94.60 335 IVmB_BB 15 19 30.1
comp=Z,2μm,3.7s
HYA *e*P **P 15 19 30.3 0.0**
HYA *e*PP **PP 15 23 19.8 +1.7**
HYA *e*SKSac **SKSac 15 30 03.9 +1.6**
HYA IVMs_BB IVMs_BB 16 03 35.3
comp=Z,1μm,3.6s
KRUC Moravsky 94.71 322 *e*P **P 15 19 30.6 -0.5**
DRO Drossia 94.72 310 P **P 15 19 29.3 -2.1**
ITM Ithomi 94.78 309 P **P 15 19 28.9 -2.8**
FOO Floro 94.84 336 *e*P **P 15 19 32.1 +0.7**
FOO *e*PP **PP 15 23 21.9 +2.0**
FOO *e*SKSac **SKSac 15 30 05.2 +1.6**
FOO IVMs_BB IVMs_BB 16 06 17.6
comp=Z,3μm,20.2s
RLS Riolos of Patr 94.87 310 P **P 15 19 30.2 -1.9**
AXS Araxos 94.90 310 P **P 15 19 28.8 -3.4**
HOMB Homborsund 95.03 332 *e*P **P 15 19 32.9 +0.5**
HOMB IVmB_BB 15 19 50.1
comp=Z,2μm,4.3s
HOMB *e*PP **PP 15 23 23.8 +2.2**
HOMB *e*SKSac **SKSac 15 30 01.4 -3.3**
HOMB IVMs_BB IVMs_BB 16 01 56.1
comp=Z,1μm,4.2s
TIR Tirane 95.04 313 IAms_20 IAms_20 16 10 11.8
comp=Z,2μm,21.0s
ODD1 Odda 95.06 334 *e*P **P 15 19 32.3 -0.2**
ODD1 *e*PP **PP 15 23 23.6 +1.8**
ODD1 IVMs_BB IVMs_BB 16 05 02.3
comp=Z,1μm,4.0s
KULLO Kullorsuaq 95.15 1 *i* P **P 15 19 32.2 -0.4**
KULLO IAmb IAmb 15 19 34.3
comp=Z,147nm,0.9s
TREC Trest 95.17 322 AMS AMS 16 06 30.0
comp=Z,4μm,19.4s
SUE Sulen 95.25 335 *e*P **P 15 19 33.6 +0.4**
SUE IVmBBB 15 19 34.7
comp=Z,889nm,2.9s
SUE *e*PP **PP 15 23 25.0 +1.9**
SUE *e*SKSac **SKSac 15 30 04.8 -1.0**
SUE IVMs_BB IVMs_BB 16 06 26.3
comp=Z,3μm,22.9s
RONA Rosalia, Austr 95.27 320 *i* P **P 15 19 33.1 -0.7**
comp=Z,27nm,1.8s,SNR=6.6
RONA *e*PP **PP 15 23 23.9 +0.1**
comp=Z,24nm,2.0s
MBAR Mbarara 95.30 270 P **P 15 19 33.7 -1.0**
MBAR Mbarara 95.30 270 *i* P **P 15 19 33.6 -1.1**
MBAR pmax pmax
comp=Z,17nm,1.4s
GOPC GO Pecny, Ondr 95.35 323 AMS AMS 16 06 10.0
comp=Z,3μm,17.6s
BER Bergen 95.37 335 *e*P **P 15 19 33.2 -0.6**
BER IVmB_BB 15 19 44.5
comp=Z,2μm,3.6s
BER *e*PP **PP 15 23 24.2 +0.2**
BER *e*SKSac **SKSac 15 30 06.4 0.0**
BER IVMs_BB IVMs_BB 16 06 45.5
comp=Z,3μm,15.5s
ASK Askoy 95.37 335 *e*P **P 15 19 34.4 +0.6**
ASK IVmB_BB 15 19 49.6
comp=Z,2μm,3.0s
ASK *e*PP **PP 15 23 25.4 +1.3**
ASK *e*SKSac **SKSac 15 30 04.6 -1.9**
ASK IVMs_BB IVMs_BB 15 58 16.5
comp=Z,2μm,4.0s
BLS5 Blasjo 95.38 333 *e*P **P 15 19 33.4 -0.6**
BLS5 *e*PP **PP 15 23 24.6 +0.3**
BLS5 IVMs_BB IVMs_BB 16 03 50.4
comp=Z,3μm,23.0s
CONA Conrad Observa 95.46 321 *i* P **P 15 19 34.2 -0.5**
comp=Z,49nm,1.7s,SNR=16
CONA *e*PP **PP 15 23 25.2 -0.2**
comp=Z,27nm,1.9s
BRG Berggiesshubel 95.47 324 *i* P **P 15 19 34.6 +0.1**
BRG Amp 15 19 36.7
comp=Z,111nm,1.8s
BRG Berggiesshubel 95.47 324 P P 15 19 43.2 +8.6
BRG Amp 15 19 44.2
comp=Z,17nm,1.2s
BRG Berggiesshubel 95.47 324 PP PKiKP 15 23 29.0 -46
BRG Amp 15 23 42.9
comp=Z,9.5nm,1.1s
BRG Berggiesshubel 95.47 324 SP SP 15 32 11.0 +6.0
PRU Pruhonice 95.47 323 *e*P **P 15 19 34.2 -0.4**
PRU AMS AMS 16 06 30.0
comp=Z,3μm,19.1s
PRU Pruhonice 95.47 323 *e*P **P 15 19 34.2 -0.4**
PRU MLR MLR
comp=Z,3μm,19.1s
PRA Prague 95.50 323 AMS AMS 16 07 20.0
comp=Z,4μm,20.3s
RICC Richard 95.51 324 AMS AMS 16 06 50.0
comp=Z,3μm,17.4s
KOGS Kog 95.76 319 *e*P **P 15 19 34.9 -1.1**
SSRD Sdr. Stenderup 95.81 329 *i* P **P 15 19 35.8 -0.2**
SSRD IAmb IAmb 15 19 43.9
comp=Z,284nm,0.6s
CLL Collm 95.83 324 ⇑*i*P **P 15 19 35.2 -1.0**
CLL *e**PP **pP 15 19 48.0 -0.6**
CLL *e*S **S 15 30 50.0 -1.2**
CLL pmax pmax
comp=Z,136nm,2.0s
CLL MLR MLR
comp=Z,5μm,21.7s
HSKC Hora Svate Kat 95.88 324 AMS AMS 16 09 00.0
comp=Z,3μm,16.5s
ZVC Zvikov 95.90 322 *e*P **P 15 19 37.5 +1.0**
ZVC AMS AMS 16 09 50.0
comp=Z,4μm,19.3s
ARSA Arzberg 95.92 320 *i* P **P 15 19 35.9 -0.8**
comp=Z,38nm,1.9s,SNR=12
ARSA *i* PP **PP 15 23 27.5 -1.5**
comp=Z,7.0nm,1.2s
KMY Karmoy 96.02 334 *e*P **P 15 19 37.1 +0.3**
KMY *e*SKSac **SKSac 15 30 07.5 -2.5**
KMY IVMs_BB IVMs_BB 16 01 30.0
comp=Z,2μm,4.0s
RADR Rader Ridge 96.04 41 IAMs_20 IAMs_20 15 54 00.3
comp=Z,3μm,22.0s
CKRC Cesky Krumlov 96.07 322 *e*P **P 15 19 37.0 -0.4**
CKRC *e*PP **PP 15 23 22.7 -7.3**
CKRC *e*SKS **SKSac 15 30 19.9 +9.1**
CKRC AMS AMS 16 07 10.0
comp=Z,5μm,19.8s
CKRC Cesky Krumlov 96.07 322 *e*P **P 15 19 37.0 -0.4**
CKRC MLR MLR
comp=Z,5μm,19.8s
E03A Lebam 96.14 41 IAMs_20 IAMs_20 15 56 11.5
comp=Z,3μm,20.0s
F03A Seaside 96.38 41 IAMs_20 IAMs_20 15 56 33.2
comp=Z,2μm,20.0s
SCO Scoresbysund 96.38 350 *i* P **P 15 19 38.7 +0.5**
SCO IAmb IAmb 15 19 40.9
comp=Z,40nm,1.2s
KHC Kasperske Hory 96.39 322 *e*P **P 15 19 39.1 +0.3**
KHC *e*PP **PP 15 23 25.8 -6.6**
KHC AMS AMS 16 07 30.0
comp=Z,4μm,19.8s
KHC Kasperske Hory 96.39 322 *ce*P **P 15 19 38.0 -0.8**
KHC pmax pmax
comp=Z,102nm,2.1s
PERS Pernice 96.41 320 *e*P **P 15 19 37.9 -1.1**
GEC2 GERESS Array S 96.43 322 IAmb IAmb 15 19 39.4
comp=Z,95nm,1.9s
GERES GERESS Array B 96.43 322 P **P 15 19 38.2 -0.9**
comp=Z,2.0nm,0.5s,baz=44,slow=5.9,SNR=11
GERES LR LR 16 07 59.3
comp=Z,4μm,20.5s,baz=78,slow=38
comp=Z,2.0nm,0.5s
SOKA Soboth 96.45 320 *i* P **P 15 19 38.4 -0.8**
comp=Z,42nm,1.8s,SNR=11
SOKA *i* PP **PP 15 23 33.4 +0.4**
comp=Z,6.1nm,1.0s
MOA Molln 96.48 321 *i* P **P 15 19 38.9 -0.4**
comp=Z,109nm,2.0s,SNR=19
MOA *i* PP **PP 15 23 29.6 -3.6**
comp=Z,11nm,1.4s
SUMG Summit 96.57 355 *i* P **P 15 19 40.0 +0.4**
SUMG IAmb IAmb 15 19 42.2
comp=Z,100nm,1.5s
NKC Novy Kostel 96.60 324 AMS AMS 16 06 40.0
comp=Z,3μm,19.1s
F04D Rainier, OR 96.67 41 IAMs_20 IAMs_20 15 54 42.1
comp=Z,3μm,22.0s
OBKA Obir 96.83 320 *i* P **P 15 19 40.0 -0.9**
comp=Z,38nm,2.0s,SNR=6.3
G03D McMinnville, O 96.84 42 IAMs_20 IAMs_20 15 55 04.5
comp=Z,2μm,20.0s
I02E Swisshome, OR 96.86 43 IAMs_20 IAMs_20 15 53 34.2
comp=Z,2μm,21.0s
D05A Enumclaw 96.89 40 IAMs_20 IAMs_20 15 55 16.8
comp=Z,3μm,22.0s
BIOA Bad Ischl, Aus 96.93 321 *i* P **P 15 19 40.5 -0.8**
comp=Z,16nm,1.1s,SNR=7.6
BIOA *e*PP **PP 15 23 32.0 -4.7**
comp=Z,5.5nm,0.7s
UPNV Upernavik 96.97 1 *i* P **P 15 19 41.3 +0.4**
UPNV IAmb IAmb 15 19 42.5
comp=Z,76nm,0.9s
LJU Ljubljana 97.02 319 *e*P **P 15 19 41.0 -0.7**

COR Corvallis 97.05 42 IAMs_20 IAMs_20 15 54 49.0
comp=Z,3µm,22.0s
I03D Drain, OR 97.35 43 IAMs_20 IAMs_20 15 54 46.1
comp=Z,3µm,22.0s
MYKA Terra Mystica 97.35 320 *i* P **P 15 19 42.1 -1.2**
comp=Z,14nm,1.0s
KBA Koelnbreinsper 97.36 321 *e*P **P 15 19 41.9 -1.5**
comp=Z,10nm,0.7s
KBA *e*PP **PP 15 23 34.3 -5.9**
comp=Z,7.1nm,1.4s
H04D Lebanon 97.44 42 IAMs_20 IAMs_20 15 54 49.6
comp=Z,3µm,22.0s
K02D Willamette Mer 97.50 44 IAMs_20 IAMs_20 15 57 45.2
comp=Z,2µm,20.0s
LESA Schwarzleotal 97.63 321 *i* P **P 15 19 43.5 -1.0**
comp=Z,17nm,1.0s,SNR=9.5
H04A Detroit Lake 97.75 42 IAMs_20 IAMs_20 15 54 12.6
comp=Z,3µm,22.0s
L02F Cave Junction 97.78 45 IAMs_20 IAMs_20 15 56 03.6
comp=Z,2µm,20.0s
KRPM Rodgers 97.81 46 IAMs_20 IAMs_20 16 00 40.5
comp=Z,2µm,19.0s
KMPM Mount Pierce 98.00 46 IAMs_20 IAMs_20 15 55 37.7
comp=Z,2µm,19.0s
ABTA Abfaltersbach 98.02 320 *i* P **P 15 19 44.0 -2.3**
comp=Z,25nm,1.2s,SNR=7.7
NUUG Nuugaatsiaq 98.23 360 *i* P Pdif 15 19 47.5 +0.9
NUUG IAmb IAmb 15 19 48.5
comp=Z,34nm,0.9s
WTTA Wattenberg 98.34 321 *i* Pdiff **P 15 19 46.8 -1.1**
WTTA *e*PP **PP 15 23 45.2 -2.5**
comp=Z,12nm,1.2s
WATA Walderalm 98.35 321 *i* Pdiff **P 15 19 46.6 -1.2**
comp=Z,68nm,2.1s,SNR=9.4
J04A Umpqua Nationa 98.35 43 IAmb IAmb 15 19 51.8
comp=Z,28nm,0.9s
SYO Syowa Base 98.36 201 *e*Pdiff **P 15 19 46.0 -1.1**
KMRM Mail Ridge 98.37 47 IAMs_20 IAMs_20 15 56 08.5
comp=Z,3µm,20.0s
CUC Castrocucco 98.40 313 IAMs_20 IAMs_20 16 11 32.6
comp=Z,3µm,21.0s
I05D Terrebonne, OR 98.44 42 IAMs_20 IAMs_20 15 55 22.9
comp=Z,2µm,22.0s
E07A Sunnyside 98.49 40 IAmb IAmb 15 19 56.8
comp=Z,66nm,1.9s
YBH Yreka Blue Hor 98.52 45 IAMs_20 IAMs_20 15 59 50.2
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 98.52 45 LR LR 15 57 20.5
comp=Z,1µm,20.9s,baz=295,slow=31
G06A Carlson Farm, 98.54 41 IAMs_20 IAMs_20 15 55 39.4
comp=Z,2µm,22.0s
L04D Klamath Falls 98.61 44 IAMs_20 IAMs_20 15 56 11.7
comp=Z,2µm,21.0s
SQTA Sankt Quirin 98.63 321 *i* Pdiff **P 15 19 48.1 -1.0**
comp=Z,27nm,1.0s,SNR=10
SQTA *i* PP **PP 15 23 46.6 -3.2**
comp=Z,7.4nm,1.2s
KCPM Cahto Peak 98.65 47 IAMs_20 IAMs_20 15 53 35.9
comp=Z,3µm,22.0s
HAWA Hanford 98.76 40 IAMs_20 IAMs_20 15 58 09.2
comp=Z,3µm,20.0s
RETA Reutte 98.78 322 *e*Pdiff **P 15 19 48.9 -0.8**
comp=Z,14nm,1.4s
CTI Castel Tesino 98.85 320 IAmb IAmb 15 19 50.8
comp=Z,80nm,1.9s
D08A Wollman Farm, 98.85 39 IAMs_20 IAMs_20 15 55 21.7
comp=Z,3µm,21.0s
PINE Pine Mountain 98.92 42 IAMs_20 IAMs_20 15 54 50.7
comp=Z,3µm,22.0s
CEL Celeste 98.96 312 IAmb IAmb 15 20 03.2
comp=Z,128nm,1.9s
FETA Feichten 99.01 321 *i* Pdiff **Pdif 15 19 50.1 -0.7**
FETA *e*PP **PP 15 23 49.7 -3.1**
comp=Z,37nm,2.0s,SNR=7.4
comp=Z,19nm,2.0s
UMMG Uummannaq 99.09 359 *i* P **Pdif 15 19 49.5 -0.9**
NEW Newport 99.41 37 LR LR 15 59 45.5
comp=Z,582nm,21.8s,baz=311,slow=32
DAVA Damuels 99.41 322 *e*Pdiff **Pdif 15 19 51.7 -0.9**
comp=Z,19nm,1.3s
FUORN Ofenpass-Fuorn 99.47 321 IAmb IAmb 15 19 56.9
comp=Z,121nm,1.8s
G08A Pilot Rock 99.59 40 IAMs_20 IAMs_20 15 56 59.2
comp=Z,2µm,22.0s
DAVOX Davos/Dischmat 99.64 321 LR LR 16 10 42.0
comp=Z,5µm,19.7s,baz=62,slow=39
MCCM Marconi Confer 99.72 48 IAMs_20 IAMs_20 15 58 05.3
comp=Z,3µm,20.0s
I07A Izee 99.75 42 IAMs_20 IAMs_20 15 56 15.5
comp=Z,2µm,22.0s
ICESG Greenland Ices 100.06 355 *i* P **Pdif 15 19 54.7 -0.6**
QSPA South Pole Qui 100.27 180 IAMs_20 IAMs_20 16 01 46.5
comp=Z,2µm,22.0s
QSPA South Pole Qui 100.27 180 P **Pdif 15 19 54.9 -1.0**
comp=Z,11nm,1.0s,baz=288,slow=1.4,SNR=15
QSPA PP **PP 15 23 59.0 -3.1**
comp=Z,16nm,1.0s,baz=355,slow=6.4,SNR=3.6
QSPA S **SKSac 15 30 28.6 -2.6**
comp=Z,1.3nm,0.9s,baz=99,slow=23,SNR=9.6
QSPA PKKPbc **PKKPbc 15 36 13.1 -3.0**
comp=Z,4.6nm,0.6s,baz=220,slow=1.0,SNR=20
WLF Walferdange 100.48 325 P **Pdif 15 19 56.4 -0.7**
WLF Walferdange 100.48 325 *d*P **Pdif 15 19 57.2 +0.2**
comp=Z,24nm,0.9s
ILULI Ilulissat 100.55 359 *i* P **Pdif 15 19 58.3 +1.3**
BCLA Clavier 100.57 326 *d*P **Pdif 15 19 57.7 +0.2**
RCHB Rochefort 100.75 326 *d*P **Pdif 15 19 58.5 +0.3**
AFDM Forest Hills D 100.81 47 IAMs_20 IAMs_20 15 56 50.5
comp=Z,2µm,21.0s
BMO Blue Mountains 100.83 40 IAMs_20 IAMs_20 15 57 05.2
comp=Z,3µm,22.0s
BMRD Maredsous 100.92 326 *d*P **Pdif 15 19 59.3 +0.2**
comp=Z,8.5nm,0.9s
WVOR Wild Horse Val 101.02 43 IAMs_20 IAMs_20 15 56 54.7
comp=Z,2µm,22.0s
SAO San Andreas Ge 101.29 49 IAMs_20 IAMs_20 15 59 08.4
comp=Z,2µm,19.0s
BBGB Big Mountain B 101.66 49 IAMs_20 IAMs_20 15 58 59.3
comp=Z,3µm,20.0s
PMPB Monarch Peak 101.98 49 IAMs_20 IAMs_20 15 59 06.7
comp=Z,2µm,21.0s
EKA Eskdalemuir Ar 101.99 333 P **Pdif 15 20 03.6 -0.1**
comp=Z,3.7nm,0.9s,baz=51,slow=5.6,SNR=4.7
EKA PKiKP **PKiKP 15 24 27.7 +1.5**
comp=Z,5.6nm,0.7s,baz=22,slow=4.8,SNR=6.3
WAKR Walker 102.08 47 IAMs_20 IAMs_20 15 58 22.2
comp=Z,3µm,21.0s
BNI Bardonecchia 102.42 321 IAMs_20 IAMs_20 16 13 22.3
comp=Z,3µm,21.0s
RYN Ryan 102.69 46 IAMs_20 IAMs_20 15 58 13.2
comp=Z,3µm,21.0s
SFJD Kangerlussuaq 102.76 359 *i* P **Pdif 15 20 08.6 +1.7**
NVAR Mina Array Bea 102.93 47 Pdiff **Pdif 15 20 10.3 +1.8**
comp=Z,2.8nm,0.8s,baz=274,slow=5.1,SNR=16
NVAR PKiKP **PKiKP 15 24 30.8 +2.0**
comp=Z,2.5nm,0.7s,baz=322,slow=2.8,SNR=7.4
NVAR PKKPbc **PKKPbc 15 36 04.4 -2.4**
comp=Z,3.3nm,0.8s,baz=95,slow=3.6,SNR=12
BCW Bitter Crk WRg 103.52 50 IAMs_20 IAMs_20 15 58 17.4
comp=Z,2µm,22.0s
Q09A Carvers 103.55 46 IAMs_20 IAMs_20 15 59 18.0
comp=Z,3µm,21.0s
FFC Flin Flon 103.63 26 IAMs_20 IAMs_20 16 06 54.7
comp=Z,2µm,22.0s
ELIB Princess Elisa 103.76 198 *d*P **Pdif 15 20 11.1 -0.2**
comp=Z,19nm,1.3s
FCC Fort Churchill 103.82 20 IAMs_20 IAMs_20 16 10 30.6
comp=Z,2µm,22.0s
ISA Isabella, Lake 103.93 49 IAMs_20 IAMs_20 16 00 17.4
comp=Z,3µm,21.0s
ELK Elko 104.05 43 IAMs_20 IAMs_20 15 58 39.9
comp=Z,2µm,22.0s
ELK Elko 104.05 43 PKKPbc PKKPbc 15 36 02.5 -1.1
comp=Z,2.4nm,0.9s,baz=98,slow=1.1,SNR=6.8
SNCC San Nicolas Is 104.08 52 IAMs_20 IAMs_20 16 03 30.6
comp=Z,2µm,20.0s
BOSA Boshof 104.30 243 PKiKP **PKiKP 15 24 33.2 +1.9**
comp=Z,5.2nm,1.0s,baz=90,slow=3.0,SNR=4.9
CCAC Calif City Air 104.48 50 IAMs_20 IAMs_20 15 57 23.9
comp=Z,2µm,22.0s
PASC Pasadena Art C 104.75 51 IAMs_20 IAMs_20 15 59 15.1
comp=Z,2µm,22.0s
TPNV Topopah Spring 105.03 47 IAMs_20 IAMs_20 16 00 58.0
comp=Z,2µm,19.0s
GWY Greenwater Val 105.05 48 IAMs_20 IAMs_20 15 56 57.8
comp=Z,2µm,22.0s
HVU Hansel Valley 105.19 42 IAMs_20 IAMs_20 15 59 18.1
comp=Z,2µm,22.0s
FRB Frobisher Bay 105.23 7 PKKPbc PKKPbc 15 35 56.8 -3.6
comp=Z,2.2nm,0.7s,baz=117,slow=3.2,SNR=3.2
GSC Goldstone, Bar 105.32 49 IAMs_20 IAMs_20 16 01 13.1
comp=Z,2µm,21.0s
BGU Big Grassy Mou 105.44 42 IAMs_20 IAMs_20 15 59 24.8
comp=Z,2µm,22.0s
PRN Pahroc Range 105.69 46 IAMs_20 IAMs_20 16 00 07.6
comp=Z,3µm,20.0s
DUG Dugway, Tooele 105.94 43 IAMs_20 IAMs_20 15 59 50.0
comp=Z,2µm,22.0s
HWUT Hardware Ranch 106.07 41 IAMs_20 IAMs_20 16 12 01.2
comp=Z,2µm,22.0s
TJX Tijuana 106.28 52 IAMs_20 IAMs_20 16 01 45.8
comp=Z,2µm,20.0s
PFO Pinyon Flats O 106.29 50 IAMs_20 IAMs_20 16 00 49.9
comp=Z,2µm,21.0s
MAHO Mahon 106.47 317 IAMs_20 IAMs_20 16 14 37.4
comp=Z,2µm,20.0s
TKX Tecate 106.61 51 IAMs_20 IAMs_20 16 01 04.3
comp=Z,2µm,21.0s
CBX Cerro Bola 106.67 52 IAMs_20 IAMs_20 16 02 03.0
comp=Z,2µm,20.0s
PDAR Pinedale Array 106.74 39 Pdiff **Pdif 15 20 27.3 +1.9**
comp=Z,0.7nm,0.8s,baz=278,slow=4.1,SNR=5.6
PDAR PKiKP **PKiKP 15 24 36.4 +0.7**
comp=Z,1.0nm,0.7s,baz=348,slow=2.4,SNR=4.3
PDAR PKKPbc **PKKPbc 15 35 53.3 -2.2**
comp=Z,2.5nm,0.7s,baz=155,slow=1.3,SNR=16
PDAR PKKP **PKKPdf 15 36 07.8 +0.5**
comp=Z,3.8nm,1.1s,baz=124,slow=3.0,SNR=9.1
MPU Maple Canyon 106.81 43 IAMs_20 IAMs_20 16 00 30.1
comp=Z,2µm,22.0s
YUH Yuha Desert 107.10 51 IAMs_20 IAMs_20 16 01 18.4
comp=Z,2µm,21.0s
BSUT Blindstream Ca 107.13 42 IAMs_20 IAMs_20 16 00 31.4
comp=Z,3µm,22.0s
LCMT Little Creek M 107.15 46 IAMs_20 IAMs_20 16 01 36.3
comp=Z,2µm,22.0s
KNB Kanab 107.45 46 IAMs_20 IAMs_20 16 01 46.1
comp=Z,2µm,20.0s
W13A Hualapai Mount 107.56 48 IAMs_20 IAMs_20 16 06 19.2
comp=Z,2µm,20.0s
CPBX Cerro Prieto 107.67 51 IAMs_20 IAMs_20 16 17 37.4
comp=Z,2µm,19.0s
BLYC Blythe 107.69 50 IAMs_20 IAMs_20 16 00 58.8
comp=Z,2µm,22.0s
P18A Preston Nutter 107.93 42 IAMs_20 IAMs_20 16 01 17.7
comp=Z,2µm,22.0s
U15A North Rim 108.10 46 IAMs_20 IAMs_20 16 01 22.4
comp=Z,2µm,21.0s
SFX San Felipe 108.60 52 IAMs_20 IAMs_20 16 00 38.2
comp=Z,2µm,21.0s
K22A Casper 108.68 38 IAMs_20 IAMs_20 16 02 03.0
comp=Z,3µm,22.0s
Y14A Wickenburg 108.74 49 IAMs_20 IAMs_20 16 01 45.5
comp=Z,2µm,22.0s
O20A White River Ci 108.98 41 IAMs_20 IAMs_20 16 00 46.4
comp=Z,2µm,22.0s
ULM Lac du Bonnet 109.42 27 Pdiff **Pdif 15 20 38.2 +1.4**
comp=Z,0.7nm,0.4s,baz=142,slow=13,SNR=1.9
ULM PKiKP **PKiKP 15 24 40.8 +0.7**
comp=Z,3.0nm,0.7s,baz=330,slow=1.9,SNR=4.8
ULM PKKPbc **PKKPbc 15 35 45.1 -1.9**
comp=Z,6.2nm,0.9s,baz=99,slow=3.0,SNR=7.4
ULM PKKP **PKKPdf 15 36 01.1 -0.8**
comp=Z,5.2nm,0.9s,baz=20,slow=2.6,SNR=4.8
PIX Pinacate 109.45 51 IAMs_20 IAMs_20 16 03 27.6
comp=Z,2µm,20.0s
X16A Lo Mia Camp, P 109.66 48 IAMs_20 IAMs_20 16 02 37.9
comp=Z,2µm,22.0s
TUC Tucson 111.14 49 IAMs_20 IAMs_20 16 04 37.2
comp=Z,2µm,21.0s
CART Cartagena 111.19 317 IAMs_20 IAMs_20 16 15 30.3
comp=Z,2µm,22.0s
BRIGG Briggsdale 111.22 39 IAMs_20 IAMs_20 16 04 05.3
comp=Z,2µm,22.0s
SNAA Sanae 111.44 195 Pdiff **Pdif 15 20 46.1 +0.7**
comp=Z,2.2nm,1.0s,baz=235,slow=7.6,SNR=3.2
SNAA PKiKP **PKiKP 15 24 44.2 +0.9**
comp=Z,6.1nm,1.0s,baz=161,slow=11,SNR=3.8
SNAA PP **PP 15 25 22.4 -1.8**
comp=Z,14nm,1.1s,baz=113,slow=10,SNR=4.7
SNAA PKKPbc **PKKPbc 15 35 38.4 -2.7**
comp=Z,6.0nm,0.7s,baz=334,slow=1.4,SNR=19
SNAA PKKPab **PKKPab 15 35 47.6 -0.1**
comp=Z,5.7nm,0.8s,baz=295,slow=7.8,SNR=5.9
BELA Belgrano 2 111.82 184 IAMs_20 IAMs_20 16 11 48.1
comp=Z,2µm,20.0s
ESDC Sonseca Array 111.94 320 PKKP 15 35 52.4
comp=Z,1.1nm,0.8s,baz=267,slow=3.0,SNR=5.3
SRIG Santa Rosalia 112.24 55 IAMs_20 IAMs_20 16 02 23.9
comp=Z,2µm,21.0s
PBRG Braganca 112.34 324 *e*PP **PP 15 25 35.3 +4.3**
OGNE Ogallala 112.39 38 IAMs_20 IAMs_20 16 08 19.3
comp=Z,2µm,21.0s
HSIG 112.52 53 IAMs_20 IAMs_20 16 05 42.1
comp=Z,2µm,20.0s
319A Douglas 112.71 50 IAMs_20 IAMs_20 16 03 19.7
comp=Z,2µm,21.0s
MVO Moncorvo 112.91 323 *e*PP **PP 15 25 38.1 +3.1**
ANMO Albuquerque 112.95 45 IAMs_20 IAMs_20 16 06 21.7
comp=Z,2µm,20.0s
EYMN Ely 113.06 26 IAMs_20 IAMs_20 16 07 29.2
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 113.08 46 PKiKP **PKiKP 15 24 48.0 +0.3**
baz=302
PGAV Gavieira, Arco 113.12 325 *e*PP **PP 15 25 40.7 +4.1**
121A Cookes Peak, D 113.25 48 PKiKP **PKiKP 15 24 48.3 +0.2**
baz=300
MTE Manteigas 113.69 323 *e*PP **PP 15 25 44.5 +3.9**
PVIS Viseu 113.70 323 *e*PP **PP 15 25 45.5 +4.9**
E38A The Farm, Brul 114.05 27 IAMs_20 IAMs_20 16 09 08.4
comp=Z,2µm,22.0s
SCHQ Schefferville 114.11 8 PKP PKPdf 15 24 49.0 +0.2
comp=Z,4.2nm,0.6s,baz=345,slow=2.8,SNR=13
SCHQ PKKPbc **PKKPbc 15 35 34.9 +3.1**
comp=Z,11nm,1.1s,baz=194,slow=4.2,SNR=4.9
PMRV Marv??o 114.21 322 *e*PP **PP 15 25 48.0 +3.7**
COI Coimbra 114.33 323 *e*PP **PP 15 25 49.4 +4.3**
BGNE Belgrade 114.36 35 IAMs_20 IAMs_20 16 11 28.3
comp=Z,2µm,21.0s
PCAS Camilo, Conde 114.48 323 *e*PP **PP 15 25 50.7 +4.6**
EPT El Paso 114.57 48 IAMs_20 IAMs_20 16 07 13.8
comp=Z,2µm,20.0s
PBAR Barrancos 114.76 321 *e*PP **PP 15 25 51.6 +3.4**
PMTG Montargil 114.94 322 *e*PP **PP 15 25 52.6 +3.3**
L34A Svendsen Farm, 114.97 34 IAMs_20 IAMs_20 16 09 05.4
comp=Z,2µm,22.0s
PSBE So Bento 115.00 323 *e*PP **PP 15 25 53.6 +3.8**
I37A Lemond, Waseca 115.09 30 IAMs_20 IAMs_20 16 13 41.1
comp=Z,2µm,21.0s
EVO Evora 115.14 321 *e*PP **PP 15 25 54.7 +3.9**
COWI Conover 115.51 26 IAMs_20 IAMs_20 16 18 42.1
comp=Z,2µm,22.0s
PVAQ Vaqueiros 115.66 320 IAMs_20 IAMs_20 16 19 54.7
comp=Z,2µm,20.0s
PVAQ Vaqueiros 115.66 320 *e*PP **PP 15 25 58.4 +3.9**
SLBS Sierra La Lagu 115.67 57 IAMs_20 IAMs_20 16 13 34.8
comp=Z,2µm,20.0s
MESJ Messejana 115.70 321 *e*PP **PP 15 25 55.9 +1.1**
MESJ IAMs_20 IAMs_20 16 07 37.7
comp=Z,3µm,36.6s
MESJ Messejana 115.70 321 *e*PP **PP 15 25 58.7 +3.9**
LIS Lisbon 115.72 322 *e*PP **PP 15 25 55.9 +1.1**
LIS IAMs_20 IAMs_20 16 19 04.3
comp=Z,3µm,20.7s
PCVE Castro Verde 115.72 321 *e*PP **PP 15 25 58.6 +3.7**
PBDV Barranco-do-Ve 115.89 320 *e*PP **PP 15 26 00.2 +4.0**
MORF Marmelete 116.30 321 *e*PP **PP 15 26 00.2 +1.1**
MORF IAMs_20 IAMs_20 16 18 16.2
comp=E,2µm,22.8s
MORF Marmelete 116.30 321 *e*PP **PP 15 26 02.0 +2.9**
PFVI Vila Bisbo 116.52 321 *e*PP **PP 15 26 03.9 +3.4**
I40A Norwalk 116.53 29 IAMs_20 IAMs_20 16 14 13.2
comp=Z,2µm,22.0s
SCIA State Center 116.70 32 IAMs_20 IAMs_20 16 19 07.9
comp=Z,2µm,20.0s
KSU1 Kansas State U 116.77 36 IAMs_20 IAMs_20 16 11 32.1
comp=Z,2µm,22.0s
E46A Sault Ste Mari 117.29 23 IAMs_20 IAMs_20 16 19 26.9
comp=Z,2µm,20.0s
I42A Draeger Farm, 117.33 28 IAMs_20 IAMs_20 16 19 56.2
comp=Z,2µm,21.0s
JFWS Jewell Farm 117.45 29 IAMs_20 IAMs_20 16 07 57.4
comp=Z,2µm,22.0s
HPIG 117.62 52 IAMs_20 IAMs_20 16 08 12.1
comp=Z,2µm,21.0s
TXAR Lajitas Array 117.92 49 **PKiKP 15 24 58.1 +1.0**
TXAR Lajitas Array 117.92 49 PKP **PKiKP 15 24 57.8 +0.7**
comp=Z,5.0nm,0.8s,baz=230,slow=1.2,SNR=27
TXAR PKKPbc **PKKPbc 15 35 16.2 -1.6**
comp=Z,1.5nm,0.8s,baz=116,slow=3.5,SNR=11
AVE Averroes 117.92 316 IAMs_20 IAMs_20 16 21 12.6
comp=Z,2µm,21.0s
BLOK Blackwell 117.94 39 IAMs_20 IAMs_20 16 14 45.4
comp=Z,2µm,22.0s
WMOK Wichita Mounta 118.23 41 IAMs_20 IAMs_20 16 08 25.3
comp=Z,2µm,22.0s
T35A Sooner Cattle 118.27 38 IAMs_20 IAMs_20 16 14 16.2
comp=Z,2µm,20.0s
OK048 Pawnee Station 118.33 39 IAMs_20 IAMs_20 16 07 26.7
comp=Z,2µm,22.0s
OK051 E0350 and S346 118.34 39 IAMs_20 IAMs_20 16 07 04.9
comp=Z,2µm,22.0s
K43A Burlington 118.52 28 IAMs_20 IAMs_20 16 20 34.6
comp=Z,2µm,22.0s
ABTX Abilene, Hawle 118.94 44 IAMs_20 IAMs_20 16 07 09.9
comp=Z,2µm,22.0s
L44A Lake County Fo 119.12 28 IAMs_20 IAMs_20 16 21 03.6
comp=Z,2µm,22.0s
L44A Lake County Fo 119.12 28 PKiKP **PKiKP 15 24 58.9 0.0**
baz=321
TUL3 Leonard 119.37 38 IAMs_20 IAMs_20 16 14 48.3
comp=Z,2µm,21.0s
HQIL Hanson Quary C 119.44 29 IAMs_20 IAMs_20 16 23 40.2
comp=Z,1µm,21.0s
J47A Sunmer 119.65 26 IAMs_20 IAMs_20 16 19 55.6
comp=Z,2µm,22.0s
HDIL Hopedale 119.69 30 IAMs_20 IAMs_20 16 10 04.0
comp=Z,2µm,22.0s
FW03 Perrin-Whitt E 119.75 42 IAMs_20 IAMs_20 16 09 12.4
comp=Z,2µm,22.0s
I49A Point Hope 119.89 24 IAMs_20 IAMs_20 16 21 05.8
comp=Z,2µm,20.0s
LDAQ Lac Daran 119.90 13 IAMs_20 IAMs_20 16 22 53.5
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 119.98 292 **PKPdf 15 25 00.3 -0.9**
TORD Torodi Ar. Bea 119.98 292 PKP **PKPdf 15 24 59.7 -1.5**
comp=Z,4.8nm,0.3s,baz=33,slow=2.5,SNR=7.2
L46A Eue Claire 119.99 27 IAMs_20 IAMs_20 16 10 55.7
comp=Z,2µm,22.0s
FW07 Weatherford 120.14 42 IAMs_20 IAMs_20 16 07 30.8
comp=Z,2µm,22.0s
HHAR Hobbs 120.23 37 IAMs_20 IAMs_20 16 13 14.8
comp=Z,2µm,22.0s
LMQ La Malbaie 120.49 13 IAMs_20 IAMs_20 16 17 10.2
comp=Z,2µm,22.0s
CCM Cathedral Cave 120.52 34 **PKiKP 15 25 01.8 0.0**
CCM Cathedral Cave 120.52 34 IAMs_20 IAMs_20 16 14 55.2
comp=Z,2µm,22.0s
CCM Cathedral Cave 120.52 34 PKIKP **PKiKP 15 25 01.8 0.0**
CCM pmax pmax
comp=Z,2µm,22.0s
SADO Sadowa 120.55 21 **PKiKP 15 25 01.6 -0.1**
SADO IAMs_20 IAMs_20 16 22 39.0
comp=Z,2µm,20.0s
SLM Saint Louis 120.64 33 IAMs_20 IAMs_20 16 20 26.2
comp=Z,2µm,20.0s
TRQ Mont Tremblant 120.68 16 IAMs_20 IAMs_20 16 18 02.4
comp=Z,2µm,21.0s
WHTX Lake Whitney, 120.80 43 IAMs_20 IAMs_20 16 15 00.6
comp=Z,2µm,21.0s
AAM Ann Arbor 120.91 25 IAMs_20 IAMs_20 16 18 21.9
comp=Z,2µm,22.0s
K50A Casco 120.95 24 IAMs_20 IAMs_20 16 20 45.7
comp=Z,2µm,21.0s
FVM French Village 121.02 33 IAMs_20 IAMs_20 16 14 01.3
comp=Z,2µm,22.0s
N47A Urbana 121.17 28 IAMs_20 IAMs_20 16 28 51.8
comp=Z,1µm,20.0s
E62A Clayton Lake 121.55 13 IAMs_20 IAMs_20 16 17 53.1
comp=Z,2µm,21.0s
FCAR Ozark Folk Cen 121.57 36 IAMs_20 IAMs_20 16 14 27.0
comp=Z,2µm,22.0s
WBO Williamsburg 121.59 18 IAMs_20 IAMs_20 16 24 21.3
comp=Z,2µm,20.0s
MNTQ Montreal, Queb 121.60 16 IAMs_20 IAMs_20 16 18 39.6
comp=Z,2µm,21.0s
SMAI San Martin Ant 121.69 174 IAMs_20 IAMs_20 16 15 22.8
comp=Z,2µm,22.0s
N49A Columbus Grove 121.81 27 IAMs_20 IAMs_20 16 22 25.8
comp=Z,2µm,22.0s
SIUC Southern Illin 121.86 33 IAMs_20 IAMs_20 16 21 11.6
comp=Z,2µm,22.0s
PBMO Poplar Bluff 121.89 34 IAMs_20 IAMs_20 16 23 17.5
comp=Z,2µm,21.0s
M50A Fremont 121.91 25 IAMs_20 IAMs_20 16 17 44.3
comp=Z,2µm,21.0s
O48B Farmland 121.91 28 IAMs_20 IAMs_20 16 19 29.5
comp=Z,2µm,22.0s
LCAR Lake Charles 122.00 35 IAMs_20 IAMs_20 16 18 25.3
comp=Z,1µm,20.0s
PECO Prince Edward 122.01 19 IAMs_20 IAMs_20 16 23 13.6
comp=Z,1µm,19.0s
BLO Bloomington 122.12 30 IAMs_20 IAMs_20 16 12 25.2
comp=Z,2µm,22.0s
LONY Lake Ozonia 122.14 17 IAMs_20 IAMs_20 16 15 46.9
comp=Z,2µm,22.0s
FRNY Flat Rock 122.22 16 IAMs_20 IAMs_20 16 21 54.1
comp=Z,2µm,21.0s
J55A Hilton 122.33 20 IAMs_20 IAMs_20 16 22 60.0
comp=Z,1µm,20.0s
PARMO Parma 122.35 34 IAMs_20 IAMs_20 16 14 06.5
comp=Z,2µm,22.0s
735A Kenedy 122.44 46 IAMs_20 IAMs_20 16 12 39.8
comp=Z,2µm,21.0s
M52A Chesterland 122.49 24 IAMs_20 IAMs_20 16 21 59.6
comp=Z,2µm,22.0s
F64A Sherman 122.51 12 IAMs_20 IAMs_20 16 18 21.7
comp=Z,2µm,21.0s
ERPA Erie 122.54 23 IAMs_20 IAMs_20 16 24 03.7
comp=Z,2µm,20.0s
N51A Ashland 122.59 25 IAMs_20 IAMs_20 16 19 54.4
comp=Z,2µm,22.0s
HBAR Harrisburg 122.64 35 IAMs_20 IAMs_20 16 12 49.5
comp=Z,2µm,21.0s
G62A West of Eustis 122.65 14 IAMs_20 IAMs_20 16 22 37.3
comp=Z,2µm,21.0s
T45A Paducah 122.68 33 IAMs_20 IAMs_20 16 21 34.4
comp=Z,2µm,20.0s
PEBM Pemiscott Bayo 122.69 34 IAMs_20 IAMs_20 16 13 21.6
comp=Z,2µm,22.0s
P49A Miami Univ. Ec 122.69 28 IAMs_20 IAMs_20 16 11 49.1
comp=Z,2µm,22.0s
J57A Williamstown 122.80 19 IAMs_20 IAMs_20 16 21 28.5
comp=Z,2µm,21.0s
WVNY West Valley, N 122.80 22 IAMs_20 IAMs_20 16 15 36.7
comp=Z,2µm,22.0s
NCB Newcomb 122.83 17 IAMs_20 IAMs_20 16 15 33.3
comp=Z,2µm,22.0s
LNXT Lenox 122.90 34 IAMs_20 IAMs_20 16 22 48.3
comp=Z,1µm,22.0s
VT1 Waterbury 122.92 16 IAMs_20 IAMs_20 16 18 47.7
comp=Z,2µm,21.0s
WCI Wyandotte Cave 122.97 30 IAMs_20 IAMs_20 16 22 20.6
comp=Z,2µm,20.0s
H62A Milan 123.11 15 IAMs_20 IAMs_20 16 29 48.4
comp=Z,2µm,21.0s
HALT Halls 123.13 34 IAMs_20 IAMs_20 16 13 56.2
comp=Z,2µm,22.0s
CCAR Cane Creek 123.15 37 IAMs_20 IAMs_20 16 16 55.0
comp=Z,2µm,21.0s
J59A Piesco 123.21 18 IAMs_20 IAMs_20 16 21 38.4
comp=Z,2µm,21.0s
K57A Scipio Center 123.24 20 IAMs_20 IAMs_20 16 24 59.1
comp=Z,1µm,21.0s
N53A Lisbon 123.32 24 IAMs_20 IAMs_20 16 20 12.6
comp=Z,2µm,22.0s
L56A Greenwood 123.41 21 IAMs_20 IAMs_20 16 24 16.7
comp=Z,2µm,20.0s
WVL Waterville 123.47 13 IAMs_20 IAMs_20 16 22 40.0
comp=Z,1µm,21.0s
P51A Williamsport 123.48 27 IAMs_20 IAMs_20 16 22 03.0
comp=Z,2µm,21.0s
O52A Adamsville 123.49 25 IAMs_20 IAMs_20 16 20 31.1
comp=Z,2µm,22.0s
GGN Saint George 123.52 11 IAMs_20 IAMs_20 16 28 14.3
comp=Z,2µm,19.0s
ACCN Adirondack Com 123.53 17 IAMs_20 IAMs_20 16 19 38.8
comp=Z,2µm,20.0s
HNH Hanover 123.62 16 IAMs_20 IAMs_20 16 28 55.1
comp=Z,1µm,20.0s
O53A New Philadelph 123.64 25 IAMs_20 IAMs_20 16 17 07.0
comp=Z,2µm,22.0s

I62A	Tamworth	123.72	15	IAMs_20	IAMs_20	16 17 34.5		
	comp=Z,2μm,22.0s							
P52A	Corning	123.76	26	IAMs_20	IAMs_20	16 12 26.4		
	comp=Z,2μm,22.0s							
WVT	Waverly	123.78	33		PKiKP	15 25 08.5	+0.2	
WVT	Waverly	123.78	33	IAMs_20	IAMs_20	16 19 22.5		
	comp=Z,2μm,22.0s							
WVT	Waverly	123.78	33	PKiKP	PKiKP	15 25 08.5	+0.2	
WVT				pmax	pmax			
	comp=Z,2μm,22.0s							
J61A	Chester	123.88	16	IAMs_20	IAMs_20	16 17 59.0		
	comp=Z,2μm,22.0s							
BINY	Binghamton	123.89	20	IAMs_20	IAMs_20	16 25 27.3		
	comp=Z,1μm,20.0s							
O54A	Avella	124.04	24	IAMs_20	IAMs_20	16 20 55.5		
	comp=Z,2μm,21.0s							
TRY	Troy	124.13	17	IAMs_20	IAMs_20	16 22 43.7		
	comp=Z,2μm,21.0s							
P53A	Whipple	124.20	26	IAMs_20	IAMs_20	16 23 01.0		
	comp=Z,2μm,22.0s							
M57A	Sunshine Farm,	124.27	21	IAMs_20	IAMs_20	16 24 42.4		
	comp=Z,2μm,20.0s							
PLAL	Pickwick Lake	124.51	34	IAMs_20	IAMs_20	16 22 46.7		
	comp=Z,1μm,21.0s							
KSPA	Keystone Colle	124.54	20	IAMs_20	IAMs_20	16 19 32.5		
	comp=Z,1μm,21.0s							
K62A	Royalston	124.60	16	IAMs_20	IAMs_20	16 18 07.1		
	comp=Z,2μm,22.0s							
SSPA	Standing Stone	124.61	22		PKPdf	15 25 09.2	-0.3	
SSPA	Standing Stone	124.61	22	IAMs_20	IAMs_20	16 25 38.5		
	comp=Z,2μm,20.0s							
V48A	Smith Brothers	124.61	32	IAMs_20	IAMs_20	16 23 50.4		
	comp=Z,2μm,20.0s							
L61B	Northampton	124.68	17	IAMs_20	IAMs_20	16 20 03.0		
	comp=Z,2μm,20.0s							
L61B	Northampton	124.68	17	PKiKP	PKPdf	15 25 09.2	-0.3	
	baz=337							
MCWV	Mont Chateau	124.70	24	IAMs_20	IAMs_20	16 25 31.0		
	comp=Z,2μm,20.0s							
MOIG	Morelia	124.73	57	IAMs_20	IAMs_20	16 08 56.4		
	comp=Z,2μm,21.0s							
N58A	Sunbury	124.85	21	IAMs_20	IAMs_20	16 24 59.9		
	comp=Z,1μm,19.0s							
Q54A	Coxs Mills	124.86	25	IAMs_20	IAMs_20	16 23 20.4		
	comp=Z,2μm,22.0s							
HRV	Adam Dziewonsk	124.93	16	IAMs_20	IAMs_20	16 19 20.8		
	comp=Z,2μm,22.0s							
PMSA	Palmer Station	125.26	175	IAMs_20	IAMs_20	16 19 10.0		
	comp=Z,2μm,22.0s							
ODNJ	Ogdensburg	125.34	19	IAMs_20	IAMs_20	16 23 16.8		
	comp=Z,2μm,21.0s							
TRNY	Table Rock, Ra	125.41	19	IAMs_20	IAMs_20	16 23 29.5		
	comp=Z,2μm,22.0s							
UCCT	U. Connecticut	125.41	17	IAMs_20	IAMs_20	16 20 32.5		
	comp=Z,1μm,20.0s							
Q56A	Snyder Ridge,	125.49	24	IAMs_20	IAMs_20	16 23 09.0		
	comp=Z,2μm,21.0s							
P57A	Homestead Farm	125.57	23	IAMs_20	IAMs_20	16 26 02.9		
	comp=Z,2μm,20.0s							
PAL	Palisades	125.64	19	IAMs_20	IAMs_20	16 23 36.5		
	comp=Z,2μm,21.0s							
TZTN	Tazewell	125.64	29	IAMs_20	IAMs_20	16 25 23.2		
	comp=Z,2μm,20.0s							
S54A	Dingess, Beckl	125.64	27	IAMs_20	IAMs_20	16 22 06.2		
	comp=Z,2μm,22.0s							
L64A	Middleborough	125.66	15	IAMs_20	IAMs_20	16 20 26.9		
	comp=Z,1μm,20.0s							
WSPT	Westport, CT	125.66	18	IAMs_20	IAMs_20	16 23 45.2		
	comp=Z,2μm,20.0s							
MVL	Millersville	125.72	21	IAMs_20	IAMs_20	16 23 45.0		
	comp=Z,2μm,21.0s							
M63A	Gales Ferry	125.82	17	IAMs_20	IAMs_20	16 19 21.4		
	comp=Z,2μm,21.0s							
M65A	Busby, Falmout	126.06	15	IAMs_20	IAMs_20	16 25 03.5		
	comp=Z,1μm,21.0s							
M65A	Busby, Falmout	126.06	15	PKiKP	PKPdf	15 25 11.9	-0.3	
	baz=340							
U54A	Nelsons Funny	126.47	28	IAMs_20	IAMs_20	16 24 23.1		
	comp=Z,2μm,21.0s							
BLA	Blacksburg	126.52	26	IAMs_20	IAMs_20	16 25 10.5		
	comp=Z,1μm,22.0s							
P61A	Hammonton	126.55	20	IAMs_20	IAMs_20	16 21 25.9		
	comp=Z,2μm,22.0s							
R58B	Mineral	126.94	24	IAMs_20	IAMs_20	16 18 46.2		
	comp=Z,2μm,21.0s							
U56A	King	127.26	27	IAMs_20	IAMs_20	16 25 57.0		
	comp=Z,1μm,20.0s							
V55A	Taylorsville	127.30	28	IAMs_20	IAMs_20	16 26 50.0		
	comp=Z,2μm,22.0s							
R61A	Willards	127.57	21	IAMs_20	IAMs_20	16 26 05.8		
	comp=Z,2μm,21.0s							
KMSC	Kings Mountain	127.82	28	IAMs_20	IAMs_20	16 24 01.0		
	comp=Z,2μm,22.0s							
BRAL	Brewton	127.89	36	IAMs_20	IAMs_20	16 25 19.6		
	comp=Z,2μm,22.0s							
TLIG	Tlapa	127.92	58	IAMs_20	IAMs_20	16 13 45.5		
	comp=Z,2μm,20.0s							
T59A	Double "B" Far	127.92	24	IAMs_20	IAMs_20	16 21 43.4		
	comp=Z,2μm,21.0s							
S61A	Accomac	128.02	22	IAMs_20	IAMs_20	16 27 08.9		
	comp=Z,2μm,20.0s							
HODGE	Hodges	128.12	30	IAMs_20	IAMs_20	16 29 21.0		
	comp=Z,2μm,20.0s							
GOGA	Godfrey	128.16	32	IAMs_20	IAMs_20	16 27 08.3		
	comp=Z,2μm,20.0s							
DBIC	Dimbokro	128.22	287		PKPdf	15 25 17.0	0.0	
DBIC	Dimbokro	128.22	287	PKP	PKPdf	15 25 16.6	-0.4	
	comp=Z,22nm,0.9s,baz=83,slow=1.8,SNR=16							
V58A	Windy Hill, Pi	128.28	26	IAMs_20	IAMs_20	16 28 10.0		
	comp=Z,2μm,20.0s							
W57A	Gilead	128.43	27	IAMs_20	IAMs_20	16 22 24.1		
	comp=Z,2μm,21.0s							
JSC	Jenkinsville	128.56	29	IAMs_20	IAMs_20	16 26 17.6		
	comp=Z,2μm,21.0s							
BIRD	Birdtown, Kers	128.64	28	IAMs_20	IAMs_20	16 27 20.6		
	comp=Z,2μm,20.0s							
W59A	Clinton	129.10	26	IAMs_20	IAMs_20	16 28 03.7		
	comp=Z,2μm,20.0s							
Y57A	Sumter	129.19	28	IAMs_20	IAMs_20	16 23 08.2		
	comp=Z,1μm,22.0s							
V61A	Roper	129.34	24	IAMs_20	IAMs_20	16 28 02.8		
	comp=Z,1μm,22.0s							
Y58A	Scranton	129.62	28	IAMs_20	IAMs_20	16 19 43.5		
	comp=Z,2μm,22.0s							
NHSC	New Hope	130.04	29	IAMs_20	IAMs_20	16 29 39.7		
	comp=Z,2μm,19.0s							
CSU	Charleston Sou	130.19	29	IAMs_20	IAMs_20	16 29 53.7		
	comp=Z,2μm,20.0s							
CCIG	Comitan	133.86	55	IAMs_20	IAMs_20	16 16 53.7		
	comp=Z,1μm,21.0s							
TEIG	Tepich	134.55	48	IAMs_20	IAMs_20	16 26 46.1		
	comp=Z,1μm,22.0s							
060A	Indiantown	134.82	34	IAMs_20	IAMs_20	16 30 38.9		
	comp=Z,1μm,21.0s							
SOR	Soroa	136.44	41	IAMs_20	IAMs_20	16 37 12.4		
	comp=Z,1μm,21.0s							
MTO3	Montecristo	137.13	56	IAMs_20	IAMs_20	16 14 54.2		
	comp=Z,1μm,20.0s							
TGUH	Tegucigalpa,Un	139.00	54	IAMs_20	IAMs_20	16 15 57.6		
	comp=Z,1μm,21.0s							
HERN	Volcan Telica	140.16	56	IAMs_20	IAMs_20	16 39 31.6		
	comp=Z,652nm,20.0s							
MGAN	Managua	140.89	56	IAMs_20	IAMs_20	16 09 01.9		
	comp=Z,1μm,21.0s							
COYC	Coyhaique	141.68	159	IAMs_20	IAMs_20	16 28 18.8		
	comp=Z,2μm,21.0s							
NMDO	Nuevo Mundo	142.94	34	IAMs_20	IAMs_20	16 40 18.8		
	comp=Z,2μm,21.0s							
JTS	Las Juntas de	142.96	57	PKP	PKPdf	15 25 42.1	-2.3	
	comp=Z,13nm,0.6s,baz=321,slow=11,SNR=4.3							
HDC	Heredia	143.81	57	*eP*	PKPdf	15 25 46.3	+0.2	
LL02	Futaleuf	143.83	158		PKPbc	15 25 43.4	+0.6	
LL02				IAMs_20	IAMs_20	16 27 45.6		
	comp=Z,1μm,22.0s							
PRVC	Isla de Provid	143.99	50		PKPdf	15 25 46.3	+0.1	
LL03	Petrohue	145.35	155	IAMs_20	IAMs_20	16 31 11.1		
	comp=Z,1μm,22.0s							
LR04	Corral	145.94	153	IAMs_20	IAMs_20	16 26 56.0		
	comp=Z,1μm,22.0s							
PAPH	Port-au-Prince	146.04	32	IAMs_20	IAMs_20	16 29 33.9		
	comp=Z,2μm,22.0s							
PLCA	Paso Flores	146.43	157		PKPab	15 25 51.6	-0.5	
PLCA	Paso Flores	146.43	157	PKPbc	PKPbc	15 25 51.1	0.0	
	comp=Z,51nm,0.7s,baz=255,slow=1.9,SNR=97							
PLCA	Paso Flores	146.43	157	*eP*	PKPab	15 25 51.5	-0.5	
LR03	Panguipulli	146.62	154	IAMs_20	IAMs_20	16 32 07.9		
	comp=Z,1μm,21.0s							
BCIP	Isla Barro Col	147.75	54	IAMs_20	IAMs_20	16 24 39.4		
	comp=Z,1μm,22.0s							
PCDR	Punta Cana, DR	147.94	26		PKiKP	15 25 57.3	-0.4	
PRSN	Puerto Rico Se	148.73	25	IAMs_20	IAMs_20	16 33 13.4		
	comp=Z,1μm,20.0s							
EMPR	Esperanza - Ma	148.74	23		PKPbc	15 25 58.6	+0.7	
AOPR	Arecibo Observ	148.77	24	*eP*	PKPdf	15 25 52.3	-1.9	
CRPR	Cabo Rojo, PR	148.93	25		PKPbc	15 25 58.7	+0.3	
CRPR				IAMs_20	IAMs_20	16 40 06.8		
	comp=Z,1μm,22.0s							
CELP	Cerrillos	149.08	24	IAMs_20	IAMs_20	16 30 12.8		
	comp=Z,1μm,22.0s							
OBIP	Obispado Ponce	149.10	24	IAMs_20	IAMs_20	16 37 17.3		
	comp=Z,1μm,21.0s							
SJG	San Juan	149.22	23	IAMs_20	IAMs_20	16 35 09.4		
	comp=Z,1μm,22.0s							
SJG	San Juan	149.22	23	PKPbc	PKPbc	15 25 57.0	-2.1	
	comp=Z,44nm,0.5s,baz=9.1,slow=5.7,SNR=5.9							
SJG	San Juan	149.22	23	*eP*	PKPdf	15 25 55.2	+0.3	
IGPR	InterUniversit	149.37	23	IAMs_20	IAMs_20	16 39 12.3		
	comp=Z,1μm,22.0s							
ML02	Panimavida	150.20	151	IAMs_20	IAMs_20	16 34 47.9		
	comp=Z,1μm,21.0s							
ANWB	Willy Bob	151.06	16	*eP*	PKPbc	15 26 02.2	-1.4	
SKI	Saint Kitts	151.11	18	*eP*	PKPdf	15 25 49.8	-8.1	
TRQA	Tornquist	151.55	167		PKPbc	15 26 04.1	-0.1	
TRQA	Tornquist	151.55	167	PKiKP	PKPbc	15 26 04.1	-0.1	
TRQA				pmax	pmax			
	comp=Z,2μm,20.0s							
ANBD	Bethesda, Anti	151.65	16	*eP*	PKPbc	15 26 03.2	-1.8	
MBFL	Flemmings, Mon	151.81	17	*eP*	PKPdf	15 25 55.2	-3.8	
MT09	Talagante	152.00	149	IAMs_20	IAMs_20	16 24 11.6		
	comp=Z,1μm,21.0s							
BO04	La Punta	152.02	150	IAMs_20	IAMs_20	16 27 11.1		
	comp=Z,1μm,19.0s							
MT13	San Alfonso	152.38	150	IAMs_20	IAMs_20	16 32 20.6		
	comp=Z,1μm,21.0s							
MT03	Universidad Ad	152.46	149	IAMs_20	IAMs_20	16 24 23.9		
	comp=Z,1μm,21.0s							
MT08	Bocatoma Ro	152.75	150	IAMs_20	IAMs_20	16 24 40.4		
	comp=Z,1μm,21.0s							
TBG	Guadaloupe-3	152.83	16	*eP*	PKPdf	15 26 00.7	+0.2	
HATO	Hato, Curacao	153.07	34	IAMs_20	IAMs_20	16 40 34.4		
	comp=Z,1μm,22.0s							
DSLB	Salisbury	153.28	16	*eP*	PKPdf	15 26 00.0	-1.1	
OTAV	Otavalo	153.47	68	IAMs_20	IAMs_20	16 23 36.2		
	comp=Z,1μm,20.0s							
OTAV	Otavalo	153.47	68	*eP*	PKPdf	15 26 00.5	-1.6	
SVN	Savane Anatole	153.92	16	*eP*	PKPdf	15 25 59.7	-2.4	
FDF	Fort de France	154.03	16	IAMs_20	IAMs_20	16 44 19.3		
	comp=Z,1μm,20.0s							
BIM	Bigot	154.26	16	*eP*	PKPdf	15 26 00.4	-2.2	
MPOM	Morne Pois Mar	154.38	16	IAMs_20	IAMs_20	16 30 09.6		
	comp=Z,1μm,22.0s							
SDV	Santo Domingo	154.66	41	IAMs_20	IAMs_20	16 40 46.6		
	comp=Z,1μm,22.0s							
ROSC	El Rosal	154.71	54	PKP	PKPdf	15 26 04.4	+0.6	
	comp=Z,19nm,0.6s,baz=287,slow=1.2,SNR=15							
SLB	Belfond	154.92	16	*eP*	PKPab	15 26 27.5	+0.1	
ZON	Zonda	154.94	149	IAMs_20	IAMs_20	16 25 38.6		
	comp=Z,1μm,20.0s							
CFA	Coronel Fontan	155.12	150	PKP	PKPdf	15 26 03.0	-0.4	
	comp=Z,3.5nm,0.7s,baz=221,slow=2.0,SNR=8.7							
CFA				PKPab	sPKPbc	15 26 28.9	-0.1	
	comp=Z,8.9nm,0.8s,baz=209,slow=3.8,SNR=6.7							
GRGR	Grenville	156.34	19	IAMs_20	IAMs_20	16 33 44.8		
	comp=Z,1μm,21.0s							
PCRV	Puerto La Cruz	156.97	28	PKP	PKPdf	15 26 06.5	+0.2	
	comp=Z,4.7nm,0.6s,baz=349,slow=5.2,SNR=2.1							
PCRV				PKPab	PKPab	15 26 34.0	-2.2	
	comp=Z,16nm,0.7s,baz=223,slow=5.0,SNR=4.2							
TPR	Prospect	157.51	18	*eP*	PKPab	15 26 38.9	+0.4	
NNA	Nana	157.52	96	PKP	PKPdf	15 26 07.2	+0.2	
	comp=Z,6.9nm,0.4s,baz=259,slow=4.0,SNR=7.0							
NNA				PKPab	PKPab	15 26 40.9	+2.0	
	comp=Z,27nm,0.7s,baz=260,slow=9.1,SNR=8.6							
GO02	Mina Guanaco	159.15	137		PKPab	15 26 48.2	+2.4	
GO02				IAMs_20	IAMs_20	16 26 42.4		
	comp=Z,1μm,21.0s							
CZSB	Cruzeiro do Su	161.32	83	*eP*	PKPdf	15 26 11.4	+0.1	
RCBR	Riachuelo	161.53	283	*eP*	PKPdf	15 26 13.0	+1.4	
NBCA	Caruaru-PE	162.13	275	*eP*	PKPdf	15 26 13.0	+0.8	
NBAN	Anadia - AL	162.54	271	*eP*	PKPdf	15 26 12.6	0.0	
TBTG	Tabatinga, AM	163.04	70	*eP*	PKPdf	15 26 13.0	-0.1	
ITAB	Concordia	163.17	186	*eP*	PKPdf	15 26 13.8	+1.0	
CAM01	Campos-RJ	163.61	225	*eP*	PKPdf	15 26 13.9	+0.5	
CPUP	Villa Florida	163.85	169	PKP	PKPdf	15 26 12.9	-0.6	
	comp=Z,22nm,1.3s,baz=262,slow=0.6,SNR=12							
CPUP				PKPab	PKPab	15 27 05.8	+0.1	
	comp=Z,64nm,1.4s,baz=185,slow=3.4,SNR=6.0							
CPUP	Villa Florida	163.85	169	*eP*	PKPdf	15 26 14.7	+1.2	
RIB01	Linhares ES	164.17	234	*eP*	PKPdf	15 26 14.3	+0.3	
MAN01	Angra dos Reis	164.34	216	*eP*	PKPdf	15 26 15.1	+1.0	
MDP	Montagnes des	164.53	355	PKP	PKPdf	15 26 14.1	-0.3	
	comp=Z,14nm,0.8s,baz=40,slow=1.4,SNR=4.6							
MDP				PKPab	PKPab	15 27 08.3	-0.7	
	comp=Z,22nm,0.8s,baz=315,slow=7.6,SNR=6.4							
BSFB	Barra de Sao F	164.79	235	*eP*	PKPdf	15 26 15.0	+0.5	
PARB	Paraibuna	164.87	211	*eP*	PKPdf	15 26 15.7	+1.1	
GUA01	Guaratinga, BA	164.91	244	*eP*	PKPdf	15 26 16.1	+1.4	
NBPB	Pedra_Branca-C	164.94	288	*eP*	PKPdf	15 26 14.6	-0.2	
LPAZ	La Paz	165.05	115	PKP	PKPdf	15 26 15.7	+0.2	
	comp=Z,35nm,1.1s,baz=11,slow=1.6,SNR=49							
LPAZ				PKPab	PKPab	15 27 14.9	+2.5	
	comp=Z,18nm,1.2s,baz=276,slow=3.7,SNR=1.6							
LPAZ	La Paz	165.05	115	*eP*	PKPdf	15 26 16.9	+1.3	
CMC01	Camacan, BA	165.07	249	*eP*	PKPdf	15 26 15.7	+0.9	
SJMB	Sao Joao De Ma	165.13	235	*eP*	PKPdf	15 26 15.5	+0.7	
SJPY	San Joaquin	165.35	172	*eP*	PKPdf	15 26 15.1	+0.2	
PTGB	Pitanga	165.66	187	*eP*	PKPdf	15 26 16.3	+1.1	
BOAV	Boa Vista	165.71	27	*eP*	PKPdf	15 26 16.1	+0.6	
VAO	Valinhos	165.79	207	*eP*	PKPdf	15 26 16.5	+1.1	
FRTB	Fartura	166.46	198	*eP*	PKPdf	15 26 15.5	-0.4	
LDASE	Londrina, Braz	166.80	192	*eP*	PKPdf	15 26 16.6	+0.5	
DIAM	Diamantina, MG	167.31	231	*eP*	PKPdf	15 26 17.0	+0.3	
TEFE	Tefe	167.40	58	*eP*	PKPdf	15 26 17.5	+0.7	
MURT	Porto Murtinho	168.29	163	*eP*	PKPdf	15 26 17.3	+0.2	
PMNB	Patos De Minas	169.11	221	*eP*	PKPdf	15 26 17.3	-0.6	
JANB	Januaria	169.50	243	*eP*	PKPdf	15 26 18.3	+0.1	
BDQN	Bodoquena, MS	169.67	165	*eP*	PKPdf	15 26 18.3	+0.2	
AQDB	Aquidauana	169.86	171	*eP*	PKPdf	15 26 18.1	-0.1	
RPRD	Ribas do Rio P	169.98	182	*eP*	PKPdf	15 26 18.7	+0.4	
TMAB	Tom-Au,PA,Br	170.10	323	*eP*	PKPdf	15 26 18.9	+0.4	
ITRB	Iturama	170.12	200	*eP*	PKPdf	15 26 18.1	-0.3	
MACA	Manacapuru-AM	170.20	40	*eP*	PKPdf	15 26 18.5	-0.1	
IPMB	Ipameri, GO	170.62	216	*eP*	PKPdf	15 26 17.9	-0.8	
SDBA	SAO DESIDERIO	170.88	257	*eP*	PKPdf	15 26 18.1	-0.9	
SIV	San Ignacio	171.15	130	PKP	PKPdf	15 26 19.1	+0.1	
	comp=Z,21nm,1.1s,baz=188,slow=0.9,SNR=47							
SIV				PKPab	PKPab	15 27 39.6	+1.1	
	comp=Z,3.8nm,0.9s,baz=207,slow=9.0,SNR=1.0							
C2SB	Chapadao do Su	171.62	187	*eP*	PKPdf	15 26 20.1	+0.9	
BDFB	Brasilia	172.20	228	PKP	PKPdf	15 26 18.4	-1.2	
	comp=Z,8.3nm,1.0s,baz=20,slow=2.5,SNR=7.2							
BDFB				PKPab	PKPab	15 27 40.7	-2.6	
	comp=Z,19nm,1.2s,baz=95,slow=7.2,SNR=4.7							
PTLB	Pontes e Lacer	172.91	135	*eP*	PKPdf	15 26 19.9	+0.1	
VILB	Vilhena	173.41	113	*eP*	PKPdf	15 26 20.5	+0.4	
SMTB	Santa Maria do	173.51	283	*eP*	PKPdf	15 26 20.5	+0.4	
ITTB	Itaituba	173.75	16	*eP*	PKPdf	15 26 19.9	-0.3	
SALV	Santo Antonio	174.29	163	*eP*	PKPdf	15 26 20.1	-0.2	
ARAG	Araguaiana, MT	174.33	202	*eP*	PKPdf	15 26 20.1	-0.2	
NPGB	Novo Progresso	176.39	22	*eP*	PKPdf	15 26 20.5	-0.5	
SNDB	Serra Nova Dou	176.94	239	*eP*	PKPdf	15 26 21.1	+0.1	
PDRB	Porto dos Gac	177.05	114	*eP*	PKPdf	15 26 20.5	-0.6	
CLDB	Colider	178.16	105	*eP*	PKPdf	15 26 20.9	-0.3	

DJA 08 15:06:46.1±0.3, 8°S±4°×11°7E±°, h10km, M3.4/8, MLv3.4/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.50	139	P	Pg	15 06 56.4	+0.5
TWSI				S	Sg	15 07 03.2	+0.7
PLAI	Plampang	1.30	111	P	Pb	15 07 10.5	-0.1
PLAI				S	Sg	15 07 28.0	0.0
SRBI	Singaraja	1.35	282	P	Pg	15 07 12.0	-0.1
DNP	Denpasar	1.36	257	P	Pn	15 07 10.4	-0.8
JAGI	Jajag, Banyuwa	2.38	267	P	Pn	15 07 24.7	-0.4
GMJI	Gumukmas	3.08	271	P	Pn	15 07 34.3	-0.5
WBSI	Waikabubak, Su	3.08	115	P	Pn	15 07 35.0	+0.1
WBSI				S	Sn	15 08 12.6	+0.7
BSSI	Bau Bau, Buton	4.49	61	P	Pn	15 07 53.3	-0.9
BKSI	Bulukumba	4.66	50	P	Pn	15 07 56.0	-0.5

IDC 08 15:24:26.1±2.1, 6°69S×128°71E, h0km, mb3.4/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=129.0km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.26	158	Pn	Pn	15 27 48.5	-1.1
	0.1nm,0.3s,baz=336,slow=13,SNR=9.5						
WRA				Sn	Sn	15 30 15.1	-14
	baz=348,slow=24,SNR=1.7						
	0.6nm,0.8s						
ASAR	Alice Springs	17.60	164	P	P	15 28 33.9	-0.3
	baz=341,slow=9.2,SNR=7.2						
	0.3nm,0.7s						
MKAR	Makanchi Array	67.27	327	P	P	15 35 22.7	0.0
	0.1nm,0.3s,baz=118,slow=7.9,SNR=5.2						
	0.1nm,0.3s						

DJA 08 15:26:04.2±1.1, 9°S±4°×11°1E±°, h19km±11km, M3.8/15, mb4.1/3, MLv3.6/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.34	22	P	Pn	15 26 26.2	-1.8
UGM	Wanagama	1.54	355	P	Pn	15 26 29.5	-1.1
YOGI	Yogyakarta	1.67	347	P	Pn	15 26 33.2	+0.8
YOGI				S	Sn	15 26 53.6	+0.3
NGJI	Ngawi	2.21	21	P	Pn	15 26 40.1	+0.2
SMRI	Semarang	2.40	355	P	Pn	15 26 43.1	+0.6
SMRI				S	Sn	15 27 12.0	+0.7
CMJI	Cimerak	2.75	307	P	Pn	15 26 47.2	-0.1
TBJI	Tambak Boyo	2.86	24	P	Pn	15 26 49.4	+0.5
GMJI	Gumukmas	2.98	67	P	Pn	15 26 51.1	+0.6
JAGI	Jajag, Banyuwa	3.58	74	P	Pn	15 26 59.2	+0.5
JAGI				S	Sn	15 27 40.9	+0.4
CNJI	Cibinong	4.10	301	P	Pn	15 27 05.9	0.0
CGJI	Cibinong	5.68	299	P	Pn	15 27 27.5	-0.1

IDC 08 15:35:54.3±1.9, 10°54N×126°35E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=89.6km s-min=22.1km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	27.65	290	P	P	15 41 44.2	+0.2
	0.6nm,0.8s,baz=106,slow=7.6,SNR=5.2						
	0.6nm,0.8s						
WRA	Warramunga Arr	31.30	165	P	P	15 42 16.5	+0.2
	0.3nm,1.0s,baz=339,slow=8.2,SNR=1.2						
	0.3nm,1.0s						
ASAR	Alice Springs	34.79	168	P	P	15 42 46.6	-0.2
	0.4nm,0.9s,baz=346,slow=8.4,SNR=6.6						
	0.4nm,0.9s						
H11S3	WAKE ISLAND Hy 39.77	74	T	T	T	16 26 27.1	
	baz=262,slow=76,SNR=7.9						
H11S1	WAKE ISLAND Hy 39.78	74	T	T	T	16 26 27.6	
	baz=262,slow=76,SNR=6.9						
H11S2	WAKE ISLAND Hy 39.78	74	T	T	T	16 26 28.3	
	baz=262,slow=76,SNR=8.6						
H11N1	WAKE ISLAND Hy 40.09	72	T	T	T	16 26 49.9	
	baz=264,slow=74,SNR=12						
H11N2	WAKE ISLAND Hy 40.10	72	T	T	T	16 26 50.7

comp=Z,7μm,0.3s
SMCA eS 15 54 44.4
SMCA IAML 15 54 47.1
comp=Z,7μm,0.3s
PATR El Naranjo 0.59 30 eP **Pn 15 54 35.9 -0.3**
PATR eS **Sn 15 54 45.8 -1.0**
CHUJ Union Juarez 0.64 40 eP **Pn 15 54 36.2 -0.5**
CHUJ eS **Sn 15 54 46.7 -0.9**
PAVE Pavencul 0.69 31 eP **Pn 15 54 36.9 -0.2**
PAVE i S **Sn 15 54 48.0 -0.4**
RTAL Retalhuleu 0.82 95 eP **Pn 15 54 38.6 +0.1**
RTAL eS **Sn 15 54 49.2 -1.6**
QUEO Labor Ovalle 1.03 75 i P **Pn 15 54 41.8 +0.7**
comp=Z,2μm,0.5s
QUEO eS **Sn 15 54 56.1 +0.5**
QUEO IAML 15 55 05.7
comp=Z,2μm,0.5s
QUEO Labor Ovalle 1.03 75 i P 15 54 41.8
comp=Z,2μm,0.5s
QUEO eS 15 54 56.1
QUEO IAML 15 55 05.7
comp=Z,2μm,0.5s
SOKI Kika Raxquin 1.12 79 eP **Pn 15 54 43.3 +0.9**
SOKI Kika Raxquin 1.12 79 eP 15 54 43.3
STG8 El Palmar, Qui 1.16 97 eP 15 54 39.5
STG8 i S 15 54 52.6
STG0 El Palmar, Qui 1.17 98 eP 15 54 39.8
STG0 eS 15 54 52.9
HUEH Huehuetenango 1.23 54 eP **Pn 15 54 44.2 +0.6**
HUEH i S **Sn 15 55 01.2 +1.2**
HUEH Huehuetenango 1.23 54 eP **Pn 15 54 44.5 +0.9**
HUEH i S **Sn 15 55 01.4 +1.4**
HUEH Huehuetenango 1.23 54 eP 15 54 44.5
HUEH i S 15 55 01.4
PCIG 1.28 329 eP **Pn 15 54 45.0 +1.0**
PCIG eS **Sn 15 55 01.2 +0.5**
CCIG Comitan 1.71 13 eP **Pn 15 54 51.4 +1.5**
CCIG i S **Sn 15 55 09.4 -1.8**
CCIG Comitan 1.71 13 i P **Pn 15 54 51.4 +1.5**
comp=Z,686nm,0.4s
CCIG IAML 15 55 21.7
comp=Z,686nm,0.4s
CCIG Comitan 1.71 13 i P 15 54 51.4
comp=Z,686nm,0.4s
CCIG IAML 15 55 21.7
comp=Z,686nm,0.4s
FG8 Yepocapa, Chim 1.95 100 eP 15 54 48.6
APG El Apazote 2.05 78 i P **Pn 15 54 55.0 +0.5**
APG El Apazote 2.05 78 i P 15 54 55.0
CARR Arriaga 2.10 321 eP **Pn 15 54 56.7 +1.7**
CARR eS **Sn 15 55 23.4 +3.1**
TGIG 2.23 346 eP **Pn 15 54 56.7 -0.2**
TGIG eS **Sn 15 55 22.2 -1.4**
TGIG 2.23 346 eP **Pn 15 54 56.7 -0.2**
TGIG IAML 15 55 37.7
comp=Z,402nm,0.4s
TGIG 2.23 346 eP 15 54 56.7
TGIG IAML 15 55 37.7
comp=Z,402nm,0.4s
NUBE Las Nubes 2.76 104 eP **Pn 15 55 05.1 +1.0**
NUBE Las Nubes 2.76 104 eP 15 55 05.1
NILT Santiago Nilte 2.80 315 eP **Pn 15 55 06.2 +1.9**
NILT eS **Sn 15 55 38.1 +1.1**
UXUV UXUV 3.11 330 eP **Pn 15 55 10.3 +1.7**
UXUV eS **Sn 15 55 45.5 +0.8**
CMIG Matias Romero 3.35 318 eP **Pn 15 55 13.1 +1.2**
CMIG eS **Sn 15 55 50.4 -0.1**
PETF Flores 3.45 48 i P **Pn 15 55 13.6 +0.3**
comp=Z,102nm,0.3s
PETF Flores 3.45 48 i P 15 55 13.6
comp=Z,102nm,0.3s
HUIG Huatulco 3.64 289 eP **Pn 15 55 16.6 +0.9**
HUIG eS **Sn 15 55 53.1 -4.4**
HUIG Huatulco 3.64 289 eP **Pn 15 55 16.5 +0.8**
HUIG IAML 15 56 17.8
comp=Z,52nm,0.9s
HUIG Huatulco 3.64 289 eP 15 55 16.5
HUIG IAML 15 56 17.8
comp=Z,52nm,0.9s
NEUV Arroyo Zacate 4.40 315 eP **Pn 15 55 28.8 +2.6**
NEUV eS **Sn 15 56 17.4 +1.2**
SCIG Sabancuy 4.53 16 eP **Pn 15 55 27.7 -0.2**
SCIG IAML 15 56 22.0
comp=Z,64nm,0.5s
SCIG Sabancuy 4.53 16 eP 15 55 27.7
SCIG IAML 15 56 22.0
comp=Z,64nm,0.5s
PMUV Sontecomapan 4.64 328 i S **Sn 15 56 18.9 -3.3**
PEIG Puerto Escondi 4.66 288 eP **Pn 15 55 31.0 +1.2**
PEIG eS **Sn 15 56 18.9 -3.7**
VHO Vista Hermosa 4.72 302 eS **Sn 15 56 23.3 -1.2**
YOIG Yosondua 5.32 296 eP **Pn 15 55 41.7 +2.7**
YOIG eS **Sn 15 56 39.7 +0.7**
TOIG Toxpalan 5.56 309 eP **Pn 15 55 44.9 +2.7**
TOIG eS **Sn 15 56 41.0 -3.9**
PNIG Pinotepa 5.67 289 eP **Pn 15 55 45.5 +1.9**
PNIG eS **Sn 15 56 43.8 -3.7**
TXIG Tlaxiaco 5.68 298 eP **Pn 15 55 47.3 +3.4**
TXIG eS **Sn 15 56 44.1 -3.8**
HLIG Huajuapan de L 5.99 303 eP **Pn 15 55 50.3 +2.2**
HLIG eS **Sn 15 56 54.2 -1.3**
JAUV Jalcomulco 6.25 320 eP **Pn 15 55 51.1 -0.4**
JAUV eS **Sn 15 56 56.6 -5.1**
FTIG Fresnillo de T 6.30 302 eP **Pn 15 55 56.1 +3.8**
FTIG eS **Sn 15 56 58.6 -4.2**
MGIG Malinaltepec 6.42 295 eP **Pn 15 55 57.5 +3.5**
MGIG eS **Sn 15 57 05.3 -0.7**
CXUV Coxquihui 7.34 320 eP **Pn 15 56 08.2 +1.8**
CXUV eS **Sn 15 57 22.4 -5.9**
CAIG El Cayaco 7.83 289 eP **Pn 15 56 16.2 +3.2**
ARIG Puente Sto Nin 8.34 297 eP **Pn 15 56 24.7 +4.7**

*MOS **08** 16:08:01.2±0.9, 35°.33N×136°.55E, h48km, mb4.5/18, Error ellipse: s-maj=10.6km s-min=6.9km az=95.1*
*IDC **08** 16:08:02.8±0.5, 35°.36N×136°.55E, h42km±4km, mb3.6/16, mbtmp3.9/22, ML3.5/6, Error ellipse: s-maj=9.0km s-min=6.2km az=150.0*
*NIED **08** 16:08:03.6, 35°.37N×136°.68E, h42km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.90; $M_{\theta\theta}$-3.80; $M_{\phi\phi}$0.89; $M_{r\theta}$-1.27; $M_{\theta\phi}$-1.44; $M_{\phi r}$-0.67; Fault plane solution: $M_0$3.84000×10^{15} NP1:φ84.00000°, δ35.00000°, λ105.00000°. NP2:φ246.00000°, δ56.00000°, λ80.00000°.*
*JMA **08** 16:08:03.6±0.0, 35°.4N±0°.1×136°.7E±0°.1, h42km, MD4.4/38, MV4.5/38, SW GIFU PREF*
JMA Felt IV J1 at SW GIFU PREF .
*NEIC **08** 16:08:03.5±1.5, 35°.35N±0°.06×136°.66E±0°.06, h44km±5km, mb4.5/36, Error ellipse: s-maj=9.2km s-min=6.7km az=147.0*

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*NEIC **08** 16:20:22.0±1.1, 51°.3N±0°.2×176°.7E±0°.1, h46km±11km, mb4.2/41, ML3.7(AEIC), Error ellipse: s-maj=25.7km s-min=9.3km az=161.0*
*IDC **08** 16:20:24.1±2.6, 51°.77N×176°.66E, h45km±22km, mb3.4/12, mbtmp3.7/15, ML3.3/3, Error ellipse: s-maj=27.6km s-min=12.5km az=180.0*
*AEIC **08** 16:20:34.8±7.7, 50°.8N±0°.2×178°.6E±0°.2, h23km±9km, Error ellipse: s-maj=28.5km s-min=20.3km az=151.0*
ISC 08 16:20:21.8±0.7,**51°.6N**±0°.1×**176°.56E**±0°.05,**h31km**,**n78**,
σ1§**20**/74,**mb4.1**/29,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.89**	**308**	P	**Pn**	**16 20 52.0**	**+0.2**
	606nm,0.5s,baz=119,slow=3.7,SNR=57						
SHEM				S	**Sn**	**16 21 15.9**	**+1.3**
	539nm,0.4s,baz=294,slow=20,SNR=16						
KIWB	**Kanaga Island**	**3.92**	**84**		**Pn**	**16 21 19.0**	**-0.7**
ADK	**Adak**	**4.21**	**84**		**Pn**	**16 21 23.8**	**+0.1**
GSTR	**Great Sitkin T**	**4.60**	**81**	Pn	**Pn**	**16 21 28.6**	**-0.5**
ATKA	**Atka Island**	**5.75**	**80**		**Pn**	**16 21 44.7**	**-0.2**
SPIA	**Saint Paul Isl**	**9.49**	**49**	Pn	**Pn**	**16 22 38.4**	**+2.2**
UNV	**Unalaska Valle**	**10.51**	**71**	Pn	**Pn**	**16 22 50.2**	**+0.1**
LVA	**Lava Point**	**10.82**	**70**	Pn	**Pn**	**16 22 54.4**	**-0.1**
PET	**Petropavlovsk**	**11.06**	**284**	Pn	**Pn**	**16 22 58.5**	**+0.9**
PEA0B	**Petropavlovsk-**	**11.63**	**285**	Pn	**Pn**	**16 23 07.2**	**+1.7**
PETK	**Petropavlovsk-**	**11.63**	**285**	Pn	**Pn**	**16 23 07.0**	**+1.5**
PETK	**Petropavlovsk-**	**11.63**	**285**	P	**Pn**	**16 23 08.2**	**+2.7**
	0.3nm,0.3s,baz=81,slow=15,SNR=11						
PETK				S	**Sn**	**16 25 09.3**	**-4.9**
	2.3nm,0.7s,baz=76,slow=9.7,SNR=7.0						
	2.5nm,0.7s						
O14K	**Tigyukauivet M**	**14.68**	**50**	Pn	**Pn**	**16 23 45.6**	**-1.4**
CHGN	**Chignik**	**15.42**	**62**	Pn	**Pn**	**16 23 55.5**	**-1.3**
CHGN				IAmb	IAmb	16 24 15.4	
	comp=Z,30nm,1.2s						
N15K	**Kwethluk River**	**15.57**	**48**		**Pn**	**16 24 00.5**	**+1.6**
SEY	**Seymchan**	**17.18**	**321**	P	**Pn**	**16 24 19.6**	**+0.5**
	baz=87,slow=20,SNR=4.3						
	comp=Z,0.2nm,0.4s						
N18K	**Kilae Creek**	**17.71**	**48**	Pn	**Pn**	**16 24 23.9**	**-1.9**
OHAK	**Old Harbor**	**18.32**	**60**	P	**P**	**16 24 31.6**	**-1.6**
OHAK				IAmb	IAmb	16 25 10.5	
	comp=Z,40nm,1.4s						
KDAK	**Kodiak Island**	**18.76**	**59**	P	**P**	**16 24 36.0**	**-1.9**
KDAK	**Kodiak Island**	**18.76**	**59**	P	**P**	**16 24 36.4**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=315,slow=20,SNR=20						
	comp=Z,7.5nm,0.8s						
SPU	**Mount Spurr**	**19.64**	**49**	P	**P**	**16 24 47.7**	**0.0**
SPU				IAmb	IAmb	16 24 52.1	
	comp=Z,8.5nm,0.8s						
CNPM	**China Poot**	**19.69**	**54**	P	**P**	**16 24 48.0**	**-0.1**
STLK	**Strandline Lak**	**19.83**	**48**	P	**P**	**16 24 50.3**	**+0.5**
STLK				IAmb	IAmb	16 24 53.1	
	comp=Z,8.8nm,0.9s						
BRLK	**Bradley Lake**	**19.91**	**53**	P	**P**	**16 24 49.7**	**-0.8**
C18K	**Utukok River**	**20.15**	**24**	P	**P**	**16 24 53.5**	**+0.4**
SUA	**Susitna One**	**20.33**	**48**	P	**P**	**16 24 55.3**	**+0.1**
SUA				IAmb	IAmb	16 24 60.0	
	comp=Z,17nm,1.2s						
SLKM	**Skilak Lake**	**20.37**	**51**	P	**P**	**16 24 55.7**	**+0.2**
SLKM				IAmb	IAmb	16 25 04.6	
	comp=Z,18nm,1.2s						
E19K	**Redstone River**	**20.44**	**29**	P	**P**	**16 24 57.2**	**+1.0**
D19K	**Kuna River**	**20.85**	**26**	P	**P**	**16 25 02.5**	**+1.8**
G21K	**Allakaket**	**21.12**	**34**	P	**P**	**16 25 04.6**	**+1.0**
G21K				IAmb	IAmb	16 25 18.7	
	comp=Z,18nm,1.5s						
F21K	**Alatna River**	**21.50**	**32**	P	**P**	**16 25 08.8**	**+1.2**
F21K				IAmb	IAmb	16 25 19.9	
	comp=Z,7.8nm,0.9s						
SCM	**Sheep Creek Mo**	**22.00**	**48**	P	**P**	**16 25 13.6**	**+0.5**
B20K	**Meade River**	**22.13**	**24**	P	**P**	**16 25 14.3**	**+0.1**
B20K				IAmb	IAmb	16 25 22.2	
	comp=Z,8.8nm,0.9s						
E22K	**Anaktuvuk Pass**	**22.52**	**31**	P	**P**	**16 25 17.3**	**-1.3**
M24K	**Tolsona, Glenn**	**22.59**	**48**	P	**P**	**16 25 19.9**	**+0.5**
H24K	**Noodor Dome**	**22.89**	**38**	P	**P**	**16 25 23.3**	**+0.8**
H24K				IAmb	IAmb	16 25 37.1	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**22.93**	**41**	P	**P**	**16 25 22.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=251,slow=10,SNR=7.0						
	comp=Z,0.8nm,0.8s						
N25K	**Chitina, Valde**	**23.25**	**49**	P	**P**	**16 25 26.2**	**0.0**
N25K				IAmb	IAmb	16 26 03.7	
	comp=Z,11nm,1.1s						
D23K	**Nanushuk River**	**23.31**	**30**	P	**P**	**16 25 27.0**	**+0.3**
D23K				IAmb	IAmb	16 25 36.9	
	comp=Z,9.8nm,1.2s						
TOLK	**Toolik Lake Re**	**23.50**	**31**	P	**P**	**16 25 28.5**	**0.0**
TOLK				IAmb	IAmb	16 25 45.0	
	comp=Z,9.2nm,1.3s						
C23K	**Itkillik River**	**23.80**	**28**	P	**P**	**16 25 31.9**	**+0.5**
C23K				IAmb	IAmb	16 25 41.3	
	comp=Z,15nm,1.2s						
MENT	**Mentasta**	**23.86**	**46**	P	**P**	**16 25 32.9**	**+0.9**
MENT				IAmb	IAmb	16 25 40.8	
	comp=Z,7.0nm,0.9s						
SCRK	**Sand Creek**	**23.94**	**44**	P	**P**	**16 25 32.6**	**-0.3**
J26L	**Joseph Creek**	**24.23**	**43**	P	**P**	**16 25 34.9**	**-0.7**
M27K	**Edge Creek, AK**	**24.61**	**48**	P	**P**	**16 25 39.3**	**+0.2**
BMAR	**Burnt Mountain**	**24.69**	**35**	P	**P**	**16 25 40.2**	**+0.6**
L27K	**Beaver Creek,**	**24.73**	**46**	P	**P**	**16 25 41.0**	**+1.0**
BCAR	**Beaver Creek A**	**24.75**	**46**	P	**P**	**16 25 41.9**	**+1.7**
F26K	**Sheenjek River**	**24.94**	**35**	P	**P**	**16 25 44.4**	**+2.6**
F26K				IAmb	IAmb	16 26 09.7	
	comp=Z,4.2nm,0.7s						
I28M	**Miner Creek**	**25.94**	**41**	P	**P**	**16 25 50.7**	**-0.4**
I28M				IAmb	IAmb	16 26 05.8	
	comp=Z,7.8nm,1.4s						
H29M	**Whitestone**	**26.73**	**40**	P	**P**	**16 25 56.9**	**-1.1**
J30M	**Hart River**	**27.33**	**44**	P	**P**	**16 26 03.2**	**-0.4**
KLR	**Kul'dur**	**28.32**	**283**	P	**P**	**16 26 13.1**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.1,SNR=4.2						
	comp=Z,0.7nm,0.5s						
G31M	**Satah River**	**28.46**	**39**	P	**P**	**16 26 13.6**	**+0.2**
G31M				IAmb	IAmb	16 26 43.7	
	comp=Z,8.5nm,1.4s						
INK	**Inuvik**	**28.95**	**36**	P	**P**	**16 26 18.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**30.39**	**274**	P	**P**	**16 26 32.1**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=64,slow=13,SNR=2.2						
	comp=Z,0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**32.71**	**197**	T	T	17 01 54.4	
	baz=11,slow=76,SNR=170						
H11N3	**WAKE ISLAND Hy**	**32.72**	**197**	T	T	17 02 16.9	
	baz=11,slow=76,SNR=165						
H11N1	**WAKE ISLAND Hy**	**32.72**	**197**	T	T	17 02 18.2	
	baz=11,slow=76,SNR=140						
H11S1	**WAKE ISLAND Hy**	**33.94**	**197**	T	T	17 03 42.2	
	baz=11,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**33.95**	**197**	T	T	17 03 45.5	
	baz=11,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**33.95**	**197**	T	T	17 03 44.7	
	baz=11,slow=76,SNR=49						
YKA	**Yellowknife Ar**	**37.16**	**46**	P	**P**	**16 27 29.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=282,slow=8.8,SNR=7.6						
	comp=Z,0.8nm,0.8s						
NEW	**Newport**	**41.50**	**67**	P	**P**	**16 28 04.5**	**-1.3**
NEW				IAmb	IAmb	16 28 21.5	
	comp=Z,7.5nm,1.4s						
JOW	**Kunigami**	**43.80**	**255**	P	**P**	**16 28 23.0**	**-1.6**
SONM	**Songino Array**	**43.93**	**294**	P	**P**	**16 28 25.1**	**-0.5**
SONM	**Songino Array**	**43.93**	**294**	P	**P**	**16 28 26.5**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=68,slow=7.4,SNR=8.7						
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**46.38**	**80**	P	**P**	**16 28 45.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=313,slow=7.6,SNR=3.6						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**48.97**	**70**	P	**P**	**16 29 04.3**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=349,slow=6.1,SNR=3.8						
	comp=Z,0.1nm,0.4s						
SPITS	**Spitsbergen Ar**	**49.91**	**355**	P	**P**	**16 29 11.2**	**-0.5**
	comp=Z,9.8nm,0.9s,baz=57,slow=8.8,SNR=6.5						
KURK	**Kurchatov**	**56.73**	**311**	P	**P**	**16 30 02.5**	**+0.3**
KURK				IAmb	IAmb	16 30 06.2	
	comp=Z,2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**56.83**	**311**	P	**P**	**16 30 03.5**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=46,slow=6.4,SNR=1.2						
MKAR	**Makanchi Array**	**57.58**	**306**	P	**P**	**16 30 07.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=53,slow=6.4,SNR=20						
	comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**57.73**	**306**	P	**P**	**16 30 09.1**	**-0.3**
MAKZ				IAmb	IAmb	16 30 11.2	
	comp=Z,2.1nm,1.1s						
BVAR	**Borovoye Array**	**58.80**	**317**	P	**P**	**16 30 16.7**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=52,slow=7.6,SNR=12						
	comp=Z,1.6nm,0.6s						
TXAR	**Lajitas Array**	**61.46**	**78**	P	**P**	**16 30 35.4**	**0.0**
	comp=Z,0.5nm,0.9s,baz=303,slow=5.9,SNR=4.2						
	comp=Z,0.5nm,0.9s						
AKASG	**Malin Array Be**	**74.37**	**339**	P	**P**	**16 31 55.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=24,slow=6.1,SNR=4.9						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**83.77**	**219**	P	**P**	**16 32 49.6**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=25,slow=5.3,SNR=8.0						
	comp=Z,0.6nm,0.6s						

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*NEIC **08** 16:20:43.7±1.3, 51°.6N±0°.2×176°.6E±0°.1, h10km±2km, mb4.0/26, Error ellipse: s-maj=26.0km s-min=12.8km az=181.0*
*IDC **08** 16:20:49.0±4.3, 51°.79N×176°.62E, h44km±40km, mb3.5/11, mbtmp3.8/14, ML3.3/3, Error ellipse: s-maj=34.0km s-min=16.2km az=178.0*
ISC 08 16:20:47.1±0.8,**51°.7N**±0°.1×**176°.60E**±0°.06,**h31km**,**n54**,
σ1§**05**/54,**mb3.7**/15,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.84**	**304**	S	**Sn**	**16 21 39.9**	**+1.4**
	269nm,0.3s,baz=96,slow=23,SNR=1.3						
GASW	**Gareloi Southw**	**2.83**	**87**		**Pn**	**16 21 29.0**	**-1.1**
GANE	**Gareloi Northe**	**2.88**	**86**		**Pn**	**16 21 31.7**	**+1.0**
TAFP	**Tanaga Falls P**	**3.37**	**85**		**Pn**	**16 21 40.6**	**+3.1**
KIWB	**Kanaga Island**	**3.89**	**86**	Pn	**Pn**	**16 21 43.7**	**-0.9**
ADK	**Adak**	**4.17**	**85**	Pn	**Pn**	**16 21 48.0**	**-0.5**
ATKA	**Atka Island**	**5.71**	**82**	Pn	**Pn**	**16 22 09.9**	**+0.3**
PET	**Petropavlovsk**	**11.05**	**284**	Pn	**Pn**	**16 23 24.1**	**+1.4**
PEA0B	**Petropavlovsk-**	**11.62**	**284**	Pn	**Pn**	**16 23 32.2**	**+1.6**
PETK	**Petropavlovsk-**	**11.62**	**284**	Pn	**Pn**	**16 23 31.2**	**+0.6**
PETK	**Petropavlovsk-**	**11.62**	**284**	P	**Pn**	**16 23 31.9**	**+1.3**
	0.2nm,0.3s,baz=84,slow=20,SNR=2.4						
PETK				S	**Sn**	**16 25 35.9**	**-3.3**
	1.3nm,0.6s,baz=244,slow=31,SNR=2.6						
	4.3nm,1.0s						
M14K	**Bethel**	**14.89**	**44**	Pn	**Pn**	**16 24 15.9**	**+0.8**
N15K	**Kwethluk River**	**15.48**	**48**	P	**P**	**16 24 27.7**	**+0.7**
N15K				IAmb	IAmb	16 24 39.5	
	comp=Z,24nm,1.4s						
M16K	**Timber Creek**	**16.33**	**46**		**P**	**16 24 36.0**	**-0.4**
M16K				IAmb	IAmb	16 24 55.8	
	comp=Z,26nm,1.5s						
L16K	**Owhat River**	**16.40**	**43**	Pn	**Pn**	**16 24 34.5**	**-0.1**
J16K	**Anvik River**	**16.74**	**37**		**Pn**	**16 24 37.0**	**-1.9**
SEY	**Seymchan**	**17.10**	**320**	P	**P**	**16 24 44.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=22,SNR=1.8						
	comp=Z,0.5nm,0.6s						
BILL	**Bilibino**	**17.12**	**347**	Pn	**Pn**	**16 24 44.3**	**+0.7**
ACHA	**Angle Creek He**	**17.29**	**57**		**P**	**16 24 47.6**	**+0.5**
ACHA				IAmb	IAmb	16 24 50.2	
	comp=Z,21nm,1.3s						
G16K	**Koyuk River**	**17.42**	**30**	P	**P**	**16 24 48.2**	**-0.2**
OHAK	**Old Harbor**	**18.25**	**61**		**P**	**16 24 55.9**	**-1.7**
F17K	**Baldwin Pennin**	**18.46**	**29**		**Pn**	**16 25 00.8**	**+0.7**
KDAK	**Kodiak Island**	**18.68**	**59**	P	**P**	**16 25 02.0**	**-0.3**
KDAK	**Kodiak Island**	**18.68**	**59**	P	**P**	**16 25 02.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=304,slow=2.9,SNR=5.6						
	comp=Z,14nm,1.0s						
C16K	**Lisburne Hills**	**18.76**	**21**	P	**Pn**	**16 25 04.0**	**+0.3**
C16K				IAmb	IAmb	16 25 12.4	
	comp=Z,6.6nm,1.1s						
G18K	**Tagagawik**	**18.93**	**32**	P	**P**	**16 25 05.2**	**+0.2**
G18K				IAmb	IAmb	16 25 07.0	
	comp=Z,8.2nm,1.5s						
SPU	**Mount Spurr**	**19.55**	**49**	P	**P**	**16 25 12.5**	**+0.6**
SPU				IAmb	IAmb	16 25 16.2	
	comp=Z,6.1nm,0.8s						
CNPM	**China Poot**	**19.61**	**54**	P	**P**	**16 25 12.9**	**+0.5**
STLK	**Strandline Lak**	**19.74**	**48**	P	**P**	**16 25 14.3**	**+0.3**
STLK				IAmb	IAmb	16 25 17.6	
	comp=Z,8.5nm,0.9s						
BRLK	**Bradley Lake**	**19.82**	**53**	P	**P**	**16 25 14.6**	**-0.3**
SUA	**Susitna One**	**20.23**	**49**	P	**P**	**16 25 19.9**	**+0.4**
SUA				IAmb	IAmb	16 25 23.2	
	comp=Z,14nm,1.2s						
SLKM	**Skilak Lake**	**20.28**	**51**	P	**P**	**16 25 19.4**	**-0.4**
KTH	**Kantishna Hill**	**20.76**	**43**	P	Pn	16 25 27.2	-0.4
KTH				IAmb	IAmb	16 25 28.8	
	comp=Z,7.6nm,1.0s						
BPAW	**Bear Paw Mtn.**	**20.92**	**41**	P	**P**	**16 25 27.9**	**+1.1**
BPAW				IAmb	IAmb	16 25 33.4	
	comp=Z,3.8nm,0.7s						
RND	**Reindeer**	**21.60**	**44**	P	**P**	**16 25 34.1**	**+0.1**
RND				IAmb	IAmb	16 25 47.8	
	comp=Z,10.0nm,1.4s						
SCM	**Sheep Creek Mo**	**21.91**	**48**	P	**P**	**16 25 37.2**	**-0.2**
B20K	**Meade River**	**22.01**	**24**	P	**P**	**16 25 39.2**	**+0.9**
B20K				IAmb	IAmb	16 25 46.5	
	comp=Z,3.3nm,0.9s						
H24K	**Noodor Dome**	**22.79**	**38**	P	**P**	**16 25 46.1**	**-0.5**
H24K				IAmb	IAmb	16 25 50.3	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**22.82**	**41**	P	**P**	**16 25 47.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=245,slow=9.5,SNR=7.2						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	**37.07**	**46**	P	**P**	**16 27 53.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=288,slow=8.7,SNR=5.2						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**43.90**	**294**	P	**P**	**16 28 51.2**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=54,slow=8.2,SNR=5.7						
	comp=Z,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**46.34**	**80**	P	**P**	**16 29 10.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=292,slow=8.7,SNR=4.0						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**48.91**	**70**	P	**P**	**16 29 28.2**	**-1.9**
PDAR	**Pinedale Array**	**48.91**	**70**	P	**P**	**16 29 30.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=287,slow=6.0,SNR=3.9						
	comp=Z,0.2nm,0.4s						
SPITS	**Spitsbergen Ar**	**49.80**	**355**	P	**P**	**16 29 35.7**	**-0.4**
	comp=Z,6.8nm,0.9s,baz=24,slow=6.4,SNR=1.5						
	comp=Z,6.8nm,0.9s						
KURK	**Kurchatov**	**56.66**	**311**	P	**P**	**16 30 26.8**	**-0.1**
KURK				IAmb	IAmb	16 30 30.6	
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**57.53**	**306**	P	**P**	**16 30 31.6**	**-1.6**
MKAR	**Makanchi Array**	**57.53**	**306**	P	**P**	**16 30 31.7**	**-1.5**
MKAR	**Makanchi Array**	**57.53**	**306**	P	**P**	**16 30 32.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=48,slow=7.0,SNR=4.6						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**58.72**	**317**	P	**P**	**16 30 41.7**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=51,slow=6.6,SNR=4.7						
	comp=Z,1.3nm,0.5s						
TXAR	**Lajitas Array**	**61.42**	**78**	P	**P**	**16 30 59.7**	**-0.7**
TXAR	**Lajitas Array**	**61.42**	**78**	P	**P**	**16 31 00.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=318,slow=4.2,SNR=4.1						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**74.27**	**339**	P	**P**	**16 32 21.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=24,slow=6.1,SNR=2.2						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**83.88**	**219**	P	**P**	**16 33 14.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=23,slow=6.0,SNR=4.9						
	comp=Z,0.4nm,0.6s						

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*IDC **08** 16:22:22.7±0.6, 3°.55N×126°.68E, h0km, mb4.0/16, mbtmp4.0/16, Error ellipse: s-maj=33.2km s-min=13.0km az=80.0*
*NEIC **08** 16:22:27.6±2.6, 3°.49N±0°.09×126°.4E±0°.1, h35km±2km, mb4.6/23, Error ellipse: s-maj=20.5km s-min=

WRA Warramunga Arr 24.51 163 P **P** **16 27 43.7 -0.1**
comp=Z,12nm,0.8s,baz=342,slow=10,SNR=44
WRA PcP **PcP** **16 31 23.0 +1.6**
comp=Z,0.2nm,0.4s,baz=330,slow=2.3,SNR=1.4
comp=Z,12nm,0.8s
WB2 Warramunga Arr 24.51 163 P **P** **16 27 41.1 -2.8**
WB2 IAmb IAmb 16 27 45.8
comp=Z,20nm,0.8s
WR0 Warramunga Arr 24.59 162 P **P** **16 27 42.9 -1.7**
WR0 IAmb IAmb 16 27 46.0
comp=Z,9.4nm,0.8s
AS31 Alice Springs 27.94 166 P **P** **16 28 14.8 0.0**
ASAR Alice Springs 27.94 166 P **P** **16 28 14.3 -0.5**
ASAR Alice Springs 27.94 166 P **P** **16 28 14.9 +0.1**
comp=Z,0.5nm,0.3s,baz=342,slow=7.8,SNR=32
ASAR PcP **PcP** **16 31 30.6 +1.3**
comp=Z,0.5nm,0.4s,baz=345,slow=2.4,SNR=7.2
comp=Z,0.5nm,0.3s
GIRL Giralia 28.76 205 P **P** 16 28 18.0 -4.1
GSI Gunungsitoli 29.22 266 P **P** **16 28 23.6 -2.8**
GSI IAmb IAmb 16 28 26.5
comp=Z,9.6nm,1.1s
JNU Nakatsue 29.67 7 P **P** **16 28 30.1 0.0**
JNU IAmb IAmb 16 28 56.0
comp=Z,22nm,1.4s
CMAR Chiang Mai Arr 30.97 301 P **P** **16 28 41.7 -0.1**
comp=Z,0.2nm,0.5s,baz=115,slow=9.2,SNR=1.9
comp=Z,0.2nm,0.5s
KSRS Korea Array 33.76 2 P **P** **16 29 06.1 +0.2**
comp=Z,1.1nm,0.9s,baz=181,slow=8.7,SNR=4.5
comp=Z,1.1nm,0.9s
INCN Inchon 33.77 360 P **P** **16 29 05.3 -0.8**
FORT Forrest 34.16 178 P P 16 29 05.7 -3.8
JSD Sado 35.91 16 P **P** **16 29 23.6 -0.8**
BBOO Buckleboo 37.23 167 P **P** **16 29 35.7 0.0**
BBOO IAmb IAmb 16 29 39.0
comp=Z,15nm,1.4s
STKA Stephens Creek 37.96 159 P **P** **16 29 41.4 -0.5**
STKA Stephens Creek 37.96 159 P **P** **16 29 42.6 +0.7**
comp=Z,2.5nm,0.7s,baz=324,slow=8.6,SNR=6.9
comp=Z,2.5nm,0.7s
USRK Ussuriysk Ar. 40.75 6 P **P** **16 30 05.2 +0.2**
ASAJ Asahikawa 42.76 17 P **P** **16 30 21.5 +0.1**
comp=Z,4.4nm,0.7s,baz=219,slow=14,SNR=4.3
comp=Z,4.4nm,0.7s
YSS Yuzhno-Sakhali 45.41 15 P **P** **16 30 44.0 +1.4**
YSS IAmb IAmb 16 31 03.9
comp=Z,19nm,1.5s
KLR Kul'dur 45.71 5 P **P** **16 30 45.4 +0.4**
comp=Z,0.7nm,0.4s,baz=207,slow=4.5,SNR=5.4
comp=Z,0.7nm,0.4s
SONM Songino Array 47.47 341 P **P** **16 30 59.2 +0.3**
SONM Songino Array 47.47 341 P **P** **16 30 59.7 +0.8**
comp=Z,0.7nm,0.6s,baz=155,slow=8.2,SNR=5.1
comp=Z,0.7nm,0.6s
PETK Petropavlovsk- 55.59 22 P **P** **16 32 00.3 +0.9**
PETK Petropavlovsk- 55.59 22 P **P** **16 32 01.2 +1.8**
comp=Z,2.3nm,0.8s,baz=214,slow=6.7,SNR=2.4
comp=Z,2.3nm,0.8s
MK31 Makanchi Array 57.71 325 P **P** **16 32 14.2 -0.4**
MKAR Makanchi Array 57.71 325 P **P** **16 32 14.6 0.0**
MKAR Makanchi Array 57.71 325 P **P** **16 32 15.4 +0.8**
comp=Z,1.3nm,0.6s,baz=122,slow=7.1,SNR=15
comp=Z,1.3nm,0.6s
MAKZ Makanchi 57.90 325 P **P** **16 32 15.5 -0.4**
MAKZ IAmb IAmb 16 32 18.6
comp=Z,1.2nm,0.7s
MA2 Magadan 58.88 14 P **P** **16 32 23.6 +1.2**
comp=Z,0.8nm,0.3s,baz=182,slow=7.7,SNR=5.4
comp=Z,0.8nm,0.3s
KURK Kurchatov 61.90 328 P **P** **16 32 43.6 +0.4**
KURK IAmb IAmb 16 32 46.1
comp=Z,3.5nm,0.7s
SEY Seymchan 62.20 13 P **P** **16 32 46.0 +1.0**
comp=Z,0.5nm,0.6s,baz=210,slow=5.3,SNR=5.6
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 67.48 327 P **P** **16 33 19.8 +0.2**
comp=Z,2.4nm,1.1s,baz=116,slow=6.6,SNR=4.2
comp=Z,2.4nm,1.1s
ILAR Eielson Array 85.26 25 P **P** **16 35 00.3 +0.2**
comp=Z,0.3nm,0.9s,baz=265,slow=5.5,SNR=2.3
comp=Z,0.3nm,0.9s
ARCES ARCESS Array B 90.62 340 P **P** **16 35 25.3 -0.3**
comp=Z,1.6nm,0.7s,baz=78,slow=5.8,SNR=4.2
comp=Z,1.6nm,0.7s

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*IDC **08** 16:38:59.8±1.7, 39°.41N×110°.52E, h0km, mb3.6/5, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=36.2km s-min=22.9km az=88.0*

ISC 08 16:39:05.2±1.7, 39°.5N±0°.1×110°.4E±0°.3, h35km, n7, σ1°28/8, mb3.6/6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.84**	**342**	Pn	**Pn**	**16 41 10.1**	**-0.3**
	0.1nm,0.3s,baz=156,slow=13,SNR=33						
SONM				Sn	**Sn**	**16 42 47.4**	**-1.3**
	0.1nm,0.3s,baz=157,slow=19,SNR=4.3						
SONM				Lg	Lg	16 43 39.5	
	0.3nm,0.3s,baz=163,slow=30,SNR=8.3						
	3.9nm,0.8s						
MKAR	**Makanchi Array**	**21.68**	**299**	P	**P**	**16 43 53.5**	**+0.8**
	4.1nm,0.7s,baz=97,slow=12,SNR=49						
	4.1nm,0.7s						
ZALV	**Zalesovo Beam**	**22.56**	**318**	P	**P**	**16 44 03.5**	**+1.4**
	0.7nm,0.6s,baz=126,slow=9.7,SNR=2.6						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**23.17**	**209**	P	**P**	**16 44 07.3**	**-1.3**
	3.2nm,0.7s,baz=23,slow=10.0,SNR=26						
	3.2nm,0.7s						
KURBB	**Kurchatov Arra**	**24.91**	**307**	P	**P**	**16 44 25.7**	**+1.0**
	0.7nm,0.3s,baz=106,slow=9.2,SNR=3.3						
BVAR	**Borovoye Array**	**30.36**	**310**	P	**P**	**16 45 14.3**	**+0.9**
	0.5nm,0.7s,baz=96,slow=8.9,SNR=2.7						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**72.14**	**20**	P	**P**	**16 50 26.1**	**+0.3**
	0.4nm,0.7s,baz=315,slow=5.7,SNR=7.4						
	0.4nm,0.7s						

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*WEL **08** 16:45:03.3±1.0, 32°.5S±5°×17°.7W±1°.5, h12km, M4.5/17, mB4.9/8, ML4.9/20, MLv4.9/17, Mw(mB)4.2/8, Error ellipse: s-maj=19.6km s-min=4.7km az=102.1, confirmed*
*IDC **08** 16:45:05.8±1.5, 32°.25S×178°.04W, h0km, mb4.1/3, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=53.4km s-min=28.2km az=138.0*
*NEIC **08** 16:45:07.1±2.2, 32°.1S±0°.1×178°.18W±0°.06, h10km±2km, mb4.5/13, Error ellipse: s-maj=23.0km s-min=8.4km az=359.0*

ISC 08 16:45:07.9±0.8, 32°.03S±0°.06×178°.1W±0°.1, h24km, n57, σ1°56/65, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.77**	**3**	P	**Pn**	**16 45 50.6**	**-0.1**
GLKZ				S	**Sb**	**16 46 26.0**	**-4.0**
MXZ	**Matakaoa Point**	**6.26**	**207**	Pn	**Pn**	**16 46 39.6**	**+1.0**
MXZ	**Matakaoa Point**	**6.26**	**207**	P	**Pn**	**16 46 38.8**	**+0.1**
MXZ				S	**Sn**	**16 47 49.1**	**-0.4**
WMGZ	**Waiomatatini S**	**6.45**	**205**	P	**Pn**	**16 46 40.0**	**-1.2**
WMGZ				S	**Sn**	**16 47 54.8**	**+0.8**
PKGZ	**Pakihiroa**	**6.61**	**207**	P	**Pn**	**16 46 42.0**	**-1.5**
PKGZ				S	**Sn**	**16 47 58.9**	**+0.7**
HAZ	**Te Kaha**	**6.64**	**210**	P	**Pn**	**16 46 42.8**	**-1.1**
HAZ				S	**Sn**	**16 48 01.1**	**+2.3**
PUZ	**Puketiti**	**6.73**	**205**	P	**Pn**	**16 46 43.1**	**-2.0**
PUZ				S	**Sn**	**16 47 59.1**	**-1.9**
RUGZ	**Raukumara Rang**	**6.86**	**209**	P	**Pn**	**16 46 46.5**	**-0.5**
TWGZ	**Tauwhareparae**	**6.92**	**207**	P	**Pn**	**16 46 46.1**	**-1.8**
TWGZ				S	**Sn**	**16 48 05.7**	**-0.2**
CNGZ	**Carnagh Statio**	**7.11**	**204**	P	**Pn**	**16 46 48.1**	**-2.3**
TKGZ	**Te Karaka**	**7.20**	**206**	P	**Pn**	**16 46 53.1**	**+1.5**
MWZ	**Matawai**	**7.24**	**208**	P	**Pn**	**16 46 50.2**	**-2.0**
URZ	**Urewera**	**7.35**	**211**	Pn	**Pn**	**16 46 52.5**	**-1.1**
	4.2nm,0.3s,baz=16,slow=7.4,SNR=27						
URZ				Sn	**Sn**	**16 48 14.7**	**-1.5**
	9.0nm,0.3s,baz=99,slow=19,SNR=9.6						
	10.0nm,0.4s						
URZ	**Urewera**	**7.35**	**211**	P	**Pn**	**16 46 54.5**	**+0.9**
URZ				S	**Sn**	**16 48 14.4**	**-1.8**
WCZ	**Waipu Caves**	**7.39**	**236**	P	Pn	16 47 01.1	+6.9
RIGZ	**Rimuhau**	**7.47**	**206**	P	**Pn**	**16 46 53.3**	**-2.0**
RIGZ				S	**Sn**	**16 48 17.7**	**-1.6**
MKAZ	**Moumakai**	**7.52**	**226**	P	Pn	16 47 02.1	+6.1
PRGZ	**Paritu Road**	**7.62**	**204**	P	**Pn**	**16 46 55.0**	**-2.3**
OUZ	**Omahuta**	**7.62**	**243**	P	Pn	16 47 04.7	+7.3
MUGZ	**Murupara**	**7.68**	**212**	P	**Pn**	**16 46 55.9**	**-2.3**
SNGZ	**Shannon Statio**	**7.70**	**208**	P	**Pn**	**16 46 56.8**	**-1.6**
SNGZ				S	**Sn**	**16 48 23.3**	**-1.5**
RTZ	**Ruatahuna**	**7.70**	**210**	Pn	**Pn**	**16 46 58.1**	**-0.4**
RTZ	**Ruatahuna**	**7.70**	**210**	P	**Pn**	**16 46 58.8**	**+0.2**
KNZ	**Kokohu**	**7.78**	**205**	P	**Pn**	**16 46 56.2**	**-3.3**
MHGZ	**Mahia Peninsul**	**7.81**	**203**	P	**Pn**	**16 46 57.2**	**-2.8**
RAHZ	**Arahi**	**7.91**	**208**	P	**Pn**	**16 47 01.3**	**-0.1**
MTHZ	**Maungataniwha**	**7.96**	**210**	P	**Pn**	**16 47 01.5**	**-0.5**
WHHZ	**Waihua**	**7.99**	**207**	P	**Pn**	**16 47 02.6**	**+0.1**
NMHZ	**Naumai**	**8.18**	**209**	P	**Pn**	**16 47 05.6**	**+0.5**
ARHZ	**Aropaoanui**	**8.25**	**208**	P	**Pn**	**16 47 04.8**	**-1.1**
BKZ	**Black Stump Fm**	**8.37**	**210**	Pn	**Pn**	**16 47 06.3**	**-1.4**
BKZ	**Black Stump Fm**	**8.37**	**210**	P	**Pn**	**16 47 06.7**	**-1.0**
BFZ	**Birch Farm**	**9.76**	**206**	Pn	**Pn**	**16 47 23.8**	**-2.9**
CTZ	**Chatham Island**	**11.74**	**175**	P	**Pn**	**16 47 51.9**	**-1.9**
ARMA	**Armidale**	**25.90**	**266**	P	**P**	**16 50 38.1**	**-0.1**
ARMA				IAmb	IAmb	16 51 04.8	
	comp=Z,7.3nm,1.1s						
STKA	**Stephens Creek**	**34.06**	**259**	P	**P**	**16 51 51.8**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=54,slow=7.4,SNR=3.8						
	comp=Z,1.6nm,0.8s						
BBOO	**Buckleboo**	**38.47**	**256**	P	**P**	**16 52 28.6**	**+0.5**
BBOO				IAmb	IAmb	16 52 32.1	
	comp=Z,6.4nm,0.9s						
AS31	**Alice Springs**	**42.96**	**269**	P	**P**	**16 53 06.9**	**+1.6**
ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**16 53 05.9**	**+0.7**
ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**16 53 07.2**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=113,slow=8.0,SNR=30						
	comp=Z,1.1nm,0.5s						
WR0	**Warramunga Arr**	**43.92**	**274**	P	**P**	**16 53 12.9**	**-0.1**
WR0				IAmb	IAmb	16 53 27.1	
	comp=Z,2.7nm,0.8s						
WB2	**Warramunga Arr**	**44.09**	**274**		**P**	**16 53 13.1**	**-1.2**
WB2				IAmb	IAmb	16 53 30.1	
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**44.10**	**274**	P	**P**	**16 53 14.9**	**+0.5**
WRA	**Warramunga Arr**	**44.10**	**274**	P	**P**	**16 53 16.4**	**+1.9**
	comp=Z,1.9nm,0.4s,baz=114,slow=8.3,SNR=45						
	comp=Z,1.9nm,0.4s						
WB0	**Warramunga Arr**	**44.13**	**274**		**P**	**16 53 15.1**	**+0.5**
WB0				IAmb	IAmb	16 53 28.8	
	comp=Z,4.3nm,0.7s						
FORT	**Forrest**	**45.57**	**257**	P	**P**	**16 53 25.1**	**-0.9**
VNDA	**Vanda**	**46.47**	**186**	P	**P**	**16 53 33.1**	**+0.6**
VNDA				IAmb	IAmb	16 53 46.3	
	comp=Z,13nm,1.4s						
MTN	**Manton Dam**	**50.17**	**280**	P	**P**	**16 54 01.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**52.29**	**271**	P	**P**	**16 54 16.2**	**-1.5**
NWAO	**Narrogin (SRO)**	**53.76**	**250**	P	**P**	**16 54 27.3**	**-1.1**
QSPA	**South Pole Qui**	**58.08**	**180**	P	**P**	**16 54 59.8**	**+0.8**
QSPA				IAmb	IAmb	16 55 13.3	
	comp=Z,12nm,1.2s						
BVAR	**Borovoye Array**	**127.50**	**315**	PKP	**PKiKP**	**17 04 12.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=101,slow=3.5,SNR=2.7						
FINES	**FINESS Array B**	**146.64**	**339**	PKPbc	**PKiKP**	**17 04 48.9**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=46,slow=4.0,SNR=12						
HFS	**Hagfors**	**150.82**	**348**	PKPbc	**PKiKP**	**17 04 59.2**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=18,slow=0.5,SNR=4.1						
MMAI	**Mount Meron Ar**	**151.80**	**281**	PKPbc	**PKiKP**	**17 05 03.0**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=96,slow=5.9,SNR=4.6						
AKASG	**Malin Array Be**	**152.53**	**321**	PKPbc	**PKiKP**	**17 05 03.8**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=58,slow=2.3,SNR=2.0						
BRTR	**Keskin Array B**	**153.27**	**296**	PKPbc	**PKiKP**	**17 05 05.8**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=96,slow=1.4,SNR=3.8						

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*WEL **08** 17:08:59.0±1.0, 32°S±6°×17°8W±1°6, h12km, M4.0/7, mB4.4/7, ML4.6/12, MLv4.3/7, Mw(mB)3.6/7, Error ellipse: s-maj=22.1km s-min=4.3km az=106.0, confirmed*
*IDC **08** 17:08:59.1±2.4, 32°.18S×177°.98W, h0km, mb3.6/2, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=64.0km s-min=35.0km az=122.0*

ISC 08 17:09:01.3±1.8, 32°.1S±0°.1×177°.9W±0°.3, h24km, n21, σ1°37/31, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.81**	**0**	P	**Pn**	**17 09 44.0**	**-0.8**
GLKZ				S	**Sn**	**17 10 17.1**	**-0.9**
WMGZ	**Waiomatatini S**	**6.45**	**207**	P	**Pn**	**17 10 32.9**	**-1.9**
WMGZ				S	**Sn**	**17 11 48.0**	**+0.3**
PKGZ	**Pakihiroa**	**6.63**	**208**	P	**Pn**	**17 10 36.5**	**-0.7**
PKGZ				S	**Sn**	**17 11 52.4**	**+0.4**
HAZ	**Te Kaha**	**6.66**	**211**	P	**Pn**	**17 10 38.0**	**+0.4**
HAZ				S	**Sn**	**17 11 54.7**	**+2.0**
PUZ	**Puketiti**	**6.74**	**207**	P	**Pn**	**17 10 39.8**	**+1.1**
RUGZ	**Raukumara Rang**	**6.88**	**210**	P	**Pn**	**17 10 41.2**	**+0.4**
RUGZ				S	**Sn**	**17 11 58.5**	**+0.2**
TWGZ	**Tauwhareparae**	**6.93**	**208**	P	**Pn**	**17 10 42.8**	**+1.3**
TWGZ				S	**Sn**	**17 11 58.8**	**-0.8**
CNGZ	**Carnagh Statio**	**7.12**	**205**	P	**Pn**	**17 10 41.9**	**-2.0**
MWZ	**Matawai**	**7.25**	**209**	P	**Pn**	**17 10 44.7**	**-1.1**
MWZ				S	**Sn**	**17 12 05.4**	**-2.0**
URZ	**Urewera**	**7.37**	**212**	Pn	**Pn**	**17 10 47.3**	**-0.1**
	1.3nm,0.3s,baz=120,slow=6.1,SNR=6.9						
URZ				Sn	**Sn**	**17 12 08.4**	**-1.8**
	1.8nm,0.3s,baz=148,slow=22,SNR=7.7						
	3.5nm,0.4s						
URZ	**Urewera**	**7.37**	**212**	P	**Pn**	**17 10 46.3**	**-1.1**
URZ				S	**Sn**	**17 12 08.9**	**-1.4**
WCZ	**Waipu Caves**	**7.47**	**237**	P	Pn	17 10 56.9	+8.2
MUGZ	**Murupara**	**7.70**	**213**	P	**Pn**	**17 10 49.7**	**-2.3**
MUGZ				S	**Sn**	**17 12 17.1**	**-1.3**
SNGZ	**Shannon Statio**	**7.71**	**209**	P	**Pn**	**17 10 52.7**	**+0.6**
SNGZ				S	**Sn**	**17 12 18.2**	**-0.5**
OUZ	**Omahuta**	**7.72**	**244**	P	Pn	17 10 57.9	+5.7
MTHZ	**Maungataniwha**	**7.98**	**211**	P	**Pn**	**17 10 58.0**	**+2.2**
BKZ	**Black Stump Fm**	**8.39**	**211**	P	**Pn**	**17 11 02.2**	**+0.8**
BKZ				S	**Sn**	**17 12 33.3**	**-2.1**
ASAR	**Alice Springs**	**43.09**	**269**	P	**P**	**17 17 01.0**	**+1.2**
	0.3nm,0.5s,baz=108,slow=7.6,SNR=12						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**17 17 10.0**	**+1.0**
	0.8nm,0.5s,baz=112,slow=8.0,SNR=9.3						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc	**PKPab**	**17 28 41.5**	**-0.2**
	1.6nm,0.8s,baz=46,slow=6.0,SNR=7.1						
BRTR	**Keskin Array B**	**153.41**	**296**	PKPbc	**PKiKP**	**17 28 59.6**	**+1.8**
	1.4nm,1.1s,baz=121,slow=2.3,SNR=2.4						

IDC 08 17:13:45.0±3.3, 32°.25S×178°.02W, h0km, mb3.5/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=76.1km s-min=38.1km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.20**	**212**	Pn	Pn	17 15 31.4	-0.2
	0.5nm,0.3s,baz=351,slow=13,SNR=1.4						
URZ				Sn	Sn	17 16 52.9	-1.1
	0.4nm,0.3s,baz=190,slow=18,SNR=1.7						
	6.4nm,0.9s						
ASAR	**Alice Springs**	**43.03**	**269**	P	P	17 21 46.8	+0.2
	0.3nm,0.6s,baz=108,slow=7.5,SNR=6.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.18**	**274**	P	P	17 21 55.9	-0.1
	0.3nm,0.3s,baz=113,slow=8.0,SNR=8.6						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	PKPdf	17 33 27.5	+0.8
	4.9nm,1.0s,baz=44,slow=6.3,SNR=3.7						

IDC 08 17:17:58.2±1.6, 6°.66N×126°.60E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=171.0km s-min=20.6km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.51**	**164**	P	P	17 23 47.3	+0.7
	0.4nm,0.8s,baz=344,slow=9.2,SNR=2.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**30.97**	**167**	P	P	17 24 17.4	0.0
	0.2nm,0.5s,baz=342,slow=8.3,SNR=11						
ASAR				PcP	PcP	17 27 12.5	-1.4
	0.4nm,1.0s,baz=1.6,slow=3.1,SNR=2.3						
	0.2nm,0.5s						
SONM	**Songino Array**	**44.50**	**341**	P	P	17 26 12.1	+0.5
	0.2nm,0.5s,baz=134,slow=8.3,SNR=2.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**55.10**	**324**	P	P	17 27 32.4	+0.2
	0.8nm,0.5s,baz=119,slow=7.4,SNR=17						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**64.82**	**326**	P	P	17 28 38.3	-0.6
	0.7nm,0.6s,baz=114,slow=7.1,SNR=2.2						
	0.7nm,0.6s						

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*IDC **08** 17:20:06.6±1.0, 17°.97N×40°.38E, h0km, mb3.8/16, mbtmp3.8/19, ML3.2/4, MS4.2/34, Error ellipse: s-maj=20.8km s-min=16.3km az=42.0*
*SGS **08** 17:20:06.5, 17°.93N×40°.18E, h20km, Ml4.2*
*NEIC **08** 17:20:09.6±1.6, 18°.11N±0°.03×40°.17E±0°.09, h10km±1km, mb4.6/71, Error ellipse: s-maj=15.4km s-min=3.7km az=283.0*
*GCMT **08** 17:20:09.6±0.6, 18°.02N±0°.04×39°.85E±0°.04, h16km±1km, MW5.1/71, Moment Tensor Solution. s14,c14; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.25±.31; $M_{\theta\theta}$1.10±.20; $M_{\phi\phi}$2.15±.23; $M_{r\theta}$3.04±.88; $M_{\theta\phi}$-0.52±.11; $M_{\phi r}$4.77±.94; Best double couple: $M_0$6.16900×10^{16} NP1:ϕ_s354.00000°, δ14.00000°, λ-123.00000°. NP2: ϕ_s207.00000°, δ78.00000°, λ-82.00000°. Principal axes: T 5.2730, Plg33.0000°, Azm291.0000°; N 1.7910, Plg7.0000°, Azm26.0000°; P -7.0640, Plg56.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 17:20:09.0±0.4, 18°.00N±0°.05×40°.24E±0°.04, h10km, n208, σ2°44/174, mb4.5/62, MS4.2/35, 10C-2D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRK01	**Al Birk**	**1.29**	**78**	P	**Pn**	**17 20 30.9**	**-2.2**
BRK03	**Al Birk**	**1.59**	**83**	S	**Sn**	**17 20 53.1**	**-4.6**
BRK03	**Al Birk**	**1.59**	**83**	P	Pn	17 20 33.2	-3.9
QNF01	**Al Qunfudhah**	**1.70**	**35**	P	**Pb**	**17 20 39.6**	**-0.8**
FRSS2	**Sair Farasan I**	**1.88**	**127**	S	**Sn**	**17 20 59.8**	**-5.0**
FRSS2	**Sair Farasan I**	**1.88**	**127**	P	Pn	17 20 36.2	-4.9
DRBS	**Ad Darb**	**1.97**	**95**	S	**Sn**	**17 21 02.0**	**-5.3**
DRBS	**Ad Darb**	**1.97**	**95**	P	Pn	17 20 38.7	-3.8
ASIR3	**ASIR3**	**2.14**	**71**	P	**Pn**	**17 20 43.2**	**-1.9**
FRSS	**Farasan al Kab**	**2.19**	**125**	P	Pn	17 20 40.7	-4.8
MKHL	**Mahalah**	**2.41**	**105**	S	**Sn**	**17 21 12.5**	**-5.7**
MKHL				P	Pn	17 20 44.0	-4.5
AKWA	**Algayed**	**2.46**	**107**	S	**Sn**	**17 21 14.0**	**-5.3**
AKWA	**Algayed**	**2.46**	**107**	P	Pn	17 20 44.7	-4.5
BESHS	**BESHS**	**2.56**	**104**	P	Pn	17 20 46.5	-4.1
JAZS	**Jizan**	**2.72**	**110**	P	Pn	17 20 48.5	-4.3
KNGHS	**KNGHS**	**3.11**	**84**	P	**Pn**	**17 20 56.9**	**-1.5**
ATD	**Arta Tunnel**	**6.91**	**158**		**Pn**	**17 21 52.7**	**+2.3**
ATD	**Arta Tunnel**	**6.91**	**158**	Pn	**Pn**	**17 21 50.1**	**-0.3**
	0.1nm,0.3s,baz=338,slow=5.9,SNR=2.0						
ATD				Sn	**Sn**	**17 23 08.7**	**-0.6**
	0.1nm,0.3s,baz=163,slow=17,SNR=1.2						
ATD				LR	LR	17 23 36.8	
	comp=Z,8.4nm,19.7s,baz=338,slow=31						
RAYN	**Ar Rayn**	**7.38**	**41**	Pn	**Pn**	**17 21 57.0**	**+0.1**
DOK	**Doka**	**13.21**	**85**	P	**Pn**	**17 23 19.0**	**+2.3**
DOK				S	**Sn**	**17 25 48.6**	**+4.8**
GHAJ	**Ghor Haditha**	**13.91**	**343**	Pn	**Pn**	**17 23 25.1**	**-1.0**
ASF	**Jabal al Asfar**	**14.43**	**349**	Pn	**Pn**	**17 23 33.0**	**-0.5**
	0.1nm,0.3s,baz=175,slow=11,SNR=1.5						
ASF				Lg	Lg	17 27 47.1	
	0.2nm,0.3s,baz=351,slow=23,SNR=1.9						
ASF				LR	LR	17 28 39.6	
	comp=Z,296nm,20.2s,baz=198,slow=35						
	0.7nm,0.4s						
LODK	**Lodwar**	**15.26**	**199**	Pn	**Pn**	**17 23 45.9**	**+1.2**
ASUD	**Al Ashush, Dub**	**15.53**	**62**	P	**P**	**17 23 52.3**	**-0.2**
MMAI	**Mount Meron Ar**	**15.57**	**345**	Pn	**Pn**	**17 23 48.9**	**+0.2**
	0.3nm,0.3s,baz=154,slow=14,SNR=1.8						
MMAI				Lg	Lg	17 28 27.1	
	0.4nm,0.3s,baz=264,slow=32,SNR=2.2						
MMAI				LR	LR	17 29 22.2	
	comp=Z,448nm,19.7s,baz=181,slow=36						
	1.6nm,0.8s						
ALNE	**Al Ain**	**15.68**	**65**	P	**P**	**17 23 55.1**	**+0.8**
ALNE				S	**Sn**	**17 26 51.6**	**+7.5**
FAQ	**Al Faqa, Dubai**	**15.79**	**62**	P	**P**	**17 23 57.2**	**+1.7**
NAZ	**Nazwa, Dubai**	**15.94**	**61**	P	**P**	**17 24 00.3**	**+3.1**
NAZ				S	**S**	**17 27 00.2**	**-4.4**
ARQ	**Araqi**	**16.13**	**68**	P	**P**	**17 23 58.7**	**-0.6**
ARQ				S	**Sn**	**17 27 02.7**	**+7.6**
ASHO	**Ashiyiah**	**16.16**	**63**	P	**P**	**17 24 00.6**	**+0.9**
	SNR=9.9						
HATD	**Hatta, Dubai**	**16.28**	**63**	P	**P**	**17 24 02.0**	**+1.2**
	SNR=7.6						
HATD				S	**S**	**17 27 09.1**	**-2.3**
UOSS	**Minazif**	**16.38**	**62**		**Pn**	**17 23 59.1**	**-0.1**
UOSS				IAmb	IAmb	17 24 10.4	
	comp=Z,45nm,1.2s						
UOSS	**Minazif**	**16.38**	**62**	P	**P**	**17 24 03.5**	**+1.5**
SOHO	**SOHO**	**16.38**	**65**	P	**P**	**17 24 03.0**	**+1.0**
SOHO				S	**S**	**17 27 10.5**	**-3.0**
DQM	**DQM**	**16.48**	**81**	P	**P**	**17 24 03.3**	**+0.2**
MASF	**Masafi**	**16.51**	**61**	P	**P**	**17 24 04.6**	**+1.1**
MASF				S	**S**	**17 27 13.9**	**-2.3**
BSY	**Bisya**	**16.59**	**71**	P	**P**	**17 24 04.4**	**+0.1**
MDH	**Madha**	**16.59**	**61**	P	**P**

MANT Manisa 22.82 336 P **P** **17 25 09.5 -2.9**
BORA Eskisehir 23.39 341 P **P** **17 25 15.3 -2.7**
ILGA Ilgaz 23.65 348 P **P** **17 25 18.7 -2.0**
HRA Herat 25.53 46 P **P** **17 25 38.0 -0.1**
HRA IAmb IAmb 17 25 53.6
comp=Z,20nm,1.3s
KBZ Khabaz 25.75 4 P **P** **17 25 40.3 +0.6**
comp=Z,1.2nm,0.9s,baz=243,slow=11,SNR=6.2
KBZ LR LR 17 36 49.7
comp=Z,363nm,18.5s,baz=216,slow=39
comp=Z,1.2nm,0.9s
KIV Kislovodsk 25.96 4 P **P** **17 25 40.5 -1.3**
KIV IAmb IAmb 17 25 48.5
comp=Z,15nm,1.2s
KIV Kislovodsk 25.96 4 P **P** **17 25 47.3 +5.5**
comp=Z,9.0nm,1.4s
RDO Rodhopi 26.30 334 P **P** **17 25 43.9 -0.8**
RDO IAmb IAmb 17 25 53.9
comp=Z,17nm,1.4s
MSEY Mahe Island 27.09 145 P **P** **17 25 52.9 +0.7**
PUK Puka 29.59 328 P **P** **17 26 12.1 -2.2**
PUK IAmb IAmb 17 26 39.7
comp=Z,28nm,1.5s
RAFF Raffo Rosso 29.71 315 P **P** **17 26 12.7 -2.7**
MLR Muntele Rosu 29.89 340 ⇑P P 17 26 22.8 +5.8
MLR Muntele Rosu 29.89 340 P **P** **17 26 20.9 +4.0**
comp=Z,8.3nm,1.4s
VRI Vrincioaia 29.97 341 ⇑P P 17 26 23.7 +6.1
VRI Vrincioaia 29.97 341 P P 17 26 22.2 +4.7
comp=Z,7.9nm,1.2s
PLOR Plostina 29.98 341 ⇓P P 17 26 24.1 +6.5
PLOR3 Plostina Array 29.98 341 P P 17 26 22.2 +4.5
VOIR 30.14 338 ⇑P P 17 26 24.2 +5.0
VOIR 30.14 338 P **P** **17 26 23.2 +4.0**
comp=Z,6.2nm,2.0s
ARR Arges 30.23 338 ⇑P P 17 26 24.8 +4.9
KBL Kabul 30.49 52 P **P** **17 26 23.1 +0.6**
KBL IAmb IAmb 17 26 31.7
comp=Z,11nm,1.4s
LOT Lotru 30.62 337 ⇑P **P** **17 26 26.7 +3.4**
GZR Gura Zlata 30.95 336 ⇑P **P** **17 26 29.9 +3.6**
SURR Surduc 31.51 335 ⇑P P 17 26 35.4 +4.4
BZS Buzias 31.60 335 ⇓P **P** **17 26 35.3 +3.5**
MARR Marisel-Cluj 31.90 337 ⇑P P 17 26 40.1 +5.5
BURAR Bucovina Array 32.00 341 P **P** **17 26 34.5 -1.1**
SIRR Siria 32.11 335 ⇑P P 17 26 41.5 +5.1
SIMJ Simiganj 32.42 45 P **P** **17 26 39.2 -0.1**
SIMJ IAmb IAmb 17 26 54.9
comp=Z,5.5nm,1.2s
KEST Kesra 32.54 309 LR LR 17 39 55.5
comp=Z,379nm,18.8s,baz=287,slow=36
TAM Tamanrasset 32.84 284 P **P** **17 26 41.3 -1.9**
TAM IAmb IAmb 17 26 48.9
comp=Z,5.3nm,0.9s
NIL Nilore 33.38 56 P **P** **17 26 47.9 +0.2**
NIL IAmb IAmb 17 26 57.2
comp=Z,13nm,1.3s
LUBAR Lubar, Ukraine 33.39 345 P **P** **17 26 51.8 +4.3**
GAR Garm 33.47 45 P **P** **17 26 48.5 -0.1**
GAR IAmb IAmb 17 26 59.0
comp=Z,18nm,1.2s
AK07 Malin Array Si 33.65 347 P **P** **17 26 54.1 +4.3**
AK09 Malin Array Si 33.70 347 P P 17 26 54.6 +4.4
AK05 Malin Array Si 33.72 347 P **P** **17 26 48.0 -2.3**
AK05 IAmb IAmb 17 26 48.4
comp=Z,11nm,1.2s
AK05 Malin Array Si 33.72 347 P P 17 26 54.8 +4.4
AK08 Malin Array Si 33.72 347 P P 17 26 54.8 +4.4
AK02 Malin Array Si 33.75 347 P **P** **17 26 54.0 +3.3**
AK01 Malin Array Si 33.78 347 P **P** **17 26 54.2 +3.3**
AKASG Malin Array Be 33.79 347 P **P** **17 26 50.0 -1.0**
comp=Z,0.4nm,0.6s,baz=167,slow=7.9,SNR=10.0
comp=Z,0.4nm,0.6s
BTK Batken 34.34 44 P **P** **17 26 56.1 +0.1**
BTK IAmb IAmb 17 27 06.6
comp=Z,8.9nm,1.3s
MPLH Magyarpolny 34.56 332 P **P** **17 27 01.3 +3.6**
comp=Z,24nm,1.1s
KWP Kalwaria Pacla 34.57 340 P **P** **17 27 01.8 +4.0**
comp=Z,27µm,0.7s
KWP pP **sP** **17 27 04.2 +2.6**
comp=Z,27µm,0.7s
DRK Karamyk 34.71 45 P **P** **17 27 00.0 +0.5**
DRK IAmb IAmb 17 27 08.1
comp=Z,20nm,1.5s
BELG Belogornoye 34.81 8 LR LR 17 41 27.6
comp=Z,159nm,20.5s,baz=233,slow=37
ABKAR Akbulak array 35.01 23 P **P** **17 27 01.3 -0.3**
ABKAR Akbulak array 35.01 23 P **P** **17 27 01.1 -0.5**
VYHS Vyhne 35.04 335 *e*P P 17 27 06.6 +4.7
LSZ Lusaka 35.13 200 LR LR 17 41 39.2
comp=Z,1µm,18.0s,baz=32,slow=37
RNPP8 Varash 35.17 344 P P 17 27 07.3 +4.4
RNPP9 Sopachiv 35.23 344 P **P** **17 27 07.2 +3.8**
AKTO Aktyubinsk 35.35 20 LR LR 17 43 42.8
comp=Z,288nm,21.5s,baz=250,slow=40
MODS Modra-Piesok 35.59 333 *e*P **P** 17 27 11.4 +4.7
KK31 Karatay Array 35.80 39 P **P** **17 27 08.8 +0.2**
KKAR Karatay Array 35.80 39 P **P** **17 27 09.8 +1.3**
KKAR Karatay Array 35.80 39 P **P** **17 27 08.8 +0.2**
JAVC Velka Javorina 35.80 334 *e*P P 17 27 13.8 +5.3
OJC Ojcow 36.08 338 P **P** **17 27 10.5 -0.3**
OJC IAmb IAmb 17 27 12.5
comp=Z,8.7nm,1.3s
KRUC Moravsky 36.50 333 *e*P **P** **17 27 18.3 +3.9**
MORC Moravsky Berou 36.58 335 P **P** **17 27 13.8 -1.3**
MORC IAmb IAmb 17 27 21.1
comp=Z,15nm,1.3s
MORC Moravsky Berou 36.58 335 *e*P P 17 27 20.4 +5.3
VRAC Vranov 36.60 334 *e*P **P** **17 27 19.5 +4.2**
TORD Torodi Ar. Bea 37.39 268 P **P** **17 27 21.0 -1.4**
TORD IAmb IAmb 17 27 26.6
comp=Z,10nm,1.4s
TORD Torodi Ar. Bea 37.39 268 LR LR 17 43 43.4
comp=Z,347nm,18.9s,baz=100,slow=38
GEC2 GERESS Array S 37.53 331 P **P** **17 27 21.8 -1.5**
GEC2 IAmb IAmb 17 27 29.1
comp=Z,11nm,1.3s
GERES GERESS Array B 37.53 331 P **P** **17 27 23.2 -0.1**
GERES GERESS Array B 37.53 331 P **P** **17 27 21.2 -2.1**
comp=Z,0.4nm,0.5s,baz=104,slow=5.6,SNR=5.4
comp=Z,0.4nm,0.5s
KSH Kashi 37.61 48 P **P** **17 27 26.2 +2.1**
KSH pP sP 17 27 28.4 +0.2
KSH pmax pmax
comp=Z,4.0nm,1.4s
MNK Minsk 37.66 348 *i* P **P** **17 27 25.6 +1.5**
comp=E,39nm,1.2s
MNK *i* P **P** **17 27 25.6 +1.5**
comp=N,17nm,1.0s
MNK *i* P **P** **17 27 25.6 +1.5**
comp=Z,10.0nm,0.9s,baz=160
MNK *i* PP **PnPn** **17 28 51.9 +0.9**
MNK *i* PPP PPP 17 29 09.3
MNK *i* S **S** **17 33 16.9 +3.1**
MNK *i* SS **SS** **17 35 58.0 -1.0**
MNK *i* SSS SSS 17 36 14.9
MNK *i* LQ LQ 17 40 12.2
MNK *i* LR LR 17 43 01.3
MNK *i* LRM MLR 17 43 57.4
comp=N,757nm,20.6s
MNK *i* LRM MLR 17 44 27.0
comp=E,927nm,21.3s
MNK *i* LRM MLR 17 44 50.0
comp=Z,206nm,19.2s
AAK Ala-Archa 38.03 42 P **P** **17 27 27.9 +0.2**
AAK Ala-Archa 38.03 42 LR LR 17 45 47.0
comp=Z,440nm,18.6s,baz=260,slow=41
BRG Berggiesshubel 38.90 333 *e*P P 17 27 39.9 +5.2
BRG Amp 17 27 41.1
comp=Z,3.1nm,0.9s
KDJ Kajisay 39.55 45 P **P** **17 27 40.5 0.0**
WUS Wushi 40.55 47 P **P** **17 27 49.6 +0.8**
WUS IAmb IAmb 17 28 04.4
comp=Z,5.1nm,0.3s
ARTI Arti 40.69 15 P **P** **17 27 49.8 +0.2**
ARTI IAmb IAmb 17 27 55.6
comp=Z,18nm,1.5s
ARTI Arti 40.69 15 LR LR 17 47 50.2
comp=Z,232nm,20.8s,baz=248,slow=41
KIRV Kirov 41.09 7 LR LR 17 45 59.0
comp=Z,205nm,20.0s,baz=248,slow=38
BRVK Borovoye 42.09 27 P **P** **17 28 01.6 +0.6**
BVAR Borovoye Array 42.11 27 P **P** **17 27 59.8 -1.4**
comp=Z,0.7nm,0.8s,baz=199,slow=8.8,SNR=10
BVAR LR LR 17 48 05.2
comp=Z,387nm,19.6s,baz=273,slow=40
comp=Z,0.7nm,0.8s
MDT Midelt 42.79 299 LR LR 17 46 31.8
comp=Z,136nm,18.5s,baz=136,slow=37
ESBB Sonseca Array 43.79 309 P **P** **17 28 14.1 -1.1**
ESBB IAmb IAmb 17 28 37.6
comp=Z,11nm,1.4s
ESDC Sonseca Array 43.79 309 P **P** **17 28 14.6 -0.5**
ESDC Sonseca Array 43.79 309 P **P** **17 28 14.9 -0.2**
comp=Z,0.6nm,0.8s,baz=107,slow=5.6,SNR=8.4
comp=Z,0.6nm,0.8s
FINES FINESS Array B 44.54 350 P **P** **17 28 20.0 -0.7**
comp=Z,2.2nm,0.9s,baz=161,slow=12,SNR=4.5
comp=Z,2.2nm,0.9s
KURBB Kurchatov Arra 44.56 34 P **P** **17 28 19.4 -1.6**
comp=Z,0.9nm,0.7s,baz=241,slow=8.3,SNR=6.7
KURBB LR LR 17 49 44.4
comp=Z,169nm,18.2s,baz=164,slow=40
KURK Kurchatov 44.66 34 P **P** **17 28 21.2 -0.5**
KURK IAmb IAmb 17 28 35.6
comp=Z,7.5nm,1.2s
MAKZ Makanchi 44.69 41 **P** **17 28 22.0 -0.2**
MAKZ IAmb IAmb 17 28 30.9
comp=Z,6.2nm,1.1s
MK31 Makanchi Array 44.87 41 **P** **17 28 23.8 +0.1**
MK31 IAmb IAmb 17 28 29.8
comp=Z,8.9nm,1.5s
MKAR Makanchi Array 44.87 41 **P** **17 28 23.6 0.0**
MKAR Makanchi Array 44.87 41 P **P** **17 28 21.2 -2.4**
comp=Z,0.3nm,0.8s,baz=235,slow=5.8,SNR=12
MKAR LR LR 17 49 43.8
comp=Z,581nm,18.0s,baz=270,slow=40
comp=Z,0.3nm,0.8s
LBTB Lobatse 45.07 199 LR LR 17 47 50.7
comp=Z,354nm,18.7s,baz=65,slow=37
DBIC Dimbokro 45.35 261 P **P** **17 28 28.1 +0.3**
comp=Z,6.0nm,1.0s,baz=78,slow=12,SNR=5.7
DBIC LR LR 17 47 14.7
comp=Z,428nm,20.0s,baz=62,slow=36
comp=Z,6.0nm,1.0s
WMQ Urumqi 47.34 46 *e*P **P** **17 28 45.6 +2.4**
WMQ LR LR
comp=Z,190nm,24.2s
NAO01 NORSAR Array S 47.62 341 P **P** **17 28 43.5 -1.5**
LSA Lhasa 47.66 66 P **P** **17 28 46.0 -0.4**
LSA IAmb IAmb 17 29 02.4
comp=Z,7.9nm,1.4s
NB2 NORSAR Subarra 47.68 341 P **P** **17 28 48.8 +3.3**
comp=Z,33nm,1.7s,baz=141,slow=7.9
NOA NORSAR Array B 47.68 341 P **P** **17 28 47.0 +1.5**
comp=Z,2.1nm,1.0s,baz=139,slow=8.4,SNR=4.2
comp=Z,2.1nm,1.0s
NBO00 NORSAR Array S 47.80 341 P **P** **17 28 45.3 -1.2**
NC204 NORSAR Array S 48.00 341 P **P** **17 28 47.0 -0.9**
BRDH Bariadhala 48.24 75 LR LR 17 50 28.4
comp=Z,211nm,20.3s,baz=274,slow=38
SHL Shillong 48.30 72 P **P** **17 28 50.1 -1.0**
BOSA Boshof 48.55 198 LR LR 17 48 59.7
comp=Z,347nm,18.0s,baz=340,slow=36
ZAA0 Zalesovo Array 49.58 33 P **P** **17 28 59.6 -0.6**
ZALV Zalesovo Beam 49.58 33 P **P** **17 28 59.5 -0.7**
ZALV Zalesovo Beam 49.58 33 P **P** **17 28 59.9 -0.3**
comp=Z,4.2nm,0.9s,baz=243,slow=9.3,SNR=3.8
ZALV LR LR 17 53 42.5
comp=Z,194nm,18.5s,baz=282,slow=41
comp=Z,4.2nm,0.9s
ARCES ARCESS Array B 52.32 354 P **P** **17 29 20.6 +0.1**
comp=Z,1.9nm,0.7s,baz=172,slow=3.6,SNR=4.2
comp=Z,1.9nm,0.7s
SUR Sutherland 53.44 201 LR LR 17 50 19.9
comp=Z,293nm,19.6s,baz=26,slow=34
BBTS Babate 54.41 275 LR LR 17 55 09.8
comp=Z,226nm,19.8s,baz=332,slow=39
GTA Gaotai 55.42 54 P **P** **17 29 44.1 +0.2**
GTA pP sP 17 29 49.1 +1.1
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=N,120nm,15.3s
GTA LR LR
comp=E,140nm,19.3s
GTA LR LR
comp=Z,300nm,17.8s
CMAR Chiang Mai Arr 55.54 80 P **P** **17 29 44.6 -0.3**
CMAR Chiang Mai Arr 55.54 80 P **P** **17 29 43.2 -1.7**
comp=Z,0.2nm,0.5s,baz=283,slow=7.5,SNR=12
CMAR LR LR 17 56 10.8
comp=Z,30nm,18.5s,baz=290,slow=39
comp=Z,0.2nm,0.5s
SHEL Horse Pasture 56.48 236 P **P** **17 29 51.3 -0.3**
PZH PanZhiHua 57.10 70 P **P** **17 30 00.6 +4.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,140nm,5.5s
LZH Lanzhou 58.48 58 *e*P P 17 30 11.0 +5.3
LZH pP sP 17 30 14.0 +4.1
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=N,250nm,19.0s
LZH LR LR
comp=E,350nm,18.5s
LZH LR LR
comp=Z,470nm,17.5s
SONM Songino Array 60.91 45 P **P** **17 30 21.6 -0.6**
SONM IAmb IAmb 17 30 28.3
comp=Z,7.9nm,1.4s
SONM Songino Array 60.91 45 P **P** **17 30 20.5 -1.8**
comp=Z,0.5nm,0.9s,baz=289,slow=4.5,SNR=4.2
SONM LR LR 18 00 30.3
comp=Z,326nm,18.6s,baz=304,slow=40
comp=Z,0.5nm,0.9s
SPITS Spitsbergen Ar 61.31 355 P **P** **17 30 23.7 -0.6**
comp=Z,4.9nm,0.8s,baz=182,slow=7.9,SNR=1.7
comp=Z,4.9nm,0.8s
XAN Xi'an 62.72 61 P **P** **17 30 39.2 +4.7**
XAN pmax pmax
comp=Z,13nm,1.3s
HHC Hu-ho-hao-te 64.45 53 *e*P **P** **17 30 46.1 +0.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.2s
BJI Beijing 68.02 53 P P 17 31 13.8 +5.1
BJI pP sP 17 31 17.3 +4.4
BJI pmax pmax
comp=Z,3.0nm,1.4s
BJI pmax pmax
comp=Z,46nm,5.4s
BJI LR LR
comp=N,140nm,16.7s
BJI LR LR
comp=E,120nm,19.8s
BJI LR LR
comp=Z,230nm,19.2s
TIA Tai'an 69.19 57 P **P** **17 31 17.7 +1.6**
TIA pmax pmax
comp=Z,5.0nm,0.4s
NJ2 Nanjing 71.23 62 *e*P **P** **17 31 29.4 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
TIXI Tiksi 72.63 19 P **P** **17 31 35.0 -1.3**
TIXI IAmb IAmb 17 31 40.9
comp=Z,3.0nm,0.8s
HEH HeiHe 74.60 42 *e*P **P** **17 31 52.0 +3.7**
HEH pmax pmax
comp=Z,6.0nm,1.2s
BNX BinXian 75.39 46 ⇑P **P** **17 31 56.6 +3.6**
BNX pmax pmax
comp=Z,7.0nm,1.4s
INCN Inchon 76.48 55 P **P** **17 31 58.1 -1.3**
KSRS Korea Array 77.49 55 P **P** **17 32 03.2 -1.8**
comp=Z,0.4nm,0.8s,baz=282,slow=7.9,SNR=4.7
KSRS LR LR 18 10 35.9
comp=Z,175nm,20.5s,baz=35,slow=39
comp=Z,0.4nm,0.8s
USRK Ussuriysk Ar. 78.90 47 LR LR 18 10 42.2
comp=Z,155nm,19.3s,baz=359,slow=38
MA2 Magadan 84.58 29 P **P** **17 32 40.3 -2.1**
MJB9 Matsu-Tunnel 85.65 53 P **P** **17 32 46.9 -1.4**
MAJO Matsushiro 85.65 53 P **P** **17 32 47.3 -1.0**
PETK Petropavlovsk- 91.12 32 LR LR 18 18 25.0
comp=Z,181nm,18.9s,baz=28,slow=38
MDP Montagnes des 91.17 276 LR LR 18 13 23.8
comp=Z,96nm,20.0s,baz=32,slow=35
BDFB Brasilia 93.11 255 LR LR 18 14 01.4
comp=Z,76nm,19.2s,baz=123,slow=35
SNAA Sanae 94.10 193 LR LR 18 14 15.8
comp=Z,133nm,18.1s,baz=19,slow=34

WEL 08 17:25:30.9±0.6, 42°S±3°×17°4E±°, h10km±3km, M1.4/3, ML2.3/7, MLv1.4/3, Error ellipse: s-maj=4.0km s-min=3.2km az=104.9, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDFS	**Ward Fire Stat**	**0.04**	**112**	P	Pg	17 25 33.3	+0.5
WDFS				S	Sg	17 25 36.0	+1.8
SEDS	**Seddon Fire St**	**0.14**	**355**	P	Pb	17 25 35.1	-0.5
KEKS	**Kekerengu Vall**	**0.17**	**210**	P	Pg	17 25 34.7	+0.2
KEKS				S	Sg	17 25 38.3	+1.2
BSWZ	**Blackbirch Sta**	**0.19**	**301**	P	Pb	17 25 35.8	-0.6
BSWZ				S	Sg	17 25 39.8	+2.1
BWRS	**Waikakaho Road**	**0.40**	**339**	P	Pb	17 25 39.6	-0.4
TUWZ	**Tuamarina**	**0.40**	**344**	P	Pb	17 25 39.8	-0.1
TUWZ				S	Sb	17 25 46.3	+0.2
TCW	**Tory Channel**	**0.62**	**13**	P	Pg	17 25 42.7	-0.1
TCW				S	Sb	17 25 52.0	-0.4
KHZ	**Kahutara**	**0.73**	**214**	P	Pg	17 25 44.9	0.0
KHZ				S	Sb	17 25 56.4	+0.7
NNZ	**Nelson**	**0.80**	**318**	P	Pb	17 25 46.6	-0.3
NNZ				S	Sb	17 25 57.6	-0.1
THZ	**Tophouse**	**0.89**	**273**	P	Pb	17 25 48.2	-0.2
CAW	**Cannon Point**	**1.02**	**46**	P	Pg	17 25 49.3	-1.1
CAW				S	Sb	17 26 03.9	-0.1
DUWZ	**D'Urville Isla**	**1.02**	**353**	P	Pg	17 25 50.1	-0.4
DUWZ				S	Sn	17 26 04.8	-0.7
MRNZ	**Matariki Terra**	**1.08**	**292**	P	Pn	17 25 52.0	-0.1
TKNZ	**Takaka Hill**	**1.15**	**312**	P	Pb	17 25 52.7	-0.2
OGWZ	**Otaki Gorge**	**1.28**	**40**	P	Pn	17 25 53.1	-1.7
MRZ	**Mangatainoka R**	**1.61**	**45**	P	Pn	17 25 57.0	-2.3

*IDC **08** 17:27:13.0±1.3, 15°.47N×94°.64W, h0km, mb3.5/4, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=23.6km s-min=14.1km az=67.0*
*MEX **08** 17:27:17.4±0.5, 15°.35N×94°.69W, h23km±15km, MD4.3*
ISC 08 17:27:11.9±3.1, 15°.37N±0°.05×94°.68W±0°.03, h3km±21km, n48, σ2°76/83, mb3.5/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.15**	**40**	*e*P	**Pb**	**17 27 34.0**	**-0.4**
CARR				*e*S	**Sb**	**17 27 47.6**	**-2.1**
NILT	**Santiago Nilte**	**1.20**	**3**	*e*P	**Pn**	**17 27 34.8**	**-0.8**
NILT				*e*S	**Sb**	**17 27 49.3**	**-1.9**
HUIG	**Huatulco**	**1.44**	**286**	*e*P	**Pn**	**17 27 39.4**	**+0.4**
HUIG				*e*S	**Sn**	**17 27 55.6**	**-2.8**
PCIG		**1.45**	**76**	*e*P	**Pn**	**17 27 39.0**	**0.0**
PCIG				*i* S	**Sn**	**17 27 55.7**	**-2.8**
CMIG	**Matias Romero**	**1.73**	**353**	Pg	**Pn**	**17 27 43.4**	**+0.4**
93nm,0.3s,baz=171,slow=15,SNR=1730							
CMIG				Lg	Lg	17 28 03.5	
40nm,0.3s,baz=177,slow=15,SNR=8.6							
CMIG				LR	LR	17 28 31.0	
comp=Z,245nm,20.0s,baz=142,slow=48							
CMIG	**Matias Romero**	**1.73**	**353**	*e*P	**Pn**	**17 27 43.4**	**+0.4**
CMIG				*e*S	**Sn**	**17 28 03.8**	**-1.8**
UXUV	**UXUV**	**2.01**	**15**	*e*P	**Pn**	**17 27 48.2**	**+1.4**
UXUV				*e*S	**Sn**	**17 28 11.5**	**-0.9**
TGIG		**2.05**	**47**	*e*P	**Pn**	**17 27 48.6**	**+1.1**
TGIG				*e*S	**Sn**	**17 28 12.5**	**-1.2**
PATR	**El Naranjo**	**2.37**	**96**	*e*P	**Pn**	**17 27 52.4**	**+0.4**
PATR				*e*S	**Sn**	**17 28 18.6**	**-3.1**
THIG		**2.37**	**101**	*e*S	**Sn**	**17 28 20.3**	**-1.1**
PAVE	**Pavencul**	**2.42**	**94**	*e*P	**Pn**	**17 27 53.5**	**+0.9**
PAVE				*e*S	**Sn**	**17 28 20.5**	**-2.5**
PEIG	**Puerto Escondi**	**2.46**	**285**	*e*P	**Pn**	**17 27 53.8**	**+0.7**
PEIG				*i* S	**Sn**	**17 28 19.9**	**-3.9**
NEUV	**Arroyo Zacate**	**2.57**	**335**	*e*P	**Pn**	**17 27 55.3**	**+0.7**
NEUV				*e*S	**Sn**	**17 28 26.0**	**-0.4**
OXLC	**Oaxaca**	**2.58**	**311**	*i* P	**Pn**	**17 27 57.2**	**+2.4**
OXLC				*e*S	**Sn**	**17 28 26.9**	**0.0**
VHO	**Vista Hermosa**	**2.61**	**311**	*e*P	**Pn**	**17 27 58.0**	**+2.8**
VHO				*e*S	**Sn**	**17 28 25.6**	**-2.0**
CCIG	**Comitan**	**2.61**	**69**	*e*P	**Pn**	**17 27 58.2**	**+3.0**
CCIG				*e*S	**Sn**	**17 28 26.4**	**-1.2**
TUIG	**Tuzandepetl**	**2.67**	**5**	*i* P	**Pn**	**17 27 57.5**	**+1.7**
YOIG	**Yosondua**	**3.13**	**299**	*e*P	**Pn**	**17 28 06.0**	**+3.4**
YOIG				*e*S	**Sn**	**17 28 36.8**	**-3.8**
PMUV	**Sontecomapan**	**3.19**	**352**	*e*P	**Pn**	**17 28 01.8**	**-1.4**
PMUV				*e*S	**Sn**	**17 28 34.2**	**-7.7**
PNIG	**Pinotepa**	**3.48**	**288**	*e*P	**Pn**	**17 28 08.6**	**+1.6**
PNIG				*e*S	**Sn**	**17 28 44.2**	**-4.6**
TXIG	**Tlaxiaco**	**3.51**	**303**	*e*P	**Pn**	**17 28 11.0**	**+3.2**
TXIG				*e*S	**Sn**	**17 28 49.8**	**-0.2**
TOIG	**Toxpalan**	**3.55**	**320**	*e*P	**Pn**	**17 28 12.3**	**+4.2**
TOIG				*i* S	**Sn**	**17 28 51.1**	**+0.3**
HLIG	**Huajuapan de L**	**3.87**	**310**	*e*P	**Pn**	**17 28 16.6**	**+4.0**
HLIG				*i* S	**Sn**	**17 28 58.6**	**-0.2**
TPIG	**Tehuac#an**	**3.98**	**320**	*e*P	**Pn**	**17 28 15.8**	**+1.7**
TPIG				*e*S	**Sn**	**17 29 03.8**	**+2.4**
APG	**El Apazote**	**4.08**	**94**	Pn	**Pn**	**17 28 17.6**	**+2.1**
0.3nm,0.3s,baz=91,slow=14,SNR=13							
APG				Sn	**Sn**	**17 29 05.5**	**+1.5**
0.4nm,0.3s,baz=172,slow=9.8,SNR=4.1							
FTIG	**Fresnillo de T**	**4.17**	**308**	*e*P	**Pn**	**17 28 20.6**	**+3.9**
FTIG				*e*S	**Sn**	**17 29 03.8**	**-2.2**
MGIG	**Malinaltepec**	**4.23**	**297**	*e*P	**Pn**	**17 28 20.9**	**+3.4**
MGIG				*e*S	**Sn**	**17 29 05.5**	**-2.1**
TLIG	**Tlapa**	**4.33**	**301**	*e*P	**Pn**	**17 28 15.7**	**-3.2**
TLIG				*i* S	**Sn**	**17 29 05.5**	**-4.4**
POHV	**Veracruz**	**4.45**	**326**	*e*P	**Pn**	**17 28 23.6**	**+2.8**
JAUV	**Jalcomulco**	**4.47**	**333**	*e*P	**Pn**	**17 28 20.7**	**0.0**
JAUV				*e*S	**Sn**	**17 29 08.0**	**-5.3**
CRIG	**Cruz Grande**	**4.50**	**288**	*e*P	**Pn**	**17 28 23.0**	**+1.9**
CRIG				*e*S	**Sn**	**17 29 08.5**	**-5.4**
SCIG	**Sabancuy**	**4.89**	**42**	*e*P	**Pn**	**17 28 28.1**	**+1.6**
SCIG				*e*S	**Sn**	**17 29 21.8**	**-2.0**
PBXN	**Popocatepetl**	**5.25**	**314**	*e*P	Pn	17 28 37.3	+5.3
PBXN				*e*P	Pb	17 28 37.5	-7.3
PBXN				*i* S	**Sn**	**17 29 32.2**	**-1.1**
PBXN				*e*S	Sb	17 29 33.6	-15
PBPN	**Popocatepetl**	**5.26**	**315**	*e*P	Pn	17 28 39.1	+7.2
PBPN				*e*P	**Pb**	**17 28 42.1**	**-2.7**
PBPN				*e*S	**Sn**	**17 29 34.6**	**+1.2**
PBPN				*i* S	Sb	17 29 35.1	-14
PPM	**Popocatepetl**	**5.27**	**315**	*e*P	**Pn**	**17 28 35.8**	**+3.6**
PPM				*i* S	**Sn**	**17 29 35.0**	**+1.3**
YAIG	**Yautepec**	**5.45**	**310**	*e*P	**Pn**	**17 28 38.6**	**+4.3**
YAIG				*e*S	**Sn**	**17 29 35.8**	**-1.9**
PLIG	**Platanillo**	**5.51**	**304**	*e*P	**Pn**	**17 28 39.8**	**+4.7**
PLIG				*e*S	**Sn**	**17 29 36.8**	**-2.4**
CXUV	**Coxquihui**	**5.53**	**330**	*e*P	**Pn**	**17 28 32.0**	**-3.3**
CXUV				*i* S	**Sn**	**17 29 39.0**	**-0.4**
CAIG	**El Cayaco**	**5.63**	**288**	*e*P	**Pn**	**17 28 39.0**	**+2.4**
CAIG				*e*S	**Sn**	**17 29 34.8**	**-7.0**
MAVM	**Malinalco, Edo**	**5.83**	**308**	*e*	Pn	17 28 27.7	-12
MAVM				*e*		17 29 25.9	
ARIG	**Puente Sto Nin**	**6.16**	**299**	*e*P	**Pn**	**17 28 48.2**	**+4.3**
ARIG				*e*S	**Sn**	**17 29 51.8**	**-3.1**
ZIIG	**Zihuatanejo**	**6.88**	**290**	*e*P	**Pn**	**17 28 57.0**	**+3.1**
TEIG	**Tepich**	**7.78**	**51**	Pn	**Pn**	**17 29 07.0**	**+0.9**
baz=215,slow=24							
TEIG				Sn	**Sn**	**17 30 33.0**	**-1.9**
baz=53,slow=20							
TXAR	**Lajitas Array**	**16.19**	**331**	Pn	**Pn**	**17 31 01.5**	**+0.8**
1.1nm,0.9s,baz=156,slow=12,SNR=5.8							
TXAR				Lg	Lg	17 35 43.6	
baz=115,slow=33,SNR=1.4							
NVAR	**Mina Array Bea**	**31.00**	**322**	P	**P**	**17 33 33.7**	**+2.6**
0.2nm,0.4s,baz=124,slow=5.4,SNR=2.1							
0.2nm,0.4s							
YKA	**Yellowknife Ar**	**49.13**	**348**	P	**P**	**17 36 00.6**	**-0.1**
0.3nm,0.7s,baz=157,slow=7.4,SNR=5.1							
0.3nm,0.7s							
PLCA	**Paso Flores**	**60.14**	**159**	P	**P**	**17 37 22.2**	**+1.3**
1.7nm,0.9s,baz=331,slow=4.5,SNR=3.3							
1.7nm,0.9s							
ILAR	**Eielson Array**	**60.58**	**337**	P	**P**	**17 37 24.6**	**+1.0**
0.5nm,1.0s,baz=124,slow=6.9,SNR=3.5							
0.5nm,1.0s							

IDC 08 17:27:13.3±3.3, 32°.03S×178°.40W, h0km, mb3.5/2,

mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=72.7km s-min=37.7km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.22**	**209**	Pn	Pn	17 29 00.3	+0.2
	0.1nm,0.3s,baz=356,slow=19,SNR=1.9						
URZ				Sn	Sn	17 30 21.4	-1.3
	0.9nm,0.3s,baz=142,slow=12,SNR=7.7						
	15nm,1.1s						
ASAR	**Alice Springs**	**42.70**	**269**	P	P	17 35 12.5	+0.3
	0.3nm,0.5s,baz=109,slow=7.6,SNR=18						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.84**	**274**	P	P	17 35 21.0	-0.4
	0.3nm,0.3s,baz=112,slow=7.9,SNR=5.8						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.54**	**339**	PKPbc	PKPdf	17 46 54.8	+0.5
	1.9nm,0.9s,baz=49,slow=2.8,SNR=3.9						

IDC 08 17:41:08.3±3.2, 6.78N×127.31E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=76.6km s-min=14.4km az=24.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.75**	**280**	Pn	Pg	17 41 41.8	0.0
	84nm,0.3s,baz=104,slow=3.8,SNR=5.2						
DAV				Lg	Lg	17 42 03.0	
	184nm,0.3s,baz=140,slow=23,SNR=11						
WRA	**Warramunga Arr**	**27.44**	**166**	P	P	17 46 56.0	-0.2
	0.2nm,0.4s,baz=344,slow=9.2,SNR=9.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**30.93**	**168**	P	P	17 47 26.4	-0.8
	0.4nm,0.5s,baz=344,slow=6.9,SNR=31						
ASAR				PcP	PcP	17 50 22.0	-2.0
	0.2nm,0.7s,baz=345,slow=2.8,SNR=4.8						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**40.78**	**161**	P	P	17 48 53.1	+1.6
	2.1nm,0.5s,baz=330,slow=6.1,SNR=7.1						
	2.1nm,0.5s						

*IDC **08** 17:48:57.5±2.5, 20.13S×177.74W, h535km±23km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=37.5km s-min=22.1km az=143.0*

ISC 08 17:48:58.8±0.9, 20.1S±0.2×177.9W±0.2, h550km, n11, σ1§31/12, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.49**	**300**	P	P	17 50 23.3	-1.3
	6.2nm,0.4s,baz=78,slow=23,SNR=23						
STKA	**Stephens Creek**	**38.09**	**244**	P	P	17 55 31.0	0.0
	0.9nm,0.5s,baz=79,slow=12,SNR=3.8						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**44.73**	**256**	P	P	17 56 24.3	+0.5
	4.1nm,0.5s,baz=91,slow=7.5,SNR=168						
ASAR				PcP	PcP	17 57 54.6	+0.3
	0.3nm,0.7s,baz=88,slow=3.6,SNR=3.0						
	4.1nm,0.5s						
WRA	**Warramunga Arr**	**44.78**	**262**	P	P	17 56 24.3	+0.2
	0.9nm,0.3s,baz=97,slow=7.5,SNR=44						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**70.02**	**180**	P	P	17 59 14.7	-0.6
	1.8nm,1.0s,baz=7.1,slow=1.7,SNR=2.5						
	1.8nm,1.0s						
TXAR	**Lajitas Array**	**86.72**	**57**	P	P	18 00 46.1	+1.0
	0.4nm,0.8s,baz=262,slow=4.0,SNR=3.0						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**87.85**	**13**	P	P	18 00 49.2	-0.1
	0.2nm,0.5s,baz=202,slow=5.5,SNR=5.3						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**90.07**	**290**	P	P	18 01 03.1	+2.3
	0.7nm,0.8s,baz=106,slow=5.8,SNR=2.6						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**118.81**	**320**	PKP	PKiKP	18 06 44.2	-0.5
	0.5nm,0.5s,baz=137,slow=2.8,SNR=4.1						
AKASG	**Malin Array Be**	**142.68**	**331**	PKP	PKPdf	18 07 26.9	-2.5
	0.6nm,0.4s,baz=43,slow=4.1,SNR=7.0						
BRTR	**Keskin Array B**	**146.62**	**313**	PKPbc	PKPbc	18 07 39.2	-0.1
	0.5nm,0.7s,baz=98,slow=4.1,SNR=3.6						

*WEL **08** 18:04:03.0±1.0, 32.5S±6×17.8W±1.7, h12km, mB4.6/6, ML4.8/11, MLv4.6/6, Mw(mB)3.8/6, Error ellipse: s-maj=22.6km s-min=4.2km az=105.3, confirmed*
*IDC **08** 18:04:03.0±1.7, 32.23S×178.00W, h0km, mb4.0/2, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=55.6km s-min=31.1km az=131.0*

ISC 08 18:04:05.5±1.5, 32.1S±0.1×178.0W±0.3, h24km, n23, σ2§16/35, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.81**	**1**	P	Pn	18 04 47.5	-1.5
GLKZ				S	Sn	18 05 21.5	-0.6
PKGZ	**Pakihiroa**	**6.62**	**208**	P	Pn	18 05 41.0	-0.3
PKGZ				S	Sn	18 06 58.1	+2.1
HAZ	**Te Kaha**	**6.65**	**211**	P	Pn	18 05 43.1	+1.4
HAZ				S	Sn	18 07 00.4	+3.8
PUZ	**Puketiti**	**6.73**	**206**	P	Pn	18 05 45.4	+2.7
PUZ				S	Sn	18 06 59.5	+0.8
RUGZ	**Raukumara Rang**	**6.87**	**210**	P	Pn	18 05 45.6	+0.8
RUGZ				S	Sn	18 07 02.8	+0.5
CNGZ	**Carnagh Statio**	**7.11**	**205**	P	Pn	18 05 46.9	-1.0
CNGZ				S	Sn	18 07 10.7	+2.7
MWZ	**Matawai**	**7.25**	**209**	P	Pn	18 05 50.5	+0.6
MWZ				S	Sn	18 07 09.8	-1.6
URZ	**Urewera**	**7.36**	**212**	Pn	Pn	18 05 49.6	-1.8
	1.0nm,0.3s,baz=0.3,slow=4.0,SNR=10						
URZ				Sn	Sn	18 07 12.7	-1.5
	3.0nm,0.3s,baz=163,slow=23,SNR=10.0						
	2.1nm,0.3s						
URZ	**Urewera**	**7.36**	**212**	P	Pn	18 05 50.5	-0.9
URZ				S	Sn	18 07 13.2	-1.1
WCZ	**Waipu Caves**	**7.46**	**237**	P	Pn	18 05 59.4	+6.7
SNGZ	**Shannon Statio**	**7.70**	**209**	P	Pn	18 05 56.0	-0.2
SNGZ				S	Sn	18 07 21.7	-0.9
OUZ	**Omahuta**	**7.71**	**244**	P	Pn	18 06 02.4	+6.3
RAHZ	**Arahi**	**7.92**	**209**	P	Pn	18 06 01.5	+2.3
RAHZ				S	Sn	18 07 28.8	+0.8
MTHZ	**Maungataniwha**	**7.97**	**211**	P	Pn	18 06 00.9	+1.1
MTHZ				S	Sn	18 07 29.4	+0.1
BKZ	**Black Stump Fm**	**8.38**	**211**	P	Pn	18 06 06.2	+0.7
BKZ				S	Sn	18 07 37.3	-2.1
TSZ	**Takapari Road**	**9.35**	**210**	S	Sn	18 08 00.0	-3.1
BFZ	**Birch Farm**	**9.77**	**207**	P	Pn	18 06 20.4	-4.0
BFZ				S	Sn	18 08 05.9	-7.3
ASAR	**Alice Springs**	**43.08**	**269**	P	P	18 12 05.0	+1.1
	0.7nm,0.5s,baz=110,slow=7.6,SNR=51						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.22**	**274**	P	P	18 12 13.8	+0.8
	1.3nm,0.3s,baz=114,slow=7.9,SNR=34						
	1.3nm,0.3s						
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	PKPab	18 23 46.1	+0.4
	2.0nm,0.4s,baz=46,slow=4.0,SNR=17						
HFS	**Hagfors**	**150.90**	**348**	PKPbc	PKiKP	18 23 57.4	+1.5
	2.5nm,0.9s,baz=56,slow=3.6,SNR=1.6						
MMAI	**Mount Meron Ar**	**151.93**	**281**	PKPbc	PKiKP	18 24 00.3	+1.3
	1.0nm,0.5s,baz=86,slow=6.2,SNR=6.3						
BRTR	**Keskin Array B**	**153.40**	**296**	PKPbc	PKPbc	18 24 01.5	-0.3
	0.5nm,0.7s,baz=72,slow=4.1,SNR=3.8						

NEIC 08 18:12:25.8±0.7, 36.435N±0.008×96.89W±0.02, h5km±1km, mb_Lg2.5/15, ML2.5/63, Error ellipse: s-maj=2.4km s-min=2.0km az=262.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.05**	**247**		Pg	18 12 27.4	+0.4
OK048				Sg	Sg	18 12 28.6	+0.7
OK051	**E0350 and S346**	**0.08**	**31**		Pg	18 12 27.7	+0.1
OK051				Sg	Sg	18 12 29.0	+0.1
QUOK	**Quay**	**0.30**	**151**		Pg	18 12 32.1	+0.5
QUOK				Sg	Sg	18 12 36.3	+0.7
QUOK				IAML		18 12 38.1	
	comp=N,808nm,0.3s						
BLOK	**Blackwell**	**0.42**	**321**		Pg	18 12 34.1	+0.3
BLOK				Sg	Sg	18 12 39.8	+0.4
BLOK				IAML		18 12 41.5	
	comp=E,419nm,0.3s						
BLOK				IAML		18 12 41.6	
	comp=N,604nm,0.3s						
OK052	**Battle Ridge R**	**0.45**	**171**	Pg	Pg	18 12 34.9	+0.5
OK052				IAML		18 12 44.4	
	comp=N,474nm,0.5s						
OK031	**S. Brethren Rd**	**0.48**	**175**		Pg	18 12 35.6	+0.6
OK031				Sg	Sg	18 12 42.0	+0.7
T35A	**Sooner Cattle**	**0.57**	**32**		Pg	18 12 36.7	+0.1
T35A				Sg	Sg	18 12 43.8	-0.2
DEOK	**Depew**	**0.67**	**152**		Pg	18 12 38.9	+0.3
DEOK				Sg	Sg	18 12 47.9	+0.5
DEOK				IAML		18 12 51.4	
	comp=E,262nm,0.5s						
KAN13	**South Haven SW**	**0.75**	**321**		Pg	18 12 40.2	+0.1
KAN13				Sg	Sg	18 12 50.1	+0.4
KAN13				IAML		18 12 51.9	
	comp=E,269nm,0.4s						
OK029	**Liberty Lake**	**0.79**	**216**		Pg	18 12 41.1	+0.3
OK029				Sg	Sg	18 12 51.8	+0.8
ADOK	**Arcadia Dam**	**0.87**	**207**	Pg	Pg	18 12 42.5	0.0
GC02	**Grant County #**	**0.88**	**298**		Pg	18 12 42.7	0.0
CROK	**Carrier**	**0.89**	**275**		Pg	18 12 42.9	+0.2
CROK				IAML		18 12 59.8	
	comp=E,131nm,0.2s						
CROK				IAML		18 13 03.2	
	comp=N,144nm,0.2s						
KAN09	**Caldwell North**	**0.91**	**320**		Pg	18 12 43.1	-0.1
KAN17	**Caldwell West**	**0.93**	**311**		Pg	18 12 43.5	-0.1
KAN17				IAML		18 12 56.2	
	comp=E,122nm,0.2s						
KAN17				IAML		18 12 58.0	
	comp=N,206nm,0.3s						
KAN01	**Argonia South**	**1.00**	**316**		Pg	18 12 44.5	-0.4
KAN01				IAML		18 12 59.3	
	comp=E,107nm,0.2s						
KAN01				IAML		18 12 59.3	
	comp=N,128nm,0.1s						
KAN14	**Manchester OK**	**1.01**	**301**		Pg	18 12 44.8	-0.3
KAN14				IAML		18 12 59.5	
	comp=N,146nm,0.1s						
KAN14				IAML		18 12 60.0	
	comp=E,158nm,0.1s						
TUL3	**Leonard**	**1.03**	**120**		Pg	18 12 45.2	-0.3
KAN05	**Bluff City Nor**	**1.04**	**311**		Pg	18 12 45.4	-0.2
KAN05				IAML		18 12 59.7	
	comp=E,170nm,0.2s						
KAN05				IAML		18 13 01.4	
	comp=N,166nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.12**	**204**	Pg	Pg	18 12 46.5	-0.8
OK032	**Salt Plains WL**	**1.12**	**289**		Pg	18 12 46.2	-1.1
KAN08	**Anthony NE Sta**	**1.17**	**313**	Pg	Pg	18 12 46.8	-1.4
KAN08				IAML		18 13 04.9	
	comp=E,107nm,0.2s						
KAN08				IAML		18 13 04.9	
	comp=N,114nm,0.2s						
FNO	**Franklin**	**1.25**	**200**		Pg	18 12 48.6	-1.0
FNO				IAML		18 13 10.7	
	comp=N,80nm,0.2s						
FNO				IAML		18 13 13.1	
	comp=E,80nm,0.2s						
W35A	**Tecumseh**	**1.28**	**179**		Pg	18 12 48.9	-1.4
W35A				IAML		18 13 11.2	
	comp=N,97nm,0.3s						
W35A				IAML		18 13 11.3	
	comp=E,88nm,0.2s						
OK038	**West end E0370**	**1.50**	**272**		Pn	18 12 51.9	-1.4
CSTR	**Hydro, Custer**	**1.66**	**242**		Pn	18 12 54.6	-0.9
X34A	**Smith Ranch, M**	**1.98**	**203**		Pn	18 12 59.6	-0.4
ELIS	**Ellis County**	**2.08**	**261**		Pn	18 13 00.2	-1.1
WMOK	**Wichita Mounta**	**2.29**	**223**		Pn	18 13 02.3	-2.0
HHAR	**Hobbs**	**2.38**	**93**		Pn	18 13 03.8	-1.8
HHAR				IAmb_Lg		18 13 39.9	
	comp=Z,8.9nm,0.8s						
LOOK	**Love County**	**2.45**	**186**		Pn	18 13 04.7	-1.7
KSU1	**Kansas State U**	**2.67**	**5**		Pn	18 13 07.8	-1.7
CBKS	**Cedar Bluff**	**3.28**	**317**		Pn	18 13 15.2	-2.6
MIAR	**Mount Ida**	**3.30**	**124**		Pn	18 13 16.6	-1.4
MGMO	**Mountain Grove**	**3.78**	**78**		Pn	18 13 22.3	-2.4
X40A	**Basin Creek Fa**	**3.84**	**119**		Pn	18 13 24.0	-1.5
X40A				IAmb_Lg		18 14 30.7	
	comp=Z,7.1nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.89**	**97**		Pn	18 13 23.9	-2.3
WHAR	**Wooly Hollow**	**3.91**	**106**		Pn	18 13 24.2	-2.2
N35A	**Tabor**	**4.53**	**12**	IAmb_Lg		18 14 59.1	
	comp=Z,11nm,0.8s						
T42A	**Van Buren**	**4.69**	**81**		Pn	18 13 33.9	-3.3
CCM	**Cathedral Cave**	**4.79**	**69**		Pn	18 13 35.4	-3.1
CCM				IAmb_Lg		18 14 53.5	
	comp=Z,15nm,1.0s						
CCAR	**Cane Creek**	**4.89**	**119**	IAmb_Lg		18 15 00.2	
	comp=Z,14nm,0.7s						
PBMO	**Poplar Bluff**	**5.21**	**84**	IAmb_Lg		18 15 24.0	
	comp=Z,3.9nm,0.8s						
SIUC	**Southern Illin**	**6.26**	**76**	IAmb_Lg		18 15 48.0	
	comp=Z,11nm,0.7s						

*JMA **08** 18:14:22.8±0.3, 46.1N×14.3E±., h317km±2km, MV2.6/28, NE OFF HOKKAIDO*
*SKHL **08** 18:14:24.3±0.2, 45.60N×142.90E, h313km±1km, mb3.5/2, msha3.9/1*

ISC 08 18:14:20.5±1.4, 45.62N±0.08×142.82E±0.10, h330km, n16, σ1§65/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.71**	**245**	*eP*	Pn	18 15 04.1	+1.0
JWK2				*eS*	S	18 15 35.5	-1.5
YSS	**Yuzhno-Sakhali**	**1.34**	**358**	*eP*	Pn	18 15 06.6	+1.0
YSS				AMB	AMB	18 15 06.8	
	10.0nm,0.5s						
YSS				*eS*	S	18 15 39.8	-2.0
YSS				A	A	18 15 41.0	
	10.0nm,0.7s						
YSS				A	A	18 15 41.0	
	10.0nm,0.7s						
JSS	**Shosan**	**1.39**	**210**	*eP*	Pn	18 15 07.2	+1.1
ASAJ	**Asahikawa**	**1.51**	**186**	*eP*	Pn	18 15 08.1	+1.3
JKK2	**Kamakawa 2**	**1.74**	**182**	P	Pn	18 15 09.6	+1.3
JTKR	**Abashiri--Toko**	**1.82**	**154**	*eP*	Pn	18 15 10.3	+1.6
JTKR				*eS*	S	18 15 47.0	-0.3
JHR	**Hokuryu**	**2.03**	**203**	*eP*	Pn	18 15 11.6	+1.3
JAB	**Ashibetsu**	**2.15**	**192**	P	Pn	18 15 12.6	+1.4
JAR	**Ashorobuto**	**2.42**	**163**	*eP*	Pn	18 15 15.1	+1.7
JEW	**Eniwo**	**2.94**	**200**	*eP*	Pn	18 15 19.8	+1.9
JAK	**Akkeshi**	**2.95**	**152**	*eP*	Pn	18 15 19.3	+1.3
JAK				*eS*	S	18 16 02.9	-1.1
AKK	**Akkeshi**	**2.98**	**150**	*eP*	Pn	18 15 19.2	+1.0
JCH	**Churui**	**3.03**	**172**	*eP*	Pn	18 15 18.7	0.0
JCH				*eS*	S	18 16 01.1	-4.2
NMR	**Nemuro--Hokkai**	**3.06**	**136**	*eP*	Pn	18 15 20.4	+1.4
JNBK	**Urakawa-nobuka**	**3.33**	**181**	*eP*	Pn	18 15 22.5	+0.9
JNBK				*eS*	S	18 16 10.8	0.0
SHO	**Shikotan**	**3.35**	**120**	*eP*	Pn	18 15 23.3	+1.5
SHO				*eS*	S	18 16 09.2	-1.7

*IDC **08** 18:22:56.2±1.5, 32.26N×66.34E, h0km, mb3.4/3, mbtmp3.5/7, ML3.4/4, Error ellipse: s-maj=46.9km s-min=23.2km az=103.0*

ISC 08 18:23:00.4±0.9, 32.3N±0.1×66.1E±0.2, h35km, n9, σ1§83/10, mb3.5/3, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**11.22**	**218**	Pn	Pn	18 25 39.0	+0.6
	0.3nm,0.3s,baz=86,slow=8.5,SNR=7.1						
WSAR				Sn	Sn	18 27 40.1	-2.5
	0.1nm,0.3s,baz=177,slow=19,SNR=1.2						
	2.3nm,1.0s						
AAK	**Ala-Archa**	**12.24**	**30**	Pn	Pn	18 25 53.4	+1.0
	0.3nm,0.3s,baz=206,slow=6.9,SNR=12						
AAK				Sn	Sn	18 28 04.1	-3.5
	baz=174,slow=19,SNR=2.2						
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**19.02**	**36**	P	P	18 27 19.4	+0.1
	0.1nm,0.3s,baz=212,slow=10,SNR=7.1						
	0.7nm,0.0s						
AKTO	**Aktyubinsk**	**19.08**	**344**	P	P	18 27 20.9	+1.2
	0.2nm,0.3s,baz=72,slow=3.2,SNR=2.0						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**20.46**	**23**	P	P	18 27 34.7	-0.1
	0.8nm,0.4s,baz=210,slow=12,SNR=7.8						
BVAR	**Borovoye Array**	**20.92**	**7**	P	Pn	18 27 45.5	+3.0
	1.8nm,0.6s,baz=181,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**25.41**	**26**	P	P	18 28 24.9	+0.5
	0.3nm,0.3s,baz=225,slow=9.6,SNR=4.8						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**83.37**	**118**	P	P	18 35 25.4	+1.1
	0.3nm,0.8s,baz=315,slow=5.6,SNR=2.0						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**85.33**	**122**	P	P	18 35 33.8	-0.3
	0.2nm,0.6s,baz=304,slow=5.5,SNR=4.6						
	0.2nm,0.6s						

*WEL **08** 18:28:49.3±1.3, 33.5S±9×17.8W±2.1, h12km, mB4.7/5, ML4.8/7, MLv4.5/7, Mw(mB)4.0/5, Error ellipse: s-maj=29.7km s-min=6.5km az=110.7, confirmed*
*IDC **08** 18:28:50.5±2.0, 32.52S×178.11W, h0km, mb3.9/2, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=62.3km s-min=39.2km az=139.0*

ISC 08 18:28:49.2±1.4, 32.68S±0.10×177.6W±0.2, h10km, n15, σ1§51/22, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.42**	**355**	P	Pn	18 29 41.4	-1.2
HAZ	**Te Kaha**	**6.34**	**216**	P	Pn	18 30 22.9	+0.2
HAZ				S	Sn	18 31 36.4	+1.3
PUZ	**Puketiti**	**6.37**	**211**	P	Pn	18 30 18.6	-4.6
PUZ				S	Sn	18 31 36.5	+0.5
RUGZ	**Raukumara Rang**	**6.55**	**215**	P	Pn	18 30 26.4	+0.7
RUGZ				S	Sn	18 31 40.0	-0.6
TWGZ	**Tauwhareparae**	**6.58**	**212**	P	Pn	18 30 28.0	+2.0
TWGZ				S	Sn	18 31 41.1	-0.1
CNGZ	**Carnagh Statio**	**6.74**	**210**	P	Pn	18 30 29.2	+1.0
CNGZ				S	Sn	18 31 45.9	+1.0
MWZ	**Matawai**	**6.92**	**214**	P	Pn	18 30 30.4	-0.3
MWZ				S	Sn	18 31 48.4	-1.0
URZ	**Urewera**	**7.06**	**217**	Pn	Pn	18 30 32.4	-0.2
	1.6nm,0.3s,baz=359,slow=4.2,SNR=17						
URZ				Sn	Sn	18 31 49.1	-3.8
	1.7nm,0.3s,baz=217,slow=20,SNR=6.9						
	5.9nm,0.4s						
URZ	**Urewera**	**7.06**	**217**	P	Pn	18 30 33.0	+0.4
URZ				S	Sn	18 31 50.3	-2.6
OUZ	**Omahuta**	**7.78**	**249**	P	Pn	18 30 44.8	+2.4
ASAR	**Alice Springs**	**43.41**	**269**	P	P	18 36 51.4	-0.9
	1.0nm,0.5s,baz=109,slow=7.6,SNR=37						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.60**	**274**	P	P	18 37 00.9	-1.0
	1.2nm,0.6s,baz=113,slow=8.0,SNR=11						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**122.92**	**313**	PKP	PKPdf	18 47 45.7	+0.5
	0.2nm,0.5s,baz=114,slow=2.2,SNR=3.6						
FINES	**FINESS Array B**	**147.41**	**339**	PKPbc	PKPab	18 48 35.2	+0.8
	2.4nm,0.7s,baz=36,slow=3.6,SNR=9.2						
BRTR	**Keskin Array B**	**153.95**	**295**	PKPbc	PKiKP	18 48 50.6	+1.5
	0.4nm,0.7s,baz=96,slow=2.9,SNR=1.9						

*IDC **08** 18:37:20.1±1.9, 0.43N×126.09E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=184.8km s-min=24.7km az=65.0*
*DJA **08** 18:37:24.8±1.1, 0.7N±3.5×12.6E±., h38km±28km, M3.3/9, MLv3.3/9*

ISC 08 18:37:25.1±1.1, 0.37N±0.07×126.37E±0.07, h35km, n7, σ1§25/9, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**68**	P	Pn	18 37 43.6	-0.1
TNTI				S	Sn	18 37 57.9	+0.5
KMSI	**Cibinong**	**2.39**	**275**	P	Pn	18 38 01.9	+0.1
SANI	**Sanana**	**2.44**	**189**	P	Pn	18 38 01.8	-0.6
SANI				S	Sn	18 38 32.2	+1.2
NLAI	**Namlea**	**3.66**	**168**	P	Pn	18 38 18.3	-1.0
WRA	**Warramunga Arr**	**21.65**	**159**	P	P	18 42 12.3	-0.3
	0.5nm,0.4s,baz=337,slow=11,SNR=7.1						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.99**	**163**	P	P	18 42 48.0	+2.2
	1.2nm,0.8s,baz=344,slow=12,SNR=20						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**60.11**	**327**	P	P	18 47 27.9	-1.1
	0.1nm,0.3s,baz=122,slow=7.6,SNR=8.3						
	0.1nm,0.3s						

*REN **08** 18:55:38.5±1.0, 41.57N±0.02×118.82W±0.04, h0km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=107.0*

NEIC 08 18:55:37.9±0.8, 41.56N±0.02×118.81W±0.05, h13km±8km, ML3.2/120, ML3.3/6(REN), Error ellipse: s-maj=5.7km s-min=3.0km az=110.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVOR	**Wild Horse Val**	**0.88**	**8**		Pb	18 55 55.1	0.0
WVOR				Sg	Sg	18 56 06.2	-0.3
LKVW	**Lakeview**	**1.33**	**300**		Pg	18 56 03.6	+0.1
J08A	**Circle Bar Ran**	**1.81**	**8**		Pn	18 56 09.8	+0.9
J08A					Sb	18 56 33.5	-0.1
PAHR	**Pah Rah Range**	**1.91**	**193**		Pn	18 56 11.2	+0.9
PAHR					Sn	18 56 34.8	+0.5
LBCM	**Butte Creek Ri**	**2.05**	**250**		Pn	18 56 13.3	+1.0
BEKR	**Beckworth**	**2.06**	**215**		Pn	18 56 13.8	+1.3
BEKR					Sb	18 56 41.4	+0.3
HATC	**Hat Creek Radi**	**2.14**	**250**		Pn	18 56 14.6	+1.2
HATC				IAML		18 56 58.4	
	comp=E,222nm,0.9s						
HATC				IAML		18 57 02.2	
	comp=N,156nm,1.1s						
PEAR	**Peavine Mounta**	**2.14**	**205**		Pn	18 56 14.8	+1.1
PEAR					Sb	18 56 43.5	+0.1
K04D	**Chiloquin, OR**	**2.43**	**297**		Pn	18 56 18.9	+1.3
J05D	**Fort Rock, OR**	**2.49**	**315**		Pn	18 56 20.1	+1.8
J05D				IAML		18 57 01.4	
	comp=E,119nm,0.7s						
J05D				IAML		18 57 01.8	
	comp=N,105nm,0.9s						
PNTR	**Pine Nut**	**2.54**	**194**		Sg	18 57 00.6	+0.8
PNTR	**Pine Nut**	**2.54**	**194**		Pn	18 56 20.4	+1.2
PNTR	**Pine Nut**	**2.54**	**194**	IAML		18 57 05.5	
	comp=N,162nm,0.9s						
PNTR				IAML		18 57 05.6	
	comp=E,136nm,0.8s						
I07A	**Izee**	**2.57**	**349**		Pn	18 56 20.9	+1.5
I07A				IAML		18 57 01.8	
	comp=N,89nm,0.7s						
I07A				IAML		18 57 01.9	
	comp=E,

I04A	**Tendick Farm,**	**3.47 311**		Pn	18 56 33.1	+1.4
L02F	**Cave Junction**	**3.60 280**		Pn	18 56 34.2	+0.7
G08A	**Pilot Rock**	**3.73 358**		Pn	18 56 36.5	+1.2
CMB	**Columbia Colle**	**3.73 200**		Pn	18 56 36.7	+1.5
KHMM	**Horse Mountain**	**3.78 261**		Pn	18 56 35.8	-0.2
KHMM			IAML		18 57 46.9	
	comp=N,25nm,0.9s					
KHMM			IAML		18 58 10.9	
	comp=E,24nm,3.0s					
HLID	**Hailey**	**3.81 57**		Pn	18 56 37.9	+1.4
HLID			IAML		18 57 37.7	
	comp=E,50nm,0.7s					
HLID			IAML		18 57 42.7	
	comp=E,40nm,0.6s					
G06A	**Carlson Farm,**	**3.90 341**		Pn	18 56 38.9	+1.3
KRPM	**Rodgers**	**3.94 266**	Pn	Pn	18 56 39.8	+1.5
KRPM			IAML		18 57 12.4	
	comp=N,44nm,1.8s					
KRPM			IAML		18 57 54.8	
	comp=E,44nm,1.5s					
KMRM	**Mail Ridge**	**3.95 252**		Pn	18 56 37.5	-0.8
KMRM			IAML		18 57 41.4	
	comp=N,27nm,3.9s					
KMRM			IAML		18 58 57.0	
	comp=E,27nm,3.8s					
I03D	**Drain, OR**	**3.97 304**	Pn	Pn	18 56 37.4	-1.1
I03D			IAML		18 57 33.8	
	comp=E,22nm,2.1s					
I03D			IAML		18 58 26.4	
	comp=N,25nm,1.9s					
H04A	**Detroit Lake**	**3.98 323**		Pn	18 56 36.5	-2.2
JCC	**Jacoby Creek,**	**4.01 261**	Pn	Pn	18 56 37.2	-1.9
JCC			IAML		18 57 55.2	
	comp=N,26nm,1.3s					
JCC			IAML		18 58 05.4	
	comp=E,27nm,2.5s					
MZP	**Montezuma Peak**	**4.01 164**		Pn	18 56 38.7	-0.7
MZP			IAML		18 57 49.0	
	comp=N,23nm,0.6s					
BUCK	**Buck Mountain**	**4.04 312**	Pn	Pn	18 56 39.2	-0.4
BUCK			IAML		18 58 48.9	
	comp=N,27nm,2.2s					
BUCK			IAML		18 58 53.6	
	comp=E,38nm,1.9s					
R11B	**Troy Canyon, C**	**4.06 141**	Pn	Pn	18 56 38.9	-1.0
R11B			IAML		18 57 48.7	
	comp=N,21nm,0.8s					
KCPM	**Cahto Peak**	**4.09 244**	Pn	Pn	18 56 38.3	-2.0
KCPM			IAML		18 57 08.9	
	comp=N,35nm,2.0s					
KCPM			IAML		18 58 16.3	
	comp=E,40nm,2.3s					
KBO	**Bosley Butte**	**4.10 281**	Pn	Pn	18 56 37.8	-2.5
KBO			IAML		18 58 06.4	
	comp=E,47nm,3.0s					
J01E	**Myrtle Point**	**4.12 295**	Pn	Pn	18 56 38.3	-2.2
J01E			IAML		18 57 21.9	
	comp=N,34nm,2.0s					
J01E			IAML		18 58 05.6	
	comp=E,43nm,1.6s					
H04D	**Lebanon**	**4.13 317**	Pn	Pn	18 56 38.3	-2.4
H04D			IAML		18 58 15.6	
	comp=E,29nm,2.4s					
H04D			IAML		18 58 22.7	
	comp=N,28nm,4.8s					
DSP	**Deep Springs**	**4.24 171**		Pn	18 56 42.0	-0.2
DSP			IAML		18 57 58.8	
	comp=N,18nm,0.8s					
SPR3	**Spring Creek 3**	**4.28 125**		Pn	18 56 42.1	-0.9
SPR3			IAML		18 57 59.2	
	comp=N,34nm,1.0s					
BGU	**Big Grassy Mou**	**4.40 96**		Pn	18 56 44.1	-0.5
BGU			IAML		18 58 01.3	
	comp=N,20nm,0.7s					
BGU			IAML		18 58 09.7	
	comp=E,22nm,1.3s					
GMN	**Gold Mountain**	**4.42 164**		Pn	18 56 44.0	-1.0
GMN			IAML		18 58 02.1	
	comp=N,29nm,0.7s					
GMN			IAML		18 58 07.7	
	comp=E,17nm,0.9s					
I02E	**Swisshome, OR**	**4.49 306**	Pn	Pn	18 56 44.4	-1.3
HVU	**Hansel Valley**	**4.53 85**		Pn	18 56 45.9	-0.4
S11A	**Rachel**	**4.57 148**		Pn	18 56 49.4	+2.4
DUG	**Dugway, Tooele**	**4.75 105**		Pn	18 56 49.3	-0.1
DUG			IAML		18 58 13.7	
	comp=E,30nm,0.9s					
PSUT	**Pine Spring**	**4.86 127**		Pn	18 56 50.4	-0.5
TPNV	**Topopah Spring**	**5.02 156**		Pn	18 56 51.6	-1.5
TPNV			IAML		18 58 25.5	
	comp=E,24nm,0.7s					
WCT	**Wildcat Mounta**	**5.06 160**		Pn	18 56 53.9	+0.4
WCT			IAML		18 58 21.7	
	comp=E,13nm,1.1s					
WCT			IAML		18 58 22.8	
	comp=N,12nm,0.7s					
PRN	**Pahroc Range**	**5.07 144**		Pn	18 56 53.6	-0.1
HWUT	**Hardware Ranch**	**5.43 87**	Pn	Pn	18 56 58.4	-0.4
MCMT	**McKenzie Canyo**	**5.44 51**		Pn	18 56 58.7	-0.2
GWY	**Greenwater Val**	**5.62 162**		Pn	18 57 02.4	+1.0
SHPR	**Sheep Range**	**5.79 149**		Pn	18 57 04.7	+0.9
DLMT	**Dillon**	**5.90 48**		Pn	18 57 05.9	+0.7
BSUT	**Blindstream Ca**	**6.17 97**		Pn	18 57 09.9	+0.8
YHL	**Hebgen Lake**	**6.47 57**		Pn	18 57 14.1	+1.0

*IDC **08** 19:10:27.6±4.2, 1°.28N×98°.96E, h94km±26km, mb3.4/6, mbtmp3.7/7, Error ellipse: s-maj=84.0km s-min=16.3km az=58.0*
*DJA **08** 19:10:29.3±0.3, 1°N±2°×9°9E±°, h108km±5km, M3.9/13, mB4.5/1, mb4.3/2, MLv3.7/13, Mw(mB)3.6/1*

ISC 08 19:10:28.9±0.8, 1°.47N±0°.05×98°.90E±0°.07, h90km, n24, σ1§68/24, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.95**	**135**	P	**Pn**	**19 10 50.2**	**+2.2**
MNSI				S	**Sn**	**19 11 06.0**	**+3.6**
PSI	**Prapat**	**1.32**	**1**	P	**Pn**	**19 10 53.3**	**+0.8**
	10nm,0.3s,baz=174,slow=10.0,SNR=9.4						
PSI				S	**Sn**	**19 11 11.2**	**+0.9**
	19nm,0.5s,baz=22,slow=18,SNR=15						
GSI	**Gunungsitoli**	**1.34**	**263**	P	**Pn**	**19 10 54.3**	**+1.7**
PBSI	**Pulau Batu**	**1.64**	**202**	P	**Pn**	**19 10 57.4**	**+1.0**
PBSI				S	**Sn**	**19 11 19.2**	**+1.9**
TSI	**Tuntungan**	**2.04**	**350**	P	**Pn**	**19 11 03.6**	**+2.0**
PPI	**Padang Panjang**	**2.43**	**142**	P	**Pn**	**19 11 07.9**	**+1.1**
SNSI	**Sinabang, Aceh**	**2.74**	**290**	P	**Pn**	**19 11 12.4**	**+1.5**
SISI	**Saibi**	**2.79**	**176**	P	**Pn**	**19 11 10.9**	**-0.7**
MLSI	**Meulaboh, Aceh**	**3.73**	**318**	P	**Pn**	**19 11 24.9**	**+0.6**
LHMI	**Lhok Sumawe**	**4.21**	**332**	P	**Pn**	**19 11 31.8**	**+1.0**
PPSI	**Pulau Pagai**	**4.35**	**165**	P	**Pn**	**19 11 33.1**	**+0.4**
BSI	**Banda Aceh**	**5.38**	**318**	P	**Pn**	**19 11 46.8**	**+0.1**
MDSI	**Maura Dua**	**7.93**	**138**	P	**Pn**	**19 12 22.3**	**+0.9**
	0.0nm4.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.88**	**0**	P	**Pn**	**19 14 20.3**	**+0.7**
	1.5nm,0.8s,baz=188,slow=11,SNR=11						
H08S2	**Diego Garcia H**	**27.86**	**251**	T	T	19 44 04.4	
	baz=73,slow=74						
H08S3	**Diego Garcia H**	**27.86**	**251**	T	T	19 44 04.4	
	baz=73,slow=74						
H08S1	**Diego Garcia H**	**27.88**	**251**	T	T	19 44 00.0	
	baz=73						
WRA	**Warramunga Arr**	**40.75**	**123**	P	**P**	**19 17 57.9**	**-3.5**
	1.0nm,0.7s,baz=301,slow=9.2,SNR=7.8						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**42.22**	**128**	P	**P**	**19 18 10.6**	**-2.8**
	0.3nm,0.6s,baz=316,slow=10,SNR=6.6						
	0.3nm,0.6s						
SONM	**Songino Array**	**46.63**	**7**	P	**P**	**19 18 49.0**	**+0.7**
	0.3nm,0.5s,baz=192,slow=13,SNR=4.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**47.41**	**345**	P	**P**	**19 18 54.3**	**+0.1**
	0.6nm,0.5s,baz=153,slow=9.1,SNR=12						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**51.93**	**344**	P	**P**	**19 19 27.9**	**-0.5**
	0.3nm,0.6s,baz=162,slow=7.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.58**	**350**	P	**P**	**19 19 39.9**	**-0.6**
	1.2nm,0.4s,baz=177,slow=8.6,SNR=8.1						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**56.57**	**340**	P	**P**	**19 20 01.1**	**-1.0**
	0.5nm,0.5s,baz=140,slow=8.9,SNR=6.0						
	0.5nm,0.5s						

*NOU **08** 19:38:14.9, 21°.79S×169°.88E, h0km, MLv3.8/7, Southeast of Loyalty Islands*
*IDC **08** 19:38:16.0±1.4, 21°.77S×169°.61E, h0km, mb3.9/6, mbtmp3.9/6, MS3.4/4, Error ellipse: s-maj=40.2km s-min=35.7km az=124.0*

ISC 08 19:38:20.2±1.1, 21°.75±0°.2×169°.8E±0°.1, h35km, n17, σ1§40/15, mb3.8/6, MS3.5/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.68**	**277**	P	**Pn**	**19 38 45.6**	**-1.5**
MARNC	**Mare, Loyalty**	**1.68**	**277**	S	**Sn**	**19 39 09.5**	**+2.1**
PINNC	**Pines Island,**	**2.38**	**247**	S	**Sn**	**19 39 25.8**	**+1.2**
YATNC	**Mamie plateau,**	**2.74**	**262**	P	**Pn**	**19 39 00.8**	**-0.9**
OUENC	**Ouen Island, N**	**2.85**	**255**	P	**Pn**	**19 39 02.6**	**-0.6**
DZM	**Mont Dzumac**	**3.15**	**263**	P	**Pn**	**19 39 06.6**	**-0.9**
ONTNC	**Ouen Toro**	**3.18**	**259**	P	**Pn**	**19 39 06.4**	**-1.3**
HNR	**Honiara**	**15.46**	**321**	LR	LR	19 47 07.6	
	comp=Z,50nm,18.4s,baz=239,slow=35						
STKA	**Stephens Creek**	**27.08**	**242**	P	**P**	**19 44 00.3**	**+0.7**
	3.1nm,1.2s,baz=113,slow=19,SNR=3.3						
STKA				LR	LR	19 54 02.0	
	comp=Z,111nm,18.2s,baz=34,slow=35						
	3.1nm,1.2s						
ASAR	**Alice Springs**	**33.14**	**260**	P	**P**	**19 44 51.5**	**-2.0**
	1.0nm,1.1s,baz=78,slow=9.4,SNR=6.9						
ASAR				LR	LR	19 59 15.1	
	comp=Z,78nm,18.3s,baz=119,slow=38						
	1.0nm,1.1s						
WRA	**Warramunga Arr**	**33.16**	**266**	P	**P**	**19 44 51.9**	**-1.8**
	1.1nm,1.1s,baz=98,slow=7.9,SNR=2.9						
	1.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.59**	**267**	LR	LR	20 02 18.3	
	comp=Z,89nm,19.8s,baz=142,slow=35						
QSPA	**South Pole Qui**	**68.36**	**180**	P	**P**	**19 49 18.6**	**+0.6**
	3.3nm,1.0s,baz=7.0,slow=7.5,SNR=4.3						
	3.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**80.01**	**294**	P	**P**	**19 50 27.5**	**+1.0**
	0.7nm,0.8s,baz=134,slow=5.3,SNR=5.2						
	0.7nm,0.8s						
SONM	**Songino Array**	**89.51**	**323**	P	**P**	**19 51 15.2**	**+1.3**
	0.7nm,0.9s,baz=127,slow=4.6,SNR=3.8						
	0.7nm,0.9s						
EKA	**Eskdalemuir Ar**	**146.01**	**353**	PKPbc	**PKPab**	**19 57 56.4**	**-0.1**
	0.6nm,0.4s,baz=13,slow=1.6,SNR=3.6						
GERES	**GERESS Array B**	**146.91**	**331**	PKPbc	**PKPab**	**19 57 59.5**	**-0.9**
	2.2nm,0.8s,baz=40,slow=1.7,SNR=9.3						

*IDC **08** 19:55:33.4±0.9, 10°.42N×126°.35E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=46.4km s-min=18.5km az=66.0*

ISC 08 19:55:39.8±0.8, 10°.4N±0°.2×126°.3E±0°.3, h44km, n9, σ1§96/13, mb3.7/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.64**	**290**	P	**P**	**20 01 23.2**	**-0.4**
	1.0nm,0.7s,baz=96,slow=7.4,SNR=6.9						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**31.13**	**165**	P	**P**	**20 01 52.7**	**-1.8**
	0.2nm,0.6s,baz=342,slow=8.5,SNR=1.5						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**34.62**	**168**	P	**P**	**20 02 25.9**	**+1.0**
	0.3nm,0.3s,baz=349,slow=7.1,SNR=13						
ASAR				PcP	**PcP**	**20 04 59.6**	**+0.8**
	0.3nm,0.7s,baz=336,slow=2.7,SNR=2.6						
	0.3nm,0.3s						
SONM	**Songino Array**	**40.95**	**340**	P	**P**	**20 03 18.2**	**-0.1**
	0.5nm,0.7s,baz=162,slow=7.6,SNR=3.6						
SONM				PcP	**PcP**	**20 05 18.8**	**+0.8**
	0.3nm,0.6s,baz=132,slow=2.1,SNR=2.5						
SONM				ScP	**ScP**	**20 09 09.9**	**+5.6**
	0.2nm,0.5s,baz=152,slow=3.9,SNR=2.0						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**51.97**	**323**	P	**P**	**20 04 44.6**	**0.0**
	1.0nm,0.8s,baz=123,slow=8.2,SNR=10						
MKAR				PcP	**PcP**	**20 05 56.1**	**-0.5**
	0.7nm,0.8s,baz=115,slow=3.9,SNR=4.9						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**56.01**	**325**	P	**P**	**20 05 13.5**	**-0.4**
	1.1nm,0.6s,baz=125,slow=6.9,SNR=11						
BVAR	**Borovoye Array**	**61.60**	**325**	P	**P**	**20 05 52.4**	**-0.4**
	0.6nm,0.7s,baz=96,slow=10,SNR=3.1						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**79.37**	**26**	P	**P**	**20 07 40.1**	**-0.8**
	0.3nm,0.8s,baz=252,slow=5.9,SNR=2.3						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**85.83**	**332**	P	**P**	**20 08 13.8**	**-0.7**
	1.8nm,0.8s,baz=57,slow=5.1,SNR=4.2						
	1.8nm,0.8s						

*NEIC **08** 19:58:55.6±1.1, 19°.38N±0°.02×154°.88W±0°.02, h5km±1km, Error ellipse: s-maj=4.7km s-min=3.0km az=314.0*

HVO 08 19:58:55.5±1.8, 19°.41N±0°.02×154°.89W±0°.02, h2km±7km, ML2.2/12, ML2.4/36(NEIC), Error ellipse: s-maj=3.9km s-min=1.3km az=134.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.11**	**283**		Pg	19 58 58.2	+0.6
JOKA	**Jonika Flow**	**0.11**	**283**		Sg	19 59 00.2	+1.2
JOKA				IAML		19 59 00.7	
	comp=N,1μm,0.7s						
JOKA				IAML		19 59 00.9	
	comp=E,650nm,0.4s						
JCUZ	**Jacuzzi**	**0.20**	**263**		Pg	19 58 59.9	+0.6
JCUZ					Sg	19 59 03.5	+1.6
NPOC	**North of Pu'u**	**0.20**	**265**		Pg	19 58 59.8	+0.4
NPOC					Sg	19 59 03.6	+1.5
STCH	**Steam Cracks**	**0.22**	**264**		Pg	19 58 60.0	+0.3
STCH	**Steam Cracks**	**0.22**	**264**		Sg	19 59 03.3	+0.7
STCH				IAML		19 59 05.5	
	comp=E,881nm,0.1s						
STCH				IAML		19 59 05.8	
	comp=N,374nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.26**	**263**		Pg	19 59 01.4	+0.9
PUH	**Pauahi**	**0.31**	**263**		Pg	19 59 01.9	+0.5
PUH					Sg	19 59 06.7	+1.3
PUH	**Pauahi**	**0.31**	**263**	IAML		19 59 07.4	
	comp=E,257nm,0.2s						
PUH				IAML		19 59 09.8	
	comp=N,354nm,1.2s						
BYL	**Byron's Ledge**	**0.34**	**270**		Pg	19 59 02.2	+0.1
BYL					Sg	19 59 07.6	+1.0
BYL	**Byron's Ledge**	**0.34**	**270**	IAML		19 59 09.3	
	comp=E,231nm,1.7s						
BYL				IAML		19 59 09.9	
	comp=N,229nm,3.3s						
HATHI	**Halema'uma'u T**	**0.35**	**272**		Sg	19 59 07.4	+0.7
HATHI	**Halema'uma'u T**	**0.35**	**272**		Pg	19 59 02.3	+0.1
HATHI				IAML		19 59 08.6	
	comp=N,326nm,0.2s						
HATHI				IAML		19 59 13.3	
	comp=E,291nm,0.8s						
KKO	**Keanakako'i**	**0.35**	**268**		Pg	19 59 02.5	+0.3
KKO					Sg	19 59 08.0	+1.2
SBLHI	**Steaming Bluff**	**0.35**	**273**		Pg	19 59 02.6	+0.3
SBLHI					Sg	19 59 07.5	+0.6
RIM	**Rim**	**0.36**	**268**		Pg	19 59 02.9	+0.5
RIM					Sg	19 59 08.3	+1.2
UWB	**Uwekahuna Bluf**	**0.36**	**272**		Pg	19 59 02.8	+0.3
UWB					Sg	19 59 08.2	+1.0
RSD	**Rainshed**	**0.37**	**278**		Pn	19 59 08.3	+0.4
OBL	**Observatory Le**	**0.37**	**271**		Pg	19 59 03.3	+0.8
OBL					Sg	19 59 09.0	+1.6
UWE	**Uwekahuna**	**0.38**	**272**		Pg	19 59 02.9	+0.1
UWE					Sg	19 59 08.8	+1.1
UWE	**Uwekahuna**	**0.38**	**272**	IAML		19 59 09.8	
	comp=N,248nm,0.4s						
UWE				IAML		19 59 13.8	
	comp=E,317nm,0.8s						
SDHHI	**Sand Hill**	**0.38**	**267**		Pg	19 59 03.2	+0.5
SDHHI					Sg	19 59 09.1	+1.4
WRMHI	**West Rim**	**0.38**	**270**		Pg	19 59 02.7	-0.1
WRMHI					Sg	19 59 08.9	+1.1
HLP	**Hilina Pali**	**0.41**	**254**	Pg	Pg	19 59 03.6	+0.4
HLP				IAML		19 59 17.2	
	comp=N,386nm,0.6s						
MLH	**Mauna Loa**	**0.47**	**280**		Pg	19 59 04.7	+0.1
MLH					Sg	19 59 11.8	+1.1
MLH	**Mauna Loa**	**0.47**	**280**	IAML		19 59 14.5	
	comp=N,302nm,1.0s						
HTC	**Hot Caves**	**0.51**	**250**		Pg	19 59 05.2	0.0
HMH	**Humu'ula Sheep**	**0.59**	**289**		Pg	19 59 06.6	-0.2
HMH					Sg	19 59 15.1	+0.7
MWH	**Mokuaweoweo**	**0.67**	**277**		Pg	19 59 07.5	-0.8
MWH	**Mokuaweoweo**	**0.67**	**277**		Sg	19 59 16.8	-0.2
MWH	**Mokuaweoweo**	**0.67**	**277**	IAML		19 59 16.0	
	comp=N,248nm,2.8s						
POHA	**Pohakuloa**	**0.69**	**300**		Sg	19 59 16.8	-1.1
POHA	**Pohakuloa**	**0.69**	**300**	Pg	Pg	19 59 07.7	-1.1
POHA				IAML		19 59 21.0	
	comp=N,158nm,3.5s						
POHA				IAML		19 59 22.8	
	comp=N,194nm,3.5s						
KHU	**Kahuku**	**0.70**	**257**		Sg	19 59 18.3	+0.3
KHU	**Kahuku**	**0.70**	**257**	Pg	Pg	19 59 07.7	-1.2
KHU				IAML		19 59 30.8	
	comp=E,224nm,3.6s						
ALEP	**Alea Permanent**	**0.72**	**281**		Pg	19 59 08.6	-0.7
ALEP					Sg	19 59 18.5	-0.1
HUH	**Hualalai**	**0.93**	**287**		Pg	19 59 11.6	-1.7
HUH					Sg	19 59 23.7	-1.6

HEL 08 20:05:19.2±0.2, 67°.70N×33°.64E, h0km, ML1.2, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.43**	**62**	PG	Pg	20 05 27.0	-0.4
LVZ				SG	Sg	20 05 32.6	-0.4
VRF	**Varrio**	**1.54**	**274**	MSG		20 06 05.3	
	comp=Z,1.6nm,0.2s						
VRF				SN	Sg	20 06 08.6	+0.1
RAJF	**Raja-Jooseppi**	**2.15**	**294**	SN	Sn	20 06 24.0	+0.5
OLKF	**Oulanka, Finla**	**2.17**	**232**	PG	Pb	20 05 58.1	-1.2
OLKF				MSG		20 06 23.5	
	comp=Z,1.0nm,0.2s						
KU6	**Riekki**	**2.24**	**223**	PG	Pb	20 05 59.4	-1.2
	baz=44						
KU6				MSG		20 06 25.5	
	comp=Z,0.8nm,0.2s						
KU6				SG	Sb	20 06 28.6	-0.1
MSF	**Maaselka**	**2.56**	**228**	SG	Sg	20 06 39.7	-1.6
KU2	**Taivalkoski**	**2.94**	**230**	SG	Sb	20 06 50.9	+2.2
KEV	**Kevo**	**3.18**	**314**	SN	Sn	20 06 49.6	+0.7
RANF	**Ranua**	**3.19**	**241**	PG	Pb	20 06 15.1	-1.6
ARA0	**ARCESS Array S**	**3.50**	**305**	PN	Pn	20 06 14.9	+0.1
HEF	**Hetta**	**3.81**	**285**	PN	Pn	20 06 18.5	-0.6
TOF	**Tornio**	**4.02**	**250**	PN	Pn	20 06 21.7	-0.2
KTK1	**Kautokeino**	**4.07**	**294**	PB	Pb	20 06 28.9	-2.8
OUL	**Oulu**	**4.07**	**233**	PN	Pn	20 06 23.8	+1.2

*HEL **08** 20:05:23.6±0.4, 67°.18N×20°.60E, h0km, ML1.3, Suspected explosion*

UPP 08 20:05:23.6±0.0, 67°.19N×20°.69E, h0km, ML2.0, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**214**	P	Pg	20 05 25.5	+0.3
DUNU				S	Sg	20 05 26.8	+0.6
MASU	**Masugnsbyn**	**0.57**	**62**	P	Pg	20 05 34.5	0.0
MASU				S	Sg	20 05 42.3	+0.3
RATU	**Laukkuluspa**	**0.76**	**327**	P	Pg	20 05 37.8	-0.4
RATU				S	Sg	20 05 48.2	+0.1
KUA	**Kurravaara**	**0.78**	**350**	P	Pg	20 05 38.3	-0.2
KUA				S	Sg	20 05 48.9	+0.3
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	20 05 39.7	-0.6
ERTU	**Ertsjaerv**	**0.87**	**136**	PG	Pg	20 05 39.7	-0.6
ERTU				SB	Sg	20 05 52.0	+0.5
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	20 05 42.3	-0.4
LANU	**Lannavaara**	**1.00**	**30**	PG	Pg	20 05 42.2	-0.5
LANU				SG	Sg	20 05 51.4	-4.2
KOVU	**Salmi**	**1.06**	**349**	P	Pg	20 05 43.2	-0.6
KLF	**Kolari**	**1.28**	**86**	PG	Pg	20 05 46.9	-1.1
	baz=271						
KLF				MSG		20 06 03.3	
	comp=Z,1.1nm,0.2s						
KLF				SB	Sb	20 06 05.1	-0.3
HEF	**Hetta**	**1.67**	**41**	*e*P	Pn	20 05 53.6	-0.4
HEF	**Hetta**	**1.67**	**41**	PG	Pn	20 05 53.6	-0.4
HEF				MSG		20 06 14.4	
	comp=Z,1.7nm,0.2s						
HEF				SN	Sn	20 06 16.1	+0.1
KALU	**Kalix**	**1.71**	**140**	P	Pn	20 05 54.5	-0.1
KALU	**Kalix**	**1.71**	**140**	PG	Pn	20 05 54.7	+0.1
KALU				SN	Sg	20 06 19.1	+0.6
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	20 05 54.9	+0.1
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P	Pb	20 05 57.0	-0.8
KIF	**Kilpisjarvi**	**1.82**	**1**	PG	Pb	20 05 57.1	-0.6
KIF				MSG		20 06 19.3	
	comp=Z,3.0nm,0.2s						
KIF				SG	Sg	20 06 22.9	+0.8
TOF	**Tornio**	**1.83**	**126**	PG	Pn	20 05 56.5	+0.3
	baz=306						
TOF				MSG		20 06 18.8	
	comp=Z,1.3nm,0.2s						
KTK1	**Kautokeino**	**2.06**	**26**	PG	Pb	20 06 00.9	-1.0
RNF	**Rovaniemi**	**2.18**	**103**	PG	Pn	20 06 02.2	+1.2
RNF				SG	Sb	20 06 32.0	+0.7
TRO	**Tromso**	**2.54**	**346**	SG	Sb	20 06 42.6	+0.9
RANF	**Ranua**	**2.71**	**113**	SG	Sb	20 06 47.0	+0.6
ARA0	**ARCESS Array S**	**2.96**	**35**	PN	Pn	20 06 12.5	+0.8
ARA0				SG	Sb	20 06 53.7	+0.1
UMAU	**Umeaa**	**3.32**	**180**	PN	Pn	20 06 16.0	-0.7
KEV	**Kevo**	**3.47**	**39**	SN	Sn	20 07 00.2	-0.3
VRF	**Varrio**	**3.48**	**77**	PN	Pn	20 06 20.4	+1.5
OLKF	**Oulanka, Finla**	**3.56**	**100**	PG	Pb	20 06 28.0	+0.6

IDC 08 20:13:08.4±1.2, 25°.91N×141°.59E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=53.6km s-min=27.3km az=104.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.30**	**24**	Sn	Sn	20 13 56.2	+4.3
	45nm,0.3s,baz=287,slow=19,SNR=13						
WRA	**Warramunga Arr**	**46.12**	**189**	P	P	20 21 34.5	-0.1
	2.1nm,0.6s,baz=9.1,slow=8.7,SNR=20						
	2.1nm,0.6s						
MKAR	**Mak

SNR=124
BIDO S Sn 20 40 56.5 -0.9
SMDO Samad 4.17 275 P Pn 20 40 10.8 +1.7
SNR=56
SMDO S Sn 20 40 58.3 +0.3
MHTO MHTO 4.61 248 P Pn 20 40 16.4 +1.2
SNR=60
MHTO S Sn 20 41 08.7 -0.1
HOQ Hoqain 4.90 281 P Pn 20 40 20.9 +1.8
SNR=133
HOQ S Sn 20 41 16.5 +0.6
JASK Jask - Hormozg 5.28 307 P Pn 20 40 27.0 +2.6
SNR=42
JASK S Sn 20 41 27.0 +1.6
DQM DQM 5.46 240 P Pn 20 40 27.8 +1.0
SNR=50
DQM S Sn 20 41 28.6 -1.0
ARQ Araqi 5.59 277 P Pn 20 40 31.4 +2.8
SNR=43
SOHO SOHO 5.70 285 P Pn 20 40 31.3 +1.2
SOHO S Sn 20 41 35.6 0.0
SOHO SOHO 5.70 285 *i* P Pn 20 40 31.1 +1.0
SNR=30
SOHO S Sn 20 41 34.1 -1.5
UOSS Minazif 6.21 292 P Pn 20 40 38.0 +0.8
UOSS S Sn 20 41 44.6 -3.7
UOSS Minazif 6.21 292 *i* P Pn 20 40 37.6 +0.5
SNR=29
HATD Hatta, Dubai 6.23 291 P Pn 20 40 39.3 +1.8
HATD S Sn 20 41 50.7 +1.8
HATD Hatta, Dubai 6.23 291 *i* P Pn 20 40 39.2 +1.8
SNR=12
ASHO Ashiyiah 6.26 289 P Pn 20 40 41.7 +3.8
SNR=99
ASHO S Sn 20 41 48.2 -1.2
ASHO Ashiyiah 6.26 289 *i* P Pn 20 40 40.6 +2.7
SNR=19
MDH Madha 6.26 295 P Pn 20 40 38.8 +1.0
SNR=19
MDH S Sn 20 41 48.1 -1.3
MDH Madha 6.26 295 *i* P Pn 20 40 38.6 +0.8
SNR=19
ALNE Al Ain 6.38 283 P Pn 20 40 43.0 +3.4
SNR=16
ALNE S Sn 20 41 53.6 +1.1
ALNE Al Ain 6.38 283 *i* P Pn 20 40 42.2 +2.6
SNR=16
MSFE Esma-Masafi 6.39 295 *i* P Pn 20 40 40.5 +0.8
SNR=11
MASF Masafi 6.40 295 P Pn 20 40 40.7 +0.9
SNR=11
MASF S Sn 20 41 54.1 +1.1
FAQ Al Faqa, Dubai 6.68 289 P Pn 20 40 47.1 +3.5
SNR=22
FAQ S Sn 20 41 59.5 -0.3
FAQ Al Faqa, Dubai 6.68 289 *i* P Pn 20 40 46.4 +2.8
SNR=22
NAZ Nazwa, Dubai 6.69 291 P Pn 20 40 48.1 +4.3
SNR=11
NAZ S Sn 20 42 01.1 +1.0
NAZ Nazwa, Dubai 6.69 291 *i* P Pn 20 40 46.5 +2.8
SNR=11
SHME Shamm 6.70 301 P Pn 20 40 45.9 +2.0
SNR=19
SHME S Sn 20 41 56.6 -3.8
SHME Shamm 6.70 301 *i* P Pn 20 40 44.9 +0.9
SNR=18
UMZA Um Al Zommool 6.83 271 P Pn 20 40 48.1 +2.5
UMZA S Sn 20 42 03.5 +0.1
UMQ Umm Al-Quwin 6.87 295 P Pn 20 40 51.2 +4.9
UMQ S Sn 20 42 06.7 +2.1
ASUD Al Ashush, Dub 6.88 287 P Pn 20 40 49.8 +3.5
ASUD S Sn 20 42 05.4 +0.6
ASUD Al Ashush, Dub 6.88 287 P Pn 20 40 49.1 +2.7
AJN Ajban 7.17 286 P Pn 20 40 53.5 +3.2
AJN S Sn 20 42 11.6 -0.2
MZWR Madinat Zayed 8.04 279 P Pn 20 41 04.6 +2.3
MZR Muzera 8.37 273 P Pn 20 41 09.6 +2.8
MZR Muzera 8.37 273 P Pn 20 41 08.5 +1.7
DMTO DMTO 8.72 236 P Pn 20 41 13.9 +2.2
SNR=19
DOK Doka 8.90 244 P Pn 20 41 15.8 +1.8
SNR=14
DOK S Sn 20 42 52.6 -1.7
GHWR Ruwais 8.97 280 P Pn 20 41 17.2 +2.1
RBK Rabkut 9.42 238 P Pn 20 41 24.7 +3.3
SNR=5.9
RBK S Sn 20 43 07.9 +0.4
WHFO Wadi Hawf 9.54 241 P Pn 20 41 24.8 +1.9
SNR=29
WHFO S Sn 20 43 07.7 -2.6
ABTO Aybut 10.22 240 P Pn 20 41 34.0 +1.7
SNR=19
ABTO S Sn 20 43 23.8 -3.3
TRNA Turayna 10.58 283 P Pn 20 41 38.9 +1.9
SNR=6.6
TRNA S Sn 20 43 31.1 -4.5
SMRA Abu-Samra 10.93 283 P Pn 20 41 43.7 +1.8
SMRA S Sn 20 43 40.8 -3.4
SHMA Al-Shehemyia 11.01 289 P Pn 20 41 45.2 +2.2
SNR=5.4
SHMA S Sn 20 43 41.3 -5.0
RAYN Ar Rayn 15.71 276 P Pn 20 42 45.9 -1.0
RAYN Ar Rayn 15.71 276 *i* P Pn 20 42 45.4 -1.5
SNR=6.9
AAK Ala-Archa 22.18 24 P P 20 43 59.2 -2.6
1.2nm,1.1s,baz=214,slow=11,SNR=1.8
1.2nm,1.1s
ASF Jabal al Asfar 24.57 298 LR LR 20 58 26.2
comp=Z,153nm,18.9s,baz=117,slow=47
EIL Elat 25.67 291 LR LR 20 56 37.3
comp=Z,74nm,18.1s,baz=30,slow=41
MMAI Mount Meron Ar 26.02 299 P P 20 44 38.0 -0.8
0.7nm,0.7s,baz=96,slow=10,SNR=5.1
MMAI LR LR 20 59 16.7
comp=Z,85nm,18.3s,baz=150,slow=46
0.7nm,0.7s
KBZ Khabaz 26.48 327 P P 20 44 44.4 +1.7
0.6nm,0.8s,baz=180,slow=1.0,SNR=1.8
0.6nm,0.8s
MKAR Makanchi Array 28.79 29 P P 20 45 02.2 -1.3
0.3nm,0.6s,baz=217,slow=10,SNR=5.2
0.3nm,0.6s
BRTR Keskin Array B 29.78 311 P P 20 45 12.9 +0.4
1.3nm,1.1s,baz=126,slow=6.3,SNR=5.5
1.3nm,1.1s
CMAR Chiang Mai Arr 34.27 90 P P 20 45 49.2 -2.8
0.7nm,0.9s,baz=272,slow=9.9,SNR=4.6
CMAR LR LR 21 04 21.9
comp=Z,33nm,18.9s,baz=265,slow=45
0.7nm,0.9s
ZALV Zalesovo Beam 35.40 23 P P 20 45 59.1 -2.1
0.6nm,0.6s,baz=231,slow=9.1,SNR=3.6
0.6nm,0.6s
AKASG Malin Array Be 38.07 325 P P 20 46 24.4 +0.4
1.0nm,0.7s,baz=128,slow=7.3,SNR=8.5
1.0nm,0.7s
SONM Songino Array 42.88 43 P P 20 47 01.8 -2.3
0.4nm,0.5s,baz=251,slow=4.0,SNR=1.9
0.4nm,0.5s
ESDC Sonseca Array 58.10 304 P P 20 48 59.3 +0.1
0.8nm,0.9s,baz=58,slow=6.9,SNR=5.7
0.8nm,0.9s
TORD Torodi Ar. Bea 58.35 272 P P 20 49 01.1 -0.1
84nm,0.3s,baz=74,slow=5.1,SNR=2.3
H04N1 CROZET ISLANDS 69.28 188 T T 22 05 29.0
baz=10
H04N2 CROZET ISLANDS 69.28 188 T T 22 05 29.5
baz=10
H04N3 CROZET ISLANDS 69.30 188 T T 22 05 27.5
baz=10
WRA Warramunga Arr 81.89 115 P P 20 51 22.1 -3.4
0.5nm,0.7s,baz=303,slow=5.2,SNR=3.7
0.5nm,0.7s
ASAR Alice Springs 83.27 119 P P 20 51 29.7 -3.0
0.3nm,0.6s,baz=298,slow=5.2,SNR=5.9
0.3nm,0.6s
ILAR Eielson Array 89.83 12 P P 20 52 01.7 -2.4
0.3nm,0.9s,baz=336,slow=6.7,SNR=2.9
0.3nm,0.9s
YKA Yellowknife Ar 95.02 359 P P 20 52 27.3 -0.8
0.2nm,0.8s,baz=2.9,slow=4.2,SNR=4.8
0.2nm,0.8s

*IDC **08** 20:40:45.9±1.4, 32°.21S×178°.36W, h0km, mb4.0/4,*
mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=34.3km
s-min=29.3km az=96.0
ISC 08 20:40:51.5±1.4, 32°.3S±0°.1×178°.4W±0°.2, h35km, n8,
σ1§43/9, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.96**	**211**	Pn	**Pn**	**20 42 28.6**	**-2.3**
	1.6nm,0.3s,baz=17,slow=10,SNR=8.6						
URZ				Sn	**Sn**	**20 43 50.5**	**+1.8**
	2.1nm,0.3s,baz=329,slow=22,SNR=9.3						
	11nm,1.0s						
STKA	**Stephens Creek**	**33.76**	**260**	P	**P**	**20 47 30.8**	**+0.9**
	1.7nm,0.8s,baz=88,slow=6.8,SNR=3.3						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**42.70**	**269**	P	**P**	**20 48 45.2**	**-0.1**
	1.2nm,0.6s,baz=106,slow=7.6,SNR=25						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**43.87**	**274**	P	**P**	**20 48 54.2**	**-0.5**
	1.3nm,0.4s,baz=112,slow=7.8,SNR=26						
	1.3nm,0.4s						
QSPA	**South Pole Qui**	**57.78**	**180**	P	**P**	**20 50 39.9**	**+0.9**
	1.2nm,0.9s,baz=8.0,slow=1.0,SNR=7.6						
	1.2nm,0.9s						
FINES	**FINESS Array B**	**146.83**	**339**	PKPbc	**PKPdf**	**21 00 26.5**	**-0.8**
	2.5nm,0.6s,baz=44,slow=4.6,SNR=9.4						
HFS	**Hagfors**	**151.06**	**347**	PKPbc	**PKPbc**	**21 00 41.1**	**+1.1**
	11nm,1.2s,baz=52,slow=5.7,SNR=2.5						
MMAI	**Mount Meron Ar**	**151.61**	**281**	PKPbc	**PKPbc**	**21 00 41.9**	**-0.4**
	2.4nm,0.7s,baz=112,slow=6.4,SNR=3.1						

*IDC **08** 21:09:40.9±0.7, 19°.75N×120°.93E, h0km, mb3.9/17,*
mbtmp3.9/18, ML3.6/1, MS3.1/3, Error ellipse:
s-maj=23.5km s-min=15.7km az=70.0
ISC 08 21:09:45.7±0.8, 19°.8N±0°.1×120°.9E±0°.1, h32km, n25,
σ0§59/20, mb3.9/16, MS3.2/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**16.02**	**32**	Pn	**P**	**21 13 32.2**	**+0.3**
	0.8nm,0.3s,baz=182,slow=10,SNR=3.7						
KSRS	**Korea Array**	**18.67**	**18**	P	**P**	**21 14 00.2**	**-0.8**
	0.2nm,0.3s,baz=205,slow=12,SNR=5.2						
	1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.80**	**270**	P	**P**	**21 14 24.8**	**+0.3**
	0.4nm,0.3s,baz=76,slow=9.5,SNR=6.5						
CMAR				LR	LR	21 21 17.3	
	comp=Z,26nm,20.3s,baz=100,slow=34						
	0.4nm,0.3s						
MJAR	**Matsushiro Arr**	**22.58**	**39**	P	**P**	**21 14 43.4**	**0.0**
	0.8nm,0.5s,baz=239,slow=10,SNR=8.0						
	0.8nm,0.5s						
SONM	**Songino Array**	**30.40**	**341**	P	**P**	**21 15 54.7**	**-0.3**
	0.5nm,0.6s,baz=154,slow=10,SNR=5.2						
SONM				LR	LR	21 28 28.1	
	comp=Z,45nm,18.1s,baz=200,slow=37						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**41.44**	**320**	P	**P**	**21 17 29.9**	**+0.5**
	1.5nm,0.6s,baz=114,slow=8.8,SNR=17						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**41.58**	**161**	P	**P**	**21 17 30.1**	**-0.6**
	1.4nm,0.7s,baz=342,slow=9.1,SNR=14						
WRA				PcP	**PcP**	**21 19 27.8**	**+0.2**
	0.3nm,0.5s,baz=345,slow=3.4,SNR=2.4						
	1.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**43.17**	**84**	T	T	22 03 29.6	
	baz=282						
H11N1	**WAKE ISLAND Hy**	**43.17**	**82**	T	T	22 03 37.3	
	baz=277						
H11N2	**WAKE ISLAND Hy**	**43.18**	**82**	T	T	22 03 32.3	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**43.18**	**84**	T	T	22 03 35.6	
	baz=282						
H11S2	**WAKE ISLAND Hy**	**43.19**	**84**	T	T	22 03 35.2	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**43.19**	**82**	T	T	22 03 30.9	
	baz=277						
PETK	**Petropavlovsk-**	**43.72**	**31**	P	**P**	**21 17 48.2**	**+0.5**
	1.9nm,0.9s,baz=236,slow=8.7,SNR=1.1						
	1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**43.88**	**330**	P	**P**	**21 17 49.8**	**+0.8**
	1.3nm,0.5s,baz=113,slow=8.4,SNR=8.3						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**44.97**	**163**	P	**P**	**21 17 58.6**	**+0.6**
	1.3nm,0.6s,baz=343,slow=7.1,SNR=19						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.41**	**323**	P	**P**	**21 18 01.5**	**+0.2**
	0.8nm,0.2s,baz=117,slow=7.1,SNR=4.3						
	0.8nm,0.2s						
BVAR	**Borovoye Array**	**50.99**	**323**	P	**P**	**21 18 45.1**	**+0.7**
	0.5nm,0.6s,baz=116,slow=6.6,SNR=3.0						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**73.27**	**27**	P	**P**	**21 21 13.4**	**-0.1**
	0.3nm,0.7s,baz=276,slow=5.9,SNR=2.2						
	0.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**73.75**	**348**	P	**P**	**21 21 16.9**	**+0.7**
	8.6nm,0.9s,baz=90,slow=9.3,SNR=12						
	8.6nm,0.9s						
FINES	**FINESS Array B**	**75.14**	**330**	P	**P**	**21 21 24.5**	**0.0**
	3.5nm,1.0s,baz=54,slow=4.9,SNR=9.2						
	3.5nm,1.0s						
AKASG	**Malin Array Be**	**76.02**	**319**	P	**P**	**21 21 28.9**	**-0.8**
	0.9nm,0.6s,baz=66,slow=5.6,SNR=4.4						
	0.9nm,0.6s						
HFS	**Hagfors**	**81.30**	**331**	P	**P**	**21 21 57.8**	**-0.9**
	4.8nm,0.9s,baz=121,slow=6.9,SNR=5.4						
	4.8nm,0.9s						
NOA	**NORSAR Array B**	**82.02**	**332**	P	**P**	**21 22 01.8**	**-0.7**
	0.7nm,0.7s,baz=62,slow=5.1,SNR=2.1						
NOA				LR	LR	22 00 38.9	
	comp=Z,18nm,18.2s,baz=300,slow=37						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**87.14**	**23**	P	**P**	**21 22 28.1**	**-0.2**
	0.9nm,0.6s,baz=310,slow=4.5,SNR=20						
	0.9nm,0.6s						

*IDC **08** 21:16:31.9±3.4, 32°.10S×177°.54W, h0km, mb3.3/2,*
mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=82.1km
s-min=38.3km az=116.0
*WEL **08** 21:16:34.7±1.3, 32°.5±13°×17°.8W±4°.1, h12km, M4.2/3,*
ML4.7/6, MLv4.2/3, Error ellipse: s-maj=55.3km
s-min=4.5km az=106.9, confirmed
ISC 08 21:16:34.0±2.0, 31°.7S±0°.1×177°.8W±0°.4, h10km, n15,
σ1§64/25, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.44**	**358**	P	**Pn**	**21 17 13.6**	**-0.3**
GLKZ				S	**Sn**	**21 17 42.0**	**-1.8**
PKGZ	**Pakihiroa**	**7.01**	**208**	P	**Pn**	**21 18 15.2**	**-1.5**
PKGZ				S	**Sn**	**21 19 36.4**	**-0.1**
HAZ	**Te Kaha**	**7.04**	**210**	P	**Pn**	**21 18 18.9**	**+1.8**
HAZ				S	**Sn**	**21 19 39.9**	**+2.7**
RUGZ	**Raukumara Rang**	**7.26**	**209**	P	**Pn**	**21 18 20.3**	**+0.1**
RUGZ				S	**Sn**	**21 19 42.5**	**-0.3**
CNGZ	**Carnagh Statio**	**7.50**	**205**	P	**Pn**	**21 18 22.0**	**-1.6**
CNGZ				S	**Sn**	**21 19 49.6**	**+0.9**
MWZ	**Matawai**	**7.63**	**209**	P	**Pn**	**21 18 24.7**	**-0.7**
MWZ				S	**Sn**	**21 19 52.0**	**+0.1**
URZ	**Urewera**	**7.75**	**211**	Pn	Pn	21 18 22.1	-4.7
	0.3nm,0.3s,baz=41,slow=19,SNR=3.1						
URZ				Sn	**Sn**	**21 19 50.9**	**-3.8**
	1.6nm,0.3s,baz=11,slow=19,SNR=8.3						
	6.9nm,0.9s						
URZ	**Urewera**	**7.75**	**211**	P	**Pn**	**21 18 24.9**	**-2.0**
URZ				S	**Sn**	**21 19 54.7**	**+0.1**
RAGZ	**Rawiri**	**7.82**	**209**	P	**Pn**	**21 18 27.1**	**-0.8**
RAGZ				S	**Sn**	**21 19 54.9**	**-1.6**
MTHZ	**Maungataniwha**	**8.36**	**210**	P	**Pn**	**21 18 37.1**	**+1.8**
MTHZ				S	**Sn**	**21 20 08.1**	**-1.7**
ARHZ	**Aropaoanui**	**8.64**	**208**	S	**Sn**	**21 20 15.4**	**-1.3**
KWHZ	**Kaweka Forest**	**9.02**	**210**	P	**Pn**	**21 18 44.3**	**0.0**
KWHZ				S	**Sn**	**21 20 23.8**	**-2.1**
ASAR	**Alice Springs**	**43.21**	**268**	P	**P**	**21 24 37.0**	**+1.4**
	0.1nm,0.4s,baz=110,slow=8.0,SNR=1.9						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**44.32**	**273**	P	**P**	**21 24 45.7**	**+1.2**
	0.2nm,0.3s,baz=113,slow=7.6,SNR=5.2						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**146.42**	**339**	PKPbc	**PKPdf**	**21 36 14.6**	**+1.4**
	4.5nm,1.0s,baz=25,slow=3.7,SNR=3.3						

KRSC 08 21:32:33.3±1.5, 54°.82N×164°.52E, h48km±29km, Ml3.5,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.92**	**65**	*e*P	Pn	21 32 50.9	+1.0
BKI				*e*S	Sn	21 33 02.1	0.0
MKZ	**Mys Kozlova**	**1.64**	**262**	*e*P	Pn	21 33 02.5	+2.8
MKZ				*e*S	Sn	21 33 21.6	+2.0
KBTR	**Krutoberegovo**	**1.69**	**326**	*e*P	Pn	21 33 01.7	+1.3
KBTR				*e*S	Sn	21 33 20.8	0.0
KBG	**Krutoberegovo**	**1.77**	**325**	*e*P	Pn	21 33 02.9	+1.5
KBG				*e*S	Sn	21 33 23.5	+0.8
TUMD	**Tumrok D**	**2.40**	**281**	*e*P	Pn	21 33 13.6	+3.4
TUMD				*e*S	Sn	21 33 43.4	+5.1
ZLN	**Zelenaya**	**2.43**	**301**	*e*P	Pn	21 33 14.5	+3.9
ZLN				*e*S	Sn	21 33 44.4	+5.2
BZGR	**Bezymyannyi-Gr**	**2.45**	**299**	*e*P	Pn	21 33 14.6	+3.7
BZGR				*e*S	Sn	21 33 43.2	+3.5
SMKR	**Semkarok**	**2.47**	**317**	*e*P	Pn	21 33 14.5	+3.4
SMKR				*e*S	Sn	21 33 44.1	+4.0
CIRR	**Tsirk**	**2.51**	**303**	*e*P	Pn	21 33 15.6	+3.9
CIRR				*e*S	Sn	21 33 43.5	+2.5
LGNR	**Loginova**	**2.52**	**302**	*e*P	Pn	21 33 15.9	+3.9
LGNR				*e*S	Sn	21 33 45.5	+3.9
BZWR	**Bezymyannyi-We**	**2.56**	**298**	*e*P	Pn	21 33 16.5	+4.0
BZWR				*e*S	Sn	21 33 47.8	+5.3
KMNR	**Kamenistaya**	**2.62**	**293**	*e*P	Pn	21 33 16.8	+3.6
KMNR				*e*S	Sn	21 33 48.9	+5.0
KIRR	**Kirishev**	**2.64**	**297**	*e*P	Pn	21 33 17.9	+4.4
KIRR				*e*S	Sn	21 33 47.0	+2.7
SRKR	**Sorokina**	**2.64**	**315**	*e*S	Sn	21 33 49.2	+5.0
KRSR	**Krestovskiy**	**2.65**	**304**	*e*P	Pn	21 33 16.7	+3.1
KRSR				*e*S	Sn	21 33 47.2	+2.7
KLY	**Klyuchi**	**2.66**	**306**	*e*P	Pn	21 33 15.6	+2.0
KLY				*e*S	Sn	21 33 46.9	+2.4
KPT	**Kopyto**	**2.71**	**297**	*e*P	Pn	21 33 18.7	+4.3
KPT				*e*S	Sn	21 33 48.5	+2.6
KOZ	**Kozyrevsk**	**2.92**	**297**	*e*P	Pn	21 33 22.0	+4.7
KOZ				*e*S	Sn	21 33 55.7	+4.6
SRDR	**Sredinnyy**	**3.11**	**301**	*e*P	Pn	21 33 24.8	+4.9
SPN	**Mys Shipunski**	**3.17**	**239**	*e*P	Pn	21 33 24.0	+3.4
SPN				*e*S	Sn	21 33 58.6	+1.5
NLC	**Nalytchevo**	**3.47**	**244**	*e*P	Pn	21 33 28.5	+3.7
NLC				*e*S	Sn	21 34 06.9	+2.3
ESO	**Esso**	**3.50**	**291**	*e*P	Pn	21 33 28.3	+3.1
SDLR	**Sedlovina**	**3.66**	**247**	*e*P	Pn	21 33 31.5	+3.9
SDLR				*e*S	Sn	21 34 11.9	+2.4
KRER	**Koryakskii**	**3.72**	**248**	*e*P	Pn	21 33 33.0	+4.5
KRER				*e*S	Sn	21 34 14.0	+2.9
UGLR	**Uglovaya**	**3.73**	**247**	*e*P	Pn	21 33 32.7	+4.3
UGLR				*e*S	Sn	21 34 14.7	+3.7
AVH	**Avacha**	**3.75**	**248**	*e*P	Pn	21 33 33.4	+4.7
AVH				*e*S	Sn	21 34 14.9	+3.4
KRX	**Arik**	**3.75**	**249**	*e*P	Pn	21 33 33.1	+4.3
KRX				*e*S	Sn	21 34 14.4	+2.7
KOK	**Koryaka**	**3.79**	**249**	*e*P	Pn	21 33 34.2	+5.0
KOK				*e*S	Sn	21 34 16.3	+3.7
DALK	**Dalny**	**3.85**	**245**	*e*P	Pn	21 33 33.5	+3.5
DALK				*e*S	Sn	21 34 16.0	+2.1
PET	**Petropavlovsk**	**3.91**	**245**	*e*P	Pn	21 33 35.5	+4.7
PET				*e*S	Sn	21 34 16.9	+1.6
GNL	**Ganaly**	**4.02**	**256**	*e*P	Pn	21 33 37.3	+4.9
KRMR	**Karymshinskiy**	**4.28**	**245**	*e*P	Pn	21 33 40.1	+4.3
KRMR				*e*S	Sn	21 34 27.5	+3.1
GRL	**Gorelyy**	**4.45**	**242**	*e*P	Pn	21 33 43.3	+4.9
GRL				*e*S	Sn	21 34 32.5	+3.5
OSSR	**Ossora**	**4.51**	**350**	*e*P	Pn	21 33 41.9	+2.9
APC	**Apacha**	**4.75**	**249**	*e*P	Pn	21 33 48.0	+5.6

*AFAD **08** 21:50:40.4, 36°.24N×40°.73E, h6km±1km, ML2.4*
*ISK **08** 21:50:42.0, 36°.50N×40°.79E, h2km, ML2.7/7*
ISC 08 21:50:42.4±2.3, 36°.44N±0°.08×40°.77E±0°.05, h2km±12km,
n13, σ1§09/22, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.87**	**1**	P	**Pg**	**21 50 59.3**	**+0.3**
MARD				S	**Sb**	**21 51 13.4**	**+1.0**
MARD				*i* AML	AML	21 51 17.0	
	comp=N,140nm,0.4s						
MARD				*i* AML	AML	21 51 18.0	
	comp=E,66nm,0.4s						
MAZI	**Mazidag**	**1.05**	**346**	Pg	**Pg**	**21 51 02.0**	**-0.5**
MAZI				Sg	**Sg**	**21 51 16.7**	**+0.7**
MIDY	**Mardin/Midyat-**	**1.09**	**27**	P	**Pg**	**21 51 03.4**	**+0.2**
MIDY				S	**Sn**	**21 51 20.4**	**0.0**
MIDY				*i* AML	AML	21 51 25.0	
	comp=N,73nm,0.5s						
MIDY				*i* AML	AML	21 51 27.0	
	comp=E,64nm,0.6s						
DIYA	**Diyarbakir**	**1.57**	**341**	P	**Pn**	**21 51 10.9**	**-0.3**
DIYA				S	**Sg**	**21 51 34.0**	**+1.3**
DIYA				*i* AML	AML	21 51 35.0	
	comp=N,98nm,0.3s						
DIYA				*i* AML	AML	21 51 35.0	
	comp=E,96nm,0.2s						
SANL	**SANLIURFA_Merk**	**1.60**	**297**	P	**Pn**	**21 51 10.0**	**-1.7**
SANL				S	**Sn**	**21 51 32.1**	**-0.9**
SANL				*i* AML	AML	21 51 36.0	
	comp=N,44nm,0.3s						
SANL				*i* AML	AML	21 51 36.0	
	comp=E,49nm,0.5s						
URFA	**Urfa**	**1.85**	**303**	Pn	**Pn**	**21 51 14.8**	**-0.4**
URFA				Sn	**Sb**	**21 51 40.0**	**-0.6**
HANI	**Diyarbakir_Han**	**1.99**	**352**	P	**Pn**	**21 51 17.3**	**+0.2**
HANI				S	**Sn**	**21 51 42.6**	**0.0**
HANI				*i* AML	AML	21 51 49.0	
	comp=E,26nm,0.6s						
HANI				*i* AML	AML	21 52 34.0	
	comp=N,16nm,1.4s						
KOVA	**Elazig, Kovanc**	**2.38**	**342**	P	**Pb**	**21 51 24.0**	**-2.0**
KOVA				S	**Sb**	**21 51 57.0**	**+1.1**
CUKT	**Cukurca**	**2.41**	**70**	Pn	**Pn**	**21 51 23.2**	**+0.2**
PTK	**Pertek**	**2.68**	**336**	Pn	**Pn**	**21 51 27.0**	**+0.3**
GAZ	**Gaziantep**	**2.95**	**285**	Pn	**Pn**	**21 51 31.8**	**+1.5**
GAZ				Sn	**Sn**	**21 52 07.6**	**+1.4**
KMRS	**Kahramanmaras**	**3.27**	**290**	Pn	**Pn**	**21 51 36.2**	**+1.5**
DARE	**Darende-Malaty**	**3.37**	**310**	Pn	**Pn**	**21 51 37.3**	**+1.2**

*DJA **08** 21:52:40.4±0.2, 0°.5±2°×12°.5E±°, h10km, M4.5/24, mB5.1/7,*
mb4.8/12, MLv4.5/24, Mw(mB)4.5/7
*IDC **08** 21:52:42.6±3.0, 0°.31S×124°.86E, h48km±30km, mb3.9/15,*
mbtmp4.2/18, ML4.5/3, MS3.4/5, Error ellipse:
s-maj=22.5km s-min=13.2km az=72.0
*NEIC **08** 21:52:42.9±1.7, 0°.38S±0°.08×124°.90E±0°.05, h52km±6km,*
mb4.3/21, Error ellipse: s-maj=11.8km s-min=7.9km
az=172.0
ISC 08 21:52:43.1±0.4, 0°.30S±0°.05×124°.89E±0°.05, h52km, n76,
σ1§39/77, mb4.3/29, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.26**	**314**	P	**Pn**	**21 53 01.4**	**-3.0**
SANI	**Sanana**	**2.05**	**148**	P	**Pn**	**21 53 12.9**	**-2.3**
SANI				S	**Sn**	**21 53 41.6**	**+2.0**
LUWI	**Luwuk**	**2.24**	**251**	Pn	**Pn**	**21 53 17.4**	**-0.4**
LUWI	**Luwuk**	**2.24**	**251**	P	**Pn**	**21 53 18.0**	**+0.2**
TNTI	**Ternate**	**2.70**	**67**	Pn	**Pn**	**21 53 24.0**	**0.0**
TNTI	**Ternate**	**2.70**	**67**	P	**Pn**	**21 53 24.7**	**+0.7**
TNTI				S	**Sn**	**21 53 58.0**	**+2.6**
MRSI	**Marisa**	**3.05**	**285**	P	**Pn**	**21 53 25.7**	**-3.1**
APSI	**Ampana**	**3.30**	**259**	P	**Pn**	**21 53 33.3**	**+1.1**
NLAI	**Namlea**	**3.66**	**143**	P	**Pn**	**21 53 35.8**	**-1.4**
SGSI	**Sangihe**	**4.01**	**9**	P	**Pn**	**21 53 41.5**	**-0.6**
TOLI2	**Tolitoli**	**4.34**	**289**		**Pn**	**21 53 45.8**	**-0.8**
AAI	**Ambon**	**4.71**	**136**	P	**Pn**	**21 53 51.4**	**-0.3**
MSAI	**Masohi**	**5.04**	**127**	P	**Pn**	**21 53 57.4**	**+1.2**
	1.1nm5μm295nm,0.8s						
PCI	**Palu**	**5.09**	**263**	P	**Pn**	**21 53 58.6**	**+1.8**
BBSI	**Bau

13nm,0.3s,baz=5.6,slow=12,SNR=19
KAPI S **Sn** **21 55 38.6 -1.4**
8.3nm,0.4s,baz=37,slow=20,SNR=1.3
KAPI LR LR 21 57 55.0
comp=Z,191nm,18.4s,baz=27,slow=45
39nm,0.4s
BSSI Bau Bau, Buton 7.28 217 P **Pn** **21 54 26.3 -0.5**
0.3nm1µm52nm,0.5s
DAV Davao City (W) 7.36 5 LR LR 21 57 37.4
comp=Z,162nm,20.7s,baz=242,slow=40
FAKI Fak Fak 7.80 110 Pn **Pn** **21 54 33.0 -1.1**
FAKI Fak Fak 7.80 110 P **Pn** **21 54 34.6 +0.6**
0.2nm42nm,1.6s
MYLDM Lahad Datu 8.39 311 Pn **Pn** **21 54 46.1 +4.0**
KKM Kota Kinabalu 10.71 306 Pn **Pn** **21 55 14.5 +0.5**
KNRA Kununurra 15.75 166 Pn **Pn** **21 56 20.1 -1.5**
KNRA IAmb IAmb 21 56 20.4
comp=Z,14nm,1.4s
FITZ Fitzroy Crossi 17.70 178 P **Pn** **21 56 45.8 -0.1**
FITZ Fitzroy Crossi 17.70 178 P **Pn** **21 56 45.9 -0.1**
comp=Z,0.4nm,0.3s,baz=357,slow=6.3,SNR=8.9
FITZ LR LR 22 04 55.2
comp=Z,90nm,18.1s,baz=184,slow=41
comp=Z,3.3nm,0.7s
LEM Lembang 18.41 249 P **Pn** **21 56 55.5 +0.6**
comp=Z,4.3nm,0.3s,baz=57,slow=9.8,SNR=3.8
comp=Z,9.8nm,0.4s
WB0 Warramunga Arr 21.47 155 P **P** **21 57 25.8 -1.6**
WB0 IAmb IAmb 21 57 40.4
comp=Z,9.3nm,1.2s
WRAB Tennant Creek 21.60 155 P **P** **21 57 26.9 -1.8**
WRA Warramunga Arr 21.60 155 P **P** **21 57 26.6 -2.2**
WRA Warramunga Arr 21.60 155 P **P** **21 57 26.9 -1.9**
comp=Z,0.9nm,0.5s,baz=332,slow=11,SNR=9.6
WRA PcP **PcP** **22 01 30.3 +1.0**
comp=Z,0.2nm,0.3s,baz=321,slow=2.6,SNR=6.2
comp=Z,0.9nm,0.5s
WB2 Warramunga Arr 21.61 155 P **P** **21 57 26.9 -1.9**
WR0 Warramunga Arr 21.70 155 P **P** **21 57 27.9 -2.0**
COEN Coen 22.62 128 P **P** **21 57 38.1 -1.7**
COEN IAmb IAmb 21 57 50.8
comp=Z,12nm,1.2s
YULB Yu-li 23.81 352 P **P** **21 57 49.8 -1.6**
YULB IAmb IAmb 21 57 57.8
comp=Z,21nm,1.2s
TPUB Ta-pu 23.82 350 P **P** **21 57 51.7 +0.2**
SSLB Suanglung 24.25 351 P **P** **21 57 55.3 0.0**
SSLB IAmb IAmb 21 58 00.6
comp=Z,8.6nm,0.6s
ASAR Alice Springs 24.82 160 P **P** **21 58 00.2 -0.4**
comp=Z,2.4nm,0.7s,baz=337,slow=9.1,SNR=21
ASAR PcP **PcP** **22 01 36.9 +0.9**
comp=Z,0.5nm,0.5s,baz=350,slow=2.4,SNR=8.0
comp=Z,2.4nm,0.7s
CMAR Chiang Mai Arr 31.59 308 P **P** **21 59 01.8 +0.7**
comp=Z,0.3nm,0.3s,baz=117,slow=9.1,SNR=1.7
comp=Z,0.3nm,0.3s
STKA Stephens Creek 35.15 155 P **P** **21 59 31.9 -0.1**
comp=Z,1.6nm,0.4s,baz=339,slow=7.6,SNR=7.2
comp=Z,1.6nm,0.4s
KSRS Korea Array 37.67 4 P **P** **21 59 54.0 +0.7**
comp=Z,1.1nm,0.7s,baz=176,slow=10,SNR=5.0
comp=Z,1.1nm,0.7s
MJAR Matsushiro Arr 38.69 17 P **P** **22 00 00.8 -1.1**
comp=Z,1.4nm,0.6s,baz=189,slow=8.4,SNR=8.4
comp=Z,1.4nm,0.6s
XLT XiLinHaoTe 44.71 351 *e*P P 22 00 57.0 +5.9
XLT pP pP 22 01 02.3 -1.6
XLT pmax pmax
comp=Z,6.0nm,0.7s
USRK Ussuriysk Ar. 44.76 7 P **P** **22 00 51.6 +0.2**
comp=Z,2.4nm,0.5s,baz=177,slow=5.6,SNR=9.7
comp=Z,2.4nm,0.5s
MDJ Mudanjiang 44.92 5 P **P** **22 00 51.5 -1.2**
MDJ IAmb IAmb 22 00 54.5
comp=Z,7.6nm,0.8s
GTA Gaotai 45.70 333 *e*P **P** **22 01 01.3 +2.1**
GTA pmax pmax
comp=Z,5.0nm,0.7s
HEH HeiHe 50.41 2 *e*P **P** **22 01 35.3 +0.1**
HEH pmax pmax
comp=Z,7.0nm,0.6s
SONM Songino Array 50.58 344 P **P** **22 01 36.9 +0.3**
comp=Z,0.7nm,0.4s,baz=157,slow=8.3,SNR=9.8
comp=Z,0.7nm,0.4s
PETK Petropavlovsk- 59.83 22 P **P** **22 02 44.4 +1.3**
comp=Z,0.8nm,0.5s,baz=200,slow=3.7,SNR=8.1
comp=Z,0.8nm,0.5s
MK31 Makanchi Array 59.87 327 P **P** **22 02 41.3 -2.2**
MK31 IAmb IAmb 22 02 44.9
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 59.87 327 P **P** **22 02 41.8 -1.8**
MKAR Makanchi Array 59.87 327 P **P** **22 02 42.0 -1.5**
comp=Z,2.0nm,0.4s,baz=125,slow=7.8,SNR=30
comp=Z,2.0nm,0.4s
MAKZ Makanchi 60.05 327 P **P** **22 02 44.0 -0.7**
MAKZ IAmb IAmb 22 02 46.0
comp=Z,2.0nm,0.5s
MA2 Magadan 63.04 14 P **P** **22 03 05.0 +0.4**
ZALV Zalesovo Beam 63.38 335 P **P** **22 03 05.2 -1.7**
ZALV Zalesovo Beam 63.38 335 P **P** **22 03 05.6 -1.3**
comp=Z,0.8nm,0.4s,baz=131,slow=4.5,SNR=5.4
comp=Z,0.8nm,0.4s
KURBB Kurchatov Arra 64.18 329 P **P** **22 03 11.8 -0.5**
comp=Z,1.6nm,0.5s,baz=131,slow=6.8,SNR=3.5
KURK Kurchatov 64.19 329 P **P** **22 03 11.6 -0.7**
KKAR Karatay Array 64.98 319 P **P** **22 03 17.6 -0.2**
BVAR Borovoye Array 69.72 328 P **P** **22 03 47.1 -0.4**
comp=Z,0.5nm,0.5s,baz=151,slow=10,SNR=5.0
comp=Z,0.5nm,0.5s
AKTO Aktyubinsk 75.69 323 P **P** **22 04 22.9 -0.1**
comp=Z,1.8nm,0.5s,baz=120,slow=3.0,SNR=7.5
comp=Z,1.8nm,0.5s
E18K Tukpahlearik C 84.36 22 P **P** **22 05 11.1 +1.7**
E18K IAmb IAmb 22 05 11.9
comp=Z,6.2nm,1.4s
M17K Holitna River 84.37 28 P **P** **22 05 09.1 -0.5**
C18K Utukok River 84.46 21 P **P** **22 05 11.2 +1.2**
C18K IAmb IAmb 22 05 25.9
comp=Z,1.1nm,0.8s
L18K Granite Mounta 84.87 27 P **P** **22 05 13.2 +1.1**
TTA Tatalina 85.30 27 P **P** **22 05 15.5 +1.1**
TTA IAmb IAmb 22 05 17.3
comp=Z,2.4nm,1.3s
ASF Jabal al Asfar 88.46 302 LR LR 22 53 09.2
comp=Z,17nm,18.5s,baz=308,slow=41
OBN Obninsk 89.28 325 LR LR 22 48 30.1
comp=Z,36nm,19.0s,baz=265,slow=38
ARCES ARCESS Array B 93.57 340 P **P** **22 05 52.9 -0.3**
comp=Z,2.5nm,0.9s,baz=100,slow=5.7,SNR=1.4
comp=Z,2.5nm,0.9s
SPITS Spitsbergen Ar 94.05 349 P **P** **22 05 53.5 -1.7**
comp=Z,4.6nm,0.9s,baz=35,slow=5.3,SNR=7.2
comp=Z,4.6nm,0.9s
TORD Torodi Ar. Bea 122.31 285 PKP **PKPdf** **22 11 33.1 -0.3**
comp=Z,178nm,0.5s,baz=62,slow=1.9,SNR=3.5

*NEIC **08** 22:05:02.8±0.5, 38°.80N±0°.02×111°.57W±0°.01, h20km±3km,*
Error ellipse: s-maj=2.3km s-min=1.6km az=169.0
UUSS 08 22:05:03.1±0.5, 38°.81N±0°.01×111°.57W±0°.02, h20km±4km,
ML2.5/3, ML2.3/66(NEIC), Error ellipse: s-maj=2.0km
s-min=1.9km az=145.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OWUT	**Old Woman Plat**	**0.12**	**107**		Pg	22 05 07.6	+0.1
Q16A	**Castle Valley**	**0.33**	**71**		Pg	22 05 10.3	-0.1
Q16A					Sb	22 05 15.2	-0.1
SGU	**Sterling**	**0.37**	**351**		Pb	22 05 11.3	0.0
WCU	**Willow Creek**	**0.43**	**290**		Pg	22 05 12.2	-0.1
WCU					Sg	22 05 18.3	-0.1
SNO	**Snow College**	**0.50**	**3**		Pg	22 05 13.4	-0.1
TMUT	**Trail Mountain**	**0.56**	**30**		Pb	22 05 14.0	-0.4
TMUT				IAML		22 05 23.0	
	comp=N,238nm,0.4s						
TMUT				IAML		22 05 23.6	
	comp=E,159nm,0.4s						
MSU	**Marysvale**	**0.56**	**238**		Pb	22 05 14.1	-0.3
DBD	**Des Bee Dove**	**0.62**	**36**		Pb	22 05 15.1	-0.4
MMU	**Miners Mountai**	**0.65**	**161**		Pb	22 05 15.7	-0.3
LEVU	**Levan**	**0.72**	**345**		Pb	22 05 17.1	0.0
TCRU	**Three Creeks R**	**0.72**	**254**		Pb	22 05 17.0	-0.1
TCRU				IAML		22 05 28.9	
	comp=N,78nm,0.3s						
TCRU				IAML		22 05 29.5	
	comp=E,80nm,0.2s						
FLU	**Fool Peak**	**0.73**	**320**		Pb	22 05 17.1	-0.2
SRU	**San Rafael Swe**	**0.87**	**70**		Pb	22 05 19.6	0.0
ELU	**Electric Lake**	**0.87**	**19**		Pb	22 05 19.7	-0.1
MTPU	**Mount Pierson**	**0.91**	**212**		Pb	22 05 20.3	-0.2
NMUT	**North Mineral**	**1.05**	**254**		Pn	22 05 22.9	0.0
EMUT	**Emma Park**	**1.16**	**30**		Pn	22 05 24.4	-0.1
DCM	**Dugout Coal Mi**	**1.17**	**41**		Pn	22 05 24.5	-0.1
MPU	**Maple Canyon**	**1.20**	**358**		Pn	22 05 24.9	-0.2
BCE	**Book Cliffs Ea**	**1.20**	**48**		Pb	22 05 25.4	-0.1
ROA	**Roan Cliffs**	**1.26**	**47**		Pb	22 05 26.5	+0.1
P18A	**Preston Nutter**	**1.31**	**51**		Pb	22 05 27.3	0.0
P18A				IAML		22 05 45.5	
	comp=N,55nm,0.2s						
P18A				IAML		22 05 45.6	
	comp=E,78nm,0.4s						
DWU	**Dry Willow Pea**	**1.33**	**238**		Pb	22 05 28.1	+0.6
PKCU	**Pink Cliffs**	**1.49**	**203**		Pn	22 05 28.1	-0.9
PKCU				IAML		22 05 57.1	
	comp=E,74nm,0.3s						
PKCU				IAML		22 05 57.5	
	comp=N,31nm,0.3s						
DUG	**Dugway, Tooele**	**1.68**	**325**		Pn	22 05 30.5	-1.1
DUG				IAML		22 05 56.5	
	comp=N,22nm,1.5s						
DUG				IAML		22 05 57.1	
	comp=N,23nm,0.5s						
PSUT	**Pine Spring**	**1.81**	**262**	Pn	Pn	22 05 31.6	-1.8
BSUT	**Blindstream Ca**	**1.83**	**20**		Pb	22 05 36.7	+0.6
BSUT					Sb	22 06 00.1	+1.2
PV10	**Paradox Valley**	**2.03**	**102**		Pb	22 05 40.2	+0.7
PV23	**Carpenter Ridg**	**2.04**	**99**		Pn	22 05 36.9	+0.4
KNB	**Kanab**	**2.05**	**209**	Pg	Pg	22 05 41.2	-1.3
SPR3	**Spring Creek 3**	**2.16**	**276**		Pn	22 05 38.4	0.0
SPR3				IAML		22 06 13.5	
	comp=N,12nm,0.3s						
PV11	**David Mesa, Pa**	**2.17**	**103**		Pg	22 05 43.5	-1.5
LCMT	**Little Creek M**	**2.23**	**217**	Pg	Pb	22 05 44.1	+1.2
LCMT				IAML		22 06 15.5	
	comp=E,12nm,0.2s						
LCMT				IAML		22 06 15.6	
	comp=N,12nm,0.3s						
PV13	**Radium Mtn., P**	**2.25**	**106**		Pn	22 05 38.8	-0.7
PV13				IAML		22 06 17.1	
	comp=N,49nm,0.6s						
TCUT	**Toone Canyon**	**2.31**	**3**	Pn	Pn	22 05 39.6	-0.6
TCUT				IAML		22 06 23.1	
	comp=E,18nm,0.5s						
TCUT				IAML		22 06 23.8	
	comp=N,22nm,0.6s						
PV07	**Paradox Valley**	**2.32**	**98**		Pn	22 05 40.3	-0.1
PV07				IAML		22 06 15.8	
	comp=N,33nm,0.6s						
PV07				IAML		22 06 15.8	
	comp=E,32nm,0.6s						
RDMU	**Red Mountain**	**2.34**	**41**		Pn	22 05 40.2	-0.4
RDMU				IAML		22 06 15.2	
	comp=E,8.6nm,0.5s						
BGU	**Big Grassy Mou**	**2.39**	**332**	Pg	Pg	22 05 48.8	-0.3
BGU				IAML		22 06 21.5	
	comp=E,12nm,0.4s						
BGU				IAML		22 06 21.6	
	comp=N,7.8nm,0.7s						
U15A	**North Rim**	**2.45**	**194**		Pb	22 05 46.4	-0.3
U15A				IAML		22 06 23.2	
	comp=E,15nm,0.7s						
U15A				IAML		22 06 24.9	
	comp=N,12nm,0.3s						
PV15	**Paradox Valley**	**2.46**	**100**		Pn	22 05 42.7	+0.3
PV15				IAML		22 06 21.2	
	comp=E,37nm,0.4s						
HWUT	**Hardware Ranch**	**2.79**	**0**	Pn	Pn	22 05 47.0	+0.2
HWUT				IAML		22 06 21.9	
	comp=E,7.3nm,4.3s						
HWUT				IAML		22 06 46.6	
	comp=E,5.8nm,3.7s						
O20A	**White River Ci**	**2.89**	**62**	Pn	Pn	22 05 50.5	+2.3
MVCO	**Mesa Verde**	**2.91**	**122**		Pb	22 05 56.3	+1.9
MVCO				IAML		22 06 37.0	
	comp=E,17nm,1.7s						
MVCO				IAML		22 06 40.7	
	comp=E,19nm,0.5s						
PRN	**Pahroc Range**	**3.08**	**244**	Pn	Pn	22 05 50.5	-0.3
PRN				IAML		22 06 46.9	
	comp=E,6.6nm,1.6s						
PRN				IAML		22 06 48.8	
	comp=N,8.5nm,0.4s						
PD31	**Pinedale Array**	**4.23**	**20**	Pn	Pn	22 06 07.4	+0.7
PDAR	**Pinedale Array**	**4.23**	**20**	Pn	Pn	22 06 07.0	+0.3
Q09A	**Carvers**	**4.38**	**272**	Pn	Pn	22 06 10.1	+1.3

*IDC **08** 22:08:48.2±1.4, 61°.92N×151°.01W, h75km±17km, mb3.6/8,*
mbtmp3.9/12, Error ellipse: s-maj=29.5km s-min=9.2km
az=111.0
*NEIC **08** 22:08:49.1±1.9, 61°.95N±0°.03×151°.11W±0°.07, h84km±5km,*
Error ellipse: s-maj=4.8km s-min=4.0km az=101.0
*AEIC **08** 22:08:50.3±0.9, 61°.90N±0°.03×151°.18W±0°.06, h72km±4km,*
ML3.5, ML3.8/222(NEIC), Error ellipse: s-maj=4.7km
s-min=4.1km az=131.0
ISC 08 22:08:49.0±0.7, 61°.92N±0°.03×151°.14W±0°.03, h81km±6km,
n210, $_o$0°76/209, mb3.9/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.20**	**289**		**Pn**	**22 09 00.2**	**-0.8**
SKT				Sn	**Sn**	**22 09 09.0**	**-0.8**
SUA	**Susitna One**	**0.49**	**158**		**Pn**	**22 09 02.8**	**-0.2**
SUA				Sn	**Sn**	**22 09 12.9**	**-0.3**
SUA				IAML		22 09 13.8	
	comp=N,5µm,0.7s						
SUA				IAML		22 09 13.9	
	comp=E,5µm,1.1s						
M22K	**Willow**	**0.51**	**109**		**Pn**	**22 09 02.8**	**-0.1**
M22K					**Sn**	**22 09 13.5**	**+0.3**
M22K	**Willow**	**0.51**	**109**	IAML		22 09 15.3	
	comp=E,6µm,0.4s						
M22K				IAML		22 09 15.5	
	comp=N,5µm,0.5s						
STLK	**Strandline Lak**	**0.54**	**219**		**Pn**	**22 09 02.8**	**-0.4**
STLK				Sn	**Sn**	**22 09 13.0**	**-0.8**
STLK				IAML		22 09 13.5	
	comp=N,6µm,0.2s						
CUT	**Chulitna**	**0.64**	**39**		**Pn**	**22 09 04.6**	**+0.5**
CUT				Sn	**Sn**	**22 09 16.2**	**+0.9**
SPCG	**Spurr Capps Gl**	**0.76**	**214**		**Pn**	**22 09 05.1**	**-0.4**
SPU	**Mount Spurr**	**0.86**	**211**		**Pn**	**22 09 06.0**	**-0.6**
SPU				Sn	**Sn**	**22 09 18.7**	**-0.9**
SPU				IAML		22 09 20.2	
	comp=N,1µm,0.4s						
SPU				IAML		22 09 20.3	
	comp=E,1µm,0.2s						
SPCR	**Spurr Chakacha**	**0.89**	**216**		**Pn**	**22 09 06.2**	**-0.6**
SPCR					**Sn**	**22 09 19.8**	**-0.4**
SPCR	**Spurr Chakacha**	**0.89**	**216**		**Pn**	**22 09 06.2**	**-0.6**
SPCR					**Sn**	**22 09 19.8**	**-0.4**
SPBG	**Spurr Blockage**	**0.89**	**222**		**Pn**	**22 09 06.5**	**-0.4**
FIS	**Fire Island**	**0.89**	**150**		**Pn**	**22 09 08.0**	**+1.2**
FIS				Sn	**Sn**	**22 09 22.2**	**+2.1**
M20K	**Styx River**	**0.94**	**269**		**Pn**	**22 09 07.3**	**-0.3**
PMR	**Palmer**	**1.01**	**108**		**Pn**	**22 09 08.0**	**-0.2**
PMR				Sn	**Sn**	**22 09 22.5**	**0.0**
PMR				IAML		22 09 25.3	
	comp=N,1µm,0.2s						
PMR				IAML		22 09 25.4	
	comp=E,1µm,0.3s						
PMR	**Palmer**	**1.01**	**108**	P	**Pn**	**22 09 08.2**	**0.0**
PMR	**Palmer**	**1.01**	**108**	S	**Sn**	**22 09 22.9**	**+0.4**
GHO	**Glory Hole Cre**	**1.06**	**97**		**Pn**	**22 09 09.3**	**+0.4**
GHO				Sn	**Sn**	**22 09 24.4**	**+0.6**
RC01	**Rabbit Creek A**	**1.07**	**140**	Pn	**Pn**	**22 09 08.8**	**-0.1**
RC01				Sn	**Sn**	**22 09 23.9**	**0.0**
RC01				IAML		22 09 25.5	
	comp=N,3µm,0.3s						
RC01				IAML		22 09 25.6	
	comp=E,3µm,0.5s						
PPLA	**Purkeypile**	**1.10**	**334**		**Pn**	**22 09 09.6**	**+0.2**
PPLA	**Purkeypile**	**1.10**	**334**		**Sn**	**22 09 24.6**	**-0.1**
CAPN	**Captain Cook N**	**1.15**	**180**		**Pn**	**22 09 11.4**	**+1.5**
CAPN				Sn	**Sn**	**22 09 29.6**	**+4.0**
SML	**Sawmill**	**1.33**	**94**		**Pn**	**22 09 12.3**	**0.0**
SML				Sn	**Sn**	**22 09 29.8**	**0.0**
SML				IAML		22 09 33.9	
	comp=E,1µm,0.6s						
SML				IAML		22 09 34.8	
	comp=N,2µm,0.8s						
KNK	**Knik Glacier**	**1.38**	**110**		**Pn**	**22 09 12.9**	**+0.1**
KNK				Sn	**Sn**	**22 09 30.9**	**+0.3**
KNK				IAML		22 09 31.7	
	comp=N,2µm,0.5s						
L20K	**Farewell, AK**	**1.40**	**295**		**Pn**	**22 09 13.1**	**0.0**
SLKM	**Skilak Lake**	**1.48**	**162**		**Pn**	**22 09 14.1**	**-0.1**
SLKM				Sn	**Sn**	**22 09 32.7**	**-0.4**
SLKM				IAML		22 09 36.1	
	comp=N,1µm,0.2s						
SLKM				IAML		22 09 38.7	
	comp=E,1µm,0.3s						
DFR	**Drift River**	**1.53**	**210**		**Pn**	**22 09 14.4**	**-0.3**
M19K	**Big River Lodg**	**1.54**	**271**		**Pn**	**22 09 14.7**	**-0.2**
M19K	**Big River Lodg**	**1.54**	**271**	IAML		22 09 34.4	
	comp=N,623nm,0.6s						
M19K				IAML		22 09 35.2	
	comp=E,537nm,0.7s						
CAST	**Castle Rocks**	**1.57**	**344**		**Pn**	**22 09 15.7**	**+0.5**
CAST				Sn	**Sn**	**22 09 34.8**	**-0.3**
CAST				IAML		22 09 37.9	
	comp=E,452nm,0.5s						
TRF	**Thorofare Moun**	**1.59**	**14**		**Pn**	**22 09 16.4**	**+0.7**
TRF				Sn	**Sn**	**22 09 36.5**	**+0.8**
TRF				IAML		22 09 37.6	
	comp=E,1µm,0.7s						
O22K	**Cooper Landing**	**1.60**	**154**		**Pn**	**22 09 15.7**	**+0.2**
O22K				Sn	**Sn**	**22 09 34.9**	**-0.7**
KTH	**Kantishna Hill**	**1.64**	**3**		**Pn**	**22 09 17.2**	**+1.0**
KTH				Sn	**Sn**	**22 09 37.5**	**+0.6**
KTH				IAML		22 09 38.8	
	comp=E,2µm,0.9s						
KTH				IAML		22 09 40.2	
	comp=N,2µm,0.6s						
PWL	**Port Wells**	**1.72**	**127**		**Pn**	**22 09 16.6**	**-0.5**
PWL				Sn	**Sn**	**22 09 38.1**	**-0.4**
PWL				IAML		22 09 39.4	
	comp=N,1µm,0.5s						
PWL				IAML		22 09 40.0	
	comp=E,1µm,0.3s						
L19K	**White Mountain**	**1.77**	**280**		**Pn**	**22 09 18.1**	**+0.2**
L19K	**White Mountain**	**1.77**	**280**	IAML		22 09 40.0	
	comp=N,693nm,0.8s						
L19K				IAML		22 09 40.9	
	comp=E,752nm,0.7s						
SCM	**Sheep Creek Mo**	**1.81**	**91**		**Pn**	**22 09 18.7**	**+0.3**
SCM				Sn	**Sn**	**22 09 41.4**	**+0.6**
RND	**Reindeer**	**1.83**	**34**		**Pn**	**22 09 19.1**	**+0.4**
RND				Sn	**Sn**	**22 09 40.1**	**-1.1**
RND				IAML		22 09 43.1	
	comp=N,475nm,0.7s						
RND				IAML		22 09 45.3	
	comp=E,516nm,0.6s						
N19K	**Bonanza Creek**	**1.96**	**237**		**Pn**	**22 09 20.2**	**-0.2**
K20K	**Telida**	**1.98**	**318**		**Pn**	**22 09 21.1**	**+0.4**
SEW	**Seward**	**2.00**	**155**		**Pn**	**22 09 21.2**	**+0.4**
CHUM	**Lake Minchumin**	**2.04**	**345**		**Pn**	**22 09 22.3**	**+0.8**
MCK	**McKinley**	**2.08**	**28**	Pn	**Pn**	**22 09 22.5**	**+0.5**
BRLK	**Bradley Lake**	**2.17**	**177**	Pn	**Pn**	**22 09 23.5**	**+0.3**
BRLK				IAML		22 09 55.8	
	comp=E,977nm,0.4s						
ILSW	**Iliamna Southw**	**2.17**	**208**		**Pn**	**22 09 22.4**	**-1.0**
ILSW				IAML		22 09 55.2	
	comp=E,362nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.19**	**2**		**Pn**	**22 09 23.6**	**+0.1**
BPAW				IAML		22 09 50.5	
	comp=E,507nm,0.5s						
BPAW				IAML		22 09 50.7	
	comp=N,412nm,0.5s						
BRSE	**Bradley Lake S**	**2.19**	**175**		**Pn**	**22 09 23.9**	**+0.4**
GLI	**Glacier Island**	**2.21**	**116**		**Pn**	**22 09 22.1**	**-1.5**
M18K	**Stony River**	**2.27**	**261**		**Pn**	**22 09 24.6**	**+0.1**
HOM	**Homer**	**2.28**	**186**		**Pn**	**22 09 24.8**	**+0.1**
O19K	**Port Alsworth**	**2.32**	**223**		**Pn**	**22 09 25.2**	**0.0**
O19K				IAML		22 09 53.2	
	comp=N,702nm,0.5s						
O19K				IAML		22 09 54.9	
	comp=E,591nm,0.5s						
M24K	**Tolsona, Glenn**	**2.35**	**83**	Pn	**Pn**	**22 09 26.2**	**+0.6**
BWN	**Browne**	**2.39**	**18**	IAML		22 10 18.5	
	comp=N,658nm,0.9s						
CNPM	**China Poot**	**2.40**	**181**		**Pn**	**22 09 26.9**	**+0.6**
TTA	**Tatalina**	**2.48**	**296**		**Pn**	**22 09 27.5**	**+0.1**
TTA	**Tatalina**	**2.48**	**296**	P	**Pn**	**22 09 27.5**	**+0.1**
P19K	**Oil Pt**	**2.50**	**205**		**Pn**	**22 09 28.1**	**+0.6**
P19K				IAML		22 10 03.8	
	comp=E,589nm,0.5s						
P19K				IAML		22 10 05.5	
	comp=N,511nm,0.6s						
KLU	**Klutina**	**2.52**	**97**		**Pn**	**22 09 27.5**	**-0.4**
KLU				IAML		22 09 58.3	
	comp=E,307nm,0.5s						
KLU				IAML		22 10 09.4	
	comp=N,361nm,0.4s						
FID	**Port Fidalgo**	**2.53**	**116**		**Pn**	**22 09 26.9**	**-1.1**
N18K	**Kilae Creek**	**2.61**	**244**		**Pn**	**22 09 28.7**	**-0.3**
N18K	**Kilae Creek**	**2.61**	**244**	IAML		22 09 58.6	
	comp=N,176nm,0.7s						
L18K	**Granite Mounta**	**2.63**	**279**		**Pn**	**22 09 29.4**	**+0.1**
J20K	**Nowinta River**	**2.65**	**330**		**Pn**	**22 09 30.0**	**+0.5**
J20K	**Nowinta River**	**2.65**	**330**	IAML		22 10 01.3	
	comp=E,300nm,0.6s						
J20K				IAML		22 10 01.4	
	comp=N,451nm,0.5s						
DIV	**Divide**	**2.69**	**105**		**Pn**	**22 09 29.6**	**-0.6**
HIN	**Hinchinbrook I**	**2.72**	**122**		**Pn**	**22 09 29.9**	**-0.6**
HIN				IAML		22 10 14.7	
	comp=E,387nm,0.9s						
HIN				IAML		22 10 22.0	
	comp=N,343nm,1.2s						
PAX	**Paxson**	**2.84**	**66**	Pn	**Pn**	**22 09 32.9**	**+0.7**
O18K	**Koktuh Hills**	**2.87**	**226**		**Pn**	**22 09 32.7**	**+0.1**
O18K				IAML		22 10 08.0	
	comp=N,146nm,0.8s						
WRH	**Wood River Hil**	**2.91**	**27**	Pn	**Pn**	**22 09 33.0**	**0.0**
WRH				IAML		22 10 28.9	
	comp=N,190nm,0.7s						
WRH				IAML		22 10 34.6	
	comp=E,165nm,0.7s						
J19K	**Poorman**	**2.92**	**317**		**Pn**	**22 09 33.7**	**+0.4**
EYAK	**Cordova Ski Ar**	**2.94**	**115**		**Pn**	**22 09 32.7**	**-0.8**
J18K	**Innoko River**	**3.00**	**304**		**Pn**	**22 09 34.9**	**+0.5**
M17K	**Holitna River**	**3.05**	**263**		**Pn**	**22 09 35.0**	**0.0**
M17K	**Holitna River**	**3.05**	**263**	IAML		22 10 11.8	
	comp=N,248nm,0.7s						
M17K				IAML		22 10 12.1	
	comp=E,410nm,0.9s						
K24K	**Donnelly Dome**	**3.10**	**50**		**Pn**	**22 09 37.7**	**+2.0**
N25K	**Chitina, Valde**	**3.12**	**93**	Pn	**Pn**	**22 09 35.4**	**-0.7**
N25K				IAML		22 10 25.4	
	comp=N,269nm,0.6s						
N25K				IAML		22 10 25.5	
	comp=E,172nm,0.5s						
CCB	**Clear Creek Bu**	**3.12**	**27**	IAML		22 10 34.0	
	comp=E,133nm,0.6s						
HDA	**Harding Lake**	**3.14**	**35**	IAML		22 10 33.1	
	comp=E,372nm,0.7s						
N17K	**Nushagak Hills**	**3.24**	**247**		**Pn**	**22 09 37.4**	**-0.2**
Q19K	**Cape Douglas,**	**3.25**	**204**	Pn	**Pn**	**22 09 37.8**	**+0.1**
Q19K				IAML		22 10 28.4	
	comp=N,405nm,0.8s						
I20K	**Naaghedeneel**	**3.26**	**334**		**Pn**	**22 09 38.5**	**+0.7**
BMRM	**Bremner River**	**3.28**	**104**	Pn	**Pn**	**22 09 38.3**	**+0.2**
WASW	**Wrangell South**	**3.29**	**87**		**Pn**	**22 09 38.7**	**+0.2**
I21K	**Tanana**	**3.30**	**354**		**P

comp=N,347nm,0.5s
K17K Iditarod 3.44 287 Pn 22 09 40.7 +0.5
K17K Iditarod 3.44 287 IAML 22 10 19.8
comp=E,104nm,0.9s
IL31 3.44 32 Pn 22 09 40.3 +0.1
ILAR Eielson Array 3.44 32 Pn **Pn 22 09 40.7 +0.4**
ILAR Eielson Array 3.44 32 P **Pn 22 09 40.3 0.0**
comp=E,22nm,0.3s,baz=218,slow=14,SNR=433
ILAR S **Sn 22 10 18.3 -1.7**
comp=E,13nm,0.4s,baz=218,slow=16,SNR=10
RAGM Ragged Mountai 3.49 113 Pn **Pn 22 09 41.1 +0.2**
GLB Gilahina Butte 3.52 95 Pn **Pn 22 09 41.0 -0.5**
GLB IAML 22 10 22.1
comp=E,108nm,0.3s
GLB IAML 22 10 39.1
comp=N,179nm,0.6s
MENT Mentasta 3.60 70 Pn 22 09 42.1 -0.3
MENT Mentasta 3.60 70 P **Pn 22 09 42.9 +0.5**
POKR Poker Plat Res 3.61 26 Pn 22 09 43.1 +0.5
POKR IAML 22 10 59.7
comp=E,98nm,0.9s
POKR IAML 22 11 00.7
comp=N,84nm,0.8s
DOT Dot Lake 3.69 59 Pn 22 09 44.3 +0.7
HMT Hamilton 3.69 112 Pn **Pn 22 09 43.9 +0.2**
VRDI Verde Repeater 3.74 97 Pn **Pn 22 09 44.3 -0.2**
VRDI IAML 22 10 44.2
comp=E,88nm,0.7s
VRDI IAML 22 10 47.2
comp=N,93nm,0.7s
J25K Salcha River, 3.75 41 Pn 22 09 44.8 +0.2
J25K IAML 22 10 38.0
comp=E,205nm,0.6s
J25K IAML 22 10 39.0
comp=N,166nm,0.3s
L26K Log Cabin Wild 3.78 70 Pn 22 09 45.4 +0.5
KAHC Katmai Hardscr 3.81 212 Pn 22 09 45.1 -0.2
H21K Melozitna Rive 3.83 350 Pn 22 09 45.9 +0.4
KAHG Katmai Hook Gl 3.83 208 Pn 22 09 44.3 -1.3
KAIM Kayak Island 3.84 118 Pn **Pn 22 09 45.0 -0.7**
KAIM IAML 22 10 28.6
comp=E,97nm,1.2s
KAIM IAML 22 10 48.5
comp=N,94nm,1.0s
M26K Nabesna, AK 3.85 79 Pn 22 09 46.0 +0.1
M26K Nabesna, AK 3.85 79 IAML 22 10 53.8
comp=E,184nm,0.5s
M26K IAML 22 10 59.0
comp=N,180nm,0.8s
M16K Timber Creek 3.86 260 Pn 22 09 46.0 +0.1
SCRK Sand Creek 3.87 55 Pn **Pn 22 09 46.4 +0.2**
SCRK IAML 22 10 39.2
comp=N,155nm,0.5s
SCRK IAML 22 10 53.5
comp=E,126nm,0.5s
J17K VABM Dome 3.95 296 Pn 22 09 47.3 +0.2
H20K Anotleneega Mo 3.96 337 Pn 22 09 47.7 +0.5
L16K Owhat River 3.96 271 Pn **Pn 22 09 47.5 +0.2**
H23K Yukon River 3.99 9 Pn 22 09 48.3 +0.7
H22K Ishtalitna Cre 3.99 359 Pn 22 09 48.4 +0.6
SUCK Suckling Hills 4.03 114 Pn **Pn 22 09 47.6 -0.7**
SUCK IAML 22 10 51.9
comp=E,71nm,1.2s
SUCK IAML 22 10 57.4
comp=N,135nm,1.2s
KAKN Katmai Knife C 4.13 210 Pn 22 09 49.8 +0.1
O16K Kokwok River B 4.13 239 Pn 22 09 49.5 -0.1
H24K Noodor Dome 4.19 19 Pn 22 09 51.0 +0.6
H24K Noodor Dome 4.19 19 IAML 22 11 09.6
comp=E,72nm,0.7s
KDAK Kodiak Island 4.21 191 Pn 22 09 50.5 -0.2
KDAK IAML 22 10 52.9
comp=E,129nm,0.7s
KDAK IAML 22 10 54.1
comp=E,135nm,0.6s
KDAK Kodiak Island 4.21 191 P **Pn 22 09 50.4 -0.3**
comp=E,9.0nm,0.3s,baz=264,slow=4.4,SNR=61
KDAK S **Sn 22 10 38.1 -0.5**
comp=E,34nm,0.5s,baz=72,slow=20,SNR=7.0
ACHA Angle Creek He 4.27 211 Pn **Pn 22 09 51.3 -0.4**
J26L Joseph Creek 4.30 50 Pn 22 09 52.9 +0.9
ANCK Angle Creek 4.32 212 Pn 22 09 52.1 -0.2
H19K Roundabout Mou 4.32 329 Pn 22 09 52.7 +0.5
H19K IAML 22 10 41.1
comp=E,46nm,0.8s
M27K Edge Creek, AK 4.37 80 Pn 22 09 53.9 +0.9
M27K Edge Creek, AK 4.37 80 IAML 22 11 10.9
comp=N,81nm,1.0s
M27K IAML 22 11 17.5
comp=E,50nm,0.8s
PRP Porcupine Dome 4.39 32 Pn **Pn 22 09 54.1 +0.8**
PRP IAML 22 10 51.0
comp=E,71nm,0.6s
PRP IAML 22 11 17.4
comp=N,104nm,0.7s
SNH Sunshine Point 4.39 110 Pn **Pn 22 09 54.8 +1.5**
SNH IAML 22 10 46.9
comp=N,90nm,1.1s
SNH IAML 22 11 08.8
comp=E,75nm,1.2s
P16K Nushagak River 4.46 233 Pn 22 09 54.1 0.0
L27K Beaver Creek, 4.47 71 IAML 22 11 11.8
comp=E,41nm,0.6s
L27K IAML 22 11 14.9
comp=N,55nm,0.7s
J16K Anvik River 4.58 292 Pn 22 09 56.0 +0.2
K27K Chicken 4.64 59 Pn 22 09 56.7 +0.1
K27K Chicken 4.64 59 IAML 22 11 00.0
comp=E,63nm,0.6s
K27K IAML 22 11 30.9
comp=N,58nm,1.1s
R18K Karluk 4.68 202 Pn 22 09 57.2 +0.2
R18K Karluk 4.68 202 IAML 22 10 58.5
comp=E,78nm,0.5s
R18K IAML 22 11 08.7
comp=N,82nm,0.5s
N15K Kwethluk River 4.69 252 Pn 22 09 57.6 +0.3
N15K Kwethluk River 4.69 252 IAML 22 11 08.2
comp=N,41nm,0.8s
N15K IAML 22 11 23.7
comp=E,57nm,1.1s
G21K Allakaket 4.73 348 Pn 22 09 58.6 +0.8
G21K Allakaket 4.73 348 IAML 22 10 51.9
comp=E,63nm,0.8s
G21K IAML 22 10 54.9
comp=N,47nm,0.8s
M15K Kasigluk River 4.77 259 Pn 22 09 58.1 -0.1
MESA MESA 4.79 107 Pn 22 09 57.6 -1.2
MESA IAML 22 11 13.7
comp=N,92nm,0.8s
MESA IAML 22 11 19.9
comp=E,120nm,0.8s
I17K Unalakleet 4.80 298 Pn 22 09 59.2 +0.6
YAH Yahtse 4.81 105 Pn 22 09 58.8 -0.3
YAH Yahtse 4.81 105 IAML 22 10 55.2
comp=E,69nm,0.7s
YAH IAML 22 11 31.5
comp=N,59nm,0.8s
OHAK Old Harbor 4.84 194 Pn 22 09 58.7 -0.5
OHAK Old Harbor 4.84 194 IAML 22 11 15.5
comp=N,39nm,1.1s
OHAK IAML 22 11 16.4
comp=E,42nm,1.2s
OHAK Old Harbor 4.84 194 P **Pn 22 09 59.2 0.0**
OHAK Old Harbor 4.84 194 S **Sn 22 10 55.4 +1.6**
G23K Bananza Creek 4.84 5 Pn 22 10 00.3 +1.1
G23K Bananza Creek 4.84 5 IAML 22 10 52.9
comp=E,32nm,1.0s
G23K IAML 22 10 55.7
comp=N,30nm,0.7s
K15K Wolf Creek Mou 4.90 279 Pn 22 10 00.4 +0.4
L15K Ungalak Mounta 4.92 272 Pn 22 10 00.2 -0.1
I26K Coal Creek Min 4.92 43 Pn 22 10 01.5 +1.1
I26K Coal Creek Min 4.92 43 IAML 22 11 34.9
comp=N,105nm,0.6s
H25L Birch Creek 4.95 26 Pn 22 10 01.7 +1.0
PLK1 Peulik 1 4.96 216 Pn 22 10 01.3 +0.3
H17K Granite Mounta 4.97 311 Pn 22 10 01.8 +0.8
G19K Purcell Mounta 4.98 331 IAML 22 12 33.0
comp=E,42nm,0.2s
G19K IAML 22 12 33.0
comp=N,37nm,0.2s
RKAV Rock Avalanche 5.02 105 Pn 22 10 01.6 -0.2
G24K Hadweenzic Riv 5.06 17 Pn 22 10 02.8 +0.6
G24K Hadweenzic Riv 5.06 17 IAML 22 11 13.9
comp=N,47nm,0.9s
G24K IAML 22 11 34.8
comp=E,30nm,0.8s
PLBL Peulik Blue Cr 5.11 217 Pn 22 10 03.6 +0.6
G18K Tagagawik 5.19 324 Pn 22 10 04.8 +0.8
FYU Fort Yukon 5.33 26 IAML 22 11 49.1
comp=N,55nm,0.9s
FYU IAML 22 11 55.0
comp=E,62nm,1.2s
M14K Bethel 5.34 262 Pn 22 10 06.7 +0.6
M14K Bethel 5.34 262 IAML 22 11 49.5
comp=E,24nm,1.1s
SAMH Samovar Hills 5.35 105 Pn 22 10 06.9 +0.7
O28M Mount Upton 5.39 97 Pn 22 10 07.7 +0.6
F21K Alatna River 5.42 350 Pn 22 10 08.6 +1.4
YUK8 Steele Glacier 5.47 92 Pn 22 10 07.9 -0.1
F20K Avaraart Lake 5.52 341 Pn 22 10 09.7 +1.2
N14K Kuskokwak Cree 5.52 253 Pn 22 10 08.9 +0.4
L14K Kuka Creek 5.54 269 Pn 22 10 09.5 +0.8
G17K Kiwalik Mounta 5.55 315 Pn 22 10 09.8 +0.9
PCA Pinnacle 5.60 104 Pn 22 10 10.0 +0.3
E22K Anaktuvuk Pass 6.25 358 Pn 22 10 18.3 -0.2
G27K Doyon Strip 6.40 36 Pn 22 10 20.7 +0.1
E25K Arctic Village 6.66 18 Pn 22 10 24.9 +0.9
J30M Hart River 7.19 62 Pn 22 10 32.6 +1.2
E27K Coleen River 7.46 28 Pn 22 10 36.0 +0.9
C23K Itkillik River 7.96 1 Pn 22 10 43.2 +1.5
SKAG Skagway 8.14 101 P **Pn 22 10 44.0 -0.2**
SKAG Skagway 8.14 101 S **Sn 22 12 14.5 +0.1**
SDPT Sand Point 8.19 221 P **Pn 22 10 47.4 +2.5**
E28M Babbage River 8.27 31 Pn 22 10 46.3 +0.3
C27K Jago River 8.31 18 Pn 22 10 47.4 +0.9
D27M Malcolm River 8.46 25 Pn 22 10 49.6 +1.0
E29M Blow River 8.54 35 Pn 22 10 50.9 +1.3
F30M Barrier River 8.68 42 Pn 22 10 52.0 +0.5
D28M Stokes Point 9.01 29 Pn 22 10 57.0 +0.9
INK Inuvik 9.77 42 Pn 22 11 06.2 -0.2
INK Inuvik 9.77 42 P **Pn 22 11 06.0 -0.3**
comp=E,4.0nm,0.6s,baz=232,slow=18,SNR=20
INK S **Sn 22 12 50.8 -3.3**
comp=E,1.0nm,0.3s,baz=276,slow=10,SNR=2.1
YKA Yellowknife Ar 16.91 72 P **Pn 22 12 39.0 -1.0**
comp=E,1.1nm,0.8s,baz=284,slow=11,SNR=12
SPITS Spitsbergen Ar 39.94 4 P **P 22 16 14.4 -0.1**
comp=E,15nm,1.1s,baz=12,slow=8.5,SNR=7.9
comp=E,15nm,1.1s
SONM Songino Array 54.40 306 P **P 22 18 08.3 +1.0**
comp=E,1.2nm,0.7s,baz=38,slow=7.4,SNR=13
comp=E,1.2nm,0.7s
ZALV Zalesovo Beam 56.36 324 P **P 22 18 20.6 -0.5**
comp=E,1.1nm,0.5s,baz=20,slow=4.6,SNR=5.3
comp=E,1.1nm,0.5s
EKA Eskdalemuir Ar 60.41 20 P **P 22 18 49.4 +0.1**
comp=E,0.5nm,0.4s,baz=325,slow=5.6,SNR=5.0
comp=E,0.5nm,0.4s
BVAR Borovoye Array 60.78 333 P **P 22 18 52.0 +0.2**
comp=E,0.5nm,0.6s,baz=58,slow=8.9,SNR=3.2
comp=E,0.5nm,0.6s
KURBB Kurchatov Arra 61.05 326 P **P 22 18 53.6 0.0**
comp=E,0.3nm,0.4s,baz=30,slow=7.1,SNR=1.6
comp=E,0.3nm,0.4s
MKAR Makanchi Array 63.49 322 P **P 22 19 09.4 -0.6**
comp=E,0.4nm,0.7s,baz=31,slow=6.3,SNR=6.1
comp=E,0.4nm,0.7s
AKASG Malin Array Be 67.73 360 P **P 22 19 36.6 -0.5**
comp=E,0.6nm,0.4s,baz=2.8,slow=6.0,SNR=4.7
comp=E,0.6nm,0.4s
QSPA South Pole Qui 151.73 180 PKPbc **PKPbc 22 28 32.2 -0.1**
comp=E,1.5nm,0.6s,baz=130,slow=0.9,SNR=13

IDC 08 22:10:50.6±10.0, 18.°94S×173.°74W, h276km±76km, mb3.1/4, mbtmp3.8/5, Error ellipse: s-maj=170.1km s-min=26.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.89**	**277**	P	Pn	22 12 42.9	+0.1
	14nm,0.7s,baz=112,slow=14,SNR=8.5						
ASAR	**Alice Springs**	**48.79**	**255**	P	P	22 19 09.1	+0.5
	1.4nm,0.5s,baz=88,slow=8.0,SNR=21						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**48.80**	**260**	P	P	22 19 07.3	-1.4
	0.2nm,0.6s,baz=90,slow=7.4,SNR=4.7						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**77.17**	**42**	P	P	22 22 13.8	-0.7
	0.3nm,0.6s,baz=225,slow=5.8,SNR=2.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**85.96**	**11**	P	P	22 23 00.6	+1.2
	0.4nm,0.6s,baz=200,slow=4.6,SNR=3.0						
	0.4nm,0.6s						

*NEIC **08** 22:19:04.5±1.8, 60.°72N±0.°03×149.°647W±0.°007, h31km±9km, Error ellipse: s-maj=3.7km s-min=0.5km az=176.0*

AEIC 08 22:19:05.3±1.8, 60.°69N±0.°02×149.°63W±0.°07, h37km±6km, ML2.4, ML2.5/156(NEIC), **Error ellipse: s-maj=5.1km s-min=2.2km az=82.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O22K	**Cooper Landing**	**0.21**	**193**		Sn	22 19 17.1	-5.8
O22K	**Cooper Landing**	**0.21**	**193**		Pn	22 19 11.7	-2.5
O22K				IAML		22 19 18.2	
	comp=E,2μm,0.3s						
O22K				IAML		22 19 21.7	
	comp=N,2μm,0.6s						
SLKM	**Skilak Lake**	**0.34**	**239**		Sn	22 19 18.7	-1.8
SLKM	**Skilak Lake**	**0.34**	**239**		Pn	22 19 12.6	-1.1
SLKM				IAML		22 19 19.0	
	comp=N,1μm,0.2s						
SLKM				IAML		22 19 19.4	
	comp=E,2μm,0.3s						
RC01	**Rabbit Creek A**	**0.41**	**352**		Pn	22 19 12.9	-1.5
RC01	**Rabbit Creek A**	**0.41**	**352**		Sn	22 19 19.2	-2.0
FIS	**Fire Island**	**0.54**	**328**		Sn	22 19 24.3	-0.1
FIS	**Fire Island**	**0.54**	**328**		Pn	22 19 15.6	-1.0
FIS				IAML		22 19 24.6	
	comp=E,2μm,0.6s						
FIS				IAML		22 19 24.9	
	comp=N,2μm,0.7s						
SEW	**Seward**	**0.59**	**172**		Pn	22 19 15.3	-2.0
PWL	**Port Wells**	**0.66**	**74**		Pn	22 19 17.4	-0.7
PWL				IAML		22 19 29.3	
	comp=N,370nm,0.2s						
PWL				IAML		22 19 29.7	
	comp=E,285nm,0.2s						
CAPN	**Captain Cook N**	**0.76**	**277**	Pn	Pn	22 19 18.5	-0.8
KNK	**Knik Glacier**	**0.92**	**37**		Pn	22 19 20.9	-0.8
KNK				IAML		22 19 34.5	
	comp=N,150nm,0.4s						
KNK				IAML		22 19 35.3	
	comp=E,152nm,0.5s						
PMR	**Palmer**	**0.94**	**15**		Pn	22 19 20.6	-1.3
PMR				IAML		22 19 35.0	
	comp=N,222nm,0.2s						
M22K	**Willow**	**1.10**	**348**	Pn	Pn	22 19 22.8	-1.2
M22K				IAML		22 19 39.2	
	comp=N,160nm,0.5s						
M22K				IAML		22 19 44.1	
	comp=E,178nm,0.5s						
BRSE	**Bradley Lake S**	**1.10**	**211**		Sn	22 19 38.3	+0.3
BRLK	**Bradley Lake**	**1.12**	**215**	Pn	Pn	22 19 23.7	-0.7
GLI	**Glacier Island**	**1.26**	**80**	Pn	Pn	22 19 25.3	-1.0
GLI				IAML		22 19 44.0	
	comp=E,118nm,0.3s						
GLI				IAML		22 19 44.1	
	comp=N,121nm,0.5s						
SPU	**Mount Spurr**	**1.28**	**294**		Pn	22 19 25.1	-1.6
SPU	**Mount Spurr**	**1.28**	**294**		Sn	22 19 41.4	-1.3
SML	**Sawmill**	**1.29**	**29**		Pn	22 19 26.4	-0.3
SML				IAML		22 19 47.4	
	comp=N,59nm,0.5s						
P23K	**Montague Islan**	**1.30**	**121**		Pn	22 19 26.7	-0.2
STLK	**Strandline Lak**	**1.35**	**308**	Pn	Pn	22 19 26.1	-1.5
STLK				Sn	Sn	22 19 43.9	-0.3
STLK				IAML		22 19 45.3	
	comp=E,115nm,0.2s						
SPCR	**Spurr Chakacha**	**1.36**	**293**		Pn	22 19 26.2	-1.6
SPCR	**Spurr Chakacha**	**1.36**	**293**		Pn	22 19 26.2	-1.6
CNPM	**China Poot**	**1.42**	**215**		Pn	22 19 27.3	-1.2
CNPM				IAML		22 19 46.9	
	comp=N,69nm,0.6s						
CNPM				IAML		22 19 47.2	
	comp=E,67nm,0.7s						
HOM	**Homer**	**1.44**	**225**	Pn	Pn	22 19 27.7	-1.1
DFR	**Drift River**	**1.51**	**268**		Pn	22 19 28.7	-1.1
FID	**Port Fidalgo**	**1.55**	**86**	Pn	Pn	22 19 29.1	-1.2
FID				IAML		22 19 51.3	
	comp=E,75nm,0.3s						
FID				IAML		22 19 51.4	
	comp=N,104nm,0.4s						
HIN	**Hinchinbrook I**	**1.57**	**99**	Pn	Pn	22 19 29.4	-1.2
HIN				IAML		22 19 54.1	
	comp=E,82nm,1.4s						
HIN				IAML		22 20 06.9	
	comp=N,88nm,1.3s						
SKT	**Skwentna**	**1.59**	**326**		Pn	22 19 30.1	-0.7
SKT				IAML		22 19 53.1	
	comp=E,98nm,0.4s						
SCM	**Sheep Creek Mo**	**1.60**	**43**		Pn	22 19 31.9	+0.9
SCM				IAML		22 19 56.4	
	comp=E,43nm,1.2s						
CUT	**Chulitna**	**1.75**	**350**		Pn	22 19 32.8	-0.3
ILSW	**Iliamna Southw**	**1.89**	**250**	Pn	Pn	22 19 33.8	-1.2
ILSW				IAML		22 20 00.6	
	comp=E,35nm,1.5s						
EYAK	**Cordova Ski Ar**	**1.92**	**92**	Pn	Pn	22 19 34.6	-0.6
DIV	**Divide**	**1.94**	**75**	Pn	Pn	22 19 35.6	0.0
KLU	**Klutina**	**1.97**	**64**		Pn	22 19 36.0	-0.2
KLU				IAML		22 20 12.8	
	comp=N,27nm,0.7s						
P19K	**Oil Pt**	**2.08**	**242**	Pn	Pn	22 19 35.9	-1.7
M24K	**Tolsona, Glenn**	**2.19**	**48**		Pn	22 19 40.5	+1.4
M24K				IAML		22 20 13.8	
	comp=N,38nm,1.4s						
M24K				IAML		22 20 19.4	
	comp=E,31nm,1.1s						
N19K	**Bonanza Creek**	**2.39**	**275**		Pn	22 19 41.5	-0.4
N19K				IAML		22 20 22.6	
	comp=N,18nm,0.9s						
GOAT	**Goat Mountain**	**2.42**	**90**		Pn	22 19 41.6	-0.6
BMRM	**Bremner River**	**2.48**	**81**		Pn	22 19 42.7	-0.3
SYI	**Shuyak Island**	**2.51**	**215**	Pn	Pn	22 19 43.1	-0.4
SYI				IAML		22 20 13.8	
	comp=E,27nm,0.9s						
PPLA	**Purkeypile**	**2.53**	**332**	Pn	Pn	22 19 45.4	+1.5
M19K	**Big River Lodg**	**2.60**	**300**		Pn	22 19 45.0	+0.2
N25K	**Chitina, Valde**	**2.61**	**67**	Pn	Pn	22 19 44.9	0.0
N25K				IAML		22 20 27.7	
	comp=N,16nm,0.8s						
Q19K	**Cape Douglas,**	**2.69**	**231**	Pn	Pn	22 19 45.7	-0.2
RND	**Reindeer**	**2.75**	**7**		Pn	22 19 47.7	+0.9
RND				IAML		22 20 25.6	
	comp=N,21nm,0.5s						
RND				IAML		22 20 27.2	
	comp=E,18nm,0.9s						
TRF	**Thorofare Moun**	**2.79**	**354**		Pn	22 19 48.9	+1.4
TRF				IAML		22 20 25.7	
	comp=N,18nm,1.1s						
TRF				IAML		22 20 25.9	
	comp=E,18nm,1.5s						
O18K	**Koktuh Hills**	**2.90**	**256**	Pn	Pn	22 19 47.7	-1.2
O18K				IAML		22 20 42.3	
	comp=E,12nm,1.2s						
L19K	**White Mountain**	**2.93**	**303**		Pn	22 19 49.1	-0.1
L19K				IAML		22 20 39.7	
	comp=E,15nm,1.1s						
GLB	**Gilahina Butte**	**2.93**	**72**	Pn	Pn	22 19 48.8	-0.5
GLB				IAML		22 20 43.6	
	comp=N,11nm,1.4s						
KTH	**Kantishna Hill**	**2.94**	**349**		Pn	22 19 50.6	+1.2
KTH				IAML		22 20 31.2	
	comp=N,17nm,0.5s						
KTH				IAML		22 20 34.5	
	comp=E,16nm,0.7s						
SUCK	**Suckling Hills**	**2.97**	**99**	Pn	Pn	22 19 48.1	-1.7
CAST	**Castle Rocks**	**2.98**	**338**	Pn	Pn	22 19 50.8	+1.0
PAX	**Paxson**	**3.02**	**39**	Pn	Pn	22 19 50.7	+0.1
VRDI	**Verde Repeater**	**3.06**	**77**	Pn	Pn	22 19 51.5	+0.3
VRDI				IAML		22 20 38.1	
	comp=N,13nm,1.0s						
MCK	**McKinley**	**3.07**	**6**	Pn	Pn	22 19 52.0	+0.8
N18K	**Kilae Creek**	**3.08**	**273**	Pn	Pn	22 19 49.9	-1.4
N18K				IAML		22 20 38.4	
	comp=E,9.8nm,1.2s						
P18K	**Big Mountain,**	**3.10**	**248**		Pn	22 19 50.7	-0.8
M18K	**Stony River**	**3.12**	**288**		Pn	22 19 50.8	-1.0
KDAK	**Kodiak Island**	**3.29**	**209**	Pn	Pn	22 19 52.6	-1.5
KDAK				IAML		22 21 02.6	
	comp=E,20nm,1.4s						
KDAK				IAML		22 21 37.8	
	comp=E,18nm,1.4s						
K20K	**Telida**	**3.40**	**324**	Pn	Pn	22 19 56.2	+0.5
KAHC	**Katmai Hardscr**	**3.41**	**236**		Pn	22 19 55.0	-1.0
BPAW	**Bear Paw Mtn.**	**3.48**	**350**	Pn	Pn	22 19 57.7	+0.8
BPAW				IAML		22 20 37.5	
	comp=E,8.8nm,1.4s						
BPAW				IAML		22 20 51.7	
	comp=N,7.4nm,1.5s						
BARK	**Barkley Ridge**	**3.54**	**92**		Pn	22 19 56.6	-1.0
KIAG	**Kiagna River**	**3.57**	**83**		Pn	22 19 57.5	-0.6
BALM	**Baldy**	**3.58**	**81**		Pn	22 19 57.8	-0.5
MENT	**Mentasta**	**3.60**	**49**	Pn	Pn	22 19 58.6	+0.1
MENT				IAML		22 22 27.3	
	comp=E,14nm,0.5s						
MENT				IAML		22 22 27.3	
	comp=N,12nm,0.3s						
M26K	**Nabesna, AK**	**3.61**	**59**	Pn	Pn	22 19 58.6	0.0
M26K				IAML		22 21 13.6	
	comp=N,6.6nm,1.5s						
KAKN	**Katmai Knife C**	**3.66**	**232**		Pn	22 19 58.6	-0.7
L18K	**Granite Mounta**	**3.72**	**297**	Pn	Pn	22 20 00.0	-0.1
N17K	**Nushagak Hills**	**3.73**	**271**	Pn	Pn	22 19 59.3	-1.0
P17K	**Kvichak River**	**3.74**	**249**		Pn	22 19 59.5	-0.8
TTA	**Tatalina**	**3.77**	**309**	Pn	Pn	22 20 00.6	-0.3
TTA				IAML		22 21 05.6	
	comp=N,7.3nm,1.4s						
TTA				IAML		22 21 15.3	
	comp=E,5.5nm,1.4s						
RIDG	**Independent Ri**	**3.79**	**34**	Pn	Pn	22 20 02.6	+1.5
RIDG				IAML		22 21 05.6	
	comp=N,9.3nm,1.1s						
RIDG				IAML		22 21 16.5	
	comp=E,8.4nm,1.3s						
ACHA	**Angle Creek He**	**3.83**	**232**	Pn	Pn	22 20 01.4	-0.2
O17K	**Koliganek Bris**	**3.84**	**259**		Pn	22 20 00.9	-0.7
WRH	**Wood River Hil**	**3.87**	**10**	Pn	Pn	22 20 04.0	+1.9
WRH				IAML		22 21 04.1	
	comp=E,6.4nm,1.5s						
WRH				IAML		22 21 04.6	
	comp=N,7.8nm,1.5s						
M17K	**Holitna River**	**3.87**	**284**	Pn	Pn	22 20 01.2	-0.9
M17K				IAML		22 21 18.6	
	comp=E,12nm,1.4s						
ANCK	**Angle Creek**	**3.90**	**233**		Pn	22 20 01.9	-0.7
YAH	**Yahtse**	**3.91**	**91**	Pn	Pn	22 20 02.1	-0.8
YAH				IAML		22 20 37.3	
	comp=E,8.1nm,1.4s						
NEA2	**Nenana**	**3.93**	**4**	Pn	Pn	22 20 03.6	+0.7
HDA	**Harding Lake**	**3.94**	**17**	Pn	Pn	22 20 04.6	+1.6
HDA				IAML		22 20 59.8	
	comp=E,8.3nm,0.6s						
HDA				IAML		22 21 00.2	
	comp=N,9.6nm,1.2s						
DOT	**Dot Lake**	**3.95**	**39**	Pn	Pn	22 20 05.3	+2.0
OHAK	**Old Harbor**	**3.96**	**210**	Pn	Pn	22 20 02.7	-0.6
OHAK				IAML		22 22 36.4	
	comp=N,8.5nm,1.4s						
CCB	**Clear Creek Bu**	**4.06**	**11**	Pn	Pn	22 20 06.0	+1.2
CCB				IAML		22 21 08.6	
	comp=E,5.3nm,1.2s						
M27K	**Edge Creek, AK**	**4.07**	**62**	Pn	Pn	22 20 05.3	+0.2
M27K				IAML		22 22 25.2	
	comp=N,4.6nm,1.5s						
J20K	**Nowinta River**	**4.08**	**331**		Pn	22 20 05.8	+0.7
J20K				IAML		22 21 22.7	
	comp=E,5.5nm,1.2s						
SCRK	**Sand Creek**	**4.22**	**36**	Pn	Pn	22 20 07.6	+0.5
SCRK				IAML		22 21 20.2	
	comp=N,4.3nm,1.4s						
IL31		**4.29**	**16**	Pn	Pn	22 20 08.8	+1.0
ILAR	**Eielson Array**	**4.29**	**16**	Pn	Pn	22 20 09.1	+1.2
J19K	**Poorman**	**4.34**	**322**		Pn	22 20 09.1	+0.5
J19K				IAML		22 21 32.9	
	comp=E,3.7nm,1.2s						
J19K				IAML		22 21 46.6	
	comp=N,3.9nm,1.4s						
J18K	**Innoko River**	**4.34**	**313**	Pn	Pn	22 20 07.8	-0.9

O16K	**Kokwok River B**	4.37	259	Pn	Pn	22 20 07.3 -1.7
O16K				IAML		22 21 28.0
	comp=N,4.6nm,1.1s					
O16K				IAML		22 22 22.1
	comp=E,4.0nm,1.2s					
L27K	**Beaver Creek,**	4.39	54	Pn	Pn	22 20 09.2 -0.2
J25K	**Salcha River,**	4.40	25	Pn	Pn	22 20 10.7 +1.2
J25K				IAML		22 21 10.0
	comp=E,5.4nm,1.1s					
BCAR	**Beaver Creek A**	4.41	54	Pn	Pn	22 20 10.1 +0.5
I23K	**Minto, Yukon-K**	4.48	1		Pn	22 20 12.1 +1.6
I23K				IAML		22 21 21.4
	comp=N,4.5nm,1.1s					
I23K				IAML		22 21 59.5
	comp=E,4.5nm,1.5s					
POKR	**Poker Plat Res**	4.56	12	Pn	Pn	22 20 12.7 +1.1
POKR				IAML		22 21 24.2
	comp=E,4.0nm,1.4s					
POKR				IAML		22 22 19.4
	comp=N,3.9nm,1.2s					
M16K	**Timber Creek**	4.58	278	Pn	Pn	22 20 10.9 -1.0
M16K				IAML		22 21 02.8
	comp=E,4.6nm,1.2s					
M16K				IAML		22 21 19.7
	comp=N,3.8nm,1.4s					
K17K	**Iditarod**	4.60	300	Pn	Pn	22 20 11.5 -0.7
K17K				IAML		22 20 59.1
	comp=N,6.0nm,1.5s					
I21K	**Tanana**	4.64	348	Pn	Pn	22 20 13.6 +0.9
I21K				IAML		22 21 27.4
	comp=E,3.5nm,0.9s					
J26L	**Joseph Creek**	4.74	34	Pn	Pn	22 20 15.5 +1.3
J26L				IAML		22 21 19.5
	comp=E,4.8nm,1.5s					
H23K	**Yukon River**	5.16	0	Pn	Pn	22 20 21.3 +1.4
H23K				IAML		22 23 34.8
	comp=E,3.0nm,1.4s					
H23K				IAML		22 23 43.8
	comp=N,4.5nm,1.5s					
H21K	**Melozitna Rive**	5.19	345		Pn	22 20 20.9 +0.6
H21K				IAML		22 21 40.7
	comp=N,2.0nm,1.4s					
N15K	**Kwethluk River**	5.21	269	Pn	Pn	22 20 19.4 -1.1
H24K	**Noodor Dome**	5.23	8	Pn	Pn	22 20 21.5 +0.7
H24K				IAML		22 21 51.6
	comp=N,2.1nm,1.1s					
H24K				IAML		22 21 54.3
	comp=E,3.7nm,1.2s					
H19K	**Roundabout Mou**	5.76	330	Pn	Pn	22 20 29.3 +1.3
J16K	**Anvik River**	5.79	301	Pn	Pn	22 20 28.1 -0.4
K15K	**Wolf Creek Mou**	5.93	291	Pn	Pn	22 20 30.6 +0.3
HYT	**Haines Junctio**	5.95	83	Pn	Pn	22 20 30.0 -0.7
G23K	**Bananza Creek**	6.05	358	Pn	Pn	22 20 33.2 +1.2
I17K	**Unalakleet**	6.08	307	Pn	Pn	22 20 32.4 0.0
G24K	**Hadweenzic Riv**	6.11	8	Pn	Pn	22 20 33.8 +0.9
N30M	**Aishikik Lake**	6.13	77	Pn	Pn	22 20 32.8 -0.5
FYU	**Fort Yukon**	6.22	16	Pn	Pn	22 20 37.6 +3.4
H17K	**Granite Mounta**	6.35	317	Pn	Pn	22 20 36.0 -0.2
L14K	**Kuka Creek**	6.38	282	Pn	Pn	22 20 36.6 0.0
COLD	**Coldfoot**	6.57	358	Pn	Pn	22 20 40.4 +1.2
G18K	**Tagagawik**	6.62	326	Pn	Pn	22 20 41.1 +1.3
F21K	**Alatna River**	6.78	347	Pn	Pn	22 20 43.1 +1.1
F24K	**Squaw Lake**	6.90	6	Pn	Pn	22 20 46.6 +2.8
F20K	**Avaraart Lake**	6.93	340	Pn	Pn	22 20 45.6 +1.5
J14K	**Nanvaranak Lak**	6.93	293	Pn	Pn	22 20 44.8 +0.6
BMAR	**Burnt Mountain**	7.12	16	Pn	Pn	22 20 48.6 +1.9
E23K	**Chandalar**	7.40	0	Pn	Pn	22 20 53.3 +2.7
F26K	**Sheenjek River**	7.43	16	Pn	Pn	22 20 52.4 +1.5

JMA 08 22:19:37.3±0.1, 39°.2N±0°.3×142°.7E±0°.6, h37km±1km, MV3.0/35, E OFF IWATE PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.79**	**302**	P	Pn	22 19 52.0	+0.1
MIYJ				S	Sn	22 20 02.7	+0.1
OFUJ	**Ofunato**	**0.80**	**265**	P	Pn	22 19 52.3	+0.3
OFUJ				S	Sn	22 20 03.2	+0.5
JTH	**Tanohata**	**1.01**	**321**	P	Pn	22 19 55.3	+0.4
JKMT	**Kesennumamotoy**	**1.01**	**250**	P	Pn	22 19 55.2	+0.3
JKMT				S	Sn	22 20 08.0	+0.2
JOM	**Ohasama**	**1.13**	**286**	P	Pn	22 19 57.2	+0.7
JOM				*e*S	Sn	22 20 11.6	+0.9
JMK	**Ichinoseki**	**1.16**	**260**	P	Pn	22 19 57.7	+0.7
JMK				*e*S	Sn	22 20 12.4	+0.8
JIO	**Ouri**	**1.26**	**236**	P	Pn	22 19 58.7	+0.3
JKZ	**Kuzumaki**	**1.33**	**308**	*i* P	Pn	22 20 00.5	+1.0
JANG	**Nango**	**1.51**	**324**	P	Pn	22 20 02.3	+0.4
JRG	**Rokugo**	**1.61**	**279**	P	Pn	22 20 04.7	+1.5
JOU	**Okura**	**1.77**	**244**	*e*P	Pn	22 20 06.5	+1.0

*IDC **08** 22:20:02.7±1.1, 30°.87N×141°.96E, h0km, mb3.6/8, mbtmp3.7/10, ML3.3/2, MS2.5/1, Error ellipse: s-maj=40.1km s-min=17.5km az=79.0*

ISC 08 22:20:07.7±0.9, 30°.82N±0°.09×141°.7E±0°.2, h35km, n12, σ2°.21/14, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.79**	**326**	Pn	**Pn**	**22 20 45.5**	**-4.3**
	8.8nm,0.3s,baz=247,slow=21,SNR=1.2						
JHJ				Sn	**Sn**	**22 21 20.5**	**-1.7**
	28nm,0.3s,baz=74,slow=20,SNR=2.2						
JCJ	**Chichijima**	**3.74**	**173**	Pn	**Pn**	**22 21 00.6**	**-2.3**
	6.3nm,0.3s,baz=18,slow=20,SNR=1.2						
JCJ				Sn	**Sn**	**22 21 42.4**	**-3.3**
	8.3nm,0.3s,baz=264,slow=19,SNR=1.7						
	43nm,0.4s						
MJAR	**Matsushiro Arr**	**6.39**	**334**	Pn	**Pn**	**22 21 39.0**	**-0.2**
	0.3nm,0.3s,baz=148,slow=11,SNR=13						
MJAR				Sn	**Sn**	**22 22 50.6**	**-0.4**
	0.1nm,0.3s,baz=70,slow=32,SNR=1.8						
	2.1nm,0.3s						
KSRS	**Korea Array**	**13.15**	**304**	LR	LR	22 28 07.3	
	comp=Z,21nm,19.6s,baz=190,slow=36						
SONM	**Songino Array**	**31.78**	**312**	P	**P**	**22 26 30.4**	**+1.6**
	0.2nm,0.5s,baz=104,slow=6.1,SNR=2.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**47.80**	**307**	P	**P**	**22 28 41.4**	**-0.3**
	0.3nm,0.6s,baz=80,slow=8.8,SNR=3.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**50.15**	**312**	P	**P**	**22 29 02.1**	**+2.6**
	0.6nm,0.5s,baz=89,slow=7.2,SNR=2.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**50.96**	**189**	P	**P**	**22 29 07.1**	**+1.2**
	1.1nm,0.5s,baz=6.8,slow=7.7,SNR=18						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**54.68**	**189**	P	**P**	**22 29 34.3**	**+0.9**
	0.6nm,0.5s,baz=8.0,slow=5.9,SNR=13						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**54.70**	**30**	P	**P**	**22 29 31.9**	**-1.2**
	0.4nm,0.6s,baz=261,slow=5.9,SNR=6.8						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**55.02**	**316**	P	**P**	**22 29 37.0**	**+1.4**
	0.3nm,0.6s,baz=92,slow=6.3,SNR=3.5						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**74.42**	**333**	P	**P**	**22 31 42.5**	**+0.8**
	1.3nm,0.8s,baz=62,slow=4.8,SNR=3.5						
	1.3nm,0.8s						

IDC 08 22:25:40.9±1.2, 13°.31N×143°.02E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=29.6km s-min=27.8km az=70.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.82**	**81**	Pn	Pn	22 26 13.2	-0.2
	853nm,0.3s,baz=250,slow=1.8,SNR=75						
GUMO				Sn	Sn	22 26 28.4	-8.8
	482nm,0.3s,baz=323,slow=20,SNR=17						
WRA	**Warramunga Arr**	**34.13**	**195**	P	P	22 32 27.8	+0.1
	0.3nm,0.5s,baz=11,slow=8.8,SNR=1.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**37.82**	**194**	P	P	22 32 59.0	-0.3
	0.2nm,0.4s,baz=19,slow=12,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.45**	**316**	P	P	22 35 53.0	+0.5
	0.2nm,0.6s,baz=98,slow=7.0,SNR=2.0						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.68**	**320**	P	P	22 36 13.8	-0.3
	0.4nm,0.4s,baz=104,slow=6.8,SNR=5.6						
	0.4nm,0.4s						

2019 MAR

*NEIC **08** 22:39:12.6±1.9, 16°.45S±0°.07×173°.61W±0°.08, h100km±8km, mb4.5/19, Error ellipse: s-maj=11.4km s-min=10.1km az=51.0*

*IDC **08** 22:39:20.1±4.4, 16°.27S×174°.23W, h169km±39km, mb3.7/9, mbtmp4.2/10, MS3.1/2, Error ellipse: s-maj=29.2km s-min=17.6km az=134.0*

ISC 08 22:39:10.9±0.6, 16°.42S±0°.06×173°.70W±0°.08, h100km, n76, σ1°.51/72, mb4.5/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.11**	**37**	Pn	**Pn**	**22 39 58.3**	**+0.1**
AFI				Sn	**Sn**	**22 40 32.6**	**-2.0**
AFI	**Afiamalu**	**3.11**	**37**	P	**Pn**	**22 39 58.1**	**-0.1**
AFI				S	**Sn**	**22 40 31.5**	**-3.1**
NIUE	**Niue**	**4.46**	**127**	Pn	**Pn**	**22 40 17.4**	**+1.1**
NIUE				Sn	**Sn**	**22 41 04.6**	**-2.6**
NIUE	**Niue**	**4.46**	**127**	P	**Pn**	**22 40 17.4**	**+1.1**
NIUE				S	**Sn**	**22 41 03.7**	**-3.5**
FUTU	**Fugatoga**	**4.75**	**296**		Pn	22 40 24.8	+4.5
MSVF	**Nonsavu**	**8.00**	**259**	Pn	Pn	22 41 07.3	+2.8
MSVF	**Nonsavu**	**8.00**	**259**	P	Pn	22 41 08.0	+3.5
	22nm,1.0s,baz=121,slow=13,SNR=6.0						
MSVF				LR	LR	22 43 58.5	
	comp=Z,81nm,18.1s,baz=148,slow=37						
GRZ	**Great Barrier**	**21.98**	**204**	P	**P**	**22 43 57.3**	**+0.5**
WCZ	**Waipu Caves**	**22.17**	**206**	P	**P**	**22 43 58.9**	**+0.2**
MXZ	**Matakaoa Point**	**22.22**	**197**	P	**P**	**22 43 58.4**	**-0.9**
HAZ	**Te Kaha**	**22.55**	**198**	P	**P**	**22 44 02.4**	**-0.2**
PKGZ	**Pakihiroa**	**22.56**	**197**	P	**P**	**22 44 01.2**	**-1.7**
PUZ	**Puketiti**	**22.71**	**197**	P	**P**	**22 44 04.3**	**-0.1**
RUGZ	**Raukumara Rang**	**22.77**	**198**	P	**P**	**22 44 04.8**	**-0.3**
TWGZ	**Tauwhareparae**	**22.88**	**197**	P	**P**	**22 44 06.5**	**+0.4**
CNGZ	**Carnagh Statio**	**23.11**	**196**	P	**P**	**22 44 09.6**	**+1.4**
MWZ	**Matawai**	**23.16**	**198**	P	**P**	**22 44 09.7**	**+1.0**
URZ	**Urewera**	**23.21**	**199**	P	**P**	**22 44 08.2**	**-1.0**
TOZ	**Tahuroa Road**	**23.27**	**202**	P	**P**	**22 44 08.6**	**-1.2**
RAGZ	**Rawiri**	**23.34**	**198**	P	**P**	**22 44 12.0**	**+1.5**
MUGZ	**Murupara**	**23.52**	**199**	P	**P**	**22 44 13.2**	**+1.2**
RTZ	**Ruatahuna**	**23.58**	**198**		**P**	**22 44 13.8**	**+1.2**
RTZ				IAmb	IAmb	22 44 15.8	
	comp=Z,24nm,0.6s						
KNZ	**Kokohu**	**23.75**	**197**	P	**P**	**22 44 15.5**	**+1.4**
HIZ	**Hauiti**	**24.20**	**202**	P	**P**	**22 44 19.3**	**+1.2**
HIZ				IAmb	IAmb	22 44 24.6	
	comp=Z,34nm,1.0s						
BKZ	**Black Stump Fm**	**24.24**	**199**	P	**P**	**22 44 19.2**	**+0.7**
BKZ	**Black Stump Fm**	**24.24**	**199**	P	**P**	**22 44 17.2**	**-1.3**
WAZ	**Wanganui**	**25.26**	**201**	P	**P**	**22 44 29.9**	**+2.1**
BFZ	**Birch Farm**	**25.70**	**198**	P	**P**	**22 44 32.4**	**+0.6**
BFZ	**Birch Farm**	**25.70**	**198**	P	**P**	**22 44 31.5**	**-0.3**
MRZ	**Mangatainoka R**	**25.89**	**199**	P	**P**	**22 44 33.9**	**+0.5**
MRZ				IAmb	IAmb	22 44 36.1	
	comp=Z,10nm,0.7s						
MRZ	**Mangatainoka R**	**25.89**	**199**	P	**P**	**22 44 32.1**	**-1.3**
HNR	**Honiara**	**26.59**	**282**	LR	LR	22 53 33.1	
	comp=Z,58nm,18.8s,baz=89,slow=33						
TCW	**Tony Channel**	**26.80**	**200**	P	**P**	**22 44 40.8**	**-0.9**
PLWZ	**Palliser**	**26.81**	**199**	P	**P**	**22 44 41.4**	**-0.4**
QRZ	**Quartz Range**	**27.09**	**203**	P	**P**	**22 44 46.1**	**+1.9**
QRZ	**Quartz Range**	**27.09**	**203**	P	**P**	**22 44 45.0**	**+0.7**
TKNZ	**Takaka Hill**	**27.11**	**203**	P	**P**	**22 44 45.5**	**+1.0**
TUWZ	**Tuamarina**	**27.11**	**201**	P	**P**	**22 44 46.9**	**+2.5**
NNZ	**Nelson**	**27.12**	**202**	P	**P**	**22 44 46.1**	**+1.7**
NNZ				IAmb	IAmb	22 45 02.6	
	comp=Z,16nm,1.0s						
NNZ	**Nelson**	**27.12**	**202**	P	**P**	**22 44 45.6**	**+1.1**
BSWZ	**Blackbirch Sta**	**27.39**	**201**	P	**P**	**22 44 49.5**	**+2.6**
MRNZ	**Matariki Terra**	**27.50**	**202**	P	**P**	**22 44 49.0**	**+1.1**
THZ	**Tophouse**	**27.77**	**202**	P	**P**	**22 44 50.1**	**-0.2**
THZ				IAmb	IAmb	22 45 02.2	
	comp=Z,15nm,1.1s						
THZ	**Tophouse**	**27.77**	**202**	P	**P**	**22 44 49.8**	**-0.6**
KHZ	**Kahutara**	**28.13**	**200**	P	**P**	**22 44 54.5**	**+1.0**
DSZ	**Denniston Nort**	**28.16**	**203**	P	**P**	**22 44 54.5**	**+0.7**
DSZ	**Denniston Nort**	**28.16**	**203**	P	**P**	**22 44 53.4**	**-0.4**
GVZ	**Greta Valley S**	**28.79**	**200**	P	**P**	**22 44 58.6**	**-0.8**
LTZ	**Lake Taylor**	**28.89**	**202**	P	**P**	**22 44 58.0**	**-2.3**
JCZ	**Jackson Bay**	**31.31**	**205**	P	**P**	**22 45 19.6**	**-2.1**
DCZ	**Deep Cove**	**33.11**	**205**	P	**P**	**22 45 38.6**	**+1.3**
DCZ				IAmb	IAmb	22 45 51.8	
	comp=Z,6.9nm,1.0s						
WHZ	**Wether Hill Ro**	**33.15**	**204**	P	P	22 45 39.8	+2.1
WHZ				IAmb	IAmb	22 45 57.2	
	comp=Z,17nm,1.2s						
SYZ	**Scrubby Hill**	**33.26**	**202**	P	**P**	**22 45 40.0**	**+1.4**
ARMA	**Armidale**	**34.58**	**240**	P	**P**	**22 45 50.4**	**-0.1**
ARMA				IAmb	IAmb	22 45 50.8	
	comp=Z,5.2nm,0.7s						
STKA	**Stephens Creek**	**43.29**	**241**	P	**P**	**22 47 02.6**	**-0.3**
STKA	**Stephens Creek**	**43.29**	**241**	P	**P**	**22 47 02.0**	**-0.9**
	comp=Z,5.2nm,0.5s,baz=90,slow=10,SNR=15						
	comp=Z,5.2nm,0.5s						
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**22 47 49.0**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=94,slow=7.6,SNR=11						
	comp=Z,0.4nm,0.3s						
AS31	**Alice Springs**	**49.53**	**253**	P	**P**	**22 47 50.1**	**-1.8**
ASAR	**Alice Springs**	**49.53**	**253**	P	**P**	**22 47 50.1**	**-1.8**
	comp=Z,3.1nm,0.5s,baz=88,slow=8.6,SNR=49						
	comp=Z,3.1nm,0.5s						
VNDA	**Vanda**	**62.34**	**186**	P	P	22 49 24.9	+2.6
	comp=Z,6.0nm,1.1s,baz=23,slow=6.5,SNR=3.0						
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	**73.63**	**180**	P	P	22 50 35.9	+2.5
	comp=Z,3.5nm,1.0s,baz=18,slow=1.5,SNR=8.7						
	comp=Z,3.5nm,1.0s						
NVAR	**Mina Array Bea**	**75.27**	**42**	P	P	22 50 46.7	+3.4
	comp=Z,0.6nm,0.6s,baz=236,slow=4.3,SNR=2.5						
	comp=Z,0.6nm,0.6s						
TMUT	**Trail Mountain**	**80.40**	**44**	P	**P**	**22 51 13.4**	**+1.5**
TMUT				IAmb	IAmb	22 51 16.3	
	comp=Z,4.3nm,1.0s						
CRNM	**Carthage**	**81.02**	**51**	P	**P**	**22 51 15.5**	**+0.3**
TXAR	**Lajitas Array**	**81.41**	**56**	P	**P**	**22 51 20.1**	**+2.8**
	comp=Z,0.5nm,0.9s,baz=231,slow=7.9,SNR=4.1						
	comp=Z,0.5nm,0.9s						
J20K	**Nowinta River**	**81.74**	**9**	P	**P**	**22 51 20.5**	**+2.4**
PDAR	**Pinedale Array**	**83.21**	**42**	P	**P**	**22 51 28.3**	**+1.8**
PDAR	**Pinedale Array**	**83.21**	**42**	P	**P**	**22 51 28.9**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=203,slow=3.2,SNR=12						
	comp=Z,2.3nm,0.9s						
YHL	**Hebgen Lake**	**83.24**	**39**	P	**P**	**22 51 28.5**	**+1.8**
YHL				IAmb	IAmb	22 51 31.2	
	comp=Z,5.3nm,0.8s						
YMR	**Madison River**	**83.28**	**40**	P	**P**	**22 51 27.8**	**+0.9**
YMR				IAmb	IAmb	22 51 31.3	
	comp=Z,4.6nm,1.1s						
OVMT	**Ovando**	**83.33**	**37**	P	**P**	**22 51 28.3**	**+1.4**
H17A	**Grant Village**	**83.38**	**40**	P	**P**	**22 51 28.8**	**+1.5**
ILAR	**Eielson Array**	**83.49**	**11**	P	**P**	**22 51 27.4**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=216,slow=6.2,SNR=5.5						
	comp=Z,0.8nm,1.0s						
TRIS	**Tristan da Cun**	**123.98**	**162**	PKPdf	**PKiKP**	**22 57 59.8**	**+1.6**
BRTR	**Keskin Array B**	**146.75**	**320**	PKPbc	**PKiKP**	**22 58 42.1**	**-2.3**
	comp=Z,0.9nm,0.8s,baz=101,slow=2.5,SNR=5.9						
GERES	**GERESS Array B**	**147.10**	**351**	PKPbc	**PKiKP**	**22 58 42.6**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=55,slow=5.1,SNR=3.9						

KRSC 08 22:42:58.4±1.9, 49°.49N×157°.63E, h41km±39km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**321**	*e*P	Pn	22 43 23.6	+0.3
SKR				*e*S	Sn	22 43 41.9	-0.2
PAU	**Pauzhetka**	**2.05**	**346**	*e*P	Pn	22 43 32.8	+2.5
PAU				*e*S	Sn	22 43 57.9	+3.3
RUS	**Russkaya**	**3.00**	**10**	*e*P	Pn	22 43 46.5	+3.1
RUS				*e*S	Sn	22 44 21.5	+3.5
GRL	**Gorelyy**	**3.08**	**5**	*e*P	Pn	22 43 48.6	+4.1
GRL				*e*S	Sn	22 44 24.8	+4.7
KRMR	**Karymshinskiy**	**3.36**	**5**	*e*P	Pn	22 43 52.6	+4.3
APC	**Apacha**	**3.45**	**355**	*e*P	Pn	22 43 53.2	+3.7
PET	**Petropavlovsk**	**3.60**	**10**	*e*P	Pn	22 43 55.4	+3.8
DALK	**Dalny**	**3.62**	**11**	*e*P	Pn	22 43 55.7	+3.9
UGLR	**Uglovaya**	**3.80**	**11**	*e*P	Pn	22 43 58.8	+4.4
UGLR				*e*S	Sn	22 44 43.9	+6.0
NLC	**Nalytchevo**	**3.84**	**16**	*e*S	Sn	22 44 41.8	+3.2
AVH	**Avacha**	**3.84**	**10**	*e*P	Pn	22 43 59.8	+4.8
KOK	**Koryaka**	**3.86**	**9**	*e*P	Pn	22 44 00.4	+5.2
SDLR	**Sedlovina**	**3.87**	**11**	*e*P	Pn	22 43 59.3	+3.8
SDLR				*e*S	Sn	22 44 42.9	+3.1
KRER	**Koryakskii**	**3.88**	**10**	*e*P	Pn	22 44 00.4	+4.8
KRER				*e*S	Sn	22 44 45.1	+5.0
SPN	**Mys Shipunski**	**3.91**	**22**	*e*P	Pn	22 44 00.8	+5.0
SPN				*e*S	Sn	22 44 44.9	+4.4
KRX	**Arik**	**3.93**	**9**	*e*P	Pn	22 44 01.0	+4.8
GNL	**Ganaly**	**4.21**	**3**	*e*P	Pn	22 44 04.6	+4.4
MKZ	**Mys Kozlova**	**5.67**	**25**	*e*P	Pn	22 44 23.6	+3.6
KBTR	**Krutoberegovo**	**7.42**	**23**	*e*P	Pn	22 44 48.8	+4.8

*NEIC **08** 22:55:56.4±2.0, 38°.84N±0°.01×122°.75W±0°.02, h2km±4km, Error ellipse: s-maj=2.6km s-min=1.9km az=101.0*

NCEDC 08 22:55:56.9±2.3, 38°.83N±0°.03×122°.79W±0°.05, h2km±2km, ML3.0/27, ML2.7/72(NEIC), Error ellipse: s-maj=7.3km s-min=1.2km az=57.0, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDXM	**Geysers**	**0.02**	**186**	Pg	Pg	22 55 57.6	+0.1
GDXM				IAML		22 55 58.1	
	comp=E,20μm,0.1s						
GDXM				Sg	Sg	22 55 58.3	+0.3
GGPM	**Geyser Peak**	**0.08**	**212**		Pg	22 55 58.8	+0.3
GAXM	**Alexander Vall**	**0.12**	**166**		Pg	22 55 59.5	+0.2
GPMM	**Pine Mountain**	**0.12**	**278**		Pg	22 55 59.7	+0.4
NHSM	**Mount Saint He**	**0.22**	**141**		Pg	22 56 01.4	+0.2
GHCM	**House Creek**	**0.39**	**235**		Pg	22 56 05.1	+0.8
OAKV	**Oakville Exper**	**0.50**	**143**		Pg	22 56 06.8	+0.3
GWRM	**Wonder Ranch**	**0.55**	**314**		Pg	22 56 07.9	+0.5
CVS	**Carmenet Viney**	**0.55**	**152**		Pg	22 56 07.8	+0.3
CVS	**Carmenet Viney**	**0.55**	**152**	IAML		22 56 16.1	
	comp=E,924nm,0.4s						
CVS				IAML		22 56 16.7	
	comp=N,1μm,0.4s						
GGUM	**Gualala**	**0.55**	**273**		Pg	22 56 08.3	+0.8
MCCM	**Marconi Confer**	**0.69**	**186**	Pg	Pb	22 56 11.0	-0.6
MCCM				Sg	Sg	22 56 20.0	+1.0
MCCM				IAML		22 56 24.1	
	comp=E,469nm,1.1s						
MCCM				IAML		22 56 27.2	
	comp=N,495nm,0.9s						
NGVM		**0.71**	**140**		Pg	22 56 10.9	+0.4
NADM	**Allendale**	**0.74**	**120**		Pg	22 56 12.9	+0.4
DCMP	**DeCamp, Califo**	**0.77**	**327**		Pg	22 56 12.1	+0.5
DCMP	**DeCamp, Califo**	**0.77**	**327**	IAML		22 56 20.5	
	comp=E,54nm,1.1s						
DCMP				IAML		22 56 35.9	
	comp=N,102nm,1.3s						
RUSS	**Russell Ranch**	**0.78**	**111**		Pb	22 56 13.7	+0.5
NOLM	**Olema**	**0.79**	**180**		Pg	22 56 12.6	+0.5
GTC	**Three Chop Rid**	**0.82**	**314**		Pg	22 56 13.3	+0.6
NPRM	**Point Reyes**	**0.85**	**192**		Pb	22 56 14.0	-0.4
OSUM	**Sutter Buttes**	**0.85**	**59**		Pg	22 56 13.3	0.0
PINL	**Point Pinole R**	**0.89**	**158**		Pb	22 56 14.5	-0.5
HERB	**Hercules**	**0.92**	**153**		Pg	22 56 14.6	+0.1
JEPS	**Jepson Natural**	**0.95**	**127**		Pb	22 56 16.2	+0.2
CSPM	**San Pablo Ridg**	**0.95**	**156**		Pb	22 56 15.7	-0.4
CPIM	**Pinole Ridge**	**0.95**	**151**		Pg	22 56 15.3	+0.1
CTAM	**Taylor**	**1.01**	**143**		Pb	22 56 16.9	-0.2
BRK	**Berkeley--Havi**	**1.04**	**156**		Pg	22 56 17.0	+0.1
VAK	**Adit at Lawren**	**1.04**	**156**		Pg	22 56 16.9	0.0
BL67	**Building 67, L**	**1.04**	**156**		Pg	22 56 17.1	+0.2
CVPM	**Vollmer Peak**	**1.04**	**154**		Pg	22 56 17.2	+0.2
BKS	**Berkeley--Byer**	**1.05**	**155**		Pg	22 56 16.3	-0.7
KCPM	**Cahto Peak**	**1.05**	**325**		Pb	22 56 18.2	+0.2
JPRM	**Presidio of Sa**	**1.06**	**166**		Pg	22 56 17.2	-0.1
CYBM	**Yerba Buena Is**	**1.07**	**161**		Pg	22 56 17.2	-0.3
OSTM	**Stimpson Lane**	**1.07**	**60**		Pg	22 56 17.1	-0.4
GROM	**Round Mountain**	**1.09**	**5**		Pn	22 56 19.6	+0.2
KBNM	**Bluenose Ridge**	**1.11**	**344**		Pn	22 56 20.1	+0.5
KIPM	**Iron Peak**	**1.11**	**332**		Pb	22 56 19.1	+0.1
SMCB	**Saint Mary's C**	**1.12**	**151**		Pg	22 56 18.5	0.0
BDM	**Black Diamond**	**1.14**	**140**		Pg	22 56 17.6	-1.1
FARB	**Farallon Islan**	**1.14**	**188**		Pg	22 56 18.6	-0.2
FARB	**Farallon Islan**	**1.14**

GMN	Gold Mountain	4.62 108		Pb	22 57 20.5	+1.6
GMN			IAML		22 58 23.5	
comp=N,5.5nm,0.9s						
WCT	Wildcat Mounta	5.29 111	IAML		22 58 45.5	
comp=N,5.7nm,3.5s						
WCT			IAML		22 59 42.6	
comp=E,5.5nm,4.2s						

*IDC **08** 23:10:27.6±0.8, 35°.26N×81°.22E, h0km, mb3.9/8, mbtmp3.8/13, ML3.1/5, MS2.6/2, Error ellipse: s-maj=28.4km s-min=14.4km az=62.0*

ISC 08 23:10:33.1±0.8, 35°.28N±0°.09×81°.2E±0°.1, h35km, n15, σ2§11/16, mb3.6/9, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.01	327	Pn	Pn	23 12 43.0	+2.1
0.3nm,0.3s,baz=121,slow=8.3,SNR=9.1							
AAK				Sn	Sn	23 14 21.0	-0.1
0.3nm,0.3s,baz=165,slow=21,SNR=1.4							
AAK				Lg	Lg	23 15 14.6	
0.4nm,0.3s,baz=72,slow=20,SNR=1.5							
1.2nm,0.5s							
MKAR	Makanchi Array	11.54	4	Pn	Pn	23 13 15.6	+0.4
0.2nm,0.3s,baz=185,slow=13,SNR=15							
MKAR				Sn	Sn	23 15 22.9	+0.1
0.2nm,0.3s,baz=194,slow=24,SNR=2.9							
1.1nm,0.6s							
KURBB	Kurchatov Arra	15.46	354	Pn	Pn	23 14 03.6	-4.8
0.1nm,0.3s,baz=175,slow=12,SNR=5.1							
1.1nm,0.2s							
ZALV	Zalesovo Beam	18.84	7	P	P	23 14 47.0	-2.8
0.1nm,0.3s,baz=193,slow=12,SNR=5.6							
0.8nm,0.6s							
BVAR	Borovoye Array	19.33	340	P	P	23 14 53.8	-1.4
baz=141,slow=8.9,SNR=8.7							
1.3nm,0.5s							
SONM	Songino Array	22.53	48	P	P	23 15 34.4	+4.4
1.0nm,0.8s,baz=243,slow=9.9,SNR=7.7							
SONM				LR	LR	23 25 20.5	
comp=Z,22nm,21.1s,baz=210,slow=40							
CMAR	Chiang Mai Arr	22.98	132	P	P	23 15 34.4	-0.4
1.7nm,0.3s,baz=337,slow=9.8,SNR=6.6							
1.7nm,0.3s							
KSRS	Korea Array	37.39	73	LR	LR	23 33 46.0	
comp=Z,8.1nm,20.1s,baz=105,slow=37							
BRTR	Keskin Array B	37.65	291	P	P	23 17 44.8	-0.1
0.6nm,0.8s,baz=88,slow=8.8,SNR=4.1							
0.6nm,0.8s							
FINES	FINESS Array B	43.20	325	P	P	23 18 30.8	+0.6
9.6nm,1.3s,baz=130,slow=7.7,SNR=5.6							
9.6nm,1.3s							
ILAR	Eielson Array	73.43	19	P	P	23 22 01.5	+0.1
0.5nm,0.8s,baz=314,slow=6.0,SNR=6.9							
0.5nm,0.8s							
WRA	Warramunga Arr	74.53	129	P	P	23 22 07.9	-0.5
0.7nm,0.8s,baz=320,slow=6.3,SNR=3.5							
0.7nm,0.8s							
ASAR	Alice Springs	76.99	132	P	P	23 22 22.4	0.0
0.4nm,0.6s,baz=312,slow=5.6,SNR=5.9							
0.4nm,0.6s							
YKA	Yellowknife Ar	81.74	7	P	P	23 22 47.5	-0.2
0.4nm,0.7s,baz=342,slow=4.8,SNR=7.5							
0.4nm,0.7s							
BOSA	Boshof	82.59	227	P	P	23 22 52.2	-0.5
2.1nm,0.8s,baz=42,slow=3.1,SNR=5.7							
2.1nm,0.8s							

*WEL **08** 23:19:05.6±1.0, 32°.5S±6°×17°.8W±1°.9, h12km, mB4.5/6, ML4.7/10, MLv4.6/7, Mw(mB)3.7/6, Error ellipse: s-maj=25.9km s-min=4.2km az=106.2, confirmed*
*IDC **08** 23:19:06.3±1.1, 31°.90S×178°.24W, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=33.1km s-min=31.2km az=80.0*
*NEIC **08** 23:19:10.1±0.5, 32°.2S±0°.1×178°.4W±0°.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=31.6km s-min=18.1km az=116.0*

ISC 08 23:19:08.0±0.9, 31°.99S±0°.08×178°.4W±0°.2, h10km, n40, σ1§22/52, mb4.2/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.75	9	P	Pn	23 19 50.1	-2.1
GLKZ				S	Sn	23 20 24.5	-1.1
MXZ	Matakaoa Point	6.18	205	Pn	Pn	23 20 38.9	-0.4
MXZ	Matakaoa Point	6.18	205	S	Sn	23 21 49.9	-0.2
WMGZ	Waiomatatini S	6.37	203	P	Pn	23 20 42.0	+0.1
WMGZ				S	Sn	23 21 56.2	+1.4
PKGZ	Pakihiroa	6.53	205	P	Pn	23 20 42.3	-1.9
PKGZ				S	Sn	23 21 59.0	+0.2
HAZ	Te Kaha	6.55	208	P	Pn	23 20 42.7	-1.7
HAZ				S	Sn	23 22 00.3	+1.2
PUZ	Puketiti	6.66	203	P	Pn	23 20 45.9	+0.1
PUZ				S	Sn	23 22 00.8	-0.9
RUGZ	Raukumara Rang	6.77	207	P	Pn	23 20 46.6	-1.0
RUGZ				S	Sn	23 22 02.6	-2.2
CNGZ	Carnagh Statio	7.04	202	P	Pn	23 20 47.2	-4.0
CNGZ				S	Sn	23 22 11.0	-0.3
MWZ	Matawai	7.15	207	P	Pn	23 20 52.2	-0.5
MWZ				S	Sn	23 22 12.5	-1.5
URZ	Urewera	7.25	209	Pn	Pn	23 20 54.2	+0.2
1.3nm,0.3s,baz=116,slow=7.3,SNR=6.8							
URZ				Sn	Sn	23 22 16.8	+0.4
4.4nm,0.3s,baz=37,slow=20,SNR=8.9							
4.5nm,0.4s							
URZ	Urewera	7.25	209	P	Pn	23 20 54.2	+0.2
URZ				S	Sn	23 22 15.8	-0.6
OUZ	Omahuta	7.41	242	P	Pn	23 21 04.2	+8.0
RTZ	Ruatahuna	7.61	208	Pn	Pn	23 20 58.5	-0.5
RTZ				Sn	Sn	23 22 23.7	-1.7
SNGZ	Shannon Statio	7.61	206	P	Pn	23 20 57.8	-1.2
SNGZ				S	Sn	23 22 24.4	-1.0
MTHZ	Maungataniwha	7.87	208	P	Pn	23 21 02.4	-0.1
MTHZ				S	Sn	23 22 30.9	-0.8
BKZ	Black Stump Fm	8.28	209	Pn	Pn	23 21 07.8	-0.3
BKZ	Black Stump Fm	8.28	209	P	Pn	23 21 08.8	+0.6
BKZ				S	Sn	23 22 38.7	-3.0
THZ	Tophouse	11.97	213	Pn	Pn	23 21 57.0	-1.8
GVZ	Greta Valley S	12.88	209	Pn	Pn	23 22 09.4	-1.8
STKA	Stephens Creek	33.82	259	P	P	23 25 52.0	+1.6
1.1nm,0.7s,baz=100,slow=14,SNR=3.6							
1.1nm,0.7s							
ASAR	Alice Springs	42.71	269	P	P	23 27 05.4	0.0
0.8nm,0.6s,baz=108,slow=7.0,SNR=14							
0.8nm,0.6s							
WR0	Warramunga Arr	43.66	274	P	P	23 27 14.4	+1.2
WR0				IAmb	IAmb	23 27 21.6	
comp=Z,4.4nm,1.1s							
WB2	Warramunga Arr	43.83	274	P	P	23 27 15.9	+1.3
WB2				IAmb	IAmb	23 27 34.0	
comp=Z,8.5nm,1.2s							
WRA	Warramunga Arr	43.84	274	P	P	23 27 16.1	+1.4
WRA	Warramunga Arr	43.84	274	P	P	23 27 16.0	+1.4
comp=Z,2.0nm,0.5s,baz=113,slow=7.7,SNR=29							
comp=Z,2.0nm,0.5s							
WB0	Warramunga Arr	43.87	274	P	P	23 27 16.2	+1.3
WB0				IAmb	IAmb	23 27 29.4	
comp=Z,10nm,1.4s							
FORT	Forrest	45.33	257	P	P	23 27 25.4	-1.0
VNDA	Vanda	46.48	186	P	P	23 27 35.0	+0.2
VNDA				IAmb	IAmb	23 27 47.4	
comp=Z,11nm,1.4s							
KNRA	Kununurra	50.51	276	P	P	23 28 08.3	+1.7
FITZ	Fitzroy Crossi	52.04	271	P	P	23 28 19.2	+1.2
QSPA	South Pole Qui	58.12	180	P	P	23 29 02.5	+1.0
QSPA				IAmb	IAmb	23 29 08.5	
comp=Z,3.9nm,1.4s							
QSPA	South Pole Qui	58.12	180	P	P	23 29 02.6	+1.0
comp=Z,1.0nm,0.9s,baz=80,slow=1.8,SNR=12							
comp=Z,1.0nm,0.9s							
MKAR	Makanchi Array	118.53	309	PKP	PKPdf	23 37 56.1	+0.3
comp=Z,0.4nm,1.0s,baz=96,slow=1.4,SNR=2.0							
KURBB	Kurchatov Arra	121.93	313	PKP	PKPdf	23 38 00.9	-1.3
comp=Z,0.2nm,0.5s,baz=115,slow=1.9,SNR=3.3							
BVAR	Borovoye Array	127.30	315	PKP	PKPdf	23 38 11.6	-0.7
comp=Z,0.4nm,0.5s,baz=117,slow=1.6,SNR=3.6							
KBZ	Khabaz	145.69	302	PKPbc	PKPdf	23 38 47.9	+1.4
comp=Z,1.2nm,0.9s,baz=76,slow=4.2,SNR=3.6							
FINES	FINESS Array B	146.51	339	PKPbc	PKPdf	23 38 48.1	+0.8
comp=Z,2.8nm,0.8s,baz=40,slow=4.4,SNR=16							
MMAI	Mount Meron Ar	151.54	281	PKPbc	PKPbc	23 39 01.5	-1.2
comp=Z,1.9nm,0.8s,baz=75,slow=8.1,SNR=5.6							
BRTR	Keskin Array B	153.02	296	PKPbc	PKPbc	23 39 05.6	-0.3
comp=Z,0.4nm,0.7s,baz=154,slow=4.2,SNR=4.1							

*IDC **08** 23:35:20.1±1.5, 12°.19N×125°.36E, h0km, mb3.7/5, mbtmp3.7/5, MS2.8/2, Error ellipse: s-maj=73.1km s-min=19.0km az=61.0*

ISC 08 23:35:25.3±1.7, 12°.2N±0°.3×125°.4E±0°.5, h36km, n13, σ0§61/6, mb3.7/6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	5.07	178	LR	LR	23 39 17.8	
comp=Z,183nm,18.7s,baz=348,slow=47							
CMAR	Chiang Mai Arr	26.23	287	P	P	23 40 57.1	-0.1
0.8nm,0.3s,baz=90,slow=7.4,SNR=7.7							
CMAR				LR	LR	23 51 24.5	
comp=Z,8.4nm,19.0s,baz=190,slow=37							
0.8nm,0.3s							
WRA	Warramunga Arr	33.10	164	P	P	23 41 57.4	-0.7
0.4nm,0.5s,baz=342,slow=8.8,SNR=8.7							
0.4nm,0.5s							
ASAR	Alice Springs	36.58	167	P	P	23 42 28.7	+0.7
1.7nm,0.5s,baz=347,slow=7.5,SNR=26							
1.7nm,0.5s							
H11S3	WAKE ISLAND Hy	40.27	76	T	T	00 25 54.4	
baz=268,slow=75,SNR=17							
H11S1	WAKE ISLAND Hy	40.28	76	T	T	00 25 56.5	
baz=268,slow=75,SNR=19							
H11S2	WAKE ISLAND Hy	40.28	76	T	T	00 25 53.7	
baz=268,slow=75,SNR=19							
H11N1	WAKE ISLAND Hy	40.53	74	T	T	00 26 11.1	
baz=266,slow=75,SNR=105							
H11N2	WAKE ISLAND Hy	40.54	74	T	T	00 26 14.9	
baz=266,slow=75,SNR=82							
H11N3	WAKE ISLAND Hy	40.55	74	T	T	00 26 12.5	
baz=266,slow=75,SNR=116							
MKAR	Makanchi Array	50.00	322	P	P	23 44 15.9	-0.2
0.5nm,0.7s,baz=116,slow=8.2,SNR=7.5							
0.5nm,0.7s							
KURBB	Kurchatov Arra	54.03	325	P	P	23 44 45.8	-0.2
0.9nm,0.6s,baz=124,slow=7.2,SNR=6.1							
BVAR	Borovoye Array	59.62	325	P	P	23 45 25.9	+0.3
0.3nm,0.6s,baz=126,slow=8.0,SNR=2.0							
0.3nm,0.6s							

*ISN **09** 00:07:48.9±1.0, 34°.66N×46°.21E, h14km±13km, ML2.8*
*TEH **09** 00:07:48.3, 34°.66N×46°.34E, h11km±38km*

ISC 09 00:07:48.6±1.1, 34°.70N±0°.06×46°.31E±0°.07, h15km±9km, n9, σ0§59/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.07	87	Pg	Pg	00 07 51.8	0.0
IDHR				Sg	Sg	00 07 54.0	+0.1
IGHG	Ghaleghazi	0.43	149	Pg	Pg	00 07 57.4	+0.2
KGS1	Ghasr-e-Shirin	0.62	252	Pg	Pb	00 08 01.6	+0.4
GLG1	Gilan-e-Gharb	0.67	209	Pg	Pg	00 08 01.6	-0.1
KCHF	Cheshme Sefid,	0.74	125	Pg	Pg	00 08 02.7	-0.3
ILBA	Ilam Banvizeh	1.07	184	Pg	Pn	00 08 09.4	+0.2
IBDR	Badra	1.61	191	ePg	Pn	00 08 17.0	+0.5
IBDR				eSg	Sb	00 08 39.0	+0.7
IKRK	Kirkuk	1.76	294	ePn	Pb	00 08 20.0	-0.6
IKRK				eSn	Sb	00 08 43.0	+0.5
IKRK				AML	AML	00 08 49.8	
comp=E,142nm,0.3s							
IKRK				AML	AML	00 08 53.8	
comp=N,98nm,0.2s							
BHD	Baghdad	2.14	229	ePg	Pb	00 08 26.0	-1.1
BHD				eSg	Sb	00 08 53.0	-0.5

*IDC **09** 00:08:05.7±0.9, 23°.84N×126°.67E, h0km, mb3.8/7, mbtmp3.9/11, ML4.0/4, MS3.2/4, Error ellipse: s-maj=32.0km s-min=16.1km az=81.0*
*NEIC **09** 00:08:07.3±1.8, 23°.79N±0°.09×126°.70E±0°.08, h10km±1km, mb4.2/15, Error ellipse: s-maj=16.2km s-min=11.6km az=159.0*
*JMA **09** 00:08:09.9±0.2, 24°.N±1°.×126°.4E±0°.8, h109km, MV3.3/26, NEAR MIYAKOJIMA ISLAND*

ISC 09 00:08:08.7±0.8, 23°.79N±0°.07×126°.64E±0°.04, h25km, n64, σ1§93/75, mb4.1/15, MS3.4/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	1.48	311	eP	Pn	00 08 32.7	-1.0
JOGS				S	Sn	00 08 49.6	-2.7
JMJ2	Miyako jima3	1.52	309	P	Pn	00 08 33.5	-0.8
JMJ2				S	Sn	00 08 50.8	-2.6
JIRB	Irabujima	1.69	308	P	Pn	00 08 35.6	-1.0
JIRB				S	Sn	00 08 54.7	-2.8
JIKM	Ikemajima	1.70	312	eP	Pn	00 08 35.6	-1.1
JIKM				S	Sn	00 08 54.8	-2.9
JTJ	Tarama	1.96	296	P	Pn	00 08 38.9	-1.4
JTJ				S	Sn	00 09 00.1	-4.0
JISG	Ishigakijimahi	2.27	291	P	Pn	00 08 43.0	-1.5
JISG				S	Sn	00 09 07.5	-4.3
JIJ	Ishigaki jima	2.35	285	P	Pn	00 08 44.5	-1.2
JIJ				S	Sn	00 09 10.0	-3.8
JKRS	Kuro-shima	2.44	281	eP	Pn	00 08 46.2	-0.8
JKRS				S	Sn	00 09 12.7	-3.4
JKE	Kume jima 2	2.53	3	i P	Pn	00 08 47.0	-1.1
JJT3	Tamagusuku3	2.56	24	P	Pn	00 08 48.0	-0.7
JJT3				eS	Sn	00 09 17.6	-1.5
HATJ	Hateruma jima	2.61	276	eS	Sn	00 09 15.4	-4.6
IRIF	Iriomote-Funau	2.71	282	P	Pn	00 08 49.5	-1.2
IRIF				S	Sn	00 09 19.3	-3.4
JAGN	Aguni-jima	2.84	11	P	Pn	00 08 51.8	-0.6
JNTH	Nagotoyohara	2.99	24	P	Pn	00 08 53.6	-1.0
JOW	Kunigami	3.37	26	Pn	Pn	00 08 58.9	-0.9
31nm,0.3s,baz=181,slow=15,SNR=41							
JOW				Sn	Sn	00 09 36.6	-2.4
8.7nm,0.3s,baz=128,slow=19,SNR=1.4							
74nm,0.3s							
JOW	Kunigami	3.37	26	P	Pn	00 08 59.2	-0.6
JOW				eS	Sn	00 09 37.4	-1.6
YOJ	Yonaguni jima	3.38	282	Pn	Pn	00 09 00.1	+0.2
JIH	Iheya	3.45	20	P	Pn	00 09 00.2	-0.6
JYRO	Yoronjima	3.62	27	eP	Pn	00 09 01.9	-1.2
JTK	Tokunoshima	4.49	27	P	Pn	00 09 14.1	-1.1
NACB	Ninganchiao	4.63	276	Pn	Pn	00 09 16.2	-0.9
JMZ	Minamidaito 2	4.63	63	Pn	Pn	00 09 14.8	-2.3
JMZ	Minamidaito 2	4.63	63	eP	Pn	00 09 14.9	-2.2
JMZ				eS	Sn	00 10 03.2	-6.9
JKDJ	Kitadaitoujima	4.75	62	P	Pn	00 09 16.5	-2.2
YHNB	Yeheng	4.88	281	Pn	Pn	00 09 20.1	-0.5
YULB	Yu-li	4.92	266	Pn	Pn	00 09 18.6	-2.4
JAMN	Amaminishikomi	4.99	27	P	Pn	00 09 21.5	-0.5
SSLB	Suanglung	5.21	271	Pn	Pn	00 09 26.1	+1.1
TPUB	Ta-pu	5.54	266	Pn	Pn	00 09 28.1	-1.5
JNU	Nakatsue	10.02	21	Pn	Pn	00 10 30.2	-0.8
3.4nm,0.3s,baz=213,slow=14,SNR=15							
8.9nm,0.3s							
JMN	Monobe	11.76	31	Pn	Pn	00 10 52.8	-2.1
KSRS	Korea Array	13.66	4	Pn	Pn	00 11 20.5	-0.4
0.2nm,0.3s,baz=181,slow=12,SNR=2.4							
KSRS				LR	LR	00 17 04.8	
comp=Z,29nm,18.0s,baz=165,slow=40							
0.6nm,0.3s							
MJAR	Matsushiro Arr	16.16	35	Pn	Pn	00 11 53.5	-0.6
0.1nm,0.3s,baz=223,slow=9.5,SNR=10							
0.4nm,0.3s							
JSD	Sado	17.33	32		P	00 12 10.0	-0.1
JSD				IAmb	IAmb	00 12 17.3	
comp=Z,19nm,1.0s							
JMM	Marumori	18.53	38		Pn	00 12 24.9	+1.3
JMM				IAmb	IAmb	00 12 57.2	
comp=Z,25nm,1.3s							
XAN	Xi'an	18.54	307	eP	Pn	00 12 25.0	+1.1
XAN				pmax	pmax		
comp=Z,10.0nm,1.1s							
USRK	Ussuriysk Ar.	20.83	11	P	P	00 12 47.1	-1.3
comp=Z,1.7nm,0.6s,baz=186,slow=12,SNR=1.7							
comp=Z,1.7nm,0.6s							
HHC	Hu-ho-hao-te	21.20	327	eP	P	00 12 54.5	+2.0
HHC				pmax	pmax		
comp=Z,14nm,0.6s							
HHC				pmax	pmax		
comp=Z,170nm,4.7s							
PZH	PanZhiHua	22.69	282	P	P	00 13 10.6	+1.9
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,150nm,5.0s							
KLR	Kul'dur	25.71	8	LR	LR	00 24 43.8	
comp=Z,39nm,19.6s,baz=296,slow=39							
SONM	Songino Array	28.90	331	P	P	00 14 06.3	+0.6
SONM				IAmb	IAmb	00 14 18.0	
comp=Z,3.5nm,1.5s							
SONM	Songino Array	28.90	331	P	P	00 14 05.8	+0.2
comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=11							
SONM				LR	LR	00 26 46.7	
comp=Z,53nm,18.3s,baz=116,slow=39							
comp=Z,0.2nm,0.3s							
PEA0B	Petropavlovsk-	37.52	31	P	P	00 15 20.5	0.0
WMQ	Urumqi	37.58	312	eP	P	00 15 24.1	+2.9
WMQ				LR	LR		
comp=Z,130nm,21.9s							
KNRA	Kununurra	39.28	177	P	P	00 15 36.1	+0.5
KNRA				IAmb	IAmb	00 15 36.8	
comp=Z,11nm,1.1s							
FITZ	Fitzroy Crossi	41.64	181	P	P	00 15 55.0	-0.1
MK31	Makanchi Array	42.14	314	P	P	00 15 59.6	+0.6
MK31				IAmb	IAmb	00 16 23.4	
comp=Z,2.3nm,1.3s							
MKAR	Makanchi Array	42.14	314	P	P	00 15 59.9	+0.9
MKAR	Makanchi Array	42.14	314	P	P	00 15 59.4	+0.4
comp=Z,0.8nm,0.7s,baz=101,slow=9.8,SNR=10.0							
comp=Z,0.8nm,0.7s							
MAKZ	Makanchi	42.35	314	P	P	00 16 01.4	+0.7
ZAA0	Zalesovo Array	43.36	325	P	P	00 16 09.3	+0.6
ZAA0				IAmb	IAmb	00 16 10.2	
comp=Z,1.8nm,0.7s							
ZALV	Zalesovo Beam	43.36	325	P	P	00 16 09.6	+0.8
ZALV	Zalesovo Beam	43.36	325	P	P	00 16 08.4	-0.3
comp=Z,0.8nm,0.3s,baz=112,slow=9.1,SNR=5.7							
comp=Z,0.8nm,0.3s							
WB0	Warramunga Arr	43.95	169	P	P	00 16 14.9	+1.1
WRAB	Tennant Creek	44.10	170	P	P	00 16 16.1	+1.1
WRAB				IAmb	IAmb	00 16 16.8	
comp=Z,9.6nm,0.8s							
WRA	Warramunga Arr	44.11	170	P	P	00 16 15.4	+0.3
WRA	Warramunga Arr	44.11	170	P	P	00 16 15.8	+0.6
comp=Z,8.4nm,0.7s,baz=347,slow=8.2,SNR=47							
WB2	Warramunga Arr	44.11	170	P	P	00 16 15.8	+0.6
WR0	Warramunga Arr	44.16	169	P	P	00 16 14.9	-0.7
WR0				IAmb	IAmb	00 16 17.3	
comp=Z,8.3nm,0.8s							
KURBB	Kurchatov Arra	45.67	318	P	P	00 16 27.6	+0.3
comp=Z,0.7nm,0.6s,baz=108,slow=8.5,SNR=5.1							
comp=Z,0.7nm,0.6s							
ASAR	Alice Springs	47.70	171	P	P	00 16 44.7	+1.3
comp=Z,1.1nm,0.5s,baz=352,slow=7.7,SNR=18							
comp=Z,1.1nm,0.5s							
ABKAR	Akbulak array	57.28	314	P	P	00 17 54.5	+0.3
ABKAR				IAmb	IAmb	00 18 08.6	
comp=Z,2.2nm,0.8s							
FINES	FINESS Array B	74.27	331	P	P	00 19 45.8	+2.4
comp=Z,1.8nm,1.0s,baz=67,slow=5.1,SNR=4.4							
comp=Z,1.8nm,1.0s							
NOA	NORSAR Array B	80.85	334	LR	LR	01 00 38.2	
comp=Z,31nm,18.1s,baz=305,slow=39							

*AEIC **09** 00:09:56.7±1.3, 56°.00N±0°.08×149°.7W±0°.1, h5km±6km, Error ellipse: s-maj=11.8km s-min=7.7km az=151.0*

NEIC 09 00:09:52.0±1.3, 55°.95N±0°.07×149°.70W±0°.10, h10km±2km, ML3.6/58, ML3.3(AEIC), Error ellipse: s-maj=12.0km s-min=9.3km az=174.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.36	304		Pn	00 10 30.6	-0.2
OHAK					Sn	00 10 57.0	-2.8
KDAK	Kodiak Island	2.43	320		Pn	00 10 31.7	+0.1
KDAK	Kodiak Island	2.43	320		Sn	00 10 58.5	-2.8
KDAK	Kodiak Island	2.43	320		Pn	00 10 31.9	+0.2
KDAK				IAML		00 10 59.0	
62nm,1.1s							
KDAK				IAML		00 11 00.6	
70nm,0.8s							
SII	Sitkinak Islan	2.58	286		Pn	00 10 33.8	0.0
SII					Sn	00 11 02.7	-2.5
SYI	Shuyak Island	3.04	332		Pn	00 10 40.0	-0.1
SYI					Sn	00 11 14.3	-2.2
CHIR	Chirikof Islan	3.34	270		Pn	00 10 44.0	-0.2
CHIR					Sn	00 11 21.2	-2.7
CHIR	Chirikof Islan	3.34	270	IAML		00 11 21.9	
comp=N,86nm,0.4s							
CHIR				IAML		00 11 22.0	
comp=E,82nm,1.0s							
Q19K	Cape Douglas,	3.67	326		Sn	00 11 32.4	+0.3
Q19K	Cape Douglas,	3.67	326		Pn	00 10 49.6	+0.8
CNPM	China Poot	3.68	348		Pn	00 10 48.5	-0.4
CNPM					Sn	00 11 29.3	-3.0
CNPM	China Poot	3.68	348	IAML		00 11 31.1	
comp=E,79nm,0.6s							
CNPM				IAML		00 11 33.2	
comp=N,54nm,0.5s							
ACHA	Angle Creek He	3.82	309		Pn	00 10 52.1	+1.3
BRSE	Bradley Lake S	3.84	352		Pn	00 10 50.5	-0.7
BRSE					Sn	00 11 32.7	-3.6
HOM	Homer	3.86	345	Pn	Pn	00 10 51.4	+0.1
BRLK	Bradley Lake	3.88	351		Pn	00 10 50.7	-0.9
BRLK	Bradley Lake	3.88	351	IAML		00 11 36.9	
comp=E,45nm,0.7s							
ANCK	Angle Creek	3.89	308		Pn	00 10 52.2	+0.5
Q23K	Middleton Isla	3.92	26		Pn	00 10 51.6	-0.6
Q23K	Middleton Isla	3.92	26	IAML		00 11 52.6	
comp=N,158nm,1.0s							
Q23K				IAML		00 13 03.2	
comp=E,142nm,1.1s							
P19K	Oil Pt	4.17	334	Pn	Pn	00 10 54.1	-1.5
P19K				IAML		00 11 47.2	
comp=N,122nm,1.1s							
P19K				IAML		00 11 47.5	
comp=E,122nm,0.6s							
SEW	Seward	4.17	2		Pn	00 10 54.5	-1.0
SEW					Sn	00 11 39.4	-4.8
PLK1	Peulik 1	4.22	299		Pn	00 10 57.1	+0.8
P23K	Montague Islan	4.24	16		Pn	00 10 56.3	-0.3
ILSW	Iliamna

RAGM	Ragged Mountai	5.18	29	Pn	Pn	00 11 09.4	-0.1
RAGM				IAML		00 12 15.6	
comp=E,50nm,0.9s							
SUCK	Suckling Hills	5.19	35	Pn	Pn	00 11 09.6	0.0
SUCK				IAML		00 14 01.5	
comp=E,42nm,1.2s							
SUCK				IAML		00 14 13.7	
comp=N,28nm,1.2s							
HMT	Hamilton	5.26	31		Pn	00 11 10.7	+0.2
SPU	Mount Spurr	5.39	348	Pn	Pn	00 11 12.2	-0.2
SPU				IAML		00 12 16.3	
comp=N,17nm,0.6s							
KNK	Knik Glacier	5.52	6	Pn	Pn	00 11 13.5	-0.6
SUA	Susitna One	5.56	355	Pn	Pn	00 11 13.5	-1.3
DIV	Divide	5.59	20		Pn	00 11 14.7	-0.4
SNH	Sunshine Point	5.59	38	Pn	Pn	00 11 14.2	-0.9
STLK	Strandline Lak	5.68	350	Pn	Pn	00 11 15.5	-0.8
BMRM	Bremner River	5.70	26		Pn	00 11 16.7	+0.1
GHO	Glory Hole Cre	5.85	4		Pn	00 11 19.1	+0.3
KLU	Klutina	5.89	18		Pn	00 11 19.4	0.0
MESA	MESA	5.90	41	Pn	Pn	00 11 19.8	+0.2
SML	Sawmill	5.92	6		Pn	00 11 20.1	+0.5
SCM	Sheep Creek Mo	6.03	11	Pn	Pn	00 11 21.7	+0.6
YAH	Yahtse	6.10	40		Pn	00 11 22.4	0.0
SKT	Skwentna	6.12	352	Pn	Pn	00 11 22.9	+0.5
SDPT	Sand Point	6.13	269	Pn	Pn	00 11 22.9	+0.4
M20K	Styx River	6.21	345	Pn	Pn	00 11 22.7	-0.9
VRDI	Verde Repeater	6.22	29		Pn	00 11 23.6	-0.2
N25K	Chitina, Valde	6.26	23		Pn	00 11 24.4	0.0
GLB	Gilahina Butte	6.30	27		Pn	00 11 25.4	+0.5
M24K	Tolsona, Glenn	6.44	15		Pn	00 11 27.4	+0.6
PCA	Pinnacle	6.51	46		Pn	00 11 28.7	+0.9
BCPM	Bancas Point	6.69	49		Pn	00 11 30.5	+0.3
M17K	Holitna River	6.79	327	Pn	Pn	00 11 31.8	+0.2
HARP	HAARP	6.87	18		Pn	00 11 33.2	+0.4
S12K	Black Hills	6.97	273	Pn	Pn	00 11 33.3	-0.8
PPLA	Purkeypile	7.08	351	Pn	Pn	00 11 36.4	+0.7
PAX	Paxson	7.36	15		Pn	00 11 39.1	-0.4
YUK2	White River	7.43	34		Pn	00 11 41.3	+0.9
YUK8	Steele Glacier	7.44	40		Pn	00 11 42.1	+1.3
RND	Reindeer	7.49	3	Pn	Pn	00 11 41.4	+0.2
TRF	Thorofare Moun	7.53	358	Pn	Pn	00 11 41.4	-0.5
YUK3	Moose Creek	7.55	36		Pn	00 11 43.0	+0.9
M27K	Edge Creek, AK	7.57	29	Pn	Pn	00 11 43.4	+1.0
CAST	Castle Rocks	7.59	352	Pn	Pn	00 11 42.8	+0.2
S31K	Pelican	7.63	69		Pn	00 11 42.0	-1.1
MENT	Mentasta	7.64	21	Pn	Pn	00 11 42.9	-0.3
KTH	Kantishna Hill	7.65	356	Pn	Pn	00 11 42.9	-0.5
L16K	Owhat River	7.68	323	Pn	Pn	00 11 44.1	+0.4
TTA	Tatalina	7.70	338	Pn	Pn	00 11 43.7	-0.5
YUK6	Outpost Mounta	7.77	45		Pn	00 11 46.0	+0.8
L26K	Log Cabin Wild	7.79	22	Pn	Pn	00 11 45.3	0.0
MCK	McKinley	7.82	2	Pn	Pn	00 11 46.3	+0.7
M14K	Bethel	8.04	312	Pn	Pn	00 11 49.3	+0.6
HYT	Haines Junctio	8.05	48	Pn	Pn	00 11 48.8	-0.2
YUK5	Granite Creek	8.07	45		Pn	00 11 50.5	+1.2
L27K	Beaver Creek,	8.17	26	Pn	Pn	00 11 51.3	+0.8
RIDG	Independent Ri	8.18	15	Pn	Pn	00 11 51.4	+0.6
BCAR	Beaver Creek A	8.19	26	Pn	Pn	00 11 50.8	+0.1
BPAW	Bear Paw Mtn.	8.20	356	Pn	Pn	00 11 49.8	-1.1
DOT	Dot Lake	8.22	18	Pn	Pn	00 11 51.9	+0.6
S32K	Killisnoo	8.46	73	Pn	Pn	00 11 53.6	-0.8
BESE	Bessie Mountai	8.46	66	Pn	Pn	00 11 54.6	+0.1
SCRK	Sand Creek	8.54	17	Pn	Pn	00 11 56.0	+0.3
WRH	Wood River Hil	8.59	5	Pn	Pn	00 11 56.5	+0.3
HDA	Harding Lake	8.60	8	Pn	Pn	00 11 57.5	+1.3
O30N	Mendenhall	8.62	50	Pn	Pn	00 11 56.5	-0.2
NEA2	Nenana	8.68	2	Pn	Pn	00 11 56.0	-1.4
CCB	Clear Creek Bu	8.78	5		Pn	00 11 58.6	-0.1
IL31		8.96	8		Pn	00 12 01.4	+0.2
ILAR	Eielson Array	8.96	8	Pn	Pn	00 12 01.1	-0.1
WHY	Whitehorse	9.11	53	Pn	Pn	00 12 03.7	+0.3
N31M	Braeburn, Yuko	9.11	47	Pn	Pn	00 12 04.7	+1.3
POKR	Poker Plat Res	9.27	6	Pn	Pn	00 12 06.3	+0.8
P32M	Atlin	9.28	60	Pn	Pn	00 12 05.5	-0.2
U33K	Whale Pass	9.28	82	Pn	Pn	00 12 03.2	-2.5
J14K	Nanvaranak Lak	9.81	320	Pn	Pn	00 12 13.3	+0.4
Q32M	Nakina River	9.86	65	Pn	Pn	00 12 13.8	0.0
P33M	Teslin, Yukon	9.90	58	Pn	Pn	00 12 14.1	-0.1
M31M	Drury Creek, Y	10.05	45	Pn	Pn	00 12 16.7	+0.5
R33M	Jennings River	10.60	63	Pn	Pn	00 12 24.6	+0.7
FYU	Fort Yukon	10.86	10	Pn	Pn	00 12 27.1	-0.2
DLBC	Dease Lake	10.95	69	Pn	Pn	00 12 28.6	0.0
MMPY	Sheldon Lake,	11.52	47	Pn	Pn	00 12 37.1	+0.8
BMAR	Burnt Mountain	11.77	10	Pn	Pn	00 12 37.6	-2.1
F26K	Sheenjek River	12.07	10	Pn	Pn	00 12 43.1	-0.7
E25K	Arctic Village	12.36	7	Pn	Pn	00 12 48.0	+0.2
G31M	Satah River	13.20	27	Pn	Pn	00 12 59.8	+0.7

*SFS **09** 00:34:28.1, 36.76N×7.13W, h27km, ML2.1/10, ML1.8/12, MLv1.6/12*
*MDD **09** 00:34:28.3±0.6, 36.77N×7.17W, h34km±2km, mb_Lg2.4/6, Error ellipse: s-maj=4.9km s-min=4.3km az=56.0*
*INMG **09** 00:34:29.0±1.7, 36.78N×7.13W, h31km±9km, ML1.6, Error ellipse: s-maj=3.6km s-min=3.2km az=0.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz*
*IGIL **09** 00:34:29.5, 36.77N×7.13W, h31km, ML1.8*
*CNRM **09** 00:34:32.9, 36.11N×7.40W, h15km, ML3.2*

ISC 09 00:34:26.3±1.2, 36.76N±0.03×7.14W±0.03, h29km±12km, n51, σ1°47/78, 4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNO	Arenosillo	0.47	43	Pg	Pn	00 34 37.8	+0.7
ARNO				Sg	Sn	00 34 44.9	+0.5
PVAQ	Vaqueiros	0.80	324	‖ iP	Pn	00 34 42.4	+0.9
PVAQ				eS	Sb	00 34 52.2	+0.2
PVAQ				i AML	AML	00 34 52.9	
PVAQ				i AML	AML	00 34 53.0	
PVAQ				i AML	AML	00 34 53.2	
PVAQ	Vaqueiros	0.80	324	Pg	Pn	00 34 42.4	+0.9
PBDV	Barranco-do-Ve	0.80	308	eP	Pn	00 34 42.5	+0.9
PBDV				eS	Sb	00 34 52.8	+0.6
PBDV				i AML	AML	00 34 53.2	
PBDV				i AML	AML	00 34 53.6	
PBDV				i AML	AML	00 34 53.6	
SFS	San Fernando	0.80	111	Pg	Pn	00 34 42.9	+1.2
EGRO	El Granado	0.82	340	Pg	Pn	00 34 42.7	+0.8
EGRO				Sg	Sb	00 34 53.0	+0.2
EGRO	El Granado	0.82	340	Pg	Pn	00 34 42.7	+0.8
EGRO				Sg	Sb	00 34 52.0	-0.9
EGRO				i Vmb_Lg		00 34 55.8	
ESPR	Espera	1.03	83	Pn	Pn	00 34 45.8	+1.0
ESPR				Sn	Sn	00 34 57.9	-0.3
EMIN	Mina Concepcio	1.07	20	Sn	Sb	00 34 58.9	-1.1
EMIN				Pg	Pb	00 34 46.3	0.0
EMIN	Mina Concepcio	1.07	20	Pg	Pb	00 34 46.1	-0.2
EMIN				Sg	Sn	00 34 59.8	+0.4
EMIN				i Vmb_Lg		00 35 01.6	
PCVE	Castro Verde	1.13	321	eP	Pn	00 34 47.1	+0.9
PCVE				eS	Sb	00 35 00.5	-1.1
PCVE				i AML	AML	00 35 05.7	
PCVE				i AML	AML	00 35 05.9	
PCVE				i AML	AML	00 35 06.4	
PCVE	Castro Verde	1.13	321	Pn	Pn	00 34 47.1	+0.9
PCVE				Sn	Sn	00 35 02.2	+1.5
MORF	Marmelete	1.33	295	eP	Pn	00 34 49.8	+0.9
MORF				eS	Sn	00 35 04.9	-0.8
MORF				IAML		00 35 07.2	
comp=N,11nm,0.2s							
MORF	Marmelete	1.33	295	eP	Pn	00 34 49.9	+0.9
MORF				eS	Sn	00 35 05.9	+0.2
MORF				i AML	AML	00 35 06.2	
MORF				i AML	AML	00 35 06.8	
MORF				i AML	AML	00 35 21.7	
MESJ	Messejana	1.38	322	eP	Pn	00 34 50.6	+0.9
MESJ	Messejana	1.38	322	‖ eP	Pn	00 34 50.6	+0.9
MESJ				eS	Sn	00 35 07.1	+0.2
MESJ				i AML	AML	00 35 12.8	
MESJ				i AML	AML	00 35 14.7	
MESJ				i AML	AML	00 35 17.8	
PBEJ	Beja	1.39	336	eP	Pn	00 34 50.5	+0.7
PFVI	Vila Bisbo	1.41	286	eP	Pn	00 34 51.1	+1.2
PFVI				eS	Sn	00 35 07.0	-0.5
PFVI				i AML	AML	00 35 08.1	
PFVI				i AML	AML	00 35 08.1	
PFVI				i AML	AML	00 35 18.2	
PFVI	Vila Bisbo	1.41	286	Pn	Pn	00 34 50.8	+0.9
PBAR	Barrancos	1.42	3	‖ eP	Pn	00 34 50.9	+0.8
PBAR				i AML	AML	00 35 13.5	
PBAR				i AML	AML	00 35 14.2	
PBAR				i AML	AML	00 35 14.3	
PBAR	Barrancos	1.42	3	Pn	Pn	00 34 50.9	+0.8
PBAR				Sn	Sb	00 35 09.2	-0.6
PTEO	Sao Teotonio	1.49	302	eP	Pn	00 34 52.6	+1.5
PTEO				eS	Sn	00 35 10.0	+0.4
PTEO				i AML	AML	00 35 10.8	
PTEO				i AML	AML	00 35 23.1	
ECAB	El Cabril	1.90	46	Pn	Pn	00 34 57.2	+0.4
ECAB				Sn	Sn	00 35 20.0	+0.3
ECAB	El Cabril	1.90	46	Pn	Pn	00 34 56.9	+0.2
ECAB				Sn	Sn	00 35 18.9	-0.8
EVO	Evora	1.90	339	eP	Pn	00 34 57.7	+0.9
EVO	Evora	1.90	339	Pn	Pn	00 34 57.7	+0.9
EVO				Sn	Sn	00 35 19.7	-0.1
EBAD	Badajoz	2.00	3	Pn	Pn	00 34 58.7	+0.6
EBAD	Badajoz	2.00	3	Pn	Pn	00 34 58.5	+0.4
EBAD				Sn	Sn	00 35 21.3	-0.9
EBAD				i Vmb_Lg		00 35 33.9	
PESTR	Estremoz	2.14	350	eP	Pn	00 35 00.6	+0.6
PMTG	Montargil	2.46	340	eP	Pn	00 35 05.2	+0.8
PMTG				eS	Sn	00 35 32.8	-0.8
PMTG				i AML	AML	00 35 47.4	
PMTG				i AML	AML	00 35 50.8	
PMTG				i AML	AML	00 35 56.8	
EADA	Adamuz	2.48	55	Pn	Pn	00 35 06.0	+1.3
EADA				Sn	Sn	00 35 33.8	-0.2
EADA				i Vmb_Lg		00 35 47.6	
PMRV	Marv??o	2.67	356	‖ eP	Pn	00 35 08.1	+0.7
PMRV				eS	Sn	00 35 38.4	-0.5
PMRV				i AML	AML	00 35 41.9	
PMRV				i AML	AML	00 35 51.1	
PMRV				i AML	AML	00 35 53.5	
PMAFR	Mafra	2.77	323	eP	Pn	00 35 10.4	+1.6
PSBE	So Bento	3.05	335	eP	Pn	00 35 14.1	+1.5
PCBR	Castelo Branco	3.09	355	eP	Pn	00 35 13.9	+0.8
PCBR				eS	Sn	00 35 48.2	-0.8
PCBR				i AML	AML	00 35 48.8	
PCBR				i AML	AML	00 35 48.8	
PCBR				i AML	AML	00 35 49.7	
PSIM	Granatula de C	3.38	51	Sn	Sn	00 35 54.8	-1.5
EPLA	Plasencia	3.41	14	Pn	Pn	00 35 17.9	+0.4
EPLA				Sn	Sn	00 35 55.5	-1.4
EQES	Quesada	3.41	71	Pn	Pn	00 35 18.3	+0.8
EQES				Sn	Sn	00 35 57.6	+0.6
EQES				i Vmb_Lg		00 36 17.3	
AKLM	AKL	3.48	129	P	Pn	00 35 21.9	+3.3
AKLM	AKL	3.48	129	S	Sn	00 36 01.5	+2.6
PAB	San Pablo	3.55	37	Pn	Pn	00 35 20.4	+0.9
PAB				Sn	Sn	00 35 57.5	-3.0
PAB				i Vmb_Lg		00 36 15.3	
MD31	MD31	4.35	153	P	Pn	00 35 31.8	+1.4
MD31	MD31	4.35	153	S	Sn	00 36 18.9	-1.3
MDT	Midelt	4.45	151	P	Pn	00 35 33.1	+1.2
MDT	Midelt	4.45	151	S	Sn	00 36 22.0	-0.8
TIO	Tiouine	5.82	181	P	Pn	00 35 52.6	+1.9
TIO	Tiouine	5.82	181	S	Sn	00 36 50.9	-5.6
OUZM	OUZ	5.84	177	P	Pn	00 35 51.9	+0.9
OUZM	OUZ	5.84	177	S	Sn	00 36 55.3	-1.8
TTIG	Tnine Tigouga,	6.29	190	P	Pn	00 35 56.1	-1.1
TTIG	Tnine Tigouga,	6.29	190	S	Sn	00 37 01.7	-6.4

WEL 09 00:56:47.5±1.6, 32.°S±9.°×17.°8W±3.°0, h12km, M4.0/2, mB4.6/1, ML4.5/5, MLv4.0/2, Mw(mB)3.8/1, Error ellipse: s-maj=40.9km s-min=4.4km az=105.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.91	357	P	Pn	00 57 34.2	+0.6
GLKZ				S	Sn	00 58 08.9	+0.4
HAZ	Te Kaha	6.66	212	P	Pn	00 58 26.0	+0.8
HAZ				S	Sn	00 59 43.3	+2.3
PUZ	Puketiti	6.73	208	S	Sn	00 59 43.5	+0.9
RUGZ	Raukumara Rang	6.88	212	P	Pn	00 58 28.6	+0.3
RUGZ				S	Sn	00 59 48.3	+1.7
TWGZ	Tauwhareparae	6.93	209	S	Sn	00 59 49.9	+2.3
CNGZ	Carnagh Statio	7.10	207	P	Pn	00 58 30.3	-0.9
CNGZ				S	Sn	00 59 53.7	+1.8
MWZ	Matawai	7.25	211	P	Pn	00 58 33.0	-0.3
MWZ				S	Sn	00 59 56.3	+0.6
URZ	Urewera	7.38	213	S	Sn	00 59 58.3	-0.4
KNZ	Kokohu	7.78	207	S	Sn	01 00 06.9	-1.5

*AEIC **09** 01:16:02.6±4.4, 53.°0N±0.°2×175.°6W±0.°2, h219km±8km, Error ellipse: s-maj=25.2km s-min=11.9km az=166.0*
*NEIC **09** 01:16:03.3±1.3, 52.°6N±0.°2×175.°7W±0.°1, h222km±8km, mb4.1/49, ML3.3(AEIC), Error ellipse: s-maj=35.5km s-min=10.3km az=167.0*
*IDC **09** 01:16:13.8±7.8, 52.°96N×173.°77W, h247km±73km, mb3.1/6, mbtmp3.8/8, Error ellipse: s-maj=43.1km s-min=22.6km az=15.0*

ISC 09 01:16:02.8±0.7, 52.°6N±0.°1×175.°57W±0.°08, h222km, n69, σ1°02/64, mb4.1/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	Great Sitkin T	0.56	212		S	01 16 57.5	+1.4
GSTR	Great Sitkin T	0.56	212		Pn	01 16 33.2	+0.4
GSMY	Great Sitkin M	0.60	210		Pn	01 16 33.3	+0.4
GSCK	Great Sitkin C	0.66	213		Pn	01 16 33.5	+0.4
GSCK					S	01 16 58.2	+1.5
ADAG	Mount Adagdak	0.86	227		Pn	01 16 34.5	+0.4
ATKA	Atka Island	0.92	113		Pn	01 16 35.2	+0.9
ATKA					S	01 16 59.1	+0.2
ADK	Adak	0.97	225		Pn	01 16 34.7	0.0
KICM	Kanaga Island	1.19	238		Pn	01 16 36.6	+0.4
KIWB	Kanaga Island	1.21	234		Pn	01 16 36.4	+0.2
TAFP	Tanaga Falls P	1.63	247		Pn	01 16 39.6	+0.1
TAFP					S	01 17 08.0	-0.1
TASE	Tanaga Southea	1.68	245		Pn	01 16 40.2	+0.1
GANO	Gareloi North	2.12	251		Pn	01 16 44.1	-0.1
GALAA	Gareloi Lava P	2.13	249		Pn	01 16 44.3	0.0
L14K	Kuka Creek	11.24	33		P	01 18 43.0	+0.7
N15K	Kwethluk River	11.45	42	P	P	01 18 45.7	+1.0
L16K	Owhat River	12.62	37		P	01 18 58.0	+0.3
N17K	Nushagak Hills	12.86	44		Pn	01 18 58.8	+1.1
M17K	Holitna River	13.22	41	P	Pn	01 19 03.4	+1.3
KDAK	Kodiak Island	14.10	59	P	Pn	01 19 10.5	-2.4
3.9nm,0.3s,baz=95,slow=4.6,SNR=34							
KDAK				S	S	01 21 35.7	-13
3.6nm,0.8s,baz=266,slow=19,SNR=1.1							
TTA	Tatalina	14.65	37		Pn	01 19 19.0	-0.7
L19K	White Mountain	14.68	41	P	Pn	01 19 19.2	-0.7
M20K	Styx River	15.24	43		Pn	01 19 28.2	+1.4
M20K				IAmb	IAmb	01 19 30.2	
comp=Z,11nm,1.4s							
H18K	Honhosa River	15.36	28		Pn	01 19 29.0	+0.9
J19K	Poorman	15.44	34		P	01 19 29.0	+0.2
J19K				IAmb	IAmb	01 19 32.3	
comp=Z,8.7nm,1.1s							
STLK	Strandline Lak	15.63	46		Pn	01 19 32.2	+0.8
SKT	Skwentna	15.96	44	P	Pn	01 19 35.9	+0.5
SKT				IAmb	IAmb	01 19 36.4	
comp=Z,8.0nm,1.0s							
PPLA	Purkeypile	16.11	41	P	Pn	01 19 37.5	+0.3
CAST	Castle Rocks	16.41	39		P	01 19 40.5	+0.9
CAST				IAmb	IAmb	01 19 42.8	
comp=Z,7.0nm,1.0s							
KTH	Kantishna Hill	16.93	40	P	P	01 19 46.0	+0.7
TRF	Thorofare Moun	17.13	41		P	01 19 47.7	+0.1
BPAW	Bear Paw Mtn.	17.18	38		P	01 19 48.6	+0.7
I21K	Tanana	17.41	34	P	P	01 19 51.6	+1.2
I21K				IAmb	IAmb	01 19 51.8	
comp=Z,15nm,1.4s							
RND	Reindeer	17.69	42		P	01 19 53.3	-0.2
G21K	Allakaket	17.75	30	IAmb	IAmb	01 19 55.2	
comp=Z,6.4nm,0.7s							
D19K	Kuna River	18.01	21	IAmb	IAmb	01 19 57.6	
comp=Z,6.5nm,0.7s							
NEA2	Nenana	18.15	38	P	P	01 19 58.2	-0.2
F21K	Alatna River	18.23	28	P	P	01 19 59.3	0.0
H23K	Yukon River	18.61	34	IAmb	IAmb	01 20 04.3	
comp=Z,5.1nm,0.9s							
CCB	Clear Creek Bu	18.66	39		P	01 20 02.0	-1.8
CCB				IAmb	IAmb	01 20 15.6	
comp=Z,3.7nm,0.5s							
PAX	Paxson	18.94	45		P	01 20 07.7	+0.6
PAX				IAmb	IAmb	01 20 08.8	
comp=Z,5.1nm,0.8s							
IL31		19.06	39	P	P	01 20 05.4	-2.8
IL31				IAmb	IAmb	01 20 20.9	
comp=Z,3.7nm,0.7s							
ILAR	Eielson Array	19.06	39	P	P	01 20 05.4	-2.9
comp=Z,0.6nm,0.3s,baz=246,slow=12,SNR=24							
H24K	Noodor Dome	19.20	36	P	P	01 20 09.5	-0.4
H24K				IAmb	IAmb	01 20 11.0	
comp=Z,14nm,1.5s							
COLD	Coldfoot	19.21	30		P	01 20 11.0	+1.2
COLD				IAmb	IAmb	01 20 12.9	
comp=Z,5.1nm,0.6s							
E22K	Anaktuvuk Pass	19.32	27		P	01 20 11.0	-0.1
B20K	Meade River	19.45	19	P	P	01 20 11.1	-1.2
B20K				IAmb	IAmb	01 20 14.4	
comp=Z,3.9nm,0.8s							
D22K	Ayikyak River	19.60	25	P	P	01 20 13.7	-0.3
B21K	Ikpikpuk River	19.68	22	P	P	01 20 14.1	-0.7
G24K	Hadweenzic Riv	19.79	34	P	P	01 20 16.1	0.0
G24K				IAmb	IAmb	01 20 19.1	
comp=Z,7.1nm,1.1s							
E23K	Chandalar	19.90	29	P	P	01 20 17.1	-0.2
E23K				IAmb	IAmb	01 20 19.1	
comp=Z,3.6nm,0.5s							
SCRK	Sand Creek	19.91	43		P	01 20 16.0	-1.5
J26L	Joseph Creek	20.27	41	P	P	01 20 19.4	-1.8
J26L				IAmb	IAmb	01 20 52.9	
comp=Z,7.4nm,1.3s							
B22K	Teshekpuk Lake	20.50	21	IAmb	IAmb	01 20 24.7	
comp=Z,5.6nm,1.1s							
F25K	Christian Rive	20.87	32	P	P	01 20 26.8	-0.8
C24K	Franklin Bluff	21.21	26	IAmb	IAmb	01 20 31.2	
comp=Z,4.1nm,0.8s							
I28M	Miner Creek	22.04	40	P	P	01 20 38.1	-1.2
I28M				IAmb	IAmb	01 20 39.0	
comp=Z,8.4nm,1.4s							
C27K	Jago River	22.56	29	IAmb	IAmb	01 20 43.9	
comp=Z,3.9nm,0.6s							
K29M	Barlow Dome	22.62	45	P	P	01 20 43.6	-1.0
K29M				IAmb	IAmb	01 20 45.2	
comp=Z,9.7nm,1.2s							
E28M	Babbage River	23.37	33		P	01 20 52.3	+1.1
E28M				IAmb	IAmb	01 20 53.0	
comp=Z,3.9nm,0.7s							
E29M	Blow River	23.84	34	P	P	01 20 57.0	+1.7
E29M				IAmb	IAmb	01 20 57.8	
comp=Z,3.5nm,0.5s							
YKA	Yellowknife Ar	32.96	48	P	P	01 22 15.0	-1.1
comp=Z,0.4nm,0.4s,baz=285,slow=8.2,SNR=8.5							
comp=Z,0.4nm,0.4s							
NVAR	Mina Array Bea	41.45	86	P	P	01 23 28.7	+0.7
comp=Z,0.7nm,0.6s,baz=311,slow=7.5,SNR=2.5							
comp=Z,0.7nm,0.6s							
PDAR	Pinedale Array	44.06	75	P	P	01 23 48.4	-0.5
comp=Z,0.5nm,0.3s,baz=330,slow=2.9,SNR=22							
comp=Z,0.5nm,0.3s							
PV11	David Mesa, Pa	47.25	80	P	P	01 24 14.1	+0.3
PV11				IAmb	IAmb	01 24 15.2	
comp=Z,5.9nm,0.6s							
HHC	Hu-ho-hao-te	49.27	287	eP	P	01 24 28.1	-0.9
HHC				pmax	pmax		
comp=Z,11nm,0.6s							
HHC				pmax	pmax		
comp=Z,84nm,4.7s							
TXAR	Lajitas Array	56.52	84	P	P	01 25 22.1	0.0
comp=Z,0.5nm,0.5s,baz=307,slow=6.2,SNR=12							
comp=Z,0.5nm,0.5s							
BVAR	Borovoye Array	61.24	321	P	P	01 26 06.0	+12
comp=Z,0.4nm,0.4s,baz=91,slow=6.5,SNR=4.2							
comp=Z,0.4nm,0.4s							
PZH	PanZhiHua	65.09	281	P	P	01 26 20.4	+0.6
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,1μm,5.7s							
WRA	Warramunga Arr	84.27	226	P	P	01 28 22.2	+13
comp=Z,0.2nm,0.4s,baz=40,slow=6.6,SNR=5.1							
comp=Z,0.2nm,0.4s							

*IDC **09** 01:39:38.8±1.0, 30.°95N×142.°15E, h0km, mb3.7/7, mbtmp3.6/8, ML2.6/1, MS3.1/3, Error ellipse: s-maj=35.5km s-min=20.4km az=81.0*

ISC 09 01:39:42.6±1.1, 31.°0N±0.°2×142.°1E±0.°2, h24km, n11, σ1°23/8, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.43	331	Pn	Pn	01 41 15.8	0.0
0.1nm,0.3s,baz=158,slow=12,SNR=9.9							
2.9nm,0.8s							
KSRS	Korea Array	13.38	303	LR	LR	01 47 54.7	
comp=Z,16nm,19.9s,baz=205,slow=37							
MKAR	Makanchi Array	48.02	307	P	P	01 48 19.0	-0.7
0.3nm,0.8s,baz=92,slow=12,SNR=4.5							
0.3nm,0.8s							
KURBB	Kurchatov Arra	50.33	312	P	P	01 48 37.4	+0.1
0.5nm,0.5s,baz=90,slow=6.7,SNR=4.3							
0.5nm,0.5s							
WRA	Warramunga Arr	51.16	189	P	P	01 48 43.8	-0.1
0.7nm,0.5s,baz=5.7,slow=7.4,SNR=14							
0.7nm,0.5s							
ILAR	Eielson Array	54.39	30	P	P	01 49 05.7	-1.6
0.4nm,0.7s,baz=268

baz=61,slow=75,SNR=26
H04N3 CROZET ISLANDS 59.84 218 T T 02 57 51.1
baz=61,slow=75,SNR=22
ZALV Zalesovo Beam 60.19 348 P **P** **01 52 58.2 -0.8**
0.8nm,0.4s,baz=157,slow=5.9,SNR=4.9
0.8nm,0.4s
BVAR Borovoye Array 63.39 339 P **P** **01 53 19.3 -1.4**
0.4nm,0.5s,baz=153,slow=9.7,SNR=2.8
0.4nm,0.5s
TXAR Lajitas Array 145.54 42 PKPbc **PKPab** **02 02 30.8 +0.3**
0.4nm,0.5s,baz=318,slow=2.2,SNR=7.0

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*AEIC **09** 02:04:56.0±1.2,53°.86N±0°.07×164°.34W±0°.07,h28km±8km, Error ellipse: s-maj=11.9km s-min=4.1km az=153.0*
NEIC 09 02:04:56.7±0.9,53°.86N±0°.07×164°.31W±0°.06,h35km±2km, ML2.8(AEIC)**,Error ellipse: s-maj=11.9km s-min=4.8km az=336.0,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.64**	**346**		Pn	02 05 09.2	-0.2
WESE					Sn	02 05 19.4	+1.1
WECS	**Westdahl Cape**	**0.73**	**338**		Pn	02 05 10.7	+0.1
AKSA	**Akutan Strait**	**0.86**	**289**		Pn	02 05 12.1	-0.2
SSLS	**Shishaldin Sou**	**0.88**	**12**		Pn	02 05 12.2	-0.4
AHB	**Akutan Harbor**	**0.92**	**287**		Pn	02 05 13.4	+0.2
AHB					Sn	02 05 24.9	-0.4
ISLZ	**Isanotski Laza**	**0.94**	**22**		Pn	02 05 12.7	-0.8
ISLZ					Sn	02 05 25.6	-0.1
AKV	**Akutan Volcano**	**1.01**	**286**		Pn	02 05 14.4	0.0
ISNN	**Isanotski Nort**	**1.03**	**18**		Pn	02 05 14.8	+0.2
AKMO	**Akutan Morgan**	**1.03**	**284**		Pn	02 05 14.4	-0.2
AKMO					Sn	02 05 26.8	-1.0
FALS	**False Pass**	**1.13**	**27**	Pn	Pn	02 05 14.6	-1.4
FALS				Sn	Sn	02 05 29.9	-0.4
UNV	**Unalaska Valle**	**1.30**	**270**		Pn	02 05 17.6	-0.7
MTBL	**Makushin Table**	**1.40**	**276**		Pn	02 05 20.5	+0.7
MTBL					Sn	02 05 36.0	-1.1
MREP	**Makushin Rep't**	**1.44**	**269**		Pn	02 05 20.0	-0.4
MSW	**Makushin Switc**	**1.46**	**273**		Pn	02 05 20.6	-0.1
MAPS	**Pakushin South**	**1.56**	**269**		Pn	02 05 21.4	-0.5
PS4A	**Pavlof South-4**	**2.07**	**43**		Pn	02 05 29.1	+0.2
S12K	**Black Hills**	**2.26**	**34**		Pn	02 05 32.2	+0.6
SDPT	**Sand Point**	**2.69**	**55**		Pn	02 05 37.6	+0.2
O14K	**Tigyukauivet M**	**5.67**	**16**	Pn	Pn	02 06 20.0	+1.7
O16K	**Kokwok River B**	**6.69**	**28**	Pn	Pn	02 06 34.0	+1.6
N15K	**Kwethluk River**	**6.73**	**18**	Pn	Pn	02 06 34.7	+1.8

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*SJA **09** 02:16:54.9±0.8,30°.21S×71°.50W,h15km±2km,ML4.6, MW4.4*
*VAO **09** 02:16:57.4±0.7,30°.54S×71°.53W,h71km±6km,mb4.0*
*NEIC **09** 02:16:58.6±2.0,30°.22S±0°.04×71°.40W±0°.05,h46km±5km, mb4.9/14,Mwr4.6/76,Error ellipse: s-maj=8.1km s-min=3.1km az=48.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.51; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-0.87; $M_{r\theta}$0.35; $M_{\phi\theta}$0.15; $M_{\phi r}$-0.57; Fault plane solution: $M_0$1.02000×10^{16} NP1:ϕ_s149.84000°,δ70.19000°, λ64.08000°. NP2:ϕ_s24.94000°,δ32.21000°,λ140.50000°. Principal axes: T 0.8755, Plg57.0000°, Azm25.0000°; N 0.2469, Plg24.0000°, Azm159.0000°; P -1.1224, Plg21.0000°, Azm259.0000°;*
*NEIC **09** 02:16:58.6,30°.22S×71°.40W,h45km*
*GUC **09** 02:16:58.1±0.7,30°.24S×71°.32W,h55km±2km,ML4.9*
*IDC **09** 02:17:00.1±3.1,30°.24S×71°.36W,h64km±25km,mb4.0/7, mbtmp4.3/11,ML4.2/4,MS3.6/9,Error ellipse: s-maj=24.6km s-min=17.1km az=87.0*
ISC 09 02:16:57.8±0.7,30°.24S±0°.02×71°.47W±0°.04,h47km±6km**, n166,**σ1§61/186**,mb4.7**/11**,MS3.7**/5**,1C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.45**	**198**		**Pn**	**02 17 09.3**	**+1.0**
CO06				Sn	**Sn**	**02 17 16.1**	**+0.3**
CO06	**Fray Jorge**	**0.45**	**198**	⇑*i*P	**Pn**	**02 17 09.3**	**+1.0**
GO04	**Tololo Observa**	**0.59**	**83**		**Pn**	**02 17 09.5**	**-0.8**
GO04				Sn	**Sn**	**02 17 18.2**	**-0.9**
GO04	**Tololo Observa**	**0.59**	**83**	*i* P	**Pn**	**02 17 09.3**	**-0.9**
GO04				*i* S	**Sn**	**02 17 17.5**	**-1.6**
GO04				IAML		02 17 19.0	
	comp=N,183μm,0.5s						
GO04	**Tololo Observa**	**0.59**	**83**	*i* P	**Pn**	**02 17 09.4**	**-0.8**
CO03	**El Pedregal**	**0.90**	**131**		**Pn**	**02 17 13.4**	**-0.8**
CO03				Sn	**Sn**	**02 17 25.0**	**-1.2**
CO03	**El Pedregal**	**0.90**	**131**	⇓*i*P	**Pn**	**02 17 13.4**	**-0.8**
CO03				*i* S	**Sn**	**02 17 24.8**	**-1.4**
CO03				IAML		02 17 25.6	
	comp=E,31μm,0.2s						
CO03	**El Pedregal**	**0.90**	**131**	*i* P	**Pn**	**02 17 13.4**	**-0.8**
CO03				*i* S	**Sn**	**02 17 26.4**	**+0.3**
CO03				IAML		02 17 26.6	
	comp=Z,12μm,0.3s						
CO01	**Juntas del Tor**	**1.22**	**78**		**Pn**	**02 17 18.4**	**-0.3**
CO01	**Juntas del Tor**	**1.22**	**78**	⇓*i*P	**Pn**	**02 17 18.4**	**-0.3**
CO01				*i* S	**Sn**	**02 17 33.0**	**-1.2**
CO01	**Juntas del Tor**	**1.22**	**78**	*i* P	**Pn**	**02 17 18.6**	**-0.1**
CO01				IAML		02 17 37.5	
	comp=Z,5μm,0.5s						
LCO	**Las Campanas**	**1.40**	**29**	Pn	**Pn**	**02 17 21.0**	**-0.2**
LCO	**Las Campanas**	**1.40**	**29**	*i* P	**Pn**	**02 17 20.9**	**-0.3**
LCO				*i* S	**Sn**	**02 17 37.7**	**-0.9**
LCO	**Las Campanas**	**1.40**	**29**	*i* P	**Pn**	**02 17 21.2**	**+0.1**
LCO				*i* S	**Sn**	**02 17 40.5**	**+1.9**
LCO				IAML		02 17 40.9	
	comp=Z,34μm,0.3s						
AROD	**Rodeo**	**1.73**	**88**	*i* P	**Pn**	**02 17 27.2**	**+1.5**
ACDV	**Cuesta del Vie**	**2.04**	**89**	*i* P	**Pn**	**02 17 32.0**	**+2.2**
ACDV				⇓*i*S	**Sn**	**02 17 59.0**	**+4.9**
ACDV				IAML		02 18 02.1	
	comp=Z,2μm,1.1s						
AC04	**Llanos de Chal**	**2.06**	**10**	Pn	**Pn**	**02 17 30.8**	**+0.8**
AC04	**Llanos de Chal**	**2.06**	**10**	*i* P	**Pn**	**02 17 30.7**	**+0.7**
AC04				*i* S	**Sn**	**02 17 55.0**	**+0.5**
AC04				IAML		02 18 02.9	
	comp=E,12μm,0.6s						
AC04	**Llanos de Chal**	**2.06**	**10**	*i* P	**Pn**	**02 17 31.0**	**+1.0**
AC04				*i* S	**Sn**	**02 17 57.6**	**+3.1**
AC04				IAML		02 18 03.8	
	comp=Z,7μm,0.6s						
ACCO	**Cerro Coronel**	**2.11**	**100**	*i* P	**Pn**	**02 17 33.2**	**+2.3**
ACCO				*i* S	**Sn**	**02 18 01.2**	**+5.2**
DOCA	**Reserva Natura**	**2.18**	**109**	*i* P	**Pn**	**02 17 33.7**	**+1.8**
DOCA				IAML		02 18 11.4	
	comp=Z,977nm,0.3s						
VA06	**Catapilco**	**2.31**	**176**	Pn	**Pn**	**02 17 34.7**	**+1.2**
VA06	**Catapilco**	**2.31**	**176**	*i* P	**Pn**	**02 17 34.6**	**+1.2**
VA06				IAML		02 18 14.6	
	comp=E,12μm,0.4s						
RTLS	**Leoncito**	**2.43**	**130**	*i* P	**Pn**	**02 17 38.1**	**+2.9**
RTLS				IAML		02 18 22.3	
	comp=Z,4μm,0.7s						
VA03	**San Esteban**	**2.63**	**163**		**Pn**	**02 17 39.3**	**+1.4**
VA03	**San Esteban**	**2.63**	**163**	*eP*	**Pn**	**02 17 38.7**	**+0.8**
VA03				*eS*	**Sn**	**02 18 08.6**	**-0.1**
VA03				IAML		02 18 23.3	
	comp=E,4μm,0.4s						
VA03	**San Esteban**	**2.63**	**163**	*i* P	**Pn**	**02 17 39.6**	**+1.7**
VA03				IAML		02 18 23.6	
	comp=Z,2μm,0.4s						
AGUA	**GUANDACOL**	**2.70**	**75**	*i* P	**Pn**	**02 17 42.0**	**+3.3**
AGUA				IAML		02 18 22.8	
	comp=Z,2μm,0.3s						
ZON	**Zonda**	**2.73**	**119**		**Pn**	**02 17 41.0**	**+1.8**
ZON	**Zonda**	**2.73**	**119**	*i* P	**Pn**	**02 17 41.4**	**+2.2**
ZON				IAML		02 18 34.6	
	comp=Z,1μm,1.0s						
ROCH	**El Roble**	**2.75**	**172**	*eP*	**Pn**	**02 17 40.9**	**+1.3**
ROCH				*eS*	**Sn**	**02 18 12.5**	**+0.8**
ROCH				IAML		02 18 26.4	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**2.97**	**167**	Pn	**Pn**	**02 17 44.1**	**+1.6**
PEL	**Peldehue**	**2.97**	**167**	*eP*	**Pn**	**02 17 44.1**	**+1.6**
PEL				*eS*	**Sn**	**02 18 17.6**	**+0.7**
PEL				IAML		02 18 31.4	
	comp=E,4μm,0.5s						
MT02	**Curacav**	**3.02**	**175**		**Pn**	**02 17 43.9**	**+0.7**
MT02	**Curacav**	**3.02**	**175**	*eP*	**Pn**	**02 17 43.8**	**+0.7**
MT02				*eS*	**Sn**	**02 18 18.7**	**+0.6**
MT02	**Curacav**	**3.02**	**175**	*i* P	**Pn**	**02 17 44.3**	**+1.1**
MT02				IAML		02 18 35.5	
	comp=Z,2μm,0.6s						
AC06	**Mina Casimiro**	**3.04**	**19**	Pn	**Pn**	**02 17 43.9**	**+0.5**
AC06	**Mina Casimiro**	**3.04**	**19**	*eP*	**Pn**	**02 17 43.9**	**+0.5**
AC06				*eS*	**Sn**	**02 18 19.4**	**+0.9**
AC06				IAML		02 18 33.2	
	comp=E,6μm,0.7s						
CFA	**Coronel Fontan**	**3.09**	**117**	P	**Pn**	**02 17 45.1**	**+0.9**
	comp=E,18nm,0.3s,baz=287,slow=14,SNR=350						
CFA				S	**Sn**	**02 18 21.4**	**+1.5**
	comp=E,100nm,0.3s,baz=295,slow=18,SNR=6.4						
CFA				LR	LR	02 19 09.3	
	comp=E,330nm,19.1s,baz=259,slow=43						
	comp=E,42nm,0.3s						
MT10	**Hacienda Santa**	**3.12**	**165**	⇓*i*P	**Pn**	**02 17 46.5**	**+1.8**
MT10				*eS*	**Sn**	**02 18 21.1**	**+0.2**
MT05	**Renca**	**3.20**	**169**	Pn	**Pn**	**02 17 47.2**	**+1.5**
MT05	**Renca**	**3.20**	**169**	*eS*	**Sn**	**02 18 23.0**	**+0.4**
MT05	**Renca**	**3.20**	**169**	*i* P	**Pn**	**02 17 47.5**	**+1.8**
MT05				IAML		02 18 38.8	
	comp=Z,2μm,0.9s						
VCA	**Vinchina**	**3.22**	**63**	*i* P	**Pn**	**02 17 49.2**	**+3.2**
FCH	**Farellones**	**3.23**	**162**	*eP*	**Pn**	**02 17 48.8**	**+2.4**
MT14	**Cerro Calı¡n**	**3.24**	**166**	*eP*	**Pn**	**02 17 48.3**	**+2.0**
MT14				*eS*	**Sn**	**02 18 24.2**	**+0.6**
ASAL	**Salagasta**	**3.25**	**137**	*i* P	**Pn**	**02 17 49.2**	**+2.8**
ASAL				IAML		02 18 54.9	
	comp=Z,922nm,1.2s						
MT16	**CCHEN**	**3.28**	**166**		**Pn**	**02 17 48.9**	**+2.2**
MT16	**CCHEN**	**3.28**	**166**	*eP*	**Pn**	**02 17 47.6**	**+0.9**
MT16				*eS*	**Sn**	**02 18 25.5**	**+1.0**
MT16				IAML		02 18 44.7	
	comp=N,2μm,0.7s						
MT03	**Universidad Ad**	**3.34**	**166**		**Pn**	**02 17 49.7**	**+2.0**
MT03	**Universidad Ad**	**3.34**	**166**	⇓*i*P	**Pn**	**02 17 48.8**	**+1.2**
MT03	**Universidad Ad**	**3.34**	**166**	*i* P	**Pn**	**02 17 50.1**	**+2.4**
MT03				IAML		02 18 45.5	
	comp=Z,2μm,0.8s						
MT04	**Ro Olivares**	**3.35**	**161**	*i* P	**Pn**	**02 17 50.5**	**+2.5**
MT04				*i* S	**Sn**	**02 18 26.7**	**+0.1**
MT04				IAML		02 18 40.6	
	comp=E,2μm,0.7s						
MT04	**Ro Olivares**	**3.35**	**161**	*i* P	**Pn**	**02 17 50.4**	**+2.5**
MT04				IAML		02 18 46.7	
	comp=Z,2μm,1.1s						
ARCO	**CERRO ARCO**	**3.38**	**141**	*i* P	**Pn**	**02 17 51.2**	**+3.0**
ARCO				IAML		02 18 51.9	
	comp=Z,974nm,1.4s						
VA05	**Santo Domingo**	**3.41**	**182**		**Pn**	**02 17 48.7**	**+0.3**
MT08	**Bocatoma Ro**	**3.42**	**159**		**Pn**	**02 17 52.8**	**+3.9**
MT08	**Bocatoma Ro**	**3.42**	**159**	*eP*	**Pn**	**02 17 52.1**	**+3.2**
MT08				IAML		02 18 48.4	
	comp=E,2μm,0.7s						
MT08	**Bocatoma Ro**	**3.42**	**159**	*i* P	**Pn**	**02 17 51.8**	**+2.9**
MT08				IAML		02 18 49.4	
	comp=Z,1μm,0.7s						
MT15	**Las Vizcachas**	**3.44**	**166**	*eP*	**Pn**	**02 17 50.8**	**+1.8**
MT15				*eS*	**Sn**	**02 18 29.1**	**+0.4**
AVFE	**Valle Fertil**	**3.49**	**98**	*i* P	**Pn**	**02 17 50.7**	**+1.0**
AVFE				IAML		02 18 50.4	
	comp=Z,708nm,0.4s						
MT09	**Talagante**	**3.55**	**173**		**Pn**	**02 17 52.0**	**+1.5**
MT09	**Talagante**	**3.55**	**173**	*eP*	**Pn**	**02 17 51.5**	**+1.1**
MT12	**Pirque**	**3.57**	**168**	*eP*	**Pn**	**02 17 52.5**	**+1.8**
MT12				*i* S	**Sn**	**02 18 31.8**	**+0.1**
MT01	**Popeta**	**3.62**	**177**	*i* P	**Pn**	**02 17 52.1**	**+0.8**
MT01	**Popeta**	**3.62**	**177**	*i* P	**Pn**	**02 17 52.5**	**+1.2**
MT01				IAML		02 18 54.1	
	comp=Z,1μm,0.5s						
AAGR	**Agrelo**	**3.62**	**142**	*i* P	**Pn**	**02 17 54.8**	**+3.3**
AAGR				IAML		02 19 04.8	
	comp=Z,985nm,0.9s						
MT13	**San Alfonso**	**3.63**	**164**	*eP*	**Pn**	**02 17 54.3**	**+2.6**
MT13	**San Alfonso**	**3.63**	**164**	*i* P	**Pn**	**02 17 54.0**	**+2.3**
MT13				IAML		02 18 52.5	
	comp=Z,1μm,1.4s						
LMEL	**Las Melosas**	**3.75**	**164**	*i* P	**Pn**	**02 17 56.0**	**+2.7**
LMEL	**Las Melosas**	**3.75**	**164**	*i* P	**Pn**	**02 17 56.0**	**+2.7**
BO04	**La Punta**	**3.81**	**169**	*i* P	**Pn**	**02 17 55.5**	**+1.5**
AC02	**Maricunga**	**3.97**	**32**	Pn	**Pn**	**02 17 57.7**	**+1.1**
AC02	**Maricunga**	**3.97**	**32**	*eP*	**Pn**	**02 17 57.7**	**+1.1**
AC02				*eS*	**Sn**	**02 18 41.5**	**-0.7**
AC02	**Maricunga**	**3.97**	**32**	*i* P	**Pn**	**02 17 58.2**	**+1.6**
AC02				IAML		02 19 03.3	
	comp=Z,1μm,0.3s						
BO01	**Tunca**	**4.15**	**176**	Pn	**Pn**	**02 17 59.4**	**+0.8**
AC01	**Pan de Azucar**	**4.15**	**11**	*i* P	**Pn**	**02 17 57.4**	**-1.3**
AC01				IAML		02 19 09.4	
	comp=Z,1μm,0.5s						
BO02	**Sierra Bellavi**	**4.57**	**173**	Pn	**Pn**	**02 18 05.5**	**+1.0**
H03N1	**Juan Fernandez**	**7.09**	**241**	P	**Pn**	**02 18 39.5**	**+0.8**
	baz=112,slow=19,SNR=324						
H03N1				T	T	02 25 46.4	
	baz=69,slow=72,SNR=1823						
H03N2	**Juan Fernandez**	**7.10**	**241**	P	**Pn**	**02 18 39.5**	**+0.7**
	baz=112,slow=19,SNR=201						
H03N2				T	T	02 25 51.6	
	baz=69,slow=72,SNR=2194						
H03N3	**Juan Fernandez**	**7.10**	**241**	P	**Pn**	**02 18 38.7**	**-0.2**
	baz=112,slow=19,SNR=386						
H03N3				T	T	02 25 42.5	
	baz=69,slow=72,SNR=1255						
VA04	**Juan Fernndez**	**7.11**	**240**		**Pn**	**02 18 39.6**	**+0.4**
H03S3	**Juan Fernandez**	**7.25**	**239**	P	**Pn**	**02 18 40.1**	**-0.9**
	baz=274,slow=21,SNR=11						
H03S1	**Juan Fernandez**	**7.26**	**238**	P	**Pn**	**02 18 39.3**	**-1.7**
	baz=274,slow=21,SNR=12						
H03S2	**Juan Fernandez**	**7.27**	**239**	P	**Pn**	**02 18 38.3**	**-2.8**
	baz=274,slow=21,SNR=11						
PLCA	**Paso Flores**	**10.49**	**176**	P	**Pn**	**02 19 26.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=4.8						
PLCA				LR	LR	02 24 04.2	
	comp=Z,221nm,18.6s,baz=335,slow=40						
	comp=Z,1.9nm,0.7s						
PLCA	**Paso Flores**	**10.49**	**176**	*eP*	**Pn**	**02 19 22.7**	**-2.9**
TRQA	**Tornquist**	**11.07**	**137**		**Pn**	**02 19 32.9**	**-0.5**
PSAL	**Palomas, Salto**	**11.97**	**98**	*eP*	**Pn**	**02 19 45.9**	**+0.2**
CPUP	**Villa Florida**	**13.06**	**76**		**Pn**	**02 19 57.3**	**-3.3**
CPUP	**Villa Florida**	**13.06**	**76**	P	**Pn**	**02 19 57.0**	**-3.7**
	comp=Z,2.5nm,0.6s,baz=252,slow=11,SNR=7.6						
CPUP				LR	LR	02 25 55.9	
	comp=Z,127nm,20.8s,baz=234,slow=41						
CPUP	**Villa Florida**	**13.06**	**76**	*eP*	**Pn**	**02 20 00.4**	**-0.3**
TBOT	**Tacuarembó**	**13.41**	**100**	*eP*	**Pn**	**02 20 03.0**	**-2.4**
LPAZ	**La Paz**	**14.22**	**13**		**Pn**	**02 20 18.9**	**+1.8**
LPAZ	**La Paz**	**14.22**	**13**	P	**Pn**	**02 20 18.6**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=194,slow=6.3,SNR=62						
	comp=Z,13nm,0.6s						
LPAZ	**La Paz**	**14.22**	**13**	*eP*	**Pn**	**02 20 18.9**	**+1.8**
SJPY	**San Joaquin**	**14.59**	**73**	*eP*	**Pn**	**02 20 20.8**	**-0.6**
PLTB	**Pedras Altas**	**15.40**	**100**	*eP*	**Pn**	**02 20 29.7**	**-2.3**
CPSB	**Cacapava Do Su**	**15.58**	**95**	*eP*	**Pn**	**02 20 34.0**	**-0.3**
BDQN	**Bodoquena, MS**	**16.48**	**57**	*eP*	**P**	**02 20 47.6**	**-0.3**
SIV	**San Ignacio**	**17.09**	**36**	P	**P**	**02 20 53.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=61						
SIV				LR	LR	02 28 40.0	
	comp=Z,316nm,21.6s,baz=232,slow=41						
	comp=Z,17nm,0.7s						
ITAB	**Concordia**	**17.23**	**85**	P	**P**	**02 20 55.9**	**-0.2**
ITAB				IAmb	IAmb	02 21 13.8	
	comp=Z,121nm,1.1s						
ITAB	**Concordia**	**17.23**	**85**	*eP*	**P**	**02 20 54.8**	**-1.3**
AQDB	**Aquidauana**	**17.24**	**59**	*eP*	**P**	**02 20 56.8**	**+0.5**
PTGB	**Pitanga**	**18.07**	**77**	*eP*	**P**	**02 21 04.4**	**-1.1**
PTLB	**Pontes e Lacer**	**18.58**	**40**	P	**Pn**	**02 21 10.8**	**-0.9**
PTLB	**Pontes e Lacer**	**18.58**	**40**	*eP*	**Pn**	**02 21 10.8**	**-0.9**
RPRD	**Ribas do Rio P**	**18.75**	**63**	*eP*	**Pn**	**02 21 12.6**	**-1.2**
LDASE	**Londrina, Braz**	**19.39**	**74**	*eP*	**P**	**02 21 18.9**	**-1.1**
TER01	**Tubaro-SC**	**19.54**	**91**	*eP*	**P**	**02 21 20.0**	**-1.6**
MAJ01	**Sao Joao Batis**	**19.88**	**87**	*eP*	**P**	**02 21 23.8**	**-1.4**
VILB	**Vilhena**	**20.12**	**34**	P	**P**	**02 21 27.2**	**-0.7**
VILB				IAmb	IAmb	02 21 47.0	
	comp=Z,42nm,0.9s						
VILB	**Vilhena**	**20.12**	**34**	*eP*	**P**	**02 21 28.1**	**+0.1**
SALV	**Santo Antonio**	**20.32**	**49**	*eP*	**P**	**02 21 29.5**	**-0.6**
C2SB	**Chapadao do Su**	**20.41**	**60**	*eP*	**P**	**02 21 31.2**	**+0.2**
FRTB	**Fartura**	**20.71**	**76**	*eP*	**P**	**02 21 34.1**	**-0.3**
ITRB	**Iturama**	**21.79**	**66**	*eP*	**P**	**02 21 45.7**	**-0.2**
CZSB	**Cruzeiro do Su**	**22.43**	**357**	P	**P**	**02 21 50.0**	**-2.8**
CZSB				IAmb	IAmb	02 22 14.8	
	comp=Z,66nm,1.1s						
CZSB	**Cruzeiro do Su**	**22.43**	**357**	*eP*	**P**	**02 21 54.2**	**+1.4**
VAO	**Valinhos**	**23.04**	**78**	*eP*	**P**	**02 21 58.4**	**-0.8**
PDRB	**Porto dos Gac**	**23.05**	**40**	*eP*	**P**	**02 21 59.5**	**+0.3**
ARAG	**Araguaiana, MT**	**23.12**	**56**	*eP*	**P**	**02 21 57.5**	**-2.4**
IPMB	**Ipameri, GO**	**24.43**	**65**	*eP*	**P**	**02 22 10.4**	**-1.9**
PMNB	**Patos De Minas**	**25.54**	**69**	*eP*	**P**	**02 22 21.4**	**-1.1**
BDFB	**Brasilia**	**25.96**	**61**	P	**P**	**02 22 24.9**	**-1.4**
BDFB	**Brasilia**	**25.96**	**61**	P	**P**	**02 22 24.8**	**-1.4**
	comp=Z,12nm,0.6s,baz=232,slow=7.7,SNR=28						
BDFB				LR	LR	02 33 47.1	
	comp=Z,228nm,19.4s,baz=214,slow=39						
	comp=Z,12nm,0.6s						
SNDB	**Serra Nova Dou**	**26.09**	**50**	*eP*	**P**	**02 22 26.7**	**-0.6**
NPGB	**Novo Progresso**	**27.60**	**36**	*eP*	**P**	**02 22 39.9**	**-1.0**
DIAM	**Diamantina, MG**	**27.92**	**71**	*eP*	**P**	**02 22 43.4**	**-0.5**
CAM01	**Campos-RJ**	**28.01**	**80**	*eP*	**P**	**02 22 41.2**	**-3.2**
MACA	**Manacapuru-AM**	**28.81**	**23**	P	**P**	**02 22 51.2**	**-0.3**
MACA				IAmb	IAmb	02 22 52.0	
	comp=Z,23nm,0.5s						
MACA	**Manacapuru-AM**	**28.81**	**23**	*eP*	**P**	**02 22 51.3**	**-0.3**
JANB	**Januaria**	**29.17**	**65**	*eP*	**P**	**02 22 53.9**	**-1.0**
SJMB	**Sao Joao De Ma**	**29.77**	**74**	*eP*	**P**	**02 22 59.6**	**-0.6**
BSFB	**Barra de Sao F**	**29.99**	**75**	*eP*	**P**	**02 23 00.8**	**-1.3**
SDBA	**SAO DESIDERIO**	**30.33**	**60**	*eP*	**P**	**02 23 04.3**	**-0.9**
GUA01	**Guaratinga, BA**	**31.96**	**72**	*eP*	**P**	**02 23 17.8**	**-1.6**
CMC01	**Camacan, BA**	**32.83**	**70**	*eP*	**P**	**02 23 26.3**	**-0.8**
BOAV	**Boa Vista**	**34.10**	**20**	P	**P**	**02 23 37.9**	**-0.3**
BOAV				IAmb	IAmb	02 23 38.9	
	comp=Z,13nm,0.7s						
BOAV	**Boa Vista**	**34.10**	**20**	*eP*	**P**	**02 23 38.4**	**+0.2**
PMSA	**Palmer Station**	**34.86**	**174**	LR	LR	02 37 19.2	
	comp=Z,213nm,18.6s,baz=18,slow=35						
PMSA	**Palmer Station**	**34.86**	**174**	*eP*	P	02 23 35.8	-8.4
RUSC	**La Rusia**	**35.96**	**357**	P	**P**	**02 23 56.4**	**+1.7**
NBPB	**Pedra_Branca-C**	**38.79**	**57**	*eP*	**P**	**02 24 17.8**	**-0.4**
MDP	**Montagnes des**	**39.51**	**30**	LR	LR	02 42 45.2	
	comp=Z,118nm,18.6s,baz=186,slow=39						
RCBR	**Riachuelo**	**41.34**	**61**	LR	LR	02 42 48.0	
	comp=Z,46nm,21.4s,baz=250,slow=38						
CELP	**Cerrillos**	**48.27**	**6**	P	**P**	**02 25 33.8**	**-0.5**
TEIG	**Tepich**	**52.72**	**340**	P	**P**	**02 26 08.7**	**+0.9**
SNAA	**Sanae**	**54.89**	**159**	P	**P**	**02 26 23.3**	**0.0**
SNAA				IAmb	IAmb	02 26 43.7	
	comp=Z,14nm,1.4s						
SNAA	**Sanae**	**54.89**	**159**	P	**P**	**02 26 23.0**	**-0.3**
	comp=Z,4.5nm,0.9s,baz=279,slow=10,SNR=7.6						
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**02 27 00.1**	**+0.8**
QSPA				IAmb	IAmb	02 27 42.3	
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**02 26 59.9**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=136,slow=2.9,SNR=24						
	comp=Z,3.9nm,0.9s						
TXAR	**Lajitas Array**	**66.72**	**330**	P	**P**	**02 27 44.5**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=130,slow=6.5,SNR=3.2						
	comp=Z,0.4nm,0.9s						
BBTS	**Babate**	**69.20**	**58**	LR	LR	02 57 29.3	
	comp=Z,27nm,18.4s,baz=86,slow=35						
BOSA	**Boshof**	**81.39**	**118**	P	**P**	**02 29 08.9**	**-1.2**
	comp=Z,4.6nm,0.9s,baz=225,slow=5.7,SNR=4.1						
	comp=Z,4.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.48**	**70**	P	**P**	**02 29 14.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**82.48**	**70**	P	**P**	**02 29 14.5**	**-1.3**
	comp=Z,3.5nm,0.5s,baz=238,slow=4.9,SNR=1.7						
	comp=Z,3.5nm,0.5s						
RLMT	**Red Lodge**	**82.52**	**334**	P	**P**	**02 29 17.5**	**+1.9**
RLMT				IAmb	IAmb	02 29 20.3	
	comp=Z,10nm,0.8s						
ULM	**Lac du Bonnet**	**83.01**	**345**	P	**P**	**02 29 19.0**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=135,slow=7.1,SNR=2.4						
	comp=Z,1.0nm,

comp=Z,12nm,0.8s
QSPA South Pole Qui 35.70 180 P **P 02 27 40.3 -0.6**
QSPA IAmb IAmb 02 27 58.3
comp=Z,15nm,0.9s
QSPA South Pole Qui 35.70 180 LR LR 02 42 25.2
comp=Z,876nm,18.1s,baz=359,slow=36
PSA00 Pilbara Seismi 37.45 322 P **P 02 27 54.7 -1.4**
PSA00 IAmb IAmb 02 28 01.3
comp=Z,9.7nm,1.0s
MBWA Marble Bar 37.87 322 P **P 02 27 59.2 -0.4**
MBWA IAmb IAmb 02 28 04.8
comp=Z,30nm,1.1s
MAW Mawson 38.29 218 LR LR 02 43 24.4
comp=Z,422nm,18.3s,baz=90,slow=36
FITZ Fitzroy Crossi 38.84 332 P **P 02 28 07.7 -0.1**
FITZ Fitzroy Crossi 38.84 332 LR LR 02 43 18.9
comp=Z,432nm,19.3s,baz=164,slow=35
MTN Manton Dam 42.65 342 P **P 02 28 42.9 +3.6**
MTN IAmb IAmb 02 28 44.8
comp=Z,23nm,0.9s
PMG Port Moresby 44.97 5 LR LR 02 46 40.7
comp=Z,310nm,18.2s,baz=182,slow=35
HNR Honiara 46.69 22 LR LR 02 45 01.2
comp=Z,274nm,20.3s,baz=163,slow=31
SOEI Soe 47.18 333 P P 02 29 20.2 +4.7
SNAA Sanae 52.02 193 P **P 02 29 51.0 -0.7**
comp=Z,4.1nm,1.0s,baz=221,slow=9.3,SNR=2.5
SNAA LR LR 02 51 42.3
comp=Z,1μm,19.2s,baz=174,slow=36
comp=Z,4.1nm,1.0s
KAPI Kappang 52.96 329 P **P 02 29 58.6 -0.7**
KAPI IAmb IAmb 02 30 09.1
comp=Z,24nm,1.4s
KAPI Kappang 52.96 329 LR LR 02 51 26.0
comp=Z,213nm,21.0s,baz=160,slow=35
RAR Rarotonga 53.61 75 LR LR 02 49 45.6
comp=Z,200nm,19.5s,baz=227,slow=32
H04S1 CROZET ISLAND 54.76 237 T T 03 30 10.7
baz=134,slow=74,SNR=11
H04S2 CROZET ISLAND 54.76 237 T T 03 30 09.8
baz=134,slow=74,SNR=11
H04S3 CROZET ISLAND 54.78 237 T T 03 30 08.8
baz=134,slow=74,SNR=11
LEM Lembang 55.64 315 LR LR 02 50 11.5
comp=Z,322nm,21.4s,baz=148,slow=32
TOLI2 Tolitoli 58.51 333 P **P 02 30 37.5 -1.5**
TOLI2 IAmb IAmb 02 30 47.6
comp=Z,32nm,1.7s
PSI Prapat 68.00 311 LR LR 02 56 53.2
comp=Z,309nm,21.4s,baz=140,slow=32
H08S2 Diego Garcia H 72.95 281 T T 03 52 02.8
baz=144,slow=76,SNR=26
H08S1 Diego Carcia H 72.96 281 T T 03 52 03.6
baz=144,slow=76,SNR=19
H08S3 Diego Garcia H 72.97 281 T T 03 52 04.3
baz=144,slow=76,SNR=29
GO07 Millladeo Hill, 77.72 153 P **P 02 32 40.6 +1.2**
SUR Sutherland 80.60 226 LR LR 03 04 18.3
comp=Z,367nm,18.1s,baz=190,slow=33
PLCA Paso Flores 80.76 154 P **P 02 32 55.6 -0.5**
comp=Z,1.4nm,0.8s,baz=228,slow=7.0,SNR=3.4
comp=Z,1.4nm,0.8s
PALK Pallekele 80.76 296 LR LR 03 01 58.5
comp=Z,288nm,20.3s,baz=146,slow=31
JCJ Chichijima 81.18 359 LR LR 03 09 25.9
comp=Z,2μm,18.8s,baz=108,slow=36
BOSA Boshof 81.88 231 P **P 02 33 00.6 -1.7**
comp=Z,1.8nm,0.8s,baz=130,slow=6.7,SNR=6.2
comp=Z,1.8nm,0.8s
CMAR Chiang Mai Arr 82.06 317 LR LR 03 08 45.5
comp=Z,163nm,19.8s,baz=165,slow=35
LBTB Lobatse 84.79 233 LR LR 03 04 51.1
comp=Z,233nm,19.9s,baz=190,slow=31
PZH PanZhiHua 88.34 323 P **P 02 33 35.4 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,170nm,4.9s
NJ2 Nanjing 88.76 339 *e*P **P 02 33 38.2 +2.2**
NJ2 pmax pmax
comp=Z,13nm,0.7s
BRDH Bariadhala 88.83 313 LR LR 03 14 26.6
comp=Z,112nm,19.8s,baz=172,slow=36
MJAR Matsushiro Arr 90.72 356 P **P 02 33 45.3 +0.2**
comp=Z,2.9nm,0.9s,baz=166,slow=6.0,SNR=4.4
comp=Z,2.9nm,0.9s
LSZ Lusaka 91.78 241 LR LR 03 10 05.5
comp=Z,321nm,18.8s,baz=172,slow=32
XAN Xi'an 93.08 332 *e*P **P 02 33 59.4 +3.2**
XAN pmax pmax
comp=Z,10.0nm,1.4s
TSUM Tsumeb 93.49 230 LR LR 03 10 25.1
comp=Z,71nm,18.4s,baz=176,slow=32
KMBO Kilima Mbogo 98.64 256 LR LR 03 12 26.2
comp=Z,137nm,18.7s,baz=92,slow=32
USRK Ussuriysk Ar. 98.75 351 LR LR 03 16 44.5
comp=Z,248nm,20.6s,baz=165,slow=34
HHC Hu-ho-hao-te 98.83 336 *e*P Pdif 02 34 24.6 +2.3
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=N,190nm,16.0s
HHC LR LR
comp=E,240nm,15.3s
HHC LR LR
comp=Z,120nm,16.0s
KURBB Kurchatov Arra 118.01 319 PKP **PKiKP 02 39 29.0 +0.5**
comp=Z,0.3nm,0.6s,baz=132,slow=1.4,SNR=2.7
NVAR Mina Array Bea 124.44 71 PKP **PKiKP 02 39 42.6 +0.7**
comp=Z,0.5nm,0.3s,baz=313,slow=3.4,SNR=7.0
TXAR Lajitas Array 126.25 89 PKP **PKPdf 02 39 45.0 -0.2**
comp=Z,0.3nm,0.9s,baz=204,slow=2.7,SNR=3.7
YKA Yellowknife Ar 140.65 46 PKhKP PKPpre 02 40 05.4
comp=Z,1.0nm,0.9s,baz=236,slow=3.4,SNR=9.0
KEST Kesra 143.57 258 PKP **PKPdf 02 40 17.2 +0.1**
comp=Z,5.8nm,0.9s,baz=67,slow=1.5,SNR=6.4
ULM Lac du Bonnet 144.26 72 PKP **PKPab 02 40 15.7 0.0**
comp=Z,3.2nm,0.8s,baz=219,slow=2.5,SNR=7.4
I42A Draeger Farm, 144.76 85 PKPab 02 40 16.6 -1.2
G40A Rib Lake 144.81 82 PKPab 02 40 17.4 -0.5
U56A King 144.82 103 PKPab 02 40 17.2 -1.1
N49A Columbus Grove 145.70 93 PKPdf 02 40 20.4 -0.1
COWI Conover 145.90 82 PKPdf 02 40 19.7 -1.0
VYHS Vyhne 145.94 283 *e*PKP **PKiKP 02 40 24.1 -0.8**
MODS Modra-Piesok 146.77 282 *e*PKP **PKiKP 02 40 26.4 -0.2**
RONA Rosalia, Austr 146.98 280 *e*PKP **PKPdf 02 40 22.7 +0.1**
comp=Z,4.2nm,1.1s
SOKA Soboth 147.17 278 *e*PKP **PKPdf 02 40 23.7 +0.8**
comp=Z,7.1nm,1.0s
ARSA Arzberg 147.19 279 *i* PKP **PKPdf 02 40 23.5 +0.6**
comp=Z,9.2nm,1.8s
ARSA Arzberg 147.19 279 PKPdf 02 40 23.5 +0.6
CONA Conrad Observa 147.35 280 *i* PKP **PKPbc 02 40 24.4 -1.2**
comp=Z,4.0nm,1.1s
OBKA Obir 147.36 277 *e*PKP **PKiKP 02 40 28.2 +0.2**
comp=Z,4.9nm,1.3s
FINES FINESS Array B 147.37 308 PKPbc **PKPdf 02 40 23.6 +0.9**
comp=Z,5.7nm,0.9s,baz=103,slow=4.1,SNR=13
KBA Koelnbreinsper 148.36 277 *i* PKP **PKPdf 02 40 25.9 +0.9**
comp=Z,4.9nm,1.4s
KBA *i* pPKP **sPKPdf 02 40 28.7 -0.2**
comp=Z,4.9nm,1.4s
ABTA Abfaltersbach 148.67 276 *i* PKP **PKPdf 02 40 26.8 +1.4**
comp=Z,5.9nm,1.4s
LESA Schwarzleotal 148.93 277 *e*PKP **PKPdf 02 40 27.7 +1.9**
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 148.97 323 PKPbc **PKPbc 02 40 29.2 0.0**
comp=Z,2.2nm,0.7s,baz=126,slow=1.6,SNR=7.1
GERES GERESS Array B 149.06 281 PKPbc **PKPbc 02 40 29.0 -1.1**
comp=Z,0.6nm,0.6s,baz=116,slow=6.8,SNR=3.4
WTTA Wattenberg 149.45 276 *e*PKP **PKPab 02 40 37.6 +1.4**
comp=Z,8.4nm,1.1s
WATA Walderalm 149.52 277 *e*PKP **PKPdf 02 40 26.4 -0.4**
comp=Z,7.3nm,0.9s
SQTA Sankt Quirin 149.68 276 *i* PKP **PKPdf 02 40 27.4 +0.3**
comp=Z,1.6nm,0.7s
SQTA *i* PKP **PKiKP 02 40 32.9 +0.2**
comp=Z,3.6nm,0.9s
SQTA *e*pPKiKP **PKPab 02 40 36.7 -0.4**
comp=Z,7.9nm,1.2s
FETA Feichten 149.85 275 *e*PKP **PKPdf 02 40 27.1 -0.3**
comp=Z,3.5nm,1.5s
FETA *i* pPKP **PKPbc 02 40 31.9 -0.3**
comp=Z,3.6nm,1.3s
FETA *e*pPKiKP **PKPab 02 40 37.4 -0.5**
comp=Z,7.9nm,1.1s

RETA Reutte 150.07 276 *i* PKP **PKPdf 02 40 27.9 +0.3**
comp=Z,7.6nm,1.7s
RETA *e*pPKP **sPKPbc 02 40 37.4 +1.0**
comp=Z,9.1nm,1.4s
CLL Collm 150.60 284 *e*PKPdf **PKPdf 02 40 30.0 +1.8**
CLL *e*PKPbc **PKiKP 02 40 34.0 -0.3**
CLL *e*PKPab **pPKPab 02 40 42.0 -1.4**
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 153.82 249 PKPbc **PKPbc 02 40 40.4 -1.0**
comp=Z,0.5nm,0.9s,baz=124,slow=0.8,SNR=6.6
SCO Scoresbysund 162.66 344 *i* P **PKPdf 02 40 50.2 +7.1**

*IDC **09** 02:21:45.2±0.8, 13°.63N×147°.92E, h0km, mb3.8/12, mbtmp3.8/13, ML4.5/1, MS2.9/2, Error ellipse: s-maj=24.0km s-min=19.7km az=119.0*
ISC 09 02:21:50.5±0.9, 13°.6N±0°.2×147°.8E±0°.1, h35km, n18, σ1§01/15, mb3.7/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.86**	**270**	Pn	**Pn**	**02 22 33.1**	**-0.5**
	60nm,0.3s,baz=138,slow=8.5,SNR=7.5						
GUMO				Sn	**Sn**	**02 23 05.8**	**-0.9**
	163nm,0.3s,baz=17,slow=22,SNR=16						
GUMO				LR	LR	02 23 30.4	
	comp=Z,161nm,19.7s,baz=62,slow=36						
	166nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**19.26**	**69**	T	T	02 45 25.3	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**19.27**	**69**	T	T	02 45 29.4	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**19.28**	**69**	T	T	02 45 26.8	
	baz=256						
WRA	**Warramunga Arr**	**35.87**	**202**	P	**P**	**02 28 46.9**	**-0.3**
	2.5nm,1.0s,baz=22,slow=8.7,SNR=5.9						
	2.5nm,1.0s						
ASAR	**Alice Springs**	**39.45**	**200**	P	**P**	**02 29 17.6**	**0.0**
	0.4nm,0.5s,baz=19,slow=9.2,SNR=7.6						
	0.4nm,0.5s						
MA2	**Magadan**	**45.95**	**2**	LR	LR	02 47 11.2	
	comp=Z,22nm,21.9s,baz=138,slow=33						
CMAR	**Chiang Mai Arr**	**47.10**	**283**	P	**P**	**02 30 21.4**	**+1.9**
	1.0nm,0.3s,baz=95,slow=8.2,SNR=4.6						
	1.0nm,0.3s						
SONM	**Songino Array**	**48.40**	**323**	P	**P**	**02 30 30.2**	**+0.9**
	0.1nm,0.3s,baz=126,slow=4.3,SNR=2.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**63.47**	**316**	P	**P**	**02 32 17.9**	**+0.7**
	0.2nm,0.6s,baz=96,slow=8.1,SNR=8.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**66.47**	**319**	P	**P**	**02 32 36.5**	**0.0**
	0.4nm,0.6s,baz=98,slow=6.9,SNR=12						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**67.35**	**25**	P	**P**	**02 32 40.5**	**-1.3**
	0.5nm,0.8s,baz=264,slow=6.3,SNR=7.0						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**71.69**	**322**	P	**P**	**02 33 09.2**	**+0.4**
	0.6nm,0.4s,baz=106,slow=7.3,SNR=7.1						
	0.6nm,0.4s						
INK	**Inuvik**	**73.27**	**22**	P	**P**	**02 33 16.9**	**-1.0**
	1.1nm,1.0s,baz=283,slow=5.6,SNR=3.1						
	1.1nm,1.0s						
YKA	**Yellowknife Ar**	**81.53**	**28**	P	**P**	**02 34 04.4**	**+0.1**
	0.4nm,0.7s,baz=285,slow=5.4,SNR=7.4						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**84.68**	**52**	P	**P**	**02 34 21.8**	**+0.5**
	0.9nm,0.7s,baz=276,slow=5.2,SNR=5.8						
	0.9nm,0.7s						
FINES	**FINESS Array B**	**92.34**	**336**	P	**P**	**02 34 55.5**	**-1.6**
	2.9nm,1.0s,baz=108,slow=3.1,SNR=5.2						
	2.9nm,1.0s						
LPAZ	**La Paz**	**145.20**	**99**	PKPbc	**PKPdf**	**02 41 26.6**	**+0.4**
	0.7nm,0.5s,baz=290,slow=2.8,SNR=4.6						

*NOU **09** 02:39:57.9, 39°.69S×174°.12E, h219km, MLv3.6/16, North Island, New Zealand*
*WEL **09** 02:40:00.1±0.8, 40°.5±5°.×17°.4E±°, h206km±5km, M2.9/17, ML2.8/9, MLv2.9/17, Error ellipse: s-maj=7.6km s-min=5.9km az=102.4, confirmed*
ISC 09 02:39:55.5±1.9, 39°.63S±0°.05×174°.08E±0°.06, h241km±10km, n56, σ1§50/73, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.27**	**324**	P	**Pn**	**02 40 27.9**	**+1.2**
NMEZ				S	**S**	**02 40 49.3**	**-1.9**
PREZ	**Palmer Road**	**0.29**	**12**	P	**Pn**	**02 40 29.0**	**+2.1**
PREZ				S	**S**	**02 40 50.5**	**-0.9**
LREZ	**Lake Rotokare**	**0.30**	**56**	P	**Pn**	**02 40 28.6**	**+1.8**
LREZ				S	**S**	**02 40 50.8**	**-0.5**
KHEZ	**Kahui Hut**	**0.34**	**351**	P	**Pn**	**02 40 28.3**	**+1.3**
KHEZ	**Kahui Hut**	**0.34**	**351**	S	**S**	**02 40 50.9**	**-0.9**
KHEZ	**Kahui Hut**	**0.34**	**351**	P	**Pn**	**02 40 28.4**	**+1.3**
KHEZ				S	**S**	**02 40 50.9**	**-0.9**
NEZ	**North Egmont**	**0.36**	**2**	P	**Pn**	**02 40 28.5**	**+1.4**
NEZ				S	**S**	**02 40 51.3**	**-0.5**
NBEZ	**Newall Road No**	**0.40**	**335**	P	**Pn**	**02 40 27.8**	**+0.7**
NBEZ				S	**S**	**02 40 51.9**	**+0.1**
PKE	**Pukeiti**	**0.44**	**351**	P	**Pn**	**02 40 28.5**	**+1.3**
PKE				S	**S**	**02 40 51.3**	**-0.8**
DREZ	**Durham Road**	**0.45**	**12**	P	**Pn**	**02 40 28.2**	**+1.0**
DREZ				S	**S**	**02 40 50.4**	**-1.7**
WAZ	**Wanganui**	**0.71**	**101**	P	**Pn**	**02 40 30.3**	**+2.2**
WAZ				S	**S**	**02 40 53.2**	**-0.4**
VRZ	**Vera Road**	**0.73**	**47**	P	**Pn**	**02 40 28.9**	**+0.7**
VRZ				S	**S**	**02 40 51.9**	**-1.8**
PKVZ	**Pokaka**	**1.04**	**71**	P	**Pn**	**02 40 31.1**	**+1.3**
PKVZ				S	**S**	**02 40 54.8**	**-1.9**
MTVZ	**Mangateitei**	**1.10**	**78**	P	**Pn**	**02 40 31.7**	**+1.5**
MTVZ				S	**S**	**02 40 55.5**	**-1.9**
OHWZ	**Ohakea**	**1.11**	**122**	P	**Pn**	**02 40 32.5**	**+2.4**
DUWZ	**D'Urville Isla**	**1.18**	**186**	P	**Pn**	**02 40 32.2**	**+1.7**
DUWZ				S	**S**	**02 40 56.1**	**-2.1**
TRVZ	**Turoa**	**1.18**	**74**	P	**Pn**	**02 40 32.3**	**+1.4**
FWVZ	**Far West T-bar**	**1.20**	**72**	P	**Pn**	**02 40 32.5**	**+1.4**
WNVZ	**Wahianoa**	**1.21**	**76**	P	**Pn**	**02 40 32.5**	**+1.5**
WNVZ				S	**S**	**02 40 57.0**	**-1.8**
HIZ	**Hauiti**	**1.27**	**29**	P	**Pn**	**02 40 32.1**	**+0.8**
HIZ	**Hauiti**	**1.27**	**29**	P	**Pn**	**02 40 32.0**	**+0.8**
TUVZ	**Tukino**	**1.27**	**74**	P	**Pn**	**02 40 33.1**	**+1.7**
KRVZ	**Karewarewa**	**1.32**	**67**	P	**Pn**	**02 40 33.1**	**+1.3**
KIW	**Kapiti Island**	**1.39**	**153**	P	**Pn**	**02 40 33.5**	**+1.6**
KIW				S	**S**	**02 40 58.4**	**-2.3**
WATZ	**Wairara**	**1.58**	**55**	P	**Pn**	**02 40 35.0**	**+1.4**
NNZ	**Nelson**	**1.68**	**198**	P	**Pn**	**02 40 35.9**	**+1.7**
QRZ	**Quartz Range**	**1.69**	**224**	P	**Pn**	**02 40 35.4**	**+1.1**
QRZ	**Quartz Range**	**1.69**	**224**	P	**Pn**	**02 40 35.4**	**+1.1**
TLZ	**Tolley Road**	**1.73**	**42**	P	**Pn**	**02 40 35.6**	**+0.8**
WEL	**Wellington**	**1.74**	**163**	S	**S**	**02 41 04.0**	**-1.7**
SNZO	**South Karori**	**1.75**	**164**	P	**Pn**	**02 40 36.2**	**+1.4**
SNZO	**South Karori**	**1.75**	**164**	S	**S**	**02 41 04.3**	**-1.5**
KUTZ	**Kaahu Road**	**1.77**	**51**	P	**Pn**	**02 40 36.5**	**+1.4**
BHW	**Baring Head**	**1.88**	**162**	P	**Pn**	**02 40 37.3**	**+1.3**
BKZ	**Black Stump Fm**	**1.93**	**77**	P	**Pn**	**02 40 37.6**	**+1.1**
BKZ	**Black Stump Fm**	**1.93**	**77**	S	**S**	**02 41 06.9**	**-1.9**
BKZ	**Black Stump Fm**	**1.93**	**77**	P	**Pn**	**02 40 37.9**	**+1.3**
BFZ	**Birch Farm**	**1.97**	**123**	P	**Pn**	**02 40 38.4**	**+1.6**
BFZ	**Birch Farm**	**1.97**	**123**	P	**Pn**	**02 40 38.6**	**+1.8**
PWZ	**Pawanui**	**2.18**	**101**	P	**Pn**	**02 40 41.0**	**+2.2**
PXZ	**Pawanui**	**2.18**	**102**	P	**Pn**	**02 40 41.0**	**+2.2**
TOZ	**Tahuroa Road**	**2.20**	**31**	P	**Pn**	**02 40 40.2**	**+1.1**
THZ	**Tophouse**	**2.31**	**202**	P	**Pn**	**02 40 41.7**	**+1.5**
RTZ	**Ruatahuna**	**2.47**	**67**	P	**Pn**	**02 40 42.9**	**+1.0**
MKAZ	**Moumakai**	**2.66**	**19**	P	**Pn**	**02 40 45.7**	**+1.9**
URZ	**Urewera**	**2.73**	**61**	P	**Pn**	**02 40 44.9**	**+0.4**
URZ	**Urewera**	**2.73**	**61**	P	**Pn**	**02 40 45.0**	**+0.6**
DSZ	**Denniston Nort**	**2.73**	**219**	P	**Pn**	**02 40 45.9**	**+1.5**
KHZ	**Kahutara**	**2.81**	**188**	P	**Pn**	**02 40 46.7**	**+1.4**
KHZ	**Kahutara**	**2.81**	**188**	S	**S**	**02 41 22.8**	**-1.8**
KHZ	**Kahutara**	**2.81**	**188**	P	**Pn**	**02 40 46.6**	**+1.4**
KHZ				S	**S**	**02 41 23.1**	**-1.5**
KNZ	**Kokohu**	**2.85**	**79**	P	**Pn**	**02 40 47.3**	**+1.6**
KNZ				S	**S**	**02 41 23.4**	**-1.9**
MXZ	**Matakaoa Point**	**3.90**	**59**	P	**Pn**	**02 40 58.7**	**+1.0**
RPZ	**Rata Peaks**	**4.67**	**208**	P	**Pn**	**02 41 07.3**	**+0.5**
JCZ	**Jackson Bay**	**5.95**	**220**	P	**Pn**	**02 41 23.3**	**+0.6**
ODZ	**Otahua Downs**	**5.98**	**204**	P	**Pn**	**02 41 24.5**	**+1.5**

*IDC **09** 03:00:39.6±0.7, 60°.25S×19°.01W, h0km, mb4.2/9, mbtmp4.3/10, ML5.2/1, MS4.1/29, Error ellipse: s-maj=27.0km s-min=19.5km az=49.0*
*NEIC **09** 03:00:41.3±1.7, 60°.16S±0°.08×18°.7W±0°.2, h10km±1km, mb4.7/9, Error ellipse: s-maj=18.7km s-min=11.1km az=127.0*
*GCMT **09** 03:00:43.3±0.2, 60°.32S±0°.02×18°.63W±0°.03, h18km±1km, MW5.0/99, Moment Tensor Solution. s26,c34; s99,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.45±.17; Mθθ-1.26±.12; Mφφ2.71±.12; Mrθ-0.62±.32; Mrφ2.04±.09; Mθφ1.36±.28; Best double couple: M0 3.38400×10^16 NP1:φ63.00000°, δ55.00000°, λ-21.00000°. NP2: φ166.00000°, δ73.00000°, λ-143.00000°. Principal axes: T 3.7750, Plg11.0000°, Azm291.0000°; N -0.7830, Plg50.0000°, Azm187.0000°; P -2.9930, Plg38.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 03:00:41.1±0.6, 60°.23S±0°.09×18°.87W±0°.10, h10km, n64, σ1§10/36, mb4.2/10, MS4.1/29, 5C-2D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**11.23**	**294**	Pn	**Pn**	**03 03 20.4**	**-1.1**
VNA1	**Neumayer--Stat**	**11.32**	**162**	⇑P	**Pn**	**03 03 20.8**	**-1.9**
	comp=Z,14nm,0.6s						
VNA3	**Neumayer Olymp**	**11.66**	**165**	⇑P	**Pn**	**03 03 25.6**	**-1.8**
	comp=Z,3.3nm,0.3s						
VNA3				⇓S	Sn	03 05 21.9	-15
VNA2	**Neumayer--Watz**	**11.70**	**161**	⇑P	**Pn**	**03 03 26.6**	**-1.4**
	comp=Z,16nm,0.5s,baz=328,slow=16						
VNA2				⇓S	Sn	03 05 24.3	-14
	baz=328,slow=20						
SNAA	**Sanae**	**13.14**	**157**		**Pn**	**03 03 46.2**	**-1.3**
SNAA	**Sanae**	**13.14**	**157**	⇑P	**Pn**	**03 03 46.1**	**-1.4**
	comp=Z,656nm,0.5s						
SNAA	**Sanae**	**13.14**	**157**	Pn	**Pn**	**03 03 46.1**	**-1.4**
	comp=Z,11nm,0.3s,baz=316,slow=13,SNR=150						
SNAA				LR	LR	03 08 11.6	
	comp=Z,479nm,18.9s,baz=312,slow=34						
	comp=Z,27nm,0.4s						
TROLL	**Troll, Antarti**	**14.52**	**153**	⇑P	**Pn**	**03 04 05.5**	**-0.9**
	comp=Z,1μm,0.5s						
ESPZ	**Base Esperanza**	**18.10**	**243**		**Pn**	**03 04 53.1**	**+0.9**
BELA	**Belgrano 2**	**18.46**	**190**	P	**Pn**	**03 04 58.0**	**+1.4**
BELA				IAmb	IAmb	03 05 00.2	
	comp=Z,173nm,1.7s						
PMSA	**Palmer Station**	**20.98**	**238**	LR	LR	03 12 13.9	
	comp=Z,254nm,19.2s,baz=90,slow=33						
SMAI	**San Martin Ant**	**21.88**	**229**	P	**P**	**03 05 35.0**	**+1.4**
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**03 06 49.5**	**-0.1**
QSPA				IAmb	IAmb	03 06 58.7	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**30.00**	**180**	P	**P**	**03 06 49.3**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=172,slow=1.8,SNR=23						
QSPA				LR	LR	03 17 43.3	
	comp=Z,207nm,21.2s,baz=228,slow=34						
	comp=Z,5.5nm,0.7s						
MAW	**Mawson**	**34.11**	**137**	LR	LR	03 19 08.1	
	comp=Z,437nm,21.8s,baz=262,slow=32						
PLCA	**Paso Flores**	**37.02**	**278**	P	**P**	**03 07 51.4**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=158,slow=16,SNR=3.7						
PLCA				LR	LR	03 21 10.2	
	comp=Z,225nm,21.9s,baz=142,slow=33						
	comp=Z,2.2nm,1.0s						
SUR	**Sutherland**	**38.11**	**61**	LR	LR	03 20 02.7	
	comp=Z,350nm,18.7s,baz=205,slow=30						
H04S2	**CROZET ISLANDS**	**42.00**	**104**	T	T	03 53 43.2	
	baz=225,slow=75,SNR=19						
H04S3	**CROZET ISLANDS**	**42.01**	**104**	T	T	03 53 37.7	
	baz=225,slow=75,SNR=20						
H04S1	**CROZET ISLANDS**	**42.02**	**104**	T	T	03 53 44.5	
	baz=225,slow=75,SNR=15						
VNDA	**Vanda**	**42.50**	**180**	LR	LR	03 24 43.8	
	comp=Z,250nm,20.7s,baz=195,slow=34						
CPUP	**Villa Florida**	**42.87**	**305**	P	**P**	**03 08 38.6**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=140,slow=8.4,SNR=2.9						
CPUP				LR	LR	03 25 21.3	
	comp=Z,221nm,20.7s,baz=156,slow=35						
	comp=Z,2.0nm,0.9s						
CFA	**Coronel Fontan**	**43.18**	**289**	LR	LR	03 24 56.6	
	comp=Z,217nm,20.6s,baz=168,slow=34						
BOSA	**Boshof**	**43.30**	**63**	P	**P**	**03 08 45.0**	**+2.0**
	comp=Z,2.4nm,0.9s,baz=157,slow=6.6,SNR=5.5						
BOSA				LR	LR	03 22 35.5	
	comp=Z,215nm,18.6s,baz=207,slow=30						
	comp=Z,2.4nm,0.9s						
CO01	**Juntas del Tor**	**45.42**	**288**	P	**P**	**03 09 00.6**	**+0.6**
CO01				IAmb	IAmb	03 09 35.5	
	comp=Z,25nm,1.6s						
LBTB	**Lobatse**	**46.56**	**61**	LR	LR	03 23 57.2	
	comp=Z,159nm,19.1s,baz=208,slow=30						
AC02	**Maricunga**	**47.61**	**292**	P	**P**	**03 09 18.3**	**+0.7**
TSUM	**Tsumeb**	**48.50**	**49**	LR	LR	03 26 58.0	
	comp=Z,194nm,18.9s,baz=190,slow=32						
BDFB	**Brasilia**	**49.30**	**322**	P	**P**	**03 09 29.7**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=153,slow=4.5,SNR=3.5						
BDFB				LR	LR	03 28 16.0	
	comp=Z,348nm,18.9s,baz=162,slow=34						
	comp=Z,2.2nm,0.9s						
H10S2	**ASCENSION HYDR**	**51.27**	**5**	T	T	04 05 09.7	
	baz=182,slow=74,SNR=6.1						
H10S3	**ASCENSION HYDR**	**51.27**	**5**	T	T	04 05 10.0	
	baz=38,slow=74,SNR=5.9						
SIV	**San Ignacio**	**53.65**	**307**	LR	LR	03 30 58.0	
	comp=Z,237nm,22.0s,baz=120,slow=34						
PB11	**IPOC Station P**	**53.96**	**296**	P	**P**	**03 10 05.3**	**+0.2**
RCBR	**Riachuelo**	**55.80**	**339**	LR	LR	03 28 29.4	
	comp=Z,137nm,20.1s,baz=184,slow=30						
LSZ	**Lusaka**	**56.29**	**58**	LR	LR	03 30 29.9	
	comp=Z,193nm,21.1s,baz=226,slow=32						
LPAZ	**La Paz**	**56.34**	**299**	P	**P**	**03 10 22.8**	**-0.1**
LPAZ				IAmb	IAmb	03 10 32.3	
	comp=Z,7.2nm,1.1s						
LPAZ	**La Paz**	**56.34**	**299**	P	**P**	**03 10 22.7**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=163,slow=4.3,SNR=8.4						
LPAZ				LR	LR	03 35 15.1	
	comp=Z,47nm,21.1s,baz=126,slow=37						
	comp=Z,2.5nm,0.8s						
NNA	**Nana**	**64.04**	**293**	LR	LR	03 36 49.7	
	comp=Z,162nm,21.9s,baz=151,slow=34						
DBIC	**Dimbokro**	**67.61**	**15**	LR	LR	03 33 20.6	
	comp=Z,60nm,18.4s,baz=144,slow=29						
MDP	**Montagnes des**	**70.33**	**324**	LR	LR	03 38 45.0	
	comp=Z,191nm,21.0s,baz=148,slow=32						
KMBO	**Kilima Mbogo**	**72.84**	**60**	LR	LR	03 42 34.3	
	comp=Z,92nm,18.2s,baz=78,slow=34						
TORD	**Torodi Ar. Bea**	**74.97**	**21**	P	**P**	**03 12 21.8**	**-0.5**
TORD				IAmb	IAmb	03 12 29.7	
	comp=Z,3.

WTLY	Watson Lake, Y	146.65 301		PKPbc	03 20 21.5	0.0
H31M	Peel River	151.41 309		PKPbc	03 20 32.1	-1.3
M29M	Somme Creek	151.86 301		PKPbc	03 20 34.0	-0.7
INK	Inuvik	151.87 314	PKPbc	PKPbc	03 20 32.6	-1.7
	comp=Z,3.8nm,1.0s,baz=76,slow=1.2,SNR=6.1					
MJAR	Matsushiro Arr	152.11 138	PKPbc	PKiKP	03 20 37.1	+0.8
	comp=Z,1.8nm,0.8s,baz=215,slow=2.3,SNR=4.6					
BCAR	Beaver Creek A	153.51 301		PKPbc	03 20 37.5	-0.7

*IDC **09** 03:01:19.0±3.1, 32°.26S×177°.82W, h0km, mb4.2/2, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=72.3km s-min=36.7km az=117.0*
*NEIC **09** 03:01:23.1±0.8, 32°.14S±0°.08×178°.2W±0°.2, h10km±2km, mb4.7/5, Error ellipse: s-maj=34.0km s-min=7.8km az=107.0*

ISC 09 03:01:24.6±1.7, 32°.2S±0°.1×178°.2W±0°.3, h24km, n12, σ1§07/13, mb4.6/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.19 211		Pn	Pn	03 03 06.4	-1.7
	0.7nm,0.3s,baz=329,slow=4.1,SNR=5.5						
URZ				Sn	Sn	03 04 28.5	-0.6
	4.2nm,0.3s,baz=351,slow=3.5,SNR=16 2.9nm,0.8s						
RTZ	Ruatahuna	7.54 210			Pn	03 03 13.4	+0.3
BKZ	Black Stump Fm	8.21 210		Pn	Pn	03 03 23.1	+0.8
BBOO	Buckleboo	38.36 256		P	P	03 08 43.6	-0.2
ASAR	Alice Springs	42.88 269		P	P	03 09 21.2	0.0
ASAR	Alice Springs	42.88 269		P	P	03 09 22.0	+0.7
	1.1nm,0.6s,baz=105,slow=7.4,SNR=16 1.1nm,0.6s						
WB2	Warramunga Arr	44.01 274		P	P	03 09 31.4	+0.9
WB2				IAmb	IAmb	03 09 33.8	
	comp=Z,6.4nm,0.5s						
WRA	Warramunga Arr	44.02 274		P	P	03 09 31.2	+0.7
	comp=Z,3.1nm,0.4s,baz=113,slow=7.9,SNR=33 comp=Z,3.1nm,0.4s						
WB0	Warramunga Arr	44.05 274		P	P	03 09 31.5	+0.7
WB0				IAmb	IAmb	03 09 34.2	
	comp=Z,5.0nm,0.5s						
FORT	Forrest	45.45 257		P	P	03 09 42.0	+0.2
QSPA	South Pole Qui	57.95 180		P	P	03 11 15.7	+0.9
QSPA				IAmb	IAmb	03 11 30.5	
	comp=Z,10nm,1.4s						
FINES	FINESS Array B	146.73 339		PKPbc	PKPbc	03 21 01.6	-2.0
	comp=Z,2.4nm,0.7s,baz=29,slow=3.2,SNR=5.4						

WEL 09 03:02:50.6±1.3, 32°S±27°×17°9E±6°1, h445km±45km, M4.2/5, mB4.3/4, MLv4.4/5, Mw(mB)3.4/4, Error ellipse: s-maj=85.3km s-min=18.1km az=111.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.50 188		P	P	03 04 17.9	-1.5
MXZ				S	S	03 05 31.8	-0.3
HAZ	Te Kaha	5.76 192		P	P	03 04 22.8	+0.7
HAZ				S	S	03 05 38.4	+1.4
PKGZ	Pakihiroa	5.83 189		P	P	03 04 25.5	+2.8
RUGZ	Raukumara Rang	5.99 192		P	P	03 04 23.4	-1.2
RUGZ				S	S	03 05 38.9	-2.5
PUZ	Puketiti	6.00 188		S	S	03 05 39.8	-1.8
TWGZ	Tauwhareparae	6.14 190		P	P	03 04 28.0	+2.0
TWGZ				S	S	03 05 46.8	+2.5
MWZ	Matawai	6.37 192		P	P	03 04 28.3	-0.1
MWZ				S	S	03 05 49.1	+0.6
URZ	Urewera	6.38 195		P	P	03 04 27.7	-0.8
URZ				S	S	03 05 51.7	+3.0
SNGZ	Shannon Statio	6.84 193		P	P	03 04 34.6	+1.2
SNGZ				S	S	03 05 59.1	+1.6
BKZ	Black Stump Fm	7.39 197		P	P	03 04 37.1	-2.2
BKZ				S	S	03 06 08.0	-0.4

*BJI **09** 03:06:57.9, 30°.51N×142°.28E, h14km, mB4.8/23, mb4.7/64, Ms4.4/44, Ms7 4.2/46*
*IDC **09** 03:06:59.2±0.5, 30°.46N×142°.17E, h0km, mb4.5/27, mbtmp4.5/32, ML3.6/5, MS3.9/25, Error ellipse: s-maj=14.5km s-min=13.4km az=69.0*
*MOS **09** 03:06:59.7±1.1, 30°.53N×142°.13E, h14km, mb5.0/37, Error ellipse: s-maj=10.7km s-min=4.8km az=113.1*
*JMA **09** 03:07:00.8±0.2, 30°.5N±0°.7×14°2E±°, h52km, MV4.4/25, NEAR TORISHIMA IS*
*NIED **09** 03:07:00.8, 30°.52N×142°.36E, h52km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.93; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.86; $M_{r\theta}$-0.59; $M_{\theta\phi}$0.22; $M_{\phi r}$0.88; Fault plane solution: $M_0$1.40000×10^{16} NP1: ϕ_s177.00000°, δ22.00000°, λ114.00000°. NP2: ϕ_s331.00000°, δ70.00000°, λ80.00000°.*
*NEIC **09** 03:07:01.8±1.8, 30°.53N±0°.05×142°.09E±0°.09, h10km±1km, mb4.8/162 Error ellipse: s-maj=12.7km s-min=9.1km az=92.0*

ISC 09 03:07:02.5±0.3, 30°.47N±0°.04×142°.20E±0°.05, h23km, n368, σ1§55/313, mb4.8/161, MS4.2/34, 29C-15D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.88 314		eP	Pn	03 07 46.6	-0.4
JHJ2	Mitsune	3.33 323		eS	Sn	03 08 30.1	-1.9
JHJ	Hachijo jima 2	3.35 323		Pn	Pn	03 07 49.8	-3.7
	7.7nm,0.3s,baz=100,slow=15,SNR=2.9						
JHJ				Sn	Sn	03 08 30.6	-1.9
	82nm,0.3s,baz=97,slow=23,SNR=7.5						
JHJ				LR	LR	03 09 12.7	
	comp=Z,1μm,20.4s,baz=86,slow=40						
CBIJ	Chichi jima	3.36 180		P	Pn	03 07 52.9	-0.6
CBIJ				eS	Sn	03 08 31.5	-1.2
JCJ	Chichijima	3.36 180		Pn	Pn	03 07 52.9	-0.7
JCJ	Chichijima	3.36 180		Pn	Pn	03 07 46.7	-6.9
	36nm,0.3s,baz=302,slow=15,SNR=11						
JCJ				Sn	Sn	03 08 25.2	-7.6
	87nm,0.3s,baz=214,slow=23,SNR=8.7						
JCJ	Chichijima	3.36 180		P	Pn	03 07 52.8	-0.7
JHH2	Haha-jima-NKT2	3.82 180		eS	Sn	03 08 43.9	-0.2
JMKN	Mikurajimanish	4.07 328		eS	Sn	03 08 48.0	-2.2
BSO1	Boso 1	4.30 346		eP	Pn	03 08 05.0	-0.9
BSO3	Boso 3	4.55 342		eP	Pn	03 08 09.8	+0.1
JOD2	Odawara 2	5.45 332		eP	Pn	03 08 22.0	-0.3
JOD2				eS	Sn	03 09 22.6	-1.8
JNY	Yasuok	6.09 324		eP	Pn	03 08 31.2	+0.1
JHO	Hitachi	6.28 348		eP	Pn	03 08 31.0	-2.6
INU	Inuyama	6.53 319			Pn	03 08 37.2	+0.1
JGF	Kuroka	6.54 323			Pn	03 08 37.5	+0.2
JGF	Kuroka	6.54 323		P	Pn	03 08 37.9	+0.6
MJAR	Matsushiro Arr	6.91 332		Pn	Pn	03 08 42.1	-0.3
	0.9nm,0.3s,baz=151,slow=11,SNR=127						
MJAR				LR	LR	03 11 13.5	
	comp=Z,727nm,18.9s,baz=141,slow=37 35nm,0.8s						
MAJO	Matsushiro	6.92 332			Pn	03 08 42.8	+0.3
MAJO	Matsushiro	6.92 332		P	Pn	03 08 42.8	+0.3
MAJO	Matsushiro	6.92 332		i P	Pn	03 08 41.9	-0.5
MJB9	Matsu-Tunnel	6.92 332			Pn	03 08 43.6	+1.2
JMM	Marumori	7.47 351		Pn	Pn	03 08 47.8	-2.2
JMM	Marumori	7.47 351		P	Pn	03 08 47.9	-2.2
JMN	Monobe	7.77 297		P	Pn	03 09 00.0	+5.8
JSD	Sado	8.22 338		P	Pn	03 08 58.8	-1.5
JNU	Nakatsue	9.99 288			Pn	03 09 28.7	+4.0
JNU	Nakatsue	9.99 288		Pn	Pn	03 09 23.9	-0.8
	0.3nm,0.3s,baz=64,slow=7.6,SNR=5.1						
JNU				LR	LR	03 13 15.6	
	comp=Z,552nm,18.1s,baz=108,slow=38 8.1nm,0.9s						
JTM	Tenmabayashi	10.34 355		Pn	Pn	03 09 26.8	-2.5
JTM	Tenmabayashi	10.34 355		P	Pn	03 09 26.7	-2.6
ERM	Erimo	11.55 4		Pn	Pn	03 09 41.7	-4.2
ERM	Erimo	11.55 4		P	Pn	03 09 41.7	-4.2
ERM	Erimo	11.55 4		i P	Pn	03 09 44.3	-1.6
JEM	Erimo	11.55 4		P	Pn	03 09 42.1	-3.8
JOW	Kunigami	12.76 257		LR	LR	03 14 34.7	
	comp=Z,504nm,20.0s,baz=150,slow=36						
ASAJ	Asahikawa	13.63 1		Pn	Pn	03 10 12.2	-2.0
	0.7nm,0.3s,baz=209,slow=12,SNR=8.1 7.5nm,0.6s						
KSRS	Korea Array	13.74 304		Pn	Pn	03 10 17.4	+1.5
	0.4nm,0.3s,baz=112,slow=12,SNR=12						
KSRS				LR	LR	03 15 53.3	
	comp=Z,480nm,18.0s,baz=120,slow=39 8.3nm,0.9s						
KS19	Wonju Array Si	13.80 304		Pn	Pn	03 10 16.2	-0.5
INCN	Inchon	14.68 303		P	Pn	03 10 31.2	+2.5
INCN	Inchon	14.68 303		P	Pn	03 10 31.2	+2.5
USRK	Ussuriysk Ar.	15.91 332		Pn	Pn	03 10 43.8	-1.1
	0.2nm,0.3s,baz=152,slow=12,SNR=4.7 2.8nm,0.7s						
YSS	Yuzhno-Sakhali	16.47 1		eP	Pn	03 10 44.8	-7.1
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
GUMO	Guam	16.98 171		LR	LR	03 17 34.6	
	comp=E,410nm,18.1s,baz=25,slow=37						
MDJ	Mudanjiang	17.27 328			P	03 11 02.8	-0.6
MDJ	Mudanjiang	17.27 328		P	P	03 11 03.2	-0.2
MDJ				S	Sn	03 14 13.8	+0.2
MDJ				pmax	pmax		
	comp=E,40nm,1.0s						
MDJ				pmax	pmax		
	comp=E,160nm,5.8s						
MDJ				LR	LR		
	comp=E,700nm,15.8s						
MDJ				LR	LR		
	comp=E,700nm,15.8s						
MDJ				LR	LR		
	comp=E,900nm,20.3s						
CN2	Changchun	18.81 320		eP	P	03 11 16.6	-3.7
CN2				eS	Sn	03 14 42.8	-7.9
CN2				pmax	pmax		
	comp=E,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=E,100nm,5.0s						
CN2				LR	LR		
	comp=E,500nm,14.0s						
CN2				LR	LR		
	comp=E,700nm,14.0s						
CN2				LR	LR		
	comp=E,500nm,15.6s						
DL2	Dalian	18.87 302		P	Pn	03 11 22.1	+0.4
DL2				S	S	03 14 53.4	-0.6
DL2				pmax	pmax		
	comp=E,33nm,0.9s						
DL2				pmax	pmax		
	comp=E,400nm,8.6s						
DL2				LR	LR		
	comp=E,680nm,11.8s						
DL2				LR	LR		
	comp=E,540nm,14.5s						
DL2				LR	LR		
	comp=E,910nm,16.2s						
BNX	BinXian	19.14 327	⇓	P	P	03 11 22.8	-1.1
BNX				pP	Pn	03 11 25.6	+0.7
BNX				sP	pP	03 11 27.5	-0.7
BNX				S	S	03 14 59.0	-0.3
BNX				pmax	pmax		
	comp=E,20nm,1.1s						
BNX				pmax	pmax		
	comp=E,200nm,5.2s						
BNX				LR	LR		
	comp=E,440nm,10.3s						
BNX				LR	LR		
	comp=E,390nm,13.0s						
BNX				LR	LR		
	comp=E,460nm,15.2s						
YHNB	Yeheng	19.34 258		P	P	03 11 25.5	-0.9
YHNB				IAmb	IAmb	03 11 31.8	
	comp=Z,40nm,0.8s						
YHNB	Yeheng	19.34 258		P	Pn	03 11 27.2	-0.3
NACB	Ninganchiao	19.34 256		P	P	03 11 25.8	-0.5
NACB	Ninganchiao	19.34 256		P	P	03 11 26.2	-0.1
YULB	Yu-li	19.91 254		P	P	03 11 32.5	-0.1
YULB				IAmb	IAmb	03 11 45.1	
	comp=Z,40nm,1.0s						
NJ2	Nanjing	20.02 281		eP	P	03 11 34.2	+0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=Z,480nm,16.1s						
NJ2				LR	LR		
	comp=Z,420nm,19.9s						
NJ2				LR	LR		
	comp=Z,1μm,18.9s						
SSLB	Suanglung	20.03 256		P	P	03 11 34.6	+0.6
SSLB	Suanglung	20.03 256		P	Pn	03 11 35.5	-0.3
KLR	Kul'dur	20.35 340		ceP	P	03 11 35.6	-1.5
KLR				pmax	pmax		
	comp=Z,122nm,1.3s						
TYV	Tymovskoe	20.38 1		eP	Pn	03 11 39.2	-0.3
TYV				pmax	pmax		
	comp=Z,200nm,4.3s						
TYV				pmax	pmax		
	comp=Z,14nm,1.1s						
GRNR	Gornyy	20.74 350	⇑	iP	P	03 11 40.1	-1.2
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIA	Tai'an	21.69 292		P	P	03 11 50.9	-0.9
TIA				sP	pP	03 11 56.8	+0.4
TIA				SS	SnSn	03 16 19.4	+3.8
TIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIA				pmax	pmax		
	comp=Z,130nm,3.8s						
TIA				LR	LR		
	comp=Z,510nm,13.7s						
TIA				LR	LR		
	comp=Z,650nm,16.3s						
TIA				LR	LR		
	comp=Z,980nm,15.9s						
HEH	HeiHe	22.67 335		eP	P	03 12 00.3	-1.8
HEH				pmax	pmax		
	comp=Z,30nm,1.0s						
HEH				LR	LR		
	comp=Z,270nm,13.2s						
HEH				LR	LR		
	comp=Z,580nm,14.1s						
HEH				LR	LR		
	comp=Z,610nm,14.7s						
BJT	Baijiatuau	23.23 301		P	P	03 12 05.9	-2.1
BJT				IAmb	IAmb	03 12 07.0	
	comp=Z,40nm,1.5s						
BJT	Baijiatuau	23.23 301		P	P	03 12 05.9	-2.1
BJT				pmax	pmax		
	comp=Z,40nm,1.5s						
BJI	Beijing	23.23 301		P	P	03 12 06.0	-2.0
BJI				S	S	03 16 19.9	+1.2
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,66nm,5.7s						
BJI				LR	LR		
	comp=Z,130nm,15.4s						
BJI				LR	LR		
	comp=Z,260nm,17.7s						
BJI				LR	LR		
	comp=Z,320nm,16.9s						
HNS	HongShan	23.79 294	⇓	P	P	03 12 11.4	-2.0
HNS				S	S	03 16 25.0	-2.7
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
HNS				LR	LR		
	comp=Z,340nm,11.8s						
HNS				LR	LR		
	comp=Z,390nm,13.7s						
HNS				LR	LR		
	comp=Z,520nm,15.1s						
WHN	Wuhan	23.98 277		P	P	03 12 15.3	0.0
WHN				S	S	03 16 28.2	-2.6
WHN				LR	LR		
	comp=Z,2μm,16.9s						
XLT	XiLinHaoTe	24.63 310		eP	P	03 12 20.1	-1.2
XLT				sP	sP	03 12 29.7	+1.5
XLT				pmax	pmax		
	comp=Z,24nm,0.8s						
XLT				LR	LR		
	comp=Z,43nm,11.2s						
XLT				LR	LR		
	comp=Z,350nm,13.1s						
XLT				LR	LR		
	comp=Z,290nm,13.3s						
H11S3	WAKE ISLAND Hy	25.21 113		T	T	03 38 35.9	
	baz=302,slow=74						
H11S1	WAKE ISLAND Hy	25.21 113		T	T	03 38 38.3	
	baz=302,slow=74						
H11S2	WAKE ISLAND Hy	25.23 113		T	T	03 38 40.7	
	baz=302,slow=74						
PETK	Petropavlovsk-	25.29 22		LR	LR	03 23 11.5	
	comp=Z,220nm,20.3s,baz=206,slow=38						
HIA	Hailar	25.33 324		P	P	03 12 27.8	+0.3
HIA				IAmb	IAmb	03 12 29.7	
	comp=Z,20nm,1.1s						
HIA	Hailar	25.33 324		P	P	03 12 27.8	+0.3
HIA				pmax	pmax		
	comp=Z,20nm,1.1s						
LYN	LuoYang	25.36 287		eP	P	03 12 25.2	-2.6
LYN				pmax	pmax		
	comp=Z,16nm,1.3s						
TGY	Tagaytay City	25.47 235		LR	LR	03 23 15.9	
	comp=Z,196nm,18.2s,baz=240,slow=38						
ZEA	Zeya	25.66 339		eP	P	03 12 31.4	+1.1
ZEA				pmax	pmax		
	comp=E,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.0s						
HHC	Hu-ho-hao-te	26.84 301		eP	P	03 12 42.2	+0.9
HHC				PP	PnPn	03 13 27.8	+4.5
HHC				S	S	03 17 13.9	-2.6
HHC				sS	sS	03 17 24.6	-0.3
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,5.4s						
HHC				LR	LR		
	comp=Z,290nm,14.3s						
HHC				LR	LR		
	comp=Z,440nm,16.0s						
HHC				LR	LR		
	comp=Z,640nm,14.5s						
BTO	Baotou	27.94 300		eP	P	03 12 51.3	+0.1
BTO				pP	pP	03 12 55.8	-0.1
BTO				sP	sP	03 12 58.3	+0.3
BTO				PP	PnPn	03 13 41.2	+3.0
BTO				S	S	03 17 36.2	+2.4
BTO				sS	sS	03 17 41.1	-1.0
BTO				SS	SnSn	03 18 56.8	+8.4
BTO				pmax	pmax		
	comp=Z,37nm,0.8s						
BTO				pmax	pmax		
	comp=Z,430nm,5.8s						
BTO				LR	LR		
	comp=Z,1μm,13.7s						
BTO				LR	LR		
	comp=Z,1μm,13.8s						
BTO				LR	LR		
	comp=Z,2μm,16.3s						
XAN	Xi'an	28.30 286		P	P	03 12 52.3	-2.1
XAN				pmax	pmax		
	comp=Z,27nm,1.0s						
XAN				LR	LR		
	comp=Z,640nm,14.4s						
XAN				LR	LR		
	comp=Z,250nm,14.4s						
XAN				LR	LR		
	comp=Z,560nm,15.9s						
MA2	Magadan	29.68 9		P	P	03 13 05.8	-0.5
MA2	Magadan	29.68 9		ceP	P	03 13 05.2	-1.1
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MA2	Magadan	29.68 9		P	P	03 13 06.2	-0.1
	comp=Z,7.7nm,0.9s						
ULN	Ulaanbaatar	31.97 313		P	P	03 13 26.3	-0.5
ULN	Ulaanbaatar	31.97 313		c iP	P	03 13 26.7	-0.1
ULN				pmax	pmax		
	comp=Z,15nm,0.8s						
SHEM	Shemya Is, Ala	32.19 37		LR	LR	03 24 45.1	
	comp=Z,140nm,20.7s,baz=288,slow=33						
SONM	Songino Array	32.37 313		P	P	03 13 30.9	+0.6
SONM	Songino Array	32.37 313		P	P	03 13 31.1	+0.8
	comp=Z,5.6nm,0.8s,baz=105,slow=7.8,SNR=19						
SONM				LR	LR	03 27 13.7	
	comp=Z,400nm,18.4s,baz=118,slow=38 comp=Z,5.6nm,0.8s						
SONM	Songino Array	32.37 313		P	P	03 13 30.9	+0.6
SONM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LZH	Lanzhou	32.41 290		eP	P	03 13 29.6	-1.2
LZH				pP	pP	03 13 34.2	-1.4
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
LZH				LR	LR		
	comp=Z,230nm,14.9s						
LZH				LR	LR		
	comp=Z,300nm,14.9s						
LZH				LR	LR		
	comp=Z,420nm,16.3s						
YAK	Yakutsk	32.62 349		eP	P	03 13 30.6	-1.5
YAK				e		03 14 38.7	
YAK				e		03 16 18.2	
YAK				eS	S	03 18 47.2	+0.9
YAK				e		03 23 58.7	
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,63nm,3.0s						
YAK				pmax	pmax		
	comp=N,51nm,3.0s						
YAK				pmax	pmax		
	comp=E,51nm,3.5s						
YAK				smax	smax		
	comp=N,95nm,3.5s						
YAK				smax	smax		
	comp=E,72nm,4.4s						
SEY	Seymchan	33.13 9		ceP	P	03 13 38.0	+1.4
SEY				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ZAK	Zakamensk	35.15 316		eP	P	03 13 54.8	+0.4
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
IRK	Irkutsk	35.25 319		eP	P	03 13 53.4	-1.8
IRK				pmax	pmax		
	comp=Z,38nm,1.6s						
GTA	Gaotai	35.61 296		eP	P	03 13 57.6	-0.9
GTA				sP	sP	03 14 09.0	+3.2
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
GTA				LR	LR		
	comp=Z,200nm,14.5s						
GTA				LR	LR		
	comp=Z,190nm,15.6s						
GTA				LR	LR		
	comp=Z,350nm,16.0s						
PZH	PanZhiHua	35.65 274		P	P	03 14 00.4	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,5.6s						
MOY	Mondy	36.94 317		eP	P	03 14 12.4	+2.7
MOY				pmax	pmax		
	comp=Z,20nm,3.1s						
GOMU	GeErMu	39.69 291		P	P	03 14 32.0	-1.4
GOMU				pP	pP	03 14 37.0	-1.2
GOMU				sP	sP	03 14 39.8	-0.9
GOMU				pmax	pmax		
	comp=Z,38nm,0.7s						
BILL	Bilibino	40.18 14		ceP	P	03 14 36.7	+0.1
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CHTO	Chiang Mai	40.77 264		P	P	03 14 40.6	-1.5
CHTO	Chiang Mai	40.77 264		P	P	03 14 40.6	-1.5
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	Chiang Mai Arr	40.92 263		P	P	03 14 42.6	-0.7
	comp=Z,1.8nm,0.4s,baz=52,slow=6.6,SNR=11						
CMAR				PcP	PcP	03 16 45.0	+1.4
	comp=Z,1.2nm,0.3s,baz=62,slow=3.3,SNR=10.0						
CMAR				LR	LR	03 33 40.0	
	comp=Z,176nm,18.2s,baz=75,slow=39 comp=Z,1.8nm,0.4s						
KAPI	Kappang	41.31 215		LR	LR	03 29 23.1	

comp=Z,32nm,21.0s,baz=48,slow=33
TIXI Tiksi 41.87 354 P **P** **03 14 48.5 -1.9**
TIXI Tiksi 41.87 354 P **P** **03 14 48.5 -1.9**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
MTN Manton Dam 44.36 196 P **P** **03 15 10.6 -0.5**
WMQ Urumqi 44.69 303 *e*P **P** **03 15 14.2 +0.5**
WMQ pmax pmax
comp=Z,23nm,1.9s
BRDH Bariadhala 45.58 273 LR LR 03 35 13.2
comp=Z,58nm,19.0s,baz=60,slow=37
ZAA0 Zalesovo Array 47.00 317 P **P** **03 15 32.0 +0.4**
ZAA0 IAmb IAmb 03 17 04.7
comp=Z,6.1nm,0.9s
ZALV Zalesovo Beam 47.00 317 P **P** **03 15 31.0 -0.6**
ZALV Zalesovo Beam 47.00 317 P **P** **03 15 31.5 -0.1**
comp=Z,3.4nm,0.8s,baz=95,slow=6.7,SNR=12
ZALV PcP **PcP** **03 17 03.6 -0.1**
comp=Z,4.1nm,0.6s,baz=102,slow=4.1,SNR=7.0
comp=Z,3.4nm,0.8s
MK31 Makanchi Array 48.40 307 P **P** **03 15 42.8 +0.1**
MK31 IAmb IAmb 03 15 45.2
comp=Z,8.5nm,0.8s
MK31 Makanchi Array 48.40 307 *ce*P **P** **03 15 42.3 -0.4**
MKAR Makanchi Array 48.40 307 P **P** **03 15 42.7 0.0**
comp=Z,7.1nm,0.7s,baz=89,slow=9.2,SNR=58
MKAR LR LR 03 37 13.0
comp=Z,161nm,18.7s,baz=90,slow=38
comp=Z,7.1nm,0.7s
MAKZ Makanchi 48.61 307 P **P** **03 15 44.6 +0.3**
MAKZ Makanchi 48.61 307 P **P** **03 15 44.6 +0.3**
MAKZ pmax pmax
comp=Z,29nm,1.6s
F17K Baldwin Pennin 49.21 26 IAmb IAmb 03 16 03.0
comp=Z,7.7nm,0.9s
G18K Tagagawik 50.07 27 IAmb IAmb 03 15 58.0
comp=Z,15nm,1.2s
WB0 Warramunga Arr 50.51 190 P **P** **03 15 58.8 -0.1**
WRAB Tennant Creek 50.68 190 *i* P **P** **03 16 00.5 +0.3**
WRAB pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 50.68 313 P **P** **03 15 59.5 -0.5**
KURK IAmb IAmb 03 16 05.0
comp=Z,12nm,0.9s
KURK Kurchatov 50.68 313 *ce*P **P** **03 15 58.9 -1.1**
KURK pmax pmax
comp=Z,16nm,1.0s
WB2 Warramunga Arr 50.69 190 P **P** **03 15 59.7 -0.6**
WRA Warramunga Arr 50.69 190 P **P** **03 15 60.0 -0.3**
comp=Z,13nm,0.8s,baz=8.7,slow=8.0,SNR=38
comp=Z,13nm,0.8s
WRA Warramunga Arr 50.69 190 P **P** **03 16 00.0 -0.3**
KURBB Kurchatov Arra 50.74 312 P **P** **03 16 00.1 -0.3**
comp=Z,4.0nm,0.5s,baz=88,slow=7.1,SNR=56
comp=Z,4.0nm,0.5s
FITZ Fitzroy Crossi 50.85 200 P **P** **03 16 01.6 +0.1**
H19K Roundabout Mou 50.87 28 IAmb IAmb 03 16 29.5
comp=Z,14nm,1.2s
E19K Redstone River 51.01 26 IAmb IAmb 03 16 20.8
comp=Z,12nm,1.1s
WUS Wushi 51.17 300 IAmb IAmb 03 16 05.6
comp=Z,12nm,0.8s
GSI Gunungsitoli 51.27 244 P **P** **03 16 03.7 -1.1**
comp=Z,6μmcomp=Z,31nm,1.1s
K20K Telida 51.49 31 IAmb IAmb 03 16 19.6
comp=Z,7.7nm,0.8s
KDAK Kodiak Island 51.69 38 P **P** **03 16 08.2 +0.8**
comp=Z,12nm,0.9s,baz=288,slow=13,SNR=9.4
KDAK LR LR 03 36 46.9
comp=Z,174nm,21.4s,baz=93,slow=35
comp=Z,12nm,0.9s
ARXS Arharly 51.75 304 *e*P **P** **03 16 07.5 -0.7**
TARG Taragay, Kyrgy 52.13 301 IAmb IAmb 03 16 14.0
comp=Z,11nm,0.8s
H21K Melozitna Rive 52.38 28 IAmb IAmb 03 16 15.9
comp=Z,14nm,1.2s
CAST Castle Rocks 52.38 31 P **P** **03 16 15.0 +2.4**
B21K Ikpikpuk River 52.48 23 IAmb IAmb 03 16 41.1
comp=Z,8.4nm,0.9s
KDJ Kajisay 52.53 302 IAmb IAmb 03 16 15.8
comp=Z,6.2nm,0.7s
I21K Tanana 52.65 29 IAmb IAmb 03 16 31.3
comp=Z,17nm,1.3s
E22K Anaktuvuk Pass 53.17 25 IAmb IAmb 03 16 36.5
comp=Z,15nm,1.4s
ULHL Ulahol 53.20 302 P **P** **03 16 19.4 +0.3**
SNR=7.3
BOOM Boomskoye usch 53.37 302 IAmb IAmb 03 16 22.6
comp=Z,7.0nm,0.7s
TKM2 Tokmak 2 53.55 303 P **P** **03 16 22.4 +0.7**
SNR=6.9
G23K Bananza Creek 53.64 27 IAmb IAmb 03 16 50.9
comp=Z,9.5nm,0.9s
D23K Nanushuk River 53.72 24 IAmb IAmb 03 16 43.1
comp=Z,13nm,1.4s
NEA2 Nenana 53.82 30 IAmb IAmb 03 16 37.1
comp=Z,14nm,0.9s
C23K Itkillik River 53.89 23 IAmb IAmb 03 16 38.1
comp=Z,7.5nm,0.9s
KSH Kashi 53.92 299 P **P** **03 16 27.8 +3.4**
KSH pmax pmax
comp=Z,11nm,1.2s
E23K Chandalar 53.97 26 IAmb IAmb 03 17 44.7
comp=Z,21nm,1.7s
KBK Karagaybulak 54.06 303 P **P** **03 16 26.3 +0.8**
SNR=12
USP Ospenovka 54.28 304 P **P** **03 16 27.0 +0.2**
SNR=5.7
AAK Ala-Archa 54.40 303 P **P** **03 16 28.3 +0.5**
AAK IAmb IAmb 03 16 30.0
comp=Z,5.4nm,0.7s
AAK Ala-Archa 54.40 303 *ce*P **P** **03 16 26.9 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.7s
E24K Your Creek 54.40 26 IAmb IAmb 03 16 44.8
comp=Z,24nm,1.9s
D24K Happy Valley 54.41 24 IAmb IAmb 03 16 58.4
comp=Z,7.7nm,0.8s
ASAR Alice Springs 54.41 189 P **P** **03 16 27.8 -0.1**
ASAR Alice Springs 54.41 189 P **P** **03 16 27.4 -0.5**
comp=Z,5.5nm,0.8s,baz=7.9,slow=7.3,SNR=40
comp=Z,5.5nm,0.8s
ASAR Alice Springs 54.41 189 P **P** **03 16 27.8 -0.1**
H24K Noodor Dome 54.42 28 IAmb IAmb 03 17 51.5
comp=Z,22nm,1.6s
C24K Franklin Bluff 54.53 24 IAmb IAmb 03 16 51.6
comp=Z,11nm,1.1s
F24K Squaw Lake 54.56 26 IAmb IAmb 03 17 55.8
comp=Z,14nm,1.6s
HDA Harding Lake 54.73 30 IAmb IAmb 03 16 52.2
comp=Z,19nm,1.4s
ILAR Eielson Array 54.77 30 P **P** **03 16 31.1 +1.1**
ILAR Eielson Array 54.77 30 P **P** **03 16 29.9 -0.1**
comp=Z,3.1nm,1.0s,baz=257,slow=5.5,SNR=17
comp=Z,3.1nm,1.0s
AML Almayashu 55.08 302 P **P** **03 16 33.9 +0.9**
SNR=19
D25K Kavik River 55.30 24 IAmb IAmb 03 16 50.0
comp=Z,29nm,1.9s
E25K Arctic Village 55.49 26 P **P** **03 16 37.1 +1.9**
E25K IAmb IAmb 03 17 03.8
comp=Z,7.2nm,1.0s
BVAR Borovoye Array 55.61 316 P **P** **03 16 36.4 +0.2**
comp=Z,8.4nm,0.6s,baz=94,slow=8.2,SNR=23
comp=Z,8.4nm,0.6s
BRVK Borovoye 55.67 316 P **P** **03 16 37.4 +0.7**
BRVK IAmb IAmb 03 16 41.2
comp=Z,6.2nm,0.7s
BRVK Borovoye 55.67 316 *ce*P **P** **03 16 36.4 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
DOT Dot Lake 55.98 31 IAmb IAmb 03 18 01.5
comp=Z,26nm,1.9s
SCRK Sand Creek 56.01 31 IAmb IAmb 03 16 53.9
comp=Z,12nm,1.4s
C27K Jago River 56.26 24 IAmb IAmb 03 17 08.1
comp=Z,26nm,1.9s
K27K Chicken 56.85 31 IAmb IAmb 03 16 59.3
comp=Z,7.3nm,1.0s
E27K Coleen River 56.98 26 IAmb IAmb 03 17 14.2
comp=Z,14nm,1.4s
L27K Beaver Creek, 57.01 32 IAmb IAmb 03 17 00.4
comp=Z,8.3nm,1.1s
KKAR Karatay Array 57.17 304 P **P** **03 16 48.2 +0.6**
KKAR Karatay Array 57.17 304 P **P** **03 16 48.4 +0.8**
KKAR IAmb IAmb 03 16 49.7
comp=Z,16nm,0.8s
KKAR Karatay Array 57.17 304 P **P** **03 16 48.2 +0.6**
KKAR 03 16 48.4
KKAR pmax pmax
comp=Z,16nm,0.8s
D27M Malcolm River 57.21 24 IAmb IAmb 03 17 19.4
comp=Z,10nm,1.4s
NIL Nilore 57.52 293 P **P** **03 16 51.2 +1.0**
NIL Nilore 57.52 293 P **P** **03 16 51.2 +1.0**
NIL pmax pmax
comp=Z,20nm,0.8s
BTK Batken 57.66 301 IAmb IAmb 03 16 55.2
comp=Z,7.0nm,0.8s
E28M Babbage River 57.74 25 IAmb IAmb 03 17 20.1
comp=Z,10.0nm,1.2s
E29M Blow River 58.35 25 IAmb IAmb 03 17 38.1
comp=Z,8.0nm,1.1s
G29M Pine Creek 58.39 27 IAmb IAmb 03 17 24.8
comp=Z,12nm,1.1s
I29M Ogilvie Camp, 58.39 29 IAmb IAmb 03 17 24.0
comp=Z,10nm,1.1s
J29N Klondike Camp 58.51 30 IAmb IAmb 03 17 11.2
comp=Z,7.5nm,0.8s
M29M Somme Creek 58.60 32 IAmb IAmb 03 17 11.2
comp=Z,8.1nm,1.1s
K29M Barlow Dome 58.88 31 IAmb IAmb 03 17 28.4
comp=Z,10nm,0.9s
G30M tAoh Zraii Nji 59.09 27 IAmb IAmb 03 17 59.5
comp=Z,16nm,1.3s
I30M Mount Dempster 59.21 29 IAmb IAmb 03 17 29.3
comp=Z,10nm,1.2s
SIMJ Simiganj 59.38 299 P **P** **03 17 03.6 +0.4**
G31M Satah River 59.86 27 P **P** **03 17 06.9 +1.1**
G31M IAmb IAmb 03 17 36.0
comp=Z,20nm,1.6s
KBL Kabul 60.58 295 P **P** **03 17 12.0 +0.4**
KBL Kabul 60.58 295 P **P** **03 17 12.0 +0.4**
KBL pmax pmax
comp=Z,14nm,0.9s
SVE Sverdlovsk 60.59 321 *e*P **P** **03 17 11.8 +0.8**
SVE pmax pmax
comp=Z,25nm,1.1s
ARTI Arti 61.90 321 P **P** **03 17 19.9 -0.1**
ARTI Arti 61.90 321 *c i* P **P** **03 17 19.8 -0.1**
ARTI 03 18 00.8
ARTI 03 19 36.3
ARTI S **S** **03 25 46.5 +4.2**
ARTI SS **SS** **03 29 43.6 -0.4**
ARTI pmax pmax
comp=Z,20nm,1.0s
STKA Stephens Creek 62.01 181 P **P** **03 17 21.9 +1.1**
STKA Stephens Creek 62.01 181 P **P** **03 17 21.3 +0.5**
comp=Z,2.7nm,0.7s,baz=342,slow=10,SNR=6.6
comp=Z,2.7nm,0.7s
STKA Stephens Creek 62.01 181 *i* P **P** **03 17 21.0 +0.2**
A36M Sachs Harbour 62.12 21 P **P** **03 17 22.1 +0.9**
A36M IAmb IAmb 03 17 41.9
comp=Z,5.6nm,0.9s
FORT Forrest 62.38 194 P **P** **03 17 23.4 +0.2**
ABKAR Akbulak array 62.78 313 P **P** **03 17 26.1 +0.1**
ABKAR IAmb IAmb 03 17 29.9
comp=Z,4.6nm,0.7s
ABKAR Akbulak array 62.78 313 P **P** **03 17 26.3 +0.3**
C36M Paulatuk 63.14 23 P **P** **03 17 27.4 -0.6**
AKTO Aktyubinsk 63.65 315 LR LR 03 46 14.7
comp=Z,166nm,18.3s,baz=62,slow=37
KIRV Kirov 65.93 325 *ce*P **P** **03 17 46.1 -0.3**
BBB Bella Bella 66.39 42 LR LR 03 47 34.7
comp=Z,29nm,18.9s,baz=338,slow=37
NWAO Narrogin (SRO) 67.34 203 P **P** **03 17 55.8 +0.3**
NWAO Narrogin (SRO) 67.34 203 P **P** **03 17 55.8 +0.3**
NWAO pmax pmax
comp=Z,20nm,0.9s
NOR Nord 67.63 357 *i* P **P** **03 17 58.2 +1.3**
RES Resolute Bay 68.79 14 IAmb IAmb 03 20 18.4
comp=Z,9.2nm,1.1s
RES Resolute Bay 68.79 14 P **P** **03 18 04.3 +0.1**
comp=Z,1.4nm,0.9s,baz=328,slow=5.6,SNR=7.2
comp=Z,1.4nm,0.9s
BELG Belogornoye 69.12 319 *i* P **P** **03 18 07.1 +0.5**
BELG pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 69.18 29 P **P** **03 18 07.0 +0.2**
YKA Yellowknife Ar 69.18 29 P **P** **03 18 07.5 +0.6**
comp=Z,2.1nm,0.7s,baz=293,slow=6.3,SNR=26
comp=Z,2.1nm,0.7s
YKA Yellowknife Ar 69.18 29 P **P** **03 18 07.0 +0.2**
KLMR Klimovskoe 69.69 329 *e*P **P** **03 18 09.2 -0.8**
KLMR pmax pmax
comp=Z,23nm,1.6s
ARCES ARCESS Array B 70.37 341 P **P** **03 18 14.6 +0.5**
comp=Z,6.4nm,1.0s,baz=63,slow=6.8,SNR=4.4
comp=Z,6.4nm,1.0s
GNW Green Mountain 71.30 45 IAmb IAmb 03 18 35.6
comp=Z,8.0nm,1.1s
NEEM North Greenlan 72.03 3 *i* P **P** **03 18 23.7 -0.6**
DAG Danmarks Havn 72.35 355 *i* P **P** **03 18 25.5 -0.4**
DAG IAmb IAmb 03 18 28.3
comp=Z,25nm,1.4s
VRH Novokhopyorsk 72.94 320 P **P** **03 18 28.2 -1.6**
VRH pmax pmax
comp=Z,8.0nm,1.0s
MOS Moscow 72.95 325 *e*P **P** **03 18 29.8 0.0**
MOS *e* 03 21 14.0
MXC Moxie City 73.29 46 IAmb IAmb 03 18 46.0
comp=Z,6.1nm,0.9s
WSAR Wadi Sarin 73.33 287 P **P** **03 18 33.8 +1.2**
comp=Z,5.6nm,0.9s,baz=29,slow=3.3,SNR=3.8
comp=Z,5.6nm,0.9s
AKT Akhty 73.60 309 *e*P **P** **03 18 32.9 -1.2**
AKT *e* 03 18 46.9
AKT pmax pmax
comp=Z,17nm,0.7s
AKT MLR MLR
comp=Z,388nm,20.0s
G06A Carlson Farm, 73.68 47 IAmb IAmb 03 18 45.7
comp=Z,14nm,1.4s
OBN Obninsk 73.78 325 *ce*P **P** **03 18 34.6 -0.1**
OBN *i* 03 18 43.5
OBN *i* 03 18 51.4
OBN *e* 03 21 20.7
OBN *e*S **S** **03 28 04.4 0.0**
OBN pmax pmax
comp=Z,28nm,1.3s
OBN MLR MLR
comp=Z,201nm,18.0s
LPSR Galich'ya Gora 73.81 322 *e*P **P** **03 18 33.0 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
YBH Yreka Blue Hor 73.90 51 LR LR 03 47 37.4
comp=Z,118nm,20.0s,baz=266,slow=33
VORR Voronezh 74.11 321 *e*P **P** **03 18 35.8 -0.9**
VORR pmax pmax
comp=Z,10.0nm,1.1s
PINE Pine Mountain 74.14 48 P **P** **03 18 38.4 +1.0**
PINE IAmb IAmb 03 19 06.6
comp=Z,8.8nm,0.9s
VSR Storozhevoye 74.35 320 *e*P **P** **03 18 36.5 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 74.42 43 P **P** **03 18 40.5 +1.8**
NEW Newport 74.42 43 P **P** **03 18 40.5 +1.8**
NEW pmax pmax
comp=Z,8.0nm,1.2s
FINES FINESS Array B 74.94 333 P **P** **03 18 41.6 +0.2**
comp=Z,5.3nm,0.8s,baz=59,slow=5.3,SNR=22
comp=Z,5.3nm,0.8s
KBZ Khabaz 75.74 312 P **P** **03 18 47.0 +0.7**
comp=Z,9.2nm,0.8s,baz=83,slow=6.4,SNR=26
KBZ LR LR 03 53 33.8
comp=Z,58nm,19.0s,baz=89,slow=37
comp=Z,9.2nm,0.8s
KBZ Khabaz 75.74 312 *ce*P **P** **03 18 46.9 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 75.77 313 P **P** **03 18 48.4 +1.8**
KIV IAmb IAmb 03 18 54.8
comp=Z,12nm,0.9s
KIV Kislovodsk 75.77 313 ⇑P **P** **03 18 48.0 +1.5**
KIV Kislovodsk 75.77 313 *e*P **P** **03 18 47.2 +0.6**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 75.77 313 P **P** **03 18 46.7 +0.1**
comp=Z,12nm,1.2s
SHA1 Shidzhatmaz 75.89 313 *i* P **P** **03 18 50.6 +3.1**
BMO Blue Mountains 75.95 46 P **P** **03 18 48.1 +0.5**
BMO Blue Mountains 75.95 46 P **P** **03 18 48.1 +0.5**
BMO pmax pmax
comp=Z,9.0nm,1.6s
GNI Garni 76.23 309 P **P** **03 18 49.4 0.0**
comp=Z,10nm,1.6s
SUMG Summit 77.23 0 *i* P **P** **03 18 55.7 +0.9**
MNK Minsk 78.32 327 *i* P **P** **03 19 00.5 -0.1**
MNK *i* 03 19 12.0
MNK *i* S **S** **03 28 56.8 +2.4**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK MLR MLR
comp=N,382nm,18.0s
MNK MLR MLR
comp=Z,153nm,18.0s
MNK MLR MLR
comp=E,195nm,18.0s
NVAR Mina Array Bea 78.44 52 P **P** **03 19 02.6 +0.8**
NVAR Mina Array Bea 78.44 52 P **P** **03 19 02.5 +0.6**
comp=E,1.4nm,0.6s,baz=293,slow=5.9,SNR=10
NVAR LR LR 03 49 51.6
comp=E,89nm,20.1s,baz=220,slow=33
comp=E,1.4nm,0.6s
FFC Flin Flon 78.88 32 P **P** **03 19 04.8 +1.1**
FFC Flin Flon 78.88 32 P **P** **03 19 04.8 +1.1**
FFC pmax pmax
comp=Z,4.0nm,0.9s
KOPT Kop Dagi 79.13 310 IAmb IAmb 03 19 25.4
comp=Z,8.1nm,1.0s
DSP Deep Springs 79.19 53 IAmb IAmb 03 19 09.0
comp=Z,15nm,1.7s
AK03 Malin Array Si 79.91 324 P **P** **03 19 08.7 -0.6**
AKASG Malin Array Be 79.92 324 P **P** **03 19 09.6 +0.2**
AKASG Malin Array Be 79.92 324 P **P** **03 19 09.3 -0.1**
comp=Z,2.7nm,0.6s,baz=50,slow=5.5,SNR=18
comp=Z,2.7nm,0.6s
AKASG Malin Array Be 79.92 324 P **P** **03 19 09.6 +0.2**
AKASG pmax pmax
comp=Z,7.0nm,1.3s
AKBB Malin Array Si 79.92 324 IAmb IAmb 03 19 10.2
comp=Z,27nm,1.6s
AKBB Malin Array Si 79.92 324 *ce*P **P** **03 19 09.1 -0.3**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 79.92 324 P **P** **03 19 08.8 -0.6**
AK01 Malin Array Si 79.93 324 P **P** **03 19 08.9 -0.6**
KIEV Kiev 79.93 324 P **P** **03 19 09.3 -0.2**
KIEV IAmb IAmb 03 19 10.2
comp=Z,24nm,1.6s
KIEV Kiev 79.93 324 ⇑P **P** **03 19 09.5 +0.1**
KIEV Kiev 79.93 324 P **P** **03 19 09.3 -0.2**
KIEV pmax pmax
comp=Z,24nm,1.6s
KIEV Kiev 79.93 324 P **P** **03 19 08.8 -0.7**
comp=Z,44nm,1.1s
AK09 Malin Array Si 79.94 323 P **P** **03 19 09.0 -0.5**
AK08 Malin Array Si 79.94 323 P **P** **03 19 09.0 -0.5**
H17A Grant Village 80.30 44 IAmb IAmb 03 19 16.9
comp=Z,15nm,1.3s
LKWY Lake 80.31 44 IAmb IAmb 03 19 28.7
comp=Z,12nm,1.1s
HFS Hagfors 80.34 337 P **P** **03 19 11.5 0.0**
comp=Z,2.7nm,0.7s,baz=99,slow=9.2,SNR=4.6
comp=Z,2.7nm,0.7s
NB2 NORSAR Subarra 80.50 338 P **P** **03 19 12.3 -0.1**
comp=Z,13nm,1.1s,baz=41,slow=5.3
NB2 NORSAR Subarra 80.50 338 P **P** **03 19 12.6 +0.2**
NOA NORSAR Array B 80.50 338 P **P** **03 19 12.4 0.0**
comp=Z,5.0nm,0.9s,baz=40,slow=5.3,SNR=9.2
comp=Z,5.0nm,0.9s
MI28 Mi28,Pidlybu 80.57 324 P **P** **03 19 13.4 +0.5**
GWY Greenwater Val 80.69 54 IAmb IAmb 03 19 17.3
comp=Z,20nm,1.9s
ICESG Greenland Ices 80.73 1 *i* P **P** **03 19 11.9 -2.0**
SUW Suwalki 80.79 328 *e*P **P** **03 19 13.8 -0.2**
SUW Suwalki 80.79 328 P **P** **03 19 14.6 +0.6**
SUW Suwalki 80.79 328 P **P** **03 19 14.6 +0.6**
SUW pmax pmax
comp=Z,81nm,1.1s
LUBAR Lubar, Ukraine 81.14 323 P **P** **03 19 15.3 -0.7**
RNPP9 Sopachiv 81.16 325 P **P** **03 19 16.3 +0.2**
HWUT Hardware Ranch 81.21 47 IAmb IAmb 03 19 45.4
comp=Z,8.1nm,1.1s
RNPP8 Varash 81.23 325 P **P** **03 19 16.6 +0.2**
RNPP5 Staryi Chortor 81.28 325 P **P** **03 19 17.1 +0.4**
PD31 Pinedale Array 81.81 45 P **P** **03 19 20.5 +0.5**
PDAR Pinedale Array 81.81 45 P **P** **03 19 20.8 +0.7**
PDAR Pinedale Array 81.81 45 P **P** **03 19 20.4 +0.3**
comp=Z,1.5nm,0.7s,baz=288,slow=1.5,SNR=15
comp=Z,1.5nm,0.7s
SORM Soroca 81.91 322 ⇓P **P** **03 19 20.0 -0.1**
PURM Purcari 82.04 320 P **P** **03 19 21.2 +0.4**
comp=Z,13nm,0.4s
PFO Pinyon Flats O 82.16 56 LR LR 03 49 55.5
comp=Z,146nm,19.7s,baz=229,slow=31
KMPD K-Podol'skiy 82.64 323 P **P** **03 19 22.6 -1.3**
GAZ Gaziantep 82.81 309 IAmb IAmb 03 19 29.6
comp=Z,10nm,0.9s
KNB Kanab 82.88 51 IAmb IAmb 03 19 28.9
comp=Z,7.9nm,1.2s
BR131 Keskin Array S 83.73 313 *i* P **P** **03 19 30.0 +0.1**
BRTR Keskin Array B 83.73 313 P **P** **03 19 30.6 +0.6**
comp=Z,6.6nm,0.9s,baz=106,slow=3.0,SNR=33
comp=Z,6.6nm,0.9s
BR104 Keskin Array S 83.74 313 P **P** **03 19 30.3 +0.3**
comp=Z,64nmcomp=Z,9.4nm,1.0s
BR106 Keskin Array S 83.74 313 P **P** **03 19 30.3 +0.3**
comp=Z,67nmcomp=Z,9.5nm,1.0s
BR105 Keskin Array S 83.75 313 P **P** **03 19 30.3 +0.3**
comp=Z,85nmcomp=Z,12nm,1.0s
RAYN Ar Rayn 83.81 294 P **P** **03 19 31.3 +0.8**
RAYN Ar Rayn 83.81 294 ⇓P **P** **03 19 31.3 +0.8**
TESR Tescani 83.82 321 ⇑P **P** **03 19 30.2 +0.2**
CFR Carcaliu 83.82 319 ⇓P **P** **03 19 30.0 0.0**
CFR Carcaliu 83.82 319 ⇓P **P** **03 19 30.0 0.0**
TPGR Topolog 83.86 319 ⇑P **P** **03 19 30.5 +0.2**
BUR08 Bucovina Ar. S 83.88 323 IAmb IAmb 03 19 57.6
comp=Z,12nm,1.6s
BURAR Bucovina Array 83.89 323 P **P** **03 19 31.0 +0.5**
BURAR Bucovina Array 83.89 323 ⇓P **P** **03 19 31.2 +0.7**
BURAR Bucovina Array 83.89 323 ⇓P **P** **03 19 31.2 +0.7**
KIRS Kirsehir-Merke 83.89 312 ⇑P **P** **03 19 30.9 +0.2**
O20A White River Ci 84.12 47 IAmb IAmb 03 20 12.8
comp=Z,7.8nm,1.1s
VRI Vrincioaia 84.18 321 ⇓P **P** **03 19 32.8 +0.9**
VRI Vrincioaia 84.18 321 ⇓P **P** **03 19 32.8 +0.9**
VRI Vrincioaia 84.18 321 P **P** **03 19 32.3 +0.4**
comp=Z,11nm,1.3s
ANTO Ankara 84.19 313 P **P** **03 19 33.2 +1.1**
ANTO Ankara 84.19 313 P **P** **03 19 33.2 +1.1**
ANTO pmax pmax
comp=Z,20nm,1.4s
BORG Borgarnes 84.23 353 LR LR 04 02 53.0
comp=Z,101nm,18.4s,baz=190,slow=40
PLOR Plostina 84.23 321 ⇑P **P** **03 19 32.1 -0.1**
PLOR Plostina 84.23 321 ⇑P **P** **03 19 32.1 -0.1**
PLOR3 Plostina Array 84.23 321 P **P** **03 19 32.5 +0.3**
comp=Z,9.2nm,1.1s
HARR Harsova 84.23 319 ⇑P **P** **03 19 32.7 +0.5**
HARR Harsova 84.23 319 P **P** **03 19 32.7 +0.5**
SPBR Spulber 84.24 321 ⇑P **P** **03 19 33.5 +1.3**
KOLS Kolonicke sedl 84.54 325 *e*P **P** **03 19 36.5 +2.8**
KOLS Kolonicke sedl 84.54 325 *e*P **P** **03 19 36.5 +2.8**
OZUR 84.55 321 ⇓P **P** **03 19 35.2 +1.4**
ULM Lac du Bonnet 84.62 33 P **P** **03 19 35.1 +1.1**
comp=Z,0.9nm,0.5s,baz=317,slow=7.9,SNR=2.9
comp=Z,0.9nm,0.5s
MUKU Mukachevo 84.65 324 P **P** **03 19 34.1 -0.1**
HOLU Holmets 84.75 325 P **P** **03 19 35.0 +0.3**
PV11 David Mesa, Pa 84.77 48 IAmb IAmb 03 19 48.6
comp=Z,9.1nm,1.0s
BERU Beregovo 84.81 324 P **P** **03 19 35.5 +0.5**
DOPR Dopca 84.84 321 ⇓P **P** **03 19 36.4 +1.1**
PV13 Radium Mtn., P 84.89 48 IAmb IAmb 03 20 02.9
comp=Z,7.2nm,0.9s
VOIR 85.36 321 P **P** **03 19 38.1 +0.1**
comp=Z,4.3nm,2.5s
ARR Arges 85.63 321 ⇑P **P** **03 19 40.5 +1.2**
BORA Eskisehir 85.64 314 IAmb IAmb 03 19 45.3
comp=Z,5.1nm,0.9s
DRGR 85.73 323 ⇑P **P** **03 19 40.7 +1.0**
DRGR 85.73 323 ⇑P **P** **03 19 40.7 +1.0**

ASF	Jabal al Asfar	85.75	305	P		P		03 19 41.1 +0.9
	comp=Z,3.2nm,0.8s,baz=222,slow=2.7,SNR=4.3							
	comp=Z,3.2nm,0.8s							
LANS	Liptovska Anna	85.76	326	*e*P		P		03 19 40.8 +1.0
LANS				pmax		pmax		
	comp=Z,3.0nm,1.3s							
LANS	Liptovska Anna	85.76	326	*e*P		P		03 19 40.8 +1.0
KSP	Ksiaz	86.04	329	P		P		03 19 41.3 +0.2
	comp=Z,9.4nm,1.1s							
MMAI	Mount Meron Ar	86.33	306	P		P		03 19 43.4 +0.4
	comp=Z,1.2nm,0.6s,baz=45,slow=7.2,SNR=6.3							
MMAI				LR		LR		04 01 06.8
	comp=Z,62nm,19.2s,baz=160,slow=38							
	comp=Z,1.2nm,0.6s							
DPC	Dobruska-Polom	86.38	329	P		P		03 19 43.0 +0.1
PSZ	Piszkesteto	86.39	325	⇓P		P		03 19 43.8 +0.8
PSZ	Piszkesteto	86.39	325	⇓P		P		03 19 43.8 +0.8
VYHS	Vyhne	86.51	326	*e*P		P		03 19 44.0 +0.5
VYHS	Vyhne	86.51	326	*e*P		P		03 19 44.0 +0.5
SURR	Surduc	86.72	323	⇓P		P		03 19 44.9 +0.3
VRAC	Vranov	87.00	328	⇑P		P		03 19 46.1 +0.2
VRAC	Vranov	87.00	328	⇑P		P		03 19 46.1 +0.2
MODS	Modra-Piesok	87.34	327	*e*P		P		03 19 50.0 +2.4
MODS	Modra-Piesok	87.34	327	*e*P		P		03 19 50.0 +2.4
EYMN	Ely	88.29	33	IAmb		IAmb		03 19 54.8
	comp=Z,6.1nm,1.1s							
ANMO	Albuquerque	88.30	50	LR		LR		03 57 06.7
	comp=Z,137nm,18.3s,baz=106,slow=34							
VHRN	Van Horn	91.78	53	IAmb		IAmb		03 20 14.5
	comp=Z,8.1nm,1.6s							
LPIG	La Paz	91.85	61	LR		LR		03 57 13.8
	comp=Z,92nm,18.6s,baz=336,slow=33							
WMOK	Wichita Mounta	93.36	46	IAmb		IAmb		03 20 18.6
	comp=Z,7.0nm,1.4s							
TX31	Lajitas Ar. Si	93.57	53	IAmb		IAmb		03 20 41.0
	comp=Z,8.6nm,1.4s							
TXAR	Lajitas Array	93.57	53	P		P		03 20 19.0 +1.9
	comp=Z,2.7nm,1.0s,baz=311,slow=2.5,SNR=20							
	comp=Z,2.7nm,1.0s							
QSPA	South Pole Qui	120.23	180	PKP		PKPdf		03 25 49.8 -1.0
	comp=Z,1.7nm,1.0s,baz=323,slow=4.3,SNR=3.6							
TORD	Torodi Ar. Bea	122.35	313	PKP		PKiKP		03 25 58.0 +1.4
	comp=Z,3.8nm,0.3s,baz=268,slow=3.8,SNR=3.4							
DBIC	Dimbokro	131.42	314	PKP		PKPdf		03 26 14.2 +0.4
	comp=Z,4.4nm,1.0s,baz=162,slow=3.2,SNR=2.1							
LPAZ	La Paz	148.90	70	PKPbc		PKPbc		03 26 50.5 +0.8
	comp=Z,4.5nm,0.9s,baz=347,slow=3.7,SNR=9.3							
PLCA	Paso Flores	151.61	120	PKPbc		PKiKP		03 26 55.8 +0.4
	comp=Z,6.4nm,1.1s,baz=276,slow=6.6,SNR=4.7							

DJA 09 03:13:46.7±0.7, 7°S±3°×10°6E±°, h27km±8km, M3.9/13, mB6.5/2, mb4.1/1, MLv3.8/13, Mw(mB)6.3/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.64	53	P	Pn	03 13 59.8	-0.2
CGJI	Cibinong	0.84	336	P	Pn	03 14 03.2	+0.4
CGJI				S	Sn	03 14 14.3	-0.1
CNJI	Cibinong	1.08	86	P	Pn	03 14 05.8	-0.3
SBJI	Serang	1.27	4	P	Pn	03 14 08.6	0.0
TNG	Tangerang	1.35	26	P	Pn	03 14 09.7	-0.1
LEM	Lembang	1.66	70	P	Pn	03 14 14.2	0.0
CMJI	Cimerak	2.42	99	P	Pn	03 14 24.6	+0.1
LWLI	Liwa	3.07	320	P	Pn	03 14 33.6	0.0
MDSI	Maura Dua	3.43	327	P	Pn	03 14 38.6	+0.2
UGM	Wanagama	4.47	97	P	Pn	03 14 53.2	+0.4
PCJI	Pacitan	5.15	99	P	Pn	03 15 02.5	+0.4
	0.2nm35nm,1.6s						
GSI	Gunungsitoli	12.08	315	P	Pn	03 16 37.3	+0.1
SMKI	Samarinda	13.10	59	P	Pn	03 16 50.5	-0.7

*SGS **09** 03:16:03.9, 18°.96N×39°.32E, h27km, Ml2.9*
*IDC **09** 03:16:04.2±1.8, 18°.77N×39°.38E, h0km, mb3.9/10, mbtmp3.9/13, ML3.4/2, MS3.6/5, Error ellipse: s-maj=40.9km s-min=22.1km az=175.0*
ISC 09 03:16:06.2±0.9, 18°.94N±0°.09×39°.57E±0°.09, h10km, n28, σ1§90/23, mb3.9/10, MS3.6/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHS	Al Lith	1.55	31	P	Pn	03 16 30.2	-3.7
QNFDS	Al Qunfudhah	1.55	56	P	Pn	03 16 31.1	-2.8
QNF01	Al Qunfudhah	1.68	74	P	Pn	03 16 33.9	-1.8
AMGES	AMGES	1.92	104	P	Pn	03 16 37.3	-1.8
BRK01	Al Birk	2.00	109	S	Sn	03 17 03.5	-1.8
BRK01	Al Birk	2.00	109	P	Pn	03 16 37.7	-2.5
BRK04	Al Birk	2.15	98	P	Pn	03 16 40.2	-1.9
BRK03	Al Birk	2.33	109	S	Sn	03 17 12.1	-1.4
BRK03	Al Birk	2.33	109	P	Pn	03 16 42.8	-1.8
DRBS	Ad Darb	2.82	113	P	Pn	03 16 50.9	-0.4
ATD	Arta Tunnel	8.02	156	LR	LR	03 20 40.8	
	comp=Z,5.4nm,19.1s,baz=39,slow=35						
ASF	Jabal al Asfar	13.39	350	Pn	Pn	03 19 17.1	+0.6
	5.9nm,1.0s,baz=141,slow=19,SNR=5.7						
MMAI	Mount Meron Ar	14.51	346	Pn	Pn	03 19 33.3	+1.5
	0.2nm,0.3s,baz=153,slow=16,SNR=1.7						
	0.1nm,0.3s						
WSAR	Wadi Sarin	18.29	73	P	Pn	03 20 21.9	+1.6
	0.1nm,0.3s,baz=295,slow=7.1,SNR=3.5						
WSAR				LR	LR	03 28 41.6	
	comp=Z,206nm,18.6s,baz=256,slow=41						
	5.5nm,1.0s						
KMBO	Kilima Mbogo	20.07	187	LR	LR	03 28 15.4	
	comp=Z,100nm,21.2s,baz=54,slow=37						
BRTR	Keskin Array B	21.34	347	P	P	03 20 55.5	+1.8
	3.9nm,0.9s,baz=167,slow=12,SNR=7.6						
	3.9nm,0.9s						
KBZ	Khabaz	24.87	6	LR	LR	03 32 12.4	
	comp=Z,109nm,19.6s,baz=166,slow=39						
GERES	GERESS Array B	36.41	331	P	P	03 23 10.2	-0.8
	0.9nm,0.8s,baz=120,slow=7.9,SNR=4.8						
	0.9nm,0.8s						
TORD	Torodi Ar. Bea	36.80	267	P	P	03 23 12.7	-1.9
	3.1nm,0.4s,baz=74,slow=7.7,SNR=3.0						
	3.1nm,0.4s						
BVAR	Borovoye Array	41.57	28	P	P	03 23 55.8	+1.8
	0.3nm,0.4s,baz=216,slow=7.1,SNR=4.0						
	0.3nm,0.4s						
ESDC	Sonseca Array	42.71	308	P	P	03 24 02.4	-1.3
	0.7nm,1.1s,baz=126,slow=5.0,SNR=2.9						
	0.7nm,1.1s						
KURBB	Kurchatov Arra	44.15	35	P	P	03 24 16.8	+1.9
	1.4nm,0.8s,baz=240,slow=8.0,SNR=8.5						
	1.4nm,0.8s						
MKAR	Makanchi Array	44.59	42	P	P	03 24 19.6	+1.0
	1.5nm,0.9s,baz=240,slow=5.4,SNR=12						
	1.5nm,0.9s						
ZALV	Zalesovo Beam	49.15	34	P	P	03 24 54.8	+0.7
	1.7nm,0.9s,baz=236,slow=11,SNR=7.0						
	1.7nm,0.9s						
SUR	Sutherland	54.10	200	LR	LR	03 49 09.3	
	comp=Z,80nm,18.8s,baz=109,slow=37						
SONM	Songino Array	60.70	45	P	P	03 26 19.4	+1.4
	0.8nm,0.8s,baz=263,slow=7.9,SNR=5.1						
	0.8nm,0.8s						
PETK	Petropavlovsk-	90.67	32	P	P	03 29 10.4	+1.3
	3.7nm,1.0s,baz=270,slow=4.3,SNR=3.8						
	3.7nm,1.0s						
GUMO	Guam	99.64	72	LR	LR	04 22 07.2	
	comp=Z,26nm,18.1s,baz=73,slow=40						

*IGQ **09** 03:30:41.9±0.2, 2°S±2°×8°0W±°, h9km±2km, MLv4.5/28*
*RSNC **09** 03:30:42.4±1.0, 2°S±8°×8°0W±°, h8km, M4.3, mB5.0, mb5.0, ML3.9, Mw(mB)4.5*
ISC 09 03:30:39.1±0.9, 1°91S±0°03×80°24W±0°04, h10km, n105, σ1§77/111, 31C-8D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUAY	Guayaquil	0.33	117	P	Pn	03 30 50.9	+0.9
AGUAY				S	Sb	03 30 57.4	+5.1
GYE3	Ecuador-Guayaq	0.42	126	⇑P	Pn	03 30 51.1	-0.2
PPLP	Puerto Lpez	0.64	304	S	Sn	03 31 04.1	-0.6
PPLP				P	Pn	03 30 53.6	-0.7
PPLP	Puerto Lpez	0.64	304	S	Sn	03 31 04.1	-0.6
PPLP				P	Pn	03 30 54.5	+0.1
PPLP	Puerto Lpez	0.64	304	P	Pn	03 30 54.7	+0.3
ALIBE	La Libertad	0.69	241	P	Pn	03 30 56.8	+1.9
MILO	Milagro-Astudi	0.78	118	⇑P	Pn	03 30 56.2	0.0
MILO				S	Sn	03 31 06.4	-1.6
SALI	Salinas	0.80	250	P	Pn	03 30 57.9	+1.4
APO2	Ecuador-Portov	0.86	346	P	Pn	03 30 59.3	+1.9
ISPT	Isla de la Pla	1.05	308	⇑P	Pn	03 31 00.1	+0.2
ISPG	Isla Puna-Puer	1.06	176	P	Pn	03 31 03.7	+3.6
AMNT	Manta-Manabi	1.08	333	⇓P	Pn	03 31 01.4	+1.1
AMNT				S	Sn	03 31 16.6	+1.2
COHC	Cochancay	1.13	119	⇑P	Pn	03 31 01.4	+0.3
COHC				S	Sn	03 31 15.6	-1.1
COHC	Cochancay	1.13	119	P	Pn	03 31 01.4	+0.3
AQUE	Quevedo	1.14	41	S	Sn	03 31 16.0	-0.7
AQUE				P	Pn	03 31 01.5	+0.4
PECV	Mancha de Ca P	1.14	10	⇓P	Pn	03 31 01.8	+0.6
ACHN	Ecuador-Chone-	1.21	7	P	Pg	03 31 02.8	+0.4
JSCH	Cashca Tororas	1.28	82	⇑P	Pg	03 31 03.4	-0.3
AGRD	Ecuador-Guaran	1.28	75	⇑P	Pg	03 31 03.5	-0.3
TAMH	Tambohuasha Ch	1.50	76	⇑P	Pg	03 31 07.8	-0.3
CAB1	Cabo Pasado-Ma	1.52	353	P	Pg	03 31 07.7	-0.7
PORT	Chimborazo Vol	1.53	73	⇑P	Pg	03 31 08.4	-0.2
ARIO	Riobamba	1.56	81	P	Pg	03 31 08.5	-0.7
FLF1	Flavio Alfaro-	1.59	15	P	Pb	03 31 08.1	-0.6
ACUE	Ecuador-Cuenca	1.62	128	⇑P	Pg	03 31 09.5	-0.8
JAMA	Jama	1.64	1	P	Pb	03 31 08.4	-1.1
IGUA	Igualata	1.66	76	⇑P	Pg	03 31 10.4	-0.5
AAM2	Ambato 2 (Merc	1.75	69	P	Pg	03 31 11.9	-0.9
BMAS	Trigal station	1.81	77	⇑P	Pb	03 31 11.4	-1.2
BBIL	Ulba Tungurahu	1.81	76	⇑P	Pg	03 31 12.8	-1.2
JUI6	Juive	1.84	75	⇑P	Pg	03 31 13.3	-1.1
BPAT	Tungurahua Vol	1.85	78	⇑P	Pg	03 31 13.2	-1.5
ASLC	Ecuador-Salced	1.86	62	P	Pg	03 31 14.0	-0.9
BULB	Ulba Tungurahu	1.89	76	⇑P	Pg	03 31 14.1	-1.3
ILLI	Illinizas Sur	1.92	52	⇑P	Pb	03 31 13.7	-0.9
ASDO	Santo Domingo	1.98	34	P	Pb	03 31 14.2	-1.1
PAST	Pastocalle	2.00	53	⇓P	Pb	03 31 15.8	-0.2
SRAM	San Ramn-Vol	2.03	56	⇓P	Pb	03 31 15.7	-0.7
PIS1	Pisayambo	2.04	66	⇓P	Pg	03 31 17.1	-1.2
BRRN	Barrancas-Volc	2.09	58	⇑P	Pb	03 31 17.0	-0.4
SLOR	San Lorenzo -	2.10	56	⇑P	Pb	03 31 17.3	-0.3
CAMI	Rancho Maria	2.12	55	⇑P	Pb	03 31 17.9	-0.2
BMOR	Cotopaxi Volca	2.13	57	⇑P	Pb	03 31 17.8	-0.4
BOSC	San Juan Bosco	2.14	125	⇑P	Pg	03 31 19.0	-1.2
BNAS	Cotopaxi Volca	2.15	55	⇑P	Pg	03 31 19.1	-1.3
VCES	Cotopaxi	2.15	59	P	Pb	03 31 18.5	0.0
SUCR	Mariscal Sucre	2.15	54	⇑P	Pb	03 31 18.3	-0.2
PIAT	Ana Tenorio	2.18	65	⇑P	Pb	03 31 18.8	0.0
PIAT	Ana Tenorio	2.18	65	P	Pb	03 31 18.5	-0.4
BREF	Cotopaxi Volca	2.18	56	⇑P	Pb	03 31 19.1	0.0
BVC2	Cotopaxi Volca	2.21	56	⇑P	Pb	03 31 19.2	-0.4
BTAM	Cotopaxi Volca	2.21	56	⇑P	Pb	03 31 19.2	-0.4
VC1	Cotopaxi 1	2.23	56	⇑P	Pb	03 31 19.9	0.0
TAMB	Tambo	2.23	57	⇑P	Pb	03 31 19.4	-0.4
PITA	Cotopaxi Volc	2.25	54	⇑P	Pb	03 31 19.8	-0.4
PUYO	Puyo, Santa Ro	2.25	80	P	Pg	03 31 20.5	-1.9
TOMA	Boca Toma-Volc	2.29	52	P	Pb	03 31 20.2	-0.6
HPAL	Hacienda Las P	2.31	43	P	Pb	03 31 19.1	-2.0
GGPT	Toaza - Volcan	2.33	44	P	Pb	03 31 19.8	-1.7
AV18	Acelerografo,	2.33	19	P	Pb	03 31 20.4	-0.9
JUA2	San Juan 2	2.35	44	P	Pb	03 31 20.0	-1.9
TERV	Terraza Guagua	2.38	44	P	Pb	03 31 20.3	-2.1
GGPC	Guagua Pichinc	2.38	44	P	Pb	03 31 20.6	-1.8
PINO	Pino	2.38	43	P	Pb	03 31 20.1	-2.4
TING	Casa Alexandra	2.41	48	P	Pb	03 31 23.0	+0.1
ANTG	Antisana-Guama	2.43	55	⇓P	Pb	03 31 22.7	-0.6
ANTM	Antisana-La Mi	2.43	56	⇓P	Pb	03 31 23.0	-0.4
YANA	Yana	2.44	43	P	Pb	03 31 21.4	-2.0
APR1	Acelerografo,	2.46	41	P	Pb	03 31 21.7	-2.1
ANTS	Antisana-Sarah	2.50	56	P	Pb	03 31 24.1	-0.4
ANTI	Antisana	2.53	55	P	Pb	03 31 24.4	-0.7
PULU	Pululahua	2.59	42	P	Pb	03 31 23.3	-2.6
PAC1	Pacto, Paraso	2.60	34	P	Pn	03 31 22.1	+0.7
ARDO	Archidona, Ten	2.60	70	⇑P	Pb	03 31 24.5	-1.4
AV11	Acelerografo,	2.63	46	P	Pg	03 31 27.1	-2.1
AV21	Acelerografo,	2.64	15	P	Pb	03 31 26.0	-0.6
OTAV	Otavalo	2.78	40	P	Pn	03 31 25.7	+1.5
CUSE	Cuicocha Este	2.87	40	P	Pb	03 31 27.6	-3.1
CUSE	Cuicocha Este	2.87	40	P	Pb	03 31 28.0	-2.7
CUSW	Cuicocha Oeste	2.88	41	P	Pb	03 31 28.5	-2.4
CUIC	Cuicocha-Domo	2.89	41	P	Pb	03 31 28.0	-3.1
COTA	Cotacachi	2.93	41	P	Pb	03 31 28.9	-2.9
AES2	Ecuador-Puerto	2.94	12	P	Pb	03 31 30.2	-1.4
CAYR	Refugio Cayamb	2.94	50	P	Pb	03 31 30.5	-1.6
ACOT	Cotacachi (Cas	2.94	42	P	Pb	03 31 30.6	-1.3
ANGU	Angureal	2.96	49	P	Pb	03 31 30.4	-2.0
IMBA	Imbabura, San	2.98	43	P	Pb	03 31 31.1	-1.5
URCU	Urcuqui	3.06	40	P	Pb	03 31 30.7	-3.3
AIB2	Ibarra (Univer	3.09	44	P	Pb	03 31 32.8	-1.6
YAHU	Yahuarcocha	3.13	44	P	Pb	03 31 32.0	-3.2
ZUMB	Zumba	3.13	160	⇓P	Pb	03 31 32.6	-2.5
ALIT	Ecuador-Imbabu	3.28	35	P	Pb	03 31 34.1	-3.4
LITE1	Lita	3.28	35	P	Pn	03 31 32.1	+1.4
SNLR	San Lorenzo-Es	3.47	24	P	Pn	03 31 35.6	+2.3
CHMA	Chilma	3.51	38	P	Pn	03 31 36.2	+2.1
CHL1	Volc¡n Chiles	3.53	41	P	Pb	03 31 37.8	-4.3
ECEN	Cerro Negro	3.54	40	P	Pb	03 31 38.5	-3.7
CASC	Dorado de Casc	3.54	55	P	Pb	03 31 38.2	-3.8
CHL2	Volc¡n Chiles	3.56	41	P	Pb	03 31 38.1	-4.3
CRUC	La Cruz	4.77	44	P	Pn	03 31 55.7	+4.3
PTLC	Puerto Leguiza	5.82	69	P	Pn	03 32 06.3	+0.7
	1µm79nm,0.6s						
GARC	Garzon, Huila	6.25	49	P	Pn	03 32 13.9	+2.2
	2µm144nm,0.8s						
MACC	Macarena, Meta	7.55	58	P	Pn	03 32 31.6	+2.2
	577nm54nm,0.6s						
GUVC	San Jose del G	8.80	60	P	Pn	03 32 49.5	+2.9
VILC	Villavicencio,	8.86	48	P	Pn	03 32 51.2	+3.7

DJA 09 03:33:16.9±0.4, 1°N±4°×12°3E±°, h45km±19km, M4.2/6, mB6.2/1, mb4.8/1, MLv3.9/6, Mw(mB)5.9/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.84	234	P	Pn	03 33 33.1	+0.8
MRSI				S	Sn	03 33 44.5	+0.9
LUWI	Luwuk	2.00	176	P	Pn	03 33 48.4	+0.1
LUWI				S	Sn	03 34 12.9	+0.7
APSI	Ampana	2.11	207	P	Pn	03 33 49.8	+0.1
TNTI	Ternate	4.75	92	P	Pn	03 34 25.2	-0.8
SMKI	Samarinda	5.59	255	P	Pn	03 34 36.3	-1.3

*IDC **09** 03:44:12.6±2.6, 29°.49N×51°.62E, h0km, mb3.8/10, mbtmp3.8/12, ML3.3/2, MS3.8/4, Error ellipse: s-maj=56.2km s-min=21.5km az=167.0*
*TEH **09** 03:44:15.7, 29°.88N×51°.54E, h8km±28km*
*OMAN **09** 03:44:19.2±1.1, 29°.64N×51°.75E, h10km, mb4.3/9, ml3.3/2, ms2.7/2, Error ellipse: s-maj=9.5km s-min=6.1km az=158.0*
ISC 09 03:44:16.6±1.2, 29°.85N±0°.04×51°.58E±0°.04, h14km±8km, n62, σ1§52/72, mb3.7/10, MS3.8/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	Kazeron-Fars-I	0.25	162	Pg	Pg	03 44 21.2	-0.8
SHI	Shiraz	0.84	104	Pg	Pb	03 44 33.3	+0.2
AHBU	AHRAM	1.01	194	Pg	Pb	03 44 35.6	-0.2
KLNJ	Kolanjah	1.16	1	Pg	Pb	03 44 37.2	-1.4
ABEH	Behbahan	1.37	304	Pg	Pn	03 44 41.4	+0.1
DSBU	Dashti - Bushe	1.50	191	Pg	Pb	03 44 44.9	+0.6
DSBU				Sg	Sg	03 45 07.5	+2.3
QIR1	Qir	1.88	136	Pn	Pb	03 44 50.7	0.0
IRAM	Ramesheh	2.07	19	Pn	Pn	03 44 52.9	+1.7
ZNGN	Zangian	2.35	345	Pn	Pn	03 44 56.1	+1.0
ISAD	Sadrabad	2.75	41	Pn	Pn	03 45 02.9	+2.4
IPIR	Pirpir	2.89	348	Pn	Pn	03 45 03.5	+1.1
IZEF	Zefreh	3.11	12	Pn	Pn	03 45 07.2	+1.8
IBAF	Bafgh	3.85	62	Pn	Pn	03 45 18.1	+2.5
SAKB	Bahrain	3.96	194	P	Pn	03 45 19.3	+2.3
SAKB				S	Sn	03 46 03.7	+0.5
SHMA	Al-Shehemyia	4.01	188	P	Pn	03 45 19.0	+1.3
	SNR=14						
SHMA				S	Sn	03 46 04.8	+0.3
KRSH	Karshahi	4.14	6	Pn	Pn	03 45 21.0	+1.5
KHGB	Koh Gabri	4.28	82	Pn	Pn	03 45 24.2	+2.6
KRBR	Kerman	4.50	87	Pn	Pn	03 45 27.1	+2.4
JRN	Qarnain Island	5.02	167	P	Pn	03 45 32.0	+0.6
JRN				S	Sn	03 46 29.1	-0.1
HSAM	Samen	5.03	331	Pn	Pn	03 45 33.2	+1.3
TRNA	Turayna	5.10	184	P	Pn	03 45 34.0	+1.4
	SNR=6.2						
TRNA				S	Sn	03 46 30.2	-1.2
SMRA	Abu-Samra	5.13	188	P	Pn	03 45 33.6	+0.7
SMRA				S	Sn	03 46 31.7	-0.2
CHMN	Cheshme madani	5.18	88	Pn	Pn	03 45 36.5	+2.4
SHME	Shamm	5.53	132	P	Pn	03 45 38.0	-0.5
BANOM	Banah	5.72	132	P	Pn	03 45 42.2	+1.0
BANOM				S	Sn	03 46 47.0	+0.3
GHWR	Ruwais	5.97	168	P	Pn	03 45 44.7	+0.1
MASF	Masafi	6.04	137	P	Pn	03 45 45.9	+0.4
MASF				S	Sn	03 46 53.2	-1.2
KBAM	BAM	6.04	95	Pn	Pn	03 45 47.7	+2.2
NAZ	Nazwa, Dubai	6.05	142	P	Pn	03 45 46.1	+0.4
NAZ				S	Sn	03 46 53.1	-1.7
AJN	Ajban	6.08	149	P	Pn	03 45 46.8	+0.8
MDH	Madha	6.17	136	P	Pn	03 45 47.7	+0.3
MDH				S	Sn	03 46 55.2	-2.5
ASUD	Al Ashush, Dub	6.18	146	P	Pn	03 45 48.4	+0.9
ASUD				S	Sn	03 46 57.1	-0.9
UOSS	Minazif	6.38	139	P	Pn	03 45 50.7	+0.4
UOSS				S	Sn	03 46 59.2	-3.8
MZWR	Madinat Zayed	6.40	161	P	Pn	03 45 51.6	+1.1
ASHO	Ashiyiah	6.51	141	P	Pn	03 45 53.0	+1.0
	SNR=13						
JASK	Jask - Hormozg	6.83	124	P	Pn	03 45 54.9	-1.6
JASK				S	Sn	03 47 12.3	-1.8
ALNE	Al Ain	6.87	146	P	Pn	03 45 57.5	+0.6
MZR	Muzera	7.03	166	P	Pn	03 46 00.4	+1.3
SOHO	SOHO	7.21	141	P	Pn	03 46 01.3	-0.2
BSY	Bisya	8.69	143	P	Pn	03 46 21.2	-0.7
BSY				P	Pn	03 46 21.2	-0.7
SMDO	Samad	8.91	138	P	Pn	03 46 24.1	-0.8
WBK	Wadi Bani Khal	9.80	136	P	Pn	03 46 35.6	-1.5
JLN	Jalan Bani Buh	10.41	136	P	Pn	03 46 43.0	-2.5
DOK	Doka	11.42	168	P	Pn	03 46 57.0	-2.4
	SNR=12						
WHFO	Wadi Hawf	12.04	170	P	Pn	03 47 05.0	-2.9
DMTO	DMTO	12.46	165	P	Pn	03 47 11.0	-2.7
	SNR=7.0						
ASF	Jabal al Asfar	12.80	284	Pn	Pn	03 47 15.7	-2.6
	0.4nm,0.3s,baz=122,slow=9.5,SNR=5.6						
	0.9nm,0.4s						
BRTR	Keskin Array B	17.70	309	P	Pn	03 48 23.1	+0.4
	baz=61,slow=12,SNR=2.4						
	0.3nm,0.7s						
AKASG	Malin Array Be	26.73	327	P	P	03 49 55.6	+0.1
	0.2nm,0.3s,baz=139,slow=8.6,SNR=4.3						
	0.2nm,0.3s						
BVAR	Borovoye Array	26.95	25	P	P	03 49 58.3	+0.8
	1.1nm,0.7s,baz=224,slow=10,SNR=5.2						
	1.1nm,0.7s						
KURBB	Kurchatov Arra	28.95	37	P	P	03 50 15.8	+0.5
	0.2nm,0.4s,baz=234,slow=9.4,SNR=5.5						
	0.2nm,0.4s						
MKAR	Makanchi Array	29.19	46	P	P	03 50 17.4	-0.2
	0.3nm,0.8s,baz=243,slow=6.3,SNR=3.5						
	0.3nm,0.8s						
ZALV	Zalesovo Beam	34.01	35	P	P	03 51 00.3	+0.5
	0.8nm,0.5s,baz=242,slow=7.7,SNR=3.9						
	0.8nm,0.5s						
GERES	GERESS Array B	34.43	314	P	P	03 51 04.4	+0.7
	0.2nm,0.3s,baz=82,slow=8.2,SNR=1.8						
	0.2nm,0.3s						
KEST	Kesra	35.78	291	LR	LR	04 10 55.6	
	comp=Z,62nm,18.5s,baz=297,slow=45						
HFS	Hagfors	39.48	331	P	P	03 51 47.7	+1.5
	0.6nm,0.3s,baz=134,slow=8.3,SNR=1.3						
	0.6nm,0.3s						
EKA	Eskdalemuir Ar	46.13	320	P	P	03 52 42.6	+2.3
	0.5nm,0.5s,baz=96,slow=9.0,SNR=1.6						
	0.5nm,0.5s						
TORD	Torodi Ar. Bea	48.91	261	P	P	03 53 00.3	-2.1
	2.0nm,0.3s,baz=64,slow=7.9,SNR=1.4						
	2.0nm,0.3s						

1.5nm,0.8s
H11S3 WAKE ISLAND Hy 27.44 28 T T 05 10 38.6
baz=208,slow=73,SNR=4.5
H11S2 WAKE ISLAND Hy 27.45 28 T T 05 10 48.1
baz=208,slow=73,SNR=6.5
H11S1 WAKE ISLAND Hy 27.46 28 T T 05 10 43.8
baz=208,slow=73,SNR=2.7
STKA Stephens Creek 28.21 202 P **P 04 42 30.4 +0.6**
0.7nm,0.5s,baz=342,slow=18,SNR=1.7
0.7nm,0.5s
KAPI Kappang 33.58 270 LR LR 04 58 27.3
comp=Z,25nm,20.3s,baz=122,slow=39
URZ Urewera 38.78 150 LR LR 04 58 11.5
comp=Z,87nm,18.2s,baz=356,slow=33
MJAR Matsushiro Arr 44.49 342 LR LR 05 02 38.4
comp=Z,29nm,18.4s,baz=46,slow=35
RAR Rarotonga 47.76 113 LR LR 05 03 31.6
comp=Z,47nm,19.9s,baz=244,slow=34
KSRS Korea Array 49.20 333 P **P 04 45 24.4 -0.7**
0.5nm,0.4s,baz=104,slow=5.5,SNR=2.1
0.5nm,0.4s
PETK Petropavlovsk- 58.80 3 P **P 04 46 35.5 +0.5**
12nm,1.2s,baz=179,slow=7.9,SNR=4.6
12nm,1.2s
CMAR Chiang Mai Arr 58.92 295 P **P 04 46 37.3 +0.8**
1.1nm,0.3s,baz=109,slow=5.8,SNR=6.5
CMAR LR LR 05 12 07.2
comp=Z,15nm,18.6s,baz=125,slow=36
1.1nm,0.3s
BRDH Bariadhala 66.72 298 LR LR 05 15 58.7
comp=Z,45nm,19.4s,baz=96,slow=35
SONM Songino Array 67.53 328 P **P 04 47 33.9 +0.7**
0.7nm,0.5s,baz=139,slow=6.5,SNR=4.8
0.7nm,0.5s
MKAR Makanchi Array 81.53 319 P **P 04 48 53.4 -0.9**
0.5nm,0.5s,baz=99,slow=8.4,SNR=8.4
0.5nm,0.5s
ZALV Zalesovo Beam 82.36 326 P **P 04 48 58.1 -0.4**
1.0nm,0.5s,baz=116,slow=9.1,SNR=5.3
1.0nm,0.5s
ILAR Eielson Array 82.84 22 P **P 04 49 01.0 +0.2**
0.2nm,0.8s,baz=257,slow=5.2,SNR=4.7
0.2nm,0.8s
QSPA South Pole Qui 84.16 180 P **P 04 49 07.1 -0.7**
3.1nm,0.9s,baz=310,slow=1.3,SNR=6.3
3.1nm,0.9s
KURBB Kurchatov Arra 85.01 322 P **P 04 49 12.6 +0.4**
1.2nm,0.2s,baz=107,slow=3.7,SNR=2.6
1.2nm,0.2s
BVAR Borovoye Array 90.45 323 P **P 04 49 37.3 -1.0**
2.1nm,0.7s,baz=96,slow=6.0,SNR=9.5
2.1nm,0.7s

VIE 09 04:48:20.5±0.2, 46°.56N×15°.33E, h2km, ml-0.3/1, Error ellipse: s-maj=2.2km s-min=1.0km az=32.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.23**	**300**	*i* Pg	Pg	04 48 25.1	+0.2
	0.1nm,0.1s						
SOKA				*i* Sg	Sg	04 48 28.0	0.0
	0.3nm,0.1s						

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*MCSM **09** 04:49:25.9±0.5, 52°N±7°×1°.6E±°, h10km, mb3.9, MLv3.5*
*IPEC **09** 04:49:26.4±0.2, 51°.59N×16°.12E, h1km, ML3.0/6, Error ellipse: s-maj=3.0km s-min=1.4km az=69.0*
*IDC **09** 04:49:26.0±0.6, 51°.57N×15°.95E, h0km, mb3.5/3, mbtmp3.5/12, ML2.9/9, MS3.2/1, Error ellipse: s-maj=10.8km s-min=6.5km az=115.0*
*BGR **09** 04:49:27.5±0.4, 51°.56N×16°.12E, h1km, ML3.1/12, Error ellipse: s-maj=4.4km s-min=2.2km az=31.0*
*VIE **09** 04:49:29.8±0.4, 51°.40N×15°.91E, h0km, mb2.9/16, ml2.9/13, ms3.8/2, Error ellipse: s-maj=3.6km s-min=2.7km az=42.0, Suspected Mining induced.*
*PRU **09** 04:49:29.1, 51°.50N×16°.09E, h0km*
*UPP **09** 04:49:30.7±2.9, 51°.85N×15°.72E, h0km, ML1.8*
ISC 09 04:49:24.5±0.6, 51°.61N±0°.02×16°.13E±0°.02, h0km, n131, σ1°.979/202, mb3.5/3, 3C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**172**	*i* Pg	**Pb**	**04 49 41.3**	**+0.5**
KSP				*e*Sg	**Sb**	**04 49 51.1**	**-0.6**
KSP	**Ksiaz**	**0.77**	**172**	*e*Pg	**Pb**	**04 49 41.2**	**+0.5**
KSP				*e*Sg	**Sg**	**04 49 51.0**	**+1.8**
CHVC	**Chvalec**	**1.02**	**183**	*e*PG	**Pn**	**04 49 46.1**	**+0.1**
CHVC				*e*SG	**Sb**	**04 49 59.0**	**+0.1**
OSTC	**Ostas**	**1.05**	**177**	*e*PG	**Pn**	**04 49 46.7**	**+0.2**
OSTC				*e*SG	**Sb**	**04 50 00.0**	**+0.1**
UPC	**Upice**	**1.10**	**184**	*e*PG	**Pn**	**04 49 47.4**	**+0.3**
UPC				*e*SG	**Sb**	**04 50 01.3**	**0.0**
DPC	**Dobruska-Polom**	**1.26**	**174**	*e*PG	**Pn**	**04 49 50.0**	**+0.6**
DPC				*e*SG	**Sg**	**04 50 06.0**	**+1.0**
	comp=Z,114nm,0.6s						
DPC	**Dobruska-Polom**	**1.26**	**174**	*e*Pg	**Pn**	**04 49 50.0**	**+0.6**
DPC				*e*Sg	**Sg**	**04 50 05.9**	**+1.0**
PIVO	**Bartosovice**	**1.45**	**169**	*e*Pg	**Pb**	**04 49 53.0**	**+0.7**
	baz=349						
PIVO				*e*Sg	**Sg**	**04 50 11.1**	**+0.2**
	157nm,0.4s,baz=349						
PVCC	**Panska Ves**	**1.46**	**223**	*e*PG	**Pb**	**04 49 53.6**	**+1.1**
PVCC				*e*SG	**Sn**	**04 50 13.1**	**+1.2**
	comp=Z,259nm,0.5s						
PVCC	**Panska Ves**	**1.46**	**223**	*e*Pg	**Pb**	**04 49 54.0**	**+1.6**
PVCC				*e*Sg	**Sn**	**04 50 13.5**	**+1.7**
BRG	**Berggiesshubel**	**1.56**	**243**	Pn	**Pb**	**04 49 54.1**	**-0.1**
BRG				Pg	**Pg**	**04 49 56.0**	**+1.7**
BRG				Sg	**Sg**	**04 50 15.9**	**+1.5**
BRG				Amp		04 50 16.3	
	comp=Z,184nm,0.5s						
KRLC	**Kraliky**	**1.59**	**165**	*e*PG	**Pg**	**04 49 55.4**	**+0.5**
KRLC				*e*SG	**Sg**	**04 50 15.9**	**+0.5**
	comp=Z,129nm,0.5s						
RUE	**Ruedersdorf**	**1.69**	**302**	*e*Sg	**Sg**	**04 50 21.9**	**+3.1**
PRA	**Prague**	**1.88**	**216**	*e*PN	**Pb**	**04 49 59.3**	**-0.2**
PRA				*e*PG	**Pg**	**04 50 01.5**	**+1.1**
GOPC	**GO Pecny, Ondr**	**1.90**	**207**	*e*PN	**Pn**	**04 49 59.3**	**+1.2**
GOPC				*e*PG	**Pg**	**04 50 01.3**	**+0.5**
PRU	**Pruhonice**	**1.91**	**212**	*e*PN	**Pn**	**04 49 59.3**	**+1.1**
PRU				*e*PG	**Pg**	**04 50 01.3**	**+0.3**
PRU				*e*SG	**Sb**	**04 50 25.1**	**+0.7**
	comp=Z,78nm,0.6s						
PRU	**Pruhonice**	**1.91**	**212**	*e*Pn	**Pn**	**04 49 59.2**	**+1.1**
HSKC	**Hora Svate Kat**	**1.97**	**241**	*e*PG	**Pg**	**04 50 02.6**	**+0.4**
HSKC				*e*SG	**Sg**	**04 50 28.4**	**+0.7**
	comp=Z,187nm,1.0s						
STEB	**Steborice**	**1.97**	**147**	*e*PN	**Pb**	**04 50 00.6**	**-0.6**
STEB				*e*PG	**Pg**	**04 50 03.1**	**+0.9**
STEB				*e*SG	**Sg**	**04 50 29.4**	**+1.6**
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**04 50 00.1**	**+0.9**
CLL	**Collm**	**1.98**	**263**	Pn	**Pn**	**04 49 59.7**	**+0.5**
CLL	**Collm**	**1.98**	**263**	*i* Pn	**Pn**	**04 50 00.0**	**+0.9**
	comp=Z,31nm,0.5s						
CLL				*e*Pg	**Pg**	**04 50 04.0**	**+1.7**
CLL				*i* x	x	04 50 06.9	
CLL				*e*Sg	**Sg**	**04 50 29.0**	**+1.1**
	comp=Z,50nm,0.6s						
MORC	**Moravsky Berou**	**2.04**	**153**	*e*Pn	**Pn**	**04 50 01.3**	**+1.2**
	baz=334						
MORC				*e*Sg	**Sg**	**04 50 30.2**	**+0.2**
	comp=Z,82nm,0.7s,baz=334						
MORC	**Moravsky Berou**	**2.04**	**153**	⇓P	**Pn**	**04 50 01.4**	**+1.4**
MORC	**Moravsky Berou**	**2.04**	**153**	*e*Pn	**Pn**	**04 50 01.5**	**+1.4**
MORC				*e*Sg	**Sg**	**04 50 30.5**	**+0.6**
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*SG	**Sg**	**04 50 34.9**	**+0.2**
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*Sg	**Sg**	**04 50 34.9**	**+0.2**
VRAC	**Vranov**	**2.32**	**172**	Pn	**Pn**	**04 50 05.1**	**+1.2**
	comp=Z,4.4nm,0.3s,baz=343,slow=13,SNR=34						
VRAC				Sn	**Sn**	**04 50 31.1**	**-2.0**
	comp=Z,4.0nm,0.3s,baz=13,slow=12,SNR=5.8						
VRAC				Lg	Lg	04 50 37.5	
	comp=Z,4.5nm,0.3s,baz=57,slow=17,SNR=6.0						
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.32**	**172**	*e*Pn	**Pn**	**04 50 05.5**	**+1.6**
	baz=353						
VRAC				*e*Sg	**Sg**	**04 50 38.6**	**-0.3**
	comp=Z,76nm,0.7s,baz=353						
VRAC	**Vranov**	**2.32**	**172**	⇓P	**Pb**	**04 50 06.0**	**-1.1**
VRAC				⇓S	**Sb**	**04 50 36.7**	**+0.3**
VRAC	**Vranov**	**2.32**	**172**	*e*Pn	**Pn**	**04 50 05.7**	**+1.8**
VRAC				*e*Sg	**Sg**	**04 50 39.2**	**+0.3**
TREC	**Trest**	**2.35**	**190**	*e*Pn	**Pn**	**04 50 06.1**	**+1.8**
KRUC	**Moravsky**	**2.55**	**176**	*e*Pn	**Pn**	**04 50 08.4**	**+1.3**
	baz=356						
KRUC				*e*Sg	**Sg**	**04 50 45.7**	**-0.7**
	comp=Z,74nm,0.9s,baz=356						
KRUC	**Moravsky**	**2.55**	**176**	*e*Pn	**Pn**	**04 50 09.1**	**+2.0**
KRUC				*e*Sg	**Sg**	**04 50 47.0**	**+0.6**
TANN	**Tannenbergstha**	**2.60**	**244**	*e*Pn	**Pn**	**04 50 09.3**	**+1.5**
TANN				*e*Sg	**Sg**	**04 50 48.2**	**+0.1**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**04 50 10.8**	**+1.6**
NKC				*e*SG	**Sg**	**04 50 53.2**	**+1.9**
	comp=Z,87nm,0.6s						
NKC	**Novy Kostel**	**2.70**	**241**	*e*Pn	**Pn**	**04 50 10.7**	**+1.5**
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**04 50 09.5**	**+0.3**
OJC				*e*Pg	**Pg**	**04 50 18.0**	**+1.7**
OJC				*e*Sg	**Sg**	**04 50 53.7**	**+2.4**
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**04 50 09.7**	**+0.5**
OJC	**Ojcow**	**2.71**	**119**	Pn	**Pn**	**04 50 09.7**	**+0.5**
PLN	**Plauen**	**2.75**	**247**	*e*Pn	**Pn**	**04 50 11.0**	**+1.3**
PLN				*e*Sg	**Sg**	**04 50 53.2**	**+0.6**
NEUB	**Neuenburg**	**2.75**	**263**	*e*Sg	**Sg**	**04 50 55.0**	**+2.1**
JAVC	**Velka Javorina**	**2.92**	**160**	*e*Pn	**Pn**	**04 50 13.9**	**+1.7**
	baz=341						
JAVC				*e*Sg	**Sg**	**04 50 57.5**	**-0.8**
	comp=Z,70nm,0.8s,baz=341						
KHC	**Kasperske Hory**	**2.97**	**214**	*e*PN	**Pn**	**04 50 14.1**	**+1.3**
KHC				*e*PG	**Pg**	**04 50 20.1**	**-1.2**
KHC				*e*SG	**Sg**	**04 50 59.8**	**+0.1**
	comp=Z,28nm,0.6s						
KHC	**Kasperske Hory**	**2.97**	**214**	*e*Pn	**Pn**	**04 50 14.0**	**+1.2**
KHC	**Kasperske Hory**	**2.97**	**214**	Pn	**Pn**	**04 50 13.7**	**+0.9**
MOX	**Moxa**	**3.00**	**253**	*e*Sg	**Sg**	**04 51 02.7**	**+1.9**
MANZ	**Manzenberg**	**3.02**	**239**	*e*Pn	**Pn**	**04 50 15.4**	**+1.9**
CKRC	**Cesky Krumlov**	**3.02**	**203**	*e*PN	**Pn**	**04 50 15.2**	**+1.6**
CKRC				*e*PG	**Pg**	**04 50 21.6**	**-0.8**
CKRC	**Cesky Krumlov**	**3.02**	**203**	*e*Pn	**Pn**	**04 50 15.7**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.10**	**235**	*e*Pn	**Pn**	**04 50 15.9**	**+1.3**
GEC2	**GERESS Array S**	**3.17**	**210**	*e*Pn	**Pn**	**04 50 17.5**	**+1.8**
GERES	**GERESS Array B**	**3.17**	**210**	Pn	**Pn**	**04 50 15.1**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=31,slow=13,SNR=21						
GERES				Pg	**Pb**	**04 50 23.1**	**+1.4**
	comp=Z,4.8nm,0.3s,baz=25,slow=15,SNR=18						
GERES				Sn	**Sn**	**04 50 48.9**	**-5.4**
	comp=Z,2.5nm,0.3s,baz=34,slow=24,SNR=5.5						
GERES				Lg	Lg	04 51 03.7	
	comp=Z,5.5nm,0.3s,baz=33,slow=28,SNR=7.8						
	comp=Z,6.5nm,0.5s						
WET	**Wettzell**	**3.22**	**221**	*e*Pn	**Pn**	**04 50 18.0**	**+1.6**
LANS	**Liptovska Anna**	**3.26**	**138**	*e*PN	**Pn**	**04 50 19.0**	**+2.2**
LANS				*e*PG	**Pg**	**04 50 28.3**	**+1.4**
LANS				*e*SG	**Sg**	**04 51 10.7**	**+1.6**
MODS	**Modra-Piesok**	**3.32**	**167**	*e*PN	**Pn**	**04 50 20.1**	**+2.5**
MODS				*e*PG	**Pg**	**04 50 28.3**	**+0.3**
MODS				*e*SG	**Sg**	**04 51 11.6**	**+0.6**
NIE	**Niedzica**	**3.45**	**128**	*e*Pg	**Pg**	**04 50 31.7**	**+1.2**
NIE				*e*Sg	**Sg**	**04 51 17.2**	**+2.0**
NIE	**Niedzica**	**3.45**	**128**	Pn	**Pn**	**04 50 23.1**	**+3.7**
VYHS	**Vyhne**	**3.57**	**150**	*e*PN	**Pn**	**04 50 22.5**	**+1.4**
VYHS				*e*PG	**Pg**	**04 50 34.1**	**+1.2**
VYHS				*e*SG	**Sg**	**04 51 19.1**	**0.0**
BSD	**Bornholm Skovb**	**3.59**	**349**	*e*	**Pn**	**04 50 21.1**	**-0.2**
	baz=178,slow=16						
BSD				*i* P	**Pn**	**04 50 23.1**	**+1.8**
BSD				*i* S	**Sn**	**04 51 02.2**	**-2.1**
BSD				IAML		04 51 25.4	
	comp=Z,4.8nm,0.4s						
GRF	**Grafenberg Arr**	**3.66**	**240**	*e*Pn	**Pn**	**04 50 24.2**	**+1.8**
CONA	**Conrad Observa**	**3.69**	**183**	*i* Pn	**Pn**	**04 50 24.7**	**+2.0**
	comp=Z,4.7nm,0.4s,SNR=13						
CONA				*i* Sn	**Sn**	**04 51 07.7**	**+0.8**
	comp=Z,6.3nm,0.3s						
CONA				*e*Sg	**Sg**	**04 51 23.1**	**+0.3**
	comp=Z,39nm,0.5s						
RONA	**Rosalia, Austr**	**3.91**	**178**	*i* Pn	**Pn**	**04 50 28.0**	**+2.2**
	comp=Z,0.5nm,0.1s						
RONA				*e*Sg	**Sg**	**04 51 30.1**	**0.0**
	comp=Z,33nm,0.7s						
MOA	**Molln**	**3.95**	**199**	*i* Pn	**Pn**	**04 50 28.1**	**+1.8**
	comp=Z,17nm,0.4s,SNR=7.9						
MOA				*e*Sg	**Sg**	**04 51 31.3**	**+0.1**
	comp=Z,35nm,0.6s						
KECS	**Kecovo**	**4.20**	**136**	*e*PG	**Pg**	**04 50 47.4**	**+2.5**
KECS				*e*SG	**Sg**	**04 51 44.4**	**+5.0**
BIOA	**Bad Ischl, Aus**	**4.24**	**203**	*i* Pn	**Pn**	**04 50 32.0**	**+1.7**
	comp=Z,5.8nm,0.3s,SNR=4.8						
BIOA				*e*Sg	**Sg**	**04 51 42.3**	**+1.7**
	comp=Z,26nm,0.5s						
LUNU	**Lund**	**4.34**	**339**	*i* P	**Pn**	**04 50 32.6**	**+1.0**
ARSA	**Arzberg**	**4.38**	**185**	*i* Pn	**Pn**	**04 50 34.7**	**+2.5**
	comp=Z,1.6nm,0.3s						
ARSA				*e*Pg	**Pg**	**04 50 48.5**	**+0.2**
	comp=Z,6.0nm,0.5s						
ARSA				*e*Sg	**Sg**	**04 51 46.3**	**+1.3**
	comp=Z,16nm,0.5s						
PSZ	**Piszkesteto**	**4.42**	**145**	⇑P	**Pn**	**04 50 35.0**	**+2.1**
MPLH	**Magyarpolny**	**4.53**	**168**	Pn	**Pn**	**04 50 36.5**	**+2.2**
BLEU	**Blekinge**	**4.71**	**358**	P	**Pn**	**04 50 38.5**	**+1.8**
BLEU				S	**Sn**	**04 51 30.2**	**-1.8**
BLEU	**Blekinge**	**4.71**	**358**	IAML		04 51 43.4	
	comp=Z,0.8nm,0.4s						
BLEU	**Blekinge**	**4.71**	**358**	*i* P	**Pn**	**04 50 38.3**	**+1.6**
BLEU	**Blekinge**	**4.71**	**358**	P	**Pn**	**04 50 38.5**	**+1.8**
BLEU	**Blekinge**	**4.71**	**358**	S	**Sn**	**04 51 30.2**	**-1.8**
LESA	**Schwarzleotal**	**4.75**	**210**	*i* Pn	**Pn**	**04 50 39.3**	**+2.0**
	comp=Z,0.6nm,0.2s						
LESA				Sg	**Sg**	**04 51 56.8**	**-0.2**
	comp=Z,13nm,0.6s						
KOLS	**Kolonicke sedl**	**4.76**	**122**	*e*PN	**Pn**	**04 50 39.8**	**+2.3**
KOLS				*e*PG	**Pg**	**04 50 59.2**	**+3.5**
KOLS				*e*SG	**Sg**	**04 51 58.2**	**+0.8**
BJUU	**Bjuv**	**4.84**	**339**	P	**Pn**	**04 50 39.6**	**+1.2**
BJUU				S	**Sn**	**04 51 32.4**	**-2.8**
BJUU	**Bjuv**	**4.84**	**339**	S	**Sn**	**04 51 32.4**	**-2.8**
BJUU	**Bjuv**	**4.84**	**339**	*i* P	**Pn**	**04 50 39.5**	**+1.0**
BJUU	**Bjuv**	**4.84**	**339**	P	**Pn**	**04 50 39.6**	**+1.2**
KBA	**Koelnbreinsper**	**4.88**	**203**	*i* Pn	**Pn**	**04 50 41.4**	**+2.1**
	comp=Z,9.6nm,0.4s,SNR=20						
KBA				Sg	**Sg**	**04 52 03.0**	**+1.8**
	comp=Z,26nm,0.7s						
SOKA	**Soboth**	**4.98**	**189**	*i* Pn	**Pn**	**04 50 43.6**	**+3.0**
	comp=Z,0.5nm,0.2s,SNR=5.2						
SOKA				Sg	**Sg**	**04 52 04.9**	**+0.4**
	comp=Z,14nm,0.8s						
DEL	**Delary**	**5.05**	**346**	P	**Pn**	**04 50 42.6**	**+1.2**
DEL	**Delary**	**5.05**	**346**	IAML		04 51 42.1	
	comp=Z,1.5nm,0.4s						
DEL	**Delary**	**5.05**	**346**	*i* P	**Pn**	**04 50 42.6**	**+1.2**
DEL	**Delary**	**5.05**	**346**	P	**Pn**	**04 50 42.6**	**+1.2**
DEL	**Delary**	**5.05**	**346**	*i* S	**Sn**	**04 51 36.1**	**-4.3**
HOLU	**Holmets**	**5.07**	**125**	Pn	**Pn**	**04 50 44.5**	**+2.8**
WATA	**Walderalm**	**5.20**	**217**	*i* Pn	**Pn**	**04 50 45.9**	**+2.3**
	comp=Z,4.4nm,0.5s						
WATA				Sg	**Sg**	**04 52 14.6**	**+3.1**
	comp=Z,11nm,0.5s						
OBKA	**Obir**	**5.21**	**192**	*i* Pn	**Pn**	**04 50 46.2**	**+2.6**
	comp=Z,0.9nm,0.4s						
OBKA				*e*Sg	**Sg**	**04 52 14.3**	**+2.7**
	comp=Z,25nm,1.0s						
WTTA	**Wattenberg**	**5.24**	**216**	*i* Pn	**Pn**	**04 50 46.5**	**+2.4**
	comp=Z,3.7nm,0.6s						
WTTA				Sg	**Sg**	**04 52 14.9**	**+2.2**
	comp=Z,25nm,0.9s						
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**04 50 47.6**	**+1.8**
VXJU				S	**Sn**	**04 51 46.1**	**-2.2**
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**04 50 47.6**	**+1.8**
VXJU				S	**Sn**	**04 51 46.1**	**-2.2**
ABTA	**Abfaltersbach**	**5.41**	**207**	*e*Pn	**Pn**	**04 50 48.8**	**+2.4**
	comp=Z,3.9nm,0.4s						
ABTA				Sg	**Sg**	**04 52 18.6**	**+0.5**
	comp=Z,13nm,0.9s						
SQTA	**Sankt Quirin**	**5.44**	**218**	*i* Pn	**Pn**	**04 50 49.3**	**+2.5**
	comp=Z,0.8nm,0.2s						
MORH	**Mrgy, Hungar**	**5.64**	**162**	⇓P	**Pn**	**04 50 51.6**	**+2.0**
CEI	**Carei**	**5.68**	**131**	⇓P	**Pn**	**04 50 51.9**	**+1.9**
FETA	**Feichten**	**5.79**	**220**	*i* Pn	**Pn**	**04 50 53.8**	**+2.2**
	comp=Z,3.2nm,0.8s						
DAVA	**Damuels**	**5.94**	**226**	*i* Pn	**Pn**	**04 50 55.4**	**+1.6**
	comp=Z,0.9nm,0.3s						
DAVA				*e*Sg	**Sg**	**04 52 37.8**	**+2.7**
	comp=Z,7.0nm,0.5s						
EKSU	**Eksjoe**	**6.00**	**356**	P	**Pn**	**04 50 56.1**	**+1.7**
EKSU	**Eksjoe**	**6.00**	**356**	P	**Pn**	**04 50 56.1**	**+1.7**
BMR	**Baia Mare**	**6.20**	**127**	⇓P	**Pn**	**04 50 58.9**	**+1.8**
DAVOX	**Davos/Dischmat**	**6.33**	**223**	Pn	**Pn**	**04 50 58.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=35,slow=13,SNR=7.0						
DAVOX				Sn	**Sn**	**04 52 07.1**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=331,slow=19,SNR=1.2						
DAVOX				Lg	Lg	04 52 42.9	
	baz=324,slow=19						
	comp=Z,1.2nm,0.7s						
SIRR	**Siria**	**6.46**	**144**	⇓P	**Pn**	**04 51 02.6**	**+1.8**
DRGR		**6.47**	**136**	⇑P	**Pn**	**04 51 02.5**	**+1.6**
MARR	**Marisel-Cluj**	**6.73**	**134**	⇓P	**Pn**	**04 51 06.5**	**+1.9**
BANR	**Banloc**	**7.06**	**150**	⇓P	**Pn**	**04 51 11.1**	**+2.2**
BURAR	**Bucovina Array**	**7.13**	**121**	⇑P	**Pn**	**04 51 11.7**	**+1.7**
NACGM	**Naroch**	**7.20**	**59**	*e*P	Pn	04 51 16.3	+5.5
GZR	**Gura Zlata**	**7.62**	**142**	⇓P	**Pn**	**04 51 18.8**	**+2.0**
MDVR	**Moldovita**	**7.78**	**149**	⇓P	**Pn**	**04 51 20.4**	**+1.5**
AK19	**Malin Array Si**	**8.15**	**91**	Pn	**Pn**	**04 51 24.3**	**+0.4**
AK21	**Malin Array Si**	**8.16**	**91**	Pn	**Pn**	**04 51 25.0**	**+1.0**
AK22	**Malin Array Si**	**8.18**	**91**	Pn	**Pn**	**04 51 25.4**	**+1.1**
AK18	**Malin Array Si**	**8.19**	**91**	Pn	**Pn**	**04 51 25.7**	**+1.3**
AK17	**Malin Array Si**	**8.19**	**91**	Pn	**Pn**	**04 51 25.3**	**+0.9**
AK16	**Malin Array Si**	**8.22**	**91**	Pn	**Pn**	**04 51 25.5**	**+0.6**
AK12	**Malin Array Si**	**8.26**	**92**	Pn	**Pn**	**04 51 26.7**	**+1.3**
AK01	**Malin Array Si**	**8.28**	**91**	Pn	**Pn**	**04 51 27.0**	**+1.3**
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**04 51 26.4**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=281,slow=12,SNR=13						
AKASG				Sn	**Sn**	**04 52 55.4**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=278,slow=23,SNR=1.7						
AKASG				Lg	Lg	04 53 49.6	
	comp=Z,0.2nm,0.3s,baz=286,slow=8.1,SNR=2.7						
	comp=Z,1.8nm,0.6s						
AKBB	**Malin Array Si**	**8.29**	**91**	Pn	**Pn**	**04 51 27.7**	**+1.9**
HFS	**Hagfors**	**8.66**	**352**	Pn	**Pn**	**04 51 29.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=1.4						
	comp=Z,6.4nm,1.1s						
NOA	**NORSAR Array B**	**9.84**	**346**	Pn	**Pn**	**04 51 47.2**	**+0.1**
	baz=198,slow=13,SNR=1.5						
	comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**04 52 04.0**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=203,slow=13,SNR=5.3						
FINES				Sn	**Sn**	**04 54 06.8**	**-6.4**
	comp=Z,0.3nm,0.3s,baz=216,slow=19,SNR=4.3						
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn	**Pn**	**04 52 15.9**	**-1.7**
	baz=107,slow=14						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**18.53**	**10**	Pn	**P**	**04 53 39.7**	**-2.5**
	baz=196,slow=13,SNR=1.3						
	comp=Z,2.5nm,1.0s						
BVAR	**Borovoye Array**	**32.54**	**66**	P	**P**	**04 55 59.6**	**+2.8**
	comp=Z,0.5nm,0.5s,baz=276,slow=4.2,SNR=2.1						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**40.14**	**59**	P	**P**	**04 57 02.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=306,slow=12,SNR=1.8						
	comp=Z,0.3nm,0.4s						
TIXI	**Tiksi**	**48.31**	**23**	LR	LR	05 23 53.0	
	comp=Z,29nm,21.1s,baz=5.5,slow=43						
YKA	**Yellowknife Ar**	**59.77**	**336**	P	**P**	**04 59 32.7**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=31,slow=6.2,SNR=5.2						
	comp=Z,0.3nm,0.7s						

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*ISN **09** 05:07:43.6±1.0, 34°.68N×46°.38E, h24km±19km, ML2.8*
*TEH **09** 05:07:43.3, 34°.64N×46°.34E, h11km±33km*
ISC 09 05:07:43.4±1.1, 34°.66N±0°.05×46°.35E±0°.05, h13km±9km, n12, σ0°.82/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.05**	**39**	Pg	**Pg**	**05 07 46.2**	**+0.1**
IGHG	**Ghaleghazi**	**0.38**	**151**	Pg	**Pg**	**05 07 51.4**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.65**	**256**	Pg	**Pb**	**05 07 56.0**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.66**	**214**	Pg	**Pb**	**05 07 55.7**	**-1.1**
KCHF	**Cheshme Sefid,**	**0.69**	**124**	Pg	**Pb**	**05 07 56.7**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.04**	**187**	Pg	**Pb**	**05 08 02.8**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.07**	**79**	Pg	**Pg**	**05 08 04.1**	**0.0**
IBDR	**Badra**	**1.58**	**193**	*e*Pg	**Pb**	**05 08 13.0**	**+0.4**
IBDR				*e*Sg	**Sb**	**05 08 33.0**	**+

0.4nm,0.5s,baz=151,slow=8.0,SNR=9.1
0.4nm,0.5s
KURBB **Kurchatov Arra 65.97 338** P **P 05 25 33.1 -2.0**
0.2nm,0.4s,baz=149,slow=6.7,SNR=2.9
0.2nm,0.4s
ZALV **Zalesovo Beam 66.75 343** P **P 05 25 37.4 -2.6**
0.5nm,0.3s,baz=126,slow=7.5,SNR=4.5
0.5nm,0.3s
BVAR **Borovoye Array 71.02 335** P **P 05 26 04.1 -2.5**
0.8nm,0.6s,baz=139,slow=6.9,SNR=5.1
0.8nm,0.6s
QSPA **South Pole Qui 80.75 180** P **P 05 27 03.9 +1.8**
1.3nm,1.0s,baz=338,slow=7.0,SNR=2.0
1.3nm,1.0s
BRTR **Keskin Array B 86.31 311** P **P 05 27 32.3 +1.2**
0.2nm,0.3s,baz=94,slow=2.5,SNR=1.6
0.2nm,0.3s

*IDC **09** 05:52:31.0±4.1, 18°.97N×107°.65W, h0km, mb3.0/4, mbtmp3.2/7, ML3.3/3, MS3.2/10, Error ellipse: s-maj=74.2km s-min=39.4km az=31.0*
ISC 09 05:52:33.3±2.6, 19°.0N±0°.3×107°.7W±0°.2, h16km, n16, σ1§34/7, mb2.9/4, MS3.1/6, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**5.66**	**335**	LR	LR	05 55 39.9	
	comp=Z,472nm,18.5s,baz=215,slow=33						
TXAR	**Lajitas Array**	**10.93**	**19**	Pn	**Pn**	**05 55 09.2**	**-0.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=11						
TXAR				LR	LR	05 59 03.9	
	comp=Z,86nm,18.9s,baz=198,slow=36						
	1.2nm,0.9s						
CMIG	**Matias Romero**	**12.30**	**97**	Pn	**Pn**	**05 55 28.1**	**+0.2**
	0.2nm,0.3s,baz=281,slow=16,SNR=5.7						
CMIG				LR	LR	05 59 15.3	
	comp=Z,52nm,20.8s,baz=284,slow=33						
	1.5nm,0.6s						
ANMO	**Albuquerque**	**15.94**	**4**	Pn	**Pn**	**05 56 16.7**	**-0.5**
	0.1nm,0.3s,baz=150,slow=10,SNR=3.9						
	0.3nm,0.3s						
PFO	**Pinyon Flats O**	**16.55**	**333**	LR	LR	06 01 59.8	
	comp=Z,121nm,21.9s,baz=216,slow=34						
NVAR	**Mina Array Bea**	**21.48**	**337**	P	**P**	**05 57 23.1**	**+1.6**
	0.2nm,0.7s,baz=148,slow=12,SNR=1.4						
NVAR				LR	LR	06 05 38.6	
	comp=Z,82nm,18.2s,baz=171,slow=37						
	0.2nm,0.7s						
ELK	**Elko**	**22.64**	**345**	LR	LR	06 06 07.8	
	comp=Z,77nm,19.4s,baz=156,slow=36						
PDAR	**Pinedale Array**	**23.77**	**357**	P	**P**	**05 57 46.9**	**+1.6**
	0.3nm,0.8s,baz=161,slow=9.4,SNR=4.2						
PDAR				LR	LR	06 05 51.2	
	comp=Z,28nm,18.1s,baz=196,slow=34						
	0.3nm,0.8s						
YBH	**Yreka Blue Hor**	**26.05**	**334**	LR	LR	06 07 38.5	
	comp=Z,58nm,18.9s,baz=172,slow=35						
BBB	**Bella Bella**	**36.81**	**339**	LR	LR	06 13 34.5	
	comp=Z,28nm,18.0s,baz=41,slow=34						
SJG	**San Juan**	**39.30**	**84**	LR	LR	06 15 36.3	
	comp=Z,27nm,19.4s,baz=232,slow=35						
YKA	**Yellowknife Ar**	**43.74**	**355**	P	**P**	**06 00 36.3**	**-1.3**
	0.2nm,0.9s,baz=172,slow=7.1,SNR=2.3						
	0.2nm,0.9s						
ILAR	**Eielson Array**	**52.68**	**340**	P	**P**	**06 01 46.4**	**-0.3**
	0.6nm,1.0s,baz=140,slow=8.0,SNR=3.2						
	0.6nm,1.0s						
H03N2	**Juan Fernandez**	**58.90**	**152**	T	T	07 06 29.2	
	baz=330,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**58.91**	**152**	T	T	07 06 29.9	
	baz=330,slow=77,SNR=49						
H03N3	**Juan Fernandez**	**58.92**	**152**	T	T	07 06 30.4	
	baz=330,slow=77,SNR=38						

*SJA **09** 06:16:15.2±0.6, 19°.94S×69°.20W, h105km±2km, ML4.3, MW4.1*
*NEIC **09** 06:16:15.6±2.2, 19°.96S±0°.04×69°.09W±0°.08, h99km±4km, mb4.4/17, Error ellipse: s-maj=11.0km s-min=6.3km az=96.0*
*IDC **09** 06:16:16.1±2.0, 20°.06S×69°.00W, h109km±18km, mb3.6/7, mbtmp4.0/11, MS3.3/1, Error ellipse: s-maj=24.4km s-min=14.3km az=81.0*
*GUC **09** 06:16:17.0±0.5, 19°.94S×69°.13W, h98km±2km, ML4.2*
*VAO **09** 06:16:28.0±1.0, 19°.30S×68°.31W, h151km±8km, mb4.2*
ISC 09 06:16:15.4±0.6, 19°.97S±0°.03×69°.18W±0°.05, h105km±5km, n96, σ1§51/107, mb4.2/12, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.17**	**173**		**Pn**	**06 16 30.6**	**-0.1**
PB08	**IPOC Station P**	**0.17**	**173**	*i* P	**Pn**	**06 16 31.1**	**+0.4**
PB08				*i* S	**Sn**	**06 16 42.3**	**+0.3**
PB08				IAML		06 16 43.4	
	comp=N,16μm,0.2s						
PB08	**IPOC Station P**	**0.17**	**173**	*e*P	**Pn**	**06 16 31.1**	**+0.4**
PB08				*e*S	**Sn**	**06 16 43.0**	**+1.0**
PB08				IAML		06 16 43.9	
	comp=Z,7μm,0.2s						
PB11	**IPOC Station P**	**0.50**	**295**		**Pn**	**06 16 31.9**	**+0.1**
PB11	**IPOC Station P**	**0.50**	**295**	*e*S	**Sn**	**06 16 44.3**	**+0.1**
PB11				IAML		06 16 44.9	
	comp=E,14μm,0.3s						
PB11	**IPOC Station P**	**0.50**	**295**	*e*P	**Pn**	**06 16 32.0**	**+0.1**
PB11				*e*S	**Sn**	**06 16 44.7**	**+0.5**
PB11				IAML		06 16 49.1	
	comp=Z,4μm,0.2s						
TA02	**Huaiquique**	**0.94**	**251**		**Pn**	**06 16 36.3**	**+0.7**
TA02	**Huaiquique**	**0.94**	**251**	*e*P	**Pn**	**06 16 36.5**	**+0.9**
TA02	**Huaiquique**	**0.94**	**251**	*e*P	**Pn**	**06 16 36.4**	**+0.7**
TA02				*e*S	**Sn**	**06 16 53.0**	**+2.1**
TA02				IAML		06 16 54.4	
	comp=Z,11μm,0.1s						
PB01	**IPOC Station P**	**1.10**	**195**		**Pn**	**06 16 38.3**	**+0.8**
PB01	**IPOC Station P**	**1.10**	**195**	⇑*e*P	**Pn**	**06 16 38.5**	**+1.0**
PB01				*e*S	**Sn**	**06 16 55.0**	**+0.9**
PB01				IAML		06 16 56.9	
	comp=E,7μm,0.2s						
PB01	**IPOC Station P**	**1.10**	**195**	*e*P	**Pn**	**06 16 38.5**	**+1.0**
PB01				*e*S	**Sn**	**06 16 55.5**	**+1.4**
PB01				IAML		06 16 56.6	
	comp=Z,6μm,0.2s						
TA01	**Diego Aracena**	**1.11**	**238**	Pn	**Pn**	**06 16 38.0**	**+0.5**
TA01	**Diego Aracena**	**1.11**	**238**	⇑*i*P	**Pn**	**06 16 38.2**	**+0.8**
TA01				*i* S	**Sn**	**06 16 54.8**	**+0.7**
TA01				IAML		06 16 55.7	
	comp=E,6μm,0.3s						
TA01	**Diego Aracena**	**1.11**	**238**	*e*P	**Pn**	**06 16 37.9**	**+0.5**
TA01				*e*S	**Sn**	**06 16 55.3**	**+1.3**
TA01				IAML		06 16 57.0	
	comp=Z,2μm,0.3s						
PB12	**IPOC Station P**	**1.73**	**321**	Pn	**Pn**	**06 16 45.1**	**+0.1**
PB12	**IPOC Station P**	**1.73**	**321**	*e*P	**Pn**	**06 16 45.4**	**+0.5**
PB12				*e*S	**Sn**	**06 17 08.2**	**+0.8**
PB12				IAML		06 17 12.6	
	comp=E,3μm,0.4s						
PB12	**IPOC Station P**	**1.73**	**321**	*e*P	**Pn**	**06 16 45.3**	**+0.3**
PB12				*e*S	**Sn**	**06 17 08.6**	**+1.1**
PB12				IAML		06 17 14.0	
	comp=Z,906nm,0.2s						
PB09	**IPOC Station P**	**1.82**	**182**		**Pn**	**06 16 47.5**	**+1.5**
PB09	**IPOC Station P**	**1.82**	**182**	*e*P	**Pn**	**06 16 47.6**	**+1.5**
PB09				*e*S	**Sn**	**06 17 11.4**	**+2.0**
PB09				IAML		06 17 15.9	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**1.82**	**182**	*e*P	**Pn**	**06 17 47.6**	**+1.5**
PB09				*e*S	**Sn**	**06 17 06.9**	**-2.5**
PB09				IAML		06 17 15.9	
	comp=Z,2μm,0.6s						
AP01	**Chacalluta**	**1.94**	**325**		**Pn**	**06 16 47.8**	**+0.4**
AP01	**Chacalluta**	**1.94**	**325**	*e*P	**Pn**	**06 16 48.4**	**+1.0**
AP01	**Chacalluta**	**1.94**	**325**	*e*P	**Pn**	**06 16 48.4**	**+1.0**
AP01				*e*S	**Sn**	**06 17 11.7**	**-0.1**
AP01				IAML		06 17 27.4	
	comp=Z,2μm,0.2s						
PB03	**IPOC Station P**	**2.14**	**195**	*e*P	**Pn**	**06 16 51.3**	**+1.1**
PB03				IAML		06 17 23.5	
	comp=E,1μm,0.4s						
PB03	**IPOC Station P**	**2.14**	**195**	*e*P	**Pn**	**06 16 51.0**	**+0.9**
PB03				*e*S	**Sn**	**06 17 14.7**	**-1.9**
PB03				IAML		06 17 24.9	
	comp=Z,2μm,0.2s						
PB18	**Visviri**	**2.39**	**353**		**Pn**	**06 16 57.1**	**+3.3**
PB06	**IPOC Station P**	**2.75**	**188**	*e*P	**Pn**	**06 16 59.3**	**+1.2**
PB06	**IPOC Station P**	**2.75**	**188**	*e*P	**Pn**	**06 16 59.5**	**+1.4**
PB06				*e*S	Sn	06 17 17.7	-13
PB06				IAML		06 17 41.6	
	comp=Z,1μm,0.3s						
AF01	**San Pedro de A**	**3.11**	**163**		**Pn**	**06 17 05.5**	**+2.5**
AF01	**San Pedro de A**	**3.11**	**163**	*e*P	**Pn**	**06 17 04.8**	**+1.7**
AF01				IAML		06 18 05.7	
	comp=E,890nm,0.4s						
AF01	**San Pedro de A**	**3.11**	**163**	*e*P	**Pn**	**06 17 04.6**	**+1.6**
AF01				*e*S	Sn	06 17 52.0	+12
AF01				IAML		06 18 07.0	
	comp=Z,562nm,0.5s						
LPAZ	**La Paz**	**3.80**	**15**	Pn	**Pn**	**06 17 14.7**	**+2.1**
LPAZ	**La Paz**	**3.80**	**15**	P	**Pn**	**06 17 15.3**	**+2.7**
	comp=Z,79nm,0.5s,baz=203,slow=5.9,SNR=276						
LPAZ				S	**Sn**	**06 17 59.4**	**+2.7**
	comp=Z,21nm,0.8s,baz=216,slow=14,SNR=1.3						
LPAZ	**La Paz**	**3.80**	**15**	*e*P	**Pn**	**06 17 15.3**	**+2.7**
LPAZ	**La Paz**	**3.80**	**15**	*e*P	**Pn**	**06 17 15.2**	**+2.7**
YJA	**Yavi**	**4.06**	**123**	*e*P	**Pn**	**06 17 19.6**	**+3.6**
YJA				*e*S	**Sn**	**06 18 05.3**	**+2.5**
PB14	**IPOC Station P**	**4.77**	**194**	Pn	**Pn**	**06 17 26.2**	**+0.8**
PB14	**IPOC Station P**	**4.77**	**194**	*e*P	**Pn**	**06 17 25.3**	**-0.1**
PB14				*e*S	Sn	06 18 30.3	+11
PB14				IAML		06 18 38.1	
	comp=Z,316nm,0.6s						
GO02	**Mina Guanaco**	**5.18**	**184**	Pn	**Pn**	**06 17 30.7**	**-0.3**
GO02	**Mina Guanaco**	**5.18**	**184**	*e*S	Sn	06 18 40.9	+11
AC01	**Pan de Azucar**	**6.29**	**192**	Pn	**Pn**	**06 17 43.5**	**-2.2**
AC02	**Maricunga**	**6.83**	**180**	Pn	**Pn**	**06 17 53.3**	**-0.3**
AC04	**Llanos de Chal**	**8.38**	**192**	Pn	Pn	06 18 09.8	-4.3
SIV	**San Ignacio**	**8.67**	**64**	P	**Pn**	**06 18 15.5**	**-2.6**
	comp=Z,60nm,0.5s,baz=256,slow=9.7,SNR=501						
PTLB	**Pontes e Lacer**	**10.57**	**66**	Pn	**Pn**	**06 18 41.6**	**-2.4**
PTLB	**Pontes e Lacer**	**10.57**	**66**	*e*P	**Pn**	**06 18 41.5**	**-2.4**
VILB	**Vilhena**	**11.08**	**52**	Pn	**Pn**	**06 18 49.8**	**-1.0**
VILB	**Vilhena**	**11.08**	**52**	*e*P	**Pn**	**06 18 49.2**	**-1.7**
CFA	**Coronel Fontan**	**11.62**	**176**	P	**Pn**	**06 18 55.4**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=32,slow=16,SNR=6.5						
CFA				S	Sn	06 20 56.2	-10
	comp=Z,0.7nm,0.3s,baz=24,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**12.60**	**122**	Pn	**Pn**	**06 19 09.3**	**-1.6**
CPUP	**Villa Florida**	**12.60**	**122**	P	**Pn**	**06 19 10.0**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=284,slow=12,SNR=4.1						
CPUP	**Villa Florida**	**12.60**	**122**	*e*P	**P**	**06 19 19.0**	**+0.8**
AQDB	**Aquidauana**	**12.66**	**95**	*e*P	**Pn**	**06 19 13.9**	**+2.1**
SALV	**Santo Antonio**	**13.45**	**75**	*e*P	**Pn**	**06 19 20.5**	**-1.7**
RPRD	**Ribas do Rio P**	**14.54**	**95**	*e*P	**P**	**06 19 37.1**	**-2.7**
PDRB	**Porto dos Gac**	**14.57**	**57**	*e*P	**Pn**	**06 19 33.0**	**-3.6**
TEFE	**Tefe**	**16.95**	**16**	*e*P	**P**	**06 20 06.0**	**-0.6**
ARAG	**Araguaiana, MT**	**17.07**	**78**	*e*P	**P**	**06 20 07.3**	**-0.6**
ITAB	**Concordia**	**17.20**	**118**	P	**Pn**	**06 20 10.2**	**+0.9**
ITAB				IAmb	IAmb	06 20 28.3	
	comp=Z,17nm,1.4s						
ITRB	**Iturama**	**17.71**	**92**	*e*P	**Pn**	**06 20 16.4**	**+1.0**
PLTB	**Pedras Altas**	**18.26**	**133**	*e*P	Pn	06 20 28.9	+6.9
FRTB	**Fartura**	**18.54**	**104**	*e*P	**Pn**	**06 20 24.6**	**-0.8**
MACA	**Manacapuru-AM**	**18.65**	**27**	P	**P**	**06 20 23.9**	**-1.4**
MACA				IAmb	IAmb	06 20 26.6	
	comp=Z,14nm,0.7s						
MACA	**Manacapuru-AM**	**18.65**	**27**	*e*P	**P**	**06 20 24.4**	**-0.9**
SNDB	**Serra Nova Dou**	**18.93**	**68**	*e*P	**P**	**06 20 27.3**	**-1.0**
COHC	**Cochancay**	**19.99**	**329**	P	Pn	06 20 41.9	-0.5
BDFB	**Brasilia**	**20.60**	**81**	P	**P**	**06 20 44.9**	**-1.6**
BDFB	**Brasilia**	**20.60**	**81**	P	**P**	**06 20 45.6**	**-0.9**
	comp=Z,2.4nm,0.4s,baz=233,slow=9.7,SNR=7.5						
	comp=Z,2.4nm,0.4s						
PLCA	**Paso Flores**	**20.73**	**183**	P	**P**	**06 20 48.6**	**+1.0**
PLCA	**Paso Flores**	**20.73**	**183**	P	**P**	**06 20 48.0**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=4.1,slow=12,SNR=8.1						
	comp=Z,2.4nm,0.7s						
MAL2	**Monte Alegre,**	**23.09**	**41**	P	**P**	**06 21 09.6**	**-2.7**
MAL2				IAmb	IAmb	06 21 37.9	
	comp=Z,22nm,0.9s						
BOAV	**Boa Vista**	**23.80**	**22**	P	**P**	**06 21 18.2**	**-0.5**
BOAV				IAmb	IAmb	06 21 19.2	
	comp=Z,4.9nm,0.7s						
JANB	**Januaria**	**24.20**	**82**	*e*P	**P**	**06 21 21.1**	**-1.4**
RUSC	**La Rusia**	**25.99**	**351**	P	**P**	**06 21 40.2**	**+1.0**
RUSC				IAmb	IAmb	06 21 44.1	
	comp=Z,11nm,1.4s						
GDU01	**Guandu, BA**	**28.98**	**82**	*e*P	**P**	**06 22 07.0**	**+1.6**
JTS	**Las Juntas de**	**33.85**	**331**	LR	LR	06 36 07.5	
	comp=Z,41nm,18.6s,baz=357,slow=35						
OBIP	**Obispado Ponce**	**37.86**	**4**	P	**P**	**06 23 21.1**	**-1.1**
CELP	**Cerrillos**	**37.90**	**4**	P	**P**	**06 23 22.1**	**-0.5**
PMSA	**Palmer Station**	**44.91**	**177**	P	**P**	**06 24 20.4**	**+1.1**
WVT	**Waverly**	**58.52**	**342**	P	**P**	**06 26 00.2**	**-0.6**
WVT				IAmb	IAmb	06 26 01.1	
	comp=Z,2.8nm,0.8s						
MIAR	**Mount Ida**	**58.98**	**337**	P	**P**	**06 26 04.1**	**+0.1**
MIAR				IAmb	IAmb	06 26 19.1	
	comp=Z,7.6nm,1.4s						
TXAR	**Lajitas Array**	**59.24**	**325**	P	**P**	**06 26 06.2**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=154,slow=6.2,SNR=2.4						
	comp=Z,0.2nm,0.7s						
P52A	**Corning**	**60.52**	**349**	P	**P**	**06 26 14.2**	**-0.3**
P52A				IAmb	IAmb	06 26 27.4	
	comp=Z,14nm,1.2s						
DBIC	**Dimbokro**	**68.55**	**74**	P	**P**	**06 27 06.5**	**-0.8**
DBIC	**Dimbokro**	**68.55**	**74**	P	**P**	**06 27 06.2**	**-1.1**
	comp=Z,4.5nm,0.8s,baz=239,slow=7.0,SNR=6.2						
	comp=Z,4.5nm,0.8s						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**06 27 18.6**	**+1.7**
QSPA				IAmb	IAmb	06 28 02.1	
	comp=Z,7.4nm,1.5s						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**06 27 19.1**	**+2.2**
	comp=Z,1.8nm,1.0s,baz=160,slow=2.9,SNR=9.3						
ULM	**Lac du Bonnet**	**73.79**	**343**	P	**P**	**06 27 38.3**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=117,slow=7.5,SNR=3.5						
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**74.14**	**322**	P	**P**	**06 27 42.4**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=165,slow=5.7,SNR=3.9						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.08**	**71**	P	**P**	**06 27 55.9**	**-1.8**
YKA	**Yellowknife Ar**	**89.67**	**341**	P	**P**	**06 29 02.4**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=139,slow=4.8,SNR=38						
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**131.14**	**209**	PKP	**PKiKP**	**06 35 16.3**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=137,slow=1.9,SNR=4.3						
WRA	**Warramunga Arr**	**134.13**	**212**	PKP	**PKiKP**	**06 35 22.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=147,slow=1.9,SNR=1.9						
MJAR	**Matsushiro Arr**	**150.91**	**310**	PKPbc	**PKiKP**	**06 35 55.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=54,slow=1.3,SNR=2.2						
SONM	**Songino Array**	**151.97**	**6**	PKPbc	**PKiKP**	**06 35 59.5**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=292,slow=1.5,SNR=5.3						

*JSN **09** 06:42:30.2±0.5, 18°.25N×76°.56W, h0km±6km, MD2.1*
*SSNC **09** 06:42:31.0±1.4, 18°.26N×76°.48W, h5km, MD2.8, ML1.8, MW1.4*
ISC 09 06:42:29.3±1.5, 18°.3N±0°.1×76°.51W±0°.08, h17km±17km, n8, σ0§80/14, 4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.35**	**236**	⇓*i*P	**Pg**	**06 42 36.5**	**-0.1**
HOJ	**Hope**	**0.35**	**221**	⇓*i*P	**Pg**	**06 42 36.7**	**0.0**
MTDJ	**Mount Denham**	**0.98**	**267**	*e*P	**Pb**	**06 42 47.6**	**-0.2**
MTDJ				*e*S	**Sn**	**06 43 02.1**	**+0.2**
MARVS	**Santiago de Cu**	**1.81**	**18**	⇓*e*P	**Pn**	**06 43 00.1**	**+0.4**
MARVS				*e*S	**Sn**	**06 43 23.6**	**+1.2**
MARVS				IAML		06 43 24.5	
	comp=E,1.2nm,0.2s						
MARVS				IAML		06 43 24.5	
	comp=N,1.8nm,0.2s						
LMGC	**Las Mercedes**	**1.84**	**345**	*e*P	**Pn**	**06 42 60.0**	**-0.2**
LMGC				*e*S	**Sn**	**06 43 22.5**	**-0.6**
LMGC				IAML		06 43 25.4	
	comp=N,4.4nm,0.2s						
LMGC				IAML		06 43 25.4	
	comp=E,5.3nm,0.1s						
GTBY	**Guantanamo Bay**	**2.11**	**39**	*e*P	**Pn**	**06 43 04.4**	**+0.5**
GTBY				*e*S	**Sn**	**06 43 30.0**	**+0.2**
GTBY				IAML		06 43 30.9	
	comp=E,20nm,1.0s						
GTBY				IAML		06 43 31.9	
	comp=E,19nm,1.2s						
PINC	**Pinares de May**	**2.30**	**17**	*e*P	**Pn**	**06 43 07.7**	**+1.2**
PINC				⇓*e*S	**Sn**	**06 43 33.8**	**-0.7**
QMBU	**Quimbuelo**	**2.50**	**40**	*e*P	**Pn**	**06 43 08.8**	**-0.4**
QMBU				*e*S	**Sn**	**06 43 38.0**	**-1.4**
QMBU				IAML		06 43 42.3	
	comp=N,13nm,1.2s						
QMBU				IAML		06 43 42.3	
	comp=E,13nm,1.4s						

*BER **09** 06:44:21.9±0.7, 71°.44N×9°.99W, h0km±310km, ML2.6, Confirmed Earthquake*
*DNK **09** 06:44:27.9±1.8, 71°.68N×11°.04W, h24km±28km, ML1.5*
ISC 09 06:44:19.6±1.0, 71°.59N±0°.07×10°.08W±0°.07, h10km, n8, σ2§25/14, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.77**	**136**	⇑*i*P	**Pb**	**06 44 35.2**	**+0.2**
JNW				*e*S	**Sb**	**06 44 45.1**	**-0.5**
JNW				IAML		06 44 49.4	
	comp=Z,190nm,0.3s						
JMIC	**Jan Mayen**	**0.79**	**139**	*e*P	**Pb**	**06 44 34.9**	**-0.4**
JMIC				*e*S	**Sg**	**06 44 44.7**	**-0.3**
JMIC				IAML		06 44 49.2	
	comp=Z,156nm,0.2s						
JMI	**Jan Mayen**	**0.79**	**146**	⇑*i*P	**Pb**	**06 44 35.3**	**-0.1**
JMI				*e*S	**Sg**	**06 44 44.8**	**-0.3**
JMI				IAML		06 44 51.4	
	comp=Z,241nm,0.4s						
JNE	**Jan Mayen East**	**0.83**	**135**	⇑*i*P	**Pb**	**06 44 35.9**	**-0.2**
JNE				*e*S	**Sg**	**06 44 46.0**	**-0.4**
JNE				IAML		06 44 47.5	
	comp=Z,182nm,0.4s						
SCO	**Scoresbysund**	**4.03**	**260**	*e*P	**Pn**	**06 45 24.5**	**+3.3**
SCO				*i* S	**Sn**	**06 46 04.5**	**-3.9**
DBG	**Daneborg**	**4.04**	**317**	*i* P	**Pn**	**06 45 23.6**	**+2.2**
DBG				*i* S	**Sn**	**06 46 06.6**	**-2.1**
DBG				IAML		06 46 11.6	
	comp=Z,1.8nm,0.3s						
DAG	**Danmarks Havn**	**5.71**	**340**	*i* P	**Pn**	**06 45 46.9**	**+2.7**
DAG				*i* S	**Sn**	**06 46 46.0**	**-3.6**
DAG				IAML		06 46 52.7	
	comp=Z,2.6nm,0.3s						
KBS	**Kingsbay**	**9.16**	**27**	*i* P	Pn	06 46 36.8	+5.2

*IDC **09** 07:01:01.4±1.1, 53°.98N×160°.36E, h0km, mb3.8/11, mbtmp3.8/11, MS2.7/2, Error ellipse: s-maj=32.1km s-min=16.4km az=165.0*
*KRSC **09** 07:01:04.2±0.9, 53°.48N×160°.71E, h50km±16km, Ml4.1*
ISC 09 07:01:06.1±1.0, 53°.50N±0°.04×160°.64E±0°.04, h49km±10km, n60, σ1§46/80, mb3.7/11, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.54**	**223**	*e*P	**Pn**	**07 01 18.1**	**+0.3**
SPN				*e*S	**Sn**	**07 01 26.4**	**+0.2**
NLC	**Nalytchevo**	**0.84**	**248**	*e*P	**Pn**	**07 01 21.7**	**0.0**
NLC				*e*S	**Sn**	**07 01 33.2**	**+0.2**
KII	**Karymskiy**	**0.89**	**308**	*e*P	**Pn**	**07 01 22.1**	**-0.3**
KII				*e*S	**Sn**	**07 01 33.5**	**-0.9**
SDLR	**Sedlovina**	**1.07**	**259**	*e*P	**Pn**	**07 01 25.2**	**+0.3**
UGLR	**Uglovaya**	**1.13**	**256**	*e*P	**Pn**	**07 01 26.2**	**+0.6**
UGLR				*e*S	**Sn**	**07 01 40.5**	**+0.4**
KRER	**Koryakskii**	**1.15**	**261**	*e*P	**Pn**	**07 01 26.6**	**+0.6**
KRER				*e*S	**Sn**	**07 01 41.4**	**+0.7**
AVH	**Avacha**	**1.16**	**259**	*e*P	**Pn**	**07 01 26.7**	**+0.5**
AVH				*e*S	**Sn**	**07 01 41.6**	**+0.7**
KRX	**Arik**	**1.20**	**264**	*e*P	**Pn**	**07 01 26.8**	**+0.2**
KRX				*e*S	**Sn**	**07 01 41.1**	**-0.8**
KOK	**Koryaka**	**1.22**	**261**	*e*P	**Pn**	**07 01 27.3**	**+0.4**
KOK				*e*S	**Sn**	**07 01 42.5**	**+0.2**
DALK	**Dalny**	**1.23**	**248**	*e*P	**Pn**	**07 01 27.1**	**+0.3**
DALK				*e*S	**Sn**	**07 01 42.4**	**+0.1**
MKZ	**Mys Kozlova**	**1.24**	**31**	*e*P	**Pn**	**07 01 26.7**	**-0.4**
MKZ				*e*S	**Sn**	**07 01 41.6**	**-1.0**
PET	**Petropavlovsk**	**1.28**	**249**	*e*P	**Pn**	**07 01 27.9**	**+0.3**
PET				*e*S	**Sn**	**07 01 43.8**	**+0.1**
INSR	**Institute**	**1.30**	**251**	*e*P	**Pn**	**07 01 28.3**	**+0.5**
INSR				*e*S	**Sn**	**07 01 44.4**	**+0.4**
GNL	**Ganaly**	**1.62**	**278**	*e*P	**Pn**	**07 01 33.1**	**+0.7**
KRMR	**Karymshinskiy**	**1.65**	**247**	*e*P	**Pn**	**07 01 33.4**	**+0.7**
KRMR				*e*S	**Sn**	**07 01 53.4**	**+0.7**
RUS	**Russkaya**	**1.67**	**231**	*e*P	**Pn**	**07 01 33.2**	**+0.3**
RUS				*e*S	**Sn**	**07 01 53.3**	**+0.2**
TUMD	**Tumrok D**	**1.72**	**355**	*e*P	**Pn**	**07 01 33.7**	**0.0**
TUMD				*e*S	**Sn**	**07 01 53.7**	**-0.7**
PETK	**Petropavlovsk-**	**1.81**	**259**	Pn	**Pn**	**07 01 34.6**	**-0.2**
	15nm,0.3s,baz=85,slow=21,SNR=640						
PETK				Sn	**Sn**	**07 01 58.0**	**+1.4**
	40nm,0.3s,baz=114,slow=20,SNR=5.8						
GRL	**Gorelyy**	**1.82**	**240**	*e*P	**Pn**	**07 01 36.2**	**+1.1**
GRL

HFS	Hagfors	63.67 342	P		P	07 11 29.5	-2.2
	2.8nm,0.9s,baz=64,slow=3.4,SNR=4.9						
	2.8nm,0.9s						
PMG	Port Moresby	63.70 195	LR		LR	07 36 25.3	
	comp=Z,39nm,19.5s,baz=150,slow=33						
TXAR	Lajitas Array	70.18 67	P		P	07 12 15.3	+1.6
	0.8nm,0.5s,baz=298,slow=4.9,SNR=18						
	0.8nm,0.5s						

*GCG **09** 07:07:00.6±0.6, 14°.85N×92°.48W, h89km±4km, MD4.2*
*MEX **09** 07:07:00.8±1.1, 14°.86N×92°.67W, h90km±9km, MD3.9*
ISC 09 07:07:00.8±1.8, 14°.86N±0°.08×92°.58W±0°.05, h85km±11km, n17, σ0°92/31, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.31	81	eP	Pn	07 07 13.6	-0.1
THIG				eS	Sn	07 07 24.1	+0.9
THIG		0.31	81	eP	Pn	07 07 13.5	-0.1
THIG				eS	Sn	07 07 23.4	+0.2
THIG		0.31	81	eP		07 07 13.5	
THIG				eS		07 07 23.4	
PATR	El Naranjo	0.42	53	eP	Pn	07 07 14.0	-0.7
PATR				eS	Sn	07 07 24.3	-0.7
SMCA	Catarina	0.49	90	eP	Pn	07 07 14.5	-0.4
SMCA				eS	Sn	07 07 25.1	-0.4
SMCA	Catarina	0.49	90	eP		07 07 14.5	
SMCA				eS		07 07 25.1	
PAVE	Pavencul	0.51	49	eP	Pn	07 07 15.0	-0.4
PAVE				eS	Sn	07 07 26.2	0.0
RTAL	Retalhuleu	0.92	111	eP	Pn	07 07 18.7	-0.5
RTAL				eS	Sn	07 07 33.8	+0.8
PCIG		1.04	324	eP	Pn	07 07 20.8	+0.1
PCIG				eS	Sn	07 07 36.1	+0.6
HUEH	Huehuetenango	1.13	66	eP	Pn	07 07 22.4	+0.5
HUEH				eS	Sn	07 07 38.7	+0.9
HUEH	Huehuetenango	1.13	66	i S	Sn	07 07 38.8	+0.9
HUEH	Huehuetenango	1.13	66	i S		07 07 38.8	
STG8	El Palmar, Qui	1.26	109	eP		07 07 19.6	
STG8				i S		07 07 34.3	
STG0	El Palmar, Qui	1.27	110	eP		07 07 19.8	
STG0				eS		07 07 34.0	
CCIG	Comitan	1.48	17	eP	Pn	07 07 26.5	+0.2
CCIG				eS	Sn	07 07 45.5	+0.2
CCIG	Comitan	1.48	17	i P	Pn	07 07 26.4	+0.2
CCIG				i S	Sn	07 07 46.6	+1.2
CCIG	Comitan	1.48	17	i P		07 07 26.4	
CCIG				i S		07 07 46.6	
CARR	Arriaga	1.89	317	eP	Pn	07 07 32.5	+1.2
CARR				eS	Sn	07 07 55.9	+1.3
TGIG		1.98	345	eP	Pn	07 07 31.7	-0.9
TGIG				eS	Sn	07 07 54.6	-2.2
APG	El Apazote	2.05	86	eP	Pn	07 07 33.1	-0.6
APG	El Apazote	2.05	86	eP		07 07 33.1	
NILT	Santiago Nilte	2.59	311	eS	Sn	07 08 11.8	+0.4
UXUV	UXUV	2.87	329	eP	Pn	07 07 44.9	+0.4
UXUV				eS	Sn	07 08 16.7	-1.4
CMIG	Matias Romero	3.14	315	eP	Pn	07 07 46.5	-1.6
CMIG				eS	Sn	07 08 25.9	+1.4

*NNC **09** 07:16:15.6±0.3, 50°.00N×78°.79E, h0km, mb3.4, mpv2.9,*
Error ellipse: s-maj=6.2km s-min=1.7km az=77.0,
Suspected Mining explosion.
*IDC **09** 07:16:17.9±1.1, 50°.06N×78°.71E, h0km, mbtmp2.7/2,*
ML2.1/2, Error ellipse: s-maj=14.2km s-min=6.9km
az=67.0.
ISC 09 07:16:17.6±0.9, 50°.11N±0°.05×78°.85E±0°.06, h0km, n22, σ1°.05/32, 11C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.52	336	↑P	Pg	07 16 27.6	0.0
KUR07				↑S	Sb	07 16 37.0	-0.7
KUR14	Kurchatov Arra	0.53	342	↑P	Pg	07 16 27.7	-0.1
KUR14				↓S	Sb	07 16 37.0	-1.1
KUR15	Kurchatov Arra	0.54	340	↓P	Pg	07 16 27.9	-0.1
KUR15				↑S	Sb	07 16 37.5	-0.8
KURBB	Kurchatov Arra	0.56	339	Pg	Pg	07 16 28.3	+0.1
	0.5nm,0.3s,baz=166,slow=19,SNR=94						
KURBB				Lg	Lg	07 16 38.7	
	1.5nm,0.3s,baz=164,slow=31,SNR=19						
KURBB	Kurchatov Arra	0.56	339	↓P	Pg	07 16 28.0	-0.2
	13nm,0.6s						
KURBB				↓S	Sb	07 16 37.4	-1.3
	63nm,0.6s						
KUR16	Kurchatov Arra	0.57	337	↓P	Pg	07 16 28.5	+0.1
KUR16				↓S	Sb	07 16 37.8	-1.2
KUR05	Kurchatov Arra	0.57	340	↑P	Pg	07 16 28.4	-0.1
KUR05				↑S	Sb	07 16 37.9	-1.3
KUR17	Kurchatov Arra	0.58	335	↑P	Pg	07 16 28.5	-0.2
KUR17				↑S	Sb	07 16 38.2	-1.2
KUR04	Kurchatov Arra	0.59	341	↓P	Pg	07 16 28.7	-0.1
KUR04				↑S	Sb	07 16 38.4	-1.2
KURK	Kurchatov	0.63	347	↓P	Pg	07 16 29.5	0.0
	6.4nm,0.6s						
KURK				↑S	Sb	07 16 39.9	-0.8
	39nm,0.8s						
MAKZ	Makanchi	3.90	147	↓Pg	Pb	07 17 25.6	-1.6
	5.5nm,1.4s						
MAKZ				↓Lg	Lg	07 18 15.5	
	11nm,0.6s						
BRZS	Berezniki	3.98	271	Pg	Pb	07 17 29.0	+0.4
	1.4nm,0.5s						
BRZS				Lg	Lg	07 18 19.2	
	3.5nm,0.9s						
MK31	Makanchi Array	4.03	144	↓Pn	Pn	07 17 19.1	-1.4
	1.4nm,0.8s,baz=322,slow=9.9,SNR=4.0						
MK31				↑Pg	Pb	07 17 29.0	-0.4
	1.2nm,0.6s,baz=317,slow=13,SNR=6.7						
MK31				Lg	Lg	07 18 20.8	
	8.9nm,0.6s,baz=341,slow=24,SNR=19						
MKAR	Makanchi Array	4.03	144	Pn	Pn	07 17 20.2	-0.3
	0.1nm,0.3s,baz=320,slow=11,SNR=6.8						
MKAR				Pg	Pb	07 17 30.0	+0.6
	0.3nm,0.3s,baz=318,slow=13,SNR=11						
MKAR				Lg	Lg	07 18 21.5	
	1.1nm,0.3s,baz=329,slow=26,SNR=22						
	1.0nm,0.9s						
OTUK	Ortayu	4.66	249	Pg	Pb	07 17 39.9	-0.2
	0.7nm,0.6s						
OTUK				Lg	Lg	07 18 38.8	
	2.1nm,0.8s						
KAPS	Kapalarasan	4.84	176	Pg	Pb	07 17 43.3	+0.1
	3.3nm,0.5s						
KAPS				Lg	Lg	07 18 44.0	
	16nm,0.8s						
I46RU	ZALESOVO INFRA	5.33	41	I	I	07 48 20.0	
	baz=224,slow=326,SNR=2.3						
ZALV	Zalesovo Beam	5.33	41	Pn	Pn	07 17 40.8	+2.5
	0.2nm,0.3s,baz=230,slow=14,SNR=3.6						
ZALV				Lg	Lg	07 19 11.9	
	0.2nm,0.3s,baz=231,slow=25,SNR=5.6						
	0.7nm,0.4s						
ARXS	Arharly	5.94	187	Pg	Pb	07 18 03.3	+1.4
ARXS				Lg	Lg	07 19 18.9	
BLB	Baldybastay	6.02	183	Pg	Pb	07 18 05.7	+2.4
	6.5nm,0.9s						
BLB				Lg	Lg	07 19 22.4	
	37nm,0.6s						
BVAR	Borovoye Array	6.03	302	Sn	Sn	07 18 56.9	-0.7
	0.1nm,0.3s,baz=112,slow=24,SNR=10						
AAK	Ala-Archa	8.05	204	Sn	Sn	07 19 48.6	+0.9
	0.2nm,0.3s,baz=60,slow=23,SNR=3.7						
AAK				Lg	Lg	07 20 27.9	
	0.1nm,0.3s,baz=80,slow=20,SNR=4.8						

*AEIC **09** 07:28:16.0±0.8, 53°.3N±0°.1×164°.29W±0°.08, h26km±9km,*
Error ellipse: s-maj=15.5km s-min=6.4km az=177.0
NEIC 09 07:28:16.6±0.5, 53°.20N±0°.10×164°.37W±0°.03, h35km±2km, ML2.6(AEIC), Error ellipse: s-maj=17.0km s-min=3.1km az=174.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	1.23	321		Pn	07 28 36.8	-0.3
AHB	Akutan Harbor	1.26	318		Pn	07 28 37.7	0.0
AHB					Sn	07 28 53.8	+0.5
AKBBA	Akutan Broad B	1.29	315		Pn	07 28 38.1	0.0
AKBBA					Sn	07 28 54.7	+0.5
ZRO	Akutan Zero	1.31	314		Pn	07 28 38.3	-0.1
ZRO					Sn	07 28 54.4	-0.2
AKMO	Akutan Morgan	1.32	313		Pn	07 28 38.6	+0.1
AKV	Akutan Volcano	1.33	315		Pn	07 28 38.5	-0.1
AKRB	Akutan Reef Bi	1.38	313		Pn	07 28 39.4	+0.1
LVA	Lava Point	1.38	315	Pn	Pn	07 28 39.2	-0.1
LVA				Sn	Sn	07 28 56.1	-0.3
UNV	Unalaska Valle	1.43	298		Pn	07 28 39.7	-0.2
UNV	Unalaska Valle	1.43	298	Sn	Sn	07 28 56.7	-0.8
MREP	Makushin Rep't	1.54	294		Pn	07 28 41.9	+0.2
MTBL	Makushin Table	1.58	300		Pn	07 28 41.5	-0.5
ISLZ	Isanotski Laza	1.58	14		Pn	07 28 42.0	-0.1
MSW	Makushin Switc	1.61	297		Pn	07 28 42.6	+0.1
MGOD	Makushin Gods	1.61	293		Pn	07 28 42.2	-0.3
FALS	False Pass	1.75	18	Pn	Pn	07 28 44.4	0.0
SDPT	Sand Point	3.14	45	Pn	Pn	07 29 03.6	+0.1
SDPT				Sn	Sn	07 29 38.8	-0.9

*ISN **09** 07:38:00.0±1.2, 33°.93N×45°.31E, h18km±24km, ML2.5*
*TEH **09** 07:38:00.6, 33°.93N×45°.32E, h8km±45km*
ISC 09 07:38:00.7±0.9, 33°.93N±0°.04×45°.32E±0°.05, h10km, n9, σ0°78/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.52	69	Pg	Pb	07 38 11.5	-0.6
GLG1				Sg	Sb	07 38 19.6	-0.2
KGS1	Ghasr-e-Shirin	0.62	21	Pg	Pb	07 38 13.1	-0.6
ILBA	Ilam Banvizeh	0.80	112	Pg	Pb	07 38 16.6	-0.1
IBDR	Badra	0.96	148	ePg	Pg	07 38 19.0	-0.3
IBDR				eSg	Sg	07 38 31.0	-0.8
IBDR				AML	AML	07 38 38.1	
	comp=N,71nm,0.3s						
IBDR				AML	AML	07 38 40.8	
	comp=E,92nm,0.7s						
BHD	Baghdad	1.02	230	ePn	Pn	07 38 21.0	-0.1
BHD				eSn	Sn	07 38 37.0	+1.5
IDHR	Dehrash	1.17	49	Pg	Pn	07 38 24.3	+0.9
KCHF	Cheshme Sefid,	1.47	76	Pg	Pg	07 38 29.8	+0.9
IKRK	Kirkuk	1.68	331	ePn	Pn	07 38 30.0	-0.1
IKRK				eSn	Sb	07 38 53.0	+0.2
IKRK				AML	AML	07 38 57.5	
	comp=E,103nm,0.3s						
IKRK				AML	AML	07 38 59.6	
	comp=N,148nm,0.5s						
SNQR	Sonqor, Kerman	2.12	63	Pn	Pg	07 38 40.5	-0.9

*IDC **09** 07:55:51.1±1.3, 9°.72S×150°.19E, h0km, mb3.6/5,*
mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=26.6km
s-min=20.8km az=173.0
ISC 09 07:55:56.8±1.2, 9°.7S±0°.2×150°.0E±0°.2, h35km, n7, σ1°.21/7, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.85	276	Pn	Pn	07 56 39.8	+0.1
	18nm,0.3s,baz=88,slow=9.4,SNR=11						
PMG				Lg	Lg	07 57 26.9	
	9.3nm,0.3s,baz=45,slow=20,SNR=6.5						
WRA	Warramunga Arr	18.23	234	P	P	08 00 06.3	-0.8
	0.1nm,0.3s,baz=62,slow=12,SNR=4.9						
	0.7nm,0.8s						
ASAR	Alice Springs	20.71	226	P	P	08 00 34.2	0.0
	0.9nm,0.9s,baz=58,slow=9.6,SNR=8.9						
	0.9nm,0.9s						
STKA	Stephens Creek	23.38	198	P	P	08 01 01.5	-0.8
	0.7nm,0.5s,baz=34,slow=11,SNR=3.3						
	0.7nm,0.5s						
SONM	Songino Array	69.11	330	P	P	08 07 00.4	+0.9
	0.5nm,0.8s,baz=149,slow=6.1,SNR=2.2						
	0.5nm,0.8s						
QSPA	South Pole Qui	80.25	180	P	P	08 08 05.2	+1.4
	1.2nm,0.9s,baz=1.5,slow=8.3,SNR=1.6						
	1.2nm,0.9s						
ILAR	Eielson Array	87.74	22	P	P	08 08 40.4	-1.3
	0.5nm,0.7s,baz=230,slow=4.2,SNR=8.5						
	0.5nm,0.7s						

*ISN **09** 07:58:06.5±0.5, 34°.62N×46°.28E, h9km±6km, ML3.7*
*TEH **09** 07:58:06.9, 34°.62N×46°.29E, h6km±51km*
ISC 09 07:58:07.4±1.4, 34°.62N±0°.03×46°.24E±0°.03, h1km±16km, n28, σ1°.29/31, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.15	57	Pg	Pg	07 58 10.8	+0.4
IGHG	Ghaleghazi	0.40	136	Pg	Pg	07 58 15.8	+0.7
KGS1	Ghasr-e-Shirin	0.55	258	Pg	Pb	07 58 19.5	-0.3
GLG1	Gilan-e-Gharb	0.57	208	Pg	Pb	07 58 19.2	-1.0
KCHF	Cheshme Sefid,	0.75	117	Pg	Pg	07 58 21.3	-0.4
ILBA	Ilam Banvizeh	0.99	181	Pg	Pb	07 58 26.8	-0.6
SNQR	Sonqor, Kerman	1.17	78	Pg	Pb	07 58 29.5	-1.1
IBDR	Badra	1.52	190	ePn	Pb	07 58 36.0	-0.5
IBDR				eSn	Sg	07 58 57.0	+0.6
IBDR				AML	AML	07 59 03.1	
	comp=N,771nm,0.7s						
IBDR				AML	AML	07 59 03.1	
	comp=E,2μm,0.6s						
SDS1	Sardasht. Az.	1.65	338	Pg	Pb	07 58 38.3	-0.4
IKFM	Kafar-mosalman	1.73	129	Pg	Pb	07 58 39.2	-0.7
IKRK	Kirkuk	1.74	297	ePn	Pn	07 58 39.0	+0.2
IKRK				eSn	Sg	07 59 03.0	-0.4
IKRK				AML	AML	07 59 08.0	
	comp=E,874nm,0.6s						
IKRK				AML	AML	07 59 08.5	
	comp=N,753nm,0.3s						
IDOB	Doab	1.81	117	Pg	Pb	07 58 40.9	-0.6
HSAM	Samen	2.00	101	Pn	Pb	07 58 44.0	-0.7
BHD	Baghdad	2.04	229	ePn	Pn	07 58 43.0	0.0
BHD				eSn	Sb	07 59 10.0	-1.3
MAHB	Mahabad	2.19	349	Pn	Pb	07 58 47.8	-0.1
BDRS	Dareh Seyedi	2.29	106	Pn	Pb	07 58 47.8	-1.9
HAGD	Aghdareh	2.40	84	Pn	Pb	07 58 50.1	-1.5
IHSH	Hashtrud	2.81	17	Pn	Pb	07 58 55.7	-2.9
IAZR	Azarshahr	3.06	356	Pn	Pn	07 58 59.4	+2.2
IQOM	Qom	3.99	85	Pn	Pn	07 59 10.8	+0.9
IPIR	Pirpir	4.34	115	Pn	Pn	07 59 15.4	+0.6
QAMS	Qamsar	4.37	100	Pn	Pn	07 59 16.2	+1.1
GRMI	Germi	4.39	17	Pn	Pn	07 59 17.1	+1.7
ZNGN	Zangian	4.60	122	Pn	Pn	07 59 19.5	+1.1
IKLH	Kolahrood	4.62	105	Pn	Pn	07 59 21.1	+2.3
KRSH	Karshahi	4.93	96	Pn	Pn	07 59 24.8	+2.0
ISFB	Sefidab	4.97	91	Pn	Pn	07 59 23.1	-0.2
IZEF	Zefreh	5.36	107	Pn	Pn	07 59 30.3	+1.5

IDC 09 08:30:06.0±1.9, 5°.74S×140°.60E, h0km, mb3.8/2, mbtmp3.6/5, ML3.5/3, MS3.2/1, Error ellipse: s-maj=97.4km s-min=17.7km az=95.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.21	2	Pn	Pn	08 30 59.4	+1.7
	3.0nm,0.3s,baz=171,slow=7.5,SNR=11						
JAY				Lg	Lg	08 31 48.8	
	2.1nm,0.3s,baz=172,slow=14,SNR=4.7						
	11nm,0.5s						
WRA	Warramunga Arr	15.37	203	Pn	Pn	08 33 44.3	-0.1
	0.2nm,0.3s,baz=29,slow=13,SNR=5.6						
	0.5nm,0.5s						
ASAR	Alice Springs	18.95	199	P	Pn	08 34 29.7	+0.3
	0.1nm,0.3s,baz=34,slow=9.6,SNR=12						
	0.7nm,0.7s						
USRK	Ussuriysk Ar.	50.31	352	LR	LR	08 56 28.7	
	comp=Z,22nm,19.2s,baz=210,slow=32						
MKAR	Makanchi Array	73.32	322	P	P	08 41 37.9	-1.6
	0.2nm,0.7s,baz=111,slow=4.6,SNR=1.8						
	0.2nm,0.7s						
QSPA	South Pole Qui	84.22	180	P	P	08 42 39.8	+0.5
	1.8nm,1.0s,baz=8.0,slow=2.9,SNR=2.4						
	1.8nm,1.0s						

WEL 09 08:32:57.7±1.0, 38°S±6°×17°6E±°, h173km±9km, M1.4/7, MLv1.4/7, Error ellipse: s-maj=9.3km s-min=7.4km az=136.3, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.13	320	P	Pn	08 33 21.2	+0.5
HLRZ	Highlands Stat	0.58	73	P	Pn	08 33 22.4	+0.3
SNVZ	South Ngauruho	0.76	180	P	Pn	08 33 23.8	+0.6
TUVZ	Tukino	0.84	179	P	Pn	08 33 23.9	+0.2
WNVZ	Wahianoa	0.90	182	P	Pn	08 33 24.6	+0.4
VRZ	Vera Road	0.98	225	P	Pn	08 33 24.7	+0.1
MOVZ	Moawhango	0.98	175	P	Pn	08 33 24.5	-0.2
BKZ	Black Stump Fm	0.99	138	P	Pn	08 33 24.7	+0.1
MTHZ	Maungataniwha	1.03	115	P	Pn	08 33 25.2	+0.3
MTHZ				S	Sn	08 33 46.0	0.0
RTZ	Ruatahuna	1.07	101	P	Pn	08 33 25.5	+0.2
URZ	Urewera	1.17	82	P	Pn	08 33 25.9	-0.1
URZ				S	Sn	08 33 48.1	+0.4
RAHZ	Arahi	1.23	114	P	Pn	08 33 27.3	+0.7
RAHZ				S	Sn	08 33 49.6	+0.7
MCHZ	McNeill Hill	1.31	141	P	Pn	08 33 28.0	+0.8
KRHZ	Kereru	1.34	155	P	Pn	08 33 27.7	+0.1
ARHZ	Aropaoanui	1.35	129	P	Pn	08 33 28.3	+0.7
SNGZ	Shannon Statio	1.38	105	P	Pn	08 33 28.4	+0.5
MWZ	Matawai	1.48	87	P	Pn	08 33 29.3	+0.4
TSZ	Takapari Road	1.65	171	P	Pn	08 33 30.1	-0.4
RUGZ	Raukumara Rang	1.67	75	P	Pn	08 33 30.1	-0.8
KAHZ	Kahuranaki	1.67	145	P	Pn	08 33 31.1	+0.3
RIGZ	Rimuhau	1.68	100	P	Pn	08 33 31.3	+0.3
RIGZ				S	Sn	08 33 56.7	+0.1
KNZ	Kokohu	1.70	111	P	Pn	08 33 31.3	+0.4
TKGZ	Te Karaka	1.73	91	P	Pn	08 33 32.1	+0.7
TKGZ				S	Sn	08 33 57.6	+0.2
WPHZ	Waipukurau	1.75	160	P	Pn	08 33 31.2	-0.3
HAZ	Te Kaha	1.82	69	P	Pn	08 33 32.0	-0.3
PXZ	Pawanui	1.86	150	P	Pn	08 33 32.6	-0.1
PXZ				S	Sn	08 33 59.9	-0.1
MHGZ	Mahia Peninsul	1.91	113	P	Pn	08 33 33.8	+0.5
DVHZ	Dannevirke	1.91	168	P	Pn	08 33 32.5	-0.8
PRHZ	Porangahau	1.99	158	P	Pn	08 33 33.8	-0.4
PRHZ				S	Sn	08 34 02.8	+0.3

WEL 09 08:33:40.7±0.8, 39°S±4°×17°6E±°, h15km±7km, M1.4/12, ML1.6/13, MLv1.4/12, Error ellipse: s-maj=5.5km s-min=3.5km az=37.8, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	Moawhango	0.10	24	P	Pb	08 33 45.6	+1.1
MOVZ				S	Sb	08 33 48.6	+1.6
MOVZ	Moawhango	0.10	24	P	Pb	08 33 45.6	+1.1
MOVZ				S	Sb	08 33 48.6	+1.6
WNVZ	Wahianoa	0.19	335	P	Pb	08 33 46.8	+0.7
WNVZ				S	Sb	08 33 50.4	+0.8
WNVZ	Wahianoa	0.19	335	P	Pb	08 33 46.7	+0.7
WNVZ				S	Sb	08 33 50.5	+0.9
MTVZ	Mangateitei	0.21	303	P	Pb	08 33 47.0	+0.7
MTVZ				S	Sb	08 33 51.1	+1.0
MTVZ	Mangateitei	0.21	303	P	Pb	08 33 47.0	+0.7
TRVZ	Turoa	0.23	330	P	Pb	08 33 51.0	+4.1
TRVZ	Turoa	0.23	330	P	Pb	08 33 47.4	+0.6
WHVZ	Whangaehu Hut	0.23	338	P	Pb	08 33 47.4	+0.6
WHVZ	Whangaehu Hut	0.23	338	P	Pb	08 33 47.4	+0.5
WHVZ				S	Sb	08 33 51.5	+0.5
TUVZ	Tukino	0.23	351	P	Pb	08 33 47.4	+0.6
TUVZ				S	Sb	08 33 51.5	+0.7
TUVZ	Tukino	0.23	351	P	Pb	08 33 47.4	+0.6
MAVZ	Matarangi	0.26	335	P	Pb	08 33 47.7	+0.4
MAVZ				S	Sb	08 33 51.8	+0.1
MAVZ	Matarangi	0.26	335	P	Pb	08 33 47.6	+0.4
MAVZ				S	Sb	08 33 52.1	+0.4
FWVZ	Far West T-bar	0.27	335	P	Pb	08 33 47.8	+0.4
FWVZ				S	Sb	08 33 52.2	+0.2
FWVZ	Far West T-bar	0.27	335	P	Pb	08 33 47.8	+0.3
FWVZ				S	Sb	08 33 52.3	+0.3
SNVZ	South Ngauruho	0.32	352	P	Pb	08 33 48.5	+0.3
SNVZ	South Ngauruho	0.32	352	P	Pb	08 33 48.5	+0.3
COVZ	Chateau Observ	0.32	338	P	Pb	08 33 48.7	+0.4
COVZ	Chateau Observ	0.32	338	P	Pb	08 33 48.6	+0.3
NGZ	Ngauruhoe	0.33	347	P	Pb	08 33 48.8	+0.3
NGZ				S	Sb	08 33 54.1	+0.4
NGZ	Ngauruhoe	0.33	347	P	Pb	08 33 48.7	+0.2
NGZ				S	Sb	08 33 54.2	+0.5
OTVZ	Oturere	0.34	355	P	Pb	08 33 48.8	+0.2
OTVZ				S	Sb	08 33 54.2	+0.4
OTVZ	Oturere	0.34	355	P	Pb	08 33 48.8	+0.2
OTVZ				S	Sb	08 33 54.3	+0.5
PKVZ	Pokaka	0.34	307	P	Pb	08 33 48.9	+0.2
PKVZ	Pokaka	0.34	307	P	Pb	08 33 48.8	+0.2
ETVZ	East Tongariro	0.36	1	P	Pb	08 33 49.1	+0.1
NNVZ	North Ngauruho	0.37	350	P	Pb	08 33 49.5	+0.3
NNVZ	North Ngauruho	0.37	350	P	Pb	08 33 49.4	+0.3
TMVZ	Te Maari	0.38	1	P	Pb	08 33 49.4	+0.1
TMVZ	Te Maari	0.38	1	P	Pb	08 33 49.3	0.0
WTVZ	West Tongariro	0.39	347	P	Pb	08 33 49.7	+0.2
WTVZ	West Tongariro	0.39	347	P	Pb	08 33 49.6	+0.1
NTVZ	North Tongarir	0.40	357	P	Pb	08 33 49.7	+0.1
NTVZ	North Tongarir	0.40	357	P	Pb	08 33 49.7	0.0
KRVZ	Karewarewa	0.41	354	P	Pb	08 33 49.8	+0.1
TWVZ	Taurewa	0.47	335	P	Pb	08 33 50.8	0.0
KATZ	Kakaramea	0.52	360	P	Pb	08 33 51.8	0.0
KRHZ	Kereru	0.54	106	P	Pb	08 33 52.2	+0.3
KRHZ				S	Sb	08 34 00.0	+0.5
KWHZ	Kaweka Forest	0.56	83	P	Pb	08 33 52.9	+0.5
KWHZ	Kaweka Forest	0.56	83	P	Pb	08 33 52.8	+0.4
KWHZ				S	Sb	08 34 01.1	+0.8
TSZ	Takapari Road	0.59	160	P	Pb	08 33 53.4	+0.5
TSZ	Takapari Road	0.59	160	P	Pb	08 33 53.3	+0.4
TSZ				S	Sb	08 34 01.4	+0.3
WAZ	Wanganui	0.61	245	P	Pb	08 33 53.6	+0.5
WAZ	Wanganui	0.61	245	P	Pb	08 33 53.5	+0.4
WAZ				S	Sb	08 34 02.1	+0.6
BKZ	Black Stump Fm	0.70	62	P	Pb	08 33 54.9	+0.2
BKZ				S	Sb	08 34 04.5	+0.3
OHWZ	Ohakea	0.77	203	P	Pb	08 33 56.3	+0.5
WPHZ	Waipukurau	0.80	135	P	Pb	08 33 56.5	0.0
VRZ	Vera Road	0.82	297

n28,σ1$84/53,2D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.35**	**97**	*eP*	**Pn**	**09 04 12.7**	**+0.3**
THIG				*eS*	**Sn**	**09 04 23.1**	**-0.5**
THIG		**0.35**	**97**	*eP*	**Pn**	**09 04 12.5**	**+0.1**
THIG				*eS*	**Sn**	**09 04 23.1**	**-0.5**
THIG				IAML		09 04 25.0	
	comp=Z,2μm,0.4s						
THIG		**0.35**	**97**	*eP*		09 04 12.5	
THIG				*eS*		09 04 23.1	
THIG				IAML		09 04 25.0	
	comp=Z,2μm,0.4s						
PATR	**El Naranjo**	**0.41**	**66**	*eP*	**Pn**	**09 04 12.4**	**-0.6**
PATR				*eS*	**Sn**	**09 04 23.6**	**-1.1**
PAVE	**Pavencul**	**0.49**	**61**	*eP*	**Pn**	**09 04 13.3**	**-0.3**
PAVE				*eS*	**Sn**	**09 04 24.6**	**-1.1**
SMCA	**Catarina**	**0.54**	**100**	*eP*	**Pn**	**09 04 13.6**	**0.0**
	comp=Z,396nm,0.2s						
SMCA				*eS*	**Sn**	**09 04 25.8**	**-0.1**
SMCA				IAML		09 04 26.8	
	comp=Z,396nm,0.2s						
SMCA	**Catarina**	**0.54**	**100**	*eP*		09 04 13.6	
	comp=Z,396nm,0.2s						
SMCA				*eS*		09 04 25.8	
SMCA				IAML		09 04 26.8	
	comp=Z,396nm,0.2s						
PCIG		**0.94**	**323**	*eP*	**Pn**	**09 04 17.8**	**+0.4**
PCIG				*eS*	**Sn**	**09 04 33.0**	**+0.7**
RTAL	**Retalhuleu**	**0.99**	**115**	*eP*	**Pn**	**09 04 18.9**	**+1.0**
RTAL				*eS*	**Sn**	**09 04 33.9**	**+0.6**
HUEH	**Huehuetenango**	**1.14**	**71**	*eP*	**Pn**	**09 04 19.9**	**+0.2**
HUEH				*eS*	**Sn**	**09 04 35.9**	**-0.7**
HUEH	**Huehuetenango**	**1.14**	**71**	*eP*	**Pn**	**09 04 20.3**	**+0.6**
HUEH				*eS*	**Sn**	**09 04 36.9**	**+0.3**
HUEH	**Huehuetenango**	**1.14**	**71**	*eP*		09 04 20.3	
HUEH				*eS*		09 04 36.9	
STG8	**El Palmar, Qui**	**1.33**	**112**	*eP*		09 04 18.8	
STG8				*i* S		09 04 34.6	
STG0	**El Palmar, Qui**	**1.34**	**113**	*eP*		09 04 19.0	
CCIG	**Comitan**	**1.40**	**19**	*eP*	**Pn**	**09 04 23.7**	**+0.9**
CCIG				*eS*	**Sn**	**09 04 42.5**	**+0.6**
CCIG	**Comitan**	**1.40**	**19**	*i* P	**Pn**	**09 04 23.7**	**+0.9**
	comp=Z,180nm,1.2s						
CCIG				*i* S	**Sn**	**09 04 42.6**	**+0.6**
CCIG				IAML		09 04 44.4	
	comp=Z,180nm,1.2s						
CCIG	**Comitan**	**1.40**	**19**	*i* P		09 04 23.7	
	comp=Z,180nm,1.2s						
CCIG				*i* S		09 04 42.6	
CCIG				IAML		09 04 44.4	
	comp=Z,180nm,1.2s						
CARR	**Arriaga**	**1.79**	**316**	*eP*	**Pn**	**09 04 29.0**	**+1.7**
CARR				*eS*	**Sn**	**09 04 52.1**	**+1.9**
TGIG		**1.88**	**345**	*eP*	**Pn**	**09 04 28.2**	**-0.3**
TGIG				*eS*	**Sn**	**09 04 50.4**	**-1.9**
TGIG		**1.88**	**345**	*eP*	**Pn**	**09 04 28.1**	**-0.5**
	comp=Z,50nm,0.6s						
TGIG				*i* S	**Sn**	**09 04 50.4**	**-1.9**
TGIG				IAML		09 04 52.9	
	comp=Z,50nm,0.6s						
TGIG		**1.88**	**345**	*eP*		09 04 28.1	
	comp=Z,50nm,0.6s						
TGIG				*i* S		09 04 50.4	
TGIG				IAML		09 04 52.9	
	comp=Z,50nm,0.6s						
APG	**El Apazote**	**2.09**	**88‖**	*eP*	**Pn**	**09 04 32.2**	**+0.8**
APG	**El Apazote**	**2.09**	**88‖**	*eP*		09 04 32.2	
NILT	**Santiago Nilte**	**2.50**	**310**	*eP*	**Pn**	**09 04 38.6**	**+2.0**
NILT				*eS*	**Sn**	**09 05 07.5**	**+0.9**
UXUV	**UXUV**	**2.77**	**328**	*eP*	**Pn**	**09 04 41.5**	**+1.4**
UXUV				*eS*	**Sn**	**09 05 11.2**	**-1.8**
CMIG	**Matias Romero**	**3.04**	**315**	*eP*	**Pn**	**09 04 44.7**	**+0.9**
CMIG				*eS*	**Sn**	**09 05 17.4**	**-2.1**
PETF	**Flores**	**3.29**	**53**	*eP*	**Pn**	**09 04 47.7**	**+0.6**
PETF				*eS*	**Sn**	**09 05 22.7**	**-2.8**
PETF	**Flores**	**3.29**	**53**	*eP*	**Pn**	**09 04 47.4**	**+0.3**
	comp=Z,65nm,0.3s						
PETF				IAML		09 05 26.7	
	comp=Z,65nm,0.3s						
PETF	**Flores**	**3.29**	**53**	*eP*		09 04 47.4	
	comp=Z,65nm,0.3s						
PETF				IAML		09 05 26.7	
	comp=Z,65nm,0.3s						
HUIG	**Huatulco**	**3.46**	**284**	*eP*	**Pn**	**09 04 49.5**	**+0.2**
HUIG				*eS*	**Sn**	**09 05 24.8**	**-4.7**
NEUV	**Arroyo Zacate**	**4.11**	**312**	*eP*	**Pn**	**09 04 57.5**	**-0.5**
NEUV				*eS*	**Sn**	**09 05 44.5**	**-0.5**
SCIG	**Sabancuy**	**4.22**	**19**	*eP*	**Pn**	**09 05 00.2**	**+0.6**
SCIG				IAML		09 05 49.3	
	comp=Z,68nm,0.5s						
SCIG	**Sabancuy**	**4.22**	**19**	*eP*		09 05 00.2	
SCIG				IAML		09 05 49.3	
	comp=Z,68nm,0.5s						
PEIG	**Puerto Escondi**	**4.49**	**284**	*eP*	**Pn**	**09 05 04.4**	**+1.2**
PEIG				*eS*	**Sn**	**09 05 49.6**	**-4.7**
YOIG	**Yosondua**	**5.10**	**292**	*eP*	**Pn**	**09 05 16.3**	**+4.5**
YOIG				*eS*	**Sn**	**09 06 10.3**	**+0.7**
TOIG	**Toxpalan**	**5.28**	**307**	*eP*	**Pn**	**09 05 16.3**	**+2.2**
TOIG				*eS*	**Sn**	**09 06 13.0**	**-0.8**
TXIG	**Tlaxiaco**	**5.45**	**296**	*eP*	**Pn**	**09 05 20.3**	**+3.9**
TXIG				*eS*	**Sn**	**09 06 16.1**	**-2.0**
PNIG	**Pinotepa**	**5.49**	**286**	*eP*	**Pn**	**09 05 18.6**	**+1.8**
PNIG				*eS*	**Sn**	**09 06 13.9**	**-4.9**

NEIC ***09*** *09:21:31.5±1.1,59.°04N±0.°04×153.°76W±0.°07, h103km±4km, Error ellipse: s-maj=5.7km s-min=4.5km az=133.0*
AEIC ***09*** *09:21:32.5±1.2,59.°05N±0.°03×153.°79W±0.°06, h101km±4km, ML3.3, ML3.4/136(NEIC), Error ellipse: s-maj=4.8km s-min=4.4km az=186.0*

ISC 09 09:21:31.3±1.0,59.°04N±0.°04×153.°72W±0.°04, h107km±7km,n197,σ0$73/213,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q19K	**Cape Douglas,**	**0.12**	**161**	Pn	**Pn**	**09 21 45.9**	**-0.4**
Q19K					**Sn**	**09 21 56.7**	**-0.7**
Q19K				IAML		09 21 59.5	
	comp=E,2μm,1.0s						
Q19K				IAML		09 22 00.9	
	comp=N,1μm,0.6s						
AUCH	**Augustine Cone**	**0.35**	**23**		**Pn**	**09 21 47.5**	**+0.4**
AUCH					**Sn**	**09 21 58.3**	**-0.6**
AUL	**Augustine Lava**	**0.37**	**23**		**Pn**	**09 21 47.3**	**+0.2**
AUL					**Sn**	**09 21 58.6**	**-0.4**
AU22	**Augustine Moun**	**0.38**	**29**		**Pn**	**09 21 47.3**	**+0.2**
P19K	**Oil Pt**	**0.66**	**22**	Pn	**Pn**	**09 21 49.3**	**+0.2**
P19K					**Sn**	**09 22 01.7**	**-0.8**
KAHG	**Katmai Hook Gl**	**0.70**	**219**		**Pn**	**09 21 49.5**	**0.0**
KAHC	**Katmai Hardscr**	**0.78**	**240**		**Pn**	**09 21 49.8**	**-0.4**
SYI	**Shuyak Island**	**0.81**	**121**		**Pn**	**09 21 50.7**	**+0.3**
SYI				IAML		09 22 05.9	
	comp=N,921nm,0.7s						
SYI				IAML		09 22 06.5	
	comp=E,691nm,0.5s						
P18K	**Big Mountain,**	**0.85**	**295**	Pn	**Pn**	**09 21 49.7**	**-1.1**
P18K					**Sn**	**09 22 03.4**	**-2.2**
P18K				IAML		09 22 03.8	
	comp=E,276nm,0.7s						
P18K				IAML		09 22 04.0	
	comp=N,414nm,0.6s						
ILS	**Iliamna Low So**	**0.98**	**20**		**Pn**	**09 21 52.1**	**-0.1**
ILSW	**Iliamna Southw**	**0.99**	**17**		**Pn**	**09 21 51.8**	**-0.5**
ILSW					**Sn**	**09 22 07.3**	**-0.8**
ILSW				IAML		09 22 07.9	
	comp=E,2μm,0.6s						
ILSW				IAML		09 22 08.2	
	comp=N,1μm,0.7s						
O18K	**Koktuh Hills**	**1.12**	**318**		**Pn**	**09 21 52.6**	**-0.9**
O18K				IAML		09 22 09.3	
	comp=E,291nm,0.8s						
O18K				IAML		09 22 09.7	
	comp=N,378nm,0.9s						
ACHA	**Angle Creek He**	**1.18**	**226**	Pn	**Pn**	**09 21 54.2**	**-0.1**
O20K	**Slope Mountain**	**1.19**	**28**		**Pn**	**09 21 54.5**	**+0.2**
O20K					**Sn**	**09 22 11.4**	**-0.4**
O19K	**Port Alsworth**	**1.20**	**345**	Pn	**Pn**	**09 21 53.9**	**-0.5**
O19K				IAML		09 22 11.2	
	comp=N,586nm,0.5s						
O19K				IAML		09 22 11.9	
	comp=E,664nm,0.5s						
HOM	**Homer**	**1.23**	**59**		**Pn**	**09 21 55.6**	**+0.8**
ANCK	**Angle Creek**	**1.25**	**229**		**Pn**	**09 21 55.1**	**0.0**
ANCK					**Sn**	**09 22 12.9**	**-0.2**
CNPM	**China Poot**	**1.36**	**68**		**Pn**	**09 21 56.8**	**+0.5**
CNPM					**Sn**	**09 22 15.2**	**-0.1**
CNPM				IAML		09 22 15.8	
	comp=N,970nm,0.8s						
CNPM				IAML		09 22 16.0	
	comp=E,1μm,0.6s						
KDAK	**Kodiak Island**	**1.39**	**154**	Pn	**Pn**	**09 21 56.9**	**+0.2**
KDAK				IAML		09 22 16.1	
	comp=E,583nm,0.2s						
KDAK				IAML		09 22 18.4	
	comp=E,589nm,0.5s						
P17K	**Kvichak River**	**1.41**	**278**		**Pn**	**09 21 56.4**	**-0.4**
RDWB	**Redoubt West**	**1.52**	**17**		**Pn**	**09 21 58.2**	**-0.1**
R18K	**Karluk**	**1.53**	**195**		**Pn**	**09 21 57.9**	**-0.3**
R18K				IAML		09 22 20.2	
	comp=N,1μm,0.5s						
Q16K	**King Salmon**	**1.57**	**258**		**Pn**	**09 21 58.8**	**+0.1**
Q16K					**Sn**	**09 22 19.1**	**-0.4**
NCT	**North Crescent**	**1.58**	**14**		**Pn**	**09 21 59.1**	**+0.1**
BRLK	**Bradley Lake**	**1.62**	**62**	Pn	**Pn**	**09 21 59.2**	**-0.2**
BRLK				IAML		09 22 21.5	
	comp=N,916nm,0.2s						
BRLK				IAML		09 22 23.0	
	comp=E,751nm,0.2s						
RDJH	**Redoubt Jeurge**	**1.62**	**16**		**Pn**	**09 21 59.6**	**0.0**
RDJH					**Sn**	**09 22 21.0**	**-0.1**
RDT	**Redoubt**	**1.68**	**23**		**Pn**	**09 22 00.0**	**-0.1**
RDT					**Sn**	**09 22 21.6**	**-0.5**
BRSE	**Bradley Lake S**	**1.68**	**64**		**Pn**	**09 22 00.5**	**+0.4**
N19K	**Bonanza Creek**	**1.82**	**348**		**Pn**	**09 22 01.9**	**-0.1**
N19K				IAML		09 22 25.0	
	comp=N,100nm,0.8s						
N19K				IAML		09 22 25.2	
	comp=E,116nm,0.8s						
OHAK	**Old Harbor**	**1.84**	**173**	Pn	**Pn**	**09 22 01.9**	**-0.1**
OHAK					**Sn**	**09 22 24.2**	**-1.3**
OHAK				IAML		09 22 26.0	
	comp=E,269nm,0.4s						
OHAK				IAML		09 22 26.7	
	comp=N,323nm,0.5s						
OHAK	**Old Harbor**	**1.84**	**173**	P	**Pn**	**09 22 02.0**	**-0.1**
OHAK	**Old Harbor**	**1.84**	**173**	S	**Sn**	**09 22 25.4**	**0.0**
O17K	**Koliganek Bris**	**1.88**	**295**		**Pn**	**09 22 02.0**	**-0.5**
N18K	**Kilae Creek**	**1.98**	**327**		**Pn**	**09 22 03.5**	**-0.4**
PLBL	**Peulik Blue Cr**	**2.12**	**232**		**Pn**	**09 22 06.8**	**+1.2**
CAPN	**Captain Cook N**	**2.16**	**36**		**Pn**	**09 22 08.0**	**+1.9**
CAPN				IAML		09 22 45.4	
	comp=E,610nm,0.5s						
P16K	**Nushagak River**	**2.21**	**272**		**Pn**	**09 22 06.9**	**+0.2**
SPCR	**Spurr Chakacha**	**2.30**	**19**		**Pn**	**09 22 08.1**	**+0.1**
SPCR					**Sn**	**09 22 36.4**	**+0.3**
SLKM	**Skilak Lake**	**2.30**	**49**		**Pn**	**09 22 08.6**	**+0.6**
SLKM					**Sn**	**09 22 35.0**	**-1.1**
N17K	**Nushagak Hills**	**2.30**	**312**		**Pn**	**09 22 07.6**	**-0.4**
O16K	**Kokwok River B**	**2.31**	**286**		**Pn**	**09 22 07.7**	**-0.4**
SPBG	**Spurr Blockage**	**2.33**	**16**		**Pn**	**09 22 08.9**	**+0.5**
SPCG	**Spurr Capps Gl**	**2.42**	**20**		**Pn**	**09 22 09.7**	**+0.2**
SEW	**Seward**	**2.42**	**62**		**Pn**	**09 22 09.2**	**-0.3**
O22K	**Cooper Landing**	**2.49**	**53**		**Pn**	**09 22 10.7**	**+0.3**
SII	**Sitkinak Islan**	**2.50**	**186**		**Pn**	**09 22 10.7**	**+0.1**
SII				IAML		09 22 41.2	
	comp=E,337nm,0.3s						
SII				IAML		09 22 42.6	
	comp=N,247nm,0.5s						
SII	**Sitkinak Islan**	**2.50**	**186**	P	**Pn**	**09 22 10.4**	**-0.2**
SII	**Sitkinak Islan**	**2.50**	**186**	S	**Sn**	**09 22 39.5**	**-1.2**
STLK	**Strandline Lak**	**2.64**	**20**		**Pn**	**09 22 12.9**	**+0.5**
STLK				IAML		09 22 48.4	
	comp=N,62nm,0.5s						
STLK				IAML		09 22 49.5	
	comp=E,43nm,0.5s						
M18K	**Stony River**	**2.67**	**338**		**Pn**	**09 22 12.6**	**-0.3**
SUA	**Susitna One**	**2.85**	**30**		**Pn**	**09 22 15.9**	**+0.7**
SUA					**Sn**	**09 22 49.5**	**+0.4**
SUA				IAML		09 22 51.1	
	comp=N,173nm,0.6s						
RC01	**Rabbit Creek A**	**2.87**	**42**		**Pn**	**09 22 15.7**	**+0.3**
RC01				IAML		09 22 49.4	
	comp=E,323nm,0.4s						
RC01				IAML		09 22 49.7	
	comp=N,260nm,0.3s						
M20K	**Styx River**	**2.87**	**6**		**Pn**	**09 22 15.8**	**+0.3**
M19K	**Big River Lodg**	**2.89**	**354**		**Pn**	**09 22 15.5**	**-0.2**
N16K	**Nishlik Lake**	**2.93**	**302**		**Pn**	**09 22 16.3**	**+0.1**
M17K	**Holitna River**	**3.01**	**324**		**Pn**	**09 22 17.5**	**+0.3**
M17K				IAML		09 22 52.9	
	comp=N,112nm,0.8s						
M17K				IAML		09 22 53.6	
	comp=E,87nm,0.8s						
SKT	**Skwentna**	**3.14**	**19**		**Pn**	**09 22 19.1**	**0.0**
SKT				IAML		09 23 02.5	
	comp=N,52nm,0.3s						
SKT				IAML		09 23 02.7	
	comp=E,52nm,0.7s						
O15K	**Ungalikthiuk R**	**3.15**	**275**		**Pn**	**09 22 19.2**	**0.0**
L19K	**White Mountain**	**3.20**	**350**		**Pn**	**09 22 19.9**	**0.0**
PWL	**Port Wells**	**3.27**	**54**		**Pn**	**09 22 20.2**	**-0.5**
M16K	**Timber Creek**	**3.30**	**309**		**Pn**	**09 22 21.7**	**+0.6**
P23K	**Montague Islan**	**3.36**	**71**		**Pn**	**09 22 22.0**	**+0.1**
CHIR	**Chirikof Islan**	**3.39**	**199**	P	**Pn**	**09 22 21.8**	**-0.5**
CHIR	**Chirikof Islan**	**3.39**	**199**	S	**Sn**	**09 23 00.4**	**-1.3**
PMR	**Palmer**	**3.43**	**40**		**Pn**	**09 22 22.3**	**-0.5**
PMR				IAML		09 23 02.2	
	comp=E,126nm,0.7s						
PMR				IAML		09 23 04.0	
	comp=N,76nm,0.4s						
PMR	**Palmer**	**3.43**	**40**	P	**Pn**	**09 22 22.1**	**-0.7**
PMR	**Palmer**	**3.43**	**40**	S	**Sn**	**09 23 00.1**	**-2.6**
N15K	**Kwethluk River**	**3.43**	**292**		**Pn**	**09 22 23.6**	**+0.8**
N15K				IAML		09 23 03.3	
	comp=N,32nm,1.1s						
N15K				IAML		09 23 30.1	
	comp=E,25nm,1.1s						
L20K	**Farewell, AK**	**3.45**	**359**		**Pn**	**09 22 23.2**	**0.0**
L18K	**Granite Mounta**	**3.51**	**337**		**Pn**	**09 22 24.0**	**+0.1**
L18K				IAML		09 23 20.3	
	comp=N,27nm,1.1s						
KNK	**Knik Glacier**	**3.54**	**46**		**Pn**	**09 22 23.9**	**-0.5**
GHO	**Glory Hole Cre**	**3.63**	**39**		**Pn**	**09 22 25.1**	**-0.5**
CHGN	**Chignik**	**3.73**	**225**	Pn	**Pn**	**09 22 27.3**	**+0.5**
CHGN				IAML		09 24 00.3	
	comp=N,41nm,1.1s						
CHGN				IAML		09 24 32.9	
	comp=E,44nm,1.1s						
CUT	**Chulitna**	**3.78**	**25**		**Pn**	**09 22 27.9**	**+0.5**
CUT				IAML		09 23 12.3	
	comp=N,88nm,0.5s						
CUT				IAML		09 23 24.6	
	comp=E,107nm,0.6s						
Q23K	**Middleton Isla**	**3.81**	**81**		**Pn**	**09 22 28.1**	**+0.3**
SML	**Sawmill**	**3.85**	**42**		**Pn**	**09 22 28.1**	**-0.4**
SML				IAML		09 23 11.0	
	comp=E,136nm,0.7s						
O14K	**Tigyukauivet M**	**3.89**	**276**	Pn	**Pn**	**09 22 29.6**	**+0.6**
O14K				IAML		09 23 43.5	
	comp=E,24nm,1.1s						
HIN	**Hinchinbrook I**	**3.90**	**66**		**Pn**	**09 22 29.1**	**-0.1**
L16K	**Owhat River**	**3.92**	**316**		**Pn**	**09 22 29.7**	**+0.3**
L16K				IAML		09 23 15.3	
	comp=E,17nm,1.1s						
PPLA	**Purkeypile**	**3.94**	**10**		**Pn**	**09 22 30.7**	**+0.8**
M23K	**Glacier View**	**4.06**	**45**		**Pn**	**09 22 31.1**	**-0.2**
TTA	**Tatalina**	**4.06**	**345**		**Pn**	**09 22 31.2**	**-0.1**
TTA	**Tatalina**	**4.06**	**345**	P	**Pn**	**09 22 30.9**	**-0.5**
N14K	**Kuskokwak Cree**	**4.16**	**286**		**Pn**	**09 22 32.9**	**+0.3**
SCM	**Sheep Creek Mo**	**4.23**	**46**		**Pn**	**09 22 33.6**	**0.0**
SCM				IAML		09 23 21.5	
	comp=E,109nm,1.0s						
SCM				IAML		09 23 21.9	
	comp=N,91nm,1.0s						
EYAK	**Cordova Ski Ar**	**4.30**	**66**		**Pn**	**09 22 34.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.30**	**66**	P	**Pn**	**09 22 34.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.30**	**66**	S	**Sn**	**09 23 21.5**	**-2.1**
K17K	**Iditarod**	**4.32**	**331**		**Pn**	**09 22 35.0**	**+0.3**
K17K				IAML		09 23 53.3	
	comp=E,17nm,1.0s						
K17K				IAML		09 24 03.3	
	comp=N,16nm,1.1s						
K20K	**Telida**	**4.34**	**358**		**Pn**	**09 22 34.8**	**-0.2**
CAST	**Castle Rocks**	**4.47**	**9**		**Pn**	**09 22 37.3**	**+0.6**
M14K	**Bethel**	**4.49**	**296**	Pn	**Pn**	**09 22 37.3**	**+0.2**
M14K				IAML		09 23 27.0	
	comp=E,16nm,1.1s						
M14K				IAML		09 24 19.0	
	comp=N,10nm,1.1s						
DIV	**Divide**	**4.50**	**59**		**Pn**	**09 22 38.0**	**+0.8**
KLU	**Klutina**	**4.60**	**54**		**Pn**	**09 22 38.3**	**-0.3**
J18K	**Innoko River**	**4.67**	**343**	Pn	**Pn**	**09 22 39.7**	**+0.2**
L15K	**Ungalak Mounta**	**4.68**	**308**		**Pn**	**09 22 39.8**	**+0.2**
KTH	**Kantishna Hill**	**4.73**	**15**		**Pn**	**09 22 40.5**	**+0.2**
KTH				IAML		09 23 58.9	
	comp=E,16nm,0.8s						
KTH				IAML		09 23 59.6	
	comp=N,20nm,0.9s						
TRF	**Thorofare Moun**	**4.73**	**19**		**Pn**	**09 22 40.8**	**+0.4**
TRF				IAML		09 23 55.9	
	comp=N,24nm,1.1s						
TRF				IAML		09 23 56.1	
	comp=E,21nm,1.1s						
GOAT	**Goat Mountain**	**4.80**	**67**		**Pn**	**09 22 41.6**	**+0.4**
M24K	**Tolsona, Glenn**	**4.83**	**47**		**Pn**	**09 22 41.8**	**+0.1**
CHUM	**Lake Minchumin**	**4.91**	**7**		**Pn**	**09 22 42.8**	**+0.1**
RND	**Reindeer**	**4.97**	**26**		**Pn**	**09 22 43.0**	**-0.6**
RND				IAML		09 23 39.1	
	comp=E,26nm,0.4s						
RND				IAML		09 23 40.1	
	comp=N,22nm,0.7s						
L14K	**Kuka Creek**	**5.03**	**301**		**Pn**	**09 22 45.1**	**+0.8**
L14K				IAML		09 24 05.4	
	comp=N,11nm,1.2s						
L14K				IAML		09 24 37.5	
	comp=E,12nm,1.2s						
K15K	**Wolf Creek Mou**	**5.04**	**314**	Pn	**Pn**	**09 22 45.3**	**+0.8**
K15K				IAML		09 24 12.0	
	comp=E,8.4nm,1.1s						
J19K	**Poorman**	**5.06**	**350**		**Pn**	**09 22 44.6**	**-0.1**
J17K	**VABM Dome**	**5.08**	**332**	Pn	**Pn**	**09 22 45.2**	**+0.2**
J17K				IAML		09 23 59.6	
	comp=E,6.6nm,1.1s						
J20K	**Nowinta River**	**5.16**	**358**		**Pn**	**09 22 46.4**	**+0.3**
J20K				IAML		09 24 48.0	
	comp=E,6.5nm,1.1s						
N25K	**Chitina, Valde**	**5.21**	**57**		**Pn**	**09 22 47.5**	**+0.5**
N25K				IAML		09 23 48.7	
	comp=E,51nm,0.6s						
MCK	**McKinley**	**5.24**	**24**		**Pn**	**09 22 47.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**5.24**	**13**		**Pn**	**09 22 47.2**	**0.0**
BPAW				IAML		09 23 47.7	
	comp=N,8.2nm,0.5s						
BPAW				IAML		09 23 50.4	
	comp=E,8.4nm,1.1s						
HARP	**HAARP**	**5.38**	**48**		**Pn**	**09 22 49.4**	**+0.2**
J16K	**Anvik River**	**5.41**	**325**	Pn	**Pn**	**09 22 49.7**	**+0.3**
GLB	**Gilahina Butte**	**5.49**	**60**		**Pn**	**09 22 50.6**	**-0.1**
WACK	**Wrangell Chich**	**5.50**	**53**		**Pn**	**09 22 50.9**	**0.0**
WASW	**Wrangell South**	**5.54**	**54**		**Pn**	**09 22 51.3**	**-0.1**
VRDI	**Verde Repeater**	**5.58**	**62**		**Pn**	**09 22 51.5**	**-0.4**
WAZA	**Wrangell Mount**	**5.62**	**53**		**Pn**	**09 22 52.7**	**+0.1**
PAX	**Paxson**	**5.62**	**42**		**Pn**	**09 22 52.6**	**+0.2**
SNH	**Sunshine Point**	**5.64**	**74**		**Pn**	**09 22 53.8**	**+1.1**
NEA2	**Nenana**	**5.99**	**20**		**Pn**	**09 22 56.5**	**-0.9**
KIAG	**Kiagna River**	**6.01**	**67**		**Pn**	**09 22 57.7**	**0.0**
BALM	**Baldy**	**6.04**	**66**		**Pn**	**09 22 58.0**	**-0.2**
WRH	**Wood River Hil**	**6.07**	**24**		**Pn**	**09 22 57.3**	**-1.1**
J14K	**Nanvaranak Lak**	**6.07**	**312**	Pn	**Pn**	**09 22 59.4**	**+1.0**
MESA	**MESA**	**6.08**	**74**		**Pn**	**09 22 59.4**	**+0.6**
K24K	**Donnelly Dome**	**6.11**	**35**		**Pn**	**09 22 59.1**	**+0.1**
YAH	**Yahtse**	**6.21**	**73**		**Pn**	**09 23 01.4**	**+0.9**
I21K	**Tanana**	**6.22**	**7**		**Pn**	**09 23 00.7**	**+0.3**
M26K	**Nabesna, AK**	**6.25**	**53**		**Pn**	**09 23 01.2**	**+0.3**
HDA	**Harding Lake**	**6.27**	**28**		**Pn**	**09 23 00.5**	**-0.6**
CCB	**Clear Creek Bu**	**6.28**	**24**		**Pn**	**09 23 00.2**	**-1.1**
RIDG	**Independent Ri**	**6.35**	**38**		**Pn**	**09 23 02.3**	**0.0**
RKAV	**Rock Avalanche**	**6.39**	**73**		**Pn**	**09 23 02.8**	**-0.2**
L26K	**Log Cabin Wild**	**6.43**	**47**		**Pn**	**09 23 04.6**	**+1.3**
I23K	**Minto, Yukon-K**	**6.46**	**17**	Pn	**Pn**	**09 23 03.0**	**-0.7**
COLA	**College**	**6.47**	**23**		**Pn**	**09 23 02.8**	**-1.0**
COLA	**College**	**6.47**	**23**	P	**Pn**	**09 23 02.6**	**-1.2**
CHX	**Chaix Hills**	**6.49**	**76**		**Pn**	**09 23 04.6**	**+0.4**
H18K	**Honhosa River**	**6.51**	**342**		**Pn**	**09 23 04.3**	**-0.1**
DOT	**Dot Lake**	**6.55**	**41**		**Pn**	**09 23 05.5**	**+0.5**
IL31		**6.59**	**26**		**Pn**	**09 23 04.6**	**-0.9**
ILAR	**Eielson Array**	**6.59**	**26**		**Pn**	**09 23 04.2**	**-1.2**
H17K	**Granite Mounta**	**6.60**	**336**		**Pn**	**09 23 06.0**	**+0.4**
H21K	**Melozitna Rive**	**6.66**	**3**		**Pn**	**09 23 06.7**	**+0.4**
SAMH	**Samovar Hills**	**6.66**	**75**		**Pn**	**09 23 07.3**	**+0.7**
M27K	**Edge Creek, AK**	**6.70**	**55**		**Pn**	**09 23 07.7**	**+0.7**
POKR	**Poker Plat Res**	**6.77**	**23**		**Pn**	**09 23 07.3**	**-0.7**
SCRK	**Sand Creek**	**6.79**	**39**		**Pn**	**09 23 07.3**	**-1.0**
J25K	**Salcha River,**	**6.84**	**32**		**Pn**	**09 23 08.5**	**-0.5**
PCA	**Pinnacle**	**6.92**	**75**		**Pn**	**09 23 11.0**	**+0.9**
YUK2	**White River**	**6.94**	**61**		**Pn**	**09 23 10.5**	**+0.2**
L27K	**Beaver Creek,**	**7.04**	**50**		**Pn**	**09 23 11.6**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.78**	**5**	S	**Sg**	09 47 52.2	-0.1
FAME	**Alcaldia de Sa**	**0.78**	**5**	P	**Pg**	09 47 42.2	+0.1
FAME				S	**Sg**	09 47 53.1	+0.8
JAYA	**Jayaque - finc**	**0.85**	**46**	*e*P	**Pg**	09 47 43.8	+0.3
JAYA				*e*S	**Sg**	09 47 54.0	-0.8
JAYA				IAML		09 47 57.9	
	comp=Z,902nm,0.2s						
JAYA	**Jayaque - finc**	**0.85**	**46**	S	**Sg**	**09 47 56.1**	**+1.4**
JAYA	**Jayaque - finc**	**0.85**	**46**	P	**Pg**	**09 47 44.0**	**+0.4**
JAYA	**Jayaque - finc**	**0.85**	**46**	S	**Sg**	**09 47 56.0**	**+1.3**
JAYA	**Jayaque - finc**	**0.85**	**46**	P	**Pg**	**09 47 44.2**	**+0.7**
JAYA	**Jayaque - finc**	**0.85**	**46**	S	**Sg**	**09 47 55.4**	**+0.7**
JAYA	**Jayaque - finc**	**0.85**	**46**	*e*P	**Pg**	**09 47 43.8**	**+0.3**
JAYA				*i* S	**Sg**	**09 47 55.7**	**+1.0**
JAYA	**Jayaque - finc**	**0.85**	**46**	*e*P		09 47 43.8	
JAYA				*i* S		09 47 55.7	
LALI	**Alcalda de L**	**0.86**	**60**	*e*P	**Pg**	**09 47 43.3**	**-0.2**
LALI	**Alcalda de L**	**0.86**	**60**	P	Pn	09 47 51.2	+6.4
LALI	**Alcalda de L**	**0.86**	**60**	P	**Pg**	**09 47 44.8**	**+1.3**
LALI	**Alcalda de L**	**0.86**	**60**	S	**Sg**	**09 47 55.8**	**+1.1**
CEVE	**Cerro Verde**	**0.88**	**30**	*e*P	**Pg**	**09 47 43.9**	**-0.2**
CEVE				*e*S	**Sg**	**09 47 55.1**	**-0.6**
CEVE				IAML		09 47 58.3	
	comp=Z,681nm,0.2s						
CEVE	**Cerro Verde**	**0.88**	**30**	S	**Sg**	**09 47 56.9**	**+1.2**
CEVE	**Cerro Verde**	**0.88**	**30**	P	**Pg**	**09 47 45.1**	**+1.1**
NUBE	**Las Nubes**	**0.89**	**20**	*e*P	**Pg**	**09 47 43.9**	**-0.2**
NUBE				*e*S	**Sg**	**09 47 54.3**	**-1.5**
NUBE	**Las Nubes**	**0.89**	**20**	S	**Sg**	**09 47 55.9**	**+0.1**
NUBE	**Las Nubes**	**0.89**	**20**	P	**Pg**	**09 47 44.1**	**0.0**
NUBE	**Las Nubes**	**0.89**	**20**	S	**Sg**	**09 47 55.6**	**-0.2**
NUBE	**Las Nubes**	**0.89**	**20**	P	**Pg**	**09 47 44.0**	**-0.2**
NUBE	**Las Nubes**	**0.89**	**20**	S	**Sg**	**09 47 55.9**	**+0.1**
NUBE	**Las Nubes**	**0.89**	**20**	*e*P	**Pg**	**09 47 43.9**	**-0.2**
NUBE	**Las Nubes**	**0.89**	**20**	*e*P		09 47 43.9	
SBLS	**San Blas**	**0.89**	**30**	*e*P	**Pg**	**09 47 43.7**	**-0.6**
SBLS				*e*S	**Sg**	**09 47 54.9**	**-1.2**
SNJE	**San Jose**	**0.93**	**30**	*e*P	**Pg**	**09 47 44.9**	**0.0**
PMON	**Piamonte**	**0.99**	**49**	*e*P	**Pg**	**09 47 46.0**	**-0.1**
PMON				*e*S	**Sg**	**09 47 58.2**	**-0.8**
PMON	**Piamonte**	**0.99**	**49**	P	**Pg**	**09 47 46.1**	**+0.1**
PMON	**Piamonte**	**0.99**	**49**	P	**Pg**	**09 47 45.9**	**-0.1**
PMON	**Piamonte**	**0.99**	**49**	S	**Sg**	**09 47 59.7**	**+0.7**
ITCA	**Escuela Especi**	**0.99**	**52**	S	**Sg**	**09 47 60.0**	**+0.8**
ITCA	**Escuela Especi**	**0.99**	**52**	P	**Pg**	**09 47 46.2**	**0.0**
CEDA	**San Andres**	**1.00**	**42**	S	**Sg**	**09 47 59.7**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.00**	**17**	*e*P	**Pg**	**09 47 45.8**	**-0.5**
SLOZ				*e*S	**Sg**	**09 47 57.9**	**-1.5**
SLOZ	**Alcaldia de Sa**	**1.00**	**17**	P	**Pg**	**09 47 46.0**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.00**	**17**	S	**Sg**	**09 47 59.2**	**-0.2**
BOQS	**Boqueron**	**1.03**	**49**	*e*P	**Pg**	**09 47 46.8**	**-0.1**
BOQS				*e*S	**Sg**	**09 47 59.9**	**-0.4**
PANCS	**Alcalda de**	**1.04**	**58**	S	**Sg**	**09 47 59.4**	**-1.1**
PANCS	**Alcalda de**	**1.04**	**58**	P	**Pg**	**09 47 47.2**	**+0.2**
UEES	**Universidad Ev**	**1.05**	**52**	*e*P	**Pg**	**09 47 46.6**	**-0.5**
UEES	**Universidad Ev**	**1.05**	**52**	P	**Pg**	**09 47 50.6**	**+3.4**
UEES	**Universidad Ev**	**1.05**	**52**	P	**Pg**	**09 47 47.0**	**-0.2**
UEES	**Universidad Ev**	**1.05**	**52**	S	**Sg**	**09 48 01.2**	**+0.3**
UNIC	**Universidad Ca**	**1.05**	**30**	P	**Pg**	**09 47 46.6**	**-0.7**
UNIC	**Universidad Ca**	**1.05**	**30**	S	**Sg**	**09 48 00.7**	**-0.3**
LOMA	**Loma Larga**	**1.06**	**57**	*e*P	**Pg**	**09 47 47.4**	**0.0**
LOMA	**Loma Larga**	**1.06**	**57**	P	**Pg**	**09 47 47.6**	**+0.2**
LOMA	**Loma Larga**	**1.06**	**57**	P	**Pg**	**09 47 48.3**	**+0.9**
LOMA	**Loma Larga**	**1.06**	**57**	S	**Sg**	**09 48 01.7**	**+0.4**
UTEC	**Universidad Te**	**1.07**	**53**	P	**Pg**	**09 47 48.0**	**+0.5**
UTEC	**Universidad Te**	**1.07**	**53**	S	**Sg**	**09 48 01.6**	**0.0**
LFRS	**El Faro**	**1.14**	**61**	*e*P	**Pg**	**09 47 48.6**	**-0.3**
LFRS				*e*S	**Sg**	**09 48 02.8**	**-1.1**
PAVA	**Las Pavas**	**1.29**	**60**	*e*P	**Pg**	**09 47 51.0**	**-0.8**
PAVA	**Las Pavas**	**1.29**	**60**	S	**Sg**	**09 48 07.8**	**-0.8**
PAVA	**Las Pavas**	**1.29**	**60**	P	**Pg**	**09 47 50.9**	**-0.8**
COEG	**Centro de Oper**	**1.30**	**65**	*e*P	Pg	09 47 50.3	-1.6
COEG				IAML		09 48 16.1	
	comp=Z,174nm,0.2s						
COEG	**Centro de Oper**	**1.30**	**65**	P	Pg	09 47 50.5	-1.5
COEG	**Centro de Oper**	**1.30**	**65**	P	Pg	09 47 50.4	-1.5
COEG	**Centro de Oper**	**1.30**	**65**	S	**Sg**	**09 48 07.4**	**-1.4**
JUAM	**Asuncion Mita**	**1.32**	**16**	*e*P	Pg	09 47 50.6	-1.8
JUAM				*i* S	**Sg**	**09 48 08.3**	**-1.2**
JUAM	**Asuncion Mita**	**1.32**	**16**	*e*P		09 47 50.6	
JUAM				*i* S		09 48 08.3	
TECO	**Alcaldia de Te**	**1.35**	**69**	S	**Sg**	**09 48 08.8**	**-1.8**
UESV	**Universidad de**	**1.39**	**66**	S	**Sg**	**09 48 09.9**	**-1.8**
SCLA	**Alcaldia de Sa**	**1.47**	**64**	*e*P	**Pn**	**09 47 53.9**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.47**	**64**	P	**Pn**	**09 47 53.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.47**	**64**	P	**Pn**	**09 47 53.5**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.47**	**64**	S	**Sg**	**09 48 12.8**	**-1.4**
ALJI	**Alcalda de J**	**1.50**	**80**	S	**Sn**	**09 48 12.4**	**-0.7**
MTO3	**Montecristo**	**1.50**	**28**	*e*P	Pn	09 47 53.5	-0.3
MTO3				*e*S	**Sg**	**09 48 12.5**	**-2.9**
MTO3	**Montecristo**	**1.50**	**28**	P	Pn	09 47 53.6	-0.3
MTO3	**Montecristo**	**1.50**	**28**	P	Pn	09 47 53.4	-0.5
MTO3	**Montecristo**	**1.50**	**28**	S	**Sg**	**09 48 13.5**	**-2.0**
MTO3	**Montecristo**	**1.50**	**28**	*e*P	Pn	09 47 53.5	-0.3
MTO3	**Montecristo**	**1.50**	**28**	*e*P		09 47 53.5	
LLGN	**La Laguna**	**1.56**	**45**	P	Pn	09 47 54.1	-0.4
LLGN	**La Laguna**	**1.56**	**45**	S	**Sn**	**09 48 15.0**	**+0.3**
PQSS	**Presa 15 de Se**	**1.59**	**69**	*e*P	**Pn**	**09 47 55.4**	**+0.6**
PQSS	**Presa 15 de Se**	**1.59**	**69**	S	**Sn**	**09 48 15.0**	**-0.2**
PQSS	**Presa 15 de Se**	**1.59**	**69**	P	**Pn**	**09 47 55.0**	**+0.2**
ESQI	**Esquipulas**	**1.66**	**26**	*e*P	**Pn**	**09 47 56.0**	**+0.1**
ESQI				*e*S	**Sn**	**09 48 17.0**	**-0.1**
ESQI	**Esquipulas**	**1.66**	**26**	P	**Pn**	**09 47 56.4**	**+0.5**
ESQI	**Esquipulas**	**1.66**	**26**	S	**Sn**	**09 48 18.7**	**+1.6**
APG	**El Apazote**	**1.96**	**349**	*i* P	**Pn**	**09 48 00.5**	**+0.2**
APG	**El Apazote**	**1.96**	**349**	*i* P		09 48 00.5	

*IDC **09** 09:47:44.5±1.6, 2°.02S×119°.55E, h0km, mb3.4/5, mbtmp3.5/5, MS2.9/1, Error ellipse: s-maj=182.0km s-min=20.6km az=61.0*

*DJA **09** 09:47:48.5±0.7, 1°.S±2°.×12°.0E±°, h16km±7km, M4.1/10, mb4.6/3, MLv3.8/10*

ISC 09 09:47:48.7±0.8, 1°.36S±0°.05×120°.33E±0°.05, h23km, n13, σ2§27/15, mb3.4/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.67**	**313**	P	**Pb**	**09 48 00.0**	**-1.8**
TTSI	**Tana Toraja**	**1.75**	**197**	P	**Pb**	**09 48 20.1**	**0.0**
TTSI				S	**Sb**	**09 48 44.8**	**+3.2**
MRSI	**Marisa**	**2.44**	**41**	P	**Pn**	**09 48 26.5**	**-0.6**
LUWI	**Luwuk**	**2.46**	**83**	P	**Pb**	**09 48 30.7**	**-1.6**
LUWI				S	**Sn**	**09 48 59.3**	**+2.5**
SPSI	**Sidrap Palu**	**2.64**	**192**	P	**Pb**	**09 48 32.1**	**-3.3**
SPSI				S	**Sb**	**09 49 07.0**	**-0.5**
BKB	**Balikpapan**	**3.44**	**272**	P	**Pn**	**09 48 40.5**	**-0.4**
BKSI	**Bulukumba**	**3.94**	**183**	P	**Pn**	**09 48 48.6**	**+0.8**
PSI	**Prapat**	**21.80**	**281**	LR	LR	10 00 33.4	
	comp=Z,32nm,20.1s,baz=214,slow=36						
WRA	**Warramunga Arr**	**22.99**	**144**	P	**P**	**09 52 48.6**	**-3.5**
	0.8nm,0.8s,baz=324,slow=11,SNR=6.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**25.78**	**150**	P	**P**	**09 53 16.3**	**-1.8**
	0.3nm,0.7s,baz=320,slow=7.5,SNR=8.2						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**36.38**	**149**	P	**P**	**09 54 51.0**	**-0.5**
	0.7nm,0.5s,baz=332,slow=8.5,SNR=3.3						
	0.7nm,0.5s						
SONM	**Songino Array**	**50.49**	**348**	P	**P**	**09 56 48.5**	**+3.4**
	0.2nm,0.5s,baz=159,slow=6.2,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.41**	**330**	P	**P**	**09 57 42.7**	**+0.1**
	0.8nm,0.9s,baz=130,slow=6.3,SNR=6.1						
	0.8nm,0.9s						

*IDC **09** 10:02:14.0±1.5, 34°.93N×47°.51E, h0km, mb3.6/7, mbtmp3.7/12, ML3.9/4, MS3.0/5, Error ellipse: s-maj=36.9km s-min=17.9km az=11.0*

*ISN **09** 10:02:13.4±1.8, 34°.69N×47°.55E, h25km±13km, ML3.6*

*TEH **09** 10:02:14.4, 34°.72N×47°.40E, h5km*

ISC 09 10:02:15.1±0.6, 34°.74N±0°.03×47°.41E±0°.02, h10km, n77, σ1§84/64, mb3.5/6, 2C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNQR	**Sonqor, Kerman**	**0.21**	**57**	Pg	**Pg**	**10 02 19.8**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.56**	**213**	Pg	**Pb**	**10 02 25.9**	**-1.2**
IGHG	**Ghaleghazi**	**0.81**	**240**	Pg	**Pb**	**10 02 31.0**	**-0.3**
IDHR	**Dehrash**	**0.85**	**267**	Pg	**Pb**	**10 02 31.0**	**-0.9**
HSAM	**Samen**	**1.12**	**118**	Pg	**Pn**	**10 02 36.2**	**-0.8**
IDOB	**Doab**	**1.14**	**146**	Pg	**Pn**	**10 02 37.7**	**+0.4**
IKFM	**Kafar-mosalman**	**1.27**	**163**	Pg	**Pg**	**10 02 40.3**	**+0.9**
GLG1	**Gilan-e-Gharb**	**1.39**	**244**	Pg	**Pg**	**10 02 42.6**	**+0.9**
HGHA	**Hamedan- Ghaye**	**1.40**	**57**	Pg	**Pn**	**10 02 40.7**	**-0.1**
HAGD	**Aghdareh**	**1.42**	**86**	Pg	**Pb**	**10 02 41.3**	**-0.6**
BDRS	**Dareh Seyedi**	**1.45**	**122**	Pg	**Pg**	**10 02 42.1**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.50**	**222**	Pg	**Pg**	**10 02 44.5**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**1.52**	**262**	Pg	**Pg**	**10 02 45.0**	**+0.8**
QABG	**Abgarm-Qazvin**	**2.02**	**61**	Pn	**Pb**	**10 02 51.9**	**-0.1**
IBDR	**Badra**	**2.04**	**218**	*e*Pg	**Pb**	**10 02 51.0**	**-1.2**
IBDR				*e*Sg	**Sb**	**10 03 16.0**	**-1.7**
IBDR				AML	AML	10 03 25.8	
	comp=E,492nm,0.6s						
IBDR				AML	AML	10 03 27.3	
	comp=N,743nm,0.8s						
SDS1	**Sardasht. Az.**	**2.11**	**312**	Pn	**Pb**	**10 02 53.2**	**-0.2**
IRAZ	**Razeghan**	**2.17**	**72**	Pn	**Pb**	**10 02 54.4**	**-0.1**
MAHB	**Mahabad**	**2.45**	**326**	Pn	**Pb**	**10 02 58.2**	**-1.1**
IKRK	**Kirkuk**	**2.60**	**285**	*e*Pn	**Pn**	**10 02 57.0**	**-0.2**
IKRK				*e*Sn	**Sn**	**10 03 30.0**	**+1.1**
IGZV	**Ghazvin**	**2.81**	**54**	Pn	**Pb**	**10 03 03.3**	**-2.3**
BHD	**Baghdad**	**2.92**	**241**	*e*Pn	**Pn**	**10 03 01.0**	**-0.5**
BHD				*e*Sn	**Sn**	**10 03 37.0**	**+0.4**
IQOM	**Qom**	**3.01**	**87**	Pn	**Pb**	**10 03 05.7**	**-3.3**
ISRB	**Sarab**	**3.08**	**4**	Pn	**Pb**	**10 03 07.2**	**-2.9**
IAZR	**Azarshahr**	**3.15**	**339**	Pn	**Pb**	**10 03 07.8**	**-3.5**
KLST	**Kelardasht - M**	**3.46**	**58**	Pn	**Pn**	**10 03 12.2**	**+2.9**
IPIR	**Pirpir**	**3.55**	**124**	Pn	**Pn**	**10 03 13.2**	**+2.7**
IVRN	**Varamin**	**3.56**	**85**	Pn	**Pn**	**10 03 13.3**	**+3.0**
IHRS	**Heris**	**3.58**	**355**	Pn	**Pn**	**10 03 13.8**	**+3.0**
IKLH	**Kolahrood**	**3.74**	**111**	Pn	**Pn**	**10 03 16.2**	**+3.2**
MZPU	**Pul - Mazandar**	**3.79**	**62**	Pn	**Pn**	**10 03 17.0**	**+3.3**
GAS1	**Astara - Iran**	**3.81**	**17**	Pn	**Pn**	**10 03 16.3**	**+2.5**
IDMV	**Damavand**	**3.88**	**76**	Pn	**Pn**	**10 03 17.9**	**+3.0**
ZNGN	**Zangian**	**3.89**	**131**	Pn	**Pn**	**10 03 17.9**	**+2.7**
KRSH	**Karshahi**	**3.98**	**100**	Pn	**Pn**	**10 03 19.5**	**+3.1**
ISFB	**Sefidab**	**4.00**	**94**	Pn	**Pn**	**10 03 19.6**	**+3.0**
GRMI	**Germi**	**4.08**	**5**	Pn	**Pn**	**10 03 20.6**	**+3.0**
MAKU	**Maku**	**5.09**	**335**	Pn	**Pn**	**10 03 35.0**	**+3.4**
KLNJ	**Kolanjah**	**5.12**	**135**	Pn	**Pn**	**10 03 34.7**	**+2.6**
GNI	**Garni**	**5.80**	**339**	Pn	Pn	10 03 46.8	+5.5
	comp=N,1.6nm,0.3s,baz=240,slow=21,SNR=1.9						
GNI				LR	LR	10 06 07.9	
	comp=N,131nm,19.9s,baz=128,slow=41						
GNI	**Garni**	**5.80**	**339**	P	**Pn**	**10 03 43.3**	**+2.0**
	comp=N,0.1nmcomp=N,33nm,0.8s						
ASF	**Jabal al Asfar**	**9.15**	**257**	Pn	Pn	10 04 33.2	+5.9
	comp=N,0.3nm,0.3s,baz=106,slow=20,SNR=1.3						
ASF				Sn	Sn	10 06 18.5	+8.1
	comp=N,0.3nm,0.3s,baz=186,slow=9.6,SNR=1.7						
ASF				Lg	Lg	10 07 12.6	
	comp=N,0.2nm,0.3s,baz=306,slow=15,SNR=4.1						
ASF				LR	LR	10 08 48.0	
	comp=N,109nm,19.2s,baz=298,slow=42						
MMAI	**Mount Meron Ar**	**10.13**	**264**	LR	LR	10 09 24.4	
	comp=N,65nm,19.7s,baz=90,slow=42						
EIL	**Elat**	**11.70**	**248**	LR	LR	10 10 39.5	
	comp=N,47nm,19.9s,baz=67,slow=43						
BR104	**Keskin Array S**	**12.04**	**298**	P	**Pn**	**10 05 08.1**	**+1.3**
	comp=N,2.3nm,1.2s						
BRTR	**Keskin Array B**	**12.05**	**298**	Pn	**Pn**	**10 05 09.1**	**+2.1**
	comp=N,0.1nm,0.3s,baz=118,slow=14,SNR=6.1						
	comp=N,0.9nm,0.7s						
WSAR	**Wadi Sarin**	**15.08**	**137**	Pn	**Pn**	**10 05 48.0**	**-0.2**
	comp=N,0.5nm,0.3s,baz=322,slow=12,SNR=6.3						
	comp=N,4.8nm,0.7s						
AKTO	**Aktyubinsk**	**17.49**	**23**	P	**Pn**	**10 06 16.6**	**-2.3**
	comp=N,0.1nm,0.3s,baz=213,slow=11,SNR=3.8						
	comp=N,0.8nm,0.9s						
IDI	**Anoyia**	**18.45**	**278**	P	**Pn**	**10 06 32.9**	**+1.9**
	comp=N,3.2nm,0.5s,baz=150,slow=15,SNR=3.3						
ODBI	**Odobesti**	**18.99**	**312**	P	**Pn**	**10 06 38.1**	**+0.8**
SORM	**Soroca**	**19.51**	**319**	P	**P**	**10 06 42.3**	**0.0**
	comp=N,13nm,1.0s						
MLR	**Muntele Rosu**	**19.56**	**310**	P	**Pn**	**10 06 43.6**	**-0.7**
	comp=N,0.3nm,0.3s,baz=176,slow=13,SNR=3.7						
	comp=N,1.6nm,0.5s						
MLR	**Muntele Rosu**	**19.56**	**310**	P	**Pn**	**10 06 44.1**	**-0.2**
	comp=N,6.7nm,1.5s						
VOIR		**20.11**	**309**	⇑P	Pn	10 06 50.3	-0.4
VOIR		**20.11**	**309**	P	Pn	10 06 50.2	-0.6
	comp=N,18nm,0.8s						
VOIR				pP	sP	10 06 52.7	-1.2
	comp=N,18nm,0.8s						
DOPR	**Dopca**	**20.12**	**310**	⇓P	Pn	10 06 50.0	-0.8
ARR	**Arges**	**20.34**	**308**	⇑P	Pn	10 06 52.4	-1.2
AK07	**Malin Array Si**	**20.62**	**326**	P	**P**	**10 06 54.9**	**+0.5**
AK05	**Malin Array Si**	**20.67**	**326**	P	Pn	10 06 56.2	-1.0
AK02	**Malin Array Si**	**20.70**	**326**	P	**P**	**10 06 55.4**	**+0.2**
AK12	**Malin Array Si**	**20.71**	**326**	P	Pn	10 06 56.4	-1.3
AK01	**Malin Array Si**	**20.72**	**326**	P	Pn	10 06 56.5	-1.3
AKASG	**Malin Array Be**	**20.72**	**326**	P	**P**	**10 06 55.5**	**+0.1**
	comp=N,1.9nm,0.8s,baz=138,slow=11,SNR=6.5						
	comp=N,1.9nm,0.8s						
AKBB	**Malin Array Si**	**20.72**	**326**	P	Pn	10 06 56.5	-1.3
KIEV	**Kiev**	**20.72**	**326**	P	Pn	10 06 56.5	-1.3
	comp=N,22nm,1.7s						
AK14	**Malin Array Si**	**20.72**	**326**	P	Pn	10 06 56.6	-1.2
KMPD	**K-Podol'skiy**	**20.79**	**318**	P	Pn	10 06 57.4	-1.2
LUBAR	**Lubar, Ukraine**	**20.91**	**322**	P	Pn	10 06 58.7	-1.3
HORU	**Horodok**	**21.17**	**319**	P	**P**	**10 07 01.6**	**+1.2**
MI30	**MI30,Zelenitsa**	**21.23**	**325**	P	**P**	**10 07 01.8**	**+0.8**
KSV	**Kosov**	**21.43**	**316**	P	**P**	**10 07 04.6**	**+1.4**
MI28	**Mi28,Pidlybu**	**21.60**	**325**	P	**P**	**10 07 06.3**	**+1.3**
KURBB	**Kurchatov Arra**	**27.58**	**45**	P	**P**	**10 08 00.0**	**-2.1**
	comp=N,0.5nm,0.2s,baz=354,slow=7.5,SNR=9.2						
	comp=N,0.5nm,0.2s						
MKAR	**Makanchi Array**	**28.79**	**55**	P	**P**	**10 08 12.8**	**-0.3**
	comp=N,0.2nm,0.8s,baz=254,slow=9.7,SNR=5.0						
	comp=N,0.2nm,0.8s						
HFS	**Hagfors**	**33.49**	**330**	P	**P**	**10 08 53.6**	**-0.6**
	comp=N,2.4nm,0.7s,baz=122,slow=11,SNR=5.8						
	comp=N,2.4nm,0.7s						
ESDC	**Sonseca Array**	**40.76**	**293**	P	**P**	**10 09 56.2**	**-0.1**
	comp=N,0.2nm,0.4s,baz=59,slow=9.3,SNR=4.3						
	comp=N,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**48.33**	**96**	P	**P**	**10 10 57.6**	**+0.6**
	comp=N,0.4nm,0.4s,baz=287,slow=7.6,SNR=4.7						
CMAR				LR	LR	10 36 35.4	
	comp=N,18nm,18.3s,baz=80,slow=43						
	comp=N,0.4nm,0.4s						
YKA	**Yellowknife Ar**	**82.02**	**352**	P	**P**	**10 14 34.3**	**-0.7**
	comp=N,0.1nm,0.6s,baz=30,slow=5.6,SNR=2.2						
	comp=N,0.1nm,0.6s						

*MOS **09** 10:07:35.2±0.7, 29°.39N×139°.41E, h391km, mb4.6/50, Error ellipse: s-maj=8.2km s-min=4.2km az=117.9*

*JMA **09** 10:07:35.7±0.3, 29°.4N±0°.8×14°.0E±°, h400km±4km, MD5.3/32, MV4.1/32, NEAR TORISHIMA IS*

*NIED **09** 10:07:35.7, 29°.41N×139°.87E, h400km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.78; $M_{\theta\theta}$3.44; $M_{\phi\phi}$-1.66; $M_{r\theta}$0.75; $M_{\theta\phi}$-3.94; $M_{\phi r}$-4.70; Fault plane solution: $M_0$6.86000×10^{15} NP1:ϕ_s79.00000°, δ45.00000°, λ-165.00000°. NP2:ϕ_s338.00000°, δ79.00000°, λ-46.00000°.*

*IDC **09** 10:07:36.9±0.8, 29°.37N×139°.42E, h396km±7km, mb4.1/32, mbtmp4.8/38 Error ellipse: s-maj=10.0km s-min=7.5km az=89.0*

*NEIC **09** 10:07:36.4±1.3, 29°.33N±0°.08×139°.5E±0°.1, h386km±8km, mb4.5/274, Error ellipse: s-maj=13.9km s-min=11.3km az=87.0*

ISC 09 10:07:36.3±0.4, 29°.34N±0°.04×139°.53E±0°.05, h391km±3km, h392km:pP-P, n748, σ1§21/696, mb4.5/229, 38C-35D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.24**	**133**	P	**Pn**	**10 08 39.7**	**-1.2**
CBIJ				S	**S**	**10 09 30.1**	**-3.0**
CBIJ	**Chichi jima**	**3.24**	**133**	A	A	10 08 39.7	
	comp=N,6.0nm,0.5s,comp=E,7.0nm,1.3s						
JCJ	**Chichijima**	**3.24**	**133**	Pn	**Pn**	**10 08 40.1**	**-0.8**
JCJ					**S**	**10 09 30.7**	**-2.4**
JCJ	**Chichijima**	**3.24**	**133**	P	Pn	10 08 33.9	-7.0
	comp=E,1μm,0.4s,baz=65,slow=3.6,SNR=212						
JCJ				S	S	10 09 24.6	-8.6
	comp=E,3μm,0.4s,baz=266,slow=21,SNR=21						
JCJ	**Chichijima**	**3.24**	**133**	P	**Pn**	**10 08 40.0**	**-0.9**
JCJ	**Chichijima**	**3.24**	**133**	S	**S**	**10 09 30.5**	**-2.6**
JHH2	**Haha-jima-NKT2**	**3.57**	**138**	P	**Pn**	**10 08 43.1**	**-0.8**
JHH2				*e*S	**S**	**10 09 35.0**	**-3.5**
JHH2	**Haha-jima-NKT2**	**3.57**	**138**	A	A	10 08 43.1	
	comp=N,11nm,0.3s,comp=E,38nm,0.4s						
JHCJ	**Hachijojimakas**	**3.73**	**3**	*e*S	**S**	**10 09 37.9**	**-3.0**
JHJ2	**Mitsune**	**3.77**	**4**		**Pn**	**10 08 45.7**	**+0.2**
JHJ2	**Mitsune**	**3.77**	**4**	*e*P	**Pn**	**10 08 46.0**	**+0.5**
JHJ	**Hachijo jima 2**	**3.77**	**3**	P	**Pn**	**10 08 45.6**	**+0.1**
	comp=E,84nm,0.4s,baz=258,slow=22,SNR=6.9						
JHJ				S	**S**	**10 09 39.0**	**-2.8**
	comp=E,416nm,0.6s,baz=280,slow=23,SNR=9.2						
BSO1	**Boso 1**	**5.44**	**13**	*e*P	**Pn**	**10 09 02.0**	**+0.3**
BSO1				*e*S	**S**	**10 10 09.5**	**-2.0**
JSG	**Sagara**	**5.44**	**348**		**Pn**	**10 09 02.3**	**0.0**
BSO3	**Boso 3**	**5.51**	**8**	*e*P	**Pn**	**10 09 02.2**	**-0.6**
BSO3				*e*S	**S**	**10 10 11.3**	**-2.0**
JIE	**Ise**	**5.58**	**335**	P	**Pn**	**10 09 06.0**	**+2.1**
JIE				*e*S	**S**	**10 10 15.6**	**+0.4**
INU	**Inuyama**	**6.36**	**341**	Pn	**Pn**	**10 09 12.1**	**-0.2**
INU	**Inuyama**	**6.36**	**341**	P	**Pn**	**10 09 13.8**	**+1.4**
	comp=E,43nm,1.0s						
JGF	**Kuroka**	**6.51**	**344**	Pn	**Pn**	**10 09 13.5**	**-0.6**
JGF	**Kuroka**	**6.51**	**344**	P	**Pn**	**10 09 15.3**	**+1.2**
	comp=E,29nm,0.7s						
JMN	**Monobe**	**6.51**	**314**	Pn	**Pn**	**10 09 14.2**	**0.0**
JMN	**Monobe**	**6.51**	**314**	P	**P**	**10 09 16.5**	**+1.5**
	comp=E,107nm,1.2s						
JMN	**Monobe**	**6.51**	**314**	S	**S**	**10 10 35.8**	**+1.7**
	comp=E,107nm,1.2s						
JRY	**Ryogami san**	**6.68**	**356**	P	**Pn**	**10 09 15.5**	**-0.5**
JRY				*e*S	**S**	**10 10 32.8**	**-4.7**
JTO	**Tosashimizu**	**6.75**	**303**	P	**P**	**10 09 18.8**	**+1.2**
JYT	**Yasato**	**6.89**	**4**	*e*P	**Pn**	**10 09 17.1**	**-1.2**
JYT				*e*S	**S**	**10 10 35.4**	**-6.3**
MJAR	**Matsushiro Arr**	**7.27**	**352**	P	**Pn**	**10 09 21.7**	**-0.9**
	comp=E,6.5nm,0.5s,baz=162,slow=11,SNR=23						
MJAR				S	**S**	**10 10 44.1**	**-5.5**
	comp=E,8.3nm,0.6s,baz=134,slow=14,SNR=4.2						
MAJO	**Matsushiro**	**7.27**	**352**	Pn	**Pn**	**10 09 22.0**	**-0.6**
MAJO	**Matsushiro**	**7.27**	**352**	P	**Pn**	**10 09 22.0**	**-0.6**
	comp=E,28nm,0.7s						

BJI	**Beijing**	**21.91**	**305**	P	**P**	**10 11 57.8**	**-0.8**
BJI				pmax	pmax			
	comp=Z,9.0nm,1.1s							
BJI				pmax	pmax			
	comp=Z,34nm,3.6s							
HNS	**HongShan**	**22.19**	**298**	⇓P	**P**	**10 12 00.0**	**-1.2**
HNS				pmax	pmax			
	comp=Z,23nm,1.1s							
HEH	**HeiHe**	**22.81**	**340**	⇓P	**P**	**10 12 07.2**	**+0.6**
HEH				pmax	pmax			
	comp=Z,26nm,0.8s							
LYN	**LuoYang**	**23.51**	**290**	⇑P	**P**	**10 12 12.6**	**-0.6**
LYN				pmax	pmax			
	comp=Z,24nm,1.5s							
XLT	**XiLinHaoTe**	**23.67**	**314**	*e*P	**P**	**10 12 13.8**	**-0.8**
XLT				pmax	pmax			
	comp=Z,120nm,4.8s							
HIA	**Hailar**	**24.97**	**328**	P	**P**	**10 12 26.1**	**0.0**
HIA				IAmb	IAmb	10 12 27.2		
	comp=Z,17nm,0.9s							
HIA	**Hailar**	**24.97**	**328**	P	**P**	**10 12 26.1**	**0.0**
HIA				pmax	pmax			
	comp=Z,17nm,0.9s							
HHC	**Hu-ho-hao-te**	**25.50**	**304**	*e*P	**P**	**10 12 30.9**	**-0.1**
HHC				pmax	pmax			
	comp=Z,29nm,1.0s							
HHC				pmax	pmax			
	comp=Z,130nm,4.7s							
ENH	**Enshi**	**26.06**	**280**	P	**P**	**10 12 35.0**	**-1.0**
ENH	**Enshi**	**26.06**	**280**	P	**P**	**10 12 36.1**	**+0.1**
	comp=Z,69nm,0.8s							
XAN	**Xi'an**	**26.41**	**288**	P	**P**	**10 12 38.5**	**-0.6**
XAN				sP	sP	10 14 22.0	-12
XAN				pmax	pmax			
	comp=Z,55nm,0.6s							
BTO	**Baotou**	**26.55**	**303**	*e*P	**P**	**10 12 41.3**	**+1.0**
BTO				pP	**pP**	**10 13 49.1**	**+0.9**
BTO				sP	**sP**	**10 14 34.5**	**-0.5**
BTO				pmax	pmax			
	comp=Z,35nm,0.9s							
BTO				pmax	pmax			
	comp=Z,400nm,7.6s							
PEA0B	**Petropavlovsk-**	**27.24**	**24**	P	**P**	**10 12 47.1**	**+1.0**
PEA0B				IAmb	IAmb	10 12 54.3		
	comp=Z,51nm,1.4s							
PEA0B	**Petropavlovsk-**	**27.24**	**24**	P	**P**	**10 12 47.1**	**+1.0**
PEA0B				pmax	pmax			
	comp=Z,51nm,1.5s							
PETK	**Petropavlovsk-**	**27.24**	**24**	P	**P**	**10 12 46.7**	**+0.6**
PETK	**Petropavlovsk-**	**27.24**	**24**	P	**P**	**10 12 46.6**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=188,slow=4.8,SNR=21							
PETK				ScP	**ScP**	**10 18 56.0**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=224,slow=6.2,SNR=4.0							
	comp=Z,4.0nm,0.6s							
PET	**Petropavlovsk**	**27.52**	**25**	P	**P**	**10 12 49.7**	**+1.2**
PET				IAmb	IAmb	10 12 58.2		
	comp=Z,40nm,1.1s							
PET	**Petropavlovsk**	**27.52**	**25**	⇓*e*P	**P**	**10 12 49.1**	**+0.6**
PET				pmax	pmax			
	comp=Z,7.0nm,0.3s							
LZH	**Lanzhou**	**30.65**	**292**	*e*P	**P**	**10 13 16.2**	**-0.3**
LZH				pP	pP	10 14 27.9	+0.9
LZH				sP	sP	10 15 08.0	-4.0
LZH				pmax	pmax			
	comp=Z,40nm,1.1s							
ULN	**Ulaanbaatar**	**31.09**	**316**	P	**P**	**10 13 20.3**	**+0.2**
ULN				IAmb	IAmb	10 13 21.2		
	comp=Z,22nm,0.9s							
ULN	**Ulaanbaatar**	**31.09**	**316**	*c i*P	**P**	**10 13 19.9**	**-0.2**
ULN				pmax	pmax			
	comp=Z,19nm,1.0s							
MA2	**Magadan**	**31.18**	**11**	P	**P**	**10 13 21.5**	**+0.9**
MA2				IAmb	IAmb	10 13 22.1		
	comp=Z,21nm,0.8s							
MA2	**Magadan**	**31.18**	**11**	P	**P**	**10 13 21.2**	**+0.7**
	comp=Z,18nm,0.7s,baz=196,slow=7.9,SNR=42							
MA2				ScP	**ScP**	**10 19 08.6**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=138,slow=5.8,SNR=5.2							
	comp=Z,18nm,0.7s							
MA2	**Magadan**	**31.18**	**11**	P	**P**	**10 13 21.4**	**+0.9**
	comp=Z,31nm,0.8s							
MA2	**Magadan**	**31.18**	**11**	*d i*P	**P**	**10 13 20.6**	**0.0**
MA2				pmax	pmax			
	comp=Z,24nm,0.9s							
MA2	**Magadan**	**31.18**	**11**	P	**P**	**10 13 21.0**	**+0.4**
	comp=Z,30nm,0.8s							
MYLDM	**Lahad Datu**	**31.20**	**224**	P	**P**	**10 13 23.6**	**+2.4**
MYLDM				IAmb	IAmb	10 13 24.4		
	comp=Z,21nm,1.0s							
SONM	**Songino Array**	**31.48**	**315**	P	**P**	**10 13 23.7**	**+0.2**
SONM				IAmb	IAmb	10 13 24.6		
	comp=Z,36nm,1.5s							
SONM	**Songino Array**	**31.48**	**315**	P	**P**	**10 13 23.4**	**0.0**
	comp=Z,10nm,0.6s,baz=125,slow=7.9,SNR=48							
SONM				PcP	**PcP**	**10 16 05.6**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=143,slow=3.2,SNR=4.4							
SONM				ScP	**ScP**	**10 19 09.6**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=125,slow=3.8,SNR=4.6							
	comp=Z,10nm,0.6s							
SONM	**Songino Array**	**31.48**	**315**	P	**P**	**10 13 23.7**	**+0.2**
SONM				pmax	pmax			
	comp=Z,37nm,1.5s							
SLVN	**Son La**	**33.08**	**264**	P	**P**	**10 13 38.1**	**+0.7**
	comp=Z,24nm,0.9s							
TOLI2	**Tolitoli**	**33.28**	**216**	P	**P**	**10 13 39.0**	**-0.1**
YAK	**Yakutsk**	**33.33**	**352**	⇑*e*P	**P**	**10 13 39.0**	**0.0**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
PZH	**PanZhiHua**	**33.42**	**274**	P	**P**	**10 13 40.2**	**-0.2**
PZH				pmax	pmax			
	comp=Z,30nm,1.1s							
PZH				pmax	pmax			
	comp=Z,160nm,6.5s							
GTA	**Gaotai**	**34.05**	**298**	P	**P**	**10 13 45.5**	**-0.1**
GTA				S	**S**	**10 18 40.0**	**-2.0**
GTA				ScP	**ScP**	**10 19 19.2**	**-0.7**
GTA				pmax	pmax			
	comp=Z,42nm,0.9s							
UBPT	**Khong Chiam**	**34.34**	**253**	P	**P**	**10 13 48.6**	**+0.5**
ZAK	**Zakamensk**	**34.38**	**318**	*e*P	**P**	**10 13 48.0**	**-0.3**
ZAK				pmax	pmax			
	comp=Z,22nm,1.1s							
SEY	**Seymchan**	**34.62**	**10**	P	**P**	**10 13 50.4**	**+0.5**
	comp=Z,6.2nm,0.7s,baz=195,slow=7.0,SNR=35							
SEY				ScP	**ScP**	**10 19 20.3**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=112,slow=5.4,SNR=7.0							
	comp=Z,6.2nm,0.7s							
SEY	**Seymchan**	**34.62**	**10**	⇑*e*P	**P**	**10 13 50.8**	**+0.9**
SEY				pmax	pmax			
	comp=Z,13nm,1.3s							
MOY	**Mondy**	**36.22**	**319**	*e*P	**P**	**10 14 03.6**	**-0.1**
MOY				pmax	pmax			
	comp=Z,22nm,1.5s							
SBUM	**Sibu**	**37.27**	**229**	P	**P**	**10 14 13.4**	**+0.6**
SBUM	**Sibu**	**37.27**	**229**	P	**P**	**10 14 14.4**	**+1.6**
	comp=Z,3.9nm,1.1s							
GOMU	**GeErMu**	**37.96**	**292**	P	**P**	**10 14 18.8**	**+0.1**
GOMU				pP	pP	10 14 22.2	-69
GOMU				sP	sP	10 14 24.6	-111
GOMU				PcP	pP	10 14 53.2	-38
GOMU				pmax	pmax			
	comp=Z,62nm,0.8s							
CHTO	**Chiang Mai**	**38.34**	**263**	P	**P**	**10 14 21.7**	**+0.1**
CHTO				IAmb	IAmb	10 14 22.4		
	comp=Z,21nm,1.1s							
CHTO	**Chiang Mai**	**38.34**	**263**	P	**P**	**10 14 21.7**	**+0.1**
CHTO				pmax	pmax			
	comp=Z,21nm,1.1s							
CM31	**Chiang Mai Arr**	**38.49**	**263**	P	**P**	**10 14 22.8**	**0.0**
CMAR	**Chiang Mai Arr**	**38.49**	**263**	P	**P**	**10 14 22.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**38.49**	**263**	P	**P**	**10 14 22.1**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=48,slow=8.8,SNR=22							
CMAR				PcP	**PcP**	**10 16 27.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=43,slow=0.9,SNR=4.3							
	comp=Z,2.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**38.49**	**263**	*i* P	**P**	**10 14 22.7**	**-0.1**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSM	**Kuching**	**39.27**	**230**	P	**P**	**10 14 30.0**	**+0.8**
KSM				IAmb	IAmb	10 14 30.9		
	comp=Z,17nm,0.6s							
ADK	**Adak**	**39.35**	**43**	P	**P**	**10 14 29.8**	**+0.4**
ADK	**Adak**	**39.35**	**43**	P	**P**	**10 14 29.8**	**+0.4**
ADK				pmax	pmax			
	comp=Z,159nm,1.4s							
GSTR	**Great Sitkin T**	**39.78**	**42**	P	**P**	**10 14 33.2**	**+0.2**
SOEI	**Soe**	**41.56**	**203**	P	**P**	**10 14 47.1**	**-0.8**
SOEI				IAmb	IAmb	10 14 50.6		
	comp=Z,26nm,0.9s							
BILL	**Bilibino**	**41.84**	**15**	P	**P**	**10 14 50.0**	**+0.8**
BILL	**Bilibino**	**41.84**	**15**	⇑*e*P	**P**	**10 14 49.8**	**+0.6**
BILL				pmax	pmax			
	comp=Z,13nm,0.8s							
SHL	**Shillong**	**42.23**	**277**	P	**P**	**10 14 52.5**	**-0.7**
SHL	**Shillong**	**42.23**	**277**	P	**P**	**10 14 52.5**	**-0.7**
SHL				pmax	pmax			
	comp=Z,17nm,1.0s							
TIXI	**Tiksi**	**42.76**	**355**	P	**P**	**10 14 54.7**	**-1.8**
	comp=Z,1.8nm,0.4s,baz=98,slow=1.8,SNR=7.6							
TIXI				ScP	**ScP**	**10 19 49.9**	**-2.5**
	comp=Z,1.1nm,0.3s,baz=84,slow=3.0,SNR=6.6							
	comp=Z,1.8nm,0.4s							
TIXI	**Tiksi**	**42.76**	**355**	⇑*e*P	**P**	**10 14 56.7**	**+0.2**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.9s							
WMQ	**Urumqi**	**43.38**	**304**	*e*P	**P**	**10 15 02.2**	**+0.3**
WMQ				pmax	pmax			
	comp=Z,37nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,74nm,3.7s							
WMQ				LR	LR			
	comp=N,490nm,24.2s							
WMQ				LR	LR			
	comp=E,590nm,24.2s							
KULM	**Kulim**	**43.83**	**245**	P	**P**	**10 15 06.0**	**+0.2**
KULM				IAmb	IAmb	10 15 06.3		
	comp=Z,13nm,0.6s							
IPM	**Ipoh**	**44.03**	**243**	P	**P**	**10 15 06.4**	**-1.0**
SPIA	**Saint Paul Isl**	**44.51**	**37**	P	**P**	**10 15 11.5**	**+1.1**
	baz=253							
P08K	**Saint George I**	**44.72**	**38**	P	**P**	**10 15 13.3**	**+1.2**
	baz=254							
ZSN	**Zaisan**	**45.51**	**309**	*e*P	**P**	**10 15 18.5**	**0.0**
ZSN				pmax	pmax			
	comp=Z,10.0nm,0.4s							
ZSN	**Zaisan**	**45.51**	**309**	*e*P	**P**	**10 15 18.5**	**0.0**
	comp=Z,10nm,0.4s							
UNV	**Unalaska Valle**	**45.81**	**42**	P	**P**	**10 15 21.5**	**+0.9**
	baz=260							
GAMB	**Gambell**	**46.17**	**28**	P	**P**	**10 15 24.0**	**+0.8**
	baz=246							
ZAA0	**Zalesovo Array**	**46.26**	**318**	P	**P**	**10 15 23.4**	**-0.7**
ZAA0				IAmb	IAmb	10 15 24.3		
	comp=Z,26nm,0.8s							
ZALV	**Zalesovo Beam**	**46.26**	**318**	P	**P**	**10 15 23.5**	**-0.6**
ZALV	**Zalesovo Beam**	**46.26**	**318**	P	**P**	**10 15 23.4**	**-0.7**
	comp=Z,24nm,0.6s,baz=94,slow=7.3,SNR=109							
ZALV				PcP	**PcP**	**10 16 51.5**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=111,slow=3.2,SNR=5.9							
ZALV				ScP	**ScP**	**10 20 05.5**	**-1.8**
	comp=Z,5.1nm,0.7s,baz=118,slow=4.0,SNR=16							
	comp=Z,24nm,0.6s							
PSI	**Prapat**	**46.71**	**243**	P	**P**	**10 15 27.5**	**-0.7**
PSI				pmax	pmax			
	comp=Z,12nm,0.9s							
RPSI	**Rantau Prapat**	**46.77**	**243**	P	**P**	**10 15 27.5**	**-1.0**
MK31	**Makanchi Array**	**47.25**	**308**	P	**P**	**10 15 31.9**	**0.0**
MK31				IAmb	IAmb	10 15 32.4		
	comp=Z,22nm,0.8s							
MK31	**Makanchi Array**	**47.25**	**308**	*d i*P	**P**	**10 15 31.3**	**-0.5**
MKAR	**Makanchi Array**	**47.25**	**308**	P	**P**	**10 15 31.6**	**-0.3**
	comp=Z,14nm,0.4s,baz=86,slow=10,SNR=290							
MKAR				PcP	**PcP**	**10 16 55.5**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=89,slow=5.2,SNR=5.6							
MKAR				ScP	**ScP**	**10 20 10.4**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=98,slow=5.0,SNR=4.3							
	comp=Z,14nm,0.4s							
LEM	**Lembang**	**47.28**	**226**	P	**P**	**10 15 32.4**	**-0.2**
	comp=Z,48nm,0.7s							
M11K	**Mekoryuk**	**47.44**	**33**	P	**P**	**10 15 33.1**	**+0.1**
	baz=254							
MAKZ	**Makanchi**	**47.47**	**308**	P	**P**	**10 15 33.5**	**0.0**
MAKZ	**Makanchi**	**47.47**	**308**	P	**P**	**10 15 33.5**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,28nm,0.5s							
FALS	**False Pass**	**47.75**	**41**	P	**P**	**10 15 36.5**	**+1.1**
	baz=262							
MDSI	**Maura Dua**	**47.77**	**231**	P	**P**	**10 15 35.7**	**-0.4**
	comp=Z,1μmcomp=Z,35nm,0.8s							
TNA	**Tin City**	**48.38**	**26**	P	**P**	**10 15 41.6**	**+1.6**
	baz=248							
K13K	**Kusilvak Mount**	**48.58**	**31**	P	**P**	**10 15 43.3**	**+1.7**
	baz=254							
S12K	**Black Hills**	**48.64**	**40**	P	**P**	**10 15 42.4**	**+0.3**
	baz=262							
GSI	**Gunungsitoli**	**48.69**	**243**	P	**P**	**10 15 42.3**	**-0.8**
GSI				IAmb	IAmb	10 15 44.5		
	comp=Z,19nm,0.8s							
M13K	**Dall Lake**	**48.81**	**34**	P	**P**	**10 15 44.7**	**+1.3**
	baz=257							
F14K	**Arctic Creek**	**48.96**	**27**	P	**P**	**10 15 45.9**	**+1.5**
	baz=250							
ANM	**Nome**	**49.04**	**28**	P	**P**	**10 15 46.3**	**+1.3**
ANM	**Nome**	**49.04**	**28**	P	**P**	**10 15 46.3**	**+1.3**
ANM				pmax	pmax			
	comp=Z,17nm,0.9s							
ANM	**Nome**	**49.04**	**28**	P	**P**	**10 15 46.2**	**+1.3**
	baz=252							
WB0	**Warramunga Arr**	**49.07**	**186**	P	**P**	**10 15 45.8**	**0.0**
WB0				IAmb	IAmb	10 15 46.3		
	comp=Z,13nm,0.5s							
WR0	**Warramunga Arr**	**49.25**	**186**	P	**P**	**10 15 47.3**	**+0.2**
WR0				IAmb	IAmb	10 15 47.6		
	comp=Z,11nm,0.5s							
WB2	**Warramunga Arr**	**49.25**	**186**	P	**P**	**10 15 47.0**	**-0.1**
WRA	**Warramunga Arr**	**49.25**	**186**	P	**P**	**10 15 46.8**	**-0.4**
WRA	**Warramunga Arr**	**49.25**	**186**	P	**P**	**10 15 47.1**	**0.0**
	comp=Z,6.9nm,0.4s,baz=2.0,slow=7.7,SNR=86							
WRA				PcP	**PcP**	**10 17 03.9**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=359,slow=3.8,SNR=6.1							
WRA				ScP	**ScP**	**10 20 19.3**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=360,slow=4.9,SNR=5.6							
	comp=Z,6.9nm,0.4s							
J14K	**Nanvaranak Lak**	**49.29**	**31**	P	**P**	**10 15 48.2**	**+1.3**
	baz=255							
L14K	**Kuka Creek**	**49.34**	**33**	P	**P**	**10 15 48.6**	**+1.3**
	baz=257							
SHLS	**Shalkode**	**49.38**	**303**	*e*P	**P**	**10 15 45.2**	**-2.8**
SHLS				pmax	pmax			
	comp=Z,11nm,0.4s							
SHLS	**Shalkode**	**49.38**	**303**	*e*P	**P**	**10 15 45.3**	**-2.8**
	comp=Z,11nm,0.4s							
SDPT	**Sand Point**	**49.49**	**41**	P	**P**	**10 15 49.1**	**+0.6**
	baz=264							
N14K	**Kuskokwak Cree**	**49.53**	**34**	P	**P**	**10 15 49.9**	**+1.3**
	baz=259							
M14K	**Bethel**	**49.56**	**33**	P	**P**	**10 15 50.0**	**+1.2**
	baz=258							
F15K	**North Star Dit**	**49.70**	**27**	P	**P**	**10 15 51.1**	**+1.2**
	baz=251							
UZB	**Uzynbulak**	**49.70**	**303**	*e*P	**P**	**10 15 50.0**	**-0.5**
UZB				pmax	pmax			
	comp=Z,9.0nm,0.3s							
UZB	**Uzynbulak**	**49.70**	**303**	*e*P	**P**	**10 15 50.1**	**-0.5**
	comp=Z,9.3nm,0.3s							
G15K	**Niukluk**	**49.72**	**28**	P	**P**	**10 15 51.1**	**+1.1**
	baz=252							
WUS	**Wushi**	**49.75**	**301**	P	**P**	**10 15 50.5**	**-0.3**
WUS				IAmb	IAmb	10 15 52.7		
	comp=Z,15nm,0.8s							
KURK	**Kurchatov**	**49.75**	**313**	P	**P**	**10 15 50.1**	**-0.4**
KURK	**Kurchatov**	**49.75**	**313**	*d i*P	**P**	**10 15 49.8**	**-0.7**
KURK				pmax	pmax			
	comp=Z,78nm,1.2s							
KURBB	**Kurchatov Arra**	**49.80**	**313**	P	**P**	**10 15 50.6**	**-0.3**
	comp=Z,76nm,0.3s,baz=92,slow=7.3,SNR=4.2							
L15K	**Ungalak Mounta**	**49.98**	**32**	P	**P**	**10 15 53.4**	**+1.4**
	baz=258							
TDK	**Taldyqorghan**	**50.01**	**306**	*e*P	**P**	**10 15 52.4**	**-0.1**
TDK				pmax	pmax			
	comp=Z,13nm,0.5s							
TDK	**Taldygorghan**	**50.01**	**306**	*e*P	**P**	**10 15 52.5**	**-0.1**
	comp=Z,13nm,0.5s							
K15K	**Wolf Creek Mou**	**50.09**	**31**	P	**P**	**10 15 54.3**	**+1.5**
	baz=257							
M15K	**Kasigluk River**	**50.16**	**34**	P	**P**	**10 15 53.6**	**+0.2**
	baz=259							
SATY	**Saty**	**50.16**	**303**	*e*P	**P**	**10 15 53.6**	**-0.3**
SATY	**Saty**	**50.16**	**303**	*e*P	**P**	**10 15 53.6**	**-0.3**
C16K	**Lisburne Hills**	**50.33**	**23**	P	**P**	**10 15 55.5**	**+1.0**
	baz=248,SNR=8.2							
O15K	**Ungalikthiuk R**	**50.33**	**36**	P	**P**	**10 15 56.0**	**+1.3**
	baz=261							
N15K	**Kwethluk River**	**50.36**	**34**	P	**P**	**10 15 56.3**	**+1.4**
	baz=260							
H16K	**Elim**	**50.36**	**28**	P	**P**	**10 15 56.2**	**+1.4**
	baz=255							
ARXS	**Arharly**	**50.48**	**305**	*e*P	**P**	**10 15 55.5**	**-0.6**
G16K	**Koyuk River**	**50.52**	**27**	P	**P**	**10 15 57.4**	**+1.5**
	baz=254							
J16K	**Anvik River**	**50.73**	**30**	P	**P**	**10 15 59.3**	**+1.8**
	baz=257							
CHGN	**Chignik**	**50.74**	**39**	P	**P**	**10 15 59.7**	**+2.0**
	baz=265							
TARG	**Taragay, Kyrgy**	**50.74**	**302**	IAmb	IAmb	10 16 00.5		
	comp=Z,22nm,0.8s							
I17K	**Unalakleet**	**50.82**	**30**	P	**P**	**10 15 59.7**	**+1.5**
	baz=257							
L16K	**Owhat River**	**50.92**	**32**	P	**P**	**10 16 00.5**	**+1.5**
	baz=260							
D17K	**Noatak River**	**50.93**	**24**	P	**P**	**10 16 00.5**	**+1.5**
	baz=251,SNR=17							
M16K	**Timber Creek**	**51.05**	**33**	P	**P**	**10 16 01.2**	**+1.2**
	baz=261							
N16K	**Nishlik Lake**	**51.06**	**34**	P	**P**	**10 16 01.1**	**+1.0**
	baz=261							
RDOG	**Red Dog Mine**	**51.11**	**24**	P	**P**	**10 16 01.8**	**+1.5**
	baz=251,SNR=6.5							
CHKK	**Chushkaly**	**51.11**	**304**	*e*P	**P**	**10 16 00.4**	**-0.3**
CHKK	**Chushkaly**	**51.11**	**304**	*e*P	**P**	**10 16 00.5**	**-0.3**
C17K	**DeLong Mountai**	**51.15**	**23**	P	**P**	**10 16 01.8**	**+1.2**
	baz=251,SNR=6.0							
E17K	**Hotham Inlet**	**51.21**	**25**	P	**P**	**10 16 02.4**	**+1.4**
	baz=253							
TNSS	**Tian-Shan**	**51.23**	**303**	*e*P	**P**	**10 16 01.5**	**-0.5**
TNSS	**Tian-Shan**	**51.23**	**303**	*e*P	**P**	**10 16 01.6**	**-0.5**
AAA	**Alma-Ata**	**51.23**	**304**	*e*P	**P**	**10 16 01.7**	**0.0**
AAA	**Alma-Ata**	**51.23**	**304**	*e*P	**P**	**10 16 01.7**	**0.0**
G17K	**Kiwalik Mounta**	**51.23**	**28**	P	**P**	**10 16 02.6**	**+1.3**
	baz=256,SNR=6.8							
F17K	**Baldwin Pennin**	**51.24**	**26**	P	**P**	**10 16 02.8**	**+1.6**
	baz=254							
P16K	**Nushagak River**	**51.25**	**36**	P	**P**	**10 16 03.0**	**+1.6**
	baz=263							
O16K	**Kokwok River B**	**51.27**	**35**	P	**P**	**10 16 03.2**	**+1.7**
	baz=263,SNR=6.2							
R16K	**Pilot Point**	**51.31**	**38**	P	**P**	**10 16 03.7**	**+1.9**
	baz=265							
H17K	**Granite Mounta**	**51.40**	**28**	P	**P**	**10 16 04.1**	**+1.7**
	baz=257							
J17K	**VABM Dome**	**51.42**	**30**	P	**P**	**10 16 04.5**	**+1.9**
	baz=259							
L17K	**Donlin**	**51.55**	**32**	P	**P**	**10 16 05.3**	**+1.7**
	baz=260							
K17K	**Iditarod**	**51.64**	**31**	P	**P**	**10 16 06.1**	**+1.9**
	baz=260							
E18K	**Tukpahlearik C**	**51.76**	**25**	P	**P**	**10 16 06.5**	**+1.4**
	baz=254,SNR=6.8							
O17K	**Koliganek Bris**	**51.79**	**35**	P	**P**	**10 16 06.8**	**+1.4**
	baz=263							
M17K	**Holitna River**	**51.84**	**33**	P	**P**	**10 16 07.8**	**+2.1**
	baz=262							
ULHL	**Ulahol**	**51.84**	**302**	P	**P**	**10 16 06.5**	**+0.2**
	SNR=10							
N17K	**Nushagak Hills**	**51.84**	**34**	P	**P**	**10 16 07.9**	**+2.1**
	baz=263,SNR=5.8							
C18K	**Utukok River**	**51.90**	**24**	P	**P**	**10 16 07.2**	**+1.1**
	baz=252							
Q16K	**King Salmon**	**51.90**	**37**	P	**P**	**10 16 07.4**	**+1.2**
	baz=265							
F18K	**Selawik**	**51.90**	**26**	P	**P**	**10 16 07.2**	**+1.2**
	baz=256,SNR=8.6							
B18K	**Kokolik River**	**51.91**	**23**	P	**P**	**10 16 07.8**	**+1.6**
	baz=251							
BOOM	**Boomskoye usch**	**52.03**	**303**	P	**P**	**10 16 07.0**	**-0.6**
BOOM				IAmb	IAmb	10 16 08.3		
	comp=Z,16nm,0.6s							
BOOM	**Boomskoye usch**	**52.03**	**303**	P	**P**	**10 16 07.0**	**-0.6**
BOOM				pmax	pmax			
	comp=Z,16nm,0.6s							
P17K	**Kvichak River**	**52.06**	**36**	P	**P**	**10 16 08.7**	**+1.3**
	baz=264							
H18K	**Honhosa River**	**52.09**	**28**	P	**P**	**10 16 08.6**	**+1.1**
	baz=258,SNR=6.0							
G18K	**Tagagawik**	**52.13**	**27**	P	**P**	**10 16 09.1**	**+1.3**
	baz=257							
TKM2	**Tokmak 2**	**52.22**	**303**	P	**P**	**10 16 09.5**	**+0.4**
	SNR=5.8							
L18K	**Granite Mounta**	**52.30**	**32**	P	**P**	**10 16 11.0**	**+1.9**
	baz=262							
A19K	**Wainwright**	**52.42**	**22**	P	**P**	**10 16 11.6**	**+1.8**
	baz=252,SNR=9.2							
KSH	**Kashi**	**52.43**	**299**	P	**P**	**10 16 13.7**	**+3.1**
KSH				pmax	pmax			
	comp=Z,25nm,0.7s							
J18K	**Innoko River**	**52.48**	**31**	P	**P**	**10 16 11.5**	**+1.1**
	baz=261							
N18K	**Kilae Creek**	**52.49**	**34**	P	**P**	**10 16 12.3**	**+1.8**
	baz=264							
M18K	**Stony River**	**52.62**	**33**	P	**P**	**10 16 12.8**	**+1.4**
	baz=263							
GCSA	**Galena City Sc**	**52.63**	**29**	P	**P**	**10 16 12.0**	**+0.6**
	baz=260							
F19K	**Shaleruckik Mo**	**52.68**	**26**	P	**P**	**10 16 12.4**	**+0.7**
	baz=257							
P18K	**Big Mountain,**	**52.70**	**36**	P	**P**	**10 16 13.1**	**+1.0**
	baz=265,SNR=11							
TTA	**Tatalina**	**52.72**	**31**	P	**P**	**10 16 13.3**	**+1.1**
	baz=262							
KBK	**Karagaybulak**	**52.73**	**303**	P	**P**	**10 16 13.1**	**+0.3**
	SNR=15							
O18K	**Koktuh Hills**	**52.75**	**35**	P	**P**	**10 16 13.9**	**+1.5**
	baz=265,SNR=9.0							
Q18K	**Katmai Hardscr**	**52.76**	**37**	P	**P**	**10 16 12.6**	**

Q19K	Cape Douglas,	53.48	36	P	P	10 16 17.7	0.0
	baz=267						
F20K	Avaraart Lake	53.52	26	P	P	10 16 18.9	+1.2
	baz=259						
D20K	Etivluk River	53.53	24	P	P	10 16 19.0	+1.1
	baz=257						
BRZS	Berezniki	53.57	312	*e*P	P	10 16 18.0	-0.4
BRZS	Berezniki	53.57	312	*e*P	P	10 16 18.1	-0.4
EKS2	Erkin-Say	53.59	303	P	P	10 16 18.8	0.0
	SNR=8.9						
H20K	Anotleneega Mo	53.59	28	P	P	10 16 19.5	+1.2
	baz=261,SNR=9.7						
E20K	Nigu River	53.59	25	P	P	10 16 19.2	+0.9
	baz=258,SNR=9.9						
OHAK	Old Harbor	53.61	39	P	P	10 16 19.3	+0.8
	baz=269						
L20K	Farewell, AK	53.64	32	P	P	10 16 20.3	+1.5
	baz=264						
K20K	Telida	53.65	31	P	P	10 16 20.7	+1.9
	baz=263,SNR=14						
I20K	Naaghedeneel	53.65	29	P	P	10 16 20.6	+1.9
	baz=262						
B20K	Meade River	53.65	22	P	P	10 16 19.9	+1.2
	baz=256						
J20K	Nowinta River	53.71	30	P	P	10 16 21.1	+1.9
	baz=263,SNR=23						
AML	Almayashu	53.73	303	P	P	10 16 20.8	+0.6
	SNR=63						
P19K	Oil Pt	53.73	36	P	P	10 16 20.5	+1.0
	baz=267						
M20K	Styx River	53.93	33	P	P	10 16 21.9	+1.0
	baz=265						
KDAK	Kodiak Island	54.00	38	P	P	10 16 22.3	+0.9
KDAK	Kodiak Island	54.00	38	*ce*P	P	10 16 21.7	+0.4
KDAK				pmax	pmax		
	comp=Z,45nm,0.8s						
KDAK	Kodiak Island	54.00	38	P	P	10 16 21.9	+0.5
	baz=269						
Q20K	Shuyak Island	54.12	37	P	P	10 16 22.7	+0.5
	baz=268						
A21K	Barrow	54.16	21	P	P	10 16 23.5	+1.3
	baz=255,SNR=8.4						
C21K	Knifeblade Rid	54.27	24	P	P	10 16 24.6	+1.4
	baz=259						
G21K	Allakaket	54.30	27	P	P	10 16 24.8	+1.5
	baz=262						
N20K	Mount Spurr	54.33	34	P	P	10 16 25.1	+1.4
	baz=267						
SPCR	Spurr Chakacha	54.33	34	P	P	10 16 25.3	+1.6
	baz=267						
ARSB	Arslanbob	54.38	302	IAmb	IAmb	10 16 25.3	
	comp=Z,17nm,0.8s						
F21K	Alatna River	54.41	26	P	P	10 16 25.2	+1.0
	baz=261,SNR=7.0						
B21K	Ikpikpuk River	54.43	23	P	P	10 16 25.7	+1.5
	baz=258,SNR=18						
E21K	Killik River	54.43	25	P	P	10 16 25.5	+1.2
	baz=260						
PPLA	Purkeypile	54.45	32	P	P	10 16 26.1	+1.4
	baz=266						
H21K	Melozitna Rive	54.46	28	P	P	10 16 26.4	+1.8
	baz=263,SNR=15						
CHUM	Lake Minchumin	54.48	30	P	P	10 16 26.4	+1.8
	baz=265,SNR=7.2						
CAST	Castle Rocks	54.54	31	IAmb	IAmb	10 16 27.7	
	comp=Z,23nm,0.9s						
CAST	Castle Rocks	54.54	31	P	P	10 16 26.7	+1.6
	baz=265,SNR=11						
A22K	Sinclair Lake	54.60	21	P	P	10 16 26.8	+1.4
	baz=257						
SKT	Skwentna	54.69	33	P	P	10 16 27.7	+1.4
	baz=267						
I21K	Tanana	54.75	29	IAmb	IAmb	10 16 29.4	
	comp=Z,30nm,1.2s						
I21K	Tanana	54.75	29	P	P	10 16 28.2	+1.7
	baz=264,SNR=9.8						
BVAR	Borovoye Array	54.81	316	P	P	10 16 27.1	-0.2
	comp=Z,48nm,0.5s,baz=93,slow=7.5,SNR=200						
BVAR				PcP	PcP	10 17 23.9	-0.1
	comp=Z,5.6nm,0.5s,baz=103,slow=5.3,SNR=6.0						
BVAR				ScP	ScP	10 20 42.5	-1.6
	comp=Z,3.1nm,0.6s,baz=94,slow=4.9,SNR=8.1						
BVAR				S	S	10 23 36.2	-0.9
	comp=Z,1.2nm,0.7s,baz=93,slow=12,SNR=5.7						
	comp=Z,48nm,0.5s						
CAPN	Captain Cook N	54.82	34	P	P	10 16 28.4	+1.3
	baz=268						
BRVK	Borovoye	54.87	316	P	P	10 16 27.7	+0.1
BRVK	Borovoye	54.87	316	*d*P	P	10 16 27.4	-0.2
BRVK				pmax	pmax		
	comp=Z,46nm,1.0s						
F22K	John River	54.95	26	P	P	10 16 29.5	+1.5
	baz=262						
D22K	Ayikyak River	54.97	24	P	P	10 16 29.6	+1.5
	baz=261,SNR=13						
B22K	Teshekpuk Lake	54.97	22	P	P	10 16 29.0	+1.0
	baz=259						
BRSE	Bradley Lake S	55.00	35	P	P	10 16 29.3	+0.9
	baz=269						
SUA	Susitna One	55.04	33	P	P	10 16 29.3	+0.4
	baz=268						
H22K	Ishtalitna Cre	55.08	28	P	P	10 16 30.6	+1.7
	baz=264,SNR=9.2						
BPAW	Bear Paw Mtn.	55.08	30	P	P	10 16 30.3	+1.3
	baz=266,SNR=9.2						
E22K	Anaktuvuk Pass	55.17	25	IAmb	IAmb	10 16 31.9	
	comp=Z,20nm,0.9s						
E22K	Anaktuvuk Pass	55.17	25	P	P	10 16 30.9	+1.4
	baz=262,SNR=16						
CUT	Chulitna	55.31	32	P	P	10 16 31.0	+0.5
	baz=268						
DZA	Taraz	55.33	304	*e*P	P	10 16 30.6	-0.5
DZA	Taraz	55.33	304	*e*P	P	10 16 30.6	-0.5
TRF	Thorofare Moun	55.35	31	P	P	10 16 32.0	+0.9
	baz=267						
M22K	Willow	55.35	33	P	P	10 16 31.5	+0.6
	baz=268						
O22K	Cooper Landing	55.52	35	P	P	10 16 32.8	+0.8
	baz=269						
RC01	Rabbit Creek A	55.52	34	P	P	10 16 32.8	+0.7
	baz=269						
SEW	Seward	55.65	35	P	P	10 16 33.8	+0.8
	baz=270						
COLD	Coldfoot	55.68	26	P	P	10 16 34.3	+1.2
	baz=264						
D23K	Nanushuk River	55.70	24	P	P	10 16 34.9	+1.7
	baz=263,SNR=13						
G23K	Bananza Creek	55.70	27	P	P	10 16 34.9	+1.6
	baz=265,SNR=16						
NIL	Nilore	55.82	293	P	P	10 16 34.9	+0.2
NIL				IAmb	IAmb	10 16 35.8	
	comp=Z,20nm,0.8s						
NIL	Nilore	55.82	293	P	P	10 16 34.9	+0.2
NIL				pmax	pmax		
	comp=Z,20nm,0.8s						
H23K	Yukon River	55.82	28	P	P	10 16 35.2	+1.1
	baz=266						
PMR	Palmer	55.82	33	P	P	10 16 35.2	+1.1
	comp=Z,20nm,1.3s						
PMR	Palmer	55.82	33	P	P	10 16 34.7	+0.6
	baz=269						
C23K	Itkillik River	55.84	23	P	P	10 16 35.5	+1.4
	baz=262,SNR=9.3						
I23K	Minto, Yukon-K	55.85	29	IAmb	IAmb	10 16 38.7	
	comp=Z,24nm,1.4s						
I23K	Minto, Yukon-K	55.85	29	P	P	10 16 36.0	+1.7
	baz=267,SNR=6.0						
KK31	Karatay Array	55.88	304	P	P	10 16 35.0	0.0
KK31	Karatay Array	55.88	304	P	P	10 16 35.0	0.0
KK31				pmax	pmax		
	comp=Z,50nm,0.7s						
KKAR	Karatay Array	55.88	304	P	P	10 16 35.2	+0.2
KKAR	Karatay Array	55.88	304	P	P	10 16 35.2	+0.2
NEA2	Nenana	55.95	30	P	P	10 16 36.7	+1.7
NEA2				IAmb	IAmb	10 16 37.1	
	comp=Z,24nm,0.8s						
NEA2	Nenana	55.95	30	P	P	10 16 36.0	+1.0
	baz=267,SNR=15						
MCK	McKinley	55.97	31	P	P	10 16 36.1	+0.9
MCK				IAmb	IAmb	10 16 36.9	
	comp=Z,25nm,1.0s						
MCK	McKinley	55.97	31	P	P	10 16 36.1	+0.9
MCK				pmax	pmax		
	comp=Z,25nm,1.0s						
MCK	McKinley	55.97	31	P	P	10 16 36.1	+0.9
	baz=268,SNR=11						
E23K	Chandalar	55.98	25	P	P	10 16 37.0	+1.6
	baz=264,SNR=12						
RND	Reindeer	55.99	31	IAmb	IAmb	10 16 36.7	
	comp=Z,16nm,0.8s						
TOLK	Toolik Lake Re	56.06	25	P	P	10 16 37.0	+1.2
	baz=264,SNR=7.7						
KNK	Knik Glacier	56.14	33	P	P	10 16 37.3	+0.8
KNK				IAmb	IAmb	10 16 39.4	
	comp=Z,48nm,1.4s						
KNK	Knik Glacier	56.14	33	P	P	10 16 37.3	+0.8
	baz=270						
PWL	Port Wells	56.20	34	P	P	10 16 37.7	+0.8
	baz=270						
SML	Sawmill	56.20	33	P	P	10 16 37.7	+0.8
	baz=270						
D24K	Happy Valley	56.38	24	P	P	10 16 39.4	+1.4
	baz=264						
BRLS	Borolday	56.38	304	*e*P	P	10 16 39.2	+0.7
BRLS	Borolday	56.38	304	*e*P	P	10 16 39.2	+0.7
IUG	Iuzhnay	56.41	303	*e*P	P	10 16 38.6	-0.1
IUG				pmax	pmax		
	comp=Z,16nm,0.5s						
IUG	Iuzhnay	56.41	303	*e*P	P	10 16 38.7	-0.1
	comp=Z,16nm,0.5s						
E24K	Your Creek	56.41	25	P	P	10 16 39.9	+1.6
	baz=265						
COLA	College	56.48	29	P	P	10 16 39.7	+1.0
	comp=Z,10nm,0.9s						
COLA	College	56.48	29	*de*P	P	10 16 39.7	+1.0
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
COLA	College	56.48	29	P	P	10 16 40.0	+1.4
	baz=268						
C24K	Franklin Bluff	56.48	23	IAmb	IAmb	10 16 40.7	
	comp=Z,33nm,1.1s						
C24K	Franklin Bluff	56.48	23	P	P	10 16 39.7	+1.1
	baz=264,SNR=14						
M23K	Glacier View	56.49	33	P	P	10 16 39.9	+1.0
	baz=270						
H24K	Noodor Dome	56.51	28	P	P	10 16 40.4	+1.5
	baz=268,SNR=8.4						
F24K	Squaw Lake	56.59	26	P	P	10 16 40.9	+1.4
	baz=266,SNR=21						
POKR	Poker Plat Res	56.66	29	IAmb	IAmb	10 16 42.5	
	comp=Z,14nm,0.7s						
POKR	Poker Plat Res	56.66	29	P	P	10 16 41.6	+1.6
	baz=268,SNR=6.3						
SCM	Sheep Creek Mo	56.68	33	P	P	10 16 41.2	+1.0
	baz=271						
G24K	Hadweenzic Riv	56.71	27	P	P	10 16 42.1	+1.8
	baz=267,SNR=7.1						
GLI	Glacier Island	56.81	34	P	P	10 16 41.8	+0.7
	baz=271						
HDA	Harding Lake	56.86	30	IAmb	IAmb	10 16 42.2	
	comp=Z,18nm,0.8s						
HDA	Harding Lake	56.86	30	P	P	10 16 41.4	0.0
	baz=269,SNR=12						
ILAR	Eielson Array	56.89	29	P	P	10 16 41.6	0.0
ILAR	Eielson Array	56.89	29	P	P	10 16 41.4	-0.2
	comp=Z,5.6nm,0.8s,baz=285,slow=6.1,SNR=59						
	comp=Z,5.6nm,0.8s						
ILAR	Eielson Array	56.89	29	P	P	10 16 41.6	0.0
G25K	Bearman Lake	57.26	27	P	P	10 16 45.5	+1.4
	baz=268						
D25K	Kavik River	57.27	24	P	P	10 16 45.4	+1.2
	baz=267,SNR=15						
KLU	Klutina	57.36	33	P	P	10 16 45.7	+0.7
	baz=272						
H25L	Birch Creek	57.36	28	P	P	10 16 46.4	+1.6
	baz=269						
K24K	Donnelly Dome	57.37	31	P	P	10 16 46.0	+1.0
	baz=271						
F25K	Christian Rive	57.46	26	P	P	10 16 47.3	+1.8
	baz=268,SNR=10.0						
PRP	Porcupine Dome	57.47	29	P	P	10 16 46.4	+0.6
	baz=270						
EYAK	Cordova Ski Ar	57.48	34	P	P	10 16 46.8	+1.1
	baz=273						
E25K	Arctic Village	57.50	25	P	P	10 16 47.5	+1.7
	baz=268,SNR=11						
PAX	Paxson	57.52	32	P	P	10 16 46.7	+0.6
	baz=272						
J25K	Salcha River,	57.54	30	P	P	10 16 46.5	+0.3
	baz=271						
FYU	Fort Yukon	57.60	27	IAmb	IAmb	10 16 48.8	
	comp=Z,17nm,1.1s						
HARP	HAARP	57.69	32	P	P	10 16 48.4	+1.3
	baz=272,SNR=5.4						
RIDG	Independent Ri	57.79	31	IAmb	IAmb	10 16 49.1	
	comp=Z,9.6nm,0.6s						
RIDG	Independent Ri	57.79	31	P	P	10 16 48.6	+0.7
	baz=272,SNR=5.9						
C26K	Camden Bay	57.81	23	P	P	10 16 49.7	+1.9
	baz=268,SNR=6.9						
SIMJ	Simiganj	57.91	299	P	P	10 16 48.8	-0.5
N25K	Chitina, Valde	57.99	33	P	P	10 16 50.3	+1.0
	baz=273						
BMRM	Bremner River	58.02	34	IAmb	IAmb	10 16 51.5	
	comp=Z,22nm,0.8s						
BMRM	Bremner River	58.02	34	P	P	10 16 50.6	+1.1
	baz=274						
F26K	Sheenjek River	58.03	26	P	P	10 16 51.4	+1.9
	baz=270,SNR=12						
DOT	Dot Lake	58.14	31	IAmb	IAmb	10 16 51.6	
	comp=Z,25nm,1.0s						
SCRK	Sand Creek	58.16	30	IAmb	IAmb	10 16 51.5	
	comp=Z,12nm,0.6s						
SCRK	Sand Creek	58.16	30	P	P	10 16 51.0	+0.5
	baz=272,SNR=13						
G26K	Porcupine Rive	58.17	27	P	P	10 16 51.9	+1.6
	baz=270						
KAIM	Kayak Island	58.18	35	P	P	10 16 51.5	+0.9
	baz=274						
C27K	Jago River	58.22	24	P	P	10 16 52.1	+1.5
	baz=269						
J26L	Joseph Creek	58.32	30	P	P	10 16 51.9	+0.3
	baz=272,SNR=13						
MENT	Mentasta	58.33	32	IAmb	IAmb	10 16 53.7	
	comp=Z,12nm,0.5s						
I26K	Coal Creek Min	58.47	29	P	P	10 16 52.7	+0.3
	baz=272						
L26K	Log Cabin Wild	58.49	31	P	P	10 16 54.0	+1.4
	baz=273,SNR=12						
M26K	Nabesna, AK	58.69	32	P	P	10 16 55.3	+1.2
	baz=274						
KBL	Kabul	58.95	295	P	P	10 16 55.7	-0.8
KBL	Kabul	58.95	295	P	P	10 16 55.7	-0.8
KBL				pmax	pmax		
	comp=Z,13nm,1.0s						
E27K	Coleen River	58.99	25	P	P	10 16 57.5	+1.6
	baz=272,SNR=11						
K27K	Chicken	59.00	30	P	P	10 16 57.3	+1.3
	baz=274						
G27K	Doyon Strip	59.02	27	P	P	10 16 57.6	+1.4
	baz=272						
I27K	Kandik River	59.10	28	P	P	10 16 58.1	+1.3
	baz=273						
H27K	Steamboat Moun	59.10	28	P	P	10 16 58.3	+1.6
	baz=273,SNR=10						
L27K	Beaver Creek,	59.18	31	P	P	10 16 58.7	+1.3
	baz=275,SNR=6.9						
D27M	Malcolm River	59.19	24	P	P	10 16 58.8	+1.5
	baz=272,SNR=13						
BCAR	Beaver Creek A	59.20	31	P	P	10 16 58.5	+1.0
M27K	Edge Creek, AK	59.22	32	P	P	10 16 58.7	+1.0
	baz=275						
MESA	MESA	59.39	35	P	P	10 16 59.9	+0.9
	baz=276						
E28M	Babbage River	59.73	25	P	P	10 17 02.6	+1.6
	baz=273,SNR=16						
I28M	Miner Creek	59.80	28	P	P	10 17 02.9	+1.3
	baz=275						
YUK3	Moose Creek	59.94	33	P	P	10 17 03.9	+1.2
	baz=277,SNR=6.9						
D28M	Stokes Point	59.98	24	P	P	10 17 04.2	+1.6
	baz=274						
SVE	Sverdlovsk	60.02	321	*e*P	P	10 17 02.9	-0.1
SVE				pmax	pmax		
	comp=Z,19nm,0.7s						
DAWY	Dawson	60.17	30	P	P	10 17 04.7	+0.7
DAWY	Dawson	60.17	30	P	P	10 17 05.1	+1.1
	baz=276,SNR=6.7						
O28M	Mount Upton	60.19	34	P	P	10 17 05.7	+1.2
	baz=277						
PINM	Pinnacle	60.25	35	P	P	10 17 05.6	+1.0
	baz=278						
YUK8	Steele Glacier	60.33	33	P	P	10 17 07.0	+1.7
	baz=277						
E29M	Blow River	60.35	25	P	P	10 17 06.5	+1.4
	baz=275,SNR=10						
H29M	Whitestone	60.38	28	P	P	10 17 07.1	+1.8
	baz=276						
G29M	Pine Creek	60.44	27	P	P	10 17 07.4	+1.6
	baz=276						
I29M	Ogilvie Camp,	60.49	29	P	P	10 17 07.5	+1.4
	baz=276						
J29N	Klondike Camp	60.64	30	IAmb	IAmb	10 17 09.4	
	comp=Z,12nm,0.6s						
J29N	Klondike Camp	60.64	30	P	P	10 17 08.7	+1.6
	baz=277,SNR=12						
PNL	Peninsula	60.73	35	P	P	10 17 08.9	+1.0
	baz=279						
M29M	Somme Creek	60.79	32	P	P	10 17 10.0	+1.8
	baz=278,SNR=13						
L29M	L29M	60.85	31	P	P	10 17 10.5	+1.9
	baz=278,SNR=15						
YUK4	Talbot Arm	60.85	33	P	P	10 17 10.5	+1.7
	baz=278,SNR=7.3						
K29M	Barlow Dome	61.02	30	P	P	10 17 11.2	+1.4
	baz=278						
O29M	Mount Kennedy	61.05	34	P	P	10 17 12.0	+2.0
	baz=279,SNR=5.8						
YUK6	Outpost Mounta	61.05	34	P	P	10 17 11.9	+1.7
	baz=279						
G30M	tAoh Zraii Nji	61.14	27	P	P	10 17 11.3	+0.9
	baz=277,SNR=12						
F30M	Barrier River	61.23	26	P	P	10 17 12.2	+1.2
	baz=277						
I30M	Mount Dempster	61.31	29	P	P	10 17 12.7	+1.0
	baz=278,SNR=12						
ARTI	Arti	61.32	321	P	P	10 17 11.3	-0.4
ARTI	Arti	61.32	321	*d*P	P	10 17 11.2	-0.5
ARTI				*PP	pP	10 18 34.2	+0.7
ARTI				S	S	10 25 01.3	+0.9
ARTI				SS	SS	10 29 10.6	+2.3
ARTI				pmax	pmax		
	comp=Z,36nm,0.8s						
J30M	Hart River	61.43	29	P	P	10 17 13.7	+1.2
	baz=279						
HYT	Haines Junctio	61.48	34	P	P	10 17 14.9	+2.0
HYT				IAmb	IAmb	10 17 16.1	
	comp=Z,16nm,0.9s						
HYT	Haines Junctio	61.48	34	P	P	10 17 14.4	+1.5
	baz=280,SNR=8.0						
N30M	Aishikik Lake	61.58	33	P	P	10 17 15.2	+1.7
	baz=280						
MAYO	Mayo, Yukon	61.77	30	IAmb	IAmb	10 17 16.9	
	comp=Z,26nm,1.1s						
MAYO	Mayo, Yukon	61.77	30	P	P	10 17 16.1	+1.5
	baz=280						
ABKAR	Akbulak array	61.86	313	P	P	10 17 15.0	-0.4
P30M	Million Dollar	61.87	34	P	P	10 17 17.1	+1.7
	baz=280						
G31M	Satah River	61.91	26	P	P	10 17 15.9	+0.6
	baz=279,SNR=10.0						
INK	Inuvik	61.97	25	P	P	10 17 16.5	+0.7
INK				IAmb	IAmb	10 17 16.6	
	comp=Z,8.8nm,0.5s						
INK	Inuvik	61.97	25	P	P	10 17 16.5	+0.7
INK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
INK	Inuvik	61.97	25	P	P	10 17 16.3	+0.5
	baz=279,SNR=11						
F31M	Tsiigehtchic	62.03	26	P	P	10 17 16.7	+0.5
	baz=279,SNR=6.1						
H31M	Peel River	62.06	28	P	P	10 17 17.7	+1.2
	baz=280,SNR=12						
O30N	Mendenhall	62.18	34	P	P	10 17 18.6	+1.2
	baz=281						
N31M	Braeburn, Yuko	62.19	33	P	P	10 17 19.0	+1.5
	baz=281,SNR=10						
PLBC	Pleasant Camp	62.29	35	P	P	10 17 19.3	+1.3
	baz=281						
S31K	Pelican	62.66	37	P	P	10 17 21.8	+1.3
	baz=282						
M31M	Drury Creek, Y	62.70	32	P	P	10 17 22.0	+1.3
	baz=282,SNR=23						
WHY	Whitehorse	62.78	34	P	P	10 17 23.0	+1.6
	baz=282,SNR=9.9						
AKTO	Aktyubinsk	62.80	315	P	P	10 17 20.8	-0.7
	comp=Z,27nm,0.6s,baz=86,slow=6.7,SNR=70						
	comp=Z,27nm,0.6s						
SKAG	Skagway	62.81	35	P	P	10 17 22.9	+1.5
	baz=282						
FARO	Faro, Yukon	63.17	32	IAmb	IAmb	10 17 25.5	
	comp=Z,11nm,0.6s						
FARO	Faro, Yukon	63.17	32	P	P	10 17 24.9	+1.1
	baz=282,SNR=14						
SIT	Sitka	63.34	38	P	P	10 17 25.8	+1.0
	baz=283						
R32K	Eaglecrest	63.48	36	P	P	10 17 27.2	+1.4
	baz=283						
N32M	Quiet Lake	63.53	33	IAmb	IAmb	10 17 28.1	
	comp=Z,12nm,0.8s						
N32M	Quiet Lake	63.53	33	P	P	10 17 27.4	+1.2
	baz=283,SNR=5.1						
JIS	Juneau Island	63.55	36	P	P	10 17 27.6	+1.4
	comp=Z,22nm,1.0s						
P32M	Atlin	63.58	35	P	P	10 17 27.9	+1.3
	baz=283						
S32K	Killisnoo	63.64	37	P	P	10 17 28.1	+1.3
	baz=284						
P33M	Teslin, Yukon	63.88	34	IAmb	IAmb	10 17 30.7	
	comp=Z,22nm,1.4s						
P33M	Teslin, Yukon	63.88	34	P	P	10 17 29.6	+1.1
	baz=284,SNR=6.2						
A36M	Sachs Harbour	63.98	20	IAmb	IAmb	10 17 30.6	
	comp=Z,13nm,0.8s						
A36M	Sachs Harbour	63.98	20	P	P	10 17 29.8	+1.0
	baz=285,SNR=13						
HRA	Herat	64.35	296	P	P	10 17 31.7	-0.4
HRA				IAmb	IAmb	10 17 33.0	
	comp=Z,11nm,0.8s						
Q32M	Nakina River	64.46	35	P	P	10 17 33.5	+1.2
	baz=285						
U33K	Whale Pass	64.75	38	P	P	10 17 35.4	+1.4
	baz=285						
CRAG	Craig	64.92	39	P	P	10 17 36.6	+1.5
	baz=286						
R33M	Jennings River	64.99	34	P	P	10 17 37.2	+1.5
	baz=286						
C36M	Paulatuk	65.08	23	IAmb	IAmb	10 17 37.1	
	comp=Z,13nm,0.8s						
C36M	Paulatuk	65.08	23	P	P	10 17 36.3	+0.5
	baz=287,SNR=22						
WRAK	Wrangell Islan	65.09	38	P	P	10 17 37.7	+1.6
	baz=286						
S34M	Telegraph Cree	65.31	36	P	P	10 17 39.4	+1.8
	baz=286						
KIRV	Kirov	65.52	325	*ce*P	P	10 17 38.4	-0.4
DLBC	Dease Lake	65.72	35	IAmb	IAmb	10 17 42.9	
	comp=Z,14nm,1.2s						
DLBC	Dease Lake	65.72	35	P	P	10 17 42.0	+1.7
	baz=287,SNR=5.7						
V35K	Ketchikan	65.79	39	P	P	10 17 41.5	+0.9
	baz=287						
WTLY	Watson Lake, Y	65.84	33	IAmb	IAmb	10 17 43.2	
	comp=Z,16nm,1.1s						
WTLY	Watson Lake, Y	65.84	33	P	P	10 17 42.3	+1.3
	baz=287,SNR=6.3						
T35M	Bob Quinn	66.04	37	IAmb	IAmb	10 17 44.9	
	comp=Z,7.3nm,0.7s						
T35M	Bob Quinn	66.04	37	P	P	10 17 43.9	+1.7
	baz=287						
U35K	Hyder	66.48	38	P	P	10 17 46.2	+1.3
	baz=288						
GRNB	Grenville Isla	67.16	40	P	P	10 17 50.8	+1.5
GRNB				IAmb	IAmb	10 17 50.9	
	comp=Z,7.1nm,0.6s						
WRGLY	Wrigley	67.27	29	IAmb	IAmb	10 17 51.6	
	comp=Z,8.6nm,1.0s						
WRGLY	Wrigley	67.27	29	P	P	10 17 50.9	+1.2
	baz=290						
SPITS	Spitsbergen Ar	67.76	349	P	P	10 17 52.7	+0.1
	comp=Z,14nm,1.0s,baz=107,slow=11,SNR=2.7						
	comp=Z,14nm,1.0s						
TOAD	Toad River Com	67.97	34	P	P	10 17 55.3	+1.1
	baz=290,SNR=9.5						
KOTAN	Kotaneelee Air	68.08	32	P	P	10 17 56.1	+1.3
	baz=291						
BELG	Belogornoye	68.44	319	P	P	10 17 56.8	-0.4

KLMR pmax pmax
comp=Z,14nm,1.4s
ARA0 ARCESS Array S 70.65 340 *e*P **P 10 18 10.9 +0.7**
ARCES ARCESS Array B 70.65 340 P **P 10 18 10.8 +0.6**
comp=Z,8.6nm,0.6s,baz=81,slow=9.6,SNR=52
comp=Z,8.6nm,0.6s
YKA Yellowknife Ar 71.28 28 P **P 10 18 14.2 +0.2**
comp=Z,4.5nm,0.7s,baz=294,slow=6.1,SNR=73
comp=Z,4.5nm,0.7s
YKA Yellowknife Ar 71.28 28 *i* P **P 10 18 14.1 +0.1**
YKA pmax pmax
comp=Z,4.0nm,0.7s
KTK1 Kautokeino 71.61 340 *e*P **P 10 18 16.1 +0.2**
JOF Joensuu 72.03 333 *e*P **P 10 18 18.3 -0.1**
JETT Jettan, Norway 72.11 341 *e*P **P 10 18 19.6 +0.7**
VRH Novokhopyorsk 72.28 319 *e*P **P 10 18 17.9 -2.2**
VRH pmax pmax
comp=Z,20nm,0.8s
AKT Akhty 72.48 308 *e*P **P 10 18 21.3 -0.4**
AKT pmax pmax
comp=Z,48nm,0.8s
TRO Tromso 72.48 342 *e*P **P 10 18 21.7 +0.7**
LKRN Lenkeran, Azer 72.86 305 P **P 10 18 24.4 +0.6**
SEKA Sheki 72.96 308 P **P 10 18 24.7 +0.3**
LLLB Lillooet 72.98 41 IAmb IAmb 10 18 26.5
comp=Z,9.3nm,1.0s
NLWA Neilton Lookou 73.17 45 IAmb IAmb 10 18 28.4
comp=Z,14nm,1.2s
MNGR Mingechevir, A 73.21 308 P **P 10 18 26.6 +0.8**
LPSR Galich'ya Gora 73.24 321 *e*P **P 10 18 23.1 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 73.35 324 P **P 10 18 25.8 -0.4**
comp=Z,11nm,0.4s,baz=50,slow=23,SNR=4.0
comp=Z,11nm,0.4s
OBN Obninsk 73.35 324 ⇓*i* P **P 10 18 26.0 -0.2**
OBN *e**PP **pP 10 19 53.9 +2.0**
OBN *e* 10 21 14.0
OBN pmax pmax
comp=Z,17nm,1.1s
VORR Voronezh 73.50 320 *e*P **P 10 18 27.4 +0.2**
VORR pmax pmax
comp=Z,35nm,1.2s
VSR Storozhevoye 73.73 320 *e*P **P 10 18 26.5 -2.0**
VSR pmax pmax
comp=Z,20nm,0.9s
GANJ Ganja 73.79 308 P **P 10 18 30.0 +0.8**
KBZ Khabaz 74.77 312 P **P 10 18 34.5 -0.1**
comp=Z,26nm,0.8s,baz=94,slow=4.1,SNR=91
comp=Z,26nm,0.8s
KBZ Khabaz 74.77 312 *d i* P **P 10 18 34.7 +0.1**
KBZ pmax pmax
comp=Z,25nm,0.9s
KIV Kislovodsk 74.81 312 *e*P **P 10 18 35.0 0.0**
KIV pmax pmax
comp=Z,22nm,1.0s
FIA1 FINESS Array S 74.90 333 P **P 10 18 34.9 0.0**
FINES FINESS Array B 74.90 333 P **P 10 18 34.9 0.0**
FINES FINESS Array B 74.90 333 P **P 10 18 34.8 -0.2**
comp=Z,8.5nm,0.4s,baz=68,slow=5.0,SNR=101
comp=Z,8.5nm,0.4s
SHA1 Shidzhatmaz 74.92 312 *de*P **P 10 18 35.6 -0.2**
FAUS Fauske 74.96 341 *e*P **P 10 18 36.0 +0.8**
KEF Keuruu 74.96 334 *e*P **P 10 18 35.1 -0.2**
NAX Nakhchivan 75.00 307 P **P 10 18 37.0 +0.9**
GNI Garni 75.10 308 *d i* P **P 10 18 37.2 +0.4**
GNI pmax pmax
comp=Z,11nm,1.1s
LTY Liberty 75.18 44 IAmb IAmb 10 18 38.0
comp=Z,12nm,1.5s
VAF Ylistaro 75.28 335 *e*P **P 10 18 37.5 +0.4**
H04A Detroit Lake 75.41 47 P **P 10 18 38.8 +0.5**
H04A IAmb IAmb 10 18 40.0
comp=Z,13nm,1.0s
HOOD Mount Hood Mea 75.46 46 IAmb IAmb 10 18 41.1
comp=Z,12nm,0.8s
B08A Colville Reser 75.47 43 IAmb IAmb 10 18 40.6
comp=Z,13nm,0.9s
MXC Moxie City 75.72 44 IAmb IAmb 10 18 42.4
comp=Z,14nm,1.0s
E07A Sunnyside 76.00 44 IAmb IAmb 10 18 43.9
comp=Z,15nm,1.2s
MOR8 Moi Rana 76.02 340 *e*P **P 10 18 40.4 -0.8**
I05D Terrebonne, OR 76.10 47 IAmb IAmb 10 18 44.5
comp=Z,7.7nm,0.8s
J04A Umpqua Nationa 76.11 48 P **P 10 18 44.3 +1.8**
G06A Carlson Farm, 76.13 46 IAmb IAmb 10 18 44.8
comp=Z,13nm,1.1s
HAWA Hanford 76.28 44 IAmb IAmb 10 18 45.5
comp=Z,16nm,1.4s
MEF Metsahovi 76.28 332 *e*P **P 10 18 42.9 +0.2**
D08A Wollman Farm, 76.33 44 IAmb IAmb 10 18 45.4
comp=Z,15nm,1.0s
STOK Stokkvaagen 76.33 340 *e*P **P 10 18 43.7 +0.8**
YBH Yreka Blue Hor 76.40 50 IAmb IAmb 10 18 46.5
comp=Z,8.9nm,0.9s
L04D Klamath Falls 76.45 49 IAmb IAmb 10 18 46.5
comp=Z,8.8nm,0.7s
LEIR Leirfjorden 76.46 340 *e*P **P 10 18 43.4 -0.2**
E08A Dider Farm, El 76.52 44 P **P 10 18 46.0 +1.6**
E08A IAmb IAmb 10 18 46.1
comp=Z,7.0nm,0.6s
PINE Pine Mountain 76.61 47 P **P 10 18 47.3 +2.1**
J05D Fort Rock, OR 76.66 48 P **P 10 18 47.4 +2.0**
VSLR Vesyoloye 76.75 312 *de*P **P 10 18 45.7 0.0**
VSLR pmax pmax
comp=Z,45nm,1.1s
NEW Newport 76.82 42 IAmb IAmb 10 18 48.0
comp=Z,13nm,0.9s
RAF Rauma 76.84 334 ⇑*e*P **P 10 18 45.8 0.0**
SOC Sochi 76.90 313 *e*P **P 10 18 45.1 -1.4**
SOC *e**PP **pP 10 20 10.2 -2.5**
SOC *e**SP **sP 10 20 53.0 -0.6**
SOC *e* 10 21 42.9
SOC *e*PPP PPP 10 23 32.4
SOC *e*S **S 10 28 00.9 -0.5**
SOC *e*SS **SS 10 33 02.2 -4.7**
SOC pmax pmax
comp=Z,11nm,0.4s
E09A Wood Farm, Sta 77.06 44 IAmb IAmb 10 18 49.7
comp=Z,11nm,0.8s
O02D Mt. Diablo Mer 77.06 51 IAmb IAmb 10 18 50.3
comp=Z,8.7nm,0.8s
MTSE Matsula 77.40 331 *e*P **P 10 18 49.4 +0.4**
GURO Guroymak-BITLI 77.69 307 IAmb IAmb 10 18 52.6
comp=Z,12nm,0.9s
NSS Namsos 77.91 339 *e*P **P 10 18 51.6 0.0**
MNK Minsk 77.99 326 *i* P **P 10 18 51.5 -0.8**
MNK *i* 10 18 59.2
MNK *i* 10 21 59.9
MNK *i* S **S 10 28 13.2 +0.7**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,19nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=N,603nm,18.0s
MNK MLR MLR
comp=Z,148nm,17.0s
MNK MLR MLR
comp=E,857nm,17.0s
KOPT Kop Dagi 78.06 309 IAmb IAmb 10 19 03.4
comp=Z,8.3nm,0.9s
BMO Blue Mountains 78.39 45 IAmb IAmb 10 18 56.8
comp=Z,9.2nm,0.6s
WVOR Wild Horse Val 78.74 48 IAmb IAmb 10 18 58.9
comp=Z,6.3nm,0.8s
AFDM Forest Hills D 78.88 52 IAmb IAmb 10 18 59.3
comp=Z,9.8nm,1.3s
PABE Paberze 79.25 329 *e*P **P 10 18 59.2 +0.2**
AK03 Malin Array Si 79.41 323 P **P 10 18 59.1 -0.9**
AKASG Malin Array Be 79.42 323 P **P 10 18 59.6 -0.5**
AKASG Malin Array Be 79.42 323 P **P 10 18 59.5 -0.5**
comp=Z,5.5nm,0.5s,baz=52,slow=5.4,SNR=50
comp=Z,5.5nm,0.5s
AKBB Malin Array Si 79.42 323 *de*P **P 10 18 59.2 -0.9**
AKBB Malin Array Si 79.42 323 P **P 10 18 59.6 -0.5**
AK01 Malin Array Si 79.44 323 P **P 10 18 59.3 -0.8**
KIEV Kiev 79.44 323 P **P 10 18 59.8 -0.3**
KIEV Kiev 79.44 323 ⇑P **P 10 18 59.8 -0.3**
KIEV Kiev 79.44 323 P **P 10 18 59.8 -0.3**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 79.44 323 P **P 10 18 59.5 -0.6**
comp=Z,103nm,0.8s
AK09 Malin Array Si 79.44 323 P **P 10 18 59.5 -0.7**
PAHR Pah Rah Range 79.59 50 IAmb IAmb 10 19 03.3
comp=Z,7.4nm,0.9s
CMB Columbia Colle 79.72 52 IAmb IAmb 10 19 03.9
comp=Z,11nm,0.8s
SIM Simferopol' 79.72 316 P **P 10 19 02.2 +0.4**
SIM pmax pmax
comp=Z,25nm,0.8s
MFID Camas Ranch 80.03 46 IAmb IAmb 10 19 05.8
comp=Z,7.6nm,0.8s
WAKR Walker 80.14 51 IAmb IAmb 10 19 06.6
comp=Z,9.3nm,0.7s
NC405 NORSAR Array S 80.43 337 IAmb IAmb 10 19 07.5
comp=Z,11nm,0.9s
HFS Hagfors 80.43 336 P **P 10 19 04.6 -0.6**
comp=Z,9.0nm,0.5s,baz=90,slow=3.0,SNR=72
comp=Z,9.0nm,0.5s
DOMB Dombas 80.62 339 *e*P **P 10 19 05.7 -0.6**
LUBAR Lubar, Ukraine 80.64 323 P **P 10 19 06.2 -0.3**
NB2 NORSAR Subarra 80.65 337 P **P 10 19 06.1 -0.3**
comp=Z,2.7nm,0.4s,baz=49,slow=4.6
NB2 NORSAR Subarra 80.65 337 P **P 10 19 06.1 -0.3**
baz=49,slow=4.6
NB2 NORSAR Subarra 80.65 337 P **P 10 19 02.7 -3.7**
NOA NORSAR Array B 80.65 337 P **P 10 19 06.2 -0.3**
comp=Z,3.8nm,0.5s,baz=55,slow=6.7,SNR=32
comp=Z,3.8nm,0.5s
RYN Ryan 80.70 51 IAmb IAmb 10 19 09.4
comp=Z,9.0nm,0.7s
NC602 NORSAR Array S 80.76 337 *e*P **P 10 19 06.1 -0.9**
LHV Little Huntoon 80.90 51 IAmb IAmb 10 19 10.8
comp=Z,9.7nm,0.8s
NVAR Mina Array Bea 80.95 51 P **P 10 19 10.0 +1.3**
NVAR Mina Array Bea 80.95 51 P **P 10 19 09.9 +1.3**
comp=Z,5.9nm,0.5s,baz=286,slow=5.8,SNR=79
comp=Z,5.9nm,0.5s
DLMT Dillon 80.97 43 IAmb IAmb 10 19 10.7
comp=Z,7.8nm,0.9s
NV11 Mina Array Sit 81.05 51 IAmb IAmb 10 19 11.2
comp=Z,9.5nm,1.2s
EGMT Eagleton 81.14 39 IAmb IAmb 10 19 11.6
comp=Z,17nm,1.2s
AKN Aaknes 81.17 340 *e*P **P 10 19 09.5 +0.5**
SORM Soroca 81.34 321 ⇑P **P 10 19 09.8 -0.4**
NDNU Novodnistrovsk 81.61 322 P **P 10 19 11.1 -0.5**
DSP Deep Springs 81.71 52 IAmb IAmb 10 19 14.9
comp=Z,6.0nm,0.8s
ELK Elko 81.79 48 IAmb IAmb 10 19 14.9
comp=Z,5.8nm,0.6s
MZP Montezuma Peak 81.94 51 IAmb IAmb 10 19 15.7
comp=Z,6.3nm,0.6s
RAYN Ar Rayn 82.12 292 P **P 10 19 14.9 +0.1**
RAYN Ar Rayn 82.12 292 P **P 10 19 14.9 +0.1**
RAYN pmax pmax
comp=Z,17nm,0.6s
KMPD K-Podol'skiy 82.12 322 P **P 10 19 13.1 -1.1**
YHB Horse Butte 82.14 43 IAmb IAmb 10 19 17.3
comp=Z,9.6nm,0.9s
KONO Kongsberg 82.22 337 *e*P **P 10 19 14.4 -0.1**
GMN Gold Mountain 82.23 52 IAmb IAmb 10 19 17.3
comp=Z,7.8nm,0.5s
YMR Madison River 82.32 43 IAmb IAmb 10 19 18.4
comp=Z,7.4nm,0.7s
YNR Norris Junctio 82.47 43 IAmb IAmb 10 19 19.7
comp=Z,8.6nm,1.1s
YFT Old Faithful 82.52 43 IAmb IAmb 10 19 21.3
comp=Z,9.2nm,1.0s
H17A Grant Village 82.71 43 IAmb IAmb 10 19 22.4
comp=Z,11nm,1.0s
LKWY Lake 82.72 43 IAmb IAmb 10 19 21.7
comp=Z,8.4nm,0.8s
TLCR 82.75 318 ⇓P **P 10 19 17.6 +0.1**
YMP Mirror Lake Pl 82.76 42 IAmb IAmb 10 19 20.9
comp=Z,12nm,1.2s
BR131 Keskin Array S 82.77 312 *d i* P **P 10 19 17.5 -0.4**
BRTR Keskin Array B 82.77 312 P **P 10 19 18.0 0.0**
BRTR Keskin Array B 82.77 312 P **P 10 19 17.6 -0.3**
comp=Z,11nm,0.7s,baz=98,slow=3.8,SNR=58
comp=Z,11nm,0.7s
BR104 Keskin Array S 82.77 312 P **P 10 19 17.8 -0.2**
comp=Z,132nmcomp=Z,18nm,1.0s
BR106 Keskin Array S 82.78 312 P **P 10 19 17.8 -0.2**
comp=Z,108nmcomp=Z,16nm,0.8s
BR105 Keskin Array S 82.78 312 P **P 10 19 17.3 -0.7**
comp=Z,131nmcomp=Z,20nm,0.8s
VLDR Vladesti 82.80 319 ⇓P **P 10 19 17.9 +0.2**
HVU Hansel Valley 82.81 46 IAmb IAmb 10 19 20.6
comp=Z,9.8nm,0.9s
BIR Birlad 82.81 320 ⇓P **P 10 19 18.1 +0.3**
R11B Troy Canyon, C 82.82 50 IAmb IAmb 10 19 20.4
comp=Z,7.3nm,0.9s
KIRS Kirsehir-Merke 82.90 311 ⇑P **P 10 19 18.4 -0.2**
TPAW Teton Pass 82.99 44 IAmb IAmb 10 19 20.7
comp=Z,6.4nm,0.8s
RLMT Red Lodge 83.06 42 IAmb IAmb 10 19 35.5
comp=Z,12nm,0.8s
NEGRR Negrea 83.09 319 ⇓P **P 10 19 19.6 +0.4**
BGU Big Grassy Mou 83.11 47 IAmb IAmb 10 19 21.9
comp=Z,6.3nm,0.8s
CFR Carcaliu 83.15 318 ⇑P **P 10 19 19.5 0.0**
CFR Carcaliu 83.15 318 ⇑P **P 10 19 19.5 0.0**
TPGR Topolog 83.17 318 ⇓P **P 10 19 19.8 +0.1**
TESR Tescani 83.22 320 ⇑P **P 10 19 19.9 0.0**
AHID Auburn Hatcher 83.30 44 IAmb IAmb 10 19 22.7
comp=Z,7.6nm,1.1s
PANC Panciu 83.31 319 ⇑P **P 10 19 20.8 +0.5**
BUR08 Bucovina Ar. S 83.35 322 IAmb IAmb 10 19 21.5
comp=Z,7.5nm,0.8s
BURAR Bucovina Array 83.35 322 ⇓P **P 10 19 20.7 0.0**
BURAR Bucovina Array 83.35 322 ⇓P **P 10 19 20.7 0.0**
HARR Harsova 83.55 318 ⇓P **P 10 19 21.9 +0.3**
HARR Harsova 83.55 318 ⇓P **P 10 19 21.9 +0.3**
VRI Vrincioaia 83.55 320 ⇑P **P 10 19 21.5 -0.1**
VRI Vrincioaia 83.55 320 ⇑P **P 10 19 21.5 -0.1**
VRI Vrincioaia 83.55 320 P **P 10 19 22.0 +0.4**
comp=Z,27nm,0.8s
TLBR Topalu 83.56 318 ⇑P **P 10 19 21.6 0.0**
GSC Goldstone, Bar 83.58 53 IAmb IAmb 10 19 24.0
comp=Z,11nm,0.8s
PLOR Plostina 83.61 320 ⇑P **P 10 19 21.8 -0.1**
PLOR Plostina 83.61 320 ⇑P **P 10 19 21.8 -0.1**
PRN Pahroc Range 83.68 51 IAmb IAmb 10 19 25.3
comp=Z,9.7nm,0.8s
LAO LASA Array 83.87 39 IAmb IAmb 10 19 25.2
comp=Z,8.3nm,0.9s
PSUT Pine Spring 83.87 49 IAmb IAmb 10 19 25.4
comp=Z,6.7nm,0.7s
OZUR 83.95 320 ⇑P **P 10 19 23.5 -0.1**
KOLS Kolonicke sedl 84.10 324 *e*P **P 10 19 26.7 +2.4**
KOLS Kolonicke sedl 84.10 324 *e*P **P 10 19 26.7 +2.4**
MLR Muntele Rosu 84.22 320 ⇑P **P 10 19 25.3 +0.2**
MLR Muntele Rosu 84.22 320 ⇑P **P 10 19 25.3 +0.2**
PD31 Pinedale Array 84.24 44 IAmb IAmb 10 19 27.5
comp=Z,8.5nm,1.2s
PDAR Pinedale Array 84.24 44 P **P 10 19 25.9 +0.6**
comp=Z,3.3nm,0.8s,baz=298,slow=2.5,SNR=23
comp=Z,3.3nm,0.8s
DOPR Dopca 84.25 320 ⇓P **P 10 19 25.5 +0.5**
STHS Stebnicka Huta 84.32 325 *e*P **P 10 19 25.5 +0.1**
STHS Stebnicka Huta 84.32 325 *e*P **P 10 19 25.5 +0.1**
MPU Maple Canyon 84.50 47 IAmb IAmb 10 19 28.8
comp=Z,8.3nm,0.8s
PFO Pinyon Flats O 84.71 54 P **P 10 19 28.8 +1.0**
PFO Pinyon Flats O 84.71 54 P **P 10 19 28.8 +1.0**
PFO pmax pmax
comp=Z,18nm,0.7s
V12A Nelson 84.71 52 IAmb IAmb 10 19 29.8
comp=Z,7.1nm,0.9s
TCRU Three Creeks R 84.76 48 IAmb IAmb 10 19 30.4
comp=Z,7.3nm,0.8s
ARR Arges 85.03 320 ⇑P **P 10 19 29.3 +0.3**
LCMT Little Creek M 85.11 50 IAmb IAmb 10 19 31.9
comp=Z,8.6nm,0.9s
MMAI Mount Meron Ar 85.11 305 P **P 10 19 29.1 -0.5**
comp=Z,9.4nm,0.7s,baz=57,slow=6.3,SNR=19
comp=Z,9.4nm,0.7s
DRGR 85.21 322 ⇑P **P 10 19 29.7 -0.2**
DRGR 85.21 322 ⇑P **P 10 19 29.7 -0.2**
MTPU Mount Pierson 85.24 49 IAmb IAmb 10 19 33.1
comp=Z,8.2nm,0.9s
Q16A Castle Valley 85.41 48 IAmb IAmb 10 19 34.4
comp=Z,5.4nm,0.7s
W13A Hualapai Mount 85.71 52 IAmb IAmb 10 19 28.7
comp=Z,7.1nm,1.1s
ESJX Sierra Juarez 85.92 56 IAmb IAmb 10 19 35.8
comp=Z,9.6nm,0.8s
K22A Casper 86.12 43 IAmb IAmb 10 19 36.0
comp=Z,6.8nm,0.7s
VYHS Vyhne 86.13 325 *e*P **P 10 19 34.2 0.0**
VYHS Vyhne 86.13 325 *e*P **P 10 19 34.2 0.0**
SURR Surduc 86.18 321 ⇑P **P 10 19 34.2 -0.3**
BZS Buzias 86.54 322 ⇑P **P 10 19 35.4 -0.8**
BZS Buzias 86.54 322 ⇑P **P 10 19 35.4 -0.8**
ULM Lac du Bonnet 86.81 32 P **P 10 19 37.0 -0.4**
comp=Z,2.3nm,0.5s,baz=267,slow=3.2,SNR=7.7
comp=Z,2.3nm,0.5s
ULM Lac du Bonnet 86.81 32 P **P 10 19 37.0 -0.4**
Y14A Wickenburg 86.95 53 IAmb IAmb 10 19 41.1
comp=Z,3.9nm,0.6s
MDVR Moldovita 87.02 321 ⇓P **P 10 19 37.9 -0.7**
PV11 David Mesa, Pa 87.24 47 IAmb IAmb 10 19 42.6
comp=Z,6.5nm,0.7s
MORH Mrgy, Hungar 87.73 323 ⇑P **P 10 19 41.3 -0.6**
CONA Conrad Observa 87.98 326 *e*P **P 10 19 43.0 -0.1**
comp=Z,3.3nm,0.9s
KHC Kasperske Hory 88.23 328 ⇑*i* P **P 10 19 43.7 -0.5**
KHC pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 88.38 328 P **P 10 19 43.9 -1.1**
comp=Z,1.6nm,0.6s,baz=95,slow=3.2,SNR=3.1
comp=Z,1.6nm,0.6s
ARSA Arzberg 88.61 326 *e*P **P 10 19 45.5 -0.6**
comp=Z,6.9nm,1.4s
BIOA Bad Ischl, Aus 89.22 327 *e*P **P 10 19 48.4 -0.4**
comp=Z,2.3nm,0.7s
SUSD Miller 89.24 38 IAmb IAmb 10 19 50.1
comp=Z,6.6nm,0.7s
SOKA Soboth 89.25 325 *e*P **P 10 19 48.3 -0.8**
comp=Z,4.9nm,0.9s
KBA Koelnbreinsper 89.80 327 *e*P **P 10 19 50.7 -1.0**
comp=Z,3.8nm,0.8s
EKA Eskdalemuir Ar 89.81 340 P **P 10 19 50.6 -0.7**
comp=Z,0.4nm,0.3s,baz=48,slow=3.7,SNR=5.1
comp=Z,0.4nm,0.3s
LESA Schwarzleotal 89.87 327 *i* P **P 10 19 51.1 -0.8**
comp=Z,7.2nm,1.1s
ABTA Abfaltersbach 90.43 327 *i* P **P 10 19 53.1 -1.5**
comp=Z,4.3nm,0.6s
ANMO Albuquerque 90.79 49 P **P 10 19 58.6 +2.0**
ANMO IAmb IAmb 10 19 59.3
comp=Z,6.1nm,0.8s
ANMO Albuquerque 90.79 49 P **P 10 19 58.6 +2.0**
ANMO pmax pmax
comp=Z,6.0nm,0.9s
319A Douglas 90.99 53 IAmb IAmb 10 19 59.8
comp=Z,7.8nm,0.7s
Y22D IRIS PASSCAL I 91.01 50 P **P 10 19 58.8 +1.2**
baz=307
FETA Feichten 91.08 328 *i* P **P 10 19 56.8 -0.8**
comp=Z,5.8nm,1.2s
FUORN Ofenpass-Fuorn 91.59 328 P **P 10 19 59.9 -0.2**
FUORN IAmb IAmb 10 20 00.4
comp=Z,4.9nm,0.6s
TX31 Lajitas Ar. Si 96.09 52 IAmb IAmb 10 20 23.7
comp=Z,3.9nm,0.7s
TXAR Lajitas Array 96.09 52 P **P 10 20 21.5 +0.7**
TXAR Lajitas Array 96.09 52 P **P 10 20 22.1 +1.2**
comp=Z,3.4nm,0.7s,baz=303,slow=3.3,SNR=28
comp=Z,3.4nm,0.7s
TXAR Lajitas Array 96.09 52 P **P 10 20 21.5 +0.7**
QSPA South Pole Qui 119.11 180 PKP **PKPdf 10 25 38.0 -0.5**
comp=Z,0.8nm,0.8s,baz=232,slow=1.5,SNR=1.3
LPAZ La Paz 151.47 69 PKPbc **PKiKP 10 26 47.1 +0.8**
comp=Z,4.6nm,0.7s,baz=330,slow=1.8,SNR=16
PLCA Paso Flores 153.00 123 PKPbc **PKiKP 10 26 49.2 +1.1**
comp=Z,4.5nm,1.2s,baz=225,slow=1.4,SNR=2.3
CPUP Villa Florida 164.78 83 PKPab **PKPab 10 27 53.2 +0.4**
comp=Z,1.4nm,0.8s,baz=341,slow=8.4,SNR=3.3

MEX 09 10:17:08.3±0.8, 16°.13N×98°.82W, h16km±11km, MD4.1,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.67**	**334**	*e*P	Pg	10 17 18.9	-2.6
CRIG				*e*S	Sg	10 17 27.0	-3.3
PNIG	**Pinotepa**	**0.71**	**69**	*i* P	Pg	10 17 19.6	-2.7
PNIG				*e*S	Sg	10 17 28.2	-3.6
MGIG	**Malinaltepec**	**1.11**	**9**	*e*P	Pb	10 17 25.5	-3.7
MGIG				*e*S	Sb	10 17 38.7	-4.8
DAIG	**Los Arroyos**	**1.19**	**318**	*e*P	Pn	10 17 26.4	-3.8
DAIG				*e*S	Sb	10 17 41.0	-4.6
VNTA	**La Mica**	**1.23**	**309**	*e*S	Sb	10 17 44.9	-1.9
ACP2	**Acapulco**	**1.26**	**306**	*e*S	Sb	10 17 43.3	-4.4
YOIG	**Yosondua**	**1.42**	**59**	*e*P	Pn	10 17 30.2	-3.5
YOIG				*e*S	Sn	10 17 47.7	-4.5
TLIG	**Tlapa**	**1.44**	**10**	*e*P	Pn	10 17 30.4	-3.4
TLIG				*e*S	Sn	10 17 48.1	-4.4
TXIG	**Tlaxiaco**	**1.50**	**42**	*e*P	Pn	10 17 31.3	-3.6
TXIG				*e*S	Sn	10 17 50.4	-3.9
PEIG	**Puerto Escondi**	**1.62**	**95**	*e*P	Pn	10 17 32.8	-3.4
PEIG				*e*S	Sn	10 17 51.3	-5.3
CAIG	**El Cayaco**	**1.66**	**303**	*e*P	Pn	10 17 34.3	-2.4
CAIG				*e*S	Sn	10 17 52.7	-5.0
HMTT	**Tlapaneco**	**1.67**	**9**	*e*P	Pn	10 17 37.2	+0.2
HMTT				*e*S	Sn	10 17 54.9	-3.4
FTIG	**Fresnillo de T**	**1.88**	**20**	*e*P	Pn	10 17 36.9	-3.0
FTIG				*e*S	Sn	10 17 57.4	-6.0
HLIG	**Huajuapan de L**	**1.95**	**30**	*e*P	Pn	10 17 37.3	-3.6
HLIG				*e*S	Sn	10 17 58.9	-6.2
VHO	**Vista Hermosa**	**2.21**	**65**	*e*P	Pn	10 17 42.0	-2.5
VHO				*e*S	Sn	10 18 09.8	-1.8
PLIG	**Platanillo**	**2.34**	**344**	*e*P	Pn	10 17 44.8	-1.4
PLIG				*e*S	Sn	10 18 11.9	-2.7
TOIG	**Toxpalan**	**2.58**	**40**	*e*P	Pn	10 17 46.9	-2.5
TOIG				*e*S	Sn	10 18 18.1	-2.4
ARIG	**Puente Sto Nin**	**2.58**	**326**	*e*P	Pn	10 17 48.1	-1.4
ARIG				*e*S	Sn	10 18 14.3	-6.3
HUIG	**Huatulco**	**2.64**	**98**	*e*P	Pn	10 17 48.5	-1.7
TPIG	**Tehuac#an**	**2.67**	**31**	*e*P	Pn	10 17 47.9	-2.9
TPIG				*e*S	Sn	10 18 18.9	-3.9
YAIG	**Yautepec**	**2.72**	**355**	*e*P	Pn	10 17 51.1	-0.4
YAIG				*e*S	Sn	10 18 21.2	-3.0
PBCV	**Popocatepetl**	**2.85**	**5**	*e*P	Pn	10 17 53.6	+0.2
PBCV				*e*S	Sn	10 18 27.4	-0.1
PBXN	**Popocatepetl**	**2.86**	**3**	*e*P	Pn	10 17 53.6	-0.1
PBXN				*e*P	Pb	10 17 55.0	-4.4
PBXN				*e*S	Sn	10 18 25.0	-3.2
PBXN				*e*S	Sb	10 18 27.2	-7.2
PBPN	**Popocatepetl**	**2.90**	**4**	*e*P	Pn	10 17 52.0	-2.3
PBPN				*e*P	Pb	10 17 56.0	-3.9
PBPN				*e*S	Sn	10 18 26.2	-2.8
PBPN				*e*S	Sb	10 18 28.4	-7.0
PPM	**Popocatepetl**	**2.92**	**4**	*e*P	Pn	10 17 54.1	-0.5
PPM				*e*S	Sn	10 18 26.9	-2.8
TEJU	**Tejupilco**	**3.04**	**335**	*e*P	Pb	10 17 59.6	-2.5
TEJU				*e*S	Sb	10 18 38.2	-0.8
MPVM	**San Francisco**	**3.06**	**357**	*e*P	Pn	10 17 56.6	+0.4
MPVM				*e*S	Sn	10 18 33.9	+1.4
TLVM	**San Miguel Top**	**3.08**	**354**	*e*P	Pn	10 17 57.7	+1.2
TLVM				*e*S	Sn	10 18 31.6	-1.6
XCVM	**Xochimilco**	**3.11**	**355**	*e*S	Sn	10 18 32.7	-1.4
AOVM	**Tlapan**	**3.15**	**351**	*e*P	Pn	10 17 59.8	+2.1
AOVM				*e*S	Sn	10 18 33.1	-2.2
INVM	**La Marquesa**	**3.19**	**350**	*e*P	Pn	10 17 54.8	-3.2
INVM				*e*S	Sn	10 18 36.2	+0.3
JAUV	**Jalcomulco**	**3.75**	**31**	*e*P	Pn	10 18 02.0	-3.5
JAUV				*e*S	Sn	10 18 46.7	-2.6
ACIG	**Acambay**	**3.96**	**345**	*e*P	Pn	10 18 06.8	-1.7
ACIG				*e*S	Sn	10 18 51.7	-3.0
CXUV	**Coxquihui**	**4.18**	**16**	*e*P	Pn	10 18 12.6	+1.1
CXUV				*e*S	Sn	10 18 58.0	-2.1

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*IDC **09** 10:30:48.9±0.7, 12°.82S×45°.38E, h0km, mb3.9/9, mbtmp4.0/11, ML4.6/3, Error ellipse: s-maj=24.8km s-min=19.3km az=92.0*
*NEIC **09** 10:30:50.6±1.2, 12°.87S±0°.09×45°.45E±0°.09, h10km±1km, mb4.3/6, Error ellipse: s-maj=20.7km s-min=7.3km az=225.0*
ISC 09 10:30:49.8±0.5, 12°.96S±0°.05×45°.48E±0°.07, h10km, n39, σ29.09/47, mb4.0/12, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.36**	**97**	Sg	**Sn**	**10 32 43.1**	**-4.0**

SBV Pg Pn 10 31 56.6 +0.4
OPO Ambohidratompo 5.81 164 Pn Pn 10 32 18.4 +2.0
7.7nm,0.3s,baz=335,slow=12,SNR=168
OPO Sn Sn 10 33 21.1 -2.1
2.1nm,0.3s,baz=259,slow=23,SNR=12
OPO Ambohidratompo 5.81 164 P Pn 10 32 18.6 +2.2
OPO S Sn 10 33 19.8 -3.4
FIRM Firavahana 5.86 167 P Pn 10 32 19.3 +2.3
FIRM S Sn 10 33 20.3 -4.2
ATG Ambohiby 5.92 173 P Pn 10 32 19.7 +1.8
ATG S Sn 10 33 21.0 -4.9
ABPO Ambohimpanom 6.25 165 Pn 10 32 24.4 +2.0
ABPO Ambohimpanom 6.25 165 P Pn 10 32 24.4 +2.0
ABPO S Sn 10 33 29.5 -4.5
MDSM Mandiavato 6.27 166 P Pn 10 32 24.9 +2.3
MDSM S Sn 10 33 30.8 -3.6
AVY Angavokely 6.32 160 P Pn 10 32 24.9 +1.6
AVY S Sn 10 33 30.0 -5.7
DGRM Ambatolahisoa 6.33 172 P Pn 10 32 25.4 +2.0
DGRM S Sn 10 33 30.1 -5.7
ABM Ambohimiarambe 7.02 165 P Pn 10 32 35.0 +2.1
ABM S Sn 10 33 46.4 -6.5
VOI Vohitsoka 8.98 172 Pn 10 33 01.5 +1.7
VOI Vohitsoka 8.98 172 P Pn 10 33 01.6 +1.7
RER Riviere de l'E 12.76 131 Pn Pn 10 33 52.4 +0.9
KMBO Kilima Mbogo 14.31 325 Pn Pn 10 34 11.1 -1.7
KMBO Kilima Mbogo 14.31 325 Pn Pn 10 34 10.6 -2.3
0.3nm,0.3s,baz=94,slow=23,SNR=1.4
KMBO Sn Sn 10 36 49.9 -2.0
0.2nm,0.3s,baz=40,slow=22,SNR=4.2
1.1nm,0.4s
LSZ Lusaka 16.92 260 Pn 10 34 46.8 -0.3
LSZ IAmb IAmb 10 34 51.2
comp=Z,24nm,0.8s
LSZ Lusaka 16.92 260 Pn Pn 10 34 46.6 -0.5
comp=Z,0.5nm,0.3s,baz=89,slow=9.6,SNR=14
comp=Z,20nm,0.8s
LBTB Lobatse 22.26 235 P P 10 35 47.5 +0.2
LBTB IAmb IAmb 10 35 50.1
comp=Z,10nm,1.0s
BOSA Boshof 24.43 227 P P 10 36 09.9 +0.9
BOSA IAmb IAmb 10 36 19.3
comp=Z,17nm,1.5s
BOSA Boshof 24.43 227 P P 10 36 09.5 +0.5
comp=Z,4.1nm,0.6s,baz=53,slow=10.0,SNR=12
comp=Z,4.1nm,0.6s
BURAR Bucovina Array 62.96 345 P P 10 41 17.7 +1.0
ABKAR Abkulak array 63.25 11 P P 10 41 18.6 +0.2
GERES GERESS Array B 67.66 338 P P 10 41 46.3 -0.9
MK31 Makanchi Array 68.02 26 P P 10 41 49.7 +0.3
MK31 IAmb IAmb 10 41 49.9
comp=Z,2.0nm,1.4s
MKAR Makanchi Array 68.02 26 P P 10 41 49.6 +0.2
comp=Z,0.5nm,0.8s,baz=212,slow=6.4,SNR=5.5
comp=Z,0.5nm,0.8s
CASY Casey 68.28 157 P P 10 41 50.4 -0.3
BVAR Borovoye Array 69.12 16 P P 10 41 56.6 +0.6
comp=Z,0.8nm,0.9s,baz=152,slow=6.5,SNR=2.6
comp=Z,0.8nm,0.9s
KURBB Kurchatov Arra 69.60 22 P P 10 41 59.5 +0.5
comp=Z,0.3nm,0.7s,baz=278,slow=35,SNR=2.8
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 69.67 321 P P 10 41 59.4 -0.4
comp=Z,0.5nm,0.7s,baz=320,slow=37,SNR=3.1
comp=Z,0.5nm,0.7s
ZALV Zalesovo Beam 74.58 23 P P 10 42 28.5 -0.4
comp=Z,0.3nm,0.4s,baz=243,slow=6.3,SNR=1.9
comp=Z,0.3nm,0.4s
QSPA South Pole Qui 77.13 180 P P 10 42 44.8 +1.3
QSPA South Pole Qui 77.13 180 P P 10 42 45.8 +2.2
comp=Z,2.2nm,0.9s,baz=252,slow=2.0,SNR=7.1
comp=Z,2.2nm,0.9s
SONM Songino Array 81.11 37 P P 10 43 08.4 +2.8
comp=Z,0.3nm,0.4s,baz=242,slow=3.2,SNR=3.8
ASAR Alice Springs 83.48 113 P P 10 43 19.9 +1.4
comp=Z,0.8nm,0.5s,baz=261,slow=4.8,SNR=22
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 84.62 109 P P 10 43 23.3 -1.0
WRA Warramunga Arr 84.62 109 P P 10 43 25.5 +1.2
comp=Z,2.0nm,1.0s,baz=269,slow=4.4,SNR=6.0
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 147.07 305 PKPbc **PKPbc** 10 50 34.5 +0.6
comp=Z,0.4nm,0.9s,baz=92,slow=3.0,SNR=3.4
NVAR Mina Array Bea 150.82 333 PKPbc **PKPbc** 10 50 42.1 -1.2
comp=Z,0.2nm,0.6s,baz=44,slow=3.8,SNR=4.2

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*TAP **09** 10:32:11.7, 25°.32N× 122°.36E, h265km, ML4.8, C*
*ASIES **09** 10:32:11.7, 25°.32N× 122°.36E, h265km, ML4.8, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.37; $M_{\theta\theta}$0.95; $M_{\phi\phi}$-1.33; $M_{r\theta}$-0.96; $M_{\theta\phi}$-2.20; $M_{\phi r}$6.82; Fault plane solution: $M_0$7.32535×10^{21} NP1: ϕ_s255.87000°, δ19.48000°, λ174.06000°. NP2: ϕ_s351.47000°, δ88.02000°, λ70.62000°. Principal axes: T Plg43.7120°, Azm242.5270°; N Plg19.3710°, Azm352.1680°; P Plg39.9580°, Azm99.3000°;*
*NEIC **09** 10:32:12.2±1.8, 25°.41N±0°.08× 122°.17E±0°.09, h258km±6km, mb4.0/34 Error ellipse: s-maj=12.5km s-min=11.1km az=141.0*
*JMA **09** 10:32:13.8±0.2, 25°N±2°× 122°.2E±0°.6, h245km±2km, MV4.6/20, TAIWAN REGION*
*IDC **09** 10:32:14.6±2.6, 25°.43N× 122°.10E, h292km±28km, mb3.2/14, mbtmp3.8/17, Error ellipse: s-maj=15.3km s-min=12.0km az=85.0*
ISC 09 10:32:11.6±0.5,**25°.34N**±0°.05×**122°.19E**±0°.03,**h259**km±4km, **n205**,σ1**§06**/284,**mb3.9**/32,**2C-40D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.31**	**339**	P	**Pn**	**10 32 46.5**	**+1.4**
PCYT				*e*S	**S**	10 33 11.2	-0.3
TWB1	**Santiao Chiao**	**0.38**	**209**	*i* P	**Pn**	**10 32 46.0**	**+0.7**
TWB1				*i* S	**S**	10 33 11.3	-0.5
NWF	**Wu-fen Shan**	**0.46**	**234**	*e*P	**Pn**	**10 32 46.2**	**+0.6**
TIPB	**Shuangxi**	**0.50**	**222**	*e*P	**Pn**	**10 32 46.1**	**+0.4**
TWY	**Chenhua**	**0.54**	**263**	*e*P	**Pn**	**10 32 45.6**	**-0.1**
TWY				*e*S	**S**	10 33 11.3	-1.2
EGS		**0.55**	**206**	P	**Pn**	**10 32 46.2**	**+0.5**
EGS				S	**S**	**10 33 11.9**	**-0.7**
YM08	**YM08**	**0.57**	**254**	*e*P	**Pn**	**10 32 46.3**	**+0.5**
NTC	**Toucheng**	**0.59**	**214**	*e*P	**Pn**	**10 32 47.5**	**+1.6**
YM01	**YM01**	**0.60**	**251**	*e*P	**Pn**	**10 32 46.9**	**+0.9**
ZUZH	**Zhuzihu**	**0.61**	**253**	*e*P	**Pn**	**10 32 46.9**	**+0.9**
ANP	**Anpu**	**0.63**	**256**	*e*P	**Pn**	**10 32 46.6**	**+0.5**
TAP	**Taipei**	**0.69**	**244**	*e*P	**Pn**	**10 32 47.0**	**+0.8**
NTST	**Danshui**	**0.70**	**255**	*e*P	**Pn**	**10 32 47.0**	**+0.8**
NTST				*e*S	**S**	**10 33 13.9**	**+0.4**
ILA	**Ilan**	**0.70**	**215**	*e*P	**Pn**	**10 32 47.6**	**+1.3**
ILA				*e*S	**S**	**10 33 13.5**	**-0.1**
TATO	**Taipei**	**0.73**	**240**		**Pn**	**10 32 46.6**	**+0.2**
TATO				Sn	**S**	**10 33 13.1**	**-0.6**
TWS1	**Kuangyinshan**	**0.74**	**251**	*e*P	**Pn**	**10 32 46.1**	**-0.3**
TWS1				*i* S	**S**	**10 33 13.2**	**-0.6**
TWE	**Neicheng**	**0.78**	**218**	P	**Pn**	**10 32 47.5**	**+0.9**
TWE				S	**S**	**10 33 14.3**	**+0.1**
TWC	**Suao**	**0.79**	**203**	⇓P	**Pn**	**10 32 47.1**	**+0.4**
TWC				*e*S	**S**	**10 33 12.6**	**-1.8**
ESAO	**Su ao**	**0.83**	**203**	*e*P	**Pn**	**10 32 47.5**	**+0.6**
NDS	**Dongshan**	**0.83**	**212**	*e*P	**Pn**	**10 32 48.0**	**+1.2**
NDS				*e*S	**S**	**10 33 14.9**	**+0.3**
NWLT	**Wulai**	**0.84**	**228**	P	**Pn**	**10 32 47.2**	**+0.3**
NWLT				*i* S	**S**	**10 33 13.5**	**-1.2**
ENTT	**Nioudou**	**0.90**	**219**	*i* P	**Pn**	**10 32 47.9**	**+0.7**
ENTT				*e*S	**S**	**10 33 14.4**	**-0.9**
EOS2	**EOS2**	**0.92**	**178**	*e*P	**Pn**	**10 32 48.2**	**+1.1**
EOS2				*e*S	**S**	**10 33 14.3**	**-0.8**
EWUT	**Wuta**	**0.97**	**203**	*i* P	**Pn**	**10 32 48.4**	**+0.9**
EWUT				S	**S**	**10 33 15.3**	**-0.6**
NCU	**National Centr**	**0.98**	**248**	*e*P	**Pn**	**10 32 48.0**	**+0.4**
NCU				*e*S	**S**	**10 33 15.2**	**-0.7**
NCUH	**Zhongli**	**0.99**	**248**	*e*P	**Pn**	**10 32 48.4**	**+0.8**
NCUH				*e*S	**S**	**10 33 15.3**	**-0.5**
ENA	**Nanau**	**1.00**	**204**	P	**Pn**	**10 32 48.5**	**+0.8**
ENA				S	**S**	**10 33 15.8**	**-0.3**
YHNB	**Yeheng**	**1.00**	**228**		**Pn**	**10 32 47.9**	**+0.1**
YHNB				Sn	**S**	**10 33 15.1**	**-1.1**
NSK	**Sanguang**	**1.01**	**229**	*i* P	**Pn**	**10 32 48.0**	**+0.3**
NSK				*i* S	**S**	**10 33 14.6**	**-1.7**
EOS3	**EOS3**	**1.06**	**174**	*e*P	**Pn**	**10 32 49.1**	**+1.2**
KSHI	**Guanxi Townshi**	**1.08**	**239**	P	**Pn**	**10 32 48.9**	**+0.8**
KSHI				S	**S**	**10 33 16.6**	**-0.2**
EAHA	**Aohua**	**1.09**	**202**	*e*P	**Pn**	**10 32 49.1**	**+0.9**
EAHA				*i* S	**S**	**10 33 16.9**	**-0.2**
NHW	**Xinwu Township**	**1.09**	**252**	P	**Pn**	**10 32 49.0**	**+0.8**
NHW				*e*S	**S**	**10 33 17.2**	**+0.3**
JYNG	**Yonagunijimaku**	**1.12**	**142**	P	**Pn**	**10 32 48.7**	**+0.4**
JYNG				*e*S	**S**	**10 33 15.2**	**-2.1**
YOJ	**Yonaguni jima**	**1.15**	**140**	Pn	**Pn**	**10 32 49.2**	**+0.7**
YOJ	**Yonaguni jima**	**1.15**	**140**	*e*S	**S**	**10 33 16.4**	**-1.2**
NNS	**Nan Shan**	**1.17**	**220**	⇓*i*P	**Pn**	**10 32 49.4**	**+0.6**
NNS				*i* S	**S**	**10 33 17.3**	**-0.8**
NJD	**Zhudong**	**1.17**	**239**	*e*P	**Pn**	**10 32 49.3**	**+0.7**
NNSH	**Datong**	**1.17**	**219**	P	**Pn**	**10 32 49.4**	**+0.6**
NNSH				S	**S**	**10 33 16.9**	**-1.2**
HSN1	**Hsinchu**	**1.20**	**242**	*e*P	**Pn**	**10 32 49.6**	**+0.7**
HSN1				*e*S	**S**	**10 33 18.0**	**-0.1**
NFF	**Wufeng Townshi**	**1.21**	**234**	⇓P	**Pn**	**10 32 49.3**	**+0.3**
NFF				*i* S	**S**	**10 33 17.1**	**-1.2**
EOS4	**EOS4**	**1.22**	**175**	*e*P	**Pn**	**10 32 49.4**	**+0.9**
EOS4				*e*S	**S**	**10 33 16.5**	**-1.2**
HSN	**Hsinchu**	**1.23**	**244**	P	**Pn**	**10 32 49.4**	**+0.4**
HSN				*e*S	**S**	**10 33 17.3**	**-1.1**
LIOB	**Emei**	**1.27**	**237**	⇓*i*P	**Pn**	**10 32 50.0**	**+0.7**
LIOB				S	**S**	**10 33 18.4**	**-0.6**
NACB	**Ninganchiao**	**1.28**	**205**		**Pn**	**10 32 49.4**	**0.0**
NACB				Sn	**S**	**10 33 18.2**	**-1.0**
ETL	**Fush Village**	**1.29**	**204**	*e*P	**Pn**	**10 32 49.7**	**+0.3**
ETL				*e*S	**S**	**10 33 17.9**	**-1.4**
NSTT	**Nanjuang**	**1.29**	**237**	⇓*i*P	**Pn**	**10 32 50.0**	**+0.6**
NSTT				*i* S	**S**	**10 33 18.4**	**-0.8**
ETLH	**Xiulin Townshi**	**1.30**	**210**	⇓P	**Pn**	**10 32 50.0**	**+0.4**
ETLH				*e*S	**S**	**10 33 18.6**	**-1.0**
TWD	**Chiawan**	**1.37**	**203**	*e*P	**Pn**	**10 32 50.0**	**+0.1**
TWD				*e*S	**S**	**10 33 18.5**	**-1.6**
FUSS	**Fushou**	**1.39**	**219**	⇓P	**Pn**	**10 32 51.3**	**+0.9**
FUSS				S	**S**	**10 33 20.9**	**0.0**
TWT	**Tachien**	**1.42**	**221**	⇓P	**Pn**	**10 32 51.7**	**+1.1**
TWT				S	**S**	**10 33 21.1**	**-0.1**
HWA	**Hwalien**	**1.46**	**202**	*e*P	**Pn**	**10 32 51.3**	**+0.7**
WHF	**Hehuan Shan**	**1.46**	**215**	P	**Pn**	**10 32 52.2**	**+1.1**
WHF				S	**S**	**10 33 21.8**	**-0.4**
NMLH	**Miaoli**	**1.50**	**238**	⇓P	**Pn**	**10 32 51.7**	**+0.9**
NMLH				*e*S	**S**	**10 33 21.7**	**-0.1**
ETM	**Tongmen**	**1.51**	**205**	P	**Pn**	**10 32 51.0**	**0.0**
WHP	**Taichung City**	**1.55**	**227**	⇓*i*P	**Pn**	**10 32 52.2**	**+0.9**
WHP				*e*S	**S**	**10 33 21.8**	**-0.9**
TEYL	**Yanliau Villag**	**1.56**	**200**	*e*P	**Pn**	**10 32 50.2**	**-1.1**
NSY	**Sanyi**	**1.59**	**235**	⇓*e*P	**Pn**	**10 32 52.1**	**+0.5**
TWQ1	**Liyutan**	**1.63**	**233**	⇓*i*P	**Pn**	**10 32 52.8**	**+1.0**
TWQ1				*e*S	**S**	**10 33 23.2**	**-0.4**
SHUL	**Shoufeng**	**1.65**	**200**	*e*P	**Pn**	**10 32 52.9**	**+0.9**
SHUL				*e*S	**S**	**10 33 24.3**	**+0.4**
OWD	**Renai**	**1.66**	**214**	⇓P	**Pn**	**10 32 53.4**	**+1.1**
OWD				*e*S	**S**	**10 33 23.8**	**-0.6**
ESL	**Shilin**	**1.67**	**205**	⇓*e*P	**Pn**	**10 32 52.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.72**	**125**	*i* P	**Pn**	**10 32 53.0**	**+0.5**
WDJ	**Dajia District**	**1.72**	**235**	*e*P	**Pn**	**10 32 53.9**	**+1.3**
WCS	**Beigang Elemen**	**1.73**	**223**	⇓P	**Pn**	**10 32 53.5**	**+0.9**
WCS				S	**S**	**10 33 24.6**	**-0.5**
TEGC	**Jichi Village**	**1.73**	**200**	*e*P	**Pn**	**10 32 53.5**	**+0.8**
DPDB	**Guoxing**	**1.74**	**222**	⇓*i*P	**Pn**	**10 32 53.6**	**+0.8**
DPDB				*e*S	**S**	**10 33 25.0**	**-0.2**
EGFH	**Guangfu**	**1.81**	**203**	*e*P	**Pn**	**10 32 53.1**	**-0.2**
TCU	**Taichung**	**1.82**	**230**	⇓P	**Pn**	**10 32 54.5**	**+1.2**
SMLT	**Sun Moon Lake**	**1.87**	**219**	⇓*e*P	**Pn**	**10 32 53.8**	**-0.1**
SMLT				*e*S	**S**	**10 33 25.5**	**-1.8**
WWF	**Wufeng**	**1.88**	**227**	⇓P	**Pn**	**10 32 54.9**	**+1.1**
TYC	**Yuchr**	**1.88**	**221**	⇓*i*P	**Pn**	**10 32 54.8**	**+0.9**
TYC				S	**S**	**10 33 26.1**	**+1.1**
SSLB	**Suanglung**	**1.92**	**216**		**Pn**	**10 32 55.1**	**+0.9**
WCHH	**Zhanghua**	**1.95**	**230**	⇓*e*P	**Pn**	**10 32 55.4**	**+1.0**
HATJ	**Hateruma jima**	**1.95**	**131**	P	**Pn**	**10 32 55.7**	**+1.2**
HATJ				*e*S	**S**	**10 33 27.5**	**-0.7**
JKRS	**Kuro-shima**	**1.98**	**123**	P	**Pn**	**10 32 56.1**	**+1.4**
JKRS				S	**S**	**10 33 28.5**	**-0.3**
WNT1	**Nantou City**	**1.98**	**224**	*e*P	**Pn**	**10 32 56.0**	**+1.2**
EHY	**Hungye**	**1.99**	**204**	*e*P	**Pn**	**10 32 54.8**	**-0.1**
EHYH	**Wanrong**	**2.00**	**203**	*e*P	**Pn**	**10 32 56.3**	**+1.4**
WNT	**Mingjian**	**2.00**	**224**	*e*P	**Pn**	**10 32 56.0**	**+1.0**
WJS	**Zhushan**	**2.02**	**222**	⇓*e*P	**Pn**	**10 32 56.1**	**+1.0**
WJS				*e*S	**S**	**10 33 29.4**	**0.0**
JIJ	**Ishigaki jima**	**2.02**	**118**	*i* P	**Pn**	**10 32 55.9**	**+0.8**
JIJ				*e*S	**S**	**10 33 27.8**	**-1.6**
WHYT	**Xinyi Township**	**2.04**	**217**	⇓P	**Pn**	**10 32 56.4**	**+1.0**
WHYT				S	**S**	**10 33 29.5**	**-0.4**
JISG	**Ishigakijimahi**	**2.06**	**111**	*i* P	**Pn**	**10 32 56.2**	**+0.8**
JISG				*e*S	**S**	**10 33 29.2**	**-0.8**
YULB	**Yu-li**	**2.11**	**203**		**Pn**	**10 32 56.0**	**+0.1**
ECBN	**Changbin**	**2.13**	**199**	*e*P	**Pn**	**10 32 57.0**	**+0.9**
EYUL	**Yuli**	**2.14**	**202**	*e*P	**Pn**	**10 32 56.7**	**+0.5**
TWF1	**Yuli**	**2.14**	**203**	⇓*e*P	**Pn**	**10 32 56.3**	**0.0**
ALS	**Alishan**	**2.22**	**215**	⇓P	**Pn**	**10 32 58.3**	**+1.0**
ALS				*e*S	**S**	**10 33 32.6**	**-0.7**
CHN5	**Tsauling**	**2.22**	**219**	⇓*i*P	**Pn**	**10 32 58.1**	**+1.1**
CHN5				*e*S	**S**	**10 33 32.7**	**-0.2**
WGK	**Gukeng**	**2.22**	**222**	P	**Pn**	**10 32 58.0**	**+1.1**
WDLH	**Douliu**	**2.23**	**223**	*i* P	**Pn**	**10 32 58.1**	**+1.1**
WDLH				*e*S	**S**	**10 33 32.8**	**-0.1**
CHKH	**Chenggong**	**2.26**	**199**	*e*P	**Pn**	**10 32 58.0**	**+0.8**
WTCT	**Ta-ch'eng**	**2.28**	**230**	*e*P	**Pn**	**10 32 58.0**	**+0.5**
FULB	**Fuli**	**2.29**	**201**	*e*P	**Pn**	**10 32 58.3**	**+0.7**
WTK	**Tuku**	**2.33**	**225**	⇓*i*P	**Pn**	**10 32 58.8**	**+0.9**
WTK				*e*S	**S**	**10 33 34.5**	**0.0**
CHKT	**Chengkung**	**2.36**	**199**	*e*P	**Pn**	**10 32 59.2**	**+1.0**
EHD	**Haiduan**	**2.36**	**203**	*e*P	**Pn**	**10 32 59.3**	**+1.0**
JTJ	**Tarama**	**2.38**	**107**	P	**Pn**	**10 32 59.8**	**+1.4**
JTJ				*e*S	**S**	**10 33 34.8**	**-0.6**
WCKO	**Fanlu**	**2.38**	**218**	⇓P	**Pn**	**10 32 59.3**	**+0.8**
WCKO				*e*S	**S**	**10 33 34.8**	**-0.7**
CHN2	**Minshiung**	**2.39**	**221**	*e*P	**Pn**	**10 32 59.5**	**+1.0**
ELDTW	**Lidau**	**2.40**	**207**	⇓*i*P	**Pn**	**10 32 59.9**	**+1.1**
ELDTW				*e*S	**S**	**10 33 35.6**	**-0.4**
CHY	**Chiayi**	**2.44**	**222**	⇓*e*P	**Pn**	**10 32 59.9**	**+0.9**
CHY				*e*S	**S**	**10 33 36.5**	**-0.1**
CHN4	**Tsaushan**	**2.46**	**217**	⇓*i*P	**Pn**	**10 33 00.2**	**+1.0**
CHN4				*e*S	**S**	**10 33 36.3**	**-0.6**
WSF	**Szhu**	**2.47**	**227**	*e*P	**Pn**	**10 33 00.1**	**+0.8**
TPUB	**Ta-pu**	**2.48**	**215**		**Pn**	**10 33 00.4**	**+0.9**
EDH	**Donghe**	**2.50**	**199**	*e*P	**Pn**	**10 33 00.2**	**+0.6**
STYH	**Taoyuan**	**2.52**	**211**	⇓P	**Pn**	**10 33 00.8**	**+1.1**
STYH				*e*S	**S**	**10 33 37.1**	**-0.8**
STYT	**Tauyuan**	**2.53**	**211**	⇓*i*P	**Pn**	**10 32 59.9**	**-0.1**
STYT				*e*S	**S**	**10 33 36.1**	**-2.2**
WTP	**Ta-pu**	**2.54**	**215**	⇓*i*P	**Pn**	**10 33 00.8**	**+0.8**
WTP				*e*S	**S**	**10 33 36.9**	**-1.4**
WSL	**Shuilin Townsh**	**2.55**	**225**	*e*P	**Pn**	**10 33 01.0**	**+1.0**
TWK	**Hsinying**	**2.59**	**217**	⇓P	**Pn**	**10 33 01.3**	**+0.8**
TWK				*e*S	**S**	**10 33 39.3**	**+0.1**
LONT	**Longtian**	**2.61**	**202**	*e*P	**Pn**	**10 33 01.0**	**+0.3**
SNST	**Tainan City**	**2.62**	**217**	⇓P	**Pn**	**10 33 01.7**	**+1.0**
CHN1	**Nanshi**	**2.63**	**216**	⇓*i*P	**Pn**	**10 33 01.8**	**+0.9**
CHN1				S	**S**	**10 33 40.0**	**0.0**
ICHU	**Yijhu**	**2.63**	**222**	*e*P	**Pn**	**10 33 02.0**	**+1.1**
CHN8	**Yiju**	**2.69**	**223**	*e*P	**Pn**	**10 33 02.4**	**+0.9**
SGST	**Jiashian**	**2.69**	**213**	⇓*e*P	**Pn**	**10 33 01.7**	**+0.2**
SGST				*e*S	**S**	**10 33 39.4**	**-1.6**
TWG	**Pinlang**	**2.71**	**202**		**Pn**	**10 33 01.8**	**0.0**
TWG	**Pinlang**	**2.71**	**202**	*e*P	**Pn**	**10 33 01.8**	**0.0**
LDUT	**Ludao**	**2.74**	**194**	*e*P	**Pn**	**10 33 02.7**	**+0.7**
JIRB	**Irabujima**	**2.75**	**100**	P	**Pn**	**10 33 03.3**	**+1.2**
JIRB				*e*S	**S**	**10 33 40.5**	**-1.5**
JIKM	**Ikemajima**	**2.80**	**98**	P	**Pn**	**10 33 04.1**	**+1.5**
SSHA	**Shanhua**	**2.80**	**219**	*e*P	**Pn**	**10 33 03.7**	**+1.1**
CHN3	**Shinhua**	**2.81**	**217**	*e*P	**Pn**	**10 33 03.7**	**+1.0**
SCLT	**Jiali**	**2.83**	**221**	*e*P	**Pn**	**10 33 04.0**	**+1.2**
SHHT	**Tainan City**	**2.86**	**216**	*e*P	**Pn**	**10 33 05.1**	**+1.8**
SCST	**Cishan**	**2.90**	**213**	*e*P	**Pn**	**10 33 05.1**	**+1.5**
JMJ2	**Miyako jima3**	**2.91**	**101**	P	**Pn**	**10 33 05.4**	**+1.7**
JMJ2				S	**S**	**10 33 44.2**	**-0.8**
TSCK	**Chigu Township**	**2.91**	**222**	*e*P	**Pn**	**10 33 04.8**	**+1.0**
SSD	**Sandimen**	**2.95**	**209**	*e*P	**Pn**	**10 33 05.1**	**+0.9**
SSD				*e*S	**S**	**10 33 45.4**	**-0.6**
ECL	**Taimali**	**2.96**	**203**	*e*P	**Pn**	**10 33 04.7**	**+0.4**
ECL				*e*S	**S**	**10 33 44.6**	**-1.5**
JOGS	**Gusukube**	**2.97**	**101**	P	**Pn**	**10 33 06.2**	**+1.8**
JOGS				*e*S	**S**	**10 33 45.7**	**-0.5**
TSMG	**Majia**	**2.98**	**209**	*e*P	**Pn**	**10 33 05.7**	**+1.2**
TSMG				*e*S	**S**	**10 33 46.2**	**-0.4**
PNG	**Penghu**	**2.98**	**234**	*e*P	**Pn**	**10 33 05.0**	**+0.5**
TWM1	**Shoushan**	**2.98**	**213**	*e*P	**Pn**	**10 33 06.5**	**+1.9**
WDGT	**Dungji**	**3.10**	**229**	*e*P	**Pn**	**10 33 06.5**	**+0.7**
WSSB	**Gushan**	**3.22**	**214**	*e*P	**Pn**	**10 33 07.1**	**0.0**
TAWH	**Dawu Township**	**3.22**	**202**	*e*P	**Pn**	**10 33 08.5**	**+1.4**
SCZT	**Fangliau**	**3.29**	**206**	*e*P	**Pn**	**10 33 08.8**	**+0.9**
SCZT				*e*S	**S**	**10 33 51.8**	**-0.7**
SLIU	**Shizi**	**3.36**	**203**	*e*P	**Pn**	**10 33 09.6**	**+0.9**
KNM	**Kinmen**	**3.54**	**256**	*e*P	**Pn**	**10 33 11.5**	**+0.9**
KNMB	**Chin-men Tao**	**3.56**	**257**		**Pn**	**10 33 10.7**	**-0.1**
TWK1	**Hengchun**	**3.61**	**201**	*e*P	**Pn**	**10 33 12.6**	**+1.1**
TSEB	**Hengchuen, Pin**	**3.62**	**199**	*e*P	**Pn**	**10 33 12.6**	**+1.0**
JKE	**Kume jima 2**	**4.25**	**76**	P	**Pn**	**10 33 19.2**	**+0.5**
JKE				*e*S	**S**	**10 34 09.7**	**-2.5**
JOW	**Kunigami**	**5.67**	**74**	P	**Pn**	**10 33 34.8**	**-1.1**
14nm,0.3s,baz=126,slow=22,SNR=18							
JOW				S	**S**	**10 34 36.9**	**-6.3**
82nm,0.3s,baz=123,slow=26,SNR=24							
JNU	**Nakatsue**	**10.84**	**42**	P	**Pn**	**10 34 42.9**	**+2.3**
2.6nm,0.3s,baz=192,slow=4.6,SNR=8.3							
JNU				S	**S**	**10 36 47.1**	**+5.1**
1.5nm,0.4s,baz=300,slow=20,SNR=6.8							
KSRS	**Korea Array**	**13.02**	**21**	P	**Pn**	**10 35 08.3**	**+0.9**
1.2nm,0.6s,baz=198,slow=12,SNR=8.7							
JMN	**Monobe**	**13.16**	**48**	Pn	**Pn**	**10 35 07.8**	**-1.4**
MJAR	**Matsushiro Arr**	**17.68**	**47**	P	**P**	**10 36 01.0**	**+0.9**
0.5nm,0.4s,baz=134,slow=8.8,SNR=4.1							
USRK	**Ussuriysk Ar.**	**20.43**	**21**	P	**P**	**10 36 29.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**20.43**	**21**	P	**P**	**10 36 30.1**	**+0.6**
1.9nm,0.6s,baz=194,slow=8.9,SNR=8.5							
1.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**22.61**	**257**	P	**P**	**10 36 51.0**	**+0.4**
0.8nm,0.5s,baz=56,slow=6.9,SNR=7.6							
0.8nm,0.5s							
SBUM	**Sibu**	**24.70**	**204**	P	**P**	**10 37 10.3**	**+0.8**
SBUM				IAmb	IAmb	10 37 12.2	
comp=Z,2.5nm,0.7s							
SONM	**Songino Array**	**25.68**	**335**	P	**P**	**10 37 17.1**	**-1.0**
comp=Z,0.7nm,0.7s,baz=153,slow=9.6,SNR=3.7							
comp=Z,0.7nm,0.7s							
MK31	**Makanchi Array**	**38.16**	**314**	P	**P**	**10 39 05.2**	**-1.1**
MKAR	**Makanchi Array**	**38.16**	**314**	P	**P**	**10 39 05.5**	**-0.8**
MKAR	**Makanchi Array**	**38.16**	**314**	P	**P**	**10 39 05.3**	**-1.0**
comp=Z,0.5nm,0.6s,baz=98,slow=9.5,SNR=6.6							
comp=Z,0.5nm,0.6s							
MAKZ	**Makanchi**	**38.37**	**314**	P	**P**	**10 39 07.3**	**-0.6**
PET	**Petropavlovsk**	**38.84**	**35**	P	**P**	**10 39 12.2**	**+0.5**
ZALV	**Zalesovo Beam**	**39.79**	**326**	P	**P**	**10 39 18.0**	**-1.5**
comp=Z,0.5nm,0.3s,baz=111,slow=11,SNR=2.2							
comp=Z,0.5nm,0.3s							
KURK	**Kurchatov**	**41.81**	**319**	P	**P**	**10 39 35.0**	**-1.0**
KURK	**Kurchatov**	**41.81**	**319**	⇑Pg	**P**	**10 39 34.2**	**-1.8**
comp=Z,1.0nm,0.6s							
KURK				⇓Lg	Lg	10 40 14.6	
comp=Z,1.4nm,0.9s							
KURBB	**Kurchatov Arra**	**41.83**	**319**	P	**P**	**10 39 35.1**	**-1.1**
comp=Z,0.3nm,0.3s,baz=115,slow=9.4,SNR=3.5							
comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**41.83**	**319**	⇑Pg	**P**	**10 39 33.5**	**-2.7**
comp=Z,0.9nm,0.7s		

SMCA	**Catarina**	**0.29**	**51**	*eP*			10 57 39.9	
SMCA				*eS*			10 57 49.2	
PATR	**El Naranjo**	**0.45**	**9**	*eP*		**Pn**	**10 57 41.0**	**-0.4**
PATR				*eS*		**Sn**	**10 57 51.2**	**-0.7**
PAVE	**Pavencul**	**0.53**	**14**	*eP*		**Pn**	**10 57 41.9**	**-0.1**
PAVE				*eS*		**Sn**	**10 57 52.9**	**-0.2**
RTAL	**Retalhuleu**	**0.61**	**104**	*eP*		**Pn**	**10 57 42.7**	**+0.2**
RTAL				*eS*		**Sn**	**10 57 54.3**	**+0.4**
STG8	**El Palmar, Qui**	**0.95**	**103**	*eP*			10 57 43.5	
STG8				*eS*			10 57 55.7	
STG0	**El Palmar, Qui**	**0.97**	**105**	*eP*			10 57 43.7	
STG0				*eS*			10 57 56.1	
HUEH	**Huehuetenango**	**1.01**	**50**	*eP*		**Pn**	**10 57 46.4**	**-0.5**
HUEH				*eS*		**Sn**	**10 58 01.0**	**-0.7**
PCIG		**1.35**	**319**	*eP*		**Pn**	**10 57 51.4**	**+0.5**
PCIG				*eS*		**Sn**	**10 58 08.9**	**+0.2**
CCIG	**Comitan**	**1.61**	**6**	*eP*		**Pn**	**10 57 55.8**	**+1.5**
CCIG				*eS*		**Sn**	**10 58 14.9**	**+0.1**
CCIG	**Comitan**	**1.61**	**6**	*eP*		**Pn**	**10 57 55.7**	**+1.4**
CCIG	**Comitan**	**1.61**	**6**	*eP*			10 57 55.7	
CARR	**Arriaga**	**2.20**	**315**	*eS*		**Sn**	**10 58 30.5**	**+2.0**
TGIG		**2.23**	**340**	*eP*		**Pn**	**10 58 02.0**	**-0.4**
TGIG				*eS*		**Sn**	**10 58 28.2**	**-1.2**
NILT	**Santiago Nilte**	**2.91**	**310**	*eS*		**Sn**	**10 58 43.1**	**-2.5**
UXUV	**UXUV**	**3.17**	**326**	*eP*		**Pn**	**10 58 15.9**	**+1.0**
UXUV				*eS*		**Sn**	**10 58 50.1**	**-1.5**
CMIG	**Matias Romero**	**3.45**	**314**	*eP*		**Pn**	**10 58 18.9**	**+0.2**
CMIG				*eS*		**Sn**	**10 58 59.3**	**+0.7**
NEUV	**Arroyo Zacate**	**4.52**	**312**	*eP*		**Pn**	**10 58 33.4**	**+0.2**
NEUV				*eS*		**Sn**	**10 59 23.1**	**-1.3**

*CNRM **09** 11:01:59.5, 35.67N×3.65W, h7km, ML2.1*
*SFS **09** 11:02:02.8, 35.42N×3.60W, h25km, ML2.6/5, ML2.3/6, MLv2.2/6*
*MDD **09** 11:02:02.5±0.6, 35.42N×3.60W, h26km±8km, mb_Lg2.2/7, Error ellipse: s-maj=6.4km s-min=3.8km az=175.0*

ISC 09 11:02:02.2±1.0, **35.48N**±0.0×**3.62W**±0.03, **h24**km±12km, **n25**, σ1.9**37**/36, **1C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**225**	P	**Pb**	**11 02 09.9**	**-0.5**
PALE	**Palemas**	**0.37**	**225**	S	**Sb**	**11 02 16.5**	**+0.6**
WMELI	**Melilla**	**0.57**	**107**	Pg	**Pb**	**11 02 13.3**	**-0.2**
WMELI				Sg	**Sb**	**11 02 20.7**	**-0.5**
EMEL	**Melilla**	**0.57**	**109**	P	**Pb**	**11 02 12.9**	**-0.6**
EMEL				S	**Sb**	**11 02 20.5**	**-0.8**
GOG	**Mont Gurugu**	**0.57**	**117**	P	**Pb**	**11 02 13.2**	**-0.5**
GOG	**Mont Gurugu**	**0.57**	**117**	S	**Sb**	**11 02 20.5**	**-0.9**
EMLI	**Melilla**	**0.57**	**108**	Pg	**Pb**	**11 02 12.9**	**-0.7**
EMLI				Sg	**Sb**	**11 02 20.3**	**-1.1**
PVLZ	**Pen de Vlez**	**0.64**	**241**	Pg	**Pb**	**11 02 14.4**	**-0.3**
EALB	**Alboran**	**0.66**	**46**	Pg	**Pb**	**11 02 16.0**	**+0.9**
EALB				Sg	**Sb**	**11 02 25.4**	**+1.6**
EALB	**Alboran**	**0.66**	**46**	⇑P	**Pb**	**11 02 16.0**	**+0.9**
EALB				S	**Sb**	**11 02 25.6**	**+1.8**
EALB				*i* Vmb_Lg		11 02 26.4	
CHAS	**Isla Isabel II**	**1.01**	**107**	Pn	**Pn**	**11 02 20.0**	**-0.9**
CHAS				Sn	**Sb**	**11 02 32.5**	**-1.5**
TAF	**Taforalt**	**1.19**	**124**	P	**Pb**	**11 02 25.1**	**+1.0**
TAF	**Taforalt**	**1.19**	**124**	S	**Sb**	**11 02 43.6**	**+4.5**
ELGU	**Los Guajares,**	**1.38**	**360**	Pn	**Pn**	**11 02 26.4**	**+0.4**
ELGU				Sn	**Sn**	**11 02 43.4**	**-0.2**
ELGU	**Los Guajares,**	**1.38**	**360**	P	**Pn**	**11 02 25.6**	**-0.5**
ELGU				S	**Sn**	**11 02 42.9**	**-0.7**
ELGU				*i* Vmb_Lg		11 02 46.9	
JBK	**JBK**	**1.44**	**143**	P	**Pb**	**11 02 29.4**	**+1.6**
JBK	**JBK**	**1.44**	**143**	S	**Sb**	**11 02 49.5**	**+3.3**
SMIR	**Smir Dam**	**1.45**	**278**	P	**Pn**	**11 02 26.0**	**-0.9**
SMIR	**Smir Dam**	**1.45**	**278**	S	**Sn**	**11 02 45.0**	**-0.1**
EBER	**Berja**	**1.53**	**22**	P	**Pn**	**11 02 26.7**	**-1.4**
EBER				S	**Sn**	**11 02 46.0**	**-1.4**
EGOR	**Sierra Gorda,**	**1.67**	**346**	P	**Pn**	**11 02 28.4**	**-1.7**
EGOR				S	**Sn**	**11 02 50.5**	**-0.4**
EGOR				*i* Vmb_Lg		11 02 54.4	
EQUE	**Quentar**	**1.72**	**5**	S	**Sn**	**11 02 51.3**	**-0.8**
EQUE				*i* Vmb_Lg		11 02 57.4	
EADA	**Adamuz**	**2.79**	**344**	P	**Pn**	**11 02 45.9**	**+0.5**
EADA				S	**Sn**	**11 03 17.5**	**-0.7**
EADA				*i* Vmb_Lg		11 03 18.3	
ECAB	**El Cabril**	**2.96**	**331**	*i* Vmb_Lg		11 03 21.1	
ECAB				S	**Sn**	**11 03 22.0**	**-0.6**
EGRO	**El Granado**	**3.73**	**304**	P	**Pn**	**11 02 58.6**	**+0.4**
EGRO				*i* Vmb_Lg		11 03 38.5	

*NEIC **09** 11:10:58.8±2.0, 55.30N±0.04×134.88W±0.05, h7km±3km, Error ellipse: s-maj=6.6km s-min=4.4km az=169.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}0.42; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-0.73; $M_{r\theta}$-0.52; $M_{\theta\phi}$0.77; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.14000×10^16^ NP1: ϕ_s190.77000°, δ61.08000°, λ154.85000°. NP2: ϕ_s293.56000°, δ68.16000°, λ31.40000°. Principal axes: T 1.1215, Plg37.0000°, Azm154.0000°; N 0.0291, Plg52.0000°, Azm325.0000°; P -1.1506, Plg5.0000°, Azm61.0000°;*
*IDC **09** 11:10:58.3±0.5, 55.29N×134.80W, h0km, mb4.3/24, mbtmp4.4/32, ML4.2/8, MS4.0/74 Error ellipse: s-maj=10.4km s-min=7.2km az=45.0*
*NEIC **09** 11:10:59.3, 55.33N×134.84W, h24km*
*NEIC **09** 11:10:59.3, 55.23N×135.00W, h24km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16^Nm; M_{rr}0.77; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-0.92; $M_{r\theta}$-0.89; $M_{\theta\phi}$1.36; $M_{\phi r}$-1.01; Fault plane solution: $M_0$2.07000×10^16^ NP1: ϕ_s289.87000°, δ54.37000°, λ26.38000°. NP2: ϕ_s183.75000°, δ68.83000°, λ141.33000°. Principal axes: T 2.2485, Plg42.0000°, Azm142.0000°; N -0.3534, Plg47.0000°, Azm339.0000°; P -1.8951, Plg9.0000°, Azm240.0000°;*
*NEIC **09** 11:10:59, 55.26N×134.75W, h33km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}-0.06; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-0.00; $M_{r\theta}$-1.61; $M_{\theta\phi}$2.30; $M_{\phi r}$0.04; Fault plane solution: $M_0$2.80000×10^16^ NP1: ϕ_s182.00000°, δ55.00000°, λ-178.00000°. NP2: ϕ_s91.00000°, δ88.00000°, λ-35.00000°. Principal axes: T 2.8452, Plg23.0000°, Azm142.0000°; N -0.0633, Plg55.0000°, Azm269.0000°; P -2.7819, Plg25.0000°, Azm41.0000°;*
*NEIC **09** 11:10:59.3, 55.33N×134.84W, h10km*
*PGC **09** 11:10:59.0±1.0, 55.26N×134.75W, h15km, ML4.7/21, Mw4.9, ML4.8(AEIC), ML4.7(PMR), Mw4.8(NEIC), 196km west of Ketchikan, Ak Southeastern Alaska*
*AEIC **09** 11:11:00.4±2.1, 55.28N±0.05×134.91W±0.08, h28km±4km, ML4.8, mb4.8/298(NEIC), ML4.8/48(NEIC), Mwr4.9(OTT), Mwr4.6/40(NEIC), Mww4.8/60(NEIC), Error ellipse: s-maj=8.6km s-min=5.3km az=216.0*
*GCMT **09** 11:11:03.4±0.3, 55.41N±0.02×134.88W±0.03, h28km±1km, MW4.9/95, Moment Tensor Solution. s25,c29; s95,c133; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.96±.13; $M_{\theta\theta}$0.24±.09; $M_{\phi\phi}$-1.20±.09; $M_{r\theta}$-1.09±.16; $M_{\theta\phi}$2.04±.07; $M_{\phi r}$-0.93±.16; Best double couple: $M_0$2.72300×10^16^ NP1: ϕ_s286.00000°, δ62.00000°, λ27.00000°. NP2: ϕ_s183.00000°, δ66.00000°, λ149.00000°. Principal axes: T 2.7960, Plg38.0000°, Azm144.0000°; N -0.1490, Plg52.0000°, Azm329.0000°; P -2.6500, Plg2.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 11:11:01.1±0.5, **55.26N**±0.04×**134.89W**±0.04, **h25**km±3km, **h28**km:**pP-P**, **n808**, σ1.9**66**/720, **mb4.8**/135, **MS4.0**/70, **1C-1D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.03**	**78**		**Pn**	**11 11 17.7**	**-2.3**
CRAG					**Sb**	**11 11 29.9**	**-3.3**
CRAG				IAML		11 11 30.8	
	comp=E,19μm,0.8s						
CRAG	**Craig**	**1.03**	**78**	P	**Pn**	**11 11 16.8**	**-3.1**
CRAG	**Craig**	**1.03**	**78**	P	**Pn**	**11 11 17.6**	**-2.3**
	baz=250,SNR=1000						
U33K	**Whale Pass**	**1.32**	**49**		**Pn**	**11 11 21.7**	**-2.2**
U33K	**Whale Pass**	**1.32**	**49**	P	**Pn**	**11 11 21.4**	**-2.4**
U33K	**Whale Pass**	**1.32**	**49**	P	**Pn**	**11 11 21.7**	**-2.2**
	baz=224,SNR=843						
LIB	**Langara Island**	**1.46**	**133**	P	**Pn**	**11 11 23.8**	**-2.0**
NDB	**Naden**	**1.73**	**138**		**Pn**	**11 11 28.1**	**-1.4**
NDB	**Naden**	**1.73**	**138**	P	**Pn**	**11 11 27.9**	**-1.6**
SIT	**Sitka**	**1.82**	**352**		**Pn**	**11 11 28.2**	**-2.5**
SIT				IAML		11 12 03.3	
	comp=E,7μm,1.0s						
SIT	**Sitka**	**1.82**	**352**	P	**Pn**	**11 11 28.7**	**-2.0**
SIT	**Sitka**	**1.82**	**352**	P	**Pn**	**11 11 28.4**	**-2.3**
	baz=172,SNR=102						
WRAK	**Wrangell Islan**	**1.84**	**50**		**Pn**	**11 11 29.6**	**-1.5**
WRAK				IAML		11 11 59.8	
	comp=E,11μm,0.7s						
WRAK	**Wrangell Islan**	**1.84**	**50**	Pn	**Pn**	**11 11 29.6**	**-1.5**
WRAK	**Wrangell Islan**	**1.84**	**50**	P	**Pn**	**11 11 29.7**	**-1.5**
	baz=228,SNR=1000						
V35K	**Ketchikan**	**1.87**	**87**	Pn	**Pn**	**11 11 30.6**	**-0.9**
V35K				IAML		11 12 04.9	
	comp=N,9μm,0.8s						
V35K	**Ketchikan**	**1.87**	**87**	Pn	**Pn**	**11 11 29.8**	**-1.7**
V35K	**Ketchikan**	**1.87**	**87**	P	**Pn**	**11 11 29.9**	**-1.5**
	baz=264,SNR=833						
T33K	**Petersburg**	**1.90**	**34**		**Pn**	**11 11 30.5**	**-1.4**
T33K	**Petersburg**	**1.90**	**34**	Pn	**Pn**	**11 11 30.4**	**-1.4**
T33K				Sn	**Sn**	**11 11 51.7**	**-3.2**
T33K	**Petersburg**	**1.90**	**34**	P	**Pn**	**11 11 30.4**	**-1.4**
	baz=212,SNR=245						
PCLB	**Port Clements**	**2.07**	**137**	Pn	**Pn**	**11 11 32.6**	**-1.7**
PCLB				Sn	**Sn**	**11 11 56.9**	**-2.4**
S32K	**Killisnoo**	**2.22**	**4**		**Pn**	**11 11 34.5**	**-1.7**
S32K					**Sn**	**11 12 00.1**	**-2.9**
S32K	**Killisnoo**	**2.22**	**4**	Pn	**Pn**	**11 11 34.6**	**-1.7**
S32K				Sn	**Sn**	**11 11 60.0**	**-2.9**
S32K	**Killisnoo**	**2.22**	**4**	P	**Pn**	**11 11 34.8**	**-1.5**
	baz=183,SNR=309						
DIB	**Dawson Inlet,**	**2.50**	**145**	Pn	**Pn**	**11 11 38.7**	**-1.4**
DIB	**Dawson Inlet,**	**2.50**	**145**	Pn	**Pn**	**11 11 38.1**	**-2.0**
DIB				Sn	**Sn**	**11 12 06.7**	**-3.1**
MOBC	**Moresby Island**	**2.73**	**140**		**Pn**	**11 11 41.3**	**-2.0**
MOBC				IAML		11 12 41.4	
	comp=N,3μm,1.0s						
MOBC	**Moresby Island**	**2.73**	**140**	Pn	**Pn**	**11 11 41.3**	**-2.0**
S31K	**Pelican**	**2.81**	**345**		**Pn**	**11 11 41.8**	**-2.5**
S31K					**Sn**	**11 12 14.1**	**-3.3**
S31K	**Pelican**	**2.81**	**345**	Pn	**Pn**	**11 11 42.2**	**-2.1**
S31K				Sn	**Sn**	**11 12 13.3**	**-4.0**
S31K	**Pelican**	**2.81**	**345**	P	**Pn**	**11 11 42.3**	**-2.0**
	baz=164,SNR=50						
U35K	**Hyder**	**2.84**	**75**		**Pn**	**11 11 43.7**	**-1.1**
U35K	**Hyder**	**2.84**	**75**	Pn	**Pn**	**11 11 43.6**	**-1.1**
U35K	**Hyder**	**2.84**	**75**	P	**Pn**	**11 11 43.7**	**-1.1**
	baz=255,SNR=196						
HG1B	**Mitchell Dam**	**2.84**	**144**	Pn	**Pn**	**11 11 42.7**	**-2.1**
HG1B				Sn	**Sn**	**11 12 14.7**	**-3.4**
R32K	**Eaglecrest**	**3.03**	**4**		**Pn**	**11 11 46.1**	**-1.4**
R32K				IAML		11 12 38.5	
	comp=N,2μm,0.7s						
R32K				IAML		11 12 40.2	
	comp=E,2μm,0.8s						
R32K	**Eaglecrest**	**3.03**	**4**	Pn	**Pn**	**11 11 46.0**	**-1.4**
R32K				Sn	**Sn**	**11 12 19.4**	**-3.5**
R32K	**Eaglecrest**	**3.03**	**4**	P	**Pn**	**11 11 46.1**	**-1.4**
	baz=183,SNR=38						
JIS	**Juneau Island**	**3.04**	**5**		**Pn**	**11 11 46.1**	**-1.4**
JIS	**Juneau Island**	**3.04**	**5**	P	**Pn**	**11 11 46.4**	**-1.1**
BNAB	**Bonilla**	**3.05**	**124**		**Pn**	**11 11 45.5**	**-2.2**
BNAB	**Bonilla**	**3.05**	**124**	Pn	**Pn**	**11 11 45.5**	**-2.2**
BNAB				Sn	**Sn**	**11 12 19.2**	**-4.2**
T35M	**Bob Quinn**	**3.12**	**54**	Pn	**Pn**	**11 11 48.6**	**-0.1**
T35M				IAML		11 12 47.4	
	comp=N,4μm,0.7s						
T35M	**Bob Quinn**	**3.12**	**54**	Pn	**Pn**	**11 11 48.4**	**-0.3**
T35M	**Bob Quinn**	**3.12**	**54**	P	**Pn**	**11 11 48.5**	**-0.1**
	baz=236,SNR=188						
R31K	**City Hall, Gus**	**3.20**	**352**		**Pn**	**11 11 48.7**	**-1.0**
R31K	**City Hall, Gus**	**3.20**	**352**	Pn	**Pn**	**11 11 48.7**	**-1.0**
R31K				Sn	**Sn**	**11 12 24.5**	**-2.4**
R31K	**City Hall, Gus**	**3.20**	**352**	P	**Pn**	**11 11 48.8**	**-0.8**
	baz=171,SNR=7.0						
GRNB	**Grenville Isla**	**3.20**	**114**		**Pn**	**11 11 47.9**	**-1.9**
GRNB				IAML		11 12 53.1	
	comp=E,2μm,0.7s						
GRNB				IAML		11 12 54.4	
	comp=N,2μm,0.9s						
GRNB	**Grenville Isla**	**3.20**	**114**	Pn	**Pn**	**11 11 47.7**	**-2.1**
GRNB				Sn	**Sn**	**11 12 23.0**	**-4.1**
BAIB	**Barry Inlet**	**3.27**	**144**	Pn	**Pn**	**11 11 48.5**	**-2.2**
BAIB				Sn	**Sn**	**11 12 24.8**	**-4.0**
BESE	**Bessie Mountai**	**3.33**	**0**	Pn	**Pn**	**11 11 50.3**	**-1.3**
BESE	**Bessie Mountai**	**3.33**	**0**	Pn	**Pn**	**11 11 50.1**	**-1.5**
BESE				Sn	**Sn**	**11 12 27.5**	**-2.9**
S34M	**Telegraph Cree**	**3.38**	**36**		**Pn**	**11 11 51.8**	**-0.4**
S34M				IAML		11 13 04.8	
	comp=N,3μm,1.1s						
S34M	**Telegraph Cree**	**3.38**	**36**	Pn	**Pn**	**11 11 51.5**	**-0.6**
S34M				Sn	**Sn**	**11 12 27.3**	**-4.0**
S34M	**Telegraph Cree**	**3.38**	**36**	P	**Pn**	**11 11 51.6**	**-0.6**
	baz=218,SNR=269						
HG4B	**Hotspring**	**3.69**	**142**		**Pn**	**11 11 55.2**	**-1.3**
HG4B				IAML		11 13 07.5	
	comp=E,1μm,0.8s						
JEDB	**Jedway, Haida**	**3.69**	**142**	Pn	**Pn**	**11 11 54.8**	**-1.7**
KITB	**Kitimat**	**3.82**	**106**	Pn	**Pn**	**11 11 56.5**	**-1.7**
MBLB	**Minette Bay Lo**	**3.84**	**106**	Pn	**Pn**	**11 11 56.8**	**-1.7**
GRIB	**Gribbell Islan**	**3.88**	**117**	Pn	**Pn**	**11 11 57.3**	**-1.8**
GRIB				Sn	**Sn**	**11 12 39.1**	**-4.7**
Q32M	**Nakina River**	**3.98**	**20**		**Pn**	**11 12 00.3**	**-0.3**
Q32M				IAML		11 13 21.5	
	comp=E,2μm,1.6s						
Q32M	**Nakina River**	**3.98**	**20**	Pn	**Pn**	**11 12 00.3**	**-0.3**
Q32M				Sn	**Sn**	**11 12 42.4**	**-4.1**
Q32M	**Nakina River**	**3.98**	**20**	P	**Pn**	**11 12 00.4**	**-0.3**
	baz=201,SNR=109						
DLBC	**Dease Lake**	**4.16**	**38**	Pn	**Pn**	**11 12 02.8**	**-0.2**
DLBC				IAML		11 13 19.3	
	comp=E,1μm,0.8s						
DLBC				IAML		11 13 20.9	
	comp=N,1μm,1.4s						
DLBC	**Dease Lake**	**4.16**	**38**	Pn	**Pn**	**11 12 02.8**	**-0.2**
	comp=N,9.0nm,0.3s,baz=244,slow=8.0,SNR=447						
DLBC				Sn	**Sn**	**11 12 49.6**	**-1.1**
	comp=N,51nm,0.3s,baz=178,slow=12,SNR=5.5						
DLBC				Lg	Lg	11 13 08.3	
	comp=N,73nm,0.3s,baz=327,slow=25,SNR=6.8						
	comp=N,181nm,0.7s						
DLBC	**Dease Lake**	**4.16**	**38**	Pn	**Pn**	**11 12 02.5**	**-0.4**
DLBC	**Dease Lake**	**4.16**	**38**	P	**Pn**	**11 12 02.5**	**-0.4**
	baz=220,SNR=182						
SKAG	**Skagway**	**4.22**	**357**		**Pn**	**11 12 03.8**	**+0.1**
SKAG				IAML		11 13 20.3	
	comp=N,926nm,1.0s						
SKAG				IAML		11 13 20.4	
	comp=E,1μm,1.1s						
SKAG	**Skagway**	**4.22**	**357**	P	**Pn**	**11 12 03.2**	**-0.5**
SKAG	**Skagway**	**4.22**	**357**	P	**Pn**	**11 12 03.8**	**+0.1**
	baz=176,SNR=44						
PLBC	**Pleasant Camp**	**4.28**	**350**	P	**Pn**	**11 12 03.6**	**-1.0**
	baz=168						
BUTB	**Butedale**	**4.37**	**118**	Pn	**Pn**	**11 12 04.3**	**-1.6**
P32M	**Atlin**	**4.39**	**8**	Pn	**Pn**	**11 12 05.7**	**-0.4**
P32M				IAML		11 13 28.6	
	comp=E,1μm,0.9s						
P32M				IAML		11 13 28.9	
	comp=N,925nm,1.3s						
P32M	**Atlin**	**4.39**	**8**	Pn	**Pn**	**11 12 05.6**	**-0.5**
P32M				Sn	**Sn**	**11 12 53.1**	**-3.3**
P32M	**Atlin**	**4.39**	**8**	P	**Pn**	**11 12 05.7**	**-0.4**
	baz=188,SNR=102						
R33M	**Jennings River**	**4.66**	**26**		**Pn**	**11 12 09.8**	**-0.1**
R33M	**Jennings River**	**4.66**	**26**	Pn	**Pn**	**11 12 09.5**	**-0.5**
R33M				Sn	**Sn**	**11 12 58.5**	**-4.6**
R33M	**Jennings River**	**4.66**	**26**	P	**Pn**	**11 12 09.4**	**-0.5**
	baz=208						
P30M	**Million Dollar**	**5.00**	**348**	Pn	**Pn**	**11 12 14.1**	**-0.4**
P30M	**Million Dollar**	**5.00**	**348**	P	**Pn**	**11 12 13.8**	**-0.8**
	baz=166						
PNL	**Peninsula**	**5.05**	**333**		**Pn**	**11 12 14.0**	**-1.1**
PNL	**Peninsula**	**5.05**	**333**	Pn	**Pn**	**11 12 13.9**	**-1.1**
PNL				Sn	**Sn**	**11 13 08.7**	**-3.8**
PNL	**Peninsula**	**5.05**	**333**	P	**Pn**	**11 12 13.4**	**-1.7**
PNL	**Peninsula**	**5.05**	**333**	P	**Pn**	**11 12 14.0**	**-1.1**
	baz=150,SNR=23						
BBB	**Bella Bella**	**5.07**	**125**		**Pn**	**11 12 13.9**	**-1.4**
BBB				IAML		11 13 57.6	
	comp=N,467nm,1.3s						
BBB	**Bella Bella**	**5.07**	**125**	Pn	**Pn**	**11 12 13.4**	**-1.9**
	comp=N,14nm,0.3s,baz=306,slow=7.4,SNR=526						
BBB				Sn	**Sn**	**11 13 10.3**	**-2.7**
	comp=N,46nm,0.3s,baz=118,slow=18,SNR=12						
BBB				Lg	Lg	11 13 38.2	
	comp=N,20nm,0.3s,baz=44,slow=17,SNR=4.5						
BBB				LR	LR	11 14 12.4	
	comp=N,2μm,20.5s,baz=316,slow=38						
	comp=N,73nm,0.5s						
BBB	**Bella Bella**	**5.07**	**125**	Pn	**Pn**	**11 12 13.2**	**-2.1**
BBB				Sn	**Sn**	**11 13 06.3**	**-6.7**
P33M	**Teslin, Yukon**	**5.09**	**12**		**Pn**	**11 12 15.7**	**0.0**
P33M				IAML		11 13 51.0	
	comp=N,503nm,1.1s						
P33M				IAML		11 13 51.4	
	comp=E,698nm,1.2s						
P33M	**Teslin, Yukon**	**5.09**	**12**	Pn	**Pn**	**11 12 16.1**	**+0.3**
P33M	**Teslin, Yukon**	**5.09**	**12**	P	**Pn**	**11 12 15.7**	**0.0**
	baz=193,SNR=147						
BCPM	**Bancas Point**	**5.35**	**333**		**Pn**	**11 12 18.8**	**-0.5**
BCPM				IAML		11 13 18.7	
	comp=N,413nm,0.4s						
BCPM				IAML		11 13 24.0	
	comp=E,447nm,0.5s						
WHY	**Whitehorse**	**5.42**	**0**	Pn	**Pn**	**11 12 19.7**	**-0.5**
WHY	**Whitehorse**	**5.42**	**0**	Pn	**Pn**	**11 12 19.6**	**-0.7**
WHY	**Whitehorse**	**5.42**	**0**	P	**Pn**	**11 12 19.8**	**-0.5**
	baz=180,SNR=144						
O29M	**Mount Kennedy**	**5.43**	**340**		**Pn**	**11 12 20.8**	**+0.3**
O29M	**Mount Kennedy**	**5.43**	**340**	Pn	**Pn**	**11 12 20.8**	**+0.3**
O29M				Sn	**Sn**	**11 13 17.9**	**-4.2**
O29M	**Mount Kennedy**	**5.43**	**340**	P	**Pn**	**11 12 20.7**	**+0.3**
	baz=157,SNR=59						
YUK7	**Dusty Glacier**	**5.56**	**343**	Pn	**Pn**	**11 12 22.1**	**-0.2**
YUK7				Sn	**Sn**	**11 13 22.0**	**-3.5**
O30N	**Mendenhall**	**5.56**	**354**		**Pn**	**11 12 22.5**	**+0.3**
O30N	**Mendenhall**	**5.56**	**354**	Pn	**Pn**	**11 12 22.4**	**+0.1**
O30N	**Mendenhall**	**5.56**	**354**	P	**Pn**	**11 12 22.4**	**+0.1**
	baz=173,SNR=72						
PINM	**Pinnacle**	**5.64**	**332**	P	**Pn**	**11 12 23.5**	**+0.2**
	baz=148,SNR=90						
PCA	**Pinnacle**	**5.64**	**332**		**Pn**	**11 12 23.2**	**-0.1**
PCA	**Pinnacle**	**5.64**	**332**	Pn	**Pn**	**11 12 23.5**	**+0.2**
PCA				Sn	**Sn**	**11 13 22.4**	**-4.8**
HYT	**Haines Junctio**	**5.75**	**347**	Pn	**Pn**	**11 12 25.2**	**+0.3**
HYT	**Haines Junctio**	**5.75**	**347**	Pn	**Pn**	**11 12 25.0**	**+0.1**
HYT				Sn	**Sn**	**11 13 25.7**	**-4.4**
HYT	**Haines Junctio**	**5.75**	**347**	P	**Pn**	**11 12 25.3**	**+0.4**
	baz=165,SNR=22						
SAMH	**Samovar Hills**	**5.81**	**330**	Pn	**Pn**	**11 12 25.9**	**+0.2**
SAMH				Sn	**Sn**	**11 13 28.2**	**-3.3**
WTLY	**Watson Lake, Y**	**5.86**	**31**		**Pn**	**11 12 26.2**	**-0.1**
WTLY	**Watson Lake, Y**	**5.86**	**31**	Pn	**Pn**	**11 12 26.4**	**+0.2**
WTLY	**Watson Lake, Y**	**5.86**	**31**	P	**Pn**	**11 12 26.5**	**+0.2**
	baz=215,SNR=83						
CHX	**Chaix Hills**	**5.86**	**328**		**Pn**	**11 12 25.8**	**-0.5**
N32M	**Quiet Lake**	**5.99**	**8**	Pn	**Pn**	**11 12 28.5**	**+0.5**
N32M	**Quiet Lake**	**5.99**	**8**	P	**Pn**	**11 12 28.3**	**+0.2**
	baz=189						
YUK6	**Outpost Mounta**	**5.99**	**344**	Pn	**Pn**	**11 12 27.6**	**-0.6**
YUK6				Sn	**Sn**	**11 13 31.4**	**-4.7**
YUK6	**Outpost Mounta**	**5.99**	**344**	P	**Pn**	**11 12 27.4**	**-0.8**
	baz=161,SNR=7.9						
YUK5	**Granite Creek**	**6.09**	**346**	Pn	**Pn**	**11 12 29.8**	**+0.2**
YUK5				Sn	**Sn**	**11 13 32.4**	**-6.2**
RKAV	**Rock Avalanche**	**6.12**	**328**	Pn	**Pn**	**11 12 30.3**	**+0.3**
RKAV				Sn	**Sn**	**11 13 33.2**	**-5.9**
HOLB	**Holberg**	**6.17**	**136**		**Pn**	**11 12 28.3**	**-2.3**
HOLB	**Holberg**	**6.17**	**136**	Pn	**Pn**	**11 12 28.1**	**-2.4**
HOLB				Sn	Sn	11 13 31.1	-9.2
FSJB	**Fort St James**	**6.17**	**93**	Pn	**Pn**	**11 12 30.4**	**-0.2**
O28M	**Mount Upton**	**6.20**	**335**	Pn	**Pn**	**11 12 31.2**	**0.0**
O28M	**Mount Upton**	**6.20**	**335**	P	**Pn**	**11 12 32.0**	**+0.8**
	baz=151,SNR=45						
MESA	**MESA**	**6.21**	**325**		**Pn**	**11 12 29.8**	**-1.5**
MESA	**MESA**	**6.21**	**325**	Pn	**Pn**	**11 12 30.7**	**-0.6**
MESA				Sn	**Sn**	**11 13 35.9**	**-5.7**
MESA	**MESA**	**6.21**	**325**	P	**Pn

EYAK Cordova Ski Ar 7.84 317 P Pn 11 12 52.6 -0.9
baz=128
M27K Edge Creek, AK 7.99 336 Pn Pn 11 12 56.6 +1.1
M27K Edge Creek, AK 7.99 336 P Pn 11 12 56.0 +0.4
baz=150
L29M L29M 8.05 349 Pn Pn 11 12 56.4 +0.1
L29M L29M 8.05 349 P Pn 11 12 56.7 +0.4
baz=167,SNR=66
NBC4 NorthernBC 4 8.10 81 Pn Pn 11 12 56.7 -0.3
NBC6 NorthernBC 6 8.13 60 Pn Pn 11 12 57.1 -0.2
NCHR NEPTUNE Canada 8.14 151 Pn Pn 11 12 57.6 +0.4
N25K Chitina, Valde 8.14 325 Pn Pn 11 12 57.8 +0.1
N25K Sn Sn 11 14 24.4 -4.5
N25K Chitina, Valde 8.14 325 P Pn 11 12 57.9 +0.3
baz=138,SNR=14
DIV Divide 8.22 320 Pn 11 12 57.7 -1.0
DIV Divide 8.22 320 Pn Pn 11 12 58.8 +0.1
DIV Sn Sn 11 14 24.1 -6.5
P23K Montague Islan 8.22 310 P Pn 11 12 55.9 -2.7
baz=120
M26K Nabesna, AK 8.30 333 Pn Pn 11 13 00.0 +0.3
M26K Nabesna, AK 8.30 333 P Pn 11 13 00.4 +0.6
baz=146,SNR=14
MAYO Mayo, Yukon 8.38 357 Pn Pn 11 13 00.9 +0.2
MAYO Mayo, Yukon 8.38 357 P Pn 11 13 01.0 +0.2
baz=176,SNR=42
TXB Texada 8.46 127 Pn Pn 11 13 02.0 0.0
KLU Klutina 8.52 322 Pn 11 13 01.4 -1.3
KLU Klutina 8.52 322 P Pn 11 13 02.1 -0.6
baz=133,SNR=13
OZB Mount Ozzard 8.55 134 Pn Pn 11 13 03.6 +0.3
OZB Mount Ozzard 8.55 134 Pn Pn 11 13 03.9 +0.6
B012 Ucluelet 8.56 134 Pn Pn 11 13 05.1 +1.8
GLI Glacier Island 8.57 316 P Pn 11 13 01.9 -1.5
baz=126
BCAR Beaver Creek A 8.59 339 Pn 11 13 03.6 -0.1
L27K Beaver Creek, 8.59 338 Pn Pn 11 13 03.3 -0.5
L27K Beaver Creek, 8.59 338 P Pn 11 13 03.4 -0.5
baz=153
B927 Port Alberni 8.64 130 Pn Pn 11 13 06.0 +1.6
PABB Port Alberni 8.64 130 Pn Pn 11 13 06.1 +1.6
K29M Barlow Dome 8.71 352 Pn Pn 11 13 06.1 +0.6
K29M Barlow Dome 8.71 352 P Pn 11 13 06.3 +0.8
baz=170,SNR=131
BFSB Bamfield 8.80 133 Pn Pn 11 13 06.9 +0.3
B928 Bamfield 8.80 133 Pn Pn 11 13 06.6 +0.1
MGRB Mount Grey 8.86 131 Pn Pn 11 13 08.2 +0.6
WSLR Whistler 8.90 120 Pn Pn 11 13 09.0 +1.0
WTMTA White Mountain 8.90 81 Pn Pn 11 13 08.3 +0.3
HARP HAARP 8.91 328 P Pn 11 13 09.6 +1.5
baz=139,SNR=10
L26K Log Cabin Wild 8.91 334 Pn Pn 11 13 08.8 +0.7
L26K Log Cabin Wild 8.91 334 P Pn 11 13 08.6 +0.5
baz=147,SNR=28
MENT Mentasta 8.93 333 P Pn 11 13 10.0 +1.6
NLLB Nanaimo Lost L 9.01 128 Pn Pn 11 13 10.6 +1.1
M24K Tolsona, Glenn 9.03 324 P Pn 11 13 10.5 +0.8
baz=135
PWL Port Wells 9.06 314 Pn 11 13 08.0 -2.2
PWL Port Wells 9.06 314 P Pn 11 13 07.9 -2.3
baz=123
WPB Watts Point 9.07 123 Pn Pn 11 13 11.8 +1.5
DAWY Dawson 9.12 347 Pn 11 13 11.1 +0.1
DAWY Dawson 9.12 347 Pn Pn 11 13 11.2 +0.2
DAWY Sn Sn 11 14 48.4 -4.3
DAWY Dawson 9.12 347 P Pn 11 13 11.2 +0.2
baz=164,SNR=18
LLLB Lillooet 9.13 115 Pn Pn 11 13 12.0 +0.9
SEW Seward 9.18 308 Pn 11 13 08.6 -3.1
SEW Seward 9.18 308 P Pn 11 13 08.6 -3.1
baz=116
BDMTA Bald Mountain 9.19 86 Pn Pn 11 13 13.0 +1.1
SCM Sheep Creek Mo 9.25 320 Pn 11 13 12.0 -0.8
SCM Sheep Creek Mo 9.25 320 P Pn 11 13 12.2 -0.5
baz=130,SNR=14
PTRF Port Renfrew 9.33 132 Pn Pn 11 13 13.6 -0.2
M23K Glacier View 9.37 320 Pn 11 13 13.7 -0.7
M23K Glacier View 9.37 320 P Pn 11 13 13.8 -0.5
baz=129,SNR=20
J29N Klondike Camp 9.37 351 Pn Pn 11 13 15.2 +0.8
J29N Klondike Camp 9.37 351 P Pn 11 13 14.9 +0.4
baz=168,SNR=39
J30M Hart River 9.37 356 Pn Pn 11 13 14.2 -0.3
J30M Hart River 9.37 356 P Pn 11 13 13.9 -0.6
baz=175,SNR=17
KNK Knik Glacier 9.42 316 P Pn 11 13 14.2 -0.9
baz=125,SNR=13
GOBB Galiano Island 9.42 127 Pn Pn 11 13 17.3 +2.2
PAX Paxson 9.44 329 Pn Pn 11 13 15.9 +0.5
PAX Paxson 9.44 329 P Pn 11 13 16.1 +0.6
baz=140,SNR=18
O22K Cooper Landing 9.47 310 P Pn 11 13 13.4 -2.3
baz=118
K27K Chicken 9.51 341 Pn Pn 11 13 16.2 -0.1
K27K Chicken 9.51 341 P Pn 11 13 15.9 -0.3
baz=154
SYMB Survey Mountai 9.58 130 Pn Pn 11 13 19.3 +1.9
SML Sawmill 9.60 319 Pn 11 13 16.5 -1.1
SML Sawmill 9.60 319 P Pn 11 13 16.3 -1.3
baz=128
DOT Dot Lake 9.61 335 Pn Pn 11 13 18.3 +0.6
BRSE Bradley Lake S 9.63 304 P Pn 11 13 15.6 -2.4
baz=112
B010 North Saanich 9.67 128 Pn Pn 11 13 19.7 +1.3
PGC Sidney 9.67 128 Pn Pn 11 13 21.3 +2.8
B009 North Saanich 9.67 128 Pn Pn 11 13 19.6 +1.1
B011 North Saanich 9.67 128 Pn Pn 11 13 19.9 +1.4
SNB Saturna Island 9.70 127 Pn Pn 11 13 21.8 +2.8
BRLK Bradley Lake 9.71 304 Pn 11 13 16.6 -2.4
RC01 Rabbit Creek A 9.77 313 Pn 11 13 17.7 -2.1
RC01 Rabbit Creek A 9.77 313 P Pn 11 13 17.5 -2.3
baz=121
PMR Palmer 9.79 316 Pn 11 13 19.0 -1.0
PMR Palmer 9.79 316 P Pn 11 13 19.2 -0.8
PMR Palmer 9.79 316 P Pn 11 13 19.3 -0.7
baz=125,SNR=17
CNPM China Poot 9.80 303 Pn 11 13 17.9 -2.4
GHO Glory Hole Cre 9.81 317 Pn 11 13 19.6 -0.9
OBC Olympics--Boni 9.86 133 Pn Pn 11 13 23.5 +2.3
SCRK Sand Creek 9.87 336 P Pn 11 13 21.6 +0.3
baz=148,SNR=13
RIDG Independent Ri 9.88 333 P Pn 11 13 22.2 +0.8
baz=145,SNR=21
WRGLY Wrigley 9.89 32 P Pn 11 13 22.6 +1.1
baz=221
VGZ Gonzales 9.90 129 Pn Pn 11 13 24.4 +2.7
STW Striped Peak 9.95 131 Pn Pn 11 13 24.2 +1.8
I30M Mount Dempster 10.02 356 Pn Pn 11 13 24.6 +1.2
I30M Mount Dempster 10.02 356 P Pn 11 13 24.7 +1.3
baz=175,SNR=141
VDEB Vedder Mountai 10.03 123 Pn Pn 11 13 25.9 +2.5
HOM Homer 10.04 303 P Pn 11 13 21.9 -1.6
baz=109
KDAK Kodiak Island 10.10 292 Pn 11 13 22.0 -2.3
KDAK Kodiak Island 10.10 292 Pn Pn 11 13 21.4 -2.9
comp=E,7.9nm,0.3s,baz=188,slow=3.1,SNR=56
KDAK Sn Sn 11 15 08.2 -8.3
comp=E,6.1nm,0.3s,baz=284,slow=22,SNR=11
KDAK LR LR 11 16 53.5
comp=E,1µm,18.0s,baz=317,slow=35
comp=E,29nm,0.5s
KDAK Kodiak Island 10.10 292 P Pn 11 13 22.2 -2.1
baz=98
HOPB Hope 10.12 120 Pn Pn 11 13 26.6 +2.0
Q20K Shuyak Island 10.13 296 P Pn 11 13 23.2 -1.6
baz=102
K24K Donnelly Dome 10.18 332 P Pn 11 13 27.2 +1.7
baz=143
OSD Olympics--Snow 10.19 132 Pn Pn 11 13 25.9 0.0
BRLDA Berland Lookou 10.20 89 Pn Pn 11 13 26.4 +0.6
CAPN Captain Cook N 10.23 309 P Pn 11 13 26.3 +0.3
baz=116
J26L Joseph Creek 10.23 338 P Pn 11 13 27.2 +1.0
baz=151,SNR=11
M22K Willow 10.27 315 P Pn 11 13 26.5 -0.1
baz=123
I29M Ogilvie Camp, 10.27 352 Pn Pn 11 13 28.0 +1.2
I29M Ogilvie Camp, 10.27 352 P Pn 11 13 27.8 +1.1
baz=169,SNR=64
SUA Susitna One 10.38 313 Pn 11 13 26.4 -1.8
SUA Susitna One 10.38 313 P Pn 11 13 26.2 -2.1
baz=120,SNR=8.8
SWHSA Sweathouse Loo 10.41 85 Pn Pn 11 13 28.6 0.0
OHAK Old Harbor 10.43 288 Pn 11 13 26.2 -2.6
OHAK Old Harbor 10.43 288 P Pn 11 13 26.0 -2.8
baz=94
NLWA Neilton Lookou 10.46 134 Pn 11 13 31.8 +2.4
I28M Miner Creek 10.52 348 Pn Pn 11 13 30.4 +0.3
I28M Miner Creek 10.52 348 P Pn 11 13 30.8 +0.7
baz=164,SNR=11
H31M Peel River 10.59 1 Pn Pn 11 13 30.9 -0.1
H31M Peel River 10.59 1 P Pn 11 13 31.4 +0.4
baz=182
HDW Hoodsport 10.60 131 Pn Pn 11 13 33.6 +2.3
O20K Slope Mountain 10.64 304 P Pn 11 13 30.7 -1.2
baz=110
CUT Chulitna 10.69 318 P Pn 11 13 32.5 +0.1
baz=126,SNR=31
JCW Jim Creek 10.70 126 Pn Pn 11 13 35.5 +2.9
WISH Wishkah 10.72 135 Pn Pn 11 13 35.2 +2.4
J25K Salcha River, 10.73 335 Pn Pn 11 13 33.0 0.0
J25K Salcha River, 10.73 335 P Pn 11 13 33.5 +0.4
baz=146,SNR=14
GNW Green Mountain 10.76 131 Pn Pn 11 13 35.2 +1.7
P19K Oil Pt 10.80 302 P Pn 11 13 32.5 -1.5
baz=107
RND Reindeer 10.82 325 Pn 11 13 35.1 +0.9
STPRA Salt Prairie L 10.83 80 Pn Pn 11 13 33.9 -0.5
Q19K Cape Douglas, 10.84 297 Pn Pn 11 13 33.2 -1.2
Q19K Cape Douglas, 10.84 297 P Pn 11 13 33.0 -1.4
baz=102,SNR=11
I26K Coal Creek Min 10.87 341 Pn Pn 11 13 35.4 +0.6
I26K Coal Creek Min 10.87 341 P Pn 11 13 36.0 +1.2
baz=154
N20K Mount Spurr 10.88 310 P Pn 11 13 33.3 -1.8
baz=116
SPCR Spurr Chakacha 10.88 310 P Pn 11 13 33.4 -1.7
baz=116
I27K Kandik River 10.89 345 Pn Pn 11 13 36.1 +0.9
I27K Kandik River 10.89 345 P Pn 11 13 36.0 +0.9
baz=159
SKT Skwentna 10.96 315 P Pn 11 13 35.2 -0.9
baz=121,SNR=14
HDA Harding Lake 10.98 332 Pn 11 13 37.0 +0.7
HDA Harding Lake 10.98 332 P Pn 11 13 36.8 +0.4
baz=141,SNR=15
MCK McKinley 11.07 326 P Pn 11 13 37.9 +0.3
baz=134,SNR=13
R18K Karluk 11.07 290 P Pn 11 13 36.0 -1.7
baz=94
H29M Whitestone 11.12 353 Pn Pn 11 13 39.0 +0.6
H29M Whitestone 11.12 353 P Pn 11 13 39.0 +0.6
baz=170
ILAR Eielson Array 11.24 333 Pn Pn 11 13 39.8 -0.2
comp=E,2.5nm,0.3s,baz=155,slow=12,SNR=319
ILAR Lg Lg 11 16 55.6
baz=191,slow=34
ILAR LR LR 11 18 11.6
comp=E,3µm,18.4s,baz=131,slow=38
comp=E,17nm,0.6s
E03A Lebam 11.27 136 Pn Pn 11 13 42.4 +2.1
TRF Thorofare Moun 11.33 323 P Pn 11 13 41.1 -0.3
baz=130,SNR=23
D05A Enumclaw 11.42 130 Pn Pn 11 13 44.7 +2.3
H27K Steamboat Moun 11.47 346 Pn Pn 11 13 43.8 +0.8
H27K Steamboat Moun 11.47 346 P Pn 11 13 43.1 0.0
baz=161,SNR=6.2
O19K Port Alsworth 11.48 303 P Pn 11 13 41.8 -1.5
baz=108,SNR=8.8
Q18K Katmai Hardscr 11.48 295 P Pn 11 13 42.4 -1.0
baz=99
PRP Porcupine Dome 11.53 337 P Pn 11 13 44.4 +0.3
baz=148
M20K Styx River 11.58 312 P Pn 11 13 43.9 -0.7
baz=117
COLA College 11.58 332 P Pn 11 13 45.2 +0.6
KTH Kantishna Hill 11.62 322 Pn 11 13 45.3 +0.1
LGPLA Lodgepole 11.64 93 Pn Pn 11 13 46.8 +1.3
POKR Poker Plat Res 11.66 333 P Pn 11 13 45.8 +0.1
baz=142
PPLA Purkeypile 11.70 318 P Pn 11 13 46.3 -0.1
baz=123
G31M Satah River 11.71 1 Pn 11 13 46.1 -0.2
G31M Satah River 11.71 1 Pn Pn 11 13 46.1 -0.2
G31M Satah River 11.71 1 P Pn 11 13 46.4 +0.1
baz=182
NEA2 Nenana 11.72 329 P Pn 11 13 46.6 +0.1
baz=137,SNR=14
P18K Big Mountain, 11.73 299 P Pn 11 13 45.2 -1.5
baz=102
FMW Mount Fremont 11.75 130 Pn Pn 11 13 49.5 +2.3
N19K Bonanza Creek 11.76 306 P Pn 11 13 45.8 -1.3
baz=110
G30M tAoh Zraii Nji 11.78 357 Pn Pn 11 13 48.3 +1.0
G30M tAoh Zraii Nji 11.78 357 P Pn 11 13 47.8 +0.5
baz=176,SNR=7.7
G29M Pine Creek 11.79 354 Pn Pn 11 13 47.7 +0.2
G29M Pine Creek 11.79 354 P Pn 11 13 47.6 +0.2
baz=171
O18K Koktuh Hills 11.82 301 P Pn 11 13 46.1 -1.8
baz=105
B08A Colville Reser 11.83 119 Pn 11 13 50.4 +2.3
B08A Colville Reser 11.83 119 Pn Pn 11 13 50.4 +2.3
LON Longmire 11.83 131 Pn Pn 11 13 49.6 +1.4
CAST Castle Rocks 11.96 320 P Pn 11 13 49.2 -0.6
baz=126,SNR=16
LTY Liberty 11.96 126 Pn Pn 11 13 51.5 +1.6
BPAW Bear Paw Mtn. 11.99 324 Pn 11 13 49.7 -0.5
BPAW Bear Paw Mtn. 11.99 324 P Pn 11 13 49.7 -0.5
baz=130,SNR=19
G27K Doyon Strip 12.03 347 Pn 11 13 50.5 -0.3
G27K Doyon Strip 12.03 347 P Pn 11 13 50.6 -0.1
baz=161
M19K Big River Lodg 12.12 311 P Pn 11 13 50.4 -1.6
baz=115
L20K Farewell, AK 12.16 314 P Pn 11 13 51.1 -1.5
baz=118
I23K Minto, Yukon-K 12.21 330 P Pn 11 13 53.4 +0.2
baz=138,SNR=12
F31M Tsiigehtchic 12.24 2 Pn 11 13 53.7 +0.2
F31M Tsiigehtchic 12.24 2 Pn Pn 11 13 53.3 -0.2
F31M Tsiigehtchic 12.24 2 P Pn 11 13 53.5 0.0
baz=183
H25L Birch Creek 12.24 339 P Pn 11 13 54.2 +0.7
baz=149
P17K Kvichak River 12.30 297 P Pn 11 13 52.9 -1.5
baz=100
CHUM Lake Minchumin 12.31 322 P Pn 11 13 54.0 -0.6
baz=127,SNR=48
Q16K King Salmon 12.34 295 P Pn 11 13 53.6 -1.3
baz=97
H24K Noodor Dome 12.35 334 P Pn 11 13 55.6 +0.5
baz=143,SNR=5.8
N18K Kilae Creek 12.37 305 P Pn 11 13 53.4 -2.0
baz=107
F30M Barrier River 12.40 358 Pn Pn 11 13 55.6 -0.2
F30M Barrier River 12.40 358 P Pn 11 13 55.8 0.0
baz=177
L19K White Mountain 12.44 312 P Pn 11 13 55.1 -1.2
baz=115
G26K Porcupine Rive 12.47 344 Pn Pn 11 13 57.0 +0.3
G26K Porcupine Rive 12.47 344 P Pn 11 13 56.5 -0.2
baz=156,SNR=7.3
M18K Stony River 12.60 308 P Pn 11 13 57.0 -1.5
baz=111
K20K Telida 12.67 318 P Pn 11 13 58.8 -0.7
baz=121
YKA Yellowknife Ar 12.71 47 Pn Pn 11 13 58.5 -1.5
comp=E,0.9nm,0.3s,baz=241,slow=13,SNR=59
YKA Lg Lg 11 17 34.3
baz=117,slow=26
YKA LR LR 11 19 37.0
comp=E,362nm,21.7s,baz=245,slow=41
comp=E,14nm,0.9s
G25K Bearman Lake 12.73 340 P Pn 11 14 00.8 +0.6
baz=150
YKAW3 Yellowknife Wh 12.73 47 Pn Pn 11 13 59.0 -1.3
O17K Koliganek Bris 12.73 300 P Pn 11 13 58.5 -1.8
baz=102
YKAW1 Yellowknife Wh 12.75 47 Pn Pn 11 13 59.1 -1.4
H23K Yukon River 12.77 332 P Pn 11 14 01.1 +0.2
baz=139
N17K Nushagak Hills 12.95 303 P Pn 11 14 01.6 -1.6
baz=105
G24K Hadweenzic Riv 12.96 337 P Pn 11 14 04.0 +0.6
baz=146
COR Corvallis 13.01 140 Pn 11 14 09.0 +4.8
NEW Newport 13.02 115 Pn 11 14 06.8 +2.5
NEW Newport 13.02 115 Pn Pn 11 14 05.4 +1.0
comp=E,0.4nm,0.3s,baz=313,slow=12,SNR=43
NEW Lg Lg 11 17 47.7
comp=E,0.2nm,0.3s,baz=353,slow=2.0,SNR=6.7
NEW LR LR 11 19 31.7
comp=E,836nm,18.8s,baz=303,slow=40
comp=E,31nm,0.9s
I21K Tanana 13.03 327 P Pn 11 14 04.8 +0.6
baz=132,SNR=20
HOOD Mount Hood Mea 13.04 134 Pn 11 14 04.6 -0.1
BMAR Burnt Mountain 13.04 343 Pn 11 14 04.7 +0.2
P16K Nushagak River 13.07 296 P Pn 11 14 03.6 -1.3
baz=97
INK Inuvik 13.11 2 Pn Pn 11 14 05.3 -0.1
comp=E,0.3nm,0.3s,baz=181,slow=14,SNR=16
INK Sn Sn 11 16 27.4 -2.7
comp=E,0.2nm,0.3s,baz=176,slow=24,SNR=1.2
INK Lg Lg 11 17 42.4
baz=251,slow=15
INK LR LR 11 19 46.0
comp=E,303nm,21.8s,baz=203,slow=40
comp=E,5.7nm,0.9s
INK Inuvik 13.11 2 Pn Pn 11 14 05.5 +0.1
INK Inuvik 13.11 2 P Pn 11 14 05.0 -0.4
baz=183,SNR=17
J20K Nowinta River 13.14 321 P Pn 11 14 05.0 -0.9
baz=124,SNR=19
O16K Kokwok River B 13.20 299 P Pn 11 14 04.6 -2.1
baz=100
F26K Sheenjek River 13.21 344 Pn Pn 11 14 07.5 +0.6
F26K Sheenjek River 13.21 344 P Pn 11 14 07.6 +0.7
baz=156,SNR=9.3
L18K Granite Mounta 13.24 311 P Pn 11 14 06.6 -0.7
baz=112
TTA Tatalina 13.24 314 Pn 11 14 05.6 -1.7
TTA Tatalina 13.24 314 P Pn 11 14 06.5 -0.9
TTA Tatalina 13.24 314 P Pn 11 14 06.3 -1.0
baz=116,SNR=11
E29M Blow River 13.25 355 Pn Pn 11 14 07.3 0.0
E29M Blow River 13.25 355 P Pn 11 14 07.5 +0.1
baz=172
CHGN Chignik 13.27 284 P Pn 11 14 07.0 -0.6
baz=85
M17K Holitna River 13.30 307 P Pn 11 14 06.8 -1.3
baz=108
H22K Ishtalitna Cre 13.34 330 P Pn 11 14 08.8 +0.3
baz=135,SNR=10
E27K Coleen River 13.34 349 Pn Pn 11 14 08.7 +0.1
E27K Coleen River 13.34 349 P Pn 11 14 09.2 +0.6
baz=163,SNR=6.9
F25K Christian Rive 13.37 342 Pn Pn 11 14 09.7 +0.7
F25K Christian Rive 13.37 342 P Pn 11 14 09.6 +0.5
baz=153
E28M Babbage River 13.56 353 Pn Pn 11 14 11.9 +0.3
E28M Babbage River 13.56 353 P Pn 11 14 12.5 +0.9
baz=168,SNR=17
G23K Bananza Creek 13.58 334 P Pn 11 14 12.9 +1.1
baz=141,SNR=30
J19K Poorman 13.59 318 P Pn 11 14 11.6 -0.5
baz=121,SNR=12
H21K Melozitna River 13.60 327 P Pn 11 14 12.5 +0.4
baz=132,SNR=19
I20K Naaghedeneel 13.62 322 P Pn 11 14 11.4 -0.9
baz=126
N16K Nishlik Lake 13.70 302 P Pn 11 14 12.4 -1.1
baz=102
F24K Squaw Lake 13.74 339 P Pn 11 14 14.9 +0.9
baz=147
J18K Innoko River 13.77 315 P Pn 11 14 14.2 -0.2
baz=117,SNR=20
E25K Arctic Village 13.83 343 Pn Pn 11 14 16.6 +1.3
E25K Arctic Village 13.83 343 P Pn 11 14 16.2 +0.9
baz=154
M16K Timber Creek 13.91 304 P Pn 11 14 14.6 -1.8
baz=104
L17K Donlin 13.92 309 P Pn 11 14 16.0 -0.5
baz=110,SNR=5.1
COLD Coldfoot 14.02 335 Pn Pn 11 14 19.4 +1.5
COLD Coldfoot 14.02 335 P Pn 11 14 19.0 +1.1
baz=142,SNR=21
O15K Ungalikthiuk R 14.03 296 P Pn 11 14 17.1 -0.9
baz=96
K17K Iditarod 14.12 311 P Pn 11 14 18.9 -0.3
baz=112
H20K Anotleneega Mo 14.16 324 P Pn 11 14 19.9 +0.1
baz=127,SNR=14
D28M Stokes Point 14.23 354 Pn Pn 11 14 21.1 +0.4
D28M Stokes Point 14.23 354 P Pn 11 14 22.2 +1.6
baz=171,SNR=15
HSPGA Hill Springs, 14.24 106 Pn Pn 11 14 19.6 -1.5
N15K Kwethluk River 14.29 300 P Pn 11 14 20.7 -0.8
baz=100
D27M Malcolm River 14.30 351 Pn Pn 11 14 22.0 +0.2
D27M Malcolm River 14.30 351 P Pn 11 14 22.5 +0.7
baz=166
L16K Owhat River 14.33 307 P Pn 11 14 21.4 -0.6
baz=106
E24K Your Creek 14.33 339 P Pn 11 14 23.5 +1.3
baz=147
G21K Allakaket 14.39 329 P Pn 11 14 23.7 +0.7
baz=133
GCSA Galena City Sc 14.45 320 P Pn 11 14 22.6 -1.1
baz=121,SNR=10
BSMT Bassoo Peak 14.50 112 Pn Pn 11 14 26.3 +1.6
SDPT Sand Point 14.55 281 P Pn 11 14 25.3 +0.2
SDPT Sand Point 14.55 281 P Pn 11 14 24.2 -1.0
baz=80
E23K Chandalar 14.55 338 P Pn 11 14 26.9 +1.6
baz=145,SNR=15
PINE Pine Mountain 14.59 136 Pn 11 14 28.4 +2.6
M15K Kasigluk River 14.67 302 P Pn 11 14 27.1 +0.4
baz=101
J17K VABM Dome 14.71 313 P Pn 11 14 27.0 -0.2
baz=113
H19K Roundabout Mou 14.72 323 P Pn 11 14 27.6 +0.3
baz=124,SNR=17
F22K John River 14.73 333 P Pn 11 14 28.7 +1.2
baz=138
O14K Tigyukauivet M 14.77 296 P Pn 11 14 27.3 -0.8
baz=95
JTMT Jette 14.83 112 Pn Pn 11 14 28.1 -1.1
F21K Alatna River 14.87 331 P Pn 11 14 30.4 +0.9
baz=135,SNR=14
J05D Fort Rock, OR 14.90 138 Pn 11 14 33.0 +2.9
YBMT Yellow Bay 14.91 111 Pn Pn 11 14 28.7 -1.4
C27K Jago River 14.96 348 Pn Pn 11 14 32.0 +1.5
C27K Jago River 14.96 348 P Pn 11 14 32.4 +1.8
baz=160
C36M Paulatuk 14.96 15 Pn 11 14 28.6 -2.0
C36M Paulatuk 14.96 15 Pn Pn 11 14 28.4 -2.2
C36M Paulatuk 14.96 15 P Pn 11 14 29.1 -1.5
baz=204
TOLK Toolik Lake Re 15.03 339 IAmb IAmb 11 14 48.3
comp=Z,77nm,1.1s
TOLK Toolik Lake Re 15.03 339 P Pn 11 14 32.2 +0.6
baz=146,SNR=21
D25K Kavik River 15.04 344 Pn Pn 11 14 32.8 +1.0
D25K Kavik River 15.04 344 P Pn 11 14 33.1 +1.4
baz=154
N14K Kuskokwak Cree 15.05 299 P Pn 11 14 30.6 -1.1
baz=97
E22K Anaktuvuk Pass 15.12 335 IAmb IAmb 11 14 48.6
comp=Z,63nm,1.1s
E22K Anaktuvuk Pass 15.12 335 P Pn 11 14 33.9 +1.2
baz=140,SNR=44
H18K Honhosa River 15.20 320 IAmb IAmb 11 14 42.0
comp=Z,59nm,1.4s
H18K Honhosa River 15.20 320 P Pn 11 14 33.7 -0.2
baz=120,SNR=8.3
L15K Ungalak Mounta 15.25 306 P Pn 11 14 35.3 +0.9
baz=103,SNR=13
G19K Purcell Mounta 15.28 324 P Pn 11 14 35.1 +0.2
baz=125
M14K Bethel 15.29 302 IAmb IAmb 11 14 46.4
comp=Z,56nm,1.1s
M14K Bethel 15.29 302 P Pn 11 14 34.7 -0.3
baz=100
J16K Anvik River 15.31 312 P Pn 11 14 34.1 -1.1
baz=110
D24K Happy Valley 15.31 341 P Pn 11 14 36.8 +1.5
baz=149
C26K Camden Bay 15.38 347 Pn Pn 11 14 36.9 +0.7
C26K Camden Bay 15.38 347 P Pn 11 14 38.0 +1.9
baz=158,SNR=14
F20K Avaraart Lake 15.40 328 P Pn 11 14 37.7 +1.3
baz=130
K15K Wolf Creek Mou 15.42 308 IAmb IAmb 11 14 45.8
comp=Z,70nm,1.5s
K15K Wolf Creek Mou 15.42 308 P Pn 11 14 37.4 +0.8

baz=106
L04D Klamath Falls 15.43 143 IAmb IAmb 11 14 46.3
comp=Z,91nm,1.0s
D23K Nanushuk River 15.53 338 P **Pn** **11 14 39.3 +1.2**
baz=144
I17K Unalakleet 15.56 314 P **Pn** **11 14 38.8 +0.4**
baz=112
MSO Missoula 15.60 114 **Pn** **11 14 39.8 +0.7**
MSO IAmb IAmb 11 14 46.9
comp=Z,92nm,1.2s
KUKN Kugluktuk,NWT 15.63 29 Pn **Pn** **11 14 36.7 -2.6**
H17K Granite Mounta 15.68 318 P **Pn** **11 14 41.0 +0.9**
baz=117
G18K Tagagawik 15.68 322 P **Pn** **11 14 40.6 +0.5**
baz=122
YBH Yreka Blue Hor 15.72 144 Pn **P** **11 14 43.3 -1.4**
comp=Z,0.2nm,0.3s,baz=358,slow=6.0,SNR=12
YBH LR LR 11 19 52.6
comp=Z,1µm,19.6s,baz=340,slow=34
comp=Z,7.0nm,0.8s
L14K Kuka Creek 15.74 304 P **Pn** **11 14 41.9 +1.1**
baz=101
PLID Pearl Lake 15.76 122 Pn **Pn** **11 14 41.5 +0.1**
PLID IAmb IAmb 11 14 48.2
comp=Z,65nm,1.0s
C24K Franklin Bluff 15.78 342 P **P** **11 14 43.8 -1.2**
baz=150
E21K Killik River 15.88 334 P **Pn** **11 14 43.3 +0.7**
baz=137
D22K Ayikyak River 15.90 336 P **Pn** **11 14 43.8 +0.9**
baz=140,SNR=17
F19K Shaleruckik Mo 15.91 326 P **Pn** **11 14 43.6 +0.6**
baz=126
M13K Dall Lake 15.93 300 P **Pn** **11 14 44.0 +0.7**
baz=97
J08A Circle Bar Ran 15.96 131 IAmb IAmb 11 14 51.3
comp=Z,93nm,1.1s
E19K Redstone River 16.12 328 P **Pn** **11 14 47.0 +1.3**
baz=129
JCC Jacoby Creek, 16.14 149 IAmb IAmb 11 14 50.6
comp=Z,62nm,1.2s
C23K Itkillik River 16.23 340 IAmb IAmb 11 15 00.2
C23K Itkillik River 16.23 340 P **Pn** **11 14 49.0 +1.9**
baz=146,SNR=22
E20K Nigu River 16.34 331 P **Pn** **11 14 50.2 +1.7**
baz=132,SNR=14
F18K Selawik 16.40 324 P **Pn** **11 14 50.0 +0.8**
baz=122
J14K Nanvaranak Lak 16.44 309 IAmb IAmb 11 14 57.3
comp=Z,66nm,1.2s
J14K Nanvaranak Lak 16.44 309 P **Pn** **11 14 49.7 0.0**
baz=104
H16K Elim 16.47 316 P **Pn** **11 14 51.0 +0.9**
baz=112,SNR=8.6
KMPM Mount Pierce 16.48 150 IAmb IAmb 11 14 55.5
comp=Z,116nm,1.1s
C21K Knifeblade Rid 16.61 335 P **P** **11 14 53.6 -0.6**
baz=137
D20K Etivluk River 16.76 332 P **Pn** **11 14 55.1 +1.2**
baz=133
K13K Kusilvak Mount 16.77 306 P **Pn** **11 14 54.1 +0.1**
baz=100
KMRM Mail Ridge 16.79 149 IAmb IAmb 11 14 59.7
comp=Z,93nm,1.2s
G16K Koyuk River 16.81 318 P **Pn** **11 14 53.5 -0.9**
baz=114
F17K Baldwin Pennin 16.87 322 P **Pn** **11 14 55.5 +0.3**
baz=119
B21K Ikpikpuk River 16.91 336 P **Pn** **11 14 55.9 +0.2**
baz=138,SNR=24
HATC Hat Creek Radi 16.97 143 IAmb IAmb 11 15 12.4
comp=Z,60nm,1.1s
D19K Kuna River 17.03 330 IAmb IAmb 11 15 09.2
comp=Z,90nm,1.2s
D19K Kuna River 17.03 330 P **Pn** **11 14 57.9 +0.6**
baz=130,SNR=18
E18K Tukpahlearik C 17.16 325 P **P** **11 15 00.0 -0.2**
baz=123,SNR=26
B22K Teshekpuk Lake 17.20 339 P **P** **11 15 01.5 +0.8**
baz=142
DLMT Dillon 17.27 116 P **Pn** **11 15 01.2 +0.8**
A36M Sachs Harbour 17.29 10 P **Pn** **11 14 59.6 -0.7**
A36M Sachs Harbour 17.29 10 P **Pn** **11 14 60.0 -0.3**
baz=199,SNR=23
G15K Niukluk 17.31 316 P **Pn** **11 15 01.6 +0.8**
baz=111
M11K Mekoryuk 17.34 300 P **Pn** **11 15 00.5 -0.5**
baz=94
E17K Hotham Inlet 17.39 324 P **Pn** **11 15 02.4 +0.8**
baz=120
ANM Nome 17.71 314 P **Pn** **11 15 06.4 +0.7**
baz=108
B20K Meade River 17.80 335 P **Pn** **11 15 07.3 +0.6**
baz=135
F15K North Star Dit 17.81 318 P **Pn** **11 15 07.5 +0.6**
baz=112
C18K Utukok River 18.03 328 P **Pn** **11 15 10.0 +0.4**
baz=125
A22K Sinclair Lake 18.05 339 P **P** **11 15 10.6 +0.6**
baz=141
D17K Noatak River 18.11 325 P **P** **11 15 11.7 +0.9**
baz=120,SNR=10.0
RDOG Red Dog Mine 18.24 326 P **Pn** **11 15 12.2 +0.1**
baz=121
UNV Unalaska Valle 18.31 279 P **P** **11 15 12.5 -0.5**
baz=73
YHL Hebgen Lake 18.35 115 IAmb IAmb 11 15 17.2
comp=Z,99nm,1.0s
F14K Arctic Creek 18.39 316 P **Pn** **11 15 14.8 +0.9**
baz=109
C17K DeLong Mountai 18.54 327 P **Pn** **11 15 16.4 +0.6**
baz=122,SNR=9.5
YMR Madison River 18.59 115 IAmb IAmb 11 15 20.2
comp=Z,48nm,0.8s
B18K Kokolik River 18.62 330 P **Pn** **11 15 17.2 +0.5**
baz=126
A21K Barrow 18.64 338 P **Pn** **11 15 17.3 +0.3**
baz=139,SNR=7.9
PAHR Pah Rah Range 18.69 140 IAmb IAmb 11 15 23.7
comp=Z,66nm,1.3s
YNE Yellowstone No 18.86 113 IAmb IAmb 11 15 23.3
comp=Z,42nm,0.9s
A19K Wainwright 18.93 332 P **Pn** **11 15 20.8 +0.3**
baz=129,SNR=5.9
LKWY Lake 18.95 114 IAmb IAmb 11 15 25.0
comp=Z,61nm,0.8s
YMP Mirror Lake Pl 18.96 113 IAmb IAmb 11 15 24.1
comp=Z,76nm,1.3s
H17A Grant Village 18.98 115 IAmb IAmb 11 15 25.5
comp=Z,61nm,1.0s
TNA Tin City 19.04 316 P **Pn** **11 15 21.9 0.0**
baz=107,SNR=9.7
C16K Lisburne Hills 19.14 325 P **P** **11 15 22.3 +0.3**
baz=118,SNR=25
PNTR Pine Nut 19.16 141 IAmb IAmb 11 15 27.9
comp=Z,36nm,0.7s
P08K Saint George I 19.34 288 P **P** **11 15 24.1 -0.3**
baz=80
TPAW Teton Pass 19.42 117 IAmb IAmb 11 15 31.2
comp=Z,49nm,1.1s
ELK Elko 19.49 130 P **Pn** **11 15 29.1 +1.5**
comp=Z,11nm,0.7s,baz=317,slow=12,SNR=55
ELK LR LR 11 23 10.9
comp=Z,769nm,20.3s,baz=331,slow=38
LOHW Long Hollow 19.51 117 IAmb IAmb 11 15 32.3
comp=Z,85nm,1.4s
SPIA Saint Paul Isl 19.62 290 P **P** **11 15 26.9 -0.5**
baz=81
WAKR Walker 19.73 142 IAmb IAmb 11 15 35.5
comp=Z,52nm,1.0s
LAO LASA Array 19.86 104 IAmb IAmb 11 15 34.7
comp=Z,70nm,1.1s
AHID Auburn Hatcher 19.87 119 IAmb IAmb 11 15 36.8
comp=Z,87nm,1.5s
RYN Ryan 19.95 140 IAmb IAmb 11 15 37.8
comp=Z,36nm,1.1s
DGMT Dagmar 20.02 97 P **P** **11 15 32.6 +0.8**
NVAR Mina Array Bea 20.21 140 P **P** **11 15 35.5 +1.4**
NVAR Mina Array Bea 20.21 140 P Pn 11 15 36.6 +0.4
comp=Z,15nm,0.9s,baz=320,slow=11,SNR=68
NVAR PcP **PcP** **11 19 49.6 +1.9**
comp=Z,1.4nm,0.7s,baz=310,slow=2.1,SNR=6.1
NVAR LR LR 11 22 49.7
comp=Z,646nm,20.7s,baz=340,slow=35
comp=Z,15nm,0.9s
NV11 Mina Array Sit 20.26 139 P **P** **11 15 35.4 +0.7**
NV11 IAmb IAmb 11 15 39.3
comp=Z,55nm,1.1s
LHV Little Huntoon 20.29 140 IAmb IAmb 11 15 38.9
comp=Z,42nm,1.0s
HWUT Hardware Ranch 20.51 122 IAmb IAmb 11 15 44.1
comp=Z,49nm,0.8s
PD31 Pinedale Array 20.65 117 IAmb IAmb 11 15 44.7
comp=Z,36nm,0.8s
PDAR Pinedale Array 20.65 117 P **P** **11 15 39.7 +0.8**
PDAR Pinedale Array 20.65 117 P **P** **11 15 40.4 +1.4**
comp=Z,35nm,0.9s,baz=308,slow=5.1,SNR=79
PDAR PcP **PcP** **11 19 48.6 +0.2**
comp=Z,0.4nm,0.6s,baz=329,slow=2.8,SNR=2.4
PDAR Lg Lg 11 21 54.3
baz=27,slow=34,SNR=1.8
PDAR LR LR 11 23 50.4
comp=Z,390nm,18.1s,baz=312,slow=37
comp=Z,35nm,0.9s
BBGB Big Mountain B 20.95 147 IAmb IAmb 11 15 50.8
comp=Z,53nm,0.8s
MZP Montezuma Peak 21.20 139 IAmb IAmb 11 15 48.2
comp=Z,68nm,1.2s
BLKN Baker Lake 21.22 49 P **P** **11 15 43.7 -0.9**
SPR3 Spring Creek 3 21.32 131 IAmb IAmb 11 15 54.6
comp=Z,54nm,1.3s
R11B Troy Canyon, C 21.34 134 IAmb IAmb 11 15 52.0
comp=Z,37nm,1.0s
BSUT Blindstream Ca 21.72 123 IAmb IAmb 11 15 53.3
comp=Z,35nm,0.8s
PSUT Pine Spring 21.91 131 IAmb IAmb 11 15 56.6
comp=Z,87nm,1.5s
FCC Fort Churchill 22.24 64 P **P** **11 15 56.0 +0.5**
FCC Fort Churchill 22.24 64 P **P** **11 15 55.5 -0.1**
WCT Wildcat Mounta 22.28 138 IAmb IAmb 11 16 01.0
comp=Z,56nm,1.2s
K22A Casper 22.31 113 IAmb IAmb 11 15 59.0
comp=Z,77nm,1.3s
PRN Pahroc Range 22.37 135 IAmb IAmb 11 16 01.8
comp=Z,46nm,1.1s
TCRU Three Creeks R 22.47 129 IAmb IAmb 11 16 02.6
comp=Z,30nm,0.8s
P18A Preston Nutter 22.67 123 IAmb IAmb 11 16 06.8
comp=Z,32nm,1.1s
GWY Greenwater Val 22.80 139 IAmb IAmb 11 16 06.6
comp=Z,59nm,1.2s
Q16A Castle Valley 22.80 126 IAmb IAmb 11 16 05.7
comp=Z,67nm,1.3s
SRU San Rafael Swe 22.95 125 IAmb IAmb 11 16 07.6
comp=Z,22nm,0.8s
BCW Bitter Crk WRg 22.97 146 IAmb IAmb 11 16 24.4
comp=Z,29nm,1.1s
O20A White River Ci 23.26 119 IAmb IAmb 11 16 09.1
comp=Z,39nm,1.1s
LCMT Little Creek M 23.45 132 IAmb IAmb 11 16 11.9
comp=Z,26nm,1.0s
PKCU Pink Cliffs 23.49 130 IAmb IAmb 11 16 14.2
comp=Z,26nm,1.1s
GSC Goldstone, Bar 23.54 141 IAmb IAmb 11 16 14.1
comp=Z,51nm,1.1s
KNB Kanab 23.63 131 IAmb IAmb 11 16 13.8
comp=Z,39nm,1.2s
ULM Lac du Bonnet 23.91 86 P **P** **11 16 12.4 -0.2**
comp=Z,7.7nm,0.7s,baz=298,slow=9.8,SNR=21
ULM Lg Lg 11 23 29.7
comp=Z,0.2nm,0.3s,baz=188,slow=18,SNR=3.5
ULM LR LR 11 25 37.0
comp=Z,475nm,21.9s,baz=302,slow=37
comp=Z,7.7nm,0.7s
ULM Lac du Bonnet 23.91 86 P **P** **11 16 12.2 -0.4**
PASC Pasadena Art C 24.07 144 IAmb IAmb 11 16 17.9
comp=Z,39nm,1.2s
PV10 Paradox Valley 24.24 123 IAmb IAmb 11 16 20.8
comp=Z,50nm,1.1s
U15A North Rim 24.36 131 IAmb IAmb 11 16 23.3
comp=Z,28nm,1.2s
PV07 Paradox Valley 24.38 123 IAmb IAmb 11 16 20.3
comp=Z,52nm,1.0s
PV11 David Mesa, Pa 24.38 123 IAmb IAmb 11 16 19.8
comp=Z,38nm,0.8s
PV13 Radium Mtn., P 24.52 123 IAmb IAmb 11 16 21.6
comp=Z,44nm,0.9s
ELS Elsinore Mount 24.81 143 IAmb IAmb 11 16 24.8
comp=Z,40nm,1.0s
W13A Hualapai Mount 24.83 136 IAmb IAmb 11 16 26.6
comp=Z,36nm,0.9s
RES Resolute Bay 24.90 24 P **P** **11 16 22.3 +0.8**
RES Resolute Bay 24.90 24 P **P** **11 16 22.7 +1.2**
comp=Z,1.6nm,0.5s,baz=240,slow=9.9,SNR=20
RES LR LR 11 27 08.0
comp=Z,137nm,18.6s,baz=316,slow=39
comp=Z,1.6nm,0.5s
RES Resolute Bay 24.90 24 P **P** **11 16 22.2 +0.8**
BRIGG Briggsdale 24.94 113 IAmb IAmb 11 16 26.2
comp=Z,40nm,0.9s
PFO Pinyon Flats O 25.18 142 P **P** **11 16 25.1 +0.6**
PFO IAmb IAmb 11 16 28.5
comp=Z,37nm,1.1s
PFO Pinyon Flats O 25.18 142 LR LR 11 25 57.1
comp=Z,322nm,18.8s,baz=326,slow=36
EPLO Experimental L 25.40 85 P **P** **11 16 26.4 +0.2**
WUAZ Wupatki 25.52 131 IAmb IAmb 11 16 30.8
comp=Z,47nm,1.1s
BLYC Blythe 25.77 138 IAmb IAmb 11 16 32.9
comp=Z,27nm,1.0s
F33A 5 Mile Ranch, 25.96 95 IAmb IAmb 11 16 42.9
comp=Z,20nm,0.8s
SOLO Sioux Lookout 26.17 84 P **P** **11 16 33.3 0.0**
Y14A Wickenburg 26.20 135 IAmb IAmb 11 16 39.3
comp=Z,44nm,1.1s
YUH Yuha Desert 26.24 142 IAmb IAmb 11 16 39.3
comp=Z,15nm,0.9s
CBX Cerro Bola 26.29 143 IAmb IAmb 11 16 37.9
comp=Z,37nm,0.9s
X16A Lo Mia Camp, P 26.43 132 IAmb IAmb 11 16 39.2
comp=Z,17nm,1.0s
113A Mohawk Valley, 26.93 138 IAmb IAmb 11 16 43.0
comp=Z,16nm,0.9s
X18A Snowflake 26.98 130 IAmb IAmb 11 16 43.9
comp=Z,31nm,1.1s
ECSD EROS Data Cent 27.05 99 IAmb IAmb 11 16 53.8
comp=Z,22nm,0.9s
ANMO Albuquerque 28.23 124 P **P** **11 16 52.1 +0.1**
ANMO Albuquerque 28.23 124 LR LR 11 29 03.8
comp=Z,329nm,18.1s,baz=129,slow=38
TUC Tucson 28.52 134 P **P** **11 16 54.6 +0.1**
TUC IAmb IAmb 11 16 58.2
comp=Z,25nm,1.2s
CBKS Cedar Bluff 28.66 110 IAmb IAmb 11 16 57.7
comp=Z,30nm,0.8s
Y22D IRIS PASSCAL I 28.73 126 IAmb IAmb 11 17 04.3
comp=Z,22nm,0.9s
RTBA Rita Blanca 28.87 117 IAmb IAmb 11 16 60.0
comp=Z,18nm,1.1s
EUNU Eureka 29.14 16 P **P** **11 17 02.8 +3.3**
BILL Bilibino 29.41 319 P **P** **11 17 01.4 -0.5**
SHEM Shemya Is, Ala 29.55 287 LR LR 11 27 19.8
comp=Z,173nm,20.3s,baz=101,slow=33
I40A Norwalk 30.36 93 IAmb IAmb 11 17 20.3
comp=Z,7.2nm,0.7s
EPT El Paso 30.84 128 IAmb IAmb 11 17 18.0
comp=Z,14nm,0.9s
L40A Anamosa 31.17 97 IAmb IAmb 11 17 27.5
comp=Z,13nm,1.0s
HSIG 31.36 137 IAmb IAmb 11 17 22.9
comp=Z,24nm,1.0s
VHRN Van Horn 32.37 127 IAmb IAmb 11 17 32.0
comp=Z,18nm,1.1s
ODSA Odessa 32.41 122 IAmb IAmb 11 17 32.0
comp=Z,35nm,1.5s
DEOK Depew 32.59 110 IAmb IAmb 11 17 31.9
comp=Z,16nm,0.9s
FRB Frobisher Bay 33.22 48 LR LR 11 30 49.2
comp=Z,160nm,19.7s,baz=302,slow=36
ALPN Alpine 33.34 125 IAmb IAmb 11 17 39.6
comp=Z,9.1nm,0.8s
CCM Cathedral Cave 33.87 102 P **P** **11 17 41.4 0.0**
CCM Cathedral Cave 33.87 102 P **P** **11 17 41.3 -0.1**
CCM pP **pwP** **11 17 50.0 -0.5**
CCM PcP **PcP** **11 20 19.9 +0.3**
FW03 Perrin-Whitt E 33.92 116 IAmb IAmb 11 17 43.8
comp=Z,20nm,0.9s
MGMO Mountain Grove 33.94 104 P **P** **11 17 42.0 -0.1**
MGMO IAmb IAmb 11 17 42.5
comp=Z,24nm,1.2s
OZNA Ozona 34.08 122 IAmb IAmb 11 17 44.8
comp=Z,11nm,0.9s
TX31 Lajitas Ar. Si 34.20 126 IAmb IAmb 11 17 47.7
comp=Z,16nm,0.8s
TXAR Lajitas Array 34.20 126 P **P** **11 17 46.0 +1.5**
TXAR Lajitas Array 34.20 126 P **P** **11 17 46.5 +2.0**
comp=Z,10.0nm,0.7s,baz=327,slow=7.1,SNR=138
TXAR PcP **PcP** **11 20 21.6 +0.7**
comp=Z,1.7nm,0.7s,baz=47,slow=0.9,SNR=17
TXAR LR LR 11 33 00.1
comp=Z,235nm,18.9s,baz=338,slow=39
comp=Z,10.0nm,0.7s
FVM French Village 34.38 101 IAmb IAmb 11 17 47.3
comp=Z,23nm,1.0s
SAND Sanderson 34.40 124 IAmb IAmb 11 17 48.1
comp=Z,9.2nm,1.0s
KULLO Kullorsuaq 34.64 27 *i* P P 11 17 55.5 +7.9
KULLO IAmb IAmb 11 17 59.0
comp=Z,11nm,0.7s
T42A Van Buren 34.68 103 IAmb IAmb 11 17 48.4
comp=Z,14nm,0.8s
BRDY Brady 34.84 119 IAmb IAmb 11 17 51.6
comp=Z,12nm,1.3s
FCAR Ozark Folk Cen 34.93 106 IAmb IAmb 11 17 50.9
comp=Z,20nm,1.2s
JCT Junction City 35.09 120 IAmb IAmb 11 17 53.9
comp=Z,10nm,0.8s
PBMO Poplar Bluff 35.23 103 P **P** **11 17 52.8 -0.5**
PBMO IAmb IAmb 11 17 53.4
comp=Z,18nm,0.9s
WHAR Wooly Hollow 35.28 107 IAmb IAmb 11 17 54.1
comp=Z,26nm,1.3s
CGM3 Cape Girardeau 35.29 101 IAmb IAmb 11 17 53.6
comp=Z,8.8nm,0.7s
LCAR Lake Charles 35.34 104 IAmb IAmb 11 17 54.7
comp=Z,17nm,1.0s
VLDQ Val d'Or 35.41 77 P **P** **11 17 54.1 -0.5**
VLDQ IAmb IAmb 11 17 54.4
comp=Z,9.3nm,0.8s
NEEM North Greenlan 35.55 22 *i* P P 11 18 01.3 +5.3
NEEM IAmb IAmb 11 18 06.9
comp=Z,18nm,0.8s
O48B Farmland 35.81 94 IAmb IAmb 11 18 07.1
comp=Z,9.3nm,0.8s
LPIG La Paz 36.03 140 LR LR 11 34 35.9
comp=Z,242nm,18.1s,baz=346,slow=39
HNDO Hondo 36.13 121 IAmb IAmb 11 18 02.9
comp=Z,16nm,1.1s
SADO Sadowa 36.39 83 IAmb IAmb 11 18 15.8
comp=Z,17nm,1.2s
SADO Sadowa 36.39 83 LR LR 11 33 16.8
comp=Z,336nm,18.2s,baz=260,slow=37
WCI Wyandotte Cave 36.54 97 P **P** **11 18 04.0 -0.4**
WCI IAmb IAmb 11 18 14.2
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 36.54 97 P **P** **11 18 04.5 +0.1**
WCI pP **pwP** **11 18 13.0 -0.5**
WCI sP **sP** **11 18 16.3 +2.1**
WCI PcP **PcP** **11 20 27.9 +0.4**
N51A Ashland 36.97 90 IAmb IAmb 11 18 10.5
comp=Z,22nm,1.2s
WVT Waverly 37.15 101 P **P** **11 18 09.5 -0.2**
WVT Waverly 37.15 101 P **P** **11 18 09.5 -0.2**
WVT pP **pwP** **11 18 18.5 -0.2**
WVT PcP **PcP** **11 20 29.3 0.0**
DELO Deloro Mine 37.41 82 IAmb IAmb 11 18 24.2
comp=Z,12nm,1.0s
SCHQ Schefferville 37.58 62 IAmb IAmb 11 18 23.8
comp=Z,24nm,1.2s
SCHQ Schefferville 37.58 62 P **P** **11 18 13.7 +0.6**
comp=Z,8.9nm,0.9s,baz=307,slow=8.0,SNR=9.0
SCHQ LR LR 11 34 57.3
comp=Z,75nm,19.4s,baz=330,slow=38
comp=Z,8.9nm,0.9s
PLAL Pickwick Lake 37.84 103 IAmb IAmb 11 18 16.4
comp=Z,20nm,0.7s
N53A Lisbon 37.92 89 IAmb IAmb 11 18 17.4
comp=Z,24nm,1.3s
U49A Red Boiling Sp 38.03 99 IAmb IAmb 11 18 18.2
comp=Z,8.5nm,0.8s
O53A New Philadelph 38.07 90 IAmb IAmb 11 18 19.1
comp=Z,31nm,1.3s
PETK Petropavlovsk- 38.12 296 P **P** **11 18 19.2 +1.5**
comp=Z,6.4nm,0.9s,baz=67,slow=10,SNR=7.3
PETK LR LR 11 35 09.8
comp=Z,71nm,18.2s,baz=82,slow=38
comp=Z,6.4nm,0.9s
MA2 Magadan 38.33 308 P **P** **11 18 20.1 +0.7**
MA2 IAmb IAmb 11 18 23.0
comp=Z,18nm,1.1s
MA2 Magadan 38.33 308 LR LR 11 33 55.0
comp=Z,94nm,18.2s,baz=77,slow=36
MA2 Magadan 38.33 308 P **P** **11 18 21.9 +2.6**
VBMS Vicksburg 38.56 108 IAmb IAmb 11 18 22.9
comp=Z,24nm,0.8s
LDAQ Lac Daran 38.93 73 P **P** **11 18 25.4 +0.8**
LDAQ IAmb IAmb 11 18 34.8
comp=Z,25nm,1.1s
J57A Williamstown 39.01 82 IAmb IAmb 11 18 27.1
comp=Z,23nm,1.2s
LONY Lake Ozonia 39.06 80 IAmb IAmb 11 18 27.4
comp=Z,16nm,1.1s
SFJD Kangerlussuaq 39.06 38 LR LR 11 33 08.1
comp=Z,176nm,21.3s,baz=294,slow=34
NCB Newcomb 39.66 80 IAmb IAmb 11 18 41.9
comp=Z,18nm,1.1s
TKL Tuckaleechee C 39.78 98 LR LR 11 34 36.5
comp=Z,394nm,20.0s,baz=318,slow=36
BINY Binghamton 39.79 84 IAmb IAmb 11 18 44.2
comp=Z,20nm,1.1s
Q56A Snyder Ridge, 40.04 90 IAmb IAmb 11 18 35.1
comp=Z,28nm,1.3s
ICQ Pointe Anglais 40.18 69 P **P** **11 18 34.8 -0.1**
N58A Sunbury 40.26 86 P **P** **11 18 35.4 -0.2**
N58A IAmb IAmb 11 18 45.9
comp=Z,17nm,1.0s
U54A Nelsons Funny 40.28 95 P **P** **11 18 35.6 -0.3**
U54A IAmb IAmb 11 18 59.6
comp=Z,33nm,1.5s
SUMG Summit 40.31 28 P **P** **11 18 37.0 +0.8**
SUMG IAmb IAmb 11 18 47.7
comp=Z,31nm,1.0s
SUMG Summit 40.31 28 *i* P **P** **11 18 38.2 +2.0**
SUMG IAmb IAmb 11 18 47.2
comp=Z,23nm,0.8s
V53A Saluda 40.32 97 P **P** **11 18 36.4 +0.1**
ZAIG Zacatecas 40.36 130 P **P** **11 18 39.3 +2.3**
BLA Blacksburg 40.59 93 IAmb IAmb 11 18 40.1
comp=Z,32nm,1.2s
TIXI Tiksi 40.71 331 P **P** **11 18 39.8 +0.8**
TIXI Tiksi 40.71 331 LR LR 11 36 41.6
comp=Z,211nm,21.6s,baz=14,slow=38
GOGA Godfrey 41.59 100 P **P** **11 18 46.1 -0.6**
HODGE Hodges 41.67 98 IAmb IAmb 11 18 48.5
comp=Z,19nm,1.2s
ICESG Greenland Ices 41.71 32 *i* P **P** **11 18 49.4 +1.7**
ICESG IAmb IAmb 11 18 51.0
comp=Z,22nm,0.6s
DAG Danmarks Havn 42.30 18 *i* P **P** **11 18 52.0 0.0**
DAG IAmb IAmb 11 18 53.8
comp=Z,3.6nm,0.5s
SPITS Spitsbergen Ar 45.67 8 LR LR 11 39 02.0
comp=Z,204nm,20.3s,baz=300,slow=37
YAK Yakutsk 45.77 319 LR LR 11 39 51.4
comp=Z,259nm,18.4s,baz=58,slow=38
JMIC Jan Mayen 48.44 21 LR LR 11 40 47.2
comp=Z,135nm,21.8s,baz=321,slow=37
CMIG Matias Romero 48.79 125 LR LR 11 42 11.5
comp=Z,83nm,18.3s,baz=324,slow=38
TEIG Tepich 49.38 116 P **P** **11 19 47.5 -0.9**
TEIG Tepich 49.38 116 P **P** **11 19 49.4 +1.0**
ASAJ Asahikawa 51.50 294 LR LR 11 41 42.3
comp=Z,106nm,19.2s,baz=151,slow=36
KLR Kul'dur 53.33 305 P **P** **11 20 19.6 +1.8**
comp=Z,2.4nm,0.9s,baz=26,slow=8.4,SNR=5.1
KLR LR LR 11 44 23.1
comp=Z,117nm,18.5s,baz=22,slow=38
comp=Z,2.4nm,0.9s
HEH HeiHe 54.59 309 *e*P **P** **11 20 28.0 +1.1**
HEH pmax pmax
comp=Z,12nm,0.9s
ARCES ARCESS Array B 54.70 8 LR LR 11 44 34.5
comp=Z,132nm,20.2s,baz=322,slow=37
CHIV Chivirico 55.94 105 IAmb IAmb 11 20 38.6
comp=Z,31nm,1.0s
H11N2 WAKE ISLAND Hy 56.00 255 T T 12 21 35.9
baz=36,slow=76,SNR=3347
H11N3 WAKE ISLAND Hy 56.00 255 T T 12 22 00.0
baz=36,slow=76,SNR=4101
H11N1 WAKE ISLAND Hy 56.02 255 T T 12 21 37.2
baz=36,slow=76,SNR=381
USRK Ussuriysk Ar. 56.82 301 LR LR 11 46 52.4

comp=Z,80nm,18.8s,baz=55,slow=38
MDJ Mudanjiang 57.68 303 P P 11 20 47.0 -2.1
MDJ pmax pmax
comp=Z,11nm,2.3s
MJAR Matsushiro Arr 59.27 291 P P 11 21 01.4 +1.1
comp=Z,1.7nm,0.7s,baz=353,slow=6.9,SNR=5.6
MJAR LR LR 11 46 01.4
comp=Z,75nm,20.6s,baz=60,slow=36
comp=Z,1.7nm,0.7s
JTS Las Juntas de 59.46 119 LR LR 11 50 39.5
comp=Z,172nm,18.2s,baz=293,slow=40
CN2 Changchun 60.27 305 *eP* **P 11 21 07.9 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
JHJ Hachijo jima 2 60.99 287 LR LR 11 45 40.3
comp=Z,27nm,20.2s,baz=85,slow=34
NB2 NORSAR Subarra 60.99 18 P P 11 21 22.3 +11
comp=Z,7.6nm,1.0s,baz=338,slow=6.9
NOA NORSAR Array B 60.99 18 P P 11 21 12.0 +0.3
comp=Z,1.6nm,0.9s,baz=339,slow=6.9,SNR=6.9
NOA LR LR 11 49 26.5
comp=Z,153nm,18.4s,baz=350,slow=38
comp=Z,1.6nm,0.9s
HFS Hagfors 62.27 17 P P 11 21 21.2 +0.9
comp=Z,6.4nm,1.0s,baz=22,slow=4.8,SNR=4.6
HFS LR LR 11 49 56.9
comp=Z,208nm,18.5s,baz=332,slow=38
comp=Z,6.4nm,1.0s
FINES FINESS Array B 62.67 10 P P 11 21 23.2 +0.3
comp=Z,3.2nm,0.9s,baz=158,slow=6.2,SNR=4.2
FINES LR LR 11 50 40.3
comp=Z,140nm,19.3s,baz=330,slow=38
comp=Z,3.2nm,0.9s
SJG San Juan 63.21 97 LR LR 11 50 07.0
comp=Z,102nm,19.3s,baz=323,slow=37
KSRS Korea Array 63.93 298 P P 11 21 33.1 +1.5
comp=Z,1.6nm,0.9s,baz=38,slow=7.5,SNR=5.7
KSRS LR LR 11 50 06.7
comp=Z,41nm,19.4s,baz=50,slow=37
comp=Z,1.6nm,0.9s
JCJ Chichijima 64.26 281 LR LR 11 45 57.3
comp=Z,61nm,21.7s,baz=100,slow=33
SONM Songino Array 65.13 319 P P 11 21 41.8 +2.3
comp=Z,0.5nm,0.7s,baz=49,slow=4.5,SNR=3.8
SONM LR LR 11 51 49.3
comp=Z,218nm,18.9s,baz=23,slow=38
comp=Z,0.5nm,0.7s
JNU Nakatsue 65.77 293 LR LR 11 48 55.8
comp=Z,61nm,21.6s,baz=42,slow=35
ZAA0 Zalesovo Array 66.36 336 P P 11 21 46.1 -1.0
ZAA0 IAmb IAmb 11 21 56.5
comp=Z,9.6nm,1.1s
ZALV Zalesovo Beam 66.36 336 P P 11 21 46.2 -0.9
ZALV Zalesovo Beam 66.36 336 P P 11 21 48.1 +1.0
comp=Z,1.9nm,0.6s,baz=16,slow=6.9,SNR=9.7
ZALV LR LR 11 54 46.1
comp=Z,135nm,20.2s,baz=23,slow=40
comp=Z,1.9nm,0.6s
KIRV Kirov 66.45 358 LR LR 11 55 43.8
comp=Z,80nm,18.1s,baz=356,slow=40
ARTI Arti 68.19 352 P P 11 21 59.3 +0.6
ARTI Arti 68.19 352 LR LR 11 52 51.2
comp=Z,112nm,21.7s,baz=350,slow=37
ARTI Arti 68.19 352 P P 11 21 59.0 +0.3
ARTI pP **pwP 11 22 07.6 +1.2**
ARTI sP **sP 11 22 11.5 +2.2**
HHC Hu-ho-hao-te 68.85 312 *eP* **P 11 22 01.8 -1.5**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,6.0s
HHC LR LR
comp=N,150nm,15.3s
HHC LR LR
comp=E,210nm,16.1s
HHC LR LR
comp=Z,220nm,15.3s
RUSC La Rusia 69.35 110 P P 11 22 06.7 -0.4
ROSC El Rosal 69.57 112 P P 11 22 09.3 +0.9
comp=Z,11nm,0.4s,baz=56,slow=22,SNR=5.2
ROSC LR LR 11 56 58.4
comp=Z,43nm,18.6s,baz=14,slow=40
comp=Z,11nm,0.4s
BRVK Borovoye 70.06 344 P P 11 22 10.3 0.0
BRVK IAmb IAmb 11 22 20.0
comp=Z,5.9nm,0.8s
BRVK Borovoye 70.06 344 P P 11 22 11.3 +0.9
BRVK pP **pwP 11 22 19.6 -0.6**
BRVK sP **sP 11 22 23.8 +3.3**
BVAR Borovoye Array 70.08 344 P P 11 22 11.2 +0.8
comp=Z,1.4nm,0.6s,baz=2.5,slow=4.7,SNR=7.4
BVAR LR LR 11 56 13.1
comp=Z,151nm,19.5s,baz=22,slow=39
comp=Z,1.4nm,0.6s
HNS HongShan 70.31 308 ⇑P **P 11 22 14.6 +2.5**
PCRV Puerto La Cruz 70.47 101 LR LR 11 52 28.5
comp=Z,151nm,22.0s,slow=35
KURK Kurchatov 70.76 338 P P 11 22 14.9 +0.3
KURK IAmb IAmb 11 22 24.2
comp=Z,11nm,1.1s
KURK Kurchatov 70.76 338 P P 11 22 14.7 0.0
KURK pP **pwP 11 22 23.7 -0.7**
KURK sP **sP 11 22 27.9 +3.1**
KURK PcP **PcP 11 22 35.0 -0.4**
KURBB Kurchatov Arra 70.87 338 P P 11 22 16.2 +0.8
comp=Z,29nm,0.3s,baz=20,slow=5.7,SNR=5.8
KURBB LR LR 11 55 32.0
comp=Z,156nm,20.8s,baz=174,slow=38
OTAV Otavalo 71.35 118 P P 11 22 19.5 +0.3
OTAV IAmb IAmb 11 22 22.6
comp=Z,14nm,1.4s
FLOC Florencia 71.63 115 P P 11 22 21.4 +1.0
BELG Belogornoye 72.69 358 LR LR 12 00 03.9
comp=Z,55nm,18.0s,baz=30,slow=40
NJ2 Nanjing 72.73 301 *eP* **P 11 22 26.1 -0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VRAC Vranov 73.10 19 LR LR 11 57 46.2
comp=Z,90nm,18.6s,baz=333,slow=38
MI28 Mi28,Pidlybu 73.18 11 P P 11 22 27.2 -2.0
COHC Cochancay 73.27 121 P P 11 22 30.8 +0.6
GUMO Guam 73.40 270 LR LR 11 48 30.7
comp=Z,42nm,19.5s,baz=78,slow=31
AK21 Malin Array Si 73.49 11 P P 11 22 28.4 -2.6
AK20 Malin Array Si 73.52 11 P P 11 22 30.1 -1.1
AK20 pP **pP 11 22 33.7 -4.9**
AK04 Malin Array Si 73.55 10 P P 11 22 30.9 -0.5
AK03 Malin Array Si 73.55 10 P P 11 22 30.9 -0.5
AK03 pP **pP 11 22 33.7 -5.1**
AKASG Malin Array Be 73.58 10 P P 11 22 31.8 +0.3
comp=Z,1.9nm,0.6s,baz=354,slow=5.8,SNR=9.4
AKASG LR LR 11 55 55.8
comp=Z,203nm,20.0s,baz=329,slow=37
comp=Z,1.9nm,0.6s
AKBB Malin Array Si 73.58 10 P P 11 22 31.6 0.0
AKBB IAmb IAmb 11 22 47.3
comp=Z,7.9nm,0.9s
AKBB Malin Array Si 73.58 10 P P 11 22 29.4 -2.1
KIEV Kiev 73.58 10 P P 11 22 29.3 -2.3
comp=Z,45nm,1.0s
AK01 Malin Array Si 73.59 10 P P 11 22 29.7 -1.9
AK01 pP **pP 11 22 34.2 -4.8**
MK31 Makanchi Array 73.60 334 P P 11 22 31.9 +0.2
MKAR Makanchi Array 73.60 334 P P 11 22 31.9 +0.2
MKAR Makanchi Array 73.60 334 P P 11 22 32.9 +1.1
comp=Z,1.4nm,0.6s,baz=47,slow=6.2,SNR=21
MKAR LR LR 11 59 01.3
comp=Z,218nm,19.2s,baz=11,slow=39
comp=Z,1.4nm,0.6s
PPT Papeete 73.61 195 LR LR 11 47 01.2
comp=Z,85nm,20.1s,baz=330,slow=29
MAKZ Makanchi 73.66 335 P P 11 22 32.5 +0.3
MAKZ IAmb IAmb 11 22 41.8
comp=Z,18nm,1.1s
DAVOX Davos/Dischmat 74.08 24 LR LR 11 56 07.3
comp=Z,158nm,18.3s,baz=257,slow=37
MODS Modra-Piesok 74.12 19 *eP* **P 11 22 39.1 +4.3**
LUBAR Lubar, Ukraine 74.19 12 P P 11 22 34.3 -0.8
TUE Stuetta 74.24 25 P P 11 22 33.5 -2.3
comp=Z,28nm,2.1s
HOLU Holmets 74.84 15 P P 11 22 36.9 -2.0
WMQ Urumqi 74.89 330 *eP* **P 11 22 39.9 +0.5**
WMQ LR LR
comp=Z,120nm,24.7s
ABKAR Akbulak array 75.12 350 P P 11 22 40.8 +0.3
XAN Xi'an 75.70 310 *eP* **P 11 22 42.8 -1.4**
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN LR LR
comp=N,310nm,15.8s
XAN LR LR
comp=E,470nm,16.5s
XAN LR LR
comp=Z,330nm,15.1s
LZH Lanzhou 76.10 315 *eP* P 11 22 41.7 -4.9
LZH sP pP 11 22 53.9 -0.2
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=N,280nm,15.1s
LZH LR LR
comp=E,230nm,14.4s
LZH LR LR
comp=Z,310nm,15.3s
BURAR Bucovina Array 76.14 14 P P 11 22 47.3 +0.8
ESDC Sonseca Array 76.59 37 P P 11 22 49.2 0.0
ESDC Sonseca Array 76.59 37 P P 11 22 50.0 +0.9
comp=Z,3.5nm,0.9s,baz=326,slow=5.4,SNR=16
ESDC LR LR 11 55 53.8
comp=Z,113nm,18.2s,baz=334,slow=35
comp=Z,3.5nm,0.9s
ATAH Atahualpa 77.74 122 LR LR 11 57 11.2
comp=Z,138nm,21.6s,baz=347,slow=36
MLR Muntele Rosu 78.32 14 LR LR 11 58 06.3
comp=Z,235nm,19.9s,baz=356,slow=36
BOAV Boa Vista 79.15 102 P P 11 23 04.4 +0.8
BOAV IAmb IAmb 11 23 05.6
comp=Z,7.0nm,1.0s
AAK Ala-Archa 79.32 338 LR LR 12 02 36.7
comp=Z,196nm,18.4s,baz=16,slow=39
CZSB Cruzeiro do Su 81.07 117 P P 11 23 14.0 +0.1
KBZ Khabaz 81.37 2 P P 11 23 16.6 +1.4
comp=Z,1.7nm,0.7s,baz=232,slow=2.4,SNR=5.4
KBZ LR LR 12 05 14.5
comp=Z,68nm,18.0s,baz=346,slow=40
comp=Z,1.7nm,0.7s
MDP Montagnes des 81.41 93 LR LR 11 59 02.7
comp=Z,146nm,19.8s,baz=306,slow=36
LIT Litokhoron 83.06 17 P P 11 23 25.1 +0.9
LIT IAmb IAmb 11 23 33.9
comp=Z,9.8nm,1.2s
GAR Garm 83.67 340 P P 11 23 27.7 +0.2
VAE Valguarnera 83.96 24 LR LR 12 05 11.6
comp=Z,68nm,18.0s,baz=158,slow=39
HNR Honiara 84.05 244 LR LR 12 00 04.8
comp=Z,41nm,18.4s,baz=11,slow=35
BR106 Keskin Array S 84.87 9 P P 11 23 32.8 -0.7
comp=Z,2.8nm,1.1s
BRTR Keskin Array B 84.88 9 P P 11 23 33.3 -0.3
BRTR Keskin Array B 84.88 9 P P 11 23 33.9 +0.3
comp=Z,1.3nm,0.8s,baz=343,slow=3.9,SNR=6.9
comp=Z,1.3nm,0.8s
BR105 Keskin Array S 84.88 9 P P 11 23 32.7 -0.9
GNI Garni 84.96 0 LR LR 12 09 57.4
comp=Z,41nm,18.1s,baz=354,slow=42
PZH PanZhiHua 85.31 311 P P 11 23 34.4 -1.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.8s
LPAZ La Paz 90.67 118 P P 11 24 01.4 -0.7
comp=Z,1.5nm,0.8s,baz=354,slow=4.1,SNR=5.3
LPAZ LR LR 12 08 42.2
comp=Z,71nm,20.0s,baz=324,slow=38
comp=Z,1.5nm,0.8s
PMG Port Moresby 90.87 255 LR LR 11 56 01.0
comp=Z,60nm,21.6s,baz=72,slow=30
MMAI Mount Meron Ar 91.69 8 LR LR 12 09 41.0
comp=Z,36nm,18.1s,baz=329,slow=38
DZM Mont Dzumac 91.73 232 LR LR 11 59 19.2
comp=Z,65nm,18.5s,baz=42,slow=32
CMAR Chiang Mai Arr 93.59 310 P P 11 24 15.9 +0.9
comp=Z,0.4nm,0.3s,baz=11,slow=5.6,SNR=5.5
CMAR LR LR 12 10 07.7
comp=Z,58nm,18.8s,baz=20,slow=38
comp=Z,0.4nm,0.3s
SIV San Ignacio 94.07 112 LR LR 12 10 53.8
comp=Z,118nm,18.9s,baz=97,slow=38
RCBR Riachuelo 99.88 86 LR LR 12 09 18.7
comp=Z,20nm,18.7s,baz=258,slow=35
QSPA South Pole Qui 145.07 180 PKPbc PKPdf 11 30 35.6 +1.0
comp=Z,50nm,0.7s,baz=96,slow=0.5,SNR=222
BOSA Boshof 149.77 36 PKPbc PKPbc 11 30 48.1 -0.4
comp=Z,2.6nm,0.8s,baz=40,slow=5.5,SNR=4.0
ELIB Princess Elisa 160.88 159 *d*PKPdf **PKPdf 11 30 59.6 +2.2**

*ISN **09** 11:12:13.8±0.5, 34°.33N×45°.51E, h6km±13km, ML2.5*
*TEH **09** 11:12:13.7, 34°.31N×45°.65E, h8km±76km*
ISC 09 11:12:14.2±1.4, 34°32N±0°.04×45°64E±0°.04, h1km±14km, n10, σ0°52/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**348**	Pg	**Pg**		**11 12 18.2**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.30**	**132**	Pg	**Pg**		**11 12 20.0**	**-0.1**
IDHR	**Dehrash**	**0.73**	**58**	Pg	**Pg**		**11 12 27.5**	**-0.8**
IDHR				Sg	**Sg**		**11 12 38.6**	**+0.9**
IGHG	**Ghaleghazi**	**0.77**	**89**	Pg	**Pg**		**11 12 29.0**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.84**	**145**	Pg	**Pg**		**11 12 29.4**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.16**	**92**	Pg	**Pg**		**11 12 36.3**	**-0.3**
IBDR	**Badra**	**1.23**	**168**	*e*Pg	**Pg**		**11 12 38.0**	**+0.2**
IBDR				*e*Sg	**Sn**		**11 12 56.0**	**+0.3**
BHD	**Baghdad**	**1.48**	**225**	*e*Pn	**Pn**		**11 12 42.0**	**+0.1**
BHD				*e*Sn	**Sn**		**11 13 02.0**	**+0.1**
IKRK	**Kirkuk**	**1.52**	**316**	*e*Pn	**Pn**		**11 12 42.0**	**-0.5**
IKRK				*e*Sn	**Sg**		**11 13 03.0**	**0.0**
IKRK				AML	AML		11 13 13.7	
	comp=N,9.5nm,0.9s							
SNQR	**Sonqor, Kerman**	**1.73**	**71**	Pg	**Pn**		**11 12 45.8**	**+0.1**

*SCB **09** 11:50:44.4±1.3, 21°.38S×66°.61W, h223km±13km, ML3.6/2, MW2.9, Error ellipse: s-maj=8.5km s-min=7.4km az=0.0*
*GUC **09** 11:50:45.4±0.8, 21°.46S×66°.66W, h227km±6km, ML3.7*
ISC 09 11:50:44.0±2.1, 21°40S±0°.06×66°63W±0°.05, h227km±16km, n22, σ1°13/34, 1C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.94**	**81**	Pg	**Pn**		**11 51 17.2**	**+0.4**
MOCB				Sg	**S**		**11 51 41.5**	**-0.7**
MOCB				IAML			11 51 43.7	
	369nm,0.5s							
YJA	**Yavi**	**1.30**	**127**	*e*P	**Pn**		**11 51 19.5**	**+0.4**
YJA				*e*S	**S**		**11 51 45.6**	**-0.9**
YJA	**Yavi**	**1.30**	**127**	Pg	**Pn**		**11 51 19.6**	**+0.5**
YJA				Sg	**S**		**11 51 45.5**	**-0.9**
PB09	**IPOC Station P**	**2.46**	**260**	*e*P	**Pn**		**11 51 30.6**	**+1.1**
PB09				*e*S	**S**		**11 52 07.1**	**+2.3**
PB09				IAML			11 52 09.5	
	comp=E,83nm,0.3s							
PB09	**IPOC Station P**	**2.46**	**260**	Pg	**Pn**		**11 51 31.0**	**+1.6**
PB08	**IPOC Station P**	**2.67**	**297**	*e*P	**Pn**		**11 51 33.0**	**+1.1**
PB08				*e*S	**S**		**11 52 10.1**	**+0.9**
PB08				IAML			11 52 13.2	
	comp=E,103nm,0.2s							
PB08	**IPOC Station P**	**2.67**	**297**	Pg	**Pn**		**11 51 33.1**	**+1.2**
PB01	**IPOC Station P**	**2.69**	**277**	*e*P	**Pn**		**11 51 32.1**	**+0.3**
PB01				*e*S	**S**		**11 52 08.5**	**-0.5**
PB01				IAML			11 52 09.7	
	comp=N,274nm,0.2s							
PB01	**IPOC Station P**	**2.69**	**277**	Pg	**Pn**		**11 51 32.2**	**+0.4**
PB01				Sg	**S**		**11 52 08.6**	**-0.5**
PB01				IAML			11 52 10.2	
	comp=N,112nm,0.3s							
SALTA		**2.83**	**175**	*e*P	**Pn**		**11 51 34.6**	**+0.9**
PB03	**IPOC Station P**	**2.98**	**257**	*e*P	**Pn**		**11 51 35.6**	**+0.6**
PB03				*e*S	**S**		**11 52 13.6**	**-1.3**
PB03				IAML			11 52 14.2	
	comp=E,191nm,0.3s							
PB06	**IPOC Station P**	**3.02**	**244**	*e*P	**Pn**		**11 51 35.8**	**+0.2**
PB06				*e*S	**S**		**11 52 14.8**	**-1.0**
SOEO	**Opoqueri**	**3.06**	**337**	Pg	**Pn**		**11 51 37.8**	**+1.5**
PB11	**IPOC Station P**	**3.27**	**299**	*e*P	**Pn**		**11 51 38.5**	**+0.1**
PB11				*e*S	**S**		**11 52 20.4**	**-0.5**
PB11	**IPOC Station P**	**3.27**	**299**	Pg	**Pn**		**11 51 38.5**	**+0.1**
TA01	**Diego Aracena**	**3.42**	**283**	*e*P	**Pn**		**11 51 39.3**	**-0.7**
TA01				*e*S	**S**		**11 52 21.0**	**-2.7**
AOEA	**Aiquile**	**3.46**	**23**	Pg	**Pn**		**11 51 40.5**	**-0.3**
TA02	**Huaiquique**	**3.46**	**288**	*e*P	**Pn**		**11 51 40.4**	**-0.1**
TA02				*e*S	**S**		**11 52 22.4**	**-2.2**
SLA	**San Lorenzo**	**3.47**	**163**	*e*P	**Pn**		**11 51 41.3**	**+0.7**
SOEJ	**Jacaque**	**4.64**	**341**	Pg	**Pn**		**11 51 56.0**	**+0.8**
BBOD	**La Paz, Gloria**	**5.09**	**338**	Pg	**Pn**		**11 52 01.9**	**+1.1**
LPAZ	**La Paz**	**5.28**	**344**	Pg	**Pn**		**11 52 04.1**	**+0.9**

WEL 09 12:01:16.8±1.4, 32°S±12°×17°8W±3°9, h12km, M4.1/2, ML4.5/7, MLv4.1/2, Error ellipse: s-maj=53.3km s-min=4.2km az=107.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.65**	**5**	P	**Pn**		**12 01 59.8**	**+0.5**
GLKZ				S	Sn		12 02 30.4	-0.9
HAZ	**Te Kaha**	**6.71**	**208**	P	Pn		12 02 57.3	+2.2
HAZ				S	Sn		12 04 15.5	+4.0
PUZ	**Puketiti**	**6.81**	**204**	P	Pn		12 02 56.3	-0.2
PUZ				S	Sn		12 04 14.2	+0.3
RUGZ	**Raukumara Rang**	**6.93**	**208**	P	Pn		12 02 58.4	+0.1
RUGZ				S	Sn		12 04 18.8	+1.7
TWGZ	**Tauwhareparae**	**7.00**	**206**	S	Sn		12 04 20.2	+1.5
CNGZ	**Carnagh Statio**	**7.19**	**203**	S	Sn		12 04 23.0	-0.4
TKGZ	**Te Karaka**	**7.28**	**205**	S	Sn		12 04 24.7	-0.8
MWZ	**Matawai**	**7.31**	**207**	P	Pn		12 03 05.1	+1.7
MWZ				S	Sn		12 04 26.7	+0.3
URZ	**Urewera**	**7.42**	**210**	P	Pn		12 03 09.0	+4.2
URZ				S	Sn		12 04 29.1	+0.3
SNGZ	**Shannon Statio**	**7.77**	**207**	P	Pn		12 03 07.3	-2.4
SNGZ				S	Sn		12 04 38.2	+0.6
KNZ	**Kokohu**	**7.86**	**204**	S	Sn		12 04 37.7	-2.0

*IDC **09** 12:11:17.7±7.5, 15°.69N×98°.33W, h0km, mb3.4/3, mbtmp3.4/5, ML3.2/2, MS3.0/4, Error ellipse: s-maj=125.5km s-min=32.1km az=9.0*
*MEX **09** 12:11:18.9±0.9, 15°.63N×98°.61W, h17km±91km, MD4.0*
ISC 09 12:11:14.9±1.8, 15°84N±0°.06×98°56W±0°.03, h2km±10km, n37, σ1°94/58, mb3.5/3, MS3.1/3, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**37**	*e*P	**Pn**		**12 11 32.6**	**+0.9**
PNIG				*e*S	**Sn**		**12 11 43.7**	**+0.7**
CRIG	**Cruz Grande**	**1.05**	**328**	*e*P	**Pn**		**12 11 37.3**	**+0.7**
CRIG				*e*S	**Sn**		**12 11 51.7**	**-0.2**
PEIG	**Puerto Escondi**	**1.36**	**83**	*e*P	**Pb**		**12 11 41.2**	**0.0**
PEIG				*e*S	**Sb**		**12 11 57.6**	**-1.5**
MGIG	**Malinaltepec**	**1.39**	**357**	*e*P	**Pg**		**12 11 43.4**	**+1.7**
MGIG				*e*S	**Sg**		**12 12 02.1**	**+2.4**
YOIG	**Yosondua**	**1.40**	**44**	*e*P	**Pg**		**12 11 43.0**	**+1.1**
YOIG				*e*S	**Sg**		**12 12 01.5**	**+1.4**
DAIG	**Los Arroyos**	**1.58**	**318**	*e*P	**Pb**		**12 11 45.0**	**+0.2**
DAIG				*e*S	**Sn**		**12 12 03.5**	**-1.4**
TXIG	**Tlaxiaco**	**1.60**	**28**	*e*P	**Pg**		**12 11 46.7**	**+1.1**
TXIG				*e*S	**Sg**		**12 12 08.3**	**+2.0**
VNTA	**La Mica**	**1.62**	**312**	*e*S	**Sb**		**12 12 05.9**	**-0.5**
TLIG	**Tlapa**	**1.72**	**360**	*e*P	**Pg**		**12 11 48.5**	**+0.6**
TLIG				*e*S	**Sg**		**12 12 09.1**	**-1.1**
HMTT	**Tlapaneco**	**1.95**	**360**	*e*S	**Sg**		**12 12 17.3**	**-0.4**
CAIG	**El Cayaco**	**2.04**	**307**	*e*P	**Pn**		**12 11 51.0**	**+0.8**
CAIG				*e*S	**Sn**		**12 12 13.4**	**-2.8**
FTIG	**Fresnillo de T**	**2.10**	**11**	*e*P	**Pg**		**12 11 54.3**	**-0.9**
FTIG				*e*S	**Sg**		**12 12 21.4**	**-1.1**
HLIG	**Huajuapan de L**	**2.11**	**20**	*e*P	**Pg**		**12 11 54.8**	**-0.6**
HLIG				*e*S	**Sg**		**12 12 22.2**	**-0.6**
VHO	**Vista Hermosa**	**2.14**	**55**	*e*P	**Pb**		**12 11 54.1**	**-0.4**
VHO				*e*S	**Sb**		**12 12 21.2**	**-0.3**
HUIG	**Huatulco**	**2.36**	**91**	*e*P	**Pn**		**12 11 54.6**	**0.0**
HUIG				*e*S	**Sn**		**12 12 20.5**	**-3.7**
TOIG	**Toxpalan**	**2.66**	**32**	*e*P	**Pb**		**12 12 01.8**	**-1.5**
TOIG				*e*S	**Sb**		**12 12 36.8**	**+0.2**
PLIG	**Platanillo**	**2.70**	**341**	*e*P	**Pb**		**12 12 03.3**	**-0.7**
PLIG				*e*S	**Sb**		**12 12 35.2**	**-2.4**
TPIG	**Tehuac#an**	**2.81**	**24**	*e*P	**Pb**		**12 12 05.2**	**-0.8**
TPIG				*e*S	**Sb**		**12 12 40.5**	**-0.4**
ARIG	**Puente Sto Nin**	**2.97**	**325**	*e*P	**Pb**		**12 12 06.7**	**-1.9**
ARIG				*e*S	**Sn**		**12 12 41.1**	**+1.6**
YAIG	**Yautepec**	**3.05**	**351**	*e*P	**Pb**		**12 12 08.8**	**-1.2**
YAIG				*e*S	**Sn**		**12 12 43.1**	**+1.7**
PBCV	**Popocatepetl**	**3.13**	**360**	*e*P	**Pb**		**12 12 10.6**	**-0.9**
PBXN	**Popocatepetl**	**3.16**	**358**	*e*P	**Pb**		**12 12 11.3**	**-0.8**
PBXN				*e*P	**Pg**		**12 12 12.0**	**-3.4**
PPM	**Popocatepetl**	**3.21**	**359**	*e*P	**Pb**		**12 12 11.4**	**-1.6**
PPM				*e*S	**Sn**		**12 12 44.0**	**-2.0**
ZIIG	**Zihuatanejo**	**3.30**	**303**	*e*P	**Pn**		**12 12 09.9**	**+2.4**
ZIIG				*e*S	**Sn**		**12 12 44.8**	**-2.5**
POHV	**Veracruz**	**3.44**	**21**	*e*P	**Pb**		**12 12 14.5**	**-2.4**
CMIG	**Matias Romero**	**3.74**	**70**	Pn	**Pn**		**12 12 14.8**	**+1.2**
	1.5nm,0.3s,baz=248,slow=15,SNR=32							
CMIG				Sn	**Sn**		**12 12 58.4**	**+0.1**
	5.4nm,0.3s,baz=356,slow=17,SNR=8.3							
CMIG				LR	LR		12 13 23.9	
	comp=Z,41nm,20.0s,baz=272,slow=35							
	3.4nm,0.3s							
JAUV	**Jalcomulco**	**3.89**	**25**	*e*P	**Pn**		**12 12 18.5**	**+2.7**
JAUV				*e*S	**Sb**		**12 13 05.7**	**-6.2**
PMUV	**Sontecomapan**	**4.25**	**50**	*e*P	**Pn**		**12 12 22.2**	**+1.5**
PMUV				*e*S	**Sn**		**12 13 09.4**	**-1.5**
LVIG	**Laguna Verde**	**4.37**	**27**	*e*S	**Sn**		**12 13 12.3**	**-1.6**
CXUV	**Coxquihui**	**4.41**	**12**	*e*P	**Pn**		**12 12 25.2**	**+2.3**
CXUV				*e*S	**Sn**		**12 13 18.7**	**+3.8**
APG	**El Apazote**	**7.85**	**95**	Sn	**Sn**		**12 14 37.4**	**-2.5**
	baz=46,slow=22,SNR=4.0							
TXAR	**Lajitas Array**	**14.23**	**342**	Pn	**P**		**12 14 43.9**	**-1.3**
	baz=165,slow=12,SNR=5.5							
	0.5nm,0.7s							
ANMO	**Albuquerque**	**20.31**	**341**	P	Pn		12 15 58.8	+4.4
	2.1nm,0.7s,baz=316,slow=12,SNR=13							
ANMO				LR	LR		12 23 18.5	
	comp=Z,72nm,19.2s,baz=310,slow=35							
	2.1nm,0.7s							
NVAR	**Mina Array Bea**	**28.43**	**326**	P	P		12 17 20.0	+8.7
	0.8nm,0.8s,baz=126,slow=9.5,SNR=7.5							
PDAR	**Pinedale Array**	**28.45**	**343**	P	P		12 17 16.8	+5.4
	0.3nm,0.6s,baz=153,slow=9.6,SNR=3.4							
PDAR				LR	LR		12 30 27.4	
	comp=Z,46nm,18.4s,baz=322,slow=40							
	0.3nm,0.6s							
ELK	**Elko**	**28.73**	**333**	LR	LR		12 30 15.6	
	comp=Z,70nm,19.8s,baz=12,slow=39							
YKA	**Yellowknife Ar**	**47.96**	**350**	P	**P**		**12 19 58.5**	**+3.8**
	0.3nm,0.8s,baz=158,slow=7.6,SNR=4.6							
	0.3nm,0.8s							

TXNET 09 12:16:26.2, 31°.7N±0°.7×104°.5W±0°.7, h3km±1km, ML2.0/7, Error ellipse: s-maj=1.1km s-min=1.0km az=1.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.48**	**58**	P	Pg		12 16 35.5	+0.1
TPB11				S	Sg		12 16 42.2	+0.5
GDL2	**Guadalupe Moun**	**0.54**	**14**	P	Pg		12 16 36.6	+0.1
PECS	**Pecos**	**0.63**	**119**	P	Pg		12 16 38.6	+0.3
PECS				S	Sg		12 16 47.1	+0.6
TPB12	**Southwest of T**	**0.66**	**134**	P	Pg		12 16 38.5	-0.4
TPB12				S	Sg		12 16 47.7	+0.2
MNTX	**Cornudas Mount**	**0.74**	**272**	P	Pg		12 16 40.6	+0.2
MNTX				S	Sg		12 16 50.6	+0.5
TPB10	**Southeast of T**	**0.76**	**121**	P	Pg		12 16 41.1	+0.4
TPB10				S	Sg		12 16 51.0	+0.5
CLNB	**Carlsbad**	**0.79**	**42**	P	Pg		12 16 41.7	+0.2
CLN7	**Carlsbad 7**	**0.95**	**39**	P	Pg		12 16 44.0	-0.4
TPB01	**Permian Basin**	**0.96**	**139**	P	Pg		12 16 44.2	-0.5
TPB01				S	Sg		12 16 57.3	+0.1
VHRN	**Van Horn**	**0.98**	**205**	P	Pg		12 16 44.9	-0.1
VHRN				S	Sb		12 16 58.7	-0.4
HTMS	**Hat Mesa**	**1.09**	**43**	P	Pg		12 16 46.5	-0.6
TPB06	**Permian Basin**	**1.10**	**91**	S	Sb		12 17 02.6	-0.2
TPB05	**Hovey Rd**	**1.27**	**126**	S	Sg		12 17 07.0	+0.1
CPRX	**Cap Rock**	**1.46**	**22**	P	Pn		12 16 53.2	-0

*BEO **09** 12:24:18.4±0.3,42°.01N×20°.34E,h0km,ML3.0/17*
*RHSSO **09** 12:24:18.8±0.6,41°.95N×20°.25E,h8km±2km,ML3.5/13*
*SKO **09** 12:24:18.1,42°.01N×20°.09E,h24km,ML3.2*
*THE **09** 12:24:19.5,41°.98N×20°.19E,h6km±1km,ML2.9/3,Error ellipse: s-maj=2.8km s-min=1.3km az=183.0*
*PDG **09** 12:24:19.0±0.6,42°.00N×20°.23E,h10km±1km,MD3.5/8, ML3.5/13,Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*
*TIR **09** 12:24:19.1,41°.96N×20°.18E,h4km±1km,Md2.6/8,Ml3.4/8*
*PRU **09** 12:24:20.6,41°.84N×20°.01E,h1km*

ISC 09 12:24:19.2±1.0,42°.00N±0°.02×20°.24E±0°.02,h9km±8km, n125,σ1°.26/197,28C-11D,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**281**	P	**Pg**		**12 24 24.1**	**-0.3**
PUK				S	**Sg**		**12 24 28.0**	**0.0**
PUK				AML		AML	12 24 29.1	
	73nm,0.3s							
PUK				AMd			12 24 40.8	
PHP	**Peshkopia**	**0.35**	**154**	P	**Pg**		**12 24 26.0**	**-0.1**
PHP				S	**Sg**		**12 24 31.1**	**+0.5**
PHP				AML		AML	12 24 32.1	
	21nm,0.4s							
PHP				AMd			12 24 56.9	
PHP	**Peshkopia**	**0.35**	**154**	P	**Pg**		**12 24 25.8**	**-0.3**
PHP				S	**Sg**		**12 24 31.7**	**+1.0**
	4μm,0.5s							
BCI	**Bajram Curri**	**0.39**	**341**	P	**Pg**		**12 24 27.4**	**+0.5**
BCI				S	**Sb**		**12 24 34.3**	**-0.2**
BCI				AML		AML	12 24 36.4	
	28nm,0.4s							
BCI				AMd			12 25 00.9	
PVY	**Plav**	**0.63**	**341**	⇑*i*Pg	**Pg**		**12 24 31.5**	**0.0**
PVY				*i* Sg	**Sb**		**12 24 41.6**	**+0.1**
TIR	**Tirane**	**0.70**	**203**	P	**Pg**		**12 24 32.3**	**-0.4**
TIR				S	**Sb**		**12 24 42.3**	**-1.1**
TIR				AML		AML	12 24 43.1	
	1.4nm,0.2s							
TIR				AMd			12 25 13.0	
TIR	**Tirane**	**0.70**	**203**	P	**Pg**		**12 24 31.7**	**-1.1**
TIR				S	**Sb**		**12 24 42.2**	**-1.1**
	390nm,0.5s							
TIR	**Tirane**	**0.70**	**203**	⇑P	**Pg**		**12 24 32.4**	**-0.4**
TIR				⇑S	**Sb**		**12 24 43.1**	**-0.3**
TIR	**Tirane**	**0.70**	**203**	*e*Pg	**Pg**		**12 24 32.1**	**-0.7**
TIR				*e*Sg	**Sg**		**12 24 40.8**	**-1.2**
ULC	**Ulcinj**	**0.74**	**268**	⇑*i*Pg	**Pg**		**12 24 32.3**	**-1.1**
ULC				*i* Sg	**Sb**		**12 24 44.0**	**-0.4**
DRME	**Dracevica, Mon**	**0.81**	**284**	⇑*i*Pg	**Pg**		**12 24 33.3**	**-1.4**
DRME				*i* Sg	**Sb**		**12 24 46.6**	**+0.3**
PDG	**Podgorica**	**0.85**	**301**	⇑*i*Pg	**Pg**		**12 24 33.9**	**-1.5**
PDG				*e*Sg	**Sb**		**12 24 46.7**	**-0.8**
PDG	**Podgorica**	**0.85**	**301**	⇓P	**Pg**		**12 24 34.1**	**-1.4**
PDG				⇓S	**Sg**		**12 24 45.9**	**-0.6**
PDG	**Podgorica**	**0.85**	**301**	*e*Pg	**Pg**		**12 24 34.0**	**-1.5**
PDG				*e*Sg	**Sb**		**12 24 46.5**	**-1.0**
PDG	**Podgorica**	**0.85**	**301**	⇓*i*Pg	**Pg**		**12 24 34.1**	**-1.4**
PDG				*i* Sg	**Sb**		**12 24 48.1**	**+0.6**
IVA	**Berane**	**0.91**	**344**	⇑*i*Pg	**Pg**		**12 24 36.1**	**-0.6**
IVA				*i* Sg	**Sb**		**12 24 50.3**	**+0.8**
OHR	**Ohrid**	**0.98**	**154**	*i* Pg	**Pg**		**12 24 37.3**	**-0.8**
OHR				*i* Sg	**Sb**		**12 24 51.8**	**+0.5**
OHR				*e*Lg	Lg		12 24 55.0	
	comp=E,1μm,0.8s							
OHR				*e*Lg	Lg		12 24 55.0	
	comp=N,1μm,0.9s							
KOME	**Kolasin**	**1.01**	**328**	⇑*i*Pg	**Pg**		**12 24 37.5**	**-1.1**
KOME				*i* Sg	**Sn**		**12 24 54.0**	**+0.1**
BUM	**Brajici-Budva**	**1.04**	**287**	⇓*i*Pg	**Pg**		**12 24 38.0**	**-1.2**
BUM				*i* Sg	**Sn**		**12 24 54.3**	**-0.4**
CEME	**Cevo**	**1.12**	**300**	⇑*i*Pg	**Pg**		**12 24 38.9**	**-1.8**
CEME				*i* Sg	**Sn**		**12 24 57.4**	**+0.7**
NKME	**Niksic**	**1.22**	**309**	⇓*i*Pg	**Pg**		**12 24 41.4**	**-1.3**
NKME				*i* Sg	**Sn**		**12 25 01.1**	**+1.9**
SJES	**Sjenica**	**1.28**	**351**	⇑*i*Pg	**Pn**		**12 24 43.0**	**-0.3**
SJES				*e*Sg	**Sn**		**12 25 01.7**	**+1.0**
SJES	**Sjenica**	**1.28**	**351**	*e*Pg	**Pn**		**12 24 41.7**	**-1.6**
SJES				*e*Sg	**Sg**		**12 24 58.7**	**-1.7**
HCY	**Herceg Novi**	**1.37**	**290**	⇑*i*Pg	**Pn**		**12 24 43.5**	**-1.0**
HCY				*i* Sg	**Sn**		**12 25 05.5**	**+2.8**
SELS	**Selova**	**1.39**	**28**	*e*Pn	**Pn**		**12 24 45.0**	**+0.3**
SELS				*e*Sg	**Sb**		**12 25 00.9**	**-2.2**
BARS	**Barje**	**1.43**	**54**	*i* Pg	**Pn**		**12 24 45.7**	**+0.3**
BARS				*i* Sg	**Sg**		**12 25 06.5**	**+1.3**
BARS	**Barje**	**1.43**	**54**	*e*Pn	**Pn**		**12 24 45.6**	**+0.3**
BARS				*e*Sg	**Sn**		**12 25 02.5**	**-1.7**
KBN	**Korca**	**1.43**	**163**	P	**Pb**		**12 24 46.1**	**0.0**
KBN				S	**Sg**		**12 25 06.4**	**+1.2**
KBN				AML		AML	12 25 14.0	
	comp=N,1.2nm,0.6s							
KBN				AMd			12 25 37.9	
KBN	**Korca**	**1.43**	**163**	P	**Pb**		**12 24 46.1**	**0.0**
PLE	**Pljevlja**	**1.47**	**335**	⇑*i*Pg	**Pn**		**12 24 46.3**	**+0.3**
PLE				*i* Sg	**Sg**		**12 25 08.7**	**+2.1**
FNA	**Florina**	**1.48**	**144**	P	**Pb**		**12 24 47.1**	**+0.1**
FNA				S	**Sg**		**12 25 09.6**	**+2.7**
FNA				AML		AML	12 25 15.7	
	comp=N,3.1nm,0.8s							
FNA	**Florina**	**1.48**	**144**	P	**Pn**		**12 24 45.6**	**-0.5**
FNA				S	**Sn**		**12 25 06.1**	**+0.5**
	comp=N,892nm,0.6s							
FNA	**Florina**	**1.48**	**144**	*i* Pg	**Pn**		**12 24 45.9**	**-0.2**
FNA				*i* Sg	**Sg**		**12 25 07.6**	**+0.7**
BRY	**Bratogost**	**1.55**	**306**	⇑*i*Pg	**Pn**		**12 24 46.4**	**-0.6**
BRY				*i* Sg	**Sg**		**12 25 10.9**	**+1.9**
UPM	**Unac-Piva**	**1.56**	**321**	⇓*i*Pg	**Pb**		**12 24 47.9**	**-0.4**
UPM				*i* Sg	**Sg**		**12 25 10.9**	**+1.7**
TREB	**Trebinje**	**1.57**	**298**	*e*Pn	**Pn**		**12 24 46.8**	**-0.4**
TREB				*e*Sn	**Sg**		**12 25 08.7**	**-1.0**
GOCS	**Kraljevo Serbi**	**1.64**	**16**	*e*Pn	**Pn**		**12 24 48.5**	**+0.3**
GOCS				*e*Sn	**Sn**		**12 25 10.7**	**+1.3**
DBRK	**Dubrovnik**	**1.69**	**294**	*e*Pn	**Pn**		**12 24 49.2**	**+0.3**
NEST	**Nestorio**	**1.69**	**158**	P	**Pn**		**12 24 49.5**	**+0.5**
NEST				S	**Sg**		**12 25 15.5**	**+1.9**
NEST				AML		AML	12 25 20.5	
	comp=N,1.1nm,0.6s							
NEST				AMd			12 25 44.0	
RUDO	**Rudo**	**1.74**	**339**	*e*Pn	**Pn**		**12 24 49.7**	**+0.1**
RUDO				*e*Sn	**Sn**		**12 25 12.7**	**+0.8**
LSK	**Leskovik**	**1.86**	**171**	P	**Pb**		**12 24 53.8**	**+0.4**
LSK				S	**Sg**		**12 25 20.1**	**+1.0**
LSK				AML		AML	12 25 26.8	
	comp=N,1.2nm,0.7s							
LSK				AMd			12 26 05.6	
VAY	**Valandovo**	**1.88**	**110**	*i* Pn	**Pn**		**12 24 52.5**	**+1.1**
VAY				*i* Sg	**Sg**		**12 25 19.1**	**-0.3**
VAY				*e*Lg	Lg		12 25 19.7	
	comp=E,102nm,0.6s							
VAY				*e*Lg	Lg		12 25 21.0	
	comp=N,154nm,0.7s							
GRUS	**Gruza**	**1.92**	**10**	*e*Pn	**Pn**		**12 24 52.5**	**+0.4**
GRUS				*e*Sn	**Sn**		**12 25 17.6**	**+1.2**
GRG	**Griva**	**1.93**	**122**	*i* Pn	**Pn**		**12 24 52.9**	**+0.7**
BOVS	**Bovan**	**1.96**	**33**	⇑P	**Pn**		**12 24 53.6**	**+1.0**
BOVS	**Bovan**	**1.96**	**33**	*e*Pg	**Pn**		**12 24 52.0**	**-0.6**
BOVS				*e*Sg	**Sn**		**12 25 17.1**	**-0.2**
BBLS	**Lazi&#263i**	**1.97**	**342**	⇑*i*Pn	**Pn**		**12 24 53.0**	**+0.3**
BBLS				*e*Sn	**Sn**		**12 25 18.5**	**+1.0**
BBLS	**Lazi&#263i**	**1.97**	**342**	*e*Pn	**Pn**		**12 24 53.3**	**+0.6**
BBLS				*e*Sn	**Sn**		**12 25 19.0**	**+1.5**
KALIN	**Kalinovik**	**2.00**	**319**	*e*Pn	**Pn**		**12 24 53.4**	**+0.2**
KALIN				*e*Sn	**Sn**		**12 25 18.7**	**+0.3**
PEHC	**Pehcevo**	**2.00**	**95**	*i* Pn	**Pb**		**12 24 55.3**	**-0.5**
PEHC				*i* Sg	**Sg**		**12 25 23.9**	**+0.4**
PEHC				*e*Lg	Lg		12 25 25.8	
	comp=N,344nm,0.8s							
KZN	**Kozani**	**2.05**	**145**	P	**Pn**		**12 24 54.5**	**+0.7**
STON	**Ston**	**2.07**	**296**	⇑*i*Pn	**Pn**		**12 24 54.7**	**+0.6**
STON				*e*Sn	**Sn**		**12 25 20.6**	**+0.6**
STON	**Ston**	**2.07**	**296**	*e*Pn	**Pn**		**12 24 54.5**	**+0.5**
DIVS	**Divibare**	**2.11**	**355**	*e*Pn	**Pn**		**12 24 54.8**	**+0.1**
DIVS				*e*Sn	**Sn**		**12 25 21.5**	**+0.4**
KKB	**Krupnik**	**2.17**	**93**	*i* Pn	**Pb**		**12 24 58.7**	**+0.2**
KNT	**Kendrikon**	**2.17**	**112**	P	**Pn**		**12 24 55.7**	**+0.3**
ZAPS	**Zavoj**	**2.18**	**53**	*e*Pn	**Pn**		**12 24 56.2**	**+0.5**
ZAPS				*e*Sn	**Sn**		**12 25 19.9**	**-2.9**
TRUS	**Trudelj**	**2.23**	**3**	*e*Pn	**Pn**		**12 24 57.3**	**+1.0**
HAPS	**Han Pijesak,BI**	**2.29**	**336**	*e*Pn	**Pn**		**12 24 57.7**	**+0.5**
HAPS				*e*Sn	**Sn**		**12 25 25.9**	**+0.3**
HAPS	**Han Pijesak,BI**	**2.29**	**336**	*e*Pn	**Pn**		**12 24 57.9**	**+0.7**
HAPS				*e*Sn	**Sn**		**12 25 26.5**	**+0.9**
KEK	**Kerkira**	**2.31**	**188**	P	**Pn**		**12 24 58.7**	**+1.4**
ZAGS	**Zajecar**	**2.33**	**38**	*e*Pn	**Pn**		**12 24 56.8**	**-0.9**
ZAGS				*e*Sn	**Sn**		**12 25 26.7**	**+0.2**
IGT	**Igoumenitsa**	**2.46**	**178**	P	**Pn**		**12 25 01.2**	**+1.7**
IGT				S	**Sg**		**12 25 36.4**	**-1.9**
IGT				AMd			12 26 11.9	
BORS2	**Bor- Borsko je**	**2.47**	**31**	*e*Pn	**Pn**		**12 24 59.2**	**-0.4**
BORS2				*e*Sn	**Sn**		**12 25 27.6**	**-2.2**
LIT	**Litokhoron**	**2.55**	**137**	P	**Pn**		**12 25 01.2**	**+0.5**
LSTV	**Lastovo**	**2.59**	**288**	*i* Pn	**Pn**		**12 25 01.1**	**-0.2**
TEKS	**Tekeris**	**2.60**	**349**	*e*Pn	**Pn**		**12 25 01.7**	**+0.2**
TEKS	**Tekeris**	**2.60**	**349**	*e*Pn	**Pn**		**12 25 01.4**	**-0.1**
KUBS	**Kucevo**	**2.63**	**23**	*e*Pn	**Pn**		**12 25 00.8**	**-1.1**
MMB	**Musomishta**	**2.67**	**99**	*i* Pn	**Pn**		**12 25 03.2**	**+0.9**
SRS	**Serrai**	**2.67**	**108**	P	**Pn**		**12 25 03.1**	**+0.8**
SRS	**Serrai**	**2.67**	**108**	*i* Pn	**Pn**		**12 25 03.1**	**+0.8**
MATE	**Matera**	**2.98**	**244**	⇑P	**Pn**		**12 25 05.5**	**-1.1**
MDVR	**Moldovita**	**2.98**	**21**	⇑P	**Pn**		**12 25 07.4**	**+0.6**
FRGS	**Fruska Gora**	**3.18**	**355**	*e*Pn	**Pn**		**12 25 09.5**	**+0.2**
FRGS				*e*Sn	**Sn**		**12 25 47.6**	**+0.3**
FRGS	**Fruska Gora**	**3.18**	**355**	*e*Pn	**Pn**		**12 25 09.3**	**0.0**
VRSS	**Vrsac**	**3.23**	**14**	*e*Pn	**Pn**		**12 25 10.4**	**+0.4**
HERR	**Herculane**	**3.29**	**28**	⇑P	**Pn**		**12 25 11.4**	**+0.5**
KAVA	**Kavala**	**3.37**	**106**	P	**Pn**		**12 25 12.7**	**+0.8**
KIJV	**Kijevo**	**3.45**	**307**	*e*Pn	**Pn**		**12 25 15.1**	**+2.0**
XOR	**Xorichti**	**3.46**	**138**	P	**Pn**		**12 25 13.0**	**-0.2**
BLY	**Banja Luka**	**3.54**	**322**	*e*Pn	**Pn**		**12 25 14.5**	**+0.2**
BLY				*e*Sn	**Sn**		**12 25 56.5**	**+0.3**
BLY	**Banja Luka**	**3.54**	**322**	*e*Pn	**Pn**		**12 25 16.2**	**+1.9**
A050A	**Klekovaca**	**3.67**	**314**	*e*Pn	**Pn**		**12 25 16.4**	**+0.2**
A050A				*e*Sn	**Sn**		**12 25 59.6**	**-0.1**
BZS	**Buzias**	**3.75**	**15**	⇑P	**Pn**		**12 25 17.7**	**+0.4**
ZIRJ	**Zirje**	**3.76**	**298**	*e*Pn	**Pn**		**12 25 18.1**	**+0.7**
MORI	**Morici**	**3.81**	**301**	*e*Pn	**Pn**		**12 25 19.4**	**+1.4**
TIP	**Timpagrande**	**3.86**	**224**	⇓P	**Pn**		**12 25 17.9**	**-0.9**
GZR	**Gura Zlata**	**3.86**	**28**	⇑P	**Pn**		**12 25 20.0**	**+1.2**
A051A	**Mrakovica**	**3.87**	**322**	⇑*i*Pn	**Pn**		**12 25 19.4**	**+0.6**
A051A				*e*Sn	**Sn**		**12 26 04.2**	**-0.2**
SURR	**Surduc**	**4.00**	**19**	⇓P	**Pn**		**12 25 21.1**	**+0.5**
DUGI	**Dugi Otok**	**4.29**	**299**	*e*Pn	**Pn**		**12 25 25.8**	**+1.2**
MORH	**Mrgy, Hungar**	**4.37**	**345**	⇑*i*Pn	**Pn**		**12 25 25.6**	**-0.1**
MORH				*e*Sn	**Sn**		**12 26 16.4**	**-0.3**
MORH	**Mrgy, Hungar**	**4.37**	**345**	⇑P	**Pn**		**12 25 25.7**	**+0.1**
SIRR	**Siria**	**4.39**	**13**	⇑P	**Pn**		**12 25 26.1**	**+0.1**
PLIT	**Plitvice**	**4.42**	**312**	*e*Pn	**Pn**		**12 25 28.9**	**+2.4**
VIRC	**Vir**	**4.43**	**303**	*e*Pn	**Pn**		**12 25 27.8**	**+1.3**
ARR	**Arges**	**4.64**	**42**	⇓P	**Pn**		**12 25 30.1**	**+0.6**
NVLJ	**Novalja**	**4.68**	**305**	*e*Pn	**Pn**		**12 25 30.6**	**+0.6**
RABC	**Rab**	**4.83**	**307**	*e*Pn	**Pn**		**12 25 33.0**	**+1.0**
VOIR		**4.90**	**44**	⇑P	**Pn**		**12 25 34.4**	**+1.3**
BOJS	**Bojanci**	**5.03**	**316**	⇑*i*Pn	**Pn**		**12 25 34.6**	**-0.2**
DRGR		**5.11**	**19**	⇓P	**Pn**		**12 25 36.3**	**+0.3**
CRES	**Cresnjevec Ost**	**5.15**	**320**	*e*Pn	**Pn**		**12 25 36.7**	**+0.2**
MLR	**Muntele Rosu**	**5.41**	**48**	⇑P	**Pn**		**12 25 41.1**	**+1.0**
CEY	**Cerknica**	**5.62**	**314**	*e*Pn	**Pn**		**12 25 42.7**	**-0.2**
CEY				*e*Sn	**Sn**		**12 26 46.1**	**-1.5**
PSZ	**Piszkesteto**	**5.93**	**358**	⇓P	**Pn**		**12 25 47.7**	**+0.5**
OBKA	**Obir**	**6.08**	**320**	*i* Pn	**Pn**		**12 25 51.7**	**+2.4**
	comp=N,1.9nm,0.2s							
OBKA				*e*Sn	**Sn**		**12 26 59.9**	**+0.8**
	comp=N,3.4nm,0.4s							
OBKA	**Obir**	**6.08**	**320**	*e*Pn	**Pn**		**12 25 49.1**	**-0.2**
ARSA	**Arzberg**	**6.24**	**329**	*i* Pn	**Pn**		**12 25 53.7**	**+2.4**
	comp=N,7.1nm,0.4s,SNR=9.2							
ARSA				*i* Sn	**Sn**		**12 27 01.8**	**-0.9**
	comp=N,4.4nm,0.6s							
KECS	**Kecovo**	**6.49**	**1**	*e*PN	**Pn**		**12 25 55.2**	**+0.4**
VYHS	**Vyhne**	**6.57**	**352**	*e*PN	**Pn**		**12 25 59.2**	**+3.2**
VYHS				*e*SN	**Sn**		**12 27 07.8**	**-3.2**
MYKA	**Terra Mystica**	**6.62**	**317**	*i* Pn	**Pn**		**12 25 58.5**	**+1.9**
	comp=N,0.7nm,0.1s							
CONA	**Conrad Observa**	**6.69**	**334**	*i* Pn	**Pn**		**12 25 58.8**	**+1.1**
	comp=N,1.8nm,0.5s							
CONA				*i* Sn	**Sn**		**12 27 15.3**	**+1.3**
	comp=N,3.5nm,0.6s							
MODS	**Modra-Piesok**	**6.71**	**343**	*e*PN	**Pn**		**12 26 00.1**	**+2.2**
MODS				*e*SN	**Sn**		**12 27 08.8**	**-5.6**
KBA	**Koelnbreinsper**	**7.07**	**318**	*i* Pn	**Pn**		**12 26 04.7**	**+1.8**
	comp=N,2.8nm,0.4s,SNR=6.0							
KBA				*e*Sn	**Sn**		**12 27 25.9**	**+2.3**
	comp=N,2.0nm,0.4s							
KOLS	**Kolonicke sedl**	**7.08**	**11**	*e*PN	**Pn**		**12 26 04.9**	**+1.9**
KOLS				*e*SN	Sn		12 27 13.0	-11
ABTA	**Abfaltersbach**	**7.29**	**313**	*i* Pn	**Pn**		**12 26 07.2**	**+1.3**
	comp=N,0.9nm,0.2s							
ABTA				*e*Sn	**Sn**		**12 27 28.3**	**-0.5**
	comp=N,2.5nm,0.5s							
LESA	**Schwarzleotal**	**7.64**	**318**	*i* Pn	**Pn**		**12 26 08.2**	**-2.5**
	comp=N,0.3nm,0.1s							
WTTA	**Wattenberg**	**8.08**	**314**	*i* Pn	**Pn**		**12 26 16.8**	**0.0**
	comp=N,1.5nm,0.2s							
WTTA				*i* Sn	**Sn**		**12 27 51.5**	**+3.2**
	comp=N,2.4nm,0.4s							
WATA	**Walderalm**	**8.16**	**314**	*i* Pn	**Pn**		**12 26 18.4**	**+0.5**
	comp=N,1.5nm,0.2s							
SQTA	**Sankt Quirin**	**8.29**	**312**	*i* Pn	**Pn**		**12 26 20.6**	**+1.0**
	comp=N,4.1nm,0.4s							
SQTA				*i* Sn	**Sn**		**12 27 56.8**	**+3.4**
	comp=N,1.7nm,0.3s							
FETA	**Feichten**	**8.45**	**310**	*e*Pn	**Pn**		**12 26 22.7**	**+0.9**
	comp=N,0.8nm,0.4s							
FETA				*e*Sn	**Sn**		**12 28 01.1**	**+3.8**
	comp=N,1.0nm,0.4s							
KHC	**Kasperske Hory**	**8.52**	**329**	*e*PN	**Pn**		**12 26 24.3**	**+1.6**
KHC				*e*SN	**Sn**		**12 27 58.5**	**-0.5**
RETA	**Reutte**	**8.69**	**312**	*i* Pn	**Pn**		**12 26 25.6**	**+0.5**
	comp=N,0.6nm,0.3s							
RETA				*i* Sn	**Sn**		**12 28 04.7**	**+1.5**
	comp=N,1.0nm,0.4s							

*IDC **09** 12:33:09.9±2.2,7°.46S×128°.35E,h118km±19km,mb4.2/12, mbtmp4.7/17,MS3.4/4,Error ellipse: s-maj=19.1km s-min=10.6km az=73.0*
*NEIC **09** 12:33:12.6±0.8,7°.58S±0°.08×128°.36E±0°.03,h151km±8km, mb4.7/46,Error ellipse: s-maj=12.3km s-min=4.0km az=169.0*
*DJA **09** 12:33:14.4±0.1,8°.S±2°.×12°.8E±°,h152km±2km,M4.8/51, mb4.7/51,mB5.2/20,MLv5.2/16,Mw(mB)4.6/20, MwMwp4.8/1,Mwp5.1/1*

ISC 09 12:33:13.0±0.3,7°.59S±0°.04×128°.33E±0°.04,h151km,n204, σ1°.71/210,mb4.6/51,1C-4D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.97**	**98**			**Pn**	**12 33 58.7**	**-1.3**
SAUI	**Saumlaki**	**2.97**	**98**		P	**Pn**	**12 34 01.6**	**+1.6**
SAUI	**Saumlaki**	**2.97**	**98**		P	**Pn**	**12 34 03.2**	**+3.2**
SAUI					S	**Sn**	**12 34 36.5**	**+0.1**
BNDI	**Bandanaira**	**3.43**	**27**		P	**Pn**	**12 34 07.9**	**+2.0**
BNDI	**Bandanaira**	**3.43**	**27**		P	**Pn**	**12 34 07.9**	**+2.0**
AAI	**Ambon**	**3.88**	**358**		P	**Pn**	**12 34 12.2**	**+0.4**
MSAI	**Masohi**	**4.26**	**8**		P	**Pn**	**12 34 18.1**	**+1.4**
NLAI	**Namlea**	**4.49**	**344**		P	**Pn**	**12 34 22.1**	**+2.3**
SOEI	**Soe**	**4.55**	**242**		Pn	**Pn**	**12 34 20.4**	**-0.2**
SOEI	**Soe**	**4.55**	**242**		P	**Pn**	**12 34 22.7**	**+2.1**
SOEI	**Soe**	**4.55**	**242**		P	**Pn**	**12 34 22.2**	**+1.6**
DRS	**Darwin Rock St**	**5.43**	**152**		P	**Pn**	**12 34 34.4**	**+2.2**
MTN	**Manton Dam**	**5.90**	**152**		Pn	**Pn**	**12 34 40.0**	**+1.6**
MTN	**Manton Dam**	**5.90**	**152**		P	**Pn**	**12 34 40.1**	**+1.6**
SANI	**Sanana**	**5.98**	**337**		P	**Pn**	**12 34 42.6**	**+3.1**
SANI	**Sanana**	**5.98**	**337**		P	**Pn**	**12 34 41.2**	**+1.7**
	38nm,1.0s							
FAKI	**Fak Fak**	**6.07**	**40**		Pn	**Pn**	**12 34 40.1**	**-0.5**
FAKI	**Fak Fak**	**6.07**	**40**		P	**Pn**	**12 34 39.9**	**-0.8**
FAKI	**Fak Fak**	**6.07**	**40**		P	**Pn**	**12 34 40.9**	**+0.2**
	0.9nm2μm105nm,0.9s							
MMRI	**Maumere**	**6.12**	**260**		Pn	**Pn**	**12 34 41.3**	**+0.1**
MMRI	**Maumere**	**6.12**	**260**		P	**Pn**	**12 34 42.5**	**+1.2**
MMRI	**Maumere**	**6.12**	**260**		P	**Pn**	**12 34 41.7**	**+0.4**
	1.2nm4μm305nm,1.0s							
KDU	**Kakadu**	**6.50**	**141**		P	**Pn**	**12 34 48.0**	**+1.6**
KMPI	**Kaimana, Papua**	**6.63**	**54**		P	**Pn**	**12 34 49.0**	**+0.9**
	4μm223nm,0.7s							
SWI	**Sorong**	**7.30**	**24**		P	**Pn**	**12 34 57.8**	**+0.7**
BSSI	**Bau Bau, Buton**	**7.91**	**280**		P	**Pn**	**12 35 06.4**	**+1.2**
	0.2nm56nm,0.9s							
KNRA	**Kununurra**	**8.05**	**177**		Pn	**Pn**	**12 35 08.2**	**+1.2**
BASI	**Baing, Sumba**	**8.09**	**251**		P	**Pn**	**12 35 07.0**	**-0.6**
BKSI	**Bulukumba**	**8.46**	**285**		P	**Pn**	**12 35 13.7**	**+1.2**
LUWI	**Luwuk**	**8.54**	**319**		Pn	**Pn**	**12 35 13.2**	**-0.5**
LUWI	**Luwuk**	**8.54**	**319**		P	**Pn**	**12 35 15.6**	**+1.9**
	1μm89nm,1.3s							
KAPI	**Kappang**	**8.90**	**286**		P	**Pn**	**12 35 15.8**	**-2.6**
	2.4nm,0.4s,baz=93,slow=10,SNR=4.0							
WBSI	**Waikabubak, Su**	**9.06**	**256**		P	**Pn**	**12 35 18.7**	**-2.0**
	2μm144nm,0.6s							
KMSI	**Cibinong**	**9.20**	**332**		P	**Pn**	**12 35 24.2**	**+1.8**
	6μm144nm,1.2s							
TTSI	**Tana Toraja**	**9.60**	**298**		P	**Pn**	**12 35 30.4**	**+2.7**
BAKI	**Biak**	**10.03**	**51**		P	**Pn**	**12 35 35.2**	**+1.8**
	151nm,0.7s							
MRSI	**Marisa**	**10.24**	**321**		P	**Pn**	**12 35 38.5**	**+2.3**
	27nm,1.4s							
PLAI	**Plampang**	**10.51**	**263**		P	**Pn**	**12 35 39.0**	**-0.8**
PLAI	**Plampang**	**10.51**	**263**		P	**Pn**	**12 35 39.5**	**-0.3**
	1μm50nm,0.7s							
FITZ	**Fitzroy Crossi**	**10.76**	**194**		P	**Pn**	**12 35 41.6**	**-1.5**
	44nm,0.3s,baz=28,slow=11,SNR=112							
FITZ					S	**Sn**	**12 37 35.2**	**-7.0**
	229nm,0.8s,baz=254,slow=23,SNR=15							
FITZ					LR	LR	12 40 26.1	
	comp=Z,213nm,18.8s,baz=354,slow=40							
WAMI	**Wamena**	**10.97**	**71**		P	**P**	**12 35 50.2**	**-3.9**
TWSI	**Taliwang, Sumb**	**11.38**	**263**		P	**Pn**	**12 35 50.0**	**-1.3**
	32nm,0.9s							
TOLI2	**Tolitoli**	**11.46**	**319**		Pn	**Pn**	**12 35 52.1**	**-0.2**
TOLI2	**Tolitoli**	**11.46**	**319**		P	**Pn**	**12 35 53.9**	**+1.6**
JAY	**Jayapura**	**13.32**	**68**		P	**Pn**	**12 36 14.6**	**-1.8**
	10.0nm,1.0s,baz=230,slow=9.1,SNR=7.1							
JAY					S	**Sn**	**12 38 40.3**	**-3.7**
	9.1nm,0.8s,baz=339,slow=19,SNR=1.9							
JAY	**Jayapura**	**13.32**	**68**		P	**P**	**12 36 19.4**	**-1.2**
	16nm,0.8s							
WB0	**Warramunga Arr**	**13.46**	**155**			**Pn**	**12 36 17.0**	**-1.0**
WRAB	**Tennant Creek**	**13.59**	**155**			**Pn**	**12 36 18.9**	**-0.8**
WRA	**Warramunga Arr**	**13.59**	**155**			**Pn**	**12 36 18.1**	**-1.6**
WRA	**Warramunga Arr**	**13.59**	**155**		P	**Pn**	**12 36 17.9**	**-1.8**
	22nm,0.7s,baz=325,slow=14,SNR=61							
WRA					S	**Sn**	**12 38 41.9**	**-8.5**
	192nm,1.0s,baz=328,slow=23,SNR=13				

CMAR	**Chiang Mai Arr**	**38.86**	**312**	P	**P**	**12 40 22.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P	**P**	**12 40 23.9**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=141,slow=6.9,SNR=22						
CMAR				PcP	**PcP**	**12 42 33.1**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=176,slow=3.1,SNR=5.4						
	comp=Z,2.9nm,0.7s						
CHTO	**Chiang Mai**	**39.09**	**313**	P	**P**	**12 40 25.5**	**-0.2**
GYA	**Guiyang**	**39.85**	**329**	⇓P	**P**	**12 40 32.2**	**+0.2**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
WHN	**Wuhan**	**40.22**	**341**	⇓P	**P**	**12 40 35.3**	**+0.5**
WHN				pmax	pmax		
	comp=Z,110nm,1.0s						
NJ2	**Nanjing**	**40.45**	**348**	*e*P	**P**	**12 40 38.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PZH	**PanZhiHua**	**42.59**	**324**	P	**P**	**12 40 55.5**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,6.7s						
KSAR	**Wonju Array Be**	**44.80**	**360**	P	**P**	**12 41 10.8**	**-0.9**
KSRS	**Korea Array**	**44.81**	**360**	P	**P**	**12 41 11.3**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=180,slow=9.7,SNR=15						
	comp=Z,2.4nm,0.6s						
TIA	**Tai'an**	**44.83**	**347**	P	**P**	**12 41 11.0**	**-1.0**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
KS19	**Wonju Array Si**	**44.86**	**359**	P	**P**	**12 41 11.7**	**-0.6**
KS19				IAmb	IAmb	12 41 14.4	
	comp=Z,18nm,1.3s						
MJAR	**Matsushiro Arr**	**44.87**	**11**	P	**P**	**12 41 10.4**	**-2.0**
	comp=Z,2.8nm,0.7s,baz=189,slow=9.3,SNR=7.6						
	comp=Z,2.8nm,0.7s						
XAN	**Xi'an**	**45.31**	**337**	P	**P**	**12 41 14.4**	**-1.5**
XAN				pP	pP	12 41 49.1	+0.9
XAN				pmax	pmax		
	comp=Z,31nm,1.0s						
HNS	**HongShan**	**46.53**	**345**	⇑P	**P**	**12 41 24.5**	**-0.8**
HNS				pmax	pmax		
	comp=Z,34nm,1.3s						
SHL	**Shillong**	**48.40**	**314**	P	**P**	**12 41 38.6**	**-1.6**
SHL				IAmb	IAmb	12 41 40.0	
	comp=Z,9.8nm,0.8s						
BJI	**Beijing**	**48.71**	**348**	P	**P**	**12 41 41.2**	**-0.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,30nm,3.9s						
LZH	**Lanzhou**	**49.17**	**334**	*e*P	**P**	**12 41 46.1**	**+0.2**
LZH				pP	pwP	12 42 21.4	-3.1
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.61**	**344**	*e*P	**P**	**12 41 57.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
USRK	**Ussuriysk Ar.**	**51.66**	**3**	P	**P**	**12 42 03.5**	**-0.7**
	comp=Z,5.7nm,0.6s,baz=194,slow=6.6,SNR=14						
	comp=Z,5.7nm,0.6s						
MDJ	**Mudanjiang**	**51.98**	**1**	P	**P**	**12 42 09.2**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.5s						
XLT	**XiLinHaoTe**	**52.44**	**349**	*e*P	**P**	**12 42 09.0**	**-1.1**
XLT				pmax	pmax		
	comp=Z,19nm,1.4s						
XLT				pmax	pmax		
	comp=Z,94nm,5.5s						
GTA	**Gaotai**	**53.71**	**333**	*e*P	**P**	**12 42 19.9**	**+0.3**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HEH	**HeiHe**	**57.61**	**359**	*e*P	**P**	**12 42 46.3**	**-0.7**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**58.33**	**343**	P	**P**	**12 42 52.0**	**-0.3**
ULN				IAmb	IAmb	12 42 53.7	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**58.49**	**343**	P	**P**	**12 42 52.7**	**-0.7**
SONM				IAmb	IAmb	12 42 54.8	
	comp=Z,12nm,1.2s						
SONM	**Songino Array**	**58.49**	**343**	P	**P**	**12 42 53.1**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=167,slow=7.8,SNR=27						
	comp=Z,3.2nm,0.8s						
WMQ	**Urumqi**	**63.00**	**328**	*e*P	**P**	**12 43 24.8**	**+1.0**
WMQ				sP	sP	12 44 19.0	+5.1
WMQ				PP	**PP**	**12 45 45.6**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
PETK	**Petropavlovsk-**	**65.41**	**19**	P	**P**	**12 43 38.5**	**-0.8**
PETK	**Petropavlovsk-**	**65.41**	**19**	P	**P**	**12 43 38.9**	**-0.4**
	comp=Z,11nm,0.9s,baz=209,slow=7.4,SNR=10						
	comp=Z,11nm,0.9s						
KSH	**Kashi**	**67.34**	**318**	P	**P**	**12 43 50.6**	**-1.4**
KSH				PcP	**PcP**	**12 44 20.0**	**+1.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**67.82**	**328**	P	**P**	**12 43 54.2**	**-0.5**
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**12 43 54.0**	**-0.8**
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**12 43 54.5**	**-0.2**
	comp=Z,4.4nm,0.6s,baz=119,slow=7.8,SNR=59						
	comp=Z,4.4nm,0.6s						
MAKZ	**Makanchi**	**68.00**	**328**	P	**P**	**12 43 55.2**	**-0.7**
MAKZ				IAmb	IAmb	12 43 56.7	
	comp=Z,12nm,1.2s						
MA2	**Magadan**	**69.31**	**12**	P	**P**	**12 44 02.4**	**-1.3**
MA2				IAmb	IAmb	12 44 05.5	
	comp=Z,9.1nm,0.9s						
YAK	**Yakutsk**	**69.42**	**1**	P	**P**	**12 44 03.8**	**-0.5**
KBL	**Kabul**	**69.88**	**311**	P	**P**	**12 44 06.0**	**-2.0**
AAK	**Ala-Archa**	**69.93**	**321**	P	**P**	**12 44 07.3**	**-0.8**
GAR	**Garm**	**70.92**	**316**	P	**P**	**12 44 13.0**	**-1.1**
GAR				IAmb	IAmb	12 44 15.1	
	comp=Z,9.2nm,0.9s						
ZAA0	**Zalesovo Array**	**71.39**	**335**	P	**P**	**12 44 15.3**	**-1.1**
ZAA0				IAmb	IAmb	12 44 16.4	
	comp=Z,14nm,0.8s						
ZALV	**Zalesovo Beam**	**71.39**	**335**	P	**P**	**12 44 15.6**	**-0.8**
	comp=Z,14nm,0.8s,baz=132,slow=6.6,SNR=60						
	comp=Z,14nm,0.8s						
CHGR	**Chuyangaron**	**71.57**	**315**	P	**P**	**12 44 17.0**	**-1.0**
SIMJ	**Simiganj**	**71.67**	**315**	P	**P**	**12 44 17.6**	**-1.1**
KURBB	**Kurchatov Arra**	**72.16**	**329**	P	**P**	**12 44 21.1**	**0.0**
	comp=Z,22nm,0.8s,baz=130,slow=5.0,SNR=81						
	comp=Z,22nm,0.8s						
KURK	**Kurchatov**	**72.17**	**329**	P	**P**	**12 44 20.5**	**-0.6**
KK31	**Karatay Array**	**72.70**	**320**	P	**P**	**12 44 23.7**	**-0.8**
KKAR	**Karatay Array**	**72.70**	**320**	P	**P**	**12 44 23.9**	**-0.6**
BVAR	**Borovoye Array**	**77.69**	**328**	P	**P**	**12 44 52.2**	**-0.6**
	comp=Z,12nm,0.7s,baz=131,slow=6.1,SNR=62						
	comp=Z,12nm,0.7s						
BRVK	**Borovoye**	**77.76**	**328**	P	**P**	**12 44 52.4**	**-0.7**
BRVK				IAmb	IAmb	12 44 53.7	
	comp=Z,15nm,0.8s						
TIXI	**Tiksi**	**79.08**	**0**	P	**P**	**12 44 58.7**	**-1.3**
TIXI				IAmb	IAmb	12 44 59.9	
	comp=Z,8.6nm,0.6s						
ABKAR	**Akbulak array**	**81.94**	**322**	P	**P**	**12 45 14.8**	**-1.0**
QSPA	**South Pole Qui**	**82.39**	**180**	P	**P**	**12 45 19.1**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=223,slow=0.9,SNR=13						
	comp=Z,3.0nm,0.8s						
ARTI	**Arti**	**85.41**	**328**	P	**P**	**12 45 32.5**	**-0.8**
ELIB	**Princess Elisa**	**87.43**	**198**	*d*P	**P**	**12 45 45.5**	**+2.4**
	comp=Z,3.8nm,0.9s						
ELIB				*d*pP	**pwP**	**12 46 27.6**	**+3.5**
D19K	**Kuna River**	**91.06**	**21**	IAmb	IAmb	12 46 00.2	
	comp=Z,4.9nm,0.9s						
ILAR	**Eielson Array**	**94.59**	**25**	P	**P**	**12 46 14.1**	**-2.1**
	comp=Z,1.0nm,0.9s,baz=270,slow=4.2,SNR=6.0						
W13A	**Hualapai Mount**	**117.01**	**55**	PKPdf	**PKPdf**	**12 51 39.2**	**-1.4**
PDAR	**Pinedale Array**	**118.48**	**45**	PKP	**PKiKP**	**12 51 43.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=262,slow=1.8,SNR=12						
EKA	**Eskdalemuir Ar**	**118.88**	**331**	PKP	**PKPdf**	**12 51 42.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=35,slow=2.6,SNR=1.3						
LAO	**LASA Array**	**119.41**	**40**	PKPdf	**PKiKP**	**12 51 46.5**	**+1.6**
O20A	**White River Ci**	**120.20**	**48**	PKPdf	**PKiKP**	**12 51 48.4**	**+1.6**
ANMO	**Albuquerque**	**122.99**	**53**	PKPdf	**PKiKP**	**12 51 53.7**	**+1.3**
ULM	**Lac du Bonnet**	**123.84**	**33**	PKP	**PKiKP**	**12 51 52.9**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=305,slow=2.7,SNR=4.8						
TXAR	**Lajitas Array**	**126.66**	**59**	PKP	**PKiKP**	**12 51 59.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=280,slow=2.0,SNR=6.5						
PLCA	**Paso Flores**	**128.87**	**162**	PKP	**PKiKP**	**12 52 04.4**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=33,slow=3.4,SNR=2.9						
SCHQ	**Schefferville**	**131.35**	**12**	PKP	**PKiKP**	**12 52 08.0**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=342,slow=3.2,SNR=1.8						
DBIC	**Dimbokro**	**133.55**	**272**	PKP	**PKiKP**	**12 52 14.0**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=88,slow=1.3,SNR=2.2						
CPUP	**Villa Florida**	**145.84**	**171**	PKPbc	**PKPab**	**12 52 35.4**	**-0.4**
	comp=Z,6.8nm,1.0s,baz=190,slow=3.7,SNR=7.8						
PB11	**IPOC Station P**	**147.56**	**147**		**PKPab**	**12 52 42.4**	**-0.5**
COHC	**Cochancay**	**150.72**	**109**		**PKiKP**	**12 52 50.8**	**+1.7**
LPAZ	**La Paz**	**151.22**	**146**		**PKiKP**	**12 52 52.1**	**+1.3**
LPAZ	**La Paz**	**151.22**	**146**	PKPbc	**PKiKP**	**12 52 51.9**	**+1.1**
	comp=Z,3.6nm,0.3s,baz=27,slow=4.7,SNR=19						
AQDB	**Aquidauana**	**151.83**	**172**		**PKiKP**	**12 52 52.1**	**+0.9**
SIV	**San Ignacio**	**154.79**	**158**	PKPbc	**PKiKP**	**12 52 58.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=99,slow=19,SNR=4.4						
SIV				PKPab	**PKPab**	**12 53 14.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=215,slow=3.9,SNR=6.6						
FLOC	**Florencia**	**155.38**	**103**		**PKPdf**	**12 52 53.8**	**+4.2**

IDC 09 12:51:55.3±1.6, 1°.50N×126°.62E, h0km, mb3.8/4, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=119.9km s-min=19.3km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.50**	**183**	P	Pn	12 56 25.5	+0.1
	0.1nm,0.3s,baz=18,slow=13,SNR=2.6						
	2.6nm,0.9s						
WRA	**Warramunga Arr**	**22.62**	**161**	P	P	12 56 56.5	-1.5
	0.7nm,0.3s,baz=338,slow=10,SNR=17						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**26.00**	**165**	P	P	12 57 30.6	+0.5
	0.2nm,0.3s,baz=342,slow=11,SNR=14						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.32**	**326**	P	P	13 01 59.5	+0.4
	0.6nm,0.4s,baz=117,slow=8.0,SNR=18						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.55**	**328**	P	P	13 02 27.1	-0.6
	1.2nm,0.3s,baz=119,slow=6.0,SNR=4.9						
	1.2nm,0.3s						

*IDC **09** 13:06:52.7±3.3, 37°.46N×72°.39E, h158km±28km, mb3.6/16, mbtmp4.2/20, MS3.4/1, Error ellipse: s-maj=23.4km s-min=15.0km az=16.0*
*MOS **09** 13:06:53.3±0.9, 37°.61N×72°.32E, h171km, mb4.1/10, Error ellipse: s-maj=9.1km s-min=4.5km az=93.8*
*NNC **09** 13:06:54.3±3.0, 38°.02N×72°.10E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=23.4km s-min=16.8km az=171.0*
*NEIC **09** 13:06:54.4±1.5, 37°.62N±0°.06×72°.24E±0°.09, h167km±6km, mb4.1/26, Error ellipse: s-maj=10.2km s-min=8.5km az=81.0*

ISC 09 13:06:54.4±0.4, 37°.61N±0°.04×72°.29E±0°.05, h176km, n170, σ1§98/179, mb4.0/32, 14C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.91**	**348**		**Pn**	**13 07 30.2**	**-0.3**
DRK	**Karamyk**	**1.91**	**348**	PN	**Pn**	**13 07 30.2**	**-0.3**
GAR	**Garm**	**2.09**	**312**	Pn	**Pn**	**13 07 31.0**	**-1.2**
CHGR	**Chuyangaron**	**2.69**	**294**	Pn	**Pn**	**13 07 37.5**	**-1.5**
CHGR	**Chuyangaron**	**2.69**	**294**	PN	**Pn**	**13 07 37.6**	**-1.5**
BTK	**Batken**	**2.71**	**335**		**Pn**	**13 07 39.5**	**+0.2**
BTK	**Batken**	**2.71**	**335**	PN	**Pn**	**13 07 39.5**	**+0.2**
SIMJ	**Simiganj**	**2.80**	**293**	Pn	**Pn**	**13 07 39.0**	**-1.5**
KSH	**Kashi**	**3.46**	**55**	Pn	Pn	13 07 43.6	-5.0
KSH				Sn	Sn	13 08 20.7	-10
KSH				smax	smax		
	comp=N,410nm,0.6s						
KSH				smax	smax		
	comp=E,250nm,0.6s						
ARSB	**Arslanbob**	**3.75**	**8**		**Pn**	**13 07 51.2**	**-1.1**
ARSB	**Arslanbob**	**3.75**	**8**	PN	**Pn**	**13 07 51.2**	**-1.1**
NIL	**Nilore**	**4.02**	**169**	Pn	**Pn**	**13 07 55.6**	**-0.1**
NIL	**Nilore**	**4.02**	**169**	PN	**Pn**	**13 07 55.6**	**-0.1**
KBL	**Kabul**	**4.04**	**222**	Pn	**Pn**	**13 07 56.1**	**0.0**
KBL	**Kabul**	**4.04**	**222**	PN	**Pn**	**13 07 56.1**	**0.0**
SRNI	**Srinagar**	**4.07**	**149**	*e*S	**Sn**	**13 08 42.5**	**-2.1**
AML	**Almayashu**	**4.65**	**13**	P	**Pn**	**13 08 03.4**	**-0.6**
	SNR=377						
IUG	**Iuzhnay**	**4.86**	**340**	*e*PN	**Pn**	**13 08 06.2**	**-0.2**
IUG				pmax	pmax		
	comp=Z,35μm,0.1s						
UCH	**Uchtor**	**4.92**	**20**	P	**Pn**	**13 08 07.4**	**-0.2**
	SNR=25						
EKS2	**Erkin-Say**	**5.18**	**12**	P	**Pn**	**13 08 10.3**	**-0.3**
	SNR=145						
AAK	**Ala-Archa**	**5.30**	**18**	P	**Pn**	**13 08 12.3**	**0.0**
	comp=Z,76nm,0.4s,baz=191,slow=7.4,SNR=268						
AAK				S	**Sn**	**13 09 10.7**	**-2.7**
	comp=Z,51nm,0.5s,baz=332,slow=21,SNR=20						
AAK	**Ala-Archa**	**5.30**	**18**	P	**Pn**	**13 08 12.3**	**0.0**
	SNR=106						
AAK	**Ala-Archa**	**5.30**	**18**	P	**Pn**	**13 08 11.9**	**-0.3**
	comp=Z,69nm,0.6s						
AAK				⇑S	**Sn**	**13 09 10.0**	**-3.4**
	comp=Z,112nm,0.6s						
AAK	**Ala-Archa**	**5.30**	**18**	*c i*PN	**Pn**	**13 08 12.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,67nm,0.6s						
JMU	**Jammu**	**5.32**	**156**	*e*P	**Pn**	**13 08 10.8**	**-1.7**
JMU				*e*S	**Sn**	**13 09 08.6**	**-5.2**
JMU				IAML		13 09 12.4	
	comp=E,680nm,0.6s						
JMU				IAML		13 09 12.4	
	comp=N,630nm,0.6s						
KBK	**Karagaybulak**	**5.44**	**21**	P	**Pn**	**13 08 15.8**	**+1.7**
	SNR=33						
FRU1	**Bishkek**	**5.50**	**18**		**Pn**	**13 08 15.6**	**+0.9**
FRU1	**Bishkek**	**5.50**	**18**	PN	**Pn**	**13 08 15.6**	**+0.9**
ULHL	**Ulahol**	**5.54**	**32**	P	**Pn**	**13 08 14.7**	**-0.8**
	SNR=21						
BOOM	**Boomskoye usch**	**5.62**	**29**	Pn	**Pn**	**13 08 16.1**	**-0.4**
BOOM	**Boomskoye usch**	**5.62**	**29**	PN	**Pn**	**13 08 16.1**	**-0.4**
KK31	**Karatay Array**	**5.66**	**347**	Pn	**Pn**	**13 08 16.2**	**-0.6**
KK31	**Karatay Array**	**5.66**	**347**	⇑P	**Pn**	**13 08 16.1**	**-0.7**
	comp=N,36nm,0.2s,baz=197,slow=15,SNR=1034						
KK31				S	**Sn**	**13 09 16.3**	**-5.3**
	comp=N,192nm,0.3s,baz=170,slow=23,SNR=57						
KK31	**Karatay Array**	**5.66**	**347**	PN	**Pn**	**13 08 16.2**	**-0.6**
KKAR	**Karatay Array**	**5.66**	**347**		**Pn**	**13 08 16.1**	**-0.7**
KKAR	**Karatay Array**	**5.66**	**347**		**Pn**	**13 08 16.2**	**-0.6**
KKAR	**Karatay Array**	**5.66**	**347**	PN	**Pn**	**13 08 16.1**	**-0.7**
CHMS	**Chumysh**	**5.70**	**18**	P	**Pn**	**13 08 17.3**	**-0.1**
	SNR=19						
CHMS	**Chumysh**	**5.70**	**18**	⇑P	**Pn**	**13 08 16.6**	**-0.8**
	comp=N,30nm,0.5s						
CHMS				⇑S	**Sn**	**13 09 18.6**	**-4.2**
	comp=N,45nm,0.5s						
CHMS	**Chumysh**	**5.70**	**18**	PN	**Pn**	**13 08 16.6**	**-0.8**
BRLS	**Borolday**	**5.73**	**342**	*e*PN	**Pn**	**13 08 14.4**	**-3.4**
BRLS				pmax	pmax		
	comp=Z,29μm,0.2s						
THN	**Thein Dam**	**5.87**	**150**	*e*P	**Pn**	**13 08 18.6**	**-1.1**
THN				*e*S	**Sn**	**13 09 21.4**	**-5.4**
THN				IAML		13 09 26.4	
	comp=N,545nm,0.2s						
THN				IAML		13 09 26.7	
	comp=E,519nm,0.3s						
KDJ	**Kajisay**	**5.88**	**38**		**Pn**	**13 08 18.4**	**-1.3**
KDJ	**Kajisay**	**5.88**	**38**	PN	**Pn**	**13 08 18.5**	**-1.3**
TKM2	**Tokmak 2**	**5.88**	**24**	P	**Pn**	**13 08 19.4**	**-0.4**
	SNR=16						
TKM2	**Tokmak 2**	**5.88**	**24**	⇑P	**Pn**	**13 08 19.1**	**-0.7**
	comp=E,14nm,0.7s						
TKM2				⇑S	**Sn**	**13 09 23.9**	**-3.3**
	comp=E,30nm,0.6s						
TKM2	**Tokmak 2**	**5.88**	**24**	PN	**Pn**	**13 08 19.1**	**-0.7**
USP	**Ospenovka**	**5.90**	**16**	P	**Pn**	**13 08 19.8**	**-0.2**
	SNR=16						
TARG	**Taragay, Kyrgy**	**5.92**	**44**		**Pn**	**13 08 19.7**	**-0.9**
TARG	**Taragay, Kyrgy**	**5.92**	**44**	PN	**Pn**	**13 08 19.7**	**-0.9**
DHRM	**DHARAMSHALA**	**6.27**	**147**	*e*P	**Pn**	**13 08 23.6**	**-1.6**
DHRM				*e*S	**Sn**	**13 09 31.0**	**-5.6**
DHRM				IAML		13 09 33.7	
	comp=N,401nm,0.3s						
DHRM				IAML		13 09 38.4	
	comp=E,375nm,0.4s						
BHK	**Bhakra**	**7.05**	**150**	*e*P	**Pn**	**13 08 33.8**	**-1.4**
BHK				*e*S	**Sn**	**13 09 48.1**	**-6.6**
BHK				IAML		13 09 52.1	
	comp=N,304nm,0.2s						
BHK				IAML		13 09 52.9	
	comp=E,364nm,0.2s						
BTLS	**Baital**	**7.54**	**10**	*e*PN	**Pn**	**13 08 40.5**	**-1.1**
SMLA	**Simla**	**7.61**	**147**	*e*P	**Pn**	**13 08 40.4**	**-2.2**
SMLA				*e*S	Sn	13 09 59.4	-8.7
SMLA				IAML		13 10 04.2	
	comp=E,167nm,0.3s						
SMLA				IAML		13 10 05.2	
	comp=N,119nm,0.2s						
SHLS	**Shalkode**	**7.79**	**42**	*e*PN	**Pn**	**13 08 41.9**	**-3.0**
PDGK	**Podgornoye**	**7.92**	**42**	⇓P	**Pn**	**13 08 45.1**	**-1.5**
	comp=N,4.3nm,0.8s						
PDGK				⇑S	**Sn**	**13 10 17.5**	**+2.1**
	comp=N,16nm,1.1s						
DDI	**Dehra Dun**	**8.70**	**145**	*e*P	**Pn**	**13 08 55.2**	**-1.8**
DDI				*e*S	Sn	13 10 25.1	-9.0
DDI				IAML		13 10 31.0	
	comp=E,138nm,0.6s						
DDI				IAML		13 10 32.5	
	comp=N,164nm,0.7s						
JOSI	**Joshimath**	**9.26**	**137**	*e*P	**Pn**	**13 09 02.2**	**-2.3**
JOSI				*e*S	Sn	13 10 38.4	-9.4
JOSI				IAML		13 10 43.0	
	comp=E,200nm,0.6s						
JOSI				IAML		13 10 45.4	
	comp=N,115nm,0.4s						
BKNR	**BIKANER**	**9.60**	**175**	*e*P	**Pn**	**13 09 05.4**	**-3.3**
BKNR				*e*S	Sn	13 10 46.5	-9.1
NDI	**New Delhi**	**9.81**	**154**	*e*S	Sn	13 10 49.0	-12
NDI				IAML		13 10 53.7	
	comp=E,71nm,0.5s						
NDI				IAML		13 10 54.7	
	comp=N,58nm,0.3s						
NPLP	**NPLP New Delhi**	**9.83**	**154**	*e*P	**Pn**	**13 09 12.7**	**+0.9**
NPLP				*e*S	Sn	13 10 50.1	-11
AYAN	**Aya Nagar**	**9.96**	**155**	*e*S	Sn	13 10 55.5	-8.7
TKRD	**Thakurdwara**	**10.06**	**145**	*e*S	Sn	13 10 58.0	-8.7
KUDL	**Kundal**	**10.07**	**158**	*e*P	**Pn**	**13 09 12.0**	**-2.9**
KUDL				*e*S	Sn	13 10 55.0	-12
KUDL				IAML		13 10 59.5	
	comp=E,74nm,0.4s						
KUDL				IAML		13 11 04.0	
	comp=N,44nm,0.4s						
SONA	**Sohna**	**10.16**	**155**	*e*S	Sn	13 10 57.2	-12
PTH	**Pithoragarh**	**10.40**	**138**	*e*S	Sn	13 11 02.6	-12
PTH				IAML		13 11 09.8	
	comp=N,58nm,0.3s						
PTH				IAML		13 11 10.9	
	comp=E,66nm,0.3s						
LGTI	**Lohaghat**	**10.49**	**139**	*e*S	Sn	13 11 05.0	-12
LGTI				IAML		13 11 11.2	
	comp=E,105nm,0.4s						
AJM	**Ajmer**	**11.27**	**169**	*e*P	**Pn**	**13 09 29.0**	**-1.6**
AJM				*e*S	Sn	13 11 22.5	-13
AJM				IAML		13 11 32.8	
	comp=N,30nm,0.2s						
AJM				IAML		13 11 33.1	
	comp=E,28nm,0.5s						
MAKZ	**Makanchi**	**11.66**	**35**		**Pn**	**13 09 34.8**	**-0.6**
MAKZ	**Makanchi**	**11.66**	**35**	P	**Pn**	**13 09 34.8**	**-0.6**
MK31	**Makanchi Array**	**11.79**	**36**		**Pn**	**13 09 37.1**	**0.0**
MK31	**Makanchi Array**	**11.79**	**36**	*e*P	**Pn**	**13 09 37.1**	**0.0**
MKAR	**Makanchi Array**	**11.79**	**36**	Pn	**Pn**	**13 09 37.2**	**+0.1**
MKAR	**Makanchi Array**	**11.79**	**36**	P	**Pn**	**13 09 37.5**	**+0.5**
	comp=E,0.3nm,0.4s,baz=219,slow=14,SNR=8.4						
JHNI	**Jhansi**	**13.22**	**155**	*e*P	**Pn**	**13 09 54.0**	**-1.4**
JHNI				*e*S	Sn	13 12 09.4	-13
WMQ	**Urumqi**	**13.22**	**57**	*e*P	**Pn**	**13 09 55.8**	**+0.4**
KURBB	**Kurchatov Arra**	**13.76**	**17**	P	**P**	**13 10 05.2**	**+0.4**
	comp=E,8.6nm,0.7s,baz=198,slow=13,SNR=56						
KURBB	**Kurchatov Arra**	**13.76**	**17**	⇑P	**P**	**13 10 04.7**	**-0.1**
	comp=E,9.9nm,0.6s						
KURK	**Kurchatov**	**13.86**	**17**		**Pn**	**13 10 03.2**	**-0.1**
KURK	**Kurchatov**	**13.86**	**17**	⇓*e*P	**P**	**13 10 06.2**	**+0.2**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
AB31	**Akbulak array**	**14.68**	**326**	⇓P	**P**	**13 10 16.7**	**+1.7**
	comp=Z,11nm,0.5s,baz=134,slow=12,SNR=181						
AB31				⇓S	**Sn**	**13 12 52.6**	**-4.3**
	comp=Z,5.0nm,0.3s,baz=145,slow=23,SNR=13						
AB31	**Akbulak array**	**14.68**	**326**	P	**P**	**13 10 16.7**	**+1.7**
AB31				S	**Sn**	**13 12 52.6**	**-4.3**
ABKAR	**Akbulak array**	**14.68**	**326**		**Pn**	**13 10 11.4**	**-2.0**
ABKAR	**Akbulak array**	**14.68**	**326**		**Pn**	**13 10 11.8**	**-1.6**
ALBI	**Allahabad**	**14.69**	**144**	*e*S	Sn	13 12 42.7	-15
BHPL	**Bhopal**	**14.98**	**161**	*e*P	**P**	**13 10 19.4**	**+0.7**
BHPL				*e*S	Sn	13 12 51.6	-13
BVA0	**Borovoye Array**	**15.48**	**356**	⇓P	**P**	**13 10 25.5**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=165,slow=16,SNR=34						
BVA0	**Borovoye Array**	**15.48**	**356**	P	**P**	**13

PALK Pallekele 31.15 164 P **P** **13 12 57.6 +0.9**
PALK pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 33.08 307 P **P** **13 13 14.5 +1.3**
comp=Z,1.0nm,0.5s,baz=115,slow=8.1,SNR=7.5
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 33.08 307 P **P** **13 13 13.1 -0.1**
AKBB IAmb IAmb 13 13 15.0
comp=Z,3.9nm,0.9s
AKBB Malin Array Si 33.08 307 P **P** **13 13 13.1 -0.1**
AKBB pmax pmax
comp=Z,4.0nm,1.0s
KIEV Kiev 33.09 307 P **P** **13 13 13.1 -0.2**
KIEV IAmb IAmb 13 13 15.0
comp=Z,3.8nm,1.0s
KIEV Kiev 33.09 307 P **P** **13 13 13.1 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
BURAR Bucovina Array 35.57 302 P **P** **13 13 35.5 +0.7**
FIA1 FINESS Array S 37.16 325 P **P** **13 13 48.6 +0.7**
FINES FINESS Array B 37.16 325 P **P** **13 13 49.1 +1.2**
FINES FINESS Array B 37.16 325 P **P** **13 13 49.3 +1.4**
comp=Z,2.3nm,0.3s,baz=116,slow=9.7,SNR=20
comp=Z,2.3nm,0.3s
KOLS Kolonicke sedl 37.51 304 *e*P **P** **13 13 52.1 +1.1**
KOLS Kolonicke sedl 37.51 304 *e*P **P** **13 13 52.1 +1.1**
KECS Kecovo 38.71 303 *e*P **P** **13 14 02.4 +1.4**
KECS Kecovo 38.71 303 *e*P **P** **13 14 02.3 +1.3**
VYHS Vyhne 39.80 303 *e*P **P** **13 14 13.1 +3.0**
VYHS Vyhne 39.80 303 *e*P **P** **13 14 13.1 +3.0**
ARCES ARCESS Array B 40.53 337 P **P** **13 14 17.5 +1.7**
comp=Z,3.4nm,0.4s,baz=113,slow=8.2,SNR=46
comp=Z,3.4nm,0.4s
ARCES ARCESS Array B 40.53 337 P **P** **13 14 15.3 -0.5**
ARCES pmax pmax
comp=Z,8.0nm,1.2s
YAK Yakutsk 42.47 36 LR LR 13 33 46.3
comp=Z,46nm,20.8s,baz=44,slow=38
HFS Hagfors 42.85 321 P **P** **13 14 36.0 +1.3**
comp=Z,5.1nm,0.6s,baz=94,slow=8.7,SNR=15
comp=Z,5.1nm,0.6s
HFS Hagfors 42.85 321 P **P** **13 14 36.0 +1.3**
CLL Collm 43.31 308 *i* P **P** **13 14 37.9 -0.7**
comp=Z,7.0nm,0.9s
NC405 NORSAR Array S 43.89 322 P **P** **13 14 44.4 +1.3**
NC405 IAmb IAmb 13 15 01.5
comp=Z,14nm,1.1s
NB201 NORSAR Array S 44.09 322 P **P** **13 14 45.7 +1.0**
NB201 IAmb IAmb 13 15 15.3
comp=Z,2.9nm,0.7s
NB2 NORSAR Subarra 44.13 322 P **P** **13 14 45.9 +0.9**
comp=Z,1.7nm,0.6s,baz=92,slow=7.9
NB2 NORSAR Subarra 44.13 322 P **P** **13 14 45.9 +0.9**
NOA NORSAR Array B 44.13 322 P **P** **13 14 46.0 +0.9**
comp=Z,2.1nm,0.7s,baz=93,slow=7.7,SNR=7.9
comp=Z,2.1nm,0.7s
TIXI Tiksi 44.36 22 P **P** **13 14 48.0 +1.4**
TIXI IAmb IAmb 13 14 48.6
comp=Z,5.1nm,1.1s
TIXI Tiksi 44.36 22 P **P** **13 14 48.0 +1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
NC204 NORSAR Array S 44.36 323 P **P** **13 14 47.9 +1.0**
NC204 IAmb IAmb 13 14 55.1
comp=Z,6.3nm,1.1s
SPITS Spitsbergen Ar 46.66 346 P **P** **13 15 06.9 +2.3**
comp=Z,1.5nm,0.4s,baz=114,slow=8.4,SNR=12
comp=Z,1.5nm,0.4s
SENIN Lac Senin/Sane 47.87 302 P **P** **13 15 14.6 0.0**
EKA Eskdalemuir Ar 52.22 316 P **P** **13 15 48.1 +1.1**
comp=Z,3.2nm,0.9s,baz=83,slow=6.8,SNR=5.5
comp=Z,3.2nm,0.9s
NOR Nord 52.91 349 *i* P **P** **13 15 49.0 -2.7**
DAG Danmarks Havn 53.96 343 *i* P **P** **13 16 00.8 +1.4**
DAG IAmb IAmb 13 16 01.4
comp=Z,4.5nm,0.5s
ESDC Sonseca Array 57.86 298 P **P** **13 16 28.7 +1.0**
comp=Z,1.2nm,0.6s,baz=55,slow=7.2,SNR=13
comp=Z,1.2nm,0.6s
BORG Borgarnes 58.17 330 *i* P **P** **13 16 27.3 -2.0**
PET Petropavlovsk 59.02 45 P **P** **13 16 36.0 +0.6**
NEEM North Greenlan 60.17 348 *i* P **P** **13 16 44.8 +1.5**
SUMG Summit 60.35 341 P **P** **13 16 46.7 +2.0**
SUMG Summit 60.35 341 P **P** **13 16 46.7 +2.0**
SUMG Summit 60.35 341 *i* P **P** **13 16 46.5 +1.9**
SUMG IAmb IAmb 13 16 47.5
comp=Z,3.2nm,0.6s
EUNU Eureka 61.98 356 P **P** **13 16 56.3 +1.2**
TORD Torodi Ar. Bea 66.78 269 P **P** **13 17 26.2 -0.9**
TORD Torodi Ar. Bea 66.78 269 P **P** **13 17 27.4 +0.3**
comp=Z,0.7nm,0.3s,baz=47,slow=6.2,SNR=2.9
comp=Z,0.7nm,0.3s
RES Resolute Bay 67.67 356 P **P** **13 17 33.2 +1.4**
RES Resolute Bay 67.67 356 P **P** **13 17 33.2 +1.4**
RES pmax pmax
comp=Z,1.0nm,1.0s
B21K Ikpikpuk River 67.72 16 P **P** **13 17 33.6 +1.4**
E18K Tukpahlearik C 67.94 19 P **P** **13 17 34.8 +1.1**
TOLK Toolik Lake Re 69.59 15 P **P** **13 17 45.2 +1.3**
TOLK IAmb IAmb 13 17 46.5
comp=Z,2.2nm,0.8s
F21K Alatna River 69.88 17 P **P** **13 17 46.2 +0.6**
ILAR Eielson Array 73.43 16 P **P** **13 18 07.4 +0.6**
comp=Z,0.4nm,0.8s,baz=330,slow=4.2,SNR=4.4
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 80.09 3 P **P** **13 18 45.4 +1.3**
comp=Z,1.2nm,0.7s,baz=350,slow=5.2,SNR=25
comp=Z,1.2nm,0.7s
WRA Warramunga Arr 81.71 123 P **P** **13 18 52.9 -0.4**
comp=Z,0.4nm,0.4s,baz=329,slow=5.2,SNR=9.6
comp=Z,0.4nm,0.4s
ASAR Alice Springs 84.05 126 P **P** **13 19 05.0 -0.3**
comp=Z,0.3nm,0.8s,baz=321,slow=5.9,SNR=2.4
comp=Z,0.3nm,0.8s

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*IDC **09** 13:13:54.7±3.4,32°.23S×177°.93W,h0km,mb3.5/2, mbtmp3.5/3,ML2.6/1,Error ellipse: s-maj=76.5km s-min=38.0km az=115.0*
*WEL **09** 13:13:56.6±1.6,32°.S±23°×17°.9W±6°.6,h12km,M3.9/1, ML4.4/3,MLv3.9/1,Error ellipse: s-maj=90.5km s-min=4.4km az=108.9,confirmed*
ISC 09 13:13:56.7±2.5,32°.0S±0°.1×177°.9W±0°.4,h24km,n13, σ1s93/15,mb3.6/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.75**	**359**	P	**Pn**	13 14 39.2	**0.0**
GLKZ				S	**Sn**	13 15 10.3	**-1.4**
HAZ	**Te Kaha**	**6.76**	**211**	P	**Pn**	13 15 36.1	**+1.7**
HAZ				S	**Sn**	13 16 53.6	**+3.1**
PUZ	**Puketiti**	**6.83**	**207**	S	**Sn**	13 16 52.9	**+0.5**
MWZ	**Matawai**	**7.35**	**210**	P	**Pn**	13 15 43.2	**+0.7**
MWZ				S	**Sn**	13 17 05.6	**+0.4**
URZ	**Urewera**	**7.47**	**212**	Pn	**Pn**	13 15 40.8	**-3.3**
	0.1nm,0.3s,baz=251,slow=21,SNR=1.3						
URZ				Sn	**Sn**	13 17 06.3	**-1.8**
	1.4nm,0.3s,baz=116,slow=21,SNR=8.0						
	4.2nm,0.9s						
URZ	**Urewera**	**7.47**	**212**	S	**Sn**	13 17 06.3	**-1.8**
SNGZ	**Shannon Statio**	**7.81**	**209**	S	**Sn**	13 17 15.1	**-1.4**
OUZ	**Omahuta**	**7.82**	**244**	P	Pn	13 15 56.4	+7.5
KNZ	**Kokohu**	**7.88**	**206**	S	**Sn**	13 17 15.5	**-2.7**
ASAR	**Alice Springs**	**43.17**	**269**	P	**P**	13 21 57.0	**+1.1**
	0.3nm,0.5s,baz=105,slow=7.1,SNR=7.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	13 22 06.0	**+1.1**
	0.4nm,0.4s,baz=113,slow=7.8,SNR=8.3						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**58.10**	**180**	P	P	13 23 55.9	+8.0
	1.0nm,1.0s,baz=280,slow=1.1,SNR=6.2						
FINES	**FINESS Array B**	**146.70**	**339**	PKPbc	**PKPab**	13 33 37.4	**+0.5**
	6.4nm,1.0s,baz=45,slow=4.3,SNR=3.6						

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*IDC **09** 13:22:30.4±1.9,20°.71S×178°.23W,h506km±17km,mb3.0/4, mbtmp3.9/6,Error ellipse: s-maj=28.6km s-min=21.5km az=94.0*
ISC 09 13:22:29.7±1.2,20°.8S±0°.2×178°.1W±0°.2,h500km,n10, σ0s87/9,mb3.6/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**309**	P	**P**	13 23 54.8	**+0.7**
	8.9nm,0.5s,baz=120,slow=20,SNR=15						
MSVF				S	**S**	13 25 03.2	**+0.3**
	3.6nm,0.8s,baz=143,slow=20,SNR=1.2						
URZ	**Urewera**	**17.93**	**192**	P	**P**	13 26 08.6	**-0.7**
	7.0nm,0.9s,baz=28,slow=2.9,SNR=6.8						
ASAR	**Alice Springs**	**44.34**	**257**	P	**P**	13 29 54.7	**-0.4**
	0.9nm,0.5s,baz=90,slow=8.5,SNR=17						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.44**	**262**	P	**P**	13 29 55.1	**-0.8**
	0.2nm,0.3s,baz=97,slow=7.6,SNR=8.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**69.32**	**180**	P	**P**	13 32 47.5	**+1.2**
	1.7nm,1.0s,baz=29,slow=4.0,SNR=6.1						
	1.7nm,1.0s						
ILAR	**Eielson Array**	**88.58**	**13**	P	**P**	13 34 27.7	**-0.6**
	0.5nm,0.4s,baz=216,slow=5.1,SNR=21						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**119.19**	**320**	PKP	**PKPdf**	13 40 20.6	**-0.7**
	0.6nm,0.4s,baz=90,slow=1.6,SNR=5.1						
HFS	**Hagfors**	**139.77**	**351**	PKhKP	PKPpre	13 40 53.2	
	0.7nm,0.4s,baz=66,slow=4.9,SNR=6.4						
AKASG	**Malin Array Be**	**143.17**	**331**	PKhKP	PKPpre	13 41 03.2	
	1.2nm,0.7s,baz=41,slow=4.0,SNR=9.3						
MMAI	**Mount Meron Ar**	**147.83**	**299**	PKPbc	**PKPbc**	13 41 19.0	**+0.5**
	0.7nm,0.4s,baz=81,slow=2.7,SNR=4.3						

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*DJA **09** 13:22:49.9±0.4,0°.S±3°×12°.3E±°,h130km±6km,M4.2/14, mB4.5/1,mb4.2/4,MLv4.2/14,Mw(mB)3.7/1*
*IDC **09** 13:22:52.7±5.6,0°.03N×123°.41E,h184km±57km,mb3.4/8, mbtmp3.9/9,Error ellipse: s-maj=30.1km s-min=13.1km az=69.0*
ISC 09 13:22:49.2±0.6,0°.07S±0°.06×123°.27E±0°.05,h157km,n32, σ2s02/34,mb3.8/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.96**	**48**	P	**Pn**	13 23 15.2	**+0.9**
LUWI	**Luwuk**	**1.08**	**207**	P	**Pn**	13 23 14.0	**-1.4**
LUWI	**Luwuk**	**1.08**	**207**	S	**Sn**	13 23 32.0	**-3.5**
LUWI	**Luwuk**	**1.08**	**207**	P	**Pn**	13 23 14.1	**-1.4**
LUWI				S	**Sn**	13 23 31.8	**-3.7**
MRSI	**Marisa**	**1.44**	**292**	P	**Pn**	13 23 16.5	**-2.2**
MRSI				S	**Sn**	13 23 35.2	**-6.1**
APSI	**Ampana**	**1.82**	**243**	P	**Pn**	13 23 21.7	**-1.1**
SANI	**Sanana**	**3.35**	**126**	P	**Pn**	13 23 40.3	**-1.0**
SANI	**Sanana**	**3.35**	**126**	S	**Sn**	13 24 17.1	**-4.7**
SANI	**Sanana**	**3.35**	**126**	P	**Pn**	13 23 40.3	**-1.0**
PCI	**Palu**	**3.53**	**256**	P	**Pn**	13 23 43.1	**-0.6**
TTSI	**Tana Toraja**	**4.54**	**229**	P	**Pn**	13 23 56.4	**-0.4**
TTSI				S	**Sn**	13 24 47.3	**-2.2**
NLAI	**Namlea**	**4.95**	**129**	P	**Pn**	13 24 03.3	**+1.1**
	49nm,0.8s						
SPSI	**Sidrap Palu**	**5.21**	**222**	P	**Pn**	13 24 05.3	**-0.3**
BKSI	**Bulukumba**	**6.09**	**211**	P	**Pn**	13 24 17.7	**+0.5**
	0.1nm14nm,0.9s						
BSSI	**Bau Bau, Buton**	**6.64**	**205**	P	**Pn**	13 24 24.4	**-0.2**
MYLDM	**Lahad Datu**	**7.07**	**318**	P	Pn	13 24 34.5	+4.3
KKM	**Kota Kinabalu**	**9.30**	**311**	P	Pn	13 25 05.0	+4.9
FAKI	**Fak Fak**	**9.41**	**108**	P	**Pn**	13 25 02.2	**+0.8**
FAKI	**Fak Fak**	**9.41**	**108**	S	**Sn**	13 26 43.7	**-2.2**
MTN	**Manton Dam**	**14.89**	**149**	P	**P**	13 26 14.4	**+0.5**
BBJI	**Bungbulang**	**17.22**	**244**	P	**Pn**	13 26 42.0	**+1.4**
FITZ	**Fitzroy Crossi**	**18.06**	**173**	P	**Pn**	13 26 50.4	**-0.1**
	3.7nm,0.4s,baz=4.4,slow=8.6,SNR=30						
FITZ	**Fitzroy Crossi**	**18.06**	**173**	P	**Pn**	13 26 50.4	**-0.1**
WRA	**Warramunga Arr**	**22.53**	**152**	P	**P**	13 27 37.5	**+1.3**
	2.2nm,0.5s,baz=331,slow=10,SNR=52						
	2.2nm,0.5s						
ASAR	**Alice Springs**	**25.62**	**157**	P	**P**	13 28 05.8	**+1.5**
	0.4nm,0.4s,baz=335,slow=9.2,SNR=13						
ASAR				PcP	**PcP**	13 31 32.1	**+0.9**
	0.7nm,0.5s,baz=348,slow=2.1,SNR=10						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.17**	**309**	P	**P**	13 28 47.6	**+2.8**
	1.2nm,0.6s,baz=135,slow=7.0,SNR=11						
	1.2nm,0.6s						
MJAR	**Matsushiro Arr**	**38.98**	**19**	P	**P**	13 29 59.9	**-0.4**
	1.6nm,0.6s,baz=203,slow=8.7,SNR=9.4						
	1.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**44.76**	**9**	P	**P**	13 30 47.2	**+0.2**
	1.5nm,0.5s,baz=188,slow=8.2,SNR=3.4						
	1.5nm,0.5s						
SONM	**Songino Array**	**49.92**	**345**	P	**P**	13 31 28.0	**+0.9**
	0.8nm,0.5s,baz=158,slow=8.1,SNR=7.2						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**58.82**	**328**	P	**P**	13 32 31.1	**0.0**
	0.6nm,0.3s,baz=129,slow=6.8,SNR=22						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**63.16**	**330**	P	**P**	13 32 59.9	**-0.4**
	0.7nm,0.5s,baz=127,slow=7.2,SNR=8.6						
BVAR	**Borovoye Array**	**68.69**	**329**	P	**P**	13 33 34.7	**-0.9**
	0.3nm,0.5s,baz=121,slow=6.4,SNR=2.1						
	0.3nm,0.5s						

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*DJA **09** 13:29:01.0±2.1,5°.S±6°×15°.2E±1°.2,h95km±15km,M5.0/23, mb5.0/23,mB5.5/3,Mw(mB)4.9/3*
*IDC **09** 13:29:03.7±0.7,4°.94S×151°.84E,h105km±6km,mb4.2/21, mbtmp4.5/22,Error ellipse: s-maj=14.4km s-min=8.7km az=116.0*
*BJI **09** 13:29:03.5,5°.06S×152°.04E,h127km,mB5.1/7,mb4.8/36*
*NEIC **09** 13:29:05.3±2.0,4°.99S±0°.08×151°.9E±0°.1,h119km±7km, mb4.8/46,Error ellipse: s-maj=14.8km s-min=11.0km az=92.0*
ISC 09 13:29:03.7±0.4,5°.02S±0°.05×151°.81E±0°.06,h100km,n135, σ1s27/145,mb4.7/51,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.89**	**23**		**Pn**	13 29 24.9	**+1.9**
RABL				Sn	**Sn**	13 29 41.0	**+3.5**
BULU	**Kimbe**	**1.58**	**251**	P	**Pn**	13 29 34.0	**+3.1**
MANU	**Manus Island**	**5.33**	**303**	Pn	**Pn**	13 30 24.3	**+3.3**
PMG	**Port Moresby**	**6.35**	**226**	P	**Pn**	13 30 37.3	**+2.6**
	154nm,0.6s,baz=46,slow=6.9,SNR=45						
PMG				S	**Sn**	13 31 48.1	**+2.2**
	239nm,0.3s,baz=13,slow=20,SNR=14						
TATA	**Tatamba Isabel**	**8.61**	**113**	P	**Pn**	13 31 07.9	**+2.4**
JAY	**Jayapura**	**11.36**	**282**	P	Pn	13 31 48.6	+5.6
	3.0nm,0.8s,baz=167,slow=20,SNR=0.9						
COEN	**Coen**	**12.30**	**223**	Pn	**Pn**	13 31 57.8	**+2.3**
SMPI	**Sarmi**	**13.42**	**282**	P	**Pn**	13 32 09.3	**-0.9**
	39nm,0.8s						
LUES	**Luesalemba Tem**	**15.05**	**113**	P	**Pn**	13 32 32.3	**+1.2**
QIS	**Mount Isa**	**19.48**	**216**	P	**P**	13 33 24.4	**+1.5**
FAKI	**Fak Fak**	**19.63**	**275**	P	**P**	13 33 25.4	**+0.9**
FAKI				IAmb	IAmb	13 33 30.4	
	comp=Z,19nm,0.8s						
FAKI	**Fak Fak**	**19.63**	**275**	P	**P**	13 33 24.8	**+0.3**
	comp=Z,38nm,0.9s						
EIDS	**Eidsvold**	**20.25**	**182**	P	**P**	13 33 31.1	**0.0**
KDU	**Kakadu**	**20.56**	**247**	P	**P**	13 33 34.8	**+0.2**
SAUI	**Saumlaki**	**20.59**	**261**	P	**P**	13 33 36.5	**+1.6**
SWI	**Sorong**	**20.93**	**281**	P	**P**	13 33 39.0	**+0.4**
	comp=Z,50nm,0.8s						
MTN	**Manton Dam**	**21.84**	**248**	P	**P**	13 33 47.8	**-0.5**
MTN				IAmb	IAmb	13 33 51.4	
	comp=Z,52nm,1.0s						
MTN	**Manton Dam**	**21.84**	**248**	P	**P**	13 33 48.2	**-0.1**
MTN	**Manton Dam**	**21.84**	**248**	S	**S**	13 37 42.6	**-1.4**
DRS	**Darwin Rock St**	**21.93**	**249**	P	**P**	13 33 49.1	**-0.1**
DZM	**Mont Dzumac**	**22.09**	**141**	P	**P**	13 33 50.3	**-0.7**
DZM				IAmb	IAmb	13 33 52.8	
	comp=Z,22nm,0.7s						
DZM	**Mont Dzumac**	**22.09**	**141**	P	**P**	13 33 50.8	**-0.2**
	comp=Z,26nm,0.7s,baz=309,slow=6.2,SNR=26						
	comp=Z,26nm,0.7s						
DZM	**Mont Dzumac**	**22.09**	**141**	P	**P**	13 33 51.6	**+0.7**
WB0	**Warramunga Arr**	**22.42**	**228**	P	**P**	13 33 54.5	**+0.2**
WB0				IAmb	IAmb	13 33 56.2	
	comp=Z,35nm,0.7s						
WR0	**Warramunga Arr**	**22.43**	**227**	P	**P**	13 33 54.4	**-0.1**
WR0				IAmb	IAmb	13 33 56.3	
	comp=Z,62nm,1.2s						
WRAB	**Tennant Creek**	**22.56**	**227**	P	**P**	13 33 55.3	**-0.4**
WRAB				IAmb	IAmb	13 33 57.5	
	comp=Z,79nm,1.1s						
WB2	**Warramunga Arr**	**22.56**	**227**	P	**P**	13 33 55.7	**-0.1**
WRA	**Warramunga Arr**	**22.57**	**227**	P	**P**	13 33 55.0	**-0.9**
WRA	**Warramunga Arr**	**22.57**	**227**	P	**P**	13 33 55.8	**-0.1**
	comp=Z,36nm,0.4s,baz=53,slow=9.7,SNR=156						
WRA				PcP	**PcP**	13 37 46.1	**+0.1**
	comp=Z,2.0nm,0.7s,baz=43,slow=2.3,SNR=5.5						
WRA				S	**S**	13 37 55.4	**-0.8**
	comp=Z,6.3nm,1.1s,baz=54,slow=17,SNR=9.2						
WRA				ScP	**ScP**	13 41 14.0	**-0.8**
	comp=Z,0.8nm,0.8s,baz=52,slow=2.4,SNR=0.7						
	comp=Z,36nm,0.4s						
QLP	**Quilpie**	**22.64**	**198**	P	**P**	13 33 56.8	**+0.4**
INKA	**Innaminka**	**24.93**	**204**	P	**P**	13 34 18.3	**+0.6**
KNRA	**Kununurra**	**25.00**	**243**	P	**P**	13 34 18.4	**+0.1**
KNRA				IAmb	IAmb	13 34 22.2	
	comp=Z,44nm,0.8s						
AS01	**Alice Springs**	**25.30**	**221**	P	**P**	13 34 21.1	**0.0**
AS31	**Alice Springs**	**25.33**	**221**	P	**P**	13 34 21.5	**+0.1**
ASAR	**Alice Springs**	**25.33**	**221**	P	**P**	13 34 21.4	**-0.1**
	comp=Z,15nm,0.7s,baz=52,slow=8.9,SNR=138						
ASAR				PcP	**PcP**	13 37 51.8	**-0.1**
	comp=Z,1.2nm,0.6s,baz=36,slow=1.9,SNR=4.2						
ASAR				S	**S**	13 38 43.4	**+2.9**
	comp=Z,2.2nm,0.9s,baz=38,slow=17,SNR=6.5						
ASAR				ScP	**ScP**	13 41 21.5	**-0.7**
	comp=Z,0.8nm,0.8s,baz=48,slow=3.3,SNR=6.4						
	comp=Z,15nm,0.7s						
STKA	**Stephens Creek**	**28.39**	**199**	P	**P**	13 34 48.5	**-0.1**
	comp=Z,1.1nm,0.4s,baz=20,slow=8.3,SNR=3.4						
	comp=Z,1.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.69**	**241**	P	**P**	13 34 51.2	**-0.3**
FITZ	**Fitzroy Crossi**	**28.69**	**241**	P	**P**	13 34 51.0	**-0.5**
	comp=Z,17nm,0.4s,baz=54,slow=7.2,SNR=148						
	comp=Z,17nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.69**	**241**	P	**P**	13 34 51.1	**-0.5**
MMRI	**Maumere**	**29.58**	**261**	P	**P**	13 34 59.5	**+0.1**
WRKA	**Warakurna**	**30.10**	**226**	P	**P**	13 35 03.1	**-0.8**
BBOO	**Buckleboo**	**31.32**	**206**	P	**P**	13 35 13.6	**-1.0**
BBOO				IAmb	IAmb	13 35 15.0	
	comp=Z,26nm,1.4s						
TOO	**Toolangi**	**32.91**	**189**	P	**P**	13 35 27.5	**-1.0**
FORT	**Forrest**	**34.00**	**218**	P	**P**	13 35 37.5	**-0.6**
FORT	**Forrest**	**34.00**	**218**	P	**P**	13 35 37.5	**-0.6**
MBWA	**Marble Bar**	**35.01**	**240**	P	**P**	13 35 45.9	**-1.0**
MBWA	**Marble Bar**	**35.01**	**240**	P	**P**	13 35 46.5	**-0.4**
MBWA	**Marble Bar**	**35.01**	**240**	P	**P**	13 35 46.0	**-0.8**
PSA00	**Pilbara Seismi**	**35.08**	**239**	P	**P**	13 35 46.6	**-0.8**
PSA00				IAmb	IAmb	13 35 47.1	
	comp=Z,15nm,0.7s						
KKM	**Kota Kinabalu**	**37.20**	**287**	P	**P**	13 36 04.3	**-1.4**
KKM				IAmb	IAmb	13 36 28.7	
	comp=Z,20nm,0.9s						
MEEK	**Meekatharra**	**38.29**	**232**	P	**P**	13 36 14.2	**-0.5**
HIZ	**Hauiti**	**39.37**	**151**	P	**P**	13 36 23.3	**-0.2**
SBUM	**Sibu**	**40.24**	**280**	P	**P**	13 36 31.7	**+0.6**
GIRL	**Giralia**	**40.30**	**241**	P	**P**	13 36 31.8	**+0.3**
URZ	**Urewera**	**40.30**	**149**	P	**P**	13 36 31.8	**+0.6**
	comp=Z,5.0nm,0.5s,baz=352,slow=3.9,SNR=6.8						
	comp=Z,5.0nm,0.5s						
RTZ	**Ruatahuna**	**40.51**	**149**	P	**P**	13 36 32.6	**-0.3**
RTZ				IAmb	IAmb	13 36 34.7	
	comp=Z,22nm,1.0s						
TKNZ	**Takaka Hill**	**40.56**	**155**	P	**P**	13 36 33.7	**+0.4**
KLBR	**Kellerberrin**	**41.45**	**226**	P	**P**	13 36 39.3	**-1.4**
MORW	**Morawa**	**41.45**	**231**	P	**P**	13 36 38.8	**-2.0**
MORW				IAmb	IAmb	13 36 41.3	
	comp=Z,18nm,1.3s						
BFZ	**Birch Farm**	**41.74**	**152**	P	**P**	13 36 42.4	**-0.5**
KSM	**Kuching**	**41.96**	**278**	P	**P**	13 36 44.6	**-0.6**
KSM				IAmb	IAmb	13 36 46.7	
	comp=Z,13nm,0.8s						
KSM	**Kuching**	**41.96**	**278**	P	**P**	13 36 45.7	**+0.5**
MUN	**Mundaring**	**42.77**	**227**	P	**P**	13 36 50.6	**-0.8**
MJAR	**Matsushiro Arr**	**43.26**	**344**	P	**P**	13 36 53.2	**-2.1**
	comp=Z,1.2nm,0.5s,baz=184,slow=11,SNR=5.0						
	comp=Z,1.2nm,0.5s						
BBJI	**Bungbulang**	**43.96**	**264**	P	**P**	13 36 59.7	**-1.6**
LEM	**Lembang**	**43.99**	**265**	P	**P**	13 37 01.4	**-0.3**
	comp=Z,15nm,0.4s,baz=147,slow=12,SNR=4.6						
	comp=Z,15nm,0.4s						
XMIS	**Christmas Isla**	**46.02**	**260**	P	**P**	13 37 15.9	**-1.8**
XMIS				IAmb	IAmb	13 37 19.1	
	comp=Z,24nm,1.1s						
DLV	**Lat**	**46.26**	**292**	P	**P**	13 37 19.9	**+0.2**
DLV				IAmb	IAmb	13 37 22.6	
	comp=Z,19nm,0.8s						
DLV	**Lat**	**46.26**	**292**	P	**P**	13 37 19.6	**-0.1**
KSRS	**Korea Array**	**47.76**	**334**	P	**P**	13 37 30.1	**-0.6**
	comp=Z,1.2nm,0.8s,baz=149,slow=9.9,SNR=4.6						
	comp=Z,1.2nm,0.8s						
MYKOM	**Kota Tinggi**	**48.39**	**277**	P	**P**	13 37 35.1	**-1.0**
MYKOM				IAmb	IAmb	13 37 37.8	
	comp=Z,18nm,0.9s						
MYKOM	**Kota Tinggi**	**48.39**	**277**	P	**P**	13 37 36.2	**+0.2**
NJ2	**Nanjing**	**48.40**	**322**	*e*P	**P**	13 37 37.3	**+1.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
IPM	**Ipoh**	**51.60**	**280**	P	**P**	13 37 58.8	**-1.6**
IPM	**Ipoh**	**51.60**	**280**	P	**P**	13 38 00.0	**-0.4**
KULM	**Kulim**	**52.11**	**281**	P	**P**	13 38 02.8	**-1.3**
KULM	**Kulim**	**52.11**	**281**	P	**P**	13 38 03.8	**-0.3**
NONG	**Nongkai**	**53.19**	**297**	P	**P**	13 38 12.9	**+0.9**
PSI	**Prapat**	**53.41**	**277**	P	**P**	13 38 13.3	**-0.5**
CN2	**Changchun**	**54.10**	**337**	*e*P	**P**	13 38 21.9	**+3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS	**HongShan**	**54.54**	**324**	∥P	**P**	13 38 21.8	**+0.4**
GSI	**Gunungsitoli**	**54.54**	**275**	P	**P**	13 38 21.6	**-0.4**
SRDT	**SRDT**	**55.68**	**291**	P	**P**	13 38 29.8	**-0.3**
XAN	**Xi'an**	**56.11**

ZALV	**Zalesovo Beam**	**80.79 327**	P	**P**	**13 41 04.2**	**-2.0**
ZALV	**Zalesovo Beam**	**80.79 327**	P	**P**	**13 41 04.9**	**-1.2**
	comp=Z,3.7nm,0.5s,baz=116,slow=6.3,SNR=17					
	comp=Z,3.7nm,0.5s					
KSH	**Kashi**	**82.33 311**	P	**P**	**13 41 15.9**	**+1.1**
KSH			pmax	pmax		
	comp=Z,5.0nm,0.8s					
ILAR	**Eielson Array**	**82.73 22**	P	**P**	**13 41 14.4**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=258,slow=5.1,SNR=20					
ILAR			pP	**pP**	**13 41 42.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=252,slow=5.4,SNR=4.4					
	comp=Z,1.2nm,0.7s					
KURK	**Kurchatov**	**83.34 322**	P	**P**	**13 41 17.9**	**-1.6**
KURK			IAmb	IAmb	13 41 19.4	
	comp=Z,6.1nm,0.9s					
KURBB	**Kurchatov Arra**	**83.36 322**	P	**P**	**13 41 18.6**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=110,slow=4.1,SNR=15					
	comp=Z,1.9nm,0.4s					
TKM2	**Tokmak 2**	**83.37 314**	P	**P**	**13 41 19.9**	**-0.3**
	SNR=5.6					
AAK	**Ala-Archa**	**84.10 314**	P	**P**	**13 41 23.9**	**0.0**
AAK			IAmb	IAmb	13 41 24.6	
	comp=Z,6.4nm,0.8s					
AAK	**Ala-Archa**	**84.10 314**	P	**P**	**13 41 23.8**	**0.0**
	SNR=7.4					
USP	**Ospenovka**	**84.23 314**	P	**P**	**13 41 24.1**	**-0.2**
	SNR=11					
AML	**Almayashu**	**84.58 313**	P	**P**	**13 41 26.8**	**+0.2**
	SNR=28					
EKS2	**Erkin-Say**	**84.63 314**	P	**P**	**13 41 26.1**	**-0.4**
	SNR=13					
QSPA	**South Pole Qui**	**84.94 180**	P	**P**	**13 41 27.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=316,slow=0.9,SNR=9.6					
	comp=Z,1.6nm,0.7s					
KKAR	**Karatay Array**	**87.07 314**	P	**P**	**13 41 36.2**	**-2.2**
KKAR	**Karatay Array**	**87.07 314**	IAmb	IAmb	13 41 39.4	
	comp=Z,5.9nm,1.2s					
FARO	**Faro, Yukon**	**87.41 27**	P	**P**	**13 41 37.1**	**-2.5**
BVAR	**Borovoye Array**	**88.83 323**	P	**P**	**13 41 44.6**	**-1.9**
	comp=Z,4.3nm,0.6s,baz=104,slow=5.9,SNR=24					
	comp=Z,4.3nm,0.6s					
NVAR	**Mina Array Bea**	**92.99 52**	P	**P**	**13 42 05.3**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=266,slow=4.8,SNR=6.9					
NVAR			pP	**pP**	**13 42 34.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=251,slow=7.7,SNR=4.7					
	comp=Z,0.9nm,0.8s					
YKA	**Yellowknife Ar**	**96.08 28**	P	**P**	**13 42 18.8**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=273,slow=5.3,SNR=4.3					
YKA			pP	**pP**	**13 42 46.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=270,slow=4.8,SNR=3.8					
	comp=Z,0.2nm,0.6s					
PDAR	**Pinedale Array**	**99.72 48**	P	**Pdif**	**13 42 35.8**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=230,slow=3.1,SNR=4.8					
PDAR			pP	**pP**	**13 43 02.9**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=231,slow=0.9,SNR=4.2					
	comp=Z,0.4nm,0.7s					
BRTR	**Keskin Array B**	**114.71 312**	PKP	**PKiKP**	**13 47 32.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=83,slow=1.6,SNR=3.8					
KOLS	**Kolonicke sedl**	**118.92 324**	*e*PKP	**PKiKP**	**13 47 44.6**	**+3.9**
MODS	**Modra-Piesok**	**122.05 326**	*e*PKP	**PKPdf**	**13 47 47.8**	**+1.1**
GERES	**GERESS Array B**	**123.72 328**	PKP	**PKPdf**	**13 47 49.1**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=69,slow=1.9,SNR=6.8					
EKA	**Eskdalemuir Ar**	**125.95 343**	PKP	**PKPdf**	**13 47 52.9**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=36,slow=2.9,SNR=4.2					
DAVOX	**Davos/Dischmat**	**127.02 328**	PKP	**PKPdf**	**13 47 55.6**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=195,slow=6.3,SNR=2.7					
TORD	**Torodi Ar. Bea**	**149.44 287**	PKPbc	**PKPdf**	**13 48 41.0**	**+3.3**
	comp=Z,9.8nm,0.7s,baz=81,slow=2.7,SNR=33					
DBIC	**Dimbokro**	**156.73 275**	PKPab	**PKPab**	**13 49 16.9**	**-1.3**
	comp=Z,2.6nm,0.5s,baz=77,slow=5.8,SNR=4.9					

*NEIC **09** 13:48:20.8±0.4, 36°.268N±0°.010×97°.18W±0°.01, h5km±1km, Error ellipse: s-maj=1.6km s-min=1.3km az=143.0*

NEIC 09 13:48:20.8±0.4, 36°.27N±0°.01×97°.19W±0°.01, h5km±1km, mb_Lg2.4/13, ML2.5/43, ML2.7/29, Error ellipse: s-maj=1.5km s-min=1.3km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.25**	**54**		Pg	13 48 26.3	+0.6
OK048					Sg	13 48 29.8	+0.8
OK048				IAML		13 48 30.1	
	984nm,0.3s						
OK048				IAML		13 48 30.1	
	871nm,0.3s						
OK051	**E0350 and S346**	**0.37**	**50**		Pg	13 48 28.7	+0.7
OK051					Sg	13 48 33.6	+0.6
OK051				IAML		13 48 34.1	
	568nm,0.2s						
OK051				IAML		13 48 34.8	
	596nm,0.1s						
QUOK	**Quay**	**0.40**	**104**		Pg	13 48 29.1	+0.5
QUOK					Sg	13 48 34.5	+0.6
OK052	**Battle Ridge R**	**0.42**	**131**		Pg	13 48 29.4	+0.4
OK052					Sg	13 48 35.1	+0.7
OK052				IAML		13 48 35.5	
	384nm,0.1s						
OK052				IAML		13 48 35.5	
	449nm,0.1s						
BLOK	**Blackwell**	**0.49**	**358**		Pg	13 48 30.7	+0.4
BLOK					Sg	13 48 37.5	+0.8
BLOK				IAML		13 48 40.4	
	comp=E,452nm,0.2s						
BLOK				IAML		13 48 40.8	
	comp=N,425nm,0.2s						
OK029	**Liberty Lake**	**0.52**	**204**		Pg	13 48 31.2	+0.4
OK029					Sg	13 48 38.4	+0.9
CROK	**Carrier**	**0.68**	**290**		Pg	13 48 34.1	+0.2
CROK					Sg	13 48 43.6	+0.8
CROK				IAML		13 48 47.8	
	comp=N,145nm,0.5s						
CROK				IAML		13 48 51.9	
	comp=E,178nm,0.2s						
DEOK	**Depew**	**0.70**	**127**		Pg	13 48 34.6	+0.2
DEOK					Sg	13 48 44.1	+0.6
DEOK				IAML		13 48 45.1	
	comp=N,219nm,0.2s						
DEOK				IAML		13 48 45.1	
	comp=E,154nm,0.2s						
GC02	**Grant County #**	**0.79**	**317**		Pg	13 48 36.2	+0.1
GC02					Sg	13 48 46.8	+0.4
OK032	**Salt Plains WL**	**0.98**	**303**		Pg	13 48 39.7	+0.1
OK032					Sb	13 48 53.3	-0.2
OK032				IAML		13 48 55.4	
	comp=E,165nm,0.2s						
OK032				IAML		13 49 03.5	
	comp=E,143nm,0.2s						
FNO	**Franklin**	**1.02**	**190**		Pg	13 48 40.2	-0.3
FNO					Sb	13 48 55.4	+0.6
W35A	**Tecumseh**	**1.14**	**167**		Pg	13 48 41.8	-1.0
W35A					Sn	13 48 59.0	-0.5
TUL3	**Leonard**	**1.19**	**107**		Pg	13 48 42.7	-0.9
OK038	**West end E0370**	**1.27**	**280**		Pg	13 48 43.8	-1.3
X34A	**Smith Ranch, M**	**1.74**	**198**		Pb	13 48 53.1	-0.2
X34A					Sg	13 49 18.1	+1.2
WMOK	**Wichita Mounta**	**2.00**	**221**		Pn	13 48 56.4	+1.1
U38A	**Gravette**	**2.27**	**85**	Pn	Pn	13 48 60.0	+1.0
CBKS	**Cedar Bluff**	**3.25**	**322**	IAmb_Lg		13 50 09.1	
	comp=Z,9.1nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.12**	**94**	IAmb_Lg		13 50 30.1	
	comp=Z,5.3nm,1.1s						
T42A	**Van Buren**	**4.96**	**79**	IAmb_Lg		13 51 08.1	
	comp=Z,5.0nm,0.7s						
CCM	**Cathedral Cave**	**5.07**	**68**	IAmb_Lg		13 51 01.0	
	comp=Z,7.5nm,0.9s						
BGNE	**Belgrade**	**5.19**	**352**	IAmb_Lg		13 51 12.8	
	comp=Z,12nm,0.9s						
PBMO	**Poplar Bluff**	**5.47**	**83**	IAmb_Lg		13 51 25.3	
	comp=Z,5.5nm,0.7s						
SIUC	**Southern Illin**	**6.54**	**75**	IAmb_Lg		13 51 47.5	
	comp=Z,8.5nm,0.8s						

*MEX **09** 13:49:49.5±1.6, 14°.40N×93°.44W, h11km±112km, MD4.0*
*GCG **09** 13:49:50.8±2.1, 14°.08N×93°.06W, h41km±335km, MD4.3*

ISC 09 13:49:46.8±2.2, 14°.2N±0°.1×93°.27W±0°.05, h13km±12km, n15, σ1°.976/27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.18**	**55**	*e*P	**Pg**	**13 50 10.3**	**+0.7**
THIG				*e*S	**Sb**	**13 50 22.9**	**-1.4**
THIG		**1.18**	**55**	*e*P	**Pg**	**13 50 10.3**	**+0.7**
THIG		**1.18**	**55**	*e*P		13 50 10.3	
SMCA	**Catarina**	**1.31**	**61**	*e*P	**Pb**	**13 50 11.5**	**+0.2**
SMCA	**Catarina**	**1.31**	**61**	*e*P		13 50 11.5	
PATR	**El Naranjo**	**1.34**	**48**	*e*P	**Pn**	**13 50 10.7**	**-0.6**
PATR				*e*S	**Sn**	**13 50 28.1**	**-1.0**
PAVE	**Pavencul**	**1.43**	**48**	*e*P	**Pn**	**13 50 12.5**	**-0.1**
PAVE				*e*S	**Sn**	**13 50 30.9**	**-0.5**
PCIG		**1.47**	**2**	*e*P	**Pg**	**13 50 14.8**	**-0.2**
PCIG				*e*S	**Sn**	**13 50 29.9**	**-2.2**
RTAL	**Retalhuleu**	**1.55**	**79**	*e*P	**Pn**	**13 50 14.4**	**+0.2**
RTAL				*e*S	**Sn**	**13 50 31.9**	**-2.3**
STG8	**El Palmar, Qui**	**1.87**	**83**	*e*P		13 50 16.0	
STG0	**El Palmar, Qui**	**1.88**	**84**	*e*P		13 50 16.1	
CCIG	**Comitan**	**2.32**	**28**	*e*P	**Pb**	**13 50 29.2**	**+0.6**
CCIG				*e*S	**Sn**	**13 50 56.0**	**+2.8**
CCIG	**Comitan**	**2.32**	**28**	*e*P	**Pb**	**13 50 29.2**	**+0.6**
CCIG				*e*S	**Sb**	**13 50 57.7**	**+0.6**
CCIG	**Comitan**	**2.32**	**28**	*e*P		13 50 29.2	
CCIG				*e*S		13 50 57.7	
TGIG		**2.54**	**3**	*e*P	**Pb**	**13 50 31.4**	**-0.9**
TGIG				*e*S	**Sn**	**13 51 01.2**	**+2.6**
TGIG		**2.54**	**3**	*e*P	**Pb**	**13 50 31.5**	**-0.7**
TGIG				*i* S	**Sb**	**13 51 02.1**	**-1.3**
TGIG		**2.54**	**3**	*e*P		13 50 31.5	
TGIG				*i* S		13 51 02.1	
FG8	**Yepocapa, Chim**	**2.63**	**89**	*e*P		13 50 23.8	
APG	**El Apazote**	**2.82**	**74**	*e*P	**Pn**	**13 50 33.1**	**+1.3**
APG	**El Apazote**	**2.82**	**74**	*e*P		13 50 33.1	
UXUV	**UXUV**	**3.19**	**345**	*e*P	**Pb**	**13 50 42.1**	**-1.2**
UXUV				*e*S	**Sn**	**13 51 15.7**	**+1.2**
CMIG	**Matias Romero**	**3.25**	**332**	*e*P	**Pb**	**13 50 42.2**	**-2.1**
CMIG				*e*S	**Sb**	**13 51 19.9**	**-3.8**
NEUV	**Arroyo Zacate**	**4.24**	**325**	*e*P	**Pn**	**13 50 54.0**	**+3.0**
NEUV				*e*S	**Sn**	**13 51 42.7**	**+2.4**

IDC 09 13:52:25.1±4.5, 64°.14S×175°.61E, h0km, mb4.0/3, mbtmp4.1/4, ML4.0/1, MS3.8/17, Error ellipse: s-maj=168.7km s-min=25.6km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.11**	**192**	Pn	Pn	13 55 44.5	-1.4
	0.6nm,0.3s,baz=28,slow=15,SNR=24						
VNDA				LR	LR	13 59 53.4	
	comp=Z,463nm,18.2s,baz=358,slow=32						
	7.4nm,0.6s						
URZ	**Urewera**	**25.93**	**3**	LR	LR	14 06 51.2	
	comp=Z,170nm,18.9s,baz=272,slow=33						
QSPA	**South Pole Qui**	**25.95**	**180**	P	P	13 57 59.3	+0.3
	5.5nm,0.9s,baz=35,slow=2.1,SNR=13						
QSPA				LR	LR	14 06 19.3	
	comp=Z,278nm,19.6s,baz=12,slow=32						
	5.5nm,0.9s						
STKA	**Stephens Creek**	**38.59**	**310**	LR	LR	14 12 59.8	
	comp=Z,66nm,20.4s,baz=287,slow=32						
DZM	**Mont Dzumac**	**42.49**	**347**	LR	LR	14 15 36.7	
	comp=Z,70nm,19.2s,baz=206,slow=33						
SNAA	**Sanae**	**44.46**	**181**	LR	LR	14 18 36.0	
	comp=Z,204nm,18.1s,baz=178,slow=35						
RAR	**Rarotonga**	**45.95**	**33**	LR	LR	14 15 06.9	
	comp=Z,98nm,19.8s,baz=128,slow=30						
H01W1	**Cape Leeuwin H**	**46.84**	**278**	T	T	14 51 00.0	
	baz=148,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**46.84**	**278**	T	T	14 51 00.1	
	baz=148,slow=76,SNR=19						
H01W3	**Cape Leeuwin H**	**46.86**	**278**	T	T	14 51 00.6	
	baz=148,slow=76,SNR=18						
NWAO	**Narrogin (SRO)**	**47.19**	**283**	LR	LR	14 15 48.6	
	comp=Z,104nm,20.5s,baz=244,slow=30						
ASAR	**Alice Springs**	**48.78**	**306**	P	P	14 01 11.8	+0.2
	0.9nm,0.8s,baz=152,slow=7.3,SNR=8.8						
ASAR				LR	LR	14 18 56.8	
	comp=Z,48nm,18.4s,baz=146,slow=33						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**52.06**	**308**	P	P	14 01 35.9	-0.6
	1.1nm,0.8s,baz=162,slow=6.1,SNR=5.7						
WRA				LR	LR	14 21 55.6	
	comp=Z,79nm,18.1s,baz=194,slow=34						
	1.1nm,0.8s						
HNR	**Honiara**	**55.74**	**341**	LR	LR	14 21 36.4	
	comp=Z,79nm,21.9s,baz=202,slow=31						
PMG	**Port Moresby**	**58.23**	**326**	LR	LR	14 22 17.1	
	comp=Z,53nm,20.7s,baz=132,slow=31						
H03S2	**Juan Fernandez**	**66.38**	**119**	T	T	15 16 37.8	
	baz=206						
H03S1	**Juan Fernandez**	**66.38**	**119**	T	T	15 16 16.2	
	baz=206						
H03S3	**Juan Fernandez**	**66.39**	**119**	T	T	15 16 32.4	
	baz=206						
CFA	**Coronel Fontan**	**72.32**	**126**	LR	LR	14 30 12.5	
	comp=Z,113nm,21.0s,baz=234,slow=31						
SUR	**Sutherland**	**81.77**	**201**	LR	LR	14 39 29.9	
	comp=Z,70nm,18.9s,baz=175,slow=34						
BOSA	**Boshof**	**84.67**	**206**	LR	LR	14 41 59.7	
	comp=Z,59nm,18.5s,baz=182,slow=35						
H08S2	**Diego Garcia H**	**88.85**	**255**	T	T	15 43 36.1	
	baz=154,slow=76,SNR=73						
H08S1	**Diego Garcia H**	**88.86**	**255**	T	T	15 43 49.6	
	baz=154,slow=76,SNR=82						
H08S3	**Diego Garcia H**	**88.87**	**255**	T	T	15 43 39.3	
	baz=154,slow=76,SNR=79						
ATAH	**Atahualpa**	**90.52**	**107**	LR	LR	14 37 07.8	
	comp=Z,48nm,19.9s,baz=184,slow=30						
TSUM	**Tsumeb**	**95.20**	**201**	LR	LR	14 46 34.8	
	comp=Z,117nm,20.2s,baz=148,slow=34						
BRTR	**Keskin Array B**	**146.99**	**241**	PKPbc	PKPbc	14 12 08.2	-0.7
	0.6nm,0.7s,baz=183,slow=2.6,SNR=4.9						

*NEIC **09** 14:00:45.4±2.5, 17°.30N±0°.03×100°.65W±0°.03, h10km±1km, mb4.7/64, Md5.1/178(MEX), Error ellipse: s-maj=6.0km s-min=4.5km az=21.0*

*GCMT **09** 14:00:46.4±0.6, 17°.19N±0°.04×100°.46W±0°.03, h35km±1km, MW4.9/65, Moment Tensor Solution. s23,c26; s65,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.20±.17; $M_{\theta\theta}$-1.83±.10; $M_{\phi\phi}$-0.36±.11; $M_{r\theta}$-1.45±.08; $M_{\theta\phi}$0.41±.08; $M_{\phi r}$-0.09±.10; Best double couple: $M_0$2.52300×10^{16} NP1:ϕ_s112.00000°, δ29.00000°, λ105.00000°. NP2: ϕ_s275.00000°, δ62.00000°, λ82.00000°. Principal axes: T 2.6820, Plg71.0000°, Azm167.0000°; N -0.3150, Plg7.0000°, Azm279.0000°; P -2.3630, Plg17.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MEX **09** 14:00:49.1±1.6, 17°.26N×100°.67W, h10km, MD5.1*

*IDC **09** 14:00:53.3±2.5, 17°.42N×100°.31W, h69km±21km, mb3.9/23, mbtmp4.2/28, MS4.0/41, Error ellipse: s-maj=22.4km s-min=9.1km az=53.0*

ISC 09 14:00:44.7±1.1, 17°.37N±0°.02×100°.74W±0°.02, h8km±6km, n321, σ1°.97/387, mb4.7/43, MS4.1/37, 8C-8D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATYC	**Atoyac**	**0.33**	**118**	*i* P	**Pn**	**14 00 55.4**	**-0.5**
ATYC				*e*S	**Sb**	**14 01 00.5**	**+2.0**
PET2	**Petatlan**	**0.53**	**288**	*i* P	**Pn**	**14 01 01.2**	**+2.6**
PET2				*e*S	**Sn**	**14 01 10.4**	**+2.8**
CAIG	**El Cayaco**	**0.55**	**125**		**Pb**	**14 00 58.0**	**+1.3**
CAIG					**Sg**	**14 01 05.1**	**+2.4**
CAIG	**El Cayaco**	**0.55**	**125**	*i* P	**Pb**	**14 00 58.0**	**+1.3**
CAIG				*e*S	**Sg**	**14 01 05.1**	**+2.4**
ZIIG	**Zihuatanejo**	**0.73**	**289**		**Pn**	**14 01 04.0**	**+2.7**
ZIIG					**Sn**	**14 01 14.8**	**+2.1**
ZIIG	**Zihuatanejo**	**0.73**	**289⇑**	*e*P	**Pn**	**14 01 04.0**	**+2.7**
ZIIG				*e*S	**Sn**	**14 01 14.8**	**+2.1**
ACP2	**Acapulco**	**0.95**	**121**		**Pg**	**14 01 03.6**	**+0.6**
ACP2					**Sg**	**14 01 14.4**	**-1.1**
ACP2	**Acapulco**	**0.95**	**121**	*i* P	**Pg**	**14 01 03.6**	**+0.6**
ACP2				*e*S	**Sg**	**14 01 14.4**	**-1.1**
ARIG	**Puente Sto Nin**	**0.98**	**22**		**Pn**	**14 01 05.5**	**+0.7**
ARIG					**Sn**	**14 01 18.1**	**-0.8**
ARIG	**Puente Sto Nin**	**0.98**	**22⇓**	*i*P	**Pn**	**14 01 05.5**	**+0.7**
ARIG				*e*S	**Sn**	**14 01 18.1**	**-0.8**
VNTA	**La Mica**	**0.99**	**117**	*e*P	**Pg**	**14 01 04.2**	**+0.4**
VNTA				*e*S	**Sg**	**14 01 15.8**	**-0.8**
DAIG	**Los Arroyos**	**1.10**	**108**		**Pg**	**14 01 05.7**	**-0.1**
DAIG					**Sg**	**14 01 18.2**	**-1.8**
DAIG	**Los Arroyos**	**1.10**	**108⇑**	*e*P	**Pg**	**14 01 05.7**	**-0.1**
DAIG				*e*S	**Sg**	**14 01 18.2**	**-1.8**
UON	**La Union**	**1.19**	**300**	*e*P	**Pn**	**14 01 11.4**	**+3.7**
UON				*e*S	**Sn**	**14 01 28.9**	**+4.9**
PLIG	**Platanillo**	**1.56**	**49**		**Pn**	**14 01 13.4**	**+0.6**
PLIG					**Sn**	**14 01 32.8**	**-0.5**
PLIG	**Platanillo**	**1.56**	**49⇓**	*i*P	**Pn**	**14 01 13.4**	**+0.6**
PLIG				*e*S	**Sn**	**14 01 32.8**	**-0.5**
TEJU	**Tejupilco**	**1.62**	**20**	*e*P	**Pb**	**14 01 15.2**	**+0.2**
TEJU				*e*S	**Sg**	**14 01 36.6**	**-0.3**
CRIG	**Cruz Grande**	**1.66**	**112**		**Pn**	**14 01 13.5**	**-0.7**
CRIG					**Sn**	**14 01 32.4**	**-3.4**
CRIG	**Cruz Grande**	**1.66**	**112⇑**	*i*P	**Pn**	**14 01 13.5**	**-0.7**
CRIG				*e*S	**Sn**	**14 01 32.4**	**-3.4**
MAVM	**Malinalco, Edo**	**1.97**	**37**	*e*P	Pn	14 01 04.7	-14
MAVM				*e*S	Sn	14 01 29.4	-14
MGIG	**Malinaltepec**	**2.02**	**94**		**Pn**	**14 01 19.3**	**+0.1**
MGIG					**Sn**	**14 01 43.4**	**-1.4**
MGIG	**Malinaltepec**	**2.02**	**94**	*e*P	**Pn**	**14 01 19.3**	**+0.1**
MGIG				*e*S	**Sn**	**14 01 43.4**	**-1.4**
TLIG	**Tlapa**	**2.08**	**84⇑**	*e*P	**Pn**	**14 01 20.6**	**+0.5**
TLIG				*e*S	**Sn**	**14 01 45.3**	**-1.0**
HMTT	**Tlapaneco**	**2.12**	**78**		**Pn**	**14 01 21.8**	**+1.1**
HMTT					**Sn**	**14 01 46.4**	**-0.8**
HMTT	**Tlapaneco**	**2.12**	**78**	*e*P	**Pn**	**14 01 21.8**	**+1.1**
HMTT				⇓*e*S	**Sn**	**14 01 46.4**	**-0.8**
YAIG	**Yautepec**	**2.17**	**47**		**Pn**	**14 01 21.7**	**+0.3**
YAIG					**Sb**	**14 01 50.2**	**-1.5**
YAIG	**Yautepec**	**2.17**	**47**	*e*P	**Pn**	**14 01 21.7**	**+0.3**
YAIG				*e*S	**Sb**	**14 01 50.2**	**-1.5**
INVM	**La Marquesa**	**2.30**	**34**	*e*P	**Pb**	**14 01 26.6**	**-0.2**
AOVM	**Tlapan**	**2.32**	**35**		**Pb**	**14 01 25.6**	**-1.5**
AOVM	**Tlapan**	**2.32**	**35**	*e*P	**Pb**	**14 01 25.6**	**-1.5**
MOIG	**Morelia**	**2.33**	**350**	Pn	**Pn**	**14 01 22.9**	**-0.7**
MOIG				Sn	**Sg**	**14 01 59.7**	**-0.1**
MOIG	**Morelia**	**2.33**	**350**	*e*P	**Pb**	**14 01 26.9**	**-0.3**
MOIG				*e*S	**Sb**	**14 01 56.7**	**+0.4**
TLVM	**San Miguel Top**	**2.37**	**39**	*e*P	**Pb**	**14 01 26.3**	**-1.6**
TLVM				*e*S	**Sb**	**14 01 58.7**	**+1.2**
URUA	**Uruapan**	**2.40**	**328**		**Pb**	**14 01 28.2**	**-0.1**
URUA					**Sg**	**14 02 01.4**	**-0.5**
URUA	**Uruapan**	**2.40**	**328**	*e*P	**Pb**	**14 01 28.2**	**-0.1**
URUA				*e*S	**Sg**	**14 02 01.4**	**-0.5**
CJVM	**Cuajimalpa**	**2.41**	**35**	*e*P	**Pn**	**14 01 26.6**	**+1.8**
CJVM				*e*S	**Sg**	**14 02 00.9**	**-1.5**
XCVM	**Xochimilco**	**2.42**	**39**	*e*P	**Pn**	**14 01 26.4**	**+1.5**
XCVM				*e*S	**Sb**	**14 02 00.3**	**+1.3**
CNCY	**Coyoacan**	**2.44**	**37**	*e*P	**Pn**	**14 01 26.5**	**+1.4**
CNCY				*e*S	**Sb**	**14 02 00.2**	**+0.8**
CUP5	**Mexico City**	**2.45**	**37**	*e*P	**Pb**	**14 01 28.0**	**-1.2**
CUP5				*e*S	**Sb**	**14 01 59.1**	**-0.5**
UNM	**Universidad Na**	**2.45**	**37**	Pn	**Pn**	**14 01 25.2**	**-0.1**
UNM	**Universidad Na**	**2.45**	**37**	*e*P	**Pn**	**14 01 26.9**	**+1.6**
UNM				*i* S	**Sb**	**14 01 57.9**	**-1.7**
UNM				*e*S	**Sb**	**14 01 57.9**	**-1.7**
MPVM	**San Francisco**	**2.45**	**42⇓**	*e*P	**Pb**	**14 01 28.4**	**-0.9**
MPVM				*e*S	**Sb**	**14 02 00.3**	**+0.6**
COVM	**Coyoacan**	**2.48**	**37**	*e*P	**Pb**	**14 01 28.0**	**-1.7**
COVM				*e*S	**Sb**	**14 02 01.1**	**+0.6**
BJVM	**Benito Juarez**	**2.49**	**37**	*e*P	**Pb**	**14 01 28.2**	**-1.7**
BJVM				*e*S	**Sb**	**14 02 01.7**	**+0.9**
MHVM	**Bosque de Chap**	**2.49**	**35**	*e*P	**Pb**	**14 01 28.4**	**-1.6**
MHVM				*e*S	**Sb**	**14 02 01.1**	**+0.2**
SCT2	**Benito Juarez**	**2.52**	**37**	*e*P	**Pb**	**14 01 30.4**	**0.0**
SCT2				*e*S	**Sg**	**14 02 04.4**	**-1.3**
FTIG	**Fresnillo de T**	**2.54**	**77**		**Pn**	**14 01 27.1**	**+0.7**
FTIG					**Sn**	**14 01 54.8**	**-2.9**
FTIG	**Fresnillo de T**	**2.54**	**77**	*e*P	**Pn**	**14 01 27.1**	**+0.7**
FTIG				*e*S	**Sn**	**14 01 54.8**	**-2.9**
CTVM	**Cuauhtemoc**	**2.54**	**36**	*e*P	**Pn**	**14 01 26.8**	**+0.2**
CTVM				*e*S	**Sb**	**14 02 02.4**	**-0.1**
VRVM	**Mexico City**	**2.55**	**37**	*e*S	**Sb**	**14 02 02.4**	**-0.3**
THVM	**De Xico**	**2.56**	**41**	*e*P	**Pn**	**14 01 28.8**	**+1.8**
THVM				*e*S	**Sb**	**14 02 00.5**	**-2.3**
APVM	**Azcapotzalco**	**2.56**	**34**		**Pb**	**14 01 29.8**	**-1.3**
APVM					**Sb**	**14 02 03.6**	**+0.8**
APVM	**Azcapotzalco**	**2.56**	**34**	*e*P	**Pb**	**14 01 29.8**	**-1.3**
APVM				*e*S	**Sb**	**14 02 03.6**	**+0.8**
PBXN	**Popocatepetl**	**2.56**	**50**	*e*P	**Pn**	**14 01 27.7**	**+0.7**
PBXN				*e*P		14 01 28.2	
PBXN				*e*S	**Sb**	**14 02 03.3**	**+0.1**
PBXN				*e*S		14 02 03.5	
PBPN	**Popocatepetl**	**2.60**	**50**	*e*P	**Pn**	**14 01 27.6**	**0.0**
PBPN				*e*P		14 01 27.7	
PBPN				*e*S	**Sb**	**14 02 02.8**	**-1.6**
PBPN				*e*S		14 02 03.5	
PPIG	**Popocatepetl**	**2.62**	**50**		**Pn**	**14 01 28.3**	**+0.4

OXLC eS **Sn** **14 02 29.5 -1.0**
TON2 Tonala 4.01 324 eS **Sb** **14 02 39.7 -4.8**
CXUV Coxquihui 4.08 46 eP **Pn** **14 01 47.3 -0.2**
CXUV eS **Sn** **14 02 34.7 -0.9**
XALA Xalapa 4.23 59 eP **Pn** **14 01 54.4 +4.7**
XALA eS **Sn** **14 02 43.7 +4.4**
JAUV Jalcomulco 4.23 61 eP **Pn** **14 01 50.9 +1.3**
JAUV eS **Sn** **14 02 43.1 +3.8**
RPIG Rio Verde 4.55 9 eP **Pg** **14 02 10.4 -1.5**
RPIG eS **Sg** **14 03 09.5 -1.4**
CJM Chamela 4.60 298 eP **Pn** **14 01 59.2 +4.5**
CJM eS **Sb** **14 02 56.0 -5.4**
CTUV Llano Grande 4.66 28 eP **Pn** **14 01 57.4 +2.0**
CTUV eS **Sb** **14 02 57.8 -5.2**
HUIG Huatulco 4.72 109 **Pn** **14 01 56.9 +0.6**
HUIG **Sn** **14 02 52.3 +1.1**
HUIG Huatulco 4.72 109 eP **Pn** **14 01 56.9 +0.6**
HUIG eS **Sn** **14 02 52.3 +1.1**
LVIG Laguna Verde 4.72 60 eP **Pn** **14 02 00.6 +4.4**
LVIG eS **Sn** **14 02 57.3 +6.1**
NEUV Arroyo Zacate 4.72 85 eP **Pn** **14 01 56.9 +0.6**
NEUV eS **Sn** **14 02 50.1 -1.2**
PMUV Sontecomapan 5.47 77 eP **Pn** **14 02 05.3 -1.4**
PMUV eS **Sn** **14 03 05.5 -4.4**
CMIG Matias Romero 5.60 92 **Pn** **14 02 08.8 +0.4**
CMIG **Sn** **14 03 13.7 +0.7**
CMIG Matias Romero 5.60 92 P **Pn** **14 02 08.7 +0.4**
16nm,0.5s,baz=279,slow=13,SNR=29
CMIG S **Sn** **14 03 06.3 -6.7**
238nm,0.8s,baz=271,slow=14,SNR=3.9
CMIG LR LR 14 04 35.3
comp=Z,1µm,20.9s,baz=274,slow=43
CMIG Matias Romero 5.60 92 eP **Pn** **14 02 08.8 +0.4**
CMIG eS **Sn** **14 03 13.7 +0.7**
ZAIG Zacatecas 5.64 343 Pn **Pn** **14 02 11.4 +2.2**
ZAIG Zacatecas 5.64 343 eP Pn 14 02 14.5 +5.4
ZAIG eS **Sb** **14 03 28.1 -3.4**
TUIG Tuzandepetl 6.06 83 eP **Pn** **14 02 15.6 +1.0**
TUIG eS **Sn** **14 03 24.9 +0.7**
UXUV UXUV 6.30 90 eP **Pn** **14 02 18.1 +0.1**
UXUV eS **Sn** **14 03 34.4 +4.3**
TGIG 7.31 94 **Pn** **14 02 33.4 +1.4**
TGIG **Sn** **14 03 57.3 +2.1**
TGIG 7.31 94 eP **Pn** **14 02 33.4 +1.4**
TGIG eS **Sn** **14 03 57.3 +2.1**
PCIG 7.40 102 **Pn** **14 02 34.9 +1.8**
PCIG **Sn** **14 03 56.0 -1.3**
PCIG 7.40 102 eP **Pn** **14 02 33.7 +0.6**
PCIG eP 14 02 34.9
PCIG eS **Sn** **14 03 55.7 -1.6**
PCIG eS 14 03 56.0
LNIG Linares 7.58 9 eP **Pn** **14 02 40.2 +4.6**
LNIG eS **Sn** **14 04 07.9 +6.0**
MAIG Mazatlaan 7.87 318 Pn 14 02 45.8 +6.2
MAIG Mazatlaan 7.87 318 eP Pn 14 02 45.8 +6.2
CCIG Comitan 8.31 96 eP **Pn** **14 02 45.8 0.0**
CCIG eS **Sn** **14 04 25.0 +5.1**
PATR El Naranjo 8.47 104 eP **Pn** **14 02 49.4 +1.4**
PATR eS **Sn** **14 04 24.8 +0.7**
PAVE Pavencul 8.50 104 eP **Pn** **14 02 49.4 +0.9**
PAVE eS **Sn** **14 04 25.3 +0.5**
THIG 8.50 106 **Sn** **14 04 28.6 +4.1**
THIG 8.50 106 eS **Sn** **14 04 28.6 +4.1**
PDIG Papasquiaro 8.78 331 Pn 14 03 00.2 +7.9
PDIG Sn 14 04 41.4 +10
PDIG Papasquiaro 8.78 331 eP Pn 14 03 00.2 +7.9
PDIG eS Sn 14 04 41.4 +10
RTAL Retalhuleu 9.15 107 Pn **Pn** **14 02 57.7 +0.6**
SCIG Sabancuy 9.22 79 eS **Sn** **14 04 40.5 -1.6**
SSIG Sanalona 9.52 322 Sn 14 05 00.7 +11
SSIG Sanalona 9.52 322 eP Pn 14 03 13.1 +11
SSIG eS Sn 14 05 00.7 +11
APG El Apazote 10.15 102 P **Pn** **14 03 12.6 +1.5**
0.9nm,0.7s,baz=240,slow=20,SNR=11
APG S **Sn** **14 05 01.6 -3.7**
1.0nm,0.7s,baz=240,slow=20,SNR=1.4
APG LR LR 14 07 09.8
comp=Z,41nm,20.6s,baz=252,slow=39
PETF Flores 10.40 91 Pn **Pn** **14 03 13.7 -0.6**
MCIG Muzquiz 10.48 356 **Pn** **14 03 15.8 +0.4**
MCIG **Sn** **14 05 20.9 +7.9**
MCIG Muzquiz 10.48 356 eP **Pn** **14 03 15.8 +0.4**
MCIG eS **Sn** **14 05 20.9 +7.9**
HPIG 10.55 335 Pn **Pn** **14 03 17.5 +1.0**
LPIG La Paz 11.18 308 LR LR 14 07 25.7
comp=Z,884nm,19.3s,baz=139,slow=34
MTO3 Montecristo 11.34 104 Pn **Pn** **14 03 24.9 -2.4**
TEIG Tepich 12.14 75 Pn **Pn** **14 03 35.0 -3.1**
TEIG Tepich 12.14 75 P **Pn** **14 03 37.4 -0.7**
baz=253,slow=19
TEIG S Sn 14 05 41.6 -12
baz=233,slow=20,SNR=1.4
HNDO Hondo 12.18 6 Pn **Pn** **14 03 42.0 +3.4**
TXAR Lajitas Array 12.21 348 P Pn 14 03 44.7 +5.6
1.2nm,0.8s,baz=162,slow=15,SNR=12
TXAR LR LR 14 08 57.2
comp=Z,917nm,19.5s,baz=154,slow=40
TX31 Lajitas Ar. Si 12.21 348 Pn **Pn** **14 03 41.5 +2.4**
TGUH Tegucigalpa,Un 13.38 102 Pn **Pn** **14 03 53.3 -1.9**
OZNA Ozona 13.49 359 **Pn** **14 04 00.8 +4.2**
BRDY Brady 13.94 6 Pn **Pn** **14 04 04.4 +1.7**
MNHN Monahans 14.03 353 **Pn** **14 04 07.4 +3.5**
SGCY Sterling City 14.48 359 Pn **Pn** **14 04 11.1 +0.9**
ODSA Odessa 14.78 354 Pn **Pn** **14 04 15.5 +1.3**
CLNB Carlsbad 15.10 350 Pn **Pn** **14 04 20.6 +2.1**
FW13 Cleburne 15.21 11 Pn **Pn** **14 04 19.1 -0.9**
BOAB BOACO BROADBAN 15.36 107 **Pn** **14 04 24.8 +2.7**
PLPT Palo Pinto 15.53 8 **P** **14 04 29.5 +0.9**
PLPT IAmb IAmb 14 04 52.8
comp=Z,43nm,0.9s
POST Post 15.64 358 Pn **Pn** **14 04 26.5 +0.8**
POST IAmb IAmb 14 04 56.8
comp=Z,34nm,0.8s
FW03 Perrin-Whitt E 15.79 8 Pn **Pn** **14 04 27.4 -0.1**
FW03 IAmb IAmb 14 04 53.0
comp=Z,38nm,0.8s
APMT Aspermont 15.90 2 Pn **Pn** **14 04 30.3 +1.4**
APMT IAmb IAmb 14 04 57.0
comp=Z,54nm,1.0s
JTS Las Juntas de 16.86 113 P **Pn** **14 04 41.3 -0.1**
comp=Z,4.9nm,0.5s,baz=288,slow=11,SNR=5.5
Z41A Richland Creek 17.36 23 P **P** **14 04 48.9 +0.1**
CRNM Carthage 17.37 343 **P** **14 04 51.7 +2.6**
WMOK Wichita Mounta 17.38 5 Pn **Pn** **14 04 46.8 -1.0**
BNM Barren Site 17.52 344 **P** **14 04 52.3 +1.5**
WLAR White Oak Lake 17.63 21 **Pn** **14 04 51.1 +0.3**
WLAR IAmb IAmb 14 05 03.2
comp=Z,99nm,1.1s
HDC Heredia 17.73 112 eP **P** **14 04 55.6 +2.5**
W35A Tecumseh 18.04 10 Pn **Pn** **14 04 55.0 -0.9**
W35A IAmb IAmb 14 05 15.5
comp=Z,48nm,0.7s
ANMO Albuquerque 18.23 345 P **P** **14 05 01.3 +2.6**
ANMO Albuquerque 18.23 345 P **P** **14 05 01.7 +3.0**
comp=Z,6.8nm,0.8s,baz=311,slow=11,SNR=22
ANMO LR LR 14 12 44.1
comp=Z,1µm,18.8s,baz=330,slow=39
X40A Basin Creek Fa 18.45 21 P **P** **14 05 00.1 -0.8**
DEOK Depew 18.78 11 P **P** **14 05 00.8 -3.7**
DEOK IAmb IAmb 14 05 22.8
comp=Z,45nm,0.8s
TUL3 Leonard 18.98 12 P **P** **14 05 05.3 -1.4**
113A Mohawk Valley, 19.32 325 P **Pn** **14 05 15.4 +4.1**
HHAR Hobbs 19.78 16 P **P** **14 05 14.8 -0.6**
HHAR IAmb IAmb 14 05 25.2
comp=Z,33nm,0.9s
T35A Sooner Cattle 19.82 10 IAmb IAmb 14 05 33.4
comp=Z,31nm,0.6s
LRAL Lakeview Retre 19.91 36 P **P** **14 05 16.1 -0.8**
LCAR Lake Charles 20.47 23 P **P** **14 05 23.4 +0.5**
LCAR IAmb IAmb 14 05 33.6
comp=Z,50nm,1.2s
SDCO Great Sand Dun 20.73 349 P **P** **14 05 26.9 +0.9**
MGMO Mountain Grove 21.08 19 P **P** **14 05 29.2 -0.3**
MGMO IAmb IAmb 14 05 40.0
comp=Z,52nm,0.9s
T42A Van Buren 21.35 22 P **P** **14 05 34.5 +2.0**
T42A IAmb IAmb 14 06 02.2
comp=Z,71nm,1.3s
PBMO Poplar Bluff 21.37 23 P **P** **14 05 31.5 -1.1**
PFO Pinyon Flats O 21.47 322 P **P** **14 05 39.0 +5.2**
comp=Z,1.1nm,0.8s,baz=120,slow=7.0,SNR=17

PFO LR LR 14 13 59.9
comp=Z,364nm,19.1s,baz=142,slow=36
comp=Z,1.1nm,0.8s
FPAL Fort Paine 21.80 35 P **P** **14 05 36.4 -1.0**
WVT Waverly 21.91 29 P **P** **14 05 38.4 -0.1**
WVT IAmb IAmb 14 05 49.6
comp=Z,36nm,0.8s
PV15 Paradox Valley 21.97 344 IAmb IAmb 14 05 51.8
comp=Z,40nm,1.2s
CCM Cathedral Cave 22.23 20 P **P** **14 05 41.5 -0.4**
CCM IAmb IAmb 14 05 59.1
comp=Z,25nm,0.8s
FVM French Village 22.44 22 IAmb IAmb 14 05 55.2
comp=Z,30nm,0.8s
O20A White River Ci 23.60 346 IAmb IAmb 14 06 14.7
comp=Z,19nm,0.9s
TKL Tuckaleechee C 23.64 36 P **P** **14 05 56.4 -0.2**
comp=Z,2.2nm,0.4s,baz=221,slow=9.3,SNR=2.2
comp=Z,2.2nm,0.4s
DUG Dugway, Tooele 25.03 338 IAmb IAmb 14 06 34.8
comp=Z,28nm,1.4s
NVAR Mina Array Bea 26.01 327 P **P** **14 06 21.7 +3.2**
comp=Z,3.1nm,0.9s,baz=152,slow=10.0,SNR=23
NVAR PcP **PcP** **14 09 47.3 +0.6**
comp=Z,1.1nm,0.9s,baz=121,slow=2.4,SNR=3.6
comp=Z,3.1nm,0.9s
PDAR Pinedale Array 26.41 345 P **P** **14 06 22.6 +0.6**
PDAR Pinedale Array 26.41 345 P **P** **14 06 24.2 +2.1**
comp=Z,1.2nm,0.7s,baz=143,slow=11,SNR=12
PDAR PcP **PcP** **14 09 47.6 0.0**
comp=Z,1.8nm,1.1s,baz=170,slow=3.8,SNR=4.3
comp=Z,1.2nm,0.7s
OTAV Otavalo 27.77 126 P **P** **14 06 31.3 -3.5**
OTAV IAmb IAmb 14 06 52.5
comp=Z,18nm,1.2s
OTAV Otavalo 27.77 126 eP **P** **14 06 35.7 +0.8**
ROSC El Rosal 28.71 113 LR LR 14 18 06.3
comp=Z,108nm,21.1s,baz=260,slow=36
RUSC La Rusia 29.34 110 P **P** **14 06 45.3 -3.6**
RUSC IAmb IAmb 14 06 50.7
comp=Z,20nm,1.2s
DLMT Dillon 29.62 343 P **P** **14 06 52.1 +1.5**
DLMT IAmb IAmb 14 07 06.4
comp=Z,14nm,1.1s
J08A Circle Bar Ran 29.95 334 P **P** **14 06 55.7 +2.1**
YBH Yreka Blue Hor 30.72 327 LR LR 14 20 53.4
comp=Z,192nm,20.2s,baz=150,slow=39
BPMT Black Pine Rid 30.84 343 P **P** **14 07 01.2 -0.4**
SADO Sadowa 32.78 29 LR LR 14 22 20.0
comp=Z,180nm,20.7s,baz=244,slow=40
ATAH Atahualpa 32.87 136 LR LR 14 18 10.3
comp=Z,164nm,18.4s,baz=306,slow=32
SJG San Juan 32.92 83 LR LR 14 20 27.5
comp=Z,84nm,21.9s,baz=218,slow=36
ULM Lac du Bonnet 33.03 6 P **P** **14 07 19.1 -1.3**
ULM IAmb IAmb 14 07 38.1
comp=Z,14nm,0.9s
ULM Lac du Bonnet 33.03 6 P **P** **14 07 19.2 -1.3**
comp=Z,0.9nm,0.3s,baz=201,slow=8.6,SNR=5.4
ULM LR LR 14 21 57.8
comp=Z,158nm,18.7s,baz=172,slow=38
comp=Z,0.9nm,0.3s
PCRV Puerto La Cruz 35.74 97 LR LR 14 23 36.2
comp=Z,164nm,20.1s,slow=38
CLRS Cowichan Lake 36.68 334 P **P** **14 07 51.5 -0.5**
CZSB Cruzeiro do Su 37.28 130 eP **P** **14 07 59.1 +1.6**
FFC Flin Flon 37.29 359 P **P** **14 07 56.7 -0.4**
FFC IAmb IAmb 14 08 15.9
comp=Z,13nm,1.0s
NNA Nana 37.53 139 LR LR 14 20 00.8
comp=Z,251nm,21.7s,baz=318,slow=31
TEFE Tefe 41.23 117 eP **P** **14 08 29.7 -0.8**
BOAV Boa Vista 42.19 106 P **P** **14 08 36.5 -1.9**
BOAV Boa Vista 42.19 106 eP **P** **14 08 38.9 +0.5**
SCHQ Schefferville 45.53 27 P **P** **14 09 03.9 -0.9**
comp=Z,5.6nm,1.0s,baz=233,slow=7.2,SNR=10
SCHQ LR LR 14 30 23.6
comp=Z,234nm,18.1s,baz=230,slow=39
comp=Z,5.6nm,1.0s
YKA Yellowknife Ar 46.11 351 P **P** **14 09 09.8 +0.6**
comp=Z,1.6nm,0.9s,baz=162,slow=7.5,SNR=14
YKA PcP **PcP** **14 10 45.3 +0.1**
comp=Z,1.4nm,0.9s,baz=157,slow=4.0,SNR=7.4
YKA LR LR 14 29 53.4
comp=Z,795nm,18.3s,baz=178,slow=38
comp=Z,1.6nm,0.9s
DLBC Dease Lake 46.33 339 P **P** **14 09 14.2 +3.1**
comp=Z,7.7nm,0.9s,baz=154,slow=5.6,SNR=17
DLBC LR LR 14 30 58.7
comp=Z,358nm,20.2s,baz=132,slow=39
comp=Z,7.7nm,0.9s
LPAZ La Paz 46.38 134 P **P** **14 09 09.3 -3.3**
LPAZ IAmb IAmb 14 09 28.0
comp=Z,6.8nm,0.9s
LPAZ La Paz 46.38 134 P **P** **14 09 11.9 -0.7**
comp=Z,3.9nm,0.8s,baz=326,slow=7.9,SNR=10
LPAZ LR LR 14 26 54.2
comp=Z,189nm,19.2s,baz=300,slow=34
comp=Z,3.9nm,0.8s
LPAZ La Paz 46.38 134 eP **P** **14 09 12.2 -0.4**
PB11 IPOC Station P 47.89 139 P **P** **14 09 21.7 -2.1**
MDP Montagnes des 48.59 99 LR LR 14 33 54.4
comp=Z,37nm,18.1s,baz=282,slow=41
ITTB Itaituba 49.40 112 eP **P** **14 09 34.2 -1.2**
MAL2 Monte Alegre, 49.77 108 P **P** **14 09 36.7 -1.6**
VILB Vilhena 50.10 124 eP **P** **14 09 39.7 -1.1**
M31M Drury Creek, Y 50.60 340 P **P** **14 09 45.5 +1.6**
M31M IAmb IAmb 14 09 48.0
comp=Z,8.6nm,1.1s
NPGB Novo Progresso 50.98 115 eP **P** **14 09 45.4 -2.0**
SIV San Ignacio 51.26 128 P **P** **14 09 48.2 -1.3**
comp=Z,5.7nm,0.9s,baz=305,slow=9.0,SNR=18
SIV LR LR 14 28 54.5
comp=Z,131nm,21.5s,baz=298,slow=33
comp=Z,5.7nm,0.9s
FRB Frobisher Bay 51.30 18 LR LR 14 32 05.1
comp=Z,158nm,18.2s,baz=255,slow=37
PTLB Pontes e Lacer 52.41 126 P **P** **14 09 55.9 -2.1**
PTLB IAmb IAmb 14 10 12.2
comp=Z,17nm,1.4s
PTLB Pontes e Lacer 52.41 126 eP **P** **14 09 57.3 -0.7**
K29M Barlow Dome 52.77 341 IAmb IAmb 14 10 06.0
comp=Z,21nm,1.5s
BCAR Beaver Creek A 53.69 338 P **P** **14 10 05.1 -1.8**
H03N2 Juan Fernandez 54.65 158 T T 15 08 52.6
baz=334,slow=77,SNR=40
H03N1 Juan Fernandez 54.66 158 T T 15 09 13.2
baz=334,slow=77,SNR=75
H03N3 Juan Fernandez 54.66 158 T T 15 09 06.8
baz=334,slow=77,SNR=48
INK Inuvik 54.97 346 P **P** **14 10 17.0 +0.9**
comp=Z,2.2nm,0.9s,baz=148,slow=7.5,SNR=10
INK LR LR 14 35 14.2
comp=Z,175nm,18.2s,baz=239,slow=38
comp=Z,2.2nm,0.9s
KDAK Kodiak Island 55.48 329 LR LR 14 34 42.5
comp=Z,148nm,18.1s,baz=52,slow=36
A36M Sachs Harbour 56.47 351 IAmb IAmb 14 10 28.6
comp=Z,9.3nm,0.9s
ILAR Eielson Array 56.52 338 P **P** **14 10 28.9 +1.6**
comp=Z,3.3nm,1.1s,baz=149,slow=5.4,SNR=18
ILAR LR LR 14 36 34.9
comp=Z,214nm,20.1s,baz=126,slow=38
comp=Z,3.3nm,1.1s
E28M Babbage River 56.69 344 IAmb IAmb 14 10 41.6
comp=Z,5.9nm,0.8s
SNDB Serra Nova Dou 56.88 117 eP **P** **14 10 30.0 -0.6**
BDQN Bodoquena, MS 57.23 129 eP **P** **14 10 31.5 -1.4**
RES Resolute Bay 57.42 2 LR LR 14 36 37.5
comp=Z,218nm,19.0s,baz=72,slow=37
CFA Coronel Fontan 57.83 147 P **P** **14 10 36.2 -0.7**
comp=Z,1.5nm,0.4s,baz=292,slow=7.8,SNR=5.5
comp=Z,1.5nm,0.4s
AQDB Aquidauana 58.03 129 eP **P** **14 10 37.3 -1.3**
ARAG Araguaiana, MT 58.37 121 eP **P** **14 10 40.0 -1.0**
SMTB Santa Maria do 58.63 112 eP **P** **14 10 42.4 -0.5**
SFJD Kangerlussuaq 59.10 21 LR LR 14 37 06.3
comp=Z,130nm,18.9s,baz=236,slow=37
E22K Anaktuvuk Pass 60.01 340 P **P** **14 10 52.6 +0.9**
E22K IAmb IAmb 14 11 07.6
comp=Z,9.7nm,1.3s
D23K Nanushuk River 60.09 341 P **P** **14 10 53.2 +1.1**
D23K IAmb IAmb 14 11 06.5
comp=Z,9.9nm,1.0s
SJPY San Joaquin 60.53 133 eP **P** **14 10 54.5 -1.3**
CPUP Villa Florida 60.55 135 P **P** **14 10 54.8 -1.1**
comp=Z,7.3nm,0.9s,baz=319,slow=7.8,SNR=8.2

comp=Z,7.3nm,0.9s
CPUP Villa Florida 60.55 135 eP **P** **14 10 54.7 -1.1**
BDFB Brasilia 61.46 119 P **P** **14 11 01.1 -1.3**
comp=Z,4.3nm,0.8s,baz=294,slow=12,SNR=5.1
BDFB LR LR 14 37 09.0
comp=Z,78nm,19.2s,baz=190,slow=36
comp=Z,4.3nm,0.8s
ICESG Greenland Ices 63.72 21 eP **P** **14 11 18.4 +1.4**
PMNB Patos De Minas 64.22 121 eP **P** **14 11 20.3 -0.4**
PLCA Paso Flores 64.25 155 P **P** **14 11 20.5 0.0**
comp=Z,3.9nm,1.0s,baz=325,slow=8.0,SNR=5.6
PLCA LR LR 14 33 28.9
comp=Z,102nm,18.1s,baz=324,slow=30
comp=Z,3.9nm,1.0s
PLCA Paso Flores 64.25 155 eP **P** **14 11 20.7 +0.2**
JANB Januaria 64.31 117 eP **P** **14 11 20.7 -0.6**
ITAB Concordia 64.71 132 eP **P** **14 11 23.1 -0.5**
NEEM North Greenlan 64.86 11 i P **P** **14 11 24.2 -0.1**
NEEM IAmb IAmb 14 11 25.7
comp=Z,9.6nm,0.9s
TBOT Tacuaremb 65.00 138 eP **P** **14 11 25.2 -0.3**
SUMG Summit 65.37 17 i P **P** **14 11 29.1 +1.3**
CPSB Cacapava Do Su 65.79 136 eP **P** **14 11 30.1 -0.6**
VAO Valinhos 66.13 126 eP **P** **14 11 32.5 -0.6**
DIAM Diamantina, MG 66.38 120 eP **P** **14 11 34.5 -0.3**
PLTB Pedras Altas 66.55 137 eP **P** **14 11 33.6 -1.9**
MAJ01 Sao Joao Batis 67.04 131 eP **P** **14 11 38.2 -0.5**
TER01 Tubaro-SC 67.62 132 eP **P** **14 11 42.1 -0.3**
RCBR Riachuelo 68.04 104 LR LR 14 42 34.6
comp=Z,29nm,19.0s,baz=256,slow=37
RCBR Riachuelo 68.04 104 eP **P** **14 11 44.6 -0.7**
MAN01 Angra dos Reis 68.41 124 eP **P** **14 11 46.4 -1.1**
NBCA Caruaru-PE 68.81 106 eP **P** **14 11 50.8 +0.6**
GUA01 Guaratinga, BA 68.86 116 eP **P** **14 11 50.3 -0.1**
BSFB Barra de Sao F 68.99 119 eP **P** **14 11 50.7 -0.5**
NBAN Anadia - AL 69.12 108 eP **P** **14 11 51.3 -0.8**
RAR Rarotonga 69.41 239 LR LR 14 35 42.0
comp=Z,114nm,18.4s,baz=36,slow=30
RIB01 Linhares ES 69.59 119 eP **P** **14 11 54.4 -0.5**
CAM01 Campos-RJ 69.74 122 eP **P** **14 11 55.6 -0.1**
BORG Borgarnes 69.92 27 LR LR 14 42 16.8
comp=Z,109nm,18.0s,baz=251,slow=36
ALF01 Guarapari-ES 69.93 120 eP **P** **14 11 56.8 -0.1**
ABR01 Abrolhos, BA 70.42 117 eP **P** **14 11 59.2 -0.7**
DAG Danmarks Havn 71.39 14 i P **P** **14 12 02.5 -2.5**
SPITS Spitsbergen Ar 78.43 11 P **P** **14 12 46.5 +0.9**
comp=Z,8.4nm,0.9s,baz=297,slow=9.5,SNR=1.3
SPITS LR LR 14 49 35.6
comp=Z,146nm,18.1s,baz=286,slow=37
comp=Z,8.4nm,0.9s
EKA Eskdalemuir Ar 80.12 35 P **P** **14 12 54.6 -0.6**
comp=Z,3.9nm,1.0s,baz=278,slow=5.1,SNR=2.8
comp=Z,3.9nm,1.0s
PCAS Casmilo, Conde 80.70 51 eP P 14 12 49.8 -8.9
PVIS Viseu 80.98 50 i tx tx 14 13 10.7
PMTG Montargil 81.16 52 eP **P** **14 13 01.1 -0.1**
PMTG i tx tx 14 13 12.0
PTEO Sao Teotonio 81.18 54 i tx tx 14 13 12.9
PFVI Vila Bisbo 81.20 54 i tx tx 14 13 16.3
MTE Manteigas 81.32 50 eP **P** **14 13 01.9 -0.2**
MTE i tx tx 14 13 12.8
MESJ Messejana 81.49 53 i tx tx 14 13 14.1
MVO Moncorvo 81.49 50 eP **P** **14 13 06.7 +3.7**
PCBR Castelo Branco 81.52 51 eP **P** **14 13 02.5 -0.6**
PCBR i tx tx 14 13 13.5
PCVE Castro Verde 81.68 53 i tx tx 14 13 15.6
PMRV Marv??o 81.69 51 eP **P** **14 13 03.7 -0.3**
PMRV i tx tx 14 13 14.8
SEY Seymchan 82.12 334 P **P** **14 13 06.8 +1.1**
comp=Z,1.5nm,0.9s,baz=74,slow=2.7,SNR=6.3
comp=Z,1.5nm,0.9s
PETK Petropavlovsk- 83.03 323 P **P** **14 13 12.0 +1.3**
comp=Z,2.7nm,0.9s,baz=81,slow=9.3,SNR=2.7
comp=Z,2.7nm,0.9s
ESDC Sonseca Array 84.16 50 P **P** **14 13 15.6 -1.2**
comp=Z,1.8nm,1.0s,baz=314,slow=5.6,SNR=6.1
ESDC LR LR 14 49 14.0
comp=Z,36nm,18.4s,baz=332,slow=35
comp=Z,1.8nm,1.0s
NB2 NORSAR Subarra 85.10 27 P P 14 13 36.2 +15
comp=Z,8.6nm,1.1s,baz=304,slow=5.6
NOA NORSAR Array B 85.10 27 P **P** **14 13 20.7 -0.4**
comp=Z,0.8nm,0.8s,baz=318,slow=11,SNR=3.2
NOA LR LR 14 52 20.4
comp=Z,92nm,18.9s,baz=285,slow=36
comp=Z,0.8nm,0.8s
TIXI Tiksi 85.10 346 LR LR 14 55 40.1
comp=Z,109nm,19.1s,baz=8.0,slow=39
ARCES ARCESS Array B 85.46 17 P **P** **14 13 23.4 +0.6**
comp=Z,5.0nm,0.9s,baz=350,slow=6.4,SNR=2.4
ARCES LR LR 14 52 01.4
comp=Z,97nm,18.6s,baz=330,slow=36
comp=Z,5.0nm,0.9s
HFS Hagfors 86.61 27 LR LR 14 53 08.8
comp=Z,77nm,18.3s,baz=296,slow=36
MSVF Nonsavu 87.18 251 LR LR 14 45 18.1
comp=Z,85nm,18.6s,baz=143,slow=30
FINES FINESS Array B 90.84 23 LR LR 14 57 26.3
comp=Z,110nm,18.1s,baz=259,slow=37
VRAC Vranov 93.59 36 LR LR 14 58 16.5
comp=Z,67nm,18.1s,baz=316,slow=37
URZ Urewera 94.61 231 LR LR 14 50 50.6
comp=Z,87nm,18.1s,baz=303,slow=32
AKASG Malin Array Be 99.27 30 LR LR 15 00 07.1
comp=Z,46nm,18.6s,baz=312,slow=36
HHC Hu-ho-hao-te 114.77 333 eP **PKiKP** **14 19 19.9 -6.5**
MKAR Makanchi Array 116.08 358 PKP **PKiKP** **14 19 27.4 -1.3**
comp=Z,0.4nm,0.8s,baz=39,slow=4.7,SNR=3.5
MKAR PKKPbc **PKKPbc** **14 29 57.9 -2.3**
comp=Z,0.9nm,1.0s,baz=191,slow=2.9,SNR=5.1
NJ2 Nanjing 117.92 322 eP **PKPdf** **14 19 32.1 -0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
STKA Stephens Creek 122.22 243 PKP **PKPdf** **14 19 40.5 -0.3**
comp=Z,1.1nm,0.7s,baz=151,slow=2.9,SNR=5.2
WRA Warramunga Arr 127.94 258 PKP **PKPdf** **14 19 52.4 +0.3**
comp=Z,4.3nm,0.8s,baz=82,slow=2.1,SNR=19
ASAR Alice Springs 128.69 253 PKP **PKPdf** **14 19 53.5 0.0**
comp=Z,2.6nm,0.9s,baz=98,slow=2.2,SNR=16
PZH PanZhiHua 131.22 333 PKP **PKPdf** **14 19 59.2 +0.8**
CMAR Chiang Mai Arr 139.47 331 PKP **PKPdf** **14 20 14.2 +0.4**
comp=Z,1.0nm,0.5s,baz=328,slow=1.7,SNR=9.5

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*IDC **09** 14:08:50.1±3.6, 1˙.12S×78˙.36W, h0km, mb4.1/2, mbtmp4.1/2, Error ellipse: s-maj=126.7km s-min=47.3km az=112.0*
*IGQ **09** 14:09:13.6±1.2, 2˙S±3˙×7˙7W±˙, h16km±13km, MLv3.7/23*
*RSNC **09** 14:09:18.9±1.4, 2˙S±13˙×7˙7W±˙, h0km, M3.0, mb4.1, mB5.6, ML2.8, Mw(mB)5.1*
ISC 09 14:09:12.9±1.5, 2˙43S±0˙.07×76˙.75W±0˙.06, h10km, n64, σ1§32/65, 13C-21D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.58**	**306**	S	**Sn**	**14 10 02.8**	**+1.1**
PUYO				⇓P	**Pn**	**14 09 42.9**	**+1.8**
SANGA	**Volcan Sangay**	**1.67**	**283**	S	**Sn**	**14 10 05.5**	**+1.3**
SANGA				⇑P	**Pn**	**14 09 43.8**	**+1.3**
ATEN	**Tena**	**1.77**	**323**	P	**Pn**	**14 09 44.6**	**+1.0**
ARDO	**Archidona, Ten**	**1.77**	**324**	⇓P	**Pn**	**14 09 44.9**	**+1.2**
BOSC	**San Juan Bosco**	**1.89**	**248**	⇑P	**Pn**	**14 09 46.3**	**+1.0**
BOSC				S	**Sn**	**14 10 10.2**	**+0.9**
BPAT	**Tungurahua Vol**	**1.92**	**299**	P	**Pn**	**14 09 46.8**	**+0.7**
BMAS	**Trigal station**	**1.96**	**298**	⇑P	**Pn**	**14 09 45.8**	**-0.8**
JUI6	**Juive**	**1.99**	**300**	P	**Pn**	**14 09 46.9**	**0.0**
BBIL	**Ulba Tungurahu**	**1.99**	**299**	P	**Pn**	**14 09 48.5**	**+1.5**
PIAT	**Ana Tenorio**	**2.08**	**313**	⇓P	**Pn**	**14 09 48.2**	**0.0**
PIAT	**Ana Tenorio**	**2.08**	**313**	P	**Pn**	**14 09 48.0**	**-0.2**
PIAT				S	**Sn**	**14 10 12.3**	**-2.1**
IGUA	**Igualata**	**2.11**	**296**	P	**Pn**	**14 09 50.7**	**+1.9**
AZOG	**Ecuador-Azogue**	**2.12**	**261**	P	**Pn**	**14 09 49.6**	**+0.9**
PIS1	**Pisayambo**	**2.13**	**310**	⇓P	**Pn**	**14 09 49.3**	**+0.2**
TAMH	**Tambohuasha Ch**	**2.21**	**293**	⇑P	**Pn**	**14 09 50.1**	**0.0**
PORT	**Chimborazo Vol**	**2.24**	**295**	⇑P	**Pn**	**14 09 50.7**	**+0.1**
ACUE	**Ecuador-Cuenca**	**2.26**	**258**	⇑P	**Pn**	**14 09 50.6**	**0.0**
VCES	**Cotopaxi**	**2.31**	**315**	⇓P	**Pn**	**14 09 51.8**	**+0.3**
JSCH	**Cashca Tororas**	**2.34**	**288**	⇑P	**Pn**	**14 09 51.2**	**-0.6**
TAMB	**Tambo**	**2.37**	**317**	⇓P	**Pn**	**14 09 53.0**	**+0.7**
BRRN	**Barrancas-Volc**	**2.38**	**313**	⇓P	**Pn**	**14 09 52.8**	**+0.4**
ANTS	**Antisana-Sarah**	**2.39**	**323**	⇓P	**Pn**	**14 09 53.0**	**+0.3**
ANTM	**Antisana-La Mi**	**2.39**	**322**	⇓P	**Pn**	**14 09 52.9**	**+0.3**
BTAM	**Cotopaxi Volca**	**2.40**	**317**	⇓P	**Pn**	**14 09 53.6**	**+0.8**
BMOR	**Cotopaxi Volca**	**2.40**	**315**	⇓P	**Pn**	**14 09 53.3**	**+0.4**

BVC2	Cotopaxi Volca	2.42 317	⇓P		Pn	14 09 53.9	+0.8	
ANTI	Antisana	2.42 324	P		Pn	14 09 53.5	+0.4	
VC1	Cotopaxi 1	2.43 317	⇓P		Pn	14 09 54.0	+0.8	
SLOR	San Lorenzo -	2.43 314	⇓P		Pn	14 09 53.4	+0.3	
BREF	Cotopaxi Volca	2.44 316	⇑P		Pn	14 09 54.5	+1.2	
ANTG	Antisana-Guama	2.44 322	⇓P		Pn	14 09 53.7	+0.4	
BNAS	Cotopaxi Volca	2.46 315	⇓P		Pn	14 09 54.9	+1.3	
CAMI	Rancho Maria	2.48 315	⇑P		Pn	14 09 54.9	+1.2	
SUCR	Mariscal Sucre	2.49 316	⇑P		Pn	14 09 55.4	+1.4	
REVN	San Rafael	2.50 339	⇓P		Pn	14 09 54.2	+0.3	
COHC	Cochancay	2.50 269	⇑P		Pn	14 09 52.1	-1.6	
PITA	Cotopaxi Volc	2.51 318	⇑P		Pn	14 09 55.3	+1.1	
TOMA	Boca Toma-Volc	2.56 319	⇓P		Pn	14 09 55.9	+1.1	
CASC	Dorado de Casc	2.62 347	⇓P		Pn	14 09 56.3	+0.9	
CAYR	Refugio Cayamb	2.74 333	P		Pn	14 09 58.4	+0.9	
AZAM	Ecuador-Zamora	2.74 234	⇓P		Pn	14 09 56.3	-0.7	
ANGU	Angureal	2.77 333	⇓P		Pn	14 09 58.7	+0.8	
MILO	Milagro-Astudi	2.81 273	P		Pn	14 09 55.8	-2.1	
PINO	Pino	2.93 321	P		Pn	14 09 59.5	-0.5	
OTAV	Otavalo	3.15 327	P		Pn	14 10 01.4	-1.6	
URCU	Urcuqui	3.23 332	P		Pn	14 10 03.9	-0.1	
PTLC	Puerto Leguiza	3.24 37	P		Pn	14 10 05.3	+1.5	
PTLC			S		Sn	14 10 37.6	-4.9	
PAC1	Pacto, Paraso	3.37 323	P		Pn	14 10 04.0	-1.8	
ZUMB	Zumba	3.40 225	⇑P		Pn	14 10 06.3	+0.1	
GCUF	Volcan Galeras	3.68 351	P		Pn	14 10 11.5	+1.1	
FLOC	Florencia	4.14 15	P		Pn	14 10 17.3	+1.1	
BBAC	Balboa, Cauca	4.45 354	P		Pn	14 10 20.5	-0.2	
GARC	Garzon, Huila	4.76 15	P		Pn	14 10 25.8	+0.9	
POPC	Popayan, Colom	4.94 1	P		Pn	14 10 28.7	+1.3	
JAMC	Jamundi, Valle 10µm10nm,0.9s	5.61 1	P		Pn	14 10 36.3	-0.3	
URMC	La Uribe, Meta 630nm28nm,1.1s	6.12 23	P		Pn	14 10 45.6	+2.1	
PRAC	Prado 14nm,1.7s	6.38 17	P		Pn	14 10 48.7	+1.6	
GUVC	San Jose del G	6.43 40	P		Pn	14 10 50.5	+2.7	
ORTC	Ortega, Tolima 12nm,0.9s	6.47 13	P		Pn	14 10 49.3	+0.9	
VILC	Villavicencio,	7.18 25	P		Pn	14 11 01.2	+3.0	
PLCA	Paso Flores 1.2nm,0.7s,baz=345,slow=8.9,SNR=7.0 1.2nm,0.7s	38.54 172	P		P	14 16 27.2	-8.6	
TORD	Torodi Ar. Bea 0.8nm,0.3s,baz=278,slow=4.1,SNR=4.5 0.8nm,0.3s	79.31 76	P		P	14 21 05.2	-14	
ASAR	Alice Springs 0.3nm,0.8s,baz=130,slow=3.7,SNR=1.8	140.47 227	PKP		PKPdf	14 28 20.1	-23	
WRA	Warramunga Arr 0.3nm,0.5s,baz=117,slow=2.5,SNR=4.8	142.25 233	PKP		PKPdf	14 28 25.5	-21	

*IDC **09** 14:13:17.8±3.2, 23°51'S×179°97'E, h518km±33km, mb3.2/6, mbtmp4.0/6, Error ellipse: s-maj=31.6km s-min=21.5km az=161.0*

ISC 09 14:13:19.2±0.8, 23°5S±0°3×179°9E±0°2, h535km, n11, σ0°88/11, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 1.1nm,0.5s,baz=94,slow=7.5,SNR=18	42.03	260	P	P	14 20 24.1	+0.1
ASAR				ScP	ScP	14 25 07.8	+1.5
	0.5nm,0.7s,baz=112,slow=4.4,SNR=8.8 1.1nm,0.5s						
WRA	Warramunga Arr 2.0nm,0.4s,baz=103,slow=8.0,SNR=72 2.0nm,0.4s	42.36	266	P	P	14 20 26.6	-0.1
QSPA	South Pole Qui 1.5nm,0.8s,baz=21,slow=0.6,SNR=6.0 1.5nm,0.8s	66.61	180	P	P	14 23 15.9	-0.4
TXAR	Lajitas Array 0.7nm,0.7s,baz=240,slow=5.1,SNR=7.4 0.7nm,0.7s	90.27	58	P	P	14 25 24.0	+0.8
ILAR	Eielson Array 0.4nm,0.9s,baz=212,slow=3.2,SNR=2.5 0.4nm,0.9s	91.63	14	P	P	14 25 27.9	-0.6
PDAR	Pinedale Array 0.3nm,0.8s,baz=249,slow=7.0,SNR=2.9 0.3nm,0.8s	92.44	44	P	P	14 25 33.3	+0.2
BVAR	Borovoye Array 0.2nm,0.4s,baz=94,slow=1.8,SNR=2.5	120.06	319	PKP	PKPdf	14 31 07.7	-1.1
HFS	Hagfors 1.1nm,0.3s,baz=65,slow=4.3,SNR=10	142.11	349	PKhKP	PKPpre	14 31 45.8	
AKASG	Malin Array Be 0.2nm,0.4s,baz=75,slow=0.8,SNR=2.3	144.56	328	PKP	PKPdf	14 31 54.1	-0.4
MMAI	Mount Meron Ar 0.9nm,0.5s,baz=102,slow=7.8,SNR=2.2	147.45	295	PKPbc	PKPbc	14 32 04.6	+1.1
EKA	Eskdalemuir Ar 2.8nm,1.0s,baz=7.7,slow=2.4,SNR=1.8	148.09	3	PKPbc	PKPbc	14 32 03.8	-0.5

*IDC **09** 14:24:23.0±3.5, 18°99N×145°11E, h74km±32km, mb3.0/8, mbtmp3.5/9, Error ellipse: s-maj=47.3km s-min=16.2km az=78.0*

ISC 09 14:24:19.1±1.1, 19°16N±0°08×145°2E±0°3, h35km, n14, σ1°23/12, mb3.4/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam 35nm,0.6s,baz=45,slow=20,SNR=1.6	5.55	184	P	Pn	14 25 41.0	+1.7
GUMO				S	Sn	14 26 41.4	-0.6
	108nm,1.1s,baz=343,slow=20,SNR=1.5						
JHJ	Hachijo jima 2 70nm,0.7s,baz=150,slow=20,SNR=2.1	14.73	342	P	P	14 27 49.4	-1.2
JOW	Kunigami 20nm,0.5s,baz=112,slow=19,SNR=6.5	17.36	299	P	P	14 28 20.3	+0.4
H11S3	WAKE ISLAND Hy baz=275,slow=74,SNR=6.0	20.32	88	T	T	14 48 37.5	
H11S1	WAKE ISLAND Hy baz=275,slow=74,SNR=6.4	20.34	88	T	T	14 48 22.1	
H11S2	WAKE ISLAND Hy baz=275,slow=74,SNR=4.4	20.34	88	T	T	14 48 24.3	
KSRS	Korea Array 0.3nm,0.7s,baz=147,slow=9.2,SNR=1.1 0.3nm,0.7s	23.68	324	P	P	14 29 29.5	+2.0
WRA	Warramunga Arr 0.3nm,0.3s,baz=17,slow=8.3,SNR=7.2 0.3nm,0.3s	40.30	196	P	P	14 31 52.0	-1.2
SONM	Songino Array 0.2nm,0.4s,baz=114,slow=6.5,SNR=1.6 0.2nm,0.4s	42.50	321	P	P	14 32 11.2	0.0
ASAR	Alice Springs 0.4nm,1.0s,baz=17,slow=6.0,SNR=5.4 0.4nm,1.0s	43.98	195	P	P	14 32 21.5	-1.7
MKAR	Makanchi Array 0.2nm,0.5s,baz=101,slow=7.5,SNR=1.8 0.2nm,0.5s	57.82	314	P	P	14 34 07.0	-0.1
KURBB	Kurchatov Arra 0.3nm,0.5s,baz=96,slow=7.8,SNR=4.9 0.3nm,0.5s	60.68	318	P	P	14 34 26.8	0.0
BVAR	Borovoye Array 0.2nm,0.3s,baz=77,slow=6.5,SNR=4.3 0.2nm,0.3s	65.83	320	P	P	14 35 00.7	-0.3
YKA	Yellowknife Ar 0.1nm,0.3s,baz=293,slow=6.2,SNR=2.1 0.1nm,0.3s	77.79	28	P	P	14 36 13.1	+0.5

*KRSC **09** 14:55:19.4±1.2, 53°33N×161°75E, h47km±20km, Ml4.3*
*MOS **09** 14:55:22.9±0.9, 53°45N×161°50E, h51km, mb4.0/5, Error ellipse: s-maj=7.0km s-min=4.3km az=88.7*
*IDC **09** 14:55:27.0±2.0, 53°62N×161°29E, h64km±17km, mb3.4/22, mbtmp3.7/28, MS3.3/3, Error ellipse: s-maj=17.3km s-min=12.0km az=140.0*

ISC 09 14:55:24.1±0.5, 53°39N±0°03×161°58E±0°04, h50km, n125, σ1°33/188, mb3.8/27, 7C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	253	PN	Pn	14 55 39.4	-2.1
SPN				S	Sn	14 55 52.6	-1.7
SPN	Mys Shipunski	0.98	253	eP	Pn	14 55 39.4	-2.1
SPN				eS	Sn	14 55 52.7	-1.7
MKZ	Mys Kozlova	1.18	4	PN	Pn	14 55 41.6	-2.5
MKZ				S	Sn	14 55 57.5	-1.5
MKZ	Mys Kozlova	1.18	4	eP	Pn	14 55 41.6	-2.5
MKZ				eS	Sn	14 55 57.5	-1.5
NLC	Nalytchevo	1.36	262	PN	Pn	14 55 44.8	-1.8
NLC				S	Sn	14 56 02.7	-0.8
NLC	Nalytchevo	1.36	262	eP	Pn	14 55 44.9	-1.8
NLC				eS	Sn	14 56 02.8	-0.8
KII	Karymskiy	1.42	298	PN	Pn	14 55 45.0	-2.6
KII				S	Sn	14 56 04.3	-0.9
KII	Karymskiy	1.42	298	eP	Pn	14 55 45.0	-2.6
KII				eS	Sn	14 56 04.4	-0.9
SDLR	Sedlovina	1.62	267	PN	Pn	14 55 49.0	-1.3
SDLR				S	Sn	14 56 09.8	-0.3
SDLR	Sedlovina	1.62	267	eP	Pn	14 55 49.1	-1.3
SDLR				eS	Sn	14 56 09.8	-0.3
UGLR	Uglovaya	1.66	265	PN	Pn	14 55 49.8	-1.1
UGLR				S	Sn	14 56 09.6	-1.5
UGLR	Uglovaya	1.66	265	eP	Pn	14 55 49.9	-1.1
UGLR				eS	Sn	14 56 09.6	-1.5
KRER	Koryakskii	1.70	268	PN	Pn	14 55 50.5	-1.0
KRER				S	Sn	14 56 11.8	-0.3
KRER	Koryakskii	1.70	268	eP	Pn	14 55 50.5	-1.0
KRER				eS	Sn	14 56 11.8	-0.3
AVH	Avacha	1.71	267	PN	Pn	14 55 50.6	-0.9
AVH				S	Sn	14 56 12.2	0.0
AVH	Avacha	1.71	267	eP	Pn	14 55 50.7	-0.9
AVH				eS	Sn	14 56 12.3	0.0
DALK	Dalny	1.74	259	PN	Pn	14 55 50.2	-1.6
DALK				S	Sn	14 56 12.3	-0.4
DALK	Dalny	1.74	259	eP	Pn	14 55 50.2	-1.6
DALK				eS	Sn	14 56 12.3	-0.4
KRX	Arik	1.76	270	PN	Pn	14 55 50.8	-1.4
KRX				S	Sn	14 56 13.5	+0.1
KRX	Arik	1.76	270	eP	Pn	14 55 50.9	-1.4
KRX				eS	Sn	14 56 13.6	+0.1
KOK	Koryaka	1.77	268	PN	Pn	14 55 51.1	-1.2
KOK				S	Sn	14 56 13.9	+0.3
KOK	Koryaka	1.77	268	eP	Pn	14 55 51.2	-1.2
KOK				eS	Sn	14 56 14.0	+0.3
PET	Petropavlovsk	1.80	259	ePN	Pn	14 55 51.3	-1.3
PET				eS	Sn	14 56 14.0	-0.2
PET				smax	smax		
	comp=E,627nm,0.5s						
PET				smax	smax		
	comp=N,548nm,0.6s						
PET	Petropavlovsk	1.80	259	eP	Pn	14 55 51.0	-1.6
PET				eS	Sn	14 56 14.4	+0.2
INSR	Institute	1.82	261	PN	Pn	14 55 52.4	-0.5
INSR				S	Sn	14 56 14.3	-0.4
INSR	Institute	1.82	261	eP	Pn	14 55 52.5	-0.5
INSR				eS	Sn	14 56 14.4	-0.4
TUMD	Tumrok D	1.95	340	PN	Pn	14 55 53.4	-1.3
TUMD				S	Sn	14 56 16.3	-1.6
TUMD	Tumrok D	1.95	340	eP	Pn	14 55 53.4	-1.3
TUMD				eS	Sn	14 56 16.4	-1.6
RUS	Russkaya	2.09	244	PN	Pn	14 55 55.1	-1.4
RUS				S	Sn	14 56 20.2	-1.1
RUS	Russkaya	2.09	244	eP	Pn	14 55 55.2	-1.4
RUS				eS	Sn	14 56 20.2	-1.1
KRMR	Karymshinskiy	2.15	256	PN	Pn	14 55 56.6	-0.9
KRMR				S	Sn	14 56 22.9	0.0
KRMR	Karymshinskiy	2.15	256	eP	Pn	14 55 56.6	-0.9
KRMR				eS	Sn	14 56 22.9	0.0
GNL	Ganaly	2.19	280	PN	Pn	14 55 58.0	-0.1
GNL				S	Sn	14 56 25.5	+1.4
GNL	Ganaly	2.19	280	eP	Pn	14 55 58.1	-0.1
GNL				eS	Sn	14 56 25.6	+1.4
GRL	Gorelyy	2.28	250	PN	Pn	14 55 59.0	-0.3
GRL				S	Sn	14 56 26.0	-0.2
GRL	Gorelyy	2.28	250	eP	Pn	14 55 59.0	-0.3
GRL				eS	Sn	14 56 26.0	-0.2
PEA0B	Petropavlovsk-	2.35	265	e/PN	Pn	14 55 59.9	-0.3
PETK	Petropavlovsk-	2.35	265	P	Pn	14 56 00.1	-0.1
	comp=N,70nm,0.5s,baz=76,slow=15,SNR=440						
PETK				S	Sn	14 56 28.6	+0.9
	comp=N,135nm,0.7s,baz=85,slow=21,SNR=17						
PETK				LR	LR	14 57 06.0	
	comp=N,381nm,18.4s,baz=85,slow=45						
KMNR	Kamenistaya	2.50	342	PN	Pn	14 56 02.5	+0.2
KMNR				S	Sn	14 56 32.9	+1.3
KMNR	Kamenistaya	2.50	342	eP	Pn	14 56 02.5	+0.2
KMNR				eS	Sn	14 56 33.0	+1.3
BZGR	Bezymyannyi-Gr	2.61	349	PN	Pn	14 56 03.4	-0.4
BZGR	Bezymyannyi-Gr	2.61	349	eP	Pn	14 56 03.4	-0.4
KDTR	Khodutka, Kamc	2.66	235	PN	Pn	14 56 03.5	-0.8
KDTR				S	Sn	14 56 33.5	-1.8
KDTR	Khodutka, Kamc	2.66	235	eP	Pn	14 56 03.6	-0.8
KDTR				eS	Sn	14 56 33.5	-1.8
BZWR	Bezymyannyi-We	2.66	347	PN	Pn	14 56 04.8	+0.2
BZWR	Bezymyannyi-We	2.66	347	eP	Pn	14 56 04.8	+0.2
KIRR	Kirishev	2.67	345	PN	Pn	14 56 04.4	-0.3
KIRR				S	Sn	14 56 37.5	+1.6
KIRR	Kirishev	2.67	345	eP	Pn	14 56 04.5	-0.3
KIRR				eS	Sn	14 56 37.6	+1.6
ZLN	Zelenaya	2.67	351	PN	Pn	14 56 04.6	-0.1
ZLN				S	Sn	14 56 38.0	+2.1
ZLN	Zelenaya	2.67	351	eP	Pn	14 56 04.7	-0.1
ZLN				eS	Sn	14 56 38.0	+2.1
APC	Apacha	2.70	262	PN	Pn	14 56 05.9	+0.9
APC				S	Sn	14 56 38.8	+2.4
APC	Apacha	2.70	262	eP	Pn	14 56 05.9	+0.9
APC				eS	Sn	14 56 38.8	+2.4
KPT	Kopyto	2.70	344	PN	Pn	14 56 05.3	+0.2
KPT				S	Sn	14 56 37.7	+1.1
KPT	Kopyto	2.70	344	eP	Pn	14 56 05.3	+0.2
KPT				eS	Sn	14 56 37.8	+1.1
CIRR	Tsirk	2.78	350	PN	Pn	14 56 06.4	+0.3
CIRR	Tsirk	2.78	350	eP	Pn	14 56 06.5	+0.3
KOZ	Kozyrevsk	2.85	340	PN	Pn	14 56 07.0	-0.1
KOZ				S	Sn	14 56 41.3	+1.1
KOZ	Kozyrevsk	2.85	340	eP	Pn	14 56 07.1	-0.1
KOZ				eS	Sn	14 56 41.3	+1.1
KRSR	Krestovskiy	2.90	349	PN	Pn	14 56 07.5	-0.2
KRSR				S	Sn	14 56 42.0	+0.7
KRSR	Krestovskiy	2.90	349	eP	Pn	14 56 07.6	-0.2
KRSR				eS	Sn	14 56 42.1	+0.7
KBTR	Krutoberegovo	2.92	14	PN	Pn	14 56 06.8	-1.1
KBTR				S	Sn	14 56 41.2	-0.5
KBTR	Krutoberegovo	2.92	14	eP	Pn	14 56 06.9	-1.1
KBTR				eS	Sn	14 56 41.2	-0.5
KBG	Krutoberegovo	2.95	12	PN	Pn	14 56 08.3	0.0
KBG				S	Sn	14 56 42.1	-0.3
KBG	Krutoberegovo	2.95	12	eP	Pn	14 56 08.4	0.0
KBG				eS	Sn	14 56 42.1	-0.3
KLY	Klyuchi	2.98	350	PN	Pn	14 56 07.9	-0.9
KLY				S	Sn	14 56 42.7	-0.5
KLY	Klyuchi	2.98	350	eP	Pn	14 56 07.9	-0.9
KLY				eS	Sn	14 56 42.8	-0.5
ESO	Esso	3.04	328	PN	Pn	14 56 09.4	-0.3
ESO				S	Sn	14 56 45.1	+0.2
ESO	Esso	3.04	328	eP	Pn	14 56 09.5	-0.3
ESO				eS	Sn	14 56 45.1	+0.2
SRDR	Sredinnyy	3.13	341	PN	Pn	14 56 10.3	-0.6
SRDR	Sredinnyy	3.13	341	eP	Pn	14 56 10.4	-0.6
BKI	Bering	3.15	53	PN	Pn	14 56 08.8	-2.3
BKI	Bering	3.15	53	eP	Pn	14 56 08.8	-2.3
BKI				eS	Sn	14 56 42.3	-5.2
SMKR	Semkarok	3.20	359	PN	Pn	14 56 12.4	+0.5
SMKR				S	Sn	14 56 50.8	+2.0
SMKR	Semkarok	3.20	359	eP	Pn	14 56 12.4	+0.5
SMKR				eS	Sn	14 56 50.9	+2.0
SKR	Severo-Kuril's	4.32	233	ePN	Pn	14 56 28.7	+1.4
SKR				eS	Sn	14 57 15.2	-1.1
SKR				pmax	pmax		
	comp=Z,47nm,0.8s						
SKR				smax	smax		
	comp=E,41nm,0.6s						
SKR				smax	smax		
	comp=N,116nm,1.0s						
SKR	Severo-Kuril's	4.32	233	eP	Pn	14 56 28.6	+1.4
SKR				eS	Sn	14 57 15.9	-0.4
OSSR	Ossora	5.94	7	PN	Pn	14 56 50.4	+1.2
OSSR	Ossora	5.94	7	eP	Pn	14 56 50.5	+1.2
MA2	Magadan comp=N,1.5nm,0.7s,baz=156,slow=12,SNR=7.9	8.61	320	P	Pn	14 57 24.2	-1.7
MA2				LR	LR	15 01 14.9	
	comp=N,142nm,18.4s,baz=130,slow=42						
MA2	Magadan	8.61	320⇑	ePN	Pn	14 57 25.5	-0.4
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SEY	Seymchan comp=Z,0.2nm,0.2s,baz=120,slow=14,SNR=1.5	10.72	337	P	Pn	14 57 53.9	-0.8
BILL	Bilibino	14.87	7⇑	iP	Pn	14 58 48.2	-2.7
BILL				pmax	pmax		
	comp=Z,13nm,1.8s						
ASAJ	Asahikawa comp=Z,3.5nm,0.7s,baz=105,slow=15,SNR=1.0	15.54	241	P	P	14 59 00.5	-2.7
YAK	Yakutsk comp=Z,9.0nm,0.5s,baz=97,slow=4.2,SNR=6.0	18.93	310	P	P	14 59 38.1	-2.3
YAK	Yakutsk	18.93	310	eP	P	14 59 37.9	-2.5
YAK				eS	Sn	15 03 08.0	-4.3
YAK				pmax	pmax		
	comp=Z,16nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,68nm,3.6s						
YAK				smax	smax		
	comp=E,134nm,4.4s						
YAK				smax	smax		
	comp=N,81nm,5.4s						
KLR	Kul'dur comp=N,1.7nm,0.8s,baz=67,slow=11,SNR=4.7	19.03	269	P	Pn	14 59 41.5	-1.3
KLR	Kul'dur	19.03	269⇑	eP	Pn	14 59 42.9	0.0
KLR				pmax	pmax		
	comp=Z,3.0nm,1.7s						
TIXI	Tiksi	23.20	334⇓	eP	P	15 00 23.8	-2.3
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAJO	Matsushiro	23.43	233⇓	eP	P	15 00 30.3	+1.6
MAJO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MJAR	Matsushiro Arr comp=Z,2.6nm,0.9s,baz=23,slow=11,SNR=6.0 comp=Z,2.6nm,0.9s	23.43	233	P	P	15 00 30.4	+1.7
ILAR	Eielson Array comp=Z,0.4nm,0.8s,baz=270,slow=8.6,SNR=2.2 comp=Z,0.4nm,0.8s	27.97	46	P	P	15 01 10.2	+0.6
KSRS	Korea Array comp=Z,0.3nm,0.5s,baz=34,slow=11,SNR=1.7 comp=Z,0.3nm,0.5s	28.16	249	P	P	15 01 13.5	+2.1
H11N2	WAKE ISLAND Hy baz=355,slow=74	33.84	171	T	T	15 39 24.5	
H11N3	WAKE ISLAND Hy baz=355	33.86	171	T	T	15 38 14.4	
H11N1	WAKE ISLAND Hy baz=355,slow=74	33.86	171	T	T	15 39 40.6	
SONM	Songino Array comp=Z,0.2nm,0.7s,baz=38,slow=7.3,SNR=1.9 comp=Z,0.2nm,0.7s	34.70	284	P	P	15 02 07.6	-1.3
YKA	Yellowknife Ar comp=Z,0.1nm,0.6s,baz=298,slow=8.0,SNR=3.5 comp=Z,0.1nm,0.6s	42.34	43	P	P	15 03 13.7	+1.0
SPITS	Spitsbergen Ar comp=Z,52nm,1.2s,baz=48,slow=8.0,SNR=6.3	46.99	351	P	P	15 03 49.0	-0.5
KURK	Kurchatov	48.33	302	P	P	15 03 59.5	-0.7
KURBB	Kurchatov Arra comp=Z,1.0nm,0.5s,baz=57,slow=7.6,SNR=8.9 comp=Z,1.0nm,0.5s	48.44	302	P	P	15 03 59.5	-1.5
MK31	Makanchi Array	48.83	296⇑	eP	P	15 04 02.8	-1.3
MKAR	Makanchi Array comp=Z,0.4nm,0.5s,baz=53,slow=5.6,SNR=7.7 comp=Z,0.4nm,0.5s	48.83	296	P	P	15 04 01.9	-2.2
MKAR	Makanchi Array	48.83	296	eP	P	15 04 03.7	-0.4
BVAR	Borovoye Array comp=Z,0.4nm,0.4s,baz=54,slow=7.3,SNR=2.1 comp=Z,0.4nm,0.4s	50.90	309	P	P	15 04 17.9	-1.8
NVAR	Mina Array Bea comp=Z,0.7nm,0.6s,baz=306,slow=7.7,SNR=3.1 comp=Z,0.7nm,0.6s	54.80	71	P	P	15 04 51.2	+2.2
KIRV	Kirov comp=Z,63nm,18.2s,baz=306,slow=38	55.68	324	LR	LR	15 30 22.5	
AAK	Ala-Archa comp=Z,2.0nm,1.7s	55.74	297⇑	eP	P	15 04 54.5	-1.1
AAK				pmax	pmax		
PDAR	Pinedale Array comp=Z,0.3nm,0.6s,baz=320,slow=6.3,SNR=2.8 comp=Z,0.3nm,0.6s	56.60	62	P	P	15 05 03.9	+2.1
CMAR	Chiang Mai Arr comp=Z,1.4nm,0.7s,baz=16,slow=7.3,SNR=10 comp=Z,1.4nm,0.7s	59.11	259	P	P	15 05 20.8	+1.3
CMAR	Chiang Mai Arr comp=Z,2.0nm,0.9s	59.11	259	eP	P	15 05 21.2	+1.8
CMAR				pmax	pmax		
FINES	FINESS Array B comp=Z,1.6nm,0.6s,baz=20,slow=6.3,SNR=8.5 comp=Z,1.6nm,0.6s	60.20	337	P	P	15 05 26.5	+0.2
FINES	FINESS Array B comp=Z,2.0nm,0.6s	60.20	337	eP	P	15 05 27.3	+1.0
FINES				pmax	pmax		
OBN	Obninsk comp=Z,6.0nm,0.8s	62.74	328⇓	eP	P	15 05 45.0	+1.5
OBN				e		15 08 01.2	
OBN				pmax	pmax		
NOA	NORSAR Array B comp=Z,0.4nm,0.5s,baz=20,slow=6.1,SNR=1.6 comp=Z,0.4nm,0.5s	63.50	344	P	P	15 05 48.4	-0.1
HFS	Hagfors comp=Z,1.4nm,0.6s,baz=45,slow=4.3,SNR=5.8 comp=Z,1.4nm,0.6s	63.94	343	P	P	15 05 50.5	-0.8
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=32,slow=6.8,SNR=2.7 comp=Z,0.2nm,0.3s	68.82	330	P	P	15 06 22.1	-0.6
TXAR	Lajitas Array comp=Z,0.8nm,0.5s,baz=296,slow=4.0,SNR=10 comp=Z,0.8nm,0.5s	69.70	68	P	P	15 06 30.4	+1.8
KBZ	Khabaz comp=Z,1.8nm,0.9s,baz=39,slow=6.5,SNR=3.8 comp=Z,1.8nm,0.9s	69.93	317	P	P	15 06 30.0	+0.3
KBZ	Khabaz comp=Z,2.0nm,1.0s	69.93	317⇑	eP	P	15 06 30.9	+1.3
KBZ				pmax	pmax		
GERES	GERESS Array B comp=Z,1.0nm,0.7s,baz=25,slow=6.1,SNR=3.5 comp=Z,1.0nm,0.7s	74.57	339	P	P	15 06 56.7	-0.7
WRA	Warramunga Arr comp=Z,0.4nm,0.7s,baz=16,slow=6.1,SNR=2.1 comp=Z,0.4nm,0.7s	76.73	206	P	P	15 07 10.7	+0.9
BRTR	Keskin Array B comp=Z,0.3nm,0.5s,baz=45,slow=4.3,SNR=2.2 comp=Z,0.3nm,0.5s	76.96	321	P	P	15 07 11.7	+0.5
ASAR	Alice Springs comp=Z,0.5nm,0.6s,baz=15,slow=5.3,SNR=6.3 comp=Z,0.5nm,0.6s	80.40	206	P	P	15 07 31.6	+1.6
ESDC	Sonseca Array comp=Z,0.3nm,0.6s,baz=14,slow=5.2,SNR=1.8 comp=Z,0.3nm,0.6s	86.47	349	P	P	15 08 02.7	+1.4
SNAA	Sanae comp=Z,2.6nm,0.7s,baz=246,slow=9.5,SNR=6.7	160.42	195	PKPab	PKPab	15 15 59.7	+1.9

*IDC **09** 14:57:16.0±2.7, 17°11S×174°02W, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=87.3km s-min=26.3km az=134.0*

**ISC

WRA	**Warramunga Arr**	**27.35**	**246**	P		**P**	**15 16 53.2**	**+0.1**
	0.2nm,0.5s,baz=78,slow=8.8,SNR=6.8							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**29.00**	**239**	P		**P**	**15 17 08.0**	**+0.1**
	0.4nm,0.7s,baz=58,slow=9.8,SNR=12							
	0.4nm,0.7s							
SONM	**Songino Array**	**75.14**	**325**	P		**P**	**15 22 51.2**	**+1.9**
	0.6nm,0.6s,baz=133,slow=6.1,SNR=2.3							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**84.25**	**20**	P		**P**	**15 23 37.6**	**-0.4**
	0.2nm,0.4s,baz=247,slow=4.9,SNR=9.6							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**89.59**	**318**	P		**P**	**15 24 03.8**	**-0.6**
	0.1nm,0.3s,baz=86,slow=5.6,SNR=4.1							
	0.1nm,0.3s							

*SJA **09** 15:22:19.5±0.8, 30.°68S×71.°50W, h28km±2km, ML4.2, MW4.2*
*GUC **09** 15:22:21.9±0.7, 30.°70S×71.°36W, h54km±1km, ML4.3*
*NEIC **09** 15:22:22.4±2.0, 30.°66S±0.°05×71.°4W±0.°1, h48km±7km, mb4.4/10, Error ellipse: s-maj=14.1km s-min=7.3km az=93.0*
*IDC **09** 15:22:25.7±2.7, 30.°68S×71.°30W, h81km±22km, mb3.9/7, mbtmp4.1/12, MS3.0/2, Error ellipse: s-maj=21.7km s-min=16.6km az=97.0*
ISC 09 15:22:21.7±0.7, 30.°67S±0.°02×71.°49W±0.°04, h49km±5km, n110, σ1°78/136, mb4.3/11, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.12**	**270**		**Pn**	**15 22 30.3**	**+0.8**
CO06				Sn	**Sn**	**15 22 36.9**	**+1.8**
CO06	**Fray Jorge**	**0.12**	**270**	⇑*iP*	**Pn**	**15 22 30.6**	**+1.0**
CO06				*i* S	**Sn**	**15 22 36.5**	**+1.4**
CO03	**El Pedregal**	**0.71**	**104**		**Pn**	**15 22 34.2**	**-1.5**
CO03				Sn	**Sn**	**15 22 44.0**	**-1.8**
CO03	**El Pedregal**	**0.71**	**104**	⇓*iP*	**Pn**	**15 22 34.7**	**-1.0**
CO03				*i* S	**Sn**	**15 22 43.7**	**-2.1**
CO03				IAML		15 22 44.5	
	comp=E,40μm,0.3s						
CO03	**El Pedregal**	**0.71**	**104**	*e*P	**Pn**	**15 22 33.9**	**-1.8**
CO03				*e*S	**Sn**	**15 22 44.3**	**-1.5**
CO03				IAML		15 22 44.7	
	comp=Z,8μm,0.3s						
GO04	**Tololo Observa**	**0.78**	**50**		**Pn**	**15 22 36.5**	**-0.2**
GO04	**Tololo Observa**	**0.78**	**50**	⇓*iP*	**Pn**	**15 22 36.5**	**-0.2**
GO04				*i* S	**Sn**	**15 22 46.8**	**-0.8**
GO04	**Tololo Observa**	**0.78**	**50**	*e*P	**Pn**	**15 22 35.8**	**-1.0**
GO04				*e*S	**Sn**	**15 22 47.6**	**0.0**
CO01	**Juntas del Tor**	**1.40**	**60**		**Pn**	**15 22 45.3**	**+0.3**
CO01	**Juntas del Tor**	**1.40**	**60**	⇓*iP*	**Pn**	**15 22 45.5**	**+0.5**
CO01				*i* S	**Sn**	**15 23 02.7**	**+0.3**
CO01				IAML		15 23 03.5	
	comp=N,7μm,0.1s						
CO01	**Juntas del Tor**	**1.40**	**60**	*e*P	**Pn**	**15 22 45.5**	**+0.5**
CO01				*e*S	**Sn**	**15 23 03.5**	**+1.0**
CO01				IAML		15 23 06.6	
	comp=Z,3μm,0.2s						
LCO	**Las Campanas**	**1.79**	**23**		**Pn**	**15 22 51.3**	**+0.8**
LCO	**Las Campanas**	**1.79**	**23**	*e*P	**Pn**	**15 22 51.1**	**+0.6**
LCO				*i* S	**Sn**	**15 23 13.3**	**+1.1**
LCO	**Las Campanas**	**1.79**	**23**	*e*P	**Pn**	**15 22 51.4**	**+0.8**
LCO				*e*S	**Sn**	**15 23 14.6**	**+2.3**
LCO				IAML		15 23 16.1	
	comp=Z,4μm,0.2s						
AROD	**Rodeo**	**1.82**	**74**	*e*P	**Pn**	**15 22 52.8**	**+1.9**
VA06	**Catapilco**	**1.89**	**175**		**Pn**	**15 22 52.0**	**+0.4**
VA06	**Catapilco**	**1.89**	**175**	*e*P	**Pn**	**15 22 52.1**	**+0.6**
VA06				*i* S	**Sn**	**15 23 15.1**	**+1.0**
VA06				IAML		15 23 21.5	
	comp=E,5μm,0.2s						
ACCO	**Cerro Coronel**	**2.09**	**88**	*e*P	**Pn**	**15 22 57.0**	**+2.4**
ACCO				*e*S	Sn	15 23 10.5	-9.2
ACDV	**Cuesta del Vie**	**2.11**	**77**	*e*P	**Pn**	**15 22 57.3**	**+2.6**
RTLS	**Leoncito**	**2.19**	**121**	*e*P	**Pn**	**15 22 58.0**	**+2.0**
RTLS				IAML		15 23 30.4	
	comp=Z,2μm,0.3s						
VA03	**San Esteban**	**2.23**	**159**		**Pn**	**15 22 57.0**	**+0.7**
VA03	**San Esteban**	**2.23**	**159**	*e*P	**Pn**	**15 22 56.7**	**+0.4**
VA03				*i* S	**Sn**	**15 23 23.1**	**+0.3**
VA03				IAML		15 23 26.9	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**2.23**	**159**	*e*P	**Pn**	**15 22 56.6**	**+0.3**
VA03				*e*S	**Sn**	**15 23 26.6**	**+3.9**
VA03				IAML		15 23 32.5	
	comp=Z,2μm,0.2s						
ROCH	**El Roble**	**2.33**	**170**	*e*P	**Pn**	**15 22 58.2**	**+0.4**
ROCH				IAML		15 23 33.3	
	comp=N,1μm,0.6s						
ROC1	**El Roble**	**2.33**	**170**	*e*P	Pn	15 22 53.3	-4.6
ROC1				*e*S	**Sn**	**15 23 29.5**	**+4.1**
AC04	**Llanos de Chal**	**2.49**	**9**	*e*P	**Pn**	**15 23 01.2**	**+1.4**
AC04	**Llanos de Chal**	**2.49**	**9**	*e*P	**Pn**	**15 23 01.1**	**+1.3**
AC04				*i* S	**Sn**	**15 23 30.4**	**+1.4**
AC04				IAML		15 23 43.6	
	comp=N,1μm,0.2s						
AC04	**Llanos de Chal**	**2.49**	**9**	*e*P	**Pn**	**15 23 00.5**	**+0.7**
AC04				*e*S	**Sn**	**15 23 28.5**	**-0.5**
AC04				IAML		15 23 46.6	
	comp=Z,815nm,0.4s						
PEL	**Peldehue**	**2.56**	**165**		**Pn**	**15 23 01.3**	**+0.6**
PEL	**Peldehue**	**2.56**	**165**	*e*P	**Pn**	**15 23 01.6**	**+0.9**
PEL				*e*S	**Sn**	**15 23 31.9**	**+1.3**
ZON	**Zonda**	**2.56**	**111**		**Pn**	**15 23 02.6**	**+1.8**
ZON	**Zonda**	**2.56**	**111**	*e*P	**Pn**	**15 23 02.7**	**+1.9**
ZON				*e*S	Sn	15 23 21.9	-9.0
ZON				IAML		15 23 53.2	
	comp=Z,721nm,0.4s						
MT02	**Curacav**	**2.59**	**173**		**Pn**	**15 23 01.8**	**+0.5**
MT02	**Curacav**	**2.59**	**173**	*e*P	**Pn**	**15 23 01.5**	**+0.3**
MT02				*i* S	**Sn**	**15 23 31.5**	**0.0**
MT02				IAML		15 23 38.8	
	comp=E,1μm,0.4s						
MT02	**Curacav**	**2.59**	**173**	*e*P	**Pn**	**15 23 01.8**	**+0.5**
MT02				*e*S	**Sn**	**15 23 25.2**	**-6.4**
MT02				IAML		15 23 43.2	
	comp=Z,1μm,0.3s						
SJA	**San Juan**	**2.66**	**109**	*e*P	**Pn**	**15 23 04.1**	**+2.0**
SJA				*e*S	Sn	15 23 22.0	-11
SJA				IAML		15 23 44.2	
	comp=Z,684nm,2.4s						
RTLL	**Cerro Villicun**	**2.67**	**105**	*e*P	**Pn**	**15 23 03.7**	**+1.3**
RTLL				*e*S	**Sn**	**15 23 36.2**	**+2.7**
MT10	**Hacienda Santa**	**2.71**	**163**	*e*P	**Pn**	**15 23 03.9**	**+0.9**
MT10				*e*S	**Sn**	**15 23 34.8**	**+0.1**
MT05	**Renca**	**2.78**	**167**		**Pn**	**15 23 04.9**	**+1.0**
MT05	**Renca**	**2.78**	**167**	*e*P	**Pn**	**15 23 04.9**	**+1.0**
MT05				*e*S	Sn	15 23 20.4	-16
MT05				IAML		15 23 49.0	
	comp=Z,1μm,1.0s						
MT14	**Cerro Calı̣n**	**2.83**	**164**	*e*P	**Pn**	**15 23 05.9**	**+1.4**
FCH	**Farellones**	**2.84**	**159**	*e*P	**Pn**	**15 23 05.9**	**+1.1**
FCH				IAML		15 23 47.5	
	comp=E,1μm,0.3s						
AGUA	**GUANDACOL**	**2.86**	**66**	*e*P	**Pn**	**15 23 08.8**	**+3.9**
AGUA				IAML		15 23 52.3	
	comp=Z,1μm,0.6s						
MT16	**CCHEN**	**2.87**	**164**		**Pn**	**15 23 06.2**	**+1.2**
MT03	**Universidad Ad**	**2.93**	**164**		**Pn**	**15 23 07.6**	**+1.6**
MT03	**Universidad Ad**	**2.93**	**164**	*e*P	**Pn**	**15 23 07.4**	**+1.5**
MT03				*e*S	**Sn**	**15 23 40.7**	**+0.7**
MT03				IAML		15 23 50.8	
	comp=Z,1μm,0.2s						
CFA	**Coronel Fontan**	**2.94**	**109**	P	**Pn**	**15 23 07.6**	**+1.6**
	comp=Z,178nm,0.3s,baz=287,slow=12,SNR=589						
CFA				S	**Sn**	**15 23 41.7**	**+1.6**
	comp=Z,373nm,0.4s,baz=74,slow=23,SNR=10						
CFA	**Coronel Fontan**	**2.94**	**109**	*e*P	**Pn**	**15 23 07.6**	**+1.6**
CFA				*e*S	**Sn**	**15 23 39.7**	**-0.5**
CFA				IAML		15 23 50.6	
	comp=Z,490nm,0.3s						
MT04	**Ro Olivares**	**2.96**	**157**	*e*P	**Pn**	**15 23 08.5**	**+2.1**
MT04				*e*S	**Sn**	**15 23 43.0**	**+2.3**
MT04				IAML		15 23 50.0	
	comp=Z,1μm,0.6s						
ASAL	**Salagasta**	**2.96**	**131**	*e*P	**Pn**	**15 23 08.9**	**+2.6**
ASAL				*e*S	**Sn**	**15 23 46.8**	**+6.1**
MT08	**Bocatoma Ro**	**3.03**	**156**		**Pn**	**15 23 10.1**	**+2.7**
MT08	**Bocatoma Ro**	**3.03**	**156**	*e*P	**Pn**	**15 23 09.7**	**+2.2**
MT08				*e*S	**Sn**	**15 23 43.8**	**+1.1**
MT08				IAML		15 23 55.4	
	comp=Z,744nm,0.6s						
ARCO	**CERRO ARCO**	**3.07**	**135**	*e*P	**Pn**	**15 23 11.3**	**+3.4**
ARCO				IAML		15 23 58.5	
	comp=Z,741nm,0.7s						
MT09	**Talagante**	**3.12**	**172**		**Pn**	**15 23 09.5**	**+0.9**
MT01	**Popeta**	**3.19**	**176**		**Pn**	**15 23 10.0**	**+0.6**
MT01	**Popeta**	**3.19**	**176**	*e*P	**Pn**	**15 23 10.0**	**+0.6**
MT01				*e*S	**Sn**	**15 23 48.9**	**+2.8**
MT01				IAML		15 23 59.1	
	comp=Z,551nm,0.2s						
MT13	**San Alfonso**	**3.23**	**162**		**Pn**	**15 23 11.1**	**+1.1**
MT13	**San Alfonso**	**3.23**	**162**	*e*P	**Pn**	**15 23 11.9**	**+1.9**
MT13				*e*S	**Sn**	**15 23 47.6**	**+0.4**
MT13				IAML		15 23 57.1	
	comp=Z,575nm,0.7s						
AAGR	**Agrelo**	**3.30**	**137**	*e*P	**Pn**	**15 23 14.0**	**+2.9**
LMEL	**Las Melosas**	**3.35**	**161**		**Pn**	**15 23 13.4**	**+1.7**
LMEL	**Las Melosas**	**3.35**	**161**	*e*P	**Pn**	**15 23 13.8**	**+2.1**
LMEL				*e*S	**Sn**	**15 23 53.5**	**+3.2**
BO04	**La Punta**	**3.39**	**167**		**Pn**	**15 23 12.9**	**+0.7**
BO04	**La Punta**	**3.39**	**167**	*e*P	**Pn**	**15 23 12.8**	**+0.7**
BO04				*i* S	**Sn**	**15 23 51.0**	**-0.2**
AC06	**Mina Casimiro**	**3.45**	**17**		**Pn**	**15 23 14.0**	**+1.0**
AVFE	**Valle Fertil**	**3.48**	**91**	*e*P	**Pn**	**15 23 14.3**	**+0.9**
BO01	**Tunca**	**3.72**	**175**		**Pn**	**15 23 17.4**	**+0.7**
BO02	**Sierra Bellavi**	**4.15**	**172**		**Pn**	**15 23 23.3**	**+0.7**
BO02	**Sierra Bellavi**	**4.15**	**172**	IAML		15 24 28.7	
	comp=Z,385nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.29**	**88**	*e*S	**Sn**	**15 24 16.1**	**+2.7**
AC02	**Maricunga**	**4.35**	**29**		**Pn**	**15 23 27.7**	**+1.9**
AC02	**Maricunga**	**4.35**	**29**	*e*S	**Sn**	**15 24 17.9**	**+2.5**
AC01	**Pan de Azucar**	**4.58**	**10**		**Pn**	**15 23 27.9**	**-0.6**
GO02	**Mina Guanaco**	**5.74**	**17**	Pn	**Pn**	**15 23 44.2**	**-0.5**
BI02	**San Fabin de**	**5.98**	**178**	Pn	**Pn**	**15 23 47.9**	**+0.3**
BI05	**Punta Hualpn**	**6.22**	**193**	Pn	**Pn**	**15 23 47.8**	**-3.1**
H03N1	**Juan Fernandez**	**6.88**	**244**	T	T	15 30 58.6	
	baz=73,slow=72,SNR=1704						
H03N2	**Juan Fernandez**	**6.89**	**244**	T	T	15 30 51.7	
	baz=73,slow=72,SNR=1551						
H03N3	**Juan Fernandez**	**6.89**	**244**	T	T	15 30 50.3	
	baz=73,slow=72,SNR=1336						
PLCA	**Paso Flores**	**10.07**	**176**	P	**Pn**	**15 24 48.0**	**+4.3**
	comp=Z,1.3nm,0.8s,baz=346,slow=17,SNR=5.3						
PLCA				LR	LR	15 29 08.2	
	comp=Z,81nm,21.8s,baz=288,slow=40						
TRQA	**Tornquist**	**10.77**	**136**	Pn	**Pn**	**15 24 51.5**	**-1.7**
CPUP	**Villa Florida**	**13.18**	**74**	P	**Pn**	**15 25 26.1**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=247,slow=12,SNR=5.6						
CPUP				S	**Sn**	**15 27 48.8**	**-2.6**
	comp=Z,6.1nm,0.8s,baz=200,slow=18,SNR=2.3						
CPUP				LR	LR	15 31 07.3	
	comp=Z,58nm,18.4s,baz=224,slow=40						
LPAZ	**La Paz**	**14.65**	**13**		**Pn**	**15 25 48.8**	**+2.2**
LPAZ	**La Paz**	**14.65**	**13**	P	**Pn**	**15 25 47.9**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=183,slow=8.4,SNR=9.1						
SIV	**San Ignacio**	**17.45**	**35**	P	**Pn**	**15 26 22.1**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=207,slow=8.7,SNR=17						
PTLB	**Pontes e Lacer**	**18.92**	**40**		**P**	**15 26 38.6**	**+0.1**
NNA	**Nana**	**19.25**	**344**	P	**P**	**15 26 40.1**	**-2.0**
NNA				IAmb	IAmb	15 26 57.0	
	comp=Z,36nm,1.4s						
VAO	**Valinhos**	**23.15**	**77**	P	**P**	**15 27 21.6**	**-2.4**
VAO				IAmb	IAmb	15 27 24.5	
	comp=Z,9.0nm,0.6s						
BDFB	**Brasilia**	**26.19**	**60**	P	**P**	**15 27 50.0**	**-2.0**
BDFB				IAmb	IAmb	15 27 51.9	
	comp=Z,9.2nm,0.7s						
BDFB	**Brasilia**	**26.19**	**60**	P	**P**	**15 27 51.0**	**-1.0**
	comp=Z,7.2nm,0.6s,baz=216,slow=5.5,SNR=13						
	comp=Z,7.2nm,0.6s						
OTAV	**Otavalo**	**31.45**	**347**	P	**P**	**15 28 36.5**	**-2.6**
PMSA	**Palmer Station**	**34.44**	**174**	P	**P**	**15 29 05.4**	**+1.2**
BOAV	**Boa Vista**	**34.51**	**20**	P	**P**	**15 29 04.9**	**-0.5**
BOAV				IAmb	IAmb	15 29 31.2	
	comp=Z,8.0nm,1.3s						
RUSC	**La Rusia**	**36.39**	**357**	P	**P**	**15 29 23.6**	**+1.6**
RUSC				IAmb	IAmb	15 29 25.1	
	comp=Z,8.6nm,0.8s						
SNAA	**Sanae**	**54.49**	**159**	P	**P**	**15 31 42.8**	**-1.3**
SNAA	**Sanae**	**54.49**	**159**	P	**P**	**15 31 43.7**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=280,slow=11,SNR=6.2						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**15 32 20.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=128,slow=2.4,SNR=9.8						
	comp=Z,1.8nm,0.8s						
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	**15 33 11.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=153,slow=7.6,SNR=5.6						
	comp=Z,0.6nm,0.6s						
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**15 33 50.7**	**0.0**
	comp=Z,6.1nm,0.6s,baz=216,slow=6.2,SNR=11						
	comp=Z,6.1nm,0.6s						
PDAR	**Pinedale Array**	**81.02**	**333**	P	**P**	**15 34 32.4**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=138,slow=4.9,SNR=2.3						
	comp=Z,0.2nm,0.6s						
BOSA	**Boshof**	**81.21**	**118**	P	**P**	**15 34 32.6**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=231,slow=6.5,SNR=1.7						
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.64**	**70**	P	**P**	**15 34 39.8**	**-0.4**
TORD				IAmb	IAmb	15 34 53.9	
	comp=Z,3.0nm,1.5s						
ASAR	**Alice Springs**	**120.73**	**207**	PKP	**PKPdf**	**15 41 07.6**	**-1.3**
	comp=Z,0.2nm,0.9s,baz=150,slow=2.0,SNR=1.3						
WRA	**Warramunga Arr**	**123.88**	**210**	PKP	**PKPdf**	**15 41 13.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=170,slow=1.5,SNR=5.5						
H11S2	**WAKE ISLAND Hyl**	**26.22**	**271**	T	T	18 00 11.5	
	baz=116,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hyl**	**26.23**	**271**	T	T	18 00 07.1	
	baz=116,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hyl**	**26.24**	**271**	T	T	18 00 08.8	
	baz=116,slow=75,SNR=24						
BVAR	**Borovoye Array**	**144.49**	**40**	PKP	**PKPdf**	**15 41 51.3**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=316,slow=2.2,SNR=13						
KURBB	**Kurchatov Arra**	**150.08**	**40**	PKPbc	**PKiKP**	**15 42 06.7**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=303,slow=3.2,SNR=15						
ZALV	**Zasovo Beam**	**151.14**	**29**	PKPbc	**PKiKP**	**15 42 09.2**	**-0.2**
	comp=Z,6.2nm,0.5s,baz=302,slow=3.4,SNR=29						
MKAR	**Makanchi Array**	**154.15**	**44**	PKPbc	**PKPbc**	**15 42 14.8**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=320,slow=1.0,SNR=4.5						
MKAR				PKPab	**PKPab**	**15 42 29.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=270,slow=4.9,SNR=3.8						

*IDC **09** 15:29:41.5±0.9, 33.°67N×45.°90E, h0km, mb4.0/17, mbtmp4.0/23, ML3.9/6, MS3.7/3, Error ellipse: s-maj=21.4km s-min=11.5km az=172.0*
*ISN **09** 15:29:42.6±0.6, 33.°78N×45.°99E, h7km±7km, ML3.6*
*TEH **09** 15:29:44.1, 33.°76N×45.°93E, h9km±17km*
ISC 09 15:29:43.5±0.5, 33.°75N±0.°03×45.°91E±0.°03, h10km, n74, σ1°29/79, mb3.9/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.28**	**116**	Pg	**Pg**	**15 29 49.8**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.37**	**360**	Pg	**Pg**	**15 29 51.3**	**+0.4**
GLG1				Sg	**Sg**	**15 29 56.8**	**+1.1**
IBDR	**Badra**	**0.64**	**178**	*e*Pg	**Pg**	**15 29 56.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**15 30 05.0**	**+0.9**
IBDR				AML	AML	15 30 10.4	
	comp=E,2μm,0.4s						
IBDR				AML	AML	15 30 17.1	
	comp=N,2μm,1.1s						
IGHG	**Ghaleghazi**	**0.80**	**43**	Pg	**Pb**	**15 30 00.0**	**+0.3**
IDHR	**Dehrash**	**1.03**	**22**	Pg	**Pb**	**15 30 03.8**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.08**	**60**	Pg	**Pg**	**15 30 04.4**	**+0.1**
BHD	**Baghdad**	**1.36**	**250**	*e*Pg	**Pb**	**15 30 10.0**	**+0.9**
BHD				*e*Sg	**Sg**	**15 30 30.0**	**+2.6**
IKFM	**Kafar-mosalman**	**1.63**	**97**	Pg	**Pg**	**15 30 14.8**	**0.0**
SNQR	**Sonqor, Kerman**	**1.80**	**52**	Pg	**Pg**	**15 30 17.8**	**-0.3**
IDOB	**Doab**	**1.89**	**88**	Pn	**Pb**	**15 30 18.4**	**+0.1**
IKRK	**Kirkuk**	**2.10**	**322**	*e*Pn	**Pn**	**15 30 20.0**	**+1.3**
IKRK				*e*Sn	**Sb**	**15 30 48.0**	**+0.2**
IKRK				AML	AML	15 30 55.1	
	comp=N,847nm,0.6s						
IKRK				AML	AML	15 30 55.1	
	comp=E,974nm,0.8s						
HSAM	**Samen**	**2.29**	**78**	Pn	**Pn**	**15 30 23.5**	**+2.0**
SDS1	**Sardasht. Az.**	**2.42**	**352**	Pn	**Pb**	**15 30 26.1**	**-1.2**
BDRS	**Dareh Seyedi**	**2.48**	**84**	Pn	**Pn**	**15 30 26.4**	**+2.1**
HAGD	**Aghdareh**	**2.88**	**67**	Pn	**Pn**	**15 30 32.2**	**+2.4**
HGHA	**Hamedan- Ghaye**	**2.99**	**54**	Pn	**Pn**	**15 30 33.7**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.60**	**56**	Pn	**Pn**	**15 30 42.3**	**+2.7**
IRAZ	**Razeghan**	**3.71**	**62**	Pn	**Pn**	**15 30 43.3**	**+2.3**
IHSH	**Hashtrud**	**3.72**	**17**	Pn	**Pn**	**15 30 43.7**	**+2.4**
IPIR	**Pirpir**	**4.31**	**103**	Pn	**Pn**	**15 30 51.5**	**+2.1**
IQOM	**Qom**	**4.41**	**74**	Pn	**Pn**	**15 30 52.3**	**+1.5**
ZNGN	**Zangian**	**4.46**	**110**	Pn	**Pn**	**15 30 53.0**	**+1.4**
ISHB	**Shabestar**	**4.53**	**357**	Pn	**Pn**	**15 30 53.5**	**+1.1**
QAMS	**Qamsar**	**4.57**	**89**	Pn	**Pn**	**15 30 55.2**	**+2.2**
IHRS	**Heris**	**4.65**	**11**	Pn	**Pn**	**15 30 56.0**	**+1.9**
ISFB	**Sefidab**	**5.29**	**82**	Pn	**Pn**	**15 31 04.1**	**+1.4**
GRMI	**Germi**	**5.30**	**17**	Pn	**Pn**	**15 31 05.7**	**+2.9**
MZPU	**Pul - Mazandar**	**5.36**	**58**	Pn	**Pn**	**15 31 06.2**	**+2.4**
IDMV	**Damavand**	**5.37**	**68**	Pn	**Pn**	**15 31 05.5**	**+1.5**
IRAM	**Ramesheh**	**5.78**	**108**	Pn	**Pn**	**15 31 11.4**	**+1.8**
ASF	**Jabal al Asfar**	**7.74**	**261**	Pn	**Pn**	**15 31 34.7**	**-1.6**
	comp=E,0.5nm,0.3s,baz=352,slow=0.8,SNR=2.8						
ASF				Sn	**Sn**	**15 33 04.0**	**0.0**
	comp=E,0.7nm,0.3s,baz=135,slow=20,SNR=1.8						
ASF				Lg	Lg	15 33 46.8	
	comp=E,1.0nm,0.3s,baz=85,slow=21,SNR=3.8						
	comp=E,1.3nm,0.5s						
MMAI	**Mount Meron Ar**	**8.82**	**268**	Pn	**Pn**	**15 31 49.0**	**-2.1**
	comp=E,1.9nm,0.3s,baz=127,slow=11,SNR=2.7						
MMAI				Lg	Lg	15 34 21.0	
	comp=E,1.6nm,0.3s,baz=77,slow=36,SNR=3.3						
EIL	**Elat**	**10.18**	**249**	Pn	**Pn**	**15 32 07.2**	**-2.6**
	comp=E,0.2nm,0.3s,baz=75,slow=16,SNR=1.3						
EIL				Lg	Lg	15 35 07.8	
	comp=E,0.1nm,0.3s,baz=175,slow=21,SNR=3.1						
	comp=E,0.7nm,0.4s						
WSAR	**Wadi Sarin**	**15.30**	**130**	Pn	**Pn**	**15 33 17.7**	**-1.9**
	comp=E,0.8nm,0.3s,baz=324,slow=12,SNR=12						
	comp=E,6.5nm,0.6s						
IDI	**Anoyia**	**17.39**	**281**	P	**Pn**	**15 33 47.3**	**+1.0**
	comp=E,5.9nm,0.7s,baz=79,slow=16,SNR=2.2						
AKTO	**Aktyubinsk**	**18.90**	**24**	P	**P**	**15 34 04.2**	**+0.2**
	comp=E,0.3nm,0.3s,baz=206,slow=11,SNR=4.9						
	comp=E,1.2nm,0.5s						
MLR	**Muntele Rosu**	**19.28**	**313**	P	**P**	**15 34 09.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=117,slow=14,SNR=3.4						
MLR				LR	LR	15 44 06.0	
	comp=E,78nm,18.1s,baz=64,slow=45						
	comp=E,0.8nm,0.5s						
NDNU	**Novodnistrovsk**	**20.29**	**322**	P	**P**	**15 34 18.7**	**-0.6**
KMPD	**K-Podol'skiy**	**20.74**	**321**	P	**P**	**15 34 23.5**	**-0.6**
AKASG	**Malin Array Be**	**20.89**	**329**	P	**P**	**15 34 25.5**	**-0.2**
	comp=E,1.5nm,0.5s,baz=139,slow=9.7,SNR=17						
	comp=E,1.5nm,0.5s						
AKBB	**Malin Array Si**	**20.89**	**329**	P	**P**	**15 34 25.0**	**-0.7**
KIEV	**Kiev**	**20.89**	**329**	P	**P**	**15 34 25.0**	**-0.7**
	comp=E,47nm,1.4s						
AK13	**Malin Array Si**	**20.89**	**329**	P	**P**	**15 34 25.1**	**-0.7**
AK11	**Malin Array Si**	**20.89**	**329**	P	**P**	**15 34 25.1**	**-0.7**
AK03	**Malin Array Si**	**20.91**	**329**	P	**P**	**15 34 25.3**	**-0.6**
AK16	**Malin Array Si**	**20.91**	**329**	P	**P**	**15 34 25.3**	**-0.7**
AK15	**Malin Array Si**	**20.93**	**329**	P	**P**	**15 34 25.5**	**-0.6**
AK04	**Malin Array Si**	**20.93**	**329**	P	**P**	**15 34 25.5**	**-0.7**
AK17	**Malin Array Si**	**20.95**	**329**	P	**P**	**15 34 25.7**	**-0.7**
LUBAR	**Lubar, Ukraine**	**20.98**	**326**	P	**P**	**15 34 26.3**	**-0.5**
AK19	**Malin Array Si**	**20.99**	**329**	P	**P**	**15 34 26.5**	**-0.4**
HORU	**Horodok**	**21.16**	**323**	P	**P**	**15 34 28.0**	**-0.7**
RAKU	**Rahkiv**	**21.66**	**318**	P	**P**	**15 34 34.5**	**+0.4**
MI28	**Mi28,Pidlybu**	**21.73**	**328**	P	**P**	**15 34 34.2**	**-0.6**
BRIU	**Brid**	**22.48**	**317**	P	**P**	**15 34 42.1**	**-0.7**
AAK	**Ala

BORC					Sg	15 50 45.3	-0.3
FRK	**Frink**	**0.41**	**48**		Sg	15 50 46.0	-0.5
MONP2	**Monument Peak**	**0.43**	**237**		Pg	15 50 41.1	-0.3
MONP2					Sg	15 50 46.6	-0.5
WESC	**Westside Schoo**	**0.43**	**148**		Pg	15 50 41.7	+0.3
WESC					Sb	15 50 48.4	-0.7
IMPE	**Imperial**	**0.43**	**121**		Pb	15 50 42.3	-0.3
IMPE					Sb	15 50 49.3	+0.2
YUH	**Yuha Desert**	**0.48**	**172**		Pg	15 50 41.8	-0.6
YUH				IAML		15 50 49.9	
	comp=N,1μm,0.3s						
YUH				IAML		15 50 50.0	
	comp=E,992nm,0.2s						
YUH	**Yuha Desert**	**0.48**	**172**		Sg	15 50 48.9	+0.1
IKP	**In-Ko-Pah, Jac**	**0.48**	**191**		Pg	15 50 42.2	-0.3
IKP					Sg	15 50 48.9	0.0
JUEM	**Julian Eagle M**	**0.51**	**265**		Pg	15 50 42.7	-0.2
JUEM					Sg	15 50 49.6	0.0
RMX	**La Rumorosa**	**0.53**	**187**		Pg	15 50 43.7	+0.4
RMX					Sb	15 50 51.5	-0.5
CTCC	**Cactus City**	**0.53**	**1**		Pg	15 50 43.1	-0.3
CTCC					Sg	15 50 50.9	+0.6
SGL	**Mount Signal**	**0.53**	**154**		Pg	15 50 43.0	-0.3
SGL					Sg	15 50 50.5	+0.2
SNR	**Schaffner Ranc**	**0.54**	**119**		Sb	15 50 52.6	+0.3
MATG	**Mataguay Scout**	**0.55**	**278**		Sg	15 50 50.8	-0.2
CTW	**Cottonwood Mou**	**0.56**	**11**		Sg	15 50 51.5	+0.1
DREC	**Desert Rsrch C**	**0.56**	**124**		Pg	15 50 44.3	+0.4
DREC					Sb	15 50 53.9	+0.9
SLVP	**Salvation Pass**	**0.59**	**79**		Sg	15 50 52.1	-0.3
PMD	**Palm Desert**	**0.61**	**329**		Pg	15 50 44.0	-0.9
PMD					Sg	15 50 52.0	-0.9
XPFO	**Pinon Flat**	**0.62**	**322**		Sg	15 50 52.4	-0.8
PFO	**Pinyon Flats O**	**0.62**	**322**	Pg	Pg	15 50 44.2	-0.8
PFO				IAML		15 50 53.9	
	comp=E,374nm,0.5s						
PFO				IAML		15 50 54.0	
	comp=E,679nm,0.4s						
PFO	**Pinyon Flats O**	**0.62**	**322**		Sg	15 50 52.6	-0.7
5053	**Calexico**	**0.62**	**137**		Pb	15 50 45.5	-0.4
5053					Sb	15 50 55.1	+0.4
FRD	**Ford Ranch, An**	**0.62**	**306**		Sg	15 50 53.0	-0.4
FRD	**Ford Ranch, An**	**0.62**	**306**		Pg	15 50 44.8	-0.4
FRD					Sg	15 50 52.8	-0.6
HAY	**Hayfield**	**0.64**	**24**		Pg	15 50 45.0	-0.4
HAY					Sg	15 50 54.0	+0.2
SNDA	**J Saunders Pla**	**0.67**	**310**		Sg	15 50 54.9	+0.2
BZNA	**Buzz No.'s Pla**	**0.67**	**303**		Pg	15 50 45.6	-0.4
BZNA					Sg	15 50 54.3	-0.5
UABX	**UABC, Campus M**	**0.68**	**136**		Sb	15 50 56.1	-0.2
BC3	**Big Chuckawall**	**0.70**	**41**		Pg	15 50 45.8	-0.7
BC3					Sg	15 50 55.5	-0.2
BAR	**Barrett**	**0.72**	**232**		Sg	15 50 55.5	-0.8
EML	**El Monte Cty P**	**0.75**	**252**		Sg	15 50 56.4	-0.9
TKX	**Tecate**	**0.76**	**223**		Pg	15 50 46.7	-0.9
TKX					Sg	15 50 56.6	-0.9
CRY	**Cary Ranch**	**0.76**	**306**		Pg	15 50 47.2	-0.5
CRY					Sg	15 50 57.0	-0.6
PLM	**Palomar**	**0.76**	**288**		Pg	15 50 47.1	-0.5
PLM					Sg	15 50 57.6	-0.1
COA	**Coachella**	**0.78**	**109**		Pg	15 50 46.8	-1.3
COA					Sg	15 50 58.3	0.0
GVDA	**Garner Valley**	**0.78**	**314**		Pg	15 50 47.6	-0.5
GVDA					Sg	15 50 57.7	-0.7
DPP	**Dos Picos Cty**	**0.80**	**261**		Sg	15 50 58.2	-0.8
DUZA	**Dulzura**	**0.83**	**232**		Pg	15 50 48.1	-1.0
DUZA					Sg	15 50 59.2	-0.7
BELC	**Belle Mtn. Jos**	**0.87**	**0**		Pg	15 50 48.5	-1.3
BELC					Sg	15 51 01.3	0.0
RUN	**Ruthven**	**0.87**	**100**		Pg	15 50 48.3	-1.5
RUN					Sg	15 51 00.6	-0.6
EW2	**E Wide Canyon**	**0.88**	**337**		Pg	15 50 48.8	-1.2
EW2					Sg	15 51 01.3	-0.2
SDRC	**San Diego Road**	**0.88**	**244**		Pg	15 50 48.8	-1.2
SDRC					Sg	15 51 00.3	-1.3
OLP	**Otay Lakes Par**	**0.94**	**237**		Pg	15 50 49.9	-1.2
OLP					Sg	15 51 02.0	-1.3
MTRP	**Mission Trails**	**0.94**	**251**		Pg	15 50 50.2	-0.9
CBX	**Cerro Bola**	**0.99**	**215**		Pg	15 50 50.9	-1.1
CBX				IAML		15 51 07.1	
	comp=N,780nm,0.5s						
GLA	**Glamis**	**0.99**	**94**		Pg	15 50 50.5	-1.5
TJX	**Tijuana**	**1.08**	**236**		Pb	15 50 52.8	-0.9
TJX				IAML		15 51 07.4	
	comp=N,504nm,0.4s						
TJX				IAML		15 51 12.4	
	comp=E,664nm,0.5s						
ESJX	**Sierra Juarez**	**1.12**	**178**		Pb	15 50 53.5	-1.0
ESJX				IAML		15 51 09.3	
	comp=E,497nm,0.1s						
ESJX				IAML		15 51 09.3	
	comp=N,283nm,0.2s						
IRM	**Iron Mountain**	**1.25**	**34**		Pn	15 50 56.4	-0.1
ELS	**Elsinore Mount**	**1.30**	**294**		Pn	15 50 56.2	-1.0
ELS				IAML		15 51 13.8	
	comp=N,133nm,0.4s						
SS2	**San Sevaine**	**1.65**	**311**		Pb	15 51 03.2	-0.2
Y14A	**Wickenburg**	**2.63**	**71**		Pn	15 51 14.3	-1.1
TPNV	**Topopah Spring**	**3.82**	**357**	Pn	Pn	15 51 31.8	-0.2

ZUR 09 16:03:51.6, 46°.57N×7°.52E, h9km±3km, MLh0.6/6, 1C-1D, Error ellipse: s-maj=6369.4km s-min=789.6km az=219.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFRS	**Frutigen, Schu**	**0.10**	**81**	Pg	Pg	16 03 54.4	+0.3
SFRS				Sg	Sg	16 03 56.4	+0.4
WIMIS	**Wimmis**	**0.12**	**37**	⇑Pg	Pg	16 03 54.7	+0.2
WIMIS				Sg	Sg	16 03 56.9	+0.3
LKBD2	**Leukerbad 2**	**0.21**	**155**	Pg	Pg	16 03 56.4	+0.3
STSW2	**Zeuzier, Staus**	**0.23**	**194**	Sg	Sg	16 04 00.2	+0.6
LAUCH	**Lauchernalp**	**0.23**	**131**	⇓Pg	Pg	16 03 56.7	+0.3
SENIN	**Lac Senin/Sane**	**0.25**	**216**	Sg	Sg	16 04 00.9	+0.6

LDG ***09*** *16:04:18.3±0.1, 46°.57N×7°.51E, h9km, Ml1.9/8, Error ellipse: s-maj=1.6km s-min=1.3km az=93.0*

ZUR 09 16:04:18.3, 46°.57N×7°.52E, h9km±2km, MLh1.0/8, 2C-3D, Error ellipse: s-maj=3752.4km s-min=759.8km az=260.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFRS	**Frutigen, Schu**	**0.10**	**81**	⇑Pg	Pg	16 04 21.0	+0.2
SFRS				Sg	Sg	16 04 22.9	+0.5
WIMIS	**Wimmis**	**0.12**	**36**	⇑Pg	Pg	16 04 21.3	+0.2
WIMIS				Sg	Sg	16 04 23.5	+0.4
LKBD2	**Leukerbad 2**	**0.21**	**156**	⇓Pg	Pg	16 04 23.0	+0.3
STSW2	**Zeuzier, Staus**	**0.23**	**195**	Sg	Sg	16 04 26.7	+0.6
LAUCH	**Lauchernalp**	**0.23**	**131**	⇓Pg	Pg	16 04 23.3	+0.3
LAUCH				Sg	Sg	16 04 26.7	+0.4
SENIN	**Lac Senin/Sane**	**0.25**	**217**	Pg	Pg	16 04 23.8	+0.3
SAYF2	**Ayent-Fortunoz**	**0.29**	**194**	Sg	Sg	16 04 28.6	+0.7
FIESA	**Fiescheralp**	**0.43**	**108**	⇓Pg	Pg	16 04 26.9	+0.2
CABF	**La Chapelle**	**0.99**	**273**	*e*Pg	Pn	16 04 39.1	+0.6
CABF				*e*Sg	Sb	16 04 50.7	-0.1
	2.6nm,0.2s						
LPL	**La Plagne**	**1.19**	**208**	*e*P	Pn	16 04 43.1	+1.8
LPL				*e*Sg	Sg	16 04 56.0	-0.4
	0.6nm,0.2s						
LPG	**La Plagne**	**1.20**	**207**	*e*Pg	Pn	16 04 41.5	0.0
LPG	**La Plagne**	**1.20**	**207**	*e*P	Pn	16 04 43.4	+1.9
HINF	**Hinteralfeld**	**1.33**	**340**	*e*Pg	Pb	16 04 43.5	+0.1
HINF				*e*Sg	Sg	16 05 01.3	+0.2
	1.1nm,0.2s						
CDF	**Champ du Feu**	**1.85**	**355**	*e*Pg	Pb	16 04 52.6	+0.2
CDF				*e*Sg	Sg	16 05 16.8	-1.0
	0.6nm,0.2s						
SMF	**Signal de Mont**	**2.54**	**273**	*e*Sg	Sb	16 05 37.5	+2.2
	1.9nm,0.2s						
LOR	**Lormes**	**2.60**	**287**	*e*Sg	Sb	16 05 39.2	+1.9
	1.1nm,0.2s						
SSF	**Saint Saulge**	**2.80**	**282**	*e*Sg	Sg	16 05 45.9	-2.3
	0.8nm,0.2s						

ISK ***09*** *16:15:39.3, 37°.22N×26°.75E, h5km, ML2.7/17*
AFAD ***09*** *16:15:40.9, 37°.25N×26°.85E, h7km±3km, ML2.3*
ATH ***09*** *16:15:40.9, 37°.25N×26°.91E, h18km±4km, ML2.6/4,*
Manual Solution by S.Koutrakis First location: 2019/03/09 16:17:26, This location: 2019/03/09 21:06:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 9 km
THE ***09*** *16:15:41.6, 37°.32N×27°.09E, h4km±9km, ML2.5/2, Error ellipse: s-maj=13.3km s-min=0.4km az=73.0*

ISC 09 16:15:41.0±0.9, 37°.25N±0°.02×26°.87E±0°.03, h15km±8km, n36, σ0=86/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNA	**Kalymnos**	**0.30**	**164**	P	**Pg**	**16 15 47.3**	**0.0**
KLNA				S	**Sg**	**16 15 51.9**	**+0.2**
DIDI	**Didim-Aydin**	**0.32**	**67**	Pg	**Pb**	**16 15 48.2**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.35**	**111**	Pg	**Pb**	**16 15 48.4**	**-0.5**
DDIM	**Aydin, Didim**	**0.36**	**55**	P	**Pb**	**16 15 49.1**	**0.0**
DDIM				S	**Sb**	**16 15 54.3**	**-0.3**
DDIM				*i* AML	AML	16 15 55.0	
	comp=N,448nm,0.5s						
DDIM				*i* AML	AML	16 15 58.0	
	comp=E,355nm,0.8s						
BODT	**Bodrum**	**0.40**	**118**	Pg	**Pb**	**16 15 49.2**	**-0.5**
BODT				Sg	**Sb**	**16 15 55.6**	**-0.1**
SMG	**Samos**	**0.46**	**357**	P	**Pg**	**16 15 50.2**	**+0.1**
SMG				S	**Sg**	**16 15 56.8**	**+0.5**
	1μm,0.2s						
SMG	**Samos**	**0.46**	**357**	P	**Pg**	**16 15 50.3**	**+0.1**
SMG				S	**Sg**	**16 15 56.9**	**+0.5**
BDRM	**Kayabasi**	**0.49**	**112**	P	**Pg**	**16 15 50.4**	**-0.4**
BDRM				S	**Sb**	**16 15 58.3**	**-0.1**
BDRM				*i* AML	AML	16 16 00.0	
	comp=E,260nm,0.3s						
GCAM	**G?zelcaml?**	**0.54**	**33**	Pg	**Pg**	**16 15 51.4**	**-0.1**
GCAM				Sg	**Sb**	**16 16 00.7**	**+1.2**
GCAM	**G?zelcaml?**	**0.54**	**33**	P	**Pb**	**16 15 51.6**	**-0.4**
GCAM				S	**Sb**	**16 15 59.5**	**-0.1**
GCAM				*i* AML	AML	16 16 01.0	
	comp=E,450nm,0.3s						
GCAM				*i* AML	AML	16 16 02.0	
	comp=N,514nm,0.2s						
NISR	**Nisiros**	**0.67**	**162**	P	**Pb**	**16 15 55.5**	**+1.2**
NISR				S	**Sn**	**16 16 05.9**	**-0.2**
	302nm,0.7s						
MLSB	**Milas**	**0.73**	**86**	Pg	**Pb**	**16 15 55.0**	**-0.3**
MLSB				Sg	**Sn**	**16 16 06.7**	**-0.8**
YAZI	**Mula-Dat§a-**	**0.74**	**140**	P	**Pb**	**16 15 55.9**	**+0.5**
YAZI				S	**Sg**	**16 16 04.4**	**-0.6**
YAZI				*i* AML	AML	16 16 09.0	
	comp=E,121nm,0.4s						
DAT	**Datca**	**0.77**	**132**	Pg	**Pb**	**16 15 55.8**	**-0.3**
DATC	**Datca-Mugla**	**0.80**	**127**	Pg	**Pb**	**16 15 56.8**	**+0.2**
DATC				Sg	**Sn**	**16 16 08.9**	**-0.4**
DGB	**zmir**	**0.80**	**1**	P	**Pb**	**16 15 57.0**	**+0.4**
ASTA	**Astypalaia**	**0.82**	**211**	P	**Pg**	**16 15 56.8**	**0.0**
ASTA				S	**Sg**	**16 16 07.9**	**+0.3**
AMGA	**Amorgos Island**	**0.89**	**242**	P	**Pg**	**16 15 58.7**	**+0.6**
AMGA				S	**Sg**	**16 16 10.4**	**+0.6**
AYDN	**Tasoluk**	**0.90**	**63**	P	**Pb**	**16 15 58.2**	**-0.2**
AYDN				S	**Sg**	**16 16 09.6**	**-0.8**
AYDN				*i* AML	AML	16 16 15.0	
	comp=E,95nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**1.03**	**344**	P	**Pg**	**16 15 60.0**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**49**	Pn	**Pb**	**16 16 01.7**	**+0.5**
AYDB				Sn	**Sn**	**16 16 18.6**	**+2.4**
APE	**Apeiranthos**	**1.08**	**261**	Pg	**Pg**	**16 15 58.2**	**-3.7**
YER	**Yerkesik**	**1.14**	**95**	Pn	**Pg**	**16 16 03.4**	**+1.0**
BLCB	**Balcova**	**1.14**	**7**	Pn	**Pg**	**16 16 02.5**	**-0.5**
MULA	**Mugla, Merkez-**	**1.16**	**89**	P	**Pn**	**16 16 03.8**	**+1.0**
TURN	**Turunc**	**1.20**	**113**	Pn	**Pb**	**16 16 03.5**	**+0.2**
TURN	**Turunc**	**1.20**	**113**	P	**Pn**	**16 16 03.9**	**+0.8**
ESEN	**Aydn-Nazilli**	**1.30**	**65**	P	**Pn**	**16 16 03.8**	**-0.8**
ESEN				S	**Sg**	**16 16 21.9**	**-1.0**
NAZL	**Nazilli-Aydin**	**1.34**	**57**	Pn	**Pg**	**16 16 06.7**	**0.0**
ARG	**Arkhangelos**	**1.44**	**135**	Pn	**Pn**	**16 16 07.1**	**+0.6**
THR6	**Thira Island,**	**1.48**	**233**	P	**Pg**	**16 16 10.3**	**+0.9**
DALY	**Dalyan (Mula)**	**1.49**	**106**	Pn	**Pg**	**16 16 08.7**	**-0.9**
KIRA	**zmir-Kiraz**	**1.54**	**52**	P	**Pb**	**16 16 09.4**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.64**	**82**	P	**Pg**	**16 16 12.0**	**-0.5**
ZKR	**Zakros**	**2.19**	**194**	Pn	**Pn**	**16 16 16.5**	**-0.4**
IDI	**Anoyia**	**2.53**	**220**	Pn	**Pn**	**16 16 20.8**	**-0.7**

ISK ***09*** *16:22:16.4, 37°.26N×26°.90E, h5km, ML3.1/22*
AFAD ***09*** *16:22:16.7, 37°.26N×26°.85E, h7km±2km, ML3.0*
THE ***09*** *16:22:17.2, 37°.26N×26°.91E, h14km±1km, ML2.9/5, Error ellipse: s-maj=1.8km s-min=0.7km az=68.0*
ATH ***09*** *16:22:17.0, 37°.24N×26°.87E, h15km±3km, ML3.1/8, Manual Solution by S.Koutrakis First location: 2019/03/09 16:23:39, This location: 2019/03/09 21:11:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km*

ISC 09 16:22:16.9±0.9, 37°.25N±0°.02×26°.88E±0°.02, h17km±7km, n64, σ0=41/88, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNA	**Kalymnos**	**0.30**	**166**	P	**Pg**	**16 22 23.1**	**-0.3**
KLNA				S	**Sg**	**16 22 27.9**	**0.0**
DIDI	**Didim-Aydin**	**0.31**	**66**	Pg	**Pg**	**16 22 23.5**	**-0.2**
DIDI				Sg	**Sb**	**16 22 28.7**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.34**	**111**	Pg	**Pg**	**16 22 24.2**	**0.0**
YKAV				Sg	**Sb**	**16 22 29.7**	**-0.1**
DDIM	**Aydin, Didim**	**0.35**	**54**	P	**Pb**	**16 22 24.4**	**-0.3**
DDIM				S	**Sb**	**16 22 29.9**	**-0.1**
DDIM				*i* AML	AML	16 22 31.0	
	comp=N,2μm,0.6s						
DDIM				*i* AML	AML	16 22 34.0	
	comp=E,1μm,0.8s						
BODT	**Bodrum**	**0.39**	**119**	Pg	**Pb**	**16 22 25.4**	**0.0**
BODT				Sg	**Sb**	**16 22 31.3**	**+0.1**
SMG	**Samos**	**0.46**	**356**	P	**Pg**	**16 22 26.1**	**-0.1**
SMG				S	**Sb**	**16 22 32.8**	**-0.2**
	5μm,0.2s						
SMG	**Samos**	**0.46**	**356**	P	**Pg**	**16 22 26.2**	**0.0**
SMG				S	**Sb**	**16 22 32.9**	**-0.2**
BDRM	**Kayabasi**	**0.49**	**112**	P	**Pg**	**16 22 26.6**	**-0.2**
BDRM				S	**Sb**	**16 22 33.5**	**-0.4**
BDRM				*i* AML	AML	16 22 36.0	
	comp=E,1μm,0.2s						
GCAM	**G?zelcaml?**	**0.53**	**32**	Pg	**Pb**	**16 22 27.6**	**-0.2**
GCAM				Sg	**Sb**	**16 22 35.8**	**+0.7**
GCAM	**G?zelcaml?**	**0.53**	**32**	P	**Pg**	**16 22 27.5**	**-0.1**
GCAM				S	**Sb**	**16 22 35.5**	**+0.4**
GCAM				*i* AML	AML	16 22 37.0	
	comp=E,3μm,0.2s						
NISR	**Nisiros**	**0.67**	**163**	P	**Pg**	**16 22 30.0**	**-0.1**
NISR				S	**Sb**	**16 22 39.9**	**+0.8**
	1μm,0.7s						
MLSB	**Milas**	**0.72**	**86**	Pg	**Pg**	**16 22 30.5**	**-0.5**
YAZI	**Mula-Dat§a-**	**0.73**	**141**	P	**Pb**	**16 22 31.8**	**+0.6**
YAZI				S	**Sg**	**16 22 40.7**	**-0.3**
YAZI				*i* AML	AML	16 22 42.0	
	comp=E,606nm,0.6s						
YAZI				*i* AML	AML	16 22 43.0	
	comp=N,371nm,0.2s						
DAT	**Datca**	**0.77**	**133**	Pg	**Pb**	**16 22 32.0**	**+0.2**
DATC	**Datca-Mugla**	**0.80**	**128**	Pg	**Pb**	**16 22 32.9**	**+0.6**
DGB	**zmir**	**0.80**	**0**	P	**Pg**	**16 22 32.4**	**-0.2**
DGB				S	**Sb**	**16 22 43.4**	**+0.6**
ASTA	**Astypalaia**	**0.82**	**211**	P	**Pg**	**16 22 32.7**	**-0.2**
ASTA				S	**Sg**	**16 22 43.9**	**+0.1**
GMLD	**Gumuldur**	**0.82**	**2**	Pg	**Pb**	**16 22 33.2**	**+0.4**
AMGA	**Amorgos Island**	**0.89**	**242**	P	**Pb**	**16 22 34.1**	**+0.2**
AMGA				S	**Sg**	**16 22 45.4**	**-0.7**
AYDN	**Tasoluk**	**0.90**	**63**	P	**Pg**	**16 22 33.6**	**-0.8**
AYDN				S	**Sn**	**16 22 46.9**	**-0.4**
AYDN				*i* AML	AML	16 22 48.0	
	comp=N,638nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**1.03**	**343**	P	**Pb**	**16 22 36.0**	**-0.2**
ZEYE				S	**Sg**	**16 22 50.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**49**	Pg	**Pn**	**16 22 37.4**	**+0.3**
YER	**Yerkesik**	**1.13**	**96**	Pn	**Pg**	**16 22 38.9**	**+0.1**
URLA	**Izmir**	**1.13**	**349**	P	**Pg**	**16 22 38.7**	**-0.1**
BLCB	**Balcova**	**1.14**	**6**	Pn	**Pg**	**16 22 38.9**	**-0.1**
MULA	**Mugla, Merkez-**	**1.15**	**89**	P	**Pg**	**16 22 39.2**	**0.0**
TURN	**Turunc**	**1.19**	**113**	Pn	**Pg**	**16 22 40.1**	**+0.1**
TURN	**Turunc**	**1.19**	**113**	P	**Pg**	**16 22 39.9**	**0.0**
ESEN	**Aydn-Nazilli**	**1.29**	**65**	P	**Pb**	**16 22 40.9**	**+0.2**
ESEN				S	**Sn**	**16 22 57.6**	**+0.6**
NAZL	**Nazilli-Aydin**	**1.33**	**57**	Pn	**Pg**	**16 22 42.5**	**-0.1**
ODEM	**Odemis-Izmir**	**1.40**	**42**	Pn	**Pg**	**16 22 43.6**	**-0.2**
THR8	**Santorini-Mono**	**1.40**	**234**	P	**Pn**	**16 22 41.3**	**-0.4**
CMBO	**Columbo, Santo**	**1.42**	**237**	P	**Pn**	**16 22 41.9**	**+0.1**
CMBO				S	**Sn**	**16 23 00.2**	**+0.1**
ARG	**Arkhangelos**	**1.44**	**136**	Pn	**Pn**	**16 22 42.8**	**+0.6**
ARG	**Arkhangelos**	**1.44**	**136**	P	**Pn**	**16 22 42.2**	**0.0**
ARG				S	**Sn**	**16 23 00.0**	**-0.7**
	272nm,0.6s						
ARG	**Arkhangelos**	**1.44**	**136**	P	**Pn**	**16 22 42.6**	**+0.4**
ARG				S	**Sb**	**16 23 01.5**	**+0.2**
THR3	**Thira Island,**	**1.45**	**235**	P	**Pn**	**16 22 42.3**	**-0.1**
KARB	**zmir-Karabur**	**1.46**	**345**	P	**Pn**	**16 22 42.2**	**-0.3**
DALY	**Dalyan (Mula)**	**1.48**	**106**	Pn	**Pg**	**16 22 44.9**	**-0.6**
THR6	**Thira Island,**	**1.49**	**234**	P	**Pn**	**16 22 42.5**	**-0.3**
KIRA	**zmir-Kiraz**	**1.53**	**52**	P	**Pn**	**16 22 44.4**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.64**	**82**	P	**Pg**	**16 22 47.6**	**-0.8**
GOMA	**Golmarmara-Man**	**1.67**	**29**	Pn	**Pb**	**16 22 47.7**	**+0.5**
KARP	**Karpathos**	**1.72**	**172**	P	**Pn**	**16 22 45.7**	**-0.3**
KARP	**Karpathos**	**1.72**	**172**	P	**Pn**	**16 22 45.8**	**-0.2**
SABU	**Mula-Dalaman**	**1.73**	**104**	P	**Pb**	**16 22 48.6**	**+0.4**
DNIZ	**Denizli-Tavas-**	**1.76**	**77**	P	**Pb**	**16 22 48.7**	**-0.1**
AKHS	**Akhisar**	**1.78**	**24**	P	**Pb**	**16 22 49.7**	**+0.5**
AKHS				S	**Sg**	**16 23 15.1**	**+0.6**
AKHS				*i* AML	AML	16 23 18.0	
	comp=E,107nm,0.7s						
FETY	**Fethiye**	**1.87**	**109**	Pn	**Pb**	**16 22 50.8**	**+0.2**
KULA	**Kula-Manisa**	**1.89**	**48**	Pn	**Pb**	**16 22 51.1**	**+0.1**
APMY	**Acipayam-Deniz**	**1.94**	**83**	Pn	**Pb**	**16 22 51.6**	**+0.3**
GORD	**Gordes-Manisa**	**1.95**	**31**	Pn	**Pb**	**16 22 51.5**	**-0.5**
CAME	**Cameli-Denizli**	**1.96**	**98**	Pn	**Pb**	**16 22 51.9**	**-0.4**
PRK	**Paraskevi**	**2.05**	**347**	P	**Pn**	**16 22 50.7**	**+0.1**
PRK				S	**Sn**	**16 23 14.6**	**-1.1**
	470nm,0.7s						
KARY	**Karystos**	**2.09**	**293**	P	**Pn**	**16 22 51.5**	**+0.3**
KARY				S	**Sn**	**16 23 16.3**	**-0.4**
	55nm,0.5s						
KARY	**Karystos**	**2.09**	**293**	P	**Pn**	**16 22 51.5**	**+0.3**
SIGR	**SIGRI**	**2.12**	**338**	P	**Pn**	**16 22 51.6**	**+0.1**
SIGR	**SIGRI**	**2.12**	**338**	P	**Pn**	**16 22 51.7**	**+0.2**
ZKR	**Zakros**	**2.20**	**194**	P	**Pn**	**16 22 53.6**	**+0.9**
DION	**Dionisos Attik**	**2.48**	**290**	P	**Pn**	**16 22 57.0**	**+0.5**
VLY	**Voula,Athens**	**2.52**	**285**	P	**Pn**	**16 22 57.8**	**+0.6**
ATHU	**Athens Univers**	**2.56**	**287**	P	**Pn**	**16 22 58.1**	**+0.5**
SMTH	**Samothraki Isl**	**3.38**	**342**	P	**Pn**	**16 23 09.1**	**+0.2**
KAVA	**Kavala**	**4.17**	**335**	P	**Pn**	**16 23 20.3**	**+0.6**

TAP ***09*** *16:22:46.2, 24°.81N×122°.79E, h9km±1km, ML2.8, D*
JMA ***09*** *16:22:46.8±0.1, 25°.1°×122°.9E±0°.6, h30km±2km, MV1.8/12, NW OFF ISHIGAKIJIMA IS*

ISC 09 16:22:45.3±1.2, 24°.87N±0°.04×122°.84E±0°.03, h10km±9km, n72, σ0=55/128, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**167**	P	**Pb**	**16 22 55.1**	**+0.1**
JYNG				S	**Sb**	**16 23 01.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.44**	**159**	P	**Pb**	**16 22 55.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.44**	**159**	P	**Pb**	**16 22 55.3**	**+0.1**
YOJ				S	**Sb**	**16 23 01.3**	**-0.5**
EOS2	**EOS2**	**0.71**	**231**	*i* P	**Pb**	**16 23 00.3**	**+0.6**
EOS2				*e*S	**Sb**	**16 23 10.2**	**+0.7**
EOS3	**EOS3**	**0.75**	**219**	*i* P	**Pb**	**16 23 00.8**	**+0.4**
EOS3				*i* S	**Sb**	**16 23 11.4**	**+0.7**
TWB1	**Santiao Chiao**	**0.78**	**280**	*e*P	**Pn**	**16 23 01.7**	**-0.7**
TWB1				*e*S	**Sn**	**16 23 13.2**	**-1.0**
EOS4	**EOS4**	**0.89**	**212**	*i* P	**Pb**	**16 23 02.9**	**+0.3**
EOS4				S	**Sb**	**16 23 14.2**	**-0.1**
SXI1	**Grass Mountain**	**0.90**	**284**	P	**Pg**	**16 23 02.3**	**-0.4**
SXI1				*e*S	**Sn**	**16 23 16.4**	**-0.7**
TIPB	**Shuangxi**	**0.92**	**276**	*i* P	**Pb**	**16 23 03.4**	**-0.1**
TIPB				*e*S	**Sn**	**16 23 17.1**	**-0.6**
TWC	**Suao**	**0.94**	**254**	*i* P	**Pg**	**16 23 02.8**	**-0.6**
TWC				*e*S	**Sb**	**16 23 15.9**	**-0.2**
IRIF	**Iriomote-Funau**	**0.97**	**123**	*e*P	**Pg**	**16 23 03.5**	**-0.6**
NDS	**Dongshan**	**1.05**	**257**	*i* P	**Pb**	**

YULB	Yu-li	2.04 224	P	Pn	16 23 18.7	-1.9
YULB	Yu-li	2.04 224	*i* P	Pn	16 23 19.0	-0.7
YULB			*e*S	Sn	16 23 44.2	-1.0
TYC	Yuchr	2.05 242	P	Pb	16 23 21.3	-1.3
TYC			*e*S	Sn	16 23 45.7	+0.3
EYUL	Yuli	2.06 223	*i* P	Pn	16 23 20.2	+0.2
EYUL			*e*S	Sn	16 23 45.6	0.0
TWF1	Yuli	2.07 223	*i* P	Pn	16 23 20.0	-0.1
TWF1			*e*S	Sn	16 23 45.6	-0.3
WHYT	Xinyi Township	2.16 237	*i* P	Pn	16 23 22.4	+1.0
WHYT			*e*S	Sn	16 23 48.6	+0.4
FULB	Fuli	2.18 221	*i* P	Pn	16 23 22.2	+0.5
FULB			S	Sn	16 23 49.4	+0.6
WJS	Zhushan	2.19 242	*e*P	Pb	16 23 24.0	-1.0
WJS			*e*S	Sn	16 23 49.8	+0.9
ALS	Alishan	2.30 234	*i* P	Pn	16 23 23.8	+0.2
ALS			*e*S	Sn	16 23 51.3	-0.7
EDH	Donghe	2.36 217	P	Pn	16 23 24.1	+0.1
EDH			*e*S	Sn	16 23 53.2	+0.2
ELDTW	Lidau	2.36 225	*i* P	Pn	16 23 24.5	+0.2
ELDTW			S	Sn	16 23 53.4	+0.1
STYH	Taoyuan	2.54 228	*e*P	Pn	16 23 26.6	+0.1
TPUB	Ta-pu	2.55 233	P	Pn	16 23 28.3	+1.5
TWGBT	Beinan	2.60 218	P	Pn	16 23 28.0	+0.5

*NOU **09** 16:25:03.3, 32°.13S×176°.04W, h0km, mb4.9/41, South of Kermadec Islands*
*IDC **09** 16:25:18.6±2.7, 31°.81S×178°.13W, h19km±16km, mb4.3/9, mbtmp4.4/12, ML4.8/2, MS4.0/38, Error ellipse: s-maj=31.3km s-min=16.5km az=154.0*
*NEIC **09** 16:25:20.7±1.9, 32°.23S±0°.06×178°.5W±0°.1, h10km±1km, mb4.9/19, Error ellipse: s-maj=23.2km s-min=4.5km az=116.0*
*GCMT **09** 16:25:22.7±0.4, 31°.87S±0°.04×177°.84W±0°.03, h22km±1km, MW4.9/62, Moment Tensor Solution. s26,c31; s62,c77; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.21±.20; Mθθ-0.38±.12; Mφφ-1.83±.12; Mrθ0.42±.22; Mrφ-0.42±.06; Mθφ1.66±.18; Best double couple: M0=2.69200×10^16 NP1:φs195.00000°, δ25.00000°, λ91.00000°. NP2: φs15.00000°, δ65.00000°, λ90.00000°. Principal axes: T 2.8260, Plg70.0000°, Azm284.0000°; N -0.2710, Plg0.0000°, Azm15.0000°; P -2.5580, Plg20.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*WEL **09** 16:25:24.8±1.0, 33°S±10°×17°7W±1°5, h288km±8km, mB4.8/6, ML5.2/6, MLv5.2/13, Mw(mB)4.0/6 Error ellipse: s-maj=22.1km s-min=6.8km az=119.5, confirmed*

ISC 09 16:25:18.8±0.5, 32°.02S±0°.06×178°.02W±0°.08, h24km, n181, σ2s29/153, mb4.8/25, MS4.0/35, 5C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.30 208**		Pn	**Pn**	**16 26 49.0**	**-1.1**
MXZ	**Matakaoa Point**	**6.30 208**		P	**Pn**	**16 26 49.4**	**-0.7**
MXZ	**Matakaoa Point**	**6.30 208**		P	**Pn**	**16 26 50.7**	**+0.6**
MXZ				S	**Sn**	**16 28 03.9**	**+2.6**
WMGZ	**Waiomatatini S**	**6.48 206**		P	**Pn**	**16 26 54.7**	**+2.1**
WMGZ				S	**Sn**	**16 28 07.6**	**+1.8**
PKGZ	**Pakihiroa**	**6.65 208**		P	**Pn**	**16 26 56.1**	**+1.1**
PKGZ				S	**Sn**	**16 28 12.8**	**+2.7**
HAZ	**Te Kaha**	**6.68 210**		P	**Pn**	**16 26 56.6**	**+1.3**
HAZ				S	**Sn**	**16 28 16.7**	**+6.1**
PUZ	**Puketiti**	**6.76 206**		P	**Pn**	**16 26 55.9**	**-0.7**
PUZ				S	**Sn**	**16 28 15.6**	**+2.8**
RUGZ	**Raukumara Rang**	**6.90 210**		P	**Pn**	**16 26 59.0**	**+0.5**
RUGZ				S	**Sn**	**16 28 19.8**	**+3.4**
TWGZ	**Tauwhareparae**	**6.96 207**		P	**Pn**	**16 26 59.5**	**+0.3**
TWGZ				S	**Sn**	**16 28 20.3**	**+2.6**
KUZ	**Kuaotunu**	**7.00 226**		P	Pn	16 27 04.9	+5.2
CNGZ	**Carnagh Station**	**7.15 205**		P	**Pn**	**16 27 02.1**	**+0.3**
TKGZ	**Te Karaka**	**7.24 207**		S	**Sn**	**16 28 26.0**	**+1.5**
MWZ	**Matawai**	**7.28 209**		P	**Pn**	**16 27 04.0**	**+0.4**
MWZ				S	**Sn**	**16 28 26.8**	**+1.4**
URZ	**Urewera**	**7.39 211**		Pn	**Pn**	**16 27 05.2**	**0.0**
	6.3nm,0.3s,baz=71,slow=3.5,SNR=17						
URZ				Sn	**Sn**	**16 28 30.5**	**+2.3**
	17nm,0.3s,baz=267,slow=22,SNR=12						
	14nm,0.4s						
URZ	**Urewera**	**7.39 211**		P	**Pn**	**16 27 05.1**	**0.0**
URZ	**Urewera**	**7.39 211**		P	**Pn**	**16 27 04.6**	**-0.5**
URZ				S	**Sn**	**16 28 29.3**	**+1.2**
WCZ	**Waipu Caves**	**7.45 236**		P	Pn	16 27 13.2	+7.3
RAGZ	**Rawiri**	**7.46 209**		P	**Pn**	**16 27 07.0**	**+0.9**
RAGZ				S	**Sn**	**16 28 30.2**	**+0.2**
RIGZ	**Rimuhau**	**7.51 206**		P	**Pn**	**16 27 07.8**	**+1.1**
RIGZ				S	**Sn**	**16 28 32.5**	**+1.4**
MKAZ	**Moumakai**	**7.57 226**		P	Pn	16 27 12.7	+5.1
OUZ	**Omahuta**	**7.69 243**		P	Pn	16 27 15.5	+6.3
OUZ	**Omahuta**	**7.69 243**		P	Pn	16 27 16.0	+6.8
RTZ	**Ruatahuna**	**7.74 210**		Pn	**Pn**	**16 27 09.9**	**-0.2**
TOZ	**Tahuroa Road**	**7.79 221**		P	**Pn**	**16 27 14.8**	**+4.1**
BKZ	**Black Stump Fm**	**8.41 211**		Pn	**Pn**	**16 27 17.4**	**-1.8**
BKZ	**Black Stump Fm**	**8.41 211**		P	**Pn**	**16 27 17.8**	**-1.4**
HIZ	**Hauiti**	**8.71 220**		P	**Pn**	**16 27 24.2**	**+1.0**
BFZ	**Birch Farm**	**9.80 207**		P	**Pn**	**16 27 35.8**	**-2.3**
TUWZ	**Tuamarina**	**11.38 212**			**Pn**	**16 27 58.5**	**-1.3**
TUWZ	**Tuamarina**	**11.38 212**		P	**Pn**	**16 27 57.3**	**-2.5**
TUWZ				S	**Sn**	**16 29 58.0**	**-8.3**
NNZ	**Nelson**	**11.48 215**		Pn	**Pn**	**16 27 58.5**	**-2.6**
NNZ	**Nelson**	**11.48 215**		P	**Pn**	**16 27 58.3**	**-2.8**
NNZ				S	**Sn**	**16 30 03.6**	**-5.0**
TKNZ	**Takaka Hill**	**11.55 216**		P	**Pn**	**16 27 58.8**	**-3.3**
TKNZ				S	**Sn**	**16 30 06.2**	**-4.1**
QRZ	**Quartz Range**	**11.62 218**		P	**Pn**	**16 28 04.0**	**+1.0**
QRZ	**Quartz Range**	**11.62 218**		P	**Pn**	**16 28 01.7**	**-1.3**
QRZ				S	**Sn**	**16 30 06.8**	**-5.2**
CTZ	**Chatham Island**	**11.75 175**		Pn	**Pn**	**16 28 06.3**	**+1.6**
CTZ	**Chatham Island**	**11.75 175**		P	Pn	16 27 49.7	-15
MRNZ	**Matariki Terra**	**11.92 216**		P	**Pn**	**16 28 05.1**	**-2.1**
MRNZ				S	**Sn**	**16 30 13.0**	**-6.5**
THZ	**Tophouse**	**12.13 214**		P	**Pn**	**16 28 07.9**	**-2.2**
THZ				S	**Sn**	**16 30 18.1**	**-6.5**
KHZ	**Kahutara**	**12.36 211**		P	**Pn**	**16 28 11.3**	**-1.8**
KHZ				S	**Sn**	**16 30 22.5**	**-7.5**
DSZ	**Denniston Nort**	**12.66 217**		P	**Pn**	**16 28 17.8**	**+0.5**
DSZ				S	**Sn**	**16 30 29.8**	**-7.7**
GVZ	**Greta Valley S**	**13.02 210**		P	**Pn**	**16 28 20.4**	**-1.8**
GVZ				S	Sn	16 30 37.1	-9.2
LTZ	**Lake Taylor**	**13.21 213**		P	**Pn**	**16 28 22.2**	**-2.7**
LTZ				S	Sn	16 30 41.3	-10
OXZ	**Oxford**	**13.75 212**		Pn	**Pn**	**16 28 28.9**	**-3.3**
OXZ	**Oxford**	**13.75 212**		P	**Pn**	**16 28 28.6**	**-3.5**
OXZ				S	Sn	16 30 52.3	-12
MQZ	**McQueen's Vall**	**13.78 210**		P	**Pn**	**16 28 28.7**	**-3.9**
MQZ				S	Sn	16 30 53.3	-12
RPZ	**Rata Peaks**	**14.50 213**		Pn	**Pn**	**16 28 39.6**	**-2.8**
	2.0nm,0.3s,baz=61,slow=4.7,SNR=14						
RPZ				Sn	Sn	16 31 11.9	-10
	3.1nm,0.3s,baz=17,slow=16,SNR=10						
RPZ	**Rata Peaks**	**14.50 213**		P	**Pn**	**16 28 40.1**	**-2.3**
MSVF	**Nonsavu**	**14.66 345**		Pn	**Pn**	**16 28 42.1**	**-2.8**
	0.3nm,0.3s,baz=165,slow=17,SNR=2.2						
MSVF				LR	LR	16 33 23.7	
	comp=Z,883nm,18.0s,baz=173,slow=34						
	5.4nm,0.9s						
ODZ	**Otahua Downs**	**15.72 211**		Pn	**Pn**	**16 28 57.3**	**-1.3**
ODZ	**Otahua Downs**	**15.72 211**		P	**Pn**	**16 28 57.7**	**-0.8**
JCZ	**Jackson Bay**	**15.88 217**		P	**Pn**	**16 29 00.0**	**-0.7**
DZM	**Mont Dzumac**	**17.01 302**		Pn	**P**	**16 29 18.9**	**+2.1**
	0.2nm,0.3s,baz=110,slow=20,SNR=4.0						
DZM				LR	LR	16 34 44.0	
	comp=Z,2μm,18.3s,baz=142,slow=34						
WHZ	**Wether Hill Ro**	**17.60 214**		Pn	**Pn**	**16 29 18.6**	**-3.7**
FUTU	**Fugatoga**	**17.63 360**		P	Pn	16 29 12.9	-10
RAR	**Rarotonga**	**19.52 61**		P	**P**	**16 29 42.9**	**-1.5**
	33nm,1.0s,baz=240,slow=8.1,SNR=2.6						
RAR				LR	LR	16 35 14.2	
	comp=Z,294nm,21.4s,baz=275,slow=30						
KOUNC	**Koumac, New Ca**	**19.52 302**		P	**Pn**	**16 29 49.2**	**+3.4**
NTLH	**Newcastle Hard**	**25.53 260**		P	**P**	**16 30 48.7**	**+3.2**
MGCD	**Mangrove Creek**	**25.99 259**		P	**P**	**16 30 52.9**	**+3.2**
CNB	**Canberra Magne**	**27.28 254**		P	**P**	**16 31 03.3**	**+1.9**
CAN	**Canberra**	**27.58 254**		P	**P**	**16 31 05.6**	**+1.5**
EIDS	**Eidsvold**	**27.84 276**		P	**P**	**16 31 08.7**	**+2.3**
EIDS				IAmb	IAmb	16 31 11.8	
	comp=Z,11nm,0.8s						
RK1H	**Rockhampton Ha**	**29.09 279**		P	**P**	**16 31 20.1**	**+2.5**
PPT	**Papeete**	**29.45 68**		LR	LR	16 39 51.0	
	comp=Z,203nm,21.8s,baz=244,slow=30						
TOO	**Toolangi**	**30.34 249**		P	**P**	**16 31 29.0**	**+0.4**
TOO				IAmb	IAmb	16 31 45.8	
	comp=Z,7.3nm,1.2s						
HNR	**Honiara**	**30.37 313**		LR	LR	16 42 08.2	
	comp=Z,321nm,19.7s,baz=172,slow=34						
CMSA	**Cobar Meteorol**	**30.77 261**		P	**P**	**16 31 34.9**	**+2.5**
QLP	**Quilpie**	**33.25 270**		P	**P**	**16 31 57.6**	**+3.4**
ARPS	**Mount Arapiles**	**33.29 251**		P	**P**	**16 31 56.6**	**+2.1**
TV1H	**Townsville Har**	**34.02 283**		P	**P**	**16 32 03.4**	**+2.5**
STKA	**Stephens Creek**	**34.13 259**		P	**P**	**16 32 03.5**	**+1.7**
STKA	**Stephens Creek**	**34.13 259**		P	**P**	**16 32 03.6**	**+1.7**
	comp=Z,4.9nm,0.7s,baz=101,slow=12,SNR=10						
STKA				LR	LR	16 44 14.4	
	comp=Z,527nm,21.2s,baz=59,slow=33						
	comp=Z,4.9nm,0.7s						
STKA	**Stephens Creek**	**34.13 259**		P	**P**	**16 32 04.1**	**+2.3**
INKA	**Innaminka**	**35.85 266**		P	**P**	**16 32 19.0**	**+2.3**
HTT	**Hallett**	**36.06 256**		P	**P**	**16 32 19.9**	**+1.3**
MTSU	**Mount Surprise**	**36.62 283**		P	**P**	**16 32 25.3**	**+1.9**
LCRK	**Leigh Creek**	**37.27 261**		P	**P**	**16 32 30.5**	**+1.7**
BBOO	**Buckleboo**	**38.54 256**		P	**P**	**16 32 39.0**	**-0.5**
BBOO				IAmb	IAmb	16 32 52.3	
	comp=Z,24nm,1.1s						
BBOO	**Buckleboo**	**38.54 256**		P	**P**	**16 32 40.5**	**+1.0**
PMG	**Port Moresby**	**39.31 297**		LR	LR	16 47 04.8	
	comp=Z,185nm,19.1s,baz=133,slow=33						
QIS	**Mount Isa**	**39.45 276**		P	**P**	**16 32 49.5**	**+2.3**
COEN	**Coen**	**39.73 288**		P	**P**	**16 32 51.0**	**+1.4**
COEN				IAmb	IAmb	16 33 05.4	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**39.73 288**		P	**P**	**16 32 51.2**	**+1.6**
OOD	**Oodnadatta**	**40.12 264**		P	**P**	**16 32 54.0**	**+1.3**
AS01	**Alice Springs**	**42.99 269**		P	**P**	**16 33 17.3**	**+0.9**
AS31	**Alice Springs**	**43.03 269**		P	**P**	**16 33 16.7**	**-0.1**
ASAR	**Alice Springs**	**43.03 269**		P	**P**	**16 33 16.7**	**0.0**
	comp=Z,4.1nm,0.4s,baz=106,slow=7.0,SNR=135						
ASAR				ScP	**ScP**	**16 38 57.4**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=107,slow=4.0,SNR=4.3						
ASAR				S	**S**	**16 39 40.8**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=119,slow=14,SNR=4.8						
ASAR				LR	LR	16 50 59.2	
	comp=Z,194nm,18.8s,baz=118,slow=36						
	comp=Z,4.1nm,0.4s						
WR0	**Warramunga Arr**	**43.99 274**		P	**P**	**16 33 24.5**	**+0.1**
WR0				IAmb	IAmb	16 33 44.5	
	comp=Z,19nm,0.8s						
WB2	**Warramunga Arr**	**44.16 274**		P	**P**	**16 33 24.8**	**-0.9**
WB2				IAmb	IAmb	16 33 45.8	
	comp=Z,23nm,0.8s						
WRAB	**Tennant Creek**	**44.16 274**		P	**P**	**16 33 25.7**	**-0.1**
WRAB				IAmb	IAmb	16 33 45.8	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**44.17 274**		P	**P**	**16 33 25.5**	**-0.3**
	comp=Z,7.6nm,0.3s,baz=111,slow=8.0,SNR=175						
WRA				ScP	**ScP**	**16 39 03.3**	**+2.3**
	comp=Z,1.0nm,0.9s,baz=108,slow=4.4,SNR=4.5						
WRA				S	**S**	**16 39 56.9**	**-0.9**
	comp=Z,2.1nm,1.1s,baz=114,slow=15,SNR=6.4						
WRA				LR	LR	16 51 06.8	
	comp=Z,476nm,18.1s,baz=138,slow=35						
	comp=Z,7.6nm,0.3s						
WB0	**Warramunga Arr**	**44.20 274**		P	**P**	**16 33 26.1**	**0.0**
FORT	**Forrest**	**45.64 257**		P	**P**	**16 33 37.6**	**+0.2**
FORT				IAmb	IAmb	16 33 56.9	
	comp=Z,34nm,1.1s						
FORT	**Forrest**	**45.64 257**		P	**P**	**16 33 37.7**	**+0.3**
VNDA	**Vanda**	**46.48 186**		LR	LR	16 54 00.0	
	comp=Z,136nm,18.1s,baz=4.0,slow=37						
WRKA	**Warakurna**	**47.28 264**		P	**P**	**16 33 49.6**	**-0.9**
KDU	**Kakadu**	**49.20 281**		P	**P**	**16 34 06.0**	**+0.7**
MTN	**Manton Dam**	**50.24 280**		P	**P**	**16 34 13.3**	**+0.1**
MTN	**Manton Dam**	**50.24 280**		P	**P**	**16 34 14.3**	**+1.1**
KNRA	**Kununurra**	**50.83 276**		P	**P**	**16 34 18.2**	**+0.6**
KNRA				IAmb	IAmb	16 34 27.3	
	comp=Z,24nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.36 271**		P	**P**	**16 34 29.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.36 271**		LR	LR	16 56 07.1	
	comp=Z,678nm,19.3s,baz=123,slow=35						
CASY	**Casey**	**53.71 208**		P	**P**	**16 34 37.3**	**-1.1**
CASY				IAmb	IAmb	16 34 41.7	
	comp=Z,19nm,0.8s						
KLBR	**Kellerberrin**	**53.83 252**		P	**P**	**16 34 38.5**	**-1.3**
NWAO	**Narrogin (SRO)**	**53.83 250**		LR	LR	16 55 07.9	
	comp=Z,185nm,21.6s,baz=40,slow=33						
MEEK	**Meekatharra**	**54.82 258**		P	**P**	**16 34 47.1**	**0.0**
MORW	**Morawa**	**56.07 254**		P	**P**	**16 34 54.5**	**-1.5**
MORW				IAmb	IAmb	16 35 20.4	
	comp=Z,11nm,1.1s						
MORW	**Morawa**	**56.07 254**		P	**P**	**16 34 55.3**	**-0.7**
GUMO	**Guam**	**57.62 316**		LR	LR	16 55 58.0	
	comp=Z,124nm,22.0s,baz=122,slow=32						
QSPA	**South Pole Qui**	**58.09 180**		P	**P**	**16 35 12.8**	**+2.9**
QSPA	**South Pole Qui**	**58.09 180**		LR	LR	16 58 31.1	
	comp=Z,233nm,18.9s,baz=24,slow=34						
KAPI	**Kappang**	**63.89 281**		LR	LR	17 02 26.7	
	comp=Z,281nm,21.0s,baz=126,slow=35						
MAW	**Mawson**	**70.79 201**		LR	LR	17 07 01.9	
	comp=Z,193nm,18.1s,baz=84,slow=35						
LEM	**Lembang**	**73.16 272**		LR	LR	17 09 51.5	
	comp=Z,141nm,19.7s,baz=180,slow=37						
ELIB	**Princess Elisa**	**75.24 187**	*d*P	**P**	**16 37 01.6**	**+2.3**
	comp=Z,7.1nm,0.8s						
SYO	**Syowa Base**	**75.54 193**	⇑*e*P	**P**	**16 37 02.4**	**+1.7**
SYO	**Syowa Base**	**75.54 193**	⇑*es*P	sP	16 37 08.2	-1.0
JHJ	**Hachijo jima 2**	**76.05 324**	LR	LR	17 05 27.7	
	comp=Z,48nm,21.4s,baz=90,slow=32						
TROLL	**Troll, Antarti**	**76.25 180**	⇑P	P	16 37 11.3	+6.3
	comp=Z,797nm,0.9s						
SNAA	**Sanae**	**76.54 178**	⇑P	P	16 37 17.3	+11
	comp=Z,256nm,1.1s						
SNAA	**Sanae**	**76.54 178**	LR	LR	17 10 24.4	
	comp=Z,156nm,18.1s,baz=178,slow=35						
VNA3	**Neumayer Olymp**	**76.69 176**	⇑P	P	16 37 18.3	+11
	comp=Z,28nm,0.8s						
MJAR	**Matsushiro Arr**	**79.56 325**	P	**P**	**16 37 21.5**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=156,slow=7.5,SNR=2.2						
	comp=Z,1.0nm,0.8s						
H03S2	**Juan Fernandez**	**79.59 123**	T	T	18 06 22.1	
	baz=236,slow=74						
H03S1	**Juan Fernandez**	**79.60 123**	T	T	18 06 28.2	
	baz=236						
H03S3	**Juan Fernandez**	**79.60 123**	T	T	18 06 19.9	
	baz=236,slow=74						
H03N3	**Juan Fernandez**	**79.79 123**	T	T	18 06 37.9	
	baz=240,slow=72,SNR=8.2						
H03N2	**Juan Fernandez**	**79.79 123**	T	T	18 06 30.3	
	baz=240,slow=72,SNR=4.0						
H03N1	**Juan Fernandez**	**79.80 123**	T	T	18 06 28.1	
	baz=240,slow=72,SNR=12						
JNU	**Nakatsue**	**80.76 319**	LR	LR	17 08 26.6	
	comp=Z,74nm,20.7s,baz=116,slow=32						
PLCA	**Paso Flores**	**81.42 133**	LR	LR	17 07 46.1	
	comp=Z,64nm,19.3s,baz=185,slow=31						
ASAJ	**Asahikawa**	**83.87 333**	LR	LR	17 08 08.9	
	comp=Z,69nm,20.7s,baz=170,slow=31						
LPIG	**La Paz**	**85.40 58**	LR	LR	17 10 15.5	
	comp=Z,119nm,18.3s,baz=218,slow=32						
KSRS	**Korea Array**	**85.57 320**	P	**P**	**16 37 55.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=127,slow=6.2,SNR=2.7						
KSRS				LR	LR	17 12 52.3	
	comp=Z,30nm,19.9s,baz=135,slow=33						
	comp=Z,0.5nm,0.6s						
PSI	**Prapat**	**85.59 276**	LR	LR	17 16 58.9	
	comp=Z,219nm,20.4s,baz=86,slow=36						
NJ2	**Nanjing**	**87.29 311**	*e*P	P	16 38 10.1	+6.7
NJ2	**Nanjing**	**87.29 311**	pmax	pmax		
	comp=Z,10.0nm,0.5s						
PFO	**Pinyon Flats O**	**87.31 47**	LR	LR	17 07 22.2	
	comp=Z,52nm,21.6s,baz=186,slow=29						
PETK	**Petropavlovsk-**	**87.38 346**	P	**P**	**16 38 02.7**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=102,slow=6.2,SNR=5.9						
	comp=Z,3.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**88.50 327**	LR	LR	17 09 30.5	
	comp=Z,42nm,20.9s,baz=116,slow=30						
YBH	**Yreka Blue Hor**	**89.32 38**	LR	LR	17 09 19.6	
	comp=Z,76nm,21.9s,baz=286,slow=30						
NVAR	**Mina Array Bea**	**89.44 43**	P	**P**	**16 38 15.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=237,slow=6.9,SNR=3.7						
NVAR				LR	LR	17 13 49.4	
	comp=Z,130nm,18.4s,baz=183,slow=32						
	comp=Z,0.7nm,0.7s						
KLR	**Kul'dur**	**92.42 330**	P	**P**	**16 38 26.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=108,slow=3.2,SNR=4.5						
KLR				LR	LR	17 16 30.1	
	comp=Z,61nm,18.4s,baz=136,slow=33						
	comp=Z,1.3nm,0.7s						
CMIG	**Matias Romero**	**93.27 72**	LR	LR	17 10 21.8	
	comp=Z,43nm,21.1s,baz=192,slow=29						
ATAH	**Atahualpa**	**94.35 101**	LR	LR	17 14 54.7	
	comp=Z,43nm,18.7s,baz=252,slow=32						
ANMO	**Albuquerque**	**94.60 51**	LR	LR	17 11 45.0	
	comp=Z,60nm,20.2s,baz=68,slow=30						
MA2	**Magadan**	**94.85 345**	LR	LR	17 13 28.6	
	comp=Z,54nm,21.9s,baz=167,slow=30						
PZH	**PanZhiHua**	**96.04 297**	P	P	16 38 50.6	+6.2
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH			pmax	pmax		
	comp=Z,170nm,4.9s						
NEW	**Newport**	**96.69 36**	LR	LR	17 16 12.8	
	comp=Z,103nm,19.4s,baz=270,slow=32						
PDAR	**Pinedale Array**	**97.32 44**	LR	LR	17 18 43.2	
	comp=Z,43nm,18.0s,baz=280,slow=33						
HHC	**Hu-ho-hao-te**	**97.35 314**	*e*P	Pdif	16 38 55.3	+5.2
HHC			pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC			pmax	pmax		
	comp=Z,71nm,5.4s						
LPAZ	**La Paz**	**97.49 114**	LR	LR	17 12 16.6	
	comp=Z,26nm,20.1s,baz=232,slow=29						
SEY	**Seymchan**	**97.55 347**	P	**P**	**16 38 48.3**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=143,slow=4.3,SNR=5.0						
	comp=Z,0.3nm,0.3s						
CPUP	**Villa Florida**	**98.99 129**	LR	LR	17 22 42.3	
	comp=Z,38nm,18.3s,baz=220,slow=35						
MKAR	**Makanchi Array**	**118.80 309**	PKP	**PKPdf**	**16 44 04.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=94,slow=0.2,SNR=15						
ZALV	**Zalesovo Beam**	**119.22 318**	PKP	**PKPdf**	**16 44 04.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=117,slow=1.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**122.19 313**	PKP	**PKPdf**	**16 44 10.2**	**-0.8**
	comp=Z,1.6nm,0.2s,baz=116,slow=2.0,SNR=9.8						
BVAR	**Borovoye Array**	**127.54 315**	PKP	**PKPdf**	**16 44 21.1**	**-0.1**
ARCES	**ARCESS Array B**	**140.16 347**	PKhKP	PKPpre	16 44 38.2	
	comp=Z,1.9nm,0.7s,baz=26,slow=1.7,SNR=6.5						
BELG	**Belogornoye**	**141.35 315**	PKP	**PKiKP**	**16 44 48.4**	**-1.4**
	comp=Z,8.0nm,0.8s,baz=76,slow=4.2,SNR=5.1						
KBZ	**Khabaz**	**145.98 302**	PKPbc	**PKPbc**	**16 44 55.9**	**-0.3**
	comp=Z,5.3nm,1.0s,baz=99,slow=1.0,SNR=11						
OBN	**Obninsk**	**146.48 324**	PKPbc	**PKPbc**	**16 44 56.3**	**-1.0**
	comp=Z,25nm,0.6s,baz=71,slow=20,SNR=6.7						
FINES	**FINESS Array B**	**146.66 339**		**PKPbc**	**16 44 57.0**	**-0.6**
FINES	**FINESS Array B**	**146.66 339**	PKPbc	**PKPbc**	**16 44 57.0**	**-0.6**
	comp=Z,6.5nm,0.4s,baz=63,slow=3.5,SNR=53						
KOPT	**Kop Dagi**	**148.04 295**		**PKiKP**	**16 45 03.7**	**-0.6**
NB2	**NORSAR Subarra**	**150.35 351**	PKP	**PKiKP**	**16 45 08.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**150.35 351**	PKPbc	**PKiKP**	**16 45 07.6**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=15,slow=4.1,SNR=5.5						
HFS	**Hagfors**	**150.82 348**	PKPbc	**PKiKP**	**16 45 08.5**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=48,slow=4.5,SNR=16						
MMAI	**Mount Meron Ar**	**151.87 281**	PKPbc	**PKiKP**	**16 45 12.9**	**+0.7**
	comp=Z,15nm,0.7s,baz=74,slow=6.2,SNR=32						
PABE	**Paberze**	**151.90 333**		**PKiKP**	**16 45 11.4**	**+0.1**
AK03	**Malin Array Si**	**152.55 321**	PKP	**PKiKP**	**16 45 12.5**	**-0.4**
AKASG	**Malin Array Be**	**152.56 321**	PKPbc	**PKPbc**	**16 45 12.3**	**-0.4**
	comp=Z,4.7nm,0.7s,baz=50,slow=2.7,SNR=11						
AKBB	**Malin Array Si**	**152.56 321**	PKP	**PKPbc**	**16 45 12.1**	**-0.6**
AK01	**Malin Array Si**	**152.57 321**	PKP	**PKiKP**	**16 45 12.5**	**-0.4**
KIEV	**Kiev**	**152.57 321**	PKP	**PKPbc**	**16 45 12.1**	**-0.6**
AK09	**Malin Array Si**	**152.57 321**	PKP	**PKPbc**	**16 45 12.0**	**-0.7**
MI28	**MI28,Pidlybu**	**153.25 322**	PKP	**PKPbc**	**16 45 13.3**	**-0.9**
BRTR	**Keskin Array B**	**153.32 296**		**PKPbc**	**16 45 14.7**	**-0.3**
BRTR	**Keskin Array B**	**153.32 296**	PKPbc	**PKPbc**	**16 45 14.2**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=134,slow=3.4,SNR=24						
LUBAR	**Lubar, Ukraine**	**153.78 321**	PKP	**PKPbc**	**16 45 13.6**	**-1.8**
CLL	**Collm**	**159.09 340**	*e

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URIC				S		**Sb**	**16 29 26.8**	**-1.3**
TEPV	**Terepaima**	**2.16**	**163**	*e*P		**Pn**	**16 28 58.6**	**+0.6**
TEPV				*e*S		**Sn**	**16 29 23.2**	**-0.7**
MAPV	**Macapo**	**2.57**	**149**	*e*P		**Pn**	**16 29 04.1**	**+0.4**
MAPV				*e*S		**Sn**	**16 29 33.3**	**-1.0**
BENV	**Beln**	**3.00**	**133**	*e*P		**Pn**	**16 29 11.5**	**+1.8**
BENV				*e*S		**Sn**	**16 29 44.5**	**-0.5**
CRJC	**Cerrejon, Guaj**	**3.17**	**252**	P		**Pn**	**16 29 12.7**	**+0.8**
CRJC				S		**Sn**	**16 29 51.6**	**+2.6**
SDV	**Santo Domingo**	**3.24**	**194**	Pn		**Pn**	**16 29 14.0**	**+1.0**
SDV				IAmb_Lg			16 30 16.1	
	comp=Z,21nm,0.7s							
MCQV	**Machiques**	**3.32**	**234**	*e*P		**Pn**	**16 29 14.8**	**+0.8**
MCQV				*e*S		**Sn**	**16 29 50.6**	**-2.0**
TACV	**Tcata**	**3.33**	**124**	*e*P		**Pn**	**16 29 14.4**	**+0.2**
TACV				*e*S		**Sn**	**16 29 51.3**	**-1.7**
FUNV	**FUNVISIS**	**3.34**	**118**	*e*P		**Pn**	**16 29 13.9**	**-0.4**
FUNV				*e*S		**Sn**	**16 29 51.1**	**-2.3**
BAUV	**El Baul**	**3.54**	**150**	*e*P		**Pn**	**16 29 17.5**	**+0.5**
BAUV				*e*S		**Sn**	**16 29 56.6**	**-1.5**
SOCV	**Socops**	**3.87**	**195**	*e*P		**Pn**	**16 29 23.1**	**+1.5**
SOCV				*e*S		**Sn**	**16 30 04.5**	**-1.8**
SMRC	**Santa Marta, M**	**4.40**	**259**	Pn		**Pn**	**16 29 26.6**	**-2.3**
SMRC				IAmb_Lg			16 30 49.8	
	comp=Z,32nm,0.8s							
SMRC	**Santa Marta, M**	**4.40**	**259**	P		**Pn**	**16 29 30.4**	**+1.5**
SMRC				S		**Sn**	**16 30 20.0**	**+0.6**
CAPV	**Capacho**	**4.82**	**211**	*e*P		**Pn**	**16 29 35.4**	**+0.5**
CAPV				*e*S		**Sn**	**16 30 26.2**	**-3.9**
ARGC	**Ariguani, Magd**	**4.86**	**244**	P		**Pn**	**16 29 36.9**	**+1.8**
ARGC				S		**Sn**	**16 30 30.5**	**-0.1**
OCAC	**Ocana**	**5.11**	**223**	P		**Pn**	**16 29 39.9**	**+1.1**
OCAC				S		**Sn**	**16 30 33.9**	**-3.3**
PCRV	**Puerto La Cruz**	**5.42**	**110**	*e*P		**Pn**	**16 29 44.5**	**+1.7**
PCRV				*e*S		**Sn**	**16 30 40.3**	**-4.2**
PAMC	**Pamplona, Colo**	**5.47**	**212**	P		**Pn**	**16 29 45.4**	**+1.5**
PAMC				S		**Sn**	**16 30 44.4**	**-1.9**
CACV	**CAICARA DEL OR**	**5.50**	**144**	*e*P		Pn	16 29 49.1	+5.2
CACV				*e*S		**Sn**	**16 30 50.9**	**+4.4**
SJCC	**San Jacinto, C**	**5.68**	**248**	P		**Pn**	**16 29 48.7**	**+2.2**
SJCC				S		**Sn**	**16 30 52.0**	**+1.1**
TAMC	**Tame, Arauca**	**5.90**	**199**	P		**Pn**	**16 29 54.2**	**+4.7**
	comp=Z,19nm,0.8s							
TAMC				S		**Sn**	**16 30 54.9**	**-1.5**
	comp=Z,19nm,0.8s							
BANI	**BANI**	**6.33**	**355**	Pn		**Pn**	**16 29 51.7**	**-3.9**
BARC	**Barichara**	**6.35**	**212**	P		**Pn**	**16 29 57.7**	**+1.8**
BARC				S		**Sn**	**16 31 06.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**6.48**	**24**	Pn		Pn	16 29 53.0	-4.5
ZARC	**Zaragoza, Cauc**	**6.71**	**228**	P		**Pn**	**16 30 00.8**	**+0.1**
ZARC				S		**Sn**	**16 31 13.0**	**-3.4**
OBIP	**Obispado Ponce**	**6.72**	**27**	Pn		Pn	16 29 55.3	-5.5
CELP	**Cerrillos**	**6.77**	**27**	Pn		Pn	16 29 57.7	-3.6
RUSC	**La Rusia**	**6.91**	**208**	Pn		**Pn**	**16 30 04.9**	**+1.1**
RUSC	**La Rusia**	**6.91**	**208**	P		**Pn**	**16 30 05.1**	**+1.4**
AOPR	**Arecibo Observ**	**6.93**	**25**	Pn		Pn	16 30 00.4	-3.2
PDPR	**Patillas Dam,**	**6.98**	**31**	Pn		**Pn**	**16 30 02.6**	**-1.7**
SDDR	**Presa de Saban**	**7.04**	**349**	P		**Pn**	**16 30 08.8**	**+3.6**
SDDR				S		**Sn**	**16 31 22.8**	**-1.8**
PTBC	**PUERTO BERRIO,**	**7.13**	**220**	P		**Pn**	**16 30 07.4**	**+1.0**
	comp=Z,7.9nm,0.4s							
NORC	**Norcasia**	**8.14**	**218**	P		**Pn**	**16 30 20.7**	**+0.4**
	comp=Z,4.1nm,0.5s							
CBOC	**Ciudad Bolivar**	**8.66**	**225**	P		**Pn**	**16 30 29.7**	**+2.1**
	comp=Z,7.1nm,0.5s							
GUY2C	**Guyana, Caldas**	**8.71**	**219**	P		**Pn**	**16 30 29.7**	**+1.2**

IDC 09 16:34:52.6±999.0,29°.08N×102°.63E,h0km,Error ellipse: s-maj=726.9km s-min=200.9km az=80.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**27.78**	**49**		I	I	19 22 50.0	
	baz=245,slow=331,SNR=1.2							
I39PW	**PALAU INFRASON**	**36.91**	**119**		I	I	20 21 20.0	
	baz=308,slow=320,SNR=1.0							
I44RU	**PETROPAVLOVSK**	**46.54**	**43**		I	I	21 22 00.0	
	baz=264,slow=327,SNR=1.7							

*JMA **09** 16:35:33.5±0.2,43°.N±1°.×14°.6E±°,h68km±1km,MV2.5/24, OFF NEMURO PENINSULA*
*SKHL **09** 16:35:33.6±0.7,43°.10N×146°.30E,h59km±2km,mb3.7/5*
ISC 09 16:35:33.9±1.8,43°.19N±0°.09×146°.27E±0°.07,h61km±12km, n15,σ0s84/25,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.42**	**294**		P	**Pn**	**16 35 45.1**	**0.0**
NEM2					S	**Sn**	**16 35 53.5**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.43**	**294**		*i* P	**Pn**	**16 35 44.9**	**-0.3**
NMR					AMB	AMB	16 35 45.3	
	20nm,0.2s							
NMR					*e*S	**Sn**	**16 35 53.0**	**-0.5**
NMR					A	A	16 35 53.7	
	160nm,0.3s							
NMR					A	A	16 35 53.7	
	370nm,0.3s							
SHO	**Shikotan**	**0.79**	**31**		*e*P	**Pn**	**16 35 48.7**	**-0.6**
SHO					AMB	AMB	16 35 49.0	
	20nm,0.2s							
SHO					*e*S	**Sn**	**16 35 59.9**	**-0.7**
SHO					A	A	16 36 00.6	
	110nm,0.2s							
SHO					A	A	16 36 00.6	
	50nm,0.2s							
JKHN	**Kushirohamanak**	**0.82**	**263**		P	**Pn**	**16 35 49.7**	**+0.1**
JKHN					*e*S	**Sn**	**16 36 01.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.89**	**341**		*i* P	**Pn**	**16 35 49.8**	**-0.8**
YUK					AMB	AMB	16 35 51.6	
	80nm,0.3s							
YUK					*e*S	**Sn**	**16 36 02.4**	**-0.4**
YUK					A	A	16 36 03.7	
	140nm,0.3s							
YUK					A	A	16 36 03.7	
	70nm,0.3s							
AKK	**Akkeshi**	**1.06**	**261**		*e*P	**Pn**	**16 35 51.7**	**-1.0**
AKK					AMB	AMB	16 35 52.0	
	20nm,0.3s							
AKK					*e*S	**Sn**	**16 36 05.7**	**-1.0**
AKK					A	A	16 36 07.4	
	40nm,0.2s							
AKK					A	A	16 36 07.4	
	60nm,0.2s							
JNSB	**Nemuroshibetsu**	**1.09**	**303**		P	**Pn**	**16 35 52.6**	**-0.5**
JRA	**Rausu**	**1.12**	**312**		P	**Pn**	**16 35 53.1**	**-0.4**
JRA					S	**Sn**	**16 36 07.7**	**-0.3**
JAK	**Akkeshi**	**1.17**	**261**		P	**Pn**	**16 35 53.4**	**-0.7**
JAK					S	**Sn**	**16 36 08.2**	**-1.1**
JNK	**Nakash**	**1.20**	**290**		P	**Pn**	**16 35 53.5**	**-1.0**
JNK					S	**Sn**	**16 36 08.1**	**-1.8**
JOB	**Onbets**	**1.81**	**262**		*e*S	**Sn**	**16 36 23.5**	**-1.1**
JAR	**Ashorobuto**	**1.83**	**274**		*e*P	**Pn**	**16 36 02.8**	**-0.2**
JTKR	**Abashiri--Toko**	**1.89**	**295**		P	**Pn**	**16 36 03.6**	**-0.1**
JTKR					*e*S	**Sn**	**16 36 26.6**	**+0.1**
KUR	**Kuril'sk**	**2.34**	**29**		*e*S	**Sn**	**16 36 37.0**	**-0.5**
KUR					A	A	16 36 39.1	
	10.0nm,0.2s							
KUR					A	A	16 36 39.1	
	10.0nm,0.2s							
MDJ	**Mudanjiang**	**12.12**	**282**		P	**Pn**	**16 38 25.3**	**+1.7**
MDJ					pmax	pmax		
	comp=Z,12nm,1.7s							

*MCSM **09** 16:39:19.2±0.9,52°.N±7°.×1°.6E±°,h10km,mb3.4,MLv3.8*
*IPEC **09** 16:39:19.7±0.2,51°.59N×16°.24E,h1km,ML3.0/6,Error ellipse: s-maj=2.7km s-min=1.4km az=71.0*
*IDC **09** 16:39:20.5±0.6,51°.54N×16°.00E,h3km,mb3.4/3, mbtmp3.4/10,ML2.7/6,MS3.3/2,Error ellipse: s-maj=10.7km s-min=6.9km az=102.0*
*BGR **09** 16:39:20.9±0.3,51°.54N×16°.18E,h1km,ML3.3/12,Error ellipse: s-maj=3.3km s-min=2.2km az=30.0*
*DNK **09** 16:39:21.4±1.5,51°.73N×15°.97E,h0km±5.5km,ML2.3*
*VIE **09** 16:39:23.0±0.4,51°.37N×16°.04E,h0km,mb2.9/18, ml3.1/15,ms3.8/2,Error ellipse: s-maj=3.3km s-min=2.9km az=20.0,Suspected Mining induced.*
*UPP **09** 16:39:24.8±2.7,51°.88N×15°.70E,h0km,ML2.1*
ISC 09 16:39:18.6±0.5,51°.61N±0°.02×16°.19E±0°.02,h0km,n119, σ1s41/210,mb3.5/3,Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**175**	*i* Pg		**Pb**	**16 39 34.4**	**-0.6**
KSP				*e*Sg		**Sg**	**16 39 43.6**	**+0.2**
KSP	**Ksiaz**	**0.77**	**175**	*e*Pg		**Pb**	**16 39 34.4**	**-0.6**
	SNR=26							
KSP				*e*Sg		**Sg**	**16 39 43.6**	**+0.2**
	SNR=4.0							
CHVC	**Chvalec**	**1.03**	**185**	*e*PG		**Pb**	**16 39 39.2**	**-0.1**
CHVC				*e*SG		**Sg**	**16 39 51.6**	**0.0**
OSTC	**Ostas**	**1.06**	**179**	*e*PG		**Pb**	**16 39 40.0**	**+0.2**
OSTC				*e*SG		**Sg**	**16 39 52.2**	**-0.3**
	comp=Z,259nm,0.8s							
UPC	**Upice**	**1.11**	**186**	*e*PG		**Pb**	**16 39 40.8**	**+0.1**
UPC				*e*SG		**Sg**	**16 39 54.2**	**-0.1**
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*PG		**Pb**	**16 39 43.3**	**-0.1**
DPC				*e*SG		**Sg**	**16 39 58.5**	**-0.7**
	comp=Z,84nm,0.4s							
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*Pg		**Pg**	**16 39 43.1**	**+0.3**
	SNR=94							
DPC				*e*Sg		**Sg**	**16 39 59.1**	**-0.1**
	SNR=4.6							
DPC	**Dobruska-Polom**	**1.27**	**176**	P		**Pb**	**16 39 43.2**	**-0.1**
PIVO	**Bartosovice**	**1.45**	**171**	*e*Pg		**Pn**	**16 39 46.2**	**+0.1**
	baz=352							
PIVO				*e*Sg		**Sg**	**16 40 04.3**	**-0.7**
	173nm,0.3s,baz=352							
PVCC	**Panska Ves**	**1.49**	**224**	*e*PG		**Pb**	**16 39 47.5**	**+0.4**
PVCC				*e*SG		**Sg**	**16 40 06.0**	**-0.4**
	comp=Z,460nm,0.7s							
PVCC	**Panska Ves**	**1.49**	**224**	*e*Pn		**Pb**	**16 39 47.3**	**+0.2**
	SNR=4.5							
PVCC				*e*Pg		**Pg**	**16 39 47.9**	**+0.8**
	SNR=42							
PVCC				*e*Sg		**Sn**	**16 40 08.0**	**+1.3**
	SNR=3.2							
KRLC	**Kraliky**	**1.58**	**166**	*e*PG		**Pg**	**16 39 49.0**	**+0.1**
KRLC				*e*SG		**Sn**	**16 40 08.1**	**-1.1**
	comp=Z,119nm,0.5s							
BRG	**Berggiesshubel**	**1.59**	**243**	Pn		**Pn**	**16 39 48.2**	**+0.1**
BRG				Pg		**Pg**	**16 39 50.1**	**+1.0**
BRG				Sg		**Sg**	**16 40 10.7**	**+0.9**
BRG				Amp			16 40 11.9	
	comp=Z,277nm,0.4s							
BRG	**Berggiesshubel**	**1.59**	**243**	*e*Pn		**Pn**	**16 39 48.2**	**+0.1**
	SNR=1.6							
BRG				*e*Pg		**Pg**	**16 39 49.9**	**+0.8**
	SNR=80							
BRG				*e*Sg		**Sg**	**16 40 10.5**	**+0.8**
	SNR=10							
RUE	**Ruedersdorf**	**1.72**	**301**	*e*Pn		**Pb**	**16 39 51.0**	**-0.1**
	SNR=2.0							
RUE				*e*Sg		**Sg**	**16 40 16.8**	**+2.9**
	SNR=5.6							
PRA	**Prague**	**1.90**	**216**	*e*PG		**Pn**	**16 39 52.7**	**+0.4**
GOPC	**GO Pecny, Ondr**	**1.92**	**208**	*e*PG		**Pb**	**16 39 54.7**	**+0.2**
PRU	**Pruhonice**	**1.93**	**213**	*e*PG		**Pb**	**16 39 55.1**	**+0.4**
PRU				*e*SG		**Sg**	**16 40 20.3**	**-0.3**
	comp=Z,128nm,0.6s							
PRU	**Pruhonice**	**1.93**	**213**	*e*Pn		**Pn**	**16 39 53.0**	**+0.3**
	SNR=4.5							
PRU				*e*Pg		**Pb**	**16 39 55.0**	**+0.4**
	SNR=26							
STEB	**Steborice**	**1.96**	**148**	*e*PG		**Pg**	**16 39 56.0**	**-0.1**
HSKC	**Hora Svate Kat**	**2.01**	**241**	*e*PG		**Pb**	**16 39 56.1**	**+0.1**
HSKC				*e*SG		**Sg**	**16 40 22.3**	**-0.7**
	comp=Z,139nm,0.3s							
CLL	**Collm**	**2.02**	**263**	*e*Pn		**Pn**	**16 39 54.4**	**+0.5**
	SNR=7.4							
CLL				*e*Pg		**Pg**	**16 39 58.0**	**+0.8**
	SNR=3.7							
CLL				*e*Sg		**Sg**	**16 40 23.8**	**+0.5**
	SNR=4.4							
CLL	**Collm**	**2.02**	**263**	*e*Pn		**Pn**	**16 39 54.0**	**+0.2**
CLL				*e*Pg		**Pg**	**16 39 58.0**	**+0.8**
CLL				*i* x		x	16 40 01.0	
CLL				*i* Sg		**Sg**	**16 40 24.5**	**+1.2**
	comp=Z,121nm,0.8s							
MORC	**Moravsky Berou**	**2.03**	**154**	*e*Pn		**Pn**	**16 39 54.3**	**+0.2**
	baz=336							
MORC				*e*Sg		**Sb**	**16 40 22.3**	**+0.1**
	comp=Z,108nm,0.6s,baz=336							
MORC	**Moravsky Berou**	**2.03**	**154**	*e*Pn		**Pn**	**16 39 54.4**	**+0.3**
	SNR=16							
OKC	**Ostrava-Krasne**	**2.17**	**144**	*e*PG		**Pg**	**16 40 00.2**	**0.0**
OKC				*e*SG		**Sb**	**16 40 26.5**	**+0.3**
	comp=Z,87nm,0.6s							
OKC	**Ostrava-Krasne**	**2.17**	**144**	*e*Pg		**Pg**	**16 40 00.1**	**-0.1**
	SNR=7.8							
VRAC	**Vranov**	**2.32**	**173**	Pn		**Pn**	**16 39 59.0**	**+1.0**
	comp=Z,3.5nm,0.3s,baz=342,slow=14,SNR=45							
VRAC				Lg		Lg	16 40 31.2	
	comp=Z,16nm,0.3s,baz=72,slow=22,SNR=9.4							
	comp=Z,11nm,0.4s							
VRAC	**Vranov**	**2.32**	**173**	*e*Pn		**Pn**	**16 39 58.5**	**+0.4**
	baz=354							
VRAC				*e*Sg		**Sb**	**16 40 31.5**	**+1.0**
	comp=Z,68nm,0.6s,baz=354							
VRAC	**Vranov**	**2.32**	**173**	*e*Pn		**Pn**	**16 39 58.9**	**+0.8**
	SNR=12							
VRAC				*e*Pg		**Pg**	**16 40 02.6**	**-0.5**
	SNR=6.9							
VRAC				*e*Sg		**Sb**	**16 40 31.8**	**+1.3**
	SNR=3.1							
TREC	**Trest**	**2.36**	**191**	*e*SG		**Sg**	**16 40 33.4**	**-1.1**
TREC	**Trest**	**2.36**	**191**	*e*Sg		**Sg**	**16 40 33.5**	**-0.9**
	SNR=4.0							
KRUC	**Moravsky**	**2.56**	**177**	*e*Pn		**Pn**	**16 40 01.7**	**+0.5**
	baz=358							
KRUC				*e*Sg		**Sb**	**16 40 38.9**	**+1.7**
	comp=Z,52nm,0.7s,baz=358							
KRUC	**Moravsky**	**2.56**	**177**	*e*PN		**Pn**	**16 40 01.8**	**+0.5**
KRUC				*e*SG		**Sb**	**16 40 39.0**	**+1.7**
KRUC	**Moravsky**	**2.56**	**177**	*e*Pn		**Pn**	**16 40 02.4**	**+1.1**
	SNR=8.1							
KRUC				*e*Pg		**Pb**	**16 40 06.4**	**+1.1**
	SNR=4.6							
KRUC				*e*Sg		**Sb**	**16 40 39.0**	**+1.7**
	SNR=5.5							
TANN	**Tannenbergstha**	**2.64**	**244**	*e*Pn		**Pn**	**16 40 03.3**	**+0.8**
	SNR=4.6							
TANN				*e*Pg		**Pg**	**16 40 09.7**	**+0.5**
	SNR=5.3							
TANN				*e*Sg		**Sg**	**16 40 43.6**	**+0.2**
	SNR=6.0							
OJC	**Ojcow**	**2.68**	**120**	*e*Pn		**Pn**	**16 40 02.0**	**-1.0**
OJC				*e*Pg		**Pg**	**16 40 09.9**	**0.0**
OJC				*e*Sg		**Sg**	**16 40 45.9**	**+1.3**
OJC	**Ojcow**	**2.68**	**120**	*e*Pn		**Pn**	**16 40 01.8**	**-1.2**
	SNR=2.7							
OJC				*e*Sg		**Sg**	**16 40 45.9**	**+1.3**
	SNR=4.3							
NKC	**Novy Kostel**	**2.74**	**241**	*e*PN		**Pn**	**16 40 05.2**	**+1.4**
NKC				*e*PG		**Pg**	**16 40 11.0**	**-0.1**
NKC				*e*SG		**Sg**	**16 40 46.7**	**+0.1**
	comp=Z,145nm,0.4s							
NKC	**Novy Kostel**	**2.74**	**241**	*e*Pn		**Pn**	**16 40 05.0**	**+1.2**
	SNR=6.4							
NKC				*e*Pg		**Pg**	**16 40 12.0**	**+1.0**
	SNR=3.0							
PLN	**Plauen**	**2.78**	**248**	*e*Pn		**Pn**	**16 40 05.3**	**+0.9**
	SNR=3.3							
PLN				*e*Pg		**Pg**	**16 40 12.9**	**+1.0**
	SNR=4.1							
PLN				*e*Sg		**Sg**	**16 40 47.6**	**-0.3**
	SNR=5.7							
NEUB	**Neuenburg**	**2.79**	**263**	*e*Sg		**Sg**	**16 40 49.9**	**+1.6**
	SNR=3.3							
JAVC	**Velka Javorina**	**2.92**	**160**	*e*Pn		**Pn**	**16 40 06.7**	**+0.4**
	baz=342							
JAVC				*e*Sg		**Sb**	**16 40 50.1**	**+2.4**
	comp=Z,44nm,0.8s,baz=342							
JAVC	**Velka Javorina**	**2.92**	**160**	*e*Pn		**Pn**	**16 40 08.0**	**+1.7**
	SNR=8.4							
KHC	**Kasperske Hory**	**2.99**	**215**	*e*PN		**Pn**	**16 40 08.0**	**+0.7**
KHC				*e*PG		**Pb**	**16 40 14.1**	**+1.3**
KHC				*e*SG		**Sg**	**16 40 52.9**	**-1.8**
	comp=Z,58nm,0.4s							
KHC	**Kasperske Hory**	**2.99**	**215**	*e*Pn		**Pn**	**16 40 07.8**	**+0.5**
	SNR=2.7							
KHC	**Kasperske Hory**	**2.99**	**215**	P		**Pn**	**16 40 07.6**	**+0.3**
MOX	**Moxa**	**3.04**	**253**	*e*Pn		**Pn**	**16 40 08.5**	**+0.5**
	SNR=2.1							
MOX				*e*Pg		**Pg**	**16 40 17.3**	**+0.4**
	SNR=10							
CKRC	**Cesky Krumlov**	**3.04**	**204**	*e*PN		**Pn**	**16 40 09.3**	**+1.2**
CKRC				*e*PG		**Pb**	**16 40 14.9**	**+1.2**
CKRC				*e*SG		**Sb**	**16 40 53.0**	**+1.7**
	comp=Z,39nm,0.4s							
CKRC	**Cesky Krumlov**	**3.04**	**204**	*e*Pn		**Pn**	**16 40 09.2**	**+1.2**
	SNR=6.3							
ROTZ	**Rotzenmuhle**	**3.13**	**235**	*e*Pn		**Pn**	**16 40 10.1**	**+0.9**
	SNR=9.2							
GEC2	**GERESS Array S**	**3.20**	**211**	*e*Pn		**Pn**	**16 40 11.6**	**+1.4**
	SNR=7.0							
GERES	**GERESS Array B**	**3.20**	**211**	Pn		**Pn**	**16 40 10.9**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=31,slow=13,SNR=24							
GERES				Lg		Lg	16 40 58.0	
	comp=Z,13nm,0.3s,baz=37,slow=28,SNR=10							
	comp=Z,4.2nm,0.4s							
LANS	**Liptovska Anna**	**3.24**	**138**	*e*PN		**Pn**	**16 40 12.0**	**+1.3**
LANS				*e*PG		**Pg**	**16 40 21.1**	**+0.5**
LANS				*e*SG		**Sg**	**16 41 03.4**	**+0.8**
WET	**Wettzell**	**3.25**	**222**	*e*Pn		**Pn**	**16 40 11.6**	**+0.7**
	SNR=5.3							
MODS	**Modra-Piesok**	**3.32**	**167**	*e*PN		**Pn**	**16 40 13.5**	**+1.7**
MODS				*e*PG		**Pg**	**16 40 22.5**	**+0.3**
MODS				*e*SG		**Sg**	**16 41 04.8**	**-0.3**
NIE	**Niedzica**	**3.42**	**128**	*e*Pg		**Pg**	**16 40 25.1**	**+0.9**
NIE				*e*Sg		**Sg**	**16 41 07.8**	**-0.7**
NIE	**Niedzica**	**3.42**	**128**	P		**Pn**	**16 40 15.7**	**+2.5**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN		**Pn**	**16 40 15.6**	**+0.5**
VYHS				*e*PG		**Pg**	**16 40 27.4**	**+0.6**
VYHS				*e*SG		**Sg**	**16 41 12.1**	**-0.7**
VYHS				*e*			16 45 51.3	
BSD	**Bornholm Skovb**	**3.59**	**348**	*i* P		**Pn**	**16 40 16.3**	**+0.8**
BSD				IAML			16 41 21.3	
	comp=Z,4.7nm,0.3s							
CONA	**Conrad Observa**	**3.69**	**183**	*i* Pn		**Pn**	**16 40 18.0**	**+1.0**
	comp=Z,2.3nm,0.2s,SNR=6.4							
CONA				*i* Sn		**Sn**	**16 41 00.2**	**-1.1**
	comp=Z,11nm,0.5s							
CONA				*e*Sg		**Sg**	**16 41 15.8**	**-1.4**
	comp=Z,32nm,0.5s							
STHS	**Stebnicka Huta**	**3.90**	**122**	*e*PN		**Pn**	**16 40 20.0**	**+0.2**
STHS				*e*PG		**Pg**	**16 40 33.6**	**+0.2**
STHS				*e*SG		**Sg**	**16 41 26.9**	**+2.9**
RONA	**Rosalia, Austr**	**3.92**	**179**	*i* Pn		**Pn**	**16 40 20.9**	**+0.9**
	comp=Z,0.9nm,0.2s							
RONA				Sg		**Sb**	**16 41 20.4**	**+3.9**
	comp=Z,18nm,0.4s							
MOA	**Molln**	**3.97**	**199**	*i* Pn		**Pn**	**16 40 21.6**	**+0.9**
	comp=Z,4.6nm,0.3s,SNR=19							
MOA				*e*Sn		**Sn**	**16 41 04.4**	**-3.5**
	comp=Z,3.6nm,0.3s							
MOA				Sg		**Sg**	**16 41 24.7**	**-1.3**
	comp=Z,36nm,0.4s							
KECS	**Kecovo**	**4.18**	**137**	*e*PG		**Pg**	**16 40 40.4**	**+1.7**
KECS				*e*SG		**Sg**	**16 41 33.8**	**+1.0**
BIOA	**Bad Ischl, Aus**	**4.26**	**204**	*i* Pn		**Pn**	**16 40 25.6**	**+0.9**
	comp=Z,4.1nm,0.3s,SNR=4.3							
BIOA				*i* Sn		**Sn**	**16 41 14.5**	**-0.7**
	comp=Z,11nm,0.5s							
BIOA				*e*Sg		**Sg**	**16 41 35.1**	**-0.3**
	comp=Z,63nm,0.5s							
LUNU	**Lund**	**4.35**	**339**	P		**Pn**	**16 40 26.7**	**+0.8**
LUNU				S		**Sn**	**16 41 13.9**	**-3.3**
LUNU	**Lund**	**4.35**	**339**	P		**Pn**	**16 40 26.7**	**+0.8**
LUNU				*i* P		Pb	16 40 28.0	-7.8
LUNU				S		**Sn**	**16 41 13.9**	**-3.3**
LUNU				*i* S		Sb	16 41 16.4	-12
ARSA	**Arzberg**	**4.39**	**186**	*i* Pn		**Pn**	**16 40 27.8**	**+1.3**
	comp=Z,1.9nm,0.2s							
ARSA				*e*Sg		**Sg**	**16 41 37.7**	**-1.7**
	comp=Z,32nm,0.6s							
MPLH	**Magyarpolny**	**4.53**	**168**	P		**Pn**	**16 40 29.4**	**+1.0**
BLEU	**Blekinge**	**4.71**	**357**	P		**Pn**	**16 40 32.4**	**+1.6**
BLEU				S		**Sn**	**16 41 23.9**	**-2.1**
BLEU	**Blekinge**	**4.71**	**357**	*i* P		**Pn**	**16 40 32.0**	**+1.2**
BLEU				P		Pb	16 40 32.4	-10
BLEU				S		**Sn**	**16 41 23.9**	**-2.1**
BLEU				IAML			16 41 38.6	
	comp=Z,1.7nm,0.4s							
KOLS	**Kolonicke sedl**	**4.74**	**122**	*e*PN		**Pn**	**16 40 32.6**	**+1.4**
KOLS				*e*PG		**Pg**	**16 40 51.2**	**+1.9**
LESA	**Schwarzleotal**	**4.77**	**210**	*i* Pn		**Pn**	**16 40 32.6**	**+0.7**
	comp=Z,2.0nm,0.3s							
LESA				Sg		**Sg**	**16 41 49.5**	**-2.4**
	comp=Z,14nm,0.4s							
BJUU	**Bjuv**	**4.85**	**339**	P		**Pn**	**16 40 33.6**	**+0.8**
BJUU				S		**Sn**	**16 41 25.9**	**-3.6**
BJUU	**Bjuv**	**4.85**	**339**	*i* P		**Pn**	**16 40 33.5**	**+0.8**
BJUU				P		**Pn**	**16 40 33.6**	**+0.8**
BJUU				S		**

comp=Z,0.4nm,0.3s,baz=272,slow=24,SNR=4.0
AKBB Malin Array Si 8.25 91 P **Pn 16 41 19.7 +0.3**
AK06 Malin Array Si 8.26 92 P **Pn 16 41 19.6 +0.1**
HFS Hagfors 8.66 352 Pn **Pn 16 41 25.6 +0.6**
comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=5.6
HFS Sn **Sn 16 43 00.6 -2.6**
comp=Z,0.1nm,0.3s,baz=178,slow=18,SNR=1.5
comp=Z,2.3nm,0.9s
NOA NORSAR Array B 9.84 346 Pn **Pn 16 41 39.4 -1.9**
baz=160,slow=11,SNR=2.2
comp=Z,0.4nm,0.7s
FINES FINESS Array B 11.25 25 Pn **Pn 16 41 59.7 -0.8**
comp=Z,0.2nm,0.3s,baz=212,slow=11,SNR=9.8
FINES Sn **Sn 16 44 01.3 -5.4**
comp=Z,0.4nm,0.3s,baz=203,slow=20,SNR=6.1
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 12.11 295 Pn **Pn 16 42 09.5 -2.6**
baz=103,slow=15
ARCES ARCESS Array B 18.51 10 P **P 16 43 34.0 -2.1**
comp=Z,0.9nm,0.7s,baz=185,slow=13,SNR=4.3
GNI Garni 22.79 109 LR LR 16 55 48.2
comp=Z,37nm,19.9s,baz=340,slow=43
DBIC Dimbokro 48.06 209 LR LR 17 10 09.4
comp=Z,58nm,18.2s,baz=124,slow=39
SONM Songino Array 54.82 56 P **P 16 48 53.1 +2.8**
comp=Z,0.2nm,0.4s,baz=316,slow=8.1,SNR=2.0
comp=Z,0.2nm,0.4s
YKA Yellowknife Ar 59.78 336 P **P 16 49 26.6 +1.7**
comp=Z,0.4nm,0.8s,baz=31,slow=6.2,SNR=6.3
comp=Z,0.4nm,0.8s
PDAR Pinedale Array 74.89 322 P **P 16 51 03.2 +1.9**
comp=Z,0.2nm,0.6s,baz=30,slow=4.9,SNR=2.2
comp=Z,0.2nm,0.6s

IDC 09 16:44:01.4±3.2, 31°.93S×178°.22W, h0km, mb3.4/2, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=72.7km s-min=37.7km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.39**	**210**	Pn	Pn	16 45 50.8	+0.3
	0.3nm,0.3s,baz=240,slow=17,SNR=1.3						
URZ				Sn	Sn	16 47 14.5	-0.4
	0.4nm,0.3s,baz=262,slow=14,SNR=2.1						
	9.1nm,1.0s						
ASAR	**Alice Springs**	**42.87**	**269**	P	P	16 52 01.6	0.0
	0.2nm,0.4s,baz=107,slow=7.2,SNR=9.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.99**	**274**	P	P	16 52 10.5	-0.2
	0.2nm,0.3s,baz=112,slow=8.0,SNR=7.5						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**146.51**	**339**	PKPbc	PKPdf	17 03 43.0	+0.6
	3.6nm,1.0s,baz=50,slow=4.3,SNR=4.5						

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*IDC **09** 16:56:56.8±0.8, 20°.12N×147°.24E, h0km, mb3.8/13, mbtmp3.9/15, ML3.5/2, MS3.7/4, Error ellipse: s-maj=27.9km s-min=16.9km az=94.0*

ISC 09 16:57:02.7±0.8, 20°.16N±0°.08×147°.2E±0°.2, h40km, n23, σ0s85/16, mb3.8/13, MS3.8/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.90**	**199**	Pn	**Pn**	**16 58 40.9**	**-0.4**
	8.3nm,0.3s,baz=192,slow=19,SNR=7.9						
GUMO				Sn	**Sn**	**16 59 60.0**	**+1.4**
	4.8nm,0.3s,baz=358,slow=21,SNR=1.3						
	18nm,0.3s						
MJAR	**Matsushiro Arr**	**18.12**	**336**	P	**Pn**	**17 01 10.7**	**-0.6**
	baz=150,slow=13,SNR=2.1						
	1.1nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**18.48**	**92**	T	T	17 20 31.1	
	baz=280						
H11S1	**WAKE ISLAND Hy**	**18.49**	**92**	T	T	17 20 35.3	
	baz=280						
H11S2	**WAKE ISLAND Hy**	**18.50**	**92**	T	T	17 20 40.8	
	baz=280						
H11N1	**WAKE ISLAND Hy**	**18.54**	**88**	T	T	17 20 34.4	
	baz=275						
H11N2	**WAKE ISLAND Hy**	**18.54**	**88**	T	T	17 20 35.1	
	baz=275						
H11N3	**WAKE ISLAND Hy**	**18.55**	**88**	T	T	17 20 42.1	
	baz=275						
KSRS	**Korea Array**	**24.04**	**320**	P	**P**	**17 02 13.4**	**-0.6**
	0.6nm,0.7s,baz=140,slow=7.8,SNR=4.2						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**41.79**	**198**	P	**P**	**17 04 48.1**	**-0.5**
	0.6nm,0.7s,baz=18,slow=8.3,SNR=4.7						
	0.6nm,0.7s						
SONM	**Songino Array**	**42.91**	**320**	P	**P**	**17 04 57.4**	**-0.2**
	0.6nm,0.8s,baz=132,slow=8.2,SNR=2.3						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**45.44**	**197**	P	**P**	**17 05 16.6**	**-1.3**
	0.1nm,0.7s,baz=38,slow=7.0,SNR=8.1						
ASAR				LR	LR	17 24 09.2	
	comp=Z,44nm,20.3s,baz=168,slow=36						
	0.1nm,0.7s						
ZALV	**Zalesovo Beam**	**57.73**	**322**	P	**P**	**17 06 50.0**	**+0.6**
	0.8nm,0.6s,baz=106,slow=9.4,SNR=4.0						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**58.48**	**313**	P	**P**	**17 06 55.9**	**+1.0**
	0.6nm,0.7s,baz=89,slow=9.5,SNR=9.9						
MKAR				LR	LR	17 32 34.0	
	comp=Z,39nm,19.0s,baz=70,slow=36						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**61.19**	**317**	P	**P**	**17 07 13.9**	**+0.6**
	2.5nm,0.3s,baz=90,slow=7.8,SNR=4.2						
	2.5nm,0.3s						
ILAR	**Eielson Array**	**61.73**	**26**	P	**P**	**17 07 17.3**	**+0.6**
	0.5nm,0.8s,baz=262,slow=6.3,SNR=5.1						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**66.25**	**320**	P	**P**	**17 07 47.2**	**+0.5**
	1.3nm,0.5s						
	1.3nm,0.5s						
YKA	**Yellowknife Ar**	**76.05**	**28**	P	**P**	**17 08 46.5**	**+0.8**
	0.8nm,0.7s,baz=286,slow=5.6,SNR=9.3						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**81.14**	**52**	P	**P**	**17 09 13.9**	**-0.7**
	0.9nm,0.7s,baz=278,slow=6.1,SNR=4.0						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**81.54**	**342**	P	**P**	**17 09 16.6**	**+0.8**
	2.1nm,0.8s,baz=54,slow=4.6,SNR=1.5						
	2.1nm,0.8s						
FINES	**FINESS Array B**	**86.15**	**336**	P	**P**	**17 09 38.7**	**-0.7**
	2.5nm,0.9s,baz=46,slow=6.0,SNR=5.3						
	2.5nm,0.9s						
GNI	**Garni**	**86.28**	**311**	LR	LR	17 51 08.3	
	comp=Z,54nm,18.4s,baz=30,slow=38						
GERES	**GERESS Array B**	**99.78**	**331**	LR	LR	17 58 18.0	
	comp=Z,60nm,20.2s,baz=281,slow=37						

HEL 09 17:00:51.4±0.3, 67°.90N×20°.12E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.72**	**77**	PG	Pg	17 01 04.5	-0.7
LANU				SG	Sg	17 01 13.1	-1.4
KIF	**Kilpisjarvi**	**1.14**	**12**	*e*P	Pn	17 01 15.6	+1.1
KIF	**Kilpisjarvi**	**1.14**	**12**	PN	Pn	17 01 14.6	+0.1
KIF				MSG		17 01 26.9	
	comp=Z,1.6nm,0.2s						
KIF				SB	Sb	17 01 28.9	-0.3
HEF	**Hetta**	**1.42**	**67**	*e*P	Pn	17 01 17.8	-0.7
HEF	**Hetta**	**1.42**	**67**	PN	Pn	17 01 18.3	-0.1
HEF				MSG		17 01 34.2	
	comp=Z,1.2nm,0.2s						
HEF				SN	Sn	17 01 37.6	-0.1
ERTU	**Ertsjaerv**	**1.57**	**148**	PG	Pn	17 01 19.4	-1.1
ERTU				SG	Sn	17 01 40.2	-1.4
KLF	**Kolari**	**1.62**	**113**	PG	Pn	17 01 21.2	0.0
KLF				MSG		17 01 39.9	
	comp=Z,1.0nm,0.2s						
KLF				SG	Sn	17 01 41.6	-1.0
KALU	**Kalix**	**2.42**	**147**	PN	Pn	17 01 32.5	+0.5
TOF	**Tornio**	**2.46**	**136**	PN	Pn	17 01 33.2	+0.4
TOF				MSG		17 02 04.2	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sb	17 02 07.0	-0.3
ARA0	**ARCESS Array S**	**2.56**	**48**	PG	Pb	17 01 36.2	-1.9
	baz=231						
ARA0				SG	Sb	17 02 09.9	-0.1
RNF	**Rovaniemi**	**2.63**	**117**	PB	Pn	17 01 36.2	+1.2
RNF				SN	Sn	17 02 07.4	-0.2
KEV	**Kevo**	**3.12**	**50**	MSG		17 02 22.9	
	comp=Z,0.5nm,0.2s						
KEV				SG	Sb	17 02 26.2	+0.2

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*GUC **09** 17:06:47.3±0.8, 30°.25S×71°.34W, h55km±2km, ML3.5*
*NEIC **09** 17:06:47.8±1.5, 30°.23S±0°.05×71°.32W±0°.09, h46km±13km, ML3.6/56, Error ellipse: s-maj=11.2km s-min=6.6km az=76.0*

ISC 09 17:06:46.9±1.1, 30°.21S±0°.05×71°.38W±0°.06, h45km±15km, n46, σ0s98/55, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.50**	**86**		**Pn**	**17 06 58.4**	**+0.2**
GO04					**Sn**	**17 07 06.6**	**+0.4**
GO04	**Tololo Observa**	**0.50**	**86**	*e*P	**Pn**	**17 06 58.6**	**+0.4**
GO04				*e*S	**Sn**	**17 07 07.1**	**+0.9**
GO04				IAML		17 07 07.3	
	comp=N,8μm,0.6s						
CO06	**Fray Jorge**	**0.51**	**206**		**Pn**	**17 06 58.4**	**+0.3**
CO06					**Sn**	**17 07 06.6**	**+0.6**
CO06	**Fray Jorge**	**0.51**	**206**	⇑*e*P	**Pn**	**17 06 58.5**	**+0.3**
CO06				*e*S	**Sn**	**17 07 06.8**	**+0.7**
CO03	**El Pedregal**	**0.86**	**137**		**Pn**	**17 07 02.6**	**-0.2**
CO03				Sn	**Sn**	**17 07 13.6**	**-0.8**
CO03				IAML		17 07 14.2	
	comp=N,2μm,0.5s						
CO03				IAML		17 07 14.2	
	comp=E,3μm,0.4s						
CO03	**El Pedregal**	**0.86**	**137**	⇓*e*P	**Pn**	**17 07 02.7**	**-0.2**
CO03				*e*S	**Sn**	**17 07 14.0**	**-0.4**
CO03				IAML		17 07 14.4	
	comp=E,3μm,0.5s						
CO01	**Juntas del Tor**	**1.14**	**79**	Pn	**Pn**	**17 07 07.5**	**+0.8**
CO01				IAML		17 07 23.3	
	comp=N,1μm,0.1s						
CO01	**Juntas del Tor**	**1.14**	**79**	⇓*e*P	**Pn**	**17 07 07.7**	**+1.0**
CO01				*e*S	**Sn**	**17 07 22.3**	**+1.1**
CO01				IAML		17 07 23.3	
	comp=N,2μm,0.1s						
LCO	**Las Campanas**	**1.33**	**26**	Pn	**Pn**	**17 07 10.0**	**+0.6**
LCO				IAML		17 07 28.6	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**1.33**	**26**	⇑*e*P	**Pn**	**17 07 10.1**	**+0.8**
LCO				*e*S	**Sn**	**17 07 27.1**	**+1.1**
AC04	**Llanos de Chal**	**2.02**	**8**	Pn	**Pn**	**17 07 19.8**	**+1.3**
AC04				IAML		17 07 52.4	
	comp=N,348nm,0.3s						
AC04				IAML		17 07 52.5	
	comp=E,384nm,0.3s						
AC04	**Llanos de Chal**	**2.02**	**8**	⇓*e*P	**Pn**	**17 07 20.1**	**+1.6**
AC04				IAML		17 07 52.4	
	comp=E,370nm,0.5s						
VA06	**Catapilco**	**2.34**	**178**	Pn	**Pn**	**17 07 23.7**	**+0.7**
VA06	**Catapilco**	**2.34**	**178**	*e*P	**Pn**	**17 07 23.9**	**+0.9**
VA06				IAML		17 08 03.4	
	comp=E,553nm,0.5s						
VA03	**San Esteban**	**2.64**	**165**		**Pn**	**17 07 27.9**	**+0.7**
VA03				IAML		17 08 13.0	
	comp=N,258nm,0.6s						
VA03				IAML		17 08 18.1	
	comp=E,313nm,0.5s						
VA03	**San Esteban**	**2.64**	**165**	*e*P	**Pn**	**17 07 28.9**	**+1.7**
ZON	**Zonda**	**2.68**	**121**	Pn	**Pn**	**17 07 28.2**	**+0.6**
AC06	**Mina Casimiro**	**2.98**	**18**	Pn	**Pn**	**17 07 33.1**	**+1.3**
AC06				IAML		17 08 20.5	
	comp=N,169nm,0.3s						
AC06				IAML		17 08 21.4	
	comp=E,215nm,0.6s						
AC06	**Mina Casimiro**	**2.98**	**18**	*e*P	**Pn**	**17 07 33.2**	**+1.5**
AC06				IAML		17 08 20.2	
	comp=E,196nm,0.5s						
PEL	**Peldehue**	**2.98**	**169**		**Pn**	**17 07 30.9**	**-0.9**
PEL	**Peldehue**	**2.98**	**169**	*e*P	**Pn**	**17 07 33.0**	**+1.2**
PEL				*e*S	**Sn**	**17 08 08.4**	**+2.0**
PEL				IAML		17 08 20.3	
MT02	**Curacav**	**3.05**	**176**		**Pn**	**17 07 33.0**	**+0.4**
MT02				IAML		17 08 21.4	
	comp=E,133nm,0.5s						
MT02	**Curacav**	**3.05**	**176**	⇑*e*P	**Pn**	**17 07 33.3**	**+0.6**
MT02				IAML		17 08 22.1	
	comp=E,150nm,0.5s						
MT10	**Hacienda Santa**	**3.14**	**167**	*e*P	**Pn**	**17 07 35.4**	**+1.4**
MT05	**Renca**	**3.22**	**170**	Pn	**Pn**	**17 07 34.5**	**-0.6**
MT16	**CCHEN**	**3.29**	**167**	Pn	**Pn**	**17 07 37.0**	**+1.0**
MT03	**Universidad Ad**	**3.36**	**168**	Pn	**Pn**	**17 07 37.8**	**+0.8**
MT08	**Bocatoma Ro**	**3.43**	**161**	Pn	**Pn**	**17 07 38.9**	**+0.9**
MT08				IAML		17 08 33.7	
	comp=N,118nm,0.6s						
MT08				IAML		17 08 33.8	
	comp=E,98nm,0.6s						
VA05	**Santo Domingo**	**3.44**	**183**	Pn	**Pn**	**17 07 38.8**	**+0.7**
VA05				IAML		17 08 31.6	
	comp=N,160nm,0.5s						
MT09	**Talagante**	**3.57**	**175**	Pn	**Pn**	**17 07 40.9**	**+0.9**
MT09				IAML		17 08 38.4	
	comp=N,152nm,0.8s						
MT09				IAML		17 08 39.0	
	comp=E,125nm,0.6s						
MT13	**San Alfonso**	**3.64**	**166**		**Pn**	**17 07 41.7**	**+0.8**
MT13				IAML		17 08 38.3	
	comp=E,99nm,0.4s						
MT13				IAML		17 08 40.3	
	comp=N,102nm,0.5s						
MT01	**Popeta**	**3.65**	**178**		**Pn**	**17 07 41.3**	**+0.4**
MT01				IAML		17 08 36.6	
	comp=N,97nm,0.6s						
MT01				IAML		17 08 37.0	
	comp=E,93nm,0.5s						
LMEL	**Las Melosas**	**3.76**	**165**	Pn	**Pn**	**17 07 43.2**	**+0.6**
LMEL				IAML		17 08 45.9	
	comp=E,76nm,0.5s						
BO04	**La Punta**	**3.83**	**170**		**Pn**	**17 07 44.5**	**+1.2**
BO04				IAML		17 08 45.4	
	comp=E,101nm,0.5s						
BO04				IAML		17 08 46.1	
	comp=N,88nm,0.7s						
AC02	**Maricunga**	**3.90**	**31**	Pn	**Pn**	**17 07 44.1**	**-0.7**
AC02				IAML		17 08 49.6	
	comp=N,103nm,0.5s						
AC01	**Pan de Azucar**	**4.11**	**10**	Pn	**Pn**	**17 07 46.6**	**-0.6**
AC01				IAML		17 08 55.5	
	comp=N,58nm,0.5s						
AC01				IAML		17 08 59.5	
	comp=E,69nm,0.5s						
BO01	**Tunca**	**4.18**	**177**	Pn	**Pn**	**17 07 48.2**	**0.0**
BO02	**Sierra Bellavi**	**4.60**	**174**	Pn	**Pn**	**17 07 55.1**	**+1.1**
BO02				IAML		17 09 06.2	
	comp=N,62nm,0.3s						
BO02				IAML		17 09 06.4	
	comp=E,66nm,0.5s						
GO02	**Mina Guanaco**	**5.27**	**18**	Pn	**Pn**	**17 08 04.1**	**+0.6**
ML02	**Panimavida**	**5.54**	**180**	Pn	**Pn**	**17 08 07.3**	**+0.5**
BI02	**San Fabin de**	**6.44**	**179**	Pn	**Pn**	**17 08 19.2**	**0.0**
PB09	**IPOC Station P**	**8.60**	**13**	Pn	**Pn**	**17 08 48.9**	**-0.1**
PB01	**IPOC Station P**	**9.29**	**11**	Pn	**Pn**	**17 08 57.0**	**-1.3**
PB08	**IPOC Station P**	**10.22**	**12**	Pn	**Pn**	**17 09 10.6**	**-0.8**
PB11	**IPOC Station P**	**10.52**	**9**	Pn	**Pn**	**17 09 12.9**	**-2.4**
PB12	**IPOC Station P**	**11.58**	**5**	Pn	**Pn**	**17 09 28.8**	**-1.0**

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*IDC **09** 17:10:56.0±1.2, 30°.97N×141°.92E, h0km, mb3.6/9, mbtmp3.6/10, ML2.8/1, Error ellipse: s-maj=45.7km s-min=18.1km az=75.0*
*NIED **09** 17:10:60.0, 30°.95N×141°.70E, h44km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; M_{rr}0.78; $M_{\theta\theta}$0.63; $M_{\phi\phi}$-1.41; $M_{r\theta}$-0.63; $M_{\theta\phi}$-1.42; $M_{\phi r}$3.70; Fault plane solution: $M_0$4.19000×10^14 NP1: ϕ_s247.00000°, δ24.00000°, λ164.00000°. NP2: ϕ_s351.00000°, δ84.00000°, λ67.00000°.*
*JMA **09** 17:10:60.0±0.3, 31°N±1°×14°2E±°, h44km, MV3.7/20, NEAR TORISHIMA IS*

ISC 09 17:10:58.7±0.8, 30°.92N±0°.06×141°.8E±0°.1, h24km, n20, σ2s21/25, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.34**	**312**	*e*S	**Sn**	**17 12 01.8**	**-1.8**
JHJ2	**Mitsune**	**2.77**	**323**	*e*S	**Sn**	**17 12 14.0**	**-0.4**
JHJ	**Hachijo jima 2**	**2.80**	**322**	Pn	**Pn**	**17 11 39.0**	**-3.0**
	10nm,0.3s,baz=80,slow=19,SNR=1.5						
JHJ				Sn	**Sn**	**17 12 13.8**	**-1.1**
	17nm,0.3s,baz=68,slow=20,SNR=2.2						
JMKN	**Mikurajimanish**	**3.52**	**328**	*e*S	**Sn**	**17 12 31.7**	**-1.0**
BSO1	**Boso 1**	**3.79**	**349**	*e*S	**Sn**	**17 12 38.4**	**-0.3**
CBIJ	**Chichi jima**	**3.82**	**175**	*e*S	**Sn**	**17 12 41.7**	**+1.5**
JCJ	**Chichijima**	**3.82**	**175**	Pn	**Pn**	**17 11 51.4**	**-4.7**
	8.4nm,0.3s,baz=296,slow=20,SNR=1.4						
JCJ				Sn	**Sn**	**17 12 35.8**	**-4.4**
	11nm,0.3s,baz=293,slow=22,SNR=2.0						
BSO4	**Boso 4**	**4.25**	**343**	*e*S	**Sn**	**17 12 51.5**	**+0.9**
JHO	**Hitachi**	**5.78**	**350**	*e*P	**Pn**	**17 12 21.7**	**-1.2**
JHO				*e*S	**Sn**	**17 13 23.4**	**-5.0**
JAG	**Ashikaga**	**5.84**	**341**	*e*P	**Pn**	**17 12 24.1**	**+0.4**
JAG				*e*S	**Sn**	**17 13 27.1**	**-2.8**
MJAR	**Matsushiro Arr**	**6.37**	**333**	Pn	**Pn**	**17 12 31.6**	**+0.6**
	0.2nm,0.3s,baz=160,slow=12,SNR=17						
MJAR				Sn	**Sn**	**17 13 43.1**	**+0.1**
	0.1nm,0.3s,baz=88,slow=17,SNR=4.5						
	2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**46.45**	**317**	P	**P**	**17 19 25.1**	**+1.7**
	0.3nm,0.3s,baz=105,slow=5.8,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.87**	**307**	P	**P**	**17 19 36.3**	**+1.7**
	0.7nm,0.9s,baz=99,slow=7.4,SNR=5.7						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**50.20**	**312**	P	**P**	**17 19 52.8**	**+0.5**
	0.8nm,0.7s,baz=89,slow=7.1,SNR=4.1						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**51.08**	**189**	P	**P**	**17 20 00.8**	**+1.5**
	0.4nm,0.3s,baz=5.8,slow=7.6,SNR=15						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**54.55**	**30**	P	**P**	**17 20 25.0**	**+0.6**
	0.5nm,1.0s,baz=248,slow=6.1,SNR=2.3						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**54.80**	**189**	P	**P**	**17 20 28.3**	**+1.5**
	0.3nm,0.4s,baz=5.7,slow=5.9,SNR=26						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**55.06**	**316**	P	**P**	**17 20 30.0**	**+1.6**
	0.4nm,0.4s						
	0.4nm,0.4s						
AKASG	**Malin Array Be**	**79.36**	**323**	P	**P**	**17 23 02.6**	**+0.2**
	0.3nm,0.4s,baz=50,slow=5.2,SNR=2.4						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**83.19**	**312**	P	**P**	**17 23 23.5**	**+0.3**
	0.6nm,0.8s,baz=57,slow=4.6,SNR=4.5						
	0.6nm,0.8s						

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*ISN **09** 17:26:59.5±1.3, 36°.22N×45°.55E, h0km±9km, ML2.6*
*TEH **09** 17:27:00.6, 36°.30N×45°.54E, h12km±999km*

ISC 09 17:27:00.9±0.9, 36°.32N±0°.04×45°.52E±0°.07, h10km, n7, σ0s71/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.47**	**19**	Pg	**Pg**	**17 27 10.7**	**+0.6**
MAHB				Sg	**Sb**	**17 27 18.7**	**+0.3**
IKRK	**Kirkuk**	**1.33**	**226**	*e*Pg	**Pn**	**17 27 25.0**	**-0.5**
	baz=50						
IKRK				*e*Sg	**Sg**	**17 27 44.0**	**+0.4**
IKRK				AML	AML	17 27 52.2	
	comp=N,8.1nm,0.5s						
IAZR	**Azarshahr**	**1.40**	**15**	Pg	**Pg**	**17 27 28.0**	**+0.1**
IHSH	**Hashtrud**	**1.71**	**54**	Pg	**Pb**	**17 27 32.1**	**-0.5**
IHSH				Sg	**Sg**	**17 27 55.7**	**-0.2**
IDHR	**Dehrash**	**1.77**	**156**	Pg	**Pb**	**17 27 32.4**	**-1.1**
ISHB	**Shabestar**	**1.96**	**2**	Pn	**Pb**	**17 27 36.2**	**-0.7**
IBDR	**Badra**	**3.22**	**174**	*e*Pn	**Pn**	**17 27 52.0**	**+0.5**
IBDR				*e*Sn	**Sn**	**17 28 31.0**	**+1.0**

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*ASIES **09** 17:27:29.7, 23°.93N×121°.45E, h20km, ML4.1, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^21 Nm; M_{rr}-0.73; $M_{\theta\theta}$0.27; $M_{\phi\phi}$0.46; $M_{r\theta}$2.58; $M_{\theta\phi}$-0.41; $M_{\phi r}$4.13; Fault plane solution: $M_0$4.92985×10^21 NP1: ϕ_s336.53000°, δ3.92000°, λ-144.61000°. NP2: ϕ_s211.21000°, δ87.73000°, λ-86.80000°. Principal axes: T Plg42.6450°, Azm298.1300°; N Plg3.1950°, Azm31.0770°; P Plg47.1760°, Azm124.5300°;*
*TAP **09** 17:27:29.7, 23°.93N×121°.45E, h20km, ML4.1, B*
*JMA **09** 17:27:29.6±0.0, 23°.9N±0°.2×121°.5E±0°.6, h18km, MV3.5/15, TAIWAN REGION*
*IDC **09** 17:27:42.0±6.4, 23°.83N×121°.71E, h145km±63km, mb3.2/9, mbtmp3.7/10, MS3.0/3, Error ellipse: s-maj=29.7km s-min=17.0km az=70.0*

ISC 09 17:27:29.6±0.7, 23°.92N±0°.01×121°.48E±0°.01, h19km±1km, n172, σ0s74/282, mb3.6/9, 5C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.05**	**13**	⇓*i*P	**Pg**	**17 27 33.5**	**+0.5**
ETM				S	**Sg**	**17 27 36.1**	**+0.7**
ESL	**Shilin**	**0.11**	**203**	⇑P	**Pg**	**17 27 33.8**	**+0.3**
ESL				*i* S	**Sg**	**17 27 36.5**	**+0.4**
LXIB	**Xiulin Townshi**	**0.12**	**329**	⇓*i*P	**Pg**	**17 27 33.7**	**-0.1**
LXIB				*i* S	**Sg**	**17 27 36.5**	**-0.1**
HWA	**Hwalien**	**0.13**	**62**	⇑*i*P	**Pg**	**17 27 34.7**	**+1.0**
HWA				S	**Sg**	**17 27 38.1**	**+1.7**
SHUL	**Shoufeng**	**0.15**	**150**	⇑*i*P	**Pg**	**17 27 34.9**	**+1.0**
SHUL				S	**Sg**	**17 27 38.8**	**+1.9**
TWD	**Chiawan**	**0.19**	**33**	⇑*i*P	**Pg**	**17 27 35.0**	**+0.5**
TWD				*i* S	**Sg**	**17 27 38.5**	**+0.6**
TEGC	**Jichi Village**	**0.21**	**165**	*e*P	**Pg**	**17 27 35.8**	**+1.0**
TEGC				S	**Sg**	**17 27 40.7**	**+2.4**
WARBT	**Fenglin Townsh**	**0.22**	**204**	⇑*i*P	**Pb**	**17 27 34.8**	**+0.3**
WARBT				S	**Sb**	**17 27 38.3**	**+0.5**
EGFH	**Guangfu**	**0.25**	**191**	*i* P	**Pg**	**17 27 35.4**	**0.0**
EGFH				S	**Sb**	**17 27 39.6**	**+0.4**
ETL	**Fush Village**	**0.27**	**28**	⇓P	**Pg**	**17 27 36.0**	**+0.2**
ETL				S	**Sg**	**17 27 40.1**	**0.0**
NACB	**Ninganchiao**	**0.28**	**22**	P	**Pg**	**17 27 36.0**	**+0.1**
NACB	**Ninganchiao**	**0.28**	**22**	P	**Pn**	**17 27 40.1**	**+1.4**
NACB	**Ninganchiao**	**0.28**	**22**	⇓*i*P	**Pg**	**17 27 35.9**	**+0.1**
NACB				S	**Pn**	**17 27 40.2**	**+1.4**
OWD	**Renai**	**0.28**	**278**	⇓*i*P	**Pg**	**17 27 36.0**	**-0.1**
OWD				*i* S	**Sg**	**17 27 40.2**	**-0.2**
ETLH	**Xiulin Townshi**	**0.29**	**0**	⇓*i*P	**Pg**	**17 27 36.1**	**0.0**
ETLH				S	**Sg**	**17 27 40.4**	**-0.1**
WHF	**Hehuan Shan**	**0.30**	**319**

WHYT	**Xinyi Township**	**0.61**	**249**	*e*P	**Pb**	**17 27 41.7**	**-0.1**
WHYT				*e*S	**Sb**	**17 27 50.2**	**+0.2**
LATG	**Datong**	**0.62**	**4**	‖*i*P	**Pb**	**17 27 41.7**	**-0.1**
LATG				*i* S	**Sb**	**17 27 49.8**	**-0.4**
WJS	**Zhushan**	**0.70**	**262**	*e*P	**Pg**	**17 27 44.0**	**+0.6**
WJS				*i* S	**Sn**	**17 27 54.3**	**-0.5**
ENTT	**Nioudou**	**0.72**	**6**	*e*P	**Pb**	**17 27 43.6**	**-0.1**
ENTT				*e*S	**Sb**	**17 27 53.2**	**-0.1**
CHKH	**Chenggong**	**0.73**	**186**	*e*P	**Pb**	**17 27 43.3**	**-0.3**
CHKH				*e*S	**Sb**	**17 27 53.4**	**+0.1**
WNT	**Mingjian**	**0.73**	**267**	P	**Pg**	**17 27 44.6**	**+0.6**
WNT				*e*S	**Sn**	**17 27 55.2**	**-0.4**
ESAO	**Su ao**	**0.73**	**27**	*e*P	**Pb**	**17 27 43.8**	**-0.1**
ESAO				*e*S	**Sb**	**17 27 52.8**	**-0.7**
FULB	**Fuli**	**0.73**	**194**	*e*P	**Pb**	**17 27 43.7**	**-0.1**
FULB				*e*S	**Sg**	**17 27 54.5**	**+0.6**
ALS	**Alishan**	**0.74**	**237**	‖*i*P	**Pb**	**17 27 44.2**	**+0.1**
ALS				*e*S	**Sb**	**17 27 54.1**	**+0.2**
NDS	**Dongshan**	**0.74**	**17**	*e*P	**Pb**	**17 27 44.4**	**+0.4**
NDS				S	**Sb**	**17 27 54.0**	**+0.1**
YHNB	**Yeheng**	**0.76**	**353**	P	**Pb**	**17 27 44.4**	**+0.1**
YHNB	**Yeheng**	**0.76**	**353**	S	**Sb**	**17 27 54.6**	**+0.4**
YHNB	**Yeheng**	**0.76**	**353**	*e*P	**Pb**	**17 27 44.2**	**0.0**
YHNB				*e*S	**Sb**	**17 27 53.9**	**-0.3**
NSK	**Sanguang**	**0.76**	**352**	P	**Pb**	**17 27 44.5**	**+0.1**
NSK				*i* S	**Sb**	**17 27 53.9**	**-0.6**
TWC	**Suao**	**0.77**	**26**	*e*P	**Pb**	**17 27 44.3**	**-0.1**
TWC				S	**Sb**	**17 27 54.6**	**+0.1**
TCU	**Taichung**	**0.77**	**287**	*e*P	**Pn**	**17 27 45.6**	**0.0**
TCU				*i* S	**Sn**	**17 27 57.0**	**+0.4**
TWQ1	**Liyutan**	**0.78**	**304**	P	**Pg**	**17 27 45.3**	**+0.4**
TWQ1				*e*S	**Sg**	**17 27 55.9**	**+0.7**
NFF	**Wufeng Townshi**	**0.79**	**335**	*e*P	**Pb**	**17 27 45.6**	**+0.2**
NFF				*e*S	**Sb**	**17 27 54.6**	**-0.4**
EOS4	**EOS4**	**0.79**	**75**	*e*P	**Pb**	**17 27 45.0**	**+0.5**
EOS4				*e*S	**Sn**	**17 27 56.6**	**0.0**
CHN5	**Tsauling**	**0.80**	**247**	P	**Pg**	**17 27 45.8**	**+0.4**
CHN5				*i* S	**Sn**	**17 27 57.6**	**+0.1**
EHD	**Haiduan**	**0.81**	**198**	*e*P	**Pb**	**17 27 44.2**	**-0.9**
EHD				*e*S	**Sb**	**17 27 55.2**	**-0.4**
TWE	**Neicheng**	**0.82**	**12**	P	**Pb**	**17 27 45.6**	**+0.3**
TWE				*e*S	**Sg**	**17 27 56.9**	**+0.4**
CHKT	**Chengkung**	**0.82**	**187**	*e*P	**Pb**	**17 27 44.4**	**-0.9**
CHKT				*e*S	**Sg**	**17 27 56.8**	**+0.2**
NSY	**Sanyi**	**0.82**	**307**	P	**Pb**	**17 27 45.9**	**+0.5**
NSY				S	**Sg**	**17 27 57.0**	**+0.3**
NSTT	**Nanjuang**	**0.83**	**328**	*e*P	**Pg**	**17 27 46.1**	**+0.2**
NSTT				*i* S	**Sb**	**17 27 56.4**	**-0.1**
ELDTW	**Lidau**	**0.84**	**211**	*e*P	**Pb**	**17 27 44.3**	**-1.4**
ELDTW				*e*S	**Sb**	**17 27 56.4**	**-0.3**
LIOB	**Emei**	**0.84**	**330**	*i* P	**Pg**	**17 27 46.4**	**+0.3**
LIOB				S	**Sb**	**17 27 57.0**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.84**	**7**	*e*P	**Pb**	**17 27 45.7**	**-0.1**
FUSB				S	**Sb**	**17 27 56.5**	**-0.2**
EOS3	**EOS3**	**0.85**	**64**	*e*P	**Pg**	**17 27 46.5**	**+0.3**
ECS	**Chishang**	**0.85**	**196**	*e*P	**Pb**	**17 27 46.2**	**+0.4**
ECS				*e*S	**Sg**	**17 27 58.2**	**+0.6**
NWLT	**Wulai**	**0.86**	**1**	*e*P	**Pb**	**17 27 46.3**	**+0.3**
NWLT				*e*S	**Sb**	**17 27 56.8**	**-0.3**
WCHH	**Zhanghua**	**0.86**	**281**	*e*P	**Pn**	**17 27 47.0**	**+0.3**
WCHH				*e*S	**Sn**	**17 27 59.0**	**+0.2**
WGK	**Gukeng**	**0.87**	**255**	P	**Pg**	**17 27 46.9**	**+0.3**
WGK				S	**Sn**	**17 27 59.5**	**+0.4**
ILA	**Ilan**	**0.88**	**16**	*e*P	**Pg**	**17 27 47.1**	**+0.3**
ILA				S	**Sg**	**17 27 58.7**	**+0.3**
WDJ	**Dajia District**	**0.88**	**299**	*e*P	**Pn**	**17 27 47.8**	**+0.7**
WDJ				*e*S	**Sn**	**17 27 59.5**	**+0.2**
NMLH	**Miaoli**	**0.88**	**315**	*e*P	**Pn**	**17 27 47.7**	**+0.7**
NMLH				*e*S	**Sg**	**17 27 59.3**	**+0.8**
WDL	**Douliou City**	**0.89**	**257**	*e*P	**Pn**	**17 27 47.5**	**+0.4**
WDL				*e*S	**Sn**	**17 28 00.2**	**+0.8**
WDLH	**Douliu**	**0.89**	**255**	*e*P	**Pg**	**17 27 47.3**	**+0.3**
WDLH				S	**Sn**	**17 28 00.1**	**+0.5**
KSHI	**Guanxi Townshi**	**0.90**	**342**	*e*P	**Pn**	**17 27 47.8**	**+0.5**
KSHI				*e*S	**Sg**	**17 27 59.5**	**+0.4**
WCKO	**Fanlu**	**0.93**	**239**	*i* P	**Pn**	**17 27 48.0**	**+0.2**
WCKO				*e*S	**Sn**	**17 28 01.6**	**+0.9**
EDH	**Donghe**	**0.95**	**190**	*e*P	**Pb**	**17 27 46.9**	**-0.6**
EDH				*e*S	**Sb**	**17 28 00.3**	**+0.5**
SBCB	**Hsinchu**	**0.98**	**333**	*e*P	**Pg**	**17 27 49.7**	**+0.9**
SBCB				*e*S	**Sn**	**17 28 02.4**	**+0.6**
STYH	**Taoyuan**	**0.98**	**221**	*e*P	**Pb**	**17 27 48.5**	**+0.4**
STYH				*e*S	**Sn**	**17 28 03.3**	**+1.4**
CHN4	**Tsaushan**	**0.99**	**235**	*e*P	**Pg**	**17 27 49.1**	**+0.3**
CHN4				*e*S	**Sn**	**17 28 03.1**	**+1.0**
TPIB	**Ta-pu**	**0.99**	**232**	P	**Pn**	**17 27 48.9**	**+0.3**
TPUB	**Ta-pu**	**0.99**	**232**	P	**Pn**	**17 27 48.9**	**+0.3**
TPUB				*e*S	**Sg**	**17 28 01.9**	**-0.1**
HSN	**Hsinchu**	**1.00**	**332**	*e*P	**Pg**	**17 27 50.0**	**+0.9**
HSN				S	**Sn**	**17 28 03.3**	**+1.1**
CHN2	**Minshiung**	**1.00**	**248**	*e*P	**Pg**	**17 27 49.8**	**+0.8**
WTK	**Tuku**	**1.03**	**257**	*e*P	**Pn**	**17 27 49.3**	**+0.3**
WTK				*e*S	**Sg**	**17 28 04.0**	**+0.9**
WTP	**Ta-pu**	**1.04**	**230**	P	**Pn**	**17 27 49.7**	**+0.5**
WTP				*e*S	**Sg**	**17 28 04.6**	**+1.1**
TATO	**Taipei**	**1.05**	**0**	P	**Pn**	**17 27 50.0**	**+0.6**
CHY	**Chiayi**	**1.05**	**247**	*e*P	**Pb**	**17 27 49.5**	**+0.2**
CHY				*i* S	**Sg**	**17 28 04.9**	**+0.9**
LONT	**Longtian**	**1.06**	**198**	*e*P	**Pb**	**17 27 48.8**	**-0.6**
NCUH	**Zhongli**	**1.08**	**346**	*e*P	**Pg**	**17 27 51.2**	**+0.6**
NCUH				*i* S	**Sg**	**17 28 06.7**	**+1.8**
TIPB	**Shuangxi**	**1.10**	**17**	*e*P	**Pb**	**17 27 49.7**	**-0.3**
TIPB				*e*S	**Sn**	**17 28 04.8**	**0.0**
WTCT	**Ta-ch'eng**	**1.10**	**267**	*e*P	**Pn**	**17 27 50.4**	**+0.3**
WTCT				*i* S	**Sg**	**17 28 05.7**	**+0.3**
TWK	**Hsinying**	**1.12**	**235**	*e*P	**Pg**	**17 27 51.3**	**0.0**
TWK				*e*S	**Sg**	**17 28 06.7**	**+0.7**
TAP	**Taipei**	**1.12**	**1**	*e*P	**Pg**	**17 27 51.9**	**+0.6**
TAP				*i* S	**Sg**	**17 28 06.0**	**0.0**
NHY	**Taipei**	**1.12**	**4**	*e*P	**Pg**	**17 27 51.6**	**+0.2**
CHN1	**Nanshi**	**1.14**	**230**	*i* P	**Pg**	**17 27 51.8**	**+0.1**
CHN1				*e*S	**Sg**	**17 28 06.9**	**+0.3**
SNST	**Tainan City**	**1.14**	**233**	*e*P	**Pg**	**17 27 51.7**	**0.0**
SNST				*i* S	**Sg**	**17 28 08.0**	**+1.3**
TWG	**Pinlang**	**1.15**	**199**	*e*P	**Pn**	**17 27 50.6**	**-0.2**
TWGBT	**Beinan**	**1.16**	**199**	P	**Pn**	**17 27 50.7**	**-0.1**
TWGBT	**Beinan**	**1.16**	**199**	*e*P	**Pn**	**17 27 48.5**	**-2.3**
SGST	**Jiashian**	**1.17**	**225**	*i* P	**Pn**	**17 27 51.3**	**+0.2**
SGST				*i* S	**Sg**	**17 28 08.2**	**+0.6**
TWS1	**Kuangyinshan**	**1.18**	**357**	*e*P	**Pn**	**17 27 51.6**	**+0.5**
TWS1				S	**Sg**	**17 28 08.1**	**+0.2**
NWF	**Wu-fen Shan**	**1.18**	**13**	*e*P	**Pg**	**17 27 52.5**	**-0.1**
TWB1	**Santiao Chiao**	**1.18**	**23**	*e*P	**Pb**	**17 27 51.7**	**+0.3**
TWB1				*e*S	**Sn**	**17 28 07.5**	**+0.7**
WFSB	**Wu-fen Shan**	**1.18**	**13**	*e*P	**Pg**	**17 27 52.5**	**0.0**
WSF	**Szhu**	**1.19**	**257**	*e*P	**Pn**	**17 27 51.5**	**+0.3**
WSF				*e*S	**Sn**	**17 28 07.8**	**+0.9**
WSL	**Shuilin Townsh**	**1.21**	**251**	*e*P	**Pb**	**17 27 52.5**	**+0.5**
WSL				S	**Sg**	**17 28 09.8**	**+0.8**
SXI1	**Grass Mountain**	**1.23**	**17**	*e*P	**Pn**	**17 27 52.1**	**+0.2**
SXI1				*e*S	**Sg**	**17 28 09.4**	**-0.1**
YM01	**YM01**	**1.23**	**4**	*e*P	**Pb**	**17 27 52.9**	**+0.6**
YM01				*e*S	**Sg**	**17 28 09.2**	**-0.3**
ICHU	**Yijhu**	**1.23**	**244**	P	**Pb**	**17 27 52.9**	**+0.6**
ICHU				*e*S	**Sg**	**17 28 10.7**	**+1.0**
LDUT	**Ludao**	**1.24**	**180**	*e*P	**Pn**	**17 27 49.6**	**-2.4**
ZUZH	**Zhuzihu**	**1.24**	**3**	P	**Pn**	**17 27 52.3**	**+0.2**
ZUZH				*e*S	**Sb**	**17 28 08.4**	**+0.2**
NTST	**Danshui**	**1.24**	**359**	*e*P	**Pg**	**17 27 53.5**	**-0.1**
NTST				S	**Sg**	**17 28 10.6**	**+0.6**
ANP	**Anpu**	**1.26**	**2**	*e*P	**Pb**	**17 27 53.3**	**+0.4**
ANP				*e*S	**Sn**	**17 28 09.8**	**+0.8**
YM08	**YM08**	**1.27**	**4**	*e*P	**Pn**	**17 27 53.0**	**+0.6**
CHN8	**Yiju**	**1.30**	**244**	*e*P	**Pb**	**17 27 53.5**	**+0.1**
CHN8				*e*S	**Sg**	**17 28 11.4**	**-0.2**
TWY	**Chenhua**	**1.36**	**5**	*e*P	**Pn**	**17 27 53.9**	**+0.3**
SCST	**Cishan**	**1.37**	**222**	*i* P	**Pg**	**17 27 56.0**	**-0.1**
SCST				*e*S	**Sg**	**17 28 15.1**	**+1.1**
SHHT	**Tainan City**	**1.37**	**230**	*e*P	**Pg**	**17 27 56.2**	**+0.1**
SCLT	**Jiali**	**1.39**	**238**	*e*P	**Pb**	**17 27 55.7**	**+0.6**
SCLT				*e*S	**Sb**	**17 28 13.7**	**+1.2**
ECL	**Taimali**	**1.40**	**200**	*e*P	**Pn**	**17 27 53.9**	**-0.3**
TSMG	**Majia**	**1.43**	**213**	*e*P	**Pb**	**17 27 55.8**	**+0.1**
TSMG				*e*S	**Sb**	**17 28 14.4**	**+0.8**
JYNG	**Yonagunijimaku**	**1.44**	**68**	P	**Pn**	**17 27 54.6**	**-0.1**
JYNG				*e*S	**Sn**	**17 28 12.8**	**-0.3**
TWM1	**Shoushan**	**1.46**	**222**	*e*P	**Pg**	**17 27 57.6**	**-0.2**
TWM1				*e*S	**Sg**	**17 28 16.5**	**-0.4**
TSCK	**Chigu Township**	**1.49**	**239**	*e*P	**Pn**	**17 27 56.4**	**+0.9**
TSCK				*i* S	**Sg**	**17 28 17.0**	**-0.9**
SGLT	**Jiouru**	**1.50**	**218**	*e*P	**Pb**	**17 27 58.0**	**+1.1**
YOJ	**Yonaguni jima**	**1.50**	**68**	P	**Pn**	**17 27 55.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.50**	**68**	P	**Pn**	**17 27 55.4**	**-0.1**
YOJ				*e*S	**Sn**	**17 28 14.3**	**-0.3**
MASBT	**Mashibuluo**	**1.52**	**211**	*e*P	**Pn**	**17 27 55.7**	**0.0**
MASBT				*e*S	**Sg**	**17 28 18.7**	**+0.1**
TAWH	**Dawu Township**	**1.66**	**199**	*e*P	**Pn**	**17 27 59.1**	**+1.3**
WSSB	**Gushan**	**1.69**	**222**	*e*P	**Pn**	**17 27 58.3**	**0.0**
SCZT	**Fangliau**	**1.73**	**207**	*e*P	**Pn**	**17 28 00.0**	**+1.3**
PCYT	**Pengchaiyu**	**1.79**	**17**	*e*P	**Pn**	**17 27 59.6**	**+0.1**
WDGT	**Dungji**	**1.79**	**249**	*e*P	**Pn**	**17 27 59.8**	**+0.2**
PHUB	**P'eng-hu**	**1.79**	**257**	*e*P	**Pn**	**17 27 60.0**	**+0.3**
PHUB				S	**Sn**	**17 28 23.3**	**+1.4**
PNG	**Penghu**	**1.80**	**259**	*e*P	**Pn**	**17 28 00.1**	**+0.4**
SLIU	**Shizi**	**1.81**	**200**	*e*P	**Pn**	**17 28 01.1**	**+1.3**
VCHM	**Qimei**	**2.01**	**250**	*e*P	**Pn**	**17 28 03.0**	**+0.4**
TWKBT	**Hengchun**	**2.06**	**198**	*e*P	**Pn**	**17 28 04.5**	**+1.2**
IRIF	**Iriomote-Funau**	**2.10**	**78**	P	**Pn**	**17 28 04.0**	**+0.2**
IRIF				*e*S	**Sn**	**17 28 30.0**	**+0.6**
HATJ	**Hateruma jima**	**2.13**	**86**	P	**Pn**	**17 28 03.8**	**-0.4**
VWUC	**VWUC**	**2.14**	**300**	*e*P	**Pn**	**17 28 03.5**	**-0.8**
JKRS	**Kuro-shima**	**2.33**	**82**	P	**Pn**	**17 28 07.6**	**+0.6**
JKRS				*e*S	**Sn**	**17 28 36.0**	**+0.8**
PTMZ	**Houxiangcun**	**2.42**	**298**	*e*P	**Pn**	**17 28 07.1**	**-1.2**
JIJ	**Ishigaki jima**	**2.47**	**79**	P	**Pn**	**17 28 08.8**	**-0.2**
MATB	**Ma-tsu**	**2.62**	**328**	*e*P	**Pn**	**17 28 10.1**	**-1.0**
JISG	**Ishigakijimahi**	**2.67**	**75**	P	**Pn**	**17 28 11.4**	**-0.2**
JISG				*e*S	**Sn**	**17 28 42.1**	**-1.4**
KNM	**Kinmen**	**2.83**	**281**	*e*P	**Pn**	**17 28 15.0**	**+1.2**
KNMB	**Chin-men Tao**	**2.88**	**282**	*e*P	**Pn**	**17 28 14.0**	**-0.5**
JTJ	**Tarama**	**3.03**	**76**	*e*P	**Pn**	**17 28 16.9**	**+0.3**
MHZQ	**Yeshan**	**3.11**	**315**	*e*P	**Pn**	**17 28 17.2**	**-0.5**
AXDP	**Jialang**	**3.35**	**288**	*e*P	**Pn**	**17 28 20.3**	**-0.6**
ZPLA	**Ao Xicun**	**3.41**	**271**	*e*P	**Pn**	**17 28 21.6**	**-0.3**
DSXP	**Dongshan**	**3.72**	**268**	*e*P	**Pn**	**17 28 25.9**	**-0.2**
SXFK	**Yanhouchang**	**4.26**	**306**	*e*P	**Pn**	**17 28 32.9**	**-0.7**
KSRS	**Korea Array**	**14.58**	**21**	P	**P**	**17 31 00.9**	**-0.4**
	1.0nm,0.6s,baz=198,slow=11,SNR=5.3						
DAV	**Davao City (W)**	**17.21**	**166**	LR	LR	17 37 34.0	
	comp=Z,67nm,19.1s,baz=267,slow=35						
CMAR	**Chiang Mai Arr**	**21.70**	**260**	P	**P**	**17 32 23.4**	**+3.8**
	0.8nm,0.9s,baz=64,slow=7.9,SNR=7.1						
CMAR				LR	LR	17 41 25.5	
	comp=Z,26nm,18.0s,baz=50,slow=38						
	0.8nm,0.9s						
SONM	**Songino Array**	**26.72**	**337**	P	**P**	**17 33 09.7**	**+1.8**
	0.9nm,0.7s,baz=159,slow=9.2,SNR=6.5						
	0.9nm,0.7s						
KAPI	**Kappang**	**28.80**	**184**	LR	LR	17 44 47.6	
	comp=Z,22nm,19.3s,baz=172,slow=36						
MKAR	**Makanchi Array**	**38.72**	**316**	P	**P**	**17 34 53.7**	**+1.2**
	1.9nm,0.8s,baz=109,slow=10,SNR=23						
	1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**40.62**	**327**	P	**P**	**17 35 08.1**	**-0.1**
	1.7nm,0.8s,baz=111,slow=8.1,SNR=5.9						
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**42.49**	**320**	P	**P**	**17 35 24.1**	**+0.6**
	0.5nm,0.5s,baz=109,slow=9.5,SNR=7.8						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**45.36**	**163**	P	**P**	**17 35 44.6**	**-2.3**
	0.9nm,1.1s,baz=344,slow=7.9,SNR=2.1						
	0.9nm,1.1s						
BVAR	**Borovoye Array**	**48.05**	**321**	P	**P**	**17 36 07.9**	**+0.2**
	1.0nm,0.5s,baz=99,slow=8.9,SNR=7.4						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**48.81**	**165**	P	**P**	**17 36 11.6**	**-2.2**
	0.6nm,0.9s,baz=338,slow=7.7,SNR=3.5						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**83.11**	**23**	P	**P**	**17 39 51.0**	**-2.9**
	0.3nm,0.8s,baz=311,slow=4.9,SNR=4.9						
	0.3nm,0.8s						

TAP 09 17:27:49.3,23°.93N×121°.43E,h19km,ML3.4,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.07**	**55**	*i* P	Pg	17 27 52.9	0.0
ETM				*i* S	Sg	17 27 55.6	+0.3
LXIB	**Xiulin Townshi**	**0.10**	**350**	P	Pg	17 27 53.3	0.0
LXIB				S	Sg	17 27 56.3	+0.3
ESL	**Shilin**	**0.11**	**180**	*i* P	Pg	17 27 53.4	+0.1
ESL				*i* S	Sg	17 27 55.9	0.0
HWA	**Hwalien**	**0.17**	**73**	*i* P	Pg	17 27 54.3	+0.4
HWA				*e*S	Sg	17 27 58.4	+1.4
SHUL	**Shoufeng**	**0.18**	**139**	*i* P	Pg	17 27 54.5	+0.4
SHUL				S	Sg	17 27 58.1	+0.7
WARBT	**Fenglin Townsh**	**0.21**	**191**	P	Pb	17 27 54.2	+0.2
WARBT				*e*S	Sg	17 27 57.9	-0.3
TWD	**Chiawan**	**0.21**	**45**	P	Pg	17 27 54.5	0.0
TWD				*e*S	Sg	17 27 58.6	+0.5
OWD	**Renai**	**0.24**	**277**	*e*P	Pg	17 27 55.5	+0.5
OWD				*e*S	Sg	17 27 59.6	+0.7
TEGC	**Jichi Village**	**0.24**	**155**	*e*P	Pg	17 27 55.3	+0.4
TEGC				*e*S	Sg	17 28 00.6	+1.8
EGFH	**Guangfu**	**0.26**	**181**	*e*P	Pg	17 27 55.3	0.0
EGFH				*e*S	Sg	17 27 59.3	0.0
WHF	**Hehuan Shan**	**0.27**	**325**	*i* P	Pg	17 27 55.8	+0.1
WHF				*e*S	Sg	17 28 00.3	+0.2
ETLH	**Xiulin Townshi**	**0.28**	**9**	*e*P	Pg	17 27 55.7	0.0
NACB	**Ninganchiao**	**0.29**	**31**	*e*P	Pg	17 27 55.5	-0.2
NACB				*e*S	Sg	17 27 59.5	-0.6
ETL	**Fush Village**	**0.29**	**37**	*e*P	Pg	17 27 55.5	-0.2
ETL				*e*S	Sg	17 27 59.7	-0.5
WUSB	**Renai**	**0.29**	**283**	*e*P	Pb	17 27 56.1	+0.1
WUSB				*e*S	Sb	17 28 01.3	+0.8
FUSS	**Fushou**	**0.36**	**332**	*e*P	Pb	17 27 57.4	0.0
FUSS				*e*S	Sb	17 28 03.7	+0.9
TWT	**Tachien**	**0.40**	**324**	*e*P	Pb	17 27 58.3	+0.3
TWT				*e*S	Sb	17 28 05.0	+1.1
TDCB	**Techi**	**0.41**	**322**	*e*P	Pg	17 27 57.8	-0.1
TDCB				*e*S	Sb	17 28 04.7	+0.7
EHY	**Hungye**	**0.43**	**194**	*e*P	Pg	17 27 58.0	-0.2
EHY				*e*S	Sb	17 28 05.3	+0.8
EHYH	**Wanrong**	**0.44**	**190**	*e*P	Pg	17 27 58.1	-0.2
EHYH				*e*S	Sb	17 28 05.5	+0.8
SMLT	**Sun Moon Lake**	**0.49**	**265**	*e*P	Pg	17 27 59.3	0.0
SMLT				*e*S	Sb	17 28 07.1	+0.9
NNSB	**Datong**	**0.50**	**355**	*e*P	Pg	17 27 59.5	-0.1
NNSB				*e*S	Sg	17 28 06.5	+0.1
NNS	**Nan Shan**	**0.51**	**354**	*e*P	Pb	17 27 58.3	+0.6
NNS				*e*S	Sb	17 28 07.7	+0.9
YULB	**Yu-li**	**0.55**	**193**	*e*P	Pb	17 27 59.8	-0.4
YULB				*e*S	Sg	17 28 08.7	+1.1
TWF1	**Yuli**	**0.58**	**192**	*e*P	Pb	17 28 00.9	+0.1
TWF1				*e*S	Sg	17 28 09.8	+1.0
EYUL	**Yuli**	**0.59**	**190**	*e*P	Pb	17 28 00.6	-0.2
EYUL				*e*S	Sg	17 28 09.7	+0.8

*IDC **09** 17:36:30.8±2.7,23°.78S×67°.02W,h159km±25km,mb3.2/3,*
mbtmp3.7/8,Error ellipse: s-maj=29.6km s-min=17.8km
az=73.0
*SJA **09** 17:36:32.7±1.2,23°.86S×66°.93W,h203km±8km,ML3.6,*
MW3.6
*GUC **09** 17:36:34.6±0.7,23°.87S×66°.99W,h190km±10km,ML3.9*
ISC 09 17:36:33.8±0.7,**23°.84S**±0°.04×**66°.97W**±0°.04,**h195**km±6km,
n41,σ1$**50**/54,**mb3.5**/3,**6C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.69**	**124**	‖*i*P	**Pn**	**17 37 01.9**	**+0.1**
SALTA		**0.69**	**124**	*e*P	**Pn**	**17 37 01.8**	**+0.1**
SALTA				*e*S	**Sn**	**17 37 23.6**	**+0.3**
AF01	**San Pedro de A**	**1.42**	**308**	*e*P	**Pn**	**17 37 07.8**	**+1.2**
AF01	**San Pedro de A**	**1.42**	**308**	*e*P	**Pn**	**17 37 08.0**	**+1.4**
AF01				*e*S	**Sn**	**17 37 32.1**	**+0.1**
SLA	**San Lorenzo**	**1.60**	**124**	*e*P	**Pn**	**17 37 08.5**	**+0.4**
SLA	**San Lorenzo**	**1.60**	**124**	*e*P	**Pn**	**17 37 08.5**	**+0.4**
SLA				*e*S	**Sn**	**17 37 34.0**	**-0.9**
AZAP	**Zapla**	**1.78**	**103**	*e*P	**Pn**	**17 37 09.7**	**-0.3**
AZAP				*e*S	**Sn**	**17 37 36.8**	**-1.2**
AZAP				IAML		17 37 39.3	
	comp=Z,154nm,0.9s						
YJA	**Yavi**	**2.13**	**39**	*e*P	**Pn**	**17 37 14.2**	**+0.4**
YJA	**Yavi**	**2.13**	**39**	*e*P	**Pn**	**17 37 14.5**	**+0.7**
YJA				*e*S	**Sn**	**17 37 45.3**	**+0.5**
FSA	**Cafayete**	**2.44**	**159**	*e*P	**Pn**	**17 37 16.7**	**-0.1**
PB06	**IPOC Station P**	**2.64**	**295**	⇑*i*P	**Pn**	**17 37 20.1**	**+0.9**
PB06				*e*S	**Sn**	**17 37 54.0**	**-0.5**
PB06				IAML		17 37 55.8	
	comp=E,271nm,0.1s						
PB06	**IPOC Station P**	**2.64**	**295**	*e*P	**Pn**	**17 37 20.0**	**+0.8**
PB06				IAML		17 37 57.3	
	comp=Z,203nm,0.5s						
GO02	**Mina Guanaco**	**2.73**	**241**	⇑*i*P	**Pn**	**17 37 20.8**	**+0.6**
GO02				*e*S	**Sn**	**17 37 55.9**	**-0.6**
GO02				IAML		17 37 57.7	
	comp=N,490nm,0.2s						
GO02	**Mina Guanaco**	**2.73**	**241**	*e*P	**Pn**	**17 37 20.2**	**0.0**
PB09	**IPOC Station P**	**2.92**	**314**	⇑*i*P	**Pn**	**17 37 23.8**	**+1.4**
PB09				*e*S	**Sn**	**17 38 00.5**	**+0.2**
PB09				IAML		17 38 05.6	
	comp=N,86nm,0.3s						
PB09	**IPOC Station P**	**2.92**	**314**	*e*P	**Pn**	**17 37 23.6**	**+1.2**
PB09				IAML		17 38 09.5	
	comp=Z,82nm,0.5s						
PB03	**IPOC Station P**	**3.12**	**304**	⇑*i*P	**Pn**	**17 37 25.3**	**+0.5**
PB03				IAML		17 38 04.9	
	comp=N,170nm,0.2s						
PB03	**IPOC Station P**	**3.12**	**304**	*e*P	**Pn**	**17 37 25.1**	**+0.3**
PB03				IAML		17 38 05.7	
	comp=Z,173nm,0.5s						
PB14	**IPOC Station P**	**3.23**	**255**	*e*P	**Pn**	**17 37 26.3**	**+0.1**
PB14	**IPOC Station P**	**3.23**	**255**	*e*P	**Pn**	**17 37 26.5**	**+0.3**
PB14				*e*S	**Sn**	**17 38 06.6**	**-0.6**
PB14				IAML		17 38 07.4	
	comp=Z,65nm,0.7s						
AC02	**Maricunga**	**3.57**	**213**	*e*P	**Pn**	**17 37 31.0**	**+0.5**
AC02	**Maricunga**	**3.57**	**213**	*e*P	**Pn**	**17 37 31.1**	**+0.5**
AC02				*e*S	**Sn**	**17 38 18.9**	**+4.0**
PB01	**IPOC Station P**	**3.63**	**320**	*e*P	**Pn**	**17 37 31.3**	**+0.4**
PB01	**IPOC Station P**	**3.63**	**320**	*e*P	**Pn**	**17 37 31.4**	**+0.5**
PB01				IAML		17 38 19.5	
	comp=Z,78nm,0.1s						
AC01	**Pan de Azucar**	**4.02**	**234**	⇑*i*P	**Pn**	**17 37 34.6**	**-1.0**
AC01				*i* S	**Sn**	**17 38 20.8**	**-3.3**
AC01	**Pan de Azucar**	**4.02**	**234**	*e*P	**Pn**	**17 37 34.6**	**-1.0**
AC01				IAML		17 38 23.0	
	comp=Z,75nm,0.3s						
TA01	**Diego Aracena**	**4.41**	**317**	*i* P	**Pn**	**17 37 40.3**	**-0.3**
TA01				*i* S	**Sn**	**17 38 30.1**	**-3.0**
TA01	**Diego Aracena**	**4.41**	**317**	*e*P	**Pn**	**17 37 40.1**	**-0.5**

AGPR IAML 18 11 39.3
comp=N,3μm,0.6s
AGPR IAML 18 11 40.1
comp=E,2μm,0.5s
AGPR Aguadilla, PR 1.06 120⇓ePg Pg 18 11 18.2 -0.4
AGPR eSg Sn 18 11 33.8 +0.3
AGPR IAML 18 11 39.2
comp=N,3μm,0.5s
AGPR Aguadilla, PR 1.06 120⇓eP Pg 18 11 18.4 -0.2
AGPR Aguadilla, PR 1.06 120 eS Sn 18 11 35.6 +2.0
AGPR Aguadilla, PR 1.06 120 i P Pg 18 11 18.3 -0.4
AGPR IAML 18 11 39.3
comp=Z,2μm,0.4s
SMDR Samana, DR 1.08 285⇑ePg Pn 18 11 20.1 +1.1
SMDR ⇓eSg Sn 18 11 36.8 +2.8
SMDR IAML 18 11 39.9
comp=N,3μm,0.2s
PRSN Puerto Rico Se 1.19 131 Pb 18 11 19.8 -0.7
PRSN Sb 18 11 34.3 -1.5
PRSN Puerto Rico Se 1.19 131⇓ePg Pb 18 11 20.4 -0.1
PRSN ⇑eSg Sn 18 11 38.0 +1.6
PRSN IAML 18 11 42.0
comp=N,5μm,0.3s
PRSN Puerto Rico Se 1.19 131⇓eP Pb 18 11 20.4 -0.1
PRSN Puerto Rico Se 1.19 131 eS Sn 18 11 38.1 +1.7
LSP Las Mesas 1.25 131 Pn 18 11 21.2 -0.2
LSP Sn 18 11 40.0 +1.7
LSP Las Mesas 1.25 131⇓eP Pn 18 11 21.2 -0.2
LSP Las Mesas 1.25 131 eS Sn 18 11 40.0 +1.7
CRPR Cabo Rojo, PR 1.36 137 Pn 18 11 22.0 -0.8
CRPR Sb 18 11 39.4 -1.3
CRPR Cabo Rojo, PR 1.36 137⇓eP Pn 18 11 22.6 -0.2
CRPR Cabo Rojo, PR 1.36 137 eS Sg 18 11 41.9 +0.1
CRPR Cabo Rojo, PR 1.36 137 i P Pn 18 11 22.6 -0.2
CRPR IAML 18 11 49.3
comp=Z,2μm,0.3s
AOPR Arecibo Observ 1.42 117 Pn 18 11 24.1 +0.4
AOPR Arecibo Observ 1.42 117 Sb 18 11 42.5 -0.1
AOPR IAML 18 11 47.5
comp=N,2μm,0.5s
AOPR IAML 18 11 51.8
comp=E,4μm,0.4s
AOPR Arecibo Observ 1.42 117⇑ePg Pg 18 11 25.9 +0.5
AOPR IAML 18 13 26.1
comp=N,90nm,1.0s
AOPR Arecibo Observ 1.42 117 eP Pn 18 11 23.8 +0.1
AOPR Arecibo Observ 1.42 117⇓eP Pn 18 11 24.1 +0.4
AOPR Arecibo Observ 1.42 117 eS Sg 18 11 46.4 +2.5
MLPR Magueyes Islan 1.43 136⇓ePg Pn 18 11 23.5 -0.2
MLPR ⇑eSg Sg 18 11 43.7 -0.3
MLPR IAML 18 11 47.9
comp=N,288nm,0.5s
MLPR Magueyes Islan 1.43 136⇑eP Pn 18 11 23.7 -0.1
MLPR Magueyes Islan 1.43 136 eS Sg 18 11 43.5 -0.5
UUPR Utuado, UPR, P 1.49 120 Sg 18 11 48.5 +2.3
UUPR Utuado, UPR, P 1.49 120 Pn 18 11 24.5 -0.2
UUPR Utuado, UPR, P 1.49 120⇑eP Pn 18 11 25.0 +0.3
UUPR Utuado, UPR, P 1.49 120 eS Sg 18 11 48.5 +2.3
GBPR Guanica, Bosqu 1.53 132 Pb 18 11 26.0 -0.5
GBPR Sg 18 11 46.6 -0.9
GBPR Guanica, Bosqu 1.53 132⇑eP Pb 18 11 26.0 -0.5
GBPR Guanica, Bosqu 1.53 132 eS Sg 18 11 46.6 -0.9
EMPR Esperanza - Ma 1.56 109 Sg 18 11 49.5 +1.1
EMPR Esperanza - Ma 1.56 109 Pn 18 11 26.4 +0.8
EMPR IAML 18 11 53.0
comp=N,1μm,0.6s
EMPR IAML 18 11 55.4
comp=E,2μm,0.4s
EMPR Esperanza - Ma 1.56 109⇑eP Pb 18 11 27.1 +0.1
EMPR Esperanza - Ma 1.56 109 eS Sg 18 11 49.5 +1.1
OBIP Obispado Ponce 1.70 124 Pn 18 11 27.2 -0.3
OBIP Obispado Ponce 1.70 124 Sn 18 11 48.8 -0.3
OBIP IAML 18 11 54.9
comp=N,1μm,0.5s
OBIP Obispado Ponce 1.70 124⇑eP Pn 18 11 27.2 -0.3
OBIP Obispado Ponce 1.70 124 eS Sg 18 11 51.6 -1.2
CELP Cerrillos 1.70 123 Pb 18 11 28.6 -0.7
CELP Cerrillos 1.70 123 Sn 18 11 48.3 -0.9
CELP IAML 18 11 55.3
comp=E,1μm,0.7s
CELP IAML 18 11 56.5
comp=N,2μm,0.4s
CELP Cerrillos 1.70 123⇑ePg Pb 18 11 28.9 -0.4
CELP ⇓eSg Sg 18 11 53.1 +0.2
CELP IAML 18 11 56.4
comp=N,2μm,0.3s
CELP Cerrillos 1.70 123⇓eP Pb 18 11 28.6 -0.7
CELP Cerrillos 1.70 123 eS Sg 18 11 53.1 +0.2
NADR Nagua 1.71 282⇑ePg Pb 18 11 30.5 +1.0
NADR ⇓eSg Sg 18 11 55.3 +2.1
NADR IAML 18 12 01.9
comp=N,8μm,0.3s
LONA1 Toro Cenizo, N 1.72 283 i P Pn 18 11 12.7 -15
LONA1 eS Sn 18 11 37.8 -12
ECPR Experimental S 1.77 112⇓eP Pn 18 11 29.6 +1.1
ECPR Experimental S 1.77 112 eS Sb 18 11 53.5 +0.9
SDD Santo Domingo 1.82 253 Pn 18 11 30.5 +1.3
SDD IAML 18 12 01.4
comp=E,2μm,0.5s
SDD IAML 18 12 02.0
comp=N,2μm,0.6s
SDD Santo Domingo 1.82 253⇓ePg Pg 18 11 33.1 +0.1
SDD ⇓eSg Sg 18 11 55.7 -0.9
SDD IAML 18 12 01.9
comp=N,231nm,0.5s
SDD Santo Domingo 1.82 253 i P Pb 18 11 32.0 +0.7
SDD eS Sb 18 11 54.8 +0.8
DR08 Loma La Naviza 1.83 269⇑ePg Pb 18 11 32.1 +0.5
DR08 ⇑eSg Sg 18 11 56.9 -0.3
DR08 IAML 18 11 59.7
comp=N,54μm,0.2s
GCPR Guaynabo City 2.02 110 Pn 18 11 32.4 +0.5
GCPR Sn 18 11 55.7 -1.3
GCPR Guaynabo City 2.02 110⇑eP Pb 18 11 34.0 -0.7
GCPR Guaynabo City 2.02 110 eS Sb 18 12 00.6 +0.8
SJG San Juan 2.04 116 Pn Pn 18 11 32.4 +0.3
SJG San Juan 2.04 116 IAML 18 12 02.5
comp=N,1μm,0.6s
SJG IAML 18 12 03.7
comp=N,638nm,0.6s
SJG San Juan 2.04 116⇓ePg Pb 18 11 34.0 -1.0
SJG ⇑eSg Sb 18 12 01.1 +0.8
SJG San Juan 2.04 116 eP Pb 18 11 34.0 -1.0
SJG San Juan 2.04 116⇑eP Pn 18 11 32.5 +0.3
SJG San Juan 2.04 116 eS Sb 18 12 01.2 +0.8
SJG San Juan 2.04 116 i P Pb 18 11 34.4 -0.6
SJG IAML 18 12 09.8
comp=Z,388nm,0.5s
IGPR InterUniversit 2.14 119 Pn 18 11 34.8 +1.1
IGPR Sn 18 11 59.7 -0.4
IGPR IAML 18 12 08.7
comp=E,888nm,0.3s
IGPR IAML 18 12 14.2
comp=N,740nm,0.3s
IGPR InterUniversit 2.14 119⇑eP Pn 18 11 35.4 +1.8
IGPR InterUniversit 2.14 119 eS Sb 18 12 04.1 +0.8
PDPR Patillas Dam, 2.19 116 Pn 18 11 35.7 +1.4
PDPR Patillas Dam, 2.19 116⇓eP Pn 18 11 36.0 +1.8
PDPR Patillas Dam, 2.19 116 eS Sb 18 12 05.1 +0.4
BANI BANI 2.24 255 Pn Pb 18 11 37.4 -1.2
BANI IAML 18 12 13.0
comp=E,2μm,0.5s
HUMP Col San Antoni 2.29 112 Pn 18 11 36.9 +1.3
HUMP IAML 18 12 13.8
comp=E,402nm,0.2s
HUMP Col San Antoni 2.29 112⇓eP Pn 18 11 37.1 +1.5
HUMP Col San Antoni 2.29 112 eS Sb 18 12 06.7 -0.8
ABDR Alto Bandera 2.42 266⇓ePg Pb 18 11 41.5 -0.2
ABDR ⇓eSg Sb 18 12 12.4 +0.8
ABDR IAML 18 12 18.3
comp=N,1μm,0.3s
SC01 Santiago de lo 2.53 280 Pb 18 11 44.0 +0.5
SC01 Santiago de lo 2.53 280 i P Pb 18 11 44.6 +1.1
SC01 IAML 18 12 32.1
comp=Z,747nm,0.6s
SDDR Presa de Saban 3.03 270 Pb 18 11 49.9 -2.1
SDDR Presa de Saban 3.03 270 eP Pb 18 11 50.0 -2.0
SDDR eS Sn 18 12 25.8 +3.6
SDDR Presa de Saban 3.03 270 eP Pb 18 11 50.1 -2.0
SDDR Presa de Saban 3.03 270 i P Pb 18 11 50.2 -1.8
SDDR IAML 18 12 35.4
comp=Z,373nm,0.3s
PODR Polo 3.15 255 i P Pb 18 11 52.0 -2.0

LONE3 El Aguacate, B 3.22 263 i P Pb 18 11 54.7 -0.6
LONE3 IAML 18 12 48.6
comp=Z,166nm,0.8s
LODU1 El Espartillar 3.28 259 i P Pb 18 11 55.3 -0.9
LODU1 IAML 18 12 47.8
comp=Z,355nm,1.0s
LOBH Bahia de las A 3.56 252 i P Pn 18 11 57.3 +4.2
LOBH IAML 18 12 56.5
comp=Z,84nm,0.3s
GRTK Grand Turk 3.80 312 Pn Pn 18 11 57.2 +0.8
GRTK IAML 18 12 43.3
comp=Z,170nm,0.2s
GRTK IAML 18 12 43.4
comp=Z,152nm,0.4s
GRTK Grand Turk 3.80 312 eP Pn 18 11 57.4 +1.0
GRTK eS Sn 18 12 35.3 -5.7
GRTK IAML 18 12 43.1
comp=Z,169nm,0.2s
GRTK IAML 18 12 43.2
comp=Z,189nm,0.3s
GRTK Grand Turk 3.80 312 i P Pn 18 11 57.2 +0.8
GRTK eS Sn 18 12 40.9 -0.1
GRTK IAML 18 12 44.2
comp=Z,34nm,0.2s
PAPH Port-au-Prince 4.02 264 Pn Pn 18 12 01.5 +1.9
ANBD Bethesda, Anti 6.32 107 eP Pn 18 12 34.3 +3.2
QMBU Quimbuelo 6.45 282 eP Pn 18 12 30.9 -2.1
QMBU eS Sn 18 13 37.7 -8.9
QMBU IAML 18 13 51.3
comp=N,27nm,0.3s
QMBU IAML 18 13 52.6
comp=E,35nm,0.2s
GTBY Guantanamo Bay 6.69 279 eP Pn 18 12 33.8 -2.4
GTBY eS Sn 18 13 47.7 -4.8
PINC Pinares de May 7.41 283 eP Pn 18 12 45.4 -0.6
CHIV Chivirico 7.92 278 Pn Pn 18 12 54.5 +1.5
BIM Bigot 8.06 123 Pn Pn 18 12 55.7 +0.6
SMRC Santa Marta, M 9.79 218 Pn Pn 18 13 16.2 -2.6
BBSR BB Station 13.65 12 Pn Pn 18 14 12.8 +1.3
RUSC La Rusia 13.91 201 Pn Pn 18 14 14.0 -1.7

*IDC **09** 18:12:38.7±0.9, 3.′44N×126.′50E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=85.6km s-min=15.6km az=70.0*
*NEIC **09** 18:12:42.5±1.9, 3.′85N±0.′08×127.′1E±0.′1, h35km±1km, mb4.5/21, Error ellipse: s-maj=19.4km s-min=9.1km az=236.0*
ISC 09 18:12:42.8±0.6, 3.′76N±0.′07×127.′0E±0.′1, h36km, n39, σ1§48/40, mb4.0/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.98**	**174**	Pn	**Pn**	**18 13 29.1**	**+1.6**
TNTI				Sn	**Sn**	**18 14 04.3**	**+2.2**
LUWI	**Luwuk**	**6.39**	**222**	Pn	**Pn**	**18 14 15.7**	**+1.2**
TOLI2	**Tolitoli**	**6.78**	**247**		**Pn**	**18 14 20.6**	**+0.8**
FAKI	**Fak Fak**	**8.43**	**142**	Pn	**Pn**	**18 14 44.1**	**+1.7**
MYLDM	**Lahad Datu**	**8.63**	**280**	Pn	**Pn**	**18 14 47.2**	**+2.0**
MTN	**Manton Dam**	**16.99**	**166**	Pn	**Pn**	**18 16 35.8**	**-1.9**
MTN				IAmb	IAmb	18 16 58.0	
KNRA	**Kununurra**	**19.38**	**175**	P	**P**	**18 17 03.9**	**-1.8**
KNRA				IAmb	IAmb	18 17 30.8	
YULB	**Yu-li**	**20.30**	**345**	P	**P**	**18 17 15.0**	**-0.6**
YULB				IAmb	IAmb	18 17 27.8	
TPUB	**Ta-pu**	**20.39**	**343**	P	**P**	**18 17 15.5**	**-1.2**
TPUB				IAmb	IAmb	18 17 19.5	
SSLB	**Suanglung**	**20.76**	**344**	P	**P**	**18 17 20.0**	**-0.6**
SSLB				IAmb	IAmb	18 17 25.6	
NACB	**Ninganchiao**	**20.97**	**346**	P	**P**	**18 17 21.5**	**-1.3**
NACB				IAmb	IAmb	18 17 54.7	
FITZ	**Fitzroy Crossi**	**21.76**	**184**	P	**P**	**18 17 28.9**	**-2.4**
HKPS	**Hong Kong Po S**	**22.26**	**327**	P	**P**	**18 17 36.7**	**0.0**
UBPT	**Khong Chiam**	**24.12**	**300**	P	**P**	**18 17 54.5**	**-1.0**
WB0	**Warramunga Arr**	**24.47**	**163**	P	**P**	**18 17 57.7**	**-0.8**
WB0				IAmb	IAmb	18 18 06.1	
WRAB	**Tennant Creek**	**24.61**	**163**	P	**P**	**18 17 59.5**	**-0.3**
WRAB				IAmb	IAmb	18 18 31.8	
WRA	**Warramunga Arr**	**24.62**	**163**	P	**P**	**18 17 59.7**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=342,slow=10,SNR=16						
	comp=Z,3.1nm,0.7s						
WB2	**Warramunga Arr**	**24.62**	**163**	P	**P**	**18 17 59.5**	**-0.4**
WB2				IAmb	IAmb	18 18 31.9	
	comp=Z,7.2nm,0.9s						
ASAR	**Alice Springs**	**28.07**	**167**	P	**P**	**18 18 30.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=343,slow=6.7,SNR=7.9						
	comp=Z,0.3nm,0.6s						
KSRS	**Korea Array**	**33.55**	**1**	P	**P**	**18 19 23.0**	**+3.8**
	comp=Z,0.7nm,0.7s,baz=183,slow=8.6,SNR=4.1						
	comp=Z,0.7nm,0.7s						
FORT	**Forrest**	**34.35**	**178**	P	**P**	**18 19 26.8**	**+0.5**
PBA	**Port Blair**	**34.85**	**285**	P	**P**	**18 19 29.9**	**-0.9**
BBOO	**Buckleboo**	**37.36**	**167**	P	**P**	**18 19 51.6**	**-0.4**
BBOO				IAmb	IAmb	18 20 30.1	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**38.05**	**160**	P	**P**	**18 19 57.2**	**-0.6**
STKA	**Stephens Creek**	**38.05**	**160**	P	**P**	**18 19 58.2**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=329,slow=11,SNR=6.2						
	comp=Z,2.5nm,0.6s						
SONM	**Songino Array**	**47.37**	**341**	P	**P**	**18 21 16.0**	**+2.5**
	comp=Z,0.6nm,0.6s,baz=149,slow=6.7,SNR=5.1						
	comp=Z,0.6nm,0.6s						
MK31	**Makanchi Array**	**57.71**	**325**	P	**P**	**18 22 28.5**	**-1.4**
MKAR	**Makanchi Array**	**57.71**	**325**	P	**P**	**18 22 29.2**	**-0.7**
MKAR	**Makanchi Array**	**57.71**	**325**	P	**P**	**18 22 31.3**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=119,slow=7.9,SNR=10						
	comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**57.90**	**325**	P	**P**	**18 22 30.1**	**-1.1**
MAKZ				IAmb	IAmb	18 22 45.2	
	comp=Z,5.6nm,1.4s						
ZALV	**Zalesovo Beam**	**60.70**	**333**	P	**P**	**18 22 50.5**	**+0.1**
ZALV	**Zalesovo Beam**	**60.70**	**333**	P	**P**	**18 22 51.4**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=123,slow=7.4,SNR=2.3						
	comp=Z,0.5nm,0.5s						
INZ	**Inchbonnie**	**61.23**	**144**	P	**P**	**18 22 53.6**	**-0.5**
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	**P**	**18 22 59.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=124,slow=6.0,SNR=9.7						
	comp=Z,0.8nm,0.7s						
KKAR	**Karatay Array**	**63.42**	**317**	P	**P**	**18 23 07.3**	**-1.6**
BVAR	**Borovoye Array**	**67.47**	**327**	P	**P**	**18 23 36.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=122,slow=11,SNR=4.5						
	comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**72.33**	**321**	P	**P**	**18 24 03.2**	**-1.6**
ABKAR	**Akbulak array**	**72.33**	**321**	P	**P**	**18 24 03.4**	**-1.4**
ABKAR				IAmb	IAmb	18 24 08.8	
	comp=Z,1.1nm,0.9s						
P08K	**Saint George I**	**72.47**	**31**	P	**P**	**18 24 02.9**	**-2.6**

*NEIC **09** 18:23:24.7±1.4, 61.′42N±0.′02×150.′01W±0.′05, h43km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=115.0*
AEIC 09 18:23:25.4±1.2, 61.′39N±0.′01×150.′04W±0.′04, h38km±4km, ML2.8, ML3.1/144(NEIC), **Error ellipse: s-maj=3.3km s-min=1.2km az=57.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.26**	**199**		Pn	18 23 33.4	-0.2
FIS				IAML		18 23 41.3	
	comp=E,2μm,0.4s						
FIS				IAML		18 23 41.4	
	comp=N,3μm,0.6s						
RC01	**Rabbit Creek A**	**0.33**	**154**		Pn	18 23 33.0	-0.9
RC01				Sn	Sn	18 23 39.7	-0.7
RC01				IAML		18 23 40.2	
	comp=N,1μm,0.3s						
RC01				IAML		18 23 45.0	
	comp=E,1μm,0.2s						
SUA	**Susitna One**	**0.35**	**283**		Pn	18 23 33.4	-0.8
SUA				Sn	Sn	18 23 40.2	-0.7
SUA				IAML		18 23 40.9	
	comp=E,2μm,0.8s						
SUA				IAML		18 23 41.1	
	comp=N,1μm,0.7s						
M22K	**Willow**	**0.37**	**354**		Pn	18 23 33.0	-1.2
M22K					Sn	18 23 40.5	-0.2

M22K Willow 0.37 354 IAML 18 23 41.0
comp=E,1μm,0.3s
M22K IAML 18 23 45.0
comp=N,1μm,0.3s
PMR Palmer 0.48 64 Pn 18 23 34.4 -1.4
PMR Sn Sn 18 23 42.2 -0.9
PMR IAML 18 23 42.9
comp=E,1μm,0.4s
PMR IAML 18 23 43.0
comp=N,1μm,0.4s
GHO Glory Hole Cre 0.66 54 Pn 18 23 37.0 -1.4
GHO Sn Sn 18 23 46.4 -1.1
GHO IAML 18 23 47.7
comp=N,603nm,0.6s
GHO IAML 18 23 48.0
comp=E,792nm,0.3s
KNK Knik Glacier 0.76 87 Pn 18 23 38.6 -1.0
KNK Sn Sn 18 23 49.6 -0.3
KNK IAML 18 23 52.9
comp=N,629nm,0.6s
KNK IAML 18 23 53.4
comp=E,738nm,0.4s
CAPN Captain Cook N 0.82 222 Sn Sn 18 23 53.7 +2.3
STLK Strandline Lak 0.87 278 Pn 18 23 40.4 -0.8
STLK Sn Sn 18 23 52.4 -0.3
STLK IAML 18 23 52.9
comp=E,480nm,0.3s
SLKM Skilak Lake 0.89 186 Sn Sn 18 23 53.3 +0.2
SML Sawmill 0.92 62 Pn 18 23 40.6 -1.3
SML Sn Sn 18 23 53.2 -0.7
O22K Cooper Landing 0.92 170 Sn Sn 18 23 53.5 -0.3
SKT Skwentna 0.93 311 Pn 18 23 40.7 -1.2
SKT Sn Sn 18 23 53.3 -0.7
SPCG Spurr Capps Gl 0.96 265 Pn 18 23 41.7 -0.8
PWL Port Wells 0.98 122 Pn 18 23 41.7 -1.0
PWL Sn Sn 18 23 55.6 +0.2
CUT Chulitna 1.03 354 Pn 18 23 42.1 -1.1
CUT Sn Sn 18 23 55.6 -0.7
SPCR Spurr Chakacha 1.06 261 Pn 18 23 42.9 -1.0
SPCR Spurr Chakacha 1.06 261 Pn 18 23 43.0 -0.8
CKL Chakachamna La 1.12 261 Pn 18 23 43.9 -0.8
SPBG Spurr Blockage 1.13 264 Pn 18 23 44.1 -0.7
SPBG Sn 18 23 59.5 +0.4
M23K Glacier View 1.18 69 Pn 18 23 44.9 -0.5
SEW Seward 1.32 167 Pn 18 23 45.9 -1.4
SCM Sheep Creek Mo 1.37 70 Pn 18 23 47.6 -0.5
SCM Sn Sn 18 24 04.3 -0.8
SCM IAML 18 24 07.5
comp=E,566nm,0.7s
SCM IAML 18 24 08.2
comp=N,352nm,0.5s
RDT Redoubt 1.41 236 Pn 18 23 47.8 -0.8
GLI Glacier Island 1.52 108 Pn 18 23 48.9 -1.1
GLI Sn Sn 18 24 08.5 0.0
GLI IAML 18 24 13.7
comp=N,240nm,0.3s
GLI IAML 18 24 15.3
comp=E,186nm,0.4s
M20K Styx River 1.56 290 Sn Sn 18 24 10.0 +0.4
RDJH Redoubt Jeurge 1.57 241 Pn 18 23 50.2 -0.6
RDWB Redoubt West 1.64 238 Pn 18 23 51.2 -0.6
RDWB Sn 18 24 12.5 +0.8
BRLK Bradley Lake 1.68 195 Pn 18 23 51.6 -0.7
BRLK Sn Sn 18 24 11.1 -1.5
BRLK IAML 18 24 17.0
comp=E,190nm,0.4s
BRLK IAML 18 24 17.6
comp=N,201nm,0.4s
BRSE Bradley Lake S 1.69 192 Pn 18 23 51.5 -0.8
PPLA Purkeypile 1.82 327 Pn 18 23 53.1 -1.2
PPLA Purkeypile 1.82 327 Sn 18 24 17.7 +1.5
O20K Slope Mountain 1.82 225 Pn 18 23 54.5 +0.2
P23K Montague Islan 1.91 136 Pn 18 23 55.8 +0.4
HOM Homer 1.91 205 Pn 18 23 54.8 -0.6
HOM IAML 18 24 28.1
comp=N,311nm,1.0s
CNPM China Poot 1.96 198 Pn 18 23 55.2 -0.9
CNPM IAML 18 24 24.5
comp=E,142nm,0.5s
CNPM IAML 18 24 24.8
comp=N,165nm,0.4s
M24K Tolsona, Glenn 1.98 67 Sn Sn 18 24 17.5 -2.3
KLU Klutina 1.98 85 Pn 18 23 55.6 -0.9
KLU IAML 18 24 29.8
comp=N,113nm,0.4s
HIN Hinchinbrook I 2.00 118 Pn 18 23 55.2 -1.4
HIN IAML 18 24 27.5
comp=N,157nm,0.8s
HIN IAML 18 24 28.3
comp=E,161nm,1.3s
ILS Iliamna Low So 2.07 227 Pn 18 23 57.9 +0.2
TRF Thorofare Moun 2.07 357 Pn 18 23 56.1 -1.6
TRF Thorofare Moun 2.07 357 Sn 18 24 22.7 +0.2
ILSW Iliamna Southw 2.08 229 Pn 18 23 57.6 -0.2
DIV Divide 2.08 95 Pn 18 23 56.7 -1.1
RND Reindeer 2.10 15 Pn 18 23 56.9 -1.2
L20K Farewell, AK 2.12 303 Pn 18 23 58.3 0.0
KTH Kantishna Hill 2.21 350 Pn 18 23 58.9 -0.7
KTH Kantishna Hill 2.21 350 Sn 18 24 27.1 +1.4
CAST Castle Rocks 2.25 336 Pn 18 23 58.9 -1.1
EYAK Cordova Ski Ar 2.26 110 Pn 18 23 59.6 -0.5
P19K Oil Pt 2.35 224 Pn Pn 18 24 01.7 +0.2
P19K IAML 18 24 34.6
comp=N,126nm,0.6s
P19K IAML 18 24 35.3
comp=E,122nm,0.8s
MCK McKinley 2.41 12 Pn 18 24 01.2 -1.0
O19K Port Alsworth 2.42 242 Pn 18 24 01.4 -0.9
O19K IAML 18 24 33.6
comp=E,128nm,0.4s
O19K IAML 18 24 36.3
comp=N,82nm,0.5s
HARP HAARP 2.52 64 Pn 18 24 04.0 +0.1
N25K Chitina, Valde 2.62 83 Pn 18 24 04.5 -0.7
BMRM Bremner River 2.67 97 Pn 18 24 04.4 -1.4
PAX Paxson 2.67 51 Pn 18 24 05.7 -0.2
Q23K Middleton Isla 2.69 135 Pn Pn 18 24 05.6 -0.4
CHUM Lake Minchumin 2.71 338 Pn 18 24 05.9 -0.5
BPAW Bear Paw Mtn. 2.76 351 Pn 18 24 06.0 -1.0
M18K Stony River 2.78 275 Pn 18 24 07.0 -0.3
N18K Kilae Creek 2.93 259 Pn Pn 18 24 08.6 -0.8
O18K Koktuh Hills 2.98 241 Pn Pn 18 24 08.7 -1.3
O18K IAML 18 24 54.4
comp=N,41nm,1.4s
O18K IAML 18 25 11.3
comp=E,39nm,3.7s
GLB Gilahina Butte 3.00 86 Pn 18 24 08.8 -1.5
GLB IAML 18 24 59.3
comp=N,44nm,0.8s
HMT Hamilton 3.02 108 Pn Pn 18 24 08.5 -2.1
HMT IAML 18 24 57.4
comp=N,101nm,1.4s
SYI Shuyak Island 3.03 204 Pn Pn 18 24 09.6 -1.1
SYI IAML 18 24 53.8
comp=E,61nm,2.0s
SYI IAML 18 25 47.2
comp=N,55nm,3.9s
Q19K Cape Douglas, 3.06 218 Pn Pn 18 24 10.4 -0.7
KAIM Kayak Island 3.13 115 Pn Pn 18 24 11.6 -0.5
VRDI Verde Repeater 3.18 90 Pn 18 24 11.8 -1.3
VRDI IAML 18 25 13.7
comp=N,35nm,3.8s
TTA Tatalina 3.20 302 Pn 18 24 12.4 -0.8
WRH Wood River Hil 3.22 15 Pn 18 24 12.3 -1.0
NEA2 Nenana 3.25 7 Pn Pn 18 24 13.1 -0.7
P18K Big Mountain, 3.26 234 Pn Pn 18 24 14.3 +0.4
P18K IAML 18 24 52.8
comp=N,31nm,3.6s
P18K IAML 18 25 50.0
comp=E,38nm,3.4s
HDA Harding Lake 3.35 24 Pn 18 24 14.6 -0.5
HDA IAML 18 25 15.8
comp=N,32nm,0.6s
MENT Mentasta 3.35 60 Pn 18 24 14.7 -0.5
MENT IAML 18 25 09.4
comp=N,57nm,0.9s
MENT IAML 18 25 20.6
comp=E,45nm,0.8s
RIDG Independent Ri 3.37 43 Pn 18 24 13.7 -1.8
RIDG IAML 18 25 04.5
comp=N,30nm,0.6s
RIDG IAML 18 25 05.1
comp=E,45nm,0.9s

M26K	Nabesna, AK	3.49	70	Pn	Pn	18 24 16.5	-0.6
L26K	Log Cabin Wild	3.54	59	Pn	Pn	18 24 18.3	+0.5
L26K				IAML		18 25 14.0	
	comp=N,34nm,1.0s						
L26K				IAML		18 25 15.7	
	comp=E,33nm,0.6s						
DOT	Dot Lake	3.58	48	Pn	Pn	18 24 18.6	+0.2
ILAR	Eielson Array	3.69	22	Pn	Pn	18 24 20.0	+0.3
IL03	Eielson Array	3.69	22	Pn	Pn	18 24 19.8	-0.1
SCRK	Sand Creek	3.81	44	Pn	Pn	18 24 21.0	-0.6
SCRK				IAML		18 25 25.1	
	comp=E,22nm,2.0s						
KDAK	Kodiak Island	3.84	201	Pn	Pn	18 24 19.3	-2.6
KDAK				IAML		18 26 19.4	
	comp=E,56nm,4.2s						
KDAK				IAML		18 26 45.2	
	comp=E,57nm,2.7s						
I21K	Tanana	3.91	348	Pn	Pn	18 24 22.8	0.0
I21K				IAML		18 25 01.3	
	comp=E,23nm,3.7s						
I21K				IAML		18 25 12.7	
	comp=N,27nm,2.8s						
POKR	Poker Plat Res	3.92	16	Pn	Pn	18 24 23.2	+0.1
I20K	Naaghedeneel	3.97	331	Pn	Pn	18 24 22.0	-1.6
M27K	Edge Creek, AK	3.99	72	Pn	Pn	18 24 22.6	-1.4
M27K				IAML		18 25 25.4	
	comp=N,24nm,4.2s						
M27K				IAML		18 26 09.2	
	comp=E,17nm,4.5s						
MESA	MESA	4.15	103	Pn	Pn	18 24 24.2	-2.1
YAH	Yahtse	4.18	101	Pn	Pn	18 24 25.5	-1.3
L27K	Beaver Creek,	4.20	63	Pn	Pn	18 24 25.9	-0.9
BCAR	Beaver Creek A	4.21	63	Pn	Pn	18 24 26.9	-0.2
J26L	Joseph Creek	4.30	41	Pn	Pn	18 24 28.1	-0.2
J26L				IAML		18 25 37.9	
	comp=E,15nm,2.6s						
M16K	Timber Creek	4.33	269	Pn	Pn	18 24 27.9	-0.7
O16K	Kokwok River B	4.37	249	Pn	Pn	18 24 28.9	-0.2
O16K				IAML		18 25 55.4	
	comp=E,40nm,4.3s						
H23K	Yukon River	4.46	3	Pn	Pn	18 24 30.7	+0.3
H23K				IAML		18 26 30.1	
	comp=N,15nm,4.4s						
H23K				IAML		18 27 17.3	
	comp=E,17nm,4.5s						
OHAK	Old Harbor	4.50	203	Pn	Pn	18 24 29.6	-1.2
L16K	Owhat River	4.53	278	Pn	Pn	18 24 29.1	-2.1
H24K	Noodor Dome	4.57	11	Pn	Pn	18 24 31.1	-0.8
H24K				IAML		18 25 49.4	
	comp=E,19nm,4.7s						
H24K				IAML		18 26 29.7	
	comp=N,12nm,4.0s						
PRP	Porcupine Dome	4.61	24	Pn	Pn	18 24 31.5	-1.1
PRP				IAML		18 25 26.3	
	comp=N,11nm,3.7s						
PRP				IAML		18 26 02.1	
	comp=E,11nm,3.2s						
PCA	Pinnacle	4.97	101	Pn	Pn	18 24 37.0	-0.5
I26K	Coal Creek Min	5.01	35		Pn	18 24 34.6	-3.3
I26K				IAML		18 25 18.9	
	comp=N,17nm,3.6s						
I26K				IAML		18 26 11.7	
	comp=E,15nm,1.8s						
H19K	Roundabout Mou	5.05	328	Pn	Pn	18 24 38.2	-0.2
H19K				IAML		18 25 26.9	
	comp=N,20nm,4.0s						
H19K				IAML		18 26 01.8	
	comp=E,18nm,3.8s						
J16K	Anvik River	5.28	296		Pn	18 24 39.9	-1.6
H18K	Honhosa River	5.33	319	Pn	Pn	18 24 41.9	-0.4
G23K	Bananza Creek	5.34	0	Pn	Pn	18 24 40.6	-1.9
G23K				IAML		18 27 06.8	
	comp=E,12nm,4.0s						
G23K				IAML		18 27 48.6	
	comp=N,16nm,4.7s						
G24K	Hadweenzic Riv	5.45	11	Pn	Pn	18 24 43.1	-0.8
I17K	Unalakleet	5.52	302	Pn	Pn	18 24 43.8	-1.1
K15K	Wolf Creek Mou	5.52	284	Pn	Pn	18 24 43.5	-1.3
M29M	Somme Creek	5.57	74	Pn	Pn	18 24 43.8	-2.0
DAWY	Dawson	5.58	57	Pn	Pn	18 24 43.6	-2.2
FYU	Fort Yukon	5.61	20	Pn	Pn	18 24 44.3	-1.9
H17K	Granite Mounta	5.71	313	Pn	Pn	18 24 45.8	-1.8
M14K	Bethel	5.82	269	Pn	Pn	18 24 47.7	-1.3
COLD	Coldfoot	5.86	359	Pn	Pn	18 24 47.0	-2.6
G18K	Tagagawik	5.93	323	Pn	Pn	18 24 49.1	-1.4
L14K	Kuka Creek	6.08	275	Pn	Pn	18 24 52.9	+0.3
I28M	Miner Creek	6.09	44	Pn	Pn	18 24 51.6	-1.3
HYT	Haines Junctio	6.11	90	Pn	Pn	18 24 50.9	-2.2
F20K	Avaraart Lake	6.20	339	Pn	Pn	18 24 54.7	+0.5
N30M	Aishikik Lake	6.22	84	Pn	Pn	18 24 54.4	-0.2
F24K	Squaw Lake	6.23	8	Pn	Pn	18 24 53.5	-1.1
K29M	Barlow Dome	6.28	61	Pn	Pn	18 24 54.9	-0.5
F19K	Shaleruckik Mo	6.42	332	Pn	Pn	18 24 56.4	-0.9
J14K	Nanvaranak Lak	6.50	288	Pn	Pn	18 24 57.9	-0.4

IDC 09 18:43:46.8±10.0, 22°54S×175°93W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=433.5km s-min=40.7km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.96	258	P	P	18 52 11.9	-0.1
	0.7nm,0.4s,baz=98,slow=7.6,SNR=9.0 0.7nm,0.4s						
WRA	Warramunga Arr	46.26	264	P	P	18 52 14.1	-0.2
	1.4nm,0.5s,baz=102,slow=7.8,SNR=66 1.4nm,0.5s						
ILAR	Eielson Array	89.88	12	P	P	18 56 47.0	-0.1
	0.4nm,0.8s,baz=226,slow=4.8,SNR=4.9 0.4nm,0.8s						

IDC 09 18:45:49.4±1.5, 44°28N×105°81W, h0km, mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=51.6km s-min=8.9km az=145.0
NEIC 09 18:45:50.3±0.9, 44°04N±0°04×105°6W±0°2, h0km±1km, ML3.0/44, Error ellipse: s-maj=19.4km s-min=6.4km az=101.0
ISC 09 18:45:51.5±2.0, 44°00N±0°06×105°6W±0°1, h0km, n28, σ0°83/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	Casper	1.51	207		Pn	18 46 19.0	-1.0
K22A				IAML		18 46 43.4	
	comp=E,224nm,1.0s						
K22A				IAML		18 46 44.3	
	comp=N,204nm,0.3s						
LAO	LASA Array	2.73	351	Pn	Pn	18 46 36.2	-0.4
RLMT	Red Lodge	2.86	294	Pn	Pn	18 46 39.1	+0.5
PD31	Pinedale Array	3.15	248	Pn	Pn	18 46 42.2	-0.3
PDAR	Pinedale Array	3.15	248	Pn	Pn	18 46 42.6	+0.1
PDAR	Pinedale Array	3.15	248	Pn	Pn	18 46 43.1	+0.6
	comp=N,2.6nm,0.3s,baz=68,slow=16,SNR=34						
PDAR				Pg	Pb	18 46 48.2	-0.2
	comp=N,2.8nm,0.3s,baz=68,slow=18,SNR=33						
PDAR				Lg	Lg	18 47 28.4	
	comp=N,4.7nm,0.3s,baz=60,slow=31,SNR=17 comp=N,1.0nm,0.3s						
YNE	Yellowstone No	3.32	289		Pn	18 46 44.4	-0.5
YNE				IAML		18 47 43.7	
	comp=N,30nm,0.9s						
YNE				IAML		18 47 54.6	
	comp=E,28nm,1.0s						
YMP	Mirror Lake Pl	3.36	284	Pn	Pn	18 46 45.1	-0.5
YMP				IAML		18 47 41.0	
	comp=N,34nm,0.9s						
YMP				IAML		18 47 44.5	
	comp=E,49nm,0.8s						
GCMT	Greycliff	3.41	303		Pn	18 46 46.0	-0.1
LKWY	Lake	3.50	281	Pn	Pn	18 46 46.2	-1.2
LKWY				IAML		18 47 57.8	
	comp=E,31nm,1.5s						
H17A	Grant Village	3.61	278		Pn	18 46 48.0	-0.9
H17A				IAML		18 47 55.1	
	comp=N,21nm,1.3s						
LOHW	Long Hollow	3.65	266		Pn	18 46 48.9	-0.6
MOOW	Moose Ponds	3.74	268		Pn	18 46 49.0	-1.6
TPAW	Teton Pass	3.92	264	Pn	Pn	18 46 54.3	+1.1
TPAW				IAML		18 48 05.1	
	comp=N,22nm,1.2s						
FXWY	Fox Creek	3.95	267	Pn	Pn	18 46 55.5	+1.9
YHL	Hebgen Lake	4.10	284	Pn	Pn	18 46 56.8	+1.1
YHL				IAML		18 48 13.7	
	comp=N,26nm,1.2s						
YHL				IAML		18 48 20.2	
	comp=E,20nm,0.9s						
AHID	Auburn Hatcher	4.20	255	Pn	Pn	18 46 57.4	+0.3
AHID				IAML		18 48 11.3	
	comp=E,22nm,1.3s						
AHID				IAML		18 48 21.4	
	comp=E,16nm,1.7s						
O20A	White River Ci	4.33	208	Pn	Pn	18 46 59.6	+0.7
O20A				IAML		18 48 25.1	
	comp=E,25nm,1.1s						
RDMU	Red Mountain	4.52	222	Pn	Pn	18 47 02.1	+0.7
RDMU				IAML		18 48 23.4	
	comp=E,15nm,1.0s						
RDMU				IAML		18 48 35.4	
	comp=N,19nm,1.6s						
BOZ	Bozeman (W)	4.59	293	Pn	Pn	18 47 02.4	+0.1
BOZ				IAML		18 48 20.8	
	comp=N,12nm,2.3s						
BOZ				IAML		18 48 31.6	
	comp=N,10nm,0.9s						
EGMT	Eagleton	4.96	326		Pn	18 47 08.3	+0.9
HWUT	Hardware Ranch	5.00	244		Pn	18 47 07.9	-0.2
TCUT	Toone Canyon	5.17	238		Pn	18 47 10.7	+0.3
P18A	Preston Nutter	5.58	220		Pn	18 47 16.7	+0.6
HVU	Hansel Valley	5.73	250		Pn	18 47 18.3	+0.4
DUG	Dugway, Tooele	6.58	237	Pn	Pn	18 47 29.4	-0.2
I10CA	LAC DU BONNET	9.00	43	I	I	19 37 00.0	
	baz=229,slow=328,SNR=2.0						
ULM	Lac du Bonnet	9.10	43	Pn	Pn	18 47 59.2	-4.8
	comp=N,0.5nm,0.3s,baz=224,slow=12,SNR=4.5						
ULM				Lg	Lg	18 50 28.6	
	comp=N,0.1nm,0.3s,baz=243,slow=7.8,SNR=3.9 comp=N,1.0nm,0.3s						

MEX 09 18:56:05.6±0.8, 14°67N×92°82W, h52km±14km, MD3.9
GCG 09 18:56:06.4±1.6, 14°75N×92°60W, h64km±11km, MD4.1
ISC 09 18:56:03.0±1.9, 14°73N±0°07×92°77W±0°04, h11km±12km, n19, σ1°47/34, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.52	70	eP	Pn	18 56 15.9	-0.5
THIG				eS	Sb	18 56 24.9	+3.1
THIG		0.52	70	eS	Sb	18 56 26.0	+4.3
THIG		0.52	70	eS		18 56 26.0	
PATR	El Naranjo	0.65	54	eP	Pn	18 56 17.9	-0.5
PATR				eS	Sn	18 56 27.6	-1.1
SMCA	Catarina	0.69	79	eP	Pn	18 56 18.5	-0.2
SMCA				eS	Sn	18 56 28.3	-1.1
SMCA	Catarina	0.69	79	eP		18 56 18.5	
SMCA				eS		18 56 28.3	
PAVE	Pavencul	0.74	51	eP	Pn	18 56 19.2	-0.4
PAVE				eS	Sn	18 56 30.4	-0.6
PCIG		1.06	336	eP	Pg	18 56 23.4	-0.1
PCIG				eS	Sg	18 56 36.6	-0.7
RTAL	Retalhuleu	1.06	101	eP	Pn	18 56 23.2	-0.7
RTAL				eS	Sb	18 56 36.4	-1.0
QUEO	Labor Ovalle	1.22	83	i S	Sn	18 56 43.0	-0.2
QUEO	Labor Ovalle	1.22	83	i S		18 56 43.0	
HUEH	Huehuetenango	1.36	64	eP	Pn	18 56 27.6	-0.6
HUEH				eS	Sn	18 56 45.3	-1.1
STG8	El Palmar, Qui	1.40	101	eP		18 56 24.7	
STG8				eS		18 56 39.0	
STG0	El Palmar, Qui	1.42	102	eP		18 56 24.6	
CCIG	Comitan	1.66	22	eP	Pn	18 56 33.0	+0.7
CCIG				eS	Sn	18 56 53.5	-0.2
CCIG	Comitan	1.66	22	eP	Pb	18 56 33.2	-0.6
CCIG	Comitan	1.66	22	eP		18 56 33.2	
CARR	Arriaga	1.87	324	i P	Pn	18 56 35.1	+0.1
CARR				eS	Sn	18 56 57.9	-0.7
TGIG		2.06	351	eP	Pn	18 56 38.0	+0.2
TGIG				eS	Sn	18 57 01.0	-2.5
NILT	Santiago Nilte	2.55	316	i P	Pn	18 56 44.4	0.0
NILT				i S	Sn	18 57 13.3	-2.1
UXUV	UXUV	2.89	333	eP	Pn	18 56 48.9	-0.2
UXUV				eS	Sn	18 57 22.9	-1.0
NUBE	Las Nubes	3.02	106	eP	Pn	18 56 51.6	+0.6
NUBE	Las Nubes	3.02	106	eP		18 56 51.6	
CMIG	Matias Romero	3.10	319	eP	Pn	18 56 51.2	-0.8
CMIG				eS	Sn	18 57 29.5	+0.3
NEUV	Arroyo Zacate	4.16	316	eP	Pn	18 57 06.9	+0.5
NEUV				eS	Sn	18 57 55.7	+0.7
YOIG	Yosondua	5.06	295	eP	Pn	18 57 22.0	+2.8
YOIG				eS	Sn	18 58 15.1	-2.7

IDC 09 19:03:30.0±0.8, 3°57N×126°98E, h0km, mb3.7/10, mbtmp3.8/10, Error ellipse: s-maj=45.7km s-min=14.4km az=70.0
DJA 09 19:03:34.1±0.5, 4°N±7°×12°7E±°, h17km±8km, M4.2/13, mb4.2/6, MLv4.2/13, MwMwp5.5/1, Mwp5.7/1
NEIC 09 19:03:35.7±2.0, 3°60N±0°02×127°1E±0°1, h35km±2km, mb4.3/16, Error ellipse: s-maj=17.7km s-min=3.0km az=84.0
ISC 09 19:03:36.4±0.6, 3°61N±0°06×127°07E±0°08, h48km, n42, σ0°97/45, mb3.9/16, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.54	273	P	Pn	19 03 59.3	-2.1
SGSI				S	Sn	19 04 21.0	+0.7
TNTI	Ternate	2.83	174	Pn	Pn	19 04 19.3	0.0
TNTI				Sn	Sn	19 04 50.9	-1.2
TNTI	Ternate	2.83	174	P	Pn	19 04 20.4	+1.2
KMSI	Cibinong	4.31	226	P	Pn	19 04 41.0	+1.5
SANI	Sanana	5.72	191	P	Pn	19 04 58.7	-0.2
	0.1nm16nm,0.8s						
MRSI	Marisa	5.99	239	P	Pn	19 05 03.3	+0.7
	0.1nm34nm,0.9s						
SWI	Sorong	6.11	137	P	Pn	19 05 04.7	+0.5
	0.1nm29nm,1.5s						
LUWI	Luwuk	6.31	223	Pn	Pn	19 05 07.4	+0.5
TOLI2	Tolitoli	6.75	249		Pn	19 05 11.6	-1.5
APSI	Ampana	7.04	230	P	Pn	19 05 17.8	+0.9
MYLDM	Lahad Datu	8.68	281	Pn	Pn	19 05 41.1	+1.6
KDI	Kendari	8.73	211	P	Pn	19 05 40.8	+0.6
MTN	Manton Dam	16.84	166	Pn	Pn	19 07 27.3	-1.7
MTN				IAmb	IAmb	19 07 38.7	
	comp=Z,30nm,1.4s						
KNRA	Kununurra	19.23	175	P	P	19 07 56.2	-0.7
KNRA				IAmb	IAmb	19 08 15.5	
	comp=Z,22nm,1.1s						
YULB	Yu-li	20.44	345	P	P	19 08 08.2	-1.8
YULB				IAmb	IAmb	19 08 10.8	
	comp=Z,31nm,1.3s						
FITZ	Fitzroy Crossi	21.62	184	P	P	19 08 23.2	+0.7
	comp=Z,1.1nm,0.4s,baz=12,slow=6.3,SNR=5.1 comp=Z,1.1nm,0.4s						
UBPT	Khong Chiam	24.22	300	P	P	19 08 47.8	-1.2
UBPT				IAmb	IAmb	19 08 56.7	
	comp=Z,16nm,1.4s						
WB0	Warramunga Arr	24.32	163	P	P	19 08 48.4	-1.4
WB0				IAmb	IAmb	19 09 14.9	
	comp=Z,16nm,1.4s						
WRAB	Tennant Creek	24.46	163	P	P	19 08 50.0	-1.1
WRAB				IAmb	IAmb	19 09 01.6	
	comp=Z,7.5nm,1.1s						
WRA	Warramunga Arr	24.47	163	P	P	19 08 49.6	-1.6
WRA	Warramunga Arr	24.47	163	P	P	19 08 50.3	-0.8
	comp=Z,2.2nm,0.6s,baz=339,slow=11,SNR=16 comp=Z,2.2nm,0.6s						
AS31	Alice Springs	27.92	167	P	P	19 09 22.1	-0.2
ASAR	Alice Springs	27.92	167	P	P	19 09 22.0	-0.2
ASAR	Alice Springs	27.92	167	P	P	19 09 21.3	-1.0
	comp=Z,0.2nm,0.5s,baz=344,slow=7.1,SNR=16						
ASAR				PcP	PcP	19 12 38.2	+1.1
	comp=Z,0.2nm,0.5s,baz=329,slow=2.3,SNR=1.6 comp=Z,0.2nm,0.5s						
CMAR	Chiang Mai Arr	31.22	300	P	P	19 09 52.1	+0.5
	comp=Z,0.2nm,0.6s,baz=112,slow=8.8,SNR=2.1 comp=Z,0.2nm,0.6s						
FORT	Forrest	34.21	178	P	P	19 10 17.0	-0.5
BBOO	Buckleboo	37.21	167	P	P	19 10 43.5	+0.2
STKA	Stephens Creek	37.90	160	P	P	19 10 49.0	-0.1
STKA	Stephens Creek	37.90	160	P	P	19 10 49.0	-0.1
	comp=Z,3.0nm,0.6s,baz=337,slow=8.7,SNR=13 comp=Z,3.0nm,0.6s						
ERM	Erimo	40.86	18	P	P	19 11 14.0	+0.3
XLT	XiLinHaoTe	41.28	348	eP	P	19 11 17.9	+0.7
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,79nm,4.5s						
SONM	Songino Array	47.52	341	P	P	19 12 07.9	+0.9
SONM	Songino Array	47.52	341	P	P	19 12 08.0	+0.9
	comp=Z,0.5nm,0.5s,baz=162,slow=8.1,SNR=4.3 comp=Z,0.5nm,0.5s						
PETK	Petropavlovsk-	55.41	22	P	P	19 13 07.3	+1.4
	comp=Z,2.5nm,1.0s,baz=174,slow=5.4,SNR=4.7 comp=Z,2.5nm,1.0s						
MK31	Makanchi Array	57.85	325	P	P	19 13 22.8	-0.5
MKAR	Makanchi Array	57.85	325	P	P	19 13 22.8	-0.5
MKAR	Makanchi Array	57.85	325	P	P	19 13 23.1	-0.2
	comp=Z,0.3nm,0.4s,baz=118,slow=7.8,SNR=16 comp=Z,0.3nm,0.4s						
KURBB	Kurchatov Arra	62.02	327	P	P	19 13 51.4	-0.4
	comp=Z,0.8nm,0.7s,baz=131,slow=7.0,SNR=12 comp=Z,0.8nm,0.7s						
KURK	Kurchatov	62.02	327	P	P	19 13 52.2	+0.4
KURK				IAmb	IAmb	19 14 03.0	
	comp=Z,1.8nm,0.8s						
BVAR	Borovoye Array	67.60	327	P	P	19 14 27.5	-0.6
	comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=3.0 comp=Z,0.2nm,0.3s						
ABKAR	Akbulak array	72.46	321	P	P	19 14 58.2	+0.3
ABKAR	Akbulak array	72.46	321	P	P	19 14 58.1	+0.2
ABKAR				IAmb	IAmb	19 14 58.4	
	comp=Z,1.3nm,0.9s						

IDC 09 19:22:32.8±5.7, 18°15S×177°95W, h628km±30km, mb2.5/3, mbtmp3.5/4, Error ellipse: s-maj=183.9km s-min=34.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.83	276	P	P	19 23 59.3	0.0
	8.4nm,0.6s,baz=68,slow=11,SNR=7.0						
WRA	Warramunga Arr	45.02	260	P	P	19 29 54.6	-0.1
	0.2nm,0.5s,baz=97,slow=6.8,SNR=5.4 0.2nm,0.5s						
ASAR	Alice Springs	45.15	254	P	P	19 29 55.7	-0.1
	0.4nm,0.5s,baz=92,slow=7.7,SNR=15						
ASAR				PcP	PcP	19 31 22.5	+0.2
	0.3nm,0.8s,baz=100,slow=3.4,SNR=4.8 0.4nm,0.5s						
ILAR	Eielson Array	86.02	13	P	P	19 34 07.7	-0.2
	0.3nm,0.5s,baz=193,slow=3.6,SNR=2.7 0.3nm,0.5s						

SJA 09 19:36:47.0±0.6, 35°14S×71°15W, h117km±2km, ML3.3, MW3.5
GUC 09 19:36:49.1±0.8, 35°12S×71°04W, h109km±3km, ML3.3
ISC 09 19:36:48.8±1.4, 35°13S±0°03×71°02W±0°05, h106km±8km, n51, σ0°88/93, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	Sierra Bellavi	0.39	30	eP	Pn	19 37 03.9	-0.7
BO02				i S	Sn	19 37 15.9	-0.5
BO02				IAML		19 37 17.1	
	comp=E,3μm,0.1s						
BO02	Sierra Bellavi	0.39	30	eP	Pn	19 37 04.0	-0.7
BO02				eS	Sn	19 37 18.0	+1.6
BO02				IAML		19 37 20.4	
	comp=Z,2μm,0.1s						
ML02	Panimavida	0.71	207	eP	Pn	19 37 07.1	+0.1
ML02				i S	Sn	19 37 20.5	0.0
ML02				IAML		19 37 22.0	
	comp=N,2μm,0.3s						
ML02	Panimavida	0.71	207	eP	Pn	19 37 07.0	+0.1
ML02				eS	Sn	19 37 21.0	+0.5
ML02				IAML		19 37 23.2	
	comp=Z,775nm,0.3s						
BO01	Tunca	0.73	356	eP	Pn	19 37 06.8	-0.3
BO01				i S	Sn	19 37 20.2	-0.6
BO01				IAML		19 37 21.2	
	comp=N,2μm,0.1s						
BO01	Tunca	0.73	356	eP	Pn	19 37 06.6	-0.5
BO01				eS	Sn	19 37 20.4	-0.5
BO01				IAML		19 37 21.3	
	comp=Z,699nm,0.1s						
GO05	Hualane	0.76	279	eP	Pn	19 37 07.2	-0.2
GO05				i S	Sn	19 37 21.3	+0.1
GO05				IAML		19 37 22.4	
	comp=N,621nm,0.2s						
BO03	Pichilemu	1.00	309	eP	Pn	19 37 10.1	+0.4
BO03				i S	Sn	19 37 26.0	+0.7
BO03				IAML		19 37 28.4	
	comp=N,849nm,0.3s						
BO04	La Punta	1.18	17	eP	Pn	19 37 11.7	-0.1
BO04				i S	Sn	19 37 29.2	+0.2
BO04				IAML		19 37 30.9	
	comp=E,503nm,0.1s						
MT01	Popeta	1.27	351	eP	Pn	19 37 12.5	-0.3
MT01				i S	Sn	19 37 30.1	-0.7
MT01	Popeta	1.27	351	eP	Pn	19 37 12.5	-0.3
MT01				eS	Sn	19 37 31.2	+0.4
MT01				IAML		19 37 31.9	
	comp=Z,774nm,0.1s						
MT09	Talagante	1.35	1	eP	Pn	19 37 13.7	-0.1
MT09				i S	Sn	19 37 32.2	-0.3
MT09				IAML		19 37 33.3	
	comp=N,1μm,0.1s						
LMEL	Las Melosas	1.44	28	eP	Pn	19 37 15.1	+0.2
LMEL				i S	Sn	19 37 34.8	+0.2
LMEL				IAML		19 37 39.5	
	comp=N,476nm,0.2s						
LMEL	Las Melosas	1.44	28	eP	Pn	19 37 15.2	+0.3
LMEL				eS	Sn	19 37 36.4	+1.8
MT12	Pirque	1.44	16	eP	Pn	19 37 14.7	-0.1
MT12				i S	Sn	19 37 34.5	+0.1
MT12				IAML		19 37 37.2	
	comp=E,316nm,0.3s						
EDS3	Malargue	1.47	116	eP	Pn	19 37 15.2	0.0
MT13	San Alfonso	1.51	24	eP	Pn	19 37 15.9	+0.3
MT13				i S	Sn	19 37 36.1	+0.2
MT13	San Alfonso	1.51	24	eP	Pn	19 37 16.1	+0.5
MT13				eS	Sn	19 37 37.6	+1.7
MT13				IAML		19 37 39.5	
	comp=Z,279nm,0.2s						
BI02	San Fabin de	1.55	188	eP	Pn	19 37 16.1	0.0
BI02				i S	Sn	19 37 36.8	+0.1
BI02	San Fabin de	1.55	188	eP	Pn	19 37 15.4	-0.6
BI02				IAML		19 37 40.1	
	comp=Z,118nm,0.7s						
VA05	Santo Domingo	1.55	341	eP	Pn	19 37 16.0	0.0
VA05				i S	Sn	19 37 36.1	-0.4
MT15	Las Vizcachas	1.58	16	eP	Pn	19 37 16.6	+0.1
MT15				i S	Sn	19 37 37.7	+0.2
MT03	Universidad Ad	1.68	15	eP	Pn	19 37 17.7	-0.1
MT03				i S	Sn	19 37 39.9	+0.2
MT03				IAML		19 37 44.9	
	comp=E,303nm,0.6s						
MT03	Universidad Ad	1.68	15	eP	Pn	19 37 18.0	+0.2
MT03				eS	Sn	19 37 41.2	+1.5
MT03				IAML		19 37 42.4	
	comp=Z,206nm,0.2s						
MT05	Renca	1.75	8	eP	Pn	19 37 18.4	-0.2
MT05				i S	Sn	19 37 41.4	+0.3
MT05				IAML		19 37 45.0	
	comp=E,714nm,0.3s						
MT05	Renca	1.75	8	eP	Pn	19 37 18.6	+0.1
MT05				eS	Sn	19 37 42.3	+1.3
MT

MT04				IAML		19 37 48.8	
	comp=Z,87nm,0.3s						
MT08	**Bocatoma Ro**	**1.87**	**27**	*eP*	**Pn**	**19 37 20.9**	**+0.7**
MT08				*eS*	**Sn**	**19 37 43.2**	**-0.9**
MT10	**Hacienda Santa**	**1.89**	**12**	*eP*	**Pn**	**19 37 20.4**	**-0.1**
MT10				*i S*	**Sn**	**19 37 45.6**	**+1.1**
MT10				IAML		19 37 47.6	
	comp=E,422nm,0.3s						
FCH	**Farellones**	**1.89**	**19**	*eP*	**Pn**	**19 37 20.4**	**-0.2**
FCH				*i S*	**Sn**	**19 37 45.1**	**+0.3**
FCH				IAML		19 37 50.1	
	comp=E,198nm,0.2s						
PEL	**Peldehue**	**2.00**	**8**	*eP*	**Pn**	**19 37 21.6**	**-0.1**
PEL				*i S*	**Sn**	**19 37 46.5**	**-0.2**
PEL				IAML		19 37 50.1	
	comp=N,208nm,0.1s						
PEL	**Peldehue**	**2.00**	**8**	*eP*	**Pn**	**19 37 21.7**	**0.0**
PEL				*eS*	**Sn**	**19 37 46.9**	**+0.2**
RFA	**San Rafael**	**2.13**	**81**	*eP*	**Pn**	**19 37 22.5**	**-0.8**
RFA				*eS*	**Sn**	**19 37 47.6**	**-2.1**
ROC1	**El Roble**	**2.15**	**0**	*eP*	**Pn**	**19 37 23.7**	**-0.1**
ROC1				*eS*	Sn	19 37 41.1	-9.3
ROCH	**El Roble**	**2.15**	**0**	*eP*	**Pn**	**19 37 23.6**	**-0.2**
ROCH				*i S*	**Sn**	**19 37 50.1**	**-0.4**
ROCH				IAML		19 37 53.0	
	comp=N,306nm,0.3s						
VA03	**San Esteban**	**2.39**	**9**	*eP*	**Pn**	**19 37 27.0**	**+0.2**
VA03				*eS*	**Sn**	**19 37 56.8**	**+1.0**
VA03				IAML		19 38 00.2	
	comp=Z,107nm,0.1s						
AAGR	**Agrelo**	**2.73**	**42**	*eP*	**Pn**	**19 37 32.0**	**+0.8**
CANA	**Caviahue**	**2.75**	**181**	*eP*	**Pn**	**19 37 32.3**	**+0.7**
ARCO	**CERRO ARCO**	**2.86**	**38**	*eP*	**Pn**	**19 37 33.7**	**+0.6**
ASAL	**Salagasta**	**3.11**	**36**	*eP*	**Pn**	**19 37 36.9**	**+0.6**
ASAL				*eS*	**Sn**	**19 38 10.1**	**-2.8**
RTLS	**Leoncito**	**3.62**	**24**	*eP*	**Pn**	**19 37 44.5**	**+1.2**
RTLS				IAML		19 38 29.3	
	comp=Z,49nm,2.7s						
ZON	**Zonda**	**4.07**	**29**	*eP*	**Pn**	**19 37 49.0**	**-0.2**
ZON				*eS*	**Sn**	**19 38 38.0**	**+2.1**
ZON				IAML		19 38 51.6	
	comp=Z,13nm,3.2s						
CO03	**El Pedregal**	**4.29**	**4**	*eP*	**Pn**	**19 37 51.8**	**-0.3**
CO03				*eS*	**Sn**	**19 38 39.6**	**-1.5**
DOCA	**Reserva Natura**	**4.47**	**22**	*eP*	**Pn**	**19 37 54.0**	**-0.8**
DOCA				*eS*	**Sn**	**19 38 45.3**	**-0.7**
DOCA				IAML		19 38 46.9	
	comp=Z,22nm,3.2s						
ACCO	**Cerro Coronel**	**4.81**	**20**	*eP*	**Pn**	**19 37 59.1**	**-0.3**
ACCO				*eS*	**Sn**	**19 38 57.5**	**+3.2**
GO04	**Tololo Observa**	**4.94**	**2**	*eS*	**Sn**	**19 38 54.3**	**-2.9**
AROD	**Rodeo**	**5.11**	**15**	*eP*	**Pn**	**19 38 03.4**	**-0.1**

*IDC **09** 19:42:25.3±1.2,2°.41N×127°.59E, h0km, mb3.7/8, mbtmp3.8/8, MS2.7/1, Error ellipse: s-maj=103.0km s-min=15.7km az=69.0*
*DJA **09** 19:42:31.1±0.8,3°N±4°×12°9E±°, h19km±5km, M4.3/12, mB5.2/1, mb4.6/6, MLv4.2/12, Mw(mB)4.6/1*

ISC 09 19:42:30.9±1.0,2°.80N±0°.09×128°.60E±0°.09, h50km, n16, σ1§38/18, mb3.8/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.36**	**211**	P	**Pn**	**19 43 07.6**	**+0.4**
TNTI				S	**Sn**	**19 43 35.4**	**+0.4**
SGSI	**Sangihe**	**3.19**	**286**	P	**Pn**	**19 43 19.4**	**+0.8**
SGSI				S	**Sn**	**19 43 56.5**	**+1.1**
SWI	**Sorong**	**4.50**	**144**	P	**Pn**	**19 43 38.2**	**+1.5**
KMSI	**Cibinong**	**5.12**	**245**	P	**Pn**	**19 43 45.7**	**+0.6**
	0.7nm148nm,0.9s						
SANI	**Sanana**	**5.47**	**208**	P	**Pn**	**19 43 50.4**	**+0.4**
	0.1nm17nm,1.2s						
FAKI	**Fak Fak**	**6.75**	**147**	P	**Pn**	**19 44 09.1**	**+1.6**
	51nm,1.4s						
MRSI	**Marisa**	**7.04**	**251**	P	**Pn**	**19 44 12.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.97**	**188**	P	**P**	**19 47 06.5**	**-3.4**
	3.0nm,0.9s,baz=4.8,slow=12,SNR=1.9						
	3.0nm,0.9s						
WRA	**Warramunga Arr**	**23.29**	**166**	P	**P**	**19 47 33.0**	**-1.6**
	1.7nm,0.8s,baz=340,slow=11,SNR=11						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**26.81**	**169**	P	**P**	**19 48 05.2**	**-1.5**
	0.2nm,0.7s,baz=347,slow=8.3,SNR=6.3						
ASAR				PcP	**PcP**	**19 51 28.8**	**+0.1**
	0.1nm,0.4s,baz=343,slow=2.4,SNR=1.2						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.95**	**300**	LR	LR	20 03 25.5	
	comp=Z,13nm,18.4s,baz=55,slow=39						
STKA	**Stephens Creek**	**36.63**	**161**	P	**P**	**19 49 34.1**	**+1.5**
	0.5nm,0.4s,baz=340,slow=11,SNR=4.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**19 52 28.6**	**+0.3**
	1.2nm,0.6s,baz=120,slow=8.1,SNR=22						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**62.27**	**332**	P	**P**	**19 52 46.3**	**-1.3**
	0.5nm,0.5s,baz=111,slow=7.9,SNR=2.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.53**	**327**	P	**P**	**19 52 56.2**	**+0.1**
	1.3nm,0.6s,baz=125,slow=6.3,SNR=18						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**69.12**	**327**	P	**P**	**19 53 32.0**	**+0.1**
	0.7nm,0.5s,baz=124,slow=8.0,SNR=6.1						
	0.7nm,0.5s						

*IDC **09** 19:48:48.5±5.7,7°.19S×128°.88E, h54km±51km, mb3.5/4, mbtmp3.8/7, ML3.9/3, MS3.2/1, Error ellipse: s-maj=85.7km s-min=26.2km az=63.0*
*NEIC **09** 19:48:59.2±1.6,7°.41S±0°.10×128°.66E±0°.05, h150km±9km, mb4.1/8, Error ellipse: s-maj=14.0km s-min=7.0km az=184.0*

ISC 09 19:48:58.6±0.7,7°.41S±0°.08×128°.64E±0°.06, h151km, n36, σ1§30/36, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.70**	**102**		**Pn**	**19 49 43.4**	**+1.1**
SAUI				Sn	**Sn**	**19 50 15.7**	**-0.3**
SAUI	**Saumlaki**	**2.70**	**102**	P	**Pn**	**19 49 41.8**	**-0.5**
SOEI	**Soe**	**4.91**	**241**	Pn	**Pn**	**19 50 11.8**	**+0.9**
SOEI	**Soe**	**4.91**	**241**	P	**Pn**	**19 50 11.9**	**+0.9**
DRS	**Darwin Rock St**	**5.46**	**156**	P	**Pn**	**19 50 18.0**	**-0.2**
FAKI	**Fak Fak**	**5.73**	**39**	Pn	**Pn**	**19 50 21.1**	**-0.7**
FAKI	**Fak Fak**	**5.73**	**39**	P	**Pn**	**19 50 21.0**	**-0.8**
MTN	**Manton Dam**	**5.93**	**156**	Pn	**Pn**	**19 50 24.2**	**-0.2**
MTN	**Manton Dam**	**5.93**	**156**	P	**Pn**	**19 50 24.1**	**-0.3**
MMRI	**Maumere**	**6.45**	**259**	Pn	**Pn**	**19 50 32.5**	**+1.1**
KDU	**Kakadu**	**6.46**	**145**	P	**Pn**	**19 50 31.1**	**-0.4**
KNRA	**Kununurra**	**8.22**	**179**	Pn	**Pn**	**19 50 53.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.02**	**195**	Pn	**Pn**	**19 51 29.3**	**-2.8**
FITZ	**Fitzroy Crossi**	**11.02**	**195**	P	**Pn**	**19 51 28.3**	**-3.8**
	1.5nm,0.3s,baz=17,slow=9.0,SNR=40						
FITZ				S	Sn	19 53 21.9	-12
	10nm,0.3s,baz=279,slow=23,SNR=8.9						
	3.2nm,0.2s						
WB0	**Warramunga Arr**	**13.49**	**156**	Pn	**Pn**	**19 52 02.1**	**-2.0**
WRA	**Warramunga Arr**	**13.63**	**157**	P	Pn	19 52 00.6	-5.3
	0.4nm,0.3s,baz=330,slow=14,SNR=9.4						
WRA				S	Sn	19 54 20.3	-17
	3.5nm,0.5s,baz=323,slow=24,SNR=8.6						
	0.4nm,0.5s						
JAGI	**Jajag, Banyuwa**	**14.38**	**265**	Pn	**Pn**	**19 52 15.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**14.38**	**265**	P	**P**	**19 52 18.2**	**+0.2**
COEN	**Coen**	**15.69**	**116**		**P**	**19 52 33.8**	**+1.2**
COEN				IAmb	IAmb	19 52 49.4	
	comp=Z,22nm,1.5s						
COEN	**Coen**	**15.69**	**116**	P	**P**	**19 52 34.3**	**+1.8**
MBWA	**Marble Bar**	**16.15**	**211**		**Pn**	**19 52 37.1**	**-0.1**
MBWA				IAmb	IAmb	19 52 59.3	
	comp=Z,11nm,1.2s						
PSA00	**Pilbara Seismi**	**16.44**	**210**	P	**P**	**19 52 43.3**	**+2.6**
AS31	**Alice Springs**	**16.93**	**163**	P	**P**	**19 52 44.8**	**-1.4**
AS31				IAmb	IAmb	19 52 51.2	
	comp=Z,1.5nm,0.4s						
ASAR	**Alice Springs**	**16.93**	**163**		**P**	**19 52 44.7**	**-1.5**
ASAR	**Alice Springs**	**16.93**	**163**	P	**P**	**19 52 44.3**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=339,slow=10,SNR=37						
ASAR				S	S	19 55 43.8	-11
	comp=Z,0.6nm,0.4s,baz=347,slow=27,SNR=3.5						
	comp=Z,2.1nm,0.7s						
MORW	**Morawa**	**24.60**	**207**	P	**P**	**19 54 05.4**	**+0.6**
MORW				IAmb	IAmb	19 54 25.5	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**27.18**	**155**	P	**P**	**19 54 28.9**	**+0.8**
STKA	**Stephens Creek**	**27.18**	**155**	P	**P**	**19 54 28.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=349,slow=8.3,SNR=4.9						
STKA				LR	LR	20 07 06.2	
	comp=Z,45nm,18.1s,baz=202,slow=40						
	comp=Z,1.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.51**	**201**	P	**P**	**19 54 31.1**	**+0.1**
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**19 59 40.8**	**+0.4**
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**19 59 41.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=117,slow=7.0,SNR=5.5						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.16**	**329**	P	**P**	**20 00 07.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=4.3,SNR=4.2						
	comp=Z,0.2nm,0.3s						
ABKAR	**Akbulak array**	**81.99**	**322**	P	**P**	**20 01 01.6**	**-0.1**
ABKAR	**Akbulak array**	**81.99**	**322**	P	**P**	**20 01 01.9**	**+0.3**
ABKAR				IAmb	IAmb	20 01 31.4	
	comp=Z,1.7nm,1.4s						
QSPA	**South Pole Qui**	**82.57**	**180**	P	**P**	**20 01 05.3**	**+0.7**
QSPA	**South Pole Qui**	**82.57**	**180**	P	**P**	**20 01 05.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=329,slow=0.7,SNR=5.7						
	comp=Z,0.8nm,0.8s						

*IDC **09** 20:09:56.4±2.7,40°.61N×126°.62W, h0km, mb3.0/3, mbtmp3.2/7, ML3.5/4, MS2.9/5, Error ellipse: s-maj=30.9km s-min=17.8km az=75.0*
*NEIC **09** 20:09:57.5±1.9,40°.52N±0°.06×126°.48W±0°.05, h10km±2km, ML3.1/64, ML3.4/12(NCEDC), Error ellipse: s-maj=10.8km s-min=6.3km az=188.0*
*NCEDC **09** 20:09:57.3±2.6,40°.51N±0°.07×126°.7W±0°.1, h15km±8km, Error ellipse: s-maj=14.6km s-min=9.2km az=70.0*

ISC 09 20:09:59.8±1.5,40°.64N±0°.07×126°.37W±0°.08, h12km, n72, σ1§36/70, mb2.7/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.55**	**95**		**Pn**	**20 10 26.4**	**-0.9**
KCTM					**Sg**	**20 10 48.9**	**-0.9**
PETL	**Petrolia**	**1.58**	**102**		**Pn**	**20 10 26.0**	**-1.6**
PETL					**Sb**	**20 10 47.6**	**-1.3**
KMPM	**Mount Pierce**	**1.73**	**97**		**Pn**	**20 10 28.6**	**-1.2**
KMPM				Sn	**Sn**	**20 10 51.2**	**-0.6**
JCC	**Jacoby Creek,**	**1.78**	**84**		**Pn**	**20 10 28.8**	**-1.7**
JCC				Sn	**Sn**	**20 10 52.2**	**-0.8**
KRPM	**Rodgers**	**1.85**	**73**		**Pn**	**20 10 30.0**	**-1.5**
KRPM				Sn	**Sn**	**20 10 54.5**	**-0.3**
KRPM				IAML		20 10 58.4	
	comp=N,153nm,0.7s						
KRPM				IAML		20 11 08.2	
	comp=E,117nm,1.4s						
KCRM	**Chalk Rock**	**1.95**	**95**		**Pn**	**20 10 31.8**	**-1.0**
BRIC	**Briceland Vine**	**1.96**	**105**		**Pn**	**20 10 31.6**	**-1.2**
KHMM	**Horse Mountain**	**2.02**	**82**		**Pn**	**20 10 32.6**	**-1.1**
KHMM				IAML		20 11 06.1	
	comp=E,137nm,0.8s						
KHMM				IAML		20 11 06.8	
	comp=N,126nm,0.7s						
KRMB	**Red Mountain**	**2.06**	**64**		**Pn**	**20 10 33.4**	**-0.9**
KMRM	**Mail Ridge**	**2.07**	**101**		**Pn**	**20 10 33.8**	**-0.6**
SIGP	**Signal Peak, C**	**2.13**	**54**		**Pn**	**20 10 34.4**	**-0.8**
KBO	**Bosley Butte**	**2.25**	**45**	Pn	**Pn**	**20 10 36.0**	**-0.9**
KBO				IAML		20 11 08.6	
	comp=E,86nm,0.8s						
KBO				IAML		20 11 41.7	
	comp=N,73nm,2.1s						
KOMM	**Orleans Mounta**	**2.30**	**73**		**Pn**	**20 10 36.7**	**-0.9**
KCPM	**Cahto Peak**	**2.33**	**113**	Pn	**Pn**	**20 10 36.1**	**-2.0**
KIPM	**Iron Peak**	**2.36**	**110**		**Pn**	**20 10 37.6**	**-0.9**
KHBM	**Hayfork Bally**	**2.39**	**88**		**Pn**	**20 10 37.8**	**-1.2**
KHBM	**Hayfork Bally**	**2.39**	**88**	IAML		20 11 11.6	
	comp=N,127nm,0.5s						
KHBM				IAML		20 11 12.2	
	comp=E,142nm,0.5s						
GTC	**Three Chop Rid**	**2.49**	**119**		**Pn**	**20 10 37.7**	**-2.4**
L02F	**Cave Junction**	**2.57**	**54**		**Pn**	**20 10 41.2**	**-0.1**
L02F				IAML		20 11 16.0	
	comp=N,46nm,0.9s						
L02F				IAML		20 11 16.1	
	comp=E,53nm,0.3s						
O02D	**Mt. Diablo Mer**	**2.77**	**98**	Pn	**Pn**	**20 10 43.3**	**-0.8**
O02D				IAML		20 11 19.9	
	comp=E,41nm,0.3s						
K02D	**Willamette Mer**	**2.88**	**44**		**Pn**	**20 10 45.2**	**-0.4**
YBH	**Yreka Blue Hor**	**2.97**	**67**		**Pn**	**20 10 47.0**	**+0.2**
YBH	**Yreka Blue Hor**	**2.97**	**67**	Pn	**Pn**	**20 10 47.9**	**+1.1**
	comp=E,13nm,0.3s,baz=246,slow=13,SNR=198						
YBH				Sn	**Sb**	**20 11 26.7**	**-2.2**
	comp=E,3.5nm,0.3s,baz=193,slow=22,SNR=3.8						
YBH				LR	LR	20 12 03.9	
	comp=E,205nm,21.0s,baz=292,slow=40						
	comp=E,29nm,0.3s						
J01E	**Myrtle Point**	**3.11**	**35**		**Pn**	**20 10 47.6**	**-1.0**
J01E				IAML		20 11 28.2	
	comp=N,44nm,0.3s						
J01E				IAML		20 11 29.0	
	comp=E,42nm,0.3s						
GDXM	**Geysers**	**3.31**	**122**	Pn	**Pn**	**20 10 51.3**	**-0.1**
GDXM				IAML		20 11 39.9	
	comp=N,27nm,2.7s						
DBO	**Dodson Butte**	**3.40**	**42**		**Pn**	**20 10 52.0**	**-0.7**
L04D	**Klamath Falls**	**3.44**	**61**		**Pn**	**20 10 54.7**	**+1.4**
L04D				IAML		20 11 42.2	
	comp=N,40nm,0.8s						
L04D				IAML		20 11 45.2	
	comp=E,50nm,0.9s						
MCCM	**Marconi Confer**	**3.67**	**132**	Pn	**Pn**	**20 10 53.3**	**-3.1**
HATC	**Hat Creek Radi**	**3.73**	**86**		**Pn**	**20 10 58.4**	**+1.1**
I03D	**Drain, OR**	**3.79**	**35**		**Pn**	**20 10 57.0**	**-1.0**
I02E	**Swisshome, OR**	**3.94**	**27**	Pn	**Pn**	**20 10 59.7**	**-0.3**
I02E				IAML		20 12 41.1	
	comp=N,32nm,1.6s						
I02E				IAML		20 13 32.4	
	comp=E,37nm,2.4s						
K04D	**Chiloquin, OR**	**3.98**	**59**		**Pn**	**20 11 01.8**	**+1.0**
J04A	**Umpqua Nationa**	**4.10**	**49**	Pn	**Pn**	**20 11 03.4**	**+0.8**
I04A	**Tendick Farm,**	**4.31**	**42**		**Pn**	**20 11 05.8**	**+0.7**
I04A				IAML		20 12 02.3	
	comp=N,19nm,1.0s						
I04A				IAML		20 13 34.6	
	comp=E,17nm,0.2s						
BUCK	**Buck Mountain**	**4.35**	**34**	Pn	**Pn**	**20 11 05.5**	**-0.2**
BUCK				IAML		20 13 47.4	
	comp=N,24nm,3.5s						
BUCK				IAML		20 13 54.6	
	comp=E,25nm,3.7s						
AFDM	**Forest Hills D**	**4.48**	**110**	Pn	**Pn**	**20 11 07.2**	**-0.4**
J05D	**Fort Rock, OR**	**4.65**	**54**	Pn	**Pn**	**20 11 11.1**	**+1.1**
J05D				IAML		20 12 36.6	
	comp=N,15nm,3.5s						
J05D				IAML		20 13 31.0	
	comp=E,17nm,4.6s						
H04D	**Lebanon**	**4.72**	**33**	Pn	**Pn**	**20 11 10.6**	**-0.2**
H04D				IAML		20 12 05.4	
	comp=E,18nm,3.9s						
H04D				IAML		20 14 05.0	
	comp=N,20nm,4.1s						
HEBO	**Mount Hebo**	**4.96**	**22**	Pn	**Pn**	**20 11 13.6**	**-0.5**
H04A	**Detroit Lake**	**5.08**	**36**	Pn	**Pn**	**20 11 16.1**	**+0.3**
H04A				IAML		20 12 21.5	
	comp=N,16nm,0.4s						
H04A				IAML		20 12 28.1	
	comp=E,12nm,2.3s						
PINE	**Pine Mountain**	**5.11**	**50**	Pn	**Pn**	**20 11 17.3**	**+0.9**
PINE				IAML		20 12 49.6	
	comp=N,13nm,5.0s						
PINE				IAML		20 12 49.9	
	comp=E,12nm,4.5s						
CMB	**Columbia Colle**	**5.31**	**117**	Pn	**Pn**	**20 11 18.9**	**-0.1**
PAHR	**Pah Rah Range**	**5.43**	**98**	Pn	**Pn**	**20 11 19.7**	**-1.0**
PNTR	**Pine Nut**	**5.43**	**104**	Pn	**Pn**	**20 11 20.5**	**-0.3**
SAO	**San Andreas Ge**	**5.46**	**134**	Pn	**Pn**	**20 11 17.3**	**-3.6**
BBGB	**Big Mountain B**	**5.81**	**132**		**Pn**	**20 11 22.9**	**-3.1**
WVOR	**Wild Horse Val**	**6.07**	**70**		**Pn**	**20 11 28.9**	**-0.5**
I07A	**Izee**	**6.14**	**54**	Pn	**Pn**	**20 11 32.0**	**+1.6**
PMPB	**Monarch Peak**	**6.21**	**134**	Pn	**Pn**	**20 11 28.8**	**-2.6**
NVAR	**Mina Array Bea**	**6.61**	**107**	Pn	**Pn**	**20 11 39.2**	**+2.2**
	comp=E,0.2nm,0.3s,baz=293,slow=16,SNR=2.7						
	comp=E,0.4nm,0.5s						
LON	**Longmire**	**6.94**	**27**	Pn	**Pn**	**20 11 41.3**	**0.0**
G08A	**Pilot Rock**	**7.15**	**47**		**Pn**	**20 11 45.5**	**+1.2**
BMO	**Blue Mountains**	**7.88**	**55**		**Pn**	**20 11 55.5**	**+1.1**
ISA	**Isabella, Lake**	**7.96**	**126**		**Pn**	**20 11 54.8**	**-0.5**
MFID	**Camas Ranch**	**8.32**	**67**	Pn	**Pn**	**20 12 00.6**	**+0.3**
PLID	**Pearl Lake**	**8.81**	**56**	Pn	**Pn**	**20 12 08.8**	**+1.6**
CBB	**Campbell River**	**9.42**	**4**	Pn	**Pn**	**20 12 16.1**	**+0.8**
NEW	**Newport**	**10.08**	**38**	LR	LR	20 15 52.9	
	comp=E,44nm,20.1s,baz=268,slow=35						
PFO	**Pinyon Flats O**	**10.56**	**128**	Pn	**Pn**	**20 12 31.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=227,slow=15,SNR=1.7						
PFO				Sn	**Sn**	**20 14 31.5**	**+2.1**
	comp=E,0.1nm,0.3s,baz=224,slow=17,SNR=0.9						
PFO				LR	LR	20 16 03.8	
	comp=E,104nm,20.1s,baz=192,slow=34						
	comp=E,0.6nm,0.3s						
MCMT	**McKenzie Canyo**	**10.79**	**63**	Pn	**Pn**	**20 12 35.1**	**+0.9**
BPMT	**Black Pine Rid**	**11.02**	**54**	Pn	**Pn**	**20 12 38.6**	**+1.2**
PDAR	**Pinedale Array**	**12.74**	**75**	Pn	**Pn**	**20 13 04.2**	**+3.2**
	baz=280,slow=14,SNR=2.1						
PDAR				LR	LR	20 18 32.6	
	comp=E,53nm,21.9s,baz=308,slow=40						
	comp=E,0.3nm,0.8s						
LPIG	**La Paz**	**21.29**	**136**	LR	LR	20 22 07.1	
	comp=E,41nm,19.4s,baz=12,slow=34						
TXAR	**Lajitas Array**	**21.69**	**114**	P	**P**	**20 14 51.8**	**+1.2**
	comp=E,0.2nm,0.6s,baz=307,slow=9.6,SNR=4.0						
	comp=E,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**23.00**	**14**	P	**P**	**20 15 03.6**	**-0.6**
	comp=E,0.1nm,0.4s,baz=199,slow=10,SNR=4.3						
	comp=E,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**23.31**	**55**	P	**P**	**20 15 08.1**	**+0.7**
	comp=E,2.7nm,0.9s,baz=271,slow=11,SNR=3.4						
	comp=E,2.7nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**59.94**	**271**	T	T	21 24 43.7	
	baz=53,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**59.94**	**271**	T	T	21 24 44.4	
	baz=53,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**59.96**	**271**	T	T	21 24 41.2	
	baz=53,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**60.82**	**270**	T	T	21 25 48.9	
	baz=54,slow=75,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**60.82**	**270**	T	T	21 25 51.0	
	baz=54,slow=75,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**60.83**	**270**	T	T	21 25 49.0	
	baz=54,slow=75,SNR=4.6						

WEL 09 20:13:40.3±1.1,34°S±6°×17°8E±1°6, h12km, M3.7/9, mB4.4/2, ML4.0/16, MLv3.7/9, Mw(mB)3.5/2, Error ellipse: s-maj=21.5km s-min=8.0km az=90.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.65**	**178**	P	Pn	20 14 38.0	+1.4
MXZ				S	Sn	20 15 21.4	+1.8
WIAZ	**Waiheke Island**	**3.81**	**220**	P	Pn	20 14 40.3	+1.5
HAZ	**Te Kaha**	**3.86**	**185**	P	Pn	20 14 41.0	+1.5
HAZ				S	Sn	20 15 27.3	+2.6
WMGZ	**Waiomatatini S**	**3.91**	**177**	P	Pn	20 14 41.8	+1.7
RUGZ	**Raukumara Rang**	**4.07**	**186**	P	Pn	20 14 43.7	+1.1
RUGZ				S	Sn	20 15 31.5	+1.3
PUZ	**Puketiti**	**4.16**	**179**	P	Pn	20 14 44.3	+0.6
PUZ				S	Sn	20 15 32.9	+0.7
URZ	**Urewera**	**4.43**	**191**	P	Pn	20 14 48.3	+1.0
URZ				S	Sn	20 15 42.9	+4.0
MWZ	**Matawai**	**4.45**	**187**	P	Pn	20 14 48.6	+0.9
MWZ				S	Sn	20 15 41.6	+2.2
CNGZ	**Carnagh Statio**	**4.57**	**180**	P	Pn	20 14 49.1	-0.2
RTZ	**Ruatahuna**	**4.80**	**191**	P	Pn	20 14 52.0	-0.4
RIGZ	**Rimuhau**	**4.80**	**184**	P	Pn	20 14 51.7	-0.8
RIGZ				S	Sn	20 15 47.7	-0.4
SNGZ	**Shannon Statio**	**4.91**	**188**	P	Pn	20 14 53.7	-0.3
SNGZ				S	Sn	20 15 50.6	-0.2
MTHZ	**Maungataniwha**	**5.05**	**192**	P	Pn	20 14 55.7	-0.3
MTHZ				S	Sn	20 15 55.8	+1.5
RAHZ	**Arahi**	**5.08**	**190**	P	Pn	20 14 55.7	-0.6
RAHZ				S	Sn	20 15 54.9	0.0
KNZ	**Kokohu**	**5.12**	**184**	P	Pn	20 14 55.1	-1.7
KNZ				S	Sn	20 15 52.2	-3.7
NMHZ	**Naumai**	**5.30**	**192**	P	Pn	20 14 59.1	-0.2
ARHZ	**Aropaoanui**	**5.43**	**190**	P	Pn	20 14 59.9	-1.2
KWHZ	**Kaweka Forest**	**5.69**	**194**	P	Pn	20 15 04.0	-0.7
KAHZ	**Kahuranaki**	**5.97**	**190**	P	Pn	20 15 05.7	-2.9
WAZ	**Wanganui**	**6.38**	**203**	P	Pn	20 15 12.1	-2.0

IDC 09 20:44:54.8±2.4,6°.54S×129°.59E, h0km, mb3.2/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=89.6km s-min=29.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.12**	**198**	Pn	Pn	20 47 50.2	+1.4
	0.2nm

comp=Z,15µm,0.3s
AROD Rodeo 1.36 22 eP Pn 20 46 10.4 +0.9
RTLL Cerro Villicun 1.37 86 eP Pn 20 46 09.0 -0.3
RTLL eS Sn 20 46 28.4 -0.7
VA03 San Esteban 1.39 197 Pn 20 46 09.7 +0.1
VA03 Sn Sn 20 46 29.6 0.0
VA03 San Esteban 1.39 197 ⇓iP Pn 20 46 09.8 +0.3
VA03 eS Sn 20 46 30.1 +0.5
VA03 San Esteban 1.39 197 eP Pn 20 46 09.9 +0.3
VA03 eS Sn 20 46 31.3 +1.7
VA03 IAML 20 46 35.1
comp=Z,9µm,0.4s
GO04 Tololo Observa 1.40 333 Pn 20 46 09.7 -0.2
GO04 Sn Sn 20 46 29.4 -0.6
GO04 Tololo Observa 1.40 333 ⇑iP Pn 20 46 09.8 0.0
GO04 eS Sn 20 46 29.6 -0.3
GO04 Tololo Observa 1.40 333 eP Pn 20 46 09.8 0.0
GO04 eS Sn 20 46 31.3 +1.3
CO01 Juntas del Tor 1.45 359 Pn 20 46 11.4 +1.0
CO01 Sn Sn 20 46 31.4 +0.5
CO01 Juntas del Tor 1.45 359 ⇑iP Pn 20 46 11.5 +1.1
CO01 eS Sn 20 46 32.4 +1.5
CO01 IAML 20 46 34.1
comp=E,8µm,0.5s
ACDV Cuesta del Vie 1.50 33 eP Pn 20 46 11.7 +0.8
ACDV eS Sn 20 46 33.2 +1.3
VA06 Catapilco 1.54 222 Pn 20 46 10.1 -1.0
VA06 Sn Sn 20 46 29.6 -2.7
VA06 Catapilco 1.54 222 ⇓iP Pn 20 46 10.2 -0.9
VA06 eS Sn 20 46 30.4 -1.9
VA06 IAML 20 46 35.3
comp=N,14µm,0.5s
CO06 Fray Jorge 1.54 299 Pn 20 46 10.3 -0.8
CO06 Sn Sn 20 46 30.5 -1.8
CO06 Fray Jorge 1.54 299 ⇑iP Pn 20 46 10.5 -0.7
CO06 eS Sn 20 46 30.5 -1.8
CO06 IAML 20 46 35.9
comp=E,8µm,0.3s
ASAL Salagasta 1.56 138 eP Pn 20 46 12.1 +0.6
CFA Coronel Fontan 1.58 97 P Pn 20 46 11.7 +0.1
comp=E,360nm,0.4s,baz=259,slow=11,SNR=1260
CFA S Sn 20 46 33.1 -0.2
comp=E,3µm,0.4s,baz=355,slow=16,SNR=228
ARCO CERRO ARCO 1.71 146 eP Pn 20 46 14.4 +1.0
ARCO eS Sn 20 46 32.4 -3.9
ARCO eS 20 46 38.2
ARCO IAML 20 46 39.1
comp=Z,8µm,0.5s
ROCH El Roble 1.73 207 ⇓iP Pn 20 46 13.2 -0.5
ROCH eS Sn 20 46 36.1 -0.8
ROCH IAML 20 46 37.4
comp=E,10µm,0.4s
ROC1 El Roble 1.74 207 eP Pn 20 46 12.8 -1.0
ROC1 eS Sn 20 46 37.2 +0.1
PEL Peldehue 1.79 197 Pn 20 46 13.4 -0.8
PEL Sn Sn 20 46 37.0 -0.8
PEL Peldehue 1.79 197 eP Pn 20 46 13.7 -0.4
PEL eS Sn 20 46 37.0 -0.8
PEL IAML 20 46 39.0
comp=N,7µm,0.1s
PEL Peldehue 1.79 197 eP Pn 20 46 14.1 -0.1
PEL eS Sn 20 46 38.4 +0.6
MT10 Hacienda Santa 1.88 192 ⇓iP Pn 20 46 15.7 +0.3
MT10 eS Sn 20 46 40.2 +0.3
FCH Farellones 1.90 186 ⇓iP Pn 20 46 16.6 +0.7
FCH eS Sn 20 46 42.2 +1.5
FCH IAML 20 46 43.8
comp=E,8µm,0.3s
AAGR Agrelo 1.96 148 eP Pn 20 46 17.4 +1.0
AAGR eS Sn 20 46 28.8 -13
MT04 Ro Olivares 1.97 182 ⇓iP Pn 20 46 17.4 +0.8
MT04 eS Sn 20 46 43.3 +1.2
MT14 Cerro Cal¡n 2.00 191 ⇓iP Pn 20 46 17.1 +0.2
MT14 eS Sn 20 46 42.6 +0.1
MT14 IAML 20 46 46.1
comp=E,9µm,0.6s
MT08 Bocatoma Ro 2.01 179 Pn 20 46 18.2 +1.1
MT08 Sn Sn 20 46 43.9 +0.9
MT08 Bocatoma Ro 2.01 179 ⇓iP Pn 20 46 18.4 +1.3
MT08 eS Sn 20 46 44.1 +1.1
MT16 CCHEN 2.03 191 Pn 20 46 17.4 +0.2
MT16 Sn Sn 20 46 42.8 -0.3
MT16 CCHEN 2.03 191 ⇓iP Pn 20 46 17.4 +0.2
MT16 eS Sn 20 46 42.9 -0.3
MT16 IAML 20 46 45.4
comp=N,5µm,0.7s
MT02 Curacav 2.04 206 Pn 20 46 16.2 -1.0
MT02 Sn Sn 20 46 40.8 -2.4
MT02 Curacav 2.04 206 ⇓iP Pn 20 46 16.3 -1.0
MT02 eS Sn 20 46 41.5 -1.6
MT02 IAML 20 46 44.4
comp=E,5µm,0.4s
MT05 Renca 2.04 196 Pn 20 46 17.0 -0.2
MT05 Sn Sn 20 46 41.9 -1.4
MT05 Renca 2.04 196 eP Pn 20 46 17.2 -0.1
MT05 eS Sn 20 46 42.8 -0.5
MT05 Renca 2.04 196 eP Pn 20 46 16.7 -0.6
MT05 eS Sn 20 46 43.8 +0.5
MT05 IAML 20 46 45.2
comp=Z,7µm,0.6s
MT03 Universidad Ad 2.09 190 Pn 20 46 18.1 +0.1
MT03 Sn Sn 20 46 44.6 0.0
MT03 Universidad Ad 2.09 190 ⇓iP Pn 20 46 18.3 +0.3
MT03 eS Sn 20 46 44.8 +0.2
MT03 IAML 20 46 47.1
comp=E,11µm,0.4s
MT03 Universidad Ad 2.09 190 eP Pn 20 46 18.3 +0.3
MT03 eS Sn 20 46 45.9 +1.3
MT03 IAML 20 46 49.7
comp=Z,8µm,0.2s
MT15 Las Vizcachas 2.19 189 ⇓iP Pn 20 46 19.5 +0.3
MT15 eS Sn 20 46 46.4 -0.4
MT15 IAML 20 46 49.9
comp=E,10µm,0.3s
MT13 San Alfonso 2.31 184 Pn 20 46 21.3 +0.5
MT13 San Alfonso 2.31 184 eP Pn 20 46 21.4 +0.5
MT13 eS Sn 20 46 50.4 +0.7
MT13 IAML 20 46 53.8
comp=N,6µm,0.2s
MT12 Pirque 2.33 190 ⇓iP Pn 20 46 20.9 -0.1
MT12 eS Sn 20 46 49.6 -0.3
MT12 IAML 20 46 55.5
comp=E,8µm,0.6s
AGUA GUANDACOL 2.37 36 eP Pn 20 46 22.5 +1.0
AGUA eS Sn 20 46 52.3 +1.4
AGUA IAML 20 46 54.6
comp=Z,4µm,0.3s
AVFE Valle Fertil 2.37 72 eP Pn 20 46 21.4 -0.1
AVFE eS Sn 20 46 44.9 -6.0
AVFE eS 20 46 50.7
LMEL Las Melosas 2.41 183 Pn 20 46 22.7 +0.5
LMEL Las Melosas 2.41 183 ⇓iP Pn 20 46 22.7 +0.5
LMEL eS Sn 20 46 52.7 +0.8
LMEL IAML 20 46 57.9
comp=N,5µm,0.2s
MT09 Talagante 2.46 198 Pn 20 46 21.5 -1.2
MT09 Talagante 2.46 198 ⇓iP Pn 20 46 21.8 -0.9
MT09 eS Sn 20 46 51.2 -1.8
MT09 IAML 20 46 53.8
comp=N,6µm,0.1s
LCO Las Campanas 2.47 347 Pn 20 46 22.8 -0.2
LCO Las Campanas 2.47 347 ⇑iP Pn 20 46 22.8 -0.2
LCO eS Sn 20 46 52.2 -1.2
VA05 Santo Domingo 2.58 210 Pn 20 46 22.4 -1.6
VA05 Santo Domingo 2.58 210 eP Pn 20 46 22.6 -1.5
BO04 La Punta 2.59 190 Pn 20 46 24.1 -0.2
BO04 La Punta 2.59 190 ⇓iP Pn 20 46 23.9 -0.4
BO04 IAML 20 46 56.0
comp=E,4µm,0.3s
MT01 Popeta 2.62 202 Pn 20 46 23.5 -1.2
MT01 Popeta 2.62 202 ⇓iP Pn 20 46 23.6 -1.2
MT01 IAML 20 46 56.1
comp=E,3µm,0.1s
ACHE Chepes 2.93 86 eP Pn 20 46 28.6 -0.2
BO01 Tunca 3.08 196 Pn Pn 20 46 29.0 -1.5
BO01 Tunca 3.08 196 ⇓iP Pn 20 46 29.3 -1.2
BO01 IAML 20 47 05.9
comp=N,2µm,0.3s
BO01 Tunca 3.08 196 eP Pn 20 46 29.4 -1.2
BO01 eS Sn 20 47 05.1 -1.9
BO01 IAML 20 47 06.4
comp=Z,1µm,0.5s
VCA Vinchina 3.13 32 eP Pn 20 46 32.4 +0.9
VCA eS Sn 20 47 11.6 +2.9
VCA IAML 20 47 15.6
comp=Z,2µm,0.4s
APLL PUNTA DE LOS L 3.22 72 eP Pn 20 46 32.0 -0.5
APLL eS Sn 20 47 09.3 -1.2
AC04 Llanos de Chal 3.33 345 Pn Pn 20 46 33.6 -0.4
AC04 Llanos de Chal 3.33 345 ⇑iP Pn 20 46 33.5 -0.4
AC04 IAML 20 47 20.6
comp=N,2µm,0.5s
ACLC CERRO LA CRUZ 3.35 54 eP Pn 20 46 34.0 -0.5
ACLC eS Sn 20 47 13.7 -0.2
BO02 Sierra Bellavi 3.41 190 Pn Pn 20 46 34.0 -1.0
BO02 Sierra Bellavi 3.41 190 ⇓iP Pn 20 46 34.3 -0.7
BO02 Sierra Bellavi 3.41 190 eP Pn 20 46 34.4 -0.7
BO02 eS Sn 20 47 14.4 -0.5
BO02 IAML 20 47 15.5
comp=Z,2µm,0.6s
RFA San Rafael 3.59 158 eP Pn 20 46 37.1 -0.4
RFA eP 20 46 37.2
RFA eS Sn 20 47 18.7 -0.7
RFA IAML 20 47 21.6
comp=Z,979nm,0.6s
AC06 Mina Casimiro 4.07 356 Pn Pn 20 46 43.1 -0.6
AC06 Mina Casimiro 4.07 356 eP Pn 20 46 43.2 -0.6
ML02 Panimavida 4.46 194 Pn Pn 20 46 47.1 -1.9
AC02 Maricunga 4.65 10 Pn Pn 20 46 51.8 -0.3
AC02 Maricunga 4.65 10 ⇓iP Pn 20 46 51.9 -0.1
TCA Tanti 4.69 90 IAML 20 48 19.5
comp=Z,719nm,0.8s
AC01 Pan de Azucar 5.28 355 Pn 20 46 58.1 -1.9
BI02 San Fabin de 5.32 190 Pn Pn 20 46 58.6 -1.9
BI05 Punta Hualpn 5.90 205 Pn 20 47 04.9 -3.4
GO02 Mina Guanaco 6.26 4 Pn Pn 20 47 10.9 -2.6
GO02 Mina Guanaco 6.26 4 eP Pn 20 47 11.6 -1.9
CANA Caviahue 6.49 187 eS Sn 20 48 24.4 -4.9
PB14 IPOC Station P 6.78 357 Pn Pn 20 47 16.8 -3.8
VA04 Juan Fernndez 7.72 251 Pn Pn 20 47 32.2 -0.7
PLCA Paso Flores 9.29 182 Pn Pn 20 47 52.1 -2.1
PLCA Paso Flores 9.29 182 P Pn 20 47 53.4 -0.8
comp=Z,1.9nm,0.4s,baz=350,slow=11,SNR=15
PLCA S Sn 20 49 34.7 -2.2
comp=Z,8.0nm,0.8s,baz=55,slow=17,SNR=3.2
TRQA Tornquist 9.38 137 Pn Pn 20 47 53.5 -1.9
PB09 IPOC Station P 9.62 5 Pn 20 47 57.4 -1.5
PSAL Palomas, Salto 10.68 91 eP Pn 20 48 10.2 -2.6
TBOT Tacuaremb 12.06 95 eP Pn 20 48 28.1 -3.1
CPUP Villa Florida 12.27 69 Pn Pn 20 48 29.5 -4.4
CPUP Villa Florida 12.27 69 P Pn 20 48 29.4 -4.6
comp=Z,1.1nm,0.7s,baz=51,slow=9.5,SNR=2.9
CPUP S Sn 20 50 44.3 -4.7
comp=Z,6.1nm,0.5s,baz=240,slow=15,SNR=2.1
CPUP Villa Florida 12.27 69 eP Pn 20 48 30.0 -3.9
PB12 IPOC Station P 12.76 359 Pn Pn 20 48 40.1 -0.5
AY01 Puyuhuapi 13.13 188 Pn Pn 20 48 46.5 +1.5
PB18 Visviri 13.79 2 Pn Pn 20 48 56.1 +1.8
SJPY San Joaquin 13.88 66 eP Pn 20 48 53.0 -1.9
PLTB Pedras Altas 14.04 96 Pn Pn 20 48 53.0 -4.0
PLTB Pedras Altas 14.04 96 eP Pn 20 48 52.3 -4.6
COYC Coyhaique 14.21 186 Pn Pn 20 48 59.6 +0.7
CPSB Cacapava Do Su 14.32 90 eP Pn 20 48 58.5 -2.0
MURT Porto Murtinho 14.79 52 eP Pn 20 49 06.5 0.0
LPAZ La Paz 15.18 7 Pn Pn 20 49 12.2 +0.2
LPAZ La Paz 15.18 7 P P 20 49 12.9 -1.3
comp=Z,30nm,0.8s,baz=175,slow=7.9,SNR=52
LPAZ La Paz 15.18 7 eP Pn 20 49 02.9 -9.1
ITAB Concordia 16.19 80 P 20 49 24.9 +0.1
ITAB Concordia 16.19 80 eP P 20 49 24.4 -0.3
BDQN Bodoquena, MS 16.20 51 eP P 20 49 25.2 +0.3
AQDB Aquidauana 16.89 53 P Pn 20 49 33.2 +0.7
AQDB Aquidauana 16.89 53 eP Pn 20 49 33.4 +0.9
PTGB Pitanga 17.23 72 eP Pn 20 49 38.3 +1.6
SIV San Ignacio 17.42 30 P P 20 49 37.6 -0.8
comp=Z,10.0nm,0.7s,baz=214,slow=13,SNR=45
RPRD Ribas do Rio P 18.30 57 eP Pn 20 49 49.8 +0.4
TER01 Tubaro-SC 18.37 86 eP Pn 20 49 49.8 -0.5
LDASE Londrina, Braz 18.62 69 eP P 20 49 52.0 +0.5
MAJ01 Sao Joao Batis 18.78 83 eP P 20 49 54.0 +0.8
PTLB Pontes e Lacer 18.79 35 P P 20 49 52.4 -0.9
PTLB Pontes e Lacer 18.79 35 eP P 20 49 52.8 -0.5
SALV Santo Antonio 20.27 44 eP P 20 50 09.6 +0.1
MG05 Puerto Natales 20.31 184 P P 20 50 10.6 +1.1
NNA Nana 20.33 341 P P 20 50 09.6 -0.6
NNA Nana 20.33 341 P P 20 50 10.3 +0.2
comp=Z,18nm,0.6s,baz=213,slow=13,SNR=7.0
comp=Z,18nm,0.6s
VILB Vilhena 20.51 28 P P 20 50 11.7 -0.3
VILB Vilhena 20.51 28 eP P 20 50 10.3 -1.7
ITRB Iturama 21.23 61 eP P 20 50 20.8 +1.0
SPB Sao Paulo 21.52 74 eP P 20 50 24.5 +1.8
BB19B Bebedouro 21.87 67 eP P 20 50 27.7 +1.1
EFI East Falkland 22.08 160 P P 20 50 27.9 -0.4
MG03 Isla Dawson 22.41 181 P P 20 50 32.2 +0.6
PDRB Porto dos Gac 23.26 35 eP P 20 50 40.6 +0.4
CZSB Cruzeiro do Su 23.71 354 P P 20 50 44.6 +0.3
CZSB Cruzeiro do Su 23.71 354 eP P 20 50 39.8 -4.5
IPMB Ipameri, GO 23.89 61 eP P 20 50 45.9 -0.1
CLDB Colider 24.36 36 eP P 20 50 49.7 -0.4
BDFB Brasilia 25.53 57 P P 20 51 00.4 -0.6
BDFB Brasilia 25.53 57 P P 20 51 01.1 +0.1
comp=Z,8.8nm,0.7s,baz=229,slow=9.3,SNR=15
comp=Z,8.8nm,0.7s
SNDB Serra Nova Dou 25.98 46 eP P 20 51 05.0 +0.1
DUB01 Friburgo-RJ 26.37 76 eP P 20 51 09.7 +1.2
TBTG Tabatinga, AM 27.10 0 P P 20 51 15.1 +0.1
TBTG Tabatinga, AM 27.10 0 eP P 20 51 11.5 -3.5
NPGB Novo Progresso 27.89 33 eP P 20 51 22.1 +0.1
TEFE Tefe 28.24 12 eP P 20 51 22.5 -2.5
JANB Januaria 28.63 61 eP P 20 51 28.8 +0.2
ITTB Itaituba 30.11 29 eP P 20 51 40.3 -1.4
MAL2 Monte Alegre, 32.88 30 P P 20 52 05.0 -0.9
MAL2 IAmb IAmb 20 52 07.4
comp=Z,20nm,0.9s
ESPZ Base Esperanza 33.05 169 P P 20 52 07.3 +0.4
BOAV Boa Vista 34.84 17 P P 20 52 22.3 -0.6
BOAV IAmb IAmb 20 52 23.7
comp=Z,9.2nm,0.8s
BOAV Boa Vista 34.84 17 eP P 20 52 21.2 -1.8
ROSC El Rosal 36.29 353 P P 20 52 36.6 +0.8
ROSC IAmb IAmb 20 52 41.1
comp=Z,19nm,0.8s
ROSC El Rosal 36.29 353 P P 20 52 38.0 +2.3
comp=Z,18nm,0.5s,baz=230,slow=17,SNR=7.4
comp=Z,18nm,0.5s
RUSC La Rusia 37.22 355 P P 20 52 44.8 +1.1
SDV Santo Domingo 40.09 359 P P 20 53 05.7 -1.6
SDV IAmb IAmb 20 53 08.5
comp=Z,12nm,0.8s
SMRC Santa Marta, M 42.54 354 P P 20 53 27.0 0.0
TGUH Tegucigalpa,Un 48.15 337 P P 20 54 12.2 +0.7
BELA Belgrano 2 49.13 171 P P 20 54 18.8 +0.7
BELA IAmb IAmb 20 54 20.6
comp=Z,16nm,1.2s
IGPR InterUniversit 49.26 5 P P 20 54 19.1 -0.6
OBIP Obispado Ponce 49.30 4 P P 20 54 18.9 -1.2
PDPR Patillas Dam, 49.32 5 P P 20 54 18.8 -1.4
CELP Cerrillos 49.33 4 P P 20 54 19.7 -0.7
SJG San Juan 49.40 5 P P 20 54 20.2 -0.7
VNA3 Neumayer Olymp 51.13 159 ⇑P P 20 54 34.2 +0.9
comp=Z,22nm,0.6s
VNA2 Neumayer--Watz 51.75 158 ⇑P P 20 54 39.2 +1.2
comp=Z,42nm,0.5s,baz=277,slow=8.4
SNAA Sanae 53.35 159 P P 20 54 49.9 +0.1
SNAA Sanae 53.35 159 ⇑P P 20 54 50.5 +0.6
comp=Z,418nm,0.5s
SNAA Sanae 53.35 159 P P 20 54 50.0 +0.1
comp=Z,24nm,0.7s,baz=286,slow=8.0,SNR=60
comp=Z,24nm,0.7s
TEIG Tepich 54.25 339 P P 20 54 56.4 -0.4
TROLL Troll, Antarti 55.07 159 ⇑P P 20 55 03.5 +1.1
comp=Z,968nm,0.7s
QSPA South Pole Qui 58.80 180 P P 20 55 29.7 +1.0
QSPA IAmb IAmb 20 55 31.0
comp=Z,11nm,0.9s
QSPA South Pole Qui 58.80 180 P P 20 55 30.4 +1.7
comp=Z,6.5nm,0.7s,baz=148,slow=2.4,SNR=39
QSPA pP pP 20 56 01.1 +1.9
comp=Z,2.8nm,0.7s,baz=175,slow=2.2,SNR=2.5
comp=Z,6.5nm,0.7s
ZAIG Zacatecas 62.24 326 P P 20 55 52.8 0.0
833A Chaparral WMA, 65.66 332 P P 20 56 16.1 +1.5
GOGA Godfrey 65.72 348 P P 20 56 15.0 +0.1
HNDO Hondo 66.68 332 P P 20 56 22.1 +0.9
DRIO Del Rio 67.13 331 P P 20 56 24.8 +0.8
DRIO IAmb IAmb 20 57 37.8
comp=Z,23nm,0.9s
BG3 Lake Jocassee 67.17 349 P P 20 56 24.3 +0.2
SYO Syowa Base 67.64 158 ⇑eP P 20 56 26.8 +0.1
JCT Junction City 67.73 332 P P 20 56 28.5 +0.6
JCT IAmb IAmb 20 56 30.4
comp=Z,22nm,1.1s
V53A Saluda 67.81 349 P P 20 56 28.2 -0.1
V53A IAmb IAmb 20 56 29.6
comp=Z,8.7nm,0.9s
CPCT Cooper Cave 67.90 347 P P 20 56 29.1 +0.4
CPCT IAmb IAmb 20 56 30.3
comp=Z,8.8nm,0.8s
TKL Tuckaleechee C 67.96 348 P P 20 56 29.4 +0.3
TKL IAmb IAmb 20 56 30.3
comp=Z,6.6nm,0.7s
BRDY Brady 68.14 334 P P 20 56 30.9 +0.5
BRDY IAmb IAmb 20 58 31.2
comp=Z,9.3nm,0.9s
TXAR Lajitas Array 68.36 329 P P 20 56 32.9 +1.0
TXAR Lajitas Array 68.36 329 P P 20 56 33.5 +1.7
comp=Z,3.5nm,0.5s,baz=154,slow=8.4,SNR=40
comp=Z,3.5nm,0.5s
U54A Nelsons Funny 68.49 350 P P 20 56 32.7 +0.2
U54A IAmb IAmb 20 56 33.9
comp=Z,19nm,1.1s
V48A Smith Brothers 68.64 345 P P 20 56 33.5 +0.1
V48A IAmb IAmb 20 56 34.6
comp=Z,13nm,0.7s
WVT Waverly 69.24 345 P P 20 56 37.4 +0.4
WVT IAmb IAmb 20 56 38.4
comp=Z,23nm,0.8s
R55A Marlinton 69.98 352 IAmb IAmb 20 56 44.0
comp=Z,16nm,0.8s
LCAR Lake Charles 70.00 342 P P 20 56 42.1 +0.4
LCAR IAmb IAmb 20 56 43.3
comp=Z,9.9nm,0.7s
SSFO Shawnee State 70.83 349 P P 20 56 46.6 -0.1
SSFO IAmb IAmb 20 56 48.0
comp=Z,11nm,0.9s
WCI Wyandotte Cave 70.93 347 P P 20 56 46.5 -0.9
WCI IAmb IAmb 20 56 48.2
comp=Z,9.2nm,0.8s
CLN7 Carlsbad 7 71.07 330 P P 20 56 49.7 +1.3
MNTX Cornudas Mount 71.14 329 P P 20 56 48.1 -0.6
FVM French Village 71.62 343 P P 20 56 51.8 +0.3
FVM IAmb IAmb 20 56 53.2
comp=Z,15nm,0.8s
CCM Cathedral Cave 71.90 343 P P 20 56 53.3 +0.2
CCM IAmb IAmb 20 56 55.0
comp=Z,11nm,0.8s
P49A Miami Univ. Ec 71.90 348 P P 20 56 53.0 -0.1
P49A IAmb IAmb 20 56 54.2
comp=Z,19nm,1.1s
ACSO Alum Creek Sta 72.30 350 P P 20 56 55.8 +0.3
ACSO IAmb IAmb 20 56 56.8
comp=Z,24nm,0.7s
N49A Columbus Grove 73.16 349 P P 20 57 00.9 +0.4
N49A IAmb IAmb 20 57 01.9
comp=Z,22nm,0.8s
P38A Dawn 73.98 341 P P 20 57 05.5 +0.2
ANMO Albuquerque 74.37 330 P P 20 57 08.8 +0.8
SUR Sutherland 74.61 119 P P 20 57 10.6 +0.9
HAL Halifax 75.93 5 P P 20 57 17.8 +1.3
WBO Williamsburg 76.21 356 P P 20 57 18.9 +0.9
WBO IAmb IAmb 20 57 20.1
comp=Z,14nm,0.7s
JFWS Jewell Farm 76.27 345 P P 20 57 18.8 +0.4
JFWS IAmb IAmb 20 57 19.6
comp=Z,12nm,0.8s
Q24A Divide 77.27 333 P P 20 57 25.6 +1.1
Q24A IAmb IAmb 20 57 27.4
comp=Z,9.2nm,0.7s
TRQ Mont Tremblant 77.39 357 P P 20 57 25.4 +0.7
SOE Somerset East 77.98 121 P P 20 57 29.3 +0.7
ECSD EROS Data Cent 78.64 341 P P 20 57 31.9 +0.3
ECSD IAmb IAmb 20 57 33.4
comp=Z,15nm,0.9s
PKCU Pink Cliffs 79.07 327 P P 20 57 35.4 +0.8
PKCU IAmb IAmb 20 58 46.1
comp=Z,26nm,1.8s
VLDQ Val d'Or 79.46 355 P P 20 57 37.0 +1.1
VLDQ IAmb IAmb 20 57 38.0
comp=Z,12nm,0.9s
MTPU Mount Pierson 79.50 327 P P 20 57 38.2 +1.4
SHPR Sheep Range 79.69 325 P P 20 57 38.6 +0.8
BOSA Boshof 79.78 117 P P 20 57 38.3 -0.3
BOSA IAmb IAmb 21 00 05.4
comp=Z,52nm,1.9s
BOSA Boshof 79.78 117 P P 20 57 38.9 +0.3
comp=Z,3.2nm,0.7s,baz=270,slow=4.0,SNR=5.0
BOSA pP pP 20 58 10.1 +0.3
comp=Z,4.4nm,0.8s,baz=261,slow=4.8,SNR=3.6
comp=Z,3.2nm,0.7s
PRN Pahroc Range 80.35 325 P P 20 57 42.5 +1.3
TPNV Topopah Spring 80.58 324 P P 20 57 44.0 +1.5
DRLN Deer Lake 81.10 8 P P 20 57 45.6 +0.9
DRLN IAmb IAmb 20 58 28.5
comp=Z,62nm,1.8s
EYMN Ely 81.32 346 P P 20 57 46.5 +0.5
DUG Dugway, Tooele 81.53 328 P P 20 57 48.3 +0.9
TORD Torodi Ar. Bea 81.76 69 P P 20 57 49.3 +0.2
TORD Torodi Ar. Bea 81.76 69 P P 20 57 49.6 +0.5
comp=Z,1.5nm,0.3s,baz=284,slow=5.5,SNR=1.2
TORD pP pP 20 58 20.8 +0.4
comp=Z,2.5nm,0.3s,baz=278,slow=4.8,SNR=1.8
LBTB Lobatse 81.86 114 P P 20 57 49.8 +0.1
LBTB IAmb IAmb 20 57 51.4
comp=Z,56nm,1.9s
PDAR Pinedale Array 82.25 332 P P 20 57 51.4 +0.1
PDAR Pinedale Array 82.25 332 P P 20 57 52.0 +0.7
comp=Z,1.5nm,0.7s,baz=138,slow=6.5,SNR=13
comp=Z,1.5nm,0.7s
LHV Little Huntoon 82.72 324 P P 20 57 55.3 +1.9
NVAR Mina Array Bea 82.76 324 P P 20 57 55.5 +1.5
comp=Z,2.2nm,0.7s,baz=148,slow=5.5,SNR=9.9
comp=Z,2.2nm,0.7s
ELK Elko 83.08 327 P P 20 57 56.3 +0.7
LAO LASA Array 84.33 336 P P 20 58 02.0 +0.4
LAO IAmb IAmb 20 58 03.6
comp=Z,17nm,1.4s
ULM Lac du Bonnet 84.48 344 P P 20 58 02.0 -0.1
comp=Z,5.2nm,0.7s,baz=160,slow=4.5,SNR=13
comp=Z,5.2nm,0.7s
HLID Hailey 84.95 329 P P 20 58 06.2 +1.2
SCHQ Schefferville 85.95 2 P P 20 58 09.7 +0.3
comp=Z,4.9nm,0.8s,baz=188,slow=3.9,SNR=10
comp=Z,4.9nm,0.8s
PLID Pearl Lake 86.85 329 P P 20 58 15.3 +1.0
PLID IAmb IAmb 20 58 16.6
comp=Z,7.7nm,0.8s
BPMT Black Pine Rid 86.85 332 P P 20 58 15.2 +0.9
I07A Izee 87.66 327 P P 20 58 19.1 +1.0
PINE Pine Mountain 88.12 326 P P 20 58 22.0 +1.6
PINE IAmb IAmb 20 58 23.4
comp=Z,14nm,0.8s
FCC Fort Churchill 92.06 348 P P 20 58 39.1 +1.1
FCC IAmb IAmb 20 58 40.0
comp=Z,5.9nm,0.7s
YKA Yellowknife Ar 100.17 341 P Pdif 20 59 15.4 +0.5
comp=Z,0.1nm,0.3s,baz=120,slow=4.9,SNR=4.3
ASAR Alice Springs 120.60 206 PKP PKiKP 21 04 21.0 -0.5
comp=Z,0.2nm,0.7s,baz=140,slow=1.5,SNR=1.6
ASAR PKKPbc PKKPbc 21 14 26.6 +0.1
comp=Z,0.3nm,0.6s,baz=343,slow=3.6,SNR=5.1
ARCES ARCESS Array B 121.00 24 PKP PKiKP 21 04 21.0 +0.3
comp=Z,5.7nm,1.2s,baz=300,slow=1.4,SNR=1.8
WRA Warramunga Arr 123.81 208 PKP PKiKP 21 04 27.7 -0.2
comp=Z,0.6nm,0.4s,baz=147,slow=1.8,SNR=4.8
SEY Seymchan 138.59 332 PKP PKPdf 21 04 53.0 -1.0
comp=Z,1.3nm,0.6s,baz=118,slow=2.5,SNR=9.6
BVAR Borovoye Array 144.27 41 PKP PKPdf 21 05 05.0 +0.5
comp=Z,2.4nm,0.6s,baz=329,slow=1.7,SNR=11
BVAR pPKP pPKPdf 21 05 39.6 +1.1
comp=Z,1.4nm,0.5s,baz=312,slow=2.8,SNR=3.9
YAK Yakutsk 146.81 343 PKPbc PKPab 21 05 11.0 -1.1
comp=Z,26nm,0.7s,baz=245,slow=0.8,SNR=13
AAK Ala-Archa 149.79 58 PKPbc PKiKP 21 05 20.5 +0.4
comp=Z,2.6nm,0.7s,baz=202,slow=3.7,SNR=13
AAK pPKPbc pPKPbc 21 05 54.8 +1.9
comp=Z,7.7nm,0.7s,baz=216,slow=2.3,SNR=12
KURBB Kurchatov Arra 149.86 41 PKPbc PKiKP 21 05 20.2 +0.4
comp=Z,2.8nm,0.7s,baz=299,slow=3.2,SNR=14
KURBB pPKPbc pPKPbc 21 05 53.6 +1.1
comp=Z,3.7nm,0.8s,baz=299,slow=3.0,SNR=9.2

ZALV Zalesovo Beam 151.17 31 PKPbc **PKiKP 21 05 23.1 +0.8**
comp=Z,11nm,0.4s,baz=316,slow=3.2,SNR=50
ZALV pPKPbc **pPKPbc 21 05 55.0 -0.5**
comp=Z,3.9nm,0.4s,baz=317,slow=3.3,SNR=5.3
MKAR Makanchi Array 153.81 46 PKPbc **PKiKP 21 05 28.8 +0.7**
comp=Z,1.4nm,0.8s,baz=307,slow=2.1,SNR=9.8
MKAR PKPab **PKPab 21 05 42.6 +1.0**
comp=Z,1.2nm,0.5s,baz=291,slow=3.5,SNR=10
MKAR pPKPbc **pPKPbc 21 06 02.8 +1.0**
comp=Z,2.5nm,0.7s,baz=313,slow=2.6,SNR=9.7
MJAR Matsushiro Arr 156.04 290 PKPab **PKPab 21 05 51.8 +0.3**
comp=Z,2.0nm,0.7s,baz=109,slow=2.4,SNR=6.2
SONM Songino Array 163.39 8 PKPab **PKPab 21 06 24.5 +1.5**
comp=Z,1.1nm,0.7s,baz=328,slow=4.5,SNR=10.0

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*IDC **09** 20:48:37.9±2.0, 2°.64N×125°.21E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=180.6km s-min=27.6km az=64.0*
*DJA **09** 20:48:41.6±0.7, 4°N±12°×12°7E±°, h29km±11km, M3.9/6, mB5.1/1, mb4.2/2, MLv3.8/6, Mw(mB)4.5/1*
ISC 09 20:48:41.7±1.5, 3.7N±0°.2×127°.2E±0°.1, h48km, n6, σ0s52/7, mb3.3/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.62**	**271**	P	**Pn**	**20 49 07.6**	**-0.2**
SGSI				S	**Sn**	**20 49 27.2**	**-0.2**
LUWI	**Luwuk**	**6.40**	**223**	P	**Pn**	**20 50 14.0**	**+0.5**
WRA	**Warramunga Arr**	**24.50**	**164**	P	**P**	**20 53 56.5**	**-0.1**
	0.5nm,0.6s,baz=337,slow=11,SNR=4.7 0.5nm,0.6s						
ASAR	**Alice Springs**	**27.95**	**167**	P	**P**	**20 54 27.2**	**-0.7**
	0.2nm,0.4s,baz=350,slow=7.7,SNR=4.2 0.2nm,0.4s						
STKA	**Stephens Creek**	**37.92**	**160**	P	**P**	**20 55 54.4**	**-0.2**
	0.8nm,0.5s,baz=346,slow=8.3,SNR=3.1 0.8nm,0.5s						
MKAR	**Makanchi Array**	**57.85**	**325**	P	**P**	**20 58 29.0**	**+0.5**
	0.2nm,0.7s,baz=118,slow=7.4,SNR=1.6 0.2nm,0.7s						

JMA 09 20:53:25.3±0.1, 24°.3N±0°.4×124°.0E±0°.3, h0km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.10**	**152**	*i* P	Pg	20 53 27.6	+0.3
JKRS				*e*S	Sg	20 53 29.7	+1.0
JIJ	**Ishigaki jima**	**0.17**	**79**	*e*P	Pg	20 53 28.9	+0.3
JIJ				S	Sg	20 53 32.0	+1.1
IRIF	**Iriomote-Funau**	**0.21**	**271**	*e*P	Pg	20 53 29.8	+0.6
HATJ	**Hateruma jima**	**0.31**	**207**	*e*S	Sg	20 53 36.0	+0.9
JISG	**Ishigakijimahi**	**0.41**	**52**	*e*P	Pg	20 53 34.1	+0.9

TAP 09 20:53:58.4, 24°.68N×122°.11E, h7km, ML2.4, 1C-1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.25**	**253**	↓*i* P	Pg	20 54 03.5	+0.3
TWC				*i* S	Sg	20 54 07.2	+0.6
ESAO	**Su ao**	**0.26**	**246**	P	Pg	20 54 04.0	+0.4
ESAO				S	Sg	20 54 07.4	+0.3
EOS2	**EOS2**	**0.29**	**157**	↑*i* P	Pg	20 54 03.9	-0.1
EOS2				*i* S	Sg	20 54 08.5	+0.8
ILA	**Ilan**	**0.34**	**284**	*e*P	Pb	20 54 05.9	-0.8
TWB1	**Santiao Chiao**	**0.34**	**341**	*i* P	Pg	20 54 05.6	+0.5
NDS	**Dongshan**	**0.36**	**262**	*e*P	Pg	20 54 06.2	+0.8
EWUT	**Wuta**	**0.38**	**232**	*e*P	Pg	20 54 06.4	+0.6
EWUT				*e*S	Sb	20 54 13.0	-0.6
TIPB	**Shuangxi**	**0.39**	**318**	P	Pb	20 54 07.0	-0.6
TIPB				*e*S	Sg	20 54 12.1	+1.1
TWE	**Neicheng**	**0.40**	**275**	*i* P	Pg	20 54 06.5	+0.3
TWE				*e*S	Sb	20 54 13.9	-0.3
ENA	**Nanau**	**0.42**	**233**	*e*P	Pg	20 54 06.3	-0.2
ENA				S	Sg	20 54 12.6	+0.5
EOS3	**EOS3**	**0.44**	**154**	P	Pg	20 54 06.5	-0.3
SXI1	**Grass Mountain**	**0.46**	**333**	*e*P	Pb	20 54 09.0	+0.1
FUSB	**Fushanzhiwuyua**	**0.48**	**279**	P	Pg	20 54 08.3	+0.6
FUSB				*e*S	Sb	20 54 16.0	-0.6
EAHA	**Aohua**	**0.49**	**224**	*e*P	Pg	20 54 08.5	+0.7
EAHA				*e*S	Sb	20 54 15.9	-0.7
NWF	**Wu-fen Shan**	**0.49**	**323**	*e*P	Pb	20 54 09.2	-0.1
WFSB	**Wu-fen Shan**	**0.49**	**323**	*e*P	Pb	20 54 09.8	+0.5
ENTT	**Nioudou**	**0.49**	**265**	P	Pg	20 54 08.6	+0.7
ENTT				S	Sb	20 54 15.9	-1.0
LATG	**Datong**	**0.55**	**255**	P	Pg	20 54 09.3	+0.3
LATG				S	Sb	20 54 18.7	+0.1
TNOU	**National Taiwa**	**0.56**	**327**	*e*P	Pg	20 54 08.7	-0.4
NWLT	**Wulai**	**0.56**	**280**	*e*P	Pb	20 54 10.3	-0.2
EOS4	**EOS4**	**0.59**	**161**	P	Pg	20 54 09.2	-0.5
NHY	**Taipei**	**0.60**	**306**	*e*P	Pb	20 54 11.3	0.0
YHNB	**Yeheng**	**0.67**	**269**	*e*P	Pb	20 54 12.1	-0.3
YHNB				*e*S	Sb	20 54 21.7	-0.2
YM01	**YM01**	**0.67**	**313**	*e*P	Pb	20 54 13.2	+0.7
NSK	**Sanguang**	**0.68**	**270**	*e*P	Pg	20 54 12.0	+0.5
YM08	**YM08**	**0.69**	**317**	*e*P	Pb	20 54 13.4	+0.6
YM08				*e*S	Sb	20 54 23.4	+0.9
NACB	**Ninganchiao**	**0.69**	**223**	*e*P	Pg	20 54 11.6	-0.1
NACB				*e*S	Sg	20 54 20.9	+0.3
ZUZH	**Zhuzihu**	**0.70**	**313**	*e*P	Pb	20 54 13.6	+0.6
ZUZH				*i* S	Sb	20 54 24.2	+1.4
NNSB	**Datong**	**0.71**	**249**	*e*P	Pb	20 54 12.8	-0.4
NNS	**Nan Shan**	**0.71**	**250**	*e*P	Pb	20 54 12.9	-0.3
NNS				*e*S	Sb	20 54 23.2	-0.1
ANP	**Anpu**	**0.73**	**313**	*e*P	Pb	20 54 13.7	+0.2
ETLH	**Xiulin Townshi**	**0.74**	**230**	*e*P	Pb	20 54 13.2	-0.5
TWS1	**Kuangyinshan**	**0.75**	**304**	*e*P	Pb	20 54 13.4	-0.4
TWD	**Chiawan**	**0.76**	**218**	*e*P	Pg	20 54 13.2	+0.2
NTST	**Danshui**	**0.77**	**309**	*e*P	Pb	20 54 14.6	+0.6
FUSS	**Fushou**	**0.90**	**241**	*i* P	Pb	20 54 16.5	0.0
FUSS				*e*S	Sb	20 54 28.3	-0.5
NFF	**Wufeng Townshi**	**0.90**	**267**	*e*P	Pn	20 54 18.0	+0.4
TWT	**Tachien**	**0.95**	**243**	*e*P	Pb	20 54 17.1	-0.3
TDCB	**Techi**	**0.96**	**244**	*e*P	Pb	20 54 17.4	-0.2
LIOB	**Emei**	**0.99**	**268**	P	Pn	20 54 19.5	+0.7
ESL	**Shilin**	**1.06**	**216**	*e*P	Pg	20 54 18.5	-0.3
OWD	**Renai**	**1.12**	**230**	*e*P	Pg	20 54 19.3	-0.6
WHP	**Taichung City**	**1.13**	**249**	*e*P	Pn	20 54 20.6	-0.1
WUSB	**Renai**	**1.14**	**233**	*e*P	Pg	20 54 19.8	-0.4
WARBT	**Fenglin Townsh**	**1.17**	**215**	*e*P	Pg	20 54 19.6	-1.2
WCS	**Beigang Elemen**	**1.26**	**241**	*e*P	Pg	20 54 23.9	+1.4

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*DJA **09** 20:55:01.2±0.8, 5°N±7°×12°7E±°, h10km, M4.1/6, mb4.2/1, MLv4.1/6*
*IDC **09** 20:55:08.0±1.7, 4°.69N×126°.59E, h99km±17km, mb3.6/9, mbtmp3.9/10, MS3.1/4, Error ellipse: s-maj=146.0km s-min=12.2km az=67.0*
ISC 09 20:55:05.3±0.8, 4.76N±0°.07×127°.0E±0°.1, h76km, n13, σ1s35/14, mb4.0/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.82**	**234**	P	**Pn**	**20 55 34.3**	**-0.4**
SGSI				S	**Sn**	**20 55 58.3**	**+1.2**
DAV	**Davao City (W)**	**2.70**	**328**	P	**Pn**	**20 55 47.2**	**+0.7**
	105nm,0.4s,baz=90,slow=15,SNR=1.8						
DAV				S	**Sn**	**20 56 19.5**	**+1.4**
	118nm,0.4s,baz=279,slow=23,SNR=5.7						
DAV				LR	LR	20 56 59.9	
	comp=Z,253nm,19.5s,baz=178,slow=44						
KAPI	**Kappang**	**12.12**	**217**	LR	LR	21 02 00.7	
	comp=Z,49nm,18.1s,baz=75,slow=35						
WRA	**Warramunga Arr**	**25.59**	**164**	P	**P**	**21 00 28.4**	**+0.9**
	0.9nm,0.7s,baz=342,slow=10,SNR=10 0.9nm,0.7s						
ASAR	**Alice Springs**	**29.05**	**167**	P	**P**	**21 00 59.6**	**+1.2**
	0.4nm,0.5s,baz=352,slow=7.1,SNR=17						
ASAR				PcP	**PcP**	**21 04 06.1**	**+0.8**
	0.2nm,0.4s,baz=350,slow=2.3,SNR=5.2 0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.61**	**299**	LR	LR	21 14 43.6	
	comp=Z,22nm,18.1s,baz=195,slow=39						
STKA	**Stephens Creek**	**38.99**	**160**	P	**P**	**21 02 25.6**	**+1.2**
	1.2nm,0.5s,baz=331,slow=7.5,SNR=5.9 1.2nm,0.5s						
SONM	**Songino Array**	**46.42**	**341**	P	**P**	**21 03 23.4**	**-1.1**
	0.8nm,0.9s,baz=156,slow=7.7,SNR=5.1 0.8nm,0.9s						
MKAR	**Makanchi Array**	**56.88**	**325**	P	**P**	**21 04 40.0**	**-2.3**
	0.5nm,0.5s,baz=120,slow=7.5,SNR=18						
MKAR				LR	LR	21 28 51.5	
	comp=Z,44nm,18.1s,baz=16,slow=36 0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**59.80**	**333**	P	**P**	**21 05 01.7**	**-0.8**
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.2 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**61.03**	**327**	P	**P**	**21 05 10.7**	**-0.2**
	2.1nm,0.7s,baz=126,slow=5.9,SNR=20 2.1nm,0.7s						
AKTO	**Aktyubinsk**	**73.03**	**321**	P	**P**	**21 06 27.6**	**+0.5**
	0.8nm,0.4s,baz=97,slow=4.6,SNR=3.9 0.8nm,0.4s						
QSPA	**South Pole Qui**	**94.66**	**180**	P	**P**	**21 08 15.6**	**-2.1**
	1.0nm,0.9s,baz=0.0,slow=4.0,SNR=1.6 1.0nm,0.9s						

OMAN 09 21:42:22.1±0.1, 23°.16N×63°.36E, h39km±14km, mb3.5/2, ml3.3/5, Error ellipse: s-maj=2.9km s-min=1.5km az=272.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**2.99**	**318**	P	Pn	21 43 04.3	-2.6
	SNR=15						
NGCH				S	Sn	21 43 40.7	-0.7
JLN	**Jalan Bani Buh**	**3.79**	**255**	P	Pn	21 43 16.6	-1.3
	SNR=37						
JLN				S	Sn	21 44 01.0	-0.2
WBK	**Wadi Bani Khal**	**4.09**	**263**	P	Pn	21 43 21.5	-0.6
	SNR=59						
WBK				S	Sn	21 44 09.4	+0.7
BIDO	**Bidbid**	**4.83**	**275**	P	Pn	21 43 31.8	-0.4
BIDO				S	Sn	21 44 25.5	-1.4
SMDO	**Samad**	**4.89**	**270**	P	Pn	21 43 33.3	+0.1
	SNR=14						
SMDO				S	Sn	21 44 27.3	-1.3
JMDO	**Jabal Madar**	**4.92**	**262**	P	Pn	21 43 33.7	+0.3
JMDO				S	Sn	21 44 30.4	+1.2
HOQ	**Hoqain**	**5.58**	**276**	P	Pn	21 43 42.0	-0.5
JASK	**Jask - Hormozg**	**5.69**	**299**	P	Pn	21 43 43.0	-1.0
JASK				S	Sn	21 44 46.5	-1.6
BSY	**Bisya**	**5.70**	**267**	P	Pn	21 43 44.0	-0.1
BSY				S	Sn	21 44 51.0	+2.7
ARQ	**Araqi**	**6.29**	**273**	P	Pn	21 43 53.6	+1.2
ARQ				S	Sn	21 45 05.6	+2.6
DQM	**DQM**	**6.30**	**240**	P	Pn	21 43 51.3	-1.1
DQM				S	Sn	21 45 01.4	-1.8
UOSS	**Minazif**	**6.78**	**287**	P	Pn	21 44 00.3	+1.2
UOSS				S	Sn	21 45 10.8	-4.2
ASHO	**Ashiyiah**	**6.85**	**284**	P	Pn	21 44 00.3	+0.2
ASHO				S	Sn	21 45 19.2	+2.3

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*IDC **09** 22:11:36.0±6.7, 18°.42N×108°.05W, h0km, mb3.3/6, mbtmp3.4/8, ML3.2/2, MS3.3/8, Error ellipse: s-maj=118.3km s-min=69.5km az=140.0*
ISC 09 22:11:41.1±5.6, 18°.5N±0°.6×108°.0W±0°.4, h35km, n18, σ0s56/8, mb3.2/6, MS3.4/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**2.82**	**276**	T	T	22 14 57.4	
	SNR=98						
LPIG	**La Paz**	**6.02**	**339**	LR	LR	22 14 49.4	
	comp=Z,245nm,19.1s,baz=188,slow=32						
TXAR	**Lajitas Array**	**11.53**	**19**	Pn	**Pn**	**22 14 23.4**	**0.0**
	0.1nm,0.3s,baz=202,slow=13,SNR=5.5 0.7nm,0.9s						
CMIG	**Matias Romero**	**12.57**	**94**	LR	LR	22 19 29.2	
	comp=Z,60nm,20.0s,baz=327,slow=38						
ANMO	**Albuquerque**	**16.48**	**4**	Pn	**Pn**	**22 15 30.3**	**+0.5**
	baz=257,slow=14,SNR=5.0						
ANMO				LR	LR	22 21 55.5	
	comp=Z,59nm,18.9s,baz=356,slow=38 2.1nm,0.9s						
PFO	**Pinyon Flats O**	**16.89**	**335**	LR	LR	22 20 44.9	
	comp=Z,125nm,21.6s,baz=212,slow=32						
NVAR	**Mina Array Bea**	**21.84**	**338**	P	**P**	**22 16 30.3**	**-0.5**
	0.4nm,0.6s,baz=159,slow=10.0,SNR=3.6						
NVAR				LR	LR	22 23 30.6	
	comp=Z,93nm,18.6s,baz=163,slow=33 0.4nm,0.6s						
ELK	**Elko**	**23.07**	**346**	P	**P**	**22 16 44.0**	**+0.2**
	0.5nm,0.4s,baz=187,slow=4.7,SNR=4.4 0.5nm,0.4s						
PDAR	**Pinedale Array**	**24.27**	**357**	P	**P**	**22 16 55.6**	**+0.3**
	0.4nm,0.7s,baz=176,slow=6.5,SNR=3.5 0.4nm,0.7s						
BBB	**Bella Bella**	**37.18**	**339**	LR	LR	22 32 39.5	
	comp=Z,258nm,18.6s,baz=322,slow=34						
SJG	**San Juan**	**39.68**	**84**	LR	LR	22 34 40.3	
	comp=Z,21nm,19.9s,baz=194,slow=35						
YKA	**Yellowknife Ar**	**44.24**	**356**	P	**P**	**22 19 46.0**	**-0.8**
	0.1nm,0.4s,baz=177,slow=8.0,SNR=2.5 0.1nm,0.4s						
LPAZ	**La Paz**	**52.27**	**129**	LR	LR	22 39 44.6	
	comp=Z,46nm,20.1s,baz=120,slow=32						
INK	**Inuvik**	**52.37**	**348**	P	**P**	**22 20 49.8**	**+0.5**
	0.9nm,0.9s,baz=143,slow=5.1,SNR=2.6 0.9nm,0.9s						
ILAR	**Eielson Array**	**53.06**	**340**	P	**P**	**22 20 55.0**	**+0.4**
	0.3nm,0.7s,baz=137,slow=7.8,SNR=5.6 0.3nm,0.7s						
H03N2	**Juan Fernandez**	**58.59**	**152**	T	T	23 26 24.7	
	baz=322,slow=77						
H03N1	**Juan Fernandez**	**58.60**	**152**	T	T	23 26 25.4	
	baz=322,slow=77						
H03N3	**Juan Fernandez**	**58.61**	**152**	T	T	23 26 24.0	
	baz=322,slow=77						

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*IDC **09** 22:16:17.0±1.9, 30°.21N×67°.82E, h0km, mb3.7/8, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=42.3km s-min=28.6km az=134.0*
ISC 09 22:16:19.1±1.2, 30°.3N±0°.2×67°.8E±0°.2, h13km, n10, σ2s11/11, mb3.8/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.78**	**231**	Pn	**Pn**	**22 18 51.4**	**-1.8**
	0.4nm,0.3s,baz=85,slow=6.9,SNR=6.4						
WSAR				Sn	Sn	22 20 39.8	-14
	0.3nm,0.3s,baz=17,slow=19,SNR=5.8 3.8nm,0.7s						
AAK	**Ala-Archa**	**13.42**	**22**	Pn	**Pn**	**22 19 30.4**	**+1.1**
	0.5nm,0.3s,baz=182,slow=5.6,SNR=13						
AAK				Sn	**Sn**	**22 21 54.0**	**-4.4**
	baz=127,slow=20,SNR=1.3 1.2nm,0.4s						
MKAR	**Makanchi Array**	**19.93**	**30**	P	**P**	**22 20 50.2**	**-0.3**
	1.3nm,0.6s,baz=210,slow=11,SNR=22 1.3nm,0.6s						
AKTO	**Aktyubinsk**	**21.37**	**343**	P	**P**	**22 21 07.2**	**+1.1**
	1.9nm,0.5s,baz=142,slow=11,SNR=5.6 1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**21.82**	**19**	P	**P**	**22 21 10.2**	**-0.7**
	1.1nm,0.7s,baz=210,slow=9.5,SNR=7.7 1.1nm,0.7s						
BVAR	**Borovoye Array**	**22.76**	**4**	P	**P**	**22 21 22.8**	**+1.9**
	0.8nm,0.5s,baz=180,slow=11,SNR=5.5 0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**26.64**	**23**	P	**P**	**22 21 59.6**	**+2.4**
	0.8nm,0.3s,baz=213,slow=11,SNR=5.5 0.8nm,0.3s						
ARCES	**ARCESS Array B**	**45.93**	**341**	P	**P**	**22 24 42.1**	**+0.8**
	3.1nm,0.8s,baz=105,slow=7.6,SNR=4.9 3.1nm,0.8s						
KSRS	**Korea Array**	**49.72**	**65**	P	**P**	**22 25 10.9**	**-0.1**
	0.7nm,0.7s,baz=266,slow=9.2,SNR=2.7 0.7nm,0.7s						
YKA	**Yellowknife Ar**	**87.48**	**1**	P	**P**	**22 29 06.8**	**+0.6**
	0.3nm,0.7s,baz=351,slow=4.9,SNR=5.6 0.3nm,0.7s						

IDC 09 22:18:40.1±1.8, 4°.81S×139°.11E, h0km, mb3.3/1, mbtmp3.2/4, ML2.9/3, MS3.2/1, Error ellipse: s-maj=58.8km s-min=24.2km az=115.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.78**	**35**	Pn	Pn	22 19 26.3	+0.4
	3.8nm,0.3s,baz=216,slow=8.7,SNR=14						
JAY				Sn	Sn	22 19 59.5	-0.7
	5.1nm,0.3s,baz=213,slow=6.2,SNR=6.1 9.9nm,0.4s						
WRA	**Warramunga Arr**	**15.74**	**197**	Pn	Pn	22 22 21.7	-1.6
	baz=17,slow=12,SNR=1.9						
WRA				Sn	Sn	22 25 15.7	-2.9
	baz=23,slow=24,SNR=2.0						
WRA				Lg	Lg	22 27 04.4	
	0.1nm,0.3s,baz=25,slow=26,SNR=2.8 0.9nm,1.1s						
ASAR	**Alice Springs**	**19.41**	**195**	P	P	22 23 08.5	+0.5
	baz=25,slow=11,SNR=4.3 0.2nm,0.6s						
HNR	**Honiara**	**21.17**	**104**	LR	LR	22 30 47.8	
	comp=Z,62nm,18.4s,baz=82,slow=34						
MKAR	**Makanchi Array**	**71.69**	**323**	P	P	22 30 04.0	+0.1
	0.3nm,0.8s,baz=116,slow=6.6,SNR=3.7 0.3nm,0.8s						

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*IDC **09** 22:26:09.6±4.9, 63°.05N×145°.29W, h21km±31km, mb3.4/4, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=21.2km s-min=13.3km az=29.0*
*AEIC **09** 22:26:09.2±1.4, 63°.25N±0°.02×145°.13W±0°.04, h6km±5km, ML3.6, ML3.9/180(NEIC), Mwr3.7/30(NEIC), Error ellipse: s-maj=2.8km s-min=2.2km az=104.0*
*NEIC **09** 22:26:09.5±1.3, 63°.25N±0°.02×145°.10W±0°.04, h7km±5km, Error ellipse: s-maj=2.4km s-min=2.1km az=70.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}3.08; $M_{\theta\theta}$-2.84; $M_{\phi\phi}$-0.25; $M_{r\theta}$-1.45; $M_{\phi\theta}$1.90; $M_{\phi r}$-1.77; Fault plane solution: $M_0$4.20000×10^{14} NP1: ϕ_s144.65000°, δ48.75000°, λ133.06000°. NP2: ϕ_s269.86000°, δ56.68000°, λ52.10000°. Principal axes: T 4.4657, Plg59.0000°, Azm123.0000°; N -0.5908, Plg31.0000°, Azm293.0000°; P -3.8749, Plg4.0000°, Azm26.0000°;*
*NEIC **09** 22:26:09.2, 63°.25N×145°.15W, h8km*
ISC 09 22:26:09.3±1.0, 63°.24N±0°.02×145°.09W±0°.02, h9km±7km, n172, σ1s06/183, mb3.6/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**0.33**	**212**		**Pg**	**22 26 15.2**	**-0.5**
PAX				Sg	**Sg**	**22 26 19.4**	**-0.6**
RIDG	**Independent Ri**	**0.51**	**12**	Pg	**Pg**	**22 26 19.2**	**+0.1**
RIDG					**Sg**	**22 26 25.6**	**-0.2**
DOT	**Dot Lake**	**0.61**	**48**		**Pg**	**22 26 21.4**	**+0.3**
DOT	**Dot Lake**	**0.61**	**48**		**Sg**	**22 26 29.7**	**+0.5**
K24K	**Donnelly Dome**	**0.64**	**331**		**Pg**	**22 26 21.5**	**-0.1**
K24K					**Sg**	**22 26 30.1**	**+0.1**
MENT	**Mentasta**	**0.69**	**116**		**Pg**	**22 26 22.6**	**0.0**
MENT				Sg	**Sg**	**22 26 32.5**	**+0.9**
MENT				IAML		22 26 33.6	
	comp=E,5μm,0.3s						
MENT				IAML		22 26 36.7	
	comp=N,4μm,0.4s						
MENT	**Mentasta**	**0.69**	**116**	P	**Pg**	**22 26 22.7**	**0.0**
MENT	**Mentasta**	**0.69**	**116**	S	**Sg**	**22 26 33.2**	**+1.5**
L26K	**Log Cabin Wild**	**0.82**	**105**		**Pg**	**22 26 24.9**	**-0.1**
L26K				Sg	**Sg**	**22 26 35.9**	**+0.2**
L26K				IAML		22 26 42.8	
	comp=E,6μm,0.3s						
HARP	**HAARP**	**0.85**	**182**		**Pg**	**22 26 25.1**	**-0.4**
HARP					**Sg**	**22 26 37.3**	**+0.7**
SCRK	**Sand Creek**	**0.89**	**33**		**Pg**	**22 26 26.2**	**-0.1**
SCRK				Sg	**Sg**	**22 26 37.8**	**0.0**
M24K	**Tolsona, Glenn**	**1.25**	**204**		**Pg**	**22 26 32.2**	**-0.9**
M24K				Sn	**Sg**	**22 26 49.3**	**0.0**
M24K				IAML		22 26 50.0	
	comp=N,2μm,0.8s						
M24K				IAML		22 26 53.6	
	comp=E,2μm,0.8s						
WAZA	**Wrangell Mount**	**1.25**	**159**		**Pg**	**22 26 32.1**	**-1.2**
M26K	**Nabesna, AK**	**1.28**	**130**	Pn	**Pn**	**22 26 32.3**	**-1.0**
M26K				Sn	**Sg**	**22 26 49.5**	**-0.8**
M26K				IAML		22 26 51.7	
	comp=E,3μm,0.4s						
M26K				IAML		22 26 58.0	
	comp=N,3μm,0.5s						
J25K	**Salcha River,**	**1.38**	**355**		**Pn**	**22 26 34.6**	**-0.1**
J25K				IAML		22 26 54.6	
	comp=E,3μm,0.4s						
J25K				IAML		22 26 55.0	
	comp=N,2μm,0.4s						
WASW	**Wrangell South**	**1.39**	**162**		**Pn**	**22 26 34.2**	**-0.8**
HDA	**Harding Lake**	**1.43**	**326**		**Pn**	**22 26 34.7**	**-0.7**
J26L	**Joseph Creek**	**1.43**	**27**	Pn	**Pn**	**22 26 35.6**	**+0.2**
J26L				IAML		22 26 57.1	
	comp=E,2μm,0.4s						
L27K	**Beaver Creek,**	**1.49**	**96**		**Pn**	**22 26 36.1**	**-0.1**
L27K				IAML		22 26 59.7	
	comp=N,1μm,0.3s						
L27K				IAML		22 27 00.9	
	comp=E,1μm,0.4s						
BCAR	**Beaver Creek A**	**1.51**	**95**	Pn	**Pn**	**22 26 36.3**	**-0.2**
K27K	**Chicken**	**1.56**	**58**		**Sn**	**22 26 58.8**	**+1.4**
K27K	**Chicken**	**1.56**	**58**		**Pn**	**22 26 37.5**	**+0.3**
K27K				IAML		22 27 01.9	
	comp=N,1μm,0.6s						
N25K	**Chitina, Valde**	**1.66**	**172**		**Pn**	**22 26 38.5**	**-0.1**
RND	**Reindeer**	**1.71**	**277**		**Pn**	**22 26 39.5**	**+0.2**
M27K	**Edge Creek, AK**	**1.72**	**120**		**Pn**	**22 26 40.4**	**+0.9**
M27K				IAML		22 27 07.4	
	comp=N,1μm,0.7s						
M27K				IAML		22 27 08.2	
	comp=E,1μm,0.5s						
IL31		**1.73**	**333**		**Pn**	**22 26 38.6**	**-0.8**
ILAR	**Eielson Array**	**1.73**	**333**	Pn	**Pn**	**22 26 38.5**	**-1.0**
ILAR	**Eielson Array**	**1.73**	**333**	Pn	**Pn**	**22 26 38.6**	**-0.8**
	comp=E,62nm,0.3s,baz=157,slow=13,SNR=452						
ILAR				Sn	**Sn**	**22 27 00.6**	**-0.9**
	comp=E,383nm,0.3s,baz=153,slow=21,SNR=22						
SCM	**Sheep Creek Mo**	**1.76**	**217**		**Pn**	**22 26 40.0**	**+0.1**
SCM	**Sheep Creek Mo**	**1.76**	**217**		**Sb**	**22 27 03.6**	**-0.2**
MCK	**McKinley**	**1.79**	**288**		**Pn**	**22 26 41.5**	**+1.1**
KLU	**Klutina**	**1.80**	**193**		**Pn**	**22 26 40.5**	**0.0**
KLU				IAML		22 27 06.3	
	comp=N,1μm,0.3s						
WRH	**Wood River Hil**	**1.81**	**314**	Pn	**Pn**	**22 26 40.1**	**-0.5**
WRH				IAML		22 27 06.7	
	comp=E,881nm,0.6s						
**C

TRF IAML 22 27 27.0
comp=E,642nm,0.7s
TRF IAML 22 27 28.1
comp=N,704nm,0.8s
KNK Knik Glacier 2.42 222 Pn 22 26 50.1 +1.2
KNK IAML 22 27 24.7
comp=N,537nm,0.6s
KNK IAML 22 27 24.9
comp=E,686nm,0.5s
PMR Palmer 2.51 230 Pn 22 26 50.9 +0.8
PMR Palmer 2.51 230 P **Pn 22 26 51.3 +1.2**
CUT Chulitna 2.52 253 Sb 22 27 25.4 -0.3
CUT Chulitna 2.52 253 Pn 22 26 50.8 +0.5
GLI Glacier Island 2.56 203 Pn 22 26 52.2 +1.5
GLI IAML 22 27 31.4
comp=N,404nm,0.6s
GLI IAML 22 27 40.0
comp=E,382nm,0.7s
BALM Baldy 2.56 149 Pn 22 26 51.8 +0.8
KTH Kantishna Hill 2.64 279 Pn 22 26 52.9 +0.9
KTH IAML 22 27 35.0
comp=E,370nm,0.7s
KIAG Kiagna River 2.66 150 Pn 22 26 54.3 +1.9
DAWY Dawson 2.67 69 Pn **Pn 22 26 53.1 +0.6**
I23K Minto, Yukon-K 2.67 318 Pn 22 26 52.6 +0.2
I23K IAML 22 27 34.7
comp=E,382nm,0.7s
I23K IAML 22 27 36.0
comp=N,390nm,0.8s
EYAK Cordova Ski Ar 2.72 187 Pn 22 26 54.4 +1.4
EYAK Cordova Ski Ar 2.72 187 P **Pn 22 26 55.5 +2.4**
BPAW Bear Paw Mtn. 2.77 291 Pn **Pn 22 26 53.6 -0.1**
BPAW IAML 22 27 43.0
comp=N,342nm,0.8s
PWL Port Wells 2.84 214 Pn 22 26 56.3 +1.6
PWL IAML 22 27 36.2
comp=N,436nm,0.6s
PWL IAML 22 27 37.7
comp=E,305nm,0.5s
H24K Noodor Dome 2.87 336 Pn **Pn 22 26 55.2 0.0**
H24K IAML 22 27 42.7
comp=E,333nm,0.6s
H24K IAML 22 27 44.9
comp=N,364nm,0.7s
HIN Hinchinbrook I 2.94 194 Pn 22 26 57.5 +1.5
HIN IAML 22 27 40.9
comp=E,406nm,0.7s
BERG Berg Lake 2.94 166 Pn 22 26 57.6 +1.6
BERG IAML 22 27 42.6
comp=N,319nm,0.6s
BERG IAML 22 27 42.6
comp=E,506nm,0.7s
HMT Hamilton 2.94 172 Pn 22 26 58.3 +2.1
HMT IAML 22 27 41.2
comp=N,483nm,0.5s
M29M Somme Creek 3.14 102 Pn 22 26 59.5 +0.5
M29M IAML 22 27 56.4
comp=N,337nm,0.7s
I28M Miner Creek 3.15 43 Pn 22 26 60.0 +0.9
I28M IAML 22 27 54.6
comp=N,371nm,0.5s
L29M L29M 3.16 89 Pn 22 26 59.5 +0.4
CAST Castle Rocks 3.16 276 Pn **Pn 22 26 59.4 +0.3**
CAST IAML 22 27 52.8
comp=E,245nm,0.5s
CAST IAML 22 27 53.9
comp=N,284nm,0.8s
H23K Yukon River 3.23 325 Pn 22 27 00.5 +0.5
H23K IAML 22 27 50.3
comp=E,215nm,0.8s
H23K IAML 22 27 50.3
comp=N,227nm,0.6s
SKT Skwentna 3.24 250 Pn **Pn 22 27 01.3 +1.2**
SKT IAML 22 27 49.1
comp=N,334nm,0.7s
SKT IAML 22 27 49.0
comp=E,256nm,0.4s
J29N Klondike Camp 3.28 65 Pn **Pn 22 27 02.0 +1.3**
YAH Yahtse 3.30 150 Pn 22 27 00.6 -0.6
FYU Fort Yukon 3.34 359 Pn 22 27 01.8 +0.3
FYU IAML 22 27 58.6
comp=N,365nm,0.9s
FYU IAML 22 27 59.6
comp=N,246nm,0.7s
MESA MESA 3.42 153 Pn 22 27 02.2 -0.7
K29M Barlow Dome 3.44 77 Pn **Pn 22 27 03.5 +0.4**
K29M IAML 22 28 03.6
comp=E,353nm,0.4s
I21K Tanana 3.58 306 Pn 22 27 04.5 -0.4
G24K Hadweenzic Riv 3.62 345 Pn 22 27 05.5 +0.1
G24K IAML 22 28 06.2
comp=E,287nm,0.8s
I29M Ogilvie Camp, 3.64 51 Pn 22 27 06.1 +0.4
SPCG Spurr Capps Gl 3.79 242 Pn 22 27 08.3 +0.5
M30M Minto, Yukon 3.85 96 Pn **Pn 22 27 08.9 +0.3**
M30M IAML 22 28 18.9
comp=E,221nm,0.7s
G27K Doyon Strip 3.86 21 Pn 22 27 09.5 +0.7
G27K IAML 22 28 16.8
comp=E,160nm,0.9s
PCA Pinnacle 3.91 142 Pn 22 27 10.9 +1.5
SPCR Spurr Chakacha 3.91 242 Pn 22 27 10.4 +0.9
M20K Styx River 3.96 253 Pn **Pn 22 27 11.8 +1.6**
M20K IAML 22 28 07.5
comp=N,252nm,0.7s
M20K IAML 22 28 19.3
comp=E,169nm,0.9s
CKL Chakachamna La 3.97 242 Pn 22 27 11.5 +1.2
K20K Telida 4.06 276 Pn 22 27 12.1 +0.7
K20K IAML 22 28 20.6
comp=N,111nm,0.6s
K20K IAML 22 28 24.2
comp=E,124nm,0.7s
G23K Bananza Creek 4.06 331 Pn 22 27 11.8 +0.3
G23K IAML 22 28 17.3
comp=E,96nm,1.4s
J30M Hart River 4.09 67 Pn 22 27 13.0 +0.9
H21K Melozitna Rive 4.13 309 Pn 22 27 12.2 -0.1
N30M Aishikik Lake 4.14 112 Pn 22 27 13.4 +0.8
N30M IAML 22 28 30.4
comp=N,125nm,0.7s
N30M IAML 22 28 33.0
comp=E,88nm,0.9s
J20K Nowinta River 4.14 287 Pn 22 27 12.5 0.0
J20K IAML 22 28 30.2
comp=E,108nm,0.9s
MAYO Mayo, Yukon 4.15 81 Pn 22 27 13.1 +0.4
H29M Whitestone 4.15 41 Pn 22 27 13.3 +0.7
H29M IAML 22 28 31.4
comp=N,203nm,1.1s
BMAR Burnt Mountain 4.21 3 Pn **Pn 22 27 14.0 +0.5**
O29M Mount Kennedy 4.27 131 Pn 22 27 15.8 +1.3
I30M Mount Dempster 4.29 59 Pn 22 27 15.2 +0.5
F25K Christian Rive 4.38 357 Pn 22 27 16.6 +0.8
F25K IAML 22 28 28.8
comp=N,101nm,0.9s
F25K IAML 22 28 29.0
comp=E,131nm,0.9s
RDT Redoubt 4.38 236 Pn 22 27 17.0 +1.1
I20K Naaghedeneel 4.42 295 Pn 22 27 16.8 +0.5
F24K Squaw Lake 4.45 346 Pn 22 27 17.4 +0.6
F24K IAML 22 28 31.4
comp=E,132nm,0.5s
F24K IAML 22 28 34.0
comp=N,108nm,0.7s
BRLK Bradley Lake 4.46 221 Pn **Pn 22 27 18.2 +1.3**
BRLK IAML 22 28 34.5
comp=E,86nm,1.5s
DFR Drift River 4.47 237 Pn 22 27 18.5 +1.3
F26K Sheenjek River 4.49 5 Pn 22 27 18.1 +0.7
PNL Peninsula 4.51 140 P **Pn 22 27 20.2 +2.6**
M19K Big River Lodg 4.51 257 Pn 22 27 19.0 +1.4
M19K IAML 22 28 31.3
comp=N,108nm,0.8s
M19K IAML 22 28 35.6
comp=E,96nm,0.7s
COLD Coldfoot 4.54 334 Pn **Pn 22 27 18.7 +0.7**
G29M Pine Creek 4.74 36 Pn **Pn 22 27 22.0 +1.2**
J19K Poorman 4.76 284 Pn 22 27 21.4 +0.3
J19K IAML 22 28 47.2
comp=N,64nm,0.7s
G21K Allakaket 4.86 316 Pn 22 27 22.9 +0.5
G21K IAML 22 28 21.4
comp=E,59nm,0.6s
E25K Arctic Village 4.90 358 Pn **Pn 22 27 24.1 +1.0**
E25K IAML 22 28 56.6
comp=N,55nm,0.9s
E25K IAML 22 28 59.5
comp=E,61nm,0.8s
O30N Mendenhall 4.91 116 Pn 22 27 23.4 +0.2
O30N IAML 22 29 01.7
comp=E,106nm,0.9s
TTA Tatalina 4.97 271 Pn 22 27 25.0 +0.9
TTA IAML 22 28 50.9
comp=E,52nm,0.8s
TTA Tatalina 4.97 271 P **Pn 22 27 25.3 +1.2**
M31M Drury Creek, Y 5.03 97 Pn 22 27 25.1 +0.3
E24K Your Creek 5.05 345 Pn 22 27 26.0 +0.9
E24K IAML 22 28 49.6
comp=E,59nm,0.8s
E24K IAML 22 28 49.9
comp=N,58nm,0.8s
N19K Bonanza Creek 5.05 245 Pn **Pn 22 27 26.7 +1.6**
N19K IAML 22 28 55.0
comp=N,72nm,1.3s
E27K Coleen River 5.17 15 Pn 22 27 27.8 +1.1
E23K Chandalar 5.18 341 Pn 22 27 27.8 +0.9
E23K IAML 22 28 57.0
comp=N,72nm,1.0s
E23K IAML 22 28 57.1
comp=E,74nm,1.0s
J18K Innoko River 5.24 278 Pn **Pn 22 27 28.6 +0.9**
J18K IAML 22 29 02.0
comp=N,59nm,1.2s
G30M tAoh Zraii Nji 5.30 41 Pn 22 27 29.0 +0.5
G30M IAML 22 29 12.8
comp=N,78nm,1.3s
M18K Stony River 5.30 255 Pn 22 27 29.6 +1.1
H31M Peel River 5.30 56 Pn **Pn 22 27 29.0 +0.5**
H19K Roundabout Mou 5.43 300 Pn **Pn 22 27 30.1 -0.2**
WHY Whitehorse 5.47 114 Pn **Pn 22 27 31.5 +0.6**
FARO Faro, Yukon 5.49 95 Pn 22 27 32.0 +0.8
E22K Anaktuvuk Pass 5.64 333 Pn **Pn 22 27 34.0 +0.8**
N18K Kilae Creek 5.71 248 Pn **Pn 22 27 34.4 +0.4**
TOLK Toolik Lake Re 5.72 343 Pn 22 27 35.6 +1.3
E28M Babbage River 5.84 20 Pn **Pn 22 27 37.1 +1.2**
F20K Avaraart Lake 5.89 315 Pn **Pn 22 27 37.8 +1.3**
G19K Purcell Mounta 5.91 305 Pn 22 27 36.8 -0.1
E29M Blow River 5.95 27 Pn 22 27 38.1 +0.7
N32M Quiet Lake 6.00 105 Pn 22 27 39.0 +0.9
M17K Holitna River 6.04 258 Pn **Pn 22 27 39.7 +1.0**
K17K Iditarod 6.05 271 Pn 22 27 40.2 +1.5
H18K Honhosa River 6.10 294 Pn 22 27 40.2 +0.7
D25K Kavik River 6.13 356 Pn 22 27 41.6 +1.7
D27M Malcolm River 6.25 14 Pn 22 27 43.0 +1.4
J17K VABM Dome 6.30 278 Pn **Pn 22 27 42.6 +0.3**
F31M Tsiigehtchic 6.34 43 Pn 22 27 42.0 -0.7
MMPY Sheldon Lake, 6.34 89 Pn 22 27 43.2 +0.3
G18K Tagagawik 6.42 300 Pn 22 27 43.6 -0.2
C27K Jago River 6.43 4 Pn 22 27 45.7 +1.7
D22K Ayikyak River 6.44 335 Pn 22 27 45.2 +1.1
F19K Shaleruckik Mo 6.46 309 Pn 22 27 45.3 +0.9
P33M Teslin, Yukon 6.57 112 Pn **Pn 22 27 46.4 +0.4**
E19K Redstone River 6.60 315 Pn 22 27 47.6 +1.3
C24K Franklin Bluff 6.66 349 Pn 22 27 48.5 +1.4
L16K Owhat River 6.84 263 Pn **Pn 22 27 50.6 +1.0**
INK Inuvik 6.95 38 Pn **Pn 22 27 51.5 +0.5**
C23K Itkillik River 6.97 344 Pn 22 27 52.5 +1.1
B21K Ikpikpuk River 7.45 333 Pn 22 27 58.4 +0.6
Q32M Nakina River 7.54 119 Pn **Pn 22 28 00.1 +0.6**
E18K Tukpahlearik C 7.71 310 Pn 22 28 03.1 +1.5
R33M Jennings River 7.81 113 Pn 22 28 03.8 +0.8
B22K Teshekpuk Lake 7.84 339 Pn **Pn 22 28 03.6 +0.4**
C18K Utukok River 8.50 317 Pn **Pn 22 28 13.3 +0.9**
C36M Paulatuk 10.39 45 Pn **Pn 22 28 36.8 -1.4**
A36M Sachs Harbour 11.50 32 Pn 22 28 52.8 -0.5
YKA Yellowknife Ar 13.86 79 Pn **Pn 22 29 23.4 -2.2**
YKA Yellowknife Ar 13.86 79 Pn **Pn 22 29 24.5 -1.1**
comp=N,0.2nm,0.3s,baz=286,slow=13,SNR=7.9
YKA Sn **Sn 22 31 53.3 -6.1**
baz=289,slow=21
YKA Lg Lg 22 33 28.4
baz=295,slow=27
comp=N,0.6nm,0.6s
SONM Songino Array 55.80 309 P **P 22 35 46.6 +0.3**
comp=N,0.2nm,0.5s,baz=28,slow=6.8,SNR=1.8
comp=N,0.2nm,0.5s
EKA Eskdalemuir Ar 58.12 25 P **P 22 36 03.4 +1.0**
comp=N,0.4nm,0.5s,baz=346,slow=7.3,SNR=5.7
comp=N,0.4nm,0.5s
MKAR Makanchi Array 64.07 326 P **P 22 36 41.6 -1.3**
comp=N,0.2nm,0.6s,baz=30,slow=7.0,SNR=2.9
comp=N,0.2nm,0.6s
ESDC Sonseca Array 72.84 30 P **P 22 37 39.6 +1.6**
comp=N,0.5nm,0.6s,baz=348,slow=5.4,SNR=3.0
comp=N,0.5nm,0.6s
QSPA South Pole Qui 153.06 180 PKPbc **PKPdf 22 46 01.4 +3.4**
comp=N,1.9nm,0.9s,baz=104,slow=8.3,SNR=7.1

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*ATH **09** 22:41:45.4, 37.°43N×20.°46E, h14km±1km, ML2.9/8,*
Manual Solution by M.Kolligri First location: 2019/03/09
22:42:47, This location: 2020/07/03 14:46:08 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km
THE 09 22:41:45.5, 37.°44N×20.°45E, h0km±1km, ML2.6/8, Error
ellipse: s-maj=2.1km s-min=0.7km az=220.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.41**	**48**	P	Pg	22 41 53.6	+0.2
LTHK				S	Sg	22 41 58.8	+0.1
4µm,0.3s							
LTHK	**Lithakia**	**0.41**	**48**	P	Pg	22 41 53.6	+0.2
LTHK				S	Sg	22 41 58.6	-0.2
ORTH	**Orthonies,Zaky**	**0.46**	**25**	P	Pg	22 41 54.7	+0.4
ORTH				S	Sg	22 42 00.8	+0.5
KYPS	**Kipseli, Zakin**	**0.48**	**38**	P	Pg	22 41 55.2	+0.4
KYPS				S	Sg	22 42 01.8	+0.7
PSDA	**Pessada-Kefalo**	**0.69**	**9**	P	Pg	22 41 58.5	-0.2
PSDA				S	Sb	22 42 09.3	-1.1
PSDA	**Pessada-Kefalo**	**0.69**	**9**	P	Pg	22 41 58.8	+0.1
PSDA				S	Sg	22 42 08.2	+0.6
RTZL	**Ratzakli, Kefa**	**0.69**	**22**	P	Pg	22 41 58.6	-0.1
RTZL				S	Sg	22 42 09.0	+1.3
CLEM	**Kyllini,Ilia,G**	**0.71**	**50**	P	Pg	22 41 59.2	+0.1
CLEM				S	Sg	22 42 08.4	+0.1
VLS	**Valsamata**	**0.75**	**8**	P	Pg	22 41 59.6	-0.3
VLS				S	Sg	22 42 10.7	+1.1
400nm,0.3s							
VLS	**Valsamata**	**0.75**	**8**	P	Pg	22 41 59.7	-0.2
VLS				S	Sg	22 42 10.2	+0.6
DMLN	**Damoulianata-K**	**0.80**	**356**	P	Pg	22 42 00.8	-0.1
DMLN				S	Sg	22 42 12.5	+1.1
1µm,0.8s							
DMLN	**Damoulianata-K**	**0.80**	**356**	P	Pg	22 42 00.9	0.0
YRMI	**Loutra Irminis**	**0.98**	**47**	P	Pg	22 42 03.5	-0.7
AMT	**Artemida-Makis**	**1.01**	**84**	P	Pg	22 42 04.0	-0.8
RLS	**Riolos of Patr**	**1.02**	**52**	P	Pg	22 42 04.6	-0.4
RLS				S	Sb	22 42 19.5	-0.4
258nm,0.6s							
RLS	**Riolos of Patr**	**1.02**	**52**	P	Pg	22 42 04.5	-0.6
FSK	**Fiskardo**	**1.03**	**5**	P	Pg	22 42 04.4	-0.8
FSK				S	Sb	22 42 19.7	-0.5
248nm,0.4s							
FSK	**Fiskardo**	**1.03**	**5**	P	Pg	22 42 04.5	-0.6
AXS	**Araxos**	**1.06**	**44**	P	Pg	22 42 05.0	-0.7
DRO	**Drossia**	**1.13**	**62**	P	Pg	22 42 06.7	-0.4
DRO				S	Sb	22 42 23.2	+0.1
535nm,0.6s							
DRO	**Drossia**	**1.13**	**62**	P	Pg	22 42 06.5	-0.5
EVGI	**Lefkada island**	**1.20**	**8**	P	Pg	22 42 07.9	-0.5
EVGI				S	Sb	22 42 24.6	-0.4
228nm,0.2s							
EVGI	**Lefkada island**	**1.20**	**8**	P	Pg	22 42 07.8	-0.6
ITM	**Ithomi**	**1.21**	**102**	P	Pg	22 42 08.0	-0.6
ITM				S	Sn	22 42 26.1	-0.6
220nm,0.4s							
ITM	**Ithomi**	**1.21**	**102**	P	Pg	22 42 07.8	-0.8
NYDR	**Nydri-Lefkada**	**1.29**	**9**	P	Pg	22 42 09.3	-1.0
NYDR	**Nydri-Lefkada**	**1.29**	**9**	P	Pg	22 42 09.2	-1.0
LKD2	**Lefkada island**	**1.36**	**7**	P	Pg	22 42 10.4	-1.2
LKD2				S	Sn	22 42 30.7	+0.1
LKD2	**Lefkada island**	**1.36**	**7**	P	Pg	22 42 10.5	-1.1
TSLK	**Tsoukalades, L**	**1.40**	**7**	P	Pn	22 42 11.6	-0.7
TSLK				S	Sn	22 42 32.4	+1.0
KLV	**Kalavryta, Ach**	**1.48**	**65**	P	Pn	22 42 12.5	-0.9
EFP	**Efpalio**	**1.52**	**49**	P	Pn	22 42 13.0	-0.9
GUR	**Goura**	**1.58**	**71**	P	Pn	22 42 14.4	-0.5

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*IDC **09** 22:41:52.1±6.5, 36.°18N×19.°36E, h0km, mb3.7/3,*
mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=108.0km
s-min=55.0km az=39.0
*THE **09** 22:42:09.1, 37.°44N×20.°62E, h0km±3km, ML3.1/6, Error*
ellipse: s-maj=4.4km s-min=1.1km az=225.0
ISC 09 22:42:07.5±2.7, 37.°37N±0.°09×20.°51E±0.°09, h5km±12km,
n15, σ1§80/23, mb3.7/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.42**	**37**	P	**Pg**	**22 42 14.8**	**-0.9**
LTHK				S	**Sg**	**22 42 20.8**	**-0.5**
12µm,0.6s							
RTZL	**Ratzakli, Kefa**	**0.73**	**16**	P	**Pg**	**22 42 20.3**	**-1.3**
RTZL				S	**Sg**	**22 42 30.3**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.74**	**4**	P	**Pg**	**22 42 22.1**	**+0.3**
PSDA				S	**Sg**	**22 42 31.2**	**-0.3**
VLS	**Valsamata**	**0.81**	**4**	P	**Pg**	**22 42 23.5**	**+0.5**
VLS				S	**Sg**	**22 42 33.1**	**-0.4**
1µm,0.6s							
DMLN	**Damoulianata-K**	**0.87**	**353**	P	**Pg**	**22 42 24.6**	**+0.3**
DMLN				S	**Sb**	**22 42 37.5**	**+0.3**
3µm,0.7s							
RLS	**Riolos of Patr**	**1.02**	**48**	P	**Pg**	**22 42 26.5**	**-0.6**
FSK	**Fiskardo**	**1.09**	**2**	P	**Pg**	**22 42 28.4**	**0.0**
FSK				S	**Sg**	**22 42 42.6**	**+0.1**
648nm,0.6s							
ITM	**Ithomi**	**1.14**	**99**	P	**Pg**	**22 42 29.7**	**+0.2**
ITM				S	**Sb**	**22 42 45.5**	**+0.5**
458nm,0.5s							
TSLK	**Tsoukalades, L**	**1.46**	**4**	P	**Pg**	**22 42 34.1**	**-1.3**
TSLK				S	**Sn**	**22 42 55.6**	**+1.6**
520nm,0.7s							
KLV	**Kalavryta, Ach**	**1.46**	**62**	P	**Pg**	**22 42 34.4**	**-1.2**
BRTR	**Keskin Array B**	**10.55**	**73**	Pn	**Pn**	**22 44 43.2**	**+3.7**
baz=258,slow=12,SNR=1.3							
0.1nm,0.5s							
AKASG	**Malin Array Be**	**14.71**	**22**	Pn	**Pn**	**22 45 38.8**	**+2.6**
0.6nm,0.3s,baz=209,slow=8.8,SNR=4.8							
0.1nm,0.2s							
FINES	**FINESS Array B**	**24.35**	**6**	P	**P**	**22 47 23.2**	**-2.8**
2.9nm,0.9s,baz=188,slow=8.4,SNR=3.3							
2.9nm,0.9s							
KURBB	**Kurchatov Arra**	**42.72**	**53**	P	**P**	**22 50 02.0**	**-3.3**
0.4nm,0.3s,baz=281,slow=8.8,SNR=1.4							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**45.73**	**58**	P	**P**	**22 50 26.3**	**-3.3**
0.3nm,0.6s,baz=274,slow=7.2,SNR=5.4							
0.3nm,0.6s							

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*DJA **09** 22:42:55.2±2.2, 5.°N±4.°×9.°4E±.°, h18km±19km, M4.4/12,*
mB5.0/1, mb4.5/7, MLv4.3/12, Mw(mB)4.3/1
*IDC **09** 22:42:56.6±0.8, 5.°28N×94.°22E, h54km±6km, mb3.9/17,*
mbtmp4.2/20, MS3.0/4, Error ellipse: s-maj=25.5km
s-min=12.6km az=49.0
*NEIC **09** 22:42:57.2±1.0, 5.°29N±0.°08×94.°28E±0.°08, h53km±8km,*
mb4.4/31, Error ellipse: s-maj=13.1km s-min=9.1km
az=45.0
*BKK **09** 22:43:00.8±1.2, 5.°N±6.°×9.°5E±1.°1, h10km, M4.2/6, mB4.6/3,*
mb4.7/4, Mjma3.8/6, ML4.4/5, MLv4.2/6, Mw(mB)3.7/3
ISC 09 22:42:55.9±0.5, 5.°29N±0.°05×94.°25E±0.°06, h46km, n90,
σ1§41/99, mb4.4/38, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.06**	**79**	P	**Pn**	**22 43 13.9**	**-0.5**
BSI				S	**Sn**	**22 43 26.0**	**-2.0**
CMBY	**CAMPBELL BAY**	**1.74**	**349**	*e*P	**Pn**	**22 43 24.1**	**+0.4**
CMBY				*e*S	**Sn**	**22 43 47.4**	**+2.8**
CMBY				IAML		22 43 55.5	
comp=E,3µm,0.5s							
CMBY				IAML		22 44 03.1	
comp=E,3µm,0.6s							
MLSI	**Meulaboh, Aceh**	**2.37**	**115**	P	**Pn**	**22 43 33.3**	**+0.9**
LHMI	**Lhok Sumawe**	**2.68**	**91**		**Pn**	**22 43 37.1**	**+0.4**
LHMI				Sn	**Sn**	**22 44 09.0**	**+1.0**
LHMI	**Lhok Sumawe**	**2.68**	**91**	P	**Pn**	**22 43 37.4**	**+0.8**
SNSI	**Sinabang, Aceh**	**3.54**	**144**	P	**Pn**	**22 43 48.4**	**0.0**
TSI	**Tuntungan**	**4.65**	**112**	P	**Pn**	**22 44 04.6**	**+0.9**
GSI	**Gunungsitoli**	**5.17**	**140**	Pn	**Pn**	**22 44 11.1**	**+0.3**
GSI	**Gunungsitoli**	**5.17**	**140**	P	**Pn**	**22 44 11.0**	**+0.2**
comp=E,0.2nmcomp=E,35nm,0.7s							
PSI	**Prapat**	**5.28**	**118**	P	**Pn**	**22 44 14.9**	**+2.5**
comp=E,6.4nm,0.3s,baz=310,slow=6.6,SNR=11							
PSI				S	**Sn**	**22 45 11.7**	**-0.4**
comp=E,7.6nm,0.5s,baz=22,slow=11,SNR=1.6							
PSI				LR	LR	22 46 33.2	
comp=E,86nm,20.5s,baz=218,slow=40							
RPSI	**Rantau Prapat**	**5.33**	**119**	Pn	**Pn**	**22 44 14.4**	**+1.4**
RPSI	**Rantau Prapat**	**5.33**	**119**		**Pn**	**22 44 14.9**	**+1.9**
RPSI					**Sn**	**22 45 11.7**	**-1.4**
RNTT	**Ranong**	**5.84**	**46**	P	**Pn**	**22 44 20.7**	**+0.7**
comp=E,0.2nmcomp=E,0.3nmcomp=E,854nmcomp=E,32nm,0.5s							
SRIT	**Nakonsritamara**	**6.24**	**58**	Pn	**Pn**	**22 44 26.1**	**+0.6**
SRIT	**Nakonsritamara**	**6.24**	**58**	P	**Pn**	**22 44 26.3**	**+0.8**
comp=E,0.9nmcomp=E,93nm,0.6s							
KULM	**Kulim**	**6.37**	**90**	Pn	**Pn**	**22 44 27.8**	**+0.5**
PBA	**Port Blair**	**6.50**	**347**	Pn	**Pn**	**22 44 30.1**	**+1.0**
PBA	**Port Blair**	**6.50**	**347**	*e*P	**Pn**	**22 44 28.7**	**-0.3**
PBA				*e*S	**Sn**	**22 45 39.2**	**-2.6**
PBA				IAML		22 45 42.5	
comp=E,303nm,0.3s							
PBA				IAML		22 45 42.6	
comp=N,321nm,0.3s							
IPM	**Ipoh**	**6.80**	**97**		**Pn**	**22 44 33.3**	**+0.1**
MNSI	**Mandailing Nat**	**6.95**	**130**	P	**Pn**	**22 44 34.8**	**-0.4**
comp=N,0.2nmcomp=N,952nmcomp=N,35nm,0.9s							
DGPR	**DIGLIPUR**	**7.94**	**351**	*e*P	**Pn**	**22 44 49.1**	**+0.2**
DGPR				*e*S	**Sn**	**22 46 12.4**	**-5.1**
DGPR				*ex*	x	22 46 15.8	
DGPR				IAML		22 46 22.0	
comp=E,120nm,0.6s							
DGPR				IAML		22 46 26.1	
comp=E,117nm,0.5s							
PALK	**Pallekele**	**13.61**	**279**	Pn	**Pn**	**22 46 07.6**	**+1.1**
PALK	**Pallekele**	**13.61**	**279**	P	**Pn**	**22 46 07.7**	**+1.2**
comp=E,1.4nm,0.4s,baz=95,slow=15,SNR=1.3							
PALK				S	Sn	22 48 24.0	-12
comp=E,2.5nm,0.4s,baz=41,slow=19,SNR=8.0							
PALK				LR	LR	22 50 50.0	
comp=E,109nm,19.4s,baz=88,slow=35							
CMAR	**Chiang Mai Arr**	**13.86**	**19**	P	**Pn**	**22 46 12.0**	**+2.1**
comp=E,2.3nm,0.4s,baz=202,slow=14,SNR=16							
CMAR				LR	LR	22 50 41.5	
comp=E,44nm,21.3s,baz=200,slow=34							
CHTO	**Chiang Mai**	**14.20**	**18**		**Pn**	**22 46 16.5**	**+2.1**
TNCH	**TengChong**	**20.05**	**11**	⇑P	**Pn**	**22 47 27.3**	**-0.3**
TNCH				pP	pwP	22 47 38.4	-0.7
TNCH				sP	sP	22 47 48.8	+7.7
TNCH				PP	**PnPn**	**22 47 50.3**	**+7.2**
TNCH				S	**S**	**22 51 03.7**	**-4.8**
TNCH				sS	sS	22 51 23.4	-1.5
TNCH				pmax	pmax		
comp=Z,7.0nm,0.6s							
TNCH				pmax	pmax		
comp=Z,69nm,5.7s							
TNCH				LR	LR		
comp=N,150nm,5.0s							
TNCH				LR	LR		
comp=E,170nm,5.4s							
TNCH				LR	LR		
comp=Z,80nm,7.1s							
KMI	**Kunming**	**21.33**	**22**	⇓P	**P**	**22 47 41.1**	**+1.7**
KMI				pP	pwP	22 47 52.3	-0.8
KMI				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH	**PanZhiHua**	**22.27**	**18**	P	**P**	**22 47 50.6**	**+1.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,120nm,5.5s							
LSA	**Lhasa**	**24.45**	**353**	P	**P**	**22 48 11.1**	**0.0**
LSA				IAmb	IAmb	22 48 13.4	
comp=Z,7.0nm,0.5s							
H08S3	**Diego Garcia H**	**25.23**	**240**	T	T	23 14 18.7	
baz=59,slow=76,SNR=162							
H08S2	**Diego Garcia H**	**25.23**	**240**	T	T	23 14 17.9	
baz=59,slow=76,SNR=68							
H08S1	**Diego Garcia H**	**25.25**	**240**	T	T	23 14 20.0	

baz=59,slow=76,SNR=37
XAN Xi'an 31.68 24 P **P 22 49 14.0 -1.2**
XAN pmax pmax
comp=Z,16nm,0.6s
GTA Gaotai 34.33 8 *e*P **P 22 49 38.2 -0.2**
GTA pP pP 22 49 41.7 -8.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
HNS HongShan 37.02 28 ⇓P **P 22 50 01.1 -0.1**
HNS pmax pmax
comp=Z,11nm,0.9s
WUS Wushi 38.20 342 P **P 22 50 11.5 +0.1**
WUS IAmb IAmb 22 50 14.2
comp=Z,5.2nm,0.8s
HHC Hu-ho-hao-te 38.66 21 *e*P **P 22 50 17.9 +2.7**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.0s
FITZ Fitzroy Crossi 38.72 128 P **P 22 50 15.4 -0.5**
WMQ Urumqi 38.80 352 *e*P **P 22 50 18.4 +2.0**
TARG Taragay, Kyrgy 39.14 340 P **P 22 50 19.0 -0.6**
TARG IAmb IAmb 22 50 23.1
comp=Z,3.3nm,0.6s
DRK Karamyk 39.62 332 P **P 22 50 24.1 +0.5**
KDJ Kajisay 39.70 340 P **P 22 50 25.4 +1.3**
KDJ IAmb IAmb 22 50 27.8
comp=Z,3.8nm,0.8s
GAR Garm 39.95 331 P **P 22 50 25.1 -0.9**
GAR IAmb IAmb 22 50 35.6
comp=Z,2.9nm,0.8s
BOOM Boomskoye usch 40.45 339 P **P 22 50 30.1 -0.1**
MTN Manton Dam 40.83 116 P **P 22 50 32.6 -0.9**
AAK Ala-Archa 41.11 338 P **P 22 50 36.9 +1.2**
MK31 Makanchi Array 42.62 348 P **P 22 50 47.8 +0.1**
MK31 IAmb IAmb 22 50 48.8
comp=Z,5.7nm,0.8s
MKAR Makanchi Array 42.62 348 P **P 22 50 47.9 +0.2**
MKAR Makanchi Array 42.62 348 P **P 22 50 48.0 +0.3**
comp=Z,8.6nm,0.7s,baz=167,slow=8.1,SNR=113
comp=Z,8.6nm,0.7s
KK31 Karatay Array 43.11 334 P **P 22 50 51.7 -0.1**
KKAR Karatay Array 43.11 334 P **P 22 50 52.0 +0.2**
SONM Songino Array 43.65 12 P **P 22 50 55.2 -0.9**
SONM Songino Array 43.65 12 P **P 22 50 55.3 -0.8**
comp=Z,1.9nm,0.7s,baz=196,slow=7.9,SNR=19
SONM PcP **PcP 22 52 43.3 +0.5**
comp=Z,0.4nm,0.4s,baz=192,slow=4.0,SNR=4.4
comp=Z,1.9nm,0.7s
KSRS Korea Array 44.35 39 P **P 22 51 01.3 -0.5**
comp=Z,0.5nm,0.5s,baz=220,slow=10,SNR=2.6
KSRS pP **pwP 22 51 16.3 -0.8**
comp=Z,0.5nm,0.4s,baz=224,slow=9.1,SNR=1.8
KSRS LR LR 23 11 44.6
comp=Z,20nm,18.4s,baz=235,slow=39
comp=Z,0.5nm,0.5s
WB0 Warramunga Arr 46.67 123 P **P 22 51 20.4 -0.1**
WB0 IAmb IAmb 22 51 43.6
comp=Z,9.2nm,1.3s
WRA Warramunga Arr 46.71 124 P **P 22 51 20.4 -0.3**
WRA Warramunga Arr 46.71 124 P **P 22 51 20.9 +0.1**
comp=Z,1.0nm,0.4s,baz=292,slow=7.8,SNR=19
WRA pP **pP 22 51 33.5 +0.8**
comp=Z,3.0nm,0.7s,baz=306,slow=8.5,SNR=8.9
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 47.06 346 P **P 22 51 22.3 -0.6**
comp=Z,3.4nm,0.3s,baz=171,slow=6.8,SNR=32
KURBB pP **pwP 22 51 37.5 -0.3**
comp=Z,2.0nm,0.7s,baz=169,slow=6.7,SNR=3.2
comp=Z,3.4nm,0.3s
KURK Kurchatov 47.13 346 P **P 22 51 23.9 +0.4**
KURK IAmb IAmb 22 51 25.1
comp=Z,6.2nm,0.8s
ASAR Alice Springs 48.21 128 P **P 22 51 32.7 +0.3**
comp=Z,1.2nm,0.6s,baz=299,slow=7.4,SNR=18
ASAR pP **pwP 22 51 47.0 -0.7**
comp=Z,1.4nm,0.4s,baz=300,slow=8.0,SNR=12
comp=Z,1.2nm,0.6s
ZAA0 Zalesovo Array 49.11 353 P **P 22 51 38.8 +0.1**
ZALV Zalesovo Beam 49.11 353 P **P 22 51 39.0 +0.2**
comp=Z,4.9nm,0.3s,baz=172,slow=7.3,SNR=39
comp=Z,4.9nm,0.3s
MJAR Matsushiro Arr 50.83 46 P **P 22 51 51.2 -0.9**
comp=Z,0.5nm,0.5s,baz=228,slow=6.5,SNR=4.8
comp=Z,0.5nm,0.5s
BVAR Borovoye Array 51.46 342 P **P 22 51 56.3 -0.2**
comp=Z,3.5nm,0.8s,baz=134,slow=8.5,SNR=16
comp=Z,3.5nm,0.8s
BRVK Borovoye 51.52 342 P **P 22 51 57.0 0.0**
BRVK IAmb IAmb 22 51 57.8
comp=Z,2.4nm,0.6s
ABKAR Akbulak array 52.54 332 P **P 22 52 04.7 0.0**
ABKAR IAmb IAmb 22 52 05.8
comp=Z,1.7nm,0.7s
ABKAR Akbulak array 52.54 332 P **P 22 52 04.7 0.0**
ARTI Arti 58.34 337 P **P 22 52 45.7 -0.4**
ARTI IAmb IAmb 22 52 54.6
comp=Z,5.8nm,1.2s
H04N2 CROZET ISLANDS 63.59 212 T T 00 03 30.7
baz=49,slow=75,SNR=21
H04N1 CROZET ISLANDS 63.60 212 T T 00 03 27.3
baz=49,slow=75,SNR=55
H04N3 CROZET ISLANDS 63.61 212 T T 00 03 27.5
baz=49,slow=75,SNR=49
BRTR Keskin Array B 64.20 312 P **P 22 53 25.9 -0.6**
comp=Z,0.7nm,0.8s,baz=122,slow=7.9,SNR=5.3
comp=Z,0.7nm,0.8s
CAN Canberra 65.34 133 P **P 22 53 33.8 +0.1**
CAN IAmb IAmb 22 53 50.5
comp=Z,6.6nm,1.1s
TIXI Tiksi 69.72 11 P **P 22 53 59.5 -1.1**
AKASG Malin Array Be 70.24 322 P **P 22 54 03.3 -0.9**
comp=Z,0.3nm,0.4s,baz=92,slow=5.2,SNR=5.0
comp=Z,0.3nm,0.4s
BURAR Bucovina Array 72.03 318 P **P 22 54 15.9 +0.6**
BUR08 Bucovina Ar. S 72.05 318 P **P 22 54 15.6 +0.2**
LIT Litokhoron 72.67 310 P **P 22 54 18.1 -1.0**
LIT IAmb IAmb 22 54 44.1
comp=Z,11nm,1.5s
PABE Paberze 74.55 326 P **P 22 54 29.8 +0.1**
FINES FINESS Array B 75.03 333 P **P 22 54 32.1 -0.4**
comp=Z,2.8nm,0.8s,baz=150,slow=8.8,SNR=5.3
comp=Z,2.8nm,0.8s
OJC Ojcow 76.02 320 P **P 22 54 38.9 +0.5**
OJC IAmb IAmb 22 54 40.0
comp=Z,4.2nm,0.6s
ARCES ARCESS Array B 77.72 340 P **P 22 54 47.5 -0.1**
comp=Z,2.7nm,0.9s,baz=90,slow=6.4,SNR=5.1
ARCES pP **pwP 22 55 02.7 -0.3**
comp=Z,2.5nm,0.9s,baz=89,slow=7.0,SNR=1.4
comp=Z,2.7nm,0.9s
GERES GERESS Array B 79.82 319 P **P 22 54 58.3 -1.4**
comp=Z,1.7nm,0.6s,baz=68,slow=6.0,SNR=3.9
comp=Z,1.7nm,0.6s
HFS Hagfors 80.73 330 P **P 22 55 04.0 -0.2**
comp=Z,3.5nm,0.9s,baz=120,slow=8.5,SNR=1.7
comp=Z,3.5nm,0.9s
FUORN Ofenpass-Fuorn 82.05 316 P **P 22 55 12.5 +0.7**
FUORN IAmb IAmb 22 55 29.4
comp=Z,6.8nm,1.4s
SPITS Spitsbergen Ar 82.37 348 P **P 22 55 12.6 0.0**
comp=Z,18nm,1.2s,baz=99,slow=8.9,SNR=6.8
comp=Z,18nm,1.2s
TOLK Toolik Lake Re 94.34 19 P **P 22 56 10.9 +0.5**
CAST Castle Rocks 95.62 24 P **P 22 56 16.6 +0.2**
BMAR Burnt Mountain 96.57 19 **P 22 56 21.3 +0.7**
ILAR Eielson Array 97.08 22 P **P 22 56 22.1 -0.8**
comp=Z,0.2nm,0.6s,baz=325,slow=5.7,SNR=4.5
comp=Z,0.2nm,0.6s

*IDC **09** 23:13:06.5±0.4, 13°.95N×144°.72E, h191km±3km, mb3.6/21, mbtmp4.1/21, MS2.6/1, Error ellipse: s-maj=17.9km s-min=9.4km az=85.0*
*NEIC **09** 23:13:07.8±1.2, 13°.96N±0°.08×144°.6E±0°.1, h187km±5km, mb4.5/27, Error ellipse: s-maj=15.5km s-min=10.0km az=111.0*
ISC 09 23:13:07.9±0.4, 13°.96N±0°.06×144°.7E±0°.1, h200km, n70, σ1§04/70, mb4.2/41, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.40**	**158**	Pn	**Pn**	**23 13 33.2**	**-1.5**
GUMO				Sn	**Sn**	**23 13 52.8**	**-2.7**
GUMO	**Guam**	**0.40**	**158**	P	**Pn**	**23 13 33.5**	**-1.2**
	329nm,0.3s,baz=329,slow=3.4,SNR=28						
GUMO				S	**Sn**	**23 13 52.8**	**-2.7**
	396nm,0.3s,baz=266,slow=23,SNR=8.1						
RABL	**Rabaul**	**19.49**	**157**	P	**P**	**23 17 21.4**	**+1.4**
JOW	**Kunigami**	**20.01**	**312**	P	**P**	**23 17 26.2**	**+0.8**
	33nm,0.8s,baz=45,slow=28,SNR=2.3						
	33nm,0.8s						
FAKI	**Fak Fak**	**20.83**	**217**	P	**P**	**23 17 34.8**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**21.57**	**75**	T	T	23 41 03.0	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**21.58**	**75**	T	T	23 41 21.0	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**21.59**	**75**	T	T	23 41 44.3	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**21.98**	**72**	T	T	23 41 31.5	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**21.98**	**72**	T	T	23 41 46.4	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**21.99**	**72**	T	T	23 42 02.6	
	baz=257						
INU	**Inuyama**	**22.40**	**343**	P	**P**	**23 17 51.1**	**+1.3**
JGF	**Kuroka**	**22.54**	**344**	P	**P**	**23 17 51.6**	**+0.4**
JGF				IAmb	IAmb	23 17 53.0	
	comp=Z,15nm,0.9s						
JNU	**Nakatsue**	**22.86**	**329**	P	**P**	**23 17 53.7**	**-0.3**
MJAR	**Matsushiro Arr**	**23.23**	**347**	P	**P**	**23 17 56.6**	**-0.8**
	comp=Z,11nm,0.8s,baz=170,slow=10,SNR=27						
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**23.23**	**347**	P	**P**	**23 17 57.2**	**-0.1**
MJB9	**Matsu-Tunnel**	**23.24**	**347**	P	**P**	**23 17 58.2**	**+0.8**
MJB9				IAmb	IAmb	23 18 00.0	
	comp=Z,21nm,0.8s						
YULB	**Yu-li**	**24.05**	**296**	P	**P**	**23 18 04.3**	**-0.6**
YULB				IAmb	IAmb	23 18 32.9	
	comp=Z,23nm,1.1s						
SSLB	**Suanglung**	**24.48**	**297**	P	**P**	**23 18 08.1**	**-0.8**
SSLB				IAmb	IAmb	23 18 50.1	
	comp=Z,33nm,1.3s						
KSRS	**Korea Array**	**27.77**	**330**	P	**P**	**23 18 35.9**	**-2.2**
	comp=Z,2.9nm,0.8s,baz=143,slow=9.2,SNR=10						
KSRS				LR	LR	23 28 08.2	
	comp=Z,11nm,20.1s,baz=115,slow=32						
	comp=Z,2.9nm,0.8s						
COEN	**Coen**	**27.78**	**183**	P	**P**	**23 18 38.8**	**+0.4**
COEN				IAmb	IAmb	23 19 20.8	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**33.40**	**209**	P	**P**	**23 19 27.2**	**-0.6**
BNX	**BinXian**	**34.89**	**339**	⇑P	**P**	**23 19 41.8**	**+1.5**
BNX				pmax	pmax		
	comp=Z,13nm,0.8s						
WB0	**Warramunga Arr**	**35.02**	**197**	P	**P**	**23 19 41.2**	**-0.4**
WB0				IAmb	IAmb	23 19 50.6	
	comp=Z,5.4nm,0.9s						
WRA	**Warramunga Arr**	**35.20**	**197**	P	**P**	**23 19 42.4**	**-0.9**
WRA	**Warramunga Arr**	**35.20**	**197**	P	**P**	**23 19 42.4**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=13,slow=8.9,SNR=32						
WRA				PcP	**PcP**	**23 22 08.2**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=19,slow=3.7,SNR=2.6						
WRA				ScP	**ScP**	**23 25 36.4**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=22,slow=4.1,SNR=5.3						
	comp=Z,3.8nm,0.7s						
HNS	**HongShan**	**35.46**	**317**	⇑P	**P**	**23 19 46.0**	**+0.8**
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
LYN	**LuoYang**	**35.60**	**311**	⇓P	**P**	**23 19 47.2**	**+0.7**
LYN				pmax	pmax		
	comp=Z,15nm,2.3s						
FITZ	**Fitzroy Crossi**	**36.99**	**211**	P	**P**	**23 19 58.1**	**-0.3**
XLT	**XiLinHaoTe**	**38.59**	**326**	*e*P	**P**	**23 20 11.7**	**0.0**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,120nm,6.6s						
HEH	**HeiHe**	**38.85**	**342**	*e*P	**P**	**23 20 14.0**	**+0.5**
HEH				pmax	pmax		
	comp=Z,17nm,1.0s						
AS31	**Alice Springs**	**38.86**	**196**	P	**P**	**23 20 13.7**	**-0.3**
ASAR	**Alice Springs**	**38.86**	**196**	P	**P**	**23 20 13.8**	**-0.2**
ASAR	**Alice Springs**	**38.86**	**196**	P	**P**	**23 20 13.4**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=16,slow=9.7,SNR=21						
ASAR				PcP	**PcP**	**23 22 21.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=19,slow=4.1,SNR=1.9						
ASAR				ScP	**ScP**	**23 25 49.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=18,slow=4.2,SNR=5.8						
	comp=Z,1.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**39.39**	**319**	*e*P	**P**	**23 20 20.7**	**+2.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
DZM	**Mont Dzumac**	**41.67**	**149**	P	**P**	**23 20 39.3**	**+2.2**
DZM				IAmb	IAmb	23 20 40.5	
	comp=Z,17nm,0.7s						
PZH	**PanZhiHua**	**42.02**	**294**	P	**P**	**23 20 41.4**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,4.7s						
CMAR	**Chiang Mai Arr**	**44.09**	**282**	P	**P**	**23 20 54.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=83,slow=6.4,SNR=5.0						
	comp=Z,0.5nm,0.3s						
STKA	**Stephens Creek**	**45.67**	**184**	P	**P**	**23 21 08.6**	**-0.2**
STKA				IAmb	IAmb	23 21 09.5	
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**45.67**	**184**	P	**P**	**23 21 08.2**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=354,slow=9.0,SNR=11						
	comp=Z,4.5nm,0.8s						
MA2	**Magadan**	**45.76**	**4**	P	**P**	**23 21 09.2**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=181,slow=8.4,SNR=6.1						
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**45.99**	**325**	P	**P**	**23 21 11.4**	**0.0**
SONM	**Songino Array**	**46.34**	**325**	P	**P**	**23 21 14.7**	**+0.7**
SONM	**Songino Array**	**46.34**	**325**	P	**P**	**23 21 14.3**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=142,slow=8.0,SNR=11						
	comp=Z,1.3nm,0.8s						
GTA	**Gaotai**	**46.82**	**311**	*e*P	**P**	**23 21 19.3**	**+1.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BBOO	**Buckleboo**	**47.23**	**190**	P	**P**	**23 21 20.8**	**-0.1**
BBOO				IAmb	IAmb	23 21 21.6	
	comp=Z,8.1nm,0.7s						
FORT	**Forrest**	**47.28**	**200**	P	**P**	**23 21 21.3**	**+0.1**
FORT				IAmb	IAmb	23 21 22.4	
	comp=Z,19nm,0.7s						
CAN	**Canberra**	**49.18**	**175**	P	**P**	**23 21 37.1**	**+1.3**
CAN				IAmb	IAmb	23 21 55.1	
	comp=Z,14nm,1.2s						
YAK	**Yakutsk**	**49.20**	**351**	P	**P**	**23 21 34.8**	**-0.8**
YAK				IAmb	IAmb	23 21 36.7	
	comp=Z,18nm,1.1s						
YAK	**Yakutsk**	**49.20**	**351**	P	**P**	**23 21 34.6**	**-0.9**
	comp=Z,6.9nm,0.4s,baz=316,slow=5.3,SNR=4.4						
	comp=Z,6.9nm,0.4s						
SEY	**Seymchan**	**49.21**	**5**	P	**P**	**23 21 35.6**	**0.0**
	comp=Z,1.2nm,0.5s,baz=176,slow=3.8,SNR=7.9						
	comp=Z,1.2nm,0.5s						
MORW	**Morawa**	**50.96**	**213**	P	**P**	**23 21 48.1**	**-1.1**
MORW				IAmb	IAmb	23 22 19.1	
	comp=Z,18nm,1.4s						
TOO	**Toolangi**	**51.26**	**179**	P	**P**	**23 21 52.9**	**+1.5**
TOO				IAmb	IAmb	23 21 54.1	
	comp=Z,7.9nm,1.1s						
TIXI	**Tiksi**	**58.45**	**354**	P	**P**	**23 22 42.0**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=157,slow=7.4,SNR=4.0						
	comp=Z,1.6nm,0.3s						
TKNZ	**Takaka Hill**	**60.65**	**156**	P	**P**	**23 22 58.9**	**+1.1**
MK31	**Makanchi Array**	**61.12**	**316**	P	**P**	**23 23 01.2**	**+0.1**
MKAR	**Makanchi Array**	**61.12**	**316**	P	**P**	**23 23 00.8**	**-0.3**
MKAR	**Makanchi Array**	**61.12**	**316**	P	**P**	**23 23 01.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=97,slow=8.6,SNR=9.8						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**61.24**	**324**	P	**P**	**23 23 01.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=85,slow=7.8,SNR=2.3						
	comp=Z,0.6nm,0.7s						
TUWZ	**Tuamarina**	**61.37**	**155**	P	**P**	**23 23 04.1**	**+1.5**
KURBB	**Kurchatov Arra**	**64.25**	**320**	P	**P**	**23 23 21.4**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=102,slow=6.8,SNR=14						
	comp=Z,2.3nm,0.7s						
E22K	**Anaktuvuk Pass**	**67.38**	**21**	P	**P**	**23 23 42.0**	**+0.6**
E22K				IAmb	IAmb	23 23 44.9	
	comp=Z,4.6nm,1.4s						
ILAR	**Eielson Array**	**68.30**	**25**	P	**P**	**23 23 45.3**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=248,slow=5.8,SNR=6.0						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**69.55**	**322**	P	**P**	**23 23 54.8**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=99,slow=7.2,SNR=8.6						
	comp=Z,0.8nm,0.3s						
YKA	**Yellowknife Ar**	**82.60**	**27**	P	**P**	**23 25 08.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=283,slow=5.2,SNR=5.1						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**86.81**	**51**	P	**P**	**23 25 29.0**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=289,slow=5.6,SNR=3.6						
	comp=Z,0.7nm,0.6s						
FINES	**FINESS Array B**	**90.77**	**335**	P	**P**	**23 25 47.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=47,slow=2.7,SNR=1.4						
	comp=Z,1.4nm,0.8s						
PDAR	**Pinedale Array**	**91.81**	**45**	P	**P**	**23 25 53.7**	**0.0**
PDAR	**Pinedale Array**	**91.81**	**45**	P	**P**	**23 25 53.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=308,slow=3.9,SNR=2.0						
	comp=Z,0.2nm,0.6s						
LPAZ	**La Paz**	**148.23**	**98**	PKPbc	**PKPbc**	**23 32 31.7**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=309,slow=3.6,SNR=13						

*NEIC **09** 23:33:42.3±2.0, 4°.97N±0°.05×73°.04W±0°.04, h10km±1km, mb4.4/9, Error ellipse: s-maj=8.6km s-min=6.9km az=157.0*
*IDC **09** 23:33:45.0±1.7, 5°.01N×73°.25W, h35km±14km, mb3.9/10, mbtmp4.2/12, ML4.4/2, MS3.4/4, Error ellipse: s-maj=18.7km s-min=14.5km az=2.0*
ISC 09 23:33:45.6±0.5, 4°.98N±0°.05×73°.08W±0°.06, h44km, n41, σ1§56/42, mb4.2/14, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.91**	**360**		**Pn**	**23 34 00.1**	**-2.3**
ROSC	**El Rosal**	**1.24**	**264**	Pn	**Pn**	**23 34 05.4**	**-1.5**
ROSC				Sn	**Sn**	**23 34 24.8**	**+2.2**
ROSC	**El Rosal**	**1.24**	**264**	Pg	**Pn**	**23 34 05.8**	**-1.1**
	335nm,0.3s,baz=114,slow=14,SNR=275						
ROSC				Lg	Lg	23 34 21.3	
	191nm,0.3s,baz=7.6,slow=23,SNR=11						
FLOC	**Florencia**	**4.24**	**217**	Pn	**Pn**	**23 34 47.1**	**-0.6**
SDV	**Santo Domingo**	**4.58**	**32**		**Pn**	**23 34 52.8**	**+0.3**
SMRC	**Santa Marta, M**	**6.25**	**350**	Pn	**Pn**	**23 35 15.2**	**-0.1**
OTAV	**Otavalo**	**7.14**	**229**		**Pn**	**23 35 27.8**	**-0.1**
SLOR	**San Lorenzo -**	**7.84**	**224**	Pn	**Pn**	**23 35 37.1**	**-0.4**
PCRV	**Puerto La Cruz**	**9.83**	**58**	Pn	**Pn**	**23 36 05.9**	**+1.4**
	3.0nm,0.3s,baz=204,slow=8.9,SNR=13						
PCRV				Sn	**Sn**	**23 37 54.9**	**+1.2**
	baz=249,slow=22						
PCRV				Lg	Lg	23 39 04.7	
	1.2nm,0.3s,baz=58,slow=23,SNR=1.4						
PCRV				LR	LR	23 40 44.6	
	comp=Z,243nm,19.5s,slow=42						
	12nm,0.5s						
CZSB	**Cruzeiro do Su**	**12.63**	**178**	Pn	**Pn**	**23 36 39.9**	**-2.8**
BOAV	**Boa Vista**	**12.79**	**101**		**Pn**	**23 36 42.1**	**-2.9**
SDDR	**Presa de Saban**	**14.03**	**7**	Pn	**Pn**	**23 36 60.0**	**-1.9**
CELP	**Cerrillos**	**14.49**	**26**	Pn	**Pn**	**23 37 05.0**	**-3.0**
PDPR	**Patillas Dam,**	**14.68**	**27**	Pn	**Pn**	**23 37 06.5**	**-4.0**
SJG	**San Juan**	**14.71**	**27**	Pn	**Pn**	**23 37 08.5**	**-2.3**
SJG	**San Juan**	**14.71**	**27**	Pn	**Pn**	**23 37 09.6**	**-1.3**
	1.6nm,0.3s,baz=197,slow=17,SNR=6.2						
SJG				LR	LR	23 43 31.7	
	comp=Z,77nm,20.2s,baz=228,slow=40						
	10nm,0.6s						
MDP	**Montagnes des**	**20.36**	**89**	P	**P**	**23 38 20.6**	**+2.0**
	10nm,0.9s,baz=267,slow=10,SNR=5.2						
	10nm,0.9s						
TEIG	**Tepich**	**21.17**	**317**	P	**P**	**23 38 28.4**	**+1.1**
TEIG				IAmb	IAmb	23 38 55.1	
	comp=Z,36nm,1.4s						
LPAZ	**La Paz**	**21.69**	**167**	P	**P**	**23 38 33.5**	**0.0**
LPAZ	**La Paz**	**21.69**	**167**	P	**P**	**23 38 35.1**	**+1.6**
	comp=Z,5.3nm,1.0s,baz=344,slow=14,SNR=11						
	comp=Z,5.3nm,1.0s						
SIV	**San Ignacio**	**23.99**	**151**	LR	LR	23 48 53.4	
	comp=Z,101nm,20.5s,baz=347,slow=38						
BDFB	**Brasilia**	**32.18**	**130**	P	**P**	**23 40 11.7**	**+2.0**
	comp=Z,1.0nm,0.4s,baz=286,slow=13,SNR=3.2						
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**34.66**	**155**	LR	LR	23 55 54.0	
	comp=Z,80nm,19.1s,baz=296,slow=38						
P52A	**Corning**	**35.46**	**348**	P	**P**	**23 40 38.3**	**+0.5**
P52A				IAmb	IAmb	23 40 58.1	
	comp=Z,8.8nm,1.1s						
BRDY	**Brady**	**35.74**	**320**	P	**P**	**23 40 40.2**	**-0.2**
BRDY				IAmb	IAmb	23 40 41.8	
	comp=Z,4.1nm,1.2s						
VA03	**San Esteban**	**37.61**	**177**	P	**P**	**23 40 54.6**	**-1.7**
TXAR	**Lajitas Array**	**37.73**	**313**	P	**P**	**23 40 56.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=77,slow=5.3,SNR=6.0						
TXAR				PcP	**PcP**	**23 43 13.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=131,slow=3.0,SNR=3.8						
	comp=Z,0.2nm,0.4s						
D62A	**Allapoint, All**	**42.09**	**4**	P	**P**	**23 41 33.9**	**+0.7**
D62A				IAmb	IAmb	23 41 43.2	
	comp=Z,5.8nm,1.1s						
LDAQ	**Lac Daran**	**42.86**	**2**	P	**P**	**23 41 40.5**	**+1.0**
LDAQ				IAmb	IAmb	23 41 53.5	
	comp=Z,11nm,1.5s						
PDAR	**Pinedale Array**	**49.59**	**325**	P	**P**	**23 42 33.4**	**+0.6**
PDAR	**Pinedale Array**	**49.59**	**325**	P	**P**	**23 42 32.2**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=151,slow=3.4,SNR=3.6						
	comp=Z,0.2nm,0.6s						
SCHQ	**Schefferville**	**49.96**	**5**	P	**P**	**23 42 35.5**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=198,slow=6.4,SNR=13						
	comp=Z,3.3nm,0.6s						
YKA	**Yellowknife Ar**	**65.00**	**340**	P	**P**	**23 44 20.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=138,slow=6.6,SNR=8.7						
	comp=Z,0.8nm,0.7s						
DBIC	**Dimbokro**	**67.85**	**85**	P	**P**	**23 44 40.6**	**+0.6**
DBIC	**Dimbokro**	**67.85**	**85**	P	**P**	**23 44 41.3**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=338,slow=3.1,SNR=5.5						
	comp=Z,1.3nm,0.4s						
SUMG	**Summit**	**70.78**	**10**	*i*P	**P**	**23 44 58.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**74.08**	**78**	P	**P**	**23 45 17.9**	**+0.1**
KEST	**Kesra**	**80.97**	**55**	P	**P**	**23 45 56.8**	**+0.8**
	comp=Z,2.7nm,1.0s,baz=303,slow=21,SNR=2.1						
	comp=Z,2.7nm,1.0s						
SPITS	**Spitsbergen Ar**	**85.05**	**12**	P	**P**	**23 46 17.6**	**+1.5**
	comp=Z,13nm,0.9s,baz=262,slow=10.0,SNR=1.9						
	comp=Z,13nm,0.9s						
ASAR	**Alice Springs**	**148.04**	**232**	PKPbc	**PKPbc**	**23 53 25.9**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=122,slow=4.5,SNR=8.0						
WRA	**Warramunga Arr**	**149.45**	**238**	PKPbc	**PKPbc**	**23 53 29.9**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=110,slow=2.2,SNR=7.7						

*NEIC **09** 23:37:19.8±1.1, 18°.7S±0°.1×172°.71W±0°.05, h10km±1km, mb4.5/10, Error ellipse: s-maj=21.2km s-min=5.4km az=14.0*
*IDC **09** 23:37:28.4±4.7, 19°.08S×173°.44W, h46km±43km, mb3.8/10, mbtmp4.0/12, ML4.2/2, MS3.3/7, Error ellipse: s-maj=29.0km s-min=24.1km az=128.0*
**ISC 09

QRZ	Quartz Range	25.27	207	P	P	23 42 47.1	+0.9
RPZ	Rata Peaks	28.28	205	LR	LR	23 54 47.9	
comp=Z,106nm,19.7s,baz=117,slow=37							
COEN	Coen	42.39	270	P	P	23 45 14.6	-0.1
COEN				IAmb	IAmb	23 45 19.8	
comp=Z,22nm,1.3s							
AS31	Alice Springs	49.64	255	P	P	23 46 12.3	+0.4
AS31				IAmb	IAmb	23 46 23.6	
comp=Z,1.2nm,0.7s							
WB0	Warramunga Arr	49.64	260	P	P	23 46 10.7	-1.2
WB0				IAmb	IAmb	23 46 36.0	
comp=Z,12nm,1.4s							
ASAR	Alice Springs	49.64	255	P	P	23 46 11.5	-0.4
ASAR	Alice Springs	49.64	255	P	P	23 46 10.9	-1.0
comp=Z,1.7nm,0.6s,baz=93,slow=7.7,SNR=23							
comp=Z,1.7nm,0.6s							
WRA	Warramunga Arr	49.66	259	P	P	23 46 11.0	-1.1
WRA	Warramunga Arr	49.66	259	P	P	23 46 10.7	-1.4
comp=Z,1.8nm,0.9s,baz=97,slow=7.3,SNR=34							
comp=Z,1.8nm,0.9s							
FORT	Forrest	54.41	245	P	P	23 46 47.3	+0.1
FITZ	Fitzroy Crossi	58.08	260	P	P	23 47 13.3	-0.3
FITZ	Fitzroy Crossi	58.08	260	P	P	23 47 13.8	+0.2
comp=Z,2.7nm,1.0s,baz=45,slow=4.3,SNR=1.1							
comp=Z,2.7nm,1.0s							
QSPA	South Pole Qui	71.25	180	P	P	23 48 39.6	+0.6
QSPA	South Pole Qui	71.25	180	P	P	23 48 41.5	+2.5
comp=Z,2.3nm,1.0s,baz=27,slow=7.5,SNR=3.5							
comp=Z,2.3nm,1.0s							
MJAR	Matsushiro Arr	71.88	320	P	P	23 48 45.3	+2.3
comp=Z,1.8nm,0.9s,baz=131,slow=4.3,SNR=3.3							
comp=Z,1.8nm,0.9s							
PETK	Petropavlovsk-	76.02	342	LR	LR	00 18 01.7	
comp=Z,52nm,21.2s,baz=85,slow=32							
NVAR	Mina Array Bea	76.52	41	P	P	23 49 17.5	+7.2
comp=Z,0.6nm,0.7s,baz=253,slow=5.9,SNR=3.1							
comp=Z,0.6nm,0.7s							
KSRS	Korea Array	78.96	316	P	P	23 49 27.8	+4.2
comp=Z,2.1nm,0.9s,baz=129,slow=7.1,SNR=5.6							
comp=Z,2.1nm,0.9s							
TXAR	Lajitas Array	82.08	55	P	P	23 49 48.5	+7.8
comp=Z,0.7nm,0.9s,baz=174,slow=1.3,SNR=4.0							
comp=Z,0.7nm,0.9s							
ILAR	Eielson Array	85.67	11	P	P	23 50 02.3	+4.2
comp=Z,0.7nm,0.9s,baz=233,slow=5.5,SNR=4.3							
comp=Z,0.7nm,0.9s							
SYO	Syowa Base	89.37	191	↓eSP	sP	23 50 24.2	+1.7
BRTR	Keskin Array B	149.08	318	PKPbc	PKiKP	23 57 10.2	+0.4
comp=Z,0.4nm,0.7s,baz=70,slow=1.7,SNR=3.9							
GERES	GERESS Array B	149.57	351	PKPbc	PKPab	23 57 12.1	-2.3
comp=Z,0.6nm,0.8s,baz=45,slow=1.8,SNR=2.0							

*NEIC **09** 23:39:58.7±1.7, 64°.58N±0°.02×147°.75W±0°.06, h27km±9km, Error ellipse: s-maj=4.1km s-min=0.5km az=122.0*

AEIC 09 23:39:58.9±2.1, 64°.58N±0°.03×147°.67W±0°.06, h24km±7km, ML3.6, mb3.7/3(NEIC), ML3.8/52(NEIC), Error ellipse: s-maj=4.1km s-min=4.0km az=93.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCB	Clear Creek Bu	0.09	319		Pb	23 40 03.4	-0.1
CCB				IAML		23 40 06.5	
comp=N,26μm,0.4s							
WRH	Wood River Hil	0.21	240		Pb	23 40 04.3	-0.4
WRH				Sg	Sb	23 40 07.9	-0.6
WRH				IAML		23 40 08.3	
comp=E,10μm,0.2s							
COLA	College	0.31	345		Pb	23 40 06.0	0.0
COLA				Sg	Sb	23 40 10.8	0.0
HDA	Harding Lake	0.35	118		Pb	23 40 07.2	+0.5
HDA				Sg	Sb	23 40 12.8	+0.8
HDA				IAML		23 40 13.4	
comp=N,9μm,0.5s							
HDA				IAML		23 40 13.5	
comp=E,8μm,0.3s							
IL31		0.39	59		Pb	23 40 07.8	+0.6
ILAR	Eielson Array	0.39	59		Pb	23 40 07.7	+0.5
POKR	Poker Plat Res	0.55	10		Pb	23 40 10.2	+0.2
POKR				IAML		23 40 18.8	
comp=N,4μm,0.5s							
POKR				IAML		23 40 19.1	
comp=E,6μm,0.7s							
POKR	Poker Plat Res	0.55	10		Sb	23 40 17.9	+0.4
NEA2	Nenana	0.61	272		Pb	23 40 10.0	-0.9
NEA2				IAML		23 40 18.5	
comp=N,8μm,0.7s							
NEA2				IAML		23 40 18.7	
comp=E,12μm,0.4s							
BWN	Browne	0.88	243		Pb	23 40 13.7	-1.9
I23K	Minto, Yukon-K	0.92	309		Pb	23 40 14.9	-1.3
J25K	Salcha River,	0.99	87		Pn	23 40 16.9	-0.5
J25K				IAML		23 40 31.9	
comp=N,4μm,0.8s							
J25K				IAML		23 40 33.0	
comp=E,2μm,0.6s							
MCK	McKinley	1.01	214		Pn	23 40 16.5	-1.1
K24K	Donnelly Dome	1.13	132		Pn	23 40 18.7	-0.6
H24K	Noodor Dome	1.27	356		Pn	23 40 20.6	-0.5
RND	Reindeer	1.29	205		Pn	23 40 20.7	-0.7
PRP	Porcupine Dome	1.31	43		Pn	23 40 21.5	-0.3
PRP				IAML		23 40 43.4	
comp=E,1μm,0.6s							
PRP				IAML		23 40 48.8	
comp=N,1μm,0.5s							
H23K	Yukon River	1.48	329		Pn	23 40 23.4	-0.7
H23K				IAML		23 40 50.7	
comp=N,1μm,0.7s							
H23K				IAML		23 40 51.4	
comp=E,1μm,1.4s							
RIDG	Independent Ri	1.49	123	Pn	Pn	23 40 23.3	-0.9
BPAW	Bear Paw Mtn.	1.52	253		Pn	23 40 22.4	-2.2
TRF	Thorofare Moun	1.62	227		Pn	23 40 25.1	-1.0
TRF				IAML		23 40 49.7	
comp=E,788nm,0.5s							
SCRK	Sand Creek	1.71	109	Pn	Pn	23 40 26.3	-1.1
SCRK				IAML		23 40 53.8	
comp=N,957nm,0.7s							
KTH	Kantishna Hill	1.76	236		Pn	23 40 26.7	-1.3
KTH				IAML		23 40 53.3	
comp=E,1μm,0.3s							
KTH				IAML		23 41 00.5	
comp=N,1μm,0.8s							
KTH	Kantishna Hill	1.76	236		Sb	23 40 51.9	-0.3
J26L	Joseph Creek	1.77	91		Pn	23 40 28.1	-0.1
J26L				IAML		23 40 55.7	
comp=E,818nm,0.6s							
J26L				IAML		23 41 02.1	
comp=N,956nm,0.6s							
DOT	Dot Lake	1.84	119		Pn	23 40 27.7	-1.3
PAX	Paxson	1.89	148	Pn	Pn	23 40 29.8	+0.1
I21K	Tanana	1.94	290		Pn	23 40 28.6	-1.7
I21K				IAML		23 41 06.2	
comp=E,567nm,0.6s							
H22K	Ishtalitna Cre	2.05	312		Pn	23 40 30.9	-1.0
I26K	Coal Creek Min	2.06	67		Pn	23 40 31.8	-0.1
G24K	Hadweenzic Riv	2.13	2	Pn	Pn	23 40 32.6	-0.4
G24K				IAML		23 41 10.1	
comp=E,475nm,1.2s							
G24K				IAML		23 41 10.6	
comp=N,546nm,1.1s							
FYU	Fort Yukon	2.24	26		Pn	23 40 34.4	0.0
CAST	Castle Rocks	2.27	241		Pn	23 40 32.9	-2.0
G23K	Bananza Creek	2.35	337	Pn	Pn	23 40 35.5	-0.6
G23K				IAML		23 41 17.2	
comp=E,425nm,0.9s							
MENT	Mentasta	2.41	131		Pn	23 40 36.0	-0.8
H21K	Melozitna Rive	2.43	299		Pn	23 40 35.4	-1.7
L26K	Log Cabin Wild	2.47	127		Pn	23 40 36.5	-1.1
CUT	Chulitna	2.47	209		Pn	23 40 37.5	-0.2
K27K	Chicken	2.50	100		Pn	23 40 37.7	-0.3
K27K				IAML		23 41 21.8	
comp=E,340nm,0.6s							
K27K				IAML		23 41 22.1	
comp=N,541nm,0.5s							
M24K	Tolsona, Glenn	2.57	164		Pn	23 40 39.4	+0.3
PPLA	Purkeypile	2.63	232		Pn	23 40 38.7	-1.2
SCM	Sheep Creek Mo	2.76	177		Pn	23 40 42.0	+0.4
M23K	Glacier View	2.79	181		Pn	23 40 42.1	0.0
SML	Sawmill	2.80	186	Pn	Pn	23 40 41.7	-0.5
J20K	Nowinta River	2.84	265	Pn	Pn	23 40 40.5	-2.3
COLD	Coldfoot	2.86	340		Pn	23 40 42.8	-0.1
GHO	Glory Hole Cre	2.87	192		Pn	23 40 42.6	-0.6
I20K	Naaghedeneel	2.94	277		Pn	23 40 42.1	-1.9
F24K	Squaw Lake	2.96	358	Pn	Pn	23 40 44.5	+0.2
L27K	Beaver Creek,	3.00	118		Pn	23 40 43.4	-1.6
BCAR	Beaver Creek A	3.02	118	Pn	Pn	23 40 43.5	-1.7
M26K	Nabesna, AK	3.03	134		Pn	23 40 44.7	-0.6
M22K	Willow	3.05	203		Pn	23 40 43.9	-1.6
PMR	Palmer	3.07	193		Pn	23 40 45.1	-0.7
K20K	Telida	3.08	249		Pn	23 40 43.9	-2.1
G21K	Allakaket	3.11	311		Pn	23 40 45.4	-1.0
BMAR	Burnt Mountain	3.13	22	Pn	Pn	23 40 46.2	-0.5
SKT	Skwentna	3.14	216		Pn	23 40 46.2	-0.6
F25K	Christian Rive	3.14	14	Pn	Pn	23 40 46.7	-0.1
KLU	Klutina	3.20	165		Pn	23 40 49.3	+1.7
KNK	Knik Glacier	3.20	187		Pn	23 40 48.0	+0.3
N25K	Chitina, Valde	3.29	154		Pn	23 40 51.4	+2.4
G27K	Doyon Strip	3.35	45	Pn	Pn	23 40 49.1	-0.6
I28M	Miner Creek	3.40	72	Pn	Pn	23 40 50.8	+0.4
M27K	Edge Creek, AK	3.42	128		Pn	23 40 50.0	-0.8
SUA	Susitna One	3.43	206		Pn	23 40 50.9	0.0
F26K	Sheenjek River	3.44	23		Pn	23 40 50.7	-0.3
J19K	Poorman	3.52	264		Pn	23 40 49.7	-2.3
E24K	Your Creek	3.53	355		Pn	23 40 52.4	+0.2
DIV	Divide	3.57	165		Pn	23 40 53.1	+0.4
F21K	Alatna River	3.57	321		Pn	23 40 52.6	-0.1
E23K	Chandalar	3.58	348		Pn	23 40 53.4	+0.4
GLB	Gilahina Butte	3.60	149		Pn	23 40 54.4	+1.1
STLK	Strandline Lak	3.63	213		Pn	23 40 53.3	-0.2
RC01	Rabbit Creek A	3.63	196	Pn	Pn	23 40 54.8	+1.3
DAWY	Dawson	3.64	94	Pn	Pn	23 40 53.5	-0.2
E25K	Arctic Village	3.66	12		Pn	23 40 53.9	0.0
M20K	Styx River	3.66	225		Pn	23 40 54.0	-0.1
GLI	Glacier Island	3.72	176	Pn	Pn	23 40 55.2	+0.4
BVCY	Beaver Creek	3.74	122		Pn	23 40 54.0	-1.1
PWL	Port Wells	3.75	185		Pn	23 40 56.0	+0.9
H19K	Roundabout Mou	3.84	288		Pn	23 40 54.4	-2.1
VRDI	Verde Repeater	3.87	148	Pn	Pn	23 40 58.2	+1.1
BMRM	Bremner River	3.89	157		Pn	23 40 58.4	+1.3
E22K	Anaktuvuk Pass	3.94	337		Pn	23 40 58.6	+0.7
SPU	Mount Spurr	3.96	213		Pn	23 40 57.8	-0.2
SPCR	Spurr Chakacha	3.98	214		Pn	23 40 59.9	+1.5
L19K	White Mountain	4.03	237		Pn	23 40 58.3	-0.8
I29M	Ogilvie Camp,	4.05	75		Pn	23 40 59.9	+0.5
TTA	Tatalina	4.06	250	Pn	Pn	23 40 58.0	-1.5
J18K	Innoko River	4.13	258	Pn	Pn	23 40 58.5	-2.0
F20K	Avaraart Lake	4.14	310		Pn	23 41 00.4	-0.2
TOLK	Toolik Lake Re	4.15	350		Pn	23 41 01.9	+1.1
H29M	Whitestone	4.22	63		Pn	23 41 01.6	0.0
SLKM	Skilak Lake	4.25	197		Pn	23 41 03.3	+1.2
E27K	Coleen River	4.37	31	Pn	Pn	23 41 03.3	-0.4
L29M	L29M	4.47	105		Pn	23 41 04.4	-0.7
K29M	Barlow Dome	4.49	95	Pn	Pn	23 41 05.4	-0.2
D23K	Nanushuk River	4.57	346		Pn	23 41 07.5	+1.1
H18K	Honhosa River	4.60	282		Pn	23 41 05.3	-1.6
G29M	Pine Creek	4.62	55		Pn	23 41 06.9	-0.2
D24K	Happy Valley	4.62	355		Pn	23 41 07.9	+0.8
E21K	Killik River	4.63	330		Pn	23 41 07.4	+0.1
M29M	Somme Creek	4.64	113		Pn	23 41 06.9	-0.6
L18K	Granite Mounta	4.70	244		Pn	23 41 06.5	-1.7
F19K	Shaleruckik Mo	4.75	303		Pn	23 41 07.4	-1.5
D22K	Ayikyak River	4.76	338		Pn	23 41 09.5	+0.5
D25K	Kavik River	4.79	5		Pn	23 41 10.8	+1.2
G18K	Tagagawik	4.81	291		Pn	23 41 08.1	-1.6
I30M	Mount Dempster	4.85	77		Pn	23 41 10.6	+0.2
E19K	Redstone River	4.86	311		Pn	23 41 10.0	-0.4
N19K	Bonanza Creek	4.91	223		Pn	23 41 12.1	+0.8
K17K	Iditarod	5.09	253	Pn	Pn	23 41 12.0	-1.6
J17K	VABM Dome	5.16	262		Pn	23 41 12.2	-2.3
E28M	Babbage River	5.18	35		Pn	23 41 14.9	+0.1
C24K	Franklin Bluff	5.18	356		Pn	23 41 15.5	+0.7
M30M	Minto, Yukon	5.25	108		Pn	23 41 14.8	-1.1
H17K	Granite Mounta	5.26	279	Pn	Pn	23 41 14.5	-1.4
I17K	Unalakleet	5.73	269	Pn	Pn	23 41 21.7	-0.6
B21K	Ikpikpuk River	5.74	335		Pn	23 41 22.4	0.0
F31M	Tsiigehtchic	6.36	57	Pn	Pn	23 41 29.3	-1.7
C18K	Utukok River	6.75	313	Pn	Pn	23 41 35.8	-0.6
INK	Inuvik	6.78	50	Pn	Pn	23 41 36.6	-0.1
D17K	Noatak River	6.99	303		Pn	23 41 39.0	-0.5
C36M	Paulatuk	10.36	52	Pn	Pn	23 42 24.2	-1.5
A36M	Sachs Harbour	11.06	38	Pn	Pn	23 42 34.8	-0.5
YKA	Yellowknife Ar	14.79	83	Pn	Pn	23 43 28.4	+2.3
ATKA	Atka Island	18.44	240		Pn	23 44 12.9	+0.4
ATKA				IAmb	IAmb	23 44 54.3	
comp=Z,189nm,1.3s							
RES	Resolute Bay	20.11	38	P	P	23 44 30.4	0.0
RES				IAmb	IAmb	23 45 03.9	
comp=Z,1.3nm,0.9s							
EUNU	Eureka	22.42	24	P	P	23 44 55.5	+0.2
EUNU				IAmb	IAmb	23 45 02.1	
comp=Z,2.1nm,1.1s							

*IDC **09** 23:55:22.4±1.1, 12°.60S×45°.20E, h0km, mb3.6/5, mbtmp3.6/6, ML3.5/1, MS3.3/4, Error ellipse: s-maj=34.2km s-min=29.7km az=103.0*

ISC 09 23:55:22.8±0.8, 12°.81S±0°.06×45°.39E±0°.08, h10km, n18, σ3$07/23, mb3.8/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.46	99	P	Pn	23 56 32.0	+1.4
SBV				S	Sn	23 57 19.0	-3.6
OPO	Ambohidratompo	5.99	163	P	Pn	23 56 54.3	+2.6
OPO				S	Sn	23 57 56.7	-3.8
FIRM	Firavahana	6.03	166	P	Pn	23 56 55.0	+2.7
FIRM				S	Sn	23 57 58.1	-3.6
ATG	Ambohiby	6.09	173	P	Pn	23 56 55.2	+2.1
ABPO	Ambohimpanom	6.42	164	P	Pn	23 56 60.0	+2.2
ABPO				S	Sn	23 58 07.1	-4.2
MDSM	Mandiavato	6.44	166	P	Pn	23 57 00.7	+2.7
MDSM				S	Sn	23 58 07.6	-4.1
DGRM	Ambatolahisoa	6.49	171	P	Pn	23 57 01.5	+2.9
DGRM				S	Sn	23 58 09.8	-3.1
AVY	Angavokely	6.49	160	P	Pn	23 57 00.5	+1.8
AVY				S	Sn	23 58 07.7	-5.3
ABM	Ambohimiarambe	7.19	165	P	Pn	23 57 10.7	+2.4
KMBO	Kilima Mbogo	14.13	325	Pn	Pn	23 58 41.7	-1.7
0.2nm,0.3s,baz=107,slow=17,SNR=2.0							
KMBO				Sn	Sn	00 01 17.9	-2.6
0.3nm,0.3s,baz=41,slow=22,SNR=2.0							
KMBO				LR	LR	00 03 38.3	
comp=Z,71nm,18.9s,baz=84,slow=36							
0.4nm,0.3s							
LSZ	Lusaka	16.87	260	LR	LR	00 05 25.4	
comp=Z,78nm,18.2s,baz=132,slow=36							
LBTB	Lobatse	22.28	234	LR	LR	00 08 57.7	
comp=Z,46nm,21.0s,baz=132,slow=37							
BOSA	Boshof	24.48	227	P	P	00 00 43.4	+1.0
3.4nm,0.7s,baz=56,slow=8.7,SNR=6.5							
3.4nm,0.7s							
KEST	Kesra	59.09	326	LR	LR	00 30 27.4	
comp=Z,67nm,19.4s,baz=297,slow=36							
MKAR	Makanchi Array	67.92	26	P	P	00 06 21.4	-0.3
0.2nm,0.7s,baz=217,slow=9.1,SNR=2.1							
0.2nm,0.7s							
KURBB	Kurchatov Arra	69.48	22	P	P	00 06 32.2	+0.9
0.1nm,0.6s,baz=225,slow=6.9,SNR=1.9							
0.1nm,0.6s							
ASAR	Alice Springs	83.62	113	P	P	00 07 55.1	+2.9
0.6nm,0.6s,baz=258,slow=4.7,SNR=14							
0.6nm,0.6s							
WRA	Warramunga Arr	84.75	109	P	P	00 08 00.6	+2.6
0.6nm,0.9s,baz=260,slow=3.7,SNR=3.1							
0.6nm,0.9s							

*YARS **10** 00:05:55.8, 55°.45N×123°.91E, h8km, ML2.1/17*

SKHL 10 00:05:55.5±0.7, 55°.40N×123°.90E, h10km±5km, mb3.8/3, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNDR	Tynda	0.53	118	⇑iPg	Pg	00 06 06.1	+0.2
24nm,0.5s							
TNDR				eSg	Sg	00 06 13.3	+0.5
270nm,0.4s							
TNDR				eSg	Sg	00 06 13.3	+0.5
186nm,0.4s							
CLNS	Chul'man	1.54	21	ePg	Pn	00 06 23.3	+0.2
6.4nm,0.2s							
CLNS				eSg	Sn	00 06 41.7	-1.5
58nm,0.4s							
CLNS				eSg	Sn	00 06 41.7	-1.5
54nm,0.6s							
YKLR	Yuktali	1.74	314	ePg	Pb	00 06 26.6	-0.8
7.6nm,0.1s							
YKLR				eSg	Sb	00 06 49.8	+0.4
35nm,0.5s							
YKLR				eSg	Sb	00 06 49.8	+0.4
34nm,0.2s							
TUP	Tupik	2.48	248	ePn	Pn	00 06 36.6	+0.7
TUP				ePg	Pb	00 06 40.7	+0.6
TUP				AMB	AMB	00 06 42.7	
30nm,0.2s							
TUP				eSn	Sn	00 07 07.4	+1.2
TUP				eSg	Sg	00 07 14.2	-0.9
TUP				A	A	00 07 15.9	
50nm,0.5s							
ZEA	Zeya	2.56	129	ePn	Pn	00 06 38.1	+1.0
ZEA				ePg	Pb	00 06 42.2	+0.7
ZEA				AMB	AMB	00 06 43.0	
10.0nm,0.5s							
ZEA				eSg	Sg	00 07 15.8	-2.0
ZEA				A	A	00 07 17.7	
70nm,0.6s							
KHN	Khani	2.76	305	ePn	Pn	00 06 38.6	-1.2
0.8nm,0.0s							
KHN				ePg	Pb	00 06 43.9	-1.0
1.7nm,0.2s							
KHN				eSn	Sn	00 07 12.1	-1.1
3.0nm,0.2s							
KHN				eSn	Sn	00 07 12.1	-1.1
3.9nm,0.1s							
KHN				eSg	Sb	00 07 18.1	-0.6
13nm,0.3s							
KHN				eSg	Sb	00 07 18.1	-0.6
16nm,0.2s							
BMKR	Bomnak	2.92	102	ePg	Pb	00 06 48.9	+1.2
BMKR				eSg	Sb	00 07 26.3	+2.8
BMKR				A	A	00 07 27.1	
90nm,0.3s							
CRS	Chara	3.49	298	ePg	Pb	00 06 58.8	+1.4
10nm,0.8s							
CRS				eSg	Sb	00 07 43.6	+3.8
58nm,0.8s							
CRS	Chara	3.49	298	ePg	Pb	00 06 58.7	+1.4
CRS				AMB	AMB	00 07 01.2	
10.0nm,0.8s							
CRS				eSg	Sb	00 07 43.6	+3.8
CRS				A	A	00 07 49.3	
60nm,0.8s							
OCTB	Oktyabr'skiy	3.67	129	ePn	Pn	00 06 53.4	+1.2
OCTB				ePg	Pb	00 07 02.9	+2.5
OCTB				eSg	Sg	00 07 49.9	-3.3
OCTB				A	A	00 07 52.6	
40nm,0.7s							
EKMR	Ekimchan	5.80	110	ePn	Pn	00 07 22.0	+0.5
EKMR				eSg	Sg	00 08 57.1	-4.4
EKMR				A	A	00 09 08.2	
10.0nm,0.6s							
KLR	Kul'dur	7.83	139	ePn	Pn	00 07 50.5	+1.2
KLR				eSg	Sg	00 10 03.0	-3.5

*IGQ **10** 00:24:20.2±1.0, 2°.N±4°.×8°.0W±°., h17km±8km*
*RSNC **10** 00:24:38.2±0.0, 0°.S±61°.×7°.9W±6°.1, h119km±96km, M3.2, mb4.0, ML2.9*

ISC 10 00:24:14.8±2.2, 1°.82N±0°.05×80°.55W±0°.09, h11km±14km, n75, σ2$59/85, 2C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMA1	Acelerografo,	1.21	137	P	Pg	00 24 37.7	-0.3
AMA1				S	Sn	00 24 53.4	-0.6
AES2	Ecuador-Puerto	1.22	132	P	Pn	00 24 38.7	+0.9
AES2				S	Sn	00 24 53.3	-1.0
AV21	Acelerografo,	1.53	139	P	Pn	00 24 42.8	+0.8
AV21				S	Sn	00 25 01.1	-0.7
SNLR	San Lorenzo-Es	1.78	107	⇑P	Pb	00 24 48.1	+0.6
SNLR				S	Sb	00 25 10.0	+0.1
JAMA	Jama	2.09	170	S	Sn	00 25 13.1	-2.9
JAMA				⇓P	Pn	00 24 50.4	+0.6
FLF1	Flavio Alfaro-	2.27	162	⇑P	Pb	00 24 55.4	-0.5
FLF1	Flavio Alfaro-	2.27	162	P	Pb	00 24 55.4	-0.5
FLF1				S	Sn	00 25 20.1	-0.2
PAC1	Pacto, Paraso	2.34	131	⇓P	Pn	00 24 54.7	+1.4
PAC1				S	Sn	00 25 22.2	0.0
PAC1	Pacto, Paraso	2.34	131	P	Pn	00 24 54.7	+1.4
PAC1				S	Sn	00 25 21.4	-0.8
ALIT	Ecuador-Imbabu	2.42	115	P	Pn	00 24 55.9	+1.6
LITE1	Lita	2.42	115	P	Pn	00 24 55.7	+1.3
OTAV	Otavalo	2.62	127	P	Pn	00 24 58.9	+1.4
CUSE	Cuicocha Este	2.62	125	P	Pn	00 24 59.5	+2.0
CUSE	Cuicocha Este	2.62	125	P	Pn	00 24 59.9	+2.4
CUIC	Cuicocha-Domo	2.66	124	P	Pn	00 25 00.1	+2.1
COTA	Cotacachi	2.66	124	P	Pn	00 25 00.5	+2.4
GR1C	Gorgona, Isla	2.66	64	P	Pn	00 24 59.0	+1.4
GR1C				S	Sn	00 25 24.5	-5.4
CHMA	Chilma	2.66	111	P	Pn	00 24 58.8	+0.9
URCU	Urcuqui	2.67	121	P	Pn	00 24 59.8	+1.6
PULU	Pululahua	2.72	131	P	Pn	00 25 01.1	+2.3
YANA	Yana	2.76	134	P	Pn	00 25 02.2	+2.7
PINO	Pino	2.76	135	P	Pn	00 25 02.0	+2.5
ECEN	Cerro Negro	2.76	111	P	Pn	00 25 02.0	+2.5
HPAL	Hacienda Las P	2.77	137	P	Pb	00 25 02.7	-1.9
TERV	Terraza Guagua	2.78	135	P	Pb	00 25 03.0	-1.8
GGPC	Guagua Pichinc	2.78	135	P	Pn	00 25 01.9	+2.0
CHL1	Volc¡n Chiles	2.80	111	P	Pn	00 25 01.9	+1.9
GGPT	Toaza - Volcan	2.80	136	P	Pb	00 25 03.3	-1.8
JUA2	San Juan 2	2.80	136	P	Pn	00 25 03.0	+3.0
IMBA	Imbabura, San	2.81	123	P	Pn	00 25 02.4	+2.4
CHL2	Volc¡n Chiles	2.82	111	P	Pn	00 25 02.0	+1.7
YAHU	Yahuarcocha	2.87	120	P	Pn	00 25 03.4	+2.6
ANGU	Angureal	3.09	125

σ1§18/11, **mb3.7/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.49**	**189**	P	**P**	**00 38 22.3**	**-0.8**
	5.5nm,0.6s,baz=114,slow=1.1,SNR=7.2						
URZ				S	**S**	**00 40 45.8**	**-0.8**
	7.2nm,0.7s,baz=132,slow=22,SNR=12						
STKA	**Stephens Creek**	**34.18**	**249**	P	**P**	**00 41 32.5**	**+0.6**
	1.2nm,0.5s,baz=86,slow=10,SNR=5.0						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**41.69**	**262**	P	**P**	**00 42 33.5**	**0.0**
	1.0nm,0.4s,baz=94,slow=7.3,SNR=28						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**00 42 36.7**	**-0.5**
	3.2nm,0.4s,baz=99,slow=7.0,SNR=69						
WRA				ScP	**ScP**	**00 47 24.7**	**+1.8**
	1.6nm,1.0s,baz=103,slow=3.4,SNR=4.6						
	3.2nm,0.4s						
QSPA	**South Pole Qui**	**65.16**	**180**	P	**P**	**00 45 20.9**	**+1.0**
	1.9nm,0.8s,baz=31,slow=0.4,SNR=15						
	1.9nm,0.8s						
MJAR	**Matsushiro Arr**	**72.63**	**326**	P	**P**	**00 46 03.2**	**-2.0**
	1.6nm,0.8s,baz=140,slow=5.9,SNR=4.1						
	1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**00 47 34.7**	**+1.0**
	0.7nm,0.3s,baz=79,slow=7.2,SNR=1.6						
	0.7nm,0.3s						
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**00 47 40.2**	**+0.1**
	0.6nm,0.8s,baz=223,slow=6.5,SNR=7.2						
	0.6nm,0.8s						
HFS	**Hagfors**	**143.51**	**348**	PKhKP	PKPpre	00 54 02.6	
	4.2nm,0.9s,baz=90,slow=3.0,SNR=9.7						
BRTR	**Keskin Array B**	**148.03**	**306**	PKPbc	**PKPbc**	**00 54 18.3**	**+0.2**
	0.3nm,0.5s,baz=91,slow=2.1,SNR=2.5						

*FUNV **10** 00:52:48.6, 10°.83N×62°.26W, h5km, MW3.9*
*TRN **10** 00:52:50.8, 11°.11N×62°.16W, h98km, MD3.8, North of the Paria peninsula.*

ISC 10 00:52:47.6±1.3, **11°.03N**±0°.04×**62°.29W**±0°.06,
h117km±14km, **n26**, σ1§**97**/45, **2C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.95**	**113**	↑iP	**Pn**	**00 53 09.8**	**+1.0**
TRN				eS	**Sn**	**00 53 23.5**	**-1.4**
GRFF	**Grenada Fort F**	**1.15**	**28**	eP	**Pn**	**00 53 10.9**	**-0.1**
GRFF				eS	**Sn**	**00 53 27.1**	**-1.6**
GRGR	**Grenville**	**1.27**	**29**	eP	**Pn**	**00 53 12.2**	**-0.1**
GRGR				eS	**Sn**	**00 53 29.0**	**-1.9**
GRW	**Mount Saint Ca**	**1.29**	**29**	eP	**Pn**	**00 53 12.7**	**+0.2**
GRW				eS	**Sn**	**00 53 29.9**	**-1.5**
TBH	**Brigand Hill**	**1.32**	**114**	eP	**Pn**	**00 53 14.9**	**+2.1**
TBH				eS	**Sn**	**00 53 30.9**	**-1.0**
TPR	**Prospect**	**1.49**	**84**	eP	**Pn**	**00 53 15.9**	**+1.1**
TPR				eS	**Sn**	**00 53 34.2**	**-1.3**
GCMP	**Grenada, Carri**	**1.68**	**30**	eP	**Pn**	**00 53 16.6**	**-0.4**
GCMP				eS	**Sn**	**00 53 37.4**	**-2.0**
TOSP	**Speyside**	**1.74**	**81**	↑iP	**Pn**	**00 53 17.4**	**-0.3**
TOSP				eS	**Sn**	**00 53 38.6**	**-2.1**
SVOC	**Richmond Hill,**	**2.36**	**26**	e	**Pn**	**00 53 26.5**	**+1.0**
SVOC				eS	**Sn**	**00 53 53.9**	**-0.7**
SVT	**Saint Vincent**	**2.37**	**26**	eP	**Pn**	**00 53 25.3**	**-0.3**
SVT				eS	**Sn**	**00 53 51.8**	**-2.9**
SVB	**Belmont**	**2.45**	**24**	eP	**Pn**	**00 53 26.7**	**-0.1**
SVB				eS	**Sn**	**00 53 54.3**	**-2.4**
PCRV	**Puerto La Cruz**	**2.46**	**250**	eP	**Pn**	**00 53 28.6**	**+1.8**
PCRV				eS	**Sn**	**00 53 56.6**	**-0.3**
SLB	**Belfond**	**3.04**	**24**	eP	**Pn**	**00 53 35.7**	**+1.3**
SLAC	**Saint Lucia, A**	**3.16**	**25**	eP	**Pn**	**00 53 36.0**	**0.0**
SLAC				eS	**Sn**	**00 54 11.9**	**-1.4**
SLBI	**Saint Lucia, B**	**3.25**	**23**	eP	**Pn**	**00 53 37.4**	**+0.4**
SLBI				eS	**Sn**	**00 54 14.1**	**-1.1**
BIM	**Bigot**	**3.67**	**19**	eP	**Pn**	**00 53 43.2**	**+0.4**
BIM				eS	**Sn**	**00 54 22.3**	**-3.1**
DSLB	**Salisbury**	**4.47**	**11**	eP	**Pn**	**00 53 57.0**	**+3.6**
TACV	**Tcata**	**4.74**	**260**	eP	**Pn**	**00 53 59.0**	**+1.9**
TACV				eS	**Sn**	**00 54 52.0**	**+0.8**
TBG	**Guadaloupe-3**	**4.84**	**7**	eP	**Pn**	**00 54 02.7**	**+4.3**
LUEV	**Luepa**	**5.21**	**171**	eP	**Pn**	**00 54 03.6**	**0.0**
LUEV				eS	**Sn**	**00 54 58.2**	**-4.5**
BENV	**Beln**	**5.33**	**259**	eP	**Pn**	**00 54 07.3**	**+2.3**
BENV				eS	**Sn**	**00 55 05.5**	**+0.1**
CACV	**CAICARA DEL OR**	**5.42**	**231**	eP	Pn	00 54 02.5	-3.7
CACV				eS	Sn	00 54 55.9	-12
ANBD	**Bethesda, Anti**	**6.01**	**5**	eP	**Pn**	**00 54 18.2**	**+4.0**
BAUV	**El Baul**	**6.03**	**250**	eP	**Pn**	**00 54 15.1**	**+0.6**
BAUV				eS	**Sn**	**00 55 20.5**	**-1.8**
TEPV	**Terepaima**	**6.87**	**262**	eP	**Pn**	**00 54 27.4**	**+1.5**
SOCV	**Socops**	**8.87**	**253**	eP	**Pn**	**00 54 53.0**	**0.0**
SOCV				eS	**Sn**	**00 56 27.6**	**-3.7**

*IDC **10** 00:55:35.7±1.3, 12°.26N×86°.31W, h0km, mb3.7/5, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=57.0km s-min=18.8km az=51.0*
*CATAC **10** 00:55:41.0±0.5, 12°.N±3°.×8°.7W±°, h27km±4km, M3.9/27, MLv3.9/27, Error ellipse: s-maj=7.5km s-min=4.4km az=47.5, confirmed*

ISC 10 00:55:34.8±1.3, **11°.49N**±0°.03×**87°.03W**±0°.03, **h7**km±9km,
n96, σ1§**47**/98, **mb3.7**/5, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.81**	**32**	P	**Pn**	**00 55 53.0**	**+0.3**
COPN	**Copaltepe**	**0.81**	**32**	P	**Pn**	**00 55 53.0**	**+0.3**
SAPS	**Ciudad Sandino**	**0.91**	**42**	P	**Pn**	**00 55 54.2**	**+0.2**
SAPS	**Ciudad Sandino**	**0.91**	**42**	S	**Sg**	**00 56 04.3**	**+0.2**
SAPS	**Ciudad Sandino**	**0.91**	**42**	P	**Pn**	**00 55 54.4**	**+0.4**
AMTN	**Mateare**	**0.94**	**38**	P	Pn	00 56 02.8	+8.3
UNAN	**Cigeo UNAN**	**0.96**	**50**	S	**Sb**	**00 56 08.0**	**+1.2**
UNAN	**Cigeo UNAN**	**0.96**	**50**	P	**Pn**	**00 55 55.2**	**+0.4**
UNAN	**Cigeo UNAN**	**0.96**	**50**	P	**Pn**	**00 55 55.1**	**+0.4**
SABN	**Sabanita**	**0.96**	**61**	P	**Pn**	**00 55 55.1**	**+0.3**
SABN	**Sabanita**	**0.96**	**61**	P	**Pn**	**00 55 55.2**	**+0.3**
ENAN	**Enatrel Managu**	**0.97**	**50**	P	**Pn**	**00 55 56.1**	**+1.1**
ENAN	**Enatrel Managu**	**0.97**	**50**	P	**Pn**	**00 55 55.5**	**+0.5**
APQ2	**Apoyeque**	**0.98**	**44**	P	**Pb**	**00 55 54.8**	**+0.6**
APQ2				S	**Sg**	**00 56 05.3**	**-1.2**
APQ2	**Apoyeque**	**0.98**	**44**	S	**Sg**	**00 56 06.6**	**+0.1**
APQ2	**Apoyeque**	**0.98**	**44**	P	**Pb**	**00 55 54.5**	**+0.3**
TISN	**Laguna Tiscapa**	**0.98**	**49**	P	**Pg**	**00 55 53.5**	**-0.3**
MAS3	**Al N del Volca**	**0.99**	**57**	S	**Sb**	**00 56 08.5**	**+1.0**
MAS3	**Al N del Volca**	**0.99**	**57**	P	**Pn**	**00 55 55.3**	**+0.1**
MAS3	**Al N del Volca**	**0.99**	**57**	P	**Pn**	**00 55 55.2**	**+0.1**
MASN	**Masaya**	**0.99**	**60**	P	Pn	00 56 10.3	+15
LEVN	**Ruinas Leon Vi**	**0.99**	**24**	P	**Pn**	**00 55 55.8**	**+0.7**
LEVN				S	**Sg**	**00 56 06.7**	**0.0**
LEVN	**Ruinas Leon Vi**	**0.99**	**24**	P	**Pn**	**00 55 55.9**	**+0.7**
APYN	**Apoyeque**	**0.99**	**42**	P	Pn	00 56 08.3	+13
NANN	**Nandasmo**	**0.99**	**63**	S	**Sg**	**00 56 07.0**	**+0.2**
NANN	**Nandasmo**	**0.99**	**63**	P	**Pn**	**00 55 56.5**	**+1.3**
NANN	**Nandasmo**	**0.99**	**63**	P	**Pn**	**00 55 56.5**	**+1.3**
MGAN	**Managua**	**1.00**	**49**	P	**Pn**	**00 55 55.9**	**+0.6**
MGAN	**Managua**	**1.00**	**49**	S	**Sg**	**00 56 06.8**	**-0.4**
MGAN	**Managua**	**1.00**	**49**	S	**Sb**	**00 56 09.1**	**+1.1**
MGAN	**Managua**	**1.00**	**49**	P	**Pn**	**00 55 55.9**	**+0.6**
R4DEC	**Barrio San Lui**	**1.00**	**49**	P	**Pn**	**00 55 55.9**	**+0.6**
R4DEC	**Barrio San Lui**	**1.00**	**49**	S	**Sb**	**00 56 09.1**	**+1.1**
MOMN	**Momotombo**	**1.03**	**27**	S	**Sg**	**00 56 08.9**	**+0.9**
MOMN	**Momotombo**	**1.03**	**27**	P	**Pn**	**00 55 56.3**	**+0.6**
MOMN				S	**Sg**	**00 56 07.7**	**-0.3**
MOMN	**Momotombo**	**1.03**	**27**	P	**Pn**	**00 55 56.3**	**+0.6**
CNGA	**AI SSO del Vol**	**1.05**	**18**	S	**Sb**	**00 56 10.9**	**+1.6**
CNGA	**AI SSO del Vol**	**1.05**	**18**	P	**Pn**	**00 55 56.9**	**+0.9**
CNGA				S	**Sg**	**00 56 08.7**	**+0.1**
CNGA	**AI SSO del Vol**	**1.05**	**18**	P	**Pn**	**00 55 56.9**	**+0.9**
CNGN	**Cerro Negro**	**1.05**	**18**	P	**Pn**	**00 55 56.7**	**+0.7**
CNGN	**Cerro Negro**	**1.05**	**18**	P	**Pn**	**00 55 56.8**	**+0.7**
AERN	**Aeropuerto Man**	**1.06**	**52**	P	Pg	00 55 50.6	-4.7
TEL3	**Telica 3**	**1.09**	**9**	P	**Pn**	**00 55 57.0**	**+0.4**
QUEN	**AI S del Volca**	**1.11**	**9**	P	**Pn**	**00 55 58.2**	**+1.4**
PLRN	**Geotermica Pol**	**1.11**	**13**	S	**Sg**	**00 56 11.7**	**+1.0**
PLRN	**Geotermica Pol**	**1.11**	**13**	P	**Pb**	**00 55 57.0**	**+0.5**
ILCN	**San Idelfonso**	**1.13**	**16**	S	**Sb**	**00 56 12.4**	**+0.8**
ILCN	**San Idelfonso**	**1.13**	**16**	P	**Pb**	**00 55 57.1**	**+0.4**
HERN	**Volcan Telica**	**1.13**	**10**	P	**Pn**	**00 55 58.0**	**+0.9**
POLN	**AI Sur del Vol**	**1.17**	**10**	P	Pn	00 56 11.6	+14
POLN	**AI Sur del Vol**	**1.17**	**10**	P	**Pn**	**00 55 58.5**	**+0.8**
CRIN	**San Cristobal**	**1.20**	**359**	S	**Sn**	**00 56 17.5**	**+2.8**
CRIN	**San Cristobal**	**1.20**	**359**	P	**Pn**	**00 55 59.6**	**+1.4**
CRIN	**San Cristobal**	**1.20**	**359**	P	**Pn**	**00 55 59.5**	**+1.4**
JAPN	**AI SSO del Vol**	**1.32**	**88**	P	**Pb**	**00 56 00.8**	**+0.8**
JAPN	**AI SSO del Vol**	**1.32**	**88**	P	**Pb**	**00 56 00.7**	**+0.8**
CONN	**Concepcion**	**1.37**	**87**	S	**Sg**	**00 56 16.6**	**-2.5**
CONN	**Concepcion**	**1.37**	**87**	P	**Pn**	**00 55 58.8**	**-1.6**
CSGN	**Cosiguina Volc**	**1.57**	**341**	P	**Pg**	**00 56 05.1**	**+0.1**
CSGN	**Cosiguina Volc**	**1.57**	**341**	P	**Pg**	**00 56 05.0**	**+0.1**
CSGN				S	**Sn**	**00 56 24.2**	**+0.5**
POTN	**Potosi Cosigui**	**1.57**	**343**	P	**Pg**	**00 56 05.0**	**0.0**
POTN				S	**Sn**	**00 56 24.2**	**+0.5**
POTN	**Potosi Cosigui**	**1.57**	**343**	P	**Pb**	**00 56 04.9**	**+0.6**
BOAB	**BOACO BROADBAN**	**.64**	**54**	P	**Pn**	**00 56 04.2**	**+0.1**
BOAB	**BOACO BROADBAN**	**.64**	**54**	P	**Pn**	**00 56 04.2**	**+0.1**
LIMN	**Finca el Limon**	**1.69**	**22**	P	**Pn**	**00 56 05.7**	**+0.8**
LIMN	**Finca el Limon**	**1.69**	**22**	P	**Pn**	**00 56 05.7**	**+0.8**
ACON	**Acoyapa**	**1.88**	**75**	P	**Pn**	**00 56 07.9**	**+0.5**
ACON	**Acoyapa**	**1.88**	**75**	P	**Pn**	**00 56 08.4**	**+1.1**
CNCH	**Conchagua**	**1.94**	**336**	P	**Pb**	**00 56 10.8**	**+0.1**
CNCH	**Conchagua**	**1.94**	**336**	S	**Sn**	**00 56 34.1**	**+1.0**
INDI	**Punta indio, G**	**2.20**	**137**	P	**Pg**	**00 56 18.7**	**+1.6**
INDI	**Punta indio, G**	**2.20**	**137**	P	**Pg**	**00 56 17.0**	**-0.1**
RCPN	**Sur Rio San Ju**	**2.22**	**24**	P	**Pn**	**00 56 14.0**	**+1.8**
RCVN	**Varillal2**	**2.23**	**21**	P	**Pn**	**00 56 13.9**	**+1.5**
RCVN	**Varillal2**	**2.23**	**21**	P	**Pn**	**00 56 12.9**	**+0.5**
RANC	**El Ranchito**	**2.29**	**328**	P	**Pn**	**00 56 14.9**	**+1.7**
RANC	**El Ranchito**	**2.29**	**328**	P	**Pb**	**00 56 15.6**	**-1.0**
PACA	**Pacayal**	**2.34**	**327**	P	**Pb**	**00 56 16.9**	**-0.6**
PACA	**Pacayal**	**2.34**	**327**	P	**Pb**	**00 56 17.0**	**-0.4**
PACA	**Pacayal**	**2.34**	**327**	S	**Sn**	**00 56 44.9**	**+2.0**
JTS	**Las Juntas de**	**2.36**	**120**	Pn	**Pn**	**00 56 16.0**	**+1.9**
	6.7nm,0.3s,baz=318,slow=14,SNR=13						
JTS				Sn	**Sb**	**00 56 48.1**	**+1.0**
	11nm,0.3s,baz=216,slow=16,SNR=7.4						
	17nm,0.4s						
TGUH	**Tegucigalpa,Un**	**2.56**	**355**	P	**Pb**	**00 56 19.6**	**-1.5**
TGUH	**Tegucigalpa,Un**	**2.56**	**355**	P	**Pb**	**00 56 19.7**	**-1.5**
TGUH				S	**Sn**	**00 56 47.5**	**-1.0**
SCLA	**Alcaldia de Sa**	**2.75**	**323**	P	**Pb**	**00 56 22.6**	**-1.9**
SCLA	**Alcaldia de Sa**	**2.75**	**323**	P	**Pb**	**00 56 22.5**	**-2.0**
NUBE	**Las Nubes**	**3.60**	**312**	P	**Pb**	**00 56 35.7**	**-3.2**
APG	**El Apazote**	**4.84**	**317**	Pn	**Pn**	**00 56 50.8**	**+2.5**
	baz=11,slow=12,SNR=1.6						
CMIG	**Matias Romero**	**9.43**	**307**	Pn	**Pn**	**00 57 53.8**	**+2.6**
	0.2nm,0.3s,baz=101,slow=13,SNR=2.0						
CMIG				Sn	**Sn**	**00 59 46.2**	**+8.6**
	0.2nm,0.3s,baz=53,slow=23,SNR=2.4						
	0.6nm,0.3s						
TXAR	**Lajitas Array**	**23.58**	**321**	P	**P**	**01 00 47.5**	**+1.1**
	0.9nm,0.6s,baz=142,slow=9.5,SNR=13						
	0.9nm,0.6s						
PDAR	**Pinedale Array**	**36.81**	**332**	P	**P**	**01 02 43.5**	**-0.2**
	0.5nm,0.5s,baz=131,slow=10.0,SNR=7.5						
	0.5nm,0.5s						
ULM	**Lac du Bonnet**	**39.33**	**351**	P	**P**	**01 03 02.0**	**-2.5**
	2.1nm,0.7s,baz=154,slow=8.2,SNR=4.0						
	2.1nm,0.7s						
YKA	**Yellowknife Ar**	**54.64**	**345**	P	**P**	**01 05 01.2**	**-2.8**
	0.7nm,0.8s,baz=143,slow=7.8,SNR=9.6						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**67.06**	**336**	P	**P**	**01 06 27.1**	**-1.5**
	0.5nm,0.9s,baz=102,slow=7.3,SNR=3.6						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**139.29**	**247**	PKhKP	PKPpre	01 15 02.0	
	0.4nm,0.9s,baz=76,slow=2.0,SNR=2.6						
WRA	**Warramunga Arr**	**139.39**	**253**	PKhKP	PKPpre	01 15 01.3	
	0.4nm,0.8s,baz=88,slow=2.2,SNR=1.8						
CMAR	**Chiang Mai Arr**	**149.66**	**349**	PKPbc	**PKPbc**	**01 15 25.5**	**-0.8**
	0.5nm,0.3s,baz=16,slow=3.1,SNR=1.1						

DJA 10 01:34:07.9±0.3, **7°S**±3°.×**10°5E**±°, **h10**km, **M3.8**/11, **mb4.2**/1,
MLv3.6/11, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.70**	**59**	P	Pb	01 34 22.5	+0.4
CGJI				S	Sg	01 34 30.5	0.0
SKJI	**Sukabumi**	**1.46**	**91**	P	Pn	01 34 34.3	0.0
BLSI	**Bandar Lampung**	**1.60**	**6**	P	Pn	01 34 35.5	-0.8
CNJI	**Cibinong**	**2.05**	**100**	P	Pn	01 34 42.7	+0.2
LWLI	**Liwa**	**2.19**	**332**	P	Pn	01 34 44.4	-0.2
MDSI	**Maura Dua**	**2.63**	**340**	P	Pn	01 34 49.8	-0.6
MNAI	**Manna**	**3.35**	**321**	P	Pn	01 35 00.4	0.0
CMJI	**Cimerak**	**3.43**	**104**	P	Pn	01 35 01.6	+0.2
PCJI	**Pacitan**	**6.16**	**102**	P	Pn	01 35 39.8	+0.8

*IDC **10** 01:46:45.1±1.7, 36°.54N×141°.21E, h0km, mb3.4/2, mbtmp3.4/3, ML2.8/1, MS3.3/2, Error ellipse: s-maj=39.2km s-min=27.4km az=157.0*
*JMA **10** 01:46:51.4±0.1, 36°.6N±0°.3×140°.9E±0°.7, h50km±1km, MV3.5/35, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .

ISC 10 01:46:49.6±1.9, **36°.61N**±0°.06×**141°.12E**±0°.10, **h31**km±11km,
n18, σ0§**90**/18, **2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.45**	**270**	P	**Pn**	**01 47 00.3**	**+0.4**
JHO				S	**Sb**	**01 47 06.2**	**+0.4**
JHYU	**Hitachinakayam**	**0.51**	**238**	P	**Pn**	**01 47 01.5**	**+0.7**
JHYU				S	**Sn**	**01 47 08.4**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.56**	**332**	P	**Pn**	**01 47 02.0**	**+0.6**
ONAJ				S	**Sn**	**01 47 09.3**	**-0.4**
JFFD	**Fukushimafurud**	**0.66**	**317**	↓iP	**Pn**	**01 47 02.9**	**+0.1**
JFFD				↓S	**Sb**	**01 47 10.7**	**-1.0**
JFK	**Kawauchi**	**0.78**	**345**	i P	**Pb**	**01 47 04.9**	**+0.2**
JFK				S	**Sb**	**01 47 14.6**	**-0.5**
JYT	**Yasato**	**0.84**	**243**	i P	**Pn**	**01 47 05.0**	**-0.2**
JYT				S	**Sn**	**01 47 14.6**	**-1.9**
JOTO	**OTAMA OYAMA**	**1.14**	**327**	P	**Pn**	**01 47 10.1**	**+0.7**
JOTO				S	**Sn**	**01 47 23.2**	**-0.8**
MJAR	**Matsushiro Arr**	**2.35**	**269**	Pn	**Pn**	**01 47 25.9**	**-0.1**
	2.0nm,0.3s,baz=88,slow=14,SNR=123						
MJAR				Sn	**Sn**	**01 47 55.8**	**+1.9**
	1.5nm,0.3s,baz=157,slow=20,SNR=4.4						
	17nm,0.3s						
GUMO	**Guam**	**23.17**	**171**	LR	LR	02 01 16.6	
	comp=Z,22nm,20.2s,baz=84,slow=38						
H11N2	**WAKE ISLAND Hy 28.14**		**120**	T	T	02 22 41.5	
	baz=313,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy 28.14**		**120**	T	T	02 22 37.5	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 28.15**		**120**	T	T	02 22 42.8	
	baz=313,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy 28.83**		**122**	T	T	02 23 29.4	
	baz=314,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy 28.83**		**122**	T	T	02 23 29.5	
	baz=314,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy 28.84**		**122**	T	T	02 23 18.3	
	baz=314,slow=76,SNR=12						
ILAR	**Eielson Array**	**49.98**	**32**	P	**P**	**01 55 40.7**	**+0.3**
	0.3nm,0.7s,baz=272,slow=5.6,SNR=5.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**56.61**	**188**	P	**P**	**01 56 29.3**	**-0.3**
	0.5nm,0.8s,baz=360,slow=7.6,SNR=1.4						
	0.5nm,0.8s						
BBB	**Bella Bella**	**62.53**	**44**	LR	LR	02 23 31.1	
	comp=Z,94nm,19.0s,baz=200,slow=35						

DJA 10 02:16:41.1±0.3, **3°S**±4°.×**12°1E**±°, **h10**km, **M3.3**/8, **MLv3.3**/8,
Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.61**	**253**	P	Pn	02 17 09.0	-0.6
APSI	**Ampana**	**1.68**	**10**	P	Pn	02 17 09.8	-0.8
LUWI	**Luwuk**	**2.08**	**43**	P	Pn	02 17 15.8	-0.3
SPSI	**Sidrap Palu**	**2.10**	**229**	P	Pn	02 17 15.3	-1.1
PCI	**Palu**	**2.25**	**318**	P	Pn	02 17 18.0	-0.5
BKSI	**Bulukumba**	**2.99**	**204**	P	Pn	02 17 28.5	-0.1
SANI	**Sanana**	**4.65**	**84**	P	Pn	02 17 51.7	+0.2

*UPP **10** 02:18:39.8±0.1, 67°.84N×20°.22E, h0km, ML2.3, Confirmed Induced event*
*HEL **10** 02:18:40.1±0.1, 67°.84N×20°.19E, h0km, ML1.7, Suspected explosion*
*IDC **10** 02:18:41.6±1.4, 67°.78N×21°.00E, h0km, mbtmp3.0/3, ML2.0/3, Error ellipse: s-maj=20.6km s-min=7.8km az=113.0*

ISC 10 02:18:40.0±0.8, **67°.84N**±0°.02×**20°.24E**±0°.03, **h0**km, **n34**,
σ1§**31**/58, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**17**	P	**Pg**	**02 18 42.3**	**-0.1**
KUA				S	**Sg**	**02 18 44.0**	**0.0**
RATU	**Laukkuluspa**	**0.25**	**268**	P	**Pg**	**02 18 44.5**	**-0.2**
RATU				S	**Sg**	**02 18 47.8**	**-0.1**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**02 18 47.1**	**-0.4**
KOVU				S	**Sg**	**02 18 52.4**	**-0.1**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**02 18 53.0**	**-0.3**
LANU				S	**Sg**	**02 19 02.7**	**+0.4**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**02 18 52.9**	**-0.5**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**02 18 53.6**	**-0.3**
DUNU				S	**Sg**	**02 19 03.7**	**+0.4**
MASU	**Masugnsbyn**	**0.77**	**119**	S	**Sg**	**02 19 05.1**	**+0.4**
KIF	**Kilpisjarvi**	**1.19**	**10**	eP	**Pg**	**02 19 02.4**	**-0.5**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**02 19 01.9**	**-0.9**
	baz=193						
KIF				MSG		02 19 17.4	
	comp=Z,12nm,0.2s						
KIF				SG	**Sg**	**02 19 18.0**	**-0.2**
HEF	**Hetta**	**1.40**	**64**	eP	**Pn**	**02 19 04.4**	**-2.5**
HEF	**Hetta**	**1.40**	**64**	PG	**Pn**	**02 19 05.7**	**-1.2**
	baz=246						
HEF				MSG		02 19 22.9	
	comp=Z,5.1nm,0.2s						
HEF				SG	**Sg**	**02 19 23.8**	**-1.3**
ERTU	**Ertsjaerv**	**1.50**	**149**	P	**Pn**	**02 19 07.3**	**-0.8**
ERTU				S	**Sg**	**02 19 27.8**	**-0.2**
ERTU	**Ertsjaerv**	**1.50**	**149**	PG	**Pn**	**02 19 07.0**	**-1.0**
ERTU				SN	**Sg**	**02 19 28.0**	**+0.1**
KLF	**Kolari**	**1.55**	**111**	PG	**Pn**	**02 19 08.2**	**-0.6**
KLF				MSG		02 19 27.0	
	comp=Z,4.9nm,0.2s						
KLF				SN	**Sn**	**02 19 30.1**	**+0.4**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**02 19 09.2**	**-0.6**
KTK1				SN	**Sg**	**02 19 33.0**	**+1.0**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**02 19 13.7**	**+0.5**
TRO				SG	**Sn**	**02 19 37.3**	**-0.1**
KALU	**Kalix**	**2.34**	**147**	PB	**Pn**	**02 19 20.5**	**+0.9**
	baz=332						
KALU				SG	**Sb**	**02 19 51.5**	**-0.8**
TOF	**Tornio**	**2.38**	**136**	PB	**Pn**	**02 19 21.6**	**+1.3**
TOF				MSG		02 19 51.1	
	comp=Z,2.5nm,0.2s						
TOF				SG	**Sb**	**02 19 54.4**	**+0.7**
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**02 19 24.4**	**+1.7**
RNF				SG	**Sb**	**02 19 58.8**	**+0.1**
ARA0	**ARCESS Array S**	**2.57**	**46**	PN	**Pn**	**02 19 23.2**	**+0.3**
ARA0				SB	**Sb**	**02 19 57.1**	**-2.0**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**02 19 23.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=226,slow=15,SNR=58						
ARCES				Lg	Lg	02 19 57.0	
	comp=Z,1.7nm,0.3s,baz=229,slow=25,SNR=18						
	comp=Z,1.5nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.08**	**74**	PN	**Pn**	**02 19 30.0**	**+0.1**
RAJF				SB	**Sb**	**02 20 12.9**	**-0.9**
KEV	**Kevo**	**3.12**	**49**	PN	**Pn**	**02 19 31.3**	**+0.9**
	baz=236						
KEV				SN	**Sn**	**02 20 09.2**	**+0.8**
KEV				MSG		02 20 12.3	
	comp=Z,2.0nm,0.2s						
RANF	**Ranua**	**3.16**	**122**	PN	**Pn**

AS31				IAmb	IAmb	02 22 56.6	
	comp=Z,17nm,0.5s						
ASAR	**Alice Springs**	**17.69**	**168**	P	**Pn**	**02 22 53.7**	**+0.3**
	comp=Z,21nm,0.4s,baz=342,slow=10,SNR=190						
ASAR				S	**S**	**02 26 04.2**	**-4.4**
	comp=Z,6.9nm,0.5s,baz=0.0,slow=29,SNR=5.8						
ASAR				ScP	**ScP**	**02 30 44.0**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=348,slow=2.0,SNR=4.8						
AS01	**Alice Springs**	**17.70**	**168**	P	**Pn**	**02 22 53.9**	**+0.5**
MBWA	**Marble Bar**	**17.88**	**213**	P	**P**	**02 22 54.6**	**+0.4**
MBWA				IAmb	IAmb	02 22 55.5	
	comp=Z,25nm,0.7s						
MBWA	**Marble Bar**	**17.88**	**213**	P	**Pn**	**02 22 54.8**	**-0.8**
PSA00	**Pilbara Seismi**	**18.16**	**212**	P	**P**	**02 22 57.2**	**0.0**
PSA00				IAmb	IAmb	02 22 58.7	
	comp=Z,13nm,0.5s						
PSA00	**Pilbara Seismi**	**18.16**	**212**	P	**Pn**	**02 22 58.0**	**-1.0**
PSA00				IAmb	IAmb	02 22 58.7	
	comp=Z,76nm,0.5s						
PSA00	**Pilbara Seismi**	**18.16**	**212**	P	**Pn**	**02 22 57.9**	**-1.0**
WRKA	**Warakurna**	**18.75**	**185**	P	**Pn**	**02 23 05.2**	**-0.6**
OOD	**Oodnadatta**	**22.06**	**167**	P	**P**	**02 23 39.7**	**+0.6**
INKA	**Innaminka**	**23.64**	**156**	P	**P**	**02 23 56.9**	**+3.0**
FORT	**Forrest**	**24.46**	**184**	P	**P**	**02 24 02.1**	**+0.8**
FORT				IAmb	IAmb	02 24 15.6	
	comp=Z,29nm,0.6s						
FORT	**Forrest**	**24.46**	**184**	P	**P**	**02 24 02.3**	**+1.0**
LCRK	**Leigh Creek**	**25.24**	**163**	P	**P**	**02 24 09.8**	**+1.4**
KMBL	**Kambalda**	**26.13**	**196**	P	**P**	**02 24 17.0**	**+0.5**
MORW	**Morawa**	**26.28**	**209**	P	**P**	**02 24 17.9**	**+0.1**
MORW				IAmb	IAmb	02 24 21.8	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**26.99**	**169**	P	**P**	**02 24 24.8**	**+0.6**
BBOO				IAmb	IAmb	02 24 25.5	
	comp=Z,10nm,0.6s						
STKA	**Stephens Creek**	**27.66**	**159**	P	**P**	**02 24 31.3**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=336,slow=8.8,SNR=18						
	comp=Z,2.5nm,0.3s						
KLBR	**Kellerberrin**	**27.71**	**203**	P	**P**	**02 24 31.3**	**+0.7**
NJ2	**Nanjing**	**39.58**	**345**	*e*P	**P**	**02 26 15.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
PZH	**PanZhiHua**	**42.62**	**321**	P	**P**	**02 26 40.7**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,6.8s						
MJAR	**Matsushiro Arr**	**43.26**	**10**	P	**P**	**02 26 42.0**	**-1.0**
	comp=Z,4.4nm,0.7s,baz=186,slow=9.3,SNR=15						
	comp=Z,4.4nm,0.7s						
MAJO	**Matsushiro**	**43.26**	**10**	P	**P**	**02 26 41.5**	**-1.5**
MAJO				IAmb	IAmb	02 26 43.1	
	comp=Z,9.8nm,0.8s						
MJB9	**Matsu-Tunnel**	**43.26**	**10**	P	**P**	**02 26 41.2**	**-1.7**
MJB9				IAmb	IAmb	02 26 44.1	
	comp=Z,9.6nm,0.9s						
KSRS	**Korea Array**	**43.54**	**358**	P	**P**	**02 26 45.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=177,slow=9.3,SNR=7.2						
	comp=Z,1.1nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.88**	**342**	*e*P	**P**	**02 27 37.1**	**+2.6**
HHC				pP	pwP	02 28 14.0	+1.7
HHC				PP	PP	02 29 18.8	-12
HHC				S	S	02 34 15.4	-18
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,150nm,3.7s						
USRK	**Ussuriysk Ar.**	**50.26**	**2**	P	**P**	**02 27 37.6**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=180,slow=7.1,SNR=12						
	comp=Z,3.5nm,0.6s						
SONM	**Songino Array**	**57.78**	**341**	P	**P**	**02 28 31.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=160,slow=5.7,SNR=4.9						
	comp=Z,0.4nm,0.3s						
WMQ	**Urumqi**	**62.83**	**327**	*e*P	**P**	**02 29 07.9**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**63.60**	**18**	P	**P**	**02 29 11.2**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=160,slow=3.9,SNR=19						
	comp=Z,3.6nm,0.6s						
MK31	**Makanchi Array**	**67.66**	**327**	P	**P**	**02 29 37.7**	**+0.4**
MKAR	**Makanchi Array**	**67.66**	**327**	P	**P**	**02 29 37.6**	**+0.4**
MKAR	**Makanchi Array**	**67.66**	**327**	P	**P**	**02 29 38.0**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=116,slow=7.5,SNR=50						
	comp=Z,1.2nm,0.3s						
MA2	**Magadan**	**67.67**	**11**	P	**P**	**02 29 36.7**	**-0.3**
YAK	**Yakutsk**	**68.10**	**360**	P	**P**	**02 29 39.8**	**+0.2**
ZALV	**Zalesovo Beam**	**70.97**	**334**	P	**P**	**02 29 56.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=104,slow=4.6,SNR=1.8						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**71.93**	**328**	P	**P**	**02 30 03.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=128,slow=4.8,SNR=9.1						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**77.49**	**328**	P	**P**	**02 30 35.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=101,slow=8.1,SNR=8.3						
	comp=Z,0.5nm,0.4s						
TIXI	**Tiksi**	**77.76**	**360**	P	**P**	**02 30 36.4**	**+0.1**
TIXI				IAmb	IAmb	02 30 37.0	
	comp=Z,6.4nm,0.5s						
ABKAR	**Abkulak array**	**81.99**	**322**	P	**P**	**02 30 58.8**	**-0.7**
ABKAR	**Abkulak array**	**81.99**	**322**	P	**P**	**02 30 59.0**	**-0.6**
ABKAR				IAmb	IAmb	02 31 17.5	
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**02 31 08.1**	**-0.1**
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**02 31 07.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=352,slow=1.1,SNR=8.0						
	comp=Z,1.0nm,0.6s						
SYO	**Syowa Base**	**84.37**	**201⇓**	*e*P	**P**	**02 31 14.2**	**+2.8**
M14K	**Bethel**	**84.91**	**27**	P	**P**	**02 31 14.8**	**+0.6**
ELIB	**Princess Elisa**	**89.21**	**197**	*d*P	**P**	**02 31 35.5**	**+0.5**
ILAR	**Eielson Array**	**92.65**	**25**	P	**P**	**02 31 49.2**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=259,slow=4.3,SNR=9.1						
	comp=Z,0.5nm,0.7s						
SNAA	**Sanae**	**96.39**	**193**	P	**P**	**02 32 05.2**	**-2.8**
CPUP	**Villa Florida**	**146.81**	**168**	PKPbc	**PKPab**	**02 38 23.2**	**0.0**
	comp=Z,0.8nm,0.3s,baz=90,slow=2.0,SNR=3.1						
LPAZ	**La Paz**	**151.24**	**141**	PKPbc	**PKiKP**	**02 38 34.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=170,slow=4.9,SNR=1.7						

IDC 10 02:32:32.8±5.7, 39°.26N×110°.40E, h0km, mb3.3/3, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=119.9km s-min=25.0km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.05**	**343**	Pn	Pn	02 34 46.7	+1.9
	baz=158,slow=13,SNR=4.9						
SONM				Lg	Lg	02 37 16.7	
	0.1nm,0.3s,baz=161,slow=27,SNR=1.9						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**21.80**	**299**	P	P	02 37 27.1	+0.7
	0.9nm,0.9s,baz=98,slow=8.9,SNR=7.0						
	0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.99**	**209**	P	P	02 37 38.6	-0.5
	0.9nm,0.3s,baz=12,slow=8.3,SNR=6.7						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**25.06**	**307**	P	P	02 37 58.2	-0.4
	0.4nm,0.8s,baz=105,slow=11,SNR=2.1						
	0.4nm,0.8s						

*IDC **10** 02:36:48.4±5.9, 37°.59N×71°.48E, h122km±38km, mb3.3/9, mbtmp3.8/15, MS4.0/1, Error ellipse: s-maj=59.2km s-min=22.9km az=160.0*
*NNC **10** 02:36:49.4±1.2, 37°.68N×71°.49E, h172km±16km, mb3.1, mpv3.9, Error ellipse: s-maj=11.5km s-min=6.1km az=24.0*

ISC 10 02:36:52.5±1.3, 37°.9N±0°.1×71°.40E±0°.09, h150km, n41, σ1°55/45, mb3.4/9, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.60**	**22**	P	**Pn**	**02 37 59.7**	**-1.3**
	SNR=372						
UCH	**Uchtor**	**4.96**	**28**	P	**Sn**	**02 39 03.8**	**+1.0**
	SNR=9.8						
EKS2	**Erkin-Say**	**5.12**	**20**	P	**Pn**	**02 38 07.0**	**-0.5**
	SNR=17						
KK31	**Karatay Array**	**5.26**	**353**	⇑P	**Pn**	**02 38 09.1**	**-0.2**
	8.8nm,0.3s,baz=179,slow=14,SNR=318						
KK31				⇑S	**Sn**	**02 39 13.1**	**+3.7**
	16nm,0.6s,baz=184,slow=25,SNR=4.7						
AAK	**Ala-Archa**	**5.31**	**26**	P	**Pn**	**02 38 09.7**	**-0.5**
	20nm,0.3s,baz=175,slow=6.4,SNR=132						
AAK				S	**Sn**	**02 39 12.4**	**+1.6**
	9.3nm,0.5s,baz=144,slow=24,SNR=11						
AAK	**Ala-Archa**	**5.31**	**26**	P	**Pn**	**02 38 09.6**	**-0.5**
	SNR=41						
AAK	**Ala-Archa**	**5.31**	**26**	⇑P	**Pn**	**02 38 09.5**	**-0.7**
AAK				⇑S	**Sn**	**02 39 12.6**	**+1.8**
	20nm,0.8s						
KBK	**Karagaybulak**	**5.49**	**29**	P	**Pn**	**02 38 12.6**	**0.0**
	SNR=10						
CHMS	**Chumysh**	**5.72**	**26**	P	**Pn**	**02 38 14.6**	**-0.8**
	SNR=17						
CHMS	**Chumysh**	**5.72**	**26**	⇓P	**Pn**	**02 38 14.4**	**-1.0**
	14nm,0.5s						
CHMS				⇑S	**Sn**	**02 39 21.5**	**+1.2**
	22nm,0.7s						
USP	**Ospenovka**	**5.88**	**23**	P	**Pn**	**02 38 16.6**	**-1.0**
	SNR=12						
TKM2	**Tokmak 2**	**5.97**	**31**	P	**Pn**	**02 38 17.9**	**-1.0**
	SNR=8.0						
TKM2	**Tokmak 2**	**5.97**	**31**	⇑P	**Pn**	**02 38 17.4**	**-1.5**
	3.8nm,0.5s						
SGDS	**Sogindy**	**6.09**	**23**	Lg	Lg	02 39 30.6	
	15nm,0.6s						
DGS	**Degeres**	**6.31**	**30**	P	**Pn**	**02 38 22.1**	**-1.3**
	5.2nm,0.2s						
MTBS	**Maitube**	**6.50**	**35**	P	**Pn**	**02 38 25.1**	**-0.8**
	4.4nm,0.3s						
KRBS	**Karabastau**	**6.66**	**28**	P	**Pn**	**02 38 26.5**	**-1.5**
	2.9nm,0.6s						
KTBS	**Karatobe**	**7.08**	**33**	P	**Pn**	**02 38 32.7**	**-0.8**
	2.1nm,0.8s						
ARXS	**Arharly**	**7.98**	**35**	P	**Pn**	**02 38 43.5**	**-2.1**
	2.6nm,0.9s						
OTUK	**Ortayu**	**10.39**	**3**	P	**Pn**	**02 39 16.5**	**-1.0**
	2.1nm,0.5s						
OTUK	**Ortayu**	**10.39**	**3**	⇓P	**Pn**	**02 39 16.4**	**-1.1**
	5.3nm,0.8s						
MK31	**Makanchi Array**	**12.01**	**39**	P	**Pn**	**02 39 36.7**	**-2.0**
	0.8nm,0.6s,baz=223,slow=14,SNR=13						
MKAR	**Makanchi Array**	**12.01**	**39**	P	**Pn**	**02 39 37.2**	**-1.5**
	1.2nm,0.7s,baz=224,slow=14,SNR=15						
KURBB	**Kurchatov Arra**	**13.72**	**19**	P	**Pn**	**02 39 59.7**	**-1.0**
	0.3nm,0.6s,baz=207,slow=10,SNR=4.4						
AB31	**Akbulak array**	**14.06**	**328**	P	**Pn**	**02 40 03.4**	**-1.6**
	1.4nm,0.3s,baz=137,slow=12,SNR=102						
AB31				⇓S	**Sn**	**02 42 41.2**	**+0.5**
	0.6nm,0.4s,baz=157,slow=22,SNR=5.6						
BVA0	**Borovoye Array**	**15.17**	**358**	P	**Pn**	**02 40 17.8**	**-0.9**
	4.6nm,0.8s,baz=162,slow=11,SNR=10						
BVAR	**Borovoye Array**	**15.17**	**358**	P	**Pn**	**02 40 18.7**	**-0.1**
	2.5nm,0.6s,baz=165,slow=13,SNR=15						
AKTO	**Aktyubinsk**	**15.77**	**327**	P	**Pn**	**02 40 26.4**	**+0.1**
	8.7nm,0.3s,baz=138,slow=7.2,SNR=28						
AKTO				S	**Sn**	**02 43 15.6**	**-6.1**
	0.5nm,0.4s,baz=146,slow=17,SNR=1.1						
AKTO	**Aktyubinsk**	**15.77**	**327**	⇑P	**Pn**	**02 40 25.0**	**-1.2**
	3.4nm,0.4s						
ZALV	**Zalesovo Beam**	**18.54**	**26**	P	**Pn**	**02 40 58.0**	**-1.3**
	0.9nm,0.3s,baz=215,slow=10,SNR=7.2						
KBZ	**Khabaz**	**22.29**	**294**	P	**P**	**02 41 36.6**	**-0.7**
	0.8nm,1.0s,baz=95,slow=12,SNR=1.9						
	0.8nm,1.0s						
BRTR	**Keskin Array B**	**29.34**	**285**	P	**P**	**02 42 41.6**	**+0.4**
	0.4nm,0.6s,baz=102,slow=6.8,SNR=4.8						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**32.35**	**307**	P	**P**	**02 43 07.9**	**+0.6**
	0.2nm,0.5s,baz=78,slow=8.6,SNR=5.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**36.53**	**325**	P	**P**	**02 43 43.4**	**+0.2**
	2.9nm,1.0s,baz=115,slow=8.4,SNR=2.1						
	2.9nm,1.0s						
HFS	**Hagfors**	**42.19**	**321**	P	**P**	**02 44 31.3**	**+1.3**
	2.4nm,0.5s,baz=106,slow=9.6,SNR=15						
	2.4nm,0.5s						
NB2	**NORSAR Subarra**	**43.48**	**322**	P	**P**	**02 44 41.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**43.48**	**322**	P	**P**	**02 44 41.9**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=107,slow=6.9,SNR=4.2						
	comp=Z,0.5nm,0.6s						
TGY	**Tagaytay City**	**49.74**	**105**	LR	LR	03 06 34.5	
	comp=Z,162nm,19.2s,baz=0.5,slow=36						
EKA	**Eskdalemuir Ar**	**51.52**	**315**	P	**P**	**02 45 42.6**	**0.0**
	comp=Z,1.3nm,0.9s,baz=70,slow=5.8,SNR=4.1						
	comp=Z,1.3nm,0.9s						
ESDC	**Sonseca Array**	**57.10**	**297**	P	**P**	**02 46 23.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=62,slow=7.2,SNR=5.7						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**79.86**	**3**	P	**P**	**02 48 44.5**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=348,slow=5.3,SNR=12						
	comp=Z,0.5nm,0.6s						

*IDC **10** 02:42:04.5±1.7, 8°.20S×159°.65E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=47.1km s-min=18.7km az=70.0*

ISC 10 02:42:09.5±1.6, 8°.2S±0°.1×159°.7E±0°.3, h35km, n12, σ1°34/7, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.25**	**168**	Pn	**Pn**	**02 42 29.7**	**-0.8**
	97nm,0.3s,baz=212,slow=4.0,SNR=39						
HNR				Sn	**Sn**	**02 42 47.4**	**+1.3**
	236nm,0.3s,baz=99,slow=22,SNR=12						
WRA	**Warramunga Arr**	**27.16**	**242**	P	**P**	**02 47 49.6**	**-0.3**
	1.3nm,0.5s,baz=68,slow=9.2,SNR=5.2						
	1.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.42**	**15**	T	T	03 16 19.3	
	baz=195,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.42**	**15**	T	T	03 16 20.5	
	baz=195,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.43**	**15**	T	T	03 16 20.5	
	baz=195,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.64**	**14**	T	T	03 17 49.4	
	baz=194,slow=76,SNR=400						
H11N3	**WAKE ISLAND Hy**	**28.65**	**14**	T	T	03 17 54.3	
	baz=194,slow=76,SNR=282						
H11N2	**WAKE ISLAND Hy**	**28.66**	**14**	T	T	03 17 50.8	
	baz=194,slow=76,SNR=331						
ASAR	**Alice Springs**	**29.09**	**235**	P	**P**	**02 48 06.2**	**-0.9**
	0.6nm,0.7s,baz=61,slow=9.4,SNR=7.3						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**65.50**	**294**	P	**P**	**02 52 51.4**	**+1.6**
	0.9nm,0.3s,baz=116,slow=5.1,SNR=5.9						
	0.9nm,0.3s						
SONM	**Songino Array**	**72.91**	**326**	P	**P**	**02 53 35.8**	**+0.5**
	0.5nm,0.5s,baz=123,slow=5.5,SNR=4.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**87.39**	**318**	P	**P**	**02 54 52.1**	**-1.2**
	0.4nm,0.8s,baz=99,slow=5.7,SNR=3.8						
	0.4nm,0.8s						

DJA 10 02:48:16.5±0.9, 9°S±6°×11°6E±°, h37km±18km, M3.9/10, mb4.2/2, MLv3.8/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.45**	**323**	P	Pn	02 48 40.4	+0.3
PLAI	**Plampang**	**1.71**	**76**	P	Pn	02 48 44.6	+0.9
PLAI				S	Sn	02 49 05.6	+1.3
JAGI	**Jajag, Banyuwa**	**2.07**	**292**	P	Pn	02 48 49.8	+1.1
JAGI				S	Sn	02 49 14.3	+1.0
ABJI	**Asem Bagus**	**2.34**	**308**	P	Pn	02 48 52.9	+0.5
GMJI	**Gumukmas**	**2.80**	**290**	P	Pn	02 48 59.3	+0.6
GMJI				S	Sn	02 49 31.4	+0.2
WBSI	**Waikabubak, Su**	**3.27**	**97**	P	Pn	02 49 03.9	-1.4
PCJI	**Pacitan**	**4.98**	**282**	P	Pn	02 49 28.8	+0.1
UGM	**Wanagama**	**5.67**	**283**	P	Pn	02 49 38.2	-0.1
	60nm,0.5s						

DJA 10 02:49:55.3±0.9, 1°S±5°×13°7E±°, h14km±6km, M4.0/7, mb4.5/2, MLv3.8/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**0.63**	**266**	P	Pb	02 50 08.5	+0.3
BAKI				S	Sb	02 50 17.3	+0.4
SRPI	**Serui, Papua**	**0.87**	**215**	P	Pb	02 50 12.6	+0.3
SRPI				S	Sn	02 50 24.9	-0.8
SMPI	**Sarmi**	**2.14**	**113**	P	Pn	02 50 30.6	0.0
FAKI	**Fak Fak**	**4.82**	**249**	P	Pn	02 51 07.8	+0.3
SWI	**Sorong**	**5.49**	**273**	P	Pn	02 51 17.1	+0.4

*TAP **10** 02:54:42.8, 24°.86N×122°.79E, h11km±2km, ML3.1, D*
*JMA **10** 02:54:42.9±0.3, 25°.N±2°.×12°.3E±°, h30km±4km, MV2.5/12, NW OFF ISHIGAKIJIMA IS*

ISC 10 02:54:41.2±1.2, 24°.92N±0°.04×122°.87E±0°.03, h13km±9km, n63, σ0°71/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.47**	**172**	*e*P	**Pb**	**02 54 51.1**	**-0.2**
JYNG				*e*S	**Sg**	**02 54 57.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.47**	**164**	P	**Pb**	**02 54 51.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.47**	**164**	S	**Sb**	**02 54 58.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.47**	**164**	*e*P	**Pb**	**02 54 51.5**	**+0.2**
YOJ				*e*S	**Sg**	**02 54 57.5**	**+0.7**
EOS2	**EOS2**	**0.77**	**230**	*i* P	**Pb**	**02 54 56.5**	**+0.2**
EOS3	**EOS3**	**0.81**	**219**	*i* P	**Pb**	**02 54 57.3**	**+0.3**
TWB1	**Santiao Chiao**	**0.81**	**277**	*i* P	**Pg**	**02 54 56.6**	**-0.3**
TWB1				S	**Sg**	**02 55 07.3**	**-0.2**
SXI1	**Grass Mountain**	**0.92**	**281**	P	**Pg**	**02 54 58.7**	**-0.4**
EOS4	**EOS4**	**0.94**	**213**	P	**Pg**	**02 54 59.4**	**0.0**
TIPB	**Shuangxi**	**0.95**	**274**	*e*P	**Pg**	**02 54 58.9**	**-0.7**
IRIF	**Iriomote-Funau**	**0.97**	**126**	*e*P	**Pg**	**02 54 59.9**	**-0.1**
TWC	**Suao**	**0.98**	**252**	P	**Pg**	**02 54 59.8**	**-0.4**
TWC				S	**Sg**	**02 55 12.1**	**-0.8**
ESAO	**Su ao**	**0.99**	**250**	P	**Pn**	**02 55 01.8**	**+0.9**
ESAO				*e*S	**Sg**	**02 55 13.3**	**-0.1**
PCYT	**Pengchaiyu**	**1.01**	**315**	P	**Pb**	**02 55 01.4**	**+0.7**
EWUT	**Wuta**	**1.10**	**245**	*e*P	**Pg**	**02 55 02.6**	**+0.1**
EWUT				*e*S	**Sb**	**02 55 14.8**	**-1.6**
TWE	**Neicheng**	**1.11**	**260**	P	**Pn**	**02 55 03.1**	**+0.6**
TWE				S	**Sn**	**02 55 17.8**	**+0.2**
ENA	**Nanau**	**1.14**	**245**	P	**Pn**	**02 55 03.5**	**+0.7**
ENA				*i* S	**Sb**	**02 55 15.9**	**-1.5**
FUSB	**Fushanzhiwuyua**	**1.18**	**263**	*e*P	**Pg**	**02 55 04.1**	**+0.1**
FUSB				*e*S	**Sb**	**02 55 19.2**	**+0.5**
EAHA	**Aohua**	**1.19**	**241**	*e*P	**Pg**	**02 55 04.6**	**+0.5**
EAHA				*e*S	**Sb**	**02 55 17.5**	**-1.3**
YM01	**YM01**	**1.20**	**281**	*e*P	**Pn**	**02 55 03.1**	**-0.7**
HATJ	**Hateruma jima**	**1.21**	**135**	*e*S	**Sb**	**02 55 18.4**	**-1.0**
ENTT	**Nioudou**	**1.22**	**257**	P	**Pg**	**02 55 05.5**	**+0.8**
ENTT				*e*S	**Sn**	**02 55 20.9**	**+0.6**
JKRS	**Kuro-shima**	**1.24**	**123**	*e*P	**Pn**	**02 55 04.3**	**+0.1**
NWLT	**Wulai**	**1.25**	**264**	*e*P	**Pn**	**02 55 04.8**	**+0.4**
JIJ	**Ishigaki jima**	**1.28**	**115**	*e*P	**Pn**	**02 55 05.0**	**+0.2**
LATG	**Datong**	**1.28**	**253**	*e*P	**Pn**	**02 55 04.2**	**-0.7**
JISG	**Ishigakijimahi**	**1.35**	**104**	*e*P	**Pn**	**02 55 05.8**	**0.0**
NACB	**Ninganchiao**	**1.38**	**238**	P	**Pn**	**02 55 06.3**	**+0.1**
NACB	**Ninganchiao**	**1.38**	**238**	S	**Sb**	**02 55 24.0**	**-0.4**
NACB	**Ninganchiao**	**1.38**	**238**	*e*P	**Pb**	**02 55 07.0**	**+0.1**
NACB				*e*S	**Sb**	**02 55 23.1**	**-1.3**
YHNB	**Yeheng**	**1.38**	**260**	P	**Pb**	**02 55 07.2**	**+0.2**
YHNB	**Yeheng**	**1.38**	**260**	S	**Sg**	**02 55 25.9**	**+0.1**
YHNB	**Yeheng**	**1.38**	**260**	*e*P	**Pn**	**02 55 07.0**	**+0.7**
NSK	**Sanguang**	**1.40**	**260**	P	**Pg**	**02 55 08.6**	**+0.5**
NSK				S	**Sn**	**02 55 25.3**	**+0.5**
NNSB	**Datong**	**1.44**	**251**	*e*P	**Pg**	**02 55 09.2**	**+0.2**
NNS	**Nan Shan**	**1.44**	**251**	*e*P	**Pg**	**02 55 09.2**	**+0.1**
NNS				*i* S	**Sn**	**02 55 26.5**	**+0.4**
ETLH	**Xiulin Townshi**	**1.45**	**241**	*e*P	**Pb**	**02 55 08.8**	**+0.6**
ETLH				S	**Sn**	**02 55 26.2**	**+0.1**
ETM	**Tongmen**	**1.57**	**233**	*e*P	**Pn**	**02 55 09.4**	**+0.5**
LXIB	**Xiulin Townshi**	**1.60**	**236**	*e*P	**Pn**	**02 55 08.5**	**-0.9**
NFF	**Wufeng Townshi**	**1.62**	**260**	*e*P	**Pg**	**02 55 12.2**	**-0.1**
FUSS	**Fushou**	**1.62**	**246**	*e*P	**Pb**	**02 55 11.9**	**+0.6**
FUSS				*e*S	**Sn**	**02 55 30.2**	**-0.5**
SHUL	**Shoufeng**	**1.64**	**227**	*e*P	**Pn**	**02 55 09.5**	**-0.3**
WHF	**Hehuan Shan**	**1.65**	**243**	*e*P	**Pn**	**02 55 11.4**	**+1.0**
WHF				S	**Sb**	**02 55 32.9**	**+0.2**
TWT	**Tachien**	**1.68**	**247**	*e*P	**Pg**	**02 55 13.3**	**-0.2**
TDCB	**Techi**	**1.69**	**247**	*e*P	**Pb**	**02 55 12.3**	**0.0**
LIOB	**Emei**	**1.71**	**261**	*e*P	**Pb**	**02 55 12.2**	**-0.3**
ESL	**Shilin**	**1.71**	**230**	*e*P	**Pn**	**02 55 11.5**	**+0.7**
WARBT	**Fenglin Townsh**	**1.81**	**229**	*e*P	**Pn**	**02 55 12.0**	**-0.1**
OWD	**Renai**	**1.82**	**239**	*e*P	**Pb**	**02 55 13.9**	**-0.6**
WUSB	**Renai**	**1.84**	**240**	*e*P	**Pn**	**02 55 14.1**	**+1.4**
WHP	**Taichung City**	**1.86**	**250**	*e*P	**Pb**	**02 55 15.6**	**+0.4**
HGSD	**Ruisui**	**1.94**	**223**	*e*P	**Pn**	**02 55 13.2**	**-0.7**
VWDT	**VWDT**	**1.96**	**234**

0.9nm,0.9s
BVAR Borovoye Array 28.70 24 P **P 03 14 28.3 -0.5**
0.4nm,0.5s,baz=215,slow=4.8,SNR=2.6
0.4nm,0.5s
KURBB Kurchatov Arra 30.46 34 P **P 03 14 45.0 +0.5**
0.6nm,0.8s,baz=233,slow=9.0,SNR=4.5
0.6nm,0.8s
MKAR Makanchi Array 30.46 43 P **P 03 14 45.4 +0.8**
0.8nm,0.7s,baz=227,slow=8.1,SNR=9.6
0.8nm,0.7s
ZALV Zalesovo Beam 35.55 34 P **P 03 15 29.1 +0.3**
1.7nm,0.5s,baz=237,slow=9.8,SNR=8.1
1.7nm,0.5s
FINES FINESS Array B 37.79 340 P **P 03 15 47.6 -0.2**
1.3nm,0.5s,baz=156,slow=8.8,SNR=15
1.3nm,0.5s
HFS Hagfors 41.38 332 P **P 03 16 17.6 -0.2**
2.7nm,0.4s,baz=126,slow=9.3,SNR=26
2.7nm,0.4s
NB2 NORSAR Subarra 42.90 332 P **P 03 16 29.4 -0.8**
comp=Z,1.2nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 42.90 332 P **P 03 16 29.5 -0.8**
comp=Z,0.6nm,0.4s,baz=127,slow=9.0,SNR=6.9
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 44.47 347 LR LR 03 37 29.2
comp=Z,115nm,19.4s,baz=253,slow=39
SONM Songino Array 46.43 49 P **P 03 16 58.0 -0.8**
comp=Z,0.3nm,0.5s,baz=251,slow=9.0,SNR=2.6
comp=Z,0.3nm,0.5s
EKA Eskdalemuir Ar 47.85 321 P **P 03 17 09.1 -0.4**
comp=Z,1.5nm,0.9s,baz=95,slow=7.4,SNR=3.7
comp=Z,1.5nm,0.9s
TORD Torodi Ar. Bea 48.88 263 P **P 03 17 17.6 -0.4**
comp=Z,4.9nm,0.5s,baz=72,slow=9.3,SNR=3.3
comp=Z,4.9nm,0.5s
SCHQ Schefferville 82.38 329 P **P 03 20 53.5 -0.3**
comp=Z,2.0nm,0.7s,baz=55,slow=5.5,SNR=5.2
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 89.36 354 P **P 03 21 27.8 -0.4**
comp=Z,0.3nm,0.7s,baz=9.0,slow=4.6,SNR=6.2
comp=Z,0.3nm,0.7s
ASAR Alice Springs 94.18 114 P **P 03 21 50.1 -1.1**
comp=Z,0.2nm,0.4s,baz=311,slow=5.8,SNR=6.6
comp=Z,0.2nm,0.4s

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*GUC **10** 03:09:44.9±0.9, 30°.39S×72°.24W, h28km±4km, ML4.6*
*IDC **10** 03:09:44.0±0.6, 30°.35S×72°.16W, h0km, mb4.4/10, mbtmp4.4/15, ML4.5/5, MS3.6/12, Error ellipse: s-maj=21.7km s-min=16.4km az=65.0*
*VAO **10** 03:09:45.5±0.5, 30°.45S×72°.06W, h10km, mb4.7*
*SJA **10** 03:09:45.7±0.7, 30°.30S×72°.07W, h10km±2km, ML4.8, MW4.6*
*NEIC **10** 03:09:45.3, 30°.38S×72°.21W, h10km*
*NEIC **10** 03:09:45.3±2.5, 30°.38S±0°.02×72°.21W±0°.05, h10km±1km, mb4.9/54, Mwr4.5/41, Error ellipse: s-maj=7.2km s-min=4.4km az=266.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.26; $M_{\theta\theta}$2.26; $M_{\phi\phi}$-1.99; $M_{r\theta}$2.20; $M_{\phi\phi}$0.00; $M_{\phi r}$-6.28; Fault plane solution: $M_0$6.99000×10^{15} NP1:ϕ_s156.29000°, δ88.02000°, λ76.93000°. NP2:ϕ_s57.85000°, δ13.22000°, λ171.33000°. Principal axes: T 5.9802, Plg45.0000°, Azm53.0000°; N 1.7024, Plg13.0000°, Azm157.0000°; P -7.6826, Plg42.0000°, Azm259.0000°;*
ISC 10 03:09:44.3±1.6, 30°.41S±0°.03×72°.21W±0°.05, h7km±9km, n173, σ1§21/162, mb4.8/34, MS3.6/9, 7C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.56**	**118**		**Pg**	**03 09 56.3**	**+1.2**
CO06					**Sb**	**03 10 04.5**	**-0.1**
CO06	**Fray Jorge**	**0.56**	**118**	⇓*iP*	**Pg**	**03 09 56.1**	**+1.1**
CO06				*e*S	**Sb**	**03 10 05.0**	**+0.4**
CO06				IAML		03 10 09.9	
	comp=E,33μm,0.1s						
GO04	**Tololo Observa**	**1.24**	**79**		**Pb**	**03 10 07.5**	**-0.7**
GO04					**Sg**	**03 10 24.3**	**+0.1**
GO04	**Tololo Observa**	**1.24**	**79**	⇑*iP*	**Pb**	**03 10 07.3**	**-0.9**
GO04				*i* S	**Sn**	**03 10 24.5**	**-0.9**
GO04	**Tololo Observa**	**1.24**	**79**	*i P*	**Pb**	**03 10 07.7**	**-0.5**
GO04				*i* S	**Sb**	**03 10 22.5**	**-2.0**
GO04				IAML		03 10 30.1	
	comp=Z,26μm,0.6s						
CO03	**El Pedregal**	**1.38**	**108**	Pn	**Pn**	**03 10 09.7**	**-0.3**
CO03	**El Pedregal**	**1.38**	**108**	⇑*iP*	**Pn**	**03 10 09.5**	**-0.5**
CO03				*i* S	**Sn**	**03 10 28.3**	**-0.2**
CO03				IAML		03 10 32.3	
	comp=N,17μm,0.2s						
CO03	**El Pedregal**	**1.38**	**108**	*i P*	**Pn**	**03 10 09.8**	**-0.2**
CO03				*i* S	**Sg**	**03 10 28.7**	**+0.2**
CO03				IAML		03 10 31.1	
	comp=Z,16μm,0.6s						
CO01	**Juntas del Tor**	**1.88**	**77**		**Pn**	**03 10 17.8**	**+0.7**
CO01	**Juntas del Tor**	**1.88**	**77**	⇑*iP*	**Pn**	**03 10 17.8**	**+0.7**
CO01				*i* S	**Sb**	**03 10 42.3**	**-0.6**
CO01				IAML		03 10 45.2	
	comp=N,5μm,0.5s						
CO01	**Juntas del Tor**	**1.88**	**77**	*i P*	**Pb**	**03 10 18.5**	**-0.6**
CO01				*i* S	**Sb**	**03 10 42.5**	**-0.4**
CO01				IAML		03 10 48.6	
	comp=Z,8μm,0.8s						
LCO	**Las Campanas**	**1.92**	**44**	Pn	**Pn**	**03 10 17.1**	**-0.5**
LCO	**Las Campanas**	**1.92**	**44**	⇑*iP*	**Pn**	**03 10 17.3**	**-0.4**
LCO	**Las Campanas**	**1.92**	**44**	*i P*	**Pn**	**03 10 18.4**	**+0.8**
LCO				*i* S	**Sb**	**03 10 42.5**	**-1.4**
LCO				IAML		03 10 48.9	
	comp=Z,8μm,0.7s						
VA06	**Catapilco**	**2.28**	**160**	Pn	**Pn**	**03 10 21.9**	**-0.5**
VA06	**Catapilco**	**2.28**	**160**	*e*P	**Pn**	**03 10 21.9**	**-0.5**
VA06				IAML		03 11 02.7	
	comp=N,7μm,0.5s						
AROD	**Rodeo**	**2.38**	**85**	*i P*	**Pb**	**03 10 26.0**	**-1.7**
AROD				*i* S	**Sb**	**03 10 56.0**	**-1.3**
AC04	**Llanos de Chal**	**2.41**	**24**	Pn	**Pn**	**03 10 22.6**	**-1.7**
AC04	**Llanos de Chal**	**2.41**	**24**	*e*P	**Pn**	**03 10 22.5**	**-1.7**
AC04				IAML		03 11 12.0	
	comp=E,2μm,0.5s						
AC04	**Llanos de Chal**	**2.41**	**24**	*i P*	**Pn**	**03 10 25.2**	**+1.0**
AC04				*i* S	**Sn**	**03 10 54.8**	**+0.8**
AC04				IAML		03 11 16.7	
	comp=Z,2μm,0.9s						
ACDV	**Cuesta del Vie**	**2.68**	**86**	*i P*	**Pn**	**03 10 30.1**	**+2.0**
ACDV				*i* S	**Sb**	**03 11 02.9**	**-3.1**
ACDV				IAML		03 11 23.6	
	comp=Z,3μm,0.9s						
ACCO	**Cerro Coronel**	**2.72**	**94**	*i P*	**Pb**	**03 10 31.3**	**-2.2**
ACCO				*i* S	**Sb**	**03 11 04.4**	**-2.7**
VA03	**San Esteban**	**2.74**	**149**		**Pn**	**03 10 29.4**	**+0.7**
VA03	**San Esteban**	**2.74**	**149**	*e*P	**Pn**	**03 10 29.5**	**+0.7**
VA03				*e*S	**Sn**	**03 10 58.7**	**-3.5**
VA03				IAML		03 11 16.3	
	comp=N,5μm,0.4s						
RTLS	**Leoncito**	**2.85**	**120**	*i P*	**Pb**	**03 10 33.9**	**-1.9**
RTLS				*i* S	**Sb**	**03 11 09.6**	**-1.4**
RTLS				IAML		03 11 22.4	
	comp=Z,9μm,0.7s						
MT02	**Curacav**	**2.98**	**163**		**Pn**	**03 10 31.6**	**-0.5**
MT02	**Curacav**	**2.98**	**163**	*e*P	**Pn**	**03 10 31.6**	**-0.5**
MT02				*e*S	**Sn**	**03 11 06.3**	**-1.7**
MT02				IAML		03 11 35.0	
	comp=N,3μm,1.0s						
PEL	**Peldehue**	**3.02**	**155**	Pn	**Pn**	**03 10 33.2**	**+0.7**
PEL	**Peldehue**	**3.02**	**155**	⇓*iP*	**Pn**	**03 10 33.2**	**+0.7**
PEL				IAML		03 11 26.2	
	comp=E,2μm,0.6s						
MT10	**Hacienda Santa**	**3.19**	**154**	⇓*e*P	**Pn**	**03 10 35.6**	**+0.6**
MT05	**Renca**	**3.22**	**158**	Pn	**Pn**	**03 10 35.7**	**+0.3**
ZON	**Zonda**	**3.23**	**111**		**Pn**	**03 10 39.0**	**+3.5**
VA05	**Santo Domingo**	**3.27**	**171**		**Pn**	**03 10 35.1**	**-1.0**
MT16	**CCHEN**	**3.33**	**155**		**Pn**	**03 10 37.7**	**+0.8**
MT03	**Universidad Ad**	**3.39**	**155**		**Pn**	**03 10 38.5**	**+0.7**
AC06	**Mina Casimiro**	**3.45**	**29**	Pn	**Pn**	**03 10 37.8**	**-0.7**
MT09	**Talagante**	**3.51**	**163**		**Pn**	**03 10 39.7**	**+0.3**
MT01	**Popeta**	**3.54**	**167**		**Pn**	**03 10 39.0**	**-0.7**
CFA	**Coronel Fontan**	**3.61**	**110**	Pn	**Pn**	**03 10 43.2**	**+2.5**
	comp=E,24nm,0.3s,baz=293,slow=12,SNR=157						
CFA				Sn	**Sn**	**03 11 26.6**	**+2.9**
	comp=E,41nm,0.3s,baz=66,slow=23,SNR=3.7						
	comp=E,45nm,0.3s						
BO01	**Tunca**	**4.08**	**167**	Pn	**Pn**	**03 10 46.8**	**-0.3**
AC02	**Maricunga**	**4.47**	**38**	Pn	**Pn**	**03 10 53.1**	**0.0**
BO02	**Sierra Bellavi**	**4.53**	**165**	Pn	**Pn**	**03 10 53.4**	**0.0**
H03N1	**Juan Fernandez**	**6.45**	**240**	T	T	03 18 27.6	
	baz=71,slow=72,SNR=840						
H03N2	**Juan Fernandez**	**6.46**	**240**	T	T	03 18 28.1	
	baz=71,slow=72,SNR=576						
H03N3	**Juan Fernandez**	**6.46**	**240**	T	T	03 18 26.1	
	baz=71,slow=72,SNR=575						
PLCA	**Paso Flores**	**10.38**	**173**		**Pn**	**03 12 13.5**	**-0.3**
PLCA	**Paso Flores**	**10.38**	**173**	Pn	**Pn**	**03 12 13.7**	**0.0**
	comp=E,1.7nm,0.3s,baz=336,slow=12,SNR=60						
PLCA				Lg	Lg	03 15 12.3	
	comp=E,0.1nm,0.3s,baz=136,slow=23,SNR=2.2						
PLCA				LR	LR	03 15 56.4	
	comp=E,172nm,18.9s,baz=350,slow=36						
	comp=E,8.1nm,0.5s						
PLCA	**Paso Flores**	**10.38**	**173**	*e*P	**Pn**	**03 12 13.9**	**+0.1**
TRQA	**Tornquist**	**11.38**	**135**		**Pn**	**03 12 29.1**	**+1.7**
PSAL	**Palomas, Salto**	**12.58**	**97**	*e*P	**Pn**	**03 12 42.3**	**-1.4**
CPUP	**Villa Florida**	**13.71**	**76**		**Pn**	**03 12 59.1**	**-0.1**
CPUP	**Villa Florida**	**13.71**	**76**	Pn	**Pn**	**03 12 59.5**	**+0.2**
	comp=E,0.3nm,0.3s,baz=238,slow=10,SNR=6.8						
CPUP				Lg	Lg	03 16 50.0	
	comp=E,0.4nm,0.3s,baz=153,slow=14,SNR=3.6						
CPUP				LR	LR	03 18 37.7	
	comp=E,529nm,18.2s,baz=247,slow=39						
	comp=E,3.4nm,0.9s						
CPUP	**Villa Florida**	**13.71**	**76**	*e*P	**Pn**	**03 12 58.8**	**-0.5**
TBOT	**Tacuaremb**	**14.01**	**99**	*e*P	**Pn**	**03 13 02.2**	**-1.0**
LPAZ	**La Paz**	**14.55**	**16**		**Pn**	**03 13 09.1**	**-2.1**
LPAZ	**La Paz**	**14.55**	**16**	Pn	**Pn**	**03 13 10.2**	**-1.1**
	comp=E,1.0nm,0.3s,baz=174,slow=7.2,SNR=41						
	comp=E,8.8nm,0.6s						
LPAZ	**La Paz**	**14.55**	**16**	*e*P	**Pn**	**03 13 13.0**	**+1.7**
SJPY	**San Joaquin**	**15.24**	**73**	*e*P	**Pn**	**03 13 18.7**	**-1.4**
PLTB	**Pedras Altas**	**16.00**	**100**	*e*P	**Pn**	**03 13 29.1**	**-0.8**
CPSB	**Cacapava Do Su**	**16.19**	**95**	*e*P	**Pn**	**03 13 30.7**	**-1.7**
AY03	**Cochrane**	**16.82**	**181**	P	**P**	**03 13 43.1**	**+0.7**
BDQN	**Bodoquena, MS**	**17.11**	**58**	*e*P	**P**	**03 13 45.5**	**-0.3**
SIV	**San Ignacio**	**17.61**	**38**	P	**Pn**	**03 13 49.2**	**-1.2**
	comp=E,0.1nm,0.3s,baz=226,slow=11,SNR=54						
SIV				LR	LR	03 21 22.4	
	comp=E,309nm,20.4s,baz=226,slow=40						
	comp=E,29nm,0.9s						
AQDB	**Aquidauana**	**17.87**	**60**	P	**P**	**03 13 54.1**	**-0.1**
AQDB	**Aquidauana**	**17.87**	**60**	*e*P	**P**	**03 13 54.3**	**+0.1**
ITAB	**Concordia**	**17.87**	**85**	P	**P**	**03 13 55.7**	**+1.5**
ITAB				IAmb	IAmb	03 14 05.6	
	comp=Z,120nm,1.2s						
ITAB	**Concordia**	**17.87**	**85**	*e*P	**Pn**	**03 13 53.5**	**0.0**
CNLB	**Canela**	**18.55**	**92**	*e*P	**P**	**03 14 01.8**	**0.0**
PTGB	**Pitanga**	**18.73**	**77**	*e*P	**P**	**03 14 03.0**	**-0.7**
PTLB	**Pontes e Lacer**	**19.12**	**42**	P	**P**	**03 14 08.0**	**0.0**
PTLB	**Pontes e Lacer**	**19.12**	**42**	*e*P	**P**	**03 14 07.5**	**-0.5**
RPRD	**Ribas do Rio P**	**19.39**	**64**	*e*P	**P**	**03 14 10.0**	**-1.0**
LDASE	**Londrina, Braz**	**20.05**	**75**	*e*P	**P**	**03 14 18.1**	**-0.1**
TER01	**Tubaro-SC**	**20.18**	**90**	*e*P	**P**	**03 14 19.1**	**-0.4**
VILB	**Vilhena**	**20.62**	**35**	P	**P**	**03 14 24.2**	**-0.2**
VILB				IAmb	IAmb	03 14 29.8	
	comp=Z,34nm,0.7s						
VILB	**Vilhena**	**20.62**	**35**	*e*P	**P**	**03 14 24.3**	**-0.1**
SALV	**Santo Antonio**	**20.92**	**50**	*e*P	**P**	**03 14 27.2**	**-0.4**
C2SB	**Chapadao do Su**	**21.05**	**61**	*e*P	**P**	**03 14 29.2**	**+0.2**
FRTB	**Fartura**	**21.37**	**76**	*e*P	**P**	**03 14 31.8**	**-0.7**
ITRB	**Iturama**	**22.44**	**67**	*e*P	**P**	**03 14 42.5**	**-1.5**
CZSB	**Cruzeiro do Su**	**22.57**	**359**	P	**P**	**03 14 48.0**	**+2.6**
CZSB				IAmb	IAmb	03 15 09.6	
	comp=Z,61nm,1.1s						
CZSB	**Cruzeiro do Su**	**22.57**	**359**	*e*P	**P**	**03 14 45.0**	**-0.3**
SPB	**Sao Paulo**	**23.07**	**79**	P	**P**	**03 14 50.5**	**0.0**
SPB				IAmb	IAmb	03 15 02.6	
	comp=Z,51nm,1.4s						
SPB	**Sao Paulo**	**23.07**	**79**	*e*P	**P**	**03 14 51.0**	**+0.4**
BB19B	**Bebedouro**	**23.23**	**72**	*e*P	**P**	**03 14 51.1**	**-1.2**
PDRB	**Porto dos Gac**	**23.58**	**41**	*e*P	**P**	**03 14 55.7**	**-0.1**
VAO	**Valinhos**	**23.69**	**78**	P	**P**	**03 14 55.8**	**-1.1**
VAO				IAmb	IAmb	03 14 57.8	
	comp=Z,38nm,1.2s						
VAO	**Valinhos**	**23.69**	**78**	*e*P	**P**	**03 14 56.5**	**-0.4**
ARAG	**Araguaiana, MT**	**23.74**	**56**	*e*P	**P**	**03 14 57.4**	**0.0**
ATAH	**Atahualpa**	**23.88**	**345**	LR	LR	03 23 19.6	
	comp=Z,64nm,18.8s,baz=231,slow=34						
IPMB	**Ipameri, GO**	**25.08**	**66**	*e*P	**P**	**03 15 09.2**	**-0.6**
TBTG	**Tabatinga, AM**	**26.18**	**5**	P	**P**	**03 15 20.7**	**+1.1**
TBTG	**Tabatinga, AM**	**26.18**	**5**	*e*P	**P**	**03 15 21.0**	**+1.5**
PMNB	**Patos De Minas**	**26.20**	**69**	*e*P	**P**	**03 15 19.6**	**-0.2**
MAN01	**Angra dos Reis**	**26.29**	**80**	*e*P	**P**	**03 15 20.7**	**0.0**
BDFB	**Brasilia**	**26.60**	**62**	P	**P**	**03 15 23.3**	**-0.3**
BDFB				IAmb	IAmb	03 15 24.9	
	comp=Z,18nm,0.7s						
BDFB	**Brasilia**	**26.60**	**62**	P	**P**	**03 15 23.3**	**-0.3**
	comp=Z,18nm,0.7s,baz=232,slow=8.5,SNR=38						
BDFB				LR	LR	03 25 35.1	
	comp=Z,82nm,21.4s,baz=253,slow=36						
	comp=Z,18nm,0.7s						
SNDB	**Serra Nova Dou**	**26.69**	**51**	*e*P	**P**	**03 15 23.9**	**-0.4**
TEFE	**Tefe**	**27.70**	**16**	*e*P	**P**	**03 15 32.1**	**-1.2**
DUB01	**Friburgo-RJ**	**27.95**	**80**	*e*P	**P**	**03 15 34.8**	**-0.8**
NPGB	**Novo Progresso**	**28.11**	**38**	*e*P	**P**	**03 15 37.1**	**+0.1**
DIAM	**Diamantina, MG**	**28.57**	**72**	*e*P	**P**	**03 15 40.9**	**-0.4**
JANB	**Januaria**	**29.81**	**65**	*e*P	**P**	**03 15 51.2**	**-1.0**
SJMB	**Sao Joao De Ma**	**30.43**	**75**	*e*P	**P**	**03 15 56.6**	**-1.0**
BSFB	**Barra de Sao F**	**30.65**	**75**	*e*P	**P**	**03 15 58.8**	**-0.7**
RIB01	**Linhares ES**	**30.81**	**76**	*e*P	**P**	**03 16 01.0**	**0.0**
SDBA	**SAO DESIDERIO**	**30.96**	**61**	*e*P	**P**	**03 16 01.9**	**-0.5**
OTAV	**Otavalo**	**31.05**	**348**	*e*P	**P**	**03 16 05.8**	**+2.2**
CMC01	**Camacan, BA**	**33.49**	**71**	*e*P	**P**	**03 16 24.9**	**+0.5**
BOAV	**Boa Vista**	**34.48**	**21**	P	**P**	**03 16 33.7**	**+0.7**
BOAV				IAmb	IAmb	03 16 34.9	
	comp=Z,7.0nm,0.7s						
BOAV	**Boa Vista**	**34.48**	**21**	*e*P	**P**	**03 16 33.9**	**+0.8**
ROSC	**El Rosal**	**35.11**	**356**	LR	LR	03 32 09.6	
	comp=Z,100nm,18.1s,baz=82,slow=38						
TMAB	**Tom-Au,PA,Br**	**36.05**	**44**	*e*P	**P**	**03 16 48.2**	**+1.6**
RUSC	**La Rusia**	**36.11**	**359**	P	**P**	**03 16 50.1**	**+2.5**
RUSC				IAmb	IAmb	03 17 12.7	
	comp=Z,22nm,1.0s						
NBAN	**Anadia - AL**	**39.31**	**66**	*e*P	**P**	**03 17 14.1**	**-0.1**
NBPB	**Pedra_Branca-C**	**39.41**	**58**	*e*P	**P**	**03 17 14.3**	**-0.9**
MDP	**Montagnes des**	**39.98**	**31**	LR	LR	03 33 03.6	
	comp=Z,44nm,21.8s,baz=187,slow=35						
NBCA	**Caruaru-PE**	**40.39**	**64**	*e*P	**P**	**03 17 23.2**	**-0.1**
RCBR	**Riachuelo**	**41.98**	**62**	LR	LR	03 35 22.6	
	comp=Z,42nm,18.0s,baz=252,slow=37						
CNGN	**Cerro Negro**	**44.89**	**340**	P	**P**	**03 17 55.8**	**-3.9**
VNA2	**Neumayer--Watz**	**53.38**	**158**	⇑P	**P**	**03 19 05.1**	**+1.0**
	comp=Z,8.9nm,0.6s,baz=284,slow=6.8						
SNAA	**Sanae**	**54.96**	**159**	P	**P**	**03 19 16.4**	**+0.7**
SNAA				IAmb	IAmb	03 19 17.3	
	comp=Z,12nm,0.8s						
SNAA	**Sanae**	**54.96**	**159**	⇑P	**P**	**03 19 16.1**	**+0.3**
	comp=Z,223nm,0.6s						
SNAA	**Sanae**	**54.96**	**159**	P	**P**	**03 19 16.3**	**+0.5**
	comp=Z,8.3nm,0.7s,baz=291,slow=8.2,SNR=15						
	comp=Z,8.3nm,0.7s						
TROLL	**Troll, Antarti**	**56.67**	**159**	⇑P	**P**	**03 19 29.0**	**+1.0**
	comp=Z,310nm,0.7s						
QSPA	**South Pole Qui**	**59.81**	**180**	P	**P**	**03 19 51.6**	**+1.5**
QSPA				IAmb	IAmb	03 20 06.1	
	comp=Z,7.9nm,0.9s						
QSPA	**South Pole Qui**	**59.81**	**180**	P	**P**	**03 19 51.6**	**+1.5**
	comp=Z,6.1nm,0.9s,baz=150,slow=1.7,SNR=21						
	comp=Z,6.1nm,0.9s						
BRDY	**Brady**	**66.43**	**335**	IAmb	IAmb	03 20 36.6	
	comp=Z,6.8nm,1.0s						
TXAR	**Lajitas Array**	**66.55**	**330**	P	**P**	**03 20 37.0**	**+1.8**
TXAR	**Lajitas Array**	**66.55**	**330**	P	**P**	**03 20 36.4**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=153,slow=8.0,SNR=25						
	comp=Z,1.9nm,0.7s						
TX31	**Lajitas Ar. Si**	**66.55**	**330**	P	**P**	**03 20 36.9**	**+1.7**
OZNA	**Ozona**	**66.91**	**333**	IAmb	IAmb	03 20 39.8	
	comp=Z,5.9nm,0.8s						
PLPT	**Palo Pinto**	**67.57**	**336**	P	**P**	**03 20 42.3**	**+0.8**
PLPT				IAmb	IAmb	03 20 43.7	
	comp=Z,8.9nm,1.2s						
FW03	**Perrin-Whitt E**	**67.69**	**337**	IAmb	IAmb	03 20 44.5	
	comp=Z,16nm,1.3s						
WVT	**Waverly**	**67.80**	**346**	P	**P**	**03 20 43.2**	**+0.4**
WVT				IAmb	IAmb	03 20 45.9	
	comp=Z,14nm,1.3s						
MNHN	**Monahans**	**67.92**	**332**	IAmb	IAmb	03 20 46.2	
	comp=Z,7.7nm,0.7s						
LCAR	**Lake Charles**	**68.49**	**344**	IAmb	IAmb	03 20 48.7	
	comp=Z,4.1nm,0.7s						
APMT	**Aspermont**	**68.67**	**335**	IAmb	IAmb	03 21 10.2	
	comp=Z,7.8nm,1.0s						
SN07	**Snyder 07**	**68.75**	**334**	IAmb	IAmb	03 20 50.9	
	comp=Z,8.5nm,1.2s						
SYO	**Syowa Base**	**69.25**	**159**	⇓*e*P	**P**	**03 20 49.0**	**-2.6**
SYO	**Syowa Base**	**69.25**	**159**	⇓*e*pP	**P**	**03 20 51.6**	**0.0**
HHAR	**Hobbs**	**69.41**	**341**	IAmb	IAmb	03 20 54.6	
	comp=Z,6.4nm,0.8s						
MSTX	**Muleshoe**	**70.24**	**333**	IAmb	IAmb	03 21 00.2	
	comp=Z,12nm,0.9s						
CCM	**Cathedral Cave**	**70.40**	**344**		**P**	**03 21 00.1**	**+1.1**
CCM				IAmb	IAmb	03 21 00.7	
	comp=Z,11nm,1.1s						
R40A	**Maddies Statio**	**70.87**	**343**	IAmb	IAmb	03 21 03.5	
	comp=Z,11nm,0.9s						
P40A	**Paris**	**71.99**	**344**	IAmb	IAmb	03 21 28.1	
	comp=Z,13nm,1.1s						
DBIC	**Dimbokro**	**74.20**	**72**	P	**P**	**03 21 22.5**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=204,slow=4.4,SNR=4.8						
DBIC				LR	LR	03 51 47.0	
	comp=Z,73nm,19.1s,baz=218,slow=34						
	comp=Z,2.9nm,0.7s						
MVCO	**Mesa Verde**	**75.37**	**331**	IAmb	IAmb	03 21 31.8	
	comp=Z,11nm,1.2s						
Q24A	**Divide**	**75.54**	**334**	IAmb	IAmb	03 21 32.7	
	comp=Z,7.6nm,0.9s						
SUR	**Sutherland**	**76.70**	**120**	LR	LR	03 55 02.8	
	comp=Z,48nm,18.1s,baz=196,slow=35						
ECSD	**EROS Data Cent**	**77.10**	**342**	IAmb	IAmb	03 21 40.0	
	comp=Z,8.0nm,1.1s						
O20A	**White River Ci**	**77.75**	**333**	IAmb	IAmb	03 21 54.6	
	comp=Z,11nm,1.3s						
PDAR	**Pinedale Array**	**80.51**	**333**	P	**P**	**03 21 57.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=147,slow=6.9,SNR=6.9						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**80.87**	**325**	P	**P**	**03 22 00.3**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=163,slow=5.7,SNR=4.8						
	comp=Z,0.5nm,0.6s						
BOSA	**Boshof**	**81.88**	**118**	P	**P**	**03 22 05.7**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=209,slow=10,SNR=3.7						
BOSA				LR	LR	03 56 44.2	
	comp=Z,45nm,18.0s,baz=192,slow=34						
	comp=Z,1.3nm,0.8s						
ULM	**Lac du Bonnet**	**83.01**	**345**	P	**P**	**03 22 09.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=180,slow=4.0,SNR=2.0						
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**83.14**	**71**	P	**P**	**03 22 12.0**	**+0.6**
	comp=Z,4.7nm,0.5s,baz=289,slow=4.4,SNR=3.6						
	comp=Z,4.7nm,0.5s						
LBTB	**Lobatse**	**83.95**	**115**	LR	LR	03 53 41.6	
	comp=Z,65nm,21.5s,baz=192,slow=31						
AKASG	**Malin Array Be**	**119.84**	**46**	PKP	**PKPdf**	**03 28 34.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=272,slow=2.4,SNR=5.4						
BRTR	**Keskin Array B**	**120.17**	**59**	PKP	**PKPdf**	**03 28 36.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=166,slow=2.5,SNR=4.5						
H11S2	**WAKE ISLAND Hyl**	**25.60**	**272**	T	T	05 47 32.6	
	baz=115,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hyl**	**25.61**	**272**	T	T	05 47 34.9	
	baz=115,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hyl**	**25.62**	**272**	T	T	05 47 33.0	
	baz=115,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hyl**	**25.92**	**273**	T	T	05 48 10.9	
	baz=117						
H11N1	**WAKE ISLAND Hyl**	**25.94**	**273**	T	T	05 48 07.6	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**25.94**	**273**	T	T	05 48 11.2	
	baz=117						
BVAR	**Borovoye Array**	**144.68**	**39**	PKP	**PKPdf**	**03 29 21.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=333,slow=2.3,SNR=8.3						
KURBB	**Kurchatov Arra**	**150.27**	**39**	PKPbc	**PKPbc**	**03 29 36.6**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=305,slow=3.0,SNR=35						
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc	**PKiKP**	**03 29 38.8**	**+0.3**
	comp=Z,11nm,0.6s,baz=298,slow=3.1,SNR=42						
MKAR	**Makanchi Array**	**154.38**	**43**	PKP	**PKPdf**	**03 29 37.5**	**+0

CFA	Coronel Fontan	16.77	168	P	Pn	03 45 14.0 -0.7
	1.4nm,0.6s,baz=355,slow=13,SNR=5.7					
CPUP	Villa Florida	17.88	131	P	P	03 45 25.9 -1.3
	1.7nm,0.7s,baz=327,slow=12,SNR=3.9					
CPUP	Villa Florida	17.88	131	eP	Pn	03 45 27.9 -0.2
RPRD	Ribas do Rio P	18.51	109	eP	P	03 45 34.7 +0.4
NPGB	Novo Progresso	18.52	66	eP	P	03 45 34.1 -0.3
BO02	Sierra Bellavi	19.58	176	P	P	03 45 47.0 +1.2
SNDB	Serra Nova Dou	20.71	84	eP	P	03 45 58.2 +0.1
BOAV	Boa Vista	21.03	35	P	P	03 46 03.0 +1.5
BOAV	Boa Vista	21.03	35	eP	P	03 46 00.5 -0.9
PTGB	Pitanga	21.27	120	eP	P	03 46 03.3 -0.8
ITRB	Iturama	21.45	105	eP	P	03 46 06.5 +0.5
LDASE	Londrina, Braz	21.62	115	eP	P	03 46 08.9 +1.1
TBOT	Tacuaremb	22.23	140	eP	P	03 46 15.4 +1.4
ITAB	Concordia	22.30	126	P	P	03 46 14.1 -0.7
FRTB	Fartura	22.96	114	eP	P	03 46 21.1 -0.5
CPSB	Cacapava Do Su	23.04	134	eP	P	03 46 22.8 +0.6
BB19B	Bebedouro	23.37	108	eP	P	03 46 24.7 -0.7
PLCA	Paso Flores	25.50	177	P	P	03 46 44.9 +0.4
PLCA				IAmb	IAmb	03 46 47.4
	comp=Z,12nm,1.4s					
PLCA	Paso Flores	25.50	177	P	P	03 46 45.5 +1.1
	comp=Z,4.2nm,1.1s,baz=352,slow=8.1,SNR=6.1					
	comp=Z,4.2nm,1.1s					
PLCA	Paso Flores	25.50	177	eP	P	03 46 46.3 +1.8
JANB	Januaria	27.06	93	eP	P	03 46 58.3 -0.5
DIAM	Diamantina, MG	27.62	100	eP	P	03 47 04.9 +1.0
HERN	Volcan Telica	31.12	332	P	P	03 47 33.8 -0.9
HERN				IAmb	IAmb	03 47 34.9
	comp=Z,75nm,0.6s					
T59A	Double "B" Far	52.11	355	P	P	03 50 26.1 +1.0
T59A				IAmb	IAmb	03 50 35.8
	comp=Z,20nm,1.5s					
TXAR	Lajitas Array	53.60	326	P	P	03 50 37.5 +1.1
TXAR	Lajitas Array	53.60	326	P	P	03 50 37.6 +1.2
	comp=Z,0.3nm,0.6s,baz=152,slow=9.4,SNR=5.3					
	comp=Z,0.3nm,0.6s					
TX31	Lajitas Ar. Si	53.60	326	P	P	03 50 36.7 +0.3
CGM3	Cape Girardeau	54.69	343	P	P	03 50 45.2 +1.3
WMOK	Wichita Mounta	55.64	334	P	P	03 50 53.6 +2.7
WMOK				IAmb	IAmb	03 50 58.7
	comp=Z,5.1nm,0.9s					
ALLY	Alegheny Colle	57.00	353	P	P	03 51 01.6 +1.2
SDCO	Great Sand Dun	61.18	330	P	P	03 51 29.9 +0.3
SDCO				IAmb	IAmb	03 51 32.0
	comp=Z,2.1nm,0.8s					
MSU	Marysvale	65.15	326	P	P	03 51 58.4 +2.6
GWY	Greenwater Val	66.06	322	P	P	03 52 04.4 +2.8
GWY				IAmb	IAmb	03 52 28.5
	comp=Z,3.3nm,0.8s					
PDAR	Pinedale Array	67.04	331	P	P	03 52 07.0 -0.8
	comp=Z,0.2nm,0.6s,baz=107,slow=4.2,SNR=2.2					
	comp=Z,0.2nm,0.6s					
ULM	Lac du Bonnet	68.36	344	P	P	03 52 14.4 -1.3
	comp=Z,1.3nm,0.4s,baz=168,slow=11,SNR=4.2					
	comp=Z,1.3nm,0.4s					
YNE	Yellowstone No	68.98	332	P	P	03 52 21.2 +1.3
YNE				IAmb	IAmb	03 52 22.2
	comp=Z,5.2nm,0.7s					
SNAA	Sanae	69.28	162	P	P	03 52 20.9 -0.3
SNAA				IAmb	IAmb	03 52 28.3
	comp=Z,23nm,1.4s					
SNAA	Sanae	69.28	162	P	P	03 52 20.5 -0.7
	comp=Z,6.4nm,1.0s,baz=266,slow=15,SNR=3.3					
	comp=Z,6.4nm,1.0s					
QSPA	South Pole Qui	74.97	180	P	P	03 52 57.1 +1.8
QSPA				IAmb	IAmb	03 52 57.7
	comp=Z,4.3nm,0.7s					
SYO	Syowa Base	83.52	160‖	eP	P	03 53 41.0 -0.5
ESDC	Sonseca Array	83.74	46	P	P	03 53 43.4 +0.2
	comp=Z,0.3nm,0.6s,baz=242,slow=5.7,SNR=1.9					
	comp=Z,0.3nm,0.6s					
YKA	Yellowknife Ar	84.19	342	P	P	03 53 45.1 +0.3
	comp=Z,1.8nm,0.7s,baz=141,slow=5.2,SNR=35					
	comp=Z,1.8nm,0.7s					
ASAR	Alice Springs	133.64	214	PKP	PKPdf	04 00 31.6 +0.8
	comp=Z,0.4nm,0.6s,baz=136,slow=2.1,SNR=7.1					
WRA	Warramunga Arr	136.33	218	PKP	PKPdf	04 00 36.2 +0.4
	comp=Z,0.7nm,0.6s,baz=135,slow=2.2,SNR=2.7					
MJAR	Matsushiro Arr	145.48	314	PKPbc	PKPdf	04 00 52.4 +0.6
	comp=Z,3.0nm,0.8s,baz=63,slow=3.5,SNR=7.9					
SONM	Songino Array	147.43	2	PKPbc	PKPbc	04 00 58.0 +0.5
	comp=Z,0.4nm,0.6s,baz=354,slow=3.0,SNR=4.6					

*IDC **10** 03:42:34.6±3.1, 34°.34S×178°.93W, h0km, mb4.0/2, mbtmp4.1/3, ML4.4/1, Error ellipse: s-maj=75.8km s-min=45.7km az=127.0*
*WEL **10** 03:42:39.4±0.8, 35°S±7°×17°9W±°, h12km, M4.2/16, mB4.8/6, ML4.5/24, MLv4.3/16, Mw(mB)4.1/6, Error ellipse: s-maj=14.0km s-min=7.0km az=123.6, confirmed*
ISC 10 03:42:37.1±1.9, 34°.7S±0°.1×178°.7W±0°.1, h10km, n37, σ1§28/50, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.77	219	P	Pn	03 43 35.9	+0.7
MXZ				S	Sn	03 44 18.4	-1.1
WMGZ	Waiomatatini S	3.91	215	P	Pn	03 43 39.7	+2.5
WMGZ				S	Sn	03 44 25.5	+2.3
PKGZ	Pakihiroa	4.11	218	P	Pn	03 43 41.1	+1.1
PKGZ				S	Sn	03 44 28.4	+0.2
HAZ	Te Kaha	4.19	221	P	Pn	03 43 41.8	+0.8
HAZ				S	Sn	03 44 31.9	+2.0
PUZ	Puketiti	4.19	215	P	Pn	03 43 41.1	0.0
PUZ				S	Sn	03 44 30.1	0.0
RUGZ	Raukumara Rang	4.40	220	P	Pn	03 43 45.3	+1.3
TWGZ	Tauwhareparae	4.40	216	P	Pn	03 43 45.6	+1.6
TWGZ				S	Sn	03 44 36.7	+1.3
CNGZ	Carnagh Statio	4.55	212	P	Pn	03 43 46.2	+0.3
CNGZ				S	Sn	03 44 39.4	+0.5
TKGZ	Te Karaka	4.67	215	P	Pn	03 43 48.6	+1.0
MWZ	Matawai	4.75	218	P	Pn	03 43 49.2	+0.5
MWZ				S	Sn	03 44 44.6	+0.6
MYRZ	Mayor Island	4.85	236	P	Pn	03 43 51.0	+0.9
URZ	Urewera	4.92	222	Pn	Pn	03 43 51.5	+0.5
	13nm,0.3s,baz=355,slow=3.4,SNR=63						
URZ				Sn	Sn	03 44 46.7	-1.2
	4.6nm,0.3s,baz=339,slow=14,SNR=4.6						
	24nm,0.3s						
URZ	Urewera	4.92	222	P	Pn	03 43 51.2	+0.2
URZ				S	Sn	03 44 46.8	-1.1
RIGZ	Rimuhau	4.93	214	P	Pn	03 43 51.7	+0.5
RIGZ				S	Sn	03 44 49.0	+0.7
OPRZ	Ohinepanea	4.97	229	P	Pn	03 43 53.2	+1.5
PRGZ	Paritu Road	5.05	212	P	Pn	03 43 52.2	-0.7
PRGZ				S	Sn	03 44 50.7	-0.7
SNGZ	Shannon Statio	5.19	216	P	Pn	03 43 56.0	+1.3
SNGZ				S	Sn	03 44 54.4	-0.3
KNZ	Kokohu	5.23	212	P	Pn	03 43 55.3	+0.1
MHGZ	Mahia Peninsul	5.24	210	P	Pn	03 43 56.6	+1.2
RTZ	Ruatahuna	5.25	220	P	Pn	03 43 56.2	+0.6
MUGZ	Murupara	5.26	222	P	Pn	03 43 56.2	+0.5
RRRZ	Republican Roa	5.31	225	P	Pn	03 43 57.4	+1.0
RAHZ	Arahi	5.42	217	P	Pn	03 43 59.8	+1.9
MTHZ	Maungataniwha	5.50	219	P	Pn	03 43 59.8	+0.8
TOZ	Tahuroa Road	5.58	235	P	Pn	03 44 01.8	+1.6
NMHZ	Naumai	5.70	218	P	Pn	03 44 03.3	+1.5
ARHZ	Aropaoanui	5.73	215	P	Pn	03 44 03.0	+0.8
BKZ	Black Stump Fm	5.91	219	P	Pn	03 44 04.4	-0.3
CKHZ	Cape Kidnapper	6.01	213	P	Pn	03 44 04.2	-1.9
MCHZ	McNeill Hill	6.02	216	P	Pn	03 44 06.2	+0.1
KWHZ	Kaweka Forest	6.14	218	P	Pn	03 44 07.8	-0.1
OUZ	Omahuta	6.33	263	P	Pn	03 44 11.1	+0.7
PXZ	Pawanui	6.41	212	P	Pn	03 44 10.5	-1.1
PXZ				S	Sn	03 45 21.3	-3.4
CTZ	Chatham Island	9.21	170	P	Pn	03 44 51.7	+1.8
ASAR	Alice Springs	42.45	272	P	P	03 50 30.2	-2.2
	1.9nm,0.6s,baz=114,slow=7.8,SNR=18						
	1.9nm,0.6s						
WRA	Warramunga Arr	43.82	277	P	P	03 50 40.5	-3.0
	0.9nm,0.5s,baz=118,slow=7.5,SNR=5.5						
	0.9nm,0.5s						
FINES	FINESS Array B	148.87	337	PKPbc	PKPdf	04 02 21.9	+1.7
	0.6nm,0.5s,baz=37,slow=2.8,SNR=5.4						

*IDC **10** 03:47:52.8±1.1, 34°.13S×179°.24W, h0km, mb4.3/4, mbtmp4.3/5, ML4.5/1, MS3.6/2, Error ellipse: s-maj=35.7km s-min=29.9km az=101.0*
*WEL **10** 03:47:56.0±0.9, 35°S±8°×17°9W±1°2, h12km, M4.3/16, mB5.0/9, ML4.6/21, MLv4.4/16, Mw(mB)4.3/9, Error ellipse: s-maj=17.4km s-min=6.8km az=120.6, confirmed*
ISC 10 03:47:53.7±1.0, 34°.57S±0°.08×178°.9W±0°.1, h10km, n39, σ1§38/53, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.77	217	P	Pn	03 48 52.3	+0.4
MXZ				S	Sn	03 49 35.8	-0.5
WMGZ	Waiomatatini S	3.92	213	P	Pn	03 48 55.6	+1.6
PKGZ	Pakihiroa	4.12	216	P	Pn	03 48 57.5	+0.8
PKGZ				S	Sn	03 49 45.6	+0.7
HAZ	Te Kaha	4.19	220	P	Pn	03 48 58.1	+0.6
HAZ				S	Sn	03 49 45.9	-0.7
PUZ	Puketiti	4.20	213	P	Pn	03 48 58.3	+0.4
PUZ				S	Sn	03 49 47.5	+0.5
RUGZ	Raukumara Rang	4.40	219	P	Pn	03 49 01.6	+1.0
RUGZ				S	Sn	03 49 53.9	+1.9
TWGZ	Tauwhareparae	4.41	214	P	Pn	03 49 02.2	+1.4
TWGZ				S	Sn	03 49 54.1	+1.8
CNGZ	Carnagh Statio	4.57	210	P	Pn	03 49 03.1	+0.2
TKGZ	Te Karaka	4.69	214	P	Pn	03 49 05.0	+0.5
TKGZ				P	Pg	03 49 59.4	+36
MWZ	Matawai	4.76	217	P	Pn	03 49 04.8	-0.7
MWZ				S	Sn	03 49 59.9	-0.8
URZ	Urewera	4.91	220	Pn	Pn	03 49 08.2	+0.6
	16nm,0.3s,baz=1.7,slow=3.6,SNR=47						
URZ				Sn	Sn	03 50 04.0	-0.5
	13nm,0.3s,baz=247,slow=20,SNR=7.0						
	36nm,0.3s						
URZ	Urewera	4.91	220	P	Pn	03 49 07.2	-0.4
URZ				S	Sn	03 50 04.2	-0.3
RAGZ	Rawiri	4.94	216	P	Pn	03 49 09.3	+1.2
RIGZ	Rimuhau	4.95	212	P	Pn	03 49 08.2	+0.1
RIGZ				S	Sn	03 50 05.5	+0.1
PRGZ	Paritu Road	5.07	210	P	Pn	03 49 09.5	-0.3
SNGZ	Shannon Statio	5.20	215	P	Pn	03 49 12.3	+0.7
SNGZ				S	Sn	03 50 11.0	-0.6
KNZ	Kokohu	5.25	211	P	Pn	03 49 11.3	-0.9
KNZ				S	Sn	03 50 10.5	-2.2
RTZ	Ruatahuna	5.25	218	P	Pn	03 49 12.8	+0.5
MUGZ	Murupara	5.26	221	P	Pn	03 49 12.3	0.0
MUGZ				S	Sn	03 50 12.2	-0.7
MHGZ	Mahia Peninsul	5.26	209	P	Pn	03 49 13.6	+1.2
MHGZ				S	Sn	03 50 12.7	-0.4
MKAZ	Moumakai	5.48	241	P	Pn	03 49 17.1	+1.7
TOZ	Tahuroa Road	5.55	234	P	Pn	03 49 17.4	+1.1
BKZ	Black Stump Fm	5.91	218	P	Pn	03 49 20.9	-0.5
BKZ				S	Sn	03 50 27.2	-2.1
OUZ	Omahuta	6.24	262	P	Pn	03 49 27.6	+1.8
NGZ	Ngauruhoe	6.39	222	P	Pn	03 49 28.8	+0.8
PXZ	Pawanui	6.43	211	P	Pn	03 49 28.6	+0.2
TSZ	Takapari Road	6.86	215	P	Pn	03 49 34.0	-0.4
BFZ	Birch Farm	7.23	211	P	Pn	03 49 37.9	-1.6
RPZ	Rata Peaks	12.02	218	Pn	Pn	03 50 43.5	-1.6
	0.5nm,0.3s,baz=22,slow=19,SNR=1.6						
RPZ				Sn	Sn	03 52 45.9	-13
	1.0nm,0.3s,baz=20,slow=16,SNR=2.1						
DZM	Mont Dzumac	17.93	310	LR	LR	03 57 35.8	
	comp=Z,168nm,18.1s,baz=112,slow=34						
ASAR	Alice Springs	42.34	272	P	P	03 55 46.6	-1.5
	3.2nm,0.5s,baz=115,slow=7.8,SNR=53						
ASAR				PcP	PcP	03 57 39.9	-1.7
	0.6nm,0.6s,baz=118,slow=3.7,SNR=6.0						
ASAR				LR	LR	04 12 57.6	
	comp=Z,93nm,18.8s,baz=110,slow=36						
	3.2nm,0.5s						
WRA	Warramunga Arr	43.70	277	P	P	03 55 57.3	-1.9
	1.9nm,0.5s,baz=117,slow=7.6,SNR=13						
	1.9nm,0.5s						
QSPA	South Pole Qui	55.55	180	P	P	03 57 33.8	+4.8
	1.8nm,0.8s,baz=83,slow=2.6,SNR=6.4						
	1.8nm,0.8s						
PETK	Petropavlovsk-	89.67	346	P	P	04 00 49.5	-1.8
	2.1nm,0.6s,baz=125,slow=8.3,SNR=4.9						
	2.1nm,0.6s						
PZH	PanZhiHua	96.58	298	PKP	P	04 01 20.6	-3.5
KURBB	Kurchatov Arra	123.38	312	PKP	PKPdf	04 06 48.7	-1.8
	0.2nm,0.2s,baz=109,slow=2.7,SNR=1.7						
FINES	FINESS Array B	148.75	337	PKPbc	PKPdf	04 07 39.5	+2.8
	4.3nm,0.9s,baz=29,slow=3.2,SNR=11						
HFS	Hagfors	153.14	346	PKPbc	PKPbc	04 07 51.9	+1.0
	2.1nm,0.7s,baz=120,slow=5.2,SNR=5.5						
BRTR	Keskin Array B	153.68	291	PKPbc	PKPbc	04 07 51.4	-1.5
	0.2nm,0.4s,baz=76,slow=2.1,SNR=3.8						

*IDC **10** 03:53:23.7±1.1, 43°.50N×138°.26E, h245km±11km, mb3.1/10, mbtmp3.6/14, Error ellipse: s-maj=24.7km s-min=11.7km az=172.0*
*JMA **10** 03:53:24.9±0.6, 43°N±1°×13°8E±°, h253km±4km, MV3.0/31, EASTERN SEA OF JAPAN*
*SKHL **10** 03:53:25.3±0.1, 43°.40N×139°.00E, h323km±3km, mb4.5/4, msha5.1/6*
ISC 10 03:53:24.8±0.8, 43°.32N±0°.06×138°.65E±0°.07, h274km, n37, σ1§52/44, mb3.3/10, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	Shimam	1.23	123	eP	Pn	03 54 02.7	-0.9
JHST	Hiyamasetana	1.27	134	P	Pn	03 54 03.2	-0.7
JSK	Shakotan	1.33	88	eP	Pn	03 54 03.6	-0.6
JOSM	Okushiri--Mats	1.38	153	eP	Pn	03 54 03.8	-0.8
JYM2	Yakumo 2	1.75	133	P	Pn	03 54 07.2	-0.1
JNB	Noboribetsu	1.95	115	P	Pn	03 54 08.9	+0.1
JEW	Eniwo	2.11	102	P	Pn	03 54 10.6	+0.4
JHR	Hokuryu	2.28	78	eP	Pn	03 54 12.2	+0.6
JOT	Ohata	2.63	137	eP	Pn	03 54 15.4	+0.3
JRBN	Rebuntou	2.73	39	eP	Pn	03 54 14.9	-0.9
ASAJ	Asahikawa	2.97	73	P	Pn	03 54 18.7	+0.3
	9.5nm,0.5s,baz=260,slow=11,SNR=12						
ASAJ				S	S	03 55 01.1	0.0
	10nm,0.8s,baz=124,slow=30,SNR=2.0						
JKK2	Kamakawa 2	3.03	78	P	Pn	03 54 20.1	+1.1
JKK2				eS	S	03 55 04.0	+1.8
JWK2	Keihoku	3.07	48	eP	Pn	03 54 20.3	+0.9
JNBK	Urakawa-nobuka	3.19	108	eP	Pn	03 54 21.4	+0.7
JCH	Churui	3.53	100	eP	Pn	03 54 24.0	-0.4
JCH				eS	S	03 55 10.1	-1.9
JANG	Nango	3.64	143	P	Pn	03 54 26.5	+0.8
JANG				S	S	03 55 12.9	-1.4
JAR	Ashorobuto	3.74	89	P	Pn	03 54 27.6	+1.0
JAR				eS	S	03 55 16.4	+0.4
JTKR	Abashiri--Toko	3.87	79	P	Pn	03 54 29.4	+1.2
JOM	Ohasama	4.33	152	eP	Pn	03 54 34.8	+1.3
AKK	Akkeshi	4.54	92	eP	Pn	03 54 35.6	-0.2
AKK				eS	S	03 55 30.4	-2.3
YSS	Yuzhno-Sakhali	4.65	37	eP	Pn	03 54 37.4	+0.3
YSS				AMB	AMB	03 54 38.3	
	30nm,0.5s						
YSS				eS	S	03 55 33.5	-1.4
YSS				A	A	03 55 40.5	
	20nm,0.2s						
YSS				A	A	03 55 40.5	
	10.0nm,0.2s						
USRK	Ussuriysk Ar.	4.90	283	P	Pn	03 54 34.5	-5.6
	6.0nm,0.6s,baz=88,slow=13,SNR=14						
NMR	Nemuro--Hokkai	5.16	87	eP	Pn	03 54 43.0	-0.2
NMR				eS	S	03 55 43.7	-2.3
SHO	Shikotan	5.97	82	eS	S	03 56 00.7	-3.0
SHO				A	A	03 56 04.9	
	30nm,0.3s						
SHO				A	A	03 56 04.9	
	70nm,0.3s						
MJAR	Matsushiro Arr	6.78	183	P	Pn	03 55 03.5	+0.4
	0.6nm,0.3s,baz=354,slow=11,SNR=4.3						
KUR	Kuril'sk	6.89	71	eP	Pn	03 55 03.0	-1.2
KUR				AMB	AMB	03 55 03.8	
	10.0nm,0.3s						
KUR				eS	S	03 56 19.5	-4.8
KUR				A	A	03 56 28.9	
	20nm,0.3s						
KUR				A	A	03 56 28.9	
	10.0nm,0.3s						
KLR	Kul'dur	7.60	323	P	Pn	03 55 07.5	-5.5
	1.6nm,0.6s,baz=131,slow=11,SNR=8.2						
SEY	Seymchan	21.21	17	P	P	03 57 48.7	-0.5
	0.6nm,0.4s,baz=205,slow=3.7,SNR=4.6						
	0.6nm,0.4s						
SONM	Songino Array	22.92	293	P	P	03 58 02.8	-2.4
	0.4nm,0.4s,baz=94,slow=9.4,SNR=3.0						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	36.29	306	P	P	04 00 00.7	-1.5
	1.6nm,0.5s,baz=90,slow=8.4,SNR=6.9						
	1.6nm,0.5s						
MKAR	Makanchi Array	39.24	295	P	P	04 00 25.3	-1.6
	0.4nm,0.5s,baz=84,slow=10.0,SNR=6.6						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	40.66	302	P	P	04 00 37.0	-1.4
	1.4nm,0.4s,baz=78,slow=8.9,SNR=10.0						
	1.4nm,0.4s						
BVAR	Borovoye Array	44.92	307	P	P	04 01 11.7	-0.7
	0.7nm,0.3s,baz=80,slow=6.9,SNR=5.3						
	0.7nm,0.3s						
ILAR	Eielson Array	45.46	35	P	P	04 01 18.7	+2.3
	0.6nm,0.7s,baz=282,slow=8.5,SNR=14						
	0.6nm,0.7s						
YKA	Yellowknife Ar	59.48	31	P	P	04 02 58.9	+0.1
	0.2nm,0.5s,baz=301,slow=6.9,SNR=4.4						
	0.2nm,0.5s						
FINES	FINESS Array B	62.29	330	P	P	04 03 19.1	+1.5
	1.8nm,0.9s,baz=35,slow=5.1,SNR=1.4						
	1.8nm,0.9s						
PDAR	Pinedale Array	74.75	45	P	P	04 04 37.7	+2.6
	0.2nm,0.6s,baz=316,slow=4.6,SNR=2.6						
	0.2nm,0.6s						

*AEIC **10** 04:02:24.7±0.8, 53°.93N±0°.06×164°.10W±0°.06, h26km±8km, Error ellipse: s-maj=9.3km s-min=3.9km az=159.0*
NEIC 10 04:02:24.3±0.9, 53°.85N±0°.07×164°.07W±0°.07, h35km±2km, ML2.5(AEIC), Error ellipse: s-maj=12.3km s-min=5.1km az=336.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.69	334		Pn	04 02 37.3	-0.3
WECS	Westdahl Cape	0.80	329		Pn	04 02 39.0	0.0
ISLZ	Isanotski Laza	0.90	13		Pn	04 02 39.9	-0.6
ISLZ					Sn	04 02 51.6	-0.7
ISNN	Isanotski Nort	1.00	10		Pn	04 02 42.1	+0.3
ISNN					Sn	04 02 55.4	+0.7
AKSA	Akutan Strait	1.00	287		Pn	04 02 41.8	0.0
AKSA					Sn	04 02 54.8	+0.1
AHB	Akutan Harbor	1.06	285		Pn	04 02 42.5	-0.2
AHB					Sn	04 02 56.9	+0.6
FALS	False Pass	1.08	21		Pn	04 02 42.8	-0.1
FALS					Sn	04 02 56.6	0.0
ZRO	Akutan Zero	1.15	283		Pn	04 02 44.1	+0.2
ZRO					Sn	04 02 58.7	+0.2
UNV	Unalaska Valle	1.44	271	Pn	Pn	04 02 47.6	-0.3
SDPT	Sand Point	2.57	53	Pn	Pn	04 03 04.4	+1.0

*RSNC **10** 04:06:44.4±0.0, 13°N±18°×7°1W±1°8, h200km±11km, M2.8, mb3.7, mB4.9, ML2.7, Mw(mB)4.2*
*FUNV **10** 04:06:45.5, 12°.08N×69°.78W, h30km, MW3.5*
ISC 10 04:06:43.9±1.5, 11°.99N±0°.08×69°.81W±0°.03, h25km, n21, σ1§64/41, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	Terepaima	2.10	163	eP	Pn	04 07 18.2	+0.6
TEPV				eS	Sn	04 07 43.6	+0.7
URIC	Uribia, Colomb	2.15	263	P	Pn	04 07 17.9	-0.3
URIC				S	Sn	04 07 46.0	+1.9
URIC	Uribia, Colomb	2.15	263	P	Pn	04 07 17.9	-0.3
URIC				S	Sn	04 07 46.0	+1.9
BENV	Beln	2.96	133	eP	Pn	04 07 31.1	+1.7
BENV				eS	Sn	04 08 04.2	-0.1
CRJC	Cerrejon, Guaj	3.16	253	P	Pn	04 07 32.4	+0.2
CRJC				S	Sn	04 08 09.0	-0.1
CRJC	Cerrejon, Guaj	3.16	253	P	Pn	04 07 32.4	+0.2
CRJC				S	Sn	04 08 09.0	-0.1
TACV	Tcata	3.30	124	eP	Pn	04 07 34.0	0.0
TACV				eS	Sn	04 08 10.5	-1.9
FUNV	FUNVISIS	3.31	117	eP	Pn	04 07 34.2	0.0
FUNV				eS	Sn	04 08 10.9	-2.0
BAUV	El Baul	3.49	150	eP	Pn	04 07 37.5	+0.8
BAUV				eS	Sn	04 08 16.2	-1.0
SOCV	Socops	3.82	196	eP	Pn	04 07 43.1	+1.9
SOCV				eS	Sn	04 08 25.0	-0.5
CAPV	Capacho	4.78	211	eP	Pn	04 07 55.1	+0.5
CAPV				eS	Sn	04 08 47.3	-2.1
ARGC	Ariguani, Magd	4.84	244	P	Pn	04 07 56.0	+0.8
ARGC				S	Sn	04 08 48.5	-2.1
ARGC	Ariguani, Magd	4.84	244	P	Pn	04 07 56.0	+0.8
ARGC				S	Sn	04 08 48.5	-2.1
OCAC	Ocana	5.08	223	P	Pn	04 07 59.0	+0.3
	7.0nm,0.5s						
OCAC				S	Sn	04 08 54.8	-1.8
	7.0nm,0.5s						
OCAC	Ocana	5.08	223	P	Pn	04 07 59.0	+0.3
	7.0nm,0.5s						
OCAC				S	Sn	04 08 54.8	-1.8
	7.0nm,0.5s						
PCRV	Puerto La Cruz	5.39	109	eP	Pn	04 08 03.6	+0.8
PCRV				eS	Sn	04 08 59.7	-4.5
PAMC	Pamplona, Colo	5.43	212	P	Pn	04 08 04.7	+1.0
PAMC				S	Sn	04 09 03.8	-1.8
PAMC	Pamplona, Colo	5.43	212	P	Pn	04 08 04.7	+1.0
PAMC				S	Sn	04 09 03.8	-1.8
CACV	CAICARA DEL OR	5.45	143	eP	Pn	04 08 09.1	+5.4
CACV				eS	Sn	04 09 10.7	+5.1
SJCC	San Jacinto, C	5.67	249	P	Pn	04 08 07.5	+0.9
	26nm,1.6s					

TOLK Toolik Lake Re 1.81 239 Pn 04 08 19.4 -0.5
TOLK IAML 04 08 50.5
comp=E,3µm,0.9s
TOLK IAML 04 08 55.0
comp=N,2µm,0.9s
TOLK Toolik Lake Re 1.81 239 Sn 04 08 42.5 -0.4
C23K Itkillik River 1.85 279 Pn **Pn 04 08 19.5 -0.9**
C23K IAML 04 08 49.4
comp=N,3µm,0.8s
C23K IAML 04 08 53.3
comp=E,2µm,0.7s
E24K Your Creek 1.93 218 Pn 04 08 21.9 +0.3
E24K IAML 04 08 55.7
comp=N,2µm,1.0s
E27K Coleen River 1.98 135 Pn 04 08 22.6 +0.3
E27K IAML 04 08 51.8
comp=E,3µm,0.5s
F26K Sheenjek River 1.98 167 Pn 04 08 22.8 +0.4
D23K Nanushuk River 2.01 253 Pn 04 08 22.1 -0.6
F25K Christian River 2.04 183 Pn 04 08 23.6 +0.4
F25K IAML 04 08 55.5
comp=N,2µm,0.7s
F25K IAML 04 08 57.3
comp=E,2µm,0.8s
E23K Chandalar 2.21 227 Pn 04 08 25.3 -0.2
E23K IAML 04 09 02.0
comp=E,2µm,1.2s
BMAR Burnt Mountain 2.22 172 Pn 04 08 25.9 +0.3
F24K Squaw Lake 2.31 205 Pn 04 08 26.9 0.0
F24K IAML 04 09 05.8
comp=N,1µm,0.7s
E28M Babbage River 2.32 113 Pn **Pn 04 08 27.4 +0.5**
E28M IAML 04 09 05.9
comp=E,2µm,0.8s
D28M Stokes Point 2.35 94 Pn **Pn 04 08 28.0 +0.7**
D28M Stokes Point 2.35 94 Sb 04 08 59.7 -0.3
D22K Ayikyak River 2.72 258 Pn 04 08 31.5 -0.9
D22K IAML 04 09 22.3
comp=E,1µm,0.9s
D22K IAML 04 09 24.0
comp=N,1µm,0.8s
G26K Porcupine Rive 2.75 167 Pn 04 08 32.6 -0.2
G26K **Sn 04 09 09.0 +3.1**
E22K Anaktuvuk Pass 2.78 241 Pn 04 08 32.4 -0.9
B22K Teshekpuk Lake 2.87 288 Pn **Pn 04 08 33.6 -0.9**
E29M Blow River 2.95 111 Pn 04 08 36.0 +0.4
E29M IAML 04 09 29.0
comp=E,968nm,0.7s
COLD Coldfoot 3.00 219 Pn 04 08 36.5 +0.2
G24K Hadweenzic Riv 3.04 196 Pn 04 08 36.6 -0.3
FYU Fort Yukon 3.07 179 Pn 04 08 37.4 +0.2
FYU IAML 04 09 35.2
comp=N,895nm,1.1s
FYU IAML 04 09 36.7
comp=E,1µm,1.1s
G27K Doyon Strip 3.14 152 Pn 04 08 38.0 -0.3
B21K Ikpikpuk River 3.25 274 Pn 04 08 39.1 -0.5
B21K IAML 04 09 39.5
comp=E,855nm,0.8s
B21K IAML 04 09 43.6
comp=N,879nm,0.8s
E21K Killik River 3.32 253 Pn 04 08 39.6 -1.1
E21K IAML 04 09 42.9
comp=N,781nm,0.9s
E21K IAML 04 09 45.4
comp=E,769nm,1.1s
H25L Birch Creek 3.38 183 Pn 04 08 41.5 +0.1
G23K Bananza Creek 3.41 213 Pn 04 08 42.4 +0.5
G23K IAML 04 09 41.1
comp=E,707nm,0.8s
G23K IAML 04 09 45.4
comp=N,698nm,0.6s
A22K Sinclair Lake 3.54 298 Pn 04 08 43.2 -0.5
G29M Pine Creek 3.85 132 Pn 04 08 48.3 +0.4
F21K Alatna River 3.85 235 Pn 04 08 47.3 -0.7
F21K IAML 04 09 57.8
comp=N,464nm,1.0s
H24K Noodor Dome 3.92 195 Pn 04 08 48.7 -0.3
H24K IAML 04 09 55.9
comp=E,481nm,1.4s
B20K Meade River 4.11 281 Pn 04 08 50.9 -0.7
PRP Porcupine Dome 4.12 181 Pn 04 08 52.0 +0.2
PRP IAML 04 09 43.1
comp=N,316nm,0.4s
D20K Etivluk River 4.13 263 Pn 04 08 51.4 -0.4
H23K Yukon River 4.13 205 Pn 04 08 52.3 +0.4
E20K Nigu River 4.15 256 Pn 04 08 52.7 +0.6
A21K Barrow 4.15 300 Pn 04 08 51.5 -0.5
I27K Kandik River 4.28 159 Pn 04 08 54.6 +0.7
G30M tAoh Zraii Nji 4.30 124 IAML 04 10 06.2
comp=N,346nm,0.9s
G30M IAML 04 10 14.5
comp=E,330nm,0.7s
H29M Whitestone 4.31 139 Pn 04 08 54.8 +0.5
G21K Allakaket 4.37 228 IAML 04 10 10.7
comp=N,344nm,1.3s
I26K Coal Creek Min 4.42 168 Pn 04 08 55.9 +0.2
I26K Coal Creek Min 4.42 168 IAML 04 10 20.5
comp=E,351nm,0.8s
INK Inuvik 4.46 102 Pn **Pn 04 08 55.9 -0.4**
INK Inuvik 4.46 102 Pn **Pn 04 08 56.0 -0.2**
comp=E,5.0nm,0.3s,baz=309,slow=14,SNR=333
INK Sn **Sn 04 09 46.8 -1.3**
comp=E,26nm,0.3s,baz=44,slow=16,SNR=16
INK Lg Lg 04 10 10.5
comp=E,13nm,0.3s,baz=349,slow=17,SNR=6.7
comp=E,15nm,0.2s
POKR Poker Plat Res 4.60 191 Pn 04 08 58.4 +0.1
POKR IAML 04 10 17.2
comp=E,228nm,0.8s
F20K Avaraart Lake 4.63 241 Pn 04 08 58.1 -0.5
F20K Avaraart Lake 4.63 241 IAML 04 10 32.8
comp=N,242nm,1.2s
I28M Miner Creek 4.67 151 IAML 04 10 31.4
comp=N,208nm,0.8s
D19K Kuna River 4.72 262 Pn 04 08 59.0 -0.9
D19K IAML 04 10 33.4
comp=N,285nm,1.0s
D19K IAML 04 10 44.9
comp=E,220nm,1.6s
I23K Minto, Yukon-K 4.75 201 Pn 04 09 00.3 0.0
I23K IAML 04 10 21.7
comp=E,263nm,1.4s
F31M Tsiigehtchic 4.79 112 Pn **Pn 04 09 00.6 -0.2**
F31M IAML 04 10 24.2
comp=N,265nm,1.1s
F31M IAML 04 10 34.1
comp=E,255nm,1.3s
COLA College 4.87 193 Pn 04 09 02.4 +0.5
E19K Redstone River 4.88 249 Pn 04 09 01.8 -0.2
E19K Redstone River 4.88 249 IAML 04 10 38.9
comp=E,220nm,1.0s
H21K Melozitna Rive 4.89 219 Pn 04 09 02.7 +0.4
H21K Melozitna Rive 4.89 219 IAML 04 10 24.9
comp=N,211nm,0.9s
H21K IAML 04 10 32.2
comp=E,245nm,0.9s
IL31 4.91 188 Pn 04 09 02.7 +0.2
ILAR Eielson Array 4.91 188 Pn **Pn 04 09 02.5 0.0**
comp=E,4.7nm,0.3s,baz=3.8,slow=15,SNR=505
ILAR Sn **Sn 04 09 59.9 +0.6**
comp=E,9.8nm,0.3s,baz=357,slow=26,SNR=5.3
ILAR Lg Lg 04 10 23.5
comp=E,9.8nm,0.3s,baz=5.2,slow=32,SNR=5.8
comp=E,33nm,0.7s
J25K Salcha River, 5.03 180 IAML 04 10 35.6
comp=E,165nm,1.4s
I29M Ogilvie Camp, 5.06 144 Pn 04 09 04.6 0.0
I29M Ogilvie Camp, 5.06 144 IAML 04 10 35.6
comp=N,202nm,0.8s
CCB Clear Creek Bu 5.09 192 Pn **Pn 04 09 04.8 -0.2**
CCB IAML 04 10 31.1
comp=E,165nm,1.2s
J26L Joseph Creek 5.19 171 IAML 04 10 32.4
comp=E,157nm,0.8s
NEA2 Nenana 5.26 198 Pn 04 09 07.1 -0.1
HDA Harding Lake 5.27 188 IAML 04 10 39.2
comp=E,205nm,1.0s
HDA IAML 04 10 46.3
comp=N,186nm,0.8s
WRH Wood River Hil 5.28 193 Pn **Pn 04 09 07.5 -0.2**
WRH IAML 04 10 38.9
comp=N,135nm,1.3s
WRH IAML 04 10 43.0
comp=E,130nm,1.4s

F19K Shaleruckik Mo 5.40 245 IAML 04 10 50.8
comp=E,140nm,2.4s
F19K IAML 04 10 56.2
comp=N,187nm,1.2s
A19K Wainwright 5.45 284 Pn 04 09 09.4 -0.5
I30M Mount Dempster 5.60 138 Pn 04 09 12.5 +0.4
C18K Utukok River 5.75 268 Pn 04 09 13.1 -0.9
K27K Chicken 5.76 166 Pn 04 09 14.7 +0.5
B18K Kokolik River 5.79 275 Pn 04 09 13.6 -1.0
J29N Klondike Camp 5.89 148 Pn 04 09 17.1 +1.1
H19K Roundabout Mou 5.91 231 Pn 04 09 16.2 +0.1
I20K Naagheedeneel 6.00 221 Pn 04 09 17.3 -0.2
DAWY Dawson 6.05 154 Pn **Pn 04 09 18.7 +0.5**
CHUM Lake Minchumin 6.39 209 Pn 04 09 22.8 0.0
RND Reindeer 6.40 194 Pn 04 09 23.7 +0.7
KTH Kantishna Hill 6.49 203 Pn 04 09 24.1 -0.1
C17K DeLong Mountai 6.49 268 Pn 04 09 22.4 -1.8
RDOG Red Dog Mine 6.55 264 Pn 04 09 22.9 -2.1
E17K Hotham Inlet 6.60 255 Pn 04 09 24.3 -1.4
GCSA Galena City Sc 6.63 228 Pn 04 09 25.3 -0.7
BCAR Beaver Creek A 6.74 166 Pn 04 09 28.2 +0.6
L27K Beaver Creek, 6.74 166 Pn 04 09 28.2 +0.5
MENT Mentasta 6.75 174 Pn 04 09 28.4 +0.7
D17K Noatak River 6.75 262 Pn 04 09 25.8 -1.9
CAST Castle Rocks 6.78 207 Pn 04 09 29.2 +0.9
A36M Sachs Harbour 7.02 61 Pn 04 09 30.1 -1.3
G17K Kiwalik Mounta 7.16 242 Pn 04 09 32.8 -0.5
C16K Lisburne Hills 7.32 269 Pn 04 09 33.9 -1.6
C36M Paulatuk 7.47 82 Pn 04 09 35.6 -1.9
J18K Innoko River 7.65 222 Pn 04 09 40.3 +0.2
WACK Wrangell Chich 7.68 176 Pn 04 09 41.4 +0.7
M29M Somme Creek 7.73 156 Pn 04 09 41.7 +0.5
G16K Koyuk River 7.76 245 Pn 04 09 40.1 -1.5
SCM Sheep Creek Mo 7.86 187 Pn 04 09 43.7 +0.6
M30M Minto, Yukon 7.87 150 Pn 04 09 42.9 -0.2
H16K Elim 8.24 241 Pn 04 09 47.2 -1.0
J17K VABM Dome 8.29 228 Pn 04 09 48.0 -0.9
F15K North Star Dit 8.31 251 Pn 04 09 47.1 -2.0
KNK Knik Glacier 8.34 190 Pn 04 09 51.2 +1.5
VRDI Verde Repeater 8.47 174 Pn 04 09 51.6 +0.2
STLK Strandline Lak 8.58 201 Pn 04 09 53.4 +0.5
BMRM Bremner River 8.70 178 Pn 04 09 55.7 +1.2
N30M Aishikik Lake 8.87 153 Pn 04 09 57.4 +0.6
YUK5 Granite Creek 9.07 156 Pn 04 10 00.5 +0.8
YUK6 Outpost Mounta 9.18 158 Pn 04 10 02.0 +0.7
HYT Haines Junctio 9.41 156 Pn 04 10 05.6 +1.3
YAH Yahtse 9.42 169 Pn 04 10 07.4 +2.9
O30N Mendenhall 9.68 152 Pn 04 10 09.6 +1.6
O29M Mount Kennedy 9.78 160 Pn 04 10 10.0 +0.7
WHY Whitehorse 10.00 149 Pn 04 10 13.3 +1.0
J14K Nanvaranak Lak 10.04 236 Pn 04 10 12.6 -0.3
WRGLY Wrigley 10.80 116 Pn 04 10 22.4 -0.7
P33M Teslin, Yukon 10.81 145 Pn 04 10 23.7 +0.3
DLBC Dease Lake 13.02 142 Pn 04 10 54.6 +1.1
DLBC Dease Lake 13.02 142 Pn **Pn 04 10 52.8 -0.8**
comp=N,0.9nm,0.3s,baz=346,slow=8.5,SNR=14
DLBC Sn **Sn 04 13 13.9 -4.3**
comp=N,0.2nm,0.3s,baz=248,slow=19,SNR=1.0
DLBC Lg Lg 04 14 44.0
baz=70,slow=27
comp=N,2.7nm,0.5s
YKA Yellowknife Ar 14.22 105 Pn **Pn 04 11 05.5 -4.3**
comp=N,1.8nm,0.3s,baz=313,slow=13,SNR=70
YKA Sn Sn 04 13 32.3 -15
comp=N,1.9nm,0.3s,baz=310,slow=22,SNR=9.0
comp=N,6.7nm,0.6s
RES Resolute Bay 15.79 49 Pn 04 11 27.5 -3.3
RES Resolute Bay 15.79 49 Pn **Pn 04 11 27.5 -3.3**
comp=N,1.6nm,0.3s,baz=264,slow=8.8,SNR=38
RES Sn Sn 04 14 14.1 -11
comp=N,1.7nm,0.3s,baz=140,slow=7.8,SNR=11
RES LR LR 04 20 17.3
comp=N,65nm,18.2s,baz=360,slow=48
FCC Fort Churchill 23.99 91 P **P 04 13 02.2 -0.7**
FCC IAmb IAmb 04 13 10.5
comp=Z,13nm,1.4s
FFC Flin Flon 24.40 105 P **P 04 13 08.4 +1.5**
B08A Colville Reser 24.79 136 P **P 04 13 10.8 +0.3**
B08A IAmb IAmb 04 13 21.2
comp=Z,5.9nm,1.2s
LON Longmire 25.72 141 P **P 04 13 21.1 +2.1**
LON IAmb IAmb 04 13 27.6
comp=Z,4.1nm,0.7s
MXC Moxie City 26.23 139 IAmb IAmb 04 13 25.5
comp=Z,11nm,1.5s
MA2 Magadan 27.78 281 LR LR 04 25 22.0
comp=Z,62nm,19.4s,baz=61,slow=38
FRB Frobisher Bay 29.01 63 LR LR 04 26 26.6
comp=Z,110nm,21.9s,baz=302,slow=39
PETK Pepaavlovsk- 30.41 267 P **P 04 14 00.2 -0.5**
comp=Z,2.5nm,1.0s,baz=302,slow=17,SNR=2.0
PETK LR LR 04 26 52.3
comp=Z,71nm,19.2s,baz=67,slow=38
comp=Z,2.5nm,1.0s
LOHW Long Hollow 31.47 128 P **P 04 14 12.4 +2.0**
LOHW IAmb IAmb 04 14 15.9
comp=Z,2.2nm,0.7s
SPITS Spitsbergen Ar 32.01 7 P **P 04 14 14.6 0.0**
comp=Z,16nm,1.2s,baz=3.8,slow=4.3,SNR=1.6
comp=Z,16nm,1.2s
PD31 Pinedale Array 32.55 127 P **P 04 14 21.5 +1.6**
PD31 IAmb IAmb 04 14 24.7
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 32.55 127 P **P 04 14 21.4 +1.5**
PDAR Pinedale Array 32.55 127 P **P 04 14 21.6 +1.8**
comp=Z,1.8nm,0.6s,baz=8.1,slow=5.2,SNR=26
comp=Z,1.8nm,0.6s
NVAR Mina Array Bea 34.43 141 P **P 04 14 38.3 +2.1**
comp=Z,1.3nm,0.7s,baz=342,slow=8.2,SNR=6.2
comp=Z,1.3nm,0.7s
TPNV Topopah Spring 36.31 139 IAmb IAmb 04 14 59.3
comp=Z,3.9nm,0.8s
SCHQ Schefferville 36.45 73 P **P 04 14 53.5 +0.3**
comp=Z,1.7nm,0.7s,baz=270,slow=5.1,SNR=5.5
SCHQ LR LR 04 31 25.7
comp=Z,75nm,19.1s,baz=12,slow=39
comp=Z,1.7nm,0.7s
SADO Sadowa 40.70 92 LR LR 04 31 58.0
comp=Z,106nm,19.5s,baz=277,slow=36
TXAR Lajitas Array 46.77 127 P **P 04 16 18.9 +0.8**
comp=Z,0.3nm,0.6s,baz=1.3,slow=7.1,SNR=6.5
comp=Z,0.3nm,0.6s
NOA NORSAR Array B 48.56 15 P **P 04 16 32.1 +0.6**
comp=Z,0.7nm,0.8s,baz=338,slow=5.6,SNR=1.7
comp=Z,0.7nm,0.8s
FIA1 FINESS Array S 49.08 5 P **P 04 16 35.7 +0.3**
FINES FINESS Array B 49.08 5 P **P 04 16 35.7 +0.2**
FINES FINESS Array B 49.08 5 P **P 04 16 34.8 -0.6**
comp=Z,1.2nm,0.6s,baz=359,slow=7.1,SNR=6.5
comp=Z,1.2nm,0.6s
HFS Hagfors 49.67 14 P **P 04 16 40.4 +0.4**
comp=Z,2.5nm,0.5s,baz=7.6,slow=4.5,SNR=9.8
comp=Z,2.5nm,0.5s
ZALV Zalesovo Beam 51.48 325 P **P 04 16 53.8 +0.2**
comp=Z,0.7nm,0.5s,baz=23,slow=8.0,SNR=4.2
ZALV LR LR 04 42 03.9
comp=Z,46nm,18.2s,baz=352,slow=40
comp=Z,0.7nm,0.5s
MJAR Matsushiro Arr 51.59 272 P **P 04 16 54.8 +0.1**
comp=Z,1.9nm,1.0s,baz=354,slow=10,SNR=4.0
MJAR LR LR 04 41 31.7
comp=Z,57nm,18.1s,baz=29,slow=39
comp=Z,1.9nm,1.0s
SONM Songino Array 51.82 306 P **P 04 16 56.9 +0.5**
comp=Z,0.9nm,0.9s,baz=39,slow=9.7,SNR=5.4
comp=Z,0.9nm,0.9s
EKA Eskdalemuir Ar 52.37 26 P **P 04 17 00.8 +0.5**
comp=Z,1.7nm,0.6s,baz=336,slow=6.5,SNR=11
comp=Z,1.7nm,0.6s
ARTI Arti 53.12 344 P **P 04 17 07.5 +1.6**
BVAR Borovoye Array 54.92 334 P **P 04 17 20.9 +1.8**
comp=Z,1.2nm,0.7s,baz=7.1,slow=6.0,SNR=6.7
BVAR LR LR 04 44 38.3
comp=Z,103nm,18.1s,baz=328,slow=40
comp=Z,1.2nm,0.7s
KURK Kurchatov 55.76 328 P **P 04 17 26.9 +1.8**
KURK IAmb IAmb 04 17 27.3
comp=Z,3.4nm,0.9s
KURBB Kurchatov Arra 55.86 328 P **P 04 17 27.2 +1.4**
comp=Z,1.8nm,0.2s,baz=16,slow=7.3,SNR=1.9
HHC Hu-ho-hao-te 56.63 298 *eP* **P 04 17 31.6 0.0**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.3s
MKAR Makanchi Array 58.78 324 P **P 04 17 47.2 +0.7**
comp=Z,0.6nm,0.6s,baz=46,slow=7.2,SNR=9.2
MKAR LR LR 04 46 23.1
comp=Z,48nm,18.1s,baz=308,slow=39
comp=Z,0.6nm,0.6s
AKTO Aktyubinsk 59.04 343 LR LR 04 46 39.2
comp=Z,55nm,19.1s,baz=305,slow=40
AKASG Malin Array Be 59.93 4 P **P 04 17 54.0 -0.3**
comp=Z,1.4nm,0.6s,baz=356,slow=6.8,SNR=6.1
comp=Z,1.4nm,0.6s
ABKAR Abkulak array 59.99 341 P **P 04 17 56.3 +1.5**
ABKAR Abkulak array 59.99 341 P **P 04 17 56.5 +1.6**
ABKAR IAmb IAmb 04 17 57.3
comp=Z,3.1nm,1.2s
WMQ Urumqi 60.41 318 *eP* **P 04 17 59.9 +2.1**
WMQ sP sP 04 18 06.2 +3.6
WMQ pmax pmax
comp=Z,13nm,0.9s
GERES GERESS Array B 60.85 16 P **P 04 18 00.4 -0.4**
comp=Z,0.3nm,0.3s,baz=358,slow=5.5,SNR=1.7
comp=Z,0.3nm,0.3s
GTA Gaotai 61.43 307 *eP* **P 04 18 06.8 +1.9**
GTA pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 64.55 332 P **P 04 18 27.0 +1.5**
KKAR Karatay Array 64.55 332 P **P 04 18 27.4 +1.9**
KKAR IAmb IAmb 04 18 27.8
comp=Z,1.1nm,0.7s
ESDC Sonseca Array 67.39 31 P **P 04 18 45.0 +1.1**
comp=Z,0.5nm,0.5s,baz=351,slow=6.8,SNR=4.4
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 70.97 1 P **P 04 19 05.0 -1.1**
comp=Z,0.3nm,0.7s,baz=347,slow=5.9,SNR=2.2
comp=Z,0.3nm,0.7s
PZH PanZhiHua 72.93 300 P **P 04 19 18.2 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,1µm,5.1s
CMAR Chiang Mai Arr 81.34 300 P **P 04 20 06.3 +1.1**
comp=Z,0.8nm,0.3s,baz=0.7,slow=6.8,SNR=4.6
comp=Z,0.8nm,0.3s

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*SSNC **10** 04:16:50.9±1.4, 19°.73N×75°.78W, h10km±8km, MD2.8, ML2.7, MW3.0*
*OSPL **10** 04:16:50.6±2.0, 19°.92N×75°.90W, h18km±13km, ML2.9*
*JSN **10** 04:16:51.7±0.7, 19°.73N×75°.76W, h42km±13km, MD4.0*
ISC 10 04:16:50.6±1.0, 19°.81N±0°.04×75°.82W±0°.03, h24km±9km, n18, σ1°80/32, 1C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARVS	**Santiago de Cu**	**0.20**	**339**	↑*iP*	**Pb**	**04 16 56.2**	**0.0**
MARVS				*e*S	**Sb**	**04 16 59.9**	**-0.1**
MARVS				IAML		04 17 00.2	
comp=N,2µm,0.2s							
MARVS				IAML		04 17 00.4	
comp=E,1µm,0.2s							
CHIV	**Chivirico**	**0.58**	**286**	*eP*	**Pb**	**04 17 02.8**	**+0.6**
CHIV				*e*S	**Sb**	**04 17 11.3**	**+1.2**
CHIV				IAML		04 17 12.9	
comp=E,443nm,0.1s							
CHIV				IAML		04 17 13.8	
comp=N,148nm,0.1s							
PINC	**Pinares de May**	**0.67**	**3**	*eP*	**Pb**	**04 17 02.7**	**-1.0**
PINC				*e*S	**Sb**	**04 17 12.2**	**-0.5**
PINC				IAML		04 17 14.6	
comp=E,523nm,0.1s							
PINC				IAML		04 17 15.2	
comp=N,447nm,0.1s							
GTBY	**Guantanamo Bay**	**0.68**	**80**	‖*iP*	**Pb**	**04 17 03.6**	**-0.2**
GTBY	**Guantanamo Bay**	**0.68**	**80**	*iP*	**Pb**	**04 17 03.6**	**-0.2**
GTBY				*e*S	**Sb**	**04 17 13.1**	**+0.3**
GTBY				IAML		04 17 13.4	
comp=Z,766nm,0.2s							
QMBU	**Quimbuelo**	**1.03**	**68**	*eP*	**Pn**	**04 17 08.0**	**-1.5**
QMBU				*e*S	**Sb**	**04 17 21.0**	**-1.8**
QMBU				IAML		04 17 23.1	
comp=N,395nm,0.2s							
QMBU				IAML		04 17 23.4	
comp=E,473nm,0.1s							
HLGC	**Holguin**	**1.10**	**348**	*eP*	**Pb**	**04 17 12.5**	**+1.5**
HLGC				*e*S	**Sn**	**04 17 29.1**	**+4.2**
HLGC				IAML		04 17 32.5	
comp=E,167nm,0.2s							
HLGC				IAML		04 17 32.9	
comp=N,200nm,0.3s							
LMGC	**Las Mercedes**	**1.14**	**283**	*eP*	**Pn**	**04 17 10.9**	**-0.1**
LMGC				*e*S	**Sn**	**04 17 25.9**	**0.0**
LMGC				IAML		04 17 28.3	
comp=N,221nm,0.1s							
LMGC				IAML		04 17 29.6	
comp=E,225nm,0.2s							
MOAC	**Moa**	**1.17**	**44**	*eP*	**Pn**	**04 17 10.7**	**-0.7**
MOAC				*e*S	**Sn**	**04 17 23.6**	**-3.0**
MOAC				IAML		04 17 29.5	
comp=N,72nm,0.1s							
MOAC				IAML		04 17 30.5	
comp=E,69nm,0.1s							
PILO	**Pilon**	**1.49**	**274**	*eP*	**Pn**	**04 17 15.6**	**-0.3**
PILO				*e*S	**Sn**	**04 17 33.8**	**-0.9**
PILO				IAML		04 17 41.1	
comp=E,156nm,0.2s							
PILO				IAML		04 17 43.3	
comp=N,171nm,0.2s							
MASC	**Masc**	**1.54**	**76**	*eP*	**Pn**	**04 17 15.7**	**-0.8**
MASC				*e*S	**Sn**	**04 17 34.1**	**-1.7**
MASC				IAML		04 17 40.1	
comp=N,62nm,0.2s							
MASC				IAML		04 17 40.3	
comp=E,71nm,0.1s							
MASC	**Masc**	**1.54**	**76**	*i*P	**Pn**	**04 17 16.1**	**-0.4**
MASC				*e*S	**Sn**	**04 17 34.8**	**-0.9**
MASC				IAML		04 17 46.4	
comp=Z,55nm,1.9s							
STH	**Stony Hill**	**1.96**	**209**	‖*iP*	**Pn**	**04 17 22.0**	**-0.4**
MTDJ	**Mount Denham**	**2.26**	**226**	*eP*	**Pn**	**04 17 26.1**	**-0.4**
MTDJ				*e*S	**Sn**	**04 17 51.0**	**-2.8**
MTDJ				IAML		04 17 54.7	
comp=Z,4.3nm,0.1s							
MTDJ				IAML		04 17 54.8	
comp=Z,18nm,0.1s							
MTDJ	**Mount Denham**	**2.26**	**226**	*i*P	**Pn**	**04 17 26.3**	**-0.3**
MTDJ				*e*S	**Sn**	**04 17 51.4**	**-2.4**
MTDJ				IAML		04 17 56.8	
comp=Z,66nm,2.9s							
PAPH	**Port-au-Prince**	**3.57**	**110**	*eP*	**Pn**	**04 17 47.9**	**+3.5**
PAPH				*e*S	**Sn**	**04 18 30.0**	**+4.1**
PAPH				IAML		04 18 36.8	
comp=N,62nm,0.2s							
PAPH				IAML		04 18 36.8	
comp=E,40nm,0.1s							
LONE3	**El Aguacate, B**	**4.29**	**106**	*i*P	**Pn**	**04 17 56.8**	**+2.2**
LONE3				IAML		04 18 54.4	
comp=Z,25nm,2.7s							
SDDR	**Presa de Saban**	**4.36**	**100**	*i*P	**Pn**	**04 17 55.7**	**+0.3**
SDDR				IAML		04 18 55.7	
comp=Z,9.3nm,0.6s							

IDC 10 04:38:53.0±2.6, 16°.27S×178°.02W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=261.9km s-min=27.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.31**	**258**	P	P	04 47 13.0	-0.1
0.5nm,0.5s,baz=93,slow=7.1,SNR=5.4							
0.5nm,0.5s							
ASAR	**Alice Springs**	**45.61**	**253**	P	P	04 47 15.2	-0.2
1.6nm,0.6s,baz=86,slow=8.9,SNR=21							
1.6nm,0.6s							
TXAR	**Lajitas Array**	**84.81**	**58**	P	P	04 51 30.2	+0.3
0.5nm,0.8s,baz=205,slow=5.5,SNR=4.8							
0.5nm,0.8s							
PDAR	**Pinedale Array**	**85.92**	**43**	P	P	04 51 34.9	-0.4
0.2nm,0.5s,baz=258,slow=4.4,SNR=2.5							
0.2nm,0.5s							

WEL 10 04:58:47.0±1.0, 31°.S±8°.×17°.9E±1°.4, h12km, M4.7/8, mB4.7/3, ML4.7/11, MLv4.7/8, Mw(mB)3.9/3, Error ellipse: s-maj=20.5km s-min=4.2km az=116.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.45**	**54**	P	Pn	04 59 38.1	-2.4
GLKZ				S	Sn	05 00 20.7	-0.6
MXZ	**Matakaoa Point**	**6.23**	**184**	P	Pn	05 00 21.2	+2.4
MXZ				S	Sn	05 01 31.4	+1.5
HAZ	**Te Kaha**	**6.47**	**188**	P	Pn	05 00 24.1	+2.1
HAZ				S	Sn	05 01 41.1	+5.4
WMGZ	**Waiomatatini S**	**6.48**	**183**	P	Pn	05 00 24.8	+2.7
WMGZ				S	Sn	05 01 37.9	+2.0
PKGZ	**Pakihiroa**	**6.55**	**186**	P	Pn	05 00 22.2	-0.9
PKGZ				S	Sn	05 01 40.3	+2.6
RUGZ	**Raukumara Rang**	**6.69**	**188**	P	Pn	05 00 25.5	+0.4
RUGZ				S	Sn	05 01 42.5	+1.2
PUZ	**Puketiti**	**6.74**	**184**	P	Pn	05 00 26.9	+1.2
PUZ				S	Sn	05 01 43.9	+1.5
TWGZ	**Tauwhareparae**	**6.86**	**186**	P	Pn	05 00 30.4	+2.9
TWGZ				S	Sn	05 01 48.4	+2.8
URZ	**Urewera**	**7.06**	**191**	P	Pn	05 00 31.7	+1.6
URZ				S	Sn	05 01 56.2	+5.9
MWZ	**Matawai**	**7.07**	**189**	P	Pn	05 00 32.4	+2.1
MWZ				S	Sn	05 01 52.6	+2.0
RIGZ	**Rimuhau**	**7.41**	**187**	P	Pn	05 00 34.7	-0.3
RIGZ				S	Sn	05 01 57.5	-1.4
MTHZ	**Maungataniwha**	**7.68**	**192**	P	Pn	05 00 39.6	+0.8
MTHZ				S	Sn	05 02 08.0	+2.3
KNZ	**Kokohu**	**7.73**	**187**	P	Pn	05 00 38.2	-1.2
KNZ				S	Sn	05 02 04.8	-2.0
BKZ	**Black Stump Fm**	**8.05**	**193**	P	Pn	05 00 42.9	-1.0
BKZ				S	Sn	05 02 11.6	-3.2
TSZ	**Takapari Road**	**9.02**	**194**	P	Pn	05 00 54.0	-3.1
BFZ	**Birch Farm**	**9.57**	**192**	P	Pn	05 00 59.4	-5.1
BFZ				S	Sn	05 02 42.7	-9.2
MRZ	**Mangatainoka R**	**9.68**	**195**	P	Pn	05 00 59.9	-6.2
MRZ				S	Sn	05 02 48.4	-6.3

*NEIC **10** 05:08:56.5±2.4, 20°.17N±0°.03×155°.58W±0°.02, h10km±1km, Error ellipse: s-maj=5.2km s-min=2.9km az=217.0*

HVO 10 05:08:55.9±3.2, 20°.26N±0°.04×155°.64W±0°.02, h12km±5km, ML2.4/3, ML2.6/36(NEIC), Error ellipse: s-maj=5.6km s-min=1.2km az=203.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.24**	**193**	Pg	Pb	05 09 02.0	-0.2
HPAH				Sg	Sg	05 09 06.5	+2.2
MHA	**Mahukona**	**0.26**	**253**	Pg	Pb	05 09 02.4	-0.1
MHA				Sg	Sb	05 09 07.4	+0.5
POHA	**Pohakuloa**	**0.51**	**169**	Pg	Pg	05 09 05.0	-1.0
POHA					Sg	05 09 11.9	-1.0
POHA	**Pohakuloa**	**0.51**	**169**	IAML		05 09 13.2	
	124nm,2.5s						
POHA				IAML		05 09 22.4	
	102nm,2.2s						
HUH	**Hualalai**	**0.60**	**198**		Pg	05 09 06.6	-1.2
HUH				IAML		05 09 16.2	
	comp=E,285nm,2.9s						
HUH				IAML		05 09 23.7	
	comp=N,358nm,3.3s						
HMH	**Humu'ula Sheep**	**0.67**	**167**		Pg	05 09 07.4	-1.7
ALEP	**Alea Permanent**	**0.72**	**180**		Pg	05 09 08.1	-1.8
ALEP					Sg	05 09 17.2	-2.2
HLK	**Haleakala**	**0.75**	**311**		Pg	05 09 08.3	-2.2
HLK				IAML		05 09 20.8	
	comp=E,254nm,2.1s						
HLK				IAML		05 09 22.7	
	comp=N,277nm,2.4s						
MWH	**Mokuaweoweo**	**0.78**	**177**		Pg	05 09 08.3	-2.7
MWH				IAML		05 09 20.3	
	comp=N,184nm,1.5s						
MLH	**Mauna Loa**	**0.80**	**163**		Pg	05 09 09.0	-2.5
MLH				IAML		05 09 18.1	
	comp=N,304nm,3.1s						
MLH				IAML		05 09 37.6	
	comp=E,168nm,4.1s						
CPH	**Captain Cook**	**0.81**	**199**		Pg	05 09 08.7	-3.0
RSD	**Rainshed**	**0.87**	**157**		Pg	05 09 09.2	-3.5
UWE	**Uwekahuna**	**0.90**	**159**	Pg	Pg	05 09 10.0	-3.3
UWB	**Uwekahuna Bluf**	**0.90**	**158**		Pg	05 09 10.0	-3.3
OBL	**Observatory Le**	**0.91**	**158**		Pg	05 09 10.1	-3.3
HATHI	**Halema'uma'u T**	**0.91**	**157**		Pg	05 09 10.1	-3.4
HATHI				IAML		05 09 18.4	
	comp=N,208nm,1.9s						
HATHI				IAML		05 09 25.3	
	comp=E,173nm,3.0s						
WRMHI	**West Rim**	**0.91**	**159**		Pg	05 09 10.2	-3.3
PUH	**Pauahi**	**0.97**	**156**		Pg	05 09 11.0	-3.7
PUH				IAML		05 09 32.2	
	comp=E,148nm,2.3s						
KNHH	**Kane Nui o Ham**	**0.98**	**153**		Pg	05 09 11.2	-3.7
STCH	**Steam Cracks**	**1.00**	**151**		Pg	05 09 11.2	-3.9
STCH				IAML		05 09 23.6	
	comp=E,122nm,1.8s						
STCH				IAML		05 09 27.0	
	comp=N,189nm,2.8s						
HLP	**Hilina Pali**	**1.01**	**162**	Pg	Pg	05 09 11.3	-4.1
KHU	**Kahuku**	**1.01**	**179**		Pg	05 09 11.4	-4.1
JOKA	**Jonika Flow**	**1.02**	**144**		Pb	05 09 11.6	-3.9
JOKA				IAML		05 09 39.9	
	comp=E,176nm,3.4s						
HTC	**Hot Caves**	**1.05**	**167**		Pb	05 09 12.0	-4.0

WEL 10 05:12:50.7±1.4, 34°.S±22°.×18°.0W±3°.9, h12km, M3.6/6, mB4.5/1, ML3.9/9, MLv3.6/6, Mw(mB)3.7/1, Error ellipse: s-maj=57.2km s-min=11.0km az=117.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**3.99**	**209**	P	Pn	05 13 52.1	+0.4
PKGZ				S	Sn	05 14 39.1	+0.7
HAZ	**Te Kaha**	**4.02**	**212**	P	Pn	05 13 51.8	-0.3
PUZ	**Puketiti**	**4.11**	**205**	P	Pn	05 13 53.8	+0.5
PUZ				S	Sn	05 14 41.7	+0.4
RUGZ	**Raukumara Rang**	**4.24**	**212**	P	Pn	05 13 55.8	+0.6
TWGZ	**Tauwhareparae**	**4.30**	**207**	P	Pn	05 13 56.3	+0.4
TWGZ				S	Sn	05 14 47.7	+1.7
CNGZ	**Carnagh Statio**	**4.49**	**203**	P	Pn	05 13 58.4	-0.2
MWZ	**Matawai**	**4.62**	**210**	P	Pn	05 14 00.3	0.0
MWZ				S	Sn	05 14 54.7	+0.8
URZ	**Urewera**	**4.74**	**214**	P	Pn	05 14 01.6	-0.3
URZ				S	Sn	05 14 57.7	+0.9
RIGZ	**Rimuhau**	**4.85**	**206**	P	Pn	05 14 02.2	-1.3
RIGZ				S	Sn	05 15 00.2	+0.7
MUGZ	**Murupara**	**5.07**	**215**	P	Pn	05 14 06.2	-0.3
SNGZ	**Shannon Statio**	**5.07**	**209**	P	Pn	05 14 06.5	0.0

IDC 10 05:18:40.0±498.0, 18°.99N×98°.10W, h0km, Error ellipse: s-maj=365.7km s-min=190.0km az=84.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I20EC	**Galapagos**	**20.90**	**158**	I	I	07 24 10.0	
	baz=336,slow=323,SNR=3.7						
I10CA	**LAC DU BONNET**	**31.18**	**3**	I	I	08 29 10.0	
	baz=180,slow=334,SNR=2.3						
I08BO	**LAS PENAS INFR**	**45.55**	**138**	I	I	10 12 37.4	
	baz=319,slow=330,SNR=1.2						

SSNC 10 05:27:31.4±1.1, 19°.83N×75°.79W, h5km, MD2.4, ML1.6, MW2.2, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARVS	**Santiago de Cu**	**0.20**	**328**	*e*P	Pg	05 27 35.4	0.0
MARVS				*e*S	Sg	05 27 38.8	+0.9
MARVS				IAML		05 27 39.4	
	comp=E,40nm,0.3s						
MARVS				IAML		05 27 39.5	
	comp=N,248nm,0.2s						
MARVS	**Santiago de Cu**	**0.20**	**328**	*e*P	Pg	05 27 35.3	0.0
MARVS				*e*S	Sg	05 27 39.0	+1.0
MARVS				IAML		05 27 39.1	
	comp=E,111nm,0.2s						
MARVS				IAML		05 27 39.6	
	comp=N,238nm,0.2s						
CHIV	**Chivirico**	**0.60**	**284**	*e*P	Pg	05 27 42.0	-1.1
CHIV				*e*S	Sg	05 27 50.8	-0.1
CHIV				IAML		05 27 52.2	
	comp=N,24nm,0.2s						
CHIV				IAML		05 27 52.3	
	comp=E,18nm,0.2s						
CHIV	**Chivirico**	**0.60**	**284**	*e*P	Pg	05 27 41.7	-1.3
CHIV				*e*S	Sg	05 27 50.7	-0.3
CHIV				IAML		05 27 51.9	
	comp=E,36nm,0.2s						
CHIV				IAML		05 27 52.9	
	comp=N,18nm,0.2s						
GTBY	**Guantanamo Bay**	**0.65**	**81**	*e*P	Pg	05 27 42.8	-1.1
GTBY				*e*S	Sg	05 27 52.1	-0.1
GTBY				IAML		05 27 52.4	
	comp=N,38nm,0.2s						
GTBY				IAML		05 27 52.4	
	comp=N,77nm,0.2s						
PINC	**Pinares de May**	**0.65**	**360**	*e*P	Pg	05 27 42.2	-1.8
PINC				*e*S	Sg	05 27 52.0	-0.4
PINC				IAML		05 27 52.8	
	comp=N,29nm,0.1s						
PINC				IAML		05 27 52.9	
	comp=E,18nm,0.1s						
PINC	**Pinares de May**	**0.65**	**360**	*e*P	Pg	05 27 42.7	-1.3
PINC				*e*S	Sg	05 27 52.3	-0.2
PINC				IAML		05 27 53.9	
	comp=E,27nm,0.1s						
PINC				IAML		05 27 54.4	
	comp=N,34nm,0.1s						
QMBU	**Quimbuelo**	**0.99**	**68**	*e*P	Pg	05 27 47.8	-2.6
QMBU				*e*S	Sg	05 28 01.0	-2.3
QMBU				IAML		05 28 02.6	
	comp=N,20nm,0.2s						
QMBU				IAML		05 28 02.7	
	comp=E,31nm,0.2s						
QMBU	**Quimbuelo**	**0.99**	**68**	*e*P	Pg	05 27 47.9	-2.5
QMBU				*e*S	Sg	05 28 00.5	-2.8
QMBU				IAML		05 28 02.0	
	comp=N,32nm,0.1s						
QMBU				IAML		05 28 02.1	
	comp=E,30nm,0.2s						
LMGC	**Las Mercedes**	**1.17**	**282**	*e*P	Pg	05 27 50.2	-3.6
LMGC				*e*S	Sg	05 28 04.6	-4.3
LMGC				IAML		05 28 05.8	
	comp=N,16nm,0.1s						
LMGC				IAML		05 28 06.2	
	comp=E,18nm,0.1s						
MASC	**Masc**	**1.51**	**77**	*e*P	Pn	05 27 55.2	-3.9
MASC				*e*S	Sn	05 28 13.0	-6.1
PILO	**Pilon**	**1.52**	**273**	*e*P	Pn	05 27 54.6	-4.8
PILO				*e*S	Sn	05 28 12.5	-7.1

*IDC **10** 05:57:32.5±1.6, 24°.17S×67°.03W, h159km±16km, mb3.2/3, mbtmp3.7/8, Error ellipse: s-maj=26.4km s-min=12.1km az=98.0*

*SJA **10** 05:57:34.3±0.8, 24°.13S×67°.04W, h198km±4km, ML3.7, MW3.7*

*GUC **10** 05:57:35.2±0.8, 24°.13S×67°.32W, h228km±8km, ML4.0*

ISC 10 05:57:34.8±0.7, 24°.14S±0°.04×67°.06W±0°.04, h190km±6km, n38, σ1°89/65, mb3.6/4, 9C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.66**	**98**	*e*P	**Pn**	**05 58 02.4**	**+0.3**
SALTA				*e*S	**Sn**	**05 58 23.9**	**+0.9**
SLA	**San Lorenzo**	**1.53**	**113**	*e*P	**Pn**	**05 58 08.8**	**+0.7**
SLA				*e*S	**Sn**	**05 58 34.5**	**+0.6**
AF01	**San Pedro de A**	**1.57**	**319**	⇑*i*P	**Pn**	**05 58 10.1**	**+1.5**
AF01				*i* S	**Sn**	**05 58 37.8**	**+3.0**
AF01				IAML		05 58 40.0	
	comp=N,361nm,0.8s						
AF01	**San Pedro de A**	**1.57**	**319**	*e*P	**Pn**	**05 58 09.9**	**+1.3**
AF01				*e*S	**Sn**	**05 58 37.8**	**+3.0**
FSA	**Cafayete**	**2.19**	**154**	*e*P	**Pn**	**05 58 15.0**	**+0.2**
FSA				*e*S	**Sn**	**05 58 44.1**	**-2.0**
YJA	**Yavi**	**2.42**	**36**	*e*P	**Pn**	**05 58 18.4**	**+0.8**
YJA				*e*S	**Sn**	**05 58 51.6**	**+0.8**
GO02	**Mina Guanaco**	**2.52**	**246**	⇑*i*P	**Pn**	**05 58 19.5**	**+0.9**
GO02				*i* S	**Sn**	**05 58 53.5**	**+0.7**
GO02				IAML		05 58 54.9	
	comp=N,786nm,0.2s						
GO02	**Mina Guanaco**	**2.52**	**246**	*e*P	**Pn**	**05 58 19.6**	**+0.9**
GO02				*e*S	**Sn**	**05 58 53.4**	**+0.6**
PB06	**IPOC Station P**	**2.72**	**301**	⇑*i*P	**Pn**	**05 58 21.7**	**+0.9**
PB06				*i* S	**Sn**	**05 58 55.7**	**-0.8**
PB06				IAML		05 58 59.6	
	comp=N,358nm,0.4s						
PB06	**IPOC Station P**	**2.72**	**301**	*e*P	**Pn**	**05 58 21.7**	**+0.9**
PB06				*e*S	**Sn**	**05 58 56.4**	**-0.1**
PB06				IAML		05 58 59.5	
	comp=Z,178nm,0.1s						
PB09	**IPOC Station P**	**3.08**	**319**	⇑*i*P	**Pn**	**05 58 26.2**	**+1.1**
PB09				*i* S	**Sn**	**05 59 04.5**	**+0.2**
PB09				IAML		05 59 06.0	
	comp=N,215nm,0.6s						
PB09	**IPOC Station P**	**3.08**	**319**	*e*P	**Pn**	**05 58 25.7**	**+0.6**
PB09				*e*S	**Sn**	**05 59 04.9**	**+0.6**
PB09				IAML		05 59 07.2	
	comp=Z,173nm,0.7s						
PB14	**IPOC Station P**	**3.09**	**260**	⇑*i*P	**Pn**	**05 58 25.6**	**+0.3**
PB14				*e*S	**Sn**	**05 59 02.9**	**-1.8**
PB14				IAML		05 59 04.3	
	comp=E,132nm,0.5s						
PB14	**IPOC Station P**	**3.09**	**260**	*e*P	**Pn**	**05 58 25.8**	**+0.5**
PB14				*e*S	**Sn**	**05 59 03.8**	**-0.9**
PB14				IAML		05 59 06.3	
	comp=Z,109nm,0.3s						
PB03	**IPOC Station P**	**3.24**	**309**	⇑*i*P	**Pn**	**05 58 27.4**	**+0.4**
PB03				*i* S	**Sn**	**05 59 06.1**	**-1.7**
PB03	**IPOC Station P**	**3.24**	**309**	*e*P	**Pn**	**05 58 27.4**	**+0.4**
PB03				*e*S	**Sn**	**05 59 06.7**	**-1.1**
PB03				IAML		05 59 07.8	
	comp=Z,305nm,0.3s						
AC02	**Maricunga**	**3.27**	**214**	⇑*i*P	**Pn**	**05 58 28.5**	**+0.8**
AC02	**Maricunga**	**3.27**	**214**	*e*P	**Pn**	**05 58 29.0**	**+1.3**
AC02				*e*S	**Sn**	**05 59 11.2**	**+2.1**
AC02				IAML		05 59 15.0	
	comp=Z,325nm,1.3s						
AC01	**Pan de Azucar**	**3.78**	**237**	⇑*i*P	**Pn**	**05 58 32.8**	**-0.7**
AC01				*i* S	**Sn**	**05 59 17.1**	**-2.5**
AC01	**Pan de Azucar**	**3.78**	**237**	*e*P	**Pn**	**05 58 32.9**	**-0.6**
AC01				*e*S	**Sn**	**05 59 17.1**	**-2.5**
AC01				IAML		05 59 18.1	
	comp=Z,75nm,0.4s						
PB01	**IPOC Station P**	**3.81**	**323**	⇑*i*P	**Pn**	**05 58 33.9**	**-0.1**
PB01				*i* S	**Sn**	**05 59 17.9**	**-2.5**
PB01	**IPOC Station P**	**3.81**	**323**	*e*P	**Pn**	**05 58 30.9**	**-3.1**
PB01				*e*S	**Sn**	**05 59 21.6**	**+1.2**
PB01				IAML		05 59 22.6	
	comp=Z,88nm,0.1s						
PB08	**IPOC Station P**	**4.43**	**334**	*e*P	**Pn**	**05 58 42.9**	**+0.8**
PB08				*e*S	**Sn**	**05 59 34.8**	**0.0**
PB08				IAML		05 59 38.3	
	comp=Z,62nm,0.4s						
CYA	**Choya**	**4.43**	**166**	*e*P	**Pn**	**05 58 42.4**	**+0.7**
CYA				*e*S	**Sn**	**05 59 34.0**	**-0.3**
TA01	**Diego Aracena**	**4.58**	**320**	*e*P	**Pn**	**05 58 42.1**	**-1.5**
TA01				*e*S	**Sn**	**05 59 35.4**	**-2.3**
TA01				IAML		05 59 39.4	
	comp=Z,35nm,0.8s						
VCA	**Vinchina**	**4.69**	**192**	*e*P	**Pn**	**05 58 47.4**	**+2.3**
VCA				*e*S	**Sn**	**05 59 39.0**	**-1.6**
VCA				IAML		06 00 04.7	
	comp=Z,21nm,4.5s						
CFA	**Coronel Fontan**	**7.51**	**188**	P	**Pn**	**05 59 20.4**	**-1.3**
	comp=Z,0.7nm,0.2s,baz=335,slow=9.5,SNR=21						
CFA				S	**Sn**	**06 00 40.4**	**-6.0**
	comp=Z,1.9nm,0.3s,baz=133,slow=19,SNR=8.8						
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**05 59 27.1**	**0.0**
	comp=Z,1.6nm,0.3s,baz=160,slow=3.6,SNR=33						
LPAZ				S	**Sn**	**06 00 52.9**	**-3.2**
	comp=Z,1.3nm,0.5s,baz=163,slow=19,SNR=4.1						
CPUP	**Villa Florida**	**9.07**	**106**	P	**Pn**	05 59 48.3	+6.2
	comp=Z,1.7nm,0.8s,baz=273,slow=12,SNR=6.0						
SIV	**San Ignacio**	**9.86**	**36**	P	**Pn**	**05 59 51.1**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=232,slow=10,SNR=21						
SIV				S	**Sn**	**06 01 35.3**	**-7.4**
	comp=Z,0.7nm,0.6s,baz=148,slow=3.5,SNR=3.3						
PLCA	**Paso Flores**	**16.80**	**189**	P	**P**	**06 01 17.5**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=11,slow=12,SNR=7.3						
BDFB	**Brasília**	**19.79**	**68**	P	**P**	**06 01 49.9**	**-0.9**
	comp=Z,10nm,0.7s,baz=246,slow=9.9,SNR=23						
TXAR	**Lajitas Array**	**63.76**	**325**	P	**P**	**06 07 47.8**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=155,slow=5.4,SNR=1.9						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**06 08 02.4**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=210,slow=8.1,SNR=26						
	comp=Z,1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**06 09 07.4**	**+2.2**
	comp=Z,8.4nm,0.4s,baz=274,slow=4.2,SNR=2.1						
YKA	**Yellowknife Ar**	**94.24**	**340**	P	**P**	**06 10 32.4**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=138,slow=4.8,SNR=2.6						
	comp=Z,0.1nm,0.5s						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	**PKiKP**	**06 16 26.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=150,slow=2.0,SNR=1.8						
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc	**PKPab**	**06 16 53.8**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=285,slow=3.7,SNR=4.5						

*NEIC **10** 06:16:35.9±2.0, 17°.57N±0°.04×96°.86W±0°.04, h70km±4km, mb4.3/105, Md4.6/120(MEX), Error ellipse: s-maj=5.9km s-min=4.6km az=219.0*

*MEX **10** 06:16:36.7±0.9, 17°.61N×96°.84W, h77km±4km, MD4.6*

*IDC **10** 06:16:37.9±1.9, 17°.72N×96°.53W, h83km±15km, mb3.7/14, mbtmp4.0/18, MS3.3/2, Error ellipse: s-maj=26.7km s-min=11.3km az=51.0*

*GCG **10** 06:16:38.5±2.8, 17°.89N×96°.52W, h50km±348km, MD5.2*

ISC 10 06:16:36.0±0.6, 17°.60N±0°.02×96°.83W±0°.02, h78km±5km, n219, σ2°56/275, mb4.2/27, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXIG	**Oaxaca**	**0.54**	**170**		**Pn**	**06 16 49.6**	**-0.6**
OXIG					**Sn**	**06 16 59.4**	**-1.2**
VHO	**Vista Hermosa**	**0.54**	**170**	*e*P	**Pn**	**06 16 49.6**	**-0.6**
VHO				*e*S	**Sn**	**06 16 59.4**	**-1.2**
TOIG	**Toxpalan**	**0.54**	**336**		**Pn**	**06 16 49.3**	**-0.8**
TOIG					**Sn**	**06 16 58.7**	**-1.8**
TOIG	**Toxpalan**	**0.54**	**336**	*e*P	**Pn**	**06 16 49.3**	**-0.8**
TOIG				*e*S	**Sn**	**06 16 58.7**	**-1.8**
OXBJ	**Oaxaca**	**0.54**	**169**		**Pn**	**06 16 48.8**	**-1.4**
OXBJ					**Sn**	**06 16 58.7**	**-1.9**
OXBJ	**Oaxaca**	**0.54**	**169**	*e*P	**Pn**	**06 16 48.8**	**-1.4**
OXBJ				*i* S	**Sn**	**06 16 58.7**	**-1.9**
OXLC	**Oaxaca**	**0.55**	**167**	*e*P	**Pn**	**06 16 49.0**	**-1.3**
OXLC				*i* S	**Sn**	**06 16 59.1**	**-1.6**
HLIG	**Huajuapan de L**	**0.95**	**284**		**Pn**	**06 16 54.1**	**-0.5**
HLIG					**Sn**	**06 17 06.3**	**-2.2**
HLIG	**Huajuapan de L**	**0.95**	**284**	*e*P	**Pn**	**06 16 54.1**	**-0.5**
HLIG				*e*S	**Sn**	**06 17 06.3**	**-2.2**
TPIG	**Tehuac#an**	**0.96**	**328**		**Pn**	**06 16 54.5**	**-0.1**
TPIG					**Sn**	**06 17 07.2**	**-1.3**
TPIG	**Tehuac#an**	**0.96**	**328**	*e*P	**Pn**	**06 16 54.5**	**-0.1**
TPIG				*e*S	**Sn**	**06 17 07.2**	**-1.3**
TXIG	**Tlaxiaco**	**0.96**	**249**		**Pn**	**06 16 54.1**	**-0.6**
TXIG					**Sn**	**06 17 07.5**	**-1.1**
TXIG	**Tlaxiaco**	**0.96**	**249**	*e*P	**Pn**	**06 16 54.1**	**-0.6**
TXIG				*e*S	**Sn**	**06 17 07.5**	**-1.1**
NEUV	**Arroyo Zacate**	**0.99**	**83**	*e*P	**Pn**	**06 16 54.5**	**-0.3**
NEUV				*e*S	**Sn**	**06 17 08.2**	**-0.7**
YOIG	**Yosondua**	**1.01**	**223**		**Pn**	**06 16 54.7**	**-0.6**
YOIG					**Sn**	**06 17 08.5**	**-1.2**
YOIG	**Yosondua**	**1.01**	**223**	*e*P	**Pn**	**06 16 54.7**	**-0.6**
YOIG				*e*S	**Sn**	**06 17 08.5**	**-1.2**
FTIG	**Fresnillo de T**	**1.28**	**284**		**Pn**	**06 16 58.4**	**-0.1**
FTIG					**Sn**	**06 17 14.2**	**-1.2**
FTIG	**Fresnillo de T**	**1.28**	**284**	*e*P	**Pn**	**06 16 58.4**	**-0.1**
FTIG				*e*S	**Sn**	**06 17 14.2**	**-1.2**
PEIG	**Puerto Escondi**	**1.62**	**191**		**Pn**	**06 17 01.5**	**-1.5**
PEIG					**Sn**	**06 17 19.8**	**-3.5**
PEIG	**Puerto Escondi**	**1.62**	**191**	*e*P	**Pn**	**06 17 01.5**	**-1.5**
PEIG				*e*S	**Sn**	**06 17 19.8**	**-3.5**
TLIG	**Tlapa**	**1.65**	**269**	Pn	**Pn**	**06 17 03.1**	**-0.4**
TLIG				Sn	**Sn**	**06 17 22.8**	**-1.4**
TLIG	**Tlapa**	**1.65**	**269**	*e*P	**Pn**	**06 17 03.2**	**-0.3**
TLIG				*e*S	**Sn**	**06 17 22.2**	**-2.0**
PNIG	**Pinotepa**	**1.73**	**226**		**Pn**	**06 17 02.2**	**-2.1**
PNIG					**Sn**	**06 17 21.4**	**-4.3**
PNIG	**Pinotepa**	**1.73**	**226**	*e*P	**Pn**	**06 17 02.2**	**-2.1**
PNIG				*e*S	**Sn**	**06 17 21.4**	**-4.3**
JAUV	**Jalcomulco**	**1.75**	**1**	*i* P	**Pn**	**06 17 03.5**	**-1.2**
JAUV				*e*S	**Sn**	**06 17 20.5**	**-5.9**
MGIG	**Malinaltepec**	**1.76**	**258**		**Pn**	**06 17 04.1**	**-0.7**
MGIG					**Sn**	**06 17 26.1**	**-0.6**
MGIG	**Malinaltepec**	**1.76**	**258**	*e*P	**Pn**	**06 17 04.1**	**-0.7**
MGIG				*e*S	**Sn**	**06 17 26.1**	**-0.6**
PMUV	**Sontecomapan**	**1.88**	**60**	*i* P	**Pn**	**06 17 05.1**	**-1.2**
PMUV				*e*S	**Sn**	**06 17 26.5**	**-2.9**
CMIG	**Matias Romero**	**1.93**	**105**		**Pn**	**06 17 06.8**	**-0.1**
CMIG					**Sn**	**06 17 29.1**	**-1.4**
CMIG	**Matias Romero**	**1.93**	**105**	P	**Pn**	**06 17 06.5**	**-0.5**
	234nm,0.3s,baz=291,slow=12,SNR=2648						
CMIG				S	**Sn**	**06 17 27.0**	**-3.4**
	2μm,0.5s,baz=301,slow=12,SNR=17						
CMIG				LR	LR	06 18 01.8	
	comp=Z,135nm,21.8s,baz=256,slow=50						
CMIG	**Matias Romero**	**1.93**	**105**	*e*P	**Pn**	**06 17 06.8**	**-0.1**
CMIG				*e*S	**Sn**	**06 17 29.1**	**-1.4**
HUIG	**Huatulco**	**1.95**	**159**		**Pn**	**06 17 07.1**	**-0.2**
HUIG					**Sn**	**06 17 24.5**	**-6.5**
HUIG	**Huatulco**	**1.95**	**159**	*e*P	**Pn**	**06 17 07.1**	**-0.2**
HUIG				*e*S	**Sn**	**06 17 24.5**	**-6.5**
HUIG	**Huatulco**	**1.95**	**159**	*i* P	**Pn**	**06 17 07.1**	**-0.2**
HUIG	**Huatulco**	**1.95**	**159**	*i* P		06 17 07.1	
PANG	**Puerto Angel**	**1.96**	**170**		**Pn**	**06 17 04.9**	**-2.4**
PANG					**Sn**	**06 17 24.5**	**-6.6**
PANG	**Puerto Angel**	**1.96**	**

DEIG			*e*S		Sn	06 18 00.9	-5.4
ARIG	**Puente Sto Nin**	**3.41 282**			Pn	06 17 27.6	+0.6
ARIG					Sn	06 18 00.8	-5.6
ARIG	**Puente Sto Nin**	**3.41 282**	*i* P		Pn	06 17 27.6	+0.6
ARIG			*e*S		Sn	06 18 00.8	-5.6
TGIG		**3.64 102**			Pn	06 17 30.0	-0.1
TGIG					Sn	06 18 08.5	-3.5
TGIG		**3.64 102**	*e*P		Pn	06 17 30.0	-0.1
TGIG			*e*S		Sn	06 18 08.5	-3.5
TGIG		**3.64 102**	*i* P		Pn	06 17 30.1	-0.1
TGIG			*e*S		Sn	06 18 09.2	-2.8
TGIG		**3.64 102**	*i* P			06 17 30.1	
TGIG			*e*S			06 18 09.2	
TGBT	**Tuxtla Gutierr**	**3.67 102**			Pn	06 17 26.9	-3.6
TGBT					Sn	06 18 09.9	-2.8
TGBT	**Tuxtla Gutierr**	**3.67 102**	*i* P		Pn	06 17 26.9	-3.6
TGBT			*e*S		Sn	06 18 09.9	-2.8
VHSA	**Villahermosa**	**3.73 84**	*i* P		Pn	06 17 27.1	-4.2
VHSA			*i* S		Sn	06 18 10.3	-3.7
PCIG		**3.94 118**			Pn	06 17 34.5	+0.3
PCIG					Sn	06 18 18.1	-1.3
PCIG		**3.94 118**	*e*P		Pn	06 17 34.5	+0.3
PCIG			*e*S		Sn	06 18 18.1	-1.3
CTUV	**Llano Grande**	**4.11 340**	*e*P		Pn	06 17 36.4	-0.1
CTUV			*i* S		Sn	06 18 18.7	-4.6
ZIIG	**Zihuatanejo**	**4.42 271**			Pn	06 17 39.9	-0.7
ZIIG					Sn	06 18 24.5	-6.4
ZIIG	**Zihuatanejo**	**4.42 271**	*e*P		Pn	06 17 39.9	-0.7
ZIIG			*e*S		Sn	06 18 24.5	-6.4
MOIG	**Morelia**	**4.62 297**			Pn	06 17 45.1	+1.5
CCIG	**Comitan**	**4.68 106**			Pn	06 17 44.8	+0.3
CCIG	**Comitan**	**4.68 106**	*i* P		Pn	06 17 44.5	+0.1
CCIG			*e*S		Sn	06 18 35.7	-1.9
CCIG	**Comitan**	**4.68 106**	*e*P		Pn	06 17 44.6	+0.1
CCIG			*i* S		Sn	06 18 37.0	-0.6
CCIG	**Comitan**	**4.68 106**	*e*P			06 17 44.6	
CCIG			*i* S			06 18 37.0	
RPIG	**Rio Verde**	**5.19 326**			Pn	06 17 54.8	+3.4
RPIG					Sn	06 18 56.6	+6.7
RPIG	**Rio Verde**	**5.19 326**	*e*P		Pn	06 17 54.8	+3.4
RPIG			*e*S		Sn	06 18 56.6	+6.7
SCIG	**Sabancuy**	**5.53 75**	*e*P		Pn	06 17 54.0	-1.9
SCIG			*e*S		Sn	06 18 48.2	-10
SCIG	**Sabancuy**	**5.53 75**	*e*P		Pn	06 17 53.8	-2.1
SCIG	**Sabancuy**	**5.53 75**	*e*P			06 17 53.8	
HUEH	**Huehuetenango**	**5.60 113**			Pn	06 17 57.5	+0.5
HUEH	**Huehuetenango**	**5.60 113**	*i* P		Pn	06 17 57.5	+0.5
HUEH			*e*S		Sn	06 18 57.4	-2.6
STG8	**El Palmar, Qui**	**6.13 120**	*i* P			06 18 01.8	
MMIG	**Aquila**	**6.24 277**			Pn	06 18 05.3	-0.2
MMIG					Sn	06 19 06.0	-9.4
MMIG	**Aquila**	**6.24 277**	*i* P		Pn	06 18 05.3	-0.2
MMIG			*e*S		Sn	06 19 06.0	-9.4
APG	**El Apazote**	**6.64 112**	P		Pn	06 18 10.9	-0.3
	1.0nm,0.3s,baz=216,slow=17,SNR=33						
APG			S		Sn	06 19 20.2	-5.3
	6.8nm,0.3s,baz=160,slow=12,SNR=13						
APG	**El Apazote**	**6.64 112**	*i* P		Pn	06 18 10.7	-0.5
APG			*i* S		Sn	06 19 22.9	-2.7
APG	**El Apazote**	**6.64 112**	*i* P			06 18 10.7	
APG			*i* S			06 19 22.9	
EZ5V		**6.69 287**			Pn	06 18 14.5	+2.6
EZ5V		**6.69 287**	*e*P		Pn	06 18 14.5	+2.6
EZ5V			*e*S		Sn	06 19 26.7	-0.1
PETF	**Flores**	**6.69 95**			Pn	06 18 10.9	-0.8
PETF	**Flores**	**6.69 95**	*e*P		Pn	06 18 10.3	-1.4
PETF			*e*S		Sn	06 19 20.4	-6.1
PETF	**Flores**	**6.69 95**	*i* P		Pn	06 18 10.4	-1.4
PETF			*e*S		Sn	06 19 20.1	-6.4
PETF	**Flores**	**6.69 95**	*i* P			06 18 10.4	
PETF			*e*S			06 19 20.1	
INCO	**Volcan de Coli**	**6.70 288**	*e*P		Pn	06 18 14.2	+2.0
INCO			*e*S		Sn	06 19 28.6	+1.3
MNGA	**Volcan de Coli**	**6.70 287**	*e*P		Pn	06 18 14.6	+2.5
MNGA			*e*S		Sn	06 19 27.8	+0.6
SOMAC	**Volcano de Col**	**6.72 288**	*e*P		Pn	06 18 15.0	+2.5
SOMAC			*e*S		Sn	06 19 25.3	-2.6
CEGR	**Campo Tres**	**6.90 286**	*e*P		Pn	06 18 17.1	+2.4
CEGR			*e*S		Sn	06 19 28.9	-2.9
CDAR	**Ciudad de Arme**	**6.95 282**	*e*P		Pn	06 18 16.1	+0.9
CDAR			*e*S		Sn	06 19 29.6	-3.2
ZAIG	**Zacatecas**	**7.44 315**	Pn		Pn	06 18 24.2	+2.0
LNIG	**Linares**	**7.66 342**	*e*P		Pn	06 18 25.9	+1.0
LNIG			*e*S		Sn	06 19 42.8	-7.4
ESQI	**Esquipulas**	**7.81 112**	Pn		Pn	06 18 25.3	-1.8
MTO3	**Montecristo**	**7.86 113**			Pn	06 18 25.8	-2.0
TEIG	**Tepich**	**8.51 71**	Pn		Pn	06 18 33.7	-2.8
HBVL	**Hebbronville**	**9.57 350**	Pn		Pn	06 18 51.8	+0.8
833A	**Chaparral WMA,**	**10.93 348**			Pn	06 19 10.9	+1.4
HNDO	**Hondo**	**12.08 350**			Pn	06 19 26.6	+1.4
DRIO	**Del Rio**	**12.27 344**	Pn		Pn	06 19 28.8	+1.0
JCT	**Junction City**	**13.10 349**			Pn	06 19 39.2	+0.1
435B	**Jarrell**	**13.14 357**			Pn	06 19 39.7	+0.2
TXAR	**Lajitas Array**	**13.25 333**	P		Pn	06 19 43.5	+2.5
	0.6nm,0.8s,baz=156,slow=12,SNR=20						
TX31	**Lajitas Ar. Si**	**13.25 333**	Pn		Pn	06 19 42.1	+1.0
JTS	**Las Juntas de**	**13.62 121**	P		Pn	06 19 46.8	+0.8
	3.5nm,0.3s,baz=304,slow=13,SNR=7.0						
BRDY	**Brady**	**13.77 352**	Pn		Pn	06 19 47.7	0.0
OZNA	**Ozona**	**13.82 344**	P		P	06 19 54.4	0.0
SOR	**Soroa**	**13.96 66**	Pn		Pn	06 19 48.6	-1.8
ALPN	**Alpine**	**14.15 335**			P	06 19 59.4	+1.4
LPIG	**La Paz**	**14.15 299**	P		Pn	06 19 53.2	+0.3
	39nm,0.4s,baz=114,slow=17,SNR=5.8						
NATX	**Nacogdoches**	**14.23 8**	Pn		Pn	06 19 54.4	+0.6
FW13	**Cleburne**	**14.70 358**			Pn	06 19 59.4	-0.4
MNHN	**Monahans**	**14.70 340**			Pn	06 20 01.1	+1.1
SGCY	**Sterling City**	**14.77 346**	Pn		Pn	06 20 02.0	+1.1
TREL	**Terrell**	**15.08 2**	P		Pn	06 20 04.3	-0.4
TREL			IAmb		IAmb	06 20 08.9	
	comp=Z,19nm,0.7s						
PECS	**Pecos**	**15.12 336**	IAmb		IAmb	06 20 12.2	
	comp=Z,18nm,1.0s						
PLPT	**Palo Pinto**	**15.21 355**	IAmb		IAmb	06 20 31.5	
	comp=Z,12nm,0.7s						
346A	**Big Creek Wild**	**15.27 25**			Pn	06 20 05.9	-1.3
FW06	**Azle**	**15.32 358**	IAmb		IAmb	06 20 20.1	
	comp=Z,16nm,0.7s						
ODSA	**Odessa**	**15.35 341**	IAmb		IAmb	06 20 14.2	
	comp=Z,27nm,0.9s						
FW03	**Perrin-Whitt E**	**15.41 356**	IAmb		IAmb	06 20 16.6	
	comp=Z,22nm,0.7s						
Z38A	**Mt. Pleasant**	**15.68 6**	IAmb		IAmb	06 20 15.8	
	comp=Z,18nm,0.5s						
143A	**Socs Landing,**	**15.81 17**			Pn	06 20 13.5	-0.6
143A			IAmb		IAmb	06 20 17.8	
	comp=Z,35nm,1.1s						
LOOK	**Love County**	**16.33 359**	IAmb		IAmb	06 20 25.7	
	comp=Z,24nm,0.7s						
DKNS	**Dickens**	**16.41 348**			Pn	06 20 21.9	+0.2
DKNS			IAmb		IAmb	06 20 27.3	
	comp=Z,19nm,0.6s						
146A	**Union**	**16.53 24**	IAmb		IAmb	06 20 49.7	
	comp=Z,18nm,0.6s						
X34A	**Smith Ranch, M**	**16.95 357**	P		Pn	06 20 28.6	+0.4
MIAR	**Mount Ida**	**17.12 9**	P		Pn	06 20 29.3	-1.0
MSTX	**Muleshoe**	**17.15 343**	P		Pn	06 20 31.7	+1.0
250A	**Grady**	**17.21 32**	P		Pn	06 20 30.9	-0.5
Z47A	**Carrollton**	**17.42 25**	P		Pn	06 20 33.3	-0.6
Z47A			IAmb		IAmb	06 20 53.9	
	comp=Z,19nm,0.7s						
Y45A	**Yeager Farm, C**	**17.46 21**	IAmb		IAmb	06 20 40.7	
	comp=Z,21nm,0.7s						
W35A	**Tecumseh**	**17.48 360**	P		Pn	06 20 34.2	-0.5
W35A			IAmb		IAmb	06 21 00.9	
	comp=Z,15nm,0.8s						
UALR	**University of**	**17.57 12**	P		Pn	06 20 35.9	+0.1
UALR			IAmb		IAmb	06 21 01.0	
	comp=Z,12nm,0.6s						
SMWD	**Samnorwood**	**17.70 351**	P		Pn	06 20 37.5	+0.2
LRAL	**Lakeview Retre**	**17.74 28**	P		Pn	06 20 37.4	-0.5
LRAL			IAmb		IAmb	06 20 56.0	
	comp=Z,16nm,1.1s						
OK029	**Liberty Lake**	**18.13 358**	IAmb		IAmb	06 21 01.4	
	comp=Z,9.5nm,0.6s						
DEOK	**Depew**	**18.17 1**	P		P	06 20 41.8	-0.6
DEOK			IAmb		IAmb	06 20 49.6	
	comp=Z,12nm,0.9s						
TUL3	**Leonard**	**18.26 3**	P		P	06 20 43.2	-0.1
TUL3			IAmb		IAmb	06 21 08.8	
	comp=Z,12nm,0.6s						
OK031	**S. Brethren Rd**	**18.28 360**	IAmb		IAmb	06 21 12.8	
	comp=Z,14nm,0.9s						
OK052	**Battle Ridge R**	**18.32 0**	IAmb		IAmb	06 21 11.3	
	comp=Z,14nm,0.7s						
OK048	**Pawnee Station**	**18.74 360**	IAmb		IAmb	06 21 18.4	
	comp=Z,16nm,0.8s						
OK051	**E0350 and S346**	**18.83 360**	IAmb		IAmb	06 21 17.0	
	comp=Z,21nm,1.1s						
CROK	**Carrier**	**18.86 357**	P		**P**	**06 20 50.2**	**+0.3**
CROK			IAmb		IAmb	06 20 52.9	
	comp=Z,16nm,0.8s						
PLAL	**Pickwick Lake**	**18.99 23**	P		**P**	**06 20 51.1**	**-0.3**
PLAL			IAmb		IAmb	06 21 17.5	
	comp=Z,15nm,0.7s						
T35A	**Sooner Cattle**	**19.24 1**	P		**P**	**06 20 54.2**	**0.0**
ANMO	**Albuquerque**	**19.29 335**	P		**P**	**06 20 55.9**	**+1.0**
ANMO	**Albuquerque**	**19.29 335**	P		**P**	**06 20 56.2**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=303,slow=12,SNR=14						
ANMO			LR		LR	06 28 49.6	
	comp=Z,45nm,21.5s,baz=112,slow=38						
TUC	**Tucson**	**19.32 322**	P		**P**	**06 20 56.8**	**+1.7**
RTBA	**Rita Blanca**	**19.48 346**	P		**P**	**06 20 57.5**	**+0.6**
RTBA			IAmb		IAmb	06 20 59.1	
	comp=Z,11nm,0.8s						
GOGA	**Godfrey**	**19.80 35**	P		**P**	**06 20 59.1**	**-1.1**
GOGA			IAmb		IAmb	06 21 28.2	
	comp=Z,9.7nm,0.8s						
MGMO	**Mountain Grove**	**19.89 11**	P		**P**	**06 21 01.5**	**+0.4**
MGMO			IAmb		IAmb	06 21 05.4	
	comp=Z,15nm,0.9s						
PBMO	**Poplar Bluff**	**19.92 15**	IAmb		IAmb	06 21 02.5	
	comp=Z,21nm,0.9s						
T42A	**Van Buren**	**20.00 14**	P		**P**	**06 21 02.9**	**+0.5**
T42A			IAmb		IAmb	06 21 03.5	
	comp=Z,16nm,1.0s						
WVT	**Waverly**	**20.11 22**	P		**P**	**06 21 03.1**	**-0.4**
V48A	**Smith Brothers**	**20.14 24**	P		**P**	**06 21 03.5**	**-0.3**
V48A			IAmb		IAmb	06 21 04.4	
	comp=Z,9.1nm,0.7s						
PIX	**Pinacate**	**20.50 316**	P		**P**	**06 21 09.6**	**+1.8**
T45A	**Paducah**	**20.65 19**	P		**P**	**06 21 09.3**	**-0.1**
CPCT	**Cooper Cave**	**20.88 29**	IAmb		IAmb	06 21 11.6	
	comp=Z,9.5nm,1.0s						
CCM	**Cathedral Cave**	**20.96 12**	P		**P**	**06 21 12.7**	**0.0**
CCM			IAmb		IAmb	06 21 31.9	
	comp=Z,15nm,1.1s						
R40A	**Maddies Statio**	**21.00 10**	IAmb		IAmb	06 21 41.6	
	comp=Z,20nm,1.2s						
HODGE	**Hodges**	**21.08 35**	P		**P**	**06 21 12.2**	**-1.8**
U49A	**Red Boiling Sp**	**21.22 25**	IAmb		IAmb	06 21 15.7	
	comp=Z,9.3nm,0.4s						
X16A	**Lo Mia Camp, P**	**21.24 325**	P		**P**	**06 21 17.2**	**+1.3**
TKL	**Tuckaleechee C**	**21.40 30**	IAmb		IAmb	06 21 37.1	
	comp=Z,8.6nm,0.9s						
TKL	**Tuckaleechee C**	**21.40 30**	P		**P**	**06 21 15.6**	**-1.8**
	comp=Z,4.9nm,0.6s,baz=204,slow=6.4,SNR=4.3						
	comp=Z,4.9nm,0.6s						
113A	**Mohawk Valley,**	**21.47 318**	P		**P**	**06 21 19.7**	**+1.5**
WUAZ	**Wupatki**	**22.03 327**	IAmb		IAmb	06 21 44.0	
	comp=Z,7.0nm,0.8s						
MVCO	**Mesa Verde**	**22.07 335**	P		**P**	**06 21 26.1**	**+1.2**
P38A	**Dawn**	**22.13 7**	P		**P**	**06 21 25.5**	**+0.3**
TZTN	**Tazewell**	**22.22 29**	P		**P**	**06 21 24.6**	**-1.7**
P40A	**Paris**	**22.24 10**	P		**P**	**06 21 26.6**	**+0.2**
P40A			IAmb		IAmb	06 21 47.6	
	comp=Z,15nm,1.2s						
OLIL	**Olney**	**22.39 18**	P		**P**	**06 21 27.1**	**-0.9**
WCI	**Wyandotte Cave**	**22.53 22**	P		**P**	**06 21 28.8**	**-0.7**
WCI			IAmb		IAmb	06 21 50.1	
	comp=Z,11nm,0.7s						
U54A	**Nelsons Funny**	**23.05 32**	P		**P**	**06 21 33.6**	**-1.4**
PV12	**Saucer Basin,**	**23.15 335**	P		**P**	**06 21 35.4**	**-0.6**
PV12			IAmb		IAmb	06 22 03.2	
	comp=Z,8.3nm,1.1s						
PV23	**Carpenter Ridg**	**23.34 335**	IAmb		IAmb	06 21 40.6	
	comp=Z,10.0nm,0.9s						
KNB	**Kanab**	**23.93 327**	P		**P**	**06 21 45.8**	**+2.7**
P49A	**Miami Univ. Ec**	**24.26 23**	P		**P**	**06 21 45.0**	**-0.9**
BLA	**Blacksburg**	**24.30 33**	P		**P**	**06 21 42.9**	**-3.3**
Q16A	**Castle Valley**	**24.65 332**	IAmb		IAmb	06 22 19.1	
	comp=Z,10nm,0.8s						
O48B	**Farmland**	**24.73 22**	P		**P**	**06 21 49.8**	**-0.3**
P18A	**Preston Nutter**	**24.85 335**	IAmb		IAmb	06 22 21.2	
	comp=Z,10nm,0.9s						
R55A	**Marlinton**	**25.27 32**	IAmb		IAmb	06 21 55.9	
	comp=Z,8.9nm,0.7s						
BSUT	**Blindstream Ca**	**25.83 335**	IAmb		IAmb	06 22 29.5	
	comp=Z,9.7nm,1.2s						
ECSD	**EROS Data Cent**	**26.05 0**	P		**P**	**06 22 01.8**	**-0.2**
SDV	**Santo Domingo**	**26.90 105**	P		**P**	**06 22 10.9**	**+0.6**
SDV			IAmb		IAmb	06 22 15.3	
	comp=Z,12nm,0.9s						
PDAR	**Pinedale Array**	**27.32 339**	P		**P**	**06 22 15.4**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=153,slow=10.0,SNR=4.3						
	comp=Z,0.4nm,0.8s						
SPMN	**Marine on St.**	**27.75 6**	IAmb		IAmb	06 22 47.0	
	comp=Z,17nm,1.5s						
NVAR	**Mina Array Bea**	**27.98 322**	P		**P**	**06 22 22.6**	**+3.0**
	comp=Z,2.4nm,0.9s,baz=139,slow=9.7,SNR=14						
	comp=Z,2.4nm,0.9s						
ULM	**Lac du Bonnet**	**32.58 1**	P		**P**	**06 22 59.1**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=169,slow=9.0,SNR=5.1						
	comp=Z,3.0nm,0.8s						
SCHQ	**Schefferville**	**43.69 25**	P		**P**	**06 24 32.2**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=219,slow=7.8,SNR=12						
	comp=Z,2.0nm,0.5s						
LPAZ	**La Paz**	**43.98 138**	P		**P**	**06 24 37.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=307,slow=2.1,SNR=4.7						
	comp=Z,0.9nm,0.6s						
MDP	**Montagnes des**	**44.95 101**	LR		LR	06 44 48.3	
	comp=Z,63nm,18.5s,baz=318,slow=38						
YKA	**Yellowknife Ar**	**46.54 349**	P		**P**	**06 24 55.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=158,slow=7.8,SNR=5.7						
	comp=Z,0.3nm,0.5s						
M29M	**Somme Creek**	**53.30 337**	P		**P**	**06 25 49.9**	**+2.9**
L29M	**L29M**	**53.59 338**	P		**P**	**06 25 51.3**	**+2.3**
K29M	**Barlow Dome**	**53.84 339**	P		**P**	**06 25 52.4**	**+1.5**
K29M			IAmb		IAmb	06 25 55.7	
	comp=Z,4.1nm,0.9s						
J26L	**Joseph Creek**	**56.36 338**	P		**P**	**06 26 09.8**	**+0.8**
A36M	**Sachs Harbour**	**56.86 350**	P		**P**	**06 26 12.8**	**+0.6**
ILAR	**Eielson Array**	**57.72 337**	P		**P**	**06 26 19.4**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=130,slow=4.9,SNR=17						
	comp=Z,2.0nm,0.8s						
BDFB	**Brasília**	**58.37 122**	P		**P**	**06 26 24.1**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=292,slow=7.3,SNR=8.6						
	comp=Z,2.4nm,0.5s						
PLCA	**Paso Flores**	**62.97 158**	P		**P**	**06 26 55.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=330,slow=9.8,SNR=5.3						
	comp=Z,2.0nm,0.8s						
NEEM	**North Greenlan**	**63.97 10**	*i* P		**P**	**06 27 01.4**	**+0.4**
DAG	**Danmarks Havn**	**70.28 14**	*i* P		**P**	**06 27 40.2**	**-0.3**
EKA	**Eskdalemuir Ar**	**77.78 36**	P		**P**	**06 28 26.4**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=280,slow=6.7,SNR=8.2						
	comp=Z,0.7nm,0.5s						
ESDC	**Sonseca Array**	**81.12 51**	P		**P**	**06 28 43.0**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=280,slow=5.4,SNR=6.7						
	comp=Z,1.8nm,1.1s						
NOA	**NORSAR Array B**	**83.18 28**	P		**P**	**06 28 54.3**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=296,slow=5.4,SNR=2.7						
	comp=Z,1.4nm,0.9s						
PETK	**Petropavlovsk-**	**85.04 324**	P		**P**	**06 29 04.5**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=60,slow=8.7,SNR=2.8						
	comp=Z,1.8nm,0.7s						

IPEC ***10*** *06:25:56.0±0.3, 51°.49N×16°.32E, h1km, ML1.9/5, Error ellipse: s-maj=1.9km s-min=1.4km az=43.0*
VIE ***10*** *06:25:57.8±0.5, 51°.39N×16°.21E, h0km, mb2.5/1, ml2.5/2, Error ellipse: s-maj=4.3km s-min=2.2km az=59.0, Suspected Mining induced.*
PRU ***10*** *06:25:59.5, 51°.36N×16°.20E, h0km*
ISC 10 06:25:57.9±1.2, 51°.37N±0°.05×16°.20E±0°.03, h0km, n26, σ0.66/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.53**	**174**	*e*Pg	**Pg**	**06 26 08.6**	**+0.6**
KSP				*e*Sg	**Sg**	**06 26 16.3**	**+1.4**
CHVC	**Chvalec**	**0.79**	**187**	*e*PG	**Pb**	**06 26 13.9**	**-0.6**
CHVC				*e*SG	**Sb**	**06 26 25.0**	**-0.7**
OSTC	**Ostas**	**0.81**	**179**	*e*PG	**Pg**	**06 26 14.0**	**+0.5**
OSTC				*e*SG	**Sb**	**06 26 25.8**	**-0.6**
UPC	**Upice**	**0.87**	**188**	*e*PG	**Pb**	**06 26 15.3**	**-0.6**
UPC				*e*SG	**Sb**	**06 26 27.6**	**-0.5**
	comp=Z,48nm,0.4s						
DPC	**Dobruska-Polom**	**1.02**	**176**	*e*PG	**Pg**	**06 26 17.7**	**+0.2**
DPC				*e*SG	**Sb**	**06 26 32.1**	**-0.4**
	comp=Z,16nm,0.6s						
PIVO	**Bartosovice**	**1.21**	**169**	*e*Pg	**Pg**	**06 26 21.0**	**+0.1**
	baz=354						
PIVO				*e*Sg	**Sb**	**06 26 37.6**	**-0.1**
	17nm,0.3s,baz=354						
PVCC	**Panska Ves**	**1.33**	**231**	*e*PG	**Pn**	**06 26 23.5**	**-0.2**
PVCC				*e*SG	**Sn**	**06 26 42.7**	**+0.6**
	comp=Z,71nm,0.3s						
KRLC	**Kraliky**	**1.35**	**164**	*e*PG	**Pg**	**06 26 23.1**	**-0.6**
KRLC				*e*SG	**Sg**	**06 26 41.2**	**+0.1**
	comp=Z,14nm,0.8s						
BRG	**Berggiesshubel**	**1.51**	**252**	Pg	**Pg**	**06 26 26.8**	**0.0**
BRG				Sg	**Sn**	**06 26 47.2**	**+0.8**
BRG				Amp		06 26 48.1	
	comp=Z,13nm,0.4s						
RICC	**Richard**	**1.56**	**239**	*e*SG	**Sg**	**06 26 49.3**	**+1.2**
GOPC	**GO Pecny, Ondr**	**1.71**	**212**	*e*PG	**Pb**	**06 26 30.4**	**+0.2**
PRU	**Pruhonice**	**1.74**	**218**	*e*PG	**Pb**	**06 26 30.6**	**-0.1**
PRU				*e*SG	**Sg**	**06 26 54.2**	**+0.5**
	comp=Z,6.9nm,0.3s						
STEB	**Steborice**	**1.75**	**145**	*e*PG	**Pn**	**06 26 29.7**	**+0.2**
MORC	**Moravsky Berou**	**1.81**	**151**	*e*Pn	**Pn**	**06 26 29.4**	**-0.9**
	baz=336						
MORC				*e*Sg	**Sb**	**06 26 55.3**	**+0.2**
	comp=Z,9.8nm,0.4s,baz=336						
HSKC	**Hora Svate Kat**	**1.91**	**248**	*e*SG	**Sg**	**06 26 58.8**	**-0.3**
CLL	**Collm**	**2.01**	**269**	*e*Pg	**Pb**	**06 26 35.0**	**-0.2**
CLL				*e*Sg	**Sg**	**06 27 02.0**	**-0.3**
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.08**	**173**	*e*Pn	**Pn**	**06 26 33.6**	**-0.4**
	baz=356						
VRAC				*e*Sg	**Sg**	**06 27 04.6**	**0.0**
	comp=Z,3.9nm,0.2s,baz=356						
KRUC	**Moravsky**	**2.31**	**177**	*e*Pn	**Pn**	**06 26 36.8**	**-0.4**
	baz=359						
KRUC				*e*Sg	**Sg**	**06 27 12.3**	**+0.1**
	comp=Z,4.5nm,0.3s,baz=359						
OJC	**Ojcow**	**2.56**	**115**	*e*Pg	**Pg**	**06 26 47.0**	**+0.1**
OJC				*e*Sg	**Sg**	**06 27 20.1**	**+0.1**
NKC	**Novy Kostel**	**2.64**	**246**	*e*SG	**Sg**	**06 27 23.0**	**+0.4**
KHC	**Kasperske Hory**	**2.80**	**218**	*e*PG	**Pb**	**06 26 49.8**	**+1.0**
KHC				*e*SN	**Sn**	**06 27 17.6**	**-0.9**
KHC				*e*SG	**Sg**	**06 27 27.5**	**-0.3**
CKRC	**Cesky Krumlov**	**2.83**	**206**	*e*PG	**Pg**	**06 26 50.8**	**-1.2**
CKRC				*e*SG	**Sg**	**06 27 27.1**	**-1.6**
LANS	**Liptovska Anna**	**3.06**	**135**	*e*SG	**Sg**	**06 27 35.6**	**-0.4**
MODS	**Modra-Piesok**	**3.08**	**166**	*e*PG	**Pg**	**06 26 57.3**	**+0.4**
MODS				*e*SG	**Sg**	**06 27 37.8**	**+1.1**
CONA	**Conrad Observa**	**3.45**	**184**	*e*Pn	**Pn**	**06 26 53.6**	**+0.6**
	comp=Z,0.3nm,0.3s						
MOA	**Molln**	**3.74**	**200**	*e*Pn	**Pn**	**06 26 58.1**	**+1.2**
	comp=Z,0.2nm,0.1s						

IDC ***10*** *06:49:32.8±1.0, 43°.15N×137°.58E, h261km±9km, mb3.3/12, mbtmp3.9/16, Error ellipse: s-maj=23.8km s-min=10.9km az=176.0*
SKHL ***10*** *06:49:35.1±0.6, 43°.00N×138°.40E, h338km±5km, mb4.4/8, msha5.0/7*
JMA ***10*** *06:49:35.4±0.4, 43°N±1°×13°8E±°, h272km, MV3.1/30, EASTERN SEA OF JAPAN*
ISC 10 06:49:33.8±0.7, 42°.90N±0°.07×138°.08E±0°.06, h299km, n45, σ1.51/54, mb3.7/12, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.32**	**128**	P	**Pn**	**06 50 14.9**	**-0.8**
JHST	**Hiyamasetana**	**1.41**	**109**	*e*P	**Pn**	**06 50 15.9**	**-0.4**
JSH	**Shimam**	**1.47**	**100**	P	**Pn**	**06 50 16.1**	**-0.5**
JYM2	**Yakumo 2**	**1.87**	**114**	*e*P	**Pn**	**06 50 19.8**	**+0.3**
JOMM	**Oshimamatsumae**	**1.99**	**133**	P	**Pn**	**06 50 20.5**	**+0.1**
JOT	**Ohata**	**2.68**	**124**	*e*P	**Pn**	**06 50 26.9**	**+0.5**

4.2nm,1.0s,baz=43,slow=6.5,SNR=9.4
4.2nm,1.0s

NB2	**NORSAR Subarra**	**67.79**	**335**	P	**P**	**07 00 00.1**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=38,slow=6.5						
NOA	**NORSAR Array B**	**67.79**	**335**	P	**P**	**06 59 59.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=39,slow=6.3,SNR=4.2						
	comp=Z,0.9nm,0.6s						
AKASG	**Malin Array Be**	**68.13**	**320**	P	**P**	**07 00 01.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=46,slow=6.6,SNR=5.3						
	comp=Z,0.4nm,0.3s						
EKA	**Eskdalemuir Ar**	**76.74**	**338**	P	**P**	**07 00 52.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=24,slow=6.4,SNR=5.4						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**88.46**	**50**	P	**P**	**07 01 55.3**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=323,slow=3.8,SNR=2.7						
	comp=Z,0.2nm,0.7s						

*IDC **10** 06:57:56.1±2.7, 18°.59N×39°.40E, h0km, mb3.4/4, mbtmp3.5/4, MS3.1/5, Error ellipse: s-maj=70.4km s-min=30.7km az=155.0*
*SGS **10** 06:57:58.2, 19°.02N×39°.59E, h7km, Ml2.3*
ISC 10 06:57:57.3±1.4, 18°.6N±0°.2×39°.52E±0°.09, h10km, n16, σ0°.90/13, mb3.5/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGES	**AMGES**	**1.92**	**94**	P	**Pn**	**06 58 29.3**	**-0.8**
AMGES	**AMGES**	**1.92**	**94**	S	**Sn**	**06 58 53.8**	**-0.6**
BRK01	**Al Birk**	**1.97**	**99**	S	**Sn**	**06 58 55.9**	**+0.4**
BRK01				P	**Pn**	**06 58 31.1**	**+0.3**
BRK04	**Al Birk**	**2.18**	**89**	P	**Pn**	**06 58 33.1**	**-0.5**
BRK04	**Al Birk**	**2.18**	**89**	S	**Sn**	**06 58 59.1**	**-1.6**
BRK03	**Al Birk**	**2.30**	**100**	P	**Pn**	**06 58 35.8**	**+0.6**
BRK03				S	**Sn**	**06 59 04.2**	**+0.5**
EIL	**Elat**	**11.78**	**340**	LR	LR	07 05 07.2	
	comp=Z,47nm,19.1s,baz=76,slow=37						
MMAI	**Mount Meron Ar**	**14.82**	**346**	LR	LR	07 06 21.7	
	comp=Z,62nm,18.1s,baz=174,slow=34						
WSAR	**Wadi Sarin**	**18.44**	**72**	LR	LR	07 10 33.2	
	comp=Z,116nm,18.2s,baz=358,slow=41						
BRTR	**Keskin Array B**	**21.66**	**348**	P	**P**	**07 02 48.1**	**0.0**
	1.3nm,0.8s,baz=164,slow=12,SNR=7.3						
	1.3nm,0.8s						
GNI	**Garni**	**21.94**	**11**	LR	LR	07 11 06.1	
	comp=Z,39nm,19.4s,baz=257,slow=36						
TORD	**Torodi Ar. Bea**	**36.73**	**267**	P	**P**	**07 05 04.3**	**-0.8**
	5.9nm,0.4s,baz=68,slow=8.7,SNR=1.6						
KURBB	**Kurchatov Arra**	**44.45**	**35**	P	**P**	**07 06 09.8**	**+1.4**
	0.4nm,0.7s,baz=240,slow=7.4,SNR=5.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**44.87**	**41**	P	**P**	**07 06 12.2**	**+0.3**
	0.6nm,1.0s,baz=250,slow=6.7,SNR=4.2						
	0.6nm,1.0s						
ZALV	**Zalesovo Beam**	**49.45**	**34**	P	**P**	**07 06 48.4**	**+0.9**
	0.3nm,0.5s,baz=243,slow=8.0,SNR=4.0						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.11**	**80**	LR	LR	07 34 20.2	
	comp=Z,13nm,19.1s,baz=255,slow=39						

*NNC **10** 07:36:02.1±0.4, 50°.02N×78°.84E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=4.3km s-min=2.0km az=60.0, Suspected Mining explosion.*
*IDC **10** 07:36:05.9±4.0, 50°.00N×78°.91E, h0km, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=48.7km s-min=16.9km az=94.0*
ISC 10 07:35:59.1±0.9, 49°.94N±0°.05×78°.01E±0°.06, h0km, n24, σ1°.18/34, 17C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.72**	**26**	⇓P	**Pg**	**07 36 14.0**	**+1.0**
KUR07				⇓S	**Sg**	**07 36 22.5**	**+0.1**
KUR06	**Kurchatov Arra**	**0.74**	**26**	⇑P	**Pg**	**07 36 14.2**	**+0.8**
KUR06				⇑S	**Sg**	**07 36 23.0**	**-0.1**
KUR17	**Kurchatov Arra**	**0.76**	**23**	⇑P	**Pg**	**07 36 14.9**	**+1.3**
KUR17				⇓S	**Sg**	**07 36 24.1**	**+0.7**
KUR16	**Kurchatov Arra**	**0.76**	**24**	⇑P	**Pg**	**07 36 14.5**	**+0.8**
KUR16				⇓S	**Sg**	**07 36 23.5**	**0.0**
KURBB	**Kurchatov Arra**	**0.76**	**26**	⇑P	**Pg**	**07 36 14.6**	**+0.9**
KURBB				⇑S	**Sg**	**07 36 23.9**	**+0.3**
	152nm,0.8s						
KUR15	**Kurchatov Arra**	**0.77**	**27**	⇑P	**Pg**	**07 36 14.3**	**+0.5**
KUR15				⇓S	**Sg**	**07 36 23.2**	**-0.6**
KUR14	**Kurchatov Arra**	**0.77**	**28**	⇑P	**Pg**	**07 36 14.2**	**+0.2**
KUR14				⇑S	**Sg**	**07 36 23.0**	**-1.0**
KUR05	**Kurchatov Arra**	**0.78**	**25**	⇑P	**Pg**	**07 36 14.9**	**+0.8**
KUR05				⇓S	**Sg**	**07 36 23.7**	**-0.6**
KUR04	**Kurchatov Arra**	**0.80**	**25**	⇑P	**Pg**	**07 36 15.2**	**+0.7**
KUR04				⇑S	**Sg**	**07 36 24.3**	**-0.7**
KURK	**Kurchatov**	**0.87**	**26**	⇑P	**Pg**	**07 36 15.7**	**-0.1**
	14nm,0.8s						
KURK				⇑S	**Sg**	**07 36 26.0**	**-1.2**
	89nm,0.9s						
SEM	**Semipalatinsk**	**1.51**	**71**	P	Pn	07 36 15.4	-12
	2.4nm,0.1s						
SEM				S	Sg	07 36 34.0	-14
	10nm,0.2s						
BRZS	**Berezniki**	**3.45**	**273**	Pg	**Pg**	**07 37 06.0**	**+0.9**
	1.9nm,0.5s						
BRZS				Lg	Lg	07 38 05.6	
	8.0nm,1.0s						
MAKZ	**Makanchi**	**4.10**	**138**	⇓Pg	**Pb**	**07 37 13.5**	**+1.4**
	5.3nm,1.0s						
MAKZ				⇑Lg	Lg	07 38 04.2	
	16nm,0.8s						
OTUK	**Ortayu**	**4.10**	**248**	Pg	**Pg**	**07 37 17.4**	**-0.2**
	0.3nm,0.2s						
OTUK				Lg	Lg	07 38 26.2	
	2.7nm,0.7s						
OTUK	**Ortayu**	**4.10**	**248**	⇑Lg	Lg	07 38 26.8	
	9.3nm,0.9s						
MK31	**Makanchi Array**	**4.24**	**136**	⇓Pn	**Pn**	**07 37 05.7**	**+0.7**
	baz=321,slow=10.0,SNR=16						
MK31				⇑Pg	**Pb**	**07 37 15.2**	**+0.6**
	1.1nm,0.6s,baz=327,slow=15,SNR=21						
MK31				Lg	Lg	07 38 09.4	
	16nm,0.7s,baz=338,slow=23,SNR=25						
MKAR	**Makanchi Array**	**4.24**	**136**	Pn	**Pn**	**07 37 07.0**	**+2.0**
	0.1nm,0.3s,baz=323,slow=10,SNR=20						
MKAR				Pg	**Pb**	**07 37 15.5**	**+0.9**
	0.2nm,0.3s,baz=326,slow=15,SNR=16						
MKAR				Lg	Lg	07 38 07.7	
	1.1nm,0.3s,baz=324,slow=24,SNR=12						
	0.3nm,0.7s						
ZSN	**Zaisan**	**5.17**	**116**	Pg	**Pn**	**07 37 18.1**	**+0.2**
	2.1nm,0.3s						
ZSN				Lg	Lg	07 38 27.4	
	13nm,1.0s						
DJR	**Jarkent**	**5.74**	**167**	Pg	**Pb**	**07 37 36.6**	**-3.5**
	0.4nm,0.2s						
DJR				Lg	Lg	07 39 01.2	
	4.2nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.82**	**44**	I	I	08 06 40.0	
	0.1nm,0.7s,baz=226,slow=331,SNR=4.3						
ZALV	**Zalesovo Beam**	**5.82**	**44**	Pn	**Pn**	**07 37 27.5**	**+0.9**
	0.2nm,0.3s,baz=238,slow=14,SNR=7.4						
ZALV				Sn	**Sn**	**07 38 30.6**	**-3.4**
	0.1nm,0.3s,baz=233,slow=14,SNR=2.5						
ZALV				Lg	Lg	07 38 56.8	
	0.2nm,0.3s,baz=223,slow=28,SNR=7.4						
	1.7nm,0.7s						
KRBS	**Karabastau**	**6.45**	**195**	Pg	**Pb**	**07 37 52.3**	**+0.2**
	0.8nm,0.6s						
KRBS				Lg	Lg	07 39 29.9	
	3.5nm,0.8s						
TNSS	**Tian-Shan**	**6.94**	**186**	Pg	**Pb**	**07 38 00.6**	**-0.2**
	1.0nm,0.3s						
TNSS				Lg	Lg	07 39 45.2	
	3.3nm,0.9s						
KST	**Kastek**	**7.04**	**192**	Pg	**Pb**	**07 38 03.0**	**+0.7**
	1.0nm,0.5s						
KST				Lg	Lg	07 39 49.0	
	7.2nm,0.8s						

IDC 10 07:51:05.8±1.9, 3°.64N×125°.64E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=198.5km s-min=23.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.95**	**160**	P	P	07 56 31.5	+0.4
	0.7nm,0.6s,baz=338,slow=10,SNR=7.2						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**28.31**	**164**	P	P	07 57 00.9	-0.5
	0.1nm,0.4s,baz=348,slow=7.1,SNR=4.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**57.01**	**326**	P	P	08 00 54.7	+1.2
	0.2nm,0.4s,baz=118,slow=7.8,SNR=1.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.23**	**328**	P	P	08 01 21.4	-1.2
	0.2nm,0.3s,baz=111,slow=5.1,SNR=2.1						
	0.2nm,0.3s						

*SDD **10** 07:52:55.0±2.2, 18°.81N×68°.66W, h123km±20km, MD2.7, ML2.5*
*NEIC **10** 07:53:00.3±1.2, 18°.5N±0°.2×68°.31W±0°.07, h96km±6km, ML2.3/12, Md2.8/4(RSPR), Error ellipse: s-maj=23.1km s-min=9.8km az=182.0*
*RSPR **10** 07:53:00.5, 18°.48N×68°.50W, h97km±1km, MD2.8/4*
ISC 10 07:52:54.2±3.5, 18°.7N±0°.2×68°.6W±0°.1, h126km±21km, n26, σ2°.04/31, 9C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.16**	**245**	*e*P	**Pn**	**07 53 13.9**	**+2.4**
HIDR	**Higuey Centro**	**0.16**	**245**	*e*S	**Sn**	**07 53 24.5**	**0.0**
PCDR	**Punta Cana, DR**	**0.23**	**130**		**Pn**	**07 53 13.2**	**+1.5**
PCDR					**Sn**	**07 53 23.6**	**-1.2**
PCDR	**Punta Cana, DR**	**0.23**	**130**	⇑*e*Pg	**Pn**	**07 53 12.3**	**+0.7**
PCDR				⇑*e*Sg	**Sn**	**07 53 24.3**	**-0.5**
PCDR				IAML		07 53 27.0	
	comp=N,176nm,2.5s						
PCDR	**Punta Cana, DR**	**0.23**	**130**	⇓*e*P	**Pn**	**07 53 13.8**	**+2.1**
PCDR	**Punta Cana, DR**	**0.23**	**130**	*e*S	**Sn**	**07 53 23.9**	**-0.9**
SMDR	**Samana, DR**	**0.86**	**317**	⇑*e*Sg	**Sn**	**07 53 27.0**	**-4.7**
SMDR				IAML		07 53 40.3	
	comp=N,105nm,1.2s						
CRPR	**Cabo Rojo, PR**	**1.53**	**115**		**Pn**	**07 53 23.1**	**+0.7**
CRPR					**Sn**	**07 53 40.0**	**-3.7**
CRPR				IAML		07 54 00.3	
	comp=E,43nm,2.4s						
CRPR				IAML		07 54 01.2	
	comp=N,43nm,2.8s						
CRPR	**Cabo Rojo, PR**	**1.53**	**115**	⇑*e*Pg	**Pn**	**07 53 23.2**	**+0.8**
CRPR				IAML		07 54 00.7	
	comp=N,51nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.53**	**115**	⇑*i*P	**Pn**	**07 53 23.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.53**	**115**	*e*S	**Sn**	**07 53 40.1**	**-3.6**
MLPR	**Magueyes Islan**	**1.60**	**115**	⇑*e*Pg	**Pn**	**07 53 23.8**	**+0.6**
MLPR				IAML		07 53 53.1	
	comp=N,12nm,2.0s						
MLPR	**Magueyes Islan**	**1.60**	**115**	⇑*i*P	**Pn**	**07 53 23.8**	**+0.6**
MLPR	**Magueyes Islan**	**1.60**	**115**	*e*S	**Sn**	**07 53 42.3**	**-2.9**
AOPR	**Arecibo Observ**	**1.75**	**100**	⇑*e*Sg	**Sn**	**07 53 49.5**	**+1.1**
AOPR				IAML		07 54 34.9	
	comp=N,23nm,1.6s						
UUPR	**Utuado, UPR, P**	**1.80**	**103**		**Pn**	**07 53 27.1**	**+1.6**
UUPR	**Utuado, UPR, P**	**1.80**	**103**	⇓*e*P	**Pn**	**07 53 29.1**	**+3.5**
UUPR	**Utuado, UPR, P**	**1.80**	**103**	*e*S	**Sn**	**07 53 49.7**	**+0.3**
EMPR	**Esperanza - Ma**	**1.94**	**95**		**Pn**	**07 53 27.7**	**+0.5**
EMPR	**Esperanza - Ma**	**1.94**	**95**	⇓*e*P	**Pn**	**07 53 28.4**	**+1.2**
CELP	**Cerrillos**	**1.97**	**107**		**Pn**	**07 53 29.1**	**+1.5**
CELP					**Sn**	**07 53 51.4**	**-1.9**
CELP				IAML		07 54 00.6	
	comp=N,20nm,3.7s						
CELP				IAML		07 54 38.9	
	comp=E,23nm,3.6s						
CELP	**Cerrillos**	**1.97**	**107**	*e*Pg	**Pn**	**07 53 29.4**	**+1.8**
CELP				⇑*e*Sg	**Sn**	**07 53 51.6**	**-1.6**
CELP				IAML		07 53 59.8	
	comp=N,19nm,2.9s						
CELP	**Cerrillos**	**1.97**	**107**	⇑*e*P	**Pn**	**07 53 29.3**	**+1.6**
CELP	**Cerrillos**	**1.97**	**107**	*e*S	**Sn**	**07 53 51.7**	**-1.6**
ECPR	**Experimental S**	**2.12**	**99**	*e*S	**Sn**	**07 53 55.8**	**-0.6**
PDPR	**Patillas Dam,**	**2.50**	**104**	Pn	**Pn**	**07 53 35.5**	**+1.3**
PDPR				IAML		07 54 35.1	
	comp=E,19nm,3.5s						
PDPR				IAML		07 54 52.6	
	comp=N,16nm,3.0s						

*IDC **10** 07:53:17.4±0.4, 3°.30S×90°.29E, h0km, mb4.7/34, mbtmp4.7/35, ML5.1/3, MS4.8/36, Error ellipse: s-maj=13.9km s-min=10.8km az=55.0*
*MOS **10** 07:53:18.3±1.1, 3°.21S×90°.36E, h13km, mb5.3/59, MS4.9/7, Error ellipse: s-maj=7.0km s-min=4.3km az=106.8*
*DJA **10** 07:53:19.8±0.1, 3°.S±2°.×9°.0E±°, h10km, M5.5/113, mb5.5/113, mB5.9/68, Mw(mB)5.5/68, MwMwp5.3/25, Mwp5.5/25*
*NEIC **10** 07:53:20.2, 3°.28S×90°.28E, h18km*
*NEIC **10** 07:53:20.2, 3°.48S×90°.18E, h18km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.22; $M_{\theta\theta}$=0.76; $M_{\phi\phi}$=0.98; $M_{r\theta}$=0.30; $M_{\theta\phi}$=-1.61; $M_{\phi r}$=0.37; Fault plane solution: M_0=1.89000×10^{17} NP1: ϕ_s=285.14000°, δ=75.86000°, λ=-172.08000°. NP2: ϕ_s=193.20000°, δ=82.32000°, λ=-14.27000°. Principal axes: T 1.9463, Plg=4.0000°, Azm=240.0000°; N -0.1039, Plg=74.0000°, Azm=345.0000°; P -1.8424, Plg=15.0000°, Azm=149.0000°;*
*NEIC **10** 07:53:20.2±1.3, 3°.28S±0°.08×90°.28E±0°.07, h10km±1km, mb5.4/149, Ms_20 5.1/156, Mwb5.4/32, Mww5.5/36 Error ellipse: s-maj=14.3km s-min=12.5km az=182.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.08; $M_{\theta\theta}$=-1.06; $M_{\phi\phi}$=0.98; $M_{r\theta}$=0.16; $M_{\theta\phi}$=-1.51; $M_{\phi r}$=-0.11; Fault plane solution: M_0=1.83000×10^{17} NP1: ϕ_s=197.13000°, δ=84.06000°, λ=2.19000°. NP2: ϕ_s=106.90000°, δ=87.82000°, λ=174.05000°. Principal axes: T 1.7986, Plg=6.0000°, Azm=62.0000°; N 0.0684, Plg=84.0000°, Azm=267.0000°; P -1.8670, Plg=3.0000°, Azm=152.0000°;*
*NEIC **10** 07:53:20.2, 3°.28S×90°.28E, h10km*
*GCMT **10** 07:53:21.2±0.1, 3°.35S±0°.01×90°.26E±0°.01, h12km, MW5.5/146, Moment Tensor Solution. s105,c167; s146,c274; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.19±.03; $M_{\theta\theta}$=-1.07±.03; $M_{\phi\phi}$=0.88±.03; $M_{r\theta}$=0.08±.07; $M_{\theta\phi}$=-1.79±.02; $M_{\phi r}$=-0.30±.07; Best double couple: M_0=2.06500×10^{17} NP1: ϕ_s=104.00000°, δ=82.00000°, λ=175.00000°. NP2: ϕ_s=195.00000°, δ=85.00000°, λ=8.00000°. Principal axes: T 1.9960, Plg=9.0000°, Azm=60.0000°; N 0.1420, Plg=80.0000°, Azm=227.0000°; P -2.1350, Plg=2.0000°, Azm=329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 07:53:19.9±0.4, 3°.30S±0°.03×90°.29E±0°.03, h13km±2km, h13km: pP-P, n739, σ1°.37/723, mb5.2/213, MS5.0/131, 22C-11D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**8.28**	**47**	P	**Pn**	**07 55 17.9**	**-2.0**
GSI	**Gunungsitoli**	**8.60**	**58**	Pn	**Pn**	**07 55 23.3**	**-1.0**
GSI	**Gunungsitoli**	**8.60**	**58**	P	**Pn**	**07 55 23.1**	**-1.2**
PBSI	**Pulau Batu**	**8.62**	**68**	P	**Pn**	**07 55 23.3**	**-1.1**
SISI	**Saibi**	**9.01**	**78**	P	**Pn**	**07 55 29.1**	**-0.8**
MLSI	**Meulaboh, Aceh**	**9.69**	**39**	P	**Pn**	**07 55 37.7**	**-1.5**
	12μm8μm531nm,0.9s						
PPSI	**Pulau Pagai**	**9.72**	**87**	P	**Pn**	**07 55 38.8**	**-0.9**
BSI	**Banda Aceh**	**10.07**	**30**	P	**Pn**	**07 55 42.8**	**-1.6**
	7μm6μm344nm,0.8s						
MNSI	**Mandailing Nat**	**10.14**	**66**	P	**Pn**	**07 55 44.3**	**-1.1**
RPSI	**Rantau Prapat**	**10.49**	**55**		**Pn**	**07 55 49.8**	**-0.3**
RPSI	**Rantau Prapat**	**10.49**	**55**	Pn	**Pn**	**07 55 49.5**	**-0.7**
PPI	**Padang Panjang**	**10.49**	**75**	P	**Pn**	**07 55 49.2**	**-1.0**
	11μm6μm388nm,1.0s						
PSI	**Prapat**	**10.55**	**55**	Pn	**Pn**	**07 55 49.8**	**-1.3**
	7.1nm,0.3s,baz=213,slow=9.7,SNR=158						
PSI				Sn	Sn	07 57 34.5	-15
	1.7nm,0.3s,baz=186,slow=9.2,SNR=1.4						
PSI				LR	LR	07 59 38.8	
	comp=Z,4μm,20.6s,baz=276,slow=36						
PSI	**Prapat**	**10.55**	**55**	P	**Pn**	**07 55 50.5**	**-0.6**
PSI	**Prapat**	**10.55**	**55**	P	**Pn**	**07 55 49.5**	**-1.6**
TSI	**Tuntungan**	**10.68**	**51**	P	**Pn**	**07 55 53.8**	**+1.0**
LHMI	**Lhok Sumawe**	**10.77**	**38**	Pn	**Pn**	**07 55 53.9**	**-0.2**
LHMI	**Lhok Sumawe**	**10.77**	**38**	P	**Pn**	**07 55 56.4**	**+2.3**
LHMI	**Lhok Sumawe**	**10.77**	**38**	P	**Pn**	**07 55 53.8**	**-0.2**
	10μm6μm505nm,1.2s						
COCO	**West Island**	**10.95**	**144**	P	Pn	07 55 50.4	-6.1
COCO				S	**Sn**	**07 58 05.6**	**+6.5**
COCO	**West Island**	**10.95**	**144**	P	**Pn**	**07 55 55.4**	**-1.1**
BKNI	**Bangkinang**	**11.34**	**72**		**Pn**	**07 56 02.1**	**+0.4**
BKNI	**Bangkinang**	**11.34**	**72**	P	**Pn**	**07 56 02.7**	**+0.9**
BKNI	**Bangkinang**	**11.34**	**72**	P	**Pn**	**07 56 01.9**	**+0.1**
KSI	**Kapahiang**	**12.29**	**92**	P	**Pn**	**07 56 13.9**	**-1.0**
	367nm,0.6s						
MNAI	**Manna**	**12.68**	**95**	Pn	**Pn**	**07 56 20.1**	**-0.1**
MNAI	**Manna**	**12.68**	**95**	P	**Pn**	**07 56 20.6**	**+0.4**
MNAI	**Manna**	**12.68**	**95**	P	**Pn**	**07 56 19.8**	**-0.4**
IPM	**Ipoh**	**13.22**	**54**		**Pn**	**07 56 26.2**	**-1.4**
IPM	**Ipoh**	**13.22**	**54**	P	**Pn**	**07 56 28.1**	**+0.5**
KULM	**Kulim**	**13.42**	**51**	Pn	**Pn**	**07 56 28.1**	**-2.1**
KULM	**Kulim**	**13.42**	**51**	P	**Pn**	**07 56 29.3**	**-0.9**
LWLI	**Liwa**	**13.84**	**98**	P	**Pn**	**07 56 35.5**	**-0.6**
	6μm425nm,0.8s						
MDSI	**Maura Dua**	**13.91**	**95**	P	**Pn**	**07 56 35.6**	**-1.3**
	157nm,0.8s						
PALK	**Pallekele**	**14.21**	**318**	Pn	**Pn**	**07 56 38.1**	**-3.0**
PALK	**Pallekele**	**14.21**	**318**	Pn	**Pn**	**07 56 39.0**	**-2.1**
	63nm,0.3s,baz=132,slow=12,SNR=132						
PALK				Sn	Sn	07 59 04.4	-14
	20nm,0.3s,baz=221,slow=19,SNR=5.9						
PALK				LR	LR	08 01 23.6	
	comp=Z,4μm,19.1s,baz=136,slow=34						
PALK	**Pallekele**	**14.21**	**318**	P	**Pn**	**07 56 40.0**	**-1.1**
PALK				P	**Pn**	**07 56 40.0**	**-1.1**
PALK				S	**Sn**	**07 59 23.6**	**+4.8**
PALK				S	**Sn**	**07 59 23.6**	**+4.8**
PALK	**Pallekele**	**14.21**	**318**	*i* P	**Pn**	**07 56 37.6**	**-3.5**
PMBI	**Palembang**	**14.47**	**89**	Pn	**Pn**	**07 56 42.8**	**-1.8**
MYKOM	**Kota Tinggi**	**14.47**	**70**	Pn	**Pn**	**07 56 43.5**	**-1.2**
MYKOM	**Kota Tinggi**	**14.47**	**70**	P	**Pn**	**07 56 44.5**	**-0.2**
TPRI	**Tanjung Pinang**	**14.84**	**74**	P	**Pn**	**07 56 49.2**	**-0.5**
	4μm152nm,1.2s						
SRIT	**Nakonsritamara**	**15.03**	**38**		**Pn**	**07 56 49.2**	**-3.1**
SRIT				IAmb	IAmb	07 57 00.2	
	comp=Z,162nm,1.1s						
SRIT	**Nakonsritamara**	**15.03**	**38**	P	**Pn**	**07 56 51.3**	**-1.0**
CGJI	**Cibinong**	**15.69**	**103**	P	**Pn**	**07 57 00.6**	**-0.4**
	comp=Z,204nm,1.1s						
PPBI	**Pangkal Pinang**	**15.87**	**86**	P	**Pn**	**07 57 03.6**	**+0.3**
SBJI	**Serang**	**16.03**	**101**	P	**Pn**	**07 57 06.0**	**+0.6**
	comp=Z,6μmcomp=Z,254nm,1.9s						
TNG	**Tangerang**	**16.55**	**101**	P	**Pn**	**07 57 13.5**	**+1.5**
SKJI	**Sukabumi**	**16.61**	**103**	P	**Pn**	**07 57 12.4**	**-0.4**
	comp=Z,5μmcomp=Z,288nm,1.3s						
CBJI	**Citeko**	**16.79**	**101**	P	**P**	**07 57 17.9**	**+0.7**
	comp=Z,8μmcomp=Z,414nm,0.8s						
XMIS	**Christmas Isla**	**16.83**	**116**	P	**P**	**07 57 17.1**	**-0.5**
XMI	**Christmas Isla**	**16.85**	**116**	P	**Pn**	**07 57 16.3**	**+0.5**
CNJI	**Cibinong**	**17.23**	**104**	P	**Pn**	**07 57 20.7**	**+0.1**
	comp=Z,115nm,1.0s						
TPI	**Tanjungpandan**	**17.35**	**89**	P	**Pn**	**07 57 21.8**	**-0.3**
LEM	**Lembang**	**17.61**	**102**	P	**Pn**	**07 57 25.7**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=217,slow=6.0,SNR=21						
LEM				S	Sn	08 00 30.4	-11
	comp=Z,21nm,0.6s,baz=333,slow=23,SNR=1.9						
LEM				LR	LR	08 03 09.8	
	comp=Z,4μm,20.0s,baz=264,slow=34						
	comp=Z,30nm,0.7s						
LEM	**Lembang**	**17.61**	**102**	P	**Pn**	**07 57 25.8**	**+0.3**
	comp=Z,3μmcomp=Z,190nm,1.4s						
KAAM	**Kaadhehdhoo**	**17.69**	**282**		**P**	**07 57 27.9**	**+0.7**
KAAM	**Kaadhehdhoo**	**17.69**	**282**	P	**P**	**07 57 27.8**	**+0.7**
	SNR=8.1						
BBJI	**Bungbulang**	**17.77**	**104**	P	**P**	**07 57 28.5**	**+0.4**
DGAR	**Diego Garcia**	**18.22**	**256**	P	**Pn**	**07 57 30.7**	**-2.1**
DGAR	**Diego Garcia**	**18.22**	**256**	P	**Pn**	**07 57 33.1**	**+0.3**
DGAR				S	**Sn**	**08 00 57.7**	**+1.5**
DGAR	**Diego Garcia**	**18.22**	**256**	*ce*P	**Pn**	**07 57 30.7**	**-2.1**
DGAR				pmax	pmax		
	comp=Z,324nm,0.6s						
H08S2	**Diego Garcia H**	**18.23**	**256**	T	T	08 16 12.5	
	baz=77,slow=75						
H08S3	**Diego Garcia H**	**18.23**	**256**	T	T	08 16 11.0	
	baz=77,slow=75						
H08S1	**Diego Carcia H**	**18.25**	**256**	T	T	08 16 16.5	
	baz=77,slow=75						
CMJI	**Cimerak**	**18.61**	**105**	P	**P**	**07 57 37.3**	**0.0**
	comp=Z,3μmcomp=Z,259nm,0.8s						
SRDT	**SRDT**	**19.60**	**26**	P	**Pn**	**07 57 49.8**	**+0.3**
HMDM	**Hanimaadhoo**	**19.79**	**300**	P	**P**	**07 57 50.2**	**-0.1**
HMDM				IAmb	IAmb	07 58 00.9	
	comp=Z,258nm,1.2s						
HMDM	**Hanimaadhoo**	**19.79**	**300**	P	**Pn**	**07 57 53.7**	**+1.9**
	SNR=11						
YOGI	**Yogyakarta**	**20.41**	**104**	P	**P**	**07 57 57.5**	**+0.5**
	comp=Z,149nm,1.1s						
SMRI	**Semarang**	**20.41**	**101**	P	**P**	**07 57 56.7**	**-0.3**
SMRI	**Semarang**	**20.41**	**101**	P	Pn	07 57 59.9	+0.8
SMRI	**Semarang**	**20.41**	**101**

	comp=Z,4μm,20.0s						
SHL	Shillong	28.74	3	P	P	07 59 18.5	+0.9
	SNR=27						
TNCH	TengChong	29.27	15	eP	P	07 59 24.5	+2.2
TNCH				sP	pwP	07 59 30.8	+0.4
TNCH				S	S	08 04 17.8	+2.5
TNCH				sS	sS	08 04 23.9	+4.1
TNCH				pmax	pmax		
	comp=Z,110nm,3.2s						
TNCH				LR	LR		
	comp=Z,1μm,17.5s						
TNCH				LR	LR		
	comp=Z,3μm,16.4s						
TNCH				LR	LR		
	comp=Z,2μm,17.6s						
QIZ	Qiongzhong	29.37	40	P	P	07 59 23.5	+0.4
QIZ				S	S	08 04 19.4	+2.8
QIZ				LR	LR		
	comp=Z,3μm,20.4s						
QIZ				LR	LR		
	comp=Z,3μm,17.6s						
QIZ				LR	LR		
	comp=Z,2μm,14.5s						
MYLDM	Lahad Datu	29.42	73	P	P	07 59 23.7	+0.2
MYLDM				IAmb	IAmb	08 00 22.2	
	comp=Z,196nm,1.9s						
MYLDM	Lahad Datu	29.42	73	P	P	07 59 24.9	+1.4
SPSI	Sidrap Palu	29.43	92	P	P	07 59 22.6	-1.0
	comp=Z,46nm,0.8s						
KAPI	Kappang	29.43	94	P	P	07 59 22.3	-1.3
KAPI	Kappang	29.43	94	LR	LR	08 11 14.7	
	comp=Z,1μm,18.3s,baz=270,slow=37						
KAPI	Kappang	29.43	94	P	P	07 59 23.1	-0.6
KAPI				S	S	08 04 17.8	0.0
KAPI	Kappang	29.43	94	P	P	07 59 23.3	-0.4
KAPI	Kappang	29.43	94	i P	P	07 59 22.4	-1.3
KAPI				pmax	pmax		
	comp=Z,26nm,0.8s						
TTSI	Tana Toraja	29.49	90	P	P	07 59 24.4	+0.2
	comp=Z,71nm,1.1s						
WBSI	Waikabubak, Su	29.58	104	P	P	07 59 23.3	-1.7
	comp=Z,1μmcomp=Z,130nm,0.8s						
PCI	Palu	29.62	86	P	P	07 59 23.2	-2.2
	comp=Z,106nm,1.0s						
BKSI	Bulukumba	29.82	95	P	P	07 59 26.8	-0.3
	comp=Z,791nmcomp=Z,49nm,1.4s						
KMI	Kunming	30.73	22	⇓P	P	07 59 37.2	+1.9
KMI				S	S	08 04 41.0	+2.7
KMI				pmax	pmax		
	comp=Z,21nm,0.8s						
KMI				LR	LR		
	comp=Z,3μm,15.0s						
KMI				LR	LR		
	comp=Z,4μm,15.5s						
KMI				LR	LR		
	comp=Z,2μm,14.8s						
TOLI2	Tolitoli	30.80	82	P	P	07 59 35.1	-0.7
TOLI2				IAmb	IAmb	07 59 36.6	
	comp=Z,34nm,0.9s						
TOLI2	Tolitoli	30.80	82	P	P	07 59 35.4	-0.3
APSI	Ampana	31.43	86	P	P	07 59 41.8	+0.5
	comp=Z,56nm,1.0s						
PZH	PanZhiHua	31.63	20	P	P	07 59 45.9	+2.8
PZH				S	S	08 04 55.7	+3.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,250nm,4.5s						
PZH				LR	LR		
	comp=Z,1μm,15.3s						
PZH				LR	LR		
	comp=Z,3μm,20.8s						
PZH				LR	LR		
	comp=Z,2μm,15.2s						
MRSI	Marisa	31.86	84	P	P	07 59 44.3	-0.8
	comp=Z,1μmcomp=Z,44nm,1.0s						
LUWI	Luwuk	32.54	87	P	P	07 59 50.2	-0.8
LUWI				IAmb	IAmb	08 00 00.6	
	comp=Z,72nm,0.9s						
LUWI	Luwuk	32.54	87	P	P	07 59 50.3	-0.8
LUWI	Luwuk	32.54	87	P	P	07 59 50.1	-1.0
	comp=Z,85nm,0.9s						
LSA	Lhasa	32.83	1	P	P	07 59 53.6	-0.3
LSA				IAmb	IAmb	07 59 56.7	
	comp=Z,34nm,0.9s						
LSA				IAMs_20	IAMs_20	08 13 46.1	
	comp=Z,3μm,20.0s						
LSA	Lhasa	32.83	1	P	P	07 59 53.6	-0.3
LSA				pmax	pmax		
	comp=Z,34nm,0.9s						
LSA				pmax	pmax		
	comp=Z,3μm,20.0s						
LSA	Lhasa	32.83	1	P	P	07 59 50.7	-3.2
GYA	Guiyang	33.56	27	⇓P	P	08 00 01.0	+1.0
GYA				S	S	08 05 23.1	+0.9
GYA				pmax	pmax		
	comp=Z,29nm,1.3s						
GYA				pmax	pmax		
	comp=Z,240nm,4.1s						
GYA				LR	LR		
	comp=Z,3μm,14.8s						
GYA				LR	LR		
	comp=Z,3μm,15.2s						
GYA				LR	LR		
	comp=Z,2μm,18.6s						
MBWA	Marble Bar	33.69	124	P	P	08 00 00.0	-1.1
MBWA	Marble Bar	33.69	124	P	P	08 00 01.4	+0.4
	comp=Z,35nm,1.1s						
MBWA	Marble Bar	33.69	124	P	P	08 00 01.2	+0.1
MBWA				P	P	08 00 01.2	+0.1
MBWA	Marble Bar	33.69	124	P	P	08 00 01.5	+0.4
PSA00	Pilbara Seismi	33.98	125	P	P	08 00 03.5	-0.2
PSA00				IAmb	IAmb	08 00 04.8	
	comp=Z,42nm,1.1s						
PSA00	Pilbara Seismi	33.98	125	P	P	08 00 03.4	-0.2
	comp=Z,35nm,1.1s						
PSA00	Pilbara Seismi	33.98	125	P	P	08 00 03.9	+0.3
SOEI	Soe	34.34	102	P	P	08 00 08.8	+1.8
SOEI	Soe	34.34	102	P	P	08 00 06.9	-0.1
	comp=Z,77nm,0.9s						
GULI	GuiLin	34.46	33	P	P	08 00 10.3	+2.6
GULI				S	S	08 05 38.8	+2.9
GULI				pmax	pmax		
	comp=Z,20nm,1.5s						
GULI				pmax	pmax		
	comp=Z,350nm,3.8s						
GULI				LR	LR		
	comp=Z,4μm,17.6s						
GULI				LR	LR		
	comp=Z,3μm,17.3s						
GULI				LR	LR		
	comp=Z,4μm,15.7s						
GZH	Guangzhou	34.55	39	P	P	08 00 15.0	+6.5
GZH				S	S	08 05 49.1	+12
GZH				LR	LR		
	comp=Z,4μm,13.3s						
GZH				LR	LR		
	comp=Z,3μm,14.9s						
GZH				LR	LR		
	comp=Z,3μm,13.1s						
MSEY	Mahe Island	34.75	267	P	P	08 00 10.3	-0.1
MSEY				IAmb	IAmb	08 00 12.9	
	comp=Z,72nm,1.4s						
MSEY	Mahe Island	34.75	267	P	P	08 00 12.2	+1.8
MSEY	Mahe Island	34.75	267	P	P	08 00 10.3	-0.1
MSEY				pmax	pmax		
	comp=Z,72nm,1.4s						
MSEY				pmax	pmax		
	comp=Z,1μm,20.0s						
MSEY	Mahe Island	34.75	267	P	P	08 00 11.2	+0.7
TGY	Tagaytay City	34.97	60	LR	LR	08 15 25.7	
	comp=Z,420nm,19.3s,baz=224,slow=38						
MORW	Morawa	35.43	139	P	P	08 00 15.9	-0.1
MORW				IAmb	IAmb	08 00 17.7	
	comp=Z,63nm,1.1s						
MORW	Morawa	35.43	139	P	P	08 00 16.1	+0.1
	comp=Z,16nm,1.2s						
MORW	Morawa	35.43	139	P	P	08 00 16.7	+0.7
SANI	Sanana	35.68	89	P	P	08 00 17.8	-0.6
SANI	Sanana	35.68	89	P	P	08 00 17.3	-1.1
	comp=Z,59nm,1.0s						
MEEK	Meekatharra	35.70	133	P	P	08 00 18.8	+0.4
	comp=Z,114nm,1.4s						
MEEK	Meekatharra	35.70	133	P	P	08 00 19.0	+0.6
SZP	Santa	36.26	54	P	P	08 00 25.2	+1.9
CD2	Chengdu	36.37	20	P	P	08 00 24.3	+0.2
CD2				S	S	08 06 03.6	-1.6
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				LR	LR		
	comp=Z,2μm,14.9s						
CD2				LR	LR		
	comp=Z,1μm,14.7s						
DAV	Davao City (W)	36.70	74	LR	LR	08 15 09.3	
	comp=Z,850nm,21.8s,baz=228,slow=36						
NLAI	Namlea	36.75	91	P	P	08 00 27.1	-0.4
	comp=Z,130nm,0.9s						
BLDU	Ballidu	36.89	140	P	P	08 00 28.8	+0.3
MUN	Mundaring	37.51	142	P	P	08 00 34.1	+0.3
FITZ	Fitzroy Crossi	37.61	116	P	P	08 00 34.5	-0.3
FITZ	Fitzroy Crossi	37.61	116	LR	LR	08 14 13.1	
	comp=Z,847nm,19.1s,baz=302,slow=33						
RER	Riviere de l'E	37.99	239	P	P	08 00 38.0	-0.1
ENH	Enshi	38.10	27	P	P	08 00 38.7	-0.1
ENH				IAmb	IAmb	08 00 46.5	
	comp=Z,55nm,0.9s						
ENH				IAMs_20	IAMs_20	08 15 56.0	
	comp=Z,4μm,19.0s						
ENH	Enshi	38.10	27	P	P	08 00 39.3	+0.5
KLBR	Kellerberrin	38.21	140	P	P	08 00 39.6	-0.1
H01W3	Cape Leeuwin H	38.44	148	T	T	08 41 22.0	
	baz=312,slow=74						
H01W2	Cape Leeuwin H	38.45	148	T	T	08 41 20.5	
	baz=312,slow=74						
H01W1	Cape Leeuwin H	38.46	148	T	T	08 41 20.2	
	baz=312,slow=74						
NWAO	Narrogin (SRO)	38.79	143	P	P	08 00 44.1	-0.5
NWAO				IAmb	IAmb	08 00 44.9	
	comp=Z,183nm,1.6s						
NWAO	Narrogin (SRO)	38.79	143	P	P	08 00 44.3	-0.3
NWAO	Narrogin (SRO)	38.79	143	P	P	08 00 44.3	-0.3
NWAO	Narrogin (SRO)	38.79	143	P	P	08 00 44.1	-0.5
NWAO				pmax	pmax		
	comp=Z,183nm,1.6s						
QZH	Quanzhou	39.29	43	⇑i P	P	08 00 49.6	+0.8
QZH				S	S	08 06 51.2	+1.7
QZH				LR	LR		
	comp=Z,5μm,13.7s						
QZH				LR	LR		
	comp=Z,2μm,11.7s						
QZH				LR	LR		
	comp=Z,3μm,13.4s						
JLN	Jalan Bani Buh	39.38	311	P	P	08 00 50.4	+0.7
JLN				P	P	08 00 50.4	+0.7
GOMU	GeErMu	39.52	6	P	P	08 00 51.8	+0.8
GOMU				sP	pwP	08 00 59.1	-0.1
GOMU				PP	PnPn	08 02 29.1	+4.3
GOMU				S	S	08 06 51.1	-2.4
GOMU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GOMU				LR	LR		
	comp=Z,3μm,19.9s						
GOMU				LR	LR		
	comp=Z,6μm,18.6s						
GOMU				LR	LR		
	comp=Z,1μm,17.8s						
DQM	DQM	39.59	307	P	P	08 00 53.0	+1.6
KNRA	Kununurra	39.80	111	P	P	08 00 53.0	-0.2
MHTO	MHTO	39.82	309	P	P	08 00 53.8	+0.5
	SNR=5.2						
WBK	Wadi Bani Khal	39.98	312	P	P	08 00 55.8	+1.1
NIL	Nilore	40.12	338	P	P	08 00 56.3	+0.7
NIL				IAmb	IAmb	08 00 57.3	
	comp=Z,120nm,1.1s						
NIL	Nilore	40.12	338	P	P	08 00 56.5	+0.9
NIL	Nilore	40.12	338	P	P	08 00 56.3	+0.7
NIL				pmax	pmax		
	comp=Z,120nm,1.1s						
NIL				pmax	pmax		
	comp=Z,1μm,22.0s						
SSLB	Suanglung	40.21	46	P	P	08 00 56.2	-0.4
SSLB				IAmb	IAmb	08 00 59.1	
	comp=Z,96nm,0.9s						
SSLB				IAMs_20	IAMs_20	08 16 40.1	
	comp=Z,2μm,21.0s						
SSLB	Suanglung	40.21	46	P	P	08 00 57.9	+1.4
YULB	Yu-li	40.22	47	P	P	08 00 56.4	-0.2
YULB				IAmb	IAmb	08 00 59.3	
	comp=Z,58nm,0.8s						
YULB	Yu-li	40.22	47	P	P	08 00 58.3	+1.7
JMDO	Jabal Madar	40.49	311	P	P	08 00 59.8	+0.9
WSAR	Wadi Sarin	40.60	312	LR	LR	08 14 44.5	
	comp=Z,2μm,19.3s,baz=140,slow=32						
DMTO	DMTO	40.63	302	P	P	08 01 01.5	+1.5
WHN	Wuhan	40.75	33	P	P	08 01 02.0	+1.1
WHN				pP	pwP	08 01 06.1	-2.6
WHN				S	S	08 07 13.2	+1.9
WHN				SS	SS	08 10 02.9	-9.5
WHN				pmax	pmax		
	comp=Z,220nm,0.9s						
WHN				LR	LR		
	comp=Z,6μm,12.3s						
WHN				LR	LR		
	comp=Z,6μm,14.6s						
WHN				LR	LR		
	comp=Z,9μm,18.7s						
KMBL	Kambalda	40.79	137	P	P	08 01 01.5	+0.2
NACB	Ninganchiao	40.91	46	IAMs_20	IAMs_20	08 17 22.6	
	comp=Z,2μm,19.0s						
SMDO	Samad	40.93	311	P	P	08 01 03.6	+1.0
SWI	Sorong	41.01	88	P	P	08 01 01.9	-1.4
	comp=Z,48nm,1.0s						
YHNB	Yeheng	41.05	46	IAMs_20	IAMs_20	08 18 28.4	
	comp=Z,2μm,19.0s						
SAUI	Saumlaki	41.06	98	IAMs_20	IAMs_20	08 16 25.6	
	comp=Z,2μm,18.0s						
XAN	Xi'an	41.09	24	⇑P	P	08 01 03.4	-0.3
XAN				pP	sP	08 01 08.1	+0.5
XAN				S	S	08 07 15.2	-1.1
XAN				SS	SS	08 10 19.6	+0.5
XAN				pmax	pmax		
	comp=Z,110nm,1.0s						
XAN				LR	LR		
	comp=Z,5μm,15.7s						
XAN				LR	LR		
	comp=Z,5μm,16.1s						
XAN				LR	LR		
	comp=Z,4μm,18.2s						
SBV	Sambava	41.12	253	P	P	08 01 04.8	+0.6
BIDO	Bidbid	41.14	312	P	P	08 01 05.6	+1.4
BIDO				P	P	08 01 05.6	+1.4
DRS	Darwin Rock St	41.18	105	P	P	08 01 05.2	+0.5
LZH	Lanzhou	41.19	17	eP	P	08 01 04.9	+0.3
LZH				pP	sP	08 01 08.6	+0.1
LZH				sP	pwP	08 01 12.0	-0.5
LZH				S	S	08 07 11.6	-6.3
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				LR	LR		
	comp=Z,1μm,18.2s						
LZH				LR	LR		
	comp=Z,4μm,17.9s						
LZH				LR	LR		
	comp=Z,2μm,18.9s						
BSY	Bisya	41.39	310	P	P	08 01 07.8	+1.5
	SNR=5.2						
BSY				P	P	08 01 07.8	+1.5
	SNR=5.2						
MTN	Manton Dam	41.48	106	P	P	08 01 07.1	0.0
MTN				IAmb	IAmb	08 01 25.5	
	comp=Z,126nm,1.8s						
WHFO	Wadi Hawf	41.72	302	P	P	08 01 10.3	+1.2
DOK	Doka	41.73	303	P	P	08 01 10.0	+0.8
HOQ	Hoqain	41.79	311	P	P	08 01 11.2	+1.6
ABTO	Aybut	41.87	301	P	P	08 01 11.5	+1.1
FAKI	Fak Fak	41.90	91	P	P	08 01 09.7	-0.9
ARQ	Araqi	42.24	311	P	P	08 01 14.5	+1.3
ARQ				P	P	08 01 14.5	+1.3
WRKA	Warakurna	42.47	124	P	P	08 01 15.8	+0.7
KBL	Kabul	42.62	334	P	P	08 01 17.2	+0.8
KBL				IAmb	IAmb	08 01 17.9	
	comp=Z,39nm,0.8s						
KBL	Kabul	42.62	334	P	P	08 01 17.1	+0.8
	SNR=17						
KBL				P	P	08 01 17.1	+0.8
	SNR=17						
KBL	Kabul	42.62	334	P	P	08 01 17.2	+0.8
KBL				pmax	pmax		
	comp=Z,39nm,0.8s						
SOHO	SOHO	42.69	312	P	P	08 01 18.1	+1.3
SOHO				P	P	08 01 18.1	+1.3
SOHO	SOHO	42.69	312	P	P	08 01 17.3	+0.5
SOHO				i P	pP	08 01 18.0	-1.6
	SNR=13						
KDU	Kakadu	42.74	105	P	P	08 01 19.4	+2.0
LYN	LuoYang	43.05	27	P	P	08 01 20.8	+1.2
LYN				S	S	08 07 48.3	+3.1
LYN				sS	sS	08 07 54.4	+4.7
LYN				pmax	pmax		
	comp=Z,86nm,0.8s						
LYN				pmax	pmax		
	comp=Z,630nm,4.6s						
LYN				LR	LR		
	comp=Z,4μm,17.5s						
LYN				LR	LR		
	comp=Z,5μm,18.2s						
LYN				LR	LR		
	comp=Z,5μm,18.6s						
ASHO	Ashiyiah	43.35	312	P	P	08 01 24.0	+1.7
ASHO	Ashiyiah	43.35	312	P	P	08 01 25.6	+3.3
HATD	Hatta, Dubai	43.38	312	P	P	08 01 24.8	+2.3
HATD				P	P	08 01 24.8	+2.3
HATD	Hatta, Dubai	43.38	312	i P	P	08 01 25.0	+2.5
	SNR=5.9						
GTA	Gaotai	43.40	11	eP	P	08 01 24.4	+1.9
GTA				sP	pwP	08 01 31.4	+0.9
GTA				S	S	08 07 50.1	-0.4
GTA				SS	SS	08 11 00.1	-4.6
GTA				pmax	pmax		
	comp=Z,19nm,1.3s						
GTA				LR	LR		
	comp=Z,970nm,16.7s						
GTA				LR	LR		
	comp=Z,2μm,17.1s						
GTA				LR	LR		
	comp=Z,910nm,16.7s						
MSFE	Esma-Masafi	43.67	313	P	P	08 01 26.0	+1.2
FAQ	Al Faqa, Dubai	43.74	312	P	P	08 01 26.8	+1.5
FAQ				P	P	08 01 26.8	+1.5
FAQ	Al Faqa, Dubai	43.74	312	i P	P	08 01 27.0	+1.6
	SNR=6.3						
NAZ	Nazwa, Dubai	43.82	312	P	P	08 01 26.9	+0.9
ASUD	Al Ashush, Dub	43.87	311	P	P	08 01 28.0	+1.6
AJN	Ajban	44.09	311	P	P	08 01 29.5	+1.4
NJ2	Nanjing	44.41	35	⇑P	P	08 01 31.4	+0.8
NJ2				pP	sP	08 01 35.1	+0.6
NJ2				S	S	08 08 09.6	+4.5
NJ2				pmax	pmax		
	comp=Z,44nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,660nm,4.0s						
NJ2				LR	LR		
	comp=Z,3μm,17.0s						
NJ2				LR	LR		
	comp=Z,3μm,17.5s						
NJ2				LR	LR		
	comp=Z,2μm,15.2s						
MZR	Muzera	44.41	308	P	P	08 01 32.4	+1.5
MZR				P	P	08 01 32.4	+1.5
MZR	Muzera	44.41	308	i P	P	08 01 32.1	+1.3
	SNR=12						
MZWR	Madinat Zayed	44.50	309	P	P	08 01 32.7	+1.2
MZWR				P	P	08 01 32.7	+1.2
KSH	Kashi	44.60	344	P	P	08 01 31.0	-1.2
KSH				S	S	08 08 04.6	-3.4
KSH				SS	SS	08 11 17.3	-11
KSH				pmax	pmax		
	comp=Z,42nm,1.4s						
KSH				pmax	pmax		
	comp=Z,350nm,5.0s						
KSH				LR	LR		
	comp=Z,1μm,14.1s						
KSH				LR	LR		
	comp=Z,2μm,13.7s						
KSH				LR	LR		
	comp=Z,1μm,17.2s						
ABPO	Ambohimpanom	44.88	246	P	P	08 01 35.2	+0.4
ABPO				IAMs_20	IAMs_20	08 14 56.0	
	comp=Z,2μm,22.0s						
ABPO	Ambohimpanom	44.88	246	P	P	08 01 35.2	+0.4
ABPO				pmax	pmax		
	comp=Z,110nm,1.2s						
ABPO				pmax	pmax		
	comp=Z,2μm,22.0s						
FORT	Forrest	44.90	132	P	P	08 01 34.9	+0.3
FORT	Forrest	44.90	132	P	P	08 01 35.2	+0.6
SSE	Sheshan	45.13	38	P	P	08 01 38.0	+1.6
SSE				S	S	08 08 20.8	+5.1
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,510nm,3.9s						
SSE				LR	LR		
	comp=Z,1μm,18.5s						
SSE				LR	LR		
	comp=Z,910nm,18.6s						
GHWR	Ruwais	45.39	309	P	P	08 01 40.1	+1.6
GHWR				P	P	08 01 40.1	+1.6
HRA	Herat	45.85	327	P	P	08 01 42.4	+0.1
HRA				IAmb	IAmb	08 01 44.1	
	comp=Z,40nm,1.0s						
JRN	Qarnain Island	45.92	310	P	P	08 01 43.5	+0.7
GAR	Garm	45.95	338	P	P	08 01 42.5	-0.4
GAR				IAmb	IAmb	08 01 43.7	
	comp=Z,78nm,1.2s						
GAR				IAMs_20	IAMs_20	08 21 15.7	
	comp=Z,3μm,20.0s						
WRA	Warramunga Arr	46.02	115	P	P	08 01 43.2	-0.4
WRA	Warramunga Arr	46.02	115	P	P	08 01 43.4	-0.2
	comp=Z,5.1nm,0.5s,baz=286,slow=9.2,SNR=38						
WRA				PcP	PcP	08 03 20.1	-0.2
	comp=Z,2.7nm,0.6s,baz=287,slow=3.1,SNR=1.8						
	comp=Z,5.1nm,0.5s						
WRA	Warramunga Arr	46.02	115	P	P	08 01 43.2	-0.4
WRA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
WB0	Warramunga Arr	46.02	114	IAmb	IAmb	08 02 08.1	
	comp=Z,47nm,1.3s						
WRAB	Tennant Creek	46.02	115	P	P	08 01 43.8	+0.1
WRAB				IAmb	IAmb	08 02 08.2	
	comp=Z,34nm,1.1s						
WRAB	Tennant Creek	46.02	115	i P	P	08 01 43.2	-0.5
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s						
WB2	Warramunga Arr	46.03	115	P	P	08 01 43.9	+0.2
WB2				IAmb	IAmb	08 02 01.7	
	comp=Z,90nm,1.8s						
VOI	Vohitsoka	46.07	243	P	P	08 01 43.7	-0.4
VOI	Vohitsoka	46.07	243	P	P	08 01 44.1	0.0
SIMJ	Simiganj	46.15	337	P	P	08 01 44.1	-0.4
SIMJ				IAMs_20	IAMs_20	08 24 04.1	
	comp=Z,1μm,18.0s						
WR0	Warramunga Arr	46.20	115	IAmb	IAmb	08 02 09.7	
	comp=Z,27nm,1.1s						
TARG	Taragay, Kyrgy	46.24	347	IAmb	IAmb	08 01 47.7	
	comp=Z,47nm,1.0s						
TARG				IAMs_20	IAMs_20	08 21 23.2	
	comp=Z,2μm,19.0s						
SLWR	Sila	46.37	308	P	P	08 01 47.3	+1.1
HNS	HongShan	46.42	27	⇑P	P	08 01 47.8	+1.4
HNS				S	S	08 08 34.9	+0.9
HNS				pmax	pmax		
	comp=Z,79nm,1.4s						
HNS				LR	LR		
	comp=Z,1μm,17.7s						
HNS				LR	LR		
	comp=Z,2μm,17.5s						
HNS				LR	LR		
	comp=Z,2μm,19.1s						
TIA	Tai'an	46.62	30	P	P	08 01 48.7	+0.6
TIA				PcP	PcP	08 03 22.2	+0.2
TIA				S	S	08 08 37.4	+0.4
TIA				pmax	pmax		
	comp=Z,25nm,0.9s						
TIA				LR	LR		
	comp=Z,1μm,15.0s						
TIA				LR	LR		
	comp=Z,2μm,19.4s						
TIA				LR	LR		
	comp=Z,2μm,17.6s						
BTK	Batken	46.70	339	IAmb	IAmb	08 01 51.0	
	comp=Z,40nm,0.9s						
AS31	Alice Springs	46.72	120	P	P	08 01 49.3	+0.2
ASAR	Alice Springs	46.72	120	P	P	08 01 49.0	-0.2
	comp=Z,8.9nm,0.5s,baz=293,slow=7.8,SNR=303						
ASAR				PcP	PcP	08 03 22.6	-0.1

comp=Z,5.5nm,0.7s,baz=294,slow=2.7,SNR=6.2
comp=Z,8.9nm,0.5s
AS01 Alice Springs 46.76 120 P **P** **08 01 49.7 +0.2**
KDJ Kajisay 46.76 347 IAMs_20 IAMs_20 08 22 38.9
comp=Z,1μm,19.0s
WMQ Urumqi 46.97 357 *e*P **P** **08 01 51.7 +1.0**
WMQ S **S** **08 08 41.7 -0.1**
WMQ pmax pmax
comp=Z,38nm,1.3s
WMQ pmax pmax
comp=Z,390nm,3.7s
WMQ LR LR
comp=Z,2μm,20.1s
WMQ LR LR
comp=Z,2μm,20.1s
WMQ LR LR
comp=Z,2μm,23.9s
TRNA Turayna 47.08 308 P **P** **08 01 52.7 +0.8**
ULHL Ulahol 47.09 346 P **P** **08 01 53.1 +1.2**
SNR=8.6
SHLS Shalkode 47.27 349 *e*P **P** **08 01 52.0 -1.1**
SHLS pmax pmax
comp=Z,31nm,1.3s
SHLS Shalkode 47.27 349 *e*P **P** **08 01 52.0 -1.1**
comp=Z,31nm,1.3s
BTO Baotou 47.28 20 *e*P **P** **08 01 54.5 +1.2**
BTO pP **pwP** **08 01 59.0 -2.3**
BTO sP **sP** **08 02 01.7 +4.4**
BTO PP **PP** **08 03 45.5 +1.0**
BTO S **S** **08 08 49.6 +3.1**
BTO sS **sS** **08 08 57.5 +6.4**
BTO SS **SS** **08 12 12.6 -1.6**
BTO pmax pmax
comp=Z,79nm,1.0s
BTO pmax pmax
comp=Z,360nm,3.6s
BTO LR LR
comp=Z,4μm,15.1s
BTO LR LR
comp=Z,5μm,16.9s
BTO LR LR
comp=Z,3μm,16.5s
SATY Saty 47.38 348 *e*P **P** **08 01 53.5 -0.5**
SATY pmax pmax
comp=Z,30nm,1.3s
SATY Saty 47.38 348 *e*P **P** **08 01 53.5 -0.5**
comp=Z,30nm,1.3s
SMRA Abu-Samra 47.39 308 P **P** **08 01 55.2 +0.9**
BOOM Boomskoye usch 47.40 346 IAmb IAmb 08 01 56.2
comp=Z,28nm,1.2s
BOOM IAMs_20 IAMs_20 08 21 19.0
comp=Z,2μm,22.0s
PDGK Podgornoye 47.43 349 P **P** **08 01 54.4 0.0**
ZHN Zhinishke 47.48 348 *e*P **P** **08 01 54.3 -0.5**
ZHN Zhinishke 47.48 348 *e*P **P** **08 01 54.3 -0.5**
AML Almayashu 47.67 343 P **P** **08 01 58.0 +1.4**
SNR=48
TNSS Tian-Shan 47.68 347 *e*P **P** **08 01 55.7 -0.9**
TNSS Tian-Shan 47.68 347 *e*P **P** **08 01 55.8 -0.9**
KPKS Kokpek 47.72 349 *e*P **P** **08 01 55.9 -0.7**
KPKS pmax pmax
comp=Z,23nm,1.4s
KPKS Kokpek 47.72 349 *e*P **P** **08 01 55.9 -0.7**
comp=Z,24nm,1.4s
KBK Karagaybulak 47.81 345 P **P** **08 01 58.9 +1.4**
SNR=14
AAA Alma-Ata 47.85 347 *e*P **P** **08 01 57.2 -0.4**
AAA pmax pmax
comp=Z,47nm,1.0s
AAA Alma-Ata 47.85 347 *e*P **P** **08 01 57.2 -0.4**
comp=Z,47nm,1.0s
SHMA Al-Shehemyia 47.85 310 P **P** **08 01 59.2 +1.4**
TKM2 Tokmak 2 47.89 345 P **P** **08 01 58.7 +0.6**
SNR=20
TKM2 Tokmak 2 47.89 345 P **P** **08 01 58.3 +0.2**
AAK Ala-Archa 47.91 344 P **P** **08 01 57.7 -0.5**
AAK IAmb IAmb 08 02 00.8
comp=Z,45nm,1.4s
AAK Ala-Archa 47.91 344 IAMs_20 IAMs_20 08 23 01.5
comp=Z,1μm,19.0s
AAK Ala-Archa 47.91 344 LR LR 08 23 14.4
comp=Z,1μm,20.2s,baz=168,slow=38
AAK Ala-Archa 47.91 344 P **P** **08 01 59.6 +1.3**
AAK Ala-Archa 47.91 344 P **P** **08 01 59.9 +1.7**
SNR=14
AAK Ala-Archa 47.91 344 *ce*P **P** **08 01 58.8 +0.6**
AAK pmax pmax
comp=Z,67nm,2.5s
AAK Ala-Archa 47.91 344 *i* P **P** **08 01 59.4 +1.2**
SNR=17
FRU1 Bishkek 48.04 345 P **P** **08 02 00.0 +0.9**
FRU1 Bishkek 48.04 345 P **P** **08 02 00.0 +0.9**
FRU1 pmax pmax
comp=Z,51nm,0.4s
FRU1 pmax pmax
comp=Z,1μm,20.0s
HHC Hu-ho-hao-te 48.05 22 *e*P **P** **08 02 00.2 +0.9**
HHC sP pwP 08 02 07.2 0.0
HHC S **S** **08 08 57.4 -0.1**
HHC sS sS 08 09 07.3 +5.3
HHC pmax pmax
comp=Z,27nm,1.4s
HHC pmax pmax
comp=Z,120nm,5.4s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,3μm,15.3s
HHC LR LR
comp=Z,2μm,16.1s
EKS2 Erkin-Say 48.13 344 P **P** **08 02 01.5 +1.6**
SNR=60
USP Ospenovka 48.50 345 P **P** **08 02 03.1 +0.5**
SNR=31
SGDS Sogindy 48.63 345 *e*P **P** **08 02 02.9 -0.7**
SGDS Sogindy 48.63 345 *e*P **P** **08 02 03.0 -0.7**
IUG Iuzhnay 48.83 340 *e*P **P** **08 02 04.8 -0.4**
IUG pmax pmax
comp=Z,34nm,1.0s
IUG Iuzhnay 48.83 340 *e*P **P** **08 02 04.9 -0.4**
comp=Z,34nm,1.0s
DZA Taraz 49.07 342 *e*P **P** **08 02 06.2 -0.8**
DZA pmax pmax
comp=Z,13nm,0.7s
DZA Taraz 49.07 342 *e*P **P** **08 02 06.3 -0.8**
comp=Z,13nm,0.7s
BJT Baijiatuau 49.22 26 P **P** **08 02 08.4 +0.3**
BJT Baijiatuau 49.22 26 IAMs_20 IAMs_20 08 23 51.3
comp=Z,1μm,18.0s
BJT Baijiatuau 49.22 26 P **P** **08 02 09.3 +1.2**
BJT Baijiatuau 49.22 26 P **P** **08 02 08.4 +0.3**
BJT pmax pmax
comp=Z,64nm,0.8s
BJT pmax pmax
comp=Z,1μm,18.0s
BJI Beijing 49.24 26 P **P** **08 02 09.2 +0.9**
BJI pP **pwP** **08 02 13.4 -2.8**
BJI PP **PP** **08 04 02.6 +0.3**
BJI S **S** **08 09 15.8 +1.8**
BJI pmax pmax
comp=Z,43nm,0.8s
BJI LR LR
comp=Z,780nm,19.9s
BJI LR LR
comp=Z,720nm,22.0s
BJI LR LR
comp=Z,670nm,17.9s
KK31 Karatay Array 49.52 341 P **P** **08 02 10.7 +0.2**
KK31 IAmb IAmb 08 02 12.2
comp=Z,37nm,1.0s
KK31 Karatay Array 49.52 341 P **P** **08 02 10.7 +0.2**
KK31 pmax pmax
comp=Z,37nm,1.0s
KKAR Karatay Array 49.52 341 P **P** **08 02 10.5 0.0**
KKAR Karatay Array 49.52 341 P **P** **08 02 10.5 0.0**
OOD Oodnadatta 49.64 124 P **P** **08 02 11.7 +0.1**
BRLS Borolday 49.68 340 *e*P **P** **08 02 09.9 -1.8**
BRLS Borolday 49.68 340 *e*P **P** **08 02 09.9 -1.8**
MK31 Makanchi Array 50.38 353 P **P** **08 02 16.9 0.0**
MK31 Makanchi Array 50.38 353 *ce*P **P** **08 02 16.7 -0.2**
MKAR Makanchi Array 50.38 353 P **P** **08 02 16.4 -0.5**
comp=Z,8.7nm,0.9s,baz=161,slow=7.7,SNR=48
MKAR LR LR 08 26 03.5
comp=Z,982nm,18.1s,baz=158,slow=39
comp=Z,8.7nm,0.9s
MKAR Makanchi Array 50.38 353 *i* P **P** **08 02 16.3 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 50.43 353 P **P** **08 02 16.8 -0.5**
MAKZ IAMs_20 IAMs_20 08 24 35.2
comp=Z,1μm,20.0s
MAKZ Makanchi 50.43 353 P **P** **08 02 16.8 -0.5**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ pmax pmax
comp=Z,1μm,20.0s
ZSN Zaisan 50.76 355 *e*P **P** **08 02 19.3 -0.4**
ZSN Zaisan 50.76 355 *e*P **P** **08 02 19.3 -0.4**
QIS Mount Isa 50.96 114 P **P** **08 02 22.2 +0.4**
DL2 Dalian 50.99 31 P **P** **08 02 21.8 +0.3**
DL2 S **S** **08 09 39.4 +1.0**
DL2 pmax pmax
comp=Z,62nm,0.8s
DL2 pmax pmax
comp=Z,180nm,4.6s
DL2 LR LR
comp=Z,1μm,23.7s
DL2 LR LR
comp=Z,1μm,19.4s
DL2 LR LR
comp=Z,2μm,16.3s
RAYN Ar Rayn 51.12 304 P **P** **08 02 22.1 -0.8**
RAYN IAmb IAmb 08 02 29.4
comp=Z,34nm,1.1s
RAYN Ar Rayn 51.12 304 P **P** **08 02 23.2 +0.3**
RAYN Ar Rayn 51.12 304 P **P** **08 02 22.1 -0.8**
RAYN pmax pmax
comp=Z,34nm,1.1s
RAYN pmax pmax
comp=Z,900nm,21.0s
RAYN Ar Rayn 51.12 304 *i* P **P** **08 02 22.7 -0.2**
SNR=22
BBOO Buckleboo 51.88 130 P **P** **08 02 28.1 -0.4**
BBOO IAmb IAmb 08 02 29.1
comp=Z,55nm,1.4s
BBOO Buckleboo 51.88 130 P **P** **08 02 28.1 -0.4**
KBD Kabd 52.05 311 P **P** **08 02 30.1 +0.4**
KIBK Kibwezi 52.18 270 P **P** **08 02 32.4 +1.3**
SNR=8.2
XLT XiLinHaoTe 52.39 23 *e*P **P** **08 02 32.9 +0.8**
XLT S **S** **08 09 58.9 +1.1**
XLT pmax pmax
comp=Z,20nm,1.0s
XLT pmax pmax
comp=Z,260nm,4.9s
XLT LR LR
comp=Z,3μm,17.6s
XLT LR LR
comp=Z,2μm,19.6s
TJN Taejon 52.48 38 P **P** **08 02 33.0 +0.2**
TJN Taejon 52.48 38 *i* P **P** **08 02 31.5 -1.3**
LCRK Leigh Creek 52.66 126 P **P** **08 02 34.6 +0.3**
JNU Nakatsue 52.77 43 P **P** **08 02 35.4 +0.4**
JNU IAmb IAmb 08 02 36.3
comp=Z,48nm,0.9s
JNU Nakatsue 52.77 43 P **P** **08 02 35.6 +0.6**
INCN Inchon 52.77 36 IAMs_20 IAMs_20 08 26 39.2
comp=Z,2μm,20.0s
SONM Songino Array 52.85 14 P **P** **08 02 35.5 0.0**
SONM IAmb IAmb 08 02 49.1
comp=Z,35nm,0.8s
SONM Songino Array 52.85 14 P **P** **08 02 35.2 -0.3**
comp=Z,21nm,0.8s,baz=196,slow=8.7,SNR=97
comp=Z,21nm,0.8s
SONM Songino Array 52.85 14 P **P** **08 02 35.5 0.0**
SONM pmax pmax
comp=Z,35nm,0.8s
ULN Ulaanbaatar 53.03 14 P **P** **08 02 36.6 -0.3**
ULN Ulaanbaatar 53.03 14 IAMs_20 IAMs_20 08 26 10.9
comp=Z,1μm,20.0s
ULN Ulaanbaatar 53.03 14 P **P** **08 02 37.3 +0.4**
ULN Ulaanbaatar 53.03 14 *i* P **P** **08 02 35.3 -1.6**
ULN pmax pmax
comp=Z,14nm,0.7s
KMBO Kilima Mbogo 53.03 271 P **P** **08 02 36.9 -0.7**
KMBO IAmb IAmb 08 03 06.9
comp=Z,56nm,1.8s
KMBO Kilima Mbogo 53.03 271 P **P** **08 02 38.0 +0.4**
comp=Z,4.0nm,0.7s,baz=78,slow=8.7,SNR=14
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 53.03 271 *i* P **P** **08 02 38.5 +0.9**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 53.03 271 *i* P **P** **08 02 38.2 +0.6**
SNR=8.1
WHYH Whyalla 53.13 130 P **P** **08 02 38.5 +0.8**
COEN Coen 53.23 105 P **P** **08 02 38.2 -0.6**
COEN IAMs_20 IAMs_20 08 28 14.3
comp=Z,2μm,21.0s
KSAR Wonju Array Be 53.49 37 P **P** **08 02 39.8 -0.4**
KSAR Wonju Array Be 53.49 37 P **P** **08 02 39.8 -0.4**
KS19 Wonju Array Si 53.52 37 P **P** **08 02 39.1 -1.4**
KS19 IAmb IAmb 08 02 41.5
comp=Z,54nm,1.1s
KSRS Korea Array 53.52 37 P **P** **08 02 40.2 -0.2**
comp=Z,14nm,0.9s,baz=233,slow=7.2,SNR=27
KSRS LR LR 08 27 33.3
comp=Z,1μm,18.1s,baz=220,slow=38
comp=Z,14nm,0.9s
OTUK Ortayu 53.68 345 P **P** **08 02 40.0 -1.4**
INKA Innaminka 53.85 122 P **P** **08 02 43.4 +0.3**
SNY Shenyang 54.15 30 ||P **P** **08 02 45.2 +0.3**
SNY S **S** **08 10 19.6 -1.9**
SNY pmax pmax
comp=Z,33nm,0.9s
SNY LR LR
comp=Z,920nm,16.1s
SNY LR LR
comp=Z,770nm,15.6s
SNY LR LR
comp=Z,1μm,17.3s
H04N2 CROZET ISLANDS 54.25 212 T T 09 01 11.5
baz=50,slow=75
H04N1 CROZET ISLANDS 54.26 212 T T 09 01 14.9
baz=50,slow=75
H04N3 CROZET ISLANDS 54.27 212 T T 09 01 18.0
baz=50,slow=75
HTT Hallett 54.33 129 P **P** **08 02 46.8 +0.2**
H04S1 CROZET ISLANDS 54.63 212 T T 09 01 42.2
baz=48,slow=76
ZAK Zakamensk 54.63 10 *e*P **P** **08 02 48.6 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.7s
H04S3 CROZET ISLANDS 54.64 212 T T 09 01 37.7
baz=48,slow=76
H04S2 CROZET ISLANDS 54.65 212 T T 09 01 42.8
baz=48,slow=76
KURBB Kurchatov Arra 54.66 351 P **P** **08 02 48.1 -0.3**
comp=Z,7.0nm,0.8s,baz=176,slow=6.7,SNR=42
KURBB LR LR 08 28 09.0
comp=Z,927nm,19.9s,baz=180,slow=38
comp=Z,7.0nm,0.8s
KURK Kurchatov 54.73 351 P **P** **08 02 48.8 -0.2**
KURK IAmb IAmb 08 03 17.9
comp=Z,28nm,1.1s
KURK Kurchatov 54.73 351 IAMs_20 IAMs_20 08 27 59.9
comp=Z,1μm,21.0s
KURK Kurchatov 54.73 351 *ce*P **P** **08 02 49.1 +0.1**
KURK pmax pmax
comp=Z,14nm,0.8s
MTSU Mount Surprise 54.88 110 P **P** **08 02 51.4 +0.7**
JMN Monobe 55.18 44 P **P** **08 02 53.7 +1.0**
BRZS Berezniki 55.21 346 *e*P **P** **08 02 52.3 -0.2**
BRZS Berezniki 55.21 346 *e*P **P** **08 02 52.3 -0.2**
LODK Lodwar 55.30 276 P **P** **08 02 55.4 +1.5**
MOY Mondy 55.52 8 *e*P **P** **08 02 55.7 +0.9**
MOY pmax pmax
comp=Z,32nm,3.4s
STKA Stephens Creek 55.87 127 P **P** **08 02 57.7 +0.1**
STKA Stephens Creek 55.87 127 P **P** **08 02 57.2 -0.4**
comp=Z,8.0nm,0.5s,baz=305,slow=4.8,SNR=31
comp=Z,8.0nm,0.5s
STKA Stephens Creek 55.87 127 P **P** **08 02 57.9 +0.2**
STKA Stephens Creek 55.87 127 *i* P **P** **08 02 56.6 -1.1**
QLP Quilpie 56.52 120 P **P** **08 03 03.2 +0.8**
CN2 Changchun 56.53 30 *e*P **P** **08 03 01.8 -0.3**
CN2 *e*S **S** **08 10 50.0 -3.4**
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,1μm,16.6s
IRK Irkutsk 56.59 10 *e*P **P** **08 03 00.0 -2.4**
IRK pmax pmax
comp=Z,40nm,2.0s
LKRN Lenkeran, Azer 56.68 322 P **P** **08 03 04.8 +1.5**
GUMO Guam 56.68 71 IAMs_20 IAMs_20 08 29 54.6
comp=Z,2μm,19.0s
MANU Manus Island 57.02 90 IAMs_20 IAMs_20 08 27 14.6
comp=Z,3μm,21.0s
ZAA0 Zalesovo Array 57.23 356 P **P** **08 03 06.3 -0.5**
ZALV Zalesovo Beam 57.23 356 P **P** **08 03 05.9 -0.9**
ZALV Zalesovo Beam 57.23 356 P **P** **08 03 05.8 -1.0**
comp=Z,8.7nm,0.8s,baz=184,slow=6.4,SNR=34
ZALV LR LR 08 28 23.8
comp=Z,1μm,20.1s,baz=178,slow=37
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 57.23 356 *i* P **P** **08 03 06.1 -0.7**
ZALV pmax pmax
comp=Z,9.0nm,0.8s
INU Inuyama 58.23 44 IAMs_20 IAMs_20 08 31 41.6
comp=Z,2μm,18.0s
INU Inuyama 58.23 44 P **P** **08 03 14.2 -0.1**
HIA Hailar 58.25 22 P **P** **08 03 14.2 0.0**
HIA Hailar 58.25 22 IAMs_20 IAMs_20 08 29 26.2
comp=Z,2μm,19.0s
HIA Hailar 58.25 22 P **P** **08 03 14.3 +0.1**
HIA Hailar 58.25 22 P **P** **08 03 14.2 0.0**
HIA pmax pmax
comp=Z,24nm,1.1s
HIA pmax pmax
comp=Z,2μm,19.0s
BVA0 Borovoye Array 58.57 346 *i* P **P** **08 03 15.1 -1.2**
BVAR Borovoye Array 58.57 346 P **P** **08 03 15.6 -0.7**
comp=Z,8.5nm,0.9s,baz=149,slow=6.9,SNR=35
BVAR LR LR 08 28 24.4
comp=Z,1μm,21.4s,baz=161,slow=36
comp=Z,8.5nm,0.9s
AB31 Akbulak array 58.58 337 *i* P **P** **08 03 15.8 -0.6**
ABKAR Akbulak array 58.58 337 P **P** **08 03 16.2 -0.3**
JGF Kuroka 58.60 44 P **P** **08 03 16.8 -0.1**
BRVK Borovoye 58.63 346 P **P** **08 03 15.8 -0.9**
BRVK Borovoye 58.63 346 IAMs_20 IAMs_20 08 28 24.0
comp=Z,1μm,20.0s
BRVK Borovoye 58.63 346 P **P** **08 03 16.7 0.0**
BRVK Borovoye 58.63 346 *ce*P **P** **08 03 16.3 -0.4**
BRVK pmax pmax
comp=Z,26nm,2.5s
MSHR Mys Shultsa 58.73 34 P **P** **08 03 18.1 +0.5**
BNX BinXian 58.89 30 ||P **P** **08 03 18.7 0.0**
BNX S **S** **08 11 25.6 +1.3**
BNX pmax pmax
comp=Z,31nm,1.4s
BNX LR LR
comp=Z,2μm,15.2s
BNX LR LR
comp=Z,820nm,10.3s
BNX LR LR
comp=Z,1μm,17.4s
MNGR Mingechevir, A 58.97 323 P **P** **08 03 20.8 +1.5**
AKT Akhty 59.02 324 *e*P **P** **08 03 20.5 +0.7**
AKT *e* 08 04 04.9
AKT pmax pmax
comp=Z,123nm,0.9s
NAX Nakhchivan 59.02 320 P **P** **08 03 21.9 +2.1**
CMSA Cobar Meteorol 59.08 125 P **P** **08 03 20.9 +0.6**
SEKA Sheki 59.17 323 P **P** **08 03 21.8 +1.0**
MDJ Mudanjiang 59.23 32 P **P** **08 03 21.2 +0.2**
MDJ IAmb IAmb 08 03 22.6
comp=Z,42nm,1.5s
MDJ Mudanjiang 59.23 32 P **P** **08 03 21.2 +0.2**
MDJ S **S** **08 11 33.1 +4.4**
MDJ pmax pmax
comp=Z,20nm,1.6s
MDJ pmax pmax
comp=Z,280nm,6.9s
MDJ LR LR
comp=Z,1μm,14.7s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ LR LR
comp=Z,2μm,18.0s
MDJ Mudanjiang 59.23 32 P **P** **08 03 21.5 +0.5**
GANJ Ganja 59.36 322 P **P** **08 03 22.9 +0.8**
VLA Vladivostok 59.49 34 *i* P **P** **08 03 23.5 +0.7**
VLA pmax pmax
comp=Z,37nm,1.3s
MBAR Mbarara 59.57 271 P **P** **08 03 25.2 +1.0**
MJB9 Matsu-Tunnel 59.67 44 IAmb IAmb 08 03 28.5
comp=Z,26nm,0.8s
MAJO Matsushiro 59.68 44 P **P** **08 03 23.7 -0.6**
MAJO IAmb IAmb 08 03 27.5
comp=Z,26nm,0.8s
MAJO Matsushiro 59.68 44 IAMs_20 IAMs_20 08 30 46.5
comp=Z,2μm,19.0s
MAJO Matsushiro 59.68 44 P **P** **08 03 24.7 +0.4**
MAJO Matsushiro 59.68 44 *i* P **P** **08 03 23.8 -0.6**
MAJO pmax pmax
comp=Z,63nm,1.6s
MJAR Matsushiro Arr 59.68 44 P **P** **08 03 23.8 -0.6**
comp=Z,19nm,0.8s,baz=218,slow=6.3,SNR=63
MJAR LR LR 08 31 22.2
comp=Z,1μm,19.8s,baz=195,slow=38
comp=Z,19nm,0.8s
GNI Garni 60.05 321 P **P** **08 03 27.1 0.0**
GNI IAmb IAmb 08 03 58.4
comp=Z,41nm,1.1s
GNI Garni 60.05 321 LR LR 08 31 05.7
comp=Z,363nm,18.7s,baz=128,slow=38
GNI Garni 60.05 321 *i* P **P** **08 03 26.2 -0.8**
GNI pmax pmax
comp=Z,46nm,1.1s
GNI Garni 60.05 321 P **P** **08 03 28.0 +1.0**
MAK Makhachkala 60.06 325 *e*P **P** **08 03 23.4 -3.4**
MAK *e*PPP PPP 08 07 00.5
MAK *e*S **S** **08 11 34.2 -5.3**
MAK *e*SS **SS** **08 15 35.9 -0.7**
MAK pmax pmax
comp=Z,352nm,1.4s
MAK MLR MLR
comp=Z,735nm,16.0s
GEVA Gevas 60.13 318 IAMs_20 IAMs_20 08 30 44.6
comp=Z,943nm,18.0s
USA0B Ussuriysk Arra 60.24 33 P **P** **08 03 27.5 -0.5**
USA0B IAmb IAmb 08 03 29.1
comp=Z,26nm,0.9s
USA0B Ussuriysk Arra 60.24 33 *i* P **P** **08 03 26.9 -1.1**
USRK Ussuriysk Ar. 60.24 33 P **P** **08 03 27.8 -0.2**
USRK Ussuriysk Ar. 60.24 33 P **P** **08 03 27.6 -0.4**
comp=Z,15nm,0.8s,baz=241,slow=6.2,SNR=28
comp=Z,15nm,0.8s
USRK Ussuriysk Ar. 60.24 33 P **P** **08 03 27.8 -0.2**
AKTO Aktyubinsk 60.27 337 LR LR 08 29 36.9
comp=Z,367nm,21.1s,baz=98,slow=36
AKTO Aktyubinsk 60.27 337 P **P** **08 03 26.6 -1.5**
JSD Sado 60.48 42 IAMs_20 IAMs_20 08 30 58.8
comp=Z,989nm,19.0s
POGA Pongola 60.72 240 P **P** **08 03 31.6 -0.1**
POGA IAMs_20 IAMs_20 08 32 39.8
comp=Z,1μm,21.0s
TOO Toolangi 60.83 132 P **P** **08 03 33.1 +0.8**
TOO Toolangi 60.83 132 P **P** **08 03 33.1 +0.8**
TOO pmax pmax
comp=Z,10.0nm,1.1s
GURO Guroymak-BITLI 60.94 318 IAmb IAmb 08 03 35.1
comp=Z,22nm,1.0s
RK1H Rockhampton Ha 61.42 115 P **P** **08 03 37.1 +0.6**
ASF Jabal al Asfar 61.67 309 LR LR 08 29 18.7
comp=Z,788nm,19.6s,baz=152,slow=35
RABL Rabaul 61.74 93 IAMs_20 IAMs_20 08 26 46.6
comp=Z,2μm,20.0s
YNG Young 62.05 127 P **P** **08 03 42.3 +1.7**
JMM Marumori 62.12 44 P **P** **08 03 40.6 -0.3**
JMM IAMs_20 IAMs_20 08 31 40.3
comp=Z,2μm,20.0s
JMM Marumori 62.12 44 P **P** **08 03 41.1 +0.2**
HEH HeiHe 62.15 26 *e*P **P** **08 03 40.3 -0.6**
HEH pmax pmax
comp=Z,17nm,0.9s
EIL Elat 62.23 306 LR LR 08 28 17.0
comp=Z,409nm,19.4s,baz=114,slow=34
LSZ Lusaka 62.23 255 IAMs_20 IAMs_20 08 25 22.0
comp=Z,1μm,22.0s

LSZ	**Lusaka**	**62.23 255**	LR	LR	08 25 44.7	
	comp=Z,1μm,21.8s,baz=89,slow=31					
LSZ	**Lusaka**	**62.23 255**	P	**P**	**08 03 42.6**	**+0.3**
LSZ			P	**P**	**08 03 42.6**	**+0.3**
EIDS	**Eidsvold**	**62.28 117**	P	**P**	**08 03 42.4**	**+0.1**
EIDS			IAmb	IAmb	08 04 07.2	
	comp=Z,33nm,1.6s					
EIDS	**Eidsvold**	**62.28 117**	P	**P**	**08 03 42.7**	**+0.4**
GHAJ	**Ghor Haditha**	**62.36 308**	P	**P**	**08 03 43.7**	**+1.1**
GHAJ			IAMs_20	IAMs_20	08 29 39.9	
	comp=Z,2μm,18.0s					
NCK	**Nalchik**	**62.67 323**	*i* P	**P**	**08 03 44.3**	**-0.2**
NCK			pmax	pmax		
	comp=Z,22nm,0.5s					
KOPT	**Kop Dagi**	**62.72 319**	P	**P**	**08 03 45.5**	**+0.3**
KOPT			IAmb	IAmb	08 04 07.6	
	comp=Z,21nm,1.0s					
KOPT			IAMs_20	IAMs_20	08 30 00.1	
	comp=Z,937nm,20.0s					
CAN	**Canberra**	**62.81 128**	P	**P**	**08 03 45.8**	**+0.1**
CAN			IAmb	IAmb	08 03 56.8	
	comp=Z,16nm,0.8s					
CAN	**Canberra**	**62.81 128**	P	**P**	**08 03 46.6**	**+0.9**
CAN	**Canberra**	**62.81 128**	P	**P**	**08 03 45.8**	**+0.1**
CAN			pmax	pmax		
	comp=Z,16nm,0.8s					
CAN			pmax	pmax		
	comp=Z,4μm,19.0s					
MMAI	**Mount Meron Ar**	**63.16 310**	P	**P**	**08 03 48.2**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=126,slow=9.4,SNR=4.5					
MMAI			LR	LR	08 30 07.6	
	comp=Z,785nm,19.2s,baz=104,slow=35					
	comp=Z,0.6nm,0.3s					
KBZ	**Khabaz**	**63.22 323**	P	**P**	**08 03 48.6**	**+0.5**
	comp=Z,21nm,0.8s,baz=127,slow=6.0,SNR=38					
KBZ			LR	LR	08 34 01.6	
	comp=Z,682nm,19.9s,baz=70,slow=39					
	comp=Z,21nm,0.8s					
KBZ	**Khabaz**	**63.22 323**	*ce*P	**P**	**08 03 47.7**	**-0.4**
KBZ			pmax	pmax		
	comp=Z,25nm,0.9s					
SHA1	**Shidzhatmaz**	**63.37 323**	*e*P	**P**	**08 03 50.0**	**+0.6**
KLR	**Kul'dur**	**63.43 29**	*ce*P	**P**	**08 03 49.2**	**-0.2**
KLR			pmax	pmax		
	comp=Z,33nm,1.7s					
TW1H	**Toowoomba 1 Ha**	**63.46 119**	P	**P**	**08 03 51.3**	**+1.1**
KIV	**Kislovodsk**	**63.48 323**	P	**P**	**08 03 50.3**	**+0.3**
KIV			IAMs_20	IAMs_20	08 35 32.9	
	comp=Z,794nm,18.0s					
KIV	**Kislovodsk**	**63.48 323**	P	**P**	**08 03 51.3**	**+1.4**
KIV			P	**P**	**08 03 51.3**	**+1.4**
KIV	**Kislovodsk**	**63.48 323**	*e*P	**P**	**08 03 50.1**	**+0.2**
KIV			*e*		08 06 09.8	
KIV			*e*S	**S**	**08 12 23.3**	**+0.3**
KIV			pmax	pmax		
	comp=Z,53nm,1.1s					
KIV			pmax	pmax		
	comp=Z,56nm,3.3s					
KIV			MLR	MLR		
	comp=Z,455nm,17.0s					
KIV	**Kislovodsk**	**63.48 323**	*i* P	**P**	**08 03 50.8**	**+0.9**
	SNR=10					
KIV	**Kislovodsk**	**63.48 323**	P	**P**	**08 03 50.1**	**+0.2**
	comp=Z,603nmcomp=Z,61nm,1.1s					
GAZ	**Gaziantep**	**63.60 315**	P	**P**	**08 03 50.9**	**0.0**
GAZ			IAmb	IAmb	08 04 19.6	
	comp=Z,43nm,1.3s					
GAZ			IAMs_20	IAMs_20	08 31 25.6	
	comp=Z,1μm,18.0s					
ARMA	**Armidale**	**63.74 122**	P	**P**	**08 03 51.3**	**-0.7**
ARMA	**Armidale**	**63.74 122**	P	**P**	**08 03 53.3**	**+1.3**
GOF	**Gofitskoye**	**63.90 325**	*ce*P	**P**	**08 03 53.1**	**+0.5**
CASY	**Casey**	**64.45 171**	P	**P**	**08 03 55.7**	**-0.1**
SVE	**Sverdlovsk**	**64.58 342**	⇓*e*P	**P**	**08 03 57.6**	**+0.8**
SVE			pmax	pmax		
	comp=Z,58nm,1.2s					
ZEA	**Zeya**	**64.67 23**	*e*P	P	08 04 07.9	+10
ARTI	**Arti**	**64.92 341**	P	**P**	**08 03 58.7**	**-0.4**
ARTI			IAmb	IAmb	08 04 28.5	
	comp=Z,39nm,1.1s					
ARTI			IAMs_20	IAMs_20	08 31 54.6	
	comp=Z,1μm,21.0s					
ARTI	**Arti**	**64.92 341**	LR	LR	08 32 17.3	
	comp=Z,1μm,21.2s,baz=143,slow=36					
ARTI	**Arti**	**64.92 341**	P	**P**	**08 03 58.7**	**-0.4**
ARTI			pmax	pmax		
	comp=Z,39nm,1.1s					
SOC	**Sochi**	**65.07 322**	*e*P	**P**	**08 03 57.9**	**-2.4**
SOC			*e*		08 06 20.3	
SOC			*e*S	**S**	**08 12 41.1**	**-1.4**
SOC			*e*SS	**SS**	**08 16 58.0**	**+3.0**
SOC			pmax	pmax		
	comp=Z,13nm,0.7s					
KSANE	**Kasane**	**65.33 252**	*i* P	**P**	**08 04 03.3**	**+0.7**
CSS	**Mathiatis**	**65.51 311**	IAmb	IAmb	08 04 22.5	
	comp=Z,42nm,1.1s					
CSS			IAMs_20	IAMs_20	08 32 22.4	
	comp=Z,1μm,18.0s					
CSS	**Mathiatis**	**65.51 311**	P	**P**	**08 04 03.4**	**0.0**
	comp=Z,648nmcomp=Z,38nm,1.4s					
LBTB	**Lobatse**	**65.71 244**	P	**P**	**08 04 04.7**	**-0.3**
LBTB	**Lobatse**	**65.71 244**	LR	LR	08 27 23.8	
	comp=Z,600nm,21.9s,baz=66,slow=31					
LBTB	**Lobatse**	**65.71 244**	P	**P**	**08 04 04.7**	**-0.3**
LBTB			pmax	pmax		
	comp=Z,46nm,0.9s					
ERM	**Erimo**	**65.74 41**	IAMs_20	IAMs_20	08 36 17.8	
	comp=Z,2μm,20.0s					
KDWAN	**Kaudwane**	**66.35 246**	*i* P	**P**	**08 04 09.5**	**+0.4**
JKA	**Kamikawa-asahi**	**66.43 38**	IAMs_20	IAMs_20	08 35 17.9	
	comp=Z,879nm,20.0s					
MAKGR	**Makgori**	**66.54 243**	*i* P	**P**	**08 04 09.7**	**-0.6**
BOSA	**Boshof**	**66.56 240**	P	**P**	**08 04 09.5**	**-0.9**
	comp=Z,14nm,1.1s,baz=76,slow=6.7,SNR=9.0					
	comp=Z,14nm,1.1s					
GRNR	**Gornyy**	**66.73 30**	⇓*i*P	**P**	**08 04 10.4**	**-0.4**
GRNR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BR104	**Keskin Array S**	**67.23 316**	P	**P**	**08 04 13.8**	**-0.6**
	comp=Z,107nmcomp=Z,14nm,0.7s					
BR131	**Keskin Array S**	**67.24 316**	P	**P**	**08 04 13.7**	**-0.8**
BR131			IAmb	IAmb	08 04 39.6	
	comp=Z,13nm,0.7s					
BR131	**Keskin Array S**	**67.24 316**	*i* P	**P**	**08 04 13.4**	**-1.1**
BRTR	**Keskin Array B**	**67.24 316**	P	**P**	**08 04 13.2**	**-1.3**
BRTR	**Keskin Array B**	**67.24 316**	P	**P**	**08 04 13.8**	**-0.7**
	comp=Z,7.4nm,0.7s,baz=134,slow=7.4,SNR=44					
BRTR			LR	LR	08 34 18.5	
	comp=Z,972nm,18.9s,baz=120,slow=37					
	comp=Z,7.4nm,0.7s					
BRTR	**Keskin Array B**	**67.24 316**	*i* P	**P**	**08 04 14.1**	**-0.4**
BRTR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
BR105	**Keskin Array S**	**67.25 316**	P	**P**	**08 04 14.0**	**-0.6**
	comp=Z,108nmcomp=Z,13nm,0.9s					
BR106	**Keskin Array S**	**67.26 316**	P	**P**	**08 04 14.1**	**-0.5**
	comp=Z,96nmcomp=Z,12nm,1.0s					
ILGA	**Ilgaz**	**67.76 317**	P	**P**	**08 04 17.1**	**-0.7**
ILGA			IAMs_20	IAMs_20	08 35 31.5	
	comp=Z,1μm,19.0s					
ANTO	**Ankara**	**67.89 316**	P	**P**	**08 04 17.6**	**-0.9**
ANTO			IAmb	IAmb	08 04 49.9	
	comp=Z,22nm,0.8s					
ANTO	**Ankara**	**67.89 316**	IAMs_20	IAMs_20	08 34 28.1	
	comp=Z,1μm,19.0s					
ANTO	**Ankara**	**67.89 316**	P	**P**	**08 04 19.0**	**+0.5**
ANTO			P	**P**	**08 04 19.0**	**+0.5**
ANTO	**Ankara**	**67.89 316**	P	**P**	**08 04 17.6**	**-0.9**
ANTO			pmax	pmax		
	comp=Z,22nm,0.9s					
ANTO			pmax	pmax		
	comp=Z,1μm,19.0s					
ANTO	**Ankara**	**67.89 316**	P	**P**	**08 04 18.3**	**-0.2**
	comp=Z,15nm,1.4s					
YSS	**Yuzhno-Sakhali**	**67.98 36**	P	**P**	**08 04 18.6**	**-0.2**
YSS			IAmb	IAmb	08 04 19.8	
	comp=Z,34nm,1.3s					
YSS	**Yuzhno-Sakhali**	**67.98 36**	P	**P**	**08 04 19.0**	**+0.3**
YSS	**Yuzhno-Sakhali**	**67.98 36**	*e*P	**P**	**08 04 19.1**	**+0.3**
YSS			*e*S	**S**	**08 13 15.4**	**-2.2**
YSS			*e*SS	**SS**	**08 17 41.1**	**+1.1**
YSS			pmax	pmax		
	comp=Z,20nm,1.3s					
YSS			smax	smax		
	comp=N,200nm,4.6s					
YSS			smax	smax		
	comp=E,100nm,4.4s					
VRH	**Novokhopyorsk**	**68.21 329**	*e*P	**P**	**08 04 18.9**	**-1.3**
VRH			pmax	pmax		
	comp=Z,20nm,0.8s					
KGCAE	**Kacgae**	**68.54 247**	*i* P	**P**	**08 04 23.1**	**+0.1**
ISP	**Isparta**	**68.71 313**	IAMs_20	IAMs_20	08 33 30.3	
	comp=Z,1μm,20.0s					
ELL	**Elmali**	**68.76 311**	P	**P**	**08 04 24.0**	**-0.1**
ELL	**Elmali**	**68.76 311**	P	**P**	**08 04 24.0**	**-0.1**
ELL			pmax	pmax		
	comp=Z,274nm,1.3s					
ELL			pmax	pmax		
	comp=Z,3μm,21.0s					
QNGWA	**Qangwa**	**69.22 250**	*i* P	**P**	**08 04 27.7**	**+0.4**
SAVO	**Savo Central**	**69.28 98**	P	**P**	**08 04 28.1**	**+0.5**
VSR	**Storozhevoye**	**69.53 328**	*e*P	**P**	**08 04 26.6**	**-1.8**
VSR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
BORA	**Eskisehir**	**69.54 315**	IAmb	IAmb	08 04 59.8	
	comp=Z,40nm,1.1s					
BORA			IAMs_20	IAMs_20	08 33 18.9	
	comp=Z,1μm,18.0s					
KIRV	**Kirov**	**69.72 339**	*ce*P	**P**	**08 04 29.7**	**+0.4**
VORR	**Voronezh**	**69.77 329**	*e*P	**P**	**08 04 26.8**	**-3.0**
VORR			pmax	pmax		
	comp=Z,40nm,0.4s					
TYV	**Tymovskoe**	**70.00 32**	*e*P	**P**	**08 04 31.6**	**+0.3**
TYV			pmax	pmax		
	comp=Z,12nm,1.4s					
TYV			pmax	pmax		
	comp=Z,300nm,5.1s					
KOOLE	**Kule**	**70.40 247**	*i* P	**P**	**08 04 34.4**	**-0.1**
LPSR	**Galich'ya Gora**	**70.43 330**	*e*P	**P**	**08 04 33.5**	**-0.4**
LPSR			pmax	pmax		
	comp=Z,24nm,0.8s					
SUR	**Sutherland**	**70.93 237**	LR	LR	08 32 19.6	
	comp=Z,510nm,18.2s,baz=82,slow=33					
SUR	**Sutherland**	**70.93 237**	P	**P**	**08 04 38.6**	**+0.9**
YAK	**Yakutsk**	**71.74 18**	P	**P**	**08 04 40.7**	**-1.0**
YAK	**Yakutsk**	**71.74 18**	*e*P	**P**	**08 04 40.2**	**-1.4**
YAK			*e**PP	**pP**	**08 04 43.8**	**-0.8**
YAK			*e*S	**S**	**08 14 01.9**	**+0.6**
YAK			*e*SSS	SSS	08 21 45.9	
YAK			pmax	pmax		
	comp=Z,122nm,0.9s					
YAK			pmax	pmax		
	comp=N,23nm,1.1s					
YAK			pmax	pmax		
	comp=E,28nm,1.5s					
YAK			smax	smax		
	comp=E,180nm,5.3s					
YAK			smax	smax		
	comp=N,130nm,4.8s					
TSUM	**Tsumeb**	**72.59 251**	P	**P**	**08 04 47.1**	**-0.7**
TSUM	**Tsumeb**	**72.59 251**	LR	LR	08 34 51.5	
	comp=N,364nm,18.1s,baz=334,slow=34					
MOS	**Moscow**	**72.83 332**	*e*P	**P**	**08 04 45.5**	**-2.8**
MOS			*e*		08 05 08.8	
MOS			pmax	pmax		
	comp=Z,37nm,0.8s					
MOS			MLR	MLR		
	comp=Z,1μm,20.0s					
OBN	**Obninsk**	**72.99 331**	LR	LR	08 38 55.9	
	comp=Z,805nm,21.2s,baz=151,slow=38					
OBN	**Obninsk**	**72.99 331**	⇓*i*P	**P**	**08 04 49.1**	**-0.1**
OBN			*e**PP	**sP**	**08 04 52.6**	**-0.6**
OBN			*i* *SP	**pwP**	**08 04 54.3**	**-3.0**
OBN					08 07 38.0	
OBN			*e*		08 14 52.2	
OBN			pmax	pmax		
	comp=Z,67nm,2.5s					
OBN			MLR	MLR		
	comp=Z,851nm,21.0s					
ALN	**Alexandroupoli**	**73.05 314**	IAmb	IAmb	08 05 13.9	
	comp=Z,35nm,1.3s					
ALN			IAMs_20	IAMs_20	08 33 32.5	
	comp=Z,1μm,19.0s					
WIN	**Windhoek**	**73.22 248**	IAmb	IAmb	08 04 52.8	
	comp=Z,22nm,0.9s					
RDO	**Rodhopi**	**73.49 315**	IAMs_20	IAMs_20	08 33 33.5	
	comp=Z,955nm,19.0s					
SYO	**Syowa Base**	**73.67 197**	⇓*e*P	**P**	**08 04 53.6**	**+0.6**
SYO	**Syowa Base**	**73.67 197**	⇓*i*pP	pP	08 04 55.6	-0.3
SYO	**Syowa Base**	**73.67 197**	⇓*e*PcP	**PcP**	**08 05 09.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**73.87 110**	P	**P**	**08 04 56.0**	**+0.9**
VRI	**Vrincioaia**	**74.36 319**	P	**P**	**08 04 58.0**	**+0.5**
	comp=Z,41nm,1.0s					
PLOR3	**Plostina Array**	**74.40 319**	P	**P**	**08 04 58.3**	**+0.5**
	comp=Z,46nm,1.3s					
AK07	**Malin Array Si**	**74.70 325**	P	**P**	**08 04 59.1**	**-0.3**
MLR	**Muntele Rosu**	**74.73 319**	IAmb	IAmb	08 05 26.6	
	comp=Z,56nm,1.0s					
MLR			IAMs_20	IAMs_20	08 39 34.9	
	comp=Z,887nm,19.0s					
MLR	**Muntele Rosu**	**74.73 319**	P	**P**	**08 05 00.2**	**+0.4**
	comp=Z,56nm,1.3s					
AKASG	**Malin Array Be**	**74.75 325**	P	**P**	**08 04 58.5**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=96,slow=4.8,SNR=15					
AKASG			LR	LR	08 42 10.2	
	comp=Z,462nm,18.1s,baz=120,slow=39					
	comp=Z,2.0nm,0.7s					
AKASG	**Malin Array Be**	**74.75 325**	*i* P	**P**	**08 04 59.0**	**-0.7**
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.6s					
AKBB	**Malin Array Si**	**74.75 325**	IAmb	IAmb	08 05 23.1	
	comp=Z,63nm,1.9s					
AKBB	**Malin Array Si**	**74.75 325**	*i* P	**P**	**08 04 58.0**	**-1.7**
AKBB			pmax	pmax		
	comp=Z,16nm,1.9s					
AK01	**Malin Array Si**	**74.75 325**	P	**P**	**08 04 59.0**	**-0.7**
KIEV	**Kiev**	**74.76 325**	P	**P**	**08 04 58.9**	**-0.8**
KIEV			IAmb	IAmb	08 05 23.0	
	comp=Z,57nm,1.9s					
KIEV	**Kiev**	**74.76 325**	P	**P**	**08 04 58.9**	**-0.8**
KIEV			pmax	pmax		
	comp=Z,57nm,1.9s					
KIEV	**Kiev**	**74.76 325**	P	**P**	**08 04 59.1**	**-0.6**
	comp=Z,40nm,0.9s					
KLMR	**Klimovskoe**	**74.98 337**	*e*P	P	08 04 53.8	-6.9
KLMR			pmax	pmax		
	comp=Z,24nm,1.2s					
LIT	**Litokhoron**	**75.36 313**	P	**P**	**08 05 02.5**	**-1.0**
LIT			IAMs_20	IAMs_20	08 44 33.1	
	comp=Z,909nm,22.0s					
LIT	**Litokhoron**	**75.36 313**	P	**P**	**08 05 02.5**	**-1.0**
LIT			pmax	pmax		
	comp=Z,13nm,0.9s					
LIT			pmax	pmax		
	comp=Z,900nm,22.0s					
DZM	**Mont Dzumac**	**75.94 112**	P	**P**	**08 05 08.5**	**+1.2**
BURAR	**Bucovina Array**	**75.96 321**	P	**P**	**08 05 07.0**	**+0.1**
KBN	**Korca**	**76.76 313**	IAMs_20	IAMs_20	08 44 38.0	
	comp=Z,917nm,22.0s					
MNK	**Minsk**	**77.10 328**	*i* P	**P**	**08 05 12.9**	**-0.1**
MNK			*i*		08 05 23.0	
MNK			*i*		08 08 04.8	
MNK			*i* PPP	PPP	08 09 54.1	
MNK			*i* S	**S**	**08 15 02.3**	**+0.7**
MNK			*i* SS	**SS**	**08 20 01.4**	**+2.2**
MNK			pmax	pmax		
	comp=N,15nm,0.8s					
MNK			pmax	pmax		
	comp=Z,14nm,0.8s					
MNK			pmax	pmax		
	comp=E,22nm,0.8s					
MNK			MLR	MLR		
	comp=Z,417nm,18.0s					
MNK			MLR	MLR		
	comp=N,350nm,16.0s					
MNK			MLR	MLR		
	comp=E,1μm,16.0s					
TIR	**Tirane**	**77.63 313**	IAMs_20	IAMs_20	08 41 04.0	
	comp=Z,744nm,19.0s					
KOLS	**Kolonicke sedl**	**78.26 321**	*e*P	**P**	**08 05 20.2**	**+0.6**
KOLS			*e*		08 05 31.6	
KOLS			pmax	pmax		
	comp=Z,8.0nm,0.7s					
KOLS	**Kolonicke sedl**	**78.26 321**	*e*P	**P**	**08 05 20.2**	**+0.6**
KOLS			*e*		08 05 31.6	
MA2	**Magadan**	**78.40 27**	P	**P**	**08 05 19.2**	**-1.0**
MA2			IAmb	IAmb	08 05 20.6	
	comp=Z,67nm,1.5s					
MA2	**Magadan**	**78.40 27**	P	**P**	**08 05 19.2**	**-1.0**
MA2	**Magadan**	**78.40 27**	*ce*P	**P**	**08 05 19.6**	**-0.5**
MA2			pmax	pmax		
	comp=Z,48nm,1.7s					
MA2	**Magadan**	**78.40 27**	P	**P**	**08 05 19.1**	**-1.0**
	comp=Z,31nm,1.3s					
TIXI	**Tiksi**	**78.88 12**	P	**P**	**08 05 21.1**	**-1.4**
TIXI	**Tiksi**	**78.88 12**	IAMs_20	IAMs_20	08 38 06.9	
	comp=Z,1μm,18.0s					
TIXI	**Tiksi**	**78.88 12**	*i* P	**P**	**08 05 20.5**	**-2.0**
TIXI			pmax	pmax		
	comp=Z,16nm,0.8s					
STHS	**Stebnicka Huta**	**79.06 322**	*e*P	**P**	**08 05 24.9**	**+0.9**
STHS	**Stebnicka Huta**	**79.06 322**	*e*P	**P**	**08 05 24.9**	**+0.9**
PETK	**Petropavlovsk-**	**79.31 35**	P	**P**	**08 05 23.1**	**-2.2**
	comp=Z,2.2nm,0.8s,baz=245,slow=3.0,SNR=1.9					
	comp=Z,2.2nm,0.8s					
SUW	**Suwalki**	**79.45 326**	*e*P	**P**	**08 05 26.7**	**+0.6**
PSZ	**Piszkesteto**	**79.45 320**	IAMs_20	IAMs_20	08 34 16.9	
	comp=Z,1μm,19.0s					
MORH	**Mrgy, Hungar**	**79.80 318**	P	**P**	**08 05 27.9**	**-0.2**
	comp=Z,8.1nm,2.0s					
ELIB	**Princess Elisa**	**79.85 197**	*d*P	**P**	**08 05 29.1**	**+1.0**
	comp=Z,13nm,1.1s					
CEL	**Celeste**	**79.86 310**	IAMs_20	IAMs_20	08 35 32.1	
	comp=Z,621nm,18.0s					
LANS	**Liptovska Anna**	**80.08 321**	*e*P	**P**	**08 05 34.3**	**+4.6**
LANS	**Liptovska Anna**	**80.08 321**	*e*P	**P**	**08 05 34.3**	**+4.6**
OJC	**Ojcow**	**80.19 322**	*e*P	**P**	**08 05 31.5**	**+1.3**
OJC	**Ojcow**	**80.19 322**	P	**P**	**08 05 30.5**	**+0.3**
	comp=Z,20nm,1.0s					
VYHS	**Vyhne**	**80.30 320**	*e*P	**P**	**08 05 31.8**	**+1.0**
VYHS			*e*		08 05 42.3	
VYHS			pmax	pmax		
	comp=Z,26nm,1.8s					
VYHS	**Vyhne**	**80.30 320**	*e*P	**P**	**08 05 31.8**	**+1.0**
VYHS			*e*		08 05 42.3	
WDD	**Wied Dalam**	**80.44 307**	IAMs_20	IAMs_20	08 48 09.7	
	comp=Z,1μm,19.0s					
SRO	**Srobarova**	**80.45 319**	*e*P	**P**	**08 05 35.0**	**+3.4**
SRO	**Srobarova**	**80.45 319**	*e*P	**P**	**08 05 35.0**	**+3.4**
SEY	**Seymchan**	**80.63 24**	*ce*P	**P**	**08 05 31.8**	**-0.4**
SEY			pmax	pmax		
	comp=Z,28nm,1.7s					
MPLH	**Magyarpolny**	**80.78 319**	P	**P**	**08 05 34.0**	**+0.6**
	comp=Z,48nm,1.4s					
FINES	**FINESS Array B**	**80.88 334**	P	**P**	**08 05 33.3**	**-0.2**
	comp=Z,6.5nm,0.8s,baz=103,slow=6.1,SNR=13					
	comp=Z,6.5nm,0.8s					
FINES	**FINESS Array B**	**80.88 334**	*i* P	**P**	**08 05 34.4**	**+0.8**
FINES			pmax	pmax		
	comp=Z,6.0nm,0.8s					
APA	**Apatity**	**81.00 341**	⇓*i*P	**P**	**08 05 35.0**	**+0.9**
APA			pmax	pmax		
	comp=Z,8.0nm,1.1s					
RPZ	**Rata Peaks**	**81.05 134**	P	**P**	**08 05 34.1**	**-0.8**
	comp=Z,11nm,0.6s,baz=272,slow=4.4,SNR=7.7					
	comp=Z,11nm,0.6s					
JAVC	**Velka Javorina**	**81.14 320**	*e*P	**P**	**08 05 36.6**	**+1.2**
MAUC	**Maruska**	**81.18 321**	*e*P	**P**	**08 05 36.6**	**+1.1**
MODS	**Modra-Piesok**	**81.27 320**	*e*P	**P**	**08 05 36.3**	**+0.3**
MODS	**Modra-Piesok**	**81.27 320**	*e*P	**P**	**08 05 36.3**	**+0.3**
MODS			*e*		08 05 47.6	
MORC	**Moravsky Berou**	**81.47 321**	*e*P	**P**	**08 05 37.4**	**+0.4**
RONA	**Rosalia, Austr**	**81.73 319**	*e*P	**P**	**08 05 39.3**	**+0.8**
	comp=Z,4.5nm,0.8s					
VRAC	**Vranov**	**81.94 321**	*e*P	**P**	**08 05 40.4**	**+0.9**
KRUC	**Moravsky**	**82.00 320**	*e*P	**P**	**08 05 40.4**	**+0.6**
CONA	**Conrad Observa**	**82.07 319**	*e*P	**P**	**08 05 40.6**	**+0.2**
	comp=Z,6.4nm,1.8s					
INTR	**Introdacqua**	**82.12 313**	IAmb	IAmb	08 06 14.9	
	comp=Z,26nm,1.1s					
ARSA	**Arzberg**	**82.14 318**	*e*P	**P**	**08 05 41.1**	**+0.5**
	comp=Z,9.8nm,0.9s					
ARSA	**Arzberg**	**82.14 318**	IAmb	IAmb	08 06 06.9	
	comp=Z,20nm,1.0s					
SOKA	**Soboth**	**82.33 318**	*e*P	**P**	**08 05 41.8**	**+0.1**
	comp=Z,11nm,1.2s					
DPC	**Dobruska-Polom**	**82.37 322**	*e*P	**P**	**08 05 42.5**	**+0.7**
DPC			*ex*	x	08 05 52.8	
DPC	**Dobruska-Polom**	**82.37 322**	*e*P	**P**	**08 05 42.5**	**+0.7**
DPC			*e*		08 05 52.8	
DPC	**Dobruska-Polom**	**82.37 322**	P	**P**	**08 05 42.6**	**+0.7**
	comp=Z,25nm,1.2s					
KSP	**Ksiaz**	**82.52 322**	P	**P**	**08 05 43.4**	**+0.9**
	comp=Z,23nm,1.3s					
AQU	**L'Aquila**	**82.56 313**	P	**P**	**08 05 43.8**	**+0.8**
	comp=Z,844nmcomp=Z,55nm,1.1s					
CHVC	**Chvalec**	**82.60 322**	*e*P	**P**	**08 05 44.7**	**+1.8**
CHVC			*ex*	x	08 05 54.0	
CHVC	**Chvalec**	**82.60 322**	*e*P	**P**	**08 05 44.7**	**+1.8**
CHVC			*e*		08 05 54.0	
TREC	**Trest**	**82.64 320**	*e*P	**P**	**08 05 44.7**	**+1.5**
TREC	**Trest**	**82.64 320**	*e*P	**P**	**08 05 44.7**	**+1.5**
VNDA	**Vanda**	**82.85 168**	P	**P**	**08 05 43.8**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=332,slow=5.4,SNR=8.6					
VNDA			LR	LR	08 37 56.0	
	comp=Z,621nm,21.5s,baz=218,slow=32					
	comp=Z,2.5nm,0.6s					
NRCA	**Norcia**	**82.86 314**	IAmb	IAmb	08 06 18.9	
	comp=Z,30nm,1.1s					
FDMO	**Fiordimonte**	**82.92 314**	IAMs_20	IAMs_20	08 48 36.0	
	comp=Z,640nm,20.0s					
CESX	**Cesi**	**83.20 313**	IAMs_20	IAMs_20	08 44 49.4	
	comp=Z,1μm,21.0s					
MYKA	**Terra Mystica**	**83.26 318**	*e*P	**P**	**08 05 47.6**	**+1.0**
	comp=Z,9.6nm,1.1s					
CKRC	**Cesky Krumlov**	**83.28 320**	*e*P	**P**	**08 05 47.7**	**+1.2**
CKRC	**Cesky Krumlov**	**83.28 320**	*e*P	**P**	**08 05 47.7**	**+1.2**
ZVC	**Zvikov**	**83.50 320**	*e*P	**P**	**08 05 48.9**	**+1.3**
KBA	**Koelnbreinsper**	**83.55 318**	*e*P	**P**	**08 05 48.0**	**-0.2**
	comp=Z,4.1nm,1.0s					
GERES	**GERESS Array B**	**83.68 320**	P	**P**	**08 05 49.1**	**+0.4**
GERES	**GERESS Array B**	**83.68 320**	P	**P**	**08 05 48.9**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=104,slow=5.6,SNR=12					
	comp=Z,4.1nm,0.8s					
KHC	**Kasperske Hory**	**83.82 320**	*e*P	**P**	**08 05 50.5**	**+1.2**
KHC			*ex*	x	08 06 01.1	
KHC	**Kasperske Hory**	**83.82 320**	*ce*P	**P**	**08 05 51.2**	**+1.9**
KHC			pmax	pmax		
	comp=Z,97nm,2.5s					
KHC	**Kasperske Hory**	**83.82 320**	P	**P**	**08 05 50.2**	**+0.9**
	comp=Z,22nm,1.1s					
BRG	**Berggiesshubel**	**83.97 322**	*e*P	**P**	**08 05 51.7**	**+1.8**
BRG			Amp		08 05 53.5	
	comp=Z,11nm,1.2s					
ABTA	**Abfaltersbach**	**84

RTZ	Ruatahuna	85.37	128	IAmb	IAmb	08 06 11.7	
	comp=Z,38nm,0.9s						
URZ	Urewera	85.48	128	P	P	08 05 55.9	-1.9
	comp=Z,16nm,0.7s,baz=351,slow=2.3,SNR=9.6						
	comp=Z,16nm,0.7s						
FUORN	Ofenpass-Fuorn	85.54	317	IAmb	IAmb	08 06 26.9	
	comp=Z,13nm,0.8s						
DAVA	Damuels	85.91	318	eP	P	08 05 59.8	-0.3
	comp=Z,29nm,1.5s						
TROLL	Troll, Antarti	86.19	198	⇑P	P	08 05 58.3	-2.6
	comp=Z,240nm,0.6s						
HFS	Hagfors	86.20	331	P	P	08 06 00.1	-0.9
	comp=Z,3.0nm,0.7s,baz=153,slow=5.0,SNR=5.5						
HFS				LR	LR	08 49 42.4	
	comp=Z,659nm,18.0s,baz=124,slow=39						
	comp=Z,3.0nm,0.7s						
TAM	Tamanrasset	86.44	293	IAmb	IAmb	08 06 16.7	
	comp=Z,16nm,1.0s						
TAM				IAMs_20	IAMs_20	08 50 14.5	
	comp=Z,1μm,21.0s						
QSPA	South Pole Qui	86.68	180	P	P	08 06 03.6	+0.2
QSPA				IAmb	IAmb	08 06 18.5	
	comp=Z,22nm,1.2s						
QSPA	South Pole Qui	86.68	180	P	P	08 06 03.4	0.0
	comp=Z,8.2nm,1.0s,baz=293,slow=1.6,SNR=18						
	comp=Z,8.2nm,1.0s						
NB2	NORSAR Subarra	87.59	331	P	P	08 06 07.7	-0.1
	comp=Z,21nm,1.4s,baz=99,slow=5.1						
NB2	NORSAR Subarra	87.59	331	P	P	08 06 07.7	-0.1
	baz=99,slow=5.1						
NOA	NORSAR Array B	87.59	331	P	P	08 06 07.2	-0.6
	comp=Z,2.1nm,1.0s,baz=101,slow=5.0,SNR=6.4						
NOA				LR	LR	08 49 09.8	
	comp=Z,539nm,19.6s,baz=345,slow=38						
	comp=Z,2.1nm,1.0s						
BILL	Bilibino	87.83	21	ceP	P	08 06 09.5	+0.8
BILL				pmax	pmax		
	comp=Z,20nm,2.5s						
SNAA	Sanae	87.88	198	⇑P	P	08 06 08.0	-1.1
	comp=Z,251nm,0.8s						
SNAA	Sanae	87.88	198	P	P	08 06 09.6	+0.6
	comp=Z,10nm,0.8s,baz=151,slow=6.1,SNR=11						
	comp=Z,10nm,0.8s						
SNAA	Sanae	87.88	198	ceP	P	08 06 11.2	+2.2
SNAA				pmax	pmax		
	comp=Z,26nm,1.7s						
TORD	Torodi Ar. Bea	89.37	283	P	P	08 06 16.2	-0.9
VNA2	Neumayer--Watz	89.42	199	⇑P	P	08 06 17.7	+1.5
	comp=Z,20nm,0.7s,baz=97,slow=4.0						
SPITS	Spitsbergen Ar	89.94	349	P	P	08 06 18.1	-0.4
	comp=Z,6.9nm,0.8s,baz=141,slow=4.8,SNR=2.4						
SPITS				LR	LR	08 49 23.2	
	comp=Z,667nm,21.1s,baz=66,slow=37						
	comp=Z,6.9nm,0.8s						
EKA	Eskdalemuir Ar	94.66	325	P	P	08 06 40.6	-0.2
	comp=Z,0.6nm,0.6s,baz=100,slow=4.6,SNR=4.9						
	comp=Z,0.6nm,0.6s						
ESDC	Sonseca Array	95.36	309	P	P	08 06 43.4	-1.0
	comp=Z,0.5nm,0.7s,baz=62,slow=3.9,SNR=5.0						
	comp=Z,0.5nm,0.7s						
DBIC	Dimbokro	95.48	276	P	P	08 06 44.5	-0.9
	comp=Z,3.0nm,0.7s,baz=85,slow=4.5,SNR=5.0						
	comp=Z,3.0nm,0.7s						
DLBC	Dease Lake	116.69	22	PKP	PKPdf	08 12 03.0	-0.9
	comp=Z,3.1nm,0.9s,baz=299,slow=7.0,SNR=4.1						
YKA	Yellowknife Ar	118.11	13	PKP	PKPdf	08 12 04.8	-1.7
	comp=Z,1.5nm,1.0s,baz=326,slow=2.1,SNR=9.2						
YKA				PKKPbc	PKKPbc	08 22 24.7	-3.3
	comp=Z,0.5nm,0.8s,baz=158,slow=4.1,SNR=5.7						
FFC	Flin Flon	127.77	9	PKPdf	PKPdf	08 12 25.2	-0.1
FFC	Flin Flon	127.77	9	PKIKP	PKPdf	08 12 25.2	-0.1
DIAM	Diamantina, MG	129.83	243	eP	PKPdf	08 12 30.6	+0.2
J05D	Fort Rock, OR	131.34	31		PKiKP	08 12 34.1	+0.5
JANB	Januaria	131.49	247	eP	PKPdf	08 12 33.6	+0.1
TRQA	Tornquist	131.49	209	eP	PKPdf	08 12 33.6	+0.7
PLID	Pearl Lake	132.41	25	PKPdf	PKPdf	08 12 34.6	-0.1
SDBA	SAO DESIDERIO	132.82	250	eP	PKPdf	08 12 36.0	0.0
ULM	Lac du Bonnet	132.93	5	PKP	PKPdf	08 12 33.3	-1.9
	comp=Z,3.0nm,0.7s,baz=75,slow=1.9,SNR=8.2						
LL04	Puerto Octay	133.24	198	IAMs_20	IAMs_20	08 53 40.6	
	comp=Z,511nm,18.0s						
BDFB	Brasilia	134.66	244	PKP	PKPdf	08 12 37.0	-2.5
	comp=Z,1.7nm,0.8s,baz=57,slow=4.9,SNR=3.4						
NVAR	Mina Array Bea	136.38	33	PKP	PKPdf	08 12 40.8	-1.6
	comp=Z,1.4nm,0.7s,baz=276,slow=1.5,SNR=9.3						
BI02	San Fabin de	136.68	202		PKPdf	08 12 43.4	+0.6
PDAR	Pinedale Array	136.91	21	PKPdf	PKPdf	08 12 40.1	-3.1
PDAR	Pinedale Array	136.91	21	PKP	PKPdf	08 12 42.1	-1.1
	comp=Z,2.1nm,0.8s,baz=225,slow=0.2,SNR=8.1						
CPUP	Villa Florida	137.00	225	PKP	PKPdf	08 12 42.5	-1.0
	comp=Z,2.1nm,0.8s,baz=136,slow=3.0,SNR=5.2						
MZP	Montezuma Peak	137.41	33	IAMs_20	IAMs_20	09 13 13.7	
	comp=Z,401nm,18.0s						
MT05	Renca	139.33	205	IAMs_20	IAMs_20	09 03 12.3	
	comp=Z,498nm,18.0s						
BDQN	Bodoquena, MS	139.96	232	eP	PKPdf	08 12 49.5	+0.4
V12A	Nelson	140.23	33		PKPdf	08 12 50.6	+1.3
CLDB	Colider	143.43	247	eP	PKPbc	08 12 52.9	+0.3
PDRB	Porto dos Gac	144.01	245	eP	PKPab	08 12 54.0	+0.2
NPGB	Novo Progresso	144.20	253	eP	PKPab	08 12 54.6	0.0
PTLB	Pontes e Lacer	144.46	238	PKPdf	PKPab	08 12 55.2	-0.2
PTLB	Pontes e Lacer	144.46	238	eP	PKPab	08 12 55.2	-0.2
ANMO	Albuquerque	144.88	24	PKPdf	PKPdf	08 12 57.8	+0.1
ANMO	Albuquerque	144.88	24	PKIKP	PKPdf	08 12 57.8	+0.1
WCI	Wyandotte Cave	145.10	355		PKPbc	08 12 57.0	0.0
WCI	Wyandotte Cave	145.10	355	PKIKP	PKPbc	08 12 57.1	0.0
CCM	Cathedral Cave	145.38	2		PKPbc	08 12 57.7	-0.3
CCM	Cathedral Cave	145.38	2	PKIKP	PKPbc	08 12 57.7	-0.3
VILB	Vilhena	146.54	241	eP	PKPdf	08 13 00.7	-0.2
OK052	Battle Ridge R	146.82	11	IAMs_20	IAMs_20	09 24 05.7	
	comp=Z,523nm,20.0s						
OK029	Liberty Lake	146.88	12	IAMs_20	IAMs_20	09 01 48.5	
	comp=Z,449nm,18.0s						
WVT	Waverly	147.29	357		PKPbc	08 13 03.8	0.0
WVT	Waverly	147.29	357	PKP2	PKPbc	08 13 03.8	0.0
MACA	Manacapuru-AM	150.28	258	eP	PKPdf	08 13 06.5	-0.5
BOAV	Boa Vista	150.83	269	eP	PKPdf	08 13 07.5	-0.3
TXAR	Lajitas Array	150.92	26	PKPdf	PKPdf	08 13 07.3	-0.3
TXAR					PKPbc	08 13 14.0	+0.6
TXAR	Lajitas Array	150.92	26	PKP	PKPdf	08 13 07.7	0.0
	comp=Z,2.6nm,0.9s,baz=319,slow=2.2,SNR=22						
TXAR				PKPbc	PKPbc	08 13 13.1	-0.2
	comp=Z,12nm,0.7s,baz=322,slow=2.2,SNR=28						
TXAR	Lajitas Array	150.92	26	PKIKP	PKPdf	08 13 07.4	-0.3
TXAR						08 13 14.0	
LPAZ	La Paz	151.12	227	PKP	PKPdf	08 13 08.8	-0.1
	comp=Z,4.6nm,0.9s,baz=106,slow=2.2,SNR=14						
LPAZ				PKPbc	PKPbc	08 13 14.1	-0.7
	comp=Z,17nm,0.9s,baz=96,slow=2.7,SNR=27						
LPAZ	La Paz	151.12	227	eP	PKPdf	08 13 08.3	-0.7
HUMP	Col San Antoni	152.36	304		PKPbc	08 13 16.5	-0.2
TEFE	Tefe	154.04	255	eP	PKPdf	08 13 12.8	+0.2
TBTG	Tabatinga, AM	158.86	250	PKPdf	PKPdf	08 13 18.1	-0.7
TBTG	Tabatinga, AM	158.86	250	eP	PKPdf	08 13 18.4	-0.5
CHIV	Chivirico	158.95	323	IAMs_20	IAMs_20	09 22 34.6	
	comp=Z,340nm,21.0s						
OTAV	Otavalo	168.34	255	eP	PKPdf	08 13 27.6	-0.7

AEIC ***10*** *07:57:01.8±1.6, 55°.70N±0°.09×149°.6W±0°.1, h4km±8km, Error ellipse: s-maj=13.7km s-min=9.2km az=165.0*

NEIC 10 07:56:58.2±1.6, 55°.75N±0°.10×149°.7W±0°.1, h9km±8km, ML3.3/36, ML3.5(AEIC), Error ellipse: s-maj=14.4km s-min=9.1km az=166.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.50	308		Pn	07 57 38.8	-0.2
OHAK					Sn	07 58 06.8	-2.7
KDAK	Kodiak Island	2.60	323		Pn	07 57 40.6	+0.2
KDAK					Sn	07 58 09.8	-2.2
SII	Sitkinak Islan	2.66	290	Pn	Pn	07 57 41.2	-0.1
SII					Sn	07 58 12.0	-1.6
SII				IAML		07 58 12.2	
	comp=N,149nm,1.0s						
SII				IAML		07 58 17.7	
	comp=E,137nm,1.1s						
SYI	Shuyak Island	3.23	334		Pn	07 57 49.0	-0.1
SYI					Sn	07 58 26.5	-1.2
SYI				IAML		07 58 29.2	
	comp=N,60nm,0.9s						
KAHG	Katmai Hook Gl	3.83	318		Pn	07 57 58.3	+0.9
Q19K	Cape Douglas,	3.85	328		Pn	07 57 58.4	+0.8
CNPM	China Poot	3.88	348		Pn	07 57 57.4	-0.6
CNPM					Sn	07 58 41.4	-2.4
CNPM				IAML		07 58 44.2	
	comp=E,35nm,0.7s						
ACHA	Angle Creek He	3.97	311	Pn	Pn	07 58 00.2	+1.0
BRSE	Bradley Lake S	4.05	352		Pn	07 57 59.6	-0.7
BRSE					Sn	07 58 45.3	-2.5
HOM	Homer	4.07	346	Pn	Pn	07 58 00.5	0.0
BRLK	Bradley Lake	4.08	351		Pn	07 57 59.8	-0.9
BRLK				IAML		07 58 59.1	
	comp=N,28nm,0.9s						
BRLK				IAML		07 59 19.2	
	comp=E,27nm,1.1s						
KAHC	Katmai Hardscr	4.12	317		Pn	07 58 02.1	+0.8
KAHC					Sn	07 58 48.3	-1.3
P19K	Oil Pt	4.36	335		Pn	07 58 05.2	+0.6
P19K				IAML		07 58 58.3	
	comp=E,64nm,0.6s						
SEW	Seward	4.37	1		Pn	07 58 03.5	-1.1
ILSW	Iliamna Southw	4.64	338	Pn	Pn	07 58 08.1	-0.4
ILSW				IAML		07 59 03.0	
	comp=N,21nm,0.8s						
ILSW				IAML		07 59 18.0	
	comp=E,20nm,0.9s						
P18K	Big Mountain,	4.73	323		Pn	07 58 09.8	+0.2
P18K				IAML		07 59 03.7	
	comp=N,17nm,0.5s						
SLKM	Skilak Lake	4.78	357		Pn	07 58 09.7	-0.7
SLKM				IAML		07 59 07.3	
	comp=E,29nm,1.0s						
SLKM				IAML		07 59 07.3	
	comp=N,24nm,0.9s						
CHGN	Chignik	4.95	280	Pn	Pn	07 58 13.3	+0.8
HIN	Hinchinbrook I	4.95	18		Pn	07 58 12.2	-0.5
P17K	Kvichak River	5.04	316		Pn	07 58 14.7	+0.9
O18K	Koktuh Hills	5.08	326	Pn	Pn	07 58 14.6	+0.1
O18K				IAML		07 59 13.7	
	comp=E,15nm,1.1s						
O18K				IAML		07 59 20.2	
	comp=N,21nm,1.1s						
PWL	Port Wells	5.17	7	Pn	Pn	07 58 15.4	-0.3
PWL				IAML		07 59 18.6	
	comp=N,30nm,1.1s						
PWL				IAML		07 59 46.0	
	comp=E,41nm,1.2s						
EYAK	Cordova Ski Ar	5.24	22		Pn	07 58 16.4	-0.2
RC01	Rabbit Creek A	5.36	360		Pn	07 58 17.5	-0.7
RC01				IAML		07 59 23.1	
	comp=E,16nm,1.0s						
RC01				IAML		08 00 15.1	
	comp=N,13nm,1.2s						
VNHG	Veniaminof 1	5.36	279		Pn	07 58 18.7	+0.3
HMT	Hamilton	5.42	30	Pn	Pn	07 58 19.9	+0.8
N19K	Bonanza Creek	5.68	335	Pn	Pn	07 58 22.4	-0.4
SNH	Sunshine Point	5.74	36	Pn	Pn	07 58 23.1	-0.3
SUA	Susitna One	5.76	355		Pn	07 58 23.1	-0.8
DIV	Divide	5.77	19		Pn	07 58 23.6	-0.3
BMRM	Bremner River	5.87	25		Pn	07 58 25.0	-0.3
STLK	Strandline Lak	5.88	350		Pn	07 58 25.4	-0.1
N18K	Kilae Creek	5.94	329	Pn	Pn	07 58 26.3	0.0
MESA	MESA	6.04	40		Pn	07 58 28.1	+0.3
GHO	Glory Hole Cre	6.06	3		Pn	07 58 27.5	-0.4
KLU	Klutina	6.08	17		Pn	07 58 28.2	0.0
SML	Sawmill	6.12	6	Pn	Pn	07 58 28.5	-0.2
M23K	Glacier View	6.15	9		Pn	07 58 29.4	+0.4
SCM	Sheep Creek Mo	6.22	10	Pn	Pn	07 58 30.2	0.0
YAH	Yahtse	6.25	39	Pn	Pn	07 58 30.3	-0.4
SKT	Skwentna	6.33	352	Pn	Pn	07 58 31.4	-0.2
RKAV	Rock Avalanche	6.35	41		Pn	07 58 31.3	-0.6
VRDI	Verde Repeater	6.38	28	Pn	Pn	07 58 30.8	-1.6
M20K	Styx River	6.41	345	Pn	Pn	07 58 32.3	-0.5
N25K	Chitina, Valde	6.44	22		Pn	07 58 33.3	+0.1
SAMH	Samovar Hills	6.45	43		Pn	07 58 32.9	-0.4
KIAG	Kiagna River	6.46	33		Pn	07 58 33.4	0.0
GLB	Gilahina Butte	6.47	26		Pn	07 58 33.8	+0.1
BALM	Baldy	6.55	33		Pn	07 58 34.8	+0.2
PNL	Peninsula	6.75	50		Pn	07 58 37.3	-0.1
BCPM	Bancas Point	6.81	48		Pn	07 58 38.2	+0.1
M17K	Holitna River	6.98	328	Pn	Pn	07 58 41.1	+0.7
L19K	White Mountain	6.99	340	Pn	Pn	07 58 40.0	-0.7
HARP	HAARP	7.06	17		Pn	07 58 42.1	+0.5
N15K	Kwethluk River	7.10	313	Pn	Pn	07 58 43.8	+1.6
M16K	Timber Creek	7.20	321	Pn	Pn	07 58 44.0	+0.5
L18K	Granite Mounta	7.44	334	Pn	Pn	07 58 46.3	-0.4
O29M	Mount Kennedy	7.44	48		Pn	07 58 47.5	+0.5
PAX	Paxson	7.55	15	Pn	Pn	07 58 48.8	+0.4
S31K	Pelican	7.69	68		Pn	07 58 49.0	-1.1
RND	Reindeer	7.70	3		Pn	07 58 50.8	+0.4
M27K	Edge Creek, AK	7.74	28	Pn	Pn	07 58 52.2	+1.1
KTH	Kantishna Hill	7.86	356	Pn	Pn	07 58 52.1	-0.5
YUK6	Outpost Mounta	7.89	44		Pn	07 58 53.4	+0.1
K17K	Iditarod	8.27	331	Pn	Pn	07 58 58.0	-0.1
BCAR	Beaver Creek A	8.36	25	Pn	Pn	07 59 00.1	+0.7
BPAW	Bear Paw Mtn.	8.41	356	Pn	Pn	07 58 59.0	-1.1
N30M	Aishikik Lake	8.70	44	Pn	Pn	07 59 04.1	0.0
J20K	Nowinta River	8.75	347	Pn	Pn	07 59 04.2	-0.5
WRH	Wood River Hil	8.79	4	Pn	Pn	07 59 06.2	+0.9
M29M	Somme Creek	8.84	36	Pn	Pn	07 59 06.5	+0.5
ILAR	Eielson Array	9.16	7	Pn	Pn	07 59 11.5	+1.2
J26L	Joseph Creek	9.29	17	Pn	Pn	07 59 12.8	+0.7
P32M	Atlin	9.36	59	Pn	Pn	07 59 13.6	+0.4
L29M	L29M	9.42	34	Pn	Pn	07 59 14.7	+0.7
I23K	Minto, Yukon-K	9.43	1	Pn	Pn	07 59 14.5	+0.4
R33M	Jennings River	10.67	62	Pn	Pn	07 59 30.0	-1.1

IDC ***10*** *08:01:24.6±3.1, 31°.92S×177°.68W, h0km, mb3.5/2, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=75.9km s-min=37.5km az=117.0*

WEL ***10*** *08:01:29.1±1.7, 32°.5±9°.×17°.8W±2°.6, h26km±13km, M3.7/1, mB4.2/1, ML4.6/7, MLv3.7/1, Mw(mB)3.3/1, Error ellipse: s-maj=35.1km s-min=4.5km az=107.8, confirmed*

ISC 10 08:01:29.2±1.4, 31°.77S±0°.08×178°.2W±0°.2, h24km, n16, σ1§40/25, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.51	5	P	Pn	08 02 07.7	-0.7
GLKZ				S	Sn	08 02 37.8	-0.4
HAZ	Te Kaha	6.83	208	P	Pn	08 03 08.0	+0.2
HAZ				S	Sn	08 04 25.0	+0.2
PUZ	Puketiti	6.93	204	S	Sn	08 04 28.1	+0.7
RUGZ	Raukumara Rang	7.05	208	P	Pn	08 03 10.3	-0.8
RUGZ				S	Sn	08 04 31.6	+1.1
TWGZ	Tauwhareparae	7.13	205	S	Sn	08 04 32.7	+0.6
CNGZ	Carnagh Statio	7.32	203	P	Pn	08 03 13.1	-1.5
CNGZ				S	Sn	08 04 34.8	-2.2
MWZ	Matawai	7.43	207	P	Pn	08 03 14.2	-2.0
MWZ				S	Sn	08 04 39.6	-0.2
WCZ	Waipu Caves	7.47	234	P	Pn	08 03 14.1	-2.6
URZ	Urewera	7.54	209	Pn	Pn	08 03 17.6	+0.1
	0.2nm,0.3s,baz=31,slow=0.8,SNR=3.0						
URZ				Sn	Sn	08 04 42.5	+0.3
	0.6nm,0.3s,baz=337,slow=14,SNR=6.2						
	17nm,1.1s						
URZ	Urewera	7.54	209	P	Pn	08 03 17.5	0.0
URZ				S	Sn	08 04 42.4	+0.2
RIGZ	Rimuhau	7.67	204	P	Pn	08 03 19.7	+0.3
RIGZ				S	Sn	08 04 45.6	0.0
MUGZ	Murupara	7.87	210	S	Sn	08 04 48.2	-2.1
SNGZ	Shannon Statio	7.89	206	P	Pn	08 03 21.6	-0.9
SNGZ				S	Sn	08 04 49.6	-1.5
ASAR	Alice Springs	42.89	268	P	P	08 09 28.8	+2.8
	0.6nm,0.9s,baz=107,slow=7.0,SNR=4.2						
	0.6nm,0.9s						
WRA	Warramunga Arr	44.00	274	P	P	08 09 37.5	+2.5
	0.3nm,0.4s,baz=111,slow=8.1,SNR=5.9						
	0.3nm,0.4s						
FINES	FINESS Array B	146.36	339	PKPbc	PKPbc	08 21 06.5	-0.7
	2.8nm,0.9s,baz=65,slow=4.7,SNR=5.6						

DJA 10 08:02:26.5±1.4, 1°.N±8°.×9°.5E±1°.2, h10km, M4.3/10, MLv4.3/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	1.66	39	P	Pn	08 02 54.7	-0.9
GSI	Gunungsitoli	2.29	85	P	Pn	08 03 04.2	-0.2
PBSI	Pulau Batu	3.21	111	P	Pn	08 03 16.8	-0.2
MLSI	Meulaboh, Aceh	3.33	20	P	Pn	08 03 19.4	+0.7
MNSI	Mandailing Nat	4.30	94	P	Pn	08 03 32.3	+0.3
BSI	Banda Aceh	4.36	0	P	Pn	08 03 32.7	-0.1
SISI	Saibi	4.50	122	P	Pn	08 03 38.2	+3.4
PPI	Padang Panjang	5.34	107	P	Pn	08 03 45.8	-0.5

BJI ***10*** *08:12:24.0, 17°.62S×178°.21W, h573km, mB5.7/36, mb5.4/83*

MOS ***10*** *08:12:24.8±0.8, 17°.81S×178°.70W, h577km, mb5.8/43, Error ellipse: s-maj=8.5km s-min=7.6km az=114.9*

IDC ***10*** *08:12:25.2±0.4, 17°.93S×178°.60W, h568km±3km, mb5.3/30, mbtmp6.1/32, Error ellipse: s-maj=7.8km s-min=6.7km az=151.0*

NOU ***10*** *08:12:25.8, 17°.93S×178°.58W, h575km, ML5.9/202, Fiji Islands Region*

IPGP ***10*** *08:12:25.0, 17°.83S×178°.66W, h583km, Mw6.3, Fault plane solution: NP1:φs32.00000°, δ38.00000°, λ-160.00000°. NP2:φs286.00000°, δ78.00000°, λ-53.00000°.*

NEIC ***10*** *08:12:25.7, 17°.83S×178°.67W, h566km*

NEIC ***10*** *08:12:26, 17°.83S×179°.00W, h570km, Moment Tensor Solution. Duration: 6§7 Moment tensor: Scale 10^18Nm; Mrr-1.02; Mθθ1.68; Mφφ-0.66; Mrθ1.86; Mθφ1.14; Mφr-0.84; Fault plane solution: M0 2.76000×10^18 NP1:φs32.11000°, δ37.43000°, λ-157.41000°. NP2:φs283.82000°, δ76.50000°, λ-54.75000°. Principal axes: T 2.7618, Plg23.0000°, Azm347.0000°; N 0.0026, Plg34.0000°, Azm94.0000°; P -2.7645, Plg47.0000°, Azm230.0000°;*

NEIC ***10*** *08:12:26, 17°.83S×178°.66W, h570km*

NEIC ***10*** *08:12:26.4±2.1, 17°.89S±0°.08×178°.60W±0°.09, h578km±3km, mb5.9/708, Mwb6.3/68, Mww6.2/27, Error ellipse: s-maj=13.0km s-min=11.5km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-1.27; Mθθ1.82; Mφφ-0.55; Mrθ2.63; Mθφ1.35; Mφr-1.03; Fault plane solution: M0 3.52000×10^18 NP1:φs31.67000°, δ32.35000°, λ-156.85000°. NP2:φs281.81000°, δ77.86000°, λ-59.78000°. Principal axes: T 3.4414, Plg27.0000°, Azm348.0000°; N 0.1497, Plg29.0000°, Azm95.0000°; P -3.5911, Plg48.0000°, Azm224.0000°;*

GCMT ***10*** *08:12:28.4±0.1, 17°.81S±0°.01×178°.61W±0°.01, h581km, MW6.3/171, Moment Tensor Solution. s171, c399; s148, c193; Duration: 3§3 Moment tensor: Scale 10^18Nm; Mrr-1.28±.01; Mθθ2.21±.02; Mφφ-0.93±.02; Mrθ2.01±.02; Mθφ1.20±.02; Mφr-0.97±.02; Best double couple: M0 3.17700×10^18 NP1:φs35.00000°, δ39.00000°, λ-156.00000°. NP2:φs286.00000°, δ75.00000°, λ-54.00000°. Principal axes: T 3.2510, Plg22.0000°, Azm349.0000°; N -0.1530, Plg35.0000°, Azm95.0000°; P -3.1030, Plg47.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 10 08:12:25.1±0.2, 17°.88S±0°.03×178°.58W±0°.03, h572km±1km, h574km; pP-P, n2109, σ1§30/2373, mb5.9/495, 112C-134D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	0.41	213	P	P	08 13 33.1	+0.5
LKBA	Tubou, Lakemba	0.41	213	S	S	08 14 29.7	+2.1
MSVF	Nonsavu	3.22	272	P	P	08 13 44.6	+1.2
MSVF	Nonsavu	3.22	272	P	P	08 13 44.3	+0.8
	7μm,1.0s,baz=138,slow=5.9,SNR=1219						
MSVF				S	S	08 14 49.3	+2.1
	1μm,1.0s,baz=32,slow=22,SNR=12						
MSVF	Nonsavu	3.22	272	P	P	08 13 44.6	+1.2
MSVF	Nonsavu	3.22	272	i P	P	08 13 43.6	+0.1
FUTU	Fugatoga	3.58	7	P	P	08 13 45.6	-0.2
FUTU				S	S	08 14 51.4	0.0
FUTU	Fugatoga	3.58	7	P	P	08 13 45.9	+0.1
FUTU	Fugatoga	3.58	7	S	S	08 14 52.7	+1.3
AFI	Afiamalu	7.64	60	P	P	08 14 17.4	-2.9
AFI	Afiamalu	7.64	60	P	P	08 14 18.0	-2.3
AFI	Afiamalu	7.64	60	P	P	08 14 17.4	-2.9
AFI	Afiamalu	7.64	60	P	P	08 14 17.6	-2.6
AFI	Afiamalu	7.64	60	||P	P	08 14 17.4	-2.9
NIUE	Niue	8.29	100	P	P	08 14 26.6	+0.1
NIUE	Niue	8.29	100	P	P	08 14 26.9	+0.5
	comp=Z,0.0nmcomp=Z,5μm,1.0s						
NIUE	Niue	8.29	100	P	P	08 14 27.2	+0.8
NIUE	Niue	8.29	100	S	S	08 16 05.7	-0.2
NIUE	Niue	8.29	100	P	P	08 14 26.5	+0.1
FUNA	Funafuti	9.55	347	P	P	08 14 37.2	-1.8
FUNA	Funafuti	9.55	347	P	P	08 14 37.7	-1.3
FUNA	Funafuti	9.55	347	⇑P	P	08 14 37.4	-1.6
RIZ	Raoul Island	11.32	177	P	P	08 14 55.1	-1.7
GLKZ	Green Lake	11.34	177	P	P	08 14 55.1	-1.8
DVP	Devils Point	12.61	269	P	P	08 15 10.7	+0.6
MARNC	Mare, Loyalty	13.11	252	P	P	08 15 14.2	-1.0
MARNC	Mare, Loyalty	13.11	252	S	S	08 17 33.5	-1.6
MARNC	Mare, Loyalty	13.11	252	P	P	08 15 13.7	-1.5
PINNC	Pines Island,	13.93	248	P	P	08 15 22.7	-0.9
PINNC	Pines Island,	13.93	248

MUGZ	Murupara	20.92 190	P	P	08 16 26.5	-1.7
HRRZ	Handcock Road	20.92 191	P	P	08 16 28.3	0.0
RIGZ	Rimuhau	20.99 188	P	P	08 16 27.3	-1.7
PRRZ	Plateau Road	21.00 191	P	P	08 16 28.2	-0.8
PRRZ			ScP	ScP	08 22 53.9	-0.5
TLZ	Tolley Road	21.01 193	P	P	08 16 31.0	+1.8
RTZ	Ruatahuna	21.02 190	P	P	08 16 27.0	-2.2
RTZ	Ruatahuna	21.02 190	P	P	08 16 26.6	-2.6
RTZ			ScP	ScP	08 22 54.6	+0.2
WPRZ	Whakapapatarin	21.07 192	P	P	08 16 29.9	+0.2
WPRZ			ScP	ScP	08 22 44.0	-10
ALRZ	Allen Road	21.07 191	P	P	08 16 29.0	-0.7
KUTZ	Kaahu Road	21.11 192	P	P	08 16 31.0	+1.0
SNGZ	Shannon Statio	21.12 189	P	P	08 16 28.3	-1.8
PRGZ	Paritu Road	21.19 188	P	P	08 16 31.0	+0.3
WHTZ	Whakaora	21.25 192	P	P	08 16 29.8	-1.5
MTHZ	Maungataniwha	21.27 190	P	P	08 16 30.3	-1.1
RAHZ	Arahi	21.29 189	P	P	08 16 30.6	-1.1
RAHZ			ScP	ScP	08 22 56.9	+1.8
KNZ	Kokohu	21.31 188	P	P	08 16 30.7	-1.1
KNZ			ScP	ScP	08 22 55.4	+0.3
WATZ	Wairara	21.33 192	P	P	08 16 32.5	+0.4
HIZ	Hauiti	21.34 194	P	P	08 16 34.1	+2.1
HIZ	Hauiti	21.34 194	P	P	08 16 34.5	+2.5
MHGZ	Mahia Peninsul	21.41 188	P	P	08 16 31.9	-0.8
MHGZ			ScP	ScP	08 22 59.9	+4.6
NMHZ	Naumai	21.52 190	P	P	08 16 32.9	-0.8
RITZ	Rihia Road	21.57 192	P	P	08 16 33.6	-0.6
NGOA	Tingoa Renbel	21.59 284	P	P	08 16 34.9	+0.3
KATZ	Kakaramea	21.60 192	P	P	08 16 35.1	+0.6
BKZ	Black Stump Fm	21.64 190	P	P	08 16 32.9	-1.9
BKZ	Black Stump Fm	21.64 190	P	P	08 16 33.5	-1.3
ARHZ	Aropaoanui	21.65 189	P	P	08 16 33.6	-1.2
NTVZ	North Tongarir	21.72 192	P	P	08 16 35.8	+0.2
TMVZ	Te Maari	21.73 192	P	P	08 16 34.9	-0.8
TMVZ			ScP	ScP	08 22 56.1	-0.2
ETVZ	East Tongariro	21.75 192	P	P	08 16 35.1	-0.7
ETVZ			ScP	ScP	08 22 56.1	-0.2
NNVZ	North Ngauruho	21.77 192	P	P	08 16 35.6	-0.4
NNVZ			ScP	ScP	08 22 53.9	-2.6
OTVZ	Oturere	21.79 192	P	P	08 16 34.4	-1.8
NGZ	Ngauruhoe	21.81 192	P	P	08 16 36.3	-0.2
MCHZ	McNeill Hill	21.87 190	P	P	08 16 34.9	-2.0
TUVZ	Tukino	21.89 192	P	P	08 16 36.4	-0.8
WNVZ	Wahianoa	21.96 192	P	P	08 16 36.5	-1.3
PKVZ	Pokaka	21.97 193	P	P	08 16 36.7	-1.1
ALEG	Aligegeo Malai	22.10 292	P	P	08 16 39.1	-0.1
KRHZ	Kereru	22.12 190	P	P	08 16 37.8	-1.2
KRHZ			ScP	ScP	08 22 57.6	+0.5
KHEZ	Kahui Hut	22.29 195	P	P	08 16 42.9	+2.3
HNR	Honiara	22.48 289	P	P	08 16 41.4	-1.2
HNR	Honiara	22.48 289	P	P	08 16 43.7	+1.1
HNR	Honiara	22.48 289	P	P	08 16 41.4	-1.2
HNR	Honiara	22.48 289	⇓P	P	08 16 41.7	-0.9
SAVO	Savo Central	22.71 290	P	P	08 16 45.0	+0.3
TATA	Tatamba Isabel	23.05 291	P	P	08 16 47.2	-0.4
BFZ	Birch Farm	23.15 190	P	P	08 16 46.8	-1.5
BFZ	Birch Farm	23.15 190	P	P	08 16 48.5	+0.3
MRZ	Mangatainoka R	23.25 191	P	P	08 16 47.1	-1.9
MSWZ	Moikau Station	24.04 191	P	P	08 16 55.1	-1.0
TCW	Tory Channel	24.05 193	P	P	08 16 56.0	-0.1
SNZO	South Karori	24.05 192	P	P	08 16 54.9	-1.2
SNZO	South Karori	24.05 192	P	P	08 16 55.3	-0.8
SNZO	South Karori	24.05 192	⇓P	P	08 16 54.1	-1.9
BHW	Baring Head	24.11 192	P	P	08 16 55.7	-1.0
QRZ	Quartz Range	24.11 197	P	P	08 16 56.9	+0.2
QRZ	Quartz Range	24.11 197	P	P	08 16 57.1	+0.4
PLWZ	Palliser	24.19 191	P	P	08 16 56.5	-1.0
TKNZ	Takaka Hill	24.19 196	P	P	08 16 56.4	-1.0
NNZ	Nelson	24.26 195	P	P	08 16 57.4	-0.5
TUWZ	Tuamarina	24.33 194	P	P	08 16 58.3	-0.3
LHI	Lord Howe Isla	24.37 232	P	P	08 17 00.4	+1.3
LHI	Lord Howe Isla	24.37 232	P	P	08 16 59.0	-0.2
	comp=Z,0.0nmcomp=Z,972nm,0.9s					
LHI	Lord Howe Isla	24.37 232	⇓P	P	08 16 59.9	+0.8
MRNZ	Matariki Terra	24.59 196	P	P	08 17 00.2	-0.8
BSWZ	Blackbirch Sta	24.62 194	P	P	08 16 60.0	-1.2
THZ	Tophouse	24.89 195	P	P	08 17 02.7	-1.0
DSZ	Denniston Nort	25.17 197	P	P	08 17 05.9	-0.2
KHZ	Kahutara	25.36 194	P	P	08 17 02.4	-5.3
KHZ	Kahutara	25.36 194	P	P	08 17 06.4	-1.3
KHZ	Kahutara	25.36 194	⇑P	P	08 17 05.8	-1.9
CTZ	Chatham Island	25.82 177	P	P	08 17 15.4	+3.6
CTZ	Chatham Island	25.82 177	P	P	08 17 12.4	+0.7
GVZ	Greta Valley S	26.00 194	P	P	08 17 12.1	-1.2
LTZ	Lake Taylor	26.01 195	P	P	08 17 11.9	-1.6
INZ	Inchbonnie	26.18 197	P	P	08 17 13.5	-1.3
AMCZ	Amberley	26.29 195	P	P	08 17 14.8	-1.1
OXZ	Oxford	26.58 195	P	P	08 17 16.5	-1.9
MQZ	McQueen's Vall	26.79 194	P	P	08 17 19.3	-0.9
RPZ	Rata Peaks	27.20 197	P	P	08 17 22.0	-1.9
RPZ	Rata Peaks	27.20 197	P	P	08 17 21.8	-2.0
	comp=Z,108nm,0.7s,baz=189,slow=2.8,SNR=54					
	comp=Z,108nm,0.7s					
RPZ	Rata Peaks	27.20 197	P	P	08 17 22.5	-1.4
FOZ	Fox Glacier	27.39 199	P	P	08 17 24.6	-0.9
GC1S	Gold Coast 1 S	27.59 243	P	P	08 17 28.1	+0.6
PPT	Papeete	27.61 94	P	P	08 17 29.0	+1.1
	comp=Z,77nm,0.5s,baz=89,slow=3.1,SNR=22					
PPT			ScP	ScP	08 23 16.4	+3.1
	comp=Z,273nm,1.0s,baz=243,slow=2.3,SNR=10					
	comp=Z,77nm,0.5s					
PPT	Papeete	27.61 94	P	P	08 17 29.0	+1.1
PPTF	Pamatai, Papee	27.62 94	P	P	08 17 29.0	+1.0
PPTF	Pamatai, Papee	27.62 94	P	P	08 17 29.6	+1.6
PPTF	Pamatai, Papee	27.62 94	⇑P	P	08 17 29.1	+1.1
AUWSH	Wavell State H	27.80 245	P	P	08 17 29.3	0.0
LBZ	Lake Benmore	28.06 197	P	P	08 17 29.5	-1.9
JCZ	Jackson Bay	28.20 199	P	P	08 17 32.5	-0.2
ODZ	Otahuna Downs	28.54 196	⇑P	P	08 17 33.0	-2.5
XMAS	Kiritimati	28.73 49	P	P	08 17 38.0	+0.4
XMAS	Kiritimati	28.73 49	P	P	08 17 38.6	+1.0
XMAS	Kiritimati	28.73 49	⇑P	P	08 17 38.4	+0.8
TW1H	Toowoomba 1 Ha	28.75 245	P	P	08 17 37.6	-0.2
WKZ	Wanaka	28.80 198	IAmb	IAmb	08 17 37.8	
	comp=Z,571nm,1.1s					
GD1S	Gladstone Soft	28.85 253	P	P	08 17 38.5	0.0
EIDS	Eidsvold	29.12 250	P	P	08 17 40.6	-0.3
EIDS	Eidsvold	29.12 250	P	P	08 17 40.6	-0.3
EIDS	Eidsvold	29.12 250	P	P	08 17 40.3	-0.6
EIDS	Eidsvold	29.12 250	⇓P	P	08 17 40.5	-0.4
RK1H	Rockhampton Ha	29.42 254	P	P	08 17 43.3	-0.2
ARMA	Armidale	29.82 240	P	P	08 17 47.9	+1.0
ARMA	Armidale	29.82 240	P	P	08 17 47.7	+0.8
	comp=Z,0.0nmcomp=Z,1μm,0.9s					
ARMA	Armidale	29.82 240	P	P	08 17 47.5	+0.6
ARMA	Armidale	29.82 240	⇓P	P	08 17 47.7	+0.8
DCZ	Deep Cove	29.96 200	IAmb	IAmb	08 18 07.6	
	comp=Z,211nm,0.7s					
KWJN	Gagan, Kwajale	30.24 332	P	P	08 17 51.0	+0.4
SYZ	Scrubby Hill	30.33 197	P	P	08 17 51.2	+0.3
NTLH	Newcastle Hard	30.60 235	P	P	08 17 54.1	+0.6
PYZ	Puysegur Point	30.74 200	IAmb	IAmb	08 18 16.8	
	comp=Z,145nm,0.7s					
PYZ	Puysegur Point	30.74 200	P	P	08 17 54.3	-0.2
MGCD	Mangrove Creek	31.18 235	P	P	08 17 59.2	+0.7
	comp=Z,1μm,0.8s					
MGCD	Mangrove Creek	31.18 235	P	P	08 17 59.6	+1.2
RMQ	Roma	31.36 248	P	P	08 18 00.5	+0.3
	comp=Z,353nm,0.9s					
RMQ	Roma	31.36 248	P	P	08 18 00.7	+0.5
RIV	Riverview	31.37 234	P	P	08 18 00.4	+0.4
	comp=Z,1μm,1.0s					
RIV	Riverview	31.37 234	P	P	08 18 01.8	+1.7
RIV	Riverview	31.37 234	⇑P	P	08 18 00.8	+0.8
SYDH	Sydney Hard Ro	31.67 234	P	P	08 18 02.7	+0.1
RABL	Rabaul	31.71 292	P	P	08 18 01.9	-1.3
RABL	Rabaul	31.71 292	⇑P	P	08 18 01.8	-1.4
WOLH	Wollongong Har	31.82 233	P	P	08 18 03.7	-0.1
BULU	Kimbe	32.77 288	P	P	08 18 12.2	0.0
TV1H	Townsville Har	32.82 262	P	P	08 18 15.4	+2.8
CNB	Canberra Magne	33.31 232	P	P	08 18 17.2	+0.7
	comp=Z,0.0nmcomp=Z,2μm,0.9s					
CNB	Canberra Magne	33.31 232	P	P	08 18 17.3	+0.7
PATS	Pohnpei	33.53 315	P	P	08 18 18.6	+0.1
PATS	Pohnpei	33.53 315	P	P	08 18 18.9	+0.4
	comp=Z,938nm,1.4s					
PATS	Pohnpei	33.53 315	P	P	08 18 18.9	+0.4
CAN	Canberra	33.59 232	P	P	08 18 19.1	+0.2
CAN	Canberra	33.59 232	P	P	08 18 19.3	+0.4
	comp=Z,0.0nmcomp=Z,1μm,1.0s					
CAN	Canberra	33.59 232	P	P	08 18 19.2	+0.3
CAN	Canberra	33.59 232	P	P	08 18 19.1	+0.2
CAN			pmax	pmax		
	comp=Z,1μm,1.0s					
CAN	Canberra	33.59 232	⇓P	P	08 18 19.3	+0.4
CAN	Canberra	33.59 232	P	P	08 18 19.4	+0.4
CAN			PcP	PcP	08 20 42.5	+0.2
CAN			ScP	ScP	08 23 36.7	+3.6
YNG	Young	33.68 234	P	P	08 18 20.0	+0.4
	comp=Z,3μm,1.7s					
YNG	Young	33.68 234	P	P	08 18 21.6	+2.0
MILA	Mila	34.18 229	P	P	08 18 24.3	+0.5
MILA	Mila	34.18 229	⇓P	P	08 18 24.0	+0.2
PMG	Port Moresby	34.30 280	P	P	08 18 25.7	+0.7
	comp=Z,2μm,0.8s,baz=80,slow=6.3,SNR=382					
PMG			S	S	08 23 13.8	+1.2
	comp=Z,33nm,0.9s,baz=217,slow=21,SNR=11					
	comp=Z,2μm,0.8s					
PMG	Port Moresby	34.30 280	P	P	08 18 25.7	+0.7
PMG			PcP	PcP	08 20 45.2	+0.6
CMSA	Cobar Meteorol	35.02 240	P	P	08 18 31.1	+0.3
	comp=Z,0.0nmcomp=Z,2μm,0.9s					
CMSA	Cobar Meteorol	35.02 240	P	P	08 18 31.0	+0.2
MTSU	Mount Surprise	35.25 264	P	P	08 18 32.7	-0.3
MTSU	Mount Surprise	35.25 264	P	P	08 18 32.5	-0.5
QLP	Quilpie	35.39 249	P	P	08 18 33.9	0.0
QLP	Quilpie	35.39 249	P	P	08 18 34.0	0.0
QLP	Quilpie	35.39 249	⇑P	P	08 18 33.6	-0.4
JOHN	Johnston Islan	35.53 15	P	P	08 18 35.1	0.0
JOHN	Johnston Islan	35.53 15	P	P	08 18 35.7	+0.6
JOHN	Johnston Islan	35.53 15	P	P	08 18 35.1	0.0
MANU	Manus Island	36.94 291	⇓P	P	08 18 47.7	+0.8
COEN	Coen	36.95 270	P	P	08 18 47.1	+0.2
COEN	Coen	36.95 270	P	P	08 18 47.2	+0.3
COEN	Coen	36.95 270	P	P	08 18 47.3	+0.3
COEN	Coen	36.95 270	⇓P	P	08 18 47.2	+0.3
TOO	Toolangi	37.06 231	P	P	08 18 48.2	+0.7
TOO	Toolangi	37.06 231	P	P	08 18 48.3	+0.7
TOO	Toolangi	37.06 231	P	P	08 18 48.2	+0.7
TOO			pmax	pmax		
	comp=Z,816nm,0.9s					
TOO	Toolangi	37.06 231	⇓P	P	08 18 48.2	+0.7
CORO	Coronation Par	37.55 224	P	P	08 18 52.1	+0.7
MLBS	Spotswood, Mel	37.60 231	P	P	08 18 52.2	+0.3
MOO	Moorlands	38.00 223	P	P	08 18 55.7	+0.6
MOO	Moorlands	38.00 223	P	P	08 18 56.0	+0.9
TAU	Tasmania Unive	38.15 222	P	P	08 18 56.6	+0.3
TAU	Tasmania Unive	38.15 222	P	P	08 18 56.7	+0.3
TAU	Tasmania Unive	38.15 222	P	P	08 18 56.6	+0.3
TAU			pmax	pmax		
	comp=Z,738nm,1.2s					
TAU	Tasmania Unive	38.15 222	⇓P	P	08 18 56.6	+0.3
TAU	Tasmania Unive	38.15 222	P	P	08 18 56.6	+0.3
TAU			PcP	PcP	08 20 57.2	+1.3
GEXS	Deakin Univers	38.18 230	P	P	08 18 56.7	+0.1
TAOE	Nuku Hiva Isla	38.38 82	P	P	08 19 00.1	+1.4
TAOE			IAmb	IAmb	08 19 01.4	
	comp=Z,224nm,0.9s					
TAOE	Nuku Hiva Isla	38.38 82	P	P	08 19 01.2	+2.5
TAOE	Nuku Hiva Isla	38.38 82	⇓P	P	08 19 00.4	+1.7
STKA	Stephens Creek	38.50 241	P	P	08 19 00.1	+0.8
STKA	Stephens Creek	38.50 241	P	P	08 19 00.1	+0.8
STKA	Stephens Creek	38.50 241	P	P	08 19 00.1	+0.8
	comp=Z,1μm,0.7s,baz=92,slow=9.9,SNR=1543					
STKA			ScP	ScP	08 23 52.9	+1.5
	comp=Z,89nm,1.1s,baz=49,slow=5.6,SNR=5.4					
STKA			S	S	08 24 13.7	-1.0
	comp=Z,25nm,0.9s,baz=252,slow=20,SNR=1.9					
STKA			PKiKP	PKiKP	08 28 08.0	-1.6
	comp=Z,4.8nm,0.5s,baz=39,slow=2.6,SNR=5.8					
STKA			P3KPbc		08 48 51.0	
	comp=Z,3.8nm,0.9s,baz=326,slow=3.6,SNR=4.5					
	comp=Z,1μm,0.7s					
STKA	Stephens Creek	38.50 241	P	P	08 18 59.7	+0.4
STKA	Stephens Creek	38.50 241	P	P	08 19 00.1	+0.8
STKA			pmax	pmax		
	comp=Z,8μm,1.0s					
INKA	Innaminka	38.61 248	P	P	08 19 01.1	+0.9
QIS	Mount Isa	39.50 259	P	P	08 19 06.6	-1.0
	comp=Z,222nm,0.7s					
QIS	Mount Isa	39.50 259	P	P	08 19 06.6	-1.0
ARPS	Mount Arapiles	39.54 233	P	P	08 19 07.8	+0.2
ARPS	Mount Arapiles	39.54 233	P	P	08 19 07.8	+0.2
WAKE	Wake Island	39.68 338	P	P	08 19 08.2	-0.7
WAKE	Wake Island	39.68 338	P	P	08 19 08.7	-0.2
WAKE	Wake Island	39.68 338	⇑P	P	08 19 08.4	-0.5
WAKE	Wake Island	39.68 338	P	P	08 19 08.3	-0.7
WAKE			pP	pP	08 20 48.3	+1.5
WAKE			ScP	ScP	08 23 59.2	+3.2
MCQ	Macquarie Isla	40.43 200	P	P	08 19 15.1	+0.8
MCQ			IAmb	IAmb	08 19 16.0	
	comp=Z,378nm,1.1s					
MCQ	Macquarie Isla	40.43 200	P	P	08 19 15.0	+0.8
	comp=Z,393nm,2.0s					
MCQ	Macquarie Isla	40.43 200	P	P	08 19 15.1	+0.8
MCQ	Macquarie Isla	40.43 200	P	P	08 19 15.1	+0.8
MCQ			pmax	pmax		
	comp=Z,377nm,1.2s					
MGBR	Mount Gambier	40.79 233	P	P	08 19 17.9	+0.4
MMPI	Merauke	40.96 278	P	P	08 19 19.2	0.0
HTT	Hallett	41.02 239	P	P	08 19 20.0	+0.4
	comp=Z,3μm,0.9s					
HTT	Hallett	41.02 239	P	P	08 19 19.6	+0.1
HTT	Hallett	41.02 239	⇓P	P	08 19 19.9	+0.4
LCRK	Leigh Creek	41.12 244	P	P	08 19 20.4	+0.1
GHSS	Government Hou	41.59 237	P	P	08 19 24.3	+0.4
PTPS	Port Pirie	41.73 240	P	P	08 19 25.1	0.0
WHYH	Whyalla	42.06 240	P	P	08 19 27.9	+0.3
JAY	Jayapura	42.75 286	P	P	08 19 33.8	+0.4
	comp=Z,714nm,0.6s,baz=128,slow=4.5,SNR=208					
JAY			S	S	08 25 16.4	-0.2
	comp=Z,85nm,1.0s,baz=66,slow=20,SNR=21					
	comp=Z,714nm,0.6s					
JAY	Jayapura	42.75 286	P	P	08 19 33.7	+0.4
	comp=Z,8μmcomp=Z,1μm,0.7s					
OOD	Oodnadatta	43.08 248	P	P	08 19 36.4	+0.7
GENI	Genyem	43.21 286	P	P	08 19 38.3	+1.4
GENI	Genyem	43.21 286	P	P	08 19 37.2	+0.3
GENI	Genyem	43.21 286	⇑P	P	08 19 37.5	+0.6
BBOO	Buckleboo	43.28 241	P	P	08 19 37.2	+0.1
BBOO	Buckleboo	43.28 241	P	P	08 19 37.4	+0.2
BBOO	Buckleboo	43.28 241	P	P	08 19 37.4	+0.2
HMH	Humu'ula Sheep	43.61 32	P	P	08 19 40.8	+0.6
POHA	Pohakuloa	43.72 32		P	08 19 41.0	0.0
POHA	Pohakuloa	43.72 32	P	P	08 19 42.2	+1.3
POHA	Pohakuloa	43.72 32	P	P	08 19 41.2	+0.2
POHA			ScP	ScP	08 24 16.0	+3.4
HON	Honolulu	43.87 28	P	P	08 19 42.9	+1.1
HON	Honolulu	43.87 28	P	P	08 19 42.9	+1.1
HON			pmax	pmax		
	comp=Z,613nm,0.8s					
KIP	Kipapa	43.95 28	P	P	08 19 42.1	-0.4
KIP	Kipapa	43.95 28	P	P	08 19 43.3	+0.8
KIP	Kipapa	43.95 28	P	P	08 19 43.2	+0.8
KIP	Kipapa	43.95 28	*i* P	P	08 19 42.8	+0.4
KIP	Kipapa	43.95 28	P	P	08 19 42.5	0.0
KIP			ScP	ScP	08 24 16.6	+3.4
WR0	Warramunga Arr	44.29 260	P	P	08 19 43.9	-1.3
WB0	Warramunga Arr	44.45 260	P	P	08 19 45.2	-1.1
WB2	Warramunga Arr	44.47 260	P	P	08 19 45.6	-1.0
WRAB	Tennant Creek	44.47 260	P	P	08 19 45.4	-1.2
WRAB	Tennant Creek	44.47 260	*i* P	P	08 19 45.0	-1.6
WRAB			pmax	pmax		
	comp=Z,1μm,0.9s					
WRA	Warramunga Arr	44.48 260	P	P	08 19 45.1	-1.5
	comp=Z,391nm,0.6s,baz=93,slow=7.6,SNR=884					
WRA			PcP	PcP	08 21 17.4	-0.1
	comp=Z,76nm,0.5s,baz=93,slow=3.3,SNR=7.0					
WRA			ScP	ScP	08 24 16.6	+1.0
	comp=Z,71nm,1.1s,baz=86,slow=4.4,SNR=13					
WRA			S	S	08 25 37.9	-3.2
	comp=Z,24nm,0.8s,baz=93,slow=13,SNR=6.3					
WRA			PKiKP	PKiKP	08 28 14.1	-1.3
	comp=Z,6.6nm,0.7s,baz=66,slow=0.5,SNR=6.2					
WRA			PKP2bc		08 51 39.9	
	comp=Z,13nm,1.1s,baz=293,slow=3.5,SNR=12					
	comp=Z,391nm,0.6s					
AS06	Alice Springs	44.58 254	P	P	08 19 46.9	-0.6
AS19	Alice Springs	44.59 254	P	P	08 19 47.2	-0.2
	comp=Z,6μm,0.8s					
AS01	Alice Springs	44.60 254	P	P	08 19 47.6	0.0
AS31	Alice Springs	44.64 254	P	P	08 19 47.6	-0.3
AS31	Alice Springs	44.64 254	P	P	08 19 47.7	-0.2
	comp=Z,0.0nmcomp=Z,2μm,0.7s					
ASAR	Alice Springs	44.64 254	P	P	08 19 47.6	-0.3
	comp=Z,4μm,0.7s,baz=88,slow=8.4,SNR=1859					
ASAR			PcP	PcP	08 21 17.9	-0.3
	comp=Z,142nm,0.5s,baz=102,slow=3.8,SNR=6.7					
ASAR			ScP	ScP	08 24 17.5	+1.2
	comp=Z,77nm,1.1s,baz=100,slow=4.5,SNR=8.0					
ASAR			S	S	08 25 40.9	-2.5
	comp=Z,98nm,0.9s,baz=94,slow=14,SNR=28					
ASAR			PKiKP	PKiKP	08 28 14.1	-1.3
	comp=Z,4.1nm,0.4s,baz=94,slow=1.4,SNR=8.9					
ASAR			PKP2bc		08 51 39.6	
	comp=Z,5.3nm,0.9s,baz=278,slow=4.3,SNR=15					
SMPI	Sarmi	44.78 286	P	P	08 19 48.9	-0.1
	comp=Z,11μmcomp=Z,750nm,0.8s					
MIDW	Midway	45.84 1	P	P	08 19 56.9	+0.1
MIDW			IAmb	IAmb	08 19 57.8	
	comp=Z,496nm,0.9s					
MIDW	Midway	45.84 1	P	P	08 19 56.7	-0.1
MIDW	Midway	45.84 1	⇑P	P	08 19 56.1	-0.7
MIDW	Midway	45.84 1	P	P	08 19 55.6	-1.2
MIDW			pP	pP	08 21 39.8	+0.6
SRPI	Serui, Papua	47.10 285	P	P	08 20 06.7	+0.1
	comp=Z,577nm,0.7s					
KDU	Kakadu	47.40 269	P	P	08 20 08.3	-0.5
KDU	Kakadu	47.40 269	P	P	08 20 08.5	-0.3
KDU	Kakadu	47.40 269	⇓P	P	08 20 08.2	-0.5
BAKI	Biak	47.48 285	P	P	08 20 11.0	+1.5
	comp=Z,13μmcomp=Z,1μm,0.7s					
GUMO	Guam	47.74 309	P	P	08 20 11.2	-0.1
GUMO			PcP	PcP	08 21 29.9	+0.8
GUMO			ScP	ScP	08 24 29.9	+0.7
MTN	Manton Dam	48.64 268	P	P	08 20 17.5	-0.6
MTN	Manton Dam	48.64 268	P	P	08 20 17.2	-0.9
MTN	Manton Dam	48.64 268	P	P	08 20 17.3	-0.8
KMPI	Kaimana, Papua	48.80 281	P	P	08 20 19.2	0.0
	comp=Z,12μmcomp=Z,955nm,0.8s					
DRS	Darwin Rock St	48.95 269	P	P	08 20 19.9	-0.5
RKPI	Ransiki, Papua	49.14 284	P	P	08 20 21.9	+0.1
	comp=Z,6μmcomp=Z,7μmcomp=Z,611nm,0.8s					
SAUI	Saumlaki	49.70 275	P	P	08 20 26.1	+0.2
SAUI	Saumlaki	49.70 275	P	P	08 20 26.4	+0.5
SAUI	Saumlaki	49.70 275	P	P	08 20 26.2	+0.3
	comp=Z,19μmcomp=Z,1μm,1.4s					
SAUI	Saumlaki	49.70 275	⇓P	P	08 20 26.4	+0.5
WRKA	Warakurna	49.70 252	P	P	08 20 25.7	-0.1
WRKA	Warakurna	49.70 252	P	P	08 20 25.7	-0.1
WRKA	Warakurna	49.70 252	⇑P	P	08 20 25.6	-0.2
FORT	Forrest	49.87 245	P	P	08 20 26.1	-0.8
FORT	Forrest	49.87 245	P	P	08 20 26.2	-0.7
	comp=Z,0.0nmcomp=Z,3μm,0.6s					
FORT	Forrest	49.87 245	P	P	08 20 26.9	0.0
FORT	Forrest	49.87 245	⇓P	P	08 20 26.3	-0.7
KNRA	Kununurra	50.33 264	P	P	08 20 30.0	-0.4
KNRA	Kununurra	50.33 264	P	P	08 20 30.0	-0.4
FAKI	Fak Fak	50.42 281	P	P	08 20 30.4	-0.7
FAKI			IAmb	IAmb	08 20 32.5	
	comp=Z,1μm,1.8s					
FAKI	Fak Fak	50.42 281	P	P	08 20 31.5	+0.4
FAKI	Fak Fak	50.42 281	P	P	08 20 30.5	-0.7
FAKI	Fak Fak	50.42 281	⇓P	P	08 20 30.5	-0.6
SWI	Sorong	52.08 283	P	P	08 20 43.1	0.0
FITZ	Fitzroy Crossi	52.88 261	P	P	08 20 48.7	0.0
	comp=Z,135nm,0.4s,baz=107,slow=4.0,SNR=360					
FITZ			PKPPKP	P'P'df	08 51 02.6	-3.3
	comp=Z,17nm,1.0s,baz=253,slow=4.1,SNR=8.2					
	comp=Z,135nm,0.4s					
MSAI	Masohi	53.38 279	P	P	08 20 52.5	+0.1
	comp=Z,7μmcomp=Z,9μmcomp=Z,970nm,0.6s					
AAI	Ambon	53.96 279	P	P	08 20 55.8	-0.7
	comp=Z,12μmcomp=Z,691nm,0.5s					
NLAI	Namlea	55.14 279	P	P	08 21 04.4	-0.3
KMBL	Kambalda	55.18 244	P	P	08 21 03.7	-1.1
	comp=Z,0.0nmcomp=Z,497nm,1.5s					
KMBL	Kambalda	55.18 244	P	P	08 21 03.8	-1.0
DRV	Dumont d'Urvil	55.64 199	P	P	08 21 07.8	+0.6
DRV			PcP	PcP	08 21 58.5	+0.4
DRV			ScP	ScP	08 25 04.5	+2.0
SOEI	Soe	55.91 270	P	P	08 21 09.6	-0.7
SOEI	Soe	55.91 270	P	P	08 21 11.5	+1.3
SOEI	Soe	55.91 270	P	P	08 21 11.1	+0.9
TNTI	Ternate	56.30 283	P	P	08 21 12.4	-0.4
TNTI			IAmb	IAmb	08 21 14.4	
	comp=Z,2μm,1.7s					
TNTI	Ternate	56.30 283	P	P	08 21 13.3	+0.5
TNTI	Ternate	56.30 283	P	P	08 21 12.8

VNDA	Vanda	60.45 185	P	P	08 21 40.7	+1.1
	comp=Z,59nm,0.8s,baz=4.1,slow=7.4,SNR=105					
	comp=Z,59nm,0.8s					
VNDA	Vanda	60.45 185	P	P	08 21 40.8	+1.1
VNDA			pmax	pmax		
	comp=Z,153nm,1.1s					
VNDA	Vanda	60.45 185	P	P	08 21 40.9	+1.3
VNDA			PcP	PcP	08 22 18.7	+1.4
VNDA			pP	pP	08 23 35.7	+4.5
VNDA			ScP	ScP	08 25 26.4	+2.6
BSSI	Bau Bau, Buton	60.50 273	P	P	08 21 40.4	-0.6
	comp=Z,6μmcomp=Z,7μmcomp=Z,317nm,1.0s					
WBSI	Waikabubak, Su	60.58 269	P	P	08 21 41.1	-0.5
	comp=Z,7μmcomp=Z,9μmcomp=Z,420nm,0.7s					
APSI	Ampana	61.05 279	P	P	08 21 45.1	+0.5
	comp=Z,15μmcomp=Z,967nm,1.7s					
BKSI	Bulukumba	61.09 274	P	P	08 21 43.9	-1.0
	comp=Z,287nm,1.2s					
MRSI	Marisa	61.25 281	P	P	08 21 45.7	-0.2
	comp=Z,379nm,0.6s					
KAPI	Kappang	61.53 274	P	P	08 21 47.6	-0.2
KAPI			IAmb	IAmb	08 21 48.2	
	comp=Z,729nm,1.6s					
KAPI	Kappang	61.53 274	P	P	08 21 47.3	-0.5
	comp=Z,136nm,0.6s,baz=121,slow=3.0,SNR=76					
KAPI			S	S	08 29 25.9	-0.3
	comp=Z,2.8nm,0.5s,baz=182,slow=23,SNR=8.7					
	comp=Z,136nm,0.6s					
KAPI	Kappang	61.53 274	P	P	08 21 47.9	0.0
KAPI			S	S	08 29 27.2	+1.0
KAPI	Kappang	61.53 274	P	P	08 21 47.8	0.0
KAPI	Kappang	61.53 274 *i*	P	P	08 21 46.9	-0.9
KAPI			pmax	pmax		
	comp=Z,442nm,1.5s					
KAPI	Kappang	61.53 274	P	P	08 21 47.6	-0.2
KAPI			PcP	PcP	08 22 23.6	+0.7
SPSI	Sidrap Palu	61.84 275	P	P	08 21 48.3	-1.5
	comp=Z,250nm,0.7s					
TTSI	Tana Toraja	62.07 276	P	P	08 21 50.9	-0.4
PLAI	Plampang	62.34 269	P	P	08 21 52.7	-0.3
PLAI	Plampang	62.34 269	P	P	08 21 52.0	-1.0
	comp=Z,6μmcomp=Z,13μmcomp=Z,927nm,0.8s					
TOLI2	Tolitoli	62.55 281	P	P	08 21 53.7	-0.7
TOLI2			IAmb	IAmb	08 21 57.9	
	comp=Z,230nm,0.6s					
TOLI2	Tolitoli	62.55 281	P	P	08 21 54.2	-0.2
GIRL	Giralia	62.75 253	P	P	08 21 55.7	+0.2
GIRL	Giralia	62.75 253	P	P	08 21 55.8	+0.2
	comp=Z,1μm,1.4s					
GIRL	Giralia	62.75 253	P	P	08 21 56.7	+1.2
PCI	Palu	62.75 278	P	P	08 21 57.1	+1.4
	comp=Z,15μmcomp=Z,745nm,1.6s					
TWSI	Taliwang, Sumb	63.21 269	P	P	08 21 57.7	-0.9
	comp=Z,6μmcomp=Z,15μmcomp=Z,1μm,1.0s					
RPN	Rapa Nui	63.95 112	P	P	08 22 05.8	+2.7
RPN	Rapa Nui	63.95 112	P	P	08 22 05.8	+2.7
RPN			pmax	pmax		
	comp=Z,181nm,1.0s					
JHJ2	Mitsune	64.43 322	P	P	08 22 05.7	-0.2
JHJ2	Mitsune	64.43 322	P	P	08 22 06.6	+0.7
JHJ2	Mitsune	64.43 322	P	P	08 22 06.1	+0.2
DNP	Denpasar	64.82 269	P	P	08 22 08.6	-0.2
	comp=Z,1μm,0.7s					
CCD	Concordia, Ant	64.85 194	P	P	08 22 09.0	+0.5
CCD			pP	pwP	08 24 04.4	-0.3
SRBI	Singaraja	64.98 269	P	P	08 22 08.8	-1.0
	comp=Z,8μmcomp=Z,12μmcomp=Z,802nm,1.2s					
SMKI	Samarinda	65.38 278	P	P	08 22 12.6	+0.2
	comp=Z,640nm,1.6s					
BKB	Balikpapan	65.41 277	P	P	08 22 15.3	+2.8
BKB	Balikpapan	65.41 277	P	P	08 22 12.8	+0.3
	comp=Z,9μmcomp=Z,8μmcomp=Z,444nm,1.1s					
JAGI	Jajag, Banyuwa	65.88 269	P	P	08 22 13.8	-1.7
JAGI	Jajag, Banyuwa	65.88 269	P	P	08 22 14.0	-1.5
JAGI	Jajag, Banyuwa	65.88 269	P	P	08 22 13.6	-1.9
	comp=Z,6μmcomp=Z,12μmcomp=Z,815nm,0.6s					
JAGI	Jajag, Banyuwa	65.88 269 ⇓	P	P	08 22 14.1	-1.5
ABJI	Asem Bagus	65.99 269	P	P	08 22 15.6	-0.5
	comp=Z,10μmcomp=Z,601nm,1.7s					
CASY	Casey	66.09 205	P	P	08 22 16.1	+0.3
CASY			IAmb	IAmb	08 22 17.6	
	comp=Z,512nm,1.0s					
CASY	Casey	66.09 205 ⇓	P	P	08 22 16.2	+0.5
CASY	Casey	66.09 205	P	P	08 22 16.3	+0.5
CASY			pP	pwP	08 24 12.7	-1.5
MYLDM	Lahad Datu	66.15 284	IAmb	IAmb	08 22 20.7	
	comp=Z,1μm,1.6s					
MYLDM	Lahad Datu	66.15 284	P	P	08 22 18.9	+1.8
JOD2	Odawara 2	66.38 323	P	P	08 22 17.6	-0.6
KMMI	Kalianget	66.45 270	P	P	08 22 18.9	-0.1
	comp=Z,7μmcomp=Z,8μmcomp=Z,519nm,1.1s					
JYT	Yasato	66.45 324	P	P	08 22 18.7	+0.2
JSG	Sagara	66.49 322	P	P	08 22 20.1	+1.3
JSG	Sagara	66.49 322	P	P	08 22 19.3	+0.5
GMJI	Gumukmas	66.61 269	P	P	08 22 18.8	-1.2
	comp=Z,8μmcomp=Z,506nm,0.5s					
JRY	Ryogami san	67.03 323	P	P	08 22 22.2	+0.1
JRY			S	S	08 30 31.8	+0.4
JIE	Ise	67.17 321	S	S	08 30 35.0	+2.0
JMM	Marumori	67.33 326	P	P	08 22 24.1	+0.2
JMM	Marumori	67.33 326	P	P	08 22 23.7	-0.2
JGF	Kuroka	67.62 322	P	P	08 22 25.4	-0.3
JGF	Kuroka	67.62 322	P	P	08 22 25.9	+0.1
JGF	Kuroka	67.62 322	P	P	08 22 25.5	-0.3
JGF			S	S	08 30 38.5	+0.1
INU	Inuyama	67.65 322	P	P	08 22 25.8	-0.1
INU	Inuyama	67.65 322	P	P	08 22 26.3	+0.4
INU	Inuyama	67.65 322	P	P	08 22 25.5	-0.3
INU			PcP	PcP	08 22 48.6	+0.8
MJAR	Matsushiro Arr	67.79 323	P	P	08 22 26.4	-0.4
	comp=Z,76nm,0.6s,baz=141,slow=6.0,SNR=234					
MJAR			pP	pP	08 24 22.2	+0.5
	comp=Z,15nm,1.1s,baz=149,slow=7.0,SNR=3.1					
MJAR			S	S	08 30 39.8	-0.4
	comp=Z,4.2nm,1.0s,baz=155,slow=6.2,SNR=6.5					
MJAR			PKPPKP	P'P'df	08 50 40.0	+0.5
	comp=Z,13nm,1.3s,baz=318,slow=3.5,SNR=10					
	comp=Z,76nm,0.6s					
MAJO	Matsushiro	67.80 323	P	P	08 22 26.5	-0.3
MAJO	Matsushiro	67.80 323	P	P	08 22 26.5	-0.3
MAJO	Matsushiro	67.80 323 *i*	P	P	08 22 26.2	-0.6
MAJO			pmax	pmax		
	comp=Z,137nm,0.7s					
MAJO	Matsushiro	67.80 323	P	P	08 22 26.4	-0.3
MAJO			pP	pwP	08 24 24.3	-0.8
MAT	Matsushiro	67.80 323	P	P	08 22 26.6	-0.2
GRJI	Gresik	67.90 270	P	P	08 22 28.6	+0.7
	comp=Z,16μmcomp=Z,1μm,1.9s					
JGN	Niukaw	68.08 323	P	P	08 22 28.4	-0.2
JOM	Ohasama	68.27 328	P	P	08 22 29.3	-0.2
JYA	Atsumi	68.44 326	P	P	08 22 31.0	+0.4
JMN	Monobe	68.47 319	P	P	08 22 32.9	+2.0
JMN	Monobe	68.47 319	S	S	08 30 51.5	+3.3
TBJI	Tambak Boyo	68.53 270	P	P	08 22 32.6	+0.9
	comp=Z,9μmcomp=Z,1μm,1.1s					
JWT	Wachi	68.56 321	P	P	08 22 31.7	+0.3
JWT			S	S	08 30 49.4	+0.3
KKM	Kota Kinabalu	68.58 284	P	P	08 22 32.0	-0.1
KKM			IAmb	IAmb	08 22 32.8	
	comp=Z,224nm,0.5s					
KKM	Kota Kinabalu	68.58 284	P	P	08 22 32.3	+0.2
NGJI	Ngawi	68.75 269	P	P	08 22 34.4	+1.4
	comp=Z,8μmcomp=Z,373nm,0.9s					
PCJI	Pacitan	68.79 268	P	P	08 22 33.0	-0.2
JSD	Sado	68.83 325	P	P	08 22 33.2	+0.2
JSD	Sado	68.83 325	P	P	08 22 33.4	+0.5
JSD	Sado	68.83 325	P	P	08 22 33.1	+0.2
JAD	Aida	69.09 320	P	P	08 22 35.4	+0.8
ERM	Erimo	69.29 330	P	P	08 22 35.5	-0.1
ERM	Erimo	69.29 330	P	P	08 22 37.5	+1.9
ERM	Erimo	69.29 330	P	P	08 22 36.3	+0.7
ERM			pmax	pmax		
	comp=Z,125nm,1.1s					
JEM	Erimo	69.29 330	P	P	08 22 37.6	+2.0
JTM	Tenmabayashi	69.37 328	P	P	08 22 38.2	+2.1
UGM	Wanagama	69.49 268	P	P	08 22 37.3	-0.2
UGM	Wanagama	69.49 268	P	P	08 22 37.0	-0.5
ADK	Adak	69.49 1	P	P	08 22 35.8	-0.8
ADK	Adak	69.49 1	P	P	08 22 35.8	-0.8
ADK			pmax	pmax		
	comp=Z,644nm,0.8s					
SZP	Santa	69.55 297	P	P	08 22 38.6	+0.9
YOGI	Yogyakarta	69.73 268	P	P	08 22 38.6	-0.3
	comp=Z,11μmcomp=Z,778nm,0.6s					
JHS	Saijyo	69.78 319	P	P	08 22 39.5	+0.8
SMRI	Semarang	69.81 269	IAmb	IAmb	08 22 40.7	
	comp=Z,307nm,0.6s					
SMRI	Semarang	69.81 269	P	P	08 22 39.7	+0.3
SMRI	Semarang	69.81 269	P	P	08 22 39.5	+0.1
	comp=Z,465nm,0.9s					
KUR	Kuril'sk	69.83 335 *c*	*i*P	P	08 22 38.8	0.0
KUR			pmax	pmax		
	comp=Z,5μm,3.3s					
KUR			pmax	pmax		
	comp=Z,1μm,1.6s					
ATKA	Atka Island	69.89 3	P	P	08 22 38.2	-0.7
ATKA	Atka Island	69.89 3	P	P	08 22 38.6	-0.3
JNU	Nakatsue	70.01 316	P	P	08 22 40.2	0.0
JNU	Nakatsue	70.01 316	P	P	08 22 42.2	+2.0
JNU	Nakatsue	70.01 316	P	P	08 22 40.2	0.0
JMP	Maruseppu	70.75 332	P	P	08 22 45.0	+0.7
YOJ	Yonaguni jima	70.80 305	IAmb	IAmb	08 22 46.4	
	comp=Z,442nm,1.2s					
STKI	Sintang	70.96 276	P	P	08 22 46.8	+0.6
	comp=Z,472nm,1.6s					
SBUM	Sibu	71.05 279	P	P	08 22 47.4	+0.7
SBUM	Sibu	71.05 279	P	P	08 22 47.7	+1.1
JKA	Kamikawa-asahi	71.18 332	IAmb	IAmb	08 22 50.0	
	comp=Z,471nm,1.2s					
ASAJ	Asahikawa	71.18 332	P	P	08 22 48.2	+1.4
JSH	Shimam	71.26 329	P	P	08 22 47.9	+0.6
CMJI	Cimerak	71.50 268	P	P	08 22 47.7	-1.6
	comp=Z,5μmcomp=Z,9μmcomp=Z,739nm,0.5s					
TWGBT	Beinan	71.52 302	P	P	08 22 48.3	-0.9
YULB	Yu-li	71.62 303	P	P	08 22 49.8	0.0
NACB	Ninganchiao	71.77 304	P	P	08 22 49.7	-0.9
NACB	Ninganchiao	71.77 304	P	P	08 22 51.7	+1.1
SKR	Severo-Kuril's	71.81 343 *e*	P	P	08 22 48.6	-1.6
SKR			*e*S	S	08 31 21.1	-4.2
SKR			pmax	pmax		
	comp=Z,3μm,3.3s					
SKR			smax	smax		
	comp=N,5μm,7.2s					
SKR			smax	smax		
	comp=E,4μm,7.3s					
JCJI	Jatiwangi	72.03 269	P	P	08 22 52.0	-0.4
	comp=E,1μm,1.7s					
SSLB	Suanglung	72.09 303	P	P	08 22 52.2	-0.3
TPUB	Ta-pu	72.11 303	IAmb	IAmb	08 22 52.5	
	comp=Z,257nm,0.6s					
TPUB	Ta-pu	72.11 303	P	P	08 22 52.0	-0.7
QSPA	South Pole Qui	72.17 180	P	P	08 22 53.4	+1.0
QSPA	South Pole Qui	72.17 180	P	P	08 22 53.4	+1.0
	comp=Z,637nm,0.9s,baz=31,slow=1.7,SNR=889					
QSPA			pP	pP	08 24 49.9	+0.1
	comp=Z,71nm,1.1s,baz=55,slow=5.8,SNR=2.2					
	comp=Z,637nm,0.9s					
UNV	Unalaska Valle	72.19 7	IAmb	IAmb	08 22 52.9	
	comp=Z,370nm,0.8s					
UNV	Unalaska Valle	72.19 7	P	P	08 22 51.3	-1.0
	baz=192					
UNV			S	SKiKP	08 31 26.2	-1.4
	baz=192					
YHNB	Yeheng	72.19 304	P	P	08 22 53.7	+0.5
TATO	Taipei	72.25 304	P	P	08 22 52.9	-0.5
TATO			IAmb	IAmb	08 22 55.2	
	comp=Z,461nm,1.5s					
TATO	Taipei	72.25 304	P	P	08 22 53.2	-0.2
TATO			S	SKiKP	08 31 29.7	+1.0
TATO	Taipei	72.25 304	P	P	08 22 54.4	+1.0
BBJI	Bungbulang	72.35 268	P	P	08 22 53.4	-0.9
KSM	Kuching	72.52 277	P	P	08 22 56.1	+0.8
KSM	Kuching	72.52 277	P	P	08 22 55.9	+0.7
LVA	Lava Point	72.56 8	IAmb	IAmb	08 22 54.9	
	comp=Z,386nm,0.6s					
CNJI	Cibinong	72.89 268	P	P	08 22 55.9	-1.4
	comp=Z,5μmcomp=Z,274nm,0.6s					
PET	Petropavlovsk	73.31 346	P	P	08 22 58.3	-0.5
PET			IAmb	IAmb	08 23 00.1	
	comp=Z,389nm,1.2s					
PET	Petropavlovsk	73.31 346	P	P	08 22 58.5	-0.4
PET	Petropavlovsk	73.31 346 *e*P		P	08 22 58.4	-0.4
PET			*e**PP	pP	08 24 56.7	+0.3
PET			*e**SP	sP	08 25 56.5	+1.5
PET			*e*S	S	08 31 41.0	-0.8
PET			pmax	pmax		
	comp=Z,140nm,0.7s					
PET			pmax	pmax		
	comp=Z,600nm,12.4s					
PET			MLR	MLR		
	comp=Z,700nm,18.0s					
YSS	Yuzhno-Sakhali	73.32 333	P	P	08 22 59.9	+0.9
YSS			IAmb	IAmb	08 23 01.8	
	comp=Z,347nm,1.1s					
YSS	Yuzhno-Sakhali	73.32 333	P	P	08 23 00.0	+1.0
YSS	Yuzhno-Sakhali	73.32 333 *oe*P		P	08 23 00.0	+1.0
YSS			*e**PP	pP	08 24 57.0	+0.4
YSS			*e**SP	PP	08 25 51.6	-1.7
YSS			*i* S	S	08 31 44.7	+2.5
YSS			*e*		08 32 14.2	
YSS			*e*		08 32 19.0	
YSS			*e*SS	SS	08 36 42.3	+1.4
YSS			pmax	pmax		
	comp=N,1μm,3.3s					
YSS			pmax	pmax		
	comp=Z,3μm,3.3s					
YSS			pmax	pmax		
	comp=E,700nm,2.5s					
YSS			pmax	pmax		
	comp=Z,270nm,1.0s					
YSS			smax	smax		
	comp=N,2μm,7.6s					
YSS			smax	smax		
	comp=E,7μm,8.0s					
XMI	Christmas Isla	73.39 264	P	P	08 23 00.5	+0.3
CBJI	Citeko	73.40 268	P	P	08 22 59.1	-1.2
XMIS	Christmas Isla	73.42 264	IAmb	IAmb	08 23 01.0	
	comp=Z,267nm,0.9s					
XMIS	Christmas Isla	73.42 264	P	P	08 23 00.8	+0.4
SKJI	Sukabumi	73.52 268	P	P	08 23 00.0	-0.9
FALS	False Pass	73.59 9	IAmb	IAmb	08 23 00.9	
	comp=Z,721nm,1.4s					
FALS	False Pass	73.59 9	P	P	08 23 01.1	+0.7
FALS	False Pass	73.59 9	P	P	08 22 59.5	-0.8
	baz=195,SNR=5.8					
FALS			S	S	08 31 42.2	-2.6
	baz=195					
PEA0B	Petropavlovsk-	73.62 345	P	P	08 23 00.7	+0.2
PEA0B			IAmb	IAmb	08 23 02.3	
	comp=Z,523nm,0.9s					
PEA0B	Petropavlovsk-	73.62 345 *ce*P		P	08 23 00.6	0.0
PETK	Petropavlovsk-	73.62 345	P	P	08 22 59.5	-1.1
PETK	Petropavlovsk-	73.62 345	P	P	08 23 00.1	-0.5
	comp=Z,243nm,0.7s,baz=119,slow=6.0,SNR=238					
PETK			PKiKP	PKiKP	08 28 49.1	-0.8
	comp=Z,5.5nm,0.6s,baz=94,slow=4.1,SNR=21					
	comp=Z,243nm,0.7s					
PETK	Petropavlovsk-	73.62 345	P	P	08 22 59.5	-1.1
TNG	Tangerang	73.67 269	P	P	08 23 03.2	+1.4
	comp=Z,1μm,1.4s					
TPI	Tanjungpandan	73.72 272	P	P	08 23 01.9	-0.1
	comp=Z,5μmcomp=Z,6μmcomp=Z,272nm,0.6s					
SBJI	Serang	74.17 269	P	P	08 23 04.0	-0.6
	comp=Z,1μm,1.6s					
CNBA	Chernabura Isl	74.20 11	IAmb	IAmb	08 23 04.9	
	comp=Z,706nm,1.4s					
CHNA	Chernabura Isl	74.22 11	P	P	08 23 04.7	+0.8
CHNA	Chernabura Isl	74.22 11	P	P	08 23 03.1	-0.7
	baz=199					
CHNA			S	S	08 31 50.3	-1.2
	baz=199					
TJN	Taejon	74.29 317	P	P	08 23 05.7	+1.0
TJN	Taejon	74.29 317 *i*	P	P	08 23 03.7	-1.0
CGJI	Cibinong	74.45 268	P	P	08 23 04.8	-1.4
QZH	Quanzhou	74.53 303 ⇓	*i*P	P	08 23 07.0	+0.6
QZH			PcP	PcP	08 23 18.5	+1.1
QZH			S	S	08 31 57.7	+1.4
QZH			ScS	ScS	08 32 24.4	-0.4
QZH			pmax	pmax		
	comp=Z,180nm,0.6s					
SDPT	Sand Point	74.55 11	IAmb	IAmb	08 23 06.5	
	comp=Z,490nm,0.9s					
SDPT	Sand Point	74.55 11	P	P	08 23 06.1	+0.4
SDPT	Sand Point	74.55 11	P	P	08 23 04.8	-0.9
	baz=198,SNR=8.6					
SDPT			S	S	08 31 53.3	-1.9
	baz=198					
KSRS	Korea Array	74.58 318	P	P	08 23 07.2	+0.9
	comp=Z,14nm,0.8s,baz=133,slow=6.2,SNR=36					
KSRS			PKiKP	PKiKP	08 28 51.1	-0.7
	comp=Z,2.3nm,0.8s,baz=178,slow=0.7,SNR=4.4					
P08K	Saint George I	74.58 5	IAmb	IAmb	08 23 07.7	
	comp=Z,599nm,1.1s					
P08K	Saint George I	74.58 5	P	P	08 23 05.4	-0.5
	baz=189					
P08K			S	S	08 31 54.0	-1.5
	baz=189					
KSAR	Wonju Array Be	74.59 318	P	P	08 23 06.4	0.0
KSAR	Wonju Array Be	74.59 318	P	P	08 23 06.4	0.0
S12K	Black Hills	74.62 10	IAmb	IAmb	08 23 06.8	
	comp=Z,374nm,0.8s					
S12K	Black Hills	74.62 10	P	P	08 23 05.3	-0.9
	baz=196					
S12K			S	S	08 31 54.3	-1.8
	baz=196					
KS19	Wonju Array Si	74.64 318	P	P	08 23 06.8	+0.1
TEY	Ternei	74.71 329 ⇓	*e*P	P	08 23 06.1	-0.8
TEY			*e*		08 31 54.3	
TEY			pmax	pmax		
	comp=N,10.0nm,2.1s					
TEY			pmax	pmax		
	comp=Z,20nm,2.0s					
TEY			pmax	pmax		
	comp=E,10.0nm,1.8s					
SPIA	Saint Paul Isl	75.10 5	P	P	08 23 09.5	+0.7
SPIA	Saint Paul Isl	75.10 5	P	P	08 23 08.4	-0.4
	baz=188					
UGL	Uglegorsk	75.28 334 ⇑	*i*P	P	08 23 09.9	0.0
UGL			*e*		08 26 07.0	
UGL			*e*S	S	08 32 03.6	+0.3
UGL			*e*		08 32 27.0	
UGL			pmax	pmax		
	comp=N,800nm,3.5s					
UGL			pmax	pmax		
	comp=E,1μm,3.5s					
UGL			pmax	pmax		
	comp=Z,3μm,3.8s					
UGL			pmax	pmax		
	comp=Z,200nm,1.0s					
UGL			smax	smax		
	comp=N,5μm,7.5s					
UGL			smax	smax		
	comp=E,7μm,7.5s					
PPBI	Pangkal Pinang	75.34 272	P	P	08 23 11.5	+0.3
INCN	Inchon	75.42 318	P	P	08 23 11.0	-0.1
INCN	Inchon	75.42 318	P	P	08 23 12.7	+1.6
INCN	Inchon	75.42 318	P	P	08 23 11.0	-0.1
INCN			pmax	pmax		
	comp=Z,195nm,1.5s					
S14K	Fog Glacier	75.60 11	P	P	08 23 11.5	-0.3
	baz=199,SNR=11					
S14K			S	S	08 32 04.7	-2.1
	baz=199					
CHGN	Chignik	75.83 11	IAmb	IAmb	08 23 13.8	
	comp=Z,355nm,0.8s					
CHGN	Chignik	75.83 11	P	P	08 23 12.3	-0.5
	baz=200,SNR=17					
CHGN			S	S	08 32 06.7	-2.1
	baz=200					
VLA	Vladivostok	75.84 325 *i*	P	P	08 23 14.1	+0.9
VLA			pmax	pmax		
	comp=Z,94nm,1.4s					
MSHR	Mys Shultsa	75.89 324 *i*	P	P	08 23 14.6	+1.1
SNCC	San Nicolas Is	75.89 48	IAmb	IAmb	08 23 17.1	
	comp=Z,534nm,1.4s					
CHIR	Chirikof Islan	75.94 13	P	P	08 23 14.6	+1.1
CHIR	Chirikof Islan	75.94 13	P	P	08 23 13.2	-0.3
	baz=202					
CHIR			S	S	08 32 11.3	+1.1
	baz=202					
PMBI	Palembang	76.41 271	P	P	08 23 19.0	+2.0
PMBI	Palembang	76.41 271	P	P	08 23 18.1	+1.1
	comp=Z,13μmcomp=Z,687nm,1.4s					
TYV	Tymovskoe	76.44 336 *e*P		P	08 23 17.2	+0.8
TYV			*e*S	S	08 32 12.8	-2.9
TYV			pmax	pmax		
	comp=Z,3μm,3.1s					
TYV			pmax	pmax		
	comp=Z,345nm,1.2s					
TYV			smax	smax		
	comp=N,101nm,2.8s					
TYV			smax	smax		
	comp=E,103nm,2.8s					
TYV			smax	smax		
	comp=N,5μm,4.6s					
TYV			smax	smax		
	comp=E,6μm,4.6s					
LWLI	Liwa	76.47 269	P	P	08 23 16.2	-1.3
USA0B	Ussuriysk Arra	76.51 326 *i*	P	P	08 23 17.6	+0.7
USRK	Ussuriysk Ar.	76.51 326	P	P	08 23 17.6	+0.7
USRK	Ussuriysk Ar.	76.51 326	P	P	08 23 17.9	+1.0
	comp=E,28nm,0.7s,baz=113,slow=4.4,SNR=63					
	comp=E,28nm,0.7s					
USRK	Ussuriysk Ar.	76.51 326	P	P	08 23 17.6	+0.7
MDSI	Maura Dua	76.51 270	P	P	08 23 16.1	-1.5
	comp=E,5μmcomp=E,260nm,1.0s					
SAO	San Andreas Ge	76.52 44	IAmb	IAmb	08 23 20.2	
	comp=Z,335nm,0.9s					
PMPB	Monarch Peak	76.64 45	IAmb	IAmb	08 23 21.2	
	comp=Z,819nm,1.3s					
BBGB	Big Mountain B	76.68 44	IAmb	IAmb	08 23 21.9	
	comp=Z,1μm,1.4s					
KCPM	Cahto Peak	76.86 40	IAmb	IAmb	08 23 22.3	
	comp=Z,642nm,1.4s					
BCW	Bitter Crk WRg	76.88 46	IAmb	IAmb	08 23 22.7	
	comp=Z,340nm,0.9s					
SII	Sitkinak Islan	76.94 14	P	P	08 23 19.9	+0.9
SII	Sitkinak Islan	76.94 14	P	P	08 23 19.1	+0.2
	baz=204					
HKPS	Hong Kong Po S	76.96 299	P	P	08 23 21.3	+1.4
KMPM	Mount Pierce	76.97 40	IAmb	IAmb	08 23 23.0	
	comp=Z,534nm,1.1s					
KMRM	Mail Ridge	77.10 40	IAmb	IAmb	08 23 23.8	
	comp=Z,669nm,1.0s					
R16K	Pilot Point	77.18 11	P	P	08 23 20.2	0.0
	baz=200,SNR=9.0					
R16K			S	S	08 32 21.5	-1.6
	baz=200					
CCX	Cicese	77.22 50	IAmb	IAmb	08 23 24.2	
	comp=Z,453nm,1.2s					
TJX	Tijuana	77.27 50	IAmb	IAmb	08 23 24.5	
	comp=Z,566nm,1.0s					
KRPM	Rodgers	77.47 39	IAmb	IAmb	08 23 25.9	
	comp=Z,547nm,1.2s					
TKX	Tecate	77.62 50	IAmb	IAmb	08 23 26.3	
	comp=Z,587nm,1.6s					
VTX	Valle De La Tr	77.64 51	IAmb	IAmb	08 23 26.8	
	comp=Z,541nm,1.3s					
O02D	Mt. Diablo Mer	77.64 40	IAmb	IAmb	08 23 26.8	
	comp=Z,742nm,1.4s					
MNAI	Manna	77.71 269	P	P	08 23 24.6	+0.4
MNAI	Manna	77.71 269	P	P	08 23 23.4	-0.8
	comp=Z,8μmcomp=Z,1μm,1.0s					
OHAK	Old Harbor	77.75 14	IAmb	IAmb	08 23 25.1	
	comp=Z,424nm,0.9s					
OHAK	Old Harbor	77.75 14	P	P	08 23 24.3	+1.0
OHAK	Old Harbor	77.75 14	P	P	08 23 23.6	+0.3
	baz=205					
OHAK			S	S	08 32 29.0	-0.2
	baz=205					
NJ2	Nanjing	77.80 310 ⇓	*i*P	P	08 23 25.3	+1.1
NJ2			S	S	08 32 33.9	+3.0
NJ2			ScS	ScS	08 32 49.7	-1.4
NJ2			pmax	pmax		
	comp=Z,42nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,640nm,3.8s					
R18K	Karluk	77.81 13	P	P	08 23 23.5	0.0
	baz=203					
R18K			S	S	08 32 29.3	-

GZH				SS	SS	08 37 51.6	+0.4
GZH	comp=Z,120nm,0.9s			pmax	pmax		
GZH	comp=Z,1μm,4.4s			pmax	pmax		
KBO	Bosley Butte	78.00	38	P	P	08 23 26.5	+1.3
KBO	comp=Z,664nm,1.5s			IAmb	IAmb	08 23 28.6	
MDJ	Mudanjiang	78.08	325	P	P	08 23 26.4	+1.0
MDJ	Mudanjiang	78.08	325	P	P	08 23 26.6	+1.2
MDJ				PcP	PcP	08 23 36.5	+4.1
MDJ				S	S	08 32 37.6	+4.4
MDJ				SS	SS	08 37 50.8	-1.2
MDJ	comp=Z,260nm,1.1s			pmax	pmax		
MDJ	Mudanjiang	78.08	325	P	P	08 23 26.9	+1.5
O14K	Tigyukauivet M	78.16	9	P	P	08 23 25.1	-0.3
O14K	baz=197			S	S	08 32 32.2	-1.2
ACHA	Angle Creek He	78.22	12	P	P	08 23 25.9	0.0
PFO	Pinyon Flats O	78.26	49	P	P	08 23 27.7	+0.9
PFO	Pinyon Flats O	78.26	49	*i* P	P	08 23 27.6	+0.8
PFO	comp=Z,312nm,1.4s			pmax	pmax		
KSI	Kapahiang	78.26	270	P	P	08 23 26.0	-1.2
O15K	comp=Z,12μmcomp=Z,573nm,0.6s Ungalikthiuk R	78.31	10	P	P	08 23 25.9	-0.3
O15K	baz=198,SNR=12			S	S	08 32 33.9	-1.1
Q16K	King Salmon	78.39	11	P	P	08 23 26.7	0.0
Q16K	baz=201,SNR=33			S	S	08 32 35.2	-0.6
KDAK	Kodiak Island	78.42	14	P	P	08 23 27.0	+0.1
KDAK	comp=Z,487nm,0.9s			IAmb	IAmb	08 23 29.6	
KDAK	Kodiak Island	78.42	14	*i* P	P	08 23 27.2	+0.3
KDAK	comp=Z,867nm,0.9s			pmax	pmax		
KDAK	Kodiak Island	78.42	14	P	P	08 23 27.0	+0.1
KDAK	baz=205			S	S	08 32 36.7	+0.5
SRIG	Santa Rosalia	78.42	56	IAmb	IAmb	08 23 31.0	
P16K	comp=Z,688nm,1.6s Nushagak River	78.48	11	P	P	08 23 27.1	0.0
P16K	baz=200,SNR=19			S	S	08 32 36.1	-0.6
CPBX	Cerro Prieto	78.50	50	IAmb	IAmb	08 23 31.4	
YBH	comp=Z,477nm,1.3s Yreka Blue Hor	78.61	39	P	P	08 23 29.9	+1.4
M11K	comp=Z,145nm,0.8s,baz=206,slow=1.7,SNR=278 Mekoryuk	78.64	6	IAmb	IAmb	08 23 30.6	
M11K	comp=Z,530nm,1.1s Mekoryuk	78.64	6	P	P	08 23 28.6	+0.7
Q18K	baz=192,SNR=16 Katmai Hardscr	78.69	12	P	P	08 23 28.3	-0.2
Q18K	baz=203,SNR=67			S	S	08 32 38.6	-0.7
SLBS	Sierra La Lagu	78.69	61	P	P	08 23 30.2	+1.0
SLBS	comp=Z,484nm,1.4s			IAmb	IAmb	08 23 32.4	
MYKOM	Kota Tinggi	78.73	276	IAmb	IAmb	08 23 30.7	
MYKOM	comp=Z,618nm,1.6s Kota Tinggi	78.73	276	P	P	08 23 30.5	+0.9
N14K	Kuskokwak Cree	78.74	9	P	P	08 23 28.9	+0.4
N14K	baz=196,SNR=63			S	S	08 32 38.9	-0.5
WAKR	Walker	78.81	43	IAmb	IAmb	08 23 32.9	
HATC	comp=Z,470nm,1.1s Hat Creek Radi	78.83	41	IAmb	IAmb	08 23 32.7	
P17K	comp=Z,595nm,1.1s Kvichak River	78.92	11	P	P	08 23 29.2	-0.3
P17K	baz=201,SNR=85			S	S	08 32 40.7	-0.6
GRNR	Gornyy	78.94	333⇑	*i* P	P	08 23 30.9	+1.0
GRNR				*e*S	S	08 32 38.3	-3.7
GRNR	comp=N,50nm,0.9s			pmax	pmax		
GRNR	comp=E,60nm,0.9s			pmax	pmax		
GRNR	comp=Z,220nm,1.0s			pmax	pmax		
GRNR	comp=N,10.0nm,1.1s			smax	smax		
M13K	Dall Lake	78.99	8	P	P	08 23 30.5	+0.7
O16K	baz=195 Kokwok River B	78.99	10	IAmb	IAmb	08 23 30.6	
O16K	comp=Z,398nm,1.2s Kokwok River B	78.99	10	P	P	08 23 29.1	-0.8
O16K	baz=200,SNR=44			S	S	08 32 39.3	-2.8
NKL	Nikolayevsk	79.00	336	*e*P	P	08 23 30.0	0.0
NKL				*e*S	S	08 32 41.0	-1.3
NKL	comp=N,86nm,0.7s			pmax	pmax		
NKL	comp=E,240nm,1.3s			pmax	pmax		
NKL	comp=Z,927nm,1.3s			pmax	pmax		
NKL	comp=E,2μm,2.8s			smax	smax		
NKL	comp=N,2μm,2.5s			smax	smax		
PNTR	Pine Nut	79.03	43	IAmb	IAmb	08 23 34.0	
L04D	comp=Z,487nm,0.8s Klamath Falls	79.14	39	IAmb	IAmb	08 23 34.1	
GLA	comp=Z,308nm,0.8s Glamis	79.16	50	IAmb	IAmb	08 23 35.1	
DSP	comp=Z,416nm,1.2s Deep Springs	79.17	45	IAmb	IAmb	08 23 34.7	
Q20K	comp=Z,473nm,1.2s Shuyak Island	79.21	14	P	P	08 23 31.6	+0.5
Q20K	baz=205,SNR=10.0			S	S	08 32 43.1	-1.2
N15K	baz=205 Kwethluk River	79.21	9	IAmb	IAmb	08 23 33.3	
N15K	comp=Z,282nm,0.8s Kwethluk River	79.21	9	P	P	08 23 31.6	+0.5
N15K	baz=198			S	S	08 32 44.9	+0.6
Q19K	baz=198 Cape Douglas,	79.23	13	IAmb	IAmb	08 23 32.7	
Q19K	comp=Z,681nm,1.0s Cape Douglas,	79.23	13	P	P	08 23 31.1	-0.1
Q19K	baz=204,SNR=14			S	S	08 32 44.1	-0.5
LHV	baz=204 Little Huntoon	79.29	44	IAmb	IAmb	08 23 35.4	
QIZ	comp=Z,561nm,1.1s Qiongzhong	79.30	294	P	P	08 23 36.4	+4.0
QIZ				S	S	08 32 46.6	-0.3
QIZ				SS	SS	08 38 13.6	+2.6
QIZ	Qiongzhong	79.30	294	P	P	08 23 33.1	+0.7
P18K	Big Mountain,	79.33	12	IAmb	IAmb	08 23 32.9	
P18K	comp=Z,536nm,0.8s Big Mountain,	79.33	12	P	P	08 23 31.5	-0.3
P18K	baz=203,SNR=54			S	S	08 32 45.5	-0.2
O17K	baz=203 Koliganek Bris	79.34	11	P	P	08 23 31.4	-0.3
O17K	baz=201,SNR=42			S	S	08 32 44.2	-1.4
I02E	baz=201 Swisshome, OR	79.37	37	IAmb	IAmb	08 23 35.4	
I03D	comp=Z,622nm,1.5s Drain, OR	79.41	37	IAmb	IAmb	08 23 35.3	
DL2	comp=Z,541nm,1.4s Dalian	79.46	317⇓	*i* P	P	08 23 33.5	+0.6
DL2				PP	PP	08 26 47.1	+2.9
DL2				S	SKSac	08 32 51.7	-3.4
DL2	comp=Z,54nm,0.8s			pmax	pmax		
DL2	comp=Z,360nm,7.8s			pmax	pmax		
RYN	Ryan	79.48	44	IAmb	IAmb	08 23 36.2	
M14K	comp=Z,507nm,1.4s Bethel	79.50	8	IAmb	IAmb	08 23 34.7	
	comp=Z,656nm,1.4s						
M14K	Bethel	79.50	8	P	P	08 23 33.2	+0.7
M14K	baz=196,SNR=24			S	S	08 32 48.8	+1.6
PAHR	baz=196 Pah Rah Range	79.51	42	IAmb	IAmb	08 23 36.2	
NVAR	comp=Z,401nm,1.2s Mina Array Bea	79.52	44	P	P	08 23 34.5	+1.0
NVAR	Mina Array Bea	79.52	44	P	P	08 23 34.7	+1.2
NVAR	comp=Z,123nm,0.8s,baz=225,slow=8.0,SNR=384			pP	pwP	08 25 35.5	-0.8
NVAR	comp=Z,36nm,1.0s,baz=254,slow=5.8,SNR=3.2			PKKPbc	PKKPbc	08 42 18.6	+0.4
NVAR	comp=Z,1.1nm,0.5s,baz=47,slow=6.1,SNR=12			PKPPKP	P'P'df	08 50 20.0	+0.3
NV11	comp=Z,2.1nm,0.7s,baz=72,slow=5.0,SNR=9.0 Mina Array Sit	79.62	44	IAmb	IAmb	08 23 36.9	
M15K	comp=Z,123nm,0.8s Kasigluk River	79.62	9	P	P	08 23 33.8	+0.6
M15K	comp=Z,549nm,1.2s baz=197,SNR=44			S	S	08 32 47.9	-0.7
N16K	baz=197 Nishlik Lake	79.71	10	P	P	08 23 34.4	+0.7
N16K	baz=199			S	S	08 32 48.6	-0.9
O18K	baz=199 Koktuh Hills	79.76	12	P	P	08 23 33.9	-0.1
O18K	baz=203,SNR=100			S	S	08 32 49.4	-0.7
SNY	baz=203 Shenyang	79.86	320	⇑P	P	08 23 35.6	+0.7
SNY				S	S	08 32 54.7	+2.9
SNY	comp=Z,69nm,1.6s			pmax	pmax		
CN2	Changchun	79.91	322	*e*P	P	08 23 36.0	+0.9
CN2				*e*S	SKSac	08 32 57.0	-0.9
CN2	comp=Z,100nm,1.3s			pmax	pmax		
CN2	comp=Z,100nm,3.0s			pmax	pmax		
BUCK	Buck Mountain	79.92	37	IAmb	IAmb	08 23 38.2	
COR	comp=Z,457nm,1.2s Corvallis	79.97	37	P	P	08 23 36.3	+0.9
COR	Corvallis	79.97	37	P	P	08 23 36.3	+0.9
COR	comp=Z,378nm,1.3s			pmax	pmax		
L14K	Kuka Creek	79.97	8	P	P	08 23 35.8	+0.8
L14K	baz=195			S	S	08 32 53.2	+1.2
P19K	baz=195 Oil Pt	79.98	13	IAmb	IAmb	08 23 36.6	
P19K	comp=Z,412nm,0.8s Oil Pt	79.98	13	P	P	08 23 35.2	+0.1
P19K	baz=204,SNR=18			S	S	08 32 51.9	-0.4
BNX	baz=204 BinXian	79.98	325	⇑P	P	08 23 35.9	+0.5
BNX				PP	PP	08 26 47.7	-0.6
BNX				S	S	08 32 54.9	+2.0
BNX	comp=Z,180nm,1.0s			pmax	pmax		
BNX	comp=Z,1μm,2.7s			pmax	pmax		
KLR	Kul'dur	80.01	330	PKiKP	PKiKP	08 28 58.9	-0.9
KLR	comp=Z,3.9nm,0.7s,baz=87,slow=1.8,SNR=6.0			S	SKSac	08 32 56.7	-1.7
KLR	comp=Z,1.8nm,0.9s,baz=329,slow=20,SNR=11 Kul'dur	80.01	330	*ce*P	P	08 23 36.2	+0.7
KLR	comp=Z,290nm,2.5s			pmax	pmax		
I04A	Tendick Farm,	80.01	38	IAmb	IAmb	08 23 38.1	
N17K	comp=Z,641nm,1.6s Nushagak Hills	80.03	11	P	P	08 23 35.5	+0.1
N17K	baz=201,SNR=28			S	S	08 32 51.0	-1.6
HEBO	baz=201 Mount Hebo	80.10	36	IAmb	IAmb	08 23 39.2	
M16K	comp=Z,591nm,1.1s Timber Creek	80.20	10	P	P	08 23 37.4	+1.2
M16K	baz=199			S	SKSac	08 32 57.4	-1.8
O19K	baz=199 Port Alsworth	80.25	12	P	P	08 23 36.4	-0.1
O19K	baz=203,SNR=107			S	S	08 32 54.7	-0.3
H04D	baz=203 Lebanon	80.26	37	IAmb	IAmb	08 23 39.9	
CNPM	comp=Z,649nm,1.4s China Poot	80.30	14	IAmb	IAmb	08 23 38.5	
K13K	comp=Z,564nm,1.1s Kusilvak Mount	80.31	7	P	P	08 23 37.6	+0.9
K13K	baz=193			S	S	08 32 56.9	+1.3
HOM	baz=193 Homer	80.33	13	P	P	08 23 37.2	+0.4
HOM	baz=206,SNR=5.9			S	S	08 32 57.5	+1.7
G03D	baz=206 McMinnville, O	80.38	36	IAmb	IAmb	08 23 40.4	
J05D	comp=Z,851nm,1.4s Fort Rock, OR	80.40	39	IAmb	IAmb	08 23 41.0	
N18K	comp=Z,565nm,0.8s Kilae Creek	80.40	11	P	P	08 23 37.2	-0.1
N18K	baz=202,SNR=26			S	S	08 32 56.8	+0.2
L15K	baz=202 Ungalak Mounta	80.46	8	P	P	08 23 38.1	+0.6
L15K	baz=196			S	S	08 32 57.8	+0.8
WHN	baz=196 Wuhan	80.46	306	P	P	08 23 39.6	+1.3
WHN				S	S	08 33 00.0	+1.6
WHN				SS	SS	08 38 32.9	+5.1
WHN	comp=Z,1μm,1.9s			pmax	pmax		
Q09A	Carvers	80.48	44	IAmb	IAmb	08 23 41.3	
O20K	comp=Z,442nm,1.0s Slope Mountain	80.50	13	P	P	08 23 37.3	-0.5
O20K	baz=205,SNR=7.2			S	S	08 32 57.6	-0.1
CNSH	baz=205 ChangSha	80.52	304	P	P	08 23 39.3	+0.7
CNSH				S	S	08 33 00.3	+1.3
CNSH	comp=Z,72nm,1.4s			pmax	pmax		
BRLK	Bradley Lake	80.59	14	IAmb	IAmb	08 23 39.8	
BRSE	comp=Z,392nm,0.8s Bradley Lake S	80.60	14	P	P	08 23 38.6	+0.2
BRSE	baz=207,SNR=29			S	S	08 32 59.6	+1.0
F03A	baz=207 Seaside	80.65	35	IAmb	IAmb	08 23 41.8	
L16K	comp=Z,812nm,1.4s Owhat River	80.78	9	IAmb	IAmb	08 23 41.7	
L16K	comp=Z,774nm,1.3s Owhat River	80.78	9	P	P	08 23 40.1	+0.9
L16K	baz=198,SNR=73			S	S	08 33 00.9	+0.7
N19K	baz=198 Bonanza Creek	80.79	12	IAmb	IAmb	08 23 40.5	
N19K	comp=Z,250nm,0.9s Bonanza Creek	80.79	12	P	P	08 23 39.0	-0.4
N19K	baz=203,SNR=46			S	S	08 32 59.1	-1.6
M17K	baz=203 Holitna River	80.81	10	P	P	08 23 40.8	+1.4
M17K	baz=200,SNR=116			S	SKSac	08 33 03.0	-0.2
S11A	baz=200 Rachel	80.82	46	IAmb	IAmb	08 23 42.7	
RADR	comp=Z,417nm,1.1s Rader Ridge	80.82	35	IAmb	IAmb	08 23 42.9	
PINE	comp=Z,963nm,1.6s Pine Mountain	80.87	38	IAmb	IAmb	08 23 43.5	
BKNI	comp=Z,504nm,0.9s Bangkinang	80.95	273	P	P	08 23 37.9	-3.3
BKNI	Bangkinang	80.95	273	P	P	08 23 41.7	+0.5
BKNI	Bangkinang	80.95	273	P	P	08 23 41.9	+0.7
I05D	comp=Z,7μmcomp=Z,11μmcomp=Z,694nm,1.7s Terrebonne, OR	80.96	38	IAmb	IAmb	08 23 43.5	
PPSI	comp=Z,485nm,1.2s Pulau Pagai	80.99	270	P	P	08 23 42.3	+0.9
E03A	comp=Z,13μmcomp=Z,359nm,0.6s Lebam	81.03	35	IAmb	IAmb	08 23 43.6	
K15K	comp=Z,454nm,1.0s Wolf Creek Mou	81.04	8	P	P	08 23 41.7	+1.1
K15K	baz=196			S	SKSac	08 33 04.6	-0.1
HG4B	Hotspring	81.07	27	IAmb	IAmb	08 23 43.5	
TIA	comp=Z,515nm,1.3s Tai'an	81.12	312	P	P	08 23 42.0	+0.4
TIA				pP	pwP	08 25 45.8	+1.1
TIA				S	SKSac	08 33 07.8	+1.4
TIA	comp=Z,37nm,0.9s			pmax	pmax		
MA2	Magadan	81.13	345	P	P	08 23 40.2	-0.9
MA2	comp=Z,317nm,1.1s			IAmb	IAmb	08 23 42.2	
MA2	Magadan	81.13	345	S	S	08 33 01.4	-2.5
MA2	comp=Z,5.6nm,0.7s,baz=11,slow=18,SNR=16 Magadan	81.13	345	P	P	08 23 40.6	-0.5
MA2	Magadan	81.13	345	*ce*P	P	08 23 40.3	-0.8
MA2	comp=Z,481nm,1.7s			pmax	pmax		
MA2	Magadan	81.13	345	P	P	08 23 40.2	-0.9
M18K	comp=Z,5μmcomp=Z,318nm,1.9s Stony River	81.17	11	P	P	08 23 41.8	+0.6
M18K	baz=202,SNR=39			S	S	08 33 04.6	+0.4
PRN	baz=202 Pahroc Range	81.17	46	IAmb	IAmb	08 23 45.4	
SEW	comp=Z,446nm,1.0s Seward	81.22	14	IAmb	IAmb	08 23 42.7	
SEW	comp=Z,257nm,1.0s Seward	81.22	14	P	P	08 23 41.2	-0.2
SEW	baz=208,SNR=9.5			S	S	08 33 05.5	+0.8
SMAI	baz=208 San Martin Ant	81.23	159	IAmb	IAmb	08 23 44.5	
J14K	comp=Z,364nm,0.9s Nanvaranak Lak	81.23	7	IAmb	IAmb	08 23 43.7	
J14K	comp=Z,365nm,1.4s Nanvaranak Lak	81.23	7	P	P	08 23 42.3	+0.8
J14K	baz=194,SNR=15			S	SKSac	08 33 06.0	+0.1
COCO	baz=194 West Island	81.27	260	P	P	08 23 42.0	-0.8
COCO				IAmb	IAmb	08 23 48.9	
COCO	comp=Z,672nm,1.5s West Island	81.27	260	P	P	08 23 45.1	+2.3
COCO	West Island	81.27	260	P	P	08 23 42.0	-0.8
COCO	comp=Z,672nm,1.5s			pmax	pmax		
PPI	Padang Panjang	81.32	272	P	P	08 23 42.1	-1.0
HOLB	comp=Z,4μmcomp=Z,147nm,0.8s Holberg	81.33	30	IAmb	IAmb	08 23 44.7	
MOBC	comp=Z,545nm,1.2s Moresby Island	81.35	26	IAmb	IAmb	08 23 44.7	
HOOD	comp=Z,417nm,1.4s Mount Hood Mea	81.35	37	IAmb	IAmb	08 23 45.2	
L17K	comp=Z,732nm,1.4s Donlin	81.36	9	P	P	08 23 43.5	+1.4
L17K	baz=200			S	S	08 33 10.0	+4.0
GULI	baz=200 GuiLin	81.36	300	P	P	08 23 45.5	+2.4
GULI				SKS	S	08 33 11.2	+3.5
GULI				S	SKKSac	08 33 16.3	+3.6
GULI	comp=Z,130nm,1.8s			pmax	pmax		
GULI	comp=Z,910nm,10.8s			pmax	pmax		
NLWA	Neilton Lookou	81.38	34	P	P	08 23 44.0	+1.4
NLWA	comp=Z,437nm,1.2s			IAmb	IAmb	08 23 45.6	
Q23K	Middleton Isla	81.41	16	P	P	08 23 43.1	+0.7
SLKM	baz=211 Skilak Lake	81.41	14	IAmb	IAmb	08 23 43.9	
CAPN	comp=Z,524nm,0.8s Captain Cook N	81.43	13	P	P	08 23 42.1	-0.4
CAPN	baz=206			S	S	08 33 11.1	+4.3
WVOR	baz=206 Wild Horse Val	81.49	40	IAmb	IAmb	08 23 46.5	
O22K	comp=Z,632nm,1.2s Cooper Landing	81.50	14	P	P	08 23 43.2	+0.3
GAMB	baz=208,SNR=16 Gambell	81.57	3	P	P	08 23 43.8	+0.6
GAMB	baz=187,SNR=8.7			S	S	08 33 10.0	+2.0
N20K	baz=187 Mount Spurr	81.60	13	P	P	08 23 42.8	-0.7
N20K	baz=205			S	SKSac	08 33 05.7	-2.9
SPCR	baz=205 Spurr Chakacha	81.60	13	P	P	08 23 42.4	-1.1
SPCR	baz=205,SNR=45			S	SKSac	08 33 06.2	-2.5
P23K	baz=205 Montague Islan	81.63	15	P	P	08 23 43.4	-0.2
P23K	baz=210			S	SKSac	08 33 09.1	+0.4
L18K	baz=210 Granite Mounta	81.70	10	P	P	08 23 45.0	+1.1
L18K	baz=201			S	S	08 33 12.2	+2.7
UBPT	baz=201 Khong Chiam	81.77	289	P	P	08 23 46.8	+1.5
TUC	Tucson	81.81	52	P	P	08 23 46.8	+1.5
TUC				IAmb	IAmb	08 23 49.2	
TUC	comp=Z,529nm,1.3s Tucson	81.81	52	P	P	08 23 46.8	+1.5
TUC	comp=Z,529nm,1.3s			pmax	pmax		
M19K	Big River Lodg	81.81	11	P	P	08 23 44.5	0.0
M19K	baz=203,SNR=14			S	S	08 33 13.0	+2.3
G06A	baz=203 Carlson Farm,	81.89	37	IAmb	IAmb	08 23 47.9	
I07A	comp=Z,399nm,1.3s Izee	81.89	39	IAmb	IAmb	08 23 48.5	
K17K	comp=Z,350nm,0.9s Iditarod	81.91	9	IAmb	IAmb	08 23 47.5	
K17K	comp=Z,954nm,1.5s Iditarod	81.91	9	P	P	08 23 45.8	+0.8
K17K	baz=200			S	S	08 33 14.1	+2.5
STLK	baz=200 Strandline Lak	81.95	13	IAmb	IAmb	08 23 45.8	
L19K	comp=Z,214nm,0.8s White Mountain	81.98	11	P	P	08 23 45.7	+0.3
L19K	baz=203,SNR=72			S	SKSac	08 33 12.1	+1.1
RC01	baz=203 Rabbit Creek A	82.03	14	IAmb	IAmb	08 23 47.1	
RC01	comp=Z,599nm,1.2s Rabbit Creek A	82.03	14	P	P	08 23 45.6	0.0
RC01	baz=208,SNR=23			S	SKSac	08 33 10.9	-0.4
M20K	baz=208 Styx River	82.03	12	P	P	08 23 45.0	-0.8
J08A	baz=204,SNR=18 Circle Bar Ran	82.10	40	IAmb	IAmb	08 23 49.4	
LON	comp=Z,647nm,1.2s Longmire	82.11	35	IAmb	IAmb	08 23 48.7	
J16K	comp=Z,573nm,1.8s Anvik River	82.12	8	IAmb	IAmb	08 23 48.6	
J16K	comp=Z,499nm,1.1s Anvik River	82.12	8	P	P	08 23 47.1	+1.1
J16K	baz=197,SNR=62			S	S	08 33 14.9	+1.3
SUA	baz=197 Susitna One	82.15	13	IAmb	IAmb	08 23 47.5	
SUA	comp=Z,294nm,0.8s Susitna One	82.15	13	P	P	08 23 46.1	-0.3
SUA	baz=207,SNR=52			S	SKSac	08 33 12.3	0.0
PWL	baz=207 Port Wells	82.16	14	IAmb	IAmb	08 23 47.5	
PWL	comp=Z,461nm,0.9s Port Wells	82.16	14	P	P	08 23 46.1	-0.2
PWL	baz=209,SNR=24			S	S	08 33 13.6	-0.5
BELA	baz=209 Belgrano 2	82.21	173	P	P	08 23 46.7	+0.3
IPM	Ipoh	82.26	277	IAmb	IAmb	08 23 49.1	
IPM	comp=Z,288nm,0.6s Ipoh	82.26	277	P	P	08 23 48.9	+1.0
CBB	Campbell River	82.27	31	IAmb	IAmb	08 23 49.7	
X16A	comp=Z,445nm,1.2s Lo Mia Camp, P	82.29	50	IAmb	IAmb	08 23 51.4	
SISI	comp=Z,396nm,1.2s Saibi	82.30	271	P	P	08 23 48.5	+0.4

comp=Z,6µmcomp=Z,229nm,0.7s
KAIM Kayak Island 82.35 17 IAmb IAmb 08 23 49.4
comp=Z,452nm,0.9s
KAIM Kayak Island 82.35 17 P **P** **08 23 47.7 +0.4**
baz=213,SNR=5.5
BBB Bella Bella 82.37 29 IAmb IAmb 08 23 49.7
comp=Z,536nm,1.4s
BBB Bella Bella 82.37 29 P **P** **08 23 48.0 +0.5**
comp=Z,96nm,0.6s,baz=270,slow=3.8,SNR=100
BBB pP **pP** **08 25 50.0 +1.2**
comp=Z,22nm,1.2s,baz=235,slow=7.4,SNR=2.0
comp=Z,96nm,0.6s
PGC Sidney 82.38 33 IAmb IAmb 08 23 50.1
comp=Z,398nm,1.3s
J17K VABM Dome 82.44 9 P **P** **08 23 48.4 +0.8**
baz=199
J17K S **S** **08 33 19.1 +2.3**
baz=199
L20K Farewell, AK 82.44 11 P **P** **08 23 48.0 +0.3**
baz=204
L20K S **S** **08 33 16.5 -0.4**
baz=204
SKT Skwentna 82.44 13 IAmb IAmb 08 23 48.1
comp=Z,428nm,1.5s
SKT Skwentna 82.44 13 P **P** **08 23 46.3 -1.4**
baz=206,SNR=27
SPR3 Spring Creek 3 82.47 45 IAmb IAmb 08 23 51.2
comp=Z,295nm,1.1s
GLI Glacier Island 82.47 15 P **P** **08 23 47.7 -0.1**
baz=210,SNR=31
TTA Tatalina 82.48 10 IAmb IAmb 08 23 50.1
comp=Z,457nm,1.2s
TTA Tatalina 82.48 10 P **P** **08 23 48.8 +0.9**
TTA Tatalina 82.48 10 P **P** **08 23 48.7 +0.7**
baz=202,SNR=93
TTA S **S** **08 33 18.9 +1.5**
baz=202
MNSI Mandailing Nat 82.48 273 P **P** **08 23 47.9 -1.1**
EYAK Cordova Ski Ar 82.52 16 P **P** **08 23 48.9 +0.8**
EYAK Cordova Ski Ar 82.52 16 P **P** **08 23 48.4 +0.4**
baz=211,SNR=9.5
KNB Kanab 82.53 47 IAmb IAmb 08 23 52.3
comp=Z,1µm,1.7s
319A Douglas 82.54 54 IAmb IAmb 08 23 53.0
comp=Z,365nm,1.0s
M22K Willow 82.54 13 P **P** **08 23 47.9 -0.2**
baz=207
CRAG Craig 82.56 24 P **P** **08 23 50.5 +2.1**
CRAG Craig 82.56 24 P **P** **08 23 49.7 +1.3**
baz=223,SNR=10
CRAG S **S** **08 33 21.0 +2.7**
baz=223
KNK Knik Glacier 82.61 14 IAmb IAmb 08 23 50.1
comp=Z,292nm,0.7s
KNK Knik Glacier 82.61 14 P **P** **08 23 48.6 +0.1**
baz=209,SNR=33
PMR Palmer 82.62 14 IAmb IAmb 08 23 49.8
comp=Z,853nm,1.4s
PMR Palmer 82.62 14 P **P** **08 23 48.5 0.0**
PMR Palmer 82.62 14 P **P** **08 23 48.3 -0.2**
baz=208,SNR=42
U15A North Rim 82.62 48 IAmb IAmb 08 23 53.0
comp=Z,461nm,1.0s
I17K Unalakleet 82.68 8 IAmb IAmb 08 23 51.4
comp=Z,572nm,1.6s
I17K Unalakleet 82.68 8 P **P** **08 23 49.9 +1.1**
baz=197,SNR=14
I17K S **S** **08 33 20.9 +1.8**
baz=197
GRNB Grenville Isla 82.70 27 IAmb IAmb 08 23 51.8
comp=Z,378nm,1.3s
HMT Hamilton 82.74 16 IAmb IAmb 08 23 50.9
comp=Z,268nm,0.9s
HEH HeiHe 82.81 328 *e*P **P** **08 23 49.9 +0.1**
HEH pP **pP** **08 25 51.5 -0.1**
HEH SKS **SKSac** **08 33 16.1 -0.7**
HEH S **ScS** **08 33 28.2 -3.2**
HEH pmax pmax
comp=Z,180nm,1.6s
ANM Nome 82.82 6 IAmb IAmb 08 23 52.0
comp=Z,764nm,1.8s
ANM Nome 82.82 6 P **P** **08 23 50.2 +0.7**
baz=193,SNR=7.1
ANM S **S** **08 33 23.1 +2.6**
baz=193
BGLC Bering Glacier 82.82 17 P **P** **08 23 50.4 +0.8**
baz=214
MXC Moxie City 82.86 36 IAmb IAmb 08 23 52.8
comp=Z,352nm,1.3s
J18K Innoko River 82.86 10 P **P** **08 23 50.2 +0.5**
baz=201
J18K S **S** **08 33 23.8 +2.7**
baz=201
KULM Kulim 82.87 278 P **P** **08 23 52.0 +1.0**
G08A Pilot Rock 82.89 38 IAmb IAmb 08 23 53.2
comp=Z,586nm,1.3s
SIT Sitka 82.92 22 IAmb IAmb 08 23 52.5
comp=Z,492nm,1.5s
SIT Sitka 82.92 22 P **P** **08 23 51.9 +1.8**
SIT Sitka 82.92 22 P **P** **08 23 50.9 +0.8**
baz=221,SNR=8.6
SML Sawmill 82.99 14 IAmb IAmb 08 23 52.0
comp=Z,878nm,1.7s
SML Sawmill 82.99 14 P **P** **08 23 50.2 -0.3**
baz=209,SNR=18
SML S **S** **08 33 22.7 +0.2**
baz=209
SNH Sunshine Point 83.00 17 IAmb IAmb 08 23 53.4
comp=Z,541nm,0.8s
DIV Divide 83.02 15 IAmb IAmb 08 23 52.1
comp=Z,436nm,0.7s
U33K Whale Pass 83.03 24 IAmb IAmb 08 23 53.5
comp=Z,357nm,1.1s
U33K Whale Pass 83.03 24 P **P** **08 23 51.9 +1.2**
baz=223,SNR=22
U33K S **S** **08 33 24.8 +1.9**
baz=223
V35K Ketchikan 83.06 25 IAmb IAmb 08 23 53.5
comp=Z,386nm,1.1s
V35K Ketchikan 83.06 25 P **P** **08 23 52.0 +1.1**
baz=224,SNR=39
V35K S **S** **08 33 24.7 +1.6**
baz=224
CUT Chulitna 83.09 13 P **P** **08 23 50.7 -0.2**
baz=207,SNR=56
PKCU Pink Cliffs 83.09 47 IAmb IAmb 08 23 56.0
comp=Z,730nm,1.2s
E07A Sunnyside 83.09 36 IAmb IAmb 08 23 54.1
comp=Z,650nm,1.3s
M23K Glacier View 83.12 14 P **P** **08 23 50.5 -0.5**
baz=209,SNR=22
PPLA Purkeypile 83.14 12 P **P** **08 23 49.9 -1.5**
baz=205,SNR=16
BMRM Bremner River 83.18 16 IAmb IAmb 08 23 53.0
comp=Z,743nm,1.2s
BMRM Bremner River 83.18 16 P **P** **08 23 51.6 +0.2**
baz=212,SNR=46
BMRM S **S** **08 33 24.9 +0.6**
baz=212
HAWA Hanford 83.18 37 IAmb IAmb 08 23 54.5
comp=Z,514nm,1.1s
K20K Telida 83.21 11 P **P** **08 23 51.7 +0.2**
baz=203
K20K S **S** **08 33 25.7 +1.2**
baz=203
H16K Elim 83.22 7 P **P** **08 23 52.0 +0.6**
baz=196,SNR=43
H16K S **S** **08 33 26.8 +2.4**
baz=196
SCM Sheep Creek Mo 83.25 14 P **P** **08 23 51.9 +0.1**
baz=210,SNR=60
MESA MESA 83.25 17 P **P** **08 23 52.6 +0.6**
baz=215,SNR=40
MESA S **S** **08 33 25.2 -0.1**
baz=215
S31K Pelican 83.28 21 IAmb IAmb 08 23 54.4
comp=Z,367nm,1.1s
S31K Pelican 83.28 21 P **P** **08 23 53.0 +1.0**
baz=220,SNR=24
S31K S **S** **08 33 26.2 +0.9**
baz=220
KLU Klutina 83.29 15 IAmb IAmb 08 23 53.6
comp=Z,316nm,1.2s
KLU Klutina 83.29 15 P **P** **08 23 51.9 -0.2**
baz=211,SNR=21
KLU S **S** **08 33 25.4 -0.1**
baz=211
G15K Niukluk 83.37 6 P **P** **08 23 52.8 +0.6**
baz=194
G15K S **S** **08 33 27.4 +1.6**
baz=194
HNS HongShan 83.39 313 ⇓P **P** **08 23 53.7 +0.8**
HNS pP **pP** **08 25 58.0 +3.0**
HNS S **SKSac** **08 33 21.6 +0.5**
HNS sS **sS** **08 37 09.0 +4.7**
HNS SS **SS** **08 39 10.2 -0.2**
HNS pmax pmax
comp=Z,81nm,1.6s
PBSI Pulau Batu 83.46 272 P **P** **08 23 54.0 +0.1**
comp=Z,7µmcomp=Z,282nm,1.1s
YAH Yahtse 83.46 17 IAmb IAmb 08 23 55.2
comp=Z,450nm,0.8s
MTPU Mount Pierson 83.47 47 IAmb IAmb 08 23 57.6
comp=Z,354nm,1.2s
S32K Killisnoo 83.50 22 IAmb IAmb 08 23 55.4
comp=Z,558nm,1.6s
S32K Killisnoo 83.50 22 P **P** **08 23 54.0 +1.0**
baz=222,SNR=15
J19K Poorman 83.53 10 IAmb IAmb 08 23 55.2
comp=Z,546nm,1.6s
J19K Poorman 83.53 10 P **P** **08 23 53.7 +0.6**
baz=202,SNR=88
J19K S **S** **08 33 28.6 +0.9**
baz=202
HPIG 83.55 59 IAmb IAmb 08 23 57.1
comp=Z,345nm,1.5s
WRAK Wrangell Islan 83.55 24 IAmb IAmb 08 23 55.9
comp=Z,309nm,1.0s
WRAK Wrangell Islan 83.55 24 P **P** **08 23 54.4 +1.1**
baz=224,SNR=35
WRAK S **S** **08 33 30.0 +2.0**
baz=224
TCRU Three Creeks R 83.56 46 IAmb IAmb 08 23 57.6
comp=Z,274nm,1.2s
TNA Tin City 83.58 4 IAmb IAmb 08 23 55.4
comp=Z,680nm,1.4s
TNA Tin City 83.58 4 P **P** **08 23 53.9 +0.7**
baz=190,SNR=23
TNA S **S** **08 33 29.6 +1.7**
baz=190
PNL Peninsula 83.59 19 P **P** **08 23 54.8 +1.3**
PNL Peninsula 83.59 19 P **P** **08 23 53.9 +0.4**
baz=217,SNR=18
PNL S **S** **08 33 29.1 +0.7**
baz=217
T33K Petersburg 83.61 23 P **P** **08 23 54.6 +1.0**
baz=223,SNR=9.0
T33K S **S** **08 33 29.5 +1.0**
baz=223
F14K Arctic Creek 83.62 5 P **P** **08 23 53.8 +0.4**
baz=192
F14K S **S** **08 33 30.9 +2.5**
baz=192
BMO Blue Mountains 83.62 39 IAmb IAmb 08 23 55.9
comp=Z,400nm,1.6s
CAST Castle Rocks 83.64 12 IAmb IAmb 08 23 54.4
comp=Z,399nm,0.7s
CAST Castle Rocks 83.64 12 P **P** **08 23 52.5 -1.2**
baz=205,SNR=180
CAST S **SKSac** **08 33 24.6 +3.0**
baz=205
BJT Baijiatuau 83.65 315 P **P** **08 23 54.7 +0.5**
BJT IAmb IAmb 08 23 57.0
comp=Z,173nm,1.3s
BJT Baijiatuau 83.65 315 P **P** **08 23 55.6 +1.4**
BJT Baijiatuau 83.65 315 P **P** **08 23 54.7 +0.5**
BJT pmax pmax
comp=Z,173nm,1.3s
BJI Beijing 83.66 315 P **P** **08 23 55.0 +0.8**
BJI SKS **SKSac** **08 33 23.3 +0.6**
BJI S **S** **08 33 33.4 +3.7**
BJI pmax pmax
comp=Z,51nm,1.6s
PCA Pinnacle 83.67 18 IAmb IAmb 08 23 55.7
comp=Z,321nm,1.1s
PINM Pinnacle 83.67 18 P **P** **08 23 54.2 +0.2**
baz=216,SNR=12
PINM S **S** **08 33 29.0 -0.3**
baz=216
LYN LuoYang 83.69 309 ⇓P **P** **08 23 55.6 +1.1**
LYN PP **PP** **08 27 25.3 +6.8**
LYN SKS **SKSac** **08 33 22.5 -0.7**
LYN S **ScS** **08 33 35.6 -3.8**
LYN SS **SS** **08 39 15.8 +0.8**
LYN pmax pmax
comp=Z,210nm,0.9s
RPSI Rantau Prapat 83.69 275 P **P** **08 23 54.5 -0.5**
RPSI IAmb IAmb 08 23 55.4
comp=Z,277nm,1.0s
VRDI Verde Repeater 83.70 16 IAmb IAmb 08 23 55.8
comp=Z,444nm,1.1s
SEY Seymchan 83.72 347 pP **pP** **08 25 57.0 +1.4**
comp=Z,38nm,1.2s,baz=121,slow=6.6,SNR=2.6
SEY S **SKSac** **08 33 21.9 -0.1**
comp=Z,8.2nm,1.2s,baz=287,slow=22,SNR=18
SEY PKKPbc **PKKPbc** **08 42 06.8 -2.7**
comp=Z,4.2nm,0.5s,baz=295,slow=0.5,SNR=16
SEY Seymchan 83.72 347 *ce*P **P** **08 23 53.7 -0.3**
SEY pmax pmax
comp=Z,860nm,1.7s
N25K Chitina, Valde 83.72 16 P **P** **08 23 54.5 +0.4**
baz=212,SNR=101
N25K S **S** **08 33 27.5 -2.2**
baz=212
PSI Prapat 83.72 275 P **P** **08 23 54.7 -0.7**
PSI Prapat 83.72 275 P **P** **08 23 54.5 -0.9**
PSI pmax pmax
comp=Z,277nm,1.0s
BCPM Bancas Point 83.75 19 IAmb IAmb 08 23 56.2
comp=Z,251nm,1.0s
M24K Tolsona, Glenn 83.76 15 P **P** **08 23 55.0 +0.7**
baz=211,SNR=59
M24K S **S** **08 33 30.2 +0.2**
baz=211
MFID Camas Ranch 83.76 41 IAmb IAmb 08 23 57.6
comp=Z,406nm,1.1s
GLB Gilahina Butte 83.79 16 IAmb IAmb 08 23 56.0
comp=Z,362nm,0.7s
H17K Granite Mounta 83.79 8 P **P** **08 23 54.5 +0.2**
baz=198
H17K S **S** **08 33 30.9 +0.8**
baz=198
R31K City Hall, Gus 83.80 21 P **P** **08 23 55.2 +0.7**
baz=221
MAW Mawson 83.83 200 P **P** **08 23 55.1 +0.5**
MAW Mawson 83.83 200 P **P** **08 23 55.4 +0.8**
comp=Z,87nm,1.0s
MAW Mawson 83.83 200 P **P** **08 23 55.4 +0.8**
comp=Z,253nm,0.8s,baz=138,slow=5.6,SNR=67
comp=Z,253nm,0.8s
MAW Mawson 83.83 200 P **P** **08 23 55.1 +0.5**
MAW pmax pmax
comp=Z,55nm,0.8s
PMSA Palmer Station 83.89 157 P **P** **08 23 56.3 +1.3**
PMSA Palmer Station 83.89 157 *e*P **P** **08 23 57.3 +2.3**
D08A Wollman Farm, 83.90 36 IAmb IAmb 08 23 58.1
comp=Z,405nm,1.1s
G16K Koyuk River 83.94 7 P **P** **08 23 55.2 +0.2**
baz=196
G16K S **S** **08 33 32.7 +1.3**
baz=196
J20K Nowinta River 83.95 10 IAmb IAmb 08 23 57.0
comp=Z,256nm,0.8s
J20K Nowinta River 83.95 10 P **P** **08 23 55.4 +0.2**
baz=203,SNR=93
J20K S **S** **08 33 31.7 +0.1**
baz=203
KTH Kantishna Hill 83.99 12 IAmb IAmb 08 23 57.2
comp=Z,242nm,0.9s
F15K North Star Dit 84.00 6 P **P** **08 23 55.4 0.0**
baz=193
F15K S **S** **08 33 33.6 +1.5**
baz=193
CHUM Lake Minchumin 84.02 11 P **P** **08 23 54.6 -0.9**
baz=205,SNR=82
CHUM S **S** **08 33 29.0 -3.3**
baz=205
TRF Thorofare Moun 84.02 12 P **P** **08 23 55.0 -0.7**
baz=207,SNR=115
TRF S **S** **08 33 30.7 -2.1**
baz=207
GCSA Galena City Sc 84.04 9 P **P** **08 23 56.0 +0.5**
baz=201,SNR=42
GCSA S **S** **08 33 34.6 +2.2**
baz=201
E09A Wood Farm, Sta 84.04 37 IAmb IAmb 08 23 58.4
comp=Z,571nm,1.5s
U35K Hyder 84.11 25 P **P** **08 23 57.1 +1.0**
baz=226,SNR=57
U35K S **S** **08 33 35.5 +2.1**
baz=226
R32K Eaglecrest 84.12 22 P **P** **08 23 57.0 +0.9**
baz=222
ENH Enshi 84.13 304 P **P** **08 23 57.6 +0.7**
ENH Enshi 84.13 304 P **P** **08 23 58.2 +1.3**
JIS Juneau Island 84.17 22 P **P** **08 23 58.1 +1.8**
H18K Honhosa River 84.21 8 P **P** **08 23 56.5 +0.1**
baz=199,SNR=16
H18K S **S** **08 33 34.9 +0.7**
baz=199
BESE Bessie Mountai 84.23 21 IAmb IAmb 08 23 59.3
comp=Z,591nm,1.3s
O28M Mount Upton 84.24 18 P **P** **08 23 57.4 +0.4**
baz=216
O28M S **S** **08 33 35.3 +0.1**
baz=216
G17K Kiwalik Mounta 84.24 7 P **P** **08 23 56.6 +0.1**
baz=197
G17K S **S** **08 33 35.3 +0.9**
baz=197
HARP HAARP 84.25 15 P **P** **08 23 56.9 +0.2**
baz=212,SNR=34
HARP S **S** **08 33 33.7 -1.0**
baz=212
TSI Tuntungan 84.28 276 P **P** **08 23 57.9 0.0**
comp=Z,7µmcomp=Z,550nm,0.8s
O29M Mount Kennedy 84.34 19 IAmb IAmb 08 23 59.6
comp=Z,418nm,1.4s
O29M Mount Kennedy 84.34 19 P **P** **08 23 58.1 +0.8**
baz=218
O29M S **S** **08 33 36.7 +0.8**
baz=218
LLLB Lilloet 84.38 32 IAmb IAmb 08 23 59.9
comp=Z,241nm,1.2s
PLBC Pleasant Camp 84.39 20 P **P** **08 23 58.6 +1.2**
baz=220,SNR=13
PLBC S **S** **08 33 38.5 +2.5**
baz=220
B08A Colville Reser 84.41 35 IAmb IAmb 08 23 59.7
comp=Z,231nm,0.9s
BPAW Bear Paw Mtn. 84.47 12 IAmb IAmb 08 23 59.2
comp=Z,354nm,1.6s
BPAW Bear Paw Mtn. 84.47 12 P **P** **08 23 56.4 -1.3**
baz=206,SNR=26
BPAW S **S** **08 33 37.0 +0.3**
baz=206
I20K Naaghedeneel 84.47 10 P **P** **08 23 58.1 +0.4**
baz=203
I20K S **S** **08 33 37.5 +1.0**
baz=203
PLID Pearl Lake 84.53 39 IAmb IAmb 08 24 01.2
comp=Z,727nm,1.7s
GSI Gunungsitoli 84.54 273 P **P** **08 24 00.6 +1.4**
GSI Gunungsitoli 84.54 273 P **P** **08 24 00.0 +0.8**
comp=Z,625nm,1.2s
MCK McKinley 84.55 13 P **P** **08 23 57.8 -0.4**
baz=208,SNR=93
MCK S **S** **08 33 36.6 -1.0**
baz=208
Q16A Castle Valley 84.58 46 IAmb IAmb 08 24 02.7
comp=Z,522nm,1.6s
MOIG Morelia 84.62 67 IAmb IAmb 08 24 02.2
comp=Z,320nm,1.2s
PAX Paxson 84.67 15 P **P** **08 23 58.4 -0.4**
baz=212,SNR=30
PAX S **S** **08 33 37.1 -1.7**
baz=212
C09A Chrisman Ranch 84.69 36 IAmb IAmb 08 24 01.5
comp=Z,356nm,1.1s
P30M Million Dollar 84.71 20 P **P** **08 24 00.1 +1.0**
baz=219
P30M S **S** **08 33 42.3 +3.0**
baz=219
TMUT Trail Mountain 84.73 46 IAmb IAmb 08 24 02.5
comp=Z,386nm,1.4s
SKAG Skagway 84.73 21 P **P** **08 24 01.2 +2.2**
SKAG Skagway 84.73 21 P **P** **08 24 00.6 +1.6**
baz=221,SNR=28
SKAG S **S** **08 33 41.9 +2.5**
baz=221
T35M Bob Quinn 84.77 24 P **P** **08 24 00.7 +1.3**
baz=226,SNR=38
T35M S **S** **08 33 39.5 -0.4**
baz=226
YUK8 Steele Glacier 84.77 18 P **P** **08 24 00.2 +0.6**
baz=217,SNR=71
YUK8 S **S** **08 33 41.0 +0.7**
baz=217
M26K Nabesna, AK 84.80 16 P **P** **08 23 59.8 +0.4**
baz=214
M26K S **S** **08 33 40.5 +0.4**
baz=214
H19K Roundabout Mou 84.84 9 P **P** **08 23 59.8 +0.4**
baz=201,SNR=37
H19K S **S** **08 33 41.8 +1.7**
baz=201
NONG Nongkai 84.84 291 P **P** **08 24 01.0 +0.5**
EPT El Paso 84.85 54 IAmb IAmb 08 24 03.7
comp=Z,278nm,1.1s
G18K Tagagawik 84.87 8 P **P** **08 23 59.6 0.0**
baz=199
G18K S **S** **08 33 40.3 -0.2**
baz=199
HVU Hansel Valley 84.87 43 IAmb IAmb 08 24 03.3
comp=Z,620nm,1.7s
GYA Guiyang 84.89 300 ⇓P **P** **08 24 01.4 +0.6**
GYA sP sP 08 27 01.1 -0.5
GYA SKS **SKSac** **08 33 32.1 +0.8**
GYA S **S** **08 33 43.0 +0.4**
GYA SS **SS** **08 39 33.1 +0.2**
GYA pmax pmax
comp=Z,100nm,0.9s
GYA pmax pmax
comp=Z,1µm,11.3s
SRIT Nakonsritamara 84.92 281 IAmb IAmb 08 24 03.3
comp=Z,271nm,0.8s
SRIT Nakonsritamara 84.92 281 P **P** **08 24 02.9 +1.9**
YUK6 Outpost Mounta 84.92 18 P **P** **08 24 00.8 +0.6**
baz=218,SNR=19
YUK6 S **S** **08 33 42.5 +0.9**
baz=218
YUK3 Moose Creek 84.97 17 P **P** **08 24 00.9 +0.5**
baz=216,SNR=124
YUK3 S **S** **08 33 41.9 -0.2**
baz=216
H20K Anotleneega Mo 85.05 10 P **P** **08 24 00.8 +0.3**
baz=203,SNR=54
H20K S **S** **08 33 43.4 +1.1**
baz=203
M27K Edge Creek, AK 85.06 16 IAmb IAmb 08 24 03.0
comp=Z,574nm,1.1s
M27K Edge Creek, AK 85.06 16 P **P** **08 24 01.4 +0.7**
baz=215,SNR=116
M27K S **S** **08 33 43.2 +0.4**
baz=215
MENT Mentasta 85.07 15 IAmb IAmb 08 24 02.5
comp=Z,263nm,1.1s
MENT Mentasta 85.07 15 P **P** **08 24 01.2 +0.5**
F17K Baldwin Pennin 85.07 7 IAmb IAmb 08 24 03.7
comp=Z,670nm,1.9s
F17K Baldwin Pennin 85.07 7 P **P** **08 24 00.8 +0.3**
baz=196
F17K S **S** **08 33 43.5 +1.2**
baz=196
HYT Haines Junctio 85.08 19 IAmb IAmb 08 24 03.2
comp=Z,271nm,1.2s
HYT Haines Junctio 85.08 19 P **P** **08 24 01.7 +0.8**
baz=219,SNR=50
HYT S **S** **08 33 43.8 +0.8**
baz=219
S34M Telegraph Cree 85.09 23 IAmb IAmb 08 24 03.7
comp=Z,379nm,0.8s
S34M Telegraph Cree 85.09 23 P **P** **08 24 02.2 +1.4**
baz=225,SNR=134
S34M S **S** **08 33 44.7 +1.8**
baz=225
ZEA Zeya 85.09 331 *e*P **P** **08 24 01.8 +0.9**
ZEA *e* 08 26 01.4
ZEA *e* 08 33 32.8
ZEA *e*S **S** **08 33 45.2 +2.2**
ZEA pmax pmax
comp=E,200nm,3.7s

ZEA				pmax	pmax		
	comp=N,400nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,800nm,2.1s						
ZEA				pmax	pmax		
	comp=E,30nm,1.1s						
ZEA				pmax	pmax		
	comp=N,90nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,180nm,1.0s						
ZEA				smax	smax		
	comp=N,2µm,6.1s						
ZEA				smax	smax		
	comp=E,4µm,7.9s						
SRU	**San Rafael Swe**	**85.12**	**46**	IAmb	IAmb	08 24 03.6	
	comp=Z,357nm,1.5s						
TIY	**Taiyuan**	**85.13**	**312**	P	**P**	**08 24 02.7**	**+1.1**
TIY				SKS	**SKSac**	**08 33 32.8**	**+0.6**
TIY				S	**ScS**	**08 33 49.3**	**-2.1**
TIY				sS	**sS**	**08 37 17.8**	**-4.7**
TIY				pmax	pmax		
	comp=Z,110nm,0.7s						
YUK4	**Talbot Arm**	**85.15**	**18**	P	**P**	**08 24 02.3**	**+1.0**
	baz=218,SNR=34						
YUK4				S	**S**	**08 33 43.8**	**0.0**
	baz=218						
NAYO	**Nakonayok**	**85.20**	**287**	P	**P**	**08 24 03.4**	**+1.1**
L26K	**Log Cabin Wild**	**85.23**	**15**	P	**P**	**08 24 01.8**	**+0.4**
	baz=213,SNR=33						
L26K				S	**S**	**08 33 43.7**	**-0.4**
	baz=213						
I21K	**Tanana**	**85.25**	**11**	IAmb	IAmb	08 24 03.0	
	comp=Z,781nm,1.6s						
I21K	**Tanana**	**85.25**	**11**	P	**P**	**08 24 01.2**	**-0.2**
	baz=205,SNR=57						
I21K				S	**S**	**08 33 42.4**	**-1.7**
	baz=205						
NEA2	**Nenana**	**85.29**	**12**	P	**P**	**08 24 00.7**	**-0.9**
	baz=208,SNR=43						
NEA2				S	**S**	**08 33 40.6**	**-3.9**
	baz=208						
K24K	**Donnelly Dome**	**85.31**	**14**	P	**P**	**08 24 02.0**	**+0.1**
	baz=211,SNR=66						
K24K				S	**S**	**08 33 44.3**	**-0.5**
	baz=211						
G19K	**Purcell Mounta**	**85.32**	**9**	P	**P**	**08 24 01.9**	**+0.2**
	baz=200,SNR=42						
G19K				S	**S**	**08 33 44.7**	**-0.1**
	baz=200						
SLVN	**Son La**	**85.33**	**294**	P	**P**	**08 24 04.3**	**+1.4**
P32M	**Atlin**	**85.38**	**21**	IAmb	IAmb	08 24 04.8	
	comp=Z,235nm,1.1s						
P32M	**Atlin**	**85.38**	**21**	P	**P**	**08 24 03.3**	**+1.0**
	baz=222,SNR=44						
P32M				S	**S**	**08 33 48.3**	**+2.6**
	baz=222						
BVCY	**Beaver Creek**	**85.38**	**17**	P	**P**	**08 24 02.8**	**+0.6**
	baz=216,SNR=49						
BVCY				S	**S**	**08 33 46.6**	**+1.0**
	baz=216						
F18K	**Selawik**	**85.42**	**7**	P	**P**	**08 24 01.7**	**-0.5**
	baz=198,SNR=18						
F18K				S	**S**	**08 33 44.8**	**-0.8**
	baz=198						
Q32M	**Nakina River**	**85.42**	**22**	P	**P**	**08 24 03.8**	**+1.1**
	baz=224						
Q32M				S	**S**	**08 33 47.6**	**+1.2**
	baz=224						
RIDG	**Independent Ri**	**85.47**	**14**	IAmb	IAmb	08 24 04.2	
	comp=Z,359nm,1.1s						
RIDG	**Independent Ri**	**85.47**	**14**	P	**P**	**08 24 02.7**	**+0.1**
	baz=212,SNR=49						
RIDG				S	**S**	**08 33 44.8**	**-1.6**
	baz=212						
O30N	**Mendenhall**	**85.48**	**19**	IAmb	IAmb	08 24 05.0	
	comp=Z,251nm,0.9s						
O30N	**Mendenhall**	**85.48**	**19**	P	**P**	**08 24 03.5**	**+0.8**
	baz=220,SNR=72						
O30N				S	**S**	**08 33 47.7**	**+1.0**
	baz=220						
Y22D	**IRIS PASSCAL I**	**85.49**	**52**	IAmb	IAmb	08 24 09.9	
	comp=Z,300nm,1.2s						
Y22D	**IRIS PASSCAL I**	**85.49**	**52**	P	**P**	**08 24 05.4**	**+1.8**
	baz=245						
H21K	**Melozitna Rive**	**85.55**	**10**	IAmb	IAmb	08 24 05.0	
	comp=Z,861nm,1.9s						
H21K	**Melozitna Rive**	**85.55**	**10**	P	**P**	**08 24 03.0**	**+0.1**
	baz=204,SNR=61						
H21K				S	**S**	**08 33 46.5**	**-0.4**
	baz=204						
HDA	**Harding Lake**	**85.57**	**13**	IAmb	IAmb	08 24 05.4	
	comp=Z,633nm,1.6s						
HDA	**Harding Lake**	**85.57**	**13**	P	**P**	**08 24 02.7**	**-0.3**
	baz=210,SNR=56						
HDA				S	**S**	**08 33 45.3**	**-2.0**
	baz=210						
DOT	**Dot Lake**	**85.58**	**15**	IAmb	IAmb	08 24 04.7	
	comp=Z,212nm,0.8s						
BSUT	**Blindstream Ca**	**85.62**	**45**	IAmb	IAmb	08 24 06.4	
	comp=Z,283nm,1.4s						
E17K	**Hotham Inlet**	**85.63**	**6**	P	**P**	**08 24 03.4**	**+0.2**
	baz=196						
E17K				S	**S**	**08 33 47.5**	**-0.2**
	baz=196						
XLT	**XiLinHaoTe**	**85.63**	**319**	*e*P	**P**	**08 24 04.2**	**+0.3**
XLT				pP	pwP	08 26 09.1	-0.4
XLT				PP	**PP**	**08 27 29.8**	**-4.0**
XLT				S	**S**	**08 33 40.4**	**-8.4**
XLT				SS	**SS**	**08 39 39.9**	**-3.1**
XLT				pmax	pmax		
	comp=Z,95nm,1.3s						
VHRN	**Van Horn**	**85.64**	**56**	IAmb	IAmb	08 24 08.1	
	comp=Z,666nm,1.6s						
L27K	**Beaver Creek,**	**85.65**	**16**	IAmb	IAmb	08 24 05.4	
	comp=Z,313nm,1.5s						
L27K	**Beaver Creek,**	**85.65**	**16**	P	**P**	**08 24 03.7**	**+0.2**
	baz=215,SNR=52						
L27K				S	**S**	**08 33 48.2**	**0.0**
	baz=215						
BCAR	**Beaver Creek A**	**85.67**	**16**	P	**P**	**08 24 03.5**	**0.0**
N30M	**Aishikik Lake**	**85.71**	**19**	P	**P**	**08 24 04.0**	**+0.2**
	baz=219						
N30M				S	**S**	**08 33 48.1**	**-0.6**
	baz=219						
MG05	**Puerto Natales**	**85.72**	**143**	IAmb	IAmb	08 24 07.0	
	comp=Z,188nm,0.9s						
I23K	**Minto, Yukon-K**	**85.72**	**12**	P	**P**	**08 24 02.8**	**-0.9**
	baz=208,SNR=52						
I23K				S	**S**	**08 33 46.3**	**-2.3**
	baz=208						
MG04	**Isla Riesco**	**85.77**	**144**	IAmb	IAmb	08 24 07.3	
	comp=Z,229nm,0.9s						
COLA	**College**	**85.78**	**13**	P	**P**	**08 24 03.2**	**-0.8**
COLA	**College**	**85.78**	**13**	P	**P**	**08 24 03.4**	**-0.5**
COLA	**College**	**85.78**	**13**	*e*P	**P**	**08 24 03.1**	**-0.8**
COLA				pmax	pmax		
	comp=Z,848nm,1.5s						
COLA	**College**	**85.78**	**13**	P	**P**	**08 24 03.5**	**-0.5**
	baz=209						
COLA				S	**S**	**08 33 46.3**	**-2.9**
	baz=209						
WHY	**Whitehorse**	**85.79**	**20**	P	**P**	**08 24 05.1**	**+0.8**
	baz=221,SNR=63						
WHY				S	**S**	**08 33 51.6**	**+1.9**
	baz=221						
PV10	**Paradox Valley**	**85.82**	**48**	IAmb	IAmb	08 24 09.2	
	comp=Z,373nm,1.3s						
PV23	**Carpenter Ridg**	**85.87**	**48**	IAmb	IAmb	08 24 09.9	
	comp=Z,598nm,1.6s						
DLBC	**Dease Lake**	**85.87**	**23**	IAmb	IAmb	08 24 07.3	
	comp=Z,301nm,1.2s						
DLBC	**Dease Lake**	**85.87**	**23**	P	**P**	**08 24 06.0**	**+1.3**
	baz=226,SNR=54						
DLBC				S	**S**	**08 33 53.9**	**+3.4**
	baz=226						
F19K	**Shaleruckik Mo**	**85.88**	**8**	IAmb	IAmb	08 24 07.3	
	comp=Z,615nm,1.9s						
F19K	**Shaleruckik Mo**	**85.88**	**8**	P	**P**	**08 24 04.2**	**-0.2**
	baz=200						
F19K				S	**S**	**08 33 49.2**	**-0.8**
	baz=200						
SCRK	**Sand Creek**	**85.88**	**15**	IAmb	IAmb	08 24 06.4	
	comp=Z,520nm,1.7s						
SCRK	**Sand Creek**	**85.88**	**15**	P	**P**	**08 24 04.7**	**+0.1**
	baz=213,SNR=65						
SCRK				S	**S**	**08 33 50.3**	**-0.1**
	baz=213						
PV11	**David Mesa, Pa**	**85.90**	**48**	IAmb	IAmb	08 24 08.2	
	comp=Z,302nm,1.4s						
IL31		**85.90**	**13**	IAmb	IAmb	08 24 05.6	
	comp=Z,188nm,0.8s						
ILAR	**Eielson Array**	**85.90**	**13**	P	**P**	**08 24 03.8**	**-0.8**
	comp=Z,70nm,0.5s,baz=222,slow=4.9,SNR=428						
ILAR				pP	**pP**	**08 26 08.1**	**+0.7**
	comp=Z,41nm,1.1s,baz=229,slow=5.6,SNR=5.2						
ILAR				PKiKP	**PKiKP**	**08 29 08.0**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=286,slow=2.9,SNR=7.2						
ILAR				PKKP	**PKKPdf**	**08 41 56.4**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=327,slow=2.7,SNR=15						
ILAR				PKPPKP	**P'P'df**	**08 50 01.4**	**-4.5**
	comp=Z,1.1nm,0.8s,baz=355,slow=2.6,SNR=5.4						
	comp=Z,70nm,0.5s						
GO10	**Punta Arenas**	**85.93**	**145**	IAmb	IAmb	08 24 08.9	
	comp=Z,320nm,0.9s						
MG03	**Isla Dawson**	**85.96**	**146**	IAmb	IAmb	08 24 07.7	
	comp=Z,212nm,0.8s						
H22K	**Ishtalitna Cre**	**86.01**	**11**	P	**P**	**08 24 05.1**	**0.0**
	baz=206						
H22K				S	**S**	**08 33 50.7**	**-0.7**
	baz=206						
SNSI	**Sinabang, Aceh**	**86.07**	**274**	P	**P**	**08 24 07.9**	**+1.3**
	comp=Z,524nm,1.6s						
M29M	**Somme Creek**	**86.07**	**17**	P	**P**	**08 24 06.2**	**+0.6**
	baz=218						
M29M				S	**S**	**08 33 51.5**	**-0.8**
	baz=218						
POKR	**Poker Plat Res**	**86.08**	**13**	IAmb	IAmb	08 24 05.8	
	comp=Z,144nm,0.6s						
POKR	**Poker Plat Res**	**86.08**	**13**	P	**P**	**08 24 04.8**	**-0.7**
	baz=210,SNR=102						
POKR				S	**S**	**08 33 48.8**	**-3.3**
	baz=210						
E18K	**Tukpahlearik C**	**86.09**	**7**	P	**P**	**08 24 05.5**	**+0.2**
	baz=197						
E18K				S	**S**	**08 33 51.0**	**-1.0**
	baz=197						
D17K	**Noatak River**	**86.09**	**6**	P	**P**	**08 24 05.8**	**+0.4**
	baz=195,SNR=43						
D17K				S	**S**	**08 33 53.3**	**+1.2**
	baz=195						
J25K	**Salcha River,**	**86.10**	**14**	IAmb	IAmb	08 24 06.9	
	comp=Z,153nm,0.6s						
J25K	**Salcha River,**	**86.10**	**14**	P	**P**	**08 24 05.6**	**0.0**
	baz=212						
J25K				S	**S**	**08 33 51.4**	**-1.0**
	baz=212						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**08 24 08.4**	**+1.8**
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**08 24 08.6**	**+2.1**
	comp=Z,592nm,1.2s,baz=216,slow=4.1,SNR=980						
TXAR				PKKP	**PKKPdf**	**08 41 55.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=116,slow=3.6,SNR=5.8						
TXAR				PKKPbc	**PKKPbc**	**08 42 02.5**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=145,slow=2.5,SNR=16						
TXAR				PKPPKP	P'P'df	08 49 58.5	-10
	comp=Z,1.4nm,0.9s,baz=131,slow=3.5,SNR=4.7						
	comp=Z,592nm,1.2s						
XAN	**Xi'an**	**86.12**	**307**	⇓P	**P**	**08 24 07.5**	**+1.1**
XAN				pP	pP	08 26 07.4	-2.6
XAN				sP	sP	08 27 09.8	+2.2
XAN				PP	**PP**	**08 27 36.7**	**-1.2**
XAN				SKS	**SKSac**	**08 33 38.5**	**+0.1**
XAN				S	**S**	**08 33 56.5**	**+2.6**
XAN				pmax	pmax		
	comp=Z,310nm,1.0s						
XAN				pmax	pmax		
	comp=Z,1µm,6.0s						
PV07	**Paradox Valley**	**86.12**	**48**	IAmb	IAmb	08 24 10.7	
	comp=Z,273nm,1.6s						
P33M	**Teslin, Yukon**	**86.14**	**21**	P	**P**	**08 24 06.6**	**+0.7**
	baz=223,SNR=33						
P33M				S	**S**	**08 33 54.3**	**+1.3**
	baz=223						
R33M	**Jennings River**	**86.20**	**22**	IAmb	IAmb	08 24 09.0	
	comp=Z,562nm,1.4s						
R33M	**Jennings River**	**86.20**	**22**	P	**P**	**08 24 07.5**	**+1.2**
	baz=225,SNR=97						
R33M				S	**S**	**08 33 54.9**	**+1.2**
	baz=225						
ANMO	**Albuquerque**	**86.21**	**52**	P	**P**	**08 24 07.9**	**+0.9**
ANMO	**Albuquerque**	**86.21**	**52**	*i* P	**P**	**08 24 07.1**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,86nm,1.1s						
G21K	**Allakaket**	**86.21**	**10**	P	**P**	**08 24 06.2**	**+0.1**
	baz=204						
G21K				S	**S**	**08 33 53.3**	**0.0**
	baz=204						
HIA	**Hailar**	**86.26**	**325**	P	**P**	**08 24 07.2**	**+0.5**
HIA	**Hailar**	**86.26**	**325**	P	**P**	**08 24 07.8**	**+1.1**
HIA	**Hailar**	**86.26**	**325**	P	**P**	**08 24 07.2**	**+0.5**
HIA				pmax	pmax		
	comp=Z,176nm,1.5s						
UNM	**Universidad Na**	**86.27**	**68**	IAmb	IAmb	08 24 10.8	
	comp=Z,308nm,1.1s						
H23K	**Yukon River**	**86.29**	**12**	P	**P**	**08 24 05.7**	**-0.7**
	baz=208,SNR=24						
H23K				S	**S**	**08 33 50.9**	**-3.2**
	baz=208						
LHMI	**Lhok Sumawe**	**86.35**	**277**	P	**P**	**08 24 09.2**	**+1.3**
LHMI	**Lhok Sumawe**	**86.35**	**277**	P	**P**	**08 24 08.7**	**+0.8**
	comp=Z,9µmcomp=Z,475nm,0.8s						
F20K	**Avaraart Lake**	**86.37**	**9**	P	**P**	**08 24 06.8**	**+0.1**
	baz=202						
F20K				S	**S**	**08 33 54.0**	**-0.6**
	baz=202						
K27K	**Chicken**	**86.39**	**15**	IAmb	IAmb	08 24 09.3	
	comp=Z,379nm,1.4s						
K27K	**Chicken**	**86.39**	**15**	P	**P**	**08 24 07.6**	**+0.7**
	baz=215						
K27K				S	**S**	**08 33 56.0**	**+1.1**
	baz=215						
BILL	**Bilibino**	**86.39**	**354**	P	**P**	**08 24 06.7**	**-0.1**
BILL	**Bilibino**	**86.39**	**354**	*ce*P	**P**	**08 24 06.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,647nm,2.5s						
J26L	**Joseph Creek**	**86.42**	**14**	P	**P**	**08 24 07.7**	**+0.6**
	baz=213						
J26L				S	**S**	**08 33 56.7**	**+1.3**
	baz=213						
AHID	**Auburn Hatcher**	**86.44**	**43**	IAmb	IAmb	08 24 10.8	
	comp=Z,378nm,1.4s						
C16K	**Lisburne Hills**	**86.45**	**5**	P	**P**	**08 24 07.1**	**+0.1**
	baz=193,SNR=32						
C16K				S	**S**	**08 33 55.8**	**+0.4**
	baz=193						
RDOG	**Red Dog Mine**	**86.46**	**6**	P	**P**	**08 24 07.4**	**+0.3**
	baz=195,SNR=21						
RDOG				S	**S**	**08 33 55.2**	**-0.3**
	baz=195						
E19K	**Redstone River**	**86.54**	**8**	P	**P**	**08 24 07.8**	**+0.3**
	baz=200,SNR=104						
E19K				S	**S**	**08 33 55.1**	**-1.2**
	baz=200						
ALPN	**Alpine**	**86.54**	**57**	IAmb	IAmb	08 24 12.1	
	comp=Z,464nm,1.3s						
MLSI	**Meulaboh, Aceh**	**86.57**	**276**	P	**P**	**08 24 08.9**	**0.0**
	comp=Z,1µm,1.4s						
H24K	**Noodor Dome**	**86.62**	**12**	P	**P**	**08 24 06.8**	**-1.3**
	baz=209						
H24K				S	**S**	**08 33 54.4**	**-2.9**
	baz=209						
M30M	**Minto, Yukon**	**86.66**	**18**	IAmb	IAmb	08 24 10.2	
	comp=Z,377nm,1.1s						
M30M	**Minto, Yukon**	**86.66**	**18**	P	**P**	**08 24 08.8**	**+0.5**
	baz=219,SNR=139						
M30M				S	**S**	**08 33 57.9**	**+0.2**
	baz=219						
MSO	**Missoula**	**86.66**	**38**	IAmb	IAmb	08 24 10.5	
	comp=Z,278nm,1.6s						
L29M	**L29M**	**86.69**	**17**	P	**P**	**08 24 09.4**	**+0.9**
	baz=218						
L29M				S	**S**	**08 33 58.3**	**+0.3**
	baz=218						
DLMT	**Dillon**	**86.74**	**40**	IAmb	IAmb	08 24 12.1	
	comp=Z,273nm,1.0s						
N32M	**Quiet Lake**	**86.74**	**20**	IAmb	IAmb	08 24 11.2	
	comp=Z,504nm,1.2s						
N32M	**Quiet Lake**	**86.74**	**20**	P	**P**	**08 24 09.8**	**+1.1**
	baz=223						
N32M				S	**S**	**08 34 00.2**	**+1.6**
	baz=223						
PRP	**Porcupine Dome**	**86.84**	**13**	IAmb	IAmb	08 24 10.4	
	comp=Z,369nm,1.7s						
PRP	**Porcupine Dome**	**86.84**	**13**	P	**P**	**08 24 08.8**	**-0.4**
	baz=211,SNR=26						
PRP				S	**S**	**08 33 57.3**	**-2.1**
	baz=211						
C17K	**DeLong Mountai**	**86.84**	**6**	P	**P**	**08 24 09.2**	**+0.2**
	baz=195						
C17K				S	**S**	**08 33 58.7**	**-0.4**
	baz=195						
F21K	**Alatna River**	**86.87**	**10**	P	**P**	**08 24 09.0**	**-0.1**
	baz=204,SNR=57						
F21K				S	**S**	**08 33 58.3**	**-1.2**
	baz=204						
TPAW	**Teton Pass**	**86.88**	**42**	IAmb	IAmb	08 24 12.1	
	comp=Z,283nm,1.1s						
FXWY	**Fox Creek**	**86.90**	**42**	IAmb	IAmb	08 24 13.2	
	comp=Z,516nm,1.6s						
MG01	**Puerto William**	**86.97**	**147**	IAmb	IAmb	08 24 12.9	
	comp=Z,232nm,1.1s						
G23K	**Bananza Creek**	**86.99**	**11**	IAmb	IAmb	08 24 11.6	
	comp=Z,308nm,1.6s						
G23K	**Bananza Creek**	**86.99**	**11**	P	**P**	**08 24 09.8**	**+0.1**
	baz=207,SNR=53						
G23K				S	**S**	**08 34 01.1**	**+0.4**
	baz=207						
SNOW	**Snow King Moun**	**86.99**	**42**	IAmb	IAmb	08 24 13.6	
	comp=Z,379nm,1.1s						
M31M	**Drury Creek, Y**	**87.10**	**19**	IAmb	IAmb	08 24 11.9	
	comp=Z,231nm,1.2s						
M31M	**Drury Creek, Y**	**87.10**	**19**	P	**P**	**08 24 10.4**	**+0.1**
	baz=222,SNR=73						
M31M				S	**S**	**08 34 00.2**	**-1.6**
	baz=222						
DAWY	**Dawson**	**87.11**	**16**	IAmb	IAmb	08 24 12.3	
	comp=Z,394nm,1.4s						
DAWY	**Dawson**	**87.11**	**16**	P	**P**	**08 24 10.7**	**+0.4**
	baz=217,SNR=81						
DAWY				S	**S**	**08 34 01.6**	**-0.2**
	baz=217						
HHC	**Hu-ho-hao-te**	**87.14**	**315**	⇓*i*P	**P**	**08 24 12.2**	**+1.1**
HHC				pP	pP	08 26 19.3	+4.3
HHC				PP	**PP**	**08 27 49.0**	**+3.0**
HHC				SKS	**SKSac**	**08 33 46.5**	**+2.1**
HHC				S	**ScS**	**08 34 09.0**	**+1.0**
HHC				SS	**SS**	**08 40 06.8**	**+1.8**
HHC				pmax	pmax		
	comp=Z,93nm,1.6s						
HHC				pmax	pmax		
	comp=Z,500nm,7.6s						
O20A	**White River Ci**	**87.15**	**46**	IAmb	IAmb	08 24 13.4	
	comp=Z,265nm,1.3s						
LOHW	**Long Hollow**	**87.16**	**42**	IAmb	IAmb	08 24 14.1	
	comp=Z,644nm,1.7s						
I26K	**Coal Creek Min**	**87.19**	**14**	P	**P**	**08 24 11.0**	**+0.3**
	baz=214						
I26K				S	**S**	**08 34 02.3**	**-0.2**
	baz=214						
C18K	**Utukok River**	**87.20**	**6**	P	**P**	**08 24 10.6**	**-0.1**
	baz=197						
C18K				S	**S**	**08 34 01.2**	**-1.4**
	baz=197						
SRDT	**SRDT**	**87.22**	**286**	P	**P**	**08 24 13.7**	**+1.8**
F22K	**John River**	**87.34**	**10**	P	**P**	**08 24 11.6**	**+0.3**
	baz=205						
F22K				S	**S**	**08 34 03.2**	**-0.6**
	baz=205						
YFT	**Old Faithful**	**87.40**	**42**	IAmb	IAmb	08 24 16.6	
	comp=Z,224nm,1.0s						
D19K	**Kuna River**	**87.41**	**7**	P	**P**	**08 24 11.6**	**0.0**
	baz=200						
D19K				S	**S**	**08 34 04.4**	**-0.1**
	baz=200						
COLD	**Coldfoot**	**87.42**	**11**	IAmb	IAmb	08 24 13.7	
	comp=Z,180nm,1.0s						
COLD	**Coldfoot**	**87.42**	**11**	P	**P**	**08 24 12.3**	**+0.6**
	baz=207,SNR=147						
COLD				S	**S**	**08 34 05.0**	**+0.5**
	baz=207						
H25L	**Birch Creek**	**87.42**	**13**	P	**P**	**08 24 10.7**	**-1.0**
	baz=211,SNR=16						
H25L				S	**S**	**08 34 03.9**	**-0.6**
	baz=211						
YMR	**Madison River**	**87.42**	**41**	IAmb	IAmb	08 24 16.1	
	comp=Z,405nm,1.2s						
E20K	**Nigu River**	**87.43**	**8**	P	**P**	**08 24 12.1**	**+0.3**
	baz=201						
E20K				S	**S**	**08 34 03.9**	**-0.8**
	baz=201						
K29M	**Barlow Dome**	**87.44**	**17**	P	**P**	**08 24 12.6**	**+0.6**
	baz=219						
K29M				S	**S**	**08 34 06.8**	**+1.7**
	baz=219						
PD31	**Pinedale Array**	**87.44**	**43**	IAmb	IAmb	08 24 14.9	
	comp=Z,153nm,0.8s						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**08 24 12.9**	**+0.2**
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**08 24 13.2**	**+0.5**
	comp=Z,85nm,0.6s,baz=212,slow=3.0,SNR=710						
PDAR				pP	**pP**	**08 26 16.8**	**+0.9**
	comp=Z,20nm,1.1s,baz=258,slow=6.1,SNR=5.6						
PDAR				PP	**PP**	**08 27 45.7**	**-2.8**
	comp=Z,16nm,0.9s,baz=261,slow=7.8,SNR=8.5						
PDAR				PKKP	**PKKPdf**	**08 41 52.8**	**-1.2**
	comp=Z,6.5nm,0.8s,baz=101,slow=3.6,SNR=10.0						
PDAR				SKKPbc	SKKPbc	08 44 44.4	-1.6
	comp=Z,3.0nm,0.8s,baz=95,slow=3.9,SNR=10						
PDAR				PKPPKP	P'P'df	08 49 56.5	-8.7
	comp=Z,0.9nm,0.7s,baz=102,slow=4.7,SNR=7.1						
	comp=Z,85nm,0.6s						
BOZ	**Bozeman (W)**	**87.45**	**40**	IAmb	IAmb	08 24 15.5	
	comp=Z,467nm,1.4s						
FARO	**Faro, Yukon**	**87.45**	**19**	IAmb	IAmb	08 24 13.8	
	comp=Z,458nm,1.7s						
FARO	**Faro, Yukon**	**87.45**	**19**	P	**P**	**08 24 12.3**	**+0.3**
	baz=223,SNR=44						
FARO				S	**S**	**08 34 05.2**	**+0.1**
	baz=223						
G24K	**Hadweenzic Riv**	**87.46**	**12**	P	**P**	**08 24 11.5**	**-0.4**
	baz=210,SNR=38						
G24K				S	**S**	**08 34 03.8**	**-1.1**
	baz=210						
WTLY	**Watson Lake, Y**	**87.49**	**23**	IAmb	IAmb	08 24 14.7	
	comp=Z,350nm,1.4s						
WTLY	**Watson Lake, Y**	**87.49**	**23**	P	**P**	**08 24 13.3**	**+1.1**
	baz=227,SNR=35						
WTLY				S	**S**	**08 34 06.7**	**+1.2**
	baz=227						
H17A	**Grant Village**	**87.54**	**42**	IAmb	IAmb	08 24 17.1	
	comp=Z,247nm,1.1s						
SAND	**Sanderson**	**87.59**	**58**	IAmb	IAmb	08 24 16.4	
	comp=Z,218nm,1.1s						
MNHN	**Monahans**	**87.61**	**56**	IAmb	IAmb	08 24 15.7	
	comp=Z,250nm,1.3s						
YNM	**Yellowstone No**	**87.61**	**41**	IAmb	IAmb	08 24 18.1	
	comp=Z,423nm,1.3s						
YNR	**Norris Junctio**	**87.62**	**41**	IAmb	IAmb	08 24 18.3	
	comp=Z,325nm,1.4s						
KMI	**Kunming**	**87.68**	**297**	⇓P	**P**	**08 24 15.6**	**+1.4**
KMI				SKS	**SKSac**	**08 33 48.9**	**+0.4**
KMI				S	**ScS**	**08 34 12.8**	**-0.5**
KMI				sS	sS	08 37 51.1	+2.5
KMI				SS	**SS**	**08 40 17.2**	**+3.7**
KMI				pmax	pmax		
	comp=Z,140nm,1.6s						
KMI				pmax	pmax		
	comp=Z,960nm,4.0s						
MAYO	**Mayo, Yukon**	**87.71**	**18**	P	**P**	**08 24 14.1**	**+1.0**
	baz=220,SNR=58						
MAYO				S	**S**	**08 34 08.3**	**+0.9**
	baz=220						
J29N	**Klondike Camp**	**87.73**	**16**	P	**P**	**08 24 14.2**	**+0.9**
	baz=218,SNR=78						
J29N				S	**S**	**08 34 07.0**	**-0.7**
	baz=218						
LKWY	**Lake**	**87.73**	**42**	IAmb	IAmb	08 24 18.2	
	comp=Z,258nm,1.1s						
G25K	**Bearman Lake**	**87.79**	**12**	P	**P**	**08 24 12.9**	**-0.5**
	baz=211,SNR=28						
G25K				S	**S**	**08 34 05.6**	**-2.3**
	baz=211						
I27K	**Kandik River**	**87.

E21K				S	**S**	**08 34 06.4**	**-2.7**
	baz=203							
E22K	**Anaktuvuk Pass**	**87.97**	**10**	IAmb	IAmb	08 24 15.9		
	comp=Z,316nm,1.2s							
E22K	**Anaktuvuk Pass**	**87.97**	**10**	P	**P**	**08 24 14.5**	**+0.2**	
	baz=205,SNR=134							
E22K				S	**S**	**08 34 08.3**	**-1.3**	
	baz=205							
YMP	**Mirror Lake Pl**	**87.97**	**42**	IAmb	IAmb	08 24 33.0		
	comp=Z,292nm,1.4s							
BSI	**Banda Aceh**	**88.00**	**276**	P	**P**	**08 24 15.6**	**0.0**	
	comp=Z,4µmcomp=Z,347nm,1.6s							
TOAD	**Toad River Com**	**88.01**	**25**	P	**P**	**08 24 15.4**	**+0.7**	
	baz=230,SNR=219							
TOAD				S	**S**	**08 34 09.9**	**-0.4**	
	baz=230							
SDCO	**Great Sand Dun**	**88.07**	**49**	P	**P**	**08 24 15.9**	**+0.2**	
I28M	**Miner Creek**	**88.08**	**15**	P	**P**	**08 24 14.9**	**0.0**	
	baz=216,SNR=70							
I28M				S	**S**	**08 34 10.6**	**-0.4**	
	baz=216							
BTO	**Baotou**	**88.09**	**314**	*e*P	**P**	**08 24 17.2**	**+1.6**	
BTO				pP	**pP**	**08 26 17.0**	**-2.8**	
BTO				PP	**PP**	**08 27 58.2**	**+4.8**	
BTO				SKS	**SKSac**	**08 33 49.4**	**-0.6**	
BTO				S	**S**	**08 34 09.1**	**-3.0**	
BTO				sS	**sS**	**08 37 50.0**	**-2.0**	
BTO				SS	**SS**	**08 40 26.4**	**+7.7**	
BTO				pmax	pmax			
	comp=Z,82nm,1.3s							
BTO				pmax	pmax			
	comp=Z,2µm,7.9s							
F24K	**Squaw Lake**	**88.10**	**11**	IAmb	IAmb	08 24 16.8		
	comp=Z,146nm,0.8s							
F24K	**Squaw Lake**	**88.10**	**11**	P	**P**	**08 24 15.6**	**+0.7**	
	baz=209							
F24K				S	**S**	**08 34 10.6**	**-0.2**	
	baz=209							
YNE	**Yellowstone No**	**88.18**	**41**	IAmb	IAmb	08 24 19.4		
	comp=Z,305nm,1.2s							
E23K	**Chandalar**	**88.27**	**10**	IAmb	IAmb	08 24 17.5		
	comp=Z,156nm,0.9s							
E23K	**Chandalar**	**88.27**	**10**	P	**P**	**08 24 16.2**	**+0.4**	
	baz=208							
E23K				S	**S**	**08 34 13.0**	**+0.6**	
	baz=208							
H27K	**Steamboat Moun**	**88.34**	**14**	P	**P**	**08 24 16.4**	**+0.3**	
	baz=215							
H27K				S	**S**	**08 34 13.7**	**+0.6**	
	baz=215							
J30M	**Hart River**	**88.34**	**17**	P	**P**	**08 24 16.6**	**+0.5**	
	baz=220,SNR=20							
J30M				S	**S**	**08 34 14.2**	**+0.9**	
	baz=220							
GO07	**Milladeo Hill,**	**88.37**	**135**	IAmb	IAmb	08 24 19.9		
	comp=Z,198nm,0.9s							
I29M	**Ogilvie Camp,**	**88.42**	**16**	IAmb	IAmb	08 24 17.9		
	comp=Z,180nm,1.1s							
I29M	**Ogilvie Camp,**	**88.42**	**16**	P	**P**	**08 24 16.4**	**-0.1**	
	baz=218,SNR=96							
I29M				S	**S**	**08 34 11.9**	**-2.0**	
	baz=218							
G26K	**Porcupine Rive**	**88.43**	**13**	P	**P**	**08 24 16.8**	**+0.5**	
	baz=213							
G26K				S	**S**	**08 34 13.3**	**-0.5**	
	baz=213							
C21K	**Knifeblade Rid**	**88.46**	**8**	P	**P**	**08 24 16.9**	**+0.4**	
	baz=203,SNR=114							
C21K				S	**S**	**08 34 13.4**	**-0.7**	
	baz=203							
E24K	**Your Creek**	**88.48**	**11**	IAmb	IAmb	08 24 18.5		
	comp=Z,359nm,1.8s							
E24K	**Your Creek**	**88.48**	**11**	P	**P**	**08 24 17.0**	**+0.4**	
	baz=208							
E24K				S	**S**	**08 34 13.2**	**-1.2**	
	baz=208							
D22K	**Ayikyak River**	**88.51**	**9**	P	**P**	**08 24 17.2**	**+0.4**	
	baz=205							
D22K				S	**S**	**08 34 13.9**	**-0.6**	
	baz=205							
F25K	**Christian Rive**	**88.60**	**12**	IAmb	IAmb	08 24 19.4		
	comp=Z,156nm,1.2s							
F25K	**Christian Rive**	**88.60**	**12**	P	**P**	**08 24 17.9**	**+0.6**	
	baz=211							
F25K				S	**S**	**08 34 15.7**	**+0.2**	
	baz=211							
MSTX	**Muleshoe**	**88.61**	**54**	P	**P**	**08 24 18.6**	**+0.5**	
TGTN	**Hyland Airport**	**88.65**	**22**	P	**P**	**08 24 18.9**	**+1.2**	
	baz=227,SNR=97							
TGTN				S	**S**	**08 34 15.4**	**-0.8**	
	baz=227							
BMAR	**Burnt Mountain**	**88.67**	**12**	P	**P**	**08 24 18.2**	**+0.7**	
A19K	**Wainwright**	**88.72**	**6**	P	**P**	**08 24 17.8**	**+0.2**	
	baz=197							
A19K				S	**S**	**08 34 15.4**	**-0.8**	
	baz=197							
CMAR	**Chiang Mai Arr**	**88.73**	**290**	P	**P**	**08 24 20.1**	**+1.2**	
	comp=Z,52nm,0.8s,baz=111,slow=2.7,SNR=257							
CMAR				PP	**PP**	**08 27 58.2**	**-0.5**	
	comp=Z,9.6nm,0.8s,baz=123,slow=5.6,SNR=6.1							
CMAR				PKiKP	**PKiKP**	**08 29 14.9**	**+0.1**	
	comp=Z,2.2nm,0.6s,baz=156,slow=1.4,SNR=4.1							
CMAR				PKKPbc	**PKKPbc**	**08 41 56.5**	**+0.9**	
	comp=Z,7.6nm,0.7s,baz=292,slow=2.7,SNR=24							
CMAR				SKKPbc	SKKPbc	08 44 40.3	-0.1	
	comp=Z,1.7nm,0.7s,baz=297,slow=4.2,SNR=5.2							
CMAR				PKPPKP	P'P'df	08 49 56.2	-8.1	
	comp=Z,1.2nm,0.3s,baz=285,slow=3.8,SNR=5.8							
	comp=Z,52nm,0.8s							
LL06	**Loncomilla**	**88.75**	**134**	IAmb	IAmb	08 24 21.2		
	comp=Z,216nm,1.0s							
G27K	**Doyon Strip**	**88.78**	**14**	P	**P**	**08 24 18.5**	**+0.4**	
	baz=215,SNR=40							
G27K				S	**S**	**08 34 16.0**	**-1.1**	
	baz=215							
TOLK	**Toolik Lake Re**	**88.79**	**10**	IAmb	IAmb	08 24 19.9		
	comp=Z,381nm,1.5s							
TOLK	**Toolik Lake Re**	**88.79**	**10**	P	**P**	**08 24 18.5**	**+0.4**	
	baz=208,SNR=49							
TOLK				S	**S**	**08 34 15.8**	**-1.4**	
	baz=208							
Q24A	**Divide**	**88.82**	**48**	IAmb	IAmb	08 24 22.2		
	comp=Z,303nm,1.4s							
I30M	**Mount Dempster**	**88.83**	**16**	IAmb	IAmb	08 24 20.1		
	comp=Z,248nm,1.1s							
I30M	**Mount Dempster**	**88.83**	**16**	P	**P**	**08 24 18.6**	**+0.2**	
	baz=220,SNR=76							
I30M				S	**S**	**08 34 15.7**	**-2.1**	
	baz=220							
ISCO	**Idaho Springs**	**88.83**	**47**	IAmb	IAmb	08 24 22.4		
	comp=Z,321nm,1.8s							
CHTO	**Chiang Mai**	**88.84**	**290**	P	**P**	**08 24 20.2**	**+0.8**	
CHTO				IAmb	IAmb	08 24 21.0		
	comp=Z,88nm,0.8s							
CHTO	**Chiang Mai**	**88.84**	**290**	P	**P**	**08 24 20.2**	**+0.8**	
CHTO				pmax	pmax			
	comp=Z,87nm,0.8s							
D23K	**Nanushuk River**	**88.90**	**10**	IAmb	IAmb	08 24 20.7		
	comp=Z,315nm,1.1s							
D23K	**Nanushuk River**	**88.90**	**10**	P	**P**	**08 24 19.0**	**+0.5**	
	baz=206							
D23K				S	**S**	**08 34 16.3**	**-1.8**	
	baz=206							
B21K	**Ikpikpuk River**	**88.92**	**8**	IAmb	IAmb	08 24 20.3		
	comp=Z,382nm,1.5s							
B21K	**Ikpikpuk River**	**88.92**	**8**	P	**P**	**08 24 18.8**	**+0.2**	
	baz=203,SNR=77							
B21K				S	**S**	**08 34 16.9**	**-1.2**	
	baz=203							
CD2	**Chengdu**	**88.92**	**303**	P	**P**	**08 24 20.6**	**+1.0**	
CD2				S	**S**	**08 34 25.0**	**+5.0**	
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
B20K	**Meade River**	**88.95**	**7**	P	**P**	**08 24 18.9**	**+0.2**	
	baz=200							
B20K				S	**S**	**08 34 17.3**	**-1.1**	
	baz=200							
F26K	**Sheenjek River**	**88.98**	**12**	IAmb	IAmb	08 24 21.4		
	comp=Z,140nm,1.1s							
F26K	**Sheenjek River**	**88.98**	**12**	P	**P**	**08 24 19.9**	**+0.8**	
	baz=213,SNR=82							
F26K				S	**S**	**08 34 19.4**	**+0.5**	
	baz=213							
PZH	**PanZhiHua**	**89.00**	**298**	P	**P**	**08 24 21.0**	**+0.8**	
PZH				S	**S**	**08 34 20.6**	**-0.5**	
PZH				pmax	pmax			
	comp=Z,80nm,1.1s							
PZH				pmax	pmax			
	comp=Z,840nm,9.8s							
E25K	**Arctic Village**	**89.06**	**12**	IAmb	IAmb	08 24 21.5		
	comp=Z,187nm,1.2s							
E25K	**Arctic Village**	**89.06**	**12**	P	**P**	**08 24 19.9**	**+0.5**	
	baz=211,SNR=92							
E25K				S	**S**	**08 34 20.3**	**+0.7**	
	baz=211							
H29M	**Whitestone**	**89.09**	**15**	IAmb	IAmb	08 24 21.8		
	comp=Z,256nm,1.1s							
H29M	**Whitestone**	**89.09**	**15**	P	**P**	**08 24 19.8**	**+0.3**	
	baz=218,SNR=101							
H29M				S	**S**	**08 34 19.9**	**0.0**	
	baz=218							
SGCY	**Sterling City**	**89.12**	**56**	IAmb	IAmb	08 24 23.0		
	comp=Z,297nm,1.3s							
SYO	**Syowa Base**	**89.14**	**193**	⇓*i*P	**P**	**08 24 19.6**	**-0.2**	
SYO	**Syowa Base**	**89.14**	**193**	⇑*i*PcP	**PcP**	**08 24 20.6**	**-0.2**	
SYO	**Syowa Base**	**89.14**	**193**	⇓*i*pP	pP	08 26 24.7	+1.1	
SYO	**Syowa Base**	**89.14**	**193**	⇓*i*sP	sP	08 27 23.0	+2.0	
ELIB	**Princess Elisa**	**89.16**	**187**	*d*P	**P**	**08 24 20.2**	**+0.1**	
	comp=Z,511nm,0.8s							
833A	**Chaparral WMA,**	**89.23**	**60**	IAmb	IAmb	08 24 23.6		
	comp=Z,245nm,1.1s							
POST	**Post**	**89.25**	**55**	IAmb	IAmb	08 24 22.6		
	comp=Z,361nm,1.3s							
KOTAN	**Kotaneelee Air**	**89.29**	**24**	P	**P**	**08 24 21.1**	**+0.6**	
	baz=231,SNR=19							
KOTAN				S	**S**	**08 34 21.7**	**-0.2**	
	baz=231							
D24K	**Happy Valley**	**89.37**	**10**	IAmb	IAmb	08 24 22.7		
	comp=Z,130nm,0.9s							
D24K	**Happy Valley**	**89.37**	**10**	P	**P**	**08 24 21.2**	**+0.5**	
	baz=208							
D24K				S	**S**	**08 34 21.2**	**-1.1**	
	baz=208							
CMIG	**Matias Romero**	**89.38**	**72**	PKKPbc	PKKPbc	08 41 54.2	+0.3	
	comp=Z,4.6nm,0.9s,baz=30,slow=6.2,SNR=6.5							
YAK	**Yakutsk**	**89.50**	**338**	P	**P**	**08 24 20.7**	**-0.7**	
YAK				IAmb	IAmb	08 24 22.4		
	comp=Z,149nm,1.0s							
YAK	**Yakutsk**	**89.50**	**338**	P	**P**	**08 24 20.7**	**-0.7**	
	comp=Z,60nm,0.8s,baz=95,slow=2.3,SNR=44							
YAK				S	**SKSac**	**08 33 54.4**	**-2.5**	
	comp=Z,16nm,0.3s,baz=118,slow=22,SNR=22							
	comp=Z,60nm,0.8s							
YAK	**Yakutsk**	**89.50**	**338**	*c i*P	**P**	**08 24 20.6**	**-0.7**	
YAK				*e**PP	**pP**	**08 26 24.0**	**-1.3**	
YAK				*e*		08 27 59.2		
YAK				*i* S	**SKSac**	**08 33 54.3**	**-2.5**	
YAK				*e*		08 34 18.1		
YAK				pmax	pmax			
	comp=Z,144nm,1.4s							
YAK				pmax	pmax			
	comp=N,20nm,1.4s							
YAK				pmax	pmax			
	comp=E,38nm,1.3s							
YAK				pmax	pmax			
	comp=Z,924nm,2.5s							
YAK				pmax	pmax			
	comp=N,308nm,2.5s							
YAK				pmax	pmax			
	comp=E,458nm,3.0s							
YAK				smax	smax			
	comp=N,2µm,2.5s							
YAK				smax	smax			
	comp=E,762nm,3.2s							
LL02	**Futaleuf**	**89.56**	**136**	IAmb	IAmb	08 24 25.3		
	comp=Z,200nm,0.9s							
RTBA	**Rita Blanca**	**89.58**	**51**	IAmb	IAmb	08 24 24.7		
	comp=Z,262nm,1.4s							
JCT	**Junction City**	**89.66**	**58**	IAmb	IAmb	08 24 24.8		
	comp=Z,109nm,0.9s							
C23K	**Itkillik River**	**89.69**	**9**	P	**P**	**08 24 22.7**	**+0.6**	
	baz=206							
C23K				S	**S**	**08 34 23.8**	**-1.4**	
	baz=206							
G29M	**Pine Creek**	**89.72**	**15**	IAmb	IAmb	08 24 24.1		
	comp=Z,282nm,1.3s							
G29M	**Pine Creek**	**89.72**	**15**	P	**P**	**08 24 22.5**	**0.0**	
	baz=218,SNR=51							
G29M				S	**S**	**08 34 24.2**	**-1.4**	
	baz=218							
EGMT	**Eagleton**	**89.73**	**39**	IAmb	IAmb	08 24 25.5		
	comp=Z,190nm,1.3s							
SN07	**Snyder 07**	**89.73**	**55**	IAmb	IAmb	08 24 24.6		
	comp=Z,226nm,1.4s							
B22K	**Teshekpuk Lake**	**89.74**	**8**	IAmb	IAmb	08 24 24.2		
	comp=Z,312nm,1.2s							
B22K	**Teshekpuk Lake**	**89.74**	**8**	P	**P**	**08 24 22.8**	**+0.4**	
	baz=204							
B22K				S	**S**	**08 34 24.5**	**-1.0**	
	baz=204							
CMBY	**CAMPBELL BAY**	**89.76**	**277**	*e*P	**P**	**08 24 22.9**	**-0.9**	
CMBY				IAmb	IAmb	08 24 26.3		
	comp=Z,190nm,0.9s							
LR04	**Corral**	**89.80**	**132**	IAmb	IAmb	08 24 26.1		
	comp=Z,216nm,1.2s							
H31M	**Peel River**	**89.82**	**17**	IAmb	IAmb	08 24 24.3		
	comp=Z,219nm,1.3s							
H31M	**Peel River**	**89.82**	**17**	P	**P**	**08 24 22.8**	**-0.1**	
	baz=222							
H31M				S	**S**	**08 34 24.1**	**-2.5**	
	baz=222							
C24K	**Franklin Bluff**	**89.90**	**10**	P	**P**	**08 24 23.6**	**+0.5**	
	baz=208							
C24K				S	**S**	**08 34 27.5**	**+0.5**	
	baz=208							
DKNS	**Dickens**	**89.92**	**55**	IAmb	IAmb	08 24 25.7		
	comp=Z,148nm,1.2s							
E27K	**Coleen River**	**89.93**	**13**	IAmb	IAmb	08 24 25.6		
	comp=Z,325nm,1.6s							
E27K	**Coleen River**	**89.93**	**13**	P	**P**	**08 24 23.9**	**+0.5**	
	baz=215							
E27K				S	**S**	**08 34 23.8**	**-3.7**	
	baz=215							
D25K	**Kavik River**	**89.95**	**11**	P	**P**	**08 24 22.9**	**-0.5**	
	baz=210,SNR=50							
D25K				S	**S**	**08 34 24.7**	**-2.9**	
	baz=210							
LL03	**Petrohue**	**90.02**	**133**	IAmb	IAmb	08 24 27.0		
	comp=Z,182nm,0.9s							
BRIGG	**Briggsdale**	**90.06**	**47**	IAmb	IAmb	08 24 27.6		
	comp=Z,201nm,1.2s							
A22K	**Sinclair Lake**	**90.15**	**8**	P	**P**	**08 24 24.5**	**+0.3**	
	baz=202							
A22K				S	**S**	**08 34 27.0**	**-2.2**	
	baz=202							
KVTX	**Kingsville**	**90.20**	**61**	IAmb	IAmb	08 24 29.5		
	comp=Z,186nm,0.9s							
G30M	**tAoh Zraii Nji**	**90.22**	**15**	P	**P**	**08 24 24.8**	**0.0**	
	baz=220							
G30M				S	**S**	**08 34 27.9**	**-2.2**	
	baz=220							
A21K	**Barrow**	**90.25**	**7**	P	**P**	**08 24 24.7**	**0.0**	
	baz=201							
A21K				S	**S**	**08 34 27.2**	**-2.9**	
	baz=201							
TROLL	**Troll, Antarti**	**90.33**	**180**	⇓P	**P**	**08 24 25.6**	**+0.2**	
	comp=Z,33µm,0.8s							
TROLL				⇓SKSac	**SKSac**	**08 34 04.3**	**+2.2**	
TROLL				⇓S	**S**	**08 34 29.7**	**-1.8**	
BRDY	**Brady**	**90.59**	**57**	IAmb	IAmb	08 24 29.8		
	comp=Z,217nm,1.2s							
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**08 24 26.4**	**-0.3**	
SNAA	**Sanae**	**90.62**	**179**	⇓P	**P**	**08 24 26.5**	**-0.3**	
	comp=Z,4µm,0.6s							
SNAA				⇓SKSac	**SKSac**	**08 34 05.9**	**+2.3**	
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**08 24 26.5**	**-0.3**	
	comp=Z,170nm,0.9s,baz=206,slow=5.8,SNR=336							
SNAA				S	**SKSac**	**08 34 03.3**	**-0.3**	
	comp=Z,6.7nm,0.9s,baz=356,slow=22,SNR=7.8							
	comp=Z,170nm,0.9s							
SNAA	**Sanae**	**90.62**	**179**	P	**P**	**08 24 26.4**	**-0.3**	
SNAA				pmax	pmax			
	comp=Z,258nm,1.0s							
LR05	**Currie**	**90.66**	**133**	IAmb	IAmb	08 24 30.3		
	comp=Z,191nm,0.9s							
LR03	**Panguipulli**	**90.67**	**132**	IAmb	IAmb	08 24 30.4		
	comp=Z,224nm,1.1s							
C27K	**Jago River**	**90.70**	**12**	P	**P**	**08 24 27.3**	**+0.4**	
	baz=213							
C27K				S	**S**	**08 34 31.7**	**-2.5**	
	baz=213							
E28M	**Babbage River**	**90.72**	**13**	IAmb	IAmb	08 24 28.8		
	comp=Z,183nm,1.1s							
E28M	**Babbage River**	**90.72**	**13**	P	**P**	**08 24 27.3**	**+0.3**	
	baz=217,SNR=148							
E28M				S	**S**	**08 34 33.7**	**-0.7**	
	baz=217							
C26K	**Camden Bay**	**90.73**	**11**	P	**P**	**08 24 27.8**	**+0.9**	
	baz=212							
C26K				S	**S**	**08 34 33.8**	**-0.6**	
	baz=212							
LZH	**Lanzhou**	**90.75**	**308**	⇓P	**P**	**08 24 29.5**	**+1.4**	
LZH				pP	pP	08 26 36.0	+3.0	
LZH				SKS	**SKSac**	**08 34 04.5**	**-1.1**	
LZH				S	**ScS**	**08 34 41.8**	**+3.5**	
LZH				SS	**SS**	**08 40 54.6**	**-2.4**	
LZH				pmax	pmax			
	comp=Z,170nm,0.9s							
VNA3	**Neumayer Olymp**	**90.77**	**176**	⇓P	**P**	**08 24 27.3**	**-0.1**	
	comp=Z,992nm,0.7s							
VNA3				⇓SKSac	**SKSac**	**08 34 04.5**	**+0.2**	
VNA3				⇑S	**S**	**08 34 34.2**	**-1.0**	
F30M	**Barrier River**	**90.82**	**15**	P	**P**	**08 24 27.6**	**+0.2**	
	baz=220							
F30M				S	**S**	**08 34 35.0**	**-0.3**	
	baz=220							
E29M	**Blow River**	**90.92**	**14**	IAmb	IAmb	08 24 29.2		
	comp=Z,206nm,1.4s							
E29M	**Blow River**	**90.92**	**14**	P	**P**	**08 24 27.5**	**-0.4**	
	baz=218							
E29M				S	**S**	**08 34 36.6**	**+0.5**	
	baz=218							
D27M	**Malcolm River**	**90.93**	**13**	P	**P**	**08 24 28.7**	**+0.7**	
	baz=216							
D27M				S	**S**	**08 34 37.5**	**+1.1**	
	baz=216							
CIT	**Chita**	**91.05**	**325**	*e*P	**P**	**08 24 30.0**	**+1.1**	
CIT				*e*		08 26 34.6		
CIT				*e*		08 28 20.8		
CIT				*e*		08 30 15.6		
CIT				pmax	pmax			
	comp=Z,283nm,2.0s							
F31M	**Tsiigehtchic**	**91.21**	**16**	P	**P**	**08 24 29.3**	**+0.1**	
	baz=222,SNR=317							
F31M				S	**S**	**08 34 39.0**	**+0.4**	
	baz=222							
VNA2	**Neumayer--Watz**	**91.21**	**177**	⇓P	**P**	**08 24 29.5**	**+0.1**	
	comp=Z,390nm,0.8s,baz=177,slow=3.2							
VNA2				⇓SKSac	**SKSac**	**08 34 07.4**	**+0.6**	
	baz=339,slow=10							
VNA2				⇑S	**S**	**08 34 37.6**	**-1.4**	
	baz=161,slow=14							
TNCH	**TengChong**	**91.24**	**296**	P	**P**	**08 24 31.5**	**+0.9**	
TNCH				SKS	**SKSac**	**08 34 10.8**	**+1.9**	
TNCH				S	**ScS**	**08 34 47.6**	**+4.7**	
TNCH				pmax	pmax			
	comp=Z,100nm,1.0s							
VNA1	**Neumayer--Stat**	**91.44**	**177**	⇓P	**P**	**08 24 30.5**	**+0.1**	
	comp=Z,742nm,0.9s							
PLCA	**Paso Flores**	**91.46**	**134**	P	**P**	**08 24 32.0**	**+0.8**	
PLCA				IAmb	IAmb	08 24 34.1		
	comp=Z,106nm,1.2s							
PLCA	**Paso Flores**	**91.46**	**134**	P	**P**	**08 24 32.4**	**+1.1**	
	comp=Z,40nm,1.0s,baz=236,slow=4.2,SNR=47							
PLCA				PKKPbc	**PKKPbc**	**08 41 48.6**	**-1.0**	
	comp=Z,5.2nm,0.8s,baz=69,slow=1.3,SNR=11							
PLCA				SKKPbc	SKKPbc	08 44 33.4	+1.1	
	comp=Z,1.7nm,0.7s,baz=117,slow=2.4,SNR=5.0							
PLCA				PKPPKP	**P'P'df**	**08 49 57.9**	**-1.5**	
	comp=Z,4.5nm,0.9s,baz=84,slow=3.1,SNR=6.0							
	comp=Z,40nm,1.0s							
PLCA	**Paso Flores**	**91.46**	**134**	P	**P**	**08 24 32.1**	**+0.8**	
PLCA				pmax	pmax			
	comp=Z,105nm,1.3s							
PLCA	**Paso Flores**	**91.46**	**134**	*e*P	**P**	**08 24 32.5**	**+1.2**	
WRGLY	**Wrigley**	**91.46**	**22**	P	**P**	**08 24 30.9**	**+0.5**	
	baz=231,SNR=22							
WRGLY				S	**S**	**08 34 40.7**	**-0.3**	
	baz=231							
D28M	**Stokes Point**	**91.47**	**13**	P	**P**	**08 24 30.6**	**+0.2**	
	baz=218							
D28M				S	**S**	**08 34 42.7**	**+1.8**	
	baz=218							
435B	**Jarrell**	**91.55**	**58**	IAmb	IAmb	08 24 33.9		
	comp=Z,259nm,1.4s							
OGNE	**Ogallala**	**91.80**	**47**	IAmb	IAmb	08 24 35.1		
	comp=Z,160nm,1.1s							
WTFS	**Witchita Falls**	**91.87**	**55**	IAmb	IAmb	08 24 34.8		
	comp=Z,143nm,1.2s							
INK	**Inuvik**	**91.90**	**15**	IAmb	IAmb	08 24 33.6		
	comp=Z,187nm,0.9s							
INK	**Inuvik**	**91.90**	**15**	P	**P**	**08 24 32.0**	**-0.4**	
	comp=Z,738nm,1.4s,baz=213,slow=3.8,SNR=338							
	comp=Z,738nm,1.4s							
INK	**Inuvik**	**91.90**	**15**	P	**P**	**08 24 32.0**	**-0.4**	
INK	**Inuvik**	**91.90**	**15**	P	**P**	**08 24 32.1**	**-0.3**	
	baz=222,SNR=129							
INK				S	**S**	**08 34 45.0**	**+0.2**	
	baz=222							
FW07	**Weatherford**	**92.04**	**56**	IAmb	IAmb	08 24 35.9		
	comp=Z,206nm,1.4s							
FW13	**Cleburne**	**92.20**	**57**	IAmb	IAmb	08 24 36.5		
	comp=Z,176nm,1.3s							
PBA	**Port Blair**	**92.28**	**281**	P	**P**	**08 24 36.3**	**+1.0**	
PBA	**Port Blair**	**92.28**	**281**	*e*P	**P**	**08 24 33.9**	**-1.5**	
PBA				IAmb	IAmb	08 24 43.2		
	comp=Z,88nm,0.9s							
NOKA	**Waynoka**	**92.50**	**52**	IAmb	IAmb	08 24 37.7		
	comp=Z,178nm,1.2s							
DGPR	**DIGLIPUR**	**92.56**	**283**	*e*P	**P**	**08 24 35.3**	**-1.3**	
DGPR				IAmb	IAmb	08 24 38.4		
	comp=Z,235nm,1.4s							
X34A	**Smith Ranch, M**	**92.65**	**55**	IAmb	IAmb	08 24 39.7		
	comp=Z,248nm,1.4s							
FW16	**Waxahatchie**	**92.67**	**57**	IAmb	IAmb	08 26 42.9		
	comp=Z,78nm,0.6s							
HKT	**Hockley**	**92.71**	**60**	P	**P**	**08 24 37.6**	**+0.7**	
HKT				IAmb	IAmb	08 24 39.7		
	comp=Z,121nm,1.4s							
HKT	**Hockley**	**92.71**	**60**	*i* P	**P**	**08 24 38.0**	**+1.1**	
HKT				pmax	pmax			
	comp=Z,112nm,1.4s							
APG	**El Apazote**	**92.76**	**75**	S	**SKSac**	**08 34 20.8**	**+3.1**	
	comp=Z,0.4nm,0.9s,baz=62,slow=23,SNR=8.1							
APG				PKKPbc	PKKPbc	08 41 46.0	+0.4	
	comp=Z,0.2nm,0.4s,baz=174,slow=4.3,SNR=4.5							
ULN	**Ulaanbaatar**	**93.03**	**320**	P	**P**	**08 24 37.8**	**-0.5**	
ULN	**Ulaanbaatar**	**93.03**	**320**	P	**P**	**08 24 38.4**	**+0.1**	
ULN				S	**SKSac**	**08 34 11.9**	**-5.7**	
ULN	**Ulaanbaatar**	**93.03**	**320**	*i* P	**P**	**08 24 37.6**	**-0.7**	
ULN				pmax	pmax			
	comp=Z,71nm,1.2s							
OK029	**Liberty Lake**	**93.34**	**54**	IAmb	IAmb	08 24 41.4		
	comp=Z,109nm,1.5s							
SONM	**Songino Array**	**93.43**	**319**	P	**P**	**08 24

comp=Z,147nm,1.6s
DEOK Depew 94.09 54 IAmb IAmb 08 24 45.5
comp=Z,170nm,1.5s
NATX Nacogdoches 94.24 58 IAmb IAmb 08 24 47.2
comp=Z,170nm,1.4s
YKA Yellowknife Ar 94.38 25 P **P** **08 24 43.6 -0.2**
comp=Z,33nm,0.9s,baz=241,slow=4.6,SNR=169
YKA pP **pP** **08 26 49.8 +1.6**
comp=Z,3.4nm,0.9s,baz=237,slow=4.7,SNR=4.0
YKA PP **PP** **08 28 35.4 -6.1**
comp=Z,5.1nm,0.7s,baz=236,slow=7.7,SNR=5.4
YKA PKiKP **PKiKP** **08 29 23.4 +0.3**
comp=Z,0.6nm,0.6s,baz=108,slow=24,SNR=5.5
YKA S **SKSac** **08 34 23.9 +0.1**
comp=Z,6.1nm,1.1s,baz=243,slow=5.8,SNR=8.8
YKA PKKP **PKKPdf** **08 41 39.5 -2.4**
comp=Z,1.7nm,0.4s,baz=50,slow=2.1,SNR=30
YKA SKKPbc **SKKPbc** **08 44 28.4 -2.1**
comp=Z,0.5nm,0.7s,baz=45,slow=1.5,SNR=4.0
YKA PKPPKP **P'P'df** **08 49 51.4 +0.7**
comp=Z,2.9nm,0.8s,baz=56,slow=2.2,SNR=10
comp=Z,33nm,0.9s
Z38A Mt. Pleasant 94.45 57 IAmb IAmb 08 24 48.1
comp=Z,112nm,1.3s
E28A Huff 94.77 43 IAmb IAmb 08 24 47.8
comp=Z,60nm,0.9s
GTA Gaotai 94.90 310 P **P** **08 24 47.4 +0.4**
GTA pP pP 08 26 51.9 -0.3
GTA SKS **SKSac** **08 34 26.7 -1.2**
GTA S **ScS** **08 35 15.4 +2.8**
GTA pmax pmax
comp=Z,24nm,1.0s
DIBR DIBRUGARH 95.08 297 *e*P **P** **08 24 49.5 +1.7**
C36M Paulatuk 95.12 17 P **P** **08 24 46.8 -0.2**
baz=231
C36M S **S** **08 35 09.9 -2.6**
baz=231
IMP Imphal 95.13 294 *e*P **P** **08 24 47.3 -1.0**
IMP IAmb IAmb 08 24 49.5
comp=Z,60nm,0.6s
SUSD Miller 95.17 45 IAmb IAmb 08 24 48.9
comp=Z,84nm,1.2s
KOHI KOHIMA 95.25 295 *e*P **P** **08 24 48.2 -0.7**
KOHI IAmb IAmb 08 24 50.0
comp=Z,74nm,1.4s
CO03 El Pedregal 95.50 125 IAmb IAmb 08 24 53.6
comp=Z,98nm,1.8s
AZL Aizawl 95.91 293 *e*P **P** **08 24 51.7 -0.1**
AZL IAmb IAmb 08 24 55.6
comp=Z,48nm,0.6s
MDND Maddock 95.91 42 IAmb IAmb 08 24 52.9
comp=Z,152nm,1.2s
ZIRO ZIRO 96.00 297 *e*P **P** **08 24 52.4 +0.1**
ZIRO IAmb IAmb 08 24 54.2
comp=Z,48nm,0.6s
TIXI Tiksi 96.09 345 P **P** **08 24 50.9 -0.5**
TIXI Tiksi 96.09 345 P **P** **08 24 50.4 -1.0**
comp=Z,19nm,0.8s,baz=137,slow=3.9,SNR=48
TIXI pP **pP** **08 26 56.7 +0.9**
comp=Z,1.3nm,0.3s,baz=96,slow=8.4,SNR=2.3
comp=Z,19nm,0.8s
TIXI Tiksi 96.09 345 *i* P **P** **08 24 49.4 -2.0**
TIXI pmax pmax
comp=Z,61nm,1.1s
LCO Las Campanas 96.24 123 P **P** **08 24 55.3 +1.8**
LCO Las Campanas 96.24 123 P **P** **08 24 55.3 +1.8**
LCO pmax pmax
comp=Z,15nm,1.0s
ZAK Zakamensk 96.27 321 *e*P **P** **08 24 51.9 -0.9**
ZAK *e* 08 26 59.6
ZAK pmax pmax
comp=Z,14nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.7s
A36M Sachs Harbour 96.50 15 P **P** **08 24 53.1 -0.1**
A36M Sachs Harbour 96.50 15 Pdiff **P** **08 24 53.4 +0.3**
baz=230
A36M S **S** **08 35 22.1 -2.1**
baz=230
JTS Las Juntas de 96.51 81 P **P** **08 24 54.4 -0.2**
JTS Las Juntas de 96.51 81 P **P** **08 24 54.4 -0.2**
JTS pmax pmax
comp=Z,43nm,1.2s
ECSD EROS Data Cent 96.53 46 IAmb IAmb 08 24 55.8
comp=Z,88nm,1.3s
TEZP TEZPUR 96.64 296 *e*P **P** **08 24 54.7 -0.2**
TEZP IAmb IAmb 08 24 56.2
comp=Z,59nm,0.5s
FFC Flin Flon 96.93 35 P **P** **08 24 55.1 -0.4**
FFC Flin Flon 96.93 35 P **P** **08 24 55.1 -0.4**
FFC pmax pmax
comp=Z,48nm,1.4s
UALR University of 97.00 56 IAmb IAmb 08 27 07.4
comp=Z,76nm,1.6s
SHL Shillong 97.13 294 P **P** **08 24 57.3 -0.1**
SNR=14
SHL Shillong 97.13 294 *e*P **P** **08 24 56.1 -1.3**
SHL IAmb IAmb 08 24 58.9
comp=Z,49nm,1.0s
143A Socs Landing, 97.15 58 IAmb IAmb 08 27 12.1
comp=Z,124nm,1.7s
F33A 5 Mile Ranch, 97.40 44 IAmb IAmb 08 25 01.3
comp=Z,80nm,1.3s
P38A Dawn 97.49 51 IAmb IAmb 08 25 00.7
comp=Z,143nm,1.5s
GOMU GeErMu 97.70 305 P **P** **08 25 00.1 +0.2**
GOMU pmax pmax
comp=Z,36nm,1.6s
ULM Lac du Bonnet 99.00 40 P Pdif 08 25 04.4 -0.4
comp=Z,7.8nm,0.5s,baz=260,slow=5.0,SNR=20
ULM pP pP 08 27 10.8 +1.0
comp=Z,14nm,1.2s,baz=284,slow=6.9,SNR=4.5
ULM PP **PP** **08 29 13.7 -3.0**
comp=Z,9.1nm,0.8s,baz=264,slow=7.3,SNR=9.8
ULM PKKPbc **PKKPbc** **08 41 27.9 -2.1**
comp=Z,2.9nm,0.4s,baz=96,slow=4.4,SNR=9.7
comp=Z,7.8nm,0.5s
CZSB Cruzeiro do Su 102.55 102 *e*P **Pdif** **08 25 34.6 +13**
LPAZ La Paz 103.56 112 PKiKP **PKiKP** **08 29 41.8 +0.1**
comp=Z,2.0nm,0.7s,baz=273,slow=3.0,SNR=3.8
LPAZ PKKPbc **PKKPbc** **08 41 16.5 -0.4**
comp=Z,4.7nm,0.5s,baz=7.9,slow=3.8,SNR=30
LPAZ La Paz 103.56 112 *e*P **Pdif** **08 25 28.5 +1.8**
ROSC El Rosal 105.03 90 PKKPbc PKKPbc 08 41 11.7 -0.3
baz=121,slow=11,SNR=4.4
HYB Hyderabad 107.06 283 *e*PKiKP **PKiKP** **08 29 46.8 -0.6**
HYB *e*PP **PP** **08 30 15.9 -0.9**
ZSN Zaisan 107.34 315 *e*PKiKP **PKiKP** **08 29 46.5 -0.6**
CPUP Villa Florida 107.98 126 PKiKP **PKiKP** **08 29 48.8 -0.2**
comp=Z,3.3nm,0.7s,baz=18,slow=0.3,SNR=7.5
CPUP PKKPbc **PKKPbc** **08 41 02.3 -0.8**
comp=Z,0.9nm,0.4s,baz=48,slow=4.8,SNR=5.1
CPUP PKKPab **PKKPdf** **08 41 16.4 +1.5**
comp=Z,2.5nm,0.7s,baz=121,slow=2.3,SNR=6.7
ZALV Zalesovo Beam 108.12 322 Pdiff **Pdif** **08 25 44.6 -0.7**
comp=Z,0.7nm,0.4s,baz=94,slow=4.8,SNR=8.3
ZALV PKiKP **PKiKP** **08 29 47.1 -1.1**
comp=Z,27nm,0.6s,baz=138,slow=0.8,SNR=70
ZALV SKiKP **SKiKP** **08 32 30.3 +0.5**
comp=Z,5.8nm,0.7s,baz=135,slow=1.0,SNR=3.9
ZALV PKKPbc **PKKPbc** **08 41 01.4 -1.7**
comp=Z,7.0nm,0.6s,baz=268,slow=3.6,SNR=13
ZALV PKKPab **PKKPdf** **08 41 14.2 -2.1**
comp=Z,1.7nm,0.4s,baz=252,slow=2.2,SNR=3.1
MKAR Makanchi Array 109.00 314 Pdiff **Pdif** **08 25 50.2 +0.7**
comp=Z,1.2nm,0.5s,baz=79,slow=5.3,SNR=14
MKAR PKiKP **PKiKP** **08 29 49.2 -1.0**
comp=Z,26nm,0.5s,baz=133,slow=0.9,SNR=225
MKAR PKKPbc **PKKPbc** **08 40 59.5 -0.8**
comp=Z,12nm,0.8s,baz=275,slow=3.8,SNR=28
MKAR PKKPab **PKKPab** **08 41 09.9 -3.2**
comp=Z,6.8nm,0.9s,baz=298,slow=3.1,SNR=6.6
PDGK Podgornoye 110.63 310 PKiKP **PKiKP** **08 29 52.0 -1.6**
SHLS Shalkode 110.64 310 *i* PKiKP **PKiKP** **08 29 52.2 -1.3**
SHLS *e* 08 30 38.1
SHLS Shalkode 110.64 310 *e*PKiKP **PKiKP** **08 29 52.3 -1.3**
SHLS *e*PP **PP** **08 30 38.1 -3.7**
KPKS Kokpek 111.23 310 *i* PKiKP **PKiKP** **08 29 53.9 -0.7**
KPKS Kokpek 111.23 310 *e*PKiKP **PKiKP** **08 29 54.0 -0.7**
ZHN Zhinishke 111.39 310 *i* PKiKP **PKiKP** **08 29 54.2 -0.8**
ZHN Zhinishke 111.39 310 *e*PKiKP **PKiKP** **08 29 54.2 -0.8**
SATY Saty 111.40 310 *i* PKiKP **PKiKP** **08 29 54.2 -0.8**
SATY Saty 111.40 310 *e*PKiKP **PKiKP** **08 29 54.3 -0.8**
KURK Kurchatov 111.70 318 P **PKiKP** **08 29 54.1 -1.1**
KURK Kurchatov 111.70 318 *i* PKiKP **PKiKP** **08 29 54.3 -0.8**
KURBB Kurchatov Arra 111.76 318 Pdiff **Pdif** **08 26 01.2 -0.3**
comp=Z,0.3nm,0.2s,baz=100,slow=2.3,SNR=4.1
KURBB PKiKP **PKiKP** **08 29 54.3 -1.0**
comp=Z,39nm,0.7s,baz=91,slow=1.8,SNR=196
KURBB SKiKP **SKiKP** **08 32 37.6 +0.7**
comp=Z,10nm,0.7s,baz=92,slow=1.8,SNR=9.2
KURBB PKKPbc **PKKPbc** **08 40 50.9 -0.6**
comp=Z,13nm,0.8s,baz=271,slow=4.0,SNR=31
KURBB PKKPab **PKKPab** **08 41 00.3 -0.4**
comp=Z,4.2nm,0.9s,baz=282,slow=4.5,SNR=5.4
KURBB SKKPbc **SKKPbc** **08 43 41.6 -1.1**
comp=Z,8.5nm,0.9s,baz=272,slow=3.8,SNR=14
TNSS Tian-Shan 112.47 310 *i* PKiKP **PKiKP** **08 29 56.3 -1.1**
TNSS Tian-Shan 112.47 310 *e*PKiKP **PKiKP** **08 29 56.3 -1.1**
AAA Alma-Ata 112.50 310 *i* PKiKP **PKiKP** **08 29 56.2 -0.8**
AAA Alma-Ata 112.50 310 *e*PKiKP **PKiKP** **08 29 56.2 -0.8**
ULHL Ulahol 112.93 309 P **PKiKP** **08 29 58.0 -0.1**
SNR=23
KSH Kashi 112.94 306 PKP **PKiKP** **08 29 58.8 +0.7**
TKM2 Tokmak 2 113.45 310 P **PKiKP** **08 29 58.3 -0.7**
SNR=40
TKM2 Tokmak 2 113.45 310 PKiKP **PKiKP** **08 29 57.5 -1.6**
L61B Northampton 113.47 51 PKPdf **PKiKP** **08 29 58.4 -0.4**
baz=267
KBK Karagaybulak 113.91 309 P **PKiKP** **08 29 59.4 -0.5**
SNR=16
CHMS Chumysh 114.07 310 P PKPdf 08 29 59.4 -0.6
SNR=16
SGDS Sogindy 114.18 310 *i* PKiKP PKPdf 08 29 59.5 -0.7
SGDS Sogindy 114.18 310 *e*PKiKP PKPdf 08 29 59.5 -0.7
AAK Ala-Archa 114.24 309 PKKPbc PKKPbc 08 40 42.3 -0.9
comp=Z,8.8nm,0.9s,baz=270,slow=3.4,SNR=10.0
AAK PKKPab **PKKPab** **08 40 50.3 +0.1**
comp=Z,18nm,0.7s,baz=260,slow=3.2,SNR=22
AAK SKKPbc SKKPbc 08 43 34.4 -0.6
comp=Z,10nm,0.8s,baz=244,slow=3.7,SNR=9.8
AAK Ala-Archa 114.24 309 P PKPdf 08 30 00.1 -0.4
AAK Ala-Archa 114.24 309 P PKPdf 08 29 60.0 -0.5
SNR=18
AAK Ala-Archa 114.24 309 PKIKP PKPdf 08 29 59.4 -1.1
AAK Ala-Archa 114.24 309 *i* PKPdf PKPdf 08 30 00.0 -0.5
SNR=21
USP Ospenovka 114.27 310 P PKPdf 08 29 59.8 -0.6
SNR=43
NIL Nilore 114.59 299 PKPdf 08 29 59.9 -1.4
NIL Nilore 114.59 299 *i* PKIKP PKPdf 08 29 59.9 -1.4
EKS2 Erkin-Say 114.77 309 P PKPdf 08 30 01.2 -0.3
SNR=28
AML Almayashu 114.82 309 P PKPdf 08 30 01.7 -0.2
SNR=17
M65A Busby, Falmout 114.94 52 PKPdf PKPdf 08 30 01.4 -0.2
baz=268
NEEM North Greenlan 115.13 11 *i* P **PKPdf** **08 30 00.8 -0.7**
NEEM IAmb IAmb 08 30 01.5
comp=Z,38nm,0.6s
KULLO Kullorsuaq 115.26 15 *i* P **PKPdf** **08 29 59.4 -1.9**
MACA Manacapuru-AM 115.35 102 **PKPdf** **08 30 02.9 -0.3**
PCRV Puerto La Cruz 115.72 87 PKKPbc PKKPbc 08 40 36.7 -0.8
comp=Z,4.4nm,0.6s,baz=29,slow=5.6,SNR=7.6
NOR Nord 115.79 3 *i* P **PKPdf** **08 30 00.6 -1.6**
NOR IAmb IAmb 08 30 02.0
comp=Z,3.5nm,0.6s
OTUK Ortayu 115.80 315 PKIKP **PKPdf** **08 30 02.0 -1.2**
SJG San Juan 116.09 78 **PKPdf** **08 30 03.5 -1.0**
SJG San Juan 116.09 78 PKIKP **PKPdf** **08 30 03.5 -1.0**
UPNV Upernavik 116.33 16 *i* P **PKPdf** **08 30 02.4 -1.0**
DZA Taraz 116.58 309 *e*PKIKP **PKPdf** **08 30 04.1 -0.7**
DZA Taraz 116.58 309 *e*PKP **PKPdf** **08 30 04.1 -0.7**
BVA0 Borovoye Array 116.73 321 PKIKP **PKPdf** **08 30 03.6 -1.2**
BVAR Borovoye Array 116.73 321 PKP **PKPdf** **08 30 04.0 -0.7**
comp=Z,83nm,0.4s,baz=96,slow=1.1,SNR=434
BVAR PP **PP** **08 31 23.6 -0.1**
comp=Z,10nm,0.9s,baz=108,slow=4.7,SNR=3.5
BVAR SKiKP **SKiKP** **08 32 47.5 +1.0**
comp=Z,28nm,0.9s,baz=93,slow=2.9,SNR=7.5
BVAR PKKPbc **PKKPbc** **08 40 34.2 -0.7**
comp=Z,3.5nm,0.7s,baz=278,slow=3.8,SNR=8.9
BVAR PKKPab **PKKPab** **08 40 39.0 +0.2**
comp=Z,6.8nm,0.7s,baz=256,slow=4.4,SNR=12
BRVK Borovoye 116.79 321 **PKPdf** **08 30 04.2 -0.6**
BRVK Borovoye 116.79 321 P **PKPdf** **08 30 04.3 -0.6**
BRVK Borovoye 116.79 321 PKIKP **PKPdf** **08 30 04.2 -0.6**
SCHQ Schefferville 116.94 37 PKP **PKPdf** **08 30 04.2 -1.0**
comp=Z,15nm,0.9s,baz=298,slow=2.3,SNR=12
SCHQ PP **PP** **08 31 22.5 -2.6**
comp=Z,21nm,1.1s,baz=299,slow=6.6,SNR=10
SCHQ SKiKP **SKiKP** **08 32 48.0 +1.0**
comp=Z,20nm,0.9s,baz=309,slow=2.9,SNR=7.9
SCHQ PKKPbc **PKKPbc** **08 40 33.3 -0.9**
comp=Z,1.7nm,0.3s,baz=161,slow=3.1,SNR=6.0
SCHQ PKKPab **PKKPab** **08 40 37.9 +0.1**
comp=Z,10nm,0.8s,baz=96,slow=1.1,SNR=11
SPB Sao Paulo 116.96 129 **PKiKP** **08 30 06.3 +0.2**
KK31 Karatay Array 117.18 310 **PKPdf** **08 30 05.2 -0.8**
KK31 Karatay Array 117.18 310 PKIKP **PKPdf** **08 30 05.2 -0.8**
KKAR Karatay Array 117.18 310 **PKPdf** **08 30 05.2 -0.8**
KKAR Karatay Array 117.18 310 PKIKP **PKPdf** **08 30 05.2 -0.8**
GAR Garm 117.29 305 **PKPdf** **08 30 06.2 -0.2**
IUG Iuzhnay 117.54 309 *e*PKIKP **PKPdf** **08 30 06.1 -0.7**
IUG *e* 08 31 28.2
IUG Iuzhnay 117.54 309 *e*PKP **PKPdf** **08 30 06.2 -0.7**
IUG *e*PP **PP** **08 31 28.2 -1.6**
BRLS Borolday 117.67 310 *e*PKIKP **PKPdf** **08 30 06.4 -0.5**
BRLS *e* 08 31 29.9
BRLS Borolday 117.67 310 *e*PKP **PKPdf** **08 30 06.5 -0.5**
BRLS *e*PP **PP** **08 31 29.9 -0.6**
NUUG Nuugaatsiaq 117.71 17 *i* P **PKPdf** **08 30 05.2 -0.9**
CHM Chimkent 117.86 309 *e*PKIKP **PKPdf** **08 30 06.4 -0.9**
CHM Chimkent 117.86 309 *e*PKP **PKPdf** **08 30 06.5 -0.9**
KBL Kabul 118.14 300 **PKiKP** **08 30 08.4 0.0**
KBL Kabul 118.14 300 P **PKiKP** **08 30 08.5 0.0**
SNR=33
KBL Kabul 118.14 300 PKIKP **PKiKP** **08 30 08.4 0.0**
SIMJ Simiganj 118.31 305 **PKPdf** **08 30 07.8 -0.7**
UMMG Uummannaq 118.44 18 *i* P **PKPdf** **08 30 06.5 -1.0**
KBS Kingsbay 118.72 358 *e*PKPdf **PKiKP** **08 30 08.1 +0.1**
KBS *e*PP **PP** **08 31 33.5 -2.9**
KBS *e*SKSac **SKSac** **08 36 11.1 +1.7**
KBS *e*SP **SP** **08 40 23.4 -2.6**
KBS Kingsbay 118.72 358 *i* P **PKPdf** **08 30 07.4 -0.5**
SPA0 Spitsbergen Ar 119.23 357 *e*PKPdf **PKPdf** **08 30 08.3 -0.6**
SPA0 *e*PP **PP** **08 31 35.9 -4.0**
SPA0 *e*SKSac **SKSac** **08 36 13.5 +2.3**
SPA0 *e*SP **SP** **08 40 30.6 -0.1**
SPA0 *e*PS **PS** **08 41 40.2 +2.4**
SPA0 *e*SS **SKKSdf** **08 47 14.4 -0.4**
SPITS Spitsbergen Ar 119.23 357 PKP **PKPdf** **08 30 08.5 -0.5**
comp=Z,67nm,0.8s,baz=57,slow=5.3,SNR=61
SPITS PP **PP** **08 31 35.6 -4.3**
comp=Z,21nm,1.0s,baz=22,slow=8.0,SNR=5.2
SPITS SKiKP **SKiKP** **08 32 51.7 +0.9**
comp=Z,29nm,0.8s,baz=104,slow=3.5,SNR=6.4
SPITS PKKPbc **PKKPbc** **08 40 24.3 -2.2**
comp=Z,28nm,0.9s,baz=159,slow=7.1,SNR=28
ILULI Ilulissat 119.47 19 *i* P **PKPdf** **08 30 08.3 -1.2**
SNDB Serra Nova Dou 120.10 116 *e*P **PKPdf** **08 30 12.4 0.0**
HOPEN Hopen 120.11 354 *e*PKPdf **PKPdf** **08 30 10.2 -0.4**
HOPEN *e*PP **PP** **08 31 45.3 -0.4**
HOPEN *e*SKSac **SKSac** **08 36 15.5 +1.3**
HOPEN *e*SP SP 08 40 38.8 +0.5
DAG Danmarks Havn 120.20 5 *i* P **PKPdf** **08 30 09.0 -1.8**
DAG IAmb IAmb 08 30 10.1
comp=Z,27nm,0.5s
HSPB Hornsund (broa 120.42 356 *e*PKP **PKPdf** **08 30 10.4 -0.8**
VOI Vohitsoka 120.53 230 P **PKiKP** **08 30 13.4 0.0**
PMNB Patos De Minas 120.64 125 *e*P **PKiKP** **08 30 14.0 +0.4**
SFJD Kangerlussuaq 120.72 21 **PKPdf** **08 30 11.3 -0.6**
SFJD Kangerlussuaq 120.72 21 PKIKP **PKPdf** **08 30 11.4 -0.6**
SFJD Kangerlussuaq 120.72 21 ||*i* P **PKPdf** **08 30 10.5 -1.5**
SUMG Summit 120.75 13 *i* P **PKPdf** **08 30 11.9 -0.6**
SUMG IAmb IAmb 08 30 14.0
comp=Z,26nm,0.7s
BDFB Brasilia 120.98 121 PKP **PKPdf** **08 30 13.7 -0.5**
comp=Z,20nm,0.7s,baz=249,slow=1.9,SNR=36
BDFB SKiKP **SKiKP** **08 32 56.9 +0.5**
comp=Z,11nm,0.8s,baz=222,slow=2.4,SNR=6.0
BDFB PKKPbc **PKKPbc** **08 40 19.9 +0.4**
comp=Z,9.5nm,0.5s,baz=92,slow=1.9,SNR=20
BDFB Brasilia 120.98 121 PKIKP **PKPdf** **08 30 13.6 -0.6**
GBN Guysborough 121.46 47 **PKiKP** **08 30 14.2 0.0**
SVE Sverdlovsk 121.53 326 *c* *i* PKIKP **PKPdf** **08 30 13.5 -0.4**
SVE pmax pmax
comp=Z,144nm,0.8s
DUB01 Friburgo-RJ 121.56 131 *e*P **PKiKP** **08 30 15.6 +0.3**
DUB01 Friburgo-RJ 121.56 131 *e*P **PKPdf** **08 30 11.4 -3.7**
NUUK Nuuk 121.63 24 *i* P **PKPdf** **08 30 12.8 -1.0**
ABPO Ambohimpanom 121.95 233 **PKiKP** **08 30 16.5 +0.2**
ABPO Ambohimpanom 121.95 233 PKIKP **PKiKP** **08 30 16.5 +0.2**
MSEY Mahe Island 122.17 252 **PKiKP** **08 30 16.6 -0.1**
MSEY Mahe Island 122.17 252 P **PKPdf** **08 30 16.5 0.0**
MSEY Mahe Island 122.17 252 PKIKP **PKiKP** **08 30 16.6 -0.1**
MSEY Mahe Island 122.17 252 *i* PKiKP **PKPdf** **08 30 16.2 -0.3**
SNR=7.9
CAM01 Campos-RJ 122.24 131 *e*P **PKiKP** **08 30 16.7 +0.2**
CAM01 Campos-RJ 122.24 131 *e*P **PKPdf** **08 30 16.2 -0.1**
OPO Ambohidratompo 122.25 233 PKP **PKPdf** **08 30 16.7 +0.1**
comp=Z,71nm,0.7s,baz=119,slow=1.6,SNR=52
DBG Daneborg 122.32 7 *i* P **PKPdf** **08 30 13.5 -1.4**
BJO1 Bjornoya 122.55 354 *e*PKPdf **PKPdf** **08 30 14.8 -0.5**
BJO1 *e*PP **PP** **08 31 59.7 -2.4**
BJO1 *e*SP SP 08 41 01.4 +1.4
ARTI Arti 122.85 326 **PKPdf** **08 30 16.1 -0.3**
ARTI Arti 122.85 326 PKKPbc PKKPbc 08 40 12.2 -0.6
comp=Z,25nm,0.8s,baz=203,slow=3.9,SNR=14
ARTI Arti 122.85 326 *i* PKIKP **PKPdf** **08 30 15.9 -0.5**
ARTI 08 32 00.9
ARTI 08 36 23.3
ARTI SP SP 08 41 02.2 -1.4
ICESG Greenland Ices 122.86 16 *i* P **PKPdf** **08 30 15.3 -1.3**
ICESG IAmb IAmb 08 30 16.3
comp=Z,51nm,0.6s
SBV Sambava 122.91 240 P **PKiKP** **08 30 18.0 0.0**
SNR=7.4
DIAM Diamantina, MG 122.92 127 *e*P **PKPdf** **08 30 17.7 -0.2**
ALF01 Guarapari-ES 123.68 131 *e*P **PKPdf** **08 30 18.1 -1.0**
ALF01 Guarapari-ES 123.68 131 *e*P **PKPdf** **08 30 18.9 -0.2**
AB31 Akbulak array 123.81 318 *i* PKIKP **PKPdf** **08 30 17.7 -0.8**
ABKAR Akbulak array 123.81 318 **PKPdf** **08 30 18.2 -0.2**
JANB Januaria 124.29 123 *e*P **PKPdf** **08 30 19.9 -0.6**
NGCH Negor - Chabah 124.37 289 P **PKiKP** **08 30 21.9 +1.3**
SJMB Sao Joao De Ma 124.54 129 *e*P **PKPdf** **08 30 20.6 -0.2**
BSFB Barra de Sao F 124.71 129 *e*P **PKPdf** **08 30 20.6 -0.5**
BSFB Barra de Sao F 124.71 129 *e*P **PKPdf** **08 30 20.4 -0.8**
RIB01 Linhares ES 124.74 130 *e*P **PKPdf** **08 30 20.8 -0.4**
RIB01 Linhares ES 124.74 130 *e*P **PKPdf** **08 30 20.2 -1.0**
AKTO Aktyubinsk 124.75 319 PKKPbc PKKPbc 08 40 04.2 -1.1
comp=Z,5.0nm,0.8s,baz=241,slow=1.5,SNR=5.9
AKTO Aktyubinsk 124.75 319 PKIKP **PKPdf** **08 30 19.3 -0.9**
VADS Vadso 125.07 349 *e*PKPdf **PKPdf** **08 30 19.0 -1.3**
VADS *e*PP **PP** **08 32 16.8 -2.0**
VADS *e*SP SP 08 41 19.2 -2.9
SDBA SAO DESIDERIO 125.26 120 *e*P **PKPdf** **08 30 22.2 -0.2**
ISOG Isortoq, Green 125.41 19 *i* P **PKPdf** **08 30 19.4 -1.6**
SCO Scoresbysund 125.54 9 *i* P **PKPdf** **08 30 20.7 -0.4**
HAMF Hammerfest 125.57 351 *e*PKPdf **PKPdf** **08 30 20.7 -0.5**
HAMF *e*PP **PP** **08 32 19.6 -2.4**
HAMF *e*SP SP 08 41 26.0 -0.4
JLN Jalan Bani Buh 125.62 285 P **PKPdf** **08 30 22.7 0.0**
NRS Narsarsuaq 125.65 26 *i* P **PKPdf** **08 30 19.3 -2.3**
LVZ Lovozero 125.73 345 **PKPdf** **08 30 20.9 -0.8**
LVZ Lovozero 125.73 345 PKIKP **PKPdf** **08 30 20.9 -0.8**
ANGG Ammassalik, Gr 125.78 19 *i* P **PKPdf** **08 30 19.7 -2.0**
KEV Kevo 125.81 349 **PKPdf** **08 30 21.2 -0.5**
KEV Kevo 125.81 349 PKIKP **PKPdf** **08 30 21.2 -0.5**
WBK Wadi Bani Khal 126.08 285 P **PKPdf** **08 30 23.9 +0.2**
ARA0 ARCESS Array S 126.26 350 *e*PKPdf **PKPdf** **08 30 22.3 -0.3**
ARA0 *e*P **PKiKP** **08 30 22.7 -0.4**
ARCES ARCESS Array B 126.26 350 PKP **PKPdf** **08 30 21.9 -0.6**
comp=Z,69nm,0.7s,baz=33,slow=0.8,SNR=10
ARCES PKKPab **PKKPab** **08 39 57.5 +0.5**
comp=Z,7.0nm,0.5s,baz=208,slow=2.0,SNR=40
ARCES PKKP **PKKPdf** **08 40 39.1 -2.7**
comp=Z,4.9nm,0.7s,baz=216,slow=3.0,SNR=5.8
ARCES ARCESS Array B 126.26 350 PKIKP **PKPdf** **08 30 22.0 -0.6**
APA Apatity 126.29 345 ||*i* PKIKP **PKPdf** **08 30 21.2 -1.5**
APA *i* *PP **pPKPdf** **08 32 36.0 +0.2**
APA pmax pmax
comp=Z,67nm,0.8s
KIRV Kirov 126.43 331 *i* PKIKP **PKPdf** **08 30 22.5 -0.6**
JNW Jan Mayen West 126.53 4 *e*PKPdf **PKiKP** **08 30 24.1 +0.5**
JNE Jan Mayen East 126.58 4 *e*PKPdf **PKPdf** **08 30 23.1 -0.1**
SUR Sutherland 126.68 201 **PKPdf** **08 30 24.2 -0.7**
MHTO MHTO 126.82 283 P **PKPdf** **08 30 25.0 0.0**
SNR=20
JMDO Jabal Madar 126.85 285 P **PKPdf** **08 30 25.3 +0.1**
SNR=5.9
BIDO Bidbid 126.94 286 P **PKiKP** **08 30 25.5 -0.3**
SMDO Samad 126.97 286 P **PKPdf** **08 30 25.6 +0.1**
SNR=6.0
JETT Jettan, Norway 127.03 352 *e*PKPdf **PKPdf** **08 30 23.4 -0.7**
JETT *e*PP **PP** **08 32 28.5 -3.0**
JETT *e*SP SP 08 41 37.9 -1.2
DQM DQM 127.08 282 P **PKiKP** **08 30 25.9 -0.2**
SNR=6.8
KTK1 Kautokeino 127.10 350 *e*PKPdf **PKPdf** **08 30 23.4 -0.8**
KTK1 *e*PP **PP** **08 32 28.0 -4.0**
KTK1 *e*SP SP 08 41 32.0 -7.7
TRO Tromso 127.15 352 *e*PKPdf **PKPdf** **08 30 23.6 -0.7**
TMAB Tom-Au,PA,Br 127.24 107 *e*P **PKiKP** **08 30 26.7 0.0**
JASK Jask - Hormozg 127.35 289 P **PKiKP** **08 30 26.9 +0.4**
HOQ Hoqain 127.69 286 P **PKPdf** **08 30 26.7 0.0**
BSY Bisya 127.72 285 P **PKPdf** **08 30 26.8 0.0**
SNR=7.3
CMC01 Camacan, BA 127.85 127 *e*P **PKPdf** **08 30 26.9 -0.3**
CMC01 Camacan, BA 127.85 127 *e*P **PKPdf** **08 30 26.6 -0.6**
ARQ Araqi 128.39 286 P **PKPdf** **08 30 28.0 -0.1**
SNR=6.4
SOHO SOHO 128.44 287 P **PKPdf** **08 30 27.9 -0.2**
SOHO SOHO 128.44 287 *i* PKPdf **PKPdf** **08 30 26.3 -1.8**
SNR=61
MDH Madha 128.73 288 P **PKPdf** **08 30 28.3 -0.3**
MDH Madha 128.73 288 PKPdf **PKPdf** **08 30 27.4 -1.2**
BANOM Banah 128.76 289 P **PKPdf** **08 30 28.7 0.0**
UOSS Minazif 128.80 288 **PKPdf** **08 30 27.5 -1.3**
UOSS Minazif 128.80 288 P **PKPdf** **08 30 28.0 -0.8**
UOSS Minazif 128.80 288 *i* PKPdf **PKPdf** **08 30 27.7 -1.1**
SNR=6.3
HATD Hatta, Dubai 128.86 288 P **PKPdf** **08 30 29.0 +0.1**
SNR=9.3
HATD Hatta, Dubai 128.86 288 *i* PKPdf **PKPdf** **08 30 28.0 -0.9**
SNR=24
MSFE Esma-Masafi 128.86 288 *i* PKPdf **PKPdf** **08 30 27.8 -1.1**
SNR=12
MASF Masafi 128.86 288 P **PKPdf** **08 30 29.0 +0.1**
SHME Shamm 128.91 289 P **PKPdf** **08 30 29.1 +0.2**
SHME Shamm 128.91 289 *i* PKPdf **PKPdf** **08 30 28.6 -0.3**
SNR=9.4
ASHO Ashiyiah 128.91 288 P **PKPdf** **08 30 29.1 +0.1**
SNR=8.5
ASHO Ashiyiah 128.91 288 *i* PKPdf **PKPdf** **08 30 29.1 +0.1**
SNR=7.7
ALNE Al Ain 129.15 287 P **PKPdf** **08 30 29.6 +0.1**
SNR=9.3
ALNE Al Ain 129.15 287 *i* PKPdf **PKPdf** **08 30 29.6 +0.1**
SNR=33
LOF Lofoten 129.19 354 *e* 08 32 57.4
STEI Steigen 129.20 353 *e*PKPdf **PKPdf** **08 30 28.0 -0.2**
STEI *e* 08 32 57.7
KLMR Klimovskoe 129.27 337 *e*PKIKP **PKPdf** **08 30 25.3 -3.2**
KLMR *e* 08 32 56.2
KLMR pmax pmax
comp=Z,232nm,1.4s
NAZ Nazwa, Dubai 129.29 288 P **PKPdf** **08 30 29.9 +0.2**
NAZ Nazwa, Dubai 129.29 288 *i* PKiKP **PKPdf** **08 30 30.0 +0.3**
SNR=10
UMQ Umm Al-Quwin 129.32 289 P **PKiKP** **08 30 30.8 +0.3**
FAQ Al Faqa, Dubai 129.34 288 P **PKPdf** **08 30 29.9 +0.1**
FAQ Al Faqa, Dubai 129.34 288 *i* PKPdf **PKPdf** **08 30 28.9 -0.9**
SNR=7.2
ASUD Al Ashush, Dub 129.57 287 P **PKiKP** **08 30 30.9 -0.1**
ASUD Al Ashush, Dub 129.57 287 *i* PKPdf **PKPdf** **08 30 29.8 -0.4**
SNR=23
UMZA Um Al Zommool 129.59 285 P **PKiKP** **08 30 31.4 +0.2**
FAUS Fauske 129.72 353 *e*PKPdf **PKPdf** **08 30 28.6 -0.6**
FAUS *e* 08 32 59.8
RBK Rabkut 129.86 278 P **PKPdf** **08 30 31.2 +0.2**
SNR=15
AJN Ajban 129.88 287 P **PKPdf** **08 30 31.0 +0.2**
AJN Ajban 129.88 287 PKPdf **PKPdf** **08 30 30.2 -0.6**
DOK Doka 130.09 280 P **PKPdf** **08 30 31.3 0.0**
SNR=11
WHFO Wadi Hawf 130.33 279 P **PKPdf** **08 30 31.5 -0.4**
SNR=19
ABTO Aybut 130.69 278 P **PKPdf** **08 30 32.7 +

STOK Stokkvaagen 130.98 354 *e*PKPdf **PKPdf 08 30 31.4 -0.1**
STOK *e* 08 33 04.5
MOR8 Moi Rana 130.99 353 *e*PKPdf **PKPdf 08 30 30.6 -1.0**
MOR8 *e* 08 33 03.7
MZR Muzera 131.16 285 P **PKiKP 08 30 34.4 +0.1**
SNR=6.4
MZR Muzera 131.16 285 *i* PKPdf **PKPdf 08 30 33.5 +0.2**
SNR=8.2
LEIR Leirfjorden 131.19 354 *e*PKPdf **PKPdf 08 30 32.2 +0.2**
LEIR *e* 08 33 05.4
LBTB Lobatse 131.29 210 SKPbc **SKPab 08 33 07.3 +0.5**
comp=Z,112nm,1.2s,baz=149,slow=5.7,SNR=22
GHWR Ruwais 131.77 286 P **PKiKP 08 30 35.2 -0.3**
JRN Qarnain Island 131.84 288 P **PKiKP 08 30 35.2 -0.4**
LPHEP Lephephe 132.56 211 *i* P **PKPdf 08 30 36.5 +0.3**
NSS Namsos 132.85 354 *e*PKPdf **PKPdf 08 30 34.9 -0.3**
NSS *e* 08 33 10.2
SLWR Sila 132.86 286 P **PKPdf 08 30 36.7 +0.2**
FINES FINESS Array B 133.12 344 PKPpre 08 30 29.0
FINES FINESS Array B 133.12 344 PKhKP PKPpre 08 30 20.7
comp=Z,2.5nm,0.4s,baz=74,slow=4.4,SNR=28
FINES PKP **PKPdf 08 30 35.4 -0.4**
comp=Z,47nm,0.8s,baz=56,slow=3.5,SNR=23
FINES SKPbc **SKPab 08 33 12.2 -1.2**
comp=Z,212nm,1.0s,baz=50,slow=6.0,SNR=57
FINES SKKPbc **SKKPbc 08 42 30.3 -2.7**
comp=Z,4.3nm,0.7s,baz=333,slow=0.4,SNR=5.8
NBPB Pedra_Branca-C 133.31 116 *e*P **PKPdf 08 30 37.9 +0.2**
NBPB Pedra_Branca-C 133.31 116 *e*P **PKPdf 08 30 37.2 -0.5**
TRNA Turayna 133.32 287 P **PKPdf 08 30 37.8 +0.6**
MOS Moscow 133.34 333 *e*PKIKP **PKPdf 08 30 35.1 -1.3**
MOS *e* 08 33 11.2
MOS pmax pmax
comp=Z,163nm,0.9s
SHMA Al-Shehemyia 133.57 289 P **PKiKP 08 30 38.5 -0.6**
SMRA Abu-Samra 133.67 287 P **PKiKP 08 30 38.7 -0.6**
NBAN Anadia - AL 133.79 123 *e*P **PKPdf 08 30 38.5 -0.1**
MAK Makhachkala 133.80 313 *i* P **Pdif 08 27 37.3 -2.5**
MAK *i* 08 30 37.2
MAK *e* 08 32 49.8
MAK *e* 08 33 16.4
MAK *e* 08 36 54.3
MAK *e*SS SS 08 50 13.0 -5.5
MAK pmax pmax
comp=Z,241nm,1.1s
SAKB Bahrain 133.95 289 P **PKiKP 08 30 39.6 -0.3**
VRH Novokhopyorsk 133.96 326 *e*PKIKP **PKPdf 08 30 35.7 -2.0**
VRH *e* 08 33 13.1
VRH pmax pmax
comp=Z,90nm,0.9s
AKT Akhty 134.08 311 *i* PKIKP **PKPdf 08 30 38.2 -0.2**
AKT *e*S **SKPab 08 33 19.8 +1.3**
AKT *e**SP **sPKPdf 08 33 48.4 +1.6**
AKT *e*PPP PPP 08 36 16.0
AKT pmax pmax
comp=Z,88nm,0.8s
OBN Obninsk 134.20 333 **PKPdf 08 30 37.8 -0.2**
OBN Obninsk 134.20 333 ⇑P **PKPdf 08 30 38.4 +0.5**
OBN Obninsk 134.20 333 *ce*PKIKP **PKPdf 08 30 38.0 0.0**
OBN *e* 08 32 51.7
OBN *i* 08 33 19.0
OBN *e* 08 33 50.2
OBN *i* PPP PPP 08 36 24.6
OBN *e* 08 36 54.1
OBN pmax pmax
comp=Z,32nm,0.8s
OBN pmax pmax
comp=Z,96nm,0.6s
LPSR Galich'ya Gora 134.64 329 *e*PKIKP **PKPdf 08 30 36.9 -2.0**
LPSR pmax pmax
comp=Z,90nm,1.0s
KGCAE Kacgae 134.70 207 *i* P **PKPdf 08 30 40.9 +0.8**
NBCA Caruaru-PE 134.84 122 *e*P **PKPdf 08 30 41.2 +0.7**
VORR Voronezh 135.03 327 *e*PKIKP **PKPdf 08 30 38.3 -1.3**
VORR pmax pmax
comp=Z,199nm,1.0s
MOL Molde 135.16 356 *e*PKPdf **PKPdf 08 30 39.6 +0.1**
MOL *e* 08 33 18.5
VSR Storozhevoye 135.31 327 *e*PKIKP **PKPdf 08 30 38.1 -2.1**
VSR pmax pmax
comp=Z,100nm,1.0s
DOMB Dombas 135.56 355 *i* PKPpre 08 30 30.0
DOMB *e*PKPdf **PKiKP 08 30 41.4 -0.7**
DOMB *e* 08 33 19.5
GOF Gofitskoye 136.05 317 *ce*PKIKP **PKPdf 08 30 41.2 -0.6**
RCBR Riachuelo 136.27 119 PKPpre 08 30 33.1
RCBR **PKPdf 08 30 40.0 -3.2**
RCBR Riachuelo 136.27 119 PKHKP PKPpre 08 30 33.1
RCBR 08 30 40.0
RCBR Riachuelo 136.27 119 *e*P **PKPdf 08 30 42.3 -0.9**
NB2 NORSAR Subarra 136.33 353 PKP PKPpre 08 30 29.4
comp=Z,9.4nm,0.6s,baz=10,slow=3.2
NB2 pPKP PP 08 33 22.2 -8.2
comp=Z,877nm,1.4s,baz=12,slow=3.0
NOA NORSAR Array B 136.33 353 PKhKP PKPpre 08 30 30.1
comp=Z,9.9nm,0.7s,baz=16,slow=5.1,SNR=24
NOA PKP **PKPdf 08 30 41.8 -0.1**
comp=Z,3.9nm,0.4s,baz=14,slow=2.4,SNR=6.4
NOA SKPbc **SKPbc 08 33 22.3 +1.5**
comp=Z,94nm,1.1s,baz=6.3,slow=4.0,SNR=37
KBD Kabd 136.36 294 P **PKiKP 08 30 44.1 -0.6**
NC602 NORSAR Array S 136.59 353 *i* PKPpre 08 30 31.9
NC602 *e*PKPdf **PKPdf 08 30 42.2 -0.1**
NC602 *e*SKPdf **SKPbc 08 33 22.2 +0.7**
HYA Hoyanger 136.64 357 *e*PKPdf **PKPdf 08 30 42.5 +0.2**
HYA *e* 08 33 23.2
GNI Garni 136.64 310 PKPpre 08 30 34.8
GNI Garni 136.64 310 PKhKP PKPpre 08 30 32.1
comp=Z,3.6nm,0.4s,baz=137,slow=4.9,SNR=2.3
GNI PKP **PKPdf 08 30 43.2 -0.1**
comp=Z,43nm,0.9s,baz=48,slow=5.2,SNR=11
GNI SKPbc **SKPbc 08 33 23.4 +0.8**
comp=Z,51nm,1.1s,baz=157,slow=2.8,SNR=8.7
GNI Garni 136.64 310 P **PKPdf 08 30 44.0 +0.8**
GNI Garni 136.64 310 *i* PKIKP **PKPdf 08 30 42.4 -0.9**
GNI Garni 136.64 310 PKPdf **PKPdf 08 30 43.7 +0.4**
KBZ Khabaz 136.68 316 PKhKP PKPpre 08 30 32.0
comp=Z,4.9nm,0.8s,baz=74,slow=1.9,SNR=9.2
KBZ PKP **PKPdf 08 30 42.6 -0.3**
comp=Z,20nm,0.8s,baz=115,slow=1.1,SNR=22
KBZ SKPbc **SKPbc 08 33 23.5 +1.2**
comp=Z,17nm,0.7s,baz=33,slow=4.4,SNR=8.1
KIV Kislovodsk 136.73 316 **PKPdf 08 30 42.9 -0.3**
KIV Kislovodsk 136.73 316 P **PKPdf 08 30 42.9 -0.3**
KIV Kislovodsk 136.73 316 ⇑P **PKPdf 08 30 43.2 -0.1**
KIV Kislovodsk 136.73 316 *e*PKIKP **PKPdf 08 30 39.7 -3.5**
KIV *e**PP **pPKPdf 08 32 48.1 -8.2**
KIV *e* 08 33 29.3
KIV *e*PPP PPP 08 36 35.0
KIV *e*SS SS 08 50 45.8 -7.3
KIV *e*SSS SSS 08 56 05.0
KIV pmax pmax
comp=Z,51nm,1.0s
KIV Kislovodsk 136.73 316 *i* PKPdf **PKPdf 08 30 43.0 -0.3**
SNR=7.5
SUE Sulen 136.81 358 *e*PKPdf **PKPdf 08 30 42.2 -0.4**
SUE *e* 08 33 24.1
SHA1 Shidzhatmaz 136.83 316 *i* PKIKP **PKPdf 08 30 42.5 -1.1**
HFS Hagfors 136.88 351 PKhKP PKPpre 08 30 30.3
comp=Z,8.0nm,0.4s,baz=72,slow=4.8,SNR=45
HFS PKP **PKPdf 08 30 42.1 -0.8**
comp=Z,35nm,0.8s,baz=85,slow=1.6,SNR=11
HFS SKPbc **SKPbc 08 33 23.7 +1.3**
comp=Z,120nm,0.9s,baz=5.7,slow=1.5,SNR=38
SKAR Skarslia 136.97 355 *i* PKPpre 08 30 36.1
SKAR *e*PKPdf **PKPdf 08 30 43.5 +0.4**
ASK Askoy 137.37 357 *e*PKPdf **PKiKP 08 30 45.3 -0.5**
ERBR Yeremizino-Bor 137.38 319 *i* PKIKP **PKPdf 08 30 45.0 +0.8**
ERBR *e* 08 32 57.2
ERBR *e* 08 33 34.0
ERBR pmax pmax
comp=Z,181nm,0.8s
BER Bergen 137.46 357 *i* PKPpre 08 30 32.5
OSL Oslo 137.47 353 *e*SKPdf **SKPdf 08 33 25.1 +0.1**
KSANE Kasane 137.54 215 *i* P PKPpre 08 30 35.1
LSZ Lusaka 137.79 220 PKPpre 08 30 36.6
LSZ Lusaka 137.79 220 PKhKP PKPpre 08 30 36.5
comp=Z,19nm,0.6s,baz=145,slow=3.3,SNR=17
LSZ PKP **PKPdf 08 30 45.5 -0.6**
comp=Z,60nm,0.6s,baz=123,slow=1.3,SNR=19
LSZ SKPbc **SKPbc 08 33 28.3 +1.7**
comp=Z,37nm,0.8s,baz=177,slow=1.9,SNR=14
LSZ SKKPbc **SKKPbc 08 42 13.0 +0.3**
comp=Z,3.0nm,0.3s,baz=19,slow=4.5,SNR=5.7
ODD1 Odda 137.86 356 *i* PKPpre 08 30 37.8
ODD1 *e*PKPdf **PKiKP 08 30 46.5 -0.4**
ODD1 *e* 08 33 27.9
KONO Kongsberg 137.87 354 PKPpre 08 30 37.3
KONO Kongsberg 137.87 354 *e*PKPdf PKPpre 08 30 36.0
KONO *e*SKPdf **SKPdf 08 33 25.6 -0.1**
KONO Kongsberg 137.87 354 PKHKP PKPpre 08 30 37.3
QNGWA Qangwa 138.06 208 *i* P **PKPdf 08 30 44.8 -1.6**
MNK Minsk 138.18 337 *i* PKIKP **PKPdf 08 30 44.1 -1.3**
MNK *i* 08 33 39.2
MNK *i* PPP PPP 08 36 50.8
MNK *i* 08 36 59.4
MNK *i* SS SS 08 51 09.1 +0.6
MNK *i* SSS SSS 08 56 29.6
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,46nm,0.9s
MNK pmax pmax
comp=Z,106nm,0.8s
STRU Stroemstad 138.29 352 *i* P **SKPbc 08 33 28.0 +1.6**
BLS5 Blasjo 138.36 356 *i* PKPpre 08 30 36.8
RAYN Ar Rayn 138.51 285 PKPpre 08 30 37.4
RAYN Ar Rayn 138.51 285 PKHKP PKPpre 08 30 37.4
KMY Karmoy 138.63 357 *i* PKPpre 08 30 39.0
KMY *e*PKPdf **PKPdf 08 30 46.9 +0.8**
KMY *e*SKPdf **SKPbc 08 33 28.3 +1.0**
KIBK Kibwezi 138.70 245 PKP PKPpre 08 30 41.7
SOC Sochi 138.83 317 *i* P **Pdif 08 28 05.8 +3.6**
SOC *e* 08 30 46.1
SOC *e* 08 33 46.4
SOC *e*PPP PPP 08 36 51.8
TJOU Tjoern 139.21 352 *i* P PKPpre 08 30 38.0
TJOU Tjoern 139.21 352 *i* P **SKPbc 08 33 30.0 +1.0**
HOMB Homborsund 139.34 354 *e*PKPdf PKPpre 08 30 40.1
HOMB Homborsund 139.34 354 *i* P PKPpre 08 30 39.2
HOMB Homborsund 139.34 354 *i* P **SKPbc 08 33 30.9 +1.7**
SNART Snartemo 139.38 355 *e*PKPdf PKPpre 08 30 39.7
SNART Snartemo 139.38 355 *i* P **SKPbc 08 33 31.2 +1.7**
BORU Boraas 139.42 351 *i* P PKPpre 08 30 38.5
BORU Boraas 139.42 351 *i* P **SKPbc 08 33 30.6 +1.0**
ATD Arta Tunnel 139.50 267 PKhKP PKPpre 08 30 41.1
comp=Z,0.7nm,0.7s,baz=305,slow=9.4,SNR=4.8
ANN Anapa 139.71 320 *i* PKIKP **PKPdf 08 30 44.1 -4.4**
ANN *e*SS SS 08 51 28.7 +1.4
ANN pmax pmax
comp=Z,90nm,1.2s
ANN pmax pmax
comp=N,31nm,0.7s
ANN pmax pmax
comp=E,23nm,0.7s
ONAU Onsala 139.78 351 *i* P PKPpre 08 30 39.9
ONAU Onsala 139.78 351 *i* P **SKPbc 08 33 31.8 +1.3**
TSUM Tsumeb 139.87 204 PKPpre 08 30 43.6
TSUM Tsumeb 139.87 204 PKhKP PKPpre 08 30 42.8
comp=E,20nm,0.6s,baz=129,slow=4.0,SNR=18
TSUM SKKPbc SKKPbc 08 42 06.1 +1.4
comp=E,18nm,0.9s,baz=358,slow=6.1,SNR=12
KMBO Kilima Mbogo 139.99 246 PKPpre 08 30 43.4
KMBO Kilima Mbogo 139.99 246 PKhKP PKPpre 08 30 44.0
comp=E,5.5nm,0.2s,baz=47,slow=5.9,SNR=33
KMBO SKPbc **SKiKP 08 33 34.8 -0.4**
comp=E,43nm,0.9s,baz=51,slow=2.7,SNR=17
KMBO Kilima Mbogo 139.99 246 PKHKP PKPpre 08 30 43.4
KMBO Kilima Mbogo 139.99 246 *i* PKPdf PKPpre 08 30 43.8
SNR=13
FABU Falkenberg 140.04 350 *i* P PKPpre 08 30 41.3
FABU Falkenberg 140.04 350 *i* P **SKPbc 08 33 32.3 +1.1**
BLEU Blekinge 140.13 348 *i* P PKPpre 08 30 41.0
BLEU Blekinge 140.13 348 *i* P **SKPbc 08 33 31.9 +0.5**
SUW Suwalki 140.21 340 *e*PKP PKPpre 08 30 44.3
KPL Plockton 140.25 6 *e*P PKPpre 08 30 41.9
DEL Delary 140.35 349 *i* P PKPpre 08 30 41.7
DEL Delary 140.35 349 *i* P **SKPbc 08 33 33.6 +1.5**
AKASG Malin Array Be 140.47 332 PKPpre 08 30 42.4
AKASG Malin Array Be 140.47 332 PKhKP PKPpre 08 30 42.9
comp=E,18nm,0.4s,baz=44,slow=3.8,SNR=164
AKASG PKP **PKPdf 08 30 49.6 0.0**
comp=E,30nm,0.4s,baz=45,slow=2.9,SNR=26
AKASG SKPbc **SKPbc 08 33 32.7 +0.2**
comp=E,19nm,0.6s,baz=37,slow=2.9,SNR=22
AKASG SKPab **SKPab 08 33 46.6 +0.4**
comp=E,58nm,1.0s,baz=42,slow=5.1,SNR=12
AKASG SKKPbc **SKKPbc 08 42 02.7 -2.2**
comp=E,19nm,1.1s,baz=233,slow=4.8,SNR=14
KIEV Kiev 140.48 332 PKPpre 08 30 42.7
KIEV Kiev 140.48 332 ⇑P PKPpre 08 30 42.7
KIEV Kiev 140.48 332 PKHKP PKPpre 08 30 42.7
KIEV Kiev 140.48 332 *i* PKPdf PKPpre 08 30 43.1
SNR=8.8
DRUM Mains of Drumt 140.93 3 *e*P PKPpre 08 30 43.6
MUD Monsted U'grnd 141.05 353 *i* P PKPpre 08 30 44.0
MUD *i* P PKPpre 08 30 45.2
MUD Monsted U'grnd 141.05 353 *i* P **SKPbc 08 33 35.3 +1.5**
LUNU Lund 141.22 349 *i* P PKPpre 08 30 45.3
INVG Invergeldie, C 141.30 5 *e*P PKPpre 08 30 45.2
LAWE Loch Awe, Argy 141.34 6 *e*P PKPpre 08 30 45.6
BSD Bornholm Skovb 141.43 348 *i* P PKPpre 08 30 45.0
PGBU Glenifferbraes 141.87 5 *e*P PKPpre 08 30 47.5
ESY Stoneypath 141.91 4 *e*P PKPpre 08 30 47.6
SSRD Sdr. Stenderup 141.95 352 *i* P PKPpre 08 30 42.4
IDGL Inch Island, C 142.25 8 PKPdif PKPpre 08 30 49.1
R9F13 Warsaw-Wawer 142.38 340 *e* 08 33 39.3
R9F13 *e*PKPc PKPpre 08 30 50.6
R9F13 *e* 08 40 04.2
CLGH Cloghs, Cushen 142.42 7 *e*P PKPpre 08 30 49.5
EKA Eskdalemuir Ar 142.46 4 PKhKP PKPpre 08 30 49.5
comp=E,20nm,0.5s,baz=328,slow=2.9,SNR=99
EKA PKP **PKPdf 08 30 53.4 +0.4**
comp=E,17nm,0.6s,baz=13,slow=1.6,SNR=13
EKA SKPbc **SKiKP 08 33 39.0 +0.4**
comp=E,16nm,0.8s,baz=337,slow=2.4,SNR=7.7
EKA SKPab SKPab 08 33 56.1
comp=E,22nm,0.8s,baz=348,slow=2.9,SNR=7.7
EKA SKKPbc **SKKPab 08 41 56.1 -0.1**
comp=E,4.1nm,0.7s,baz=150,slow=4.6,SNR=8.4
ESK Eskdalemuir 142.47 4 PKPpre 08 30 49.2
ESK Eskdalemuir 142.47 4 *e*P **PKPdf 08 30 49.5 -3.6**
ESK Eskdalemuir 142.47 4 PKHKP PKPpre 08 30 49.2
NEWG New Galloway 142.58 5 *e*P PKPpre 08 30 46.9
GKP Gorka Klasztor 142.59 344 *e*PKP **PKPdf 08 30 50.9 -2.5**
SORM Soroca 142.69 330 ⇓P **PKPdf 08 30 50.7 -3.0**
GAL1 Galloway 142.79 6 *e*P **PKPdf 08 30 50.8 -2.9**
BEL Belsk 142.83 340 *e*PKP **PKPdf 08 30 52.0 -1.8**
PURM Purcari 143.02 327 ⇓P PKPbc 08 30 52.5 0.0
EDMD Edmundbyers 143.03 3 *e*P PKPab 08 30 51.4 -0.4
GAZ Gaziantep 143.19 309 PKPbc 08 30 54.0 +0.6
KESW Keswick, Cumbr 143.20 4 *e*P PKPab 08 30 52.4 -0.1
KIS Kishinev 143.25 326 ⇓*i*PKP PKPab 08 30 52.7 -0.1
comp=E,390nm,1.3s
KIS *i* sPKP 08 33 40.7
KIS Kishinev 143.25 328 *d i*PKIKP PKPab 08 30 52.7 -0.1
KIS pmax pmax
comp=Z,390nm,1.3s
MILM Milestii Mici 143.31 328 *i* sPKP 08 33 39.8
MILM ⇓*i*PKP PKPab 08 30 52.7 -0.4
comp=Z,580nm,1.2s
MILM *i* SKKS 08 40 09.0
MILM Milestii Mici 143.31 328 *d i*PKIKP PKPab 08 30 52.7 -0.4
MILM pmax pmax
comp=Z,580nm,1.2s
ILTH Belurgan, Co L 143.43 8 *e*P PKPab 08 30 52.5 -0.8
ILTH Belurgan, Co L 143.43 8 PKPdif PKPab 08 30 52.8 -0.5
GDLE Glaisdale, N Y 143.49 2 *e*P PKPab 08 30 53.5 0.0
WIM Isle of Man 143.50 6 *e*P PKPab 08 30 53.0 -0.6
IGLA Glengowla, Co 143.55 11 *e*P PKPab 08 30 53.3 -0.4
IGLA Glengowla, Co 143.55 11 PKPdif PKPab 08 30 53.4 -0.4
IASR Iasi 143.74 329 ⇑P PKPab 08 30 55.0 +0.3
LODK Lodwar 143.78 251 P **PKPdf 08 30 57.0 +0.2**
SNR=194
HPK Haverah Park 143.92 3 *e*P PKPbc 08 30 54.8 -0.2
DSB Dublin 144.19 8 *e*P PKPbc 08 30 55.1 -0.7
DSB Dublin 144.19 8 PKPdif PKPbc 08 30 55.4 -0.5
WPS Cemaes, Angles 144.26 6 *e*P PKPbc 08 30 55.5 -0.5
WME Myndd Eilian 144.28 6 *e*P PKPbc 08 30 55.3 -0.8
WLF1 Llynfaes 144.38 6 *e*P PKPbc 08 30 56.1 -0.3
VLDR Vladesti 144.41 327 ⇑P **PKPab 08 30 57.5 +0.2**
TLCR 144.46 326 ⇑P **PKPab 08 30 57.4 -0.1**
LBWR Ladybower, Pea 144.47 3 *e*P **PKPdf 08 30 56.6 0.0**
LMK Market Rasen 144.47 2 *e*P **PKPdf 08 30 56.0 -0.6**
VARL Varlezi 144.49 328 ⇑P **PKPab 08 30 57.6 0.0**
OJC Ojcow 144.53 340 *e*PKP PKPbc 08 30 57.4 +0.3
YLL Llanberis 144.55 6 *e*P **PKPdf 08 30 56.5 -0.3**
SCTR Scanteiesti 144.57 327 ⇑P **PKPab 08 30 58.2 +0.3**
GIUM Giurgiulesti 144.59 327 ⇓P **PKPab 08 30 58.0 0.0**
TATR Tatarca 144.59 327 ⇓P **PKPab 08 30 58.0 0.0**
GHRR 144.60 328 ⇑P **PKPab 08 30 57.9 -0.1**
BRTR Keskin Array B 144.65 315 **PKPdf 08 30 57.2 -0.4**
BRTR Keskin Array B 144.65 315 PKP **PKPdf 08 30 57.4 -0.2**
comp=Z,160nm,0.8s,baz=139,slow=4.5,SNR=507
BRTR SKPbc **SKiKP 08 33 43.9 0.0**
comp=Z,31nm,0.8s,baz=130,slow=2.9,SNR=6.6
BRTR SKKPbc **SKKPbc 08 41 48.0 +0.3**
comp=Z,4.6nm,0.7s,baz=212,slow=6.3,SNR=10
TESR Tescani 144.66 329 ⇑P PKPbc 08 30 57.8 +0.2
JURR Jurilovca 144.71 325 ⇓P **PKPab 08 30 58.1 -0.4**
STHS Stebnicka Huta 144.71 337 *e*PKIKP PKPbc 08 30 57.7 +0.1
STHS Stebnicka Huta 144.71 337 *e*PKP PKPbc 08 30 57.6 0.0
STHS *e* 08 33 43.3
STHS Stebnicka Huta 144.71 337 *e*PKP 08 42 25.5
KOLS Kolonicke sedl 144.72 336 *e*PKIKP **PKPab 08 30 58.5 +0.1**
KOLS Kolonicke sedl 144.72 336 *e*PKP **PKPab 08 30 58.5 +0.1**
KOLS *e* 08 33 14.4
KOLS *e* 08 33 45.5
KOLS Kolonicke sedl 144.72 336 *e*PKP 08 42 27.6
NEGRR Negrea 144.72 327 ⇓P **PKPab 08 30 58.7 +0.2**
STNC Stoke 144.75 4 *e*P PKPbc 08 30 57.7 +0.1
SCHL Schela 144.77 327 ⇓P **PKPab 08 30 58.6 -0.1**
IZVR Izvoarele 144.77 327 ⇑P PKPbc 08 30 57.9 0.0
SCHLR Schela 144.79 327 ⇑P **PKPab 08 30 58.4 -0.3**
TUDR 144.79 327 ⇓P **PKPab 08 30 58.4 -0.4**
VAL Valentia 144.79 13 PKP **PKPdf 08 30 56.1 -1.1**
VAL Valentia 144.79 13 PKPdif **PKPdf 08 30 56.4 -0.8**
COSR Cosmesti PH 144.79 328 ⇑P **PKPab 08 30 58.4 -0.4**
FKH Fakeheh 144.81 304 *e*P PKPbc 08 30 58.6 0.0
CFR Carcaliu 144.83 326 ⇑P **PKPdf 08 30 57.4 0.0**
FOEL Foel Wylfa 144.88 5 *e*P **PKPdf 08 30 57.6 +0.2**
LLW Llanuwychllyn 144.88 5 *e*P **PKPdf 08 30 57.6 +0.3**
TPGR Topolog 144.89 326 ⇓P **PKPab 08 30 59.0 -0.3**
BEIL Beino 144.89 305 *e*P **PKPdf 08 30 58.0 -0.1**
ONER Baraj Valea Uz 144.91 329 ⇑P PKPbc 08 30 58.5 +0.1
IWEX Carrickbyrne, 144.98 9 *e*P **PKPdf 08 30 57.9 +0.4**
IWEX Carrickbyrne, 144.98 9 PKPdif **PKPdf 08 30 57.6 +0.1**
ODBI Odobesti 144.98 328 ⇑P PKPbc 08 30 58.3 -0.2
ASF Jabal al Asfar 145.03 301 SKPbc **SKiKP 08 33 45.1 +0.3**
comp=Z,39nm,0.8s,baz=179,slow=0.4,SNR=7.7
ASF SKKPbc **SKKPbc 08 41 45.6 0.0**
comp=Z,11nm,1.0s,baz=265,slow=2.6,SNR=8.2
KSP Ksiaz 145.04 344 *e*PKP **PKPab 08 30 59.3 -0.2**
NIE Niedzica 145.04 338 *e*PKP **PKPab 08 30 59.7 0.0**
NIE Niedzica 145.04 338 *e*PKP 08 42 28.2
VRI Vrincioaia 145.08 329 ⇑P **PKPbc 08 30 59.1 +0.2**
PLOR Plostina 145.12 329 ⇑P **PKPbc 08 30 58.7 -0.3**
ANTO Ankara 145.15 315 **PKPdf 08 30 58.2 -0.1**
ANTO Ankara 145.15 315 P **PKPbc 08 30 59.8 +0.4**
ANTO Ankara 145.15 315 ⇓P **PKPdf 08 30 58.2 -0.1**
ANTO Ankara 145.15 315 PKIKP **PKPdf 08 30 58.2 -0.1**
CWF Charnwood Fore 145.15 3 *e*P **PKPdf 08 30 57.6 -0.2**
HWQ Hawqa 145.17 305 *e*P **PKPdf 08 30 57.8 -0.9**
SMR Baia Mare 145.22 334 ⇑P **PKPdf 08 30 58.4 +0.3**
WACR West Acre 145.23 1 *e*P **PKPbc 08 30 58.5 -0.5**
HARR Harsova 145.26 326 ⇑P **PKPbc 08 30 58.9 -0.5**
EFOR EFORIE 145.28 325 ⇑P **PKPbc 08 30 59.0 -0.5**
GRER 145.29 328 ⇑P **PKPbc 08 30 59.9 +0.5**
TLBR Topalu 145.30 326 ⇑P **PKPbc 08 30 59.1 -0.4**
ARCR ARCALIA 145.30 332 ⇑P **PKPdf 08 30 58.6 +0.4**
OSTC Ostas 145.32 343 ⇑*e*PKP **PKPab 08 31 00.4 -0.3**
OSTC *e*SKKP 08 41 43.5
OSTC Ostas 145.32 343 *e*PKP2 **PKPab 08 31 00.4 -0.3**
MFTR Murfatlar 145.33 325 ⇓P **PKPbc 08 30 59.2 -0.4**
COVR Voineasa-Covas 145.35 329 ⇑P **PKPbc 08 31 00.1 +0.4**
ZAHL Zahle 145.35 304 *e*P **PKPdf 08 30 58.9 0.0**
OZUR 145.37 330 ⇑P **PKPdf 08 30 59.0 +0.5**
OKC Ostrava-Krasne 145.40 341 *e*PKPDF **PKPdf 08 30 58.8 +0.5**
OKC ⇑*e*PKP **PKPbc 08 31 00.3 +0.7**
OKC *e*SKP 08 33 46.5
OKC Ostrava-Krasne 145.40 341 *e*PKIKP **PKPdf 08 30 58.8 +0.5**
OKC *e* 08 31 00.3
CLL Collm 145.41 347 ⇓*e*PKIKP **PKPdf 08 30 58.0 -0.3**
CLL *i* 08 30 59.9
CLL *e* 08 33 11.0
CLL pmax pmax
comp=Z,665nm,1.1s
UPC Upice 145.42 344 *e*PKPDF **PKPdf 08 30 58.8 +0.4**
UPC ⇑*e*PKP **PKPab 08 31 00.5 -0.6**
UPC *e*SKP 08 33 46.7
UPC *e*SKKP 08 41 42.4
UPC Upice 145.42 344 *e*PKIKP **PKPdf 08 30 58.8 +0.4**
UPC *e* 08 31 00.5
STEB Steborice 145.43 341 *e*PKPDF **PKPdf 08 30 58.9 +0.5**
STEB ⇑*e*PKP **PKPbc 08 31 00.4 +0.7**
STEB *ex* x 08 33 46.1
MANR Mangalia 145.48 324 ⇑P **PKPdf 08 30 59.2 +0.6**
DPC Dobruska-Polom 145.48 343 ⇑*e*PKP **PKPab 08 31 00.9 -0.5**
DPC *e*SKKS 08 40 21.5
DPC Dobruska-Polom 145.48 343 *e*PKP2 **PKPab 08 31 00.9 -0.5**
TSMN Mangalia Port- 145.48 324 ⇑P **PKPbc 08 31 00.1 0.0**
RCY Rachaya 145.50 304 *e*P **PKPdf 08 30 59.1 -0.1**
BHL Bhannes 145.52 304 *e*P **PKPdf 08 30 58.5 -0.7**
LANS Liptovska Anna 145.56 339 *e*PKP2 **PKPbc 08 30 59.9 -0.3**
LANS Liptovska Anna 145.56 339 *e*PKP **PKPbc 08 30 59.9 -0.3**
LANS *e* 08 31 01.8
LANS *e* 08 33 47.9
KRLC Kraliky 145.60 342 *e*PKPDF **PKPdf 08 30 59.4 +0.7**
KRLC ⇑*e*PKP **PKPbc 08 31 00.9 +0.6**
KRLC Kraliky 145.60 342 *e*PKIKP **PKPdf 08 30 59.4 +0.7**
KRLC *e* 08 31 00.9
NEHR Nehoiu 145.60 328 ⇓P **PKPdf 08 30 59.3 +0.5**
BRG Berggiesshubel 145.60 346 P **PKiKP 08 31 08.2 +5.2**
BRG Amp 08 31 10.2
comp=Z,78nm,0.7s
SHBL Chebaa 145.62 303 *e*P **PKPdf 08 30 59.5 0.0**
AMRR Amara 145.63 326 ⇑P **PKPbc 08 31 00.5 +0.1**
AMRR Amara 145.63 326 ⇑PKP2 **PKPbc 08 31 00.5 +0.1**
MORC Moravsky Berou 145.64 341 *e*PKP **PKPdf 08 30 59.1 +0.3**
MORC *e* 08 31 01.0
MORC *e* 08 33 12.8
MORC *e* 08 33 47.6
MORC *e* 08 41 41.9
MORC Moravsky Berou 145.64 341 ⇑P **PKPbc 08 30 59.9 -0.6**
TGMR Targu Mures 145.65 331 ⇓P **PKPdf 08 30 59.2 +0.4**
DOPR Dopca 145.66 330 ⇑P **PKPdf 08 30 59.7 +0.8**
RSBS Rosebush, Pemb 145.66 7 *e*P **PKPdf 08 30 58.4 -0.3**
ISR Istrita 145.69 328 ⇓P **PKPdf 08 30 59.5 +0.5**
MLR Muntele Rosu 145.73 329 SKKPbc SKKPbc 08 41 42.4 -1.1
comp=Z,26nm,0.8s,baz=87,slow=0.2,SNR=15
MLR Muntele Rosu 145.73 329 ⇑P **PKPdf 08 31 00.1 +0.8**
MLR Muntele Rosu 145.73 329 ⇑PKIKP **PKPdf 08 31 00.1 +0.8**
KECS Kecovo 145.76 337 *e*PKP2 **PKPbc 08 31 01.5 +0.8**
KECS Kecovo 145.76 337 *e*PKP **PKPbc 08 31 01.5 +0.8**
KECS *e* 08 41 41.7
PVCC Panska Ves 145.78 345 *e*PKPDF **PKPdf 08 30 59.5 +0.5**
PVCC ⇑*e*PKP **PKPbc 08 31 01.4 +0.7**
PVCC Panska Ves 145.78 345 *e*PKIKP **PKPdf 08 30 59.5 +0.5**
PVCC *e* 08 31 01.4
MCH1 Michaelchurch 145.78 5 *e*P **PKPdf 08 30 59.3 +0.4**
MBAR Mbarara 145.80 241 **PKPdf 08 31 00.7 +0.4**
MBAR Mbarara 145.80 241 P **PKPbc 08 31 02.8 +0.7**
MBAR Mbarara 145.80 241 PKIKP **PKPdf 08 31 00.7 +0.4**
PSN Preselentsi 145.84 324 P **PKPab 08 31 02.2 -0.8**
ELMS Elmsett, Ipswi 145.86 0 *e*P **PKPbc 08 31 00.5 -0.3**
MESR Meseseni 145.87 333 ⇓P **PKPdf 08 31 00.1 +0.9**
RICC Richard 145.88 346 *e*PKPDF **PKPdf 08 30 59.7 +0.6**
RICC ⇑*e*PKP **PKPbc 08 31 01.6 +0.6**
RICC *e*SKP 08 33 47.7
CBBR Cluj-Babes-Bol 145.90 332 ⇑P **PKPdf 08 31 00.2 +0.9**
MAUC Maruska 145.91 341 *e*PKPDF **PKPdf 08 30 59.9 +0.6**
MAUC ⇑*e*PKP **PKPab 08 31 02.3 -0.8**
MAUC *e*SKKP 08 41 41.6
CJR Cluj-Napoca 145.92 332 ⇑P **PKPbc 08 31 00.7 -0.6**
CJR Cluj-Napoca 145.92 332 ⇑PKP2 **PKPbc 08 31 00.7 -0.6**
HSKC Hora Svate Kat 145.97 346 ⇑*e*PKP **PKPbc 08 31 01.7 +0.4**
LEHL Lehliu 146.00 327 ⇓P **PKPbc 08 31 01.0 -0.5**
MMAI Mount Meron Ar 146.00 303 PKP **PKPdf 08 31 00.1 +0.1**
comp=Z,198nm,0.5s,baz=104,slow=0.6,SNR=180
MMAI PKPbc **PKPbc 08 31 02.3 +0.3**
comp=Z,204nm,0.5s,baz=70,slow=4.7,SNR=265
MMAI pPKPbc **pPKPdf 08 33 12.9 -0.5**
comp=Z,20nm,0.9s,baz=64,slow=3.4,SNR=3.5
MMAI SKPbc **SKiKP 08 33 47.1 +0.3**
comp=Z,36nm,0.7s,baz=63,slow=4.1,SNR=

MMAI SKKPbc **SKKPbc** 08 41 41.9 +0.3
comp=Z,4.4nm,0.7s,baz=290,slow=2.4,SNR=8.1
STRD Stroud 146.06 4 eP **PKPbc** 08 31 00.7 -0.7
SULR 146.15 327 ⇑P **PKPbc** 08 31 01.1 -0.8
MARR Marisel-Cluj 146.16 333 ⇑P **PKPdf** 08 31 00.1 +0.3
VOIR 146.21 330 ⇑P **PKPdf** 08 31 00.7 +0.8
VOIR 146.21 330 ⇑PKIKP **PKPdf** 08 31 00.7 +0.8
PRA Prague 146.23 345 ePKPDF **PKPdf** 08 31 00.3 +0.6
PRA ⇑ePKP **PKPbc** 08 31 02.6 +0.6
PRA Prague 146.23 345 ePKIKP **PKPdf** 08 31 00.3 +0.6
PRA e 08 31 02.6
DRGR 146.25 333 ⇑P **PKPdf** 08 31 00.1 +0.1
DRGR 146.25 333 ⇑PKIKP **PKPdf** 08 31 00.1 +0.1
PRU Pruhonice 146.28 345 ePKPDF **PKPdf** 08 31 00.2 +0.4
PRU ⇑ePKP **PKPbc** 08 31 02.7 +0.6
PRU eSKKP 08 41 38.9
PRU Pruhonice 146.28 345 ePKIKP **PKPdf** 08 31 00.2 +0.4
PRU e 08 31 02.7
GOPC GO Pecny, Ondr 146.29 344⇑ePKP **PKPdf** 08 31 00.3 +0.4
GOPC GO Pecny, Ondr 146.29 344 ePKIKP **PKPdf** 08 31 00.3 +0.4
VRAC Vranov 146.34 342 SKPbc **SkiKP** 08 33 47.2 +0.4
comp=Z,14nm,0.9s,baz=18,slow=3.2,SNR=2.6
VRAC Vranov 146.34 342 ePKP **PKPdf** 08 30 59.9 -0.1
VRAC e 08 31 02.8
VRAC e 08 33 15.1
VRAC e 08 33 48.7
VRAC e 08 34 15.0
VRAC e 08 41 38.3
VRAC Vranov 146.34 342 ⇑P **PKPdf** 08 31 01.0 +1.0
VRAC Vranov 146.34 342 ⇑PKIKP **PKPdf** 08 31 01.0 +1.0
VYHS Vyhne 146.34 339 ePKIKP **PKPdf** 08 31 00.2 +0.2
VYHS e 08 31 03.1
VYHS e 08 33 15.2
VYHS Vyhne 146.34 339 ePKP **PKPdf** 08 31 00.2 +0.2
VYHS e 08 31 03.1
VYHS e 08 33 15.1
SWN1 Swindon 146.35 4 eP **PKPbc** 08 31 01.4 -0.8
JAVC Velka Javorina 146.41 340 ePKP **PKPdf** 08 31 01.1 +0.9
JAVC e 08 31 04.3
JAVC e 08 33 16.1
JAVC e 08 33 50.3
JAVC e 08 41 39.0
PSZ Piszkesteto 146.45 337 ⇑P **PKPdf** 08 31 01.1 +0.8
PSZ Piszkesteto 146.45 337 ⇑PKIKP **PKPdf** 08 31 01.1 +0.8
ARR Arges 146.46 330 ⇑P **PKPdf** 08 31 01.1 +0.8
NKC Novy Kostel 146.54 347 ePKPDF **PKPdf** 08 31 00.7 +0.4
NKC ⇑ePKP **PKPbc** 08 31 03.4 +0.5
NKC ex 08 33 50.1
NKC Novy Kostel 146.54 347 ePKIKP **PKPdf** 08 31 00.7 +0.4
NKC e 08 31 03.4
PRD Provadia 146.56 324 P **PKPbc** 08 31 04.0 +0.9
NEF NEVSHA 146.56 325 P **PKPbc** 08 31 04.0 +0.9
WOL Wolverton 146.58 3 eP **PKPbc** 08 31 02.6 -0.3
PCED Cedros 146.60 46 ePKP **PKPbc** 08 31 02.6 -0.7
KRUC Moravsky 146.62 342 ePKP **PKPdf** 08 31 00.3 -0.1
KRUC e 08 31 03.5
KRUC e 08 33 15.3
KRUC e 08 33 49.5
KRUC e 08 41 36.7
CALA Caldeira 146.63 46 ePKP **PKPbc** 08 31 03.2 -0.3
HTL Hartland 146.63 7 eP **PKPbc** 08 31 02.0 -1.0
TREC Trest 146.67 343 ePKPDF **PKPdf** 08 31 00.7 +0.2
TREC ⇑ePKP **PKPbc** 08 31 03.7 +0.5
TREC eSKKP 08 41 37.3
TREC Trest 146.67 343 ePKIKP **PKPdf** 08 31 00.7 +0.2
TREC e 08 31 03.7
SMOL Smolenice 146.79 340 ePKP2 **PkiKP** 08 31 04.8 -0.7
LOT Lotru 146.81 331 ⇑P **PKPdf** 08 31 01.8 +0.8
ELSH Elham, Standar 146.81 0 eP **PKPbc** 08 31 03.6 +0.1
PCAN Candelaria 146.83 46 ePKP **PKPbc** 08 31 02.6 -1.4
PICO Pico 146.86 46 ePKP **PKPbc** 08 31 03.4 -0.8
DEV Deva 146.87 332 ⇑P **PKPdf** 08 31 01.3 +0.4
DEV Deva 146.87 332 ⇑PKIKP **PKPdf** 08 31 01.3 +0.4
ROSA Rosais 146.87 45 ePKP **PKPbc** 08 31 03.4 -0.7
ZVC Zvikov 146.88 345 eSKKS 08 40 28.3
CSS Mathiatis 146.94 307 **PKPdf** 08 31 00.7 -0.7
CSS PKPbc **PKPbc** 08 31 04.6 +0.2
CSS PKPab **PKPab** 08 31 08.0 +0.3
MODS Modra-Piesok 146.96 340 ePKIKP **PKPdf** 08 31 01.5 +0.5
MODS e 08 31 05.0
MODS Modra-Piesok 146.96 340 ePKP **PKPdf** 08 31 01.5 +0.5
MODS e 08 31 05.0
MODS e 08 33 17.6
MODS e 08 33 49.7
PPNO Prainha do Nor 146.98 46 ePKP **PKPdf** 08 31 02.5 +1.0
BEBN Eben Emael 146.99 355 dPKPdf **PKPdf** 08 31 01.0 +0.1
BEBN dPKP **PKPbc** 08 31 04.1 +0.1
PMAN Manadas 147.02 45 ePKP **PKPdf** 08 31 02.9 +1.5
UCC Uccle 147.08 357 dPKPdf **PKPdf** 08 31 00.9 -0.2
UCC dPKP **PKPbc** 08 31 04.4 +0.2
PID Ribeirinha 147.09 45 ePKP **PKPdf** 08 31 02.6 +1.0
SRO Srobarova 147.10 339 ePKP2 **PKPbc** 08 31 05.2 +0.8
SRO Srobarova 147.10 339 ePKP **PKPbc** 08 31 05.2 +0.8
SRO e 08 41 36.4
SIRR Siria 147.11 334 ⇑P **PKPdf** 08 31 02.2 +0.8
MEM Membach 147.15 355 dPKPdf **PKPdf** 08 31 01.2 0.0
MEM dPKP **PKPbc** 08 31 04.4 0.0
BTNL Ternell 147.16 354 dPKPdf **PKPdf** 08 31 01.1 -0.2
BTNL dPKP **PKPbc** 08 31 04.8 +0.3
BSTI Sart Tilman 147.21 355 dPKPdf **PKPdf** 08 31 01.6 +0.3
BSTI dPKP **PKPbc** 08 31 05.0 +0.4
SZH Strazhitsa 147.26 326 P **PKPbc** 08 31 05.5 +0.5
EIL Elat 147.27 297 pPKPbc **pPKPbc** 08 33 14.5 -1.5
comp=Z,19nm,0.8s,baz=299,slow=3.4,SNR=2.0
EIL SKPbc **SkiKP** 08 33 50.3 +0.9
comp=Z,25nm,0.7s,baz=343,slow=4.6,SNR=4.2
GRFO Grafenberg 147.30 348 **PKPdf** 08 31 01.7 +0.2
GRFO Grafenberg 147.30 348 PKIKP **PKPdf** 08 31 01.7 +0.2
GZR Gura Zlata 147.30 332 ⇓P **PKPdf** 08 31 01.3 -0.5
GZR Gura Zlata 147.30 332 ⇓PKIKP **PKPdf** 08 31 01.3 -0.5
SURR Surduc 147.31 333 ⇓P **PKPbc** 08 31 05.0 0.0
KHC Kasperske Hory 147.31 345 ePKPDF **PKPdf** 08 31 01.8 +0.2
KHC ⇑ePKP **PKPbc** 08 31 05.5 +0.5
KHC eSKP 08 33 51.2
KHC eSKKS 08 40 32.4
KHC eSKKP 08 41 34.0
KHC Kasperske Hory 147.31 345 ePKIKP **PKPdf** 08 31 01.8 +0.2
KHC e 08 31 05.5
CCA1 Carnmenellis 147.34 8 eP **PKPbc** 08 31 04.4 -0.5
BCLA Clavier 147.39 355 dPKPdf **PKPdf** 08 31 01.8 +0.2
BCLA dPKP **PKPbc** 08 31 05.1 0.0
BHOU Houvegnez 147.40 355 dPKPdf **PKPdf** 08 31 02.4 +0.7
BHOU dPKP **PKPbc** 08 31 05.7 +0.5
CKRC Cesky Krumlov 147.42 344 ePKPDF **PKPdf** 08 31 01.9 +0.1
CKRC ⇑ePKP **PKPbc** 08 31 05.9 +0.7
CKRC eSKKP 08 41 34.2
CKRC Cesky Krumlov 147.42 344 ePKIKP **PKPdf** 08 31 01.9 +0.1
CKRC e 08 31 05.9
BGES Gesves 147.44 356 dPKPdf **PKPdf** 08 31 01.7 0.0
BGES dPKP **PKPbc** 08 31 04.9 -0.3
PSBA Serra de Santa 147.46 44 ePKP **PKPdf** 08 31 02.2 0.0
JMB Yambol 147.48 324 P **PKPbc** 08 31 06.3 +0.7
BMRD Maredsous 147.55 356 dPKPdf **PKPdf** 08 31 01.9 0.0
BMRD dPKP **PKPbc** 08 31 05.4 0.0
GERES GERESS Array B 147.55 345 **PKPdf** 08 31 01.7 -0.4
GERES PKPbc **PKPbc** 08 31 06.2 +0.5
GERES GERESS Array B 147.55 345 PKP **PKPdf** 08 31 01.9 -0.2
comp=Z,211nm,0.6s,baz=101,slow=1.0,SNR=125
GERES PKPbc **PKPbc** 08 31 05.9 +0.3
comp=Z,213nm,0.6s,baz=18,slow=2.4,SNR=138
GERES SKPbc **SkiKP** 08 33 50.2 +0.7
comp=Z,14nm,0.9s,baz=66,slow=1.2,SNR=3.8
GERES SKKPbc 08 41 33.3
comp=Z,2.7nm,0.8s,baz=257,slow=2.3,SNR=4.6
GERES GERESS Array B 147.55 345 PKIKP **PKPdf** 08 31 01.7 -0.4
GERES 08 31 06.2
PAGU Agualva, Azore 147.55 44 ePKP **PKPdf** 08 31 04.0 +1.7
PSCM Serra do Cume 147.63 44 ePKP **PKPdf** 08 31 02.9 +0.5
BZS Buzias 147.64 333 ⇓P **PKPdf** 08 31 01.7 -0.5
BZS Buzias 147.64 333 ⇓PKIKP **PKPdf** 08 31 01.7 -0.5
SRE Strehaia 147.66 330 ⇑P **PKPdf** 08 31 03.7 +1.4
SRE Strehaia 147.66 330 ⇑PKIKP **PKPdf** 08 31 03.7 +1.4
RCHB Rochefort 147.66 355 dPKPdf **PKPdf** 08 31 01.9 -0.2
RCHB dPKP **PKPbc** 08 31 05.7 0.0
TIM Timisoara 147.71 334 ⇑P **PKPdf** 08 31 04.0 +1.7
TIM Timisoara 147.71 334 ⇑PKIKP **PKPdf** 08 31 04.0 +1.7
DOU Dourbes 147.76 356 dPKPdf **PKPdf** 08 31 02.4 +0.1
DOU dPKP **PKPbc** 08 31 05.8 -0.2
EDRB Edirne 147.78 323 P **PKPdf** 08 31 01.5 -1.1
PVL Pavlikeni 147.79 326 P **PKiKP** 08 31 07.3 -0.4

CONA Conrad Observa 147.79 342 ePKP **PKPdf** 08 31 02.1 -0.4
comp=Z,32nm,1.0s,SNR=221
CONA iPKP **PKPbc** 08 31 07.0 +0.7
comp=Z,85nm,0.5s
CONA ePKP **pPKPab** 08 33 18.3 +0.2
comp=Z,104nm,1.9s
CONA eSKKP 08 41 33.1
comp=Z,12nm,1.1s
CONA iSKKP 08 42 35.9
comp=Z,6.5nm,0.6s
HERR Herculane 147.86 331 ⇑P **PKPdf** 08 31 03.0 +0.4
RONA Rosalia, Austr 147.86 341 iPKP **PKPdf** 08 31 02.3 -0.3
comp=Z,13nm,0.8s,SNR=144
RONA ePKP **PKPbc** 08 31 07.0 +0.6
comp=Z,87nm,0.6s
RONA ePKP **pPKPab** 08 33 18.2 -0.4
comp=Z,58nm,1.3s
RONA eSKKP 08 41 33.1
comp=Z,18nm,1.1s
RONA eSKKP 08 42 35.9
comp=Z,6.2nm,0.6s,SNR=7.3
RMGR Halanga-Turnu 147.90 331 ⇑P **PKPbc** 08 31 05.2 -1.3
WLF Walferdange 148.07 354 PKP **PKPdf** 08 31 03.5 +0.7
WLF Walferdange 148.07 354 dPKPdf **PKPdf** 08 31 03.0 +0.2
WLF dPKP **PKiKP** 08 31 07.5 -0.6
PUNG Punghina 148.08 330 ⇑P **PKPdf** 08 31 04.2 +1.3
MDVR Moldovita 148.25 332 ⇑P **PKPdf** 08 31 03.1 -0.2
VALD Valchedram 148.27 329 P **PKiKP** 08 31 08.3 -0.4
DIM Dimitrovgrad 148.31 325 P **PKiKP** 08 31 08.3 -0.5
MOA Molln 148.32 343 iPKP **PKPdf** 08 31 02.5 -0.8
comp=Z,13nm,1.0s,SNR=71
MOA iPKP **PKPbc** 08 31 07.7 +0.2
comp=Z,29nm,0.5s
MOA ePKP **pPKPbc** 08 33 18.8 -0.1
comp=Z,54nm,1.4s
MOA eSKKP 08 42 36.7
comp=Z,19nm,1.4s
MORH Mrgy, Hungar 148.35 337 ⇑P **PKPdf** 08 31 03.6 +0.3
MPEP Malo Peshtene 148.36 328 P **PKPbc** 08 31 08.3 +0.5
ARSA Arzberg 148.50 341 ePKP **PKPdf** 08 31 02.9 -0.7
comp=Z,7.0nm,0.9s,SNR=61
ARSA iPKP **PKPbc** 08 31 08.0 0.0
comp=Z,12nm,0.5s
ARSA ePKP **pPKPbc** 08 33 19.7 0.0
comp=Z,45nm,1.9s
ARSA eSKKP 08 42 37.4
comp=Z,3.6nm,0.9s
BIOA Bad Ischl, Aus 148.63 344 iPKP **PKPdf** 08 31 02.9 -0.9
comp=Z,40nm,1.4s,SNR=68
BIOA iPKP **PKPbc** 08 31 08.2 -0.1
comp=Z,28nm,0.4s
BIOA ePKP **pPKPdf** 08 33 18.7 +1.3
comp=Z,28nm,1.3s
BIOA eSKKP 08 42 37.0
comp=Z,9.9nm,0.7s
JSA Saint Aubin 148.64 5 eP **PKPbc** 08 31 08.2 0.0
PLD Plovdiv 148.69 325 P **PKPbc** 08 31 08.8 +0.2
KDZ Kurdzhali 148.72 324 P **PKPbc** 08 31 09.1 +0.4
PGB Panagyurishte 148.74 327 P **PKiKP** 08 31 09.3 -0.5
FRGS Fruska Gora 148.77 335 ⇓iP **PKPbc** 08 31 09.0 +0.3
ALN Alexandroupoli 148.79 322 P **PKPdf** 08 31 02.5 -1.7
ENEZ Enez 148.84 322 P **PKPdf** 08 31 03.2 -1.1
RDO Rodhopi 148.93 323 P **PKPdf** 08 31 03.3 -1.1
RZN Rozhen 149.00 325 P **PKPbc** 08 31 09.9 +0.3
PSET Sete Cidades 149.03 45 ePKP **PKPdf** 08 31 03.5 -1.2
BFO Black Forest 149.12 351 **PKPdf** 08 31 04.4 -0.1
BFO PKPbc **PKiKP** 08 31 10.1 -0.3
BFO PKPab **PKPab** 08 31 17.1 +0.9
BFO Black Forest 149.12 351 PKP2 **PKiKP** 08 31 10.1 -0.3
LESA Schwarzleotal 149.12 345 iPKP **PKPdf** 08 31 03.9 -0.8
comp=Z,56nm,1.4s,SNR=75
LESA iPKP **PKPbc** 08 31 09.4 -0.2
comp=Z,130nm,0.4s
LESA ePKP **pPKPbc** 08 33 21.8 +0.6
comp=Z,38nm,1.1s
LESA iSKKP 08 42 38.7
comp=Z,5.4nm,0.4s,SNR=6.8
BOVS Bovan 149.14 331 ⇓P **PKPdf** 08 31 04.3 -0.4
VTS Vitosha 149.15 328 P **PKiKP** 08 31 10.4 -0.4
PLNA Plana 149.16 327 P **PKPbc** 08 31 08.3 -1.6
SOKA Soboth 149.16 342 ePKP **PKPdf** 08 31 03.7 -1.0
comp=Z,26nm,1.0s,SNR=107
SOKA iPKP **PKPbc** 08 31 09.4 -0.3
comp=Z,411nm,1.3s
SOKA ePKiKP **pPKiKP** 08 33 23.5 +0.1
comp=Z,68nm,1.7s
SOKA eSKKP 08 42 38.4
comp=Z,4.5nm,0.8s,SNR=6.2
KSL Kastellorizon 149.18 312 P **PKPdf** 08 31 04.2 -0.8
KBA Koelnbreinsper 149.27 344 iPKP **PKPdf** 08 31 03.7 -1.3
comp=Z,26nm,1.1s,SNR=80
KBA iPKP **PKPbc** 08 31 09.6 -0.5
comp=Z,159nm,0.5s
KBA iSKKP 08 42 38.3
comp=Z,6.8nm,0.5s
PGRON Lagoa das Cont 149.29 44 ePKP **PkiKP** 08 31 11.2 +0.2
SMTH Samothraki Isl 149.37 322 P **PKPdf** 08 31 03.8 -1.4
TEKS Tekeris 149.38 334 ⇓iP **PKPbc** 08 31 10.0 -0.2
OBKA Obir 149.46 342 iPKP **PKPdf** 08 31 04.1 -1.2
comp=Z,11nm,0.9s,SNR=42
OBKA iPKP **PKPbc** 08 31 09.9 -0.5
comp=Z,122nm,1.1s
OBKA Obir 149.46 342 ⇓iP **PKPbc** 08 31 09.4 -1.0
WATA Walderalm 149.47 346 iPKP **PKPdf** 08 31 04.5 -0.8
comp=Z,65nm,1.3s,SNR=56
WATA iPKP **PKPbc** 08 31 10.4 -0.1
comp=Z,117nm,0.5s
WATA ePKiKP **pPKPbc** 08 33 22.8 +0.6
comp=Z,39nm,2.0s
WATA iSKKP 08 42 39.3
comp=Z,5.8nm,0.6s,SNR=4.2
RETA Reutte 149.50 347 ePKP **PKPdf** 08 31 04.7 -0.6
comp=Z,32nm,1.0s,SNR=36
RETA iPKP **PKPbc** 08 31 10.5 +0.1
comp=Z,83nm,0.5s
RETA ePKP **pPKPbc** 08 33 21.7 -0.5
comp=Z,20nm,1.4s
RETA iSKKP 08 42 39.5
comp=Z,4.2nm,0.5s
WTTA Wattenberg 149.52 346 ePKP **PKPdf** 08 31 04.9 -0.6
comp=Z,77nm,1.2s,SNR=109
WTTA iPKP **PKPbc** 08 31 10.9 +0.2
comp=Z,249nm,0.5s
WTTA ePKiKP **pPKiKP** 08 33 23.5 -0.8
comp=Z,43nm,1.3s
WTTA iSKKP 08 42 39.6
comp=Z,7.3nm,0.4s
KAVA Kavala 149.60 324 P **PKPdf** 08 31 04.4 -1.1
MYKA Terra Mystica 149.61 343 ePKP **PKPdf** 08 31 04.2 -1.2
comp=Z,24nm,1.1s,SNR=76
MYKA iPKP **PKPbc** 08 31 10.2 -0.6
comp=Z,127nm,0.5s
MYKA ePKP **pPKPdf** 08 33 18.9 -0.2
comp=Z,17nm,1.0s
MYKA eSKKP 08 42 39.0
comp=Z,4.4nm,0.5s,SNR=5.5
MMB Musomishta 149.64 326 P **PKPbc** 08 31 11.1 +0.1
SQTA Sankt Quirin 149.66 347 ePKP **PKPdf** 08 31 05.1 -0.4
comp=Z,61nm,0.9s,SNR=80
SQTA iPKP **PKPbc** 08 31 11.1 +0.1
comp=Z,180nm,0.6s
SQTA ePKP **pPKPab** 08 33 24.2 -1.1
comp=Z,39nm,1.1s
SQTA eSKKP 08 42 39.9
comp=Z,4.9nm,0.5s,SNR=6.1
PRK Paraskevi 149.69 320 P **PKPdf** 08 31 04.9 -0.8
NVR Nevrokopi 149.72 325 P **PKPdf** 08 31 05.3 -0.4
PDKS Podkum 149.73 341 ePKPdf **PKPdf** 08 31 05.0 -0.6
PDKS iPKPbc **PKPbc** 08 31 11.0 0.0
THAS Thassos island 149.75 323 P **PKPdf** 08 31 04.2 -1.5
KKB Krupnik 149.76 327 P **PkiKP** 08 31 11.9 0.0
VNDS Vrh nad Dolski 149.78 341 iPKPdf **PKPdf** 08 31 05.2 -0.5
VNDS iPKPbc **PKPbc** 08 31 11.1 0.0
CRES Cresnjevec Ost 149.79 340 ⇓iP **PKPbc** 08 31 11.0 -0.1
ABTA Abfaltersbach 149.79 345 iPKP **PKPdf** 08 31 04.8 -0.9
comp=Z,35nm,1.1s,SNR=96
ABTA iPKP **PKPbc** 08 31 10.7 -0.5
comp=Z,394nm,0.7s
ABTA ePKiKP **pPKPbc** 08 33 23.8 +0.6
comp=Z,22nm,0.8s
ABTA iSKKP 08 42 39.6
comp=Z,9.5nm,0.6s,SNR=11
DAVA Damuels 149.86 348 ePKP **PKPdf** 08 31 05.8 -0.1
comp=Z,44nm,0.9s,SNR=24
DAVA ePKP **PKPbc** 08 31 11.5 0.0
comp=Z,276nm,0.9s

DAVA ePKP **pPKPbc** 08 33 23.1 -0.2
comp=Z,76nm,1.8s
DAVA eSKKP 08 42 40.3
comp=Z,8.0nm,0.6s,SNR=4.3
LJU Ljubljana 149.89 342 iPKPdf **PKPdf** 08 31 05.6 -0.2
LJU iPKPbc **PKPbc** 08 31 11.4 +0.1
PSMN Pico do Norte, 149.91 45 ePKP **PKPdf** 08 31 04.1 -2.0
CRNS Crni Vrh 149.93 342 iPKPdf **PKPdf** 08 31 05.2 -0.8
CRNS iPKPbc **PKPbc** 08 31 11.2 -0.3
LIA Limnos Island 149.94 322 P **PKPdf** 08 31 05.0 -1.0
FETA Feichten 149.95 347 iPKP **PKPdf** 08 31 05.9 -0.2
comp=Z,97nm,0.8s,SNR=33
FETA iPKP **PKPbc** 08 31 11.9 +0.3
comp=Z,324nm,1.0s
FETA iSKKP 08 42 40.8
comp=Z,2.9nm,0.6s,SNR=5.1
SIGR SIGRI 149.97 320 P **PKPdf** 08 31 05.0 -1.1
BBLS Lazi&#263i 149.99 333 ⇓iP **PKPbc** 08 31 11.7 0.0
HAPS Han Pijesak,Bl 150.00 334 ⇓iP **PkiKP** 08 31 12.2 -0.2
A051A Mrakovica 150.01 338 ⇓iP **PKPbc** 08 31 11.8 0.0
KOKK Kokkinochori, 150.01 324 P **PKPdf** 08 31 04.5 -1.7
SRS Serrai 150.03 325 P **PKPdf** 08 31 04.2 -2.0
BLY Banja Luka 150.13 337 ⇓iP **PKPbc** 08 31 12.1 +0.1
BOJS Bojanci 150.15 340 ⇓iP **PkiKP** 08 31 12.3 -0.2
CEY Cerknica 150.19 342 ⇓iP **PKPbc** 08 31 11.9 -0.2
SABO M.te Sabotino 150.21 343 **PKPdf** 08 31 05.7 -0.7
SABO PKPbc **PKPbc** 08 31 12.0 -0.1
SJES Sjenica 150.22 332 ⇓iP **PKPbc** 08 31 12.5 +0.1
SMG Samos 150.24 317 P **PKPdf** 08 31 05.5 -1.1
OUR Ouranopolis 150.35 324 P **PKPdf** 08 31 05.2 -1.5
KNT Kendrikon 150.37 326 P **PKPdf** 08 31 05.0 -1.7
PLE Pljevlja 150.43 333 ⇓iPKP **PKPbc** 08 31 12.9 +0.1
IVA Berane 150.57 332 ⇓iPKP **PKPbc** 08 31 13.2 +0.1
A050A Klekovaca 150.60 338 ⇓iP **PKPbc** 08 31 12.8 -0.4
PLG Polygyros 150.62 324 P **PKPdf** 08 31 05.4 -1.8
HORT Hortiatis 150.66 325 P **PKPdf** 08 31 05.5 -1.8
THE Thessaloniki 150.71 325 P **PKPdf** 08 31 05.5 -1.7
UPM Unac-Piva 150.74 333 ⇓iP **PKPbc** 08 31 13.0 -0.6
UPM Unac-Piva 150.74 333 ⇓iPKP **PKPbc** 08 31 13.1 -0.6
KOME Kolasin 150.75 332 ⇓iPKP **PKPbc** 08 31 13.5 -0.1
PVY Plav 150.75 331 ⇓iPKP **PKPbc** 08 31 13.4 -0.2
PAIG Paliouri 150.79 323 P **PKPdf** 08 31 05.5 -1.9
NKME Niksic 151.07 333 ⇓iPKP **PKPbc** 08 31 14.0 -0.2
BRY Bratogost 151.14 333 ⇓iP **PKPbc** 08 31 14.0 -0.5
BRY Bratogost 151.14 333 ⇓iPKP **PKPbc** 08 31 14.1 -0.5
KARP Karpathos 151.19 313 **PKPbc** 08 31 14.4 -0.3
PDG Podgorica 151.20 332 **PKPdf** 08 31 06.8 -1.1
PDG PKPbc **PKPbc** 08 31 14.1 -0.4
PDG PKPab **PKPab** 08 31 25.5 +0.5
PDG Podgorica 151.20 332 ⇓iP **PKPbc** 08 31 14.1 -0.4
PDG Podgorica 151.20 332 ⇑P **PKPdf** 08 31 07.7 -0.2
PDG Podgorica 151.20 332 ⇓iPKP **PKPbc** 08 31 14.3 -0.2
PHP Peshkopia 151.23 330 P **PKPdf** 08 31 06.8 -1.3
CEME Cevo 151.26 332 ⇓iPKP **PKPbc** 08 31 14.2 -0.5
LIT Litokhoron 151.34 325 P **PKPdf** 08 31 06.6 -1.6
LIT Litokhoron 151.34 325 **PKPdf** 08 31 06.7 -1.5
LIT PKPbc **PKPbc** 08 31 14.1 -0.8
LIT PKPab **PKPab** 08 31 26.4 +0.7
TREB Trebinje 151.37 333 ⇓iP **PKPbc** 08 31 13.9 -0.9
DRME Dracevica, Mon 151.43 332 ⇓iP **PKPbc** 08 31 14.2 -0.8
DRME Dracevica, Mon 151.43 332 ⇓iPKP **PKPbc** 08 31 14.9 -0.1
MORI Morici 151.43 338 iPn **PKPdf** 08 31 07.7 -0.5
FNA Florina 151.44 327 P **PKPdf** 08 31 07.1 -1.3
XOR Xorichti 151.45 323 P **PKPdf** 08 31 07.0 -1.4
BUM Brajici-Budva 151.47 332 ⇓iPKP **PKPbc** 08 31 14.8 -0.4
NEO Neokhori 151.47 323 P **PKPdf** 08 31 07.0 -1.5
OHR Ohrid 151.49 328 iP **PKPdf** 08 31 08.3 -0.1
STON Ston 151.51 334 ⇓iP **PKPbc** 08 31 14.2 -0.9
HCY Herceg Novi 151.53 333 ⇓iP **PKPbc** 08 31 14.5 -0.8
HCY Herceg Novi 151.53 333 ⇓iPKP **PKPbc** 08 31 14.4 -0.8
KARY Karystos 151.57 320 P **PKPbc** 08 31 14.9 -0.5
ULC Ulcinj 151.58 331 ⇓iPKP **PKPbc** 08 31 15.0 -0.4
DION Dionisos Attik 151.85 320 P **PKPdf** 08 31 07.4 -1.7
NEST Nestorio 151.88 327 P **PKPdf** 08 31 08.5 -0.6
PTL Penteli 151.91 320 P **PKPdf** 08 31 07.5 -1.7
THL Klokotos Trika 151.97 325 P **PKPdf** 08 31 07.6 -1.5
ATH Athens Observa 152.05 320 P **PKPdf** 08 31 07.6 -1.7
AXAR Agios Charalam 152.16 323 P **PKPbc** 08 31 16.6 -0.2
VILL Villia 152.17 321 P **PKPbc** 08 31 16.0 -0.8
MAKR Makrakomi, Fth 152.29 324 P **PKPdf** 08 31 09.8 +0.1
LSK Leskovik 152.31 327 P **PKPdf** 08 31 09.2 -0.5
JAN Janina 152.54 326 P **PKPdf** 08 31 09.5 -0.5
ANX Ano Chora 152.70 323 P **PKPdf** 08 31 11.1 +0.7
KALE Kalithea 152.71 323 P **PkiKP** 08 31 18.2 +0.1
VLC Villacollemand 152.74 346 PKP **PKPdf** 08 31 08.1 -2.1
EFP Efpalio 152.82 323 P **PKPdf** 08 31 10.2 -0.2
IDI Anoyia 152.89 314 PKP **PKPdf** 08 31 09.5 -1.2
GUR Goura 152.90 322 P **PKPdf** 08 31 09.5 -1.2
IGT Igoumenitsa 152.90 327 P **PKPdf** 08 31 09.4 -1.1
KLV Kalavryta, Ach 152.94 322 P **PKPdf** 08 31 09.4 -1.3
NYDR Nydri-Lefkada 153.30 325 P **PKPdf** 08 31 10.2 -0.9
AQU L'Aquila 153.56 340 PKP **PKPdf** 08 31 10.3 -1.1
MATE Matera 153.77 333 ⇓P **PKPdf** 08 31 11.4 -0.2
PGAV Gavieira, Arco 154.61 17 ePKPdf **PKPdf** 08 31 13.5 +0.5
PGAV ePKPab **PKPab** 08 31 41.1 +1.4
PGAV eSKPdf **SKPdf** 08 33 53.4 +1.2
PCAB Cabril 154.91 17 ePKPdf **PKPdf** 08 31 13.9 +0.6
PCAB ePKPab **PKPab** 08 31 41.5 +0.6
PCAB eSKPdf **SKPdf** 08 33 52.1 -0.3
PBRG Braganca 155.16 15 ePKPdf **PKPdf** 08 31 13.7 +0.1
PBRG ePKPab **PKPab** 08 31 42.7 +0.8
PBRG eSKPdf **SKPdf** 08 33 51.3 -1.5
POLO Lamas de Olo 155.29 17 ePKPdf **PKPdf** 08 31 14.4 +0.5
POLO ePKPab **PKPab** 08 31 43.2 +0.6
PVRL Vila Real 155.40 17 ePKPdf **PKPdf** 08 31 14.5 +0.5
PVRL ePKPab **PKPab** 08 31 43.5 +0.5
PVRL eSKPdf **SKPdf** 08 33 53.5 +0.4
EJON La Jonquera 155.48 357 PKP **PKPdf** 08 31 14.0 0.0
MVO Moncorvo 155.69 16 ePKPdf **PKPdf** 08 31 15.1 +0.7
MVO ePKPab **PKPab** 08 31 44.9 +0.6
MVO eSKPdf **SKPdf** 08 33 56.5 +3.0
SACV Santiago Islan 155.82 93 **PKPab** 08 31 46.1 +0.4
PVIS Viseu 155.87 18 ePKPdf **PKPdf** 08 31 15.1 +0.4
PVIS ePKPab **PKPab** 08 31 45.8 +0.7
COI Coimbra 156.18 19 ePKPdf **PKPdf** 08 31 15.5 +0.5
COI ePKPab **PKPab** 08 31 47.0 +0.6
MTE Manteigas 156.26 17 **PKPdf** 08 31 14.5 -0.7
MTE PKPab **PKPab** 08 31 47.5 +0.7
MTE Manteigas 156.26 17 ePKPdf **PKPdf** 08 31 15.3 +0.2
MTE ePKPab **PKPab** 08 31 47.4 +0.6
MTE eSKPdf **SKPdf** 08 33 54.8 +0.6
PCAS Casmilo, Conde 156.30 19 ePKPdf **PKPdf** 08 31 15.5 +0.4
PCAS ePKPab **PKPab** 08 31 47.4 +0.5
PCAS eSKPdf **SKPdf** 08 33 53.8 -0.3
PSBE So Bento 156.69 20 ePKPdf **PKPdf** 08 31 16.0 +0.4
PSBE ePKPab **PKPab** 08 31 49.0 +0.3
PCBR Castelo Branco 156.80 18 ePKPdf **PKPdf** 08 31 16.1 +0.3
PCBR ePKPab **PKPab** 08 31 49.2 +0.1
PMAFR Mafra 157.03 22 PKP **PKPdf** 08 31 16.6 +0.5
PMRV Marv??o 157.21 18 ePKPdf **PKPdf** 08 31 16.5 +0.2
PMRV ePKPab **PKPab** 08 31 51.2 +0.3
PMRV eSKPdf **SKPdf** 08 33 57.1 +1.9
PMTG Montargil 157.28 20 ePKPdf **PKPdf** 08 31 16.7 +0.3
PMTG ePKPab **PKPab** 08 31 51.2 0.0
PMTG eSKPdf **SKPdf** 08 33 57.4 +2.2
LIS Lisbon 157.28 22 ePKPdf **PKPdf** 08 31 16.5 +0.1
LIS ePKPab **PKPab** 08 31 51.9 +0.7
UCM Universidad Co 157.29 9 PKP **PKPdf** 08 31 15.7 -0.7
PMOZ Porto Moniz, M 157.59 45 ePKPdf **PKPdf** 08 31 17.9 +0.8
PMOZ ePKPab **PKPab** 08 31 53.4 +0.4
PESTR Estremoz 157.66 19 ePKPdf **PKPdf** 08 31 17.2 +0.3
PESTR ePKPab **PKPab** 08 31 53.0 +0.2
ESDC Sonseca Array 157.79 11 **PKPdf** 08 31 17.3 +0.2
ESDC Sonseca Array 157.79 11 PKP **PKPdf** 08 31 16.9 -0.2
comp=Z,14nm,0.9s,baz=348,slow=2.8,SNR=63
ESDC PKPab **PKPab** 08 31 53.4 -0.1
comp=Z,30nm,0.8s,baz=343,slow=4.3,SNR=28
ESDC PP **PP** 08 35 33.4 -1.0
comp=Z,5.5nm,1.0s,baz=353,slow=5.5,SNR=4.8
EVO Evora 157.84 20 ePKPdf **PKPdf** 08 31 17.4 +0.4
EVO ePKPab **PKPab** 08 31 53.8 +0.2
EVO eSKPdf **SKPdf** 08 33 59.0 +3.1
EVO Evora 157.84 20

PBEJ				*e*PKPab	**PKPab**	08 31 56.3	+0.5
PBEJ				*e*SKPdf	**SKPdf**	08 33 57.8	+1.3
MESJ	**Messejana**	**158.40**	**21**		**PKPdf**	08 31 17.7	-0.1
MESJ					**PKPab**	08 31 57.2	+1.1
MESJ	**Messejana**	**158.40**	**21**	*e*PKPdf	**PKPdf**	08 31 17.9	+0.2
MESJ				*e*PKPab	**PKPab**	08 31 56.6	+0.5
MESJ				*ep*PKPdf	**pPKPdf**	08 33 30.7	-0.7
MESJ	**Messejana**	**158.40**	**21**	*e*PKPdf	**PKPdf**	08 31 18.4	+0.6
MESJ				*e*PKPab	**PKPab**	08 31 56.3	+0.3
MESJ				*e*SKPdf	**SKPdf**	08 33 58.4	+1.9
MESJ	**Messejana**	**158.40**	**21**	PKP2	**PKPab**	08 31 57.2	+1.1
MESJ						09 31 17.7	
PBAR	**Barrancos**	**158.47**	**18**	*e*PKPdf	**PKPdf**	08 31 18.2	+0.4
PBAR				*e*PKPab	**PKPab**	08 31 57.1	+0.7
PBAR				*e*SKPdf	**SKPdf**	08 33 58.9	+2.3
PTEO	**Sao Teotonio**	**158.48**	**22**	*e*PKPdf	**PKPdf**	08 31 19.0	+1.2
PTEO				*e*PKPab	**PKPab**	08 31 56.5	+0.1
PTEO				*e*SKPdf	**SKPdf**	08 33 58.9	+2.3
PCVE	**Castro Verde**	**158.64**	**21**	*e*PKPdf	**PKPdf**	08 31 18.8	+0.7
PCVE				*e*PKPab	**PKPab**	08 31 57.6	+0.4
PCVE				*e*SKPdf	**SKPdf**	08 33 59.2	+2.4
MORF	**Marmelete**	**158.72**	**23**	*e*PKPdf	**PKPdf**	08 31 18.3	+0.1
MORF				*e*PKPab	**PKPab**	08 31 58.1	+0.6
MORF				*ep*PKPdf	**pPKPdf**	08 33 31.1	-0.7
MORF	**Marmelete**	**158.72**	**23**	*e*PKPdf	**PKPdf**	08 31 19.2	+1.0
MORF				*e*PKPab	**PKPab**	08 31 57.7	+0.2
MORF				*e*SKPdf	**SKPdf**	08 33 59.3	+2.3
PFVI	**Vila Bisbo**	**158.81**	**23**	*e*PKPdf	**PKPdf**	08 31 19.1	+0.8
PFVI				*e*PKPab	**PKPab**	08 31 58.0	+0.2
PFVI				*e*SKPdf	**SKPdf**	08 33 59.2	+2.2
PVAQ	**Vaqueiros**	**158.96**	**21**	*e*PKPdf	**PKPdf**	08 31 18.9	+0.5
PVAQ				*e*PKPab	**PKPab**	08 31 58.8	+0.2
PBDV	**Barranco-do-Ve**	**159.03**	**21**	*e*PKPdf	**PKPdf**	08 31 19.5	+1.0
PBDV				*e*PKPab	**PKPab**	08 31 59.8	+0.9
PBDV				*e*SKPdf	**SKPdf**	08 34 00.6	+3.4
LIJA	**Lijar**	**160.12**	**16**	PKP	**PKPdf**	08 31 20.4	+0.5
KEST	**Kesra**	**160.88**	**340**	PKP	**PKPdf**	08 31 20.2	-0.6
	comp=Z,18nm,0.8s,baz=286,slow=1.5,SNR=22						
KEST				PKPab	**PKPab**	08 32 07.1	0.0
	comp=Z,28nm,0.7s,baz=206,slow=0.7,SNR=13						
TARIF	**Tarifa**	**160.89**	**18**	PKP	**PKPdf**	08 31 21.4	+0.8
CEU	**Ceuta**	**161.07**	**17**	PKP	**PKPdf**	08 31 19.4	-1.4
ABA	**Alger-Bouzarea**	**161.10**	**356**	P	**PKPdf**	08 31 20.5	-0.3
ATKB	**Taksebt**	**161.13**	**353**	P	**PKPdf**	08 31 21.5	+0.7
CASM	**Ain Smara**	**161.16**	**347**	P	**PKPdf**	08 31 20.5	-0.5
ATKJ	**Tikjda**	**161.36**	**353**	P	**PKPdf**	08 31 21.8	+0.5
CAZD	**Ain Tagrout**	**161.48**	**350**	P	**PKPdf**	08 31 21.8	+0.5
CKHR	**Kef el Ahmar**	**161.58**	**349**	P	**PKPdf**	08 31 21.5	0.0
EKMS	**Oued Kramis**	**161.63**	**2**	P	**PKPdf**	08 31 21.9	+0.5
EMHD	**Djebel Mahouad**	**161.71**	**356**	P	**PKPdf**	08 31 22.1	+0.5
ADJB	**Djebel Djouab**	**161.71**	**355**	P	**PKPdf**	08 31 22.5	+0.9
ATAF	**Djebel Tarf**	**161.90**	**353**	P	**PKPdf**	08 31 22.1	+0.3
PVLZ	**Pen de Vlez**	**162.04**	**15**	PKP	**PKPdf**	08 31 20.9	-0.9
CBBAR	**Babar**	**162.06**	**344**	P	**PKPdf**	08 31 22.2	+0.2
ABRIN	**Birine**	**162.26**	**355**	P	**PKPdf**	08 31 22.6	+0.5
OJGS	**Djebel Guires**	**162.44**	**2**	P	**PKPdf**	08 31 22.9	+0.6
OLHC	**Oulhaca**	**162.52**	**8**	P	**PKPdf**	08 31 23.9	+1.5
AVE	**Averroes**	**162.72**	**26**	PKP	**PKPdf**	08 31 21.4	-1.1
CDCN	**Doucen**	**163.04**	**349**	P	**PKPdf**	08 31 22.9	+0.1
EADEB	**Ain Deheb**	**163.09**	**360**	P	**PKPdf**	08 31 23.6	+0.6
IFR	**Ifrane**	**163.36**	**19**	PKP	**PKPdf**	08 31 23.5	+0.1
ADJF	**Tadmit**	**163.67**	**355**	P	**PKPdf**	08 31 24.5	+1.0
TIO	**Tiouine**	**164.81**	**30**	PKP	**PKPdf**	08 31 24.0	-0.7
DBIC	**Dimbokro**	**167.28**	**150**		**PKPdf**	08 31 25.9	-1.0
DBIC				PKPab	**PKPab**	08 32 36.4	+0.7
DBIC	**Dimbokro**	**167.28**	**150**	PKP	**PKPdf**	08 31 26.1	-0.7
	comp=Z,57nm,0.8s,baz=138,slow=1.1,SNR=58						
DBIC				PKPab	**PKPab**	08 32 35.9	+0.2
	comp=Z,17nm,0.8s,baz=231,slow=2.9,SNR=7.6						
DBIC	**Dimbokro**	**167.28**	**150**	PKIKP	**PKPdf**	08 31 25.9	-1.0
DBIC						08 32 36.4	
ACRG	**Accra**	**167.73**	**172**		**PKPdf**	08 31 26.4	-0.8
ACRG				PKPab	**PKPab**	08 32 38.3	+0.8
TORD	**Torodi Ar. Bea**	**175.28**	**183**		**PKPdf**	08 31 29.6	-1.1
TORD				PKPab	**PKPab**	08 33 11.2	+0.2
TORD	**Torodi Ar. Bea**	**175.28**	**183**	PKP	**PKPdf**	08 31 29.9	-0.8
	comp=Z,42nm,0.8s,baz=349,slow=3.2,SNR=26						
TORD				PKPab	**PKPab**	08 33 10.5	-0.5
	comp=Z,29nm,0.7s,baz=171,slow=2.5,SNR=10.0						
TORD				PP	**PP**	08 37 02.4	-0.2
	comp=Z,10nm,0.7s,baz=187,slow=3.4,SNR=5.8						

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*NOU **10** 08:23:54.3, 17°.88S×178°.47W, h577km, mb5.1/74, Fiji Islands Region*
*NEIC **10** 08:23:54.8±1.8, 17°.8S±0°.1×178°.6W±0°.1, h566km±7km, mb4.8/265, Error ellipse: s-maj=17.5km s-min=14.0km az=141.0*
*IDC **10** 08:23:55.2±0.8, 17°.87S×178°.60W, h580km±8km, mb4.3/22, mbtmp5.2/24, Error ellipse: s-maj=13.2km s-min=10.0km az=140.0*

ISC 10 08:23:54.8±0.3, 17°.94S±0°.05×178°.53W±0°.05, h579km, n691, σ1s20/602, mb4.8/173, 4C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.40**	**223**	P	**P**	08 25 02.0	-0.9
DGTI	**Dogotuki**	**2.33**	**314**	P	**P**	08 25 07.6	-1.1
MSVF	**Nonsavu**	**3.26**	**273**		**P**	08 25 14.4	+0.6
MSVF	**Nonsavu**	**3.26**	**273**	P	**P**	08 25 13.9	0.0
	2μm,0.8s,baz=142,slow=3.6,SNR=622						
MSVF				S	**S**	08 26 19.8	+1.5
	184nm,1.2s,baz=302,slow=23,SNR=6.5						
MSVF	**Nonsavu**	**3.26**	**273**	P	**P**	08 25 14.1	+0.2
FUTU	**Fugatoga**	**3.63**	**6**		**P**	08 25 15.7	-0.7
FUTU	**Fugatoga**	**3.63**	**6**	P	**P**	08 25 15.5	-0.8
AFI	**Afiamalu**	**7.63**	**59**		**P**	08 25 47.4	-2.6
AFI	**Afiamalu**	**7.63**	**59**	P	**P**	08 25 47.1	-3.0
AFI	**Afiamalu**	**7.63**	**59**	P	**P**	08 25 45.9	-4.2
AFI				S	**S**	08 27 20.9	-3.5
NIUE	**Niue**	**8.24**	**99**		**P**	08 25 55.2	-0.6
NIUE	**Niue**	**8.24**	**99**	P	**P**	08 25 55.9	+0.2
	comp=Z,714nm,1.1s						
NIUE	**Niue**	**8.24**	**99**	P	**P**	08 25 56.1	+0.4
NIUE	**Niue**	**8.24**	**99**	P	**P**	08 25 55.3	-0.5
GLKZ	**Green Lake**	**11.28**	**177**	P	**P**	08 26 24.0	-1.9
DVP	**Devils Point**	**12.65**	**269**	P	**P**	08 26 40.8	+0.7
MARNC	**Mare, Loyalty**	**13.13**	**252**	P	**P**	08 26 44.5	-0.6
PINNC	**Pines Island,**	**13.95**	**248**	P	**P**	08 26 52.3	-1.1
YATNC	**Mamie plateau,**	**14.30**	**251**	P	**P**	08 26 56.7	-0.2
OUENC	**Ouen Island, N**	**14.44**	**250**	P	**P**	08 26 58.9	+0.7
DZM	**Mont Dzumac**	**14.71**	**251**		**P**	08 26 59.5	-1.4
DZM	**Mont Dzumac**	**14.71**	**251**		**P**	08 26 59.1	-1.8
	comp=Z,77nm,0.6s,baz=86,slow=18						
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	08 26 59.7	-1.2
ONTNC	**Ouen Toro**	**14.75**	**250**		**P**	08 27 00.6	-0.6
ONTNC	**Ouen Toro**	**14.75**	**250**	P	**P**	08 27 02.6	+1.4
KOUNC	**Koumac, New Ca**	**16.43**	**258**	P	**P**	08 27 17.4	+0.3
OUZ	**Omahuta**	**18.58**	**201**	P	**P**	08 27 36.7	+0.3
KUZ	**Kuaotunu**	**19.41**	**194**	P	**P**	08 27 45.7	+1.8
WIAZ	**Waiheke Island**	**19.59**	**195**	P	**P**	08 27 47.9	+2.3
MBAZ	**Motutapu North**	**19.63**	**196**	P	**P**	08 27 48.5	+2.5
ETAZ	**East Tamaki Re**	**19.80**	**196**	P	**P**	08 27 49.8	+2.4
WTAZ	**Waiatarua**	**19.87**	**196**	P	**P**	08 27 50.6	+2.5
MKAZ	**Moumakai**	**19.88**	**195**	P	**P**	08 27 50.0	+1.8
AWAZ	**Awhitu Peninsu**	**19.98**	**196**	P	**P**	08 27 50.5	+1.5
HAZ	**Te Kaha**	**20.00**	**189**	P	**P**	08 27 48.5	-0.8
RUGZ	**Raukumara Rang**	**20.22**	**189**	P	**P**	08 27 51.4	-0.1
TGRZ	**Tauranga**	**20.24**	**192**	P	**P**	08 27 53.6	+2.2
PUZ	**Puketiti**	**20.25**	**187**	P	**P**	08 27 52.0	+0.4
TWGZ	**Tauwhareparae**	**20.39**	**188**	P	**P**	08 27 53.5	+0.7
TWGZ				S	**S**	08 31 00.8	-4.5
TOZ	**Tahuroa Road**	**20.40**	**194**	P	**P**	08 27 54.5	+1.7
TOZ				IAmb	IAmb	08 28 03.5	
	comp=Z,14nm,0.7s						
TOZ	**Tahuroa Road**	**20.40**	**194**	P	**P**	08 27 55.5	+2.6
KMRZ	**Kaimai**	**20.41**	**193**	P	**P**	08 27 55.2	+2.1
URZ	**Urewera**	**20.60**	**190**	P	**P**	08 27 52.7	-1.9
	comp=Z,31nm,0.7s,baz=351,slow=2.1,SNR=15						
URZ				S	**S**	08 31 03.1	-5.4
	comp=Z,13nm,1.0s,baz=309,slow=13,SNR=1.7						
URZ	**Urewera**	**20.60**	**190**	P	**P**	08 27 53.3	-1.4
URZ	**Urewera**	**20.60**	**190**	P	**P**	08 27 52.9	-1.7
URZ				S	**S**	08 31 04.7	-3.8
MWZ	**Matawai**	**20.61**	**189**	P	**P**	08 27 53.3	-1.5
MWZ				S	**S**	08 31 00.6	-8.2
CNGZ	**Carnagh Statio**	**20.66**	**187**	P	**P**	08 27 55.5	+0.2
TKGZ	**Te Karaka**	**20.67**	**188**	P	**P**	08 27 55.3	0.0
RIGZ	**Rimuhau**	**20.94**	**188**	P	**P**	08 27 56.7	-1.1
RIGZ	**Rimuhau**	**20.94**	**188**	S	**S**	08 31 12.4	-1.5
RTZ	**Ruatahuna**	**20.97**	**190**	P	**P**	08 27 57.0	-1.2
RTZ				IAmb	IAmb	08 28 07.1	
	comp=Z,35nm,1.0s						
RTZ	**Ruatahuna**	**20.97**	**190**	P	**P**	08 27 56.9	-1.2
BKZ	**Black Stump Fm**	**21.59**	**191**	S	**S**	08 31 18.4	-5.8
BKZ	**Black Stump Fm**	**21.59**	**191**	P	**P**	08 27 56.8	-6.8
NGOA	**Tingoa Renbel**	**21.64**	**284**	P	**P**	08 28 04.3	-0.1
ALEG	**Aligegeo Malai**	**22.16**	**292**	P	**P**	08 28 09.1	+0.1
PNHZ	**Pukenui**	**22.36**	**191**	P	P	08 27 57.9	-13
HNR	**Honiara**	**22.54**	**289**	P	**P**	08 28 12.0	-0.4
	comp=Z,122nm,0.6s,baz=135,slow=8.6,SNR=1.4						
	comp=Z,122nm,0.6s						
TSZ	**Takapari Road**	**22.55**	**191**	P	P	08 27 57.3	-15
SAVO	**Savo Central**	**22.77**	**290**	P	**P**	08 28 14.4	-0.1
BFZ	**Birch Farm**	**23.11**	**190**	P	**P**	08 28 18.2	+1.1
TATA	**Tatamba Isabel**	**23.11**	**291**	P	**P**	08 28 16.4	-1.1
SNZO	**South Karori**	**24.00**	**193**	P	**P**	08 28 26.0	+1.0
QRZ	**Quartz Range**	**24.07**	**197**	P	**P**	08 28 25.7	+0.1
LHI	**Lord Howe Isla**	**24.37**	**232**	P	**P**	08 28 29.8	+1.4
	comp=Z,95nm,1.0s						
KHZ	**Kahutara**	**25.31**	**194**	P	**P**	08 28 35.7	-0.8
LTZ	**Lake Taylor**	**25.96**	**196**	P	**P**	08 28 42.1	-0.2
INZ	**Inchbonnie**	**26.13**	**197**	P	**P**	08 28 43.2	-0.5
OXZ	**Oxford**	**26.54**	**196**	P	**P**	08 28 46.6	-0.7
RPZ	**Rata Peaks**	**27.16**	**197**	P	**P**	08 28 52.7	-0.1
FOZ	**Fox Glacier**	**27.35**	**199**	P	**P**	08 28 55.0	+0.7
JCZ	**Jackson Bay**	**28.16**	**200**	P	**P**	08 29 01.5	-0.1
ODZ	**Otahua Downs**	**28.50**	**196**	P	**P**	08 29 04.5	+0.1
EIDS	**Eidsvold**	**29.15**	**250**	P	**P**	08 29 09.8	-0.5
EIDS	**Eidsvold**	**29.15**	**250**	P	**P**	08 29 09.9	-0.5
MLZ	**Mavora Lakes**	**29.53**	**199**	P	**P**	08 29 14.1	+0.8
ARMA	**Armidale**	**29.82**	**240**	P	**P**	08 29 17.2	+0.9
ARMA	**Armidale**	**29.82**	**240**	P	**P**	08 29 17.1	+0.8
WHZ	**Wether Hill Ro**	**30.05**	**199**	P	**P**	08 29 19.0	+1.2
MGCD	**Mangrove Creek**	**31.18**	**235**	P	**P**	08 29 28.0	+0.3
RIV	**Riverview**	**31.37**	**234**	P	**P**	08 29 30.4	+1.0
	comp=Z,80nm,1.7s						
RABL	**Rabaul**	**31.77**	**292**	P	**P**	08 29 31.3	-1.7
CNB	**Canberra Magne**	**33.31**	**232**	P	**P**	08 29 45.6	-0.2
CAN	**Canberra**	**33.59**	**233**	P	**P**	08 29 49.2	+1.1
CAN	**Canberra**	**33.59**	**233**	P	**P**	08 29 48.9	+0.8
CAN	**Canberra**	**33.59**	**233**	P	**P**	08 29 48.5	+0.4
YNG	**Young**	**33.68**	**235**	P	**P**	08 29 47.9	-0.9
	comp=Z,206nm,1.1s						
MILA	**Mila**	**34.17**	**230**	P	**P**	08 29 52.0	-1.0
	comp=Z,26nm,1.3s						
PMG	**Port Moresby**	**34.35**	**280**	P	**P**	08 29 54.4	-0.2
	comp=Z,192nm,0.8s,baz=74,slow=5.7,SNR=43						
	comp=Z,192nm,0.8s						
PMG	**Port Moresby**	**34.35**	**280**	P	**P**	08 29 54.6	-0.1
CMSA	**Cobar Meteorol**	**35.03**	**240**	P	**P**	08 29 59.4	-0.8
	comp=Z,152nm,0.8s						
CMSA	**Cobar Meteorol**	**35.03**	**240**	P	**P**	08 30 00.2	0.0
MTSU	**Mount Surprise**	**35.29**	**264**	P	**P**	08 30 00.7	-1.8
MTSU	**Mount Surprise**	**35.29**	**264**	P	**P**	08 30 01.7	-0.8
QLP	**Quilpie**	**35.41**	**249**	P	**P**	08 30 02.1	-1.2
	comp=Z,295nm,0.8s						
QLP	**Quilpie**	**35.41**	**249**	P	**P**	08 30 03.4	0.0
COEN	**Coen**	**36.99**	**270**	P	**P**	08 30 16.4	0.0
COEN	**Coen**	**36.99**	**270**	P	**P**	08 30 14.3	-2.2
	comp=Z,155nm,1.0s						
COEN	**Coen**	**36.99**	**270**	P	**P**	08 30 16.5	0.0
MANU	**Manus Island**	**37.00**	**291**	P	**P**	08 30 16.9	+0.3
TOO	**Toolangi**	**37.06**	**231**	P	**P**	08 30 17.8	+1.0
TOO	**Toolangi**	**37.06**	**231**	P	**P**	08 30 16.1	-0.7
	comp=Z,94nm,1.0s						
TAU	**Tasmania Unive**	**38.14**	**222**	P	**P**	08 30 26.3	+0.9
TAU	**Tasmania Unive**	**38.14**	**222**	P	**P**	08 30 26.0	+0.6
TAU	**Tasmania Unive**	**38.14**	**222**	P	**P**	08 30 25.7	+0.3
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	08 30 29.5	+0.9
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	08 30 28.0	-0.6
	comp=Z,783nm,1.1s						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	08 30 29.2	+0.6
	comp=Z,118nm,0.8s,baz=90,slow=10,SNR=72						
STKA				ScP	**ScP**	08 35 19.1	-0.8
	comp=Z,5.2nm,0.9s,baz=72,slow=3.2,SNR=3.6						
	comp=Z,118nm,0.8s						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	08 30 29.5	+0.9
INKA	**Innaminka**	**38.63**	**248**	P	**P**	08 30 30.2	+0.6
QIS	**Mount Isa**	**39.53**	**259**	P	**P**	08 30 34.8	-2.3
	comp=Z,19nm,0.8s						
QIS	**Mount Isa**	**39.53**	**259**	P	**P**	08 30 37.1	0.0
ARPS	**Mount Arapiles**	**39.54**	**234**	P	**P**	08 30 37.6	+0.8
	comp=Z,123nm,0.9s						
ARPS	**Mount Arapiles**	**39.54**	**234**	P	**P**	08 30 37.3	+0.5
HTT	**Hallett**	**41.03**	**239**	P	**P**	08 30 49.2	+0.4
	comp=Z,192nm,0.8s						
HTT	**Hallett**	**41.03**	**239**	P	**P**	08 30 49.2	+0.4
LCRK	**Leigh Creek**	**41.14**	**244**	P	**P**	08 30 49.7	+0.1
WHYH	**Whyalla**	**42.06**	**240**	P	**P**	08 30 57.3	+0.4
JAY	**Jayapura**	**42.80**	**286**	P	**P**	08 31 02.8	-0.2
	comp=Z,106nm,0.7s,baz=146,slow=4.6,SNR=27						
	comp=Z,106nm,0.7s						
OOD	**Oodnadatta**	**43.10**	**248**	P	**P**	08 31 05.4	+0.4
BBOO	**Buckleboo**	**43.29**	**241**	P	**P**	08 31 06.7	+0.3
BBOO	**Buckleboo**	**43.29**	**241**	P	**P**	08 31 06.5	0.0
HMH	**Humu'ula Sheep**	**43.64**	**32**	P	**P**	08 31 10.2	+0.6
HPAH	**Hawaii Prepara**	**43.89**	**32**	P	**P**	08 31 11.5	+0.3
KIP	**Kipapa**	**43.98**	**28**	P	**P**	08 31 11.0	-0.9
WR0	**Warramunga Arr**	**44.32**	**260**	P	**P**	08 31 13.8	-0.9
WR0				IAmb	IAmb	08 31 14.5	
	comp=Z,45nm,1.2s						
WR9	**Warramunga Arr**	**44.34**	**260**	P	**P**	08 31 13.6	-1.2
WB0	**Warramunga Arr**	**44.48**	**260**	P	**P**	08 31 14.7	-1.1
WB2	**Warramunga Arr**	**44.50**	**260**	P	**P**	08 31 15.1	-0.9
WRAB	**Tennant Creek**	**44.50**	**260**	P	**P**	08 31 15.3	-0.7
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	08 31 15.1	-1.0
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	08 31 14.7	-1.4
	comp=Z,46nm,0.7s,baz=92,slow=6.9,SNR=113						
WRA				PcP	**PcP**	08 32 46.7	0.0
	comp=Z,5.5nm,0.7s,baz=89,slow=3.5,SNR=4.8						
WRA				ScP	**ScP**	08 35 45.1	+0.9
	comp=Z,2.8nm,0.9s,baz=81,slow=4.3,SNR=4.8						
WRA				S	**S**	08 37 05.3	-5.0
	comp=Z,0.5nm,0.6s,baz=94,slow=11,SNR=2.1						
	comp=Z,46nm,0.7s						
WC1	**Warramunga Arr**	**44.51**	**260**	P	**P**	08 31 14.9	-1.2
AS06	**Alice Springs**	**44.61**	**254**	P	**P**	08 31 16.5	-0.4
	comp=Z,786nm,0.7s						
AS01	**Alice Springs**	**44.63**	**254**	P	**P**	08 31 16.7	-0.3
AS02	**Alice Springs**	**44.64**	**254**	P	**P**	08 31 16.6	-0.4
	comp=Z,586nm,0.8s						
AS31	**Alice Springs**	**44.67**	**254**	P	**P**	08 31 17.1	-0.2
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	08 31 16.8	-0.5
	comp=Z,398nm,0.7s,baz=88,slow=8.1,SNR=1020						
ASAR				PcP	**PcP**	08 32 47.6	+0.4
	comp=Z,5.2nm,0.5s,baz=94,slow=3.5,SNR=3.0						
ASAR				ScP	**ScP**	08 35 46.0	+1.1
	comp=Z,5.1nm,0.9s,baz=90,slow=4.4,SNR=7.1						
ASAR				S	**S**	08 37 07.8	-4.7
	comp=Z,4.1nm,1.1s,baz=91,slow=15,SNR=8.5						
AS13	**Alice Springs**	**44.68**	**254**	P	**P**	08 31 17.0	-0.4
	comp=Z,501nm,0.7s						
KDU	**Kakadu**	**47.44**	**269**	P	**P**	08 31 37.6	-0.7
MTN	**Manton Dam**	**48.68**	**268**	P	**P**	08 31 46.7	-0.8
MTN	**Manton Dam**	**48.68**	**268**	P	**P**	08 31 46.4	-1.1
	comp=Z,86nm,0.8s						
DRS	**Darwin Rock St**	**48.99**	**269**	P	**P**	08 31 48.9	-0.9
WRKA	**Warakurna**	**49.72**	**252**	P	**P**	08 31 54.7	-0.4
	comp=Z,205nm,0.9s						
WRKA	**Warakurna**	**49.72**	**252**	P	**P**	08 31 54.7	-0.4
FORT	**Forrest**	**49.89**	**245**	P	**P**	08 31 55.9	-0.3
FORT	**Forrest**	**49.89**	**245**	P	**P**	08 31 55.6	-0.6
	comp=Z,194nm,0.7s						
FORT	**Forrest**	**49.89**	**245**	P	**P**	08 31 55.6	-0.6
KNRA	**Kununurra**	**50.37**	**264**	P	**P**	08 31 59.5	-0.4
FAKI	**Fak Fak**	**50.47**	**281**	P	**P**	08 32 00.2	-0.5
FAKI				IAmb	IAmb	08 32 16.0	
	comp=Z,20nm,0.9s						
FAKI	**Fak Fak**	**50.47**	**281**	P	**P**	08 32 00.2	-0.5
FITZ	**Fitzroy Crossi**	**52.91**	**261**	P	**P**	08 32 18.2	+0.1
FITZ	**Fitzroy Crossi**	**52.91**	**261**	P	**P**	08 32 17.9	-0.3
KMBL	**Kambalda**	**55.19**	**244**	P	**P**	08 32 33.5	-0.5
DRV	**Dumont d'Urvil**	**55.59**	**199**	P	**P**	08 32 37.0	+0.9
SOEI	**Soe**	**55.95**	**270**	P	**P**	08 32 40.8	+1.1
SANI	**Sanana**	**56.63**	**280**	P	**P**	08 32 43.5	-0.7
	comp=Z,128nm,1.2s						
PSA00	**Pilbara Seismi**	**57.79**	**255**	P	**P**	08 32 51.6	-0.4
PSA00	**Pilbara Seismi**	**57.79**	**255**	IAmb	IAmb	08 32 52.1	
	comp=Z,64nm,0.7s						
PSA00	**Pilbara Seismi**	**57.79**	**255**	P	**P**	08 32 51.6	-0.4
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	08 32 52.4	-0.6
MBWA				IAmb	IAmb	08 32 52.8	
	comp=Z,37nm,0.7s						
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	08 32 52.8	-0.3
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	08 32 52.2	-0.9
MBWA				PcP	**PcP**	08 33 36.5	-0.8
MEEK	**Meekatharra**	**58.31**	**249**	P	**P**	08 32 54.5	-1.0
	comp=Z,49nm,0.8s						
MEEK	**Meekatharra**	**58.31**	**249**	P	**P**	08 32 55.2	-0.3
KLBR	**Kellerberrin**	**58.71**	**244**	P	**P**	08 32 57.5	-0.6
	comp=Z,211nm,0.8s						
KLBR	**Kellerberrin**	**58.71**	**244**	P	**P**	08 32 57.4	-0.6
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	08 33 00.1	-0.4
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	08 33 00.4	-0.1
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	08 32 59.9	-0.7
BLDU	**Ballidu**	**59.66**	**245**	P	**P**	08 33 03.5	-0.9
	comp=Z,50nm,1.0s						
BLDU	**Ballidu**	**59.66**	**245**	P	**P**	08 33 03.9	-0.5
LUWI	**Luwuk**	**60.00**	**279**	P	**P**	08 33 06.6	-0.2
MUN	**Mundaring**	**60.00**	**243**	P	**P**	08 33 06.2	-0.4
	comp=Z,51nm,1.1s						
MUN	**Mundaring**	**60.00**	**243**	P	**P**	08 33 06.6	0.0
MORW	**Morawa**	**60.36**	**246**	P	**P**	08 33 08.7	-0.3
MORW				IAmb	IAmb	08 33 09.2	
	comp=Z,85nm,1.5s						
MORW	**Morawa**	**60.36**	**246**	P	**P**	08 33 08.2	-0.9
	comp=Z,46nm,1.1s						
MORW	**Morawa**	**60.36**	**246**	P	**P**	08 33 08.7	-0.3
SBA	**Scott Base**	**60.38**	**184**	P	**P**	08 33 11.4	+3.2
VNDA	**Vanda**	**60.40**	**185**	P	**P**	08 33 10.6	+2.2
VNDA	**Vanda**	**60.40**	**185**	P	**P**	08 33 09.8	+1.4
	comp=Z,2.9nm,0.7s,baz=22,slow=6.5,SNR=5.7						
	comp=Z,2.9nm,0.7s						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	08 33 10.1	+1.7
KAPI	**Kappang**	**61.58**	**274**	P	**P**	08 33 17.2	0.0
KAPI				IAmb	IAmb	08 33 17.6	
	comp=Z,68nm,1.5s						
SPSI	**Sidrap Palu**	**61.88**	**275**	P	**P**

YBH	Yreka Blue Hor	78.62	39	P	P	08 34 58.0	+0.4
	comp=Z,20nm,0.8s,baz=278,slow=1.1,SNR=33						
	comp=Z,20nm,0.8s						
SLBS	Sierra La Lagu	78.68	61	P	P	08 35 00.2	+2.0
M11K	Mekoryuk	78.69	6	P	P	08 34 57.2	0.0
	baz=192						
Q18K	Katmai Hardscr	78.73	12	P	P	08 34 57.4	-0.4
	baz=203,SNR=8.4						
J01E	Myrtle Point	78.77	37	IAmb	IAmb	08 35 00.1	
	comp=Z,60nm,1.1s						
N14K	Kuskokwak Cree	78.79	9	P	P	08 34 58.0	+0.2
	baz=196						
WAKR	Walker	78.83	43	IAmb	IAmb	08 35 01.1	
	comp=Z,38nm,1.0s						
HATC	Hat Creek Radi	78.85	40	IAmb	IAmb	08 35 00.9	
	comp=Z,39nm,0.9s						
P17K	Kvichak River	78.96	11	P	P	08 34 57.9	-0.9
	baz=202						
O16K	Kokwok River B	79.04	10	P	P	08 34 58.4	-0.8
	baz=200						
M13K	Dall Lake	79.04	8	P	P	08 34 59.1	0.0
	baz=195						
L04D	Klamath Falls	79.16	39	IAmb	IAmb	08 35 02.2	
	comp=Z,34nm,0.8s						
GLA	Glamis	79.17	50	IAmb	IAmb	08 35 03.2	
	comp=Z,29nm,0.9s						
DSP	Deep Springs	79.18	45	IAmb	IAmb	08 35 02.8	
	comp=Z,30nm,1.0s						
Q20K	Shuyak Island	79.26	14	P	P	08 35 00.0	-0.3
	baz=205						
N15K	Kwethluk River	79.26	9	P	P	08 34 59.5	-0.9
	baz=198						
Q19K	Cape Douglas,	79.28	13	P	P	08 34 59.3	-1.2
	baz=204						
LHV	Little Huntoon	79.30	44	IAmb	IAmb	08 35 03.5	
	comp=Z,43nm,1.0s						
P18K	Big Mountain,	79.38	12	P	P	08 35 00.3	-0.7
P18K				IAmb	IAmb	08 35 01.0	
	comp=Z,52nm,0.8s						
P18K	Big Mountain,	79.38	12	P	P	08 34 59.8	-1.3
	baz=203,SNR=6.5						
O17K	Koliganek Bris	79.38	11	P	P	08 35 00.5	-0.5
	baz=201						
I02E	Swisshome, OR	79.39	37	P	P	08 35 02.8	+1.4
I02E				IAmb	IAmb	08 35 06.9	
	comp=Z,59nm,1.3s						
I03D	Drain, OR	79.43	37	IAmb	IAmb	08 35 03.0	
	comp=Z,24nm,0.9s						
NVAR	Mina Array Bea	79.53	44	P	P	08 35 03.8	+1.2
NVAR	Mina Array Bea	79.53	44	P	P	08 35 03.4	+0.8
	comp=Z,18nm,0.8s,baz=225,slow=9.1,SNR=52						
	comp=Z,18nm,0.8s						
DL2	Dalian	79.53	317	P	P	08 35 03.0	+0.7
DL2				pmax	pmax		
	comp=Z,14nm,0.9s						
M14K	Bethel	79.55	8	P	P	08 35 01.5	-0.3
	baz=196						
NV11	Mina Array Sit	79.63	44	IAmb	IAmb	08 35 05.0	
	comp=Z,31nm,1.1s						
M15K	Kasigluk River	79.67	9	P	P	08 35 02.2	-0.3
	baz=197						
N16K	Nishlik Lake	79.76	10	P	P	08 35 03.0	-0.1
	baz=199						
O18K	Koktuh Hills	79.81	12	P	P	08 35 02.9	-0.4
	baz=203,SNR=10						
BUCK	Buck Mountain	79.94	37	IAmb	IAmb	08 35 06.4	
	comp=Z,60nm,1.2s						
P19K	Oil Pt	80.02	13	P	P	08 35 04.2	-0.2
	baz=204						
L14K	Kuka Creek	80.03	8	P	P	08 35 04.3	0.0
	baz=195						
BNX	BinXian	80.06	325	⇓P	P	08 35 04.4	-0.5
BNX				pmax	pmax		
	comp=Z,16nm,0.9s						
N17K	Nushagak Hills	80.08	11	P	P	08 35 04.4	-0.2
	baz=201						
M16K	Timber Creek	80.25	10	IAmb	IAmb	08 35 07.3	
	comp=Z,55nm,1.0s						
M16K	Timber Creek	80.25	10	P	P	08 35 06.3	+0.8
	baz=199						
H04D	Lebanon	80.28	37	IAmb	IAmb	08 35 08.1	
	comp=Z,32nm,1.1s						
O19K	Port Alsworth	80.30	12	P	P	08 35 05.1	-0.6
	baz=203,SNR=11						
K13K	Kusilvak Mount	80.37	7	P	P	08 35 05.9	-0.2
	baz=194						
HOM	Homer	80.37	13	P	P	08 35 06.1	0.0
	baz=206						
G03D	McMinnville, O	80.40	36	IAmb	IAmb	08 35 09.2	
	comp=Z,40nm,1.1s						
N18K	Kilae Creek	80.45	11	P	P	08 35 05.7	-0.9
	baz=202						
L15K	Ungalak Mounta	80.51	8	P	P	08 35 05.6	-1.2
	baz=196						
O20K	Slope Mountain	80.54	13	P	P	08 35 06.4	-0.8
	baz=205						
BRSE	Bradley Lake S	80.65	14	P	P	08 35 07.6	-0.1
	baz=207						
H04A	Detroit Lake	80.69	37	IAmb	IAmb	08 35 09.1	
	comp=Z,20nm,0.7s						
L16K	Owhat River	80.83	9	P	P	08 35 09.0	+0.6
L16K				IAmb	IAmb	08 35 09.9	
	comp=Z,27nm,1.1s						
L16K	Owhat River	80.83	9	P	P	08 35 08.1	-0.3
	baz=198						
S11A	Rachel	80.83	46	IAmb	IAmb	08 35 10.9	
	comp=Z,34nm,0.9s						
N19K	Bonanza Creek	80.84	12	P	P	08 35 08.4	-0.3
	baz=203						
M17K	Holitna River	80.86	10	P	P	08 35 08.5	-0.1
	baz=200						
PINE	Pine Mountain	80.89	38	IAmb	IAmb	08 35 11.7	
	comp=Z,47nm,0.9s						
I05D	Terrebonne, OR	80.97	38	IAmb	IAmb	08 35 11.6	
	comp=Z,32nm,1.0s						
E03A	Lebam	81.05	35	IAmb	IAmb	08 35 11.8	
	comp=Z,51nm,0.9s						
K15K	Wolf Creek Mou	81.09	8	P	P	08 35 09.5	-0.4
	baz=196						
PRN	Pahroc Range	81.18	46	IAmb	IAmb	08 35 13.6	
	comp=Z,39nm,0.9s						
MA2	Magadan	81.20	345	P	P	08 35 09.3	-1.2
	comp=Z,9.3nm,0.7s,baz=136,slow=5.3,SNR=11						
	comp=Z,9.3nm,0.7s						
M18K	Stony River	81.22	11	P	P	08 35 10.0	-0.5
	baz=202						
SEW	Seward	81.27	14	P	P	08 35 10.4	-0.3
	baz=208						
J14K	Nanvaranak Lak	81.29	7	P	P	08 35 10.5	-0.3
	baz=194						
WISH	Wishkah	81.29	34	IAmb	IAmb	08 35 12.9	
	comp=Z,33nm,0.9s						
COCO	West Island	81.30	260	P	P	08 35 13.7	+1.7
HOOD	Mount Hood Mea	81.37	37	IAmb	IAmb	08 35 13.3	
	comp=Z,43nm,1.1s						
NLWA	Neilton Lookou	81.41	34	IAmb	IAmb	08 35 13.8	
	comp=Z,38nm,1.1s						
L17K	Donlin	81.41	9	P	P	08 35 11.3	-0.1
	baz=200						
Q23K	Middleton Isla	81.45	16	P	P	08 35 11.5	-0.2
	baz=211						
CAPN	Captain Cook N	81.48	13	P	P	08 35 12.3	+0.5
	baz=206						
WVOR	Wild Horse Val	81.51	40	IAmb	IAmb	08 35 14.6	
	comp=Z,47nm,1.0s						
O22K	Cooper Landing	81.54	14	P	P	08 35 12.4	+0.3
	baz=208						
GAMB	Gambell	81.63	3	P	P	08 35 13.4	+0.9
	baz=187						
N20K	Mount Spurr	81.65	13	P	P	08 35 13.0	+0.2
	baz=205						
SPCR	Spurr Chakacha	81.65	13	P	P	08 35 12.6	-0.2
	baz=205						
P23K	Montague Islan	81.67	15	P	P	08 35 13.1	+0.2
	baz=210						
L18K	Granite Mounta	81.75	10	P	P	08 35 12.8	-0.4
	baz=201						
TUC	Tucson	81.81	52	P	P	08 35 16.2	+1.8
TUC				IAmb	IAmb	08 35 17.4	
	comp=Z,33nm,1.1s						
M19K	Big River Lodg	81.86	11	P	P	08 35 12.1	-1.7
	baz=203						
I07A	Izee	81.91	39	IAmb	IAmb	08 35 16.6	
	comp=Z,36nm,0.9s						
K17K	Iditarod	81.96	9	P	P	08 35 14.2	-0.1
	baz=200						
L19K	White Mountain	82.03	11	P	P	08 35 12.6	-2.1
	baz=203						
GNW	Green Mountain	82.07	34	IAmb	IAmb	08 35 16.8	
	comp=Z,22nm,0.9s						
RC01	Rabbit Creek A	82.08	14	P	P	08 35 13.5	-1.4
	baz=208						
M20K	Styx River	82.08	12	P	P	08 35 14.2	-0.9
	baz=204						
J08A	Circle Bar Ran	82.12	40	IAmb	IAmb	08 35 17.6	
	comp=Z,48nm,1.1s						
BELA	Belgrano 2	82.14	173	P	P	08 35 16.5	+1.3
BELA				IAmb	IAmb	08 35 16.7	
	comp=Z,21nm,0.6s						
CLRS	Cowichan Lake	82.16	33	IAmb	IAmb	08 35 17.1	
	comp=Z,21nm,0.9s						
J16K	Anvik River	82.17	8	IAmb	IAmb	08 35 16.7	
	comp=Z,31nm,0.9s						
J16K	Anvik River	82.17	8	P	P	08 35 13.6	-1.7
	baz=197						
SUA	Susitna One	82.19	13	IAmb	IAmb	08 35 15.6	
	comp=Z,39nm,0.8s						
SUA	Susitna One	82.19	13	P	P	08 35 14.9	-0.7
	baz=207						
PWL	Port Wells	82.20	14	P	P	08 35 13.8	-1.8
	baz=209						
LCMT	Little Creek M	82.24	47	IAmb	IAmb	08 35 18.7	
	comp=Z,22nm,0.9s						
X16A	Lo Mia Camp, P	82.29	50	IAmb	IAmb	08 35 19.6	
	comp=Z,31nm,0.9s						
D05A	Emmclaw	82.30	35	IAmb	IAmb	08 35 18.0	
	comp=Z,28nm,1.0s						
IPM	Ipoh	82.31	277	IAmb	IAmb	08 35 18.1	
	comp=Z,21nm,0.7s						
PGC	Sidney	82.40	33	IAmb	IAmb	08 35 18.3	
	comp=Z,24nm,1.0s						
BBB	Bella Bella	82.40	29	IAmb	IAmb	08 35 18.5	
	comp=Z,20nm,1.0s						
BBB	Bella Bella	82.40	29	P	P	08 35 15.9	-0.8
	comp=Z,17nm,0.9s,baz=272,slow=2.0,SNR=8.2						
	comp=Z,17nm,0.9s						
SPR3	Spring Creek 3	82.47	45	IAmb	IAmb	08 35 19.4	
	comp=Z,22nm,1.0s						
L20K	Farewell, AK	82.49	11	P	P	08 35 14.6	-2.4
	baz=204						
J17K	VABM Dome	82.49	9	P	P	08 35 15.8	-1.1
	baz=199						
SKT	Skwentna	82.49	12	P	P	08 35 14.9	-2.1
	baz=206						
GLI	Glacier Island	82.52	15	P	P	08 35 15.1	-2.1
	baz=210						
TTA	Tatalina	82.53	10	IAmb	IAmb	08 35 18.2	
	comp=Z,33nm,1.1s						
TTA	Tatalina	82.53	10	P	P	08 35 17.4	+0.2
TTA	Tatalina	82.53	10	P	P	08 35 15.1	-2.1
	baz=202						
KNB	Kanab	82.54	47	IAmb	IAmb	08 35 20.4	
	comp=Z,22nm,0.9s						
319A	Douglas	82.54	54	IAmb	IAmb	08 35 21.1	
	comp=Z,36nm,1.0s						
PSUT	Pine Spring	82.57	46	IAmb	IAmb	08 35 20.0	
	comp=Z,17nm,0.8s						
EYAK	Cordova Ski Ar	82.57	16	P	P	08 35 15.3	-2.0
	baz=211						
M22K	Willow	82.59	13	P	P	08 35 14.8	-2.6
	baz=207						
CRAG	Craig	82.59	24	P	P	08 35 15.8	-1.8
	baz=223						
U15A	North Rim	82.63	48	IAmb	IAmb	08 35 21.2	
	comp=Z,48nm,0.9s						
KNK	Knik Glacier	82.66	14	P	P	08 35 15.8	-2.1
	baz=209						
PMR	Palmer	82.66	14	P	P	08 35 15.8	-2.0
	baz=208						
F07A	Phinny Hill Vi	82.69	37	IAmb	IAmb	08 35 19.9	
	comp=Z,20nm,0.8s						
I17K	Unalakleet	82.73	8	P	P	08 35 17.3	-0.8
	baz=197						
ELK	Elko	82.76	43	IAmb	IAmb	08 35 20.9	
	comp=Z,21nm,0.9s						
WUAZ	Wupatki	82.85	49	IAmb	IAmb	08 35 22.1	
	comp=Z,30nm,1.0s						
ANM	Nome	82.87	6	P	P	08 35 17.8	-1.0
	baz=193						
G08A	Pilot Rock	82.91	38	IAmb	IAmb	08 35 21.3	
	comp=Z,35nm,1.1s						
J18K	Innoko River	82.91	10	P	P	08 35 15.7	-3.4
	baz=201						
SIT	Sitka	82.95	22	P	P	08 35 17.2	-2.2
	baz=221						
SML	Sawmill	83.03	14	P	P	08 35 17.3	-2.5
	baz=209						
U33K	Whale Pass	83.07	24	P	P	08 35 16.5	-3.4
	baz=223						
V35K	Ketchikan	83.09	25	IAmb	IAmb	08 35 21.1	
	comp=Z,42nm,1.1s						
V35K	Ketchikan	83.09	25	P	P	08 35 18.6	-1.5
	baz=224						
PKCU	Pink Cliffs	83.10	47	IAmb	IAmb	08 35 24.2	
	comp=Z,45nm,1.0s						
E07A	Sunnyside	83.11	36	IAmb	IAmb	08 35 22.2	
	comp=Z,43nm,1.1s						
CUT	Chulitna	83.14	13	P	P	08 35 18.1	-2.0
	baz=207						
M23K	Glacier View	83.16	14	P	P	08 35 18.6	-1.8
	baz=210						
PPLA	Purkeypile	83.19	12	P	P	08 35 18.7	-1.9
	baz=205						
HAWA	Hanford	83.20	37	IAmb	IAmb	08 35 22.7	
	comp=Z,39nm,1.0s						
DUN6	Lazy B Ranch	83.20	53	IAmb	IAmb	08 35 23.7	
	comp=Z,22nm,0.9s						
BMRM	Bremner River	83.22	16	P	P	08 35 20.5	-0.2
	baz=212						
K20K	Telida	83.26	11	P	P	08 35 19.4	-1.4
	baz=204						
H16K	Elim	83.27	7	P	P	08 35 20.0	-0.8
	baz=196						
MESA	MESA	83.29	17	P	P	08 35 18.6	-2.7
	baz=215						
SCM	Sheep Creek Mo	83.29	14	P	P	08 35 19.8	-1.2
	baz=210						
S31K	Pelican	83.32	21	P	P	08 35 19.7	-1.4
	baz=220						
KLU	Klutina	83.33	15	P	P	08 35 19.1	-2.2
	baz=211						
G15K	Niukluk	83.42	6	P	P	08 35 21.8	+0.2
	baz=194						
MTPU	Mount Pierson	83.47	47	IAmb	IAmb	08 35 25.8	
	comp=Z,26nm,1.0s						
S32K	Killisnoo	83.53	22	P	P	08 35 21.9	-0.3
	baz=222						
J19K	Poorman	83.58	10	P	P	08 35 21.3	-1.1
	baz=202						
WRAK	Wrangell Islan	83.59	24	P	P	08 35 22.3	-0.2
	baz=224						
PNL	Peninsula	83.63	19	P	P	08 35 22.5	-0.2
	baz=217						
TNA	Tin City	83.64	4	P	P	08 35 22.8	+0.3
	baz=190						
F14K	Arctic Creek	83.68	5	P	P	08 35 22.9	+0.1
	baz=192						
CAST	Castle Rocks	83.69	12	P	P	08 35 21.5	-1.4
	baz=205,SNR=9.5						
PINM	Pinnacle	83.72	18	P	P	08 35 23.1	-0.1
	baz=216						
RPSI	Rantau Prapat	83.74	275	IAmb	IAmb	08 35 24.8	
	comp=Z,25nm,0.9s						
N25K	Chitina, Valde	83.77	16	P	P	08 35 21.9	-1.6
	baz=212						
MFID	Camas Ranch	83.78	41	IAmb	IAmb	08 35 25.8	
	comp=Z,28nm,1.1s						
SEY	Seymchan	83.78	347	P	P	08 35 22.6	-0.8
	comp=Z,22nm,0.6s,baz=143,slow=5.9,SNR=74						
	comp=Z,22nm,0.6s						
M24K	Tolsona, Glenn	83.80	15	P	P	08 35 22.9	-0.7
	baz=211						
H17K	Granite Mounta	83.84	8	P	P	08 35 24.0	+0.4
	baz=198						
D08A	Wollman Farm,	83.92	36	IAmb	IAmb	08 35 26.2	
	comp=Z,30nm,1.0s						
G16K	Koyuk River	83.99	7	P	P	08 35 24.1	-0.2
	baz=196						
J20K	Nowinta River	84.00	10	P	P	08 35 25.0	+0.5
	baz=203						
F15K	North Star Dit	84.06	6	P	P	08 35 24.1	-0.6
	baz=193						
CHUM	Lake Minchumin	84.06	11	P	P	08 35 24.3	-0.4
	baz=205						
TRF	Thorofare Moun	84.07	12	P	P	08 35 24.0	-1.0
	baz=207,SNR=9.6						
GCSA	Galena City Sc	84.09	9	P	P	08 35 24.1	-0.7
	baz=201						
U35K	Hyder	84.14	25	P	P	08 35 24.1	-1.2
	baz=226						
R32K	Eaglecrest	84.16	22	P	P	08 35 26.7	+1.4
	baz=222						
H18K	Honhosa River	84.26	8	P	P	08 35 27.1	+1.5
	baz=199						
O28M	Mount Upton	84.28	18	P	P	08 35 26.3	+0.1
	baz=216						
G17K	Kiwalik Mounta	84.29	7	P	P	08 35 26.0	+0.2
	baz=197						
HARP	HAARP	84.30	15	P	P	08 35 23.5	-2.5
	baz=212						
O29M	Mount Kennedy	84.39	19	P	P	08 35 27.0	+0.4
	baz=218						
PLBC	Pleasant Camp	84.43	20	P	P	08 35 27.2	+0.6
	baz=220						
B08A	Colville Reser	84.43	35	IAmb	IAmb	08 35 27.4	
	comp=Z,21nm,0.8s						
BPAW	Bear Paw Mtn.	84.51	12	P	P	08 35 26.5	-0.5
	baz=206						
I20K	Naaghedeneel	84.52	10	P	P	08 35 27.1	+0.2
	baz=203						
MCK	McKinley	84.60	13	P	P	08 35 25.3	-2.1
	baz=208,SNR=6.2						
C09A	Chrisman Ranch	84.71	36	IAmb	IAmb	08 35 29.6	
	comp=Z,26nm,1.1s						
PAX	Paxson	84.71	14	P	P	08 35 27.6	-0.4
	baz=212						
HLID	Hailey	84.73	41	IAmb	IAmb	08 35 30.9	
	comp=Z,17nm,0.8s						
TMUT	Trail Mountain	84.74	46	IAmb	IAmb	08 35 31.3	
	comp=Z,14nm,0.8s						
P30M	Million Dollar	84.75	19	P	P	08 35 29.4	+1.2
	baz=220						
SKAG	Skagway	84.77	21	P	P	08 35 28.4	+0.1
	baz=221						
T35M	Bob Quinn	84.80	24	P	P	08 35 30.0	+1.5
	baz=226						
YUK8	Steele Glacier	84.82	18	P	P	08 35 28.9	0.0
	baz=217,SNR=5.8						
M26K	Nabesna, AK	84.85	16	P	P	08 35 28.9	+0.2
	baz=214						
EPT	El Paso	84.85	54	IAmb	IAmb	08 35 31.9	
	comp=Z,21nm,1.0s						
H19K	Roundabout Mou	84.89	9	P	P	08 35 28.2	-0.5
	baz=201						
G18K	Tagagawik	84.92	8	P	P	08 35 27.8	-1.2
	baz=199						
YUK6	Outpost Mounta	84.96	18	P	P	08 35 28.9	-0.5
	baz=218						
SRIT	Nakonsritamara	84.97	281	IAmb	IAmb	08 35 32.6	
	comp=Z,21nm,0.8s						
YUK3	Moose Creek	85.02	17	P	P	08 35 28.9	-0.8
	baz=216,SNR=10						
H20K	Anotleneega Mo	85.10	10	P	P	08 35 28.9	-0.8
	baz=203						
M27K	Edge Creek, AK	85.10	16	P	P	08 35 28.7	-1.4
	baz=215,SNR=6.6						
S34M	Telegraph Cree	85.12	23	P	P	08 35 29.4	-0.6
	baz=225,SNR=18						
SRU	San Rafael Swe	85.12	46	IAmb	IAmb	08 35 32.5	
	comp=Z,14nm,0.8s						
F17K	Baldwin Pennin	85.12	7	P	P	08 35 29.0	-0.8
	baz=197						
HYT	Haines Junctio	85.13	19	P	P	08 35 29.1	-1.1
	baz=219						
YUK4	Talbot Arm	85.19	18	P	P	08 35 30.2	-0.3
	baz=218						
L26K	Log Cabin Wild	85.28	15	P	P	08 35 29.8	-0.9
	baz=214						
I21K	Tanana	85.30	11	P	P	08 35 30.4	-0.3
	baz=205						
NEA2	Nenana	85.33	12	P	P	08 35 30.7	-0.2
	baz=208						
K24K	Donnelly Dome	85.36	14	P	P	08 35 30.8	-0.3
	baz=211						
G19K	Purcell Mounta	85.37	9	P	P	08 35 31.5	+0.5
	baz=200						
P32M	Atlin	85.42	21	P	P	08 35 30.5	-1.0
	baz=222						
BVCY	Beaver Creek	85.42	17	P	P	08 35 31.8	+0.4
	baz=216						
Q32M	Nakina River	85.46	22	P	P	08 35 29.1	-2.8
	baz=224						
F18K	Selawik	85.47	7	P	P	08 35 30.0	-1.4
	baz=198						
TCUT	Toone Canyon	85.47	44	IAmb	IAmb	08 35 34.4	
	comp=Z,18nm,0.7s						
Y22D	IRIS PASSCAL I	85.50	52	P	P	08 35 32.8	+0.2
	baz=245						
RIDG	Independent Ri	85.52	14	P	P	08 35 31.3	-0.6
	baz=212						
O30N	Mendenhall	85.52	19	P	P	08 35 32.2	+0.2
	baz=220						
H21K	Melozitna Rive	85.59	10	P	P	08 35 32.1	0.0
	baz=205						
HDA	Harding Lake	85.62	13	P	P	08 35 31.8	-0.5
	baz=210						
BSUT	Blindstream Ca	85.63	45	IAmb	IAmb	08 35 35.2	
	comp=Z,12nm,0.9s						
E17K	Hotham Inlet	85.68	6	P	P	08 35 32.0	-0.5
	baz=196						
L27K	Beaver Creek,	85.70	16	P	P	08 35 30.5	-2.2
	baz=215						
N30M	Aishikik Lake	85.75	19	P	P	08 35 33.0	0.0
	baz=219						
I23K	Minto, Yukon-K	85.77	12	P	P	08 35 32.3	-0.6
	baz=208						
PV10	Paradox Valley	85.82	48	IAmb	IAmb	08 35 37.4	
	comp=Z,23nm,1.0s						
WHY	Whitehorse	85.83	20	P	P	08 35 32.7	-0.8
	baz=221						
COLA	College	85.83	13	P	P	08 35 32.4	-0.8
COLA	College	85.83	13	P	P	08 35 32.3	-0.9
	baz=209						
PV23	Carpenter Ridg	85.88	48	IAmb	IAmb	08 35 36.3	
	comp=Z,23nm,0.9s						
DLBC	Dease Lake	85.91	23	IAmb	IAmb	08 35 34.8	
	comp=Z,13nm,0.9s						
DLBC	Dease Lake	85.91	23	P	P	08 35 33.8	-0.1
	baz=226						
SCRK	Sand Creek	85.92	15	P	P	08 35 33.8	0.0
	baz=213						
F19K	Shaleruckik Mo	85.93	8	P	P	08 35 33.7	0.0
	baz=200						
ILAR	Eielson Array	85.95	13	P	P	08 35 32.5	-1.3
	comp=Z,9.0nm,0.8s,baz=229,slow=5.7,SNR=28						
	comp=Z,9.0nm,0.8s						
H22K	Ishtalitna Cre	86.06	11	P	P	08 35 34.6	+0.3
	baz=206						
TXAR	Lajitas Array	86.11	58	P	P	08 35 37.4	+1.8
TXAR	Lajitas Array	86.11	58	P	P	08 35 37.5	+1.9
	comp=Z,19nm,0.8s,baz=221,slow=6.0,SNR=63						
TXAR				pP	pP	08 37 40.2	+0.9
	comp=Z,1.2nm,1.0s,baz=259,slow=4.9,SNR=2.7						
	comp=Z,19nm,0.8s						
M29M	Somme Creek	86.11	17	P	P	08 35 34.8	-0.1
	baz=218						
POKR	Poker Plat Res	86.13	13	P	P	08 35 33.7	-1.0
	baz=210						
E18K	Tukpahlearik C	86.14	7	P	P	08 35 34.5	-0.2
	baz=197						
J25K	Saicha River,	86.14	14	P	P	08 35 32.6	-2.2
	baz=212						
D17K	Noatak River	86.15	6	P	P	08 35 35.0	+0.3
	baz=195						
P33M	Teslin, Yukon	86.18	21	P	P	08 35 35.2	+0.1
	baz=223						
XAN	Xi'an	86.19	307	eP	P	08 35 37.7	+1.9
ANMO	Albuquerque	86.21	52	P	P	08 35 36.5	+0.5
ANMO				IAmb	IAmb	08 35 38.0	
	comp=Z,14nm,1.1s						
R33M	Jennings River	86.24	22	P	P	08 35 35.3	-0.2
	baz=225,SNR=7.2						
G21K	Allakaket	86.26	10	IAmb	IAmb	08 35 38.7	
	comp=Z,31nm,1.4s						
G21K	Allakaket	86.26	10	P	P	08 35 35.1	-0.2
	baz=204						
H23K	Yukon River	86.34	12	P	P	08 35 37.4	+1.7
	baz=208						
F20K	Avaraart Lake	86.42	9	P	P	08 35 36.1	+0.2
	baz=202						
K27K	Chicken	86.43	15	P	P	08 35 37.2	+1.1
	baz=215						
J26L	Joseph Creek	86.47	14	P	P	08 35 36.7	+0.3
	baz=213						

C16K	Lisburne Hills	86.51	5	P	P	08 35 36.7	+0.3
	baz=193						
RDOG	Red Dog Mine	86.51	6	P	P	08 35 37.0	+0.6
	baz=195						
ALPN	Alpine	86.54	57	IAmb	IAmb	08 35 40.9	
	comp=Z,20nm,1.0s						
E19K	Redstone River	86.59	8	P	P	08 35 36.6	-0.2
	baz=200						
H24K	Noodor Dome	86.67	12	P	P	08 35 38.9	+1.6
	baz=209						
M30M	Minto, Yukon	86.70	18	P	P	08 35 38.0	+0.5
	baz=220						
L29M	L29M	86.74	17	P	P	08 35 36.7	-1.0
	baz=218						
DLMT	Dillon	86.76	40	IAmb	IAmb	08 35 40.2	
	comp=Z,26nm,0.9s						
N32M	Quiet Lake	86.78	20	P	P	08 35 36.6	-1.3
	baz=223						
PRP	Porcupine Dome	86.89	13	P	P	08 35 38.0	-0.4
	baz=211						
C17K	DeLong Mountai	86.89	6	P	P	08 35 38.8	+0.6
	baz=195						
F21K	Alatna River	86.92	10	P	P	08 35 36.5	-1.9
	baz=204						
SNOW	Snow King Moun	87.00	42	IAmb	IAmb	08 35 41.7	
	comp=Z,36nm,1.1s						
G23K	Bananza Creek	87.04	11	P	P	08 35 38.0	-0.9
	baz=207						
M31M	Drury Creek, Y	87.14	19	P	P	08 35 39.0	-0.6
	baz=222						
DAWY	Dawson	87.15	16	P	P	08 35 40.6	+1.0
	baz=217						
LOHW	Long Hollow	87.17	42	IAmb	IAmb	08 35 41.8	
	comp=Z,13nm,0.8s						
HHC	Hu-ho-hao-te	87.21	314	*e*P	P	08 35 44.5	+4.0
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,520nm,6.3s						
I26K	Coal Creek Min	87.24	14	P	P	08 35 40.0	+0.1
	baz=214						
C18K	Utukok River	87.26	6	P	P	08 35 37.8	-2.2
	baz=197						
YHB	Horse Butte	87.33	41	IAmb	IAmb	08 35 43.7	
	comp=Z,33nm,1.0s						
F22K	John River	87.39	10	P	P	08 35 40.5	-0.1
	baz=205						
YFT	Old Faithful	87.42	42	IAmb	IAmb	08 35 44.8	
	comp=Z,22nm,0.9s						
YMR	Madison River	87.44	41	IAmb	IAmb	08 35 44.2	
	comp=Z,26nm,1.0s						
PD31	Pinedale Array	87.46	43	IAmb	IAmb	08 35 42.6	
	comp=Z,13nm,0.8s						
PDAR	Pinedale Array	87.46	43	P	P	08 35 42.0	+0.2
PDAR	Pinedale Array	87.46	43	P	P	08 35 42.0	+0.2
	comp=Z,8.0nm,0.6s,baz=216,slow=3.5,SNR=47						
PDAR				pP	pP	08 37 46.8	+0.5
	comp=Z,1.3nm,1.0s,baz=247,slow=7.4,SNR=4.3						
PDAR				PP	PP	08 39 15.2	-2.6
	comp=Z,2.4nm,1.0s,baz=245,slow=6.4,SNR=8.2						
	comp=Z,8.0nm,0.6s						
D19K	Kuna River	87.46	7	P	P	08 35 40.8	-0.1
	baz=200						
H25L	Birch Creek	87.47	13	P	P	08 35 40.4	-0.5
	baz=211						
COLD	Coldfoot	87.47	11	P	P	08 35 41.0	+0.1
	baz=207						
E20K	Nigu River	87.48	8	P	P	08 35 40.8	-0.3
	baz=201						
K29M	Barlow Dome	87.48	17	P	P	08 35 40.5	-0.8
	baz=219						
FARO	Faro, Yukon	87.49	19	P	P	08 35 39.9	-1.3
	baz=223						
G24K	Hadweenzic Riv	87.51	12	P	P	08 35 40.6	-0.6
	baz=210						
WTLY	Watson Lake, Y	87.53	22	P	P	08 35 42.2	+0.8
	baz=227						
H17A	Grant Village	87.55	42	IAmb	IAmb	08 35 45.3	
	comp=Z,20nm,0.8s						
SAND	Sanderson	87.59	58	IAmb	IAmb	08 35 44.6	
	comp=Z,17nm,1.0s						
YNR	Norris Junctio	87.64	41	IAmb	IAmb	08 35 46.5	
	comp=Z,13nm,1.1s						
LKWY	Lake	87.75	42	IAmb	IAmb	08 35 46.4	
	comp=Z,23nm,1.1s						
MAYO	Mayo, Yukon	87.75	18	P	P	08 35 41.7	-0.6
	baz=220						
J29N	Klondike Camp	87.77	16	P	P	08 35 43.0	+0.5
	baz=218						
G25K	Bearman Lake	87.84	12	P	P	08 35 43.2	+0.6
	baz=211						
I27K	Kandik River	87.84	14	P	P	08 35 43.3	+0.5
	baz=215						
D20K	Etivluk River	87.85	8	P	P	08 35 43.0	+0.2
	baz=201						
B18K	Kokolik River	87.89	6	P	P	08 35 43.6	+0.8
	baz=196						
E21K	Killik River	87.97	9	P	P	08 35 42.3	-0.9
	baz=203						
E22K	Anaktuvuk Pass	88.02	10	P	P	08 35 43.7	+0.2
	baz=206						
TOAD	Toad River Com	88.04	25	P	P	08 35 43.7	-0.1
	baz=230,SNR=8.7						
I28M	Miner Creek	88.13	15	P	P	08 35 44.1	-0.1
	baz=217						
F24K	Squaw Lake	88.15	11	P	P	08 35 44.5	+0.4
	baz=209						
YNE	Yellowstone No	88.20	41	IAmb	IAmb	08 35 47.5	
	comp=Z,24nm,1.1s						
E23K	Chandalar	88.31	10	P	P	08 35 45.3	+0.3
	baz=208						
H27K	Steamboat Moun	88.38	14	P	P	08 35 45.8	+0.5
	baz=215						
J30M	Hart River	88.38	17	P	P	08 35 45.3	-0.2
	baz=220						
I29M	Ogilvie Camp,	88.47	16	P	P	08 35 46.7	+1.0
	baz=218						
G26K	Porcupine Rive	88.48	13	P	P	08 35 45.4	-0.2
	baz=213						
C21K	Knifeblade Rid	88.51	8	P	P	08 35 44.5	-1.2
	baz=203						
E24K	Your Creek	88.53	11	P	P	08 35 46.3	+0.3
	baz=209						
D22K	Ayikyak River	88.56	9	P	P	08 35 46.6	+0.5
	baz=205						
MSTX	Muleshoe	88.61	54	IAmb	IAmb	08 35 48.8	
	comp=Z,22nm,0.9s						
F25K	Christian Rive	88.64	12	P	P	08 35 46.8	+0.3
	baz=211						
TGTN	Hyland Airport	88.69	22	P	P	08 35 47.8	+1.0
	baz=227,SNR=7.7						
A19K	Wainwright	88.77	6	P	P	08 35 47.2	+0.3
	baz=197						
CMAR	Chiang Mai Arr	88.79	290	P	P	08 35 49.3	+1.1
CMAR	Chiang Mai Arr	88.79	290	P	P	08 35 48.1	-0.1
	comp=Z,4.9nm,0.9s,baz=109,slow=2.5,SNR=12						
	comp=Z,4.9nm,0.9s						
Q24A	Divide	88.83	48	IAmb	IAmb	08 35 50.4	
	comp=Z,14nm,1.2s						
G27K	Doyon Strip	88.83	14	P	P	08 35 47.2	-0.1
	baz=215						
TOLK	Toolik Lake Re	88.84	10	P	P	08 35 47.2	-0.1
	baz=208						
I30M	Mount Dempster	88.87	16	P	P	08 35 47.7	0.0
	baz=220						
D23K	Nanushuk River	88.95	10	P	P	08 35 47.9	+0.1
	baz=206						
B21K	Ikpikpuk River	88.97	8	P	P	08 35 48.4	+0.6
	baz=203						
B20K	Meade River	89.00	7	P	P	08 35 48.8	+0.8
	baz=200						
F26K	Sheenjek River	89.03	12	P	P	08 35 48.6	+0.3
	baz=213						
PZH	PanZhiHua	89.07	298	P	P	08 35 50.6	+1.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,580nm,6.1s						
SYO	Syowa Base	89.10	193‖	*e*P	P	08 35 49.6	+1.0
SYO	Syowa Base	89.10	193‖	*ep*P	pP	08 37 53.4	-0.3
E25K	Arctic Village	89.11	12	P	P	08 35 48.8	+0.2
	baz=211						
ELIB	Princess Elisa	89.11	187	*d*P	P	08 35 49.5	+0.6
	comp=Z,18nm,0.9s						
SGCY	Sterling City	89.11	56	IAmb	IAmb	08 35 50.6	
	comp=Z,10nm,0.8s						
H29M	Whitestone	89.13	15	P	P	08 35 49.4	+0.7
	baz=218						
833A	Chaparral WMA,	89.22	60	IAmb	IAmb	08 35 52.4	
	comp=Z,18nm,1.0s						
KOTAN	Kotaneelee Air	89.33	24	P	P	08 35 50.6	+0.9
	baz=231						
CMIG	Matias Romero	89.35	72	P	P	08 35 51.6	+0.8
	comp=Z,6.6nm,1.0s,baz=307,slow=4.4,SNR=8.7						
	comp=Z,6.6nm,1.0s						
D24K	Happy Valley	89.42	10	P	P	08 35 49.9	-0.1
	baz=208						
JCT	Junction City	89.65	58	IAmb	IAmb	08 35 53.6	
	comp=Z,15nm,0.8s						
SN05	Snyder 5	89.66	55	IAmb	IAmb	08 35 53.3	
	comp=Z,19nm,0.9s						
C23K	Itkillik River	89.74	9	P	P	08 35 51.5	+0.1
	baz=207						
G29M	Pine Creek	89.77	15	P	P	08 35 52.0	+0.3
	baz=218						
B22K	Teshekpuk Lake	89.79	8	P	P	08 35 51.8	+0.1
	baz=204						
H31M	Peel River	89.86	17	P	P	08 35 52.3	+0.1
	baz=222						
C24K	Franklin Bluff	89.94	10	P	P	08 35 52.5	+0.1
	baz=208						
E27K	Coleen River	89.98	13	P	P	08 35 52.6	0.0
	baz=215						
D25K	Kavik River	90.00	11	P	P	08 35 52.4	-0.3
	baz=211						
BRIGG	Briggsdale	90.06	47	IAmb	IAmb	08 35 55.7	
	comp=Z,11nm,0.7s						
A22K	Sinclair Lake	90.20	8	P	P	08 35 53.0	-0.6
	baz=202						
G30M	tAoh Zraii Nji	90.27	15	P	P	08 35 51.7	-2.3
	baz=220						
TROLL	Troll, Antarti	90.27	180	⇑P	P	08 35 54.8	+0.5
	comp=Z,103nm,0.4s						
A21K	Barrow	90.31	7	P	P	08 35 53.9	0.0
	baz=201						
APMT	Aspermont	90.42	55	IAmb	IAmb	08 35 56.9	
	comp=Z,15nm,0.8s						
SNAA	Sanae	90.57	179	⇑P	P	08 35 56.1	+0.5
	comp=Z,16nm,0.2s						
SNAA	Sanae	90.57	179	P	P	08 35 55.9	+0.4
	comp=Z,2.7nm,0.4s,baz=197,slow=9.5,SNR=24						
	comp=Z,2.7nm,0.4s						
BRDY	Brady	90.58	57	IAmb	IAmb	08 35 57.9	
	comp=Z,7.2nm,0.9s						
VNA3	Neumayer Olymp	90.71	176	⇑P	P	08 35 56.9	+0.8
	comp=Z,3.0nm,0.3s						
C27K	Jago River	90.75	12	P	P	08 35 57.0	+0.8
	baz=213						
E28M	Babbage River	90.77	13	P	P	08 35 56.6	+0.3
	baz=217						
C26K	Camden Bay	90.78	11	P	P	08 35 57.1	+0.9
	baz=212						
F30M	Barrier River	90.86	15	P	P	08 35 56.6	0.0
	baz=220						
E29M	Blow River	90.96	14	P	P	08 35 56.1	-1.0
	baz=218						
D27M	Malcolm River	90.98	13	P	P	08 35 56.9	-0.4
	baz=216						
F31M	Tsiigehtchic	91.25	16	P	P	08 35 58.5	+0.1
	baz=222						
WRGLY	Wrigley	91.50	22	P	P	08 35 59.8	+0.1
	baz=231						
D28M	Stokes Point	91.52	13	P	P	08 36 00.3	+0.7
	baz=218						
INK	Inuvik	91.95	15	P	P	08 36 01.3	-0.3
	baz=222						
SONM	Songino Array	93.50	319	P	P	08 36 09.4	0.0
	comp=Z,0.4nm,0.4s,baz=122,slow=5.2,SNR=1.6						
	comp=Z,0.4nm,0.4s						
YKA	Yellowknife Ar	94.41	25	P	P	08 36 12.5	-0.5
	comp=Z,4.4nm,0.9s,baz=241,slow=4.7,SNR=12						
	comp=Z,4.4nm,0.9s						
C36M	Paulatuk	95.16	17	P	P	08 36 16.7	+0.5
	baz=231						
A36M	Sachs Harbour	96.54	15	P	P	08 36 21.5	-0.9
	baz=230						
L61B	Northampton	113.47	51	P	PKiKP	08 41 27.0	-0.8
	baz=267						
M65A	Busby, Falmout	114.95	52	P	PKPdf	08 41 29.3	-1.3
	baz=268						
BVAR	Borovoye Array	116.80	321	PKP	PKPdf	08 41 33.2	-0.6
	comp=Z,2.2nm,0.3s,baz=104,slow=1.7,SNR=12						
SPITS	Spitsbergen Ar	119.30	357	PKP	PKPdf	08 41 36.9	-1.1
	comp=Z,9.6nm,1.0s,baz=84,slow=4.5,SNR=1.3						
ARTI	Arti	122.92	326	PKP	PKPdf	08 41 44.9	-0.7
	comp=Z,2.8nm,0.4s,baz=135,slow=1.4,SNR=2.4						
ARCES	ARCESS Array B	126.33	350	PKP	PKPdf	08 41 51.2	-0.5
	comp=Z,0.7nm,0.4s,baz=50,slow=2.1,SNR=7.2						
FINES	FINESS Array B	133.19	344	PKP	PKPdf	08 42 04.8	-0.1
	comp=Z,1.2nm,0.6s,baz=39,slow=1.2,SNR=5.4						
FINES				PP	PP	08 44 41.2	+1.2
	comp=Z,5.5nm,0.9s,baz=39,slow=9.8,SNR=4.9						
NOA	NORSAR Array B	136.40	353	SKP		08 44 50.4	
	comp=Z,2.4nm,1.0s,baz=13,slow=2.5,SNR=3.5						
HFS	Hagfors	136.95	351	PKhKP	PKPpre	08 42 04.1	
	comp=Z,1.5nm,0.3s,baz=64,slow=3.4,SNR=10						
KIBK	Kilbwezi	138.72	244		PKPdf	08 42 17.8	+1.0
PABE	Paberze	138.78	341		PKPdf	08 42 12.9	-2.5
KOPT	Kop Dagi	139.82	311		PKPpre	08 42 09.5	
TSUM	Tsumeb	139.84	204		PKPpre	08 42 09.9	
KMBO	Kilima Mbogo	140.01	245		PKPpre	08 42 11.6	
KMBO	Kilima Mbogo	140.01	245	PKhKP	PKPpre	08 42 11.8	
	comp=Z,6.2nm,0.8s,baz=316,slow=2.6,SNR=14						
AKASG	Malin Array Be	140.54	332	PKhKP	PKPpre	08 42 12.0	
	comp=Z,1.1nm,0.5s,baz=45,slow=4.0,SNR=7.8						
AKASG				PKP	PKPdf	08 42 18.9	+0.1
	comp=Z,0.9nm,0.3s,baz=45,slow=3.1,SNR=7.9						
AKASG				SKPbc	SKPbc	08 45 00.5	-0.7
	comp=Z,0.2nm,0.2s,baz=41,slow=3.3,SNR=4.1						
EKA	Eskdalemuir Ar	142.51	4	PKhKP	PKPpre	08 42 17.1	
	comp=Z,2.0nm,0.6s,baz=320,slow=2.6,SNR=6.1						
LODK	Lodwar	143.80	250		PKPdf	08 42 25.7	0.0
BUR08	Bucovina Ar. S	144.57	332		PKPab	08 42 27.4	+0.3
BURAR	Bucovina Array	144.59	332		PKPab	08 42 27.3	+0.2
BRTR	Keskin Array B	144.72	315	PKP	PKPbc	08 42 27.1	-0.1
	comp=Z,2.1nm,0.4s,baz=85,slow=1.7,SNR=15						
ASF	Jabal al Asfar	145.09	301	PKPbc	PKPbc	08 42 28.6	+0.2
	comp=Z,1.7nm,0.7s,baz=63,slow=5.0,SNR=3.8						
KSP	Ksiaz	145.11	344	*e*PKP	PKPbc	08 42 27.8	+0.1
OSTC	Ostas	145.39	343	*e*PKP	PKPbc	08 42 29.3	+0.7
CHVC	Chvalec	145.41	344	*e*PKP	PKPbc	08 42 29.0	+0.3
CLL	Collm	145.47	347	⇑*i*PKPbc	PKPbc	08 42 28.8	0.0
	comp=Z,35nm,0.9s						
STEB	Steborice	145.50	341	*e*PKP	PKPbc	08 42 29.3	+0.4
DPC	Dobruska-Polom	145.55	343	*e*PKP	PKPbc	08 42 29.5	+0.4
LANS	Liptovska Anna	145.63	339	*e*PKP	PKPab	08 42 30.4	-0.6
BRG	Berggiesshubel	145.67	346	*e*PKP	PKPbc	08 42 29.7	+0.3
BRG				Amp		08 42 31.3	
	comp=Z,22nm,0.9s						
MORC	Moravsky Berou	145.71	341	*e*PKP	PKPbc	08 42 29.5	-0.1
PVCC	Panska Ves	145.84	345	*e*PKP	PKPbc	08 42 30.5	+0.6
HSKC	Hora Svate Kat	146.04	346	*e*PKP	PKPbc	08 42 30.3	-0.2
MMAI	Mount Meron Ar	146.06	303	PKPbc	PKPbc	08 42 31.4	+0.2
	comp=Z,9.0nm,0.6s,baz=72,slow=5.4,SNR=10.0						
VRAC	Vranov	146.41	342	PKPbc	PKPbc	08 42 31.5	0.0
	comp=Z,11nm,0.9s,baz=17,slow=3.7,SNR=7.4						
VRAC	Vranov	146.41	342	*e*PKP	PKPbc	08 42 31.7	+0.2
VYHS	Vyhne	146.41	339	*e*PKP	PKPbc	08 42 32.0	+0.5
JAVC	Velka Javorina	146.47	341	*e*PKP	PKiKP	08 42 33.1	-0.8
KRUC	Moravsky	146.69	342	*e*PKP	PKPbc	08 42 32.2	0.0
TREC	Trest	146.73	343	*e*PKP	PKPbc	08 42 32.5	+0.1
MODS	Modra-Piesok	147.03	341	*e*PKP	PKPbc	08 42 34.0	+0.8
MEM	Membach	147.21	355	*d*PKP	PKPbc	08 42 32.8	-0.7
BTNL	Ternell	147.22	355	*d*PKP	PKPbc	08 42 33.6	-0.1
GRFO	Grafenberg	147.37	348		PKPab	08 42 38.5	+0.5
KHC	Kasperske Hory	147.38	345	*e*PKP	PKPbc	08 42 34.6	+0.5
CKRC	Cesky Krumlov	147.48	344	*e*PKP	PKPbc	08 42 34.6	+0.2
GERES	GERESS Array B	147.62	345	PKPbc	PKPbc	08 42 34.9	+0.1
	comp=Z,11nm,0.6s,baz=25,slow=3.4,SNR=24						
WLF	Walferdange	148.13	354		PKiKP	08 42 37.1	-0.1
WLF	Walferdange	148.13	354	*d*PKP	PKiKP	08 42 36.6	-0.6
PRED	Cave del Predi	149.87	343		PKPab	08 42 47.8	-0.6
FUORN	Ofenpass-Fuorn	150.49	348		PKiKP	08 42 42.6	+0.1
IDI	Anoyia	152.96	314	PKPbc	PKiKP	08 42 48.1	+0.4
	comp=Z,4.4nm,0.5s,baz=293,slow=7.7,SNR=1.6						
PGAV	Gavieira, Arco	154.65	17	*e*PKPab	PKPab	08 43 08.6	-0.3
PCAB	Cabril	154.95	17	*e*PKPab	PKPab	08 43 10.0	-0.1
PBRG	Braganca	155.20	15	*e*PKPab	PKPab	08 43 11.1	-0.1
POLO	Lamas de Olo	155.33	17	*e*PKPab	PKPab	08 43 12.1	+0.3
PVRL	Vila Real	155.44	17	*e*PKPab	PKPab	08 43 12.6	+0.3
MVO	Moncorvo	155.73	16	*e*PKPab	PKPab	08 43 13.9	+0.4
PVIS	Viseu	155.91	18	*e*PKPab	PKPab	08 43 14.7	+0.4
COI	Coimbra	156.22	19	*e*PKPab	PKPab	08 43 16.7	+1.1
MTE	Manteigas	156.31	17	*e*PKPab	PKPab	08 43 16.6	+0.6
PCAS	Casmilo, Conde	156.34	19	*e*PKPab	PKPab	08 43 16.0	0.0
PSBE	So Bento	156.73	20	*e*PKPab	PKPab	08 43 18.1	+0.2
PCBR	Castelo Branco	156.84	18	*e*PKPab	PKPab	08 43 18.2	-0.1
PMRV	Marv??o	157.25	18	*e*PKPab	PKPab	08 43 20.4	+0.3
PMTG	Montargil	157.32	20	*e*PKPab	PKPab	08 43 20.0	-0.4
PESTR	Estremoz	157.71	19	*e*PKPab	PKPab	08 43 21.8	-0.3
ESDC	Sonseca Array	157.84	11	PKPab	PKPab	08 43 22.2	-0.4
	comp=Z,4.0nm,0.9s,baz=339,slow=4.3,SNR=9.4						
EVO	Evora	157.88	20	*e*PKPab	PKPab	08 43 22.9	+0.1
PBAR	Barrancos	158.51	19	*e*PKPab	PKPab	08 43 26.3	+0.7
PCVE	Castro Verde	158.68	21	*e*PKPab	PKPab	08 43 26.6	+0.3
PVAQ	Vaqueiros	159.00	21	*e*PKPab	PKPab	08 43 28.1	+0.4
DBIC	Dimbokro	167.21	150		PKPab	08 44 05.0	+0.6
TORD	Torodi Ar. Bea	175.23	183	PKP	PKPdf	08 42 59.7	0.0
	comp=Z,3.1nm,0.3s,baz=225,slow=3.8,SNR=3.5						

PRE ***10*** *08:29:02.4±1.2,29°.33S×23°.04E,h5km,ML2.5*
ISC 10 08:29:03.4±1.5,**29°.32S**±0°.07×**23°.05E**±0°.10,**h10**km,**n6**,
σ0s**82**/10,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRAZ	**Fraserburg**	**2.96**	**208**	*e*P	**Pn**	**08 29 50.9**	**+0.3**
FRAZ				*e*S	**Sn**	**08 30 26.3**	**0.0**
FRAZ				IAML		08 30 27.7	
	comp=Z,35nm,0.6s						
GRAN	**Grantham**	**3.06**	**194**	*e*P	**Pn**	**08 29 53.1**	**+1.0**
GRAN				*e*S	**Sn**	**08 30 27.9**	**-0.9**
GRAN				IAML		08 30 28.9	
	comp=Z,19nm,0.8s						
ARMS	**Ukamas**	**3.18**	**293**	*e*P	**Pn**	**08 29 53.9**	**+0.3**
ARMS				*e*S	**Sn**	**08 30 30.7**	**-0.9**
GRAF	**Camdeboo Natio**	**3.19**	**158**	*e*P	**Pn**	**08 29 54.5**	**+0.7**
GRAF				*e*S	**Sn**	**08 30 31.0**	**-1.1**
GRAF				IAML		08 30 31.1	
	comp=Z,19nm,0.6s						
KDWAN	**Kaudwane**	**6.09**	**14**	*i* P	**Pn**	**08 30 34.2**	**+0.6**
KOOLE	**Kule**	**6.81**	**337**	*i* P	**Pn**	**08 30 43.6**	**+0.1**

MDD ***10*** *08:31:45.7±0.5,42°.63N×2°.96E,h0km±2km,mb_Lg2.6/27,*
Error ellipse: s-maj=3.4km s-min=2.1km az=67.0
LDG ***10*** *08:31:45.6±0.1,42°.64N×3°.01E,h2km,Md2.2/1,Ml2.6/22,*
Error ellipse: s-maj=1.7km s-min=1.2km az=143.0
MRB ***10*** *08:31:45.8±0.3,42°.63N×3°.02E,ML2.1/22,Error ellipse:*
s-maj=2.6km s-min=1.2km az=236.0
STR ***10*** *08:31:46.3±0.5,43°.N±3°×°±°,h5km,MLv2.2/6,Error*
ellipse: s-maj=0.0km s-min=0.0km az=145.2,preliminary
ISC 10 08:31:44.7±0.9,**42°.66N**±0°.02×**3°.05E**±0°.02,**h14**km±6km,
n68,σ0s**98**/139,**5D,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJAF	**Saint Jean de**	**0.21**	**216**	⇓P	**Pg**	**08 31 49.5**	**-0.1**
SJAF				S	**Sg**	**08 31 52.0**	**-0.8**
	808nm,0.2s						
SJAF	**Saint Jean de**	**0.21**	**216**	Pg	**Pg**	**08 31 49.5**	**-0.1**
SJAF				Sg	**Sg**	**08 31 52.0**	**-0.8**
EJON	**La Jonquera**	**0.24**	**210**	⇓Pg	**Pg**	**08 31 49.9**	**0.0**
EJON				Sg	**Sg**	**08 31 52.4**	**-1.1**
EJON				*i* Vmb_Lg		08 31 53.0	
CPAL	**Palau Saverder**	**0.36**	**167**	⇓P	**Pg**	**08 31 52.2**	**+0.2**
CPAL				Lg	Lg	08 31 56.6	
CPAL				S	**Sg**	**08 31 56.8**	**-0.1**
	312nm,0.1s						
FILF	**Fillols**	**0.38**	**255**	P	**Pb**	**08 31 54.0**	**+0.8**
FILF				Lg	Lg	08 32 00.1	
FILF				S	**Sb**	**08 32 00.5**	**+1.7**
	118nm,0.2s						
FILF	**Fillols**	**0.38**	**255**	Pg	**Pb**	**08 31 53.9**	**+0.8**
FILF				Sg	**Sb**	**08 31 59.9**	**+1.1**
CLAF	**Gruissan**	**0.48**	**3**	Pg	**Pb**	**08 31 55.2**	**+0.3**
CLAF				Sg	**Sb**	**08 32 02.8**	**+1.1**
CBEU	**Beuda**	**0.49**	**215**	⇓P	**Pg**	**08 31 54.3**	**0.0**
CBEU				S	**Sg**	**08 32 00.9**	**0.0**
	158nm,0.3s						
CGIR	**Ginora - Unive**	**0.69**	**194**	P	**Pg**	**08 31 58.3**	**+0.1**
CGIR				S	**Sg**	**08 32 07.5**	**+0.2**
	114nm,0.3s						
CARF	**Carcanieres**	**0.70**	**275**	Pg	**Pg**	**08 31 58.4**	**0.0**
CARF				Sg	**Sg**	**08 32 07.8**	**+0.2**
FNEB	**Nbias**	**0.74**	**290**	P	**Pb**	**08 31 59.7**	**+0.4**
FNEB				S	**Sb**	**08 32 09.8**	**+0.6**
FNEB	**Nbias**	**0.74**	**290**	Pg	**Pb**	**08 31 59.5**	**+0.3**
FNEB				Sg	**Sb**	**08 32 09.4**	**+0.2**
CBRU	**Bruguera**	**0.74**	**240**	P	**Pg**	**08 31 59.1**	**-0.1**
CBRU				S	**Sg**	**08 32 09.1**	**+0.1**
	56nm,0.3s						
CCAS	**Cassa de la Se**	**0.78**	**188**	⇓P	**Pg**	**08 31 59.9**	**0.0**
CCAS				S	**Sg**	**08 32 09.9**	**-0.3**
	58nm,0.2s						
VALC	**Valcebollere**	**0.80**	**250**	Pg	**Pg**	**08 31 59.7**	**-0.5**
VALC				Sg	**Sg**	**08 32 10.6**	**-0.1**
CLLI	**Llivia**	**0.82**	**258**	P	**Pg**	**08 32 00.3**	**-0.3**
CLLI				Lg	Lg	08 32 10.8	
CLLI				S	**Sb**	**08 32 11.7**	**0.0**
	60nm,0.2s						
MTLF	**Montolieu**	**0.92**	**318**	*e*Pg	**Pg**	**08 32 02.1**	**-0.3**
MTLF				*e*Sg	**Sg**	**08 32 13.9**	**-0.5**
	36nm,0.2s						
MTLF	**Montolieu**	**0.92**	**318**	Pg	**Pb**	**08 32 02.6**	**+0.2**
MTLF				Sg	**Sn**	**08 32 15.5**	**-0.6**
DUNF	**D

CAVN				S	Sb	08 32 42.0	0.0
	38nm,0.4s						
CAVN				Sg	Sg	08 32 44.8	-0.2
EPOB	**Poblet**	**1.97**	**229**	Pn	Pn	08 32 18.1	+0.5
EPOB				Pg	Pb	08 32 19.9	-0.4
EPOB				Sn	Sn	08 32 42.2	+0.1
EPOB				Sg	Sb	08 32 45.0	+0.3
EPOB				*i* Vmb_Lg		08 32 46.6	
EPOB	**Poblet**	**1.97**	**229**	Pg	Pb	08 32 21.4	+1.2
EPOB				S	Sb	08 32 44.5	-0.2
	9.0nm,0.2s						
SAUF	**chteau de Sau**	**1.97**	**49**	Pn	Pb	08 32 20.6	+0.3
SAUF				Sn	Sg	08 32 47.0	-1.1
EPF	**Esparros**	**2.03**	**281**	*e*Pg	Pb	08 32 22.2	+0.9
EPF				*e*Sg	Sb	08 32 48.0	+1.6
	2.1nm,0.2s						
ECHI	**Chisagues Biel**	**2.11**	**271**	Pn	Pn	08 32 19.9	+0.2
ECHI				Pg	Pb	08 32 23.1	+0.4
ECHI				Sn	Sn	08 32 45.2	-0.5
ECHI				Sg	Sb	08 32 49.3	+0.5
ECHI				*i* Vmb_Lg		08 32 54.8	
ECHI	**Chisagues Biel**	**2.11**	**271**	Pg	Pg	08 32 24.4	-0.7
ECHI				Sg	Sg	08 32 53.0	+0.6
	5.5nm,0.4s						
ECHI	**Chisagues Biel**	**2.11**	**271**	Pn	Pn	08 32 21.1	+1.5
ECHI				Sn	Sn	08 32 47.0	+1.4
SMRF	**Simiane la Rot**	**2.26**	**54**	*e*Pg	Pg	08 32 28.3	+0.2
SMRF				*e*Sg	Sg	08 33 01.6	+4.2
	8.4nm,0.3s						
CAF	**Calviac**	**2.38**	**343**	*e*Pg	Pg	08 32 29.8	-0.4
CAF				*e*Sg	Sg	08 33 00.1	-0.9
	6.8nm,0.2s						
VIVF	**Saint-Julien-l**	**2.49**	**28**	*e*Pg	Pg	08 32 32.3	-0.1
VIVF				*e*Sg	Sg	08 33 04.4	-0.3
	6.7nm,0.2s						
LMR	**La Mourre**	**2.62**	**74**	*e*Pn	Pn	08 32 27.2	+0.6
LMR	**La Mourre**	**2.62**	**74**	*e*Pg	Pg	08 32 34.0	-1.0
LMR				*e*Sn	Sn	08 32 58.2	0.0
LMR				*e*Sg	Sg	08 33 08.3	-0.7
	2.5nm,0.2s						
ETSF	**Etsaut**	**2.67**	**276**	*e*Pg	Pb	08 32 33.9	+1.7
ETSF				*e*Sg	Sb	08 33 07.2	+2.3
	1.6nm,0.2s						
ESAC	**San Caprasio**	**2.78**	**251**	Pn	Pn	08 32 29.3	+0.6
ESAC				Pg	Pb	08 32 34.2	+0.1
ESAC				Sn	Sn	08 33 01.5	-0.7
ESAC				Sg	Sb	08 33 10.2	+2.1
ESAC				*i* Vmb_Lg		08 33 16.6	
LFF	**La Frestale**	**2.83**	**325**	*e*Pn	Pn	08 32 31.0	+1.6
LFF	**La Frestale**	**2.83**	**325**	*e*Pg	Pg	08 32 37.5	-1.4
LFF				*e*Sn	Sn	08 33 01.3	-1.9
LFF				*e*Sg	Sg	08 33 13.7	-1.8
	3.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.87**	**338**	*e*Pg	Pg	08 32 39.2	-0.4
RJF				*e*Sg	Sg	08 33 15.7	-1.1
	8.5nm,0.2s						
ETOS	**Mallorca**	**2.90**	**184**	Pn	Pn	08 32 28.4	-2.0
ETOS				Sn	Sn	08 33 00.9	-4.0
ETOS				*i* Vmb_Lg		08 33 18.7	
SJPF	**Ste Jean**	**3.17**	**280**	*e*Pg	Pg	08 32 43.9	-1.6
SJPF				*e*Sn	Sn	08 33 10.3	-1.5
SJPF				*e*Sg	Sg	08 33 24.2	-2.4
	3.3nm,0.4s						
MBDF	**Montbardon**	**3.40**	**51**	*e*Sg	Sg	08 33 32.6	-1.2
	6.6nm,0.3s						
SBF	**Sospel**	**3.42**	**68**	*e*Pg	Pg	08 32 49.5	-0.7
SBF				*e*Sg	Sg	08 33 34.2	-0.3
	2.2nm,0.2s						
EMOS	**Mosqueruela**	**3.50**	**230**	Sg	Sb	08 33 30.2	+1.2
EMOS				*i* Vmb_Lg		08 33 38.7	
TCF	**Toulx Ste Croi**	**3.68**	**351**	*e*Pn	Pn	08 32 42.0	+0.9
TCF	**Toulx Ste Croi**	**3.68**	**351**	*e*Pg	Pg	08 32 54.5	-0.6
TCF				*e*Sg	Sg	08 33 41.9	-0.8
	1.3nm,0.2s						
SMF	**Signal de Mont**	**4.03**	**8**	*e*Pg	Pg	08 33 00.9	-0.8
SMF				*e*Sg	Sg	08 33 53.7	-0.2
	16nm,0.5s						
AVF	**Avril sur Loir**	**4.14**	**3**	*e*Sg	Sg	08 33 56.6	-0.8
	1.8nm,0.2s						
SSF	**Saint Saulge**	**4.41**	**4**	*e*Sg	Sg	08 34 03.9	-2.4
	1.4nm,0.3s						
CABF	**La Chapelle**	**4.51**	**28**	*e*Sg	Sg	08 34 07.4	-1.9
	4.0nm,0.4s						
LOR	**Lormes**	**4.64**	**7**	*e*Sg	Sg	08 34 13.2	-0.5
	2.6nm,0.4s						

*IDC **10** 08:42:12.4±2.8, 10°.94S×161°.12E, h48km±22km, mb3.3/4, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=43.3km s-min=17.7km az=66.0*

ISC 10 08:42:11.1±1.2, 11°.05±0°.2×161°.1E±0°.3, h35km, n6, σ1°.56/8, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.95**	**323**	P	**Pn**	08 42 41.4	-0.3
	174nm,0.4s,baz=29,slow=8.9,SNR=8.5						
HNR				S	**Sn**	08 43 05.5	+0.5
	474nm,0.4s,baz=180,slow=22,SNR=13						
DZM	**Mont Dzumac**	**12.12**	**156**	P	**Pn**	08 45 03.7	+2.2
	0.8nm,0.3s,baz=322,slow=18,SNR=18						
DZM				S	**Sn**	08 47 13.0	-2.5
	8.1nm,1.1s,baz=350,slow=12,SNR=1.7						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**27.27**	**248**	P	**P**	08 47 52.6	+0.2
	0.5nm,0.7s,baz=75,slow=8.9,SNR=6.0						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**28.81**	**241**	P	**P**	08 48 06.2	0.0
	0.1nm,0.4s,baz=67,slow=8.8,SNR=4.5						
	0.1nm,0.4s						
SONM	**Songino Array**	**76.01**	**325**	P	**P**	08 53 54.7	-0.1
	0.7nm,0.8s,baz=123,slow=5.3,SNR=2.8						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**90.42**	**318**	P	**P**	08 55 08.2	-0.8
	0.2nm,0.5s,baz=91,slow=5.5,SNR=2.5						
	0.2nm,0.5s						

IDC 10 08:49:20.7±17.0, 17°.75S×178°.15E, h511km±143km, mb3.0/3, mbtmp4.0/3, Error ellipse: s-maj=492.9km s-min=18.0km az=94.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**0.10**	**281**	P	P	08 50 21.9	+0.1
	10nm,0.6s,baz=100,slow=4.0,SNR=12						
STKA	**Stephens Creek**	**35.85**	**240**	P	P	08 55 37.1	+0.1
	1.9nm,1.1s,baz=80,slow=6.1,SNR=2.8						
	1.9nm,1.1s						
WRA	**Warramunga Arr**	**41.43**	**260**	P	P	08 56 22.1	-0.5
	0.5nm,0.4s,baz=90,slow=7.8,SNR=8.5						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**41.68**	**254**	P	P	08 56 24.5	0.0
	3.6nm,0.5s,baz=92,slow=7.6,SNR=54						
	3.6nm,0.5s						

*IDC **10** 08:56:26.7±0.9, 58°.23N×32°.14W, h0km, mb3.7/10, mbtmp3.7/10, MS4.2/2, Error ellipse: s-maj=28.6km s-min=18.4km az=15.0*

ISC 10 08:56:28.8±0.8, 58°.2N±0°.2×32°.2W±0°.1, h14km, n13, σ0°.59/11, mb3.7/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**23.20**	**66**	P	**P**	09 01 35.5	+0.7
	3.9nm,0.9s,baz=294,slow=7.7,SNR=2.5						
	3.9nm,0.9s						
ESDC	**Sonseca Array**	**25.91**	**123**	P	**P**	09 02 00.1	-0.1
	1.8nm,1.0s,baz=332,slow=9.9,SNR=6.5						
	1.8nm,1.0s						
FINES	**FINESS Array B**	**28.59**	**59**	P	**P**	09 02 23.8	-0.2
	1.0nm,0.7s,baz=312,slow=9.2,SNR=2.0						
	1.0nm,0.7s						
YKA	**Yellowknife Ar**	**38.38**	**312**	P	**P**	09 03 49.8	+0.8
	0.9nm,1.0s,baz=60,slow=8.8,SNR=6.7						
	0.9nm,1.0s						
ILAR	**Eielson Array**	**47.79**	**328**	P	**P**	09 05 04.8	-0.1
	0.3nm,0.5s,baz=40,slow=7.9,SNR=5.1						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**48.77**	**287**	P	**P**	09 05 13.2	+0.1
	0.5nm,0.8s,baz=49,slow=10,SNR=4.5						
	0.5nm,0.8s						
ELK	**Elko**	**53.12**	**289**	LR	LR	09 28 59.0	
	comp=Z,262nm,18.2s,baz=350,slow=37						
DBIC	**Dimbokro**	**55.61**	**146**	P	**P**	09 06 04.2	+0.4
	2.0nm,0.7s,baz=327,slow=4.8,SNR=3.6						
	2.0nm,0.7s						
TXAR	**Lajitas Array**	**55.94**	**272**	P	**P**	09 06 06.0	-0.4
	0.3nm,1.0s,baz=44,slow=8.0,SNR=1.8						
	0.3nm,1.0s						
KURBB	**Kurchatov Arra**	**57.64**	**45**	P	**P**	09 06 17.7	-0.3
	0.7nm,0.7s,baz=323,slow=7.3,SNR=5.5						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**62.21**	**45**	P	**P**	09 06 49.5	+0.1
	0.5nm,0.6s,baz=331,slow=5.7,SNR=7.7						
	0.5nm,0.6s						
RCBR	**Riachuelo**	**63.92**	**184**	LR	LR	09 27 55.8	
	comp=Z,138nm,19.6s,baz=266,slow=30						
ASAR	**Alice Springs**	**144.04**	**22**	PKP	**PKPdf**	09 16 02.5	-1.1
	0.4nm,0.8s,baz=1.7,slow=3.1,SNR=2.2						

WEL 10 09:13:44.7±1.0, 32°S±12°×18°0E±2°3, h387km±29km, mB4.2/6, ML4.5/10, MLv4.2/7, Mw(mB)3.3/6, Error ellipse: s-maj=31.1km s-min=12.0km az=108.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.85**	**191**	P	Pn	09 15 15.0	0.0
WMGZ				S	S	09 16 29.5	+0.9
HAZ	**Te Kaha**	**5.92**	**196**	P	Pn	09 15 15.1	-0.7
HAZ				S	S	09 16 29.6	-0.3
PKGZ	**Pakihiroa**	**5.96**	**194**	P	Pn	09 15 17.7	+1.5
WCZ	**Waipu Caves**	**5.98**	**228**	P	Pn	09 15 16.1	-0.4
PUZ	**Puketiti**	**6.12**	**192**	P	Pn	09 15 15.5	-2.5
PUZ				S	S	09 16 34.1	-0.1
RUGZ	**Raukumara Rang**	**6.14**	**196**	P	Pn	09 15 18.4	+0.1
RUGZ				S	S	09 16 34.2	-0.5
TWGZ	**Tauwhareparae**	**6.28**	**194**	P	Pn	09 15 20.2	+0.4
TWGZ				S	S	09 16 38.7	+1.4
MWZ	**Matawai**	**6.53**	**196**	P	P	09 15 23.9	+0.5
MWZ				S	S	09 16 44.5	+2.0
CNGZ	**Carnagh Statio**	**6.53**	**191**	P	Pn	09 15 22.7	+0.1
TKGZ	**Te Karaka**	**6.56**	**194**	P	Pn	09 15 22.2	-0.6
TKGZ				S	S	09 16 42.8	-0.2
URZ	**Urewera**	**6.56**	**199**	P	Pn	09 15 22.9	0.0
URZ				S	S	09 16 42.7	-0.4
RIGZ	**Rimuhau**	**6.83**	**194**	P	Pn	09 15 25.8	-0.2
RIGZ				S	S	09 16 48.8	+0.1
MUGZ	**Murupara**	**6.87**	**201**	P	P	09 15 27.1	-0.1
MUGZ				S	S	09 16 50.5	+1.2
RTZ	**Ruatahuna**	**6.93**	**199**	P	Pn	09 15 26.3	-0.9
RTZ				S	S	09 16 49.4	-1.5
SNGZ	**Shannon Statio**	**7.00**	**196**	P	P	09 15 29.1	+0.5
RAHZ	**Arahi**	**7.19**	**198**	P	P	09 15 30.8	0.0
RAHZ				S	S	09 16 56.1	0.0
MTHZ	**Maungataniwha**	**7.19**	**199**	P	P	09 15 31.0	+0.1
MTHZ				S	S	09 16 57.2	+0.9
NMHZ	**Naumai**	**7.43**	**199**	P	P	09 15 34.1	+0.5
NMHZ				S	S	09 17 03.7	+2.5
BKZ	**Black Stump Fm**	**7.58**	**200**	P	Pn	09 15 34.6	+0.1
MCHZ	**McNeill Hill**	**7.79**	**198**	P	P	09 15 37.7	+0.2
KWHZ	**Kaweka Forest**	**7.84**	**200**	P	Pn	09 15 37.2	-0.4
KWHZ				S	S	09 17 10.2	+0.2
KAHZ	**Kahuranaki**	**8.07**	**197**	P	Pn	09 15 39.5	-0.6
KAHZ				S	S	09 17 15.4	+0.7
PXZ	**Pawanui**	**8.30**	**196**	P	Pn	09 15 42.5	-0.2
PXZ				S	S	09 17 17.8	-1.7

*IDC **10** 09:21:38.3±0.4, 9°.19S×112°.73E, h0km, mb4.8/28, mbtmp4.8/29, ML4.8/1, MS3.6/5, Error ellipse: s-maj=16.6km s-min=9.2km az=57.0*
*MOS **10** 09:21:43.0±1.0, 9°.07S×112°.78E, h43km, mb5.1/42, Error ellipse: s-maj=10.6km s-min=5.6km az=115.1*
*BJI **10** 09:21:44.0, 9°.50S×112°.70E, h65km, mB5.3/12, mb5.1/53, Ms4.7/2, Ms7 4.3/2*
*DJA **10** 09:21:45.3±0.2, 10°S±2°×11°3E±°, h55km±2km, M5.2/59, mb5.0/59, mB5.7/21, MLv5.2/25, Mw(mB)5.2/21*
*NEIC **10** 09:21:46.6±1.4, 9°.29S±0°.08×112°.67E±0°.06, h65km±7km, mb5.1/56, Error ellipse: s-maj=14.4km s-min=2.4km az=215.0*

ISC 10 09:21:46.1±0.4, 9°.35S±0°.05×112°.65E±0°.04, h60km±3km, h60km:pP-P, n375, σ1°38/385, mb5.0/110, 13C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.33**	**36**	P	**Pn**	09 22 08.8	+0.3
GMJI				S	**Sn**	09 22 25.8	+0.5
JAGI	**Jajag, Banyuwa**	**1.72**	**60**		**Pn**	09 22 14.1	+0.2
JAGI	**Jajag, Banyuwa**	**1.72**	**60**	P	**Pn**	09 22 14.5	+0.6
JAGI	**Jajag, Banyuwa**	**1.72**	**60**	P	**Pn**	09 22 14.1	+0.2
PCJI	**Pacitan**	**1.85**	**308**	P	**Pn**	09 22 15.8	+0.2
ABJI	**Asem Bagus**	**2.20**	**46**	P	**Pn**	09 22 22.7	+2.4
NGJI	**Ngawi**	**2.29**	**329**	P	**Pn**	09 22 25.3	+3.7
GRJI	**Gresik**	**2.43**	**356**	P	**Pn**	09 22 25.8	+2.4
UGM	**Wanagama**	**2.54**	**304**		**Pn**	09 22 25.6	+0.5
UGM				Sn	**Sn**	09 22 54.8	-0.1
UGM	**Wanagama**	**2.54**	**304**	P	**Pn**	09 22 26.2	+1.2
UGM	**Wanagama**	**2.54**	**304**	P	**Pn**	09 22 25.9	+0.9
DNP	**Denpasar**	**2.62**	**75**	P	**Pn**	09 22 26.9	+0.9
KMMI	**Kalianget**	**2.63**	**30**	P	**Pn**	09 22 28.4	+2.2
TBJI	**Tambak Boyo**	**2.64**	**342**	P	**Pn**	09 22 28.4	+2.1
YOGI	**Yogyakarta**	**2.78**	**303**	P	**Pn**	09 22 28.5	+0.2
SRBI	**Singaraja**	**2.83**	**64**	P	**Pn**	09 22 30.0	+1.1
SMRI	**Semarang**	**3.17**	**316**		**Pn**	09 22 34.2	+0.7
SMRI	**Semarang**	**3.17**	**316**	P	**Pn**	09 22 35.6	+2.1
SMRI	**Semarang**	**3.17**	**316**	P	**Pn**	09 22 35.3	+1.8
TWSI	**Taliwang, Sumb**	**4.22**	**82**	P	**Pn**	09 22 48.1	+0.1
CMJI	**Cimerak**	**4.44**	**290**	P	**Pn**	09 22 50.1	-0.8
PLAI	**Plampang**	**5.09**	**85**	P	**Pn**	09 23 00.4	+0.5
PLAI	**Plampang**	**5.09**	**85**	P	**Pn**	09 23 00.0	+0.1
BBJI	**Bungbulang**	**5.29**	**290**	P	**Pn**	09 23 02.6	-0.1
	200nm,0.7s						
LEM	**Lembang**	**5.58**	**296**	Pn	**Pn**	09 23 08.2	+1.4
	16nm,0.3s,baz=118,slow=12,SNR=14						
LEM				Sn	**Sn**	09 24 07.0	-2.6
	19nm,0.3s,baz=341,slow=23,SNR=7.1						
LEM	**Lembang**	**5.58**	**296**	P	**Pn**	09 23 06.9	+0.2
	0.9nm2μm148nm,1.3s						
CNJI	**Cibinong**	**5.83**	**290**	P	**Pn**	09 23 09.8	-0.2
	0.8nm2μm69nm,0.5s						
SKJI	**Sukabumi**	**6.47**	**291**	P	**Pn**	09 23 19.1	+0.3
WBSI	**Waikabubak, Su**	**6.66**	**93**	P	**Pn**	09 23 19.8	-1.6
	1.3nm244nm,0.9s						
XMIS	**Christmas Isla**	**6.99**	**260**	Pn	**Pn**	09 23 23.4	-2.5
CGJI	**Cibinong**	**7.41**	**291**	P	**Pn**	09 23 32.1	+0.5
BASI	**Baing, Sumba**	**7.86**	**97**	P	**Pn**	09 23 35.8	-2.1
	2.1nm10μm301nm,0.8s						
TPI	**Tanjungpandan**	**8.22**	**323**	P	**Pn**	09 23 44.4	+1.6
KAPI	**Kappang**	**8.26**	**59**	Pn	**Pn**	09 23 39.9	-3.4
KAPI	**Kappang**	**8.26**	**59**	Pn	**Pn**	09 23 43.2	-0.1
	15nm,0.3s,baz=210,slow=6.2,SNR=15						
KAPI				Sn	**Sn**	09 25 11.1	-4.1
	baz=272,slow=23						
KAPI				LR	LR	09 27 13.4	
	comp=Z,304nm,20.1s,baz=264,slow=41						
KAPI	**Kappang**	**8.26**	**59**	P	**Pn**	09 23 43.9	+0.6
KAPI				S	**Sn**	09 25 13.5	-1.7
KAPI	**Kappang**	**8.26**	**59**	P	**Pn**	09 23 45.0	+1.7
KAPI	**Kappang**	**8.26**	**59**	P	**Pn**	09 23 39.9	-3.4
BSSI	**Bau Bau, Buton**	**8.40**	**68**	P	**Pn**	09 23 46.0	+0.8
	3μm158nm,0.6s						
BKSI	**Bulukumba**	**8.42**	**62**	P	**Pn**	09 23 46.3	+0.7
	113nm,0.6s						
SPSI	**Sidrap Palu**	**8.87**	**53**	P	**Pn**	09 23 53.7	+2.1
	4μm26nm,0.5s						
STKI	**Sintang**	**9.43**	**353**	P	**Pn**	09 24 03.1	+3.8
	96nm,0.9s						
TTSI	**Tana Toraja**	**9.49**	**49**	P	**Pn**	09 24 03.3	+3.2
	43nm,0.8s						
MMRI	**Maumere**	**9.50**	**86**	Pn	**Pn**	09 23 56.8	-3.5
MMRI	**Maumere**	**9.50**	**86**	P	**Pn**	09 23 58.2	-2.1
	92nm,0.7s						
LWLI	**Liwa**	**9.55**	**296**	P	**Pn**	09 24 03.2	+2.1
MDSI	**Maura Dua**	**9.70**	**299**	P	**Pn**	09 24 04.5	+1.5
	26nm,0.6s						
MNAI	**Manna**	**10.82**	**297**	Pn	**Pn**	09 24 17.6	-0.8
MNAI	**Manna**	**10.82**	**297**	P	**Pn**	09 24 18.8	+0.4
MNAI	**Manna**	**10.82**	**297**	P	**Pn**	09 24 18.2	-0.2
KSM	**Kuching**	**11.00**	**348**	P	**Pn**	09 24 23.2	+2.3
PCI	**Palu**	**11.03**	**41**	P	**Pn**	09 24 21.4	+0.2
	6μm98nm,1.0s						
SOEI	**Soe**	**11.46**	**93**		**Pn**	09 24 26.3	-1.0
SOEI	**Soe**	**11.46**	**93**	P	**Pn**	09 24 27.1	-0.2
SOEI	**Soe**	**11.46**	**93**	P	**Pn**	09 24 26.2	-1.0
	2μm148nm,0.7s						
KSI	**Kapahiang**	**11.48**	**299**	P	**Pn**	09 24 27.9	+0.4
SBUM	**Sibu**	**11.73**	**358**	Pn	**Pn**	09 24 33.6	+2.8
SBUM	**Sibu**	**11.73**	**358**	P	**Pn**	09 24 33.6	+2.8
APSI	**Ampana**	**12.27**	**47**	P	**Pn**	09 24 39.7	+1.6
	30nm,0.8s						
TOLI2	**Tolitoli**	**13.18**	**38**	P	**Pn**	09 24 52.0	+1.5
MBWA	**Marble Bar**	**13.58**	**151**	Pn	Pn	09 24 51.3	-4.6
MBWA	**Marble Bar**	**13.58**	**151**	P	Pn	09 24 51.3	-4.6
MBWA	**Marble Bar**	**13.58**	**151**	P	Pn	09 24 51.2	-4.7
PSAC1	**Pilbara Seismi**	**13.93**	**151**	P	**Pn**	09 24 56.7	-4.0
PSA00	**Pilbara Seismi**	**13.98**	**151**	Pn	Pn	09 24 56.6	-4.8
PSA00	**Pilbara Seismi**	**13.98**	**151**	P	**Pn**	09 24 58.4	-3.0
PPSI	**Pulau Pagai**	**14.17**	**297**	P	**Pn**	09 25 03.2	-0.6
	111nm,1.2s						
FITZ	**Fitzroy Crossi**	**15.31**	**126**		**Pn**	09 25 15.1	-3.7
FITZ	**Fitzroy Crossi**	**15.31**	**126**	P	**Pn**	09 25 15.6	-3.1
FITZ	**Fitzroy Crossi**	**15.31**	**126**	Pn	**Pn**	09 25 15.3	-3.4
	3.1nm,0.3s,baz=314,slow=8.0,SNR=47						
FITZ				Sn	Sn	09 27 51.0	-16
	3.3nm,0.3s,baz=231,slow=22,SNR=6.4						
FITZ				LR	LR	09 31 46.3	
	comp=Z,70nm,19.3s,baz=282,slow=40						
	7.3nm,0.3s						
COCO	**West Island**	**15.79**	**258**	P	**Pn**	09 25 25.8	+1.0
KNRA	**Kununurra**	**16.93**	**113**	P	**Pn**	09 25 37.9	-1.2
KNRA	**Kununurra**	**16.93**	**113**	P	**Pn**	09 25 38.3	-0.9
	comp=Z,41nm,0.7s						
PBSI	**Pulau Batu**	**17.03**	**302**	P	**Pn**	09 25 38.2	-2.2
	comp=Z,88nm,1.3s						
MEEK	**Meekatharra**	**18.10**	**163**	P	**P**	09 25 51.6	-1.5
	comp=Z,27nm,1.1s						
MEEK	**Meekatharra**	**18.10**	**163**	P	**P**	09 25 52.7	-0.4
DRS	**Darwin Rock St**	**18.18**	**101**	P	**Pn**	09 25 56.4	+1.9
	comp=Z,78nm,0.8s						
MTN	**Manton Dam**	**18.46**	**103**	P	**P**	09 25 56.3	-0.9
MTN				IAmb	IAmb	09 26 02.6	
	comp=Z,58nm,0.6s						
MTN	**Manton Dam**	**18.46**	**103**	P	**Pn**	09 25 57.9	0.0
	comp=Z,87nm,0.9s						
MTN	**Manton Dam**	**18.46**	**103**	P	**Pn**	09 25 59.0	+1.1
KDU	**Kakadu**	**19.74**	**101**	P	**P**	09 26 10.3	-0.8
	comp=Z,23nm,0.9s						
KDU	**Kakadu**	**19.74**	**101**	P	**Pn**	09 26 12.9	-0.2
MORW	**Morawa**	**19.87**	**171**	P	**Pn**	09 26 13.8	-0.8
	comp=Z,12nm,0.8s						
SWI	**Sorong**	**20.35**	**67**	P	**P**	09 26 18.1	+0.3
	comp=Z,50nm,1.1s						
FAKI	**Fak Fak**	**20.50**	**73**	P	**P**	09 26 16.2	-3.2
FAKI				IAmb	IAmb	09 26 20.6	
	comp=Z,70nm,0.7s						
FAKI	**Fak Fak**	**20.50**	**73**	P	**P**	09 26 20.0	+0.6
FAKI	**Fak Fak**	**20.50**	**73**	P	**P**	09 26 18.8	-0.6
	comp=Z,98nm,0.6s						
BLDU	**Ballidu**	**21.49**	**170**	P	**P**	09 26 27.8	-2.1
	comp=Z,15nm,2.6s						
WRKA	**Warakurna**	**21.57**	**138**	P	**P**	09 26 30.9	+0.1
	comp=Z,22nm,1.1s						
WRKA	**Warakurna**	**21.57**	**138**	P	**P**	09 26 32.7	+1.9
SRIT	**Nakonsritamara**	**22.06**	**324**	P	**P**	09 26 38.5	+2.4
	comp=Z,41nm,0.6s						
BSI	**Banda Aceh**	**22.73**	**310**	P	**P**	09 26 43.0	-0.4
WB0	**Warramunga Arr**	**23.42**	**119**	P	**P**	09 26 49.1	-1.1
WC1	**Warramunga Arr**	**23.44**	**119**	P	**P**	09 26 50.0	-0.3
WRA	**Warramunga Arr**	**23.45**	**119**	P	**P**	09 26 49.5	-0.9
WRA	**Warramunga Arr**	**23.45**	**119**	P	**P**	09 26 49.6	-0.7
	comp=Z,4.8nm,0.6s,baz=294,slow=12,SNR=38						
WRA				PcP	**PcP**	09 30 36.1	+1.0
	comp=Z,1.9nm,0.5s,baz=303,slow=1.9,SNR=4.8						
WRA				S	**S**	09 31 04.1	+4.7
	comp=Z,1.4nm,0.8s,baz=292,slow=24,SNR=3.6						
	comp=Z,4.8nm,0.6s						
WRA	**Warramunga Arr**	**23.45**	**119**	P	**P**	09 26 49.5	-0.9
WRAB	**Tennant Creek**	**23.45**	**119**	*i* P	**P**	09 26 45.5	-4.9
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WB2	**Warramunga Arr**	**23.46**	**119**	P	**P**	09 26 48.9	-1.6
WC3	**Warramunga Arr**	**23.48**	**119**	P	**P**	09 26 49.9	-0.8
KMBL	**Kambalda**	**23.53**	**160**	P	**P**	09 26 50.7	-0.3
	comp=Z,14nm,0.9s						
WR9	**Warramunga Arr**	**23.60**	**119**	P	**P**	09 26 50.9	-1.0
NWAO	**Narrogin (SRO)**	**23.84**	**170**	P	**P**	09 26 55.6	+1.8
	comp=Z,35nm,2.0s						
NWAO	**Narrogin (SRO)**	**23.84**	**170**	LR	LR	09 36 57.7	
	comp=Z,168nm,18.4s,baz=192,slow=38						
**AS

comp=Z,7.7nm,2.0s
SHL Shillong 40.17 330 P P 09 29 15.9 -0.8
SHL IAmb IAmb 09 29 17.0
comp=Z,27nm,0.6s
SHL Shillong 40.17 330 P P 09 29 16.5 -0.4
SHL Shillong 40.17 330 P P 09 29 16.0 -0.8
SHL pmax pmax
comp=Z,27nm,0.6s
NJ2 Nanjing 41.59 8 *e*P **P 09 29 28.2 0.0**
NJ2 pmax pmax
comp=Z,19nm,0.5s
AUWSH Wavell State H 42.08 121 P P 09 29 34.7 +2.3
HYB Hyderabad 42.93 308 *e*P **P 09 29 38.5 -0.9**
XAN Xi'an 43.30 355 P P 09 29 41.8 -0.3
XAN pP pP 09 29 58.2 +1.3
XAN pmax pmax
comp=Z,14nm,0.6s
XAN Xi'an 43.30 355 P P 09 29 41.5 -0.6
LYN LuoYang 43.66 360 P P 09 29 44.8 -0.2
LYN pmax pmax
comp=Z,24nm,0.6s
LSA Lhasa 44.00 333 P P 09 29 49.3 +1.0
TIA Tai'an 45.51 5 P P 09 29 58.8 -0.9
TIA pmax pmax
comp=Z,17nm,0.6s
JNU Nakatsue 45.67 22 P P 09 29 59.1 -1.9
JNU Nakatsue 45.67 22 P P 09 29 59.5 -1.6
comp=Z,11nm,1.0s,baz=270,slow=1.0,SNR=2.0
comp=Z,11nm,1.0s
LZH Lanzhou 45.95 350 *e*P **P 09 30 03.9 +0.5**
LZH pP pwP 09 30 21.9 +1.0
LZH pmax pmax
comp=Z,24nm,1.1s
JCJ Chichijima 46.19 38 P P 09 30 03.4 -1.8
HNS HongShan 46.54 2 ⇓P **P 09 30 07.3 -0.5**
KSRS Korea Array 48.71 16 P P 09 30 23.8 -0.7
comp=Z,2.9nm,0.5s,baz=202,slow=8.2,SNR=13
comp=Z,2.9nm,0.5s
DL2 Dalian 48.73 9 P P 09 30 22.8 -1.9
DL2 pmax pmax
comp=Z,48nm,0.9s
BJT Baijiatuau 49.23 4 P P 09 30 27.7 -0.8
BJT Baijiatuau 49.23 4 P P 09 30 27.7 -0.8
BJT pmax pmax
comp=Z,17nm,0.5s
BJT Baijiatuau 49.23 4 P P 09 30 28.0 -0.5
BJI Beijing 49.25 4 P P 09 30 28.1 -0.5
BJI pmax pmax
comp=Z,10.0nm,0.5s
BTO Baotou 49.77 357 *e*P **P 09 30 33.6 +0.9**
BTO pP **pP 09 30 49.1 +1.2**
BTO sP **sP 09 30 55.9 +1.4**
BTO PP **PP 09 32 30.8 +2.8**
BTO pmax pmax
comp=Z,93nm,0.7s
BTO pmax pmax
comp=Z,370nm,5.2s
GTA Gaotai 49.96 347 *e*P **P 09 30 35.1 +0.9**
GTA PcP **PcP 09 31 55.2 +1.5**
GTA pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 49.96 359 *e*P P 09 30 39.0 +4.8
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,67nm,3.5s
INU Inuyama 50.07 26 P P 09 30 32.9 -2.1
INU IAmb IAmb 09 30 34.3
comp=Z,15nm,0.8s
INU Inuyama 50.07 26 P P 09 30 33.2 -1.7
JGF Kuroka 50.43 26 P P 09 30 36.0 -1.7
JGF IAmb IAmb 09 30 37.1
comp=Z,15nm,0.6s
MAJO Matsushiro 51.59 26 P P 09 30 44.3 -2.1
MAJO IAmb IAmb 09 30 45.2
comp=Z,11nm,0.9s
MAJO Matsushiro 51.59 26 *i* P **P 09 30 44.6 -1.9**
MAJO pmax pmax
comp=Z,38nm,1.9s
MAJO Matsushiro 51.59 26 P P 09 30 44.5 -1.9
MJAR Matsushiro Arr 51.59 26 P P 09 30 44.4 -2.0
comp=Z,4.9nm,0.4s,baz=176,slow=26,SNR=5.7
comp=Z,4.9nm,0.4s
MJB9 Matsu-Tunnel 51.59 26 P P 09 30 45.3 -1.2
MJB9 IAmb IAmb 09 30 46.2
comp=Z,11nm,0.9s
JMM Marumori 53.84 28 P P 09 31 01.8 -1.2
CN2 Changchun 54.16 11 *e*P **P 09 31 04.0 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
MDJ Mudanjiang 55.86 15 P P 09 31 16.6 -0.9
MDJ IAmb IAmb 09 31 17.5
comp=Z,20nm,0.8s
MDJ Mudanjiang 55.86 15 P P 09 31 16.5 -0.9
MDJ pmax pmax
comp=Z,29nm,1.0s
MDJ Mudanjiang 55.86 15 P P 09 31 16.8 -0.7
USA0B Ussuriysk Arra 56.11 17 P P 09 31 18.0 -1.3
USA0B IAmb IAmb 09 31 19.5
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 56.11 17 *i* P **P 09 31 18.3 -0.9**
USRK Ussuriysk Ar. 56.11 17 P P 09 31 18.0 -1.3
USRK Ussuriysk Ar. 56.11 17 P P 09 31 18.5 -0.7
comp=Z,26nm,0.8s,baz=194,slow=5.4,SNR=42
comp=Z,26nm,0.8s
USRK Ussuriysk Ar. 56.11 17 P P 09 31 18.0 -1.3
JTM Tenmabayashi 56.36 26 P P 09 31 19.6 -1.4
BNX BinXian 56.42 12 ⇑P **P 09 31 20.0 -1.4**
BNX pmax pmax
comp=Z,32nm,0.6s
NIL Nilore 56.83 321 P P 09 31 22.7 -2.0
NIL IAmb IAmb 09 31 23.7
comp=Z,17nm,0.7s
NIL Nilore 56.83 321 P P 09 31 23.3 -1.4
NIL Nilore 56.83 321 P P 09 31 22.7 -2.0
NIL pmax pmax
comp=Z,17nm,0.7s
NIL Nilore 56.83 321 P P 09 31 23.1 -1.5
ULN Ulaanbaatar 57.18 356 P P 09 31 26.3 -0.7
ULN IAmb IAmb 09 31 27.5
comp=Z,15nm,1.1s
ULN Ulaanbaatar 57.18 356 P P 09 31 26.7 -0.3
ULN Ulaanbaatar 57.18 356 *i* P **P 09 31 26.6 -0.4**
ULN pmax pmax
comp=Z,14nm,1.1s
ULN Ulaanbaatar 57.18 356 P P 09 31 26.6 -0.4
SONM Songino Array 57.20 355 P P 09 31 26.5 -0.6
SONM IAmb IAmb 09 31 27.8
comp=Z,11nm,1.1s
SONM Songino Array 57.20 355 P P 09 31 26.8 -0.3
comp=Z,7.9nm,0.7s,baz=177,slow=8.7,SNR=51
SONM PcP **PcP 09 32 21.3 +0.3**
comp=Z,1.0nm,0.7s,baz=189,slow=3.5,SNR=5.6
comp=Z,7.9nm,0.7s
SONM Songino Array 57.20 355 P P 09 31 26.5 -0.6
SONM pmax pmax
comp=Z,11nm,1.1s
WMQ Urumqi 57.57 339 *e*P **P 09 31 31.8 +2.1**
KSH Kashi 59.34 328 P P 09 31 40.5 -1.7
KSH pmax pmax
comp=Z,9.0nm,0.8s
ASAJ Asahikawa 59.74 25 P P 09 31 43.2 -1.5
ASAJ pmax pmax
comp=Z,14nm,0.9s
JKA Kamikawa-asahi 59.74 25 P P 09 31 43.2 -1.5
JKA IAmb IAmb 09 32 06.3
comp=Z,14nm,0.9s
KBL Kabul 60.08 319 P P 09 31 46.4 -1.1
KBL IAmb IAmb 09 31 47.6
comp=Z,7.1nm,0.6s
KBL Kabul 60.08 319 P P 09 31 46.4 -1.1
KBL pmax pmax
comp=Z,7.0nm,0.6s
SHLS Shalkode 60.37 333 *e*P **P 09 31 47.7 -1.5**
SHLS pmax pmax
comp=Z,8.0nm,0.4s
SHLS Shalkode 60.37 333 *e*P **P 09 31 47.8 -1.5**
comp=Z,8.4nm,0.4s
UZB Uzynbulak 60.57 332 *e*P **P 09 31 50.2 -0.3**
UZB pmax pmax
comp=Z,6.0nm,0.4s
UZB Uzynbulak 60.57 332 *e*P **P 09 31 50.3 -0.3**
comp=Z,5.6nm,0.4s
KDJ Kajisay 60.66 330 P P 09 31 50.3 -1.0
KDJ IAmb IAmb 09 31 52.3
comp=Z,22nm,1.4s
KDJ Kajisay 60.66 330 P P 09 31 50.3 -1.0
KDJ pmax pmax
comp=Z,22nm,1.4s
KLR Kul'dur 60.70 14 P P 09 31 49.9 -1.2
comp=Z,6.3nm,0.5s,baz=195,slow=5.6,SNR=37
comp=Z,6.3nm,0.5s
KLR Kul'dur 60.70 14 *ce*P **P 09 31 50.0 -1.2**
KLR pmax pmax
comp=Z,22nm,2.5s
HEH HeiHe 60.74 11 *e*P **P 09 31 50.6 -0.8**
HEH pmax pmax
comp=Z,29nm,0.7s
SATY Saty 60.78 332 *e*P **P 09 31 51.7 -0.3**
SATY Saty 60.78 332 *e*P **P 09 31 51.8 -0.3**
ZHN Zhinishke 60.85 332 *e*P **P 09 31 52.0 -0.5**
ZHN Zhinishke 60.85 332 *e*P **P 09 31 52.0 -0.5**
TNSS Tian-Shan 61.46 331 *e*P **P 09 31 56.1 -0.8**
TNSS Tian-Shan 61.46 331 *e*P **P 09 31 56.2 -0.8**
BOOM Boomskoye usch 61.54 330 P **P 09 31 56.2 -1.0**
BOOM IAmb IAmb 09 31 57.7
comp=Z,10nm,1.0s
BOOM Boomskoye usch 61.54 330 P P 09 31 56.2 -1.0
BOOM pmax pmax
comp=Z,10.0nm,1.0s
MHTO MHTO 61.60 300 P P 09 31 57.6 -0.2
SNR=7.6
MOY Mondy 61.60 352 *e*P **P 09 31 57.0 -0.3**
MOY pmax pmax
comp=Z,20nm,2.6s
AAA Alma-Ata 61.60 331 *e*P **P 09 31 56.9 -0.6**
AAA pmax pmax
comp=Z,6.0nm,0.4s
AAA Alma-Ata 61.60 331 *e*P **P 09 31 57.0 -0.6**
comp=Z,6.3nm,0.4s
ZSN Zaisan 61.70 339 *e*P **P 09 31 57.6 -0.4**
ZSN pmax pmax
comp=Z,8.0nm,0.9s
ZSN Zaisan 61.70 339 *e*P **P 09 31 57.7 -0.4**
comp=Z,8.5nm,0.9s
TKM2 Tokmak 2 62.03 330 P P 09 32 00.1 -0.5
SNR=14
JMDO Jabal Madar 62.05 301 P P 09 32 00.6 -0.2
MK31 Makanchi Array 62.11 337 P P 09 32 00.1 -0.7
MK31 IAmb IAmb 09 32 00.9
comp=Z,9.5nm,0.6s
MK31 Makanchi Array 62.11 337 P P 09 32 00.1 -0.7
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 62.11 337 P P 09 32 00.1 -0.6
comp=Z,15nm,0.4s,baz=150,slow=7.4,SNR=279
comp=Z,15nm,0.4s
GAR Garm 62.14 324 P P 09 31 59.5 -1.8
GAR IAmb IAmb 09 32 00.7
comp=Z,12nm,0.6s
YSS Yuzhno-Sakhali 62.14 23 P P 09 32 00.5 -0.5
YSS Yuzhno-Sakhali 62.14 23 P P 09 32 00.2 -0.7
KBK Karagaybulak 62.16 329 P P 09 32 01.6 +0.2
SNR=12
MAKZ Makanchi 62.24 337 P P 09 32 00.4 -1.3
MAKZ Makanchi 62.24 337 P P 09 32 00.4 -1.3
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 62.24 337 P P 09 32 00.7 -1.0
AAK Ala-Archa 62.38 329 P P 09 32 02.4 -0.4
AAK IAmb IAmb 09 32 03.6
comp=Z,12nm,1.1s
AAK Ala-Archa 62.38 329 P P 09 32 02.8 0.0
AAK Ala-Archa 62.38 329 P P 09 32 02.8 0.0
SNR=8.2
AAK Ala-Archa 62.38 329 *ce*P **P 09 32 02.9 0.0**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 62.38 329 P P 09 32 02.6 -0.2
SMDO Samad 62.38 302 P P 09 32 03.3 +0.2
AML Almayashu 62.42 328 P P 09 32 03.1 -0.3
SNR=29
BIDO Bidbid 62.51 303 P P 09 32 04.5 +0.6
SIMJ Simiganj 62.70 323 P P 09 32 02.6 -2.4
SIMJ Simiganj 62.70 323 P P 09 32 02.6 -2.4
EKS2 Erkin-Say 62.76 329 P P 09 32 05.5 +0.2
SNR=16
USP Ospenovka 62.83 330 P P 09 32 05.1 -0.6
SNR=6.3
SGDS Sogindy 62.90 330 *e*P **P 09 32 05.4 -0.7**
SGDS Sogindy 62.90 330 *e*P **P 09 32 05.5 -0.7**
BSY Bisya 62.96 301 P P 09 32 06.5 -0.4
HOQ Hoqain 63.21 302 P P 09 32 08.3 -0.3
H04N2 CROZET ISLANDS 63.24 223 T T 10 40 39.7
baz=75
H04N1 CROZET ISLANDS 63.26 223 T T 10 40 38.7
baz=75,slow=74,SNR=3.0
H04N3 CROZET ISLANDS 63.26 223 T T 10 40 40.2
baz=75,slow=74,SNR=3.4
RBK Rabkut 63.60 295 P P 09 32 11.8 +0.5
MSVF Nonsavu 63.87 105 P P 09 32 14.4 +1.3
MSVF IAmb IAmb 09 33 13.0
comp=Z,46nm,1.5s
MSVF Nonsavu 63.87 105 P P 09 32 14.4 +1.3
MSVF pmax pmax
comp=Z,46nm,1.5s
MSVF Nonsavu 63.87 105 P P 09 32 14.9 +1.8
MSVF pP **pwP 09 32 33.0 +0.6**
BKZ Black Stump Fm 63.91 129 P P 09 32 13.7 +0.6
BKZ IAmb IAmb 09 33 52.2
comp=Z,61nm,1.7s
DOK Doka 64.06 296 P P 09 32 14.1 -0.1
SNR=7.2
ZEA Zeya 64.06 10 *e*P **P 09 32 13.0 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
SOHO SOHO 64.09 303 P P 09 32 13.2 -1.1
WHFO Wadi Hawf 64.14 295 P P 09 32 14.2 -0.6
SNR=9.3
RTZ Ruatahuna 64.20 128 P P 09 32 15.2 +0.2
ABTO Aybut 64.37 294 P P 09 32 16.5 +0.1
SNR=7.2
IUG Iuzhnay 64.40 326 *e*P **P 09 32 15.6 -0.5**
IUG pmax pmax
comp=Z,12nm,0.8s
IUG Iuzhnay 64.40 326 *e*P **P 09 32 15.7 -0.5**
comp=Z,12nm,0.8s
UOSS Minazif 64.69 303 P P 09 32 16.9 -1.4
UOSS IAmb IAmb 09 34 14.9
comp=Z,40nm,1.4s
UOSS Minazif 64.69 303 P P 09 32 18.0 -0.2
UOSS Minazif 64.69 303 P P 09 32 17.6 -0.6
UOSS pP **pP 09 32 35.4 +1.4**
HATD Hatta, Dubai 64.70 303 P P 09 32 18.9 +0.6
ASHO Ashiyiah 64.71 303 P P 09 32 18.3 -0.1
CHM Chimkent 64.75 326 *e*P **P 09 32 17.7 -0.6**
CHM Chimkent 64.75 326 *e*P **P 09 32 17.8 -0.6**
MDH Madha 64.76 304 P P 09 32 17.8 -0.9
KK31 Karatay Array 64.78 327 P P 09 32 16.5 -2.0
KK31 Karatay Array 64.78 327 P P 09 32 16.5 -2.0
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 64.78 327 P P 09 32 17.2 -1.3
KKAR Karatay Array 64.78 327 P P 09 32 17.0 -1.5
KKAR IAmb IAmb 09 32 19.4
comp=Z,5.1nm,0.7s
KKAR Karatay Array 64.78 327 P P 09 32 17.0 -1.5
KKAR pmax pmax
comp=Z,5.0nm,0.7s
MASF Masafi 64.91 304 P P 09 32 20.0 +0.3
FAQ Al Faqa, Dubai 65.12 303 P P 09 32 21.2 +0.2
NAZ Nazwa, Dubai 65.16 303 P P 09 32 21.5 +0.2
ASUD Al Ashush, Dub 65.29 303 P P 09 32 22.4 +0.2
TYV Tymovskoe 65.37 20 *e*P **P 09 32 21.6 -0.5**
TYV pmax pmax
comp=Z,5.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.8s
KURBB Kurchatov Arra 66.67 337 P P 09 32 29.6 -0.9
comp=Z,4.8nm,0.6s,baz=153,slow=6.0,SNR=49
KURBB PcP **PcP 09 32 59.2 0.0**
comp=Z,1.8nm,0.6s,baz=149,slow=3.6,SNR=7.7
comp=Z,4.8nm,0.6s
KURK Kurchatov 66.71 337 P P 09 32 29.5 -1.2
KURK Kurchatov 66.71 337 P P 09 32 30.1 -0.6
KURK Kurchatov 66.71 337 *ce*P **P 09 32 30.1 -0.6**
KURK pmax pmax
comp=Z,29nm,2.5s
KURK Kurchatov 66.71 337 P P 09 32 29.8 -0.9
KURK PcP **PcP 09 32 59.3 0.0**
ZAA0 Zalesovo Array 67.31 343 P P 09 32 33.1 -1.4
ZAA0 IAmb IAmb 09 32 34.1
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 67.31 343 P P 09 32 32.7 -1.8
ZALV Zalesovo Beam 67.31 343 P P 09 32 33.4 -1.1
comp=Z,16nm,0.7s,baz=158,slow=4.4,SNR=63
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 67.31 343 P P 09 32 32.7 -1.8
BRZS Berezniki 68.59 334 *e*P **P 09 32 42.2 -0.4**
BRZS Berezniki 68.59 334 *e*P **P 09 32 42.2 -0.4**
TRNA Turayna 68.78 301 P P 09 32 44.4 +0.1
SMRA Abu-Samra 69.12 301 P P 09 32 46.3 0.0
BVAR Borovoye Array 71.79 335 P P 09 33 01.2 -0.8
comp=Z,4.1nm,0.6s,baz=142,slow=8.4,SNR=19
comp=Z,4.1nm,0.6s
BRVK Borovoye 71.86 335 *ce*P **P 09 33 02.7 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
YAK Yakutsk 72.39 8 P P 09 33 04.6 -0.8
comp=Z,37nm,0.5s,baz=140,slow=0.5,SNR=8.3
comp=Z,37nm,0.5s
YAK Yakutsk 72.39 8 *e*P **P 09 33 04.2 -1.3**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
VNDA Vanda 72.67 170 P P 09 33 08.3 +1.3
comp=E,1.2nm,0.6s,baz=309,slow=6.9,SNR=6.2
comp=E,1.2nm,0.6s
PETK Petropavlovsk- 73.05 26 P P 09 33 08.8 -0.8
comp=E,6.1nm,0.5s,baz=221,slow=2.2,SNR=39
comp=E,6.1nm,0.5s
RAYN Ar Rayn 73.28 298 P P 09 33 11.5 -0.1
ABKAR Akbulak array 74.35 327 P P 09 33 16.8 -0.4
MA2 Magadan 75.16 19 P P 09 33 21.6 -0.2
comp=E,16nm,0.8s,baz=196,slow=5.2,SNR=37
comp=E,16nm,0.8s
MA2 Magadan 75.16 19 *ce*P **P 09 33 21.7 0.0**
MA2 pmax pmax
comp=Z,14nm,0.8s
MA2 Magadan 75.16 19 P P 09 33 21.5 -0.2
comp=Z,21nm,1.5s
SYO Syowa Base 75.27 201⇑*e*P **P 09 33 22.6 +0.3**
AKT Akhty 78.01 316 *e*P **P 09 33 36.0 -2.4**
AKT pmax pmax
comp=Z,8.0nm,0.6s
SEY Seymchan 78.25 17 P P 09 33 39.1 0.0
comp=Z,7.5nm,0.4s,baz=222,slow=5.9,SNR=82
comp=Z,7.5nm,0.4s
SEY Seymchan 78.25 17 *ce*P **P 09 33 39.2 +0.1**
SEY pmax pmax
comp=Z,24nm,1.7s
SVE Sverdlovsk 78.52 334 *de*P **P 09 33 40.8 +0.1**
SVE pmax pmax
comp=Z,26nm,0.6s
ARTI Arti 79.26 333 *e*P **P 09 33 43.6 -1.1**
ARTI Arti 79.26 333 *c i*P **P 09 33 44.4 -0.4**
ARTI *PP **pP 09 34 01.5 +0.7**
ARTI 09 36 44.2
ARTI S **S 09 43 41.6 +1.4**
ARTI SS **SS 09 48 48.8 +0.6**
ARTI pmax pmax
comp=Z,29nm,0.7s
GEVA Gevas 80.15 312 P P 09 33 50.4 +0.1
QSPA South Pole Qui 80.65 180 P P 09 33 53.1 +0.8
comp=Z,3.0nm,1.0s,baz=267,slow=1.3,SNR=8.0
comp=Z,3.0nm,1.0s
KARS Kars 80.94 314 P P 09 33 54.9 +0.5
KARS Kars 80.94 314 P P 09 33 54.9 +0.5
KARS pmax pmax
comp=Z,70nm,1.0s
GURO Guroymak-BITLI 80.99 312 P P 09 33 53.6 -1.1
TIXI Tiksi 81.55 5 P P 09 33 54.8 -1.9
TIXI IAmb IAmb 09 33 56.3
comp=Z,17nm,0.8s
TIXI Tiksi 81.55 5 LR LR 10 13 47.7
comp=Z,118nm,18.4s,baz=342,slow=38
TIXI Tiksi 81.55 5 *i P* **P 09 33 55.4 -1.3**
TIXI pmax pmax
comp=Z,17nm,0.7s
KBZ Khabaz 82.16 317 P P 09 34 01.2 +0.6
comp=Z,9.3nm,0.9s,baz=117,slow=6.5,SNR=13
comp=Z,9.3nm,0.9s
KBZ Khabaz 82.16 317 *ce*P **P 09 34 01.4 +0.9**
KBZ pmax pmax
comp=Z,15nm,1.0s
SHA1 Shidzhatmaz 82.33 317 *i* P **P 09 34 02.7 +0.9**
KIV Kislovodsk 82.38 317 *e*P **P 09 34 03.2 +1.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
BOSA Boshof 83.32 242 P P 09 34 08.3 +1.1
comp=Z,5.0nm,0.9s
comp=Z,5.0nm,0.9s
MMAI Mount Meron Ar 84.52 305 P P 09 34 14.7 +1.6
comp=Z,9.0nm,0.7s,baz=108,slow=8.2,SNR=17
comp=Z,9.0nm,0.7s
KIRV Kirov 84.53 332 *ce*P **P 09 34 12.6 +0.2**
VRH Novokhopyorsk 85.56 323 *e*P **P 09 34 15.8 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 87.08 323 *e*P **P 09 34 22.7 -2.5**
VSR pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 87.20 323 *e*P **P 09 34 23.9 -1.9**
VORR pmax pmax
comp=Z,10.0nm,0.8s
BR104 Keskin Array S 87.57 311 P P 09 34 27.6 -0.4
comp=Z,63nmcomp=Z,8.9nm,0.9s
BRTR Keskin Array B 87.57 311 P P 09 34 27.3 -0.8
BRTR Keskin Array B 87.57 311 P P 09 34 28.4 +0.3
comp=Z,6.5nm,0.8s,baz=134,slow=6.3,SNR=35
comp=Z,6.5nm,0.8s
BRTR Keskin Array B 87.57 311 *i* P **P 09 34 28.3 +0.2**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 87.58 311 P P 09 34 27.7 -0.4
BR131 IAmb IAmb 09 34 29.1
comp=Z,8.3nm,0.8s
BR131 Keskin Array S 87.58 311 P P 09 34 27.7 -0.4
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BR105 Keskin Array S 87.59 311 P P 09 34 27.7 -0.5
comp=Z,64nmcomp=Z,10.0nm,0.9s
BR106 Keskin Array S 87.59 311 P P 09 34 27.7 -0.5
comp=Z,68nmcomp=Z,9.0nm,0.9s
LPSR Galich'ya Gora 87.66 324 *e*P **P 09 34 26.6 -1.4**
LPSR pmax pmax
comp=Z,30nm,0.9s
SNAA Sanae 88.92 197 P P 09 34 35.2 +1.4
comp=Z,7.4nm,0.8s,baz=143,slow=2.6,SNR=7.0
comp=Z,7.4nm,0.8s
MOS Moscow 89.36 327 *e*P **P 09 34 34.4 -1.5**
MOS pmax pmax
comp=Z,32nm,1.0s
OBN Obninsk 89.76 326⇑*e*P **P 09 34 36.7 -1.0**
OBN *PP **pP 09 34 54.0 -0.1**
OBN *e* 09 45 26.1
OBN *i* SSS SSS 09 55 03.1
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,175nm,16.0s
KLMR Klimovskoe 90.03 332 *e*P P 09 34 31.3 -7.6
KLMR pmax pmax
comp=Z,22nm,1.2s
AK10 Malin Array Si 92.99 321 P P 09 34 52.1 -0.8
AK08 Malin Array Si 92.99 321 P P 09 34 52.3 -0.6
AKASG Malin Array Be 93.02 321 P P 09 34 52.2 -0.9
comp=Z,0.9nm,0.5s,baz=79,slow=5.3,SNR=5.9
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 93.02 321 *i* P **P 09 34 53.0 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 93.02 321 *ce*P **P 09 34 52.4 -0.6**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 93.02 321 P P 09 34 52.3 -0.7
AK21 Malin Array Si 93.15 321 P P 09 34 52.8 -0.8
LUBAR Lubar, Ukraine 93.81 320 P P 09 34 55.8 -0.9
FINES FINESS Array B 96.50 331 P P 09 35 08.3 -0.4
comp=Z,3.0nm,0.8s,baz=122,slow=5.6,SNR=9.7
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 97.69 339 P P 09 35 13.7 -0.2
comp=Z,0.6nm,0.6s,baz=92,slow=5.2,SNR=4.9

comp=Z,0.6nm,0.6s
SPITS Spitsbergen Ar 100.38 348 P **Pdif 09 35 24.7 -1.1**
comp=Z,4.5nm,0.6s,baz=60,slow=4.9,SNR=7.1
HFS Hagfors 102.51 330 P **Pdif 09 35 35.1 -0.5**
comp=Z,3.3nm,0.8s,baz=161,slow=9.4,SNR=2.9
CLL Collm 103.27 321 *e*P **Pdif 09 35 35.0 -4.2**
YKA Yellowknife Ar 117.00 22 PKP **PKiKP 09 40 24.2 +0.4**
comp=Z,0.6nm,0.5s,baz=203,slow=4.0,SNR=27
DBIC Dimbokro 118.12 273 PKP **PKPdf 09 40 27.3 -0.1**
comp=Z,2.1nm,0.5s,baz=230,slow=0.9,SNR=5.2
NVAR Mina Array Bea 126.03 49 PKP **PKiKP 09 40 43.5 +0.9**
comp=Z,1.1nm,0.6s,baz=252,slow=2.0,SNR=9.6
PDAR Pinedale Array 130.35 40 PKP **PKiKP 09 40 51.0 -0.2**
comp=Z,0.5nm,0.5s,baz=184,slow=0.8,SNR=10.0
ULM Lac du Bonnet 132.88 25 PKP **PKPdf 09 40 55.0 +0.5**
comp=Z,2.7nm,0.7s,baz=239,slow=2.3,SNR=5.4
SCHQ Schefferville 134.64 360 PKP **PKiKP 09 40 58.7 -0.5**
comp=Z,1.4nm,0.5s,baz=31,slow=4.2,SNR=3.8
TXAR Lajitas Array 140.63 55 PKhKP PKPpre 09 41 04.1
comp=Z,1.2nm,0.6s,baz=223,slow=3.4,SNR=20
CPUP Villa Florida 143.22 195 PKP **PKPdf 09 41 15.3 +1.0**
comp=Z,0.8nm,0.5s,baz=171,slow=1.6,SNR=3.4
BDFB Brasilia 148.64 218 PKPbc **PKiKP 09 41 29.1 0.0**
comp=Z,3.7nm,0.5s,baz=84,slow=4.6,SNR=12
LPAZ La Paz 154.51 178 PKP **PKPdf 09 41 34.4 +1.0**
comp=Z,0.6nm,0.6s,baz=243,slow=2.3,SNR=3.6
LPAZ PKPab **pPKPbc 09 41 57.9 -0.4**
comp=Z,1.3nm,0.7s,baz=212,slow=5.8,SNR=4.6

*KRNET **10** 09:23:43.7±0.1, 42°.02N×76°.33E, h23km, mb3.4*
*SOME **10** 09:23:43.7, 42°.00N×76°.27E, h15km*
*NNC **10** 09:23:44.2±0.4, 42°.03N×76°.31E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=2.9km s-min=1.6km az=175.0*
*KNET **10** 09:23:45.1±0.6, 42°.04N×76°.17E, h10km±7km, ml2.8, Error ellipse: s-maj=7.7km s-min=2.9km az=90.0*
ISC 10 09:23:43.7±1.1, 42°.01N±0°.03×76°.31E±0°.01, h4km±9km, n76, σ1§28/133, 45C-34D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.24**	**349**	⇓P	**Pg**	**09 23 49.1**	**+0.7**
	399nm,0.1s						
ULHL				⇑S	**Sg**	**09 23 52.8**	**+1.1**
	2μm,0.3s						
ULHL	**Ulahol**	**0.24**	**349**	⇓*e*P	**Pg**	**09 23 49.1**	**+0.7**
ULHL				⇓*e*S	**Sg**	**09 23 52.9**	**+1.3**
BOOM	**Boomskoye usch**	**0.55**	**331**	⇑*i*P	**Pg**	**09 23 54.4**	**+0.1**
BOOM				⇑*i*S	**Sg**	**09 24 02.3**	**+0.8**
KDJ	**Kajisay**	**0.66**	**79**	⇑*i*P	**Pg**	**09 23 56.1**	**-0.3**
KDJ				⇑*e*S	**Sg**	**09 24 05.3**	**+0.3**
TKM2	**Tokmak 2**	**1.05**	**330**	⇓P	**Pg**	**09 24 03.8**	**-0.1**
	27nm,0.1s,SNR=90						
TKM2				⇓S	**Sb**	**09 24 19.2**	**+0.5**
	110nm,0.1s						
TKM2	**Tokmak 2**	**1.05**	**330**	⇓P	**Pg**	**09 24 03.7**	**-0.1**
	15nm,0.4s						
TKM2				⇓S	**Sb**	**09 24 18.9**	**+0.2**
	9.1nm,0.1s						
TKM2	**Tokmak 2**	**1.05**	**330**	⇓*e*P	**Pg**	**09 24 03.1**	**-0.8**
TKM2				⇓*e*S	**Sg**	**09 24 17.5**	**0.0**
KST	**Kastek**	**1.06**	**346**	P	**Pg**	**09 24 04.2**	**+0.1**
	34nm,0.3s						
KST				S	**Sb**	**09 24 18.9**	**-0.2**
	87nm,0.3s						
KST	**Kastek**	**1.06**	**346**	*e*P	**Pg**	**09 24 04.2**	**+0.1**
	34nm,0.3s						
KST				*e*S	**Sb**	**09 24 18.9**	**-0.2**
	87nm,0.3s						
MTBS	**Maitube**	**1.12**	**5**	P	**Pg**	**09 24 05.0**	**-0.3**
	34nm,0.2s						
MTBS				S	**Sb**	**09 24 20.1**	**-0.6**
	101nm,0.4s						
MTBS	**Maitube**	**1.12**	**5**	*e*P	**Pg**	**09 24 05.0**	**-0.3**
	18nm,0.2s						
MTBS				*e*S	**Sb**	**09 24 20.1**	**-0.6**
	81nm,0.2s						
TNSS	**Tian-Shan**	**1.13**	**25**	P	**Pg**	**09 24 05.2**	**-0.2**
	13nm,0.1s						
TNSS				S	**Sb**	**09 24 20.6**	**-0.7**
	41nm,0.3s						
TNSS	**Tian-Shan**	**1.13**	**25**	*e*P	**Pg**	**09 24 05.2**	**-0.2**
	13nm,0.1s						
TNSS				*e*S	**Sb**	**09 24 20.6**	**-0.7**
	87nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.16**	**104**	⇓*e*P	**Pg**	**09 24 04.7**	**-1.2**
TARG				⇓*e*S	**Sg**	**09 24 20.0**	**-0.8**
KBK	**Karagaybulak**	**1.20**	**303**	⇓P	**Pg**	**09 24 06.7**	**0.0**
	25nm,0.1s,SNR=21						
KBK				⇓S	**Sb**	**09 24 22.9**	**0.0**
	229nm,0.2s						
KBK	**Karagaybulak**	**1.20**	**303**	⇑*e*P	**Pg**	**09 24 05.9**	**-0.7**
KBK				⇑*e*S	**Sg**	**09 24 22.1**	**-0.1**
ANVS	**Anan'yevo**	**1.27**	**52**	⇑*i*P	**Pg**	**09 24 06.7**	**-1.4**
ANVS				⇑*i*S	**Sg**	**09 24 23.7**	**-0.8**
AAA	**Alma-Ata**	**1.28**	**20**	P	**Pn**	**09 24 07.8**	**-0.6**
	48nm,0.1s						
AAA				S	**Sb**	**09 24 25.1**	**-0.1**
	30nm,0.2s						
AAA	**Alma-Ata**	**1.28**	**20**	*e*P	**Pn**	**09 24 07.8**	**-0.6**
	48nm,0.1s						
AAA				*e*S	**Sb**	**09 24 25.1**	**-0.1**
	30nm,0.2s						
DGS	**Degeres**	**1.29**	**342**	P	**Pg**	**09 24 08.4**	**-0.1**
	35nm,0.2s						
DGS				S	**Sn**	**09 24 26.0**	**-0.4**
	56nm,0.3s						
KNDC	**Almaty**	**1.30**	**22**	⇑P	**Pg**	**09 24 08.6**	**0.0**
	24nm,0.3s						
KNDC				⇓S	**Sn**	**09 24 26.1**	**-0.5**
	156nm,0.5s						
UCH	**Uchtor**	**1.35**	**280**	⇑P	**Pn**	**09 24 09.0**	**-0.8**
	17nm,0.2s,SNR=15						
UCH				⇑S	**Sb**	**09 24 27.4**	**-0.3**
	42nm,0.2s						
UCH	**Uchtor**	**1.35**	**280**	⇓*e*P	**Pn**	**09 24 08.7**	**-1.0**
UCH				⇓*e*S	**Sg**	**09 24 27.1**	**0.0**
KOTS	**Kotyrbulak**	**1.36**	**26**	P	**Pn**	**09 24 09.3**	**-0.3**
	27nm,0.2s						
KOTS				S	**Sn**	**09 24 27.6**	**-0.6**
	206nm,0.3s						
KOTS	**Kotyrbulak**	**1.36**	**26**	*e*P	**Pn**	**09 24 09.3**	**-0.3**
	27nm,0.2s						
KOTS				*e*S	**Sn**	**09 24 27.6**	**-0.6**
	206nm,0.3s						
FRU1	**Bishkek**	**1.48**	**303**	⇓*e*P	**Pn**	**09 24 11.0**	**-0.1**
FRU1				⇓*e*S	**Sg**	**09 24 31.0**	**-0.1**
AAK	**Ala-Archa**	**1.48**	**296**	⇓P	**Pb**	**09 24 11.4**	**-0.5**
	24nm,0.2s,SNR=38						
AAK				⇓S	**Sb**	**09 24 30.9**	**-0.3**
	192nm,0.2s						
AAK	**Ala-Archa**	**1.48**	**296**	⇑P	**Pn**	**09 24 11.2**	**0.0**
	16nm,0.5s						
AAK				⇑S	**Sb**	**09 24 31.0**	**-0.1**
	155nm,0.7s						
AAK	**Ala-Archa**	**1.48**	**296**	⇑*e*P	**Pn**	**09 24 10.8**	**-0.5**
AAK				⇑*e*S	**Sn**	**09 24 30.7**	**-0.5**
ARLS	**Aral**	**1.49**	**265**	⇑*i*P	**Pn**	**09 24 11.2**	**-0.1**
ARLS				⇑*i*S	**Sb**	**09 24 31.0**	**-0.2**
CHMS	**Chumysh**	**1.52**	**311**	⇓P	**Pb**	**09 24 11.9**	**-0.5**
	16nm,0.2s,SNR=6.7						
CHMS				⇑S	**Sg**	**09 24 32.7**	**+0.3**
	48nm,0.1s						
CHMS	**Chumysh**	**1.52**	**311**	⇑P	**Pn**	**09 24 11.6**	**0.0**
	11nm,0.6s						
CHMS				⇑S	**Sb**	**09 24 31.8**	**-0.2**
	35nm,0.6s						
CHMS	**Chumysh**	**1.52**	**311**	⇑*e*P	**Pn**	**09 24 11.3**	**-0.3**
CHMS				⇑*e*S	**Sb**	**09 24 31.5**	**-0.5**
PRZ	**Przheval'sk**	**1.62**	**72**	⇑*e*P	**Pn**	**09 24 13.2**	**-0.1**
PRZ				⇑*e*S	**Sb**	**09 24 34.9**	**-0.4**
KTBS	**Karatobe**	**1.72**	**9**	P	**Pb**	**09 24 16.1**	**+0.1**
	96nm,0.2s						
KTBS				S	**Sg**	**09 24 39.1**	**0.0**
	79nm,0.3s						
KRBS	**Karabastau**	**1.75**	**345**	P	**Pb**	**09 24 16.4**	**+0.1**
	57nm,0.3s						
KRBS				S	**Sg**	**09 24 40.0**	**+0.1**
	43nm,0.1s						
USP	**Ospenovka**	**1.83**	**314**	⇑P	**Pb**	**09 24 17.8**	**0.0**
	38nm,0.2s,SNR=66						
USP				⇑S	**Sg**	**09 24 42.5**	**-0.1**
	91nm,0.3s						
USP	**Ospenovka**	**1.83**	**314**	⇓*e*P	**Pn**	**09 24 16.2**	**+0.2**
USP				⇓*e*S	**Sb**	**09 24 40.2**	**-0.9**
SATY	**Saty**	**1.87**	**55**	P	**Pb**	**09 24 18.2**	**-0.4**
	60nm,0.2s						
SATY				S	**Sg**	**09 24 43.0**	**-0.9**
	340nm,0.1s						
SGDS	**Sogindy**	**1.90**	**320**	P	**Pb**	**09 24 19.0**	**+0.1**
	29nm,0.3s						
SGDS				S	**Sg**	**09 24 44.4**	**-0.3**
	90nm,0.4s						
AML	**Almayashu**	**1.95**	**274**	⇑P	**Pb**	**09 24 19.7**	**-0.3**
	24nm,0.2s,SNR=38						
AML				⇓S	**Sg**	**09 24 46.0**	**-0.3**
	156nm,0.4s						
AML	**Almayashu**	**1.95**	**274**	⇑*e*P	**Pn**	**09 24 18.3**	**+0.4**
AML				⇑*e*S	**Sn**	**09 24 43.5**	**+0.5**
ZHN	**Zhinishke**	**1.95**	**53**	Pg	**Pb**	**09 24 19.6**	**-0.3**
	37nm,0.2s						
ZHN				Lg	Lg	09 24 45.4	
	525nm,0.2s						
ZHN	**Zhinishke**	**1.95**	**53**	*e*P	**Pb**	**09 24 19.6**	**-0.3**
	37nm,0.2s						
ZHN				*e*S	**Sg**	**09 24 45.4**	**-1.0**
	525nm,0.2s						
EKS2	**Erkin-Say**	**1.98**	**290**	⇑P	**Pg**	**09 24 21.0**	**-0.7**
	12nm,0.2s,SNR=45						
EKS2	**Erkin-Say**	**1.98**	**290**	⇑*e*P	**Pn**	**09 24 18.6**	**+0.4**
EKS2				⇑*e*S	**Sn**	**09 24 44.1**	**+0.6**
SALK	**Salom-Alik**	**2.18**	**240**	⇑*e*P	**Pn**	**09 24 22.1**	**+1.2**
SALK				⇑*e*S	**Sb**	**09 24 50.1**	**-1.1**
KPKS	**Kokpek**	**2.28**	**49**	Pg	**Pb**	**09 24 25.3**	**-0.1**
	22nm,0.2s						
KPKS				Lg	Lg	09 24 55.4	
	136nm,0.2s						
KPKS	**Kokpek**	**2.28**	**49**	*e*P	**Pb**	**09 24 25.4**	**-0.1**
	22nm,0.2s						
KPKS				⇑*i*S	**Sg**	**09 24 55.4**	**-1.5**
	136nm,0.2s						
UZB	**Uzynbulak**	**2.31**	**60**	Pg	**Pb**	**09 24 26.0**	**+0.1**
	28nm,0.4s						
UZB				Lg	Lg	09 24 56.1	
	133nm,0.5s						
UZB	**Uzynbulak**	**2.31**	**60**	*e*P	**Pb**	**09 24 26.0**	**+0.1**
	28nm,0.4s						
UZB				*e*S	**Sg**	**09 24 56.1**	**-1.7**
	133nm,0.5s						
MRKS	**Merke**	**2.40**	**289**	Pg	**Pb**	**09 24 28.2**	**+0.8**
	28nm,0.3s						
MRKS				Lg	Lg	09 24 59.9	
	70nm,0.3s						
MRKS	**Merke**	**2.40**	**289**	*e*P	**Pb**	**09 24 28.2**	**+0.8**
	28nm,0.3s						
MRKS				*e*S	**Sg**	**09 24 59.9**	**-0.8**
	70nm,0.3s						
ARXS	**Arharly**	**2.47**	**26**	Pg	**Pb**	**09 24 29.6**	**+0.9**
	24nm,0.3s						
ARXS				Lg	Lg	09 25 02.4	
	136nm,0.3s						
SHLS	**Shalkode**	**2.60**	**63**	Pg	**Pg**	**09 24 36.5**	**+3.0**
	43nm,0.3s						
SHLS				Lg	Lg	09 25 14.1	
	118nm,0.3s						
SHLS	**Shalkode**	**2.60**	**63**	*e*P	**Pg**	**09 24 36.5**	**+3.0**
	43nm,0.3s						
SHLS				*e*S	**Sg**	**09 25 14.1**	**+6.9**
	118nm,0.3s						
BLB	**Baldybastay**	**2.62**	**37**	Pg	**Pb**	**09 24 31.8**	**+0.5**
	72nm,0.5s						
BLB				Lg	Lg	09 25 06.3	
	169nm,0.5s						
MNAS	**Manas**	**2.86**	**281**	⇓*i*P	**Pn**	**09 24 31.3**	**+1.1**
MNAS				⇓*i*S	**Sn**	**09 25 06.2**	**+1.0**
SFK	**Sufi-Kurgan**	**2.91**	**228**	⇑*i*P	**Pn**	**09 24 32.6**	**+1.6**
SFK				⇑*i*S	**Sn**	**09 25 07.9**	**+1.4**
OHH	**Osh**	**3.04**	**242**	⇑*e*P	**Pn**	**09 24 34.3**	**+1.7**
OHH				⇑*e*S	**Sn**	**09 25 10.8**	**+1.3**
KNOS	**Konyrlen**	**3.15**	**41**	Pg	**Pb**	**09 24 41.2**	**+0.8**
	4.8nm,0.3s						
KNOS				Lg	Lg	09 25 22.4	
	42nm,0.2s						
ARK	**Arkit**	**3.25**	**268**	⇓*i*P	**Pb**	**09 24 40.4**	**-1.6**
ARK				⇓*i*S	**Sb**	**09 25 23.2**	**+1.3**
TDK	**Taldyqorghan**	**3.36**	**26**	Pg	**Pb**	**09 24 44.8**	**+1.0**
	60nm,0.3s						
TDK				Lg	Lg	09 25 28.3	
	101nm,0.2s						
TDK	**Taldyqorghan**	**3.36**	**26**	*e*P	**Pb**	**09 24 44.8**	**+1.0**
	60nm,0.3s						
TDK				*e*S	**Sg**	**09 25 28.3**	**-3.3**
	101nm,0.2s						
DJR	**Jarkent**	**3.45**	**47**	Pg	**Pb**	**09 24 46.4**	**+1.0**
	4.3nm,0.4s						
DJR				Lg	Lg	09 25 31.3	
	30nm,0.4s						
DJR	**Jarkent**	**3.45**	**47**	*e*P	**Pb**	**09 24 46.4**	**+1.0**
	4.3nm,0.4s						
DJR				*e*S	**Sg**	**09 25 31.3**	**-3.1**
	30nm,0.4s						
KAPS	**Kapalarasan**	**3.95**	**33**	Pg	**Pb**	**09 24 56.2**	**+2.3**
	1.7nm,0.1s						
KAPS				Lg	Lg	09 25 48.1	
	62nm,0.2s						
KK31	**Karatay Array**	**4.42**	**286**	⇓Pg	**Pg**	**09 25 05.7**	**-2.6**
	0.9nm,0.3s,baz=109,slow=12,SNR=27						
KK31				Lg	Lg	09 26 03.8	
	4.1nm,0.3s,baz=106,slow=26,SNR=10.0						
KKAR	**Karatay Array**	**4.42**	**286**	⇓*e*P	**Pn**	**09 24 52.2**	**+0.7**
KKAR				⇓*e*S	**Sn**	**09 25 42.4**	**-1.0**
IUG	**Iuzhnay**	**4.67**	**274**	Pg	**Pg**	**09 25 10.1**	**-3.1**
	19nm,0.4s						
IUG				Lg	Lg	09 26 11.9	
	46nm,0.6s						
BRLS	**Borolday**	**4.89**	**284**	Pg	**Pg**	**09 25 15.5**	**-1.9**
	1.2nm,0.4s						
BRLS				Lg	Lg	09 26 21.3	
	7.7nm,0.5s						
BRLS	**Borolday**	**4.89**	**284**	*e*P	**Pg**	**09 25 15.5**	**-1.9**
	1.2nm,0.4s						
BRLS				*e*S	**Sg**	**09 26 21.3**	**+0.7**
	7.7nm,0.5s						
MAKZ	**Makanchi**	**6.28**	**38**	⇓Pn	**Pn**	**09 25 19.3**	**+2.2**
	1.3nm,0.9s						
MAKZ				⇑Pg	**Pg**	**09 25 40.6**	**-3.5**
	1.3nm,1.0s						
MAKZ				⇑Lg	Lg	09 27 04.2	
	2.6nm,0.8s						
MK31	**Makanchi Array**	**6.42**	**40**	⇓Pn	**Pn**	**09 25 21.2**	**+2.2**
	0.1nm,0.2s,baz=218,slow=14,SNR=5.9						
MK31				⇑Pg	**Pg**	**09 25 42.3**	**-4.3**
	0.5nm,0.4s,baz=246,slow=13,SNR=5.0						
MK31				⇑Lg	Lg	09 27 07.3	
	1.3nm,0.5s,baz=219,slow=26,SNR=5.4						
OTUK	**Ortayu**	**6.83**	**337**	⇓Lg	Lg	09 27 22.4	
	5.5nm,0.7s						
KURK	**Kurchatov**	**8.85**	**10**	⇑Lg	Lg	09 28 24.3	
	9.7nm,1.0s						

*IDC **10** 09:23:46.4±1.0, 19°.27S×176°.12E, h0km, mb4.2/5, mbtmp4.2/7, ML4.6/2, Error ellipse: s-maj=31.2km s-min=20.5km az=125.0*
ISC 10 09:23:51.5±0.8, 19°.3S±0°.1×176°.2E±0°.1, h35km, n11, σ1§30/11, mb4.2/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.33**	**48**	Pn	**Pn**	**09 24 25.5**	**-1.9**
	8.3nm,0.3s,baz=239,slow=14,SNR=32						
MSVF				Sn	**Sn**	**09 24 56.6**	**+1.6**
	14nm,0.3s,baz=107,slow=22,SNR=8.9						
	35nm,0.4s						
DZM	**Mont Dzumac**	**9.55**	**252**	Pn	**Pn**	**09 26 07.5**	**+0.8**
	0.2nm,0.3s,baz=46,slow=13,SNR=3.7						
URZ	**Urewera**	**18.91**	**178**	P	**Pn**	**09 28 10.2**	**+0.3**
	0.9nm,0.3s,baz=18,slow=19,SNR=14						
	13nm,0.6s						
ASAR	**Alice Springs**	**39.51**	**256**	P	**P**	**09 31 17.8**	**-1.3**
	3.0nm,0.8s,baz=84,slow=8.8,SNR=15						
	3.0nm,0.8s						
MJAR	**Matsushiro Arr**	**66.14**	**327**	P	**P**	**09 34 35.2**	**-0.2**
	2.9nm,1.0s,baz=152,slow=5.5,SNR=4.3						
	2.9nm,1.0s						
QSPA	**South Pole Qui**	**70.76**	**180**	P	**P**	**09 35 04.1**	**+0.1**
	3.4nm,0.8s,baz=36,slow=3.2,SNR=4.6						
	3.4nm,0.8s						
SEY	**Seymchan**	**84.08**	**349**	P	**P**	**09 36 18.3**	**+0.2**
	1.5nm,0.7s,baz=148,slow=13,SNR=4.3						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**88.46**	**15**	P	**P**	**09 36 41.6**	**+1.9**
	0.7nm,0.7s,baz=228,slow=4.9,SNR=6.4						
	0.7nm,0.7s						

CLL Collm 145.42 341 *i*PKP **PKiKP 09 43 28.6 -1.0**
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 145.51 340 Amp 09 43 30.6
comp=Z,7.7nm,1.1s
BRG Berggiesshubel 145.51 340 *e*P **PKiKP 09 43 29.3 -0.4**

*ISU **10** 09:35:53, 40°.40N×72°.01E, h22km*
*KRNET **10** 09:35:53.1±0.1, 40°.43N×71°.99E, h30km, mb3.0*
*SOME **10** 09:35:56.8, 40°.63N×72°.00E, h10km*
*NNC **10** 09:36:02.5±2.7, 40°.89N×72°.01E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.7km s-min=10.1km az=3.0*
ISC 10 09:35:54.7±0.9, 40°.37N±0°.03×71°.96E±0°.02, h24km±7km, n35, σ1§99/60, 24C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.14**	**273**	P	**Pb**	**09 35 59.1**	**-0.4**
FRG				S	**Sb**	**09 36 03.1**	**+0.3**
CHMI	**Chimion**	**0.35**	**254**	P	**Pb**	**09 36 02.3**	**-0.1**
CHMI				S	**Sb**	**09 36 08.6**	**+1.0**
OHH	**Osh**	**0.65**	**76**	⇑*e*P	**Pb**	**09 36 05.2**	**-2.2**
OHH				⇑*e*S	**Sb**	**09 36 13.9**	**-2.2**
MINT	**Mingtut**	**0.76**	**278**	P	**Pb**	**09 36 09.2**	**0.0**
MINT				S	**Sn**	**09 36 20.5**	**-0.2**
DRK	**Karamyk**	**0.90**	**188**	⇑*e*P	**Pb**	**09 36 11.2**	**-0.5**
DRK				⇑*e*S	**Sn**	**09 36 24.1**	**-0.4**
BTK	**Batken**	**0.93**	**251**	⇓*e*P	**Pb**	**09 36 11.4**	**-0.8**
BTK				⇓*e*S	**Sb**	**09 36 24.5**	**+0.4**
CHDK	**Chadak**	**1.10**	**304**	P	**Pb**	**09 36 14.8**	**-0.3**
CHDK				S	**Sn**	**09 36 30.6**	**+1.4**
ARSB	**Arslanbob**	**1.23**	**39**	⇑*e*P	**Pn**	**09 36 14.8**	**-1.8**
ARSB				⇑*e*S	**Sn**	**09 36 30.3**	**-2.2**
SFK	**Sufi-Kurgan**	**1.23**	**106**	⇑*e*P	**Pn**	**09 36 15.8**	**-0.9**
SFK				⇑*e*S	**Sn**	**09 36 32.1**	**-0.6**
TRKS	**Terek-Say**	**1.32**	**332**	⇓*e*P	**Pn**	**09 36 15.4**	**-2.4**
TRKS				⇓*e*S	**Sn**	**09 36 31.5**	**-3.2**
SALK	**Salom-Alik**	**1.51**	**69**	⇑*e*P	**Pn**	**09 36 19.5**	**-0.9**
SALK				⇑*e*S	**Sn**	**09 36 38.7**	**-0.7**
GAR	**Garm**	**1.86**	**223**	⇓*e*P	**Pn**	**09 36 26.1**	**+0.8**
GAR				⇓*e*S	**Sb**	**09 36 50.1**	**-1.0**
TGS	**TashGRES**	**2.13**	**300**	P	**Pb**	**09 36 33.2**	**+0.6**
TGS				S	**Sb**	**09 37 03.7**	**+5.1**
MNAS	**Manas**	**2.16**	**11**	⇓*e*P	**Pn**	**09 36 28.9**	**-0.4**
MNAS				⇓*e*S	**Sn**	**09 36 54.7**	**-0.7**
AML	**Almayashu**	**2.19**	**36**	⇑*e*P	**Pn**	**09 36 29.3**	**-0.8**
AML				⇑*e*S	**Sn**	**09 36 55.6**	**-1.1**
IUG	**Iuzhnay**	**2.30**	**321**	Pg	**Pb**	**09 36 35.3**	**-0.2**
	70nm,0.3s						
IUG				Lg	Lg	09 37 03.5	
	115nm,0.5s						
NZBK	**Nazarbek**	**2.32**	**292**	P	**Pb**	**09 36 35.4**	**-0.4**
NZBK				S	**Sb**	**09 37 07.7**	**+3.6**
ARLS	**Aral**	**2.33**	**49**	⇓*e*P	**Pn**	**09 36 31.0**	**-0.7**
ARLS				⇓*e*S	**Sn**	**09 36 58.5**	**-1.1**
MRKS	**Merke**	**2.56**	**21**	Pg	**Pb**	**09 36 39.5**	**-0.5**
	8.0nm,0.5s						
MRKS				Lg	Lg	09 37 10.5	
	20nm,0.3s						
MRKS	**Merke**	**2.56**	**21**	*e*P	**Pb**	**09 36 39.5**	**-0.5**
	1.9nm,0.1s						
MRKS				*e*S	**Sb**	**09 37 10.5**	**-0.5**
	20nm,0.3s						
UCH	**Uchtor**	**2.67**	**45**	⇑*e*P	**Pn**	**09 36 36.0**	**-0.7**
UCH				⇑*e*S	**Sn**	**09 37 07.2**	**-1.4**
KK31	**Karatay Array**	**2.94**	**339**	Pn	**Pb**	**09 36 46.3**	**-0.1**
	1.9nm,0.3s,baz=150,slow=16,SNR=14						
KK31				Lg	Lg	09 37 22.6	
	2.7nm,0.2s,baz=149,slow=29,SNR=5.0						
KKAR	**Karatay Array**	**2.94**	**339**	⇑*e*P	**Pn**	**09 36 39.5**	**-0.5**
KKAR				⇑*e*S	**Sn**	**09 37 13.3**	**-1.2**
AAK	**Ala-Archa**	**2.96**	**39**	⇑Pn	**Pb**	**09 36 48.0**	**+1.2**
	3.1nm,0.5s						
AAK				⇑Lg	Lg	09 37 23.2	
	11nm,0.4s						
AAK	**Ala-Archa**	**2.96**	**39**	⇑*e*P	**Pn**	**09 36 39.8**	**-0.6**
AAK				⇑*e*S	**Sn**	**09 37 13.7**	**-1.5**
BRLS	**Borolday**	**3.10**	**330**	Pg	**Pb**	**09 36 47.8**	**-1.3**
	6.5nm,0.2s						
BRLS				Lg	Lg	09 37 24.8	
	15nm,0.2s						
BRLS	**Borolday**	**3.10**	**330**	*e*P	**Pb**	**09 36 47.8**	**-1.3**
	6.5nm,0.2s						
BRLS				*e*S	**Sb**	**09 37 24.8**	**-1.7**
	15nm,0.2s						
TKM2	**Tokmak 2**	**3.73**	**46**	⇑Pn	**Pb**	**09 36 56.4**	**-3.6**
	1.4nm,0.4s						
TKM2				⇑Lg	Lg	09 37 46.9	
	7.9nm,0.8s						
TKM2	**Tokmak 2**	**3.73**	**46**	⇑*e*P	**Pn**	**09 36 50.5**	**-0.5**
TKM2				⇑*e*S	**Sn**	**09 37 32.3**	**-2.1**
KRBS	**Karabastau**	**4.33**	**39**	Pg	**Pb**	**09 37 11.6**	**+1.6**
	1.4nm,0.2s						
KRBS				Lg	Lg	09 38 05.8	
	4.0nm,0.4s						
MTBS	**Maitube**	**4.33**	**49**	Pg	**Pb**	**09 37 12.6**	**+2.4**
	1.1nm,0.2s						
MTBS				Lg	Lg	09 38 07.2	
	8.2nm,0.4s						
MTBS	**Maitube**	**4.33**	**49**	*e*P	**Pb**	**09 37 12.6**	**+2.4**
	1.1nm,0.2s						
MTBS				*e*S	**Sb**	**09 38 07.2**	**+5.2**
	8.2nm,0.4s						
TNSS	**Tian-Shan**	**4.59**	**53**	Pg	**Pb**	**09 37 17.6**	**+2.9**
	1.6nm,0.3s						
TNSS				Lg	Lg	09 38 15.6	
	3.4nm,0.7s						
TNSS	**Tian-Shan**	**4.

BSO4 Boso 4 7.09 2 *eP* **Pn** 09 46 06.5 +0.1
BSO4 *eS* **S** 09 47 27.1 -3.4
JIE Ise 7.10 337 P **P** 09 46 09.6 +1.6
JOD2 Odawara 2 7.41 354 P **Pn** 09 46 10.4 +0.2
JOD2 *eS* **S** 09 47 35.4 -2.1
JMN Monobe 7.89 319 Pn **P** 09 46 18.6 +1.4
JMN Monobe 7.89 319 P **P** 09 46 19.3 +2.1
JTO Tosashimizu 8.00 310 *eP* **P** 09 46 19.9 -0.1
JRY Ryogami san 8.18 353 P **Pn** 09 46 19.2 -0.1
MJAR Matsushiro Arr 8.78 350 P **Pn** 09 46 24.7 -1.7
11nm,0.4s,baz=221,slow=11,SNR=49
MAJO Matsushiro 8.78 350 P **Pn** 09 46 26.9 +0.5
MAJO Matsushiro 8.78 350 *i P* **Pn** 09 46 26.0 -0.4
JHS Saijyo 9.25 322 *eP* **P** 09 46 35.1 +1.2
JNU Nakatsue 9.49 306 **P** 09 46 36.1 -0.6
JNU Nakatsue 9.49 306 P **Pn** 09 46 33.5 -1.5
75nm,1.0s,baz=124,slow=4.0,SNR=19
JNU Nakatsue 9.49 306 P **P** 09 46 38.4 +1.7
JAMN Amaminishikomi 9.63 275 *eP* **P** 09 46 39.9 +1.7
JSJ Shimokoshiki 9.76 295 *eP* **P** 09 46 40.2 +0.6
JMM Marumori 9.98 3 P **Pn** 09 46 40.1 -0.5
JMM Marumori 9.98 3 P **Pn** 09 46 41.1 +0.5
JSD Sado 10.24 352 P **Pn** 09 46 42.4 -1.4
JMK Ichinoseki 11.09 5 P **P** 09 46 54.8 +0.6
JMK *eS* **S** 09 48 53.5 -4.3
JKE Kume jima 2 11.94 266 *eP* **Pn** 09 47 08.1 +4.1
JTM Tenmabayashi 12.90 3 P **Pn** 09 47 15.6 +0.3
JOT Ohata 13.50 3 *eP* **Pn** 09 47 23.7 +1.5
KSRS Korea Array 13.98 316 P **Pn** 09 47 27.1 -0.9
4.3nm,0.7s,baz=132,slow=12,SNR=43
KSAR Wonju Array Be 14.00 316 P **Pn** 09 47 30.8 +2.7
KSAR Wonju Array Be 14.00 316 P **Pn** 09 47 30.8 +2.7
KS19 Wonju Array Si 14.05 316 P **Pn** 09 47 31.2 +2.5
JOSM Okushiri--Mats 14.18 358 *eP* **Pn** 09 47 31.7 +1.6
ERM Erimo 14.33 9 **Pn** 09 47 35.1 +3.2
ERM Erimo 14.33 9 P **Pn** 09 47 35.1 +3.2
GUMO Guam 14.90 162 P **Pn** 09 47 38.4 -0.4
GUMO Guam 14.90 162 P **Pn** 09 47 38.4 -0.4
JCH Churui 14.95 9 *eP* **Pn** 09 47 38.9 -0.1
YOJ Yonaguni jima 15.69 261 P **P** 09 47 45.5 +0.4
YOJ Yonaguni jima 15.69 261 P **P** 09 47 45.5 +0.4
YOJ pmax pmax
comp=Z,355nm,1.4s
JHR Hokuryu 15.89 4 *eP* **Pn** 09 47 49.6 -0.3
ASAJ Asahikawa 16.33 6 P **P** 09 47 52.6 +0.9
comp=Z,6.6nm,0.4s,baz=282,slow=6.4,SNR=11
ASAJ Asahikawa 16.33 6 P **P** 09 47 53.0 +1.2
ASAJ pmax pmax
comp=Z,33nm,1.5s
JKA Kamikawa-asahi 16.33 6 P **P** 09 47 53.0 +1.2
JKA IAmb IAmb 09 48 33.8
comp=Z,33nm,1.5s
VLA Vladivostok 16.59 339 *i P* **P** 09 47 54.3 -0.2
TATO Taipei 16.89 264 P **P** 09 47 58.2 +0.2
USA0B Ussuriysk Arra 17.53 340 P **P** 09 48 04.9 +0.2
USA0B IAmb IAmb 09 48 06.3
comp=Z,9.8nm,0.8s
USA0B Ussuriysk Arra 17.53 340 *i P* **P** 09 48 03.4 -1.3
USRK Ussuriysk Ar. 17.53 340 P **P** 09 48 04.6 0.0
USRK Ussuriysk Ar. 17.53 340 P **P** 09 48 05.4 +0.8
comp=Z,10.0nm,0.6s,baz=145,slow=9.7,SNR=34
SSLB Suanglung 17.68 261 P **Pn** 09 48 08.5 -2.2
YSS Yuzhno-Sakhali 19.16 6 *eP* **P** 09 48 23.0 +1.1
YSS pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 20.46 334 ⇓P **P** 09 48 36.6 +1.7
BNX pmax pmax
comp=Z,10.0nm,0.5s
SZP Santa 20.78 245 P **P** 09 48 40.2 +2.2
comp=Z,110nm,0.8s
TIA Tai'an 21.11 299 P **P** 09 48 40.8 -0.1
TIA pmax pmax
comp=Z,57nm,0.8s
KLR Kul'dur 22.26 346 P **P** 09 48 52.2 +1.0
comp=Z,4.3nm,0.6s,baz=160,slow=8.2,SNR=19
KLR PcP **PcP** 09 52 32.7 -1.4
comp=Z,2.2nm,0.5s,baz=211,slow=5.9,SNR=8.4
comp=Z,4.3nm,0.6s
KLR Kul'dur 22.26 346*ceP* **P** 09 48 50.4 -0.8
KLR pmax pmax
comp=Z,8.0nm,1.3s
WHN Wuhan 22.59 283 P **P** 09 48 55.9 +1.5
WHN pmax pmax
comp=Z,140nm,0.6s
HEH HeiHe 24.34 340 *eP* **P** 09 49 10.9 +1.0
HEH pmax pmax
comp=Z,33nm,0.9s
LYN LuoYang 24.48 293 P **P** 09 49 11.6 +0.2
LYN pmax pmax
comp=Z,27nm,0.8s
HHC Hu-ho-hao-te 26.72 306 *eP* **P** 09 49 31.8 +0.4
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,96nm,3.5s
HHC LR LR
comp=N,220nm,14.3s
HHC LR LR
comp=E,390nm,12.6s
HHC LR LR
comp=Z,320nm,16.8s
XAN Xi'an 27.34 291 P **P** 09 49 37.2 +0.3
XAN pP pP 09 50 39.5 -1.2
XAN pmax pmax
comp=Z,38nm,0.6s
ZEA Zeya 27.51 343 *eP* **P** 09 49 38.7 +0.6
ZEA pmax pmax
comp=Z,20nm,0.7s
PEA0B Petropavlovsk- 28.39 23 P **P** 09 49 46.3 +0.4
PEA0B Petropavlovsk- 28.39 23 P **P** 09 49 46.3 +0.4
PEA0B pmax pmax
comp=Z,37nm,1.4s
PETK Petropavlovsk- 28.39 23 P **P** 09 49 47.0 +1.1
PETK Petropavlovsk- 28.39 23 P **P** 09 49 46.1 +0.2
comp=Z,2.0nm,0.8s,baz=198,slow=7.2,SNR=13
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 28.39 23 P **P** 09 49 47.0 +1.1
PET Petropavlovsk 28.65 24 P **P** 09 49 49.3 +1.2
LZH Lanzhou 31.66 294 *eP* **P** 09 50 15.4 +0.5
LZH pmax pmax
comp=Z,23nm,1.3s
ULN Ulaanbaatar 32.47 317 P **P** 09 50 21.9 +0.2
ULN IAmb IAmb 09 50 23.0
comp=Z,9.6nm,0.7s
ULN Ulaanbaatar 32.47 317 *i P* **P** 09 50 21.7 0.0
ULN pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 32.53 10 **P** 09 50 21.5 -0.4
MA2 IAmb IAmb 09 50 23.8
comp=Z,12nm,0.9s
MA2 Magadan 32.53 10*ceP* **P** 09 50 23.0 +1.1
MA2 pmax pmax
comp=Z,10.0nm,0.7s
SONM Songino Array 32.85 316 P **P** 09 50 25.2 +0.2
SONM Songino Array 32.85 316 P **P** 09 50 25.2 +0.2
comp=Z,4.8nm,0.6s,baz=126,slow=8.6,SNR=29
SONM PP **PP** 09 51 40.7 -7.4
comp=Z,1.3nm,0.9s,baz=128,slow=7.6,SNR=4.0
SONM PcP **PcP** 09 53 00.1 -0.2
comp=Z,0.4nm,0.4s,baz=143,slow=4.3,SNR=2.0
SONM ScP **ScP** 09 56 09.7 -0.4
comp=Z,1.5nm,0.7s,baz=149,slow=3.9,SNR=6.1
comp=Z,4.8nm,0.6s
SONM Songino Array 32.85 316 P **P** 09 50 25.2 +0.2
SONM pmax pmax
comp=Z,7.0nm,1.2s
KMI Kunming 33.44 274 ⇓P **P** 09 50 31.0 +0.6
KMI pmax pmax
comp=Z,16nm,1.0s
PZH PanZhiHua 34.03 277 P **P** 09 50 35.7 +0.4
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.6s
YAK Yakutsk 34.84 351 P **P** 09 50 41.4 -0.2
YAK Yakutsk 34.84 351*ceP* **P** 09 50 41.5 -0.1
YAK pmax pmax
comp=Z,18nm,0.7s
GTA Gaotai 35.16 300 *eP* **P** 09 50 44.9 +0.1
GTA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 35.79 319 *eP* **P** 09 50 49.3 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.1s

SEY Seymchan 35.98 10 PcP **PcP** 09 53 09.2 +0.3
comp=Z,0.3nm,0.3s,baz=86,slow=1.8,SNR=4.0
SEY Seymchan 35.98 10*ceP* **P** 09 50 52.3 +1.2
SEY pmax pmax
comp=Z,12nm,2.5s
CMAR Chiang Mai Arr 38.80 265 P **P** 09 51 13.2 -2.1
comp=Z,2.1nm,0.3s,baz=73,slow=8.4,SNR=5.3
comp=Z,2.1nm,0.3s
GOMU GeErMu 38.96 294 P **P** 09 51 18.0 +1.2
GOMU PP PcP 09 53 33.4 +14
MTN Manton Dam 41.40 193 P **P** 09 51 35.4 -0.8
MTN IAmb IAmb 09 52 05.3
comp=Z,18nm,1.2s
COEN Coen 41.70 175 P **P** 09 51 39.4 +0.8
SHL Shillong 42.88 278 P **P** 09 51 47.1 -1.3
SHL Shillong 42.88 278 P **P** 09 51 47.1 -1.3
SHL pmax pmax
comp=Z,11nm,0.9s
BILL Bilibino 43.14 14*ceP* **P** 09 51 49.9 +0.4
BILL pmax pmax
comp=Z,12nm,1.3s
KULM Kulim 43.65 246 P **P** 09 51 53.9 -0.4
KULM IAmb IAmb 09 51 55.9
comp=Z,13nm,0.8s
TIXI Tiksi 44.26 355 P **P** 09 51 58.0 -0.3
TIXI IAmb IAmb 09 51 59.7
comp=Z,8.5nm,0.5s
TIXI Tiksi 44.26 355 P **P** 09 51 58.0 -0.3
TIXI pmax pmax
comp=Z,8.0nm,0.5s
WMQ Urumqi 44.59 305 *eP* **P** 09 52 02.3 +0.9
WMQ pmax pmax
comp=Z,16nm,0.9s
PSI Prapat 46.49 245 P **P** 09 52 17.3 +0.7
PSI pmax pmax
comp=Z,11nm,0.7s
RPSI Rantau Prapat 46.56 245 P **P** 09 52 17.2 +0.3
RPSI IAmb IAmb 09 52 17.9
comp=Z,11nm,0.7s
MDSI Maura Dua 47.24 233 P **P** 09 52 22.1 -0.1
comp=Z,38nm,0.9s
ZAA0 Zalesovo Array 47.67 319 P **P** 09 52 23.4 -1.5
ZALV Zalesovo Beam 47.67 319 P **P** 09 52 24.0 -0.9
comp=Z,1.5nm,0.3s,baz=108,slow=8.1,SNR=11
ZALV PcP **PcP** 09 53 46.2 -1.7
comp=Z,1.6nm,0.5s,baz=134,slow=3.4,SNR=6.8
ZALV ScP **ScP** 09 57 06.2 -1.6
comp=Z,1.8nm,0.8s,baz=104,slow=6.3,SNR=6.2
comp=Z,1.5nm,0.3s
ZALV Zalesovo Beam 47.67 319 *i P* **P** 09 52 24.3 -0.6
ZALV pmax pmax
comp=Z,2.0nm,0.3s
WB0 Warramunga Arr 47.68 187 P **P** 09 52 25.8 +0.5
WRA Warramunga Arr 47.86 187 P **P** 09 52 26.7 0.0
WRA Warramunga Arr 47.86 187 P **P** 09 52 26.4 -0.3
comp=Z,1.8nm,0.4s,baz=6.9,slow=7.7,SNR=40
WRA ScP **ScP** 09 57 08.2 -0.8
comp=Z,1.4nm,0.8s,baz=1.1,slow=4.7,SNR=7.5
comp=Z,1.8nm,0.4s
GSI Gunungsitoli 48.46 244 P **P** 09 52 30.7 -0.8
MK31 Makanchi Array 48.53 309 P **P** 09 52 31.1 -0.4
MK31 Makanchi Array 48.53 309*ceP* **P** 09 52 30.8 -0.8
MKAR Makanchi Array 48.53 309 P **P** 09 52 30.9 -0.7
MKAR Makanchi Array 48.53 309 P **P** 09 52 31.3 -0.3
comp=Z,4.1nm,0.7s,baz=88,slow=9.7,SNR=51
MKAR PcP **PcP** 09 53 51.6 +0.3
comp=Z,0.8nm,0.5s,baz=83,slow=4.8,SNR=4.5
MKAR ScP **ScP** 09 57 10.8 -0.8
comp=Z,1.1nm,0.7s,baz=84,slow=6.3,SNR=7.8
comp=Z,4.1nm,0.7s
MAKZ Makanchi 48.74 309 P **P** 09 52 32.5 -0.7
MAKZ Makanchi 48.74 309 P **P** 09 52 32.5 -0.7
MAKZ pmax pmax
comp=Z,4.0nm,0.4s
KURK Kurchatov 51.10 314 P **P** 09 52 49.5 -1.1
KURK IAmb IAmb 09 52 51.9
comp=Z,10nm,0.8s
KURK Kurchatov 51.10 314*ceP* **P** 09 52 49.8 -0.8
KURK pmax pmax
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 51.15 314 P **P** 09 52 50.5 -0.4
comp=Z,9.3nm,0.5s,baz=93,slow=7.1,SNR=42
comp=Z,9.3nm,0.5s
ASAR Alice Springs 51.59 187 P **P** 09 52 53.6 -0.9
comp=Z,0.5nm,0.5s,baz=355,slow=4.7,SNR=15
ASAR ScP **ScP** 09 57 23.9 -1.1
comp=Z,0.4nm,0.6s,baz=5.5,slow=4.4,SNR=7.1
comp=Z,0.5nm,0.5s
KSH Kashi 53.56 300 P **P** 09 53 12.2 +3.3
KSH pmax pmax
comp=Z,14nm,0.6s
AAK Ala-Archa 54.27 304 P **P** 09 53 13.6 -0.3
AAK Ala-Archa 54.27 304*ceP* **P** 09 53 11.8 -2.1
AAK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 56.20 317 P **P** 09 53 26.5 -0.7
comp=Z,6.4nm,0.5s,baz=91,slow=7.9,SNR=33
comp=Z,6.4nm,0.5s
BRVK Borovoye 56.26 317 P **P** 09 53 27.0 -0.6
BRVK Borovoye 56.26 317*ceP* **P** 09 53 27.3 -0.3
BRVK pmax pmax
comp=Z,6.0nm,0.7s
E22K Anaktuvuk Pass 56.30 25 P **P** 09 53 29.0 +1.3
KK31 Karatay Array 57.10 305 P **P** 09 53 33.5 -0.2
KK31 IAmb IAmb 09 53 34.6
comp=Z,12nm,0.8s
KK31 Karatay Array 57.10 305 P **P** 09 53 33.5 -0.2
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 57.10 305 P **P** 09 53 33.1 -0.6
KKAR Karatay Array 57.10 305 P **P** 09 53 33.4 -0.3
KKAR IAmb IAmb 09 53 34.6
comp=Z,13nm,0.8s
C24K Franklin Bluff 57.64 23 P **P** 09 53 38.4 +1.5
C24K IAmb IAmb 09 54 04.8
comp=Z,21nm,1.5s
F24K Squaw Lake 57.70 26 P **P** 09 53 38.7 +1.3
F24K PcP **PcP** 09 54 28.0 +2.0
ILAR Eielson Array 57.94 29 P **P** 09 53 39.0 0.0
comp=Z,1.8nm,0.9s,baz=265,slow=5.7,SNR=15
ILAR PcP **PcP** 09 54 26.5 -0.3
comp=Z,0.4nm,0.6s,baz=263,slow=4.3,SNR=2.1
comp=Z,1.8nm,0.9s
GAR Garm 57.98 300 P **P** 09 53 39.2 -0.8
E25K Arctic Village 58.62 25 P **P** 09 53 46.1 +2.4
E25K PcP **PcP** 09 54 30.4 +0.9
SIMJ Simiganj 59.05 300 P **P** 09 53 46.9 -0.4
SIMJ IAmb IAmb 09 53 48.2
comp=Z,13nm,0.9s
STKA Stephens Creek 59.44 178 P **P** 09 53 49.3 -0.4
comp=Z,1.4nm,0.5s,baz=320,slow=11,SNR=4.3
comp=Z,1.4nm,0.5s
KBL Kabul 59.99 296 P **P** 09 53 53.2 -0.6
KBL IAmb IAmb 09 53 55.6
comp=Z,7.8nm,0.8s
KBL Kabul 59.99 296 P **P** 09 53 53.2 -0.6
KBL pmax pmax
comp=Z,8.0nm,0.8s
D27M Malcolm River 60.33 24 P **P** 09 53 56.2 +0.9
D27M IAmb IAmb 09 53 57.6
comp=Z,4.3nm,0.7s
G30M tAoh Zraii Nji 62.24 26 P **P** 09 54 08.6 +0.6
G30M IAmb IAmb 09 54 11.2
comp=Z,9.3nm,0.9s
G30M PcP **PcP** 09 54 44.5 +0.3
ARTI Arti 62.76 322 P **P** 09 54 10.6 -0.9
ARTI Arti 62.76 322*c i P* **P** 09 54 10.7 -0.8
ARTI 09 56 34.6
ARTI S **S** 10 02 11.7 +0.2
ARTI SS **SS** 10 06 22.1 -0.9
ARTI pmax pmax
comp=Z,5.0nm,0.5s
H31M Peel River 63.14 27 P **P** 09 54 15.1 +1.2
H31M IAmb IAmb 09 54 16.0
comp=Z,9.6nm,0.7s
ABKAR Akbulak array 63.20 314 P **P** 09 54 13.6 -0.9
A36M Sachs Harbour 65.19 20 P **P** 09 54 27.9 +1.0
A36M IAmb IAmb 09 54 29.4
comp=Z,8.6nm,0.8s
C36M Paulatuk 66.25 23 P **P** 09 54 33.6 0.0
C36M IAmb IAmb 09 54 34.6
comp=Z,4.9nm,0.8s
DLBC Dease Lake 66.65 35 P **P** 09 54 37.3 +0.9
comp=Z,2.9nm,0.9s,baz=257,slow=2.9,SNR=8.6
comp=Z,2.9nm,0.9s
KIRV Kirov 66.99 325*ceP* **P** 09 54 38.0 -0.4

HOPEN Hopen 68.65 347 *eP* **P** 09 54 49.6 +1.2
HOPEN IAmb IAmb 09 54 50.6
comp=Z,33nm,1.2s
SPA0 Spitsbergen Ar 69.28 349 *eP* **P** 09 54 53.4 +1.1
SPA0 IAmb IAmb 09 54 59.2
comp=Z,35nm,1.1s
SPITS Spitsbergen Ar 69.28 349 P **P** 09 54 53.2 +0.9
comp=Z,5.1nm,0.5s,baz=90,slow=8.3,SNR=37
comp=Z,5.1nm,0.5s
EUNU Eureka 69.39 8 P **P** 09 54 53.2 +0.2
EUNU IAmb IAmb 09 54 54.7
comp=Z,4.9nm,0.9s
KBS Kingsbay 69.47 351 *eP* **P** 09 54 54.6 +1.2
KBS Kingsbay 69.47 351 *i P* **P** 09 54 53.7 +0.2
HSPB Hornsund (broa 70.16 349 *eP* **P** 09 54 58.9 +1.3
VADS Vadso 70.73 340 *eP* **P** 09 55 02.1 +1.0
VADS IAmb IAmb 09 55 02.7
comp=Z,99nm,1.5s
KLMR Klimovskoe 70.96 329 *eP* **P** 09 55 00.4 -2.2
KLMR pmax pmax
comp=Z,23nm,1.9s
BJO1 Bjornoya 71.03 346 *eP* **P** 09 55 03.1 +0.3
BJO1 IAmb IAmb 09 55 04.7
comp=Z,104nm,1.4s
RES Resolute Bay 71.74 13 P **P** 09 55 07.4 +0.4
RES IAmb IAmb 09 55 08.8
comp=Z,5.9nm,0.8s
RES Resolute Bay 71.74 13 P **P** 09 55 07.4 +0.4
RES pmax pmax
comp=Z,6.0nm,0.8s
HAMF Hammerfest 72.10 342 *eP* **P** 09 55 09.3 +0.1
HAMF IAmb IAmb 09 55 09.7
comp=Z,10.0nm,0.6s
ARA0 ARCESS Array S 72.18 340 *eP* **P** 09 55 10.4 +0.7
ARA0 IAmb IAmb 09 55 10.7
comp=Z,19nm,0.6s
ARCES ARCESS Array B 72.18 340 P **P** 09 55 10.4 +0.7
comp=Z,19nm,0.6s,baz=69,slow=8.5,SNR=145
comp=Z,19nm,0.6s
YKA Yellowknife Ar 72.34 28 P **P** 09 55 11.3 +0.5
comp=Z,5.1nm,0.8s,baz=293,slow=5.9,SNR=66
comp=Z,5.1nm,0.8s
KTK1 Kautokeino 73.15 340 *eP* **P** 09 55 15.8 +0.5
KTK1 IAmb IAmb 09 55 16.6
comp=Z,19nm,1.1s
JOF Joensuu 73.55 333 *eP* **P** 09 55 17.9 +0.2
JETT Jettan, Norway 73.65 341 *eP* **P** 09 55 18.8 +0.5
JETT IAmb IAmb 09 55 19.4
comp=Z,31nm,0.6s
AKT Akhty 73.75 309 *eP* **P** 09 55 19.7 +0.2
AKT pmax pmax
comp=Z,17nm,0.5s
TRO Tromso 74.01 342 *eP* **P** 09 55 20.7 +0.4
TRO IAmb IAmb 09 55 21.1
comp=Z,28nm,0.7s
NEEM North Greenlan 74.70 3 *i P* **P** 09 55 24.9 +0.4
NEEM IAmb IAmb 09 55 27.6
comp=Z,10nm,1.0s
DAG Danmarks Havn 74.77 355 *i P* **P** 09 55 24.4 -0.2
DAG IAmb IAmb 09 55 26.2
comp=Z,14nm,1.5s
OBN Obninsk 74.81 325⇑ *eP* **P** 09 55 25.3 +0.2
OBN *e* 09 55 37.6
OBN *e*PP* **pwP** 09 56 46.8 -0.3
OBN *i* SS SS 10 09 24.6 -3.0
OBN SSS SSS 10 12 54.0
OBN pmax pmax
comp=Z,20nm,1.7s
KBZ Khabaz 76.10 312 P **P** 09 55 32.9 +0.3
comp=Z,9.0nm,0.7s,baz=118,slow=3.5,SNR=25
comp=Z,9.0nm,0.7s
KBZ Khabaz 76.10 312*ceP* **P** 09 55 32.6 0.0
KBZ pmax pmax
comp=Z,8.0nm,0.7s
KIV Kislovodsk 76.14 312 *eP* **P** 09 55 31.0 -2.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
STEI Steigen 76.14 341 IAmb IAmb 09 55 32.8
comp=Z,25nm,0.6s
STEI *eP* **P** 09 55 32.9 +0.5
B08A Colville Reser 76.23 42 P **P** 09 55 33.5 +0.2
B08A IAmb IAmb 09 55 35.6
comp=Z,5.9nm,0.8s
FINES FINESS Array B 76.41 333 P **P** 09 55 33.9 -0.2
comp=Z,15nm,0.4s,baz=66,slow=5.1,SNR=150
comp=Z,15nm,0.4s
LOF Lofoten 76.48 342 *eP* **P** 09 55 34.0 -0.2
LOF IAmb IAmb 09 55 34.2
comp=Z,71nm,1.2s
KEF Keuruu 76.48 334 *eP* **P** 09 55 33.9 -0.5
FAUS Fauske 76.49 341 *eP* **P** 09 55 34.6 +0.3
VAF Ylistaro 76.80 335 *eP* **P** 09 55 36.0 -0.1
YBH Yreka Blue Hor 76.99 50 P **P** 09 55 38.7 +1.0
comp=Z,2.5nm,1.0s,baz=286,slow=12,SNR=2.5
comp=Z,2.5nm,1.0s
PINE Pine Mountain 77.26 47 P **P** 09 55 40.6 +1.3
PINE IAmb IAmb 09 55 42.4
comp=Z,7.1nm,0.8s
MOR8 Moi Rana 77.56 340 *eP* **P** 09 55 39.3 -1.0
MOR8 IAmb IAmb 09 55 39.8
comp=Z,25nm,0.6s
ARBE Arbavere 77.57 331 *eP* **P** 09 55 40.7 +0.3
NEW Newport 77.59 42 P **P** 09 55 41.4 +0.5
comp=Z,3.0nm,0.6s,baz=276,slow=6.9,SNR=7.8
comp=Z,3.0nm,0.6s
KONS Konsvik 77.72 341 *eP* **P** 09 55 41.4 +0.2
KONS IAmb IAmb 09 55 42.2
comp=Z,71nm,1.6s
MEF Metsahovi 77.79 333 *eP* **P** 09 55 41.4 -0.2
STOK Stokkvaagen 77.86 341 *eP* **P** 09 55 42.1 +0.2
STOK IAmb IAmb 09 55 42.7
comp=Z,18nm,1.0s
LEIR Leirfjorden 77.99 341 *eP* **P** 09 55 43.2 +0.6
LEIR IAmb IAmb 09 55 44.7
comp=Z,86nm,1.9s
RAF Rauma 78.36 334 *eP* **P** 09 55 44.5 -0.1
MTSE Matsula 78.91 332 *eP* **P** 09 55 48.1 +0.4
BMO Blue Mountains 79.09 45 P **P** 09 55 49.9 +0.8
BMO IAmb IAmb 09 55 51.1
comp=Z,2.3nm,0.7s
BMO Blue Mountains 79.09 45 P **P** 09 55 49.9 +0.8
BMO pmax pmax
comp=Z,2.0nm,0.7s
KOPT Kop Dagi 79.35 310 P **P** 09 55 51.5 +0.7
NSS Namsos 79.44 340 *eP* **P** 09 55 50.5 0.0
NSS IAmb IAmb 09 55 52.0
comp=Z,43nm,1.2s
MNK Minsk 79.46 327 *i P* **P** 09 55 51.0 +0.2
MNK *i *PP* **pwP** 09 57 12.5 -1.4
MNK *i *SP* **sP** 09 57 50.8 +3.1
MNK *i* 09 58 56.6
MNK *i* PPP PPP 10 00 46.9
MNK *i* S **S** 10 05 21.7 -0.1
MNK *i* SS **SS** 10 10 36.4 -0.8
MNK *i* SSS SSS 10 14 07.7
MNK pmax pmax
comp=E,24nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
SUMG Summit 79.81 360 *i P* **P** 09 55 53.0 +0.2
SUMG IAmb IAmb 09 55 55.7
comp=Z,15nm,1.0s
PABE Paberze 80.74 329 *eP* **P** 09 55 57.8 +0.3
AKASG Malin Array Be 80.87 323 P **P** 09 55 57.7 -0.6
comp=Z,2.3nm,0.3s,baz=54,slow=5.3,SNR=19
comp=Z,2.3nm,0.3s
AKBB Malin Array Si 80.87 323 *i P* **P** 09 55 57.4 -0.9
AKBB pmax pmax
comp=Z,12nm,1.3s
KIEV Kiev 80.88 323 P **P** 09 55 57.3 -1.1
KIEV Kiev 80.88 323 P **P** 09 55 57.3 -1.1
KIEV pmax pmax
comp=Z,13nm,1.3s
SCO Scoresbysund 81.08 354 *i P* **P** 09 55 59.8 +0.8
SCO IAmb IAmb 09 56 01.2
comp=Z,11nm,1.0s
RYN Ryan 81.26 51 P **P** 09 56 01.5 +0.7
RYN IAmb IAmb 09 56 03.5
comp=Z,4.9nm,1.0s
NVAR Mina Array Bea 81.50 51 P **P** 09 56 03.4 +1.2
comp=Z,3.4nm,0.7s,baz=286,slow=5.6,SNR=30
comp=Z,3.4nm,0.7s
HLID Hailey 81.53 45 P **P** 09 56 03.2 +1.1

LRM	Limekiln Ridge	81.57	42	P	P	09 56 03.0	+0.6
HFS	Hagfors	81.96	336	P	P	09 56 03.3	-0.5
	comp=Z,20nm,0.5s,baz=95,slow=3.6,SNR=168						
	comp=Z,20nm,0.5s						
NC303	NORSAR Array S	82.00	338	P	P	09 56 03.7	-0.3
DOMB	Dombas	82.16	339	eP	P	09 56 04.8	-0.1
NC204	NORSAR Array S	82.16	338	P	P	09 56 04.4	-0.5
NB2	NORSAR Subarra	82.18	338	P	P	09 56 04.2	-0.8
	comp=Z,17nm,0.7s,baz=47,slow=5.1						
NB2	NORSAR Subarra	82.18	338	P	P	09 56 04.2	-0.8
	baz=47,slow=5.1						
NB2	NORSAR Subarra	82.18	338	P	P	09 56 01.1	-3.9
NOA	NORSAR Array B	82.18	338	P	P	09 56 04.7	-0.3
	comp=Z,15nm,0.6s,baz=42,slow=4.5,SNR=68						
NOA				PP	PP	09 59 18.0	-0.2
	comp=Z,2.0nm,0.9s,baz=45,slow=8.3,SNR=3.7						
	comp=Z,15nm,0.6s						
NC602	NORSAR Array S	82.29	337	eP	P	09 56 05.0	-0.5
ELK	Elko	82.42	48	P	P	09 56 07.8	+0.9
	comp=Z,1.1nm,0.5s,baz=254,slow=5.9,SNR=7.6						
	comp=Z,1.1nm,0.5s						
AKN	Aaknes	82.70	340	eP	P	09 56 08.0	+0.4
OSL	Oslo	83.15	337	eP	P	09 56 09.7	-0.2
ICESG	Greenland Ices	83.32	360	i P	P	09 56 11.0	0.0
ICESG				IAmb	IAmb	09 56 12.5	
	comp=Z,9.4nm,0.7s						
SKAR	Skarslia	83.42	338	eP	P	09 56 11.4	+0.1
TPNV	Topopah Spring	83.65	52	P	P	09 56 13.5	+0.4
TPNV				IAmb	IAmb	09 56 15.6	
	comp=Z,4.3nm,0.8s						
TPNV	Topopah Spring	83.65	52	P	P	09 56 13.5	+0.4
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HYA	Hoyanger	83.72	339	eP	P	09 56 12.6	-0.1
FOO	Floro	83.74	340	eP	P	09 56 12.9	+0.2
KONO	Kongsberg	83.75	337	eP	P	09 56 12.6	-0.3
BRTR	Keskin Array B	84.09	312	P	P	09 56 15.1	-0.2
	comp=Z,1.2nm,0.7s,baz=95,slow=4.4,SNR=7.5						
	comp=Z,1.2nm,0.7s						
SUE	Sulen	84.25	340	eP	P	09 56 16.0	+0.7
HWUT	Hardware Ranch	84.35	46	P	P	09 56 17.1	+0.6
HWUT				IAmb	IAmb	09 56 19.0	
	comp=Z,6.5nm,0.8s						
ODD1	Odda	84.54	338	eP	P	09 56 17.0	+0.1
ASK	Askoy	84.56	339	eP	P	09 56 17.5	+0.6
BER	Bergen	84.59	339	eP	P	09 56 17.5	+0.4
SHPR	Sheep Range	84.63	51	P	P	09 56 19.6	+1.7
BSD	Bornholm Skovb	84.96	332	eP	P	09 56 18.4	-0.6
PDAR	Pinedale Array	84.97	44	P	P	09 56 20.4	+0.8
	comp=Z,0.4nm,0.4s,baz=351,slow=0.3,SNR=8.4						
	comp=Z,0.4nm,0.4s						
BLS5	Blasjo	84.98	338	eP	P	09 56 18.9	-0.1
SFJD	Kangerlussuaq	85.08	4	i P	P	09 56 19.3	-0.1
SFJD				IAmb	IAmb	09 56 20.8	
	comp=Z,6.7nm,0.6s						
HOMB	Homborsund	85.15	337	eP	P	09 56 19.5	-0.4
PFO	Pinyon Flats O	85.17	55	P	P	09 56 21.6	+0.9
	comp=Z,2.8nm,0.6s,baz=326,slow=3.8,SNR=6.4						
	comp=Z,2.8nm,0.6s						
SNART	Snartemo	85.55	337	eP	P	09 56 22.0	+0.2
SNART				IAmb	IAmb	09 56 22.3	
	comp=Z,82nm,1.0s						
FRB	Frobisher Bay	85.93	12	P	P	09 56 23.4	-0.2
	comp=Z,2.9nm,0.4s,baz=325,slow=5.2,SNR=20						
	comp=Z,2.9nm,0.4s						
STEB	Steborice	87.17	327	eP	P	09 56 29.9	+0.1
CHVC	Chvalec	87.55	328	eP	P	09 56 31.7	0.0
CHVC	Chvalec	87.55	328	eP	P	09 56 31.7	0.0
DPC	Dobruska-Polom	87.59	328	eP	P	09 56 31.9	0.0
DPC	Dobruska-Polom	87.59	328	eP	P	09 56 31.9	0.0
VYHS	Vyhne	87.59	325	eP	P	09 56 31.8	-0.1
VYHS	Vyhne	87.59	325	eP	P	09 56 31.8	-0.1
JAVC	Velka Javorina	87.94	326	eP	P	09 56 33.8	+0.3
VRAC	Vranov	88.16	327	P	P	09 56 34.6	0.0
	comp=Z,3.2nm,0.7s,baz=295,slow=3.1,SNR=6.2						
	comp=Z,3.2nm,0.7s						
VRAC	Vranov	88.16	327	eP	P	09 56 34.4	-0.1
PVCC	Panska Ves	88.28	329	eP	P	09 56 35.4	+0.4
PVCC	Panska Ves	88.28	329	eP	P	09 56 35.4	+0.4
KRUC	Moravsky	88.42	327	eP	P	09 56 35.9	+0.2
MODS	Modra-Piesok	88.45	326	eP	P	09 56 36.5	+0.6
MODS	Modra-Piesok	88.45	326	eP	P	09 56 36.5	+0.6
ZVC	Zvikov	89.22	328	eP	P	09 56 39.3	-0.1
RONA	Rosalia, Austr	89.39	326	ePcP	P	09 56 40.6	+0.2
	comp=Z,3.0nm,0.9s						
CONA	Conrad Observa	89.45	326	ePcP	P	09 56 40.9	+0.2
	comp=Z,4.9nm,1.1s						
KHC	Kasperske Hory	89.72	328	eP	P	09 56 40.8	-1.0
KHC	Kasperske Hory	89.72	328	ceP	P	09 56 41.0	-0.8
KHC				pmax	pmax		
	comp=Z,13nm,1.7s						
GERES	GERESS Array B	89.86	328	P	P	09 56 41.9	-0.7
	comp=Z,2.0nm,0.7s,baz=55,slow=5.1,SNR=7.9						
	comp=Z,2.0nm,0.7s						
ARSA	Arzberg	90.08	326	ePcP	P	09 56 43.3	-0.3
	comp=Z,7.2nm,1.2s						
BIOA	Bad Ischl, Aus	90.70	327	ePcP	P	09 56 46.0	-0.4
	comp=Z,3.7nm,0.8s						
SOKA	Soboth	90.72	326	eP	P	09 56 45.0	-1.6
	comp=Z,5.4nm,1.6s						
EKA	Eskdalemuir Ar	91.34	340	P	P	09 56 48.6	-0.5
	comp=Z,3.6nm,0.7s,baz=62,slow=3.3,SNR=21						
	comp=Z,3.6nm,0.7s						
LESA	Schwarzleotal	91.35	327	eP	P	09 56 48.4	-1.0
	comp=Z,7.2nm,1.8s						
ANMO	Albuquerque	91.40	49	P	P	09 56 51.7	+1.6
	comp=Z,1.4nm,0.7s,baz=91,slow=5.4,SNR=9.5						
	comp=Z,1.4nm,0.7s						
ANMO	Albuquerque	91.40	49	i P	P	09 56 51.0	+0.9
ANMO				pmax	pmax		
	comp=Z,3.0nm,2.2s						
MYKA	Terra Mystica	91.44	326	eP	P	09 56 48.5	-1.4
	comp=Z,1.7nm,0.5s						
ABTA	Abfaltersbach	91.91	327	eP	P	09 56 50.6	-1.5
	comp=Z,4.4nm,1.0s						
WTTA	Wattenberg	91.96	328	eP	P	09 56 51.5	-0.9
	comp=Z,9.4nm,1.6s						
FETA	Feichten	92.56	328	P	P	09 56 54.3	-0.9
	comp=Z,5.3nm,1.4s						
DAVOX	Davos/Dischmat	93.14	328	P	P	09 56 56.8	-1.0
	comp=Z,2.9nm,0.8s,baz=43,slow=2.6,SNR=4.8						
	comp=Z,2.9nm,0.8s						
TXAR	Lajitas Array	96.62	52	P	P	09 57 14.7	+0.8
	comp=Z,0.4nm,0.6s,baz=283,slow=2.0,SNR=7.7						
	comp=Z,0.4nm,0.6s						
ESDC	Sonseca Array	104.90	332	PP	PP	10 02 09.7	-4.7
	comp=Z,0.3nm,0.6s,baz=18,slow=5.8,SNR=4.1						
QSPA	South Pole Qui	117.65	180	PKP	PKPdf	10 02 26.3	-0.4
	comp=Z,1.1nm,0.4s,baz=252,slow=1.0,SNR=21						
SNAA	Sanae	131.65	195	PKP	PKPdf	10 02 53.7	+0.3
	comp=Z,2.5nm,0.9s,baz=166,slow=8.3,SNR=1.4						
SNAA				SKPbc	SKPbc	10 05 43.9	-1.2
	comp=Z,6.7nm,1.0s,baz=172,slow=7.1,SNR=6.7						
DBIC	Dimbokro	131.76	310	SKPbc	SKPbc	10 05 46.6	-0.7
	comp=Z,1.5nm,0.6s,baz=326,slow=2.2,SNR=5.5						
LPAZ	La Paz	151.51	72	PKPbc	PKiKP	10 03 37.6	+0.2
	comp=Z,2.9nm,0.5s,baz=14,slow=0.7,SNR=22						
PLCA	Paso Flores	151.79	125	PKPbc	PKiKP	10 03 36.6	0.0
	comp=Z,2.3nm,0.6s,baz=248,slow=1.7,SNR=19						
SIV	San Ignacio	157.14	63	PKP	PKPdf	10 03 36.6	-1.0
	comp=Z,0.6nm,0.5s,baz=228,slow=2.7,SNR=4.0						

JMA ***10*** *09:52:08.2±0.3, 44°.1N×14°.8E±°, h0km, MD5.0/39, MV5.6/39, SE OFF ETOROFU*
JMA Felt I J1 at SE OFF ETOROFU .
NIED ***10*** *09:52:08.2, 43°.87N×148°.33E, h0km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.15; Mθθ-0.06; Mφφ-1.09; Mrθ1.50; Mθφ-0.78; Mφr1.18; Fault plane solution: M0 2.34000×10^16 NP1: φs184.00000°, δ22.00000°, λ48.00000°. NP2: φs48.00000°, δ74.00000°, λ105.00000°.*
BJI ***10*** *09:52:10.8, 44°.13N×148°.49E, h48km, mB5.1/28, mb5.0/69, Ms4.6/56, Ms7 4.4/56*
SKHL ***10*** *09:52:11.7±0.6, 44°.10N×148°.50E, h45km±5km, mb5.4/15, mbv5.3/6, ms5.0/5, msh5.0/3*
MOS ***10*** *09:52:11.8±0.9, 44°.19N×148°.39E, h44km, mb5.3/42, MS4.2/9, Error ellipse: s-maj=5.8km s-min=4.1km az=119.5*
NEIC ***10*** *09:52:13.2±1.3, 44°.16N±0°.09×148°.3E±0°.1, h38km±6km, mb5.1/138, Error ellipse: s-maj=15.1km s-min=10.2km az=141.0*
IDC ***10*** *09:52:15.0±2.0, 44°.24N×148°.30E, h56km±16km, mb4.4/34,*

mbtmp4.7/41, ML4.1/6, MS4.2/51, Error ellipse: s-maj=13.6km s-min=9.0km az=153.0
ISC 10 09:52:12.7±0.4, 44°.12N±0°.04×148°.43E±0°.04, h42km±2km, h41km; pP-P, n921, σ1$30/946, mb5.0/212, MS4.3/64, 25C-27D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	1.18	258	i P		Pn	09 52 30.6	-2.1
SHO					AMB	AMB	09 52 32.9	
	810nm,0.3s							
SHO					eS	Sn	09 52 45.0	-2.5
SHO					A	A	09 52 53.4	
	1μm,0.4s							
SHO					A	A	09 52 53.4	
	20μm,0.4s							
SHO					A	A	09 52 55.3	
	11μm,1.0s							
SHO					A	A	09 52 55.3	
	21μm,1.0s							
KUR	Kuril'sk	1.18	340	d iPN		Pn	09 52 31.7	-1.0
KUR					eS	Sn	09 52 46.5	-1.1
KUR					pmax	pmax		
	comp=Z,5μm,0.4s							
KUR					pmax	pmax		
	comp=N,2μm,0.3s							
KUR					pmax	pmax		
	comp=E,2μm,0.2s							
KUR					pmax	pmax		
	comp=Z,16μm,1.4s							
KUR					smax	smax		
	comp=N,34μm,2.4s							
KUR					smax	smax		
	comp=E,51μm,2.4s							
KUR					smax	smax		
	comp=E,15μm,0.4s							
KUR					smax	smax		
	comp=N,7μm,0.3s							
KUR	Kuril'sk	1.18	340	i P		Pn	09 52 32.0	-0.7
KUR					AMB	AMB	09 52 32.5	
	comp=N,2μm,0.3s							
KUR					AMB	AMB	09 52 32.5	
	comp=N,2μm,0.3s							
KUR					AMB	AMB	09 52 32.5	
	comp=N,5μm,0.3s							
KUR					AMB	AMB	09 52 32.5	
	comp=N,16μm,1.4s							
KUR					eS	Sn	09 52 46.9	-0.7
KUR					A	A	09 52 48.1	
	comp=N,34μm,2.4s							
KUR					A	A	09 52 48.1	
	comp=N,51μm,2.4s							
KUR					A	A	09 52 48.6	
	comp=N,7μm,0.4s							
KUR					A	A	09 52 48.6	
	comp=N,15μm,0.4s							
YUK	Yuzh-Kuril'sk	1.85	268	d iPN		Pn	09 52 40.2	-1.7
YUK					eS	Sn	09 53 03.9	-0.1
YUK					pmax	pmax		
	comp=N,463nm,0.3s							
YUK					pmax	pmax		
	comp=Z,3μm,0.3s							
YUK					pmax	pmax		
	comp=E,613nm,0.2s							
YUK					smax	smax		
	comp=E,25μm,0.5s							
YUK					smax	smax		
	comp=N,6μm,0.2s							
YUK	Yuzh-Kuril'sk	1.85	268	i P		Pn	09 52 40.5	-1.4
YUK					AMB	AMB	09 52 43.3	
	comp=N,460nm,0.3s							
YUK					AMB	AMB	09 52 43.3	
	comp=N,610nm,0.3s							
YUK					AMB	AMB	09 52 43.3	
	comp=N,3μm,0.3s							
YUK					eS	Sn	09 53 02.6	-1.4
YUK					A	A	09 53 07.0	
	comp=N,6μm,0.4s							
YUK					A	A	09 53 07.0	
	comp=N,25μm,0.4s							
YUK					AMS	AMS	09 53 27.0	
	comp=N,5μm,9.0s							
YUK					AMS	AMS	09 53 27.0	
	comp=N,6μm,13.0s							
NEM2	Nemuro 2	2.09	250	eP		Pn	09 52 42.6	-2.5
NEM2				eS		Sn	09 53 08.0	-1.8
NEM2	Nemuro 2	2.09	250	A		A	09 52 42.6	
	comp=N,8.0nm,3.5s,comp=E,8.0nm,1.0s							
NMR	Nemuro--Hokkai	2.10	250	ePN		Pn	09 52 42.6	-2.6
NMR				eS		Sn	09 53 09.9	-0.2
NMR	Nemuro--Hokkai	2.10	250	eP		Pn	09 52 43.2	-2.0
NMR				eS		Sn	09 53 08.6	-1.5
RUSJ	Misakicho	2.29	271	‖ iPN		Pn	09 52 47.5	-0.4
RUSJ				eS		Sn	09 53 17.1	+2.2
JRA	Rausu	2.39	267	i P		Pn	09 52 48.5	-0.8
JRA				eS		Sn	09 53 18.6	+1.2
JRA	Rausu	2.39	267	A		A	09 52 48.5	
	comp=N,16nm,1.7s,comp=E,21nm,1.3s							
JNSB	Nemuroshibetsu	2.50	263	P		Pn	09 52 49.9	-0.8
JNSB				eS		Sn	09 53 20.1	+0.2
JNSB	Nemuroshibetsu	2.50	263	A		A	09 52 49.9	
	comp=N,16nm,1.0s,comp=E,17nm,0.8s							
JKHN	Kushirohamanak	2.59	248	eP		Pn	09 52 50.3	-1.7
JKHN				eS		Sn	09 53 21.1	-1.1
JKHN	Kushirohamanak	2.59	248	A		A	09 52 50.3	
	comp=N,10.0nm,1.4s,comp=E,12nm,2.2s							
JNK	Nakash	2.74	260	P		Pn	09 52 52.9	-1.1
JNK				eS		Sn	09 53 25.0	-0.9
JNK	Nakash	2.74	260	A		A	09 52 52.9	
	comp=N,7.0nm,2.3s,comp=E,8.0nm,3.0s							
JAK	Akkeshi	2.94	249	eP		Pn	09 52 55.0	-1.8
JAK				eS		Sn	09 53 28.9	-1.9
JAK	Akkeshi	2.94	249	A		A	09 52 55.0	
	comp=N,10.0nm,3.6s,comp=E,13nm,2.0s							
JTKR	Abashiri--Toko	3.26	269	P		Pn	09 53 01.2	0.0
JAR	Ashorobuto	3.48	258	P		Pn	09 53 04.0	-0.2
JAR	Ashorobuto	3.48	258	A		A	09 53 04.0	
	comp=N,8.0nm,2.0s,comp=E,8.0nm,0.6s							
JOB	Onbets	3.56	252	A		A	09 53 04.3	
	comp=N,10.0nm,1.9s,comp=E,8.0nm,1.0s							
JCH	Churui	3.99	250	P		Pn	09 53 10.3	-0.9
JCH				eS		Sn	09 53 57.0	+0.3
JCH	Churui	3.99	250	A		A	09 53 10.3	
	comp=N,8.0nm,1.1s,comp=E,7.0nm,0.8s							
JKK2	Kamakawa 2	4.11	269	P		Pn	09 53 13.6	+0.7
JKA	Kamikawa-asahi	4.20	272	Pn		Pn	09 53 14.9	+0.8
JKA	Kamikawa-asahi	4.20	272	eP		Pn	09 53 15.4	+1.3
ASAJ	Asahikawa	4.20	272	P		Pn	09 53 15.4	+1.3
	comp=E,11nm,0.3s,baz=71,slow=22,SNR=80							
ASAJ				S		Sn	09 54 03.3	+1.4
	comp=E,242nm,0.6s,baz=138,slow=13,SNR=4.0							
ASAJ				LR		LR	09 54 59.5	
	comp=E,5μm,20.3s,baz=142,slow=40							
	comp=E,67nm,0.5s							
JSE	Soyaes	4.26	283	P		Pn	09 53 15.4	+0.5
JFR	Furan	4.34	259	A		A	09 53 15.9	
	comp=N,6.0nm,1.3s,comp=E,4.0nm,5.7s							
JEM	Erimo	4.40	243	A		A	09 53 15.7	
	comp=N,7.0nm,1.4s,comp=E,7.0nm,2.9s							
ERM	Erimo	4.40	243			Pn	09 53 17.4	+0.6
ERM	Erimo	4.40	243	i PN		Pn	09 53 17.9	+1.1
JAB	Ashibetsu	4.53	264	A		A	09 53 18.9	
	comp=N,3.0nm,5.6s,comp=E,5.0nm,3.0s							
JNBK	Urakawa-nobuka	4.54	248	P		Pn	09 53 18.8	0.0
JNBK	Urakawa-nobuka	4.54	248	A		A	09 53 18.8	
	comp=N,16nm,1.7s,comp=E,27nm,1.3s							
JSHD	Hidakashinhida	4.68	251	A		A	09 53 20.0	
	comp=N,16nm,1.9s,comp=E,19nm,1.1s							
JSS	Shosan	4.73	276	P		Pn	09 53 24.1	+2.7
JWK2	Keihoku	4.81	287	eP		Pn	09 53 24.5	+2.1
JHR	Hokuryu	4.86	268	P		Pn	09 53 25.9	+2.7
YSS	Yuzhno-Sakhali	4.89	307			Pn	09 53 23.3	-0.3
YSS	Yuzhno-Sakhali	4.89	307	ke PN		Pn	09 53 24.3	+0.7
YSS				eS		Sn	09 54 18.3	-0.6
YSS				pmax	pmax			
	comp=Z,300nm,4.3s							
YSS				pmax	pmax			
	comp=N,200nm,4.4s							
YSS				pmax	pmax			
	comp=E,400nm,4.1s							
YSS				pmax	pmax			
	comp=Z,160nm,0.6s							
YSS				smax	smax			
	comp=N,280nm,1.1s							
YSS				smax	smax			
	comp=E,300nm,0.8s							
YSS				MLR	MLR			
	comp=Z,2μm,15.0s							
YSS				MLR	MLR			
	comp=N,1μm,14.0s							
YSS				MLR	MLR			
	comp=E,1μm,12.0s							
YSS	Yuzhno-Sakhali	4.89	307	i P		Pn	09 53 24.6	+1.0
YSS				AMB	AMB	09 53 30.0		
	comp=E,200nm,4.3s							
YSS				AMB	AMB	09 53 30.0		
	comp=E,400nm,4.3s							
YSS				AMB	AMB	09 53 30.0		
	comp=E,300nm,4.3s							
YSS				AMB	AMB	09 53 37.9		
	comp=E,160nm,0.6s							
YSS				eS	Sn	09 54 19.1	+0.2
YSS				A	A	09 54 25.6		
	comp=E,280nm,0.8s							
YSS				A	A	09 54 25.6		
	comp=E,300nm,0.8s							
YSS				AMS	AMS	09 55 25.1		
	comp=E,1μm,14.0s							
YSS				AMS	AMS	09 55 25.1		
	comp=E,1μm,14.0s							
YSS				AMS	AMS	09 55 25.1		
	comp=E,2μm,14.0s							
JIAM	Iburiatsuma	4.97	255	A	A	09 53 24.5		
	comp=N,24nm,1.3s,comp=E,13nm,1.2s							
JISS	Ishikarishitsu	5.15	263	A	A	09 53 27.4		
	comp=N,9.0nm,2.8s,comp=E,10.0nm,1.5s							
JEW	Eniwo	5.24	258	eP		Pn	09 53 29.2	+0.8
JEW	Eniwo	5.24	258	A	A	09 53 29.2		
	comp=N,6.0nm,4.3s,comp=E,6.0nm,2.9s							
JRBN	Rebuntou	5.40	287	P		Pn	09 53 32.2	+1.6
JKB	Kayabe	5.86	250	A	A	09 53 36.7		
	comp=N,13nm,1.1s,comp=E,10.0nm,1.3s							
JAHD	Aomorihigashid	5.95	244	A	A	09 53 37.6		
	comp=N,12nm,1.7s,comp=E,9.0nm,1.1s							
JOT	Ohata	6.08	246	P		Pn	09 53 39.5	-0.5
JOT				eS		Sn	09 54 45.5	-2.8
JANG	Nango	6.35	236	P		Pn	09 53 41.4	-2.3
JANG				eS		Sn	09 54 48.3	-6.6
JTM	Tenmabayashi	6.38	241	Pn		Pn	09 53 43.0	-1.1
UGL	Uglegorsk	6.62	321	‖ ePN		Pn	09 53 48.5	+1.2
UGL				pmax	pmax			
	comp=Z,164nm,0.8s							
UGL				MLR	MLR			
	comp=E,1μm,11.0s							
UGL	Uglegorsk	6.62	321	eP		Pn	09 53 48.7	+1.4
UGL				AMB	AMB	09 53 52.2		
	comp=E,180nm,0.8s							
UGL				eS	Sn	09 55 01.3	0.0
UGL				A	A	09 55 07.9		
	comp=E,70nm,0.5s							
UGL				A	A	09 55 07.9		
	comp=E,150nm,0.5s							
UGL				AMS	AMS	09 56 28.0		
	comp=E,1μm,11.0s							
UGL				AMS	AMS	09 56 28.0		
	comp=E,1μm,17.0s							
UGL				AMS	AMS	09 56 28.0		
	comp=E,3μm,17.0s							
JOMM	Oshimamatsumae	6.71	250	eP		Pn	09 53 48.4	-0.3
TYV	Tymovskoe	7.79	332	ePN		Pn	09 54 06.1	+2.7
TYV				pmax	pmax			
	comp=Z,28nm,0.7s							
TYV				pmax	pmax			
	comp=Z,300nm,3.7s							
TYV	Tymovskoe	7.79	332	eP		Pn	09 54 04.3	+0.9
TYV				AMB	AMB	09 54 07.7		
	comp=Z,300nm,3.7s							
TYV				AMB	AMB	09 54 07.7		
	comp=Z,30nm,0.6s							
TYV				eS	Sn	09 55 29.0	-1.3
TYV				A	A	09 55 33.9		
	comp=Z,30nm,0.5s							
TYV				A	A	09 55 33.9		
	comp=Z,20nm,0.5s							
TYV				A	A	09 55 36.7		
	comp=Z,400nm,7.5s							
TYV				A	A	09 55 36.7		
	comp=Z,600nm,7.5s							
TYV				AMS	AMS	09 57 17.0		
	comp=Z,700nm,10.0s							
TYV				AMS	AMS	09 57 17.0		
	comp=Z,2μm,10.0s							
TYV				AMS	AMS	09 57 19.0		
	comp=Z,2μm,13.0s							
SKR	Severo-Kuril's	8.38	36	ePN		Pn	09 54 13.1	+1.7
SKR				pmax	pmax			
	comp=Z,118nm,1.3s							
SKR				pmax	pmax			
	comp=Z,700nm,4.6s							
SKR	Severo-Kuril's	8.38	36	eP		Pn	09 54 12.0	+0.6
SKR				AMB	AMB	09 54 13.7		
	comp=Z,120nm,0.7s							
SKR				AMB	AMB	09 54 16.7		
	comp=Z,700nm,4.6s							
SKR				eS	Sn	09 55 42.0	-2.6
SKR				AMS	AMS	09 57 12.1		
	comp=Z,2μm,18.0s							
TEY	Ternei	8.49	280	⇑ ePN		Pn	09 54 16.7	+3.7
TEY				pmax	pmax			
	comp=N,60nm,1.2s							
TEY				pmax	pmax			
	comp=Z,50nm,1.1s							
TEY				pmax	pmax			
	comp=E,60nm,1.1s							
TEY	Ternei	8.49	280	eP		Pn	09 54 16.7	+3.7
TEY				AMB	AMB	09 54 19.5		
	comp=E,60nm,0.7s							
TEY				AMB	AMB	09 54 19.5		
	comp=E,60nm,0.7s							
TEY				AMB	AMB	09 54 19.5		
	comp=E,70nm,0.7s							
TEY				AMS	AMS	09 57 38.7		
	comp=E,500nm,17.0s							
TEY				AMS	AMS	09 57 38.7		
	comp=E,500nm,17.0s							
JMM	Marumori	8.50	225			Pn	09 54 10.5	-2.7
PAU	Pauzhetka	9.26	35	eP		Pn	09 54 24.1	+0.6
PAU				AMB	AMB	09 54 26.0		
	comp=E,50nm,0.4s							
PAU				AMB	AMB	09 54 30.9		
	comp=E,1μm,4.7s							
PAU				AMS	AMS	09 57 47.0		
	comp=E,600nm,12.0s							
PAU				AMS	AMS	09 57 47.0		
	comp=E,900nm,12.0s							
PAU				AMS	AMS	09 57 49.8		
	comp=E,2μm,19.0s							
JSD	Sado	9.79	235	Pn		Pn	09 54 29.0	-1.8
OKH	Okha	10.11	341	de PN		Pn	09 54 35.2	+0.2
OKH				pmax	pmax			
	comp=Z,100nm,6.9s							
OKH				MLR	MLR			
	comp=E,1μm,15.0s							
OKH				MLR	MLR			
	comp=Z,1μm,15.0s							
OKH				MLR	MLR			
	comp=N,1μm,15.0s							
OKH	Okha	10.11	341	eP		Pn	09 54 36.2	+1.2
OKH				AMB	AMB	09 54 38.5		
	comp=N,100nm,6.

comp=N,800nm,18.0s
NKL AMS AMS 09 58 25.5
comp=N,1μm,18.0s
NKL AMS AMS 09 58 25.5
comp=N,1μm,18.0s
GRNR Gornyy 10.50 314⇓*i*PN Pn 09 54 42.1 +1.6
GRNR pmax pmax
comp=Z,4.0nm,0.9s
GRNR Gornyy 10.50 314 *i* P Pn 09 54 42.1 +1.6
GRNR AMB AMB 09 54 43.5
comp=Z,10.0nm,0.9s
GRNR AMS AMS 09 58 46.2
comp=Z,200nm,18.0s
GRNR AMS AMS 09 58 46.2
comp=Z,500nm,18.0s
GRNR AMS AMS 09 58 46.2
comp=Z,600nm,18.0s
MJA0 Matsu Arr-Jizo 10.84 229 *e*PN Pn 09 54 44.0 -1.3
MJAR Matsushiro Arr 10.86 229 P Pn 09 54 44.1 -1.5
comp=Z,8.8nm,0.5s,baz=31,slow=16,SNR=24
MJAR S Sn 09 56 47.5 +1.8
comp=Z,2.9nm,0.7s,baz=191,slow=41,SNR=1.4
MJAR LR LR 09 59 16.9
comp=Z,341nm,19.9s,baz=46,slow=39
MJB9 Matsu-Tunnel 10.86 229 Pn Pn 09 54 44.4 -1.2
MAJO Matsushiro 10.86 229 Pn Pn 09 54 43.5 -2.0
MAJO Matsushiro 10.86 229*c* *i*PN Pn 09 54 44.0 -1.5
PEA0B Petropavlovsk- 10.88 31 Pn Pn 09 54 45.9 +0.2
PEA0B Petropavlovsk- 10.88 31 *i*PN Pn 09 54 46.8 +1.2
PETK Petropavlovsk- 10.88 31 Pn Pn 09 54 46.1 +0.5
PETK Petropavlovsk- 10.88 31 P Pn 09 54 46.5 +0.8
comp=Z,3.9nm,0.3s,baz=213,slow=12,SNR=56
PETK S Sn 09 56 45.2 -0.7
comp=Z,1.9nm,0.6s,baz=188,slow=9.7,SNR=0.8
comp=Z,15nm,0.5s
PET Petropavlovsk 11.18 34 Pn Pn 09 54 49.0 -0.8
PET Petropavlovsk 11.18 34 *i*PN Pn 09 54 50.2 +0.5
PET Petropavlovsk 11.18 34 *i* P Pn 09 54 50.2 +0.5
USA0B Ussuriysk Arra 11.81 276 Pn Pn 09 54 59.2 +0.7
USA0B Ussuriysk Arra 11.81 276 *i*PN Pn 09 55 01.1 +2.7
USRK Ussuriysk Ar. 11.81 276 Pn Pn 09 54 58.2 -0.2
USRK Ussuriysk Ar. 11.81 276 P Pn 09 54 59.5 +1.0
comp=Z,0.7nm,0.3s,baz=90,slow=12,SNR=20
USRK LR LR 09 59 42.7
comp=Z,2μm,18.5s,baz=74,slow=38
comp=Z,23nm,0.8s
JGF Kuroka 12.02 229 Pn Pn 09 54 59.9 -1.5
VLA Vladivostok 12.04 271 *i*PN Pn 09 55 04.0 +2.5
VLA Vladivostok 12.04 271 *i* P Pn 09 55 04.0 +2.5
INU Inuyama 12.39 229 Pn Pn 09 55 05.3 -1.1
KLR Kul'dur 12.54 300 P Pn 09 55 12.1 +3.8
comp=Z,44nm,0.9s,baz=110,slow=15,SNR=67
KLR LR LR 10 00 21.8
comp=Z,1μm,19.2s,baz=123,slow=39
KLR Kul'dur 12.54 300 *i*PN Pn 09 55 11.2 +2.9
KLR Kul'dur 12.54 300 *i* P Pn 09 55 10.0 +1.7
JHJ Hachijo jima 2 12.89 214 P Pn 09 55 09.8 -3.3
comp=Z,128nm,0.8s,baz=355,slow=7.5,SNR=1.8
JHJ S Sn 09 57 22.8 -12
comp=Z,73nm,0.4s,baz=248,slow=22,SNR=5.5
PSTR Posyet 12.91 270 *i*PN Pn 09 55 16.0 +2.6
MDJ Mudanjiang 13.49 279 Pn Pn 09 55 20.7 -0.7
MDJ Mudanjiang 13.49 279 P Pn 09 55 22.5 +1.2
MDJ S **Sn 09 57 52.2 +2.5**
MDJ pmax pmax
comp=Z,12nm,1.6s
MDJ pmax pmax
comp=Z,280nm,6.9s
MDJ LR LR
comp=Z,510nm,12.9s
MDJ LR LR
comp=Z,1μm,17.3s
MDJ LR LR
comp=Z,2μm,18.4s
EKMR Ekimchan 13.58 317 *e*P Pn 09 55 24.4 +1.9
EKMR AMB AMB 09 55 28.7
comp=Z,40nm,0.7s
EKMR AMB AMB 09 55 33.5
comp=Z,100nm,1.5s
EKMR AMS AMS 09 59 34.2
comp=Z,200nm,14.0s
EKMR AMS AMS 09 59 34.2
comp=Z,300nm,14.0s
EKMR AMS AMS 09 59 34.2
comp=Z,500nm,14.0s
BNX BinXian 14.98 284 ⇓P Pn 09 55 41.5 +0.1
BNX S **Sn 09 58 26.3 +0.3**
BNX pmax pmax
comp=Z,70nm,0.9s
BNX pmax pmax
comp=Z,350nm,4.3s
BNX LR LR
comp=Z,640nm,12.5s
BNX LR LR
comp=Z,1μm,16.2s
BNX LR LR
comp=Z,2μm,16.2s
KBG Krutoberegovo 15.16 32 *e*P Pn 09 55 42.0 -1.7
KBG AMB AMB 09 55 48.0
comp=Z,100nm,0.5s
HEH HeiHe 15.52 301 *e*P Pn 09 55 49.6 +1.2
HEH pP **P 09 55 55.1 +2.9**
HEH S **Sn 09 58 45.1 +5.9**
HEH pmax pmax
comp=Z,42nm,1.1s
HEH pmax pmax
comp=Z,420nm,5.0s
HEH LR LR
comp=Z,370nm,15.9s
HEH LR LR
comp=Z,1μm,15.7s
HEH LR LR
comp=Z,2μm,15.1s
MA2 Magadan 15.54 4 Pn Pn 09 55 47.2 -1.4
MA2 Magadan 15.54 4 P Pn 09 55 48.8 +0.2
comp=Z,9.7nm,0.6s,baz=188,slow=8.6,SNR=16
MA2 LR LR 10 01 29.9
comp=Z,616nm,20.4s,baz=196,slow=36
MA2 Magadan 15.54 4 P Pn 09 55 47.2 -1.4
MA2 pmax pmax
comp=Z,50nm,1.5s
MA2 Magadan 15.54 4 *e*P Pn 09 55 47.2 -1.4
MA2 Magadan 15.54 4 P Pn 09 55 48.4 -0.2
comp=Z,25nm,0.7s
OCTB Oktyabr'skiy 15.79 311 *e*P Pn 09 55 52.3 +0.4
OCTB AMB AMB 09 55 56.0
comp=Z,30nm,0.8s
OCTB AMB AMB 09 55 56.0
comp=Z,40nm,0.8s
OCTB AMB AMB 09 55 56.0
comp=Z,90nm,0.8s
CN2 Changchun 16.54 277 *e*P Pn 09 56 00.9 -0.6
CN2 *e*S **Sn 09 58 59.2 -4.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,900nm,14.0s
CN2 LR LR
comp=Z,1μm,14.1s
ZEA Zeya 16.86 312 *e*P P 09 56 06.7 -0.3
ZEA pmax pmax
comp=E,30nm,1.1s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA pmax pmax
comp=Z,200nm,2.9s
ZEA Zeya 16.86 312 AMS AMS 10 02 36.0
comp=Z,500nm,18.0s
ZEA *e*P **Pn 09 56 05.2 -0.2**
ZEA AMB AMB 09 56 08.8
comp=Z,20nm,0.8s
ZEA AMS AMS 10 02 36.0
comp=Z,400nm,18.0s
KSRS Korea Array 16.88 254 P Pn 09 56 06.5 +0.8
comp=Z,0.4nm,0.3s,baz=63,slow=12,SNR=19
KSRS LR LR 10 02 54.2
comp=Z,790nm,18.7s,baz=60,slow=38
comp=Z,12nm,0.9s
KSRS Korea Array 16.88 254 *e*P P 09 56 07.3 0.0
KS19 Wonju Array Si 16.89 254 Pn 09 56 04.3 -1.6
KSAR Wonju Array Be 16.91 254 P Pn 09 56 06.0 -0.1
KSAR Wonju Array Be 16.91 254 P Pn 09 56 06.0 -0.1
JNU Nakatsue 17.53 237 P P 09 56 15.7 +1.0
comp=Z,0.8nm,0.3s,baz=184,slow=3.4,SNR=8.3
JNU LR LR 10 03 55.8
comp=Z,514nm,18.5s,baz=28,slow=40
comp=Z,9.9nm,0.7s
SNY Shenyang 18.31 271 ⇑P Pn 09 56 24.0 +0.7
SNY pmax pmax
comp=Z,42nm,0.8s
SNY LR LR
comp=Z,400nm,17.3s
SNY LR LR
comp=Z,720nm,17.3s
SNY LR LR
comp=Z,830nm,18.0s
SEY Seymchan 18.99 6 P P 09 56 29.8 -0.5
comp=Z,0.8nm,0.3s,baz=183,slow=8.4,SNR=133
SEY LR LR 10 04 00.2
comp=Z,678nm,19.9s,baz=172,slow=37
comp=Z,33nm,0.8s
SEY Seymchan 18.99 6 *i* P P 09 56 29.5 -0.8
SEY pmax pmax
comp=Z,34nm,0.9s
SHEM Shemya Is, Ala 19.01 54 LR LR 10 03 22.9
comp=Z,232nm,21.5s,baz=237,slow=35
HIA Hailar 20.27 295 P P 09 56 43.7 -0.8
HIA Hailar 20.27 295 P P 09 56 43.7 -0.8
HIA pmax pmax
comp=Z,11nm,0.7s
DL2 Dalian 20.69 265 P P 09 56 48.9 -0.2
DL2 S **S 10 00 35.2 -2.6**
DL2 pmax pmax
comp=Z,72nm,0.9s
DL2 pmax pmax
comp=Z,240nm,4.2s
DL2 LR LR
comp=Z,470nm,17.1s
DL2 LR LR
comp=Z,780nm,17.0s
DL2 LR LR
comp=Z,690nm,18.4s
YAK Yakutsk 21.04 335 P P 09 56 50.4 -2.2
YAK IAmb IAmb 09 56 59.7
comp=Z,86nm,0.7s
YAK Yakutsk 21.04 335 *e*P P 09 56 49.7 -2.9
YAK *e*PPP PPP 09 57 18.9
YAK *e*S Sn 10 00 48.2 -3.8
YAK *e**SS **sS 10 00 52.8 -6.8**
YAK *e*SS **SnSn 10 01 19.7 +13**
YAK *e*SSS SSS 10 01 25.8
YAK *e* 10 08 13.2
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=Z,85nm,1.1s
YAK pmax pmax
comp=N,128nm,1.6s
YAK pmax pmax
comp=E,52nm,1.5s
YAK smax smax
comp=E,73nm,2.3s
YAK smax smax
comp=N,49nm,1.7s
YAK MLR MLR
comp=Z,977nm,19.0s
YAK MLR MLR
comp=N,499nm,17.0s
YAK MLR MLR
comp=E,298nm,15.0s
XLT XiLinHaoTe 23.19 281 *e*P P 09 57 13.6 -2.1
XLT PP **PnPn 09 57 42.2 +0.1**
XLT S **S 10 01 22.0 -2.4**
XLT pmax pmax
comp=E,9.0nm,0.8s
XLT LR LR
comp=E,700nm,15.8s
XLT LR LR
comp=E,900nm,17.3s
JOW Kunigami 23.71 230 LR LR 10 07 21.7
comp=E,416nm,21.4s,baz=27,slow=38
BJI Beijing 24.20 272 P P 09 57 25.3 +0.2
BJI S **S 10 01 35.5 -5.0**
BJI pmax pmax
comp=E,20nm,0.9s
BJI pmax pmax
comp=E,130nm,5.8s
BJI LR LR
comp=E,120nm,16.1s
BJI LR LR
comp=E,280nm,18.1s
BJI LR LR
comp=E,550nm,17.9s
BJT Baijiatuau 24.21 272 P P 09 57 24.4 -0.8
BJT IAmb IAmb 09 57 30.0
comp=Z,34nm,0.8s
BJT Baijiatuau 24.21 272 P P 09 57 24.4 -0.8
BJT pmax pmax
comp=Z,34nm,0.8s
TIA Tai'an 25.08 262 P P 09 57 33.8 +0.6
TIA pP **pP 09 57 43.3 -0.9**
TIA PP **PnPn 09 58 11.9 +3.9**
TIA S **S 10 01 56.4 +1.6**
TIA pmax pmax
comp=Z,21nm,0.5s
TIA LR LR
comp=Z,290nm,16.7s
TIA LR LR
comp=Z,540nm,15.7s
TIA LR LR
comp=Z,480nm,19.8s
BILL Bilibino 25.75 15 *i* P P 09 57 37.1 -1.9
BILL pmax pmax
comp=Z,9.0nm,1.0s
NJ2 Nanjing 26.07 253⇓*i*P P 09 57 45.1 +3.0
NJ2 pmax pmax
comp=Z,32nm,0.8s
NJ2 pmax pmax
comp=Z,330nm,4.3s
NJ2 LR LR
comp=Z,670nm,15.2s
NJ2 LR LR
comp=Z,910nm,14.2s
NJ2 LR LR
comp=Z,1μm,14.2s
HNS HongShan 26.28 267 ⇓P P 09 57 44.5 +0.5
HNS S **S 10 02 20.4 +6.7**
HNS pmax pmax
comp=Z,25nm,1.3s
HNS LR LR
comp=Z,470nm,15.9s
HNS LR LR
comp=Z,540nm,16.7s
HHC Hu-ho-hao-te 27.23 276 *e*P P 09 57 53.3 +0.5
HHC sP sP 09 58 07.7 -1.0
HHC S **S 10 02 26.0 -3.0**
HHC sS sS 10 02 42.8 -3.8
HHC pmax pmax
comp=Z,43nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.9s
HHC LR LR
comp=Z,330nm,16.8s
HHC LR LR
comp=Z,570nm,19.3s
HHC LR LR
comp=Z,830nm,19.3s
TIY Taiyuan 27.78 269 P P 09 58 01.2 +3.5
TIY pmax pmax
comp=Z,76nm,0.8s
BTO Baotou 28.42 276 *e*P P 09 58 04.3 +0.9
BTO pP **pP 09 58 16.2 +1.8**
BTO sP **sP 09 58 21.6 +2.3**
BTO PP **PnPn 09 58 56.0 +2.4**
BTO S **S 10 02 48.7 +1.0**
BTO sS **sS 10 03 07.6 +2.3**
BTO SS **SnSn 10 04 14.1 +6.0**
BTO pmax pmax
comp=Z,29nm,1.7s
BTO pmax pmax
comp=Z,460nm,4.3s
BTO LR LR
comp=Z,990nm,16.6s
BTO LR LR
comp=Z,1μm,17.0s
BTO LR LR
comp=Z,2μm,17.7s
ULN Ulaanbaatar 28.74 292 P P 09 58 06.5 +0.3
ULN Ulaanbaatar 28.74 292 P P 09 58 06.5 +0.3
ULN pmax pmax
comp=Z,9.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.80 142 T T 10 28 52.7
baz=332,slow=76,SNR=1201
H11N1 WAKE ISLAND Hy 28.81 142 T T 10 28 57.4
baz=332,slow=76,SNR=1698
H11N3 WAKE ISLAND Hy 28.82 142 T T 10 28 54.0
baz=332,slow=76,SNR=1698
P08K Saint George I 29.09 50 P P 09 58 08.0 -0.8
baz=263
SONM Songino Array 29.18 292 P P 09 58 08.8 -1.3
SONM Songino Array 29.18 292 P P 09 58 10.0 -0.1
comp=Z,3.5nm,0.4s,baz=84,slow=8.3,SNR=26
SONM PcP **PcP 10 01 16.3 -0.2**
comp=Z,1.7nm,0.8s,baz=90,slow=2.9,SNR=3.7
SONM LR LR 10 10 52.8
comp=Z,743nm,19.9s,baz=76,slow=38
comp=Z,3.5nm,0.4s
SONM Songino Array 29.18 292 *e*P P 09 58 10.5 +0.4
SONM pmax pmax
comp=Z,4.0nm,0.5s
TIXI Tiksi 29.19 347 *i* P P 09 58 09.7 0.0
TIXI pmax pmax
comp=Z,14nm,2.8s
LYN LuoYang 29.21 263 P P 09 58 11.1 +0.8
LYN pmax pmax
comp=Z,33nm,0.8s
LYN pmax pmax
comp=Z,230nm,8.6s
LYN LR LR
comp=Z,320nm,12.4s
LYN LR LR
comp=Z,330nm,12.4s
LYN LR LR
comp=Z,550nm,16.8s
H11S1 WAKE ISLAND Hy 29.79 143 T T 10 30 02.2
baz=333,slow=76,SNR=3271
H11S3 WAKE ISLAND Hy 29.80 143 T T 10 30 04.5
baz=333,slow=76,SNR=2308
H11S2 WAKE ISLAND Hy 29.81 143 T T 10 30 03.4
baz=333,slow=76,SNR=2039
UNV Unalaska Valle 30.66 55 P P 09 58 21.2 -1.6
baz=270
TPUB Ta-pu 30.84 237 P P 09 58 25.0 +0.2
TPUB IAmb IAmb 09 58 49.5
comp=Z,50nm,1.3s
ZAK Zakamensk 30.89 298 *e*P P 09 58 24.2 -0.9
ZAK pmax pmax
comp=Z,4.0nm,1.0s
XAN Xi'an 32.01 265 P P 09 58 34.9 -0.1
XAN pP pP 09 58 42.8 -3.4
XAN pmax pmax
comp=Z,16nm,0.9s
XAN LR LR
comp=Z,500nm,17.9s
XAN LR LR
comp=Z,660nm,18.5s
XAN LR LR
comp=Z,740nm,15.7s
TNA Tin City 32.04 33 P P 09 58 36.1 +1.2
TNA Tin City 32.04 33 P P 09 58 33.3 -1.5
baz=250
MOY Mondy 32.20 301 *e*P P 09 58 36.0 -0.6
MOY pmax pmax
comp=Z,19nm,3.2s
F14K Arctic Creek 32.64 33 P P 09 58 38.8 -1.4
baz=252
ANM Nome 32.75 35 P P 09 58 41.2 0.0
baz=254
M13K Dall Lake 32.81 43 P P 09 58 41.6 -0.1
baz=262
J14K Nanvaranak Lak 33.11 39 P P 09 58 44.7 +0.5
baz=259
L14K Kuka Creek 33.27 41 P P 09 58 48.0 +2.3
L14K Kuka Creek 33.27 41 P P 09 58 46.2 +0.5
baz=262
F15K North Star Dit 33.37 33 P P 09 58 46.6 +0.1
baz=253
G15K Niukluk 33.42 35 P P 09 58 47.8 +0.9
baz=255
M14K Bethel 33.54 43 P P 09 58 49.0 +1.0
M14K Bethel 33.54 43 P P 09 58 49.3 +1.3
baz=263
O14K Tigyukauivet M 33.75 45 P P 09 58 50.7 +0.8
baz=266
L15K Ungalak Mounta 33.88 41 P P 09 58 52.3 +1.3
baz=262
K15K Wolf Creek Mou 33.95 40 P P 09 58 52.2 +0.5
baz=261
C16K Lisburne Hills 33.97 29 P P 09 58 51.8 +0.1
C16K IAmb IAmb 09 58 53.0
comp=Z,21nm,1.0s
C16K Lisburne Hills 33.97 29 P P 09 58 52.6 +0.9
baz=249
H16K Elim 34.08 36 P P 09 58 53.3 +0.6
baz=257
SDPT Sand Point 34.13 52 P P 09 58 51.9 -1.3
baz=273
M15K Kasigluk River 34.15 43 P P 09 58 54.9 +1.5
baz=265
G16K Koyuk River 34.21 34 P P 09 58 54.3 +0.5
baz=256
N15K Kwethluk River 34.40 44 P P 09 58 55.5 -0.1
baz=266
O15K Ungalikthiuk R 34.48 46 P P 09 58 56.4 +0.2
baz=268
J16K Anvik River 34.53 38 P P 09 58 56.9 +0.3
baz=261
D17K Noatak River 34.57 30 P P 09 58 58.1 +1.2
baz=252
I17K Unalakleet 34.59 37 P P 09 58 57.4 +0.3
baz=260
S14K Fog Glacier 34.61 51 P P 09 58 58.4 +0.9
baz=272
CHNA Chernabura Isl 34.66 53 P P 09 58 58.7 +0.8
baz=274
LZH Lanzhou 34.68 272 *e*P P 09 58 59.0 +0.6
LZH pP pP 09 59 08.6 -1.0
LZH sP sP 09 59 12.2 -2.3
LZH pmax pmax
comp=Z,90nm,1.2s
LZH LR LR
comp=Z,310nm,17.3s
LZH LR LR
comp=Z,530nm,17.2s
LZH LR LR
comp=Z,570nm,16.6s
RDOG Red Dog Mine 34.75 30 P P 09 58 59.0 +0.5
RDOG IAmb IAmb 09 59 00.3
comp=Z,25nm,1.4s
RDOG Red Dog Mine 34.75 30 P P 09 58 58.5 +0.1
baz=252
C17K DeLong Mountai 34.79 29 P P 09 58 58.8 -0.1
baz=251,SNR=10.0
L16K Owhat River 34.84 41 P P 09 59 00.5 +1.2
L16K Owhat River 34.84 41 P P 09 58 59.6 +0.3
baz=264
E17K Hotham Inlet 34.85 32 P P 09 58 59.8 +0.4
baz=254
F17K Baldwin Pennin 34.91 33 P P 09 58 59.5 -0.3
baz=256
G17K Kiwalik Mounta 34.93 34 P P 09 59 00.4 +0.3
baz=258,SNR=14
M16K Timber Creek 35.02 42 P P 09 59 00.4 -0.5
baz=266
N16K Nishlik Lake 35.08 43 P P 09 59 00.6 -0.8
baz=267
H17K Granite Mounta 35.12 36 P P 09 59 01.6 -0.1
baz=259
J17K VABM Dome 35.23 38 P P 09 59 03.0 +0.4
baz=262
CHGN Chignik 35.24 51 P P 09 59 02.9 +0.1
baz=273
O16K Kokwok River B 35.38 45 P P 09 59 04.0 0.0
baz=269
E18K Tukpahlearik C 35.40 31 P P 09 59 04.9 +0.8
E18K IAmb IAmb 09 59 13.1
comp=Z,23nm,1.6s
E18K Tukpahlearik C 35.40 31 P P 09 59 03.8 -0.3
baz=255

P16K	**Nushagak River**	35.42	46	P	**P**	09 59 04.6 +0.3
	baz=269					
L17K	**Donlin**	35.44	41	P	**P**	09 59 04.8 +0.4
	baz=265					
K17K	**Iditarod**	35.49	40	P	**P**	09 59 05.4 +0.5
	baz=264					
C18K	**Utukok River**	35.53	29	P	**P**	09 59 05.9 +0.7
	baz=253					
B18K	**Kokolik River**	35.55	28	P	**P**	09 59 06.0 +0.6
	baz=251,SNR=14					
F18K	**Selawik**	35.57	33	P	**P**	09 59 05.9 +0.5
	baz=257,SNR=6.1					
R16K	**Pilot Point**	35.66	48	P	**P**	09 59 06.3 0.0
	baz=272					
M17K	**Holitna River**	35.79	42	P	**P**	09 59 08.1 +0.7
	baz=267					
H18K	**Honhosa River**	35.80	35	P	**P**	09 59 07.8 +0.3
	baz=260,SNR=12					
G18K	**Tagagawik**	35.82	34	P	**P**	09 59 09.0 +1.3
	baz=259					
N17K	**Nushagak Hills**	35.87	43	P	**P**	09 59 09.2 +1.0
	baz=268					
O17K	**Koliganek Bris**	35.89	45	P	**P**	09 59 10.0 +1.7
	baz=269					
A19K	**Wainwright**	36.07	27	P	**P**	09 59 10.8 +1.1
	baz=251,SNR=15					
Q16K	**King Salmon**	36.12	46	P	**P**	09 59 11.2 +1.0
	baz=271					
GTA	**Gaotai**	36.14	280	P	**P**	09 59 11.5 +0.6
GTA				pP	pP	09 59 22.7 +0.6
GTA				pmax	pmax	
	comp=Z,26nm,1.3s					
GTA				LR	LR	
	comp=Z,280nm,12.4s					
GTA				LR	LR	
	comp=Z,320nm,12.4s					
GTA				LR	LR	
	comp=Z,370nm,12.0s					
L18K	**Granite Mounta**	36.20	40	P	**P**	09 59 11.6 +0.6
	baz=266					
P17K	**Kvichak River**	36.22	46	P	**P**	09 59 12.3 +1.2
	baz=270					
J18K	**Innoko River**	36.29	38	P	**P**	09 59 13.3 +1.6
	baz=264					
F19K	**Shaleruckik Mo**	36.35	33	P	**P**	09 59 13.4 +1.2
	baz=259					
GCSA	**Galena City Sc**	36.37	36	P	**P**	09 59 13.3 +1.0
	baz=263,SNR=5.4					
G19K	**Purcell Mounta**	36.49	34	P	**P**	09 59 14.1 +0.7
G19K				IAmb	IAmb	09 59 16.4
	comp=Z,23nm,0.9s					
G19K	**Purcell Mounta**	36.49	34	P	**P**	09 59 14.6 +1.2
	baz=260,SNR=13					
N18K	**Kilae Creek**	36.51	43	P	**P**	09 59 14.0 +0.4
	baz=269					
TTA	**Tatalina**	36.56	39	P	**P**	09 59 14.9 +0.8
TTA				IAmb	IAmb	09 59 17.1
	comp=Z,16nm,1.0s					
TTA	**Tatalina**	36.56	39	P	**P**	09 59 15.0 +0.8
TTA				pmax	pmax	
	comp=Z,16nm,1.0s					
TTA	**Tatalina**	36.56	39	P	**P**	09 59 15.3 +1.2
	baz=266,SNR=7.3					
M18K	**Stony River**	36.56	42	P	**P**	09 59 15.0 +0.9
	baz=268					
D19K	**Kuna River**	36.58	30	P	**P**	09 59 14.3 +0.1
D19K				IAmb	IAmb	09 59 16.7
	comp=Z,28nm,0.8s					
D19K	**Kuna River**	36.58	30	P	**P**	09 59 15.3 +1.1
	baz=256,SNR=15					
H19K	**Roundabout Mou**	36.65	35	P	**P**	09 59 15.7 +0.9
H19K	**Roundabout Mou**	36.65	35	P	**P**	09 59 15.9 +1.1
	baz=262					
E19K	**Redstone River**	36.68	32	P	**P**	09 59 15.7 +0.6
E19K				IAmb	IAmb	09 59 19.1
	comp=Z,31nm,0.8s					
E19K	**Redstone River**	36.68	32	P	**P**	09 59 15.6 +0.6
	baz=259					
J19K	**Poorman**	36.82	38	P	**P**	09 59 17.8 +1.5
	baz=265,SNR=15					
CHIR	**Chirikof Islan**	36.84	51	P	**P**	09 59 17.5 +1.1
	baz=276					
O18K	**Koktuh Hills**	36.84	44	P	**P**	09 59 18.1 +1.6
	baz=271					
Q18K	**Katmai Hardscr**	36.98	46	P	**P**	09 59 19.3 +1.5
	baz=272					
L19K	**White Mountain**	37.05	41	P	**P**	09 59 19.4 +1.1
	baz=268					
D20K	**Etivluk River**	37.17	30	P	**P**	09 59 20.1 +0.9
	baz=258,SNR=19					
F20K	**Avaraart Lake**	37.18	32	P	**P**	09 59 19.3 +0.1
F20K	**Avaraart Lake**	37.18	32	P	**P**	09 59 19.9 +0.7
	baz=261,SNR=8.3					
N19K	**Bonanza Creek**	37.20	43	P	**P**	09 59 19.9 +0.2
	baz=270					
E20K	**Nigu River**	37.23	30	P	**P**	09 59 20.2 +0.5
	baz=259					
M19K	**Big River Lodg**	37.26	41	P	**P**	09 59 20.4 +0.3
	baz=269					
O19K	**Port Alsworth**	37.29	44	P	**P**	09 59 19.6 -0.6
	baz=271					
B20K	**Meade River**	37.29	27	P	**P**	09 59 20.7 +0.6
	baz=255					
H20K	**Anotleneega Mo**	37.30	35	P	**P**	09 59 21.1 +0.8
	baz=264,SNR=14					
R18K	**Karluk**	37.34	48	P	**P**	09 59 20.1 -0.5
	baz=274					
CD2	**Chengdu**	37.36	265	P	**P**	09 59 21.0 -0.3
CD2				pmax	pmax	
	comp=Z,40nm,0.7s					
I20K	**Naaghedeneel**	37.39	36	P	**P**	09 59 19.5 -1.5
	baz=265					
K20K	**Telida**	37.47	39	P	**P**	09 59 19.4 -2.3
	baz=267					
J20K	**Nowinta River**	37.48	37	P	**P**	09 59 22.9 +1.0
J20K				IAmb	IAmb	09 59 26.1
	comp=Z,28nm,0.9s					
J20K	**Nowinta River**	37.48	37	P	**P**	09 59 22.0 +0.1
	baz=266,SNR=17					
L20K	**Farewell, AK**	37.52	40	P	**P**	09 59 21.3 -0.9
	baz=268					
SII	**Sitkinak Islan**	37.57	50	P	**P**	09 59 23.1 +0.4
	baz=276					
Q19K	**Cape Douglas,**	37.67	46	P	**P**	09 59 23.7 +0.1
	baz=273					
A21K	**Barrow**	37.81	25	P	**P**	09 59 24.6 0.0
	baz=254,SNR=29					
P19K	**Oil Pt**	37.85	45	P	**P**	09 59 25.9 +0.8
	baz=273					
M20K	**Styx River**	37.86	41	P	**P**	09 59 24.9 -0.3
	baz=270					
C21K	**Knifeblade Rid**	37.91	29	P	**P**	09 59 24.5 -0.9
	baz=259,SNR=16					
G21K	**Allakaket**	37.98	34	P	**P**	09 59 27.0 +1.0
G21K				IAmb	IAmb	09 59 28.4
	comp=Z,36nm,0.8s					
G21K	**Allakaket**	37.98	34	P	**P**	09 59 27.9 +1.9
	baz=264,SNR=26					
OHAK	**Old Harbor**	37.99	49	P	**P**	09 59 26.1 -0.1
	baz=276					
B21K	**Ikpikpuk River**	38.06	28	P	**P**	09 59 27.6 +1.0
B21K	**Ikpikpuk River**	38.06	28	P	**P**	09 59 27.9 +1.2
	baz=258,SNR=63					
E21K	**Killik River**	38.07	30	P	**P**	09 59 26.5 -0.3
	baz=261					
F21K	**Alatna River**	38.07	32	P	**P**	09 59 29.2 +2.4
	baz=263,SNR=14					
O20K	**Slope Mountain**	38.14	44	P	**P**	09 59 27.3 -0.2
	baz=273					
H21K	**Melozitna Rive**	38.17	35	P	**P**	09 59 28.2 +0.5
	baz=265,SNR=13					
A22K	**Sinclair Lake**	38.25	26	P	**P**	09 59 27.5 -0.7
	baz=256					
CHUM	**Lake Minchumin**	38.27	38	P	**P**	09 59 29.1 +0.6
	baz=268					
SPCR	**Spurr Chakacha**	38.30	42	P	**P**	09 59 28.4 -0.5
	baz=272					
PPLA	**Purkeypile**	38.31	39	P	**P**	09 59 27.9 -1.1
	baz=269					
KDAK	**Kodiak Island**	38.32	48	P	**P**	09 59 29.4 +0.5
KDAK	**Kodiak Island**	38.32	48	P	**P**	09 59 29.4 +0.5
KDAK				pmax	pmax	
	comp=Z,255nm,1.8s					
KDAK	**Kodiak Island**	38.32	48	P	**P**	09 59 28.6 -0.3
	baz=276					
KDAK	**Kodiak Island**	38.32	48	P	**P**	09 59 29.0 0.0
KDAK				pP	**pP**	09 59 41.1 +1.1
KDAK				sP	**sP**	09 59 46.7 +1.9
Q20K	**Shuyak Island**	38.34	46	P	**P**	09 59 29.0 -0.1
	baz=275					
CAST	**Castle Rocks**	38.36	39	P	**P**	09 59 30.2 +0.9
CAST				IAmb	IAmb	09 59 34.1
	comp=Z,22nm,1.1s					
CAST	**Castle Rocks**	38.36	39	P	**P**	09 59 29.1 -0.2
	baz=269,SNR=6.0					
STLK	**Strandline Lak**	38.48	42	P	**P**	09 59 31.7 +1.3
I21K	**Tanana**	38.48	36	P	**P**	09 59 31.6 +1.4
I21K	**Tanana**	38.48	36	P	**P**	09 59 30.3 +0.1
	baz=267,SNR=5.4					
D22K	**Ayikyak River**	38.61	30	P	**P**	09 59 31.5 +0.2
D22K				IAmb	IAmb	09 59 33.6
	comp=Z,86nm,1.9s					
D22K	**Ayikyak River**	38.61	30	P	**P**	09 59 32.4 +1.2
	baz=261,SNR=10.0					
B22K	**Teshekpuk Lake**	38.61	27	P	**P**	09 59 31.1 -0.2
B22K				IAmb	IAmb	09 59 32.7
	comp=Z,30nm,0.8s					
B22K	**Teshekpuk Lake**	38.61	27	P	**P**	09 59 31.0 -0.2
	baz=259					
F22K	**John River**	38.61	32	P	**P**	09 59 31.3 0.0
	baz=264					
SKT	**Skwentna**	38.61	41	P	**P**	09 59 30.7 -0.7
	baz=271					
HOM	**Homer**	38.66	45	P	**P**	09 59 29.9 -1.8
	baz=274					
H22K	**Ishtalitna Cre**	38.78	35	P	**P**	09 59 31.8 -1.0
	baz=266					
E22K	**Anaktuvuk Pass**	38.82	31	P	**P**	09 59 33.7 +0.6
E22K				IAmb	IAmb	09 59 37.5
	comp=Z,25nm,0.8s					
E22K	**Anaktuvuk Pass**	38.82	31	P	**P**	09 59 34.0 +0.9
	baz=263,SNR=33					
CAPN	**Captain Cook N**	38.84	43	P	**P**	09 59 34.6 +1.3
	baz=273					
BPAW	**Bear Paw Mtn.**	38.87	38	P	**P**	09 59 34.7 +1.2
BPAW	**Bear Paw Mtn.**	38.87	38	P	**P**	09 59 34.3 +0.7
	baz=269					
KTH	**Kantishna Hill**	38.89	38	P	**P**	09 59 35.3 +1.6
KTH				IAmb	IAmb	09 59 36.6
	comp=Z,34nm,1.0s					
SUA	**Susitna One**	39.00	42	P	**P**	09 59 35.2 +0.4
	baz=272					
BRSE	**Bradley Lake S**	39.11	45	P	**P**	09 59 36.8 +1.2
	baz=275					
TRF	**Thorofare Moun**	39.17	39	P	**P**	09 59 36.3 +0.1
	baz=270					
CUT	**Chulitna**	39.20	40	P	**P**	09 59 37.1 +0.8
	baz=272					
M22K	**Willow**	39.29	41	P	**P**	09 59 38.0 +1.0
	baz=273					
D23K	**Nanushuk River**	39.34	30	P	**P**	09 59 37.3 0.0
	baz=263					
COLD	**Coldfoot**	39.34	33	P	**P**	09 59 38.5 +1.0
COLD				IAmb	IAmb	09 59 39.5
	comp=Z,18nm,0.7s					
COLD	**Coldfoot**	39.34	33	P	**P**	09 59 37.4 0.0
	baz=266,SNR=20					
G23K	**Bananza Creek**	39.38	33	P	**P**	09 59 38.6 +0.8
G23K				IAmb	IAmb	09 59 39.8
	comp=Z,19nm,0.8s					
G23K	**Bananza Creek**	39.38	33	P	**P**	09 59 37.7 -0.1
	baz=267,SNR=18					
C23K	**Itkillik River**	39.47	28	P	**P**	09 59 39.1 +0.7
C23K	**Itkillik River**	39.47	28	P	**P**	09 59 39.2 +0.7
	baz=262					
RC01	**Rabbit Creek A**	39.51	42	P	**P**	09 59 39.6 +0.8
	baz=274					
H23K	**Yukon River**	39.53	35	P	**P**	09 59 39.7 +0.7
	baz=268					
BWN	**Browne**	39.53	37	P	**P**	09 59 41.0 +2.0
O22K	**Cooper Landing**	39.56	43	P	**P**	09 59 40.1 +0.8
	baz=274					
I23K	**Minto, Yukon-K**	39.59	36	P	**P**	09 59 40.6 +1.1
I23K				IAmb	IAmb	09 59 48.0
	comp=Z,57nm,1.9s					
I23K	**Minto, Yukon-K**	39.59	36	P	**P**	09 59 41.1 +1.7
	baz=269,SNR=5.8					
E23K	**Chandalar**	39.63	31	P	**P**	09 59 39.3 -0.6
	baz=265					
TOLK	**Toolik Lake Re**	39.70	30	P	**P**	09 59 40.8 +0.3
TOLK	**Toolik Lake Re**	39.70	30	P	**P**	09 59 41.9 +1.4
	baz=265,SNR=8.0					
NEA2	**Nenana**	39.71	37	P	**P**	09 59 41.6 +1.1
NEA2				IAmb	IAmb	09 59 44.6
	comp=Z,24nm,0.8s					
NEA2	**Nenana**	39.71	37	P	**P**	09 59 42.2 +1.7
	baz=270,SNR=12					
SEW	**Seward**	39.72	44	P	**P**	09 59 39.7 -0.9
	baz=275					
PMR	**Palmer**	39.77	42	P	**P**	09 59 40.6 -0.4
	baz=274					
MCK	**McKinley**	39.77	38		**P**	09 59 42.3 +1.2
MCK				IAmb	IAmb	10 00 22.5
	comp=Z,64nm,1.7s					
MCK	**McKinley**	39.77	38	P	**P**	09 59 42.3 +1.2
MCK				pmax	pmax	
	comp=Z,64nm,1.7s					
MCK	**McKinley**	39.77	38	P	**P**	09 59 40.3 -0.8
	baz=271					
RND	**Reindeer**	39.82	39		**P**	09 59 42.8 +1.3
RND				IAmb	IAmb	09 59 43.3
	comp=Z,32nm,1.2s					
RND	**Reindeer**	39.82	39	P	**P**	09 59 42.8 +1.3
RND				pmax	pmax	
	comp=Z,33nm,1.2s					
D24K	**Happy Valley**	40.02	30	P	**P**	09 59 41.3 -1.7
	baz=265					
E24K	**Your Creek**	40.06	31	P	**P**	09 59 42.8 -0.6
	baz=266					
KNK	**Knik Glacier**	40.10	42	P	**P**	09 59 43.3 -0.5
	baz=274					
C24K	**Franklin Bluff**	40.12	29	P	**P**	09 59 44.5 +0.7
C24K	**Franklin Bluff**	40.12	29	P	**P**	09 59 42.8 -1.0
	baz=264,SNR=24					
WRH	**Wood River Hil**	40.13	37	P	**P**	09 59 44.8 +0.8
WRH				IAmb	IAmb	09 59 52.6
	comp=Z,24nm,0.8s					
SML	**Sawmill**	40.13	41	P	**P**	09 59 45.0 +0.8
SML				IAmb	IAmb	09 59 46.2
	comp=Z,41nm,1.0s					
SML	**Sawmill**	40.13	41	P	**P**	09 59 43.8 -0.3
	baz=274					
PWL	**Port Wells**	40.21	43	P	**P**	09 59 44.7 0.0
	baz=275					
H24K	**Noodor Dome**	40.21	35	P	**P**	09 59 45.9 +1.2
H24K	**Noodor Dome**	40.21	35	P	**P**	09 59 44.9 +0.1
	baz=270,SNR=10					
COLA	**College**	40.23	36	P	**P**	09 59 46.2 +1.4
COLA	**College**	40.23	36	P	**P**	09 59 45.5 +0.7
	baz=271					
COLA	**College**	40.23	36	P	**P**	09 59 46.2 +1.4
CCB	**Clear Creek Bu**	40.25	37		**P**	09 59 45.8 +0.9
F24K	**Squaw Lake**	40.25	32	P	**P**	09 59 45.8 +0.7
F24K				IAmb	IAmb	09 59 48.7
	comp=Z,13nm,0.7s					
F24K				PcP	**PcP**	10 01 50.2 +2.1
F24K	**Squaw Lake**	40.25	32	P	**P**	09 59 44.7 -0.3
	baz=268,SNR=18					
G24K	**Hadweenzic Riv**	40.39	34	P	**P**	09 59 47.8 +1.6
G24K				IAmb	IAmb	09 59 49.0
	comp=Z,32nm,0.8s					
G24K	**Hadweenzic Riv**	40.39	34	P	**P**	09 59 46.1 -0.1
	baz=269,SNR=19					
POKR	**Poker Plat Res**	40.40	36	P	**P**	09 59 47.4 +1.1
POKR	**Poker Plat Res**	40.40	36	P	**P**	09 59 46.7 +0.4
	baz=271,SNR=17					
M23K	**Glacier View**	40.42	41	P	**P**	09 59 46.5 0.0
	baz=275					
SCM	**Sheep Creek Mo**	40.61	41	P	**P**	09 59 48.5 +0.4
	baz=275					
HDA	**Harding Lake**	40.63	37	P	**P**	09 59 49.2 +1.1
HDA				IAmb	IAmb	09 59 52.2
	comp=Z,16nm,0.6s					
HDA	**Harding Lake**	40.63	37	P	**P**	09 59 49.2 +1.1
	baz=272,SNR=11					
IL31		40.64	36	P	**P**	09 59 49.1 +0.9
ILAR	**Eielson Array**	40.64	36	P	**P**	09 59 49.5 +1.2
ILAR	**Eielson Array**	40.64	36	P	**P**	09 59 49.1 +0.9
	comp=Z,6.5nm,0.8s,baz=253,slow=7.2,SNR=51					
	comp=Z,6.5nm,0.8s					
P23K	**Montague Islan**	40.76	44	P	**P**	09 59 49.0 -0.2
	baz=277					
QIZ	**Qiongzhong**	40.76	245	P	**P**	09 59 50.4 +0.7
QIZ				S	**S**	10 05 59.4 +1.9
QIZ				LR	LR	
	comp=Z,290nm,16.5s					
QIZ				LR	LR	
	comp=Z,480nm,12.4s					
QIZ				LR	LR	
	comp=Z,330nm,17.7s					
GLI	**Glacier Island**	40.81	42	P	**P**	09 59 49.9 +0.2
	baz=276					
D25K	**Kavik River**	40.90	30	P	**P**	09 59 51.3 +0.9
D25K				IAmb	IAmb	09 59 56.6
	comp=Z,25nm,0.7s					
D25K	**Kavik River**	40.90	30	P	**P**	09 59 49.7 -0.6
	baz=267					
G25K	**Bearman Lake**	40.94	33	P	**P**	09 59 50.1 -0.5
	baz=270					
H25L	**Birch Creek**	41.05	34	P	**P**	09 59 52.0 +0.4
	baz=271,SNR=10					
GOMU	**GeErMu**	41.10	278	P	**P**	09 59 53.0 +0.2
GOMU				pmax	pmax	
	comp=Z,41nm,0.9s					
F25K	**Christian Rive**	41.12	32	P	**P**	09 59 53.5 +1.3
F25K	**Christian Rive**	41.12	32	P	**P**	09 59 52.0 -0.2
	baz=270,SNR=12					
M24K	**Tolsona, Glenn**	41.13	41	P	**P**	09 59 53.2 +0.8
	baz=276					
E25K	**Arctic Village**	41.15	31	P	**P**	09 59 53.9 +1.4
E25K	**Arctic Village**	41.15	31	P	**P**	09 59 52.1 -0.4
	baz=269,SNR=12					
K24K	**Donnelly Dome**	41.17	38	P	**P**	09 59 51.8 -0.8
	baz=274,SNR=9.0					
PRP	**Porcupine Dome**	41.19	35	P	**P**	09 59 54.0 +1.1
PRP				IAmb	IAmb	09 59 55.8
	comp=Z,26nm,0.8s					
PRP	**Porcupine Dome**	41.19	35	P	**P**	09 59 51.7 -1.2
	baz=272,SNR=13					
FYU	**Fort Yukon**	41.28	34	P	**P**	09 59 54.9 +1.4
FYU				IAmb	IAmb	09 59 56.1
	comp=Z,30nm,0.8s					
J25K	**Salcha River,**	41.30	37	P	**P**	09 59 54.5 +0.8
	baz=273,SNR=7.0					
KLU	**Klutina**	41.31	41	P	**P**	09 59 54.9 +1.1
	baz=276					
PZH	**PanZhiHua**	41.35	261	P	**P**	09 59 55.7 +1.0
PZH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
PZH				pmax	pmax	
	comp=Z,190nm,4.6s					
Q23K	**Middleton Isla**	41.36	45	P	**P**	09 59 53.7 -0.4
	baz=278					
PAX	**Paxson**	41.37	39	P	**P**	09 59 55.4 +1.1
	baz=275					
C26K	**Camden Bay**	41.44	29	P	**P**	09 59 53.7 -1.0
	baz=268,SNR=14					
KMI	**Kunming**	41.50	258	⇑P	**P**	09 59 56.1 +0.1
KMI				pmax	pmax	
	comp=Z,20nm,1.2s					
KMI				LR	LR	
	comp=Z,300nm,18.9s					
KMI				LR	LR	
	comp=Z,310nm,18.5s					
KMI				LR	LR	
	comp=Z,330nm,18.1s					
EYAK	**Cordova Ski Ar**	41.51	43	P	**P**	09 59 55.6 +0.2
	baz=278					
ZALV	**Zalesovo Beam**	41.51	307	P	**P**	09 59 55.2 -0.3
ZALV	**Zalesovo Beam**	41.51	307	P	**P**	09 59 54.8 -0.8
	comp=Z,1.2nm,0.4s,baz=80,slow=8.6,SNR=6.4					
ZALV				PcP	**PcP**	10 01 52.6 +0.3
	comp=Z,8.1nm,0.7s,baz=80,slow=2.7,SNR=20					
ZALV				LR	LR	10 18 13.9
	comp=Z,255nm,19.5s,baz=60,slow=38					
	comp=Z,1.2nm,0.4s					
ZALV	**Zalesovo Beam**	41.51	307	P	**P**	09 59 55.2 -0.3
BMAR	**Burnt Mountain**	41.53	32	P	**P**	09 59 56.8 +1.3
HARP	**HAARP**	41.57	40	P	**P**	09 59 55.4 -0.6
	baz=276					
RIDG	**Independent Ri**	41.59	38	P	**P**	09 59 56.8 +0.7
RIDG	**Independent Ri**	41.59	38	P	**P**	09 59 56.0 -0.1
	baz=275					
F26K	**Sheenjek River**	41.69	32	P	**P**	09 59 58.6 +1.8
F26K	**Sheenjek River**	41.69	32	P	**P**	09 59 56.9 +0.1
	baz=271					
G26K	**Porcupine Rive**	41.85	33	P	**P**	09 59 58.7 +0.6
	baz=272,SNR=21					
C27K	**Jago River**	41.85	29	P	**P**	09 59 59.0 +0.9
C27K				IAmb	IAmb	10 00 00.3
	comp=Z,61nm,1.6s					
C27K	**Jago River**	41.85	29	P	**P**	09 59 59.2 +1.1
	baz=269,SNR=17					
N25K	**Chitina, Valde**	41.92	41	P	**P**	09 59 59.5 +0.6
	baz=277					
DOT	**Dot Lake**	41.95	38	P	**P**	09 59 59.8 +0.8
SCRK	**Sand Creek**	41.95	38	P	**P**	09 59 59.7 +0.5
SCRK	**Sand Creek**	41.95	38	P	**P**	09 59 59.3 +0.2
	baz=275,SNR=8.8					
BMRM	**Bremner River**	42.01	42	P	**P**	09 59 58.9 -0.6
	baz=278					
J26L	**Joseph Creek**	42.09	37	P	**P**	10 00 00.6 +0.3
J26L	**Joseph Creek**	42.09	37	P	**P**	10 00 00.5 +0.3
	baz=275					
I26K	**Coal Creek Min**	42.20	36	P	**P**	10 00 01.6 +0.6
	baz=274					
KAIM	**Kayak Island**	42.25	44	P	**P**	10 00 01.7 +0.2
	baz=279					
GLB	**Gilahina Butte**	42.32	41	P	**P**	10 00 02.5 +0.4
L26K	**Log Cabin Wild**	42.33	39	P	**P**	10 00 01.8 -0.4
	baz=277					
VRDI	**Verde Repeater**	42.52	42	P	**P**	10 00 05.4 +1.5
VRDI				IAmb	IAmb	10 01 38.4
	comp=Z,71nm,1.6s					
M26K	**Nabesna, AK**	42.57	40	P	**P**	10 00 05.9 +1.8
M26K	**Nabesna, AK**	42.57	40	P	**P**	10 00 04.7 +0.6
	baz=278					
E27K	**Coleen River**	42.64	31	P	**P**	10 00 05.8 +1.2
E27K	**Coleen River**	42.64	31	P	**P**	10 00 05.1 +0.5
	baz=273,SNR=11					
G27K	**Doyon Strip**	42.70	33	P	**P**	10 00 05.7 +0.7
G27K	**Doyon Strip**	42.70	33	P	**P**	10 00 06.3 +1.2
	baz=274,SNR=6.9					
K27K	**Chicken**	42.78	37	P	**P**	10 00 06.8 +1.1
	baz=277					
H27K	**Steamboat Moun**	42.79	34	P	**P**	10 00 06.6 +0.8
	baz=275					
I27K	**Kandik River**	42.81	35	P	**P**	10 00 06.1 0.0
	baz=276					
WMQ	**Urumqi**	42.82	292	eP	**P**	10 00 07.0 +0.6
WMQ				pmax	pmax	
	comp=Z,27nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,230nm,5.7s					
WMQ				LR	LR	
	comp=Z,890nm,17.3s					
WMQ				LR	LR	
	comp=Z,860nm,18.5s					
WMQ				LR	LR	
	comp=Z,640nm,20.7s					
D27M	**Malcolm River**	42.83	30	P	**P**	10 00 07.3 +1.2
D27M				IAmb	IAmb	10 00 08.4
	comp=Z,90nm,2.0s					
D27M	**Malcolm River**	42.83	30	P	**P**	10 00 06.6 +0.5
	baz=272,SNR=13					
L27K	**Beaver Creek,**	43.01	39	P	**P**	10 00 08.7 +1.1
	baz=278					
BCAR	**Beaver Creek A**	43.03	39	P	**P**	10 00 09.3 +1.5
M27K	**Edge Creek, AK**	43.09	40	P	**P**	10 00 08.7 +0.2
	baz=279					
ZSN	**Zaisan**	43.35	298	eP	**P**	10 00 10.8 +0.2
ZSN	**Zaisan**	43.35	298	eP	**P**	10 00 10.8 +0.2
E28M	**Babbage River**	43.38	31	P	**P**	10 00 11.3 +0.8
	baz=274					
MESA	**MESA**	43.43	43	P	**P**	10 00 09.4 -1.8
	baz=281					
I28M	**Miner Creek**	43.52	35	P	**P**	10 00 13.5 +1.7
I28M	**Miner Creek**	43.52	35	P	**P**	10 00 12.5 +0.7
	baz=277,SNR=34					
BVCY	**Beaver Creek**	43.55	40	P	**P**	10 00 12.3 +0.3
	baz=280					
D28M	**Stokes Point**	43.61	29	P	**P**	10 00 13.9 +1.5
	baz=274,SNR=8.8					
YUK3	**Moose Creek**	43.85	40	P	**P**	10 00 13.7 -0.9
	baz=280					
DAWY	**Dawson**	43.

comp=Z,26nm,0.8s
E29M Blow River 44.00 31 P **P 10 00 16.0 +0.6**
baz=276
H29M Whitestone 44.06 34 P **P 10 00 18.2 +2.1**
baz=278,SNR=14
G29M Pine Creek 44.11 33 P **P 10 00 17.2 +0.7**
baz=277,SNR=24
O28M Mount Upton 44.17 42 P **P 10 00 16.3 -1.0**
baz=282
I29M Ogilvie Camp, 44.21 35 P **P 10 00 18.8 +1.6**
baz=279,SNR=42
YUK8 Steele Glacier 44.27 41 P **P 10 00 18.6 +0.5**
baz=282
PINM Pinnacle 44.28 43 P **P 10 00 18.7 +0.8**
baz=282
J29N Klondike Camp 44.39 36 P **P 10 00 19.7 +1.0**
baz=280
M29M Somme Creek 44.64 39 P **P 10 00 22.8 +2.0**
M29M IAmb IAmb 10 01 24.4
comp=Z,47nm,2.0s
M29M Somme Creek 44.64 39 P **P 10 00 22.3 +1.4**
baz=281
L29M L29M 44.67 38 P **P 10 00 23.4 +2.4**
baz=281,SNR=6.1
YUK4 Talbot Arm 44.78 41 P **P 10 00 23.6 +1.5**
baz=282
PNL Peninsula 44.79 43 P **P 10 00 22.8 +0.8**
baz=283
K29M Barlow Dome 44.80 37 P **P 10 00 22.7 +0.7**
baz=281
G30M tAoh Zraii Nji 44.81 33 P **P 10 00 23.2 +1.2**
G30M IAmb IAmb 10 00 24.5
comp=Z,30nm,0.7s
G30M tAoh Zraii Nji 44.81 33 P **P 10 00 23.6 +1.6**
baz=279,SNR=20
F30M Barrier River 44.88 32 P **P 10 00 23.8 +1.3**
baz=278
YUK6 Outpost Mounta 45.01 41 P **P 10 00 24.4 +0.5**
baz=283
I30M Mount Dempster 45.03 35 P **P 10 00 25.3 +1.4**
I30M Mount Dempster 45.03 35 P **P 10 00 25.7 +1.7**
baz=280,SNR=40
O29M Mount Kennedy 45.05 42 P **P 10 00 25.0 +0.9**
baz=283
J30M Hart River 45.17 36 P **P 10 00 25.4 +0.4**
baz=281,SNR=7.9
MK31 Makanchi Array 45.23 298 P **P 10 00 25.0 -0.6**
MK31 IAmb IAmb 10 00 27.1
comp=Z,34nm,0.9s
MK31 Makanchi Array 45.23 298 *i* P **P 10 00 25.5 -0.1**
MKAR Makanchi Array 45.23 298 P **P 10 00 26.1 +0.5**
MKAR Makanchi Array 45.23 298 P **P 10 00 25.6 -0.1**
comp=Z,30nm,0.8s,baz=74,slow=7.9,SNR=197
MKAR PcP **PcP 10 02 04.4 -0.7**
comp=Z,3.2nm,0.7s,baz=74,slow=4.3,SNR=3.7
MKAR LR LR 10 20 39.2
comp=Z,895nm,18.4s,baz=52,slow=38
comp=Z,30nm,0.8s
M30M Minto, Yukon 45.38 39 P **P 10 00 28.4 +1.8**
M30M IAmb IAmb 10 00 40.1
comp=Z,37nm,1.9s
M30M Minto, Yukon 45.38 39 P **P 10 00 27.3 +0.7**
baz=283
MAKZ Makanchi 45.42 298 P **P 10 00 27.5 +0.3**
MAKZ IAmb IAmb 10 00 28.2
comp=Z,28nm,0.8s
MAKZ Makanchi 45.42 298 P **P 10 00 27.5 +0.3**
MAKZ pmax pmax
comp=Z,28nm,0.8s
MAKZ Makanchi 45.42 298 P **P 10 00 27.2 +0.1**
HYT Haines Junctio 45.44 41 P **P 10 00 29.5 +2.2**
HYT Haines Junctio 45.44 41 P **P 10 00 28.3 +1.1**
baz=284,SNR=13
N30M Aishikik Lake 45.49 40 P **P 10 00 26.8 -0.7**
baz=284
MAYO Mayo, Yukon 45.56 37 P **P 10 00 27.0 -0.9**
baz=282
INK Inuvik 45.61 31 P **P 10 00 30.0 +1.7**
baz=280,SNR=21
F31M Tsiigehtchic 45.68 32 P **P 10 00 29.1 +0.3**
baz=280,SNR=28
H31M Peel River 45.76 34 P **P 10 00 31.2 +1.7**
baz=282,SNR=20
P30M Million Dollar 45.88 42 P **P 10 00 31.8 +1.2**
baz=285
KURK Kurchatov 46.09 304 P **P 10 00 31.2 -1.1**
KURK IAmb IAmb 10 00 32.8
comp=Z,12nm,0.7s
KURK Kurchatov 46.09 304 P **P 10 00 31.2 -1.1**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 46.09 304 P **P 10 00 31.9 -0.3**
O30N Mendenhall 46.13 41 P **P 10 00 31.3 -1.2**
baz=285
KURBB Kurchatov Arra 46.17 304 P **P 10 00 32.7 -0.2**
comp=Z,11nm,0.7s,baz=72,slow=8.7,SNR=57
KURBB PcP **PcP 10 02 08.4 +0.2**
comp=Z,6.1nm,0.7s,baz=75,slow=3.5,SNR=14
KURBB LR LR 10 21 10.4
comp=Z,358nm,18.5s,baz=162,slow=38
comp=Z,11nm,0.7s
PLBC Pleasant Camp 46.34 43 P **P 10 00 34.0 -0.1**
baz=286
M31M Drury Creek, Y 46.55 39 P **P 10 00 37.3 +1.5**
baz=285
WHY Whitehorse 46.73 41 P **P 10 00 37.5 +0.1**
baz=286
S31K Pelican 46.83 45 P **P 10 00 38.6 +0.6**
baz=287
SKAG Skagway 46.85 43 P **P 10 00 37.5 -0.6**
baz=287
JAY Jayapura 46.94 191 LR LR 10 17 55.6
comp=Z,56nm,21.1s,baz=5.5,slow=33
R31K City Hall, Gus 46.95 44 P **P 10 00 38.8 -0.1**
baz=287
FARO Faro, Yukon 47.02 39 P **P 10 00 39.2 -0.3**
baz=286
N32M Quiet Lake 47.44 40 P **P 10 00 41.5 -1.3**
baz=287
SIT Sitka 47.58 46 P **P 10 00 43.7 -0.1**
baz=289
P32M Atlin 47.60 42 P **P 10 00 44.5 +0.5**
baz=288
R32K Eaglecrest 47.60 44 P **P 10 00 45.7 +1.7**
baz=288
A36M Sachs Harbour 47.65 25 P **P 10 00 44.6 +0.4**
baz=284,SNR=30
S32K Killisnoo 47.83 45 P **P 10 00 47.3 +1.6**
baz=289
P33M Teslin, Yukon 47.84 41 P **P 10 00 45.6 -0.3**
baz=288,SNR=9.0
CHTO Chiang Mai 48.27 255 P **P 10 00 50.0 +0.3**
CHTO IAmb IAmb 10 00 57.8
comp=Z,17nm,0.8s
CHTO Chiang Mai 48.27 255 P **P 10 00 50.0 +0.3**
CHTO pmax pmax
comp=Z,17nm,0.8s
TDK Taldyqorghan 48.43 297 *eP* **P 10 00 50.8 +0.2**
TDK Taldyqorghan 48.43 297 *eP* **P 10 00 50.9 +0.2**
Q32M Nakina River 48.50 43 P **P 10 00 51.7 +0.5**
baz=289
CMAR Chiang Mai Arr 48.52 254 P **P 10 00 51.9 +0.4**
CMAR Chiang Mai Arr 48.52 254 P **P 10 00 52.5 +0.9**
comp=Z,3.0nm,0.7s,baz=40,slow=7.3,SNR=16
CMAR PcP **PcP 10 02 17.7 +0.7**
comp=Z,0.5nm,0.3s,baz=57,slow=3.3,SNR=1.1
CMAR LR LR 10 23 40.8
comp=Z,255nm,18.7s,baz=40,slow=39
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 48.52 254 *eP* **P 10 00 52.2 +0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
SHLS Shalkode 48.55 294 *eP* **P 10 00 49.6 -2.1**
SHLS pmax pmax
comp=Z,10.0nm,0.8s
SHLS Shalkode 48.55 294 *eP* **P 10 00 49.7 -2.1**
comp=Z,9.6nm,0.8s
C36M Paulatuk 48.72 28 P **P 10 00 53.3 +0.8**
baz=287,SNR=26
UZB Uzynbulak 48.84 294 *eP* **P 10 00 54.0 0.0**
UZB pmax pmax
comp=Z,12nm,0.9s
UZB Uzynbulak 48.84 294 *eP* **P 10 00 54.1 0.0**
comp=Z,12nm,0.9s
T33K Petersburg 48.88 46 P **P 10 00 54.5 +0.6**
baz=291
SHL Shillong 48.98 267 P **P 10 00 54.7 -0.6**
SHL Shillong 48.98 267 P **P 10 00 54.7 -0.6**
SHL pmax pmax
comp=Z,29nm,0.9s
R33M Jennings River 48.99 42 P **P 10 00 56.2 +1.3**
baz=290
U33K Whale Pass 49.04 47 P **P 10 00 55.9 +0.8**
baz=291
ZHN Zhinishke 49.22 295 *eP* **P 10 00 56.9 +0.1**
ZHN pmax pmax
comp=Z,12nm,0.8s
ZHN Zhinishke 49.22 295 *eP* **P 10 00 56.9 +0.1**
comp=Z,12nm,0.8s
CRAG Craig 49.28 47 P **P 10 00 57.0 +0.1**
baz=292
SATY Saty 49.28 295 *eP* **P 10 00 57.6 +0.3**
SATY pmax pmax
comp=Z,13nm,0.8s
SATY Saty 49.28 295 *eP* **P 10 00 57.7 +0.3**
comp=Z,13nm,0.8s
WRAK Wrangell Islan 49.34 46 P **P 10 00 57.7 +0.3**
baz=291
S34M Telegraph Cree 49.42 44 P **P 10 00 59.3 +1.3**
S34M IAmb IAmb 10 01 17.5
comp=Z,38nm,1.6s
S34M Telegraph Cree 49.42 44 P **P 10 00 57.8 -0.2**
baz=291
TGTN Hyland Airport 49.52 39 P **P 10 00 58.4 -0.3**
baz=290
WUS Wushi 49.60 292 P **P 10 00 59.6 -0.2**
WUS Wushi 49.60 292 P **P 10 01 00.4 +0.6**
WUS pP **pP 10 01 13.8 +2.3**
WTLY Watson Lake, Y 49.77 41 P **P 10 01 00.6 -0.1**
baz=291
DLBC Dease Lake 49.78 43 P **P 10 01 02.1 +1.2**
DLBC Dease Lake 49.78 43 P **P 10 01 03.1 +2.3**
comp=Z,11nm,0.9s,baz=292,slow=8.0,SNR=14
comp=Z,11nm,0.9s
DLBC Dease Lake 49.78 43 P **P 10 00 59.8 -1.1**
baz=291
BVAR Borovoye Array 49.98 310 P **P 10 01 02.7 +0.3**
comp=Z,3.9nm,0.5s,baz=90,slow=8.8,SNR=11
BVAR PcP **PcP 10 02 21.7 -0.2**
comp=Z,5.2nm,0.8s,baz=64,slow=5.0,SNR=5.7
BVAR LR LR 10 24 21.0
comp=Z,323nm,19.4s,baz=70,slow=39
comp=Z,3.9nm,0.5s
BRVK Borovoye 50.03 310 P **P 10 01 02.8 +0.1**
BRVK Borovoye 50.03 310 P **P 10 01 02.8 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 50.03 310 *eP* **P 10 01 02.8 +0.1**
V35K Ketchikan 50.13 47 P **P 10 01 04.4 +1.1**
baz=293
AAA Alma-Ata 50.19 295 *eP* **P 10 01 04.3 +0.2**
AAA Alma-Ata 50.19 295 *eP* **P 10 01 04.3 +0.2**
AAA Alma-Ata 50.19 295 *eP* **P 10 01 04.3 +0.2**
T35M Bob Quinn 50.20 45 P **P 10 01 05.0 +1.0**
baz=292
TNSS Tian-Shan 50.25 295 *eP* **P 10 01 05.0 0.0**
TNSS Tian-Shan 50.25 295 *eP* **P 10 01 05.0 0.0**
TARG Taragay, Kyrgy 50.29 293 P **P 10 01 05.5 +0.1**
TARG IAmb IAmb 10 01 07.2
comp=Z,24nm,1.0s
TARG Taragay, Kyrgy 50.29 293 P **P 10 01 05.5 +0.1**
TARG pmax pmax
comp=Z,24nm,1.0s
U35K Hyder 50.73 46 P **P 10 01 09.9 +2.0**
baz=293
BRDH Bariadhala 50.93 264 LR LR 10 25 37.4
comp=Z,161nm,18.1s,baz=159,slow=39
WRGLY Wrigley 51.00 36 P **P 10 01 11.8 +1.9**
WRGLY IAmb IAmb 10 01 27.8
comp=Z,38nm,1.4s
WRGLY Wrigley 51.00 36 P **P 10 01 12.5 +2.6**
baz=292,SNR=6.2
ULHL Ulahol 51.08 295 P **P 10 01 11.8 +0.8**
SNR=8.8
BOOM Boomskoye usch 51.16 295 P **P 10 01 12.0 +0.4**
BOOM Boomskoye usch 51.16 295 P **P 10 01 12.0 +0.4**
BOOM pmax pmax
comp=Z,55nm,0.9s
TKM2 Tokmak 2 51.18 296 P **P 10 01 12.6 +0.8**
SNR=40
SGDS Sogindy 51.55 297 *eP* **P 10 01 14.7 +0.3**
SGDS pmax pmax
comp=Z,9.0nm,0.8s
SGDS Sogindy 51.55 297 *eP* **P 10 01 14.8 +0.3**
comp=Z,8.9nm,0.8s
KBK Karagaybulak 51.72 296 P **P 10 01 16.5 +0.7**
SNR=23
USP Ospenovka 51.73 297 P **P 10 01 16.2 +0.6**
SNR=42
TOAD Toad River Com 51.93 41 P **P 10 01 17.3 +0.4**
baz=294,SNR=15
KOTAN Kotaneelee Air 51.96 39 P **P 10 01 18.0 +0.9**
baz=294
AAK Ala-Archa 52.03 296 P **P 10 01 17.7 -0.3**
AAK IAmb IAmb 10 01 19.4
comp=Z,40nm,1.2s
AAK Ala-Archa 52.03 296 LR LR 10 26 20.9
comp=Z,142nm,19.7s,baz=60,slow=39
AAK Ala-Archa 52.03 296 P **P 10 01 18.4 +0.3**
SNR=25
AAK Ala-Archa 52.03 296 *i* P **P 10 01 18.4 +0.3**
AAK pmax pmax
comp=Z,32nm,1.2s
AAK Ala-Archa 52.03 296 *eP* **P 10 01 18.4 +0.3**
AAK Ala-Archa 52.03 296 P **P 10 01 18.3 +0.3**
EKS2 Erkin-Say 52.48 296 P **P 10 01 21.9 +0.5**
SNR=29
KSH Kashi 52.58 292 P **P 10 01 26.3 +4.1**
KSH sP sP 10 01 42.6 +3.9
KSH pmax pmax
comp=Z,21nm,0.9s
KSH LR LR
comp=Z,590nm,15.1s
KSH LR LR
comp=Z,790nm,15.5s
KSH LR LR
comp=Z,830nm,14.8s
ALE Alert 52.66 5 P **P 10 01 20.3 -1.8**
AML Almayashu 52.79 296 P **P 10 01 24.7 +0.7**
SNR=30
PMG Port Moresby 53.28 182 LR LR 10 21 34.0
comp=Z,80nm,21.7s,baz=308,slow=33
SVE Sverdlovsk 53.50 317 *eP* **P 10 01 27.4 -1.1**
SVE pmax pmax
comp=Z,20nm,0.9s
ARSB Arslanbob 53.65 295 P **P 10 01 30.3 +0.2**
ARSB Arslanbob 53.65 295 P **P 10 01 30.3 +0.2**
ARSB pmax pmax
comp=Z,108nm,0.9s
DZA Taraz 53.94 298 *eP* **P 10 01 32.2 +0.3**
DZA Taraz 53.94 298 *eP* **P 10 01 32.3 +0.3**
OHH Osh 54.19 294 P **P 10 01 34.3 +0.4**
HNR Honiara 54.31 166 LR LR 10 21 30.6
comp=Z,146nm,21.7s,baz=336,slow=32
RES Resolute Bay 54.34 17 P **P 10 01 34.0 -0.4**
RES IAmb IAmb 10 01 36.0
comp=Z,20nm,0.8s
RES Resolute Bay 54.34 17 P **P 10 01 34.4 0.0**
comp=Z,21nm,0.8s,baz=322,slow=7.6,SNR=64
RES LR LR 10 28 02.1
comp=Z,309nm,19.1s,baz=319,slow=40
comp=Z,21nm,0.8s
RES Resolute Bay 54.34 17 P **P 10 01 34.0 -0.4**
RES pmax pmax
comp=Z,20nm,0.8s
KK31 Karatay Array 54.35 298 P **P 10 01 34.5 -0.5**
KK31 Karatay Array 54.35 298 P **P 10 01 34.5 -0.5**
KK31 pmax pmax
comp=Z,34nm,0.8s
KKAR Karatay Array 54.35 298 P **P 10 01 34.5 -0.5**
KKAR Karatay Array 54.35 298 P **P 10 01 35.0 0.0**
KKAR IAmb IAmb 10 01 35.8
comp=Z,22nm,0.8s
KKAR Karatay Array 54.35 298 P **P 10 01 35.0 0.0**
KKAR pmax pmax
comp=Z,21nm,0.8s
HOPEN Hopen 54.46 346 *eP* **P 10 01 35.8 +0.6**
HOPEN IAmb IAmb 10 01 36.4
comp=Z,21nm,1.2s
KBS Kingsbay 54.57 351 *eP* **P 10 01 37.3 +1.3**
KBS Kingsbay 54.57 351 *i* P P 10 01 30.8 -5.2
SPA0 Spitsbergen Ar 54.59 349 *eP* **P 10 01 37.0 +0.8**
SPA0 IAmb IAmb 10 01 38.7
comp=Z,47nm,1.5s
SPITS Spitsbergen Ar 54.59 349 P **P 10 01 35.9 -0.3**
comp=Z,2.8nm,0.7s,baz=54,slow=7.3,SNR=5.7
comp=Z,2.8nm,0.7s
ARTI Arti 54.81 317 P **P 10 01 36.6 -1.5**
ARTI IAmb IAmb 10 01 38.6
comp=Z,17nm,0.8s
ARTI Arti 54.81 317 LR LR 10 27 34.6
comp=Z,458nm,18.1s,baz=52,slow=39
ARTI Arti 54.81 317 *d i* P **P 10 01 36.5 -1.5**
ARTI *PP **pP 10 01 46.6 -3.1**
ARTI 10 02 40.3
ARTI S **S 10 09 13.3 -2.4**
ARTI SS **SS 10 12 51.7 -7.0**
ARTI pmax pmax
comp=Z,14nm,0.8s
ARTI MLR MLR
comp=Z,371nm,14.0s
ARTI Arti 54.81 317 P **P 10 01 36.4 -1.7**
BRLS Borolday 54.82 298 *eP* **P 10 01 39.9 +1.6**
BRLS Borolday 54.82 298 *eP* **P 10 01 40.0 +1.6**
YKA Yellowknife Ar 54.98 34 P **P 10 01 40.0 +0.9**
comp=Z,5.3nm,0.7s,baz=299,slow=6.9,SNR=71
YKA PcP **PcP 10 02 40.1 -0.4**
comp=Z,1.1nm,0.7s,baz=296,slow=3.8,SNR=3.8
YKA LR LR 10 26 30.1
comp=Z,173nm,19.7s,baz=58,slow=37
comp=Z,5.3nm,0.7s
IUG Iuzhnay 55.14 297 *eP* **P 10 01 41.2 +0.4**
IUG Iuzhnay 55.14 297 *eP* **P 10 01 41.2 +0.4**
CHM Chimkent 55.33 298 *eP* **P 10 01 42.4 +0.4**
CHM Chimkent 55.33 298 *eP* **P 10 01 42.5 +0.4**
BTK Batken 55.71 295 P **P 10 01 44.8 -0.2**
BTK IAmb IAmb 10 01 46.0
comp=Z,27nm,0.9s
BTK Batken 55.71 295 P **P 10 01 44.8 -0.2**
BTK pmax pmax
comp=Z,27nm,0.9s
GAR Garm 56.60 294 P **P 10 01 51.2 -0.2**
BJO1 Bjornoya 56.96 346 *eP* **P 10 01 53.3 +0.2**
BJO1 IAmb IAmb 10 01 56.2
comp=Z,65nm,1.2s
ABKAR Akbulak array 57.55 309 P **P 10 01 57.0 -0.7**
ABKAR Akbulak array 57.55 309 P **P 10 01 57.2 -0.5**
ABKAR IAmb IAmb 10 01 58.4
comp=Z,14nm,0.7s
NIL Nilore 57.57 287 P **P 10 01 58.7 +0.6**
SIMJ Simiganj 57.65 294 P **P 10 01 57.8 -1.0**
SIMJ Simiganj 57.65 294 P **P 10 01 58.5 -0.2**
VADS Vadso 57.84 339 *eP* **P 10 01 59.6 +0.1**
VADS IAmb IAmb 10 02 02.2
comp=Z,32nm,1.0s
KIRV Kirov 57.87 322 LR LR 10 29 08.5
comp=Z,398nm,19.2s,baz=43,slow=38
KIRV Kirov 57.87 322 *i* P **P 10 01 59.8 +0.1**
AKTO Aktyubinsk 57.99 311 LR LR 10 28 09.4
comp=Z,250nm,20.5s,baz=315,slow=37
NEEM North Greenlan 58.10 5 *i* P **P 10 01 59.6 -1.9**
NEEM IAmb IAmb 10 02 01.7
comp=Z,11nm,0.7s
APA Apatity 58.42 336 ⇓ *i* P **P 10 02 02.9 -0.6**
APA pmax pmax
comp=Z,9.0nm,1.0s
HAMF Hammerfest 58.86 341 IAmb IAmb 10 02 06.0
comp=Z,76nm,1.8s
HAMF *eP* **P 10 02 06.5 0.0**
DAG Danmarks Havn 59.11 357 *i* P **P 10 02 05.8 -2.4**
DAG IAmb IAmb 10 02 08.8
comp=Z,3.4nm,0.5s
ARA0 ARCESS Array S 59.22 340 *eP* **P 10 02 09.2 +0.2**
ARA0 IAmb IAmb 10 02 10.6
comp=Z,49nm,1.6s
ARCES ARCESS Array B 59.22 340 P **P 10 02 09.0 -0.1**
comp=Z,1.5nm,0.5s,baz=57,slow=8.8,SNR=2.4
ARCES PcP **PcP 10 02 57.1 +0.1**
comp=Z,5.8nm,0.9s,baz=53,slow=6.5,SNR=4.6
comp=Z,1.5nm,0.5s
KTK1 Kautokeino 60.16 340 *eP* **P 10 02 15.6 +0.1**
JETT Jettan, Norway 60.42 341 *eP* **P 10 02 17.2 -0.1**
JETT IAmb IAmb 10 02 18.9
comp=Z,14nm,0.6s
HOOD Mount Hood Mea 60.50 54 P **P 10 02 20.0 +1.6**
KLMR Klimovskoe 60.61 328 *eP* **P 10 02 14.3 -4.4**
KLMR pmax pmax
comp=Z,19nm,1.4s
TRO Tromso 60.70 342 *eP* **P 10 02 18.9 -0.2**
TRO IAmb IAmb 10 02 20.9
comp=Z,13nm,0.7s
NEW Newport 61.39 49 LR LR 10 29 47.4
comp=Z,92nm,19.9s,baz=319,slow=37
PINE Pine Mountain 61.79 55 P **P 10 02 28.7 +1.5**
PINE IAmb IAmb 10 02 42.2
comp=Z,15nm,1.1s
J05D Fort Rock, OR 61.91 56 P **P 10 02 28.9 +0.9**
J05D IAmb IAmb 10 02 43.4
comp=Z,19nm,1.3s
YBH Yreka Blue Hor 61.91 58 P **P 10 02 29.6 +1.6**
comp=Z,2.3nm,0.8s,baz=302,slow=2.6,SNR=3.8
comp=Z,2.3nm,0.8s
UPNV Upernavik 62.15 8 *i* P **P 10 02 26.9 -2.0**
UPNV IAmb IAmb 10 02 28.8
comp=Z,12nm,0.7s
STEI Steigen 62.87 342 *eP* **P 10 02 33.0 -0.8**
LOF Lofoten 63.08 343 *eP* **P 10 02 34.6 -0.5**
FAUS Fauske 63.30 342 *eP* **P 10 02 35.1 -1.5**
FAUS IAmb IAmb 10 02 36.6
comp=Z,13nm,0.6s
SUMG Summit 63.51 2 *i* P **P 10 02 37.1 -1.4**
HYB Hyderabad 63.71 269 *eP* **P 10 02 40.2 +0.1**
HYB *ep*P **pP 10 02 50.1 -1.9**
HYB IVmB_BB 10 02 50.7
comp=Z,180nm,1.3s
MOR8 Moi Rana 64.49 341 *eP* **P 10 02 43.0 -1.5**
MOR8 IAmb IAmb 10 02 43.1
comp=Z,23nm,0.6s
HRA Herat 64.55 294 P **P 10 02 45.3 -0.4**
STOK Stokkvaagen 64.68 342 *eP* **P 10 02 45.1 -0.6**
LEIR Leirfjorden 64.84 342 *eP* **P 10 02 45.9 -0.8**
LEIR IAmb IAmb 10 02 46.5
comp=Z,13nm,0.8s
FINES FINESS Array B 64.96 333 P **P 10 02 46.9 -0.7**
comp=Z,6.8nm,0.5s,baz=40,slow=7.6,SNR=58
FINES PcP **PcP 10 03 20.1 -0.3**
comp=Z,5.4nm,0.7s,baz=65,slow=4.7,SNR=3.9
FINES LR LR 10 32 55.9
comp=Z,289nm,18.0s,baz=44,slow=38
comp=Z,6.8nm,0.5s
WR2 Warramunga Arr 65.04 195 P **P 10 02 48.0 -0.6**
WRA Warramunga Arr 65.04 195 P **P 10 02 49.7 +1.1**
comp=Z,1.5nm,0.8s,baz=13,slow=6.8,SNR=7.8
WRA PKP2bc 10 31 34.6
comp=Z,0.8nm,0.9s,baz=189,slow=2.8,SNR=4.7
comp=Z,1.5nm,0.8s
WRA Warramunga Arr 65.04 195 *eP* **P 10 02 50.7 +2.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WB1 Warramunga Ar. 65.06 195 P **P 10 02 48.1 -0.6**
FCC Fort Churchill 65.24 31 P **P 10 02 49.5 +0.1**
FCC IAmb IAmb 10 03 45.1
comp=Z,18nm,0.9s
FCC Fort Churchill 65.24 31 P **P 10 02 49.5 +0.1**
FCC pmax pmax
comp=Z,17nm,1.0s
OBN Obninsk 65.56 324 ⇑ *eP* **P 10 02 50.5 -1.1**
OBN *PP **pP 10 02 59.0 -4.5**
OBN *SP **sP 10 03 06.0 -2.2**
OBN 10 03 31.0
OBN pmax pmax
comp=Z,24nm,1.2s
OBN MLR MLR
comp=Z,280nm,15.0s
VRH Novokhopyorsk 65.86 319 *eP* **P 10 02 50.9 -2.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
ILULI Ilulissat 66.06 8 *i* P **P 10 02 51.8 -2.8**
ILULI IAmb IAmb 10 02 54.9
comp=Z,18nm,0.6s
RYN Ryan 66.34 59 P **P 10 02 58.2 +1.1**
NSS Namsos 66.43 341 *eP* **P 10 02 56.6 -0.5**
NSS IAmb IAmb 10 02 56.9
comp=Z,16nm,1.0s
LHV Little Huntoon 66.58 59 P **P 10 03 00.5 +2.0**
LHV IAmb IAmb 10 03 24.2
comp=Z,19nm,1.1s
NVAR Mina Array Bea 66.60 59 P **P 10 03 00.1 +1.3**

NVAR Mina Array Bea 66.60 59 P **P 10 03 00.3 +1.5**
comp=Z,4.0nm,0.8s,baz=287,slow=6.5,SNR=31
comp=Z,4.0nm,0.8s
VORR Voronezh 66.72 320 *e*P **P 10 02 57.5 -1.6**
VORR pmax pmax
comp=Z,10.0nm,0.9s
ICESG Greenland Ices 66.95 3 *i* P **P 10 02 59.9 -0.8**
ELK Elko 67.00 55 P **P 10 03 02.5 +1.0**
comp=Z,0.8nm,0.6s,baz=140,slow=4.5,SNR=3.7
comp=Z,0.8nm,0.6s
VSR Storozhevoye 67.05 320 *e*P **P 10 02 58.1 -3.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MSVF Nonsavu 67.25 149 LR LR 10 32 50.7
comp=Z,89nm,18.1s,baz=351,slow=36
DSP Deep Springs 67.47 59 P **P 10 03 05.0 +0.9**
SFJD Kangerlussuaq 68.26 8 LR LR 10 33 40.2
comp=Z,186nm,20.7s,baz=12,slow=36
SFJD Kangerlussuaq 68.26 8 *i* P **P 10 03 08.1 -0.5**
SFJD IAmb IAmb 10 03 09.2
comp=Z,14nm,0.5s
SFJD Kangerlussuaq 68.26 8 P **P 10 03 08.6 0.0**
SFJD sP **sP 10 03 26.9 +1.6**
R11B Troy Canyon, C 68.31 57 P **P 10 03 10.2 +0.6**
FRB Frobisher Bay 68.56 17 P **P 10 03 10.3 -0.2**
comp=Z,31nm,0.8s,baz=335,slow=7.4,SNR=57
FRB LR LR 10 36 31.7
comp=Z,123nm,19.6s,baz=316,slow=39
comp=Z,31nm,0.8s
HWUT Hardware Ranch 68.59 52 P **P 10 03 12.2 +0.9**
AS31 Alice Springs 68.75 194 P **P 10 03 13.5 +1.3**
comp=Z,0.9nm,1.4s
AS12 Alice Springs 68.76 194 P **P 10 03 13.4 +1.2**
comp=Z,3.7nm,1.0s
ASAR Alice Springs 68.76 194 P **P 10 03 12.7 +0.5**
comp=Z,1.0nm,0.6s,baz=13,slow=6.4,SNR=21
ASAR PKP2bc 10 31 25.5
comp=Z,1.1nm,0.9s,baz=168,slow=2.5,SNR=7.1
comp=Z,1.0nm,0.6s
DUG Dugway, Tooele 68.78 54 P **P 10 03 13.3 +0.8**
DUG Dugway, Tooele 68.78 54 P **P 10 03 13.3 +0.8**
DUG pmax pmax
comp=Z,6.0nm,1.0s
PALK Pallekele 69.02 259 LR LR 10 36 32.4
comp=Z,92nm,19.6s,baz=31,slow=38
AKT Akhty 69.06 308 *e*P **P 10 03 14.7 +0.5**
AKT *e**PP **pP 10 03 26.8 +0.6**
AKT *e* 10 03 37.9
AKT pmax pmax
comp=Z,45nm,1.0s
AKT MLR MLR
comp=Z,412nm,16.0s
DOMB Dombas 69.25 341 *e*P **P 10 03 13.8 -1.1**
GOF Gofitskoye 69.27 313 *ce*P **P 10 03 15.5 +0.3**
NC303 NORSAR Array S 69.39 339 P **P 10 03 15.5 -0.2**
MNK Minsk 69.51 328 *i* P **P 10 03 17.2 +0.7**
MNK *i* *PP **pP 10 03 29.0 +0.4**
MNK *i* *SP **sP 10 03 34.1 +0.8**
MNK *i* 10 03 39.8
MNK *i* 10 05 50.8
MNK *i* PPP PPP 10 07 32.2
MNK *i* S **S 10 12 22.9 +2.0**
MNK *i* SS **SS 10 16 52.4 +4.6**
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=Z,22nm,0.8s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=Z,396nm,19.0s
MNK MLR MLR
comp=E,262nm,17.0s
MNK MLR MLR
comp=N,134nm,17.0s
SEKA Sheki 69.54 308 P **P 10 03 17.9 +0.8**
NB2 NORSAR Subarra 69.59 339 P **P 10 03 16.7 -0.3**
comp=Z,7.2nm,0.6s,baz=30,slow=6.2
NB2 NORSAR Subarra 69.59 339 P **P 10 03 16.7 -0.3**
baz=30,slow=6.2
NOA NORSAR Array B 69.59 339 P **P 10 03 16.4 -0.5**
comp=Z,13nm,0.7s,baz=31,slow=6.2,SNR=51
NOA LR LR 10 36 50.1
comp=Z,198nm,20.1s,baz=25,slow=38
comp=Z,13nm,0.7s
AKN Aaknes 69.61 342 *e*P **P 10 03 17.4 +0.4**
HFS Hagfors 69.70 338 P **P 10 03 17.0 -0.7**
comp=Z,13nm,0.7s,baz=41,slow=4.7,SNR=42
HFS LR LR 10 37 16.5
comp=Z,193nm,18.6s,baz=24,slow=39
comp=Z,13nm,0.7s
HFS Hagfors 69.70 338 P **P 10 03 17.0 -0.7**
SHPR Sheep Range 69.75 59 P **P 10 03 19.9 +1.3**
NC602 NORSAR Array S 69.76 339 *e*P **P 10 03 17.2 -0.8**
NAO01 NORSAR Array S 69.84 339 P **P 10 03 17.6 -0.9**
NAO01 IAmb IAmb 10 03 19.2
comp=Z,22nm,0.9s
MNGR Mingechevir, A 69.89 308 P **P 10 03 20.4 +1.3**
KVAR Kislovodsk Arr 70.19 312 LR LR 10 37 27.5
comp=Z,303nm,21.9s,baz=250,slow=39
KIV Kislovodsk 70.20 312 P **P 10 03 21.6 +0.5**
KIV Kislovodsk 70.20 312 ⇓P **P 10 03 22.3 +1.2**
KIV Kislovodsk 70.20 312 *e*P **P 10 03 21.7 +0.6**
KIV *e*S **S 10 12 30.8 +1.2**
KIV pmax pmax
comp=Z,63nm,1.1s
KIV pmax pmax
comp=Z,40nm,3.8s
KIV MLR MLR
comp=Z,346nm,17.0s
KIV Kislovodsk 70.20 312 *e*P **P 10 03 21.7 +0.6**
KIV Kislovodsk 70.20 312 P **P 10 03 21.7 +0.6**
comp=Z,672nmcomp=Z,74nm,1.0s
KIV Kislovodsk 70.20 312 P **P 10 03 22.1 +1.0**
KBZ Khabaz 70.24 312 P **P 10 03 21.5 +0.3**
comp=Z,33nm,0.9s,baz=62,slow=4.4,SNR=57
KBZ LR LR 10 38 30.1
comp=Z,383nm,19.4s,baz=29,slow=40
comp=Z,33nm,0.9s
KBZ Khabaz 70.24 312 *e*P **P 10 03 22.1 +0.9**
KBZ pmax pmax
comp=Z,45nm,0.9s
KBZ Khabaz 70.24 312 *e*P **P 10 03 22.1 +0.9**
LKRN Lenkeran, Azer 70.27 305 P **P 10 03 22.7 +1.2**
SHA1 Shidzhatmaz 70.36 312 *i* P **P 10 03 23.2 +0.9**
GANJ Ganja 70.41 308 P **P 10 03 23.2 +0.8**
ANGG Ammassalik, Gr 70.50 3 *i* P **P 10 03 21.0 -1.4**
ANGG IAmb IAmb 10 03 23.1
comp=Z,22nm,0.9s
ISOG Isortoq, Green 70.52 3 *i* P **P 10 03 21.5 -1.0**
ISOG IAmb IAmb 10 03 23.4
comp=Z,19nm,0.7s
SKAR Skarslia 70.62 340 *e*P **P 10 03 23.7 +0.4**
P18A Preston Nutter 70.64 53 P **P 10 03 24.3 +0.1**
P18A IAmb IAmb 10 04 02.5
comp=Z,18nm,1.4s
ULM Lac du Bonnet 70.64 38 P **P 10 03 23.5 -0.1**
comp=Z,2.7nm,0.4s,baz=300,slow=7.4,SNR=7.8
comp=Z,2.7nm,0.4s
HYA Hoyanger 70.69 342 *e*P **P 10 03 23.2 -0.3**
HYA IAmb IAmb 10 03 24.1
comp=Z,21nm,0.8s
PFO Pinyon Flats O 70.81 62 LR LR 10 31 20.3
comp=Z,104nm,21.8s,baz=292,slow=33
BORG Borgarnes 71.17 355 P **P 10 03 28.2 +1.7**
KONO Kongsberg 71.20 339 *e*P **P 10 03 26.9 +0.2**
ASK Askoy 71.52 342 *e*P **P 10 03 29.2 +0.6**
BER Bergen 71.57 342 *e*P **P 10 03 29.1 +0.2**
GNI Garni 71.64 308 LR LR 10 38 27.0
comp=Z,133nm,18.4s,baz=52,slow=39
GNI Garni 71.64 308 *i* P **P 10 03 31.2 +1.2**
GNI pmax pmax
comp=Z,31nm,1.2s
GNI Garni 71.64 308 P **P 10 03 31.2 +1.2**
comp=Z,33nm,1.0s
GNI Garni 71.64 308 P **P 10 03 31.5 +1.5**
GNI pP **pP 10 03 44.1 +2.0**
ODD1 Odda 71.69 341 *e*P **P 10 03 30.0 +0.2**
AK03 Malin Array Si 71.81 324 P **P 10 03 29.3 -1.3**
AKASG Malin Array Be 71.82 324 P **P 10 03 30.2 -0.5**
comp=Z,18nm,0.8s,baz=39,slow=6.1,SNR=68
AKASG LR LR 10 38 51.8
comp=Z,227nm,19.2s,baz=47,slow=39
comp=Z,18nm,0.8s
AKBB Malin Array Si 71.82 324 *i* P **P 10 03 29.9 -0.8**
AKBB pmax pmax
comp=Z,37nm,0.9s
AKBB Malin Array Si 71.82 324 P **P 10 03 29.5 -1.2**
AK01 Malin Array Si 71.83 324 P **P 10 03 29.9 -0.9**
KIEV Kiev 71.83 324 ⇓P **P 10 03 30.4 -0.4**
KIEV Kiev 71.83 324 P **P 10 03 30.5 -0.2**
AK21 Malin Array Si 71.84 324 P **P 10 03 29.7 -1.1**
AK22 Malin Array Si 71.84 324 P **P 10 03 29.7 -1.1**
AK08 Malin Array Si 71.86 324 P **P 10 03 29.9 -1.0**
AK09 Malin Array Si 71.86 324 P **P 10 03 29.9 -1.0**
NAX Nakhchivan 71.87 307 P **P 10 03 32.4 +1.1**
PV23 Carpenter Ridg 72.14 54 P **P 10 03 33.8 +0.6**
PV23 IAmb IAmb 10 04 21.2
comp=Z,22nm,0.8s
BLS5 Blasjo 72.17 341 *e*P **P 10 03 32.9 +0.3**
RNPP5 Staryi Chortor 72.79 326 P **P 10 03 36.3 -0.1**
SNART Snartemo 72.95 340 *e*P **P 10 03 37.6 +0.4**
LUBAR Lubar, Ukraine 73.03 324 P **P 10 03 37.7 -0.2**
LRW Lerwick 73.16 345 *e*P **P 10 03 38.3 -0.1**
GEVA Gevas 73.85 308 P **P 10 03 43.3 +0.2**
GEVA IAmb IAmb 10 03 45.4
comp=Z,20nm,1.1s
NDNU Novodnistrovsk 74.21 324 P **P 10 03 44.5 -0.3**
BEL Belsk 74.27 329 *e*P **P 10 03 45.7 +0.6**
EYMN Ely 74.28 37 P **P 10 03 45.1 -0.2**
EYMN IAmb IAmb 10 03 58.3
comp=Z,17nm,1.2s
KMPD K-Podol'skiy 74.62 324 P **P 10 03 46.3 -0.9**
SDCO Great Sand Dun 74.64 52 P **P 10 03 48.2 +0.3**
KSV Kosov 75.39 325 P **P 10 03 51.0 -0.7**
BUR08 Bucovina Ar. S 75.86 324 P **P 10 03 54.4 -0.2**
BUR08 IAmb IAmb 10 03 55.8
comp=Z,17nm,0.8s
BURAR Bucovina Array 75.88 324 ⇑P **P 10 03 54.9 +0.3**
BURAR Bucovina Array 75.88 324 P **P 10 03 54.8 +0.2**
OJC Ojcow 75.94 329 *e*P **P 10 03 55.2 +0.3**
OJC Ojcow 75.94 329 P **P 10 03 54.6 -0.2**
OJC Ojcow 75.94 329 P **P 10 03 54.6 -0.2**
OJC pmax pmax
comp=Z,38nm,1.1s
OJC Ojcow 75.94 329 P **P 10 03 54.9 +0.1**
comp=Z,33nm,1.5s
ANMO Albuquerque 76.03 55 P **P 10 03 56.6 +0.7**
comp=Z,1.5nm,0.8s,baz=115,slow=7.7,SNR=9.8
ANMO LR LR 10 39 10.1
comp=Z,62nm,18.3s,baz=172,slow=37
comp=Z,1.5nm,0.8s
KOLS Kolonicke sedl 76.03 327 *e*P **P 10 03 55.9 +0.5**
KOLS pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 76.03 327 *e*P **P 10 03 55.9 +0.5**
TESR Tescani 76.13 323 ⇑P **P 10 03 56.1 +0.1**
TESR Tescani 76.13 323 P **P 10 03 55.9 0.0**
comp=Z,67nm,0.9s
HOLU Holmets 76.32 326 P **P 10 03 56.7 -0.2**
Y22D IRIS PASSCAL I 76.37 56 P **P 10 03 58.6 +0.9**
baz=314
NIE Niedzica 76.41 328 P **P 10 03 58.7 +1.2**
comp=Z,19nm,2.2s
DRUM Mains of Drumt 76.42 344 *e*P **P 10 03 57.0 -0.4**
TRSU Trosnyk 76.43 326 P **P 10 03 58.7 +1.1**
BERU Beregovo 76.45 326 P **P 10 03 58.4 +0.7**
VRI Vrincioaia 76.59 322 ⇑P **P 10 03 59.1 +0.4**
VRI Vrincioaia 76.59 322 P **P 10 03 59.0 +0.4**
VRI Vrincioaia 76.59 322 P **P 10 03 59.2 +0.6**
comp=Z,24nm,1.3s
KPL Plockton 76.61 346 *e*P **P 10 03 58.3 -0.1**
TPGR Topolog 76.61 321 ⇓P **P 10 03 59.6 +0.8**
PLOR Plostina 76.64 322 ⇓P **P 10 03 59.7 +0.8**
PLOR Plostina 76.64 322 P **P 10 03 59.7 +0.8**
KSP Ksiaz 76.69 331 *e*P **P 10 03 59.4 +0.4**
KSP Ksiaz 76.69 331 P **P 10 03 59.0 -0.1**
comp=Z,30nm,1.1s
STEB Steborice 76.92 330 *e*P **P 10 04 00.7 +0.3**
LANS Liptovska Anna 76.94 328 *e*P **P 10 04 02.0 +1.4**
LANS pmax pmax
comp=Z,22nm,0.9s
LANS Liptovska Anna 76.94 328 *e*P **P 10 04 02.0 +1.4**
OSTC Ostas 76.96 331 *e*P **P 10 04 01.0 +0.4**
OSTC Ostas 76.96 331 *e*P **P 10 04 01.0 +0.4**
SCHQ Schefferville 76.96 20 P **P 10 04 00.8 +0.3**
SCHQ IAmb IAmb 10 04 02.0
comp=Z,12nm,1.0s
SCHQ Schefferville 76.96 20 P **P 10 04 01.1 +0.6**
comp=Z,5.4nm,0.6s,baz=273,slow=9.2,SNR=13
SCHQ LR LR 10 40 31.2
comp=Z,181nm,20.7s,baz=356,slow=38
comp=Z,5.4nm,0.6s
CHVC Chvalec 76.99 331 *e*P **P 10 04 00.6 -0.2**
CHVC Chvalec 76.99 331 *e*P **P 10 04 00.6 -0.2**
UPC Upice 77.07 331 *e*P **P 10 04 01.3 +0.1**
UPC Upice 77.07 331 *e*P **P 10 04 01.3 +0.1**
DPC Dobruska-Polom 77.09 331 *e*P **P 10 04 01.9 +0.5**
DPC Dobruska-Polom 77.09 331 *e*P **P 10 04 01.9 +0.5**
DPC Dobruska-Polom 77.09 331 P **P 10 04 02.0 +0.5**
comp=Z,30nm,1.2s
MORC Moravsky Berou 77.14 330 *e*P **P 10 04 02.1 +0.5**
MORC Moravsky Berou 77.14 330 P **P 10 04 02.3 +0.7**
KRLC Kraliky 77.16 330 *e*P **P 10 04 02.2 +0.4**
KRLC Kraliky 77.16 330 *e*P **P 10 04 02.2 +0.4**
INVG Invergeldie, C 77.17 345 *e*P **P 10 04 01.2 -0.4**
MLR Muntele Rosu 77.23 323 ⇑P **P 10 04 02.6 +0.3**
MLR Muntele Rosu 77.23 323 P **P 10 04 02.6 +0.3**
MLR Muntele Rosu 77.23 323 P **P 10 04 03.4 +1.1**
comp=Z,23nm,1.3s
MAUC Maruska 77.38 329 *e*P **P 10 04 03.1 +0.1**
CLL Collm 77.41 333 ⇑*i*P **P 10 04 02.8 -0.2**
CLL pmax pmax
comp=Z,52nm,0.9s
CLL Collm 77.41 333 P **P 10 04 02.8 -0.2**
comp=Z,59nm,0.9s
CLL Collm 77.41 333 ⇑*i*P **P 10 04 02.8 -0.2**
comp=Z,52nm,0.9s
CLL *e*PcP **PcP 10 04 13.0 -0.4**
BRG Berggiesshubel 77.47 332 *e*P **P 10 04 03.4 0.0**
BRG Amp 10 04 04.6
comp=Z,14nm,1.0s
PVCC Panska Ves 77.55 332 *e*P **P 10 04 04.3 +0.4**
PVCC Panska Ves 77.55 332 *e*P **P 10 04 04.3 +0.4**
DRGR 77.57 325 ⇑P **P 10 04 04.3 +0.2**
DRGR 77.57 325 P **P 10 04 04.3 +0.2**
LAWE Loch Awe, Argy 77.58 345 *e*P **P 10 04 03.7 -0.2**
VOIR 77.66 323 P **P 10 04 05.4 +0.7**
VOIR 77.66 323 P **P 10 04 05.4 +0.7**
comp=Z,28nm,1.0s
VYHS Vyhne 77.72 328 *e*P **P 10 04 05.4 +0.5**
VYHS pmax pmax
comp=Z,25nm,1.2s
VYHS Vyhne 77.72 328 *e*P **P 10 04 05.4 +0.5**
JAVC Velka Javorina 77.85 329 *e*P **P 10 04 07.1 +1.4**
HSKC Hora Svate Kat 77.86 333 *e*P **P 10 04 05.9 +0.2**
VRAC Vranov 77.87 330 LR LR 10 40 59.6
comp=Z,250nm,18.5s,baz=37,slow=38
VRAC Vranov 77.87 330 *e*P **P 10 04 06.2 +0.5**
VRAC Vranov 77.87 330 ⇑P **P 10 04 06.2 +0.5**
VRAC Vranov 77.87 330 P **P 10 04 06.2 +0.5**
ARR Arges 77.90 323 ⇓P **P 10 04 07.2 +1.2**
BR131 Keskin Array S 77.95 314 *i* P **P 10 04 07.3 +0.8**
BRTR Keskin Array B 77.95 314 P **P 10 04 06.8 +0.3**
BRTR Keskin Array B 77.95 314 P **P 10 04 06.9 +0.4**
comp=Z,7.8nm,0.9s,baz=67,slow=4.4,SNR=35
comp=Z,7.8nm,0.9s
BRTR Keskin Array B 77.95 314 P **P 10 04 06.8 +0.3**
BR106 Keskin Array S 77.96 314 P **P 10 04 07.2 +0.7**
comp=Z,103nmcomp=Z,12nm,1.0s
BR104 Keskin Array S 77.96 314 P **P 10 04 07.2 +0.7**
comp=Z,127nmcomp=Z,13nm,1.0s
BR105 Keskin Array S 77.97 314 P **P 10 04 07.0 +0.4**
comp=Z,111nmcomp=Z,12nm,1.0s
GOPC GO Pecny, Ondr 78.00 331 *e*P **P 10 04 06.9 +0.5**
GOPC GO Pecny, Ondr 78.00 331 *e*P **P 10 04 06.9 +0.5**
PRU Pruhonice 78.02 332 *e*P **P 10 04 06.9 +0.4**
PRU Pruhonice 78.02 332 *e*P **P 10 04 06.9 +0.4**
EKA Eskdalemuir Ar 78.03 344 P **P 10 04 06.6 +0.2**
comp=Z,14nm,0.8s,baz=24,slow=5.0,SNR=23
comp=Z,14nm,0.8s
ESK Eskdalemuir 78.05 344 *e*P **P 10 04 05.9 -0.7**
KRUC Moravsky 78.15 330 *e*P **P 10 04 07.6 +0.4**
SMOL Smolenice 78.23 329 *e*P **P 10 04 08.8 +1.1**
SMOL pmax pmax
comp=Z,18nm,1.0s
KIRS Kirsehir-Merke 78.25 314 ⇑P **P 10 04 08.8 +0.7**
ANTO Ankara 78.28 315 P **P 10 04 08.9 +0.7**
comp=Z,24nm,0.9s
MODS Modra-Piesok 78.40 329 *e*P **P 10 04 09.6 +0.9**
MODS pmax pmax
comp=Z,57nm,1.0s
MODS Modra-Piesok 78.40 329 *e*P **P 10 04 09.6 +0.9**
SIRR Siria 78.43 325 ⇓P **P 10 04 09.6 +0.7**
NEWG New Galloway 78.44 344 *e*P **P 10 04 08.7 0.0**
SRO Srobarova 78.48 328 *e*P **P 10 04 10.4 +1.4**
SRO pmax pmax
comp=Z,36nm,1.0s
SRO Srobarova 78.48 328 *e*P **P 10 04 10.4 +1.4**
ZVC Zvikov 78.61 332 *e*P **P 10 04 10.3 +0.6**
SURR Surduc 78.65 325 ⇑P **P 10 04 10.5 +0.4**
GZR Gura Zlata 78.67 324 ⇑P **P 10 04 10.1 -0.1**
GZR Gura Zlata 78.67 324 P **P 10 04 10.2 -0.1**
KESW Keswick, Cumbr 78.72 344 *e*P **P 10 04 10.3 +0.1**
KESW IAmb IAmb 10 04 12.0
comp=Z,74nm,1.0s
GAL1 Galloway 78.77 345 *e*P **P 10 04 11.0 +0.5**
BZS Buzias 78.97 325 ⇑P **P 10 04 11.8 0.0**
BZS Buzias 78.97 325 P **P 10 04 11.8 0.0**
HPK Haverah Park 79.00 343 *e*P **P 10 04 12.2 +0.4**
HPK IAmb IAmb 10 04 13.4
comp=Z,60nm,0.8s
KHC Kasperske Hory 79.08 332 *e*P **P 10 04 12.8 +0.4**
KHC Kasperske Hory 79.08 332 *i* P **P 10 04 13.0 +0.6**
KHC pmax pmax
comp=Z,83nm,0.9s
KHC Kasperske Hory 79.08 332 P **P 10 04 12.7 +0.4**
comp=Z,44nm,0.9s
CKRC Cesky Krumlov 79.09 331 *e*P **P 10 04 12.7 +0.3**
CKRC Cesky Krumlov 79.09 331 *e*P **P 10 04 12.7 +0.3**
HERR Herculane 79.23 324 ⇓P **P 10 04 13.3 0.0**
GEC2 GERESS Array S 79.28 331 P **P 10 04 13.7 +0.1**
GEC2 IAmb IAmb 10 04 14.7
comp=Z,14nm,1.0s
GERES GERESS Array B 79.28 331 P **P 10 04 13.8 +0.2**
comp=Z,7.5nm,0.8s,baz=35,slow=4.9,SNR=15
comp=Z,7.5nm,0.8s
CONA Conrad Observa 79.29 330 *i* P **P 10 04 14.3 +0.7**
comp=Z,7.6nm,0.8s,SNR=8.4
MPLH Magyarpolny 79.31 328 P **P 10 04 13.6 0.0**
comp=Z,82nm,1.2s
RONA Rosalia, Austr 79.33 329 *e*P **P 10 04 14.6 +0.8**
comp=Z,6.9nm,0.7s,SNR=12
LBWR Ladybower, Pea 79.54 342 *e*P **P 10 04 15.1 +0.3**
LBWR IAmb IAmb 10 04 16.4
comp=Z,69nm,0.9s
MDVR Moldovita 79.61 325 ⇑P **P 10 04 15.2 -0.2**
MORH Mrgy, Hungar 79.68 327 ⇓P **P 10 04 15.5 -0.1**
MORH Mrgy, Hungar 79.68 327 P **P 10 04 14.8 -0.8**
comp=Z,12nm,1.1s
MOA Molln 79.93 331 *i* P **P 10 04 17.4 +0.4**
comp=Z,4.9nm,0.9s
ARSA Arzberg 79.99 330 *e*P **P 10 04 17.9 +0.5**
comp=Z,2.5nm,0.6s
N41A Harden Midland 80.15 42 **P 10 04 18.6 +0.3**
N41A IAmb IAmb 10 04 30.9
comp=Z,28nm,1.1s
MEM Membach 80.15 337 *d*P **P 10 04 18.4 +0.3**
comp=Z,20nm,0.9s
BAND Balkesir-Ban 80.24 318 ⇓P **P 10 04 19.7 +0.9**
BIOA Bad Ischl, Aus 80.29 331 *e*P **P 10 04 19.5 +0.5**
comp=Z,9.9nm,0.8s,SNR=6.4
L44A Lake County Fo 80.36 39 P **P 10 04 19.4 0.0**
baz=323
UCC Uccle 80.44 338 *d*P **P 10 04 20.2 +0.6**
RAR Rarotonga 80.44 132 LR LR 10 39 42.5
comp=Z,62nm,18.4s,baz=309,slow=35
BOVS Bovan 80.54 324 ⇑P **P 10 04 19.9 -0.4**
SOKA Soboth 80.65 330 *e*P **P 10 04 21.2 +0.2**
comp=Z,20nm,0.8s,SNR=9.4
PERS Pernice 80.66 329 *i* P **P 10 04 21.2 +0.2**
BMRD Maredsous 80.78 337 *d*P **P 10 04 21.8 +0.3**
comp=Z,23nm,0.9s
RCHB Rochefort 80.78 337 *d*P **P 10 04 21.3 -0.2**
comp=Z,12nm,1.1s
LESA Schwarzleotal 80.85 331 *e*P **P 10 04 22.2 +0.1**
comp=Z,21nm,0.9s,SNR=7.0
KBA Koelnbreinsper 80.92 331 *i* P **P 10 04 23.2 +0.7**
comp=Z,22nm,0.9s,SNR=9.8
DOBS Dobrina 80.94 329 *i* P **P 10 04 22.2 -0.3**
OBKA Obir 80.97 330 *i* P **P 10 04 22.5 -0.2**
comp=Z,8.2nm,0.8s
MYKA Terra Mystica 81.19 330 *i* P **P 10 04 23.5 -0.4**
comp=Z,1.9nm,0.4s
VNDS Vrh nad Dolski 81.26 329 *i* P **P 10 04 23.7 -0.5**
WATA Walderalm 81.31 332 *i* P **P 10 04 24.9 +0.3**
comp=Z,18nm,1.1s,SNR=9.2
R40A Maddies Statio 81.33 44 P **P 10 04 24.7 +0.1**
R40A IAmb IAmb 10 05 27.4
comp=Z,12nm,0.7s
WTTA Wattenberg 81.35 332 *i* P **P 10 04 25.2 +0.4**
comp=Z,9.8nm,0.5s,SNR=7.8
PRED Cave del Predi 81.38 330 P **P 10 04 24.1 -0.8**
RETA Reutte 81.45 332 *i* P **P 10 04 25.6 +0.4**
comp=Z,9.8nm,0.8s,SNR=5.4
ABTA Abfaltersbach 81.49 331 *i* P **P 10 04 25.0 -0.5**
comp=Z,4.1nm,0.9s
SQTA Sankt Quirin 81.53 332 *i* P **P 10 04 25.8 0.0**
comp=Z,6.8nm,0.7s,SNR=6.4
TXAR Lajitas Array 81.67 57 P **P 10 04 27.3 +0.5**
TXAR Lajitas Array 81.67 57 P **P 10 04 27.5 +0.7**
comp=Z,5.8nm,0.7s,baz=299,slow=4.1,SNR=93
comp=Z,5.8nm,0.7s
TXAR Lajitas Array 81.67 57 P **P 10 04 27.3 +0.5**
FETA Feichten 81.86 332 *i* P **P 10 04 27.9 +0.3**
comp=Z,4.2nm,0.7s
DAVA Damuels 81.91 333 *i* P **P 10 04 28.0 +0.2**
comp=Z,8.9nm,0.7s
MMAI Mount Meron Ar 81.98 309 P **P 10 04 28.6 +0.3**
comp=Z,12nm,0.7s,baz=36,slow=7.2,SNR=19
MMAI LR LR 10 45 35.7
comp=Z,186nm,18.1s,baz=346,slow=39
comp=Z,12nm,0.7s
CCM Cathedral Cave 82.02 43 P **P 10 04 29.0 +0.7**
CCM IAmb IAmb 10 04 41.7
comp=Z,17nm,1.2s
CCM Cathedral Cave 82.02 43 P **P 10 04 29.0 +0.7**
CCM pmax pmax
comp=Z,17nm,1.2s
DAVOX Davos/Dischmat 82.36 333 LR LR 10 43 39.6
comp=Z,46nm,19.3s,baz=84,slow=38
PUK Puka 82.61 324 P **P 10 04 31.2 -0.2**
PUK IAmb IAmb 10 04 39.2
comp=Z,10nm,0.8s
TUE Stuetta 82.80 333 P **P 10 04 32.8 +0.3**
TUE IAmb IAmb 10 04 33.9
comp=Z,17nm,0.9s
TUE Stuetta 82.80 333 P **P 10 04 32.9 +0.4**
comp=Z,100nm,1.7s
OHR Ohrid 82.98 323 *i* P **P 10 04 33.5 +0.1**
PPT Papeete 83.43 122 LR LR 10 37 39.5
comp=Z,90nm,21.0s,baz=315,slow=33
FDMO Fiordimonte 84.48 329 P **P 10 04 40.0 -0.9**
EIL Elat 84.72 307 P **P 10 04 42.4 +0.1**
comp=Z,16nm,0.9s,baz=36,slow=5.1,SNR=8.0
EIL LR LR 10 46 14.6
comp=Z,98nm,19.3s,baz=52,slow=38
comp=Z,16nm,0.9s
BNI Bardonecchia 84.93 334 P **P 10 04 43.5 +0.2**
BNI Bardonecchia 84.93 334 P **P 10 04 43.5 +0.2**
BNI pmax pmax
comp=Z,64nm,2.0s
MATE Matera 85.10 325 ⇑P **P 10 04 43.7 -0.3**
SSB Saint Sauveur 85.38 335 P **P 10 04 45.7 +0.2**
SSB IAmb IAmb 10 04 47.2
comp=Z,17nm,1.0s
SSB Saint Sauveur 85.38 335 P **P 10 04 45.7 +0.2**
SSB pmax pmax
comp=Z,17nm,1.0s
IDI Anoyia 85.79 317 P **P 10 04 46.9 -0.7**
IDI Anoyia 85.79 317 LR LR 10 47 47.7
comp=Z,73nm,18.6s,baz=342,slow=39
L61B Northampton 86.28 29 P **P 10 04 49.2 -0.7**
baz=332
TKL Tuckaleechee C 87.53 40 LR LR 10 46 50.9
comp=Z,68nm,19.8s,baz=328,slow=37
KEST Kesra 92.26 328 P **P 10 05 17.4 -0.9**
comp=Z,3.3nm,0.7s,baz=87,slow=3.7,SNR=4.3
KEST LR LR 10 50 30.2
comp=Z,280nm,20.8s,baz=27,slow=38
comp=Z,3.3nm,0.7s
ESDC Sonseca Array 92.95 339 P **P 10 05 20.7 -0.7**
ESDC Sonseca Array 92.95 339 P **P 10 05 20.4 -1.0**
comp=Z,2.5nm,0.7s,baz=12,slow=4.1,SNR=17
ESDC LR LR 10 52 10.1

comp=Z,167nm,20.0s,baz=27,slow=39
comp=Z,2.5nm,0.7s
ATD Arta Tunnel 92.97 289 LR LR 10 52 28.8
comp=Z,6.8nm,20.3s,baz=20,slow=39
QSPA South Pole Qui 133.86 180 PKP **PKiKP 10 11 25.0 -0.2**
comp=Z,2.8nm,1.0s,baz=219,slow=3.2,SNR=10
SYO Syowa Base 136.97 210⇑ *e*PKiKP **PKiKP 10 11 33.4 +2.1**
SYO Syowa Base 136.97 210⇑ esPKPdf sPKPdf 10 11 47.5 +0.9
ELIB Princess Elisa 142.02 204 *d*PKPdf **PKPdf 10 11 40.0 +1.1**
TROLL Troll, Antarti 147.64 199 ⇑P **PKPbc 10 11 52.2 +0.8**
comp=Z,441nm,0.8s
BDFB Brasilia 148.36 31 PKPbc **PKPbc 10 11 55.6 +0.7**
comp=Z,6.7nm,0.8s,baz=248,slow=2.1,SNR=11
CFA Coronel Fontan 148.73 79 PKPbc **PKPbc 10 11 55.9 +0.5**
comp=Z,5.1nm,0.7s,baz=298,slow=5.2,SNR=16
SNAA Sanae 149.08 197 PKPbc **PKPbc 10 11 55.2 +0.2**
comp=Z,2.7nm,0.8s,baz=244,slow=13,SNR=6.6
VNA2 Neumayer--Watz 150.60 196 ⇑P **PKPdf 10 11 54.7 +1.5**
comp=Z,12nm,0.8s,baz=145,slow=1.7
PLCA Paso Flores 151.21 97 PKPbc **PKiKP 10 12 02.1 +0.5**
comp=Z,3.5nm,0.8s,baz=248,slow=5.1,SNR=9.0
CPUP Villa Florida 152.65 58 PKPab **PKPab 10 12 14.2 -1.2**
comp=Z,3.0nm,0.8s,baz=307,slow=5.1,SNR=5.1

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*IDC **10** 10:00:32.7±0.4, 52°.60N×114°.82W, h0km, mb3.9/17, mbtmp3.8/25, ML4.0/6, MS3.1/1, Error ellipse: s-maj=9.3km s-min=5.2km az=91.0*
*NEIC **10** 10:00:34.6±1.9, 52°.70N±0°.06×115°.0W±0°.1, h10km±1km, mb4.3/43, Mwr3.9/21(SLM), Mwr4.0(OTT), Error ellipse: s-maj=12.1km s-min=8.4km az=49.0*
*NEIC **10** 10:00:34, 52°.73N×115°.00W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}8.06; $M_{\theta\theta}$-2.25; $M_{\phi\phi}$-5.81; $M_{r\theta}$1.18; $M_{\theta\phi}$3.64; $M_{\phi r}$-2.76; Fault plane solution: $M_0$8.61000×10^{14} NP1:ϕ_s151.0000°, δ55.00000°, λ93.00000°. NP2:ϕ_s325.00000°, δ35.00000°, λ85.00000°. Principal axes: T 8.6117, Plg79.0000°, Azm75.0000°; N -0.0012, Plg3.0000°, Azm329.0000°; P -8.6105, Plg10.0000°, Azm239.0000°;*
*NEIC **10** 10:00:36.1, 52°.58N×115°.21W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-0.43; $M_{r\theta}$0.02; $M_{\theta\phi}$0.53; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.10000×10^{15} NP1:ϕ_s119.00000°, δ40.00000°, λ65.00000°. NP2:ϕ_s330.00000°, δ55.00000°, λ109.00000°. Principal axes: T 1.1025, Plg73.0000°, Azm291.0000°; N -0.0436, Plg16.0000°, Azm138.0000°; P -1.0589, Plg8.0000°, Azm46.0000°;*
*PGC **10** 10:00:36.1, 52°.58N×115°.21W, h10km, ML4.4/11, Ml4.3, Mw4.0, 30km northwest of Rocky Mountain House, Alberta Alberta, Canada*

ISC 10 10:00:34.2±0.4, 52°.71N±0°.04×114°.94W±0°.05, h10km, n161, σ1§48/168, mb4.3/28, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGPLA	**Lodgepole**	**0.48**	**328**	P	**Pb**	**10 00 46.1**	**+1.3**
BRLDA	**Berland Lookou**	**2.02**	**314**	P	**Pn**	**10 01 10.0**	**+1.6**
SWHSA	**Sweathouse Loo**	**2.44**	**335**	P	**Pn**	**10 01 16.6**	**+2.4**
STPRA	**Salt Prairie L**	**3.00**	**350**	P	**Pn**	**10 01 24.7**	**+2.9**
BDMTA	**Bald Mountain**	**3.17**	**313**	P	**Pn**	**10 01 25.4**	**+1.3**
HSPGA	**Hill Springs,**	**3.45**	**166**	P	**Pn**	**10 01 29.3**	**+1.2**
WTMTA	**White Mountain**	**3.92**	**321**	P	**Pn**	**10 01 35.9**	**+1.5**
MKRVA	**Milk River, Al**	**4.09**	**150**	P	**Pn**	**10 01 37.9**	**+1.0**
NEW	**Newport**	**4.67**	**198**	Pn	**Pn**	**10 01 42.8**	**-1.9**
NEW	**Newport**	**4.67**	**198**	Pn	**Pn**	**10 01 43.3**	**-1.4**
	0.9nm,0.3s,baz=8.4,slow=10,SNR=18						
NEW				Pg	**Pb**	**10 01 55.8**	**-0.3**
	32nm,0.3s,baz=16,slow=14,SNR=33						
NEW				Sn	**Sn**	**10 02 36.4**	**-2.5**
	28nm,0.3s,baz=63,slow=9.2,SNR=4.5						
NEW				Lg	Lg	10 02 53.9	
	58nm,0.3s,baz=90,slow=23,SNR=5.8						
	6.7nm,0.6s						
LLLB	**Lillooet**	**4.81**	**247**	Pn	**Pn**	**10 01 44.6**	**-2.1**
LLLB	**Lillooet**	**4.81**	**247**	P	**Pn**	**10 01 44.4**	**-2.3**
BSMT	**Bassoo Peak**	**4.87**	**179**	P	**Pn**	**10 01 46.5**	**-1.1**
YBMT	**Yellow Bay**	**4.89**	**173**	P	**Pn**	**10 01 47.4**	**-0.4**
JTMT	**Jette**	**4.99**	**175**	P	**Pn**	**10 01 48.5**	**-0.6**
B08A	**Colville Reser**	**5.18**	**215**		**Pn**	**10 01 49.5**	**-2.3**
B08A	**Colville Reser**	**5.18**	**215**	P	**Pn**	**10 01 49.3**	**-2.5**
HOPB	**Hope**	**5.27**	**233**	Pn	**Pn**	**10 01 51.0**	**-2.0**
UBRB	**Upper Baezaeko**	**5.55**	**276**	Pn	**Pn**	**10 01 55.5**	**-1.4**
WSLR	**Whistler**	**5.63**	**246**	Pn	**Pn**	**10 01 55.8**	**-2.1**
WSLR				Pg	**Pb**	**10 02 12.5**	**0.0**
EGMT	**Eagleton**	**5.74**	**143**		**Pn**	**10 01 59.9**	**+0.3**
OVMT	**Ovando**	**5.79**	**167**		**Pn**	**10 02 01.0**	**+0.7**
OVMT	**Ovando**	**5.79**	**167**	Pn	**Pn**	**10 02 00.0**	**-0.2**
VDEB	**Vedder Mountai**	**5.80**	**234**	Pn	**Pn**	**10 01 58.0**	**-2.3**
FSJB	**Fort St James**	**5.84**	**291**	Pn	**Pn**	**10 01 59.7**	**-1.1**
MSO	**Missoula**	**5.92**	**173**		**Pn**	**10 02 01.7**	**-0.3**
LYMT	**Lyon Mountain**	**6.00**	**162**		**Pn**	**10 02 03.3**	**+0.2**
LYMT	**Lyon Mountain**	**6.00**	**162**	Pn	**Pn**	**10 02 03.3**	**+0.2**
GPW	**Glacier Peak**	**6.07**	**223**	Pn	**Pn**	**10 02 03.2**	**-0.9**
D08A	**Wollman Farm,**	**6.22**	**206**	Pn	**Pn**	**10 02 07.3**	**+1.4**
HRY	**Holter Researc**	**6.33**	**160**		**Pn**	**10 02 07.8**	**+0.1**
BPMT	**Black Pine Rid**	**6.35**	**171**		**Pn**	**10 02 07.7**	**-0.4**
JCW	**Jim Creek**	**6.36**	**227**	Pn	**Pn**	**10 02 07.8**	**-0.1**
E09A	**Wood Farm, Sta**	**6.54**	**200**	Pn	**Pn**	**10 02 11.8**	**+1.3**
SNB	**Saturna Island**	**6.54**	**236**	Pn	**Pn**	**10 02 08.9**	**-1.6**
SNB				Pg	**Pb**	**10 02 30.6**	**+2.5**
LTY	**Liberty**	**6.59**	**216**		**Pn**	**10 02 10.4**	**-0.8**
LTY	**Liberty**	**6.59**	**216**	Pg	**Pb**	**10 02 31.4**	**+2.5**
GOBB	**Galiano Island**	**6.61**	**239**	Pg	**Pb**	**10 02 31.0**	**+1.9**
TXB	**Texada**	**6.69**	**247**	Pg	**Pb**	**10 02 33.5**	**+3.0**
NLLB	**Nanaimo Lost L**	**6.70**	**242**	Pg	**Pb**	**10 02 32.6**	**+2.0**
B011	**North Saanich**	**6.77**	**236**	Pg	**Pb**	**10 02 33.6**	**+1.8**
E08A	**Dider Farm, El**	**6.78**	**205**		**Pn**	**10 02 12.7**	**-0.9**
VGZ	**Gonzales**	**6.86**	**234**	Pg	**Pb**	**10 02 34.8**	**+1.4**
HAWA	**Hanford**	**6.99**	**207**		**Pn**	**10 02 17.7**	**+1.1**
SYMB	**Survey Mountai**	**7.00**	**237**	Pg	**Pb**	**10 02 36.8**	**+0.9**
B926	**Mesachie Lake**	**7.01**	**240**	Pg	**Pb**	**10 02 36.9**	**+0.9**
CLRS	**Cowichan Lake**	**7.01**	**240**	Pn	**Pn**	**10 02 16.3**	**-0.6**
CLRS	**Cowichan Lake**	**7.01**	**240**	Pg	**Pb**	**10 02 37.2**	**+1.2**
MXC	**Moxie City**	**7.05**	**212**		**Pn**	**10 02 16.0**	**-1.5**
CBB	**Campbell River**	**7.06**	**252**	Pn	**Pn**	**10 02 17.5**	**0.0**
LRM	**Limekiln Ridge**	**7.08**	**166**		**Pn**	**10 02 17.7**	**-0.4**
B927	**Port Alberni**	**7.15**	**245**	Pg	**Pb**	**10 02 40.4**	**+2.1**
PABB	**Port Alberni**	**7.15**	**245**	Pg	**Pb**	**10 02 40.5**	**+2.2**
D05A	**Enumclaw**	**7.16**	**222**		**Pn**	**10 02 20.0**	**+1.2**
D05A	**Enumclaw**	**7.16**	**222**	Pg	**Pb**	**10 02 41.0**	**+2.5**
GNW	**Green Mountain**	**7.23**	**228**	Pn	**Pn**	**10 02 19.6**	**-0.1**
FMW	**Mount Fremont**	**7.24**	**220**	Pg	**Pb**	**10 02 41.8**	**+1.8**
HDW	**Hoodsport**	**7.27**	**229**	Pg	**Pb**	**10 02 42.5**	**+2.1**
NCRB	**Newcastle Ridg**	**7.31**	**256**	Pg	**Pb**	**10 02 44.2**	**+3.1**
NCSB	**Newcastle Ridg**	**7.31**	**256**	Pg	**Pb**	**10 02 44.1**	**+3.0**
BOZ	**Bozeman (W)**	**7.44**	**162**		**Pn**	**10 02 22.5**	**-0.4**
LON	**Longmire**	**7.44**	**219**	Pg	**Pb**	**10 02 45.4**	**+2.0**
DLMT	**Dillon**	**7.51**	**167**	Pn	**Pn**	**10 02 23.4**	**-0.5**
B928	**Bamfield**	**7.54**	**243**	Pg	**Pb**	**10 02 47.5**	**+2.6**
PLID	**Pearl Lake**	**7.66**	**186**	Pn	**Pn**	**10 02 24.4**	**-1.6**
WOSB	**Woss**	**7.71**	**255**	P	**Pb**	**10 02 52.4**	**+4.6**
G08A	**Pilot Rock**	**7.88**	**201**		**Pn**	**10 02 30.1**	**+1.2**
FFC	**Flin Flon**	**7.95**	**70**	Pn	**Pn**	**10 02 29.6**	**-0.1**
MCMT	**McKenzie Canyo**	**8.01**	**169**	Pn	**Pn**	**10 02 30.6**	**-0.2**
BMO	**Blue Mountains**	**8.02**	**192**	Pn	**Pn**	**10 02 32.3**	**+1.6**
DGMT	**Dagmar**	**8.04**	**118**	Pn	**Pn**	**10 02 32.1**	**+1.1**
BBB	**Bella Bella**	**8.07**	**271**	Pn	**Pn**	**10 02 31.4**	**0.0**
	1.3nm,0.3s,baz=98,slow=3.3,SNR=9.9						
BBB				Sn	**Sn**	**10 04 01.5**	**-1.1**
	2.1nm,0.3s,baz=100,slow=15,SNR=2.0						
BBB				Lg	Lg	10 04 39.1	
	3.4nm,0.3s,baz=340,slow=15,SNR=6.0						
	5.4nm,0.8s						
YHL	**Hebgen Lake**	**8.25**	**161**		**Pn**	**10 02 33.9**	**-0.1**
LAO	**LASA Array**	**8.26**	**133**	Pn	**Pn**	**10 02 34.6**	**+0.6**
YHB	**Horse Butte**	**8.34**	**161**		**Pn**	**10 02 35.5**	**+0.2**
YNE	**Yellowstone No**	**8.36**	**155**		**Pn**	**10 02 35.5**	**-0.1**
YMR	**Madison River**	**8.46**	**160**		**Pn**	**10 02 37.2**	**+0.2**
LKWY	**Lake**	**8.69**	**158**		**Pn**	**10 02 42.2**	**+2.1**
I07A	**Izee**	**9.15**	**201**	Pn	**Pn**	**10 02 46.4**	**+0.1**
HLID	**Hailey**	**9.16**	**178**	Pn	**Pn**	**10 02 46.9**	**+0.3**
FXWY	**Fox Creek**	**9.45**	**162**		**Pn**	**10 02 51.2**	**+0.7**
LOHW	**Long Hollow**	**9.55**	**161**	Pn	**Pn**	**10 02 52.9**	**+1.0**
TPAW	**Teton Pass**	**9.60**	**162**		**Pn**	**10 02 52.9**	**+0.3**
YKA	**Yellowknife Ar**	**9.81**	**1**	Pn	**Pn**	**10 02 54.9**	**-0.3**
	2.1nm,0.3s,baz=161,slow=17,SNR=31						
YKA				Sn	**Sn**	**10 04 39.0**	**-6.3**
	3.0nm,0.3s,baz=183,slow=23,SNR=6.6						
YKA				Lg	Lg	10 05 37.2	
	1.4nm,0.3s,baz=180,slow=26,SNR=4.3						
	11nm,0.6s						
DLBC	**Dease Lake**	**10.28**	**310**	Pn	**Pn**	**10 03 02.2**	**+0.5**
	0.4nm,0.3s,baz=88,slow=10,SNR=6.4						
DLBC				Sn	**Sn**	**10 04 53.0**	**-3.8**
	0.8nm,0.3s,baz=194,slow=8.9,SNR=3.8						
DLBC				Lg	Lg	10 05 50.0	
	0.5nm,0.3s,baz=311,slow=15,SNR=3.5						
	1.5nm,0.4s						
PDAR	**Pinedale Array**	**10.58**	**158**	Pn	**Pn**	**10 03 04.5**	**-1.6**
	0.5nm,0.3s,baz=9.2,slow=15,SNR=17						
PDAR				Lg	Lg	10 05 58.5	
	0.2nm,0.3s,baz=27,slow=13,SNR=2.2						
PDAR				LR	LR	10 07 28.1	
	comp=Z,117nm,21.4s,baz=290,slow=40						
	0.3nm,0.7s						
E28A	**Huff**	**11.08**	**118**		**Pn**	**10 03 11.4**	**-1.2**
WRGLY	**Wrigley**	**11.46**	**340**		**Pn**	**10 03 16.4**	**-1.3**
ELK	**Elko**	**11.97**	**181**	Pn	**Pn**	**10 03 22.4**	**-2.6**
	1.2nm,0.8s,baz=290,slow=9.1,SNR=3.8						
ELK				Lg	Lg	10 06 43.2	
	0.1nm,0.3s,baz=61,slow=16,SNR=5.6						
ULM	**Lac du Bonnet**	**12.13**	**94**	Sn	Sn	10 05 32.4	-10
	3.0nm,0.3s,baz=276,slow=18,SNR=4.2						
ULM				Lg	Lg	10 06 51.7	
	2.1nm,0.3s,baz=20,slow=21,SNR=4.2						
ULM	**Lac du Bonnet**	**12.13**	**94**	P	**Pn**	**10 03 26.6**	**-0.3**
F33A	**5 Mile Ranch,**	**13.95**	**112**	Pn	**Pn**	**10 03 52.2**	**+0.4**
M31M	**Drury Creek, Y**	**14.08**	**320**	Pn	**Pn**	**10 03 53.0**	**-0.5**
O30N	**Mendenhall**	**14.08**	**313**	Pn	**Pn**	**10 03 53.1**	**-0.4**
K30B	**Basset**	**14.37**	**128**		**Pn**	**10 03 56.7**	**-0.8**
NVAR	**Mina Array Bea**	**14.47**	**191**	Pn	**Pn**	**10 03 57.9**	**-1.3**
	0.2nm,0.5s,baz=312,slow=7.3,SNR=1.2						
HYT	**Haines Junctio**	**14.74**	**312**	Pn	**Pn**	**10 04 03.0**	**+0.5**
M30M	**Minto, Yukon**	**15.23**	**319**	Pn	**Pn**	**10 04 08.9**	**-0.1**
DAWY	**Dawson**	**17.00**	**321**	Pn	**Pn**	**10 04 32.0**	**+0.2**
C36M	**Paulatuk**	**17.23**	**349**	Pn	**Pn**	**10 04 31.9**	**-2.7**
F31M	**Tsiigehtchic**	**17.37**	**335**	P	**Pn**	**10 04 33.6**	**-2.7**
F31M				IAmb	IAmb	10 04 45.9	
	comp=Z,16nm,0.8s						
BCAR	**Beaver Creek A**	**17.49**	**317**	Pn	**Pn**	**10 04 37.3**	**-0.7**
BERG	**Berg Lake**	**17.50**	**307**		**Pn**	**10 04 38.0**	**-0.1**
INK	**Inuvik**	**17.99**	**337**	Pn	**Pn**	**10 04 42.4**	**-1.5**
INK	**Inuvik**	**17.99**	**337**	P	**Pn**	**10 04 41.6**	**-2.3**
	comp=Z,5.2nm,0.6s,baz=146,slow=8.5,SNR=15						
INK				S	Sn	10 07 49.5	-15
	comp=Z,4.4nm,0.6s,baz=307,slow=12,SNR=4.6						
INK	**Inuvik**	**17.99**	**337**	P	**Pn**	**10 04 42.4**	**-1.5**
X18A	**Snowflake**	**18.52**	**167**	P	**P**	**10 04 50.0**	**-0.7**
PASC	**Pasadena Art C**	**18.68**	**188**	P	**Pn**	**10 04 53.8**	**+1.2**
SCRK	**Sand Creek**	**18.76**	**318**	P	**P**	**10 04 52.9**	**-0.3**
RIDG	**Independent Ri**	**19.03**	**317**	P	**P**	**10 04 53.9**	**-2.1**
RIDG				IAmb	IAmb	10 04 59.7	
	comp=Z,22nm,1.0s						
PFO	**Pinyon Flats O**	**19.12**	**184**	P	**P**	**10 04 56.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=27,slow=6.3,SNR=4.3						
	comp=Z,0.4nm,0.3s						
E29M	**Blow River**	**19.15**	**334**	P	**P**	**10 04 58.3**	**+1.1**
E29M				IAmb	IAmb	10 05 00.1	
	comp=Z,12nm,0.7s						
P38A	**Dawn**	**19.68**	**123**	P	**P**	**10 05 04.3**	**+1.1**
P38A				IAmb	IAmb	10 05 11.4	
	comp=Z,10nm,0.5s						
A36M	**Sachs Harbour**	**19.87**	**351**	P	**P**	**10 05 05.4**	**+0.3**
A36M				IAmb	IAmb	10 05 09.2	
	comp=Z,20nm,0.8s						
113A	**Mohawk Valley,**	**19.95**	**177**	P	**P**	**10 05 05.6**	**-0.6**
IL31		**20.23**	**319**	P	**P**	**10 05 09.6**	**+0.5**
IL31				IAmb	IAmb	10 05 14.0	
	comp=Z,13nm,1.2s						
ILAR	**Eielson Array**	**20.23**	**319**	P	**P**	**10 05 08.9**	**-0.2**
ILAR	**Eielson Array**	**20.23**	**319**	P	**P**	**10 05 10.2**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=110,slow=10,SNR=21						
ILAR				Lg	Lg	10 11 16.1	
	baz=101,slow=29,SNR=5.6						
	comp=Z,2.3nm,0.7s						
T35A	**Sooner Cattle**	**20.40**	**133**		**P**	**10 05 11.7**	**+0.5**
T35A				IAmb	IAmb	10 05 18.2	
	comp=Z,15nm,0.8s						
CCB	**Clear Creek Bu**	**20.56**	**318**	P	**P**	**10 05 13.6**	**+1.0**
DUN6	**Lazy B Ranch**	**20.59**	**166**	P	**P**	**10 05 14.3**	**+1.0**
OK051	**E0350 and S346**	**20.61**	**135**	P	**P**	**10 05 13.8**	**+0.4**
OK051				IAmb	IAmb	10 05 19.9	
	comp=Z,19nm,0.9s						
TUC	**Tucson**	**20.61**	**170**		**P**	**10 05 13.9**	**+0.4**
WRH	**Wood River Hil**	**20.62**	**318**	P	**P**	**10 05 13.9**	**+0.6**
WRH				IAmb	IAmb	10 05 17.9	
	comp=Z,12nm,1.0s						
QUOK	**Quay**	**20.94**	**135**	P	**P**	**10 05 16.6**	**-0.4**
OK029	**Liberty Lake**	**20.95**	**137**	P	**P**	**10 05 17.6**	**+0.6**
OK029				IAmb	IAmb	10 05 19.2	
	comp=Z,16nm,0.8s						
NEA2	**Nenana**	**21.06**	**318**	P	**P**	**10 05 18.8**	**+0.7**
NEA2				IAmb	IAmb	10 05 22.7	
	comp=Z,11nm,0.8s						
OK031	**S. Brethren Rd**	**21.07**	**135**	P	**P**	**10 05 18.0**	**-0.4**
DEOK	**Depew**	**21.31**	**135**	P	**P**	**10 05 20.9**	**-0.1**
WMOK	**Wichita Mounta**	**21.34**	**141**	P	**P**	**10 05 22.2**	**+0.9**
WMOK				IAmb	IAmb	10 05 28.7	
	comp=Z,17nm,0.9s						
I23K	**Minto, Yukon-K**	**21.35**	**319**	P	**P**	**10 05 21.7**	**+0.5**
I23K				IAmb	IAmb	10 05 26.1	
	comp=Z,9.7nm,0.8s						
BPAW	**Bear Paw Mtn.**	**21.72**	**316**	P	**P**	**10 05 25.9**	**+0.8**
BPAW				IAmb	IAmb	10 05 29.9	
	comp=Z,17nm,1.0s						
I21K	**Tanana**	**22.42**	**318**	P	**P**	**10 05 33.2**	**+0.6**
I21K				IAmb	IAmb	10 05 38.9	
	comp=Z,10nm,0.8s						
FVM	**French Village**	**22.51**	**121**	P	**P**	**10 05 33.4**	**-0.4**
FVM				IAmb	IAmb	10 05 40.4	
	comp=Z,16nm,1.2s						
J20K	**Nowinta River**	**23.09**	**315**	P	**P**	**10 05 40.3**	**+0.6**
J20K				IAmb	IAmb	10 05 42.9	
	comp=Z,7.8nm,0.6s						
RES	**Resolute Bay**	**23.51**	**13**	P	**P**	**10 05 45.0**	**+1.2**
	comp=Z,2.3nm,0.9s,baz=207,slow=11,SNR=5.2						
RES				S	**S**	**10 09 60.0**	**+2.8**
	comp=Z,2.1nm,0.6s,baz=117,slow=23,SNR=3.7						
RES				Lg	Lg	10 12 42.0	
	comp=Z,0.2nm,0.3s,baz=69,slow=11,SNR=5.6						
	comp=Z,2.3nm,0.9s						
MIAR	**Mount Ida**	**23.69**	**132**	P	**P**	**10 05 46.4**	**+0.5**
MIAR				IAmb	IAmb	10 05 52.9	
	comp=Z,6.8nm,0.7s						
TXAR	**Lajitas Array**	**24.79**	**156**	P	**P**	**10 05 56.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=349,slow=8.0,SNR=1.0						
	comp=Z,0.8nm,0.8s						
B21K	**Ikpikpuk River**	**24.86**	**328**	P	**P**	**10 05 56.9**	**+0.6**
B21K				IAmb	IAmb	10 06 07.7	
	comp=Z,11nm,1.5s						
237A	**Washetta, Mont**	**24.91**	**139**	P	**P**	**10 05 58.1**	**+0.9**
PETK	**Petropavlovsk-**	**49.46**	**308**	P	**P**	**10 09 23.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=64,slow=11,SNR=4.6						
	comp=Z,1.2nm,0.7s						
EKA	**Eskdalemuir Ar**	**58.51**	**38**	P	**P**	**10 10 31.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=86,slow=8.2,SNR=1.4						
	comp=Z,0.2nm,0.4s						
NOA	**NORSAR Array B**	**58.76**	**27**	P	**P**	**10 10 33.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=323,slow=7.0,SNR=3.4						
	comp=Z,0.4nm,0.6s						
HFS	**Hagfors**	**60.20**	**27**	P	**P**	**10 10 42.4**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=32,slow=4.2,SNR=8.2						
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**62.05**	**20**	P	**P**	**10 10 55.1**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=339,slow=4.9,SNR=4.6						
	comp=Z,1.9nm,0.7s						
ESDC	**Sonseca Array**	**70.33**	**50**	P	**P**	**10 11 48.9**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=314,slow=6.2,SNR=12						
	comp=Z,1.3nm,0.6s						
MJAR	**Matsushiro Ar**	**70.83**	**305**	P	**P**	**10 11 50.8**	**0.0**
	comp=Z,0.7nm,0.4s,baz=327,slow=6.5,SNR=7.4						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**72.44**	**348**	P	**P**	**10 12 00.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=4.6,slow=6.5,SNR=9.8						
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**72.61**	**23**	P	**P**	**10 12 01.1**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=295,slow=8.8,SNR=3.5						
	comp=Z,0.1nm,0.2s						
SONM	**Songino Array**	**73.82**	**332**	P	**P**	**10 12 10.1**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=54,slow=2.6,SNR=4.7						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**74.54**	**357**	P	**P**	**10 12 13.8**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=1.3,slow=6.5,SNR=2.7						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**76.41**	**351**	P	**P**	**10 12 23.9**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=8.2,slow=5.3,SNR=11						
	comp=Z,1.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**78.50**	**326**	*e*P	**P**	**10 12 34.1**	**-1.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,4.7s						
LPAZ	**La Paz**	**79.70**	**135**	P	**P**	**10 12 41.4**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=319,slow=2.6,SNR=6.5						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**79.78**	**348**	P	**P**	**10 12 42.1**	**-0.2**
MK31				IAmb	IAmb	10 12 43.3	
	comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**79.78**	**348**	P	**P**	**10 12 42.5**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=342,slow=5.5,SNR=29						
	comp=Z,1.3nm,0.5s						
WMQ	**Urumqi**	**81.89**	**344**	*e*P	**P**	**10 12 54.6**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WRA	**Warramunga Arr**	**118.14**	**274**	PKP	**PKPdf**	**10 19 20.3**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=23,slow=1.9,SNR=4.8						
ASAR	**Alice Springs**	**121.21**	**271**	PKP	**PKPdf**	**10 19 25.8**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=344,slow=2.3,SNR=8.2						
QSPA	**South Pole Qui**	**142.54**	**180**	PKP	**PKPdf**	**10 20 05.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=8.4,slow=3.9,SNR=6.0						
SNAA	**Sanae**	**145.62**	**149**	PKPbc	**PKPdf**	**10 20 10.6**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=265,slow=11,SNR=2.1						

HEL 10 10:01:33.0±0.3, 69°.36N×30°.47E, h0km, ML1.3, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.18**	**222**	PG	Pg	10 01 53.9	-1.8
RAJF				SG	Sg	10 02 09.2	-1.7
KEV	**Kevo**	**1.28**	**290**	PG	Pg	10 01 55.8	-1.7
	baz=106						
KEV				MSG		10 02 11.9	
	comp=Z,3.1nm,0.2s						
KEV				SB	Sg	10 02 13.2	-0.9
VRF	**Varrio**	**1.65**	**192**	PG	Pn	10 02 02.8	-0.4
VRF				MSG		10 02 22.2	
	comp=Z,2.5nm,0.2s						
VRF				SG	Sn	10 02 23.7	-1.4
ARA0	**ARCESS Array S**	**1.76**	**278**	PG	Pn	10 02 04.6	-0.1
	baz=90						
ARA0				SN	Sb	10 02 28.3	-0.5
KTK1	**Kautokeino**	**2.61**	**266**	PB	Pn	10 02 17.9	+1.6
KTK1				SG	Sb	10 02 53.2	+0.1
HEF	**Hetta**	**2.65**	**252**	PB	Pn	10 02 17.2	+0.3
	baz=65						
HEF				MSG		10 02 51.0	
	comp=Z,0.6nm,0.2s						
HEF				SG	Sb	10 02 54.2	0.0
KLF	**Kolari**	**3.23**	**232**	PN	Pn	10 02 24.7	-0.1
RNF	**Rovaniemi**	**3.23**	**213**	PN	Pn	10 02 23.3	-1.6
	baz=28						
LANU	**Lannavaara**	**3.36**	**251**	PN	Pn	10 02 24.4	-2.3
KU2	**Taivalkoski**	**3.77**	**194**	SN	Sn	10

0.2nm,0.6s,baz=130,slow=10,SNR=2.0
0.2nm,0.6s
WRA Warramunga Arr 56.79 146 P P 11 16 19.7 -0.2
0.6nm,0.8s,baz=337,slow=8.0,SNR=2.2
0.6nm,0.8s
ASAR Alice Springs 59.79 149 P P 11 16 41.0 0.0
0.2nm,0.6s,baz=323,slow=6.5,SNR=6.9
0.2nm,0.6s

NOU 10 11:20:58.2, 15°.37S×167°.05E, h0km, MLv3.9/6, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.58**	**155**	P	Pn	11 21 41.4	+0.1
KOUNC	**Koumac, New Ca**	**5.79**	**207**	P	Pn	11 22 25.3	0.0
YATNC	**Mamie plateau,**	**6.66**	**181**	P	Pn	11 22 38.2	+0.9
DZM	**Mont Dzumac**	**6.69**	**185**	P	Pn	11 22 36.5	-1.4

*WEL **10** 11:46:04.3±1.3, 32°.S±6°.×17°.7W±1°.8, h12km, mB4.6/2, ML4.9/6, MLv4.7/6, Mw(mB)3.8/2, Error ellipse: s-maj=24.8km s-min=4.1km az=105.2, confirmed*
*IDC **10** 11:46:07.1±0.8, 32°.02S×178°.05W, h0km, mb4.1/4, mbtmp4.1/6, ML3.9/2, Error ellipse: s-maj=31.8km s-min=25.7km az=123.0*
*NEIC **10** 11:46:09.7±1.3, 32°.3S±0°.1×178°.07W±0°.06, h10km±1km, mb4.6/8, Error ellipse: s-maj=23.1km s-min=8.6km az=359.0*
ISC 10 11:46:08.3±0.7, 32°.18S±0°.07×178°.1W±0°.1, h10km, n55, σ1§35/74, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.91**	**2**	P	**Pn**	**11 46 52.2**	**-2.5**
GLKZ				S	**Sn**	**11 47 28.6**	**-1.0**
WMGZ	**Waiomatatini S**	**6.33**	**206**	P	**Pn**	**11 47 41.5**	**-0.1**
WMGZ				S	**Sn**	**11 48 54.8**	**+0.9**
PKGZ	**Pakihiroa**	**6.50**	**208**	P	**Pn**	**11 47 42.5**	**-1.5**
PKGZ				S	**Sn**	**11 48 57.3**	**-0.9**
HAZ	**Te Kaha**	**6.53**	**210**	P	**Pn**	**11 47 42.8**	**-1.5**
HAZ				S	**Sn**	**11 48 58.6**	**-0.2**
PUZ	**Puketiti**	**6.61**	**206**	P	**Pn**	**11 47 42.5**	**-3.0**
PUZ				S	**Sn**	**11 49 00.2**	**-0.7**
RUGZ	**Raukumara Rang**	**6.75**	**210**	P	**Pn**	**11 47 46.2**	**-1.3**
RUGZ				S	**Sn**	**11 49 04.5**	**0.0**
TWGZ	**Tauwhareparae**	**6.81**	**207**	P	**Pn**	**11 47 46.0**	**-2.3**
TWGZ				S	**Sn**	**11 49 03.6**	**-2.3**
CNGZ	**Carnagh Statio**	**6.99**	**205**	P	**Pn**	**11 47 49.2**	**-1.5**
CNGZ				S	**Sn**	**11 49 09.8**	**-0.5**
MWZ	**Matawai**	**7.12**	**209**	P	**Pn**	**11 47 51.1**	**-1.5**
MWZ				S	**Sn**	**11 49 12.8**	**-0.8**
URZ	**Urewera**	**7.24**	**212**	Pn	**Pn**	**11 47 54.3**	**+0.2**
	1.8nm,0.3s,baz=329,slow=10,SNR=11						
URZ				Sn	**Sn**	**11 49 14.1**	**-2.3**
	4.3nm,0.3s,baz=39,slow=19,SNR=15						
	6.9nm,0.5s						
URZ	**Urewera**	**7.24**	**212**	P	**Pn**	**11 47 53.0**	**-1.1**
URZ				S	**Sn**	**11 49 15.4**	**-1.0**
WCZ	**Waipu Caves**	**7.34**	**237**	P	Pn	11 48 02.8	+7.3
RIGZ	**Rimuhau**	**7.35**	**206**	P	**Pn**	**11 47 55.8**	**+0.1**
RIGZ				S	**Sn**	**11 49 17.6**	**-1.6**
MUGZ	**Murupara**	**7.57**	**212**	P	**Pn**	**11 47 59.1**	**+0.4**
MUGZ				S	**Sn**	**11 49 22.3**	**-2.4**
SNGZ	**Shannon Statio**	**7.58**	**208**	P	**Pn**	**11 47 59.3**	**+0.4**
SNGZ				S	**Sn**	**11 49 23.8**	**-1.1**
OUZ	**Omahuta**	**7.59**	**244**	P	Pn	11 48 04.4	+5.5
RTZ	**Ruatahuna**	**7.59**	**211**		**Pn**	**11 47 58.3**	**-0.8**
RTZ	**Ruatahuna**	**7.59**	**211**	P	**Pn**	**11 47 58.9**	**-0.2**
RTZ				S	**Sn**	**11 49 23.5**	**-1.7**
TOZ	**Tahuroa Road**	**7.66**	**222**	Pn	**Pn**	**11 48 01.1**	**+1.3**
RAHZ	**Arahi**	**7.80**	**209**	P	**Pn**	**11 48 02.5**	**+0.6**
RAHZ				S	**Sn**	**11 49 28.2**	**-2.1**
MTHZ	**Maungataniwha**	**7.85**	**211**	P	**Pn**	**11 48 03.4**	**+0.8**
MTHZ				S	**Sn**	**11 49 31.3**	**-0.2**
BKZ	**Black Stump Fm**	**8.26**	**211**	Pn	**Pn**	**11 48 06.4**	**-1.8**
BKZ	**Black Stump Fm**	**8.26**	**211**	P	**Pn**	**11 48 08.4**	**+0.2**
BKZ				S	**Sn**	**11 49 40.6**	**-1.0**
MCHZ	**McNeill Hill**	**8.41**	**209**	P	**Pn**	**11 48 09.9**	**-0.2**
MCHZ				S	**Sn**	**11 49 41.6**	**-3.6**
KAHZ	**Kahuranaki**	**8.64**	**207**	P	**Pn**	**11 48 11.8**	**-1.6**
KAHZ				S	**Sn**	**11 49 46.3**	**-4.6**
BFZ	**Birch Farm**	**9.64**	**207**	Pn	**Pn**	**11 48 26.2**	**-0.9**
KHZ	**Kahutara**	**12.21**	**211**	Pn	**Pn**	**11 49 01.1**	**-1.1**
RPZ	**Rata Peaks**	**14.35**	**214**	Pn	**Pn**	**11 49 32.2**	**+0.7**
	0.5nm,0.3s,baz=52,slow=13,SNR=1.3						
RPZ				Sn	Sn	11 51 57.7	-13
	0.4nm,0.3s,baz=68,slow=15,SNR=2.7						
	3.1nm,0.5s						
BBOO	**Buckleboo**	**38.47**	**256**	P	**P**	**11 53 31.9**	**+1.4**
BBOO				IAmb	IAmb	11 53 43.6	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**42.99**	**269**	P	**P**	**11 54 09.1**	**+1.0**
ASAR	**Alice Springs**	**42.99**	**269**	P	**P**	**11 54 08.2**	**+0.2**
ASAR	**Alice Springs**	**42.99**	**269**	P	**P**	**11 54 08.6**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=107,slow=7.2,SNR=26						
ASAR				PcP	**PcP**	**11 55 59.0**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=122,slow=5.1,SNR=1.0						
	comp=Z,1.3nm,0.5s						
WR0	**Warramunga Arr**	**43.97**	**274**	P	**P**	**11 54 16.4**	**+0.6**
WR0				IAmb	IAmb	11 54 18.6	
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**44.14**	**274**	P	**P**	**11 54 17.7**	**+0.4**
WRA	**Warramunga Arr**	**44.14**	**274**	P	**P**	**11 54 18.0**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=113,slow=7.7,SNR=54						
	comp=Z,2.6nm,0.5s						
FORT	**Forrest**	**45.57**	**257**	P	**P**	**11 54 28.5**	**0.0**
MTN	**Manton Dam**	**50.23**	**280**	P	**P**	**11 55 05.2**	**+0.3**
QSPA	**South Pole Qui**	**57.94**	**180**	P	**P**	**11 56 01.2**	**+0.6**
QSPA				IAmb	IAmb	11 56 18.2	
	comp=Z,4.1nm,0.8s						
QSPA	**South Pole Qui**	**57.94**	**180**	P	**P**	**11 56 02.5**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=44,slow=1.0,SNR=5.5						
	comp=Z,1.2nm,0.7s						
SNAA	**Sanae**	**76.39**	**178**	P	**P**	**11 57 58.5**	**+1.1**
SNAA				IAmb	IAmb	11 58 11.7	
	comp=Z,21nm,1.5s						
NVAR	**Mina Array Bea**	**89.57**	**43**	P	**P**	**11 59 06.6**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=247,slow=6.7,SNR=3.3						
	comp=Z,0.8nm,1.0s						
MKAR	**Makanchi Array**	**118.87**	**309**	PKP	**PKPdf**	**12 04 56.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=100,slow=6.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**122.27**	**313**	PKP	**PKPdf**	**12 05 02.8**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=105,slow=2.1,SNR=4.7						
BVAR	**Borovoye Array**	**127.63**	**315**	PKP	**PKPdf**	**12 05 12.1**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=116,slow=2.9,SNR=2.3						
GEVA	**Gevas**	**146.08**	**292**	PKPdf	**PKPab**	**12 05 49.8**	**+0.5**
FIA1	**FINESS Array S**	**146.79**	**339**	PKPdf	**PKPdf**	**12 05 49.4**	**+1.3**
FINES	**FINESS Array B**	**146.79**	**339**	PKPdf	**PKPbc**	**12 05 49.5**	**-0.3**
FINES	**FINESS Array B**	**146.79**	**339**	PKPbc	**PKPbc**	**12 05 49.7**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=47,slow=3.1,SNR=18						
GURO	**Guroymak-BITLI**	**146.89**	**292**		**PKPbc**	**12 05 51.3**	**+0.3**
NOA	**NORSAR Array B**	**150.50**	**351**	PKPbc	**PKPbc**	**12 05 59.5**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=14,slow=2.5,SNR=1.4						
HFS	**Hagfors**	**150.97**	**348**	PKPbc	**PKPbc**	**12 05 59.0**	**-1.6**
	comp=Z,4.8nm,1.0s,baz=72,slow=4.8,SNR=4.2						
MMAI	**Mount Meron Ar**	**151.86**	**281**	PKPbc	**PKiKP**	**12 06 04.5**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=108,slow=4.7,SNR=5.0						
AKASG	**Malin Array Be**	**152.66**	**321**	PKPbc	**PKPbc**	**12 06 04.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=49,slow=3.6,SNR=1.7						
BRTR	**Keskin Array B**	**153.36**	**295**	PKP	**PKPdf**	**12 05 58.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**161.06**	**179**	PKPab	**PKPab**	**12 06 53.9**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=159,slow=4.2,SNR=3.6						

*VIE **10** 11:54:02.9±0.7, 51°.62N×16°.02E, h0km, mb2.9/11, ml2.9/12, ms3.8/1, Error ellipse: s-maj=8.0km s-min=3.8km az=9.0, Suspected Mining induced.*
*IPEC **10** 11:54:03.2±0.2, 51°.62N×16°.04E, h1km, ML2.9/5, Error ellipse: s-maj=3.2km s-min=1.5km az=70.0*
*IDC **10** 11:54:04.1±0.7, 51°.60N×15°.97E, h0km, mbtmp3.3/7, ML2.8/7, Error ellipse: s-maj=11.4km s-min=6.8km az=109.0*
*DNK **10** 11:54:04.4±1.0, 51°.78N×15°.49E, h0km±46km, ML2.3*
*BGR **10** 11:54:04.4±0.2, 51°.57N×15°.99E, h1km, ML3.1/13, Error ellipse: s-maj=3.3km s-min=2.2km az=36.0*
*PRU **10** 11:54:05.8, 51°.53N×15°.98E, h0km*
*UPP **10** 11:54:07.6±2.8, 51°.91N×15°.34E, h0km, ML2.2*
ISC 10 11:54:01.8±0.7, 51°.65N±0°.02×16°.00E±0°.02, h0km, n99, σ1§49/173, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.83**	**167**	*e*Pg	**Pg**	**11 54 18.6**	**+0.9**
KSP				*e*Sg	**Sg**	**11 54 28.8**	**+0.4**
KSP	**Ksiaz**	**0.83**	**167**	*e*Pg	**Pg**	**11 54 18.7**	**+0.9**
	SNR=31						
CHVC	**Chvalec**	**1.07**	**178**	*e*PG	**Pb**	**11 54 23.2**	**+0.1**
CHVC				*e*SG	**Sg**	**11 54 36.9**	**+0.9**
	comp=Z,96nm,0.4s						
OSTC	**Ostas**	**1.11**	**173**	*e*PG	**Pb**	**11 54 24.0**	**+0.2**
OSTC				*e*SG	**Sg**	**11 54 38.2**	**+0.9**
UPC	**Upice**	**1.15**	**180**	*e*PG	**Pg**	**11 54 24.2**	**+0.4**
UPC				*e*SG	**Sb**	**11 54 39.7**	**-0.2**
DPC	**Dobruska-Polom**	**1.32**	**171**	*e*PG	**Pg**	**11 54 27.4**	**+0.3**
DPC				*e*SG	**Sg**	**11 54 44.1**	**0.0**
	comp=Z,70nm,0.5s						
DPC	**Dobruska-Polom**	**1.32**	**171**	*e*Pg	**Pg**	**11 54 27.4**	**+0.3**
	SNR=54						
PVCC	**Panska Ves**	**1.44**	**219**	*e*PG	**Pb**	**11 54 30.0**	**+0.4**
PVCC				*e*SG	**Sn**	**11 54 49.5**	**+0.7**
	comp=Z,200nm,0.4s						
PVCC	**Panska Ves**	**1.44**	**219**	*e*Pg	**Pb**	**11 54 30.4**	**+0.8**
	SNR=52						
PIVO	**Bartosovice**	**1.51**	**167**	*e*Pg	**Pn**	**11 54 30.2**	**+0.1**
	baz=348						
PIVO				*e*Sg	**Sg**	**11 54 49.2**	**-1.0**
	96nm,0.4s,baz=348						
BRG	**Berggiesshubel**	**1.51**	**240**	Pn	**Pn**	**11 54 30.3**	**+0.2**
BRG				Pg	**Pg**	**11 54 31.6**	**+0.8**
BRG				Sg	**Sn**	**11 54 51.7**	**+1.2**
BRG				Amp		11 54 52.4	
	comp=Z,119nm,0.5s						
RUE	**Ruedersdorf**	**1.60**	**302**	*e*Pn	**Pb**	**11 54 32.0**	**-0.2**
	SNR=3.3						
RUE				*e*Sg	**Sg**	**11 54 56.5**	**+3.2**
	SNR=4.2						
RICC	**Richard**	**1.64**	**228**	*e*SG	**Sn**	**11 54 53.6**	**+0.1**
KRLC	**Kraliky**	**1.65**	**162**	*e*PG	**Pn**	**11 54 32.6**	**+0.5**
KRLC				*e*SG	**Sn**	**11 54 54.5**	**+0.4**
	comp=Z,108nm,0.6s						
GKP	**Gorka Klasztor**	**1.79**	**24**	*e*Sg	**Sg**	**11 55 04.6**	**+5.4**
	SNR=3.2						
PRA	**Prague**	**1.87**	**213**	*e*PG	**Pb**	**11 54 36.9**	**+0.1**
GOPC	**GO Pecny, Ondr**	**1.90**	**204**	*e*PN	**Pn**	**11 54 36.0**	**+0.5**
GOPC				*e*PG	**Pb**	**11 54 38.1**	**+0.7**
PRU	**Pruhonice**	**1.91**	**210**	*e*PG	**Pb**	**11 54 37.8**	**+0.4**
PRU				*e*SG	**Sb**	**11 55 01.9**	**+0.1**
	comp=Z,62nm,0.8s						
PRU	**Pruhonice**	**1.91**	**210**	*e*Pn	**Pn**	**11 54 35.9**	**+0.3**
	SNR=11						
PRU				*e*Sg	**Sb**	**11 55 02.4**	**+0.6**
	SNR=3.3						
CLL	**Collm**	**1.91**	**261**	*e*Pn	**Pn**	**11 54 35.7**	**+0.1**
	SNR=14						
CLL				*e*Pg	**Pg**	**11 54 38.8**	**+0.5**
	SNR=36						
CLL	**Collm**	**1.91**	**261**	*i* Pn	**Pn**	**11 54 35.7**	**+0.1**
	comp=Z,20nm,0.5s						
CLL				*i* Pg	**Pg**	**11 54 39.0**	**+0.7**
CLL				*i* x	x	11 54 42.8	
	comp=Z,73nm,0.6s						
CLL				*e*x	x	11 54 54.0	
CLL				*e*Sg	**Sg**	**11 55 04.0**	**+0.9**
	comp=Z,62nm,1.0s						
HSKC	**Hora Svate Kat**	**1.93**	**238**	*e*PG	**Pb**	**11 54 38.3**	**+0.5**
HSKC				*e*SG	**Sg**	**11 55 04.1**	**+0.4**
STEB	**Steborice**	**2.05**	**146**	*e*PG	**Pg**	**11 54 40.8**	**-0.3**
STEB				*e*SG	**Sg**	**11 55 07.3**	**-0.5**
MORC	**Moravsky Berou**	**2.12**	**152**	*e*Pn	**Pn**	**11 54 38.8**	**+0.3**
	baz=333						
MORC				*e*Sg	**Sb**	**11 55 08.3**	**+0.4**
	comp=Z,77nm,0.8s,baz=333						
MORC	**Moravsky Berou**	**2.12**	**152**	*e*Pn	**Pn**	**11 54 38.9**	**+0.3**
	SNR=9.1						
MORC				*e*Sg	**Sb**	**11 55 08.5**	**+0.6**
	SNR=3.6						
OKC	**Ostrava-Krasne**	**2.27**	**142**	*e*PG	**Pg**	**11 54 45.3**	**0.0**
OKC				*e*SG	**Sg**	**11 55 15.3**	**+0.6**
	comp=Z,74nm,0.6s						
OKC	**Ostrava-Krasne**	**2.27**	**142**	*e*Pg	**Pg**	**11 54 45.3**	**0.0**
	SNR=6.4						
OKC				*e*Sg	**Sg**	**11 55 14.4**	**-0.3**
	SNR=4.8						
VRAC	**Vranov**	**2.38**	**171**	Pn	**Pn**	**11 54 42.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=347,slow=11,SNR=27						
VRAC				Lg	Lg	11 55 16.8	
	comp=Z,2.5nm,0.3s,baz=61,slow=17,SNR=6.1						
	comp=Z,3.0nm,0.3s						
VRAC	**Vranov**	**2.38**	**171**	*e*Pn	**Pn**	**11 54 42.7**	**+0.6**
	baz=352						
VRAC				*e*Sg	**Sb**	**11 55 16.4**	**+1.1**
	comp=Z,77nm,1.3s,baz=352						
VRAC	**Vranov**	**2.38**	**171**	*e*PN	**Pn**	**11 54 42.8**	**+0.8**
VRAC				*e*SG	**Sb**	**11 55 16.5**	**+1.1**
VRAC	**Vranov**	**2.38**	**171**	*e*Pn	**Pn**	**11 54 43.0**	**+1.0**
	SNR=9.0						
VRAC				*e*Sg	**Sg**	**11 55 17.1**	**-1.0**
	SNR=4.0						
TREC	**Trest**	**2.38**	**188**	*e*SG	**Sg**	**11 55 17.5**	**-0.8**
TREC	**Trest**	**2.38**	**188**	*e*Pn	**Pn**	**11 54 42.9**	**+0.7**
	SNR=8.3						
TANN	**Tannenbergstha**	**2.56**	**242**	*e*Pn	**Pn**	**11 54 45.3**	**+0.8**
	SNR=6.7						
TANN				*e*Pg	**Pg**	**11 54 52.0**	**+1.2**
	SNR=2.4						
TANN				*e*Sg	**Sg**	**11 55 24.3**	**+0.4**
	SNR=4.3						
KRUC	**Moravsky**	**2.61**	**174**	*e*Pn	**Pn**	**11 54 45.9**	**+0.8**
	baz=355						
KRUC				*e*Sg	**Sb**	**11 55 23.6**	**+1.7**
	comp=Z,74nm,1.0s,baz=355						
KRUC	**Moravsky**	**2.61**	**174**	*e*PN	**Pn**	**11 54 46.0**	**+0.8**
KRUC				*e*SG	**Sb**	**11 55 23.7**	**+1.8**
KRUC	**Moravsky**	**2.61**	**174**	*e*Pn	**Pn**	**11 54 46.4**	**+1.3**
	SNR=7.3						
KRUC				*e*Pg	**Pb**	**11 54 50.7**	**+1.3**
	SNR=2.3						
NKC	**Novy Kostel**	**2.66**	**239**	*e*PN	**Pn**	**11 54 47.0**	**+1.1**
NKC				*e*PG	**Pg**	**11 54 52.8**	**0.0**
NKC				*e*SG	**Sg**	**11 55 28.0**	**+0.8**
	comp=Z,67nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**239**	*e*Pn	**Pn**	**11 54 47.0**	**+1.1**
	SNR=8.1						
NKC				*e*Pg	**Pg**	**11 54 53.9**	**+1.2**
	SNR=1.6						
NKC				*e*Sg	**Sg**	**11 55 28.0**	**+0.8**
	SNR=4.0						
NEUB	**Neuenburg**	**2.68**	**262**	*e*Pg	**Pg**	**11 54 54.0**	**+0.8**
	SNR=2.9						
NEUB				*e*Sg	**Sg**	**11 55 29.8**	**+1.9**
	SNR=3.7						
PLN	**Plauen**	**2.69**	**246**	*e*Pn	**Pn**	**11 54 47.0**	**+0.6**
	SNR=2.8						
PLN				*e*Pg	**Pg**	**11 54 54.2**	**+0.8**
	SNR=2.8						
OJC	**Ojcow**	**2.80**	**119**	*e*Pg	**Pg**	**11 54 56.3**	**+0.9**
OJC				*e*Sg	**Sg**	**11 55 32.6**	**+1.0**
MOX	**Moxa**	**2.94**	**252**	*e*Pn	**Pn**	**11 54 50.4**	**+0.6**
	SNR=3.0						
MOX				*e*Pg	**Pg**	**11 54 58.9**	**+0.7**
	SNR=4.7						
MOX				*e*Sg	**Sg**	**11 55 36.9**	**+0.7**
	SNR=4.0						
KHC	**Kasperske Hory**	**2.96**	**213**	*e*PN	**Pn**	**11 54 51.0**	**+0.9**
KHC				*e*PG	**Pb**	**11 54 56.8**	**+1.3**
KHC				*e*SG	**Sg**	**11 55 36.0**	**-0.9**
	comp=Z,24nm,0.5s						
KHC	**Kasperske Hory**	**2.96**	**213**	*e*Pg	**Pg**	**11 54 57.6**	**-1.0**
	SNR=2.5						
MANZ	**Manzenberg**	**2.98**	**237**	*e*Pn	**Pn**	**11 54 51.0**	**+0.7**
	SNR=4.9						
JAVC	**Velka Javorina**	**2.99**	**158**	*e*Pn	**Pn**	**11 54 51.7**	**+1.2**
	baz=340						
JAVC	**Velka Javorina**	**2.99**	**158**	*e*PN	**Pn**	**11 54 51.8**	**+1.2**
JAVC	**Velka Javorina**	**2.99**	**158**	*e*Pn	**Pn**	**11 54 52.2**	**+1.6**
	SNR=5.3						
JAVC				*e*Pg	**Pg**	**11 54 59.5**	**+0.4**
	SNR=1.8						
JAVC				*e*Sg	**Sg**	**11 55 37.9**	**0.0**
	SNR=2.3						
FLTG	**Flechtingen**	**3.02**	**285**	*e*Pg	**Pg**	**11 54 59.7**	**0.0**
	SNR=3.7						
CKRC	**Cesky Krumlov**	**3.04**	**202**	*e*PN	**Pn**	**11 54 52.1**	**+1.0**
CKRC				*e*PG	**Pb**	**11 54 58.5**	**+1.8**
CKRC				*e*SG	**Sg**	**11 55 38.8**	**-0.6**
CKRC	**Cesky Krumlov**	**3.04**	**202**	*e*Pn	**Pn**	**11 54 52.5**	**+1.4**
	SNR=3.5						
CKRC				*e*Sg	**Sg**	**11 55 38.7**	**-0.6**
	SNR=3.7						
ROTZ	**Rotzenmuhle**	**3.06**	**233**	*e*Pn	**Pn**	**11 54 52.2**	**+0.8**
	SNR=11						
ROTZ				*e*Sg	**Sg**	**11 55 39.8**	**-0.4**
	SNR=2.4						
GEC2	**GERESS Array S**	**3.17**	**209**	*e*Pn	**Pn**	**11 54 54.5**	**+1.4**
	SNR=4.2						
GEC2				*e*Pg	**Pg**	**11 55 01.2**	**-1.4**
	SNR=3.7						
GEC2				*e*Sg	**Sg**	**11 55 42.2**	**-1.6**
	SNR=2.6						
GERES	**GERESS Array B**	**3.17**	**209**	Pn	**Pn**	**11 54 54.3**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=23,slow=13,SNR=7.6						
GERES				Pg	**Pg**	**11 55 02.2**	**-0.4**
	comp=Z,4.5nm,0.3s,baz=30,slow=14,SNR=21						
GERES				Lg	Lg	11 55 40.9	
	comp=Z,4.6nm,0.3s,baz=24,slow=26,SNR=8.7						
	comp=Z,3.3nm,0.5s						
WET	**Wettzell**	**3.21**	**220**	*e*Pn	**Pn**	**11 54 54.2**	**+0.7**
	SNR=6.1						
ASSE	**Asse, Remlinge**	**3.34**	**280**	*e*Pn	**Pn**	**11 54 56.9**	**+1.7**
	SNR=1.6						
LANS	**Liptovska Anna**	**3.34**	**137**	*e*PG	**Pg**	**11 55 07.4**	**+1.5**
LANS				*e*SG	**Sg**	**11 55 48.5**	**-0.7**
MODS	**Modra-Piesok**	**3.38**	**165**	*e*PN	**Pn**	**11 54 57.8**	**+1.9**
MODS				*e*PG	**Pg**	**11 55 07.0**	**+0.4**
MODS				*e*SG	**Sg**	**11 55 50.8**	**+0.4**
CLZ	**Clausthal**	**3.50**	**275**	*e*Pn	**Pn**	**11 54 59.2**	**+1.7**
	SNR=4.1						
CLZ				*e*Pg	**Pg**	**11 55 09.6**	**+0.7**
	SNR=1.7						
BSD	**Bornholm Skovb**	**3.53**	**350**	*i* P	**Pn**	**11 54 58.2**	**+0.4**
BSD				*i* S	**Sn**	**11 55 38.0**	**-2.2**
BSD				IAML		11 55 47.4	
	comp=Z,3.6nm,0.3s						
NIE	**Niedzica**	**3.54**	**128**	*e*Pg	**Pg**	**11 55 09.9**	**+0.3**
NIE				*e*Sg	**Sg**	**11 55 55.1**	**-0.2**
VYHS	**Vyhne**	**3.65**	**149**	*e*PN	**Pn**	**11 54 59.7**	**+0.2**
VYHS				*e*PG	**Pg**	**11 55 12.0**	**+0.3**
VYHS				*e*SG	**Sg**	**11 55 57.9**	**-1.1**
CONA	**Conrad Observa**	**3.73**	**181**	*e*Pn	**Pn**	**11 55 01.5**	**+0.8**
	comp=Z,1.0nm,0.3s,SNR=5.8						
CONA				*e*Sn	**Sn**	**11 55 45.5**	**+0.2**
	comp=Z,4.5nm,0.5s						
NRDL	**Niedersach Rie**	**3.73**	**285**	*e*Pn	**Pn**	**11 55 02.8**	**+2.2**
	SNR=3.1						
UBBA	**Unterbreizbach**	**3.86**	**260**	*e*Pn	**Pn**	**11 55 03.3**	**+0.9**
	SNR=1.8						
RONA	**Rosalia, Austr**	**3.96**	**177**	*e*Pn	**Pn**	**11 55 04.0**	**+0.2**
	comp=Z,0.9nm,0.3s						
MOA	**Molln**	**3.97**	**197**	*e*Pn	**Pn**	**11 55 04.7**	**+0.8**
	comp=Z,4.8nm,0.4s,SNR=12						
MOA				*e*Sn	**Sn**	**11 55 52.5**	**+1.3**
	comp=Z,2.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.25**	**202**	*e*Pn	**Pn**	**11 55 08.7**	**+0.9**
	comp=Z,1.6nm,0.2s						
LUNU	**Lund**	**4.27**	**340**	*i* P	**Pn**	**11 55 08.1**	**+0.1**
KECS	**Kecovo**	**4.29**	**136**	*e*SG	**Sg**	**11 56 22.7**	**+3.2**
ARSA	**Arzberg**	**4.42**	**184**	*e*Pn	**Pn**	**11 55 11.3**	**+1.3**
	comp=Z,0.7nm,0.4s						
BLEU	**Blekinge**	**4.66**	**359**	P	**Pn**	**11 55 14.7**	**+1.3**
BLEU				S	**Sn**	**11 56 06.3**	**-1.8**
BLEU	**Blekinge**	**4.66**	**359**	*i* P	**Pn**	**11 55 14.1**	**+0.7**
BLEU				P	**Pn**	**11 55 14.7**	**+1.3**
BLEU				*i* S	**Sn**	**11 56 05.2**	**-2.9**
BLEU				S	**Sn**	**11 56 06.3**	**-1.8**
BLEU				IAML		11 56 06.9	
	comp=Z,1.4nm,0.4s						
LESA	**Schwarzleotal**	**4.75**	**208**	*e*Pn	**Pn**	**11 55 15.2**	**+0.5**
	comp=Z,0.6nm,0.3s						
BJUU	**Bjuv**	**4.77**	**339**	P	**Pn**	**11 55 14.8**	**0.0**
BJUU				S	**Sn**	**11 56 05.9**	**-4.8**
BJUU	**Bjuv**	**4.77**	**339**	*i* P	**Pn**	**11 55 14.7**	**0.0**
BJUU				P	**Pn**	**11 55 14.8**	**0.0**
BJUU				S	**Sn**	**11 56 05.9**	**-4.8**
KOLS	**Kolonicke sedl**	**4.85**	**122**	*e*PG	**Pg**	**11 55 38.5**	**+3.7**
DEL	**Delary**	**4.99**	**346**	P	**Pn**	**11 55 18.2**	**+0.3**
DEL	**Delary**	**4.99**	**346**	*i* P	**Pn**	**11 55 18.2**	**+0.3**
DEL				P	**Pn**	**11 55 18.2**	**+0.3**
DEL				IAML		11 56 18.0	
	comp=Z,1.9nm,0.4s						
WATA	**Walderalm**	**5.19**	**215**	*e*

	comp=N,215nm,0.4s					
PB09	**IPOC Station P**	**2.33 261**	*i* P	**Pn**	**11 56 38.8**	**+1.2**
PB09			*i* S	**S**	**11 57 11.5**	**+0.1**
PB09			IAML		11 57 18.4	
	comp=Z,192nm,0.2s					
PB09	**IPOC Station P**	**2.33 261**	Pg	**Pn**	**11 56 39.2**	**+1.6**
PB01	**IPOC Station P**	**2.56 278**		**Pn**	**11 56 40.5**	**+0.4**
PB01	**IPOC Station P**	**2.56 278**	*e*P	**Pn**	**11 56 41.1**	**+1.0**
PB01			IAML		11 57 17.4	
	comp=N,362nm,0.2s					
PB01	**IPOC Station P**	**2.56 278**	*i* P	**Pn**	**11 56 41.0**	**+1.0**
PB01			*i* S	**S**	**11 57 15.2**	**-0.5**
PB01			IAML		11 57 18.2	
	comp=Z,270nm,0.1s					
PB01	**IPOC Station P**	**2.56 278**	Pg	**Pn**	**11 56 41.3**	**+1.2**
PB01			Sg	**S**	**11 57 16.4**	**+0.7**
PB01			IAML		11 57 17.6	
	comp=Z,154nm,0.3s					
PB08	**IPOC Station P**	**2.57 299**		**Pn**	**11 56 41.0**	**+0.5**
PB08	**IPOC Station P**	**2.57 299** ⇓	*i* P	**Pn**	**11 56 42.1**	**+1.6**
PB08			IAML		11 57 20.0	
	comp=N,198nm,0.2s					
PB08	**IPOC Station P**	**2.57 299**	*i* P	**Pn**	**11 56 41.5**	**+1.0**
PB08			*i* S	**S**	**11 57 16.4**	**0.0**
PB08			IAML		11 57 19.2	
	comp=Z,74nm,0.2s					
PB08	**IPOC Station P**	**2.57 299**	Pg	**Pn**	**11 56 42.2**	**+1.7**
SALTA		**2.81 172**	*e*P	**Pn**	**11 56 45.6**	**+2.4**
PB03	**IPOC Station P**	**2.84 257**	*e*P	**Pn**	**11 56 44.3**	**+1.1**
PB03			IAML		11 57 21.9	
	comp=E,786nm,0.2s					
PB03	**IPOC Station P**	**2.84 257**	*i* P	**Pn**	**11 56 44.2**	**+1.0**
PB03			*i* S	**S**	**11 57 21.2**	**-0.2**
PB03			IAML		11 57 22.3	
	comp=Z,611nm,0.2s					
PB06	**IPOC Station P**	**2.89 243**	*e*P	**Pn**	**11 56 44.9**	**+1.2**
PB06			IAML		11 57 24.2	
	comp=E,396nm,0.1s					
PB06	**IPOC Station P**	**2.89 243**	*i* P	**Pn**	**11 56 45.0**	**+1.2**
PB06			*i* S	**S**	**11 57 22.5**	**+0.1**
PB06			IAML		11 57 29.5	
	comp=Z,214nm,0.2s					
SOEO	**Opoqueri**	**3.04 340**	Pg	**Pn**	**11 56 48.2**	**+2.4**
PB11	**IPOC Station P**	**3.17 301**		**Pn**	**11 56 47.3**	**+0.3**
PB11	**IPOC Station P**	**3.17 301** ⇓	*i* P	**Pn**	**11 56 47.7**	**+0.7**
PB11	**IPOC Station P**	**3.17 301**	*i* P	**Pn**	**11 56 47.7**	**+0.7**
PB11			*i* S	**S**	**11 57 27.4**	**-0.8**
PB11			IAML		11 57 30.0	
	comp=Z,366nm,0.2s					
PB11	**IPOC Station P**	**3.17 301**	Pg	**Pn**	**11 56 48.0**	**+1.0**
TA01	**Diego Aracena**	**3.30 284**		**Pn**	**11 56 48.3**	**0.0**
TA01	**Diego Aracena**	**3.30 284** ⇓	*i* P	**Pn**	**11 56 48.4**	**0.0**
TA01	**Diego Aracena**	**3.30 284**	*i* P	**Pn**	**11 56 48.3**	**0.0**
TA01			*i* S	**S**	**11 57 30.1**	**-0.5**
TA01			IAML		11 57 32.3	
	comp=Z,61nm,0.4s					
TA02	**Huaiquique**	**3.35 290**		**Pn**	**11 56 48.5**	**-0.4**
TA02	**Huaiquique**	**3.35 290**	*i* P	**Pn**	**11 56 48.9**	**+0.1**
TA02			*i* S	**S**	**11 57 30.8**	**-0.8**
TA02			IAML		11 57 34.3	
	comp=Z,285nm,0.1s					
SOET	**ToroToro**	**3.42 15**	Pg	**Pn**	**11 56 51.2**	**+1.1**
SLA	**San Lorenzo**	**3.48 161**	*e*P	**Pn**	**11 56 52.6**	**+2.0**
SLA	**San Lorenzo**	**3.48 161**	*i* P	**Pn**	**11 56 51.7**	**+1.1**
SLA			IAML		11 57 45.7	
	comp=Z,17nm,1.0s					
AOEA	**Aiquile**	**3.54 24**	Pg	**Pn**	**11 56 52.0**	**+0.6**
AOEA	**Aiquile**	**3.54 24**	Pg	**Pn**	**11 56 52.1**	**+0.6**
PB12	**IPOC Station P**	**4.36 309**		**Pn**	**11 57 00.6**	**-0.6**
PB12	**IPOC Station P**	**4.36 309**	*e*P	**Pn**	**11 57 00.7**	**-0.6**
PB12	**IPOC Station P**	**4.36 309**	*i* P	**Pn**	**11 57 00.5**	**-0.8**
PB12			*i* S	**S**	**11 57 51.9**	**-2.0**
PB12			IAML		11 57 53.9	
	comp=Z,141nm,0.2s					
GO02	**Mina Guanaco**	**4.53 214**		**Pn**	**11 57 03.2**	**-0.3**
GO02	**Mina Guanaco**	**4.53 214** ⇑	*i* P	**Pn**	**11 57 04.5**	**+1.1**
GO02	**Mina Guanaco**	**4.53 214**	*i* P	**Pn**	**11 57 04.6**	**+1.1**
GO02			*i* S	**S**	**11 57 56.4**	**-1.7**
PB18	**Visviri**	**4.60 326**		**Pn**	**11 57 05.8**	**+1.2**
PB14	**IPOC Station P**	**4.62 226**		**Pn**	**11 57 04.7**	**+0.2**
PB14	**IPOC Station P**	**4.62 226**	*i* P	**Pn**	**11 57 05.2**	**+0.7**
PB14			*i* S	**S**	**11 57 58.6**	**-1.4**
PB14			IAML		11 58 01.0	
	comp=Z,232nm,0.4s					
SOEJ	**Jacaque**	**4.63 343**	Pg	**Pn**	**11 57 07.3**	**+2.3**
FSA	**Cafayete**	**4.72 171**	*i* P	**Pn**	**11 57 07.5**	**+1.9**
BBOD	**La Paz, Gloria**	**5.07 340**	Pg	**Pn**	**11 57 12.7**	**+2.2**
LPAZ	**La Paz**	**5.27 346**		**Pn**	**11 57 13.8**	**+0.6**
LPAZ	**La Paz**	**5.27 346**	P	**Pn**	**11 57 14.7**	**+1.5**
	comp=Z,14nm,0.4s,baz=150,slow=6.7,SNR=94					
LPAZ			S	**S**	**11 58 15.5**	**0.0**
	comp=Z,9.1nm,0.9s,baz=252,slow=20,SNR=5.8					
LPAZ	**La Paz**	**5.27 346**	*i* P	**Pn**	**11 57 13.4**	**+0.2**
LPAZ			*i* S	**S**	**11 58 12.7**	**-2.8**
LPAZ	**La Paz**	**5.27 346**	Pg	**Pn**	**11 57 14.7**	**+1.5**
AC02	**Maricunga**	**5.80 201**		**Pn**	**11 57 19.6**	**+0.1**
AC01	**Pan de Azucar**	**5.86 216**		**Pn**	**11 57 19.0**	**-0.9**
AC06	**Mina Casimiro**	**6.75 208**	Pn	**Pn**	**11 57 29.3**	**-1.9**
SIV	**San Ignacio**	**7.64 46**	P	**Pn**	**11 57 41.7**	**-1.2**
	comp=Z,8.4nm,0.4s,baz=218,slow=12,SNR=73					
SIV			S	**S**	**11 59 04.9**	**-4.9**
	comp=Z,1.5nm,0.5s,baz=247,slow=13,SNR=3.1					
AC04	**Llanos de Chal**	**7.80 209**	Pn	**Pn**	**11 57 42.1**	**-2.6**
LCO	**Las Campanas**	**8.35 204**	Pn	**Pn**	**11 57 50.6**	**-1.4**
CO01	**Juntas del Tor**	**9.02 199**	Pn	**Pn**	**11 58 00.4**	**-0.4**
PTLB	**Pontes e Lacer**	**9.37 52**	Pn	**Pn**	**11 58 05.6**	**+0.5**
GO04	**Tololo Observa**	**9.43 202**		**Pn**	**11 58 03.2**	**-2.8**
CO03	**El Pedregal**	**10.01 200**	Pn	**Pn**	**11 58 11.2**	**-2.1**
CFA	**Coronel Fontan**	**10.22 187**	P	**Pn**	**11 58 15.1**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=37,slow=16,SNR=64					
CFA			S	**S**	**12 00 03.4**	**-7.2**
	comp=Z,0.8nm,0.3s,baz=306,slow=19,SNR=2.3					
VILB	**Vilhena**	**10.51 38**	Pn	**Pn**	**11 58 20.5**	**+0.8**
VA03	**San Esteban**	**11.78 196**	Pn	**Pn**	**11 58 37.3**	**+1.5**
MT03	**Universidad Ad**	**12.47 195**	P	**Pn**	**11 58 44.6**	**+0.2**
MT13	**San Alfonso**	**12.66 193**	P	**Pn**	**11 58 48.3**	**+1.5**
MT09	**Talagante**	**12.85 196**	Pn	**Pn**	**11 58 48.3**	**-1.0**
BO04	**La Punta**	**12.96 194**	P	**Pn**	**11 58 51.2**	**+0.6**
MT01	**Popeta**	**13.01 197**	Pn	**Pn**	**11 58 50.8**	**-0.2**
BO01	**Tunca**	**13.46 196**		**Pn**	**11 58 57.4**	**+0.7**
BO02	**Sierra Bellavi**	**13.77 194**		**P**	**11 59 01.8**	**-0.4**
ML02	**Panimavida**	**14.85 195**		**Pn**	**11 59 13.3**	**-0.4**
BI02	**San Fabin de**	**15.68 194**		**P**	**11 59 23.8**	**+0.5**
BI02			IAmb	IAmb	11 59 28.5	
	comp=Z,15nm,1.2s					
VAO	**Valinhos**	**18.40 99**	P	**P**	**11 59 52.8**	**-0.5**
VAO			IAmb	IAmb	11 59 54.9	
	comp=Z,18nm,0.9s					
BDFB	**Brasilia**	**18.68 75**	P	**P**	**11 59 55.3**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=252,slow=8.3,SNR=7.4					
MACA	**Manacapuru-AM**	**19.10 19**	P	**P**	**11 59 59.4**	**-1.3**
PLCA	**Paso Flores**	**19.51 189**	P	**P**	**12 00 04.0**	**-0.9**
PLCA	**Paso Flores**	**19.51 189**	P	**P**	**12 00 06.7**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=334,slow=7.6,SNR=4.7					
RUSC	**La Rusia**	**27.85 346**	P	**P**	**12 01 22.9**	**-1.3**
RUSC			IAmb	IAmb	12 01 34.8	
	comp=Z,7.8nm,1.3s					
DBIC	**Dimbokro**	**66.81 72**	P	**P**	**12 06 21.9**	**-0.8**
DBIC			IAmb	IAmb	12 06 53.8	
	comp=Z,10.0nm,1.4s					
DBIC	**Dimbokro**	**66.81 72**	P	**P**	**12 06 22.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=205,slow=4.9,SNR=3.3					
	comp=Z,1.4nm,0.6s					
QSPA	**South Pole Qui**	**68.76 180**	P	**P**	**12 06 35.7**	**+1.4**
QSPA			IAmb	IAmb	12 07 05.6	
	comp=Z,6.5nm,1.5s					
QSPA	**South Pole Qui**	**68.76 180**	P	**P**	**12 06 36.9**	**+2.6**
	comp=Z,0.8nm,0.9s,baz=166,slow=4.2,SNR=7.1					
	comp=Z,0.8nm,0.9s					
PDAR	**Pinedale Array**	**75.06 329**	P	**P**	**12 07 13.8**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=148,slow=8.7,SNR=1.7					
	comp=Z,0.1nm,0.6s					
YKA	**Yellowknife Ar**	**91.80 340**	P	**P**	**12 08 37.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=140,slow=4.0,SNR=4.5					
	comp=Z,0.2nm,0.6s					
ASAR	**Alice Springs**	**130.86 205**	PKP	**PKiKP**	**12 14 41.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=139,slow=2.0,SNR=1.7					
WRA	**Warramunga Arr**	**133.99 208**	PKP	**PKiKP**	**12 14 48.4**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=153,slow=2.0,SNR=4.8					
MKAR	**Makanchi Array**	**144.39 37**	PKP	**PKPdf**	**12 15 04.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=322,slow=3.7,SNR=5.0					

*IDC **10** 12:14:31.6±0.7, 58°.27N×31°.84W, h0km, mb3.7/17, mbtmp3.7/20, ML2.9/3, MS3.7/19, Error ellipse: s-maj=21.4km s-min=13.4km az=6.0*

ISC 10 12:14:32.8±0.6, 58°.2N±0°.1×31°.88W±0°.07, h10km, n37, σ0°64/25, mb3.6/17, MS3.7/17, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.24**	**33**	Pn	**Pn**	**12 16 33.1**	**+0.8**
	0.3nm,0.3s,baz=194,slow=8.3,SNR=3.4						
BORG				Sn	**Sn**	**12 18 05.4**	**+0.1**
	0.2nm,0.3s,baz=180,slow=23,SNR=3.2						
BORG				LR	LR	12 19 05.3	
	comp=Z,478nm,18.8s,baz=258,slow=33						
	6.1nm,0.8s						
JMIC	**Jan Mayen**	**16.07**	**28**	LR	LR	12 22 56.6	
	comp=Z,186nm,21.1s,baz=144,slow=32						
FRB	**Frobisher Bay**	**18.41**	**303**	P	**P**	**12 18 47.8**	**0.0**
	baz=81,slow=9.0,SNR=3.2						
	3.6nm,1.0s						
SCHQ	**Schefferville**	**19.44**	**275**	P	**Pn**	**12 18 59.7**	**-0.6**
	0.2nm,0.3s,baz=65,slow=8.9,SNR=4.7						
	4.7nm,1.1s						
NOA	**NORSAR Array B**	**21.67**	**64**	P	**P**	**12 19 23.9**	**+0.6**
	0.6nm,0.7s,baz=282,slow=9.3,SNR=5.5						
NOA				LR	LR	12 25 57.0	
	comp=Z,87nm,21.8s,baz=315,slow=32						
	0.6nm,0.7s						
HFS	**Hagfors**	**23.07**	**66**	P	**P**	**12 19 37.6**	**-0.5**
	6.8nm,1.1s,baz=267,slow=16,SNR=3.1						
HFS				LR	LR	12 26 48.2	
	comp=Z,187nm,18.9s,baz=310,slow=32						
	6.8nm,1.1s						
ESDC	**Sonseca Array**	**25.79**	**124**	P	**P**	**12 20 03.8**	**0.0**
	1.0nm,0.9s,baz=319,slow=8.5,SNR=4.7						
ESDC				LR	LR	12 27 39.8	
	comp=Z,75nm,20.9s,baz=322,slow=31						
	1.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.42**	**96**	LR	LR	12 29 44.4	
	comp=Z,184nm,19.8s,baz=261,slow=33						
RES	**Resolute Bay**	**28.13**	**330**	P	**P**	**12 20 23.8**	**-0.6**
	0.7nm,0.9s,baz=30,slow=4.5,SNR=3.1						
RES				LR	LR	12 31 06.1	
	comp=Z,95nm,18.5s,baz=152,slow=35						
	0.7nm,0.9s						
GERES	**GERESS Array B**	**28.15**	**89**	P	**P**	**12 20 24.3**	**-0.7**
	1.7nm,0.8s,baz=292,slow=9.3,SNR=2.8						
	1.7nm,0.8s						
FINES	**FINESS Array B**	**28.46**	**59**	LR	LR	12 31 08.2	
	comp=Z,133nm,18.7s,baz=266,slow=35						
VRAC	**Vranov**	**29.41**	**86**	LR	LR	12 32 10.5	
	comp=Z,131nm,18.2s,baz=322,slow=36						
MDT	**Midelt**	**31.39**	**132**	LR	LR	12 31 16.7	
	comp=Z,41nm,18.2s,baz=8.5,slow=32						
AKASG	**Malin Array Be**	**35.16**	**75**	P	**P**	**12 21 25.9**	**-0.5**
	0.3nm,0.3s,baz=297,slow=8.5,SNR=4.1						
	0.3nm,0.3s						
KEST	**Kesra**	**35.20**	**112**	LR	LR	12 35 11.4	
	comp=Z,130nm,18.5s,baz=278,slow=35						
ULM	**Lac du Bonnet**	**36.91**	**286**	LR	LR	12 34 18.2	
	comp=Z,156nm,19.5s,baz=18,slow=32						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	**P**	**12 21 54.3**	**-0.3**
	0.9nm,1.0s,baz=60,slow=8.8,SNR=7.0						
	0.9nm,1.0s						
TKL	**Tuckaleechee C**	**40.68**	**259**	LR	LR	12 37 50.8	
	comp=Z,143nm,18.2s,baz=14,slow=34						
BRTR	**Keskin Array B**	**44.82**	**85**	P	**P**	**12 22 46.2**	**-0.6**
	0.6nm,0.7s,baz=316,slow=5.2,SNR=3.5						
	0.6nm,0.7s						
DLBC	**Dease Lake**	**46.97**	**315**	LR	LR	12 43 14.7	
	comp=Z,110nm,19.3s,baz=280,slow=37						
SJG	**San Juan**	**47.32**	**227**	LR	LR	12 38 56.4	
	comp=Z,21nm,21.9s,baz=142,slow=31						
ILAR	**Eielson Array**	**47.86**	**328**	P	**P**	**12 23 09.8**	**-0.4**
	0.5nm,0.9s,baz=28,slow=6.2,SNR=4.5						
ILAR				PcP	**PcP**	**12 24 39.0**	**+0.3**
	0.2nm,0.7s,baz=24,slow=2.5,SNR=4.1						
ILAR				LR	LR	12 45 45.9	
	comp=Z,179nm,18.4s,baz=234,slow=39						
	0.5nm,0.9s						
NEW	**Newport**	**48.65**	**297**	LR	LR	12 42 07.1	
	comp=Z,114nm,21.4s,baz=346,slow=34						
PDAR	**Pinedale Array**	**48.91**	**287**	P	**P**	**12 23 18.6**	**-0.3**
	0.4nm,0.8s,baz=84,slow=6.1,SNR=4.5						
PDAR				LR	LR	12 42 43.8	
	comp=Z,95nm,18.4s,baz=318,slow=35						
	0.4nm,0.8s						
AKTO	**Aktyubinsk**	**49.23**	**58**	P	**P**	**12 23 21.2**	**+0.3**
	2.8nm,0.7s,baz=310,slow=4.4,SNR=9.6						
	2.8nm,0.7s						
BVAR	**Borovoye Array**	**52.52**	**48**	P	**P**	**12 23 46.3**	**+0.6**
	1.1nm,0.8s,baz=316,slow=4.1,SNR=4.6						
	1.1nm,0.8s						
ANMO	**Albuquerque**	**53.17**	**278**	LR	LR	12 45 34.3	
	comp=Z,95nm,18.2s,baz=169,slow=35						
DBIC	**Dimbokro**	**55.53**	**147**	P	**P**	**12 24 08.7**	**+0.7**
	2.1nm,0.7s,baz=326,slow=3.6,SNR=3.5						
	2.1nm,0.7s						
TXAR	**Lajitas Array**	**56.08**	**272**	P	**P**	**12 24 13.8**	**+1.8**
	0.2nm,0.8s,baz=29,slow=6.5,SNR=2.0						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**57.54**	**45**	P	**P**	**12 24 22.1**	**+0.1**
	1.0nm,0.7s,baz=322,slow=7.3,SNR=8.9						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**62.11**	**45**	P	**P**	**12 24 53.7**	**+0.2**
	0.6nm,0.5s,baz=340,slow=5.1,SNR=13						
	0.6nm,0.5s						
H10S3	**ASCENSION HYDR**	**68.41**	**162**	T	T	13 39 38.6	
	baz=235						
H10S2	**ASCENSION HYDR**	**68.42**	**162**	T	T	13 39 44.5	
	baz=345						
SONM	**Songino Array**	**68.83**	**29**	P	**P**	**12 25 37.2**	**+0.1**
	0.4nm,0.8s,baz=336,slow=3.2,SNR=2.3						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**140.45**	**21**	PKP	**PKPdf**	**12 34 01.1**	**-0.8**
	0.3nm,0.7s,baz=340,slow=2.8,SNR=1.9						
ASAR	**Alice Springs**	**143.99**	**23**	PKP	**PKPdf**	**12 34 08.4**	**+0.2**
	0.3nm,0.9s,baz=335,slow=2.5,SNR=2.4						
QSPA	**South Pole Qui**	**148.14**	**180**	PKPbc	**PKPbc**	**12 34 16.7**	**-0.5**
	2.5nm,1.1s,baz=153,slow=2.3,SNR=3.1						

*NNC **10** 12:16:45.2±0.8, 46°.01N×82°.41E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=8.0km s-min=3.1km az=103.0*
*SOME **10** 12:16:45.7, 46°.03N×82°.47E, h25km*

ISC 10 12:16:43.3±1.1, 45°.92N±0°.04×82°.56E±0°.07, h10km, n19, σ1°40/24, 4C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.89**	**348**	⇑P	**Pg**	**12 16 59.9**	**-0.6**
	0.5nm,0.2s,baz=308,slow=21,SNR=479						
MK31				⇓S	**Sg**	**12 17 11.2**	**-1.0**
	3.3nm,0.2s,baz=164,slow=28,SNR=8.6						
MAKZ	**Makanchi**	**0.97**	**336**	⇓P	**Pg**	**12 17 01.6**	**-0.5**
	1.7nm,0.5s						
MAKZ				⇑S	**Sg**	**12 17 14.4**	**-0.4**
	4.8nm,0.3s						
ZSN	**Zaisan**	**2.21**	**45**	Pg	**Pb**	**12 17 24.0**	**+0.6**
	5.7nm,0.2s						
ZSN				Lg	Lg	12 17 51.2	
	20nm,0.6s						
ZSN	**Zaisan**	**2.21**	**45**	*e*P	**Pb**	**12 17 23.9**	**+0.6**
	5.7nm,0.2s						
ZSN				*e*S	**Sb**	**12 17 51.2**	**+0.5**
	20nm,0.6s						
KAPS	**Kapalarasan**	**2.33**	**255**	Pg	**Pb**	**12 17 26.9**	**+1.3**
	0.8nm,0.1s						
KAPS				Lg	Lg	12 17 56.7	
	89nm,0.2s						
DJR	**Jarkent**	**2.52**	**232**	Pg	**Pg**	**12 17 31.7**	**0.0**
	2.7nm,0.4s						
DJR				Lg	Lg	12 18 05.0	
	8.9nm,0.3s						
DJR	**Jarkent**	**2.52**	**232**	*e*P	**Pg**	**12 17 31.7**	**0.0**
	2.7nm,0.4s						
DJR				*e*S	**Sg**	**12 18 05.0**	**+0.7**
	8.9nm,0.3s						
KNOS	**Konyrlen**	**2.85**	**238**	Pg	**Pg**	**12 17 37.1**	**-0.9**
	0.8nm,0.1s						
KNOS				Lg	Lg	12 18 14.2	
	12nm,0.2s						
PDGK	**Podgornoye**	**3.39**	**221**	⇑Pg	**Pg**	**12 17 48.4**	**+0.1**
	1.6nm,0.6s						
PDGK				⇓Lg	Lg	12 18 36.6	
	12nm,1.0s						
BLB	**Baldybastay**	**3.42**	**239**	Pg	**Pg**	**12 17 47.5**	**-1.3**
	8.3nm,0.4s						
BLB				Lg	Lg	12 18 31.8	
	12nm,0.6s						
SHLS	**Shalkode**	**3.54**	**220**	Pg	**Pb**	**12 17 47.4**	**+1.2**
	3.9nm,0.2s						
SHLS				Lg	Lg	12 18 31.6	
	10nm,0.3s						
SHLS	**Shalkode**	**3.54**	**220**	*e*P	**Pb**	**12 17 47.4**	**+1.2**
	3.9nm,0.2s						
SHLS				*e*S	**Sb**	**12 18 31.6**	**+2.4**
	10nm,0.3s						
UZB	**Uzynbulak**	**3.75**	**224**	Pg	**Pg**	**12 17 53.3**	**-1.9**
	6.4nm,0.3s						
UZB				Lg	Lg	12 18 41.8	
	8.0nm,1.0s						
UZB	**Uzynbulak**	**3.75**	**224**	*e*P	**Pg**	**12 17 53.3**	**-1.9**
	6.4nm,0.3s						
UZB				*e*S	**Sg**	**12 18 41.8**	**-2.1**
	8.0nm,1.0s						
SATY	**Saty**	**4.12**	**228**	Pg	**Pg**	**12 18 00.6**	**-1.7**
	1.3nm,0.2s						
SATY				Lg	Lg	12 18 54.4	
	10.0nm,0.1s						
KOTS	**Kotyrbulak**	**4.73**	**237**	Pg	**Pg**	**12 18 11.9**	**-2.0**
	1.0nm,0.2s						
KOTS				Lg	Lg	12 19 13.5	
	6.7nm,0.4s						
KOTS	**Kotyrbulak**	**4.73**	**237**	*e*P	**Pg**	**12 18 11.9**	**-2.0**
	1.0nm,0.2s						
KOTS				*e*S	**Sg**	**12 19 13.5**	**-1.6**
	6.7nm,0.4s						
KURBB	**Kurchatov Arra**	**5.42**	**332**	⇓Lg	Lg	12 19 34.9	
	11nm,0.7s						
KURK	**Kurchatov**	**5.47**	**333**	⇑Lg	Lg	12 19 35.8	
	2.6nm,0.5s						

*IDC **10** 12:19:01.6±3.1, 32°.33S×178°.30W, h0km, mb3.6/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=73.0km s-min=47.3km az=122.0*
*WEL **10** 12:19:01.4±0.8, 32°.5±23°.×17°.9W±5°.8, h12km, mB4.3/1, ML4.6/6, MLv4.0/1, Mw(mB)3.5/1, Error ellipse: s-maj=81.2km s-min=5.1km az=111.3, confirmed*

ISC 10 12:19:00.4±2.0, 32°.4S±0°.1×178°.2W±0°.4, h10km, n13, σ1°87/22, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.17**	**4**	P	**Pn**	**12 19 50.3**	**-0.1**
GLKZ				P	**Sn**	**12 20 25.7**	**-2.6**
HAZ	**Te Kaha**	**6.26**	**211**	P	**Pn**	**12 20 34.3**	**+1.5**
HAZ				S	**Sn**	**12 21 44.6**	**+0.1**
PUZ	**Puketiti**	**6.34**	**207**	P	**Pn**	**12 20 34.4**	**+0.4**
PUZ				S	**Sn**	**12 21 45.2**	**-1.2**
MWZ	**Matawai**	**6.86**	**210**	P	**Pn**	**12 20 41.0**	**-0.1**
MWZ				S	**Sn**	**12 21 58.1**	**-1.1**
URZ	**Urewera**	**6.98**	**212**	Pn	**Pn**	**12 20 44.4**	**+1.7**
	0.8nm,0.3s,baz=77,slow=20,SNR=2.2						
URZ				Sn	**Sn**	**12 22 00.1**	**-2.0**
	1.2nm,0.3s,baz=49,slow=20,SNR=3.6						
	1.9nm,0.3s						
URZ	**Urewera**	**6.98**	**212**	P	**Pn**	**12 20 43.5**	**+0.8**
URZ				S	**Sn**	**12 21 59.2**	**-2.9**
RIGZ	**Rimuhau**	**7.08**	**207**	P	**Pn**	**12 20 45.9**	**+1.7**
RIGZ				S	**Sn**	**12 22 02.6**	**-2.2**
SNGZ	**Shannon Statio**	**7.31**	**209**	P	**Pn**	**12 20 48.7**	**+1.4**
SNGZ				S	**Sn**	**12 22 08.2**	**-2.3**
MTHZ	**Maungataniwha**	**7.58**	**211**	P	**Pn**	**12 20 51.8**	**+0.7**
MTHZ				S	**Sn**	**12 22 16.4**	**-0.7**
BKZ	**Black Stump Fm**	**8.00**	**211**	P	Pn	12 20 53.5	-3.3
BKZ				S	**Sn**	**12 22 23.2**	**-4.1**
ASAR	**Alice Springs**	**42.91**	**269**	P	**P**	**12 27 01.6**	**+2.0**
	0.2nm,0.3s,baz=109,slow=7.5,SNR=7.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.08**	**274**	P	**P**	**12 27 10.4**	**+1.4**
	0.4nm,0.3s,baz=114,slow=8.2,SNR=11						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**147.00**	**339**	PKPbc	**PKPab**	**12 38 44.3**	**+0.2**
	1.9nm,0.9s,baz=45,slow=2.2,SNR=5.1						

*IDC **10** 12:22:13.8±1.1, 58°.30N×31°.83W, h0km, mb3.6/13, mbtmp3.6/15, ML2.7/2, MS3.4/1, Error ellipse: s-maj=31.1km s-min=15.6km az=179.0*

ISC 10 12:22:15.6±0.9, 58°.3N±0°.2×31°.87W±0°.09, h13km, n17, σ0°78/16, mb3.6/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.21**	**33**	Pn	**Pn**	**12 24 14.8**	**+0.6**
	0.5nm,0.3s,baz=132,slow=15,SNR=1.7						
	7.7nm,0.7s						
SCHQ	**Schefferville**	**19.44**	**275**	P	**Pn**	**12 26 42.4**	**-0.2**
	0.1nm,0.3s,baz=66,slow=13,SNR=3.6						
	3.7nm,1.0s			

ISC 10 12:32:11.5±0.5, 18°.85N±0°.05×39°.47E±0°.05, h10km, n146, σ1°31/142, mb4.4/62, MS3.8/14, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLITH	**NLITH**	**1.66**	**18**	P	Pn	12 32 35.5	-5.2
LTHS	**Al Lith**	**1.68**	**32**	P	Pn	12 32 35.7	-5.2
QNFDS	**Al Qunfudhah**	**1.68**	**55**	P	Pn	12 32 35.9	-5.1
QNF01	**Al Qunfudhah**	**1.80**	**72**	P	**Pn**	**12 32 39.1**	**-3.5**
QNF02	**Al Qunfudhah**	**1.92**	**83**	P	**Pn**	**12 32 41.3**	**-2.9**
AMGES	**AMGES**	**2.00**	**101**	P	**Pn**	**12 32 42.9**	**-2.4**
BRK01	**Al Birk**	**2.07**	**106**	P	**Pn**	**12 32 44.4**	**-1.9**
BRK01	**Al Birk**	**2.07**	**106**	S	**Sn**	**12 33 09.3**	**-2.9**
BRK04	**Al Birk**	**2.23**	**95**	P	**Pn**	**12 32 46.8**	**-1.8**
BRK03	**Al Birk**	**2.40**	**106**	S	**Sn**	**12 33 17.3**	**-2.9**
BRK03	**Al Birk**	**2.40**	**106**	P	**Pn**	**12 32 49.5**	**-1.3**
FRAS	**Faraa**	**2.41**	**24**	P	**Pn**	**12 32 47.2**	**-4.1**
NAMS	**An Nimas**	**2.61**	**82**	S	**Sn**	**12 33 23.1**	**-2.7**
NAMS	**An Nimas**	**2.61**	**82**	P	**Pn**	**12 32 52.7**	**-1.2**
DRBS	**Ad Darb**	**2.87**	**110**	S	**Sn**	**12 33 30.5**	**-1.6**
DRBS				P	**Pn**	**12 32 56.7**	**-0.7**
FRSS2	**Sair Farasan I**	**2.97**	**131**	P	**Pn**	**12 32 57.7**	**-1.0**
RAYN	**Ar Rayn**	**7.30**	**49**	Pn	**Pn**	**12 33 59.4**	**+1.0**
ATD	**Arta Tunnel**	**7.97**	**155**	Pn	Pn	12 34 11.9	+4.4
ATD	**Arta Tunnel**	**7.97**	**155**	Pn	**Pn**	**12 34 07.2**	**-0.4**
	0.1nm,0.3s,baz=16,slow=15,SNR=1.7						
ATD				LR	LR	12 36 49.5	
	comp=Z,25nm,21.2s,baz=14,slow=35						
EIL	**Elat**	**11.54**	**340**	Pn	**Pn**	**12 34 54.8**	**-1.5**
	0.5nm,0.3s,baz=144,slow=14,SNR=1.8						
EIL				Sn	**Sn**	**12 37 07.7**	**+2.4**
	0.3nm,0.3s,baz=72,slow=23,SNR=1.9						
EIL				LR	LR	12 38 34.6	
	comp=Z,405nm,21.1s,baz=196,slow=33						
	2.0nm,0.4s						
ASF	**Jabal al Asfar**	**13.47**	**351**	Pn	**Pn**	**12 35 22.5**	**-0.4**
	0.2nm,0.3s,baz=191,slow=4.2,SNR=12						
ASF				Sn	**Sn**	**12 37 56.7**	**+3.9**
	0.5nm,0.3s,baz=131,slow=18,SNR=1.7						
ASF				LR	LR	12 40 03.5	
	comp=Z,520nm,18.6s,baz=168,slow=35						
	8.5nm,0.9s						
MMAI	**Mount Meron Ar**	**14.57**	**346**	Pn	**Pn**	**12 35 36.8**	**-1.1**
	1.5nm,0.3s,baz=173,slow=13,SNR=1.4						
MMAI				LR	LR	12 40 44.9	
	comp=Z,434nm,19.4s,baz=156,slow=35						
	0.4nm,0.3s						
LODK	**Lodwar**	**15.85**	**195**	Pn	**P**	**12 35 56.6**	**-2.1**
UOSS	**Minazif**	**16.67**	**66**	Pn	**Pn**	**12 36 04.8**	**-0.6**
CSS	**Mathiatis**	**16.95**	**342**		**Pn**	**12 36 08.1**	**-0.8**
CSS				IAmb	IAmb	12 36 13.2	
	comp=Z,52nm,1.5s						
GAZ	**Gaziantep**	**18.37**	**354**	P	**Pn**	**12 36 26.1**	**-0.3**
WSAR	**Wadi Sarin**	**18.41**	**73**	P	**Pn**	**12 36 28.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=265,slow=13,SNR=2.9						
WSAR				LR	LR	12 44 57.2	
	comp=Z,459nm,19.3s,baz=293,slow=41						
	comp=Z,26nm,1.2s						
GEVA	**Gevas**	**19.65**	**8**	P	**Pn**	**12 36 41.8**	**-0.2**
ELL	**Elmali**	**19.72**	**337**	P	**P**	**12 36 40.2**	**-1.1**
GURO	**Guroymak-BITLI**	**19.76**	**6**	P	**P**	**12 36 40.2**	**-1.6**
ISP	**Isparta**	**20.46**	**339**	P	**P**	**12 36 49.1**	**-0.3**
IDI	**Anoyia**	**20.86**	**325**	P	Pn	12 36 55.4	-0.8
IDI				IAmb	IAmb	12 36 57.7	
	comp=Z,52nm,1.2s						
IDI	**Anoyia**	**20.86**	**325**	P	**P**	**12 36 53.0**	**-0.7**
	comp=Z,24nm,1.1s,baz=135,slow=13,SNR=3.9						
	comp=Z,24nm,1.1s						
KIBK	**Kibwezi**	**21.10**	**184**	P	**P**	**12 36 58.2**	**+1.8**
KOPT	**Kop Dagi**	**21.12**	**2**	P	**P**	**12 36 59.5**	**+2.8**
KOPT				IAmb	IAmb	12 37 07.9	
	comp=Z,21nm,1.2s						
MBAR	**Mbarara**	**21.14**	**205**	P	**P**	**12 36 58.4**	**+1.4**
MBAR				IAmb	IAmb	12 37 03.7	
	comp=Z,34nm,1.4s						
BR131	**Keskin Array S**	**21.41**	**348**	P	**P**	**12 36 59.8**	**+0.1**
BR131				IAmb	IAmb	12 37 05.6	
	comp=Z,21nm,1.1s						
BRTR	**Keskin Array B**	**21.41**	**348**	P	**P**	**12 36 59.4**	**-0.3**
BRTR	**Keskin Array B**	**21.41**	**348**	P	**P**	**12 37 00.8**	**+1.2**
	comp=Z,8.1nm,0.9s,baz=164,slow=12,SNR=23						
BRTR				LR	LR	12 44 58.8	
	comp=Z,251nm,19.7s,baz=146,slow=36						
	comp=Z,8.1nm,0.9s						
TOKA	**Tokat**	**21.56**	**354**	P	**P**	**12 37 01.7**	**+0.5**
TOKA				IAmb	IAmb	12 37 31.5	
	comp=Z,12nm,0.5s						
GNI	**Garni**	**21.71**	**11**	P	**P**	**12 37 01.1**	**-1.9**
GNI				IAmb	IAmb	12 37 34.0	
	comp=Z,37nm,1.4s						
GNI	**Garni**	**21.71**	**11**	P	**P**	**12 37 05.2**	**+2.3**
	comp=Z,2.7nm,0.5s,baz=162,slow=19,SNR=4.1						
GNI				LR	LR	12 45 56.2	
	comp=Z,398nm,20.0s,baz=196,slow=38						
	comp=Z,2.7nm,0.5s						
ANTO	**Ankara**	**21.73**	**346**	P	**P**	**12 37 01.8**	**-1.2**
KARS	**Kars**	**21.93**	**7**	P	**P**	**12 37 05.3**	**0.0**
ILGA	**Ilgaz**	**22.68**	**349**	P	**P**	**12 37 14.1**	**+0.7**
ILGA				IAmb	IAmb	12 37 27.1	
	comp=Z,42nm,1.2s						
MDUB	**Mudurnu**	**22.70**	**343**	P	**P**	**12 37 14.1**	**+0.7**
ALN	**Alexandroupoli**	**24.81**	**335**	P	**P**	**12 37 34.1**	**+0.4**
ALN				IAmb	IAmb	12 37 40.0	
	comp=Z,11nm,1.1s						
KBZ	**Khabaz**	**24.98**	**6**	P	**P**	**12 37 37.5**	**+2.3**
	comp=Z,7.5nm,1.1s,baz=146,slow=2.6,SNR=5.7						
KBZ				LR	LR	12 48 18.3	
	comp=Z,284nm,19.2s,baz=218,slow=39						
	comp=Z,7.5nm,1.1s						
KIV	**Kislovodsk**	**25.18**	**5**	P	**P**	**12 37 38.0**	**+0.8**
RDO	**Rodhopi**	**25.22**	**335**	P	**P**	**12 37 37.8**	**+0.3**
HRA	**Herat**	**25.49**	**48**	P	**P**	**12 37 41.6**	**+1.3**
HRA				IAmb	IAmb	12 37 49.2	
	comp=Z,21nm,1.5s						
LIT	**Litokhoron**	**25.74**	**329**	P	**P**	**12 37 43.3**	**+1.1**
MLR	**Muntele Rosu**	**28.85**	**340**	LR	LR	12 50 45.1	
	comp=Z,175nm,18.0s,baz=232,slow=39						
KBL	**Kabul**	**30.55**	**53**	P	**P**	**12 38 26.2**	**+0.7**
KBL				IAmb	IAmb	12 38 56.4	
	comp=Z,17nm,1.5s						
BURAR	**Bucovina Array**	**30.97**	**341**	P	**P**	**12 38 28.9**	**-0.1**
KEST	**Kesra**	**31.44**	**308**	LR	LR	12 51 33.6	
	comp=Z,160nm,20.7s,baz=330,slow=37						
INTR	**Introdacqua**	**31.70**	**322**	P	**P**	**12 38 34.9**	**-0.6**
INTR				IAmb	IAmb	12 38 57.6	
	comp=Z,8.6nm,1.2s						
TAM	**Tamanrasset**	**31.93**	**283**	P	**P**	**12 38 37.8**	**0.0**
TAM				IAmb	IAmb	12 38 39.4	
	comp=Z,5.8nm,1.1s						
SIMJ	**Simiganj**	**32.34**	**46**	P	**P**	**12 38 42.6**	**+1.3**
SIMJ				IAmb	IAmb	12 38 45.3	
	comp=Z,9.4nm,1.4s						
KIEV	**Kiev**	**32.81**	**348**	P	**P**	**12 38 45.7**	**+0.8**
KIEV				IAmb	IAmb	12 38 48.5	
	comp=Z,7.5nm,1.1s						
AKASG	**Malin Array Be**	**32.81**	**348**	P	**P**	**12 38 44.0**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=171,slow=7.9,SNR=12						
AKASG				LR	LR	12 54 03.9	
	comp=Z,101nm,19.4s,baz=125,slow=40						
	comp=Z,1.4nm,0.7s						
AKBB	**Malin Array Si**	**32.81**	**348**	P	**P**	**12 38 45.5**	**+0.5**
AKBB				IAmb	IAmb	12 38 48.5	
	comp=Z,7.6nm,1.0s						
PSZ	**Piszkesteto**	**33.09**	**336**	P	**P**	**12 38 47.7**	**+0.2**
PSZ				IAmb	IAmb	12 38 51.1	
	comp=Z,4.9nm,0.9s						
GAR	**Garm**	**33.41**	**47**	P	**P**	**12 38 50.9**	**+0.5**
GAR				IAmb	IAmb	12 39 23.1	
	comp=Z,13nm,1.2s						
SRO	**Srobarova**	**33.64**	**334**	*e*P	**P**	**12 38 53.6**	**+1.3**
VYHS	**Vyhne**	**33.97**	**335**	*e*P	**P**	**12 38 55.4**	**+0.2**
LANS	**Liptovska Anna**	**34.26**	**336**	*e*P	**P**	**12 38 57.8**	**+0.1**
RONA	**Rosalia, Austr**	**34.42**	**332**	*e*P	**P**	**12 38 59.1**	**0.0**
	comp=Z,4.9nm,1.1s						
ARSA	**Arzberg**	**34.44**	**331**	*e*P	**P**	**12 38 59.8**	**+0.5**
	comp=Z,2.5nm,0.7s						
SABO	**M.te Sabotino**	**34.48**	**327**	P	**P**	**12 38 58.1**	**-1.5**
MODS	**Modra-Piesok**	**34.52**	**334**	*e*P	**P**	**12 39 00.1**	**+0.2**
ABKAR	**Abkulak array**	**34.52**	**24**	P	**P**	**12 38 59.3**	**-0.6**
ABKAR	**Abkulak array**	**34.52**	**24**	P	**P**	**12 38 59.8**	**-0.2**
ABKAR				IAmb	IAmb	12 39 12.2	
	comp=Z,1.9nm,0.8s						
JAVC	**Velka Javorina**	**34.73**	**335**	*e*P	**P**	**12 39 02.4**	**+0.6**
CONA	**Conrad Observa**	**34.79**	**332**	*e*P	**P**	**12 39 02.6**	**+0.3**
	comp=Z,3.0nm,0.9s						
OJC	**Ojcow**	**35.02**	**338**	P	**P**	**12 39 02.9**	**-1.3**
OJC				IAmb	IAmb	12 39 07.8	
	comp=Z,17nm,1.4s						
KBA	**Koelnbreinsper**	**35.36**	**329**	*e*P	**P**	**12 39 07.5**	**+0.1**
	comp=Z,3.8nm,1.3s						
KRUC	**Moravsky**	**35.42**	**334**	*e*P	**P**	**12 39 07.2**	**-0.4**
MOA	**Molln**	**35.46**	**330**	*e*P	**P**	**12 39 08.0**	**-0.1**
	comp=Z,2.8nm,0.8s						
MORC	**Moravsky Berou**	**35.51**	**335**	P	**P**	**12 39 08.5**	**0.0**
MORC	**Moravsky Berou**	**35.51**	**335**	*e*P	**P**	**12 39 08.3**	**-0.2**
VRAC	**Vranov**	**35.53**	**334**	LR	LR	12 57 25.8	
	comp=Z,82nm,18.0s,baz=36,slow=43						
VRAC	**Vranov**	**35.53**	**334**	*e*P	**P**	**12 39 08.1**	**-0.5**
ABTA	**Abfaltersbach**	**35.55**	**328**	*e*P	**P**	**12 39 09.3**	**+0.4**
	comp=Z,4.9nm,1.3s						
KK31	**Karatay Array**	**35.62**	**40**	P	**P**	**12 39 11.5**	**+2.0**
KK31				IAmb	IAmb	12 39 13.9	
	comp=Z,6.8nm,1.1s						
KKAR	**Karatay Array**	**35.62**	**40**	P	**P**	**12 39 12.6**	**+3.1**
BIOA	**Bad Ischl, Aus**	**35.65**	**330**	*e*P	**P**	**12 39 09.4**	**-0.2**
	comp=Z,4.1nm,0.8s						
LSZ	**Lusaka**	**35.68**	**199**	LR	LR	12 53 48.0	
	comp=Z,218nm,19.0s,baz=4.5,slow=36						
LESA	**Schwarzleotal**	**35.93**	**329**	*e*P	**P**	**12 39 12.7**	**+0.6**
	comp=Z,1.7nm,0.6s						
CKRC	**Cesky Krumlov**	**36.15**	**332**	*e*P	**P**	**12 39 14.1**	**+0.2**
OBN	**Obninsk**	**36.27**	**357**	LR	LR	12 55 32.0	
	comp=Z,158nm,18.4s,baz=178,slow=39						
GEC2	**GERESS Array S**	**36.44**	**331**	P	**P**	**12 39 16.0**	**-0.5**
GEC2				IAmb	IAmb	12 39 19.8	
	comp=Z,8.4nm,1.1s						
GERES	**GERESS Array B**	**36.44**	**331**	P	**P**	**12 39 16.2**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=134,slow=8.4,SNR=3.2						
	comp=Z,3.3nm,0.7s						
DPC	**Dobruska-Polom**	**36.45**	**335**	*e*P	P	12 39 03.6	-13
SQTA	**Sankt Quirin**	**36.53**	**327**	*e*P	**P**	**12 39 17.8**	**+0.5**
	comp=Z,8.6nm,1.6s						
FETA	**Feichten**	**36.65**	**327**	*e*P	**P**	**12 39 18.6**	**+0.2**
	comp=Z,4.5nm,1.0s						
MNK	**Minsk**	**36.69**	**349**	*i* P	**P**	**12 39 17.1**	**-1.3**
	comp=E,8.0nm,0.7s						
MNK				*i* P	**P**	**12 39 17.1**	**-1.3**
	comp=N,7.0nm,0.6s						
MNK				*i* P	**P**	**12 39 17.1**	**-1.3**
	comp=Z,9.0nm,0.8s,baz=161						
MNK				*i* PP	**PnPn**	**12 40 40.3**	**-1.4**
MNK				*i* PPP	PPP	12 40 55.1	
MNK				*i* S	**S**	**12 45 00.7**	**-0.9**
MNK				*i* SS	**SnSn**	**12 47 32.3**	**+0.4**
MNK				*i* SSS	SSS	12 47 48.4	
MNK				*i* LR	LR	12 53 02.5	
MNK				*i* LRM	MLR	12 55 15.9	
	comp=N,124nm,15.3s						
MNK				*i* LRM	MLR	12 55 40.8	
	comp=Z,86nm,11.1s						
MNK				*i* LRM	MLR	12 56 26.1	
	comp=E,302nm,22.6s						
TORD	**Torodi Ar. Bea**	**36.70**	**267**	P	**P**	**12 39 18.1**	**-0.9**
TORD				IAmb	IAmb	12 39 19.7	
	comp=Z,12nm,1.2s						
TORD	**Torodi Ar. Bea**	**36.70**	**267**	P	**P**	**12 39 18.6**	**-0.4**
	comp=Z,3.5nm,0.3s,baz=66,slow=8.9,SNR=3.7						
TORD				PcP	**PcP**	**12 41 41.4**	**-0.4**
	comp=Z,4.6nm,0.3s,baz=57,slow=4.3,SNR=2.8						
	comp=Z,3.5nm,0.3s						
KHC	**Kasperske Hory**	**36.70**	**331**	*e*P	**P**	**12 39 17.9**	**-0.8**
BRG	**Berggiesshubel**	**37.83**	**334**	*e*P	**P**	**12 39 27.5**	**-0.6**
BRG				Amp		12 39 29.0	
	comp=Z,3.3nm,0.8s						
BRG	**Berggiesshubel**	**37.83**	**334**	P	**P**	**12 39 30.7**	**+2.6**
BRG				Amp		12 39 32.2	
	comp=Z,7.2nm,1.2s						
AAK	**Ala-Archa**	**37.91**	**44**	P	**P**	**12 39 30.9**	**+1.7**
AAK	**Ala-Archa**	**37.91**	**44**	P	**P**	**12 39 28.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=252,slow=8.7,SNR=4.0						
AAK				LR	LR	12 57 50.7	
	comp=Z,178nm,20.3s,baz=256,slow=40						
	comp=Z,0.8nm,0.6s						
CLL	**Collm**	**38.55**	**333**	*e*P	**P**	**12 39 33.0**	**-1.2**
ARTI	**Arti**	**40.08**	**16**	P	**P**	**12 39 47.3**	**+0.4**
ARTI	**Arti**	**40.08**	**16**	LR	LR	13 00 52.1	
	comp=Z,127nm,19.4s,baz=220,slow=43						
BVAR	**Borovoye Array**	**41.70**	**28**	P	**P**	**12 40 01.3**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=200,slow=7.3,SNR=8.4						
	comp=Z,2.0nm,0.6s						
ESDC	**Sonseca Array**	**42.70**	**309**	P	**P**	**12 40 07.2**	**-1.5**
ESDC	**Sonseca Array**	**42.70**	**309**	P	**P**	**12 40 08.1**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=100,slow=7.5,SNR=15						
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**43.59**	**351**	P	**P**	**12 40 14.8**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=190,slow=5.8,SNR=4.1						
	comp=Z,2.6nm,0.8s						
KURBB	**Kurchatov Arra**	**44.28**	**35**	P	**P**	**12 40 22.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=242,slow=8.4,SNR=15						
	comp=Z,2.1nm,0.6s						
KURK	**Kurchatov**	**44.38**	**35**	P	**P**	**12 40 22.6**	**+0.5**
KURK				IAmb	IAmb	12 40 25.9	
	comp=Z,20nm,1.5s						
MAKZ	**Makanchi**	**44.53**	**41**	P	**P**	**12 40 23.8**	**+0.4**
MAKZ				IAmb	IAmb	12 40 32.9	
	comp=Z,12nm,1.4s						
MK31	**Makanchi Array**	**44.72**	**42**	P	**P**	**12 40 25.3**	**+0.4**
MK31				IAmb	IAmb	12 40 27.7	
	comp=Z,4.9nm,0.9s						
MKAR	**Makanchi Array**	**44.72**	**42**	P	**P**	**12 40 25.3**	**+0.4**
MKAR	**Makanchi Array**	**44.72**	**42**	P	**P**	**12 40 25.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=251,slow=7.2,SNR=11						
	comp=Z,2.2nm,0.7s						
DBIC	**Dimbokro**	**44.76**	**260**	P	**P**	**12 40 24.9**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=58,slow=8.9,SNR=4.6						
DBIC				LR	LR	12 58 57.7	
	comp=Z,223nm,18.3s,baz=60,slow=36						
	comp=Z,2.8nm,0.8s						
HFS	**Hagfors**	**45.19**	**342**	P	**P**	**12 40 28.8**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=176,slow=8.7,SNR=2.5						
	comp=Z,2.9nm,1.0s						
LBTB	**Lobatse**	**45.64**	**198**	LR	LR	12 59 54.3	
	comp=Z,295nm,18.3s,baz=24,slow=36						
NB2	**NORSAR Subarra**	**46.65**	**342**	P	**P**	**12 40 38.3**	**-1.6**
	comp=Z,22nm,1.7s,baz=141,slow=7.9						
NOA	**NORSAR Array B**	**46.65**	**342**	P	**P**	**12 40 38.6**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=139,slow=8.1,SNR=5.4						
	comp=Z,2.7nm,0.9s						
EKA	**Eskdalemuir Ar**	**48.57**	**329**	P	**P**	**12 40 54.2**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=129,slow=7.9,SNR=4.4						
	comp=Z,2.6nm,0.8s						
SHL	**Shillong**	**48.73**	**72**	P	**P**	**12 40 57.8**	**+0.9**
ZAA0	**Zalesovo Array**	**49.28**	**34**	P	**P**	**12 41 00.5**	**+0.1**
ZALV	**Zalesovo Beam**	**49.28**	**34**	P	**P**	**12 40 59.8**	**-0.6**
ZALV	**Zalesovo Beam**	**49.28**	**34**	P	**P**	**12 41 00.6**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=240,slow=7.6,SNR=14						
	comp=Z,3.1nm,0.8s						
ARCES	**ARCESS Array B**	**51.41**	**354**	P	**P**	**12 41 15.8**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=148,slow=7.8,SNR=5.7						
	comp=Z,2.5nm,1.0s						
GTA	**Gaotai**	**55.53**	**55**	*e*P	**P**	**12 41 48.4**	**+1.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**56.11**	**80**	P	**P**	**12 41 52.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**56.11**	**80**	P	**P**	**12 41 52.5**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=285,slow=6.0,SNR=6.3						
	comp=Z,0.4nm,0.5s						
PZH	**PanZhiHua**	**57.50**	**70**	P	**P**	**12 42 04.5**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,190nm,5.1s						
LZH	**Lanzhou**	**58.66**	**59**	*e*P	**P**	**12 42 11.0**	**+1.5**
LZH				sP	sP	12 42 20.3	+6.9
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
SPITS	**Spitsbergen Ar**	**60.41**	**355**	P	**P**	**12 42 20.8**	**+0.2**
	comp=Z,13nm,1.0s,baz=170,slow=9.8,SNR=4.6						
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**60.83**	**45**	P	**P**	**12 42 24.3**	**+0.1**
SONM				IAmb	IAmb	12 42 26.8	
	comp=Z,6.9nm,1.3s						
SONM	**Songino Array**	**60.83**	**45**	P	**P**	**12 42 24.7**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=255,slow=7.4,SNR=10						
	comp=Z,1.1nm,0.8s						
ULN	**Ulaanbaatar**	**61.28**	**45**	P	**P**	**12 42 28.2**	**+1.0**
ULN				IAmb	IAmb	12 42 55.2	
	comp=Z,3.2nm,1.1s						
XAN	**Xi'an**	**62.94**	**61**	P	**P**	**12 42 40.0**	**+1.5**
XAN				pP	sP	12 42 44.0	+1.6
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	**64.53**	**53**	*e*P	**P**	**12 42 50.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.2s						
NJ2	**Nanjing**	**71.47**	**62**	*e*P	**P**	**12 43 33.9**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
DRLN	**Deer Lake**	**80.37**	**319**	P	**P**	**12 44 23.0**	**-0.2**
SCHQ	**Schefferville**	**83.80**	**326**	P	**P**	**12 44 40.6**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=56,slow=7.3,SNR=2.1						
	comp=Z,2.0nm,0.7s						
MA2	**Magadan**	**84.19**	**28**	P	**P**	**12 44 43.2**	**+0.3**
MA2				IAmb	IAmb	12 44 44.1	
	comp=Z,7.9nm,1.3s						
BILL	**Bilibino**	**85.17**	**18**	P	**P**	**12 44 48.8**	**+1.0**
YKA	**Yellowknife Ar**	**96.38**	**348**	P	**P**	**12 45 40.3**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=26,slow=17,SNR=3.6						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**96.50**	**3**	P	**P**	**12 45 41.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=335,slow=2.8,SNR=3.3						
	comp=Z,0.4nm,0.7s						

*IDC **10** 12:34:33.9±0.8, 35°.41N×91°.89E, h0km, mb3.7/8, mbtmp3.6/14, ML3.4/6, MS3.5/6, Error ellipse: s-maj=32.5km s-min=14.6km az=55.0*
*BJI **10** 12:34:36.0, 35°.38N×91°.95E, h10km, mb4.5/8, ML4.0/8, Ms4.2/16, Ms7 3.8/14*

ISC 10 12:34:35.4±0.6, 35°.32N±0°.04×91°.74E±0°.05, h10km, n24, σ2°01/30, mb3.8/8, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**2.65**	**70**	Pn	**Pn**	**12 35 18.7**	**+0.2**
GOMU				Sn	**Sn**	**12 35 50.1**	**-0.8**
GOMU				Sg	**Sg**	**12 36 00.9**	**+0.3**
GOMU				smax	smax		
	comp=N,670nm,0.9s						
GOMU				smax	smax		
	comp=E,740nm,1.0s						
LSA	**Lhasa**	**5.62**	**185**	P	**Pb**	**12 36 11.5**	**-2.4**
LSA				S	**Sg**	**12 37 37.7**	**+1.6**
LSA				LR	LR		
	comp=N,710nm,6.3s						
LSA				LR	LR		
	comp=Z,890nm,5.6s						
GTA	**Gaotai**	**7.62**	**55**	*e*Pn	**Pn**	**12 36 28.1**	**+1.6**
GTA				LR	LR		
	comp=Z,2μm,10.5s						
GTA				LR	LR		
	comp=Z,910nm,13.4s						
GTA				LR	LR		
	comp=Z,670nm,11.3s						
WMQ	**Urumqi**	**9.04**	**341**	*e*P	**Pn**	**12 36 49.2**	**+3.2**
WMQ				S	**Sn**	**12 38 32.4**	**+4.4**
WMQ				smax	smax		
	comp=Z,64nm,1.5s						
WMQ				smax	smax		
	comp=Z,59nm,1.7s						
WMQ				LR	LR		
	comp=Z,2μm,12.3s						
LZH	**Lanzhou**	**9.88**	**82**	*e*P	**Pn**	**12 36 53.7**	**-3.8**
LZH				pP		12 36 56.4	
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				LR	LR		
	comp=N,2μm,12.0s						
LZH				LR	LR		
	comp=E,590nm,10.1s						
LZH				LR	LR		
	comp=Z,700nm,13.3s						
TNCH	**TengChong**	**11.81**	**148**	P	**Pn**	**12 37 26.3**	**+2.2**
TNCH				S	**Sn**	**12 39 39.5**	**+3.4**
TNCH				pmax	pmax		
	comp=Z,73nm,0.9s						
TNCH				LR	LR		
	comp=Z,450nm,8.6s						
TNCH				LR	LR		
	comp=Z,390nm,8.9s						
BRDH	**Bariadhala**	**12.60**	**180**	LR	LR	12 44 04.6	
	comp=Z,571nm,18.9s,baz=355,slow=45						
MKAR	**Makanchi Array**	**13.49**	**331**	Pn	**Pn**	**12 37 44.8**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=146,slow=14,SNR=12						
MKAR				Lg	Lg	12 41 41.8	
	baz=148,slow=27,SNR=1.2						
MKAR				LR	LR	12 42 58.2	
	comp=Z,202nm,21.4s,baz=208,slow=37						
	comp=Z,0.8nm,0.5s						
KMI	**Kunming**	**13.91**	**134**	⇑P	**Pn**	**12 37 54.9**	**+2.1**
KMI				pmax	pmax		
	comp=Z,21nm,0.9s						
KMI				LR	LR		
	comp=Z,1μm,10.0s						
KMI				LR	LR		
	comp=Z,840nm,15.6s						
AAK	**Ala-Archa**

PKGZ	**Pakihiroa**	**6.74 180**	P	Pn	12 48 01.7 +1.1
PKGZ			S	Sn	12 49 18.8 +1.4
RUGZ	**Raukumara Rang**	**6.84 182**	P	Pn	12 48 03.0 +0.8
RUGZ			S	Sn	12 49 19.5 -0.6
PUZ	**Puketiti**	**6.95 178**	P	Pn	12 48 03.6 +0.1
PUZ			S	Sn	12 49 23.4 +0.9
TWGZ	**Tauwhareparae**	**7.05 180**	P	Pn	12 48 05.4 +0.5
TWGZ			S	Sn	12 49 25.0 0.0
URZ	**Urewera**	**7.17 186**	P	Pn	12 48 06.8 +0.3
URZ			S	Sn	12 49 31.1 +3.1
MWZ	**Matawai**	**7.22 183**	P	Pn	12 48 07.0 -0.3
MWZ			S	Sn	12 49 30.2 +1.0
TKGZ	**Te Karaka**	**7.31 181**	P	Pn	12 48 07.9 -0.6
TKGZ			S	Sn	12 49 29.9 -1.5
CNGZ	**Carnagh Statio**	**7.36 179**	P	Pn	12 48 08.4 -0.7
MUGZ	**Murupara**	**7.42 188**	P	Pn	12 48 08.2 -1.8
RIGZ	**Rimuhau**	**7.58 182**	P	Pn	12 48 10.8 -1.4
SNGZ	**Shannon Statio**	**7.67 184**	P	Pn	12 48 12.6 -0.9

IDC ***10*** *12:47:57.7±0.4, 10°.17S×152°.18E, h0km, mb5.3/20, mbtmp5.3/25, ML4.4/4, MS5.7/54, Error ellipse: s-maj=11.8km s-min=9.9km az=49.0*

BJI ***10*** *12:47:58.5, 10°.10S×152°.05E, h10km, mB6.1/73, mb5.7/86, Ms6.0/99, Ms7 5.8/99*

MOS ***10*** *12:47:59.0±1.0, 10°.09S×152°.07E, h15km, mb5.9/53, MS6.0/11, Error ellipse: s-maj=7.6km s-min=5.4km az=119.3*

ISC-PP ***10*** *12:48:00, 10°.13S×152°.07E, h5km, Mwppsm6.2, Moment Tensor Solution. s43 Moment tensor: Scale 10^18Nm; Mrr=0.47±.14; Mθφ=0.15±.18; Mθθ=-0.20±.16; Mrθ=0.52±.13; Mφφ=-0.09±.15; Mφr=0.27±.10; Fault plane solution: M0=2.85000×10^18 NP1:φs=268.90000°, δ=80.50000°, λ=297.50000°. NP2:φs=16.40000°, δ=29.00000°, λ=-160.10000°.*

IPGP ***10*** *12:48:00.0, 10°.14S×152°.05E, h13km, Mw6.2, Fault plane solution: NP1:φs=124.00000°, δ=73.00000°, λ=1.00000°. NP2:φs=34.00000°, δ=89.00000°, λ=163.00000°.*

NOU ***10*** *12:48:00.6, 10°.17S×151°.99E, h0km, ML6.0/159, D'Entrecasteaux Islands Region*

NEIC ***10*** *12:48:00.6±1.5, 10°.13S±0°.06×152°.07E±0°.06, h9km±1km, mb6.0/127, Ms_20 6.0/553, Mww6.0/64, Error ellipse: s-maj=11.0km s-min=10.7km az=158.0*

NEIC ***10*** *12:48:00.6, 10°.13S×152°.07E, h12km*

NEIC ***10*** *12:48:00.6, 10°.13S×152°.00E, h12km, Moment Tensor Solution. Duration: 5s4 Moment tensor: Scale 10^18Nm; Mrr=0.34; Mθφ=1.52; Mθθ=-1.18; Mrθ=0.00; Mφφ=0.40; Mφr=0.28; Fault plane solution: M0=1.45000×10^18 NP1: φs=125.76000°, δ=78.07000°, λ=-10.63000°. NP2: φs=217.98000°, δ=79.60000°, λ=-167.87000°. Principal axes: T 1.5789, Plg=1.0000°, Azm=352.0000°; N -0.2671, Plg=74.0000°, Azm=258.0000°; P -1.3118, Plg=16.0000°, Azm=82.0000°;*

GCMT ***10*** *12:48:02.6±0.1, 10°.13S×152°.09E, h12km, MW6.0/173, Moment Tensor Solution. s164, c342; s173, c638; Duration: 2s6 Moment tensor: Scale 10^18Nm; Mrr=0.29±.01; Mθφ=1.53±.01; Mθθ=-1.25±.01; Mrθ=0.05±.02; Mφφ=0.52±.01; Mφr=0.03±.02; Best double couple: M0=1.48700×10^18 NP1:φs=35.00000°, δ=88.00000°, λ=-179.00000°. NP2:φs=305.00000°, δ=89.00000°, λ=-2.00000°. Principal axes: T 1.6270, Plg=1.0000°, Azm=350.0000°; N -0.2870, Plg=87.0000°, Azm=111.0000°; P -1.3470, Plg=2.0000°, Azm=260.0000°; nsta=1 refers to body waves, cutoff=50s. Triangular moment-rate function*

DJA ***10*** *12:48:05.3±0.4, 10°.5S±2°.5×15°.2E±°, h45km±4km, M5.9/80, mB6.5/75, mb5.9/80, MLv5.0/1, Mwb6.0/106, Mw(mB)6.2/75, MwMwp5.7/62, Mwp5.8/62*

ISC 10 12:48:01.1±0.4, 10°.18S±0°.03×152°.09E±0°.03, h16km±1km, h18km:pP-P,n1449,σ1955/1294, mb5.9/217, MS6.0/388, 52C-47D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**279**	P	Pn		**Pn**	**12 49 13.6**	**-0.9**
PMG	**Port Moresby**	**4.92**	**279**	Pn	Pn		**Pn**	**12 49 14.0**	**-0.4**
	163nm,0.5s,baz=79,slow=6.2,SNR=78								
PMG				Sn	Sn		**Sn**	**12 50 14.5**	**+3.5**
	32nm,0.3s,baz=138,slow=12,SNR=3.2								
BULU	**Kimbe**	**4.94**	**339**	P			**Pn**	**12 49 13.1**	**-1.5**
RABL	**Rabaul**	**5.95**	**1**				**Pn**	**12 49 24.4**	**-4.2**
RABL				Sn			**Sn**	**12 50 33.6**	**-2.8**
RABL	**Rabaul**	**5.95**	**1**	P	⇑P		**Pn**	**12 49 24.2**	**-4.3**
SAVO	**Savo Central**	**7.68**	**83**	P			**Pn**	**12 49 55.7**	**+3.3**
HNR	**Honiara**	**7.78**	**85**				**Pn**	**12 49 53.3**	**-0.4**
HNR	**Honiara**	**7.78**	**85**	Pn			**Pn**	**12 49 52.8**	**-0.9**
	17nm,0.3s,baz=279,slow=12,SNR=16								
HNR				Sn			**Sn**	**12 51 23.7**	**+2.2**
	baz=260,slow=19								
HNR				LR			LR	12 52 24.7	
	comp=Z,84μm,21.5s,baz=303,slow=35								
	521nm,0.8s								
HNR	**Honiara**	**7.78**	**85**	P			**Pn**	**12 49 55.6**	**+1.9**
HNR	**Honiara**	**7.78**	**85**	P			**Pn**	**12 49 53.3**	**-0.4**
HNR	**Honiara**	**7.78**	**85**	⇓P			**Pn**	**12 49 53.6**	**-0.1**
TATA	**Tatamba Isabel**	**7.82**	**78**	P			**Pn**	**12 49 58.3**	**+4.0**
NGOA	**Tingoa Renbel**	**7.95**	**101**	P			**Pn**	**12 49 56.3**	**+0.2**
ALEG	**Aligegeo Malai**	**8.60**	**81**	P			**Pn**	**12 50 08.3**	**+3.2**
MANU	**Manus Island**	**9.34**	**330**				**Pn**	**12 50 15.3**	**+0.1**
MANU	**Manus Island**	**9.34**	**330**	⇑P			**Pn**	**12 50 15.3**	**+0.1**
COEN	**Coen**	**9.50**	**246**				**Pn**	**12 50 14.5**	**-2.8**
COEN	**Coen**	**9.50**	**246**	P			**Pn**	**12 50 16.1**	**-1.2**
	comp=Z,0.0nmcomp=Z,153nm,1.4s								
COEN	**Coen**	**9.50**	**246**	P			**Pn**	**12 50 16.5**	**-0.8**
COEN	**Coen**	**9.50**	**246**	⇓P			**Pn**	**12 50 13.9**	**-3.4**
HURO	**Huro Makira**	**9.66**	**93**	P			**Pn**	**12 50 20.4**	**+0.9**
TV1H	**Townsville Har**	**10.38**	**209**	P			**Pn**	**12 50 30.1**	**+0.7**
MTSU	**Mount Surprise**	**10.93**	**223**	P			**Pn**	**12 50 36.2**	**-0.8**
	comp=Z,57nm,1.4s								
MTSU	**Mount Surprise**	**10.93**	**223**	P			**Pn**	**12 50 36.9**	**0.0**
MMPI	**Merauke**	**11.68**	**277**	P			**Pn**	**12 50 50.1**	**+2.9**
	comp=Z,44μmcomp=Z,37μmcomp=Z,2μm,1.8s								
RK1H	**Rockhampton Ha**	**13.23**	**186**	P			**Pn**	**12 51 07.6**	**-0.8**
LUES	**Luesalemba Tem**	**13.61**	**93**	P			**Pn**	**12 51 14.1**	**+0.5**
GD1S	**Gladstone Soft**	**13.62**	**184**	P			**Pn**	**12 51 15.0**	**+1.3**
JAY	**Jayapura**	**13.63**	**303**	Pn			**Pn**	**12 51 12.7**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=122,slow=2.8,SNR=7.8								
JAY				Sn			**Sn**	**12 53 46.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=138,slow=18,SNR=0.8								
	comp=Z,67nm,1.1s								
JAY	**Jayapura**	**13.63**	**303**	P			**Pn**	**12 51 14.1**	**+0.1**
GENI	**Genyem**	**14.03**	**302**	P			**Pn**	**12 51 20.0**	**+0.6**
GENI	**Genyem**	**14.03**	**302**	P			**Pn**	**12 51 22.1**	**+2.7**
	comp=Z,28μmcomp=Z,13μmcomp=Z,762nm,1.4s								
EIDS	**Eidsvold**	**15.14**	**183**				**Pn**	**12 51 32.6**	**-1.8**
EIDS	**Eidsvold**	**15.14**	**183**	P			**Pn**	**12 51 33.0**	**-1.5**
	comp=Z,0.0nmcomp=Z,156nm,1.0s								
EIDS	**Eidsvold**	**15.14**	**183**	P			**Pn**	**12 51 33.3**	**-1.2**
EIDS	**Eidsvold**	**15.14**	**183**	⇑P			**Pn**	**12 51 32.9**	**-1.5**
SMPI	**Sarmi**	**15.59**	**301**	P			**P**	**12 51 43.5**	**-1.0**
KOUNC	**Koumac, New Ca**	**15.63**	**133**	P			**P**	**12 51 43.4**	**-1.6**
KOUNC	**Koumac, New Ca**	**15.63**	**133**	⇑P			**Pn**	**12 51 40.5**	**-0.3**
QIS	**Mount Isa**	**15.85**	**228**	P			**Pn**	**12 51 44.8**	**+1.1**
	comp=Z,0.0nmcomp=Z,653nm,1.2s								
QIS	**Mount Isa**	**15.85**	**228**	P			**Pn**	**12 51 44.7**	**+1.0**
RMQ	**Roma**	**16.53**	**191**	P			**P**	**12 51 55.5**	**+0.6**
	comp=Z,104nm,1.1s								
RMQ	**Roma**	**16.53**	**191**	P			**P**	**12 51 54.8**	**-0.1**
AUWSH	**Wavell State H**	**17.16**	**177**	P			**Pn**	**12 52 00.2**	**-0.1**
TW1H	**Toowoomba 1 Ha**	**17.28**	**180**	P			**P**	**12 52 03.4**	**+0.1**
DVP	**Devils Point**	**17.32**	**117**	P			**P**	**12 52 05.9**	**+2.2**
SRPI	**Serui, Papua**	**17.78**	**297**	P			**P**	**12 52 10.1**	**+1.3**
QLP	**Quilpie**	**17.93**	**203**	P			**P**	**12 52 10.8**	**+0.4**
	comp=Z,0.0nmcomp=Z,690nm,1.8s								
QLP	**Quilpie**	**17.93**	**203**	P			**P**	**12 52 11.3**	**+0.9**
QLP	**Quilpie**	**17.93**	**203**	⇑P			**P**	**12 52 10.9**	**+0.4**
GC1S	**Gold Coast 1 S**	**17.94**	**176**	P			**P**	**12 52 12.7**	**+2.2**
PATS	**Pohnpei**	**18.00**	**20**	Pn			**Pn**	**12 52 09.1**	**-1.7**
PATS				IAmb			IAmb	12 52 14.3	
	comp=Z,2μm,1.8s								
PATS	**Pohnpei**	**18.00**	**20**	P			**P**	**12 52 12.1**	**+0.8**
	comp=Z,0.0nmcomp=Z,701nm,1.6s								
PATS	**Pohnpei**	**18.00**	**20**	P			**P**	**12 52 12.5**	**+1.3**
DZM	**Mont Dzumac**	**18.15**	**132**	P			**Pn**	**12 52 12.6**	**-0.1**
DZM	**Mont Dzumac**	**18.15**	**132**	P			**Pn**	**12 52 12.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=293,slow=15,SNR=10.0								
DZM				S			**Sn**	**12 55 33.3**	**-1.8**
	comp=Z,9.0nm,0.9s,baz=315,slow=20,SNR=2.2								
DZM				LR			LR	12 58 21.4	
	comp=Z,133μm,18.7s,baz=320,slow=34								
	comp=Z,47nm,1.1s								
DZM	**Mont Dzumac**	**18.15**	**132**	P			**P**	**12 52 13.3**	**+0.4**
DZM	**Mont Dzumac**	**18.15**	**132**	⇑P			**P**	**12 52 13.4**	**+0.5**
BAKI	**Biak**	**18.23**	**298**	P			**P**	**12 52 16.1**	**+2.4**
	comp=Z,13μmcomp=Z,19μmcomp=Z,819nm,1.4s								
ONTNC	**Ouen Toro**	**18.30**	**133**	P			**P**	**12 52 16.2**	**+1.7**
ONTNC	**Ouen Toro**	**18.30**	**133**	P			**P**	**12 52 18.3**	**+3.8**
ONTNC	**Ouen Toro**	**18.30**	**133**	⇑P			**Pn**	**12 52 14.0**	**-0.5**
YATNC	**Mamie plateau,**	**18.47**	**132**	P			**Pn**	**12 52 19.6**	**+3.1**
OUENC	**Ouen Island, N**	**18.65**	**133**	P			**Pn**	**12 52 22.2**	**+3.5**
MARNC	**Mare, Loyalty**	**18.99**	**128**	P			**Pn**	**12 52 25.9**	**+3.0**
KMPI	**Kaimana, Papua**	**19.36**	**288**	P			**Pn**	**12 52 28.3**	**+1.0**
	comp=Z,20μmcomp=Z,29μmcomp=Z,1μm,1.5s								
KDU	**Kakadu**	**19.39**	**261**	P			**P**	**12 52 26.7**	**+0.2**
	comp=Z,0.0nmcomp=Z,882nm,1.5s								
KDU	**Kakadu**	**19.39**	**261**	P			**P**	**12 52 27.0**	**+0.5**
KDU	**Kakadu**	**19.39**	**261**	⇑P			**P**	**12 52 26.5**	**-0.1**
WR0	**Warramunga Arr**	**19.52**	**238**	P			**P**	**12 52 27.5**	**-0.5**
WR0				IAmb			IAmb	12 52 39.1	
	comp=Z,837nm,1.4s								
WB0	**Warramunga Arr**	**19.56**	**239**	P			**P**	**12 52 28.1**	**-0.3**
WB0				IAmb			IAmb	12 52 35.8	
	comp=Z,1μm,1.4s								
WRAB	**Tennant Creek**	**19.67**	**238**	P			**P**	**12 52 28.9**	**-0.7**
WRAB				IAmb			IAmb	12 52 36.9	
	comp=Z,828nm,1.5s								
WRAB	**Tennant Creek**	**19.67**	**238**	*d* P			**P**	**12 52 29.3**	**-0.3**
WRAB				pmax			pmax		
	comp=Z,461nm,1.3s								
WB2	**Warramunga Arr**	**19.67**	**238**	P			**P**	**12 52 28.4**	**-1.2**
WRA	**Warramunga Arr**	**19.68**	**238**	P			**P**	**12 52 30.3**	**+0.5**
WRA	**Warramunga Arr**	**19.68**	**238**	P			**P**	**12 52 29.7**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=62,slow=10,SNR=49								
WRA				S			**S**	**12 56 02.2**	**-9.2**
	comp=Z,12nm,0.9s,baz=59,slow=21,SNR=3.2								
WRA				LR			LR	12 59 32.3	
	comp=Z,37μm,19.8s,baz=62,slow=35								
	comp=Z,347nm,1.2s								
WRA	**Warramunga Arr**	**19.68**	**238**	P			**P**	**12 52 30.3**	**+0.5**
WRA				pmax			pmax		
	comp=Z,33nm,0.9s								
RKPI	**Ransiki, Papua**	**19.78**	**295**	P			**Pn**	**12 52 32.5**	**+0.2**
	comp=Z,19μmcomp=Z,30μmcomp=Z,1μm,1.1s								
ARMA	**Armidale**	**20.15**	**181**	P			Pn	12 52 35.9	-0.8
ARMA	**Armidale**	**20.15**	**181**	P			Pn	12 52 36.0	-0.7
	comp=Z,0.0nmcomp=Z,267nm,1.7s								
ARMA	**Armidale**	**20.15**	**181**	P			Pn	12 52 36.0	-0.7
ARMA	**Armidale**	**20.15**	**181**	⇑P			**P**	**12 52 35.4**	**+0.6**
INKA	**Innaminka**	**20.48**	**210**	P			Pn	12 52 39.9	-0.6
SAUI	**Saumlaki**	**20.65**	**274**	P			**P**	**12 52 39.7**	**-0.6**
SAUI	**Saumlaki**	**20.65**	**274**	P			**P**	**12 52 41.1**	**+0.8**
SAUI	**Saumlaki**	**20.65**	**274**	P			**P**	**12 52 40.7**	**+0.4**
	comp=Z,2μm,1.7s								
SAUI	**Saumlaki**	**20.65**	**274**	⇓P			**P**	**12 52 41.2**	**+1.0**
MTN	**Manton Dam**	**20.71**	**261**	P			**P**	**12 52 40.4**	**-0.5**
MTN	**Manton Dam**	**20.71**	**261**	P			**P**	**12 52 41.2**	**+0.3**
	comp=Z,0.0nmcomp=Z,1μm,1.4s								
MTN	**Manton Dam**	**20.71**	**261**	P			**P**	**12 52 41.9**	**+1.0**
MTN	**Manton Dam**	**20.71**	**261**	⇓P			**P**	**12 52 40.0**	**-0.9**
DRS	**Darwin Rock St**	**20.90**	**262**	P			**P**	**12 52 43.5**	**+0.5**
FAKI	**Fak Fak**	**20.98**	**289**				**P**	**12 52 43.5**	**-0.4**
FAKI	**Fak Fak**	**20.98**	**289**	P			Pn	12 52 45.4	-1.1
FAKI	**Fak Fak**	**20.98**	**289**	P			**P**	**12 52 44.5**	**+0.6**
	comp=Z,35μmcomp=Z,1μm,1.2s								
FAKI	**Fak Fak**	**20.98**	**289**	⇓P			**P**	**12 52 43.5**	**-0.4**
AS06	**Alice Springs**	**21.87**	**230**	P			**P**	**12 52 53.2**	**-0.3**
	comp=Z,170nm,1.1s								
AS01	**Alice Springs**	**21.90**	**230**	P			**P**	**12 52 54.2**	**+0.5**
AS19	**Alice Springs**	**21.91**	**230**	P			**P**	**12 52 53.7**	**-0.2**
	comp=Z,232nm,1.0s								
AS31	**Alice Springs**	**21.93**	**230**	P			**P**	**12 52 54.0**	**-0.1**
AS31	**Alice Springs**	**21.93**	**230**	P			**P**	**12 52 54.7**	**+0.5**
	comp=Z,0.0nmcomp=Z,48nm,1.4s								
ASAR	**Alice Springs**	**21.93**	**230**	P			**P**	**12 52 54.4**	**+0.3**
	comp=Z,47nm,0.7s,baz=62,slow=10,SNR=205								
ASAR				S			**S**	**12 56 57.8**	**+1.9**
	comp=Z,4.8nm,1.0s,baz=61,slow=18,SNR=1.7								
ASAR				LR			LR	13 01 03.3	
	comp=Z,28μm,19.3s,baz=58,slow=36								
	comp=Z,47nm,0.7s								
CMSA	**Cobar Meteorol**	**22.07**	**195**	P			**P**	**12 52 58.5**	**+3.1**
	comp=Z,0.0nmcomp=Z,267nm,1.1s								
CMSA	**Cobar Meteorol**	**22.07**	**195**	P			**P**	**12 52 57.6**	**+2.2**
LHI	**Lord Howe Isla**	**22.20**	**164**	P			P	12 53 07.0	+10
NTLH	**Newcastle Hard**	**22.62**	**181**	P			**P**	**12 53 03.0**	**+1.7**
SWI	**Sorong**	**22.68**	**293**	P			**P**	**12 53 01.7**	**-0.5**
	comp=Z,14μmcomp=Z,12μmcomp=Z,794nm,1.1s								
BNDI	**Bandanaira**	**22.70**	**283**	P			**P**	**12 53 03.1**	**+0.7**
BNDI	**Bandanaira**	**22.70**	**283**	P			**P**	**12 53 02.8**	**+0.4**
BNDI	**Bandanaira**	**22.70**	**283**	⇓P			**P**	**12 53 02.3**	**-0.1**
MGCD	**Mangrove Creek**	**22.94**	**182**	P			**P**	**12 53 06.3**	**+1.6**
	comp=Z,202nm,0.9s								
MGCD	**Mangrove Creek**	**22.94**	**182**	P			**P**	**12 53 07.3**	**+2.6**
OOD	**Oodnadatta**	**23.35**	**219**	P			**P**	**12 53 09.4**	**+0.5**
KNRA	**Kununurra**	**23.38**	**254**	P			**P**	**12 53 08.1**	**-1.1**
KNRA				IAmb			IAmb	12 53 11.5	
	comp=Z,1μm,1.4s								
KNRA	**Kununurra**	**23.38**	**254**	P			**P**	**12 53 08.7**	**-0.6**
	comp=Z,0.0nmcomp=Z,499nm,1.4s								
SYDH	**Sydney Hard Ro**	**23.51**	**183**	P			**P**	**12 53 12.4**	**+2.0**
RIV	**Riverview**	**23.56**	**182**	P			**P**	**12 53 13.0**	**+2.1**
	comp=Z,0.0nmcomp=Z,330nm,1.4s								
RIV	**Riverview**	**23.56**	**182**	P			**P**	**12 53 14.2**	**+3.3**
RIV	**Riverview**	**23.56**	**182**	⇑P			**P**	**12 53 10.4**	**-0.5**
STKA	**Stephens Creek**	**23.68**	**203**	P			**P**	**12 53 10.7**	**-1.4**
STKA				IAmb			IAmb	12 53 27.3	
	comp=Z,769nm,1.0s								
STKA	**Stephens Creek**	**23.68**	**203**	P			**P**	**12 53 11.0**	**-1.1**
	comp=Z,0.0nmcomp=Z,777nm,1.0s								
STKA	**Stephens Creek**	**23.68**	**203**	P			**P**	**12 53 11.5**	**-0.7**
	comp=Z,89nm,1.1s,baz=15,slow=10,SNR=29								
	comp=Z,89nm,1.1s								
STKA	**Stephens Creek**	**23.68**	**203**	P			**P**	**12 53 11.3**	**-0.8**
STKA	**Stephens Creek**	**23.68**	**203**	*i* P			**P**	**12 53 10.5**	**-1.6**
LCRK	**Leigh Creek**	**23.96**	**211**	P			**P**	**12 53 15.4**	**+0.6**
MSAI	**Masohi**	**23.97**	**285**	P			**P**	**12 53 14.7**	**-0.3**
	comp=Z,14μmcomp=Z,13μmcomp=Z,571nm,1.3s								
WOLH	**Wollongong Har**	**24.14**	**182**	P			**P**	**12 53 19.1**	**+2.6**
YNG	**Young**	**24.25**	**187**	P			**P**	**12 53 18.3**	**+0.8**
	comp=Z,395nm,1.0s								
YNG	**Young**	**24.25**	**187**	P			**P**	**12 53 20.0**	**+2.5**
AAI	**Ambon**	**24.57**	**284**	P			**P**	**12 53 20.6**	**0.0**
	comp=Z,17μmcomp=Z,19μmcomp=Z,879nm,1.2s								
GUMO	**Guam**	**24.67**	**343**	LR			LR	13 01 16.7	
	comp=Z,18μm,20.9s,baz=178,slow=32								
CNB	**Canberra Magne**	**25.15**	**185**	P			**P**	**12 53 27.5**	**+1.8**
	comp=Z,0.0nmcomp=Z,199nm,1.9s								
CNB	**Canberra Magne**	**25.15**	**185**	P			**P**	**12 53 28.3**	**+2.6**
CAN	**Canberra**	**25.19**	**186**	P			**P**	**12 53 26.5**	**+0.5**
CAN				IAmb			IAmb	12 53 55.1	
	comp=Z,607nm,1.7s								
CAN				IAMs_20			IAMs_20	13 03 44.7	
	comp=Z,45μm,19.0s								
CAN	**Canberra**	**25.19**	**186**	P			**P**	**12 53 27.8**	**+1.8**
	comp=Z,0.0nmcomp=Z,216nm,2.3s								
CAN	**Canberra**	**25.19**	**186**	P			**P**	**12 53 28.5**	**+2.5**
CAN	**Canberra**	**25.19**	**186**	P			**P**	**12 53 26.5**	**+0.5**
CAN				pmax			pmax		
	comp=Z,607nm,1.7s								
CAN				pmax			pmax		
	comp=Z,45μm,19.0s								
CAN	**Canberra**	**25.19**	**186**	⇑P			**P**	**12 53 26.9**	**+0.9**
NLAI	**Namlea**	**25.74**	**284**	P			**P**	**12 53 31.4**	**+0.2**
	comp=Z,11μmcomp=Z,15μmcomp=Z,871nm,1.6s								
HTT	**Hallett**	**26.12**	**206**	P			**P**	**12 53 34.7**	**+0.1**
	comp=Z,0.0nmcomp=Z,175nm,1.0s								
HTT	**Hallett**	**26.12**	**206**	P			**P**	**12 53 36.0**	**+1.5**
HTT	**Hallett**	**26.12**	**206**	⇓P			**P**	**12 53 34.2**	**-0.4**
MSVF	**Nonsavu**	**26.27**	**109**	P			**P**	**12 53 36.1**	**+0.1**
MSVF				IAmb			IAmb	12 54 04.6	
	comp=Z,370nm,1.6s								
MSVF	**Nonsavu**	**26.27**	**109**	LR			LR	13 02 34.5	
	comp=Z,23μm,18.4s,baz=283,slow=34								
MSVF	**Nonsavu**	**26.27**	**109**	P			**P**	**12 53 38.4**	**+2.4**
MSVF	**Nonsavu**	**26.27**	**109**	*i* P			**P**	**12 53 36.4**	**+0.4**
MSVF				pmax			pmax		
	comp=Z,148nm,1.4s								
MSVF	**Nonsavu**	**26.27**	**109**	⇓P			**P**	**12 53 37.0**	**+1.0**
WHYH	**Whyalla**	**26.39**	**208**	P			**P**	**12 53 38.4**	**+1.6**
FUNA	**Funafuti**	**26.79**	**89**	P			**P**	**12 53 41.1**	**+0.4**
FUNA				IAmb			IAmb	12 54 10.7	
	comp=Z,397nm,1.4s								
FUNA	**Funafuti**	**26.79**	**89**	P			**P**	**12 53 43.7**	**+3.0**
FITZ	**Fitzroy Crossi**	**26.81**	**250**	P			**P**	**12 53 39.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**26.81**	**250**	P			**P**	**12 53 40.7**	**-0.1**
	comp=Z,0.0nmcomp=Z,36nm,1.4s								
FITZ	**Fitzroy Crossi**	**26.81**	**250**	LR			LR	13 04 01.0	
	comp=Z,52μm,18.1s,baz=80,slow=36								
FITZ	**Fitzroy Crossi**	**26.81**	**250**	P			**P**	**12 53 41.2**	**+0.4**
MILA	**Mila**	**26.89**	**185**	P			**P**	**12 53 43.8**	**+2.4**
	comp=Z,48nm,1.2s								
MILA	**Mila**	**26.89**	**185**	⇑P			**P**	**12 53 45.0**	**+3.6**
TNTI	**Ternate**	**26.90**	**292**	P			**P**	**12 53 40.6**	**-1.0**
TNTI				IAmb			IAmb	12 53 47.5	
	comp=Z,664nm,1.4s								
TNTI	**Ternate**	**26.90**	**292**	P			**P**	**12 53 43.0**	**+1.3**
TNTI	**Ternate**	**26.90**	**292**	P			**P**	**12 53 43.5**	**+1.8**
	comp=Z,6μmcomp=Z,6μmcomp=Z,321nm,1.3s								
BBOO	**Buckleboo**	**26.94**	**211**	P			**P**	**12 53 41.6**	**-0.3**
BBOO				IAmb			IAmb	12 53 59.3	
	comp=Z,600nm,1.6s								
BBOO	**Buckleboo**	**26.94**	**211**	P			**P**	**12 53 42.2**	**+0.3**
	comp=Z,0.0nmcomp=Z,251nm,1.5s								
BBOO	**Buckleboo**	**26.94**	**211**	P			**P**	**12 53 42.5**	**+0.6**
WRKA	**Warakurna**	**27.00**	**234**	P			**P**	**12 53 41.6**	**-1.0**
	comp=Z,0.0nmcomp=Z,449nm,1.2s								
WRKA	**Warakurna**	**27.00**	**234**	P			**P**	**12 53 41.8**	**-0.8**
WRKA	**Warakurna**	**27.00**	**234**	⇓P			**P**	**12 53 41.5**	**-1.1**
SANI	**Sanana**	**27.16**	**286**	P			**P**	**12 53 43.2**	**-0.8**
SANI	**Sanana**	**27.16**	**286**	P			**P**	**12 53 44.8**	**+0.8**
SANI	**Sanana**	**27.16**	**286**	P			**P**	**12 53 44.8**	**+0.8**
SANI	**Sanana**	**27.16**	**286**	⇓P			**P**	**12 53 43.8**	**-0.2**
SOEI	**Soe**	**27.41**	**268**	P			**P**	**12 53 46.5**	**+0.2**
SOEI				IAMs_20			IAMs_20	13 05 07.8	
	comp=Z,57μm,21.0s								
SOEI	**Soe**	**27.41**	**268**	P			**P**	**12 53 46.3**	**-0.1**
SOEI	**Soe**	**27.41**	**268**	P			**P**	**12 53 47.8**	**+1.4**
SOEI	**Soe**	**27.41**	**268**	P			**P**	**12 53 47.5**	**+1.1**
	comp=Z,14μmcomp=Z,428nm,1.3s								
SOEI	**Soe**	**27.41**	**268**	⇓P			**P**	**12 53 47.4**	**+1.1**
DGTI	**Dogotuki**	**27.57**	**106**	P			**P**	**12 53 47.7**	**0.0**
TOO	**Toolangi**	**27.92**	**191**	P			**P**	**12 53 51.6**	**+1.0**
TOO	**Toolangi**	**27.92**	**191**	P			**P**	**12 53 52.0**	**+1.4**
	comp=Z,0.0nmcomp=Z,28nm,2.0s								
TOO	**Toolangi**	**27.92**	**191**	P			**P**	**12 53 51.6**	**+1.0**
TOO				pmax			pmax

AFI	**Afiamalu**	**35.51 100**	P	**P**	**12 54 57.2**	**-0.4**
AFI	**Afiamalu**	**35.51 100**	P	**P**	**12 55 01.1**	**+3.5**
AFI	**Afiamalu**	**35.51 100**	P	**P**	**12 54 57.2**	**-0.4**
AFI			pmax	pmax		
	comp=Z,126nm,1.1s					
AFI			pmax	pmax		
	comp=Z,12μm,20.0s					
AFI	**Afiamalu**	**35.51 100**	⇓P	**P**	**12 54 58.8**	**+1.1**
MEEK	**Meekatharra**	**35.59 238**	P	**P**	**12 54 57.5**	**-0.6**
	comp=Z,0.0nmcomp=Z,286nm,1.2s					
MEEK	**Meekatharra**	**35.59 238**	P	**P**	**12 54 59.4**	**+1.3**
NGZ	**Ngauruhoe**	**35.70 148**	P	**P**	**12 55 02.9**	**+3.9**
TMVZ	**Te Maari**	**35.71 148**	P	**P**	**12 55 01.7**	**+2.6**
OTVZ	**Oturere**	**35.72 148**	P	**P**	**12 55 00.5**	**+1.2**
ETVZ	**East Tongariro**	**35.72 148**	P	**P**	**12 55 01.4**	**+2.1**
SNVZ	**South Ngauruho**	**35.73 148**	P	**P**	**12 55 01.1**	**+1.8**
FWVZ	**Far West T-bar**	**35.73 148**	P	**P**	**12 55 02.4**	**+3.0**
WNVZ	**Wahianoa**	**35.81 148**	P	**P**	**12 55 00.9**	**+0.9**
TKNZ	**Takaka Hill**	**35.84 153**	P	**P**	**12 54 59.9**	**-0.1**
URZ	**Urewera**	**35.85 145**	LR	LR	13 08 43.1	
	comp=Z,45μm,18.0s,baz=45,slow=35					
SMKI	**Samarinda**	**36.01 283**	P	**P**	**12 55 03.4**	**+1.6**
	comp=Z,9μmcomp=Z,9μmcomp=Z,466nm,1.5s					
RTZ	**Ruatahuna**	**36.03 146**	P	**P**	**12 55 01.2**	**-0.6**
RTZ			IAmb	IAmb	12 55 10.6	
	comp=Z,168nm,1.1s					
MRNZ	**Matariki Terra**	**36.04 153**	P	**P**	**12 55 03.3**	**+1.6**
MXZ	**Matakaoa Point**	**36.06 143**	IAMs_20	IAMs_20	13 08 03.2	
	comp=Z,25μm,19.0s					
BKB	**Balikpapan**	**36.08 282**	P	**P**	**12 55 04.4**	**+1.9**
BKB	**Balikpapan**	**36.08 282**	P	**P**	**12 55 03.7**	**+1.2**
BKB	**Balikpapan**	**36.08 282**	P	**P**	**12 55 05.3**	**+2.8**
	comp=Z,8μmcomp=Z,637nm,1.3s					
BKZ	**Black Stump Fm**	**36.16 147**	P	**P**	**12 55 03.1**	**+0.2**
BKZ	**Black Stump Fm**	**36.16 147**	P	**P**	**12 55 06.3**	**+3.4**
NNZ	**Nelson**	**36.17 152**	P	**P**	**12 55 02.8**	**+0.9**
NNZ			IAMs_20	IAMs_20	13 08 48.1	
	comp=Z,22μm,19.0s					
KWHZ	**Kaweka Forest**	**36.31 147**	P	**P**	**12 55 04.4**	**+0.2**
DNP	**Denpasar**	**36.40 269**	P	**P**	**12 55 06.5**	**+1.3**
SRBI	**Singaraja**	**36.46 270**	P	**P**	**12 55 04.9**	**-0.8**
	comp=Z,8μmcomp=Z,4μmcomp=Z,104nm,1.6s					
PNHZ	**Pukenui**	**36.55 148**	P	**P**	**12 55 05.3**	**-0.9**
TCW	**Tory Channel**	**36.59 151**	P	**P**	**12 55 05.9**	**-0.5**
FOZ	**Fox Glacier**	**36.63 158**	IAMs_20	IAMs_20	13 07 32.1	
	comp=Z,24μm,21.0s					
JCZ	**Jackson Bay**	**36.74 160**	P	**P**	**12 55 10.5**	**+2.7**
MYLDM	**Lahad Datu**	**36.77 293**	P	**P**	**12 55 09.5**	**+1.1**
MYLDM	**Lahad Datu**	**36.77 293**	⇓P	**P**	**12 55 09.4**	**+1.1**
BSWZ	**Blackbirch Sta**	**36.80 152**	P	**P**	**12 55 08.4**	**+0.2**
SNZO	**South Karori**	**36.87 151**	IAMs_20	IAMs_20	13 08 12.3	
	comp=Z,33μm,20.0s					
LTZ	**Lake Taylor**	**36.96 155**	P	**P**	**12 55 09.5**	**-0.1**
LTZ	**Lake Taylor**	**36.96 155**	P	**P**	**12 55 11.9**	**+2.3**
BHW	**Baring Head**	**37.02 151**	IAMs_20	IAMs_20	13 08 17.5	
	comp=Z,21μm,20.0s					
BFZ	**Birch Farm**	**37.15 149**	P	**P**	**12 55 14.3**	**+3.1**
BFZ	**Birch Farm**	**37.15 149**	P	**P**	**12 55 10.5**	**-0.7**
KHZ	**Kahutara**	**37.20 153**	IAMs_20	IAMs_20	13 10 30.3	
	comp=Z,28μm,19.0s					
KHZ	**Kahutara**	**37.20 153**	P	**P**	**12 55 11.9**	**+0.3**
KHZ	**Kahutara**	**37.20 153**	⇓P	**P**	**12 55 13.0**	**+1.4**
RPZ	**Rata Peaks**	**37.25 157**	LR	LR	13 08 48.1	
	comp=Z,62μm,20.0s,baz=325,slow=34					
OXZ	**Oxford**	**37.31 156**	P	**P**	**12 55 16.2**	**+3.6**
ABJI	**Asem Bagus**	**37.45 270**	P	**P**	**12 55 14.6**	**+0.5**
	comp=Z,11μmcomp=Z,5μmcomp=Z,175nm,1.3s					
JAGI	**Jajag, Banyuwa**	**37.46 269**	IAMs_20	IAMs_20	13 12 16.4	
	comp=Z,24μm,19.0s					
JAGI	**Jajag, Banyuwa**	**37.46 269**	P	**P**	**12 55 15.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**37.46 269**	P	**P**	**12 55 13.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**37.46 269**	⇓P	**P**	**12 55 12.1**	**-2.1**
WKZ	**Wanaka**	**37.48 160**	P	**P**	**12 55 15.9**	**+1.8**
LBZ	**Lake Benmore**	**37.51 159**	IAMs_20	IAMs_20	13 07 36.2	
	comp=Z,24μm,22.0s					
MLZ	**Mavora Lakes**	**37.67 161**	IAMs_20	IAMs_20	13 12 01.6	
	comp=Z,19μm,18.0s					
KMMI	**Kalianget**	**37.81 272**	P	**P**	**12 55 17.5**	**+0.4**
WHZ	**Wether Hill Ro**	**38.09 162**	P	**P**	**12 55 19.5**	**+0.4**
GMJI	**Gumukmas**	**38.18 270**	P	**P**	**12 55 19.2**	**-1.1**
	comp=Z,4μmcomp=Z,117nm,1.2s					
GIRL	**Giralia**	**38.26 246**	P	**P**	**12 55 20.8**	**0.0**
GIRL	**Giralia**	**38.26 246**	P	**P**	**12 55 21.4**	**+0.6**
	comp=Z,495nm,1.4s					
GIRL	**Giralia**	**38.26 246**	P	**P**	**12 55 22.9**	**+2.1**
KLBR	**Kellerberrin**	**38.26 231**	P	**P**	**12 55 19.9**	**-0.9**
	comp=Z,430nm,1.0s					
KLBR	**Kellerberrin**	**38.26 231**	P	**P**	**12 55 20.5**	**-0.3**
JCJ	**Chichijima**	**38.27 346**	P	**P**	**12 55 18.7**	**-2.2**
JCJ	**Chichijima**	**38.27 346**	LR	LR	13 10 55.1	
	comp=Z,6μm,18.9s,baz=156,slow=36					
JCJ	**Chichijima**	**38.27 346**	P	**P**	**12 55 22.8**	**+2.0**
MORW	**Morawa**	**38.59 236**	P	**P**	**12 55 23.6**	**0.0**
MORW	**Morawa**	**38.59 236**	P	**P**	**12 55 24.0**	**+0.5**
	comp=Z,0.0nmcomp=Z,185nm,1.3s					
MORW	**Morawa**	**38.59 236**	P	**P**	**12 55 24.1**	**+0.5**
MORW	**Morawa**	**38.59 236**	⇓P	**P**	**12 55 22.7**	**-0.9**
BLDU	**Ballidu**	**38.66 233**	P	**P**	**12 55 24.4**	**+0.3**
	comp=Z,165nm,1.2s					
BLDU	**Ballidu**	**38.66 233**	P	**P**	**12 55 24.5**	**+0.4**
KKM	**Kota Kinabalu**	**39.20 293**	P	**P**	**12 55 27.5**	**-1.4**
KKM	**Kota Kinabalu**	**39.20 293**	P	**P**	**12 55 29.9**	**+1.0**
KKM	**Kota Kinabalu**	**39.20 293**	⇓P	**P**	**12 55 28.7**	**-0.3**
TGY	**Tagaytay City**	**39.20 307**	LR	LR	13 11 25.0	
	comp=Z,5μm,21.4s,baz=132,slow=36					
NWAO	**Narrogin (SRO)**	**39.25 229**	P	**P**	**12 55 28.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**39.25 229**	IAMs_20	IAMs_20	13 12 06.2	
	comp=Z,29μm,19.0s					
NWAO	**Narrogin (SRO)**	**39.25 229**	P	**P**	**12 55 29.5**	**+0.5**
	comp=Z,205nm,1.1s					
NWAO	**Narrogin (SRO)**	**39.25 229**	LR	LR	13 11 52.6	
	comp=Z,16μm,21.4s,baz=38,slow=36					
NWAO	**Narrogin (SRO)**	**39.25 229**	P	**P**	**12 55 29.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.25 229**	P	**P**	**12 55 28.3**	**-0.8**
NWAO			pmax	pmax		
	comp=Z,103nm,1.0s					
NWAO			pmax	pmax		
	comp=Z,29μm,19.0s					
MUN	**Mundaring**	**39.61 231**	P	**P**	**12 55 32.6**	**+0.5**
	comp=Z,0.0nmcomp=Z,182nm,1.2s					
MUN	**Mundaring**	**39.61 231**	P	**P**	**12 55 32.8**	**+0.7**
MTKN	**Mount Kenneth**	**39.93 232**	P	**P**	**12 55 36.3**	**+1.6**
	comp=Z,225nm,1.1s					
MTKN	**Mount Kenneth**	**39.93 232**	P	**P**	**12 55 36.4**	**+1.6**
NGJI	**Ngawi**	**40.23 271**	P	**P**	**12 55 39.3**	**+1.8**
PCJI	**Pacitan**	**40.42 269**	P	**P**	**12 55 39.0**	**0.0**
UGM	**Wanagama**	**41.09 270**	P	**P**	**12 55 44.4**	**-0.3**
UGM			IAmb	IAmb	12 56 12.5	
	comp=Z,613nm,1.3s					
UGM	**Wanagama**	**41.09 270**	P	**P**	**12 55 45.0**	**+0.4**
UGM	**Wanagama**	**41.09 270**	P	**P**	**12 55 43.3**	**-1.3**
	comp=Z,5μmcomp=Z,6μmcomp=Z,386nm,1.4s					
SMRI	**Semarang**	**41.28 271**	P	**P**	**12 55 45.5**	**-0.7**
SMRI			IAmb	IAmb	12 55 48.8	
	comp=Z,214nm,1.1s					
SMRI	**Semarang**	**41.28 271**	P	**P**	**12 55 47.2**	**+1.1**
SMRI	**Semarang**	**41.28 271**	P	**P**	**12 55 47.4**	**+1.3**
YOGI	**Yogyakarta**	**41.33 270**	P	**P**	**12 55 48.6**	**+2.1**
SBUM	**Sibu**	**41.63 285**	P	**P**	**12 55 48.6**	**-0.4**
SBUM	**Sibu**	**41.63 285**	P	**P**	**12 55 50.5**	**+1.5**
SBUM	**Sibu**	**41.63 285**	⇓P	**P**	**12 55 49.6**	**+0.6**
STKI	**Sintang**	**41.66 282**	P	**P**	**12 55 49.7**	**+0.5**
	comp=Z,162nm,1.0s					
SZP	**Santa**	**41.66 311**	P	**P**	**12 55 50.4**	**+1.2**
H01W1	**Cape Leeuwin H**	**42.42 229**	P	**P**	**12 55 57.6**	**+2.6**
	baz=57,slow=8.4,SNR=3.5					
H01W3	**Cape Leeuwin H**	**42.43 229**	P	**P**	**12 55 57.6**	**+2.6**
	baz=57,slow=8.4,SNR=3.3					
H01W2	**Cape Leeuwin H**	**42.44 229**	P	**P**	**12 55 58.6**	**+3.5**
	baz=57,slow=8.4,SNR=4.9					
CTZ	**Chatham Island**	**43.05 147**	P	**P**	**12 56 03.2**	**+3.0**
CMJI	**Cimerak**	**43.15 269**	P	**P**	**12 56 00.8**	**-0.6**
KSM	**Kuching**	**43.17 283**	P	**P**	**12 55 59.9**	**-1.6**
KSM	**Kuching**	**43.17 283**	P	**P**	**12 56 02.5**	**+1.0**
KSM	**Kuching**	**43.17 283**	⇓P	**P**	**12 56 01.7**	**+0.2**
JOW	**Kunigami**	**43.45 328**	P	**P**	**12 56 04.3**	**+0.8**
JOW			IAmb	IAmb	12 56 12.6	
	comp=Z,356nm,1.2s					
JOW	**Kunigami**	**43.45 328**	LR	LR	13 11 57.3	
	comp=Z,17μm,19.6s,baz=136,slow=33					
JOW	**Kunigami**	**43.45 328**	P	**P**	**12 56 05.2**	**+1.6**
JCJI	**Jatiwangi**	**43.49 271**	P	**P**	**12 56 05.2**	**+1.1**
BBJI	**Bungbulang**	**43.97 270**	P	**P**	**12 56 08.0**	**-0.1**
LEM	**Lembang**	**44.09 271**	P	**P**	**12 56 08.8**	**-0.3**
	comp=Z,212nm,1.1s,baz=86,slow=6.9,SNR=47					
LEM			LR	LR	13 17 09.7	
	comp=Z,14μm,18.3s,baz=106,slow=40					
	comp=Z,212nm,1.1s					
CNJI	**Cibinong**	**44.51 270**	P	**P**	**12 56 11.5**	**-0.8**
YOJ	**Yonaguni jima**	**44.62 321**	P	**P**	**12 56 12.6**	**-0.4**
YOJ	**Yonaguni jima**	**44.62 321**	P	**P**	**12 56 14.8**	**+1.8**
YOJ	**Yonaguni jima**	**44.62 321**	P	**P**	**12 56 12.6**	**-0.4**
YOJ			pmax	pmax		
	comp=Z,656nm,1.3s					
JHJ	**Hachijo jima 2**	**44.62 345**	LR	LR	13 13 06.7	
	comp=Z,8μm,21.2s,baz=149,slow=34					
TPI	**Tanjungpandan**	**44.72 276**	P	**P**	**12 56 14.8**	**+0.8**
YULB	**Yu-li**	**44.95 318**	P	**P**	**12 56 17.1**	**+1.4**
SKJI	**Sukabumi**	**45.11 270**	P	**P**	**12 56 14.1**	**-3.0**
	comp=Z,5μmcomp=Z,11μmcomp=Z,530nm,1.2s					
NACB	**Ninganchiao**	**45.31 319**	P	**P**	**12 56 18.2**	**-0.3**
NACB	**Ninganchiao**	**45.31 319**	P	**P**	**12 56 20.0**	**+1.5**
TPUB	**Ta-pu**	**45.33 318**	P	**P**	**12 56 18.6**	**-0.1**
TPUB			IAmb	IAmb	12 56 26.9	
	comp=Z,250nm,1.2s					
TPUB	**Ta-pu**	**45.33 318**	P	**P**	**12 56 19.7**	**+1.0**
SSLB	**Suanglung**	**45.45 318**	P	**P**	**12 56 19.5**	**-0.2**
SSLB			IAmb	IAmb	12 56 29.4	
	comp=Z,504nm,2.0s					
SSLB	**Suanglung**	**45.45 318**	P	**P**	**12 56 21.1**	**+1.4**
XMI	**Christmas Isla**	**45.62 265**	P	**P**	**12 56 22.7**	**+1.5**
XMIS	**Christmas Isla**	**45.66 265**	P	**P**	**12 56 20.6**	**-0.9**
XMIS	**Christmas Isla**	**45.66 265**	P	**P**	**12 56 22.5**	**+1.0**
YHNB	**Yeheng**	**45.80 320**	P	**P**	**12 56 23.1**	**+0.6**
YHNB			IAmb	IAmb	12 56 33.9	
	comp=Z,407nm,1.3s					
YHNB	**Yeheng**	**45.80 320**	P	**P**	**12 56 23.5**	**+1.0**
TATO	**Taipei**	**45.95 320**	P	**P**	**12 56 23.5**	**0.0**
TATO	**Taipei**	**45.95 320**	P	**P**	**12 56 25.4**	**+1.9**
CGJI	**Cibinong**	**46.01 271**	P	**P**	**12 56 23.1**	**-1.1**
JSG	**Sagara**	**46.51 344**	P	**P**	**12 56 27.9**	**+0.1**
JSG	**Sagara**	**46.51 344**	P	**P**	**12 56 30.0**	**+2.2**
JMN	**Monobe**	**46.97 339**	P	**P**	**12 56 31.5**	**0.0**
JMN	**Monobe**	**46.97 339**	P	**P**	**12 56 33.2**	**+1.7**
JMN	**Monobe**	**46.97 339**	⇓P	**P**	**12 56 32.5**	**+1.0**
RAR	**Rarotonga**	**47.45 109**	LR	LR	13 14 01.1	
	comp=Z,4μm,20.4s,baz=267,slow=33					
INU	**Inuyama**	**47.47 343**	P	**P**	**12 56 35.3**	**+0.1**
INU	**Inuyama**	**47.47 343**	P	**P**	**12 56 35.9**	**+0.6**
INU	**Inuyama**	**47.47 343**	⇑P	**P**	**12 56 34.8**	**-0.5**
PMBI	**Palembang**	**47.51 275**	P	**P**	**12 56 36.2**	**+0.2**
JNU	**Nakatsue**	**47.57 336**	P	**P**	**12 56 35.6**	**-0.6**
JNU			IAmb	IAmb	12 56 46.3	
	comp=Z,284nm,1.5s					
JNU	**Nakatsue**	**47.57 336**	LR	LR	13 14 43.5	
	comp=Z,4μm,18.7s,baz=178,slow=34					
JNU	**Nakatsue**	**47.57 336**	P	**P**	**12 56 37.6**	**+1.5**
JNU	**Nakatsue**	**47.57 336**	⇓P	P	12 56 41.3	+5.2
JGF	**Kuroka**	**47.61 344**	P	**P**	**12 56 36.5**	**+0.1**
JGF	**Kuroka**	**47.61 344**	P	**P**	**12 56 37.3**	**+0.9**
JGF	**Kuroka**	**47.61 344**	⇑P	**P**	**12 56 35.9**	**-0.6**
QZH	**Quanzhou**	**47.80 317**	⇓*i* P	**P**	**12 56 38.9**	**+0.8**
QZH			S	**S**	**13 03 36.8**	**+2.4**
QZH			pmax	pmax		
	comp=Z,160nm,2.3s					
QZH			pmax	pmax		
	comp=Z,2μm,5.2s					
QZH			LR	LR		
	comp=Z,6μm,21.3s					
QZH			LR	LR		
	comp=Z,7μm,16.5s					
QZH			LR	LR		
	comp=Z,9μm,21.3s					
MDSI	**Maura Dua**	**47.82 273**	P	**P**	**12 56 36.5**	**-1.9**
LWLI	**Liwa**	**47.85 272**	P	**P**	**12 56 38.2**	**-0.6**
MIDW	**Midway**	**48.26 37**	IAMs_20	IAMs_20	13 13 55.4	
	comp=Z,19μm,20.0s					
MJAR	**Matsushiro Arr**	**48.27 345**	P	**P**	**12 56 40.3**	**-1.2**
	comp=Z,41nm,1.0s,baz=164,slow=7.9,SNR=54					
MJAR			LR	LR	13 15 31.9	
	comp=Z,8μm,19.6s,baz=172,slow=34					
	comp=Z,41nm,1.0s					
MAJO	**Matsushiro**	**48.27 345**	P	**P**	**12 56 41.9**	**+0.4**
MAJO	**Matsushiro**	**48.27 345**	P	**P**	**12 56 41.7**	**+0.2**
MAJO	**Matsushiro**	**48.27 345***c*	*i* P	**P**	**12 56 39.8**	**-1.7**
MAJO			pmax	pmax		
	comp=Z,516nm,1.9s					
MAJO	**Matsushiro**	**48.27 345**	⇑P	**P**	**12 56 39.9**	**-1.6**
MJB9	**Matsu-Tunnel**	**48.27 345**	P	**P**	**12 56 41.7**	**+0.2**
DLV	**Lat**	**48.58 296**	P	**P**	**12 56 44.6**	**+0.1**
DLV	**Lat**	**48.58 296**	P	**P**	**12 56 44.6**	**+0.1**
DLV	**Lat**	**48.58 296**	⇑P	**P**	**12 56 44.3**	**-0.2**
JMM	**Marumori**	**48.95 348**	P	**P**	**12 56 46.7**	**0.0**
JMM			IAmb	IAmb	12 56 56.4	
	comp=Z,382nm,1.4s					
JMM	**Marumori**	**48.95 348**	P	**P**	**12 56 48.9**	**+2.3**
JMM	**Marumori**	**48.95 348**	⇑P	**P**	**12 56 46.0**	**-0.7**
HKC	**Hong Kong Obse**	**49.23 311**	⇑P	**P**	**12 56 52.0**	**+2.9**
HKPS	**Hong Kong Po S**	**49.24 311**	P	**P**	**12 56 50.5**	**+1.3**
MYKOM	**Kota Tinggi**	**49.47 281**	P	**P**	**12 56 51.0**	**-0.1**
MYKOM			IAmb	IAmb	12 56 54.8	
	comp=Z,177nm,1.6s					
MYKOM	**Kota Tinggi**	**49.47 281**	P	**P**	**12 56 52.5**	**+1.4**
KSI	**Kapahiang**	**49.52 274**	P	**P**	**12 56 51.7**	**+0.1**
JSD	**Sado**	**49.67 346**	P	**P**	**12 56 52.0**	**-0.2**
JSD			IAmb	IAmb	12 57 03.3	
	comp=Z,186nm,1.3s					
JSD	**Sado**	**49.67 346**	P	**P**	**12 56 54.7**	**+2.5**
JSD	**Sado**	**49.67 346**	⇑P	**P**	**12 56 51.5**	**-0.7**
GZH	**Guangzhou**	**50.31 311**	P	**P**	**12 56 59.5**	**+2.2**
GZH			S	**S**	**13 04 14.3**	**+4.6**
GZH			pmax	pmax		
	comp=Z,130nm,1.5s					
GZH			LR	LR		
	comp=Z,4μm,16.9s					
GZH			LR	LR		
	comp=Z,6μm,20.4s					
GZH			LR	LR		
	comp=Z,9μm,19.6s					
SSE	**Sheshan**	**50.62 325**	P	**P**	**12 56 59.8**	**+0.3**
SSE			S	**S**	**13 04 14.4**	**+0.7**
SSE			pmax	pmax		
	comp=Z,100nm,2.0s					
SSE			pmax	pmax		
	comp=Z,1μm,4.0s					
SSE			LR	LR		
	comp=Z,5μm,19.2s					
SSE			LR	LR		
	comp=Z,4μm,19.8s					
QIZ	**Qiongzhong**	**50.76 305**	P	**P**	**12 57 01.8**	**+1.0**
QIZ			S	**S**	**13 04 18.3**	**+2.2**
QIZ			pmax	pmax		
	comp=Z,120nm,2.3s					
QIZ			pmax	pmax		
	comp=Z,1μm,3.5s					
QIZ			LR	LR		
	comp=Z,2μm,14.7s					
QIZ			LR	LR		
	comp=Z,4μm,20.0s					
QIZ			LR	LR		
	comp=Z,5μm,22.3s					
QIZ	**Qiongzhong**	**50.76 305**	P	**P**	**12 57 02.3**	**+1.5**
JTM	**Tenmabayashi**	**51.72 349**	P	**P**	**12 57 07.1**	**-0.4**
JTM			IAmb	IAmb	12 57 17.0	
	comp=Z,439nm,1.4s					
JTM	**Tenmabayashi**	**51.72 349**	P	**P**	**12 57 09.9**	**+2.3**
JTM	**Tenmabayashi**	**51.72 349**	⇑P	**P**	**12 57 06.8**	**-0.8**
TJN	**Taejon**	**51.83 335**	P	**P**	**12 57 08.7**	**+0.2**
TJN	**Taejon**	**51.83 335**	P	**P**	**12 57 10.3**	**+1.8**
TJN	**Taejon**	**51.83 335**	*i* P	**P**	**12 57 09.0**	**+0.5**
BKNI	**Bangkinang**	**51.84 278**	P	**P**	**12 57 07.6**	**-1.4**
BKNI	**Bangkinang**	**51.84 278**	P	**P**	**12 57 07.5**	**-1.5**
BKNI	**Bangkinang**	**51.84 278**	P	**P**	**12 57 10.1**	**+1.1**
BKNI	**Bangkinang**	**51.84 278**	P	**P**	**12 57 08.4**	**-0.6**
PPI	**Padang Panjang**	**52.29 277**	P	**P**	**12 57 10.5**	**-1.9**
	comp=Z,3μmcomp=Z,3μmcomp=Z,117nm,1.9s					
KSRS	**Korea Array**	**52.52 336**	P	**P**	**12 57 14.2**	**+0.7**
	comp=Z,29nm,0.9s,baz=153,slow=7.9,SNR=45					
KSRS			LR	LR	13 17 55.0	
	comp=Z,6μm,19.7s,baz=150,slow=34					
	comp=Z,29nm,0.9s					
KSAR	**Wonju Array Be**	**52.52 336**	P	**P**	**12 57 13.5**	**-0.1**
KSAR	**Wonju Array Be**	**52.52 336**	P	**P**	**12 57 13.5**	**-0.1**
ERM	**Erimo**	**52.58 352**	*i* P	**P**	**12 57 12.3**	**-1.6**
ERM			pmax	pmax		
	comp=Z,157nm,2.0s					
KS19	**Wonju Array Si**	**52.58 336**	P	**P**	**12 57 14.2**	**+0.1**
UBPT	**Khong Chiam**	**52.66 298**	P	**P**	**12 57 14.5**	**-0.5**
UBPT	**Khong Chiam**	**52.66 298**	P	**P**	**12 57 15.9**	**+0.9**
NJ2	**Nanjing**	**52.66 324**	⇓*i* P	**P**	**12 57 15.9**	**+1.2**
NJ2			sP	**pwP**	**12 57 21.8**	**-0.5**
NJ2			PP	**PP**	**12 59 12.7**	**-1.4**
NJ2			S	**S**	**13 04 45.3**	**+3.5**
NJ2			pmax	pmax		
	comp=Z,200nm,2.0s					
NJ2			pmax	pmax		
	comp=Z,3μm,3.6s					
NJ2			LR	LR		
	comp=Z,9μm,20.8s					
NJ2			LR	LR		
	comp=Z,5μm,21.8s					
NJ2			LR	LR		
	comp=Z,12μm,20.8s					
IPM	**Ipoh**	**52.90 284**	P	**P**	**12 57 16.2**	**-0.8**
IPM			IAmb	IAmb	12 57 20.1	
	comp=Z,248nm,1.4s					
IPM	**Ipoh**	**52.90 284**	P	**P**	**12 57 17.3**	**+0.4**
IPM	**Ipoh**	**52.90 284**	⇓P	**P**	**12 57 15.9**	**-1.0**
INCN	**Inchon**	**53.08 335**	P	**P**	**12 57 18.1**	**+0.3**
INCN			IAmb	IAmb	12 57 21.6	
	comp=Z,603nm,1.9s					
INCN	**Inchon**	**53.08 335**	P	**P**	**12 57 20.0**	**+2.2**
INCN	**Inchon**	**53.08 335**	P	**P**	**12 57 18.1**	**+0.3**
INCN			pmax	pmax		
	comp=Z,603nm,1.9s					
INCN			pmax	pmax		
	comp=Z,10μm,22.0s					
MNSI	**Mandailing Nat**	**53.37 279**	P	**P**	**12 57 18.5**	**-1.8**
	comp=Z,3μmcomp=Z,3μmcomp=Z,150nm,1.1s					
SISI	**Saibi**	**53.39 276**	P	**P**	**12 57 18.5**	**-2.0**
	comp=Z,112nm,1.4s					
KULM	**Kulim**	**53.49 284**	P	**P**	**12 57 20.2**	**-1.0**
KULM			IAmb	IAmb	12 57 24.1	
	comp=Z,226nm,1.5s					
KULM	**Kulim**	**53.49 284**	P	**P**	**12 57 22.4**	**+1.2**
KULM	**Kulim**	**53.49 284**	⇑P	**P**	**12 57 20.5**	**-0.8**
CNSH	**ChangSha**	**53.74 316**	P	**P**	**12 57 24.3**	**+1.5**
CNSH			S	**S**	**13 05 01.3**	**+4.6**
CNSH			pmax	pmax		
	comp=Z,91nm,2.0s					
CNSH			LR	LR		
	comp=Z,4μm,21.9s					
CNSH			LR	LR		
	comp=Z,4μm,21.1s					
CNSH			LR	LR		
	comp=Z,8μm,22.2s					
GULI	**GuiLin**	**53.80 312**	P	**P**	**12 57 27.3**	**+4.0**
GULI			S	**S**	**13 05 05.2**	**+7.6**
GULI			pmax	pmax		
	comp=Z,120nm,1.5s					
GULI			pmax	pmax		
	comp=Z,1μm,4.3s					
GULI			LR	LR		
	comp=Z,5μm,24.6s					
GULI			LR	LR		
	comp=Z,4μm,21.0s					
GULI			LR	LR		
	comp=Z,6μm,19.2s					
HJU	**Haeju**	**53.93 334**	P	**P**	**12 57 22.9**	**-1.1**
HJU			S	**S**	**13 04 58.0**	**-0.9**
HJU			AmB			
	comp=Z,2μm,2.4s					
HJU			AMS	AMS		
	comp=Z,8μm,14.7s					
COCO	**West Island**	**54.17 262**	P	**P**	**12 57 27.7**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**54.25 354***c*	*i* P	**P**	**12 57 23.5**	**-2.7**
YUK		*e*			12 58 27.0	
YUK					12 59 25.9	
YUK			*e*S	**S**	**13 05 00.9**	**-2.0**
YUK			pmax	pmax		
	comp=Z,390nm,1.6s					
YUK			pmax	pmax		
	comp=Z,322nm,1.3s					
YUK			pmax	pmax		
	comp=E,111nm,1.0s					
YUK			pmax	pmax		
	comp=N,188nm,1.1s					
WHN	**Wuhan**	**54.35 319**	⇓*i* P	**P**	**12 57 28.5**	**+1.3**
WHN			sP	**pwP**	**12 57 35.1**	**+0.4**
WHN			S	**S**	**13 05 04.7**	**0.0**
WHN			sS	**sS**	**13 05 12.0**	**-0.2**
WHN			pmax	pmax		
	comp=N,2μm,1.6s					
WHN			pmax	pmax		
	comp=N,7μm,2.7s					
WHN			LR	LR		
	comp=N,11μm,19.2s					
WHN			LR	LR		
	comp=N,8μm,12.8s					
WHN			LR	LR		
	comp=N,26μm,20.3s					
PBSI	**Pulau Batu**	**54.45 277**	P	**P**	**12 57 28.3**	**0.0**
RPSI	**Rantau Prapat**	**54.46 281**	P	**P**	**12 57 27.5**	**-0.8**
RPSI	**Rantau Prapat**	**54.46 281**	P	**P**	**12 57 27.2**	**-1.1**
RPSI			IAmb	IAmb	12 57 30.8	
	comp=Z,205nm,1.5s					
RPSI			IAMs_20	IAMs_20	13 23 46.7	
	comp=Z,10μm,22.0s			

comp=Z,10μm,23.0s
DL2 LR LR
comp=Z,6μm,20.8s
DL2 LR LR
comp=Z,17μm,22.1s
TIA Tai'an 56.69 326 P **P 12 57 43.1 -0.8**
TIA sP **sP 12 57 50.0 -0.2**
TIA S **S 13 05 37.3 +1.4**
TIA pmax pmax
comp=Z,190nm,1.6s
TIA pmax pmax
comp=Z,2μm,4.3s
TIA LR LR
comp=Z,9μm,20.7s
TIA LR LR
comp=Z,10μm,20.5s
TIA LR LR
comp=Z,17μm,21.4s
TEY Ternei 56.71 347⇓*e*P **P 12 57 39.4 -4.4**
TEY pmax pmax
comp=Z,10.0nm,1.5s
SLVN Son La 56.74 304 P **P 12 57 44.0 -0.6**
SLVN IAmb IAmb 12 57 48.9
comp=Z,268nm,1.6s
SLVN Son La 56.74 304 P **P 12 57 46.6 +1.9**
PPT Papeete 56.93 104 LR LR 13 17 01.4
comp=Z,5μm,21.2s,baz=266,slow=31
USA0B Ussuriysk Arra 57.11 343 *i*P **P 12 57 45.9 -0.9**
USRK Ussuriysk Ar. 57.11 343 P **P 12 57 46.4 -0.3**
USRK Ussuriysk Ar. 57.11 343 P **P 12 57 45.7 -1.0**
comp=Z,22nm,1.1s,baz=158,slow=6.0,SNR=53
USRK LR LR 13 20 23.3
comp=Z,6μm,20.1s,baz=154,slow=34
comp=Z,22nm,1.1s
USRK Ussuriysk Ar. 57.11 343 P **P 12 57 46.4 -0.3**
GYA Guiyang 57.21 311 ⇑P **P 12 57 50.0 +2.0**
GYA S **S 13 05 43.9 +0.5**
GYA SS **SS 13 09 33.6 +0.7**
GYA pmax pmax
comp=Z,94nm,2.0s
GYA pmax pmax
comp=Z,2μm,3.7s
GYA LR LR
comp=Z,3μm,18.8s
GYA LR LR
comp=Z,2μm,19.9s
GYA LR LR
comp=Z,4μm,19.5s
MLSI Meulaboh, Aceh 57.28 282 P **P 12 57 48.5 -0.1**
ENH Enshi 57.40 316 P **P 12 57 50.6 +1.5**
YSS Yuzhno-Sakhali 57.48 352 P **P 12 57 49.0 -0.3**
YSS Yuzhno-Sakhali 57.48 352 P **P 12 57 51.5 +2.2**
YSS Yuzhno-Sakhali 57.48 352*c i*P **P 12 57 48.4 -0.9**
YSS *e* 12 58 49.2
YSS *e* 13 01 20.6
YSS *e*S **S 13 05 41.3 -4.6**
YSS *e*PS PKiKP 13 05 49.4 +41
YSS pmax pmax
comp=Z,700nm,7.2s
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzhno-Sakhali 57.48 352 ⇑P **P 12 57 48.1 -1.2**
SRDT SRDT 57.90 294 P **P 12 57 54.7 +1.8**
SNY Shenyang 58.00 335 ⇓P **P 12 57 53.2 +0.1**
SNY S **S 13 05 56.0 +3.1**
SNY SS **SS 13 09 44.2 -0.3**
SNY pmax pmax
comp=Z,59nm,2.0s
SNY LR LR
comp=Z,3μm,19.9s
SNY LR LR
comp=Z,2μm,19.7s
SNY LR LR
comp=Z,6μm,20.6s
LYN LuoYang 58.21 322 P **P 12 57 54.5 -0.2**
LYN sP sP 12 58 01.4 +0.5
LYN S **S 13 05 57.4 +1.4**
LYN SS **SS 13 09 50.4 +2.3**
LYN pmax pmax
comp=Z,320nm,1.9s
LYN pmax pmax
comp=Z,3μm,4.3s
LYN LR LR
comp=Z,10μm,19.2s
LYN LR LR
comp=Z,10μm,19.2s
LYN LR LR
comp=Z,21μm,19.2s
MDJ Mudanjiang 58.22 341 P **P 12 57 54.2 -0.3**
MDJ Mudanjiang 58.22 341 P **P 12 57 55.0 +0.5**
MDJ S **S 13 05 56.1 +0.4**
MDJ pmax pmax
comp=Z,66nm,1.9s
MDJ pmax pmax
comp=Z,2μm,8.3s
MDJ LR LR
comp=Z,5μm,22.9s
MDJ LR LR
comp=Z,5μm,21.4s
MDJ LR LR
comp=Z,9μm,19.8s
MDJ Mudanjiang 58.22 341 P **P 12 57 55.8 +1.3**
BSI Banda Aceh 58.67 283 P **P 12 57 57.6 -0.7**
HNS HongShan 58.88 326 ⇑P **P 12 57 59.4 +0.1**
HNS S **S 13 06 05.0 +0.4**
HNS SS **SS 13 09 56.9 -1.6**
HNS pmax pmax
comp=Z,250nm,1.4s
HNS pmax pmax
comp=Z,2μm,4.1s
HNS LR LR
comp=Z,8μm,19.6s
HNS LR LR
comp=Z,11μm,20.2s
HNS LR LR
comp=Z,16μm,19.4s
CN2 Changchun 58.93 338 *e*P **P 12 57 59.3 -0.2**
CN2 *e*S **S 13 06 03.3 -1.7**
CN2 SS **SS 13 09 55.9 -3.2**
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=Z,6μm,22.0s
CN2 LR LR
comp=Z,5μm,22.0s
CN2 LR LR
comp=Z,7μm,23.6s
KMI Kunming 59.52 307 ⇓P **P 12 58 04.5 +0.2**
KMI PcP **PcP 12 58 52.7 +1.0**
KMI S **S 13 06 15.9 +2.1**
KMI SS **SS 13 10 04.1 -5.4**
KMI pmax pmax
comp=Z,120nm,2.2s
KMI pmax pmax
comp=Z,2μm,4.5s
KMI LR LR
comp=Z,2μm,18.1s
KMI LR LR
comp=Z,5μm,21.9s
KMI LR LR
comp=Z,7μm,22.0s
UGL Uglegorsk 59.65 352 *e*P **P 12 58 04.2 -0.2**
UGL *e*S **S 13 06 06.2 -7.9**
UGL pmax pmax
comp=Z,70nm,1.7s
CM31 Chiang Mai Arr 59.66 298 P **P 12 58 04.6 -0.4**
CM31 IAmb IAmb 12 58 14.5
comp=Z,213nm,1.4s
CMAR Chiang Mai Arr 59.66 298 P **P 12 58 04.4 -0.7**
CMAR Chiang Mai Arr 59.66 298 P **P 12 58 05.4 +0.3**
comp=Z,57nm,1.1s,baz=123,slow=4.7,SNR=67
CMAR LR LR 13 25 33.8
comp=Z,1μm,20.7s,baz=110,slow=38
CMAR PKP2bc 13 27 42.6
comp=Z,2.2nm,0.9s,baz=293,slow=4.7,SNR=7.8
comp=Z,57nm,1.1s
CMAR Chiang Mai Arr 59.66 298 *i*P **P 12 58 05.3 +0.2**
CMAR pmax pmax
comp=Z,56nm,1.1s
CHTO Chiang Mai 59.80 299 P **P 12 58 05.1 -1.0**
CHTO IAmb IAmb 12 58 15.2
comp=Z,197nm,1.4s
CHTO Chiang Mai 59.80 299 P **P 12 58 05.1 -1.0**
CHTO pmax pmax
comp=Z,197nm,1.5s
BNX BinXian 59.92 340 ⇓P **P 12 58 06.3 -0.1**
BNX S **S 13 06 20.8 +3.0**
BNX sS **sS 13 06 25.4 +0.2**
BNX pmax pmax
comp=Z,69nm,1.7s
BNX pmax pmax
comp=Z,2μm,4.9s
BNX LR LR
comp=Z,4μm,19.0s
BNX LR LR
comp=Z,3μm,20.1s
BNX LR LR
comp=Z,8μm,39.0s
BJT Baijiatuau 60.01 329 IAMs_20 IAMs_20 13 22 11.2
comp=Z,11μm,22.0s
BJT Baijiatuau 60.01 329 P **P 12 58 08.8 +1.7**
BJI Beijing 60.02 329 P **P 12 58 06.7 -0.4**
BJI S **S 13 06 18.4 -0.8**
BJI pmax pmax
comp=Z,100nm,1.7s
BJI pmax pmax
comp=Z,1μm,4.0s
BJI LR LR
comp=Z,4μm,20.2s
BJI LR LR
comp=Z,2μm,19.8s
BJI LR LR
comp=Z,6μm,21.9s
XAN Xi'an 60.10 319 ⇑P **P 12 58 08.0 +0.1**
XAN PP **PP 13 00 21.9 +1.2**
XAN S **S 13 06 22.6 +1.9**
XAN SS **SS 13 10 19.4 +1.4**
XAN pmax pmax
comp=Z,440nm,1.6s
XAN pmax pmax
comp=Z,4μm,4.6s
XAN LR LR
comp=Z,5μm,19.0s
XAN LR LR
comp=Z,5μm,23.3s
XAN LR LR
comp=Z,11μm,21.4s
TIY Taiyuan 60.38 324 *e*P **P 12 58 09.7 -0.1**
TIY S **S 13 06 25.6 +1.4**
TIY SS **SS 13 10 26.0 +3.6**
TIY pmax pmax
comp=Z,77nm,0.7s
TIY pmax pmax
comp=Z,1μm,3.9s
TIY LR LR
comp=Z,7μm,21.2s
TIY LR LR
comp=Z,5μm,22.6s
TIY LR LR
comp=Z,10μm,22.0s
PZH PanZhiHua 60.98 308 P **P 12 58 16.0 +1.8**
PZH S **S 13 06 35.2 +2.8**
PZH pmax pmax
comp=Z,50nm,1.6s
PZH pmax pmax
comp=Z,1μm,4.9s
PZH LR LR
comp=Z,3μm,19.4s
PZH LR LR
comp=Z,3μm,22.7s
PZH LR LR
comp=Z,4μm,23.5s
TYV Tymovskoe 61.34 353 *e*P **P 12 58 16.2 +0.3**
TYV *e*S **S 13 06 39.3 +3.7**
TYV pmax pmax
comp=Z,1μm,5.6s
TYV pmax pmax
comp=Z,71nm,1.5s
TYV smax smax
comp=N,2μm,8.6s
TYV smax smax
comp=E,2μm,8.6s
TYV smax smax
comp=N,12nm,2.0s
CD2 Chengdu 61.78 313 P **P 12 58 19.6 +0.2**
CD2 sP sP 12 58 25.6 -0.1
CD2 PP **PP 13 00 32.6 -3.0**
CD2 S **S 13 06 44.0 +1.8**
CD2 pmax pmax
comp=N,150nm,1.3s
CD2 pmax pmax
comp=N,2μm,5.1s
CD2 LR LR
comp=N,4μm,20.2s
CD2 LR LR
comp=N,6μm,18.6s
KLR Kul'dur 61.80 345 LR LR 13 24 14.6
comp=N,5μm,18.6s,baz=166,slow=35
KLR Kul'dur 61.80 345*ce*P **P 12 58 19.5 +0.5**
KLR pmax pmax
comp=Z,133nm,1.7s
GRNR Gornyy 62.20 349⇑*i*P **P 12 58 21.1 -0.7**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
TNCH TengChong 62.84 305 ⇓P **P 12 58 27.0 +0.2**
TNCH pP pP 12 58 31.9 +0.6
TNCH sP pwP 12 58 34.9 +0.5
TNCH PP **PP 13 00 46.6 +1.4**
TNCH S **S 13 07 01.9 +5.9**
TNCH ScS **SKSac 13 08 17.2 -2.2**
TNCH pmax pmax
comp=Z,170nm,1.3s
TNCH pmax pmax
comp=Z,1μm,3.3s
TNCH LR LR
comp=Z,950nm,19.2s
TNCH LR LR
comp=Z,1μm,20.0s
TNCH LR LR
comp=Z,5μm,21.4s
PBA Port Blair 62.84 289 *e*P **P 12 58 24.1 -2.6**
PBA *e*S **S 13 06 56.6 +0.7**
XLT XiLinHaoTe 62.97 332 *e*P **P 12 58 26.6 -0.6**
XLT pP sP 12 58 33.2 -0.2
XLT PcP **PcP 12 59 05.4 +0.3**
XLT PP **PP 13 00 49.0 +3.1**
XLT S **S 13 06 55.6 -1.2**
XLT SS **SS 13 11 04.2 +1.5**
XLT pmax pmax
comp=Z,120nm,1.2s
XLT LR LR
comp=Z,5μm,24.1s
XLT LR LR
comp=Z,7μm,23.2s
HHC Hu-ho-hao-te 63.04 326⇑*i*P **P 12 58 28.1 +0.4**
HHC sP pwP 12 58 34.8 -0.5
HHC PP **PP 13 00 47.4 +0.8**
HHC S **S 13 06 54.1 -3.8**
HHC sS pS 13 07 02.8 -0.6
HHC SS **SS 13 11 03.0 -1.0**
HHC pmax pmax
comp=Z,140nm,1.7s
HHC pmax pmax
comp=Z,1μm,4.2s
HHC LR LR
comp=Z,9μm,19.2s
HHC LR LR
comp=Z,8μm,20.8s
HHC LR LR
comp=Z,19μm,22.1s
DGPR DIGLIPUR 63.14 290 *e*P **P 12 58 25.7 -3.0**
PET Petropavlovsk 63.20 4 P **P 12 58 31.2 +2.9**
PET Petropavlovsk 63.20 4 *e*P **P 12 58 30.3 +2.0**
PET *e* 12 59 06.0
PET *e*S **S 13 07 04.0 +5.0**
PET *e* 13 08 20.5
PET *e*SS **SS 13 11 08.0 +2.4**
PET pmax pmax
comp=Z,700nm,11.9s
PET pmax pmax
comp=Z,700nm,10.9s
PET pmax pmax
comp=Z,68nm,1.4s
PET MLR MLR
comp=Z,4μm,18.0s
PEA0B Petropavlovsk- 63.21 4 P **P 12 58 28.5 0.0**
PEA0B Petropavlovsk- 63.21 4*ce*P **P 12 58 28.1 -0.3**
PETK Petropavlovsk- 63.21 4 P **P 12 58 27.7 -0.8**
PETK Petropavlovsk- 63.21 4 P **P 12 58 28.0 -0.5**
comp=Z,43nm,0.9s,baz=181,slow=6.2,SNR=35
PETK LR LR 13 21 32.4
comp=Z,5μm,21.9s,baz=184,slow=32
comp=Z,43nm,0.9s
PETK Petropavlovsk- 63.21 4 P **P 12 58 28.0 -0.5**
BTO Baotou 63.73 325 *e*P **P 12 58 34.3 +2.1**
BTO pP **pwP 12 58 39.2 -0.7**
BTO sP **sP 12 58 41.4 +2.9**
BTO PP **PP 13 00 56.6 +3.9**
BTO S **S 13 07 08.0 +1.6**
BTO sS **sS 13 07 15.8 +1.8**
BTO pmax pmax
comp=Z,250nm,1.7s
BTO pmax pmax
comp=Z,4μm,7.0s
BTO LR LR
comp=Z,17μm,23.7s
BTO LR LR
comp=Z,12μm,20.7s
BTO LR LR
comp=Z,24μm,20.5s
NKL Nikolayevsk 63.82 352 *e*P **P 12 58 29.7 -2.7**
NKL *e*S **S 13 07 05.4 -1.4**
NKL pmax pmax
comp=E,144nm,1.7s
NKL pmax pmax
comp=N,84nm,1.8s
NKL pmax pmax
comp=Z,351nm,1.8s
NKL smax smax
comp=E,315nm,4.5s
NKL smax smax
comp=N,611nm,4.4s
HEH HeiHe 63.92 343 *e*P **P 12 58 32.9 -0.2**
HEH pP **pP 12 58 36.6 -1.1**
HEH sP **sP 12 58 39.2 -0.2**
HEH S **S 13 07 07.4 -0.7**
HEH sS **sS 13 07 15.0 -0.5**
HEH pmax pmax
comp=N,62nm,1.0s
HEH pmax pmax
comp=N,1μm,6.5s
HEH LR LR
comp=N,6μm,24.5s
HEH LR LR
comp=N,3μm,22.6s
HEH LR LR
comp=N,12μm,24.0s
LZH Lanzhou 64.65 318 *e*P **P 12 58 39.7 +1.2**
LZH sP pwP 12 58 45.6 -0.5
LZH S **S 13 07 17.6 -0.6**
LZH SS **SS 13 11 32.5 +3.1**
LZH pmax pmax
comp=N,210nm,1.4s
LZH pmax pmax
comp=N,2μm,5.2s
LZH LR LR
comp=N,1μm,19.8s
LZH LR LR
comp=N,5μm,18.2s
LZH LR LR
comp=N,9μm,21.3s
SHEM Shemya Is, Ala 65.43 15 LR LR 13 22 24.5
comp=N,15μm,21.9s,baz=202,slow=32
HIA Hailar 65.66 337 P **P 12 58 45.6 +1.0**
LKP Lekhapani 66.02 306 *e*P **P 12 58 48.3 +1.0**
LKP *e*S **S 13 07 35.7 +0.8**
IMP Imphal 66.50 303 *e*P **P 12 58 50.0 -0.5**
IMP IAmb IAmb 12 58 58.8
comp=Z,358nm,1.9s
IMP *e*S **S 13 07 37.1 -3.8**
KOHI KOHIMA 66.73 304 *e*P **P 12 58 50.8 -1.3**
KOHI IAmb IAmb 12 59 00.2
comp=Z,238nm,1.2s
KOHI *e*S **S 13 07 43.7 -0.2**
ZEA Zeya 67.07 344 *e*P **P 12 58 54.1 +0.6**
ZEA *e*S **S 13 07 51.1 +4.5**
ZEA pmax pmax
comp=E,200nm,4.6s
ZEA pmax pmax
comp=N,500nm,5.8s
ZEA pmax pmax
comp=Z,800nm,5.4s
ZEA pmax pmax
comp=Z,160nm,1.1s
ZEA smax smax
comp=N,1μm,11.7s
AZL Aizawl 67.11 301 *e*P **P 12 58 54.4 -0.1**
AZL IAmb IAmb 12 59 03.3
comp=Z,221nm,1.7s
AZL *e*S **S 13 07 45.3 -3.1**
VNDA Vanda 67.52 178 P **P 12 58 57.0 +1.0**
VNDA Vanda 67.52 178 P **P 12 58 56.6 +0.6**
comp=Z,21nm,0.9s,baz=327,slow=6.4,SNR=26
VNDA LR LR 13 26 59.6
comp=Z,6μm,18.6s,baz=354,slow=35
comp=Z,21nm,0.9s
VNDA Vanda 67.52 178 P **P 12 58 57.0 +1.0**
VNDA pmax pmax
comp=Z,41nm,1.1s
BRDH Bariadhala 67.59 300 P **P 12 58 58.7 +1.3**
comp=Z,54nm,0.3s,baz=75,slow=12,SNR=5.5
BRDH LR LR 13 28 59.8
comp=Z,1μm,22.0s,baz=122,slow=36
ZIRO ZIRO 67.70 305 *e*P **P 12 58 58.5 +0.2**
ZIRO *e*S **S 13 07 55.7 +0.1**
SHL Shillong 68.50 303 P **P 12 59 02.2 -1.1**
SHL Shillong 68.50 303 *e*P **P 12 59 02.4 -1.0**
SHL IAmb IAmb 12 59 12.3
comp=Z,436nm,1.8s
SHL *e*S **S 13 08 03.3 -1.9**
SHL Shillong 68.50 303 P **P 12 59 02.2 -1.1**
SHL pmax pmax
comp=Z,296nm,1.4s
GTA Gaotai 69.17 319 P **P 12 59 08.4 +1.3**
GTA sP pwP 12 59 14.7 -0.1
GTA S **S 13 08 16.0 +3.5**
GTA SS **SS 13 12 43.9 +4.6**
GTA pmax pmax
comp=Z,75nm,2.0s
GTA pmax pmax
comp=Z,1μm,6.2s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,2μm,21.1s
GTA LR LR
comp=Z,4μm,20.4s
TAWA Tawang 69.33 305 *e*P **P 12 59 09.5 +0.9**
TAWA *e*S **S 13 08 16.8 +1.5**
MA2 Magadan 69.52 359 P **P 12 59 07.8 -0.9**
MA2 Magadan 69.52 359 LR LR 13 28 43.1
comp=Z,3μm,19.4s,baz=186,slow=35
MA2 Magadan 69.52 359 P **P 12 59 08.6 -0.1**
MA2 Magadan 69.52 359*ce*P **P 12 59 08.4 -0.3**
MA2 pmax pmax
comp=Z,109nm,1.7s
MA2 Magadan 69.52 359 ⇓P **P 12 59 08.0 -0.7**
ULN Ulaanbaatar 70.20 330 P **P 12 59 13.6 +0.2**
ULN Ulaanbaatar 70.20 330 IAMs_20 IAMs_20 13 28 51.9
comp=Z,8μm,20.0s
ULN Ulaanbaatar 70.20 330*c i*P **P 12 59 13.7 +0.3**
ULN pmax pmax
comp=Z,343nm,1.6s
ULN Ulaanbaatar 70.20 330 ⇑P **P 12 59 14.2 +0.8**
CIT Chita 70.25 336 *e*P **P 12 59 14.2 +0.7**
CIT *e* 12 59 38.0
CIT *e*S **S 13 08 30.2 +5.6**
CIT pmax pmax
comp=Z,537nm,2.2s
CAL Calcutta 70.40 298 *e*P **P 12 59 14.8 -0.1**
SONM Songino Array 70.51 329 P **P 12 59 15.7 +0.5**
SONM Songino Array 70.51 329 P **P 12 59 15.3 +0.1**
comp=Z,54nm,1.0s,baz=145,slow=4.9,SNR=94
SONM PKP2bc 13 27 14.1
comp=Z,1.1nm,0.9s,baz=227,slow=3.3,SNR=5.5
SONM LR LR 13 29 26.2
comp=Z,8μm,21.8s,baz=134,slow=35
comp=Z,54nm,1.0s
SONM Songino Array 70.51 329 P **P 12 59 15.7 +0.5**
SONM pmax pmax
comp=Z,389nm,1.5s
LSA Lhasa 70.76 306 P **P 12 59 18.2 +0.6**
LSA LR LR
comp=Z,970nm,14.7s
LSA LR LR
comp=Z,2μm,18.0s

GOMU	**GeErMu**	**70.90**	**314**	P	**P**	**12 59 19.7**	**+1.6**
GOMU				S	**S**	**13 08 36.7**	**+3.3**
GOMU				pmax	pmax		
	comp=Z,74nm,2.3s						
GOMU				pmax	pmax		
	comp=Z,2μm,5.4s						
GOMU				LR	LR		
	comp=Z,4μm,20.2s						
GOMU				LR	LR		
	comp=Z,3μm,21.4s						
GOMU				LR	LR		
	comp=Z,7μm,20.0s						
JPG	**JALPAIGURI**	**71.51**	**302**	*e*P	**P**	**12 59 22.0**	**+0.5**
GTK	**Tadong**	**71.89**	**303**	*e*P	**P**	**12 59 23.8**	**-0.2**
GTK				*e*S	**S**	**13 08 42.7**	**-2.1**
UNV	**Unalaska Valle**	**72.77**	**24**	P	**P**	**12 59 30.3**	**+1.8**
	baz=223						
SEY	**Seymchan**	**72.89**	**0**	LR	LR	13 27 58.8	
	comp=Z,3μm,21.8s,baz=181,slow=33						
SEY	**Seymchan**	**72.89**	**0**	*ce*P	**P**	**12 59 29.3**	**+0.3**
SEY				pmax	pmax		
	comp=Z,113nm,1.7s						
BOK	**Bokaro**	**72.94**	**299**	*e*P	**P**	**12 59 30.6**	**+0.4**
BOK				IAmb	IAmb	12 59 49.7	
	comp=Z,118nm,1.4s						
BOK				*e*S	**S**	**13 08 57.4**	**+0.8**
PALK	**Pallekele**	**73.17**	**281**	P	**P**	**12 59 31.6**	**-0.2**
PALK	**Pallekele**	**73.17**	**281**	P	**P**	**12 59 31.6**	**-0.2**
	comp=Z,18nm,1.1s,baz=82,slow=6.6,SNR=8.3						
PALK				LR	LR	13 32 34.3	
	comp=Z,4μm,21.7s,baz=105,slow=36						
	comp=Z,18nm,1.1s						
PALK	**Pallekele**	**73.17**	**281**	*e*P	**P**	**12 59 31.1**	**-0.7**
PALK				pmax	pmax		
	comp=Z,51nm,1.4s						
KNTI	**KHUNTI**	**73.22**	**298**	*e*P	**P**	**12 59 30.2**	**-1.7**
VIS	**Vishakhapatnam**	**73.33**	**292**	*e*P	**P**	**12 59 33.6**	**+1.0**
VIS				*e*S	**S**	**13 08 59.3**	**-1.9**
MALK	**Mahakanadarawa**	**73.57**	**282**	P	**P**	**12 59 33.5**	**-0.6**
MALK	**Mahakanadarawa**	**73.57**	**282**	⇓P	**P**	**12 59 34.2**	**+0.1**
RAGD	**RAYAGADA**	**73.66**	**294**	*e*P	**P**	**12 59 33.7**	**-0.8**
P08K	**Saint George I**	**73.70**	**21**	P	**P**	**12 59 35.2**	**+1.3**
	baz=220						
ZAK	**Zakamensk**	**73.73**	**330**	*e*P	**P**	**12 59 34.5**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,164nm,1.4s						
SPIA	**Saint Paul Isl**	**73.90**	**20**	P	**P**	**12 59 36.6**	**+1.5**
	baz=219						
YAK	**Yakutsk**	**74.08**	**349**	P	**P**	**12 59 35.5**	**-0.6**
YAK				IAmb	IAmb	12 59 45.1	
	comp=Z,177nm,1.4s						
YAK	**Yakutsk**	**74.08**	**349**	LR	LR	13 33 26.6	
	comp=Z,1μm,19.0s,baz=158,slow=37						
YAK	**Yakutsk**	**74.08**	**349**	*c i*P	**P**	**12 59 34.7**	**-1.3**
YAK				*e**PP	**pP**	**12 59 39.3**	**-1.4**
YAK				*e*		13 02 24.3	
YAK				*e*S	**S**	**13 09 07.8**	**-0.2**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=N,24nm,1.5s						
YAK				pmax	pmax		
	comp=E,11nm,2.0s						
YAK				pmax	pmax		
	comp=Z,171nm,2.8s						
YAK				pmax	pmax		
	comp=E,69nm,1.8s						
YAK				pmax	pmax		
	comp=N,136nm,2.3s						
YAK				smax	smax		
	comp=E,683nm,4.2s						
YAK				smax	smax		
	comp=N,1μm,4.8s						
YAK	**Yakutsk**	**74.08**	**349**	⇑P	**P**	**12 59 34.9**	**-1.2**
JHSG	**JHARSUGUGA**	**74.13**	**296**	*e*P	**P**	**12 59 35.5**	**-1.7**
IRK	**Irkutsk**	**74.45**	**332**	*e*P	**P**	**12 59 35.7**	**-2.8**
IRK				*e*S	**S**	**13 09 17.4**	**+4.8**
IRK				pmax	pmax		
	comp=Z,255nm,2.1s						
BOD	**Bodaibo**	**74.55**	**340**	*e*P	**P**	**12 59 38.2**	**-0.7**
BOD				pmax	pmax		
	comp=Z,150nm,1.7s						
FALS	**False Pass**	**74.76**	**25**	P	**P**	**12 59 41.0**	**+0.9**
	baz=226						
BLSP	**Bilaspur**	**75.69**	**296**	*e*P	**P**	**12 59 44.2**	**-2.2**
BLSP				IAmb	IAmb	13 00 04.8	
	comp=Z,212nm,1.7s						
BLSP				*e*S	**S**	**13 09 27.6**	**-0.1**
VAR	**Varanasi**	**75.90**	**299**	*e*P	**P**	**12 59 45.4**	**-2.0**
S12K	**Black Hills**	**75.91**	**25**	IAMs_20	IAMs_20	13 26 28.5	
	comp=Z,9μm,21.0s						
S12K	**Black Hills**	**75.91**	**25**	P	**P**	**12 59 47.9**	**+1.1**
	baz=227						
SDPT	**Sand Point**	**76.33**	**26**	P	**P**	**12 59 49.7**	**+0.6**
	baz=228						
CHNA	**Chernabura Isl**	**76.37**	**26**	P	**P**	**12 59 51.0**	**+1.6**
	baz=229						
SALM	**Salem**	**76.56**	**285**	*e*P	**P**	**12 59 50.7**	**-0.6**
ALBI	**Allahabad**	**76.94**	**299**	*e*P	**P**	**12 59 53.3**	**+0.1**
ALBI				IAmb	IAmb	13 00 12.1	
	comp=Z,286nm,1.6s						
ALBI				*e*S	**S**	**13 09 40.0**	**-1.2**
KOD	**Kodaikanal**	**76.94**	**283**	*e*P	**P**	**12 59 53.0**	**-0.8**
TRD	**Trivandrum**	**77.05**	**281**	*e*P	**P**	**12 59 54.4**	**+0.2**
TRD				*e*S	**S**	**13 09 42.5**	**-0.2**
S14K	**Fog Glacier**	**77.34**	**25**	P	**P**	**12 59 56.0**	**+1.0**
	baz=229						
HYB	**Hyderabad**	**77.64**	**290**	*e*P	**P**	**12 59 57.5**	**+0.1**
HYB				IVmB_BB		12 59 59.3	
	comp=Z,1μm,2.1s						
HYB				*e*S	**S**	**13 09 51.4**	**+2.3**
HYB				IVMs_BB	IVMs_BB	13 30 42.2	
	comp=Z,833nm,24.2s						
M11K	**Mekoryuk**	**77.72**	**20**	P	**P**	**12 59 58.3**	**+1.5**
	baz=222						
CHGN	**Chignik**	**77.84**	**26**	P	**P**	**12 59 58.5**	**+0.9**
	baz=230						
NGP	**Nagpur**	**78.17**	**294**	*e*P	**P**	**12 59 58.5**	**-1.7**
DGAR	**Diego Garcia**	**78.58**	**264**	*ce*P	**P**	**13 00 02.7**	**+0.1**
DGAR				pmax	pmax		
	comp=Z,359nm,1.7s						
O14K	**Tigyukauivet M**	**78.66**	**22**	P	**P**	**13 00 03.1**	**+1.0**
O14K				IAmb	IAmb	13 00 13.1	
	comp=Z,136nm,1.2s						
O14K				IAMs_20	IAMs_20	13 28 45.1	
	comp=Z,9μm,21.0s						
O14K	**Tigyukauivet M**	**78.66**	**22**	P	**P**	**13 00 03.5**	**+1.4**
	baz=227						
BILL	**Bilibino**	**78.67**	**5**	P	**P**	**13 00 02.2**	**+0.2**
BILL				IAmb	IAmb	13 00 13.4	
	comp=Z,142nm,1.3s						
BILL	**Bilibino**	**78.67**	**5**	*ce*P	**P**	**13 00 02.6**	**+0.6**
BILL				pmax	pmax		
	comp=Z,143nm,1.7s						
M13K	**Dall Lake**	**78.71**	**21**	P	**P**	**13 00 03.3**	**+1.0**
	baz=225						
GAMB	**Gambell**	**78.72**	**16**	P	**P**	**13 00 03.0**	**+0.7**
	baz=216						
CHIR	**Chirikof Islan**	**78.76**	**27**	P	**P**	**13 00 03.8**	**+1.0**
	baz=233						
N14K	**Kuskokwak Cree**	**78.96**	**22**	P	**P**	**13 00 05.1**	**+1.4**
	baz=226						
R16K	**Pilot Point**	**79.00**	**25**	P	**P**	**13 00 04.9**	**+0.9**
	baz=230						
O15K	**Ungalikthiuk R**	**79.15**	**23**	P	**P**	**13 00 05.4**	**+0.5**
	baz=228						
WMQ	**Urumqi**	**79.23**	**318**	⇑P	**P**	**13 00 07.4**	**+1.7**
WMQ				S	**S**	**13 10 08.1**	**+2.8**
WMQ				SS	**SS**	**13 15 12.2**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,150nm,1.9s						
WMQ				pmax	pmax		
	comp=Z,2μm,5.1s						
WMQ				LR	LR		
	comp=Z,4μm,22.5s						
WMQ				LR	LR		
	comp=Z,2μm,22.5s						
WMQ				LR	LR		
	comp=Z,3μm,24.2s						
KAAM	**Kaadhehdhoo**	**79.36**	**272**	P	**P**	**13 00 07.5**	**+0.5**
KAAM				IAmb	IAmb	13 00 11.1	
	comp=Z,490nm,1.9s						
K13K	**Kusilvak Mount**	**79.37**	**19**	P	**P**	**13 00 07.1**	**+1.2**
	baz=223						
M14K	**Bethel**	**79.44**	**21**	P	**P**	**13 00 07.4**	**+1.1**
	baz=226						
LGTI	**Lohaghat**	**79.53**	**303**	*e*P	**P**	**13 00 07.3**	**-0.2**
PTH	**Pithoragarh**	**79.59**	**303**	*e*P	**P**	**13 00 06.4**	**-1.7**
L14K	**Kuka Creek**	**79.60**	**20**	P	**P**	**13 00 07.6**	**+0.4**
	baz=225						
N15K	**Kwethluk River**	**79.72**	**22**	P	**P**	**13 00 07.7**	**-0.2**
	baz=228						
LATR	**Latur**	**79.72**	**291**	*e*P	**P**	**13 00 05.9**	**-2.9**
P16K	**Nushagak River**	**79.77**	**24**	P	**P**	**13 00 08.3**	**+0.1**
	baz=230						
JHNI	**Jhansi**	**79.81**	**298**	*e*P	**P**	**13 00 06.4**	**-2.8**
QSPA	**South Pole Qui**	**79.82**	**180**	P	**P**	**13 00 08.7**	**+0.1**
QSPA				IAmb	IAmb	13 00 16.7	
	comp=Z,176nm,1.0s						
QSPA	**South Pole Qui**	**79.82**	**180**	IAMs_20	IAMs_20	13 34 06.2	
	comp=Z,6μm,20.0s						
QSPA	**South Pole Qui**	**79.82**	**180**	P	**P**	**13 00 08.5**	**-0.2**
	comp=Z,114nm,0.9s,baz=302,slow=21,SNR=7.1						
QSPA				LR	LR	13 34 25.6	
	comp=Z,6μm,18.6s,baz=19,slow=35						
	comp=Z,114nm,0.9s						
QSPA	**South Pole Qui**	**79.82**	**180**	⇑P	**P**	**13 00 08.2**	**-0.5**
SII	**Sitkinak Islan**	**79.84**	**27**	IAMs_20	IAMs_20	13 30 53.7	
	comp=Z,9μm,19.0s						
SII	**Sitkinak Islan**	**79.84**	**27**	P	**P**	**13 00 09.1**	**+0.4**
	baz=234						
M15K	**Kasigluk River**	**79.86**	**22**	P	**P**	**13 00 08.9**	**+0.3**
	baz=227						
AKL	**Akola**	**79.88**	**293**	*e*P	**P**	**13 00 08.2**	**-1.4**
AKL				*e*S	**S**	**13 10 12.0**	**-1.0**
MNGI	**Mangalore**	**80.07**	**285**	*e*P	**P**	**13 00 10.1**	**-0.7**
Q16K	**King Salmon**	**80.08**	**24**	P	**P**	**13 00 10.4**	**+0.5**
	baz=231						
O16K	**Kokwok River B**	**80.09**	**23**	P	**P**	**13 00 10.4**	**+0.5**
	baz=230						
BHPL	**Bhopal**	**80.18**	**296**	*e*P	**P**	**13 00 11.0**	**-0.2**
BHPL				IAmb	IAmb	13 00 30.2	
	comp=Z,200nm,1.8s						
BHPL				*e*S	**S**	**13 10 14.8**	**-1.3**
BHPL				*e*S	**S**	**13 10 16.8**	**+0.8**
L15K	**Ungalak Mounta**	**80.25**	**21**	P	**P**	**13 00 11.6**	**+0.9**
	baz=226						
NRDN	**NARMADA NAGAR**	**80.27**	**295**	*e*P	**P**	**13 00 12.9**	**+1.2**
J14K	**Nanvaranak Lak**	**80.31**	**19**	P	**P**	**13 00 12.0**	**+1.0**
	baz=224						
R18K	**Karluk**	**80.33**	**26**	P	**P**	**13 00 12.1**	**+0.9**
	baz=233						
MAW	**Mawson**	**80.37**	**203**	LR	LR	13 33 33.2	
	comp=Z,15μm,19.8s,baz=85,slow=34						
N16K	**Nishlik Lake**	**80.41**	**22**	P	**P**	**13 00 12.9**	**+1.3**
	baz=229						
JOSI	**Joshimath**	**80.44**	**303**	*e*P	**P**	**13 00 11.2**	**-1.5**
JOSI				IAmb	IAmb	13 00 39.3	
	comp=Z,188nm,1.5s						
JOSI				*e*S	**S**	**13 10 16.7**	**-2.2**
P17K	**Kvichak River**	**80.50**	**24**	P	**P**	**13 00 13.3**	**+1.2**
	baz=231						
TKRD	**Thakurdwara**	**80.60**	**302**	*e*P	**P**	**13 00 11.2**	**-2.1**
O17K	**Koliganek Bris**	**80.60**	**23**	P	**P**	**13 00 13.6**	**+1.0**
	baz=231						
OHAK	**Old Harbor**	**80.63**	**27**	P	**P**	**13 00 13.9**	**+1.0**
	baz=234						
GUNA	**GUNA**	**80.64**	**297**	*e*P	**P**	**13 00 14.1**	**+0.4**
GUNA				IAmb	IAmb	13 00 32.3	
	comp=Z,72nm,1.4s						
GUNA				*e*S	**S**	**13 10 20.1**	**-0.7**
K15K	**Wolf Creek Mou**	**80.66**	**20**	P	**P**	**13 00 13.6**	**+0.6**
K15K				IAmb	IAmb	13 00 24.2	
	comp=Z,170nm,1.1s						
K15K	**Wolf Creek Mou**	**80.66**	**20**	P	**P**	**13 00 13.7**	**+0.8**
	baz=226						
M16K	**Timber Creek**	**80.70**	**22**	IAMs_20	IAMs_20	13 32 32.2	
	comp=Z,9μm,21.0s						
M16K	**Timber Creek**	**80.70**	**22**	P	**P**	**13 00 13.8**	**+0.6**
	baz=229						
Q18K	**Katmai Hardscr**	**80.74**	**25**	P	**P**	**13 00 14.5**	**+0.9**
	baz=233						
L16K	**Owhat River**	**80.97**	**21**	IAMs_20	IAMs_20	13 32 36.3	
	comp=Z,6μm,21.0s						
L16K	**Owhat River**	**80.97**	**21**	P	**P**	**13 00 15.4**	**+0.8**
	baz=228						
N17K	**Nushagak Hills**	**81.04**	**23**	P	**P**	**13 00 15.7**	**+0.7**
	baz=230						
ANM	**Nome**	**81.08**	**17**	P	**P**	**13 00 16.1**	**+0.9**
	baz=222						
P18K	**Big Mountain,**	**81.11**	**24**	IAMs_20	IAMs_20	13 30 17.9	
	comp=Z,9μm,21.0s						
P18K	**Big Mountain,**	**81.11**	**24**	P	**P**	**13 00 16.1**	**+0.7**
	baz=232						
TNA	**Tin City**	**81.13**	**16**	P	**P**	**13 00 16.3**	**+1.0**
	baz=220						
KDAK	**Kodiak Island**	**81.27**	**26**	LR	LR	13 30 26.1	
	comp=Z,5μm,21.6s,baz=82,slow=31						
KDAK	**Kodiak Island**	**81.27**	**26**	*i* P	**P**	**13 00 14.2**	**-2.0**
KDAK				pmax	pmax		
	comp=Z,163nm,1.4s						
KDAK	**Kodiak Island**	**81.27**	**26**	P	**P**	**13 00 16.4**	**+0.1**
	baz=235						
ASOR	**Ausora**	**81.39**	**301**	*e*P	**P**	**13 00 16.3**	**-1.3**
O18K	**Koktuh Hills**	**81.40**	**24**	P	**P**	**13 00 17.5**	**+0.5**
	baz=232						
Q19K	**Cape Douglas,**	**81.48**	**25**	IAMs_20	IAMs_20	13 31 29.9	
	comp=Z,9μm,21.0s						
Q19K	**Cape Douglas,**	**81.48**	**25**	P	**P**	**13 00 17.9**	**+0.5**
	baz=234						
MERT	**Meerut**	**81.49**	**301**	*e*P	**P**	**13 00 15.2**	**-2.9**
F14K	**Arctic Creek**	**81.49**	**16**	P	**P**	**13 00 18.0**	**+0.7**
	baz=221						
M17K	**Holitna River**	**81.51**	**22**	IAMs_20	IAMs_20	13 31 07.5	
	comp=Z,10μm,22.0s						
M17K	**Holitna River**	**81.51**	**22**	P	**P**	**13 00 17.5**	**0.0**
	baz=230						
GOA	**Goa**	**81.58**	**287**	*e*P	**P**	**13 00 16.9**	**-1.9**
DDI	**Dehra Dun**	**81.61**	**303**	*e*P	**P**	**13 00 19.4**	**+0.6**
DDI				*e*S	**S**	**13 10 30.0**	**-0.8**
N18K	**Kilae Creek**	**81.64**	**23**	IAMs_20	IAMs_20	13 30 03.0	
	comp=Z,9μm,21.0s						
N18K	**Kilae Creek**	**81.64**	**23**	P	**P**	**13 00 18.3**	**+0.1**
	baz=232						
J16K	**Anvik River**	**81.65**	**20**	P	**P**	**13 00 18.0**	**-0.2**
	baz=227						
KAD	**Karad**	**81.66**	**289**	*e*P	**P**	**13 00 17.4**	**-1.8**
L17K	**Donlin**	**81.67**	**21**	P	**P**	**13 00 18.9**	**+0.6**
	baz=229						
JMIU	**JAMIA UNIVERSI**	**81.75**	**301**	*e*P	**P**	**13 00 17.4**	**-2.1**
JMIU				*e*S	**S**	**13 10 31.5**	**-0.6**
G15K	**Niukluk**	**81.79**	**17**	P	**P**	**13 00 20.2**	**+1.3**
	baz=224						
LDR	**Lodi Road**	**81.81**	**301**	*e*P	**P**	**13 00 17.4**	**-2.4**
Q20K	**Shuyak Island**	**81.82**	**26**	P	**P**	**13 00 19.5**	**+0.3**
	baz=235						
SONA	**Sohna**	**81.83**	**301**	*e*P	**P**	**13 00 17.0**	**-2.9**
NDI	**New Delhi**	**81.84**	**301**	*e*P	**P**	**13 00 17.9**	**-2.1**
AYAN	**Aya Nagar**	**81.86**	**301**	*e*P	**P**	**13 00 18.8**	**-1.3**
AYAN				*e*S	**S**	**13 10 29.1**	**-4.2**
AYAN				*e*S	**SKSac**	**13 10 30.9**	**-9.0**
NPLP	**NPLP New Delhi**	**81.87**	**301**	*e*P	**P**	**13 00 17.0**	**-3.1**
O19K	**Port Alsworth**	**81.96**	**24**	P	**P**	**13 00 19.6**	**-0.2**
	baz=233						
I17K	**Unalakleet**	**82.04**	**19**	IAMs_20	IAMs_20	13 30 37.2	
	comp=Z,6μm,21.0s						
I17K	**Unalakleet**	**82.04**	**19**	P	**P**	**13 00 20.0**	**-0.1**
	baz=227						
K17K	**Iditarod**	**82.05**	**21**	P	**P**	**13 00 20.3**	**0.0**
K17K				IAmb	IAmb	13 00 31.6	
	comp=Z,233nm,1.3s						
K17K				IAMs_20	IAMs_20	13 35 26.8	
	comp=Z,6μm,20.0s						
K17K	**Iditarod**	**82.05**	**21**	P	**P**	**13 00 20.5**	**+0.2**
	baz=229						
H16K	**Elim**	**82.07**	**18**	P	**P**	**13 00 20.6**	**+0.3**
	baz=225						
P19K	**Oil Pt**	**82.08**	**25**	P	**P**	**13 00 21.0**	**+0.5**
	baz=234						
BHGR	**Bahadurgarh**	**82.08**	**301**	*e*P	**P**	**13 00 19.5**	**-1.7**
BHGR				*e*S	**S**	**13 10 35.7**	**+0.2**
GNR	**GANAUR**	**82.14**	**301**	*e*P	**P**	**13 00 20.3**	**-1.2**
F15K	**North Star Dit**	**82.14**	**17**	P	**P**	**13 00 21.6**	**+0.9**
	baz=223						
M18K	**Stony River**	**82.17**	**22**	P	**P**	**13 00 21.5**	**+0.6**
	baz=232						
J17K	**VABM Dome**	**82.24**	**20**	P	**P**	**13 00 21.5**	**+0.2**
J17K	**VABM Dome**	**82.24**	**20**	P	**P**	**13 00 20.7**	**-0.6**
	baz=228						
POO	**Poona**	**82.25**	**290**	*e*P	**P**	**13 00 20.4**	**-2.0**
POO				IAmb	IAmb	13 00 34.2	
	comp=Z,76nm,0.9s						
POO				*e*S	**S**	**13 10 37.4**	**-0.4**
N19K	**Bonanza Creek**	**82.27**	**23**	IAMs_20	IAMs_20	13 30 32.6	
	comp=Z,10μm,22.0s						
N19K	**Bonanza Creek**	**82.27**	**23**	P	**P**	**13 00 21.6**	**0.0**
	baz=233						
L18K	**Granite Mounta**	**82.31**	**22**	P	**P**	**13 00 22.1**	**+0.5**
L18K				IAmb	IAmb	13 00 33.1	
	comp=Z,148nm,1.2s						
L18K				IAMs_20	IAMs_20	13 31 21.6	
	comp=Z,9μm,22.0s						
L18K	**Granite Mounta**	**82.31**	**22**	P	**P**	**13 00 21.2**	**-0.4**
	baz=231						
KUDL	**Kundal**	**82.31**	**300**	*e*P	**P**	**13 00 20.2**	**-2.2**
ZSN	**Zaisan**	**82.55**	**321**	*e*P	**P**	**13 00 23.4**	**+0.2**
ZSN				*e*S	**S**	**13 10 40.6**	**+1.0**
ZSN				pmax	pmax		
	comp=Z,102nm,1.3s						
ZSN	**Zaisan**	**82.55**	**321**	*e*P	**P**	**13 00 23.5**	**+0.2**
	comp=Z,102nm,1.3s						
ZSN				*e*S	**S**	**13 10 40.7**	**+1.0**
SMLA	**Simla**	**82.57**	**303**	*e*P	**P**	**13 00 22.2**	**-1.5**
SMLA				*e*S	**S**	**13 10 38.4**	**-2.0**
G16K	**Koyuk River**	**82.57**	**18**	P	**P**	**13 00 23.2**	**+0.3**
	baz=225						
O20K	**Slope Mountain**	**82.58**	**25**	P	**P**	**13 00 23.6**	**+0.4**
	baz=235						
RTK	**Rohtak**	**82.61**	**301**	*e*P	**P**	**13 00 21.9**	**-2.1**
HOM	**Homer**	**82.74**	**25**	P	**P**	**13 00 24.2**	**+0.3**
	baz=236						
L19K	**White Mountain**	**82.96**	**22**	P	**P**	**13 00 24.8**	**-0.3**
	baz=232						
M19K	**Big River Lodg**	**82.96**	**23**	IAMs_20	IAMs_20	13 31 28.9	
	comp=Z,9μm,21.0s						
M19K	**Big River Lodg**	**82.96**	**23**	P	**P**	**13 00 25.0**	**-0.1**
	baz=233						
TTA	**Tatalina**	**83.00**	**21**	P	**P**	**13 00 27.8**	**+2.4**
TTA	**Tatalina**	**83.00**	**21**	P	**P**	**13 00 25.4**	**+0.1**
	baz=231						
H17K	**Granite Mounta**	**83.00**	**19**	IAMs_20	IAMs_20	13 30 42.8	
	comp=Z,7μm,22.0s						
H17K	**Granite Mounta**	**83.00**	**19**	P	**P**	**13 00 25.4**	**+0.2**
	baz=228						
J18K	**Innoko River**	**83.09**	**21**	P	**P**	**13 00 25.8**	**+0.1**
J18K				IAmb	IAmb	13 00 36.4	
	comp=Z,91nm,1.2s						
J18K	**Innoko River**	**83.09**	**21**	P	**P**	**13 00 25.7**	**-0.1**
	baz=231						
TIXI	**Tiksi**	**83.10**	**353**	LR	LR	13 36 30.5	
	comp=Z,3μm,20.5s,baz=176,slow=35						
TIXI	**Tiksi**	**83.10**	**353**	*i* P	**P**	**13 00 24.3**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,91nm,2.2s						
G17K	**Kiwalik Mounta**	**83.16**	**18**	P	**P**	**13 00 25.8**	**-0.2**
	baz=227						
BRSE	**Bradley Lake S**	**83.17**	**25**	P	**P**	**13 00 26.9**	**+0.7**
	baz=236						
BHK	**Bhakra**	**83.27**	**303**	*e*P	**P**	**13 00 24.9**	**-2.5**
BHK				IAmb	IAmb	13 00 29.7	
	comp=Z,226nm,2.0s						
BHK				*e*S	**S**	**13 10 45.6**	**-2.1**
SPCR	**Spurr Chakacha**	**83.39**	**24**	P	**P**	**13 00 27.8**	**+0.4**
	baz=235						
M20K	**Styx River**	**83.43**	**23**	P	**P**	**13 00 27.0**	**-0.6**
	baz=234						
AJM	**Ajmer**	**83.46**	**298**	*e*P	**P**	**13 00 28.1**	**-0.4**
AJM				*e*S	**S**	**13 10 46.5**	**-3.3**
CAPN	**Captain Cook N**	**83.57**	**24**	P	**P**	**13 00 29.1**	**+1.0**
	baz=236						
DHRM	**DHARAMSHALA**	**83.59**	**304**	*e*P	**P**	**13 00 27.6**	**-1.8**
DHRM				IAmb	IAmb	13 00 38.2	
	comp=Z,132nm,1.0s						
DHRM				*e*S	**S**	**13 10 48.6**	**-2.7**
F17K	**Baldwin Pennin**	**83.63**	**17**	IAMs_20	IAMs_20	13 31 38.4	
	comp=Z,8μm,22.0s						
F17K	**Baldwin Pennin**	**83.63**	**17**	P	**P**	**13 00 28.5**	**+0.1**
	baz=226						
H18K	**Honhosa River**	**83.64**	**19**	IAMs_20	IAMs_20	13 31 13.5	
	comp=Z,6μm,21.0s						
H18K	**Honhosa River**	**83.64**	**19**	P	**P**	**13 00 28.5**	**0.0**
	baz=229						
J19K	**Poorman**	**83.80**	**21**	P	**P**	**13 00 29.1**	**-0.3**
J19K				IAmb	IAmb	13 00 40.5	
	comp=Z,154nm,1.4s						
J19K				IAMs_20	IAMs_20	13 34 15.0	
	comp=Z,6μm,20.0s						
J19K	**Poorman**	**83.80**	**21**	P	**P**	**13 00 29.1**	**-0.3**
	baz=232						
SLKM	**Skilak Lake**	**83.81**	**25**	P	**P**	**13 00 29.4**	**-0.1**
SLKM				IAmb	IAmb	13 00 39.3	
	comp=Z,127nm,1.2s						
SLKM				IAMs_20	IAMs_20	13 31 21.4	
	comp=Z,9μm,22.0s						
C16K	**Lisburne Hills**	**83.85**	**15**	P	**P**	**13 00 27.7**	**-1.8**
	baz=222						
GCSA	**Galena City Sc**	**83.85**	**20**	P	**P**	**13 00 30.1**	**+0.6**
	baz=230,SNR=11						
SEW	**Seward**	**83.91**	**25**	P	**P**	**13 00 28.8**	**-1.1**
	baz=238						
MK31	**Makanchi Array**	**83.91**	**320**	*ce*P	**P**	**13 00 30.2**	**-0.2**
MKAR	**Makanchi Array**	**83.91**	**320**	P	**P**	**13 00 29.9**	**-0.5**
	comp=Z,83nm,1.2s,baz=108,slow=5.5,SNR=107						
MKAR				LR	LR	13 38 20.0	
	comp=Z,4μm,19.9s,baz=98,slow=36						
	comp=Z,83nm,1.2s						
MKAR	**Makanchi Array**	**83.91**	**320**	*i* P	**P**	**13 00 30.1**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,83nm,1.2s						
E17K	**Hotham Inlet**	**83.92**	**16**	P	**P**	**13 00 29.5**	**-0.4**
	baz=226						
K20K	**Telida**	**83.96**	**21**	IAMs_20	IAMs_20	13 32 12.2	
	comp=Z,9μm,21.0s						
K20K	**Telida**	**83.96**	**21**	P	**P**	**13 00 28.4**	**-1.8**
	baz=233						
O22K	**Cooper Landing**	**84.00**	**25**	P	**P**	**13 00 30.1**	**-0.3**
	baz=237						
D17K	**Noatak River**	**84.02**	**16**	P	**P**	**13 00 30.2**	**-0.2**
	baz=224,SNR=27						
G18K	**Tagagawik**	**84.04**	**18**	P	**P**	**13 00 31.1**	**+0.6**
	baz=229						
SKT	**Skwentna**	**84.10**	**23**	P	**P**	**13 00 30.2**	**-0.8**
	ba

BHV				IAmb	IAmb	13 00 46.5		
	comp=Z,230nm,2.0s							
C17K	DeLong Mountai	84.55	15	P	P	13 00 34.3	+1.2	
	baz=224,SNR=19							
PDGK	Podgornoye	84.56	316	P	P	13 00 32.1	-1.8	
G19K	Purcell Mounta	84.69	18	P	P	13 00 33.8	-0.1	
	baz=230							
I20K	Naaghedeneel	84.69	20	P	P	13 00 33.4	-0.5	
	baz=233							
CAST	Castle Rocks	84.72	22	IAMs_20	IAMs_20	13 32 34.3		
	comp=Z,9μm,22.0s							
CAST	Castle Rocks	84.72	22	P	P	13 00 33.5	-0.6	
	baz=235,SNR=19							
P23K	Montague Islan	84.73	26	P	P	13 00 33.1	-1.0	
	baz=239							
PWL	Port Wells	84.78	25	P	P	13 00 34.3	-0.1	
PWL	Port Wells	84.78	25	P	P	13 00 34.0	-0.4	
	baz=238							
UZB	Uzynbulak	84.82	315	eP	P	13 00 35.3	+0.1	
UZB				eS	SKSac	13 10 58.5	-0.7	
UZB				pmax	pmax			
	comp=Z,138nm,1.6s							
UZB	Uzynbulak	84.82	315	eP	P	13 00 35.3	+0.1	
	comp=Z,138nm,1.6s							
UZB				eS	SKSac	13 10 58.5	-0.7	
CUT	Chulitna	84.83	23	P	P	13 00 35.3	+0.7	
CUT				IAmb	IAmb	13 00 43.6		
	comp=Z,204nm,1.4s							
CUT	Chulitna	84.83	23	P	P	13 00 34.3	-0.3	
	baz=237							
PMR	Palmer	84.84	24	P	P	13 00 37.6	+3.0	
PMR	Palmer	84.84	24	P	P	13 00 34.3	-0.3	
	baz=238							
JMU	Jammu	84.86	304	eP	P	13 00 33.6	-1.8	
CHUM	Lake Minchumin	84.90	22	P	P	13 00 33.2	-1.7	
	baz=235,SNR=12							
Q23K	Middleton Isla	84.91	27	P	P	13 00 32.4	-2.6	
	baz=240							
F19K	Shaleruckik Mo	84.92	18	P	P	13 00 34.9	-0.1	
F19K				IAmb	IAmb	13 00 43.5		
	comp=Z,94nm,1.4s							
F19K	Shaleruckik Mo	84.92	18	P	P	13 00 35.1	+0.2	
	baz=229							
SRGN	SRI GANGA NAGA	84.97	301	eP	P	13 00 35.8	-0.3	
H20K	Anotleneega Mo	84.98	20	P	P	13 00 35.6	+0.2	
	baz=232,SNR=9.9							
BKNR	BIKANER	85.02	299	eP	P	13 00 37.4	+1.0	
BKNR				IAmb	IAmb	13 00 45.8		
	comp=Z,243nm,1.2s							
BKNR				eS	SKSac	13 10 57.0	-3.7	
KNK	Knik Glacier	85.02	25	P	P	13 00 34.8	-0.8	
	baz=238							
GHO	Glory Hole Cre	85.02	24	IAMs_20	IAMs_20	13 33 51.4		
	comp=Z,7μm,21.0s							
KPKS	Kokpek	85.16	316	eP	P	13 00 36.9	+0.1	
KPKS				pmax	pmax			
	comp=Z,119nm,1.6s							
KPKS	Kokpek	85.16	316	eP	P	13 00 36.9	+0.1	
	comp=Z,119nm,1.6s							
C18K	Utukok River	85.19	16	P	P	13 00 36.1	-0.3	
	baz=226							
SATY	Saty	85.22	315	eP	P	13 00 37.2	0.0	
SATY				eS	SKSac	13 11 01.2	-0.5	
SATY				pmax	pmax			
	comp=Z,106nm,1.6s							
SATY	Saty	85.22	315	eP	P	13 00 37.3	0.0	
	comp=Z,106nm,1.6s							
SATY				eS	SKSac	13 11 01.3	-0.5	
ZALV	Zalesovo Beam	85.22	327	P	P	13 00 35.2	-1.5	
	comp=Z,27nm,1.0s,baz=107,slow=5.7,SNR=26							
ZALV				LR	LR	13 38 52.6		
	comp=Z,7μm,19.9s,baz=116,slow=36							
	comp=Z,27nm,1.0s							
ZALV	Zalesovo Beam	85.22	327	i P	P	13 00 35.5	-1.3	
ZALV				pmax	pmax			
	comp=Z,26nm,1.0s							
KTH	Kantishna Hill	85.22	22	IAMs_20	IAMs_20	13 33 00.7		
	comp=Z,8μm,22.0s							
ZHN	Zhinishke	85.24	315	eP	P	13 00 37.2	-0.1	
ZHN				pmax	pmax			
	comp=Z,51nm,1.3s							
ZHN	Zhinishke	85.24	315	eP	P	13 00 37.2	-0.1	
	comp=Z,51nm,1.3s							
SRNI	Srinagar	85.27	306	eP	P	13 00 37.1	-0.3	
SML	Sawmill	85.28	24	IAMs_20	IAMs_20	13 34 39.3		
	comp=Z,9μm,21.0s							
SML	Sawmill	85.28	24	P	P	13 00 36.3	-0.7	
	baz=238							
GLI	Glacier Island	85.31	25	IAMs_20	IAMs_20	13 33 49.2		
	comp=Z,9μm,22.0s							
GLI	Glacier Island	85.31	25	P	P	13 00 36.2	-0.8	
	baz=240							
HIN	Hinchinbrook I	85.32	26	IAMs_20	IAMs_20	13 33 42.4		
	comp=Z,8μm,20.0s							
TRF	Thorofare Moun	85.40	22	P	P	13 00 35.5	-2.2	
	baz=236							
E19K	Redstone River	85.49	17	P	P	13 00 37.7	-0.1	
E19K				IAmb	IAmb	13 00 49.0		
	comp=Z,226nm,1.4s							
E19K				IAMs_20	IAMs_20	13 33 10.5		
	comp=Z,7μm,22.0s							
E19K	Redstone River	85.49	17	P	P	13 00 38.0	+0.1	
	baz=230							
BPAW	Bear Paw Mtn.	85.51	22	IAMs_20	IAMs_20	13 33 07.2		
	comp=Z,8μm,22.0s							
BPAW	Bear Paw Mtn.	85.51	22	P	P	13 00 36.0	-2.0	
	baz=236							
M23K	Glacier View	85.52	24	P	P	13 00 36.4	-1.7	
	baz=239							
B18K	Kokolik River	85.53	15	P	P	13 00 35.1	-2.9	
	baz=225,SNR=14							
F20K	Avaraart Lake	85.68	18	P	P	13 00 35.8	-2.9	
	baz=231							
SCM	Sheep Creek Mo	85.70	24	P	P	13 00 39.4	+0.3	
	baz=239							
EYAK	Cordova Ski Ar	85.72	26	P	P	13 00 38.2	-0.8	
	baz=241							
H21K	Melozitna Rive	85.77	20	P	P	13 00 37.7	-1.6	
	baz=234							
I21K	Tanana	85.77	21	P	P	13 00 39.1	-0.1	
I21K				IAmb	IAmb	13 00 47.6		
	comp=Z,134nm,1.6s							
I21K				IAMs_20	IAMs_20	13 35 55.1		
	comp=Z,8μm,20.0s							
I21K	Tanana	85.77	21	P	P	13 00 39.6	+0.3	
	baz=235,SNR=18							
KDJ	Kajisay	85.80	314	P	P	13 00 39.6	-0.5	
KDJ				IAmb	IAmb	13 00 43.5		
	comp=Z,256nm,1.5s							
KDJ	Kajisay	85.80	314	P	P	13 00 39.6	-0.5	
KDJ				pmax	pmax			
	comp=Z,256nm,1.5s							
TDK	Taldyqorghan	85.84	317	eP	P	13 00 40.3	+0.2	
TDK				pmax	pmax			
	comp=Z,117nm,1.2s							
TDK	Taldyqorghan	85.84	317	eP	P	13 00 40.4	+0.2	
	comp=Z,117nm,1.2s							
KSH	Kashi	85.90	311	P	P	13 00 41.4	+0.7	
KSH				sP	pwP	13 00 50.9	+2.5	
KSH				S	S	13 11 14.6	+0.8	
KSH				pmax	pmax			
	comp=Z,56nm,1.3s							
KSH				pmax	pmax			
	comp=Z,770nm,4.0s							
KSH				LR	LR			
	comp=Z,2μm,22.3s							
KSH				LR	LR			
	comp=Z,4μm,22.0s							
KSH				LR	LR			
	comp=Z,6μm,22.7s							
D19K	Kuna River	85.92	16	IAMs_20	IAMs_20	13 34 18.7		
	comp=Z,9μm,21.0s							
D19K	Kuna River	85.92	16	P	P	13 00 40.3	+0.3	
	baz=229,SNR=14							
KAIM	Kayak Island	86.00	27	P	P	13 00 37.4	-3.1	
	baz=242							
G21K	Allakaket	86.05	19	IAMs_20	IAMs_20	13 32 38.4		
	comp=Z,6μm,21.0s							
G21K	Allakaket	86.05	19	P	P	13 00 41.1	+0.5	
	baz=233,SNR=12							
MCK	McKinley	86.07	22	P	P	13 00 40.3	-0.5	
	baz=238,SNR=23							
BWN	Browne	86.11	22	IAMs_20	IAMs_20	13 33 29.6		
	comp=Z,7μm,21.0s							
KLU	Klutina	86.11	25	IAMs_20	IAMs_20	13 35 59.3		
	comp=Z,7μm,22.0s							
KLU	Klutina	86.11	25	P	P	13 00 39.8	-1.4	
	baz=241							
TNSS	Tian-Shan	86.23	315	eP	P	13 00 42.2	-0.4	
TNSS	Tian-Shan	86.23	315	eP	P	13 00 42.2	-0.4	
A19K	Wainwright	86.31	14	P	P	13 00 40.9	-0.8	
	baz=226,SNR=52							
AAA	Alma-Ata	86.31	315	eP	P	13 00 42.6	+0.1	
AAA				pmax	pmax			
	comp=Z,90nm,1.4s							
AAA	Alma-Ata	86.31	315	eP	P	13 00 42.7	+0.1	
	comp=Z,90nm,1.4s							
M24K	Tolsona, Glenn	86.31	25	P	P	13 00 41.4	-0.7	
	baz=240							
E20K	Nigu River	86.31	17	P	P	13 00 40.9	-1.0	
	baz=231							
H22K	Ishtalitna Cre	86.39	20	P	P	13 00 41.1	-1.2	
	baz=235							
BMRM	Bremner River	86.42	26	P	P	13 00 41.0	-1.6	
	baz=242							
NEA2	Nenana	86.48	22	P	P	13 00 41.7	-1.1	
	baz=238,SNR=13							
D20K	Etivluk River	86.48	17	P	P	13 00 41.8	-1.0	
	baz=230,SNR=23							
F21K	Alatna River	86.48	18	IAMs_20	IAMs_20	13 33 04.7		
	comp=Z,6μm,22.0s							
F21K	Alatna River	86.48	18	P	P	13 00 41.8	-1.0	
	baz=233,SNR=15							
ULHL	Ulahol	86.50	314	P	P	13 00 43.9	+0.2	
	SNR=10							
BERG	Berg Lake	86.54	27	IAMs_20	IAMs_20	13 32 25.7		
	comp=Z,9μm,22.0s							
I23K	Minto, Yukon-K	86.67	21	P	P	13 00 42.3	-1.4	
	baz=237							
N25K	Chitina, Valde	86.72	25	P	P	13 00 43.6	-0.6	
	baz=242							
WRH	Wood River Hil	86.77	22	IAMs_20	IAMs_20	13 33 57.6		
	comp=Z,6μm,22.0s							
JASL	Jaisalmer	86.81	298	eP	P	13 00 46.3	+1.0	
HARP	HAARP	86.87	24	P	P	13 00 45.1	+0.3	
	baz=241							
CCB	Clear Creek Bu	86.97	22	IAMs_20	IAMs_20	13 34 37.8		
	comp=Z,6μm,22.0s							
GLB	Gilahina Butte	86.98	26	IAMs_20	IAMs_20	13 35 17.2		
	comp=Z,5μm,20.0s							
H23K	Yukon River	86.98	21	IAMs_20	IAMs_20	13 36 11.0		
	comp=Z,8μm,20.0s							
H23K	Yukon River	86.98	21	P	P	13 00 45.6	+0.4	
	baz=237							
PAX	Paxson	87.02	24	P	P	13 00 45.0	-0.6	
	baz=241							
F22K	John River	87.06	19	P	P	13 00 44.4	-1.2	
	baz=235							
E21K	Killik River	87.07	17	IAMs_20	IAMs_20	13 36 27.2		
	comp=Z,5μm,20.0s							
E21K	Killik River	87.07	17	P	P	13 00 44.4	-1.2	
	baz=233							
COLA	College	87.07	22	P	P	13 00 45.0	-0.6	
COLA	College	87.07	22	i P	P	13 00 44.2	-1.4	
COLA				pmax	pmax			
	comp=Z,87nm,1.0s							
COLA	College	87.07	22	P	P	13 00 44.4	-1.2	
	baz=239							
BHUJ	Bhuj	87.12	294	eP	P	13 00 46.6	-0.2	
BHUJ				IAmb	IAmb	13 00 56.5		
	comp=Z,262nm,1.9s							
TKM2	Tokmak 2	87.15	314	P	P	13 00 46.6	-0.2	
	SNR=29							
TKM2	Tokmak 2	87.15	314	P	P	13 00 45.4	-1.4	
HDA	Harding Lake	87.17	22	P	P	13 00 45.9	-0.2	
	baz=240,SNR=6.2							
B20K	Meade River	87.17	15	P	P	13 00 44.9	-1.1	
	baz=230							
MESA	MESA	87.22	27	P	P	13 00 45.4	-1.4	
	baz=244							
C21K	Knifeblade Rid	87.27	17	P	P	13 00 46.2	-0.3	
	baz=232,SNR=20							
G23K	Bananza Creek	87.30	20	IAMs_20	IAMs_20	13 34 00.5		
	comp=Z,5μm,22.0s							
G23K	Bananza Creek	87.30	20	P	P	13 00 46.0	-0.9	
	baz=237,SNR=12							
K24K	Donnelly Dome	87.31	23	P	P	13 00 46.4	-0.5	
	baz=241							
POKR	Poker Plat Res	87.35	22	P	P	13 00 43.7	-3.3	
	baz=239							
IL31		87.37	22	P	P	13 00 46.0	-1.0	
ILAR	Eielson Array	87.37	22	P	P	13 00 45.3	-1.8	
ILAR	Eielson Array	87.37	22	P	P	13 00 45.5	-1.6	
	comp=Z,17nm,0.9s,baz=259,slow=4.6,SNR=82							
ILAR				LR	LR	13 37 08.8		
	comp=Z,4μm,19.2s,baz=234,slow=34							
	comp=Z,17nm,0.9s							
YAH	Yahtse	87.40	27	IAMs_20	IAMs_20	13 35 45.3		
	comp=Z,7μm,22.0s							
KBK	Karagaybulak	87.53	314	P	P	13 00 50.6	+2.0	
	SNR=11							
COLD	Coldfoot	87.53	19	P	P	13 00 46.4	-1.4	
	baz=236,SNR=14							
E22K	Anaktuvuk Pass	87.54	18	IAMs_20	IAMs_20	13 37 29.6		
	comp=Z,5μm,20.0s							
E22K	Anaktuvuk Pass	87.54	18	P	P	13 00 46.9	-1.1	
	baz=235,SNR=18							
KURK	Kurchatov	87.56	322	ceP	P	13 00 47.9	-0.4	
KURK				pmax	pmax			
	comp=Z,81nm,2.5s							
H24K	Noodor Dome	87.56	21	P	P	13 00 46.2	-1.9	
	baz=239,SNR=7.1							
KURBB	Kurchatov Arra	87.58	322	P	P	13 00 46.9	-1.5	
	comp=Z,7.7nm,1.1s,baz=110,slow=3.7,SNR=36							
KURBB				PP	PP	13 04 10.5	-3.2	
	comp=Z,15nm,1.2s,baz=106,slow=7.7,SNR=6.0							
KURBB				LR	LR	13 40 00.9		
	comp=Z,5μm,20.3s,baz=111,slow=36							
	comp=Z,7.7nm,1.1s							
B21K	Ikpikpuk River	87.61	16	P	P	13 00 46.8	-1.3	
	baz=232							
RIDG	Independent Ri	87.64	23	IAMs_20	IAMs_20	13 34 06.6		
	comp=Z,7μm,22.0s							
RIDG	Independent Ri	87.64	23	P	P	13 00 46.5	-2.0	
	baz=242,SNR=9.5							
MENT	Mentasta	87.71	24	P	P	13 00 50.6	+1.8	
D22K	Ayikyak River	87.71	17	IAMs_20	IAMs_20	13 37 18.2		
	comp=Z,6μm,20.0s							
D22K	Ayikyak River	87.71	17	P	P	13 00 48.7	0.0	
	baz=234							
M26K	Nabesna, AK	87.76	25	P	P	13 00 49.4	+0.2	
	baz=243							
CHMS	Chumysh	87.76	314	P	P	13 00 51.3	+1.7	
	SNR=16							
AAK	Ala-Archa	87.85	314	LR	LR	13 41 55.9		
	comp=Z,2μm,19.2s,baz=104,slow=37							
AAK	Ala-Archa	87.85	314	P	P	13 00 52.1	+2.0	
	SNR=17							
AAK	Ala-Archa	87.85	314	ceP	P	13 00 50.2	+0.1	
AAK				pmax	pmax			
	comp=Z,72nm,1.7s							
J25K	Salcha River,	87.86	23	P	P	13 00 49.2	-0.4	
J25K				IAmb	IAmb	13 00 59.4		
	comp=Z,125nm,1.2s							
J25K	Salcha River,	87.86	23	P	P	13 00 49.4	-0.2	
	baz=241,SNR=27							
L26K	Log Cabin Wild	87.90	24	P	P	13 00 49.2	-0.5	
	baz=243,SNR=11							
PINM	Pinnacle	87.96	28	P	P	13 00 49.9	-0.2	
	baz=246							
SGDS	Sogindy	87.97	315	eP	P	13 00 50.5	-0.1	
SGDS				eS	SKSac	13 11 18.3	-0.2	
SGDS				pmax	pmax			
	comp=Z,49nm,1.6s							
SGDS	Sogindy	87.97	315	eP	P	13 00 50.5	-0.1	
	comp=Z,49nm,1.6s							
SGDS				eS	SKSac	13 11 18.4	-0.2	
USP	Ospenovka	88.01	314	P	P	13 00 52.5	+1.7	
	SNR=24							
SCRK	Sand Creek	88.09	23	IAMs_20	IAMs_20	13 35 07.4		
	comp=Z,7μm,22.0s							
SCRK	Sand Creek	88.09	23	P	P	13 00 50.1	-0.7	
	baz=242,SNR=16							
G24K	Hadweenzic Riv	88.15	20	IAMs_20	IAMs_20	13 37 28.0		
	comp=Z,8μm,20.0s							
G24K	Hadweenzic Riv	88.15	20	P	P	13 00 51.5	+0.7	
	baz=239,SNR=22							
A21K	Barrow	88.16	15	P	P	13 00 51.0	+0.3	
	baz=230							
E23K	Chandalar	88.18	19	P	P	13 00 50.5	-0.5	
	baz=237,SNR=20							
PNL	Peninsula	88.18	28	P	P	13 00 50.5	-0.6	
	baz=246							
M27K	Edge Creek, AK	88.21	25	IAMs_20	IAMs_20	13 35 08.7		
	comp=Z,7μm,22.0s							
M27K	Edge Creek, AK	88.21	25	P	P	13 00 50.6	-0.7	
	baz=244							
PRP	Porcupine Dome	88.25	22	P	P	13 00 51.4	0.0	
	baz=241							
O28M	Mount Upton	88.27	27	P	P	13 00 51.7	-0.1	
	baz=246							
AML	Almayashu	88.28	313	P	P	13 00 52.5	0.0	
	SNR=38							
D23K	Nanushuk River	88.35	18	P	P	13 00 51.8	+0.1	
D23K				IAMs_20	IAMs_20	13 35 04.2		
	comp=Z,8μm,21.0s							
D23K	Nanushuk River	88.35	18	P	P	13 00 50.7	-1.0	
	baz=236							
EKS2	Erkin-Say	88.36	314	P	P	13 00 52.0	-0.5	
	SNR=24							
A22K	Sinclair Lake	88.37	15	P	P	13 00 51.8	+0.1	
	baz=232							
B22K	Teshekpuk Lake	88.37	16	P	P	13 00 51.9	+0.1	
B22K				IAmb	IAmb	13 01 02.5		
	comp=Z,181nm,1.4s							
B22K	Teshekpuk Lake	88.37	16	P	P	13 00 50.8	-0.9	
	baz=233							
SYO	Syowa Base	88.40	199‖	eP	P	13 00 51.0	-1.0	
SYO	Syowa Base	88.40	199‖	i PcP	P	13 00 52.0	0.0	
F24K	Squaw Lake	88.44	19	P	P	13 00 52.8	+0.5	
F24K				IAmb	IAmb	13 01 03.0		
	comp=Z,77nm,1.3s							
F24K				IAMs_20	IAMs_20	13 36 43.6		
	comp=Z,6μm,21.0s							
F24K	Squaw Lake	88.44	19	P	P	13 00 52.0	-0.3	
	baz=239,SNR=23							
J26L	Joseph Creek	88.49	23	P	P	13 00 52.4	-0.2	
	baz=243,SNR=16							
H25L	Birch Creek	88.51	21	P	P	13 00 52.5	0.0	
	baz=240							
TOLK	Toolik Lake Re	88.51	18	IAMs_20	IAMs_20	13 34 57.3		
	comp=Z,7μm,21.0s							
TOLK	Toolik Lake Re	88.51	18	P	P	13 00 53.3	+0.7	
	baz=237,SNR=16							
L27K	Beaver Creek,	88.54	25	IAMs_20	IAMs_20	13 35 05.4		
	comp=Z,5μm,20.0s							
L27K	Beaver Creek,	88.54	25	P	P	13 00 52.8	0.0	
	baz=244							
E24K	Your Creek	88.54	19	IAMs_20	IAMs_20	13 35 14.2		
	comp=Z,6μm,22.0s							
E24K	Your Creek	88.54	19	P	P	13 00 52.0	-0.7	
	baz=238							
YUK3	Moose Creek	88.56	26	P	P	13 00 52.5	-0.6	
	baz=245,SNR=8.4							
G25K	Bearman Lake	88.66	20	P	P	13 00 53.0	-0.2	
	baz=240							
BVCY	Beaver Creek	88.66	25	P	P	13 00 52.8	-0.6	
	baz=245,SNR=8.8							
YUK8	Steele Glacier	88.66	27	P	P	13 00 53.4	-0.3	
	baz=246,SNR=11							
O29M	Mount Kennedy	88.81	28	P	P	13 00 53.0	-1.2	
	baz=247							
K27K	Chicken	88.86	24	P	P	13 00 54.3	+0.1	
	baz=244							
C23K	Itkillik River	88.86	17	IAMs_20	IAMs_20	13 38 07.6		
	comp=Z,7μm,21.0s							
C23K	Itkillik River	88.86	17	P	P	13 00 54.8	+0.7	
	baz=236							
D24K	Happy Valley	89.02	18	IAMs_20	IAMs_20	13 35 23.7		
	comp=Z,7μm,21.0s							
D24K	Happy Valley	89.02	18	P	P	13 00 55.0	+0.2	
	baz=238							
I26K	Coal Creek Min	89.02	22	P	P	13 00 55.5	+0.6	
	baz=243,SNR=12							
S31K	Pelican	89.06	30	IAMs_20	IAMs_20	13 32 47.5		
	comp=Z,6μm,20.0s							
S31K	Pelican	89.06	30	P	P	13 00 54.6	-0.6	
	baz=249							
YUK6	Outpost Mounta	89.15	27	P	P	13 00 55.5	-0.5	
	baz=247							
YUK4	Talbot Arm	89.18	27	P	P	13 00 55.6	-0.5	
	baz=247							
SIT	Sitka	89.20	31	P	P	13 00 55.3	-0.6	
	baz=250							
F25K	Christian Rive	89.22	20	IAMs_20	IAMs_20	13 37 44.3		
	comp=Z,6μm,20.0s							
F25K	Christian Rive	89.22	20	P	P	13 00 55.8	-0.1	
	baz=241							
C24K	Franklin Bluff	89.36	17	IAMs_20	IAMs_20	13 36 20.6		
	comp=Z,8μm,21.0s							
C24K	Franklin Bluff	89.36	17	P	P	13 00 56.6	+0.2	
	baz=238							
P30M	Million Dollar	89.49	28	P	P	13 00 56.6	-0.7	
	baz=248							
HYT	Haines Junctio	89.50	27	P	P	13 00 58.1	+0.7	
	baz=248,SNR=14							
E25K	Arctic Village	89.51	19	IAMs_20	IAMs_20	13 37 15.8		
	comp=Z,5μm,21.0s							
E25K	Arctic Village	89.51	19	P	P	13 00 58.3	+1.1	
	baz=241,SNR=20							
PLBC	Pleasant Camp	89.53	29	P	P	13 00 57.4	0.0	
	baz=249							
G26K	Porcupine Rive	89.55	21	P	P	13 00 58.5	+1.1	
	baz=242,SNR=39							
M29M	Somme Creek	89.69	26	IAMs_20	IAMs_20	13 37 14.0		
	comp=Z,6μm,20.0s							
M29M	Somme Creek	89.69	26	P	P	13 00 59.6	+1.3	
	baz=247,SNR=9.7							
S32K	Killisnoo	89.72	31	IAMs_20	IAMs_20	13 32 46.2		
	comp=Z,8μm,22.0s							
S32K	Killisnoo	89.72	31	P	P	13 00 58.5	+0.2	
	baz=251							
I27K	Kandik River	89.73	22	P	P	13 00 59.0	+0.7	
	baz=244,SNR=27							
F26K	Sheenjek River	89.78	20	IAMs_20	IAMs_20	13 38 08.9		
	comp=Z,7μm,20.0s							
F26K	Sheenjek River	89.78	20	P	P	13 00 58.6	+0.1	
	baz=242							
CRAG	Craig	89.84	33	P	P	13 00 59.1	+0.1	
	baz=252							
D25K	Kavik River	89.85	18	IAMs_20	IAMs_20	13 36 12.7		
	comp=Z,6μm,22.0s							
D25K	Kavik River	89.85	18	P	P	13 00 58.5	-0.3	
	baz=240							
N30M	Aishikik Lake	89.92	27	P	P	13 00 59.0	-0.3	
	baz=248							
DAWY	Dawson	89.95	24	P	P	13 01 00.3	+0.9	
	baz=246,SNR=25							
KBU	Kabul Universi	89.96	305	P	P	13 00 57.4	-2.9	
R32K	Eaglecrest	90.02	30	P	P	13 00 58.5	-1.3	
	baz=251							
SKAG	Skagway	90.02	29	P	P	13 00 58.7	-1.0	
	baz=250							
H27K	Steamboat Moun	90.03	22	P	P	13 00 59.8	0.0	
	baz=244							
U33K	Whale Pass	90.04	33	IAMs_20	IAMs_20	13 38 12.7		
	comp=Z,5μm,22.0s							
U33K	Whale Pass	90.04	33	P	P	13 00 59.8	-0.1	
	baz=252							
L29M	L29M	90.09	25	IAMs_20	IAMs_20	13 36 04.5		
	comp=Z,8μm,21.0s							
L29M	L29M	90.09	25	P	P	13 01 01.3	+1.2	
	baz=248,SNR=14							
O30N	Mendenhall	90.12	28	P	P	13 01 01.2	+1.0	
	baz=249							
DZA	Taraz	90.16	313	eP	P	13 01 00.9	+0.1	
DZA	Taraz	90.16	313	eP	P	13 01 00.9	+0.1	
G

K29M	**Barlow Dome**	90.62	25	P	P	13 01 02.9	+0.3
	baz=248						
WHY	**Whitehorse**	90.64	28	P	P	13 01 03.0	+0.2
	baz=250						
OTUK	**Ortayu**	90.77	319	P	P	13 00 58.2	-5.4
KK31	**Karatay Array**	90.80	314	*i* P	P	13 01 02.4	-1.4
C27K	**Jago River**	90.82	18	IAMs_20	IAMs_20	13 37 34.4	
	comp=Z,6μm,20.0s						
C27K	**Jago River**	90.82	18	P	P	13 01 02.8	-0.5
	baz=242						
P32M	**Atlin**	90.84	29	IAMs_20	IAMs_20	13 35 39.7	
	comp=Z,6μm,20.0s						
P32M	**Atlin**	90.84	29	P	P	13 01 02.9	-0.7
	baz=251						
E27K	**Coleen River**	90.86	20	IAMs_20	IAMs_20	13 38 51.5	
	comp=Z,6μm,21.0s						
E27K	**Coleen River**	90.86	20	P	P	13 01 03.4	-0.1
	baz=244						
I29M	**Ogilvie Camp,**	90.89	23	P	P	13 01 03.1	-0.6
	baz=247,SNR=16						
IUG	**Iuzhnay**	90.93	313	*e*P	P	13 01 04.5	0.0
IUG				pmax	pmax		
	comp=Z,50nm,1.3s						
IUG	**Iuzhnay**	90.93	313	*e*P	P	13 01 04.5	0.0
	comp=Z,50nm,1.3s						
BRZS	**Berezniki**	90.99	321	*e*P	P	13 01 04.8	+0.3
BRZS				*e*S	**SKSac**	13 11 35.8	-0.1
BRZS	**Berezniki**	90.99	321	*e*P	P	13 01 04.9	+0.3
BRZS				*e*S	**SKSac**	13 11 35.8	-0.1
H29M	**Whitestone**	91.20	22	IAMs_20	IAMs_20	13 36 45.6	
	comp=Z,7μm,22.0s						
H29M	**Whitestone**	91.20	22	P	P	13 01 04.1	-1.0
	baz=247						
MAYO	**Mayo, Yukon**	91.21	25	P	P	13 01 04.2	-1.0
	baz=250						
BRLS	**Borolday**	91.26	313	*e*P	P	13 01 06.2	+0.3
BRLS	**Borolday**	91.26	313	*e*P	P	13 01 06.3	+0.3
Q32M	**Nakina River**	91.35	30	P	P	13 01 05.0	-1.2
	baz=253						
J30M	**Hart River**	91.38	24	IAMs_20	IAMs_20	13 37 11.4	
	comp=Z,7μm,21.0s						
J30M	**Hart River**	91.38	24	P	P	13 01 06.0	-0.1
	baz=249,SNR=12						
M31M	**Drury Creek, Y**	91.38	27	IAMs_20	IAMs_20	13 37 12.7	
	comp=Z,8μm,22.0s						
M31M	**Drury Creek, Y**	91.38	27	P	P	13 01 05.8	-0.3
	baz=251						
ELIB	**Princess Elisa**	91.45	194	*d*P	P	13 01 06.2	-0.2
	comp=Z,12nm,1.1s						
P33M	**Teslin, Yukon**	91.47	29	IAMs_20	IAMs_20	13 36 12.2	
	comp=Z,6μm,20.0s						
P33M	**Teslin, Yukon**	91.47	29	P	P	13 01 07.0	+0.4
	baz=252						
D27M	**Malcolm River**	91.52	19	IAMs_20	IAMs_20	13 40 01.9	
	comp=Z,6μm,20.0s						
D27M	**Malcolm River**	91.52	19	P	P	13 01 06.4	-0.2
	baz=245						
I30M	**Mount Dempster**	91.59	24	P	P	13 01 07.5	+0.4
	baz=249,SNR=7.9						
G29M	**Pine Creek**	91.59	22	IAMs_20	IAMs_20	13 37 12.9	
	comp=Z,6μm,20.0s						
G29M	**Pine Creek**	91.59	22	P	P	13 01 06.5	-0.4
	baz=248,SNR=9.7						
S34M	**Telegraph Cree**	91.62	31	IAMs_20	IAMs_20	13 36 06.3	
	comp=Z,6μm,20.0s						
S34M	**Telegraph Cree**	91.62	31	P	P	13 01 06.5	-0.7
	baz=254						
N32M	**Quiet Lake**	91.63	28	P	P	13 01 05.9	-1.4
	baz=252						
U35K	**Hyder**	91.64	33	IAMs_20	IAMs_20	13 34 19.2	
	comp=Z,5μm,21.0s						
U35K	**Hyder**	91.64	33	P	P	13 01 06.4	-0.9
	baz=254						
E28M	**Babbage River**	91.73	20	IAMs_20	IAMs_20	13 39 57.4	
	comp=Z,6μm,20.0s						
E28M	**Babbage River**	91.73	20	P	P	13 01 07.4	-0.1
	baz=246						
BBB	**Bella Bella**	91.77	37	LR	LR	13 35 32.7	
	comp=Z,8μm,21.2s,baz=264,slow=31						
T35M	**Bob Quinn**	91.81	32	IAMs_20	IAMs_20	13 34 36.6	
	comp=Z,6μm,22.0s						
T35M	**Bob Quinn**	91.81	32	P	P	13 01 07.2	-1.0
	baz=254						
FARO	**Faro, Yukon**	91.85	27	P	P	13 01 08.0	-0.3
	baz=252						
R33M	**Jennings River**	92.12	30	IAMs_20	IAMs_20	13 35 18.5	
	comp=Z,5μm,22.0s						
R33M	**Jennings River**	92.12	30	P	P	13 01 08.1	-1.5
	baz=254						
E29M	**Blow River**	92.20	20	IAMs_20	IAMs_20	13 40 35.9	
	comp=Z,5μm,20.0s						
E29M	**Blow River**	92.20	20	P	P	13 01 08.7	-1.0
	baz=248						
G30M	**tAoh Zraii Nji**	92.28	22	IAMs_20	IAMs_20	13 36 47.1	
	comp=Z,6μm,22.0s						
G30M	**tAoh Zraii Nji**	92.28	22	P	P	13 01 09.3	-0.8
	baz=249						
D28M	**Stokes Point**	92.28	19	P	P	13 01 08.7	-1.3
	baz=247						
DLBC	**Dease Lake**	92.33	31	LR	LR	13 37 29.8	
	comp=Z,4μm,19.5s,baz=268,slow=32						
DLBC	**Dease Lake**	92.33	31	P	P	13 01 10.1	-0.4
	baz=254						
MCCM	**Marconi Confer**	92.33	52	IAMs_20	IAMs_20	13 37 57.9	
	comp=Z,4μm,19.0s						
H31M	**Peel River**	92.59	23	P	P	13 01 10.1	-1.5
	baz=251						
F30M	**Barrier River**	92.66	21	P	P	13 01 11.0	-0.8
	baz=250						
G31M	**Satah River**	92.98	22	P	P	13 01 12.3	-1.0
	baz=251						
BVA0	**Borovoye Array**	93.10	323	*i* P	P	13 01 12.3	-1.9
BVAR	**Borovoye Array**	93.10	323	P	P	13 01 12.3	-1.9
	comp=Z,8.7nm,1.1s,baz=108,slow=4.8,SNR=21						
BVAR				PP	**PP**	13 04 58.8	+1.3
	comp=Z,6.2nm,1.1s,baz=94,slow=6.4,SNR=4.0						
BVAR				LR	LR	13 44 53.9	
	comp=Z,3μm,18.9s,baz=96,slow=37						
	comp=Z,8.7nm,1.1s						
YBH	**Yreka Blue Hor**	93.14	48	LR	LR	13 37 40.7	
	comp=Z,8μm,19.7s,baz=261,slow=32						
BRVK	**Borovoye**	93.17	323	*i* P	P	13 01 11.8	-2.7
BRVK				pmax	pmax		
	comp=Z,45nm,1.8s						
SAO	**San Andreas Ge**	93.20	53	IAMs_20	IAMs_20	13 38 34.0	
	comp=Z,5μm,20.0s						
COR	**Corvallis**	93.25	45	IAMs_20	IAMs_20	13 38 41.6	
	comp=Z,5μm,20.0s						
F31M	**Tsiigehtchic**	93.34	22	P	P	13 01 14.6	-0.4
	baz=252						
WTLY	**Watson Lake, Y**	93.37	30	P	P	13 01 14.5	-0.8
	baz=256						
NLWA	**Neilton Lookou**	93.40	43	IAMs_20	IAMs_20	13 36 41.4	
	comp=Z,5μm,21.0s						
INK	**Inuvik**	93.69	21	LR	LR	13 38 41.6	
	comp=Z,7μm,22.0s,baz=250,slow=32						
INK	**Inuvik**	93.69	21	P	P	13 01 15.5	-1.0
	baz=252						
TGTN	**Hyland Airport**	93.97	28	P	P	13 01 16.8	-1.3
	baz=256						
PASC	**Pasadena Art C**	95.40	56	IAMs_20	IAMs_20	13 40 14.7	
	comp=Z,4μm,20.0s						
TROLL	**Troll, Antarti**	95.56	189	⇑P	P	13 01 25.2	-0.2
	comp=Z,272nm,0.9s						
KOTAN	**Kotaneelee Air**	95.69	30	P	P	13 01 25.4	-0.5
	baz=260						
NVAR	**Mina Array Bea**	95.93	52	P	P	13 01 26.7	-1.1
	comp=Z,6.1nm,1.1s,baz=245,slow=6.4,SNR=20						
NVAR				PP	**PP**	13 05 19.6	-0.7
	comp=Z,0.2nm,0.7s,baz=3.9,slow=24,SNR=3.4						
NVAR				LR	LR	13 40 55.9	
	comp=Z,2μm,18.7s,baz=270,slow=33						
	comp=Z,6.1nm,1.1s						
HAWA	**Hanford**	96.16	44	IAMs_20	IAMs_20	13 41 25.7	
	comp=Z,5μm,19.0s						
WRGLY	**Wrigley**	96.51	27	P	P	13 01 28.5	-1.0
	baz=260						
SNAA	**Sanae**	96.64	188	⇑P	P	13 01 34.8	+4.6
	comp=Z,134nm,0.9s						
SNAA	**Sanae**	96.64	188	P	P	13 01 30.5	+0.3
	comp=Z,5.5nm,1.0s,baz=112,slow=6.9,SNR=3.8						
	comp=Z,5.5nm,1.0s						
SNAA	**Sanae**	96.64	188	*i* P	P	13 01 31.2	+1.0
PFO	**Pinyon Flats O**	96.75	57	LR	LR	13 37 32.8	
	comp=Z,5μm,21.0s,baz=268,slow=31						
PFO	**Pinyon Flats O**	96.75	57	*i* P	P	13 01 29.6	-1.9
WSAR	**Wadi Sarin**	97.09	292	LR	LR	13 52 07.5	
	comp=Z,2μm,19.0s,baz=110,slow=40						
C36M	**Paulatuk**	97.27	21	P	P	13 01 31.5	-1.4
	baz=261						
A36M	**Sachs Harbour**	97.33	18	IAMs_20	IAMs_20	13 42 46.5	
	comp=Z,7μm,21.0s						
A36M	**Sachs Harbour**	97.33	18	P	P	13 01 31.3	-1.8
	baz=260						
TPNV	**Topopah Spring**	97.35	54	IAMs_20	IAMs_20	13 41 06.9	
	comp=Z,5μm,20.0s						
BMO	**Blue Mountains**	97.51	46	IAMs_20	IAMs_20	13 41 17.5	
	comp=Z,4μm,19.0s						
NEW	**Newport**	98.03	42	IAMs_20	IAMs_20	13 39 23.8	
	comp=Z,6μm,21.0s						
NEW	**Newport**	98.03	42	LR	LR	13 41 39.6	
	comp=Z,5μm,18.6s,baz=268,slow=33						
MFID	**Camas Ranch**	98.41	47	IAMs_20	IAMs_20	13 43 53.4	
	comp=Z,4μm,19.0s						
ELK	**Elko**	98.57	50	LR	LR	13 40 35.5	
	comp=Z,1μm,20.1s,baz=268,slow=32						
AB31	**Akbulak array**	99.02	318	*i* P	**Pdif**	13 01 38.8	-2.4
SVE	**Sverdlovsk**	99.23	326	*e*P	**Pdif**	13 01 42.9	+1.0
SVE				pmax	pmax		
	comp=Z,15nm,1.4s						
SVE				MLR	MLR		
	comp=E,7μm,21.0s						
SVE				MLR	MLR		
	comp=Z,9μm,20.0s						
HLID	**Hailey**	99.45	47	IAMs_20	IAMs_20	13 51 40.9	
	comp=Z,5μm,18.0s						
MSO	**Missoula**	100.04	44	IAMs_20	IAMs_20	13 38 17.3	
	comp=Z,6μm,21.0s						
VOI	**Vohitsoka**	100.14	246	IAMs_20	IAMs_20	13 41 25.0	
	comp=Z,5μm,20.0s						
ARTI	**Arti**	100.44	326	P	**Pdif**	13 01 46.0	-1.3
ARTI						13 05 52.0	
ARTI				SP	SP	13 14 51.5	-0.3
ARTI				SS	**SS**	13 20 13.5	-5.2
ARTI				SSS	SSS	13 24 03.5	
ARTI				MLR	MLR		
	comp=Z,8μm,21.0s						
YKA	**Yellowknife Ar**	100.47	28	P	**Pdif**	13 01 47.3	0.0
	comp=Z,2.6nm,1.0s,baz=270,slow=4.5,SNR=13						
YKA				PP	**PP**	13 05 53.2	-0.9
	comp=Z,2.0nm,1.1s,baz=270,slow=7.2,SNR=3.9						
YKA				PKKPbc	**PKKPbc**	13 18 01.6	-3.7
	comp=Z,0.4nm,0.9s,baz=106,slow=2.8,SNR=4.9						
YKA	**Yellowknife Ar**	100.47	28	*i* P	**Pdif**	13 01 48.2	+0.9
YKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SLBS	**Sierra La Lagu**	101.25	68	IAMs_20	IAMs_20	13 39 12.5	
	comp=Z,5μm,20.0s						
HWUT	**Hardware Ranch**	101.40	49	IAMs_20	IAMs_20	13 43 27.8	
	comp=Z,5μm,19.0s						
AHID	**Auburn Hatcher**	101.81	48	IAMs_20	IAMs_20	13 45 29.5	
	comp=Z,6μm,19.0s						
MOOW	**Moose Ponds**	102.12	47	IAMs_20	IAMs_20	13 42 14.5	
	comp=Z,4μm,21.0s						
LOHW	**Long Hollow**	102.21	47	IAMs_20	IAMs_20	13 42 18.1	
	comp=Z,4μm,21.0s						
EGMT	**Eagleton**	102.93	43	IAMs_20	IAMs_20	13 40 19.7	
	comp=Z,5μm,22.0s						
BW06	**Boulder Array**	102.95	48	IAMs_20	IAMs_20	13 45 12.1	
	comp=Z,5μm,20.0s						
PDAR	**Pinedale Array**	102.95	48	P	**Pdif**	13 01 59.2	+0.1
	comp=Z,2.0nm,1.1s,baz=219,slow=3.8,SNR=6.5						
PDAR				PP	**PP**	13 06 10.6	-3.0
	comp=Z,1.0nm,1.0s,baz=256,slow=6.0,SNR=3.9						
MVCO	**Mesa Verde**	103.54	54	IAMs_20	IAMs_20	13 44 08.1	
	comp=Z,4μm,20.0s						
Y22D	**IRIS PASSCAL I**	104.69	57	IAMs_20	IAMs_20	13 42 10.7	
	comp=Z,4μm,22.0s						
S22A	**4UR Ranch, Cre**	104.89	54	IAMs_20	IAMs_20	13 46 02.3	
	comp=Z,5μm,19.0s						
EPT	**El Paso**	104.94	60	IAMs_20	IAMs_20	13 44 25.3	
	comp=Z,6μm,20.0s						
ANMO	**Albuquerque**	105.11	57	IAMs_20	IAMs_20	13 42 26.6	
	comp=Z,4μm,22.0s						
ANMO	**Albuquerque**	105.11	57	IAMs_20	IAMs_20	13 42 26.6	
	comp=Z,4μm,22.0s						
ANMO	**Albuquerque**	105.11	57	IAMs_20	IAMs_20	13 42 26.6	
	comp=Z,4μm,22.0s						
LAO	**LASA Array**	105.34	44	IAMs_20	IAMs_20	13 41 36.5	
	comp=Z,4μm,22.0s						
MNTX	**Cornudas Mount**	105.89	60	IAMs_20	IAMs_20	13 44 54.2	
	comp=Z,5μm,20.0s						
SDCO	**Great Sand Dun**	105.94	54	IAMs_20	IAMs_20	13 46 08.4	
	comp=Z,5μm,20.0s						
DGMT	**Dagmar**	106.64	42	IAMs_20	IAMs_20	13 44 55.6	
	comp=Z,4μm,20.0s						
T25A	**Trinidad**	106.81	54	IAMs_20	IAMs_20	13 44 55.8	
	comp=Z,3μm,20.0s						
TXAR	**Lajitas Array**	107.28	62	PP	**PP**	13 06 43.8	-2.1
	comp=Z,1.7nm,1.2s,baz=251,slow=3.8,SNR=5.4						
TXAR				PKKPab	**PKKPab**	13 17 58.0	+0.1
	comp=Z,1.9nm,0.9s,baz=115,slow=6.5,SNR=13						
MAK	**Makhachkala**	107.53	312	*i* P	**Pdif**	13 02 22.0	+2.9
MAK				*e*		13 06 44.6	
MAK				*e*		13 12 53.1	
MAK				*e*SS	SS	13 21 50.1	-6.6
MAK				*e*SSS	SSS	13 25 54.2	
MAK				pmax	pmax		
	comp=Z,203nm,1.2s						
OGNE	**Ogallala**	108.58	50	IAMs_20	IAMs_20	13 48 31.8	
	comp=Z,5μm,20.0s						
AMTX	**Amarillo**	109.03	57	IAMs_20	IAMs_20	13 45 12.1	
	comp=Z,3μm,20.0s						
E28A	**Huff**	109.15	44	IAMs_20	IAMs_20	13 43 45.3	
	comp=Z,5μm,22.0s						
MDND	**Maddock**	109.75	43	IAMs_20	IAMs_20	13 44 36.1	
	comp=Z,4μm,22.0s						
KLMR	**Klimovskoe**	109.76	331	*e*P	**Pdif**	13 02 28.3	-0.3
KLMR				SP	SP	13 16 25.9	-2.5
KLMR				pmax	pmax		
	comp=Z,26nm,1.7s						
KLMR				MLR	MLR		
	comp=Z,4μm,18.0s						
K30B	**Basset**	110.27	48	IAMs_20	IAMs_20	13 57 58.4	
	comp=Z,4μm,18.0s						
CBKS	**Cedar Bluff**	110.45	52	IAMs_20	IAMs_20	13 47 37.6	
	comp=Z,3μm,20.0s						
SUSD	**Miller**	110.58	46	IAMs_20	IAMs_20	13 49 38.3	
	comp=Z,3μm,21.0s						
ABTX	**Abilene, Hawle**	110.77	59	IAMs_20	IAMs_20	13 46 44.6	
	comp=Z,4μm,20.0s						
KBZ	**Khabaz**	110.83	313	PP	**PP**	13 07 07.5	-3.6
	comp=Z,8.4nm,1.1s,baz=92,slow=4.3,SNR=4.4						
UNM	**Universidad Na**	110.87	73	IAMs_20	IAMs_20	13 43 36.6	
	comp=Z,5μm,22.0s						
KIV	**Kislovodsk**	110.95	313	*i* PKIKP	**PKiKP**	13 06 32.1	-1.9
KIV				*e*		13 07 09.8	
KIV				*e*PPP	PPP	13 09 30.2	
KIV				*e*PS	**SP**	13 16 40.7	-0.2
KIV				*e*SS	**SS**	13 22 41.9	-1.1
KIV				*e*SSS	SSS	13 26 50.2	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
OK038	**West end E0370**	111.37	55	IAMs_20	IAMs_20	13 47 41.2	
	comp=Z,4μm,21.0s						
WMOK	**Wichita Mounta**	111.42	57	IAMs_20	IAMs_20	13 49 07.8	
	comp=Z,5μm,20.0s						
BGNE	**Belgrade**	111.47	50	IAMs_20	IAMs_20	13 51 21.2	
	comp=Z,4μm,20.0s						
OK032	**Salt Plains WL**	111.78	54	IAMs_20	IAMs_20	13 49 55.0	
	comp=Z,5μm,20.0s						
ULM	**Lac du Bonnet**	111.82	40	PP	**PP**	13 07 14.1	-3.9
	comp=Z,3.3nm,0.8s,baz=283,slow=6.7,SNR=5.6						
AGMN	**Agassiz Nation**	112.17	42	IAMs_20	IAMs_20	13 48 08.0	
	comp=Z,4μm,22.0s						
F33A	**5 Mile Ranch,**	112.27	45	IAMs_20	IAMs_20	13 55 22.0	
	comp=Z,4μm,20.0s						
ERBR	**Yeremizino-Bor**	112.29	315	*i* P	**Pdif**	13 02 40.9	+0.6
ERBR				*e*		13 07 23.7	
ERBR				*e*		13 13 18.7	
ERBR				pmax	pmax		
	comp=Z,64nm,0.5s						
OK029	**Liberty Lake**	112.45	56	IAMs_20	IAMs_20	13 48 14.9	
	comp=Z,5μm,20.0s						
Z35A	**Perchaven, San**	112.75	58	IAMs_20	IAMs_20	13 47 51.1	
	comp=Z,4μm,20.0s						
OK048	**Pawnee Station**	112.82	55	IAMs_20	IAMs_20	13 50 37.6	
	comp=Z,4μm,21.0s						
KSU1	**Kansas State U**	112.86	52	IAMs_20	IAMs_20	13 52 58.3	
	comp=Z,4μm,19.0s						
OK051	**E0350 and S346**	112.90	55	IAMs_20	IAMs_20	13 50 28.7	
	comp=Z,4μm,21.0s						
OK031	**S. Brethren Rd**	112.94	55	IAMs_20	IAMs_20	13 48 20.8	
	comp=Z,4μm,20.0s						
OK052	**Battle Ridge R**	112.97	55	IAMs_20	IAMs_20	13 51 08.5	
	comp=Z,4μm,20.0s						
T35A	**Sooner Cattle**	113.13	54	IAMs_20	IAMs_20	13 50 23.7	
	comp=Z,4μm,19.0s						
SOC	**Sochi**	113.14	313	*i* PKIKP	**PKiKP**	13 06 36.3	-1.7
SOC				*e*		13 07 26.2	
SOC				*e*PS	PKKPbc	13 16 57.0	-28
SOC				*e*SS	SS	13 23 08.2	-3.6
SOC				*e*SSS	SSS	13 27 21.2	
SOC				MLR	MLR		
	comp=Z,3μm,21.0s						
KIBK	**Kibwezi**	113.18	263	IAMs_20	IAMs_20	13 50 57.2	
	comp=Z,5μm,20.0s						
DAG	**Danmarks Havn**	113.24	358	*i* P	**PKiKP**	13 06 43.0	+5.7
N35A	**Tabor**	113.41	50	IAMs_20	IAMs_20	13 56 08.7	
	comp=Z,4μm,20.0s						
TUL3	**Leonard**	113.79	55	IAMs_20	IAMs_20	13 51 32.3	
	comp=Z,4μm,20.0s						
FURI	**Furi**	114.42	275	IAMs_20	IAMs_20	13 52 18.5	
	comp=Z,4μm,22.0s						
ANN	**Anapa**	114.56	315	*i* PKIKP	PKPdf	13 06 39.7	-1.0
ANN				*e*		13 06 44.0	
ANN				*e*		13 07 39.0	
ANN				pmax	pmax		
	comp=Z,68nm,1.2s						
ANN				MLR	MLR		
	comp=E,3μm,22.0s						
ANN				MLR	MLR		
	comp=N,1μm,17.0s						
ANN				MLR	MLR		
	comp=Z,4μm,23.0s						
I37A	**Lemond, Waseca**	114.59	46	IAMs_20	IAMs_20	13 48 47.5	
	comp=Z,4μm,22.0s						
Z38A	**Mt. Pleasant**	114.65	58	IAMs_20	IAMs_20	13 49 21.4	
	comp=Z,5μm,20.0s						
SPMN	**Marine on St.**	114.79	45	IAMs_20	IAMs_20	13 55 48.7	
	comp=Z,3μm,19.0s						
U38A	**Gravette**	114.88	55	IAMs_20	IAMs_20	13 51 38.0	
	comp=Z,4μm,20.0s						
NATX	**Nacogdoches**	115.02	60	IAMs_20	IAMs_20	13 46 23.4	
	comp=Z,4μm,22.0s						
SCIA	**State Center**	115.07	48	IAMs_20	IAMs_20	13 50 34.5	
	comp=Z,5μm,21.0s						
EYMN	**Ely**	115.11	42	IAMs_20	IAMs_20	13 51 51.7	
	comp=Z,5μm,21.0s						
N38A	**Joes South For**	115.23	50	IAMs_20	IAMs_20	13 54 43.8	
	comp=Z,3μm,19.0s						
E38A	**The Farm, Brul**	115.37	43	IAMs_20	IAMs_20	13 50 06.7	
	comp=Z,4μm,22.0s						
S39A	**Bolivar**	115.58	53	IAMs_20	IAMs_20	13 56 10.4	
	comp=Z,4μm,20.0s						
441A	**DeRidder**	116.34	61	IAMs_20	IAMs_20	13 49 30.4	
	comp=Z,4μm,20.0s						
L40A	**Anamosa**	116.51	48	IAMs_20	IAMs_20	13 52 15.5	
	comp=Z,4μm,21.0s						
G40A	**Rib Lake**	116.58	44	IAMs_20	IAMs_20	13 50 16.0	
	comp=Z,4μm,21.0s						
I40A	**Norwalk**	116.59	46	IAMs_20	IAMs_20	13 52 41.3	
	comp=Z,5μm,20.0s						
LODK	**Lodwar**	116.90	269	IAMs_20	IAMs_20	13 55 43.8	
	comp=Z,3μm,20.0s						
N41A	**Harden Midland**	117.03	49	IAMs_20	IAMs_20	13 52 02.3	
	comp=Z,4μm,21.0s						
JFWS	**Jewell Farm**	117.05	47	IAMs_20	IAMs_20	13 56 24.7	
	comp=Z,3μm,19.0s						
COWI	**Conover**	117.11	43	IAMs_20	IAMs_20	13 51 09.9	
	comp=Z,4μm,20.0s						
CCM	**Cathedral Cave**	117.16	52	IAMs_20	IAMs_20	13 54 15.2	
	comp=Z,5μm,20.0s						
SUMG	**Summit**	117.32	4	*i* P	**PKiKP**	13 06 51.0	+5.2
T42A	**Van Buren**	117.43	54	IAMs_20	IAMs_20	13 50 25.5	
	comp=Z,3μm,20.0s						
L42A	**Oliver, Polo**	117.66	48	IAMs_20	IAMs_20	13 53 20.9	
	comp=Z,3μm,21.0s						
143A	**Socs Landing,**	117.70	58	IAMs_20	IAMs_20	13 54 08.1	
	comp=Z,3μm,20.0s						
MNK	**Minsk**	117.73	327	*i* PKP	**PKPdf**	13 06 43.0	-3.5
	comp=E,18nm,1.0s						
MNK				*i* PKP	**PKPdf**	13 06 43.0	-3.5
	comp=N,24nm,1.3s						
MNK				*i* PKP	**PKPdf**	13 06 43.0	-3.5
	comp=Z,9.0nm,0.6s,baz=67						
MNK				*i* PPP	PPP	13 10 25.1	
MNK				*i* SS	SS	13 24 10.1	-1.0
MNK				*i* SSS	SSS	13 28 30.9	
MNK				*i* LQ	LQ	13 42 59.9	
MNK				*i* LR	LR	13 51 08.2	
MNK				*i* LRM	MLR	13 58 03.9	
	comp=E,4μm,19.7s						
MNK				*i* LRM	MLR	13 58 10.1	
	comp=Z,8μm,19.9s						
MNK				*i* LRM	MLR	13 58 12.1	
	comp=N,6μm,20.7s						
MNK	**Minsk**	117.73	327	*i* PKIKP	**PKPdf**	13 06 43.0	-3.5
MNK				*i*		13 07 56.0	
MNK				*i* PPP	PPP	13 10 25.1	
MNK				*i*		13 13 54.2	
MNK				*i* SS	SS	13 24 10.1	-1.0
MNK				*i* SSS	SSS	13 28 30.9	
MNK				pmax	pmax		
	comp=N,24nm,1.3s						
MNK				pmax	pmax		
	comp=E,18nm,1.0s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MNK				MLR	MLR		
	comp=E,4μm,20.0s						
MNK				MLR	MLR		
	comp=Z,8μm,20.0s						
MNK				MLR	MLR		
	comp=N,6μm,21.0s						
I42A	**Draeger Farm,**	117.79	46	IAMs_20	IAMs_20	13 50 35.1	
	comp=Z,4μm,21.0s						
F42A	**Maple Grove Fa**	117.88	43	IAMs_20	I

SFIN	**Lafayette**	**119.90**	**49**	IAMs_20	IAMs_20	13 56 51.3		
	comp=Z,4μm,19.0s							
L46A	**Eue Claire**	**120.11**	**47**	IAMs_20	IAMs_20	13 55 31.5		
	comp=Z,3μm,20.0s							
PLAL	**Pickwick Lake**	**120.15**	**55**	IAMs_20	IAMs_20	13 56 10.8		
	comp=Z,4μm,19.0s							
Z47A	**Carrollton**	**120.42**	**58**	IAMs_20	IAMs_20	13 55 45.1		
	comp=Z,4μm,21.0s							
N47A	**Urbana**	**120.82**	**48**	IAMs_20	IAMs_20	13 56 05.6		
	comp=Z,4μm,20.0s							
J47A	**Sunmer**	**120.83**	**45**	IAMs_20	IAMs_20	13 52 37.6		
	comp=Z,4μm,21.0s							
TIRR	**Tirgusor**	**120.89**	**316**	IAMs_20	IAMs_20	14 00 54.5		
	comp=Z,5μm,22.0s							
WCI	**Wyandotte Cave**	**120.97**	**51**	IAMs_20	IAMs_20	13 59 29.9		
	comp=Z,5μm,19.0s							
V48A	**Smith Brothers**	**121.04**	**54**	IAMs_20	IAMs_20	13 55 22.1		
	comp=Z,3μm,20.0s							
HARR	**Harsova**	**121.15**	**316**	⇑P	PKiKP	13 07 30.8	+37	
TEIG	**Tepich**	**121.16**	**73**	IAMs_20	IAMs_20	13 49 01.1		
	comp=Z,4μm,22.0s							
LRAL	**Lakeview Retre**	**121.33**	**58**	IAMs_20	IAMs_20	13 56 32.3		
	comp=Z,4μm,20.0s							
HFS	**Hagfors**	**121.36**	**337**	PKP	**PKPdf**	**13 06 52.7**	**-0.6**	
	comp=Z,2.6nm,1.0s,baz=36,slow=2.7,SNR=1.5							
O48B	**Farmland**	**121.37**	**49**	IAMs_20	IAMs_20	13 57 17.2		
	comp=Z,3μm,21.0s							
TESR	**Tescani**	**121.41**	**319**	⇓P	PKiKP	13 07 12.0	+18	
NB2	**NORSAR Subarra**	**121.67**	**339**	PKPdf	**PKPdf**	**13 06 52.8**	**-1.2**	
	comp=Z,22nm,1.4s,baz=47,slow=2.0							
NB2	**NORSAR Subarra**	**121.67**	**339**	PKPdf	**PKPdf**	**13 06 52.8**	**-1.2**	
	baz=47,slow=2.0							
NOA	**NORSAR Array B**	**121.67**	**339**	PKP	**PKPdf**	**13 06 52.5**	**-1.4**	
	comp=Z,2.7nm,1.0s,baz=50,slow=2.0,SNR=4.1							
NOA				PP	**PP**	**13 08 26.5**	**+0.3**	
	comp=Z,5.2nm,1.2s,baz=38,slow=7.8,SNR=3.3							
N49A	**Columbus Grove**	**121.92**	**48**	IAMs_20	IAMs_20	13 54 05.6		
	comp=Z,3μm,21.0s							
TGUH	**Tegucigalpa,Un**	**121.95**	**80**	IAMs_20	IAMs_20	13 51 19.6		
	comp=Z,3μm,20.0s							
I49A	**Point Hope**	**122.01**	**44**	IAMs_20	IAMs_20	13 54 04.7		
	comp=Z,3μm,21.0s							
250A	**Grady**	**122.10**	**59**	IAMs_20	IAMs_20	13 54 50.7		
	comp=Z,3μm,20.0s							
MLR	**Muntele Rosu**	**122.22**	**318**	⇑P	**PKiKP**	**13 06 58.7**	**+2.9**	
M50A	**Fremont**	**122.62**	**47**	IAMs_20	IAMs_20	14 01 02.9		
	comp=Z,3μm,20.0s							
ARCR	**ARCALIA**	**122.68**	**320**	⇓P	PKiKP	13 07 20.1	+24	
ACSO	**Alum Creek Sta**	**122.98**	**48**	IAMs_20	IAMs_20	14 01 04.9		
	comp=Z,4μm,19.0s							
ARR	**Arges**	**123.13**	**318**	⇑P	**PKiKP**	**13 07 01.1**	**+3.6**	
KOLS	**Kolonicke sedl**	**123.21**	**323**	*e*PKIKP	**PKPdf**	**13 06 56.5**	**-0.7**	
KOLS				*e*		13 08 39.5		
KOLS	**Kolonicke sedl**	**123.21**	**323**	*e*PKP	**PKPdf**	**13 06 56.5**	**-0.7**	
KOLS				*e*PP	**PP**	**13 08 39.5**	**+2.4**	
LCO	**Las Campanas**	**123.24**	**135**	IAMs_20	IAMs_20	13 49 14.6		
	comp=Z,4μm,22.0s							
N51A	**Ashland**	**123.24**	**48**	IAMs_20	IAMs_20	13 56 58.5		
	comp=Z,5μm,20.0s							
CFA	**Coronel Fontan**	**123.29**	**139**	PKP	**PKPdf**	**13 06 56.1**	**-1.9**	
	comp=Z,2.0nm,0.9s,baz=224,slow=5.9,SNR=4.9							
BOAB	**BOACO BROADBA**	**123.41**	**82**	IAMs_20	IAMs_20	13 52 28.3		
	comp=Z,4μm,20.0s							
M52A	**Chesterland**	**123.78**	**47**	IAMs_20	IAMs_20	13 59 44.8		
	comp=Z,4μm,20.0s							
O52A	**Adamsville**	**123.86**	**48**	IAMs_20	IAMs_20	14 02 38.0		
	comp=Z,5μm,20.0s							
GOGA	**Godfrey**	**124.19**	**57**	IAMs_20	IAMs_20	13 57 30.8		
	comp=Z,4μm,22.0s							
GZR	**Gura Zlata**	**124.34**	**319**	⇑P	**PKPdf**	**13 06 59.5**	**-0.1**	
P53A	**Whipple**	**124.37**	**49**	IAMs_20	IAMs_20	13 58 47.6		
	comp=Z,4μm,20.0s							
HDC	**Heredia**	**124.73**	**85**	IAMs_20	IAMs_20	13 58 34.4		
	comp=Z,3μm,19.0s							
LANS	**Liptovska Anna**	**124.76**	**324**	*e*PKIKP	**PKiKP**	**13 07 02.0**	**+1.4**	
LANS				*e*		13 08 45.1		
LANS	**Liptovska Anna**	**124.76**	**324**	*e*PKP	**PKiKP**	**13 07 02.0**	**+1.4**	
LANS				*e*PP	**PP**	**13 08 45.1**	**-2.4**	
U54A	**Nelsons Funny**	**124.83**	**52**	IAMs_20	IAMs_20	13 58 35.2		
	comp=Z,4μm,19.0s							
S54A	**Dingess, Beckl**	**124.89**	**51**	IAMs_20	IAMs_20	14 04 23.7		
	comp=Z,4μm,18.0s							
O54A	**Avella**	**124.91**	**48**	IAMs_20	IAMs_20	14 00 31.7		
	comp=Z,5μm,22.0s							
PSZ	**Piszkesteto**	**125.08**	**322**	IAMs_20	IAMs_20	14 05 31.5		
	comp=Z,3μm,20.0s							
OKC	**Ostrava-Krasne**	**125.18**	**325**	AMS	AMS	14 02 10.0		
	comp=Z,4μm,20.7s							
VYHS	**Vyhne**	**125.44**	**324**	*e*PKIKP	**PKPdf**	**13 07 01.7**	**+0.2**	
VYHS				*e*		13 08 53.4		
VYHS	**Vyhne**	**125.44**	**324**	*e*PKP	**PKPdf**	**13 07 01.7**	**+0.2**	
VYHS				*e*PP	**PP**	**13 08 53.4**	**+1.4**	
MCWV	**Mont Chateau**	**125.46**	**48**	IAMs_20	IAMs_20	14 01 37.3		
	comp=Z,5μm,20.0s							
MORC	**Moravsky Berou**	**125.55**	**325**	*e*PKP	**PKiKP**	**13 07 02.3**	**+0.2**	
MORC				*e*		13 08 51.6		
R55A	**Marlinton**	**125.66**	**50**	IAMs_20	IAMs_20	14 00 49.0		
	comp=Z,4μm,20.0s							
BLA	**Blacksburg**	**125.73**	**51**	IAMs_20	IAMs_20	13 56 00.0		
	comp=Z,3μm,21.0s							
KRLC	**Kraliky**	**125.81**	**326**	AMS	AMS	14 02 40.0		
	comp=Z,6μm,21.6s							
OSTC	**Ostas**	**125.87**	**327**	AMS	AMS	14 03 10.0		
	comp=Z,6μm,21.4s							
SCHQ	**Schefferville**	**125.89**	**27**	PKP	**PKPdf**	**13 07 00.2**	**-2.0**	
	comp=Z,3.2nm,1.0s,baz=206,slow=4.3,SNR=2.2							
DPC	**Dobruska-Polom**	**125.92**	**327**	AMS	AMS	14 03 20.0		
	comp=Z,6μm,19.9s							
JAVC	**Velka Javorina**	**125.93**	**324**	*e*PKP	**PKiKP**	**13 07 04.0**	**+1.1**	
JAVC				*e*		13 08 53.9		
CHVC	**Chvalec**	**125.94**	**327**	AMS	AMS	14 03 20.0		
	comp=Z,6μm,20.8s							
U56A	**King**	**125.99**	**52**	IAMs_20	IAMs_20	13 59 49.0		
	comp=Z,4μm,19.0s							
UPC	**Upice**	**126.00**	**327**	AMS	AMS	14 03 10.0		
	comp=Z,6μm,20.8s							
SRO	**Srobarova**	**126.07**	**323**	*e*PP	PP	13 08 56.0	-0.2	
Q56A	**Snyder Ridge,**	**126.13**	**49**	IAMs_20	IAMs_20	13 58 53.3		
	comp=Z,4μm,22.0s							
L56A	**Greenwood**	**126.26**	**45**	IAMs_20	IAMs_20	13 55 48.0		
	comp=Z,5μm,22.0s							
VRAC	**Vranov**	**126.32**	**325**	*e*PKP	**PKiKP**	**13 07 04.6**	**+1.0**	
VRAC				*e*		13 08 49.4		
MODS	**Modra-Piesok**	**126.40**	**324**	*e*PKIKP	**PKiKP**	**13 07 04.1**	**+0.3**	
MODS				*e*		13 08 58.7		
MODS	**Modra-Piesok**	**126.40**	**324**	*e*PKP	**PKiKP**	**13 07 04.1**	**+0.3**	
MODS				*e*PP	**PP**	**13 08 58.7**	**+0.3**	
KRUC	**Moravsky**	**126.56**	**325**	*e*PKP	**PKiKP**	**13 07 03.9**	**-0.2**	
KRUC				*e*		13 08 51.7		
Y57A	**Sumter**	**126.56**	**55**	IAMs_20	IAMs_20	14 00 08.5		
	comp=Z,3μm,22.0s							
MORH	**Mrgy, Hungar**	**126.61**	**321**	⇓P	**PKPdf**	**13 07 03.3**	**-0.5**	
S57A	**Dark Hollow, R**	**126.70**	**50**	IAMs_20	IAMs_20	13 59 25.4		
	comp=Z,5μm,20.0s							
PVCC	**Panska Ves**	**126.77**	**327**	AMS	AMS	14 05 20.0		
	comp=Z,4μm,19.5s							
M57A	**Sunshine Farm,**	**126.85**	**45**	IAMs_20	IAMs_20	14 02 07.8		
	comp=Z,4μm,19.0s							
P57A	**Homestead Farm**	**126.86**	**48**	IAMs_20	IAMs_20	14 01 55.3		
	comp=Z,4μm,20.0s							
BRG	**Berggiesshubel**	**126.90**	**328**	*e*PKP	**PKiKP**	**13 07 05.8**	**+1.1**	
BRG				Amp		13 07 08.7		
	comp=Z,24nm,1.6s							
BRG	**Berggiesshubel**	**126.90**	**328**	P	PKiKP	13 07 23.9	+19	
BRG				Amp		13 07 24.7		
	comp=Z,13nm,1.2s							
BRG	**Berggiesshubel**	**126.90**	**328**	Amp		13 09 06.8		
	comp=Z,27nm,1.5s							
BRG				P	**PP**	**13 09 02.5**	**+1.0**	
TREC	**Trest**	**126.94**	**326**	AMS	AMS	14 02 30.0		
	comp=Z,6μm,21.8s							
NHSC	**New Hope**	**126.95**	**56**	IAMs_20	IAMs_20	13 56 47.7		
	comp=Z,3μm,21.0s							
GOPC	**GO Pecny, Ondr**	**126.99**	**327**	AMS	AMS	14 04 00.0		
	comp=Z,6μm,20.3s							
RICC	**Richard**	**127.00**	**328**	AMS	AMS	14 02 20.0		
	comp=Z,6μm,21.2s							
PRU	**Pruhonice**	**127.08**	**327**	AMS	AMS	14 04 00.0		
	comp=Z,4μm,20.5s							
PRA	**Prague**	**127.09**	**327**	AMS	AMS	14 05 30.0		
	comp=Z,5μm,21.5s							
CLL	**Collm**	**127.13**	**329**	*e*PKIKP	**PKiKP**	**13 07 05.0**	**-0.2**	
CLL				*e*		13 14 18.0		
CLL				MLR	MLR			
	comp=Z,7μm,19.9s							
CLL	**Collm**	**127.13**	**329**	*e*PKPdf	**PKiKP**	**13 07 05.0**	**-0.2**	
CLL				*e*x	x	13 07 22.0		
CLL				*e*PP	**PP**	**13 09 00.0**	**-3.0**	
CLL				*e*SKPdf	**SKPdf**	**13 10 39.0**	**-0.5**	
CLL				*e*PPP	PPP	13 11 38.0		
CLL				*e*PPPP		13 13 48.0		
CLL				*e*SKSac	**SKSdf**	**13 14 18.0**	**+2.2**	
CLL				*e*SKKSac	**SKKSac**	**13 16 03.0**	**+2.5**	
CLL				*e*Sdif	**Sdif**	**13 17 06.0**	**+0.1**	
CLL				*e*x	x	13 18 14.0		
CLL				*e*PS	**PS**	**13 19 07.0**	**-1.3**	
CLL				*e*PPS	PPS	13 20 30.0		
CLL				*e*x	x	13 21 54.0		
CLL				*e*SS	**SS**	**13 26 17.0**	**+6.5**	
CLL				*e*x	x	13 27 45.0		
CLL				*e*SSS	SSS	13 30 47.0		
CLL				*e*SSSS		13 34 48.0		
CLL				AMS	AMS	14 05 00.0		
	comp=N,4μm,21.3s							
CLL				AMS	AMS	14 05 00.0		
	comp=E,6μm,20.2s							
CLL				AMS	AMS	14 05 00.0		
	comp=Z,7μm,19.9s							
CLL				AMS	AMS	14 05 00.0		
CLL				R2		14 38 00.0		
CLL				R2		14 46 00.0		
	comp=Z,1μm,20.8s							
V58A	**Windy Hill, Pi**	**127.13**	**53**	IAMs_20	IAMs_20	13 59 46.2		
	comp=Z,4μm,20.0s							
Y58A	**Scranton**	**127.18**	**55**	IAMs_20	IAMs_20	14 02 20.7		
	comp=Z,4μm,20.0s							
LONY	**Lake Ozonia**	**127.25**	**41**	IAMs_20	IAMs_20	13 59 16.7		
	comp=Z,4μm,20.0s							
RONA	**Rosalia, Austr**	**127.31**	**324**	*e*PKP	**PKiKP**	**13 07 05.5**	**-0.2**	
	comp=Z,11nm,1.3s							
RONA				PP	**PP**	**13 09 03.0**	**-1.5**	
	comp=Z,11nm,1.8s							
HSKC	**Hora Svate Kat**	**127.32**	**328**	AMS	AMS	14 02 40.0		
	comp=Z,6μm,21.5s							
N58A	**Sunbury**	**127.32**	**46**	IAMs_20	IAMs_20	14 02 26.3		
	comp=Z,4μm,20.0s							
CONA	**Conrad Observa**	**127.44**	**324**	*e*PKP	**PKiKP**	**13 07 05.8**	**-0.2**	
	comp=Z,10nm,1.8s							
CONA				*e*PP	**PP**	**13 09 08.6**	**+3.1**	
	comp=Z,23nm,1.5s							
ZVC	**Zvikov**	**127.57**	**326**	AMS	AMS	14 03 40.0		
	comp=Z,5μm,19.4s							
PDG	**Podgorica**	**127.84**	**317**	IAMs_20	IAMs_20	14 04 58.3		
	comp=Z,4μm,22.0s							
CKRC	**Cesky Krumlov**	**127.85**	**326**	AMS	AMS	14 03 00.0		
	comp=Z,6μm,20.6s							
TIR	**Tirane**	**127.85**	**315**	IAMs_20	IAMs_20	14 11 34.8		
	comp=Z,3μm,21.0s							
ARSA	**Arzberg**	**127.99**	**324**	*e*PKP	**PKPdf**	**13 07 06.0**	**-0.5**	
	comp=Z,2.6nm,0.8s							
ARSA				*e*PP	**PP**	**13 09 06.7**	**-2.3**	
	comp=Z,8.6nm,1.5s							
NKC	**Novy Kostel**	**128.05**	**328**	AMS	AMS	14 05 10.0		
	comp=Z,5μm,19.5s							
KHC	**Kasperske Hory**	**128.08**	**326**	*e*PKP	**PKPdf**	**13 07 03.0**	**-3.6**	
KHC				*e*x	x	13 07 27.5		
KHC				*e*PP	**PP**	**13 09 09.0**	**-0.5**	
KHC				*e*SS	SS	13 26 24.0	+1.4	
KHC				AMS	AMS	14 04 00.0		
	comp=Z,7μm,19.2s							
KHC	**Kasperske Hory**	**128.08**	**326**	*e*PKIKP	**PKPdf**	**13 07 03.0**	**-3.6**	
KHC				*e*		13 09 09.0		
KHC				*e*SS	SS	13 26 24.0	+1.4	
KHC				MLR	MLR			
	comp=Z,7μm,19.2s							
GERES	**GERESS Array B**	**128.17**	**326**	PKP	**PKPdf**	**13 07 06.3**	**-0.6**	
	comp=Z,1.3nm,0.4s,baz=300,slow=4.4,SNR=1.3							
Y60A	**Bolivia**	**128.32**	**55**	IAMs_20	IAMs_20	14 01 59.9		
	comp=Z,4μm,20.0s							
MOA	**Molln**	**128.40**	**325**	PP	**PP**	**13 09 07.7**	**-3.9**	
	comp=Z,11nm,1.4s							
SOKA	**Soroth**	**128.57**	**323**	*e*PKiKP	**PKiKP**	**13 07 09.3**	**+1.0**	
	comp=Z,12nm,1.6s							
SOKA				*e*PP	**PP**	**13 09 13.5**	**+0.6**	
	comp=Z,21nm,1.6s							
BIOA	**Bad Ischl, Aus**	**128.84**	**325**	*e*PKiKP	**PKiKP**	**13 07 09.7**	**+1.0**	
	comp=Z,12nm,1.4s							
BIOA				*e*PP	**PP**	**13 09 17.4**	**+2.9**	
	comp=Z,36nm,1.5s							
OBKA	**Obir**	**128.94**	**323**	*e*PKP	**PKPdf**	**13 07 08.7**	**+0.3**	
	comp=Z,5.8nm,1.2s							
OBKA				*e*PP	**PP**	**13 09 13.2**	**-2.1**	
	comp=Z,4.1nm,0.8s							
S61A	**Accomac**	**129.19**	**49**	IAMs_20	IAMs_20	14 08 44.2		
	comp=Z,4μm,20.0s							
KBA	**Koelnbreinsper**	**129.34**	**324**	*e*PKiKP	**PKiKP**	**13 07 10.6**	**+0.6**	
	comp=Z,4.9nm,1.3s							
KBA				*e*PP	**PP**	**13 09 18.9**	**+0.9**	
	comp=Z,34nm,1.8s							
MYKA	**Terra Mystica**	**129.41**	**324**	PKiKP	**PKiKP**	**13 07 09.8**	**-0.2**	
	comp=Z,3.3nm,1.0s							
L61B	**Northampton**	**129.44**	**42**	P	**PKPdf**	**13 07 06.3**	**-3.0**	
	baz=296							
LESA	**Schwarzleotal**	**129.53**	**325**	*e*PKiKP	**PKiKP**	**13 07 10.9**	**+0.6**	
	comp=Z,7.3nm,1.2s							
LESA				*e*PP	**PP**	**13 09 20.8**	**+1.7**	
	comp=Z,20nm,1.5s							
ABTA	**Abfaltersbach**	**130.00**	**324**	*e*PKiKP	**PKiKP**	**13 07 11.8**	**+0.6**	
	comp=Z,12nm,1.3s							
ABTA				*e*PP	**PP**	**13 09 23.4**	**+1.3**	
	comp=Z,10nm,1.4s							
PSAL	**Palomas, Salto**	**130.06**	**146**	*e*P	**PKiKP**	**13 07 11.9**	**+0.2**	
WATA	**Walderalm**	**130.20**	**326**	*e*PKP	**PKPdf**	**13 07 09.5**	**-1.4**	
	comp=Z,18nm,1.8s							
WATA				*e*PP	**PP**	**13 09 24.1**	**+0.6**	
	comp=Z,38nm,1.9s							
WTTA	**Wattenberg**	**130.21**	**325**	*e*PKP	**PKPdf**	**13 07 10.9**	**0.0**	
	comp=Z,22nm,1.4s							
WTTA				*e*PP	**PP**	**13 09 24.9**	**+1.4**	
	comp=Z,58nm,1.7s							
WES	**Weston**	**130.37**	**42**	IAMs_20	IAMs_20	13 59 30.5		
	comp=Z,4μm,20.0s							
SQTA	**Sankt Quirin**	**130.47**	**326**	*e*PKP	**PKPdf**	**13 07 11.7**	**+0.4**	
	comp=Z,20nm,2.1s							
SQTA				*e*PP	**PP**	**13 09 25.6**	**+0.4**	
	comp=Z,35nm,1.8s							
TBOT	**Tacuaremb**	**130.48**	**148**	*e*P	**PKiKP**	**13 07 12.7**	**+0.2**	
BCX	**Boston College**	**130.49**	**42**	IAMs_20	IAMs_20	13 59 33.7		
	comp=Z,4μm,20.0s							
RETA	**Reutte**	**130.56**	**326**	PKP	**PKPdf**	**13 07 11.7**	**+0.2**	
	comp=Z,11nm,1.6s							
RETA				*e*PP	**PP**	**13 09 23.3**	**-2.5**	
	comp=Z,34nm,1.5s							
STU	**Stuttgart**	**130.62**	**328**	IAMs_20	IAMs_20	14 06 49.6		
	comp=Z,4μm,20.0s							
FETA	**Feichten**	**130.85**	**326**	*e*PKP	**PKPdf**	**13 07 12.0**	**-0.1**	
	comp=Z,10nm,1.8s							
FETA				*e*PP	**PP**	**13 09 28.3**	**+0.6**	
	comp=Z,20nm,1.9s							
TIP	**Timpagrande**	**130.89**	**314**	IAMs_20	IAMs_20	14 07 50.3		
	comp=Z,3μm,22.0s							
DAVA	**Damuels**	**131.16**	**326**	PKiKP	**PKiKP**	**13 07 14.3**	**+0.7**	
	comp=Z,15nm,1.4s							
DAVA				*e*PP	**PP**	**13 09 25.8**	**-3.9**	
	comp=Z,38nm,1.7s							
M65A	**Busby, Falmout**	**131.19**	**43**	P	**PKPdf**	**13 07 10.0**	**-2.7**	
	baz=298							
LPAZ	**La Paz**	**132.30**	**123**	PKP	**PKPdf**	**13 07 15.2**	**-1.1**	
	comp=Z,2.9nm,0.8s,baz=149,slow=1.0,SNR=7.6							
ROSC	**El Rosal**	**133.72**	**93**	PKP	**PKPdf**	**13 07 15.9**	**-2.8**	
	comp=Z,3.7nm,0.4s,baz=272,slow=2.7,SNR=1.2							
ROSC	**El Rosal**	**133.72**	**93**	PKIKP	**PKPdf**	**13 07 16.0**	**-2.8**	
CPUP	**Villa Florida**	**133.80**	**142**	PKP	**PKPdf**	**13 07 15.6**	**-2.5**	
	comp=Z,2.9nm,0.9s,baz=204,slow=8.4,SNR=3.2							
GRTK	**Grand Turk**	**137.05**	**69**	IAMs_20	IAMs_20	14 11 05.9		
	comp=Z,3μm,20.0s							
KEST	**Kesra**	**137.70**	**313**	PKP	**PKPdf**	**13 07 22.5**	**-2.7**	
	comp=Z,5.1nm,0.9s,baz=63,slow=2.3,SNR=3.2							
SIV	**San Ignacio**	**138.12**	**128**	PKhKP	PKPpre	13 07 20.3		
	comp=Z,1.1nm,0.9s,baz=242,slow=1.4,SNR=3.7							
MAHO	**Mahon**	**138.87**	**321**	IAMs_20	IAMs_20	14 11 42.6		
	comp=Z,3μm,20.0s							
BBSR	**BB Station**	**139.53**	**51**	IAMs_20	IAMs_20	14 13 04.2		
	comp=Z,3μm,20.0s							
PTLB	**Pontes e Lacer**	**139.94**	**129**	*e*P	**PKPdf**	**13 07 28.4**	**-1.2**	
RPRD	**Ribas do Rio P**	**140.35**	**140**	*e*P	**PKPdf**	**13 07 31.2**	**+0.8**	
FRTB	**Fartura**	**140.52**	**148**	*e*P	**PKPdf**	**13 07 31.0**	**+0.3**	
VILB	**Vilhena**	**140.55**	**125**	*e*P	**PKPdf**	**13 07 31.8**	**+0.9**	
TEFE	**Tefe**	**140.98**	**109**	*e*P	**PKPdf**	**13 07 32.9**	**+1.2**	
SPB	**Sao Paulo**	**141.39**	**151**	*e*P	**PKiKP**	**13 07 33.9**	**-1.0**	
VAO	**Valinhos**	**142.11**	**151**	*e*P	**PKPdf**	**13 07 34.9**	**+1.3**	
SALV	**Santo Antonio**	**142.21**	**133**	*e*P	**PKPdf**	**13 07 33.1**	**-0.7**	
PBRG	**Braganca**	**143.41**	**333**	*e*PKP	PKPbc	13 07 33.3	+0.9	
PBRG				*e*PP	**PP**	**13 10 47.3**	**+1.5**	
CART	**Cartagena**	**143.51**	**323**	IAMs_20	IAMs_20	14 12 19.4		
	comp=Z,3μm,22.0s							
ESDC	**Sonseca Array**	**143.71**	**328**	PKhKP	PKPpre	13 07 31.8		
	comp=Z,2.0nm,1.0s,baz=26,slow=3.4,SNR=8.8							
ESDC				PP	**PP**	**13 10 46.8**	**-0.9**	
	comp=Z,3.6nm,1.1s,baz=30,slow=6.4,SNR=7.8							
PCRV	**Puerto La Cruz**	**143.86**	**87**	PKP	PKPbc	13 07 34.6	+0.1	
	comp=Z,6.2nm,0.9s,baz=196,slow=2.6,SNR=1.6							
PGAV	**Gavieira, Arco**	**143.94**	**335**	*e*PKP	PKPbc	13 07 33.8	-0.2	
PGAV				*e*SS	SS	13 30 09.4	+38	
PGAV				*e*LR	LR	13 57 56.6		
PGAV				*i* AMs_20		14 16 02.0		
	comp=Z,3μm,20.0s							
PAB	**San Pablo**	**144.00**	**328**	IAMs_20	IAMs_20	14 12 20.8		
	comp=Z,3μm,22.0s							
MVO	**Moncorvo**	**144.05**	**333**	*e*PKP	PKPbc	13 07 34.9	+0.6	
MVO				*e*SS	SS	13 30 05.7	+33	
MVO				*e*LR	LR	13 58 04.1		
MVO				*i* AMs_20		14 16 09.7		
	comp=Z,5μm,22.0s							
POLO	**Lamas de Olo**	**144.22**	**334**	*e*PKP	**PKPab**	**13 07 34.7**	**+0.1**	
PVRL	**Vila Real**	**144.27**	**334**	*e*PKP	PKPbc	13 07 35.3	+0.4	
MACA	**Manacapuru-AM**	**144.78**	**110**	PKPdf	**PKPab**	**13 07 36.6**	**-0.6**	
PVIS	**Viseu**	**144.80**	**333**	*e*PKP	**PKPab**	**13 07 36.2**	**-0.4**	
MTE	**Manteigas**	**144.90**	**332**	PKPdf	**PKPab**	**13 07 36.5**	**-0.5**	
MTE	**Manteigas**	**144.90**	**332**	*e*PKP	**PKPab**	**13 07 37.0**	**0.0**	
MTE				*e*SS	SS	13 29 48.5	+5.6	
MTE				*e*LR	LR	14 00 49.2		
MTE				*i* AMs_20		14 16 12.7		
	comp=Z,5μm,22.0s							
DUB01	**Friburgo-RJ**	**144.94**	**156**	*e*P	**PKiKP**	**13 07 40.5**	**-1.8**	
SABA	**Saba**	**144.96**	**74**	IAMs_20	IAMs_20	14 20 44.8		
	comp=Z,3μm,22.0s							
ARAG	**Araguaiana, MT**	**145.05**	**137**	*e*P	**PKPbc**	**13 07 37.8**	**-0.3**	
SMRT	**St. Maarten**	**145.06**	**73**	PKPbc	**PKPbc**	**13 07 36.8**	**-1.3**	
SMRT				IAMs_20	IAMs_20	14 14 09.4		
	comp=Z,2μm,22.0s							
SEUS	**St. Eustatius**	**145.22**	**74**	IAMs_20	IAMs_20	14 14 53.8		
	comp=Z,2μm,22.0s							
CLDB	**Colider**	**145.27**	**126**	*e*P	**PKPbc**	**13 07 38.5**	**-0.4**	
PCBR	**Castelo Branco**	**145.32**	**332**	*e*PKP	**PKPbc**	**13 07 37.8**	**-0.5**	
COI	**Coimbra**	**145.44**	**333**	PKPbc	**PKPbc**	**13 07 37.9**	**-0.8**	
COI	**Coimbra**	**145.44**	**333**	*e*PKP	**PKPbc**	**13 07 38.6**	**-0.1**	
COI	**Coimbra**	**145.44**	**333**	PKiKP	**PKPbc**	**13 07 37.9**	**-0.8**	
COI				pmax	pmax			
	comp=Z,4μm,19.0s							
CAM01	**Campos-RJ**	**145.45**	**157**	*e*P	**PKPab**	**13 07 39.6**	**+0.2**	
IPMB	**Ipameri, GO**	**145.58**	**144**	*e*P	**PKPdf**	**13 07 39.4**	**-0.3**	
PMRV	**Marv??o**	**145.60**	**331**	*e*PKP	**PKPdf**	**13 07 38.9**	**-0.2**	
PMRV				*e*LR	LR	13 58 41.9		
PMRV				*i* AMs_20		14 16 60.0		
	comp=Z,2μm,22.0s							
PCAS	**Casmilo, Conde**	**145.61**	**333**	*e*PKP	**PKPdf**	**13 07 39.0**	**-0.1**	
CHAS	**Isla Is

EALB	Alboran	0.88	25	Pg	Pn	12 57 47.1	+0.2
EALB				Sg	Sn	12 57 59.5	+0.2
EALB	Alboran	0.88	25	Pg	Pn	12 57 46.9	+0.1
EALB				Sg	Sg	12 57 58.5	+0.7
EALB				*i* Vmb_Lg		12 58 00.8	
TAF	Taforalt	0.94	110	P	Pb	12 57 47.4	+0.4
TAF	Taforalt	0.94	110	S	Sb	12 57 59.1	-0.1
JBK	JBK	1.10	136	P	Pb	12 57 50.2	+0.2
JBK	JBK	1.10	136	S	Sb	12 58 04.8	+0.6
ELGU	Los Guajares,	1.73	356	Sn	Sn	12 58 19.0	-1.4
ELGU				*i* Vmb_Lg		12 58 25.5	
IFR	Ifrane	2.11	221	Sg	Sb	12 58 34.7	+1.5

*GUC **10** 13:08:02.6±0.8, 25°.78S×70°.44W, h45km±2km, ML4.8*
*NEIC **10** 13:08:03.0±1.6, 25°.77S±0°.04×70°.56W±0°.08, h49km±6km, mb4.7/51, Mwr4.5/56, Error ellipse: s-maj=10.2km s-min=6.3km az=94.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr6.57; Mθθ0.20; Mφφ-6.77; Mrθ0.01; Mθφ1.65; Mφr-3.80; Fault plane solution: M0 7.86000×10^15^ NP1:φs340.35000°, δ31.16000°, λ78.50000°. NP2:φs173.73000°, δ59.53000°, λ96.87000°. Principal axes: T 7.6039, Plg74.0000°, Azm102.0000°; N 0.4858, Plg6.0000°, Azm350.0000°; P -8.0896, Plg14.0000°, Azm259.0000°;*
*VAO **10** 13:08:03.4±0.7, 25°.81S×70°.46W, h47km±5km, mb4.6*
*NEIC **10** 13:08:03, 25°.80S×70°.55W, h40km*
*IDC **10** 13:08:04.2±2.2, 25°.80S×70°.37W, h49km±19km, mb4.3/14, mbtmp4.5/17, ML4.2/3, MS5.4/2, Error ellipse: s-maj=19.8km s-min=12.6km az=85.0*

ISC 10 13:08:02.2±0.4, 25°.80S±0°.03×70°.57W±0°.05, h40km±4km, n187, σ1.92/55/163, mb4.8/36, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	Pan de Azucar	0.35	185		Pn	13 08 12.6	+1.5
AC01	Pan de Azucar	0.35	185	*e*P	Pn	13 08 12.6	+1.5
AC01				*i* S	Sn	13 08 19.2	+2.0
AC01				IAML		13 08 19.8	
	comp=E,107μm,0.2s						
AC01	Pan de Azucar	0.35	185	*e*P	Pn	13 08 11.6	+0.6
GO02	Mina Guanaco	1.09	54	Pn	Pn	13 08 21.8	+0.6
GO02	Mina Guanaco	1.09	54	*e*P	Pn	13 08 21.4	+0.1
GO02				*i* S	Sn	13 08 35.2	0.0
GO02	Mina Guanaco	1.09	54	*e*P	Pn	13 08 21.2	-0.1
PB14	IPOC Station P	1.18	7		Pn	13 08 24.1	+1.6
PB14	IPOC Station P	1.18	7	*e*P	Pn	13 08 23.8	+1.3
PB14				*i* S	Sn	13 08 39.5	+1.9
PB14	IPOC Station P	1.18	7	*e*P	Pn	13 08 23.6	+1.0
AC06	Mina Casimiro	1.56	173		Pn	13 08 29.3	+1.8
AC06	Mina Casimiro	1.56	173	*e*P	Pn	13 08 29.2	+1.8
AC06				*i* S	Sn	13 08 49.0	+2.5
AC06				IAML		13 08 52.0	
	comp=E,16μm,0.4s						
AC02	Maricunga	1.65	129	Pn	Pn	13 08 30.6	+1.4
AC02	Maricunga	1.65	129	*e*P	Pn	13 08 30.6	+1.4
AC02				*i* S	Sn	13 08 50.6	+1.2
AC02				IAML		13 08 51.5	
	comp=N,30μm,0.2s						
AC02	Maricunga	1.65	129	*e*P	Pn	13 08 29.9	+0.8
AC04	Llanos de Chal	2.44	191		Pn	13 08 39.7	+0.2
AC04	Llanos de Chal	2.44	191	*e*P	Pn	13 08 39.6	+0.2
AC04	Llanos de Chal	2.44	191	*e*P	Pn	13 08 39.1	-0.4
LCO	Las Campanas	3.20	182	Pn	Pn	13 08 50.9	+0.7
LCO	Las Campanas	3.20	182	*e*P	Pn	13 08 50.8	+0.5
AF01	San Pedro de A	3.58	38	*e*P	Pn	13 08 59.0	+3.6
AF01				*i* S	Sn	13 09 42.4	+5.8
AF01	San Pedro de A	3.58	38	*e*P	Pn	13 08 58.9	+3.4
VCA	Vinchina	3.60	145	*e*P	Pn	13 08 59.4	+3.8
AGUA	GUANDACOL	4.11	154	*e*P	Pn	13 09 07.0	+4.4
FSA	Cafayete	4.14	95	*e*P	Pn	13 09 06.7	+3.6
PB09	IPOC Station P	4.17	17		Pn	13 09 04.3	+0.8
CO01	Juntas del Tor	4.18	174	Pn	Pn	13 09 04.5	+0.8
CO01	Juntas del Tor	4.18	174	*e*P	Pn	13 09 06.2	+2.5
GO04	Tololo Observa	4.36	183		Pn	13 09 06.8	+0.6
GO04	Tololo Observa	4.36	183	*e*P	Pn	13 09 06.6	+0.5
AROD	Rodeo	4.46	168	*e*P	Pn	13 09 11.6	+4.0
ACDV	Cuesta del Vie	4.54	164	*e*P	Pn	13 09 13.6	+5.1
ACLC	CERRO LA CRUZ	4.83	139	*e*P	Pn	13 09 15.3	+2.7
PB01	IPOC Station P	4.84	12		Pn	13 09 12.6	-0.1
PB01	IPOC Station P	4.84	12	*e*P	Pn	13 09 12.5	-0.1
CO06	Fray Jorge	4.95	191	Pn	Pn	13 09 13.0	-0.9
ACCO	Cerro Coronel	4.95	165	*e*P	Pn	13 09 18.8	+4.5
CYA	Choya	5.00	123	*e*P	Pn	13 09 16.8	+2.1
CO03	El Pedregal	5.02	181	Pn	Pn	13 09 16.0	+1.0
CO03	El Pedregal	5.02	181	*e*P	Pn	13 09 15.3	+0.2
TA01	Diego Aracena	5.22	4		Pn	13 09 16.6	-1.2
AZAP	Zapla	5.23	74	*e*P	Pn	13 09 21.9	+3.8
PB08	IPOC Station P	5.78	13		Pn	13 09 25.9	0.0
ZON	Zonda	5.96	164		Pn	13 09 29.7	+1.8
CFA	Coronel Fontan	6.13	161	P	Pn	13 09 32.3	+2.0
	comp=N,5.5nm,0.3s,baz=327,slow=13,SNR=48						
CFA				S	Sn	13 10 40.9	+1.7
	comp=N,76nm,0.5s,baz=232,slow=22,SNR=9.3						
	comp=N,42nm,0.5s						
VA06	Catapilco	6.77	185		Pn	13 09 39.1	+0.1
LPAZ	La Paz	9.73	14	P	Pn	13 10 21.5	+1.2
	comp=N,1.9nm,0.3s,baz=200,slow=6.1,SNR=36						
LPAZ				LR	LR	13 14 29.7	
	comp=N,268nm,21.2s,baz=179,slow=40						
	comp=N,7.4nm,0.5s						
LPAZ	La Paz	9.73	14	*e*P	Pn	13 10 20.9	+0.6
H03N1	Juan Fernandez	10.52	222	P	Pn	13 10 30.2	+0.1
	baz=110,slow=15,SNR=36						
H03N1				T	T	13 20 57.9	
	baz=47,slow=72,SNR=1926						
H03N2	Juan Fernandez	10.53	222	P	Pn	13 10 30.7	+0.5
	baz=110,slow=15,SNR=15						
H03N2				T	T	13 21 11.0	
	baz=47,slow=72,SNR=1612						
H03N3	Juan Fernandez	10.53	222	P	Pn	13 10 30.2	-0.1
	baz=110,slow=15,SNR=44						
H03N3				T	T	13 21 16.5	
	baz=47,slow=72,SNR=1838						
H03S3	Juan Fernandez	10.79	220	P	Pn	13 10 32.5	-1.3
	baz=34,slow=19,SNR=21						
H03S1	Juan Fernandez	10.80	220	P	Pn	13 10 32.2	-1.7
	baz=34,slow=19,SNR=14						
H03S2	Juan Fernandez	10.80	220	P	Pn	13 10 32.4	-1.6
	baz=34,slow=19,SNR=15						
CPUP	Villa Florida	11.91	95		Pn	13 10 50.5	+1.0
CPUP	Villa Florida	11.91	95	P	Pn	13 10 48.5	-1.1
	comp=N,0.2nm,0.3s,baz=274,slow=10,SNR=4.8						
CPUP				LR	LR	13 15 36.3	
	comp=N,290nm,20.1s,baz=301,slow=38						
	comp=N,1.3nm,0.6s						
CPUP	Villa Florida	11.91	95	*e*P	Pn	13 10 48.8	-0.7
PSAL	Palomas, Salto	12.56	118	*e*P	Pn	13 10 58.8	+0.5
MURT	Porto Murtinho	12.56	74	*e*P	Pn	13 10 59.2	+0.8
SJPY	San Joaquin	13.10	90	*e*P	Pn	13 11 04.9	-0.8
SIV	San Ignacio	13.18	44	P	Pn	13 11 03.4	-3.5
	comp=N,4.1nm,0.5s,baz=248,slow=6.6,SNR=22						
SIV				S	Sn	13 13 30.9	-1.4
	comp=N,5.4nm,0.9s,baz=242,slow=18,SNR=2.4						
BDQN	Bodoquena, MS	13.78	70	*e*P	Pn	13 11 14.6	-0.4
TBOT	Tacuarembó	14.10	118	*e*P	Pn	13 11 16.9	-2.5
TRQA	Tornquist	14.22	151	Pn	Pn	13 11 19.3	-1.6
PTLB	Pontes e Lacer	14.84	48		Pn	13 11 30.1	+0.7
PTLB	Pontes e Lacer	14.84	48	*e*P	Pn	13 11 28.4	-1.0
PLCA	Paso Flores	14.89	180	P	P	13 11 36.1	+1.0
	comp=N,4.4nm,1.1s,baz=352,slow=13,SNR=9.7						
PLCA	Paso Flores	14.89	180	*e*P	Pn	13 11 31.2	+1.2
CPSB	Cacapava Do Su	15.79	111	*e*P	Pn	13 11 42.2	+0.5
PLTB	Pedras Altas	16.01	116	*e*P	Pn	13 11 43.8	-0.7
VILB	Vilhena	16.08	39	*e*P	P	13 11 46.2	-2.2
RPRD	Ribas do Rio P	16.39	75	*e*P	P	13 11 50.2	-1.5
LL01	San Ignacio de	16.61	185	Pn	Pn	13 11 51.3	-0.6
PTGB	Pitanga	16.78	90	*e*P	P	13 11 54.8	-1.3
SALV	Santo Antonio	17.02	58	*e*P	P	13 11 57.8	-0.9
GO07	Milladeo Hill,	17.46	188	P	Pn	13 12 02.6	0.0
GO07				IAmb	IAmb	13 12 07.7	
	comp=Z,41nm,0.5s						
LDASE	Londrina, Braz	17.85	86	*e*P	P	13 12 08.1	+0.2
CZSB	Cruzeiro do Su	18.09	353	P	P	13 12 09.8	-0.7
PDRB	Porto dos Gac	19.23	45	*e*P	Pn	13 12 23.7	-0.7
FRTB	Fartura	19.26	87	*e*P	Pn	13 12 23.1	-1.6
MAJ01	Sao Joao Batis	19.34	99	*e*P	Pn	13 12 24.2	-1.4
ITRB	Iturama	19.59	76	*e*P	Pn	13 12 27.1	-1.5
COYC	Coyhaique	19.77	183		Pn	13 12 30.4	-0.1
ARAG	Araguaiana, MT	20.19	64	*e*P	P	13 12 32.9	-0.6
CLDB	Colider	20.39	46	*e*P	P	13 12 35.7	-0.1
BB19B	Bebedouro	20.76	81	*e*P	P	13 12 39.1	-0.7
SPB	Sao Paulo	21.13	89	*e*P	P	13 12 43.6	-0.1
TBTG	Tabatinga, AM	21.50	2	*e*P	P	13 12 48.2	+0.5
VAO	Valinhos	21.67	88	P	P	13 12 48.6	-1.0
VAO				IAmb	IAmb	13 13 08.0	
	comp=Z,54nm,1.2s						
VAO	Valinhos	21.67	88	*e*P	P	13 12 50.0	+0.4
IPMB	Ipameri, GO	22.13	74	*e*P	P	13 12 52.6	-1.9
SNDB	Serra Nova Dou	22.80	56	*e*P	P	13 12 59.4	-2.2
PARB	Paraibuna	22.81	89	*e*P	P	13 13 00.8	-0.9
TEFE	Tefe	22.89	15	*e*P	P	13 13 03.3	+0.8
BDFB	Brasilia	23.36	69	P	P	13 13 05.4	-2.0
BDFB				IAmb	IAmb	13 13 07.4	
	comp=Z,32nm,1.0s						
BDFB	Brasilia	23.36	69	P	P	13 13 05.5	-1.8
	comp=Z,20nm,0.8s,baz=240,slow=10,SNR=16						
	comp=Z,20nm,0.8s						
PMNB	Patos De Minas	23.46	77	*e*P	P	13 13 06.4	-2.0
NPGB	Novo Progresso	23.63	41	*e*P	P	13 13 09.7	-0.1
MACA	Manacapuru-AM	24.43	24	*e*P	P	13 13 17.6	+0.4
ITTB	Itaituba	25.62	36	*e*P	P	13 13 27.8	-0.3
DIAM	Diamantina, MG	25.99	79	*e*P	P	13 13 31.3	-0.2
JANB	Januaria	26.77	72	*e*P	P	13 13 37.7	-0.9
SDBA	SAO DESIDERIO	27.60	66	*e*P	P	13 13 45.1	-0.8
BSFB	Barra de Sao F	28.31	82	*e*P	P	13 13 52.4	+0.1
BOAV	Boa Vista	29.67	21	*e*P	P	13 14 04.7	+0.4
GUA01	Guaratinga, BA	30.05	78	*e*P	P	13 14 08.2	+0.5
MDP	Montagnes des	35.30	32	P	P	13 14 53.3	-0.3
	comp=Z,17nm,1.0s,baz=210,slow=1.7,SNR=1.4						
	comp=Z,17nm,1.0s						
NBPB	Pedra_Branca-C	35.83	61	*e*P	P	13 14 58.4	+0.3
NBAN	Anadia - AL	36.24	70	*e*P	P	13 15 01.3	-0.4
RCBR	Riachuelo	38.62	65	P	P	13 15 20.8	-1.1
RCBR	Riachuelo	38.62	65	P	P	13 15 22.7	+0.8
	comp=Z,9.7nm,1.0s,baz=236,slow=15,SNR=7.8						
	comp=Z,9.7nm,1.0s						
RCBR	Riachuelo	38.62	65	*e*P	P	13 15 22.1	+0.2
SNAA	Sanae	58.75	160	P	P	13 17 55.7	0.0
	comp=Z,4.0nm,0.5s,baz=284,slow=6.8,SNR=21						
	comp=Z,4.0nm,0.5s						
833A	Chaparral WMA,	60.53	331	IAmb	IAmb	13 18 11.3	
	comp=Z,7.6nm,0.8s						
HNDO	Hondo	61.53	332	IAmb	IAmb	13 18 17.9	
	comp=Z,8.2nm,0.7s						
JCT	Junction City	62.57	332	P	P	13 18 21.6	-0.6
BRDY	Brady	62.94	333	IAmb	IAmb	13 18 26.7	
	comp=Z,3.9nm,0.9s						
SAND	Sanderson	63.15	329	P	P	13 18 28.0	+1.9
SAND				IAmb	IAmb	13 18 29.2	
	comp=Z,6.8nm,0.9s						
TXAR	Lajitas Array	63.36	328	P	P	13 18 29.6	+2.1
	comp=Z,1.6nm,0.8s,baz=156,slow=9.1,SNR=7.9						
TXAR				LR	LR	13 42 58.5	
	comp=Z,3μm,20.6s,baz=278,slow=33						
	comp=Z,1.6nm,0.8s						
WVT	Waverly	63.72	344	P	P	13 18 28.3	-1.3
WVT				IAmb	IAmb	13 18 30.1	
	comp=Z,6.6nm,0.7s						
QSPA	South Pole Qui	64.41	180	P	P	13 18 35.1	+1.1
QSPA				IAmb	IAmb	13 18 49.8	
	comp=Z,8.7nm,0.9s						
QSPA	South Pole Qui	64.41	180	P	P	13 18 35.4	+1.3
	comp=Z,5.8nm,0.5s,baz=309,slow=0.6,SNR=87						
	comp=Z,5.8nm,0.5s						
LCAR	Lake Charles	64.54	342	IAmb	IAmb	13 18 36.1	
	comp=Z,6.3nm,0.6s						
APMT	Aspermont	65.17	333	IAmb	IAmb	13 18 41.7	
	comp=Z,12nm,0.9s						
VHRN	Van Horn	65.20	328	IAmb	IAmb	13 18 42.0	
	comp=Z,5.5nm,0.9s						
SIUC	Southern Illin	65.56	344	IAmb	IAmb	13 18 42.6	
	comp=Z,7.2nm,0.8s						
FVM	French Village	66.13	343	IAmb	IAmb	13 18 46.7	
	comp=Z,9.6nm,0.8s						
CCM	Cathedral Cave	66.42	342	P	P	13 18 47.0	-0.1
CCM				IAmb	IAmb	13 18 48.1	
	comp=Z,6.0nm,0.7s						
MSTX	Muleshoe	66.85	331	IAmb	IAmb	13 18 52.9	
	comp=Z,11nm,0.9s						
319A	Douglas	67.83	325	IAmb	IAmb	13 19 00.5	
	comp=Z,6.8nm,0.8s						
CBKS	Cedar Bluff	69.84	336	IAmb	IAmb	13 19 10.7	
	comp=Z,9.8nm,0.7s						
DBIC	Dimbokro	71.44	73	P	P	13 19 18.0	-0.8
DBIC	Dimbokro	71.44	73	P	P	13 19 18.8	-0.1
	comp=Z,14nm,0.6s,baz=234,slow=6.0,SNR=24						
	comp=Z,14nm,0.6s						
ECSD	EROS Data Cent	73.21	341	IAmb	IAmb	13 19 30.6	
	comp=Z,5.7nm,0.9s						
KNB	Kanab	74.06	326	IAmb	IAmb	13 19 38.4	
	comp=Z,15nm,1.3s						
O20A	White River Ci	74.39	331	IAmb	IAmb	13 19 39.8	
	comp=Z,6.5nm,0.9s						
HWUT	Hardware Ranch	77.06	330	IAmb	IAmb	13 19 55.1	
	comp=Z,9.3nm,1.5s						
PDAR	Pinedale Array	77.11	332	P	P	13 19 53.0	+1.4
	comp=Z,0.4nm,0.4s,baz=133,slow=8.1,SNR=9.8						
	comp=Z,0.4nm,0.4s						
SUR	Sutherland	77.74	120	LR	LR	13 50 40.4	
	comp=Z,5μm,21.2s,baz=126,slow=33						
NVAR	Mina Array Bea	77.98	324	P	P	13 19 58.6	+2.1
	comp=Z,1.0nm,0.8s,baz=154,slow=6.2,SNR=7.5						
	comp=Z,1.0nm,0.8s						
ULM	Lac du Bonnet	78.97	344	P	P	13 20 01.8	+0.4
	comp=Z,2.2nm,0.5s,baz=158,slow=6.2,SNR=7.7						
	comp=Z,2.2nm,0.5s						
LAO	LASA Array	79.03	336	IAmb	IAmb	13 20 17.0	
	comp=Z,16nm,1.3s						
YNE	Yellowstone No	79.12	333	IAmb	IAmb	13 20 18.2	
	comp=Z,12nm,1.2s						
TORD	Torodi Ar. Bea	80.23	70	P	P	13 20 09.2	+0.1
	comp=Z,15nm,0.7s,baz=236,slow=5.1,SNR=7.6						
	comp=Z,15nm,0.7s						
SCHQ	Schefferville	80.37	2	LR	LR	13 58 07.2	
	comp=Z,2μm,19.6s,baz=316,slow=37						
MAW	Mawson	80.66	164	P	P	13 20 11.2	+0.7
	comp=Z,14nm,0.8s,baz=227,slow=21,SNR=1.1						
	comp=Z,14nm,0.8s						
PLID	Pearl Lake	81.80	329	IAmb	IAmb	13 20 32.5	
	comp=Z,6.1nm,0.9s						
BOSA	Boshof	82.77	118	P	P	13 20 22.5	-0.1
	comp=Z,5.7nm,0.8s,baz=250,slow=3.4,SNR=8.9						
	comp=Z,5.7nm,0.8s						
H04N3	CROZET ISLANDS	91.37	144	P	P	13 20 55.1	-8.5
	baz=3.8,slow=13,SNR=6.9						
H04N1	CROZET ISLANDS	91.38	144	P	P	13 20 52.9	-11
	baz=3.8,slow=13,SNR=9.8						
H04N2	CROZET ISLANDS	91.39	144	P	P	13 20 53.3	-10
	baz=3.8,slow=13,SNR=10.0						
YKA	Yellowknife Ar	94.73	341	P	P	13 21 19.0	+0.3
	comp=Z,0.8nm,0.8s,baz=142,slow=4.4,SNR=10						
	comp=Z,0.8nm,0.8s						
AKASG	Malin Array Be	115.57	44	PKP	PKiKP	13 26 39.5	-0.1
	comp=Z,0.5nm,0.4s,baz=262,slow=3.0,SNR=4.8						
KBZ	Khabaz	123.94	53	PKP	PKiKP	13 26 56.5	+0.3
	comp=Z,2.5nm,0.9s,baz=101,slow=4.1,SNR=5.4						
ASAR	Alice Springs	125.41	208	PKP	PKiKP	13 26 59.7	-0.2
	comp=Z,1.2nm,0.6s,baz=151,slow=2.4,SNR=14						
H11S2	WAKE ISLAND Hyl	26.80	274	T	T	15 46 45.6	
	baz=108,slow=75,SNR=96						
H11S1	WAKE ISLAND Hyl	26.81	274	T	T	15 46 42.8	
	baz=108,slow=75,SNR=112						
H11S3	WAKE ISLAND Hyl	26.81	274	T	T	15 46 45.7	
	baz=108,slow=75,SNR=97						
H11N3	WAKE ISLAND Hyl	27.00	276	T	T	15 46 56.4	
	baz=107,slow=75,SNR=16						
H11N1	WAKE ISLAND Hyl	27.01	276	T	T	15 47 09.0	
	baz=107,slow=75,SNR=11						
H11N2	WAKE ISLAND Hyl	27.01	276	T	T	15 46 59.4	
	baz=107,slow=75,SNR=14						
WRA	Warramunga Arr	128.49	210	PKP	PKPdf	13 27 05.7	+0.2
	comp=Z,1.5nm,0.5s,baz=160,slow=1.7,SNR=9.8						
ABKAR	Akbulak array	135.29	45	PKPdf	PKPdf	13 27 17.1	-0.1
BVAR	Borovoye Array	140.16	36	PKP	PKiKP	13 27 27.8	-0.9
	comp=Z,1.7nm,0.8s,baz=307,slow=3.0,SNR=8.1						
GAR	Garm	144.72	58	PKPdf	PKPdf	13 27 33.9	-0.9
KURBB	Kurchatov Arra	145.73	36	PKPbc	PKPab	13 27 37.5	+0.6
	comp=Z,4.8nm,0.6s,baz=304,slow=3.1,SNR=14						
EKS2	Erkin-Say	146.36	51	P	PKPab	13 27 39.8	0.0
	SNR=12						
AML	Almayashu	146.47	52	P	PKPab	13 27 39.9	-0.6
	SNR=11						
ZALV	Zalesovo Beam	146.47	26	PKPdf	PKPbc	13 27 38.0	-0.6
ZALV	Zalesovo Beam	146.47	26	PKPbc	PKPbc	13 27 38.5	-0.1
	comp=Z,20nm,0.5s,baz=308,slow=3.6,SNR=82						
USP	Ospenovka	146.67	50	P	PKPbc	13 27 39.6	0.0
	SNR=6.2						
AAK	Ala-Archa	146.87	51	PKPbc	PKPbc	13 27 40.1	-0.3
AAK	Ala-Archa	146.87	51	PKPbc	PKPbc	13 27 40.3	-0.1
	comp=Z,12nm,0.8s,baz=241,slow=3.3,SNR=30						
AAK	Ala-Archa	146.87	51	P	PKPab	13 27 40.7	-1.1
	SNR=14						
CHMS	Chumysh	146.93	50	P	PKPab	13 27 41.3	-0.5
	SNR=7.8						
KBK	Karagaybulak	147.18	50	P	PKiKP	13 27 43.2	-0.4
	SNR=9.8						
TKM2	Tokmak 2	147.54	50	P	PKPbc	13 27 41.4	-0.9
	SNR=7.8						
ULHL	Ulahol	148.22	51	P	PKiKP	13 27 46.0	+0.1
	SNR=7.0						
KSH	Kashi	148.88	56	PKPbc	PKiKP	13 27 46.8	-0.4
MAKZ	Makanchi	149.78	39		PKiKP	13 27 48.1	-0.5
MKAR	Makanchi Array	149.96	39		PKiKP	13 27 48.4	-0.6
MKAR	Makanchi Array	149.96	39	PKPbc	PKiKP	13 27 48.8	-0.3
	comp=Z,14nm,0.7s,baz=320,slow=2.5,SNR=101						
HHC	Hu-ho-hao-te	164.89	354	*e*P	PKPdf	13 28 04.5	+2.4
HNS	HongShan	167.60	340	⇑PKP	PKPdf	13 27 56.3	-7.8
LZH	Lanzhou	168.69	24	*e*P	PKPdf	13 28 01.2	-4.0
LZH				sP	pPKPdf	13 28 15.2	-3.0
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
NJ2	Nanjing	169.66	309	*e*P	PKPdf	13 28 09.3	+3.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	Xi'an	171.78	3	PKP	PKPdf	13 28 02.1	-4.7
XAN				pPKP	pPKPdf	13 28 16.8	-3.0
PZH	PanZhiHua	173.06	83	PKP	PKPdf	13 28 07.9	+0.2

IDC 10 13:08:41.4±10.0, 6°.22S×153°.75E, h123km±62km, mb3.5/3, mbtmp3.8/4, Error ellipse: s-maj=121.2km s-min=70.8km az=173.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.26	244	P	Pn	13 10 24.6	-0.2
	3.5nm,0.3s,baz=75,slow=16,SNR=5.9						
PMG				S	Sn	13 11 46.9	+1.1
	49nm,1.0s,baz=294,slow=21,SNR=5.2						
WRA	Warramunga Arr	23.27	232	P	P	13 13 37.8	-0.5
	1.8nm,0.6s,baz=62,slow=11,SNR=21						
	1.8nm,0.6s						
ASAR	Alice Springs	25.79	226	P	P	13 14 01.6	+0.4
	0.9nm,0.8s,baz=59,slow=9.0,SNR=17						
	0.9nm,0.8s						
STKA	Stephens Creek	27.94	202	P	P	13 14 20.2	0.0
	1.6nm,0.8s,baz=18,slow=9.6,SNR=2.8						
	1.6nm,0.8s						

*NOU **10** 13:16:23.8, 37°.16S×177°.05E, h28km, MLv3.9/11, Off E. Coast of N. Island, N.Z.*
*WEL **10** 13:16:27.8±0.7, 37°.5±5°.×17°.7E±°., h188km±6km, M3.3/40, MLv3.3/40, Error ellipse: s-maj=7.0km s-min=4.4km az=39.5, confirmed*

ISC 10 13:16:21.5±2.1, 37°.05S±0°.08×177°.03E±0°.07, h238km±11km, n150, σ1.92/167, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	Mayor Island	0.67	250	P	Pn	13 16 53.7	0.0
OPRZ	Ohinepanea	0.88	206	P	Pn	13 16 55.5	+0.9
TGRZ	Tauranga	0.91	222	P	Pn	13 16 55.9	+1.2
HAZ	Te Kaha	0.92	140	P	Pn	13 16 56.1	+1.4
HAZ				S	S	13 17 18.4	-2.5
MARZ	Manawahe	0.97	197	P	Pn	13 16 56.8	+1.7
RUGZ	Raukumara Rang	1.05	151	P	Pn	13 16 56.5	+0.9
RUGZ				S	S	13 17 19.0	-3.5
KUZ	Kuaotunu	1.10	286	P	Pn	13 16 56.3	+0.5
KUZ	Kuaotunu	1.10	286	P	Pn	13 16 56.6	+0.8
MXZ	Matakaoa Point	1.14	117	P	Pn	13 16 57.8	+1.8
MXZ				S	S	13 17 21.1	-2.1
KARZ	Kaharoa	1.15	213	P	Pn	13 16 57.6	+1.4
PKGZ	Pakihiroa	1.16	135	P	Pn	13 16 58.5	+2.3
KMRZ	Kaimai	1.18	227	P	Pn	13 16 57.9	+1.6
OMRZ	Omania	1.18	206	P	Pn	13 16 58.5	+2.1
URZ	Urewera	1.21	177	P	Pn	13 16 57.5	+1.0
URZ	Urewera

MAVZ	Matarangi	2.50	207	P		Pn	13 17 10.5 +2.3
WHVZ	Whangaehu Hut	2.50	207	P		Pn	13 17 10.4 +2.2
TRVZ	Turoa	2.53	207	P		Pn	13 17 10.7 +2.2
WNVZ	Wahianoa	2.54	206	P		Pn	13 17 10.5 +2.1
MOVZ	Moawhango	2.56	203	P		Pn	13 17 10.1 +1.6
PKVZ	Pokaka	2.60	210	P		Pn	13 17 11.3 +2.3
CKHZ	Cape Kidnapper	2.60	179	P		Pn	13 17 11.3 +2.4
MTVZ	Mangateitei	2.63	207	P		Pn	13 17 11.7 +2.4
KRHZ	Kereru	2.64	191	P		Pn	13 17 11.1 +1.8
VRZ	Vera Road	2.74	220	P		Pn	13 17 13.6 +3.2
KAHZ	Kahuranaki	2.74	183	P		Pn	13 17 12.8 +2.4
PNHZ	Pukenui	2.93	193	P		Pn	13 17 14.1 +1.6
PXZ	Pawanui	2.98	183	P		Pn	13 17 14.8 +1.9
WPHZ	Waipukurau	3.04	189	P		Pn	13 17 15.6 +1.9
TSZ	Takapari Road	3.12	195	P		Pn	13 17 16.2 +1.6
WAZ	Wanganui	3.14	210	P		Pn	13 17 17.1 +2.3
LREZ	Lake Rotokare	3.17	220	P		Pn	13 17 18.5 +3.4
NEZ	North Egmont	3.20	225	P		Pn	13 17 19.6 +4.0
PKE	Pukeiti	3.22	227	P		Pn	13 17 16.8 +1.1
PREZ	Palmer Road	3.22	224	P		Pn	13 17 19.6 +3.9
PRHZ	Porangahau	3.23	185	P		Pn	13 17 17.5 +1.8
KHEZ	Kahui Hut	3.27	226	P		Pn	13 17 20.1 +3.8
DVHZ	Dannevirke	3.31	192	P		Pn	13 17 18.0 +1.3
OUZ	Omahuta	3.33	302	P		Pn	13 17 19.9 +2.9
OUZ	Omahuta	3.33	302	P		Pn	13 17 19.3 +2.3
OHWZ	Ohakea	3.42	203	P		Pn	13 17 20.0 +2.1
ANWZ	Angora Road	3.43	187	P		Pn	13 17 19.9 +1.8
POWZ	Post Office Ro	3.48	196	P		Pn	13 17 20.3 +1.7
PRWZ	Pori Road	3.59	193	P		Pn	13 17 21.6 +1.7
BFZ	Birch Farm	3.68	189	P		Pn	13 17 22.1 +1.2
MRZ	Mangatainoka R	3.78	197	P		Pn	13 17 23.1 +1.0
TIWZ	Tintock	3.83	193	P		Pn	13 17 23.9 +1.3
CPWZ	Castlepoint	3.91	189	P		Pn	13 17 25.3 +1.8
HOWZ	Holdsworth Sta	4.02	197	P		Pn	13 17 25.7 +0.7
OGWZ	Otaki Gorge	4.03	201	P		Pn	13 17 26.0 +1.0
TMWZ	Te Maipa	4.15	192	P		Pn	13 17 27.6 +1.1
KIW	Kapiti Island	4.15	203	P		Pn	13 17 27.1 +0.7
MTW	Mount Morrison	4.27	196	P		Pn	13 17 28.5 +0.6
CAW	Cannon Point	4.33	200	P		Pn	13 17 29.2 +0.6
DUWZ	D'Urville Isla	4.46	212	P		Pn	13 17 31.2 +0.9
TRWZ	Traveller	4.46	193	P		Pn	13 17 31.0 +0.7
PAWZ	Paruwai Farm	4.50	196	P		Pn	13 17 31.2 +0.4
MSWZ	Moikau Station	4.57	197	P		Pn	13 17 31.9 +0.3
WEL	Wellington	4.58	202	P		Pn	13 17 32.3 +0.7
BHW	Baring Head	4.66	200	P		Pn	13 17 32.9 +0.2
TCW	Tory Channel	4.67	206	P		Pn	13 17 33.3 +0.5
PLWZ	Palliser	4.72	196	P		Pn	13 17 33.6 +0.2
TUWZ	Tuamarina	4.99	208	P		Pn	13 17 37.9 +1.2
NNZ	Nelson	5.04	213	P		Pn	13 17 37.7 +0.4
TKNZ	Takaka Hill	5.08	217	P		Pn	13 17 38.3 +0.4
QRZ	Quartz Range	5.15	222	P		Pn	13 17 39.5 +0.8
QRZ	Quartz Range	5.15	222	P		Pn	13 17 39.3 +0.6
BSWZ	Blackbirch Sta	5.26	207	P		Pn	13 17 41.0 +1.0
MRNZ	Matariki Terra	5.46	216	P		Pn	13 17 43.1 +0.5
THZ	Tophouse	5.69	213	P		Pn	13 17 46.1 +0.7
KHZ	Kahutara	6.00	206	P		Pn	13 17 49.7 +0.5
KHZ	Kahutara	6.00	206	P		Pn	13 17 49.7 +0.5
DSZ	Denniston Nort	6.19	219	P		Pn	13 17 51.7 0.0
GVZ	Greta Valley S	6.66	206	P		Pn	13 17 58.1 +0.5
LTZ	Lake Taylor	6.79	211	P		Pn	13 17 59.7 +0.4
OKCZ	Okains Bay	7.32	203	P		Pn	13 18 06.4 +0.4
OXZ	Oxford	7.34	210	P		Pn	13 18 06.1 -0.1
MQZ	McQueen's Vall	7.44	205	P		Pn	13 18 06.8 -0.7
AKCZ	Akaroa Harbour	7.50	203	P		Pn	13 18 09.2 +0.8
MHCZ	Mount Hutt	7.70	211	P		Pn	13 18 11.0 +0.1
RPZ	Rata Peaks	8.07	213	P		Pn	13 18 16.1 +0.6
RPZ	Rata Peaks	8.07	213	P		Pn	13 18 16.2 +0.6
TMZ	Timaru	8.63	210	P		Pn	13 18 23.1 +0.4
ODZ	Otahua Downs	9.33	209	P		Pn	13 18 33.0 +1.5
ODZ	Otahua Downs	9.33	209	P		Pn	13 18 32.7 +1.2
JCZ	Jackson Bay	9.41	219	P		Pn	13 18 33.7 +1.1

*IDC **10** 13:18:14.5±0.4,35°.26S×53°.94E,h0km,mb4.9/28, mbtmp4.9/29,ML4.6/1,MS5.0/3,Error ellipse: s-maj=14.5km s-min=11.4km az=67.0*
*MOS **10** 13:18:14.5±0.9,35°.23S×53°.88E,h10km,mb5.5/49,Error ellipse: s-maj=13.4km s-min=6.6km az=94.4*
*BJI **10** 13:18:14.0,35°.30S×53°.90E,h10km,mB5.7/4,mb5.0/47, Ms5.5/4,Ms7 5.1/4*
*NEIC **10** 13:18:16.0±2.2,35°.21S±0°.06×53°.9E±0°.1,h10km±1km, mb5.4/139,Error ellipse: s-maj=17.3km s-min=8.0km az=248.0*
ISC 10 13:18:16.1±0.2,35°.23S±0°.05×53°.92E±0°.06,h10km,n760, σ0=93/706,mb5.3/180,MS5.2/5,29C-26D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	11.04	188	T	T	13 32 15.5	
	baz=9.5,slow=76						
H04N2	CROZET ISLANDS	11.04	188	T	T	13 32 14.2	
	baz=9.5,slow=76						
H04N3	CROZET ISLANDS	11.06	188	T	T	13 32 14.5	
	baz=9.5,slow=76						
CRZF	Crozet Islands	11.30	187	Pn	Pn	13 20 56.5	-1.0
FOMA	Nahampoana Res	11.85	328	Pn	Pn	13 21 02.9	-2.2
RER	Riviere de l'E	14.11	7	Pn	Pn	13 21 32.0	-4.1
VOI	Vohitsoka	14.67	333	Pn	Pn	13 21 43.1	-0.8
VOI	Vohitsoka	14.67	333	P	Pn	13 21 44.0	+0.2
	SNR=7.7						
ABPO	Ambohimpanom	17.20	338	Pn	Pn	13 22 15.7	-1.0
ABPO	Ambohimpanom	17.20	338	P	Pn	13 22 15.7	-1.0
ABPO				pmax	pmax		
	comp=Z,227nm,1.5s						
OPO	Ambohidratompo	17.64	338	P	P	13 22 22.7	-0.4
	comp=Z,0.2nm,0.3s,baz=147,slow=10.0,SNR=18						
OPO				S	Sn	13 25 40.7	+2.0
	comp=Z,7.3nm,0.7s,baz=329,slow=22,SNR=3.1						
	comp=Z,35nm,0.8s						
POGA	Pongola	20.52	286	P	P	13 22 53.8	-0.7
SBV	Sambava	21.98	350	P	P	13 23 11.2	+1.0
	SNR=16						
GRHM	Grahamstown, E	22.83	267	P	P	13 23 18.8	-0.5
SOE	Somerset East	23.62	268	P	P	13 23 26.1	-1.3
BOSA	Boshof	25.16	277	P	P	13 23 39.6	-2.1
BOSA	Boshof	25.16	277	P	P	13 23 40.6	-1.1
	comp=Z,33nm,0.9s,baz=110,slow=9.3,SNR=21						
	comp=Z,33nm,0.9s						
BOSA	Boshof	25.16	277	P	P	13 23 39.6	-2.1
BOSA				pmax	pmax		
	comp=Z,58nm,1.1s						
LBTB	Lobatse	26.45	285	P	P	13 23 51.6	-1.8
LBTB	Lobatse	26.45	285	P	P	13 23 51.6	-1.8
LBTB				pmax	pmax		
	comp=Z,22nm,0.9s						
LSZ	Lusaka	30.45	304	P	P	13 24 28.0	-1.1
LSZ	Lusaka	30.45	304	P	P	13 24 28.0	-1.1
LSZ				pmax	pmax		
	comp=Z,47nm,1.4s						
H08S1	Diego Carcia H	32.30	36	T	T	13 58 34.2	
	baz=209,slow=75,SNR=502						
H08S2	Diego Garcia H	32.31	36	T	T	13 58 37.7	
	baz=209,slow=75,SNR=124						
H08S3	Diego Garcia H	32.33	36	T	T	13 58 35.4	
	baz=209,slow=75,SNR=880						
DGAR	Diego Garcia	32.50	36	*i* P	P	13 24 44.4	-2.6
DGAR				pmax	pmax		
	comp=Z,144nm,1.5s						
SYO	Syowa Base	34.77	189	⇑*e*P	P	13 25 06.6	+0.4
SYO	Syowa Base	34.77	189	⇓*es*P	sP	13 25 10.1	+1.2
TSUM	Tsumeb	35.81	287	P	P	13 25 13.7	-2.2
KIBK	Kibwezi	35.90	332	P	P	13 25 16.6	0.0
KIBK	Kibwezi	35.90	332	P	P	13 25 18.0	+1.4
	SNR=5.6						
ELIB	Princess Elisa	40.06	194	*d*P	P	13 25 51.4	+0.2
	comp=Z,26nm,1.1s						
MBAR	Mbarara	40.67	323	P	P	13 25 57.4	+0.6
MBAR	Mbarara	40.67	323	P	P	13 25 57.8	+1.0
MBAR				P	P	13 25 57.8	+1.0
MBAR	Mbarara	40.67	323	*i* P	P	13 25 55.7	-1.2
MBAR				pmax	pmax		
	comp=Z,15nm,1.2s						
LODK	Lodwar	42.21	332	P	P	13 26 08.3	-1.1
LODK	Lodwar	42.21	332	P	P	13 26 11.7	+2.2
	SNR=5.6						
TROLL	Troll, Antarti	45.20	200	⇓P	P	13 26 33.0	0.0
	comp=Z,1μm,0.9s						
SNAA	Sanae	46.63	201	P	P	13 26 43.9	-0.2
SNAA	Sanae	46.63	201	⇓P	P	13 26 44.3	+0.2
	comp=Z,888nm,0.9s						
SNAA	Sanae	46.63	201	P	P	13 26 44.3	+0.2
	comp=Z,48nm,1.0s,baz=96,slow=9.0,SNR=19						
	comp=Z,48nm,1.0s						
SNAA	Sanae	46.63	201	*ce*P	P	13 26 43.7	-0.4
SNAA				pmax	pmax		
	comp=Z,96nm,1.3s						
ATD	Arta Tunnel	47.67	345	IAmb	IAmb	13 26 56.9	
	comp=Z,48nm,1.1s						
VNA2	Neumayer–Watz	47.81	203	⇓P	P	13 26 53.6	+0.3
	comp=Z,62nm,1.0s,baz=60,slow=6.0						
H01W2	Cape Leeuwin H	48.59	108	T	T	14 19 12.4	
	baz=251,slow=75,SNR=27						
H01W3	Cape Leeuwin H	48.60	108	T	T	14 19 10.5	
	baz=251,slow=75,SNR=35						
VNA3	Neumayer Olymp	48.61	203	⇓P	P	13 26 60.0	+0.5
	comp=Z,62nm,0.8s						
H01W1	Cape Leeuwin H	48.61	108	T	T	14 19 07.2	
	baz=251,slow=75,SNR=25						
PALK	Pallekele	49.24	36	P	P	13 27 05.1	+0.2
	comp=Z,9.1nm,1.0s,baz=229,slow=7.7,SNR=5.3						
	comp=Z,9.1nm,1.0s						
PALK	Pallekele	49.24	36	*i* P	P	13 27 05.6	+0.6
PALK				pmax	pmax		
	comp=Z,32nm,1.5s						
NWAO	Narrogin (SRO)	51.69	107	P	P	13 27 23.6	+0.3
	comp=Z,82nm,2.2s						
NWAO	Narrogin (SRO)	51.69	107	LR	LR	13 44 44.9	
	comp=Z,785nm,20.9s,baz=229,slow=31						
BLDU	Ballidu	52.14	104	P	P	13 27 26.8	+0.1
	comp=Z,24nm,1.2s						
BLDU	Ballidu	52.14	104	P	P	13 27 27.1	+0.4
ABTO	Aybut	52.30	359	P	P	13 27 28.3	+0.4
H09W1	TRISTAN DA CUN	52.52	247	T	T	14 23 52.4	
	SNR=19						
WHFO	Wadi Hawf	52.85	360	P	P	13 27 32.2	+0.1
DOK	Doka	53.55	0	P	P	13 27 36.9	-0.1
	SNR=5.3						
QSPA	South Pole Qui	54.95	180	P	P	13 27 45.9	-1.1
QSPA	South Pole Qui	54.95	180	P	P	13 27 46.4	-0.7
	comp=Z,90nm,0.9s,baz=261,slow=2.9,SNR=146						
	comp=Z,90nm,0.9s						
DQM	DQM	54.96	4	P	P	13 27 46.4	-0.9
MDSI	Maura Dua	55.50	68	P	P	13 27 53.8	+2.4
BELA	Belgrano 2	55.55	195	P	P	13 27 50.1	-0.9
BELA				IAmb	IAmb	13 27 53.9	
	comp=Z,119nm,2.0s						
MNSI	Mandailing Nat	55.65	60	P	P	13 27 54.3	+1.8
MHTO	MHTO	56.04	5	P	P	13 27 54.2	-0.8
RPSI	Rantau Prapat	56.54	58	P	P	13 27 59.6	+0.8
PSI	Prapat	56.61	58	P	P	13 28 00.0	+0.5
	comp=Z,11nm,1.0s,baz=204,slow=6.8,SNR=8.3						
	comp=Z,11nm,1.0s						
PSI	Prapat	56.61	58	P	P	13 27 59.7	+0.2
PSI				pmax	pmax		
	comp=Z,27nm,1.2s						
POO	Poona	56.71	23	*e*P	P	13 28 00.1	+0.1
POO				IAmb	IAmb	13 28 08.4	
	comp=Z,27nm,0.9s						
HYB	Hyderabad	57.34	28	*e*P	P	13 28 04.7	+0.3
UMZA	Um Al Zommool	57.64	1	P	P	13 28 05.9	-0.5
WBK	Wadi Bani Khal	57.72	6	P	P	13 28 06.7	-0.4
BSY	Bisya	57.74	4	P	P	13 28 06.7	-0.5
MZR	Muzera	57.91	360	P	P	13 28 08.4	+0.1
MZR	Muzera	57.91	360	*i* P	P	13 28 08.8	+0.4
	SNR=6.3						
SMDO	Samad	58.10	4	P	P	13 28 09.1	-0.6
ARQ	Araqi	58.30	3	P	P	13 28 11.1	0.0
BIDO	Bidbid	58.56	5	P	P	13 28 12.6	-0.3
HOQ	Hoqain	58.58	4	P	P	13 28 12.8	-0.2
PSAC1	Pilbara Seismi	58.60	95	P	P	13 28 12.8	-0.6
	comp=Z,22nm,2.3s						
PSA00	Pilbara Seismi	58.62	95	P	P	13 28 12.9	-0.7
	comp=Z,20nm,1.0s						
MBWA	Marble Bar	58.72	95	P	P	13 28 13.7	-0.6
	comp=Z,17nm,1.2s						
MBWA	Marble Bar	58.72	95	P	P	13 28 15.3	+1.1
	comp=Z,10nm,1.2s						
RAYN	Ar Rayn	58.97	351	P	P	13 28 15.7	-0.1
RAYN	Ar Rayn	58.97	351	P	P	13 28 16.9	+1.1
RAYN	Ar Rayn	58.97	351	P	P	13 28 15.7	-0.1
RAYN				pmax	pmax		
	comp=Z,76nm,1.4s						
RAYN	Ar Rayn	58.97	351	*i* P	P	13 28 16.3	+0.5
	SNR=35						
ALNE	Al Ain	58.99	2	P	P	13 28 16.5	+0.6
SOHO	SOHO	59.09	3	P	P	13 28 16.3	-0.2
SOHO	SOHO	59.09	3	*i* P	P	13 28 16.0	-0.5
	SNR=8.0						
IPM	Ipoh	59.27	58	P	P	13 28 17.6	-0.4
IPM				IAmb	IAmb	13 28 20.5	
	comp=Z,32nm,0.9s						
ASUD	Al Ashush, Dub	59.54	1	P	P	13 28 20.6	+1.0
ASUD	Al Ashush, Dub	59.54	1	P	P	13 28 19.1	-0.5
KULM	Kulim	59.59	57	P	P	13 28 20.2	0.0
ASHO	Ashiyiah	59.62	2	P	P	13 28 20.5	+0.2
	SNR=5.7						
ASHO	Ashiyiah	59.62	2	*i* P	P	13 28 21.0	+0.7
	SNR=7.3						
VNDA	Vanda	59.62	166	P	P	13 28 18.9	-0.8
VNDA				IAmb	IAmb	13 28 21.2	
	comp=Z,43nm,1.4s						
VNDA	Vanda	59.62	166	P	P	13 28 19.3	-0.4
	comp=Z,16nm,1.1s,baz=254,slow=8.2,SNR=8.5						
	comp=Z,16nm,1.1s						
VNDA	Vanda	59.62	166	P	P	13 28 18.9	-0.8
VNDA				pmax	pmax		
	comp=Z,43nm,1.4s						
FAQ	Al Faqa, Dubai	59.67	2	P	P	13 28 20.9	+0.3
SMRA	Abu-Samra	59.72	357	P	P	13 28 21.2	+0.4
HATD	Hatta, Dubai	59.76	2	P	P	13 28 21.2	0.0
HATD	Hatta, Dubai	59.76	2	P	P	13 28 20.9	-0.3
UOSS	Minazif	59.89	2	P	P	13 28 21.8	-0.3
UOSS	Minazif	59.89	2	P	P	13 28 22.7	+0.6
UOSS	Minazif	59.89	2	P	P	13 28 21.2	-0.8
NAZ	Nazwa, Dubai	59.91	2	P	P	13 28 22.4	+0.2
NAZ	Nazwa, Dubai	59.91	2	*i* P	P	13 28 22.1	-0.1
	SNR=5.2						
MDH	Madha	60.24	2	P	P	13 28 25.4	+1.0
MSFE	Esma-Masafi	60.30	2	*i* P	P	13 28 24.2	-0.7
	SNR=5.7						
MASF	Masafi	60.31	2	P	P	13 28 24.5	-0.5
DGPR	DIGLIPUR	60.69	45	⇑*e*P	P	13 28 27.6	-0.1
DGPR				IAmb	IAmb	13 28 29.0	
	comp=Z,32nm,1.0s						
BANOM	Banah	60.86	2	P	P	13 28 27.1	-1.6
JAGI	Jajag, Banyuwa	60.91	79	P	P	13 28 31.3	+1.9
	comp=Z,25nm,1.3s						
SHME	Shamm	60.98	2	P	P	13 28 28.9	-0.6
FORT	Forrest	60.99	109	P	P	13 28 29.9	+0.2
FORT	Forrest	60.99	109	P	P	13 28 30.2	+0.4
	comp=Z,43nm,1.4s						
FORT	Forrest	60.99	109	P	P	13 28 30.9	+1.2
KMMI	Kalianget	61.59	78	P	P	13 28 34.5	+0.5
	comp=Z,25nm,1.2s						
BHPL	Bhopal	62.27	24	*e*P	P	13 28 38.0	-0.3
BHPL				⇓*ex*	x	13 28 45.2	
BHPL				IAmb	IAmb	13 28 45.2	
	comp=Z,38nm,1.3s						
WRKA	Warakurna	63.79	103	P	P	13 28 49.0	+0.4
	comp=Z,34nm,1.3s						
WRKA	Warakurna	63.79	103	P	P	13 28 49.2	+0.6
STKI	Sintang	63.99	70	P	P	13 28 51.0	+1.0
	comp=Z,15nm,0.5s						
KSM	Kuching	64.00	68	P	P	13 28 50.2	+0.2
KSM				IAmb	IAmb	13 28 51.4	
	comp=Z,22nm,1.0s						
SRDT	SRDT	65.31	49	P	P	13 28 59.5	+1.0
BOK	Bokaro	66.06	32	*e*P	P	13 29 03.6	+0.5
SBUM	Sibu	66.08	68	P	P	13 29 03.8	+0.3
SBUM	Sibu	66.08	68	P	P	13 29 04.5	+0.9
BBOO	Buckleboo	66.17	114	P	P	13 29 03.9	-0.1
BBOO				IAmb	IAmb	13 29 04.8	
	comp=Z,21nm,1.0s						
BBOO	Buckleboo	66.17	114	P	P	13 29 03.7	-0.3
	comp=Z,27nm,1.2s						
BBOO	Buckleboo	66.17	114	P	P	13 29 04.1	+0.1
KAPI	Kappang	67.43	80	P	P	13 29 11.2	-1.0
KAPI				IAmb	IAmb	13 29 14.2	
	comp=Z,28nm,1.3s						
KAPI	Kappang	67.43	80	P	P	13 29 13.6	+1.4
KAPI	Kappang	67.43	80	*i* P	P	13 29 09.7	-2.5
KAPI				pmax	pmax		
	comp=Z,31nm,1.5s						
BKSI	Bulukumba	67.55	80	P	P	13 29 13.1	+0.2
	comp=Z,18nm,1.4s						
HTT	Hallett	68.00	116	P	P	13 29 15.6	-0.1
	comp=Z,28nm,2.2s						
HTT	Hallett	68.00	116	P	P	13 29 16.1	+0.4
OOD	Oodnadatta	68.27	109	P	P	13 29 17.3	0.0
CM31	Chiang Mai Arr	68.37	46	P	P	13 29 18.1	+0.1
CM31				IAmb	IAmb	13 29 19.4	
	comp=Z,30nm,1.1s						
CMAR	Chiang Mai Arr	68.37	46	P	P	13 29 17.6	-0.3
CMAR	Chiang Mai Arr	68.37	46	P	P	13 29 18.1	+0.2
	comp=Z,11nm,0.9s,baz=231,slow=6.7,SNR=35						
	comp=Z,11nm,0.9s						
CMAR	Chiang Mai Arr	68.37	46	P	P	13 29 17.6	-0.3
ARPS	Mount Arapiles	68.52	120	P	P	13 29 19.2	+0.5
	comp=Z,19nm,0.8s						
TTSI	Tana Toraja	68.64	78	P	P	13 29 20.5	+0.7
	comp=Z,32nm,1.2s						
CHTO	Chiang Mai	68.65	46	P	P	13 29 19.2	-0.5
CHTO				IAmb	IAmb	13 29 21.1	
	comp=Z,35nm,1.6s						
CHTO	Chiang Mai	68.65	46	P	P	13 29 19.2	-0.5
CHTO				pmax	pmax		
	comp=Z,35nm,1.6s						
KNRA	Kununurra	68.87	95	P	P	13 29 21.1	-0.2
KNRA	Kununurra	68.87	95	P	P	13 29 21.3	0.0
	comp=Z,36nm,1.7s						
LCRK	Leigh Creek	68.91	113	P	P	13 29 21.5	+0.2
ASAR	Alice Springs	68.91	105	P	P	13 29 20.6	-0.9
ASAR	Alice Springs	68.91	105	P	P	13 29 21.3	-0.2
	comp=Z,6.9nm,0.6s,baz=232,slow=5.8,SNR=99						
	comp=Z,6.9nm,0.6s						
AS31	Alice Springs	68.91	105	P	P	13 29 21.0	-0.5
ASF	Jabal al Asfar	68.93	345	P	P	13 29 22.4	+1.2
	comp=Z,20nm,1.0s,baz=130,slow=1.6,SNR=11						
	comp=Z,20nm,1.0s						
TORD	Torodi Ar. Bea	68.98	304	P	P	13 29 21.7	-0.1
TORD				IAmb	IAmb	13 29 23.6	
	comp=Z,42nm,1.1s						
TORD	Torodi Ar. Bea	68.98	304	P	P	13 29 22.5	+0.7
	comp=Z,24nm,0.9s,baz=99,slow=5.0,SNR=15						
	comp=Z,24nm,0.9s						
DDI	Dehra Dun	69.05	22	*e*P	P	13 29 21.5	-0.5
DBIC	Dimbokro	69.19	295	P	P	13 29 23.6	+0.4
DBIC				IAmb	IAmb	13 29 25.2	
	comp=Z,30nm,1.3s						
DBIC	Dimbokro	69.19	295	P	P	13 29 23.7	+0.6
	comp=Z,13nm,1.1s,baz=122,slow=7.7,SNR=9.4						
	comp=Z,13nm,1.1s						
DBIC	Dimbokro	69.19	295	P	P	13 29 23.6	+0.4
DBIC				pmax	pmax		
	comp=Z,30nm,1.3s						
AZL	Aizawl	69.20	38	*e*P	P	13 29 23.6	+0.4
AZL				IAmb	IAmb	13 29 39.6	
	comp=Z,14nm,0.6s						
SMLA	Simla	69.53	21	*e*P	P	13 29 24.0	-0.9
SMLA				IAmb	IAmb	13 29 32.5	
	comp=Z,22nm,0.9s						
HRA	Herat	69.69	7	P	P	13 29 25.5	-0.6
UBPT	Khong Chiam	70.07	54	P	P	13 29 30.0	+1.5
MMAI	Mount Meron Ar	70.07	344	P	P	13 29 28.6	+0.4
	comp=Z,26nm,1.1s,baz=147,slow=6.5,SNR=13						
	comp=Z,26nm,1.1s						
GTK	Tadong	70.32	33	*e*P	P	13 29 30.1	+0.1
SHL	Shillong	70.34	36	*e*P	P	13 29 30.4	+0.2
SHL				IAmb	IAmb	13 29 42.4	
	comp=Z,53nm,1.6s						
DHRM	DHARAMSHALA	70.34	20	*e*P	P	13 29 29.1	-1.0
DHRM				IAmb	IAmb	13 29 34.3	
	comp=Z,58nm,1.2s						
STKA	Stephens Creek	70.73	116	P	P	13 29 32.0	-0.5
	comp=Z,87nm,1.9s						
STKA	Stephens Creek	70.73	116	P	P	13 29 32.4	-0.1
	comp=Z,12nm,1.0s,baz=261,slow=5.1,SNR=12						
STKA				LR	LR	13 54 30.5	
	comp=Z,854nm,20.7s,baz=306,slow=31						
	comp=Z,12nm,1.0s						
STKA	Stephens Creek	70.73	116	P	P	13 29 32.6	+0.1
STKA	Stephens Creek	70.73	116	*i* P	P	13 29 32.7	+0.2
IMP	Imphal	70.74	38	*e*P	P	13 29 32.6	+0.1
IMP				IAmb	IAmb	13 29 43.9	
	comp=Z,50nm,1.6s						
KBL	Kabul	70.83	13	P	P	13 29 30.8	-2.2
KBL				IAmb	IAmb	13 29 34.8	
	comp=Z,86nm,2.0s						
KBL	Kabul	70.83	13	P	P	13 29 33.6	+0.6
	SNR=12						
KBL	Kabul	70.83	13	P	P	13 29 30.8	-2.2
KBL				pmax	pmax		
	comp=Z,86nm,2.0s						
NIL	Nilore	70.87	17	P	P	13 29 32.4	-0.7
NIL				IAmb	IAmb	13 29 34.1	
	comp=Z,59nm,1.6s						
NIL	Nilore	70.87	17	P	P	13 29 32.4	-0.7
NIL				pmax	pmax		
	comp=Z,59nm,1.7s						
WRA	Warramunga Arr	71.16	101	P	P	13 29 35.3	0.0
WRA	Warramunga Arr	71.16	101	P	P	13 29 35.2	0.0
	comp=Z,16nm,0.7s,baz=234,slow=5.3,SNR=106						
	comp=Z,16nm,0.7s						
WRA	Warramunga Arr	71.16	101	P	P	13 29 35.3	0.0
WRA				pmax	pmax		
	comp=Z,5.0nm,1.5s	

comp=Z,7.9nm,0.9s,baz=168,slow=6.3,SNR=38
comp=Z,7.9nm,0.9s
BR106 **Keskin Array S** 76.91 344 P **P** 13 30 08.2 -0.3
MANT **Manisa** 77.02 340 IAmb IAmb 13 30 11.2
comp=Z,55nm,1.2s
KSH **Kashi** 77.11 17 P **P** 13 30 07.3 -2.3
KSH sP pwP 13 30 14.7 -2.2
KSH pmax pmax
comp=Z,23nm,0.9s
ANTO **Ankara** 77.23 343 P **P** 13 30 09.7 -0.4
ANTO IAmb IAmb 13 30 11.5
comp=Z,33nm,1.1s
ANTO **Ankara** 77.23 343 P **P** 13 30 09.7 -0.4
ANTO pmax pmax
comp=Z,33nm,1.1s
ANTO **Ankara** 77.23 343 P **P** 13 30 10.4 +0.2
comp=Z,17nm,1.3s
ITM **Ithomi** 77.94 334 IAmb IAmb 13 30 15.5
comp=Z,44nm,1.4s
ILGA **Ilgaz** 78.15 345 P **P** 13 30 13.6 -1.8
ILGA IAmb IAmb 13 30 16.8
comp=Z,66nm,1.3s
IUG **Iuzhnay** 78.41 12 *e*P **P** 13 30 16.7 0.0
IUG pmax pmax
comp=Z,13nm,0.9s
IUG **Iuzhnay** 78.41 12 *e*P **P** 13 30 16.8 0.0
comp=Z,13nm,0.9s
CHM **Chimkent** 78.50 12 *e*P **P** 13 30 17.4 +0.3
CHM **Chimkent** 78.50 12 *e*P **P** 13 30 17.4 +0.3
GYA **Guiyang** 79.06 47 ⇊P **P** 13 30 21.2 +0.5
GYA pmax pmax
comp=Z,33nm,1.6s
AML **Almayashu** 79.09 15 P **P** 13 30 21.5 +0.7
SNR=11
MG03 **Isla Dawson** 79.13 210 P **P** 13 30 21.7 +1.1
MG03 IAmb IAmb 13 30 24.7
comp=Z,76nm,1.4s
KBZ **Khabaz** 79.22 352 P **P** 13 30 22.2 +1.2
comp=Z,7.7nm,1.0s,baz=242,slow=3.9,SNR=13
comp=Z,7.7nm,1.0s
KBZ **Khabaz** 79.22 352*ce*P **P** 13 30 21.5 +0.5
KBZ pmax pmax
comp=Z,27nm,1.3s
SHA1 **Shidzhatmaz** 79.26 352 *i* P **P** 13 30 21.3 -0.2
VSLR **Vesyoloye** 79.33 350 *i* P **P** 13 30 22.5 +0.9
VSLR pmax pmax
comp=Z,47nm,1.1s
DZA **Taraz** 79.36 13 *e*P **P** 13 30 22.1 +0.3
DZA **Taraz** 79.36 13 *e*P **P** 13 30 22.1 +0.3
KKAR **Karatay Array** 79.42 12 P **P** 13 30 22.2 +0.1
KKAR **Karatay Array** 79.42 12 IAmb IAmb 13 30 23.8
comp=Z,21nm,1.2s
KKAR **Karatay Array** 79.42 12 P **P** 13 30 22.2 +0.1
KIV **Kislovodsk** 79.47 352 P **P** 13 30 22.2 -0.3
KIV **Kislovodsk** 79.47 352 P **P** 13 30 22.7 +0.2
KIV **Kislovodsk** 79.47 352 ⇑P **P** 13 30 23.7 +1.2
KIV **Kislovodsk** 79.47 352 *e*P **P** 13 30 21.8 -0.7
KIV *e*S **S** 13 40 22.8 -0.8
KIV pmax pmax
comp=Z,38nm,1.1s
KIV pmax pmax
comp=Z,30nm,4.2s
KIV **Kislovodsk** 79.47 352 *i* P **P** 13 30 22.8 +0.3
SNR=7.9
KIV **Kislovodsk** 79.47 352 P **P** 13 30 22.8 +0.3
EKS2 **Erkin-Say** 79.62 15 P **P** 13 30 24.3 +0.9
SNR=15
WHZ **Wether Hill Ro** 79.73 140 P **P** 13 30 24.1 0.0
WHZ IAmb IAmb 13 30 27.0
comp=Z,64nm,1.3s
AAK **Ala-Archa** 79.75 15 P **P** 13 30 24.3 +0.2
AAK IAmb IAmb 13 30 26.5
comp=Z,76nm,1.6s
AAK **Ala-Archa** 79.75 15 P **P** 13 30 25.2 +1.0
AAK **Ala-Archa** 79.75 15 P **P** 13 30 25.1 +1.0
SNR=20
AAK **Ala-Archa** 79.75 15*ce*P **P** 13 30 25.0 +0.9
AAK pmax pmax
comp=Z,56nm,1.7s
AAK **Ala-Archa** 79.75 15 *i* P **P** 13 30 25.1 +1.0
SNR=25
ULHL **Ulahol** 79.77 17 P **P** 13 30 25.5 +1.2
SNR=5.6
KBK **Karagaybulak** 79.86 16 P **P** 13 30 25.8 +1.0
SNR=8.7
KDJ **Kajisay** 79.88 17 IAmb IAmb 13 30 26.7
comp=Z,41nm,1.1s
BOOM **Boomskoye usch** 79.93 16 IAmb IAmb 13 30 27.0
comp=Z,57nm,1.6s
CHMS **Chumysh** 80.15 15 P **P** 13 30 27.1 +1.0
SNR=7.3
TKM2 **Tokmak 2** 80.26 16 P **P** 13 30 27.3 +0.3
SNR=9.2
USP **Ospenovka** 80.35 15 P **P** 13 30 27.5 +0.3
SNR=8.7
LIT **Litokhoron** 80.37 336 IAmb IAmb 13 30 28.7
comp=Z,60nm,1.3s
GOF **Gofitskoye** 80.52 352*ce*P **P** 13 30 28.3 +0.3
SGDS **Sogindy** 80.55 15 *e*P **P** 13 30 28.4 +0.1
SGDS **Sogindy** 80.55 15 *e*P **P** 13 30 28.5 +0.1
GOMU **GeErMu** 80.62 32 P **P** 13 30 29.8 +0.5
GOMU pP pwP 13 30 36.5 0.0
GOMU pmax pmax
comp=Z,20nm,1.6s
TNSS **Tian-Shan** 80.68 17 *e*P **P** 13 30 29.2 -0.2
TNSS **Tian-Shan** 80.68 17 *e*P **P** 13 30 29.3 -0.2
CD2 **Chengdu** 80.78 42 P **P** 13 30 29.8 0.0
CD2 pmax pmax
comp=Z,20nm,0.6s
AAA **Alma-Ata** 80.84 17 *e*P **P** 13 30 30.1 +0.2
AAA pmax pmax
comp=Z,19nm,1.2s
AAA **Alma-Ata** 80.84 17 *e*P **P** 13 30 30.1 +0.2
comp=Z,19nm,1.2s
SATY **Saty** 81.06 18 *e*P **P** 13 30 31.3 +0.2
SATY **Saty** 81.06 18 *e*P **P** 13 30 31.4 +0.2
ZHN **Zhinishke** 81.17 18 *e*P **P** 13 30 31.9 +0.2
ZHN **Zhinishke** 81.17 18 *e*P **P** 13 30 31.9 +0.2
UZB **Uzynbulak** 81.30 18 *e*P **P** 13 30 32.6 +0.2
UZB pmax pmax
comp=Z,13nm,0.9s
UZB **Uzynbulak** 81.30 18 *e*P **P** 13 30 32.6 +0.2
comp=Z,13nm,0.9s
FNA **Florina** 81.35 336 IAmb IAmb 13 30 34.1
comp=Z,57nm,1.5s
SHLS **Shalkode** 81.42 19 *e*P **P** 13 30 33.8 +0.8
SHLS pmax pmax
comp=Z,16nm,1.2s
SHLS **Shalkode** 81.42 19 *e*P **P** 13 30 33.8 +0.8
comp=Z,16nm,1.2s
KPKS **Kokpek** 81.51 18 *e*P **P** 13 30 33.6 +0.1
KPKS **Kokpek** 81.51 18 *e*P **P** 13 30 33.6 +0.1
MG05 **Puerto Natales** 81.56 210 IAmb IAmb 13 30 36.3
comp=Z,67nm,1.3s
OHR **Ohrid** 81.84 335 *i* P **P** 13 30 36.6 +1.4
KEST **Kesra** 81.92 325 IAmb IAmb 13 30 39.1
comp=Z,39nm,1.3s
KEST **Kesra** 81.92 325 P **P** 13 30 36.5 +0.7
comp=Z,14nm,1.0s,baz=108,slow=1.7,SNR=8.0
comp=Z,14nm,1.0s
ALF01 **Guarapari-ES** 82.02 251 *e*P **P** 13 30 39.5 +2.7
CAM01 **Campos-RJ** 82.05 249 *e*P **P** 13 30 38.3 +1.4
FOZ **Fox Glacier** 82.29 139 P **P** 13 30 38.4 +0.6
TIR **Tirane** 82.37 335 IAmb IAmb 13 30 40.0
comp=Z,46nm,1.1s
TIR **Tirane** 82.37 335 P **P** 13 30 38.8 +0.9
comp=Z,49nm,1.1s
DUB01 **Friburgo-RJ** 82.45 248 *e*P **P** 13 30 40.2 +1.2
RIB01 **Linhares ES** 82.50 252 *e*P **P** 13 30 40.3 +1.0
MATE **Matera** 82.91 332 ⇊P **P** 13 30 41.1 +0.4
BSFB **Barra de Sao F** 83.12 252 *e*P **P** 13 30 43.5 +1.0
CFR **Carcaliu** 83.37 342 ⇊P **P** 13 30 43.2 +0.2
CFR **Carcaliu** 83.37 342 ⇊P **P** 13 30 43.2 +0.2
SJMB **Sao Joao De Ma** 83.46 252 *e*P **P** 13 30 46.6 +2.3
PDG **Podgorica** 83.54 335 IAmb IAmb 13 30 46.0
comp=Z,54nm,1.5s
PDG **Podgorica** 83.54 335 ⇊P **P** 13 30 45.3 +1.4
GUA01 **Guaratinga, BA** 83.58 254 *e*P **P** 13 30 48.1 +3.2
BOVS **Bovan** 83.80 337 ⇊P **P** 13 30 46.0 +0.7
CMC01 **Camacan, BA** 84.05 256 *e*P **P** 13 30 48.4 +1.1
LTZ **Lake Taylor** 84.12 139 IAmb IAmb 13 30 50.7
comp=Z,41nm,1.2s
MLR **Muntele Rosu** 84.24 341 P **P** 13 30 48.0 +0.5
comp=Z,37nm,1.1s,baz=87,slow=2.8,SNR=20
comp=Z,37nm,1.1s
MLR **Muntele Rosu** 84.24 341 ⇊P **P** 13 30 48.1 +0.5
MLR **Muntele Rosu** 84.24 341 P **P** 13 30 47.7 +0.1
ABKAR **Akbulak array** 84.28 4 P **P** 13 30 46.1 -1.4
ABKAR **Akbulak array** 84.28 4 IAmb IAmb 13 30 49.0
comp=Z,50nm,1.6s
PLOR5 **Plostina Array** 84.37 341 P **P** 13 30 48.1 -0.1
VRI **Vrincioaia** 84.38 341 ⇑P **P** 13 30 47.7 -0.4
VRI **Vrincioaia** 84.38 341 ⇑P **P** 13 30 47.7 -0.4
VRI **Vrincioaia** 84.38 341 P **P** 13 30 48.2 0.0
comp=Z,89nm,1.1s
PLOR **Plostina** 84.38 341 ⇊P **P** 13 30 48.6 +0.4
PLOR **Plostina** 84.38 341 ⇊P **P** 13 30 48.6 +0.4
PLOR3 **Plostina Array** 84.39 341 P **P** 13 30 48.2 -0.1
VOIR 84.44 340 ⇑P **P** 13 30 48.1 -0.5
VOIR 84.44 340 P **P** 13 30 48.5 -0.1
VOIR 84.44 340 P **P** 13 30 48.1 -0.5
WMQ **Urumqi** 84.47 24 *e*P **P** 13 30 50.6 +1.8
WMQ pmax pmax
comp=Z,27nm,2.1s
WMQ LR LR
comp=Z,650nm,12.3s
WMQ LR LR
comp=Z,790nm,14.3s
WMQ LR LR
comp=Z,550nm,15.5s
ARR **Arges** 84.49 340 ⇑P **P** 13 30 48.4 -0.4
NBAN **Anadia - AL** 84.66 262 *e*P **P** 13 30 51.9 +1.4
LZH **Lanzhou** 84.83 38 *e*P **P** 13 30 50.1 -0.8
LZH sP pwP 13 31 01.0 +2.9
LZH pmax pmax
comp=Z,33nm,1.1s
MDVR **Moldovita** 84.83 338 ⇊P **P** 13 30 51.3 +0.8
MILM **Milestii Mici** 84.83 343 ⇑P **P** 13 30 50.7 +0.3
MILM **Milestii Mici** 84.83 343 ⇑P **P** 13 30 50.7 +0.3
AY03 **Cochrane** 84.92 213 IAmb IAmb 13 30 54.1
comp=Z,29nm,1.1s
TESR **Tescani** 85.00 341 ⇑P **P** 13 30 51.2 0.0
GZR **Gura Zlata** 85.05 339 ⇑P **P** 13 30 51.9 +0.2
GZR **Gura Zlata** 85.05 339 ⇑P **P** 13 30 51.9 +0.2
INTR **Introdacqua** 85.16 331 IAmb IAmb 13 30 53.3
comp=Z,37nm,1.4s
MAKZ **Makanchi** 85.47 19 P **P** 13 30 53.5 -0.2
MAKZ IAmb IAmb 13 30 55.1
comp=Z,30nm,1.4s
MAKZ **Makanchi** 85.47 19 P **P** 13 30 53.5 -0.2
MAKZ pmax pmax
comp=Z,30nm,1.4s
GTA **Gaotai** 85.51 34 P **P** 13 30 54.4 +0.2
GTA sP pwP 13 31 02.3 +0.9
GTA pmax pmax
comp=Z,17nm,1.4s
CPSB **Cacapava Do Su** 85.52 236 *e*P **P** 13 30 58.3 +3.8
MK31 **Makanchi Array** 85.55 19 IAmb IAmb 13 30 55.4
comp=Z,40nm,1.9s
MK31 **Makanchi Array** 85.55 19*ce*P **P** 13 30 54.2 +0.2
MKAR **Makanchi Array** 85.55 19 P **P** 13 30 53.0 -1.1
MKAR **Makanchi Array** 85.55 19 P **P** 13 30 53.9 -0.1
comp=Z,2.6nm,0.8s,baz=211,slow=4.2,SNR=12
comp=Z,2.6nm,0.8s
SURR **Surduc** 85.58 338 ⇊P **P** 13 30 55.0 +0.8
BZS **Buzias** 85.61 338 ⇊P **P** 13 30 55.1 +0.8
BZS **Buzias** 85.61 338 ⇊P **P** 13 30 55.1 +0.8
DIAM **Diamantina, MG** 85.62 251 *e*P **P** 13 30 56.6 +1.2
COYC **Coyhaique** 85.94 215 IAmb IAmb 13 30 58.9
comp=Z,46nm,1.3s
TRQA **Tornquist** 85.97 225 P **P** 13 30 55.9 -0.8
TRQA **Tornquist** 85.97 225 P **P** 13 30 55.9 -0.8
TRQA pmax pmax
comp=Z,63nm,1.4s
XAN **Xi'an** 85.99 43 P **P** 13 30 56.9 +0.3
XAN pmax pmax
comp=Z,33nm,1.6s
MARR **Marisel-Cluj** 86.12 339 ⇑P **P** 13 30 57.4 +0.4
DRGR 86.34 339 ⇊P **P** 13 30 58.7 +0.7
DRGR 86.34 339 ⇊P **P** 13 30 58.7 +0.7
TBOT **Tacuaremb** 86.39 233 *e*P **P** 13 30 59.7 +1.0
BURAR **Bucovina Array** 86.39 341 P **P** 13 30 58.1 -0.2
BRZS **Berezniki** 86.45 12 *e*P **P** 13 30 58.5 +0.1
BRZS **Berezniki** 86.45 12 *e*P **P** 13 30 58.6 +0.1
RCBR **Riachuelo** 86.54 265 *e*P **P** 13 30 58.5 -1.3
VRH **Novokhopyorsk** 86.73 352 *e*P **P** 13 30 57.5 -2.2
VRH pmax pmax
comp=Z,20nm,1.2s
VORD **Divnogorie** 86.79 351 *e*P **P** 13 30 58.7 -1.3
VORD pmax pmax
comp=Z,10.0nm,0.8s
ZSN **Zaisan** 86.86 20 *e*P **P** 13 31 01.0 +0.5
ZSN **Zaisan** 86.86 20 *e*P **P** 13 31 01.0 +0.5
KMPD **K-Podol'skiy** 86.94 342 P **P** 13 30 59.7 -1.1
VSR **Storozhevoye** 87.05 351 *e*P **P** 13 30 59.3 -2.0
VSR pmax pmax
comp=Z,20nm,1.1s
MORH **Mrgy, Hungar** 87.09 336 ⇑P **P** 13 31 01.6 0.0
MORH **Mrgy, Hungar** 87.09 336 P **P** 13 31 01.7 +0.1
comp=Z,17nm,1.9s
MRZ **Mangataiinoka R** 87.37 140 P **P** 13 31 04.1 +0.7
VORR **Voronezh** 87.49 351 *e*P **P** 13 31 03.0 -0.4
VORR pmax pmax
comp=Z,26nm,0.4s
PMNB **Patos De Minas** 87.61 249 *e*P **P** 13 31 07.4 +2.3
BERU **Beregovo** 87.66 340 P **P** 13 31 04.2 -0.1
MEZ **Mezhgor'ye** 87.68 340 P **P** 13 31 05.4 +1.0
CRES **Cresnjevec Ost** 87.84 334 *e*P **P** 13 31 05.4 +0.2
MUKU **Mukachevo** 87.85 340 P **P** 13 31 05.5 +0.3
PSAL **Palomas, Salto** 87.86 233 *e*P **P** 13 31 07.8 +1.8
LUBAR **Lubar, Ukraine** 87.89 343 P **P** 13 31 03.8 -1.6
JANB **Januaria** 88.00 253 *e*P **P** 13 31 09.2 +2.3
HOLU **Holmets** 88.00 340 P **P** 13 31 06.1 +0.2
AK07 **Malin Array Si** 88.16 345 P **P** 13 31 06.5 -0.1
AK06 **Malin Array Si** 88.19 345 P **P** 13 31 06.7 -0.1
AK10 **Malin Array Si** 88.19 345 P **P** 13 31 06.6 -0.2
PSZ **Piszkesteto** 88.20 338 ⇊P **P** 13 31 07.3 +0.3
PSZ **Piszkesteto** 88.20 338 ⇊P **P** 13 31 07.3 +0.3
AK09 **Malin Array Si** 88.20 345 P **P** 13 31 06.8 0.0
KURBB **Kurchatov Arra** 88.20 15 P **P** 13 31 06.5 -0.3
comp=Z,1.4nm,0.9s,baz=208,slow=5.7,SNR=8.8
comp=Z,1.4nm,0.9s
AK05 **Malin Array Si** 88.22 345 P **P** 13 31 06.4 -0.5
AK12 **Malin Array Si** 88.25 345 P **P** 13 31 06.7 -0.4
AK02 **Malin Array Si** 88.26 345 P **P** 13 31 06.6 -0.5
KIEV **Kiev** 88.29 345 P **P** 13 31 06.3 -0.9
KIEV **Kiev** 88.29 345 ⇊P **P** 13 31 07.2 0.0
KIEV **Kiev** 88.29 345 P **P** 13 31 06.3 -0.9
KIEV pmax pmax
comp=Z,132nm,1.9s
KIEV **Kiev** 88.29 345 *i* P **P** 13 31 06.9 -0.3
SNR=13
KIEV **Kiev** 88.29 345 P **P** 13 31 06.8 -0.4
comp=Z,181nm,1.5s
AKASG **Malin Array Be** 88.29 345 P **P** 13 31 06.2 -1.0
AKASG **Malin Array Be** 88.29 345 P **P** 13 31 06.9 -0.3
comp=Z,10nm,0.8s,baz=171,slow=4.3,SNR=53
comp=Z,10nm,0.8s
AKASG **Malin Array Be** 88.29 345 P **P** 13 31 06.3 -1.0
AKASG pmax pmax
comp=Z,78nm,2.0s
AKBB **Malin Array Si** 88.29 345*ce*P **P** 13 31 07.2 0.0
AKBB pmax pmax
comp=Z,75nm,1.8s
KURK **Kurchatov** 88.31 15 *i* P **P** 13 31 08.3 +1.0
KURK pmax pmax
comp=Z,4.0nm,1.1s
AK15 **Malin Array Si** 88.31 345 P **P** 13 31 06.9 -0.4
AK17 **Malin Array Si** 88.31 344 P **P** 13 31 07.2 -0.1
AK18 **Malin Array Si** 88.35 344 P **P** 13 31 07.2 -0.3
AK20 **Malin Array Si** 88.38 344 P **P** 13 31 07.2 -0.4
AK22 **Malin Array Si** 88.38 345 P **P** 13 31 07.3 -0.4
KOLS **Kolonicke sedl** 88.40 340 *e*P **P** 13 31 08.7 +0.9
KOLS pmax pmax
comp=Z,26nm,1.2s
KOLS **Kolonicke sedl** 88.40 340 *e*P **P** 13 31 08.7 +0.9
LPSR **Galich'ya Gora** 88.44 351 *e*P **P** 13 31 07.3 -0.6
LPSR pmax pmax
comp=Z,43nm,1.1s
KECS **Kecovo** 88.52 338 *e*P **P** 13 31 09.1 +0.7
KECS pmax pmax
comp=Z,31nm,1.1s
KECS **Kecovo** 88.52 338 *e*P **P** 13 31 09.1 +0.7
SRO **Srobarova** 88.60 337 *e*P **P** 13 31 09.8 +1.0
SRO pmax pmax
comp=Z,49nm,1.5s
SRO **Srobarova** 88.60 337 *e*P **P** 13 31 09.8 +1.0
PERS **Pernice** 88.66 334 *e*P **P** 13 31 09.6 +0.4
SOKA **Soboth** 88.72 334 *i* P **P** 13 31 10.2 +0.7
comp=Z,5.5nm,0.9s,SNR=7.5
OBKA **Obir** 88.75 334 *i* P **P** 13 31 10.9 +1.3
comp=Z,6.2nm,0.8s,SNR=5.7
PLCA **Paso Flores** 88.79 219 P **P** 13 31 08.9 -1.4
PLCA IAmb IAmb 13 31 13.4
comp=Z,54nm,1.7s
PLCA **Paso Flores** 88.79 219 P **P** 13 31 10.9 +0.6
comp=Z,5.9nm,1.0s,baz=129,slow=5.2,SNR=6.7
comp=Z,5.9nm,1.0s
PLCA **Paso Flores** 88.79 219 P **P** 13 31 08.9 -1.4
PLCA pmax pmax
comp=Z,54nm,1.7s
PLCA **Paso Flores** 88.79 219 *e*P **P** 13 31 11.6 +1.3
CADS **Cadrg** 88.81 333 *e*P **P** 13 31 09.8 0.0
MI28 **Mi28,Pidlybu** 88.86 344 P **P** 13 31 09.3 -0.6
VYHS **Vyhne** 89.04 338 *e*P **P** 13 31 11.1 +0.3
VYHS pmax pmax
comp=Z,25nm,1.3s
VYHS **Vyhne** 89.04 338 *e*P **P** 13 31 11.1 +0.3
ARSA **Arzberg** 89.04 335 *e*P **P** 13 31 11.0 0.0
comp=Z,11nm,1.2s,SNR=8.2
ARSA **Arzberg** 89.04 335 IAmb IAmb 13 31 13.0
comp=Z,29nm,1.5s
BVAR **Borovoye Array** 89.05 10 P **P** 13 31 10.7 -0.1
comp=Z,2.2nm,0.8s,baz=174,slow=5.8,SNR=11
comp=Z,2.2nm,0.8s
BRVK **Borovoye** 89.07 10 P **P** 13 31 09.2 -1.7
BRVK **Borovoye** 89.07 10*ce*P **P** 13 31 11.5 +0.7
BRVK pmax pmax
comp=Z,9.0nm,1.7s
RONA **Rosalia, Austr** 89.17 336 *i* P **P** 13 31 12.0 +0.5
comp=Z,20nm,1.3s,SNR=6.8
IPMB **Ipameri, GO** 89.29 249 *e*P **P** 13 31 15.2 +2.2
LANS **Liptovska Anna** 89.42 338 *e*P **P** 13 31 14.0 +1.3
LANS pmax pmax
comp=Z,15nm,1.2s
LANS **Liptovska Anna** 89.42 338 *e*P **P** 13 31 14.0 +1.3
MODS **Modra-Piesok** 89.43 337 *e*P **P** 13 31 12.9 +0.2
MODS pmax pmax
comp=Z,95nm,1.6s
MODS **Modra-Piesok** 89.43 337 *e*P **P** 13 31 12.9 +0.2
CONA **Conrad Observa** 89.51 336 *e*P **P** 13 31 13.7 +0.6
comp=Z,24nm,1.5s,SNR=9.0
RNPP5 **Staryi Chortor** 89.55 343 P **P** 13 31 12.9 -0.2
RNPP8 **Varash** 89.66 343 P **P** 13 31 13.7 +0.1
KBA **Koelnbreinsper** 89.67 334 *i* P **P** 13 31 15.0 +1.0
comp=Z,4.2nm,1.2s,SNR=6.0
ABTA **Abfaltersbach** 89.70 333 *i* P **P** 13 31 15.3 +1.2
comp=Z,7.1nm,1.3s,SNR=12
RNPP9 **Sopachiv** 89.72 343 P **P** 13 31 14.0 +0.1
JAVC **Velka Javorina** 89.73 337 *e*P **P** 13 31 14.6 +0.5
MOA **Molln** 90.00 335 *e*P **P** 13 31 15.4 0.0
comp=Z,17nm,1.7s
SDBA **SAO DESIDERIO** 90.01 255 *e*P **P** 13 31 18.4 +2.0
BIOA **Bad Ischl, Aus** 90.08 334 *e*P **P** 13 31 15.9 +0.1
comp=Z,7.2nm,0.9s
LESA **Schwarzleotal** 90.21 333 *i* P **P** 13 31 17.2 +0.7
comp=Z,2.5nm,0.5s,SNR=5.1
OJC **Ojcow** 90.27 339 P **P** 13 31 16.2 -0.4
KRUC **Moravsky** 90.32 336 *e*P **P** 13 31 16.7 -0.1
FUORN **Ofenpass-Fuorn** 90.45 332 IAmb IAmb 13 31 19.9
comp=Z,27nm,1.1s
WTTA **Wattenberg** 90.46 333 *e*P **P** 13 31 18.6 +0.8
comp=Z,41nm,1.5s,SNR=9.0
VRAC **Vranov** 90.47 337 *e*P **P** 13 31 15.5 -2.0
NJ2 **Nanjing** 90.50 50 *e*P **P** 13 31 19.0 +0.9
NJ2 pmax pmax
comp=Z,11nm,0.5s
BDFB **Brasilia** 90.53 250 P **P** 13 31 19.9 +1.0
BDFB IAmb IAmb 13 31 23.6
comp=Z,21nm,1.2s
BDFB **Brasilia** 90.53 250 P **P** 13 31 19.3 +0.4
comp=Z,8.1nm,0.9s,baz=122,slow=5.6,SNR=7.8
comp=Z,8.1nm,0.9s
BDFB **Brasilia** 90.53 250 P **P** 13 31 19.9 +1.0
BDFB pmax pmax
comp=Z,21nm,1.2s
WATA **Walderalm** 90.54 333 *e*P **P** 13 31 18.0 -0.1
comp=Z,17nm,1.2s,SNR=8.5
MORC **Moravsky Berou** 90.57 337 *e*P **P** 13 31 18.2 +0.2
SQTA **Sankt Quirin** 90.58 332 *e*P **P** 13 31 18.5 +0.3
comp=Z,16nm,1.0s,SNR=8.7
FETA **Feichten** 90.60 332 *e*P **P** 13 31 18.6 +0.2
comp=Z,22nm,1.1s,SNR=7.6
TUE **Stuetta** 90.69 331 IAmb IAmb 13 31 22.8
comp=Z,27nm,1.0s
TUE **Stuetta** 90.69 331 P **P** 13 31 19.0 +0.1
comp=Z,121nm,1.1s
CPUP **Villa Florida** 90.74 237 IAmb IAmb 13 31 23.1
comp=Z,23nm,1.3s
CPUP **Villa Florida** 90.74 237 P **P** 13 31 19.8 +0.2
comp=Z,11nm,1.1s,baz=148,slow=8.0,SNR=6.3
comp=Z,11nm,1.1s
CPUP **Villa Florida** 90.74 237 *e*P **P** 13 31 21.4 +1.8
RETA **Reutte** 90.97 332 *e*P **P** 13 31 20.1 +0.1
comp=Z,21nm,1.0s,SNR=7.8
DAVA **Damuels** 91.15 332 *e*P **P** 13 31 21.3 +0.4
comp=Z,24nm,0.9s,SNR=6.5
OBN **Obninsk** 91.21 350⇊*e*P **P** 13 31 21.2 +0.5
OBN *PP **sP** 13 31 24.0 +0.6
OBN *SP **pwP** 13 31 26.0 -2.1
OBN *e* 13 42 15.1
OBN *i* SS SS 13 48 21.8 -2.4
OBN pmax pmax
comp=Z,42nm,1.9s
OBN MLR MLR
comp=Z,1μm,18.0s
ARTI **Arti** 91.34 2 P **P** 13 31 20.4 -1.0
ARTI IAmb IAmb 13 31 22.5
comp=Z,28nm,1.3s
ARTI **Arti** 91.34 2*c i*P **P** 13 31 20.7 -0.7
ARTI 13 34 59.0
ARTI S **SKSac** 13 41 53.3 +0.1
ARTI SS **SS** 13 48 36.3 +10
ARTI pmax pmax
comp=Z,29nm,1.5s
HNS **HongShan** 91.67 44 ⇑P **P** 13 31 23.1 -0.2
HNS pmax pmax
comp=Z,12nm,0.8s
ESDC **Sonseca Array** 91.68 319 P **P** 13 31 23.2 -0.3
ESDC **Sonseca Array** 91.68 319 P **P** 13 31 23.9 +0.4
comp=Z,7.8nm,1.0s,baz=136,slow=3.1,SNR=31
ESDC LR LR 14 13 21.7
comp=Z,2μm,21.0s,baz=29,slow=36
comp=Z,7.8nm,1.0s
ESBB **Sonseca Array** 91.68 319 IAmb IAmb 13 31 27.0
comp=Z,24nm,1.4s
PAB **San Pablo** 91.79 319 P **P** 13 31 22.6 -1.4
PAB IAmb IAmb 13 31 25.9
comp=Z,16nm,1.1s
PAB **San Pablo** 91.79 319 P **P** 13 31 22.6 -1.4
PAB pmax pmax
comp=Z,16nm,1.1s
SVE **Sverdlovsk** 91.88 4 *e*P **P** 13 31 24.3 +0.5
SVE pmax pmax
comp=Z,22nm,1.4s
HHC **Hu-ho-hao-te** 92.39 40 *e*P **P** 13 31 29.9 +3.1
BFO **Black Forest** 92.60 331 P **P** 13 31 26.5 -1.0
BFO IAmb IAmb 13 31 29.1
comp=Z,31nm,1.4s
BFO **Black Forest** 92.60 331 P **P** 13 31 26.5 -1.0
BFO pmax pmax
comp=Z,31nm,1.4s
PFVI **Vila Bisbo** 92.61 315 *e*P **P** 13 31 26.1 -1.7
BRG **Berggiesshubel** 92.68 336 *e*P **P** 13 31 28.5 +0.7
BRG Amp 13 31 29.1
comp=Z,4.9nm,0.9s
ZALV **Zalesovo Beam** 92.75 18 P **P** 13 31 26.9 -1.1
comp=Z,1.1nm,0.7s,baz=211,slow=6.4,SNR=4.4
comp=Z,1.1nm,0.7s
EVO **Evora** 93.11 316 *e*P **P** 13 31 30.8 +0.8
AQDB **Aquidauana** 93.33 242 P **P** 13 31 30.1 -1.5
AQDB **Aquidauana** 93.33 242 *e*P **P** 13 31 32.9 +1.2
CLL **Collm** 93.37 336 IAmb IAmb 13 31 34.6
comp=Z,20nm,1.5s
CLL **Collm** 93.37 336 *i* P **P** 13 31 31.5 +0.6
CLL pmax pmax
comp=Z,12nm,1.1s
CLL **Collm** 93.37 336 P **P** 13 31 31.5 +0.6
CLL **Collm** 93.37 336 *i* P **P** 13 31 31.5 +0.6
comp=Z,12nm,1.1s
PMRV **Marv??o** 93.38 317 *e*P **P** 13 31 31.9 +0.7
ARAG **Araguaiana, MT** 93.40 248 *e*P **P** 13 31 34.1 +2.1
KIRV **Kirov** 93.54 358*ce*P **P** 13 31 31.3 -0.1
LMEL **Las Melosas** 93.66 224 IAmb IAmb 13 31 36.0

comp=Z,23nm,1.4s
BO01 Tunca 93.75 223 IAmb IAmb 13 31 58.4
comp=Z,26nm,1.4s
BO04 La Punta 93.79 223 IAmb IAmb 13 31 49.6
comp=Z,21nm,1.3s
MT08 Bocatoma Ro 93.85 224 IAmb IAmb 13 31 38.1
comp=Z,20nm,1.2s
MURT Porto Murtinho 93.94 240 *e*P **P** **13 31 35.5 +1.1**
MT09 Talagante 94.16 223 IAmb IAmb 13 31 37.7
comp=Z,23nm,1.2s
SMTB Santa Maria do 94.22 256 *e*P **P** **13 31 38.2 +2.4**
MT01 Popeta 94.24 223 IAmb IAmb 13 31 37.9
comp=Z,31nm,1.3s
MVO Moncorvo 94.38 319 *e*P **P** **13 31 37.5 +1.6**
MVO *i* Amb 13 31 39.6
comp=Z,36nm,1.9s
PCAS Casmilo, Conde 94.42 317 *e*P **P** **13 31 36.5 +0.4**
PCAS *i* Amb 13 31 37.9
comp=Z,42nm,1.5s
PVIS Viseu 94.55 318 *e*P **P** **13 31 37.0 +0.4**
POLO Lamas de Olo 94.94 318 *e*P **P** **13 31 39.6 +1.0**
SONM Songino Array 95.07 32 P **P** **13 31 39.3 +0.3**
comp=Z,0.5nm,0.7s,baz=224,slow=4.1,SNR=4.4
comp=Z,0.5nm,0.7s
ULN Ulaanbaatar 95.38 33 *i* P **P** **13 31 38.9 -1.5**
ULN pmax pmax
comp=Z,7.0nm,1.9s
PGAV Gavieira, Arco 95.61 318 *e*P **P** **13 31 42.1 +0.5**
PGAV *i* Amb 13 32 16.5
comp=Z,66nm,1.8s
CO03 El Pedregal 96.14 225 IAmb IAmb 13 31 48.6
comp=Z,15nm,1.1s
CO01 Juntas del Tor 96.42 226 IAmb IAmb 13 31 49.3
comp=Z,24nm,1.4s
KLMR Klimovskoe 96.46 353 *e*P **P** **13 31 41.2 -3.6**
KLMR pmax pmax
comp=Z,27nm,1.5s
MA2 Magadan 122.96 37 **PKPdf** **13 37 11.3 -0.5**
MA2 Magadan 122.96 37 *ce*PKIKP **PKPdf** **13 37 11.7 -0.1**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 122.96 37 PKP **PKPdf** **13 37 11.1 -0.7**
SEY Seymchan 124.45 33 *ce*PKIKP **PKiKP** **13 37 15.5 +0.7**
SEY pmax pmax
comp=Z,10.0nm,1.3s
RES Resolute Bay 137.71 348 **PKPdf** **13 37 39.3 0.0**
RES Resolute Bay 137.71 348 PKIKP **PKPdf** **13 37 39.3 0.0**
L61B Northampton 138.37 297 P **PKPdf** **13 37 40.3 -1.1**
baz=98
C16K Lisburne Hills 140.26 22 P **PKPdf** **13 37 43.9 -0.2**
baz=306
B18K Kokolik River 140.59 19 P **PKPdf** **13 37 43.9 -0.8**
baz=311
C17K DeLong Mountai 140.78 21 P **PKPdf** **13 37 45.0 -0.1**
baz=309
A22K Sinclair Lake 141.01 15 P **PKPdf** **13 37 45.2 -0.2**
baz=321
D17K Noatak River 141.29 22 P **PKPdf** **13 37 45.5 -0.4**
baz=308
B20K Meade River 141.29 16 P **PKPdf** **13 37 44.6 -1.3**
baz=318
B22K Teshekpuk Lake 141.86 15 P **PKPdf** **13 37 45.9 -1.0**
baz=323
F15K North Star Dit 141.96 25 P **PKPdf** **13 37 46.1 -1.1**
baz=304
D19K Kuna River 142.16 19 P **PKPdf** **13 37 46.5 -1.1**
baz=315
B21K Ikpikpuk River 142.17 16 P **PKPdf** **13 37 47.1 -0.4**
baz=320
E18K Tukpahlearik C 142.20 21 P **PKPdf** **13 37 46.9 -0.7**
baz=311
D20K Etivluk River 142.38 18 P **PKPdf** **13 37 47.4 -0.5**
baz=317
C21K Knifeblade Rid 142.49 16 P **PKPdf** **13 37 47.6 -0.5**
baz=320
E20K Nigu River 142.82 18 P **PKPdf** **13 37 47.8 -1.0**
baz=317
C23K Itkillik River 142.83 14 P **PKPdf** **13 37 50.1 +1.4**
baz=326
G16K Koyuk River 142.92 24 P **PKPdf** **13 37 48.8 -0.2**
baz=307
E19K Redstone River 143.13 19 P **PKPdf** **13 37 50.3 +1.0**
baz=315
A36M Sachs Harbour 143.17 360 P **PKPdf** **13 37 50.5 +1.3**
baz=1.2
D22K Ayikyak River 143.18 16 P **PKPdf** **13 37 50.0 +0.6**
baz=322
E21K Killik River 143.23 17 P **PKPdf** **13 37 50.6 +1.1**
baz=320
SPIA Saint Paul Isl 143.27 39 P **PKPdf** **13 37 50.2 +0.4**
baz=288
C24K Franklin Bluff 143.29 13 P **PKPdf** **13 37 50.2 +0.7**
baz=328
H16K Elim 143.41 25 P **PKPdf** **13 37 50.8 +0.9**
baz=306
F19K Shaleruckik Mo 143.42 20 P **PKPdf** **13 37 50.9 +1.2**
baz=314
G17K Kiwalik Mounta 143.42 23 P **PKPdf** **13 37 50.4 +0.6**
baz=309
D23K Nanushuk River 143.54 15 P **PKPdf** **13 37 50.8 +0.8**
baz=325
D24K Happy Valley 143.75 14 P **PKPdf** **13 37 50.8 +0.4**
baz=328
C26K Camden Bay 143.76 11 P **PKPdf** **13 37 50.8 +0.5**
baz=334
G18K Tagagawik 143.80 22 P **PKPdf** **13 37 50.7 +0.1**
baz=312
P08K Saint George I 143.81 40 P **PKPdf** **13 37 51.1 +0.4**
baz=288
F20K Avaraart Lake 143.83 19 P **PKPdf** **13 37 51.5 +1.0**
baz=317
K13K Kusilvak Mount 143.97 30 P **PKPdf** **13 37 51.3 +0.5**
baz=300
E22K Anaktuvuk Pass 143.97 16 P **PKPdf** **13 37 51.5 +0.7**
baz=323
J14K Nanvaranak Lak 143.99 28 P PKPbc 13 37 49.5 +0.7
baz=302
H17K Granite Mounta 144.02 24 P PKPbc 13 37 48.9 +0.1
baz=309
M11K Mekoryuk 144.03 33 P PKPbc 13 37 49.5 +0.6
baz=296
TOLK Toolik Lake Re 144.04 14 P PKPbc 13 37 49.7 +0.8
baz=326
D25K Kavik River 144.05 12 P **PKPdf** **13 37 50.4 -0.6**
baz=331
G19K Purcell Mounta 144.10 21 P PKPbc 13 37 49.3 +0.2
baz=314
C27K Jago River 144.21 10 P PKPbc 13 37 49.6 +0.3
baz=335
F21K Alatna River 144.29 18 P **PKPdf** **13 37 50.5 -0.8**
baz=320
F22K John River 144.38 17 P PKPbc 13 37 50.5 +0.6
baz=322
H18K Honhosa River 144.38 23 P PKPbc 13 37 50.7 +0.7
baz=311
I17K Unalakleet 144.40 26 P PKPbc 13 37 50.7 +0.7
baz=307
E23K Chandalar 144.51 15 P PKPbc 13 37 51.1 +0.7
baz=326
H19K Roundabout Mou 144.72 21 P **PKPab** **13 37 50.2 -0.7**
baz=314
E24K Your Creek 144.73 14 P **PKPab** **13 37 50.8 -0.2**
baz=327
J16K Anvik River 144.80 26 P **PKPab** **13 37 50.8 -0.4**
baz=306
G21K Allakaket 144.82 19 P **PKPab** **13 37 50.9 -0.4**
baz=319
D27M Malcolm River 144.94 9 P **PKPdf** **13 37 52.4 -0.1**
baz=339
K15K Wolf Creek Mou 145.02 28 P **PKPbc** **13 37 50.8 -1.3**
baz=304
COLD Coldfoot 145.07 16 P **PKPbc** **13 37 51.5 -0.6**
baz=324
L14K Kuka Creek 145.08 30 P **PKPbc** **13 37 51.2 -1.1**
baz=302
GCSA Galena City Sc 145.12 23 P **PKPbc** **13 37 51.7 -0.6**
baz=313,SNR=6.2
D28M Stokes Point 145.13 8 P **PKPbc** **13 37 51.9 -0.3**
baz=342
H20K Anotleneega Mo 145.20 21 P **PKPdf** **13 37 52.9 -0.1**
baz=316
E25K Arctic Village 145.25 13 P **PKPbc** **13 37 52.5 -0.3**
baz=331
M13K Dall Lake 145.27 32 P **PKPdf** **13 37 53.5 +0.4**
baz=300
J17K VABM Dome 145.27 25 P **PKPdf** **13 37 53.5 +0.4**
baz=309
F24K Squaw Lake 145.33 15 P **PKPbc** **13 37 52.1 -0.9**
baz=328
L15K Ungalak Mounta 145.38 29 P **PKPbc** **13 37 52.3 -0.9**
baz=304
G23K Bananza Creek 145.53 17 P **PKPdf** **13 37 53.3 -0.2**
baz=324
H21K Melozitna Rive 145.66 19 P **PKPab** **13 37 55.0 +0.5**
baz=319
M14K Bethel 145.69 31 P **PKPab** **13 37 54.8 +0.2**
baz=302
F25K Christian Rive 145.70 13 P **PKPab** **13 37 54.8 +0.2**
baz=331
E28M Babbage River 145.73 9 P **PKPab** **13 37 54.9 +0.3**
baz=340
C36M Paulatuk 145.81 359 P **PKPdf** **13 37 53.8 0.0**
baz=3.0,SNR=23
I20K Naaghedeneel 145.82 21 P **PKPbc** **13 37 54.7 +0.1**
baz=316
E27K Coleen River 145.84 10 P **PKPab** **13 37 55.6 +0.6**
baz=337
H22K Ishtalitna Cre 145.85 18 P **PKPab** **13 37 55.7 +0.5**
baz=322,SNR=8.6
F26K Sheenjek River 145.88 12 P **PKPab** **13 37 55.7 +0.5**
baz=333
K17K Iditarod 145.98 26 P **PKPab** **13 37 56.4 +0.8**
baz=309
J19K Poorman 146.04 23 P **PKPbc** **13 37 55.2 -0.1**
baz=314
BMAR Burnt Mountain 146.04 13 **PKPbc** **13 37 55.2 -0.1**
G24K Hadweenzic Riv 146.11 15 P **PKPab** **13 37 56.1 0.0**
baz=328
E29M Blow River 146.12 8 P **PKPbc** **13 37 55.0 -0.4**
baz=343
L16K Owhat River 146.15 28 P **PKPbc** **13 37 55.8 +0.1**
baz=306
N14K Kuskokwak Cree 146.24 32 P **PKPdf** **13 37 55.2 +0.4**
baz=301
I21K Tanana 146.25 19 P **PKPab** **13 37 56.7 +0.1**
baz=320,SNR=8.8
M15K Kasigluk River 146.25 30 P **PKPdf** **13 37 54.8 0.0**
baz=303
G25K Bearman Lake 146.34 14 P **PKPbc** **13 37 55.5 -0.5**
baz=330
L17K Donlin 146.34 27 P **PKPbc** **13 37 55.9 -0.3**
baz=308
H23K Yukon River 146.36 17 P **PKPbc** **13 37 55.9 -0.3**
baz=324,SNR=17
J20K Nowinta River 146.37 22 P **PKPdf** **13 37 55.6 +0.6**
baz=316
INK Inuvik 146.61 5 P **PKPdf** **13 37 55.3 +0.1**
baz=349,SNR=20
G26K Porcupine Rive 146.61 13 P **PKPdf** **13 37 56.0 +0.7**
baz=333
TTA Tatalina 146.64 25 P **PKPbc** **13 37 57.1 0.0**
baz=312
H24K Noodor Dome 146.75 16 P **PKPbc** **13 37 56.6 -0.8**
baz=326
M16K Timber Creek 146.76 29 P **PKPdf** **13 37 56.4 +0.7**
baz=306
O14K Tigyukauivet M 146.77 33 P **PKPbc** **13 37 57.2 -0.3**
baz=301
N15K Kwethluk River 146.78 31 P **PKPbc** **13 37 57.0 -0.6**
baz=303
H25L Birch Creek 146.82 14 P **PKPbc** **13 37 57.8 +0.3**
baz=330
250A Grady 146.84 276 PKPdf **PKPdf** **13 37 56.6 -0.1**
E46A Sault Ste Mari 146.84 303 **PKPdf** **13 37 56.8 +0.5**
L18K Granite Mounta 146.87 26 P **PKPdf** **13 37 56.6 +0.7**
baz=310
I23K Minto, Yukon-K 146.96 18 P **PKPbc** **13 37 57.7 -0.2**
baz=324,SNR=14
K20K Telida 146.98 23 P **PKPbc** **13 37 57.9 -0.2**
baz=315
F30M Barrier River 147.10 7 P **PKPbc** **13 37 58.4 +0.1**
baz=345,SNR=16
G27K Doyon Strip 147.10 11 P **PKPbc** **13 37 58.5 +0.1**
baz=336
M17K Holitna River 147.12 27 P **PKPbc** **13 37 58.5 0.0**
baz=308
CHUM Lake Minchumin 147.14 21 P **PKPbc** **13 37 58.2 -0.3**
baz=318,SNR=13
N16K Nishlik Lake 147.16 30 P **PKPbc** **13 37 59.0 +0.3**
baz=306
BPAW Bear Paw Mtn. 147.35 20 P **PKPbc** **13 37 58.2 -1.0**
baz=320,SNR=9.4
O15K Ungalikthiuk R 147.44 32 P **PKPbc** **13 37 59.4 0.0**
baz=302
F31M Tsiigehtchic 147.44 5 P **PKPbc** **13 37 58.7 -0.5**
baz=348,SNR=24
POKR Poker Plat Res 147.45 17 P **PKPbc** **13 37 59.2 -0.1**
baz=326
NEA2 Nenana 147.48 18 P **PKPbc** **13 37 58.9 -0.5**
baz=324
G29M Pine Creek 147.52 9 P **PKPbc** **13 37 59.6 +0.1**
baz=342
PRP Porcupine Dome 147.53 15 **PKPbc** **13 38 00.0 +0.3**
PRP Porcupine Dome 147.53 15 P **PKPbc** **13 37 59.0 -0.7**
baz=330,SNR=23
L19K White Mountain 147.54 25 P **PKPbc** **13 38 00.1 +0.4**
baz=313
CAST Castle Rocks 147.55 22 P **PKPbc** **13 37 58.9 -0.8**
baz=318
COLA College 147.55 17 P **PKPbc** **13 37 58.9 -0.7**
baz=326
H27K Steamboat Moun 147.65 12 P **PKPbc** **13 37 59.2 -0.7**
baz=336
M18K Stony River 147.66 26 P **PKPbc** **13 37 59.2 -0.7**
baz=311
G30M tAoh Zraii Nji 147.66 7 P **PKPbc** **13 38 00.1 +0.2**
baz=344
L20K Farewell, AK 147.66 24 P **PKPbc** **13 37 58.9 -1.2**
baz=315
N17K Nushagak Hills 147.75 29 P **PKPbc** **13 37 59.8 -0.5**
baz=308
ILAR Eielson Array 147.87 17 PKPbc **PKPbc** **13 37 59.6 -0.9**
comp=Z,12nm,0.8s,baz=317,slow=3.5,SNR=100
M19K Big River Lodg 147.89 25 P **PKPbc** **13 38 00.2 -0.4**
baz=313
PPLA Purkeypile 147.91 22 P **PKPdf** **13 37 59.3 +1.5**
baz=317
G31M Satah River 147.91 6 P **PKPbc** **13 37 59.2 -1.2**
baz=347
O16K Kokwok River B 147.94 31 P **PKPbc** **13 38 00.6 -0.2**
baz=305
TRF Thorofare Moun 148.05 20 P **PKPbc** **13 38 00.4 -0.8**
baz=321
H29M Whitestone 148.14 9 P **PKPbc** **13 38 00.4 -0.8**
baz=341
WCI Wyandotte Cave 148.14 287 PKPdf **PKPdf** **13 37 57.6 -1.1**
WCI Wyandotte Cave 148.14 287 PKIKP **PKPdf** **13 37 57.6 -1.1**
HDA Harding Lake 148.16 17 P **PKPbc** **13 38 01.2 0.0**
baz=326,SNR=7.1
N18K Kilae Creek 148.16 28 P **PKPbc** **13 38 00.8 -0.6**
baz=310
I26K Coal Creek Min 148.20 14 P **PKPbc** **13 38 00.9 -0.5**
baz=333
MCK McKinley 148.21 19 P **PKPbc** **13 38 00.9 -0.5**
baz=323
I27K Kandik River 148.21 12 P **PKPbc** **13 38 00.9 -0.5**
baz=336
O17K Koliganek Bris 148.25 30 P **PKPbc** **13 38 01.8 +0.3**
baz=307
P16K Nushagak River 148.31 31 P **PKPbc** **13 38 01.2 -0.5**
baz=305
M20K Styx River 148.34 24 P **PKPbc** **13 38 01.3 -0.6**
baz=315
J25K Salcha River, 148.35 16 P **PKPbc** **13 38 01.3 -0.5**
baz=329
FCC Fort Churchill 148.43 328 PKPdf **PKPdf** **13 37 58.5 0.0**
FCC Fort Churchill 148.43 328 PKIKP **PKPdf** **13 37 58.5 0.0**
N19K Bonanza Creek 148.60 27 P **PKPbc** **13 38 02.8 +0.2**
baz=312
I28M Miner Creek 148.63 11 P **PKPbc** **13 38 03.0 +0.4**
baz=338
SKT Skwentna 148.79 23 P **PKiKP** **13 38 03.8 -0.6**
baz=317
J26L Joseph Creek 148.83 15 P **PKPbc** **13 38 03.0 -0.1**
baz=332
P17K Kvichak River 148.86 30 P **PKPbc** **13 38 03.5 +0.3**
baz=307
CUT Chulitna 148.87 22 P **PKiKP** **13 38 04.3 -0.1**
baz=320
K24K Donnelly Dome 148.95 17 P **PKPbc** **13 38 03.0 -0.3**
baz=328
O18K Koktuh Hills 148.95 28 P **PKPbc** **13 38 03.2 -0.2**
baz=310
H31M Peel River 149.00 7 P **PKPbc** **13 38 02.9 -0.5**
baz=347
WVT Waverly 149.05 283 PKPdf **PKPdf** **13 37 59.9 -0.4**
WVT Waverly 149.05 283 PKIKP **PKPdf** **13 37 59.9 -0.4**
O19K Port Alsworth 149.07 27 P **PKPbc** **13 38 02.8 -0.8**
baz=311
Q16K King Salmon 149.08 31 P **PKPbc** **13 38 02.1 -1.6**
baz=306
SPCR Spurr Chakacha 149.13 25 P **PKPbc** **13 38 04.4 +0.4**
baz=316
SCRK Sand Creek 149.21 15 P **PKPbc** **13 38 03.4 -0.7**
baz=331,SNR=7.4
RIDG Independent Ri 149.22 16 P **PKiKP** **13 38 04.7 -0.6**
baz=329
P18K Big Mountain, 149.23 29 P **PKPbc** **13 38 03.7 -0.5**
baz=309
R16K Pilot Point 149.31 33 P **PKPbc** **13 38 04.7 +0.3**
baz=303
I30M Mount Dempster 149.34 8 P **PKPbc** **13 38 04.7 +0.3**
baz=343
M22K Willow 149.41 22 P **PKPbc** **13 38 03.4 -1.1**
baz=319
SUA Susitna One 149.43 23 P **PKPbc** **13 38 03.8 -0.9**
baz=318
K27K Chicken 149.55 14 P **PKPbc** **13 38 04.4 -0.4**
baz=334
PAX Paxson 149.73 18 P **PKPbc** **13 38 05.0 -0.4**
baz=328
O20K Slope Mountain 149.77 26 P **PKPbc** **13 38 05.1 -0.4**
baz=314
Q18K Katmai Hardscr 149.78 30 P **PKPbc** **13 38 05.8 +0.1**
baz=308
J29N Klondike Camp 149.83 10 P **PKPbc** **13 38 05.0 -0.6**
baz=340
PMR Palmer 149.84 22 P **PKPbc** **13 38 04.6 -0.9**
baz=320
P19K Oil Pt 149.84 27 P **PKPbc** **13 38 04.6 -1.0**
baz=312
SML Sawmill 149.91 21 P **PKPbc** **13 38 04.7 -1.1**
baz=322
J30M Hart River 149.97 9 P **PKPbc** **13 38 05.0 -1.0**
baz=343
DAWY Dawson 150.01 12 **PKPbc** **13 38 06.2 +0.2**
DAWY Dawson 150.01 12 P **PKPbc** **13 38 04.7 -1.3**
baz=338
RC01 Rabbit Creek A 150.03 23 P **PKPbc** **13 38 05.1 -0.9**
baz=319
M23K Glacier View 150.09 21 P **PKPbc** **13 38 04.8 -1.4**
baz=323
Q19K Cape Douglas, 150.16 29 P **PKPbc** **13 38 05.9 -0.6**
baz=310
SCM Sheep Creek Mo 150.18 20 P **PKPbc** **13 38 05.7 -0.8**
baz=324
KNK Knik Glacier 150.18 22 P **PKPbc** **13 38 06.3 -0.1**
baz=321
L26K Log Cabin Wild 150.18 16 P **PKPbc** **13 38 05.9 -0.5**
baz=331
M24K Tolsona, Glenn 150.27 19 P **PKPbc** **13 38 06.0 -0.6**
baz=326
HARP HAARP 150.29 18 P **PKPbc** **13 38 06.5 -0.2**
baz=327
HOM Homer 150.42 26 P **PKPbc** **13 38 05.9 -1.1**
baz=314
L27K Beaver Creek, 150.47 15 P **PKPbc** **13 38 07.3 +0.2**
baz=333
BCAR Beaver Creek A 150.48 14 **PKiKP** **13 38 07.7 -0.2**
O22K Cooper Landing 150.49 24 P **PKPbc** **13 38 06.8 -0.3**
baz=318
K29M Barlow Dome 150.51 10 P **PKPbc** **13 38 07.0 -0.3**
baz=341
PWL Port Wells 150.65 22 P **PKPbc** **13 38 07.4 -0.1**
baz=321
BRSE Bradley Lake S 150.69 26 P **PKPbc** **13 38 07.7 0.0**
baz=316
M26K Nabesna, AK 150.80 16 P **PKPbc** **13 38 07.1 -0.9**
baz=331
KLU Klutina 150.84 20 P **PKPbc** **13 38 07.1 -1.0**
baz=325
Q20K Shuyak Island 150.86 28 P **PKPbc** **13 38 07.9 -0.1**
baz=312
SEW Seward 150.86 24 P **PKPbc** **13 38 07.7 -0.3**
baz=318
GLI Glacier Island 151.01 21 P **PKPbc** **13 38 08.1 -0.2**
baz=323
M27K Edge Creek, AK 151.09 15 P **PKPbc** **13 38 08.4 -0.3**
baz=333
N25K Chitina, Valde 151.10 18 P **PKPbc** **13 38 08.3 -0.4**
baz=328
L29M L29M 151.11 11 P **PKPbc** **13 38 07.9 -0.7**
baz=339
BVCY Beaver Creek 151.25 14 P **PKPbc** **13 38 08.7 -0.2**
baz=334
KDAK Kodiak Island 151.33 30 P **PKPbc** **13 38 09.4 +0.2**
baz=310
OHAK Old Harbor 151.39 31 P **PKPbc** **13 38 09.5 +0.2**
baz=309
SII Sitkinak Islan 151.41 33 P **PKPbc** **13 38 08.8 -0.7**
baz=306
P23K Montague Islan 151.61 23 P **PKiKP** **13 38 10.8 +0.6**
baz=321
BMRM Bremner River 151.64 19 P **PKiKP** **13 38 10.4 +0.1**
baz=327
EYAK Cordova Ski Ar 151.67 21 P **PKiKP** **13 38 10.5 +0.2**
baz=325
M29M Somme Creek 151.67 12 P **PKPbc** **13 38 10.1 +0.1**
baz=338
YKA Yellowknife Ar 151.78 349 PKPbc **PKPbc** **13 38 09.8 -0.2**
comp=Z,2.7nm,0.9s,baz=7.8,slow=2.0,SNR=8.8
M30M Minto, Yukon 151.82 11 P **PKiKP** **13 38 10.9 +0.3**
baz=341
YUK3 Moose Creek 151.91 15 P **PKPbc** **13 38 10.3 -0.5**
baz=334
WRGLY Wrigley 151.93 357 P **PKiKP** **13 38 11.0 +0.3**
baz=4.6
CCM Cathedral Cave 152.00 286 PKPdf **PKPdf** **13 38 04.5 -0.4**
CCM Cathedral Cave 152.00 286 PKIKP **PKPdf** **13 38 04.5 -0.4**
Q23K Middleton Isla 152.39 22 P **PKPbc** **13 38 11.2 -0.3**
baz=322
YUK8 Steele Glacier 152.50 14 P **PKiKP** **13 38 12.7 +0.3**
baz=335
M31M Drury Creek, Y 152.50 8 P **PKiKP** **13 38 12.5 +0.4**
baz=345
KAIM Kayak Island 152.56 20 P **PKPbc** **13 38 11.4 -0.5**
baz=326
FARO Faro, Yukon 152.59 7 P **PKiKP** **13 38 12.8 +0.6**
baz=347
YUK4 Talbot Arm 152.66 13 P **PKiKP** **13 38 12.9 +0.3**
baz=338
BGLC Bering Glacier 152.71 19 P **PKiKP** **13 38 13.1 +0.7**
baz=328
N30M Aishikik Lake 152.83 12 P **PKiKP** **13 38 13.7 +1.0**
baz=340
O28M Mount Upton 152.88 15 P **PKiKP** **13 38 14.0 +0.8**
baz=334
MESA MESA 153.00 18 P **PKiKP** **13 38 13.6 +0.3**
baz=331
YUK6 Outpost Mounta 153.09 13 P **PKiKP** **13 38 13.5 0.0**
baz=338
HYT Haines Junctio 153.35 12 P **PKiKP** **13 38 14.1 +0.2**
baz=339
ULM Lac du Bonnet 153.45 314 PKP **PKPdf** **13 38 05.4 -1.2**
comp=Z,3.2nm,0.9s,baz=66,slow=2.8,SNR=7.4
PINM Pinnacle 153.47 16 P **PKiKP** **13 38 14.7 +0.5**
baz=333
O29M Mount Kennedy 153.64 14 P **PKPbc** **13 38 14.4 0.0**
baz=337
O30N Mendenhall 153.64 11 P **PKiKP** **13 38 15.4 +0.9**
baz=341
TGTN Hyland Airport 153.65 2 P **PKiKP** **13 38 15.1 +0.7**
baz=356
N32M Quiet Lake 153.67 8 P **PKiKP** **13 38 15.5 +1.0**
baz=347
P38A Dawn 153.87 289 **PKPbc** **13 38 15.2 -0.3**
WHY Whitehorse 153.93 10 P **PKiKP** **13 38 15.8 +0.7**
baz=344
PNL Peninsula 154.04 15 P **PKiKP** **13 38 16.2 +0.9**
baz=335
P30M Million Dollar 154.11 13 P **PKiKP** **13 38 17.3 +1.8**
baz=339
P33M Teslin, Yukon 154.62 8 P **PKPab** **13 38 30.5 -0.7**
baz=347
PLBC Pleasant Camp 154.84 12 P **PKPab** **13 38 32.6 +0.6**
baz=340
SKAG Skagway 155.01 11 P **PKPab** **13 38 33.1 +0.3**
baz=342
WTLY Watson Lake, Y 155.04 3 P **PKPab** **13 38 32.7 -0.3**
baz=355
KOTAN Kotaneelee Air 155.05 358 P **PKPab** **13 38 33.4 +0.4**
baz=4.0
P32M Atlin 155.12 9 P **PKPab** **13 38 33.3 0.0**
baz=345

R33M	Jennings River	155.61	6	P	PKPab	13 38 35.1	-0.4
	baz=350						
R31K	City Hall, Gus	155.93	13	P	PKPab	13 38 36.9	+0.2
	baz=340						
TOAD	Toad River Com	156.36	359	P	PKPab	13 38 38.9	+0.2
	baz=1.8						
DLBC	Dease Lake	156.63	5	P	PKPab	13 38 40.1	+0.3
	baz=352						
S32K	Killisnoo	157.03	12	P	PKPab	13 38 40.8	-0.7
	baz=342						
BRDY	Brady	157.05	268	PKPab	PKPab	13 38 42.2	-0.3
S34M	Telegraph Cree	157.06	7	P	PKPab	13 38 42.7	+1.1
	baz=349						
T33K	Petersburg	157.91	10	P	PKPab	13 38 44.7	-0.6
	baz=345						
U33K	Whale Pass	158.56	11	P	PKPab	13 38 46.3	-1.8
	baz=344						
CRAG	Craig	159.18	11	P	PKPab	13 38 48.9	-2.0
	baz=344						
V35K	Ketchikan	159.54	9	P	PKPab	13 38 52.2	-0.1
	baz=347						
TXAR	Lajitas Array	160.18	259	PKP	PKPdf	13 38 16.8	+0.8
	comp=Z,1.8nm,0.9s,baz=148,slow=2.5,SNR=11						
TXAR				PKPab	PKPab	13 38 56.5	+0.2
	comp=Z,1.9nm,0.9s,baz=121,slow=7.6,SNR=6.7						
PDAR	Pinedale Array	165.13	305		PKPdf	13 38 19.3	-1.4
PDAR	Pinedale Array	165.13	305	PKP	PKPdf	13 38 19.6	-1.1
	comp=Z,1.3nm,0.8s,baz=74,slow=1.3,SNR=13						
PDAR				PKPab	PKPab	13 39 17.0	-0.7
	comp=Z,1.0nm,1.0s,baz=62,slow=3.5,SNR=4.0						
MSO	Missoula	165.25	325		PKPdf	13 38 20.1	-0.3
NEW	Newport	165.38	336	PKPab	PKPab	13 39 18.1	-0.2
NEW	Newport	165.38	336	PKP2	PKPab	13 39 18.1	-0.2
NVAR	Mina Array Bea	173.00	299	PKP	PKPdf	13 38 26.9	+1.1
	comp=Z,1.3nm,0.8s,baz=90,slow=0.5,SNR=10						

*IDC **10** 13:19:44.8±2.4, 56.°17N×149.°24W, h0km, mb3.5/1, mbtmp3.5/6, ML3.4/5, Error ellipse: s-maj=36.1km s-min=22.8km az=53.0*
*NEIC **10** 13:19:45.9±1.1, 56.°25N±0.°09×149.°4W±0.°1, h20km±9km, mb3.8/2, ML3.8/60, ML3.6(AEIC), Error ellipse: s-maj=13.5km s-min=7.9km az=162.0*
*AEIC **10** 13:19:48.8±1.1, 56.°2N±0.°1×149.°3W±0.°1, h9km±7km, Error ellipse: s-maj=16.2km s-min=8.8km az=156.0*

ISC 10 13:19:44.6±1.0, 56.°28N±0.°08×149.°35W±0.°05, h10km, n86, σ0°97/78, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.32	312	Pn	Pn	13 20 23.3	+0.6
KDAK	Kodiak Island	2.32	312		Sn	13 20 50.2	-1.1
KDAK	Kodiak Island	2.32	312	Pn	Pn	13 20 23.4	+0.6
	5.1nm,0.3s,baz=144,slow=8.7,SNR=199						
KDAK				Sn	Sn	13 20 50.0	-1.3
	26nm,0.3s,baz=221,slow=19,SNR=44						
	13nm,0.4s						
OHAK	Old Harbor	2.36	295		Sn	13 20 50.0	-2.4
OHAK	Old Harbor	2.36	295	Pn	Pn	13 20 23.4	0.0
OHAK	Old Harbor	2.36	295	P	Pn	13 20 23.3	-0.1
SII	Sitkinak Islan	2.70	278		Sn	13 20 59.1	-1.7
SII	Sitkinak Islan	2.70	278	Pn	Pn	13 20 28.4	+0.3
SII				IAML		13 21 13.1	
	comp=N,253nm,0.7s						
SII	Sitkinak Islan	2.70	278	P	Pn	13 20 27.9	-0.1
SYI	Shuyak Island	2.85	326		Sn	13 21 04.2	-0.2
SYI	Shuyak Island	2.85	326	Pn	Pn	13 20 30.9	+0.8
SYI				IAML		13 21 05.9	
	comp=N,323nm,0.3s						
SYI				IAML		13 21 06.4	
	comp=E,385nm,0.4s						
R18K	Karluk	3.08	297		Pn	13 20 34.1	+0.9
R18K					Sn	13 21 08.4	-1.6
R18K	Karluk	3.08	297	IAML		13 21 14.9	
	comp=N,253nm,0.3s						
R18K				IAML		13 21 17.3	
	comp=E,244nm,0.5s						
CNPM	China Poot	3.40	344		Pn	13 20 38.0	+0.2
CNPM				IAML		13 21 18.8	
	comp=N,140nm,0.4s						
CNPM				IAML		13 21 19.8	
	comp=E,239nm,0.3s						
CNPM	China Poot	3.40	344		Sn	13 21 17.4	-0.6
Q19K	Cape Douglas,	3.52	321		Pn	13 20 40.7	+1.4
Q23K	Middleton Isla	3.54	26	Pn	Pn	13 20 39.4	0.0
Q23K				IAML		13 21 06.8	
	comp=N,183nm,1.2s						
Q23K				IAML		13 22 20.2	
	comp=E,280nm,1.2s						
BRSE	Bradley Lake S	3.55	349		Pn	13 20 39.9	+0.3
CHIR	Chirikof Islan	3.55	265		Pn	13 20 39.5	-0.2
CHIR	Chirikof Islan	3.55	265	P	Pn	13 20 39.6	-0.1
BRLK	Bradley Lake	3.58	347		Pn	13 20 40.3	+0.1
BRLK				IAML		13 21 24.9	
	comp=N,173nm,0.1s						
BRLK				IAML		13 21 25.3	
	comp=E,172nm,0.3s						
HOM	Homer	3.60	341		Pn	13 20 41.3	+1.0
HOM					Sn	13 21 23.6	+0.8
ACHA	Angle Creek He	3.78	303	Pn	Pn	13 20 44.6	+1.7
SEW	Seward	3.83	359	Pn	Pn	13 20 43.5	-0.1
ILSW	Iliamna Southw	4.22	333	Pn	Pn	13 20 49.1	+0.1
ILSW				IAML		13 21 39.4	
	comp=E,119nm,0.9s						
ILSW				IAML		13 21 39.8	
	comp=N,123nm,0.4s						
SLKM	Skilak Lake	4.26	354		Pn	13 20 49.6	+0.2
SLKM				IAML		13 21 39.3	
	comp=E,162nm,0.3s						
HIN	Hinchinbrook I	4.39	19	Pn	Pn	13 20 51.7	+0.5
HIN				IAML		13 21 41.2	
	comp=N,166nm,1.0s						
HIN				IAML		13 21 51.4	
	comp=E,118nm,1.2s						
P18K	Big Mountain,	4.42	317	Pn	Pn	13 20 52.6	+0.9
KAIM	Kayak Island	4.49	34	Pn	Pn	13 20 53.1	+0.5
PWL	Port Wells	4.62	6	Pn	Pn	13 20 54.6	+0.2
PWL				IAML		13 21 47.0	
	comp=N,89nm,1.1s						
PWL				IAML		13 21 55.5	
	comp=E,72nm,1.0s						
EYAK	Cordova Ski Ar	4.68	22		Pn	13 20 55.5	+0.4
EYAK	Cordova Ski Ar	4.68	22	P	Pn	13 20 55.2	+0.1
O19K	Port Alsworth	4.72	328		Pn	13 20 56.2	+0.5
O18K	Koktuh Hills	4.74	321	IAML		13 21 51.0	
	comp=N,58nm,0.8s						
GLI	Glacier Island	4.76	13	IAML		13 21 51.6	
	comp=N,70nm,0.9s						
GLI				IAML		13 21 53.8	
	comp=E,75nm,1.1s						
SUCK	Suckling Hills	4.81	36	IAML		13 21 59.7	
	comp=N,118nm,1.1s						
SUCK				IAML		13 22 11.3	
	comp=E,73nm,1.0s						
RC01	Rabbit Creek A	4.82	358		Pn	13 20 57.6	+0.5
RC01				IAML		13 21 51.5	
	comp=E,65nm,0.2s						
RC01				IAML		13 21 58.8	
	comp=N,48nm,0.7s						
CHGN	Chignik	5.05	274	IAML		13 22 00.1	
	comp=E,71nm,0.4s						
CHGN				IAML		13 22 03.7	
	comp=N,49nm,0.2s						
KNK	Knik Glacier	5.17	5	IAML		13 22 00.7	
	comp=E,45nm,1.2s						
DIV	Divide	5.21	20		Pn	13 21 03.0	+0.5
SPBG	Spurr Blockage	5.23	344		Pn	13 21 03.2	+0.4
BMRM	Bremner River	5.31	26	Pn	Pn	13 21 04.5	+0.6
PMR	Palmer	5.33	1		Pn	13 21 04.4	+0.3
PMR	Palmer	5.33	1	P	Pn	13 21 04.2	+0.2
STLK	Strandline Lak	5.39	347		Pn	13 21 05.5	+0.5
M22K	Willow	5.50	356		Pn	13 21 07.2	+0.8
GHO	Glory Hole Cre	5.51	2		Pn	13 21 07.2	+0.5
KLU	Klutina	5.52	17		Pn	13 21 07.5	+0.7
MESA	MESA	5.52	42		Pn	13 21 07.2	+0.2
N18K	Kilae Creek	5.58	325		Pn	13 21 08.2	+0.6
O16K	Kokwok River B	5.72	309		Pn	13 21 10.4	+1.0
M24K	Tolsona, Glenn	6.06	14		Pn	13 21 15.3	+1.1
M18K	Stony River	6.21	330		Pn	13 21 16.4	+0.2
M19K	Big River Lodg	6.21	337		Pn	13 21 16.5	+0.3
PNL	Peninsula	6.29	53		Pn	13 21 17.7	+0.4
PNL	Peninsula	6.29	53	P	Pn	13 21 17.7	+0.4
SDPT	Sand Point	6.34	266		Pn	13 21 18.5	+0.5
SDPT	Sand Point	6.34	266	P	Pn	13 21 18.8	+0.8
L19K	White Mountain	6.55	337		Pn	13 21 20.9	0.0
O29M	Mount Kennedy	6.96	50		Pn	13 21 27.8	+1.2
L18K	Granite Mounta	7.04	331		Pn	13 21 28.1	+0.6
CAST	Castle Rocks	7.29	350		Pn	13 21 31.6	+0.6
KTH	Kantishna Hill	7.33	354		Pn	13 21 32.7	+1.0
DOT	Dot Lake	7.85	18		Pn	13 21 39.5	+0.8
FALS	False Pass	8.10	266	P	Pn	13 21 42.9	+0.8
JIS	Juneau Island	8.35	70	P	Pn	13 21 45.5	0.0
ILAR	Eielson Array	8.60	7	Pn	Pn	13 21 49.4	+0.4
	comp=E,1.0nm,0.3s,baz=189,slow=13,SNR=44						
ILAR				Sn	Sn	13 23 23.8	-2.1
	comp=E,0.5nm,0.3s,baz=189,slow=22,SNR=5.0						
	comp=E,2.0nm,0.3s						
COLA	College	8.65	4		Pn	13 21 50.1	+0.5
COLA	College	8.65	4	P	Pn	13 21 50.6	+1.0
POKR	Poker Flat Res	8.91	5		Pn	13 21 53.8	+0.5
P32M	Atlin	8.95	62		Pn	13 21 54.4	+0.6
M30M	Minto, Yukon	8.97	40		Pn	13 21 55.5	+1.4
M31M	Drury Creek, Y	9.68	46		Pn	13 22 05.0	+1.3
H02S1	DAWSON INLET T	10.23	101	T	T	13 30 56.8	
	SNR=198						
DLBC	Dease Lake	10.65	70	Pn	Pn	13 22 17.6	+0.4
	comp=E,0.5nm,0.3s,baz=258,slow=7.3,SNR=16						
DLBC				Sn	Sn	13 24 12.7	-3.7
	comp=E,0.2nm,0.3s,baz=206,slow=9.5,SNR=1.8						
	comp=E,1.4nm,0.4s						
INK	Inuvik	14.06	25	Pn	Pn	13 23 05.8	+2.4
	comp=E,0.1nm,0.3s,baz=214,slow=15,SNR=4.4						
	comp=E,1.5nm,0.8s						
YKA	Yellowknife Ar	18.57	56	P	Pn	13 24 03.3	+1.8
	baz=266,slow=10.0,SNR=5.8						
	comp=E,0.4nm,0.9s						
A36M	Sachs Harbour	18.69	23	P	Pn	13 24 03.5	+0.5
A36M				IAmb	IAmb	13 24 06.7	
	comp=Z,3.9nm,0.8s						
NVAR	Mina Array Bea	27.25	118	P	P	13 25 30.0	+1.1
	comp=Z,0.5nm,0.8s,baz=319,slow=8.5,SNR=4.7						
	comp=Z,0.5nm,0.8s						
EUNU	Eureka	30.51	18	P	P	13 25 56.7	-0.6
EUNU				IAmb	IAmb	13 26 38.9	
	comp=Z,3.0nm,1.2s						
H11N2	WAKE ISLAND Hy	48.85	240	T	T	14 21 23.3	
	baz=31,slow=74						
H11N3	WAKE ISLAND Hy	48.86	240	T	T	14 21 18.8	
	baz=31						
H11N1	WAKE ISLAND Hy	48.87	240	T	T	14 21 29.0	
	baz=31,slow=74						
H11S1	WAKE ISLAND Hy	49.99	239	T	T	14 22 44.3	
	baz=29,slow=74						
H11S2	WAKE ISLAND Hy	50.01	239	T	T	14 22 42.6	
	baz=29						
H11S3	WAKE ISLAND Hy	50.01	239	T	T	14 22 43.6	
	baz=29,slow=74						

*IDC **10** 13:20:01.8±1.9, 10.°08N×92.°93E, h0km, mb4.1/7, mbtmp4.1/7, MS5.0/2, Error ellipse: s-maj=89.5km s-min=19.3km az=59.0*
*NEIC **10** 13:20:06.9±2.9, 9.°92N±0.°07×92.°8E±0.°1, h35km±2km, mb4.7/16, Error ellipse: s-maj=19.6km s-min=12.3km az=264.0*
*NDI **10** 13:20:08.6±4.1, 10.°19N×92.°58E, h10km, ML4.2, MW4.3, mb4.7(NEIC)*

ISC 10 13:20:07.5±0.5, 10.°03N±0.°05×92.°88E±0.°09, h43km, n37, σ1°65/37, mb4.4/13, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.62	355		Pn	13 20 35.9	+2.3
PBA				Sn	Sn	13 20 55.6	+2.2
PBA	Port Blair	1.62	355	eP	Pn	13 20 36.4	+2.7
PBA				eS	Sn	13 20 55.7	+2.3
PBA				IAML		13 20 58.0	
	comp=E,2μm,0.4s						
PBA				IAML		13 21 00.5	
	comp=N,2μm,0.3s						
DGPR	DIGLIPUR	3.13	1	eP	Pn	13 20 58.2	+3.8
DGPR				eS	Sn	13 21 28.2	-2.4
DGPR				IAML		13 21 35.3	
	comp=N,2μm,0.3s						
DGPR				IAML		13 21 37.9	
	comp=E,2μm,0.3s						
CMBY	CAMPBELL BAY	3.17	161	eS	Sn	13 21 37.4	+5.7
CMBY				IAML		13 21 42.9	
	comp=N,2μm,0.3s						
CMBY				IAML		13 21 43.0	
	comp=E,2μm,0.2s						
LHMI	Lhok Sumawe	6.25	139	Pn	Pn	13 21 36.5	-0.8
VIS	Vishakhapatnam	12.01	311	eS	Sn	13 24 57.3	-12
SALM	Salem	14.51	278	eS	Sn	13 26 08.0	-1.8
HMDM	Hanimaadhoo	19.75	262	Pn	P	13 24 33.9	-0.1
HMDM				IAmb	IAmb	13 24 34.1	
	comp=Z,29nm,0.9s						
LUWI	Luwuk	31.72	109	P	P	13 26 26.4	-1.3
SIMJ	Simiganj	35.63	327	P	P	13 27 00.0	-1.5
SIMJ				IAmb	IAmb	13 27 04.1	
	comp=Z,3.5nm,0.8s						
MK31	Makanchi Array	37.73	348	P	P	13 27 18.6	-0.5
MK31				IAmb	IAmb	13 27 49.6	
	comp=Z,12nm,0.8s						
MKAR	Makanchi Array	37.73	348	P	P	13 27 18.8	-0.4
	comp=Z,0.9nm,0.8s,baz=163,slow=8.0,SNR=7.5						
	comp=Z,0.9nm,0.8s						
MAKZ	Makanchi	37.81	348	P	P	13 27 19.2	-0.6
MAKZ				IAmb	IAmb	13 27 49.1	
	comp=Z,13nm,0.8s						
KKAR	Karatay Array	38.29	333	P	P	13 27 23.5	-0.4
SONM	Songino Array	39.37	14	P	P	13 27 32.0	-1.1
SONM	Songino Array	39.37	14	P	P	13 27 32.6	-0.5
	comp=Z,0.6nm,0.3s,baz=209,slow=7.6,SNR=5.9						
	comp=Z,0.6nm,0.3s						
FAKI	Fak Fak	41.27	106	P	P	13 27 48.7	-0.3
FITZ	Fitzroy Crossi	42.75	131	P	P	13 28 01.1	+0.1
BVAR	Borovoye Array	46.56	341	P	P	13 28 31.1	+0.1
	comp=Z,0.6nm,0.4s,baz=140,slow=7.8,SNR=6.1						
	comp=Z,0.6nm,0.4s						
BRVK	Borovoye	46.62	341	P	P	13 28 31.0	-0.4
ABKAR	Akbulak array	47.75	331	P	P	13 28 41.8	+1.5
WB0	Warramunga Arr	50.48	126	P	P	13 29 02.1	+0.5
WRA	Warramunga Arr	50.53	126	P	P	13 29 02.1	+0.1
	comp=Z,0.9nm,0.5s,baz=303,slow=7.2,SNR=16						
	comp=Z,0.9nm,0.5s						
WB2	Warramunga Arr	50.54	126	P	P	13 29 02.2	+0.1
WR0	Warramunga Arr	50.70	126	P	P	13 29 03.5	+0.3
GNI	Garni	52.05	314	LR	LR	13 55 15.6	
	comp=Z,967nm,19.6s,baz=84,slow=41						
AS31	Alice Springs	52.25	130	P	P	13 29 15.1	+0.2
AS31				IAmb	IAmb	13 29 22.1	
	comp=Z,3.4nm,0.7s						
ASAR	Alice Springs	52.25	130	P	P	13 29 14.9	0.0
ASAR	Alice Springs	52.25	130	P	P	13 29 15.1	+0.2
	comp=Z,2.1nm,0.5s,baz=305,slow=6.9,SNR=49						
	comp=Z,2.1nm,0.5s						
AS19	Alice Springs	52.32	130	P	P	13 29 15.5	+0.1
KBZ	Khabaz	54.67	317	LR	LR	13 56 29.0	
	comp=Z,2μm,21.6s,baz=64,slow=40						
BBOO	Buckleboo	59.24	138	P	P	13 30 05.4	+0.6
BBOO				IAmb	IAmb	13 30 17.8	
	comp=Z,19nm,1.4s						
TIXI	Tiksi	65.39	12	P	P	13 30 43.5	-1.7
TIXI				IAmb	IAmb	13 30 44.3	
	comp=Z,2.9nm,0.5s						
ARCES	ARCESS Array B	72.83	340	P	P	13 31 32.0	+0.5
	comp=Z,1.7nm,0.8s,baz=108,slow=6.2,SNR=4.0						
	comp=Z,1.7nm,0.8s						
SPITS	Spitsbergen Ar	77.49	348	P	P	13 31 58.4	+0.3
	comp=Z,10nm,1.0s,baz=104,slow=5.7,SNR=6.1						
	comp=Z,10nm,1.0s						
GSTR	Great Sitkin T	82.83	38	P	P	13 32 27.1	-0.3
SYO	Syowa Base	87.09	197⇓	eP	P	13 32 48.2	-0.1

*IDC **10** 13:20:17.1±8.8, 3.°48S×152.°07E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=142.1km s-min=93.1km az=20.0*
*NEIC **10** 13:20:43.1±1.9, 3.°9S±0.°1×151.°9E±0.°2, h214km±7km, mb4.6/12, Error ellipse: s-maj=33.2km s-min=11.5km az=126.0*

ISC 10 13:20:44.6±1.3, 4.°4S±0.°2×151.°8E±0.°2, h200km, n18, σ0°85/19, mb4.6/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.41	57	Pn	Pn	13 21 11.1	-0.4
RABL				Sn	Sn	13 21 33.4	+1.2
MTN	Manton Dam	22.08	246	P	P	13 25 23.5	-0.3
MTN				IAmb	IAmb	13 25 38.6	
	comp=Z,31nm,1.4s						
DZM	Mont Dzumac	22.56	142	P	P	13 25 27.3	-1.0
DZM				IAmb	IAmb	13 25 33.8	
	comp=Z,29nm,1.5s						
WB0	Warramunga Arr	22.83	227	P	P	13 25 31.3	+0.7
WR0	Warramunga Arr	22.85	226	P	P	13 25 31.4	+0.7
WR0				IAmb	IAmb	13 25 32.8	
	comp=Z,9.7nm,0.6s						
WRAB	Tennant Creek	22.97	226	P	P	13 25 32.5	+0.7
WB2	Warramunga Arr	22.97	226	P	P	13 25 32.6	+0.8
WRA	Warramunga Arr	22.98	226	P	P	13 25 32.6	+0.6
	comp=Z,9.7nm,0.4s,baz=49,slow=9.1,SNR=188						
	comp=Z,9.7nm,0.4s						
KNRA	Kununurra	25.27	242	P	P	13 25 52.5	-0.3
AS31	Alice Springs	25.79	220	P	P	13 25 56.5	-0.9
ASAR	Alice Springs	25.79	220	P	P	13 25 56.4	-1.0
ASAR	Alice Springs	25.79	220	P	P	13 25 57.6	+0.2
	comp=Z,0.6nm,0.4s,baz=53,slow=8.8,SNR=46						
	comp=Z,0.6nm,0.4s						
STKA	Stephens Creek	28.96	198	P	P	13 26 26.7	+1.3
STKA				IAmb	IAmb	13 27 09.6	
	comp=Z,20nm,1.4s						
STKA	Stephens Creek	28.96	198	P	P	13 26 26.4	+1.0
	comp=Z,0.5nm,0.4s,baz=43,slow=19,SNR=3.6						
	comp=Z,0.5nm,0.4s						
FITZ	Fitzroy Crossi	28.99	240	P	P	13 26 25.0	-0.9
BBOO	Buckleboo	31.86	206	P	P	13 26 50.8	-0.1
BBOO				IAmb	IAmb	13 27 04.4	
	comp=Z,26nm,1.4s						
FORT	Forrest	34.48	218	P	P	13 27 12.6	-1.1
FORT				IAmb	IAmb	13 27 45.5	
	comp=Z,12nm,0.9s						
MEEK	Meekatharra	38.66	232	P	P	13 27 49.5	+0.3
	comp=Z,30nm,0.9s						

*JMA **10** 13:23:27.5±0.2, 43.°4N±0.°5×145.°3E±0.°9, h122km±1km, MV2.6/39, NEMURO REGION*
*SKHL **10** 13:23:28.0±0.1, 43.°40N×145.°30E, h117km±2km, mb4.1/3, msha5.0/4*

ISC 10 13:23:27.4±2.0, 43.°41N±0.°07×145.°29E±0.°05, h122km±11km, n19, σ0°43/32, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMR	Nemuro--Hokkai	0.32	97	i P	Pn	13 23 44.8	+0.2
NMR				AMB	AMB	13 23 45.1	
	50nm,0.2s						
NMR				i S	Sn	13 23 57.4	-0.2
NMR				A	A	13 23 58.2	
	190nm,0.2s						
NMR				A	A	13 23 58.2	
	410nm,0.2s						
NEM2	Nemuro 2	0.33	97	P	Pn	13 23 44.8	+0.1
NEM2				eS	Sn	13 23 57.4	-0.2
JKHN	Kushirohamanak	0.34	197	eP	Pn	13 23 45.0	+0.3
JKHN				S	Sn	13 23 58.2	+0.4
JNSB	Nemuroshibetsu	0.42	330	eP	Pn	13 23 45.4	+0.3
JNSB				eS	Sn	13 23 59.0	+0.5
JNK	Nakash	0.46	293	P	Pn	13 23 45.4	0.0
JNK				eS	Sn	13 23 58.6	-0.2
AKK	Akkeshi	0.51	220	eP	Pn	13 23 45.6	0.0
AKK				eS	Sn	13 23 58.9	-0.4
JRA	Rausu	0.55	347	eP	Pn	13 23 45.8	0.0
JRA				S	Sn	13 23 59.3	-0.4
JAK	Akkeshi	0.60	227	eP	Pn	13 23 46.5	+0.3
JAK				eS	Sn	13 24 00.6	+0.2
YUK	Yuzh-Kuril'sk	0.75	33	i P	Pn	13 23 47.5	+0.2
YUK				AMB	AMB	13 23 48.4	
	40nm,0.2s						
YUK				eS	Sn	13 24 02.1	-0.3
YUK				A	A	13 24 04.1	
	160nm,0.2s						
YUK				A	A	13 24 04.1	
	180nm,0.2s						
JAR	Ashorobuto	1.12	265	eP	Pn	13 23 51.1	+0.3
JAR				eS	Sn	13 24 08.7	+0.2
JTKR	Abashiri--Toko	1.15	300	eP	Pn	13 23 50.9	-0.2
JOB	Onbets	1.18	245	eP	Pn	13 23 51.9	+0.4
JOB				eS	Sn	13 24 09.5	-0.1
SHO	Shikotan	1.21	67	eP	Pn	13 23 51.6	-0.1
SHO				i S	Sn	13 24 09.1	-1.0
SHO				A	A	13 24 10.0	
	50nm,0.2s						
SHO				A	A	13 24 10.0	
	60nm,0.2s						
JMP	Maruseppu	1.52	294	eP	Pn	13 23 55.0	-0.3
JCH	Churui	1.62	241	P	Pn	13 23 56.5	+0.1
JCH				S	Sn	13 24 17.3	-1.1
JKK2	Kamakawa 2	1.91	285	P	Pn	13 23 59.9	+0.1
JFR	Furan	1.99	264	P	Pn	13 24 00.8	0.0
ASAJ	Asahikawa	2.08	291	P	Pn	13 24 02.4	+0.5
KUR	Kuril'sk	2.60	44	eS	Sn	13 24 40.9	+0.9
KUR				A	A	13 24 56.1	
	10.0nm,0.5s						
KUR				A	A	13 24 56.1	
	40nm,0.5s						

*AZER **10** 13:28:35.9, 38.°67N×44.°71E, h8km, ml3.7*
*NSSP **10** 13:28:36.9, 38.°60N×44.°83E, h10km, Ms3.7*
*TEH **10** 13:28:37.5, 38.°65N×44.°73E, h6km*
*ISK **10** 13:28:37.8, 38.°53N×44.°74E, h3km, ML3.4/15*
*AFAD **10** 13:28:37.3, 38.°66N×44.°75E, h21km±1km, MW3.8*

ISC 10 13:28:37.4±1.0, 38.°62N±0.°02×44.°78E±0.°01, h10km±9km, n95, σ1°20/151, 12C-4D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.62	274	P	Pg	13 28 49.2	-0.3
OZAP				S	Sb	13 28 58.8	-0.6
IMRD	Marand	0.73	82	Pg	Pb	13 28 52.5	+0.1
IMRD				Sg	Sb	13 29 03.5	+1.1
ISHB	Shabestar	0.74	117	Pg	Pg	13 28 52.0	+0.3
MAKU	Maku	0.74	354	Pg	Pg	13 28 51.1	-0.6
NAX	Nakhchivan	0.79	45	P	Pb	13 28 53.5	+0.3
NAX				S	Sn	13 29 05.2	-1.3
SBZ	Shahbuz	0.98	37	P	Pn	13 28 56.9	-0.5
SBZ				S	Sn	13 29 11.4	0.0
ORD	Ordubad	1.00	72	P	Pn	13 28 57.5	-0.1
ORD				S	Sn	13 29 12.0	+0.2
VMUR	Van-Muradiye	1.02	292	P	Pg	13 28 56.0	-1.1
VMUR				S	Sg	13 29 09.2	-1.0
VMUR	Van-Muradiye	1.02	292	Pg	Pg	13 28 55.9	-1.1
TVAN	Van	1.08	266	P	Pg	13 28 57.3	-1.0
TVAN				S	Sb	13 29 12.6	0.0
TVAN	Van	1.08	266	Pg	Pg	13 28 57.3	-1.0
VANB

GRS			⇓iS		Sg	13 29 25.0	-0.5
EGVZ	**Egvard**	**1.50 66**	⇑iP		**Pb**	**13 29 05.7**	**+0.2**
EGVZ			⇑iS		**Sg**	**13 29 26.4**	**+0.7**
GNI	**Garni**	**1.53 359**	⇓iP		**Pb**	**13 29 05.9**	**-0.1**
GNI			⇑iS		**Sg**	**13 29 28.1**	**+1.5**
ADCV	**BITLIS_Adilcev**	**1.62 277**	P		**Pb**	**13 29 07.1**	**-0.4**
ADCV			S		**Sg**	**13 29 28.9**	**-0.7**
METS	**Metsamor**	**1.62 341**	eP		**Pg**	**13 29 08.7**	**+0.1**
METS			eS		**Sg**	**13 29 31.7**	**+2.1**
CUKT	**Cukurca**	**1.66 215**	Pn		**Pb**	**13 29 07.1**	**-1.0**
CUKT	**Cukurca**	**1.66 215**	P		**Pg**	**13 29 10.2**	**+1.0**
VNNZ	**Vanand**	**1.66 334**	eP		**Pg**	**13 29 09.2**	**0.0**
VNNZ			eS		**Sg**	**13 29 33.7**	**+2.9**
AYRK	**Ayrk**	**1.69 27**	⇓iP		**Pb**	**13 29 08.7**	**0.0**
AYRK			⇑iS		**Sg**	**13 29 31.4**	**-0.2**
AGRB	**Hanur-Agry**	**1.69 305**	Pn		**Pg**	**13 29 09.4**	**-0.5**
AGRB			Sn		**Sg**	**13 29 32.2**	**+0.4**
KAPZ	**Kaputan**	**1.70 358**	⇑iP		**Pg**	**13 29 10.1**	**0.0**
KAPZ			⇑iS		**Sg**	**13 29 33.7**	**+1.5**
KOTA	**Agri, Merkez-K**	**1.70 314**	P		**Pb**	**13 29 08.2**	**-0.7**
KOTA			S		**Sg**	**13 29 30.9**	**-1.2**
DORK	**Agr/Tutak/Do**	**1.74 297**	P		**Pb**	**13 29 08.6**	**-1.0**
DORK			S		**Sn**	**13 29 30.0**	**-0.2**
ARUZ	**Aruch**	**1.75 342**	⇑iP		**Pg**	**13 29 10.7**	**-0.2**
ARUZ			⇑iS		**Sg**	**13 29 34.4**	**+0.8**
IHRS	**Heris**	**1.80 99**	Pn		**Pg**	**13 29 11.5**	**-0.5**
AMBZ	**Amberd**	**1.81 347**	⇑iP		**Pg**	**13 29 11.7**	**-0.6**
AMBZ			⇑iS		**Sg**	**13 29 37.7**	**+2.0**
MLAZ	**Malazgirt-MUS**	**1.82 287**	Pn		**Pb**	**13 29 10.8**	**-0.1**
PERV	**Siirt/Pervari-**	**1.89 250**	P		**Pg**	**13 29 14.0**	**+0.4**
PERV			S		**Sg**	**13 29 37.0**	**-1.1**
DIGO	**Kars**	**2.10 329**	P		**Pb**	**13 29 15.3**	**-0.4**
BLIS	**Bitlis-Merkez**	**2.10 265**	P		**Pb**	**13 29 16.0**	**+0.2**
BLIS			S		**Sb**	**13 29 42.2**	**+0.3**
QRD	**Qoradiz**	**2.15 66**	P		**Pb**	**13 29 16.6**	**+0.1**
QRD			S		**Sg**	**13 29 46.1**	**-0.4**
GURO	**Guroymak-BITLI**	**2.16 269**	Pn		**Pb**	**13 29 15.4**	**-1.3**
EATA	**Eleskirt**	**2.17 306**	P		**Pb**	**13 29 16.7**	**-0.3**
GDB	**GEDABAY**	**2.23 19**	P		**Pb**	**13 29 17.2**	**-0.7**
GDB			S		**Sg**	**13 29 48.2**	**-0.9**
EAK	**Akyaka**	**2.25 337**	P		**Pb**	**13 29 17.8**	**-0.6**
EAK			S		**Sb**	**13 29 47.0**	**+0.6**
KMOZ	**Kamo**	**2.29 344**	⇑iP		**Pg**	**13 29 19.9**	**-1.5**
KMOZ			⇑iS		**Sg**	**13 29 51.8**	**+0.7**
SRTM	**Siirt_Merkez**	**2.34 255**	P		**Pb**	**13 29 19.2**	**-0.5**
SRTM			S		**Sb**	**13 29 48.5**	**-0.2**
AGDM	**Agdam**	**2.34 50**	P		**Pb**	**13 29 19.7**	**+0.1**
AGDM			S		**Sg**	**13 29 51.7**	**-0.8**
GANJ	**Ganja**	**2.35 30**	P		**Pb**	**13 29 19.2**	**-0.6**
GANJ			S		**Sg**	**13 29 51.9**	**-1.0**
IHSH	**Hashtrud**	**2.36 123**	Pn		**Pb**	**13 29 19.5**	**-0.8**
KARS	**Kars**	**2.40 327**	Pn		**Pb**	**13 29 19.8**	**-1.0**
KARS	**Kars**	**2.40 327**	Pn		**Pn**	**13 29 16.8**	**-0.1**
ISRB	**Sarab**	**2.41 108**	Pn		**Pb**	**13 29 20.6**	**-0.3**
BOZK	**Kars-Merkez-Bo**	**2.41 325**	P		**Pb**	**13 29 21.5**	**+0.4**
BLQ	**Beylaqan**	**2.42 62**	P		**Pb**	**13 29 20.9**	**-0.2**
BLQ			S		**Sb**	**13 29 52.3**	**+1.3**
GRMI	**Germi**	**2.44 85**	Pn		**Pb**	**13 29 20.1**	**-1.4**
SRTK	**Saratovka**	**2.47 352**	eP		**Pb**	**13 29 22.3**	**+0.3**
SRTK			eS		**Sg**	**13 29 56.7**	**-0.1**
BRDA	**Brd**	**2.48 48**	P		**Pb**	**13 29 21.4**	**-0.6**
BRDA			S		**Sg**	**13 29 57.0**	**0.0**
QZX	**Qazax, Azerbai**	**2.48 10**	P		**Pb**	**13 29 22.7**	**+0.6**
QZX			S		**Sg**	**13 29 56.6**	**-0.5**
MUSM	**Mu-Merkez**	**2.56 273**	P		**Pb**	**13 29 22.3**	**-1.3**
VRTB	**Varto-Mus**	**2.65 283**	Pn		**Pb**	**13 29 22.6**	**-2.5**
KOPR	**Koprukoy-ERZUR**	**2.65 302**	Pn		**Pb**	**13 29 23.2**	**-2.0**
SERK	**Senkaya-Erzuru**	**2.70 317**	Pn		**Pb**	**13 29 24.2**	**-1.8**
YRD	**Yardimli**	**2.72 83**	Pg		**Pb**	**13 29 25.7**	**-0.6**
YRD			Sg		**Sg**	**13 30 04.1**	**-0.8**
LRK	**Lerik**	**2.79 88**	Pg		**Pb**	**13 29 26.6**	**-0.8**
LRK			Sg		**Sg**	**13 30 07.1**	**+0.1**
MNGR	**Mingechevir, A**	**2.79 39**	Pg		**Pb**	**13 29 25.9**	**-1.5**
DGRG	**David-gareji**	**2.86 9**	P		**Pg**	**13 29 30.9**	**-1.4**
DGRG			S		**Sg**	**13 30 09.4**	**0.0**
GLBA	**Clilabad**	**2.88 76**	Pg		**Pb**	**13 29 28.1**	**-0.8**
GLBA			Sg		**Sg**	**13 30 09.5**	**-0.6**
VSHL	**Vashlovani**	**2.89 25**	P		**Pb**	**13 29 28.6**	**-0.5**
VSHL			S		**Sg**	**13 30 12.5**	**+2.2**
KARO	**Karliova-Bingo**	**2.99 284**	Pn		**Pb**	**13 29 27.6**	**-3.3**
LKRN	**Lenkeran, Azer**	**3.13 87**	Pg		**Pb**	**13 29 31.5**	**-1.7**
LKRN			Sg		**Sg**	**13 30 17.4**	**-0.5**
ASTR	**Astara**	**3.14 90**	Pg		**Pb**	**13 29 31.6**	**-1.7**
ASTR			Sg		**Sg**	**13 30 18.1**	**-0.3**
SEKA	**Sheki**	**3.18 35**	Pg		**Pb**	**13 29 33.6**	**-0.6**
SEKA			Sg		**Sg**	**13 30 19.9**	**+0.2**
BNGB	**Bingl**	**3.23 278**	Pn		**Pb**	**13 29 30.6**	**+2.3**
QBL	**Gabala**	**3.31 44**	Pg		**Pb**	**13 29 33.8**	**-2.4**
QBL			Sg		**Sg**	**13 30 21.9**	**-1.8**
ZKTA	**Zakatala**	**3.33 24**	Pg		**Pb**	**13 29 35.6**	**-1.0**
ZKTA			Sg		**Sg**	**13 30 21.5**	**-2.8**
ALIG	**Mtskhetisjvari**	**3.59 346**	P		**Pb**	**13 29 42.3**	**+1.3**
MAZI	**Mazidag**	**3.61 253**	Pn		**Pn**	**13 29 35.6**	**+2.0**
XNQ	**Khinaliq**	**3.63 44**	Pg		**Pb**	**13 29 40.2**	**-1.6**
XNQ			Sg		**Sb**	**13 30 29.7**	**+3.7**
PQL	**Pirkuli**	**3.65 52**	Pg		**Pb**	**13 29 41.8**	**-0.4**
ATGJ	**Altiaghaj**	**3.91 54**	Pg		**Pb**	**13 29 46.2**	**-0.3**
SIZA	**Siyzn**	**4.01 51**	Pg		**Pb**	**13 29 49.7**	**+1.5**
SHTL	**Shatili**	**4.04 4**	P		**Pb**	**13 29 50.3**	**+1.5**
MTEO	**Meteo**	**4.06 357**	P		**Pg**	**13 29 54.2**	**-1.0**
PTK	**Pertek**	**4.22 275**	Pn		**Pn**	**13 29 45.3**	**+3.3**

*WEL **10** 13:36:36.2±1.9, 33°S±6°×17°7W±2°9, h12km, mB4.6/3, ML4.6/8, MLv4.3/5, Mw(mB)3.8/3, Error ellipse: s-maj=38.4km s-min=6.0km az=97.5, confirmed*
*IDC **10** 13:36:43.8±2.1, 31°55S×178°70W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=59.7km s-min=37.0km az=44.0*
ISC 10 13:36:37.0±1.7, **32°71S**±0°08×**177°4W**±0°2, **h10**km, **n21**, σ1§**26**/23, **mb3.9**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.46**	**353**	P	**Pn**	**13 37 30.7**	**-0.3**
GLKZ				S	**Sn**	**13 38 11.6**	**-0.5**
PKGZ	**Pakihiroa**	**6.33**	**214**	P	**Pn**	**13 38 11.0**	**+0.6**
HAZ	**Te Kaha**	**6.39**	**217**	P	**Pn**	**13 38 11.9**	**+0.7**
HAZ				S	**Sn**	**13 39 24.7**	**+0.6**
PUZ	**Puketiti**	**6.41**	**212**	P	**Pn**	**13 38 11.4**	**-0.2**
RUGZ	**Raukumara Rang**	**6.60**	**216**	P	**Pn**	**13 38 14.9**	**+0.6**
TWGZ	**Tauwhareparae**	**6.62**	**213**	P	**Pn**	**13 38 14.9**	**+0.4**
TWGZ				S	**Sn**	**13 39 29.6**	**-0.5**
CNGZ	**Carnagh Statio**	**6.78**	**211**	P	**Pn**	**13 38 16.8**	**+0.3**
MWZ	**Matawai**	**6.96**	**215**	P	**Pn**	**13 38 18.9**	**-0.3**
MWZ				S	**Sn**	**13 39 35.8**	**-2.6**
URZ	**Urewera**	**7.11**	**217**	P	**Pn**	**13 38 23.1**	**+2.0**
RIGZ	**Rimuhau**	**7.16**	**212**	P	**Pn**	**13 38 22.8**	**+1.0**
SNGZ	**Shannon Statio**	**7.41**	**214**	P	**Pn**	**13 38 27.4**	**+2.1**
RTZ	**Ruatahuna**	**7.45**	**216**	P	**Pn**	**13 38 27.0**	**+1.1**
MUGZ	**Murupara**	**7.45**	**218**	P	**Pn**	**13 38 25.6**	**-0.2**
RAHZ	**Arahi**	**7.64**	**214**	P	**Pn**	**13 38 30.4**	**+2.0**
OUZ	**Omahuta**	**7.88**	**249**	P	**Pn**	**13 38 33.3**	**+1.6**
BKZ	**Black Stump Fm**	**8.12**	**216**	P	**Pn**	**13 38 36.0**	**+1.0**
WNVZ	**Wahianoa**	**8.70**	**219**	P	Pn	13 38 51.9	+8.8
ASAR	**Alice Springs**	**43.53**	**269**	P	**P**	**13 44 40.1**	**-1.0**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=6.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.73**	**274**	P	**P**	**13 44 50.0**	**-0.7**
	0.6nm,0.3s,baz=113,slow=8.1,SNR=13						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**57.41**	**180**	P	P	13 46 41.9	+16
	2.0nm,1.0s,baz=60,slow=8.1,SNR=5.8						
	2.0nm,1.0s						
FINES	**FINESS Array B**	**147.48**	**339**	PKPbc	**PKiKP**	**13 56 24.2**	**+1.5**
	4.2nm,1.0s,baz=52,slow=3.4,SNR=6.4						

*IDC **10** 13:37:29.3±0.8, 10°03S×152°05E, h0km, mb4.0/11, mbtmp4.0/14, ML3.8/2, MS4.6/1, Error ellipse: s-maj=20.8km s-min=17.4km az=73.0*
*NEIC **10** 13:37:31.8±0.6, 10°22S±0°09×152°2E±0°1, h10km±1km, mb4.4/15, Error ellipse: s-maj=21.7km s-min=12.4km az=63.0*
ISC 10 13:37:31.2±0.7, **10°14S**±0°08×**152°0E**±0°1, **h10**km, **n35**, σ0§**87**/34, **mb4.1**/16, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**278**	Pn	**Pn**	**13 38 43.7**	**-0.8**
	13nm,0.8s,baz=66,slow=10,SNR=6.9						
PMG				Lg	Lg	13 40 03.9	
	1.5nm,0.3s,baz=77,slow=23,SNR=1.1						
RABL	**Rabaul**	**5.91**	**1**	Pn	**Pn**	**13 38 58.5**	**-0.3**
COEN	**Coen**	**9.47**	**245**	Pn	**Pn**	**13 39 47.6**	**-0.1**
EIDS	**Eidsvold**	**15.18**	**183**	Pn	**Pn**	**13 41 05.7**	**-0.1**
EIDS				IAmb	IAmb	13 41 20.3	
	comp=Z,8.2nm,0.9s						
DZM	**Mont Dzumac**	**18.21**	**132**	P	**Pn**	**13 41 44.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=104,slow=11,SNR=30						
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**19.50**	**238**	P	**Pn**	**13 41 59.4**	**-0.5**
WR0				IAmb	IAmb	13 42 12.9	
	comp=Z,16nm,1.1s						
WB0	**Warramunga Arr**	**19.54**	**239**	P	**Pn**	**13 41 59.9**	**-0.5**
WB0				IAmb	IAmb	13 42 13.9	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**19.65**	**238**	P	**P**	**13 42 00.8**	**+0.5**
WB2	**Warramunga Arr**	**19.65**	**238**	P	**P**	**13 42 01.0**	**+0.6**
WB2				IAmb	IAmb	13 42 18.3	
	comp=Z,8.9nm,0.9s						
WRA	**Warramunga Arr**	**19.66**	**238**	P	**P**	**13 42 01.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=64,slow=10,SNR=18						
	comp=Z,5.1nm,0.8s						
MTN	**Manton Dam**	**20.66**	**261**	P	**P**	**13 42 12.4**	**+1.1**
MTN				IAmb	IAmb	13 42 13.1	
	comp=Z,45nm,1.3s						
AS31	**Alice Springs**	**21.92**	**230**	P	**P**	**13 42 25.0**	**+0.1**
ASAR	**Alice Springs**	**21.92**	**230**	P	**P**	**13 42 24.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=57,slow=11,SNR=14						
	comp=Z,1.2nm,0.7s						
KNRA	**Kununurra**	**23.34**	**254**	P	**P**	**13 42 40.4**	**+0.5**
KNRA				IAmb	IAmb	13 43 04.5	
	comp=Z,35nm,1.4s						
STKA	**Stephens Creek**	**23.70**	**203**	P	**P**	**13 42 42.8**	**-0.5**
STKA	**Stephens Creek**	**23.70**	**203**	P	**P**	**13 42 42.5**	**-0.9**
	comp=Z,5.6nm,1.0s,baz=10,slow=9.3,SNR=3.1						
	comp=Z,5.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.77**	**250**	P	**P**	**13 43 11.9**	**+0.4**
RPZ	**Rata Peaks**	**37.31**	**157**	LR	LR	13 59 47.8	
	comp=Z,818nm,18.1s,baz=312,slow=36						
MJAR	**Matsushiro Arr**	**48.22**	**345**	P	**P**	**13 46 11.0**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=180,slow=9.3,SNR=2.5						
	comp=Z,1.9nm,0.9s						
KSRS	**Korea Array**	**52.46**	**336**	P	**P**	**13 46 43.2**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=153,slow=7.2,SNR=2.3						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**59.59**	**298**	P	**P**	**13 47 35.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=108,slow=4.9,SNR=4.0						
	comp=Z,0.3nm,0.3s						
XAN	**Xi'an**	**60.04**	**319**	P	**P**	**13 47 41.0**	**+2.4**
XAN				pP	pwP	13 47 57.4	+13
XAN				pmax	pmax		
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**67.56**	**178**	P	**P**	**13 48 28.3**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=344,slow=6.9,SNR=3.1						
	comp=Z,2.3nm,0.9s						
SONM	**Songino Array**	**70.45**	**329**	P	**P**	**13 48 46.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=144,slow=4.4,SNR=6.8						
	comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**13 49 39.4**	**-0.6**
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**13 49 41.1**	**+1.2**
	comp=Z,10nm,0.9s,baz=358,slow=1.7,SNR=25						
	comp=Z,10nm,0.9s						
MKAR	**Makanchi Array**	**83.85**	**320**	P	**P**	**13 50 01.7**	**+0.5**
MKAR	**Makanchi Array**	**83.85**	**320**	P	**P**	**13 50 00.5**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=111,slow=5.5,SNR=6.8						
	comp=Z,0.8nm,0.8s						
MAKZ	**Makanchi**	**84.06**	**320**	P	**P**	**13 50 03.1**	**+0.9**
MAKZ				IAmb	IAmb	13 50 16.6	
	comp=Z,4.2nm,1.2s						
F19K	**Shaleruckik Mo**	**84.90**	**18**	P	**P**	**13 50 07.0**	**+1.0**
F19K				IAmb	IAmb	13 50 49.6	
	comp=Z,5.3nm,1.4s						
ZALV	**Zalesovo Beam**	**85.16**	**327**	P	**P**	**13 50 06.6**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=98,slow=5.7,SNR=1.9						
	comp=Z,0.6nm,0.6s						
IL31		**87.35**	**22**	P	**P**	**13 50 18.7**	**+0.6**
IL31				IAmb	IAmb	13 50 59.5	
	comp=Z,9.9nm,1.4s						
ILAR	**Eielson Array**	**87.35**	**22**	P	**P**	**13 50 16.5**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=250,slow=4.1,SNR=7.9						
	comp=Z,0.9nm,0.8s						
C24K	**Franklin Bluff**	**89.33**	**17**	P	**P**	**13 50 28.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**150.81**	**279**	PKPbc	**PKPbc**	**13 57 24.4**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=100,slow=2.5,SNR=1.9						

*IDC **10** 13:51:53.5±1.1, 10°27S×152°46E, h0km, mb3.6/6, mbtmp3.7/8, ML2.9/2, MS4.0/2, Error ellipse: s-maj=32.7km s-min=22.7km az=102.0*
*NEIC **10** 13:51:56.6±1.0, 10°3S±0°1×152°3E±0°1, h10km±2km, mb4.4/12, Error ellipse: s-maj=23.2km s-min=16.3km az=113.0*
ISC 10 13:51:55.2±0.8, **10°30S**±0°09×**152°38E**±0°09, **h10**km, **n26**, σ1§**16**/25, **mb3.9**/8, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**279**	Pn	**Pn**	**13 53 15.9**	**+2.6**
	2.7nm,0.3s,baz=139,slow=6.7,SNR=7.5						
PMG				Sn	**Sb**	**13 54 30.5**	**+1.2**
	0.5nm,0.3s,baz=135,slow=0.6,SNR=1.5						
	30nm,0.8s						
RABL	**Rabaul**	**6.08**	**358**	Pn	**Pn**	**13 53 23.7**	**-1.5**
HNR	**Honiara**	**7.51**	**84**	LR	LR	13 56 30.3	
	comp=Z,557nm,21.9s,baz=266,slow=37						
COEN	**Coen**	**9.70**	**247**	Pn	**Pn**	**13 54 13.2**	**-1.8**
EIDS	**Eidsvold**	**15.03**	**185**	Pn	**Pn**	**13 55 27.4**	**-0.5**
EIDS				IAmb	IAmb	13 55 44.7	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**19.69**	**239**	P	**Pn**	**13 56 25.0**	**-1.3**
WR0				IAmb	IAmb	13 56 39.1	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**19.73**	**239**	P	**P**	**13 56 25.1**	**-0.2**
WB0				IAmb	IAmb	13 56 39.0	
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**19.84**	**239**	P	**P**	**13 56 25.9**	**-0.6**
WB2	**Warramunga Arr**	**19.85**	**239**	P	**Pn**	**13 56 26.5**	**-1.6**
WB2				IAmb	IAmb	13 56 26.8	
	comp=Z,24nm,1.5s						
WRA	**Warramunga Arr**	**19.86**	**239**	P	**Pn**	**13 56 26.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=64,slow=10.0,SNR=9.1						
	comp=Z,1.5nm,0.5s						
ARMA	**Armidale**	**20.03**	**182**	P	**P**	**13 56 28.6**	**+0.1**
MTN	**Manton Dam**	**20.96**	**261**	P	**P**	**13 56 38.1**	**-0.6**
MTN				IAmb	IAmb	13 56 38.9	
	comp=Z,42nm,1.4s						
FAKI	**Fak Fak**	**21.28**	**289**	P	**P**	**13 56 41.2**	**-0.9**
AS31	**Alice Springs**	**22.07**	**231**	P	**P**	**13 56 50.4**	**-0.1**
ASAR	**Alice Springs**	**22.07**	**231**	P	**P**	**13 56 50.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=61,slow=10,SNR=14						
	comp=Z,0.6nm,0.7s						
KNRA	**Kununurra**	**23.61**	**254**	P	**P**	**13 57 07.9**	**+1.3**
KNRA				IAmb	IAmb	13 57 44.4	
	comp=Z,22nm,1.3s						
STKA	**Stephens Creek**	**23.67**	**203**	P	**P**	**13 57 08.6**	**+1.5**
STKA	**Stephens Creek**	**23.67**	**203**	P	**P**	**13 57 07.3**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=5.9,slow=12,SNR=5.2						
	comp=Z,3.6nm,0.9s						
URZ	**Urewera**	**35.59**	**146**	LR	LR	14 12 20.2	
	comp=Z,600nm,18.7s,baz=1.0,slow=34						
CMAR	**Chiang Mai Arr**	**59.96**	**298**	P	**P**	**14 02 02.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=125,slow=6.1,SNR=4.3						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**70.77**	**329**	P	**P**	**14 03 11.5**	**-0.4**
	comp=Z,1.2nm,1.1s,baz=142,slow=5.8,SNR=6.1						
	comp=Z,1.2nm,1.1s						
QSPA	**South Pole Qui**	**79.69**	**180**	P	**P**	**14 04 04.7**	**+1.7**
QSPA	**South Pole Qui**	**79.69**	**180**	P	**P**	**14 04 03.6**	**+0.5**
	comp=Z,8.4nm,0.9s,baz=1.2,slow=1.1,SNR=12						
MKAR	**Makanchi Array**	**84.19**	**320**	P	**P**	**14 04 26.0**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=116,slow=5.5,SNR=4.2						
	comp=Z,0.5nm,0.9s						
ILAR	**Eielson Array**	**87.39**	**22**	P	**P**	**14 04 42.1**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=250,slow=4.8,SNR=5.8						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.16**	**279**	PKPbc	**PKiKP**	**14 11 50.8**	**+0.4**
	comp=Z,3.0nm,0.3s,baz=79,slow=3.1,SNR=3.7						

*SOME **10** 14:13:36.3, 42°12N×79°27E, h10km*
*KRNET **10** 14:13:36.6±0.1, 42°11N×79°18E, h11km, mb2.8*
*NNC **10** 14:13:38.1±0.8, 42°22N×79°25E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=5.7km s-min=3.6km az=151.0*
ISC 10 14:13:37.6±1.4, **42°15N**±0°05×**79°23E**±0°05, **h10**km, **n41**, σ1§**32**/69, **23C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.70**	**299**	⇑eP	**Pg**	**14 13 50.4**	**-0.8**
PRZ				⇑eS	**Sg**	**14 14 00.3**	**-0.1**
UZB	**Uzynbulak**	**1.01**	**352**	P	**Pg**	**14 13 55.7**	**-1.4**
	12nm,0.1s						
UZB				S	**Sg**	**14 14 09.7**	**-0.5**
	12nm,0.1s						
UZB	**Uzynbulak**	**1.01**	**352**	eP	**Pg**	**14 13 55.7**	**-1.4**
	12nm,0.1s						
UZB				eS	**Sg**	**14 14 09.8**	**-0.5**
	12nm,0.1s						
SHLS	**Shalkode**	**1.02**	**10**	P	**Pb**	**14 13 57.7**	**+0.1**
	13nm,0.1s						
SHLS				S	**Sn**	**14 14 13.0**	**+0.3**
	25nm,0.2s						
SHLS	**Shalkode**	**1.02**	**10**	eP	**Pb**	**14 13 57.7**	**+0.1**
	13nm,0.1s						
SHLS				eS	**Sn**	**14 14 13.0**	**+0.3**
	25nm,0.2s						
SATY	**Saty**	**1.09**	**327**	P	**Pg**	**14 13 57.6**	**-1.1**
	4.5nm,0.1s						
SATY				S	**Sg**	**14 14 12.9**	**0.0**
	34nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.14**	**249**	⇑iP	**Pg**	**14 13 57.6**	**-2.0**
TARG				⇑iS	**Sg**	**14 14 13.1**	**-1.3**
ZHN	**Zhinishke**	**1.18**	**331**	P	**Pb**	**14 13 59.0**	**-1.1**
	5.6nm,0.1s						
ZHN				S	**Sb**	**14 14 15.1**	**-0.4**
	22nm,0.2s						
ZHN	**Zhinishke**	**1.18**	**331**	eP	**Pb**	**14 13 59.0**	**-1.1**
	5.6nm,0.1s						
ZHN				eS	**Sb**	**14 14 15.1**	**-0.4**
	22nm,0.2s						
ANVS	**Anan'yevo**	**1.32**	**299**	⇑eP	**Pn**	**14 14 01.5**	**-0.8**
ANVS				⇑eS	**Sn**	**14 14 19.9**	**-0.1**
KPKS	**Kokpek**	**1.38**	**343**	P	**Pn**	**14 14 02.4**	**-0.7**
	5.3nm,0.1s						
KPKS				S	**Sb**	**14 14 21.0**	**-0.3**
	24nm,0.2s						
KPKS	**Kokpek**	**1.38**	**343**	eP	**Pn**	**14 14 02.4**	**-0.7**
	5.3nm,0.1s						
KPKS				eS	**Sb**	**14 14 21.0**	**-0.3**
	24nm,0.2s						
KDJ	**Kajisay**	**1.52**	**270**	⇑iP	**Pn**	**14 14 04.8**	**-0.3**
KDJ				⇑iS	**Sb**	**14 14 25.2**	**-0.3**
KURS	**Kuram**	**1.55**	**330**	P	**Pb**	**14 14 05.8**	**-0.6**
	4.7nm,0.1s						
KURS				S	**Sb**	**14 14 26.6**	**+0.5**
	4.8nm,0.2s						
KOTS	**Kotyrbulak**	**1.90**	**306**	P	**Pb**	**14 14 12.3**	**-0.2**
	7.4nm,0.2s						
KOTS				S	**Sg**	**14 14 37.8**	**-0.9**
	20nm,0.3s						
KOTS	**Kotyrbulak**	**1.90**	**306**	eP	**Pb**	**14 14 11.7**	**-0.8**
	6.0nm,0.1s						
KOTS				eS	**Sb**	**14 14 36.6**	**+0.2**
	20nm,0.2s						
TNSS	**Tian-Shan**	**1.90**	**299**	P	**Pb**	**14 14 12.1**	**-0.6**
	26nm,0.1s						
TNSS				S	**Sg**	**14 14 37.7**	**-1.2**
	23nm,0.2s						
TNSS	**Tian-Shan**	**1.90**	**299**	eP	**Pb**	**14 14 12.1**	**-0.6**
	26nm,0.1s						
TNSS				eS	**Sg**	**14 14 37.7**	**-1.2**
	23nm,0.2s						
KNOS	**Konyrlen**	**2.21**	**359**	Pg	**Pb**	**14 14 16.9**	**-0.9**
	11nm,0.2s						
KNOS				Lg	Lg	14 14 45.6	
	13nm,0.2s						
ULHL	**Ulahol**	**2.22**	**274**	⇑iP	**Pb**	**14 14 16.5**	**-1

JKUC *e*S **Sn** **14 40 21.5 -0.3**
JIZS Izushimoda 2.64 293 *e*P **Pn** **14 40 06.9 -0.8**
JOD2 Odawara 2 2.73 305 *e*P **Pn** **14 40 07.7 -1.3**
JYN Shimob 3.23 304 *e*P **Pn** **14 40 15.4 -0.6**
JRY Ryogami san 3.32 314 *e*P **Pn** **14 40 17.5 +0.5**
JAG Ashikaga 3.32 325 *e*P **Pn** **14 40 16.4 -0.6**
MJAR Matsushiro Arr 4.08 314 Pn **Pn** **14 40 27.7 +0.1**
0.3nm,0.3s,baz=136,slow=14,SNR=24
MJAR Sn **Sn** **14 41 15.5 +1.3**
0.3nm,0.3s,baz=121,slow=16,SNR=5.4
1.3nm,0.3s
ASAJ Asahikawa 10.39 3 Pn **Pn** **14 41 51.5 -2.5**
0.2nm,0.3s,baz=276,slow=3.9,SNR=1.7
2.7nm,0.7s
SONM Songino Array 30.02 309 P **P** **14 45 33.8 +0.7**
0.9nm,0.9s,baz=106,slow=8.8,SNR=4.3
0.9nm,0.9s
MKAR Makanchi Array 46.22 305 P **P** **14 47 49.9 +0.6**
0.3nm,0.4s,baz=84,slow=9.5,SNR=4.7
0.3nm,0.4s
KURBB Kurchatov Arra 48.35 310 P **P** **14 48 06.1 +0.4**
0.6nm,0.5s,baz=84,slow=8.0,SNR=6.5
0.6nm,0.5s
ILAR Eielson Array 52.12 31 P **P** **14 48 34.4 +0.3**
0.7nm,1.0s,baz=274,slow=8.3,SNR=4.7
0.7nm,1.0s
WRA Warramunga Arr 53.85 189 P **P** **14 48 47.4 +0.1**
0.3nm,0.3s,baz=4.0,slow=7.7,SNR=9.7
0.3nm,0.3s
ASAR Alice Springs 57.58 189 P **P** **14 49 13.6 -0.3**
0.4nm,1.0s,baz=3.1,slow=6.9,SNR=5.9
0.4nm,1.0s

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*IDC **10** 15:00:48.5±1.9,3.˙29S×90.˙28E, h0km, mb3.4/6, mbtmp3.5/7, ML4.7/2, Error ellipse: s-maj=49.8km s-min=22.0km az=56.0*
*NEIC **10** 15:00:50.2±0.5,3.˙3S±0.˙1×90.˙3E±0.˙1, h10km±2km, mb4.2/3, Error ellipse: s-maj=27.2km s-min=11.8km az=221.0*
ISC 10 15:00:49.5±1.3,3.˙3S±0.˙2×90.˙3E±0.˙1, h10km, n39, σ0°61/25, mb3.6/8, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**8.29**	**47**	P	Pn	15 02 58.6	+8.6
GSI	**Gunungsitoli**	**8.62**	**58**		**Pn**	**15 02 54.0**	**-0.5**
GSI	**Gunungsitoli**	**8.62**	**58**	P	**Pn**	**15 02 54.2**	**-0.2**
PBSI	**Pulau Batu**	**8.63**	**68**	P	**Pn**	**15 02 54.4**	**-0.2**
SISI	**Saibi**	**9.03**	**78**	P	**Pn**	**15 03 00.6**	**+0.5**
MNSI	**Mandailing Nat**	**10.16**	**67**	P	**Pn**	**15 03 14.5**	**-1.1**
RPSI	**Rantau Prapat**	**10.50**	**56**		**Pn**	**15 03 20.6**	**+0.4**
PPI	**Padang Panjang**	**10.51**	**75**	P	**Pn**	**15 03 19.5**	**-0.9**
0.1nm21nm,0.4s
PSI	**Prapat**	**10.56**	**55**	Pn	**Pn**	**15 03 20.4**	**-0.8**
2.1nm,0.3s,baz=224,slow=14,SNR=9.0
5.1nm,0.3s
LHMI	**Lhok Sumawe**	**10.78**	**38**	Pn	**Pn**	**15 03 23.8**	**-0.2**
LHMI	**Lhok Sumawe**	**10.78**	**38**	P	Pn	15 03 37.3	+13
115nm,1.2s
MNAI	**Manna**	**12.71**	**95**	Pn	**Pn**	**15 03 50.4**	**-0.1**
MNAI	**Manna**	**12.71**	**95**	P	Pn	15 04 03.9	+13
138nm,0.9s
IPM	**Ipoh**	**13.24**	**54**		**Pn**	**15 03 57.5**	**-0.2**
KULM	**Kulim**	**13.43**	**51**	Pn	**Pn**	**15 03 59.9**	**-0.4**
PALK	**Pallekele**	**14.18**	**318**	Pn	**Pn**	**15 04 10.0**	**-0.6**
8.4nm,0.3s,baz=130,slow=11,SNR=54
MYKOM	**Kota Tinggi**	**14.49**	**70**	Pn	**Pn**	**15 04 14.7**	**-0.2**
TNG	**Tangerang**	**16.58**	**101**	P	P	15 04 59.6	+15
TNG	**Tangerang**	**16.58**	**101**	P	P	15 04 59.5	+15
H08S2	**Diego Garcia H**	**18.21**	**256**	T	T	15 23 43.2
baz=77,slow=74,SNR=208
H08S3	**Diego Garcia H**	**18.21**	**256**	T	T	15 23 42.5
baz=77,slow=74,SNR=315
H08S1	**Diego Carcia H**	**18.22**	**256**	T	T	15 23 32.0
baz=77,slow=74,SNR=77
CMAR	**Chiang Mai Arr**	**23.24**	**21**	P	**P**	**15 05 57.9**	**+0.6**
0.7nm,0.5s,baz=218,slow=10,SNR=9.3
0.7nm,0.5s
H01W3	**Cape Leeuwin H**	**38.46**	**148**	T	T	15 48 40.6
baz=322,slow=74,SNR=4.9
H01W2	**Cape Leeuwin H**	**38.48**	**148**	T	T	15 48 43.1
baz=322,slow=74,SNR=5.1
H01W1	**Cape Leeuwin H**	**38.48**	**148**	T	T	15 48 44.7
baz=322,slow=74,SNR=5.8
WRA	**Warramunga Arr**	**46.05**	**115**	P	**P**	**15 09 14.1**	**+0.2**
0.5nm,0.9s,baz=285,slow=9.4,SNR=11
0.5nm,0.9s
WRAB	**Tennant Creek**	**46.05**	**115**	P	**P**	**15 09 14.2**	**+0.2**
WRAB IAmb IAmb 15 09 30.4
comp=Z,11nm,1.5s
WB2	**Warramunga Arr**	**46.06**	**115**	P	**P**	**15 09 14.0**	**0.0**
AS31	**Alice Springs**	**46.75**	**120**	P	**P**	**15 09 19.1**	**-0.4**
AS31 IAmb IAmb 15 09 42.6
comp=Z,1.5nm,1.4s
ASAR	**Alice Springs**	**46.75**	**120**	P	**P**	**15 09 18.5**	**-0.9**
ASAR	**Alice Springs**	**46.75**	**120**	P	**P**	**15 09 19.8**	**+0.4**
comp=Z,0.6nm,0.9s,baz=293,slow=8.1,SNR=8.2
comp=Z,0.6nm,0.9s
MKAR	**Makanchi Array**	**50.36**	**353**	P	**P**	**15 09 46.5**	**-0.3**
comp=Z,0.2nm,0.6s,baz=187,slow=11,SNR=3.5
comp=Z,0.2nm,0.6s
SONM	**Songino Array**	**52.84**	**14**	P	**P**	**15 10 05.6**	**+0.1**
comp=Z,0.3nm,0.4s,baz=187,slow=3.8,SNR=2.0
comp=Z,0.3nm,0.4s
H04N2	**CROZET ISLANDS**	**54.25**	**212**	T	T	16 08 38.4
baz=50,slow=75,SNR=9.9
H04N1	**CROZET ISLANDS**	**54.26**	**212**	T	T	16 08 50.9
baz=50,slow=75,SNR=9.0
H04N3	**CROZET ISLANDS**	**54.26**	**212**	T	T	16 08 57.3
baz=50,slow=75,SNR=9.0
BVAR	**Borovoye Array**	**58.55**	**346**	P	**P**	**15 10 47.8**	**+1.6**
comp=Z,0.2nm,0.5s,baz=156,slow=7.3,SNR=1.8
comp=Z,0.2nm,0.5s
ABKAR	**Akbulak array**	**58.56**	**337**	P	**P**	**15 10 46.3**	**-0.1**

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*NEIC **10** 15:21:17.7±2.3,21.˚05S±0.˚1×176.˚38W±0.˚09, h217km±8km, mb4.5/45, Error ellipse: s-maj=17.0km s-min=12.2km az=170.0*
*IDC **10** 15:21:21.4±2.0,20.˚75S×176.˚62W, h251km±17km, mb3.8/18, mbtmp4.4/19, Error ellipse: s-maj=15.1km s-min=12.4km az=137.0*
ISC 10 15:21:17.4±0.3,20.˚88S±0.˚07×176.˚40W±0.˚07, h219km, n162, σ1°26/157, mb4.4/45, 32C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.10**	**300**	Pn	**Pn**	**15 22 49.1**	**+2.7**
MSVF	**Nonsavu**	**6.10**	**300**	P	**Pn**	**15 22 48.6**	**+2.1**
17nm,0.5s,baz=134,slow=7.9,SNR=37
NIUE	**Niue**	**6.35**	**75**	Pn	**Pn**	**15 22 49.5**	**0.0**
FUTU	**Fugatoga**	**6.74**	**346**		**Pn**	**15 22 55.7**	**+1.1**
AFI	**Afiamalu**	**8.22**	**33**	Pn	**Pn**	**15 23 10.6**	**-3.1**
FUNA	**Funafuti**	**13.00**	**340**	Pn	**Pn**	**15 24 15.2**	**+0.8**
RAR	**Rarotonga**	**15.53**	**94**		**P**	**15 24 43.1**	**-1.9**
DZM	**Mont Dzumac**	**16.01**	**263**	Pn	**Pn**	**15 24 54.2**	**+3.0**
DZM	**Mont Dzumac**	**16.01**	**263**	P	**Pn**	**15 24 54.1**	**+2.9**
39nm,0.8s,baz=103,slow=14,SNR=27
URZ	**Urewera**	**18.20**	**197**	S	**S**	**15 28 28.3**	**-2.5**
8.4nm,0.6s,baz=154,slow=21,SNR=5.7
EIDS	**Eidsvold**	**30.19**	**255**	P	**P**	**15 27 08.2**	**+0.7**
EIDS IAmb IAmb 15 27 27.6
comp=Z,13nm,1.4s
ARMA	**Armidale**	**30.25**	**245**	P	**P**	**15 27 08.9**	**+0.8**
ARMA IAmb IAmb 15 27 36.7
comp=Z,18nm,1.4s
TOO	**Toolangi**	**36.89**	**235**	P	**P**	**15 28 04.7**	**-0.4**
STKA	**Stephens Creek**	**38.97**	**245**	P	**P**	**15 28 22.4**	**-0.3**
STKA	**Stephens Creek**	**38.97**	**245**	P	**P**	**15 28 22.4**	**-0.3**
comp=Z,4.9nm,0.7s,baz=99,slow=10,SNR=14
comp=Z,4.9nm,0.7s
COEN	**Coen**	**39.10**	**273**	P	**P**	**15 28 23.7**	**-0.1**
COEN IAmb IAmb 15 28 55.9
comp=Z,13nm,1.1s
BBOO	**Buckleboo**	**43.72**	**244**	P	**P**	**15 28 59.9**	**-1.3**
BBOO IAmb IAmb 15 29 05.7
comp=Z,18nm,1.5s
JAY	**Jayapura**	**45.58**	**288**	P	**P**	**15 29 15.3**	**-0.8**
comp=Z,25nm,0.6s,baz=156,slow=6.5,SNR=12
comp=Z,25nm,0.6s
WR0	**Warramunga Arr**	**45.84**	**262**	P	**P**	**15 29 16.5**	**-1.5**
AS31	**Alice Springs**	**45.89**	**257**	P	**P**	**15 29 17.2**	**-1.2**
ASAR	**Alice Springs**	**45.89**	**257**	P	**P**	**15 29 16.6**	**-1.8**
ASAR	**Alice Springs**	**45.89**	**257**	P	**P**	**15 29 17.3**	**-1.1**
comp=Z,5.0nm,0.7s,baz=82,slow=8.5,SNR=99
ASAR PcP **PcP** **15 30 51.0 -0.7**
comp=Z,0.9nm,0.6s,baz=100,slow=4.6,SNR=5.8
ASAR ScP **ScP** **15 34 22.7 -1.2**
comp=Z,0.5nm,0.9s,baz=111,slow=3.0,SNR=4.6
ASAR S **S** **15 35 39.2 -6.9**
comp=Z,0.2nm,0.6s,baz=95,slow=14,SNR=2.0
comp=Z,5.0nm,0.7s
WB0	**Warramunga Arr**	**46.01**	**262**	P	**P**	**15 29 17.9**	**-1.5**
WB0 IAmb IAmb 15 29 18.5
comp=Z,8.4nm,0.6s
WB2	**Warramunga Arr**	**46.02**	**262**	P	**P**	**15 29 17.9**	**-1.5**
WRAB	**Tennant Creek**	**46.02**	**262**	P	**P**	**15 29 17.9**	**-1.6**
WRA	**Warramunga Arr**	**46.03**	**262**	P	**P**	**15 29 18.1**	**-1.5**
comp=Z,2.6nm,0.5s,baz=94,slow=7.7,SNR=108
WRA PcP **PcP** **15 30 51.3 -1.0**
comp=Z,0.5nm,0.6s,baz=92,slow=3.0,SNR=1.7
WRA ScP **ScP** **15 34 19.9 -4.6**
comp=Z,0.8nm,1.0s,baz=96,slow=4.4,SNR=2.6
comp=Z,2.6nm,0.5s
FORT	**Forrest**	**50.52**	**247**	P	**P**	**15 29 52.0**	**-1.6**
FORT IAmb IAmb 15 29 56.1
comp=Z,14nm,0.9s
MTN	**Manton Dam**	**50.66**	**270**	P	**P**	**15 29 53.9**	**-1.0**
MTN IAmb IAmb 15 29 54.9
comp=Z,30nm,1.1s
KNRA	**Kununurra**	**52.12**	**266**	P	**P**	**15 30 05.0**	**-0.8**
KNRA IAmb IAmb 15 30 07.0
comp=Z,22nm,1.2s
FAKI	**Fak Fak**	**53.04**	**283**	P	**P**	**15 30 12.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**54.46**	**262**	P	**P**	**15 30 23.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**54.46**	**262**	P	**P**	**15 30 23.1**	**+0.4**
comp=Z,1.1nm,0.3s,baz=1.4,slow=3.7,SNR=13
comp=Z,1.1nm,0.3s
SBA	**Scott Base**	**57.59**	**184**	P	**P**	**15 30 47.6**	**+3.7**
VNDA	**Vanda**	**57.67**	**185**	P	**P**	**15 30 47.6**	**+3.1**
comp=Z,2.2nm,0.7s,baz=8.0,slow=9.8,SNR=2.3
comp=Z,2.2nm,0.7s
SOEI	**Soe**	**58.01**	**271**	P	**P**	**15 30 48.8**	**+0.8**
CASY	**Casey**	**64.26**	**205**	P	**P**	**15 31 29.1**	**+0.3**
CASY IAmb IAmb 15 31 53.4
comp=Z,16nm,1.1s
TOLI2	**Tolitoli**	**65.15**	**281**	P	**P**	**15 31 35.9**	**+0.4**
TOLI2 IAmb IAmb 15 31 40.6
comp=Z,13nm,1.4s
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**15 32 01.8**	**+1.7**
comp=Z,7.6nm,0.7s,baz=26,slow=0.5,SNR=42
comp=Z,7.6nm,0.7s
MJAR	**Matsushiro Arr**	**71.41**	**323**	P	**P**	**15 32 13.5**	**-0.4**
comp=Z,1.9nm,0.7s,baz=168,slow=5.6,SNR=8.8
comp=Z,1.9nm,0.7s
CMB	**Columbia Colle**	**78.74**	**42**	P	**P**	**15 32 56.7**	**+1.0**
BELA	**Belgrano 2**	**78.98**	**172**	P	**P**	**15 32 56.2**	**-0.2**
BELA IAmb IAmb 15 32 58.3
comp=Z,11nm,0.9s
NVAR	**Mina Array Bea**	**80.28**	**43**	P	**P**	**15 33 05.2**	**+0.9**
NVAR	**Mina Array Bea**	**80.28**	**43**	P	**P**	**15 33 05.8**	**+1.5**
comp=Z,1.6nm,0.7s,baz=229,slow=9.4,SNR=11
comp=Z,1.6nm,0.7s
NJ2	**Nanjing**	**81.28**	**309**	*e*P	**P**	**15 33 10.5**	**+1.2**
NJ2 pmax pmax
comp=Z,17nm,0.6s
J05D	**Fort Rock, OR**	**81.49**	**37**	P	**P**	**15 33 12.2**	**+1.7**
J05D IAmb IAmb 15 33 13.3
comp=Z,11nm,0.9s
MAW	**Mawson**	**81.71**	**199**	P	**P**	**15 33 10.3**	**-0.7**
comp=Z,23nm,1.0s,baz=150,slow=14,SNR=1.7
comp=Z,23nm,1.0s
PINE	**Pine Mountain**	**81.98**	**37**	IAmb	IAmb	15 33 16.0
comp=Z,14nm,1.1s
X16A	**Lo Mia Camp, P**	**82.66**	**49**	IAmb	IAmb	15 33 20.1
comp=Z,4.8nm,0.8s
I07A	**Izee**	**82.97**	**37**	IAmb	IAmb	15 33 20.8
comp=Z,7.5nm,1.1s
U15A	**North Rim**	**83.12**	**47**	IAmb	IAmb	15 33 22.4
comp=Z,7.6nm,0.8s
ELK	**Elko**	**83.55**	**42**	P	**P**	**15 33 22.3**	**+1.0**
K15K	**Wolf Creek Mou**	**83.73**	**7**	P	**P**	**15 33 22.6**	**+1.3**
E07A	**Sunnyside**	**84.31**	**35**	IAmb	IAmb	15 33 27.2
comp=Z,8.5nm,0.9s
HAWA	**Hanford**	**84.38**	**36**	IAmb	IAmb	15 33 27.6
comp=Z,11nm,1.2s
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**15 33 34.9**	**+1.3**
comp=Z,1.8nm,1.0s,baz=217,slow=7.9,SNR=10
comp=Z,1.8nm,1.0s
ELIB	**Princess Elisa**	**86.43**	**186**	*d*P	**P**	**15 33 35.3**	**+0.4**
comp=Z,6.8nm,0.8s
SYO	**Syowa Base**	**86.68**	**192⇑**	*e*P	**P**	**15 33 34.8**	**-1.2**
TROLL	**Troll, Antarti**	**87.35**	**180**	⇓P	**P**	**15 33 39.9**	**+0.5**
comp=Z,343nm,0.6s
SNAA	**Sanae**	**87.58**	**178**	⇓P	**P**	**15 33 40.9**	**+0.5**
comp=Z,112nm,1.2s
SNAA	**Sanae**	**87.58**	**178**	P	**P**	**15 33 40.7**	**+0.3**
comp=Z,4.4nm,1.0s,baz=280,slow=6.1,SNR=2.2
comp=Z,4.4nm,1.0s
PLCA	**Paso Flores**	**87.92**	**133**	P	**P**	**15 33 44.0**	**+1.3**
comp=Z,0.8nm,0.6s,baz=275,slow=11,SNR=1.5
comp=Z,0.8nm,0.6s
VNA2	**Neumayer--Watz**	**88.11**	**176**	⇓P	**P**	**15 33 43.6**	**+0.8**
comp=Z,11nm,0.6s,baz=177,slow=4.3
PDAR	**Pinedale Array**	**88.22**	**43**	P	**P**	**15 33 45.0**	**+1.0**
comp=Z,0.4nm,0.6s,baz=209,slow=3.6,SNR=5.5
comp=Z,0.4nm,0.6s
YHL	**Hebgen Lake**	**88.30**	**40**	P	**P**	**15 33 44.6**	**+0.2**
YHL IAmb IAmb 15 33 47.4
comp=Z,6.1nm,0.9s
IL31		**88.36**	**12**	P	**P**	**15 33 43.2**	**-0.6**
IL31 IAmb IAmb 15 33 58.2
comp=Z,4.4nm,1.1s
ILAR	**Eielson Array**	**88.36**	**12**	P	**P**	**15 33 43.4**	**-0.5**
comp=Z,0.9nm,0.4s,baz=210,slow=5.5,SNR=47
comp=Z,0.9nm,0.4s
J26L	**Joseph Creek**	**88.82**	**14**	IAmb	IAmb	15 33 48.0
comp=Z,9.2nm,1.0s
E22K	**Anaktuvuk Pass**	**90.58**	**9**	P	**P**	**15 33 54.5**	**+0.3**
E22K IAmb IAmb 15 33 56.0
comp=Z,10.0nm,1.4s
HHC	**Hu-ho-hao-te**	**90.69**	**314**	*e*P	**P**	**15 33 56.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**91.65**	**289**	P	**P**	**15 34 00.8**	**+0.6**
comp=Z,0.9nm,0.9s,baz=112,slow=3.3,SNR=5.9
comp=Z,0.9nm,0.9s
PZH	**PanZhiHua**	**92.21**	**297**	P	**P**	**15 34 04.5**	**+1.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,4.5s
F31M	**Tsiigehtchic**	**93.53**	**15**	P	**P**	**15 34 08.1**	**+0.4**
LZH	**Lanzhou**	**94.19**	**307**	*e*P	**P**	**15 34 13.7**	**+1.9**
LZH pmax pmax
comp=Z,18nm,1.1s
YKA	**Yellowknife Ar**	**96.24**	**24**	P	**P**	**15 34 20.3**	**+0.1**
comp=Z,0.3nm,0.6s,baz=239,slow=5.0,SNR=6.7
comp=Z,0.3nm,0.6s
SONM	**Songino Array**	**97.03**	**319**	P	**P**	**15 34 23.6**	**-0.7**
comp=Z,0.3nm,0.5s,baz=124,slow=0.5,SNR=1.9
comp=Z,0.3nm,0.5s
ZALV	**Zalesovo Beam**	**111.73**	**321**	PKiKP	**PKiKP**	**15 39 24.4**	**-1.3**
comp=Z,1.9nm,0.5s,baz=96,slow=1.5,SNR=10
MKAR	**Makanchi Array**	**112.55**	**313**	PKiKP	**PKiKP**	**15 39 26.1**	**-1.5**
comp=Z,1.4nm,0.6s,baz=226,slow=0.8,SNR=28
KURBB	**Kurchatov Arra**	**115.34**	**317**	PKP	**PKPdf**	**15 39 31.3**	**-1.4**
comp=Z,3.2nm,0.2s,baz=112,slow=1.7,SNR=11
BVAR	**Borovoye Array**	**120.33**	**320**	PKP	**PKPdf**	**15 39 41.5**	**-0.8**
comp=Z,6.0nm,0.4s,baz=110,slow=0.9,SNR=42
ARTI	**Arti**	**126.47**	**326**	PKP	**PKPdf**	**15 39 53.1**	**-0.8**
comp=Z,7.4nm,0.8s,baz=36,slow=3.3,SNR=8.9
BOSA	**Boshof**	**126.53**	**204**	PKP	**PKiKP**	**15 39 55.8**	**+0.2**
comp=Z,1.9nm,0.7s,baz=110,slow=2.6,SNR=4.5
ARCES	**ARCESS Array B**	**129.56**	**350**	PKP	**PKPdf**	**15 39 58.9**	**-0.5**
comp=Z,2.1nm,0.5s,baz=80,slow=1.4,SNR=22
KIRV	**Kirov**	**130.03**	**331**	PKP	**PKPdf**	**15 40 00.7**	**+0.1**
comp=Z,5.6nm,0.6s,baz=41,slow=2.4,SNR=3.5
FINES	**FINESS Array B**	**136.55**	**345**	PKhKP	PKPpre	15 40 01.5
comp=Z,0.8nm,0.3s,baz=20,slow=4.4,SNR=4.5
FINES PKP **PKPdf** **15 40 09.8 -2.9**
comp=Z,1.7nm,0.5s,baz=29,slow=3.2,SNR=7.0
NB2	**NORSAR Subarra**	**139.52**	**354**	PKP	PKPpre	15 40 11.6
comp=Z,2.8nm,0.9s,baz=15,slow=3.8
NOA	**NORSAR Array B**	**139.52**	**354**	PKhKP	PKPpre	15 40 10.3
comp=Z,0.4nm,0.7s,baz=9.6,slow=3.9,SNR=3.4
NOA PKP **PKiKP** **15 40 19.8 -1.0**
comp=Z,0.7nm,0.7s,baz=15,slow=3.8,SNR=4.2
HFS	**Hagfors**	**140.14**	**352**	PKhKP	PKPpre	15 40 10.7
comp=Z,2.3nm,0.4s,baz=77,slow=3.1,SNR=26
NACGM	**Naroch**	**141.79**	**338**	*e*PKP	**PKPdf**	**15 40 22.7**	**+0.1**
baz=36
AKASG	**Malin Array Be**	**144.06**	**332**	PKP	**PKPab**	**15 40 23.6**	**-1.2**
comp=Z,2.7nm,0.5s,baz=45,slow=4.4,SNR=27
KIEV	**Kiev**	**144.07**	**332**	⇑P	**PKPab**	**15 40 23.3**	**-1.5**
RNPP9	**Sopachiv**	**144.90**	**336**	PKP	PKPbc	15 40 27.2	-0.6
RNPP8	**Varash**	**144.97**	**336**	PKP	PKPbc	15 40 27.4	-0.6
EKA	**Eskdalemuir Ar**	**145.23**	**7**	PKPbc	**PKPdf**	**15 40 27.9**	**-0.7**
comp=Z,1.2nm,0.4s,baz=336,slow=2.6,SNR=16
LUBAR	**Lubar, Ukraine**	**145.27**	**332**	PKP	**PKPdf**	**15 40 27.7**	**-1.1**
SORM	**Soroca**	**146.30**	**330**	⇑P	**PKPbc**	**15 40 31.7**	**-0.5**
BEL	**Belsk**	**146.33**	**341**	*e*PKP	**PKPbc**	**15 40 32.7**	**+0.6**
OJC	**Ojcow**	**148.04**	**340**	*e*PKP	**PKPbc**	**15 40 36.8**	**0.0**
BURAR	**Bucovina Array**	**148.12**	**332**	⇑P	**PKPbc**	**15 40 37.1**	**-0.2**
BRTR	**Keskin Array B**	**148.20**	**313**	PKPbc	**PKPbc**	**15 40 36.8**	**-1.0**
comp=Z,1.9nm,0.6s,baz=140,slow=5.1,SNR=11
KOLS	**Kolonicke sedl**	**148.28**	**336**	*e*PKP	**PKPbc**	**15 40 37.3**	**-0.2**
KSP	**Ksiaz**	**148.47**	**345**	*e*PKP	**PKPbc**	**15 40 38.4**	**+0.4**
NIE	**Niedzica**	**148.57**	**339**	*e*PKP	**PKPbc**	**15 40 38.8**	**+0.4**
VRI	**Vrincioaia**	**148.69**	**328**	⇑P	**PKiKP**	**15 40 39.5**	**-0.5**
OSTC	**Ostas**	**148.76**	**344⇑**	*e*PKP	**PKPbc**	**15 40 39.3**	**+0.6**
CHVC	**Chvalec**	**148.77**	**345⇑**	*e*PKP	**PKPbc**	**15 40 39.2**	**+0.4**
UPC	**Upice**	**148.85**	**345⇑**	*e*PKP	**PKPbc**	**15 40 39.1**	**+0.1**
STEB	**Steborice**	**148.91**	**342⇑**	*e*PKP	**PKPbc**	**15 40 39.5**	**+0.4**
DPC	**Dobruska-Polom**	**148.92**	**344⇑**	*e*PKP	**PKPbc**	**15 40 39.7**	**+0.5**
BRG	**Berggiesshubel**	**148.98**	**347**	*i* PKP	**PKPbc**	**15 40 39.6**	**+0.3**
BRG Amp 15 40 40.1
comp=Z,13nm,0.5s
KRLC	**Kraliky**	**149.05**	**343⇑**	*e*PKP	**PKPbc**	**15 40 39.7**	**+0.2**
LANS	**Liptovska Anna**	**149.08**	**340**	*e*PKP	**PKiKP**	**15 40 40.7**	**0.0**
MORC	**Moravsky Berou**	**149.11**	**342**	*e*PKP	**PKPbc**	**15 40 39.5**	**-0.2**
MORC	**Moravsky Berou**	**149.11**	**342**	⇓P	**PKPbc**	**15 40 40.2**	**+0.5**
PVCC	**Panska Ves**	**149.17**	**346⇑**	*e*PKP	**PKPbc**	**15 40 40.2**	**+0.5**
DOPR	**Dopca**	**149.27**	**330**	⇑P	**PKPbc**	**15 40 40.6**	**+0.4**
MMAI	**Mount Meron Ar**	**149.30**	**300**	PKPbc	**PKPbc**	**15 40 40.5**	**-0.2**
comp=Z,2.3nm,0.5s,baz=58,slow=5.4,SNR=7.4
HSKC	**Hora Svate Kat**	**149.34**	**348⇑**	*e*PKP	**PKPbc**	**15 40 40.3**	**+0.1**
MLR	**Muntele Rosu**	**149.34**	**328**	⇑P	**PKPbc**	**15 40 40.8**	**+0.3**
MAUC	**Maruska**	**149.40**	**342⇑**	*e*PKP	**PKiKP**	**15 40 41.0**	**-0.4**
PRU	**Pruhonice**	**149.69**	**346⇑**	*e*PKP	**PKPbc**	**15 40 40.9**	**-0.1**
GOPC	**GO Pecny, Ondr**	**149.70**	**346⇑**	*e*PKP	**PKPbc**	**15 40 41.5**	**+0.4**
VRAC	**Vranov**	**149.80**	**343**	PKPbc	**PKPbc**	**15 40 41.2**	**-0.2**
comp=Z,6.0nm,0.7s,baz=80,slow=1.7,SNR=8.2
VRAC	**Vranov**	**149.80**	**343**	*e*PKP	**PKPbc**	**15 40 41.4**	**+0.1**
VRAC	**Vranov**	**149.80**	**343**	⇑P	**PKPbc**	**15 40 41.7**	**+0.4**
VOIR		**149.82**	**329**	⇑P	**PKPbc**	**15 40 41.8**	**+0.2**
DRGR		**149.83**	**333**	⇓P	**PKPbc**	**15 40 41.6**	**0.0**
VYHS	**Vyhne**	**149.85**	**340**	*e*PKP	**PKPdf**	**15 40 37.0**	**+0.5**
JAVC	**Velka Javorina**	**149.90**	**341**	*e*PKP	**PKiKP**	**15 40 42.7**	**+0.2**
PSZ	**Piszkesteto**	**149.99**	**338**	⇑P	**PKiKP**	**15 40 42.3**	**-0.4**
ARR	**Arges**	**150.07**	**330**	⇑P	**PKPdf**	**15 40 37.7**	**+0.7**
KRUC	**Moravsky**	**150.08**	**343**	*e*PKP	**PKPbc**	**15 40 42.0**	**0.0**
TREC	**Trest**	**150.10**	**344⇑**	*e*PKP	**PKPbc**	**15 40 42.3**	**+0.2**
ZVC	**Zvikov**	**150.28**	**346⇑**	*e*PKP	**PKiKP**	**15 40 42.9**	**-0.3**
MODS	**Modra-Piesok**	**150.45**	**341**	*e*PKP	**PKiKP**	**15 40 43.3**	**-0.3**
KHC	**Kasperske Hory**	**150.71**	**347⇑**	*e*PKP	**PKPbc**	**15 40 43.7**	**+0.2**
CKRC	**Cesky Krumlov**	**150.83**	**345⇑**	*e*PKP	**PKiKP**	**15 40 44.2**	**-0.2**
GZR	**Gura Zlata**	**150.90**	**332**	⇑P	**PKPbc**	**15 40 43.6**	**-0.5**
SURR	**Surduc**	**150.90**	**333**	⇓P	**PKPbc**	**15 40 43.9**	**-0.1**
GERES	**GERESS Array B**	**150.95**	**346**	PKPbc	**PKPbc**	**15 40 42.7**	**-1.5**
comp=Z,9.7nm,1.0s,baz=5.7,slow=1.0,SNR=4.4
BZS	**Buzias**	**151.23**	**333**	⇑P	**PKPbc**	**15 40 44.6**	**-0.2**
CONA	**Conrad Observa**	**151.26**	**343**	*i* PKP	**PKiKP**	**15 40 45.1**	**-0.2**
comp=Z,6.5nm,0.6s
SRE	**Strehaia**	**151.27**	**330**	⇑P	**PKiKP**	**15 40 45.5**	**+0.1**
RONA	**Rosalia, Austr**	**151.34**	**342**	*i* PKP	**PKPbc**	**15 40 45.2**	**+0.1**
comp=Z,9.9nm,0.4s,SNR=8.3
HERR	**Herculane**	**151.46**	**331**	⇑P	**PKPbc**	**15 40 45.0**	**-0.4**
MOA	**Molln**	**151.75**	**345**	*i* PKP	**PKPbc**	**15 40 45.7**	**-0.2**
comp=Z,2.7nm,0.4s
MDVR	**Moldovita**	**151.85**	**332**	⇑P	**PKPbc**	**15 40 45.9**	**-0.4**
MORH	**Mrgy, Hungar**	**151.89**	**338**	⇑P	**PKPbc**	**15 40 46.0**	**-0.3**
ARSA	**Arzberg**	**151.97**	**343**	*i* PKP	**PKPbc**	**15 40 46.0**	**-0.4**
comp=Z,0.9nm,0.4s
BIOA	**Bad Ischl, Aus**	**152.05**	**345**	*i* PKP	**PKPbc**	**15 40 46.1**	**-0.6**
comp=Z,1.9nm,0.3s
LESA	**Schwarzleotal**	**152.52**	**347**	*e*PKP	**PKPbc**	**15 40 47.3**	**-0.5**
comp=Z,2.8nm,0.4s
SOKA	**Soboth**	**152.63**	**343**	*e*PKP	**PKPbc**	**15 40 47.3**	**-0.7**
comp=Z,1.6nm,0.5s
KBA	**Koelnbreinsper**	**152.69**	**345**	*i* PKP	**PKPbc**	**15 40 47.5**	**-0.7**
comp=Z,4.4nm,0.5s
BOVS	**Bovan**	**152.75**	**330**	⇓P	**PKPbc**	**15 40 47.9**	**-0.3**
WATA	**Walderalm**	**152.83**	**348**	*e*PKP	**PKPbc**	**15 40 48.1**	**-0.5**
comp=Z,4.6nm,0.6s,SNR=4.8
RETA	**Reutte**	**152.83**	**349**	*i* PKP	**PKPbc**	**15 40 48.1**	**-0.3**
comp=Z,0.7nm,0.4s
WTTA	**Wattenberg**	**152.89**	**348**	*i* PKP	**PKPbc**	**15 40 48.6**	**-

FAKI IAmb IAmb 15 58 53.8
comp=Z,86nm,1.4s
AS31 Alice Springs 21.84 230 P **P** **15 58 58.7 -0.5**
ASAR Alice Springs 21.84 230 P **P** **15 58 58.6 -0.7**
ASAR Alice Springs 21.84 230 P **P** **15 58 58.9 -0.4**
comp=Z,1.9nm,0.7s,baz=59,slow=9.9,SNR=43
comp=Z,1.9nm,0.7s
KNRA Kununurra 23.20 254 P **P** **15 59 13.5 -0.2**
KNRA IAmb IAmb 15 59 40.3
comp=Z,48nm,1.4s
STKA Stephens Creek 23.69 202 P **P** **15 59 17.8 -0.7**
STKA IAmb IAmb 15 59 19.1
comp=Z,78nm,1.4s
STKA Stephens Creek 23.69 202 P **P** **15 59 17.6 -0.9**
comp=Z,5.1nm,1.0s,baz=27,slow=12,SNR=6.6
STKA LR LR 16 08 32.1
comp=Z,497nm,20.0s,baz=21,slow=37
comp=Z,5.1nm,1.0s
GUMO Guam 24.52 343 LR LR 16 07 02.8
comp=Z,268nm,21.3s,baz=178,slow=32
FORT Forrest 30.25 224 P **P** **16 00 16.9 -0.7**
FORT IAmb IAmb 16 00 18.0
comp=Z,18nm,0.9s
DAV Davao City (W) 31.25 302 LR LR 16 13 11.4
comp=Z,170nm,21.2s,baz=105,slow=37
KAPI Kappang 32.23 277 LR LR 16 15 44.2
comp=Z,136nm,20.5s,baz=94,slow=40
TOLI2 Tolitoli 32.89 288 P **P** **16 00 40.9 -0.1**
TOLI2 IAmb IAmb 16 00 42.2
comp=Z,22nm,1.2s
URZ Urewera 36.05 145 LR LR 16 13 43.6
comp=Z,541nm,19.9s,baz=54,slow=33
RPZ Rata Peaks 37.42 157 LR LR 16 15 09.4
comp=Z,682nm,19.2s,baz=322,slow=34
ODZ Otahua Downs 38.41 158 P **P** **16 01 28.0 0.0**
ODZ IAmb IAmb 16 02 30.2
comp=Z,61nm,1.5s
JOW Kunigami 43.26 329 LR LR 16 16 11.4
comp=Z,205nm,21.4s,baz=285,slow=31
JNU Nakatsue 47.39 336 LR LR 16 21 43.8
comp=Z,56nm,19.3s,baz=160,slow=35
JGF Kuroka 47.46 344 P **P** **16 02 41.6 +0.1**
MJAR Matsushiro Arr 48.12 345 P **P** **16 02 45.4 -1.2**
comp=Z,7.3nm,1.0s,baz=157,slow=8.4,SNR=7.0
comp=Z,7.3nm,1.0s
KSRS Korea Array 52.34 336 P **P** **16 03 17.2 -1.4**
comp=Z,1.8nm,1.0s,baz=156,slow=9.3,SNR=4.2
KSRS LR LR 16 23 35.3
comp=Z,71nm,21.3s,baz=170,slow=34
comp=Z,1.8nm,1.0s
NJ2 Nanjing 52.46 324 *e*P **P** **16 03 22.6 +3.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
KULM Kulim 53.26 284 P **P** **16 03 24.5 -1.4**
KULM IAmb IAmb 16 05 16.8
comp=Z,27nm,1.4s
ASAJ Asahikawa 54.59 352 P **P** **16 03 35.0 +0.1**
comp=Z,12nm,1.1s,baz=212,slow=7.3,SNR=5.6
comp=Z,12nm,1.1s
TIA Tai'an 56.49 326 P **P** **16 03 52.0 +3.2**
TIA pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 56.96 343 P **P** **16 03 51.1 -0.8**
comp=Z,4.1nm,1.0s,baz=168,slow=7.7,SNR=6.2
USRK LR LR 16 26 12.1
comp=Z,63nm,19.8s,baz=162,slow=34
comp=Z,4.1nm,1.0s
PPT Papeete 57.15 104 LR LR 16 26 09.8
comp=Z,64nm,19.0s,baz=304,slow=34
HNS HongShan 58.68 326 ⇓P P 16 04 08.8 +4.6
HNS S S 16 12 17.6 +8.7
HNS pmax pmax
comp=Z,9.0nm,1.1s
KMI Kunming 59.30 307 ⇑P **P** **16 04 11.2 +2.2**
KMI pmax pmax
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 59.43 298 P **P** **16 04 09.7 -0.1**
comp=Z,0.9nm,0.3s,baz=130,slow=5.4,SNR=7.4
comp=Z,0.9nm,0.3s
BNX BinXian 59.76 340 ⇓P **P** **16 04 11.3 -0.2**
BNX pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 59.89 319 P **P** **16 04 13.2 +0.4**
XAN pmax pmax
comp=Z,21nm,1.0s
PZH PanZhiHua 60.76 308 P **P** **16 04 21.3 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,170nm,6.3s
CD2 Chengdu 61.57 313 *e*P **P** **16 04 24.0 -0.2**
KLR Kul'dur 61.65 345 P **P** **16 04 24.4 +0.1**
comp=Z,3.8nm,0.9s,baz=176,slow=3.0,SNR=13
KLR LR LR 16 29 54.7
comp=Z,103nm,18.7s,baz=154,slow=35
comp=Z,3.8nm,0.9s
XLT XiLinHaoTe 62.79 332 *e*P **P** **16 04 28.4 -3.8**
XLT pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 62.85 327 *e*P **P** **16 04 34.3 +1.6**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,150nm,6.3s
PEA0B Petropavlovsk- 63.13 4 P **P** **16 04 33.5 -0.7**
PETK Petropavlovsk- 63.13 4 P **P** **16 04 33.9 -0.3**
PETK Petropavlovsk- 63.13 4 P **P** **16 04 34.6 +0.5**
comp=Z,17nm,1.0s,baz=178,slow=8.9,SNR=7.4
PETK LR LR 16 28 24.1
comp=Z,86nm,19.0s,baz=177,slow=33
comp=Z,17nm,1.0s
BTO Baotou 63.53 325 *e*P **P** **16 04 40.1 +2.9**
BTO pP **pwP** **16 04 44.8 +1.9**
BTO sP **sP** **16 04 47.0 +6.4**
BTO pmax pmax
comp=Z,24nm,0.9s
BTO pmax pmax
comp=Z,140nm,7.0s
HEH HeiHe 63.76 343 *e*P **P** **16 04 38.7 +0.3**
HEH pmax pmax
comp=Z,7.0nm,0.9s
HEH pmax pmax
comp=Z,260nm,4.8s
LZH Lanzhou 64.44 318 *e*P P 16 04 48.3 +4.9
LZH sP pwP 16 04 55.5 +6.4
LZH pmax pmax
comp=Z,26nm,1.1s
SHEM Shemya Is, Ala 65.39 15 LR LR 16 27 53.0
comp=Z,234nm,20.9s,baz=248,slow=31
HIA Hailar 65.49 337 P **P** **16 04 49.1 -0.7**
VNDA Vanda 67.62 178 LR LR 16 30 24.1
comp=Z,130nm,21.3s,baz=300,slow=32
GTA Gaotai 68.96 319 *e*P **P** **16 05 14.3 +2.2**
GTA pP pwP 16 05 17.5 -0.4
GTA pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 70.02 330 P **P** **16 05 17.5 -1.0**
SONM Songino Array 70.32 329 P **P** **16 05 19.5 -0.9**
SONM Songino Array 70.32 329 P **P** **16 05 20.1 -0.3**
comp=Z,13nm,0.9s,baz=144,slow=6.7,SNR=32
comp=Z,13nm,0.9s
LSA Lhasa 70.54 306 P **P** **16 05 21.3 -1.1**
LSA IAmb IAmb 16 05 28.3
comp=Z,9.7nm,1.1s
GOMU GeErMu 70.68 314 P P 16 05 17.1 -6.0
GOMU pP pP 16 05 21.1 -4.5
GOMU sP PcP 16 05 37.6 -6.5
GOMU PcP pwP 16 05 53.0 +24
GOMU pmax pmax
comp=Z,8.0nm,0.7s
PALK Pallekele 72.94 281 LR LR 16 41 19.6
comp=Z,53nm,18.0s,baz=96,slow=39
BILL Bilibino 78.60 5 P **P** **16 06 08.8 +0.9**
BILL IAmb IAmb 16 06 13.1
comp=Z,10nm,1.0s
WMQ Urumqi 79.02 318 *e*P **P** **16 06 11.4 +0.5**
WMQ pP pwP 16 06 15.4 -1.3
WMQ pmax pmax
comp=Z,16nm,0.9s
QSPA South Pole Qui 79.92 180 P **P** **16 06 14.4 -1.1**
comp=Z,4.9nm,1.1s,baz=7.7,slow=5.1,SNR=5.1
comp=Z,4.9nm,1.1s
MAW Mawson 80.38 203 LR LR 16 39 53.2
comp=Z,241nm,19.4s,baz=96,slow=34
MKAR Makanchi Array 83.70 320 P **P** **16 06 34.3 -1.3**
MKAR Makanchi Array 83.70 320 P **P** **16 06 34.5 -1.1**
comp=Z,1.9nm,1.0s,baz=101,slow=6.3,SNR=10
comp=Z,1.9nm,1.0s
MAKZ Makanchi 83.91 320 P **P** **16 06 35.5 -1.2**
MAKZ IAmb IAmb 16 06 41.8
comp=Z,8.2nm,1.2s
ZALV Zalesovo Beam 85.03 327 P **P** **16 06 41.4 -0.7**
comp=Z,3.6nm,0.8s,baz=104,slow=6.1,SNR=11
comp=Z,3.6nm,0.8s
KSH Kashi 85.68 311 P **P** **16 06 48.6 +2.7**
KSH pP pwP 16 06 54.2 +2.5
KSH pmax pmax
comp=Z,8.0nm,1.4s
D19K Kuna River 85.88 16 IAmb IAmb 16 07 04.2
comp=Z,26nm,1.6s
RND Reindeer 85.91 23 P **P** **16 06 46.8 +0.3**
RND IAmb IAmb 16 06 52.0
comp=Z,20nm,1.2s
ILAR Eielson Array 87.36 22 P **P** **16 06 52.2 -1.2**
ILAR Eielson Array 87.36 22 P **P** **16 06 51.1 -2.2**
comp=Z,1.1nm,0.9s,baz=243,slow=5.2,SNR=12
comp=Z,1.1nm,0.9s
KURBB Kurchatov Arra 87.38 322 P **P** **16 06 53.4 -0.3**
comp=Z,0.3nm,0.4s,baz=104,slow=3.1,SNR=2.5
comp=Z,0.3nm,0.4s
F26K Sheenjek River 89.76 20 IAmb IAmb 16 07 12.2
comp=Z,10nm,1.4s
BVAR Borovoye Array 92.90 323 P **P** **16 07 20.7 +1.1**
comp=Z,0.8nm,0.9s,baz=72,slow=0.5,SNR=4.0
comp=Z,0.8nm,0.9s
NVAR Mina Array Bea 96.03 52 P **P** **16 07 34.5 -0.2**
comp=Z,1.5nm,1.1s,baz=249,slow=6.7,SNR=7.2
comp=Z,1.5nm,1.1s
SNAA Sanae 96.71 188 LR LR 16 50 05.0
comp=Z,118nm,19.3s,baz=161,slow=35
BDFB Brasilia 147.73 142 PKPbc **PKPbc** **16 13 51.1 -1.4**
comp=Z,2.6nm,0.8s,baz=135,slow=1.4,SNR=3.5
TORD Tiordi Ar. Bea 150.65 279 PKPbc **PKPbc** **16 13 57.5 -2.3**
comp=Z,0.4nm,0.3s,baz=61,slow=2.3,SNR=1.3

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*IDC **10** 16:00:10.4±1.2, 58°.17N×32°.14W, h0km, mb3.6/10, mbtmp3.6/11, ML3.2/1, MS3.6/8, Error ellipse: s-maj=32.4km s-min=18.9km az=179.0*
ISC 10 16:00:12.5±1.1, 58°.2N±0°.2×32°.2W±0°.1, h14km, n20, σ1§12/12, mb3.6/10, MS3.5/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.41**	**34**	Pn		**Pn**		**16 02 14.0**	**+0.3**
	0.3nm,0.3s,baz=224,slow=14,SNR=2.3								
	25nm,1.2s								
SFJD	**Kangerlussuaq**	**12.23**	**324**	LR		LR		16 07 05.2	
	comp=Z,177nm,19.8s,baz=118,slow=34								
FRB	**Frobisher Bay**	**18.33**	**303**	LR		LR		16 10 38.7	
	comp=Z,308nm,18.7s,baz=50,slow=34								
SCHQ	**Schefferville**	**19.29**	**275**	LR		LR		16 10 28.3	
	comp=Z,157nm,20.4s,baz=32,slow=32								
NOA	**NORSAR Array B**	**21.85**	**64**	P		**P**		**16 05 05.7**	**+1.5**
	1.0nm,1.0s,baz=287,slow=9.4,SNR=3.7								
NOA				LR		LR		16 12 40.6	
	comp=Z,77nm,18.2s,baz=275,slow=34								
	1.0nm,1.0s								
ESDC	**Sonseca Array**	**25.87**	**123**	P		**P**		**16 05 43.6**	**0.0**
	0.8nm,0.8s,baz=319,slow=9.1,SNR=5.4								
ESDC				LR		LR		16 13 42.7	
	comp=Z,84nm,19.4s,baz=330,slow=31								
	0.8nm,0.8s								
ARCES	**ARCESS Array B**	**26.70**	**41**	P		**P**		**16 05 49.8**	**-1.0**
	2.1nm,0.9s,baz=284,slow=7.3,SNR=4.0								
	2.1nm,0.9s								
DAVOX	**Davos/Dischmat**	**27.57**	**96**	LR		LR		16 16 08.8	
	comp=Z,177nm,18.0s,baz=259,slow=35								
GERES	**GERESS Array B**	**28.31**	**89**	LR		LR		16 16 57.0	
	comp=Z,112nm,19.1s,baz=264,slow=36								
VRAC	**Vranov**	**29.57**	**86**	LR		LR		16 17 20.2	
	comp=Z,200nm,18.6s,baz=332,slow=35								
YKA	**Yellowknife Ar**	**38.43**	**312**	P		**P**		**16 07 34.9**	**+1.8**
	0.7nm,1.0s,baz=58,slow=8.6,SNR=4.8								
	0.7nm,1.0s								
ILAR	**Eielson Array**	**47.86**	**328**	P		**P**		**16 08 48.0**	**-1.3**
	1.9nm,1.2s,baz=39,slow=5.2,SNR=5.8								
	1.9nm,1.2s								
PDAR	**Pinedale Array**	**48.78**	**287**	P		**P**		**16 08 56.1**	**-0.9**
	0.2nm,0.6s,baz=23,slow=5.5,SNR=3.1								
	0.2nm,0.6s								
BVAR	**Borovoye Array**	**52.70**	**48**	P		**P**		**16 09 25.9**	**-0.2**
	0.9nm,0.7s,baz=310,slow=5.6,SNR=4.9								
	0.9nm,0.7s								
TXAR	**Lajitas Array**	**55.93**	**272**	P		**P**		**16 09 50.8**	**+0.8**
	0.1nm,0.6s,baz=27,slow=7.6,SNR=1.6								
	0.1nm,0.6s								
KURBB	**Kurchatov Arra**	**57.72**	**45**	P		**P**		**16 10 01.4**	**-0.8**
	0.9nm,0.7s,baz=327,slow=7.0,SNR=4.6								
	0.9nm,0.7s								
MKAR	**Makanchi Array**	**62.28**	**45**	P		**P**		**16 10 33.5**	**-0.2**
	0.9nm,0.5s,baz=334,slow=6.1,SNR=15								
	0.9nm,0.5s								
H10S3	**ASCENSION HYDR**	**68.37**	**161**	T		T		17 25 19.1	
	baz=230,slow=74,SNR=7.5								
H10S2	**ASCENSION HYDR**	**68.38**	**161**	T		T		17 25 18.5	
	baz=350,slow=74,SNR=11								
ASAR	**Alice Springs**	**144.13**	**22**	PKP		**PKPdf**		**16 19 46.5**	**-1.0**
	1.2nm,1.2s,baz=341,slow=1.5,SNR=4.4								

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*IDC **10** 16:01:59.2±1.5, 58°.38N×31°.77W, h0km, mb3.6/10, mbtmp3.6/10, Error ellipse: s-maj=40.5km s-min=22.4km az=9.0*
ISC 10 16:02:01.0±1.3, 58°.3N±0°.3×31°.8W±0°.1, h13km, n13, σ0§77/11, mb3.7/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.82**	**124**	P		**P**		**16 07 32.6**	**+0.9**
	0.5nm,0.7s,baz=328,slow=7.4,SNR=2.2								
	0.5nm,0.7s								
ARCES	**ARCESS Array B**	**26.43**	**42**	P		**P**		**16 07 36.5**	**-0.5**
	2.2nm,0.9s,baz=309,slow=5.7,SNR=1.8								
	2.2nm,0.9s								
FINES	**FINESS Array B**	**28.38**	**59**	P		**P**		**16 07 54.1**	**-0.4**
	1.4nm,0.7s,baz=327,slow=9.9,SNR=1.8								
	1.4nm,0.7s								
YKA	**Yellowknife Ar**	**38.45**	**312**	P		**P**		**16 09 22.3**	**+0.4**
	0.3nm,0.6s,baz=62,slow=8.5,SNR=4.0								
	0.3nm,0.6s								
ILAR	**Eielson Array**	**47.80**	**328**	P		**P**		**16 10 38.1**	**+0.8**
	0.7nm,1.0s,baz=38,slow=7.0,SNR=4.1								
	0.7nm,1.0s								
PDAR	**Pinedale Array**	**48.92**	**287**	P		**P**		**16 10 46.0**	**-0.6**
	0.3nm,0.6s,baz=6.1,slow=3.6,SNR=2.0								
	0.3nm,0.6s								
BVAR	**Borovoye Array**	**52.43**	**48**	P		**P**		**16 11 12.7**	**0.0**
	0.6nm,0.8s,baz=347,slow=10,SNR=2.4								
	0.6nm,0.8s								
KURBB	**Kurchatov Arra**	**57.44**	**45**	P		**P**		**16 11 48.8**	**-0.1**
	0.5nm,0.6s,baz=322,slow=6.3,SNR=3.5								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**62.01**	**45**	P		**P**		**16 12 20.5**	**+0.1**
	0.5nm,0.6s,baz=350,slow=5.1,SNR=8.4								
	0.5nm,0.6s								
H10S3	**ASCENSION HYDR**	**68.49**	**162**	T		T		17 27 18.1	
	baz=230								
H10S2	**ASCENSION HYDR**	**68.50**	**162**	T		T		17 27 18.7	
	baz=350								
SONM	**Songino Array**	**68.72**	**29**	P		**P**		**16 13 04.3**	**+0.3**
	0.3nm,0.5s,baz=20,slow=4.6,SNR=2.4								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**143.88**	**23**	PKP		**PKPdf**		**16 21 34.1**	**-1.6**
	0.1nm,0.5s,baz=333,slow=2.2,SNR=5.6								

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*NEIC **10** 16:19:52.0±1.8, 17°.4S±0°.1×177°.1W±0°.2, h390km±7km, mb4.7/12, Error ellipse: s-maj=23.3km s-min=13.4km az=117.0*
*IDC **10** 16:19:53.9±2.5, 17°.44S×177°.39W, h406km±24km, mb3.1/5, mbtmp3.9/6, Error ellipse: s-maj=30.5km s-min=23.0km az=129.0*
ISC 10 16:19:50.7±0.8, 17°.4S±0°.1×177°.1W±0°.1, h372km, n22, σ1§51/22, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.63**	**265**	Pn		**Pn**		**16 21 10.1**	**+2.4**
MSVF	**Nonsavu**	**4.63**	**265**	P		**Pn**		**16 21 10.0**	**+2.3**
	40nm,0.7s,baz=108,slow=14,SNR=30								
URZ	**Urewera**	**21.39**	**193**	P		**P**		**16 24 09.3**	**-0.4**
	2.4nm,0.3s,baz=360,slow=4.5,SNR=7.3								
	2.4nm,0.3s								
RTZ	**Ruatahuna**	**21.76**	**193**	P		**P**		**16 24 12.5**	**-0.7**
BKZ	**Black Stump Fm**	**22.40**	**193**	P		**P**		**16 24 18.1**	**-0.8**
BKZ				IAmb		IAmb		16 25 12.9	
	comp=Z,62nm,1.7s								
MRZ	**Mangatainoka R**	**24.03**	**194**	P		**P**		**16 24 32.1**	**-1.5**
WHZ	**Wether Hill Ro**	**31.02**	**200**	P		**P**		**16 25 36.4**	**+1.1**
TOO	**Toolangi**	**38.45**	**231**	P		**P**		**16 26 38.6**	**+0.2**
BBOO	**Buckleboo**	**44.74**	**241**	P		**P**		**16 27 27.9**	**-0.9**
BBOO				IAmb		IAmb		16 28 17.7	
	comp=Z,32nm,1.6s								
WRA	**Warramunga Arr**	**45.95**	**259**	P		**P**		**16 27 37.0**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=97,slow=8.0,SNR=5.0								
	comp=Z,0.2nm,0.5s								
AS31	**Alice Springs**	**46.12**	**254**	P		**P**		**16 27 37.8**	**-2.0**
ASAR	**Alice Springs**	**46.13**	**254**	P		**P**		**16 27 37.9**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=90,slow=7.8,SNR=70								
	comp=Z,0.9nm,0.4s								
SBA	**Scott Base**	**61.01**	**184**	P		**P**		**16 29 26.7**	**+1.1**
K15K	**Wolf Creek Mou**	**80.38**	**7**	P		**P**		**16 31 21.5**	**+0.3**
L18K	**Granite Mounta**	**80.98**	**10**	P		**P**		**16 31 24.6**	**+0.2**
L18K				IAmb		IAmb		16 33 06.8	
	comp=Z,20nm,0.9s								
PMSA	**Palmer Station**	**83.78**	**157**	P		**P**		**16 31 37.9**	**-1.0**
TXAR	**Lajitas Array**	**84.67**	**57**	P		**P**		**16 31 46.5**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=259,slow=4.9,SNR=6.2								
	comp=Z,0.7nm,0.8s								
CCB	**Clear Creek Bu**	**84.82**	**12**	P		**P**		**16 31 42.3**	**-1.5**
ILAR	**Eielson Array**	**85.12**	**13**	P		**P**		**16 31 44.1**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=211,slow=5.4,SNR=11								
	comp=Z,0.4nm,0.4s								
J25K	**Salcha River,**	**85.30**	**13**	P		**P**		**16 31 45.7**	**-0.6**
BRTR	**Keskin Array B**	**145.29**	**316**	PKPbc		**PKPdf**		**16 38 43.3**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=60,slow=8.5,SNR=2.2								
MMAI	**Mount Meron Ar**	**146.90**	**304**	PKPbc		**PKPbc**		**16 38 49.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=64,slow=5.0,SNR=2.4								

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*IDC **10** 16:22:51.9±1.6, 35°.34N×141°.68E, h0km, mb3.7/6, mbtmp3.7/10, ML3.2/4, Error ellipse: s-maj=46.1km s-min=17.7km az=73.0*
*JMA **10** 16:22:55.3±0.5, 35°.2N±0°.8×14°.1E±°, h31km±3km, MV3.0/33, E OFF BOSO PENINSULA*
ISC 10 16:22:56.8±1.3, 35°.30N±0°.07×141°.3E±0°.1, h25km, n24, σ1§14/19, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.80**	**296**	P		**Pn**		**16 23 12.5**	**+0.1**
BSO3	**Boso 3**	**0.84**	**234**	P		**Pn**		**16 23 11.6**	**-1.1**
KTR	**Katsuura**	**0.85**	**260**	P		**Pn**		**16 23 12.1**	**-1.0**
BSO4	**Boso 4**	**0.87**	**250**	P		**Pn**		**16 23 12.6**	**-0.7**
JCN	**Nagara**	**0.93**	**278**	*e*P		**Pn**		**16 23 14.6**	**+0.3**
JKUC	**kamogawauchiur**	**0.94**	**262**	P		**Pn**		**16 23 13.5**	**-0.8**
JYT	**Yasato**	**1.31**	**315**	*e*P		**Pn**		**16 23 19.8**	**+0.3**
JHO	**Hitachi**	**1.45**	**335**	*e*P		**Pn**		**16 23 21.0**	**-0.4**
JHJ	**Hachijo jima 2**	**2.52**	**211**	Pn		**Pn**		**16 23 36.7**	**+0.5**
	24nm,0.3s,baz=4.6,slow=16,SNR=1.5								
JHJ				Sn		**Sn**		**16 24 04.4**	**-1.7**
	12nm,0.3s,baz=47,slow=21,SNR=0.9								
	186nm,0.5s								
MJAR	**Matsushiro Arr**	**2.82**	**297**	Pn		**Pn**		**16 23 41.5**	**+1.2**
	0.5nm,0.3s,baz=100,slow=15,SNR=30								
	2.8nm,0.3s								
ASAJ	**Asahikawa**	**8.86**	**6**	Pn		**Pn**		**16 25 00.7**	**-2.5**
	0.4nm,0.3s,baz=247,slow=15,SNR=7.2								
	3.1nm,0.9s								
USRK	**Ussuriysk Ar.**	**11.43**	**324**	Pn		**Pn**		**16 25 38.9**	**+0.6**
	0.1nm,0.3s,baz=129,slow=14,SNR=5.6								
	1.3nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**27.36**	**118**	T		T		16 57 46.5	
	baz=310,slow=75,SNR=7.0								
H11N1	**WAKE ISLAND Hy**	**27.36**	**118**	T		T		16 57 52.9	
	baz=310,slow=75,SNR=6.2								
H11N3	**WAKE ISLAND Hy**	**27.38**	**118**	T		T		16 57 47.4	
	baz=310,slow=75,SNR=6.3								
H11S1	**WAKE ISLAND Hy**	**28.01**	**120**	T		T		16 58 25.2	
	baz=312,slow=76,SNR=22								
H11S3	**WAKE ISLAND Hy**	**28.01**	**120**	T		T		16 58 14.8	
	baz=312,slow=76,SNR=23								
H11S2	**WAKE ISLAND Hy**	**28.03**	**120**	T		T		16 58 16.5	
	baz=312,slow=76,SNR=22								
SONM	**Songino Array**	**28.73**	**307**	P		**P**		**16 28 54.2**	**+2.0**
	0.4nm,0.6s,baz=97,slow=12,SNR=2.3								
	0.4nm,0.6s								
ZALV	**Zalesovo Beam**	**43.05**	**314**	P		**P**		**16 30 54.5**	**+0.3**
	0.4nm,0.4s,baz=81,slow=9.2,SNR=2.6								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**45.00**	**304**	P		**P**		**16 31 09.7**	**-0.4**
	0.4nm,0.6s,baz=88,slow=9.9,SNR=5.9								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**47.03**	**309**	P		**P**		**16 31 25.8**	**-0.2**
	0.6nm,0.6s,baz=87,slow=8.1,SNR=6.8								
	0.6nm,0.6s								
WRA	**Warramunga Arr**	**55.34**	**188**	P		**P**		**16 32 27.3**	**-1.2**
	1.7nm,0.8s,baz=1.6,slow=7.7,SNR=12								
	1.7nm,0.8s								
ASAR	**Alice Springs**	**59.06**	**188**	P		**P**		**16 32 55.1**	**+0.3**
	0.7nm,0.8s,baz=16,slow=12,SNR=18								
	0.7nm,0.8s								

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*MOS **10** 16:23:47.6±0.9, 58°.38N×31°.86W, h10km, mb5.1/66, MS4.8/8, Error ellipse: s-maj=7.7km s-min=5.6km az=67.0*
*BJI **10** 16:23:47.1, 58°.72N×32°.14W, h6km, mB5.4/21, mb4.8/62, Ms5.1/21, Ms7 4.8/23*
*IDC **10** 16:23:47.9±0.4, 58°.33N×31°.83W, h0km, mb4.4/32, mbtmp4.4/37, ML3.6/5, MS4.6/72, Error ellipse: s-maj=12.6km s-min=9.5km az=174.0*
*NEIC **10** 16:23:49.7, 58°.46N×31°.88W, h12km*
*GCMT **10** 16:23:49.8±0.1, 58°.49N±0°.02×31°.66W±0°.02, h12km, MW5.2/145, Moment Tensor Solution. s41,c49; s145,c237; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.79±.01; $M_{\theta\theta}$0.08±.01; $M_{\phi\phi}$0.70±.01; $M_{r\theta}$0.24±.05; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$0.11±.04; Best double couple: $M_0$0.82700×10^{17} NP1:ϕ_s6.00000°, δ40.00000°, λ-110.00000°. NP2:ϕ_s211.00000°, δ53.00000°, λ-74.00000°. Principal axes: T 0.8060, Plg7.0000°, Azm290.0000°; N 0.0420, Plg13.0000°, Azm22.0000°; P -0.8480, Plg76.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 16:23:49.7, 58°.06N×31°.88W, h12km, Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.10; $M_{\theta\theta}$1.01; $M_{\phi\phi}$5.09; $M_{r\theta}$2.05; $M_{\theta\phi}$1.57; $M_{\phi r}$-2.33; Fault plane solution: $M_0$6.54000×10^{16} NP1: ϕ_s215.12000°, δ40.10000°, λ-60.66000°. NP2: ϕ_s358.81000°, δ55.84000°, λ-112.42000°. Principal axes: T 5.8538, Plg8.0000°, Azm105.0000°; N 1.3745, Plg18.0000°, Azm12.0000°; P -7.2282, Plg70.0000°, Azm218.0000°;*
*NEIC **10** 16:23:49.8±1.4, 58°.46N±0°.09×31°.9W±0°.1, h10km±1km, mb5.0/303, Mww5.1/45 Error ellipse: s-maj=14.8km s-min=12.6km az=189.0*
*INMG **10** 16:23:50.0±16.0, 58°.38N×31°.97W, h10km, M4.6, mb4.9, Ms4.6, #DIST_RANGE: DISTANT*
*DNK **10** 16:23:59.1±3.3, 58°.94N×31°.95W, h20km±183km, ML2.4*
ISC 10 16:23:49.8±0.5, 58°.40N±0°.05×31°.86W±0°.04, h11km±3km, h11km:pP-P, n829, σ1§36/677, mb5.0/275, MS4.7/97, 23C-20D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.74**	**342**	Pn		**Pn**		**16 25 39.4**	**-2.8**
ANGG	**Ammassalik, Gr**	**7.74**	**342**	*i* P		**Pn**		**16 25 41.4**	**-0.8**
BORG	**Borgarnes**	**8.10**	**34**	Pn		**Pn**		**16 25 46.7**	**-0.6**
BORG	**Borgarnes**	**8.10**	**34**	Pn		**Pn**		**16 25 48.8**	**+1.6**
	2.4nm,0.3s,baz=202,slow=9.6,SNR=16								
BORG				Sn		**Sn**		**16 27 18.6**	**-0.1**
	0.4nm,0.3s,baz=92,slow=15,SNR=1

comp=Z,7.8nm,0.8s
SFJD Kangerlussuaq 12.13 323 *i* P **Pn** **16 26 43.0 +0.7**
SFJD IAML 16 27 31.3
comp=Z,4.5nm,0.8s
SCO Scoresbysund 12.84 15 Pn **Pn** **16 26 50.0 -1.9**
SCO Scoresbysund 12.84 15 P **Pn** **16 26 50.0 -1.9**
IGLA Glengowla, Co 13.53 102 P **Pn** **16 27 03.0 +1.6**
ILULI Ilulissat 13.69 330 *i* P **Pn** **16 27 01.9 -1.7**
SUMG Summit 14.48 352 Pn **Pn** **16 27 15.1 +0.3**
SUMG Summit 14.48 352 P **Pn** **16 27 15.1 +0.3**
SUMG Summit 14.48 352 *i* P **Pn** **16 27 16.1 +1.2**
DSB Dublin 15.17 99 Pn **Pn** **16 27 23.6 -0.2**
DSB IAmb IAmb 16 27 29.8
comp=Z,78nm,1.2s
DSB Dublin 15.17 99 P **P** **16 27 26.4 -2.5**
IWEX Carrickbyrne, 15.42 102 P **P** **16 27 31.2 -0.4**
ESK Eskdalemuir 15.91 89 Pn **Pn** **16 27 34.2 +0.8**
ESK Eskdalemuir 15.91 89 P **Pn** **16 27 34.2 +0.8**
ESK pmax pmax
comp=Z,51nm,1.2s
JMIC Jan Mayen 15.93 28 LR LR 16 32 13.0
comp=Z,1μm,20.9s,baz=226,slow=32
EKA Eskdalemuir Ar 15.93 89 Pn **Pn** **16 27 34.9 +1.3**
baz=292,slow=11
comp=Z,4.3nm,0.7s
DRLN Deer Lake 17.59 250 **Pn** **16 27 55.0 +0.3**
FRB Frobisher Bay 18.34 302 P **Pn** **16 28 03.3 -0.5**
comp=Z,0.2nm,0.3s,baz=97,slow=9.7,SNR=7.5
FRB PcP **PcP** **16 32 33.9 -0.6**
comp=Z,2.3nm,0.7s,baz=144,slow=2.1,SNR=3.5
FRB LR LR 16 34 14.1
comp=Z,6μm,18.7s,baz=88,slow=34
comp=Z,11nm,1.1s
KULLO Kullorsuaq 18.84 339 *i* P **Pn** **16 28 14.2 +4.4**
DAG Danmarks Havn 19.03 9 *i* P **Pn** **16 28 13.8 +1.7**
SCHQ Schefferville 19.43 275 P **P** **16 28 15.5 -0.4**
SCHQ Schefferville 19.43 275 P **Pn** **16 28 17.0 -0.2**
comp=Z,0.7nm,0.3s,baz=63,slow=11,SNR=15
SCHQ PcP **PcP** **16 32 35.8 -0.8**
comp=Z,1.8nm,0.8s,baz=233,slow=5.1,SNR=2.1
SCHQ LR LR 16 34 34.9
comp=Z,4μm,18.4s,baz=62,slow=33
comp=Z,6.8nm,0.8s
QUIF Quistinic 19.99 109 *e*P **Pn** **16 28 30.8 +7.1**
NEEM North Greenlan 20.23 348 *i* P **P** **16 28 25.6 +0.8**
KONO Kongsberg 21.13 69 *i* P **P** **16 28 33.5 -0.8**
KONO pmax pmax
comp=Z,74nm,1.6s
NC204 NORSAR Array S 21.32 64 P **P** **16 28 37.2 +0.7**
NC204 IAmb IAmb 16 28 43.9
comp=Z,99nm,1.5s
NB2 NORSAR Subarra 21.59 65 P **P** **16 28 38.0 -1.3**
comp=Z,220nm,2.0s,baz=282,slow=10
NB2 NORSAR Subarra 21.59 65 P **P** **16 28 38.0 -1.3**
baz=282,slow=10
NOA NORSAR Array B 21.59 65 P **P** **16 28 38.8 -0.5**
comp=Z,10nm,1.2s,baz=282,slow=10.0,SNR=11
NOA LR LR 16 35 55.3
comp=Z,1μm,19.9s,baz=280,slow=34
comp=Z,10nm,1.2s
NC602 NORSAR Array S 21.81 65 P **P** **16 28 42.1 +0.5**
NC602 IAmb IAmb 16 28 45.3
comp=Z,120nm,1.6s
UCC Uccle 22.09 94 *d*P **P** **16 28 41.8 -2.8**
PGAV Gavieira, Arco 22.14 128 *e*P **P** **16 28 45.3 -0.1**
PGAV *i* Amb 16 28 47.7
comp=Z,86nm,1.6s
PGAV *e*S **S** **16 32 53.3 +4.1**
PGAV *i* AMs_20 16 35 37.1
comp=Z,2μm,18.0s
GBN Guysborough 22.22 247 P **P** **16 28 45.6 -0.5**
GBN IAmb IAmb 16 28 52.1
comp=Z,104nm,1.5s
ICQ Pointe Anglais 22.41 262 P **P** **16 28 47.3 -0.8**
BAIF Baives 22.43 96 *e*P **P** **16 28 49.0 +0.7**
PCAB Cabril 22.45 128 *e*P **P** **16 28 49.5 +0.8**
PCAB *i* Amb 16 28 51.4
comp=Z,63nm,1.3s
BMRD Maredsous 22.58 95 *d*P **P** **16 28 50.3 +0.4**
DOU Dourbes 22.61 96 *d*P **P** **16 28 51.1 +0.8**
comp=Z,17nm,1.4s
BGES Gesves 22.70 95 *d*P **P** **16 28 52.9 +1.7**
comp=Z,25nm,1.0s
BEBN Eben Emael 22.78 93 *d*P **P** **16 28 52.0 0.0**
BCLA Clavier 22.80 94 *d*P **P** **16 28 52.6 +0.4**
comp=Z,18nm,1.3s
POLO Lamas de Olo 22.83 128 *e*P **P** **16 28 53.5 +0.8**
POLO *i* Amb 16 28 55.3
comp=Z,30nm,1.4s
BSTI Sart Tilman 22.84 94 *d*P **P** **16 28 53.2 +0.5**
RCHB Rochefort 22.91 95 *d*P **P** **16 28 55.0 +1.6**
comp=Z,14nm,1.3s
RCHB *d*PP **PnPn** **16 29 19.1 +1.4**
PBRG Braganca 22.92 125 *e*P **P** **16 28 54.5 +0.9**
PBRG *i* Amb 16 28 56.1
comp=Z,57nm,1.5s
PVRL Vila Real 22.94 128 *e*P **P** **16 28 54.8 +1.0**
PVRL *i* Amb 16 28 56.4
comp=Z,60nm,1.6s
HFS Hagfors 22.99 66 P **P** **16 28 55.2 +1.0**
comp=Z,30nm,1.2s,baz=289,slow=9.2,SNR=9.1
HFS LR LR 16 36 27.0
comp=Z,1μm,21.1s,baz=282,slow=33
comp=Z,30nm,1.2s
MEM Membach 23.06 93 *d*P **P** **16 28 55.0 0.0**
comp=Z,17nm,1.3s
BTNL Ternell 23.14 93 *d*P **P** **16 28 56.1 +0.3**
comp=Z,16nm,1.9s
BTNL *d*PP **PnPn** **16 29 21.8 +1.0**
BATG Bathurst New B 23.20 256 P **P** **16 28 57.1 +0.6**
BATG IAmb IAmb 16 29 01.5
comp=Z,43nm,1.0s
BHOU Houvegnez 23.20 94 *d*P **P** **16 28 56.6 +0.2**
MVO Moncorvo 23.32 127 *e*P **P** **16 28 58.4 +0.6**
MVO *i* Amb 16 29 00.1
comp=Z,107nm,1.5s
MVO *e*S S 16 32 37.6 -33
MVO *i* AMs_20 16 36 22.8
comp=Z,2μm,20.0s
PVIS Viseu 23.34 129 *e*P **P** **16 28 58.4 +0.4**
LMN Caledonia Moun 23.53 252 P **P** **16 28 58.7 -1.1**
LMN IAmb IAmb 16 29 13.0
comp=Z,102nm,1.8s
COI Coimbra 23.56 130 *e*P **P** **16 29 00.8 +0.7**
COI *i* Amb 16 29 02.5
comp=Z,79nm,1.8s
PCAS Casmilo, Conde 23.66 131 *e*P **P** **16 29 00.8 -0.2**
PCAS *i* Amb 16 29 03.4
comp=Z,86nm,1.7s
WLF Walferdange 23.68 95 P **P** **16 29 00.9 -0.2**
WLF IAmb IAmb 16 29 07.0
comp=Z,67nm,1.3s
WLF Walferdange 23.68 95 *d*P **P** **16 29 01.5 +0.3**
WLF Walferdange 23.68 95 P **P** **16 29 01.0 -0.2**
WLF pmax pmax
comp=Z,67nm,1.3s
MTE Manteigas 23.75 129 *e*P **P** **16 29 03.1 +1.2**
MTE *i* Amb 16 29 04.5
comp=Z,59nm,1.5s
MTE *e*S Sn 16 33 29.8 -8.8
MTE *i* AMs_20 16 36 32.7
comp=Z,2μm,20.0s
HAL Halifax 23.79 249 P **P** **16 29 01.7 -0.5**
HAL IAmb IAmb 16 29 02.4
comp=Z,120nm,1.9s
HAL Halifax 23.79 249 P **P** **16 29 01.7 -0.5**
HAL pmax pmax
comp=Z,120nm,1.9s
BGF Bois d'Agland 23.93 104 *e*P **P** **16 29 03.8 +0.2**
SSF Saint Saulge 23.93 103 *e*P **P** **16 29 02.3 -1.3**
PSBE So Bento 24.00 132 *e*P **P** **16 29 04.6 +0.3**
PSBE *i* Amb 16 29 06.3
comp=Z,137nm,1.7s
AVF Avril sur Loir 24.04 103 *e*P **P** **16 29 03.4 -1.2**
PCBR Castelo Branco 24.25 129 *e*P **P** **16 29 06.8 +0.2**
PCBR *i* Amb 16 29 08.2
comp=Z,76nm,1.6s
PMAFR Mafra 24.29 133 P **P** **16 29 07.3 +0.3**
LIS Lisbon 24.55 133 *e*P **P** **16 29 09.0 -0.3**
LIS IAMs_20 IAMs_20 16 36 13.9
comp=Z,3μm,16.6s
LIS Lisbon 24.55 133 *e*P **P** **16 29 09.0 -0.3**
PMTG Montargil 24.61 131 *e*P **P** **16 29 09.4 -0.4**
PMTG *i* Amb 16 29 13.6
comp=Z,62nm,1.9s

PMRV Marv??o 24.63 130 *e*P **P** **16 29 11.5 +1.4**
PMRV *i* Amb 16 29 15.3
comp=Z,36nm,2.1s
PMRV *e*S S 16 33 43.4 +12
PMRV *i* AMs_20 16 36 59.5
comp=Z,2μm,20.0s
PESTR Estremoz 25.03 131 *e*P **P** **16 29 13.7 -0.1**
PESTR *i* Amb 16 29 16.6
comp=Z,41nm,1.8s
ECH Echery 25.09 97 P **P** **16 29 13.8 -0.4**
ECH IAmb IAmb 16 29 26.5
comp=Z,50nm,1.4s
ECH Echery 25.09 97 P **P** **16 29 13.8 -0.4**
ECH pmax pmax
comp=Z,50nm,1.4s
EVO Evora 25.15 132 *e*P **P** **16 29 15.6 +0.8**
EVO *i* Amb 16 29 32.5
comp=Z,42nm,1.5s
F64A Sherman 25.32 256 P **P** **16 29 15.4 -0.8**
F64A IAmb IAmb 16 29 21.0
comp=Z,58nm,1.3s
LDAQ Lac Daran 25.44 263 P **P** **16 29 16.9 -0.5**
LDAQ IAmb IAmb 16 29 25.0
comp=Z,62nm,1.7s
BFO Black Forest 25.63 95 P **P** **16 29 18.6 -0.5**
BFO IAmb IAmb 16 29 20.0
comp=Z,55nm,1.6s
BFO Black Forest 25.63 95 P **P** **16 29 18.6 -0.5**
BFO pmax pmax
comp=Z,55nm,1.6s
PBEJ Beja 25.65 132 *e*P **P** **16 29 19.4 +0.1**
PBEJ *i* Amb 16 29 21.5
comp=Z,56nm,1.4s
MESJ Messejana 25.68 133 IAmb IAmb 16 29 21.1
comp=Z,64nm,1.5s
MESJ Messejana 25.68 133 *e*P **P** **16 29 19.3 -0.2**
MESJ IAMs_20 IAMs_20 16 36 39.7
comp=Z,3μm,22.6s
MESJ Messejana 25.68 133 *e*P **P** **16 29 20.4 +0.9**
MESJ *i* Amb 16 29 21.9
comp=Z,67nm,1.7s
MESJ Messejana 25.68 133 *e*P **P** **16 29 19.3 -0.2**
PTEO Sao Teotonio 25.74 134 *e*P **P** **16 29 18.6 -1.5**
PTEO *i* Amb 16 29 23.2
comp=Z,78nm,1.7s
PAB San Pablo 25.81 125 P **P** **16 29 20.3 -0.5**
PAB IAmb IAmb 16 29 23.3
comp=Z,28nm,1.1s
PAB San Pablo 25.81 125 P **P** **16 29 20.3 -0.5**
PAB pmax pmax
comp=Z,29nm,1.2s
PBAR Barrancos 25.85 131 *e*P **P** **16 29 20.2 -0.9**
PBAR *i* Amb 16 29 23.6
comp=Z,34nm,1.6s
ESBB Sonseca Array 25.87 124 P **P** **16 29 20.9 -0.5**
ESBB IAmb IAmb 16 29 38.6
comp=Z,39nm,1.4s
ESDC Sonseca Array 25.87 124 P **P** **16 29 20.9 -0.5**
ESDC Sonseca Array 25.87 124 P **P** **16 29 20.7 -0.6**
comp=Z,6.7nm,0.9s,baz=324,slow=8.4,SNR=22
ESDC LR LR 16 37 40.2
comp=Z,1μm,19.9s,baz=322,slow=32
comp=Z,6.7nm,0.9s
PCVE Castro Verde 25.93 133 *e*P **P** **16 29 24.1 +2.3**
PCVE *i* Amb 16 29 41.2
comp=Z,56nm,1.6s
MORF Marmelete 25.98 134 *e*P **P** **16 29 21.8 -0.5**
MORF IAMs_20 IAMs_20 16 36 37.4
comp=Z,2μm,20.2s
MORF Marmelete 25.98 134 *e*P **P** **16 29 21.8 -0.5**
PVAQ Vaqueiros 26.25 133 *i* AMs_20 16 37 48.5
comp=Z,2μm,20.0s
CLL Collm 26.35 86 *i* P **P** **16 29 24.8 -0.7**
CLL *i* 16 29 27.9
CLL *e*S **S** **16 34 00.0 +1.8**
CLL pmax pmax
comp=Z,100nm,2.1s
CLL Collm 26.35 86 P **P** **16 29 24.3 -1.2**
comp=Z,18nm,1.3s
CLL Collm 26.35 86 *i* P **P** **16 29 24.8 -0.7**
comp=Z,100nm,2.1s
CLL *i* x x 16 29 27.9
comp=Z,93nm,2.1s
CLL *e*PPP PPP 16 30 13.0
CLL *e*PPPP 16 30 21.0
CLL *e*S **S** **16 34 00.0 +1.8**
CLL *e*SSS SSS 16 35 18.0
ARCES ARCESS Array B 26.40 42 P **P** **16 29 25.7 -0.1**
comp=Z,5.7nm,0.9s,baz=269,slow=12,SNR=14
ARCES LR LR 16 37 48.2
comp=Z,762nm,19.0s,baz=280,slow=32
comp=Z,5.7nm,0.9s
ARCES ARCESS Array B 26.40 42 P **P** **16 29 25.0 -0.9**
ARCES pmax pmax
comp=Z,85nm,1.6s
LPL La Plagne 26.63 102 *e*P **P** **16 29 31.9 +3.5**
NKC Novy Kostel 26.66 88 AMS AMS 16 39 50.0
comp=Z,4μm,21.1s
HSKC Hora Svate Kat 26.97 87 AMS AMS 16 40 50.0
comp=Z,5μm,15.4s
BRG Berggiesshubel 27.09 86 *e*P **P** **16 29 31.7 -0.5**
BRG Amp 16 29 33.0
comp=Z,35nm,1.7s
EUNU Eureka 27.09 342 P **P** **16 29 32.3 +0.2**
TUE Stuetta 27.35 98 IAmb IAmb 16 29 45.7
comp=Z,46nm,1.4s
TUE Stuetta 27.35 98 P **P** **16 29 33.8 -1.0**
comp=Z,117nm,2.3s
RICC Richard 27.35 86 AMS AMS 16 41 10.0
comp=Z,4μm,14.8s
DAVOX Davos/Dischmat 27.43 97 LR LR 16 40 03.6
comp=Z,2μm,18.4s,baz=261,slow=36
PMOZ Porto Moniz, M 27.43 152 *e*S S 16 35 08.8 +53
PMOZ *i* AMs_20 16 37 53.7
comp=Z,1μm,20.0s
RETA Reutte 27.43 95 *e*P **P** **16 29 35.5 +0.1**
comp=Z,3.6nm,0.9s
FETA Feichten 27.71 95 *e*P **P** **16 29 38.4 +0.3**
comp=Z,16nm,1.7s
PRA Prague 27.80 87 AMS AMS 16 41 10.0
comp=Z,4μm,13.4s
SQTA Sankt Quirin 27.84 95 *e*P **P** **16 29 37.7 -1.4**
comp=Z,15nm,1.7s
KHC Kasperske Hory 27.90 89 *e*P **P** **16 29 40.0 +0.4**
KHC *e*x x 16 29 48.8
KHC AMS AMS 16 40 40.0
comp=Z,3μm,17.2s
KHC Kasperske Hory 27.90 89 *ce*P **P** **16 29 41.5 +1.9**
KHC pmax pmax
comp=Z,42nm,2.5s
PRU Pruhonice 27.91 87 AMS AMS 16 41 20.0
comp=Z,4μm,15.2s
WATA Walderalm 27.96 94 *e*P **P** **16 29 39.4 -0.8**
comp=Z,10nm,1.2s
RES Resolute Bay 28.00 330 P **P** **16 29 39.8 -0.3**
RES Resolute Bay 28.00 330 LR LR 16 40 15.3
comp=Z,874nm,19.0s,baz=125,slow=35
RES Resolute Bay 28.00 330 P **P** **16 29 39.8 -0.3**
RES pmax pmax
comp=Z,13nm,1.2s
WTTA Wattenberg 28.04 94 *e*P **P** **16 29 40.1 -0.9**
comp=Z,10nm,1.5s
ZVC Zvikov 28.04 88 AMS AMS 16 41 00.0
comp=Z,3μm,17.8s
GOPC GO Pecny, Ondr 28.08 87 AMS AMS 16 41 30.0
comp=Z,4μm,15.1s
GERES GERESS Array B 28.14 90 LR LR 16 40 43.9
comp=Z,2μm,18.2s,baz=300,slow=36
KSP Ksiaz 28.34 84 *e*P **P** **16 29 42.6 -0.7**
KSP Ksiaz 28.34 84 P **P** **16 29 42.8 -0.6**
comp=Z,18nm,1.3s
CHVC Chvalec 28.36 85 *e*P **P** **16 29 42.8 -0.8**
CHVC AMS AMS 16 42 10.0
comp=Z,3μm,14.9s
CHVC Chvalec 28.36 85 *e*P **P** **16 29 42.8 -0.8**
CHVC MLR MLR
comp=Z,3μm,14.9s
FINES FINESS Array B 28.37 59 P **P** **16 29 41.7 -1.8**
FINES FINESS Array B 28.37 59 P **P** **16 29 43.5 -0.1**
comp=Z,5.0nm,0.7s,baz=305,slow=5.0,SNR=8.6
FINES LR LR 16 40 31.1
comp=Z,1μm,18.4s,baz=283,slow=35
comp=Z,5.0nm,0.7s
UPC Upice 28.38 85 AMS AMS 16 42 10.0
comp=Z,3μm,15.2s
OSTC Ostas 28.46 85 *e*P **P** **16 29 45.3 +0.8**

OSTC AMS AMS 16 42 10.0
comp=Z,3μm,14.3s
OSTC Ostas 28.46 85 *e*P **P** **16 29 45.3 +0.8**
OSTC MLR MLR
comp=Z,3μm,14.3s
CKRC Cesky Krumlov 28.48 89 *e*P **P** **16 29 46.0 +1.3**
CKRC AMS AMS 16 40 50.0
comp=Z,2μm,19.0s
CKRC Cesky Krumlov 28.48 89 *e*P **P** **16 29 46.0 +1.3**
CKRC MLR MLR
comp=Z,2μm,19.0s
LESA Schwarzleotal 28.48 93 *e*P **P** **16 29 43.2 -1.6**
comp=Z,13nm,1.4s
DPC Dobruska-Polom 28.63 85 *e*P **P** **16 29 46.3 +0.2**
DPC AMS AMS 16 42 10.0
comp=Z,3μm,13.4s
DPC Dobruska-Polom 28.63 85 *e*P **P** **16 29 46.3 +0.2**
DPC MLR MLR
comp=Z,3μm,13.4s
DPC Dobruska-Polom 28.63 85 P **P** **16 29 45.5 -0.6**
comp=Z,19nm,1.4s
TREC Trest 28.81 88 AMS AMS 16 41 30.0
comp=Z,4μm,16.2s
BIOA Bad Ischl, Aus 28.82 92 *e*P **P** **16 29 47.9 +0.1**
comp=Z,14nm,1.7s
CTI Castel Tesino 28.83 96 IAmb IAmb 16 29 49.1
comp=Z,42nm,1.7s
KRLC Kraliky 29.03 85 AMS AMS 16 42 10.0
comp=Z,4μm,15.8s
KBA Koelnbreinsper 29.05 93 *e*P **P** **16 29 50.6 +0.7**
comp=Z,11nm,1.6s
VRAC Vranov 29.38 87 LR LR 16 41 54.8
comp=Z,2μm,18.2s,baz=296,slow=37
VRAC Vranov 29.38 87 *e*P **P** **16 29 52.4 -0.3**
KRUC Moravsky 29.43 87 *e*P **P** **16 29 52.4 -0.7**
MYKA Terra Mystica 29.50 93 *e*P **P** **16 29 53.2 -0.6**
comp=Z,27nm,1.6s
PRED Cave del Predi 29.58 94 IAmb IAmb 16 29 55.6
comp=Z,41nm,1.8s
APA Apatity 29.59 45 ⇓*i*P P 16 29 48.0 -6.3
APA *i* 16 30 45.5
APA pmax pmax
comp=Z,6.0nm,1.2s
MORC Moravsky Berou 29.61 85 IAmb IAmb 16 29 55.8
comp=Z,33nm,1.7s
MORC Moravsky Berou 29.61 85 *e*P **P** **16 29 54.0 -0.7**
VSU Vasula 29.84 64 *ce*P **P** **16 29 57.0 +0.5**
VSU pmax pmax
comp=Z,79nm,1.7s
CONA Conrad Observa 29.84 89 *e*P **P** **16 29 56.7 -0.1**
comp=Z,9.5nm,1.5s
OKC Ostrava-Krasne 29.89 85 AMS AMS 16 43 00.0
comp=Z,3μm,15.2s
L61B Northampton 29.93 256 P **P** **16 29 58.0 +0.4**
baz=43
MAUC Maruska 30.00 86 *e*P **P** **16 29 58.2 0.0**
OBKA Obir 30.05 93 *e*P **P** **16 29 57.8 -1.0**
comp=Z,11nm,1.6s
ARSA Arzberg 30.09 91 *e*P **P** **16 29 59.3 +0.3**
comp=Z,7.8nm,1.3s
ARSA Arzberg 30.09 91 IAmb IAmb 16 30 05.1
comp=Z,32nm,1.7s
SOKA Soboth 30.20 92 *e*P **P** **16 29 59.5 -0.5**
comp=Z,15nm,1.4s
RONA Rosalia, Austr 30.21 89 *e*P **P** **16 30 00.4 +0.3**
comp=Z,4.0nm,0.9s
SMOL Smolenice 30.30 87 *e*P **P** **16 30 01.6 +0.8**
MODS Modra-Piesok 30.31 88 *e*P **P** **16 30 01.3 +0.4**
MODS Modra-Piesok 30.31 88 *e*P **P** **16 30 01.3 +0.4**
OJC Ojcow 30.53 83 IAmb IAmb 16 30 06.8
comp=Z,47nm,1.8s
OJC Ojcow 30.53 83 P **P** **16 30 02.2 -0.6**
comp=Z,14nm,1.8s
LANS Liptovska Anna 30.99 85 *e*P **P** **16 30 07.7 +0.8**
LANS pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 30.99 85 *e*P **P** **16 30 07.7 +0.8**
VYHS Vyhne 31.06 86 *e*P **P** **16 30 07.4 -0.1**
VYHS pmax pmax
comp=Z,35nm,1.9s
VYHS Vyhne 31.06 86 *e*P **P** **16 30 07.4 -0.1**
SRO Srobarova 31.20 88 *e*P **P** **16 30 08.7 0.0**
SRO pmax pmax
comp=Z,75nm,2.1s
SRO Srobarova 31.20 88 *e*P **P** **16 30 08.7 0.0**
NIE Niedzica 31.26 84 P **P** **16 30 08.7 -0.6**
comp=Z,5.0nm,2.0s
FCC Fort Churchill 31.42 298 P **P** **16 30 10.3 -0.2**
FCC IAmb IAmb 16 30 15.2
comp=Z,16nm,1.1s
FCC Fort Churchill 31.42 298 P **P** **16 30 10.3 -0.2**
FCC pmax pmax
comp=Z,16nm,1.1s
MDT Midelt 31.49 132 LR LR 16 41 58.8
comp=Z,1μm,18.8s,baz=350,slow=35
NACGM Naroch 31.54 71 *e*P **P** **16 30 11.1 -0.5**
baz=301
SADO Sadowa 31.67 266 LR LR 16 41 34.2
comp=Z,3μm,20.3s,baz=66,slow=34
NRCA Norcia 31.80 99 IAmb IAmb 16 30 34.0
comp=Z,33nm,1.5s
PSZ Piszkesteto 31.97 86 IAmb IAmb 16 30 24.7
comp=Z,36nm,1.5s
MORH Mrgy, Hungar 32.40 90 ⇑P **P** **16 30 18.8 -0.5**
MORH Mrgy, Hungar 32.40 90 P **P** **16 30 18.7 -0.5**
comp=Z,17nm,1.4s
KOLS Kolonicke sedl 32.59 83 *e*P **P** **16 30 21.1 +0.2**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 32.59 83 *e*P **P** **16 30 21.1 +0.2**
HOLU Holmets 32.90 83 P **P** **16 30 23.0 -0.6**
RNPP5 Staryi Chortor 33.09 77 P **P** **16 30 24.2 -1.1**
MUKU Mukachevo 33.10 83 P **P** **16 30 24.7 -0.7**
BERU Beregovo 33.22 84 P **P** **16 30 25.8 -0.6**
E46A Sault Ste Mari 33.33 272 IAmb IAmb 16 30 32.2
comp=Z,33nm,1.2s
BRIU Brid 33.34 83 P **P** **16 30 27.1 -0.4**
STNU Starunia 33.89 81 P **P** **16 30 32.0 -0.3**
MI28 Mi28,Pidlybu 34.18 76 P **P** **16 30 34.2 -0.6**
BZS Buzias 34.36 88 ⇓P **P** **16 30 36.6 +0.3**
SURR Surduc 34.53 87 ⇑P **P** **16 30 38.1 +0.3**
KLMR Klimovskoe 34.55 55 *e*P **P** **16 30 33.6 -4.2**
KLMR pmax pmax
comp=Z,171nm,1.4s
HORU Horodok 34.58 79 P **P** **16 30 37.8 -0.4**
LUBAR Lubar, Ukraine 34.83 77 P **P** **16 30 39.7 -0.7**
BUR08 Bucovina Ar. S 34.92 82 IAmb IAmb 16 30 45.9
comp=Z,38nm,1.9s
BURAR Bucovina Array 34.95 82 P **P** **16 30 41.2 -0.4**
BURAR Bucovina Array 34.95 82 ⇑P **P** **16 30 45.4 +3.8**
AK20 Malin Array Si 34.98 75 P **P** **16 30 40.7 -0.9**
AK22 Malin Array Si 35.00 75 P **P** **16 30 40.9 -0.9**
AK17 Malin Array Si 35.04 76 P **P** **16 30 41.2 -1.0**
AK16 Malin Array Si 35.07 76 P **P** **16 30 41.5 -0.9**
KIEV Kiev 35.11 75 P **P** **16 30 41.4 -1.3**
KIEV Kiev 35.11 75 ⇑P **P** **16 30 42.0 -0.8**
KIEV Kiev 35.11 75 P **P** **16 30 41.4 -1.3**
KIEV pmax pmax
comp=Z,90nm,1.9s
AKASG Malin Array Be 35.11 75 P **P** **16 30 41.9 -0.9**
comp=Z,7.0nm,0.8s,baz=304,slow=8.4,SNR=35
AKASG PcP **PcP** **16 33 11.9 -2.1**
comp=Z,1.7nm,0.8s,baz=295,slow=3.3,SNR=4.6
AKASG LR LR 16 44 21.2
comp=Z,791nm,20.3s,baz=290,slow=35
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 35.11 75 *ce*P **P** **16 30 40.6 -2.2**
AKBB pmax pmax
comp=Z,50nm,1.8s
AKBB Malin Array Si 35.11 75 P **P** **16 30 41.9 -0.9**
GZR Gura Zlata 35.11 87 ⇑P **P** **16 30 43.4 +0.4**
AK08 Malin Array Si 35.17 75 P **P** **16 30 42.4 -0.9**
AK10 Malin Array Si 35.19 76 P **P** **16 30 42.5 -0.9**
KEST Kesra 35.25 112 P **P** **16 30 44.4 +0.1**
comp=Z,7.0nm,1.1s,baz=338,slow=11,SNR=4.1
KEST LR LR 16 44 28.0
comp=Z,2μm,18.3s,baz=328,slow=35
comp=Z,7.0nm,1.1s
EYMN Ely 36.07 280 P **P** **16 30 50.9 -0.2**
EYMN IAmb IAmb 16 30 55.8
comp=Z,30nm,1.1s
OBN Obninsk 36.19 65 LR LR 16 44 29.1
comp=Z,1μm,21.5s,baz=346,slow=34
OBN Obninsk 36.19 65 *d*i P **P** **16 30 51.5 -0.5**
OBN *e**PP **sP** **16 30 55.2 -0.6**

OBN				*SP		**pwP**	**16 30 57.0**	**0.0**
OBN				*e*			16 32 15.0	
OBN				*e*PPP		PPP	16 32 32.8	
OBN				*i*			16 33 18.9	
OBN				*i* SS		SS	16 38 57.2	-12
OBN				*e*SSS		SSS	16 39 22.8	
OBN				pmax		pmax		
	comp=Z,130nm,2.5s							
OBN				MLR		MLR		
	comp=Z,1µm,21.0s							
OBN	**Obninsk**	**36.19**	**65**	P		**P**	**16 30 51.5**	**-0.5**
	comp=Z,45nm,1.3s							
SORM	**Soroca**	**36.25**	**79**	P		**P**	**16 30 51.3**	**-1.3**
	comp=Z,19nm,1.6s							
MOS	**Moscow**	**36.34**	**63**	*e*P		**P**	**16 30 51.6**	**-1.7**
MOS				*e*			16 32 14.3	
MOS				*e*S		**S**	**16 36 34.0**	**+0.2**
MOS				pmax		pmax		
	comp=Z,55nm,1.3s							
O52A	**Adamsville**	**36.36**	**262**	IAmb		IAmb	16 30 59.1	
	comp=Z,33nm,1.2s							
VAE	**Valguarnera**	**36.42**	**104**	LR		LR	16 44 35.6	
	comp=Z,2µm,19.1s,baz=332,slow=34							
MLR	**Muntele Rosu**	**36.71**	**85**	LR		LR	16 46 59.7	
	comp=Z,2µm,18.2s,baz=315,slow=38							
PLOR3	**Plostina Array**	**36.84**	**84**	P		**P**	**16 30 57.3**	**-0.4**
	comp=Z,8.0nm,1.6s							
VRI	**Vrincioaia**	**36.88**	**84**	⇓P		**P**	**16 30 58.6**	**+0.6**
ACSO	**Alum Creek Sta**	**36.88**	**263**	IAmb		IAmb	16 31 03.2	
	comp=Z,19nm,0.9s							
ULM	**Lac du Bonnet**	**36.88**	**286**	P		**P**	**16 30 57.0**	**-1.0**
ULM	**Lac du Bonnet**	**36.88**	**286**	P		**P**	**16 30 57.5**	**-0.5**
	comp=Z,7.8nm,0.9s,baz=55,slow=9.9,SNR=13							
ULM				LR		LR	16 44 44.0	
	comp=Z,2µm,19.0s,baz=54,slow=34							
	comp=Z,7.8nm,0.9s							
ULM	**Lac du Bonnet**	**36.88**	**286**	*i* P		**P**	**16 30 56.4**	**-1.6**
E38A	**The Farm, Brul**	**36.97**	**278**	IAmb		IAmb	16 31 04.4	
	comp=Z,61nm,1.9s							
MPEP	**Malo Peshtene**	**37.01**	**89**	*e*P		**P**	**16 30 57.8**	**-1.3**
N49A	**Columbus Grove**	**37.01**	**265**	IAmb		IAmb	16 31 04.4	
	comp=Z,27nm,1.0s							
A36M	**Sachs Harbour**	**37.04**	**329**	P		**P**	**16 30 59.3**	**+0.2**
A36M				IAmb		IAmb	16 31 03.9	
	comp=Z,27nm,0.9s							
A36M	**Sachs Harbour**	**37.04**	**329**	P		**P**	**16 30 59.0**	**0.0**
	baz=61,SNR=24							
OHR	**Ohrid**	**37.04**	**94**	*i* P		**P**	**16 31 00.7**	**+1.2**
FFC	**Flin Flon**	**37.22**	**296**	P		**P**	**16 31 00.7**	**-0.1**
FFC	**Flin Flon**	**37.22**	**296**	P		**P**	**16 31 00.7**	**-0.1**
FFC				pmax		pmax		
	comp=Z,13nm,0.9s							
VTS	**Vitosha**	**37.25**	**90**	*e*P		**P**	**16 31 00.1**	**-1.3**
KBN	**Korca**	**37.38**	**95**	IAmb		IAmb	16 31 08.0	
	comp=Z,27nm,0.9s							
FNA	**Florina**	**37.58**	**94**	IAmb		IAmb	16 31 10.4	
	comp=Z,25nm,1.0s							
KKB	**Krupnik**	**37.74**	**91**	*e*P		**P**	**16 31 05.2**	**-0.2**
PGB	**Panagyurishte**	**37.82**	**90**	*e*P		**P**	**16 31 05.7**	**-0.4**
C36M	**Paulatuk**	**38.04**	**325**	P		**P**	**16 31 08.1**	**+0.5**
	baz=59							
CFR	**Carcaliu**	**38.07**	**83**	⇑P		**P**	**16 31 08.6**	**+0.6**
L44A	**Lake County Fo**	**38.07**	**270**	P		**P**	**16 31 09.2**	**+1.1**
	baz=45							
MMB	**Musomishta**	**38.28**	**91**	*e*P		**P**	**16 31 09.5**	**-0.5**
YKA	**Yellowknife Ar**	**38.39**	**312**	P		**P**	**16 31 10.7**	**0.0**
	comp=Z,6.5nm,0.9s,baz=60,slow=8.9,SNR=51							
YKA				PcP		**PcP**	**16 33 23.0**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=48,slow=3.0,SNR=4.8							
YKA				LR		LR	16 46 15.3	
	comp=Z,2µm,19.2s,baz=64,slow=35							
	comp=Z,6.5nm,0.9s							
YKA	**Yellowknife Ar**	**38.39**	**312**	*i* P		**P**	**16 31 10.6**	**0.0**
YKA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
SPMN	**Marine on St.**	**38.54**	**277**	IAmb		IAmb	16 31 16.7	
	comp=Z,22nm,0.9s							
LPSR	**Galich'ya Gora**	**38.80**	**67**	*e*P		**P**	**16 31 12.7**	**-1.4**
LPSR				pmax		pmax		
	comp=Z,22nm,1.2s							
KDZ	**Kurdzhali**	**39.06**	**90**	*e*P		**P**	**16 31 15.4**	**-1.0**
JMB	**Yambol**	**39.08**	**88**	*e*P		**P**	**16 31 14.9**	**-1.7**
PSN	**Preselentsi**	**39.12**	**85**	*e*P		**P**	**16 31 16.9**	**0.0**
VORR	**Voronezh**	**39.50**	**68**	*e*P		**P**	**16 31 17.9**	**-2.1**
VORR				pmax		pmax		
	comp=Z,42nm,0.4s							
VSR	**Storozhevoye**	**39.77**	**68**	*e*P		**P**	**16 31 18.8**	**-3.4**
ALN	**Alexandroupoli**	**39.95**	**90**	IAmb		IAmb	16 31 25.0	
	comp=Z,56nm,1.6s							
VORD	**Divnogorie**	**39.99**	**69**	*e*P		**P**	**16 31 20.1**	**-3.9**
KIRV	**Kirov**	**40.00**	**54**	LR		LR	16 47 48.4	
	comp=Z,571nm,18.2s,baz=307,slow=36							
KIRV	**Kirov**	**40.00**	**54**	*ce*P		**P**	**16 31 23.9**	**-0.1**
TKL	**Tuckaleechee C**	**40.72**	**259**	LR		LR	16 47 24.7	
	comp=Z,3µm,18.1s,baz=42,slow=35							
BG3	**Lake Jocassee**	**40.80**	**258**	IAmb		IAmb	16 31 45.6	
	comp=Z,72nm,1.7s							
USIN	**University of**	**41.00**	**265**	IAmb		IAmb	16 31 37.5	
	comp=Z,20nm,0.8s							
VRH	**Novokhopyorsk**	**41.02**	**67**	*e*P		**P**	**16 31 29.8**	**-2.8**
CPCT	**Cooper Cave**	**41.27**	**260**	IAmb		IAmb	16 31 48.8	
	comp=Z,67nm,1.9s							
WRGLY	**Wrigley**	**41.30**	**317**	P		**P**	**16 31 34.9**	**+0.2**
	baz=53							
INK	**Inuvik**	**41.45**	**327**	P		**P**	**16 31 35.2**	**-0.7**
INK	**Inuvik**	**41.45**	**327**	LR		LR	16 47 48.5	
	comp=Z,907nm,20.9s,baz=38,slow=35							
INK	**Inuvik**	**41.45**	**327**	P		**P**	**16 31 35.2**	**-0.7**
INK				pmax		pmax		
	comp=Z,19nm,1.1s							
INK	**Inuvik**	**41.45**	**327**	P		**P**	**16 31 35.4**	**-0.5**
	baz=51,SNR=12							
ECSD	**EROS Data Cent**	**41.55**	**279**	P		**P**	**16 31 37.2**	**+0.1**
F31M	**Tsiigehtchic**	**42.06**	**326**	P		**P**	**16 31 40.8**	**-0.1**
	baz=50,SNR=35							
DGMT	**Dagmar**	**42.20**	**289**	P		**P**	**16 31 42.0**	**-0.3**
DGMT				IAmb		IAmb	16 31 47.8	
	comp=Z,30nm,1.1s							
D28M	**Stokes Point**	**42.23**	**330**	P		**P**	**16 31 42.6**	**+0.3**
	baz=48							
F30M	**Barrier River**	**42.55**	**327**	P		**P**	**16 31 45.0**	**+0.1**
	baz=49,SNR=25							
G31M	**Satah River**	**42.55**	**325**	IAmb		IAmb	16 31 49.4	
	comp=Z,41nm,1.1s							
G31M	**Satah River**	**42.55**	**325**	P		**P**	**16 31 44.4**	**-0.5**
	baz=49,SNR=13							
E29M	**Blow River**	**42.63**	**328**	P		**P**	**16 31 45.9**	**+0.3**
	baz=48							
D27M	**Malcolm River**	**42.88**	**330**	IAmb		IAmb	16 31 56.9	
	comp=Z,65nm,1.9s							
D27M	**Malcolm River**	**42.88**	**330**	P		**P**	**16 31 47.1**	**-0.6**
	baz=47							
E28M	**Babbage River**	**42.94**	**329**	P		**P**	**16 31 48.0**	**0.0**
	baz=47,SNR=16							
BORA	**Eskisehir**	**43.01**	**87**	P		**P**	**16 31 49.7**	**+0.6**
BORA				IAmb		IAmb	16 31 51.0	
	comp=Z,66nm,1.7s							
G30M	**tAoh Zraii Nji**	**43.09**	**326**	P		**P**	**16 31 49.4**	**0.0**
	baz=48							
H31M	**Peel River**	**43.31**	**324**	IAmb		IAmb	16 31 56.4	
	comp=Z,33nm,1.0s							
H31M	**Peel River**	**43.31**	**324**	P		**P**	**16 31 51.2**	**+0.1**
	baz=48							
C27K	**Jago River**	**43.31**	**332**	IAmb		IAmb	16 32 00.4	
	comp=Z,59nm,2.0s							
C27K	**Jago River**	**43.31**	**332**	P		**P**	**16 31 51.2**	**+0.1**
	baz=45							
C26K	**Camden Bay**	**43.40**	**332**	P		**P**	**16 31 52.0**	**+0.2**
	baz=45							
KOTAN	**Kotaneelee Air**	**43.46**	**313**	P		**P**	**16 31 52.3**	**-0.1**
	baz=50							
IDI	**Anoyia**	**43.52**	**97**	LR		LR	16 51 40.2	
	comp=Z,540nm,18.7s,baz=298,slow=38							
G29M	**Pine Creek**	**43.67**	**327**	IAmb		IAmb	16 31 58.8	
	comp=Z,49nm,1.2s							
G29M	**Pine Creek**	**43.67**	**327**	P		**P**	**16 31 54.5**	**+0.5**
	baz=47							
E27K	**Coleen River**	**43.78**	**329**	IAmb		IAmb	16 31 59.7	
	comp=Z,28nm,0.9s							
E27K	**Coleen River**	**43.78**	**329**	P		**P**	**16 31 55.6**	**+0.7**
	baz=46							
MGMO	**Mountain Grove**	**44.03**	**268**	IAmb		IAmb	16 32 03.5	
	comp=Z,59nm,1.9s							
TGTN	**Hyland Airport**	**44.12**	**317**	P		**P**	**16 31 57.7**	**0.0**
	baz=49							
D25K	**Kavik River**	**44.19**	**332**	P		**P**	**16 31 58.0**	**-0.2**
	baz=43							
H29M	**Whitestone**	**44.24**	**326**	P		**P**	**16 31 58.8**	**+0.2**
	baz=46							
I30M	**Mount Dempster**	**44.33**	**324**	IAmb		IAmb	16 32 04.5	
	comp=Z,27nm,1.1s							
I30M	**Mount Dempster**	**44.33**	**324**	P		**P**	**16 31 59.3**	**-0.2**
	baz=47							
LAO	**LASA Array**	**44.41**	**289**	P		**P**	**16 32 01.2**	**+0.9**
LRAL	**Lakeview Retre**	**44.43**	**260**	IAmb		IAmb	16 32 12.9	
	comp=Z,49nm,1.7s							
C24K	**Franklin Bluff**	**44.45**	**334**	P		**P**	**16 32 00.6**	**+0.4**
	baz=42							
TAM	**Tamanrasset**	**44.47**	**127**	P		**P**	**16 32 01.5**	**+0.4**
TAM	**Tamanrasset**	**44.47**	**127**	P		**P**	**16 32 01.5**	**+0.4**
TAM				pmax		pmax		
	comp=Z,68nm,1.7s							
ISP	**Isparta**	**44.56**	**89**	*i* P		**P**	**16 31 59.4**	**-2.2**
TOAD	**Toad River Com**	**44.76**	**313**	P		**P**	**16 32 03.6**	**+0.8**
	baz=48							
J30M	**Hart River**	**44.77**	**324**	IAmb		IAmb	16 32 08.7	
	comp=Z,22nm,1.1s							
J30M	**Hart River**	**44.77**	**324**	P		**P**	**16 32 03.0**	**0.0**
	baz=46							
G27K	**Doyon Strip**	**44.77**	**328**	IAmb		IAmb	16 32 10.2	
	comp=Z,22nm,1.2s							
G27K	**Doyon Strip**	**44.77**	**328**	P		**P**	**16 32 03.3**	**+0.5**
	baz=45							
BR105	**Keskin Array S**	**44.79**	**85**	P		**P**	**16 32 03.6**	**+0.1**
	comp=Z,144nmcomp=Z,11nm,1.5s							
BR131	**Keskin Array S**	**44.80**	**85**	P		**P**	**16 32 03.7**	**+0.2**
BR131	**Keskin Array S**	**44.80**	**85**	*i* P		**P**	**16 32 04.2**	**+0.7**
BRTR	**Keskin Array B**	**44.80**	**85**	P		**P**	**16 32 03.5**	**-0.1**
BRTR	**Keskin Array B**	**44.80**	**85**	P		**P**	**16 32 04.4**	**+0.9**
	comp=Z,6.0nm,1.0s,baz=318,slow=3.3,SNR=22							
BRTR				PcP		**PcP**	**16 33 44.4**	**-1.0**
	comp=Z,1.8nm,1.1s,baz=318,slow=1.2,SNR=3.5							
BRTR				LR		LR	16 51 24.8	
	comp=Z,921nm,21.2s,baz=295,slow=37							
	comp=Z,6.0nm,1.0s							
BRTR	**Keskin Array B**	**44.80**	**85**	*i* P		**P**	**16 32 04.5**	**+1.0**
BRTR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
C23K	**Itkillik River**	**44.80**	**334**	P		**P**	**16 32 03.2**	**+0.2**
	baz=41							
F26K	**Sheenjek River**	**44.81**	**330**	IAmb		IAmb	16 32 06.5	
	comp=Z,36nm,1.9s							
F26K	**Sheenjek River**	**44.81**	**330**	P		**P**	**16 32 03.5**	**+0.4**
	baz=44							
BR104	**Keskin Array S**	**44.81**	**85**	P		**P**	**16 32 03.7**	**+0.1**
	comp=Z,116nmcomp=Z,10nm,1.5s							
I29M	**Ogilvie Camp,**	**44.82**	**325**	P		**P**	**16 32 03.4**	**+0.1**
	baz=46,SNR=11							
A22K	**Sinclair Lake**	**44.84**	**337**	P		**P**	**16 32 03.6**	**+0.3**
	baz=39							
E25K	**Arctic Village**	**44.87**	**331**	P		**P**	**16 32 03.9**	**+0.4**
	baz=43,SNR=13							
250A	**Grady**	**44.89**	**258**	P		**P**	**16 32 04.5**	**+0.4**
D24K	**Happy Valley**	**44.90**	**333**	P		**P**	**16 32 04.1**	**+0.3**
	baz=42							
A21K	**Barrow**	**44.92**	**338**	P		**P**	**16 32 04.5**	**+0.6**
	baz=38							
B22K	**Teshekpuk Lake**	**45.04**	**336**	P		**P**	**16 32 05.5**	**+0.7**
	baz=39							
BMAR	**Burnt Mountain**	**45.12**	**330**	P		**P**	**16 32 05.7**	**+0.1**
BBTS	**Babate**	**45.14**	**159**	LR		LR	16 46 27.9	
	comp=Z,353nm,21.9s,baz=239,slow=30							
ARTI	**Arti**	**45.15**	**52**	P		**P**	**16 32 05.6**	**-0.3**
ARTI	**Arti**	**45.15**	**52**	LR		LR	16 49 37.5	
	comp=Z,1µm,20.1s,baz=312,slow=34							
ARTI	**Arti**	**45.15**	**52**	*d i* P		**P**	**16 32 06.2**	**+0.3**
ARTI							16 33 47.1	
ARTI				S		**S**	**16 38 47.8**	**+2.9**
ARTI				SS		**SS**	**16 42 07.9**	**+1.3**
ARTI				pmax		pmax		
	comp=Z,45nm,1.8s							
H27K	**Steamboat Moun**	**45.15**	**327**	P		**P**	**16 32 05.6**	**-0.2**
	baz=44							
SOC	**Sochi**	**45.17**	**76**	*e*P		**P**	**16 32 03.9**	**-2.4**
SOC				*e*			16 33 43.3	
SOC				*e*PPP		PPP	16 34 29.7	
SOC				*e*S		**S**	**16 38 43.2**	**-2.3**
SOC				*e*SS		**SS**	**16 42 07.3**	**-0.2**
SOC				MLR		MLR		
	comp=Z,910nm,19.0s							
EGMT	**Eagleton**	**45.24**	**292**	P		**P**	**16 32 06.9**	**+0.1**
EGMT				IAmb		IAmb	16 32 12.7	
	comp=Z,30nm,1.4s							
I28M	**Miner Creek**	**45.25**	**326**	P		**P**	**16 32 03.5**	**-3.2**
	baz=45							
G26K	**Porcupine Rive**	**45.25**	**329**	P		**P**	**16 32 03.3**	**-3.3**
	baz=43							
WTLY	**Watson Lake, Y**	**45.26**	**316**	P		**P**	**16 32 03.7**	**-3.1**
	baz=47							
F25K	**Christian Rive**	**45.27**	**330**	IAmb		IAmb	16 32 29.2	
	comp=Z,34nm,1.6s							
F25K	**Christian Rive**	**45.27**	**330**	P		**P**	**16 32 03.7**	**-3.1**
	baz=43							
MAYO	**Mayo, Yukon**	**45.31**	**322**	P		**P**	**16 32 04.3**	**-2.8**
	baz=46							
FARO	**Faro, Yukon**	**45.42**	**320**	IAmb		IAmb	16 32 14.4	
	comp=Z,35nm,1.3s							
FARO	**Faro, Yukon**	**45.42**	**320**	P		**P**	**16 32 06.1**	**-2.0**
	baz=46							
J29N	**Klondike Camp**	**45.44**	**324**	P		**P**	**16 32 04.8**	**-3.4**
	baz=45							
TOLK	**Toolik Lake Re**	**45.47**	**333**	IAmb		IAmb	16 32 13.7	
	comp=Z,25nm,1.0s							
TOLK	**Toolik Lake Re**	**45.47**	**333**	P		**P**	**16 32 04.8**	**-3.6**
	baz=41,SNR=13							
D23K	**Nanushuk River**	**45.48**	**334**	IAmb		IAmb	16 32 14.1	
	comp=Z,19nm,0.9s							
D23K	**Nanushuk River**	**45.48**	**334**	P		**P**	**16 32 06.7**	**-1.7**
	baz=40							
HHAR	**Hobbs**	**45.57**	**269**	IAmb		IAmb	16 32 39.4	
	comp=Z,35nm,1.7s							
I27K	**Kandik River**	**45.62**	**327**	P		**P**	**16 32 06.7**	**-2.9**
	baz=44							
E24K	**Your Creek**	**45.63**	**332**	P		**P**	**16 32 07.2**	**-2.5**
	baz=41							
K29M	**Barlow Dome**	**45.65**	**323**	P		**P**	**16 32 07.9**	**-2.1**
	baz=45							
SVE	**Sverdlovsk**	**45.77**	**50**	*e*P		**P**	**16 32 11.1**	**+0.3**
SVE				pmax		pmax		
	comp=Z,36nm,2.2s							
M31M	**Drury Creek, Y**	**45.79**	**320**	P		**P**	**16 32 07.4**	**-3.5**
	baz=46							
GOF	**Gofitskoye**	**45.82**	**73**	*ce*P		**P**	**16 32 12.0**	**+0.6**
B21K	**Ikpikpuk River**	**45.86**	**336**	P		**P**	**16 32 07.9**	**-3.5**
	baz=38							
F24K	**Squaw Lake**	**45.91**	**331**	IAmb		IAmb	16 32 17.6	
	comp=Z,19nm,1.1s							
F24K	**Squaw Lake**	**45.91**	**331**	P		**P**	**16 32 10.0**	**-1.8**
	baz=41							
E23K	**Chandalar**	**45.92**	**332**	IAmb		IAmb	16 32 29.3	
	comp=Z,17nm,1.3s							
E23K	**Chandalar**	**45.92**	**332**	P		**P**	**16 32 10.2**	**-1.9**
	baz=40							
G25K	**Bearman Lake**	**46.01**	**330**	P		**P**	**16 32 09.3**	**-3.3**
	baz=42							
D22K	**Ayikyak River**	**46.01**	**334**	P		**P**	**16 32 10.0**	**-2.7**
	baz=39							
DAWY	**Dawson**	**46.07**	**324**	P		**P**	**16 32 13.4**	**+0.2**
DAWY	**Dawson**	**46.07**	**324**	P		**P**	**16 32 11.0**	**-2.2**
	baz=44,SNR=14							
N32M	**Quiet Lake**	**46.08**	**319**	P		**P**	**16 32 10.2**	**-3.1**
	baz=46							
B20K	**Meade River**	**46.09**	**337**	P		**P**	**16 32 11.4**	**-1.7**
	baz=37							
C21K	**Knifeblade Rid**	**46.26**	**335**	P		**P**	**16 32 11.9**	**-2.6**
	baz=38							
I26K	**Coal Creek Min**	**46.28**	**327**	P		**P**	**16 32 11.7**	**-3.1**
	baz=43							
H25L	**Birch Creek**	**46.31**	**329**	P		**P**	**16 32 11.4**	**-3.5**
	baz=42							
M30M	**Minto, Yukon**	**46.32**	**322**	P		**P**	**16 32 12.5**	**-2.7**
	baz=45							
X40A	**Basin Creek Fa**	**46.36**	**267**	IAmb		IAmb	16 32 22.5	
	comp=Z,20nm,1.3s							
L29M	**L29M**	**46.37**	**323**	P		**P**	**16 32 13.7**	**-1.8**
	baz=44							
E22K	**Anaktuvuk Pass**	**46.39**	**333**	IAmb		IAmb	16 32 20.0	
	comp=Z,13nm,1.0s							
E22K	**Anaktuvuk Pass**	**46.39**	**333**	P		**P**	**16 32 13.2**	**-2.5**
	baz=39							
G24K	**Hadweenzic Riv**	**46.42**	**330**	IAmb		IAmb	16 32 21.7	
	comp=Z,28nm,1.2s							
G24K	**Hadweenzic Riv**	**46.42**	**330**	P		**P**	**16 32 13.9**	**-2.0**
	baz=41							
KIV	**Kislovodsk**	**46.42**	**74**	*e*P		**P**	**16 32 15.0**	**-1.2**
KIV				*e*S		**S**	**16 39 00.0**	**-3.7**
KIV				pmax		pmax		
	comp=Z,11nm,1.1s							
KIV				MLR		MLR		
	comp=Z,232nm,16.0s							
KVAR	**Kislovodsk Arr**	**46.42**	**74**	LR		LR	16 51 28.9	
	comp=Z,557nm,19.6s,baz=260,slow=36							
R33M	**Jennings River**	**46.55**	**316**	IAmb		IAmb	16 32 23.5	
	comp=Z,28nm,1.2s							
R33M	**Jennings River**	**46.55**	**316**	P		**P**	**16 32 13.5**	**-3.6**
	baz=46							
SHA1	**Shidzhatmaz**	**46.56**	**74**	*i* P		**P**	**16 32 16.5**	**-1.0**
P33M	**Teslin, Yukon**	**46.64**	**318**	P		**P**	**16 32 14.6**	**-3.2**
	baz=45							
E21K	**Killik River**	**46.65**	**335**	P		**P**	**16 32 14.8**	**-2.9**
	baz=38							
KBZ	**Khabaz**	**46.69**	**74**	P		**P**	**16 32 19.3**	**+1.1**
	comp=Z,7.6nm,1.1s,baz=314,slow=8.6,SNR=9.7							
KBZ				LR		LR	16 52 58.6	
	comp=Z,708nm,18.1s,baz=321,slow=38							
	comp=Z,7.6nm,1.1s							
KBZ	**Khabaz**	**46.69**	**74**	*ce*P		**P**	**16 32 18.7**	**+0.5**
KBZ				pmax		pmax		
	comp=Z,31nm,1.5s							
A19K	**Wainwright**	**46.70**	**339**	P		**P**	**16 32 15.6**	**-2.4**
	baz=34							
MIAR	**Mount Ida**	**46.70**	**267**	IAmb		IAmb	16 32 23.2	
	comp=Z,17nm,1.3s							
COLD	**Coldfoot**	**46.71**	**332**	IAmb		IAmb	16 32 23.6	
	comp=Z,9.8nm,0.8s							
COLD	**Coldfoot**	**46.71**	**332**	P		**P**	**16 32 15.9**	**-2.2**
	baz=40,SNR=9.8							
PRP	**Porcupine Dome**	**46.79**	**328**	IAmb		IAmb	16 32 24.6	
	comp=Z,14nm,1.1s							
PRP	**Porcupine Dome**	**46.79**	**328**	P		**P**	**16 32 17.0**	**-1.9**
	baz=41							
DLBC	**Dease Lake**	**46.87**	**314**	LR		LR	16 51 30.8	
	comp=Z,1µm,18.5s,baz=62,slow=35							
DLBC	**Dease Lake**	**46.87**	**314**	P		**P**	**16 32 17.1**	**-2.5**
	baz=46							
K27K	**Chicken**	**46.91**	**326**	IAmb		IAmb	16 32 26.0	
	comp=Z,15nm,0.9s							
K27K	**Chicken**	**46.91**	**326**	P		**P**	**16 32 16.9**	**-2.9**
	baz=42							
M29M	**Somme Creek**	**46.95**	**322**	P		**P**	**16 32 17.2**	**-3.0**
	baz=44							
F22K	**John River**	**46.97**	**333**	P		**P**	**16 32 17.9**	**-2.2**
	baz=38							
J26L	**Joseph Creek**	**47.00**	**327**	IAmb		IAmb	16 32 25.3	
	comp=Z,21nm,1.2s							
J26L	**Joseph Creek**	**47.00**	**327**	P		**P**	**16 32 20.5**	**0.0**
	baz=42							
D20K	**Etivluk River**	**47.02**	**336**	P		**P**	**16 32 19.7**	**-0.9**
	baz=36							
WHY	**Whitehorse**	**47.05**	**319**	P		**P**	**16 32 21.8**	**+0.9**
	baz=44							
G23K	**Bananza Creek**	**47.06**	**331**	IAmb		IAmb	16 32 26.6	
	comp=Z,23nm,1.1s							
G23K	**Bananza Creek**	**47.06**	**331**	P		**P**	**16 32 21.0**	**0.0**
	baz=39							
H24K	**Noodor Dome**	**47.18**	**330**	IAmb		IAmb	16 32 35.5	
	comp=Z,23nm,1.2s							
H24K	**Noodor Dome**	**47.18**	**330**	P		**P**	**16 32 19.6**	**-2.3**
	baz=40							
N30M	**Aishikik Lake**	**47.22**	**321**	P		**P**	**16 32 22.7**	**+0.5**
	baz=44							
E20K	**Nigu River**	**47.29**	**335**	P		**P**	**16 32 22.3**	**-0.5**
	baz=36							
Q32M	**Nakina River**	**47.33**	**316**	P		**P**	**16 32 22.3**	**-1.0**
	baz=45							
O30N	**Mendenhall**	**47.38**	**320**	P		**P**	**16 32 23.1**	**-0.4**
	baz=44							
P32M	**Atlin**	**47.40**	**317**	P		**P**	**16 32 22.4**	**-1.3**
	baz=44							
K22A	**Casper**	**47.42**	**285**	IAmb		IAmb	16 32 28.3	
	comp=Z,18nm,1.3s							
J25K	**Salcha River,**	**47.43**	**328**	IAmb		IAmb	16 32 31.7	
	comp=Z,23nm,1.2s							
J25K	**Salcha River,**	**47.43**	**328**	P		**P**	**16 32 21.1**	**-2.7**
	baz=41							
SJG	**San Juan**	**47.43**	**227**	LR		LR	16 48 46.0	
	comp=Z,196nm,21.1s,baz=32,slow=32							
YNE	**Yellowstone No**	**47.48**	**290**	IAmb		IAmb	16 32 29.5	
	comp=Z,14nm,1.0s							
F21K	**Alatna River**	**47.51**	**333**	IAmb		IAmb	16 32 29.6	
	comp=Z,13nm,0.8s							
F21K	**Alatna River**	**47.51**	**333**	P		**P**	**16 32 24.8**	**+0.5**
	baz=37							
SCRK	**Sand Creek**	**47.51**	**326**	P		**P**	**16 32 24.0**	**-0.5**
	baz=41,SNR=14							
D19K	**Kuna River**	**47.52**	**336**	IAmb		IAmb	16 32 35.2	
	comp=Z,26nm,1.4s							
D19K	**Kuna River**	**47.52**	**336**	P		**P**	**16 32 23.5**	**-0.9**
	baz=35							
BCAR	**Beaver Creek A**	**47.54**	**325**	P		**P**	**16 32 24.8**	**+0.1**
B18K	**Kokolik River**	**47.54**	**338**	P		**P**	**16 32 23.7**	**-0.8**
	baz=33							
L27K	**Beaver Creek,**	**47.55**	**325**	P		**P**	**16 32 25.7**	**+0.9**
	baz=

YUK8	**Steele Glacier**	48.23 322	P	**P**	**16 32 33.2 +2.9**
	baz=42				
YFT	**Old Faithful**	48.29 290	IAmb	IAmb	16 32 37.3
	comp=Z,8.2nm,0.8s				
WRH	**Wood River Hil**	48.30 329	IAmb	IAmb	16 32 35.0
	comp=Z,19nm,1.3s				
M26K	**Nabesna, AK**	48.41 324	P	**P**	**16 32 32.4 +0.9**
	baz=41				
PLBC	**Pleasant Camp**	48.43 319	P	**P**	**16 32 33.0 +1.5**
	baz=43				
NEA2	**Nenana**	48.47 329	P	**P**	**16 32 31.2 -0.6**
	baz=39				
DLMT	**Dillon**	48.50 292	IAmb	IAmb	16 32 37.0
	comp=Z,14nm,1.2s				
C17K	**DeLong Mountai**	48.56 338	P	**P**	**16 32 31.4 -1.1**
	baz=32				
O29M	**Mount Kennedy**	48.56 320	P	**P**	**16 32 32.0 -0.7**
	baz=42				
NEW	**Newport**	48.59 297	LR	LR	16 52 19.1
	comp=Z,2µm,19.4s,baz=35,slow=35				
H21K	**Melozitna Rive**	48.59 332	P	**P**	**16 32 33.7 +0.9**
	baz=37				
R32K	**Eaglecrest**	48.64 317	P	**P**	**16 32 32.4 -0.8**
	baz=43				
U35K	**Hyder**	48.67 312	P	**P**	**16 32 32.2 -1.2**
	baz=44				
PAX	**Paxson**	48.71 326	IAmb	IAmb	16 32 39.7
	comp=Z,21nm,1.0s				
PAX	**Paxson**	48.71 326	P	**P**	**16 32 35.6 +1.7**
	baz=40				
O28M	**Mount Upton**	48.75 322	P	**P**	**16 32 33.4 -0.9**
	baz=42				
I21K	**Tanana**	48.77 331	IAmb	IAmb	16 32 38.9
	comp=Z,15nm,1.1s				
I21K	**Tanana**	48.77 331	P	**P**	**16 32 34.1 +0.1**
	baz=37				
LOHW	**Long Hollow**	48.78 289	IAmb	IAmb	16 32 39.5
	comp=Z,22nm,1.9s				
F19K	**Shaleruckik Mo**	48.81 335	IAmb	IAmb	16 32 44.0
	comp=Z,26nm,1.6s				
F19K	**Shaleruckik Mo**	48.81 335	P	**P**	**16 32 36.3 +1.9**
	baz=34				
RDOG	**Red Dog Mine**	48.87 338	P	**P**	**16 32 36.7 +1.8**
	baz=32				
PDAR	**Pinedale Array**	48.87 287	P	**P**	**16 32 34.6 -0.9**
PDAR	**Pinedale Array**	48.87 287	P	**P**	**16 32 34.8 -0.7**
	comp=Z,3.7nm,0.7s,baz=62,slow=7.1,SNR=37				
PDAR			LR	LR	16 52 10.1
	comp=Z,1µm,18.2s,baz=28,slow=35				
	comp=Z,3.7nm,0.7s				
E18K	**Tukpahlearik C**	48.94 336	P	**P**	**16 32 38.1 +2.8**
	baz=33				
ISCO	**Idaho Springs**	49.05 282	IAmb	IAmb	16 32 42.3
	comp=Z,35nm,1.6s				
HARP	**HAARP**	49.06 326	P	**P**	**16 32 40.5 +4.1**
	baz=40				
LLLB	**Lilooet**	49.08 303	IAmb	IAmb	16 32 42.7
	comp=Z,12nm,1.1s				
MCK	**McKinley**	49.11 328	P	**P**	**16 32 38.6 +1.8**
	baz=38				
AKTO	**Aktyubinsk**	49.13 58	LR	LR	16 53 02.8
	comp=Z,1µm,19.1s,baz=335,slow=36				
C16K	**Lisburne Hills**	49.15 339	IAmb	IAmb	16 32 41.4
	comp=Z,21nm,1.2s				
C16K	**Lisburne Hills**	49.15 339	P	**P**	**16 32 38.4 +1.4**
	baz=30				
D17K	**Noatak River**	49.21 338	P	**P**	**16 32 38.8 +1.4**
	baz=32				
H20K	**Anotleneega Mo**	49.24 333	P	**P**	**16 32 40.4 +2.7**
	baz=36				
S32K	**Killisnoo**	49.26 316	P	**P**	**16 32 39.4 +1.5**
	baz=43				
PINM	**Pinnacle**	49.28 321	P	**P**	**16 32 37.7 -0.5**
	baz=41				
WMOK	**Wichita Mounta**	49.29 272	IAmb	IAmb	16 32 50.4
	comp=Z,23nm,1.6s				
PNL	**Peninsula**	49.31 320	P	**P**	**16 32 37.5 -0.8**
	baz=41				
BPAW	**Bear Paw Mtn.**	49.37 330	P	**P**	**16 32 37.9 -0.9**
	baz=37				
F18K	**Selawik**	49.42 335	P	**P**	**16 32 38.2 -0.8**
	baz=33				
Q24A	**Divide**	49.43 281	IAmb	IAmb	16 32 43.7
	comp=Z,35nm,1.8s				
C09A	**Chrisman Ranch**	49.46 298	IAmb	IAmb	16 32 44.0
	comp=Z,15nm,1.0s				
E17K	**Hotham Inlet**	49.48 337	P	**P**	**16 32 39.5 +0.1**
	baz=32				
S31K	**Pelican**	49.49 317	P	**P**	**16 32 40.3 +0.6**
	baz=42				
N25K	**Chitina, Valde**	49.51 325	P	**P**	**16 32 40.2 +0.3**
N25K	**Chitina, Valde**	49.51 325	P	**P**	**16 32 38.9 -1.0**
	baz=40,SNR=6.6				
TIXI	**Tiksi**	49.54 8	P	**P**	**16 32 40.1 +0.2**
TIXI	**Tiksi**	49.54 8	LR	LR	16 52 20.2
	comp=Z,113nm,21.8s,baz=10,slow=34				
TIXI	**Tiksi**	49.54 8	*i* P	**P**	**16 32 41.1 +1.2**
TIXI			pmax	pmax	
	comp=Z,8.0nm,1.0s				
MAK	**Makhachkala**	49.56 71	*e*P	**P**	**16 32 36.3 -4.1**
MAK			*e*		16 34 31.2
MAK			*e*PPP	PPP	16 35 22.8
MAK			*e*S	**S**	**16 39 43.4 -4.5**
MAK			*e*SS	**SS**	**16 43 17.5 -1.9**
MAK			*e*SSS	SSS	16 44 35.8
MAK			pmax	pmax	
	comp=Z,177nm,1.0s				
MAK			MLR	MLR	
	comp=Z,994nm,14.0s				
H19K	**Roundabout Mou**	49.59 333	IAmb	IAmb	16 32 45.3
	comp=Z,37nm,1.4s				
H19K	**Roundabout Mou**	49.59 333	P	**P**	**16 32 39.0 -1.3**
	baz=35				
M24K	**Tolsona, Glenn**	49.59 326	P	**P**	**16 32 38.7 -1.8**
	baz=39				
TRF	**Thorofare Moun**	49.70 329	P	**P**	**16 32 42.2 +0.7**
	baz=37				
I20K	**Naaghedeneel**	49.71 332	P	**P**	**16 32 41.3 +0.1**
	baz=36				
U33K	**Whale Pass**	49.71 314	P	**P**	**16 32 40.6 -0.7**
	baz=42				
V35K	**Ketchikan**	49.71 312	P	**P**	**16 32 42.0 +0.6**
	baz=43				
MESA	**MESA**	49.77 322	P	**P**	**16 32 38.6 -3.4**
	baz=40				
KTH	**Kantishna Hill**	49.79 329	IAmb	IAmb	16 32 51.4
	comp=Z,29nm,1.2s				
G18K	**Tagagawik**	49.79 334	P	**P**	**16 32 40.8 -1.1**
	baz=34				
SIT	**Sitka**	49.84 316	P	**P**	**16 32 41.8 -0.5**
	baz=42				
CHUM	**Lake Minchumin**	49.90 330	P	**P**	**16 32 43.2 +0.5**
	baz=36				
F17K	**Baldwin Pennin**	49.90 336	P	**P**	**16 32 44.8 +2.1**
	baz=32				
KLU	**Klutina**	49.99 325	P	**P**	**16 32 46.6 +3.0**
	baz=39				
BMRM	**Bremner River**	50.00 324	P	**P**	**16 32 47.7 +4.1**
	baz=39				
RTBA	**Rita Blanca**	50.07 277	IAmb	IAmb	16 32 49.3
	comp=Z,17nm,1.1s				
J20K	**Nowinta River**	50.13 331	IAmb	IAmb	16 32 52.4
	comp=Z,14nm,1.0s				
J20K	**Nowinta River**	50.13 331	P	**P**	**16 32 46.0 +1.5**
	baz=35				
SCM	**Sheep Creek Mo**	50.15 326	P	**P**	**16 32 46.7 +2.0**
	baz=38				
O20A	**White River Ci**	50.15 284	IAmb	IAmb	16 32 49.4
	comp=Z,50nm,1.8s				
CRAG	**Craig**	50.19 313	P	**P**	**16 32 47.2 +2.2**
	baz=42				
CAST	**Castle Rocks**	50.21 330	P	**P**	**16 32 46.1 +0.9**
	baz=36				
GNI	**Garni**	50.24 76	P	**P**	**16 32 46.4 +0.6**
GNI	**Garni**	50.24 76	LR	LR	16 54 28.4
	comp=Z,543nm,20.2s,baz=329,slow=37				
GNI	**Garni**	50.24 76	*i* P	**P**	**16 32 46.6 +0.8**
GNI			pmax	pmax	
	comp=Z,63nm,1.5s				
M23K	**Glacier View**	50.29 326	P	**P**	**16 32 47.8 +2.0**
	baz=38				
GCSA	**Galena City Sc**	50.34 333	P	**P**	**16 32 48.1 +2.1**
	baz=34				
H18K	**Honhosa River**	50.35 334	IAmb	IAmb	16 32 52.1
	comp=Z,18nm,0.9s				
H18K	**Honhosa River**	50.35 334	P	**P**	**16 32 48.7 +2.5**
	baz=33				
PLID	**Pearl Lake**	50.35 294	IAmb	IAmb	16 32 51.1
	comp=Z,16nm,1.1s				
SML	**Sawmill**	50.46 327	P	**P**	**16 32 48.5 +1.4**
SML	**Sawmill**	50.46 327	P	**P**	**16 32 47.5 +0.4**
	baz=38				
CUT	**Chulitna**	50.53 328	P	**P**	**16 32 49.0 +1.5**
	baz=37				
G17K	**Kiwalik Mounta**	50.57 335	P	**P**	**16 32 50.4 +2.5**
	baz=32				
BBB	**Bella Bella**	50.61 308	LR	LR	16 53 53.8
	comp=Z,1µm,19.6s,baz=37,slow=36				
J19K	**Poorman**	50.65 332	IAmb	IAmb	16 33 00.2
	comp=Z,38nm,1.5s				
J19K	**Poorman**	50.65 332	P	**P**	**16 32 49.9 +1.5**
	baz=34				
PPLA	**Purkeypile**	50.66 329	P	**P**	**16 32 50.0 +1.3**
	baz=36				
GANJ	**Ganja**	50.68 74	P	**P**	**16 32 47.7 -1.3**
SEKA	**Sheki**	50.70 73	P	**P**	**16 32 48.2 -1.0**
GEVA	**Gevas**	50.75 79	IAmb	IAmb	16 32 52.3
	comp=Z,38nm,1.9s				
AKT	**Akhty**	50.77 73	*e*P	**P**	**16 32 49.4 -0.3**
AKT			*e*		16 34 39.7
AKT			S	**S**	**16 40 10.0 +4.9**
AKT			pmax	pmax	
	comp=Z,54nm,1.6s				
K20K	**Telida**	50.78 331	IAmb	IAmb	16 32 54.4
	comp=Z,18nm,1.0s				
K20K	**Telida**	50.78 331	P	**P**	**16 32 49.9 +0.4**
	baz=35				
MMAI	**Mount Meron Ar**	50.80 89	LR	LR	16 57 41.2
	comp=Z,614nm,18.2s,baz=323,slow=40				
KNK	**Knik Glacier**	50.81 326	P	**P**	**16 32 50.6 +1.0**
	baz=37				
GLI	**Glacier Island**	50.83 325	P	**P**	**16 32 49.7 -0.1**
	baz=38				
ABKAR	**Akbulak array**	50.85 58	P	**P**	**16 32 49.6 -0.4**
ABKAR	**Akbulak array**	50.85 58	IAmb	IAmb	16 32 55.2
	comp=Z,32nm,1.2s				
PMR	**Palmer**	50.86 327	P	**P**	**16 32 51.0 +1.0**
	baz=37				
H17K	**Granite Mounta**	50.89 334	P	**P**	**16 32 52.2 +2.0**
	baz=32				
LTY	**Liberty**	50.96 299	IAmb	IAmb	16 32 54.0
	comp=Z,35nm,1.9s				
MNGR	**Mingechevir, A**	50.97 74	P	**P**	**16 32 49.9 -1.2**
M22K	**Willow**	51.02 327	P	**P**	**16 32 52.7 +1.6**
	baz=37				
TCUT	**Toone Canyon**	51.02 287	IAmb	IAmb	16 32 58.4
	comp=Z,18nm,1.2s				
G16K	**Koyuk River**	51.04 336	P	**P**	**16 32 53.3 +2.0**
	baz=31				
BSUT	**Blindstream Ca**	51.13 286	IAmb	IAmb	16 33 03.5
	comp=Z,34nm,1.9s				
PWL	**Port Wells**	51.22 326	P	**P**	**16 32 54.2 +1.5**
	baz=37				
SKT	**Skwentna**	51.23 328	IAmb	IAmb	16 32 53.8
	comp=Z,40nm,1.4s				
SKT	**Skwentna**	51.23 328	P	**P**	**16 32 51.7 -1.2**
	baz=36				
DKNS	**Dickens**	51.25 273	IAmb	IAmb	16 33 06.4
	comp=Z,18nm,1.1s				
F15K	**North Star Dit**	51.25 337	P	**P**	**16 32 52.3 -0.6**
	baz=30				
NAX	**Nakhchivan**	51.36 76	P	**P**	**16 32 52.9 -1.3**
SUA	**Susitna One**	51.43 327	P	**P**	**16 32 53.7 -0.7**
	baz=36				
RC01	**Rabbit Creek A**	51.44 327	P	**P**	**16 32 55.9 +1.5**
	baz=36				
HKT	**Hockley**	51.48 265	P	**P**	**16 32 55.0 0.0**
HKT			IAmb	IAmb	16 33 02.3
	comp=Z,28nm,1.4s				
HKT	**Hockley**	51.48 265	*i* P	**P**	**16 32 55.8 +0.8**
HKT			pmax	pmax	
	comp=Z,20nm,2.3s				
P18A	**Preston Nutter**	51.55 285	IAmb	IAmb	16 33 01.8
	comp=Z,49nm,2.0s				
P23K	**Montague Islan**	51.62 325	P	**P**	**16 32 56.2 +0.5**
	baz=37				
TTA	**Tatalina**	51.64 331	P	**P**	**16 32 53.6 -2.3**
	baz=34				
H16K	**Elim**	51.66 335	P	**P**	**16 32 54.9 -1.1**
	baz=31				
TORD	**Torodi Ar. Bea**	51.71 137	P	**P**	**16 32 54.9 -2.0**
	comp=Z,3.5nm,0.5s,baz=346,slow=9.6,SNR=11				
TORD			LR	LR	16 52 34.5
	comp=Z,257nm,22.0s,baz=342,slow=33				
	comp=Z,3.5nm,0.5s				
G15K	**Niukluk**	51.74 336	P	**P**	**16 32 54.4 -2.2**
	baz=30				
M20K	**Styx River**	51.75 329	P	**P**	**16 32 56.1 -0.7**
	baz=35				
Q23K	**Middleton Isla**	51.75 324	P	**P**	**16 32 55.6 -1.1**
	baz=38				
F14K	**Arctic Creek**	51.79 338	P	**P**	**16 32 55.3 -1.7**
	baz=28				
PV11	**David Mesa, Pa**	51.85 283	IAmb	IAmb	16 33 02.9
	comp=Z,16nm,1.1s				
PV10	**Paradox Valley**	51.87 283	IAmb	IAmb	16 33 03.6
	comp=Z,29nm,1.3s				
O22K	**Cooper Landing**	51.93 326	P	**P**	**16 32 58.0 0.0**
	baz=36				
L19K	**White Mountain**	51.96 330	P	**P**	**16 32 58.7 +0.4**
	baz=34				
I17K	**Unalakleet**	51.96 334	P	**P**	**16 32 59.2 +1.0**
	baz=31				
J17K	**VABM Dome**	52.00 333	P	**P**	**16 33 00.5 +2.0**
	baz=32				
TNA	**Tin City**	52.03 339	P	**P**	**16 33 02.8 +4.2**
	baz=28				
SPCR	**Spurr Chakacha**	52.05 328	P	**P**	**16 33 01.0 +1.9**
	baz=35				
M19K	**Big River Lodg**	52.07 330	P	**P**	**16 32 59.0 -0.1**
	baz=34				
CAPN	**Captain Cook N**	52.11 327	P	**P**	**16 32 58.8 -0.6**
	baz=36				
GHAJ	**Ghor Haditha**	52.22 91	IAmb	IAmb	16 33 13.1
	comp=Z,37nm,1.3s				
ASF	**Jabal al Asfar**	52.24 89	LR	LR	16 56 53.3
	comp=Z,447nm,21.6s,baz=339,slow=38				
NLWA	**Neilton Lookou**	52.33 301	P	**P**	**16 33 00.6 -0.6**
NLWA			IAmb	IAmb	16 33 06.7
	comp=Z,29nm,1.2s				
BRVK	**Borovoye**	52.34 48	P	**P**	**16 33 01.4 +0.1**
BRVK			IAmb	IAmb	16 33 02.9
	comp=Z,51nm,1.8s				
BRVK	**Borovoye**	52.34 48	*ce*P	**P**	**16 33 01.7 +0.5**
BRVK			pmax	pmax	
	comp=Z,43nm,2.5s				
K17K	**Iditarod**	52.39 332	P	**P**	**16 33 03.4 +2.0**
	baz=32				
L18K	**Granite Mounta**	52.40 331	P	**P**	**16 33 03.0 +1.5**
	baz=33				
BVAR	**Borovoye Array**	52.41 48	P	**P**	**16 33 01.8 0.0**
	comp=Z,4.3nm,0.8s,baz=324,slow=7.3,SNR=26				
BVAR			PcP	**PcP**	**16 34 12.7 +0.3**
	comp=Z,1.2nm,0.8s,baz=335,slow=6.4,SNR=1.5				
BVAR			LR	LR	16 53 43.8
	comp=Z,502nm,19.9s,baz=311,slow=34				
	comp=Z,4.3nm,0.8s				
J16K	**Anvik River**	52.46 334	P	**P**	**16 33 03.9 +2.0**
	baz=31				
MVCO	**Mesa Verde**	52.48 282	IAmb	IAmb	16 33 18.4
	comp=Z,45nm,1.6s				
M18K	**Stony River**	52.79 330	P	**P**	**16 33 06.4 +2.0**
	baz=33				
BRSE	**Bradley Lake S**	52.83 326	P	**P**	**16 33 06.2 +1.5**
	baz=35				
L17K	**Donlin**	52.88 332	P	**P**	**16 33 06.0 +1.0**
	baz=32				
N19K	**Bonanza Creek**	53.00 329	P	**P**	**16 33 08.0 +1.9**
	baz=34				
ANMO	**Albuquerque**	53.16 278	P	**P**	**16 33 08.0 +0.2**
ANMO	**Albuquerque**	53.16 278	LR	LR	16 54 51.1
	comp=Z,1µm,19.1s,baz=210,slow=35				
ANMO	**Albuquerque**	53.16 278	*i* P	**P**	**16 33 05.9 -1.8**
ANMO			pmax	pmax	
	comp=Z,4.0nm,1.5s				
HOM	**Homer**	53.16 327	P	**P**	**16 33 07.1 0.0**
	baz=35				
BILL	**Bilibino**	53.17 352	*i* P	**P**	**16 33 08.7 +1.6**
BILL			pmax	pmax	
	comp=Z,12nm,2.3s				
EIL	**Elat**	53.19 92	LR	LR	16 59 23.3
	comp=Z,208nm,18.4s,baz=273,slow=40				
ELK	**Elko**	53.22 290	LR	LR	16 55 11.1
	comp=Z,1µm,18.2s,baz=44,slow=35				
M17K	**Holitna River**	53.29 331	P	**P**	**16 33 09.0 +1.0**
	baz=32				
LKRN	**Lenkeran, Azer**	53.38 74	P	**P**	**16 33 07.9 -1.1**
O19K	**Port Alsworth**	53.47 328	P	**P**	**16 33 10.9 +1.5**
	baz=34				
N18K	**Kilae Creek**	53.49 330	P	**P**	**16 33 10.5 +0.9**
	baz=33				
K15K	**Wolf Creek Mou**	53.53 333	P	**P**	**16 33 09.2 -0.6**
	baz=30				
L16K	**Owhat River**	53.54 332	P	**P**	**16 33 14.0 +4.1**
	baz=31				
WVOR	**Wild Horse Val**	53.60 293	IAmb	IAmb	16 33 17.9
	comp=Z,21nm,1.4s				
N17K	**Nushagak Hills**	53.97 330	P	**P**	**16 33 10.9 -2.2**
	baz=32				
M16K	**Timber Creek**	54.00 331	P	**P**	**16 33 13.7 +0.4**
	baz=31				
O18K	**Koktuh Hills**	54.00 329	P	**P**	**16 33 14.3 +0.9**
	baz=33				
L15K	**Ungalak Mounta**	54.05 333	P	**P**	**16 33 17.3 +3.6**
	baz=30				
PCRV	**Puerto La Cruz**	54.19 221	LR	LR	16 53 41.5
	comp=Z,189nm,20.5s,slow=33				
J05D	**Fort Rock, OR**	54.20 296	IAmb	IAmb	16 33 20.8
	comp=Z,14nm,1.0s				
Q20K	**Shuyak Island**	54.25 326	P	**P**	**16 33 14.5 -0.6**
	baz=34				
Q19K	**Cape Douglas,**	54.34 327	P	**P**	**16 33 14.7 -1.2**
	baz=33				
GAMB	**Gambell**	54.35 339	P	**P**	**16 33 17.8 +2.0**
	baz=25				
P18K	**Big Mountain,**	54.40 328	P	**P**	**16 33 15.1 -1.2**
	baz=33				
N16K	**Nishlik Lake**	54.42 331	P	**P**	**16 33 18.4 +2.0**
	baz=31				
K13K	**Kusilvak Mount**	54.56 335	P	**P**	**16 33 18.9 +1.5**
	baz=28				
O17K	**Koliganek Bris**	54.58 330	P	**P**	**16 33 19.0 +1.5**
	baz=32				
L14K	**Kuka Creek**	54.63 333	P	**P**	**16 33 19.4 +1.5**
	baz=29				
M15K	**Kasigluk River**	54.71 332	P	**P**	**16 33 20.5 +2.0**
	baz=30				
KNB	**Kanab**	54.84 285	IAmb	IAmb	16 33 31.5
	comp=Z,22nm,1.5s				
M14K	**Bethel**	54.98 333	P	**P**	**16 33 21.3 +1.0**
	baz=29				
KDAK	**Kodiak Island**	54.99 326	LR	LR	16 55 13.7
	comp=Z,314nm,20.7s,baz=252,slow=34				
O16K	**Kokwok River B**	55.00 330	P	**P**	**16 33 21.0 +0.5**
	baz=31				
N15K	**Kwethluk River**	55.02 331	P	**P**	**16 33 21.7 +0.9**
	baz=30				
LCMT	**Little Creek M**	55.06 285	IAmb	IAmb	16 33 24.9
	comp=Z,29nm,2.0s				
ALPN	**Alpine**	55.25 272	IAmb	IAmb	16 33 30.2
	comp=Z,28nm,1.6s				
P16K	**Nushagak River**	55.46 330	P	**P**	**16 33 21.7 -2.2**
	baz=31				
MDP	**Montagnes des**	55.56 205	LR	LR	16 51 35.9
	comp=Z,267nm,21.0s,baz=55,slow=30				
M13K	**Dall Lake**	55.60 333	P	**P**	**16 33 22.2 -2.7**
	baz=28				
DBIC	**Dimbokro**	55.66 147	P	**P**	**16 33 24.4 -1.4**
	comp=Z,11nm,0.8s,baz=340,slow=6.6,SNR=18				
DBIC			LR	LR	16 54 17.4
	comp=Z,871nm,20.7s,baz=342,slow=33				
	comp=Z,11nm,0.8s				
BRZS	**Berezniki**	55.67 49	*e*P	**P**	**16 33 25.8 +0.2**
BRZS			pmax	pmax	
	comp=Z,20nm,1.7s				
BRZS	**Berezniki**	55.67 49	*e*P	**P**	**16 33 25.8 +0.2**
	comp=Z,20nm,1.7s				
PRN	**Pahroc Range**	55.67 287	IAmb	IAmb	16 33 33.6
	comp=Z,17nm,1.5s				
PAHR	**Pah Rah Range**	56.05 292	IAmb	IAmb	16 33 34.0
	comp=Z,18nm,1.1s				
TXAR	**Lajitas Array**	56.09 272	P	**P**	**16 33 29.2 +0.3**
	comp=Z,0.9nm,0.7s,baz=43,slow=3.9,SNR=8.4				
TXAR			LR	LR	16 56 55.8
	comp=Z,682nm,18.3s,baz=44,slow=35				
	comp=Z,0.9nm,0.7s				
YBH	**Yreka Blue Hor**	56.09 296	LR	LR	16 56 28.3
	comp=Z,1µm,21.1s,baz=25,slow=35				
NV11	**Mina Array Sit**	56.43 290	P	**P**	**16 33 30.7 -0.7**
NVAR	**Mina Array Bea**	56.51 290	P	**P**	**16 33 32.7 +0.7**
	comp=Z,1.2nm,0.7s,baz=62,slow=5.6,SNR=9.4				
NVAR			LR	LR	16 57 06.7
	comp=Z,914nm,19.2s,baz=8.5,slow=35				
	comp=Z,1.2nm,0.7s				
GMN	**Gold Mountain**	56.87 288	IAmb	IAmb	16 33 39.5
	comp=Z,24nm,1.8s				
ZAA0	**Zalesovo Array**	56.91 39	P	**P**	**16 33 34.2 -0.1**
ZAA0			IAmb	IAmb	16 33 39.1
	comp=Z,28nm,1.8s				
ZALV	**Zalesovo Beam**	56.91 39	P	**P**	**16 33 33.8 -0.5**
ZALV	**Zalesovo Beam**	56.91 39	P	**P**	**16 33 34.4 +0.1**
	comp=Z,1.6nm,0.7s,baz=339,slow=3.8,SNR=6.5				
ZALV			LR	LR	16 58 14.6
	comp=Z,266nm,19.3s,baz=311,slow=36				
	comp=Z,1.6nm,0.7s				
KURK	**Kurchatov**	57.38 45	P	**P**	**16 33 37.1 -0.6**
KURK			IAmb	IAmb	16 33 42.3
	comp=Z,37nm,1.6s				
KURK	**Kurchatov**	57.38 45	*ce*P	**P**	**16 33 37.7 0.0**
KURK			pmax	pmax	
	comp=Z,43nm,2.5s				
KURBB	**Kurchatov Arra**	57.42 45	P	**P**	**16 33 37.4 -0.6**
	comp=Z,4.4nm,0.8s,baz=324,slow=6.9,SNR=30				
KURBB			LR	LR	16 57 54.2
	comp=Z,334nm,18.6s,baz=142,slow=36				
	comp=Z,4.4nm,0.8s				
GWY	**Greenwater Val**	57.44 287	IAmb	IAmb	16 33 46.1
	comp=Z,30nm,1.7s				
GSC	**Goldstone, Bar**	58.20 287	IAmb	IAmb	16 33 49.0
	comp=Z,17nm,1.5s				
ISA	**Isabella, Lake**	58.75 288	IAmb	IAmb	16 33 55.6
	comp=Z,19nm,1.6s				
SEY	**Seymchan**	58.96 358	*i* P	**P**	**16 33 48.6 +0.1**
SEY			pmax	pmax	
	comp=Z,9.0nm,1.6s				
YAK	**Yakutsk**	59.05 10	*ce*P	**P**	**16 33 50.8 +1.6**
YAK			pmax	pmax	
	comp=Z,8.0nm,0.7s				
PFO	**Pinyon Flats O**	59.35 285	P	**P**	**16 33 51.0 -0.9**
PFO			IAmb	IAmb	16 33 59.5
	comp=Z,17nm,1.3s				
PFO	**Pinyon Flats O**	59.35 285	LR	LR	16 59 11.3
	comp=Z,927nm,18.6s,baz=34,slow=36				
PFO	**Pinyon Flats O**	59.35 285	P	**P**	**16 33 51.0 -0.9**
PFO			pmax	pmax	
	comp=Z,17nm,1.3s				
BRLS	**Borolday**	60.02 56	*e*P	**P**	**16 33 57.2 +1.0**
BRLS			pmax	pmax	
	comp=Z,14nm,1.6s				
BRLS	**Borolday**	60.02 56	*e*P	**P**	**16 33 57.3 +1.0**
	comp=Z,14nm,1.6s				
BOAV	**Boa Vista**	60.20 214	*e*P	**P**	**16 33 58.9 +1.2**
KKAR	**Karatay Array**	60.25 55	P	**P**	**16 33 57.5 -0.2**
KKAR	**Karatay Array**	60.25 55	IAmb	IAmb	16 33 59.7
	comp=Z,37nm,1.9s				
KKAR	**Karatay Array**	60.25 55	P	**P**	**16 33 57.6 -0.2**
DZA	**Taraz**	60.77 55	*e*P	**P**	**16 34 01.7 +0.3**
DZA			pmax	pmax	
	comp=Z,8.0nm,1.0s				
DZA	**Taraz**	60.77 55	*e*P	**P**	**16 34 01.8 +0.3**
	comp=Z,7.6nm,1.0s				
IUG	**Iuzhnay**	60.81 56	*e*P	**P**	**16 34 01.8 +0.1**
IUG			pmax	pmax	
	comp=Z,23nm,1.4s				
IUG	**Iuzhnay**	60.81 56	*e*P	**P**	**16 34 01.9 +0.1**
	comp=Z,23nm,1.4s				
ZAIG	**Zacatecas**	60.81 266	P	**P**	**16 34 02.5 +0.3**
APG	**El Apazote**	61.07 250	LR	LR	16 59 18.2
	comp=Z,20nm,21.4s,baz=74,slow=35				
CMIG	**Matias Romero**	61.53 256	LR	LR	17 02 27.9
	comp=Z,416nm,18.8s,baz=360,slow=38				
SGDS	**Sogindy**	61.72 52	*e*P	**P**	**16 34 08.1 +0.2**
SGDS	**Sogindy**	61.72 52	*e*P	**P**	**16 34 08.1 +0.2**
MAKZ	**Makanchi**	61.86 45	P	**P**	**16 34 07.7 -1.0**
MAKZ	**Makanchi**	61.86 45	P	**P**	**16 34 07.7 -1.0**
MAKZ			pmax	pmax	
	comp=Z,61nm,1.9s				
TDK	**Taldyqorghan**	61.98 49	*e*P	**P**	**16 34 09.8 +0.3**
TDK			pmax	pmax	
	comp=Z,8.0nm,0.8s				
TDK	**Taldyqorghan**	61.98 49	*e*P	**P**	**16 34 09.8 +0.3**
	comp=Z,7.9nm,0.8s				
MK31	**Makanchi Array**	61.99 45	*ce*P	**P**	**16 34 09.3 -0.2**

MKAR Makanchi Array 61.99 45 P **P 16 34 08.2 -1.4**
MKAR Makanchi Array 61.99 45 P **P 16 34 09.0 -0.5**
comp=Z,3.6nm,0.6s,baz=335,slow=5.8,SNR=59
comp=Z,3.6nm,0.6s
AAK Ala-Archa 62.33 53 P **P 16 34 12.7 +0.6**
AAK IAmb IAmb 16 34 17.2
comp=Z,12nm,1.3s
AAK Ala-Archa 62.33 53 *ce*P **P 16 34 12.4 +0.3**
AAK pmax pmax
comp=Z,33nm,2.5s
MA2 Magadan 62.35 358 P **P 16 34 11.9 +0.2**
MA2 IAmb IAmb 16 34 34.9
comp=Z,19nm,1.7s
MA2 Magadan 62.35 358 *ce*P **P 16 34 12.8 +1.1**
MA2 pmax pmax
comp=Z,11nm,2.5s
ZSN Zaisan 62.38 43 *e*P **P 16 34 12.4 +0.3**
ZSN pmax pmax
comp=Z,17nm,1.5s
ZSN Zaisan 62.38 43 *e*P **P 16 34 12.4 +0.3**
comp=Z,17nm,1.5s
JTS Las Juntas de 62.48 243 LR LR 17 00 56.0
comp=Z,460nm,18.1s,baz=105,slow=36
ROSC El Rosal 62.72 229 P **P 16 34 16.0 +0.8**
comp=Z,7.0nm,0.4s,baz=60,slow=5.6,SNR=13
ROSC LR LR 17 02 56.6
comp=Z,138nm,18.3s,baz=26,slow=38
comp=Z,7.0nm,0.4s
BTK Batken 62.85 57 IAmb IAmb 16 34 20.7
comp=Z,12nm,0.8s
AAA Alma-Ata 62.87 51 *e*P **P 16 34 15.7 +0.2**
AAA pmax pmax
comp=Z,8.0nm,0.7s
AAA Alma-Ata 62.87 51 *e*P **P 16 34 15.7 +0.2**
comp=Z,8.4nm,0.7s
TNSS Tian-Shan 63.02 51 *e*P **P 16 34 16.9 0.0**
TNSS Tian-Shan 63.02 51 *e*P **P 16 34 17.0 0.0**
SIMJ Simiganj 63.18 59 P **P 16 34 16.9 -0.8**
KPKS Kokpek 63.37 50 *e*P **P 16 34 19.3 +0.4**
KPKS Kokpek 63.37 50 *e*P **P 16 34 19.3 +0.4**
ZHN Zhinishke 63.52 50 *e*P **P 16 34 20.1 +0.2**
ZHN pmax pmax
comp=Z,6.0nm,1.0s
ZHN Zhinishke 63.52 50 *e*P **P 16 34 20.1 +0.2**
comp=Z,5.5nm,1.0s
SATY Saty 63.60 50 *e*P **P 16 34 20.7 +0.3**
SATY pmax pmax
comp=Z,14nm,1.5s
SATY Saty 63.60 50 *e*P **P 16 34 20.7 +0.3**
comp=Z,14nm,1.5s
RAYN Ar Rayn 63.69 88 P **P 16 34 20.9 -0.3**
RAYN Ar Rayn 63.69 88 P **P 16 34 21.0 -0.3**
RAYN pmax pmax
comp=Z,29nm,1.7s
DRK Karamyk 63.76 57 IAmb IAmb 16 34 23.4
comp=Z,22nm,1.4s
MOY Mondy 63.76 31 *e*P **P 16 34 21.0 -0.4**
MOY pmax pmax
comp=Z,38nm,2.8s
UZB Uzynbulak 63.77 50 *e*P **P 16 34 21.9 +0.3**
UZB pmax pmax
comp=Z,15nm,1.4s
UZB Uzynbulak 63.77 50 *e*P **P 16 34 21.9 +0.3**
comp=Z,15nm,1.4s
LPIG La Paz 63.80 274 LR LR 17 01 43.3
comp=Z,420nm,18.2s,baz=36,slow=36
KDJ Kajisay 63.87 52 IAmb IAmb 16 34 27.8
comp=Z,8.6nm,1.0s
SHLS Shalkode 63.94 49 *e*P **P 16 34 24.0 +1.3**
SHLS pmax pmax
comp=Z,14nm,1.0s
SHLS Shalkode 63.94 49 *e*P **P 16 34 24.1 +1.3**
comp=Z,14nm,1.0s
IRK Irkutsk 64.09 28 *e*P P 16 34 18.4 -5.0
IRK pmax pmax
comp=Z,60nm,2.8s
RCBR Riachuelo 64.10 184 LR LR 16 56 20.2
comp=Z,101nm,19.3s,baz=48,slow=30
TARG Taragay, Kyrgy 64.46 51 IAmb IAmb 16 34 33.0
comp=Z,12nm,0.9s
ITTB Itaituba 65.43 206 *e*P **P 16 34 32.0 -0.4**
ZAK Zakamensk 65.54 30 *e*P **P 16 34 32.1 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,2.3s
KSH Kashi 65.54 54 P **P 16 34 35.0 +1.8**
KSH pP pwP 16 34 39.4 +1.1
KSH pmax pmax
comp=Z,22nm,1.6s
KSH LR LR
comp=Z,540nm,17.9s
KSH LR LR
comp=Z,270nm,18.9s
KSH LR LR
comp=Z,710nm,18.9s
FLOC Florencia 66.22 229 IAmb IAmb 16 34 48.7
comp=Z,9.9nm,0.9s
CIT Chita 66.39 23 *e*P **P 16 34 38.6 +0.2**
CIT *e* 16 38 47.4
WMQ Urumqi 66.51 43 *e*P **P 16 34 39.2 -0.1**
WMQ pP pwP 16 34 44.2 -0.1
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,320nm,5.9s
WMQ LR LR
comp=Z,760nm,18.1s
WMQ LR LR
comp=Z,310nm,23.5s
KBL Kabul 66.57 62 P **P 16 34 39.8 -0.2**
KBL Kabul 66.57 62 P **P 16 34 39.8 -0.2**
KBL pmax pmax
comp=Z,33nm,1.7s
TEFE Tefe 67.03 216 *e*P **P 16 34 42.6 -0.2**
NBAN Anadia - AL 67.92 185 *e*P **P 16 34 48.8 +0.5**
NPGB Novo Progresso 67.93 205 *e*P **P 16 34 47.9 -0.6**
SMTB Santa Maria do 68.23 197 *e*P **P 16 34 50.9 +0.6**
H10S3 ASCENSION HYDR 68.56 162 T T 17 49 10.4
baz=230,slow=74,SNR=20
H10S2 ASCENSION HYDR 68.56 162 T T 17 49 09.4
baz=350,slow=74,SNR=16
OTAV Otavalo 68.57 231 P **P 16 34 52.9 -0.2**
OTAV Otavalo 68.57 231 P **P 16 34 52.9 -0.2**
OTAV pmax pmax
comp=Z,25nm,1.5s
OTAV Otavalo 68.57 231 *e*P **P 16 34 54.1 +1.0**
SONM Songino Array 68.68 29 P **P 16 34 52.0 -1.0**
SONM Songino Array 68.68 29 P **P 16 34 52.6 -0.4**
comp=Z,6.3nm,1.2s,baz=324,slow=4.4,SNR=13
comp=Z,6.3nm,1.2s
SONM Songino Array 68.68 29 P **P 16 34 52.0 -1.0**
SONM pmax pmax
comp=Z,30nm,1.7s
ULN Ulaanbaatar 68.82 28 P **P 16 34 53.3 -0.6**
ULN Ulaanbaatar 68.82 28 *i* P **P 16 34 53.8 -0.1**
ULN pmax pmax
comp=Z,33nm,1.7s
NIL Nilore 69.24 59 P **P 16 34 56.5 -0.1**
NIL IAmb IAmb 16 35 01.2
comp=Z,19nm,1.1s
NIL Nilore 69.24 59 P **P 16 34 56.5 -0.1**
NIL pmax pmax
comp=Z,19nm,1.2s
TBTG Tabatinga, AM 69.39 221 *e*P **P 16 34 58.3 +0.7**
HEH HeiHe 70.39 14 *e*P **P 16 35 03.7 +0.4**
HEH pmax pmax
comp=Z,14nm,1.7s
WSAR Wadi Sarin 70.77 77 LR LR 17 10 09.0
comp=Z,196nm,19.7s,baz=344,slow=39
KLR Kul'dur 71.89 11 P **P 16 35 11.4 -1.0**
comp=Z,0.7nm,0.6s,baz=106,slow=3.4,SNR=4.9
comp=Z,0.7nm,0.6s
KLR Kul'dur 71.89 11 *ce*P **P 16 35 13.5 +1.1**
KLR pmax pmax
comp=Z,18nm,2.5s
ATD Arta Tunnel 72.24 97 LR LR 17 08 38.3
comp=Z,7.8nm,19.8s,baz=20,slow=37
PDRB Porto dos Gac 72.66 206 *e*P **P 16 35 17.2 -0.1**
CMC01 Camacan, BA 73.76 188 *e*P **P 16 35 24.7 +0.9**
GTA Gaotai 74.55 37 *e*P **P 16 35 27.9 -0.6**
GTA pP pP 16 35 31.8 +0.3
GTA pmax pmax
comp=Z,11nm,1.4s
GTA LR LR
comp=Z,200nm,18.2s
GTA LR LR
comp=Z,140nm,17.4s
GTA LR LR
comp=Z,450nm,17.5s
XLT XiLinHaoTe 74.64 23 *e*P **P 16 35 29.3 +0.4**
XLT pmax pmax
comp=Z,7.0nm,1.8s
XLT pmax pmax
comp=Z,160nm,8.7s
VILB Vilhena 74.78 209 *e*P **P 16 35 30.1 +0.3**
BNX BinXian 74.81 15 ⇑P **P 16 35 29.6 -0.1**
BNX pmax pmax
comp=Z,11nm,1.7s
YSS Yuzhno-Sakhali 74.92 4 *e*P **P 16 35 28.8 -1.5**
YSS pmax pmax
comp=Z,10.0nm,1.2s
BDFB Brasilia 74.96 196 P **P 16 35 30.7 -0.2**
BDFB IAmb IAmb 16 35 48.6
comp=Z,16nm,1.4s
BDFB Brasilia 74.96 196 P **P 16 35 30.8 -0.1**
comp=Z,2.7nm,0.6s,baz=348,slow=6.1,SNR=4.1
BDFB LR LR 17 02 46.2
comp=Z,300nm,21.7s,baz=351,slow=31
comp=Z,2.7nm,0.6s
BDFB Brasilia 74.96 196 P **P 16 35 30.7 -0.2**
BDFB pmax pmax
comp=Z,16nm,1.4s
ATAH Atahualpa 75.25 228 LR LR 17 08 42.1
comp=Z,84nm,20.8s,baz=6.6,slow=36
LODK Lodwar 75.29 108 P **P 16 35 33.0 0.0**
LODK IAmb IAmb 16 35 35.2
comp=Z,24nm,1.4s
ARAG Araguaiana, MT 75.64 200 *e*P **P 16 35 34.7 +0.1**
GOMU GeErMu 75.79 42 P **P 16 35 36.7 +0.7**
GOMU pP pwP 16 35 42.3 +1.2
GOMU sP PcP 16 35 47.2 -1.4
GOMU pmax pmax
comp=Z,13nm,1.7s
MDJ Mudanjiang 76.20 14 P **P 16 35 37.2 -0.5**
MDJ pmax pmax
comp=Z,11nm,2.1s
BTO Baotou 76.36 29 *e*P **P 16 35 38.3 -0.5**
BTO pP **sP 16 35 43.0 +0.2**
BTO sP **pwP 16 35 45.2 +1.3**
BTO pmax pmax
comp=Z,37nm,0.9s
BTO pmax pmax
comp=Z,410nm,5.0s
CN2 Changchun 76.43 17 *e*P **P 16 35 37.7 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
MBAR Mbarara 76.50 114 *i* P **P 16 35 40.0 +0.1**
MBAR pmax pmax
comp=Z,9.0nm,1.1s
HHC Hu-ho-hao-te 76.52 28 *e*P **P 16 35 39.0 -0.7**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,82nm,4.5s
SALV Santo Antonio 76.58 204 *e*P **P 16 35 40.0 0.0**
USA0B Ussuriysk Arra 76.89 12 *i* P **P 16 35 41.3 -0.3**
USRK Ussuriysk Ar. 76.89 12 P **P 16 35 41.4 -0.2**
comp=Z,0.8nm,0.8s,baz=24,slow=5.2,SNR=5.9
comp=Z,0.8nm,0.8s
PTLB Pontes e Lacer 76.92 207 P **P 16 35 41.8 -0.1**
PTLB Pontes e Lacer 76.92 207 *e*P **P 16 35 42.6 +0.7**
IPMB Ipameri, GO 77.29 196 *e*P **P 16 35 44.0 -0.1**
BSFB Barra de Sao F 77.30 189 *e*P **P 16 35 44.0 0.0**
PMNB Patos De Minas 77.59 194 *e*P **P 16 35 46.0 +0.2**
SIV San Ignacio 77.92 209 LR LR 17 04 59.9
comp=Z,400nm,21.3s,baz=97,slow=32
BJI Beijing 78.36 25 P **P 16 35 48.3 -1.5**
BJI pP **pP 16 35 53.0 +0.2**
BJI pmax pmax
comp=Z,6.0nm,1.6s
LZH Lanzhou 78.86 35 *e*P **P 16 35 53.5 +0.6**
LZH pP sP 16 35 57.0 +0.1
LZH pmax pmax
comp=Z,31nm,0.9s
ITRB Iturama 79.31 198 *e*P **P 16 35 55.7 +0.6**
KMBO Kilima Mbogo 80.14 109 P **P 16 36 01.2 +1.0**
comp=Z,0.8nm,0.2s,baz=28,slow=9.5,SNR=4.3
KMBO LR LR 17 13 19.4
comp=Z,260nm,18.6s,baz=283,slow=37
comp=Z,0.8nm,0.2s
LPAZ La Paz 80.17 215 P **P 16 35 59.9 -0.7**
comp=Z,1.0nm,0.7s,baz=8.1,slow=5.6,SNR=4.9
comp=Z,1.0nm,0.7s
LPAZ La Paz 80.17 215 *e*P **P 16 36 00.1 -0.5**
HNS HongShan 80.55 26 ⇓P **P 16 36 02.1 +0.3**
HNS pmax pmax
comp=Z,19nm,1.2s
AQDB Aquidauana 81.03 203 P **P 16 36 04.3 -0.1**
AQDB IAmb IAmb 16 36 05.5
comp=Z,16nm,1.0s
AQDB Aquidauana 81.03 203 *e*P **P 16 36 04.9 +0.5**
BDQN Bodoquena, MS 81.22 204 *e*P **P 16 36 05.2 -0.2**
TIA Tai'an 82.24 25 P **P 16 36 10.2 -0.6**
TIA sP **sP 16 36 14.4 -0.4**
TIA pmax pmax
comp=Z,17nm,1.4s
XAN Xi'an 82.25 32 P **P 16 36 10.7 -0.3**
XAN pmax pmax
comp=Z,20nm,1.0s
XAN LR LR
comp=Z,470nm,19.9s
XAN LR LR
comp=Z,570nm,17.2s
XAN LR LR
comp=Z,610nm,21.3s
MURT Porto Murtinho 82.57 204 *e*P **P 16 36 12.1 -0.4**
LYN LuoYang 82.71 29 P **P 16 36 12.7 -0.6**
LYN pmax pmax
comp=Z,32nm,1.1s
LYN LR LR
comp=Z,360nm,15.5s
LYN LR LR
comp=Z,380nm,18.9s
LYN LR LR
comp=Z,400nm,15.8s
KSRS Korea Array 83.02 16 P **P 16 36 15.3 +0.5**
comp=Z,1.5nm,0.6s,baz=356,slow=5.5,SNR=7.9
comp=Z,1.5nm,0.6s
CD2 Chengdu 83.62 37 *e*P **P 16 36 16.0 -2.2**
SHL Shillong 84.22 49 IAmb IAmb 16 36 24.9
comp=Z,11nm,1.0s
PTGB Pitanga 84.49 198 *e*P **P 16 36 23.1 +0.7**
MJAR Matsushiro Arr 85.05 8 P **P 16 36 27.1 +1.8**
comp=Z,5.5nm,1.2s,baz=354,slow=5.0,SNR=4.0
comp=Z,6.5nm,1.2s
SJPY San Joaquin 85.50 202 *e*P **P 16 36 26.9 -0.5**
HYB Hyderabad 85.55 64 *e*P **P 16 36 27.9 -0.2**
NJ2 Nanjing 86.62 25 *e*P **P 16 36 33.4 +0.3**
NJ2 pmax pmax
comp=Z,16nm,0.7s
WHN Wuhan 87.00 29 P **P 16 36 34.4 -0.6**
PZH PanZhiHua 87.02 41 P **P 16 36 35.0 -0.3**
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,140nm,4.8s
CPUP Villa Florida 87.04 203 P **P 16 36 33.2 -1.7**
comp=Z,1.5nm,0.7s,baz=7.6,slow=14,SNR=3.4
CPUP LR LR 17 11 57.4
comp=Z,126nm,20.5s,baz=22,slow=33
comp=Z,1.5nm,0.7s
TNCH TengChong 87.24 44 P **P 16 36 37.4 +1.0**
TNCH pmax pmax
comp=Z,30nm,1.3s
TNCH pmax pmax
comp=Z,200nm,2.7s
TSUM Tsumeb 87.38 134 LR LR 17 15 17.3
comp=Z,290nm,19.0s,baz=328,slow=35
LSZ Lusaka 88.21 123 LR LR 17 17 38.9
comp=Z,771nm,19.5s,baz=319,slow=37
KMI Kunming 88.64 40 ⇑P **P 16 36 43.0 -0.2**
KMI pmax pmax
comp=Z,12nm,1.7s
KMI LR LR
comp=Z,200nm,31.0s
GYA Guiyang 88.68 36 ⇑P **P 16 36 43.3 +0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 93.39 46 P **P 16 37 04.9 -0.2**
comp=Z,0.9nm,0.8s,baz=326,slow=4.9,SNR=8.9
comp=Z,0.9nm,0.8s
BOSA Boshof 98.83 132 LR LR 17 21 51.0
comp=Z,293nm,18.8s,baz=330,slow=35
SYO Syowa Base 137.11 150 ⇑ *e*Pdiff **Pdif 16 40 17.5 -1.0**
WRA Warramunga Arr 140.29 21 PKP **PKPdf 16 43 16.9 -1.6**
comp=Z,1.0nm,0.7s,baz=338,slow=2.5,SNR=9.0
ASAR Alice Springs 143.84 22 PKPpre PKPab 16 43 20.4 -1.4
ASAR Alice Springs 143.84 22 PKP PKPbc 16 43 22.2 -0.3
comp=Z,1.6nm,0.7s,baz=351,slow=2.1,SNR=17
ASAR Alice Springs 143.84 22 PKIKP PKPab 16 43 20.4 -1.4
QSPA South Pole Qui 148.30 180 PKPbc **PKPbc 16 43 33.4 -1.1**
comp=Z,7.4nm,0.8s,baz=202,slow=2.3,SNR=14
FORT Forrest 149.15 35 **PKPbc 16 43 37.5 -0.2**
STKA Stephens Creek 153.11 12 PKPbc **PKPbc 16 43 46.1 -0.8**
comp=Z,3.1nm,1.0s,baz=353,slow=2.5,SNR=3.8

IDC 10 16:29:22.5±10.0, 1°.60N×127°.70E, h170km±97km, mb3.0/4, mbtmp3.4/4, Error ellipse: s-maj=158.3km s-min=21.0km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.38**	**163**	P	P		16 34 06.4	-0.5
	0.3nm,0.5s,baz=343,slow=10,SNR=5.0							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**25.83**	**167**	P	P		16 34 38.6	+0.4
	0.4nm,1.0s,baz=348,slow=8.5,SNR=4.2							
ASAR				PcP	PcP		16 38 02.9	-0.4
	0.5nm,1.1s,baz=350,slow=2.4,SNR=7.6							
	0.4nm,1.0s							
MKAR	**Makanchi Array**	**59.85**	**326**	P	P		16 39 10.5	+0.4
	0.5nm,0.5s,baz=125,slow=6.9,SNR=8.2							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**64.05**	**328**	P	P		16 39 37.7	-0.3
	0.7nm,0.6s,baz=130,slow=5.9,SNR=9.3							
	0.7nm,0.6s							

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*IDC **10** 16:32:41.0±0.9, 58°.31N×31°.88W, h0km, mb3.7/14, mbtmp3.7/14, Error ellipse: s-maj=25.0km s-min=17.4km az=13.0*

ISC 10 16:32:42.8±0.9, 58°.3N±0°.2×31°.9W±0°.1, h13km, n15, σ0°.77/15, mb3.7/14, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**21.66**	**64**	P	P		**16 37 32.2**	**-0.6**
	0.7nm,0.9s,baz=261,slow=8.6,SNR=3.4							
	0.7nm,0.9s							
HFS	**Hagfors**	**23.06**	**66**	P	P		**16 37 48.6**	**+1.0**
	3.0nm,0.8s,baz=308,slow=7.1,SNR=3.2							
	3.0nm,0.8s							
ESDC	**Sonseca Array**	**25.82**	**124**	P	P		**16 38 14.9**	**+1.3**
	1.2nm,0.9s,baz=328,slow=10.0,SNR=6.3							
	1.2nm,0.9s							
ARCES	**ARCESS Array B**	**26.51**	**42**	P	P		**16 38 20.8**	**+1.2**
	1.2nm,0.7s,baz=290,slow=11,SNR=1.4							
	1.2nm,0.7s							
FINES	**FINESS Array B**	**28.45**	**59**	P	P		**16 38 36.2**	**-0.8**
	2.8nm,1.0s,baz=283,slow=12,SNR=1.4							
	2.8nm,1.0s							
AKASG	**Malin Array Be**	**35.16**	**75**	P	P		**16 39 35.1**	**-0.9**
	0.8nm,0.7s,baz=323,slow=8.4,SNR=5.7							
	0.8nm,0.7s							
YKA	**Yellowknife Ar**	**38.45**	**312**	P	P		**16 40 03.3**	**-0.5**
	0.9nm,1.0s,baz=59,slow=8.3,SNR=6.5							
	0.9nm,1.0s							
BRTR	**Keskin Array B**	**44.83**	**85**	P	P		**16 40 56.4**	**-0.1**
	0.9nm,1.1s,baz=347,slow=5.9,SNR=4.0							
	0.9nm,1.1s							
ILAR	**Eielson Array**	**47.82**	**328**	P	P		**16 41 20.1**	**+0.7**
	0.3nm,0.8s,baz=32,slow=6.5,SNR=7.5							
	0.3nm,0.8s							
PDAR	**Pinedale Array**	**48.88**	**287**	P	P		**16 41 28.4**	**+0.1**
	0.3nm,0.6s,baz=76,slow=6.3,SNR=5.1							
	0.3nm,0.6s							
BVAR	**Borovoye Array**	**52.51**	**48**	P	P		**16 41 55.0**	**-0.2**
	0.8nm,0.6s,baz=335,slow=6.6,SNR=5.8							
	0.8nm,0.6s							
DBIC	**Dimbokro**	**55.57**	**147**	P	P		**16 42 17.6**	**-0.2**
	1.7nm,0.7s,baz=334,slow=10.0,SNR=3.4							
	1.7nm,0.7s							
KURBB	**Kurchatov Arra**	**57.52**	**45**	P	P		**16 42 30.8**	**-0.5**
	0.6nm,0.7s,baz=325,slow=6.9,SNR=7.2							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**62.09**	**45**	P	P		**16 43 02.6**	**-0.3**
	0.8nm,0.6s,baz=333,slow=6.5,SNR=12							
	0.8nm,0.6s							
QSPA	**South Pole Qui**	**148.18**	**180**	PKPbc	**PKPbc**		**16 52 26.6**	**-0.2**
	1.4nm,1.0s,baz=79,slow=5.2,SNR=1.8							

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*IDC **10** 16:36:02.3±1.1, 58°.29N×32°.10W, h0km, mb3.6/11, mbtmp3.6/12, ML3.3/1, MS3.6/2, Error ellipse: s-maj=28.6km s-min=19.9km az=19.0*

ISC 10 16:36:04.4±0.9, 58°.3N±0°.1×32°.2W±0°.1, h13km, n16, σ1°.48/14, mb3.6/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.32**	**34**	Pn	**Pn**		**16 38 05.0**	**+0.4**
	0.4nm,0.3s,baz=225,slow=10.0,SNR=1.6							
	9.4nm,1.0s							
SFJD	**Kangerlussuaq**	**12.13**	**324**	LR	LR		16 42 43.7	
	comp=Z,290nm,18.4s,baz=140,slow=33							
NOA	**NORSAR Array B**	**21.82**	**64**	LR	LR		16 47 48.7	
	comp=Z,131nm,18.5s,baz=320,slow=32							
HFS	**Hagfors**	**23.22**	**66**	P	P		**16 41 10.5**	**-0.2**
	2.0nm,0.8s,baz=256,slow=12,SNR=2.3							
	2.0nm,0.8s							
ESDC	**Sonseca Array**	**25.95**	**123**	P	P		**16 41 37.7**	**+1.3**
	0.8nm,0.9s,baz=319,slow=8.0,SNR=4.8							
	0.8nm,0.9s							
ARCES	**ARCESS Array B**	**26.63**	**42**	P	P		**16 41 42.3**	**+0.1**
	3.0nm,1.1s,baz=284,slow=11,SNR=1.9							
	3.0nm,1.1s							
AKASG	**Malin Array Be**	**35.33**	**75**	P	P		**16 42 58.6**	**-0.4**
	0.4nm,0.5s,baz=307,slow=8.5,SNR=1.8							
	0.4nm,0.5s							
YKA	**Yellowknife Ar**	**38.34**	**312**	P	P		**16 43 25.1**	**+0.7**
	0.3nm,0.7s,baz=60,slow=8.7,SNR=4.3							
	0.3nm,0.7s							
BRTR	**Keskin Array B**	**45.00**	**84**	P	P		**16 44 22.4**	**+3.1**
	0.3nm,0.6s,baz=322,slow=5.9,SNR=2.0							
ILAR	**Eielson Array**	**47.75**	**328**	P	P		**16 44 40.6**	**+0.2**
	0.5nm,0.9s,baz=58,slow=4.3,SNR=4.5							
	0.5nm,0.9s							
PDAR	**Pinedale Array**	**48.73**	**287**	P	P		**16 44 48.4**	**-0.2**
	0.1nm,0.6s,baz=37,slow=6.9,SNR=1.7							
	0.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**51.74**	**136**	P	P		**16 45 09.5**	**-1.9**
	1.1nm,0.3s,baz=336,slow=8.5,SNR=2.6							
	1.1nm,0.3s							
BVAR	**Borovoye Array**	**52.64**	**48**	P	P		**16 45 16.3**	**-1.3**
	0.4nm,0.5s,baz=321,slow=11,SNR=3.3							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**57.65**	**45**	P	P		**16 45 52.2**	**-1.6**
	0.4nm,0.6s,baz=326,slow=6.8,SNR=5.1							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**62.22**	**45**	P	P		**16 46 23.6**	**-1.7**
	0.6nm,0.5s,baz=298,slow=2.6,SNR=9.2							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**144.03**	**22**	PKP	**PKPdf**		**16 55 40.5**	**+1.2**
	0.3nm,0.9s,baz=338,slow=2.3,SNR=2.3							

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*IDC **10** 16:42:29.8±3.1, 6°.95S×130°.38E, h67km±31km, mb3.5/6, mbtmp4.1/10, ML4.2/4, MS3.4/1, Error ellipse: s-maj=29.3km s-min=22.7km az=88.0*

ISC 10 16:42:33.1±0.6, 6°.94S±0°.06×130°.47E±0°.07, h100km, n36, σ1°.77/33, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.32**	**142**	P	**Pn**		**16 42 59.0**	**+1.8**
BNDI	**Bandanaira**	**2.46**	**347**	P	Pn		16 43 15.6	+3.8
DRS	**Darwin Rock St**	**5.47**	**176**	P	**Pn**		**16 43 52.0**	**-0.3**
DRS	**Darwin Rock St**	**5.47**	**176**	S	**Sn**		**16 44 52.0**	**-2.0**
MTN	**Manton Dam**	**5.91**	**174**	P	**Pn**		**16 43 58.4**	**+0.3**
MTN	**Manton Dam**	**5.91**	**174**	S	**Sn**		**16 45 02.4**	**-2.1**
SANI	**Sanana**	**6.60**	**317**	P	Pn		16 44 10.6	+3.0
SOEI	**Soe**	**6.75**	**245**	P	**Pn**		**16 44 10.9**	**+1.2**
SOEI	**Soe**	**6.75**	**245**	S	**Sn**		**16 45 25.2**	**0.0**
JAY	**Jayapura**	**11.10**	**67**	P	**Pn**		**16 45 08.4**	**-0.5**
	0.5nm,0.3s,baz=238,slow=19,SNR=2.2							
	15nm,0.9s							
FITZ	**Fitzroy Crossi**	**12.05**	**203**	P	**Pn**		**16 45 18.4**	**-3.1**
	4.3nm,0.3s,baz=23,slow=8.4,SNR=50							
FITZ				S	Sn		16 47 23.1	-11
	13nm,0.3s,baz=53,slow=20,SNR=6.9							
	11nm,0.3s							

FITZ	Fitzroy Crossi	12.05 203	P	Pn	16 45 19.3	-2.2
TOLI2	Tolitoli	12.55 309	P	P	16 45 33.1	-2.6
WRA	Warramunga Arr	13.46 164	P	Pn	16 45 36.5	-3.6
	1.1nm,0.3s,baz=342,slow=13,SNR=44					
WRA			S	Sn	16 47 56.6	-12
	5.4nm,0.5s,baz=334,slow=23,SNR=6.8					
	6.0nm,0.7s					
QIS	Mount Isa	16.18 148	P	P	16 46 14.7	-1.3
ASAR	Alice Springs	16.96 169	P	Pn	16 46 22.4	-1.9
	0.8nm,0.3s,baz=342,slow=10,SNR=106					
ASAR			S	Sn	16 49 21.1	-12
	5.0nm,0.8s,baz=348,slow=25,SNR=8.2					
	2.3nm,0.5s					
AS01	Alice Springs	16.96 169	P	Pn	16 46 23.1	-1.3
MTSU	Mount Surprise	17.49 131	P	Pn	16 46 31.4	+0.6
MBWA	Marble Bar	17.55 215	P	Pn	16 46 30.5	-0.9
PSA00	Pilbara Seismi	17.81 214	P	Pn	16 46 36.0	+1.4
WRKA	Warakurna	18.12 186	P	Pn	16 46 37.9	-0.4
UGM	Wanagama	19.81 266	P	Pn	16 46 59.7	+1.4
OOD	Oodnadatta	21.33 167	P	P	16 47 13.5	+1.5
MEEK	Meekatharra	22.61 209	P	P	16 47 27.8	+2.1
QLP	Quilpie	23.52 148	P	P	16 47 37.4	+3.1
FORT	Forrest	23.83 185	P	P	16 47 39.0	+2.0
LCRK	Leigh Creek	24.49 164	P	P	16 47 46.5	+3.5
NWAO	Narrogin (SRO)	28.64 204	LR	LR	17 01 55.3	
	comp=Z,74nm,21.0s,baz=237,slow=41					
CMAR	Chiang Mai Arr	40.05 310	P	P	16 49 58.8	-0.1
	0.6nm,0.6s,baz=135,slow=6.7,SNR=9.6					
	0.6nm,0.6s					
USRK	Ussuriysk Ar.	50.92 1	P	P	16 51 23.3	-0.8
	0.5nm,0.5s,baz=199,slow=6.7,SNR=2.7					
	0.5nm,0.5s					
PETK	Petropavlovsk-	64.12 18	P	P	16 52 57.1	+0.5
	1.9nm,0.6s,baz=174,slow=4.4,SNR=10					
	1.9nm,0.6s					
MKAR	Makanchi Array	68.43 327	P	P	16 53 24.8	+0.5
	1.1nm,0.4s,baz=113,slow=8.2,SNR=35					
	1.1nm,0.4s					
KURBB	Kurchatov Arra	72.70 328	P	P	16 53 49.5	-0.6
	0.3nm,0.4s,baz=133,slow=5.2,SNR=5.0					
	0.3nm,0.4s					
BVAR	Borovoye Array	78.26 328	P	P	16 54 21.2	-0.7
	0.7nm,1.0s,baz=100,slow=6.0,SNR=2.1					
	0.7nm,1.0s					
CPUP	Villa Florida	146.07 167	PKPbc	PKPab	17 02 02.5	-0.4
	1.6nm,0.9s,baz=136,slow=5.8,SNR=3.0					
LPAZ	La Paz	150.48 142	PKPbc	PKiKP	17 02 16.1	+0.5
	0.5nm,0.4s,baz=258,slow=3.3,SNR=2.8					

RSNC 10 16:51:47.0±0.0, 9°N±1°, 7°3W±°, h133km±2km, M3.4, mB4.5, mb3.9, ML3.1, Mw(mB)3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.59	196	P	Pn	16 52 06.5	-0.7
OCAC				S	Sn	16 52 20.5	-1.9
ARGC	Ariguani, Magd	1.49	314	P	Pn	16 52 15.5	+0.2
ARGC				S	Sn	16 52 37.2	+0.4
PAMC	Pamplona, Colo	1.53	163	P	Pn	16 52 16.4	+0.2
PAMC				S	Sn	16 52 38.0	-0.4
BRJC	Barrancabermej	1.92	198	P	Pn	16 52 19.2	-0.9
BRJC				S	Sn	16 52 43.8	-1.7
ZARC	Zaragoza, Cauc	2.13	232	P	Pn	16 52 21.3	-1.5
ZARC				S	Sn	16 52 47.1	-3.1
BARC	Barichara	2.20	181	P	Pn	16 52 23.7	-0.2
BARC				S	Sn	16 52 51.3	-0.9
CRJC	Cerrejon, Guaj	2.21	7	P	Pn	16 52 23.6	-0.3
CRJC				S	Sn	16 52 50.8	-1.4
SJCC	San Jacinto, C	2.27	299	P	Pn	16 52 23.4	-1.1
SJCC				S	Sn	16 52 50.0	-3.2
SMRC	Santa Marta, M	2.56	336	P	Pn	16 52 27.4	-0.8
SMRC				S	Sn	16 52 57.9	-1.9
PTBC	PUERTO BERRIO,	2.60	210	P	Pn	16 52 27.2	-1.4
PTBC				S	Sn	16 52 57.6	-3.0
TAMC	Tame, Arauca	2.72	150	P	Pn	16 52 30.7	+0.5
TAMC				S	Sn	16 53 02.7	-0.8
RUSC	La Rusia	2.90	178	P	Pn	16 52 32.5	-0.4
RUSC				S	Sn	16 53 07.2	-1.1
URIC	Uribia, Colomb	3.10	22	P	Pn	16 52 34.5	-0.5
URIC				S	Sn	16 53 10.3	-1.7
SPBC	San Pablo de B	3.27	196	P	Pn	16 52 37.4	+0.1
SPBC				S	Sn	16 53 14.8	-1.4
APAC	Apartado, Choc	3.50	255	P	Pn	16 52 38.8	-1.5
APAC				S	Sn	16 53 18.8	-2.7
DBBC	Dabeiba	3.51	240	P	Pn	16 52 38.7	-1.7
NORC	Norcasia	3.64	208	P	Pn	16 52 41.2	-1.0
NORC				S	Sn	16 53 20.2	-4.8
CBOC	Ciudad Bolivar	4.07	224	P	Pn	16 52 47.5	-0.5
CBOC				S	Sn	16 53 33.5	-1.7
ROSC	El Rosal	4.11	196	P	Pn	16 52 52.1	+3.4
ROSC				S	Sn	16 53 34.2	-2.3
GUY2C	Guyana, Caldas	4.18	212	P	Pn	16 52 49.0	-0.7
GUY2C				S	Sn	16 53 32.5	-5.8
CHIC	Chingaza	4.19	188	P	Pn	16 52 50.8	+1.0
CHIC				S	Sn	16 53 40.4	+1.9
CVER	Cruz Verde, Cu	4.36	192	P	Pn	16 52 54.4	+2.4
CVER				S	Sn	16 53 41.4	-1.1
RECRC	Villamaria, Ca	4.40	210	P	Pn	16 52 54.2	+1.5
RECRC				S	Sn	16 53 41.6	-2.0
VILC	Villavicencio,	4.70	187	P	Pn	16 52 58.3	+2.0
VILC				S	Sn	16 53 50.8	+0.7
ANIL	Santa Ana	4.83	208	P	Pn	16 52 59.5	+1.2
PTAC	Punta Ardita,	4.89	251	P	Pn	16 52 57.0	-1.7
PLMC	San Jos del P	4.97	219	P	Pn	16 52 59.2	-0.6
PLMC				S	Sn	16 53 55.0	-1.5
ORTC	Ortega, Tolima	5.29	203	P	Pn	16 53 04.5	+0.4
	11nm,1.0s						
ORTC				S	Sn	16 54 05.9	+1.6
	11nm,1.0s						
PRAC	Prado	5.35	199	P	Pn	16 53 06.2	+1.3
	11nm,0.6s						
PRAC				S	Sn	16 54 06.5	+1.0
	11nm,0.6s						
URMC	La Uribe, Meta	5.66	192	P	Pn	16 53 09.5	+0.4
URMC				S	Sn	16 54 09.6	-3.5

IDC ***10*** *17:10:49.8±0.4, 36°.71N×142°.33E, h0km, mb5.2/31, mbtmp5.2/39, ML4.1/8, MS5.5/64, Error ellipse: s-maj=11.8km s-min=10.5km az=85.0*

JMA ***10*** *17:10:50.5±0.3, 36°.8N±0°.6×14°.2E±°, h18km±4km, MD6.0/32, MW5.8/32, FAR E OFF FUKUSHIMA PREF*

JMA Felt III J1 at FAR E OFF FUKUSHIMA PREF.

MOS ***10*** *17:10:50.8±1.1, 36°.86N×142°.32E, h14km, mb5.9/78, MS6.0/26, Error ellipse: s-maj=6.4km s-min=3.6km az=114.0*

NIED ***10*** *17:10:50.5, 36°.76N×142°.41E, h18km, MW5.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr1.60; Mθθ1.04; Mφφ-2.64; Mrθ0.32; Mθφ-1.55; Mφr3.66; Fault plane solution: Mo4.47000×10^17 NP1: φs233.00000°, δ23.00000°, λ139.00000°. NP2:φs2.00000°, δ75.00000°, λ73.00000°.*

BJI ***10*** *17:10:51.2, 36°.89N×141°.94E, h10km, mB5.9/79, mb5.8/88, Ms6.1/99, Ms7 5.9/99*

ISC-PP ***10*** *17:10:52, 36°.83N×142°.36E, h10km, Mwppsm6.4, Moment Tensor Solution. s46 Moment tensor: Scale 10^18Nm; Mrr0.43±.20; Mθθ-0.20±.13; Mφφ0.78±.13; Mrθ-0.21±.18; Mθφ0.13±.09; Mφr0.15±.11; Fault plane solution: Mo5.50000×10^18 NP1:φs142.60000°, δ89.20000°, λ204.00000°. NP2:φs52.20000°, δ66.00000°, λ-0.90000°.*

NEIC ***10*** *17:10:52.5±1.3, 36°.83N±0°.05×142°.36E±0°.07, h13km±1km, mb5.7/644, Ms_20 5.6/788, Mwb5.8/87, Mww5.7/29 Error ellipse: s-maj=10.0km s-min=8.1km az=109.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.63; Mθθ-0.26; Mφφ-2.37; Mrθ0.89; Mθφ-1.92; Mφr5.26; Fault plane solution: Mo6.20000×10^17 NP1:φs11.63000°, δ76.07000°, λ77.39000°. NP2:φs234.53000°, δ18.71000°, λ131.35000°. Principal axes: T 5.9662, Plg57.0000°, Azm265.0000°; N 0.4376, Plg12.0000°, Azm15.0000°; P -6.4037, Plg30.0000°, Azm112.0000°;*

NEIC ***10*** *17:10:52.3, 36°.85N×142°.34E, h12km*

NEIC ***10*** *17:10:52.2, 36°.84N×142°.34E, h18km*

IPGP ***10*** *17:10:52.0, 36°.85N×142°.37E, h12km, Mw6.0, Fault plane solution: NP1:φs140.00000°, δ19.00000°, λ40.00000°. NP2:φs12.00000°, δ78.00000°, λ105.00000°.*

NEIC ***10*** *17:10:52.2, 36°.54N×143°.09E, h18km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17Nm; Mrr2.19; Mθθ-0.16; Mφφ-2.03; Mrθ1.20; Mθφ-0.98; Mφr3.83; Fault plane solution: Mo4.64000×10^17 NP1: φs209.67000°, δ15.28000°, λ101.18000°. NP2: φs18.09000°, δ75.02000°, λ86.97000°. Principal axes: T 4.5165, Plg60.0000°, Azm284.0000°; N 0.2374, Plg3.0000°, Azm19.0000°; P -4.7539, Plg30.0000°, Azm111.0000°;*

GCMT ***10*** *17:10:55.5±0.1, 36°.73N±0°.01×142°.34E±0°.01, h17km, MW5.8/165, Moment Tensor Solution. s131, c247; s165, c347; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr2.89±.04; Mθθ-0.24±.03; Mφφ-2.65±.03; Mrθ0.27±.09; Mθφ-1.25±.02; Mφr4.62±.15; Best double couple: Mo5.54000×10^17 NP1:φs220.00000°, δ19.00000°, λ122.00000°. NP2:φs7.00000°, δ74.00000°, λ80.00000°. Principal axes: T 5.5330, Plg60.0000°, Azm262.0000°; N 0.0180, Plg10.0000°, Azm9.0000°; P -5.5480, Plg28.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:10:51.8±0.4, 36°.82N±0°.03×142°.34E±0°.03, h12km±1km, h12km:pP-P, n1937, σ1°53/1508, mb5.7/539, MS5.6/491, 102C-47D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.26	283	P	Pn	17 11 14.4	-0.9
ONAJ	Iwakimizuishiy	1.26	283	A	A	17 11 14.4	
	comp=N,113nm,10.6s,comp=E,273nm,3.3s						
JFK	Kawauchi	1.29	295	P	Pn	17 11 15.2	-0.5
JFK				eS	Sb	17 11 32.3	-0.2
JFK	Kawauchi	1.29	295	A	A	17 11 15.2	
	comp=N,131nm,3.0s,comp=E,185nm,2.8s						
JHO	Hitachi	1.44	262	P	Pn	17 11 16.5	-1.1
JHO	Hitachi	1.44	262	A	A	17 11 16.5	
	comp=N,144nm,3.1s,comp=E,225nm,3.5s						
JFFD	Fukushimafurud	1.45	281	P	Pn	17 11 17.0	-0.8
JFFD				eS	Sn	17 11 36.2	-0.4
JFFD	Fukushimafurud	1.45	281	A	A	17 11 17.0	
	comp=N,80nm,2.4s,comp=E,114nm,3.0s						
JMST	Minamisoumatoc	1.46	308	A	A	17 11 17.6	
	comp=N,358nm,2.7s,comp=E,259nm,3.3s						
JHYU	Hitachinakayam	1.49	252	A	A	17 11 17.3	
	comp=N,225nm,4.0s,comp=E,291nm,4.3s						
JMM	Marumori	1.61	311		Pn	17 11 20.1	+0.1
JMM				Sn	Sb	17 11 42.1	+0.4
JMM	Marumori	1.61	311	P	Pn	17 11 20.3	+0.3
JMM	Marumori	1.61	311	S	Sb	17 11 41.7	0.0
JMM	Marumori	1.61	311	P	Pn	17 11 19.8	-0.2
JMM				eS	Sb	17 11 41.4	-0.3
JMM	Marumori	1.61	311	A	A	17 11 19.8	
	comp=N,239nm,3.3s,comp=E,316nm,3.3s						
JIKH	Ishinomakikobu	1.64	335	A	A	17 11 20.1	
	comp=N,170nm,2.8s,comp=E,286nm,3.8s						
JIHU	Itakohorinouch	1.69	240	A	A	17 11 20.1	
	comp=N,976nm,5.1s,comp=E,930nm,3.6s						
JOTO	OTAMA OYAMA	1.76	295	P	Pn	17 11 22.3	+0.2
JOTO	OTAMA OYAMA	1.76	295	A	A	17 11 22.3	
	comp=N,294nm,1.6s,comp=E,213nm,2.3s						
JIO	Ouri	1.81	335	P	Pn	17 11 22.6	-0.1
JIO				eS	Sn	17 11 45.5	-0.1
JIO	Ouri	1.81	335	A	A	17 11 22.6	
	comp=N,139nm,10.7s,comp=E,231nm,4.8s						
JYT	Yasato	1.83	252	A	A	17 11 22.3	
	comp=N,183nm,4.0s,comp=E,133nm,6.6s						
JSMT	Sammumatsuo	1.93	233	A	A	17 11 23.4	
	comp=N,765nm,4.3s,comp=E,740nm,5.3s						
JSB	Shiboa	1.94	275	A	A	17 11 24.4	
	comp=N,322nm,1.4s,comp=E,427nm,2.1s						
JOU	Okura	2.03	320	P	Pn	17 11 26.2	+0.4
JOU	Okura	2.03	320	A	A	17 11 26.2	
	comp=N,439nm,2.7s,comp=E,449nm,2.2s						
JYAR	Yonezawaarcadi	2.06	303	A	A	17 11 26.3	
	comp=N,354nm,1.1s,comp=E,340nm,1.2s						
JKMT	Kesennumamotoy	2.10	341	A	A	17 11 26.8	
	comp=N,63nm,4.7s,comp=E,205nm,5.8s						
JOFO	Osakifurukawao	2.10	328	A	A	17 11 27.0	
	comp=N,970nm,1.9s,comp=E,2μm,3.5s						
JFY	Yanaizu	2.18	286	P	Pn	17 11 28.6	+0.7
JFY	Yanaizu	2.18	286	A	A	17 11 28.6	
	comp=N,89nm,4.1s,comp=E,144nm,7.7s						
JCN	Nagara	2.23	232	A	A	17 11 27.7	
	comp=N,665nm,8.9s,comp=E,684nm,6.1s						
JYS	Shiratake	2.28	308	A	A	17 11 29.6	
	comp=N,272nm,1.3s,comp=E,281nm,1.9s						
JYS	Shiratake	2.28	308	i P	Pn	17 11 30.2	+0.9
JMK	Ichinoseki	2.30	338	P	Pn	17 11 29.9	+0.4
JMK	Ichinoseki	2.30	338	A	A	17 11 29.9	
	comp=N,94nm,4.9s,comp=E,179nm,2.2s						
OFUJ	Ofunato	2.31	347	A	A	17 11 29.9	
	comp=N,87nm,2.1s,comp=E,186nm,3.0s						
JAG	Ashikaga	2.35	261	P	Pn	17 11 30.0	-0.3
JAG	Ashikaga	2.35	261	A	A	17 11 30.0	
	comp=N,79nm,2.9s,comp=E,94nm,5.4s						
TOK	Tokyo	2.37	242	A	A	17 11 30.0	
	comp=N,429nm,4.6s,comp=E,432nm,3.0s						
JKUC	kamogawauchiur	2.40	227	A	A	17 11 30.1	
	comp=N,219nm,3.5s,comp=E,385nm,3.9s						
BSO1	Boso 1	2.43	207	eP	Pn	17 11 30.2	-0.6
JKT	Katashina	2.48	270	A	A	17 11 32.0	
	comp=N,98nm,3.4s,comp=E,102nm,3.5s						
JKT	Katashina	2.48	270	i P	Pn	17 11 32.6	+0.5
JNS	Sasagawa	2.60	293	A	A	17 11 34.1	
	comp=N,68nm,5.2s,comp=E,106nm,9.0s						
JYK	Kaneyama	2.61	324	A	A	17 11 34.3	
	comp=N,178nm,2.8s,comp=E,175nm,2.5s						
JYK	Kaneyama	2.61	324	P	Pn	17 11 34.4	+0.6
JUON	Uonuma	2.65	279	A	A	17 11 34.6	
	comp=N,68nm,4.0s,comp=E,73nm,6.0s						
JUON	Uonuma	2.65	279	P	Pn	17 11 35.3	+1.0
TATJ	Tateyama 2	2.67	229	A	A	17 11 34.0	
	comp=N,294nm,2.9s,comp=E,376nm,3.7s						
JYO	Yokosk	2.69	234	A	A	17 11 34.4	
	comp=N,280nm,8.9s,comp=E,277nm,10.7s						
JYA	Atsumi	2.73	311	A	A	17 11 36.0	
	comp=N,167nm,1.9s,comp=E,179nm,2.1s						
JYA	Atsumi	2.73	311	P	Pn	17 11 36.4	+1.0
JOM	Ohasama	2.77	343	A	A	17 11 36.5	
	comp=N,87nm,5.7s,comp=E,138nm,3.6s						
JOM	Ohasama	2.77	343	P	Pn	17 11 36.1	+0.2
MIYJ	Miyakonagasawa	2.78	352	A	A	17 11 36.5	
	comp=N,94nm,4.6s,comp=E,90nm,3.7s						
JSGW	Sagamiharawaka	2.81	245	A	A	17 11 36.3	
	comp=N,124nm,2.8s,comp=E,121nm,3.5s						
JRY	Ryogami san	2.88	255	A	A	17 11 37.6	
	comp=N,73nm,5.3s,comp=E,73nm,4.5s						
JRY	Ryogami san	2.88	255	P	Pn	17 11 37.1	-0.5
JRG	Rokugo	2.90	333	A	A	17 11 38.4	
	comp=N,212nm,4.5s,comp=E,227nm,6.3s						
JRG	Rokugo	2.90	333	P	Pn	17 11 38.5	+0.8
JYYZ	Yamagatayuza	2.90	320	A	A	17 11 38.4	
	comp=N,509nm,4.1s,comp=E,691nm,3.8s						
JAW	Awa shima	2.94	305	A	A	17 11 39.0	
	comp=N,99nm,2.9s,comp=E,147nm,5.2s						
JIZZ	Izumozaki	2.98	285	A	A	17 11 39.4	
	comp=N,405nm,3.2s,comp=E,541nm,3.8s						
JIZZ	Izumozaki	2.98	285	P	Pn	17 11 40.6	+1.8
JGK	Kuni	2.98	266	A	A	17 11 39.2	
	comp=N,128nm,3.9s,comp=E,129nm,3.4s						
JOD2	Odawara 2	3.06	240	A	A	17 11 39.8	
	comp=N,189nm,5.7s,comp=E,148nm,3.0s						
JOD2	Odawara 2	3.06	240	P	Pn	17 11 39.7	-0.3
JSZI	Iwateshizukuis	3.11	340	A	A	17 11 41.3	
	comp=N,329nm,2.9s,comp=E,338nm,2.6s						
JTH	Tanohata	3.13	353	A	A	17 11 41.5	
	comp=N,54nm,4.1s,comp=E,113nm,4.5s						
JIM2	Oshima 3	3.16	229	A	A	17 11 41.0	
	comp=N,110nm,5.4s,comp=E,144nm,4.2s						
JYW	Yuwa	3.19	329	A	A	17 11 42.5	
	comp=N,370nm,2.3s,comp=E,296nm,1.8s						
JTB	Tobi-shima	3.23	318	A	A	17 11 43.1	
	comp=N,101nm,3.1s,comp=E,161nm,3.2s						
JKZ	Kuzumaki	3.25	346	A	A	17 11 43.3	
	comp=N,60nm,4.3s,comp=E,130nm,4.9s						
JHTM	Izuhatsuma	3.28	236	A	A	17 11 42.8	
	comp=N,239nm,3.4s,comp=E,163nm,3.2s						
MJAR	Matsushiro Arr	3.33	266	Pn	Pn	17 11 44.4	+0.7
	comp=E,23nm,0.3s,baz=91,slow=13,SNR=986						
MJAR				Sn	Sn	17 12 23.7	+0.5
	comp=E,16nm,0.3s,baz=94,slow=18,SNR=3.3						
MJAR				LR	LR	17 13 19.6	
	comp=E,143μm,19.3s,baz=126,slow=45						
	comp=E,1μm,0.9s						
MAJO	Matsushiro	3.33	266	Pn	Pn	17 11 44.9	+1.2
MAJO	Matsushiro	3.33	266	P	Pn	17 11 45.3	+1.6
MAJO	Matsushiro	3.33	266	c i P	Pn	17 11 45.3	+1.6
MAT	Matsushiro	3.33	266	P	Pn	17 11 44.9	+1.2
MJB9	Matsu-Tunnel	3.33	266	Pn	Pn	17 11 45.9	+2.2
JYN	Shimob	3.34	248	A	A	17 11 43.9	
	comp=N,133nm,2.3s,comp=E,112nm,3.4s						
JYN	Shimob	3.34	248	P	Pn	17 11 44.6	+0.7
JJN	Nakama	3.35	276	A	A	17 11 44.6	
	comp=N,120nm,6.0s,comp=E,160nm,3.6s						
JFNN	Fujinakano	3.38	242	A	A	17 11 44.3	
	comp=N,209nm,3.6s,comp=E,184nm,5.3s						
JKEN	Kujiedanarisaw	3.41	352	A	A	17 11 45.5	
	comp=N,127nm,1.2s,comp=E,141nm,6.0s						
JNG	Nsakai	3.43	264	A	A	17 11 45.5	
	comp=N,64nm,2.7s,comp=E,65nm,3.4s						
JSD	Sado	3.46	292	Pn	Pn	17 11 45.6	+0.1
JSD	Sado	3.46	292	P	Pn	17 11 46.6	+1.1
JSD	Sado	3.46	292	P	Pn	17 11 45.6	+0.1
JIZS	Izushimoda	3.51	234	P	Pn	17 11 45.2	-0.9
JAH	Hinai	3.61	339	P	Pn	17 11 48.5	+1.0
SHZ3	Shizuoka 3	3.78	244	P	Pn	17 11 50.3	+0.4
JSG	Sagara	4.00	239	P	Pn	17 11 54.1	+1.2
JTT	Ttatey	4.03	268	P	Pn	17 11 55.9	+2.6
JTM	Tenmabayashi	4.08	346	Pn	Pn	17 11 54.2	+0.2
JTM	Tenmabayashi	4.08	346	P	Pn	17 11 55.9	+2.0
JGF	Kuroka	4.21	255	Pn	Pn	17 11 57.5	+1.8
JGF	Kuroka	4.21	255	P	Pn	17 11 57.8	+2.0
JHJ2	Mitsune	4.24	210	Pn	Pn	17 11 54.9	-1.3
JHJ2	Mitsune	4.24	210	P	Pn	17 11 55.4	-0.8
JHJ	Hachijo jima 2	4.25	210	Pn	Pn	17 11 54.3	-2.0
	comp=E,112nm,0.3s,baz=328,slow=20,SNR=15						
JHJ				Sn	Sn	17 12 42.7	-3.1
	comp=E,351nm,0.3s,baz=53,slow=20,SNR=7.1						
	comp=E,310nm,0.4s						
INU	Inuyama	4.55	253	Pn	Pn	17 12 01.4	+1.0
INU	Inuyama	4.55	253	P	Pn	17 12 02.3	+1.5
JYTA	Yamagatataniai	4.69	256	P	Pn	17 12 04.3	+1.9
JKG	Kaga	4.87	265	P	Pn	17 12 07.1	+2.3
ERM	Erimo	5.22	7	Pn	Pn	17 12 09.0	-0.7
ERM	Erimo	5.22	7	P	Pn	17 12 09.6	0.0
ERM	Erimo	5.22	7	P	Pn	17 12 09.0	-0.7
JEM	Erimo	5.22	7	P	Pn	17 12 09.7	0.0
JWT	Wachi	5.83	257	P	Pn	17 12 19.2	+1.2
NMR	Nemuro--Hokkai	7.04	21	∥ i P	Pn	17 12 31.3	-3.2
NMR				i S	Sn	17 13 46.9	-7.5
ASAJ	Asahikawa	7.29	1	Pn	Pn	17 12 38.0	0.0
	comp=E,11nm,0.3s,baz=206,slow=11,SNR=140						
ASAJ				Sn	Sn	17 14 00.2	-0.4
	comp=E,9.6nm,0.3s,baz=9.1,slow=18,SNR=4.0						
	comp=E,39nm,0.3s						
ASAJ	Asahikawa	7.29	1	P	Pn	17 12 38.0	0.0
JKA	Kamikawa-asahi	7.29	1		Pn	17 12 37.9	-0.1
JMN	Monobe	7.57	248		Pn	17 12 43.1	+1.0
JMN	Monobe	7.57	248	P	Pn	17 12 42.9	+0.9
RUSJ	Misakicho	7.60	16	⇑ i P	Pn	17 12 40.8	-1.5
RUSJ				eS	Sn	17 14 03.6	-4.7
YUK	Yuzh-Kuril'sk	7.69	19	d i P	Pn	17 12 40.1	-3.4
YUK				eS	Sn	17 14 03.0	-7.4
YUK				pmax	pmax		
	comp=Z,429nm,0.3s						
YUK				pmax	pmax		
	comp=N,70nm,0.2s						
YUK				pmax	pmax		
	comp=E,107nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,1.5s						
YUK				MLR	MLR		
	comp=N,44μm,17.0s						
YUK				MLR	MLR		
	comp=Z,34μm,17.0s						
YUK				MLR	MLR		
	comp=E,22μm,18.0s						
TEY	Ternei	9.28	334	⇑ e P	Pn	17 13 07.7	+2.4
TEY				pmax	pmax		
	comp=N,30nm,0.9s						
TEY				pmax	pmax		
	comp=E,20nm,1.0s						
TEY				pmax	pmax		
	comp=Z,30nm,1.1s						
KUR	Kuril'sk	9.38	25	e P	Pn	17 13 06.7	0.0
KUR				eS	Sn	17 14 45.1	-6.9
KUR				pmax	pmax		
	comp=N,70nm,0.9s						
KUR				pmax	pmax		
	comp=E,90nm,0.9s						
KUR				pmax	pmax		
	comp=Z,237nm,0.9s						
KUR				smax	smax		
	comp=E,529μm,0.6s						
KUR				smax	smax		
	comp=N,259nm,0.6s						
KUR				MLR	MLR		
	comp=Z,17μm,14.0s						
JCJ	Chichijima	9.70	181	Pn	Pn	17 13 02.1	-9.1
	comp=Z,24nm,0.3s,baz=271,slow=3.2,SNR=4.6						
JCJ				Sn	Sn	17 14 42.2	-18
	comp=Z,94nm,0.3s,baz=352,slow=22,SNR=7.9						
JCJ				LR	LR	17 20 18.7	
	comp=Z,2μm,19.1s,baz=338,slow=59						
JNU	Nakatsue	10.10	252		Pn	17 13 17.9	+1.2
JNU	Nakatsue	10.10	252	Pn	Pn	17 13 17.7	+1.0
	comp=Z,0.9nm,0.3s,baz=84,slow=14,SNR=18						
JNU				LR	LR	17 17 31.3	
	comp=Z,25μm,18.0s,baz=67,slow=40						
	comp=Z,294nm,1.3s						
JNU	Nakatsue	10.10	252	P	Pn	17 13 18.7	+2.0
YSS	Yuzhno-Sakhali	10.13	2		Pn	17 13 16.7	-0.1
YSS	Yuzhno-Sakhali	10.13	2	P	Pn	17 13 17.3	+0.4
YSS	Yuzhno-Sakhali	10.13	2	∥ i P	Pn	17 13 16.8	-0.1
YSS				eS	Sn	17 15 10.2	-0.1
YSS				pmax	pmax		
	comp

MDJ				PP	P	17 14 01.0	+0.9
MDJ				pmax	pmax		
	comp=Z,7μm,9.6s						
MDJ				LR	LR		
	comp=Z,7μm,11.3s						
MDJ				LR	LR		
	comp=Z,19μm,12.0s						
MDJ				LR	LR		
	comp=Z,27μm,13.1s						
MDJ	**Mudanjiang**	**12.40**	**313**	P	**Pn**	**17 13 49.3**	**+1.2**
INCN	**Inchon**	**12.55**	**278**	P	**Pn**	**17 13 54.6**	**+4.5**
INCN				P	**Pn**	**17 13 54.6**	**+4.5**
INCN				P	**Pn**	**17 13 54.6**	**+4.5**
INCN				S	**Sn**	**17 16 15.7**	**+5.9**
INCN				S	**Sn**	**17 16 15.7**	**+5.9**
INCN				S	**Sn**	**17 16 15.7**	**+5.9**
INCN	**Inchon**	**12.55**	**278**	P	**Pn**	**17 13 53.2**	**+3.1**
TYV	**Tymovskoe**	**14.04**	**1**	*e*P	**Pn**	**17 14 10.2**	**-0.1**
TYV				*e*S	**Sn**	**17 16 50.5**	**+4.6**
TYV				pmax	pmax		
	comp=Z,800nm,5.6s						
TYV				pmax	pmax		
	comp=Z,68nm,1.0s						
TYV				smax	smax		
	comp=N,29nm,1.5s						
TYV				smax	smax		
	comp=E,35nm,1.5s						
TYV				smax	smax		
	comp=N,4μm,5.1s						
TYV				smax	smax		
	comp=E,4μm,5.1s						
TYV				MLR	MLR		
	comp=N,17μm,15.0s						
BNX	**BinXian**	**14.31**	**313**	⇑P	**Pn**	**17 14 11.9**	**-2.2**
BNX				S	**Sn**	**17 16 52.3**	**-0.4**
BNX				sS	S	17 16 57.5	-16
BNX				pmax	pmax		
	comp=N,4μm,11.7s						
BNX				LR	LR		
	comp=N,32μm,17.9s						
BNX				LR	LR		
	comp=N,18μm,15.2s						
BNX				LR	LR		
	comp=N,29μm,18.4s						
GRNR	**Gornyy**	**14.57**	**345**	⇓*i*P	**Pn**	**17 14 15.7**	**-2.0**
GRNR				*e*S	**Sn**	**17 16 58.9**	**-0.1**
GRNR				pmax	pmax		
	comp=E,8.0nm,1.0s						
GRNR				pmax	pmax		
	comp=N,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
GRNR				smax	smax		
	comp=E,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=N,12μm,14.0s						
GRNR				MLR	MLR		
	comp=E,10μm,14.0s						
GRNR				MLR	MLR		
	comp=Z,16μm,14.0s						
KLR	**Kul'dur**	**14.60**	**331**	Pn	**Pn**	**17 14 17.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=136,slow=12,SNR=17						
KLR				LR	LR	17 19 53.2	
	comp=Z,29μm,18.9s,baz=146,slow=37						
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**14.60**	**331**	*ce*P	**Pn**	**17 14 15.3**	**-2.7**
KLR				pmax	pmax		
	comp=Z,23nm,1.3s						
CN2	**Changchun**	**14.63**	**304**	*e*P	**Pn**	**17 14 17.3**	**-1.3**
CN2				*e*S	**Sn**	**17 17 00.6**	**0.0**
CN2				pmax	pmax		
	comp=Z,50nm,1.3s						
CN2				pmax	pmax		
	comp=Z,3μm,10.1s						
CN2				LR	LR		
	comp=Z,23μm,15.0s						
CN2				LR	LR		
	comp=Z,36μm,15.0s						
CN2				LR	LR		
	comp=Z,36μm,17.6s						
SNY	**Shenyang**	**15.35**	**295**	⇑P	**Pn**	**17 14 27.2**	**-0.9**
SNY				pmax	pmax		
	comp=Z,85nm,1.3s						
SNY				LR	LR		
	comp=Z,12μm,11.8s						
SNY				LR	LR		
	comp=Z,49μm,14.9s						
SNY				LR	LR		
	comp=Z,66μm,14.9s						
JOW	**Kunigami**	**15.54**	**234**	Pn	**Pn**	**17 14 28.9**	**-1.9**
	comp=Z,3.0nm,0.3s,baz=54,slow=12,SNR=3.6						
JOW				LR	LR	17 20 39.2	
	comp=Z,12μm,20.1s,baz=64,slow=38						
	comp=Z,44nm,0.9s						
JOW	**Kunigami**	**15.54**	**234**	P	**Pn**	**17 14 32.8**	**+2.0**
DL2	**Dalian**	**16.48**	**284**	⇑*i*P	**Pn**	**17 14 42.0**	**-0.8**
DL2				S	**Sn**	**17 17 43.8**	**-1.8**
DL2				pmax	pmax		
	comp=Z,130nm,0.7s						
DL2				pmax	pmax		
	comp=Z,6μm,8.2s						
DL2				LR	LR		
	comp=Z,28μm,15.6s						
DL2				LR	LR		
	comp=Z,45μm,17.7s						
DL2				LR	LR		
	comp=Z,56μm,18.1s						
OKH	**Okha**	**16.73**	**1**	*de*P	**Pn**	**17 14 41.0**	**-4.8**
OKH				*e*S	**Sn**	**17 17 42.9**	**-8.5**
OKH				pmax	pmax		
	comp=Z,900nm,15.6s						
OKH				smax	smax		
	comp=N,700nm,10.9s						
OKH				smax	smax		
	comp=E,2μm,14.0s						
SKR	**Severo-Kuril's**	**17.02**	**31**	*e*P	**Pn**	**17 14 50.0**	**+0.6**
SKR				*e*S	**S**	**17 18 06.1**	**-2.2**
SKR				pmax	pmax		
	comp=Z,3μm,3.3s						
SKR				MLR	MLR		
	comp=Z,14μm,13.0s						
HEH	**HeiHe**	**17.20**	**326**	*e*P	**Pn**	**17 14 48.2**	**-3.5**
HEH				pP	**P**	**17 14 50.1**	**-3.1**
HEH				S	**Sn**	**17 17 57.1**	**-5.6**
HEH				SS	**SnSn**	**17 18 15.2**	**-0.8**
HEH				pmax	pmax		
	comp=Z,3μm,9.3s						
HEH				LR	LR		
	comp=Z,19μm,14.4s						
HEH				LR	LR		
	comp=Z,28μm,15.4s						
HEH				LR	LR		
	comp=Z,44μm,15.1s						
SSE	**Sheshan**	**18.44**	**258**	P	**P**	**17 15 07.0**	**-0.1**
SSE				S	**Sn**	**17 18 32.0**	**-1.1**
SSE				pmax	pmax		
	comp=Z,2μm,7.1s						
SSE				LR	LR		
	comp=Z,10μm,15.4s						
SSE				LR	LR		
	comp=Z,10μm,14.2s						
PEA0B	**Petropavlovsk-**	**19.51**	**29**	P	**Pn**	**17 15 19.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**19.51**	**29**	*ce*P	**Pn**	**17 15 20.2**	**+0.3**
PETK	**Petropavlovsk-**	**19.51**	**29**	P	**P**	**17 15 17.7**	**-0.9**
PETK	**Petropavlovsk-**	**19.51**	**29**	P	**P**	**17 15 19.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=225,slow=7.8,SNR=25						
PETK				LR	LR	17 23 58.7	
	comp=Z,6μm,18.8s,baz=213,slow=40						
	comp=Z,44nm,0.9s						
PET	**Petropavlovsk**	**19.82**	**30**	P	**P**	**17 15 22.7**	**+0.7**
PET	**Petropavlovsk**	**19.82**	**30**	P	**Pn**	**17 15 23.3**	**-0.3**
PET	**Petropavlovsk**	**19.82**	**30**	κ *i*P	**Pn**	**17 15 23.0**	**-0.6**
PET				*e*S	**S**	**17 19 04.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,139nm,1.4s						
PET				pmax	pmax		
	comp=Z,3μm,11.6s						
PET				pmax	pmax		
	comp=Z,2μm,11.6s						
PET				MLR	MLR		
	comp=Z,9μm,15.0s						
PET	**Petropavlovsk**	**19.82**	**30**	P	**Pn**	**17 15 23.0**	**-0.6**
	comp=Z,4μmcomp=Z,153nm,1.6s						
ZEA	**Zeya**	**19.90**	**333**	*e*P	**P**	**17 15 21.3**	**-1.6**
ZEA				pmax	pmax		
	comp=E,700nm,8.5s						
ZEA				pmax	pmax		
	comp=N,900nm,6.8s						
ZEA				pmax	pmax		
	comp=Z,2μm,7.9s						
ZEA				pmax	pmax		
	comp=N,100nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,140nm,0.9s						
ZEA				MLR	MLR		
	comp=N,10μm,11.0s						
ZEA				MLR	MLR		
	comp=Z,18μm,14.0s						
NJ2	**Nanjing**	**19.93**	**263**	⇑P	**P**	**17 15 21.2**	**-2.2**
NJ2				sP	**pwP**	**17 15 29.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,62nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,2μm,7.1s						
NJ2				LR	LR		
	comp=Z,13μm,18.0s						
NJ2				LR	LR		
	comp=Z,34μm,16.1s						
NJ2				LR	LR		
	comp=Z,33μm,17.5s						
TIA	**Tai'an**	**20.26**	**276**	P	**P**	**17 15 24.8**	**-2.2**
TIA				pP	Pn	17 15 28.8	-0.2
TIA				S	**S**	**17 19 11.4**	**-2.7**
TIA				pmax	pmax		
	comp=Z,190nm,1.3s						
TIA				pmax	pmax		
	comp=Z,4μm,9.6s						
TIA				LR	LR		
	comp=Z,33μm,15.5s						
TIA				LR	LR		
	comp=Z,29μm,16.1s						
TIA				LR	LR		
	comp=Z,44μm,16.8s						
HIA	**Hailar**	**20.58**	**314**	IAMs_20	IAMs_20	17 23 34.2	
	comp=Z,25μm,19.0s						
HIA	**Hailar**	**20.58**	**314**	P	**P**	**17 15 29.4**	**-1.0**
YOJ	**Yonaguni jima**	**20.65**	**239**	IAMs_20	IAMs_20	17 23 59.1	
	comp=Z,18μm,20.0s						
BJI	**Beijing**	**20.72**	**287**	P	**P**	**17 15 28.7**	**-3.3**
BJI				pP	Pn	17 15 32.8	-1.5
BJI				S	**S**	**17 19 13.0**	**-10**
BJI				pmax	pmax		
	comp=Z,2μm,12.0s						
BJI				LR	LR		
	comp=Z,10μm,13.7s						
BJI				LR	LR		
	comp=Z,5μm,16.4s						
BJI				LR	LR		
	comp=Z,8μm,15.0s						
BJT	**Baijiatuau**	**20.73**	**287**	P	**P**	**17 15 29.4**	**-2.6**
BJT	**Baijiatuau**	**20.73**	**287**	P	**P**	**17 15 30.7**	**-1.3**
BJT	**Baijiatuau**	**20.73**	**287**	P	**P**	**17 15 29.4**	**-2.6**
BJT				pmax	pmax		
	comp=Z,286nm,1.5s						
BJT				pmax	pmax		
	comp=Z,12μm,19.0s						
XLT	**XiLinHaoTe**	**21.16**	**298**	*e*P	**P**	**17 15 33.6**	**-3.2**
XLT				pP	pP	17 15 37.7	-1.8
XLT				sP	sP	17 15 40.5	-0.3
XLT				S	**S**	**17 19 24.3**	**-7.7**
XLT				SS	Sn	17 19 59.3	+21
XLT				PcS	**PcS**	**17 23 19.8**	**-0.5**
XLT				pmax	pmax		
	comp=Z,220nm,1.1s						
XLT				pmax	pmax		
	comp=Z,2μm,3.8s						
XLT				LR	LR		
	comp=Z,31μm,16.7s						
XLT				LR	LR		
	comp=Z,37μm,17.0s						
TATO	**Taipei**	**21.39**	**242**	IAMs_20	IAMs_20	17 25 19.5	
	comp=Z,20μm,18.0s						
TATO	**Taipei**	**21.39**	**242**	P	**P**	**17 15 38.0**	**-1.3**
YHNB	**Yeheng**	**21.66**	**242**	IAMs_20	IAMs_20	17 25 20.8	
	comp=Z,16μm,18.0s						
YHNB	**Yeheng**	**21.66**	**242**	P	**P**	**17 15 39.6**	**-2.6**
NACB	**Ninganchiao**	**21.82**	**241**	P	**P**	**17 15 41.1**	**-2.8**
NACB				IAMs_20	IAMs_20	17 24 59.1	
	comp=Z,19μm,19.0s						
NACB	**Ninganchiao**	**21.82**	**241**	P	**P**	**17 15 42.7**	**-1.2**
HNS	**HongShan**	**22.02**	**280**	⇑P	**P**	**17 15 42.5**	**-3.4**
HNS				S	**S**	**17 19 48.3**	**-0.3**
HNS				pmax	pmax		
	comp=Z,340nm,1.1s						
HNS				LR	LR		
	comp=Z,10μm,15.1s						
HNS				LR	LR		
	comp=Z,38μm,15.5s						
HNS				LR	LR		
	comp=Z,39μm,17.3s						
SSLB	**Suanglung**	**22.51**	**241**	P	**P**	**17 15 47.6**	**-3.8**
SSLB				IAMs_20	IAMs_20	17 25 41.5	
	comp=Z,21μm,19.0s						
SSLB	**Suanglung**	**22.51**	**241**	P	**P**	**17 15 49.0**	**-2.4**
YULB	**Yu-li**	**22.53**	**239**	P	**P**	**17 15 49.1**	**-2.4**
YULB	**Yu-li**	**22.53**	**239**	P	**P**	**17 15 52.2**	**+0.6**
TPUB	**Ta-pu**	**23.05**	**240**	P	**P**	**17 15 53.3**	**-3.8**
TPUB				IAmb	IAmb	17 16 02.7	
	comp=Z,194nm,1.1s						
TPUB				IAMs_20	IAMs_20	17 25 58.9	
	comp=Z,24μm,19.0s						
TWGBT	**Beinan**	**23.06**	**239**	P	**P**	**17 15 55.5**	**-1.6**
TWG	**Pinlang**	**23.06**	**239**	P	**P**	**17 15 53.9**	**-3.3**
GUMO	**Guam**	**23.25**	**174**	P	**P**	**17 15 57.4**	**-1.6**
	comp=Z,121nm,0.9s,baz=352,slow=7.1,SNR=4.3						
GUMO				LR	LR	17 24 13.2	
	comp=Z,3μm,21.6s,baz=4.5,slow=35						
	comp=Z,121nm,0.9s						
MA2	**Magadan**	**23.41**	**11**	P	**P**	**17 16 00.8**	**+0.5**
MA2				IAmb	IAmb	17 16 12.8	
	comp=Z,414nm,1.4s						
MA2	**Magadan**	**23.41**	**11**	LR	LR	17 25 36.9	
	comp=Z,8μm,18.6s,baz=198,slow=38						
MA2	**Magadan**	**23.41**	**11**	P	**P**	**17 16 01.1**	**+0.7**
MA2	**Magadan**	**23.41**	**11**	*ce*P	**P**	**17 16 01.1**	**+0.7**
MA2				pmax	pmax		
	comp=Z,91nm,0.8s						
MA2	**Magadan**	**23.41**	**11**	P	**P**	**17 16 01.1**	**+0.7**
	comp=Z,4μmcomp=Z,184nm,1.2s						
QZH	**Quanzhou**	**23.50**	**246**	⇑*i*P	**P**	**17 15 57.5**	**-4.0**
QZH				S	**S**	**17 20 14.2**	**-0.9**
QZH				pmax	pmax		
	comp=Z,190nm,1.3s						
QZH				pmax	pmax		
	comp=Z,2μm,7.6s						
QZH				LR	LR		
	comp=Z,12μm,14.8s						
QZH				LR	LR		
	comp=Z,18μm,14.1s						
QZH				LR	LR		
	comp=Z,23μm,15.2s						
TIY	**Taiyuan**	**23.77**	**281**	*e*P	**P**	**17 16 01.6**	**-2.6**
TIY				PP	**PnPn**	**17 16 33.5**	**+1.7**
TIY				S	**S**	**17 20 11.6**	**-7.9**
TIY				pmax	pmax		
	comp=Z,77nm,1.0s						
TIY				pmax	pmax		
	comp=Z,2μm,5.4s						
TIY				LR	LR		
	comp=Z,14μm,14.1s						
TIY				LR	LR		
	comp=Z,30μm,14.8s						
WHN	**Wuhan**	**24.07**	**263**	P	**P**	**17 16 05.8**	**-1.1**
WHN				sP	**pwP**	**17 16 14.0**	**+0.7**
WHN				S	**S**	**17 20 22.7**	**-1.4**
WHN				pmax	pmax		
	comp=Z,1μm,1.4s						
WHN				pmax	pmax		
	comp=Z,11μm,11.9s						
WHN				LR	LR		
	comp=Z,46μm,13.1s						
WHN				LR	LR		
	comp=Z,43μm,15.0s						
WHN				LR	LR		
	comp=Z,86μm,18.2s						
HHC	**Hu-ho-hao-te**	**24.24**	**289**	⇓*i*P	**P**	**17 16 06.2**	**-2.4**
HHC				pP	pP	17 16 12.1	+0.6
HHC				PP	**PnPn**	**17 16 39.3**	**+1.1**
HHC				SS	**SnSn**	**17 21 13.7**	**+4.7**
HHC				pmax	pmax		
	comp=Z,140nm,1.4s						
HHC				pmax	pmax		
	comp=Z,450nm,7.8s						
HHC				LR	LR		
	comp=Z,20μm,13.8s						
HHC				LR	LR		
	comp=Z,8μm,16.9s						
HHC				LR	LR		
	comp=Z,12μm,18.1s						
LYN	**LuoYang**	**24.32**	**274**	P	**P**	**17 16 07.5**	**-1.8**
LYN				S	**S**	**17 20 21.2**	**-7.0**
LYN				pmax	pmax		
	comp=Z,410nm,1.2s						
LYN				pmax	pmax		
	comp=Z,6μm,8.0s						
LYN				LR	LR		
	comp=Z,34μm,16.5s						
LYN				LR	LR		
	comp=Z,38μm,16.5s						
LYN				LR	LR		
	comp=Z,51μm,17.5s						
CIT	**Chita**	**25.34**	**316**	*e*P	**P**	**17 16 18.0**	**-0.4**
CIT				*e*		17 16 28.0	
CIT				*e*		17 16 50.2	
CIT				*e*		17 17 09.4	
CIT				*e*S	**S**	**17 20 42.0**	**-2.3**
CIT				pmax	pmax		
	comp=Z,3μm,1.6s						
BTO	**Baotou**	**25.42**	**289**	*e*P	**P**	**17 16 18.4**	**-0.9**
BTO				pP	**pP**	**17 16 22.7**	**+0.6**
BTO				sP	**pwP**	**17 16 25.2**	**-0.5**
BTO				PP	**PnPn**	**17 16 57.4**	**+3.1**
BTO				S	**S**	**17 20 44.9**	**-1.0**
BTO				sS	**pS**	**17 20 49.5**	**+0.6**
BTO				SS	**SnSn**	**17 21 43.8**	**+6.0**
BTO				pmax	pmax		
	comp=Z,130nm,1.4s						
BTO				pmax	pmax		
	comp=Z,6μm,9.2s						
BTO				LR	LR		
	comp=Z,42μm,13.9s						
BTO				LR	LR		
	comp=Z,24μm,15.4s						
BTO				LR	LR		
	comp=Z,33μm,17.5s						
CNSH	**ChangSha**	**26.18**	**259**	P	**P**	**17 16 25.5**	**-0.6**
CNSH				S	**S**	**17 20 55.9**	**-1.9**
CNSH				pmax	pmax		
	comp=Z,250nm,1.7s						
CNSH				LR	LR		
	comp=Z,22μm,15.1s						
CNSH				LR	LR		
	comp=Z,14μm,13.6s						
CNSH				LR	LR		
	comp=Z,23μm,14.3s						
YAK	**Yakutsk**	**26.44**	**347**	P	**P**	**17 16 28.1**	**0.0**
YAK	**Yakutsk**	**26.44**	**347**	IAMs_20	IAMs_20	17 28 13.5	
	comp=Z,16μm,19.0s						
YAK	**Yakutsk**	**26.44**	**347**	LR	LR	17 28 42.3	
	comp=Z,12μm,18.6s,baz=152,slow=40						
YAK	**Yakutsk**	**26.44**	**347**	*c i*P	**P**	**17 16 28.4**	**+0.2**
YAK				*e**PP	**sP**	**17 16 32.7**	**+0.5**
YAK				*e*PPP	PPP	17 17 11.9	
YAK				*e*S	**S**	**17 20 57.8**	**-3.5**
YAK				*e**SS	**sS**	**17 21 05.8**	**-0.3**
YAK				*e*SSS	SSS	17 22 11.9	
YAK				pmax	pmax		
	comp=Z,485nm,1.0s						
YAK				pmax	pmax		
	comp=E,44nm,1.3s						
YAK				pmax	pmax		
	comp=N,176nm,1.1s						
YAK				pmax	pmax		
	comp=Z,349nm,1.6s						
YAK				pmax	pmax		
	comp=N,710nm,1.8s						
YAK				pmax	pmax		
	comp=E,240nm,1.5s						
YAK				smax	smax		
	comp=N,677nm,3.0s						
YAK				smax	smax		
	comp=E,2μm,3.2s						
YAK				MLR	MLR		
	comp=Z,27μm,18.0s						
YAK				MLR	MLR		
	comp=N,11μm,13.0s						
YAK				MLR	MLR		
	comp=E,12μm,14.0s						
SEY	**Seymchan**	**26.86**	**10**	LR	LR	17 28 54.3	
	comp=E,12μm,18.0s,baz=210,slow=40						
SEY	**Seymchan**	**26.86**	**10**	*ce*P	**P**	**17 16 34.5**	**+2.6**
SEY				pmax	pmax		
	comp=Z,57nm,0.8s						
SZP	**Santa**	**27.22**	**231**	P	**P**	**17 16 36.1**	**+0.5**
XAN	**Xi'an**	**27.29**	**274**	⇑P	**P**	**17 16 35.8**	**-0.4**
XAN				pP	pP	17 16 39.6	+0.5
XAN				S	**S**	**17 21 15.7**	**+0.2**
XAN				pmax	pmax		
	comp=Z,360nm,1.3s						
XAN				pmax	pmax		
	comp=Z,5μm,5.7s						
XAN				LR	LR		
	comp=Z,22μm,14.7s						
XAN				LR	LR		
	comp=Z,20μm,18.2s						
XAN				LR	LR		
	comp=Z,29μm,17.8s						
SHEM	**Shemya Is, Ala**	**27.30**	**44**	LR	LR	17 25 56.1	
	comp=Z,5μm,20.1s,baz=247,slow=33						
H11N2	**WAKE ISLAND Hy**	**27.41**	**122**	T	T	17 45 32.7	
	baz=314,slow=75,SNR=61						
H11N1	**WAKE ISLAND Hy**	**27.41**	**122**	T	T	17 45 18.2	
	baz=314,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**27.43**	**122**	T	T	17 45 24.8	
	baz=314,slow=75,SNR=60						
ENH	**Enshi**	**28.05**	**266**	IAMs_20	IAMs_20	17 28 43.7	
	comp=Z,17μm,18.0s						
ENH	**Enshi**	**28.05**	**266**	P	**P**	**17 16 42.7**	**-0.4**
ULN	**Ulaanbaatar**	**28.08**	**304**	P	**P**	**17 16 43.3**	**0.0**
ULN	**Ulaanbaatar**	**28.08**	**304**	IAMs_20	IAMs_20	17 28 05.9	
	comp=Z,17μm,19.0s						
ULN	**Ulaanbaatar**	**28.08**	**304**	P	**P**	**17 16 43.2**	**-0.1**
ULN				P	**P**	**17 16 43.2**	**-0.1**
ULN				P	**P**	**17 16 43.2**	**-0.1**
ULN				S	S	17 21 39.1	+11
ULN				S	S	17 21 39.1	+11
ULN				S	S	17 21 39.1	+11
ULN	**Ulaanbaatar**	**28.08**	**304**	P	**P**	**17 16 43.3**	**-0.1**
ULN				pmax	pmax		
	comp=Z,258nm,1.2s						
ULN				pmax	pmax		
	comp=Z,16μm,19.0s						
BOD	**Bodaibo**	**28.10**	**327**	⇓*i*P	**P**	**17 16 43.2**	**+0.1**
BOD				pmax	pmax		
	comp=Z,318nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**28.13**	**124**	T	T	17 46 14.7	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.13**	**124**	T	T	17 46 15.5	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	17 46 17.5	
	baz=314,slow=74						
HKPS	**Hong Kong Po S**	**28.36**	**247**	IAMs_20	IAMs_20	17 28 00.9	
	comp=Z,10μm,21.0s						
GZH	**Guangzhou**	**28.48**	**249**	P	P	17 16 42.0	-4.8
GZH				S	**S**	**17 21 29.2**	**-5.0**
GZH				pmax	pmax		
	comp=Z,150nm,1.3s						
GZH				LR	LR		
	comp=Z,20μm,14.1s						
GZH				LR	LR		
	comp=Z,18μm,14.3s						
GZH				LR	LR		
	comp=Z,27μm,15.7s						
SONM	**Songino Array**	**28.52**	**304**	P	**P**	**17 16 46.3**	**-0.8**
SONM	**Songino Array**	**28.52**	**304**	P	**P**	**17 16 47.5**	**+0.4**
	comp=Z,144nm,0.9s,baz=108,slow=8.0,SNR=263						
SONM				LR	LR	17 28 22.1	
	comp=Z,11μm,19.5s,baz=99,slow=37						
	comp=Z,144nm,0.9s						
SONM	**Songino Array**	**28.52**	**304**	P	**P**	**17 16 46.3**	**-0.8**
SONM				pmax	pmax		
	comp=Z,297nm,1.1s						
GULI	**GuiLin**	**29.57**	**256**	P	**P**	**17 16 57.6**	**+1.1**
GULI				PP	**PnPn**	**17 17 51.7**	**+0.7**
GULI				pmax	pmax		
	comp=Z,340nm,1.5s						
GULI				pmax	pmax		
	comp=Z,2μm,3.5s						

GULI LR LR
comp=Z,15μm,14.4s
GULI LR LR
comp=Z,16μm,13.9s
GULI LR LR
comp=Z,31μm,14.2s
IRK Irkutsk 30.79 312 *e*P **P 17 17 05.3 -1.7**
IRK *e*S **S 17 22 14.0 +4.0**
IRK pmax pmax
comp=Z,370nm,2.6s
LZH Lanzhou 30.83 280 ⇑P **P 17 17 07.6 -0.2**
LZH sP pwP 17 17 15.8 +1.5
LZH S **S 17 22 10.6 -0.7**
LZH SS **ScP 17 23 44.4 -2.8**
LZH pmax pmax
comp=Z,370nm,1.2s
LZH pmax pmax
comp=Z,2μm,4.7s
LZH LR LR
comp=Z,20μm,14.6s
LZH LR LR
comp=Z,37μm,15.3s
LZH LR LR
comp=Z,49μm,16.1s
ZAK Zakamensk 30.98 308 *e*P **P 17 17 08.8 -0.1**
ZAK pmax pmax
comp=Z,195nm,1.4s
GYA Guiyang 31.92 261 ⇑P **P 17 17 16.4 -1.0**
GYA S **S 17 22 28.2 -0.2**
GYA pmax pmax
comp=Z,210nm,1.5s
GYA pmax pmax
comp=Z,2μm,8.6s
GYA LR LR
comp=Z,25μm,17.5s
GYA LR LR
comp=Z,7μm,19.4s
GYA LR LR
comp=Z,18μm,18.8s
CD2 Chengdu 32.41 271 P **P 17 17 20.7 -0.9**
CD2 sP pwP 17 17 28.8 +0.7
CD2 S S 17 22 22.0 -14
CD2 sS sS 17 22 46.4 +5.7
CD2 pmax pmax
comp=Z,190nm,1.0s
CD2 pmax pmax
comp=Z,2μm,8.8s
CD2 LR LR
comp=Z,24μm,14.8s
CD2 LR LR
comp=Z,23μm,16.2s
MOY Mondy 32.64 310 *e*P **P 17 17 22.6 -0.9**
MOY pmax pmax
comp=Z,271nm,2.5s
PATS Pohnpei 33.22 150 P **P 17 17 28.5 -0.2**
comp=Z,302nm,1.6s
DAV Davao City (W) 33.33 211 LR LR 17 30 47.5
comp=Z,5μm,20.2s,baz=56,slow=36
DAV Davao City (W) 33.33 211 P **P 17 17 28.4 -1.3**
GTA Gaotai 33.33 288 P **P 17 17 29.9 +0.2**
GTA sP pwP 17 17 38.1 +1.9
GTA PcP **PcP 17 20 11.9 +0.5**
GTA S **S 17 22 52.5 +2.3**
GTA ScS **ScS 17 27 54.5 -2.0**
GTA pmax pmax
comp=Z,100nm,1.5s
GTA pmax pmax
comp=Z,2μm,5.2s
GTA LR LR
comp=Z,12μm,16.0s
GTA LR LR
comp=Z,9μm,18.2s
GTA LR LR
comp=Z,11μm,17.5s
QIZ Qiongzhong 33.52 247 P **P 17 17 31.0 -0.4**
QIZ Qiongzhong 33.52 247 IAMs_20 IAMs_20 17 31 10.1
comp=Z,8μm,20.0s
QIZ Qiongzhong 33.52 247 P **P 17 17 32.4 +1.1**
QIZ S **S 17 22 54.4 +1.2**
QIZ pmax pmax
comp=Z,120nm,1.3s
QIZ pmax pmax
comp=Z,1μm,7.6s
QIZ LR LR
comp=Z,14μm,15.0s
QIZ LR LR
comp=Z,8μm,15.1s
QIZ LR LR
comp=Z,8μm,14.7s
QIZ Qiongzhong 33.52 247 P **P 17 17 32.3 +1.0**
BILL Bilibino 34.02 16 P **P 17 17 35.5 +0.3**
BILL Bilibino 34.02 16 *ce*P **P 17 17 36.0 +0.8**
BILL pmax pmax
comp=Z,83nm,2.5s
ATKA Atka Island 34.03 49 IAMs_20 IAMs_20 17 28 41.9
comp=Z,8μm,19.0s
MIDW Midway 34.84 92 IAMs_20 IAMs_20 17 29 14.5
comp=Z,11μm,19.0s
TIXI Tiksi 35.59 353 P **P 17 17 48.5 -0.1**
TIXI Tiksi 35.59 353 IAMs_20 IAMs_20 17 34 11.3
comp=Z,13μm,18.0s
TIXI Tiksi 35.59 353 LR LR 17 34 31.0
comp=Z,9μm,18.6s,baz=173,slow=40
TIXI Tiksi 35.59 353 *i* P **P 17 17 48.4 -0.2**
TIXI pmax pmax
comp=Z,48nm,1.2s
KMI Kunming 35.66 262 ⇑P **P 17 17 49.2 -0.9**
KMI sP pwP 17 17 59.1 +2.5
KMI PP **PP 17 19 10.6 -0.5**
KMI S **S 17 23 21.0 -5.6**
KMI pmax pmax
comp=Z,90nm,1.2s
KMI pmax pmax
comp=Z,1μm,4.0s
KMI LR LR
comp=Z,18μm,16.6s
KMI LR LR
comp=Z,9μm,22.2s
KMI LR LR
comp=Z,15μm,18.7s
PZH PanZhiHua 35.82 265 P **P 17 17 50.7 -0.6**
PZH S **S 17 23 30.5 +1.7**
PZH pmax pmax
comp=Z,120nm,0.9s
PZH pmax pmax
comp=Z,1μm,9.2s
PZH LR LR
comp=Z,10μm,14.3s
PZH LR LR
comp=Z,21μm,18.0s
PZH LR LR
comp=Z,24μm,17.9s
SGSI Sangihe 36.42 209 P **P 17 17 56.4 0.0**
SLVN Son La 36.69 256 P **P 17 17 57.0 -1.7**
SLVN IAmb IAmb 17 18 11.1
comp=Z,278nm,1.7s
SLVN IAMs_20 IAMs_20 17 34 37.6
comp=Z,14μm,21.0s
SLVN Son La 36.69 256 P **P 17 17 59.1 +0.4**
SPIA Saint Paul Isl 37.23 42 P **P 17 18 00.2 -2.6**
baz=258
P08K Saint George I 37.49 43 P **P 17 18 03.2 -1.8**
baz=259
GOMU GeErMu 37.89 284 P **P 17 18 09.6 +0.5**
GOMU pP pwP 17 18 15.7 +0.1
GOMU sP sP 17 18 19.3 +6.0
GOMU PP **PP 17 19 34.2 -1.4**
GOMU pmax pmax
comp=Z,710nm,1.5s
GOMU LR LR
comp=Z,13μm,13.9s
GOMU LR LR
comp=Z,23μm,14.8s
GOMU LR LR
comp=Z,30μm,14.1s
BAKI Biak 38.26 190 P **P 17 18 14.1 +2.1**
comp=Z,72nm,1.2s
MYLDM Lahad Datu 38.32 220 P **P 17 18 14.6 +2.1**
TNTI Ternate 38.46 205 P **P 17 18 14.1 +0.5**
TNTI Ternate 38.46 205 P **P 17 18 14.1 +0.5**
comp=Z,3μmcomp=Z,131nm,2.4s
GAMB Gambell 38.51 31 P **P 17 18 12.1 -1.4**
baz=248
SMPI Sarmi 38.76 186 P **P 17 18 16.8 +0.7**
comp=Z,2μmcomp=Z,118nm,1.5s
UNV Unalaska Valle 38.84 47 P **P 17 18 15.1 -1.4**
baz=265
KKM Kota Kinabalu 38.84 224 P **P 17 18 16.5 -0.4**
KKM IAmb IAmb 17 18 31.0
comp=Z,222nm,1.5s
KKM Kota Kinabalu 38.84 224 P **P 17 18 18.6 +1.7**
SWI Sorong 38.88 198 P **P 17 18 18.7 +1.6**
comp=Z,2μmcomp=Z,46nm,0.8s
RKPI Ransiki, Papua 38.89 193 P **P 17 18 17.6 +0.4**
SRPI Serui, Papua 38.91 190 P **P 17 18 19.1 +1.7**
comp=Z,65nm,1.3s
TNCH TengChong 39.07 265 ⇑P **P 17 18 19.1 +0.1**
TNCH pP sP 17 18 24.0 +0.9
TNCH sP pwP 17 18 29.0 +3.5
TNCH PP **PnPn 17 19 52.5 +1.5**
TNCH S **S 17 24 21.2 +2.8**
TNCH pmax pmax
comp=Z,160nm,1.1s
TNCH pmax pmax
comp=Z,2μm,3.7s
TNCH LR LR
comp=Z,7μm,17.4s
TNCH LR LR
comp=Z,6μm,17.2s
TNCH LR LR
comp=Z,11μm,15.9s
UBPT Khong Chiam 39.12 247 P **P 17 18 19.5 +0.3**
UBPT IAMs_20 IAMs_20 17 37 01.0
comp=Z,7μm,19.0s
UBPT Khong Chiam 39.12 247 P **P 17 18 20.0 +0.8**
NONG Nongkai 39.15 252 P **P 17 18 20.1 +0.7**
JAY Jayapura 39.17 183 LR LR 17 32 26.8
comp=Z,2μm,21.8s,baz=6.5,slow=33
JAY Jayapura 39.17 183 P **P 17 18 21.8 +2.2**
GENI Genyem 39.27 183 P **P 17 18 21.8 +1.4**
comp=Z,148nm,1.2s
KMSI Cibinong 39.87 209 P **P 17 18 29.0 +3.6**
M11K Mekoryuk 39.98 37 P **P 17 18 24.6 -1.3**
baz=258
LKP Lekhapani 40.18 270 *e*P **P 17 18 28.9 +0.9**
LKP IAmb IAmb 17 18 42.5
comp=Z,222nm,1.0s
LKP IAMs_20 IAMs_20 17 37 30.1
comp=Z,11μm,15.6s
FAKI Fak Fak 40.64 196 P **P 17 18 31.8 0.0**
comp=Z,2μmcomp=Z,81nm,1.8s
TNA Tin City 40.67 29 P **P 17 18 30.3 -1.2**
baz=250
FALS False Pass 40.71 46 P **P 17 18 29.0 -3.0**
baz=267
TOLI2 Tolitoli 40.74 214 P **P 17 18 31.7 -1.0**
TOLI2 Tolitoli 40.74 214 P **P 17 18 32.2 -0.5**
MRSI Marisa 40.80 212 P **P 17 18 33.4 +0.3**
K13K Kusilvak Mount 41.05 35 IAmb IAmb 17 18 49.5
comp=Z,270nm,1.8s
K13K Kusilvak Mount 41.05 35 P **P 17 18 32.0 -2.7**
baz=257
F14K Arctic Creek 41.27 30 P **P 17 18 34.2 -2.3**
baz=252
M13K Dall Lake 41.38 38 IAmb IAmb 17 18 40.5
comp=Z,317nm,1.6s
M13K Dall Lake 41.38 38 P **P 17 18 36.0 -1.3**
baz=260,SNR=6.4
ANM Nome 41.39 31 P **P 17 18 36.2 -1.3**
baz=254
S12K Black Hills 41.53 45 P **P 17 18 37.3 -1.5**
baz=267
SANI Sanana 41.56 205 P **P 17 18 38.2 -1.1**
SANI Sanana 41.56 205 P **P 17 18 38.3 -1.1**
comp=Z,2μmcomp=Z,104nm,1.4s
WMQ Urumqi 41.59 297 ⇑P **P 17 18 41.0 +1.5**
WMQ sP pwP 17 18 51.8 +5.7
WMQ ScP **ScP 17 24 25.8 -0.6**
WMQ S **S 17 24 56.9 +1.5**
WMQ ScS **ScS 17 28 41.2 -1.7**
WMQ pmax pmax
comp=Z,190nm,1.7s
WMQ pmax pmax
comp=Z,3μm,4.7s
WMQ LR LR
comp=Z,18μm,18.1s
WMQ LR LR
comp=Z,12μm,21.3s
WMQ LR LR
comp=Z,9μm,17.1s
J14K Nanvaranak Lak 41.73 34 P **P 17 18 38.9 -1.3**
baz=258
LUWI Luwuk 41.83 210 IAmb IAmb 17 19 09.4
comp=Z,123nm,0.9s
LUWI Luwuk 41.83 210 P **P 17 18 43.6 +2.1**
LUWI Luwuk 41.83 210 P **P 17 18 41.4 -0.1**
comp=Z,3μmcomp=Z,160nm,1.2s
L14K Kuka Creek 41.85 36 P **P 17 18 40.5 -0.8**
baz=260
MSAI Masohi 41.87 200 P **P 17 18 43.4 +1.5**
comp=Z,4μmcomp=Z,188nm,1.4s
CHTO Chiang Mai 41.96 257 P **P 17 18 41.3 -1.4**
CHTO IAmb IAmb 17 18 57.6
comp=Z,242nm,2.0s
CHTO Chiang Mai 41.96 257 P **P 17 18 41.3 -1.4**
CHTO pmax pmax
comp=Z,242nm,2.0s
CHTO pmax pmax
comp=Z,16μm,18.0s
F15K North Star Dit 42.01 30 P **P 17 18 41.8 -0.8**
baz=253
G15K Niukluk 42.06 31 P **P 17 18 41.9 -1.0**
baz=255,SNR=5.4
M14K Bethel 42.11 37 P **P 17 18 43.9 +0.6**
baz=261,SNR=14
N14K Kuskokwak Cree 42.12 38 P **P 17 18 43.0 -0.5**
baz=262
CMAR Chiang Mai Arr 42.16 256 P **P 17 18 44.3 -0.1**
comp=Z,15nm,1.1s,baz=43,slow=7.2,SNR=37
CMAR LR LR 17 38 11.8
comp=Z,8μm,18.7s,baz=60,slow=39
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 42.16 256 *i* P **P 17 18 44.2 -0.1**
CMAR pmax pmax
comp=Z,16nm,1.1s
APSI Ampana 42.17 212 P **P 17 18 44.9 +0.5**
comp=Z,3μmcomp=Z,253nm,1.3s
KOHI KOHIMA 42.29 269 *e*P **P 17 18 45.0 -0.5**
KOHI *e*S **S 17 25 04.3 -1.9**
NLAI Namlea 42.31 203 P **P 17 18 46.8 +1.3**
comp=Z,2μmcomp=Z,82nm,1.2s
AAI Ambon 42.41 201 P **P 17 18 47.1 +0.8**
comp=Z,3μmcomp=Z,124nm,0.8s
SDPT Sand Point 42.42 45 P **P 17 18 44.5 -1.4**
baz=269
L15K Ungalak Mounta 42.48 36 P **P 17 18 46.1 -0.3**
baz=261
K15K Wolf Creek Mou 42.56 35 IAmb IAmb 17 19 55.0
comp=Z,195nm,1.8s
K15K Wolf Creek Mou 42.56 35 P **P 17 18 47.3 +0.2**
baz=260
C16K Lisburne Hills 42.57 26 IAMs_20 IAMs_20 17 38 46.5
comp=Z,6μm,18.0s
C16K Lisburne Hills 42.57 26 P **P 17 18 47.4 +0.4**
baz=250,SNR=18
ZAA0 Zalesovo Array 42.60 313 IAmb IAmb 17 18 49.4
comp=Z,230nm,1.3s
ZALV Zalesovo Beam 42.60 313 P **P 17 18 47.5 0.0**
ZALV Zalesovo Beam 42.60 313 P **P 17 18 47.7 +0.2**
comp=Z,67nm,1.0s,baz=91,slow=5.9,SNR=190
ZALV PcP **PcP 17 20 39.4 -0.1**
comp=Z,29nm,1.1s,baz=81,slow=3.7,SNR=2.5
ZALV ScP **ScP 17 24 29.4 -0.8**
comp=Z,1.7nm,0.7s,baz=68,slow=5.1,SNR=3.5
ZALV LR LR 17 37 19.9
comp=Z,14μm,18.7s,baz=86,slow=37
comp=Z,67nm,1.0s
H16K Elim 42.72 32 P **P 17 18 48.3 0.0**
baz=257,SNR=7.0
M15K Kasigluk River 42.72 37 P **P 17 18 48.0 -0.3**
baz=263,SNR=14
NAYO Nakonayok 42.82 249 P **P 17 18 50.2 +0.5**
IMP Imphal 42.83 268 *e*P **P 17 18 48.3 -1.5**
IMP IAmb IAmb 17 19 04.0
comp=Z,95nm,1.5s
IMP *e*S **S 17 25 13.6 -0.4**
G16K Koyuk River 42.85 30 P **P 17 18 49.4 +0.1**
baz=256
CHNA Chernabura Isl 42.92 46 P **P 17 18 48.9 -1.2**
baz=270
N15K Kwethluk River 42.95 38 P **P 17 18 49.1 -1.2**
baz=264,SNR=11
PCI Palu 42.96 214 P **P 17 18 50.0 -0.8**
comp=Z,3μmcomp=Z,216nm,1.4s
LSA Lhasa 42.97 276 IAMs_20 IAMs_20 17 38 08.0
comp=Z,8μm,20.0s
LSA Lhasa 42.97 276 P **P 17 18 52.2 +0.9**
LSA S **S 17 25 16.6 -0.1**
LSA pmax pmax
comp=Z,64nm,1.5s
LSA LR LR
comp=Z,3μm,18.4s
LSA LR LR
comp=Z,10μm,15.8s
LSA Lhasa 42.97 276 P **P 17 18 52.5 +1.2**
S14K Fog Glacier 42.97 44 P **P 17 18 50.6 0.0**
baz=268
O15K Ungalikthiuk R 42.99 40 P **P 17 18 49.7 -0.9**
baz=265,SNR=10
ZSN Zaisan 43.02 303 *e*P **P 17 18 51.7 +0.7**
ZSN *e*S **S 17 25 18.4 +2.2**
ZSN pmax pmax
comp=Z,335nm,1.5s
ZSN Zaisan 43.02 303 *e*P **P 17 18 51.7 +0.7**
comp=Z,335nm,1.5s
ZSN *e*S **S 17 25 18.4 +2.2**
J16K Anvik River 43.15 34 P **P 17 18 52.6 +0.8**
baz=260
D17K Noatak River 43.19 27 P **P 17 18 52.4 +0.4**
baz=253,SNR=12
I17K Unalakleet 43.22 33 P **P 17 18 53.5 +1.1**
baz=259
TAWA Tawang 43.26 273 *e*P **P 17 18 54.9 +1.3**
TAWA IAmb IAmb 17 19 02.9
comp=Z,74nm,0.8s
TAWA IAMs_20 IAMs_20 17 37 50.6
comp=Z,6μm,22.2s
RDOG Red Dog Mine 43.36 27 IAMs_20 IAMs_20 17 39 31.2
comp=Z,6μm,18.0s
RDOG Red Dog Mine 43.36 27 P **P 17 18 53.5 0.0**
baz=253
C17K DeLong Mountai 43.39 26 P **P 17 18 53.8 0.0**
baz=252,SNR=18
L16K Owhat River 43.43 36 P **P 17 18 55.1 +1.0**
L16K IAmb IAmb 17 18 57.0
comp=Z,144nm,1.5s
L16K Owhat River 43.43 36 P **P 17 18 54.6 +0.5**
baz=263,SNR=12
E17K Hotham Inlet 43.48 28 P **P 17 18 53.4 -1.0**
baz=255
F17K Baldwin Pennin 43.54 29 P **P 17 18 52.6 -2.4**
baz=256
G17K Kiwalik Mounta 43.56 30 P **P 17 18 54.1 -1.1**
baz=258
M16K Timber Creek 43.60 37 P **P 17 18 54.6 -0.9**
baz=264
CHGN Chignik 43.60 44 IAMs_20 IAMs_20 17 35 07.0
comp=Z,5μm,20.0s
CHGN Chignik 43.60 44 P **P 17 18 54.9 -0.6**
baz=269
N16K Nishlik Lake 43.63 38 P **P 17 18 54.1 -1.7**
baz=265
H17K Granite Mounta 43.75 31 P **P 17 18 55.6 -1.1**
baz=259
SMKI Samarinda 43.79 218 P **P 17 19 01.8 +4.3**
comp=Z,218nm,1.3s
J17K VABM Dome 43.85 34 IAmb IAmb 17 19 11.7
comp=Z,253nm,1.6s
J17K VABM Dome 43.85 34 P **P 17 18 56.6 -0.8**
baz=261
O16K Kokwok River B 43.90 39 P **P 17 18 57.6 -0.4**
baz=266,SNR=11
P16K Nushagak River 43.92 40 P **P 17 18 59.1 +1.0**
baz=267,SNR=11
E18K Tukpahlearik C 44.03 28 P **P 17 18 59.7 +0.8**
baz=256,SNR=7.7
L17K Donlin 44.03 36 P **P 17 18 57.8 -1.1**
baz=263,SNR=13
SBUM Sibu 44.05 226 P **P 17 18 59.4 -0.2**
SBUM Sibu 44.05 226 P **P 17 19 00.2 +0.6**
R16K Pilot Point 44.08 42 P **P 17 19 00.9 +1.5**
baz=269
K17K Iditarod 44.10 35 IAmb IAmb 17 19 07.2
comp=Z,141nm,1.3s
K17K IAMs_20 IAMs_20 17 40 43.5
comp=Z,5μm,18.0s
K17K Iditarod 44.10 35 P **P 17 18 59.2 -0.3**
baz=263,SNR=17
B18K Kokolik River 44.14 25 P **P 17 19 00.0 +0.3**
baz=252,SNR=26
C18K Utukok River 44.14 26 IAmb IAmb 17 19 13.2
comp=Z,129nm,1.4s
C18K IAMs_20 IAMs_20 17 39 39.1
comp=Z,7μm,18.0s
C18K Utukok River 44.14 26 P **P 17 19 00.9 +1.0**
baz=254,SNR=16
SHL Shillong 44.14 270 P **P 17 19 00.1 -0.5**
SNR=28
SHL Shillong 44.14 270 *e*P **P 17 19 00.2 -0.3**
SHL IAMs_20 IAMs_20 17 39 44.4
comp=Z,8μm,17.7s
F18K Selawik 44.20 29 P **P 17 19 00.8 +0.6**
baz=257,SNR=12
AZL Aizawl 44.36 267 *e*P **P 17 19 01.4 -0.8**
AZL IAmb IAmb 17 19 29.7
comp=Z,151nm,1.5s
AZL *e*S **S 17 25 34.8 -1.7**
AZL IAMs_20 IAMs_20 17 39 42.7
comp=Z,17μm,17.8s
M17K Holitna River 44.37 37 IAmb IAmb 17 19 05.1
comp=Z,109nm,1.2s
M17K Holitna River 44.37 37 P **P 17 19 02.1 +0.4**
baz=265
O17K Koliganek Bris 44.42 39 P **P 17 19 04.2 +2.2**
baz=267,SNR=12
N17K Nushagak Hills 44.42 38 IAmb IAmb 17 19 05.6
comp=Z,126nm,1.3s
N17K IAMs_20 IAMs_20 17 40 51.7
comp=Z,4μm,18.0s
N17K Nushagak Hills 44.42 38 P **P 17 19 02.0 -0.1**
baz=266,SNR=17
H18K Honhosa River 44.44 31 P **P 17 18 59.7 -2.5**
baz=260
G18K Tagagawik 44.45 30 P **P 17 19 01.2 -1.1**
baz=259
SRDT SRDT 44.46 251 P **P 17 19 03.8 +0.9**
Q16K King Salmon 44.60 41 P **P 17 19 02.6 -0.9**
baz=268,SNR=6.9
A19K Wainwright 44.63 24 P **P 17 19 04.0 +0.4**
baz=252
BKB Balikpapan 44.65 218 P **P 17 19 05.4 +1.0**
BKB Balikpapan 44.65 218 P **P 17 19 06.8 +2.4**
comp=Z,6μcomp=Z,4μcomp=Z,210nm,1.2s
P17K Kvichak River 44.73 40 P **P 17 19 03.9 -0.6**
baz=268
L18K Granite Mounta 44.80 36 IAmb IAmb 17 19 08.7
comp=Z,138nm,1.5s
L18K Granite Mounta 44.80 36 P **P 17 19 04.2 -0.9**
baz=265,SNR=13
MK31 Makanchi Array 44.86 302 IAmb IAmb 17 19 21.2
comp=Z,69nm,0.9s
MK31 Makanchi Array 44.86 302 *c i* P **P 17 19 05.6 -0.2**
MKAR Makanchi Array 44.86 302 P **P 17 19 05.7 -0.2**
MKAR Makanchi Array 44.86 302 P **P 17 19 06.2 +0.4**
comp=Z,49nm,1.0s,baz=86,slow=9.8,SNR=243
MKAR ScP **ScP 17 24 39.2 -0.3**
comp=Z,3.4nm,1.1s,baz=86,slow=4.5,SNR=2.0
MKAR ScS **ScS 17 29 01.9 -1.2**
comp=Z,0.8nm,0.8s,baz=89,slow=10,SNR=5.9
MKAR LR LR 17 38 19.8
comp=Z,7μm,19.3s,baz=74,slow=37
comp=Z,49nm,1.0s
MKAR Makanchi Array 44.86 302 *i* P **P 17 19 06.1 +0.3**
MKAR pmax pmax
comp=Z,49nm,1.0s
TTSI Tana Toraja 44.87 213 P **P 17 19 08.4 +2.3**
comp=Z,50nm,1.3s
F19K Shaleruckik Mo 44.98 29 P **P 17 19 06.7 +0.3**
baz=259
GCSA Galena City Sc 45.00 32 P **P 17 19 04.7 -1.9**
baz=262,SNR=8.4
MAKZ Makanchi 45.06 303 P **P 17 19 07.8 +0.3**
MAKZ IAmb IAmb 17 19 23.0
comp=Z,100nm,0.9s
MAKZ IAMs_20 IAMs_20 17 38 58.0
comp=Z,8μm,18.0s
MAKZ Makanchi 45.06 303 P **P 17 19 07.8 +0.3**
MAKZ pmax pmax
comp=Z,100nm,1.0s
MAKZ pmax pmax

comp=Z,8µm,18.0s
N18K Kilae Creek 45.07 38 IAmb IAmb 17 19 10.8
comp=Z,160nm,1.4s
N18K Kilae Creek 45.07 38 P **P** **17 19 07.4 +0.1**
baz=267,SNR=14
G19K Purcell Mounta 45.13 30 P **P** **17 19 07.1 -0.6**
baz=260,SNR=13
M18K Stony River 45.15 37 P **P** **17 19 09.1 +1.3**
baz=266,SNR=9.2
CHIR Chirikof Islan 45.17 45 P **P** **17 19 08.5 +0.4**
baz=272
TTA Tatalina 45.17 35 IAMs_20 IAMs_20 17 41 41.3
comp=Z,4µm,18.0s
TTA Tatalina 45.17 35 P **P** **17 19 09.3 +1.1**
TTA Tatalina 45.17 35 P **P** **17 19 09.0 +0.9**
baz=265,SNR=8.7
D19K Kuna River 45.20 27 IAMs_20 IAMs_20 17 40 25.1
comp=Z,5µm,18.0s
D19K Kuna River 45.20 27 P **P** **17 19 10.1 +1.9**
baz=257,SNR=23
ACHA Angle Creek He 45.29 41 P **P** **17 19 09.0 -0.1**
H19K Roundabout Mou 45.29 31 IAmb IAmb 17 19 16.9
comp=Z,144nm,1.1s
H19K Roundabout Mou 45.29 31 P **P** **17 19 10.0 +1.1**
baz=262,SNR=44
E19K Redstone River 45.31 28 P **P** **17 19 08.8 -0.3**
baz=259
P18K Big Mountain, 45.35 40 IAmb IAmb 17 19 12.4
comp=Z,170nm,1.4s
P18K Big Mountain, 45.35 40 P **P** **17 19 10.5 +0.9**
baz=269,SNR=9.7
O18K Koktuh Hills 45.37 39 P **P** **17 19 09.8 +0.1**
baz=268,SNR=16
J19K Poorman 45.45 33 P **P** **17 19 11.0 +0.7**
baz=264,SNR=21
Q18K Katmai Hardscr 45.46 41 P **P** **17 19 11.3 +0.8**
baz=270,SNR=5.1
L19K White Mountain 45.65 36 IAmb IAmb 17 19 20.5
comp=Z,82nm,1.2s
L19K White Mountain 45.65 36 P **P** **17 19 13.1 +1.2**
baz=266,SNR=15
BRDH Bariadhala 45.72 267 LR LR 17 41 16.7
comp=Z,21µm,18.1s,baz=88,slow=40
SPSI Sidrap Palu 45.72 212 P **P** **17 19 12.0 -0.8**
comp=Z,3µmcomp=Z,1µmcomp=Z,101nm,1.4s
SAUI Saumlaki 45.76 195 P **P** **17 19 16.1 +3.0**
N19K Bonanza Creek 45.76 38 IAmb IAmb 17 19 26.9
comp=Z,95nm,1.6s
N19K Bonanza Creek 45.76 38 P **P** **17 19 11.8 -1.1**
baz=268
R18K Karluk 45.77 42 P **P** **17 19 12.1 -0.7**
baz=271
D20K Etivluk River 45.78 26 P **P** **17 19 13.1 +0.2**
baz=258,SNR=16
F20K Avaraart Lake 45.81 29 P **P** **17 19 14.1 +1.1**
baz=261
O19K Port Alsworth 45.83 38 IAmb IAmb 17 19 20.6
comp=Z,79nm,1.2s
O19K Port Alsworth 45.83 38 P **P** **17 19 13.4 +0.2**
baz=269,SNR=10
E20K Nigu River 45.85 27 P **P** **17 19 13.3 -0.1**
baz=259,SNR=16
M19K Big River Lodg 45.85 36 IAmb IAmb 17 19 28.6
comp=Z,88nm,1.4s
M19K Big River Lodg 45.85 36 P **P** **17 19 14.4 +0.9**
baz=267
B20K Meade River 45.87 25 IAmb IAmb 17 19 48.3
comp=Z,75nm,1.1s
B20K Meade River 45.87 25 P **P** **17 19 13.5 +0.1**
baz=257
H20K Anotleneega Mo 45.94 31 P **P** **17 19 14.5 +0.4**
baz=263,SNR=24
SII Sitkinak Islan 45.95 44 P **P** **17 19 14.9 +0.6**
baz=273
KSM Kuching 45.95 228 IAmb IAmb 17 19 31.2
comp=Z,57nm,0.9s
KSM Kuching 45.95 228 P **P** **17 19 15.8 +1.1**
BBSI Bau Bau 45.97 208 P **P** **17 19 18.6 +3.7**
comp=Z,3µmcomp=Z,2µmcomp=Z,170nm,1.2s
GTK Tadong 45.99 274 *eP* **P** **17 19 15.9 +0.7**
GTK IAmb IAmb 17 19 30.6
comp=Z,454nm,2.4s
GTK *eS* **S** **17 26 07.5 +7.3**
GTK IAMs_20 IAMs_20 17 40 14.1
comp=Z,7µm,15.5s
I20K Naaghedeneel 46.03 32 IAmb IAmb 17 19 22.3
comp=Z,126nm,1.1s
I20K Naaghedeneel 46.03 32 P **P** **17 19 15.0 +0.2**
baz=264
K20K Telida 46.09 34 IAmb IAmb 17 19 18.5
comp=Z,67nm,1.1s
K20K Telida 46.09 34 P **P** **17 19 15.4 +0.1**
baz=266,SNR=16
J20K Nowinta River 46.12 33 IAmb IAmb 17 19 18.5
comp=Z,71nm,1.1s
J20K Nowinta River 46.12 33 P **P** **17 19 14.9 -0.6**
baz=265,SNR=25
Q19K Cape Douglas, 46.17 40 P **P** **17 19 16.9 +0.9**
baz=271
PMG Port Moresby 46.21 173 LR LR 17 36 38.9
comp=Z,986nm,21.9s,baz=356,slow=34
A21K Barrow 46.36 23 P **P** **17 19 19.3 +2.0**
baz=256,SNR=20
P19K Oil Pt 46.37 39 P **P** **17 19 17.1 -0.5**
baz=270
OHAK Old Harbor 46.41 43 P **P** **17 19 17.7 -0.2**
baz=273
STKI Sintang 46.41 225 P **P** **17 19 18.9 +0.5**
comp=Z,3µmcomp=Z,115nm,1.4s
M20K Styx River 46.45 36 IAmb IAmb 17 19 33.5
comp=Z,129nm,1.6s
M20K Styx River 46.45 36 P **P** **17 19 16.9 -1.3**
baz=268
C21K Knifeblade Rid 46.52 26 P **P** **17 19 19.4 +0.8**
baz=260,SNR=23
G21K Allakaket 46.61 30 IAmb IAmb 17 19 33.1
comp=Z,96nm,1.6s
G21K Allakaket 46.61 30 P **P** **17 19 19.3 -0.1**
baz=264,SNR=16
KURK Kurchatov 46.64 308 P **P** **17 19 19.5 -0.3**
KURK Kurchatov 46.64 308 P **P** **17 19 19.3 -0.5**
KURK P **P** **17 19 19.3 -0.5**
KURK P **P** **17 19 19.3 -0.5**
KURK S **S** **17 26 14.6 +6.0**
KURK S **S** **17 26 14.6 +6.0**
KURK S **S** **17 26 14.6 +6.0**
KURK Kurchatov 46.64 308 *ceP* **P** **17 19 19.9 +0.1**
KURK pmax pmax
comp=Z,375nm,1.3s
B21K Ikpikpuk River 46.66 25 IAmb IAmb 17 19 49.7
comp=Z,70nm,1.1s
B21K IAMs_20 IAMs_20 17 41 51.6
comp=Z,6µm,18.0s
B21K Ikpikpuk River 46.66 25 P **P** **17 19 19.4 -0.3**
baz=260
KAPI Kappang 46.66 212 P **P** **17 19 20.2 -0.1**
KAPI Kappang 46.66 212 P **P** **17 19 19.9 -0.4**
KAPI P **P** **17 19 19.9 -0.4**
KAPI P **P** **17 19 19.9 -0.4**
KAPI S **S** **17 26 05.2 -4.3**
KAPI S **S** **17 26 05.2 -4.3**
KAPI S **S** **17 26 05.2 -4.3**
KAPI Kappang 46.66 212 P **P** **17 19 20.8 +0.5**
KAPI Kappang 46.66 212 P **P** **17 19 20.1 -0.2**
KAPI pmax pmax
comp=Z,266nm,1.6s
O20K Slope Mountain 46.68 39 P **P** **17 19 19.5 -0.5**
baz=270
E21K Killik River 46.69 27 IAMs_20 IAMs_20 17 40 37.5
comp=Z,4µm,18.0s
E21K Killik River 46.69 27 P **P** **17 19 20.7 +0.7**
baz=261
F21K Alatna River 46.70 29 IAMs_20 IAMs_20 17 42 22.1
comp=Z,4µm,18.0s
F21K Alatna River 46.70 29 P **P** **17 19 19.7 -0.4**
baz=263,SNR=21
KURBB Kurchatov Arra 46.71 308 P **P** **17 19 20.3 0.0**
comp=Z,144nm,1.0s,baz=82,slow=8.4,SNR=404
KURBB ScS ScS 17 29 17.9 +3.0
comp=Z,0.5nm,0.8s,baz=99,slow=5.9,SNR=4.4
KURBB LR LR 17 39 41.8
comp=Z,13µm,19.6s,baz=77,slow=37
comp=Z,144nm,1.0s
KDAK Kodiak Island 46.76 42 P **P** **17 19 20.3 -0.3**
KDAK Kodiak Island 46.76 42 P **P** **17 19 20.3 -0.3**
KDAK pmax pmax
comp=Z,468nm,1.8s
KDAK Kodiak Island 46.76 42 P **P** **17 19 19.4 -1.3**
baz=273
BKSI Bulukumba 46.79 211 P **P** **17 19 21.9 +0.6**
comp=Z,3µmcomp=Z,79nm,1.1s
A22K Sinclair Lake 46.81 24 P **P** **17 19 20.8 0.0**
baz=258,SNR=40
H21K Melozitna Rive 46.81 31 IAmb IAmb 17 19 30.2
comp=Z,86nm,1.3s
H21K Melozitna Rive 46.81 31 P **P** **17 19 19.5 -1.5**
baz=265,SNR=22
Q20K Shuyak Island 46.83 41 P **P** **17 19 21.0 -0.2**
baz=272
SYI Shuyak Island 46.83 41 P **P** **17 19 21.3 +0.1**
SPCR Spurr Chakacha 46.88 37 P **P** **17 19 22.2 +0.6**
baz=270,SNR=16
CHUM Lake Minchumin 46.90 33 P **P** **17 19 23.4 +1.8**
baz=267,SNR=11
PPLA Purkeypile 46.92 35 P **P** **17 19 23.0 +1.0**
baz=268,SNR=14
CAST Castle Rocks 46.98 34 IAmb IAmb 17 19 36.4
comp=Z,112nm,1.5s
CAST Castle Rocks 46.98 34 P **P** **17 19 22.4 +0.1**
baz=268,SNR=15
STLK Strandline Lak 47.06 37 IAmb IAmb 17 19 26.0
comp=Z,129nm,1.6s
I21K Tanana 47.12 32 IAmb IAmb 17 19 37.3
comp=Z,85nm,1.4s
I21K Tanana 47.12 32 P **P** **17 19 23.5 +0.2**
baz=266,SNR=14
HOM Homer 47.18 39 P **P** **17 19 23.7 -0.2**
baz=272
B22K Teshekpuk Lake 47.19 25 IAmb IAmb 17 20 19.6
comp=Z,137nm,1.4s
B22K IAMs_20 IAMs_20 17 37 57.7
comp=Z,5µm,21.0s
B22K Teshekpuk Lake 47.19 25 P **P** **17 19 24.6 +0.8**
baz=260,SNR=16
SKT Skwentna 47.20 36 IAmb IAmb 17 19 26.5
comp=Z,88nm,1.5s
SKT Skwentna 47.20 36 P **P** **17 19 24.7 +0.6**
baz=270,SNR=6.3
D22K Ayikyak River 47.22 27 IAmb IAmb 17 19 32.1
comp=Z,63nm,1.1s
D22K IAMs_20 IAMs_20 17 40 40.4
comp=Z,4µm,18.0s
D22K Ayikyak River 47.22 27 P **P** **17 19 24.6 +0.5**
baz=262
F22K John River 47.24 28 P **P** **17 19 25.5 +1.2**
baz=264
BSSI Bau Bau, Buton 47.38 210 P **P** **17 19 27.1 +1.2**
comp=Z,3µmcomp=Z,2µmcomp=Z,127nm,1.5s
CAPN Captain Cook N 47.40 38 P **P** **17 19 25.9 +0.4**
baz=271
H22K Ishtalitna Cre 47.42 31 P **P** **17 19 25.8 +0.1**
baz=266
E22K Anaktuvuk Pass 47.45 28 IAmb IAmb 17 19 36.7
comp=Z,56nm,1.1s
E22K IAMs_20 IAMs_20 17 41 51.2
comp=Z,5µm,19.0s
E22K Anaktuvuk Pass 47.45 28 P **P** **17 19 26.3 +0.4**
baz=264,SNR=41
BPAW Bear Paw Mtn. 47.49 33 IAmb IAmb 17 19 40.3
comp=Z,69nm,1.4s
BPAW IAMs_20 IAMs_20 17 39 24.6
comp=Z,5µm,20.0s
BPAW Bear Paw Mtn. 47.49 33 P **P** **17 19 24.8 -1.5**
baz=268,SNR=11
KTH Kantishna Hill 47.51 34 IAmb IAmb 17 19 40.3
comp=Z,105nm,1.2s
SUA Susitna One 47.58 37 P **P** **17 19 24.7 -2.5**
baz=271
SHLS Shalkode 47.59 298 *c iP* **P** **17 19 25.4 -2.1**
SHLS *eS* **S** **17 26 19.8 -2.8**
SHLS pmax pmax
comp=Z,87nm,1.6s
SHLS Shalkode 47.59 298 ⇑ *iP* **P** **17 19 25.5 -2.1**
comp=Z,88nm,1.6s
SHLS *eS* **S** **17 26 19.9 -2.8**
BRSE Bradley Lake S 47.63 39 P **P** **17 19 24.5 -2.9**
baz=272
TRF Thorofare Moun 47.79 34 IAmb IAmb 17 20 31.6
comp=Z,72nm,1.3s
TRF Thorofare Moun 47.79 34 P **P** **17 19 29.0 +0.2**
baz=269
CUT Chulitna 47.80 35 P **P** **17 19 28.2 -0.4**
baz=270
SRIT Nakonsritamara 47.82 245 P **P** **17 19 30.6 +1.2**
SLKM Skilak Lake 47.86 38 IAmb IAmb 17 19 30.7
comp=Z,138nm,1.5s
TDK Taldyqorghan 47.88 301 *c iP* **P** **17 19 30.0 +0.5**
TDK *eS* **S** **17 26 28.2 +1.8**
TDK MLR MLR
comp=Z,10µm,15.0s
TDK Taldyqorghan 47.88 301 ⇑ *iP* **P** **17 19 30.1 +0.5**
TDK *eS* **S** **17 26 28.3 +1.8**
TDK LR LR 17 40 03.4
comp=Z,10µm,15.3s
M22K Willow 47.88 36 IAmb IAmb 17 20 42.8
comp=Z,107nm,1.2s
M22K Willow 47.88 36 P **P** **17 19 28.6 -0.7**
baz=271
UZB Uzynbulak 47.90 298 *eP* **P** **17 19 30.2 +0.3**
UZB *eS* **S** **17 26 28.5 +1.4**
UZB pmax pmax
comp=Z,99nm,1.7s
UZB Uzynbulak 47.90 298 *eP* **P** **17 19 30.3 +0.3**
comp=Z,99nm,1.7s
UZB *eS* **S** **17 26 28.6 +1.4**
D23K Nanushuk River 47.95 27 IAmb IAmb 17 20 18.6
comp=Z,67nm,1.3s
D23K IAMs_20 IAMs_20 17 40 27.5
comp=Z,4µm,19.0s
D23K Nanushuk River 47.95 27 P **P** **17 19 29.7 -0.1**
baz=264
COLD Coldfoot 47.98 29 P **P** **17 19 29.3 -0.6**
baz=266,SNR=7.3
G23K Bananza Creek 48.01 30 P **P** **17 19 30.4 +0.1**
baz=267,SNR=12
KPKS Kokpek 48.06 299 *eP* **P** **17 19 31.5 +0.4**
KPKS pmax pmax
comp=Z,85nm,1.6s
KPKS Kokpek 48.06 299 *eP* **P** **17 19 31.5 +0.4**
comp=Z,85nm,1.6s
C23K Itkillik River 48.07 25 IAmb IAmb 17 19 33.6
comp=Z,85nm,1.1s
C23K IAMs_20 IAMs_20 17 42 56.0
comp=Z,7µm,18.0s
C23K Itkillik River 48.07 25 P **P** **17 19 31.1 +0.5**
baz=263,SNR=49
RC01 Rabbit Creek A 48.08 37 IAmb IAmb 17 19 43.6
comp=Z,144nm,1.4s
RC01 IAMs_20 IAMs_20 17 42 52.1
comp=Z,5µm,18.0s
RC01 Rabbit Creek A 48.08 37 P **P** **17 19 29.6 -1.3**
baz=272
O22K Cooper Landing 48.11 38 P **P** **17 19 29.8 -1.2**
baz=273
BWN Browne 48.16 33 IAMs_20 IAMs_20 17 39 57.2
comp=Z,4µm,19.0s
H23K Yukon River 48.17 31 IAmb IAmb 17 19 40.5
comp=Z,96nm,1.1s
H23K Yukon River 48.17 31 P **P** **17 19 30.5 -1.0**
baz=268
I23K Minto, Yukon-K 48.22 32 IAmb IAmb 17 19 40.6
comp=Z,94nm,1.4s
I23K Minto, Yukon-K 48.22 32 P **P** **17 19 31.8 -0.1**
baz=269,SNR=16
E23K Chandalar 48.26 28 IAmb IAmb 17 19 39.6
comp=Z,83nm,1.2s
E23K IAMs_20 IAMs_20 17 41 58.9
comp=Z,5µm,19.0s
E23K Chandalar 48.26 28 P **P** **17 19 32.3 +0.1**
baz=266,SNR=42
SEW Seward 48.26 39 IAmb IAmb 17 19 39.2
comp=Z,102nm,1.1s
SEW Seward 48.26 39 P **P** **17 19 30.7 -1.5**
baz=273
ZHN Zhinishke 48.31 298 *eP* **P** **17 19 33.3 +0.2**
ZHN Zhinishke 48.31 298 *eP* **P** **17 19 33.3 +0.2**
TOLK Toolik Lake Re 48.32 27 P **P** **17 19 33.1 +0.4**
baz=265,SNR=23
NEA2 Nenana 48.34 33 IAmb IAmb 17 19 35.6
comp=Z,125nm,1.3s
NEA2 Nenana 48.34 33 P **P** **17 19 32.7 -0.2**
baz=270,SNR=37
PMR Palmer 48.35 37 IAmb IAmb 17 19 38.9
comp=Z,105nm,1.3s
PMR Palmer 48.35 37 P **P** **17 19 33.5 +0.6**
PMR Palmer 48.35 37 P **P** **17 19 32.8 -0.1**
baz=272,SNR=7.5
SATY Saty 48.36 298 *eP* **P** **17 19 33.9 +0.4**
SATY *eS* **S** **17 26 35.2 +1.6**
SATY pmax pmax
comp=Z,118nm,1.8s
SATY Saty 48.36 298 *eP* **P** **17 19 33.9 +0.4**
comp=Z,118nm,1.8s
SATY *eS* **S** **17 26 35.3 +1.6**
MCK McKinley 48.40 34 P **P** **17 19 32.8 -0.5**
baz=270,SNR=11
RND Reindeer 48.44 34 IAmb IAmb 17 19 40.5
comp=Z,86nm,1.2s
RND IAMs_20 IAMs_20 17 42 06.5
comp=Z,4µm,20.0s
ARXS Arharly 48.47 300 *eP* **P** **17 19 34.2 0.0**
ALEG Aligegeo Malai 48.50 155 P **P** **17 19 35.0 +0.4**
D24K Happy Valley 48.63 26 IAmb IAmb 17 19 45.1
comp=Z,73nm,1.1s
D24K IAMs_20 IAMs_20 17 42 42.8
comp=Z,5µm,18.0s
D24K Happy Valley 48.63 26 P **P** **17 19 34.1 -0.9**
baz=266
KNK Knik Glacier 48.68 37 P **P** **17 19 35.0 -0.5**
baz=273
E24K Your Creek 48.68 28 IAmb IAmb 17 19 38.6
comp=Z,72nm,1.4s
E24K IAMs_20 IAMs_20 17 42 41.1
comp=Z,6µm,18.0s
E24K Your Creek 48.68 28 P **P** **17 19 35.3 -0.2**
baz=267,SNR=34
C24K Franklin Bluff 48.72 26 IAmb IAmb 17 20 44.3
comp=Z,138nm,1.4s
C24K IAMs_20 IAMs_20 17 43 27.0
comp=Z,6µm,18.0s
C24K Franklin Bluff 48.72 26 P **P** **17 19 35.3 -0.3**
baz=265
SML Sawmill 48.72 36 P **P** **17 19 34.5 -1.3**
baz=273
WRH Wood River Hil 48.76 33 P **P** **17 19 36.9 +0.8**
WRH PcP **PcP** **17 21 01.9 +1.1**
PWL Port Wells 48.77 38 IAmb IAmb 17 19 42.9
comp=Z,91nm,1.2s
PWL Port Wells 48.77 38 P **P** **17 19 34.9 -1.3**
baz=273
H24K Noodor Dome 48.85 31 IAmb IAmb 17 19 51.9
comp=Z,203nm,1.9s
H24K Noodor Dome 48.85 31 P **P** **17 19 37.4 +0.6**
baz=269,SNR=22
COLA College 48.86 32 P **P** **17 19 38.0 +1.2**
COLA College 48.86 32 *i* P **P** **17 19 36.9 +0.1**
COLA pmax pmax
comp=Z,66nm,1.3s
COLA College 48.86 32 P **P** **17 19 37.5 +0.7**
baz=270
F24K Squaw Lake 48.89 29 P **P** **17 19 36.1 -1.0**
baz=268
HNR Honiara 48.90 157 IAMs_20 IAMs_20 17 38 48.8
comp=Z,5µm,21.0s
HNR Honiara 48.90 157 LR LR 17 40 00.8
comp=Z,4µm,19.4s,baz=326,slow=36
MMRI Maumere 49.00 207 P **P** **17 19 38.9 +0.5**
MMRI Maumere 49.00 207 P **P** **17 19 38.5 +0.1**
comp=Z,2µmcomp=Z,120nm,1.0s
M23K Glacier View 49.01 36 P **P** **17 19 36.5 -1.6**
baz=273
G24K Hadweenzic Riv 49.03 30 IAmb IAmb 17 19 41.6
comp=Z,111nm,1.4s
G24K Hadweenzic Riv 49.03 30 P **P** **17 19 38.5 +0.4**
baz=269,SNR=13
POKR Poker Plat Res 49.04 32 P **P** **17 19 38.8 +0.6**
baz=270,SNR=34
TARG Taragay, Kyrgy 49.16 297 IAmb IAmb 17 19 54.7
comp=Z,94nm,0.9s
SCM Sheep Creek Mo 49.20 36 IAmb IAmb 17 19 46.9
comp=Z,114nm,1.2s
SCM Sheep Creek Mo 49.20 36 P **P** **17 19 39.2 -0.3**
baz=273
HDA Harding Lake 49.26 33 IAmb IAmb 17 19 41.5
comp=Z,60nm,1.1s
HDA IAMs_20 IAMs_20 17 40 38.2
comp=Z,4µm,18.0s
HDA Harding Lake 49.26 33 P **P** **17 19 40.0 +0.1**
baz=272,SNR=14
ILAR Eielson Array 49.28 32 P **P** **17 19 40.3 +0.3**
ILAR Eielson Array 49.28 32 P **P** **17 19 40.5 +0.5**
comp=Z,18nm,0.9s,baz=267,slow=6.2,SNR=105
ILAR LR LR 17 41 29.5
comp=Z,1µm,21.8s,baz=269,slow=37
comp=Z,18nm,0.9s
P23K Montague Islan 49.30 39 P **P** **17 19 40.3 +0.1**
baz=275
SOEI Soe 49.35 204 P **P** **17 19 40.3 -0.9**
SOEI Soe 49.35 204 P **P** **17 19 43.7 +2.5**
comp=Z,3µmcomp=Z,3µmcomp=Z,105nm,0.8s
KULM Kulim 49.35 241 P **P** **17 19 41.0 -0.2**
KULM IAmb IAmb 17 19 43.1
comp=Z,114nm,1.5s
KULM IAMs_20 IAMs_20 17 41 08.4
comp=Z,4µm,20.0s
KULM Kulim 49.35 241 P **P** **17 19 42.0 +0.8**
AAA Alma-Ata 49.37 299 *eP* **P** **17 19 41.0 -0.2**
AAA Alma-Ata 49.37 299 *eP* **P** **17 19 41.6 +0.5**
comp=Z,128nm,1.2s
AAA LR LR 17 41 08.3
comp=Z,21µm,18.5s
GLI Glacier Island 49.38 37 P **P** **17 19 40.3 -0.5**
baz=274
TNSS Tian-Shan 49.40 299 *eP* **P** **17 19 42.0 +0.3**
TNSS Tian-Shan 49.40 299 *eP* **P** **17 19 42.0 +0.3**
KDJ Kajisay 49.49 297 IAmb IAmb 17 20 21.0
comp=Z,55nm,1.0s
D25K Kavik River 49.51 26 IAMs_20 IAMs_20 17 43 54.8
comp=Z,6µm,18.0s
D25K Kavik River 49.51 26 P **P** **17 19 42.7 +0.9**
baz=268
G25K Bearman Lake 49.57 30 P **P** **17 19 42.4 +0.2**
baz=270,SNR=8.5
IPM Ipoh 49.67 240 IAmb IAmb 17 19 44.7
comp=Z,184nm,1.6s
IPM IAMs_20 IAMs_20 17 43 00.8
comp=Z,5µm,18.0s
IPM Ipoh 49.67 240 P **P** **17 19 42.7 -0.9**
H25L Birch Creek 49.69 30 P **P** **17 19 42.2 -0.9**
baz=271,SNR=9.7
M24K Tolsona, Glenn 49.72 36 IAmb IAmb 17 19 50.3
comp=Z,125nm,1.2s
M24K Tolsona, Glenn 49.72 36 P **P** **17 19 42.7 -0.8**
baz=274
MYKOM Kota Tinggi 49.74 235 IAmb IAmb 17 19 46.2
comp=Z,88nm,1.5s
MYKOM Kota Tinggi 49.74 235 P **P** **17 19 44.5 +0.4**
F25K Christian Rive 49.75 29 IAMs_20 IAMs_20 17 44 09.3
comp=Z,4µm,18.0s
F25K Christian Rive 49.75 29 P **P** **17 19 44.0 +0.3**
baz=270
E25K Arctic Village 49.78 28 IAmb IAmb 17 19 59.1
comp=Z,140nm,1.8s
E25K IAMs_20 IAMs_20 17 42 12.9
comp=Z,6µm,19.0s
E25K Arctic Village 49.78 28 P **P** **17 19 43.9 +0.1**
baz=270,SNR=16
BOK Bokaro 49.79 271 *eP* **P** **17 19 44.9 +0.4**
BOK IAmb IAmb 17 19 60.0
comp=Z,183nm,1.5s
BOK IAMs_20 IAMs_20 17 39 45.9
comp=Z,5µm,19.6s
K24K Donnelly Dome 49.80 34 P **P** **17 19 43.3 -0.8**
baz=273,SNR=11
PRP Porcupine Dome 49.83 31 P **P** **17 19 44.9 +0.5**
baz=272,SNR=14
Q23K Middleton Isla 49.88 39 P **P** **17 19 45.1 +0.4**
baz=276
KLU Klutina 49.89 37 IAmb IAmb 17 19 52.4
comp=Z,114nm,1.4s
KLU IAMs_20 IAMs_20 17 44 20.1
comp=Z,4µm,18.0s
KLU Klutina 49.89 37 P **P** **17 19 44.8 -0.1**
baz=275,SNR=10.0
FYU Fort Yukon 49.92 30 IAMs_20 IAMs_20 17 43 58.7
comp=Z,3µm,18.0s
DGPR DIGLIPUR 49.93 255 *eP* **P** **17 19 45.3 -0.2**
DGPR IAmb IAmb 17 20 10.4
comp=Z,135nm,1.1s
DGPR IAMs_20 IAMs_20 17 39 50.5
comp=Z,7µm,22.5s
J25K Salcha River, 49.93 32 P **P** **17 19 44.3 -0.8**

baz=273
PAX Paxson 49.99 35 P **P** **17 19 45.5 -0.1**
baz=274,SNR=9.0
C26K Camden Bay 50.04 25 P **P** **17 19 47.8 +2.1**
baz=269,SNR=36
EYAK Cordova Ski Ar 50.06 38 P **P** **17 19 46.4 +0.3**
baz=276
KDU Kakadu 50.11 193 P **P** **17 19 44.1 -2.7**
KDU Kakadu 50.11 193 P **P** **17 19 46.2 -0.6**
BMAR Burnt Mountain 50.16 29 P **P** **17 19 47.7 +1.0**
HARP HAARP 50.17 35 P **P** **17 19 46.7 -0.2**
baz=275
RIDG Independent Ri 50.21 34 IAMs_20 IAMs_20 17 41 19.5
comp=Z,5µm,20.0s
RIDG Independent Ri 50.21 34 P **P** **17 19 44.8 -2.4**
baz=274
BOOM Boomskoye usch 50.26 298 IAmb IAmb 17 20 01.0
comp=Z,117nm,1.2s
F26K Sheenjek River 50.32 28 IAMs_20 IAMs_20 17 39 26.6
comp=Z,4µm,21.0s
F26K Sheenjek River 50.32 28 P **P** **17 19 49.7 +1.7**
baz=271,SNR=34
TKM2 Tokmak 2 50.38 299 P **P** **17 19 49.4 +0.4**
SNR=100
C27K Jago River 50.46 26 IAMs_20 IAMs_20 17 44 43.1
comp=Z,6µm,18.0s
C27K Jago River 50.46 26 P **P** **17 19 48.5 -0.4**
baz=270,SNR=18
G26K Porcupine Rive 50.48 29 P **P** **17 19 50.4 +1.2**
baz=272,SNR=27
N25K Chitina, Valde 50.51 36 IAmb IAmb 17 20 03.4
comp=Z,226nm,1.9s
N25K IAMs_20 IAMs_20 17 44 30.5
comp=Z,3µm,18.0s
N25K Chitina, Valde 50.51 36 P **P** **17 19 47.6 -2.0**
baz=276
COEN Coen 50.51 179 P **P** **17 19 49.7 -0.2**
COEN Coen 50.51 179 P **P** **17 19 50.2 +0.3**
comp=Z,43nm,1.0s
COEN Coen 50.51 179 P **P** **17 19 50.6 +0.7**
MTN Manton Dam 50.52 194 P **P** **17 19 49.7 -0.2**
MTN IAmb IAmb 17 20 18.5
comp=Z,109nm,1.1s
MTN Manton Dam 50.52 194 P **P** **17 19 48.3 -1.6**
comp=Z,82nm,1.0s
MTN Manton Dam 50.52 194 P **P** **17 19 49.5 -0.4**
BRZS Berezniki 50.52 308*c iP* **P** **17 19 49.9 +0.2**
BRZS *eS* **S** **17 27 05.1 +1.7**
BRZS pmax pmax
comp=Z,113nm,1.7s
BRZS Berezniki 50.52 308⇑*iP* **P** **17 19 50.0 +0.2**
comp=Z,113nm,1.7s
BRZS *eS* **S** **17 27 05.1 +1.7**
SCRK Sand Creek 50.58 33 IAmb IAmb 17 19 52.1
comp=Z,85nm,1.3s
SCRK Sand Creek 50.58 33 P **P** **17 19 49.9 -0.1**
baz=274,SNR=20
BMRM Bremner River 50.58 37 IAmb IAmb 17 20 16.0
comp=Z,158nm,1.2s
BMRM Bremner River 50.58 37 P **P** **17 19 49.7 -0.3**
baz=276
KNTI KHUNTI 50.63 271 *eP* **P** **17 19 50.9 -0.1**
KNTI IAmb IAmb 17 20 06.4
comp=Z,104nm,1.0s
J26L Joseph Creek 50.72 33 IAMs_20 IAMs_20 17 41 41.3
comp=Z,5µm,19.0s
J26L Joseph Creek 50.72 33 P **P** **17 19 50.8 -0.3**
baz=274,SNR=8.6
MENT Mentasta 50.79 35 P **P** **17 19 53.8 +2.2**
KAIM Kayak Island 50.80 38 P **P** **17 19 51.1 -0.5**
baz=278
I26K Coal Creek Min 50.83 31 IAMs_20 IAMs_20 17 44 52.1
comp=Z,3µm,18.0s
I26K Coal Creek Min 50.83 31 P **P** **17 19 49.7 -2.1**
baz=274
SGDS Sogindy 50.90 300 *eP* **P** **17 19 53.2 +0.5**
SGDS Sogindy 50.90 300 *eP* **P** **17 19 53.3 +0.5**
GLB Gilahina Butte 50.91 36 IAmb IAmb 17 20 07.9
comp=Z,151nm,1.7s
GLB IAMs_20 IAMs_20 17 40 17.9
comp=Z,4µm,21.0s
TPI Tanjungpandan 50.91 227 P **P** **17 19 53.1 +0.1**
comp=Z,4µmcomp=Z,2µmcomp=Z,93nm,1.3s
KBK Karagaybulak 50.91 299 P **P** **17 19 53.9 +0.9**
SNR=82
PLAI Plampang 50.93 212 P **P** **17 19 54.8 +1.7**
PLAI Plampang 50.93 212 P **P** **17 19 50.0 -3.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,68nm,1.0s
NGOA Tingoa Renbel 50.93 157 P **P** **17 19 52.8 -0.2**
L26K Log Cabin Wild 50.95 34 IAmb IAmb 17 20 06.7
comp=Z,103nm,1.3s
L26K IAMs_20 IAMs_20 17 43 35.9
comp=Z,5µm,19.0s
L26K Log Cabin Wild 50.95 34 P **P** **17 19 53.3 +0.6**
baz=276,SNR=23
CHMS Chumysh 50.95 299 P **P** **17 19 53.6 +0.6**
SNR=16
PBA Port Blair 51.00 254 IAMs_20 IAMs_20 17 44 27.7
comp=Z,7µm,19.0s
PBA Port Blair 51.00 254 P **P** **17 19 53.1 -0.6**
PBA Port Blair 51.00 254 *eP* **P** **17 19 53.9 +0.2**
PBA IAMs_20 IAMs_20 17 39 32.1
comp=Z,5µm,22.6s
USP Ospenovka 51.05 300 P **P** **17 19 54.4 +0.6**
SNR=24
FRU1 Bishkek 51.09 299 IAmb IAmb 17 20 00.3
comp=Z,114nm,1.0s
KMMI Kalianget 51.10 217 P **P** **17 19 55.0 +0.7**
comp=Z,4µmcomp=Z,2µmcomp=Z,90nm,1.2s
KSH Kashi 51.17 295 P **P** **17 19 59.1 +4.2**
KSH sP pwP 17 20 09.8 +8.4
KSH S **S** **17 27 17.4 +4.5**
KSH ScS **ScS** **17 29 48.4 +2.9**
KSH pmax pmax
comp=Z,78nm,1.7s
KSH pmax pmax
comp=Z,2µm,8.0s
KSH LR LR
comp=Z,18µm,16.5s
KSH LR LR
comp=Z,18µm,16.5s
KSH LR LR
comp=Z,32µm,16.5s
M26K Nabesna, AK 51.18 35 IAmb IAmb 17 20 28.7
comp=Z,150nm,1.6s
M26K Nabesna, AK 51.18 35 P **P** **17 19 54.5 0.0**
baz=277,SNR=7.0
AAK Ala-Archa 51.24 299 P **P** **17 19 55.3 -0.1**
AAK Ala-Archa 51.24 299 LR LR 17 43 01.8
comp=Z,24µm,19.2s,baz=76,slow=38
AAK Ala-Archa 51.24 299 P **P** **17 19 55.6 +0.2**
AAK P **P** **17 19 55.6 +0.2**
AAK P **P** **17 19 55.6 +0.2**
AAK Ala-Archa 51.24 299 P **P** **17 19 55.7 +0.2**
SNR=30
AAK Ala-Archa 51.24 299*ceP* **P** **17 19 55.9 +0.5**
AAK pmax pmax
comp=Z,109nm,2.5s
AAK Ala-Archa 51.24 299 *i P* **P** **17 19 55.8 +0.4**
SNR=17
BVAR Borovoye Array 51.26 313 P **P** **17 19 55.5 +0.3**
comp=Z,55nm,1.0s,baz=79,slow=7.7,SNR=121
BVAR LR LR 17 42 48.8
comp=Z,11µm,18.3s,baz=77,slow=37
comp=Z,55nm,1.0s
E27K Coleen River 51.26 28 IAMs_20 IAMs_20 17 45 30.3
comp=Z,6µm,18.0s
E27K Coleen River 51.26 28 P **P** **17 19 55.1 +0.1**
baz=273,SNR=24
BRVK Borovoye 51.31 313 P **P** **17 19 55.9 +0.3**
BRVK IAmb IAmb 17 20 06.6
comp=Z,171nm,1.4s
BRVK Borovoye 51.31 313 P **P** **17 19 55.4 -0.2**
BRVK P **P** **17 19 55.4 -0.2**
BRVK P **P** **17 19 55.4 -0.2**
BRVK S **S** **17 27 15.3 +1.1**
BRVK S **S** **17 27 15.3 +1.1**
BRVK S **S** **17 27 15.3 +1.1**
BRVK Borovoye 51.31 313*ceP* **P** **17 19 56.0 +0.4**
BRVK pmax pmax
comp=Z,73nm,1.0s
G27K Doyon Strip 51.33 29 P **P** **17 19 55.4 -0.2**
baz=274,SNR=6.6
BGLC Bering Glacier 51.34 38 P **P** **17 19 55.1 -0.5**
baz=278
SRBI Singaraja 51.41 215 P **P** **17 19 58.5 +1.8**
comp=Z,3µmcomp=Z,100nm,2.4s
K27K Chicken 51.41 33 P **P** **17 19 55.9 -0.2**
baz=276,SNR=21
H27K Steamboat Moun 51.43 30 P **P** **17 19 56.4 0.0**
baz=275
D27M Malcolm River 51.44 26 IAMs_20 IAMs_20 17 45 15.9
comp=Z,4µm,18.0s
D27M Malcolm River 51.44 26 P **P** **17 19 56.1 -0.2**
baz=273
I27K Kandik River 51.45 31 P **P** **17 19 56.5 0.0**
baz=275,SNR=7.6
ABJI Asem Bagus 51.62 217 P **P** **17 19 59.0 +0.8**
comp=Z,5µmcomp=Z,2µmcomp=Z,80nm,1.5s
L27K Beaver Creek, 51.63 34 IAmb IAmb 17 20 24.4
comp=Z,154nm,1.8s
L27K IAMs_20 IAMs_20 17 41 18.3
comp=Z,4µm,20.0s
L27K Beaver Creek, 51.63 34 P **P** **17 19 57.9 0.0**
baz=277,SNR=17
BCAR Beaver Creek A 51.65 34 P **P** **17 19 59.1 +1.0**
M27K Edge Creek, AK 51.70 35 IAmb IAmb 17 20 05.8
comp=Z,97nm,1.3s
M27K Edge Creek, AK 51.70 35 P **P** **17 19 56.2 -2.3**
baz=278
PTH Pithoragarh 51.70 281 *eP* **P** **17 19 59.2 +0.1**
PTH IAmb IAmb 17 20 10.3
comp=Z,328nm,1.3s
GRJI Gresik 51.72 219 P **P** **17 20 00.3 +1.3**
comp=Z,3µmcomp=Z,4µmcomp=Z,214nm,1.3s
LGTI Lohaghat 51.72 281 *eP* **P** **17 20 00.3 +1.3**
LGTI IAmb IAmb 17 20 02.9
comp=Z,340nm,1.6s
LGTI IAMs_20 IAMs_20 17 36 34.4
comp=Z,5µm,15.3s
EKS2 Erkin-Say 51.73 299 P **P** **17 19 59.7 +0.6**
SNR=12
JOSI Joshimath 51.79 283 *eP* **P** **17 19 59.9 +0.1**
JOSI IAmb IAmb 17 20 03.9
comp=Z,164nm,1.1s
TBJI Tambak Boyo 51.96 220 P **P** **17 20 00.4 -0.4**
comp=Z,3µmcomp=Z,3µmcomp=Z,102nm,1.0s
AML Almayashu 51.96 298 P **P** **17 20 02.0 +1.0**
SNR=72
MESA MESA 51.98 38 P **P** **17 19 58.6 -2.1**
baz=279
E28M Babbage River 51.99 27 IAMs_20 IAMs_20 17 44 58.7
comp=Z,6µm,18.0s
E28M Babbage River 51.99 27 P **P** **17 19 58.7 -1.8**
baz=275
LHMI Lhok Sumawe 52.03 244 IAMs_20 IAMs_20 17 41 09.3
comp=Z,4µm,21.0s
BVCY Beaver Creek 52.16 35 P **P** **17 20 00.5 -1.4**
baz=278,SNR=6.9
I28M Miner Creek 52.16 31 IAmb IAmb 17 20 15.6
comp=Z,140nm,1.6s
I28M Miner Creek 52.16 31 P **P** **17 20 00.7 -1.1**
baz=277
LUES Luesalemba Tem 52.18 150 P **P** **17 20 03.4 +1.0**
D28M Stokes Point 52.22 26 P **P** **17 20 02.3 +0.2**
baz=275,SNR=6.3
PSI Prapat 52.33 240 LR LR 17 43 35.4
comp=Z,2µm,19.3s,baz=32,slow=38
PSI Prapat 52.33 240 P **P** **17 20 03.7 -0.1**
ALBI Allahabad 52.34 275 *eP* **P** **17 20 02.6 -1.0**
ALBI IAmb IAmb 17 20 13.6
comp=Z,250nm,1.3s
YUK3 Moose Creek 52.45 36 P **P** **17 20 02.0 -2.2**
baz=279,SNR=6.4
DAWY Dawson 52.58 33 IAMs_20 IAMs_20 17 42 13.9
comp=Z,4µm,19.0s
DAWY Dawson 52.58 33 P **P** **17 20 04.3 -0.6**
baz=278
E29M Blow River 52.62 27 IAmb IAmb 17 20 21.2
comp=Z,79nm,1.2s
E29M IAMs_20 IAMs_20 17 44 30.3
comp=Z,4µm,18.0s
E29M Blow River 52.62 27 P **P** **17 20 05.2 +0.1**
baz=276,SNR=46
BKNI Bangkinang 52.68 236 P **P** **17 20 07.0 +0.8**
BKNI Bangkinang 52.68 236 P **P** **17 20 07.3 +1.1**
H29M Whitestone 52.70 30 IAmb IAmb 17 20 18.2
comp=Z,95nm,1.3s
H29M IAMs_20 IAMs_20 17 45 53.6
comp=Z,3µm,18.0s
H29M Whitestone 52.70 30 P **P** **17 20 05.0 -0.8**
baz=278,SNR=10
O28M Mount Upton 52.74 37 P **P** **17 20 05.6 -0.9**
baz=280
G29M Pine Creek 52.75 29 IAmb IAmb 17 20 14.7
comp=Z,158nm,1.2s
G29M Pine Creek 52.75 29 P **P** **17 20 05.3 -0.8**
baz=277,SNR=40
PMBI Palembang 52.77 230 P **P** **17 20 08.3 +1.4**
PINM Pinnacle 52.84 38 P **P** **17 20 05.5 -1.5**
baz=281
I29M Ogilvie Camp, 52.85 31 IAmb IAmb 17 20 14.7
comp=Z,128nm,1.4s
I29M Ogilvie Camp, 52.85 31 P **P** **17 20 05.8 -1.1**
baz=278,SNR=42
YUK8 Steele Glacier 52.86 36 P **P** **17 20 06.7 -0.6**
baz=280
SMRI Semarang 52.88 221 P **P** **17 20 08.2 +0.5**
comp=Z,56nm,0.9s
J29N Klondike Camp 53.02 32 P **P** **17 20 06.6 -1.7**
baz=279
BSI Banda Aceh 53.05 246 P **P** **17 20 09.6 +0.6**
comp=Z,4µmcomp=Z,2µmcomp=Z,47nm,1.1s
CMBY CAMPBELL BAY 53.05 248 *eP* **P** **17 20 09.3 +0.3**
CMBY IAmb IAmb 17 20 14.8
comp=Z,186nm,0.9s
DDI Dehra Dun 53.07 283 *eP* **P** **17 20 09.6 +0.6**
M29M Somme Creek 53.26 35 IAMs_20 IAMs_20 17 45 06.2
comp=Z,4µm,20.0s
M29M Somme Creek 53.26 35 P **P** **17 20 08.8 -1.2**
baz=280,SNR=7.9
L29M L29M 53.29 34 IAmb IAmb 17 20 13.9
comp=Z,96nm,1.2s
L29M L29M 53.29 34 P **P** **17 20 09.0 -1.1**
baz=280,SNR=20
MNSI Mandailing Nat 53.32 238 P **P** **17 20 11.0 +0.1**
comp=Z,4µmcomp=Z,1µmcomp=Z,41nm,0.8s
PNL Peninsula 53.34 38 P **P** **17 20 08.9 -1.7**
baz=282
DZA Taraz 53.37 300 *eP* **P** **17 20 11.4 +0.4**
DZA Taraz 53.37 300 *eP* **P** **17 20 11.5 +0.4**
YUK4 Talbot Arm 53.38 36 P **P** **17 20 08.6 -2.5**
baz=281
SMLA Simla 53.42 284 *eP* **P** **17 20 11.2 -0.3**
SMLA IAmb IAmb 17 20 12.6
comp=Z,171nm,0.9s
K29M Barlow Dome 53.43 33 IAmb IAmb 17 20 26.3
comp=Z,192nm,1.7s
K29M Barlow Dome 53.43 33 P **P** **17 20 09.5 -1.8**
baz=280
G30M tAoh Zraii Nji 53.44 29 P **P** **17 20 10.2 -1.1**
baz=279,SNR=74
F30M Barrier River 53.51 28 P **P** **17 20 11.2 -0.5**
baz=279
YUK6 Outpost Mounta 53.59 37 P **P** **17 20 09.9 -2.7**
baz=282
YOGI Yogyakarta 53.61 221 P **P** **17 20 15.5 +2.5**
comp=Z,218nm,1.4s
BLSP Bilaspur 53.62 272 *eP* **P** **17 20 12.9 -0.2**
BLSP IAmb IAmb 17 20 23.9
comp=Z,189nm,1.5s
O29M Mount Kennedy 53.62 37 IAmb IAmb 17 20 16.4
comp=Z,146nm,1.4s
O29M IAMs_20 IAMs_20 17 47 13.0
comp=Z,4µm,20.0s
O29M Mount Kennedy 53.62 37 P **P** **17 20 11.2 -1.5**
baz=282,SNR=9.7
DHRM DHARAMSHALA 53.62 286 *eP* **P** **17 20 12.8 -0.5**
DHRM IAmb IAmb 17 20 26.7
comp=Z,338nm,1.4s
DHRM IAMs_20 IAMs_20 17 38 15.8
comp=Z,5µm,17.9s
I30M Mount Dempster 53.67 31 IAmb IAmb 17 20 20.3
comp=Z,124nm,1.1s
I30M IAMs_20 IAMs_20 17 43 15.2
comp=Z,3µm,20.0s
I30M Mount Dempster 53.67 31 P **P** **17 20 11.0 -2.0**
baz=280,SNR=44
PPI Padang Panjang 53.69 236 P **P** **17 20 13.4 -0.3**
KNRA Kununurra 53.77 196 P **P** **17 20 14.0 0.0**
comp=Z,75nm,1.4s
J30M Hart River 53.81 32 IAmb IAmb 17 20 28.0
comp=Z,90nm,1.4s
J30M Hart River 53.81 32 P **P** **17 20 13.1 -1.0**
baz=281,SNR=6.2
KKAR Karatay Array 53.87 301 P **P** **17 20 14.7 0.0**
KKAR Karatay Array 53.87 301 IAmb IAmb 17 20 16.9
comp=Z,183nm,1.6s
KKAR Karatay Array 53.87 301 P **P** **17 20 14.7 0.0**
BHK Bhakra 53.88 285 *eP* **P** **17 20 15.4 +0.5**
BHK IAmb IAmb 17 20 16.6
comp=Z,410nm,1.3s
ASOR Ausora 53.97 281 *eP* **P** **17 20 15.6 0.0**
M30M Minto, Yukon 53.99 34 IAmb IAmb 17 20 29.8
comp=Z,110nm,1.6s
M30M Minto, Yukon 53.99 34 P **P** **17 20 14.7 -0.6**
baz=282,SNR=11
THN Thein Dam 54.00 286 *eP* **P** **17 20 15.5 -0.3**
THN IAmb IAmb 17 20 28.8
comp=Z,370nm,1.6s
HYT Haines Junctio 54.02 37 P **P** **17 20 14.7 -1.0**
baz=282,SNR=12
RAGD RAYAGADA 54.03 268 *eP* **P** **17 20 16.8 +0.7**
RAGD IAmb IAmb 17 20 24.3
comp=Z,138nm,1.5s
N30M Aishikik Lake 54.09 36 IAMs_20 IAMs_20 17 42 54.4
comp=Z,4µm,20.0s
N30M Aishikik Lake 54.09 36 P **P** **17 20 16.5 +0.4**
baz=282
MAYO Mayo, Yukon 54.19 33 IAMs_20 IAMs_20 17 44 00.5
comp=Z,4µm,21.0s
MAYO Mayo, Yukon 54.19 33 P **P** **17 20 16.1 -0.6**
baz=282
G31M Satah River 54.21 29 IAmb IAmb 17 20 23.6
comp=Z,77nm,1.2s
G31M Satah River 54.21 29 P **P** **17 20 16.3 -0.4**
baz=281,SNR=21
INK Inuvik 54.23 27 IAmb IAmb 17 20 25.0
comp=Z,65nm,1.1s
INK IAMs_20 IAMs_20 17 45 15.6
comp=Z,3µm,20.0s
INK Inuvik 54.23 27 LR LR 17 45 17.0
comp=Z,3µm,20.7s,baz=276,slow=38
INK Inuvik 54.23 27 P **P** **17 20 16.8 -0.2**
baz=280,SNR=36
LEM Lembang 54.23 224 LR LR 17 43 25.0
comp=Z,3µm,20.6s,baz=12,slow=36
LEM Lembang 54.23 224 P **P** **17 20 17.4 -0.4**
comp=Z,3µmcomp=Z,131nm,1.0s
TNG Tangerang 54.25 226 P **P** **17 20 17.4 -0.3**
TNG P **pP** **17 20 17.8 -2.9**
F31M Tsiigehtchic 54.31 28 IAmb IAmb 17 20 25.6
comp=Z,120nm,1.3s
F31M IAMs_20 IAMs_20 17 47 32.7
comp=Z,3µm,19.0s
F31M Tsiigehtchic 54.31 28 P **P** **17 20 17.3 -0.2**
baz=281,SNR=49
GSI Gunungsitoli 54.33 240 IAMs_20 IAMs_20 17 44 38.3
comp=Z,4µm,20.0s
GSI Gunungsitoli 54.33 240 P **P** **17 20 18.6 +0.2**
GSI Gunungsitoli 54.33 240 P **P** **17 20 18.3 -0.1**
BRLS Borolday 54.36 301*c iP* **P** **17 20 20.2 +1.9**
BRLS pmax pmax
comp=Z,93nm,1.5s
BRLS Borolday 54.36 301⇑*iP* **P** **17 20 20.2 +1.9**
comp=Z,93nm,1.5s
MDSI Maura Dua 54.36 229 P **P** **17 20 17.6 -0.9**
comp=Z,4µmcomp=Z,3µmcomp=Z,109nm,1.2s
H31M Peel River 54.39 30 IAMs_20 IAMs_20 17 46 56.1
comp=Z,4µm,19.0s
H31M Peel River 54.39 30 P **P** **17 20 17.4 -0.8**
baz=281,SNR=50
SNSI Sinabang, Aceh 54.43 242 P **P** **17 20 20.9 +1.8**
comp=Z,3µmcomp=Z,194nm,1.4s
NDI New Delhi 54.44 282 *eP* **P** **17 20 18.8 -0.3**
NDI IAmb IAmb 17 20 29.7
comp=Z,121nm,1.2s
NDI IAMs_20 IAMs_20 17 36 31.6
comp=Z,4µm,16.0s
P30M Million Dollar 54.44 37 P **P** **17 20 19.1 +0.4**
baz=283
NPLP NPLP New Delhi 54.50 281 *eP* **P** **17 20 18.9 -0.5**
NPLP IAmb IAmb 17 20 30.0
comp=Z,95nm,0.9s
IUG Iuzhnay 54.52 300 *eP* **P** **17 20 20.1 +0.5**
IUG *eS* **S** **17 28 00.4 +1.8**
IUG pmax pmax
comp=Z,137nm,1.2s
IUG Iuzhnay 54.52 300 *eP* **P** **17 20 20.2 +0.5**
comp=Z,137nm,1.2s
IUG *eS* **S** **17 28 00.4 +1.8**
AYAN Aya Nagar 54.60 281 *eP* **P** **17 20 19.9 -0.3**
AYAN IAmb IAmb 17 20 31.4
comp=Z,2µm,1.8s
KSI Kapahiang 54.69 231 P **P** **17 20 20.9 -0.1**
comp=Z,4µmcomp=Z,73nm,1.2s
MTSU Mount Surprise 54.69 178 P **P** **17 20 19.2 -1.6**
comp=Z,14nm,0.8s
MTSU Mount Surprise 54.69 178 P **P** **17 20 21.7 +0.9**
O30N Mendenhall 54.71 36 IAmb IAmb 17 21 08.3
comp=Z,103nm,1.8s
O30N Mendenhall 54.71 36 P **P** **17 20 19.7 -0.9**
baz=284
SONA Sohna 54.74 281 *eP* **P** **17 20 21.0 -0.2**
SONA IAmb IAmb 17 20 31.9
comp=Z,139nm,1.0s
PBSI Pulau Batu 54.82 238 P **P** **17 20 23.5 +1.6**
comp=Z,3µmcomp=Z,85nm,1.7s
LWLI Liwa 54.85 229 P **P** **17 20 22.4 +0.2**
comp=Z,3µmcomp=Z,2µmcomp=Z,108nm,0.8s
JHNI Jhansi 54.87 277 *eP* **P** **17 20 20.3 -1.9**
JHNI IAmb IAmb 17 20 31.4
comp=Z,165nm,1.4s
PLBC Pleasant Camp 54.90 38 P **P** **17 20 21.0 -0.8**
baz=284
RTK Rohtak 54.91 282 IAMs_20 IAMs_20 17 34 48.0
comp=Z,4µm,18.1s
VIS Vishakhapatnam 54.95 266 *eP* **P** **17 20 23.7 +0.9**
VIS IAMs_20 IAMs_20 17 37 35.2
comp=Z,4µm,17.7s
SKJI Sukabumi 54.98 225 P **P** **17 20 24.0 +1.0**
M31M Drury Creek, Y 55.17 35 IAMs_20 IAMs_20 17 45 30.4
comp=Z,4µm,21.0s
M31M Drury Creek, Y 55.17 35 P **P** **17 20 23.2 -0.6**
baz=284,SNR=7.8
SISI Saibi 55.21 237 P **P** **17 20 25.0 +0.3**
comp=Z,1µmcomp=Z,91nm,1.1s
KUDL Kundal 55.25 281 *eP* **P** **17 20 24.8 -0.1**
WHY Whitehorse 55.32 36 P **P** **17 20 24.1 -1.0**
baz=284,SNR=6.5
S31K Pelican 55.34 40 P **P** **17 20 24.5 -0.6**
baz=285
NIL Nilore 55.38 289 P **P** **17 20 25.9 +0.1**
NIL Nilore 55.38 289 IAMs_20 IAMs_20 17 46 17.3
comp=Z,5µm,18.0s
NIL Nilore 55.38 289 P **P** **17 20 26.0 +0.1**
NIL pmax pmax
comp=Z,344nm,1.5s
NIL pmax pmax
comp=Z,5µm,18.0s
SKAG Skagway 55.41 38 P **P** **17 20 26.3 +0.8**
SKAG Skagway 55.41 38 P **P** **17 20 25.5 0.0**
baz=285
R31K City Hall, Gus 55.48 39 P **P** **17 20 25.8 -0.3**
baz=285
FARO Faro, Yukon 55.63 34 P **P** **17 20 26.9 -0.4**
baz=285,SNR=7.8
SVE Sverdlovsk 55.79 319*d iP* **P** **17 20 29.3 +0.9**
SVE *e* 17 22 40.5
SVE *e*PPP PPP 17 23 44.7
SVE *eS* **S** **17 28 15.7 +0.8**
SVE *e* 17 30 13.3
SVE pmax pmax
comp=Z,200nm,1.4s
SVE MLR MLR
comp=Z,13µm,16.0s
SVE MLR MLR
comp=E,10µm,15.0s
N32M Quiet Lake 56.04 36 IAMs_20 IAMs_20 17 44 47.8
comp=Z,3µm,20.0s
N32M Quiet Lake 56.04 36 P **P** **17 20 30.3 +0.2**
baz=286
SIT Sitka 56.06 41 P **P** **17 20 29.7 -0.6**
baz=287
R32K Eaglecrest 56.13 39 P **P** **17 20 29.9 -0.9**
baz=286
P32M Atlin 56.16 38 IAMs_20 IAMs_20 17 48 02.9
comp=Z,3µm,18.0s
P32M Atlin 56.16 38 P **P** **17 20 31.5 +0.4**
baz=286
A36M Sachs Harbour 56.18 22 IAmb IAmb 17 20 39.4

comp=Z,80nm,1.1s
A36M Sachs Harbour 56.18 22 P **P 17 20 33.0 +2.1**
baz=285,SNR=35
JIS Juneau Island 56.20 39 P **P 17 20 32.8 +1.6**
GUNA GUNA 56.22 277 *e*P **P 17 20 30.9 -1.1**
GUNA IAmb IAmb 17 20 43.6
comp=Z,278nm,1.5s
S32K Killisnoo 56.33 40 P **P 17 20 31.9 -0.3**
baz=287
POHA Pohakuloa 56.37 90 P **P 17 20 33.2 -0.1**
POHA Pohakuloa 56.37 90 P **P 17 20 35.7 +2.4**
P33M Teslin, Yukon 56.42 37 IAmb IAmb 17 20 36.3
comp=Z,113nm,1.3s
P33M Teslin, Yukon 56.42 37 P **P 17 20 30.6 -2.3**
baz=286,SNR=14
MMPY Sheldon Lake, 56.46 34 IAmb IAmb 17 20 36.6
comp=Z,78nm,1.5s
MMPY Sheldon Lake, 56.46 34 P **P 17 20 33.1 -0.1**
baz=286,SNR=7.1
SIMJ Simiganj 56.53 296 P **P 17 20 34.2 +0.1**
BYL Byron's Ledge 56.77 90 IAMs_20 IAMs_20 17 43 05.1
comp=Z,5μm,18.0s
WB0 Warramunga Arr 56.78 189 IAmb IAmb 17 20 58.8
comp=Z,60nm,0.9s
BHPL Bhopal 56.83 276 *e*P **P 17 20 35.5 -0.8**
BHPL IAmb IAmb 17 20 46.7
comp=Z,150nm,1.5s
WRAB Tennant Creek 56.95 189 P **P 17 20 35.5 -1.5**
WRAB IAmb IAmb 17 20 41.4
comp=Z,68nm,1.1s
WRAB Tennant Creek 56.95 189 *i* P **P 17 20 35.0 -2.0**
WRAB pmax pmax
comp=Z,73nm,1.1s
WR0 Warramunga Arr 56.95 189 IAmb IAmb 17 21 01.7
comp=Z,77nm,1.2s
WB2 Warramunga Arr 56.96 189 IAmb IAmb 17 20 40.9
comp=Z,72nm,1.1s
WRA Warramunga Arr 56.96 189 P **P 17 20 35.4 -1.6**
WRA Warramunga Arr 56.96 189 P **P 17 20 35.6 -1.4**
comp=Z,47nm,1.1s,baz=7.8,slow=7.7,SNR=89
WRA LR LR 17 44 21.0
comp=Z,1μm,19.9s,baz=1.0,slow=35
comp=Z,47nm,1.1s
WRA Warramunga Arr 56.96 189 *i* P **P 17 20 35.5 -1.6**
WRA pmax pmax
comp=Z,47nm,1.1s
Q32M Nakina River 57.06 38 P **P 17 20 35.9 -1.7**
baz=288
ARTI Arti 57.11 319 P **P 17 20 38.1 +0.3**
ARTI Arti 57.11 319 LR LR 17 47 30.5
comp=Z,11μm,18.3s,baz=74,slow=38
ARTI Arti 57.11 319 P **P 17 20 38.1 +0.3**
ARTI pmax pmax
comp=Z,130nm,1.0s
ARTI pmax pmax
comp=Z,13μm,18.0s
QIS Mount Isa 57.13 183 P **P 17 20 36.4 -1.8**
comp=Z,26nm,1.6s
QIS Mount Isa 57.13 183 P **P 17 20 37.4 -0.8**
NRDN NARMADA NAGAR 57.30 275 *e*P P 17 20 44.5 +4.9
NRDN IAmb IAmb 17 20 55.7
comp=Z,160nm,1.4s
NRDN IAMs_20 IAMs_20 17 36 15.4
comp=Z,5μm,17.0s
C36M Paulatuk 57.31 25 P **P 17 20 39.6 +0.6**
baz=288,SNR=41
T33K Petersburg 57.38 41 P **P 17 20 40.4 +0.8**
baz=288
U33K Whale Pass 57.51 41 P **P 17 20 41.3 +0.8**
baz=289
R33M Jennings River 57.56 37 P **P 17 20 40.8 -0.2**
baz=288
CRAG Craig 57.72 42 P **P 17 20 42.3 +0.2**
baz=289
WRAK Wrangell Islan 57.82 41 P **P 17 20 43.0 +0.2**
baz=289
S34M Telegraph Cree 57.96 39 P **P 17 20 44.7 +1.0**
baz=289,SNR=7.7
TGTN Hyland Airport 58.14 34 P **P 17 20 44.1 -1.0**
baz=289,SNR=12
KBL Kabul 58.18 291 P **P 17 20 45.4 -0.5**
KBL Kabul 58.18 291 P **P 17 20 45.3 -0.6**
SNR=74
KBL S **S 17 28 49.5 +2.0**
KBL Kabul 58.18 291 P **P 17 20 45.4 -0.6**
KBL pmax pmax
comp=Z,201nm,1.2s
XMI Christmas Isla 58.28 224 P **P 17 20 44.8 -1.7**
XMIS Christmas Isla 58.33 224 P **P 17 20 48.6 +1.8**
DLBC Dease Lake 58.33 38 LR LR 17 47 19.0
comp=Z,995nm,20.2s,baz=302,slow=38
DLBC Dease Lake 58.33 38 P **P 17 20 46.3 -0.2**
baz=290,SNR=8.2
WTLY Watson Lake, Y 58.37 36 IAmb IAmb 17 21 00.6
comp=Z,139nm,1.6s
WTLY Watson Lake, Y 58.37 36 P **P 17 20 46.2 -0.4**
baz=290,SNR=10.0
AKL Akola 58.44 273 *e*P **P 17 20 48.1 +0.4**
AKL IAmb IAmb 17 20 49.1
comp=Z,284nm,1.4s
V35K Ketchikan 58.58 42 P **P 17 20 47.5 -0.6**
baz=290
ABKAR Akbulak array 58.64 310 P **P 17 20 48.3 -0.3**
ABKAR Akbulak array 58.64 310 IAmb IAmb 17 20 50.2
comp=Z,78nm,1.1s
T35M Bob Quinn 58.72 40 IAmb IAmb 17 20 57.3
comp=Z,90nm,1.2s
T35M Bob Quinn 58.72 40 P **P 17 20 49.0 -0.1**
baz=290,SNR=11
HYB Hyderabad 58.94 269 *e*P **P 17 20 51.1 -0.1**
HYB IVmB_BB 17 20 51.8
comp=Z,1μm,4.0s
HYB *e*PP **PP 17 23 02.1 +0.7**
HYB IVMs_BB IVMs_BB 17 50 12.4
comp=Z,1μm,17.4s
U35K Hyder 59.21 41 P **P 17 20 51.9 -0.6**
baz=291
AKTO Aktyubinsk 59.36 312 LR LR 17 47 46.7
comp=Z,7μm,18.2s,baz=68,slow=37
WRGLY Wrigley 59.64 32 IAmb IAmb 17 21 09.2
comp=Z,81nm,1.3s
WRGLY IAMs_20 IAMs_20 17 51 32.6
comp=Z,3μm,18.0s
WRGLY Wrigley 59.64 32 P **P 17 20 54.7 -0.6**
baz=292,SNR=12
MDRS Chennai 60.00 264 *e*P **P 17 20 59.4 +1.0**
MDRS IAmb IAmb 17 21 00.7
comp=Z,84nm,1.2s
LATR Latur 60.00 271 *e*P **P 17 20 58.5 +0.1**
LATR IAmb IAmb 17 20 59.6
comp=Z,234nm,1.4s
JASL Jaisalmer 60.20 283 *e*P **P 17 20 59.7 -0.1**
RK1H Rockhampton Ha 60.38 171 P **P 17 21 01.0 +0.2**
HOPEN Hopen 60.42 346 *e*P **P 17 21 01.9 +1.5**
HOPEN IVmB_BB 17 21 02.5
comp=Z,2μm,3.6s
HOPEN *e*S **S 17 29 16.4 +1.5**
HOPEN *e*ScS **ScS 17 30 55.0 +4.5**
HOPEN IVMs_BB IVMs_BB 17 50 09.3
comp=Z,4μm,17.1s
TOAD Toad River Com 60.52 37 P **P 17 21 01.6 +0.1**
baz=293,SNR=13
KOTAN Kotaneelee Air 60.57 35 P **P 17 21 02.2 +0.4**
baz=293
AS06 Alice Springs 60.66 189 P **P 17 21 00.6 -2.1**
comp=Z,18nm,0.9s
AS01 Alice Springs 60.68 189 P **P 17 21 02.0 -0.9**
AS31 Alice Springs 60.69 189 P **P 17 21 01.6 -1.3**
AS31 Alice Springs 60.69 189 P **P 17 21 01.4 -1.6**
comp=Z,7.9nm,0.8s
ASAR Alice Springs 60.69 189 P **P 17 21 01.9 -1.1**
comp=Z,14nm,0.8s,baz=1.9,slow=6.7,SNR=115
ASAR LR LR 17 46 35.1
comp=Z,1μm,20.0s,baz=9.5,slow=35
comp=Z,14nm,0.8s
AS19 Alice Springs 60.72 189 P **P 17 21 01.3 -1.8**
comp=Z,35nm,0.8s
KIRV Kirov 60.86 323 LR LR 17 49 35.2
comp=Z,5μm,18.2s,baz=62,slow=38
KIRV Kirov 60.86 323 *i* P **P 17 21 04.2 +0.5**
SPA0 Spitsbergen Ar 60.87 349 *e*P **P 17 21 03.7 +0.1**
SPA0 IVmBBB 17 21 04.7
comp=Z,965nm,3.0s
SPA0 *e*PP **PP 17 23 15.3 -1.9**
SPA0 *e*S **S 17 29 22.5 +1.9**
SPA0 *e*SS **SS 17 33 24.2 +5.4**
SPA0 IVMs_BB IVMs_BB 17 50 24.4
comp=Z,3μm,15.9s
SPITS Spitsbergen Ar 60.87 349 P **P 17 21 04.8 +1.2**
comp=Z,19nm,1.0s,baz=78,slow=14,SNR=2.7
SPITS LR LR 17 50 36.3
comp=Z,7μm,18.3s,baz=7.0,slow=39
comp=Z,19nm,1.0s
KBS Kingsbay 60.99 350 IAMs_20 IAMs_20 17 50 58.9
comp=Z,4μm,18.0s
KBS Kingsbay 60.99 350 *e*P **P 17 21 06.1 +1.8**
KBS *e*PP **PP 17 23 18.9 +0.7**
KBS *e*S **S 17 29 25.3 +3.3**
KBS IVMs_BB IVMs_BB 17 52 09.6
comp=Z,2μm,13.9s
MBWA Marble Bar 61.49 204 P **P 17 21 06.9 -1.5**
comp=Z,36nm,0.6s
MBWA Marble Bar 61.49 204 P **P 17 21 08.4 0.0**
BBB Bella Bella 61.70 44 LR LR 17 45 52.3
comp=Z,1μm,19.8s,baz=294,slow=34
BHV Bhavnagar 61.80 277 *e*P **P 17 21 10.9 +0.3**
BHV IAmb IAmb 17 21 13.4
comp=Z,133nm,1.1s
HSPB Hornsund (broa 61.80 348 *e*P **P 17 21 11.0 +1.1**
HSPB *e*L L 17 47 42.4
comp=Z,5μm,21.0s
PSAC1 Pilbara Seismi 61.82 204 P **P 17 21 09.5 -1.1**
comp=Z,26nm,1.0s
PSA00 Pilbara Seismi 61.84 204 P **P 17 21 11.0 +0.3**
PSA00 IAmb IAmb 17 21 23.7
comp=Z,90nm,1.6s
PSA00 Pilbara Seismi 61.84 204 P **P 17 21 09.1 -1.7**
comp=Z,41nm,1.5s
PSA00 Pilbara Seismi 61.84 204 P **P 17 21 10.8 0.0**
POO Poona 62.12 273 *e*P **P 17 21 12.9 0.0**
POO IAmb IAmb 17 21 15.3
comp=Z,124nm,1.3s
EIDS Eidsvold 62.41 171 P **P 17 21 14.7 +0.2**
EIDS Eidsvold 62.41 171 P **P 17 21 14.3 -0.1**
comp=Z,18nm,1.3s
EIDS Eidsvold 62.41 171 P **P 17 21 15.4 +0.9**
KAD Karad 62.50 272 *e*P **P 17 21 15.3 -0.2**
KAD IAmb IAmb 17 21 16.4
comp=Z,238nm,1.4s
RES Resolute Bay 62.62 15 P **P 17 21 15.7 +0.4**
RES Resolute Bay 62.62 15 LR LR 17 52 14.1
comp=Z,2μm,18.7s,baz=316,slow=40
RES Resolute Bay 62.62 15 P **P 17 21 15.7 +0.4**
RES pmax pmax
comp=Z,31nm,1.0s
RES pmax pmax
comp=Z,2μm,19.0s
BOM Bombay 62.75 274 *e*P **P 17 21 16.9 -0.2**
DZM Mont Dzumac 62.84 155 P **P 17 21 17.6 0.0**
DZM IAMs_20 IAMs_20 17 45 53.2
comp=Z,5μm,20.0s
DZM Mont Dzumac 62.84 155 P **P 17 21 17.6 0.0**
comp=Z,31nm,1.0s,baz=0.9,slow=7.4,SNR=12
DZM LR LR 17 46 04.0
comp=Z,4μm,21.0s,slow=34
comp=Z,31nm,1.0s
DZM Mont Dzumac 62.84 155 P **P 17 21 19.2 +1.6**
BJO1 Bjornoya 62.85 345 *e*P **P 17 21 15.3 -1.6**
BJO1 IVmB_BB 17 21 21.3
comp=Z,2μm,2.5s
BJO1 *e*S **S 17 29 47.4 +1.7**
BJO1 *e*SS **SS 17 33 49.9 0.0**
BJO1 IVMs_BB IVMs_BB 17 52 28.7
comp=Z,4μm,15.4s
WRKA Warakurna 62.94 194 P **P 17 21 16.6 -1.4**
comp=Z,23nm,0.8s
WRKA Warakurna 62.94 194 P **P 17 21 17.5 -0.6**
BHUJ Bhuj 63.00 280 *e*P **P 17 21 19.2 +0.5**
VADS Vadso 63.02 339 *e*P **P 17 21 18.6 +0.5**
VADS *e*S **S 17 29 51.6 +3.7**
VADS IVMs_BB IVMs_BB 17 53 36.4
comp=Z,6μm,15.5s
PALK Pallekele 63.05 258 P **P 17 21 19.2 0.0**
PALK Pallekele 63.05 258 IAMs_20 IAMs_20 17 51 05.9
comp=Z,5μm,20.0s
PALK Pallekele 63.05 258 LR LR 17 51 27.2
comp=Z,5μm,19.9s,baz=49,slow=39
PALK Pallekele 63.05 258 P **P 17 21 18.8 -0.3**
PALK S **S 17 29 43.8 -6.0**
PALK Pallekele 63.05 258 *i* P **P 17 21 19.5 +0.3**
PALK pmax pmax
comp=Z,112nm,1.5s
ONTNC Ouen Toro 63.06 155 IAMs_20 IAMs_20 17 46 29.1
comp=Z,4μm,19.0s
QLP Quilpie 63.09 178 P **P 17 21 17.9 -1.1**
comp=Z,64nm,0.9s
QLP Quilpie 63.09 178 P **P 17 21 18.3 -0.7**
APA Apatity 63.18 336 ||*i* P **P 17 21 16.8 -2.4**
APA pmax pmax
comp=Z,27nm,0.9s
OUENC Ouen Island, N 63.30 155 P **P 17 21 22.1 +1.6**
DGTI Dogotuki 63.53 139 P **P 17 21 24.2 +2.1**
YKA Yellowknife Ar 63.62 30 P **P 17 21 23.0 +0.8**
comp=Z,9.4nm,0.9s,baz=297,slow=6.8,SNR=60
YKA ScS **ScS 17 31 16.6 +1.6**
comp=Z,0.4nm,0.8s,baz=294,slow=5.9,SNR=5.2
YKA LR LR 17 53 50.1
comp=Z,837nm,18.3s,baz=294,slow=40
comp=Z,9.4nm,0.9s
PINNC Pines Island, 63.69 154 IAMs_20 IAMs_20 17 48 46.6
comp=Z,4μm,19.0s
GOA Goa 63.78 270 *e*P **P 17 21 24.2 +0.3**
GOA IAmb IAmb 17 21 26.6
comp=Z,172nm,1.4s
KOD Kodaikanal 63.85 263 *e*P **P 17 21 24.6 -0.2**
MSVF Nonsavu 63.88 142 P **P 17 21 26.1 +1.6**
MSVF IAmb IAmb 17 21 27.6
comp=Z,107nm,1.4s
MSVF Nonsavu 63.88 142 IAMs_20 IAMs_20 17 45 37.9
comp=Z,5μm,19.0s
MSVF Nonsavu 63.88 142 LR LR 17 45 19.5
comp=Z,4μm,19.8s,baz=327,slow=32
MSVF Nonsavu 63.88 142 P **P 17 21 26.7 +2.2**
MSVF Nonsavu 63.88 142 P **P 17 21 26.1 +1.6**
MSVF pmax pmax
comp=Z,107nm,1.4s
MSVF pmax pmax
comp=Z,4μm,19.0s
INKA Innaminka 64.24 182 P **P 17 21 25.9 -0.6**
HAMF Hammerfest 64.26 341 *e*P **P 17 21 27.2 +1.0**
HAMF IVmBBB 17 21 28.9
comp=Z,1μm,3.1s
HAMF *e*S **S 17 30 02.5 -0.7**
HAMF *e*SS **SS 17 34 12.2 +0.3**
HAMF IVMs_BB IVMs_BB 17 54 27.1
comp=Z,4μm,17.4s
KLMR Klimovskoe 64.33 328 *e*P **P 17 21 23.9 -2.9**
KLMR S **S 17 30 01.6 -2.8**
KLMR SS **SS 17 34 17.2 +3.9**
KLMR pmax pmax
comp=Z,132nm,1.4s
KLMR MLR MLR
comp=Z,7μm,14.0s
ARA0 ARCESS Array S 64.45 340 *e*P **P 17 21 28.2 +0.7**
ARA0 IVmB_BB 17 21 40.4
comp=Z,2μm,3.0s
ARA0 *e*S **S 17 30 06.0 +0.3**
ARA0 *e*SS **SS 17 34 14.2 -0.8**
ARA0 IVMs_BB IVMs_BB 17 54 19.7
comp=Z,4μm,15.0s
ARCES ARCESS Array B 64.45 340 P **P 17 21 28.3 +0.7**
ARCES ARCESS Array B 64.45 340 P **P 17 21 28.3 +0.7**
comp=Z,12nm,1.0s,baz=61,slow=14,SNR=7.7
ARCES LR LR 17 54 48.7
comp=Z,8μm,18.1s,baz=36,slow=41
comp=Z,12nm,1.0s
ARCES ARCESS Array B 64.45 340 P **P 17 21 28.3 +0.7**
ARCES pmax pmax
comp=Z,173nm,1.9s
OOD Oodnadatta 64.58 187 P **P 17 21 29.4 +0.6**
COCO West Island 64.87 230 P **P 17 21 32.4 +1.5**
TULEG Thule 65.21 8 IAMs_20 IAMs_20 17 53 37.2
comp=Z,4μm,18.0s
TRD Trivandrum 65.27 262 ||*e*P **P 17 21 34.5 +0.8**
KTK1 Kautokeino 65.41 340 *e*P **P 17 21 33.9 +0.1**
KTK1 IVmBBB 17 21 37.8
comp=Z,577nm,3.4s
KTK1 *e*S **S 17 30 16.6 -1.0**
KTK1 IVMs_BB IVMs_BB 17 53 43.6
comp=Z,3μm,21.3s
NEEM North Greenlan 65.70 3 *i* P **P 17 21 34.8 -1.2**
NEEM IAmb IAmb 17 21 38.5
comp=Z,19nm,0.9s
JETT Jettan, Norway 65.82 341 *e*P **P 17 21 37.0 +0.5**
JETT *e*S **S 17 30 22.5 -0.1**
JETT IVMs_BB IVMs_BB 17 55 19.3
comp=Z,5μm,16.5s
LLLB Lillooet 65.89 44 IAmb IAmb 17 21 43.9
comp=Z,77nm,1.4s
PGC Sidney 65.95 46 IAmb IAmb 17 21 40.1
comp=Z,66nm,1.4s
DAG Danmarks Havn 66.05 355 *i* P **P 17 21 37.5 -0.3**
DAG IAmb IAmb 17 21 39.5
comp=Z,7.4nm,0.7s
TRO Tromso 66.15 341 *e*P **P 17 21 39.1 +0.6**
TRO *e*S **S 17 30 28.7 +2.2**
TRO IVMs_BB IVMs_BB 17 55 36.9
comp=Z,4μm,16.0s
JOF Joensuu 66.49 332 *e*P **P 17 21 41.6 +0.8**
GNW Green Mountain 66.84 47 IAmb IAmb 17 21 46.6
comp=Z,108nm,1.4s
E03A Lebam 66.91 48 P **P 17 21 41.9 -1.9**
MEEK Meekatharra 66.96 203 P **P 17 21 42.8 -1.4**
comp=Z,24nm,1.2s
MEEK Meekatharra 66.96 203 P **P 17 21 45.0 +0.8**
LCRK Leigh Creek 67.03 184 P **P 17 21 44.4 -0.1**
ARMA Armidale 67.46 171 P **P 17 21 47.6 +0.3**
comp=Z,28nm,1.3s
ARMA Armidale 67.46 171 P **P 17 21 48.3 +0.9**
MOS Moscow 67.86 324 *e*P **P 17 21 47.6 -2.0**
MOS *e* 17 24 15.9
MOS *e*S **S 17 30 46.5 -1.0**
MOS *e* 17 31 41.8
MOS *e*SS **SS 17 35 02.2 -6.1**
MOS pmax pmax
comp=Z,800nm,2.6s
MOS pmax pmax
comp=Z,232nm,1.6s
MOS pmax pmax
comp=N,72nm,1.3s
MOS pmax pmax
comp=E,58nm,1.3s
MOS smax smax
comp=N,2μm,4.5s
MOS smax smax
comp=E,2μm,4.5s
MOS MLR MLR
comp=Z,5μm,16.0s
MOS MLR MLR
comp=N,4μm,15.0s
MOS MLR MLR
comp=E,3μm,16.0s
CMSA Cobar Meteorol 68.08 177 P **P 17 21 49.4 -1.7**
comp=Z,32nm,1.1s
CMSA Cobar Meteorol 68.08 177 P **P 17 21 51.3 +0.2**
VRH Novokhopyorsk 68.23 318 *e*P **P 17 21 50.5 -1.5**
VRH pmax pmax
comp=Z,70nm,1.1s
LTY Liberty 68.26 47 IAmb IAmb 17 22 08.3
comp=Z,76nm,1.4s
STEI Steigen 68.31 341 *e*P **P 17 21 54.4 +2.2**
STEI IVmBBB 17 22 01.6
comp=Z,737nm,2.5s
STEI *e*S **S 17 30 56.7 +4.2**
STEI IVMs_BB IVMs_BB 17 56 13.7
comp=Z,2μm,12.5s
STKA Stephens Creek 68.35 181 P **P 17 21 52.5 -0.4**
comp=Z,43nm,1.4s
STKA Stephens Creek 68.35 181 P **P 17 21 52.0 -0.8**
comp=Z,5.5nm,0.8s,baz=0.5,slow=8.4,SNR=9.7
comp=Z,5.5nm,0.8s
STKA Stephens Creek 68.35 181 P **P 17 21 52.8 0.0**
J01E Myrtle Point 68.37 52 IAmb IAmb 17 21 56.3
comp=Z,103nm,1.4s
H04D Lebanon 68.42 50 IAmb IAmb 17 22 01.0
comp=Z,94nm,1.2s
BUCK Buck Mountain 68.44 50 IAMs_20 IAMs_20 17 50 38.1
comp=Z,2μm,19.0s
B08A Colville Reser 68.46 45 IAmb IAmb 17 21 56.0
comp=Z,94nm,1.5s
FORT Forrest 68.57 193 P **P 17 21 53.8 -0.5**
FORT IAmb IAmb 17 22 19.6
comp=Z,47nm,0.8s
FORT Forrest 68.57 193 P **P 17 21 53.5 -0.7**
comp=Z,67nm,0.7s
FORT Forrest 68.57 193 P **P 17 21 54.0 -0.2**
NGCH Negor - Chabah 68.58 286 P **P 17 21 54.0 -0.7**
FAUS Fauske 68.69 341 *e*P **P 17 21 55.2 +0.5**
FAUS IVmBBB 17 21 57.7
comp=Z,1μm,4.0s
FAUS *e*S **S 17 30 58.6 +1.5**
FAUS IVMs_BB IVMs_BB 17 56 02.7
comp=Z,5μm,19.3s
OBN Obninsk 68.70 324 P **P 17 21 55.0 +0.1**
OBN Obninsk 68.70 324 LR LR 17 54 29.5
comp=Z,6μm,18.1s,baz=53,slow=38
OBN Obninsk 68.70 324 *c* *i*P **P 17 21 54.2 -0.7**
OBN *e**PP **sP 17 21 58.8 -0.3**
OBN *e**SP **pwP 17 22 02.6 +1.0**
OBN *e* 17 22 19.1
OBN *i* 17 24 26.8
OBN *e*PPP PPP 17 26 14.2
OBN *i* S **S 17 30 56.2 -1.4**
OBN *e*PS 17 31 32.5
OBN *i* PPS PPS 17 31 50.0
OBN *e*SS **SS 17 35 26.4 +5.1**
OBN pmax pmax
comp=Z,168nm,1.4s
OBN MLR MLR
comp=Z,6μm,17.0s
OBN Obninsk 68.70 324 P **P 17 21 55.4 +0.5**
comp=Z,111nm,2.6s
PUL Pulkovo 68.74 330 *i* P **P 17 21 56.1 +1.0**
PUL pmax pmax
comp=Z,75nm,0.5s
K02D Willamette Mer 68.78 52 IAmb IAmb 17 21 58.6
comp=Z,99nm,1.5s
MXC Moxie City 68.83 47 IAmb IAmb 17 22 03.6
comp=Z,69nm,1.2s
LPSR Galich'ya Gora 68.94 321 *c* *i*P **P 17 21 56.5 +0.1**
LPSR pmax pmax
comp=Z,148nm,1.1s
I04A Tendick Farm, 69.00 51 IAmb IAmb 17 21 59.8
comp=Z,101nm,1.4s
MAK Makhachkala 69.17 308 *c* *i*P **P 17 21 53.5 -4.5**
MAK *e* 17 24 32.1
MAK *e*PPP PPP 17 26 11.6
MAK *e*S **S 17 30 59.3 -4.2**
MAK *e*SS **SS 17 35 31.9 +2.8**
MAK pmax pmax
comp=Z,185nm,1.1s
MAK MLR MLR
comp=Z,9μm,15.0s
VORR Voronezh 69.30 320 *e*P **P 17 21 57.1 -1.6**
VORR pmax pmax
comp=Z,90nm,1.2s
KEF Keuruu 69.31 334 *e*P **P 17 21 59.3 +0.7**
FINES FINESS Array B 69.34 333 P **P 17 21 59.0 +0.3**
FINES FINESS Array B 69.34 333 P **P 17 21 59.2 +0.5**
comp=Z,37nm,0.9s,baz=57,slow=7.0,SNR=45
FINES LR LR 17 53 36.2
comp=Z,3μm,19.6s,baz=32,slow=37
comp=Z,37nm,0.9s
C09A Chrisman Ranch 69.36 45 IAmb IAmb 17 22 01.6
comp=Z,103nm,1.4s
I05D Terrebonne, OR 69.38 50 IAmb IAmb 17 22 02.2
comp=Z,103nm,1.5s
HAWA Hanford 69.38 47 P **P 17 21 59.7 +0.4**
HAWA IAmb IAmb 17 22 02.0
comp=Z,79nm,1.4s
D08A Wollman Farm, 69.38 46 IAmb IAmb 17 22 01.7
comp=Z,87nm,1.5s
F07A Phinny Hill Vi 69.41 48 IAmb IAmb 17 22 07.2
comp=Z,89nm,1.2s
J04A Umpqua Nationa 69.47 51 IAmb IAmb 17 22 08.0
comp=Z,85nm,1.1s
VAF Ylistaro 69.50 335 *e*P **P 17 22 01.0 +1.2**
BBOO Buckleboo 69.52 186 P **P 17 21 59.5 -0.7**
comp=Z,24nm,1.2s
BBOO Buckleboo 69.52 186 P **P 17 22 00.1 0.0**
VSR Storozhevoye 69.58 319 *e*P **P 17 21 57.1 -3.3**
VSR pmax pmax
comp=Z,70nm,1.1s
E08A Dider Farm, El 69.60 47 IAmb IAmb 17 22 03.2
comp=Z,86nm,1.5s
WHYH Whyalla 69.64 184 P **P 17 22 01.4 +0.6**
VORD Divnogorie 69.65 319 *e*P **P 17 21 59.2 -1.6**

VORD				pmax	pmax		
	comp=Z,70nm,1.1s						
NEW	**Newport**	**69.76**	**44**	IAmb	IAmb	17 22 04.0	
	comp=Z,92nm,1.6s						
AKT	**Akhty**	**69.80**	**307**	*e*P	**P**	**17 22 02.1**	**0.0**
AKT				*e*		17 22 25.0	
AKT				*e*S	**S**	**17 31 10.1**	**-1.2**
AKT				pmax	pmax		
	comp=Z,124nm,1.3s						
AKT				MLR	MLR		
	comp=Z,13µm,18.0s						
MOR8	**Moi Rana**	**69.81**	**340**	*e*P	**P**	**17 22 00.9**	**-0.7**
MOR8				*e*S	**S**	**17 31 11.5**	**+1.1**
MOR8				IVMs_BB	IVMs_BB	17 57 13.4	
	comp=Z,4µm,17.5s						
YBH	**Yreka Blue Hor**	**69.89**	**53**	IAmb	IAmb	17 22 10.6	
	comp=Z,50nm,1.2s						
YBH	**Yreka Blue Hor**	**69.89**	**53**	LR	LR	17 48 18.8	
	comp=Z,1µm,19.7s,baz=302,slow=32						
KONS	**Konsvik**	**69.92**	**341**	*e*P	**P**	**17 22 03.0**	**+0.7**
HTT	**Hallett**	**69.97**	**183**	P	**P**	**17 22 03.4**	**+0.5**
J05D	**Fort Rock, OR**	**70.00**	**51**	IAmb	IAmb	17 22 06.5	
	comp=Z,119nm,1.4s						
J05D				IAMs_20	IAMs_20	17 45 49.6	
	comp=Z,2µm,19.0s						
MORW	**Morawa**	**70.04**	**204**	P	**P**	**17 22 05.6**	**+2.2**
E09A	**Wood Farm, Sta**	**70.12**	**46**	IAmb	IAmb	17 22 12.0	
	comp=Z,85nm,1.2s						
LEIR	**Leirfjorden**	**70.22**	**340**	*e*P	**P**	**17 22 04.6**	**+0.5**
LEIR				IVmBBB		17 22 07.4	
	comp=Z,822nm,2.8s						
LEIR				*e*S	**S**	**17 31 20.5**	**+5.4**
LEIR				IVMs_BB	IVMs_BB	17 57 36.1	
	comp=Z,4µm,12.0s						
G08A	**Pilot Rock**	**70.31**	**48**	IAmb	IAmb	17 22 07.8	
	comp=Z,70nm,1.5s						
KMBL	**Kambalda**	**70.49**	**198**	P	**P**	**17 22 07.8**	**+1.7**
O02D	**Mt. Diablo Mer**	**70.66**	**54**	IAMs_20	IAMs_20	17 44 27.3	
	comp=Z,2µm,19.0s						
ARBE	**Arbavere**	**70.67**	**331**	*e*P	**P**	**17 22 08.3**	**+1.4**
MEF	**Metsahovi**	**70.77**	**332**	*e*P	**P**	**17 22 08.6**	**+1.0**
GOF	**Gofitskoye**	**70.78**	**312**	*c i*P	**P**	**17 22 08.4**	**+0.5**
JASK	**Jask - Hormozg**	**70.81**	**288**	P	**P**	**17 22 08.9**	**+0.5**
	SNR=8.2						
JASK				S	**S**	**17 31 24.4**	**+1.0**
SUMG	**Summit**	**70.89**	**0**	IAmb	IAmb	17 22 45.8	
	comp=Z,45nm,1.1s						
SUMG	**Summit**	**70.89**	**0**	*i* P	**P**	**17 22 09.6**	**+0.9**
SUMG				IAmb	IAmb	17 22 12.0	
	comp=Z,24nm,0.8s						
YNG	**Young**	**70.98**	**175**	P	**P**	**17 22 10.1**	**+1.0**
VSU	**Vasula**	**71.01**	**330**	*i* P	**P**	**17 22 09.0**	**0.0**
VSU				pmax	pmax		
	comp=Z,95nm,1.0s						
VSU	**Vasula**	**71.01**	**330**	*e*P	**P**	**17 22 09.3**	**+0.3**
RAF	**Rauma**	**71.19**	**334**	*e*P	**P**	**17 22 11.2**	**+1.1**
BLDU	**Ballidu**	**71.26**	**203**	P	**P**	**17 22 09.9**	**-0.9**
NCK	**Nalchik**	**71.30**	**311**	*i* P	**P**	**17 22 11.5**	**+0.3**
NCK				pmax	pmax		
	comp=Z,89nm,1.2s						
GDXM	**Geysers**	**71.38**	**55**	IAmb	IAmb	17 22 24.5	
	comp=Z,126nm,1.9s						
BMO	**Blue Mountains**	**71.53**	**48**	IAmb	IAmb	17 22 15.1	
	comp=Z,96nm,1.5s						
KVAR	**Kislovodsk Arr**	**71.59**	**311**	LR	LR	17 55 32.5	
	comp=Z,6µm,18.4s,baz=278,slow=37						
KBZ	**Khabaz**	**71.60**	**311**	P	**P**	**17 22 13.4**	**+0.6**
	comp=Z,75nm,1.0s,baz=60,slow=4.2,SNR=70						
KBZ				LR	LR	17 58 24.9	
	comp=Z,8µm,18.1s,baz=42,slow=40						
	comp=Z,75nm,1.0s						
KBZ	**Khabaz**	**71.60**	**311**	P	**P**	**17 22 13.8**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,151nm,1.2s						
KIV	**Kislovodsk**	**71.60**	**311**	P	**P**	**17 22 13.3**	**+0.3**
KIV	**Kislovodsk**	**71.60**	**311**	P	**P**	**17 22 12.9**	**-0.1**
KIV				P	**P**	**17 22 12.9**	**-0.1**
KIV				S	**S**	**17 31 31.7**	**-0.5**
KIV				S	**S**	**17 31 31.7**	**-0.5**
KIV	**Kislovodsk**	**71.60**	**311**	⇑P	**P**	**17 22 14.0**	**+0.9**
KIV	**Kislovodsk**	**71.60**	**311**	*e*P	**P**	**17 22 13.1**	**+0.1**
KIV				*e*		17 24 49.0	
KIV				*e*PPP	PPP	17 26 31.8	
KIV				*e*S	**S**	**17 31 32.9**	**+0.7**
KIV				*e*SS	**SS**	**17 36 10.5**	**+3.8**
KIV				pmax	pmax		
	comp=Z,304nm,4.0s						
KIV				pmax	pmax		
	comp=Z,202nm,1.0s						
KIV				MLR	MLR		
	comp=Z,7µm,18.0s						
KIV	**Kislovodsk**	**71.60**	**311**	*i* P	**P**	**17 22 14.0**	**+0.9**
	SNR=63						
KIV	**Kislovodsk**	**71.60**	**311**	P	**P**	**17 22 13.9**	**+0.9**
	comp=Z,3µmcomp=Z,180nm,1.2s						
JLN	**Jalan Bani Buh**	**71.62**	**284**	P	**P**	**17 22 12.9**	**-0.4**
JLN				P	**P**	**17 22 12.9**	**-0.4**
WSAR	**Wadi Sarin**	**71.64**	**286**	LR	LR	17 58 00.9	
	comp=Z,3µm,18.0s,baz=66,slow=40						
J08A	**Circle Bar Ran**	**71.65**	**49**	IAmb	IAmb	17 22 21.3	
	comp=Z,94nm,1.3s						
MCCM	**Marconi Confer**	**71.68**	**56**	IAMs_20	IAMs_20	17 46 15.6	
	comp=Z,3µm,21.0s						
WBK	**Wadi Bani Khal**	**71.71**	**285**	P	**P**	**17 22 12.7**	**-1.2**
	SNR=5.2						
WBK				P	**P**	**17 22 12.7**	**-1.2**
	SNR=5.2						
SHA1	**Shidzhatmaz**	**71.74**	**311**	*i* P	**P**	**17 22 14.9**	**+0.8**
KLBR	**Kellerberrin**	**71.85**	**202**	P	**P**	**17 22 14.0**	**-0.3**
BIDO	**Bidbid**	**71.87**	**286**	P	**P**	**17 22 15.2**	**+0.4**
	SNR=8.7						
BIDO				P	**P**	**17 22 15.2**	**+0.4**
	SNR=8.7						
ERBR	**Yeremizino-Bor**	**71.92**	**314**	*e*P	**P**	**17 22 15.8**	**+1.0**
ERBR				*e**PP	**sP**	**17 22 19.5**	**+0.4**
ERBR				*e*S	**S**	**17 31 35.4**	**-0.2**
ERBR				*e*		17 32 18.0	
ERBR				pmax	pmax		
	comp=Z,283nm,1.1s						
ERBR				MLR	MLR		
	comp=Z,8µm,19.0s						
MTSE	**Matsula**	**71.99**	**331**	*e*P	**P**	**17 22 16.3**	**+1.3**
SHME	**Shamm**	**72.03**	**289**	P	**P**	**17 22 15.4**	**-0.4**
	SNR=7.4						
SHME				P	**P**	**17 22 15.4**	**-0.4**
	SNR=7.4						
SHME	**Shamm**	**72.03**	**289**	*i* P	**P**	**17 22 16.1**	**+0.3**
	SNR=7.6						
WVOR	**Wild Horse Val**	**72.06**	**50**	IAmb	IAmb	17 22 18.6	
	comp=Z,109nm,1.6s						
PLID	**Pearl Lake**	**72.16**	**47**	IAmb	IAmb	17 22 18.6	
	comp=Z,101nm,1.6s						
SMDO	**Samad**	**72.18**	**286**	P	**P**	**17 22 16.2**	**-0.7**
	SNR=10						
SMDO				P	**P**	**17 22 16.2**	**-0.7**
	SNR=10						
MDH	**Madha**	**72.31**	**289**	P	**P**	**17 22 16.7**	**-0.8**
MDH				P	**P**	**17 22 16.7**	**-0.8**
MSO	**Missoula**	**72.35**	**44**	IAmb	IAmb	17 22 23.8	
	comp=Z,53nm,1.1s						
MASF	**Masafi**	**72.38**	**289**	P	**P**	**17 22 17.9**	**0.0**
	SNR=6.6						
MASF				P	**P**	**17 22 17.9**	**0.0**
	SNR=6.6						
MSFE	**Esma-Masafi**	**72.39**	**289**	*i* P	**P**	**17 22 18.3**	**+0.4**
	SNR=6.7						
GNI	**Garni**	**72.42**	**307**	P	**P**	**17 22 18.3**	**+0.2**
GNI				IAmb	IAmb	17 22 47.0	
	comp=Z,116nm,1.2s						
GNI	**Garni**	**72.42**	**307**	LR	LR	17 57 12.4	
	comp=Z,5µm,18.2s,baz=66,slow=38						
GNI	**Garni**	**72.42**	**307**	P	**P**	**17 22 18.6**	**+0.5**
GNI				P	**P**	**17 22 18.6**	**+0.5**
GNI	**Garni**	**72.42**	**307**	*i* P	**P**	**17 22 17.4**	**-0.7**
GNI				pmax	pmax		
	comp=Z,131nm,1.6s						
GNI	**Garni**	**72.42**	**307**	P	**P**	**17 22 19.0**	**+0.9**
	comp=Z,2µmcomp=Z,79nm,1.3s						
HOQ	**Hoqain**	**72.47**	**287**	P	**P**	**17 22 18.5**	**+0.1**
	SNR=12						
JMDO	**Jabal Madar**	**72.52**	**285**	P	**P**	**17 22 18.5**	**-0.3**
	SNR=10.0						
JMDO				P	**P**	**17 22 18.5**	**-0.3**
	SNR=10.0						
UOSS	**Minazif**	**72.58**	**288**	P	**P**	**17 22 18.9**	**-0.2**
UOSS				IAmb	IAmb	17 22 31.5	
	comp=Z,92nm,1.2s						
UOSS	**Minazif**	**72.58**	**288**	IAMs_20	IAMs_20	17 58 43.3	
	comp=Z,2µm,19.0s						
UOSS	**Minazif**	**72.58**	**288**	P	**P**	**17 22 18.2**	**-0.8**
UOSS				P	**P**	**17 22 18.2**	**-0.8**
UOSS	**Minazif**	**72.58**	**288**	*i* P	**P**	**17 22 18.7**	**-0.4**
	SNR=7.2						
UMQ	**Umm Al-Quwin**	**72.67**	**289**	P	**P**	**17 22 17.3**	**-2.3**
UMQ				P	**P**	**17 22 17.3**	**-2.3**
HATD	**Hatta, Dubai**	**72.70**	**288**	P	**P**	**17 22 19.9**	**+0.1**
	SNR=9.0						
HATD				P	**P**	**17 22 19.9**	**+0.1**
	SNR=9.0						
HATD	**Hatta, Dubai**	**72.70**	**288**	*i* P	**P**	**17 22 20.0**	**+0.2**
	SNR=16						
SOHO	**SOHO**	**72.77**	**287**	P	**P**	**17 22 19.8**	**-0.4**
SOHO				P	**P**	**17 22 19.8**	**-0.4**
SOHO	**SOHO**	**72.77**	**287**	*i* P	**P**	**17 22 19.9**	**-0.4**
	SNR=18						
ASHO	**Ashiyiah**	**72.83**	**288**	P	**P**	**17 22 20.8**	**+0.1**
	SNR=9.3						
ASHO				P	**P**	**17 22 20.8**	**+0.1**
	SNR=9.3						
ASHO	**Ashiyiah**	**72.83**	**288**	*i* P	**P**	**17 22 20.9**	**+0.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**72.97**	**289**	P	**P**	**17 22 21.4**	**0.0**
	SNR=5.6						
NAZ				P	**P**	**17 22 21.4**	**0.0**
	SNR=5.6						
NAZ	**Nazwa, Dubai**	**72.97**	**289**	*i* P	**P**	**17 22 21.3**	**-0.1**
	SNR=7.7						
MNK	**Minsk**	**73.08**	**326**	*i* P	**P**	**17 22 22.4**	**+0.9**
	comp=E,120nm,1.3s						
MNK				*i* P	**P**	**17 22 22.4**	**+0.9**
	comp=N,67nm,1.2s						
MNK				*i* P	**P**	**17 22 22.4**	**+0.9**
	comp=Z,152nm,1.1s,baz=50						
MNK				*i* PcP	**PcP**	**17 22 40.5**	**+2.2**
MNK				*i* PP	**PP**	**17 25 05.8**	**+2.1**
MNK				*i* PPP	PPP	17 26 50.9	
MNK				*i* S	**SKiKP**	**17 31 51.4**	**-2.3**
MNK				*i* SS	**SS**	**17 36 33.8**	**+5.3**
MNK				*i* SSS	SSS	17 39 54.2	
MNK				*i* LQ	LQ	17 50 20.1	
MNK				*i* LR	LR	17 55 12.2	
MNK				*i* LRM	MLR	17 58 52.2	
	comp=N,6µm,15.6s						
MNK				*i* LRM	MLR	17 58 55.3	
	comp=E,4µm,14.5s						
MNK				*i* LRM	MLR	17 58 57.6	
	comp=Z,8µm,13.4s						
MNK	**Minsk**	**73.08**	**326**	*i* P	**P**	**17 22 22.4**	**+0.9**
MNK				*i*		17 22 40.4	
MNK				*i*		17 25 05.7	
MNK				*i* PPP	PPP	17 26 50.8	
MNK				*i* S	**SKiKP**	**17 31 51.3**	**-2.3**
MNK				*i* SS	**SS**	**17 36 33.8**	**+5.3**
MNK				pmax	pmax		
	comp=Z,152nm,1.1s						
MNK				pmax	pmax		
	comp=N,67nm,1.2s						
MNK				pmax	pmax		
	comp=E,120nm,1.3s						
MNK				MLR	MLR		
	comp=N,6µm,16.0s						
MNK				MLR	MLR		
	comp=E,4µm,15.0s						
MNK				MLR	MLR		
	comp=Z,8µm,13.0s						
PAHR	**Pah Rah Range**	**73.11**	**53**	IAmb	IAmb	17 22 24.6	
	comp=Z,68nm,1.4s						
FAQ	**Al Faqa, Dubai**	**73.15**	**288**	P	**P**	**17 22 21.7**	**-0.8**
FAQ				P	**P**	**17 22 21.7**	**-0.8**
FAQ	**Al Faqa, Dubai**	**73.15**	**288**	*i* P	**P**	**17 22 22.5**	**0.0**
	SNR=6.2						
ARQ	**Araqi**	**73.21**	**287**	P	**P**	**17 22 23.1**	**+0.2**
	SNR=17						
ARQ				P	**P**	**17 22 23.1**	**+0.2**
	SNR=17						
MFID	**Camas Ranch**	**73.22**	**48**	IAmb	IAmb	17 22 25.4	
	comp=Z,120nm,1.6s						
ARPS	**Mount Arapiles**	**73.23**	**180**	P	**P**	**17 22 24.2**	**+1.8**
NWAO	**Narrogin (SRO)**	**73.25**	**202**	P	**P**	**17 22 21.8**	**-0.9**
NWAO				IAmb	IAmb	17 22 26.5	
	comp=Z,109nm,1.4s						
NWAO	**Narrogin (SRO)**	**73.25**	**202**	LR	LR	17 54 49.6	
	comp=Z,763nm,20.2s,baz=0.0,slow=36						
NWAO	**Narrogin (SRO)**	**73.25**	**202**	P	**P**	**17 22 22.6**	**0.0**
NWAO	**Narrogin (SRO)**	**73.25**	**202**	P	**P**	**17 22 22.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**73.25**	**202**	P	**P**	**17 22 21.8**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,109nm,1.4s						
KAAM	**Kaadhehdhoo**	**73.25**	**258**	P	**P**	**17 22 23.3**	**+0.1**
KAAM	**Kaadhehdhoo**	**73.25**	**258**	P	**P**	**17 22 24.6**	**+1.5**
	SNR=7.2						
IIGN	**Ignalina**	**73.25**	**328**	*e*P	**P**	**17 22 23.1**	**+0.5**
NACGM	**Naroch**	**73.30**	**327**	⇓*i*P	**P**	**17 22 23.7**	**+0.8**
	comp=E,3µm,1.1s						
PNTR	**Pine Nut**	**73.31**	**54**	IAmb	IAmb	17 22 26.3	
	comp=Z,101nm,1.6s						
MHTO	**MHTO**	**73.38**	**284**	P	**P**	**17 22 23.8**	**0.0**
	SNR=27						
MHTO				P	**P**	**17 22 23.8**	**0.0**
	SNR=27						
ALNE	**Al Ain**	**73.41**	**288**	P	**P**	**17 22 24.0**	**0.0**
	SNR=12						
ALNE				P	**P**	**17 22 24.0**	**0.0**
	SNR=12						
ALNE	**Al Ain**	**73.41**	**288**	*i* P	**P**	**17 22 24.2**	**+0.1**
	SNR=22						
ASUD	**Al Ashush, Dub**	**73.42**	**289**	P	**P**	**17 22 23.9**	**-0.2**
	SNR=5.1						
ASUD				P	**P**	**17 22 23.9**	**-0.2**
	SNR=5.1						
ASUD	**Al Ashush, Dub**	**73.42**	**289**	*i* P	**P**	**17 22 24.2**	**+0.2**
	SNR=6.0						
VSLR	**Vesyoloye**	**73.47**	**312**	*i* P	**P**	**17 22 24.5**	**+0.4**
VSLR				pmax	pmax		
	comp=Z,312nm,1.3s						
FFC	**Flin Flon**	**73.48**	**33**	P	**P**	**17 22 24.4**	**+0.5**
FFC				IAmb	IAmb	17 22 31.5	
	comp=Z,67nm,1.1s						
FFC	**Flin Flon**	**73.48**	**33**	P	**P**	**17 22 24.4**	**+0.5**
FFC				pmax	pmax		
	comp=Z,67nm,1.1s						
FFC				pmax	pmax		
	comp=Z,2µm,18.0s						
SOC	**Sochi**	**73.59**	**312**	*e*P	**P**	**17 22 22.8**	**-1.9**
SOC				*e*		17 25 13.3	
SOC				*e*PPP	PPP	17 26 48.2	
SOC				*e*S	**S**	**17 31 53.6**	**-1.0**
SOC				*e*SS	**SS**	**17 36 35.8**	**-1.0**
SOC				MLR	MLR		
	comp=Z,7µm,21.0s						
AJN	**Ajban**	**73.71**	**289**	P	**P**	**17 22 25.5**	**-0.3**
AJN				P	**P**	**17 22 25.5**	**-0.3**
AJN	**Ajban**	**73.71**	**289**	P	**P**	**17 22 25.4**	**-0.4**
WAKR	**Walker**	**73.74**	**54**	IAMs_20	IAMs_20	17 49 20.0	
	comp=Z,3µm,20.0s						
VSVD	**Vaisvydziai**	**73.80**	**329**	*e*P	**P**	**17 22 26.8**	**+1.1**
FCC	**Fort Churchill**	**73.86**	**27**	IAmb	IAmb	17 22 33.3	
	comp=Z,58nm,1.1s						
FCC				IAMs_20	IAMs_20	17 58 42.4	
	comp=Z,3µm,20.0s						
EGMT	**Eagleton**	**73.94**	**42**	IAmb	IAmb	17 22 34.0	
	comp=Z,110nm,1.4s						
PABE	**Paberze**	**74.10**	**329**	*e*P	**P**	**17 22 28.7**	**+1.2**
ANN	**Anapa**	**74.21**	**314**	*e*P	**P**	**17 22 28.5**	**+0.2**
ANN				*e**PP	**sP**	**17 22 32.1**	**-0.5**
ANN				*e*		17 25 15.3	
ANN				*e*S	**S**	**17 32 02.3**	**+0.8**
ANN				pmax	pmax		
	comp=Z,271nm,1.2s						
ANN				MLR	MLR		
	comp=N,6µm,19.0s						
ANN				MLR	MLR		
	comp=Z,6µm,17.0s						
ANN				MLR	MLR		
	comp=E,4µm,16.0s						
DQM	**DQM**	**74.30**	**283**	P	**P**	**17 22 28.8**	**-0.5**
	SNR=9.8						
DQM				P	**P**	**17 22 28.8**	**-0.5**
	SNR=9.8						
BOZ	**Bozeman (W)**	**74.37**	**44**	IAmb	IAmb	17 22 38.1	
	comp=Z,68nm,1.1s						
ICESG	**Greenland Ices**	**74.39**	**1**	*i* P	**P**	**17 22 31.0**	**+1.6**
ICESG				IAmb	IAmb	17 22 33.1	
	comp=Z,37nm,0.9s						
NC405	**NORSAR Array S**	**74.45**	**338**	IAmb	IAmb	17 22 31.8	
	comp=Z,74nm,1.2s						
NC303	**NORSAR Array S**	**74.47**	**338**	IAmb	IAmb	17 23 10.6	
	comp=Z,66nm,1.3s						
LHV	**Little Huntoon**	**74.49**	**54**	IAmb	IAmb	17 22 38.3	
	comp=Z,105nm,1.2s						
LHV				IAMs_20	IAMs_20	17 49 54.8	
	comp=Z,3µm,21.0s						
DOMB	**Dombas**	**74.51**	**339**	*e*P	**P**	**17 22 30.9**	**+1.0**
DOMB				IVmB_BB		17 22 31.9	
	comp=Z,2µm,4.7s						
DOMB				*e*S	**S**	**17 32 07.5**	**+3.1**
DOMB				IVMs_BB	IVMs_BB	17 58 17.4	
	comp=Z,5µm,22.1s						
NVAR	**Mina Array Bea**	**74.52**	**54**	P	**P**	**17 22 30.7**	**+0.1**
NVAR	**Mina Array Bea**	**74.52**	**54**	P	**P**	**17 22 31.4**	**+0.8**
	comp=Z,15nm,0.9s,baz=290,slow=5.5,SNR=66						
NVAR				LR	LR	17 49 41.6	
	comp=Z,1µm,21.2s,baz=302,slow=31						
	comp=Z,15nm,0.9s						
GEVA	**Gevas**	**74.53**	**306**	IAmb	IAmb	17 22 43.1	
	comp=Z,129nm,1.7s						
GEVA				IAMs_20	IAMs_20	17 59 29.0	
	comp=Z,3µm,18.0s						
HFS	**Hagfors**	**74.58**	**336**	P	**P**	**17 22 31.0**	**+0.7**
	comp=Z,33nm,1.0s,baz=57,slow=5.3,SNR=19						
	comp=Z,33nm,1.0s						
HFS	**Hagfors**	**74.58**	**336**	P	**P**	**17 22 31.0**	**+0.7**
UMZA	**Um Al Zommool**	**74.60**	**287**	P	**P**	**17 22 30.5**	**-0.4**
UMZA				P	**P**	**17 22 30.5**	**-0.4**
NC204	**NORSAR Array S**	**74.61**	**338**	IAmb	IAmb	17 23 11.5	
	comp=Z,98nm,1.3s						
NB201	**NORSAR Array S**	**74.63**	**338**	IAmb	IAmb	17 23 07.4	
	comp=Z,119nm,1.5s						
NB2	**NORSAR Subarra**	**74.66**	**338**	P	**P**	**17 22 30.9**	**+0.1**
	comp=Z,832nm,5.0s,baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**74.66**	**338**	P	**P**	**17 22 30.9**	**+0.1**
	baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**74.66**	**338**	P	**P**	**17 22 28.7**	**-2.1**
NOA	**NORSAR Array B**	**74.66**	**338**	P	**P**	**17 22 31.1**	**+0.3**
	comp=Z,30nm,1.1s,baz=39,slow=5.8,SNR=38						
NOA				LR	LR	17 59 09.7	
	comp=Z,7µm,19.3s,baz=285,slow=39						
	comp=Z,30nm,1.1s						
NC602	**NORSAR Array S**	**74.80**	**337**	*e*P	**P**	**17 22 31.9**	**+0.4**
NC602				IVmB_BB		17 22 39.8	
	comp=Z,2µm,4.2s						
NC602				*e*S	**S**	**17 32 08.3**	**+0.6**
NC602				IVMs_BB	IVMs_BB	17 58 41.8	
	comp=Z,5µm,20.7s						
AK03	**Malin Array Si**	**74.90**	**323**	P	**P**	**17 22 32.4**	**+0.2**
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**17 22 32.0**	**-0.3**
AKASG				IAmb	IAmb	17 22 34.0	
	comp=Z,100nm,1.1s						
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**17 22 32.3**	**0.0**
	comp=Z,61nm,1.0s,baz=45,slow=6.1,SNR=123						
AKASG				PP	**PP**	**17 25 14.6**	**-4.7**
	comp=Z,6.0nm,1.0s,baz=45,slow=8.5,SNR=4.2						
AKASG				LR	LR	17 57 17.7	
	comp=Z,4µm,21.3s,baz=46,slow=37						
	comp=Z,61nm,1.0s						
AKASG	**Malin Array Be**	**74.91**	**323**	*i* P	**P**	**17 22 32.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,60nm,1.0s						
AKBB	**Malin Array Si**	**74.91**	**323**	IAmb	IAmb	17 22 34.0	
	comp=Z,107nm,1.1s						
AKBB	**Malin Array Si**	**74.91**	**323**	*i* P	**P**	**17 22 32.2**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,127nm,1.1s						
AKBB	**Malin Array Si**	**74.91**	**323**	P	**P**	**17 22 32.4**	**+0.1**
KIEV	**Kiev**	**74.92**	**323**	P	**P**	**17 22 32.0**	**-0.4**
KIEV				IAmb	IAmb	17 22 34.0	
	comp=Z,105nm,1.1s						
KIEV	**Kiev**	**74.92**	**323**	⇑P	**P**	**17 22 32.4**	**0.0**
KIEV	**Kiev**	**74.92**	**323**	P	**P**	**17 22 32.0**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,105nm,1.1s						
KIEV				pmax	pmax		
	comp=Z,6µm,18.0s						
KIEV	**Kiev**	**74.92**	**323**	*i* P	**P**	**17 22 32.4**	**0.0**
	SNR=53						
KIEV	**Kiev**	**74.92**	**323**	P	**P**	**17 22 32.4**	**0.0**
	comp=Z,7µmcomp=Z,396nm,1.3s						
AKN	**Aaknes**	**74.97**	**340**	*e*P	**P**	**17 22 33.5**	**+1.0**
AKN				IVmB_BB		17 22 36.5	
	comp=Z,2µm,3.1s						
AKN				*e*S	**S**	**17 32 12.7**	**+3.1**
AKN				IVMs_BB	IVMs_BB	17 59 08.6	
	comp=Z,4µm,7.0s						
AK12	**Malin Array Si**	**74.98**	**323**	P	**P**	**17 22 32.8**	**+0.1**
MZWR	**Madinat Zayed**	**75.00**	**289**	P	**P**	**17 22 32.3**	**-1.0**
MZWR				P	**P**	**17 22 32.3**	**-1.0**
AK19	**Malin Array Si**	**75.00**	**323**	P	**P**	**17 22 33.0**	**+0.2**
Q09A	**Carvers**	**75.01**	**53**	IAmb	IAmb	17 22 35.9	
	comp=Z,102nm,1.4s						
GURO	**Guroymak-BITLI**	**75.06**	**307**	IAmb	IAmb	17 22 36.3	
	comp=Z,98nm,1.3s						
YHL	**Hebgen Lake**	**75.08**	**45**	IAmb	IAmb	17 22 36.5	
	comp=Z,70nm,1.4s						
JRN	**Qarnain Island**	**75.12**	**290**	P	**P**	**17 22 33.0**	**-1.0**
JRN				P	**P**	**17 22 33.0**	**-1.0**
YHB	**Horse Butte**	**75.13**	**45**	IAmb	IAmb	17 22 42.3	
	comp=Z,56nm,1.1s						
KOPT	**Kop Dagi**	**75.18**	**309**	IAmb	IAmb	17 22 37.5	
	comp=Z,84nm,1.2s						
YMR	**Madison River**	**75.31**	**45**	IAmb	IAmb	17 22 43.6	
	comp=Z,78nm,1.2s						
YNR	**Norris Junctio**	**75.44**	**45**	IAmb	IAmb	17 22 48.0	
	comp=Z,101nm,1.5s						
SUW	**Suwalki**	**75.46**	**328**	*e*P	**P**	**17 22 35.8**	**+0.4**
SUW				*e*L	L	18 20 59.5	
	comp=Z,10µm,24.2s						
SUW	**Suwalki**	**75.46**	**328**	*e*P	**P**	**17 22 36.4**	**+1.0**
MI28	**Mi28,Pidlybu**	**75.51**	**324**	P	**P**	**17 22 36.2**	**+0.4**
YFT	**Old Faithful**	**75.52**	**45**	IAMs_20	IAMs_20	18 01 19.3	
	comp=Z,3µm,19.0s						
GHWR	**Ruwais**	**75.64**	**289**	P	**P**	**17 22 35.3**	**-1.7**
GHWR				P	**P**	**17 22 35.3**	**-1.7**
OSL	**Oslo**	**75.68**	**337**	*e*P	**P**	**17 22 37.2**	**+0.7**
OSL				*e*S	**

SAKB	Bahrain	76.27	292	P	P	17 22 39.8	-0.7
R11B	Troy Canyon, C	76.31	52	IAmb	IAmb	17 22 43.4	
	comp=Z,90nm,1.5s						
BGU	Big Grassy Mou	76.36	49	IAmb	IAmb	17 22 43.9	
	comp=Z,97nm,1.8s						
AHID	Auburn Hatcher	76.39	47	IAmb	IAmb	17 22 43.7	
	comp=Z,77nm,1.6s						
TRNA	Turayna	76.47	291	P	P	17 22 39.8	-1.9
SLWR	Sila	76.48	290	P	P	17 22 40.9	-0.9
SLWR				P	P	17 22 40.9	-0.9
DGMT	Dagmar	76.54	39	IAMs_20	IAMs_20	18 02 51.1	
	comp=Z,3μm,18.0s						
DGMT	Dagmar	76.54	39	IAmb	IAmb	17 22 49.3	
	comp=Z,104nm,1.2s						
KBD	Kabd	76.55	296	P	P	17 22 41.8	-0.3
WCT	Wildcat Mounta	76.55	54	IAMs_20	IAMs_20	17 48 49.4	
	comp=Z,2μm,20.0s						
CCAC	Calif City Air	76.59	56	IAmb	IAmb	17 22 48.9	
	comp=Z,48nm,1.1s						
CCAC				IAMs_20	IAMs_20	17 48 30.6	
	comp=Z,3μm,21.0s						
S11A	Rachel	76.62	53	IAMs_20	IAMs_20	17 51 17.1	
	comp=Z,2μm,20.0s						
LAO	LASA Array	76.65	41	IAmb	IAmb	17 22 49.4	
	comp=Z,109nm,1.2s						
LAO				IAMs_20	IAMs_20	17 54 02.1	
	comp=Z,2μm,21.0s						
SNCC	San Nicolas Is	76.68	58	IAMs_20	IAMs_20	17 51 42.0	
	comp=Z,4μm,21.0s						
TPNV	Topopah Spring	76.70	54	IAmb	IAmb	17 22 45.5	
	comp=Z,114nm,1.6s						
SPR3	Spring Creek 3	76.71	51	IAmb	IAmb	17 22 46.4	
	comp=Z,110nm,1.6s						
SMRA	Abu-Samra	76.75	291	P	P	17 22 41.8	-1.5
	SNR=6.1						
BORU	Boraas	76.81	335	*i* P	P	17 22 42.4	-0.6
HWUT	Hardware Ranch	76.83	48	IAmb	IAmb	17 22 51.5	
	comp=Z,116nm,1.4s						
GWY	Greenwater Val	76.88	55	IAmb	IAmb	17 22 46.3	
	comp=Z,97nm,1.5s						
TJOU	Tjoern	76.89	336	*i* P	P	17 22 43.1	-0.4
DUG	Dugway, Tooele	76.93	49	IAmb	IAmb	17 22 47.0	
	comp=Z,84nm,1.4s						
SORM	Soroca	77.02	321	⇓P	P	17 22 44.9	+0.5
SORM	Soroca	77.02	321	P	P	17 22 44.3	-0.1
SORM	Soroca	77.02	321	P	P	17 22 44.3	-0.1
	comp=Z,2μmcomp=Z,108nm,1.1s						
PASC	Pasadena Art C	77.05	57	IAMs_20	IAMs_20	17 48 37.8	
	comp=Z,4μm,22.0s						
PRN	Pahroc Range	77.20	53	IAmb	IAmb	17 22 56.4	
	comp=Z,64nm,1.3s						
PRN				IAMs_20	IAMs_20	17 51 39.6	
	comp=Z,2μm,20.0s						
NDNU	Novodnistrovsk	77.21	322	P	P	17 22 46.0	+0.6
TCUT	Toone Canyon	77.22	48	IAmb	IAmb	17 22 56.1	
	comp=Z,127nm,1.4s						
HORU	Horodok	77.25	323	P	P	17 22 46.2	+0.5
PD31	Pinedale Array	77.28	46	IAmb	IAmb	17 22 48.3	
	comp=Z,90nm,1.8s						
PDAR	Pinedale Array	77.28	46	P	P	17 22 46.5	+0.1
PDAR	Pinedale Array	77.28	46	P	P	17 22 46.9	+0.5
	comp=Z,4.8nm,0.7s,baz=271,slow=1.9,SNR=47						
	comp=Z,4.8nm,0.7s						
ONAU	Onsala	77.28	335	*i* P	P	17 22 45.4	-0.3
PSUT	Pine Spring	77.29	51	IAmb	IAmb	17 22 48.9	
	comp=Z,73nm,1.4s						
OUZ	Omahuta	77.35	154	IAMs_20	IAMs_20	17 56 50.8	
	comp=Z,2μm,19.0s						
BLS5	Blasjo	77.38	339	*e*P	P	17 22 47.4	+1.1
BLS5				IVmB_BB		17 22 51.3	
	comp=Z,3μm,4.8s						
BLS5				*e*S	S	17 32 38.9	+2.7
BLS5				IVMs_BB	IVMs_BB	17 59 11.2	
	comp=Z,4μm,17.0s						
TOKA	Tokat	77.47	311	IAmb	IAmb	17 22 49.8	
	comp=Z,127nm,1.4s						
TOKA				IAMs_20	IAMs_20	18 01 51.2	
	comp=Z,3μm,20.0s						
KIS	Kishinev	77.53	320	*e*P	P	17 22 47.0	-0.3
KIS	Kishinev	77.53	320	*e*PcP	PcP	17 22 58.0	+0.4
KIS				*e*S	S	17 32 36.0	-2.2
KIS				*e*L	L	17 53 43.0	
KIS				LRM	MLR	17 59 54.0	
	comp=Z,3μm,16.0s						
KIS	Kishinev	77.53	320	*e*P	P	17 22 47.0	-0.3
KIS				*e*		17 22 58.0	
KIS				*e*S	S	17 32 36.0	-2.2
KIS				*e*		17 32 52.0	
DMTO	DMTO	77.56	283	P	P	17 22 47.1	-0.9
	SNR=6.5						
DMTO				P	P	17 22 47.1	-0.9
	SNR=6.5						
MILM	Milestii Mici	77.59	320	⇑*i*P	P	17 22 47.0	-0.6
	comp=Z,520nm,3.2s						
MILM	Milestii Mici	77.59	320	*i* PcP	PcP	17 22 58.0	+0.2
MILM	Milestii Mici	77.59	320	*i* PP	PP	17 25 40.0	-1.9
MILM				*i* S	S	17 32 37.0	-1.7
MILM				*e*SS	SS	17 37 32.0	-5.1
MILM				*e*L	L	17 49 55.0	
MILM				LRM	MLR	17 59 57.0	
	comp=Z,7μm,15.0s						
MILM	Milestii Mici	77.59	320	⇓P	P	17 22 47.9	+0.3
MILM	Milestii Mici	77.59	320	*c i*P	P	17 22 47.0	-0.6
MILM				*i*		17 22 58.0	
MILM				*i*		17 25 40.0	
MILM				*i* S	S	17 32 37.0	-1.7
MILM				pmax	pmax		
	comp=Z,520nm,3.2s						
MILM				MLR	MLR		
	comp=Z,11μm,15.0s						
R9F13	Warsaw-Wawer	77.60	327	*e*P	P	17 22 48.9	+1.4
DOK	Doka	77.69	284	P	P	17 22 47.7	-0.9
	SNR=16						
DOK				P	P	17 22 47.7	-0.9
	SNR=16						
MPU	Maple Canyon	77.76	49	IAmb	IAmb	17 22 51.6	
	comp=Z,121nm,1.6s						
ELS	Elsinore Mount	77.87	57	IAmb	IAmb	17 22 51.7	
	comp=Z,99nm,1.8s						
ELS				IAMs_20	IAMs_20	17 54 15.4	
	comp=Z,3μm,19.0s						
BJUU	Bjuv	77.93	334	*i* P	P	17 22 48.8	-0.5
BSD	Bornholm Skovb	77.98	332	*e*P	P	17 22 50.9	+1.3
BEL	Belsk	78.02	327	*e*P	P	17 22 51.0	+1.1
BEL				*e*L	L	18 22 05.4	
	comp=Z,21μm,22.6s						
SNART	Snartemo	78.05	338	*i* P	P	17 22 51.2	+1.3
TCRU	Three Creeks R	78.12	51	IAmb	IAmb	17 23 03.0	
	comp=Z,82nm,1.3s						
LUNU	Lund	78.12	333	*i* P	P	17 22 49.5	-0.9
RBK	Rabkut	78.27	283	P	P	17 22 50.7	-1.2
	SNR=7.7						
RBK				P	P	17 22 50.7	-1.2
	SNR=7.7						
V12A	Nelson	78.34	54	IAmb	IAmb	17 22 54.8	
	comp=Z,74nm,1.6s						
WHFO	Wadi Hawf	78.37	284	P	P	17 22 51.0	-1.5
	SNR=7.5						
WHFO				P	P	17 22 51.0	-1.5
	SNR=7.5						
TMUT	Trail Mountain	78.46	49	IAmb	IAmb	17 22 55.7	
	comp=Z,84nm,1.6s						
GKP	Gorka Klasztor	78.46	330	*e*P	P	17 22 53.0	+0.7
GKP	Gorka Klasztor	78.46	330	*e*P	P	17 22 53.9	+1.6
STNU	Staruniа	78.53	323	P	P	17 22 53.4	+0.6
PFO	Pinyon Flats O	78.54	57	P	P	17 22 53.5	+0.2
PFO	Pinyon Flats O	78.54	57	IAMs_20	IAMs_20	17 50 29.3	
	comp=Z,3μm,20.0s						
PFO	Pinyon Flats O	78.54	57	LR	LR	17 50 09.9	
	comp=Z,3μm,21.9s,baz=304,slow=30						
PFO	Pinyon Flats O	78.54	57	P	P	17 22 53.5	+0.2
PFO				pmax	pmax		
	comp=Z,48nm,1.4s						
PFO				pmax	pmax		
	comp=Z,3μm,20.0s						
LCMT	Little Creek M	78.59	52	IAmb	IAmb	17 23 00.7	
	comp=Z,62nm,1.2s						
MTPU	Mount Pierson	78.63	51	IAmb	IAmb	17 22 57.2	
	comp=Z,108nm,1.6s						
VLDR	Vladesti	78.68	319	⇓P	P	17 22 55.1	+1.4
Q16A	Castle Valley	78.72	50	IAmb	IAmb	17 22 57.2	
	comp=Z,151nm,1.5s						
P18A	Preston Nutter	78.84	49	IAmb	IAmb	17 22 57.9	
	comp=Z,97nm,1.5s						
KNB	Kanab	78.86	52	IAmb	IAmb	17 22 58.1	
	comp=Z,154nm,1.4s						
PKCU	Pink Cliffs	78.92	51	IAmb	IAmb	17 23 16.5	
	comp=Z,143nm,1.7s						
BURAR	Bucovina Array	78.93	322	⇑P	P	17 22 55.9	+0.7
BURAR	Bucovina Array	78.93	322	P	P	17 22 55.9	+0.7
MUD	Monsted U'grnd	78.95	336	*i* P	P	17 22 55.0	+0.1
MUD				IAmb	IAmb	17 22 58.6	
	comp=Z,46nm,1.1s						
TESR	Tescani	78.97	321	⇑P	P	17 22 55.7	+0.4
TESR	Tescani	78.97	321	P	P	17 22 56.2	+0.9
	comp=Z,102nm,1.6s						
NEGRR	Negrea	78.99	319	⇓P	P	17 22 56.9	+1.5
SRU	San Rafael Swe	78.99	49	IAmb	IAmb	17 23 02.5	
	comp=Z,65nm,1.1s						
IZVR	Izvoarele	79.04	319	⇓P	P	17 22 57.3	+1.6
TKX	Tecate	79.06	58	IAMs_20	IAMs_20	17 53 04.0	
	comp=Z,2μm,19.0s						
ABTO	Aybut	79.06	283	P	P	17 22 55.2	-1.2
ABTO	SNR=12			P	P	17 22 55.2	-1.2
	SNR=12						
COSR	Cosmesti PH	79.07	320	⇑P	P	17 22 57.4	+1.6
K22A	Casper	79.08	44	IAmb	IAmb	17 23 03.9	
	comp=Z,84nm,1.3s						
CFR	Carcaliu	79.09	319	⇑P	P	17 22 56.3	+0.4
CFR	Carcaliu	79.09	319	P	P	17 22 56.3	+0.4
PANC	Panciu	79.14	320	⇓P	P	17 22 58.1	+1.9
TPGR	Topolog	79.16	319	⇓P	P	17 22 57.4	+1.1
RAKU	Rahkiv	79.16	323	P	P	17 22 56.7	+0.4
CBX	Cerro Bola	79.17	58	IAMs_20	IAMs_20	17 52 24.1	
	comp=Z,2μm,19.0s						
MDND	Maddock	79.23	37	IAmb	IAmb	17 22 59.6	
	comp=Z,156nm,1.4s						
MDND				IAMs_20	IAMs_20	18 03 37.2	
	comp=Z,2μm,18.0s						
ODBI	Odobesti	79.26	320	⇓P	P	17 22 59.5	+2.6
ODBI	Odobesti	79.26	320	P	P	17 22 58.5	+1.6
	comp=Z,586nmcomp=Z,70nm,1.1s						
ULM	Lac du Bonnet	79.27	34	IAmb	IAmb	17 22 58.2	
	comp=Z,98nm,1.8s						
ULM	Lac du Bonnet	79.27	34	P	P	17 22 57.9	+1.1
	comp=Z,6.1nm,0.9s,baz=306,slow=5.8,SNR=16						
	comp=Z,6.1nm,0.9s						
VRI	Vrincioaia	79.36	320	⇑P	P	17 22 59.5	+2.1
VRI	Vrincioaia	79.36	320	P	P	17 22 58.6	+1.1
VRI	Vrincioaia	79.36	320	P	P	17 22 58.6	+1.1
	comp=Z,2μmcomp=Z,79nm,1.5s						
PLOR5	Plostina Array	79.41	320	P	P	17 22 58.7	+0.9
	comp=Z,2μmcomp=Z,64nm,2.1s						
PLOR	Plostina	79.41	320	⇓P	P	17 22 58.9	+1.1
PLOR	Plostina	79.41	320	P	P	17 22 58.8	+1.1
PLOR3	Plostina Array	79.41	320	P	P	17 22 58.4	+0.6
KOLS	Kolonicke sedl	79.42	325	*e*P	P	17 22 58.5	+0.8
KOLS				pmax	pmax		
	comp=Z,54nm,1.1s						
KOLS	Kolonicke sedl	79.42	325	*e*P	P	17 22 58.5	+0.8
KOLS				*e*PP	PP	17 26 01.1	+3.9
TIRR	Tirgusor	79.42	318	IAmb	IAmb	17 23 10.3	
	comp=Z,178nm,1.9s						
CCX	Cicese	79.44	58	IAMs_20	IAMs_20	17 52 47.1	
	comp=Z,3μm,20.0s						
RAR	Rarotonga	79.44	126	LR	LR	17 54 15.1	
	comp=Z,3μm,19.3s,baz=307,slow=33						
KUZ	Kuaotunu	79.47	153	P	P	17 22 58.7	+0.8
YUH	Yuha Desert	79.47	57	IAMs_20	IAMs_20	17 53 34.0	
	comp=Z,2μm,19.0s						
HARR	Harsova	79.53	319	⇑P	P	17 22 59.7	+1.3
HARR	Harsova	79.53	319	P	P	17 22 59.6	+1.3
BR131	Keskin Array S	79.54	312	IAmb	IAmb	17 23 00.9	
	comp=Z,87nm,1.2s						
BRTR	Keskin Array B	79.54	312	P	P	17 22 58.9	+0.2
BRTR	Keskin Array B	79.54	312	P	P	17 22 59.7	+1.0
	comp=Z,44nm,1.1s,baz=99,slow=4.5,SNR=99						
BRTR				PP	PP	17 25 54.9	-3.8
	comp=Z,11nm,1.1s,baz=100,slow=5.1,SNR=4.6						
BRTR				LR	LR	18 04 26.0	
	comp=Z,3μm,18.0s,baz=48,slow=40						
	comp=Z,44nm,1.1s						
BRTR	Keskin Array B	79.54	312	*i* P	P	17 22 59.2	+0.5
BRTR				pmax	pmax		
	comp=Z,47nm,1.1s						
U15A	North Rim	79.56	52	IAmb	IAmb	17 23 02.0	
	comp=Z,120nm,1.6s						
E28A	Huff	79.57	39	IAmb	IAmb	17 23 11.4	
	comp=Z,144nm,1.6s						
E28A				IAMs_20	IAMs_20	17 58 56.3	
	comp=Z,2μm,20.0s						
BISRR	Bisoca	79.59	320	⇓P	P	17 23 00.3	+1.5
OJC	Ojcow	79.62	327	*e*P	P	17 22 59.7	+0.9
COVR	Voineasa-Covas	79.65	320	⇓P	P	17 23 00.5	+1.4
OZUR		79.69	321	⇓P	P	17 23 00.4	+1.1
BMR	Baia Mare	79.73	323	⇑P	P	17 23 00.7	+1.3
BMR	Baia Mare	79.73	323	P	P	17 23 00.7	+1.3
BLYC	Blythe	79.74	56	IAMs_20	IAMs_20	17 51 04.0	
	comp=Z,3μm,21.0s						
KIRS	Kirsehir-Merke	79.75	311	⇑P	P	17 23 00.6	+0.8
ESJX	Sierra Juarez	79.84	58	IAmb	IAmb	17 23 25.0	
	comp=Z,92nm,1.5s						
ESJX				IAMs_20	IAMs_20	17 53 32.8	
	comp=Z,3μm,19.0s						
NEHR	Nehoiu	79.88	320	⇑P	P	17 23 02.6	+2.3
ANTO	Ankara	79.95	313	P	P	17 23 01.1	+0.2
ANTO				IAmb	IAmb	17 23 03.3	
	comp=Z,98nm,1.1s						
ANTO	Ankara	79.95	313	IAMs_20	IAMs_20	18 04 21.0	
	comp=Z,2μm,19.0s						
ANTO	Ankara	79.95	313	P	P	17 23 01.4	+0.6
ANTO				P	P	17 23 01.4	+0.6
ANTO	Ankara	79.95	313	⇑P	P	17 23 01.7	+0.8
ANTO	Ankara	79.95	313	P	P	17 23 01.1	+0.2
ANTO				pmax	pmax		
	comp=Z,98nm,1.2s						
ANTO				pmax	pmax		
	comp=Z,2μm,19.0s						
ISR	Istrita	79.97	320	⇑P	P	17 23 03.0	+2.1
ISR	Istrita	79.97	320	P	P	17 23 02.3	+1.5
GLA	Glamis	79.97	56	IAMs_20	IAMs_20	17 50 43.0	
	comp=Z,3μm,21.0s						
DOPR	Dopca	79.98	321	⇑P	P	17 23 02.6	+1.8
NIE	Niedzica	79.98	326	*e*P	P	17 23 02.1	+1.3
MLR	Muntele Rosu	80.02	320	IAmb	IAmb	17 23 39.9	
	comp=Z,114nm,1.6s						
MLR	Muntele Rosu	80.02	320	⇑P	P	17 23 03.0	+1.7
MLR	Muntele Rosu	80.02	320	P	P	17 23 02.9	+1.7
CPBX	Cerro Prieto	80.03	57	IAMs_20	IAMs_20	17 53 23.6	
	comp=Z,2μm,21.0s						
PSN	Preselentsi	80.12	318	P	P	17 23 02.6	+1.0
TOZ	Tahuroa Road	80.28	154	IAMs_20	IAMs_20	17 54 10.3	
	comp=Z,3μm,19.0s						
VTX	Valle De La Tr	80.32	58	IAMs_20	IAMs_20	17 53 03.6	
	comp=Z,3μm,19.0s						
CBBR	Cluj-Babes-Bol	80.34	322	⇑P	P	17 23 04.5	+1.8
CJR	Cluj-Napoca	80.35	322	⇑P	P	17 23 04.3	+1.5
CJR	Cluj-Napoca	80.35	322	P	P	17 23 04.3	+1.5
MESR	Meseseni	80.36	323	⇑P	P	17 23 05.3	+2.4
RUE	Ruedersdorf	80.43	331	*e*P	P	17 23 04.4	+1.4
VOIR		80.52	321	⇑P	P	17 23 04.4	+0.6
VOIR		80.52	321	P	P	17 23 04.4	+0.6
LANS	Liptovska Anna	80.55	326	*e*P	P	17 23 05.4	+1.5
LANS				pmax	pmax		
	comp=Z,45nm,1.2s						
LANS	Liptovska Anna	80.55	326	*e*P	P	17 23 05.4	+1.5
LANS				*e*PP	PP	17 26 09.2	+2.6
PV07	Paradox Valley	80.55	49	IAmb	IAmb	17 23 06.8	
	comp=Z,91nm,1.5s						
KECS	Kecovo	80.57	325	*e*P	P	17 23 05.4	+1.5
KECS				pmax	pmax		
	comp=Z,44nm,1.1s						
KECS	Kecovo	80.57	325	*e*P	P	17 23 05.4	+1.5
PV13	Radium Mtn., P	80.62	49	IAmb	IAmb	17 23 07.2	
	comp=Z,135nm,1.2s						
OKC	Ostrava-Krasne	80.63	327	*e*P	P	17 23 05.9	+1.7
OKC				*e*SKS	S	17 33 11.7	+0.6
OKC				AMS	AMS	18 02 00.0	
	comp=Z,9μm,16.0s						
OKC	Ostrava-Krasne	80.63	327	*e*P	P	17 23 05.9	+1.7
OKC				*e*		17 33 11.7	
OKC				MLR	MLR		
	comp=Z,9μm,16.0s						
KSP	Ksiaz	80.67	329	*e*P	P	17 23 05.3	+0.9
KSP				*e*L	L	18 22 20.9	
	comp=Z,21μm,18.6s						
AGMN	Agassiz Nation	80.68	35	IAMs_20	IAMs_20	17 58 28.5	
	comp=Z,2μm,20.0s						
WUAZ	Wupatki	80.70	53	IAmb	IAmb	17 23 14.2	
	comp=Z,94nm,1.4s						
PV15	Paradox Valley	80.71	49	IAmb	IAmb	17 23 07.8	
	comp=Z,151nm,1.8s						
STEB	Steborice	80.72	327	*e*P	P	17 23 05.9	+1.2
DRGR		80.73	323	⇑P	P	17 23 05.7	+0.8
DRGR		80.73	323	P	P	17 23 05.7	+0.8
ARR	Arges	80.78	321	⇓P	P	17 23 06.7	+1.6
PRD	Provadia	80.83	318	P	P	17 23 06.2	+0.8
113A	Mohawk Valley,	80.84	56	IAMs_20	IAMs_20	17 51 21.2	
	comp=Z,3μm,21.0s						
OSTC	Ostas	80.92	329	*e*P	P	17 23 06.8	+1.0
OSTC				*e*SKS	S	17 33 15.2	+1.1
OSTC				AMS	AMS	18 01 50.0	
	comp=Z,8μm,18.0s						
OSTC	Ostas	80.92	329	*e*P	P	17 23 06.8	+1.0
OSTC				*e*		17 33 15.2	
OSTC				MLR	MLR		
	comp=Z,8μm,18.0s						
MORC	Moravsky Berou	80.94	327	IAmb	IAmb	17 23 08.9	
	comp=Z,70nm,1.1s						
MORC	Moravsky Berou	80.94	327	*e*P	P	17 23 06.8	+0.9
MORC	Moravsky Berou	80.94	327	⇓P	P	17 23 07.3	+1.3
MORC	Moravsky Berou	80.94	327	P	P	17 23 07.2	+1.3
CHVC	Chvalec	80.96	329	*e*P	P	17 23 07.1	+1.1
CHVC				AMS	AMS	18 02 00.0	
	comp=Z,8μm,16.0s						
CHVC	Chvalec	80.96	329	*e*P	P	17 23 07.1	+1.1
CHVC				MLR	MLR		
	comp=Z,8μm,16.0s						
BORR	Bors	80.97	323	⇑P	P	17 23 07.5	+1.5
DPC	Dobruska-Polom	81.03	328	*e*P	P	17 23 07.8	+1.4
DPC				AMS	AMS	18 03 20.0	
	comp=Z,8μm,13.6s						
DPC	Dobruska-Polom	81.03	328	*e*P	P	17 23 07.8	+1.4
DPC				MLR	MLR		
	comp=Z,8μm,13.6s						
UPC	Upice	81.04	329	*e*P	P	17 23 07.6	+1.2
UPC				AMS	AMS	18 02 00.0	
	comp=Z,8μm,16.8s						
UPC	Upice	81.04	329	*e*P	P	17 23 07.6	+1.2
UPC				MLR	MLR		
	comp=Z,8μm,16.8s						
KRLC	Kraliky	81.04	328	*e*P	P	17 23 07.5	+1.0
KRLC	Kraliky	81.04	328	*e*P	P	17 23 07.5	+1.0
MAUC	Maruska	81.12	327	*e*P	P	17 23 08.7	+1.8
MXZ	Matakaoa Point	81.15	152	IAMs_20	IAMs_20	18 04 07.5	
	comp=Z,2μm,20.0s						
SFX	San Felipe	81.17	58	IAMs_20	IAMs_20	17 54 12.0	
	comp=Z,3μm,20.0s						
PSZ	Piszkesteto	81.25	325	IAmb	IAmb	17 23 10.9	
	comp=Z,115nm,1.1s						
PSZ	Piszkesteto	81.25	325	⇓P	P	17 23 09.3	+1.6
PSZ	Piszkesteto	81.25	325	P	P	17 23 08.9	+1.2
PSZ	Piszkesteto	81.25	325	*e*P	P	17 23 09.1	+1.4
DEV	Deva	81.28	322	⇑P	P	17 23 08.9	+1.1
DEV	Deva	81.28	322	P	P	17 23 08.8	+1.1
BORA	Eskisehir	81.31	314	IAmb	IAmb	17 23 10.1	
	comp=Z,90nm,1.3s						
BORA				IAMs_20	IAMs_20	18 03 46.0	
	comp=Z,4μm,20.0s						
VYHS	Vyhne	81.31	326	*e*P	P	17 23 09.0	+1.1
VYHS				*e*		17 23 19.5	
VYHS				*e*		17 26 15.5	
VYHS				pmax	pmax		
	comp=Z,65nm,1.2s						
VYHS	Vyhne	81.31	326	*e*P	P	17 23 09.0	+1.1
VYHS				*e*		17 23 19.5	
VYHS				*e*PP	PP	17 26 15.5	+2.6
URZ	Urewera	81.32	153	LR	LR	17 54 57.6	
	comp=Z,2μm,20.8s,baz=56,slow=33						
X16A	Lo Mia Camp, P	81.35	53	IAMs_20	IAMs_20	18 01 55.3	
	comp=Z,2μm,18.0s						
RAYN	Ar Rayn	81.42	293	P	P	17 23 08.9	-0.1
RAYN	Ar Rayn	81.42	293	P	P	17 23 09.4	+0.5
RAYN	Ar Rayn	81.42	293	*i* P	P	17 23 09.4	+0.5
	SNR=12						
MVCO	Mesa Verde	81.43	50	IAmb	IAmb	17 23 11.5	
	comp=Z,96nm,1.4s						
ISCO	Idaho Springs	81.47	46	IAmb	IAmb	17 23 12.1	
	comp=Z,84nm,1.7s						
SZH	Strazhitsa	81.53	319	P	P	17 23 09.5	+0.4
JAVC	Velka Javorina	81.56	327	*e*P	P	17 23 11.0	+1.7
RTZ	Ruatahuna	81.59	153	IAmb	IAmb	17 23 14.3	
	comp=Z,72nm,1.2s						
RTZ				IAMs_20	IAMs_20	17 54 35.1	
	comp=Z,2μm,21.0s						
BRG	Berggiesshubel	81.61	330	*i* P	P	17 23 10.1	+0.7
BRG				Amp		17 23 11.6	
	comp=Z,30nm,1.0s						
BRG	Berggiesshubel	81.61	330	Amp		17 26 17.4	
	comp=Z,18nm,1.2s						
BRG	Berggiesshubel	81.61	330	SKS	S	17 33 21.0	-0.2
BRG	Berggiesshubel	81.61	330	SS	SS	17 38 43.0	+6.0
BRG	Berggiesshubel	81.61	330	P	P	17 23 20.9	+11
BRG	Berggiesshubel	81.61	330	P	P	17 23 41.1	+32
BRG	Berggiesshubel	81.61	330	PP	PP	17 26 15.6	+0.4
SIRR	Siria	81.61	323	⇓P	P	17 23 11.0	+1.4
PVCC	Panska Ves	81.62	329	AMS	AMS	18 03 20.0	
	comp=Z,7μm,14.2s						
CLL	Collm	81.64	331	IAmb	IAmb	17 23 11.4	
	comp=Z,67nm,1.1s						
CLL	Collm	81.64	331	⇑*i*P	P	17 23 09.7	+0.1
CLL				*e*S	S	17 33 23.0	+1.4
CLL				pmax	pmax		
	comp=Z,73nm,1.1s						
CLL	Collm	81.64	331	⇑*i*P	P	17 23 09.7	+0.1
	comp=Z,73nm,1.1s						
CLL				*e*x	x	17 23 20.0	
CLL				*e*PP	PP	17 26 18.0	+2.5
CLL				*e*S	S	17 33 23.0	+1.4
CLL				*e*SS	SS	17 38 36.0	-1.5
CLL				*e*SSSS		17 44 48.0	
BRIGG	Briggsdale	81.69	45	IAmb	IAmb	17 23 14.9	
	comp=

MODS **Modra-Piesok** 82.10 327 *e*P P 17 23 13.6 +1.5
MODS *e* 17 23 24.2
MODS *e*PP PP 17 26 20.7 +1.3
BZS **Buzias** 82.10 322 ⇑P P 17 23 12.4 +0.3
BZS **Buzias** 82.10 322 P P 17 23 12.4 +0.3
TREC **Trest** 82.18 328 *e*P P 17 23 13.8 +1.3
TREC AMS AMS 18 04 50.0
comp=Z,7μm,16.3s
TREC **Trest** 82.18 328 *e*P P 17 23 13.8 +1.3
TREC MLR MLR
comp=Z,7μm,16.3s
HERR **Herculane** 82.23 322 ⇓P P 17 23 13.4 +0.6
ASF **Jabal al Asfar** 82.24 304 LR LR 18 03 34.6
comp=Z,3μm,19.5s,baz=74,slow=38
F33A **5 Mile Ranch,** 82.26 37 IAmb IAmb 17 23 14.6
comp=Z,125nm,1.7s
F33A IAMs_20 IAMs_20 17 57 32.2
comp=Z,2μm,20.0s
BAND **Balkesir-Ban** 82.34 315 ⇓P P 17 23 14.2 +0.7
VALD **Valchedram** 82.56 320 P P 17 23 15.5 +1.0
ZVC **Zvikov** 82.61 329 *e*P P 17 23 15.5 +0.8
ISP **Isparta** 82.63 312 IAmb IAmb 17 23 18.2
comp=Z,40nm,0.9s
ISP IAMs_20 IAMs_20 18 06 39.7
comp=Z,3μm,18.0s
MPEP **Malo Peshtene** 82.64 320 P P 17 23 15.9 +0.9
MDVR **Moldovita** 82.65 322 ⇑P P 17 23 15.5 +0.4
MMAI **Mount Meron Ar** 82.69 306 P P 17 23 16.3 +0.8
comp=Z,139nm,1.2s,baz=46,slow=4.8,SNR=49
MMAI LR LR 18 04 14.5
comp=Z,4μm,18.3s,baz=31,slow=39
comp=Z,139nm,1.2s
DSZ **Denniston Nort** 82.71 158 IAMs_20 IAMs_20 17 54 25.6
comp=Z,3μm,22.0s
OGNE **Ogallala** 82.72 44 IAMs_20 IAMs_20 18 06 11.0
comp=Z,2μm,19.0s
CSS **Mathiatis** 82.77 308 IAmb IAmb 17 23 17.8
comp=Z,98nm,1.2s
CSS IAMs_20 IAMs_20 18 04 05.9
comp=Z,3μm,20.0s
K30B **Basset** 82.83 41 IAMs_20 IAMs_20 18 07 15.7
comp=Z,2μm,18.0s
SDCO **Great Sand Dun** 82.89 48 IAmb IAmb 17 23 19.4
comp=Z,72nm,1.6s
EYMN **Ely** 82.91 33 IAMs_20 IAMs_20 18 04 59.3
comp=Z,2μm,19.0s
EYMN **Ely** 82.91 33 IAmb IAmb 17 23 17.8
comp=Z,75nm,1.6s
MRZ **Mangatainoka R** 82.92 155 IAMs_20 IAMs_20 17 53 37.3
comp=Z,2μm,20.0s
PLD **Plovdiv** 82.96 318 P P 17 23 16.9 +0.3
PGB **Panagyurishte** 83.00 319 P P 17 23 17.9 +1.0
RONA **Rosalia, Austr** 83.04 327 *e*P P 17 23 18.2 +1.2
comp=Z,114nm,1.2s,SNR=30
RONA *e*PP PP 17 26 27.7 +0.5
comp=Z,32nm,1.6s
CKRC **Cesky Krumlov** 83.04 328 *e*P P 17 23 17.9 +0.9
CKRC *e*SKS SKSac 17 33 38.5 -0.1
CKRC AMS AMS 18 03 10.0
comp=Z,6μm,17.5s
CKRC **Cesky Krumlov** 83.04 328 *e*P P 17 23 17.9 +0.9
CKRC *e* 17 33 38.5
CKRC MLR MLR
comp=Z,6μm,17.5s
THZ **Tophouse** 83.06 157 IAMs_20 IAMs_20 17 54 38.9
comp=Z,3μm,20.0s
CONA **Conrad Observa** 83.06 327 *e*P P 17 23 18.0 +0.9
comp=Z,58nm,1.2s,SNR=33
CONA *e*PP PP 17 26 29.2 +1.9
comp=Z,6.4nm,0.9s
MORH **Mrgy, Hungar** 83.09 324 ⇓P P 17 23 17.7 +0.5
TUC **Tucson** 83.10 55 P P 17 23 17.9 +0.2
TUC **Tucson** 83.10 55 IAMs_20 IAMs_20 17 53 41.8
comp=Z,2μm,20.0s
TUC **Tucson** 83.10 55 P P 17 23 17.9 +0.2
TUC pmax pmax
comp=Z,55nm,1.6s
TUC pmax pmax
comp=Z,2μm,20.0s
KHC **Kasperske Hory** 83.11 329 *e*P P 17 23 18.1 +0.8
KHC *e*x x 17 23 27.3
KHC *e*SKS SKSac 17 33 37.6 -1.5
KHC **Kasperske Hory** 83.11 329 *e*P P 17 23 18.1 +0.8
KHC *e* 17 23 27.3
KHC *e* 17 33 37.6
KHC MLR MLR
comp=Z,9μm,14.8s
ALN **Alexandroupoli** 83.12 317 P P 17 23 17.9 +0.4
ALN **Alexandroupoli** 83.12 317 IAmb IAmb 17 23 19.6
comp=Z,91nm,1.3s
ALN IAMs_20 IAMs_20 18 03 59.7
comp=Z,3μm,18.0s
ENEZ **Enez** 83.17 317 P P 17 23 18.4 +0.7
CAVK **Edirne/Enez-Ca** 83.19 317 ⇓P P 17 23 18.6 +0.7
RDO **Rodhopi** 83.23 317 P P 17 23 18.7 +0.7
RDO **Rodhopi** 83.23 317 IAMs_20 IAMs_20 18 02 52.3
comp=Z,4μm,20.0s
GERES **GERESS Array B** 83.28 329 P P 17 23 18.2 -0.1
GERES **GERESS Array B** 83.28 329 P P 17 23 18.8 +0.5
comp=Z,20nm,0.9s,baz=35,slow=4.9,SNR=8.9
comp=Z,20nm,0.9s
GERES **GERESS Array B** 83.28 329 P P 17 23 18.2 -0.1
RZN **Rozhen** 83.28 318 P P 17 23 19.5 +1.0
FRGS **Fruska Gora** 83.31 323 ⇑*i*P P 17 23 19.0 +0.6
MANT **Manisa** 83.34 314 IAMs_20 IAMs_20 18 07 51.5
comp=Z,3μm,18.0s
VTS **Vitosha** 83.42 320 P P 17 23 19.5 +0.3
PLNA **Plana** 83.42 319 P P 17 23 18.0 -1.2
BOVS **Bovan** 83.48 321 ⇑P P 17 23 19.5 +0.2
INZ **Inchbonnie** 83.50 159 IAMs_20 IAMs_20 17 55 21.6
comp=Z,2μm,20.0s
EKA **Eskdalemuir Ar** 83.57 341 P P 17 23 20.8 +1.3
comp=Z,13nm,1.1s,baz=23,slow=4.2,SNR=7.9
comp=Z,13nm,1.1s
ECSD **EROS Data Cent** 83.62 39 IAMs_20 IAMs_20 18 06 27.4
comp=Z,2μm,18.0s
ECSD **EROS Data Cent** 83.62 39 IAmb IAmb 17 23 21.6
comp=Z,102nm,1.8s
GRFO **Grafenberg** 83.62 331 P P 17 23 20.6 +0.7
GRFO **Grafenberg** 83.62 331 P P 17 23 20.6 +0.7
GRFO pmax pmax
comp=Z,106nm,1.1s
GRFO pmax pmax
comp=Z,5μm,18.0s
SMTH **Samothraki Isl** 83.70 317 P P 17 23 19.9 -0.6
ARSA **Arzberg** 83.72 327 *e*P P 17 23 21.1 +0.6
comp=Z,28nm,1.2s,SNR=13
ARSA *e*PP PP 17 26 34.6 +1.9
comp=Z,8.5nm,1.4s
ARSA **Arzberg** 83.72 327 IAmb IAmb 17 23 34.3
comp=Z,118nm,1.8s
LTZ **Lake Taylor** 83.80 158 P P 17 23 20.2 -0.4
LTZ IAmb IAmb 17 23 35.5
comp=Z,126nm,1.9s
LTZ IAMs_20 IAMs_20 17 55 31.4
comp=Z,3μm,21.0s
MOA **Molln** 83.81 328 *e*P P 17 23 21.7 +0.8
comp=Z,46nm,1.3s,SNR=14
KHZ **Kahutara** 83.85 157 IAMs_20 IAMs_20 17 55 14.8
comp=Z,3μm,21.0s
PPT **Papeete** 83.88 117 LR LR 17 55 49.0
comp=Z,3μm,19.2s,baz=284,slow=32
KAVA **Kavala** 83.89 318 P P 17 23 22.0 +0.6
TEKS **Tekeris** 83.89 323 *e*P P 17 23 21.8 +0.3
E38A **The Farm, Brul** 83.90 34 IAMs_20 IAMs_20 18 04 57.5
comp=Z,2μm,18.0s
MMB **Musomishta** 83.91 318 P P 17 23 22.8 +1.2
KKB **Krupnik** 84.03 319 P P 17 23 23.1 +0.9
PRK **Paraskevi** 84.13 315 P P 17 23 22.9 +0.2
ANMO **Albuquerque** 84.15 50 IAMs_20 IAMs_20 18 06 53.4
comp=Z,2μm,18.0s
GVZ **Greta Valley S** 84.19 158 IAMs_20 IAMs_20 17 55 34.7
comp=Z,3μm,21.0s
BIOA **Bad Ischl, Aus** 84.20 328 *e*P P 17 23 23.5 +0.6
comp=Z,58nm,1.4s,SNR=18
BIOA *e*PP PP 17 26 35.7 -0.9
comp=Z,14nm,1.1s
AKAS **Kas** 84.23 311 IAMs_20 IAMs_20 18 05 51.3
comp=Z,3μm,19.0s
LIA **Limnos Island** 84.29 317 P P 17 23 23.6 +0.1
KOKK **Kokkinochori,** 84.29 318 P P 17 23 23.7 +0.2
SRS **Serrai** 84.30 318 P P 17 23 23.8 +0.2
RPZ **Rata Peaks** 84.30 160 IAmb IAmb 17 23 32.2
comp=Z,47nm,1.3s
RPZ **Rata Peaks** 84.30 160 LR LR 18 00 01.4
comp=Z,2μm,18.8s,baz=328,slow=35

GROS **Grobnik** 84.34 326 *e*P P 17 23 23.8 0.0
SPMN **Marine on St.** 84.37 36 IAmb IAmb 17 23 31.8
comp=Z,50nm,1.5s
SPMN IAMs_20 IAMs_20 18 00 07.0
comp=Z,2μm,19.0s
SOKA **Soboth** 84.38 327 *i* P P 17 23 24.1 +0.2
comp=Z,64nm,1.3s,SNR=40
SOKA *e*PP PP 17 26 37.4 -0.8
comp=Z,16nm,1.3s
SIGR **SIGRI** 84.39 316 P P 17 23 23.9 -0.1
Y22D **IRIS PASSCAL I** 84.44 51 IAMs_20 IAMs_20 17 57 02.0
comp=Z,2μm,19.0s
Y22D **IRIS PASSCAL I** 84.44 51 P P 17 23 23.7 -0.9
baz=311
BBLS **Lazi&#263i** 84.46 322 ⇑*i*P P 17 23 25.0 +0.6
BGNE **Belgrade** 84.50 41 IAMs_20 IAMs_20 18 07 33.8
comp=Z,2μm,19.0s
HAPS **Han Pijesak,Bl** 84.52 323 ⇑*i*P P 17 23 25.6 +0.9
SJES **Sjenica** 84.62 322 ⇑*i*P P 17 23 25.9 +0.6
KNT **Kendrikon** 84.63 319 P P 17 23 25.7 +0.4
OUR **Ouranopolis** 84.64 317 P P 17 23 25.4 +0.2
RUDO **Rudo** 84.66 322 ⇑*i*P P 17 23 25.5 +0.2
319A **Douglas** 84.68 55 IAmb IAmb 17 23 28.1
comp=Z,75nm,1.4s
319A IAMs_20 IAMs_20 17 54 08.6
comp=Z,2μm,21.0s
LBZ **Lake Benmore** 84.68 160 IAmb IAmb 17 23 31.7
comp=Z,89nm,1.3s
LBZ IAMs_20 IAMs_20 17 55 17.8
comp=Z,3μm,20.0s
OBKA **Obir** 84.72 327 *e*P P 17 23 25.7 0.0
comp=Z,19nm,1.4s
OBKA *e*PP PP 17 26 38.2 -2.8
comp=Z,21nm,1.0s
OBKA **Obir** 84.72 327 ⇑*i*P P 17 23 25.5 -0.2
BEBN **Eben Emael** 84.79 334 *d*P P 17 23 26.1 +0.3
comp=Z,44nm,1.0s
A051A **Mrakovica** 84.80 325 ⇑*i*P P 17 23 25.9 -0.2
KBA **Koelnbreinsper** 84.80 328 *i* P P 17 23 26.5 +0.3
comp=Z,35nm,1.5s,SNR=7.5
BTNL **Ternell** 84.80 334 *d*P P 17 23 25.4 -0.5
comp=Z,27nm,1.1s
LESA **Schwarzleotal** 84.81 328 *i* P P 17 23 26.4 +0.3
comp=Z,43nm,1.3s,SNR=15
LESA *e*PP PP 17 26 41.6 0.0
comp=Z,11nm,1.2s
MEM **Membach** 84.83 334 *d*P P 17 23 26.4 +0.4
comp=Z,29nm,1.1s
CRES **Cresnjevec Ost** 84.84 326 *e*P P 17 23 26.2 -0.1
CRES **Cresnjevec Ost** 84.84 326 ⇑*i*P P 17 23 26.1 -0.1
PLE **Pljevlja** 84.86 322 ⇑*i*P P 17 23 26.9 +0.4
BLY **Banja Luka** 84.86 324 ⇑*i*P P 17 23 26.7 +0.4
PLG **Polygyros** 84.90 318 P P 17 23 26.6 -0.1
HORT **Hortiatis** 84.93 318 P P 17 23 26.7 -0.1
IVA **Berane** 84.94 321 ⇑*i*P P 17 23 27.4 +0.5
I37A **Lemond, Waseca** 84.99 37 IAMs_20 IAMs_20 17 58 13.6
comp=Z,2μm,21.0s
MYKA **Terra Mystica** 85.02 327 *i* P P 17 23 26.8 -0.4
comp=Z,28nm,1.4s,SNR=7.2
HSIG 85.07 57 IAMs_20 IAMs_20 17 56 10.2
comp=Z,3μm,20.0s
PAIG **Paliouri** 85.09 317 P P 17 23 27.3 -0.2
LJU **Ljubljana** 85.09 326 *i* P P 17 23 27.3 -0.2
LJU *e* 17 23 38.3
EIL **Elat** 85.11 304 LR LR 18 06 46.0
comp=Z,3μm,18.0s,baz=41,slow=39
ARG **Arkhangelos** 85.13 312 P P 17 23 28.4 +0.6
KOME **Kolasin** 85.15 322 ⇑*i*P P 17 23 28.2 +0.3
STU **Stuttgart** 85.15 331 *e*P P 17 23 28.9 +1.2
BOJS **Bojanci** 85.18 326 ⇑*i*P P 17 23 27.9 0.0
GBAS **Gorenja Brezov** 85.21 326 *e*P P 17 23 27.7 -0.4
BCLA **Clavier** 85.23 334 *d*P P 17 23 28.6 +0.6
comp=Z,26nm,1.1s
UCC **Uccle** 85.24 335 IAMs_20 IAMs_20 18 05 03.5
comp=Z,1μm,18.0s
SRIG **Santa Rosalia** 85.26 59 IAMs_20 IAMs_20 17 57 47.4
comp=Z,2μm,19.0s
SCHQ **Schefferville** 85.33 16 IAmb IAmb 17 24 44.0
comp=Z,89nm,2.0s
SCHQ **Schefferville** 85.33 16 P P 17 23 29.7 +1.2
comp=Z,3.5nm,0.8s,baz=340,slow=7.9,SNR=6.1
comp=Z,3.5nm,0.8s
BGES **Gesves** 85.34 334 *d*P P 17 23 28.5 -0.1
comp=Z,29nm,1.2s
WATA **Walderalm** 85.34 329 *i* P P 17 23 28.6 -0.3
comp=Z,26nm,1.4s,SNR=7.6
WATA *e*PP PP 17 26 46.4 +0.4
comp=Z,15nm,1.1s
CEY **Cerknica** 85.37 326 ⇑*i*P P 17 23 28.5 -0.4
A050A **Klekovaca** 85.37 324 ⇑*i*P P 17 23 28.5 -0.5
WTTA **Wattenberg** 85.38 329 *i* PcP P 17 23 29.6 +0.5
comp=Z,18nm,1.2s
WTTA *e*PP PP 17 26 45.5 -0.8
comp=Z,23nm,1.3s
ODZ **Otahua Downs** 85.42 160 IAMs_20 IAMs_20 17 54 52.2
comp=Z,2μm,21.0s
ABTA **Abfaltersbach** 85.42 328 *i* P P 17 23 28.4 -0.8
comp=Z,9.3nm,1.0s,SNR=7.8
CBKS **Cedar Bluff** 85.47 44 IAMs_20 IAMs_20 18 02 18.8
comp=Z,2μm,19.0s
RCHB **Rochefort** 85.48 334 *d*P P 17 23 29.6 +0.4
comp=Z,34nm,1.2s
RCHB *d*PP PP 17 26 42.4 -4.5
NKME **Niksic** 85.49 322 ⇑*i*P P 17 23 29.3 -0.3
AOS **Alonnisos** 85.51 317 P P 17 23 29.5 -0.2
BMRD **Maredsous** 85.52 334 *d*P P 17 23 29.8 +0.3
comp=Z,41nm,1.1s
G40A **Rib Lake** 85.53 34 IAmb IAmb 17 23 42.1
comp=Z,68nm,1.6s
G40A IAMs_20 IAMs_20 18 06 13.7
comp=Z,2μm,18.0s
PHP **Peshkopia** 85.54 320 P P 17 23 29.8 0.0
PUK **Puka** 85.55 321 IAmb IAmb 17 23 37.5
comp=Z,85nm,1.1s
RETA **Reute** 85.56 329 *i* PcP P 17 23 30.3 +0.4
comp=Z,62nm,1.3s,SNR=16
WLF **Walferdange** 85.56 333 *d*P P 17 23 30.6 +0.9
comp=Z,22nm,1.4s
SQTA **Sankt Quirin** 85.59 329 *i* PcP P 17 23 30.5 +0.5
comp=Z,39nm,1.3s,SNR=7.3
SQTA *e*PP PP 17 26 47.6 -0.4
comp=Z,14nm,1.4s
BRY **Bratogost** 85.59 322 ⇑*i*P P 17 23 29.7 -0.5
BRY **Bratogost** 85.59 322 ⇑*i*P P 17 23 29.8 -0.5
LIT **Litokhoron** 85.61 318 P P 17 23 29.9 -0.3
CEME **Cevo** 85.67 322 ⇑*i*P P 17 23 30.4 -0.1
FNA **Florina** 85.71 319 P P 17 23 30.0 -0.7
FNA **Florina** 85.71 319 IAmb IAmb 17 23 32.0
comp=Z,78nm,1.3s
XOR **Xorichti** 85.75 317 P P 17 23 30.2 -0.7
DOU **Dourbes** 85.75 334 *d*P P 17 23 30.7 0.0
comp=Z,17nm,1.2s
OHR **Ohrid** 85.77 320 *i* P P 17 23 31.8 +0.8
DRME **Dracevica, Mon** 85.80 321 ⇑*i*P P 17 23 31.4 +0.3
DRME **Dracevica, Mon** 85.80 321 ⇑*i*P P 17 23 31.4 +0.3
TREB **Trebinje** 85.83 322 *e*P P 17 23 32.2 +1.0
KZN **Kozani** 85.84 319 P P 17 23 31.8 +0.4
BFO **Black Forest** 85.84 331 P P 17 23 30.9 -0.3
BFO **Black Forest** 85.84 331 P P 17 23 30.9 -0.3
BFO pmax pmax
comp=Z,91nm,1.1s
BFO pmax pmax
comp=Z,4μm,20.0s
BUM **Brajici-Budva** 85.86 322 ⇑*i*P P 17 23 31.3 -0.2
ULC **Ulcinj** 85.94 321 ⇑*i*P P 17 23 31.4 -0.4
FETA **Feichten** 85.95 329 *e*PcP P 17 23 32.0 +0.1
comp=Z,41nm,1.2s,SNR=9.7
HCY **Herceg Novi** 85.95 322 ⇑*i*P P 17 23 32.0 +0.2
HCY **Herceg Novi** 85.95 322 ⇑*i*P P 17 23 31.6 -0.2
STON **Ston** 86.03 323 *e*P P 17 23 31.6 -0.5
F42A **Maple Grove Fa** 86.07 33 IAMs_20 IAMs_20 18 01 30.7
comp=Z,2μm,20.0s
TIR **Tirane** 86.08 320 IAmb IAmb 17 23 34.2
comp=Z,82nm,1.1s
DAVA **Damuels** 86.08 330 *e*P P 17 23 32.6 0.0
comp=Z,58nm,1.3s,SNR=17
KBN **Korca** 86.13 319 P P 17 23 32.8 0.0
NEST **Nestorio** 86.14 319 P P 17 23 32.9 0.0
KARP **Karpathos** 86.16 312 IAMs_20 IAMs_20 18 09 19.2
comp=Z,3μm,18.0s
N35A **Tabor** 86.20 40 IAmb IAmb 17 23 40.5
comp=Z,90nm,1.2s
ECH **Echery** 86.39 332 IAmb IAmb 17 23 35.5
comp=Z,53nm,1.1s
I40A **Norwalk** 86.40 35 IAmb IAmb 17 23 59.3
comp=Z,71nm,1.7s

I40A IAMs_20 IAMs_20 18 00 08.7
comp=Z,2μm,21.0s
FUORN **Ofenpass-Fuorn** 86.46 329 IAmb IAmb 17 23 36.5
comp=Z,69nm,1.2s
LSK **Leskovik** 86.57 319 P P 17 23 35.4 +0.4
SCIA **State Center** 86.66 38 IAMs_20 IAMs_20 17 57 50.7
comp=Z,2μm,22.0s
TUE **Stuetta** 86.95 330 IAmb IAmb 17 23 42.4
comp=Z,58nm,1.4s
KSU1 **Kansas State U** 86.97 42 IAmb IAmb 17 23 55.0
comp=Z,34nm,1.0s
KSU1 IAMs_20 IAMs_20 18 04 19.4
comp=Z,2μm,22.0s
I42A **Draeger Farm,** 87.18 34 IAMs_20 IAMs_20 18 01 06.3
comp=Z,2μm,21.0s
H43A **Windswept, Lux** 87.24 33 IAMs_20 IAMs_20 18 09 27.8
comp=Z,1μm,18.0s
KLV **Kalavryta, Ach** 87.27 317 P P 17 23 37.1 -1.3
KEK **Kerkira** 87.31 319 P P 17 23 39.1 +0.6
KEK **Kerkira** 87.31 319 IAmb IAmb 17 23 41.0
comp=Z,53nm,1.2s
JFWS **Jewell Farm** 87.32 36 IAMs_20 IAMs_20 18 08 08.2
comp=Z,2μm,18.0s
N38A **Joes South For** 87.48 39 IAmb IAmb 17 23 46.7
comp=Z,70nm,1.3s
L40A **Anamosa** 87.51 37 IAMs_20 IAMs_20 18 00 44.3
comp=Z,2μm,21.0s
LKD2 **Lefkada island** 87.53 318 P P 17 23 39.1 -0.6
IDI **Anoyia** 87.67 313 IAmb IAmb 17 23 42.6
comp=Z,58nm,1.2s
OK038 **West end E0370** 87.68 45 IAMs_20 IAMs_20 18 09 22.3
comp=Z,3μm,18.0s
KAN14 **Manchester OK** 87.78 44 IAmb IAmb 17 23 48.4
comp=Z,60nm,1.3s
SMWD **Samnorwood** 87.78 47 IAmb IAmb 17 23 43.2
comp=Z,90nm,1.6s
VHRN **Van Horn** 87.84 53 IAmb IAmb 17 23 50.1
comp=Z,74nm,1.9s
KAN09 **Caldwell North** 87.84 44 IAmb IAmb 17 23 48.8
comp=Z,64nm,1.2s
KAN13 **South Haven SW** 88.01 44 IAmb IAmb 17 23 48.8
comp=Z,56nm,1.2s
ITM **Ithomi** 88.01 316 P P 17 23 40.8 -1.1
ITM **Ithomi** 88.01 316 IAMs_20 IAMs_20 18 09 44.0
comp=Z,2μm,20.0s
MATE **Matera** 88.19 322 ⇑P P 17 23 42.6 -0.1
P38A **Dawn** 88.20 40 IAMs_20 IAMs_20 18 10 35.8
comp=Z,1μm,18.0s
NRCA **Norcia** 88.22 325 IAmb IAmb 17 23 44.7
comp=Z,62nm,1.1s
VLDQ **Val d'Or** 88.30 25 IAmb IAmb 17 23 49.5
comp=Z,47nm,1.1s
VLDQ IAMs_20 IAMs_20 18 08 47.7
comp=Z,2μm,18.0s
L42A **Oliver, Polo** 88.30 36 IAMs_20 IAMs_20 18 08 48.0
comp=Z,3μm,18.0s
CAMP **Campotosto** 88.32 325 IAmb IAmb 17 23 45.0
comp=Z,50nm,1.1s
BLOK **Blackwell** 88.33 44 IAmb IAmb 17 23 51.1
comp=Z,54nm,1.2s
K43A **Burlington** 88.37 35 IAMs_20 IAMs_20 18 03 03.9
comp=Z,2μm,20.0s
DKNS **Dickens** 88.38 48 IAmb IAmb 17 23 48.5
comp=Z,31nm,1.1s
INTR **Introdacqua** 88.50 324 IAmb IAmb 17 23 46.9
comp=Z,32nm,1.0s
OSSC **Osservatorio P** 88.52 327 IAmb IAmb 17 23 46.2
comp=Z,44nm,1.2s
T35A **Sooner Cattle** 88.61 43 IAmb IAmb 17 23 48.8
comp=Z,51nm,1.3s
T35A IAMs_20 IAMs_20 18 10 11.8
comp=Z,2μm,19.0s
LPIG **La Paz** 88.65 61 LR LR 18 02 47.5
comp=Z,850nm,18.0s,baz=304,slow=35
N41A **Harden Midland** 88.72 38 IAmb IAmb 17 23 52.6
comp=Z,54nm,1.3s
N41A IAMs_20 IAMs_20 18 02 47.4
comp=Z,1μm,19.0s
OK051 **E0350 and S346** 88.73 44 IAmb IAmb 17 24 03.5
comp=Z,36nm,1.2s
OK048 **Pawnee Station** 88.73 44 IAmb IAmb 17 23 52.3
comp=Z,41nm,1.2s
OK048 IAMs_20 IAMs_20 18 11 30.1
comp=Z,2μm,18.0s
WMOK **Wichita Mounta** 88.89 46 IAMs_20 IAMs_20 18 10 15.5
comp=Z,2μm,19.0s
WMOK **Wichita Mounta** 88.89 46 IAmb IAmb 17 23 48.1
comp=Z,63nm,1.6s
L44A **Lake County Fo** 88.98 35 IAMs_20 IAMs_20 18 03 30.9
comp=Z,2μm,19.0s
L44A **Lake County Fo** 88.98 35 P P 17 23 45.6 -0.8
baz=322
P40A **Paris** 89.03 39 IAMs_20 IAMs_20 18 11 08.6
comp=Z,2μm,19.0s
QUOK **Quay** 89.04 44 IAmb IAmb 17 23 54.4
comp=Z,48nm,1.1s
APMT **Aspermont** 89.10 48 IAmb IAmb 17 23 48.9
comp=Z,75nm,1.6s
OK052 **Battle Ridge R** 89.12 44 IAMs_20 IAMs_20 18 09 21.3
comp=Z,2μm,19.0s
OK031 **S. Brethren Rd** 89.13 44 IAmb IAmb 17 23 55.0
comp=Z,68nm,1.4s
OK031 IAMs_20 IAMs_20 18 09 14.6
comp=Z,2μm,20.0s
CUC **Castrocucco** 89.13 322 IAmb IAmb 17 23 48.8
comp=Z,44nm,1.4s
SLBS **Sierra La Lagu** 89.17 61 IAMs_20 IAMs_20 18 03 55.0
comp=Z,2μm,18.0s
TIP **Timpagrande** 89.28 321 IAmb IAmb 17 23 49.7
comp=Z,37nm,1.1s
TIP **Timpagrande** 89.28 321 ⇓P P 17 23 48.5 +0.6
J47A **Sunmer** 89.51 32 IAMs_20 IAMs_20 18 08 47.7
comp=Z,3μm,20.0s
M44A **Midewin, Midew** 89.54 35 IAMs_20 IAMs_20 18 02 03.8
comp=Z,2μm,20.0s
HDIL **Hopedale** 89.60 37 IAmb IAmb 17 24 17.0
comp=Z,96nm,1.6s
HDIL IAMs_20 IAMs_20 18 09 41.5
comp=Z,2μm,18.0s
TXAR **Lajitas Array** 89.66 53 P P 17 23 50.0 0.0
TXAR **Lajitas Array** 89.66 53 P P 17 23 50.8 +0.8
comp=Z,9.9nm,0.8s,baz=298,slow=3.3,SNR=44
comp=Z,9.9nm,0.8s
TXAR **Lajitas Array** 89.66 53 P P 17 23 50.0 0.0
W35A **Tecumseh** 89.69 45 IAMs_20 IAMs_20 18 09 35.4
comp=Z,1μm,20.0s
S39A **Bolivar** 89.76 41 IAMs_20 IAMs_20 18 03 51.3
comp=Z,1μm,20.0s
WTFS **Witchita Falls** 89.77 47 IAmb IAmb 17 24 09.1
comp=Z,124nm,2.0s
I49A **Point Hope** 89.77 31 IAMs_20 IAMs_20 18 09 49.7
comp=Z,2μm,19.0s
L46A **Eue Claire** 89.84 34 IAMs_20 IAMs_20 18 09 43.8
comp=Z,2μm,19.0s
R40A **Maddies Statio** 89.85 40 IAmb IAmb 17 23 52.0
comp=Z,85nm,1.7s
R40A IAMs_20 IAMs_20 18 10 40.5
comp=Z,1μm,18.0s
ABTX **Abilene, Hawle** 89.88 48 IAMs_20 IAMs_20 18 08 13.9
comp=Z,1μm,19.0s
HPIG 89.97 56 IAMs_20 IAMs_20 17 59 50.8
comp=Z,3μm,19.0s
U38A **Gravette** 90.12 42 IAMs_20 IAMs_20 18 09 29.7
comp=Z,2μm,19.0s
MSEY **Mahe Island** 90.25 264 IAMs_20 IAMs_20 18 05 36.1
comp=Z,3μm,19.0s
CEL **Celeste** 90.41 321 IAmb IAmb 17 23 55.1
comp=Z,64nm,1.1s
LDAQ **Lac Daran** 90.42 22 IAMs_20 IAMs_20 18 11 16.6
comp=Z,3μm,20.0s
HHAR **Hobbs** 90.48 42 IAMs_20 IAMs_20 18 09 41.2
comp=Z,2μm,18.0s
FW03 **Perrin-Whitt E** 90.52 47 IAmb IAmb 17 23 55.0
comp=Z,33nm,0.7s
PLPT **Palo Pinto** 90.53 47 IAmb IAmb 17 23 55.7
comp=Z,86nm,1.7s
SADO **Sadowa** 90.54 28 IAMs_20 IAMs_20 18 09 41.7
comp=Z,2μm,20.0s
CCM **Cathedral Cave** 90.56 39 P P 17 23 53.9 0.0
CCM IAmb IAmb 17 24 12.5
comp=Z,60nm,1.4s
CCM **Cathedral Cave** 90.56 39 IAMs_20 IAMs_20 18 10 42.0
comp=Z,2μm,18.0s
CCM **Cathedral Cave** 90.56 39 P P 17 23 53.9 0.0
CCM pmax pmax
comp=Z,60nm,1.4s
CCM pmax pmax
comp=Z,2μm,18.0s

SLM	Saint Louis	90.62	38	IAMs_20	IAMs_20	18 11 06.7
	comp=Z,2μm,18.0s					
ATD	Arta Tunnel	90.64	285	IAMs_20	IAMs_20	18 08 54.1
	comp=Z,2μm,21.0s					
ATD	Arta Tunnel	90.64	285	LR	LR	18 08 21.5
	comp=Z,77nm,20.4s,baz=47,slow=38					
MGMO	Mountain Grove	90.71	41	IAMs_20	IAMs_20	18 11 13.3
	comp=Z,2μm,18.0s					
AAM	Ann Arbor	90.77	32	IAMs_20	IAMs_20	18 10 06.1
	comp=Z,3μm,21.0s					
SFIN	Lafayette	90.78	35	IAMs_20	IAMs_20	18 02 51.5
	comp=Z,2μm,20.0s					
Z35A	Perchaven, San	90.78	46	IAMs_20	IAMs_20	18 11 29.6
	comp=Z,2μm,18.0s					
TRQ	Mont Tremblant	90.92	25	IAMs_20	IAMs_20	18 07 31.8
	comp=Z,2μm,20.0s					
FW07	Weatherford	90.92	47	IAmb	IAmb	17 24 03.4
	comp=Z,79nm,1.6s					
FW07				IAMs_20	IAMs_20	18 11 53.4
	comp=Z,2μm,19.0s					
N47A	Urbana	91.02	34	IAMs_20	IAMs_20	18 04 05.9
	comp=Z,2μm,20.0s					
FVM	French Village	91.03	39	IAmb	IAmb	17 23 57.7
	comp=Z,73nm,1.8s					
FVM				IAMs_20	IAMs_20	18 13 01.5
	comp=Z,2μm,21.0s					
BRDY	Brady	91.21	49	IAmb	IAmb	17 23 58.9
	comp=Z,49nm,1.4s					
JCT	Junction City	91.29	50	IAmb	IAmb	17 23 58.9
	comp=Z,72nm,1.8s					
DELO	Deloro Mine	91.32	27	IAMs_20	IAMs_20	18 09 12.4
	comp=Z,2μm,19.0s					
T42A	Van Buren	91.42	40	IAmb	IAmb	17 23 59.3
	comp=Z,53nm,1.6s					
T42A				IAMs_20	IAMs_20	18 13 09.9
	comp=Z,2μm,20.0s					
FW14	Alvarado	91.49	47	IAMs_20	IAMs_20	18 12 13.3
	comp=Z,2μm,19.0s					
DRIO	Del Rio	91.53	51	IAmb	IAmb	17 24 00.2
	comp=Z,44nm,1.5s					
OLIL	Olney	91.59	37	IAMs_20	IAMs_20	18 10 46.4
	comp=Z,2μm,18.0s					
WHTX	Lake Whitney,	91.63	47	IAMs_20	IAMs_20	18 08 49.0
	comp=Z,2μm,19.0s					
WBO	Williamsburg	91.74	26	IAMs_20	IAMs_20	18 10 27.5
	comp=Z,2μm,18.0s					
FCAR	Ozark Folk Cen	91.74	41	IAmb	IAmb	17 24 05.7
	comp=Z,38nm,1.4s					
FCAR				IAMs_20	IAMs_20	18 05 13.6
	comp=Z,1μm,20.0s					
O48B	Farmland	91.76	34	IAMs_20	IAMs_20	18 10 01.6
	comp=Z,2μm,19.0s					
M50A	Fremont	91.77	32	IAMs_20	IAMs_20	18 10 45.5
	comp=Z,3μm,20.0s					
SIUC	Southern Illin	91.84	38	IAmb	IAmb	17 24 09.2
	comp=Z,38nm,1.3s					
SIUC				IAMs_20	IAMs_20	18 10 38.0
	comp=Z,2μm,19.0s					
MNTQ	Montreal, Queb	91.86	24	IAMs_20	IAMs_20	18 12 56.6
	comp=Z,3μm,19.0s					
PBMO	Poplar Bluff	91.95	40	IAmb	IAmb	17 24 18.3
	comp=Z,33nm,1.2s					
PBMO				IAMs_20	IAMs_20	18 13 37.0
	comp=Z,1μm,20.0s					
MIAR	Mount Ida	91.97	43	IAMs_20	IAMs_20	18 02 12.7
	comp=Z,2μm,20.0s					
BLO	Bloomington	92.00	36	IAMs_20	IAMs_20	18 02 56.0
	comp=Z,2μm,21.0s					
PECO	Prince Edward	92.05	27	IAMs_20	IAMs_20	18 11 07.0
	comp=Z,2μm,20.0s					
LCAR	Lake Charles	92.12	41	IAmb	IAmb	17 24 19.6
	comp=Z,52nm,1.8s					
LCAR				IAMs_20	IAMs_20	18 13 48.7
	comp=Z,3μm,19.0s					
Z38A	Mt. Pleasant	92.13	45	IAMs_20	IAMs_20	18 12 40.2
	comp=Z,2μm,20.0s					
LONY	Lake Ozonia	92.31	25	IAMs_20	IAMs_20	18 13 12.6
	comp=Z,3μm,19.0s					
J55A	Hilton	92.32	28	IAMs_20	IAMs_20	18 11 20.1
	comp=Z,2μm,20.0s					
M52A	Chesterland	92.36	31	IAMs_20	IAMs_20	18 11 59.3
	comp=Z,2μm,21.0s					
USIN	University of	92.41	37	IAMs_20	IAMs_20	18 02 16.1
	comp=Z,2μm,22.0s					
X40A	Basin Creek Fa	92.42	43	IAmb	IAmb	17 24 04.4
	comp=Z,40nm,1.4s					
X40A				IAMs_20	IAMs_20	18 10 53.8
	comp=Z,2μm,19.0s					
435B	Jarrell	92.42	48	IAmb	IAmb	17 24 04.3
	comp=Z,45nm,1.5s					
ERPA	Erie	92.44	30	IAMs_20	IAMs_20	18 09 09.5
	comp=Z,2μm,20.0s					
FRNY	Flat Rock	92.46	25	IAMs_20	IAMs_20	18 13 24.7
	comp=Z,2μm,22.0s					
UALR	University of	92.47	42	IAMs_20	IAMs_20	18 11 27.1
	comp=Z,2μm,18.0s					
BATG	Bathurst New B	92.50	19	IAmb	IAmb	17 25 34.7
	comp=Z,72nm,1.9s					
P49A	Miami Univ. Ec	92.55	35	IAMs_20	IAMs_20	18 05 01.6
	comp=Z,2μm,20.0s					
PVMO	Portageville	92.61	40	IAMs_20	IAMs_20	18 06 07.5
	comp=Z,1μm,19.0s					
T45A	Paducah	92.67	38	IAMs_20	IAMs_20	18 11 21.1
	comp=Z,2μm,18.0s					
HICK	Hickman	92.75	39	IAMs_20	IAMs_20	18 08 47.2
	comp=Z,1μm,18.0s					
WVNY	West Valley, N	92.75	29	IAMs_20	IAMs_20	18 10 01.5
	comp=Z,2μm,21.0s					
ACSO	Alum Creek Sta	92.75	33	IAmb	IAmb	17 24 37.7
	comp=Z,48nm,1.6s					
ACSO				IAMs_20	IAMs_20	18 10 39.9
	comp=Z,3μm,20.0s					
PEBM	Pemiscott Bayo	92.75	40	IAMs_20	IAMs_20	18 10 15.5
	comp=Z,1μm,18.0s					
HBAR	Harrisburg	92.77	41	IAMs_20	IAMs_20	18 14 16.0
	comp=Z,2μm,19.0s					
GNAR	Gosnell	92.79	40	IAMs_20	IAMs_20	18 11 45.4
	comp=Z,2μm,18.0s					
WCI	Wyandotte Cave	92.86	36	IAMs_20	IAMs_20	18 05 48.0
	comp=Z,2μm,20.0s					
WLAR	White Oak Lake	92.86	43	IAMs_20	IAMs_20	18 07 34.7
	comp=Z,2μm,21.0s					
J57A	Williamstown	92.87	27	IAMs_20	IAMs_20	18 11 25.6
	comp=Z,3μm,19.0s					
GLAT	Glass	92.93	39	IAMs_20	IAMs_20	18 05 25.0
	comp=Z,1μm,20.0s					
LNXT	Lenox	92.95	40	IAMs_20	IAMs_20	18 10 29.7
	comp=Z,1μm,19.0s					
833A	Chaparral WMA,	93.06	51	IAmb	IAmb	17 24 07.9
	comp=Z,38nm,1.4s					
G62A	West of Eustis	93.11	23	IAMs_20	IAMs_20	18 12 15.6
	comp=Z,3μm,22.0s					
HALT	Halls	93.18	40	IAMs_20	IAMs_20	18 10 35.7
	comp=Z,1μm,18.0s					
VT1	Waterbury	93.19	24	IAMs_20	IAMs_20	18 12 30.1
	comp=Z,2μm,20.0s					
N53A	Lisbon	93.19	31	IAMs_20	IAMs_20	18 08 00.5
	comp=Z,2μm,20.0s					
K57A	Scipio Center	93.26	28	IAMs_20	IAMs_20	18 12 03.1
	comp=Z,2μm,19.0s					
P51A	Williamsport	93.33	34	IAMs_20	IAMs_20	18 13 53.3
	comp=Z,2μm,19.0s					
O52A	Adamsville	93.34	32	IAMs_20	IAMs_20	18 12 07.5
	comp=Z,3μm,19.0s					
J59A	Piesco	93.35	26	IAMs_20	IAMs_20	18 13 32.3
	comp=Z,2μm,19.0s					
Z41A	Richland Creek	93.36	44	IAMs_20	IAMs_20	18 11 39.7
	comp=Z,2μm,18.0s					
L56A	Greenwood	93.38	29	IAMs_20	IAMs_20	18 10 56.3
	comp=Z,2μm,20.0s					
NATX	Nacogdoches	93.42	46	IAMs_20	IAMs_20	18 07 48.6
	comp=Z,2μm,20.0s					
CCAR	Cane Creek	93.42	42	IAMs_20	IAMs_20	18 11 57.4
	comp=Z,2μm,18.0s					
MET	Memphis--Engin	93.48	41	IAMs_20	IAMs_20	18 13 11.8
	comp=Z,2μm,19.0s					
735A	Kenedy	93.66	50	IAMs_20	IAMs_20	18 03 18.3
	comp=Z,2μm,19.0s					
WVT	Waverly	93.77	39	IAMs_20	IAMs_20	18 14 52.3
	comp=Z,2μm,19.0s					
HNH	Hanover	93.90	24	IAMs_20	IAMs_20	18 14 47.6
	comp=Z,2μm,19.0s					
O54A	Avella	93.91	31	IAMs_20	IAMs_20	18 13 25.3
	comp=Z,3μm,20.0s					
I62A	Tamworth	94.06	24	IAMs_20	IAMs_20	18 10 05.8
	comp=Z,2μm,20.0s					
P53A	Whipple	94.06	32	IAMs_20	IAMs_20	18 09 30.4
	comp=Z,1μm,20.0s					
HKT	Hockley	94.06	48	IAMs_20	IAMs_20	18 13 19.4
	comp=Z,1μm,18.0s					
J61A	Chester	94.13	25	IAMs_20	IAMs_20	18 13 07.8
	comp=Z,3μm,21.0s					
I63A	Otisfield	94.14	23	IAMs_20	IAMs_20	18 13 12.0
	comp=Z,3μm,18.0s					
M57A	Sunshine Farm,	94.23	29	IAMs_20	IAMs_20	18 12 47.8
	comp=Z,2μm,19.0s					
GGN	Saint George	94.28	20	IAMs_20	IAMs_20	18 10 29.5
	comp=Z,2μm,19.0s					
TRY	Troy	94.29	26	IAMs_20	IAMs_20	18 11 29.1
	comp=Z,2μm,19.0s					
HBVL	Hebbronville	94.40	51	IAmb	IAmb	17 24 31.3
	comp=Z,63nm,1.3s					
U49A	Red Boiling Sp	94.47	37	IAMs_20	IAMs_20	18 14 36.8
	comp=Z,3μm,18.0s					
SSPA	Standing Stone	94.54	30	IAMs_20	IAMs_20	18 11 49.9
	comp=Z,3μm,21.0s					
CLTN	Cedars of Leba	94.54	38	IAMs_20	IAMs_20	18 14 45.7
	comp=Z,1μm,19.0s					
143A	Socs Landing,	94.54	43	IAMs_20	IAMs_20	18 12 54.1
	comp=Z,2μm,18.0s					
PLAL	Pickwick Lake	94.55	39	IAMs_20	IAMs_20	18 13 03.9
	comp=Z,2μm,19.0s					
V48A	Smith Brothers	94.58	38	IAMs_20	IAMs_20	18 12 54.7
	comp=Z,2μm,20.0s					
Y45A	Yeager Farm, C	94.65	41	IAMs_20	IAMs_20	18 13 25.9
	comp=Z,2μm,20.0s					
N58A	Sunbury	94.82	29	IAMs_20	IAMs_20	18 06 08.3
	comp=Z,2μm,22.0s					
K62A	Royalston	94.84	25	IAMs_20	IAMs_20	18 11 17.6
	comp=Z,3μm,18.0s					
ZAIG	Zacatecas	94.85	57	IAmb	IAmb	17 24 17.0
	comp=Z,33nm,1.5s					
ZAIG				IAMs_20	IAMs_20	18 08 42.3
	comp=Z,2μm,19.0s					
L61B	Northampton	94.88	25	P	P	17 24 14.1 +0.3
	baz=333					
441A	DeRidder	95.01	45	IAMs_20	IAMs_20	18 14 59.6
	comp=Z,2μm,18.0s					
HRV	Adam Dziewonsk	95.21	24	IAMs_20	IAMs_20	18 11 24.3
	comp=Z,2μm,19.0s					
Q56A	Snyder Ridge,	95.36	31	IAMs_20	IAMs_20	18 12 00.9
	comp=Z,2μm,19.0s					
WES	Weston	95.39	24	IAMs_20	IAMs_20	18 14 20.3
	comp=Z,2μm,19.0s					
ODNJ	Ogdensburg	95.40	27	IAMs_20	IAMs_20	18 14 08.6
	comp=Z,2μm,21.0s					
SWET	Sewanee	95.44	38	IAMs_20	IAMs_20	18 06 44.3
	comp=Z,2μm,18.0s					
P57A	Homestead Farm	95.47	30	IAMs_20	IAMs_20	18 12 01.6
	comp=Z,3μm,21.0s					
TRNY	Table Rock, Ra	95.48	27	IAMs_20	IAMs_20	18 14 32.8
	comp=Z,3μm,20.0s					
S54A	Dingess, Beckl	95.49	33	IAMs_20	IAMs_20	18 13 12.4
	comp=Z,2μm,19.0s					
TZTN	Tazewell	95.51	36	IAMs_20	IAMs_20	18 05 16.1
	comp=Z,2μm,21.0s					
R55A	Marlinton	95.61	32	IAMs_20	IAMs_20	18 14 07.3
	comp=Z,2μm,19.0s					
UCCT	U. Connecticut	95.62	25	IAMs_20	IAMs_20	18 14 23.2
	comp=Z,2μm,18.0s					
KEST	Kesra	95.64	323	IAmb	IAmb	17 24 55.2
	comp=Z,38nm,1.4s					
KEST	Kesra	95.64	323	P	P	17 24 16.9 -0.5
	comp=Z,17nm,1.1s,baz=37,slow=10,SNR=6.2					
	comp=Z,17nm,1.1s					
MVL	Millersville	95.68	29	IAMs_20	IAMs_20	18 13 49.2
	comp=Z,2μm,19.0s					
PAL	Palisades	95.72	27	IAMs_20	IAMs_20	18 11 37.1
	comp=Z,3μm,21.0s					
WSPT	Westport, CT	95.78	26	IAMs_20	IAMs_20	18 14 30.7
	comp=Z,2μm,18.0s					
146A	Union	95.86	42	IAMs_20	IAMs_20	18 14 05.9
	comp=Z,2μm,20.0s					
CPCT	Cooper Cave	95.94	37	IAMs_20	IAMs_20	18 14 29.4
	comp=Z,2μm,19.0s					
Z47A	Carrollton	95.94	41	IAMs_20	IAMs_20	18 13 26.0
	comp=Z,3μm,19.0s					
L64A	Middleborough	95.95	24	IAMs_20	IAMs_20	18 13 09.1
	comp=Z,2μm,20.0s					
M63A	Gales Ferry	96.03	25	IAMs_20	IAMs_20	18 14 10.0
	comp=Z,2μm,20.0s					
WUPA	West Chester U	96.03	28	IAMs_20	IAMs_20	18 13 22.3
	comp=Z,2μm,20.0s					
M65A	Busby, Falmout	96.35	24	IAMs_20	IAMs_20	18 14 05.7
	comp=Z,2μm,19.0s					
BLA	Blacksburg	96.37	33	IAMs_20	IAMs_20	18 13 57.7
	comp=Z,3μm,18.0s					
S57A	Dark Hollow, R	96.54	32	IAMs_20	IAMs_20	18 11 34.1
	comp=Z,2μm,20.0s					
P61A	Hammonton	96.56	28	IAMs_20	IAMs_20	18 13 52.4
	comp=Z,3μm,20.0s					
V53A	Saluda	96.57	36	IAMs_20	IAMs_20	18 14 17.0
	comp=Z,3μm,22.0s					
346A	Big Creek Wild	96.61	43	IAMs_20	IAMs_20	18 16 26.7
	comp=Z,1μm,19.0s					
LRAL	Lakeview Retre	96.63	40	IAMs_20	IAMs_20	18 13 57.9
	comp=Z,2μm,19.0s					
R58B	Mineral	96.82	31	IAMs_20	IAMs_20	18 12 16.4
	comp=Z,3μm,19.0s					
BG3	Lake Jocassee	97.06	36	IAMs_20	IAMs_20	18 12 58.2
	comp=Z,2μm,20.0s					
U56A	King	97.11	34	IAMs_20	IAMs_20	18 15 24.3
	comp=Z,2μm,19.0s					
V55A	Taylorsville	97.15	34	IAMs_20	IAMs_20	18 07 47.4
	comp=Z,2μm,20.0s					
T59A	Double "B" Far	97.80	31	IAMs_20	IAMs_20	18 13 37.3
	comp=Z,2μm,21.0s					
ESDC	Sonseca Array	97.80	334	P	P	17 24 26.9 -0.2
ESDC	Sonseca Array	97.80	334	P	P	17 24 27.0 -0.2
	comp=Z,4.1nm,1.1s,baz=19,slow=3.3,SNR=12					
ESDC				PP	PP	17 28 04.6 -20
	comp=Z,2.3nm,1.1s,baz=20,slow=6.9,SNR=5.1					
	comp=Z,4.1nm,1.1s					
250A	Grady	97.84	40	IAMs_20	IAMs_20	18 14 48.1
	comp=Z,2μm,20.0s					
MOIG	Morelia	97.89	58	IAMs_20	IAMs_20	18 03 08.0
	comp=Z,2μm,20.0s					
S61A	Accomac	97.95	30	IAMs_20	IAMs_20	18 15 19.3
	comp=Z,3μm,19.0s					
HODGE	Hodges	98.00	36	IAMs_20	IAMs_20	18 15 18.1
	comp=Z,2μm,19.0s					
BRAL	Brewton	98.07	41	IAMs_20	IAMs_20	18 15 32.3
	comp=Z,2μm,21.0s					
GOGA	Godfrey	98.09	37	IAMs_20	IAMs_20	18 14 38.6
	comp=Z,2μm,19.0s					
V58A	Windy Hill, Pi	98.13	33	IAMs_20	IAMs_20	18 13 54.3
	comp=Z,3μm,21.0s					
W57A	Gilead	98.28	34	IAMs_20	IAMs_20	18 14 07.3
	comp=Z,3μm,20.0s					
BIRD	Birdtown, Kers	98.49	34	IAMs_20	IAMs_20	18 07 43.0
	comp=Z,3μm,21.0s					
W59A	Clinton	98.95	33	IAMs_20	IAMs_20	18 10 26.0
	comp=Z,2μm,20.0s					
Y57A	Sumter	99.05	35	IAMs_20	IAMs_20	18 08 41.7
	comp=Z,2μm,20.0s					
Y58A	Scranton	99.47	34	IAMs_20	IAMs_20	18 17 36.9
	comp=Z,3μm,19.0s					
UNM	Universidad Na	99.50	57	IAMs_20	IAMs_20	18 04 22.6
	comp=Z,2μm,21.0s					
NHSC	New Hope	99.90	35	IAMs_20	IAMs_20	18 18 01.4
	comp=Z,2μm,18.0s					
Y60A	Bolivia	100.03	33	IAMs_20	IAMs_20	18 08 36.7
	comp=Z,2μm,21.0s					
CSU	Charleston Sou	100.05	35	IAMs_20	IAMs_20	18 18 04.3
	comp=Z,2μm,18.0s					
LODK	Lodwar	101.45	283	IAMs_20	IAMs_20	18 16 51.7
	comp=Z,2μm,20.0s					
KMBO	Kilima Mbogo	102.73	278	IAMs_20	IAMs_20	18 18 22.1
	comp=Z,2μm,19.0s					
KIBK	Kibwezi	102.83	277	IAMs_20	IAMs_20	18 15 30.2
	comp=Z,1μm,19.0s					
DWPF	Disney Wildern	103.42	39	IAMs_20	IAMs_20	18 20 56.9
	comp=Z,2μm,21.0s					
060A	Indiantown	104.84	39	IAMs_20	IAMs_20	18 18 25.5
	comp=Z,2μm,19.0s					
ABPO	Ambohimpanom	105.12	257	IAMs_20	IAMs_20	18 13 09.3
	comp=Z,1μm,20.0s					
061Z	Ochoppi	105.53	40	IAMs_20	IAMs_20	18 19 46.7
	comp=Z,2μm,20.0s					
TEIG	Tepich	105.85	49	IAMs_20	IAMs_20	18 17 52.0
	comp=Z,2μm,20.0s					
CCIG	Comitan	106.35	55	IAMs_20	IAMs_20	18 06 03.9
	comp=Z,2μm,22.0s					
SOR	Soroa	106.89	43	IAMs_20	IAMs_20	18 21 41.2
	comp=Z,2μm,22.0s					
PETF	Flores	107.35	52	IAMs_20	IAMs_20	18 11 04.1
	comp=Z,2μm,21.0s					
HUEH	Huehuetenango	107.47	55	IAMs_20	IAMs_20	18 23 55.5
	comp=Z,2μm,21.0s					
RTAL	Retalhuleu	107.92	55	IAMs_20	IAMs_20	18 24 04.6
	comp=Z,1μm,21.0s					
ESQI	Esquipulas	109.43	54	IAMs_20	IAMs_20	18 23 51.5
	comp=Z,1μm,21.0s					
TGUH	Tegucigalpa,Un	111.13	52	IAMs_20	IAMs_20	18 24 32.4
	comp=Z,1μm,21.0s					
CHIV	Chivirico	112.70	40	IAMs_20	IAMs_20	18 23 58.7
	comp=Z,2μm,20.0s					
GTBY	Guantanamo Bay	113.40	39	IAMs_20	IAMs_20	18 16 43.2
	comp=Z,2μm,19.0s					
MTDJ	Mount Denham	113.56	42	IAMs_20	IAMs_20	18 22 17.8
	comp=Z,2μm,21.0s					
ESPN	Las Esperanzas	114.42	51	IAMs_20	IAMs_20	18 25 57.4
	comp=Z,1μm,19.0s					
JTS	Las Juntas de	115.45	53	IAMs_20	IAMs_20	18 26 47.8
	comp=Z,1μm,21.0s					
PAPH	Port-au-Prince	115.97	37	IAMs_20	IAMs_20	18 21 06.1
	comp=Z,2μm,21.0s					
HDC	Heredia	116.20	53	IAMs_20	IAMs_20	18 28 29.8
	comp=Z,1μm,22.0s					
OBIP	Obispado Ponce	118.97	32	IAMs_20	IAMs_20	18 22 24.0
	comp=Z,2μm,20.0s					
BCIP	Isla Barro Col	119.52	50	IAMs_20	IAMs_20	18 30 44.3
	comp=Z,1μm,21.0s					
POGA	Pongola	121.61	258	IAMs_20	IAMs_20	18 22 46.1
	comp=Z,1μm,20.0s					
ROSC	El Rosal	126.26	48	PKP	PKPdf	17 29 55.4 0.0
	comp=Z,5.1nm,0.3s,baz=315,slow=19,SNR=5.0					
QSPA	South Pole Qui	126.57	180	PKP	PKPdf	17 29 53.4 -0.5
	comp=Z,8.5nm,1.1s,baz=314,slow=1.3,SNR=7.1					
DBIC	Dimbokro	126.95	318	PKP	PKiKP	17 29 56.7 0.0
	comp=Z,5.7nm,1.0s,baz=42,slow=0.7,SNR=4.1					
OTAV	Otavalo	127.23	55	IAMs_20	IAMs_20	18 37 38.3
	comp=Z,2μm,20.0s					
OTAV	Otavalo	127.23	55	eP	PKPdf	17 29 56.6 -0.8
SYO	Syowa Base	128.35	207	‖eP	Pdif	17 26 47.8 +2.7
BOAV	Boa Vista	135.56	34	eP	PKiKP	17 30 14.5 +0.5
CZSB	Cruzeiro do Su	136.95	56	eP	PKiKP	17 30 16.6 -0.2
TEFE	Tefe	138.60	43	eP	PKPdf	17 30 19.1 +1.0
SNAA	Sanae	140.76	197	⇑P	PKPdf	17 30 19.3 -1.0
	comp=Z,59nm,0.7s					
VNA2	Neumayer--Watz	142.32	196	⇑P	PKPdf	17 30 20.9 -2.2
	comp=Z,12nm,0.7s,baz=134,slow=5.2					
VNA3	Neumayer Olymp	142.55	194	⇑P	PKPdf	17 30 20.9 -2.6
	comp=Z,9.1nm,0.8s					
VNA1	Neumayer--Stat	142.72	196	⇑P	PKPdf	17 30 23.9 +0.1
	comp=Z,26nm,1.0s					
ITTB	Itaituba	143.69	31	eP	PKPdf	17 30 26.6 -0.7
TMAB	Tom-Au,PA,Br	144.39	18	eP	PKPdf	17 30 29.1 +0.6
PB12	IPOC Station P	146.09	67	PKPdf	PKPbc	17 30 32.2 0.0
PB12				IAMs_20	IAMs_20	18 50 05.2
	comp=Z,1μm,20.0s					
LPAZ	La Paz	146.15	61	PKPdf	PKPbc	17 30 33.0 -0.1
LPAZ	La Paz	146.15	61	PKPbc	PKPbc	17 30 32.7 -0.4
	comp=Z,12nm,0.8s,baz=340,slow=4.2,SNR=38					
LPAZ	La Paz	146.15	61	eP	PKPab	17 30 33.7 -0.1
NPGB	Novo Progresso	146.25	33	eP	PKPab	17 30 33.2 -0.2
PB08	IPOC Station P	147.91	67		PKPbc	17 30 36.5 -1.2
VILB	Vilhena	148.81	46	eP	PKPdf	17 30 36.6 +0.7
NBPB	Pedra_Branca-C	148.82	4	eP	PKPdf	17 30 37.0 +1.0
RCBR	Riachuelo	149.11	357	eP	PKPdf	17 30 37.4 +0.9
CLDB	Colider	149.42	37	eP	PKPdf	17 30 38.6 +1.8
PDRB	Porto dos Gac	149.59	39	eP	PKPdf	17 30 39.1 +1.9
LCO	Las Campanas	151.30	84		PKiKP	17 30 46.5 +0.3
LCO	Las Campanas	151.30	84	PKIKP	PKiKP	17 30 46.5 +0.3
LCO				pmax	pmax	
	comp=Z,2μm,19.0s					
PTLB	Pontes e Lacer	151.41	48	eP	PKPdf	17 30 40.7 +0.9
NBCA	Caruaru-PE	151.49	357	eP	PKPdf	17 30 40.7 +0.5
GO04	Tololo Observa	151.68	86	IAMs_20	IAMs_20	18 44 40.3
	comp=Z,1μm,19.0s					
CO03	El Pedregal	152.01	87	IAMs_20	IAMs_20	18 54 14.2
	comp=Z,1μm,22.0s					
SNDB	Serra Nova Dou	152.38	30	eP	PKPdf	17 30 42.3 +0.9
LR03	Panguipulli	152.71	107	IAMs_20	IAMs_20	18 30 37.6
	comp=Z,1μm,20.0s					
LL01	San Ignacio de	152.78	113	IAMs_20	IAMs_20	18 43 39.2
	comp=Z,984nm,18.0s					
COYC	Coyhaique	152.84	120		PKiKP	17 30 49.3 +0.8
NBAN	Anadia - AL	152.94	357	eP	PKPdf	17 30 44.0 +1.8
MT03	Universidad Ad	153.01	93		PKPbc	17 30 49.0 -0.2
SALV	Santo Antonio	153.72	42	eP	PKPdf	17 30 44.0 +0.8
PLCA	Paso Flores	154.15	109	PKPbc	PKPbc	17 30 51.0 -0.4
	comp=Z,5.5nm,1.2s,baz=252,slow=5.4,SNR=3.3					
PLCA				PKPab	PKPab	17 31 04.4 -0.9
	comp=Z,13nm,1.1s,baz=267,slow=3.7,SNR=6.5					
PLCA	Paso Flores	154.15	109	eP	PKPdf	17 30 44.5 +1.2
SDBA	SAO DESIDERIO	154.83	17	eP	PKPdf	17 30 46.1 +1.1
ARAG	Araguaiana, MT	155.50	35	eP	PKPdf	17 30 47.0 +1.2
PANT	Pantanal (Braz	155.66	48	eP	PKPdf	17 30 47.8 +1.9
BDQN	Bodoquena, MS	156.69	51	eP	PKPdf	17 30 49.9 +2.6
BDFB	Brasilia	156.98	26	PKPab	PKPab	17 31 17.9 0.0
	comp=Z,2.4nm,0.6s,baz=7.7,slow=6.9,SNR=4.3					
CPUP	Villa Florida	160.28	64	PKPab	PKPab

EOS3	**EOS3**	**0.93 174**	*e*P		**Pn**	**17 16 08.5**	**+0.9**
EOS3			*e*S		**S**	**17 16 31.1**	**+0.8**
YHNB	**Yeheng**	**0.94 235**	*e*P		**Pn**	**17 16 07.6**	**-0.4**
YHNB			*e*S		**S**	**17 16 29.6**	**-1.2**
NSK	**Sanguang**	**0.95 236**	*e*P		**Pn**	**17 16 07.8**	**-0.2**
NSK			*e*S		**S**	**17 16 30.1**	**-0.8**
EAHA	**Aohua**	**0.98 206**	*e*P		**Pn**	**17 16 08.1**	**-0.1**
EAHA			*e*S		**S**	**17 16 30.9**	**-0.3**
KSHI	**Guanxi Townshi**	**1.04 245**	*e*P		**Pn**	**17 16 08.6**	**+0.1**
KSHI			*e*S		**S**	**17 16 32.5**	**+0.7**
NNS	**Nan Shan**	**1.09 225**	*e*P		**Pn**	**17 16 09.3**	**+0.2**
NNS			*e*S		**S**	**17 16 32.8**	**+0.2**
NNSB	**Datong**	**1.09 224**	P		**Pn**	**17 16 09.4**	**+0.3**
NNSB			*e*S		**S**	**17 16 32.5**	**-0.2**
EOS4	**EOS4**	**1.09 175**	*e*P		**Pn**	**17 16 09.7**	**+1.2**
EOS4			*e*S		**S**	**17 16 31.4**	**-0.4**
NFF	**Wufeng Townshi**	**1.16 240**	*e*P		**Pn**	**17 16 09.1**	**-0.4**
NFF			*e*S		**S**	**17 16 32.3**	**-1.1**
NACB	**Ninganchiao**	**1.18 209**	*e*P		**Pn**	**17 16 09.4**	**-0.2**
NACB			*e*S		**S**	**17 16 32.4**	**-1.3**
ETL	**Fush Village**	**1.18 207**	*e*P		**Pn**	**17 16 09.4**	**-0.3**
ETLH	**Xiulin Townshi**	**1.21 214**	*e*P		**Pn**	**17 16 09.7**	**-0.2**
ETLH			*e*S		**S**	**17 16 33.7**	**-0.4**
LIOB	**Emei**	**1.23 243**	*e*P		**Pn**	**17 16 10.1**	**+0.1**
LIOB			*e*S		**S**	**17 16 34.0**	**-0.3**
NSTT	**Nanjuang**	**1.25 243**	*e*P		**Pn**	**17 16 09.9**	**-0.1**
NSTT			*e*S		**S**	**17 16 34.3**	**-0.2**
TWD	**Chiawan**	**1.26 207**	*e*P		**Pn**	**17 16 09.9**	**-0.3**
TWD			*e*S		**S**	**17 16 33.8**	**-0.9**
FUSS	**Fushou**	**1.31 223**	*e*P		**Pn**	**17 16 11.5**	**+0.6**
FUSS			*e*S		**S**	**17 16 35.9**	**+0.1**
HWA	**Hwalien**	**1.35 205**	*e*P		**Pn**	**17 16 10.6**	**-0.3**
HWA			*e*S		**S**	**17 16 37.0**	**+1.1**
TDCB	**Techi**	**1.36 225**	*e*P		**Pn**	**17 16 11.6**	**+0.4**
TDCB			*e*S		**S**	**17 16 36.7**	**+0.4**
WHF	**Hehuan Shan**	**1.37 219**	*e*P		**Pn**	**17 16 11.6**	**0.0**
WHF			*e*S		**S**	**17 16 37.9**	**+0.8**
LXIB	**Xiulin Townshi**	**1.40 212**	*e*P		**Pn**	**17 16 11.1**	**-0.4**
LXIB			*e*S		**S**	**17 16 36.5**	**-0.4**
ETM	**Tongmen**	**1.41 208**	*e*P		**Pn**	**17 16 10.4**	**-1.0**
ETM			*e*S		**S**	**17 16 36.2**	**-0.6**
NMLH	**Miaoli**	**1.46 243**	*e*P		**Pn**	**17 16 11.6**	**-0.2**
WHP	**Taichung City**	**1.49 231**	*e*P		**Pn**	**17 16 12.2**	**+0.1**
WHP			*e*S		**S**	**17 16 38.1**	**0.0**
SHUL	**Shoufeng**	**1.54 203**	*e*P		**Pn**	**17 16 11.0**	**-1.5**
SHUL			*e*S		**S**	**17 16 40.0**	**+1.2**
ESL	**Shilin**	**1.57 207**	*e*P		**Pn**	**17 16 12.0**	**-0.8**
ESL			*e*S		**S**	**17 16 38.0**	**-1.3**
OWD	**Renai**	**1.57 217**	*e*P		**Pn**	**17 16 13.5**	**+0.5**
OWD			*e*S		**S**	**17 16 40.2**	**+0.7**
WUSB	**Renai**	**1.58 220**	*e*P		**Pn**	**17 16 13.5**	**+0.5**
WUSB			*e*S		**S**	**17 16 40.8**	**+1.2**
IRIF	**Iriomote-Funau**	**1.63 122**	*e*P		**Pn**	**17 16 13.2**	**-0.1**
IRIF			*e*S		**S**	**17 16 39.8**	**-0.3**
WCS	**Beigang Elemen**	**1.66 226**	*e*P		**Pn**	**17 16 13.7**	**+0.1**
WCS			*e*S		**S**	**17 16 40.8**	**+0.2**
WARBT	**Fenglin Townsh**	**1.67 207**	*e*P		**Pn**	**17 16 12.8**	**-1.0**
WARBT			*e*S		**S**	**17 16 40.1**	**-0.9**
SMLT	**Sun Moon Lake**	**1.79 222**	*e*P		**Pn**	**17 16 14.2**	**-0.8**
TYC	**Yuchr**	**1.80 224**	*e*P		**Pn**	**17 16 14.7**	**-0.3**
SSLB	**Suanglung**	**1.83 219**	*e*P		**Pn**	**17 16 15.5**	**+0.2**
SSLB			*e*S		**S**	**17 16 43.9**	**+0.3**
HATJ	**Hateruma jima**	**1.85 128**	*e*S		**S**	**17 16 43.5**	**-0.3**
JKRS	**Kuro-shima**	**1.90 121**	*e*P		**Pn**	**17 16 16.1**	**+0.2**
JKRS			*e*S		**S**	**17 16 44.5**	**-0.1**
JIJ	**Ishigaki jima**	**1.94 115**	*e*P		**Pn**	**17 16 16.2**	**-0.2**
JIJ			*e*S		**S**	**17 16 44.6**	**-0.8**
WHYT	**Xinyi Township**	**1.96 220**	*e*P		**Pn**	**17 16 16.8**	**+0.2**
WHYT			*e*S		**S**	**17 16 46.3**	**+0.4**
JISG	**Ishigakijimahi**	**2.00 108**	*e*P		**Pn**	**17 16 16.8**	**-0.1**
JISG			*e*S		**S**	**17 16 46.0**	**-0.4**
CHN5	**Tsauling**	**2.14 221**	*e*P		**Pn**	**17 16 19.0**	**+0.5**
CHN5			*e*S		**S**	**17 16 49.7**	**+0.5**
JTJ	**Tarama**	**2.33 104**	*e*P		**Pn**	**17 16 20.4**	**+0.1**
JIRB	**Irabujima**	**2.71 98**	*e*P		**Pn**	**17 16 25.2**	**+0.6**
JMJ2	**Miyako jima3**	**2.86 99**	*e*P		**Pn**	**17 16 26.8**	**+0.4**

*ISN **10** 17:17:27.4±0.6, 32°.95N×46°.19E, h10km±2km, ML3.2*
*TEH **10** 17:17:27.9, 32°.98N×46°.22E, h8km±65km*
ISC 10 17:17:28.4±1.8, 33°.01N±0°.08×46°.20E±0°.04, h1km±13km, n12, σ0°68/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.24**	**294**	*e*Pg	**Pg**	**17 17 33.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**17 17 37.0**	**+0.8**
IBDR				AML	AML	17 17 40.2	
	comp=E,3μm,0.8s						
IBDR				AML	AML	17 17 46.1	
	comp=N,4μm,0.3s						
ILBA	**Ilam Banvizeh**	**0.61**	**1**	Pg	**Pg**	**17 17 40.0**	**-0.1**
ILBA				Sg	**Sb**	**17 17 50.6**	**-0.5**
GLG1	**Gilan-e-Gharb**	**1.13**	**348**	Pg	**Pb**	**17 17 50.2**	**-0.5**
GLG1				Sg	**Sn**	**17 18 06.8**	**-0.8**
BHD	**Baghdad**	**1.54**	**280**	*e*Pn	**Pn**	**17 17 57.0**	**-0.1**
BHD				*e*Sn	**Sb**	**17 18 18.0**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**1.57**	**341**	Pg	**Pg**	**17 17 58.5**	**-0.1**
IDOB	**Doab**	**1.83**	**64**	Pn	**Pb**	**17 18 01.9**	**-0.9**
SNQR	**Sonqor, Kerman**	**2.19**	**32**	Pn	**Pn**	**17 18 07.0**	**+0.7**
HSAM	**Samen**	**2.34**	**59**	Pn	**Pn**	**17 18 08.8**	**+0.6**
BDRS	**Dareh Seyedi**	**2.43**	**67**	Pn	**Pn**	**17 18 09.9**	**+0.3**
IKRK	**Kirkuk**	**2.84**	**328**	*e*Pn	**Pn**	**17 18 15.0**	**+0.1**
IKRK				*e*Sn	**Sn**	**17 18 50.5**	**+0.8**
IKRK				AML	AML	17 19 17.6	
	comp=E,101nm,0.7s						
IKRK				AML	AML	17 19 19.2	
	comp=N,75nm,0.8s						
HAGD	**Aghdareh**	**3.04**	**53**	Pn	**Pn**	**17 18 18.9**	**+1.0**
HGHA	**Hamedan- Ghaye**	**3.31**	**41**	Pn	**Pn**	**17 18 22.5**	**+0.9**

*IDC **10** 17:21:48.4±0.6, 5°.35S×146°.37E, h0km, mb4.6/15, mbtmp4.6/17, ML4.3/2, MS4.0/1, Error ellipse: s-maj=24.1km s-min=13.1km az=84.0*
*NEIC **10** 17:21:54.5±2.5, 5°.23S±0°.06×146°.18E±0°.06, h50km±8km, mb5.0/43, Error ellipse: s-maj=10.7km s-min=6.8km az=45.0*
*DJA **10** 17:21:58.9±1.3, 6°.S±4°×14°.6E±°, h24km±10km, M5.3/36, mb5.1/36, mB5.7/9, MLv5.5/6, Mw(mB)5.2/9, MwMwp5.4/1, Mwp5.6/1*
ISC 10 17:21:54.4±0.4, 5°.39S±0°.05×146°.22E±0°.05, h35km, n170, σ2°.21/151, mb5.0/46, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.51**	**19**		**Pn**	**17 22 44.2**	**-2.4**
BULU	**Kimbe**	**4.08**	**92**	P	**Pn**	**17 22 59.0**	**+4.6**
PMG	**Port Moresby**	**4.10**	**167**	Pn	**Pn**	**17 22 55.2**	**+0.5**
	135nm,0.3s,baz=334,slow=8.2,SNR=154						
PMG				Sn	**Sn**	**17 23 44.0**	**+2.5**
	45nm,0.3s,baz=328,slow=9.2,SNR=3.5						
PMG				LR	LR	17 24 19.9	
	comp=Z,2μm,18.7s,baz=88,slow=37						
RABL	**Rabaul**	**6.04**	**79**	Pn	**Pn**	**17 23 21.2**	**-0.2**
JAY	**Jayapura**	**6.20**	**297**	Pn	**Pn**	**17 23 24.5**	**+1.0**
	3.5nm,0.3s,baz=184,slow=9.4,SNR=18						
	24nm,0.6s						
JAY	**Jayapura**	**6.20**	**297**	P	Pn	17 23 34.2	+11
	1μm93nm,1.1s						
MMPI	**Merauke**	**6.55**	**242**	P	Pn	17 23 35.4	+7.1
GENI	**Genyem**	**6.64**	**294**	P	Pn	17 23 36.9	+7.3
	1.9nm5μm284nm,0.9s						
SMPI	**Sarmi**	**8.21**	**294**	P	Pn	17 24 02.5	+11
	0.5nm2μm169nm,1.6s						
COEN	**Coen**	**9.03**	**199**	Pn	**Pn**	**17 24 04.5**	**+2.1**
COEN	**Coen**	**9.03**	**199**	P	**Pn**	**17 24 04.4**	**+2.1**
COEN	**Coen**	**9.03**	**199**	S	**Sn**	**17 25 43.4**	**+0.5**
MTSU	**Mount Surprise**	**12.81**	**188**	P	**Pn**	**17 24 56.8**	**+2.7**
TV1H	**Townsville Har**	**13.80**	**178**	P	**Pn**	**17 25 10.2**	**+2.5**
TATA	**Tatamba Isabel**	**13.81**	**103**	P	**Pn**	**17 25 12.4**	**+4.5**
FAKI	**Fak Fak**	**14.14**	**279**	P	**Pn**	**17 25 15.9**	**+3.5**
HNR	**Honiara**	**14.19**	**107**	Pn	**Pn**	**17 25 13.0**	**-0.1**
	8.5nm,0.3s,baz=209,slow=11,SNR=5.3						
ALEG	**Aligegeo Malai**	**14.75**	**104**	P	**Pn**	**17 25 24.8**	**+4.2**
NGOA	**Tingoa Renbel**	**15.00**	**115**	P	**P**	**17 25 28.9**	**-0.1**
KDU	**Kakadu**	**15.38**	**241**	P	**Pn**	**17 25 29.5**	**+0.5**
SWI	**Sorong**	**15.59**	**286**	P	**P**	**17 25 42.5**	**+6.9**
	88nm,0.9s						
QIS	**Mount Isa**	**16.39**	**202**	P	**Pn**	**17 25 43.6**	**+1.6**
MTN	**Manton Dam**	**16.63**	**243**		**P**	**17 25 46.6**	**-0.5**
MTN				IAmb	IAmb	17 25 47.9	
	comp=Z,59nm,0.8s						
MTN	**Manton Dam**	**16.63**	**243**	P	**Pn**	**17 25 45.2**	**+0.3**
DRS	**Darwin Rock St**	**16.67**	**244**	P	**P**	**17 25 47.2**	**-0.3**
MSAI	**Masohi**	**17.36**	**276**	P	P	17 26 02.5	+7.3
	comp=Z,100nm,1.0s						
AAI	**Ambon**	**18.05**	**275**	P	**P**	**17 26 08.4**	**+5.6**
	comp=Z,93nm,1.2s						
WB0	**Warramunga Arr**	**18.35**	**218**		**P**	**17 26 05.5**	**-0.7**
RK1H	**Rockhampton Ha**	**18.37**	**167**	P	**Pn**	**17 26 07.4**	**+1.0**
WR0	**Warramunga Arr**	**18.41**	**217**	P	**P**	**17 26 03.8**	**-3.0**
WRAB	**Tennant Creek**	**18.50**	**218**	P	**P**	**17 26 06.1**	**-1.7**
WB2	**Warramunga Arr**	**18.51**	**218**	P	**P**	**17 26 07.7**	**-0.2**
WB2				IAmb	IAmb	17 26 16.3	
	comp=Z,88nm,1.6s						
WRA	**Warramunga Arr**	**18.52**	**218**	P	**P**	**17 26 07.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=31,slow=11,SNR=40						
	comp=Z,3.4nm,0.4s						
NLAI	**Namlea**	**19.18**	**276**	P	**Pn**	**17 26 22.9**	**+6.5**
	comp=Z,121nm,0.8s						
TNTI	**Ternate**	**19.80**	**287**	P	**Pn**	**17 26 29.6**	**+5.9**
	comp=Z,38nm,0.9s						
KNRA	**Kununurra**	**19.96**	**238**		**P**	**17 26 24.3**	**+0.6**
KNRA				IAmb	IAmb	17 26 39.5	
	comp=Z,42nm,1.0s						
EIDS	**Eidsvold**	**20.41**	**167**		**P**	**17 26 27.0**	**-1.6**
EIDS	**Eidsvold**	**20.41**	**167**	P	**P**	**17 26 29.3**	**+0.7**
SANI	**Sanana**	**20.45**	**279**	P	**P**	**17 26 30.1**	**+0.9**
SANI	**Sanana**	**20.45**	**279**	P	Pn	17 26 35.1	+3.6
	comp=Z,69nm,1.0s						
QLP	**Quilpie**	**21.16**	**185**	P	**P**	**17 26 37.0**	**+0.3**
AS01	**Alice Springs**	**21.68**	**212**	P	**P**	**17 26 42.5**	**+0.2**
AS31	**Alice Springs**	**21.70**	**212**	P	**P**	**17 26 42.4**	**-0.2**
ASAR	**Alice Springs**	**21.70**	**212**	P	**P**	**17 26 40.3**	**-2.3**
ASAR	**Alice Springs**	**21.70**	**212**	P	**P**	**17 26 41.9**	**-0.7**
	comp=Z,5.1nm,0.6s,baz=47,slow=7.9,SNR=26						
	comp=Z,5.1nm,0.6s						
SOEI	**Soe**	**22.18**	**257**	P	**P**	**17 26 46.1**	**-1.8**
SOEI				IAmb	IAmb	17 27 02.6	
	comp=Z,90nm,0.8s						
SOEI	**Soe**	**22.18**	**257**	P	**P**	**17 26 48.2**	**+0.3**
SOEI	**Soe**	**22.18**	**257**	P	**P**	**17 26 50.5**	**+2.6**
	comp=Z,5μmcomp=Z,3μmcomp=Z,189nm,1.1s						
INKA	**Innaminka**	**22.83**	**193**	P	**P**	**17 26 54.9**	**+0.4**
BBSI	**Bau Bau**	**23.54**	**269**	P	P	17 27 09.4	+7.6
	comp=Z,116nm,1.1s						
FITZ	**Fitzroy Crossi**	**23.74**	**236**	P	**P**	**17 26 59.5**	**-4.2**
FITZ	**Fitzroy Crossi**	**23.74**	**236**	P	**P**	**17 27 02.9**	**-0.8**
LUWI	**Luwuk**	**23.80**	**280**	P	P	17 27 15.2	+11
	comp=Z,2μmcomp=Z,121nm,1.3s						
MMRI	**Maumere**	**24.02**	**261**	P	**P**	**17 27 02.2**	**-4.1**
MMRI				IAmb	IAmb	17 27 14.6	
	comp=Z,58nm,0.6s						
MMRI	**Maumere**	**24.02**	**261**	P	**P**	**17 27 06.0**	**-0.3**
OOD	**Oodnadatta**	**24.43**	**203**	P	**P**	**17 27 09.8**	**-0.1**
APSI	**Ampana**	**24.93**	**279**	P	P	17 27 23.4	+8.8
	comp=Z,105nm,1.4s						
MRSI	**Marisa**	**24.93**	**283**	P	P	17 27 23.9	+9.3
	comp=Z,59nm,1.0s						
ARMA	**Armidale**	**25.42**	**169**	P	**P**	**17 27 16.2**	**-2.8**
ARMA	**Armidale**	**25.42**	**169**	P	**P**	**17 27 19.3**	**+0.3**
BSSI	**Bau Bau, Buton**	**25.61**	**267**	P	**P**	**17 27 27.4**	**+6.6**
	comp=Z,49nm,1.4s						
DZM	**Mont Dzumac**	**25.65**	**132**	P	**P**	**17 27 19.9**	**-1.2**
DZM				IAmb	IAmb	17 27 22.1	
	comp=Z,98nm,1.3s						
DZM	**Mont Dzumac**	**25.65**	**132**	P	**P**	**17 27 20.2**	**-1.0**
	comp=Z,57nm,1.1s,baz=333,slow=8.5,SNR=14						
	comp=Z,57nm,1.1s						
DZM	**Mont Dzumac**	**25.65**	**132**	P	**P**	**17 27 20.8**	**-0.4**
ONTNC	**Ouen Toro**	**25.80**	**133**	P	**P**	**17 27 20.5**	**-1.9**
ONTNC				IAmb	IAmb	17 27 24.2	
	comp=Z,38nm,1.0s						
BASI	**Baing, Sumba**	**25.84**	**258**	P	**P**	**17 27 25.9**	**+3.0**
BKSI	**Bulukumba**	**25.98**	**269**	P	P	17 27 32.3	+8.1
	comp=Z,58nm,1.1s						
CMSA	**Cobar Meteorol**	**26.02**	**181**	P	**P**	**17 27 24.9**	**+0.6**
WRKA	**Warakurna**	**26.03**	**220**	P	**P**	**17 27 24.5**	**0.0**
LCRK	**Leigh Creek**	**26.04**	**196**	P	**P**	**17 27 24.6**	**+0.1**
TOLI2	**Tolitoli**	**26.21**	**284**	P	**P**	**17 27 23.1**	**-3.1**
TOLI2				IAmb	IAmb	17 27 47.2	
	comp=Z,17nm,0.8s						
TOLI2	**Tolitoli**	**26.21**	**284**	P	**P**	**17 27 27.0**	**+0.8**
SPSI	**Sidrap Palu**	**26.40**	**272**	P	**P**	**17 27 32.0**	**+4.1**
	comp=Z,24nm,1.1s						
TTSI	**Tana Toraja**	**26.43**	**274**	P	P	17 27 37.7	+10
	comp=Z,30nm,0.9s						
PCI	**Palu**	**26.71**	**279**	P	P	17 27 40.7	+10
	comp=Z,55nm,1.0s						
STKA	**Stephens Creek**	**26.71**	**189**	P	**P**	**17 27 29.2**	**-1.3**
STKA	**Stephens Creek**	**26.71**	**189**	P	**P**	**17 27 29.8**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=359,slow=9.1,SNR=15						
	comp=Z,6.2nm,0.6s						
STKA	**Stephens Creek**	**26.71**	**189**	P	**P**	**17 27 30.0**	**-0.5**
HTT	**Hallett**	**28.72**	**193**	P	**P**	**17 27 47.6**	**-1.0**
YNG	**Young**	**28.84**	**176**	P	**P**	**17 27 50.2**	**+0.6**
BBOO	**Buckleboo**	**28.88**	**198**	P	**P**	**17 27 47.1**	**-2.9**
BBOO	**Buckleboo**	**28.88**	**198**	P	**P**	**17 27 49.2**	**-0.8**
CAN	**Canberra**	**29.90**	**175**	P	**P**	**17 27 58.3**	**-0.7**
CAN				IAmb	IAmb	17 28 33.4	
	comp=Z,81nm,1.7s						
CAN				PcP	**PcP**	**17 30 59.5**	**-1.9**
CAN	**Canberra**	**29.90**	**175**	P	**P**	**17 27 59.5**	**+0.5**
MBWA	**Marble Bar**	**30.09**	**236**	P	**P**	**17 27 58.9**	**-1.9**
MBWA				IAmb	IAmb	17 28 32.8	
	comp=Z,23nm,1.4s						
MBWA	**Marble Bar**	**30.09**	**236**	P	**P**	**17 28 01.8**	**+1.0**
MBWA	**Marble Bar**	**30.09**	**236**	P	**P**	**17 28 01.4**	**+0.6**
MBWA				pP	**pP**	**17 28 10.7**	**0.0**
PSA00	**Pilbara Seismi**	**30.19**	**235**	P	**P**	**17 27 58.8**	**-2.8**
FORT	**Forrest**	**30.49**	**212**	P	**P**	**17 28 02.2**	**-2.1**
FORT				IAmb	IAmb	17 28 21.9	
	comp=Z,17nm,0.7s						
FORT	**Forrest**	**30.49**	**212**	P	**P**	**17 28 03.8**	**-0.4**
	comp=Z,28nm,1.3s						
ARPS	**Mount Arapiles**	**31.49**	**187**	P	**P**	**17 28 13.4**	**+0.4**
TOO	**Toolangi**	**32.04**	**181**	IAmb	IAmb	17 28 38.7	
	comp=Z,21nm,1.6s						
MEEK	**Meekatharra**	**33.77**	**228**	P	**P**	**17 28 32.8**	**-0.3**
KMBL	**Kambalda**	**34.48**	**219**	P	**P**	**17 28 39.2**	**0.0**
GIRL	**Giralia**	**35.33**	**238**	P	**P**	**17 28 45.8**	**-0.8**
GIRL	**Giralia**	**35.33**	**238**	P	**P**	**17 28 46.7**	**+0.1**
MORW	**Morawa**	**37.01**	**227**	P	**P**	**17 28 59.1**	**-1.8**
MORW				IAmb	IAmb	17 29 01.7	
	comp=Z,37nm,1.3s						
MORW	**Morawa**	**37.01**	**227**	P	**P**	**17 29 01.0**	**+0.1**
BLDU	**Ballidu**	**37.41**	**224**	P	**P**	**17 29 03.7**	**-0.6**
BBJI	**Bungbulang**	**38.37**	**265**	P	**P**	**17 29 10.8**	**-1.9**
OUZ	**Omahuta**	**38.98**	**143**	P	**P**	**17 29 18.8**	**+1.4**
XMIS	**Christmas Isla**	**40.47**	**260**	P	**P**	**17 29 28.5**	**-1.6**
XMIS	**Christmas Isla**	**40.47**	**260**	P	**P**	**17 29 30.2**	**0.0**
KUZ	**Kuaotunu**	**41.27**	**143**	P	**P**	**17 29 37.7**	**+1.3**
TOZ	**Tahuroa Road**	**41.81**	**144**	IAmb	IAmb	17 29 43.4	
	comp=Z,50nm,0.9s						
QRZ	**Quartz Range**	**42.44**	**150**	P	**P**	**17 29 45.4**	**-0.6**
QRZ	**Quartz Range**	**42.44**	**150**	P	**P**	**17 29 46.9**	**+1.0**
MYKOM	**Kota Tinggi**	**42.91**	**278**	P	**P**	**17 29 47.3**	**-2.9**
URZ	**Urewera**	**43.10**	**144**	P	**P**	**17 29 51.9**	**+0.6**
JCZ	**Jackson Bay**	**43.34**	**156**	P	**P**	**17 29 55.0**	**+1.7**
BKZ	**Black Stump Fm**	**43.36**	**145**	IAmb	IAmb	17 29 55.4	
	comp=Z,35nm,0.9s						
BKZ	**Black Stump Fm**	**43.36**	**145**	P	**P**	**17 29 54.3**	**+0.8**
LTZ	**Lake Taylor**	**43.81**	**152**	P	**P**	**17 29 58.4**	**+1.3**
LTZ				IAmb	IAmb	17 29 59.3	
	comp=Z,59nm,1.4s						
SNZO	**South Karori**	**43.90**	**149**	P	**P**	**17 29 58.2**	**+0.5**
	comp=Z,41nm,1.7s						
RPZ	**Rata Peaks**	**44.00**	**154**	P	**P**	**17 29 59.5**	**+1.0**
RPZ				IAmb	IAmb	17 30 00.4	
	comp=Z,39nm,0.9s						
RPZ	**Rata Peaks**	**44.00**	**154**	P	**P**	**17 29 59.5**	**+1.0**
OXZ	**Oxford**	**44.13**	**153**	IAmb	IAmb	17 30 02.5	
	comp=Z,17nm,0.8s						
KHZ	**Kahutara**	**44.13**	**151**	IAmb	IAmb	17 30 01.2	
	comp=Z,22nm,0.9s						
KHZ	**Kahutara**	**44.13**	**151**	P	**P**	**17 29 59.2**	**-0.3**
LBZ	**Lake Benmore**	**44.17**	**155**	P	**P**	**17 30 00.3**	**+0.5**
LBZ				IAmb	IAmb	17 30 01.1	
	comp=Z,33nm,1.0s						
BFZ	**Birch Farm**	**44.27**	**147**	P	**P**	**17 30 00.9**	**+0.2**
PLWZ	**Palliser**	**44.37**	**149**	P	**P**	**17 30 01.0**	**-0.6**
NJ2	**Nanjing**	**45.44**	**327**	*e*P	**P**	**17 30 09.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSRS	**Korea Array**	**45.91**	**340**	P	**P**	**17 30 12.6**	**-1.0**
	comp=Z,6.7nm,0.9s,baz=160,slow=9.7,SNR=8.6						
	comp=Z,6.7nm,0.9s						
KSAR	**Wonju Array Be**	**45.91**	**340**	P	**P**	**17 30 11.2**	**-2.5**
KULM	**Kulim**	**46.72**	**282**	P	**P**	**17 30 18.1**	**-2.4**
KULM				IAmb	IAmb	17 30 35.0	
	comp=Z,39nm,1.4s						
KULM	**Kulim**	**46.72**	**282**	P	**P**	**17 30 21.3**	**+0.8**
GSI	**Gunungsitoli**	**49.03**	**276**	P	**P**	**17 30 34.5**	**-3.9**
GSI				IAmb	IAmb	17 30 46.7	
	comp=Z,48nm,1.3s						
SLVN	**Son La**	**49.26**	**304**	P	**P**	**17 30 41.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**51.00**	**347**	P	**P**	**17 30 50.0**	**-2.8**
USRK	**Ussuriysk Ar.**	**51.00**	**347**	P	**P**	**17 30 51.6**	**-1.2**
	comp=Z,6.8nm,0.8s,baz=157,slow=7.9,SNR=7.3						
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.27**	**298**	P	P	17 30 56.0	-6.8
CMAR	**Chiang Mai Arr**	**52.27**	**298**	P	**P**	**17 31 02.8**	**0.0**
	comp=Z,1.5nm,0.8s,baz=131,slow=5.7,SNR=12						
	comp=Z,1.5nm,0.8s						
CN2	**Changchun**	**52.43**	**341**	*e*P	**P**	**17 31 07.0**	**+3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**55.84**	**349**	P	**P**	**17 31 26.9**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=183,slow=3.1,SNR=4.9						
	comp=Z,3.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**55.91**	**329**	*e*P	**P**	**17 31 29.7**	**+0.7**
LZH	**Lanzhou**	**57.24**	**320**	*e*P	P	17 31 26.8	-12
LZH				pP	pP	17 31 40.0	-8.9
LZH				pmax	pmax		
	comp=Z,36nm,1.0s						
PETK	**Petropavlovsk-**	**59.08**	**8**	P	**P**	**17 31 48.2**	**-2.8**
PETK	**Petropavlovsk-**	**59.08**	**8**	P	**P**	**17 31 50.4**	**-0.6**
	comp=Z,12nm,0.9s,baz=168,slow=6.2,SNR=9.2						
	comp=Z,12nm,0.9s						
PET	**Petropavlovsk**	**59.14**	**9**	P	**P**	**17 31 48.5**	**-2.9**
MA2	**Magadan**	**64.86**	**3**	P	**P**	**17 32 28.5**	**-1.2**
	comp=Z,7.1nm,0.9s,baz=162,slow=8.5,SNR=5.2						
	comp=Z,7.1nm,0.9s						
MA2	**Magadan**	**64.86**	**3**	P	P	17 32 35.9	+6.2
MA2	**Magadan**	**64.86**	**3**	P	**P**	**17 32 28.7**	**-1.1**
MA2				pP	**pP**	**17 32 38.0**	**-2.1**
CASY	**Casey**	**65.64**	**195**	P	**P**	**17 32 34.3**	**-0.4**
SEY	**Seymchan**	**68.29**	**3**	P	**P**	**17 32 50.7**	**-0.9**
	comp=Z,5.0nm,1.0s,baz=180,slow=8.5,SNR=2.2						
	comp=Z,5.0nm,1.0s						
CCD	**Concordia, Ant**	**70.90**	**186**	P	**P**	**17 33 07.8**	**-0.2**
WMQ	**Urumqi**	**71.82**	**319**	*e*P	**P**	**17 33 13.5**	**-0.3**
WMQ				LR	LR		
	comp=N,2μm,17.1s						
WMQ				LR	LR		
	comp=E,2μm,13.9s						
WMQ				LR	LR		
	comp=Z,810nm,17.1s						
VNDA	**Vanda**	**72.57**	**176**	P	**P**	**17 33 17.1**	**-0.5**
	comp=Z,14nm,0.7s,baz=330,slow=7.3,SNR=20						
	comp=Z,14nm,0.7s						
ZALV	**Zalesovo Beam**	**78.08**	**328**	P	**P**	**17 33 50.7**	**+1.1**
	comp=Z,5.2nm,0.7s,baz=114,slow=6.5,SNR=2.8						
	comp=Z

JHYU	Hitachinakayam	1.54 255	A	A	17 24 41.5	
	comp=N,44nm,1.3s,comp=E,59nm,2.2s					
JMM	Marumori	1.72 311		Pn	17 24 44.0	-0.9
JMM	Marumori	1.72 311	P	Pn	17 24 44.8	-0.1
JMM	Marumori	1.72 311	P	Pn	17 24 44.2	-0.7
JMM			eS	Sn	17 25 04.8	-2.1
JMM	Marumori	1.72 311	A	A	17 24 44.2	
	comp=N,20nm,4.6s,comp=E,22nm,2.6s					
JOTO	OTAMA OYAMA	1.86 297	P	Pn	17 24 46.7	-0.2
JOTO	OTAMA OYAMA	1.86 297	A	A	17 24 46.7	
	comp=N,63nm,1.7s,comp=E,48nm,0.8s					
JIO	Ouri	1.91 334	P	Pn	17 24 46.9	-0.7
JIO	Ouri	1.91 334	A	A	17 24 46.9	
	comp=N,15nm,5.7s,comp=E,13nm,1.8s					
BSO1	Boso 1	2.40 210	eP	Pn	17 24 53.7	0.0
JMK	Ichinoseki	2.41 337	eP	Pn	17 24 54.2	-0.1
JMK	Ichinoseki	2.41 337	A	A	17 24 54.2	
	comp=N,11nm,3.0s,comp=E,16nm,2.2s					
JAG	Ashikaga	2.42 263	P	Pn	17 24 53.9	-0.6
JAG	Ashikaga	2.42 263	A	A	17 24 53.9	
	comp=N,16nm,3.1s,comp=E,12nm,2.1s					
JNS	Sasagawa	2.71 294	A	A	17 24 58.3	
	comp=N,9.0nm,2.9s,comp=E,11nm,7.0s					
JYK	Kaneyama	2.72 324	P	Pn	17 24 58.6	-0.1
JYK	Kaneyama	2.72 324	A	A	17 24 58.6	
	comp=N,20nm,3.2s,comp=E,19nm,2.7s					
JOM	Ohasama	2.87 342	P	Pn	17 25 00.7	0.0
JOM	Ohasama	2.87 342	A	A	17 25 00.7	
	comp=N,9.0nm,5.5s,comp=E,12nm,3.8s					
JRY	Ryogami san	2.94 257	P	Pn	17 25 01.0	-0.7
JRY	Ryogami san	2.94 257	A	A	17 25 01.0	
	comp=N,11nm,1.4s,comp=E,12nm,4.9s					
JOD2	Odawara 2	3.09 242	A	A	17 25 03.5	
	comp=N,24nm,3.7s,comp=E,21nm,1.8s					
JYN	Shimob	3.38 250	A	A	17 25 07.8	
	comp=N,21nm,3.6s,comp=E,16nm,2.4s					
MJAR	Matsushiro Arr	3.40 268	Pn	Pn	17 25 08.2	+0.2
	comp=E,13nm,0.3s,baz=98,slow=10,SNR=804					
MJAR			Sn	Sn	17 25 49.8	+1.3
	comp=E,8.1nm,0.3s,baz=96,slow=8.9,SNR=5.7					
	comp=E,460nm,0.8s					
MAJO	Matsushiro	3.40 268		Pn	17 25 09.1	+1.0
MAJO	Matsushiro	3.40 268	P	Pn	17 25 09.2	+1.1
MAJO	Matsushiro	3.40 268	c iP	Pn	17 25 09.2	+1.1
MJB9	Matsu-Tunnel	3.41 268		Pn	17 25 10.0	+1.9
JSD	Sado	3.56 293		Pn	17 25 10.3	0.0
JSD	Sado	3.56 293	P	Pn	17 25 09.9	-0.4
JTM	Tenmabayashi	4.18 346		Pn	17 25 17.8	-0.9
JTM	Tenmabayashi	4.18 346	P	Pn	17 25 18.4	-0.3
JHJ2	Mitsune	4.21 211	P	Pn	17 25 19.3	+0.2
JHJ	Hachijo jima 2	4.22 212	Pn	Pn	17 25 18.0	-1.3
	comp=E,86nm,0.3s,baz=160,slow=23,SNR=13					
JHJ			Sn	Sn	17 26 04.2	-4.3
	comp=E,467nm,0.3s,baz=96,slow=23,SNR=12					
	comp=E,219nm,0.3s					
JGF	Kuroka	4.26 256		Pn	17 25 21.7	+1.8
JGF	Kuroka	4.26 256	P	Pn	17 25 21.7	+1.8
INU	Inuyama	4.60 254		Pn	17 25 25.7	+1.2
INU	Inuyama	4.60 254	P	Pn	17 25 25.4	+0.9
ERM	Erimo	5.30 6		Pn	17 25 33.4	-0.7
ERM	Erimo	5.30 6	P	Pn	17 25 33.1	-0.9
ERM	Erimo	5.30 6	ceP	Pn	17 25 33.2	-0.8
ERM			pmax	pmax		
	comp=Z,79nm,1.0s					
JEM	Erimo	5.30 6	P	Pn	17 25 33.3	-0.8
NMR	Nemuro--Hokkai	7.08 20	eP	Pn	17 25 56.4	-2.2
NMR			eS	Sn	17 27 11.3	-7.8
JKA	Kamikawa-asahi	7.37 1		Pn	17 26 02.7	+0.2
ASAJ	Asahikawa	7.37 1	Pn	Pn	17 26 02.3	-0.2
	comp=Z,5.2nm,0.3s,baz=217,slow=11,SNR=67					
	comp=Z,15nm,0.4s					
ASAJ	Asahikawa	7.37 1	P	Pn	17 26 02.7	+0.2
JMN	Monobe	7.62 249	Pn	Pn	17 26 07.8	+1.9
JMN	Monobe	7.62 249	P	Pn	17 26 06.8	+0.8
RUSJ	Misakicho	7.66 15	eP	Pn	17 26 05.2	-1.3
RUSJ			eS	Sn	17 27 26.4	-6.9
YUK	Yuzh-Kuril'sk	7.74 19	eP	Pn	17 26 05.3	-2.3
YUK			eS	Sn	17 27 27.1	-8.1
YUK			pmax	pmax		
	comp=Z,135nm,0.5s					
YUK			pmax	pmax		
	comp=E,27nm,0.3s					
YUK			pmax	pmax		
	comp=N,39nm,0.4s					
TEY	Ternei	9.38 334	⇑eP	Pn	17 26 37.9	+7.8
TEY			pmax	pmax		
	comp=E,10.0nm,1.0s					
TEY			pmax	pmax		
	comp=N,20nm,1.5s					
TEY			pmax	pmax		
	comp=Z,20nm,1.7s					
KUR	Kuril'sk	9.42 24	P	Pn	17 26 33.5	+2.8
KUR			eS	Sn	17 28 10.2	-6.4
KUR			pmax	pmax		
	comp=Z,46nm,0.7s					
KUR			smax	smax		
	comp=N,54nm,0.5s					
KUR			smax	smax		
	comp=E,84nm,0.5s					
JCJ	Chichijima	9.62 181	Pn	Pn	17 26 26.2	-7.2
	comp=E,17nm,0.3s,baz=276,slow=22,SNR=4.7					
JCJ			Sn	Sn	17 28 03.5	-18
	comp=E,57nm,0.3s,baz=86,slow=23,SNR=6.7					
JCJ	Chichijima	9.62 181	P	Pn	17 26 32.9	-0.5
JNU	Nakatsue	10.15 253	Pn	Pn	17 26 42.4	+1.7
JNU	Nakatsue	10.15 253	Pn	Pn	17 26 41.9	+1.2
	comp=E,1.1nm,0.3s,baz=21,slow=2.5,SNR=9.0					
	comp=E,32nm,1.0s					
JNU	Nakatsue	10.15 253	P	Pn	17 26 42.7	+2.0
YSS	Yuzhno-Sakhali	10.21 1	Pn	Pn	17 26 41.2	-0.2
YSS	Yuzhno-Sakhali	10.21 1	P	Pn	17 26 42.0	+0.6
YSS	Yuzhno-Sakhali	10.21 1	eP	Pn	17 26 41.9	+0.6
YSS			eS	Sn	17 28 38.1	+2.3
YSS			pmax	pmax		
	comp=Z,40nm,1.0s					
USA0B	Ussuriysk Arra	10.89 316	Pn	Pn	17 26 54.7	+3.9
USA0B	Ussuriysk Arra	10.89 316	P	Pn	17 26 54.7	+3.9
USRK	Ussuriysk Ar.	10.89 316	Pn	Pn	17 26 54.5	+3.7
USRK	Ussuriysk Ar.	10.89 316	Pn	Pn	17 26 53.5	+2.7
	comp=Z,0.5nm,0.3s,baz=134,slow=14,SNR=16					
USRK			LR	LR	17 30 33.2	
	comp=Z,3μm,18.4s,baz=102,slow=35					
USRK	Ussuriysk Ar.	10.89 316	P	Pn	17 26 54.5	+3.7
KSRS	Korea Array	11.61 278	Pn	Pn	17 27 03.6	+3.0
	comp=Z,0.5nm,0.3s,baz=83,slow=13,SNR=34					
KSRS			LR	LR	17 31 18.1	
	comp=Z,5μm,18.1s,baz=80,slow=37					
KSAR	Wonju Array Be	11.64 278	Pn	Pn	17 27 03.0	+1.9
KSAR	Wonju Array Be	11.64 278	P	Pn	17 27 03.0	+1.9
TJN	Taejon	12.12 273	Pn	Pn	17 27 08.1	+0.4
TJN	Taejon	12.12 273	P	Pn	17 27 08.1	+0.4
MDJ	Mudanjiang	12.51 313	P	Pn	17 27 13.3	+0.3
MDJ	Mudanjiang	12.51 313	P	P	17 27 21.8	-3.0
BNX	BinXian	14.42 313	⇑P	Pn	17 27 38.1	-1.0
BNX			pmax	pmax		
	comp=Z,8.0nm,0.7s					
GRNR	Gornyy	14.67 345	⇑iP	Pn	17 27 40.5	-1.9
GRNR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
KLR	Kul'dur	14.71 331	Pn	Pn	17 27 41.0	-1.9
	comp=Z,0.3nm,0.3s,baz=155,slow=14,SNR=7.1					
KLR			LR	LR	17 32 26.3	
	comp=Z,2μm,18.5s,baz=157,slow=34					
	comp=Z,1.6nm,0.5s					
KLR	Kul'dur	14.71 331	ceP	Pn	17 27 41.7	-1.2
KLR			pmax	pmax		
	comp=Z,17nm,2.5s					
CN2	Changchun	14.74 304	eP	Pn	17 27 42.4	-1.1
CN2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
SNY	Shenyang	15.45 295	⇓P	Pn	17 27 51.8	-1.0
SNY			pmax	pmax		
	comp=Z,16nm,1.1s					
DL2	Dalian	16.58 284	P	Pn	17 28 05.5	-1.9
DL2			pmax	pmax		
	comp=Z,40nm,0.6s					
HEH	HeiHe	17.31 326	eP	Pn	17 28 14.9	-1.6
HEH			pmax	pmax		
	comp=Z,11nm,1.1s					
PETK	Petropavlovsk-	19.54 28	P	Pn	17 28 45.2	+1.4
	comp=Z,9.1nm,0.9s,baz=211,slow=8.3,SNR=6.8					
NJ2	Nanjing	20.00 263	⇓P	P	17 28 45.7	-1.9
NJ2			pmax	pmax		
	comp=Z,22nm,0.8s					
ZEA	Zeya	20.00 333	eP	P	17 28 47.4	-0.1
ZEA			pmax	pmax		
	comp=Z,30nm,0.8s					
TIA	Tai'an	20.35 276	P	P	17 28 49.4	-2.0
TIA			pmax	pmax		
	comp=Z,43nm,1.1s					
BJI	Beijing	20.82 287	P	P	17 28 54.4	-2.0
BJI			pmax	pmax		
	comp=Z,11nm,1.4s					
BJT	Baijiatuau	20.82 287	P	P	17 28 53.4	-3.1
BJT	Baijiatuau	20.82 287	P	P	17 28 57.5	+1.0
	comp=Z,28nm,1.3s					
BJT	Baijiatuau	20.82 287	P	P	17 28 53.4	-3.1
BJT			pmax	pmax		
	comp=Z,16nm,0.7s					
XLT	XiLinHaoTe	21.27 298	eP	P	17 28 59.0	-2.4
XLT			sP	pwP	17 29 07.8	+0.3
XLT			pmax	pmax		
	comp=Z,69nm,0.9s					
HNS	HongShan	22.11 280	⇓P	P	17 29 06.8	-3.5
HNS			pmax	pmax		
	comp=Z,110nm,0.9s					
SSLB	Suanglung	22.54 241	P	P	17 29 10.2	-4.9
SSLB			IAmb	IAmb	17 29 21.9	
	comp=Z,30nm,0.8s					
YULB	Yu-li	22.55 240	P	P	17 29 15.3	0.0
TPUB	Ta-pu	23.08 241	P	P	17 29 17.1	-3.7
TPUB			IAmb	IAmb	17 29 33.2	
	comp=Z,64nm,1.1s					
TPUB	Ta-pu	23.08 241	P	P	17 29 20.2	-0.6
MA2	Magadan	23.48 11	P	P	17 29 25.1	+0.7
MA2	Magadan	23.48 11	ceP	P	17 29 25.2	+0.7
MA2			pmax	pmax		
	comp=Z,37nm,1.3s					
MA2	Magadan	23.48 11	P	P	17 29 25.2	+0.7
	comp=Z,37nm,0.9s					
WHN	Wuhan	24.13 263	P	P	17 29 29.8	-1.2
WHN			pmax	pmax		
	comp=Z,110nm,0.8s					
HHC	Hu-ho-hao-te	24.34 289	eP	P	17 29 32.1	-0.9
HHC			pmax	pmax		
	comp=Z,30nm,1.3s					
HHC			pmax	pmax		
	comp=Z,4μm,5.9s					
LYN	LuoYang	24.40 274	⇓P	P	17 29 33.6	+0.1
LYN			pmax	pmax		
	comp=Z,120nm,1.1s					
CIT	Chita	25.45 316	eP	P	17 29 42.6	-0.3
CIT			e		17 29 50.2	
CIT			e		17 30 22.2	
CIT			e		17 34 09.4	
CIT			pmax	pmax		
	comp=Z,403nm,1.5s					
BTO	Baotou	25.52 289	eP	P	17 29 43.0	-0.6
BTO			pP	sP	17 29 47.1	+0.4
BTO			sP	pwP	17 29 50.1	+0.3
BTO			PP	PnPn	17 30 22.5	+3.5
BTO			pmax	pmax		
	comp=Z,33nm,1.4s					
CNSH	ChangSha	26.23 260	P	P	17 29 49.6	-0.5
CNSH			pmax	pmax		
	comp=Z,65nm,1.4s					
YAK	Yakutsk	26.54 347	P	P	17 29 51.5	-0.9
YAK	Yakutsk	26.54 347	eP	P	17 29 52.5	0.0
YAK			e*PP	sP	17 29 55.0	-0.1
YAK			pmax	pmax		
	comp=Z,102nm,0.9s					
YAK			pmax	pmax		
	comp=N,35nm,1.1s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.0s					
SEY	Seymchan	26.93 10	ceP	P	17 29 58.2	+2.2
SEY			pmax	pmax		
	comp=Z,37nm,1.3s					
H11N2	WAKE ISLAND Hy	27.30 122	T	T	17 58 39.2	
	baz=314,slow=75,SNR=35					
H11N1	WAKE ISLAND Hy	27.31 122	T	T	17 58 45.7	
	baz=314,slow=75,SNR=42					
H11N3	WAKE ISLAND Hy	27.32 122	T	T	17 58 50.8	
	baz=314,slow=75,SNR=40					
XAN	Xi'an	27.37 274	P	P	17 30 00.0	-0.4
XAN			pP	pP	17 30 03.1	+0.6
XAN			pmax	pmax		
	comp=Z,83nm,1.2s					
H11S1	WAKE ISLAND Hy	28.02 124	T	T	17 59 37.3	
	baz=316,slow=74					
H11S3	WAKE ISLAND Hy	28.02 124	T	T	17 59 40.9	
	baz=316					
H11S2	WAKE ISLAND Hy	28.03 124	T	T	17 59 45.1	
	baz=316,slow=74					
ULN	Ulaanbaatar	28.19 304	P	P	17 30 08.0	+0.2
ULN			IAmb	IAmb	17 30 09.4	
	comp=Z,58nm,1.1s					
ULN	Ulaanbaatar	28.19 304	P	P	17 30 08.0	+0.2
ULN			pmax	pmax		
	comp=Z,58nm,1.2s					
BOD	Bodaibo	28.21 327	eP	P	17 30 06.7	-0.9
BOD			pmax	pmax		
	comp=Z,43nm,1.1s					
SONM	Songino Array	28.62 304	P	P	17 30 11.6	+0.1
SONM	Songino Array	28.62 304	P	P	17 30 12.3	+0.8
	comp=Z,45nm,0.9s,baz=102,slow=8.8,SNR=97					
SONM			LR	LR	17 41 35.3	
	comp=Z,1μm,18.6s,baz=135,slow=36					
	comp=Z,45nm,0.9s					
SONM	Songino Array	28.62 304	P	P	17 30 11.6	+0.1
SONM			pmax	pmax		
	comp=Z,50nm,0.8s					
IRK	Irkutsk	30.90 312	eP	P	17 30 29.7	-1.8
IRK			pmax	pmax		
	comp=Z,64nm,3.4s					
LZH	Lanzhou	30.92 281	eP	P	17 30 32.3	+0.2
LZH			pP	sP	17 30 36.3	+1.2
LZH			pmax	pmax		
	comp=Z,97nm,1.1s					
ZAK	Zakamensk	31.09 308	eP	P	17 30 33.5	+0.2
ZAK			pmax	pmax		
	comp=Z,30nm,1.3s					
GYA	Guiyang	31.98 262	⇑P	P	17 30 40.4	-1.0
GYA			pmax	pmax		
	comp=Z,53nm,0.9s					
CD2	Chengdu	32.49 271	P	P	17 30 44.7	-1.1
CD2			pmax	pmax		
	comp=Z,50nm,0.9s					
MOY	Mondy	32.75 310	eP	P	17 30 47.6	-0.3
MOY			pmax	pmax		
	comp=Z,51nm,2.7s					
GTA	Gaotai	33.43 288	P	P	17 30 54.5	+0.5
GTA			sP	pwP	17 31 01.6	+1.4
GTA			PcP	PcP	17 33 36.5	+1.3
GTA			pmax	pmax		
	comp=Z,29nm,1.0s					
BILL	Bilibino	34.08 16	ceP	P	17 31 00.6	+1.5
BILL			pmax	pmax		
	comp=Z,17nm,1.7s					
TIXI	Tiksi	35.68 353	P	P	17 31 13.3	+0.5
TIXI			IAmb	IAmb	17 31 14.9	
	comp=Z,38nm,1.8s					
TIXI	Tiksi	35.68 353	P	P	17 31 13.4	+0.5
TIXI			pmax	pmax		
	comp=Z,38nm,1.8s					
KMI	Kunming	35.73 262	⇑P	P	17 31 13.3	-0.8
KMI			pmax	pmax		
	comp=Z,25nm,0.7s					
PZH	PanZhiHua	35.89 265	P	P	17 31 15.0	-0.4
PZH			pmax	pmax		
	comp=Z,50nm,0.9s					
PZH	PanZhiHua	35.89 265	P	P	17 31 11.0	-4.4
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
GOMU	GeErMu	37.98 284	P	P	17 31 33.6	+0.2
GOMU			pP	pwP	17 31 39.3	-0.3
GOMU			sP	sP	17 31 42.7	+6.2
GOMU			pmax	pmax		
	comp=Z,120nm,1.1s					
KKM	Kota Kinabalu	38.83 224	P	P	17 31 39.1	-1.3
KKM			IAmb	IAmb	17 32 08.5	
	comp=Z,24nm,0.9s					
TNCH	TengChong	39.14 265	P	P	17 31 43.0	0.0
TNCH			S	S	17 37 40.8	-2.3
TNCH			pmax	pmax		
	comp=Z,30nm,1.1s					
TNCH			LR	LR		
	comp=Z,2μm,11.8s					
TNCH			LR	LR		
	comp=Z,710nm,12.1s					
TNCH			LR	LR		
	comp=Z,2μm,12.4s					
UBPT	Khong Chiam	39.16 247	P	P	17 31 44.1	+1.1
UBPT			IAmb	IAmb	17 31 45.6	
	comp=Z,50nm,1.1s					
UBPT			PcP	PcP	17 33 53.4	+1.0
UBPT	Khong Chiam	39.16 247	P	P	17 31 44.4	+1.4
FAKI	Fak Fak	40.58 196	P	P	17 31 55.2	+0.4
TOLI2	Tolitoli	40.72 214	P	P	17 31 57.4	+1.5
MRSI	Marisa	40.77 212	P	P	17 31 58.1	+1.8
	comp=Z,78nm,1.3s					
SANI	Sanana	41.52 205	P	P	17 32 04.3	+1.8
SANI	Sanana	41.52 205	P	P	17 32 04.3	+1.8
	comp=Z,51nm,0.8s					
WMQ	Urumqi	41.70 297	eP	P	17 32 04.6	+0.7
WMQ			pmax	pmax		
	comp=Z,25nm,1.3s					
WMQ			LR	LR		
	comp=Z,5μm,15.1s					
WMQ			LR	LR		
	comp=Z,5μm,13.7s					
WMQ			LR	LR		
	comp=Z,1μm,16.7s					
MSAI	Masohi	41.82 200	P	P	17 32 07.3	+2.3
	comp=Z,48nm,1.1s					
CHTO	Chiang Mai	42.02 257	P	P	17 32 06.2	-0.5
CHTO	Chiang Mai	42.02 257	P	P	17 32 06.2	-0.5
CHTO			pmax	pmax		
	comp=Z,20nm,1.3s					
APSI	Ampana	42.14 212	P	P	17 32 09.0	+1.4
	comp=Z,81nm,1.0s					
CMAR	Chiang Mai Arr	42.22 256	P	P	17 32 07.2	-1.1
	comp=Z,1.8nm,0.6s,baz=49,slow=7.6,SNR=8.7					
	comp=Z,1.8nm,0.6s					
CMAR	Chiang Mai Arr	42.22 256	i P	P	17 32 03.7	-4.6
ZAA0	Zalesovo Array	42.71 313	P	P	17 32 12.1	+0.3
ZAA0			IAmb	IAmb	17 32 13.1	
	comp=Z,33nm,1.1s					
ZALV	Zalesovo Beam	42.71 313	P	P	17 32 11.3	-0.6
ZALV	Zalesovo Beam	42.71 313	P	P	17 32 12.2	+0.3
	comp=Z,7.8nm,0.6s,baz=90,slow=7.4,SNR=42					
	comp=Z,7.8nm,0.6s					
PCI	Palu	42.93 214	P	P	17 32 15.0	+1.0
	comp=Z,3μmcomp=Z,50nm,1.0s					
LSA	Lhasa	43.05 276	IAmb	IAmb	17 32 31.0	
	comp=Z,28nm,1.3s					
LSA	Lhasa	43.05 276	P	P	17 32 16.8	+1.3
LSA			pmax	pmax		
	comp=Z,29nm,1.3s					
LSA	Lhasa	43.05 276	P	P	17 32 16.9	+1.3
LSA	Lhasa	43.05 276	P	P	17 32 16.8	+1.3
ZSN	Zaisan	43.13 303	eP	P	17 32 15.7	+0.4
ZSN			pmax	pmax		
	comp=Z,35nm,0.9s					
ZSN	Zaisan	43.13 303	eP	P	17 32 15.8	+0.4
	comp=Z,35nm,0.9s					
SMKI	Samarinda	43.78 218	P	P	17 32 22.7	+1.8
MK31	Makanchi Array	44.96 303	IAmb	IAmb	17 32 33.5	
	comp=Z,17nm,0.9s					
MK31	Makanchi Array	44.96 303	ceP	P	17 32 30.3	+0.2
MKAR	Makanchi Array	44.96 303	P	P	17 32 30.1	-0.1
MKAR	Makanchi Array	44.96 303	P	P	17 32 30.3	+0.1
	comp=Z,14nm,0.8s,baz=86,slow=9.3,SNR=84					
	comp=Z,14nm,0.8s					
MAKZ	Makanchi	45.17 303	P	P	17 32 31.9	+0.1
MAKZ			IAmb	IAmb	17 32 35.4	
	comp=Z,21nm,0.9s					
MAKZ	Makanchi	45.17 303	P	P	17 32 31.9	+0.1
MAKZ			pmax	pmax		
	comp=Z,21nm,1.0s					
E19K	Redstone River	45.34 28	IAmb	IAmb	17 34 02.9	
	comp=Z,9.9nm,0.5s					
SPSI	Sidrap Palu	45.69 212	P	P	17 32 36.4	+0.3
	comp=Z,26nm,0.9s					
BBSI	Bau Bau	45.93 208	P	P	17 32 41.9	+3.9
	comp=Z,68nm,1.0s					
KSM	Kuching	45.95 228	P	P	17 32 37.0	-1.2
KSM			IAmb	IAmb	17 33 03.3	
	comp=Z,18nm,1.0s					
STKI	Sintang	46.41 225	P	P	17 32 43.1	+1.3
	comp=Z,3μmcomp=Z,30nm,1.1s					
B21K	Ikpikpuk River	46.70 25	IAmb	IAmb	17 33 38.0	
	comp=Z,16nm,1.1s					
KURK	Kurchatov	46.75 308	P	P	17 32 43.7	-0.4
KURK	Kurchatov	46.75 308	ceP	P	17 32 44.3	+0.2
KURK			pmax	pmax		
	comp=Z,57nm,1.0s					
BKSI	Bulukumba	46.76 211	P	P	17 32 47.0	+2.5
	comp=Z,30nm,0.9s					
KURBB	Kurchatov Arra	46.82 308	P	P	17 32 44.7	0.0
	comp=Z,19nm,0.7s,baz=83,slow=8.0,SNR=128					
	comp=Z,19nm,0.7s					
E22K	Anaktuvuk Pass	47.48 28	P	P	17 32 51.0	+1.3
E22K			IAmb	IAmb	17 33 09.3	
	comp=Z,13nm,1.0s					
SHLS	Shalkode	47.69 298	eP	P	17 32 49.5	-2.2
SHLS			pmax	pmax		
	comp=Z,17nm,1.2s					
SHLS	Shalkode	47.69 298	eP	P	17 32 49.6	-2.2
	comp=Z,17nm,1.2s					
TDK	Taldyqorghan	47.98 301	eP	P	17 32 54.2	+0.4
TDK			pmax	pmax		
	comp=Z,33nm,1.3s					
TDK	Taldyqorghan	47.98 301	eP	P	17 32 54.3	+0.4
	comp=Z,33nm,1.3s					
UZB	Uzynbulak	48.01 298	eP	P	17 32 54.3	+0.1
UZB			pmax	pmax		
	comp=Z,17nm,1.1s					
UZB	Uzynbulak	48.01 298	eP	P	17 32 54.4	+0.1
	comp=Z,17nm,1.1s					
KPKS	Kokpek	48.16 299	eP	P	17 32 55.6	+0.2
KPKS			pmax	pmax		
	comp=Z,19nm,1.5s					
KPKS	Kokpek	48.16 299	eP	P	17 32 55.6	+0.2
	comp=Z,19nm,1.5s					
ZHN	Zhinishke	48.42 298	eP	P	17 32 57.4	+0.1
ZHN			pmax	pmax		
	comp=Z,15nm,1.0s					
ZHN	Zhinishke	48.42 298	eP	P	17 32 57.4	+0.1
	comp=Z,15nm,1.0s					
SATY	Saty	48.47 298	eP	P	17 32 57.9	+0.1
SATY	Saty	48.47 298	eP	P	17 32 57.9	+0.1
POKR	Poker Plat Res	49.07 32	IAmb	IAmb	17 33 32.7	
	comp=Z,16nm,0.9s					
TARG	Taragay, Kyrgy	49.26 297	IAmb	IAmb	17 33 06.2	
	comp=Z,19nm,0.9s					
SOEI	Soe	49.30 204	P	P	17 33 08.5	+4.2
	comp=Z,71nm,1.0s					
IL31		49.30 32	IAmb	IAmb	17 34 24.6	
	comp=Z,55nm,2.0s					
ILAR	Eielson Array	49.30 32	P	P	17 33 04.5	+0.8
	comp=Z,4.2nm,0.8s,baz=267,slow=6.3,SNR=36					
	comp=Z,4.2nm,0.8s					
AAA	Alma-Ata	49.48 299	eP	P	17 33 05.6	+0.2
AAA	Alma-Ata	49.48 299	eP	P	17 33 05.7	+0.2
TNSS	Tian-Shan	49.50 299	eP	P	17 33 05.8	-0.2
TNSS	Tian-Shan	49.50 299	eP	P	17 33 05.9	-0.2
D25K	Kavik River	49.55 26	IAmb	IAmb	17 34 46.1	
	comp=Z,18nm,1.2s					
KDJ	Kajisay	49.59 297	IAmb	IAmb	17 34 01.6	
	comp=Z,14nm,0.9s					
IPM	Ipoh	49.69 240	P	P	17 33 03.6	-3.7
IPM			IAmb	IAmb	17 33 08.1	
	comp=Z,18nm,1.0s					
COEN	Coen	50.43 179	P	P	17 33 12.6	-0.1
TKM2	Tokmak 2	50.49 299	P	P	17 33 13.8	+0.5
	SNR=22					
BRZS	Berezniki	50.63 308	eP	P	17 33 13.9	-0.1
BRZS	Berezniki	50.63 308	eP	P	17 33 13.9	-0.1
TPI	Tanjungpandan	50.91 227	P	P	17 33 17.2	+0.8
	comp=Z,30nm,1.0s					
SGDS	Sogindy	51.01 300	eP	P	17 33 17.0	0.0
SGDS	Sogindy	51.01 300	eP	P	17 33 17.1	0.0
KBK	Karagaybulak	51.02 299	P	P	17 33 18.4	+1.1
	SNR=23					
CHMS	Chumysh	51.06 299	P	P	17 33 17.7	+0.3
	SNR=6.2					
USP	Ospenovka	51.15 300	P	P	17 33 18.5	+0.4
	SNR=13					
KSH	Kashi	51.27 295	P	P	17 33 23.0	+3.9
KSH			pmax	pmax		
	comp=Z,12nm,1.7s					

SNR=10.0
AAK Ala-Archa 51.34 299 *ce*P **P 17 33 20.2 +0.5**
AAK pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 51.37 313 P **P 17 33 19.5 0.0**
comp=Z,8.1nm,0.8s,baz=79,slow=7.7,SNR=25
comp=Z,8.1nm,0.8s
BRVK Borovoye 51.43 313 P **P 17 33 18.3 -1.6**
BRVK Borovoye 51.43 313 *ce*P **P 17 33 20.4 +0.5**
BRVK pmax pmax
comp=Z,14nm,1.0s
EKS2 Erkin-Say 51.84 299 P **P 17 33 23.3 0.0**
SNR=9.4
AML Almayashu 52.06 298 P **P 17 33 26.1 +0.7**
SNR=25
DZA Taraz 53.48 300 *e*P **P 17 33 35.4 +0.1**
DZA Taraz 53.48 300 *e*P **P 17 33 35.5 +0.1**
KKAR Karatay Array 53.98 301 P **P 17 33 38.6 -0.4**
KKAR Karatay Array 53.98 301 IAmb IAmb 17 33 49.6
comp=Z,17nm,1.1s
KKAR Karatay Array 53.98 301 P **P 17 33 38.6 -0.4**
G31M Satah River 54.24 29 P **P 17 33 41.5 +1.0**
INK Inuvik 54.27 27 P **P 17 33 42.1 +1.4**
INK Inuvik 54.27 27 P **P 17 33 41.4 +0.8**
comp=Z,3.8nm,0.8s,baz=307,slow=7.0,SNR=19
comp=Z,3.8nm,0.8s
INK Inuvik 54.27 27 P **P 17 33 42.1 +1.4**
INK pmax pmax
comp=Z,8.0nm,1.2s
GSI Gunungsitoli 54.36 240 P **P 17 33 41.1 -0.9**
GSI Gunungsitoli 54.36 240 P **P 17 33 44.1 +2.1**
GSI Gunungsitoli 54.36 240 P **P 17 33 42.8 +0.8**
MDSI Maura Dua 54.37 229 P **P 17 33 41.9 -0.1**
H31M Peel River 54.43 30 IAmb IAmb 17 34 12.1
comp=Z,23nm,1.1s
BRLS Borolday 54.47 301 *e*P **P 17 33 44.1 +1.5**
BRLS Borolday 54.47 301 *e*P **P 17 33 44.1 +1.5**
IUG Iuzhnay 54.63 300 *e*P **P 17 33 44.1 +0.2**
IUG pmax pmax
comp=Z,46nm,1.3s
IUG Iuzhnay 54.63 300 *e*P **P 17 33 44.1 +0.2**
comp=Z,46nm,1.3s
CHM Chimkent 54.87 300 *e*P **P 17 33 45.5 0.0**
CHM Chimkent 54.87 300 *e*P **P 17 33 45.5 0.0**
SVE Sverdlovsk 55.91 319 *e*P **P 17 33 53.0 +0.3**
SVE pmax pmax
comp=Z,36nm,1.4s
A36M Sachs Harbour 56.22 22 IAmb IAmb 17 33 58.2
comp=Z,11nm,0.8s
SIMJ Simiganj 56.63 296 P **P 17 33 58.1 -0.2**
WRA Warramunga Arr 56.89 189 P **P 17 33 59.7 -0.4**
WRA Warramunga Arr 56.89 189 P **P 17 33 59.3 -0.8**
comp=Z,19nm,1.1s,baz=7.7,slow=7.5,SNR=12
comp=Z,19nm,1.1s
WRA Warramunga Arr 56.89 189 *i* P **P 17 33 59.5 -0.6**
WRA pmax pmax
comp=Z,19nm,1.1s
ARTI Arti 57.22 319 P **P 17 34 01.3 -0.8**
ARTI Arti 57.22 319 *c i* P **P 17 34 02.2 +0.1**
ARTI 17 34 52.3
ARTI S **S 17 41 58.5 +0.9**
ARTI SS **SS 17 45 51.4 +5.3**
ARTI pmax pmax
comp=Z,53nm,1.7s
DLBC Dease Lake 58.35 38 P **P 17 34 10.3 +0.2**
comp=Z,6.0nm,0.9s,baz=287,slow=11,SNR=3.7
comp=Z,6.0nm,0.9s
ABKAR Abkulak array 58.75 311 P **P 17 34 12.5 -0.4**
ABKAR Abkulak array 58.75 311 IAmb IAmb 17 34 13.8
comp=Z,27nm,1.2s
EUNU Eureka 60.35 9 P **P 17 34 21.9 -1.7**
ASAR Alice Springs 60.62 189 P **P 17 34 24.9 -1.0**
ASAR Alice Springs 60.62 189 P **P 17 34 25.8 -0.2**
comp=Z,6.2nm,0.8s,baz=13,slow=7.9,SNR=13
comp=Z,6.2nm,0.8s
KIRV Kirov 60.97 323 *ce*P **P 17 34 28.8 +0.9**
RES Resolute Bay 62.68 15 P **P 17 34 39.0 -0.2**
RES Resolute Bay 62.68 15 P **P 17 34 39.5 +0.2**
comp=Z,4.8nm,0.9s,baz=312,slow=6.2,SNR=17
comp=Z,4.8nm,0.9s
RES Resolute Bay 62.68 15 P **P 17 34 39.0 -0.2**
RES pmax pmax
comp=Z,7.0nm,0.9s
WRKA Warakurna 62.88 194 P **P 17 34 41.6 +0.4**
YKA Yellowknife Ar 63.65 30 P **P 17 34 45.8 0.0**
comp=Z,1.8nm,0.8s,baz=299,slow=6.9,SNR=20
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 63.65 30 *i* P **P 17 34 46.9 +1.1**
YKA pmax pmax
comp=Z,2.0nm,0.8s
KLMR Klimovskoe 64.44 328 *e*P **P 17 34 48.8 -2.2**
KLMR pmax pmax
comp=Z,20nm,1.4s
NEEM North Greenlan 65.78 3 *i* P P 17 35 10.4 +10
NEEM IAmb IAmb 17 35 13.9
comp=Z,4.9nm,0.8s
DAG Danmarks Havn 66.13 355 *i* P **P 17 35 02.0 +0.2**
DAG IAmb IAmb 17 35 05.2
comp=Z,3.0nm,0.7s
ARMA Armidale 67.36 171 P **P 17 35 07.6 -2.7**
MOS Moscow 67.97 324 *e*P **P 17 35 11.4 -2.4**
MOS *e* 17 37 40.8
MOS pmax pmax
comp=Z,52nm,1.3s
CMSA Cobar Meteorol 67.99 177 P **P 17 35 15.7 +1.6**
comp=Z,12nm,1.5s
STKA Stephens Creek 68.27 181 P **P 17 35 16.3 +0.5**
comp=Z,2.5nm,0.8s,baz=358,slow=6.6,SNR=5.2
comp=Z,2.5nm,0.8s
VRH Novokhopyorsk 68.34 318 *e*P **P 17 35 13.9 -2.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
FORT Forrest 68.51 193 P **P 17 35 18.2 +0.8**
comp=Z,33nm,0.7s
OBN Obninsk 68.82 324 *ce*P **P 17 35 19.2 +0.1**
OBN *e**PP **pwP 17 35 24.2 -1.0**
OBN 17 35 43.0
OBN 17 37 46.0
OBN *e*PPP PPP 17 39 32.2
OBN *e*S **S 17 44 19.0 -3.6**
OBN PS 17 44 47.0
OBN pmax pmax
comp=Z,45nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 68.82 324 P **P 17 35 19.7 +0.6**
comp=Z,36nm,1.6s
LPSR Galich'ya Gora 69.05 321 *e*P **P 17 35 18.3 -2.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 69.41 320 *e*P **P 17 35 20.4 -2.5**
VORR pmax pmax
comp=Z,10.0nm,1.1s
FINES FINESS Array B 69.45 333 P **P 17 35 23.1 +0.2**
comp=Z,9.9nm,0.8s,baz=46,slow=8.2,SNR=19
comp=Z,9.9nm,0.8s
FINES FINESS Array B 69.45 333 *i* P **P 17 35 23.5 +0.6**
FINES pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 69.69 319 *e*P **P 17 35 21.7 -2.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 69.77 44 P **P 17 35 25.9 +0.6**
comp=Z,1.8nm,0.7s,baz=334,slow=5.7,SNR=3.6
comp=Z,1.8nm,0.7s
AKT Akhty 69.91 307 *e*P **P 17 35 24.6 -1.7**
GOF Gofitskoye 70.89 312 *ce*P P 17 35 26.9 -5.2
SUMG Summit 70.97 0 *i* P **P 17 35 33.0 +0.4**
SUMG IAmb IAmb 17 35 34.8
comp=Z,8.7nm,0.8s
VSU Vasula 71.12 330 *ce*P **P 17 35 31.6 -1.6**
VSU pmax pmax
comp=Z,38nm,1.7s
KBZ Khabaz 71.71 311 P **P 17 35 37.7 +0.7**
comp=Z,19nm,0.9s,baz=49,slow=2.3,SNR=28
comp=Z,19nm,0.9s
KBZ Khabaz 71.71 311 *ce*P **P 17 35 37.1 +0.1**
KBZ pmax pmax
comp=Z,32nm,1.0s
KIV Kislovodsk 71.71 311 ⇑P **P 17 35 38.0 +0.8**
KIV Kislovodsk 71.71 311 *e*P **P 17 35 37.6 +0.4**
KIV pmax pmax
comp=Z,46nm,1.0s
KIV Kislovodsk 71.71 311 P **P 17 35 37.7 +0.5**
comp=Z,45nm,1.1s
SHA1 Shidzhatmaz 71.85 311 *i* P **P 17 35 39.0 +0.8**

ERBR Yeremizino-Bor 72.03 314 *e*P **P 17 35 39.9 +0.9**
ERBR *e**PP **sP 17 35 43.1 +0.9**
ERBR *e*S **S 17 45 01.3 +0.7**
ERBR pmax pmax
comp=Z,68nm,1.1s
NEUR Neytrino 72.09 311 *i* P P 17 35 33.1 -6.5
GNI Garni 72.53 307 *i* P **P 17 35 41.9 -0.4**
GNI pmax pmax
comp=Z,21nm,1.3s
GNI Garni 72.53 307 P **P 17 35 43.1 +0.8**
DOMR Dombai 72.72 311 *i* P **P 17 35 44.2 +0.9**
MNK Minsk 73.19 326 *i* P **P 17 35 47.1 +1.4**
MNK
comp=E,24nm,0.9s
MNK *i* P **P 17 35 47.1 +1.4**
comp=N,17nm,0.9s
MNK *i* P **P 17 35 47.1 +1.4**
comp=Z,37nm,0.9s,baz=50
MNK *i* PcP **PcP 17 36 03.5 +1.3**
MNK *i* PP **PP 17 38 30.6 +2.6**
MNK *i* PPP PPP 17 40 13.8
MNK *i* S **SKiKP 17 45 15.6 -1.9**
MNK *i* SS **SS 17 50 03.7 +10**
MNK *i* SSS SSS 17 53 19.7
MNK *i* LQ LQ 18 03 07.3
MNK *i* LR LR 18 05 31.2
MNK *i* LRM MLR 18 08 30.0
comp=Z,2μm,14.1s
MNK *i* LRM MLR 18 09 20.9
comp=N,2μm,15.1s
MNK *i* LRM MLR 18 09 26.7
comp=E,2μm,17.5s
MNK Minsk 73.19 326 *i* P **P 17 35 47.1 +1.4**
MNK *i* 17 36 03.5
MNK *i* 17 38 30.6
MNK *i* PPP PPP 17 40 13.8
MNK *i* S **SKiKP 17 45 15.6 -1.9**
MNK pmax pmax
comp=Z,37nm,0.9s
MNK pmax pmax
comp=E,24nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=Z,2μm,14.0s
MNK MLR MLR
comp=N,2μm,15.0s
MNK MLR MLR
comp=E,2μm,18.0s
KAAM Kaadhehdhoo 73.31 258 P **P 17 35 45.7 -1.2**
NACGM Naroch 73.42 327 ⇓*i* P **P 17 35 48.0 +1.0**
baz=49
FFC Flin Flon 73.51 33 P **P 17 35 48.3 +0.7**
FFC Flin Flon 73.51 33 P **P 17 35 48.3 +0.7**
FFC pmax pmax
comp=Z,5.0nm,0.9s
VSLR Vesyoloye 73.58 312 *i* P **P 17 35 46.5 -1.7**
VSLR pmax pmax
comp=Z,48nm,1.0s
FCC Fort Churchill 73.89 27 IAmb IAmb 17 36 31.8
comp=Z,18nm,1.6s
NVAR Mina Array Bea 74.51 54 P **P 17 35 55.5 +1.5**
comp=Z,3.2nm,0.9s,baz=284,slow=6.0,SNR=9.8
comp=Z,3.2nm,0.9s
HFS Hagfors 74.69 336 P **P 17 35 54.5 +0.1**
comp=Z,7.1nm,0.9s,baz=38,slow=2.6,SNR=7.7
comp=Z,7.1nm,0.9s
NB2 NORSAR Subarra 74.77 338 P **P 17 35 55.3 +0.4**
comp=Z,20nm,1.2s,baz=39,slow=6.2
NOA NORSAR Array B 74.77 338 P **P 17 35 55.2 +0.4**
comp=Z,5.7nm,1.0s,baz=39,slow=5.8,SNR=12
comp=Z,5.7nm,1.0s
AK03 Malin Array Si 75.01 323 P **P 17 35 56.5 +0.1**
AKASG Malin Array Be 75.03 323 P **P 17 35 56.6 +0.1**
comp=Z,11nm,0.8s,baz=48,slow=5.9,SNR=65
comp=Z,11nm,0.8s
AKBB Malin Array Si 75.03 323 IAmb IAmb 17 35 57.6
comp=Z,28nm,1.0s
AKBB Malin Array Si 75.03 323 *ce*P **P 17 35 56.2 -0.3**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 75.03 323 P **P 17 35 56.6 +0.1**
KIEV Kiev 75.04 323 P **P 17 35 55.2 -1.3**
KIEV IAmb IAmb 17 35 57.6
comp=Z,25nm,1.0s
KIEV Kiev 75.04 323 ⇑P **P 17 35 56.7 +0.1**
KIEV Kiev 75.04 323 P **P 17 35 55.2 -1.3**
KIEV pmax pmax
comp=Z,25nm,1.0s
KIEV Kiev 75.04 323 P **P 17 35 56.3 -0.2**
comp=Z,107nm,1.6s
AK04 Malin Array Si 75.04 323 P **P 17 35 56.4 -0.1**
AK09 Malin Array Si 75.05 323 P **P 17 35 56.6 0.0**
AK22 Malin Array Si 75.06 323 P **P 17 35 56.7 0.0**
AK11 Malin Array Si 75.07 323 P **P 17 35 56.9 +0.2**
GURO Guroymak-BITLI 75.17 307 IAmb IAmb 17 35 60.0
comp=Z,13nm,1.0s
KOPT Kop Dagi 75.29 309 IAmb IAmb 17 36 01.1
comp=Z,14nm,1.1s
MI28 Mi28,Pidlybu 75.62 324 P **P 17 36 00.4 +0.5**
RNPP9 Sopachiv 76.14 325 P **P 17 36 03.5 +0.7**
RNPP8 Varash 76.21 325 P **P 17 36 04.0 +0.8**
LUBAR Lubar, Ukraine 76.25 323 P **P 17 36 03.9 +0.4**
RNPP5 Staryi Chortor 76.27 325 P **P 17 36 03.9 +0.4**
GWY Greenwater Val 76.86 55 IAmb IAmb 17 36 26.2
comp=Z,24nm,1.9s
FRB Frobisher Bay 76.87 14 P **P 17 36 07.4 +0.7**
comp=Z,4.6nm,0.7s,baz=340,slow=6.2,SNR=8.8
comp=Z,4.6nm,0.7s
SORM Soroca 77.13 321 ⇓P **P 17 36 08.8 +0.2**
SORM Soroca 77.13 321 P **P 17 36 08.7 +0.2**
SORM Soroca 77.13 321 P **P 17 36 08.5 0.0**
PDAR Pinedale Array 77.29 46 P **P 17 36 09.2 -0.6**
PDAR Pinedale Array 77.29 46 P **P 17 36 10.8 +1.0**
comp=Z,1.5nm,0.7s,baz=285,slow=2.4,SNR=14
comp=Z,1.5nm,0.7s
NDNU Novodnistrovsk 77.32 322 P **P 17 36 10.0 +0.4**
SHPR Sheep Range 77.66 54 P **P 17 36 12.4 +0.5**
KMPD K-Podol'skiy 77.79 322 P **P 17 36 11.2 -1.0**
BEL Belsk 78.13 327 *e*P **P 17 36 14.5 +0.4**
KSV Kosov 78.64 323 P **P 17 36 17.6 +0.7**
STNU Starunia 78.64 323 P **P 17 36 17.1 +0.2**
GHRR 78.99 320 ⇑P **P 17 36 20.4 +1.5**
BUR08 Bucovina Ar. S 79.03 322 P **P 17 36 18.4 -0.8**
BURAR Bucovina Array 79.04 322 P **P 17 36 19.4 +0.1**
BURAR Bucovina Array 79.04 322 ⇑P **P 17 36 20.3 +1.0**
BURAR Bucovina Array 79.04 322 P **P 17 36 20.2 +1.0**
GAZ Gaziantep 79.05 308 IAmb IAmb 17 36 21.9
comp=Z,29nm,1.1s
TESR Tescani 79.08 321 ⇑P **P 17 36 20.1 +0.7**
TESR Tescani 79.08 321 P **P 17 36 20.1 +0.7**
PANC Panciu 79.25 320 ⇓P **P 17 36 22.3 +2.0**
TPGR Topolog 79.27 319 ⇑P **P 17 36 20.6 +0.2**
VRI Vrincioaia 79.48 320 ⇑P **P 17 36 23.1 +1.5**
VRI Vrincioaia 79.48 320 P **P 17 36 23.0 +1.5**
KOLS Kolonicke sedl 79.53 325 *e*P **P 17 36 23.3 +1.4**
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 79.53 325 *e*P **P 17 36 23.2 +1.4**
BRIU Brid 79.60 324 P **P 17 36 22.9 +0.7**
MUKU Mukachevo 79.68 324 P **P 17 36 23.2 +0.6**
OJC Ojcow 79.73 327 *e*P **P 17 36 23.1 +0.3**
OJC Ojcow 79.73 327 IAmb IAmb 17 36 24.9
comp=Z,34nm,1.1s
OJC Ojcow 79.73 327 P **P 17 36 23.8 +0.9**
comp=Z,32nm,1.2s
HOLU Holmets 79.77 324 P **P 17 36 23.9 +0.8**
OZUR 79.80 321 ⇓P **P 17 36 25.3 +1.9**
KIRS Kirsehir-Merke 79.86 311 ⇑P **P 17 36 24.7 +0.8**
ANTO Ankara 80.06 313 P **P 17 36 25.8 +0.8**
ISR Istrita 80.08 320 ⇑P **P 17 36 26.3 +1.3**
ISR Istrita 80.08 320 P **P 17 36 26.2 +1.3**
DOPR Dopca 80.09 321 ⇑P **P 17 36 26.8 +1.9**
NIE Niedzica 80.09 326 *e*P **P 17 36 25.9 +1.1**
NIE Niedzica 80.09 326 P **P 17 36 26.0 +1.1**
MLR Muntele Rosu 80.13 320 ⇑P **P 17 36 25.4 +0.1**
MLR Muntele Rosu 80.13 320 P **P 17 36 25.4 +0.1**
VOIR 80.63 321 ⇑P **P 17 36 29.4 +1.5**
VOIR 80.63 321 P **P 17 36 29.3 +1.5**
LANS Liptovska Anna 80.66 326 *e*P **P 17 36 29.5 +1.6**
LANS pmax pmax
comp=Z,9.0nm,1.1s
LANS Liptovska Anna 80.66 326 *e*P **P 17 36 29.5 +1.6**
KSP Ksiaz 80.78 329 *e*P **P 17 36 29.6 +1.1**
STEB Steborice 80.83 327 *e*P **P 17 36 29.9 +1.1**

DRGR 80.84 323 ⇑P **P 17 36 29.8 +0.8**
DRGR 80.84 323 P **P 17 36 29.8 +0.8**
ARR Arges 80.89 321 ⇓P **P 17 36 31.1 +1.8**
MORC Moravsky Berou 81.05 327 IAmb IAmb 17 36 32.1
comp=Z,19nm,1.1s
MORC Moravsky Berou 81.05 327 *e*P **P 17 36 30.8 +0.8**
MORC Moravsky Berou 81.05 327 ⇑P **P 17 36 31.0 +1.0**
MORC Moravsky Berou 81.05 327 P **P 17 36 31.0 +1.0**
DPC Dobruska-Polom 81.14 328 *e*P **P 17 36 31.4 +0.9**
DPC Dobruska-Polom 81.14 328 *e*P **P 17 36 31.4 +0.9**
UPC Upice 81.15 329 *e*P **P 17 36 31.5 +1.0**
UPC Upice 81.15 329 *e*P **P 17 36 31.5 +1.0**
PSZ Piszkesteto 81.37 325 ⇑P **P 17 36 33.5 +1.7**
PSZ Piszkesteto 81.37 325 P **P 17 36 33.5 +1.7**
VYHS Vyhne 81.43 326 *e*P **P 17 36 33.2 +1.2**
VYHS pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 81.43 326 *e*P **P 17 36 33.2 +1.2**
VYHS *e*PP **PP 17 39 39.2 +1.9**
BORA Eskisehir 81.43 314 IAmb IAmb 17 36 33.8
comp=Z,14nm,1.2s
RAYN Ar Rayn 81.52 293 P **P 17 36 32.3 -0.7**
RAYN IAmb IAmb 17 36 34.2
comp=Z,13nm,1.0s
RAYN Ar Rayn 81.52 293 P **P 17 36 32.3 -0.7**
RAYN pmax pmax
comp=Z,13nm,1.0s
JAVC Velka Javorina 81.67 327 *e*P **P 17 36 35.3 +1.9**
BRG Berggiesshubel 81.72 330 *e*P **P 17 36 34.4 +1.0**
BRG Amp 17 36 35.2
comp=Z,12nm,1.1s
SIRR Siria 81.73 323 ⇑P **P 17 36 35.2 +1.5**
CLL Collm 81.75 331 *i* P **P 17 36 34.1 +0.5**
CLL pmax pmax
comp=Z,25nm,1.1s
CLL Collm 81.75 331 *i* P **P 17 36 34.1 +0.5**
comp=Z,25nm,1.1s
CLL *i* x x 17 36 46.7
GZR Gura Zlata 81.80 322 ⇑P **P 17 36 35.0 +0.8**
GZR Gura Zlata 81.80 322 P **P 17 36 34.9 +0.8**
VRAC Vranov 81.81 328 *e*P **P 17 36 34.9 +0.9**
VRAC Vranov 81.81 328 ⇑P **P 17 36 35.3 +1.3**
VRAC Vranov 81.81 328 P **P 17 36 35.3 +1.3**
SURR Surduc 81.87 322 ⇑P **P 17 36 35.2 +0.8**
SMOL Smolenice 82.04 327 *e*P **P 17 36 36.8 +1.6**
SMOL pmax pmax
comp=Z,14nm,1.2s
KRUC Moravsky 82.08 328 *e*P **P 17 36 36.3 +0.9**
GOPC GO Pecny, Ondr 82.11 329 *e*P **P 17 36 36.7 +1.1**
GOPC GO Pecny, Ondr 82.11 329 *e*P **P 17 36 36.7 +1.1**
SRO Srobarova 82.17 326 *e*P **P 17 36 37.7 +1.8**
SRO pmax pmax
comp=Z,18nm,0.9s
SRO Srobarova 82.17 326 *e*P **P 17 36 37.7 +1.8**
MODS Modra-Piesok 82.21 327 *e*P **P 17 36 38.3 +2.2**
MODS pmax pmax
comp=Z,45nm,1.5s
MODS Modra-Piesok 82.21 327 *e*P **P 17 36 38.3 +2.2**
BZS Buzias 82.21 323 ⇓P **P 17 36 36.0 -0.2**
BZS Buzias 82.21 323 P **P 17 36 35.9 -0.2**
BAND Balkesir-Ban 82.46 315 ⇑P **P 17 36 38.3 +0.7**
MDVR Moldovita 82.77 322 ⇑P **P 17 36 39.5 +0.4**
MMAI Mount Meron Ar 82.80 306 P **P 17 36 40.2 +0.7**
comp=Z,13nm,1.0s,baz=42,slow=10,SNR=15
comp=Z,13nm,1.0s
RONA Rosalia, Austr 83.15 327 *e*pP **P 17 36 42.6 +1.6**
comp=Z,16nm,1.0s,SNR=7.7
CONA Conrad Observa 83.17 327 *e*pP **P 17 36 42.8 +1.6**
comp=Z,12nm,1.1s,SNR=6.5
MORH Mrgy, Hungar 83.20 324 ⇓P **P 17 36 41.7 +0.4**
KHC Kasperske Hory 83.22 329 *e*P **P 17 36 41.9 +0.5**
KHC Kasperske Hory 83.22 329 *ce*P **P 17 36 42.6 +1.2**
KHC pmax pmax
comp=Z,35nm,1.3s
RDO Rodhopi 83.34 317 IAmb IAmb 17 36 44.1
comp=Z,22nm,1.1s
GEC2 GERESS Array S 83.39 329 IAmb IAmb 17 36 43.8
comp=Z,11nm,1.1s
GERES GERESS Array B 83.39 329 P **P 17 36 42.5 +0.2**
comp=Z,13nm,0.8s,baz=6.3,slow=9.9,SNR=5.7
comp=Z,13nm,0.8s
BOVS Bovan 83.59 321 ⇑P **P 17 36 43.6 +0.2**
ARSA Arzberg 83.83 327 *e*pP **P 17 36 45.2 +0.6**
comp=Z,5.8nm,1.5s
ARSA Arzberg 83.83 327 IAmb IAmb 17 36 47.1
comp=Z,15nm,1.5s
MOA Molln 83.92 328 *e*pP **P 17 36 45.9 +0.9**
comp=Z,8.7nm,1.1s
ANMO Albuquerque 84.15 50 P **P 17 36 46.3 -0.4**
ANMO Albuquerque 84.15 50 *i* P **P 17 36 45.7 -0.9**
ANMO pmax pmax
comp=Z,12nm,3.9s
BIOA Bad Ischl, Aus 84.31 328 *e*pP **P 17 36 47.9 +0.9**
comp=Z,5.1nm,0.7s
SOKA Soboth 84.49 327 *e*pP **P 17 36 48.5 +0.5**
comp=Z,15nm,1.2s,SNR=7.2
BTNL Ternell 84.91 334 *d*P **P 17 36 50.2 +0.2**
comp=Z,10nm,1.0s
KBA Koelnbreinsper 84.91 328 *e*pP **P 17 36 50.8 +0.6**
comp=Z,8.1nm,1.4s
LESA Schwarzleotal 84.92 328 *e*PcP **P 17 36 50.7 +0.5**
comp=Z,7.6nm,0.9s
BCLA Clavier 85.34 334 *d*P **P 17 36 52.7 +0.6**
comp=Z,9.4nm,1.2s
SCHQ Schefferville 85.39 16 P **P 17 36 52.5 +0.2**
comp=Z,2.7nm,0.9s,baz=0.0,slow=5.1,SNR=3.6
comp=Z,2.7nm,0.9s
BGES Gesves 85.45 334 *d*P **P 17 36 53.3 +0.7**
WATA Walderalm 85.45 329 *e*pP **P 17 36 54.7 +1.8**
comp=Z,6.0nm,1.1s
RCHB Rochefort 85.59 334 *d*P **P 17 36 53.5 +0.2**
comp=Z,9.7nm,1.4s
BMRD Maredsous 85.63 334 *d*P **P 17 36 53.8 +0.3**
comp=Z,13nm,1.2s
RETA Reutte 85.67 329 *e*PcP **P 17 36 54.4 +0.5**
comp=Z,14nm,0.9s
PDG Podgorica 85.70 322 ⇓P **P 17 36 53.8 -0.2**
LIT Litokhoron 85.72 318 P **P 17 36 53.5 -0.7**
LIT Litokhoron 85.72 318 P **P 17 36 53.5 -0.7**
LIT pmax pmax
comp=Z,22nm,1.1s
FNA Florina 85.82 319 IAmb IAmb 17 36 55.7
comp=Z,13nm,1.1s
FETA Feichten 86.06 329 *e*PcP **P 17 36 57.0 +1.1**
comp=Z,8.8nm,1.1s
DAVA Damuels 86.19 330 *e*PcP **P 17 36 57.0 +0.4**
comp=Z,21nm,1.1s
FUORN Ofenpass-Fuorn 86.57 329 IAmb IAmb 17 37 00.2
comp=Z,14nm,1.1s
INTR Introdacqua 88.61 324 IAmb IAmb 17 37 09.6
comp=Z,7.1nm,0.8s
TXAR Lajitas Array 89.65 53 P **P 17 37 14.3 +0.9**
comp=Z,1.9nm,0.8s,baz=299,slow=3.1,SNR=15
comp=Z,1.9nm,0.8s
ESDC Sonseca Array 97.91 334 P Pdif 17 37 51.1 0.0
comp=Z,0.7nm,0.9s,baz=12,slow=4.3,SNR=4.7
comp=Z,0.7nm,0.9s
LPAZ La Paz 146.13 61 PKPdf **PKPbc 17 43 56.5 0.0**
LPAZ La Paz 146.13 61 PKPbc **PKPbc 17 43 56.7 +0.2**
comp=Z,5.1nm,0.8s,baz=334,slow=3.4,SNR=16
LPAZ La Paz 146.13 61 PKP2 **PKPbc 17 43 56.5 0.0**
LPAZ La Paz 146.13 61 *e*P **PKPab 17 43 57.2 +0.1**
NPGB Novo Progresso 146.28 33 *e*P **PKiKP 17 43 58.4 -1.1**

*IDC **10** 17:26:50.4±3.1, 58°.15N×31°.71W, h0km, mb3.6/7, mbtmp3.7/7, Error ellipse: s-maj=96.2km s-min=23.4km az=178.0*

ISC 10 17:26:51.8±2.6, 58°.2N±0°.6×31°.7W±0°.1, h10km, n7, σ0.43/7, mb3.7/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**23.02**	**66**	P	**P**	**17 31 56.3**	**-0.3**
	1.9nm,0.8s,baz=289,slow=9.0,SNR=2.1						
	1.9nm,0.8s						
ARCES	**ARCESS Array B**	**26.54**	**41**	P	**P**	**17 32 28.9**	**-0.3**
	3.7nm,1.1s,baz=270,slow=7.2,SNR=3.8						
	3.7nm,1.1s						
AKASG	**Malin Array Be**	**35.10**	**75**	P	**P**	**17 33 44.6**	**-0.2**
	0.2nm,0.4s,baz=309,slow=8.6,SNR=1.5						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**38.62**	**312**	P	**P**	**17 34 14.4**	**-0.1**
	0.4nm,0.6s,baz=60,slow=8.9,SNR=4.7						
	0.4nm,0.6s						

PDAR Pinedale Array 49.02 288 P **P 17 35 38.7 0.0**
0.4nm,0.6s,baz=64,slow=6.8,SNR=4.1
0.4nm,0.6s

KURBB Kurchatov Arra 57.54 45 P **P 17 36 41.3 +0.4**
0.6nm,0.6s,baz=327,slow=6.9,SNR=2.8
0.6nm,0.6s

MKAR Makanchi Array 62.10 45 P **P 17 37 13.0 +0.6**
0.7nm,0.5s,baz=330,slow=5.3,SNR=6.2
0.7nm,0.5s

IDC 10 17:29:05.0±1.3, 2°.53S×139°.13E, h0km, mb3.6/3, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=28.6km s-min=14.1km az=1.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.57**	**90**	P		17 29 34.9	-0.1
	5.3nm,0.3s,baz=233,slow=16,SNR=24						
JAY				Pg	Pb	17 29 52.8	
	14nm,0.3s,baz=106,slow=13,SNR=12						
WRA	**Warramunga Arr**	**17.93**	**195**	P		17 33 15.6	-0.4
	0.1nm,0.3s,baz=9.6,slow=12,SNR=1.9						
	1.5nm,1.0s						
ASAR	**Alice Springs**	**21.62**	**193**	P		17 33 55.9	-1.0
	0.8nm,0.7s,baz=21,slow=9.5,SNR=5.4						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**69.90**	**322**	P		17 40 18.9	+0.9
	0.4nm,0.6s,baz=106,slow=7.6,SNR=4.2						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**79.40**	**325**	P		17 41 12.8	-0.2
	1.1nm,0.8s,baz=102,slow=6.1,SNR=2.9						
	1.1nm,0.8s						

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*MOS **10** 17:39:39.6±1.1, 36°.79N×142°.54E, h12km, mb4.6/18, Error ellipse: s-maj=9.9km s-min=6.1km az=109.4*
*IDC **10** 17:39:40.2±0.6, 36°.69N×142°.36E, h0km, mb4.1/19, mbtmp4.1/25, ML3.5/6, MS4.1/3, Error ellipse: s-maj=15.9km s-min=13.1km az=139.0*
*JMA **10** 17:39:42.6±0.3, 36°.8N±0°.5×14°.2E±°, h38km, MV4.2/36, E OFF FUKUSHIMA PREF*
*NIED **10** 17:39:42.6, 36°.75N×142°.37E, h38km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.34; Mθθ0.05; Mφφ-2.39; Mrθ0.37; Mθφ0.14; Mφr2.01; Fault plane solution: M0 3.13000×10^15 NP1: φs=168.00000°, δ26.00000°, λ74.00000°. NP2: φs=6.00000°, δ65.00000°, λ98.00000°.*
*NEIC **10** 17:39:43.9±1.3, 37°.00N±0°.08×142°.28E±0°.08, h10km±1km, mb4.7/13 Error ellipse: s-maj=13.4km s-min=11.0km az=181.0*
*BJI **10** 17:39:43.5, 36°.87N×141°.92E, h15km, mB5.5/2, mb4.6/43, Ms5.0/1, Ms7 4.5/1*
ISC 10 17:39:41.5±0.5, 36°.76N±0°.05×142°.44E±0°.05, h9km, n127, σ1§56/131, mb4.4/44, 9C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.36**	**285**	P	**Pn**	**17 40 05.0**	**-1.7**
JFK	**Kawauchi**	**1.39**	**296**	P	**Pn**	**17 40 05.5**	**-1.6**
JFK				*e*S	**Sb**	**17 40 22.6**	**-2.9**
JHO	**Hitachi**	**1.51**	**265**	P	**Pn**	**17 40 07.0**	**-1.7**
JFFD	**Fukushimafurud**	**1.54**	**283**	P	**Pn**	**17 40 07.6**	**-1.5**
JHYU	**Hitachinakayam**	**1.55**	**255**	P	**Pn**	**17 40 08.0**	**-1.2**
JHYU				*e*S	**Sn**	**17 40 26.4**	**-2.9**
JMM	**Marumori**	**1.71**	**311**		**Pn**	**17 40 10.5**	**-1.0**
JMM	**Marumori**	**1.71**	**311**	*e*P	**Pn**	**17 40 10.5**	**-1.0**
JOTO	**OTAMA OYAMA**	**1.86**	**296**	*e*P	**Pn**	**17 40 13.0**	**-0.6**
JIO	**Ouri**	**1.90**	**333**	P	**Pn**	**17 40 13.4**	**-0.6**
JIO				*e*S	**Sn**	**17 40 35.9**	**-2.2**
JOU	**Okura**	**2.14**	**319**	*e*P	**Pn**	**17 40 17.1**	**-0.2**
JFY	**Yanaizu**	**2.28**	**287**	*e*P	**Pn**	**17 40 19.1**	**-0.2**
JMK	**Ichinoseki**	**2.39**	**337**	*e*P	**Pn**	**17 40 20.7**	**-0.1**
JMK				*e*S	**Sn**	**17 40 48.4**	**-1.8**
JAG	**Ashikaga**	**2.42**	**263**	P	**Pn**	**17 40 20.4**	**-0.9**
JYK	**Kaneyama**	**2.71**	**323**	P	**Pn**	**17 40 25.3**	**0.0**
JOM	**Ohasama**	**2.86**	**342**	*e*P	**Pn**	**17 40 27.1**	**-0.1**
JRY	**Ryogami san**	**2.95**	**257**	*e*P	**Pn**	**17 40 27.5**	**-1.0**
JOD2	**Odawara 2**	**3.10**	**242**	*e*P	**Pn**	**17 40 30.0**	**-0.5**
MJAR	**Matsushiro Arr**	**3.41**	**268**	Pn	**Pn**	**17 40 35.1**	**+0.3**
	2.5nm,0.3s,baz=103,slow=11,SNR=170						
MJAR				Sn	**Sn**	**17 41 16.0**	**+0.7**
	2.4nm,0.3s,baz=79,slow=13,SNR=4.8						
	74nm,0.6s						
MAJO	**Matsushiro**	**3.41**	**268**		**Pn**	**17 40 35.5**	**+0.7**
MAJO	**Matsushiro**	**3.41**	**268**	*i* P	**Pn**	**17 40 35.6**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.41**	**268**		**Pn**	**17 40 36.5**	**+1.6**
JSD	**Sado**	**3.56**	**292**	Pn	**Pn**	**17 40 37.4**	**+0.5**
JTM	**Tenmabayashi**	**4.16**	**346**	Pn	**Pn**	**17 40 44.1**	**-1.1**
JHJ	**Hachijo jima 2**	**4.23**	**212**	Pn	**Pn**	**17 40 45.2**	**-0.9**
	22nm,0.3s,baz=81,slow=20,SNR=1.5						
JHJ				Sn	**Sn**	**17 41 31.1**	**-4.6**
	115nm,0.3s,baz=82,slow=24,SNR=6.2						
	160nm,0.6s						
JGF	**Kuroka**	**4.27**	**256**		**Pn**	**17 40 48.5**	**+1.9**
INU	**Inuyama**	**4.61**	**254**		**Pn**	**17 40 52.3**	**+1.0**
ERM	**Erimo**	**5.28**	**6**	Pn	**Pn**	**17 40 59.9**	**-0.6**
ERM	**Erimo**	**5.28**	**6**	*i* P	**Pn**	**17 41 00.1**	**-0.4**
NMR	**Nemuro--Hokkai**	**7.07**	**20**	*e*P	**Pn**	**17 41 22.3**	**-2.7**
NMR				*e*S	Sn	17 42 36.7	-8.8
JKA	**Kamikawa-asahi**	**7.35**	**1**	Pn	**Pn**	**17 41 28.8**	**-0.1**
ASAJ	**Asahikawa**	**7.35**	**1**	Pn	**Pn**	**17 41 28.6**	**-0.3**
	1.9nm,0.3s,baz=205,slow=16,SNR=34						
ASAJ				Sn	**Sn**	**17 42 51.9**	**-0.6**
	1.4nm,0.3s,baz=149,slow=32,SNR=2.0						
	4.9nm,0.3s						
ASAJ	**Asahikawa**	**7.35**	**1**	P	**Pn**	**17 41 28.8**	**-0.1**
RUSJ	**Misakicho**	**7.64**	**15**	*e*P	**Pn**	**17 41 31.8**	**-1.1**
RUSJ				*e*S	**Sn**	**17 42 53.9**	**-5.7**
YUK	**Yuzh-Kuril'sk**	**7.72**	**19**	*e*P	**Pn**	**17 41 31.9**	**-2.1**
YUK				*e*S	**Sn**	**17 42 53.7**	**-7.9**
YUK				pmax	pmax		
	comp=Z,32nm,0.2s						
YUK				pmax	pmax		
	comp=E,10.0nm,0.1s						
YUK				pmax	pmax		
	comp=N,16nm,0.2s						
TEY	**Ternei**	**9.37**	**334**	*e*P	Pn	17 42 06.7	+10
JNU	**Nakatsue**	**10.16**	**252**	Pn	**Pn**	**17 42 08.3**	**+0.8**
	comp=N,0.2nm,0.3s,baz=61,slow=19,SNR=1.9						
	comp=N,9.6nm,0.9s						
YSS	**Yuzhno-Sakhali**	**10.19**	**1**	*e*P	**Pn**	**17 42 07.8**	**0.0**
YSS				*e*S	**Sn**	**17 44 03.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=N,10.0nm,1.0s						
VLA	**Vladivostok**	**10.29**	**311**	*i* P	**Pn**	**17 42 11.6**	**+2.4**
PSTR	**Posyet**	**10.72**	**307**	*i* P	**Pn**	**17 42 17.6**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.88**	**316**	Pn	**Pn**	**17 42 20.3**	**+3.0**
	comp=N,0.2nm,0.3s,baz=124,slow=12,SNR=7.3						
KSRS	**Korea Array**	**11.61**	**278**	Pn	**Pn**	**17 42 28.3**	**+0.9**
	comp=N,0.1nm,0.3s,baz=87,slow=13,SNR=8.0						
KSRS				LR	LR	17 46 15.7	
	comp=N,584nm,18.3s,baz=220,slow=34						
	comp=N,3.7nm,0.9s						
KLR	**Kul'dur**	**14.70**	**331**	Pn	**Pn**	**17 43 10.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=121,slow=13,SNR=5.4						
	comp=N,1.1nm,0.6s						
KLR	**Kul'dur**	**14.70**	**331**	*i* P	**Pn**	**17 43 10.4**	**+1.0**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**19.53**	**28**	LR	LR	17 51 24.4	
	comp=Z,865nm,20.1s,baz=172,slow=36						
ZEA	**Zeya**	**19.99**	**333**	*e*P	**P**	**17 44 13.9**	**-0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NJ2	**Nanjing**	**20.00**	**263**	*e*P	**Pn**	**17 44 15.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIA	**Tai'an**	**20.35**	**276**	P	**P**	**17 44 19.0**	**+0.9**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XLT	**XiLinHaoTe**	**21.27**	**298**	*e*P	**P**	**17 44 24.9**	**-3.2**
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
HNS	**HongShan**	**22.11**	**280**	⇓P	**P**	**17 44 34.1**	**-2.9**
HNS				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	**Magadan**	**23.46**	**11**	P	**P**	**17 44 51.0**	**0.0**
MA2	**Magadan**	**23.46**	**11**	P	**P**	**17 44 51.7**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=190,slow=8.6,SNR=21						
	comp=Z,5.3nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**23.46**	**11**	*ce*P	**P**	**17 44 52.2**	**+1.2**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.34**	**289**	*e*P	**P**	**17 44 59.0**	**-0.7**
LYN	**LuoYang**	**24.41**	**274**	*e*P	**P**	**17 45 00.4**	**+0.2**
LYN				pmax	pmax		
	comp=Z,30nm,0.5s						
CIT	**Chita**	**25.45**	**316**	*e*P	**P**	**17 45 09.4**	**-0.1**
CIT				*e*		17 45 18.4	
CIT				*e*		17 46 05.0	
CIT				pmax	pmax		
	comp=Z,74nm,1.4s						
YAK	**Yakutsk**	**26.52**	**347**	P	**P**	**17 45 19.0**	**-0.1**
YAK				IAmb	IAmb	17 45 20.4	
	comp=Z,22nm,0.8s						
YAK	**Yakutsk**	**26.52**	**347**	*e*P	**P**	**17 45 18.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
SEY	**Seymchan**	**26.91**	**10**	P	**P**	**17 45 24.2**	**+1.7**
	comp=N,2.9nm,0.8s,baz=189,slow=5.3,SNR=12						
	comp=N,2.9nm,0.8s						
SEY	**Seymchan**	**26.91**	**10**	*ce*P	**P**	**17 45 25.4**	**+2.8**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**27.30**	**122**	T	T	18 14 06.1	
	baz=314,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.31**	**122**	T	T	18 14 05.7	
	baz=314,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.32**	**122**	T	T	18 14 05.7	
	baz=314,slow=75,SNR=13						
XAN	**Xi'an**	**27.38**	**274**	P	**P**	**17 45 26.6**	**-0.5**
XAN				pP	pP	17 45 29.8	+0.8
XAN				pmax	pmax		
	comp=Z,17nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**28.02**	**124**	T	T	18 15 03.9	
	baz=316,slow=76,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**28.02**	**124**	T	T	18 14 59.3	
	baz=316,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.04**	**124**	T	T	18 15 23.4	
	baz=316,slow=76,SNR=9.6						
ENH	**Enshi**	**28.13**	**266**	P	**P**	**17 45 33.0**	**-0.9**
ULN	**Ulaanbaatar**	**28.19**	**304**	*i* P	**P**	**17 45 35.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**28.62**	**304**	P	**P**	**17 45 38.1**	**-0.1**
SONM				IAmb	IAmb	17 45 39.5	
	comp=Z,8.5nm,0.9s						
SONM	**Songino Array**	**28.62**	**304**	P	**P**	**17 45 38.6**	**+0.4**
	comp=Z,12nm,0.9s,baz=105,slow=8.2,SNR=27						
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**28.62**	**304**	P	**P**	**17 45 38.1**	**-0.1**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LZH	**Lanzhou**	**30.92**	**281**	*e*P	**P**	**17 45 58.7**	**-0.1**
LZH				sP	pwP	17 46 07.9	+3.4
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
ZAK	**Zakamensk**	**31.08**	**308**	*e*P	**P**	**17 45 59.5**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
DAV	**Davao City (W)**	**33.31**	**212**	LR	LR	17 59 57.6	
	comp=Z,268nm,20.5s,baz=340,slow=37						
GTA	**Gaotai**	**33.43**	**288**	*e*P	**P**	**17 46 20.8**	**+0.1**
GTA				sP	pwP	17 46 30.3	+3.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	**Tiksi**	**35.66**	**353**	P	**P**	**17 46 39.7**	**+0.3**
	baz=159,slow=5.3,SNR=2.4						
KMI	**Kunming**	**35.73**	**262**	⇑P	**P**	**17 46 41.4**	**+0.5**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
PZH	**PanZhiHua**	**35.89**	**265**	P	**P**	**17 46 43.4**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GOMU	**GeErMu**	**37.98**	**284**	P	**P**	**17 46 59.9**	**-0.2**
GOMU				pP	pwP	17 47 05.2	-0.7
GOMU				sP	sP	17 47 09.3	+6.5
GOMU				pmax	pmax		
	comp=Z,23nm,1.1s						
TNCH	**TengChong**	**39.15**	**265**	P	**P**	**17 47 10.2**	**+0.4**
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ	**Urumqi**	**41.70**	**297**	*e*P	**P**	**17 47 34.2**	**+3.7**
WMQ				pP	pwP	17 47 37.8	+1.5
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=Z,900nm,12.9s						
WMQ				LR	LR		
	comp=Z,680nm,17.3s						
WMQ				LR	LR		
	comp=Z,370nm,12.1s						
CMAR	**Chiang Mai Arr**	**42.23**	**256**	P	**P**	**17 47 33.6**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=63,slow=9.2,SNR=6.0						
	comp=Z,0.3nm,0.5s						
ZAA0	**Zalesovo Array**	**42.71**	**313**	P	**P**	**17 47 36.7**	**-1.8**
ZALV	**Zalesovo Beam**	**42.71**	**313**	P	**P**	**17 47 36.6**	**-1.9**
ZALV	**Zalesovo Beam**	**42.71**	**313**	P	**P**	**17 47 38.6**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=94,slow=7.6,SNR=12						
ZALV				PcP	**PcP**	**17 49 29.6**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=84,slow=5.9,SNR=2.5						
	comp=Z,2.8nm,0.8s						
MK31	**Makanchi Array**	**44.96**	**303**	P	**P**	**17 47 56.1**	**-0.7**
MK31	**Makanchi Array**	**44.96**	**303**	*ce*P	**P**	**17 47 56.8**	**0.0**
MKAR	**Makanchi Array**	**44.96**	**303**	P	**P**	**17 47 56.5**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=87,slow=9.7,SNR=28						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**44.96**	**303**	*i* P	**P**	**17 47 56.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**45.17**	**303**	P	**P**	**17 47 58.4**	**-0.1**
MAKZ				IAmb	IAmb	17 48 01.7	
	comp=Z,4.3nm,0.8s						
MAKZ	**Makanchi**	**45.17**	**303**	P	**P**	**17 47 58.4**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**46.75**	**308**	P	**P**	**17 48 09.1**	**-1.7**
KURK				IAmb	IAmb	17 48 11.4	
	comp=Z,8.9nm,0.9s						
KURK	**Kurchatov**	**46.75**	**308**	*ce*P	**P**	**17 48 10.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**46.82**	**308**	P	**P**	**17 48 11.0**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=82,slow=7.9,SNR=38						
	comp=Z,5.1nm,0.8s						
ILAR	**Eielson Array**	**49.29**	**32**	P	**P**	**17 48 31.0**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=265,slow=6.7,SNR=19						
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**49.29**	**32**	P	**P**	**17 48 31.0**	**+0.7**
KSH	**Kashi**	**51.27**	**295**	P	**P**	**17 48 49.6**	**+3.8**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.3s						
AAK	**Ala-Archa**	**51.34**	**299**	*ce*P	**P**	**17 48 47.1**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**51.36**	**313**	P	**P**	**17 48 45.8**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=77,slow=6.5,SNR=9.6						
BVAR				PcP	**PcP**	**17 50 00.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=83,slow=4.8,SNR=2.0						
	comp=Z,2.5nm,1.0s						
BRVK	**Borovoye**	**51.42**	**313**	*ce*P	**P**	**17 48 47.4**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
G30M	**tAoh Zraii Nji**	**53.46**	**29**	P	**P**	**17 49 03.1**	**+1.6**
G30M				IAmb	IAmb	17 49 06.3	
	comp=Z,7.5nm,1.1s						
KK31	**Karatay Array**	**53.97**	**301**	P	**P**	**17 49 05.3**	**-0.3**
KK31				IAmb	IAmb	17 49 16.0	
	comp=Z,8.6nm,1.4s						
KK31	**Karatay Array**	**53.97**	**301**	P	**P**	**17 49 05.3**	**-0.3**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GAR	**Garm**	**55.56**	**296**	P	**P**	**17 49 17.2**	**-0.1**
SVE	**Sverdlovsk**	**55.90**	**319**	*e*P	**P**	**17 49 20.0**	**+0.7**
SIMJ	**Simiganj**	**56.63**	**296**	P	**P**	**17 49 25.0**	**0.0**
SIMJ				IAmb	IAmb	17 49 26.0	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**56.91**	**189**	P	**P**	**17 49 26.0**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=6.7,slow=7.0,SNR=6.7						
	comp=Z,1.5nm,0.9s						
ARTI	**Arti**	**57.22**	**319**	*c i*P	**P**	**17 49 27.3**	**-1.4**
ARTI				S	**S**	**17 57 25.3**	**+1.0**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKAR	**Akbulak array**	**58.74**	**311**	P	**P**	**17 49 39.0**	**-0.6**
ASAR	**Alice Springs**	**60.64**	**189**	P	**P**	**17 49 52.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=15,slow=8.5,SNR=14						
	comp=Z,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**63.63**	**30**	P	**P**	**17 50 13.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=302,slow=6.9,SNR=10						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**63.63**	**30**	*i* P	**P**	**17 50 14.3**	**+1.9**
KBZ	**Khabaz**	**71.70**	**311**	P	**P**	**17 51 04.2**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=63,slow=4.5,SNR=6.9						
	comp=Z,3.3nm,0.8s						
KBZ	**Khabaz**	**71.70**	**311**	*ce*P	**P**	**17 51 04.9**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**71.70**	**311**	*e*P	**P**	**17 51 03.0**	**-0.9**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LRM	**Limekiln Ridge**	**73.77**	**45**	P	**P**	**17 51 17.6**	**+1.3**
NVAR	**Mina Array Bea**	**74.49**	**54**	P	**P**	**17 51 22.2**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=282,slow=7.0,SNR=5.4						
	comp=Z,1.4nm,0.9s						
NOA	**NORSAR Array B**	**74.75**	**338**	P	**P**	**17 51 21.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=38,slow=6.0,SNR=2.8						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**75.02**	**323**	P	**P**	**17 51 23.1**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=45,slow=6.2,SNR=14						
	comp=Z,2.3nm,0.8s						
AKASG	**Malin Array Be**	**75.02**	**323**	*i* P	**P**	**17 51 23.2**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**77.27**	**46**	P	**P**	**17 51 37.5**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=287,slow=1.1,SNR=6.8						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**79.65**	**312**	P	**P**	**17 51 50.1**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=64,slow=2.9,SNR=5.7						
	comp=Z,1.2nm,0.9s						
BRTR	**Keskin Array B**	**79.65**	**312**	*i* P	**P**	**17 51 49.9**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**89.64**	**53**	P	**P**	**17 52 41.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=306,slow=3.1,SNR=7.2						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**89.64**	**53**	P	**P**	**17 52 41.0**	**+0.9**
LPAZ	**La Paz**	**146.12**	**61**	PKPbc	**PKPdf**	**17 59 23.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=287,slow=3.4,SNR=6.0						
LPAZ	**La Paz**	**146.12**	**61**	PKP2	**PKPdf**	**17 59 23.0**	**+0.7**

IDC 10 17:49:34.6±3.7, 17°.28S×179°.13W, h551km±20km, mb3.0/4, mbtmp3.8/5, Error ellipse: s-maj=139.5km s-min=30.3km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.73**	**260**	P	P	17 50 48.2	0.0
	4.7nm,0.6s,baz=215,slow=22,SNR=4.7						
STKA	**Stephens Creek**	**38.33**	**240**	P	P	17 56 08.7	-0.1
	1.7nm,0.5s,baz=84,slow=10,SNR=4.3						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**44.07**	**259**	P	P	17 56 54.0	-0.4
	0.5nm,0.6s,baz=95,slow=7.8,SNR=8.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**44.30**	**254**	P	P	17 56 56.2	0.0
	4.6nm,0.5s,baz=89,slow=8.1,SNR=120						
	4.6nm,0.5s						
ILAR	**Eielson Array**	**85.44**	**13**	P	P	18 01 13.7	-0.1
	0.4nm,0.9s,baz=226,slow=5.1,SNR=4.4						
	0.4nm,0.9s						

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*MOS **10** 17:58:42.2±1.0, 58°.57N×31°.85W, h10km, mb5.1/47, Error ellipse: s-maj=10.4km s-min=6.9km az=66.4*
*IDC **10** 17:58:42.0±0.4, 58°.39N×31°.79W, h0km, mb4.2/41, mbtmp4.2/46, ML3.5/5, Error ellipse: s-maj=12.6km s-min=8.8km az=177.0*
*NEIC **10** 17:58:43.4±1.8, 58°.42N±0°.04×31°.8W±0°.1, h10km±1km, mb5.1/85, Ms_20 5.1/415, Mww5.5/39, Error ellipse: s-maj=13.2km s-min=5.1km az=68.0*
*NEIC **10** 17:58:44.3, 57°.73N×32°.09W, h26km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^17Nm; Mrr-1.63; Mθθ0.23; Mφφ1.86; Mrθ-1.63; Mθφ0.89; Mφr0.29; Fault plane solution: M0 2.52000×10^17 NP1: φs=171.10000°, δ49.90000°, λ-139.02000°. NP2: φs=51.87000°, δ59.89000°, λ-48.13000°. Principal axes: T 2.2164, Plg6.0000°, Azm114.0000°; N 0.6024, Plg35.0000°, Azm208.0000°; P -2.8188, Plg54.0000°, Azm16.0000°;*
*NEIC **10** 17:58:44.3, 58°.53N×31°.70W, h26km*
*BJI **10** 17:58:44.0, 58°.60N×32°.30W, h10km, mB5.6/9, mb4.5/38, Ms5.6/10, Ms7 5.3/9*
*GCMT **10** 17:58:51.4±0.2, 58°.41N±0°.02×31°.67W±0°.02, h12km, MW5.4/149, Moment Tensor Solution. s72, c99; s149, c265; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.46±.03; Mθθ0.03±.04; Mφφ1.44±.03; Mrθ0.16±.09; Mθφ0.53±.03; Mφr-0.05±.07; Best double couple: M0 1.54700×10^17 NP1: φs 11.00000°, δ45.00000°, λ-100.00000°. NP2: φs 205.00000°, δ45.00000°, λ-80.00000°. Principal axes: T 1.6140, Plg0.0000°, Azm288.0000°; N -0.1290, Plg7.0000°, Azm18.0000°; P -1.4810, Plg83.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **10** 17:58:55.0±25.0, 58°.47N×31°.58W, h10km, M4.7, mb5.0, Ms5.6, #DIST_RANGE: DISTANT*
*DNK **10** 18:00:08.1±3.9, 64°.41N×34°.15W, h0km, ML2.5, Presumed Glacial event*
**ISC 10 17:58:43.7±0.3, 58°.38N±0°.06×31°.83W±0°.04, h10km, n540, σ1§44/302, m

PGAV	**Gavieira, Arco**	**22.12**	**128**	*e*P	**P**	**18 03 41.4**	**+2.3**
PGAV				*i* Amb		18 03 54.6	
	comp=Z,147nm,1.6s						
PGAV				*e*LQ	LQ	18 14 06.7	
PGAV				*e*LR	LR	18 15 10.1	
PGAV				*i* AMs_20		18 16 48.3	
	comp=Z,26µm,20.0s						
GBN	**Guysborough**	**22.23**	**247**	P	**P**	**18 03 39.2**	**-1.0**
GBN				IAmb	IAmb	18 03 59.3	
	comp=Z,97nm,1.3s						
ICQ	**Pointe Anglais**	**22.42**	**262**	P	**P**	**18 03 42.0**	**-0.2**
ICQ				IAmb	IAmb	18 03 58.4	
	comp=Z,79nm,1.2s						
PCAB	**Cabril**	**22.43**	**128**	*e*P	**P**	**18 03 43.3**	**+0.9**
PCAB				*i* Amb		18 04 05.2	
	comp=Z,90nm,1.4s						
BMRD	**Maredsous**	**22.57**	**95**	*d*P	**P**	**18 03 45.6**	**+1.9**
	comp=Z,17nm,1.2s						
DOU	**Dourbes**	**22.59**	**96**	*d*P	**P**	**18 03 45.8**	**+1.8**
BCLA	**Clavier**	**22.78**	**94**	*d*PP	**PnPn**	**18 04 06.7**	**-3.2**
POLO	**Lamas de Olo**	**22.81**	**128**	*e*P	**P**	**18 03 48.3**	**+1.8**
POLO				*i* Amb		18 04 09.9	
	comp=Z,42nm,1.4s						
RCHB	**Rochefort**	**22.89**	**95**	*d*P	**P**	**18 03 47.5**	**+0.3**
	comp=Z,18nm,1.1s						
PBRG	**Braganca**	**22.90**	**125**	*e*P	**P**	**18 03 47.4**	**0.0**
PBRG				*i* Amb		18 04 03.0	
	comp=Z,73nm,1.8s						
PVRL	**Vila Real**	**22.92**	**128**	*e*P	**P**	**18 03 48.5**	**+0.9**
PVRL				*i* Amb		18 04 10.9	
	comp=Z,100nm,1.6s						
HFS	**Hagfors**	**22.99**	**66**	P	**P**	**18 03 48.2**	**+0.1**
	comp=Z,8.9nm,0.8s,baz=258,slow=5.8,SNR=13						
	comp=Z,8.9nm,0.8s						
BATG	**Bathurst New B**	**23.21**	**256**	P	**P**	**18 03 51.5**	**+1.0**
BATG				IAmb	IAmb	18 04 06.1	
	comp=Z,104nm,1.3s						
MVO	**Moncorvo**	**23.30**	**127**	*e*P	**P**	**18 03 53.5**	**+2.0**
MVO				*e*LR	LR	18 15 40.4	
PVIS	**Viseu**	**23.32**	**129**	*e*P	**P**	**18 03 51.4**	**-0.2**
COI	**Coimbra**	**23.54**	**130**	P	**P**	**18 03 53.2**	**-0.6**
COI				IAmb	IAmb	18 04 08.0	
	comp=Z,84nm,1.1s						
COI				IAMs_20	IAMs_20	18 11 31.4	
	comp=Z,6µm,19.0s						
COI	**Coimbra**	**23.54**	**130**	*e*P	**P**	**18 03 55.3**	**+1.5**
COI				*i* Amb		18 04 08.9	
	comp=Z,116nm,1.3s						
COI	**Coimbra**	**23.54**	**130**	P	**P**	**18 03 53.2**	**-0.6**
COI				pmax	pmax		
	comp=Z,84nm,1.2s						
COI				pmax	pmax		
	comp=Z,6µm,19.0s						
PCAS	**Casmilo, Conde**	**23.64**	**131**	*e*P	**P**	**18 03 55.1**	**+0.3**
PCAS				*i* Amb		18 04 26.6	
	comp=Z,94nm,1.6s						
WLF	**Walferdange**	**23.66**	**95**	*d*P	**P**	**18 03 59.5**	**+4.5**
MTE	**Manteigas**	**23.73**	**129**	IAMs_20	IAMs_20	18 13 59.3	
	comp=Z,7µm,18.0s						
MTE	**Manteigas**	**23.73**	**129**	*e*P	**P**	**18 03 55.1**	**-0.7**
MTE				*e*LR	LR	18 15 46.8	
PSBE	**So Bento**	**23.98**	**132**	P	P	18 04 12.7	+15
PCBR	**Castelo Branco**	**24.23**	**129**	*e*P	**P**	**18 04 01.5**	**+1.2**
PCBR				*i* Amb		18 04 16.1	
	comp=Z,92nm,1.8s						
LIS	**Lisbon**	**24.53**	**133**	*e*P	**P**	**18 04 04.2**	**+1.1**
LIS				*i* Amb		18 04 25.5	
	comp=Z,163nm,1.5s						
PMTG	**Montargil**	**24.59**	**131**	*e*P	**P**	**18 04 05.0**	**+1.4**
PMTG				*i* Amb		18 04 25.3	
	comp=Z,79nm,1.8s						
PMRV	**Marv??o**	**24.61**	**130**	*e*P	**P**	**18 04 04.8**	**+0.9**
PMRV				*e*LR	LR	18 16 12.5	
D62A	**Allapoint, All**	**24.88**	**259**	IAMs_20	IAMs_20	18 11 19.5	
	comp=Z,4µm,20.0s						
PESTR	**Estremoz**	**25.01**	**131**	P	**P**	**18 04 06.9**	**-0.6**
PESTR				IAmb	IAmb	18 04 21.9	
	comp=Z,26nm,0.9s						
PESTR				IAMs_20	IAMs_20	18 12 48.4	
	comp=Z,6µm,18.0s						
PESTR	**Estremoz**	**25.01**	**131**	*e*P	**P**	**18 04 07.3**	**-0.2**
PESTR				*i* Amb		18 04 24.7	
	comp=Z,54nm,2.3s						
ECH	**Echery**	**25.07**	**97**	P	**P**	**18 04 08.2**	**+0.2**
ECH				IAmb	IAmb	18 04 23.6	
	comp=Z,47nm,1.2s						
ECH	**Echery**	**25.07**	**97**	P	**P**	**18 04 08.2**	**+0.2**
ECH				pmax	pmax		
	comp=Z,47nm,1.2s						
EVO	**Evora**	**25.13**	**132**	*e*P	**P**	**18 04 09.5**	**+0.9**
EVO				*i* Amb		18 04 31.3	
	comp=Z,50nm,1.6s						
EPF	**Esparros**	**25.18**	**113**	*e*P	P	18 04 16.6	+7.5
LMQ	**La Malbaie**	**25.24**	**261**	P	**P**	**18 04 09.4**	**-0.1**
F64A	**Sherman**	**25.33**	**256**	P	**P**	**18 04 08.8**	**-1.6**
F64A				IAmb	IAmb	18 04 25.0	
	comp=Z,64nm,1.2s						
PBEJ	**Beja**	**25.63**	**132**	*e*P	**P**	**18 04 14.9**	**+1.8**
PBEJ				*i* Amb		18 04 36.8	
	comp=Z,70nm,1.5s						
MESJ	**Messejana**	**25.65**	**133**	*e*P	**P**	**18 04 14.6**	**+1.3**
MESJ				*i* Amb		18 04 37.8	
	comp=Z,75nm,1.4s						
PAB	**San Pablo**	**25.79**	**125**	P	**P**	**18 04 15.1**	**+0.4**
PAB				IAmb	IAmb	18 04 39.4	
	comp=Z,48nm,1.2s						
PAB	**San Pablo**	**25.79**	**125**	P	**P**	**18 04 15.1**	**+0.4**
PAB				pmax	pmax		
	comp=Z,48nm,1.3s						
ESBB	**Sonseca Array**	**25.85**	**124**	IAmb	IAmb	18 04 38.5	
	comp=Z,49nm,1.4s						
ESDC	**Sonseca Array**	**25.85**	**124**	P	**P**	**18 04 13.1**	**-2.0**
ESDC	**Sonseca Array**	**25.85**	**124**	P	**P**	**18 04 15.0**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=321,slow=8.0,SNR=27						
ESDC				PcP	**PcP**	**18 07 42.7**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=337,slow=4.7,SNR=1.8						
	comp=Z,4.6nm,0.8s						
PCVE	**Castro Verde**	**25.90**	**133**	*e*P	**P**	**18 04 16.9**	**+1.3**
PCVE				*i* Amb		18 04 40.2	
	comp=Z,90nm,1.6s						
PFVI	**Vila Bisbo**	**26.04**	**135**	*e*P	**P**	**18 04 18.2**	**+1.4**
PFVI				*i* Amb		18 04 48.5	
	comp=Z,180nm,1.8s						
PVAQ	**Vaqueiros**	**26.23**	**133**	IAMs_20	IAMs_20	18 13 18.6	
	comp=Z,5µm,19.0s						
PVAQ	**Vaqueiros**	**26.23**	**133**	*e*LR	LR	18 17 17.1	
PVAQ				*i* AMs_20		18 18 58.8	
	comp=Z,28µm,20.0s						
PBDV	**Barranco-do-Ve**	**26.29**	**133**	*e*P	**P**	**18 04 21.2**	**+2.1**
CLL	**Collm**	**26.34**	**86**	*e*P	**P**	**18 04 22.0**	**+2.6**
CLL	**Collm**	**26.34**	**86**	P	**P**	**18 04 19.3**	**-0.1**
	comp=Z,25nm,0.9s						
CLL	**Collm**	**26.34**	**86**	*e*P	**P**	**18 04 22.0**	**+2.6**
CLL				*i* x	x	18 04 33.0	
	comp=Z,24nm,0.9s						
ARCES	**ARCESS Array B**	**26.40**	**42**	P	**P**	**18 04 18.9**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=264,slow=7.2,SNR=14						
	comp=Z,2.3nm,0.7s						
ARCES	**ARCESS Array B**	**26.40**	**42**	P	**P**	**18 04 18.9**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,109nm,1.7s						
EUNU	**Eureka**	**27.11**	**342**	P	**P**	**18 04 25.8**	**-0.4**
TUE	**Stuetta**	**27.33**	**98**	P	**P**	**18 04 28.5**	**-0.2**
	comp=Z,120nm,1.2s						
PMOZ	**Porto Moniz, M**	**27.41**	**152**	*e*LR	LR	18 16 50.1	
PMOZ				*i* AMs_20		18 19 04.8	
	comp=Z,11µm,20.0s						
RETA	**Reutte**	**27.42**	**95**	*e*P	**P**	**18 04 33.7**	**+4.5**
	comp=Z,14nm,1.4s						
FETA	**Feichten**	**27.70**	**95**	*e*pP	pP	18 04 38.5	+4.0
	comp=Z,10nm,1.1s						
I63A	**Otisfield**	**27.73**	**256**	IAMs_20	IAMs_20	18 13 21.0	
	comp=Z,3µm,19.0s						
SQTA	**Sankt Quirin**	**27.82**	**95**	*e*P	**P**	**18 04 37.9**	**+5.0**
	comp=Z,13nm,1.1s						
KHC	**Kasperske Hory**	**27.89**	**89**	*e*P	**P**	**18 04 30.5**	**-2.9**
KHC				*e*x	x	18 04 41.5	
KHC	**Kasperske Hory**	**27.89**	**89**	*ce*P	**P**	**18 04 34.4**	**+1.0**
KHC				pmax	pmax		
	comp=Z,14nm,1.3s						
WATA	**Walderalm**	**27.94**	**94**	*e*pP	pP	18 04 39.1	+2.5
	comp=Z,11nm,1.2s						
RES	**Resolute Bay**	**28.02**	**330**	P	**P**	**18 04 34.2**	**0.0**
	comp=Z,2.8nm,1.0s,baz=92,slow=9.4,SNR=8.8						
	comp=Z,2.8nm,1.0s						
WTTA	**Wattenberg**	**28.02**	**94**	*e*P	**P**	**18 04 38.8**	**+4.1**
	comp=Z,29nm,1.8s						
KSP	**Ksiaz**	**28.32**	**84**	P	**P**	**18 04 37.1**	**-0.1**
	comp=Z,24nm,1.5s						
CHVC	**Chvalec**	**28.34**	**85**	*e*P	**P**	**18 04 36.4**	**-1.0**
CHVC				*e*x	x	18 04 50.8	
CHVC	**Chvalec**	**28.34**	**85**	*e*P	**P**	**18 04 36.4**	**-1.0**
FIA1	**FINESS Array S**	**28.37**	**59**	P	**P**	**18 04 36.2**	**-1.2**
FINES	**FINESS Array B**	**28.37**	**59**	P	**P**	**18 04 36.5**	**-1.0**
FINES	**FINESS Array B**	**28.37**	**59**	P	**P**	**18 04 36.9**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=280,slow=7.5,SNR=9.3						
	comp=Z,3.5nm,0.7s						
FINES	**FINESS Array B**	**28.37**	**59**	P	**P**	**18 04 36.5**	**-1.0**
LESA	**Schwarzleotal**	**28.46**	**93**	*e*pP	pP	18 04 40.6	-0.6
	comp=Z,16nm,1.6s						
DPC	**Dobruska-Polom**	**28.62**	**85**	*e*P	**P**	**18 04 39.4**	**-0.5**
DPC				*e*x	x	18 04 51.2	
DPC	**Dobruska-Polom**	**28.62**	**85**	*e*P	**P**	**18 04 39.4**	**-0.5**
DPC	**Dobruska-Polom**	**28.62**	**85**	P	**P**	**18 04 39.7**	**-0.2**
	comp=Z,22nm,1.2s						
BIOA	**Bad Ischl, Aus**	**28.80**	**92**	*e*pP	pP	18 04 45.8	+1.7
	comp=Z,6.8nm,1.0s						
ABTA	**Abfaltersbach**	**28.81**	**94**	*e*pP	pP	18 04 45.3	+1.1
	comp=Z,21nm,1.8s						
MOA	**Molln**	**29.03**	**91**	*e*pP	pP	18 04 47.4	+1.2
	comp=Z,7.8nm,1.5s						
KBA	**Koelnbreinsper**	**29.04**	**93**	*e*pP	pP	18 04 47.1	+0.7
	comp=Z,11nm,1.1s						
VRAC	**Vranov**	**29.37**	**87**	P	**P**	**18 04 46.5**	**0.0**
	comp=Z,1.3nm,0.6s,baz=280,slow=12,SNR=4.2						
	comp=Z,1.3nm,0.6s						
VRAC	**Vranov**	**29.37**	**87**	*e*P	P	18 04 53.8	+7.2
MYKA	**Terra Mystica**	**29.48**	**93**	*e*pP	pP	18 04 49.6	-0.6
	comp=Z,20nm,1.0s						
PRED	**Cave del Predi**	**29.56**	**94**	P	**P**	**18 04 45.5**	**-2.8**
PRED				IAmb	IAmb	18 05 02.6	
	comp=Z,65nm,2.0s						
APA	**Apatity**	**29.59**	**45**	⇓*i*P	**P**	**18 04 44.3**	**-4.0**
APA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
APA				MLR	MLR		
	comp=Z,2µm,14.0s						
CONA	**Conrad Observa**	**29.82**	**89**	*e*pP	pP	18 04 53.4	+0.1
	comp=Z,6.7nm,1.4s						
VSU	**Vasula**	**29.83**	**64**	*ce*P	**P**	**18 04 48.9**	**-1.6**
VSU				pmax	pmax		
	comp=Z,48nm,1.1s						
PABE	**Paberze**	**29.83**	**71**	P	**P**	**18 04 49.9**	**-0.6**
LVZ	**Lovozero**	**29.96**	**44**	P	**P**	**18 04 51.2**	**-0.5**
	comp=Z,56nm,2.1s						
MAUC	**Maruska**	**29.98**	**86**	*e*P	**P**	**18 04 49.5**	**-2.5**
ARSA	**Arzberg**	**30.07**	**91**	*e*pP	pP	18 04 57.4	+2.0
	comp=Z,9.5nm,1.7s						
SOKA	**Soboth**	**30.18**	**92**	*e*pP	**P**	**18 04 55.0**	**+1.1**
	comp=Z,7.4nm,1.2s						
MODS	**Modra-Piesok**	**30.30**	**88**	*e*P	P	18 05 02.2	+7.4
MODS	**Modra-Piesok**	**30.30**	**88**	*e*P	P	18 05 02.2	+7.4
MODS				*e*		18 08 08.3	
MODS				*e*		18 14 12.5	
MODS				*e*		18 14 17.2	
LANS	**Liptovska Anna**	**30.97**	**85**	*e*P	P	18 05 09.0	+8.2
LANS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LANS	**Liptovska Anna**	**30.97**	**85**	*e*P	P	18 05 09.0	+8.2
VYHS	**Vyhne**	**31.04**	**86**	*e*P	P	18 05 14.8	+13
VYHS				pmax	pmax		
	comp=Z,16nm,1.6s						
MPLH	**Magyarpolny**	**31.19**	**89**	P	**P**	**18 05 03.0**	**+0.4**
	comp=Z,38nm,2.0s						
SRO	**Srobarova**	**31.19**	**88**	*e*P	P	18 05 16.1	+14
SRO				pmax	pmax		
	comp=Z,76nm,1.8s						
FCC	**Fort Churchill**	**31.44**	**298**	P	**P**	**18 05 05.2**	**+0.6**
FCC				IAmb	IAmb	18 05 19.1	
	comp=Z,32nm,1.2s						
FCC	**Fort Churchill**	**31.44**	**298**	P	**P**	**18 05 05.2**	**+0.6**
FCC				pmax	pmax		
	comp=Z,32nm,1.3s						
MDT	**Midelt**	**31.47**	**132**	P	**P**	**18 05 06.5**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=334,slow=8.6,SNR=4.0						
	comp=Z,2.1nm,0.8s						
NACGM	**Naroch**	**31.53**	**71**	*e*P	**P**	**18 05 05.2**	**-0.3**
	baz=301						
SADO	**Sadowa**	**31.68**	**266**	P	**P**	**18 05 07.7**	**+0.7**
SADO				IAmb	IAmb	18 05 22.3	
	comp=Z,36nm,1.1s						
SADO	**Sadowa**	**31.68**	**266**	P	**P**	**18 05 07.2**	**+0.2**
	comp=Z,11nm,1.0s,baz=49,slow=5.6,SNR=5.1						
	comp=Z,11nm,1.0s						
KECS	**Kecovo**	**31.91**	**85**	*e*P	P	18 05 20.3	+11
KECS				pmax	pmax		
	comp=Z,19nm,1.4s						
MORH	**Mrgy, Hungar**	**32.38**	**90**	⇑P	**P**	**18 05 14.3**	**+1.2**
MORH	**Mrgy, Hungar**	**32.38**	**90**	P	**P**	**18 05 13.1**	**0.0**
	comp=Z,16nm,1.1s						
KOLS	**Kolonicke sedl**	**32.57**	**83**	*e*P	P	18 05 29.3	+14
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KOLS	**Kolonicke sedl**	**32.57**	**83**	*e*P	P	18 05 29.3	+14
HOLU	**Holmets**	**32.88**	**83**	P	**P**	**18 05 17.3**	**-0.1**
RNPP5	**Staryi Chortor**	**33.08**	**77**	P	**P**	**18 05 19.4**	**+0.2**
MUKU	**Mukachevo**	**33.09**	**83**	P	**P**	**18 05 19.1**	**-0.1**
BERU	**Beregovo**	**33.20**	**84**	P	**P**	**18 05 20.4**	**+0.2**
BRIU	**Brid**	**33.33**	**83**	P	**P**	**18 05 21.2**	**-0.2**
STNU	**Starunia**	**33.87**	**81**	P	**P**	**18 05 26.1**	**0.0**
DRGR		**34.15**	**86**	⇓P	P	18 05 34.4	+5.8
DRGR		**34.15**	**86**	⇓P	P	18 05 34.4	+5.8
I49A	**Point Hope**	**34.18**	**268**	IAMs_20	IAMs_20	18 17 40.6	
	comp=Z,3µm,20.0s						
BZS	**Buzias**	**34.34**	**88**	⇓P	**P**	**18 05 31.3**	**+1.1**
BZS	**Buzias**	**34.34**	**88**	⇓P	**P**	**18 05 31.3**	**+1.1**
KSV	**Kosov**	**34.41**	**82**	P	**P**	**18 05 31.2**	**+0.4**
SURR	**Surduc**	**34.52**	**87**	⇑P	**P**	**18 05 33.7**	**+2.0**
KLMR	**Klimovskoe**	**34.55**	**55**	*e*P	**P**	**18 05 30.0**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,170nm,1.5s						
LUBAR	**Lubar, Ukraine**	**34.82**	**77**	P	**P**	**18 05 34.4**	**+0.1**
K50A	**Casco**	**34.88**	**266**	IAMs_20	IAMs_20	18 18 13.3	
	comp=Z,3µm,18.0s						
BURAR	**Bucovina Array**	**34.93**	**82**	P	**P**	**18 05 34.0**	**-1.4**
BURAR	**Bucovina Array**	**34.93**	**82**	⇓P	**P**	**18 05 37.3**	**+1.8**
BURAR	**Bucovina Array**	**34.93**	**82**	⇓P	**P**	**18 05 37.3**	**+1.8**
AK21	**Malin Array Si**	**34.96**	**75**	P	**P**	**18 05 35.3**	**-0.2**
AK20	**Malin Array Si**	**34.97**	**75**	P	**P**	**18 05 35.3**	**-0.2**
AK18	**Malin Array Si**	**35.01**	**75**	P	**P**	**18 05 35.3**	**-0.6**
AK17	**Malin Array Si**	**35.02**	**76**	P	**P**	**18 05 35.4**	**-0.6**
S61A	**Accomac**	**35.03**	**253**	IAMs_20	IAMs_20	18 21 55.4	
	comp=Z,3µm,21.0s						
KIEV	**Kiev**	**35.10**	**75**	P	**P**	**18 05 36.1**	**-0.5**
KIEV				IAmb	IAmb	18 05 50.1	
	comp=Z,71nm,1.6s						
KIEV	**Kiev**	**35.10**	**75**	⇑P	**P**	**18 05 35.9**	**-0.8**
KIEV	**Kiev**	**35.10**	**75**	P	**P**	**18 05 36.1**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,71nm,1.6s						
GZR	**Gura Zlata**	**35.10**	**87**	⇑P	**P**	**18 05 39.0**	**+2.1**
GZR	**Gura Zlata**	**35.10**	**87**	⇑P	**P**	**18 05 39.0**	**+2.1**
AKASG	**Malin Array Be**	**35.10**	**75**	P	**P**	**18 05 35.5**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=311,slow=8.7,SNR=14						
AKASG				PcP	**PcP**	**18 08 06.8**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=297,slow=3.5,SNR=2.8						
	comp=Z,3.1nm,0.8s						
AKASG	**Malin Array Be**	**35.10**	**75**	*i* P	**P**	**18 05 36.9**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKBB	**Malin Array Si**	**35.10**	**75**	*i* P	**P**	**18 05 36.0**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,18nm,1.2s						
AKBB	**Malin Array Si**	**35.10**	**75**	P	**P**	**18 05 36.3**	**-0.4**
KEST	**Kesra**	**35.23**	**112**	P	**P**	**18 05 38.5**	**+0.4**
	comp=Z,5.0nm,1.1s,baz=310,slow=13,SNR=3.4						
	comp=Z,5.0nm,1.1s						
N53A	**Lisbon**	**35.35**	**262**	P	**P**	**18 05 39.2**	**+0.3**
J47A	**Sunmer**	**35.72**	**269**	IAMs_20	IAMs_20	18 20 32.2	
	comp=Z,2µm,18.0s						
AAM	**Ann Arbor**	**35.76**	**266**	IAMs_20	IAMs_20	18 18 59.5	
	comp=Z,3µm,18.0s						
DOPR	**Dopca**	**36.09**	**84**	⇓P	P	18 05 50.2	+4.9
EYMN	**Ely**	**36.09**	**280**	P	**P**	**18 05 45.7**	**+0.4**
EYMN				IAmb	IAmb	18 06 00.3	
	comp=Z,48nm,1.2s						
ARR	**Arges**	**36.09**	**86**	⇓P	**P**	**18 05 47.1**	**+1.7**
OBN	**Obninsk**	**36.18**	**65**	P	**P**	**18 05 46.9**	**+1.0**
	comp=Z,15nm,0.6s,baz=53,slow=19,SNR=3.7						
	comp=Z,15nm,0.6s						
OBN	**Obninsk**	**36.18**	**65**	⇓*e*P	**P**	**18 05 46.9**	**+1.0**
OBN				*e**PP	**pwP**	**18 05 50.1**	**-0.5**
OBN				*e**SP	**sP**	**18 05 52.6**	**+3.1**
OBN						18 08 19.0	
OBN				pmax	pmax		
	comp=Z,86nm,1.3s						
OBN				MLR	MLR		
	comp=Z,1µm,15.0s						
OBN	**Obninsk**	**36.18**	**65**	P	**P**	**18 05 44.7**	**-1.2**
	comp=Z,55nm,1.4s						
SORM	**Soroca**	**36.23**	**79**	⇓P	P	18 05 52.6	+6.2
SORM	**Soroca**	**36.23**	**79**	⇓P	P	18 05 52.6	+6.2
SORM	**Soroca**	**36.23**	**79**	P	**P**	**18 05 45.9**	**-0.5**
	comp=Z,20nm,1.5s						
VOIR		**36.27**	**85**	⇑P	**P**	**18 05 47.8**	**+1.0**
VOIR		**36.27**	**85**	⇑P	**P**	**18 05 47.8**	**+1.0**
VOIR		**36.27**	**85**	P	**P**	**18 05 46.7**	**-0.2**
	comp=Z,12nm,1.5s						
MOS	**Moscow**	**36.34**	**63**	*e*P	**P**	**18 05 48.1**	**+0.9**
MOS				pmax	pmax		
	comp=Z,43nm,1.3s						
O52A	**Adamsville**	**36.38**	**262**	IAMs_20	IAMs_20	18 19 28.0	
	comp=Z,3µm,18.0s						
H43A	**Windswept, Lux**	**36.43**	**273**	IAMs_20	IAMs_20	18 21 41.7	
	comp=Z,2µm,18.0s						
P53A	**Whipple**	**36.61**	**261**	IAMs_20	IAMs_20	18 18 01.2	
	comp=Z,3µm,21.0s						
MLR	**Muntele Rosu**	**36.70**	**85**	P	**P**	**18 05 51.3**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=288,slow=3.2,SNR=2.3						
	comp=Z,2.0nm,0.9s						
PLOR	**Plostina**	**36.83**	**84**	⇑P	P	18 06 01.2	+10
VRI	**Vrincioaia**	**36.86**	**84**	⇑P	**P**	**18 05 48.6**	**-3.2**
VRI	**Vrincioaia**	**36.86**	**84**	⇑P	**P**	**18 05 48.6**	**-3.2**
ACSO	**Alum Creek Sta**	**36.89**	**263**	IAMs_20	IAMs_20	18 20 56.6	
	comp=Z,3µm,19.0s						
ULM	**Lac du Bonnet**	**36.90**	**286**	P	**P**	**18 05 52.6**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=55,slow=8.5,SNR=5.2						
	comp=Z,5.6nm,0.8s						
ULM	**Lac du Bonnet**	**36.90**	**286**	*e*P	**P**	**18 05 55.0**	**+2.9**
N49A	**Columbus Grove**	**37.02**	**265**	IAMs_20	IAMs_20	18 19 39.9	
	comp=Z,2µm,18.0s						
A36M	**Sachs Harbour**	**37.06**	**329**	P	**P**	**18 05 54.0**	**+0.8**
A36M				IAmb	IAmb	18 06 08.2	
	comp=Z,30nm,0.9s						
G40A	**Rib Lake**	**37.17**	**276**	IAMs_20	IAMs_20	18 21 59.1	
	comp=Z,2µm,18.0s						
FFC	**Flin Flon**	**37.24**	**296**	P	**P**	**18 05 54.7**	**-0.2**
FFC	**Flin Flon**	**37.24**	**296**	P	**P**	**18 05 54.7**	**-0.2**
FFC				pmax	pmax		
	comp=Z,29nm,1.3s						
FNA	**Florina**	**37.56**	**94**	IAmb	IAmb	18 06 12.1	
	comp=Z,55nm,1.0s						
K43A	**Burlington**	**37.94**	**271**	IAMs_20	IAMs_20	18 20 51.8	
	comp=Z,3µm,18.0s						
O48B	**Farmland**	**38.01**	**265**	IAMs_20	IAMs_20	18 18 34.1	
	comp=Z,2µm,18.0s						
CFR	**Carcaliu**	**38.06**	**83**	⇑P	**P**	**18 06 01.0**	**-0.9**
CFR	**Carcaliu**	**38.06**	**83**	⇑P	**P**	**18 06 01.0**	**-0.9**
W59A	**Clinton**	**38.39**	**254**	IAMs_20	IAMs_20	18 22 55.2	
	comp=Z,3µm,18.0s						
YKA	**Yellowknife Ar**	**38.41**	**312**	P	**P**	**18 06 04.3**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=59,slow=8.3,SNR=33						
YKA				PcP	**PcP**	**18 08 17.9**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=51,slow=3.1,SNR=2.2						
	comp=Z,2.6nm,0.7s						
SPMN	**Marine on St.**	**38.56**	**277**	IAMs_20	IAMs_20	18 20 48.8	
	comp=Z,3µm,18.0s						
LPSR	**Galich'ya Gora**	**38.79**	**67**	*e*P	**P**	**18 06 06.4**	**-1.6**
LPSR				pmax	pmax		
	comp=Z,40nm,1.6s						
SFIN	**Lafayette**	**38.94**	**267**	IAMs_20	IAMs_20	18 21 37.7	
	comp=Z,4µm,20.0s						
L42A	**Oliver, Polo**	**39.13**	**271**	IAMs_20	IAMs_20	18 21 40.4	
	comp=Z,2µm,20.0s						
Y60A	**Bolivia**	**39.19**	**252**	IAMs_20	IAMs_20	18 21 57.5	
	comp=Z,4µm,19.0s						
VORR	**Voronezh**	**39.49**	**68**	*e*P	**P**	**18 06 13.0**	**-0.9**
VORR				pmax	pmax		
	comp=Z,40nm,1.4s						
I37A	**Lemond, Waseca**	**39.69**	**277**	IAMs_20	IAMs_20	18 22 24.9	
	comp=Z,3µm,18.0s						
VSR	**Storozhevoye**	**39.76**	**68**	*e*P	**P**	**18 06 14.8**	**-1.3**
VSR				pmax	pmax		
	comp=Z,40nm,1.6s						
L40A	**Anamosa**	**39.91**	**273**	IAMs_20	IAMs_20	18 22 02.9	
	comp=Z,3µm,19.0s						
TZTN	**Tazewell**	**39.94**	**260**

comp=Z,3µm,20.0s
BR131 Keskin Array S 44.78 85 *i* P **P 18 06 59.1 +1.7**
BRTR Keskin Array B 44.78 85 P **P 18 06 58.1 +0.7**
BRTR Keskin Array B 44.78 85 P **P 18 06 57.8 +0.4**
comp=Z,2.1nm,0.8s,baz=318,slow=4.7,SNR=10
BRTR PcP **PcP 18 08 38.5 -0.8**
comp=Z,0.8nm,1.0s,baz=288,slow=1.4,SNR=1.2
BRTR Keskin Array B 44.78 85 *i* P **P 18 06 58.5 +1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
J30M Hart River 44.79 324 IAMs_20 IAMs_20 18 26 43.8
comp=Z,3µm,20.0s
G27K Doyon Strip 44.79 328 IAMs_20 IAMs_20 18 23 34.6
comp=Z,2µm,20.0s
C23K Itkillik River 44.82 334 IAmb IAmb 18 07 15.1
comp=Z,56nm,1.6s
F26K Sheenjek River 44.83 330 IAMs_20 IAMs_20 18 20 06.5
comp=Z,2µm,19.0s
KSU1 Kansas State U 44.88 274 IAMs_20 IAMs_20 18 28 55.4
comp=Z,2µm,20.0s
250A Grady 44.90 258 IAMs_20 IAMs_20 18 20 08.5
comp=Z,3µm,22.0s
D24K Happy Valley 44.92 333 IAMs_20 IAMs_20 18 23 53.0
comp=Z,2µm,18.0s
Y45A Yeager Farm, C 45.12 263 IAMs_20 IAMs_20 18 24 22.6
comp=Z,2µm,18.0s
BMAR Burnt Mountain 45.14 330 P **P 18 06 59.4 -0.4**
ARTI Arti 45.14 52 P **P 18 06 59.8 0.0**
comp=Z,3.0nm,0.8s,baz=310,slow=7.5,SNR=5.8
comp=Z,3.0nm,0.8s
ARTI Arti 45.14 52 *d i* P **P 18 07 00.1 +0.2**
ARTI 18 08 40.4
ARTI S **S 18 13 39.8 +0.9**
ARTI SS **SS 18 16 59.5 -1.1**
ARTI pmax pmax
comp=Z,12nm,1.7s
I28M Miner Creek 45.27 326 IAmb IAmb 18 07 15.4
comp=Z,23nm,1.1s
FARO Faro, Yukon 45.44 320 IAmb IAmb 18 07 18.2
comp=Z,28nm,1.2s
J29N Klondike Camp 45.46 324 IAmb IAmb 18 07 18.0
J29N IAMs_20 IAMs_20 18 20 28.5
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 45.49 333 IAmb IAmb 18 07 17.5
comp=Z,23nm,1.0s
D23K Nanushuk River 45.50 334 IAMs_20 IAMs_20 18 23 53.3
comp=Z,2µm,20.0s
DWPF Disney Wildern 45.58 250 IAMs_20 IAMs_20 18 29 31.6
comp=Z,4µm,21.0s
K29M Barlow Dome 45.67 323 IAmb IAmb 18 07 20.9
K29M IAMs_20 IAMs_20 18 25 52.2
comp=Z,23nm,1.1s
comp=Z,2µm,18.0s
M31M Drury Creek, Y 45.81 320 IAMs_20 IAMs_20 18 26 51.1
comp=Z,3µm,20.0s
146A Union 45.83 262 IAMs_20 IAMs_20 18 22 27.3
comp=Z,2µm,18.0s
B21K Ikpikpuk River 45.88 336 IAMs_20 IAMs_20 18 21 32.1
comp=Z,2µm,20.0s
F24K Squaw Lake 45.92 331 IAmb IAmb 18 07 21.4
comp=Z,20nm,1.0s
FYU Fort Yukon 45.95 329 IAMs_20 IAMs_20 18 20 17.1
comp=Z,2µm,19.0s
D22K Ayikyak River 46.03 334 IAMs_20 IAMs_20 18 24 41.2
comp=Z,2µm,18.0s
B20K Meade River 46.10 337 IAMs_20 IAMs_20 18 21 21.0
comp=Z,2µm,22.0s
ANWB Willy Bob 46.25 221 IAMs_20 IAMs_20 18 27 52.0
comp=Z,3µm,21.0s
I26K Coal Creek Min 46.30 327 IAMs_20 IAMs_20 18 27 53.6
comp=Z,2µm,22.0s
SMRT St. Maarten 46.35 223 IAMs_20 IAMs_20 18 28 09.7
comp=Z,3µm,21.0s
L29M L29M 46.39 323 IAMs_20 IAMs_20 18 27 17.2
comp=Z,2µm,22.0s
KIV Kislovodsk 46.41 74 *eP* **P 18 07 10.9 +0.8**
KIV pmax pmax
comp=Z,12nm,1.1s
E22K Anaktuvuk Pass 46.41 333 IAmb IAmb 18 07 24.5
comp=Z,16nm,1.1s
G24K Hadweenzic Riv 46.44 330 IAmb IAmb 18 07 25.5
comp=Z,18nm,1.0s
G24K IAMs_20 IAMs_20 18 20 26.1
comp=Z,2µm,19.0s
T35A Sooner Cattle 46.46 272 IAMs_20 IAMs_20 18 24 20.3
comp=Z,2µm,18.0s
SHA1 Shidzhatmaz 46.55 74 *i* P **P 18 07 09.9 -1.5**
R33M Jennings River 46.57 316 IAMs_20 IAMs_20 18 27 50.6
comp=Z,3µm,22.0s
P33M Teslin, Yukon 46.66 318 IAMs_20 IAMs_20 18 24 43.9
comp=Z,2µm,21.0s
KBZ Khabaz 46.68 74 P **P 18 07 12.7 +0.6**
comp=Z,3.2nm,0.9s,baz=316,slow=9.7,SNR=5.7
comp=Z,3.2nm,0.9s
KBZ Khabaz 46.68 74 *ceP* **P 18 07 13.7 +1.6**
KBZ pmax pmax
comp=Z,19nm,1.3s
MIAR Mount Ida 46.72 267 IAMs_20 IAMs_20 18 20 22.4
comp=Z,2µm,20.0s
CBKS Cedar Bluff 46.74 276 IAMs_20 IAMs_20 18 25 47.3
comp=Z,2µm,18.0s
SABA Saba 46.80 223 IAMs_20 IAMs_20 18 30 16.7
comp=Z,3µm,20.0s
TUL3 Leonard 46.84 270 IAMs_20 IAMs_20 18 20 56.5
comp=Z,2µm,19.0s
VBMS Vicksburg 46.92 263 IAMs_20 IAMs_20 18 27 38.1
comp=Z,2µm,20.0s
K27K Chicken 46.93 326 IAMs_20 IAMs_20 18 28 00.4
comp=Z,3µm,22.0s
OK051 E0350 and S346 46.94 272 IAMs_20 IAMs_20 18 27 16.0
comp=Z,2µm,22.0s
M29M Somme Creek 46.98 322 IAMs_20 IAMs_20 18 28 24.8
comp=Z,2µm,19.0s
143A Socs Landing, 47.00 264 IAMs_20 IAMs_20 18 21 09.3
comp=Z,2µm,19.0s
346A Big Creek Wild 47.03 261 IAMs_20 IAMs_20 18 20 30.1
comp=Z,2µm,18.0s
H24K Noodor Dome 47.20 330 IAMs_20 IAMs_20 18 24 42.3
comp=Z,2µm,18.0s
N30M Aishikik Lake 47.24 321 IAMs_20 IAMs_20 18 20 51.9
comp=Z,2µm,18.0s
GDSD La Desirade Is 47.26 220 IAMs_20 IAMs_20 18 28 21.8
comp=Z,3µm,22.0s
OK052 Battle Ridge R 47.31 271 IAMs_20 IAMs_20 18 30 33.8
comp=Z,2µm,18.0s
OK031 S. Brethren Rd 47.36 271 IAMs_20 IAMs_20 18 26 27.2
comp=Z,2µm,18.0s
O30N Mendenhall 47.40 320 IAMs_20 IAMs_20 18 20 40.3
comp=Z,3µm,19.0s
P32M Atlin 47.42 317 IAMs_20 IAMs_20 18 27 04.1
comp=Z,2µm,20.0s
SJG San Juan 47.44 227 IAMs_20 IAMs_20 18 29 12.5
comp=Z,3µm,22.0s
OK032 Salt Plains WL 47.44 273 IAMs_20 IAMs_20 18 30 10.1
comp=Z,2µm,21.0s
K22A Casper 47.44 285 P **P 18 07 14.3 -4.0**
K22A IAmb IAmb 18 07 32.1
comp=Z,23nm,1.2s
K22A IAMs_20 IAMs_20 18 24 32.2
comp=Z,2µm,20.0s
GDHS Morne Mazeau, 47.53 221 IAMs_20 IAMs_20 18 28 18.7
comp=Z,3µm,22.0s
D19K Kuna River 47.54 336 IAMs_20 IAMs_20 18 21 48.9
comp=Z,2µm,19.0s
L27K Beaver Creek, 47.58 325 IAMs_20 IAMs_20 18 28 27.4
comp=Z,3µm,18.0s
CBE Ff, Capester 47.67 220 IAMs_20 IAMs_20 18 28 56.7
comp=Z,4µm,20.0s
MAGL Barre de l'ile 47.67 220 IAMs_20 IAMs_20 18 29 27.7
comp=Z,3µm,20.0s
ILAR Eielson Array 47.75 328 P **P 18 07 20.0 -0.3**
ILAR Eielson Array 47.75 328 P **P 18 07 20.4 +0.2**
comp=Z,4.3nm,1.0s,baz=34,slow=6.5,SNR=20
ILAR PcP **PcP 18 08 48.1 -1.0**
comp=Z,0.7nm,0.7s,baz=20,slow=2.9,SNR=1.0
comp=Z,4.3nm,1.0s
ILAR Eielson Array 47.75 328 P **P 18 07 20.0 -0.3**
OK029 Liberty Lake 47.80 272 IAMs_20 IAMs_20 18 29 36.9
comp=Z,2µm,22.0s
BRIGG Briggsdale 47.82 281 IAMs_20 IAMs_20 18 27 42.5
comp=Z,2µm,18.0s
BOZ Bozeman (W) 47.88 291 IAMs_20 IAMs_20 18 26 36.3
comp=Z,2µm,18.0s
COLA College 47.94 329 IAMs_20 IAMs_20 18 25 08.9
comp=Z,2µm,21.0s
COLA College 47.94 329 *i* P **P 18 07 21.7 +0.1**
COLA pmax pmax
comp=Z,38nm,1.5s
OK038 West end E0370 47.96 273 IAMs_20 IAMs_20 18 31 26.0
comp=Z,2µm,19.0s
T35M Bob Quinn 48.01 313 IAMs_20 IAMs_20 18 27 20.9
comp=Z,3µm,18.0s
L26K Log Cabin Wild 48.06 325 IAMs_20 IAMs_20 18 29 18.3
comp=Z,3µm,21.0s
CCB Clear Creek Bu 48.10 329 IAMs_20 IAMs_20 18 20 55.2
comp=Z,2µm,18.0s
M27K Edge Creek, AK 48.12 324 IAMs_20 IAMs_20 18 28 42.8
comp=Z,2µm,19.0s
MSO Missoula 48.12 294 IAMs_20 IAMs_20 18 20 47.6
comp=Z,2µm,20.0s
CSS Mathiatis 48.19 89 IAMs_20 IAMs_20 18 31 10.3
comp=Z,2µm,21.0s
F20K Avaraart Lake 48.19 334 IAMs_20 IAMs_20 18 20 50.3
comp=Z,2µm,19.0s
WRH Wood River Hil 48.32 329 IAMs_20 IAMs_20 18 20 50.8
comp=Z,2µm,18.0s
Z38A Mt. Pleasant 48.45 267 IAMs_20 IAMs_20 18 27 08.3
comp=Z,2µm,18.0s
NEA2 Nenana 48.49 329 IAMs_20 IAMs_20 18 29 17.3
comp=Z,2µm,21.0s
DLMT Dillon 48.52 292 IAMs_20 IAMs_20 18 27 36.4
comp=Z,2µm,18.0s
O29M Mount Kennedy 48.59 321 IAMs_20 IAMs_20 18 28 00.5
comp=Z,3µm,22.0s
NEW Newport 48.61 297 IAMs_20 IAMs_20 18 20 55.1
comp=Z,3µm,18.0s
ILAM Ilet Lapin Mar 48.63 219 IAMs_20 IAMs_20 18 28 50.2
comp=Z,4µm,22.0s
R32K Eaglecrest 48.66 317 IAMs_20 IAMs_20 18 30 11.9
comp=Z,3µm,19.0s
PAX Paxson 48.73 326 IAmb IAmb 18 07 43.4
comp=Z,22nm,1.0s
MOOW Moose Ponds 48.77 289 IAMs_20 IAMs_20 18 20 59.1
comp=Z,2µm,19.0s
LOHW Long Hollow 48.80 289 IAMs_20 IAMs_20 18 27 42.9
comp=Z,2µm,19.0s
PDAR Pinedale Array 48.89 287 P **P 18 07 28.9 -0.7**
comp=Z,1.7nm,0.7s,baz=70,slow=6.9,SNR=13
comp=Z,1.7nm,0.7s
BWN Browne 48.93 329 IAMs_20 IAMs_20 18 25 28.7
comp=Z,2µm,19.0s
MPOM Morne Pois Mar 48.93 219 IAMs_20 IAMs_20 18 29 31.1
comp=Z,3µm,20.0s
SNOW Snow King Moun 48.98 289 IAMs_20 IAMs_20 18 28 02.0
comp=Z,2µm,19.0s
MCMT McKenzie Canyo 49.03 291 P **P 18 07 29.4 -1.2**
ISCO Idaho Springs 49.06 282 IAMs_20 IAMs_20 18 21 10.5
comp=Z,3µm,18.0s
AKTO Aktyubinsk 49.13 58 P **P 18 07 30.7 -0.3**
comp=Z,8.6nm,0.7s,baz=320,slow=6.7,SNR=21
comp=Z,8.6nm,0.7s
WRAK Wrangell Islan 49.22 314 IAMs_20 IAMs_20 18 29 10.8
comp=Z,3µm,22.0s
WMOK Wichita Mounta 49.31 272 IAMs_20 IAMs_20 18 29 59.7
comp=Z,3µm,21.0s
RND Reindeer 49.36 328 IAmb IAmb 18 07 47.3
comp=Z,18nm,1.0s
RND IAMs_20 IAMs_20 18 28 51.5
comp=Z,2µm,18.0s
BPAW Bear Paw Mtn. 49.39 330 IAMs_20 IAMs_20 18 32 25.2
comp=Z,3µm,20.0s
GLB Gilahina Butte 49.41 324 IAMs_20 IAMs_20 18 29 54.0
comp=Z,3µm,20.0s
Q24A Divide 49.45 281 IAMs_20 IAMs_20 18 25 45.6
comp=Z,2µm,18.0s
NATX Nacogdoches 49.45 266 IAMs_20 IAMs_20 18 28 19.9
comp=Z,2µm,21.0s
VRDI Verde Repeater 49.46 324 IAMs_20 IAMs_20 18 21 57.5
comp=Z,2µm,18.0s
441A DeRidder 49.48 264 IAMs_20 IAMs_20 18 27 45.7
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 49.55 238 IAMs_20 IAMs_20 18 32 02.2
comp=Z,3µm,21.0s
TIXI Tiksi 49.55 8 P **P 18 07 34.4 +0.4**
TIXI Tiksi 49.55 8 P **P 18 07 34.3 +0.4**
comp=Z,2.0nm,0.3s,baz=351,slow=4.7,SNR=2.8
comp=Z,2.0nm,0.3s
TIXI Tiksi 49.55 8 *i* P **P 18 07 32.9 -1.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
Z35A Perchaven, San 49.59 269 IAMs_20 IAMs_20 18 21 03.3
comp=Z,2µm,19.0s
H19K Roundabout Mou 49.61 333 IAMs_20 IAMs_20 18 30 36.7
comp=Z,1µm,18.0s
AHID Auburn Hatcher 49.67 288 IAMs_20 IAMs_20 18 28 00.9
comp=Z,2µm,21.0s
TRF Thorofare Moun 49.72 329 IAMs_20 IAMs_20 18 26 08.0
comp=Z,2µm,19.0s
I20K Naaghedeneel 49.73 332 IAMs_20 IAMs_20 18 29 39.0
comp=Z,2µm,21.0s
U33K Whale Pass 49.73 314 IAMs_20 IAMs_20 18 28 26.4
comp=Z,3µm,18.0s
BBGH Gun Hill 49.74 216 IAMs_20 IAMs_20 18 30 57.5
comp=Z,6µm,20.0s
KTH Kantishna Hill 49.81 329 IAMs_20 IAMs_20 18 21 21.3
comp=Z,2µm,18.0s
F17K Baldwin Pennin 49.92 336 IAMs_20 IAMs_20 18 30 38.0
comp=Z,1µm,20.0s
KLU Klutina 50.02 325 IAMs_20 IAMs_20 18 29 12.9
comp=Z,2µm,19.0s
O20A White River Ci 50.16 284 IAMs_20 IAMs_20 18 21 25.4
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 50.17 326 IAMs_20 IAMs_20 18 30 33.9
comp=Z,2µm,18.0s
BERG Berg Lake 50.19 323 IAMs_20 IAMs_20 18 21 35.5
comp=Z,3µm,21.0s
GNI Garni 50.23 76 IAMs_20 IAMs_20 18 29 34.2
comp=Z,2µm,20.0s
GNI Garni 50.23 76 *i* P **P 18 07 41.1 +1.4**
GNI pmax pmax
comp=Z,56nm,1.3s
CAST Castle Rocks 50.23 330 IAMs_20 IAMs_20 18 32 47.4
comp=Z,3µm,21.0s
PLID Pearl Lake 50.37 294 IAMs_20 IAMs_20 18 28 10.2
comp=Z,2µm,20.0s
T25A Trinidad 50.43 278 IAMs_20 IAMs_20 18 25 17.8
comp=Z,1µm,19.0s
SML Sawmill 50.48 327 IAMs_20 IAMs_20 18 30 43.1
comp=Z,2µm,21.0s
RAGM Ragged Mountai 50.50 324 IAMs_20 IAMs_20 18 30 04.8
comp=Z,3µm,19.0s
CUT Chulitna 50.55 328 IAMs_20 IAMs_20 18 21 28.9
comp=Z,2µm,18.0s
J19K Poorman 50.67 332 IAMs_20 IAMs_20 18 24 18.0
comp=Z,1µm,19.0s
GHO Glory Hole Cre 50.68 327 IAMs_20 IAMs_20 18 31 55.4
comp=Z,3µm,19.0s
HLID Hailey 50.72 291 IAMs_20 IAMs_20 18 21 35.6
comp=Z,3µm,20.0s
WHTX Lake Whitney, 50.74 269 IAMs_20 IAMs_20 18 28 49.9
comp=Z,2µm,22.0s
MMAI Mount Meron Ar 50.78 89 P **P 18 07 43.6 -0.3**
comp=Z,0.4nm,0.3s,baz=294,slow=7.2,SNR=2.1
comp=Z,0.4nm,0.3s
K20K Telida 50.80 331 IAMs_20 IAMs_20 18 33 23.5
comp=Z,3µm,20.0s
KNK Knik Glacier 50.83 326 IAMs_20 IAMs_20 18 30 54.4
comp=Z,2µm,19.0s
ABKAR Akbulak array 50.84 58 P **P 18 07 44.0 0.0**
ABKAR Akbulak array 50.84 58 IAmb IAmb 18 07 58.6
comp=Z,35nm,1.1s
GLI Glacier Island 50.85 325 IAMs_20 IAMs_20 18 29 11.0
comp=Z,2µm,18.0s
M22K Willow 51.04 327 IAMs_20 IAMs_20 18 30 47.7
comp=Z,2µm,18.0s
HAWA Hanford 51.09 297 IAMs_20 IAMs_20 18 29 01.9
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 51.23 281 IAMs_20 IAMs_20 18 28 58.4
comp=Z,2µm,19.0s
J18K Innoko River 51.39 332 IAMs_20 IAMs_20 18 30 26.8
comp=Z,3µm,20.0s
ABTX Abilene, Hawle 51.40 271 IAMs_20 IAMs_20 18 31 44.1
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 51.46 327 IAMs_20 IAMs_20 18 29 35.0
comp=Z,2µm,18.0s
HKT Hockley 51.49 265 *i* P **P 18 07 49.6 +0.5**
HKT pmax pmax
comp=Z,23nm,1.6s
MFID Camas Ranch 51.52 292 IAMs_20 IAMs_20 18 29 13.8
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 51.69 137 P **P 18 07 49.9 -0.9**
TORD IAmb IAmb 18 08 03.9
comp=Z,34nm,1.3s
L19K White Mountain 51.98 330 IAMs_20 IAMs_20 18 32 27.6
comp=Z,2µm,18.0s
I17K Unalakleet 51.98 334 IAMs_20 IAMs_20 18 30 45.5
comp=Z,2µm,19.0s
MSTX Muleshoe 52.00 275 IAMs_20 IAMs_20 18 33 08.8
comp=Z,2µm,22.0s
J17K VABM Dome 52.02 333 IAMs_20 IAMs_20 18 29 06.5
comp=Z,2µm,20.0s
BRVK Borovoye 52.34 48 P **P 18 07 55.4 +0.2**
BRVK IAmb IAmb 18 08 09.7
comp=Z,24nm,1.2s
BRVK Borovoye 52.34 48 *ceP* **P 18 07 54.4 -0.8**
BRVK pmax pmax
comp=Z,26nm,1.3s
BVAR Borovoye Array 52.41 48 P **P 18 07 55.6 -0.1**
comp=Z,3.8nm,0.8s,baz=311,slow=7.5,SNR=25
comp=Z,3.8nm,0.8s
K17K Iditarod 52.41 332 IAMs_20 IAMs_20 18 31 52.8
comp=Z,3µm,20.0s
ANM Nome 52.42 337 IAMs_20 IAMs_20 18 26 58.9
comp=Z,2µm,19.0s
MVCO Mesa Verde 52.50 282 IAMs_20 IAMs_20 18 26 50.5
comp=Z,2µm,22.0s
J08A Circle Bar Ran 52.85 294 IAmb IAmb 18 08 13.6
comp=Z,21nm,1.0s
JCT Junction City 53.16 269 P **P 18 08 00.6 -1.0**
JCT IAmb IAmb 18 08 16.1
comp=Z,15nm,0.8s
JCT Junction City 53.16 269 P **P 18 08 00.6 -1.0**
JCT pmax pmax
comp=Z,15nm,0.9s
EIL Elat 53.17 92 P **P 18 07 59.5 -2.2**
comp=Z,4.2nm,1.0s,baz=343,slow=6.7,SNR=2.6
comp=Z,4.2nm,1.0s
ANMO Albuquerque 53.18 278 *i* P **P 18 08 04.0 +2.1**
ANMO pmax pmax
comp=Z,4.0nm,1.5s
ELK Elko 53.23 290 IAMs_20 IAMs_20 18 29 42.2
comp=Z,2µm,22.0s
735A Kenedy 53.40 266 IAMs_20 IAMs_20 18 30 42.6
comp=Z,2µm,20.0s
N18K Kilae Creek 53.51 330 IAMs_20 IAMs_20 18 34 51.1
comp=Z,3µm,20.0s
L16K Owhat River 53.56 332 IAMs_20 IAMs_20 18 26 34.2
comp=Z,2µm,19.0s
WVOR Wild Horse Val 53.62 293 IAMs_20 IAMs_20 18 26 03.3
comp=Z,1µm,19.0s
HATO Hato, Curacao 53.92 227 IAMs_20 IAMs_20 18 32 55.3
comp=Z,3µm,22.0s
N17K Nushagak Hills 53.98 330 IAMs_20 IAMs_20 18 35 23.6
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 54.09 278 IAMs_20 IAMs_20 18 31 27.9
comp=Z,2µm,22.0s
COR Corvallis 54.20 298 IAMs_20 IAMs_20 18 28 51.2
comp=Z,1µm,19.0s
SAND Sanderson 54.80 271 P **P 18 08 13.6 0.0**
SAND IAmb IAmb 18 08 28.3
comp=Z,12nm,0.9s
N15K Kwethluk River 55.04 331 IAMs_20 IAMs_20 18 36 01.4
comp=Z,2µm,19.0s
DBIC Dimbokro 55.63 147 P **P 18 08 18.6 -1.0**
DBIC Dimbokro 55.63 147 P **P 18 08 18.6 -1.0**
comp=Z,5.9nm,0.7s,baz=331,slow=6.7,SNR=11
comp=Z,5.9nm,0.7s
DBIC Dimbokro 55.63 147 P **P 18 08 18.6 -1.0**
DBIC pmax pmax
comp=Z,48nm,1.2s
BRZS Berezniki 55.67 49 *eP* **P 18 08 19.4 -0.1**
BRZS Berezniki 55.67 49 *eP* **P 18 08 19.4 -0.1**
TXAR Lajitas Array 56.11 272 P **P 18 08 22.7 -0.4**
comp=Z,0.5nm,0.7s,baz=33,slow=4.7,SNR=7.1
comp=Z,0.5nm,0.7s
HATC Hat Creek Radi 56.22 294 IAMs_20 IAMs_20 18 28 51.0
comp=Z,2µm,22.0s
NVAR Mina Array Bea 56.53 290 P **P 18 08 26.2 +0.1**
comp=Z,1.1nm,0.7s,baz=58,slow=6.0,SNR=5.8
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 56.91 39 P **P 18 08 27.1 -1.2**
ZALV Zalesovo Beam 56.91 39 P **P 18 08 27.5 -0.8**
comp=Z,0.8nm,0.6s,baz=305,slow=10,SNR=4.6
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 56.91 39 P **P 18 08 27.1 -1.2**
KURK Kurchatov 57.38 45 P **P 18 08 31.1 -0.6**
KURK IAmb IAmb 18 08 45.6
comp=Z,24nm,1.1s
KURK Kurchatov 57.38 45 *ceP* **P 18 08 31.8 +0.2**
KURK pmax pmax
comp=Z,27nm,1.1s
KURBB Kurchatov Arra 57.42 45 P **P 18 08 31.4 -0.5**
comp=Z,2.9nm,0.7s,baz=323,slow=7.0,SNR=33
comp=Z,2.9nm,0.7s
TUC Tucson 57.48 280 P **P 18 08 31.8 -1.0**
TUC Tucson 57.48 280 IAMs_20 IAMs_20 18 29 16.5
comp=Z,1µm,21.0s
TUC Tucson 57.48 280 P **P 18 08 31.8 -1.0**
TUC pmax pmax
comp=Z,10.0nm,1.4s
TUC pmax pmax
comp=Z,1µm,21.0s
SDV Santo Domingo 57.58 227 IAMs_20 IAMs_20 18 34 51.3
comp=Z,3µm,22.0s
YAK Yakutsk 59.07 10 *ceP* **P 18 08 43.8 +0.5**
YAK pmax pmax
comp=Z,6.0nm,0.7s
BRLS Borolday 60.01 56 *eP* **P 18 08 51.0 +0.9**
BRLS Borolday 60.01 56 *eP* **P 18 08 51.0 +0.9**
KKAR Karatay Array 60.25 56 P **P 18 08 51.5 -0.2**
KKAR Karatay Array 60.25 56 P **P 18 08 51.5 -0.2**
DZA Taraz 60.77 55 *eP* **P 18 08 55.3 0.0**
DZA Taraz 60.77 55 *eP* **P 18 08 55.4 0.0**
IUG Iuzhnay 60.81 56 *eP* **P 18 08 55.6 -0.1**
IUG pmax pmax
comp=Z,28nm,1.2s
IUG Iuzhnay 60.81 56 *eP* **P 18 08 55.6 -0.1**
comp=Z,28nm,1.2s
SGDS Sogindy 61.72 52 *eP* **P 18 09 01.8 0.0**
SGDS Sogindy 61.72 52 *eP* **P 18 09 01.8 0.0**
UNM Universidad Na 61.89 261 IAMs_20 IAMs_20 18 31 06.7
comp=Z,2µm,22.0s
TDK Taldyqorghan 61.98 49 *eP* **P 18 09 03.5 0.0**
TDK Taldyqorghan 61.98 49 *eP* **P 18 09 03.5 0.0**
MK31 Makanchi Array 61.98 45 P **P 18 09 02.7 -0.8**
MK31 IAmb IAmb 18 09 17.4
comp=Z,14nm,1.1s
MK31 Makanchi Array 61.98 45 *ceP* **P 18 09 03.5 0.0**
MKAR Makanchi Array 61.98 45 P **P 18 09 02.3 -1.2**
MKAR Makanchi Array 61.98 45 P **P 18 09 02.6 -0.9**
comp=Z,3.5nm,0.6s,baz=333,slow=5.8,SNR=54
comp=Z,3.5nm,0.6s
MKAR Makanchi Array 61.98 45 *i* P **P 18 09 03.0 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 62.33 53 P **P 18 09 06.4 +0.4**
AAK IAmb IAmb 18 09 21.4
comp=Z,17nm,1.1s
AAK Ala-Archa 62.33 53 *ceP* **P 18 09 07.6 +1.6**
AAK pmax pmax
comp=Z,20nm,1.1s
MA2 Magadan 62.37 359 *i* P **P 18 09 05.2 -0.6**
MA2 pmax pmax
comp=Z,9.0nm,1.9s
ZSN Zaisan 62.38 43 *eP* **P 18 09 05.9 -0.2**
ZSN Zaisan 62.38 43 *eP* **P 18 09 06.0 -0.2**
ROSC El Rosal 62.72 229 P **P 18 09 10.2 +1.0**
comp=Z,3.2nm,0.3s,baz=84,slow=12,SNR=4.3
comp=Z,3.2nm,0.3s
TNSS Tian-Shan 63.02 51 *eP* **P 18 09 10.6 -0.3**
TNSS Tian-Shan 63.02 51 *eP* **P 18 09 10.6 -0.3**
ZHN Zhinishke 63.52 50 *eP* **P 18 09 13.8 -0.1**
ZHN Zhinishke 63.52 50 *eP* **P 18 09 13.8 -0.1**
SATY Saty 63.59 50 *eP* **P 18 09 14.3 -0.1**
SATY pmax pmax
comp=Z,26nm,2.3s
SATY Saty 63.59 50 *eP* **P 18 09 14.4 -0.1**
comp=Z,26nm,2.3s
UZB Uzynbulak 63.77 50 *eP* **P 18 09 15.5 -0.1**
UZB Uzynbulak 63.77 50 *eP* **P 18 09 15.6 -0.1**
SHLS Shalkode 63.94 49 *eP* **P 18 09 17.7 +1.0**
SHLS pmax pmax
comp=Z,21nm,2.0s
SHLS Shalkode 63.94 49 *eP* **P 18 09 17.7 +1.0**
comp=Z,21nm,2.0s
RCBR Riachuelo 64.08 185 IAMs_20 IAMs_20 18 37 56.6
comp=Z,2µm,20.0s
IRK Irkutsk 64.09 28 *eP* **P 18 09 18.3 +0.9**
IRK pmax pmax
comp=Z,27nm,1.3s
KSH Kashi 65.54 54 P **P 18 09 29.4 +2.2**

KSH pmax pmax
comp=Z,38nm,1.2s
WMQ Urumqi 66.51 43 *e*P **P 18 09 35.4 +2.1**
WMQ LR LR
comp=Z,3μm,17.1s
WMQ LR LR
comp=Z,3μm,18.5s
WMQ LR LR
comp=Z,1μm,21.3s
ZEA Zeya 66.96 13 *e*P P 18 09 41.4 +5.5
H10N2 ASCENSION HYDR 67.46 161 T T 19 22 46.0
baz=349,slow=75,SNR=3.2
H10N3 ASCENSION HYDR 67.47 161 T T 19 22 37.6
baz=349,slow=75,SNR=3.2
H10N1 ASCENSION HYDR 67.48 161 T T 19 22 46.5
baz=349,slow=75,SNR=4.5
SONM Songino Array 68.69 29 P **P 18 09 46.9 -0.2**
comp=Z,1.7nm,0.9s,baz=334,slow=7.1,SNR=5.5
comp=Z,1.7nm,0.9s
ULN Ulaanbaatar 68.83 28 *i* P **P 18 09 47.6 -0.3**
ULN pmax pmax
comp=Z,21nm,1.3s
NIL Nilore 69.24 59 P **P 18 09 49.5 -1.0**
NIL Nilore 69.24 59 P **P 18 09 49.5 -1.0**
NIL pmax pmax
comp=Z,29nm,1.1s
HEH HeiHe 70.40 14 *e*P **P 18 09 57.2 -0.1**
HEH pmax pmax
comp=Z,2.0nm,0.9s
KLR Kul'dur 71.90 11 *c*e**P P 18 10 06.9 +0.4**
KLR pmax pmax
comp=Z,12nm,2.0s
ATD Arta Tunnel 72.22 97 IAMs_20 IAMs_20 18 47 47.7
comp=Z,1μm,22.0s
GTA Gaotai 74.56 37 *e*P **P 18 10 23.9 +1.4**
GTA sP PcP 18 10 35.3 -1.6
GTA PP **PP 18 13 16.2 +7.8**
GTA pmax pmax
comp=Z,2.0nm,0.8s
YSS Yuzhno-Sakhali 74.93 4 *e*P **P 18 10 26.3 +1.9**
YSS pmax pmax
comp=Z,10.0nm,1.2s
BDFB Brasilia 74.95 196 P **P 18 10 25.5 +0.7**
comp=Z,1.1nm,0.6s,baz=19,slow=4.5,SNR=1.7
comp=Z,1.1nm,0.6s
LODK Lodwar 75.27 108 P **P 18 10 27.3 +0.5**
LODK IAmb IAmb 18 10 42.2
comp=Z,20nm,1.1s
GOMU GeErMu 75.79 42 P P 18 10 35.2 +5.2
GOMU pP PcP 18 10 42.4 -0.2
GOMU sP pwP 18 10 46.7 +12
GOMU pmax pmax
comp=Z,6.0nm,1.1s
BTO Baotou 76.37 29 *e*P **P 18 10 33.5 +0.6**
BTO pP **pwP 18 10 38.3 +0.4**
BTO sP **sP 18 10 40.6 +4.0**
BTO S **S 18 20 15.2 -2.5**
BTO sS sS 18 20 31.8 +10
BTO pmax pmax
comp=Z,16nm,0.7s
BTO pmax pmax
comp=Z,2μm,11.5s
BTO LR LR
comp=Z,3μm,22.2s
BTO LR LR
comp=Z,3μm,18.8s
BTO LR LR
comp=Z,4μm,24.5s
CN2 Changchun 76.44 17 *e*P **P 18 10 34.9 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 76.53 28 *e*P **P 18 10 32.4 -1.4**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,250nm,7.1s
USA0B Ussuriysk Arra 76.90 12 *i* P **P 18 10 36.8 +1.1**
USRK Ussuriysk Ar. 76.90 12 P **P 18 10 35.6 0.0**
comp=Z,1.0nm,0.7s,baz=0.0,slow=9.2,SNR=2.6
comp=Z,1.0nm,0.7s
BJT Baijiatuau 78.39 25 IAMs_20 IAMs_20 18 50 07.0
comp=Z,706nm,18.0s
LPAZ La Paz 80.17 215 P **P 18 10 54.8 +0.2**
comp=Z,1.0nm,0.7s,baz=24,slow=6.6,SNR=3.0
comp=Z,1.0nm,0.7s
HNS HongShan 80.56 26 ⇑P **P 18 10 59.0 +3.1**
HNS pmax pmax
comp=Z,23nm,1.2s
TIA Tai'an 82.25 25 P **P 18 11 04.7 -0.2**
TIA pmax pmax
comp=Z,10.0nm,1.7s
XAN Xi'an 82.25 32 P **P 18 11 04.2 -0.8**
XAN pmax pmax
comp=Z,28nm,1.0s
XAN LR LR
comp=Z,1μm,14.5s
XAN LR LR
comp=Z,870nm,17.1s
XAN LR LR
comp=Z,1μm,18.4s
LYN LuoYang 82.72 29 *e*P **P 18 11 09.2 +1.9**
LYN sP pwP 18 11 15.3 +2.9
LYN pmax pmax
comp=Z,17nm,0.5s
KSRS Korea Array 83.03 16 P **P 18 11 08.9 0.0**
comp=Z,1.6nm,0.8s,baz=359,slow=6.0,SNR=4.3
comp=Z,1.6nm,0.8s
MJAR Matsushiro Arr 85.06 8 P **P 18 11 19.4 0.0**
comp=Z,1.9nm,0.9s,baz=344,slow=5.2,SNR=2.5
comp=Z,1.9nm,0.9s
ENH Enshi 85.95 33 IAMs_20 IAMs_20 18 42 30.5
comp=Z,613nm,20.0s
NJ2 Nanjing 86.63 25 *e*P **P 18 11 27.2 +0.1**
NJ2 pmax pmax
comp=Z,13nm,0.5s
PZH PanZhiHua 87.03 41 P **P 18 11 28.5 -0.8**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,200nm,5.2s
CPUP Villa Florida 87.03 203 P **P 18 11 29.0 +0.1**
comp=Z,1.9nm,0.8s,baz=80,slow=11,SNR=3.2
comp=Z,1.9nm,0.8s
TNCH TengChong 87.24 44 P **P 18 11 30.0 -0.4**
TNCH S **S 18 22 07.7 -2.7**
TNCH pmax pmax
comp=Z,5.0nm,1.5s
TNCH pmax pmax
comp=Z,570nm,10.1s
TNCH LR LR
comp=Z,1μm,14.1s
TNCH LR LR
comp=Z,430nm,10.4s
TNCH LR LR
comp=Z,2μm,12.4s
CMAR Chiang Mai Arr 93.39 46 P **P 18 11 58.0 -1.0**
comp=Z,0.7nm,0.8s,baz=325,slow=4.7,SNR=8.1
comp=Z,0.7nm,0.8s
KULM Kulim 106.05 50 IAMs_20 IAMs_20 19 11 11.8
comp=Z,948nm,21.0s
SBUM Sibu 112.95 40 IAMs_20 IAMs_20 19 12 36.1
comp=Z,740nm,22.0s
TOLI2 Tolitoli 116.83 31 IAMs_20 IAMs_20 19 13 06.5
comp=Z,464nm,21.0s
JAGI Jajag, Banyuwa 123.80 42 IAMs_20 IAMs_20 19 22 44.0
comp=Z,707nm,21.0s
SYO Syowa Base 137.09 150‖ *e*pPdiff pPdif 18 15 16.6 +1.4
SYO Syowa Base 137.09 150‖ *e*sPdiff sPdif 18 15 18.4 +2.2
WRA Warramunga Arr 140.30 21 PKP **PKPdf 18 18 10.6 -1.9**
comp=Z,0.8nm,0.8s,baz=340,slow=2.9,SNR=4.8
ASAR Alice Springs 143.84 23 PKP PKPbc 18 18 16.5 0.0
comp=Z,0.8nm,0.8s,baz=345,slow=2.4,SNR=8.1
QSPA South Pole Qui 148.28 180 **PKPbc 18 18 27.9 -0.6**
QSPA South Pole Qui 148.28 180 PKPbc **PKPbc 18 18 27.5 -0.9**
comp=Z,2.9nm,0.7s,baz=150,slow=4.1,SNR=11
STKA Stephens Creek 153.12 12 PKPbc **PKPbc 18 18 40.9 0.0**
comp=Z,2.0nm,0.9s,baz=0.0,slow=2.0,SNR=3.0
STKA PKPab **PKPab 18 18 52.9 +0.4**
comp=Z,3.7nm,0.8s,baz=16,slow=4.1,SNR=5.7

*BER **10** 18:04:53.1±6.0, 57°.51N×32°.35W, h10km, mb5.6, Ms5.3, MW5.9(USGS)*
*BJI **10** 18:04:56.7, 58°.43N×31°.87W, h8km, mB6.0/48, mb5.2/77, Ms5.9/63, Ms7 5.6/62*
*IDC **10** 18:04:57.3±0.3, 58°.31N×31°.87W, h0km, mb4.9/47, mbtmp4.9/53, ML4.2/6, MS5.8/37, Error ellipse: s-maj=10.5km s-min=7.7km az=2.0*
*MOS **10** 18:04:58.0±1.0, 58°.50N×31°.93W, h12km, mb5.5/88, MS5.7/20, Error ellipse: s-maj=6.8km s-min=6.3km az=139.6*
*DNK **10** 18:04:58.0±2.7, 58°.36N×32°.10W, h0km±82km, mb5.6*
*ISC-PP **10** 18:04:59, 58°.35N×31°.95W, h16km±5km, Moment Tensor Solution. s51 Moment tensor: M_{rr}-0.38±.26; $M_{\theta\theta}$-0.31±.17; $M_{\phi\phi}$0.69±.26; $M_{r\theta}$-0.28±.30; $M_{\theta\phi}$-0.22±.26; $M_{\phi r}$-0.12±.12; Fault plane solution: NP1:ϕ_s26.50000°, δ66.30000°, λ314.60000°. NP2:ϕ_s138.70000°, δ49.30000°, λ-148.00000°.*
*RSNC **10** 18:04:59.0±3.3, 58°N±10°×3°2W±1°0, h10km, M5.7, mb5.6, mB6.0, mBc6.9, Ms(BB)5.8, Mw(mB)5.9*
*NEIC **10** 18:04:59.1±1.6, 58°.35N±0°.08×32°.0W±0°.1, h10km±1km, mb5.5/164, Ms_20 5.8/780, Mww5.9/20, Error ellipse: s-maj=13.0km s-min=11.6km az=169.0*
*NEIC **10** 18:04:59.1, 58°.35N×31°.95W, h12km*
*NEIC **10** 18:04:59.1, 58°.35N×31°.95W, h12km, Moment Tensor Solution. Duration: 4±5 Moment tensor: Scale 10^{17}Nm; M_{rr}-7.40; $M_{\theta\theta}$1.48; $M_{\phi\phi}$5.92; $M_{r\theta}$2.39; $M_{\theta\phi}$1.75; $M_{\phi r}$-2.99; Fault plane solution: $M_0$7.81000×10^{17} NP1: ϕ_s214.11000°, δ38.88000°, λ-61.48000°. NP2: ϕ_s359.18000°, δ56.53000°, λ-111.06000°. Principal axes: T 6.8582, Plg9.0000°, Azm104.0000°; N 1.9026, Plg17.0000°, Azm11.0000°; P -8.7607, Plg70.0000°, Azm221.0000°;*
*INMG **10** 18:05:01.0±6.8, 58°.52N×32°.00W, h10km, mb5.5, Ms5.6, MW5.7, #DIST_RANGE: DISTANT*
*GCMT **10** 18:05:01.1±0.1, 58°.40N±0°.01×31°.67W±0°.01, h12km, MW5.8/177, Moment Tensor Solution. s128, c213; s177, c553; Duration: 2≥1 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.72±.01; $M_{\theta\theta}$0.02±.01; $M_{\phi\phi}$0.69±.01; $M_{r\theta}$0.12±.02; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$-0.02±.01; Best double couple: $M_0$0.75800×10^{18} NP1:ϕ_s8.00000°, δ45.00000°, λ-104.00000°. NP2:ϕ_s207.00000°, δ47.00000°, λ-76.00000°. Principal axes: T 0.7730, Plg1.0000°, Azm288.0000°; N -0.0310, Plg10.0000°, Azm18.0000°; P -0.7430, Plg80.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 10 18:04:59.4±0.4, **58°.38N**±0°.03×**32°.14W**±0°.03, **h12**km±2km, **h13**km:**pP-P, n1619, e1978**/1292, **mb5.4**/275, **MS5.8**/480, **49C-33D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.70**	**343**		**Pn**	**18 06 49.5**	**-1.8**
ANGG				Sn	Sn	18 08 09.4	-8.9
ANGG	**Ammassalik, Gr**	**7.70**	**343**	*i* P	**Pn**	**18 06 51.0**	**-0.2**
BORG	**Borgarnes**	**8.20**	**34**		**Pn**	**18 06 57.6**	**-0.5**
BORG	**Borgarnes**	**8.20**	**34**	Pn	**Pn**	**18 06 58.1**	**0.0**
7.7nm,0.3s,baz=241,slow=5.3,SNR=21							
BORG				Sn	**Sn**	**18 08 29.2**	**-1.3**
3.1nm,0.3s,baz=98,slow=22,SNR=9.4							
BORG				LR	LR	18 09 24.3	
comp=Z,89μm,18.1s,baz=233,slow=33							
21nm,0.3s							
ICESG	**Greenland Ices**	**11.24**	**346**	*i* P	**Pn**	**18 07 41.5**	**+1.6**
SFJD	**Kangerlussuaq**	**12.05**	**323**	Pn	**Pn**	**18 07 51.8**	**+1.1**
SFJD	**Kangerlussuaq**	**12.05**	**323**	Pn	**Pn**	**18 07 51.6**	**+0.9**
1.0nm,0.3s,baz=110,slow=11,SNR=9.6							
SFJD				Sn	Sn	18 09 54.7	-10
4.0nm,0.3s,baz=234,slow=15,SNR=5.7							
SFJD				LR	LR	18 11 53.5	
comp=Z,74μm,18.5s,baz=128,slow=34							
30nm,0.8s							
SFJD	**Kangerlussuaq**	**12.05**	**323**	P	**Pn**	**18 07 51.8**	**+1.1**
SFJD	**Kangerlussuaq**	**12.05**	**323**	*i* P	**Pn**	**18 07 52.5**	**+1.8**
SCO	**Scoresbysund**	**12.89**	**15**	Pn	**Pn**	**18 08 00.8**	**-1.4**
SCO	**Scoresbysund**	**12.89**	**15**	P	**Pn**	**18 08 00.8**	**-1.4**
SCO	**Scoresbysund**	**12.89**	**15**	*i* P	**Pn**	**18 08 04.4**	**+2.3**
ILULI	**Ilulissat**	**13.63**	**331**		**Pn**	**18 08 10.7**	**-1.6**
ILULI	**Ilulissat**	**13.63**	**331**	P	**Pn**	**18 08 10.7**	**-1.6**
ILULI	**Ilulissat**	**13.63**	**331**	*i* P	**Pn**	**18 08 13.4**	**+1.2**
IGLA	**Glengowla, Co**	**13.67**	**101**	Pn	**Pn**	**18 08 11.8**	**-1.1**
IGLA				S	Sn	18 10 54.2	+10
IDGL	**Inch Island, C**	**13.89**	**93**	Pn	**Pn**	**18 08 13.0**	**-2.8**
IDGL				S	**Sn**	**18 10 57.5**	**+7.7**
VAL	**Valentia**	**14.04**	**108**	Pn	**P**	**18 08 22.3**	**-3.5**
VAL				S	**Sn**	**18 11 01.1**	**+7.7**
SUMG	**Summit**	**14.48**	**352**	Pn	**Pn**	**18 08 22.9**	**-1.3**
SUMG	**Summit**	**14.48**	**352**	P	**Pn**	**18 08 22.9**	**-1.3**
SUMG	**Summit**	**14.48**	**352**	*i* P	**Pn**	**18 08 24.0**	**-0.2**
UMMG	**Uummannaq**	**14.91**	**334**	*i* P	**Pn**	**18 08 28.4**	**-1.3**
ILTH	**Belurgan, Co L**	**14.96**	**96**	Pn	**Pn**	**18 08 32.1**	**+1.7**
ILTH				S	**Sn**	**18 11 21.5**	**+5.7**
DSB	**Dublin**	**15.31**	**98**	Pn	**Pn**	**18 08 31.8**	**-3.3**
DSB	**Dublin**	**15.31**	**98**	P	**Pn**	**18 08 35.7**	**+0.5**
DSB	**Dublin**	**15.31**	**98**	Pn	**Pn**	**18 08 34.5**	**-0.7**
DSB				S	**Sn**	**18 11 27.1**	**+2.6**
IWEX	**Carrickbyrne,**	**15.56**	**102**	Pn	**Pn**	**18 08 38.6**	**+0.2**
IWEX				S	**Sn**	**18 11 30.9**	**+0.4**
NUUG	**Nuugaatsiaq**	**15.78**	**335**	*i* P	**Pn**	**18 08 40.4**	**-0.7**
JMI	**Jan Mayen**	**15.92**	**28**	*e*	**P**	**18 08 51.9**	**+5.5**
JMI				IAmb	IAmb	18 08 55.0	
comp=Z,688nm,1.6s							
JMI				*e*S	**S**	**18 12 00.7**	**+7.6**
JMI				IAMs_20	IAMs_20	18 12 53.8	
comp=Z,17μm,24.8s							
JMIC	**Jan Mayen**	**16.01**	**28**	*e*	**P**	**18 08 50.8**	**+3.2**
JMIC				IAmb	IAmb	18 08 54.8	
comp=Z,2μm,2.4s							
JMIC				*e*S	**S**	**18 12 03.3**	**+8.3**
JMIC				IAMs_20	IAMs_20	18 15 46.8	
comp=Z,18μm,7.1s							
JMIC	**Jan Mayen**	**16.01**	**28**	Pn	**Pn**	**18 08 43.5**	**-0.6**
comp=Z,5.8nm,0.3s,baz=140,slow=9.2,SNR=1.7							
JMIC				LR	LR	18 13 25.7	
comp=Z,15μm,19.7s,baz=226,slow=32							
comp=Z,21nm,0.6s							
JNW	**Jan Mayen West**	**16.06**	**28**	*e*P	**P**	**18 08 48.8**	**+0.7**
JNW				IAmb	IAmb	18 08 55.5	
comp=Z,2μm,2.4s							
JNW				*e*S	**S**	**18 11 59.6**	**+3.6**
JNW				IAMs_20	IAMs_20	18 15 48.3	
comp=Z,27μm,6.9s							
ESK	**Eskdalemuir**	**16.06**	**89**	Pn	**Pn**	**18 08 42.8**	**-2.0**
ESK	**Eskdalemuir**	**16.06**	**89**	P	**Pn**	**18 08 42.8**	**-2.0**
ESK				pmax	pmax		
comp=Z,160nm,1.1s							
JNE	**Jan Mayen East**	**16.07**	**29**	*e*P	**P**	**18 08 49.1**	**+1.0**
JNE				IAmb	IAmb	18 08 53.9	
comp=Z,519nm,1.6s							
JNE				*e*S	**S**	**18 12 03.6**	**+7.5**
JNE				IAMs_20	IAMs_20	18 16 31.1	
comp=Z,18μm,6.8s							
EKA	**Eskdalemuir Ar**	**16.08**	**88**	Pn	**Pn**	**18 08 41.0**	**-4.1**
baz=289,slow=14							
comp=Z,24nm,0.9s							
EKA	**Eskdalemuir Ar**	**16.08**	**88**	P	**Pn**	**18 08 41.0**	**-4.1**
DRLN	**Deer Lake**	**17.44**	**249**	Pn	**Pn**	**18 09 01.8**	**-0.5**
FRB	**Frobisher Bay**	**18.22**	**302**	P	**P**	**18 09 13.4**	**+1.5**
comp=Z,0.5nm,0.3s,baz=94,slow=12,SNR=20							
FRB				PcP	**PcP**	**18 13 42.8**	**-1.0**
comp=Z,13nm,0.9s,baz=133,slow=2.9,SNR=5.4							
FRB				LR	LR	18 15 25.7	
comp=Z,60μm,18.7s,baz=88,slow=34							
comp=Z,23nm,0.8s							
SUE	**Sulen**	**18.64**	**66**	*e*P	**P**	**18 09 15.9**	**-0.7**
SUE				*e*S	**S**	**18 12 50.2**	**+1.7**
SUE				IAMs_20	IAMs_20	18 15 41.6	
comp=Z,24μm,16.6s							
FOO	**Floro**	**18.70**	**64**	*e*P	**P**	**18 09 16.2**	**-1.1**
FOO				IAmb	IAmb	18 09 28.1	
comp=Z,4μm,3.7s							
FOO				*e*S	**S**	**18 12 57.6**	**+7.9**
FOO				IAMs_20	IAMs_20	18 14 56.4	
comp=Z,21μm,18.9s							
KULLO	**Kullorsuaq**	**18.80**	**339**	*i* P	**Pn**	**18 09 19.2**	**+0.5**
ASK	**Askoy**	**18.94**	**68**	*e*P	**P**	**18 09 19.3**	**-0.6**
ASK				IAmb	IAmb	18 09 22.7	
comp=Z,6μm,3.4s							
ASK				*e*S	**S**	**18 12 58.7**	**+4.2**
ASK				IAMs_20	IAMs_20	18 14 13.5	
comp=Z,23μm,32.0s							
BER	**Bergen**	**19.02**	**68**	*e*P	**Pn**	**18 09 22.1**	**+0.5**
BER				IAmb	IAmb	18 09 23.6	
comp=Z,5μm,3.3s							
BER				*e*S	**S**	**18 13 02.1**	**+5.9**
BER				IAMs_20	IAMs_20	18 14 16.4	
comp=Z,17μm,24.5s							
DAG	**Danmarks Havn**	**19.07**	**9**	P	**P**	**18 09 19.7**	**-1.6**
DAG	**Danmarks Havn**	**19.07**	**9**	*i* P	**Pn**	**18 09 22.2**	**+0.2**
KMY	**Karmoy**	**19.23**	**72**	*e*P	**Pn**	**18 09 23.5**	**-0.5**
KMY				IAmb	IAmb	18 09 29.6	
comp=Z,270nm,1.3s							
KMY				*e*S	**S**	**18 13 03.3**	**+2.9**
KMY				IAMs_20	IAMs_20	18 14 36.9	
comp=Z,20μm,23.9s							
SCHQ	**Schefferville**	**19.29**	**274**	P	**Pn**	**18 09 24.7**	**-0.1**
SCHQ	**Schefferville**	**19.29**	**274**	P	**Pn**	**18 09 25.8**	**+1.0**
comp=Z,1.6nm,0.3s,baz=66,slow=8.8,SNR=29							
SCHQ				LR	LR	18 15 46.1	
comp=Z,41μm,18.5s,baz=64,slow=33							
comp=Z,48nm,0.8s							
HYA	**Hoyanger**	**19.30**	**65**	*e*P	**Pn**	**18 09 25.3**	**+0.4**
HYA				*e*S	**S**	**18 13 10.3**	**+8.3**
HYA				IAMs_20	IAMs_20	18 15 52.1	
comp=Z,19μm,17.9s							
SRBC	**Serra Branca**	**19.54**	**170**	*e*P	**Pn**	**18 09 30.8**	**+2.9**
SRBC				*i* Amb		18 09 38.3	
comp=Z,1μm,1.7s							
AKN	**Aaknes**	**19.55**	**62**	*e*P	**Pn**	**18 09 27.9**	**-0.1**
AKN				IAmb	IAmb	18 09 38.7	
comp=Z,363nm,1.4s							
AKN				*e*S	**Sn**	**18 13 12.6**	**+5.6**
PGRA	**Graciosa**	**19.55**	**170**	*e*P	Pn	18 09 42.3	+14
PGRA				*i* Amb		18 09 51.1	
comp=Z,880nm,1.9s							
ODD1	**Odda**	**19.75**	**69**	⇑*i*P	**P**	**18 09 29.3**	**+0.5**
ODD1				IAmb	IAmb	18 09 35.5	
comp=Z,328nm,1.2s							
ODD1				*e*S	**Sn**	**18 13 13.6**	**+1.7**
ODD1				IAMs_20	IAMs_20	18 14 37.5	
comp=Z,18μm,26.6s							
MOL	**Molde**	**19.77**	**61**	*e*P	**P**	**18 09 26.7**	**-2.2**
MOL				IAmb	IAmb	18 09 35.4	
comp=Z,389nm,1.5s							
MOL				*e*S	**Sn**	**18 13 16.6**	**+4.5**
MOL				IAMs_20	IAMs_20	18 14 40.7	
comp=Z,20μm,28.8s							
BLS5	**Blasjo**	**19.78**	**70**	*e*P	**P**	**18 09 29.6**	**+0.5**
BLS5				IAmb	IAmb	18 09 37.6	
comp=Z,323nm,1.2s							
BLS5				*e*S	**Sn**	**18 13 13.2**	**+0.7**
BLS5				IAMs_20	IAMs_20	18 16 39.6	
comp=Z,19μm,15.8s							
ROSA	**Rosais**	**19.84**	**171**	*e*P	**Pn**	**18 09 36.9**	**+5.4**
ROSA				*i* Amb		18 09 42.6	
comp=Z,565nm,1.6s							
PSBA	**Serra de Santa**	**19.88**	**169**	*e*P	**Pn**	**18 09 32.7**	**+0.7**
PSBA				*i* Amb		18 09 39.7	
comp=Z,485nm,1.4s							
PAGU	**Agualva, Azore**	**19.89**	**169**	*e*P	**Pn**	**18 09 31.9**	**-0.2**
PAGU				*i* Amb		18 09 42.7	
comp=Z,697nm,2.5s							
PCED	**Cedros**	**19.89**	**172**	*e*P	**Pn**	**18 09 32.5**	**+0.4**
PCED				*i* Amb		18 09 39.0	
comp=Z,343nm,1.4s							
PMAN	**Manadas**	**19.94**	**171**	*e*P	**Pn**	**18 09 35.4**	**+2.8**
PMAN				*i* Amb		18 09 43.8	
comp=Z,666nm,1.7s							
PSCM	**Serra do Cume**	**19.96**	**168**	*e*P	**Pn**	**18 09 33.9**	**+0.9**
PSCM				*i* Amb		18 09 41.1	
comp=Z,510nm,1.4s							
ADH	**Angra Heroismo**	**20.00**	**169**	*e*P	**Pn**	**18 09 32.9**	**-0.4**
ADH				*i* Amb		18 09 40.7	
comp=Z,515nm,1.4s							
PICO	**Pico**	**20.04**	**171**	*e*P	Pn	18 09 34.4	+0.4
PICO				*i* Amb		18 09 45.6	
comp=Z,429nm,1.4s							
PCAN	**Candelaria**	**20.07**	**172**	*e*P	Pn	18 09 36.8	+2.5
PCAN				*i* Amb		18 09 40.8	
comp=Z,338nm,2.0s							
PPNO	**Prainha do Nor**	**20.08**	**171**	*e*P	Pn	18 09 35.8	+1.4
PPNO				*i* Amb		18 09 41.1	
comp=Z,558nm,1.2s							
PID	**Ribeirinha**	**20.12**	**171**	*e*P	Pn	18 09 36.7	+1.8
PID				*i* Amb		18 09 41.7	
comp=Z,604nm,1.2s							
NEEM	**North Greenlan**	**20.21**	**348**	*i* P	Pn	18 09 35.2	-0.8
SKAR	**Skarslia**	**20.41**	**66**	*e*P	**P**	**18 09 36.3**	**+0.3**
SKAR				IAmb	IAmb	18 09 45.6	
comp=Z,755nm,1.8s							
SKAR				*e*S	Sn	18 13 28.7	+1.0
SKAR				IAMs_20	IAMs_20	18 15 36.8	
comp=Z,19μm,20.5s							
SNART	**Snartemo**	**20.45**	**73**	⇑*i*P	**P**	**18 09 35.9**	**-0.4**
SNART				IAmb	IAmb	18 09 40.4	
comp=Z,678nm,1.4s							
SNART				*e*S	Sn	18 13 26.5	-2.0
SNART	**Snartemo**	**20.45**	**73**	*i* P	**P**	**18 09 35.0**	**-1.3**
SNART				IAmb	IAmb	18 09 40.6	
comp=Z,1μm,1.4s							
DOMB	**Dombas**	**20.53**	**62**	*e*P	Pn	18 09 39.5	-0.1
DOMB				IAmb	IAmb	18 09 43.0	
comp=Z,165nm,1.0s							
DOMB				*e*S	Sn	18 13 33.6	+3.0
DOMB				IAMs_20	IAMs_20	18 16 04.7	
comp=Z,22μm,19.2s							
PSET	**Sete Cidades**	**21.00**	**166**	*e*P	Pn	18 09 44.5	-0.6
PSET				*i* Amb		18 09 55.9	
comp=Z,473nm,2.9s							
CMLA	**Cha da Macela**	**21.08**	**165**	*e*P	**P**	**18 09 44.6**	**+1.2**
CMLA				*i* Amb		18 09 51.4	
comp=Z,271nm,0.8s							
BART	**Pico Bartolome**	**21.11**	**165**	*e*P	**P**	**18 09 43.2**	**-0.6**
BART				*i* Amb		18 09 52.8	
comp=Z,284nm,1.2s							
HOMB	**Homborsund**	**21.12**	**73**	*e*P	**P**	**18 09 44.2**	**+0.6**
HOMB				IAmb	IAmb	18 09 47.6	
comp=Z,365nm,1.4s							
HOMB				*e*S	**S**	**18 13 36.9**	**-1.1**
HOMB				IAMs_20	IAMs_20	18 16 16.7	
comp=Z,19μm,22.5s							
HOMB	**Homborsund**	**21.12**	**73**	*i* P	**P**	**18 09 43.8**	**+0.2**
HOMB				IAmb	IAmb	18 09 47.8	
comp=Z,365nm,1.4s							
KONO	**Kongsberg**	**21.27**	**69**	P	**P**	**18 09 44.4**	**-0.9**
KONO				IAmb	IAmb	18 09 54.8	
comp=Z,329nm,1.4s							
KONO	**Kongsberg**	**21.27**	**69**	*e*P	**P**	**18 09 45.1**	**-0.2**
KONO				IAmb	IAmb	18 09 54.3	
comp=Z,354nm,1.4s							
KONO				*e*S	Sn	18 13 46.2	-2.2
KONO				IAMs_20	IAMs_20	18 15 21.5	
comp=Z,20μm,34.4s							
KONO	**Kongsberg**	**21.27**	**69**	*i* P	**P**	**18 09 43.2**	**-2.1**
KONO				pmax	pmax		
comp=Z,292nm,1.4s							
NC204	**NORSAR Array S**	**21.46**	**64**	P	**P**	**18 09 46.6**	**-0.8**
NC204				IAmb	IAmb	18 09 56.6	
comp=Z,342nm,1.4s							
NBO00	**NORSAR Array S**	**21.52**	**65**	P	**P**	**18 09 47.8**	**-0.2**
NSS	**Namsos**	**21.57**	**55**	*e*P	**P**	**18 09 49.0**	**+0.6**
NSS				IAmb	IAmb	18 09 54.2	
comp=Z,267nm,1.4s							
NSS				*e*S	Sn	18 13 55.9	+0.6
NSS				IAMs_20	IAMs_20	18 15 42.2	
comp=Z,12μm,23.8s							
NAO01	**NORSAR Array S**	**21.61**	**65**	P	**P**	**18 09 48.8**	**-0.2**
NAO01				IAmb	IAmb	18 09 58.1	
comp=Z,347nm,1.4s							
NB2	**NORSAR Subarra**	**21.73**	**64**	P	**P**	**18 09 50.2**	**0.0**
comp=Z,558nm,1.7s,baz=282,slow=11							
NB2	**NORSAR Subarra**	**21.73**	**64**	P	**P**	**18 09 50.2**	**0.0**
baz=282,slow=11							
NB2	**NORSAR Subarra**	**21.73**	**64**	P	**P**	**18 09 52.2**	**+2.0**
NOA	**NORSAR Array B**	**21.73**	**64**	P	**P**	**18 09 48.8**	**-1.5**
comp=Z,28nm,1.1s,baz=283,slow=10.0,SNR=42							
NOA				LR	LR	18 16 57.2	
comp=Z,15μm,21.1s,baz=280,slow=33							
comp=Z,28nm,1.1s							
OSL	**Oslo**	**21.75**	**68**	*e*P	**P**	**18 09 50.2**	**-0.2**
OSL				IAmb	IAmb	18 09 59.6	
comp=Z,205nm,1.4s							
OSL				*e*S	**S**	**18 13 53.0**	**+2.6**
OSL				IAMs_20	IAMs_20	18 17 18.7	
comp=Z,18μm,18.8s							
NC303	**NORSAR Array S**	**21.76**	**64**	P	**P**	**18 09 49.8**	**-0.8**
NB201	**

comp=Z,839nm,2.1s
PSMN Pico do Norte, 21.89 165 *e*P **P 18 09 50.7 -1.3**
PSMN *i* Amb 18 10 01.1
comp=Z,642nm,2.1s
GOET G??ttrup 21.89 76 *i* P **P 18 09 52.4 +0.4**
GOET IAmb IAmb 18 09 57.6
comp=Z,540nm,1.3s
STOK Stokkvaagen 21.93 50 *e*P **P 18 09 52.9 +0.5**
STOK IAmb IAmb 18 09 57.7
comp=Z,511nm,1.4s
STOK *e*S **S 18 13 56.1 +2.2**
STOK IAMs_20 IAMs_20 18 17 28.1
comp=Z,10μm,16.3s
NC602 NORSAR Array S 21.95 65 *e*P **P 18 09 53.0 +0.4**
NC602 IAmb IAmb 18 10 01.0
comp=Z,617nm,1.6s
NC602 *e*S **S 18 13 56.1 +1.7**
NC602 IAMs_20 IAMs_20 18 15 58.6
comp=Z,15μm,24.8s
KONS Konsvik 21.97 50 *e*P **P 18 09 53.3 +0.6**
KONS IAmb IAmb 18 09 58.3
comp=Z,475nm,1.3s
KONS *e*S Sn 18 14 05.9 +0.9
LEIR Leirfjorden 21.98 51 *e*P **P 18 09 53.1 +0.3**
LEIR IAmb IAmb 18 09 58.2
comp=Z,416nm,1.5s
LEIR *e*S Sn 18 14 01.6 -3.5
LEIR IAMs_20 IAMs_20 18 15 42.6
comp=Z,13μm,25.9s
GBN Guysborough 22.08 247 P **P 18 09 53.9 -0.1**
GBN IAmb IAmb 18 10 03.4
comp=Z,345nm,1.3s
MUD Monsted U'grnd 22.08 77 *i* P **P 18 09 53.5 -0.4**
MUD IAmb IAmb 18 09 59.1
comp=Z,544nm,1.4s
LOF Lofoten 22.19 45 *e*P **P 18 09 55.5 +0.5**
LOF IAmb IAmb 18 10 02.5
comp=Z,673nm,1.4s
LOF *e*S **S 18 14 03.1 +4.4**
LOF IAMs_20 IAMs_20 18 16 08.6
comp=Z,11μm,18.8s
STRU Stroemstad 22.22 70 *i* P **P 18 09 55.1 -0.3**
STRU IAmb IAmb 18 10 01.0
comp=Z,51nm,1.0s
UCC Uccle 22.23 94 P **P 18 09 56.2 +0.6**
UCC Uccle 22.23 94 *d*P **P 18 09 53.2 -2.4**
comp=Z,124nm,1.0s
UCC Uccle 22.23 94 P **P 18 09 56.3 +0.6**
UCC pmax pmax
comp=Z,50nm,1.2s
UCC pmax pmax
comp=Z,3μm,19.0s
PGAV Gavieira, Arco 22.25 127 *e*P **P 18 09 56.4 +0.4**
PGAV *i* Amb 18 10 06.3
comp=Z,432nm,1.6s
PGAV *e*S **S 18 14 05.9 +5.3**
PGAV *i* AMs_20 18 16 47.7
comp=Z,26μm,20.0s
TULEG Thule 22.29 338 P **P 18 09 57.1 +1.1**
TULEG IAmb IAmb 18 10 07.3
comp=Z,169nm,1.4s
OVD Ostervraa, Den 22.29 74 *i* P **P 18 09 55.7 -0.5**
OVD IAmb IAmb 18 10 03.4
comp=Z,1μm,1.6s
MOR8 Moi Rana 22.52 50 *e*P **P 18 10 00.6 +2.0**
MOR8 IAmb IAmb 18 10 06.2
comp=Z,233nm,1.4s
MOR8 *e*S Sn 18 14 12.0 -6.0
MOR8 IAMs_20 IAMs_20 18 19 36.2
comp=Z,5μm,12.0s
PCAB Cabril 22.56 127 *e*P **P 18 09 59.1 -0.2**
PCAB *i* Amb 18 10 06.0
comp=Z,235nm,1.8s
BAIF Baives 22.58 96 *e*P **P 18 09 57.5 -1.8**
BMRD Maredsous 22.73 95 *d*P **P 18 09 58.5 -2.4**
comp=Z,85nm,1.1s
DOU Dourbes 22.76 95 *d*P **P 18 10 00.7 -0.5**
comp=Z,72nm,1.2s
TJOU Tjoern 22.76 72 *i* P **P 18 10 01.3 +0.1**
CLF Chambon-Foret 22.81 102 P **P 18 10 01.4 -0.4**
STEI Steigen 22.82 46⇑ *i*P **P 18 10 03.5 +1.8**
STEI IAmb IAmb 18 10 09.3
comp=Z,282nm,1.3s
STEI *e*S **S 18 14 14.8 +4.5**
STEI IAMs_20 IAMs_20 18 16 38.3
comp=Z,11μm,22.3s
FAUS Fauske 22.83 47⇑ *i*P **P 18 10 02.9 +1.1**
FAUS IAmb IAmb 18 10 09.6
comp=Z,340nm,1.6s
FAUS *e*S **S 18 14 14.1 +3.5**
FAUS IAMs_20 IAMs_20 18 16 10.0
comp=Z,13μm,23.5s
BGES Gesves 22.85 94 *d*P **P 18 10 03.0 +0.7**
comp=Z,116nm,1.2s
GIVF Givet 22.88 95 *e*P **P 18 10 01.9 -0.6**
BEBN Eben Emael 22.93 93 *d*P **P 18 10 03.4 +0.4**
POLO Lamas de Olo 22.94 127 *e*P **P 18 10 03.3 -0.1**
POLO *i* Amb 18 10 11.2
comp=Z,84nm,2.1s
BCLA Clavier 22.94 94 *d*P **P 18 10 03.0 -0.2**
comp=Z,77nm,1.3s
BSTI Sart Tilman 22.99 93 *d*P **P 18 10 03.7 +0.1**
comp=Z,19nm,1.5s
PBRG Braganca 23.03 125 *e*P **P 18 10 04.6 +0.4**
PBRG *i* Amb 18 10 33.9
comp=Z,208nm,1.6s
PVRL Vila Real 23.05 127 *e*P **P 18 10 04.3 -0.2**
PVRL *i* Amb 18 10 12.4
comp=Z,223nm,1.7s
RCHB Rochefort 23.06 95 *d*P **P 18 10 04.8 +0.5**
comp=Z,73nm,1.4s
ONAU Onsala 23.13 73 *i* P **P 18 10 05.1 +0.1**
HFS Hagfors 23.14 66 P **P 18 10 04.4 -0.7**
comp=Z,80nm,0.8s,baz=272,slow=5.5,SNR=48
HFS LR LR 18 17 59.7
comp=Z,12μm,19.2s,baz=284,slow=34
comp=Z,80nm,0.8s
MEM Membach 23.21 93 *d*P **P 18 10 03.4 -2.5**
comp=Z,69nm,1.3s
BTNL Ternell 23.28 93 *d*P **P 18 10 06.9 +0.2**
comp=Z,73nm,1.2s
BHOU Houvegnez 23.35 93 *d*P **P 18 10 08.1 +0.7**
comp=Z,77nm,1.5s
MVO Moncorvo 23.44 126 *e*P **P 18 10 07.9 -0.5**
MVO *i* Amb 18 10 15.2
comp=Z,405nm,1.7s
MVO *e*S **S 18 14 29.4 +8.0**
MVO *i* AMs_20 18 17 34.3
comp=Z,21μm,18.0s
PVIS Viseu 23.45 128 *e*P **P 18 10 07.5 -1.0**
BORU Boraas 23.48 72 *i* P **P 18 10 08.3 -0.2**
HAL Halifax 23.65 248 P **P 18 10 11.8 +1.5**
HAL IAmb IAmb 18 10 20.7
comp=Z,124nm,1.3s
HAL Halifax 23.65 248 P **P 18 10 11.8 +1.5**
HAL pmax pmax
comp=Z,124nm,1.3s
COI Coimbra 23.66 130 P **P 18 10 09.6 -0.9**
COI IAmb IAmb 18 10 15.5
comp=Z,199nm,1.0s
COI IAMs_20 IAMs_20 18 16 54.4
comp=Z,25μm,20.0s
COI Coimbra 23.66 130 *e*P **P 18 10 10.3 -0.2**
COI *i* Amb 18 10 17.1
comp=Z,300nm,1.2s
COI Coimbra 23.66 130 P **P 18 10 09.6 -0.9**
COI pmax pmax
comp=Z,199nm,1.0s
COI pmax pmax
comp=Z,25μm,20.0s
FABU Falkenberg 23.68 74 *i* P **P 18 10 10.5 -0.1**
NOR Nord 23.74 6 *i* P **P 18 10 11.1 +0.2**
NOR IAmb IAmb 18 10 19.8
comp=Z,66nm,1.1s
PCAS Casmilo, Conde 23.76 130 *e*P **P 18 10 09.5 -2.0**
PCAS *i* Amb 18 10 18.0
comp=Z,239nm,1.4s
WLF Walferdange 23.83 95 P **P 18 10 12.2 +0.1**
WLF Walferdange 23.83 95 P **P 18 10 12.8 +0.8**
WLF Walferdange 23.83 95 *d*P **P 18 10 12.6 +0.5**
comp=Z,57nm,1.9s
WLF Walferdange 23.83 95 P **P 18 10 12.2 +0.1**
WLF pmax pmax
comp=Z,457nm,1.7s
WLF pmax pmax
comp=Z,19μm,20.0s

MTE Manteigas 23.86 128 P **P 18 10 11.2 -1.2**
MTE IAmb IAmb 18 10 18.2
comp=Z,110nm,1.1s
MTE IAMs_20 IAMs_20 18 17 11.5
comp=Z,26μm,19.0s
MTE Manteigas 23.86 128 *e*P **P 18 10 12.0 -0.4**
MTE *i* Amb 18 10 18.8
comp=Z,200nm,2.1s
MTE *e*S **S 18 14 36.3 +8.2**
MTE *i* AMs_20 18 17 45.8
comp=Z,24μm,20.0s
MTE Manteigas 23.86 128 *e*P **P 18 10 13.0 +0.5**
PSBE So Bento 24.10 131 *e*P **P 18 10 15.3 +0.6**
PSBE *i* Amb 18 10 21.4
comp=Z,267nm,2.0s
LOR Lormes 24.12 102 *e*P **P 18 10 17.1 +2.2**
LFF La Frestale 24.13 109 *e*P **P 18 10 14.6 -0.3**
AVF Avril sur Loir 24.18 103 *e*P **P 18 10 14.0 -1.3**
TRO Tromso 24.20 42 *e*P **P 18 10 16.0 +0.7**
TRO IAmb IAmb 18 10 31.0
comp=Z,536nm,1.6s
TRO *e*S **S 18 14 35.7 +2.7**
TRO IAMs_20 IAMs_20 18 17 40.4
comp=Z,11μm,17.0s
BJUU Bjuv 24.21 76 *i* P **P 18 10 16.3 +0.8**
PCBR Castelo Branco 24.36 129 *e*P **P 18 10 16.3 -0.7**
PCBR *i* Amb 18 10 23.5
comp=Z,264nm,1.8s
PMAFR Mafra 24.39 133 P **P 18 10 19.6 +2.2**
PMAFR Mafra 24.39 133 P **P 18 10 15.6 -1.8**
DEL Delary 24.48 75 *i* P **P 18 10 18.5 +0.5**
LUNU Lund 24.61 77 *i* P **P 18 10 20.2 +1.1**
LIS Lisbon 24.65 133 *e*P **P 18 10 20.0 +0.3**
LIS IAMs_20 IAMs_20 18 16 49.3
comp=N,23μm,19.9s
LIS Lisbon 24.65 133 *e*P **P 18 10 20.4 +0.7**
LIS *i* Amb 18 10 26.1
comp=N,471nm,1.5s
LIS Lisbon 24.65 133 *e*P **P 18 10 20.0 +0.3**
PMTG Montargil 24.71 131 *e*P **P 18 10 19.6 -0.6**
PMTG *i* Amb 18 10 28.6
comp=N,315nm,1.9s
D62A Allapoint, All 24.72 259 IAMs_20 IAMs_20 18 18 35.2
comp=Z,25μm,19.0s
JETT Jettan, Norway 24.72 42 *e*P **P 18 10 21.3 +1.2**
JETT IAmb IAmb 18 10 28.0
comp=Z,350nm,1.3s
JETT *e*S **S 18 14 46.8 +5.3**
JETT *e*ScP **ScP 18 17 32.1 -2.6**
JETT IAMs_20 IAMs_20 18 17 38.8
comp=Z,10μm,18.8s
HSPB Hornsund (broa 24.74 24 *e*P **P 18 10 23.1 +2.9**
HSPB *e*L L 18 17 38.2
comp=Z,7μm,16.6s
PMRV Marv??o 24.74 129 *e*P **P 18 10 20.5 -0.1**
PMRV *i* Amb 18 10 27.9
comp=Z,149nm,2.2s
PMRV *i* AMs_20 18 18 10.7
comp=Z,19μm,20.0s
BJO1 Bjornoya 24.83 30 *e*P **P 18 10 21.0 0.0**
BJO1 *e*S **S 18 14 46.5 +3.5**
BJO1 *i* 18 16 49.2
KBS Kingsbay 24.89 19 *e*P **P 18 10 24.2 +2.7**
KBS *e*S **S 18 14 47.7 +3.7**
KBS *e*ScP **ScP 18 17 33.6 -1.4**
LMQ La Malbaie 25.08 261 P **P 18 10 25.1 +1.6**
LMQ IAmb IAmb 18 10 32.4
comp=Z,154nm,1.2s
PESTR Estremoz 25.14 130 IAMs_20 IAMs_20 18 17 38.5
comp=Z,22μm,20.0s
PESTR Estremoz 25.14 130 *e*P **P 18 10 22.7 -1.4**
PESTR *i* Amb 18 10 31.8
comp=Z,151nm,2.0s
PESTR Estremoz 25.14 130 P **P 18 10 23.0 -1.1**
F64A Sherman 25.17 256 IAMs_20 IAMs_20 18 18 58.2
comp=Z,25μm,19.0s
G65A Princeton 25.23 254 IAMs_20 IAMs_20 18 19 07.7
comp=Z,23μm,18.0s
ECH Echery 25.23 97 P **P 18 10 23.5 -1.5**
ECH IAMs_20 IAMs_20 18 19 20.7
comp=Z,25μm,20.0s
ECH Echery 25.23 97 P **P 18 10 23.5 -1.5**
ECH pmax pmax
comp=Z,293nm,1.6s
ECH pmax pmax
comp=Z,25μm,20.0s
EVO Evora 25.26 131 *e*P **P 18 10 24.4 -0.8**
EVO *i* Amb 18 10 32.7
comp=Z,129nm,2.1s
EVO Evora 25.26 131 P **P 18 10 24.7 -0.5**
E62A Clayton Lake 25.27 259 IAMs_20 IAMs_20 18 18 50.7
comp=Z,26μm,20.0s
EPF Esparros 25.34 113 *e*P **P 18 10 27.5 +1.6**
SPA0 Spitsbergen Ar 25.35 21 *e*P **P 18 10 26.9 +1.2**
SPA0 IAmb IAmb 18 10 40.3
comp=Z,276nm,1.5s
SPA0 *e*S **S 18 14 55.7 +4.3**
SPA0 *e*ScP **ScP 18 17 28.5 -7.9**
SPA0 IAMs_20 IAMs_20 18 17 42.8
comp=Z,6μm,16.5s
SPITS Spitsbergen Ar 25.35 21 P **P 18 10 25.6 -0.1**
comp=Z,12nm,0.9s,baz=162,slow=19,SNR=4.3
SPITS LR LR 18 17 42.6
comp=Z,3μm,19.2s,baz=228,slow=30
comp=Z,12nm,0.9s
SPITS Spitsbergen Ar 25.35 21 P **P 18 10 26.3 +0.6**
EBAD Badajoz 25.47 129 P **P 18 10 26.1 -0.9**
BLEU Blekinge 25.53 74 *i* P **P 18 10 28.4 +1.0**
BSD Bornholm Skovb 25.59 77 *e*P **P 18 10 28.2 +0.2**
BSD Bornholm Skovb 25.59 77 *i* P **P 18 10 29.4 +1.4**
BSD IAmb IAmb 18 10 35.2
comp=Z,292nm,1.7s
KTK1 Kautokeino 25.74 43 *e*P **P 18 10 29.6 +0.2**
KTK1 IAmb IAmb 18 10 37.6
comp=Z,214nm,1.2s
KTK1 *e*S **S 18 14 59.2 +1.5**
KTK1 *e*ScP **ScP 18 17 36.5 -1.1**
KTK1 IAMs_20 IAMs_20 18 18 12.1
comp=Z,11μm,20.5s
PBEJ Beja 25.75 132 *e*P **P 18 10 29.1 -0.6**
PBEJ *i* Amb 18 10 37.3
comp=Z,154nm,1.7s
MESJ Messejana 25.77 132 IAMs_20 IAMs_20 18 17 46.5
comp=Z,29μm,22.0s
MESJ Messejana 25.77 132 *e*P **P 18 10 30.1 +0.2**
MESJ *e*S **S 18 14 59.9 +1.3**
MESJ IAMs_20 IAMs_20 18 17 51.3
comp=Z,27μm,20.9s
MESJ Messejana 25.77 132 *e*P **P 18 10 31.4 +1.6**
MESJ *i* Amb 18 10 37.7
comp=Z,155nm,2.1s
MESJ Messejana 25.77 132 *e*P **P 18 10 30.1 +0.2**
MESJ *e*S **S 18 14 59.9 +1.3**
BFO Black Forest 25.78 95 P **P 18 10 27.6 -2.3**
BFO IAmb IAmb 18 10 35.3
comp=Z,137nm,1.3s
BFO Black Forest 25.78 95 P **P 18 10 27.6 -2.3**
BFO pmax pmax
comp=Z,137nm,1.3s
BFO pmax pmax
comp=Z,11μm,21.0s
UCM Universidad Co 25.79 122 P **P 18 10 30.4 +0.4**
SSB Saint Sauveur 25.81 104 P **P 18 10 30.0 -0.2**
SSB IAmb IAmb 18 10 37.2
comp=Z,155nm,1.6s
SSB Saint Sauveur 25.81 104 IAMs_20 IAMs_20 18 19 54.2
comp=Z,22μm,18.0s
SSB Saint Sauveur 25.81 104 P **P 18 10 30.0 -0.2**
SSB pmax pmax
comp=Z,155nm,1.6s
SSB pmax pmax
comp=Z,22μm,18.0s
PTEO Sao Teotonio 25.84 134 *e*P **P 18 10 31.9 +1.5**
PTEO *i* Amb 18 10 41.2
comp=Z,282nm,2.1s
HAMF Hammerfest 25.84 39 *e*P **P 18 10 32.4 +2.2**
HAMF IAmb IAmb 18 10 35.2
comp=Z,42nm,0.9s
HAMF *e*S **S 18 15 02.2 +3.1**
HAMF *e*ScP **ScP 18 17 35.3 -2.5**
HAMF IAMs_20 IAMs_20 18 17 37.0
comp=Z,11μm,32.5s
PAB San Pablo 25.93 124 P **P 18 10 29.1 -2.2**
PAB IAmb IAmb 18 10 38.6
comp=Z,104nm,1.1s

PAB San Pablo 25.93 124 P **P 18 10 29.1 -2.2**
PAB pmax pmax
comp=Z,104nm,1.1s
PAB pmax pmax
comp=Z,11μm,19.0s
PAB San Pablo 25.93 124 P **P 18 10 31.7 +0.3**
PBAR Barrancos 25.95 130 *e*P **P 18 10 31.7 +0.2**
PBAR *i* Amb 18 10 41.4
comp=Z,149nm,1.6s
PBAR Barrancos 25.95 130 P **P 18 10 31.5 0.0**
STU Stuttgart 25.96 94 P **P 18 10 29.7 -1.8**
STU IAmb IAmb 18 10 37.1
comp=Z,105nm,1.1s
STU Stuttgart 25.96 94 P **P 18 10 29.7 -1.8**
STU pmax pmax
comp=Z,105nm,1.1s
STU pmax pmax
comp=Z,12μm,18.0s
STU Stuttgart 25.96 94 *e*P **P 18 10 31.7 +0.2**
ESBB Sonseca Array 25.99 124 IAmb IAmb 18 10 39.2
comp=Z,126nm,1.2s
ESDC Sonseca Array 25.99 124 P **P 18 10 29.9 -2.0**
ESDC Sonseca Array 25.99 124 P **P 18 10 29.8 -2.1**
comp=Z,15nm,0.9s,baz=323,slow=8.5,SNR=59
ESDC PcP **PcP 18 13 58.5 -1.3**
comp=Z,1.8nm,0.9s,baz=343,slow=2.7,SNR=3.8
ESDC LR LR 18 18 30.9
comp=Z,11μm,20.6s,baz=328,slow=32
comp=Z,15nm,0.9s
PCVE Castro Verde 26.03 132 *e*P **P 18 10 34.2 +2.0**
PCVE *i* Amb 18 10 40.1
comp=Z,192nm,1.8s
PCVE Castro Verde 26.03 132 P **P 18 10 31.5 -0.6**
PKME Peaks-Kenny Pk 26.06 256 IAMs_20 IAMs_20 18 19 34.8
comp=Z,27μm,19.0s
MORF Marmelete 26.08 134 IAMs_20 IAMs_20 18 17 55.5
comp=Z,21μm,22.0s
MORF Marmelete 26.08 134 *e*P **P 18 10 32.9 +0.3**
MORF IAMs_20 IAMs_20 18 17 48.2
comp=Z,24μm,22.7s
MORF Marmelete 26.08 134 *e*P **P 18 10 33.2 +0.6**
MORF *i* Amb 18 10 42.0
comp=Z,158nm,1.6s
MORF Marmelete 26.08 134 *e*P **P 18 10 32.9 +0.3**
CEST Esterri de Car 26.11 113 IAMs_20 IAMs_20 18 20 43.2
comp=Z,16μm,18.0s
PFVI Vila Bisbo 26.16 134 *e*P **P 18 10 37.2 +3.8**
PFVI *i* Amb 18 10 45.3
comp=Z,207nm,1.6s
PFVI Vila Bisbo 26.16 134 P **P 18 10 34.4 +1.0**
VIVF Saint-Julien-l 26.17 105 *e*P **P 18 10 36.4 +2.9**
RUE Ruedersdorf 26.28 83 *e*P **P 18 10 34.5 +0.1**
EGRO El Granado 26.33 132 P **P 18 10 38.1 +3.2**
PVAQ Vaqueiros 26.35 132 IAMs_20 IAMs_20 18 18 24.7
comp=Z,22μm,20.0s
PVAQ Vaqueiros 26.35 132 *e*P **P 18 10 36.4 +1.3**
PVAQ *i* Amb 18 10 43.0
comp=Z,123nm,2.0s
PVAQ *i* AMs_20 18 18 59.6
comp=Z,28μm,20.0s
PVAQ Vaqueiros 26.35 132 P **P 18 10 38.1 +3.0**
PBDV Barranco-do-Ve 26.41 133 *e*P **P 18 10 37.7 +2.1**
PBDV *i* Amb 18 11 05.2
comp=Z,120nm,1.7s
EMIN Mina Concepcio 26.45 130 P **P 18 10 35.5 -0.5**
GRA1 Grafenberg Arr 26.48 90 IAMs_20 IAMs_20 18 20 09.5
comp=Z,19μm,20.0s
GRFO Grafenberg 26.48 90 P **P 18 10 35.0 -1.2**
GRFO IAMs_20 IAMs_20 18 19 58.5
comp=Z,20μm,21.0s
GRFO Grafenberg 26.48 90 P **P 18 10 35.0 -1.2**
GRFO pmax pmax
comp=Z,289nm,1.5s
GRFO pmax pmax
comp=Z,20μm,21.0s
SENIN Lac Senin/Sane 26.50 100 P **P 18 10 34.9 -1.7**
VAF Ylistaro 26.50 57 *e*P **P 18 10 36.6 +0.4**
CLL Collm 26.50 86 IAMs_20 IAMs_20 18 21 20.0
comp=Z,21μm,18.0s
CLL Collm 26.50 86 *i* P **P 18 10 36.4 +0.1**
CLL *i* 18 10 39.8
CLL *e*S **S 18 15 10.0 +0.1**
CLL pmax pmax
comp=Z,20nm,0.9s
CLL MLR MLR
comp=Z,21μm,21.3s
CLL Collm 26.50 86 *i* P **P 18 10 36.4 +0.1**
comp=Z,20nm,0.9s
CLL *i* x x 18 10 39.8
comp=Z,253nm,1.9s
CLL *e*x x 18 11 05.0
CLL *i* PP **PnPn 18 11 15.5 -0.7**
CLL *e*PPP PPP 18 11 24.0
CLL *e*PPPP 18 11 33.0
CLL *e*PcP **PcP 18 14 01.0 +0.3**
CLL *e*S **S 18 15 10.0 +0.1**
CLL *e*x x 18 15 36.0
CLL *e*SSS SSS 18 16 36.0
CLL AMS AMS 18 20 00.0
comp=Z,21μm,21.3s
CLL AMS AMS 18 20 00.0
comp=N,6μm,18.0s
CLL AMS AMS 18 20 00.0
comp=E,19μm,19.9s
CLL AMS AMS 18 22 06.0
ARA0 ARCESS Array S 26.51 42 *e*P **P 18 10 36.0 -0.4**
ARA0 IAmb IAmb 18 10 45.7
comp=Z,286nm,1.4s
ARA0 *e*S **S 18 15 14.3 +4.4**
ARA0 *e*ScP **ScP 18 17 42.6 +2.8**
ARA0 IAMs_20 IAMs_20 18 19 26.2
comp=Z,10μm,16.7s
ARCES ARCESS Array B 26.51 42 P **P 18 10 35.2 -1.1**
comp=Z,15nm,0.7s,baz=265,slow=8.4,SNR=34
ARCES LR LR 18 19 09.9
comp=Z,7μm,18.0s,baz=272,slow=32
comp=Z,15nm,0.7s
ARCES ARCESS Array B 26.51 42 P **P 18 10 34.5 -1.8**
ARCES pmax pmax
comp=Z,247nm,1.5s
RAF Rauma 26.68 61 *e*P **P 18 10 38.3 +0.5**
ECAB El Cabril 26.70 128 P **P 18 10 38.1 -0.2**
HOPEN Hopen 26.71 26 *e*P **P 18 10 38.2 +0.3**
G62A West of Eustis 26.73 257 IAMs_20 IAMs_20 18 19 45.5
comp=Z,25μm,20.0s
WVL Waterville 26.74 255 IAMs_20 IAMs_20 18 19 55.7
comp=Z,22μm,19.0s
ORIF Oris-en-Rattie 26.75 103 *e*P **P 18 10 38.1 -0.6**
LPL La Plagne 26.77 102 *e*P **P 18 10 39.2 +0.1**
NKC Novy Kostel 26.81 88 AMS AMS 18 21 20.0
comp=Z,22μm,15.6s
EADA Adamuz 26.98 126 P **P 18 10 43.2 +2.4**
ARNO Arenosillo 27.00 131 P **P 18 10 41.5 +0.5**
KEV Kevo 27.02 41 P **P 18 10 40.5 -0.3**
KEV IAmb IAmb 18 10 51.5
comp=Z,225nm,1.7s
KEV Kevo 27.02 41 P **P 18 10 40.5 -0.3**
KEV pmax pmax
comp=Z,225nm,1.7s
KEV pmax pmax
comp=Z,6μm,19.0s
EUNU Eureka 27.06 342 P **P 18 10 42.0 +0.7**
EUNU IAmb IAmb 18 11 06.2
comp=Z,134nm,1.6s
BNI Bardonecchia 27.06 102 IAmb IAmb 18 10 51.7
comp=Z,144nm,1.6s
BNI IAMs_20 IAMs_20 18 20 48.2
comp=Z,26μm,19.0s
HSKC Hora Svate Kat 27.12 87 *e*P **P 18 10 42.9 +0.9**
HSKC AMS AMS 18 21 50.0
comp=Z,41μm,15.2s
BRG Berggiesshubel 27.24 86 *e*P **P 18 10 44.7 +1.7**
BRG Amp 18 10 48.5
comp=Z,63nm,1.4s
DAVA Damuels 27.25 96 *e*pP **P 18 10 44.5 +1.2**
comp=Z,49nm,1.3s,SNR=5.6
DAVA PcP **PcP 18 14 03.5 +0.7**
comp=Z,23nm,1.4s
ECHE Chera 27.40 120 P **P 18 10 48.3 +3.7**
PMPST Porto Santo, M 27.46 150 *e*P **P 18 10 48.2 +3.1**
PMPST *e*T T 18 38 36.5
PMOZ Porto Moniz, M 27.49 152 *e*P **P 18 10 48.4 +3.0**
PMOZ *i* Amb 18 10 53.7
comp=Z,251nm,1.5s
PMOZ *e*S S 18 15 40.8 +15

PMOZ *i* AMs_20 18 19 03.9
comp=Z,11μm,20.0s
PMOZ *e*T T 18 38 31.3
TUE Stuetta 27.50 97 IAMs_20 IAMs_20 18 20 44.5
comp=Z,34μm,20.0s
TUE Stuetta 27.50 97 P **P 18 10 44.8 -0.8**
comp=Z,567nm,1.8s
H62A Milan 27.50 257 IAMs_20 IAMs_20 18 20 18.8
comp=Z,27μm,20.0s
RICC Richard 27.50 86 AMS AMS 18 22 10.0
comp=Z,34μm,15.0s
ESPR Espera 27.55 130 P **P 18 10 48.0 +2.1**
I63A Otisfield 27.57 256 IAMs_20 IAMs_20 18 20 20.7
comp=Z,21μm,19.0s
DAVOX Davos/Dischmat 27.57 96 P **P 18 10 44.1 -2.2**
comp=Z,1.9nm,0.7s,baz=344,slow=9.5,SNR=7.8
DAVOX LR LR 18 21 15.2
comp=Z,20μm,18.2s,baz=309,slow=36
comp=Z,1.9nm,0.7s
RETA Reutte 27.58 94 *e*pP **P 18 10 46.8 +0.6**
comp=Z,21nm,1.0s,SNR=7.2
PMAR Madeira 27.65 152 *e*P **P 18 10 52.6 +5.5**
PMAR *e*T T 18 38 35.6
GKP Gorka Klasztor 27.67 79 *e*P **P 18 10 48.0 +1.2**
GKP *e*L L 18 20 09.0
comp=Z,16μm,24.6s
GKP Gorka Klasztor 27.67 79 *e*P **P 18 10 47.3 +0.4**
LIJA Lijar 27.70 129 P **P 18 10 49.4 +2.0**
KEF Keuruu 27.73 58 *e*P **P 18 10 47.8 +0.6**
PVCC Panska Ves 27.76 86 AMS AMS 18 22 20.0
comp=Z,29μm,15.1s
VADS Vadso 27.79 40 *e*P **P 18 10 48.8 +1.1**
VADS IAmb IAmb 18 10 58.0
comp=Z,177nm,1.6s
VADS *e*S **S 18 15 36.4 +6.6**
VADS IAMs_20 IAMs_20 18 19 49.8
comp=Z,8μm,17.2s
FETA Feichten 27.86 95 *e*pP **P 18 10 48.7 -0.2**
comp=Z,46nm,1.4s,SNR=12
FETA *e*PcP **PcP 18 14 05.0 +0.7**
comp=Z,7.3nm,0.9s
RES Resolute Bay 27.93 330 P **P 18 10 50.3 +1.3**
comp=Z,16nm,0.9s,baz=91,slow=8.5,SNR=35
RES PcP **PcP 18 14 04.5 +0.8**
comp=Z,7.6nm,0.9s,baz=315,slow=1.5,SNR=5.0
RES LR LR 18 21 36.8
comp=Z,8μm,18.9s,baz=91,slow=36
comp=Z,16nm,0.9s
PRA Prague 27.95 87 AMS AMS 18 22 10.0
comp=Z,38μm,15.0s
SQTA Sankt Quirin 27.99 94 *e*P **P 18 10 49.0 -0.9**
comp=Z,37nm,1.1s,SNR=6.4
SQTA *e*PcP **PcP 18 14 06.4 +1.9**
comp=Z,14nm,1.4s
KHC Kasperske Hory 28.05 89 *e*P **P 18 10 50.9 +0.5**
KHC AMS AMS 18 21 30.0
comp=Z,25μm,16.9s
KHC Kasperske Hory 28.05 89*ce*P **P 18 10 50.1 -0.3**
KHC pmax pmax
comp=Z,121nm,2.5s
KHC Kasperske Hory 28.05 89 P **P 18 10 49.8 -0.6**
comp=Z,24nm,1.7s
PRU Pruhonice 28.06 87 *e*P **P 18 10 50.5 +0.2**
PRU AMS AMS 18 22 20.0
comp=Z,36μm,14.8s
PRU Pruhonice 28.06 87 *e*P **P 18 10 50.5 +0.2**
PRU MLR MLR
comp=Z,36μm,14.8s
I62A Tamworth 28.08 256 IAMs_20 IAMs_20 18 20 47.2
comp=Z,28μm,19.0s
WATA Walderalm 28.11 94 *e*P **P 18 10 49.5 -1.5**
WATA *e*PcP **PcP 18 14 08.2 +3.3**
comp=Z,25nm,1.8s
MEF Metsahovi 28.18 62 *e*P **P 18 10 52.2 +1.0**
WTTA Wattenberg 28.18 94 *e*P **P 18 10 51.0 -0.7**
comp=Z,35nm,1.4s
WTTA *e*PcP **PcP 18 14 06.5 +1.4**
comp=Z,17nm,1.2s
ZVC Zvikov 28.19 88 *e*P **P 18 10 52.9 +1.3**
ZVC AMS AMS 18 21 40.0
comp=Z,30μm,16.5s
GOPC GO Pecny, Ondr 28.23 87 AMS AMS 18 22 20.0
comp=Z,34μm,15.2s
GERES GERESS Array B 28.29 89 P **P 18 10 50.7 -1.8**
GERES GERESS Array B 28.29 89 P **P 18 10 51.5 -1.0**
comp=Z,1.6nm,0.6s,baz=322,slow=6.2,SNR=2.0
GERES PP **PnPn 18 11 38.1 -2.6**
comp=Z,9.0nm,1.0s,baz=303,slow=12,SNR=2.4
GERES LR LR 18 22 04.5
comp=Z,22μm,18.0s,baz=296,slow=36
comp=Z,1.6nm,0.6s
MTSE Matsula 28.48 65 *e*P **P 18 10 54.0 0.0**
KSP Ksiaz 28.49 84 *e*P **P 18 10 53.5 -0.6**
KSP *e*L L 18 22 20.2
comp=Z,21μm,18.6s
KSP Ksiaz 28.49 84 P **P 18 10 52.7 -1.4**
comp=Z,101nm,1.2s
VT1 Waterbury 28.49 258 IAMs_20 IAMs_20 18 20 51.2
comp=Z,21μm,20.0s
CHVC Chvalec 28.51 85 *e*P **P 18 10 54.4 0.0**
CHVC AMS AMS 18 23 10.0
comp=Z,23μm,14.0s
CHVC Chvalec 28.51 85 *e*P **P 18 10 54.4 0.0**
CHVC MLR MLR
comp=Z,23μm,14.0s
FINES FINESS Array B 28.51 59 P **P 18 10 53.4 -0.8**
FINES FINESS Array B 28.51 59 P **P 18 10 52.7 -1.5**
comp=Z,20nm,0.7s,baz=294,slow=5.7,SNR=41
FINES LR LR 18 21 33.8
comp=Z,11μm,19.6s,baz=284,slow=35
comp=Z,20nm,0.7s
FINES FINESS Array B 28.51 59 P **P 18 10 53.4 -0.8**
UPC Upice 28.53 85 *e*P **P 18 10 54.9 +0.4**
UPC AMS AMS 18 23 00.0
comp=Z,26μm,14.6s
UPC Upice 28.53 85 *e*P **P 18 10 54.9 +0.4**
UPC MLR MLR
comp=Z,26μm,14.6s
CEU Ceuta 28.59 130 P **P 18 10 58.0 +2.9**
OSTC Ostas 28.61 85 *e*P **P 18 10 55.7 +0.4**
OSTC AMS AMS 18 23 20.0
comp=Z,26μm,13.8s
OSTC Ostas 28.61 85 *e*P **P 18 10 55.7 +0.4**
OSTC MLR MLR
comp=Z,26μm,13.8s
CKRC Cesky Krumlov 28.63 89 *e*P **P 18 10 55.4 0.0**
CKRC AMS AMS 18 21 50.0
comp=Z,23μm,17.6s
CKRC Cesky Krumlov 28.63 89 *e*P **P 18 10 55.4 0.0**
CKRC MLR MLR
comp=Z,23μm,17.6s
LESA Schwarzleotal 28.63 93 *e*pP **P 18 10 56.3 +0.7**
comp=Z,42nm,1.3s,SNR=14
HNH Hanover 28.68 257 IAMs_20 IAMs_20 18 21 05.2
comp=Z,24μm,18.0s
DPC Dobruska-Polom 28.78 85 *e*P **P 18 10 56.4 -0.4**
DPC AMS AMS 18 23 10.0
comp=Z,25μm,15.2s
DPC Dobruska-Polom 28.78 85 *e*P **P 18 10 56.4 -0.4**
DPC MLR MLR
comp=Z,25μm,15.2s
DPC Dobruska-Polom 28.78 85 P **P 18 10 55.4 -1.4**
comp=Z,81nm,1.3s
TREC Trest 28.96 87 AMS AMS 18 22 30.0
comp=Z,33μm,16.1s
BIOA Bad Ischl, Aus 28.97 91 *e*P **P 18 10 56.7 -1.8**
comp=Z,41nm,1.6s
BIOA *e*PcP **PcP 18 14 08.4 +1.6**
comp=Z,15nm,1.5s
ABTA Abfaltersbach 28.98 94 *e*P **P 18 10 58.4 -0.3**
comp=Z,44nm,2.1s,SNR=6.6
ABTA *e*PcP **PcP 18 14 08.2 +1.3**
comp=Z,9.4nm,1.1s
CTI Castel Tesino 28.98 96 IAmb IAmb 18 11 12.0
comp=Z,82nm,1.4s
MSSA Maissana 29.04 101 IAMs_20 IAMs_20 18 22 25.4
comp=Z,15μm,18.0s
J61A Chester 29.08 257 IAMs_20 IAMs_20 18 21 25.6
comp=Z,25μm,18.0s
KRLC Kraliky 29.18 85 AMS AMS 18 23 20.0
comp=Z,34μm,15.3s
MOA Molln 29.20 91 *e*P **P 18 10 59.4 -1.1**
comp=Z,24nm,1.5s
KBA Koelnbreinsper 29.20 93 *e*P **P 18 10 59.8 -0.9**
comp=Z,96nm,2.1s,SNR=8.1
KBA *e*PcP **PcP 18 14 08.9 +1.3**
comp=Z,10nm,1.2s
ARBE Arbavere 29.22 63 *e*P **P 18 11 00.2 -0.3**
L64A Middleborough 29.23 253 IAMs_20 IAMs_20 18 21 19.5
comp=Z,15μm,20.0s
LONY Lake Ozonia 29.24 261 IAMs_20 IAMs_20 18 21 13.8
comp=Z,29μm,20.0s
K62A Royalston 29.40 255 IAMs_20 IAMs_20 18 21 26.2
comp=Z,18μm,20.0s
M65A Busby, Falmout 29.41 252 IAMs_20 IAMs_20 18 21 36.3
comp=Z,21μm,19.0s
M65A Busby, Falmout 29.41 252 P **P 18 11 02.6 +0.2**
baz=42
VRAC Vranov 29.54 86 P **P 18 11 01.7 -1.7**
comp=Z,11nm,1.0s,baz=295,slow=10,SNR=12
VRAC PP **PnPn 18 11 54.1 -3.6**
comp=Z,11nm,1.0s,baz=318,slow=12,SNR=4.5
VRAC LR LR 18 23 06.4
comp=Z,24μm,18.2s,baz=297,slow=37
comp=Z,11nm,1.0s
VRAC Vranov 29.54 86 *e*P **P 18 11 03.1 -0.4**
VRAC Vranov 29.54 86 ⇓P **P 18 11 02.9 -0.7**
VRAC Vranov 29.54 86 P **P 18 11 02.8 -0.7**
KRUC Moravsky 29.58 87 *e*P **P 18 11 04.0 +0.2**
MAHO Mahon 29.63 113 IAMs_20 IAMs_20 18 22 47.6
comp=Z,27μm,18.0s
MAHO Mahon 29.63 113 P **P 18 11 06.5 +2.2**
MYKA Terra Mystica 29.64 93 *e*P **P 18 11 03.7 -0.9**
comp=Z,61nm,1.4s,SNR=9.5
APA Apatity 29.70 45 ⇓*i*P **P 18 11 03.6 -1.2**
APA *i* 18 12 06.0
APA *i* S **S 18 15 55.0 -5.0**
APA pmax pmax
comp=Z,21nm,1.1s
PRED Cave del Predi 29.73 93 IAMs_20 IAMs_20 18 22 37.5
comp=Z,17μm,18.0s
VSVD Vaisvydziai 29.74 70 *e*P **P 18 11 05.9 +0.7**
MORC Moravsky Berou 29.76 85 *e*P **P 18 11 05.7 +0.2**
MORC Moravsky Berou 29.76 85 ⇑P **P 18 11 05.7 +0.2**
MORC Moravsky Berou 29.76 85 P **P 18 11 05.7 +0.2**
ZCCA Zocca 29.77 99 IAMs_20 IAMs_20 18 22 47.8
comp=Z,32μm,21.0s
STEB Steborice 29.78 84 *e*P **P 18 11 05.4 -0.3**
L61B Northampton 29.79 256 IAMs_20 IAMs_20 18 21 47.3
comp=Z,19μm,18.0s
L61B Northampton 29.79 256 P **P 18 11 05.5 -0.2**
baz=44
VSU Vasula 29.98 64*ce*P **P 18 11 06.1 -1.1**
VSU pmax pmax
comp=Z,229nm,1.3s
VSU Vasula 29.98 64 *e*P **P 18 11 06.1 -1.1**
PABE Paberze 29.98 71 *e*P **P 18 11 07.7 +0.3**
CONA Conrad Observa 29.99 89 *e*pP **P 18 11 07.6 0.0**
comp=Z,30nm,1.8s
CONA *e*PcP **PcP 18 14 12.5 +3.0**
comp=Z,18nm,1.8s
J59A Piesco 30.00 259 IAMs_20 IAMs_20 18 21 47.0
comp=Z,21μm,19.0s
OKC Ostrava-Krasne 30.04 84 AMS AMS 18 24 10.0
comp=Z,32μm,14.3s
WMELI Melilla 30.08 127 P **P 18 11 08.2 -0.2**
TRY Troy 30.09 257 IAMs_20 IAMs_20 18 21 48.3
comp=Z,19μm,19.0s
AVE Averroes 30.09 136 P **P 18 11 09.4 +0.9**
MAUC Maruska 30.15 85 *e*P **P 18 11 07.5 -1.4**
VOJS Vojsko 30.16 94 *e*P **P 18 11 10.0 +0.8**
OBKA Obir 30.20 92 *e*P **P 18 11 08.3 -1.2**
comp=Z,53nm,1.1s,SNR=5.5
OBKA Obir 30.20 92 *e*P **P 18 11 07.8 -1.7**
ARSA Arzberg 30.24 90 *e*pP **P 18 11 09.8 +0.1**
comp=Z,44nm,1.1s,SNR=24
ARSA *e*PcP **PcP 18 14 12.4 +2.3**
comp=Z,12nm,0.9s
R9F13 Warsaw-Wawer 30.25 78 *e*P **P 18 11 12.1 +2.4**
BEL Belsk 30.27 79 *e*P **P 18 11 10.3 +0.4**
BEL *e*L L 18 22 03.1
comp=Z,21μm,22.6s
JOF Joensuu 30.29 54 *e*P **P 18 11 10.5 +0.5**
SUW Suwalki 30.34 74 *e*P **P 18 11 09.1 -1.4**
SUW Suwalki 30.34 74 *e*P **P 18 11 11.0 +0.5**
SOKA Soboth 30.35 92 *e*P **P 18 11 09.8 -0.9**
comp=Z,32nm,1.1s,SNR=5.2
SOKA *e*PcP **PcP 18 14 11.0 +0.5**
comp=Z,17nm,1.3s
RONA Rosalia, Austr 30.36 89 *e*pP **P 18 11 10.8 0.0**
comp=Z,29nm,1.3s,SNR=7.5
RONA *e*PcP **PcP 18 14 12.7 +2.2**
comp=Z,9.2nm,0.7s
JAVC Velka Javorina 30.37 86 *e*P **P 18 11 12.9 +2.0**
AKLM AKL 30.40 129 P **P 18 11 12.0 +0.6**
CHAS Isla Isabel II 30.42 127 P **P 18 11 12.5 +1.2**
SMOL Smolenice 30.45 87 *e*P **P 18 11 12.6 +1.0**
SMOL pmax pmax
comp=Z,54nm,1.7s
OSSC Osservatorio P 30.48 100 IAMs_20 IAMs_20 18 22 56.7
comp=Z,20μm,20.0s
LJU Ljubljana 30.49 93 *i* P **P 18 11 13.4 +1.5**
GBAS Gonja Brezov 30.52 93 *e*P **P 18 11 13.6 +1.3**
CEY Cerknica 30.64 94 *e*P **P 18 11 11.6 -1.7**
OJC Ojcow 30.68 82 *e*P **P 18 11 13.6 +0.1**
OJC Ojcow 30.68 82 IAmb IAmb 18 11 18.9
comp=Z,124nm,1.5s
OJC Ojcow 30.68 82 P **P 18 11 12.1 -1.5**
comp=Z,51nm,1.1s
TAF Taforalt 30.74 127 P P 18 11 20.0 +5.7
IFR Ifrane 30.77 132 P **P 18 11 15.9 +1.2**
CASP Castiglione de 30.80 101 IAMs_20 IAMs_20 18 23 23.3
comp=Z,16μm,18.0s
PUL Pulkovo 31.09 60 *i* P **P 18 11 17.2 +0.2**
PUL pmax pmax
comp=Z,207nm,1.2s
JBK JBK 31.09 128 P **P 18 11 21.2 +3.6**
CRES Cresnjevec Ost 31.12 93 *e*P **P 18 11 16.2 -1.4**
LANS Liptovska Anna 31.14 84 *e*P **P 18 11 18.4 +0.7**
LANS *e* 18 14 19.5
LANS pmax pmax
comp=Z,26nm,1.1s
LANS Liptovska Anna 31.14 84 *e*P **P 18 11 18.4 +0.7**
LANS *e* 18 14 19.5
IIGN Ignalina 31.18 70 *e*P **P 18 11 18.2 +0.2**
VYHS Vyhne 31.21 86 *e*P **P 18 11 18.8 +0.5**
VYHS *e* 18 14 14.0
VYHS pmax pmax
comp=Z,79nm,1.6s
VYHS Vyhne 31.21 86 *e*P **P 18 11 18.8 +0.5**
BOJS Bojanci 31.23 93 *e*P **P 18 11 16.4 -2.1**
FCC Fort Churchill 31.29 298 P **P 18 11 19.2 +0.4**
FCC IAmb IAmb 18 11 27.9
comp=Z,59nm,1.0s
FCC IAMs_20 IAMs_20 18 22 36.4
comp=Z,26μm,21.0s
FCC Fort Churchill 31.29 298 P **P 18 11 19.2 +0.4**
FCC pmax pmax
comp=Z,59nm,1.0s
FCC pmax pmax
comp=Z,26μm,21.0s
SRO Srobarova 31.35 87 *e*P **P 18 11 20.2 +0.7**
SRO pmax pmax
comp=Z,132nm,1.4s
SRO Srobarova 31.35 87 *e*P **P 18 11 20.2 +0.7**
NIE Niedzica 31.41 83 *e*P **P 18 11 20.0 -0.1**
NIE *e*L L 18 21 37.4
comp=Z,5μm,26.1s
NIE Niedzica 31.41 83 P **P 18 11 18.7 -1.4**
comp=Z,21nm,1.4s
SADO Sadowa 31.52 265 P **P 18 11 23.1 +2.1**
comp=Z,56nm,0.9s,baz=50,slow=8.2,SNR=22
SADO LR LR 18 22 45.4
comp=Z,33μm,20.4s,baz=56,slow=34
comp=Z,56nm,0.9s
K57A Scipio Center 31.56 260 IAMs_20 IAMs_20 18 22 35.3
comp=Z,28μm,20.0s
MDT Midelt 31.59 132 P **P 18 11 23.0 +1.1**
BINY Binghamton 31.66 259 IAMs_20 IAMs_20 18 22 38.1
comp=Z,22μm,20.0s
NACGM Naroch 31.68 70 *e*P **P 18 11 20.1 -2.3**
baz=301
CESX Cesi 31.82 100 IAMs_20 IAMs_20 18 23 16.2
comp=Z,15μm,22.0s
J55A Hilton 31.86 262 IAMs_20 IAMs_20 18 23 02.2
comp=Z,25μm,18.0s
KECS Kecovo 32.08 85 *e*P **P 18 11 29.1 +3.2**
KECS Kecovo 32.08 85 *e*P **P 18 11 29.1 +3.2**
PSZ Piszkesteto 32.12 86 IAmb IAmb 18 11 32.4
comp=Z,76nm,1.2s
PSZ Piszkesteto 32.12 86 ⇑P **P 18 11 26.5 +0.1**
PSZ Piszkesteto 32.12 86 P **P 18 11 26.4 +0.1**
PSZ Piszkesteto 32.12 86 *e*P **P 18 11 26.0 -0.3**
TIO Tiouine 32.29 137 P **P 18 11 29.0 +0.9**
CAMP Campotosto 32.30 99 IAMs_20 IAMs_20 18 24 19.9
comp=Z,29μm,21.0s
A051A Mrakovica 32.43 93 *e*P **P 18 11 27.3 -1.8**
MNK Minsk 32.44 70 *i* P **P 18 11 25.5 -3.5**
comp=E,98nm,1.6s
MNK *i* P **P 18 11 25.5 -3.5**
comp=N,175nm,1.4s
MNK *i* P **P 18 11 25.5 -3.5**
comp=Z,103nm,1.0s,baz=302
MNK *i* PP PP 18 12 30.7 -11
MNK *i* PPP PPP 18 12 42.5
MNK *i* PcP **PcP 18 14 13.1 -2.6**
MNK *i* S **S 18 16 39.9 -3.2**
MNK *i* SS **SnSn 18 18 32.5 -3.1**
MNK *i* SSS SSS 18 18 47.9
MNK *i* LR LR 18 20 34.2
MNK *i* LRM MLR 18 22 31.0
comp=E,5μm,17.6s
MNK *i* LRM MLR 18 23 38.4
comp=N,9μm,19.0s
MNK *i* LRM MLR 18 23 56.9
comp=Z,12μm,18.1s
MNK Minsk 32.44 70 *i* P **P 18 11 25.5 -3.5**
MNK *i* 18 12 30.7
MNK *i* 18 14 13.1
MNK *i* S **S 18 16 39.8 -3.2**
MNK *i* SS **SnSn 18 18 32.5 -3.1**
MNK pmax pmax
comp=Z,103nm,1.0s
MNK pmax pmax
comp=E,98nm,1.6s
MNK pmax pmax
comp=N,175nm,1.4s
MNK MLR MLR
comp=N,9μm,19.0s
MNK MLR MLR
comp=Z,12μm,18.0s
VSL Villasalto 32.47 107 IAMs_20 IAMs_20 18 24 07.6
comp=Z,25μm,18.0s
L56A Greenwood 32.52 260 IAMs_20 IAMs_20 18 23 14.8
comp=Z,27μm,20.0s
MORH Mrgy, Hungar 32.55 89 ⇑P **P 18 11 29.5 -0.5**
MORH Mrgy, Hungar 32.55 89 P **P 18 11 28.6 -1.4**
comp=Z,62nm,1.5s
A050A Klekovaca 32.59 94 *e*P **P 18 11 27.9 -2.6**
KOLS Kolonicke sedl 32.74 83 *e*P **P 18 11 30.7 -1.0**
KOLS pmax pmax
comp=Z,35nm,1.0s
KOLS Kolonicke sedl 32.74 83 *e*P **P 18 11 30.7 -1.0**
BLY Banja Luka 32.75 93 *e*P **P 18 11 31.3 -0.5**
INTR Introdacqua 32.94 99 IAMs_20 IAMs_20 18 24 07.6
comp=Z,17μm,22.0s
N58A Sunbury 33.03 258 IAMs_20 IAMs_20 18 23 40.1
comp=Z,19μm,19.0s
HOLU Holmets 33.05 83 P **P 18 11 32.9 -1.4**
RNPP9 Sopachiv 33.14 76 P **P 18 11 34.7 -0.4**
E46A Sault Ste Mari 33.18 272 IAMs_20 IAMs_20 18 23 54.2
comp=Z,16μm,18.0s
RNPP5 Staryi Chortor 33.24 77 P **P 18 11 34.7 -1.3**
MUKU Mukachevo 33.25 83 P **P 18 11 35.4 -0.7**
BERU Beregovo 33.37 83 P **P 18 11 36.7 -0.4**
BRIU Brid 33.50 83 P **P 18 11 36.9 -1.4**
FIGM Figuig 33.54 128 P P 18 11 44.0 +5.0
MEZ Mezhgor'ye 33.65 82 P **P 18 11 38.9 -0.7**
SSPA Standing Stone 33.78 259 P **P 18 11 41.5 +0.6**
SSPA IAmb IAmb 18 11 52.4
comp=Z,57nm,1.2s
SSPA Standing Stone 33.78 259 IAMs_20 IAMs_20 18 24 04.1
comp=Z,25μm,19.0s
ERPA Erie 33.80 263 IAMs_20 IAMs_20 18 24 02.7
comp=Z,15μm,18.0s
FRGS Fruska Gora 33.86 90 *e*P **P 18 11 39.5 -2.0**
PAOL Paolisi 33.99 100 IAMs_20 IAMs_20 18 24 44.5
comp=Z,19μm,21.0s
I49A Point Hope 34.02 267 IAMs_20 IAMs_20 18 23 58.4
comp=Z,25μm,21.0s
STNU Starunia 34.04 81 P **P 18 11 42.5 -0.5**
BBSR BB Station 34.04 234 IAMs_20 IAMs_20 18 23 33.5
comp=Z,4μm,20.0s
SGRT San Giovanni R 34.08 98 IAMs_20 IAMs_20 18 26 10.8
comp=Z,14μm,19.0s
TEKS Tekeris 34.12 91 *e*P **P 18 11 42.0 -1.8**
HAPS Han Pijesak,Bl 34.13 92 *e*P **P 18 11 40.4 -3.6**
BMR Baia Mare 34.16 83 ⇑P **P 18 11 44.0 -0.1**
BMR Baia Mare 34.16 83 P **P 18 11 43.9 -0.1**
RAKU Rahkiv 34.29 82 P **P 18 11 43.8 -1.4**
STON Ston 34.31 95 *e*P **P 18 11 45.2 -0.2**
DRGR 34.31 85 ⇑P **P 18 11 45.8 +0.2**
DRGR 34.31 85 P **P 18 11 45.7 +0.2**
MI28 Mi28,Pidlybu 34.33 76 P **P 18 11 45.0 -0.5**
BZS Buzias 34.51 88 ⇑P **P 18 11 47.0 -0.1**
BZS Buzias 34.51 88 P **P 18 11 46.9 -0.1**
BBLS Lazi&#263i 34.52 92 *e*P **P 18 11 47.2 -0.1**
KSV Kosov 34.58 81 P **P 18 11 46.8 -0.9**
MARR Marisel-Cluj 34.60 85 ⇑P **P 18 11 47.5 -0.5**
RUDO Rudo 34.67 92 *e*P **P 18 11 46.5 -2.1**
KLMR Klimovskoe 34.68 55 *e*P **P 18 11 46.7 -1.7**
KLMR *e* 18 13 03.0
KLMR *e* 18 14 21.3
KLMR pmax pmax
comp=Z,879nm,1.4s
KLMR MLR MLR
comp=Z,6μm,14.0s
SURR Surduc 34.68 87 ⇑P **P 18 11 47.9 -0.8**
P57A Homestead Farm 34.70 257 IAMs_20 IAMs_20 18 24 32.4
comp=Z,19μm,19.0s
UPM Unac-Piva 34.71 93 *e*P **P 18 11 49.4 +0.3**
MI29 MI29, Kamyanyy 34.73 77 P **P 18 11 48.3 -0.6**
comp=Z,237nm,1.6s
BRY Bratogost 34.73 94 *e*P **P 18 11 48.0 -1.2**
TREB Trebinje 34.76 94 *e*P **P 18 11 46.9 -2.4**
CJR Cluj-Napoca 34.83 85 ⇑P **P 18 11 50.1 +0.1**
CJR Cluj-Napoca 34.83 85 P **P 18 11 50.0 +0.1**
S61A Accomac 34.88 253 IAMs_20 IAMs_20 18 25 06.0
comp=Z,11μm,20.0s
M52A Chesterland 34.93 263 IAMs_20 IAMs_20 18 24 30.5
comp=Z,18μm,20.0s
LUBAR Lubar, Ukraine 34.98 77 P **P 18 11 49.7 -1.4**
HCY Herceg Novi 35.03 94 *e*P **P 18 11 47.2 -4.4**
BURAR Bucovina Array 35.10 82 ⇑P **P 18 11 52.3 -0.1**
BURAR Bucovina Array 35.10 82 P **P 18 11 52.2 -0.1**
MDVR Moldovita 35.11 89 ⇑P **P 18 11 51.8 -0.6**
AK19 Malin Array Si 35.14 75 P **P 18 11 50.8 -1.7**
KMPD K-Podol'skiy 35.15 80 P **P 18 11 51.1 -1.5**
N53A Lisbon 35.19 262 IAMs_20 IAMs_20 18 24 56.4
comp=Z,21μm,18.0s
AK04 Malin Array Si 35.22 75 P **P 18 11 51.7 -1.5**
SJES Sjenica 35.24 92 *e*P **P 18 11 52.2 -1.3**
AK11 Malin Array Si 35.24 75 P **P 18 11 51.9 -1.5**
KIEV Kiev 35.26 75 ⇑P **P 18 11 53.1 -0.4**
KIEV Kiev 35.26 75 P **P 18 11 53.0 -0.4**
KIEV Kiev 35.26 75 *i* P **P 18 11 54.2 +0.7**
SNR=9.9
AKASG Malin Array Be 35.26 75 P **P 18 11 52.0 -1.5**
AKASG IAmb IAmb 18 11 57.9
comp=Z,104nm,1.1s
AKASG Malin Array Be 35.26 75 P **P 18 11 51.5 -2.0**
comp=Z,28nm,0.9s,baz=309,slow=8.7,SNR=89
AKASG PcP **PcP 18 14 21.7 -2.1**
comp=Z,5.8nm,0.8s,baz=297,slow=3.6,SNR=8.7
AKASG LR LR 18 26 02.4
comp=Z,7μm,18.2s,baz=291,slow=36
comp=Z,28nm,0.9s
AKASG Malin Array Be 35.26 75 P **P 18 11 52.0 -1.5**
AKASG pmax pmax
comp=Z,104nm,1.1s
AKBB Malin Array Si 35.26 75*ce*P **P 18 11 50.6 -2.9**
AKBB pmax pmax
comp=Z,138nm,1.2s
AKBB Malin Array Si 35.26 75 P **P 18 11 51.8 -1.7**
GZR Gura Zlata 35.27 87 ⇑P **P 18 11 54.0 +0.2**
GZR Gura Zlata 35.27 87 P **P 18 11 53.9 +0.2**
AK06 Malin Array Si 35.32 75 P **P 18 11 51.9 -2.1**
AK08 Malin Array Si 35.32 75 P **P 18 11 51.9 -2.1**
CBN Corbin Frederi 35.34 255 IAMs_20 IAMs_20 18 25 08.2
comp=Z,13μm,18.0s
KEST Kesra 35.38 111 P **P 18 11 53.4 -1.5**
comp=Z,5.0nm,0.7s,baz=179,slow=1.3,SNR=12
comp=Z,5.0nm,0.7s
CUC Castrocucco 35.40 100 IAMs_20 IAMs_20 18 27 04.7
comp=Z,21μm,18.0s

HERR Herculane 35.42 88 ⇑P **P 18 11 55.0 0.0**
PDG Podgorica 35.44 94 IAMs_20 IAMs_20 18 26 36.8
comp=Z,14μm,19.0s
PDG Podgorica 35.44 94 *e*P **P 18 11 55.0 -0.1**
PDG Podgorica 35.44 94 ⇓P **P 18 11 55.2 +0.1**
J47A Sunmer 35.55 268 IAMs_20 IAMs_20 18 24 55.0
comp=Z,11μm,20.0s
DRME Dracevica, Mon 35.57 94 *e*P **P 18 11 51.6 -4.7**
F42A Maple Grove Fa 35.59 274 IAMs_20 IAMs_20 18 25 19.0
comp=Z,21μm,19.0s
Q56A Snyder Ridge, 35.63 258 IAMs_20 IAMs_20 18 25 01.2
comp=Z,21μm,20.0s
I45A Fountain 35.75 271 IAMs_20 IAMs_20 18 25 33.2
comp=Z,12μm,18.0s
LOT Lotru 35.75 86 ⇑P **P 18 11 58.4 +0.5**
R58B Mineral 35.78 256 IAMs_20 IAMs_20 18 25 20.9
comp=Z,12μm,18.0s
PRAR RASCA 35.79 82 ⇑P **P 18 11 57.8 -0.3**
BOVS Bovan 35.89 90 ⇑P **P 18 11 59.9 +0.8**
COWI Conover 35.89 276 IAMs_20 IAMs_20 18 25 19.6
comp=Z,17μm,20.0s
EYMN Ely 35.93 280 IAMs_20 IAMs_20 18 25 11.0
comp=Z,18μm,20.0s
SRE Strehaia 35.98 88 ⇑P **P 18 12 00.3 +0.4**
SRE Strehaia 35.98 88 P **P 18 12 00.2 +0.4**
PUK Puka 36.05 94 IAMs_20 IAMs_20 18 26 57.8
comp=Z,14μm,19.0s
O52A Adamsville 36.21 262 IAMs_20 IAMs_20 18 25 10.5
comp=Z,13μm,20.0s
DOPR Dopca 36.26 84 ⇑P **P 18 12 02.8 +0.6**
ARR Arges 36.26 86 ⇓P **P 18 12 02.7 +0.5**
H43A Windswept, Lux 36.26 272 IAMs_20 IAMs_20 18 25 39.8
comp=Z,12μm,19.0s
OBN Obninsk 36.33 65 P **P 18 12 00.8 -1.8**
OBN Obninsk 36.33 65 LR LR 18 25 41.0
comp=Z,12μm,21.3s,baz=300,slow=34
OBN Obninsk 36.33 65 ⇑P **P 18 12 03.3 +0.7**
OBN Obninsk 36.33 65 *ce*P **P 18 12 01.7 -0.9**
OBN *e**PP **pP 18 12 04.0 -1.8**
OBN *e**SP **sP 18 12 06.2 -0.9**
OBN 18 14 27.0
OBN *e*S **S 18 17 44.9 +1.9**
OBN *e* 18 17 47.6
OBN *e*SS **SnSn 18 20 01.0 -8.8**
OBN pmax pmax
comp=Z,109nm,1.3s
OBN MLR MLR
comp=Z,12μm,20.0s
OBN Obninsk 36.33 65 P **P 18 12 01.5 -1.1**
comp=Z,210nm,1.4s
OZUR 36.38 84 ⇑P **P 18 12 03.2 0.0**
SORM Soroca 36.40 79 ⇓P **P 18 12 01.6 -1.7**
SORM Soroca 36.40 79 P **P 18 12 01.5 -1.7**
VOIR 36.43 85 ⇓P **P 18 12 03.0 -0.7**
VOIR 36.43 85 P **P 18 12 03.0 -0.7**
VOIR 36.43 85 P **P 18 12 02.2 -1.5**
comp=Z,47nm,1.3s
S57A Dark Hollow, R 36.48 256 IAMs_20 IAMs_20 18 25 43.5
comp=Z,13μm,19.0s
MOS Moscow 36.48 63 *e*P **P 18 12 01.5 -2.4**
MOS *e* 18 13 24.8
MOS *e* 18 13 48.2
MOS *e*S **S 18 17 43.0 -2.3**
MOS *e*SS **SnSn 18 20 08.9 -4.5**
MOS pmax pmax
comp=Z,400nm,1.6s
MOS pmax pmax
comp=Z,255nm,1.5s
MOS pmax pmax
comp=E,99nm,1.3s
MOS pmax pmax
comp=N,133nm,1.3s
MOS smax smax
comp=E,2μm,7.0s
TIP Timpagrande 36.49 100 IAMs_20 IAMs_20 18 27 13.6
comp=Z,23μm,21.0s
TESR Tescani 36.56 83 ⇓P **P 18 12 04.8 +0.1**
VAE Valguarnera 36.56 104 LR LR 18 25 47.1
comp=Z,19μm,19.7s,baz=333,slow=34
PHP Peshkopia 36.59 94 P **P 18 12 04.5 -0.6**
ACSO Alum Creek Sta 36.73 263 IAMs_20 IAMs_20 18 25 36.1
comp=Z,21μm,20.0s
CEL Celeste 36.73 102 IAMs_20 IAMs_20 18 26 26.1
comp=Z,13μm,20.0s
RAFF Raffo Rosso 36.73 104 IAMs_20 IAMs_20 18 26 02.3
comp=Z,16μm,20.0s
ULM Lac du Bonnet 36.74 286 IAmb IAmb 18 12 13.7
comp=Z,107nm,1.2s
ULM Lac du Bonnet 36.74 286 P **P 18 12 06.0 -0.2**
comp=Z,20nm,0.9s,baz=56,slow=8.5,SNR=28
ULM LR LR 18 25 55.3
comp=Z,19μm,18.8s,baz=54,slow=34
comp=Z,20nm,0.9s
ULM Lac du Bonnet 36.74 286 *i* P **P 18 12 06.9 +0.7**
COVR Voineasa-Covas 36.76 84 ⇑P **P 18 12 07.6 +1.1**
V61A Roper 36.80 252 IAMs_20 IAMs_20 18 27 24.0
comp=Z,16μm,18.0s
E38A The Farm, Brul 36.82 278 IAMs_20 IAMs_20 18 25 49.7
comp=Z,17μm,20.0s
MLR Muntele Rosu 36.86 84 IAMs_20 IAMs_20 18 28 18.8
comp=Z,16μm,19.0s
MLR Muntele Rosu 36.86 84 P **P 18 12 06.3 -1.1**
comp=Z,4.5nm,0.7s,baz=174,slow=15,SNR=9.5
MLR LR LR 18 28 29.9
comp=Z,16μm,18.3s,baz=313,slow=38
comp=Z,4.5nm,0.7s
MLR Muntele Rosu 36.86 84 ⇑P **P 18 12 08.1 +0.6**
A36M Sachs Harbour 36.97 329 P **P 18 12 09.1 +1.2**
A36M IAmb IAmb 18 12 21.5
comp=Z,94nm,0.9s
A36M Sachs Harbour 36.97 329 P **P 18 12 08.2 +0.3**
baz=61
PLOR3 Plostina Array 36.99 83 P **P 18 12 07.6 -0.8**
comp=Z,49nm,1.4s
PLOR Plostina 36.99 83 ⇓P **P 18 12 08.9 +0.4**
PLOR Plostina 36.99 83 P **P 18 12 08.9 +0.4**
G40A Rib Lake 37.00 275 IAMs_20 IAMs_20 18 26 03.4
comp=Z,17μm,18.0s
VRI Vrincioaia 37.02 83 ⇓P **P 18 12 07.9 -0.8**
VRI Vrincioaia 37.02 83 P **P 18 12 07.9 -0.8**
VRI Vrincioaia 37.02 83 P **P 18 12 08.1 -0.6**
comp=Z,43nm,1.6s
NEHR Nehoiu 37.09 84 ⇓P **P 18 12 10.2 +0.9**
FFC Flin Flon 37.09 295 P **P 18 12 09.4 +0.3**
FFC Flin Flon 37.09 295 P **P 18 12 09.5 +0.3**
FFC pmax pmax
comp=Z,57nm,1.1s
L46A Eue Claire 37.19 268 IAMs_20 IAMs_20 18 25 55.3
comp=Z,13μm,21.0s
GHRR 37.25 83 ⇑P **P 18 12 10.7 +0.1**
I42A Draeger Farm, 37.26 273 IAMs_20 IAMs_20 18 26 20.2
comp=Z,13μm,19.0s
MILM Milestii Mici 37.42 80 ⇑P **P 18 12 11.2 -0.8**
MILM Milestii Mici 37.42 80 P **P 18 12 11.2 -0.8**
GRER 37.48 84 ⇑P **P 18 12 14.2 +1.7**
KBN Korca 37.53 95 IAMs_20 IAMs_20 18 27 26.1
comp=Z,16μm,21.0s
SULR 37.57 85 ⇓P **P 18 12 13.8 +0.5**
BLA Blacksburg 37.65 257 IAMs_20 IAMs_20 18 26 12.6
comp=Z,17μm,20.0s
KEK Kerkira 37.68 96 IAMs_20 IAMs_20 18 27 15.0
comp=Z,12μm,22.0s
TUDR 37.70 83 ⇓P **P 18 12 13.9 -0.5**
FNA Florina 37.73 94 P **P 18 12 13.8 -1.0**
SGRR Singureni 37.73 86 ⇓P **P 18 12 14.7 0.0**
VLDR Vladesti 37.75 82 ⇑P **P 18 12 14.4 -0.3**
K43A Burlington 37.77 271 IAMs_20 IAMs_20 18 27 00.8
comp=Z,16μm,18.0s
LSK Leskovik 37.78 95 P **P 18 12 16.5 +1.3**
WDD Wied Dalam 37.89 106 IAMs_20 IAMs_20 18 27 16.2
comp=Z,15μm,19.0s
L44A Lake County Fo 37.92 270 P **P 18 12 16.4 +0.1**
baz=45
AGMN Agassiz Nation 37.96 283 P **P 18 12 17.5 +0.9**
AGMN IAMs_20 IAMs_20 18 26 11.6
comp=Z,15μm,20.0s
C36M Paulatuk 37.97 325 IAMs_20 IAMs_20 18 27 25.1
comp=Z,9μm,18.0s
C36M Paulatuk 37.97 325 P **P 18 12 16.6 +0.3**
baz=59
CFR Carcaliu 38.22 83 ⇑P **P 18 12 18.1 -0.7**
CFR Carcaliu 38.22 83 P **P 18 12 18.1 -0.7**
PURM Purcari 38.23 80 ⇓P **P 18 12 18.5 -0.3**
W59A Clinton 38.23 253 IAMs_20 IAMs_20 18 27 15.8
comp=Z,16μm,18.0s

KNT Kendrikon 38.26 92 P **P 18 12 20.2 +1.0**
YKA Yellowknife Ar 38.29 312 P **P 18 12 20.1 +0.9**
comp=Z,17nm,0.9s,baz=60,slow=9.0,SNR=96
YKA PcP **PcP 18 14 32.2 -0.6**
comp=Z,10nm,0.9s,baz=54,slow=3.1,SNR=10
YKA LR LR 18 27 27.0
comp=Z,26μm,19.3s,baz=57,slow=35
comp=Z,17nm,0.9s
U56A King 38.30 256 IAMs_20 IAMs_20 18 26 57.6
comp=Z,12μm,18.0s
KPRO Kipourio 38.32 95 P **P 18 12 21.1 +1.3**
TLCR 38.57 83 ⇑P **P 18 12 20.8 -0.9**
TLCR 38.57 83 P **P 18 12 20.8 -0.9**
JFWS Jewell Farm 38.64 273 IAMs_20 IAMs_20 18 27 03.6
comp=Z,13μm,20.0s
SRS Serrai 38.65 92 P **P 18 12 23.3 +0.8**
SOH Sokhos 38.74 92 P **P 18 12 23.7 +0.4**
ICOR Ion Corvin 38.77 85 ⇑P **P 18 12 22.7 -0.7**
LIT Litokhoron 38.81 94 P **P 18 12 25.1 +1.3**
LIT Litokhoron 38.81 94 IAmb IAmb 18 12 28.4
comp=Z,68nm,0.9s
LIT IAMs_20 IAMs_20 18 28 58.8
comp=Z,19μm,19.0s
LPSR Galich'ya Gora 38.94 67 *e*P **P 18 12 23.4 -1.3**
LPSR *e*S **S 18 18 16.2 -6.4**
LPSR pmax pmax
comp=Z,120nm,1.4s
LPSR smax smax
comp=E,2μm,6.6s
LPSR MLR MLR
comp=Z,9μm,20.0s
THL Klokotos Trika 38.95 95 P **P 18 12 24.7 -0.2**
L42A Oliver, Polo 38.97 271 IAMs_20 IAMs_20 18 27 30.5
comp=Z,15μm,18.0s
Y60A Bolivia 39.04 252 IAMs_20 IAMs_20 18 27 47.1
comp=Z,16μm,20.0s
V55A Taylorsville 39.11 257 IAMs_20 IAMs_20 18 27 07.0
comp=Z,9μm,19.0s
PLG Polygyros 39.11 92 P **P 18 12 26.7 +0.3**
X58A Rowland 39.16 254 IAMs_20 IAMs_20 18 27 34.6
comp=Z,14μm,20.0s
KAVA Kavala 39.23 91 P **P 18 12 27.3 0.0**
EVR Evrytania 39.32 95 P **P 18 12 31.7 +3.5**
I37A Lemond, Waseca 39.53 276 IAMs_20 IAMs_20 18 27 25.2
comp=Z,17μm,20.0s
VORR Voronezh 39.65 68 *e*P **P 18 12 26.6 -4.0**
VORR *e*S S 18 18 21.9 -11
VORR pmax pmax
comp=Z,60nm,0.6s
VORR smax smax
comp=E,870nm,7.1s
VORR MLR MLR
comp=Z,11μm,16.0s
XOR Xorichti 39.71 94 P **P 18 12 30.4 -1.0**
L40A Anamosa 39.75 272 IAMs_20 IAMs_20 18 27 48.0
comp=Z,15μm,19.0s
EDRB Edirne 39.79 88 P **P 18 12 32.6 +0.6**
F33A 5 Mile Ranch, 39.80 281 IAMs_20 IAMs_20 18 27 18.3
comp=Z,17μm,21.0s
Y58A Scranton 39.84 253 IAMs_20 IAMs_20 18 28 04.5
comp=Z,15μm,19.0s
VSR Storozhevoye 39.91 68 *e*P **P 18 12 30.8 -2.1**
VSR *e*S **S 18 18 31.4 -5.8**
VSR pmax pmax
comp=Z,90nm,1.1s
VSR smax smax
comp=E,2μm,5.9s
VSR MLR MLR
comp=Z,9μm,16.0s
ALN Alexandroupoli 40.10 90 P **P 18 12 35.4 +0.8**
ALN Alexandroupoli 40.10 90 P **P 18 12 32.6 -1.9**
ALN IAmb IAmb 18 12 40.3
comp=Z,125nm,1.3s
ALN Alexandroupoli 40.10 90 P **P 18 12 32.6 -1.9**
ALN pmax pmax
comp=Z,125nm,1.3s
Y57A Sumter 40.12 254 IAMs_20 IAMs_20 18 28 03.9
comp=Z,10μm,20.0s
KIRV Kirov 40.13 53 *ce*P **P 18 12 34.0 -0.5**
VORD Divnogorie 40.13 68 *e*P **P 18 12 33.3 -1.4**
VORD *e*S **S 18 18 35.2 -5.3**
VORD pmax pmax
comp=Z,100nm,1.2s
VORD smax smax
comp=E,440nm,6.1s
VORD MLR MLR
comp=Z,7μm,17.0s
KLV Kalavryta, Ach 40.15 96 P **P 18 12 36.5 +1.5**
MDND Maddock 40.16 285 IAMs_20 IAMs_20 18 27 46.9
comp=Z,14μm,19.0s
AOS Alonnisos 40.22 93 P **P 18 12 36.7 +1.2**
CAVK Edirne/Enez-Ca 40.32 90 ⇑P **P 18 12 37.4 +1.1**
N41A Harden Midland 40.52 271 IAMs_20 IAMs_20 18 28 18.5
comp=Z,10μm,18.0s
TKL Tuckaleechee C 40.57 259 LR LR 18 28 35.9
comp=Z,30μm,18.2s,baz=42,slow=35
NHSC New Hope 40.74 253 IAMs_20 IAMs_20 18 28 42.2
comp=Z,17μm,19.0s
SCIA State Center 40.91 274 IAMs_20 IAMs_20 18 28 32.7
comp=Z,15μm,18.0s
U49A Red Boiling Sp 40.96 262 IAMs_20 IAMs_20 18 28 00.2
comp=Z,17μm,21.0s
PTL Penteli 41.04 95 P **P 18 12 43.1 +0.7**
VRH Novokhopyorsk 41.16 67 *e*P **P 18 12 40.6 -2.6**
VRH *e*S **S 18 18 51.4 -4.5**
VRH pmax pmax
comp=Z,120nm,1.1s
VRH smax smax
comp=E,1μm,6.1s
VRH MLR MLR
comp=Z,12μm,18.0s
WRGLY Wrigley 41.21 317 IAMs_20 IAMs_20 18 27 14.4
comp=E,15μm,20.0s
WRGLY Wrigley 41.21 317 P **P 18 12 43.6 +0.2**
baz=53,SNR=16
INK Inuvik 41.38 327 P **P 18 12 44.9 +0.2**
INK IAMs_20 IAMs_20 18 29 00.2
comp=Z,9μm,21.0s
INK Inuvik 41.38 327 P **P 18 12 45.3 +0.6**
comp=Z,45nm,1.1s,baz=32,slow=9.0,SNR=29
comp=Z,45nm,1.1s
INK Inuvik 41.38 327 P **P 18 12 44.9 +0.2**
INK pmax pmax
comp=Z,56nm,1.1s
INK pmax pmax
comp=Z,9μm,21.0s
INK Inuvik 41.38 327 P **P 18 12 43.9 -0.8**
baz=51,SNR=38
ECSD EROS Data Cent 41.40 278 P **P 18 12 46.4 +1.1**
ECSD EROS Data Cent 41.40 278 IAMs_20 IAMs_20 18 28 20.8
comp=Z,17μm,20.0s
E28A Huff 41.56 285 IAMs_20 IAMs_20 18 28 30.0
comp=Z,13μm,19.0s
F31M Tsiigehtchic 41.99 326 IAMs_20 IAMs_20 18 28 34.4
comp=Z,10μm,22.0s
F31M Tsiigehtchic 41.99 326 P **P 18 12 48.9 -0.8**
baz=50,SNR=75
P40A Paris 42.00 270 IAMs_20 IAMs_20 18 29 22.8
comp=Z,12μm,18.0s
DGMT Dagmar 42.06 289 P **P 18 12 51.9 +1.2**
DGMT IAmb IAmb 18 13 02.4
comp=Z,152nm,1.1s
DGMT Dagmar 42.06 289 IAMs_20 IAMs_20 18 28 59.1
comp=Z,11μm,18.0s
SUSD Miller 42.13 281 IAMs_20 IAMs_20 18 28 37.9
comp=Z,15μm,21.0s
D28M Stokes Point 42.17 330 P **P 18 12 50.6 -0.6**
baz=49,SNR=21
WVT Waverly 42.32 263 P **P 18 12 53.8 +1.0**
WVT Waverly 42.32 263 P **P 18 12 53.8 +1.0**
WVT pmax pmax
comp=Z,42nm,1.2s
WVT pmax pmax
comp=Z,30μm,20.0s
F30M Barrier River 42.48 327 P **P 18 12 53.6 -0.2**
baz=49
G31M Satah River 42.48 325 IAMs_20 IAMs_20 18 29 34.5
comp=Z,8μm,20.0s
G31M Satah River 42.48 325 P **P 18 12 52.0 -1.8**
baz=50,SNR=30
E29M Blow River 42.56 328 IAMs_20 IAMs_20 18 29 46.4
comp=Z,10μm,22.0s
E29M Blow River 42.56 328 P **P 18 12 54.0 -0.5**
baz=48,SNR=21
CCM Cathedral Cave 42.67 268 P **P 18 12 56.0 +0.4**
CCM Cathedral Cave 42.67 268 IAMs_20 IAMs_20 18 29 16.4
comp=Z,11μm,20.0s
CCM Cathedral Cave 42.67 268 P **P 18 12 56.0 +0.4**
CCM pmax pmax
comp=Z,59nm,1.1s
CCM pmax pmax
comp=Z,11μm,20.0s
P38A Dawn 42.72 272 IAMs_20 IAMs_20 18 29 47.6
comp=Z,15μm,18.0s
D27M Malcolm River 42.82 330 IAMs_20 IAMs_20 18 30 58.8
comp=Z,10μm,22.0s
D27M Malcolm River 42.82 330 P **P 18 12 54.6 -2.0**
baz=47
SMG Samos 42.86 92 P **P 18 12 57.8 +0.6**
E28M Babbage River 42.87 329 P **P 18 12 56.0 -1.0**
baz=48
N35A Tabor 42.93 275 IAMs_20 IAMs_20 18 29 46.2
comp=Z,12μm,18.0s
G30M tAoh Zraii Nji 43.02 326 IAMs_20 IAMs_20 18 29 28.5
comp=Z,8μm,21.0s
G30M tAoh Zraii Nji 43.02 326 P **P 18 12 56.8 -1.4**
baz=48
H31M Peel River 43.24 324 IAMs_20 IAMs_20 18 30 45.3
comp=Z,13μm,19.0s
H31M Peel River 43.24 324 P **P 18 12 59.3 -0.7**
baz=49
C27K Jago River 43.25 332 P **P 18 12 59.3 -0.8**
baz=46,SNR=26
ANN Anapa 43.30 77 *e*P **P 18 13 01.5 +0.9**
ANN *e**PP **sP 18 13 04.9 -0.2**
ANN *e* 18 14 41.6
ANN *e*S **S 18 19 27.8 +0.3**
ANN pmax pmax
comp=Z,253nm,2.1s
ANN MLR MLR
comp=Z,14μm,14.0s
ANN MLR MLR
comp=N,6μm,14.0s
ANN MLR MLR
comp=E,14μm,14.0s
C26K Camden Bay 43.35 332 P **P 18 13 00.7 0.0**
baz=45,SNR=6.5
KOTAN Kotaneelee Air 43.36 313 P **P 18 12 59.7 -1.3**
baz=50,SNR=13
G29M Pine Creek 43.60 327 P **P 18 13 01.2 -1.7**
baz=47,SNR=43
K30B Basset 43.71 280 IAMs_20 IAMs_20 18 29 40.8
comp=Z,9μm,20.0s
E27K Coleen River 43.71 329 P **P 18 13 02.8 -1.0**
baz=46
TGTN Hyland Airport 44.02 317 P **P 18 13 06.6 +0.2**
baz=49
S39A Bolivar 44.03 270 IAMs_20 IAMs_20 18 30 44.4
comp=Z,9μm,18.0s
D25K Kavik River 44.13 332 P **P 18 13 07.4 +0.2**
baz=44
H29M Whitestone 44.17 326 IAMs_20 IAMs_20 18 29 51.1
comp=Z,9μm,22.0s
H29M Whitestone 44.17 326 P **P 18 13 07.0 -0.5**
baz=46,SNR=20
ERBR Yeremizino-Bor 44.22 74 *e*P **P 18 13 09.5 +1.4**
ERBR *e**PP **sP 18 13 12.9 +0.3**
ERBR *e*S **S 18 19 43.0 +2.1**
ERBR pmax pmax
comp=Z,119nm,1.0s
ERBR MLR MLR
comp=N,7μm,12.0s
ERBR MLR MLR
comp=Z,7μm,14.0s
ERBR MLR MLR
comp=E,10μm,12.0s
I30M Mount Dempster 44.26 324 IAMs_20 IAMs_20 18 31 36.4
comp=Z,12μm,18.0s
I30M Mount Dempster 44.26 324 P **P 18 13 07.2 -1.1**
baz=47,SNR=44
LAO LASA Array 44.28 289 P **P 18 13 10.2 +1.6**
MMPY Sheldon Lake, 44.35 319 P **P 18 13 08.3 -0.8**
baz=48,SNR=20
C24K Franklin Bluff 44.40 334 IAMs_20 IAMs_20 18 34 03.5
comp=Z,7μm,18.0s
C24K Franklin Bluff 44.40 334 P **P 18 13 09.6 +0.4**
baz=42
ANTO Ankara 44.40 85 P **P 18 13 09.3 -0.4**
ANTO IAmb IAmb 18 13 16.8
comp=Z,75nm,1.4s
ANTO Ankara 44.40 85 IAMs_20 IAMs_20 18 31 55.2
comp=Z,8μm,22.0s
ANTO Ankara 44.40 85 P **P 18 13 09.9 +0.2**
ANTO Ankara 44.40 85 P **P 18 13 09.3 -0.4**
ANTO pmax pmax
comp=Z,75nm,1.4s
ANTO pmax pmax
comp=Z,8μm,22.0s
TAM Tamanrasset 44.58 127 P **P 18 13 10.9 -0.5**
TAM IAmb IAmb 18 13 17.6
comp=Z,74nm,1.1s
TAM IAMs_20 IAMs_20 18 30 31.3
comp=Z,7μm,19.0s
TAM Tamanrasset 44.58 127 P **P 18 13 10.9 -0.5**
TAM pmax pmax
comp=Z,74nm,1.1s
TAM pmax pmax
comp=Z,7μm,19.0s
TOAD Toad River Com 44.66 312 P **P 18 13 11.2 -0.2**
baz=48,SNR=17
J30M Hart River 44.69 323 IAMs_20 IAMs_20 18 31 31.9
comp=Z,14μm,19.0s
J30M Hart River 44.69 323 P **P 18 13 11.3 -0.4**
baz=46,SNR=36
G27K Doyon Strip 44.70 328 P **P 18 13 11.2 -0.6**
baz=45,SNR=42
Z47A Carrollton 44.71 261 IAMs_20 IAMs_20 18 30 06.5
comp=Z,17μm,22.0s
ISP Isparta 44.71 89 P **P 18 13 12.0 -0.3**
ISP IAmb IAmb 18 13 17.2
comp=Z,85nm,1.7s
ISP IAMs_20 IAMs_20 18 34 15.0
comp=Z,11μm,19.0s
ISP Isparta 44.71 89 P **P 18 13 12.0 -0.3**
ISP pmax pmax
comp=Z,85nm,1.7s
ISP pmax pmax
comp=Z,12μm,19.0s
KSU1 Kansas State U 44.72 274 IAmb IAmb 18 13 22.4
comp=Z,86nm,1.2s
F26K Sheenjek River 44.74 330 P **P 18 13 12.4 +0.3**
baz=44,SNR=18
I29M Ogilvie Camp, 44.75 325 IAMs_20 IAMs_20 18 31 04.4
comp=Z,10μm,20.0s
I29M Ogilvie Camp, 44.75 325 P **P 18 13 11.6 -0.5**
baz=46,SNR=62
C23K Itkillik River 44.75 334 IAMs_20 IAMs_20 18 33 21.8
comp=Z,9μm,19.0s
C23K Itkillik River 44.75 334 P **P 18 13 12.2 +0.1**
baz=41,SNR=32
A22K Sinclair Lake 44.80 337 P **P 18 13 11.6 -0.8**
baz=39
E25K Arctic Village 44.80 331 IAMs_20 IAMs_20 18 31 59.5
comp=Z,8μm,22.0s
E25K Arctic Village 44.80 331 P **P 18 13 11.9 -0.6**
baz=43,SNR=38
D24K Happy Valley 44.85 333 P **P 18 13 12.5 -0.3**
baz=42
A21K Barrow 44.88 338 P **P 18 13 12.7 -0.3**
baz=38
BR106 Keskin Array S 44.93 85 P **P 18 13 13.5 -0.5**
comp=Z,395nmcomp=Z,42nm,1.3s
BR105 Keskin Array S 44.94 85 P **P 18 13 13.6 -0.5**
comp=Z,475nmcomp=Z,48nm,1.1s
BR131 Keskin Array S 44.95 85 *i* P **P 18 13 13.8 -0.3**
BRTR Keskin Array B 44.95 85 P **P 18 13 12.2 -1.9**
BRTR Keskin Array B 44.95 85 P **P 18 13 13.7 -0.5**
comp=Z,8.2nm,0.9s,baz=319,slow=5.6,SNR=25
BRTR PcP **PcP 18 14 55.5 +0.3**
comp=Z,8.7nm,1.1s,baz=326,slow=2.0,SNR=4.9
comp=Z,8.2nm,0.9s
B22K Teshekpuk Lake 44.99 336 IAMs_20 IAMs_20 18 31 38.8
comp=Z,11μm,21.0s
B22K Teshekpuk Lake 44.99 336 P **P 18 13 14.6 +0.7**
baz=40
H27K Steamboat Moun 45.08 327 P **P 18 13 13.7 -1.1**
baz=44
EGMT Eagleton 45.10 292 P **P 18 13 16.7 +1.5**
WTLY Watson Lake, Y 45.16 315 IAMs_20 IAMs_20 18 30 47.0
comp=Z,11μm,22.0s
WTLY Watson Lake, Y 45.16 315 P **P 18 13 15.7 +0.2**
baz=48
I28M Miner Creek 45.17 326 IAMs_20 IAMs_20 18 30 21.6

comp=Z,8µm,22.0s
I28M Miner Creek 45.17 326 P P 18 13 14.7 -0.9
baz=45,SNR=50
G26K Porcupine Rive 45.19 329 P P 18 13 13.8 -1.7
baz=44,SNR=60
F25K Christian Rive 45.21 330 P P 18 13 15.9 +0.1
baz=43
MAYO Mayo, Yukon 45.23 322 IAmb IAmb 18 13 25.7
comp=Z,67nm,1.0s
MAYO IAMs_20 IAMs_20 18 32 08.3
comp=Z,14µm,18.0s
MAYO Mayo, Yukon 45.23 322 P P 18 13 15.6 -0.3
baz=46
ARTI Arti 45.27 52 IAMs_20 IAMs_20 18 30 36.6
comp=Z,10µm,20.0s
ARTI Arti 45.27 52 P P 18 13 15.7 -0.6
comp=Z,28nm,0.8s,baz=292,slow=4.7,SNR=34
ARTI PP PP 18 15 00.7 -1.1
comp=Z,15nm,1.0s,baz=301,slow=9.0,SNR=4.0
comp=Z,28nm,0.8s
ARTI Arti 45.27 52 *d iP* P 18 13 16.0 -0.3
ARTI 18 15 02.2
ARTI S S 18 19 57.4 +1.4
ARTI SS ScS 18 23 10.6 -1.7
ARTI pmax pmax
comp=Z,54nm,1.1s
SOC Sochi 45.32 76 *e*P P 18 13 14.8 -2.1
SOC *e* 18 15 00.2
SOC *e*PPP PPP 18 15 38.0
SOC *e*S S 18 19 55.2 -1.8
SOC pmax pmax
comp=Z,31nm,1.1s
SOC MLR MLR
comp=Z,9µm,19.0s
FARO Faro, Yukon 45.33 320 IAmb IAmb 18 13 27.1
comp=Z,55nm,1.1s
FARO Faro, Yukon 45.33 320 P P 18 13 15.1 -1.7
baz=46
J29N Klondike Camp 45.36 324 IAMs_20 IAMs_20 18 31 54.6
comp=Z,12µm,19.0s
J29N Klondike Camp 45.36 324 P P 18 13 15.7 -1.3
baz=45,SNR=22
TOLK Toolik Lake Re 45.41 333 P P 18 13 18.0 +0.6
TOLK IAmb IAmb 18 13 25.7
comp=Z,88nm,0.9s
TOLK IAMs_20 IAMs_20 18 34 51.4
comp=Z,7µm,18.0s
TOLK Toolik Lake Re 45.41 333 P P 18 13 15.8 -1.6
baz=41,SNR=50
DWPF Disney Wildern 45.42 250 IAMs_20 IAMs_20 18 29 32.2
comp=Z,4µm,21.0s
AKAS Kas 45.42 91 IAMs_20 IAMs_20 18 34 52.0
comp=Z,12µm,18.0s
D23K Nanushuk River 45.43 334 IAMs_20 IAMs_20 18 35 13.6
comp=Z,9µm,18.0s
D23K Nanushuk River 45.43 334 P P 18 13 16.6 -0.8
baz=40
KIRS Kirsehir-Merke 45.53 85 ⇓P P 18 13 19.0 +0.3
U38A Gravette 45.53 269 IAMs_20 IAMs_20 18 32 00.2
comp=Z,7µm,20.0s
I27K Kandik River 45.55 327 P P 18 13 16.8 -1.8
baz=44,SNR=36
VSLR Vesyoloye 45.57 76 *i* P P 18 13 17.7 -1.2
VSLR pmax pmax
comp=Z,82nm,1.1s
K29M Barlow Dome 45.57 323 IAMs_20 IAMs_20 18 32 28.1
comp=Z,14µm,19.0s
K29M Barlow Dome 45.57 323 P P 18 13 15.3 -3.4
baz=45
E24K Your Creek 45.58 332 P P 18 13 16.4 -2.3
baz=41
M31M Drury Creek, Y 45.70 320 P P 18 13 18.5 -1.2
baz=46
BRAL Brewton 45.79 258 IAMs_20 IAMs_20 18 31 06.9
comp=Z,15µm,20.0s
B21K Ikpikpuk River 45.81 336 IAMs_20 IAMs_20 18 32 50.5
comp=Z,9µm,21.0s
B21K Ikpikpuk River 45.81 336 P P 18 13 18.9 -1.5
baz=38
F24K Squaw Lake 45.84 331 P P 18 13 18.5 -2.3
baz=41
E23K Chandalar 45.87 332 IAMs_20 IAMs_20 18 33 19.3
comp=Z,9µm,21.0s
E23K Chandalar 45.87 332 P P 18 13 19.2 -1.9
baz=40
SVE Sverdlovsk 45.89 50 *e*P P 18 13 20.9 -0.3
SVE *e*S S 18 20 06.1 +1.2
SVE pmax pmax
comp=Z,73nm,1.3s
G25K Bearman Lake 45.95 330 P P 18 13 21.0 -0.5
baz=42,SNR=30
D22K Ayikyak River 45.96 334 IAMs_20 IAMs_20 18 34 11.7
comp=Z,10µm,20.0s
D22K Ayikyak River 45.96 334 P P 18 13 19.4 -2.3
baz=39
GOF Gofitskoye 45.96 72 *ce*P P 18 13 23.2 +1.2
N32M Quiet Lake 45.99 319 P P 18 13 20.8 -1.2
baz=46,SNR=12
DAWY Dawson 46.00 324 IAMs_20 IAMs_20 18 32 23.5
comp=Z,12µm,18.0s
DAWY Dawson 46.00 324 P P 18 13 20.3 -1.7
baz=44,SNR=48
B20K Meade River 46.04 337 IAMs_20 IAMs_20 18 32 53.5
comp=Z,8µm,20.0s
B20K Meade River 46.04 337 P P 18 13 20.0 -2.2
baz=37
ANWB Willy Bob 46.14 221 IAMs_20 IAMs_20 18 27 52.5
comp=Z,3µm,21.0s
OGNE Ogallala 46.21 280 IAMs_20 IAMs_20 18 31 09.9
comp=Z,8µm,22.0s
I26K Coal Creek Min 46.21 327 IAMs_20 IAMs_20 18 32 41.8
comp=Z,7µm,19.0s
I26K Coal Creek Min 46.21 327 P P 18 13 22.4 -1.2
baz=43
C21K Knifeblade Rid 46.21 335 P P 18 13 22.8 -0.9
baz=38,SNR=10
SMRT St. Maarten 46.24 223 IAMs_20 IAMs_20 18 30 50.2
comp=Z,2µm,20.0s
M30M Minto, Yukon 46.24 322 IAMs_20 IAMs_20 18 32 34.0
comp=Z,14µm,19.0s
M30M Minto, Yukon 46.24 322 P P 18 13 23.1 -0.8
baz=45
H25L Birch Creek 46.24 329 P P 18 13 22.6 -1.2
baz=42,SNR=9.7
GRTK Grand Turk 46.28 234 IAMs_20 IAMs_20 18 29 41.6
comp=Z,5µm,20.0s
L29M L29M 46.29 323 IAMs_20 IAMs_20 18 32 51.2
comp=Z,14µm,18.0s
L29M L29M 46.29 323 P P 18 13 22.6 -1.8
baz=44,SNR=18
T35A Sooner Cattle 46.29 272 IAMs_20 IAMs_20 18 31 41.3
comp=Z,7µm,19.0s
E22K Anaktuvuk Pass 46.34 333 IAMs_20 IAMs_20 18 34 31.8
comp=Z,6µm,18.0s
E22K Anaktuvuk Pass 46.34 333 P P 18 13 23.8 -0.9
baz=39,SNR=22
G24K Hadweenzic Riv 46.36 330 P P 18 13 24.4 -0.4
baz=41,SNR=33
R33M Jennings River 46.45 316 IAMs_20 IAMs_20 18 31 28.2
comp=Z,10µm,22.0s
R33M Jennings River 46.45 316 P P 18 13 23.5 -2.3
baz=46
P33M Teslin, Yukon 46.55 317 IAMs_20 IAMs_20 18 32 52.7
comp=Z,14µm,18.0s
P33M Teslin, Yukon 46.55 317 P P 18 13 24.3 -2.2
baz=45
KIV Kislovodsk 46.57 74 P P 18 13 26.1 -0.8
KIV Kislovodsk 46.57 74 P P 18 13 27.7 +0.8
KIV Kislovodsk 46.57 74 ⇑P P 18 13 27.9 +1.1
KIV Kislovodsk 46.57 74 *e*P P 18 13 25.8 -1.0
KIV *e* 18 15 16.7
KIV *e*S S 18 20 16.0 +0.9
KIV pmax pmax
comp=Z,164nm,3.7s
KIV pmax pmax
comp=Z,61nm,1.1s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 46.57 74 *i* P P 18 13 28.6 +1.8
SNR=6.6
KIV Kislovodsk 46.57 74 P P 18 13 26.5 -0.3
comp=Z,2µmcomp=Z,55nm,1.3s
KVAR Kislovodsk Arr 46.57 74 LR LR 18 32 40.8
comp=Z,7µm,19.7s,baz=289,slow=36
E21K Killik River 46.60 334 IAMs_20 IAMs_20 18 34 22.4
comp=Z,8µm,19.0s
E21K Killik River 46.60 334 P P 18 13 25.1 -1.6
baz=38
COLD Coldfoot 46.65 332 P P 18 13 25.3 -1.8
baz=40,SNR=26
A19K Wainwright 46.66 339 P P 18 13 25.7 -1.3
baz=34
SABA Saba 46.69 223 IAMs_20 IAMs_20 18 30 45.3
comp=Z,3µm,20.0s
SHA1 Shidzhatmaz 46.71 74 P P 18 13 26.7 -1.4
SEUS St. Eustatius 46.72 222 IAMs_20 IAMs_20 18 30 27.9
comp=Z,3µm,20.0s
PRP Porcupine Dome 46.72 328 P P 18 13 25.2 -2.6
baz=42,SNR=24
DLBC Dease Lake 46.77 314 IAmb IAmb 18 13 37.9
comp=Z,53nm,1.2s
DLBC IAMs_20 IAMs_20 18 31 48.8
comp=Z,15µm,22.0s
DLBC Dease Lake 46.77 314 P P 18 13 28.6 +0.3
comp=Z,10nm,0.9s,baz=342,slow=5.9,SNR=8.2
DLBC LR LR 18 32 42.8
comp=Z,12µm,18.9s,baz=47,slow=36
comp=Z,10nm,0.9s
DLBC Dease Lake 46.77 314 P P 18 13 25.4 -2.9
baz=46
OK051 E0350 and S346 46.77 272 IAMs_20 IAMs_20 18 32 05.1
comp=Z,8µm,18.0s
KBZ Khabaz 46.84 74 P P 18 13 28.4 -0.4
comp=Z,14nm,0.8s,baz=310,slow=7.5,SNR=25
comp=Z,14nm,0.8s
KBZ Khabaz 46.84 74 *ce*P P 18 13 28.2 -0.6
KBZ pmax pmax
comp=Z,78nm,1.2s
K27K Chicken 46.84 325 IAMs_20 IAMs_20 18 32 40.1
comp=Z,7µm,19.0s
K27K Chicken 46.84 325 P P 18 13 26.4 -2.2
baz=43
346A Big Creek Wild 46.86 261 IAMs_20 IAMs_20 18 31 46.4
comp=Z,13µm,20.0s
M29M Somme Creek 46.87 322 IAMs_20 IAMs_20 18 32 24.5
comp=Z,10µm,19.0s
M29M Somme Creek 46.87 322 P P 18 13 26.3 -2.8
baz=44
OK048 Pawnee Station 46.90 272 IAMs_20 IAMs_20 18 32 09.3
comp=Z,7µm,18.0s
F22K John River 46.92 333 P P 18 13 26.9 -2.3
baz=38
J26L Joseph Creek 46.93 327 P P 18 13 28.7 -0.7
baz=42,SNR=22
WHY Whitehorse 46.96 319 P P 18 13 29.5 -0.2
baz=45
D20K Etivluk River 46.97 336 P P 18 13 28.9 -0.7
baz=36,SNR=20
G23K Bananza Creek 47.01 331 P P 18 13 28.8 -1.1
baz=39,SNR=40
061Z Ochoppi 47.03 248 IAMs_20 IAMs_20 18 31 07.7
comp=Z,5µm,20.0s
H24K Noodor Dome 47.12 330 P P 18 13 30.4 -0.4
baz=40
N30M Aishikik Lake 47.13 321 P P 18 13 30.9 -0.2
baz=44
OK052 Battle Ridge R 47.14 271 IAMs_20 IAMs_20 18 32 16.9
comp=Z,8µm,18.0s
ABD La Joyeuse, An 47.15 220 IAMs_20 IAMs_20 18 29 03.2
comp=Z,3µm,20.0s
GDSD La Dsirade Is 47.15 219 IAMs_20 IAMs_20 18 28 22.4
comp=Z,3µm,22.0s
OK031 S. Brethren Rd 47.19 271 IAMs_20 IAMs_20 18 32 17.2
comp=Z,8µm,18.0s
Q32M Nakina River 47.24 316 IAMs_20 IAMs_20 18 32 54.1
comp=Z,8µm,18.0s
Q32M Nakina River 47.24 316 P P 18 13 30.8 -1.2
baz=45,SNR=5.1
E20K Nigu River 47.24 335 P P 18 13 30.6 -1.2
baz=36
OK032 Salt Plains WL 47.27 273 IAmb IAmb 18 13 39.6
comp=Z,35nm,1.0s
K22A Casper 47.28 285 IAMs_20 IAMs_20 18 32 21.3
comp=Z,10µm,18.0s
O30N Mendenhall 47.30 320 P P 18 13 31.2 -1.1
baz=44,SNR=11
P32M Atlin 47.31 317 IAMs_20 IAMs_20 18 33 32.8
comp=Z,12µm,18.0s
P32M Atlin 47.31 317 P P 18 13 31.6 -0.8
baz=44
SJG San Juan 47.32 226 IAMs_20 IAMs_20 18 29 11.9
comp=Z,3µm,22.0s
NCK Nalchik 47.36 74 *i* P P 18 13 33.4 +0.5
NCK pmax pmax
comp=Z,75nm,1.4s
J25K Salcha River, 47.36 327 P P 18 13 32.3 -0.4
baz=41,SNR=18
GDHS Morne Mazeau, 47.43 220 IAMs_20 IAMs_20 18 28 19.2
comp=Z,3µm,22.0s
SCRK Sand Creek 47.44 326 IAMs_20 IAMs_20 18 33 10.6
comp=Z,7µm,19.0s
SCRK Sand Creek 47.44 326 P P 18 13 32.3 -1.2
baz=42,SNR=52
F21K Alatna River 47.45 333 IAMs_20 IAMs_20 18 34 01.2
comp=Z,9µm,22.0s
F21K Alatna River 47.45 333 P P 18 13 32.2 -1.1
baz=38,SNR=46
BCAR Beaver Creek A 47.46 324 P P 18 13 34.3 +0.7
D19K Kuna River 47.47 336 IAMs_20 IAMs_20 18 34 17.3
comp=Z,9µm,20.0s
D19K Kuna River 47.47 336 P P 18 13 32.1 -1.4
baz=35
L27K Beaver Creek, 47.48 324 IAMs_20 IAMs_20 18 33 20.2
comp=Z,12µm,19.0s
L27K Beaver Creek, 47.48 324 P P 18 13 31.4 -2.2
baz=42
B18K Kokolik River 47.50 338 P P 18 13 32.8 -0.9
baz=33,SNR=8.2
POKR Poker Plat Res 47.55 329 P P 18 13 31.9 -2.2
baz=40,SNR=13
S34M Telegraph Cree 47.56 314 IAMs_20 IAMs_20 18 32 13.6
comp=Z,13µm,22.0s
S34M Telegraph Cree 47.56 314 P P 18 13 33.6 -0.7
baz=45
CBE Ff, Capester 47.56 220 P P 18 13 34.3 -0.4
H23K Yukon River 47.57 330 P P 18 13 31.3 -3.0
baz=39
OK029 Liberty Lake 47.64 271 IAMs_20 IAMs_20 18 32 32.9
comp=Z,6µm,18.0s
BRIGG Briggsdale 47.66 281 IAMs_20 IAMs_20 18 32 00.3
comp=Z,11µm,20.0s
BVCY Beaver Creek 47.66 323 P P 18 13 32.6 -2.5
baz=42
ILAR Eielson Array 47.67 328 P P 18 13 35.6 +0.6
ILAR Eielson Array 47.67 328 P P 18 13 36.5 +1.5
comp=Z,21nm,0.8s,baz=34,slow=6.3,SNR=107
ILAR PcP PcP 18 15 04.8 +0.5
comp=Z,10nm,0.8s,baz=19,slow=3.5,SNR=13
comp=Z,21nm,0.8s
BOZ Bozeman (W) 47.72 291 IAMs_20 IAMs_20 18 32 36.8
comp=Z,12µm,20.0s
HYT Haines Junctio 47.73 320 P P 18 13 33.9 -1.9
baz=43
YUK4 Talbot Arm 47.73 321 P P 18 13 33.8 -2.0
baz=43
COLA College 47.85 329 P P 18 13 38.6 +2.2
COLA College 47.85 329 P P 18 13 39.6 +3.2
COLA College 47.85 329 *i* P P 18 13 38.3 +1.9
COLA pmax pmax
comp=Z,85nm,1.0s
COLA College 47.85 329 P P 18 13 33.3 -3.1
baz=40
RIDG Independent Ri 47.87 326 IAMs_20 IAMs_20 18 33 32.9
comp=Z,6µm,18.0s
RIDG Independent Ri 47.87 326 P P 18 13 34.2 -2.5
baz=41,SNR=29
T35M Bob Quinn 47.89 313 P P 18 13 35.4 -1.4
baz=45
YUK6 Outpost Mounta 47.94 321 P P 18 13 34.5 -2.9
baz=43
HDA Harding Lake 47.96 328 IAMs_20 IAMs_20 18 34 56.1
comp=Z,7µm,20.0s
HDA Harding Lake 47.96 328 P P 18 13 35.5 -1.8
baz=40,SNR=20
L26K Log Cabin Wild 47.97 325 IAMs_20 IAMs_20 18 33 44.5
comp=Z,7µm,18.0s
L26K Log Cabin Wild 47.97 325 P P 18 13 35.6 -1.8
baz=41,SNR=8.0
MSO Missoula 47.97 294 IAMs_20 IAMs_20 18 32 07.2
comp=Z,12µm,22.0s
SKAG Skagway 47.98 318 IAMs_20 IAMs_20 18 33 21.4
comp=Z,11µm,19.0s
SKAG Skagway 47.98 318 P P 18 13 41.7 +4.2
SKAG Skagway 47.98 318 P P 18 13 36.1 -1.4
baz=44
C18K Utukok River 47.98 337 IAMs_20 IAMs_20 18 34 02.8
comp=Z,7µm,21.0s
C18K Utukok River 47.98 337 P P 18 13 35.1 -2.4
baz=33
H22K Ishtalitna Cre 47.99 331 P P 18 13 36.2 -1.4
baz=38
YUK3 Moose Creek 48.01 323 P P 18 13 35.3 -2.7
baz=42,SNR=15
M27K Edge Creek, AK 48.02 324 IAmb IAmb 18 13 47.4
comp=Z,46nm,1.1s
M27K IAMs_20 IAMs_20 18 34 05.5
comp=Z,12µm,19.0s
M27K Edge Creek, AK 48.02 324 P P 18 13 35.1 -2.8
baz=42
G21K Allakaket 48.02 333 IAMs_20 IAMs_20 18 36 05.1
comp=Z,8µm,18.0s
G21K Allakaket 48.02 333 P P 18 13 35.5 -2.3
baz=37
I23K Minto, Yukon-K 48.05 330 P P 18 13 36.2 -1.7
baz=39,SNR=21
P30M Million Dollar 48.06 319 P P 18 13 36.9 -1.3
baz=43
K24K Donnelly Dome 48.09 327 P P 18 13 37.3 -1.1
baz=40,SNR=50
F20K Avaraart Lake 48.12 334 IAMs_20 IAMs_20 18 35 50.6
comp=Z,7µm,18.0s
F20K Avaraart Lake 48.12 334 P P 18 13 37.1 -1.3
baz=36
E19K Redstone River 48.13 335 IAMs_20 IAMs_20 18 33 43.7
comp=Z,9µm,22.0s
E19K Redstone River 48.13 335 P P 18 13 37.2 -1.4
baz=35
YUK8 Steele Glacier 48.15 322 P P 18 13 37.3 -1.8
baz=42
MENT Mentasta 48.15 325 IAmb IAmb 18 13 59.1
comp=Z,36nm,1.1s
MENT Mentasta 48.15 325 P P 18 13 42.8 +4.0
M26K Nabesna, AK 48.33 324 IAMs_20 IAMs_20 18 33 48.9
comp=Z,10µm,20.0s
M26K Nabesna, AK 48.33 324 P P 18 13 38.9 -1.4
baz=41
CSS Mathiatis 48.35 89 IAMs_20 IAMs_20 18 36 52.0
comp=Z,9µm,18.0s
DLMT Dillon 48.37 292 IAMs_20 IAMs_20 18 32 58.8
comp=Z,9µm,18.0s
NEA2 Nenana 48.40 329 P P 18 13 39.9 -0.9
baz=39,SNR=13
NEW Newport 48.46 297 LR LR 18 33 39.7
comp=Z,19µm,18.0s,baz=40,slow=35
O29M Mount Kennedy 48.48 320 P P 18 13 39.0 -2.6
baz=42
C17K DeLong Mountai 48.52 338 P P 18 13 40.2 -1.4
baz=32,SNR=17
ILAM Ilet Lapin Mar 48.53 218 IAMs_20 IAMs_20 18 28 50.7
comp=Z,4µm,22.0s
H21K Melozitna Rive 48.54 332 P P 18 13 39.2 -2.5
baz=37,SNR=27
R32K Eaglecrest 48.55 316 P P 18 13 40.7 -1.2
baz=43
SVN Savane Anatole 48.56 219 IAMs_20 IAMs_20 18 28 51.6
comp=Z,3µm,22.0s
U35K Hyder 48.56 312 P P 18 13 39.3 -2.7
baz=44
SDDR Presa de Saban 48.59 233 P P 18 13 42.9 +0.1
SDDR IAmb IAmb 18 13 56.5
comp=Z,54nm,1.1s
MOOW Moose Ponds 48.62 289 IAMs_20 IAMs_20 18 32 49.5
comp=Z,11µm,20.0s
LOHW Long Hollow 48.64 289 IAMs_20 IAMs_20 18 33 09.2
comp=Z,13µm,19.0s
PAX Paxson 48.64 326 P P 18 13 39.4 -3.3
baz=40,SNR=22
O28M Mount Upton 48.67 322 P P 18 13 40.4 -2.8
baz=42
I21K Tanana 48.71 331 P P 18 13 40.5 -2.5
baz=37,SNR=26
PDAR Pinedale Array 48.73 287 P P 18 13 42.8 -1.1
PDAR Pinedale Array 48.73 287 P P 18 13 44.0 +0.2
comp=Z,11nm,0.8s,baz=62,slow=7.1,SNR=63
PDAR PP PP 18 15 37.9 +1.3
comp=Z,5.1nm,1.1s,baz=27,slow=8.8,SNR=2.2
PDAR LR LR 18 33 21.4
comp=Z,12µm,18.2s,baz=30,slow=35
comp=Z,11nm,0.8s
F19K Shaleruckik Mo 48.76 335 IAMs_20 IAMs_20 18 35 18.6
comp=Z,8µm,21.0s
F19K Shaleruckik Mo 48.76 335 P P 18 13 42.8 -0.7
baz=35
RDOG Red Dog Mine 48.83 338 P P 18 13 41.6 -2.4
baz=32
MPOM Morne Pois Mar 48.83 218 P P 18 13 44.4 0.0
BIM Bigot 48.83 218 IAMs_20 IAMs_20 18 28 47.8
comp=Z,4µm,22.0s
FXWY Fox Creek 48.84 289 IAMs_20 IAMs_20 18 32 46.3
comp=Z,12µm,22.0s
E18K Tukpahlearik C 48.89 336 IAMs_20 IAMs_20 18 34 39.0
comp=Z,12µm,21.0s
E18K Tukpahlearik C 48.89 336 P P 18 13 41.4 -3.0
baz=33,SNR=26
R31K City Hall, Gus 48.89 317 P P 18 13 41.5 -3.0
baz=43
ISCO Idaho Springs 48.90 281 IAMs_20 IAMs_20 18 32 55.2
comp=Z,13µm,21.0s
TPAW Teton Pass 48.91 289 IAmb IAmb 18 13 55.1
comp=Z,40nm,1.2s
TPAW IAMs_20 IAMs_20 18 32 47.2
comp=Z,13µm,21.0s
HARP HAARP 48.99 325 P P 18 13 43.0 -2.3
baz=40
T33K Petersburg 49.04 314 P P 18 13 45.0 -0.7
baz=43
MCK McKinley 49.04 328 P P 18 13 43.1 -2.5
baz=38,SNR=21
BCPM Bancas Point 49.09 321 IAMs_20 IAMs_20 18 33 39.7
comp=Z,15µm,22.0s
WRAK Wrangell Islan 49.10 314 IAMs_20 IAMs_20 18 33 24.2
comp=Z,14µm,22.0s
WRAK Wrangell Islan 49.10 314 P P 18 13 44.0 -2.1
baz=43
C16K Lisburne Hills 49.11 339 P P 18 13 42.8 -3.2
baz=30
WMOK Wichita Mounta 49.14 272 IAMs_20 IAMs_20 18 33 39.8
comp=Z,11µm,18.0s
S32K Killisnoo 49.16 316 IAMs_20 IAMs_20 18 33 13.8
comp=Z,9µm,20.0s
S32K Killisnoo 49.16 316 P P 18 13 44.0 -2.5
baz=43
D17K Noatak River 49.17 338 P P 18 13 44.2 -2.3
baz=32,SNR=12
G19K Purcell Mounta 49.17 334 IAMs_20 IAMs_20 18 35 04.7
comp=Z,9µm,21.0s
G19K Purcell Mounta 49.17 334 P P 18 13 46.2 -0.5
baz=35,SNR=21
H20K Anotleneega Mo 49.18 332 P P 18 13 44.9 -1.9
baz=36
PINM Pinnacle 49.19 321 P P 18 13 45.3 -1.6
baz=41
PNL Peninsula 49.23 320 P P 18 13 44.7 -2.4
baz=42
AKTO Aktyubinsk 49.27 58 P P 18 13 46.9 -0.7
comp=Z,54nm,0.8s,baz=312,slow=7.4,SNR=107
AKTO LR LR 18 34 15.0
comp=Z,13µm,18.8s,baz=322,slow=36
comp=Z,54nm,0.8s
Q24A Divide 49.28 280 IAMs_20 IAMs_20 18 32 58.3
comp=Z,7µm,22.0s
BPAW Bear Paw Mtn. 49.31 330 P P 18 13 46.6 -1.2
baz=37,SNR=10
GLB Gilahina Butte 49.31 324 IAMs_20 IAMs_20 18 34 47.2
comp=Z,10µm,19.0s
VRDI Verde Repeater 49.37 324 IAMs_20 IAMs_20 18 34 40.6
comp=Z,9µm,18.0s
F18K Selawik 49.37 335 P P 18 13 45.6 -2.5
baz=33,SNR=11
S31K Pelican 49.40 317 P P 18 13 46.5 -1.9
baz=42
GTBY Guantanamo Bay 49.41 238 IAMs_20 IAMs_20 18 32 01.7
comp=Z,3µm,21.0s
Z35A Perchaven, San 49.42 269 IAMs_20 IAMs_20 18 33 52.2
comp=Z,7µm,18.0s
N25K Chitina, Valde 49.43 324 IAMs_20 IAMs_20 18 34 53.2
comp=Z,9µm,20.0s
N25K Chitina, Valde 49.43 324 P P 18 13 47.6 -1.2
baz=40,SNR=16
E17K Hotham Inlet 49.43 337 P P 18 13 48.3 -0.2
baz=32
YKU2 Yakutat 49.44 320 IAMs_20 IAMs_20 18 28 46.8
comp=Z,11µm,20.0s

YAH	Yahtse	49.48	322	IAMs_20	IAMs_20	18 34 47.9		
	comp=Z,11µm,19.0s							
M24K	Tolsona, Glenn	49.52	326	P	P	18 13 46.1	-3.2	
	baz=39							
H19K	Roundabout Mou	49.53	333	IAMs_20	IAMs_20	18 35 57.9		
	comp=Z,9µm,20.0s							
H19K	Roundabout Mou	49.53	333	P	P	18 13 47.7	-1.6	
	baz=35							
TIXI	Tiksi	49.58	8	P	P	18 13 49.9	+0.3	
TIXI	Tiksi	49.58	8	P	P	18 13 49.9	+0.3	
TIXI				pmax	pmax			
	comp=Z,23nm,0.7s							
V35K	Ketchikan	49.61	312	P	P	18 13 47.8	-2.3	
	baz=43							
U33K	Whale Pass	49.62	314	IAMs_20	IAMs_20	18 33 38.9		
	comp=Z,11µm,22.0s							
U33K	Whale Pass	49.62	314	P	P	18 13 48.2	-1.8	
	baz=43							
TRF	Thorofare Moun	49.64	329	P	P	18 13 50.2	-0.2	
	baz=38,SNR=8.3							
BBGH	Gun Hill	49.64	216	IAMs_20	IAMs_20	18 30 58.1		
	comp=Z,6µm,20.0s							
I20K	Naaghedeneel	49.65	332	P	P	18 13 48.4	-1.8	
	baz=36							
MESA	MESA	49.69	322	IAMs_20	IAMs_20	18 34 55.2		
	comp=Z,11µm,19.0s							
MESA	MESA	49.69	322	P	P	18 13 48.6	-2.2	
	baz=40							
MAK	Makhachkala	49.71	71c	*i*P	P	18 13 45.5	-5.4	
MAK				*e*S	S	18 20 52.7	-6.6	
MAK				*e*SS	SS	18 24 27.9	-3.2	
MAK				*e*SSS	SSS	18 25 50.7		
MAK				pmax	pmax			
	comp=Z,183nm,1.3s							
MAK				MLR	MLR			
	comp=Z,8µm,14.0s							
G18K	Tagagawik	49.74	334	IAMs_20	IAMs_20	18 34 36.4		
	comp=Z,9µm,22.0s							
G18K	Tagagawik	49.74	334	P	P	18 13 49.5	-1.4	
	baz=34							
SIT	Sitka	49.74	316	IAMs_20	IAMs_20	18 33 21.1		
	comp=Z,10µm,21.0s							
SIT	Sitka	49.74	316	P	P	18 13 49.8	-1.2	
	baz=42							
CHUM	Lake Minchumin	49.84	330	P	P	18 13 49.6	-2.0	
	baz=36,SNR=8.9							
F17K	Baldwin Pennin	49.85	336	IAMs_20	IAMs_20	18 35 22.4		
	comp=Z,10µm,21.0s							
F17K	Baldwin Pennin	49.85	336	P	P	18 13 49.5	-2.3	
	baz=32							
KLU	Klutina	49.92	325	IAmb	IAmb	18 13 59.3		
	comp=Z,60nm,0.9s							
KLU	Klutina	49.92	325	P	P	18 13 50.8	-1.6	
	baz=39							
BMRM	Bremner River	49.92	324	P	P	18 13 49.7	-2.8	
	baz=39							
O20A	White River Ci	50.00	284	IAMs_20	IAMs_20	18 33 21.3		
	comp=Z,9µm,20.0s							
J20K	Nowinta River	50.07	331	P	P	18 13 51.4	-2.1	
	baz=36							
SCM	Sheep Creek Mo	50.07	326	P	P	18 13 50.6	-3.0	
	baz=38							
BERG	Berg Lake	50.09	323	IAMs_20	IAMs_20	18 34 19.0		
	comp=Z,11µm,19.0s							
CRAG	Craig	50.09	313	IAMs_20	IAMs_20	18 34 27.6		
	comp=Z,13µm,20.0s							
CRAG	Craig	50.09	313	P	P	18 13 50.7	-3.0	
	baz=42							
CAST	Castle Rocks	50.15	329	IAmb	IAmb	18 14 02.0		
	comp=Z,43nm,1.0s							
CAST	Castle Rocks	50.15	329	P	P	18 13 52.2	-1.9	
	baz=36,SNR=17							
BGLC	Bering Glacier	50.16	323	P	P	18 13 52.2	-1.9	
	baz=40							
PLID	Pearl Lake	50.22	294	IAmb	IAmb	18 14 05.7		
	comp=Z,66nm,1.1s							
PLID				IAMs_20	IAMs_20	18 33 38.8		
	comp=Z,10µm,21.0s							
M23K	Glacier View	50.22	326	P	P	18 13 52.6	-2.1	
	baz=38							
GCSA	Galena City Sc	50.28	333	P	P	18 13 52.5	-2.5	
	baz=34,SNR=14							
H18K	Honhosa River	50.30	334	IAMs_20	IAMs_20	18 36 21.0		
	comp=Z,6µm,21.0s							
H18K	Honhosa River	50.30	334	P	P	18 13 51.7	-3.5	
	baz=33							
HMT	Hamilton	50.31	323	IAMs_20	IAMs_20	18 34 34.5		
	comp=Z,10µm,20.0s							
SDCO	Great Sand Dun	50.38	280	IAMs_20	IAMs_20	18 33 46.4		
	comp=Z,11µm,22.0s							
SML	Sawmill	50.39	326	P	P	18 13 53.4	-2.6	
	baz=38,SNR=5.2							
GNI	Garni	50.39	76	P	P	18 13 55.5	-0.9	
GNI	Garni	50.39	76	P	P	18 13 54.5	-1.9	
GNI	Garni	50.39	76	*i*P	P	18 13 54.4	-2.0	
GNI				pmax	pmax			
	comp=Z,219nm,1.5s							
GNI	Garni	50.39	76	P	P	18 13 59.1	+2.7	
GNI	Garni	50.39	76	P	P	18 13 56.5	+0.1	
	comp=Z,2µmcomp=Z,120nm,1.5s							
RAGM	Ragged Mountai	50.40	323	IAMs_20	IAMs_20	18 35 06.9		
	comp=Z,12µm,19.0s							
CUT	Chulitna	50.47	328	P	P	18 13 54.9	-1.6	
	baz=37							
BBB	Bella Bella	50.50	307	P	P	18 13 58.4	+1.6	
	comp=Z,15nm,1.0s,baz=303,slow=19,SNR=2.5							
BBB				LR	LR	18 35 14.3		
	comp=Z,14µm,18.1s,baz=42,slow=36							
	comp=Z,15nm,1.0s							
G17K	Kiwalik Mounta	50.52	335	P	P	18 13 55.0	-1.9	
	baz=32							
HLID	Hailey	50.57	291	IAMs_20	IAMs_20	18 34 13.1		
	comp=Z,6µm,20.0s							
WHTX	Lake Whitney,	50.58	268	IAMs_20	IAMs_20	18 34 04.7		
	comp=Z,10µm,21.0s							
J19K	Poorman	50.59	332	P	P	18 13 55.1	-2.3	
	baz=34							
PPLA	Purkeypile	50.60	329	P	P	18 13 56.1	-1.5	
	baz=36							
EYAK	Cordova Ski Ar	50.60	324	P	P	18 13 56.2	-1.3	
	baz=38							
KAIM	Kayak Island	50.67	323	P	P	18 13 55.6	-2.5	
	baz=39							
K20K	Telida	50.72	330	P	P	18 13 56.1	-2.3	
	baz=35							
KNK	Knik Glacier	50.74	326	IAMs_20	IAMs_20	18 35 03.4		
	comp=Z,6µm,21.0s							
KNK	Knik Glacier	50.74	326	P	P	18 13 56.0	-2.5	
	baz=38,SNR=14							
GLI	Glacier Island	50.76	325	P	P	18 13 57.1	-1.6	
	baz=38							
PMR	Palmer	50.79	327	IAmb	IAmb	18 14 10.2		
	comp=Z,77nm,1.3s							
PMR	Palmer	50.79	327	P	P	18 14 04.0	+5.1	
PMR	Palmer	50.79	327	P	P	18 13 57.4	-1.5	
	baz=37							
H17K	Granite Mounta	50.84	334	IAMs_20	IAMs_20	18 37 43.3		
	comp=Z,6µm,18.0s							
H17K	Granite Mounta	50.84	334	P	P	18 13 58.7	-0.5	
	baz=32							
AKT	Akhty	50.91	72	*e*P	P	18 13 59.7	-0.6	
AKT				*e*		18 15 15.0		
AKT				*e*		18 15 55.0		
AKT				*e*S	S	18 21 16.1	-0.3	
AKT				pmax	pmax			
	comp=Z,68nm,2.0s							
M22K	Willow	50.95	327	P	P	18 13 57.4	-2.7	
	baz=37							
MMAI	Mount Meron Ar	50.95	89	P	P	18 13 59.9	-0.7	
	comp=Z,8.8nm,0.9s,baz=344,slow=4.7,SNR=6.7							
MMAI				LR	LR	18 38 52.8		
	comp=Z,6µm,18.4s,baz=323,slow=40							
	comp=Z,8.8nm,0.9s							
HIN	Hinchinbrook I	50.96	324	IAMs_20	IAMs_20	18 35 34.6		
	comp=Z,12µm,19.0s							
ABKAR	Akbulak array	50.98	57	P	P	18 13 59.9	-0.6	
ABKAR	Akbulak array	50.98	57	IAmb	IAmb	18 14 07.8		
	comp=Z,123nm,1.1s							
G16K	Koyuk River	50.99	336	IAMs_20	IAMs_20	18 36 16.4		
	comp=Z,12µm,20.0s							
G16K	Koyuk River	50.99	336	P	P	18 13 57.1	-3.3	
	baz=31							
BMO	Blue Mountains	51.02	294	IAMs_20	IAMs_20	18 34 16.0		
	comp=Z,6µm,19.0s							
PGC	Sidney	51.08	302	IAMs_20	IAMs_20	18 34 53.7		
	comp=Z,11µm,19.0s							
PWL	Port Wells	51.14	326	IAMs_20	IAMs_20	18 35 18.1		
	comp=Z,8µm,20.0s							
PWL	Port Wells	51.14	326	P	P	18 13 57.9	-3.7	
	baz=37							
SKT	Skwentna	51.16	328	IAmb	IAmb	18 14 08.3		
	comp=Z,66nm,1.0s							
SKT	Skwentna	51.16	328	P	P	18 13 58.3	-3.5	
	baz=36,SNR=18							
F15K	North Star Dit	51.20	337	P	P	18 13 57.5	-4.5	
	baz=30							
ABTX	Abilene, Hawle	51.23	271	IAMs_20	IAMs_20	18 35 37.1		
	comp=Z,7µm,18.0s							
GRGR	Grenville	51.26	218	IAMs_20	IAMs_20	18 29 59.0		
	comp=Z,3µm,22.0s							
J18K	Innoko River	51.31	332	P	P	18 14 01.4	-1.4	
	baz=34							
HKT	Hockley	51.33	265	P	P	18 14 04.3	+1.0	
HKT				IAmb	IAmb	18 14 14.2		
	comp=Z,70nm,1.4s							
HKT	Hockley	51.33	265	*i*P	P	18 14 05.5	+2.2	
HKT				pmax	pmax			
	comp=Z,65nm,1.5s							
SUA	Susitna One	51.36	327	P	P	18 14 00.5	-2.9	
	baz=36,SNR=22							
MFID	Camas Ranch	51.37	292	IAMs_20	IAMs_20	18 34 57.3		
	comp=Z,9µm,18.0s							
RC01	Rabbit Creek A	51.37	327	P	P	18 14 01.3	-2.0	
	baz=37							
P18A	Preston Nutter	51.41	285	IAMs_20	IAMs_20	18 34 19.8		
	comp=Z,11µm,22.0s							
P23K	Montague Islan	51.55	325	P	P	18 14 02.8	-1.8	
	baz=37							
TTA	Tatalina	51.58	331	IAmb	IAmb	18 14 12.9		
	comp=Z,47nm,1.1s							
TTA	Tatalina	51.58	331	P	P	18 14 07.2	+2.3	
TTA	Tatalina	51.58	331	P	P	18 14 03.9	-1.0	
	baz=34,SNR=14							
H16K	Elim	51.61	335	P	P	18 14 02.7	-2.3	
	baz=31							
Q23K	Middleton Isla	51.67	324	P	P	18 14 03.8	-1.7	
	baz=38							
M20K	Styx River	51.68	329	P	P	18 14 02.3	-3.5	
	baz=35							
G15K	Niukluk	51.70	336	P	P	18 14 02.4	-3.3	
	baz=30							
F14K	Arctic Creek	51.75	338	P	P	18 14 02.1	-3.9	
	baz=29							
TORD	Torodi Ar. Bea	51.80	136	P	P	18 14 05.0	-2.1	
TORD				IAmb	IAmb	18 14 07.2		
	comp=Z,33nm,0.8s							
TORD	Torodi Ar. Bea	51.80	136	P	P	18 14 05.6	-1.4	
	comp=Z,26nm,0.7s,baz=342,slow=8.9,SNR=8.7							
	comp=Z,26nm,0.7s							
O22K	Cooper Landing	51.86	326	IAMs_20	IAMs_20	18 36 11.0		
	comp=Z,6µm,20.0s							
O22K	Cooper Landing	51.86	326	P	P	18 14 03.6	-3.3	
	baz=36							
L19K	White Mountain	51.90	330	P	P	18 14 05.4	-1.9	
	baz=34							
I17K	Unalakleet	51.91	334	IAMs_20	IAMs_20	18 37 42.8		
	comp=Z,8µm,19.0s							
I17K	Unalakleet	51.91	334	P	P	18 14 04.9	-2.3	
	baz=32							
SRU	San Rafael Swe	51.94	285	IAMs_20	IAMs_20	18 34 35.8		
	comp=Z,11µm,22.0s							
J17K	VABM Dome	51.95	333	IAMs_20	IAMs_20	18 37 43.7		
	comp=Z,5µm,19.0s							
J17K	VABM Dome	51.95	333	P	P	18 14 05.2	-2.4	
	baz=32							
SPCR	Spurr Chakacha	51.99	328	P	P	18 14 08.2	+0.2	
	baz=35,SNR=19							
TNA	Tin City	51.99	338	P	P	18 14 07.0	-0.8	
	baz=28							
M19K	Big River Lodg	52.01	329	P	P	18 14 08.3	+0.2	
	baz=34							
CAPN	Captain Cook N	52.04	327	P	P	18 14 08.6	+0.3	
	baz=36							
SEW	Seward	52.08	326	P	P	18 14 07.4	-1.2	
	baz=36							
G06A	Carlson Farm,	52.32	297	IAMs_20	IAMs_20	18 35 05.3		
	comp=Z,11µm,21.0s							
K17K	Iditarod	52.33	332	P	P	18 14 08.6	-1.8	
	baz=32							
MVCO	Mesa Verde	52.34	281	IAMs_20	IAMs_20	18 35 01.7		
	comp=Z,12µm,19.0s							
L18K	Granite Mounta	52.34	331	P	P	18 14 09.7	-0.8	
	baz=33,SNR=22							
ANM	Nome	52.35	337	IAMs_20	IAMs_20	18 37 44.4		
	comp=Z,8µm,20.0s							
ANM	Nome	52.35	337	P	P	18 14 07.1	-3.4	
	baz=29							
J16K	Anvik River	52.40	333	IAMs_20	IAMs_20	18 38 18.1		
	comp=Z,5µm,19.0s							
J16K	Anvik River	52.40	333	P	P	18 14 12.2	+1.3	
	baz=31,SNR=7.7							
Q16A	Castle Valley	52.41	285	IAMs_20	IAMs_20	18 34 52.4		
	comp=Z,10µm,22.0s							
BRVK	Borovoye	52.46	48	P	P	18 14 10.8	-0.8	
BRVK				IAmb	IAmb	18 14 18.4		
	comp=Z,64nm,1.2s							
BRVK	Borovoye	52.46	48	P	P	18 14 12.3	+0.8	
BRVK	Borovoye	52.46	48	*ce*P	P	18 14 11.5	0.0	
BRVK				pmax	pmax			
	comp=Z,19nm,0.8s							
BVAR	Borovoye Array	52.53	48	P	P	18 14 11.4	-0.6	
	comp=Z,34nm,0.8s,baz=314,slow=6.1,SNR=110							
BVAR				PcP	PcP	18 15 22.0	-0.3	
	comp=Z,5.4nm,0.8s,baz=285,slow=5.7,SNR=1.4							
BVAR				PP	PP	18 16 08.9	-1.6	
	comp=Z,2.7nm,0.8s,baz=298,slow=9.4,SNR=1.3							
	comp=Z,34nm,0.8s							
J08A	Circle Bar Ran	52.70	294	IAMs_20	IAMs_20	18 35 28.4		
	comp=Z,7µm,20.0s							
M18K	Stony River	52.73	330	P	P	18 14 12.6	-0.8	
	baz=33							
BRSE	Bradley Lake S	52.76	326	P	P	18 14 14.4	+0.8	
	baz=35							
F04D	Rainier, OR	52.79	299	IAMs_20	IAMs_20	18 35 26.6		
	comp=Z,11µm,21.0s							
L17K	Donlin	52.82	332	P	P	18 14 11.2	-2.9	
	baz=32							
N19K	Bonanza Creek	52.94	329	IAmb	IAmb	18 14 23.6		
	comp=Z,57nm,1.0s							
N19K				IAMs_20	IAMs_20	18 35 57.5		
	comp=Z,6µm,21.0s							
N19K	Bonanza Creek	52.94	329	P	P	18 14 15.2	+0.1	
	baz=34,SNR=12							
JCT	Junction City	53.00	269	IAMs_20	IAMs_20	18 35 41.9		
	comp=Z,7µm,21.0s							
ANMO	Albuquerque	53.01	278	P	P	18 14 16.4	+0.3	
ANMO	Albuquerque	53.01	278	LR	LR	18 36 02.3		
	comp=Z,13µm,19.4s,baz=212,slow=35							
ANMO	Albuquerque	53.01	278	*i*P	P	18 14 17.6	+1.5	
ANMO				pmax	pmax			
	comp=Z,19nm,2.0s							
O20K	Slope Mountain	53.02	327	P	P	18 14 13.8	-1.9	
	baz=34							
ELK	Elko	53.08	289	LR	LR	18 36 22.5		
	comp=Z,12µm,18.4s,baz=48,slow=35							
HOM	Homer	53.09	326	P	P	18 14 14.8	-1.2	
	baz=35							
F03A	Seaside	53.16	299	IAMs_20	IAMs_20	18 36 10.3		
	comp=Z,10µm,19.0s							
BILL	Bilibino	53.16	351	P	P	18 14 16.8	+0.3	
BILL				IAmb	IAmb	18 14 28.2		
	comp=Z,82nm,2.0s							
BILL	Bilibino	53.16	351	*i*P	P	18 14 17.0	+0.5	
BILL				pmax	pmax			
	comp=Z,22nm,1.4s							
M17K	Holitna River	53.23	331	P	P	18 14 13.2	-3.9	
	baz=32							
735A	Kenedy	53.24	266	IAMs_20	IAMs_20	18 35 59.3		
	comp=Z,8µm,21.0s							
I05D	Terrebonne, OR	53.33	297	IAMs_20	IAMs_20	18 35 48.9		
	comp=Z,10µm,20.0s							
O19K	Port Alsworth	53.41	328	P	P	18 14 12.4	-5.9	
	baz=34							
N18K	Kilae Creek	53.43	329	P	P	18 14 13.1	-5.5	
	baz=33							
WVOR	Wild Horse Val	53.47	293	IAMs_20	IAMs_20	18 35 32.0		
	comp=Z,8µm,21.0s							
K15K	Wolf Creek Mou	53.48	333	IAMs_20	IAMs_20	18 39 02.3		
	comp=Z,7µm,19.0s							
K15K	Wolf Creek Mou	53.48	333	P	P	18 14 15.5	-3.4	
	baz=30							
L16K	Owhat River	53.48	332	IAMs_20	IAMs_20	18 37 36.5		
	comp=Z,5µm,19.0s							
L16K	Owhat River	53.48	332	P	P	18 14 16.5	-2.4	
	baz=31,SNR=7.0							
J14K	Nanvaranak Lak	53.55	335	IAMs_20	IAMs_20	18 38 11.2		
	comp=Z,8µm,20.0s							
J14K	Nanvaranak Lak	53.55	335	P	P	18 14 19.1	-0.3	
	baz=29							
PINE	Pine Mountain	53.55	296	IAMs_20	IAMs_20	18 35 46.9		
	comp=Z,12µm,21.0s							
P19K	Oil Pt	53.55	327	P	P	18 14 18.2	-1.3	
	baz=34							
HATO	Hato, Curacao	53.80	227	IAMs_20	IAMs_20	18 32 54.8		
	comp=Z,3µm,22.0s							
N17K	Nushagak Hills	53.90	330	P	P	18 14 21.7	-0.3	
	baz=32							
Y22D	IRIS PASSCAL I	53.93	278	P	P	18 14 23.0	+0.2	
	baz=39							
O18K	Koktuh Hills	53.94	328	P	P	18 14 21.5	-0.8	
	baz=33,SNR=12							
M16K	Timber Creek	53.94	331	P	P	18 14 17.8	-4.5	
	baz=31							
SPR3	Spring Creek 3	53.95	287	IAMs_20	IAMs_20	18 36 32.0		
	comp=Z,11µm,18.0s							
L15K	Ungalak Mounta	54.00	333	P	P	18 14 22.4	-0.3	
	baz=30							
J05D	Fort Rock, OR	54.07	296	IAMs_20	IAMs_20	18 36 15.7		
	comp=Z,12µm,21.0s							
PKCU	Pink Cliffs	54.12	285	IAMs_20	IAMs_20	18 35 58.5		
	comp=Z,9µm,21.0s							
Q20K	Shuyak Island	54.17	326	P	P	18 14 20.2	-3.9	
	baz=34							
BUCK	Buck Mountain	54.20	298	IAMs_20	IAMs_20	18 36 58.1		
	comp=Z,11µm,19.0s							
I04A	Tendick Farm,	54.24	297	IAMs_20	IAMs_20	18 36 30.1		
	comp=Z,11µm,21.0s							
Q19K	Cape Douglas,	54.27	327	P	P	18 14 21.9	-2.9	
	baz=34,SNR=5.3							
GAMB	Gambell	54.31	339	P	P	18 14 23.0	-1.9	
	baz=25							
P18K	Big Mountain,	54.33	328	IAmb	IAmb	18 14 32.1		
	comp=Z,48nm,0.8s							
P18K	Big Mountain,	54.33	328	P	P	18 14 21.3	-4.0	
	baz=33							
N16K	Nishlik Lake	54.36	331	P	P	18 14 23.0	-2.4	
	baz=31							
K13K	Kusilvak Mount	54.51	335	IAMs_20	IAMs_20	18 38 40.6		
	comp=Z,9µm,20.0s							
K13K	Kusilvak Mount	54.51	335	P	P	18 14 25.6	-0.8	
	baz=28							
O17K	Koliganek Bris	54.52	329	P	P	18 14 25.7	-0.8	
	baz=32							
J04A	Umpqua Nationa	54.52	296	IAMs_20	IAMs_20	18 36 29.6		
	comp=Z,11µm,21.0s							
L14K	Kuka Creek	54.58	333	IAMs_20	IAMs_20	18 39 26.4		
	comp=Z,7µm,20.0s							
L14K	Kuka Creek	54.58	333	P	P	18 14 26.1	-0.8	
	baz=29							
M15K	Kasigluk River	54.66	332	P	P	18 14 27.7	+0.2	
	baz=30							
KNB	Kanab	54.70	285	IAMs_20	IAMs_20	18 36 18.1		
	comp=Z,10µm,22.0s							
I03D	Drain, OR	54.76	297	IAMs_20	IAMs_20	18 36 34.7		
	comp=Z,10µm,22.0s							
P17K	Kvichak River	54.83	329	P	P	18 14 29.6	+0.8	
	baz=32							
U15A	North Rim	54.89	284	IAMs_20	IAMs_20	18 36 07.0		
	comp=Z,8µm,22.0s							
Q18K	Katmai Hardscr	54.90	328	P	P	18 14 29.5	+0.1	
	baz=33							
KDAK	Kodiak Island	54.92	326	IAMs_20	IAMs_20	18 38 02.0		
	comp=Z,8µm,20.0s							
KDAK	Kodiak Island	54.92	326	P	P	18 14 28.7	-0.7	
	comp=Z,13nm,0.8s,baz=317,slow=9.5,SNR=3.1							
	comp=Z,13nm,0.8s							
KDAK	Kodiak Island	54.92	326	*i*P	P	18 14 30.1	+0.7	
KDAK				pmax	pmax			
	comp=Z,203nm,2.6s							
KDAK	Kodiak Island	54.92	326	P	P	18 14 30.2	+0.8	
	baz=34							
M14K	Bethel	54.92	333	IAMs_20	IAMs_20	18 39 59.5		
	comp=Z,6µm,19.0s							
M14K	Bethel	54.92	333	P	P	18 14 31.6	+2.2	
	baz=30,SNR=15							
O16K	Kokwok River B	54.94	330	P	P	18 14 28.8	-0.8	
	baz=31,SNR=13							
N15K	Kwethluk River	54.96	331	IAMs_20	IAMs_20	18 40 11.9		
	comp=Z,6µm,20.0s							
N15K	Kwethluk River	54.96	331	P	P	18 14 28.9	-0.8	
	baz=30							
WUAZ	Wupatki	55.12	282	IAMs_20	IAMs_20	18 36 47.2		
	comp=Z,7µm,20.0s							
DBO	Dodson Butte	55.15	297	IAMs_20	IAMs_20	18 36 58.1		
	comp=Z,9µm,20.0s							
X18A	Snowflake	55.15	280	IAMs_20	IAMs_20	18 36 42.1		
	comp=Z,12µm,21.0s							
Q16K	King Salmon	55.33	328	P	P	18 14 33.2	+0.8	
	baz=32							
P16K	Nushagak River	55.39	329	P	P	18 14 32.6	-0.3	
	baz=31							
L04D	Klamath Falls	55.40	296	IAMs_20	IAMs_20	18 37 09.8		
	comp=Z,11µm,20.0s							
TEIG	Tepich	55.40	251	IAMs_20	IAMs_20	18 36 52.6		
	comp=Z,5µm,22.0s							
J01E	Myrtle Point	55.44	297	IAMs_20	IAMs_20	18 37 17.8		
	comp=Z,9µm,21.0s							
Q09A	Carvers	55.50	289	IAmb	IAmb	18 14 51.0		
	comp=Z,40nm,1.0s							
M13K	Dall Lake	55.55	333	P	P	18 14 34.7	+0.8	
	baz=29							
N14K	Kuskokwak Cree	55.57	332	P	P	18 14 33.8	-0.3	
	baz=29							
OHAK	Old Harbor	55.60	326	P	P	18 14 35.7	+1.3	
	baz=33							
R18K	Karluk	55.65	327	P	P	18 14 35.5	+0.8	
	baz=32							
K02D	Willamette Mer	55.67	297	IAMs_20	IAMs_20	18 37 16.1		
	comp=Z,10µm,20.0s							
S11A	Rachel	55.70	287	IAMs_20	IAMs_20	18 37 26.3		
	comp=Z,7µm,19.0s							
DBIC	Dimbokro	55.73	147	P	P	18 14 33.3	-2.4	
DBIC				IAmb	IAmb	18 14 40.3		
	comp=Z,59nm,0.8s							
DBIC	Dimbokro	55.73	147	P	P	18 14 33.9	-1.9	
	comp=Z,39nm,0.8s,baz=342,slow=6.2,SNR=54							
	comp=Z,39nm,0.8s							
DBIC	Dimbokro	55.73	147	P	P	18 14 33.3	-2.4	
DBIC				pmax	pmax			
	comp=Z,59nm,0.8s							
O15K	Ungalikthiuk R	55.75	330	P	P	18 14 35.1	-0.3	
	baz=30							
BRZS	Berezniki	55.79	49	*e*P	P	18 14 35.5	-0.4	
BRZS				*e*S	S	18 22 22.8	+0.6	
BRZS	Berezniki	55.79	49	*e*P	P	18 14 35.6	-0.4	
BRZS				*e*S	S	18 22 22.9

GMN	**Gold Mountain**	56.73	288		IAMs_20	IAMs_20	18 38 17.5	
	comp=Z,7μm,18.0s							
W13A	**Hualapai Mount**	56.73	284		IAMs_20	IAMs_20	18 38 43.0	
	comp=Z,5μm,20.0s							
WCT	**Wildcat Mounta**	56.80	287		IAMs_20	IAMs_20	18 38 51.5	
	comp=Z,9μm,18.0s							
WAKR	**Walker**	56.87	291		IAMs_20	IAMs_20	18 37 24.2	
	comp=Z,8μm,22.0s							
ZALV	**Zalesovo Beam**	57.02	39		P	**P**	**18 14 43.1**	**-1.4**
ZALV	**Zalesovo Beam**	57.02	39		P	**P**	**18 14 43.9**	**-0.6**
	comp=Z,6.5nm,0.7s,baz=326,slow=5.8,SNR=27							
ZALV					PcP	**PcP**	**18 15 38.9**	**-0.5**
	comp=Z,8.3nm,1.0s,baz=316,slow=6.2,SNR=4.0							
	comp=Z,6.5nm,0.7s							
Y14A	**Wickenburg**	57.19	282		IAMs_20	IAMs_20	18 38 02.0	
	comp=Z,7μm,19.0s							
O02D	**Mt. Diablo Mer**	57.20	294		IAMs_20	IAMs_20	18 38 10.7	
	comp=Z,8μm,20.0s							
319A	**Douglas**	57.27	278		IAMs_20	IAMs_20	18 38 36.4	
	comp=Z,8μm,18.0s							
JCC	**Jacoby Creek,**	57.30	296		IAMs_20	IAMs_20	18 38 32.1	
	comp=Z,10μm,19.0s							
TUC	**Tucson**	57.32	279		P	**P**	**18 14 47.7**	**+0.6**
TUC	**Tucson**	57.32	279		P	**P**	**18 14 47.7**	**+0.6**
TUC					pmax	pmax		
	comp=Z,25nm,1.4s							
TUC					pmax	pmax		
	comp=Z,13μm,21.0s							
SDV	**Santo Domingo**	57.46	227		IAMs_20	IAMs_20	18 34 50.8	
	comp=Z,3μm,22.0s							
KURK	**Kurchatov**	57.49	45		P	**P**	**18 14 46.0**	**-1.9**
KURK					IAmb	IAmb	18 14 54.1	
	comp=Z,54nm,1.1s							
KURK	**Kurchatov**	57.49	45		P	**P**	**18 14 47.1**	**-0.8**
KURK	**Kurchatov**	57.49	45	*ce*	P	**P**	**18 14 47.4**	**-0.5**
KURK					pmax	pmax		
	comp=Z,32nm,0.8s							
KURBB	**Kurchatov Arra**	57.53	45		P	**P**	**18 14 47.2**	**-1.0**
	comp=Z,23nm,0.8s,baz=322,slow=7.0,SNR=110							
KURBB					PP	**PP**	**18 16 59.3**	**+3.9**
	comp=Z,3.1nm,0.9s,baz=320,slow=10,SNR=3.2							
KURBB					PKPPKP	**P'P'df**	**18 44 35.8**	**-5.2**
	comp=Z,1.5nm,1.1s,baz=160,slow=1.7,SNR=6.4							
	comp=Z,23nm,0.8s							
CMB	**Columbia Colle**	57.71	291		IAMs_20	IAMs_20	18 38 24.2	
	comp=Z,6μm,20.0s							
KCPM	**Cahto Peak**	57.97	295		IAMs_20	IAMs_20	18 38 47.9	
	comp=Z,8μm,21.0s							
GSC	**Goldstone, Bar**	58.06	286		IAMs_20	IAMs_20	18 39 04.8	
	comp=Z,9μm,18.0s							
BLYC	**Blythe**	58.12	283		IAMs_20	IAMs_20	18 38 31.5	
	comp=Z,6μm,21.0s							
ACRG	**Accra**	58.13	142		IAMs_20	IAMs_20	18 36 26.2	
	comp=Z,6μm,21.0s							
S14K	**Fog Glacier**	58.19	329		P	**P**	**18 14 52.5**	**-0.4**
	baz=29							
113A	**Mohawk Valley,**	58.50	282		IAMs_20	IAMs_20	18 38 24.7	
	comp=Z,8μm,21.0s							
ISA	**Isabella, Lake**	58.62	288		IAMs_20	IAMs_20	18 39 30.5	
	comp=Z,6μm,18.0s							
CCAC	**Calif City Air**	58.79	287		IAMs_20	IAMs_20	18 39 48.0	
	comp=Z,5μm,19.0s							
GLA	**Glamis**	58.82	283		IAMs_20	IAMs_20	18 39 12.2	
	comp=Z,7μm,19.0s							
MCCM	**Marconi Confer**	58.84	293		IAMs_20	IAMs_20	18 40 02.1	
	comp=Z,8μm,19.0s							
SEY	**Seymchan**	58.96	358	*ce*	P	**P**	**18 14 59.9**	**+1.9**
SEY					pmax	pmax		
	comp=Z,9.0nm,1.3s							
YAK	**Yakutsk**	59.09	10		P	**P**	**18 14 57.0**	**-1.9**
YAK					IAmb	IAmb	18 15 04.5	
	comp=Z,24nm,0.8s							
YAK	**Yakutsk**	59.09	10	*eP*		**P**	**18 14 58.3**	**-0.6**
YAK				*e**PP		**pP**	**18 15 02.1**	**-0.2**
YAK				*e*			18 17 18.4	
YAK				*e*S		**S**	**18 23 09.1**	**+3.9**
YAK				*e**SS		sS	18 23 21.1	+10
YAK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
YAK					pmax	pmax		
	comp=N,3.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,709nm,6.4s							
YAK					smax	smax		
	comp=E,302nm,5.4s							
YAK					smax	smax		
	comp=N,266nm,4.8s							
BBGB	**Big Mountain B**	59.17	290		IAMs_20	IAMs_20	18 40 00.0	
	comp=Z,7μm,18.0s							
PFO	**Pinyon Flats O**	59.21	285		P	**P**	**18 15 00.8**	**+0.4**
PFO					IAmb	IAmb	18 15 09.0	
	comp=Z,33nm,0.9s							
PFO	**Pinyon Flats O**	59.21	285		LR	LR	18 40 22.7	
	comp=Z,10μm,18.7s,baz=30,slow=36							
PFO	**Pinyon Flats O**	59.21	285	*i*	P	**P**	**18 15 02.7**	**+2.3**
PFO					pmax	pmax		
	comp=Z,53nm,0.9s							
SAO	**San Andreas Ge**	59.23	291		IAMs_20	IAMs_20	18 39 22.5	
	comp=Z,5μm,19.0s							
SDPT	**Sand Point**	59.27	329		P	**P**	**18 15 01.0**	**+0.8**
	baz=29							
PIX	**Pinacate**	59.30	281		IAMs_20	IAMs_20	18 39 17.8	
	comp=Z,6μm,19.0s							
PMPB	**Monarch Peak**	59.34	290		IAMs_20	IAMs_20	18 40 06.5	
	comp=Z,8μm,19.0s							
S12K	**Black Hills**	59.38	330		P	**P**	**18 15 02.3**	**+1.2**
	baz=28							
CHNA	**Chernabura Isl**	59.47	328		P	**P**	**18 15 02.4**	**+0.8**
	baz=29							
CNBA	**Chernabura Isl**	59.48	328		IAMs_20	IAMs_20	18 43 47.3	
	comp=Z,7μm,18.0s							
CPBX	**Cerro Prieto**	59.57	283		IAMs_20	IAMs_20	18 39 44.9	
	comp=Z,5μm,19.0s							
BCW	**Bitter Crk WRg**	59.66	288		IAMs_20	IAMs_20	18 40 07.0	
	comp=Z,6μm,19.0s							
YUH	**Yuha Desert**	59.70	284		IAMs_20	IAMs_20	18 40 36.5	
	comp=Z,4μm,19.0s							
HSIG		60.02	277		IAMs_20	IAMs_20	18 40 14.1	
	comp=Z,7μm,19.0s							
BOAV	**Boa Vista**	60.11	213	*eP*		**P**	**18 15 07.3**	**+0.9**
TKX	**Tecate**	60.12	284		IAMs_20	IAMs_20	18 40 41.4	
	comp=Z,8μm,19.0s							
BRLS	**Borolday**	60.15	56	*eP*		**P**	**18 15 07.3**	**+0.8**
BRLS	**Borolday**	60.15	56	*eP*		**P**	**18 15 07.3**	**+0.8**
ESJX	**Sierra Juarez**	60.23	283		IAMs_20	IAMs_20	18 40 38.4	
	comp=Z,5μm,19.0s							
CBX	**Cerro Bola**	60.35	284		P	**P**	**18 15 07.6**	**-0.5**
CBX					IAMs_20	IAMs_20	18 40 48.5	
	comp=Z,8μm,19.0s							
KKAR	**Karatay Array**	60.38	55		P	**P**	**18 15 06.8**	**-1.3**
KKAR	**Karatay Array**	60.38	55		P	**P**	**18 15 06.8**	**-1.3**
TJX	**Tijuana**	60.39	285		IAMs_20	IAMs_20	18 40 59.6	
	comp=Z,8μm,18.0s							
KBD	**Kabd**	60.42	82		P	**P**	**18 15 09.2**	**+0.6**
SFX	**San Felipe**	60.43	282		IAMs_20	IAMs_20	18 39 43.9	
	comp=Z,7μm,20.0s							
FALS	**False Pass**	60.49	330		P	**P**	**18 15 09.4**	**+0.8**
	baz=27							
VTX	**Valle De La Tr**	60.63	283		IAMs_20	IAMs_20	18 40 18.1	
	comp=Z,5μm,20.0s							
CCX	**Cicese**	60.70	284		IAMs_20	IAMs_20	18 41 05.9	
	comp=Z,4μm,18.0s							
BOAB	**BOACO BROADBAN**	60.79	244		IAMs_20	IAMs_20	18 39 37.4	
	comp=Z,9μm,20.0s							
BOAB	**BOACO BROADBAN**	60.79	244		P	**P**	**18 15 11.2**	**0.0**
DZA	**Taraz**	60.91	55	*eP*		**P**	**18 15 11.6**	**-0.1**
DZA	**Taraz**	60.91	55	*eP*		**P**	**18 15 11.6**	**-0.1**
APG	**El Apazote**	60.92	250		LR	LR	18 42 29.3	
	comp=Z,287nm,18.1s,baz=78,slow=37							
IUG	**Iuzhnay**	60.94	56	*eP*		**P**	**18 15 11.7**	**-0.4**
IUG					pmax	pmax		
	comp=Z,30nm,0.9s							
IUG	**Iuzhnay**	60.94	56	*eP*		**P**	**18 15 11.8**	**-0.4**
	comp=Z,30nm,0.9s							
SNCC	**San Nicolas Is**	61.05	287		IAMs_20	IAMs_20	18 41 07.1	
	comp=Z,5μm,19.0s							
UNM	**Universidad Na**	61.72	261		IAMs_20	IAMs_20	18 42 49.1	
	comp=Z,5μm,22.0s							
SGDS	**Sogindy**	61.85	52	*eP*		**P**	**18 15 17.9**	**-0.2**
SGDS	**Sogindy**	61.85	52	*eP*		**P**	**18 15 17.9**	**-0.2**
TMAB	**Tom-Au,PA,Br**	61.89	198	*eP*		**P**	**18 15 19.6**	**+1.1**
USP	**Ospenovka**	61.95	52		P	**P**	**18 15 18.4**	**-0.4**
	SNR=21							
MAKZ	**Makanchi**	61.97	45		P	**P**	**18 15 17.8**	**-1.1**
MAKZ					IAmb	IAmb	18 15 25.3	
	comp=Z,66nm,1.4s							
MAKZ	**Makanchi**	61.97	45		P	**P**	**18 15 17.8**	**-1.1**
MAKZ					pmax	pmax		
	comp=Z,66nm,1.4s							
MAKZ					pmax	pmax		
	comp=Z,2μm,18.0s							
SRIG	**Santa Rosalia**	62.06	277		IAMs_20	IAMs_20	18 41 26.1	
	comp=Z,8μm,20.0s							
MK31	**Makanchi Array**	62.10	45		IAmb	IAmb	18 15 25.4	
	comp=Z,22nm,0.8s							
MK31	**Makanchi Array**	62.10	45	*i*	P	**P**	**18 15 18.7**	**-1.0**
MKAR	**Makanchi Array**	62.10	45		P	**P**	**18 15 18.3**	**-1.5**
MKAR	**Makanchi Array**	62.10	45		P	**P**	**18 15 19.1**	**-0.7**
	comp=Z,21nm,0.7s,baz=333,slow=5.4,SNR=109							
MKAR					PKPPKP	**P'P'df**	**18 44 31.4**	**-2.4**
	comp=Z,0.9nm,0.9s,baz=149,slow=3.4,SNR=2.3							
	comp=Z,21nm,0.7s							
TDK	**Taldyqorghan**	62.10	49	*eP*		**P**	**18 15 19.5**	**-0.3**
TDK	**Taldyqorghan**	62.10	49	*eP*		**P**	**18 15 19.5**	**-0.3**
EKS2	**Erkin-Say**	62.14	53		P	**P**	**18 15 21.0**	**+0.8**
	SNR=67							
UNV	**Unalaska Valle**	62.20	331		P	**P**	**18 15 18.3**	**-1.9**
	baz=25							
HDC	**Heredia**	62.20	241		IAMs_20	IAMs_20	18 38 24.7	
	comp=Z,4μm,21.0s							
CHMS	**Chumysh**	62.27	52		P	**P**	**18 15 21.4**	**+0.5**
	SNR=15							
MA2	**Magadan**	62.36	358		P	**P**	**18 15 21.7**	**+0.5**
MA2					IAmb	IAmb	18 15 30.2	
	comp=Z,69nm,1.9s							
MA2	**Magadan**	62.36	358		P	**P**	**18 15 23.2**	**+2.0**
MA2	**Magadan**	62.36	358	*i*	P	**P**	**18 15 21.4**	**+0.2**
MA2					pmax	pmax		
	comp=Z,31nm,1.9s							
FRU1	**Bishkek**	62.38	53		IAMs_20	IAMs_20	18 41 11.0	
	comp=Z,5μm,21.0s							
AAK	**Ala-Archa**	62.46	53		P	**P**	**18 15 21.8**	**-0.5**
AAK					IAmb	IAmb	18 15 29.9	
	comp=Z,50nm,1.1s							
AAK	**Ala-Archa**	62.46	53		IAMs_20	IAMs_20	18 41 32.3	
	comp=Z,5μm,19.0s							
AAK	**Ala-Archa**	62.46	53		P	**P**	**18 15 23.7**	**+1.4**
AAK	**Ala-Archa**	62.46	53		P	**P**	**18 15 22.7**	**+0.3**
	SNR=25							
AAK	**Ala-Archa**	62.46	53	*i*	P	**P**	**18 15 22.6**	**+0.3**
AAK					pmax	pmax		
	comp=Z,66nm,1.4s							
AAK	**Ala-Archa**	62.46	53	*i*	P	**P**	**18 15 22.8**	**+0.3**
	SNR=38							
ZSN	**Zaisan**	62.49	43	*eP*		**P**	**18 15 22.1**	**-0.2**
ZSN					pmax	pmax		
	comp=Z,14nm,0.7s							
ZSN	**Zaisan**	62.49	43	*eP*		**P**	**18 15 22.1**	**-0.2**
	comp=Z,14nm,0.7s							
AML	**Almayashu**	62.54	54		P	**P**	**18 15 23.6**	**+0.4**
	SNR=47							
ROSC	**El Rosal**	62.60	229		P	**P**	**18 15 25.1**	**+1.3**
	comp=Z,67nm,0.8s,baz=47,slow=3.2,SNR=24							
	comp=Z,67nm,0.8s							
KBK	**Karagaybulak**	62.63	53		P	**P**	**18 15 23.9**	**+0.3**
	SNR=14							
TKM2	**Tokmak 2**	62.69	52		P	**P**	**18 15 24.7**	**+0.7**
	SNR=18							
AAA	**Alma-Ata**	62.99	51	*eP*		**P**	**18 15 25.6**	**-0.2**
AAA	**Alma-Ata**	62.99	51	*eP*		**P**	**18 15 25.7**	**-0.2**
TNSS	**Tian-Shan**	63.15	51	*eP*		**P**	**18 15 26.7**	**-0.5**
TNSS	**Tian-Shan**	63.15	51	*eP*		**P**	**18 15 26.8**	**-0.5**
BOOM	**Boomskoye usch**	63.19	52		IAmb	IAmb	18 15 35.3	
	comp=Z,27nm,0.9s							
BOOM					IAMs_20	IAMs_20	18 41 38.4	
	comp=Z,9μm,21.0s							
SIMJ	**Simiganj**	63.32	59		IAMs_20	IAMs_20	18 42 42.0	
	comp=Z,5μm,20.0s							
KPKS	**Kokpek**	63.49	50	*eP*		**P**	**18 15 29.1**	**0.0**
KPKS					pmax	pmax		
	comp=Z,15nm,0.7s							
KPKS	**Kokpek**	63.49	50	*eP*		**P**	**18 15 29.1**	**0.0**
	comp=Z,15nm,0.7s							
SATY	**Saty**	63.72	50	*eP*		**P**	**18 15 30.4**	**-0.3**
SATY				*e*S		**S**	**18 24 04.9**	**+0.1**
SATY	**Saty**	63.72	50	*eP*		**P**	**18 15 30.4**	**-0.3**
SATY				*e*S		**S**	**18 24 04.9**	**+0.1**
RAYN	**Ar Rayn**	63.84	87		P	**P**	**18 15 30.4**	**-1.2**
RAYN					IAmb	IAmb	18 15 38.1	
	comp=Z,32nm,1.1s							
RAYN	**Ar Rayn**	63.84	87		P	**P**	**18 15 32.1**	**+0.5**
RAYN	**Ar Rayn**	63.84	87		P	**P**	**18 15 30.5**	**-1.2**
RAYN					pmax	pmax		
	comp=Z,33nm,1.1s							
RAYN					pmax	pmax		
	comp=Z,2μm,19.0s							
RAYN	**Ar Rayn**	63.84	87	*i*	P	**P**	**18 15 33.7**	**+2.1**
	SNR=25							
MOY	**Mondy**	63.85	30	*eP*		**P**	**18 15 31.4**	**0.0**
MOY					pmax	pmax		
	comp=Z,62nm,2.3s							
UZB	**Uzynbulak**	63.90	49	*eP*		**P**	**18 15 31.7**	**-0.2**
UZB	**Uzynbulak**	63.90	49	*eP*		**P**	**18 15 31.7**	**-0.2**
NBPB	**Pedra_Branca-C**	64.00	188	*eP*		**P**	**18 15 33.2**	**+0.7**
SHLS	**Shalkode**	64.06	49	*eP*		**P**	**18 15 33.8**	**+0.9**
SHLS					pmax	pmax		
	comp=Z,26nm,0.9s							
SHLS	**Shalkode**	64.06	49	*eP*		**P**	**18 15 33.8**	**+0.9**
	comp=Z,26nm,0.9s							
RCBR	**Riachuelo**	64.07	184		P	**P**	**18 15 32.7**	**-0.4**
RCBR					IAmb	IAmb	18 15 35.8	
	comp=Z,68nm,1.6s							
RCBR	**Riachuelo**	64.07	184		IAMs_20	IAMs_20	18 37 57.2	
	comp=Z,2μm,20.0s							
RCBR	**Riachuelo**	64.07	184		P	**P**	**18 15 32.7**	**-0.4**
RCBR					pmax	pmax		
	comp=Z,68nm,1.6s							
RCBR					pmax	pmax		
	comp=Z,2μm,20.0s							
RCBR	**Riachuelo**	64.07	184	*eP*		**P**	**18 15 34.8**	**+1.8**
IRK	**Irkutsk**	64.17	28	*eP*		**P**	**18 15 29.9**	**-3.4**
IRK					pmax	pmax		
	comp=Z,96nm,1.5s							
SHMA	**Al-Shehemyia**	64.81	81		P	**P**	**18 15 36.8**	**-1.1**
ITTB	**Itaituba**	65.35	206	*eP*		**P**	**18 15 41.4**	**+0.1**
MACA	**Manacapuru-AM**	65.45	212	*eP*		**P**	**18 15 41.1**	**-0.9**
WUS	**Wushi**	65.61	51		IAMs_20	IAMs_20	18 43 07.5	
	comp=Z,7μm,19.0s							
ZAK	**Zakamensk**	65.62	30	*eP*		**P**	**18 15 42.6**	**-0.4**
ZAK					pmax	pmax		
	comp=Z,15nm,1.7s							
SMRA	**Abu-Samra**	65.64	82		P	**P**	**18 15 43.6**	**+0.4**
KSH	**Kashi**	65.67	54		P	**P**	**18 15 44.9**	**+1.4**
KSH					sP	pwP	18 15 51.4	+2.3
KSH					pmax	pmax		
	comp=Z,94nm,1.2s							
KSH					LR	LR		
	comp=Z,3μm,14.8s							
KSH					LR	LR		
	comp=Z,3μm,18.5s							
KSH					LR	LR		
	comp=Z,4μm,17.5s							
TRNA	**Turayna**	65.85	82		P	**P**	**18 15 44.2**	**-0.4**
NBCA	**Caruaru-PE**	66.45	184	*eP*		**P**	**18 15 49.5**	**+0.9**
CIT	**Chita**	66.46	22	*eP*		**P**	**18 15 48.4**	**+0.2**
CIT				*e*			18 16 18.2	
CIT				*e*			18 18 23.0	
CIT				*e*			18 19 47.4	
CIT				*e*			18 25 07.2	
JRN	**Qarnain Island**	66.53	80		P	**P**	**18 15 48.9**	**0.0**
WMQ	**Urumqi**	66.62	43	*eP*		**P**	**18 15 51.9**	**+2.5**
WMQ					pP	pwP	18 15 55.8	+0.9
WMQ					pmax	pmax		
	comp=Z,38nm,1.3s							
WMQ					pmax	pmax		
	comp=Z,1μm,5.7s							
WMQ					LR	LR		
	comp=Z,5μm,16.1s							
WMQ					LR	LR		
	comp=Z,3μm,14.5s							
WMQ					LR	LR		
	comp=Z,3μm,23.8s							
SLWR	**Sila**	66.64	82		P	**P**	**18 15 49.0**	**-0.7**
KBL	**Kabul**	66.71	62		P	**P**	**18 15 49.0**	**-1.3**
KBL					IAmb	IAmb	18 15 57.0	
	comp=Z,68nm,1.3s							
KBL	**Kabul**	66.71	62		P	**P**	**18 15 50.5**	**+0.2**
	SNR=31							
KBL	**Kabul**	66.71	62		P	**P**	**18 15 49.0**	**-1.3**
KBL					pmax	pmax		
	comp=Z,68nm,1.3s							
KBU	**Kabul Universi**	66.77	62		P	**P**	**18 15 50.9**	**+0.2**
TEFE	**Tefe**	66.93	216	*eP*		**P**	**18 15 52.9**	**+1.4**
ZEA	**Zeya**	67.00	13	*eP*		**P**	**18 15 54.2**	**+2.7**
ZEA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
SHME	**Shamm**	67.33	77		P	**P**	**18 15 53.0**	**-1.1**
SHME	**Shamm**	67.33	77		P	**P**	**18 15 55.0**	**+1.0**
GHWR	**Ruwais**	67.35	81		P	**P**	**18 15 53.2**	**-1.0**
H10N2	**ASCENSION HYDR**	67.52	161		T	T	19 28 48.3	
	baz=350,slow=75,SNR=13							
H10N3	**ASCENSION HYDR**	67.53	161		T	T	19 28 47.1	
	baz=350,slow=75,SNR=16							
H10N1	**ASCENSION HYDR**	67.54	161		T	T	19 28 46.4	
	baz=350,slow=75,SNR=16							
NPGB	**Novo Progresso**	67.85	205	*eP*		**P**	**18 15 58.4**	**+1.0**
MASF	**Masafi**	67.89	77		P	**P**	**18 15 58.0**	**+0.3**
NBAN	**Anadia - AL**	67.90	184	*eP*		**P**	**18 15 58.6**	**+1.0**
NAZ	**Nazwa, Dubai**	67.95	78		P	**P**	**18 15 57.7**	**-0.2**
NAZ	**Nazwa, Dubai**	67.95	78		P	**P**	**18 15 59.0**	**+1.0**
AJN	**Ajban**	67.95	79		P	**P**	**18 15 55.2**	**-2.8**
MDH	**Madha**	68.02	77		P	**P**	**18 15 58.4**	**0.0**
MDH	**Madha**	68.02	77		P	**P**	**18 15 59.8**	**+1.3**
MZWR	**Madinat Zayed**	68.03	80		P	**P**	**18 15 57.7**	**-0.9**
ASUD	**Al Ashush, Dub**	68.08	79		P	**P**	**18 15 58.3**	**-0.5**
ASUD	**Al Ashush, Dub**	68.08	79		P	**P**	**18 15 59.7**	**+1.0**
UOSS	**Minazif**	68.26	78		P	**P**	**18 15 58.9**	**-1.1**
UOSS	**Minazif**	68.26	78		IAMs_20	IAMs_20	18 50 43.4	
	comp=Z,4μm,20.0s							
UOSS	**Minazif**	68.26	78		P	**P**	**18 15 58.9**	**-1.1**
UOSS	**Minazif**	68.26	78		P	**P**	**18 16 00.5**	**+0.6**
HATD	**Hatta, Dubai**	68.33	78		P	**P**	**18 16 00.3**	**-0.1**
	SNR=7.4							
HATD	**Hatta, Dubai**	68.33	78	*i*	P	**P**	**18 16 01.0**	**+0.6**
	SNR=14							
JASK	**Jask - Hormozg**	68.36	76		P	**P**	**18 16 01.1**	**+0.5**
ASHO	**Ashiyiah**	68.40	78		P	**P**	**18 16 01.0**	**+0.1**
ASHO	**Ashiyiah**	68.40	78	*i*	P	**P**	**18 16 01.1**	**+0.1**
	SNR=6.8							
OTAV	**Otavalo**	68.44	231		P	**P**	**18 16 02.1**	**+0.4**
OTAV					IAmb	IAmb	18 16 10.3	
	comp=Z,35nm,1.1s							
OTAV	**Otavalo**	68.44	231		P	**P**	**18 16 02.1**	**+0.4**
OTAV					pmax	pmax		
	comp=Z,35nm,1.1s							
OTAV	**Otavalo**	68.44	231	*eP*		**P**	**18 16 03.6**	**+1.9**
MZR	**Muzera**	68.45	81		P	**P**	**18 16 00.4**	**-0.8**
MZR	**Muzera**	68.45	81	*i*	P	**P**	**18 16 00.9**	**-0.3**
	SNR=7.5							
PETK	**Petropavlovsk-**	68.58	354		P	**P**	**18 16 02.6**	**+1.1**
	comp=Z,5.5nm,1.0s,baz=69,slow=6.9,SNR=5.6							
	comp=Z,5.5nm,1.0s							
H10S3	**ASCENSION HYDR**	68.59	161		T	T	19 30 07.8	
	baz=350,slow=74,SNR=188							
H10S2	**ASCENSION HYDR**	68.60	161		T	T	19 30 08.4	
	baz=230,slow=74,SNR=155							
ALNE	**Al Ain**	68.76	79		P	**P**	**18 16 01.6**	**-1.6**
ALNE	**Al Ain**	68.76	79	*i*	P	**P**	**18 16 02.1**	**-1.0**
	SNR=12							
SONM	**Songino Array**	68.77	29		P	**P**	**18 16 01.5**	**-1.5**
SONM					IAmb	IAmb	18 16 08.4	
	comp=Z,28nm,1.1s							
SONM	**Songino Array**	68.77	29		P	**P**	**18 16 02.7**	**-0.3**
	comp=Z,15nm,0.9s,baz=336,slow=5.3,SNR=28							
SONM					PKP2bc		18 44 17.0	
	comp=Z,1.0nm,1.0s,baz=180,slow=0.7,SNR=4.5							
	comp=Z,15nm,0.9s							
SONM	**Songino Array**	68.77	29		P	**P**	**18 16 01.5**	**-1.5**
SONM					pmax	pmax		
	comp=Z,28nm,1.1s							
ULN	**Ulaanbaatar**	68.91	28		P	**P**	**18 16 03.3**	**-0.6**
ULN	**Ulaanbaatar**	68.91	28		P	**P**	**18 16 05.4**	**+1.5**
ULN	**Ulaanbaatar**	68.91	28		P	**P**	**18 16 03.3**	**-0.6**
SOHO	**SOHO**	69.10	78		P	**P**	**18 16 04.1**	**-1.1**
SOHO	**SOHO**	69.10	78	*i*	P	**P**	**18 16 05.0**	**-0.2**
	SNR=14							
NIL	**Nilore**	69.38	59		P	**P**	**18 16 05.7**	**-1.2**
NIL	**Nilore**	69.38	59		IAMs_20	IAMs_20	18 47 01.9	
	comp=Z,4μm,20.0s							
NIL	**Nilore**	69.38	59		P	**P**	**18 16 06.6**	**-0.3**
NIL	**Nilore**	69.38	59		P	**P**	**18 16 05.7**	**-1.2**
NIL					pmax	pmax		
	comp=Z,92nm,1.2s							
NIL					pmax	pmax		
	comp=Z,4μm,20.0s							
UMZA	**Um Al Zommool**	69.56	80		P	**P**	**18 16 07.1**	**-0.9**
ARQ	**Araqi**	69.75	78		P	**P**	**18 16 07.8**	**-1.5**
HOQ	**Hoqain**	69.95	78		P	**P**	**18 16 07.8**	**-2.7**
HIA	**Hailar**	70.25	19		P	**P**	**18 16 14.3**	**+2.3**
HEH	**HeiHe**	70.44	14	*eP*		**P**	**18 16 13.2**	**+0.2**
HEH					pmax	pmax		
	comp=Z,25nm,1.1s							
SMDO	**Samad

MERT	**Meerut**	**75.36**	**58**	*eP*	**P**		**18 16 42.0**	**-0.6**
NDI	**New Delhi**	**75.38**	**59**	*eP*	**P**		**18 16 42.2**	**-0.5**
NDI				IAmb	IAmb	18 16 49.1		
comp=Z,124nm,1.1s								
LODK	**Lodwar**	**75.43**	**108**	P	**P**		**18 16 42.7**	**-0.5**
LODK				IAmb	IAmb	18 16 49.9		
comp=Z,35nm,1.0s								
LODK				IAMs_20	IAMs_20	18 48 12.5		
comp=Z,4μm,20.0s								
LODK	**Lodwar**	**75.43**	**108**	P	**P**		**18 16 44.0**	**+0.9**
SNR=20								
AYAN	**Aya Nagar**	**75.51**	**59**	*eP*	**P**		**18 16 44.6**	**+1.2**
KUDL	**Kundal**	**75.51**	**60**	*eP*	**P**		**18 16 42.8**	**-0.6**
KUDL				IAmb	IAmb	18 16 49.7		
comp=Z,98nm,1.2s								
ASOR	**Ausora**	**75.57**	**58**	*eP*	**P**		**18 16 42.8**	**-0.9**
ARAG	**Araguaiana, MT**	**75.58**	**200**	*eP*	**P**		**18 16 44.8**	**+1.1**
SONA	**Sohna**	**75.69**	**59**	*eP*	**P**		**18 16 44.8**	**+0.4**
GOMU	**GeErMu**	**75.90**	**42**	P	**P**		**18 16 45.6**	**-0.4**
GOMU				pmax	pmax			
comp=Z,17nm,1.0s								
GOMU				LR	LR			
comp=Z,4μm,19.7s								
GOMU				LR	LR			
comp=Z,2μm,19.7s								
GOMU				LR	LR			
comp=Z,7μm,16.8s								
PTH	**Pithoragarh**	**75.97**	**56**	*eP*	**P**		**18 16 44.4**	**-1.9**
PTH				IAmb	IAmb	18 16 52.6		
comp=Z,96nm,1.1s								
LGTI	**Lohaghat**	**76.07**	**56**	*eP*	**P**		**18 16 45.4**	**-1.1**
LGTI				IAmb	IAmb	18 16 56.0		
comp=Z,117nm,1.5s								
MDJ	**Mudanjiang**	**76.25**	**13**	P	**P**		**18 16 47.6**	**+0.2**
BHUJ	**Bhuj**	**76.43**	**68**	*eP*	**P**		**18 16 47.6**	**-1.1**
BTO	**Baotou**	**76.45**	**29**	*eP*	**P**		**18 16 47.5**	**-1.2**
BTO				pP	**pP**		**18 16 52.2**	**0.0**
BTO				sP	**pwP**		**18 16 54.8**	**+0.5**
BTO				PP	**PP**		**18 19 39.6**	**-0.2**
BTO				S	**S**		**18 26 32.4**	**-1.4**
BTO				sS	**sS**		**18 26 39.0**	**-0.4**
BTO				SS	**SS**		**18 31 27.4**	**+0.4**
BTO				pmax	pmax			
comp=Z,30nm,0.9s								
BTO				pmax	pmax			
comp=Z,1μm,7.0s								
BTO				LR	LR			
comp=Z,4μm,15.8s								
BTO				LR	LR			
comp=Z,3μm,15.0s								
BTO				LR	LR			
comp=Z,4μm,17.5s								
CN2	**Changchun**	**76.49**	**16**	*eP*	**P**		**18 16 50.0**	**+1.2**
CN2				pmax	pmax			
comp=Z,10.0nm,1.0s								
SALV	**Santo Antonio**	**76.51**	**203**	*eP*	**P**		**18 16 50.2**	**+1.2**
HHC	**Hu-ho-hao-te**	**76.60**	**27**	*eP*	**P**		**18 16 48.5**	**-1.1**
HHC				sP	pwP	18 16 55.2	0.0	
HHC				pmax	pmax			
comp=Z,35nm,1.0s								
HHC				pmax	pmax			
comp=Z,830nm,5.6s								
HHC				LR	LR			
comp=Z,310nm,18.5s								
HHC				LR	LR			
comp=Z,950nm,16.0s								
HHC				LR	LR			
comp=Z,1μm,21.9s								
MBAR	**Mbarara**	**76.63**	**114**	IAMs_20	IAMs_20	18 51 19.7		
comp=Z,6μm,19.0s								
MBAR	**Mbarara**	**76.63**	**114**	P	**P**		**18 16 51.0**	**+0.9**
PTLB	**Pontes e Lacer**	**76.84**	**207**	*eP*	**P**		**18 16 52.3**	**+1.4**
USRK	**Ussuriysk Ar.**	**76.94**	**12**	P	**P**		**18 16 50.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**76.94**	**12**	P	**P**		**18 16 51.8**	**+0.5**
comp=Z,11nm,0.9s,baz=322,slow=5.4,SNR=13								
comp=Z,11nm,0.9s								
USRK	**Ussuriysk Ar.**	**76.94**	**12**	P	**P**		**18 16 50.9**	**-0.4**
DIAM	**Diamantina, MG**	**76.99**	**191**	*eP*	**P**		**18 16 52.8**	**+1.0**
SJMB	**Sao Joao De Ma**	**77.16**	**189**	*eP*	**P**		**18 16 53.3**	**+0.6**
IPMB	**Ipameri, GO**	**77.23**	**196**	*eP*	**P**		**18 16 53.7**	**+0.5**
BSFB	**Barra de Sao F**	**77.26**	**188**	*eP*	**P**		**18 16 53.7**	**+0.5**
PMNB	**Patos De Minas**	**77.54**	**194**	*eP*	**P**		**18 16 55.4**	**+0.5**
RIB01	**Linhares ES**	**77.71**	**188**	*eP*	**P**		**18 16 56.6**	**+0.9**
JKA	**Kamikawa-asahi**	**77.77**	**4**	IAmb	IAmb	18 17 03.7		
comp=Z,42nm,1.3s								
BJI	**Beijing**	**78.43**	**24**	P	**P**		**18 16 59.9**	**+0.2**
BJI				S	**S**		**18 26 51.7**	**-3.3**
BJI				pmax	pmax			
comp=Z,13nm,0.9s								
BJI				pmax	pmax			
comp=Z,590nm,8.4s								
BJI				LR	LR			
comp=Z,880nm,16.1s								
BJI				LR	LR			
comp=Z,600nm,15.3s								
BJI				LR	LR			
comp=Z,1μm,20.3s								
BJT	**Baijiatuau**	**78.45**	**24**	P	**P**		**18 17 00.5**	**+0.7**
JHNI	**Jhansi**	**78.74**	**60**	*eP*	**P**		**18 17 02.0**	**+0.4**
LZH	**Lanzhou**	**78.95**	**35**	*eP*	**P**		**18 17 03.3**	**+0.4**
LZH				sP	PcP	18 17 14.7	+3.2	
LZH				pmax	pmax			
comp=Z,84nm,1.1s								
LZH				LR	LR			
comp=Z,3μm,16.6s								
LZH				LR	LR			
comp=Z,2μm,16.5s								
LZH				LR	LR			
comp=Z,5μm,18.4s								
NNA	**Nana**	**78.99**	**225**	P	**P**		**18 17 03.4**	**+0.4**
NNA	**Nana**	**78.99**	**225**	P	**P**		**18 17 03.4**	**+0.4**
NNA				pmax	pmax			
comp=Z,29nm,1.0s								
ITRB	**Iturama**	**79.25**	**197**	*eP*	**P**		**18 17 05.5**	**+1.2**
TIY	**Taiyuan**	**79.79**	**28**	*eP*	**P**		**18 17 08.9**	**+1.6**
TIY				pmax	pmax			
comp=Z,44nm,0.8s								
LPAZ	**La Paz**	**80.07**	**215**	P	**P**		**18 17 09.4**	**-0.1**
comp=Z,3.2nm,0.3s,baz=13,slow=6.4,SNR=9.9								
comp=Z,3.2nm,0.3s								
LPAZ	**La Paz**	**80.07**	**215**	*eP*	**P**		**18 17 10.1**	**+0.6**
BHPL	**Bhopal**	**80.14**	**62**	*eP*	**P**		**18 17 11.3**	**+2.0**
KMBO	**Kilima Mbogo**	**80.28**	**108**	P	**P**		**18 17 10.4**	**0.0**
KMBO	**Kilima Mbogo**	**80.28**	**108**	IAMs_20	IAMs_20	18 50 53.3		
comp=Z,3μm,21.0s								
KMBO	**Kilima Mbogo**	**80.28**	**108**	P	**P**		**18 17 09.1**	**-1.3**
comp=Z,0.8nm,0.4s,baz=245,slow=4.0,SNR=4.6								
KMBO				LR	LR	18 54 39.6		
comp=Z,3μm,18.3s,baz=304,slow=37								
comp=Z,0.8nm,0.4s								
KMBO	**Kilima Mbogo**	**80.28**	**108**	P	**P**		**18 17 10.4**	**0.0**
KMBO				pmax	pmax			
comp=Z,15nm,1.3s								
KMBO				pmax	pmax			
comp=Z,3μm,21.0s								
KMBO	**Kilima Mbogo**	**80.28**	**108**	P	**P**		**18 17 13.6**	**+3.2**
BB19B	**Bebedouro**	**80.31**	**196**	*eP*	**P**		**18 17 11.6**	**+1.6**
ALBI	**Allahabad**	**80.34**	**57**	*eP*	**P**		**18 17 10.3**	**0.0**
LSA	**Lhasa**	**80.36**	**48**	P	**P**		**18 17 12.6**	**+1.6**
LSA				S	**S**		**18 27 14.4**	**-2.4**
LSA				LR	LR			
comp=Z,2μm,16.1s								
LSA				LR	LR			
comp=Z,2μm,17.5s								
LSA	**Lhasa**	**80.36**	**48**	P	**P**		**18 17 13.7**	**+2.7**
RPRD	**Ribas do Rio P**	**80.58**	**200**	*eP*	**P**		**18 17 12.9**	**+1.5**
DL2	**Dalian**	**80.62**	**20**	P	**P**		**18 17 12.6**	**+1.0**
DL2				S	**S**		**18 27 16.1**	**-2.2**
DL2				pmax	pmax			
comp=Z,54nm,1.0s								
DL2				pmax	pmax			
comp=Z,2μm,7.7s								
DL2				LR	LR			
comp=Z,3μm,17.5s								
DL2				LR	LR			
comp=Z,4μm,18.2s								
DL2				LR	LR			
comp=Z,7μm,18.2s								
HNS	**HongShan**	**80.63**	**26**	‖P	**P**		**18 17 12.1**	**+0.4**
HNS				*e*S	**SKSac**		**18 27 24.2**	**-5.3**
HNS				pmax	pmax			
comp=Z,66nm,1.2s								
HNS				LR	LR			
comp=Z,950nm,19.2s								
HNS				LR	LR			
comp=Z,1μm,20.8s								
HNS				LR	LR			
comp=Z,1μm,23.7s								
AQDB	**Aquidauana**	**80.96**	**202**	IAmb	IAmb	18 17 15.8		
comp=Z,46nm,1.0s								
AQDB	**Aquidauana**	**80.96**	**202**	*eP*	**P**		**18 17 14.7**	**+1.2**
JTM	**Tenmabayashi**	**81.03**	**5**	IAMs_20	IAMs_20	18 46 38.9		
comp=Z,4μm,18.0s								
BDQN	**Bodoquena, MS**	**81.14**	**203**	*eP*	**P**		**18 17 15.1**	**+0.7**
GTK	**Tadong**	**81.46**	**51**	*eP*	**P**		**18 17 16.5**	**0.0**
GTK				IAmb	IAmb	18 17 27.0		
comp=Z,165nm,1.3s								
MAN01	**Angra dos Reis**	**81.53**	**191**	*eP*	**P**		**18 17 17.7**	**+1.2**
PB18	**Visviri**	**81.71**	**216**	IAmb	IAmb	18 17 47.6		
comp=Z,43nm,1.2s								
KIBK	**Kibwezi**	**81.72**	**108**	IAmb	IAmb	18 17 26.2		
comp=Z,56nm,1.3s								
KIBK				IAMs_20	IAMs_20	18 55 13.9		
comp=Z,3μm,18.0s								
KIBK	**Kibwezi**	**81.72**	**108**	P	**P**		**18 17 18.6**	**+0.8**
KIBK	**Kibwezi**	**81.72**	**108**	P	**P**		**18 17 19.7**	**+1.8**
SNR=14								
AKL	**Akola**	**82.13**	**63**	*eP*	**P**		**18 17 20.9**	**+1.0**
AKL				IAmb	IAmb	18 17 27.6		
comp=Z,48nm,1.4s								
TIA	**Tai'an**	**82.31**	**25**	P	**P**		**18 17 20.4**	**-0.3**
TIA				pmax	pmax			
comp=Z,50nm,0.9s								
TIA				pmax	pmax			
comp=Z,2μm,7.1s								
XAN	**Xi'an**	**82.34**	**32**	P	**P**		**18 17 20.2**	**-0.7**
XAN				pP	pP	18 17 24.2	-0.1	
XAN				pmax	pmax			
comp=Z,89nm,1.0s								
XAN				pmax	pmax			
comp=Z,1μm,6.8s								
XAN				LR	LR			
comp=Z,3μm,17.7s								
XAN				LR	LR			
comp=Z,3μm,19.4s								
XAN				LR	LR			
comp=Z,5μm,21.3s								
POO	**Poona**	**82.48**	**67**	‖*eP*	**P**		**18 17 20.8**	**-1.0**
MURT	**Porto Murtinho**	**82.50**	**204**	*eP*	**P**		**18 17 22.0**	**+0.4**
TAWA	**Tawang**	**82.52**	**48**	*eP*	**P**		**18 17 23.1**	**+0.8**
TAWA				IAmb	IAmb	18 17 32.4		
comp=Z,33nm,0.9s								
SPB	**Sao Paulo**	**82.65**	**194**	*eP*	**P**		**18 17 23.7**	**+1.4**
FRTB	**Fartura**	**82.70**	**196**	*eP*	**P**		**18 17 23.4**	**+0.8**
LYN	**LuoYang**	**82.80**	**29**	P	**P**		**18 17 23.5**	**+0.3**
LYN				pmax	pmax			
comp=Z,78nm,0.9s								
LYN				pmax	pmax			
comp=Z,2μm,7.9s								
LYN				LR	LR			
comp=Z,4μm,15.8s								
LYN				LR	LR			
comp=Z,2μm,19.6s								
LYN				LR	LR			
comp=Z,6μm,16.8s								
INCN	**Inchon**	**82.85**	**17**	IAMs_20	IAMs_20	18 51 33.9		
comp=Z,5μm,18.0s								
INCN	**Inchon**	**82.85**	**17**	P	**P**		**18 17 25.0**	**+1.5**
PB12	**IPOC Station P**	**82.94**	**216**	IAmb	IAmb	18 17 29.9		
comp=Z,45nm,0.9s								
KSRS	**Korea Array**	**83.07**	**16**	P	**P**		**18 17 24.0**	**-0.6**
comp=Z,8.5nm,0.8s,baz=350,slow=5.4,SNR=21								
comp=Z,8.5nm,0.8s								
KSRS	**Korea Array**	**83.07**	**16**	P	**P**		**18 17 24.0**	**-0.6**
KSAR	**Wonju Array Be**	**83.08**	**16**	P	**P**		**18 17 24.4**	**-0.2**
KSAR	**Wonju Array Be**	**83.08**	**16**	P	**P**		**18 17 24.4**	**-0.2**
BOK	**Bokaro**	**83.44**	**54**	*eP*	**P**		**18 17 27.1**	**+0.5**
KAD	**Karad**	**83.69**	**67**	*eP*	**P**		**18 17 28.1**	**0.0**
KAD				IAmb	IAmb	18 17 33.3		
comp=Z,73nm,1.4s								
CD2	**Chengdu**	**83.72**	**37**	P	**P**		**18 17 27.6**	**-0.5**
CD2				pmax	pmax			
comp=Z,50nm,0.8s								
CD2				LR	LR			
comp=Z,2μm,24.5s								
CD2				LR	LR			
comp=Z,2μm,23.0s								
TJN	**Taejon**	**84.05**	**17**	P	**P**		**18 17 31.6**	**+2.0**
LKP	**Lekhapani**	**84.27**	**45**	*eP*	**P**		**18 17 32.6**	**+1.7**
JHSG	**JHARSUGUGA**	**84.30**	**57**	*eP*	**P**		**18 17 31.9**	**+0.8**
SHL	**Shillong**	**84.34**	**49**	IAMs_20	IAMs_20	18 55 06.5		
comp=Z,4μm,21.0s								
SHL	**Shillong**	**84.34**	**49**	P	**P**		**18 17 31.8**	**+0.3**
SHL	**Shillong**	**84.34**	**49**	*eP*	**P**		**18 17 31.3**	**-0.2**
SHL				IAmb	IAmb	18 17 38.5		
comp=Z,43nm,1.2s								
PTGB	**Pitanga**	**84.43**	**198**	*eP*	**P**		**18 17 33.0**	**+1.5**
PB01	**IPOC Station P**	**84.96**	**215**	IAmb	IAmb	18 17 36.2		
comp=Z,31nm,1.0s								
GOA	**Goa**	**85.07**	**68**	‖*eP*	**P**		**18 17 34.5**	**-0.5**
KOHI	**KOHIMA**	**85.07**	**47**	*eP*	**P**		**18 17 33.9**	**-1.2**
KOHI				IAmb	IAmb	18 17 41.8		
comp=Z,48nm,0.5s								
MAJO	**Matsushiro**	**85.09**	**8**	IAMs_20	IAMs_20	18 46 08.1		
comp=Z,13μm,19.0s								
MJAR	**Matsushiro Arr**	**85.09**	**8**	P	**P**		**18 17 34.6**	**-0.3**
comp=Z,9.3nm,0.9s,baz=346,slow=6.3,SNR=6.7								
comp=Z,9.3nm,0.9s								
SJPY	**San Joaquin**	**85.43**	**202**	*eP*	**P**		**18 17 36.3**	**-0.1**
HYB	**Hyderabad**	**85.69**	**64**	*eP*	**P**		**18 17 38.8**	**+0.6**
HYB				IVmB_BB		18 17 50.2		
comp=Z,704nm,6.3s								
HYB				IVMs_BB	IVMs_BB	18 59 05.2		
comp=Z,832nm,21.4s								
IMP	**Imphal**	**85.81**	**47**	*eP*	**P**		**18 17 37.6**	**-1.2**
IMP				IAmb	IAmb	18 17 45.8		
comp=Z,37nm,1.1s								
ENH	**Enshi**	**86.04**	**33**	IAMs_20	IAMs_20	18 58 13.3		
comp=Z,3μm,21.0s								
ENH	**Enshi**	**86.04**	**33**	P	**P**		**18 17 39.3**	**-0.5**
AZL	**Aizawl**	**86.30**	**49**	*eP*	**P**		**18 17 41.6**	**+0.4**
AZL				IAmb	IAmb	18 17 51.2		
comp=Z,53nm,1.1s								
RAGD	**RAYAGADA**	**86.36**	**59**	*eP*	**P**		**18 17 40.9**	**-0.5**
RAGD				IAmb	IAmb	18 17 48.1		
comp=Z,98nm,1.5s								
NJ2	**Nanjing**	**86.69**	**24**	*eP*	**P**		**18 17 43.3**	**+0.4**
NJ2				sP	**pwP**		**18 17 50.9**	**+2.4**
NJ2				pmax	pmax			
comp=Z,32nm,0.8s								
NJ2				LR	LR			
comp=Z,2μm,16.1s								
NJ2				LR	LR			
comp=Z,3μm,15.6s								
NJ2				LR	LR			
comp=Z,4μm,18.0s								
CPUP	**Villa Florida**	**86.97**	**202**	P	**P**		**18 17 43.1**	**-0.9**
comp=Z,11nm,0.9s,baz=22,slow=6.0,SNR=16								
comp=Z,11nm,0.9s								
CPUP	**Villa Florida**	**86.97**	**202**	*eP*	**P**		**18 17 43.5**	**-0.5**
WHN	**Wuhan**	**87.08**	**28**	P	**P**		**18 17 45.8**	**+1.0**
WHN				pP	**pwP**		**18 17 50.1**	**-0.3**
WHN				sS	**sS**		**18 28 29.3**	**+0.1**
WHN				pmax	pmax			
comp=Z,76nm,0.9s								
WHN				pmax	pmax			
comp=Z,2μm,4.5s								
WHN				LR	LR			
comp=Z,3μm,27.1s								
PZH	**PanZhiHua**	**87.13**	**40**	P	**P**		**18 17 46.1**	**+0.8**
PZH				pmax	pmax			
comp=Z,50nm,1.3s								
PZH				pmax	pmax			
comp=Z,680nm,5.3s								
TNCH	**TengChong**	**87.35**	**44**	P	**P**		**18 17 46.2**	**-0.2**
TNCH				pP	PcP	18 17 48.7	+0.2	
TNCH				sP	pwP	18 17 52.0	0.0	
TNCH				PP	**PP**		**18 21 09.7**	**-0.3**
TNCH				S	**S**		**18 28 27.0**	**+0.3**
TNCH				pmax	pmax			
comp=Z,39nm,1.9s								
TNCH				pmax	pmax			
comp=Z,580nm,3.8s								
TNCH				LR	LR			
comp=Z,1μm,15.2s								
TNCH				LR	LR			
comp=Z,430nm,14.2s								
TNCH				LR	LR			
comp=Z,2μm,17.2s								
TSUM	**Tsumeb**	**87.48**	**134**	P	**P**		**18 17 46.8**	**0.0**
TSUM	**Tsumeb**	**87.48**	**134**	IAMs_20	IAMs_20	18 56 16.4		
comp=Z,4μm,19.0s								
VIS	**Vishakhapatnam**	**87.64**	**59**	*eP*	**P**		**18 17 50.0**	**+2.4**
JNU	**Nakatsue**	**87.74**	**14**	IAMs_20	IAMs_20	18 50 12.1		
comp=Z,3μm,19.0s								
MNGI	**Mangalore**	**87.75**	**69**	*eP*	P		18 17 53.6	+5.4
LSZ	**Lusaka**	**88.33**	**123**	P	**P**		**18 17 50.0**	**-0.9**
LSZ				IAmb	IAmb	18 17 57.1		
comp=Z,26nm,1.2s								
LSZ	**Lusaka**	**88.33**	**123**	IAMs_20	IAMs_20	18 58 29.4		
comp=Z,8μm,19.0s								
LSZ	**Lusaka**	**88.33**	**123**	LR	LR	18 58 40.2		
comp=Z,8μm,20.1s,baz=342,slow=37								
LSZ	**Lusaka**	**88.33**	**123**	P	**P**		**18 17 50.0**	**-0.9**
LSZ				pmax	pmax			
comp=Z,26nm,1.2s								
LSZ				pmax	pmax			
comp=Z,8μm,19.0s								
KMI	**Kunming**	**88.74**	**40**	⇑P	**P**		**18 17 53.1**	**0.0**
KMI				pmax	pmax			
comp=Z,540nm,7.9s								
KMI				LR	LR			
comp=Z,2μm,17.6s								
KMI				LR	LR			
comp=Z,770nm,21.4s								
KMI				LR	LR			
comp=Z,2μm,33.8s								
GYA	**Guiyang**	**88.78**	**36**	⇑P	**P**		**18 17 52.7**	**-0.4**
GYA				S	**S**		**18 28 36.3**	**-3.8**
GYA				SS	**SS**		**18 34 26.2**	**-4.2**
GYA				pmax	pmax			
comp=Z,7.0nm,1.0s								
GYA				pmax	pmax			
comp=Z,670nm,7.0s								
GYA				LR	LR			
comp=Z,990nm,20.1s								
GYA				LR	LR			
comp=Z,1μm,25.5s								
GYA				LR	LR			
comp=Z,1μm,33.0s								
POHA	**Pohakuloa**	**89.28**	**308**	IAMs_20	IAMs_20	18 57 13.0		
comp=Z,4μm,18.0s								
HATHI	**Halema'uma'u T**	**89.47**	**308**	IAMs_20	IAMs_20	18 56 11.9		
comp=Z,4μm,19.0s								
CPSB	**Cacapava Do Su**	**90.23**	**198**	*eP*	**P**		**18 17 59.0**	**-0.3**
WIN	**Windhoek**	**90.37**	**136**	IAMs_20	IAMs_20	18 53 52.9		
comp=Z,4μm,22.0s								
KOD	**Kodaikanal**	**91.37**	**68**	*eP*	**P**		**18 18 05.8**	**+0.2**
KOD				IAmb	IAmb	18 18 18.1		
comp=Z,31nm,1.5s								
TBOT	**Tacuaremb**	**91.91**	**200**	*eP*	**P**		**18 18 08.6**	**+1.6**
SLVN	**Son La**	**92.64**	**40**	IAMs_20	IAMs_20	19 01 54.9		
comp=Z,2μm,20.0s								
LCO	**Las Campanas**	**92.83**	**213**	P	**P**		**18 18 11.2**	**-0.6**
LCO	**Las Campanas**	**92.83**	**213**	P	**P**		**18 18 11.2**	**-0.6**
LCO				pmax	pmax			
comp=Z,32nm,1.0s								
CHTO	**Chiang Mai**	**93.18**	**46**	P	**P**		**18 18 11.9**	**-1.6**
CHTO				IAmb	IAmb	18 18 22.3		
comp=Z,15nm,1.1s								
CHTO				IAMs_20	IAMs_20	19 02 02.9		
comp=Z,2μm,21.0s								
CHTO	**Chiang Mai**	**93.18**	**46**	P	**P**		**18 18 11.9**	**-1.6**
CHTO				pmax	pmax			
comp=Z,15nm,1.2s								
CHTO				pmax	pmax			
comp=Z,2μm,21.0s								
CMAR	**Chiang Mai Arr**	**93.50**	**46**	P	**P**		**18 18 14.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**93.50**	**46**	P	**P**		**18 18 14.0**	**-1.0**
comp=Z,4.3nm,0.8s,baz=322,slow=5.8,SNR=33								
CMAR				PP	**PP**		**18 21 56.8**	**-1.9**
comp=Z,1.0nm,0.8s,baz=321,slow=8.8,SNR=4.2								
CMAR				PKKPbc	**PKKPbc**		**18 35 17.4**	**-0.5**
comp=Z,0.6nm,0.8s,baz=200,slow=2.1,SNR=6.9								
comp=Z,4.3nm,0.8s								
CO01	**Juntas del Tor**	**93.56**	**212**	IAmb	IAmb	18 18 20.2		
comp=Z,14nm,0.9s								
KNMB	**Chin-men Tao**	**93.89**	**27**	IAMs_20	IAMs_20	19 01 29.9		
comp=Z,2μm,18.0s								
TATO	**Taipei**	**94.10**	**24**	IAMs_20	IAMs_20	18 58 20.4		
comp=Z,3μm,18.0s								
YHNB	**Yeheng**	**94.37**	**24**	IAMs_20	IAMs_20	18 58 29.5		
comp=Z,2μm,19.0s								
NACB	**Ninganchiao**	**94.90**	**24**	IAMs_20	IAMs_20	18 58 18.4		
comp=Z,2μm,21.0s								
HKPS	**Hong Kong Po S**	**94.91**	**31**	IAMs_20	IAMs_20	19 03 43.6		
comp=Z,3μm,18.0s								
SSLB	**Suanglung**	**95.13**	**25**	IAMs_20	IAMs_20	18 58 58.5		
comp=Z,3μm,19.0s								
PALK	**Pallekele**	**95.51**	**67**	IAMs_20	IAMs_20	19 03 54.1		
comp=Z,4μm,21.0s								
TPUB	**Ta-pu**	**95.53**	**25**	IAMs_20	IAMs_20	18 58 59.0		
comp=Z,3μm,19.0s								
YULB	**Yu-li**	**95.59**	**24**	IAMs_20	IAMs_20	19 03 51.6		
comp=Z,2μm,20.0s								
TWG	**Pinlang**	**96.09**	**25**	IAMs_20	IAMs_20	19 06 02.0		
comp=Z,2μm,19.0s								
PEL	**Peldehue**	**96.71**	**212**	IAMs_20	IAMs_20	18 56 23.1		
comp=Z,2μm,20.0s								
QIZ	**Qiongzhong**	**96.73**	**36**	IAMs_20	IAMs_20	19 04 44.4		
comp=Z,2μm,19.0s								
QIZ	**Qiongzhong**	**96.73**	**36**	P	**P**		**18 18 28.3**	**-1.4**
QIZ				S	**S**		**18 29 48.7**	**-2.4**
QIZ				SS	**SS**		**18 36 27.0**	**+2.7**
QIZ				LR	LR			
comp=Z,2μm,16.6s								
QIZ				LR	LR			
comp=Z,870nm,17.2s								
QIZ				LR	LR			
comp=Z,2μm,16.6s								
PBA	**Port Blair**	**97.15**	**54**	IAMs_20	IAMs_20	19 03 49.1		
comp=Z,5μm,21.0s								
UBPT	**Khong Chiam**	**98.80**	**41**	IAMs_20	IAMs_20	19 05 40.5		
comp=Z,2μm,22.0s								
BOSA	**Boshof**	**98.94**	**131**	P	**P**		**18 18 38.6**	**-0.8**
comp=Z,1.8nm,0.7s,baz=293,slow=6.2,SNR=3.8								
comp=Z,1.8nm,0.7s								
ABPO	**Ambohimpanom**	**100.56**	**109**	IAMs_20	IAMs_20	19 07 36.8		
comp=Z,3μm,19.0s								
VOI	**Vohitsoka**	**102.79**	**111**	IAMs_20	IAMs_20	19 08 12.8		
comp=Z,5μm,18.0s								
FOMA	**Nahampoana Res**	**105.47**	**112**	IAMs_20	IAMs_20	19 11 05.7		
comp=Z,3μm,18.0s								
KKM	**Kota Kinabalu**	**110.92**	**34**	IAMs_20	IAMs_20	19 13 11.8		
comp=Z,1μm,22.0s

comp=Z,2μm,22.0s
TOZ Tahuroa Road 152.62 307 IAMs_20 IAMs_20 19 25 06.6
comp=Z,3μm,21.0s
RTZ Ruatahuna 152.73 304 IAMs_20 IAMs_20 19 24 01.6
comp=Z,2μm,22.0s
CMSA Cobar Meteorol 153.12 4 P **PKPbc 18 24 55.5 -0.8**
STKA Stephens Creek 153.15 12 PKP **PKPdf 18 24 49.3 +0.3**
comp=Z,1.8nm,0.8s,baz=77,slow=12,SNR=4.0
STKA PKPbc **PKPbc 18 24 56.4 0.0**
comp=Z,9.6nm,0.9s,baz=340,slow=6.1,SNR=14
STKA PP **PP 18 28 42.5 +1.3**
comp=Z,2.5nm,0.9s,baz=274,slow=16,SNR=2.6
BBOO Buckleboo 153.21 22 PKPbc 18 24 54.7 -1.9
BKZ Black Stump Fm 153.40 304 IAMs_20 IAMs_20 19 29 39.3
comp=Z,2μm,20.0s
HIZ Hauiti 153.55 307 IAMs_20 IAMs_20 19 25 33.2
comp=Z,3μm,21.0s
BFZ Birch Farm 154.74 302 IAMs_20 IAMs_20 19 25 40.0
comp=Z,3μm,19.0s
MRZ Mangatainoka R 155.02 303 IAMs_20 IAMs_20 19 30 01.4
comp=Z,2μm,20.0s
SNZO South Karori 155.93 303 IAMs_20 IAMs_20 19 27 21.5
comp=Z,3μm,21.0s
NNZ Nelson 156.43 306 IAMs_20 IAMs_20 19 27 59.5
comp=Z,3μm,20.0s
QRZ Quartz Range 156.47 308 IAMs_20 IAMs_20 19 27 31.3
comp=Z,4μm,21.0s
CAN Canberra 156.92 358 IAMs_20 IAMs_20 19 47 19.8
comp=Z,2μm,21.0s
THZ Tophouse 157.08 306 IAMs_20 IAMs_20 19 29 29.8
comp=Z,3μm,20.0s
INZ Inchbonnie 158.49 306 IAMs_20 IAMs_20 19 28 33.0
comp=Z,4μm,22.0s
VNDA Vanda 160.19 189 PKP **PKPdf 18 24 58.0 +1.3**
comp=Z,5.1nm,1.0s,baz=302,slow=2.5,SNR=4.3
VNDA PKPab **PKPab 18 25 36.5 -0.8**
comp=Z,8.3nm,0.9s,baz=178,slow=1.9,SNR=5.7
VNDA PP **PP 18 29 21.5 +1.4**
comp=Z,3.9nm,0.9s,baz=42,slow=10.0,SNR=3.1
WHZ Wether Hill Ro 162.53 307 PKPab 18 25 48.1 -0.2

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*IDC **10** 18:06:13.2±0.8, 58°.21N×31°.94W, h0km, mb4.3/21, mbtmp4.3/22, Error ellipse: s-maj=23.0km s-min=14.9km az=9.0*
ISC 10 18:06:15.0±0.7, 58°.1N±0°.1×31°.96W±0°.09, h14km, n26, σ0s83/26, mb4.4/22, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.35**	**33**	Pn	**Pn**	**18 08 16.0**	**+0.6**
	27nm,0.9s,baz=198,slow=21,SNR=0.4						
NOA	**NORSAR Array B**	**21.75**	**64**	P	**P**	**18 11 07.1**	**+1.4**
	2.4nm,0.9s,baz=284,slow=9.3,SNR=1.0						
	2.4nm,0.9s						
HFS	**Hagfors**	**23.15**	**66**	P	**P**	**18 11 21.0**	**+0.4**
	9.0nm,0.9s,baz=282,slow=7.1,SNR=0.9						
	9.0nm,0.9s						
ESDC	**Sonseca Array**	**25.78**	**124**	P	**P**	**18 11 46.9**	**+1.6**
	7.4nm,0.9s,baz=327,slow=9.2,SNR=1.4						
	7.4nm,0.9s						
ARCES	**ARCESS Array B**	**26.63**	**41**	P	**P**	**18 11 52.0**	**-0.6**
	10nm,1.1s,baz=267,slow=7.2,SNR=0.8						
	10nm,1.1s						
RES	**Resolute Bay**	**28.19**	**330**	P	**P**	**18 12 06.8**	**+0.2**
	8.8nm,0.9s,baz=104,slow=5.4,SNR=2.2						
	8.8nm,0.9s						
FINES	**FINESS Array B**	**28.55**	**59**	P	**P**	**18 12 09.9**	**0.0**
	2.2nm,0.6s,baz=296,slow=7.4,SNR=0.7						
	2.2nm,0.6s						
AKASG	**Malin Array Be**	**35.23**	**75**	P	**P**	**18 13 07.7**	**-0.9**
	4.9nm,0.8s,baz=308,slow=8.9,SNR=4.1						
	4.9nm,0.8s						
YKA	**Yellowknife Ar**	**38.52**	**312**	P	**P**	**18 13 36.8**	**+0.4**
	3.4nm,0.8s,baz=60,slow=8.5,SNR=1.3						
	3.4nm,0.8s						
BRTR	**Keskin Array B**	**44.88**	**85**	P	**P**	**18 14 29.4**	**+0.5**
	3.4nm,0.9s,baz=299,slow=5.9,SNR=1.3						
	3.4nm,0.9s						
ILAR	**Eielson Array**	**47.92**	**328**	P	**P**	**18 14 52.2**	**-0.1**
	5.9nm,0.9s,baz=42,slow=8.0,SNR=1.5						
	5.9nm,0.9s						
PDAR	**Pinedale Array**	**48.89**	**287**	P	**P**	**18 15 00.7**	**+0.3**
	3.8nm,0.8s,baz=46,slow=7.6,SNR=1.7						
	3.8nm,0.8s						
MMAI	**Mount Meron Ar**	**50.86**	**89**	P	**P**	**18 15 13.4**	**-1.8**
	0.8nm,0.5s,baz=339,slow=7.7,SNR=1.3						
	0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**51.56**	**136**	P	**P**	**18 15 21.0**	**+0.5**
	48nm,0.3s,baz=333,slow=7.3,SNR=4.1						
TXAR	**Lajitas Array**	**56.04**	**272**	P	**P**	**18 15 53.5**	**+0.2**
	2.2nm,0.8s,baz=32,slow=5.9,SNR=1.6						
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**56.54**	**290**	P	**P**	**18 15 56.4**	**-0.5**
	1.7nm,0.8s,baz=32,slow=7.1,SNR=1.2						
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**57.64**	**45**	P	**P**	**18 16 03.4**	**-0.8**
	4.1nm,0.9s,baz=319,slow=6.7,SNR=1.2						
	4.1nm,0.9s						
MKAR	**Makanchi Array**	**62.21**	**45**	P	**P**	**18 16 34.6**	**-1.1**
	3.7nm,0.8s,baz=335,slow=6.4,SNR=1.3						
	3.7nm,0.8s						
SONM	**Songino Array**	**68.94**	**29**	P	**P**	**18 17 19.6**	**+0.3**
	8.1nm,1.1s,baz=328,slow=5.3,SNR=4.6						
	8.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**77.15**	**12**	P	**P**	**18 18 08.1**	**+0.3**
	2.3nm,0.8s,baz=2.6,slow=6.3,SNR=1.9						
	2.3nm,0.8s						
KSRS	**Korea Array**	**83.28**	**16**	P	**P**	**18 18 40.8**	**-0.1**
	2.4nm,0.9s,baz=354,slow=6.1,SNR=1.8						
	2.4nm,0.9s						
MJAR	**Matsushiro Arr**	**85.31**	**8**	P	**P**	**18 18 51.3**	**0.0**
	3.2nm,1.0s,baz=354,slow=6.7,SNR=1.5						
	3.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**93.61**	**46**	P	**P**	**18 19 31.6**	**+0.8**
	0.9nm,0.9s,baz=340,slow=3.4,SNR=1.1						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**140.55**	**21**	PKP	**PKPdf**	**18 25 43.6**	**-0.1**
	1.8nm,1.0s,baz=347,slow=2.4,SNR=1.5						
ASAR	**Alice Springs**	**144.09**	**22**	PKP	**PKPdf**	**18 25 48.7**	**-1.3**
	1.7nm,0.8s,baz=7.1,slow=2.0,SNR=1.6						
QSPA	**South Pole Qui**	**148.04**	**180**	PKPbc	**PKiKP**	**18 25 59.3**	**-0.9**
	5.5nm,0.9s,baz=72,slow=16,SNR=0.8						

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*IDC **10** 18:15:04.9±1.0, 58°.35N×32°.00W, h0km, mb3.3/7, mbtmp3.3/7, Error ellipse: s-maj=35.1km s-min=21.2km az=32.0*
ISC 10 18:15:06.8±0.9, 58°.3N±0°.2×32°.0W±0°.2, h13km, n9, σ0s59/9, mb3.4/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.91**	**124**	P	**P**	**18 20 39.4**	**+1.1**
	0.7nm,1.0s,baz=322,slow=11,SNR=3.0						
	0.7nm,1.0s						
AKASG	**Malin Array Be**	**35.21**	**75**	P	**P**	**18 21 60.0**	**-0.2**
	0.1nm,0.3s,baz=324,slow=9.4,SNR=1.4						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	**38.37**	**312**	P	**P**	**18 22 27.0**	**-0.1**
	0.2nm,0.6s,baz=59,slow=8.6,SNR=1.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**47.74**	**328**	P	**P**	**18 23 43.0**	**+0.3**
	0.4nm,0.8s,baz=44,slow=7.4,SNR=1.6						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**48.81**	**287**	P	**P**	**18 23 51.8**	**+0.2**
	0.2nm,0.4s,baz=23,slow=6.4,SNR=1.8						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**51.72**	**136**	P	**P**	**18 24 13.3**	**-0.3**
	309nm,1.3s,baz=336,slow=7.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**57.52**	**45**	P	**P**	**18 24 55.2**	**-0.1**
	0.3nm,0.8s,baz=320,slow=8.2,SNR=2.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**62.09**	**45**	P	**P**	**18 25 26.8**	**0.0**
	0.3nm,0.8s,baz=340,slow=5.9,SNR=2.4						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**148.24**	**180**	PKPbc	**PKPbc**	**18 34 50.1**	**-0.8**
	0.9nm,0.9s,baz=188,slow=7.1,SNR=1.4						

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*IDC **10** 18:15:27.2±1.0, 58°.32N×31°.79W, h0km, mb3.6/11, mbtmp3.6/11, Error ellipse: s-maj=28.4km s-min=19.3km az=24.0*
ISC 10 18:15:28.4±0.9, 58°.2N±0°.2×31°.9W±0°.1, h10km, n14, σ0s67/14, mb3.7/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**21.66**	**64**	P	**P**	**18 20 18.2**	**-0.6**
	0.7nm,1.1s,baz=285,slow=9.6,SNR=3.2						
	0.7nm,1.1s						
ESDC	**Sonseca Array**	**25.79**	**124**	P	**P**	**18 20 59.8**	**+0.5**
	1.1nm,1.0s,baz=321,slow=9.4,SNR=4.5						
	1.1nm,1.0s						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	**P**	**18 22 50.0**	**-0.1**
	1.5nm,1.1s,baz=59,slow=8.7,SNR=5.6						
	1.5nm,1.1s						
BRTR	**Keskin Array B**	**44.82**	**85**	P	**P**	**18 23 43.0**	**+0.6**
	0.9nm,1.0s,baz=299,slow=6.5,SNR=4.0						
	0.9nm,1.0s						
ILAR	**Eielson Array**	**47.86**	**328**	P	**P**	**18 24 06.1**	**+0.2**
	1.6nm,1.0s,baz=42,slow=6.1,SNR=7.3						
	1.6nm,1.0s						
PDAR	**Pinedale Array**	**48.91**	**287**	P	**P**	**18 24 14.3**	**-0.2**
	1.1nm,1.1s,baz=27,slow=5.1,SNR=1.9						
	1.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**51.60**	**137**	P	**P**	**18 24 34.4**	**-0.4**
	2.7nm,0.5s,baz=335,slow=7.6,SNR=0.5						
BVAR	**Borovoye Array**	**52.52**	**48**	P	**P**	**18 24 40.3**	**-1.0**
	0.7nm,0.7s,baz=287,slow=6.0,SNR=3.8						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**57.04**	**39**	P	**P**	**18 25 13.2**	**-0.8**
	0.2nm,0.3s,baz=316,slow=10,SNR=2.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**57.54**	**45**	P	**P**	**18 25 17.1**	**-0.4**
	0.4nm,0.7s,baz=324,slow=6.7,SNR=3.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**62.10**	**45**	P	**P**	**18 25 48.4**	**-0.7**
	0.5nm,0.6s,baz=333,slow=5.5,SNR=6.2						
	0.5nm,0.6s						
SONM	**Songino Array**	**68.83**	**29**	P	**P**	**18 26 33.5**	**+0.9**
	0.4nm,0.7s,baz=342,slow=3.2,SNR=2.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**143.99**	**23**	PKP	**PKPab**	**18 35 02.0**	**+0.9**
	0.9nm,1.1s,baz=349,slow=2.4,SNR=2.4						
QSPA	**South Pole Qui**	**148.14**	**180**	PKPbc	**PKiKP**	**18 35 14.1**	**-0.4**
	1.8nm,1.0s,baz=92,slow=9.7,SNR=1.9						

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*IDC **10** 18:19:42.9±1.0, 58°.20N×32°.02W, h0km, mb3.5/9, mbtmp3.5/10, ML3.0/1, Error ellipse: s-maj=26.8km s-min=19.6km az=19.0*
ISC 10 18:19:45.3±0.9, 58°.2N±0°.1×32°.0W±0°.1, h14km, n12, σ1s16/12, mb3.4/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.30**	**33**	Pn	**Pn**	**18 21 45.2**	**+0.2**
	0.2nm,0.3s,baz=127,slow=20,SNR=1.7						
	8.1nm,0.8s						
ESDC	**Sonseca Array**	**25.83**	**124**	P	**P**	**18 25 16.2**	**+0.2**
	1.2nm,0.9s,baz=322,slow=8.4,SNR=6.0						
	1.2nm,0.9s						
FINES	**FINESS Array B**	**28.53**	**59**	P	**P**	**18 25 41.3**	**+1.3**
	2.6nm,1.0s,baz=299,slow=8.7,SNR=1.6						
	2.6nm,1.0s						
AKASG	**Malin Array Be**	**35.23**	**75**	P	**P**	**18 26 38.1**	**-0.7**
	0.1nm,0.2s,baz=310,slow=8.9,SNR=1.5						
	0.1nm,0.2s						
YKA	**Yellowknife Ar**	**38.46**	**312**	P	**P**	**18 27 05.1**	**-1.0**
	0.6nm,1.0s,baz=59,slow=8.4,SNR=4.6						
	0.6nm,1.0s						
BRTR	**Keskin Array B**	**44.89**	**85**	P	**P**	**18 27 59.2**	**0.0**
	0.5nm,1.0s,baz=347,slow=5.9,SNR=1.3						
	0.5nm,1.0s						
ILAR	**Eielson Array**	**47.85**	**328**	P	**P**	**18 28 22.4**	**+0.4**
	0.3nm,0.7s,baz=46,slow=7.8,SNR=4.7						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.63**	**136**	P	**P**	**18 28 50.4**	**-0.8**
	1.0nm,0.3s,baz=341,slow=6.9,SNR=0.2						
BVAR	**Borovoye Array**	**52.59**	**48**	P	**P**	**18 28 56.6**	**-1.4**
	0.2nm,0.4s,baz=311,slow=9.3,SNR=5.7						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**56.02**	**272**	P	**P**	**18 29 23.5**	**0.0**
	0.2nm,0.7s,baz=59,slow=6.3,SNR=2.0						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**57.60**	**45**	P	**P**	**18 29 34.0**	**-0.1**
	0.8nm,0.8s,baz=328,slow=6.9,SNR=5.8						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**148.11**	**180**	PKPbc	**PKPdf**	**18 39 28.0**	**+2.4**
	1.5nm,1.0s,baz=228,slow=22,SNR=1.8						

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*IDC **10** 18:21:55.0±1.5, 18°.87N×39°.28E, h0km, mb3.8/15, mbtmp3.9/16, ML4.0/1, Error ellipse: s-maj=34.6km s-min=17.6km az=161.0*
*NEIC **10** 18:21:57.4±2.8, 19°.2N±0°.1×39°.4E±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=28.4km s-min=11.2km az=211.0*
*SGS **10** 18:21:57.3, 19°.13N×39°.53E, h12km, MI2.9*
ISC 10 18:21:56.3±0.6, 19°.03N±0°.06×39°.48E±0°.06, h10km, n53, σ1s67/53, mb4.0/19, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLITH	**NLITH**	**1.48**	**20**	P	**Pn**	**18 22 20.8**	**-2.2**
LTHS	**Al Lith**	**1.52**	**35**	P	**Pn**	**18 22 20.9**	**-2.5**
QNFDS	**Al Qunfudhah**	**1.57**	**61**	P	**Pn**	**18 22 22.4**	**-1.9**
SADE1	**SADE1**	**1.61**	**19**	P	**Pn**	**18 22 22.9**	**-1.9**
SADE2	**SADE2**	**1.64**	**15**	P	**Pn**	**18 22 23.1**	**-2.1**
QNF01	**Al Qunfudhah**	**1.74**	**78**	P	**Pn**	**18 22 25.3**	**-1.2**
QNF02	**Al Qunfudhah**	**1.90**	**89**	P	**Pb**	**18 22 29.4**	**-1.6**
AMGES	**AMGES**	**2.03**	**106**	S	**Sn**	**18 22 51.9**	**-4.0**
AMGES	**AMGES**	**2.03**	**106**	P	**Pn**	**18 22 29.1**	**-1.4**
BRK01	**Al Birk**	**2.12**	**111**	S	**Sn**	**18 22 55.9**	**-2.1**
BRK01	**Al Birk**	**2.12**	**111**	P	**Pn**	**18 22 30.5**	**-1.2**
FRAS	**Faraa**	**2.24**	**26**	P	**Pn**	**18 22 32.9**	**-0.7**
BRK04	**Al Birk**	**2.25**	**100**	P	**Pn**	**18 22 33.0**	**-0.5**
BRK04	**Al Birk**	**2.25**	**100**	S	**Sn**	**18 22 58.7**	**-2.6**
BRK03	**Al Birk**	**2.44**	**110**	P	**Pn**	**18 22 35.8**	**-0.4**
BRK03	**Al Birk**	**2.44**	**110**	S	**Sn**	**18 23 04.5**	**-1.7**
NAMS	**An Nimas**	**2.58**	**86**	P	**Pn**	**18 22 38.9**	**+0.5**
NAMS	**An Nimas**	**2.58**	**86**	S	**Sn**	**18 23 09.9**	**+0.1**
ASIR3	**ASIR3**	**2.75**	**96**	P	**Pn**	**18 22 40.9**	**+0.2**
ASIR3	**ASIR3**	**2.75**	**96**	S	**Sn**	**18 23 13.4**	**-0.8**
ENMS	**ENMS**	**2.92**	**89**	P	**Pn**	**18 22 44.1**	**+1.1**
DRBS	**Ad Darb**	**2.93**	**114**	P	**Pn**	**18 22 42.7**	**-0.2**
FRSS2	**Sair Farasan I**	**3.09**	**134**	P	**Pn**	**18 22 43.9**	**-1.2**
HAJR	**Hajar**	**3.85**	**3**	S	**Sn**	**18 23 40.2**	**-0.9**
HAJR	**Hajar**	**3.85**	**3**	P	**Pn**	**18 22 55.7**	**0.0**
WSAR	**Wadi Sarin**	**18.34**	**73**	P	**P**	**18 26 13.4**	**+2.4**
	0.5nm,0.3s,baz=234,slow=6.1,SNR=4.4						
	6.7nm,0.7s						
BR131	**Keskin Array S**	**21.23**	**347**	P	**P**	**18 26 41.5**	**-1.0**
BRTR	**Keskin Array B**	**21.23**	**347**	P	**P**	**18 26 42.4**	**-0.1**
BRTR	**Keskin Array B**	**21.23**	**347**	P	**P**	**18 26 45.4**	**+2.8**
	1.9nm,0.8s,baz=166,slow=14,SNR=14						
	1.9nm,0.8s						
MDUB	**Mudurnu**	**22.52**	**343**	P	**P**	**18 26 54.6**	**-1.8**
KBZ	**Khabaz**	**24.79**	**6**	P	**P**	**18 27 21.4**	**+3.1**
	2.0nm,1.1s,baz=154,slow=14,SNR=2.4						
	2.0nm,1.1s						
RDO	**Rodhopi**	**25.06**	**335**	P	**P**	**18 27 17.9**	**-2.8**
RDO				IAmb	IAmb	18 27 31.7	
	comp=Z,11nm,1.3s						
AKASG	**Malin Array Be**	**32.63**	**348**	P	**P**	**18 28 28.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=166,slow=6.7,SNR=5.1						
	comp=Z,0.1nm,0.3s						
ABKAR	**Akbulak array**	**34.35**	**24**	P	**P**	**18 28 41.8**	**-1.4**
GERES	**GERESS Array B**	**36.29**	**331**	P	**P**	**18 29 00.1**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=140,slow=9.7,SNR=1.3						
	comp=Z,2.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**36.72**	**267**	P	**P**	**18 29 03.2**	**-0.8**
TORD				IAmb	IAmb	18 29 08.6	
	comp=Z,4.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**36.72**	**267**	P	**P**	**18 29 03.1**	**-0.9**
	comp=Z,14nm,0.3s,baz=76,slow=8.5,SNR=10						
BVAR	**Borovoye Array**	**41.53**	**28**	P	**P**	**18 29 45.5**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=227,slow=10.0,SNR=3.8						
	comp=Z,0.8nm,0.7s						
DGAR	**Diego Garcia**	**41.79**	**126**	P	**P**	**18 29 47.9**	**+1.6**
ESDC	**Sonseca Array**	**42.59**	**308**	P	**P**	**18 29 51.4**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=97,slow=7.9,SNR=6.3						
	comp=Z,1.1nm,0.9s						
FINES	**FINESS Array B**	**43.41**	**351**	P	**P**	**18 30 00.0**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=157,slow=12,SNR=3.4						
	comp=Z,3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**44.12**	**35**	P	**P**	**18 30 07.4**	**+2.6**
	comp=Z,1.4nm,0.9s,baz=238,slow=8.0,SNR=7.5						
	comp=Z,1.4nm,0.9s						
KURK	**Kurchatov**	**44.22**	**35**	P	**P**	**18 30 05.8**	**+0.3**
KURK				IAmb	IAmb	18 30 10.6	
	comp=Z,3.4nm,1.1s						
MAKZ	**Makanchi**	**44.38**	**42**	P	**P**	**18 30 06.0**	**-0.9**
MKAR	**Makanchi Array**	**44.57**	**42**	P	**P**	**18 30 10.2**	**+1.7**
	comp=Z,1.4nm,1.0s,baz=236,slow=6.8,SNR=7.6						
	comp=Z,1.4nm,1.0s						
DBIC	**Dimbokro**	**44.81**	**260**	P	**P**	**18 30 09.3**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=72,slow=13,SNR=4.6						
	comp=Z,2.8nm,0.8s						
NOA	**NORSAR Array B**	**46.48**	**341**	P	**P**	**18 30 24.0**	**+0.6**
	comp=Z,2.1nm,1.1s,baz=139,slow=7.9,SNR=3.7						
	comp=Z,2.1nm,1.1s						
EKA	**Eskdalemuir Ar**	**48.42**	**329**	P	**P**	**18 30 39.2**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=124,slow=8.3,SNR=1.6						
	comp=Z,0.8nm,0.6s						
ZAA0	**Zalesovo Array**	**49.12**	**34**	P	**P**	**18 30 44.0**	**+0.1**
ZAA0				IAmb	IAmb	18 30 48.0	
	comp=Z,4.7nm,1.1s						
ZALV	**Zalesovo Beam**	**49.12**	**34**	P	**P**	**18 30 43.2**	**-0.7**
ZALV	**Zalesovo Beam**	**49.12**	**34**	P	**P**	**18 30 46.7**	**+2.8**
	comp=Z,2.1nm,1.0s,baz=238,slow=8.4,SNR=8.4						
	comp=Z,2.1nm,1.0s						
SONM	**Songino Array**	**60.70**	**45**	P	**P**	**18 32 09.5**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=298,slow=8.1,SNR=4.0						
	comp=Z,0.6nm,0.6s						
YKA	**Yellowknife Ar**	**96.20**	**348**	P	**P**	**18 35 25.7**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=26,slow=4.0,SNR=2.7						
	comp=Z,0.1nm,0.4s						

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*IDC **10** 18:32:32.6±1.6, 58°.52N×32°.29W, h0km, mb3.2/9, mbtmp3.3/9, Error ellipse: s-maj=43.2km s-min=22.5km az=6.0*
ISC 10 18:32:34.1±1.4, 58°.5N±0°.3×32°.3W±0°.1, h10km, n9, σ1s23/9, mb3.2/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**21.75**	**65**	P	**P**	**18 37 25.2**	**-0.2**
	0.2nm,0.5s,baz=292,slow=11,SNR=3.4						
	0.2nm,0.5s						
HFS	**Hagfors**	**23.16**	**66**	P	**P**	**18 37 41.7**	**+1.4**
	1.2nm,0.7s,baz=298,slow=9.7,SNR=1.4						
	1.2nm,0.7s						
ESDC	**Sonseca Array**	**26.12**	**124**	P	**P**	**18 38 08.1**	**0.0**
	0.1nm,0.3s,baz=250,slow=2.6,SNR=2.7						
	0.1nm,0.3s						
ARCES	**ARCESS Array B**	**26.47**	**42**	P	**P**	**18 38 10.1**	**-0.8**
	2.7nm,1.0s,baz=287,slow=9.3,SNR=2.4						
	2.7nm,1.0s						
AKASG	**Malin Array Be**	**35.30**	**75**	P	**P**	**18 39 28.4**	**-0.5**
	0.2nm,0.4s,baz=302,slow=8.7,SNR=1.2						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**38.15**	**312**	P	**P**	**18 39 53.1**	**+0.2**
	0.1nm,0.6s,baz=59,slow=8.7,SNR=2.8						
	0.1nm,0.6s						
PDAR	**Pinedale Array**	**48.62**	**287**	P	**P**	**18 41 18.0**	**0.0**
	0.1nm,0.4s,baz=54,slow=8.1,SNR=1.8						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**52.50**	**48**	P	**P**	**18 41 48.7**	**+1.9**
	0.2nm,0.4s,baz=336,slow=3.2,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**62.07**	**45**	P	**P**	**18 42 52.9**	**-1.6**
	0.1nm,0.8s,baz=313,slow=3.0,SNR=3.9						
	0.1nm,0.8s						

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*IDC **10** 18:33:10.9±0.6, 58°.17N×31°.92W, h0km, mb3.9/16, mbtmp3.8/19, ML3.0/3, MS4.8/1, Error ellipse: s-maj=18.8km s-min=13.1km az=179.0*
ISC 10 18:33:13.2±0.6, 58°.2N±0°.1×31°.94W±0°.08, h14km, n24, σ0s82/24, mb3.8/18, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.32**	**33**	Pn	**Pn**	**18 35 14.3**	**+1.1**
	0.4nm,0.3s,baz=260,slow=14,SNR=2.1						
	14nm,1.0s						
FRB	**Frobisher Bay**	**18.43**	**303**	P	**P**	**18 37 27.1**	**-0.6**
	0.1nm,0.3s,baz=76,slow=12,SNR=2.0						
	0.8nm,0.4s						
SCHQ	**Schefferville**	**19.41**	**275**	P	**P**	**18 37 37.7**	**-0.9**
	0.2nm,0.3s,baz=48,slow=9.6,SNR=4.6						
	2.2nm,1.0s						
NOA	**NORSAR Array B**	**21.73**	**64**	P	**P**	**18 38 03.3**	**-0.4**
	0.9nm,0.9s,baz=282,slow=9.1,SNR=2.2						
ESDC	**Sonseca Array**	**25.78**	**124**	P	**P**	**18 38 44.7**	**+1.2**
	1.9nm,0.9s,baz=322,slow=9.5,SNR=8.7						
	1.9nm,0.9s						
ARCES	**ARCESS Array B**	**26.61**	**41**	P	**P**	**18 38 50.0**	**-0.6**
	3.1nm,0.8s,baz=286,slow=6.5,SNR=4.6						
	3.1nm,0.8s						
FINES	**FINESS Array B**	**28.53**	**59**	P	**P**	**18 39 07.6**	**-0.3**
	2.4nm,0.8s,baz=278,slow=9.4,SNR=4.1						
	2.4nm,0.8s						
AKASG	**Malin Array Be**	**35.22**	**75**	P	**P**	**18 40 06.5**	**0.0**
	0.8nm,0.8s,baz=316,slow=8.3,SNR=1.9						
	0.8nm,0.8s						
ULM	**Lac du Bonnet**	**36.90**	**286**	P	**P**	**18 40 20.8**	**-0.2**
	1.0nm,0.7s,baz=79,slow=16,SNR=1.8						
	1.0nm,0.

NOA	NORSAR Array B	21.72	64	P		P	18 38 24.1	+1.0
	comp=Z,5.1nm,1.2s,baz=282,slow=9.1,SNR=4.5							
	comp=Z,5.1nm,1.2s							
HFS	Hagfors	23.12	66	P		P	18 38 38.8	+0.9
	comp=Z,2.8nm,0.7s,baz=260,slow=8.5,SNR=5.9							
	comp=Z,2.8nm,0.7s							
WLF	Walferdange	23.70	94	P		P	18 38 41.0	-2.7
ESDC	Sonseca Array	25.78	124	P		P	18 39 02.1	-0.8
	comp=Z,0.9nm,1.0s,baz=325,slow=11,SNR=2.1							
	comp=Z,0.9nm,1.0s							
ARCES	ARCESS Array B	26.60	41	P		P	18 39 09.6	-0.5
	comp=Z,1.8nm,0.6s,baz=271,slow=9.6,SNR=10							
	comp=Z,1.8nm,0.6s							
EUNU	Eureka	27.30	342	P		P	18 39 17.5	+1.2
EUNU				IAmb		IAmb	18 39 22.6	
	comp=Z,11nm,1.2s							
RES	Resolute Bay	28.17	330	P		P	18 39 25.6	+1.6
FINES	FINESS Array B	28.52	59	P		P	18 39 26.8	-0.5
	comp=Z,3.1nm,0.9s,baz=270,slow=5.7,SNR=4.7							
	comp=Z,3.1nm,0.9s							
KIEV	Kiev	35.20	75	P		P	18 40 24.8	-1.1
KIEV				IAmb		IAmb	18 40 27.7	
	comp=Z,15nm,1.4s							
AKASG	Malin Array Be	35.21	75	P		P	18 40 26.5	+0.5
	comp=Z,0.8nm,0.5s,baz=301,slow=8.4,SNR=12							
	comp=Z,0.8nm,0.5s							
AKBB	Malin Array Si	35.21	75	P		P	18 40 24.8	-1.2
AKBB				IAmb		IAmb	18 40 27.8	
	comp=Z,17nm,1.4s							
ULM	Lac du Bonnet	36.91	286	P		P	18 40 39.5	-1.0
	comp=Z,1.7nm,0.6s,baz=71,slow=4.7,SNR=3.7							
	comp=Z,1.7nm,0.6s							
A36M	Sachs Harbour	37.21	329	P		P	18 40 42.8	-0.1
A36M				IAmb		IAmb	18 40 51.0	
	comp=Z,6.5nm,0.8s							
YKA	Yellowknife Ar	38.52	312	P		P	18 40 54.8	+0.8
	comp=Z,1.9nm,0.8s,baz=59,slow=8.8,SNR=12							
	comp=Z,1.9nm,0.8s							
F31M	Tsiigehtchic	42.23	326	P		P	18 41 26.4	+1.8
BRTR	Keskin Array B	44.86	85	P		P	18 41 44.8	-1.6
BRTR	Keskin Array B	44.86	85	P		P	18 41 47.0	+0.6
	comp=Z,1.6nm,1.1s,baz=292,slow=4.5,SNR=6.1							
	comp=Z,1.6nm,1.1s							
D24K	Happy Valley	45.09	333	P		P	18 41 49.9	+2.3
D24K				IAmb		IAmb	18 41 55.7	
	comp=Z,8.2nm,1.0s							
ILAR	Eielson Array	47.91	328	P		P	18 42 11.1	+1.3
	comp=Z,2.3nm,0.9s,baz=33,slow=6.5,SNR=7.6							
	comp=Z,2.3nm,0.9s							
PDAR	Pinedale Array	48.90	287	P		P	18 42 18.3	+0.2
	comp=Z,1.3nm,0.8s,baz=67,slow=6.2,SNR=6.9							
	comp=Z,1.3nm,0.8s							
SDCO	Great Sand Dun	50.52	280	P		P	18 42 33.5	+2.9
ABKAR	Akbulak array	51.00	57	P		P	18 42 33.0	-0.6
ABKAR	Akbulak array	51.00	57	P		P	18 42 33.6	-0.1
ABKAR				IAmb		IAmb	18 42 36.1	
	comp=Z,14nm,1.4s							
TORD	Torodi Ar. Bea	51.57	136	P		P	18 42 40.3	+2.1
	comp=Z,47nm,0.3s,baz=334,slow=8.5,SNR=7.5							
BVAR	Borovoye Array	52.59	48	P		P	18 42 46.2	+0.8
	comp=Z,0.8nm,0.7s,baz=200,slow=30,SNR=4.7							
	comp=Z,0.8nm,0.7s							
DBIC	Dimbokro	55.49	147	P		P	18 43 06.1	-0.9
	comp=Z,1.8nm,0.9s,baz=311,slow=6.3,SNR=5.3							
	comp=Z,1.8nm,0.9s							
TXAR	Lajitas Array	56.06	272	P		P	18 43 11.2	+0.1
	comp=Z,0.2nm,0.8s,baz=34,slow=9.0,SNR=1.8							
	comp=Z,0.2nm,0.8s							
NVAR	Mina Array Bea	56.55	290	P		P	18 43 14.7	0.0
	comp=Z,0.6nm,0.9s,baz=42,slow=9.5,SNR=3.7							
	comp=Z,0.6nm,0.9s							
ZALV	Zalesovo Beam	57.11	39	P		P	18 43 18.5	+0.3
	comp=Z,0.3nm,0.2s,baz=305,slow=5.1,SNR=1.9							
	comp=Z,0.3nm,0.2s							
KURBB	Kurchatov Arra	57.61	45	P		P	18 43 21.7	0.0
	comp=Z,1.8nm,0.9s,baz=322,slow=7.0,SNR=7.5							
	comp=Z,1.8nm,0.9s							
KKAR	Karatay Array	60.41	55	P		P	18 43 40.7	-0.6
MK31	Makanchi Array	62.17	45	P		P	18 43 52.7	-0.5
MKAR	Makanchi Array	62.17	45	P		P	18 43 53.6	+0.5
	comp=Z,1.5nm,0.8s,baz=338,slow=5.4,SNR=7.5							
	comp=Z,1.5nm,0.8s							
GAR	Garm	63.65	58	P		P	18 44 03.6	+0.4
SONM	Songino Array	68.90	29	P		P	18 44 37.2	+0.4
	comp=Z,0.3nm,0.6s,baz=343,slow=4.5,SNR=2.0							
	comp=Z,0.3nm,0.6s							
ASAR	Alice Springs	144.06	22	PKP		PKPdf	18 53 07.8	+0.2
	comp=Z,0.7nm,1.0s,baz=318,slow=1.7,SNR=3.6							
QSPA	South Pole Qui	148.07	180	PKPbc		PKPbc	18 53 16.3	0.0
	comp=Z,1.8nm,1.0s,baz=244,slow=14,SNR=2.2							

IDC 10 18:33:52.7±1.3, 54°.84S×27°.60W, h0^km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=37.6km s-min=32.9km az=9.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	45.92	77	P	P	18 42 16.8	-0.3
	1.9nm,0.4s,baz=231,slow=7.7,SNR=9.0						
	1.9nm,0.4s						
VNDA	Vanda	47.77	183	P	P	18 42 30.8	0.0
	1.2nm,0.6s,baz=20,slow=2.7,SNR=3.1						
	1.2nm,0.6s						
LPAZ	La Paz	49.49	305	P	P	18 42 45.2	-0.2
	1.2nm,0.4s,baz=177,slow=6.3,SNR=7.7						
	1.2nm,0.4s						
TORD	Torodi Ar. Bea	72.12	30	P	P	18 45 19.1	+0.3
	1.9nm,0.3s,baz=197,slow=4.5,SNR=1.5						

*IDC **10** 18:33:53.0±3.8, 36°.69N×140°.41E, h0^km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=70.6km s-min=21.2km az=160.0*
*JMA **10** 18:34:02.3±0.1, 36°.2N±0°.3×140°.1E±0°.4, h52^km, MV3.3/40, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
ISC 10 18:34:00.9±1.2, 36°.19N±0°.06×140°.07E±0°.06, h63^km±8^km, n16, σ1^s04/19, mb3.1/3, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.11	68	*i* P	Pn	18 34 10.6	+0.3
JYT				S	Sn	18 34 16.3	-0.8
JAG	Ashikaga	0.55	296	⇓*i* P	Pn	18 34 14.3	+0.6
JAG				⇓S	Sn	18 34 22.5	-0.5
JKT	Katashina	0.88	311	P	Pn	18 34 18.4	+0.8
JKT				*e*S	Sn	18 34 30.5	+0.6
JRY	Ryogami san	0.96	260	⇓*i* P	Pn	18 34 19.5	+0.9
JRY				⇓S	Sn	18 34 31.9	+0.2
JOD2	Odawara 2	1.22	221	*e*P	Pn	18 34 23.6	+1.6
JOD2				*e*S	Sn	18 34 38.1	+0.4
JFY	Yanaizu	1.25	347	⇓*i* P	Pn	18 34 24.0	+1.6
JUON	Uonuma	1.30	322	P	Pn	18 34 24.4	+1.4
JFK	Kawauchi	1.34	29	P	Pn	18 34 25.0	+1.4
JFK				*e*S	Sn	18 34 41.2	+0.6
JOTO	OTAMA OYAMA	1.39	9	P	Pn	18 34 24.4	+0.3
MJAR	Matsushiro Arr	1.54	284	Pg	Pn	18 34 26.5	+0.3
	2.8nm,0.3s,baz=89,slow=9.1,SNR=163						
MJAR				Lg	Lg	18 34 47.0	
	1.2nm,0.3s,baz=85,slow=16,SNR=3.3						
SONM	Songino Array	27.38	306	P	P	18 39 40.0	-0.3
	0.2nm,0.6s,baz=112,slow=9.5,SNR=3.1						
	0.2nm,0.6s						
H11S1	WAKE ISLAND Hy	29.34	120	T	T	19 10 55.4	
	baz=314,slow=76,SNR=3.1						
H11S3	WAKE ISLAND Hy	29.34	120	T	T	19 10 51.8	
	baz=314,slow=76,SNR=3.8						
H11S2	WAKE ISLAND Hy	29.36	120	T	T	19 10 53.1	
	baz=314,slow=76,SNR=3.0						
MKAR	Makanchi Array	43.66	303	P	P	18 41 57.5	-1.7
	0.3nm,0.8s,baz=82,slow=9.7,SNR=4.2						
	0.3nm,0.8s						
KURBB	Kurchatov Arra	45.68	308	P	P	18 42 14.6	-0.5
	0.5nm,0.7s,baz=83,slow=7.8,SNR=7.3						
	0.5nm,0.7s						

*IDC **10** 18:34:46.3±0.5, 35°.20S×53°.96E, h0^km, mb4.4/21, mbtmp4.4/22, MLL3.6/1, Error ellipse: s-maj=17.5km s-min=14.7km az=48.0*
*NEIC **10** 18:34:47.7±2.0, 35°.21S±0°.10×53°.8E±0°.2, h10^km±1^km, mb4.8/23, Error ellipse: s-maj=24.1km s-min=15.9km az=77.0*
ISC 10 18:34:47.9±0.4, 35°.20S±0°.07×53°.90E±0°.09, h10^km, n83, σ1^s44/70, mb4.7/42, 1C-4D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	11.06	188	T	T	18 48 47.6	
	baz=8.6,slow=75,SNR=2343						
H04N2	CROZET ISLANDS	11.06	188	T	T	18 48 46.4	
	baz=8.6,slow=75,SNR=2253						
H04N3	CROZET ISLANDS	11.08	188	T	T	18 48 55.1	
	baz=8.6,slow=75,SNR=8778						
FOMA	Nahampoana Res	11.82	328	Pn	Pn	18 37 38.0	+1.5
RER	Riviere de l'E	14.09	7	Pn	Pn	18 38 05.2	-2.4
VOI	Voitsoka	14.64	333	Pn	Pn	18 38 10.9	-4.3
ABPO	Ambohimpanom	17.17	338		Pn	18 38 45.3	-2.9
OPO	Ambohidratompo	17.61	338	P	P	18 38 53.9	-0.7
OPO	Ambohidratompo	17.61	338	P	P	18 38 53.9	-0.7
	baz=142,slow=10,SNR=5.7						
	5.0nm,0.7s						
POGA	Pongola	20.49	286	P	P	18 39 24.4	-1.7
BOSA	Boshof	25.13	277	P	P	18 40 13.0	-0.3
	4.8nm,0.8s,baz=129,slow=13,SNR=5.2						
	4.8nm,0.8s						
H08S1	Diego Garcia H	32.30	36	T	T	19 15 07.3	
	baz=209,slow=75,SNR=190						
H08S2	Diego Garcia H	32.30	36	T	T	19 15 06.9	
	baz=209,slow=75,SNR=135						
H08S3	Diego Garcia H	32.31	36	T	T	19 15 07.9	
	baz=209,slow=75,SNR=216						
SYO	Syowa Base	34.79	189	⇑*e*P	P	18 41 36.6	-1.6
TROLL	Troll, Antarti	45.22	200	⇓P	P	18 43 04.2	-0.8
	comp=Z,386nm,0.8s						
SNAA	Sanae	46.64	201	P	P	18 43 15.8	-0.3
SNAA	Sanae	46.64	201	⇓P	P	18 43 13.1	-3.0
	comp=Z,325nm,0.9s						
SNAA	Sanae	46.64	201	P	P	18 43 16.2	+0.1
	comp=Z,15nm,0.9s,baz=61,slow=8.7,SNR=12						
	comp=Z,15nm,0.9s						
VNA2	Neumayer--Watz	47.83	203	⇓P	P	18 43 26.2	+1.0
	comp=Z,16nm,0.8s,baz=82,slow=2.6						
H01W2	Cape Leeuwin H	48.62	108	T	T	19 35 37.8	
	baz=251,slow=75,SNR=12						
VNA3	Neumayer Olymp	48.63	203	⇓P	P	18 43 30.9	-0.5
	comp=Z,17nm,0.9s						
H01W3	Cape Leeuwin H	48.63	108	T	T	19 35 44.1	
	baz=251,slow=75,SNR=13						
H01W1	Cape Leeuwin H	48.64	108	T	T	19 35 38.7	
	baz=251,slow=75,SNR=12						
QSPA	South Pole Qui	54.98	180	P	P	18 44 18.3	-0.7
QSPA	South Pole Qui	54.98	180	P	P	18 44 18.4	-0.7
	comp=Z,40nm,0.9s,baz=264,slow=3.4,SNR=44						
	comp=Z,40nm,0.9s						
RAYN	Ar Rayn	58.95	351	P	P	18 44 47.5	+0.1
VNDA	Vanda	59.65	166	P	P	18 44 52.6	+0.9
	comp=Z,5.0nm,1.0s,baz=247,slow=5.4,SNR=4.3						
	comp=Z,5.0nm,1.0s						
FITZ	Fitzroy Crossi	65.09	95	P	P	18 45 29.1	+0.1
	comp=Z,6.3nm,1.1s,baz=263,slow=8.1,SNR=2.5						
	comp=Z,6.3nm,1.1s						
KAPI	Kappang	67.44	80	P	P	18 45 43.6	-0.5
	comp=Z,3.7nm,0.6s,baz=137,slow=23,SNR=5.9						
	comp=Z,3.7nm,0.6s						
CM31	Chiang Mai Arr	68.37	46	P	P	18 45 47.7	-2.1
CM31				IAmb	IAmb	18 45 58.3	
	comp=Z,7.0nm,0.9s						
CMAR	Chiang Mai Arr	68.37	46	P	P	18 45 47.7	-2.1
CMAR	Chiang Mai Arr	68.37	46	P	P	18 45 50.0	+0.3
	comp=Z,2.0nm,0.7s,baz=228,slow=7.1,SNR=14						
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	68.94	105	P	P	18 45 53.5	0.0
	comp=Z,2.0nm,0.8s,baz=233,slow=6.1,SNR=8.3						
	comp=Z,2.0nm,0.8s						
TORD	Torodi Ar. Bea	68.95	304	P	P	18 45 54.9	+1.4
	comp=Z,4.8nm,0.7s,baz=128,slow=5.7,SNR=0.7						
DBIC	Dimbokro	69.16	295	P	P	18 45 55.8	+1.0
	comp=Z,1.3nm,0.7s,baz=151,slow=6.4,SNR=3.5						
	comp=Z,1.3nm,0.7s						
MMAI	Mount Meron Ar	70.04	344	P	P	18 46 00.7	+0.8
MMAI	Mount Meron Ar	70.04	344	P	P	18 46 00.7	+0.8
	comp=Z,3.4nm,0.8s,baz=149,slow=9.8,SNR=5.5						
	comp=Z,3.4nm,0.8s						
STKA	Stephens Creek	70.75	116	P	P	18 46 04.2	-0.3
	comp=Z,0.9nm,0.3s,baz=285,slow=5.8,SNR=3.6						
	comp=Z,0.9nm,0.3s						
WRA	Warramunga Arr	71.18	101	P	P	18 46 07.6	+0.3
WRA	Warramunga Arr	71.18	101	P	P	18 46 07.0	-0.3
	comp=Z,4.3nm,0.8s,baz=235,slow=5.5,SNR=8.7						
	comp=Z,4.3nm,0.8s						
WRAB	Tennant Creek	71.20	101	P	P	18 46 07.0	-0.3
WRAB				IAmb	IAmb	18 46 11.0	
	comp=Z,12nm,1.1s						
GEVA	Gevas	73.83	351	P	P	18 46 24.2	+1.5
GEVA				IAmb	IAmb	18 46 27.0	
	comp=Z,6.9nm,0.9s						
SIMJ	Simiganj	74.81	12	P	P	18 46 28.7	+0.3
SIMJ				IAmb	IAmb	18 46 31.0	
	comp=Z,11nm,1.1s						
BR131	Keskin Array S	76.87	344	P	P	18 46 38.9	-1.2
BRTR	Keskin Array B	76.87	344	P	P	18 46 36.9	-3.2
BRTR	Keskin Array B	76.87	344	P	P	18 46 39.6	-0.4
	comp=Z,3.4nm,0.9s,baz=161,slow=4.3,SNR=19						
	comp=Z,3.4nm,0.9s						
KSH	Kashi	77.10	17	P	P	18 46 38.8	-2.5
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				LR	LR		
	comp=N,2μm,17.5s						
KSH				LR	LR		
	comp=E,2μm,16.1s						
KSH				LR	LR		
	comp=Z,3μm,17.5s						
KBZ	Khabaz	79.20	352	P	P	18 46 52.7	+0.1
	comp=Z,2.8nm,1.0s,baz=251,slow=1.4,SNR=4.1						
	comp=Z,2.8nm,1.0s						
KK31	Karatay Array	79.40	12		P	18 46 54.4	+0.5
KK31				IAmb	IAmb	18 47 05.1	
	comp=Z,13nm,1.6s						
KKAR	Karatay Array	79.40	12	P	P	18 46 53.3	-0.6
AAK	Ala-Archa	79.73	15		P	18 46 56.9	+1.1
AAK				IAmb	IAmb	18 47 05.0	
	comp=Z,13nm,1.4s						
KDJ	Kajisay	79.86	17	IAmb	IAmb	18 46 59.2	
	comp=Z,8.9nm,1.0s						
LIT	Litokhoron	80.33	336	IAmb	IAmb	18 47 26.0	
	comp=Z,10nm,1.2s						
KEST	Kesra	81.89	325	P	P	18 47 07.1	-0.4
	comp=Z,3.2nm,0.9s,baz=158,slow=20,SNR=3.6						
	comp=Z,3.2nm,0.9s						
MLR	Muntele Rosu	84.21	341	P	P	18 47 18.6	-0.7
ABKAR	Akbulak array	84.26	4	P	P	18 47 19.1	-0.2
WMQ	Urumqi	84.46	24	*e*P	P	18 47 21.9	+1.4
WMQ				LR	LR		
	comp=N,990nm,10.7s						
WMQ				LR	LR		
	comp=E,570nm,14.9s						
WMQ				LR	LR		
	comp=Z,270nm,17.1s						
LZH	Lanzhou	84.82	39	*e*P	P	18 47 26.1	+3.4
LZH				pmax	pmax		
	comp=Z,24nm,0.9s						
MAKZ	Makanchi	85.46	19	P	P	18 47 25.1	-0.3
MAKZ				IAmb	IAmb	18 47 36.4	
	comp=Z,10nm,1.4s						
GTA	Gaotai	85.50	34	*e*P	P	18 47 26.3	+0.3
GTA				sP	pwP	18 47 33.8	+1.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MK31	Makanchi Array	85.53	19	IAmb	IAmb	18 47 27.3	
	comp=Z,4.6nm,0.8s						
MKAR	Makanchi Array	85.53	19	P	P	18 47 25.5	-0.3
TRQA	Tornquist	85.98	225	P	P	18 47 27.9	-0.7
TRQA				IAmb	IAmb	18 47 30.8	
	comp=Z,9.3nm,0.9s						
XAN	Xi'an	85.98	43	*e*P	P	18 47 29.3	+0.9
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KURBB	Kurchatov Arra	88.18	15	P	P	18 47 38.9	+0.3
	comp=Z,0.3nm,1.0s,baz=211,slow=6.2,SNR=4.0						
	comp=Z,0.3nm,1.0s						
AKASG	Malin Array Be	88.26	345	P	P	18 47 38.6	-0.3
	comp=Z,3.3nm,0.8s,baz=168,slow=4.3,SNR=15						
	comp=Z,3.3nm,0.8s						
AKBB	Malin Array Si	88.26	345	IAmb	IAmb	18 47 40.1	
	comp=Z,7.1nm,1.0s						
KOLS	Kolonicke sedl	88.37	340	*e*P	P	18 47 40.6	+1.0
VYHS	Vyhne	89.00	338	*e*P	P	18 47 44.9	+2.4
BVAR	Borovoye Array	89.03	10	P	P	18 47 42.1	-0.4
	comp=Z,0.5nm,0.8s,baz=164,slow=5.7,SNR=2.1						
	comp=Z,0.5nm,0.8s						
LANS	Liptovska Anna	89.39	338	*e*P	P	18 47 47.1	+2.7
MODS	Modra-Piesok	89.40	337	*e*P	P	18 47 46.5	+2.1
NJ2	Nanjing	90.50	50	*e*P	P	18 47 52.2	+2.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
BDFB	Brasilia	90.52	251	P	P	18 47 51.6	+0.9
	comp=Z,0.7nm,0.3s,baz=52,slow=10,SNR=2.1						
	comp=Z,0.7nm,0.3s						
CPUP	Villa Florida	90.74	237	P	P	18 47 51.6	+0.2
	comp=Z,3.4nm,1.1s,baz=81,slow=8.1,SNR=2.8						
	comp=Z,3.4nm,1.1s						
ESDC	Sonseca Array	91.65	319	P	P	18 47 55.6	+0.5
	comp=Z,1.6nm,0.9s,baz=137,slow=5.0,SNR=7.6						
	comp=Z,1.6nm,0.9s						
HHC	Hu-ho-hao-te	92.39	40	*e*P	P	18 48 01.0	+2.4
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,270nm,5.3s						
ILAR	Eielson Array	147.85	17	PKPbc	PKPbc	18 54 30.9	-1.4
	comp=Z,2.5nm,0.7s,baz=312,slow=3.3,SNR=7.6						
YKA	Yellowknife Ar	151.75	349	PKPbc	PKPbc	18 54 41.6	-0.2
	comp=Z,1.1nm,0.7s,baz=22,slow=1.6,SNR=12						
ULM	Lac du Bonnet	153.42	314	PKPbc	PKPbc	18 54 45.6	-0.4
	comp=Z,1.8nm,0.6s,baz=40,slow=1.7,SNR=4.2						
TXAR	Lajitas Array	160.16	259	PKPab	PKPab	18 55 27.7	-0.3
	comp=Z,0.4nm,0.8s,baz=115,slow=5.7,SNR=3.6						
PDAR	Pinedale Array	165.10	305	PKP	PKPdf	18 54 52.0	-0.4
	comp=Z,0.5nm,0.8s,baz=157,slow=1.1,SNR=3.7						

*IDC **10** 18:35:23.5±0.7, 58°.27N×31°.91W, h0^km, mb3.9/18, mbtmp3.9/20, MLL3.5/2, MS4.5/4, Error ellipse: s-maj=20.2km s-min=13.4km az=4.0*
ISC 10 18:35:25.4±0.6, 58°.3N±0°.1×31°.87W±0°.08, h13^km, n26, σ0^s87/25, mb4.0/19, MS4.5/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.20	33	Pn	Pn	18 37 23.2	-0.6
	0.4nm,0.3s,baz=357,slow=18,SNR=3.7						
	12nm,0.9s						
EKA	Eskdalemuir Ar	15.94	88	Pn	Pn	18 39 07.4	-1.7
	baz=270,slow=17						
	3.4nm,1.0s						
NB2	NORSAR Subarra	21.64	64	P	P	18 40 15.7	+0.7
	comp=Z,52nm,1.7s,baz=282,slow=11						
NOA	NORSAR Array B	21.64	64	P	P	18 40 14.9	-0.1
	comp=Z,3.4nm,1.1s,baz=282,slow=9.2,SNR=4.5						
	comp=Z,3.4nm,1.1s						
HFS	Hagfors	23.04	66	P	P	18 40 31.0	+1.1
	comp=Z,5.7nm,0.7s,baz=260,slow=5.4,SNR=8.6						
	comp=Z,5.7nm,0.7s						
ESDC	Sonseca Array	25.82	124	P	P	18 40 56.8	+0.7
	comp=Z,1.5nm,0.9s,baz=322,slow=8.7,SNR=6.3						
	comp=Z,1.5nm,0.9s						
ARCES	ARCESS Array B	26.49	42	P	P	18 41 01.6	-0.3
	comp=Z,6.9nm,1.1s,baz=267,slow=8.2,SNR=5.0						
	comp=Z,6.9nm,1.1s						
RES	Resolute Bay	28.09	330	LR	LR	18 53 21.2	
	comp=Z,468nm,18.4s,baz=187,slow=38						
FINES	FINESS Array B	28.43	59	P	P	18 41 18.8	-0.5
	comp=Z,1.6nm,0.7s,baz=302,slow=4.3,SNR=3.7						
	comp=Z,1.6nm,0.7s						
AKASG	Malin Array Be	35.15	75	P	P	18 42 18.5	+0.2
	comp=Z,3.4nm,0.8s,baz=301,slow=8.5,SNR=11						
	comp=Z,3.4nm,0.8s						
ULM	Lac du Bonnet	36.90	286	P	P	18 42 33.8	+0.5
	comp=Z,1.1nm,0.7s,baz=77,slow=7.0,SNR=3.4						
	comp=Z,1.1nm,0.7s						
YKA	Yellowknife Ar	38.46	312	P	P	18 42 46.5	+0.2
	comp=Z,1.0nm,0.9s,baz=58,slow=8.9,SNR=6.1						
YKA				PcP	PcP	18 44 59.5	+0.4
	comp=Z,0.1nm,0.3s,baz=54,slow=3.2,SNR=2.2						
YKA				LR	LR	18 58 59.0	
	comp=Z,538nm,18.4s,baz=88,slow=37						
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	44.81	85	P	P	18 43 38.5	-0.4
	comp=Z,2.0nm,1.0s,baz=324,slow=7.1,SNR=6.9						
	comp=Z,2.0nm,1.0s						
KBZ	Khabaz	46.73	74	P	P	18 43 54.6	+0.9
	comp=Z,2.3nm,0.9s,baz=263,slow=5.5,SNR=3.8						
	comp=Z,2.3nm,0.9s						
DLBC	Dease Lake	46.94	315	LR	LR	19 01 32.9	
	comp=Z,1μm,18.3s,baz=87,slow=33						
ILAR	Eielson Array	47.82	328	P	P	18 44 02.8	+0.8
	comp=Z,0.9nm,1.0s,baz=30,slow=6.9,SNR=6.8						
ILAR				PcP	PcP	18 45 28.8	-1.7
	comp=Z,0.5nm,1.0s,baz=35,slow=3.3,SNR=1.6						
	comp=Z,0.9nm,1.0s						
PDAR	Pinedale Array	48.90	287	P	P	18 44 11.0	+0.2
	comp=Z,0.8nm,0.8s,baz=64,slow=8.4,SNR=5.5						
	comp=Z,0.8nm,0.8s						
TORD	Torodi Ar. Bea	51.64	137	P	P	18 44 32.6	+1.1
	comp=Z,47nm,0.3s,baz=335,slow=7.1,SNR=4.1						
BVAR	Borovoye Array	52.48	48	P	P	18 44 38.3	+0.8
	comp=Z,1.8nm,0.9s,baz=308,slow=7.1,SNR=5.9						
	comp=Z,1.8nm,0.9s						
KDAK	Kodiak Island	55.08	326	LR	LR	19 09 50.6	
	comp=Z,478nm,21.0s,baz=76,slow=38						
DBIC	Dimbokro	55.57	147	P	P

1.9nm,0.7s,baz=50,slow=7.8,SNR=8.0
FITZ S **Sn** **18 42 44.1 +2.9**
3.7nm,0.9s,baz=246,slow=19,SNR=1.7
WRA Warramunga Arr 16.30 163 P **Pn** **18 40 30.3 -1.4**
3.7nm,0.9s,baz=347,slow=13,SNR=11
WRA S **Sn** **18 43 26.5 -5.0**
2.1nm,1.0s,baz=331,slow=23,SNR=3.7
WRA LR LR 18 47 56.7
comp=Z,431nm,18.7s,baz=9.0,slow=41
PSA00 Pilbara Seismi 19.55 208 P **Pn** **18 41 14.3 +2.6**
ASAR Alice Springs 19.76 168 P **Pn** **18 41 15.3 +1.0**
3.9nm,0.7s,baz=348,slow=10,SNR=69
ASAR S **S** **18 44 49.5 -4.0**
0.8nm,0.9s,baz=344,slow=20,SNR=3.9
ASAR PcP **PcP** **18 45 30.6 +0.3**
0.4nm,0.5s,baz=4.4,slow=2.5,SNR=5.7
ASAR ScP **ScP** **18 48 58.7 -5.3**
0.3nm,0.9s,baz=333,slow=2.3,SNR=1.5
AS01 Alice Springs 19.77 168 P **Pn** **18 41 15.9 +1.6**
KSM Kuching 19.94 286 P **Pn** **18 41 17.0 +0.6**
WRKA Warakurna 20.67 183 P Pn 18 41 26.3 +1.4
IPM Ipoh 29.67 287 P **P** **18 42 49.7 +1.5**
CMAR Chiang Mai Arr 37.58 308 P **P** **18 43 58.5 +1.6**
3.1nm,0.7s,baz=137,slow=7.4,SNR=33
3.1nm,0.7s
KSRS Korea Array 41.54 358 P **P** **18 44 30.4 +0.9**
1.2nm,0.8s,baz=176,slow=9.3,SNR=10
1.2nm,0.8s
USRK Ussuriysk Ar. 48.31 2 P **P** **18 45 23.8 +0.5**
2.1nm,0.6s,baz=187,slow=6.7,SNR=6.6
2.1nm,0.6s
KLR Kul'dur 53.32 2 P **P** **18 46 01.9 +0.9**
1.2nm,0.7s,baz=233,slow=4.2,SNR=4.1
1.2nm,0.7s
SONM Songino Array 55.69 341 P **P** **18 46 18.9 +0.5**
0.9nm,0.7s,baz=155,slow=7.7,SNR=7.0
0.9nm,0.7s
PETK Petropavlovsk- 61.94 19 P **P** **18 47 02.8 +1.3**
4.0nm,0.8s,baz=177,slow=8.7,SNR=4.2
4.0nm,0.8s
MKAR Makanchi Array 65.65 326 P **P** **18 47 26.2 +0.1**
5.1nm,0.7s,baz=125,slow=7.5,SNR=47
5.1nm,0.7s
ZALV Zalesovo Beam 68.90 334 P **P** **18 47 46.5 0.0**
3.2nm,0.8s,baz=104,slow=6.3,SNR=12
3.2nm,0.8s
KURBB Kurchatov Arra 69.90 328 P **P** **18 47 53.2 +0.4**
8.8nm,0.8s,baz=129,slow=5.5,SNR=97
8.8nm,0.8s
BVAR Borovoye Array 75.47 328 P **P** **18 48 26.5 +0.6**
4.5nm,0.8s,baz=133,slow=8.3,SNR=17
4.5nm,0.8s
QSPA South Pole Qui 85.69 180 P **P** **18 49 20.6 +0.1**
2.6nm,1.1s,baz=274,slow=16,SNR=1.7
2.6nm,1.1s
KBZ Khabaz 90.41 314 P **P** **18 49 43.9 +0.5**
1.8nm,1.0s,baz=279,slow=19,SNR=2.2
1.8nm,1.0s
BRTR Keskin Array B 97.16 309 LR LR 19 40 05.2
comp=Z,208nm,21.0s,baz=313,slow=39
PLCA Paso Flores 131.62 160 PKP **PKPdf** **18 55 54.5 -0.6**
2.3nm,1.0s,baz=171,slow=3.5,SNR=3.2
CPUP Villa Florida 148.88 168 PKPbc **PKPbc** **18 56 29.6 -0.6**
2.9nm,0.9s,baz=180,slow=4.1,SNR=3.8
LPAZ La Paz 153.19 140 PKPbc **PKiKP** **18 56 41.4 -0.1**
0.6nm,0.5s,baz=160,slow=2.8,SNR=3.8

JMA 10 18:43:02.2±0.1, 32°.9N±0°.1×131°.0E±0°.2, h10km, MV0.3/10, NE KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.38**	**279**	P	Pg	18 43 09.7	+0.1
JTA				*e*S	Sg	18 43 15.1	+0.4

MOS ***10*** *18:43:40.6±1.1, 36°.79N×142°.42E, h10km, mb5.0/40, MS4.6/7, Error ellipse: s-maj=7.2km s-min=4.4km az=114.9*
IDC ***10*** *18:43:41.3±0.5, 36°.70N×142°.37E, h0km, mb4.4/29, mbtmp4.4/37, ML3.9/7, MS4.7/16, Error ellipse: s-maj=13.3km s-min=11.4km az=126.0*
NEIC ***10*** *18:43:42.7±2.1, 36°.73N±0°.06×142°.43E±0°.10, h10km±1km, mb5.0/58, Mww5.0/7, Error ellipse: s-maj=12.9km s-min=10.5km az=96.0*
BJI ***10*** *18:43:43.3, 36°.79N×142°.15E, h14km, mB5.2/17, mb4.8/71, Ms5.1/30, Ms7 5.0/30*
NIED ***10*** *18:43:43.9, 36°.74N×142°.36E, h37km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.79; Mθθ-0.30; Mφφ-0.50; Mrθ0.33; Mθφ-0.03; Mφr-4.80; Fault plane solution: M0 4.86000×10^16 NP1:φs 5.00000°, δ4.00000°, λ,98.00000°. NP2:φs 176.00000°, δ86.00000°, λ,89.00000°.*
JMA ***10*** *18:43:43.9±0.2, 36°.7N±0°.5×142°.4E±0°.9, h37km, MD5.0/39, MV4.6/39, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
GCMT ***10*** *18:44:00.7±0.5, 36°.54N±0°.02×142°.64E±0°.04, h33km±1km, MW5.2/77, Moment Tensor Solution. s32,c42; s77,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.18±.39; Mθθ-0.17±.26; Mφφ-4.01±.24; Mrθ5.43±.44; Mθφ-1.40±.14; Mφr2.76±.25; Best double couple: M0 7.38300×10^16 NP1:φs 179.00000°, δ25.00000°, λ,41.00000°. NP2: φs 51.00000°, δ74.00000°, λ,109.00000°. Principal axes: T 8.0520, Plg57.0000°, Azm346.0000°; N -1.3350, Plg18.0000°, Azm225.0000°; P -6.7150, Plg26.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 18:43:42.6±0.6, 36°.68N±0°.04×142°.53E±0°.04, h15km±3km, h15km:pP-P, n598, σ2s90/551, mb4.8/118, MS4.9/25, 22C-16D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.45**	**287**	*i* P	**Pn**	**18 44 06.3**	**-2.1**
ONAJ				*e*S	**Sn**	**18 44 22.9**	**-4.3**
ONAJ	**Iwakimizuishiy**	**1.45**	**287**	A	A	18 44 06.3	
	comp=N,18nm,2.7s,comp=E,25nm,2.4s						
JFK	**Kawauchi**	**1.49**	**298**	P	**Pn**	**18 44 06.8**	**-2.2**
JHO	**Hitachi**	**1.58**	**268**	*i* P	**Pn**	**18 44 08.2**	**-1.9**
JHO				*e*S	**Sn**	**18 44 26.4**	**-4.0**
JHO	**Hitachi**	**1.58**	**268**	A	A	18 44 08.2	
	comp=N,18nm,1.6s,comp=E,22nm,3.4s						
JHYU	**Hitachinakayam**	**1.60**	**258**	*i* P	**Pn**	**18 44 09.2**	**-1.2**
JHYU				*e*S	**Sn**	**18 44 27.4**	**-3.5**
JHYU	**Hitachinakayam**	**1.60**	**258**	A	A	18 44 09.2	
	comp=N,29nm,2.0s,comp=E,43nm,1.1s						
JFFD	**Fukushimafurud**	**1.63**	**285**	P	**Pn**	**18 44 08.8**	**-2.1**
JFFD				*e*S	**Sn**	**18 44 27.1**	**-4.5**
JFFD	**Fukushimafurud**	**1.63**	**285**	A	A	18 44 08.8	
	comp=N,9.0nm,3.0s,comp=E,15nm,3.4s						
JMST	**Minamisoumatoc**	**1.68**	**309**	A	A	18 44 09.7	
	comp=N,24nm,2.7s,comp=E,18nm,2.2s						
JMM	**Marumori**	**1.82**	**311**		**Pn**	**18 44 11.6**	**-1.9**
JMM	**Marumori**	**1.82**	**311**	P	**Pn**	**18 44 12.3**	**-1.2**
JMM	**Marumori**	**1.82**	**311**	P	**Pn**	**18 44 11.7**	**-1.8**
JMM				*e*S	**Sn**	**18 44 32.3**	**-4.1**
JMM	**Marumori**	**1.82**	**311**	A	A	18 44 11.7	
	comp=N,20nm,4.2s,comp=E,17nm,3.4s						
JYT	**Yasato**	**1.94**	**257**	A	A	18 44 13.8	
	comp=N,26nm,3.5s,comp=E,20nm,7.0s						
JOTO	**OTAMA OYAMA**	**1.96**	**297**	*i* P	**Pn**	**18 44 14.4**	**-1.0**
JOTO				*e*S	**Sn**	**18 44 36.5**	**-3.4**
JOTO	**OTAMA OYAMA**	**1.96**	**297**	A	A	18 44 14.4	
	comp=N,35nm,3.1s,comp=E,33nm,1.1s						
JIO	**Ouri**	**2.00**	**332**	*i* P	**Pn**	**18 44 14.7**	**-1.2**
JIO				*e*S	**Sn**	**18 44 37.6**	**-3.2**
JSB	**Shiboa**	**2.12**	**279**	A	A	18 44 16.0	
	comp=N,52nm,4.1s,comp=E,71nm,1.4s						
JOU	**Okura**	**2.24**	**319**	P	**Pn**	**18 44 19.4**	**+0.2**
JOU	**Okura**	**2.24**	**319**	A	A	18 44 19.4	
	comp=N,42nm,2.4s,comp=E,47nm,2.3s						
JYAR	**Yonezawaarcadi**	**2.27**	**304**	A	A	18 44 18.1	
	comp=N,36nm,1.0s,comp=E,41nm,1.3s						
JCN	**Nagara**	**2.27**	**237**	A	A	18 44 19.1	
	comp=N,85nm,2.8s,comp=E,94nm,3.1s						
JOFO	**Osakifurukawao**	**2.31**	**327**	A	A	18 44 19.1	
	comp=N,116nm,4.0s,comp=E,112nm,2.5s						
JFY	**Yanaizu**	**2.38**	**289**	P	**Pn**	**18 44 20.2**	**-0.9**
JFY	**Yanaizu**	**2.38**	**289**	A	A	18 44 20.2	
	comp=N,13nm,2.9s,comp=E,16nm,1.5s						
BSO1	**Boso 1**	**2.39**	**212**	P	**Pn**	**18 44 21.2**	**+0.5**
BSO1				*e*S	**Sn**	**18 44 48.2**	**-1.2**
OFUJ	**Ofunato**	**2.49**	**344**	A	A	18 44 22.2	
	comp=N,7.0nm,4.4s,comp=E,12nm,3.0s						
JAG	**Ashikaga**	**2.49**	**265**	*i* P	**Pn**	**18 44 21.5**	**-1.1**
JAG				*e*S	**Sn**	**18 44 49.3**	**-3.5**
JAG	**Ashikaga**	**2.49**	**265**	A	A	18 44 21.5	
	comp=N,11nm,1.6s,comp=E,9.0nm,1.5s						
JYS	**Shiratake**	**2.49**	**309**	A	A	18 44 21.5	
	comp=N,33nm,1.6s,comp=E,33nm,1.8s						
JMK	**Ichinoseki**	**2.49**	**336**	*i* P	**Pn**	**18 44 22.1**	**-0.6**
JMK				S	**Sn**	**18 44 50.0**	**-2.9**
JMK	**Ichinoseki**	**2.49**	**336**	A	A	18 44 22.1	
	comp=N,10.0nm,2.8s,comp=E,13nm,9.5s						
JNS	**Sasagawa**	**2.81**	**295**	A	A	18 44 25.8	
	comp=N,7.0nm,3.2s,comp=E,9.0nm,4.4s						
JYK	**Kaneyama**	**2.82**	**323**	P	**Pn**	**18 44 26.5**	**-0.7**
JYK	**Kaneyama**	**2.82**	**323**	A	A	18 44 26.5	
	comp=N,16nm,4.7s,comp=E,15nm,3.5s						
JSGW	**Sagamiharawaka**	**2.90**	**249**	A	A	18 44 27.7	
	comp=N,18nm,1.6s,comp=E,14nm,2.8s						
JOM	**Ohasama**	**2.96**	**341**	A	A	18 44 28.7	
	comp=N,5.0nm,2.8s,comp=E,9.0nm,3.8s						
JRY	**Ryogami san**	**3.00**	**258**	*i* P	**Pn**	**18 44 28.8**	**-0.9**
JRY	**Ryogami san**	**3.00**	**258**	A	A	18 44 28.8	
	comp=N,12nm,5.8s,comp=E,9.0nm,1.7s						
JRG	**Rokugo**	**3.10**	**332**	A	A	18 44 30.5	
	comp=N,22nm,4.4s,comp=E,20nm,3.6s						
JYYZ	**Yamagatayuza**	**3.11**	**319**	A	A	18 44 30.4	
	comp=N,44nm,3.8s,comp=E,61nm,4.2s						
JOD2	**Odawara 2**	**3.13**	**244**	A	A	18 44 31.1	
	comp=N,19nm,3.5s,comp=E,26nm,3.0s						
JGK	**Kuni**	**3.13**	**269**	A	A	18 44 30.6	
	comp=N,15nm,1.5s,comp=E,16nm,2.4s						
JIZZ	**Izumozaki**	**3.17**	**287**	A	A	18 44 31.0	
	comp=N,52nm,3.2s,comp=E,41nm,3.0s						
JSZI	**Iwateshizukuis**	**3.30**	**338**	A	A	18 44 33.5	
	comp=N,24nm,2.3s,comp=E,31nm,2.8s						
JYW	**Yuwa**	**3.39**	**328**	A	A	18 44 34.6	
	comp=N,34nm,2.8s,comp=E,30nm,4.0s						
MJAR	**Matsushiro Arr**	**3.48**	**269**	Pn	**Pn**	**18 44 36.1**	**-0.2**
	comp=E,5.4nm,0.3s,baz=85,slow=16,SNR=193						
MJAR				Sn	**Sn**	**18 45 17.2**	**-0.1**
	comp=E,8.0nm,0.3s,baz=98,slow=19,SNR=6.3						
MJAR				LR	LR	18 46 19.2	
	comp=E,11μm,18.9s,baz=116,slow=47						
	comp=E,206nm,0.8s						
MAJO	**Matsushiro**	**3.48**	**269**	Pn	**Pn**	**18 44 36.6**	**+0.3**
MAJO	**Matsushiro**	**3.48**	**269**	P	**Pn**	**18 44 37.1**	**+0.8**
MAJO	**Matsushiro**	**3.48**	**269**	*i* P	**Pn**	**18 44 35.5**	**-0.8**
MJB9	**Matsu-Tunnel**	**3.48**	**269**	Pn	**Pn**	**18 44 37.6**	**+1.2**
JJN	**Nakama**	**3.53**	**278**	A	A	18 44 36.1	
	comp=N,16nm,4.2s,comp=E,19nm,4.5s						
JSD	**Sado**	**3.66**	**293**		**Pn**	**18 44 38.0**	**-0.7**
JSD	**Sado**	**3.66**	**293**	P	**Pn**	**18 44 38.5**	**-0.2**
JAH	**Hinai**	**3.81**	**338**	A	A	18 44 40.7	
	comp=N,7.0nm,5.0s,comp=E,12nm,2.7s						
SHZ3	**Shizuoka 3**	**3.86**	**247**	A	A	18 44 41.4	
	comp=N,14nm,4.9s,comp=E,12nm,1.5s						
JNTW	**Noshirotokiwa**	**4.04**	**333**	A	A	18 44 43.8	
	comp=N,46nm,3.2s,comp=E,49nm,3.8s						
JHJ2	**Mitsune**	**4.20**	**213**	P	**Pn**	**18 44 48.2**	**+2.0**
JHJ	**Hachijo jima 2**	**4.21**	**213**	Pn	**Pn**	**18 44 45.7**	**-0.6**
	comp=E,93nm,0.3s,baz=325,slow=24,SNR=6.1						
JHJ				Sn	**Sn**	**18 45 30.6**	**-4.7**
	comp=E,222nm,0.3s,baz=138,slow=22,SNR=6.1						
	comp=E,153nm,0.3s						
JTM	**Tenmabayashi**	**4.26**	**345**		**Pn**	**18 44 48.0**	**+1.1**
JTM	**Tenmabayashi**	**4.26**	**345**	P	**Pn**	**18 44 46.5**	**-0.4**
JGF	**Kuroka**	**4.32**	**257**	Pn	**Pn**	**18 44 48.6**	**+0.7**
JGF	**Kuroka**	**4.32**	**257**	P	**Pn**	**18 44 48.9**	**+1.0**
INU	**Inuyama**	**4.66**	**255**	Pn	**Pn**	**18 44 53.5**	**+1.0**
INU	**Inuyama**	**4.66**	**255**	P	**Pn**	**18 44 53.6**	**+1.1**
ERM	**Erimo**	**5.35**	**5**	Pn	**Pn**	**18 45 01.7**	**-0.2**
ERM	**Erimo**	**5.35**	**5**	P	**Pn**	**18 45 00.7**	**-1.2**
ERM	**Erimo**	**5.35**	**5**	*c*eP	**Pn**	**18 45 00.3**	**-1.6**
ERM				pmax	pmax		
	comp=Z,82nm,1.3s						
JEM	**Erimo**	**5.35**	**5**	P	**Pn**	**18 45 01.0**	**-0.9**
NMR	**Nemuro--Hokkai**	**7.12**	**19**	*e*P	**Pn**	**18 45 23.8**	**-2.4**
NMR				*e*S	**Sn**	**18 46 39.4**	**-7.3**
ASAJ	**Asahikawa**	**7.43**	**0**	Pn	**Pn**	**18 45 29.9**	**-0.6**
	comp=Z,5.0nm,0.3s,baz=213,slow=13,SNR=88						
ASAJ				Sn	**Sn**	**18 46 51.5**	**-3.0**
	baz=210,slow=16						
	comp=Z,10nm,0.3s						
ASAJ	**Asahikawa**	**7.43**	**0**	P	**Pn**	**18 45 30.3**	**-0.2**
JKA	**Kamikawa-asahi**	**7.43**	**0**		**Pn**	**18 45 30.3**	**-0.1**
JMN	**Monobe**	**7.67**	**250**	P	**Pn**	**18 45 35.5**	**+1.6**
RUSJ	**Misakicho**	**7.70**	**15**	*e*P	**Pn**	**18 45 33.2**	**-1.0**
RUSJ				*e*S	**Sn**	**18 46 57.9**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**7.77**	**18**	*e*P	**Pn**	**18 45 33.6**	**-1.6**
YUK				*e*S	**Sn**	**18 46 57.2**	**-5.7**
YUK				pmax	pmax		
	comp=N,34nm,0.3s						
YUK				pmax	pmax		
	comp=E,20nm,0.3s						
YUK				pmax	pmax		
	comp=Z,83nm,0.3s						
YUK				MLR	MLR		
	comp=Z,4μm,17.0s						
YUK				MLR	MLR		
	comp=N,5μm,15.0s						
YUK				MLR	MLR		
	comp=E,1μm,11.0s						
KUR	**Kuril'sk**	**9.45**	**24**	*i* P	**Pn**	**18 45 54.2**	**-3.9**
KUR				*e*S	**Sn**	**18 47 36.3**	**-7.7**
JCJ	**Chichijima**	**9.56**	**182**	Pn	**Pn**	**18 45 58.3**	**-1.4**
JCJ	**Chichijima**	**9.56**	**182**	Pn	Pn	18 45 50.9	-8.9
	comp=E,10nm,0.3s,baz=295,slow=18,SNR=1.7						
JCJ				Sn	Sn	18 47 33.2	-14
	comp=E,11nm,0.3s,baz=328,slow=18,SNR=1.3						
JCJ	**Chichijima**	**9.56**	**182**	P	**Pn**	**18 46 00.7**	**+0.9**
JNU	**Nakatsue**	**10.21**	**253**	Pn	**Pn**	**18 46 08.2**	**-0.5**
	comp=E,0.8nm,0.3s,baz=120,slow=1.9,SNR=6.3						
	comp=E,14nm,0.9s						
JNU	**Nakatsue**	**10.21**	**253**	P	**Pn**	**18 46 10.2**	**+1.6**
YSS	**Yuzhno-Sakhali**	**10.27**	**1**	Pn	**Pn**	**18 46 08.2**	**-1.2**
YSS	**Yuzhno-Sakhali**	**10.27**	**1**	*e*P	**Pn**	**18 46 08.5**	**-0.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
VLA	**Vladivostok**	**10.40**	**311**	*i* P	**Pn**	**18 46 10.5**	**-0.7**
MSHR	**Mys Shultsa**	**10.56**	**307**	*i* P	**Pn**	**18 46 12.3**	**-1.1**
USA0B	**Ussuriysk Arra**	**10.99**	**316**	Pn	**Pn**	**18 46 18.6**	**-0.7**
USA0B	**Ussuriysk Arra**	**10.99**	**316**	*i* P	**Pn**	**18 46 18.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.99**	**316**	Pn	**Pn**	**18 46 19.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=116,slow=13,SNR=11						
	comp=Z,4.3nm,0.9s						
KSRS	**Korea Array**	**11.70**	**278**	Pn	**Pn**	**18 46 28.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=86,slow=13,SNR=15						
	comp=Z,7.5nm,0.9s						
KSAR	**Wonju Array Be**	**11.73**	**278**		**Pn**	**18 46 28.1**	**-1.3**
KSAR	**Wonju Array Be**	**11.73**	**278**	P	**Pn**	**18 46 28.1**	**-1.3**
MDJ	**Mudanjiang**	**12.61**	**313**	Pn	**Pn**	**18 46 44.1**	**+2.7**
MDJ	**Mudanjiang**	**12.61**	**313**	P	P	18 46 47.5	-5.4
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,1μm,10.0s						
TYV	**Tymovskoe**	**14.18**	**0**	*e*P	**P**	**18 47 11.8**	**+1.6**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,500nm,4.8s						
BNX	**BinXian**	**14.53**	**313**	⇓P	**Pn**	**18 47 04.8**	**-2.8**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GRNR	**Gornyy**	**14.75**	**345**	⇓*i*P	**P**	**18 47 17.9**	**+1.2**
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GRNR				MLR	MLR		
	comp=Z,1μm,15.0s						
KLR	**Kul'dur**	**14.80**	**331**	Pn	**Pn**	**18 47 10.0**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=157,slow=13,SNR=5.1						
	comp=Z,0.6nm,0.4s						
KLR	**Kul'dur**	**14.80**	**331**	P	**Pn**	**18 47 09.6**	**-1.7**
CN2	**Changchun**	**14.85**	**304**	*e*P	**Pn**	**18 47 09.1**	**-2.8**
CN2				*e*S	Sn	18 49 44.1	-12
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,16.1s						
DL2	**Dalian**	**16.67**	**284**	P	**P**	**18 47 36.8**	**-1.2**
DL2				S	**Sn**	**18 50 38.4**	**-2.1**
DL2				pmax	pmax		
	comp=Z,25nm,1.2s						
DL2				pmax	pmax		
	comp=Z,340nm,4.9s						
DL2				LR	LR		
	comp=Z,3μm,18.0s						
DL2				LR	LR		
	comp=Z,4μm,18.3s						
DL2				LR	LR		
	comp=Z,7μm,18.2s						
PETK	**Petropavlovsk-**	**19.56**	**28**	P	**Pn**	**18 48 12.3**	**+1.3**
	comp=Z,3.5nm,1.0s,baz=234,slow=10,SNR=1.7						
NJ2	**Nanjing**	**20.07**	**264**	*e*P	Pn	18 48 16.6	-0.6
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ZEA	**Zeya**	**20.09**	**333**	*e*P	**P**	**18 48 15.0**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				MLR	MLR		
	comp=E,900nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,15.0s						
TIA	**Tai'an**	**20.43**	**276**	P	**P**	**18 48 17.6**	**-1.8**
TIA				pmax	pmax		
	comp=Z,17nm,1.4s						
TIA				LR	LR		
	comp=Z,3μm,16.2s						
TIA				LR	LR		
	comp=Z,2μm,15.2s						
TIA				LR	LR		
	comp=Z,5μm,17.2s						
BJI	**Beijing**	**20.91**	**287**	P	**P**	**18 48 21.2**	**-3.3**
BJT	**Baijiatuau**	**20.92**	**287**	P	**P**	**18 48 20.5**	**-4.1**
BJT	**Baijiatuau**	**20.92**	**287**	P	**P**	**18 48 20.5**	**-4.1**
BJT				pmax	pmax		
	comp=Z,59nm,1.8s						
XLT	**XiLinHaoTe**	**21.37**	**298**	*e*P	**P**	**18 48 26.0**	**-3.5**
XLT				pmax	pmax		
	comp=Z,19nm,0.9s						
HNS	**HongShan**	**22.20**	**280**	⇓P	**P**	**18 48 34.3**	**-4.0**
HNS				pmax	pmax		
	comp=Z,40nm,1.1s						
HNS				LR	LR		
	comp=Z,1μm,14.3s						
HNS				LR	LR		
	comp=Z,3μm,15.7s						
HNS				LR	LR		
	comp=Z,4μm,16.0s						
MA2	**Magadan**	**23.52**	**11**	P	**P**	**18 48 52.1**	**+0.2**
MA2	**Magadan**	**23.52**	**11**	LR	LR	18 57 59.3	
	comp=Z,609nm,20.2s,baz=130,slow=36						
MA2	**Magadan**	**23.52**	**11**	*c*eP	**P**	**18 48 52.0**	**+0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2	**Magadan**	**23.52**	**11**	P	**P**	**18 48 51.8**	**-0.1**
	comp=Z,19nm,1.0s						
WHN	**Wuhan**	**24.20**	**264**	P	**P**	**18 48 57.8**	**-0.9**
WHN				pmax	pmax		
	comp=Z,110nm,1.3s						
HHC	**Hu-ho-hao-te**	**24.43**	**289**	*e*P	**P**	**18 49 01.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,370nm,6.7s						
LYN	**LuoYang**	**24.49**	**274**	*e*P	**P**	**18 49 01.0**	**-0.2**
LYN				pmax	pmax		
	comp=Z,44nm,0.8s						
LYN				LR	LR		
	comp=Z,4μm,17.5s						
LYN				LR	LR		
	comp=Z,3μm,20.0s						
LYN				LR	LR		
	comp=Z,6μm,17.1s						
CIT	**Chita**	**25.55**	**316**	*e*P	**P**	**18 49 10.2**	**-0.6**
CIT				*e*		18 49 16.2	
CIT				*e*		18 49 50.0	
CIT				*e*		18 54 39.8	
CIT				pmax	pmax		
	comp=Z,186nm,1.6s						
BTO	**Baotou**	**25.61**	**289**	*e*P	**P**	**18 49 10.2**	**-1.3**
BTO				pP	**sP**	**18 49 15.8**	**-0.3**
BTO				sP	**pwP**	**18 49 19.2**	**-0.6**
BTO				PP	**PnPn**	**18 49 50.0**	**+2.6**
BTO				pmax	pmax		
	comp=Z,17nm,1.0s						
BTO				pmax	pmax		
	comp=Z,2μm,10.4s						
YAK	**Yakutsk**	**26.62**	**346**	P	**P**	**18 49 20.3**	**+0.1**
YAK				IAmb	IAmb	18 49 41.6	
	comp=Z,55nm,0.9s						
YAK	**Yakutsk**	**26.62**	**346**	LR	LR	19 02 10.5	
	comp=Z,1μm,18.9s,baz=99,slow=42						
YAK	**Yakutsk**	**26.62**	**346**	*e*P	**P**	**18 49 20.3**	**+0.1**
YAK				*e**PP	**sP**	**18 49 25.6**	**+1.3**
YAK				*e*		18 50 02.7	
YAK				*e*S	**S**	**18 53 58.6**	**+4.3**
YAK				*e**SS	sS	18 54 08.4	+8.3
YAK				*e*SS	**SnSn**	**18 55 08.5**	**+12**
YAK				pmax	pmax		
	comp=Z,26nm,0.8s						
YAK				pmax	pmax		
	comp=N,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,57nm,1.2s						
YAK				pmax	pmax		
	comp=N,62nm,1.3s						
YAK				pmax	pmax		
	comp=E,24nm,1.3s						
YAK				smax	smax		
	comp=E,41nm,2.2s						
YAK				smax	smax		
	comp=N,188nm,3.4s						
YAK				MLR	MLR		
	comp=Z,3μm,16.0s						
YAK				MLR	MLR		
	comp=N,849nm,15.0s						
YAK				MLR	MLR		
	comp=E,1μm,20.0s						
SEY	**Seymchan**	**26.97**	**10**	*i* P	**P**	**18 49 22.2**	**-1.2**
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.20**	**122**	T	T	19 18 29.2	
	baz=314,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**27.21**	**122**	T	T	19 18 29.9	
	baz=314,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**27.22**	**122**	T	T	19 18 30.5	
	baz=314,slow=75,SNR=55						
XAN	**Xi'an**	**27.46**	**275**	P	**P**	**18 49 27.5**	**-0.7**
XAN				pP	pP	18 49 30.8	-0.6
XAN				pmax	pmax		
	comp=Z,48

IRK pmax pmax
comp=Z,39nm,1.5s
LZH Lanzhou 31.01 281 *e*P **P 18 50 00.0 +0.2**
LZH sP pwP 18 50 08.2 0.0
LZH pmax pmax
comp=Z,45nm,1.1s
LZH LR LR
comp=Z,2μm,16.1s
LZH LR LR
comp=Z,3μm,16.4s
LZH LR LR
comp=Z,5μm,16.8s
ZAK Zakamensk 31.19 309 *e*P **P 18 50 00.5 -0.7**
ZAK pmax pmax
comp=Z,18nm,1.4s
GYA Guiyang 32.05 262 ⇓P **P 18 50 08.2 -0.8**
GYA pmax pmax
comp=Z,24nm,1.1s
CD2 Chengdu 32.58 271 P **P 18 50 12.9 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.5s
MOY Mondy 32.85 310 *e*P **P 18 50 15.6 -0.2**
MOY pmax pmax
comp=Z,15nm,2.4s
GTA Gaotai 33.52 288 *e*P **P 18 50 22.3 +0.5**
GTA sP pwP 18 50 29.4 -0.8
GTA PcP **PcP 18 53 05.9 +3.5**
GTA pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 34.12 16 *ce*P **P 18 50 25.6 -0.9**
BILL pmax pmax
comp=Z,13nm,1.4s
TIXI Tiksi 35.75 353 *i* P **P 18 50 38.4 -2.1**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
KMI Kunming 35.80 263 ⇑P **P 18 50 40.9 -0.8**
KMI pmax pmax
comp=Z,15nm,0.9s
PZH PanZhiHua 35.96 265 P **P 18 50 42.5 -0.5**
PZH S **S 18 56 19.9 -1.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,640nm,10.8s
PZH LR LR
comp=Z,2μm,17.2s
PZH LR LR
comp=Z,2μm,18.1s
PZH LR LR
comp=Z,3μm,17.3s
GOMU GeErMu 38.08 284 P **P 18 51 00.6 -0.6**
GOMU pP pwP 18 51 09.6 +0.1
GOMU pmax pmax
comp=Z,62nm,1.4s
GAMB Gambell 38.56 31 P **P 18 51 02.4 -2.0**
baz=248
RKPI Ransiki, Papua 38.78 193 P P 18 51 14.7 +7.9
comp=Z,3μmcomp=Z,29nm,0.8s
UNV Unalaska Valle 38.82 47 P **P 18 51 04.1 -2.6**
baz=265
TNCH TengChong 39.22 265 P **P 18 51 10.1 -0.5**
TNCH S **S 18 57 07.6 -3.1**
TNCH pmax pmax
comp=Z,16nm,1.1s
TNCH pmax pmax
comp=Z,98nm,3.9s
TNCH LR LR
comp=Z,950nm,15.7s
TNCH LR LR
comp=Z,780nm,14.1s
TNCH LR LR
comp=Z,1μm,15.6s
M11K Mekoryuk 40.00 37 P **P 18 51 13.5 -3.0**
baz=257
TNA Tin City 40.72 29 P **P 18 51 20.5 -1.9**
baz=250
MRSI Marisa 40.76 213 P P 18 51 30.5 +7.3
comp=Z,870nmcomp=Z,60nm,1.2s
K13K Kusilvak Mount 41.08 35 P **P 18 51 22.4 -2.9**
baz=257
F14K Arctic Creek 41.32 29 P **P 18 51 24.6 -2.7**
baz=252
M13K Dall Lake 41.39 37 P **P 18 51 25.5 -2.5**
baz=260
ANM Nome 41.43 31 P **P 18 51 27.0 -1.2**
baz=254
SANI Sanana 41.50 205 P P 18 51 35.0 +5.7
comp=Z,39nm,1.5s
S12K Black Hills 41.53 45 P **P 18 51 27.9 -1.2**
baz=267
J14K Nanwaranak Lak 41.76 34 P **P 18 51 29.3 -1.6**
baz=257
MSAI Masohi 41.79 201 P P 18 51 38.3 +6.6
comp=Z,3μmcomp=Z,69nm,1.3s
WMQ Urumqi 41.80 297 *e*P **P 18 51 32.3 +0.7**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ LR LR
comp=Z,2μm,14.5s
WMQ LR LR
comp=Z,2μm,11.9s
WMQ LR LR
comp=Z,800nm,17.9s
L14K Kuka Creek 41.88 36 P **P 18 51 30.7 -1.3**
baz=260
F15K North Star Dit 42.06 29 P **P 18 51 31.0 -2.4**
baz=253
CHTO Chiang Mai 42.08 257 P **P 18 51 34.0 -0.1**
CHTO Chiang Mai 42.08 257 P **P 18 51 34.0 -0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
G15K Niukluk 42.10 31 P **P 18 51 30.6 -3.1**
baz=254
M14K Bethel 42.13 37 P **P 18 51 32.4 -1.6**
baz=261
APSI Ampana 42.13 212 P P 18 51 39.6 +5.1
CMAR Chiang Mai Arr 42.28 257 P **P 18 51 36.1 +0.3**
comp=Z,1.9nm,0.9s,baz=48,slow=7.5,SNR=10
comp=Z,1.9nm,0.9s
AAI Ambon 42.33 202 P P 18 51 42.2 +6.1
comp=Z,42nm,1.2s
K15K Wolf Creek Mou 42.59 35 P **P 18 51 36.2 -1.5**
baz=260
C16K Lisburne Hills 42.63 26 P **P 18 51 36.4 -1.5**
baz=250
M15K Kasigluk River 42.74 37 P **P 18 51 37.4 -1.5**
baz=262
H16K Elim 42.76 31 P **P 18 51 38.0 -1.1**
baz=257
ZAA0 Zalesovo Array 42.81 313 P **P 18 51 39.0 -0.6**
ZAA0 IAmb IAmb 18 52 00.2
comp=Z,32nm,1.4s
ZALV Zalesovo Beam 42.81 313 P **P 18 51 39.3 -0.4**
ZALV Zalesovo Beam 42.81 313 P **P 18 51 39.9 +0.2**
comp=Z,5.3nm,0.9s,baz=88,slow=7.6,SNR=23
comp=Z,5.3nm,0.9s
ZALV Zalesovo Beam 42.81 313 P **P 18 51 39.3 -0.4**
G16K Koyuk River 42.89 30 P **P 18 51 37.8 -2.4**
baz=256
PCI Palu 42.93 215 P **P 18 51 45.6 +4.6**
comp=Z,48nm,1.1s
S14K Fog Glacier 42.96 44 P **P 18 51 39.6 -1.4**
baz=268
N15K Kwethluk River 42.96 38 P **P 18 51 39.1 -1.8**
baz=264
O15K Ungalikthiuk R 43.00 40 P **P 18 51 39.3 -1.7**
baz=265
J16K Anvik River 43.18 34 P **P 18 51 41.3 -1.3**
baz=260
ZSN Zaisan 43.23 303 *e*P **P 18 51 43.3 +0.2**
ZSN pmax pmax
comp=Z,20nm,1.1s
ZSN Zaisan 43.23 303 *e*P **P 18 51 43.4 +0.2**
comp=Z,20nm,1.1s
D17K Noatak River 43.25 27 P **P 18 51 40.6 -2.4**
baz=253
I17K Unalakleet 43.26 33 P **P 18 51 41.5 -1.6**
baz=259
RDOG Red Dog Mine 43.42 26 P **P 18 51 43.1 -1.3**
baz=252
C17K DeLong Mountai 43.45 26 P **P 18 51 43.3 -1.4**
baz=252
L16K Owhat River 43.45 36 P **P 18 51 43.8 -0.9**
baz=262
E17K Hotham Inlet 43.54 28 P **P 18 51 44.2 -1.1**
baz=255
F17K Baldwin Pennin 43.59 29 P **P 18 51 45.1 -0.7**
baz=256
CHGN Chignik 43.59 44 P **P 18 51 45.3 -0.7**
baz=269
G17K Kiwalik Mounta 43.61 30 P **P 18 51 45.2 -0.7**
baz=257
M16K Timber Creek 43.62 37 P **P 18 51 45.3 -0.7**
baz=264
N16K Nishlik Lake 43.65 38 P **P 18 51 44.8 -1.6**
baz=264
H17K Granite Mounta 43.80 31 P **P 18 51 46.9 -0.6**
baz=259
J17K VABM Dome 43.88 34 P **P 18 51 47.0 -1.1**
baz=261
O16K Kokwok River B 43.91 39 P **P 18 51 46.7 -1.7**
baz=266
P16K Nushagak River 43.93 40 P **P 18 51 47.3 -1.3**
baz=267
L17K Donlin 44.06 35 P **P 18 51 46.8 -2.8**
baz=263
E18K Tukpahlearik C 44.08 28 P **P 18 51 47.5 -2.2**
baz=256
K17K Iditarod 44.13 35 P **P 18 51 48.4 -1.8**
baz=263
C18K Utukok River 44.20 26 P **P 18 51 48.9 -1.9**
baz=254
B18K Kokolik River 44.20 25 P **P 18 51 49.7 -0.9**
baz=252
F18K Selawik 44.25 29 P **P 18 51 49.5 -1.5**
baz=257
M17K Holitna River 44.39 37 P **P 18 51 51.5 -0.7**
baz=265
O17K Koliganek Bris 44.43 39 P **P 18 51 51.5 -1.1**
baz=267
N17K Nushagak Hills 44.44 38 P **P 18 51 51.5 -1.2**
baz=266
H18K Honhosa River 44.48 31 P **P 18 51 50.9 -2.0**
baz=260
G18K Tagagawik 44.50 30 P **P 18 51 51.5 -1.6**
baz=259
Q16K King Salmon 44.60 41 P **P 18 51 52.2 -1.7**
baz=268
A19K Wainwright 44.70 24 P **P 18 51 53.9 -0.7**
baz=252
L18K Granite Mounta 44.82 35 P **P 18 51 54.1 -1.6**
baz=265
TTSI Tana Toraja 44.84 213 P P 18 52 02.8 +6.5
J18K Innoko River 44.94 34 P **P 18 51 55.3 -1.4**
baz=263
F19K Shaleruckik Mo 45.03 29 P **P 18 51 55.6 -1.7**
baz=259
GCSA Galena City Sc 45.04 32 P **P 18 51 56.0 -1.3**
baz=262
MK31 Makanchi Array 45.06 303 P **P 18 51 57.4 -0.5**
MK31 IAmb IAmb 18 52 29.6
comp=Z,19nm,1.3s
MK31 Makanchi Array 45.06 303 *ce*P **P 18 51 58.0 +0.1**
MKAR Makanchi Array 45.06 303 P **P 18 51 57.4 -0.5**
MKAR Makanchi Array 45.06 303 P **P 18 51 57.7 -0.2**
comp=Z,5.4nm,0.9s,baz=85,slow=9.0,SNR=30
comp=Z,5.4nm,0.9s
N18K Kilae Creek 45.09 38 P **P 18 51 57.1 -0.8**
baz=267
M18K Stony River 45.17 37 P **P 18 51 57.3 -1.2**
baz=266
G19K Purcell Mounta 45.17 30 P **P 18 51 57.5 -1.0**
baz=260
TTA Tatalina 45.20 34 P **P 18 51 57.1 -1.7**
baz=264
D19K Kuna River 45.26 27 P **P 18 51 57.0 -2.1**
baz=257
MAKZ Makanchi 45.27 303 P **P 18 51 58.7 -0.9**
MAKZ IAmb IAmb 18 52 31.6
comp=Z,20nm,1.2s
MAKZ Makanchi 45.27 303 P **P 18 51 58.7 -0.9**
MAKZ pmax pmax
comp=Z,20nm,1.2s
H19K Roundabout Mou 45.34 31 IAmb IAmb 18 52 21.8
comp=Z,26nm,1.4s
H19K Roundabout Mou 45.34 31 P **P 18 51 57.1 -2.6**
baz=262
E19K Redstone River 45.36 28 P **P 18 51 58.3 -1.6**
baz=259
P18K Big Mountain, 45.36 40 P **P 18 51 56.8 -3.3**
baz=269
O18K Koktuh Hills 45.39 39 P **P 18 51 58.6 -1.6**
baz=268
Q18K Katmai Hardscr 45.47 41 P **P 18 51 59.3 -1.7**
baz=270
J19K Poorman 45.49 33 P **P 18 51 59.8 -1.2**
baz=264
L19K White Mountain 45.67 36 P **P 18 52 01.9 -0.6**
baz=266
R18K Karluk 45.77 42 P **P 18 52 00.8 -2.4**
baz=271
N19K Bonanza Creek 45.78 38 P **P 18 52 00.9 -2.6**
baz=268
D20K Etivluk River 45.84 26 P **P 18 52 02.1 -1.7**
baz=258
O19K Port Alsworth 45.84 38 P **P 18 52 02.6 -1.1**
baz=269
F20K Avaraart Lake 45.86 29 P **P 18 52 02.7 -1.2**
baz=261
M19K Big River Lodg 45.88 36 P **P 18 52 02.2 -1.8**
baz=267
E20K Nigu River 45.90 27 P **P 18 52 01.7 -2.5**
baz=259
B20K Meade River 45.94 25 P **P 18 52 01.8 -2.6**
baz=256,SNR=5.1
H20K Anotleneega Mo 45.98 31 P **P 18 52 01.7 -3.1**
baz=263
I20K Naaghedeneel 46.07 32 P **P 18 52 02.2 -3.3**
baz=264
K20K Telida 46.12 34 P **P 18 52 03.7 -2.3**
baz=266
J20K Nowinta River 46.15 33 P **P 18 52 03.5 -2.7**
baz=265
Q19K Cape Douglas, 46.18 40 P **P 18 52 02.8 -3.7**
baz=271
P19K Oil Pt 46.38 39 P **P 18 52 05.4 -2.7**
baz=270
OHAK Old Harbor 46.41 43 P **P 18 52 05.4 -2.8**
baz=272
STKI Sintang 46.42 225 P P 18 52 13.7 +4.8
comp=Z,28nm,1.1s
A21K Barrow 46.43 23 P **P 18 52 06.5 -1.8**
baz=256
M20K Styx River 46.47 36 P **P 18 52 05.9 -3.0**
baz=268
C21K Knifeblade Rid 46.58 26 P **P 18 52 08.0 -1.4**
baz=260
KAPI Kappang 46.63 212 *i* P **P 18 52 11.0 +0.6**
KAPI pmax pmax
comp=Z,36nm,1.7s
G21K Allakaket 46.66 30 P **P 18 52 09.1 -1.0**
baz=263
O20K Slope Mountain 46.69 39 P **P 18 52 09.1 -1.5**
baz=270
B21K Ikpikpuk River 46.72 25 IAmb IAmb 18 52 33.4
comp=Z,32nm,1.6s
B21K Ikpikpuk River 46.72 25 P **P 18 52 08.1 -2.4**
baz=259
E21K Killik River 46.74 27 P **P 18 52 07.9 -3.0**
baz=261
F21K Alatna River 46.76 29 P **P 18 52 08.0 -2.9**
baz=263
KDAK Kodiak Island 46.76 42 P **P 18 52 07.4 -3.7**
baz=272
Q20K Shuyak Island 46.83 41 P **P 18 52 06.9 -4.7**
baz=272
H21K Melozitna Rive 46.85 31 P **P 18 52 07.8 -4.0**
baz=265
KURK Kurchatov 46.85 309 P **P 18 52 10.4 -1.5**
KURK Kurchatov 46.85 309 *ce*P **P 18 52 11.9 0.0**
KURK pmax pmax
comp=Z,34nm,1.3s
A22K Sinclair Lake 46.88 23 P **P 18 52 09.1 -2.7**
baz=258,SNR=5.6
SPCR Spurr Chakacha 46.90 37 P **P 18 52 09.4 -2.8**
baz=270
KURBB Kurchatov Arra 46.92 308 P **P 18 52 12.2 -0.2**
comp=Z,16nm,1.0s,baz=82,slow=8.0,SNR=50
KURBB LR LR 19 12 52.2
comp=Z,1μm,20.0s,baz=90,slow=37
comp=Z,16nm,1.0s
CHUM Lake Minchumin 46.93 33 P **P 18 52 10.6 -1.7**
baz=267
PPLA Purkeypile 46.95 35 P **P 18 52 10.8 -1.8**
baz=268
CAST Castle Rocks 47.01 34 P **P 18 52 10.5 -2.5**
baz=268
I21K Tanana 47.16 32 P **P 18 52 12.0 -2.1**
baz=266
HOM Homer 47.19 39 P **P 18 52 12.5 -1.9**
baz=272
SKT Skwentna 47.23 36 P **P 18 52 12.4 -2.3**
baz=270
B22K Teshekpuk Lake 47.26 24 P **P 18 52 11.2 -3.5**
baz=260
D22K Ayikyak River 47.28 27 P **P 18 52 12.3 -2.7**
baz=262
F22K John River 47.29 28 P **P 18 52 12.6 -2.5**
baz=264
CAPN Captain Cook N 47.41 38 P **P 18 52 13.4 -2.6**
baz=271
H22K Ishtalitna Cre 47.46 31 P **P 18 52 14.3 -2.1**
baz=266
E22K Anaktuvuk Pass 47.50 28 P **P 18 52 19.2 +2.4**
E22K IAmb IAmb 18 52 20.2
comp=Z,18nm,1.4s
E22K Anaktuvuk Pass 47.50 28 P **P 18 52 14.6 -2.1**
baz=264,SNR=6.9
BPAW Bear Paw Mtn. 47.53 33 P **P 18 52 14.1 -3.0**
baz=268
SUA Susitna One 47.60 37 P **P 18 52 14.5 -3.3**
baz=271
BRSE Bradley Lake S 47.65 39 P **P 18 52 14.6 -3.3**
baz=272
SHLS Shalkode 47.79 298 *e*P **P 18 52 16.9 -2.6**
SHLS pmax pmax
comp=Z,9.0nm,1.1s
SHLS Shalkode 47.79 298 *e*P **P 18 52 17.0 -2.6**
comp=Z,8.7nm,1.1s
TRF Thorofare Moun 47.82 34 P **P 18 52 15.5 -4.0**
baz=269
CUT Chulitna 47.82 35 P P 18 52 14.3 -4.9
baz=270
D23K Nanushuk River 48.01 27 P P 18 52 15.6 -5.0
baz=264
COLD Coldfoot 48.03 29 P P 18 52 15.1 -5.7
baz=266
G23K Bananza Creek 48.06 30 P **P 18 52 16.7 -4.5**
baz=266
TDK Taldyqorghan 48.08 301 *e*P **P 18 52 21.8 +0.2**
TDK pmax pmax
comp=Z,5.0nm,0.8s
TDK Taldyqorghan 48.08 301 *e*P **P 18 52 21.8 +0.2**
comp=Z,4.9nm,0.8s
RC01 Rabbit Creek A 48.10 37 P **P 18 52 16.8 -4.6**
baz=272
UZB Uzynbulak 48.11 298 *e*P **P 18 52 21.5 -0.5**
UZB pmax pmax
comp=Z,8.0nm,1.0s
UZB Uzynbulak 48.11 298 *e*P **P 18 52 21.5 -0.5**
comp=Z,7.7nm,1.0s
C23K Itkillik River 48.13 25 P **P 18 52 19.7 -1.9**
baz=263
H23K Yukon River 48.21 31 P **P 18 52 22.4 +0.2**
baz=268,SNR=6.3
I23K Minto, Yukon-K 48.26 32 P **P 18 52 21.6 -1.0**
baz=269
KPKS Kokpek 48.27 299 *e*P **P 18 52 23.1 0.0**
KPKS Kokpek 48.27 299 *e*P **P 18 52 23.1 0.0**
SEW Seward 48.28 38 P **P 18 52 20.5 -2.2**
baz=273
E23K Chandalar 48.31 28 P **P 18 52 21.1 -2.0**
baz=266,SNR=5.9
PMR Palmer 48.37 36 P **P 18 52 22.5 -1.0**
baz=272
NEA2 Nenana 48.38 32 P **P 18 52 21.2 -2.3**
baz=269
TOLK Toolik Lake Re 48.38 27 P **P 18 52 21.2 -2.4**
baz=265
ZHN Zhinishke 48.52 299 *e*P **P 18 52 24.8 -0.3**
ZHN pmax pmax
comp=Z,6.0nm,1.0s
ZHN Zhinishke 48.52 299 *e*P **P 18 52 24.8 -0.3**
comp=Z,6.2nm,1.0s
SATY Saty 48.57 298 *e*P **P 18 52 25.5 +0.1**
SATY Saty 48.57 298 *e*P **P 18 52 25.6 +0.1**
D24K Happy Valley 48.69 26 P **P 18 52 24.0 -1.9**
baz=266
KNK Knik Glacier 48.70 37 P **P 18 52 23.8 -2.3**
baz=273
E24K Your Creek 48.74 28 P **P 18 52 25.0 -1.4**
baz=267
SML Sawmill 48.75 36 P **P 18 52 24.1 -2.4**
baz=272
C24K Franklin Bluff 48.78 26 P **P 18 52 24.7 -1.9**
baz=265
H24K Noodor Dome 48.90 31 P **P 18 52 25.8 -1.8**
baz=269
COLA College 48.90 32 *i* P **P 18 52 28.1 +0.6**
COLA pmax pmax
comp=Z,39nm,3.0s
COLA College 48.90 32 P **P 18 52 26.2 -1.3**
baz=270
F24K Squaw Lake 48.94 29 P **P 18 52 24.9 -3.0**
baz=268
M23K Glacier View 49.03 36 P **P 18 52 25.9 -2.8**
baz=273
G24K Hadweenzic Riv 49.07 30 P **P 18 52 26.3 -2.6**
baz=269
POKR Poker Plat Res 49.08 32 P **P 18 52 26.2 -2.8**
baz=270
SCM Sheep Creek Mo 49.22 36 P **P 18 52 26.9 -3.3**
baz=273
HDA Harding Lake 49.29 33 P **P 18 52 28.3 -2.3**
baz=271
P23K Montague Islan 49.31 39 P **P 18 52 29.1 -1.7**
baz=275
ILAR Eielson Array 49.31 32 P **P 18 52 32.3 +1.6**
comp=Z,2.5nm,0.7s,baz=264,slow=6.2,SNR=24
comp=Z,2.5nm,0.7s
GLI Glacier Island 49.40 37 P **P 18 52 29.9 -1.5**
baz=274
D25K Kavik River 49.57 26 P **P 18 52 30.5 -2.2**
baz=268
AAA Alma-Ata 49.58 299 *e*P **P 18 52 33.2 +0.1**
AAA pmax pmax
comp=Z,18nm,1.4s
AAA Alma-Ata 49.58 299 *e*P **P 18 52 33.3 +0.1**
comp=Z,18nm,1.4s
TNSS Tian-Shan 49.60 299 *e*P **P 18 52 33.3 -0.4**
TNSS Tian-Shan 49.60 299 *e*P **P 18 52 33.3 -0.4**
G25K Bearman Lake 49.62 30 P **P 18 52 30.1 -2.9**
baz=270
KDJ Kajisay 49.69 298 P **P 18 52 32.2 -2.0**
KDJ IAmb IAmb 18 52 54.5
comp=Z,15nm,1.2s
KDJ Kajisay 49.69 298 P **P 18 52 32.2 -2.0**
KDJ pmax pmax
comp=Z,15nm,1.2s
H25L Birch Creek 49.74 30 P **P 18 52 31.6 -2.3**
baz=271
M24K Tolsona, Glenn 49.75 36 P **P 18 52 31.8 -2.4**
baz=274
F25K Christian Rive 49.80 28 P **P 18 52 30.8 -3.7**
baz=270
K24K Donnelly Dome 49.83 33 P **P 18 52 30.0 -4.7**
baz=273
E25K Arctic Village 49.83 28 P **P 18 52 32.5 -2.2**
baz=270
PRP Porcupine Dome 49.87 31 P **P 18 52 31.6 -3.6**
baz=272
KLU Klutina 49.91 36 P **P 18 52 32.0 -3.5**
baz=275
J25K Salcha River, 49.97 32 P **P 18 52 33.8 -2.0**
baz=273
PAX Paxson 50.02 35 P **P 18 52 32.7 -3.5**
baz=274
EYAK Cordova Ski Ar 50.08 38 P **P 18 52 33.5 -3.1**
baz=276
C26K Camden Bay 50.10 25 P **P 18 52 33.3 -3.4**
baz=269
HARP HAARP 50.20 35 P **P 18 52 33.3 -4.2**
baz=275
RIDG Independent Ri 50.25 34 P **P 18 52 35.1 -2.8**
baz=274
F26K Sheenjek River 50.37 28 IAmb IAmb 18 53 33.1
comp=Z,18nm,1.4s
F26K Sheenjek River 50.37 28 P **P 18 52 36.0 -2.8**
baz=271
C27K Jago River 50.52 26 P **P 18 52 38.1 -1.7**
baz=270
G26K Porcupine Rive 50.53 29 P **P 18 52 38.2 -1.7**
baz=272

N25K	Chitina, Valde	50.53	36	P	P	18 52 37.9	-2.2
	baz=276						
BMRM	Bremner River	50.60	37	P	P	18 52 38.0	-2.6
	baz=276						
SCRK	Sand Creek	50.61	33	P	P	18 52 39.1	-1.7
	baz=274						
BRZS	Berezniki	50.73	308	eP	P	18 52 41.3	-0.4
BRZS				pmax	pmax		
	comp=Z,13nm,1.1s						
BRZS	Berezniki	50.73	308	eP	P	18 52 41.4	-0.4
	comp=Z,13nm,1.1s						
J26L	Joseph Creek	50.76	32	P	P	18 52 40.2	-1.6
	baz=274						
KAIM	Kayak Island	50.81	38	P	P	18 52 40.9	-1.3
	baz=277						
I26K	Coal Creek Min	50.87	31	P	P	18 52 40.2	-2.4
	baz=274						
L26K	Log Cabin Wild	50.98	34	P	P	18 52 40.8	-2.6
	baz=276						
SGDS	Sogindy	51.11	300	eP	P	18 52 44.8	+0.1
SGDS	Sogindy	51.11	300	eP	P	18 52 44.9	+0.1
M26K	Nabesna, AK	51.20	35	P	P	18 52 42.3	-2.9
	baz=276						
E27K	Coleen River	51.32	28	IAmb	IAmb	18 54 41.0	
	comp=Z,15nm,1.2s						
E27K	Coleen River	51.32	28	P	P	18 52 42.6	-3.3
	baz=273						
KSH	Kashi	51.37	295	P	P	18 52 50.8	+4.0
KSH				pP	pwP	18 52 55.5	+0.4
KSH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KSH				LR	LR		
	comp=Z,2μm,16.8s						
KSH				LR	LR		
	comp=Z,2μm,15.8s						
KSH				LR	LR		
	comp=Z,3μm,17.2s						
K27K	Chicken	51.44	33	P	P	18 52 44.9	-1.9
	baz=276						
AAK	Ala-Archa	51.45	299	P	P	18 52 47.7	+0.3
AAK	Ala-Archa	51.45	299	ceP	P	18 52 47.9	+0.5
	comp=Z,3μm,18.7s,baz=51,slow=38						
AAK	Ala-Archa	51.45	299	ceP	P	18 52 47.9	+0.5
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BVAR	Borovoye Array	51.47	313	P	P	18 52 46.4	-0.8
	comp=Z,4.5nm,0.9s,baz=68,slow=8.7,SNR=6.0						
BVAR				LR	LR	19 15 40.1	
	comp=Z,682nm,19.8s,baz=57,slow=37						
	comp=Z,4.5nm,0.9s						
H27K	Steamboat Moun	51.47	30	P	P	18 52 45.7	-1.4
	baz=275,SNR=5.2						
I27K	Kandik River	51.49	31	P	P	18 52 45.8	-1.4
	baz=275						
D27M	Malcolm River	51.49	26	P	P	18 52 45.8	-1.4
	baz=273						
BRVK	Borovoye	51.53	313	ceP	P	18 52 48.7	+1.1
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
L27K	Beaver Creek,	51.66	34	P	P	18 52 46.5	-2.0
	baz=277						
M27K	Edge Creek, AK	51.73	35	P	P	18 52 46.8	-2.3
	baz=278						
MESA	MESA	52.00	38	P	P	18 52 47.9	-3.4
	baz=279						
E28M	Babbage River	52.05	27	P	P	18 52 48.7	-2.6
	baz=275						
BVCY	Beaver Creek	52.19	35	P	P	18 52 50.3	-2.2
	baz=278						
I28M	Miner Creek	52.20	31	P	P	18 52 50.1	-2.5
	baz=277						
D28M	Stokes Point	52.28	26	P	P	18 52 50.6	-2.3
	baz=275						
YUK3	Moose Creek	52.47	36	P	P	18 52 51.3	-3.5
	baz=279						
DAWY	Dawson	52.61	33	P	P	18 52 53.4	-2.3
	baz=278						
E29M	Blow River	52.67	27	P	P	18 52 53.7	-2.2
	baz=276						
H29M	Whitestone	52.75	30	P	P	18 52 55.4	-1.2
	baz=278						
O28M	Mount Upton	52.76	37	P	P	18 52 55.8	-1.3
	baz=280						
G29M	Pine Creek	52.80	29	P	P	18 52 55.3	-1.6
	baz=277						
PINM	Pinnacle	52.85	38	P	P	18 52 54.0	-3.5
	baz=281						
YUK8	Steele Glacier	52.88	36	P	P	18 52 55.2	-2.7
	baz=280						
I29M	Ogilvie Camp,	52.89	31	P	P	18 52 55.4	-2.2
	baz=278						
J29N	Klondike Camp	53.06	32	P	P	18 52 56.7	-2.3
	baz=279						
M29M	Somme Creek	53.28	35	P	P	18 52 58.6	-2.1
	baz=280						
L29M	L29M	53.32	34	P	P	18 52 58.4	-2.5
	baz=280						
PNL	Peninsula	53.36	38	P	P	18 52 58.1	-3.1
	baz=282						
YUK4	Talbot Arm	53.40	36	P	P	18 52 59.8	-1.8
	baz=281						
K29M	Barlow Dome	53.46	33	P	P	18 53 00.0	-1.9
	baz=280						
G30M	tAoh Zraii Nji	53.49	29	IAmb	IAmb	18 53 26.9	
	comp=Z,24nm,1.3s						
G30M	tAoh Zraii Nji	53.49	29	P	P	18 52 59.6	-2.5
	baz=279						
F30M	Barrier River	53.56	28	P	P	18 52 58.8	-3.7
	baz=279						
DZA	Taraz	53.58	300	eP	P	18 53 03.3	+0.3
DZA				pmax	pmax		
	comp=Z,11nm,1.6s						
DZA	Taraz	53.58	300	eP	P	18 53 03.3	+0.3
	comp=Z,11nm,1.6s						
O29M	Mount Kennedy	53.64	37	P	P	18 52 59.1	-4.2
	baz=282						
I30M	Mount Dempster	53.71	31	IAmb	IAmb	18 53 08.1	
	comp=Z,36nm,1.6s						
I30M	Mount Dempster	53.71	31	P	P	18 53 02.5	-1.3
	baz=280						
J30M	Hart River	53.85	32	P	P	18 53 04.2	-0.6
	baz=280						
M30M	Minto, Yukon	54.02	34	P	P	18 53 04.3	-1.6
	baz=282						
HYT	Haines Junctio	54.05	37	P	P	18 53 05.6	-0.7
	baz=282						
KK31	Karatay Array	54.08	301	IAmb	IAmb	18 53 28.2	
	comp=Z,21nm,1.2s						
KKAR	Karatay Array	54.08	301	P	P	18 53 06.3	-0.4
KKAR	Karatay Array	54.08	301	IAmb	IAmb	18 53 28.1	
	comp=Z,14nm,1.2s						
KKAR	Karatay Array	54.08	301	P	P	18 53 06.3	-0.4
N30M	Aishikik Lake	54.11	36	P	P	18 53 06.5	-0.1
	baz=282						
MAYO	Mayo, Yukon	54.22	33	P	P	18 53 06.6	-0.8
	baz=282						
LEM	Lembang	54.24	224	P	P	18 53 08.1	-0.1
	comp=Z,10nm,0.6s,baz=346,slow=22,SNR=3.9						
	comp=Z,10nm,0.6s						
G31M	Satah River	54.26	29	P	P	18 53 07.7	+0.1
	baz=281						
INK	Inuvik	54.29	27	P	P	18 53 06.9	-0.8
INK	Inuvik	54.29	27	P	P	18 53 06.9	-0.8
INK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
INK	Inuvik	54.29	27	P	P	18 53 08.1	+0.3
	baz=280,SNR=5.6						
F31M	Tsiigehtchic	54.37	28	P	P	18 53 10.2	+1.9
F31M				IAmb	IAmb	18 54 46.9	
	comp=Z,29nm,1.4s						
F31M	Tsiigehtchic	54.37	28	P	P	18 53 09.3	+1.0
	baz=281,SNR=6.3						
H31M	Peel River	54.44	30	IAmb	IAmb	18 53 33.3	
	comp=Z,27nm,1.2s						
H31M	Peel River	54.44	30	P	P	18 53 09.6	+0.7
	baz=281,SNR=6.6						
P30M	Million Dollar	54.46	37	P	P	18 53 08.8	-0.5
	baz=283						
BRLS	Borolday	54.57	301	eP	P	18 53 11.5	+1.3
BRLS	Borolday	54.57	301	eP	P	18 53 11.6	+1.3
IUG	luzhnay	54.73	300	eP	P	18 53 11.7	+0.2
IUG				pmax	pmax		
	comp=Z,15nm,1.2s						
IUG	luzhnay	54.73	300	eP	P	18 53 11.7	+0.2
	comp=Z,16nm,1.2s						
O30N	Mendenhall	54.73	36	P	P	18 53 09.8	-1.4
	baz=283						
BTK	Batken	54.91	297	IAmb	IAmb	18 53 36.6	
	comp=Z,18nm,1.3s						
M31M	Drury Creek, Y	55.20	35	P	P	18 53 13.9	-0.6
	baz=284						
WHY	Whitehorse	55.34	36	P	P	18 53 14.3	-1.3
	baz=284						
SKAG	Skagway	55.42	38	P	P	18 53 15.4	-0.7
	baz=285						
NIL	Nilore	55.58	289	P	P	18 53 17.2	-0.4
NIL	Nilore	55.58	289	P	P	18 53 17.3	-0.4
NIL				pmax	pmax		
	comp=Z,38nm,1.4s						
GAR	Garm	55.66	296	P	P	18 53 18.3	0.0
FARO	Faro, Yukon	55.66	34	P	P	18 53 18.1	+0.2
	baz=285						
SVE	Sverdlovsk	56.00	319	eP	P	18 53 21.1	+0.8
SVE				pmax	pmax		
	comp=Z,24nm,1.4s						
SVE				MLR	MLR		
	comp=Z,1μm,18.0s						
N32M	Quiet Lake	56.06	36	P	P	18 53 19.2	-1.6
	baz=286						
SIT	Sitka	56.07	41	P	P	18 53 19.3	-1.5
	baz=286						
R32K	Eaglecrest	56.15	39	P	P	18 53 19.8	-1.5
	baz=286						
P32M	Atlin	56.18	37	P	P	18 53 20.8	-0.8
	baz=286						
A36M	Sachs Harbour	56.25	22	P	P	18 53 22.1	+0.3
	baz=285,SNR=6.1						
S32K	Killisnoo	56.34	40	P	P	18 53 22.7	0.0
	baz=287						
P33M	Teslin, Yukon	56.45	37	P	P	18 53 22.5	-1.1
	baz=286						
MMPY	Sheldon Lake,	56.50	34	P	P	18 53 21.5	-2.3
	baz=286						
SIMJ	Simiganj	56.73	296	P	P	18 53 25.1	-0.9
WRAB	Tennant Creek	56.84	189	iP	P	18 53 26.7	+0.1
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WB2	Warramunga Arr	56.84	189	P	P	18 53 27.7	+1.0
WB2				IAmb	IAmb	18 54 13.1	
	comp=Z,27nm,1.4s						
WRA	Warramunga Arr	56.85	189	P	P	18 53 26.6	-0.1
WRA	Warramunga Arr	56.85	189	P	P	18 53 27.1	+0.5
	comp=Z,4.0nm,0.8s,baz=6.6,slow=7.0,SNR=25						
	comp=Z,4.0nm,0.8s						
WRA	Warramunga Arr	56.85	189	P	P	18 53 26.6	-0.1
WRA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
Q32M	Nakina River	57.07	38	P	P	18 53 27.8	-0.4
	baz=288						
ARTI	Arti	57.32	319	P	P	18 53 28.9	-0.8
ARTI	Arti	57.32	319	LR	LR	19 20 22.1	
	comp=Z,917nm,18.1s,baz=70,slow=38						
ARTI	Arti	57.32	319	d iP	P	18 53 30.5	+0.8
ARTI						18 55 35.2	
ARTI				S	S	19 01 30.1	+4.7
ARTI				SS	SS	19 05 16.8	+2.6
ARTI				pmax	pmax		
	comp=Z,17nm,1.4s						
ARTI				MLR	MLR		
	comp=Z,906nm,17.0s						
C36M	Paulatuk	57.37	25	P	P	18 53 30.1	+0.3
	baz=288,SNR=7.0						
T33K	Petersburg	57.38	41	P	P	18 53 30.2	+0.1
	baz=288						
U33K	Whale Pass	57.52	41	P	P	18 53 31.0	0.0
	baz=289						
R33M	Jennings River	57.58	37	P	P	18 53 33.2	+1.6
	baz=288						
CRAG	Craig	57.72	42	P	P	18 53 31.8	-0.7
	baz=289						
WRAK	Wrangell Islan	57.83	41	P	P	18 53 33.9	+0.7
	baz=289						
S34M	Telegraph Cree	57.97	39	P	P	18 53 33.9	-0.3
	baz=289						
TGTN	Hyland Airport	58.17	34	P	P	18 53 34.4	-1.3
	baz=289						
DLBC	Dease Lake	58.35	38	P	P	18 53 36.8	-0.2
	baz=290						
KBL	Kabul	58.38	292	P	P	18 53 37.0	-0.8
KBL				IAmb	IAmb	18 53 39.0	
	comp=Z,22nm,1.1s						
KBL	Kabul	58.38	292	P	P	18 53 37.0	-0.8
KBL				pmax	pmax		
	comp=Z,23nm,1.2s						
WTLY	Watson Lake, Y	58.39	36	P	P	18 53 37.0	-0.2
	baz=290						
V35K	Ketchikan	58.58	42	P	P	18 53 37.2	-1.3
	baz=290						
T35M	Bob Quinn	58.73	40	P	P	18 53 39.4	-0.2
	baz=290						
ABKAR	Akbulak array	58.85	311	P	P	18 53 37.8	-2.8
U35K	Hyder	59.22	41	P	P	18 53 42.8	-0.1
	baz=291						
WRGLY	Wrigley	59.68	32	P	P	18 53 44.4	-1.6
	baz=292						
AS06	Alice Springs	60.55	189	P	P	18 53 52.2	-0.2
AS31	Alice Springs	60.57	189	P	P	18 53 51.1	-1.5
ASAR	Alice Springs	60.57	189	P	P	18 53 53.1	+0.6
ASAR	Alice Springs	60.57	189	P	P	18 53 53.3	+0.7
	comp=Z,3.1nm,0.9s,baz=359,slow=5.9,SNR=42						
	comp=Z,3.1nm,0.9s						
KOTAN	Kotaneelee Air	60.60	35	P	P	18 53 50.5	-1.9
	baz=293						
AS19	Alice Springs	60.60	189	P	P	18 53 52.5	-0.3
SPITS	Spitsbergen Ar	61.04	349	P	P	18 53 55.4	+0.2
	comp=Z,8.8nm,1.1s,baz=358,slow=4.3,SNR=1.3						
	comp=Z,8.8nm,1.1s						
KIRV	Kirov	61.07	323	ceP	P	18 53 56.5	+0.9
YKA	Yellowknife Ar	63.66	30	P	P	18 54 14.1	+1.2
	comp=Z,1.2nm,0.8s,baz=303,slow=6.9,SNR=15						
	comp=Z,1.2nm,0.8s						
ARCES	ARCESS Array B	64.64	340	P	P	18 54 20.1	+0.9
	comp=Z,2.8nm,0.9s,baz=48,slow=7.4,SNR=1.1						
	comp=Z,2.8nm,0.9s						
MOS	Moscow	68.06	324	eP	P	18 54 45.2	+3.9
STKA	Stephens Creek	68.21	181	P	P	18 54 43.6	+1.2
	comp=Z,1.6nm,0.3s,baz=331,slow=10,SNR=3.4						
	comp=Z,1.6nm,0.3s						
KULLO	Kullorsuaq	68.24	6	i P	P	18 54 42.8	+0.6
OBN	Obninsk	68.91	324	LR	LR	19 27 38.4	
	comp=Z,532nm,18.2s,baz=358,slow=38						
OBN	Obninsk	68.91	324	eP	P	18 54 46.0	-0.6
OBN				i *PP	pP	18 54 49.2	-0.6
OBN				*SP	sP	18 54 53.0	+2.1
OBN						18 55 06.0	
OBN				S	S	19 03 47.0	-3.2
OBN				e		19 04 31.2	
OBN				eSS	SS	19 08 22.9	+8.2
OBN				SSS	SSS	19 11 12.0	
OBN				pmax	pmax		
	comp=Z,26nm,1.8s						
OBN				MLR	MLR		
	comp=Z,566nm,16.0s						
LPSR	Galich'ya Gora	69.14	321	eP	P	18 54 46.5	-1.6
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORR	Voronezh	69.51	320	eP	P	18 54 50.4	0.0
VORR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES	FINESS Array B	69.54	333	P	P	18 54 50.7	+0.3
	comp=Z,4.1nm,0.9s,baz=45,slow=8.4,SNR=4.4						
FINES				LR	LR	19 29 07.0	
	comp=Z,614nm,18.4s,baz=3.5,slow=39						
	comp=Z,4.1nm,0.9s						
VSR	Storozhevoye	69.79	319	eP	P	18 54 50.4	-1.7
VSR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VORD	Divnogorie	69.86	319	eP	P	18 54 51.5	-1.1
VORD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PINE	Pine Mountain	69.88	50	IAmb	IAmb	18 54 57.4	
	comp=Z,15nm,1.2s						
SUMG	Summit	71.04	0	i P	P	18 55 00.0	+0.1
KBZ	Khabaz	71.81	311	P	P	18 55 05.3	+0.7
	comp=Z,7.8nm,1.0s,baz=46,slow=3.3,SNR=10						
KBZ				LR	LR	19 31 26.1	
	comp=Z,636nm,18.1s,baz=30,slow=40						
	comp=Z,7.8nm,1.0s						
KBZ	Khabaz	71.81	311	ceP	P	18 55 04.2	-0.4
KBZ				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV	Kislovodsk	71.81	311	P	P	18 55 03.9	-0.8
KIV	Kislovodsk	71.81	311	eP	P	18 55 04.4	-0.3
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV	Kislovodsk	71.81	311	P	P	18 55 05.0	+0.3
	comp=Z,22nm,1.1s						
SHA1	Shidzhatmaz	71.95	311	i P	P	18 55 04.9	-0.8
PLID	Pearl Lake	72.15	47	IAmb	IAmb	18 55 10.5	
	comp=Z,12nm,1.5s						
GNI	Garni	72.63	307	LR	LR	19 30 13.7	
	comp=Z,448nm,18.2s,baz=20,slow=38						
GNI	Garni	72.63	307	i P	P	18 55 09.7	-0.1
GNI				pmax	pmax		
	comp=Z,20nm,1.3s						
EGMT	Eagleton	73.94	42	IAmb	IAmb	18 55 20.3	
	comp=Z,16nm,1.3s						
DLMT	Dillon	73.96	45	IAmb	IAmb	18 55 20.9	
	comp=Z,8.9nm,0.9s						
NVAR	Mina Array Bea	74.48	54	P	P	18 55 23.2	+2.4
	comp=Z,2.2nm,0.9s,baz=292,slow=5.5,SNR=9.9						
	comp=Z,2.2nm,0.9s						
HFS	Hagfors	74.78	336	P	P	18 55 22.4	+0.6
	comp=Z,1.7nm,0.8s,baz=18,slow=6.4,SNR=4.9						
	comp=Z,1.7nm,0.8s						
NB2	NORSAR Subarra	74.86	338	P	P	18 55 23.0	+0.7
	comp=Z,0.4nm,0.5s,baz=40,slow=5.9						
NOA	NORSAR Array B	74.86	338	P	P	18 55 23.0	+0.7
	comp=Z,1.7nm,0.8s,baz=39,slow=5.8,SNR=4.5						
	comp=Z,1.7nm,0.8s						
NOA	NORSAR Array B	74.86	338	P	P	18 55 23.0	+0.7
AKASG	Malin Array Be	75.12	323	P	P	18 55 24.3	+0.3
	comp=Z,4.0nm,0.9s,baz=48,slow=5.3,SNR=12						
AKASG				LR	LR	19 29 01.6	
	comp=Z,346nm,18.2s,baz=12,slow=36						
	comp=Z,4.0nm,0.9s						
AKASG	Malin Array Be	75.12	323	i P	P	18 55 24.5	+0.6
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKBB	Malin Array Si	75.12	323	ceP	P	18 55 22.4	-1.5
AKBB				pmax	pmax		
	comp=Z,14nm,1.0s						
AKBB	Malin Array Si	75.12	323	P	P	18 55 23.9	0.0
KIEV	Kiev	75.14	323	⇓P	P	18 55 24.6	+0.6
AK04	Malin Array Si	75.14	323	P	P	18 55 23.3	-0.7
AK09	Malin Array Si	75.15	323	P	P	18 55 24.2	+0.1
AK21	Malin Array Si	75.16	323	P	P	18 55 24.3	+0.1
AK10	Malin Array Si	75.17	323	P	P	18 55 24.3	0.0
AK18	Malin Array Si	75.19	323	P	P	18 55 24.2	-0.1
AK14	Malin Array Si	75.22	323	P	P	18 55 24.4	-0.1
GURO	Guroymak-BITLI	75.27	307	IAmb	IAmb	18 55 46.2	
	comp=Z,12nm,1.3s						
MI28	Mi28,Pidlybu	75.72	324	P	P	18 55 27.7	+0.3
SFJD	Kangerlussuaq	76.16	5	P	P	18 55 30.8	+1.2
	comp=Z,3.9nm,0.7s,baz=184,slow=5.7,SNR=2.0						
	comp=Z,3.9nm,0.7s						
LUBAR	Lubar, Ukraine	76.34	323	P	P	18 55 31.1	+0.1
FRB	Frobisher Bay	76.91	14	P	P	18 55 34.2	+0.4
	comp=Z,2.2nm,0.4s,baz=331,slow=6.5,SNR=14						
	comp=Z,2.2nm,0.4s						
SORM	Soroca	77.23	321	⇓P	P	18 55 36.4	+0.5
SORM	Soroca	77.23	321	P	P	18 55 36.3	+0.3
	comp=Z,17nm,1.2s						
PDAR	Pinedale Array	77.27	46	P	P	18 55 36.1	-0.5
PDAR	Pinedale Array	77.27	46	P	P	18 55 38.6	+1.9
	comp=Z,0.8nm,0.6s,baz=285,slow=1.6,SNR=10						
	comp=Z,0.8nm,0.6s						
KMPD	K-Podol'skiy	77.89	322	P	P	18 55 39.6	0.0
BORG	Borgarnes	78.11	353	P	P	18 55 40.8	+0.2
	comp=Z,17nm,1.2s,baz=293,slow=21,SNR=1.5						
	comp=Z,17nm,1.2s						
VLDR	Vladesti	78.89	320	⇓P	P	18 55 46.7	+1.5
BURAR	Bucovina Array	79.14	322	P	P	18 55 45.2	-1.6
BURAR	Bucovina Array	79.14	322	⇑P	P	18 55 47.6	+0.9
BURAR	Bucovina Array	79.14	322	⇑P	P	18 55 47.6	+0.9
TESR	Tescani	79.18	321	⇓P	P	18 55 47.9	+1.1
VRI	Vrincioaia	79.57	320	⇑P	P	18 55 50.0	+1.0
VRI	Vrincioaia	79.57	320	⇑P	P	18 55 50.0	+1.0
KOLS	Kolonicke sedl	79.63	325	eP	P	18 55 51.0	+1.7
KOLS	Kolonicke sedl	79.63	325	eP	P	18 55 51.0	+1.7
KOLS				e		18 56 09.2	
BR131	Keskin Array S	79.75	312	eP	P	18 55 50.2	-0.1
BRTR	Keskin Array B	79.75	312	P	P	18 55 49.0	-1.3
BRTR	Keskin Array B	79.75	312	P	P	18 55 51.3	+1.1
	comp=Z,3.2nm,1.0s,baz=78,slow=3.7,SNR=13						
	comp=Z,3.2nm,1.0s						
BRTR	Keskin Array B	79.75	312	i P	P	18 55 51.4	+1.1
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BR104	Keskin Array S	79.77	312	P	P	18 55 50.6	+0.3
	comp=Z,49nmcomp=Z,5.7nm,1.1s						
OZUR		79.90	321	⇓P	P	18 55 52.8	+2.0
DOPR	Dopca	80.19	321	⇑P	P	18 55 54.0	+1.7
MLR	Muntele Rosu	80.23	320	LR	LR	19 34 41.0	
	comp=Z,734nm,18.9s,baz=38,slow=38						
LANS	Liptovska Anna	80.76	326	eP	P	18 55 55.8	+0.4
LANS	Liptovska Anna	80.76	326	eP	P	18 55 55.8	+0.4
ARR	Arges	80.98	321	⇓P	P	18 55 59.1	+2.3
MORC	Moravsky Berou	81.14	327	eP	P	18 55 58.9	+1.5
MORC	Moravsky Berou	81.14	327	⇑P	P	18 55 59.4	+2.0
MORC	Moravsky Berou	81.14	327	⇑P	P	18 55 59.4	+2.0
PSZ	Piszkesteto	81.46	325	⇑P	P	18 56 01.3	+2.1
PSZ	Piszkesteto	81.46	325	⇑P	P	18 56 01.3	+2.1
VYHS	Vyhne	81.52	326	eP	P	18 56 01.4	+2.0
VYHS	Vyhne	81.52	326	eP	P	18 56 01.4	+2.0
VYHS				e		18 56 20.1	
RAYN	Ar Rayn	81.62	293	P	P	18 56 00.6	+0.2
RAYN				IAmb	IAmb	18 56 20.5	
	comp=Z,17nm,1.4s						
RAYN	Ar Rayn	81.62	293	P	P	18 56 00.6	+0.2
RAYN				pmax	pmax		
	comp=Z,17nm,1.4s						
VRAC	Vranov	81.90	328	eP	P	18 56 02.2	+0.8
VRAC	Vranov	81.90	328	⇓P	P	18 56 03.1	+1.7
VRAC	Vranov	81.90	328	⇓P	P	18 56 03.1	+1.7
S22A	4UR Ranch, Cre	82.07	49	IAmb	IAmb	18 56 06.8	
	comp=Z,9.2nm,1.3s						
MODS	Modra-Piesok	82.31	327	eP	P	18 56 06.1	+2.5
MODS	Modra-Piesok	82.31	327	eP	P	18 56 06.1	+2.5
MDVR	Moldovita	82.86	322	⇓P	P	18 56 07.4	+0.8
MMAI	Mount Meron Ar	82.90	306	P	P	18 56 08.4	+1.4
	comp=Z,3.7nm,0.8s,baz=41,slow=4.6,SNR=6.6						
	comp=Z,3.7nm,0.8s						
MORH	Mrgy, Hungar	83.30	325	⇑P	P	18 56 10.1	+1.5
KHC	Kasperske Hory	83.31	329	eP	P	18 56 10.0	+1.2
KHC				ex	x	18 56 28.0	
KHC	Kasperske Hory	83.31	329	eP	P	18 56 10.0	+1.2
RDO	Rodhopi	83.44	317	IAmb	IAmb	18 56 30.3	
	comp=Z,17nm,1.2s						
GERES	GERESS Array B	83.48	329	LR	LR	19 35 03.1	
	comp=Z,453nm,18.0s,baz=254,slow=37						
PPT	Papeete	83.67	117	LR	LR	19 29 00.2	
	comp=Z,285nm,20.8s,baz=341,slow=32						
ANMO	Albuquerque	84.12	50	P	P	18 56 13.9	+0.5
ANMO	Albuquerque	84.12	50	P	P	18 56 13.9	+0.5
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SCHQ	Schefferville	85.42	17	P	P	18 56 20.1	+0.7
	comp=Z,2.1nm,0.9s,baz=260,slow=15,SNR=2.0						
	comp=Z,2.1nm,0.9s						
TXAR	Lajitas Array	89.62	53	P	P	18 56 42.0	+1.8

ESDC Sonseca Array 25.90 124 P **P 19 00 34.0 +0.7**
1.8nm,1.1s,baz=338,slow=9.7,SNR=4.4
1.8nm,1.1s
AKASG Malin Array Be 35.21 75 P **P 19 01 55.0 -0.1**
0.1nm,0.2s,baz=308,slow=9.0,SNR=1.9
0.1nm,0.2s
ULM Lac du Bonnet 36.82 286 P **P 19 02 08.9 0.0**
0.9nm,0.6s,baz=324,slow=15,SNR=2.2
0.9nm,0.6s
YKA Yellowknife Ar 38.37 312 P **P 19 02 21.6 -0.3**
0.8nm,0.9s,baz=59,slow=8.6,SNR=8.0
0.8nm,0.9s
BRTR Keskin Array B 44.89 85 P **P 19 03 15.7 -0.1**
0.5nm,0.8s,baz=324,slow=7.1,SNR=1.8
0.5nm,0.8s
ILAR Eielson Array 47.74 328 P **P 19 03 37.5 -0.2**
0.8nm,1.0s,baz=32,slow=5.0,SNR=5.7
0.8nm,1.0s
TORD Torodi Ar. Bea 51.72 136 P **P 19 04 08.2 -0.3**
44nm,0.3s,baz=337,slow=8.5,SNR=3.8
NVAR Mina Array Bea 56.45 290 P **P 19 04 43.8 +0.7**
0.2nm,0.5s,baz=26,slow=9.0,SNR=1.7
0.2nm,0.5s
KURBB Kurchatov Arra 57.52 45 P **P 19 04 49.9 -0.3**
0.5nm,0.8s,baz=329,slow=7.0,SNR=4.0
0.5nm,0.8s
MKAR Makanchi Array 62.09 45 P **P 19 05 21.1 -0.6**
0.6nm,0.8s,baz=344,slow=6.1,SNR=5.3
0.6nm,0.8s

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*IDC **10** 18:55:49.6±1.2, 36°.60N×142°.58E, h0km, mb3.3/7, mbtmp3.3/8, ML2.6/1, Error ellipse: s-maj=30.3km s-min=23.7km az=89.0*
*JMA **10** 18:55:52.5±0.2, 36°.7N±0°.6×14°.2E±°, h34km, MV3.2/32, E OFF FUKUSHIMA PREF*
ISC 10 18:55:50.1±3.2, 36°.71N±0°.07×142°.34E±0°.08, h1km±18km, n21, σ1°15/28, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.29**	**288**	*eP*	**Pn**	**18 56 14.7**	**-0.7**
ONAJ				*eS*	**Sg**	**18 56 31.6**	**0.0**
JFK	**Kawauchi**	**1.34**	**300**	*eP*	**Pn**	**18 56 15.4**	**-0.6**
JFK				*eS*	**Sg**	**18 56 32.2**	**-0.9**
JHO	**Hitachi**	**1.43**	**266**	*eP*	**Pn**	**18 56 16.9**	**-0.2**
JHYU	**Hitachinakayam**	**1.46**	**256**	*eP*	**Pn**	**18 56 17.6**	**0.0**
JHYU				*eS*	**Sn**	**18 56 35.8**	**-1.6**
JFFD	**Fukushimafurud**	**1.47**	**285**	*eP*	**Pn**	**18 56 17.3**	**-0.5**
JFFD				*eS*	**Sn**	**18 56 35.8**	**-2.0**
JMM	**Marumori**	**1.69**	**314**	*eP*	**Pn**	**18 56 20.7**	**0.0**
JOTO	**OTAMA OYAMA**	**1.81**	**298**	*eP*	**Pn**	**18 56 23.0**	**+0.5**
JOTO				*eS*	**Sn**	**18 56 44.7**	**-1.4**
JIO	**Ouri**	**1.91**	**336**	*eP*	**Pn**	**18 56 23.2**	**-0.5**
JOU	**Okura**	**2.12**	**322**	*eP*	**Pn**	**18 56 27.6**	**+0.9**
JOU				*eS*	**Sn**	**18 56 53.4**	**-0.3**
JFY	**Yanaizu**	**2.22**	**289**	*eP*	**Pn**	**18 56 29.4**	**+1.4**
JAG	**Ashikaga**	**2.34**	**264**	*eP*	**Pn**	**18 56 30.3**	**+0.6**
JMK	**Ichinoseki**	**2.40**	**339**	*eP*	**Pn**	**18 56 30.5**	**-0.1**
JYK	**Kaneyama**	**2.70**	**325**	*eP*	**Pn**	**18 56 35.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.33**	**268**	Pn	**Pn**	**18 56 44.5**	**+1.2**
	0.5nm,0.3s,baz=90,slow=14,SNR=29						
MJAR				Sn	**Sn**	**18 57 24.3**	**+0.8**
	0.3nm,0.3s,baz=84,slow=12,SNR=4.5						
	4.3nm,0.4s						
SEY	**Seymchan**	**26.97**	**10**	P	**P**	**19 01 33.5**	**+0.5**
	0.3nm,0.3s,baz=230,slow=7.7,SNR=3.8						
	0.3nm,0.3s						
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**19 01 49.1**	**+1.3**
	0.5nm,0.7s,baz=103,slow=8.9,SNR=2.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**19 04 06.0**	**-0.4**
	0.2nm,0.7s,baz=86,slow=7.4,SNR=2.0						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**46.78**	**308**	P	**P**	**19 04 24.1**	**+3.1**
	0.2nm,0.5s,baz=85,slow=8.2,SNR=5.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**19 04 39.7**	**-1.1**
	0.5nm,0.8s,baz=263,slow=6.2,SNR=3.0						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**56.85**	**189**	P	**P**	**19 05 35.1**	**-1.4**
	0.3nm,0.7s,baz=6.6,slow=7.3,SNR=3.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**60.58**	**189**	P	**P**	**19 06 01.7**	**-0.7**
	0.2nm,0.8s,baz=352,slow=5.1,SNR=4.6						
	0.2nm,0.8s						

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*IDC **10** 18:59:14.0±0.6, 58°.34N×31°.87W, h0km, mb4.0/21, mbtmp4.0/25, ML3.1/4, MS4.3/9, Error ellipse: s-maj=17.5km s-min=11.6km az=0.0*
*NEIC **10** 18:59:15.5±2.0, 58°.5N±0°.1×32°.0W±0°.2, h10km±1km, mb4.6/34, Error ellipse: s-maj=19.1km s-min=14.4km az=183.0*
ISC 10 18:59:15.9±0.5, 58°.43N±0°.10×31°.93W±0°.06, h13km, n71, σ0°92/55, mb4.5/40, MS4.3/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.70**	**342**	Pn	**Pn**	**19 01 06.4**	**-1.0**
BORG	**Borgarnes**	**8.10**	**34**	Pn	**Pn**	**19 01 14.6**	**+1.7**
BORG	**Borgarnes**	**8.10**	**34**	Pn	**Pn**	**19 01 14.2**	**+1.2**
	0.4nm,0.3s,baz=347,slow=12,SNR=3.4						
BORG				LR	LR	19 03 37.5	
	comp=Z,998nm,21.5s,baz=231,slow=32						
	21nm,1.0s						
SFJD	**Kangerlussuaq**	**12.09**	**323**	LR	LR	19 06 06.4	
	comp=Z,988nm,18.6s,baz=196,slow=34						
EKA	**Eskdalemuir Ar**	**15.96**	**89**	Pn	**Pn**	**19 02 59.9**	**0.0**
	baz=290,slow=9.5						
	5.7nm,1.0s						
FRB	**Frobisher Bay**	**18.29**	**302**	P	**P**	**19 03 29.4**	**+0.4**
	0.1nm,0.3s,baz=77,slow=13,SNR=4.0						
FRB				LR	LR	19 09 30.4	
	comp=Z,1μm,18.5s,baz=82,slow=34						
	1.1nm,0.8s						
SCHQ	**Schefferville**	**19.39**	**274**	P	**Pn**	**19 03 43.0**	**+0.6**
	0.1nm,0.3s,baz=359,slow=8.0,SNR=3.6						
SCHQ				LR	LR	19 09 02.2	
	comp=Z,641nm,19.4s,baz=112,slow=30						
	2.7nm,0.9s						
NB2	**NORSAR Subarra**	**21.61**	**65**	P	**P**	**19 04 07.4**	**+2.2**
	comp=Z,52nm,1.7s,baz=282,slow=11						
NOA	**NORSAR Array B**	**21.61**	**65**	P	**P**	**19 04 06.2**	**+0.9**
	comp=Z,4.3nm,1.1s,baz=283,slow=9.5,SNR=5.6						
	comp=Z,4.3nm,1.1s						
HFS	**Hagfors**	**23.02**	**66**	P	**P**	**19 04 21.0**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=282,slow=7.4,SNR=4.6						
	comp=Z,3.6nm,0.8s						
BATG	**Bathurst New B**	**23.17**	**256**	P	**P**	**19 04 23.9**	**+2.1**
BATG				IAmb	IAmb	19 04 34.0	
	comp=Z,40nm,1.5s						
LMN	**Caledonia Moun**	**23.50**	**252**	P	**P**	**19 04 25.6**	**+0.4**
LMN				IAmb	IAmb	19 04 44.1	
	comp=Z,25nm,1.3s						
ESDC	**Sonseca Array**	**25.92**	**124**	P	**P**	**19 04 48.7**	**+1.2**
ESDC	**Sonseca Array**	**25.92**	**124**	P	**P**	**19 04 47.0**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=321,slow=8.6,SNR=9.2						
	comp=Z,1.9nm,0.9s						
ARCES	**ARCESS Array B**	**26.41**	**42**	P	**P**	**19 04 51.2**	**-0.4**
	comp=Z,5.8nm,1.0s,baz=263,slow=10,SNR=7.0						
	comp=Z,5.8nm,1.0s						
GERES	**GERESS Array B**	**28.18**	**90**	LR	LR	19 15 16.9	
	comp=Z,706nm,19.0s,baz=247,slow=34						
FINES	**FINESS Array B**	**28.39**	**59**	P	**P**	**19 05 09.1**	**-0.3**
	comp=Z,2.8nm,1.0s,baz=312,slow=8.6,SNR=2.3						
	comp=Z,2.8nm,1.0s						
SADO	**Sadowa**	**31.63**	**265**	LR	LR	19 16 49.2	
	comp=Z,322nm,21.2s,baz=91,slow=33						
AKASG	**Malin Array Be**	**35.14**	**75**	P	**P**	**19 06 08.1**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=313,slow=8.5,SNR=8.6						
	comp=Z,0.3nm,0.2s						
EYMN	**Ely**	**36.03**	**280**	P	**P**	**19 06 17.3**	**+0.8**
ULM	**Lac du Bonnet**	**36.84**	**286**	P	**P**	**19 06 23.9**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=109,slow=3.6,SNR=4.7						
	comp=Z,1.7nm,0.7s						
A36M	**Sachs Harbour**	**36.99**	**329**		**P**	**19 06 23.5**	**-0.9**
A36M				IAmb	IAmb	19 06 27.1	
	comp=Z,9.5nm,1.0s						
FNA	**Florina**	**37.62**	**94**	P	**P**	**19 06 29.2**	**-0.9**
YKA	**Yellowknife Ar**	**38.34**	**312**	P	**P**	**19 06 36.8**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=59,slow=8.6,SNR=23						
YKA				PcP	**PcP**	**19 08 49.4**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=54,slow=3.2,SNR=4.4						
	comp=Z,2.0nm,0.9s						
F31M	**Tsiigehtchic**	**42.02**	**326**	P	**P**	**19 07 06.8**	**+0.6**
G29M	**Pine Creek**	**43.62**	**327**	P	**P**	**19 07 18.5**	**-0.8**
G29M				IAmb	IAmb	19 07 21.4	
	comp=Z,14nm,1.1s						
E27K	**Coleen River**	**43.73**	**329**	P	**P**	**19 07 19.5**	**-0.7**
D25K	**Kavik River**	**44.15**	**332**	P	**P**	**19 07 22.2**	**-1.4**
I30M	**Mount Dempster**	**44.29**	**324**	P	**P**	**19 07 24.6**	**-0.2**
I30M				IAmb	IAmb	19 07 27.8	
	comp=Z,10nm,1.1s						
BRTR	**Keskin Array B**	**44.83**	**85**	P	**P**	**19 07 29.5**	**0.0**
BRTR	**Keskin Array B**	**44.83**	**85**	P	**P**	**19 07 29.9**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=323,slow=4.5,SNR=6.6						
	comp=Z,1.2nm,0.9s						
D24K	**Happy Valley**	**44.86**	**333**	IAmb	IAmb	19 07 31.8	
	comp=Z,11nm,1.1s						
B22K	**Teshekpuk Lake**	**45.00**	**336**	IAmb	IAmb	19 07 33.0	
	comp=Z,11nm,1.2s						
ARTI	**Arti**	**45.16**	**52**	P	**P**	**19 07 31.8**	**+0.1**
ARTI				IAmb	IAmb	19 07 33.4	
	comp=Z,12nm,1.3s						
I28M	**Miner Creek**	**45.20**	**326**	IAmb	IAmb	19 07 34.3	
	comp=Z,13nm,1.1s						
TOLK	**Toolik Lake Re**	**45.43**	**333**	IAmb	IAmb	19 07 36.4	
	comp=Z,11nm,1.1s						
KBZ	**Khabaz**	**46.72**	**74**	P	**P**	**19 07 44.5**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=295,slow=7.6,SNR=5.0						
	comp=Z,3.0nm,0.9s						
DLBC	**Dease Lake**	**46.82**	**314**	LR	LR	19 27 18.0	
	comp=Z,285nm,19.2s,baz=312,slow=36						
G23K	**Bananza Creek**	**47.02**	**331**	IAmb	IAmb	19 07 50.0	
	comp=Z,14nm,1.4s						
F21K	**Alatna River**	**47.47**	**333**	IAmb	IAmb	19 07 52.3	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**47.69**	**328**	P	**P**	**19 07 52.9**	**+1.5**
	comp=Z,3.0nm,0.9s,baz=34,slow=6.4,SNR=22						
ILAR				PcP	**PcP**	**19 09 20.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=4.4,slow=3.3,SNR=8.6						
	comp=Z,3.0nm,0.9s						
E19K	**Redstone River**	**48.13**	**335**	IAmb	IAmb	19 07 57.4	
	comp=Z,6.1nm,0.8s						
NEW	**Newport**	**48.54**	**297**	LR	LR	19 27 33.7	
	comp=Z,570nm,19.5s,baz=21,slow=35						
PDAR	**Pinedale Array**	**48.83**	**287**	P	**P**	**19 08 01.1**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=54,slow=7.5,SNR=5.8						
	comp=Z,1.0nm,0.7s						
B08A	**Colville Reser**	**49.50**	**299**	P	**P**	**19 08 03.5**	**-2.2**
ABKAR	**Akbulak array**	**50.86**	**58**	P	**P**	**19 08 15.5**	**-0.4**
ABKAR	**Akbulak array**	**50.86**	**58**	IAmb	IAmb	19 08 17.9	
	comp=Z,7.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**51.76**	**137**	P	**P**	**19 08 22.2**	**-0.7**
	comp=Z,51nm,0.3s,baz=336,slow=8.3,SNR=3.9						
BVAR	**Borovoye Array**	**52.42**	**48**	P	**P**	**19 08 28.4**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=314,slow=5.3,SNR=7.8						
	comp=Z,2.3nm,0.8s						
SAND	**Sanderson**	**54.75**	**271**	P	**P**	**19 08 45.1**	**+0.2**
DBIC	**Dimbokro**	**55.70**	**147**	P	**P**	**19 08 51.2**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=330,slow=4.5,SNR=6.8						
	comp=Z,3.0nm,0.7s						
TXAR	**Lajitas Array**	**56.05**	**272**	P	**P**	**19 08 53.4**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=194,slow=0.9,SNR=4.2						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**56.91**	**39**	P	**P**	**19 08 59.7**	**-0.3**
ZALV	**Zalesovo Beam**	**56.91**	**39**	P	**P**	**19 08 59.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=347,slow=5.9,SNR=1.6						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**57.38**	**45**	P	**P**	**19 09 03.5**	**+0.2**
KURK				IAmb	IAmb	19 09 04.8	
	comp=Z,7.1nm,1.3s						
KURBB	**Kurchatov Arra**	**57.42**	**45**	P	**P**	**19 09 03.8**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=325,slow=7.0,SNR=14						
	comp=Z,2.2nm,0.9s						
KKAR	**Karatay Array**	**60.27**	**55**	P	**P**	**19 09 22.4**	**-1.1**
MAKZ	**Makanchi**	**61.86**	**45**	P	**P**	**19 09 32.2**	**-2.1**
MAKZ				IAmb	IAmb	19 09 35.9	
	comp=Z,5.2nm,1.4s						
MKAR	**Makanchi Array**	**61.99**	**45**	P	**P**	**19 09 34.9**	**-0.3**
MKAR	**Makanchi Array**	**61.99**	**45**	P	**P**	**19 09 35.6**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=336,slow=5.9,SNR=24						
	comp=Z,1.7nm,0.6s						
ROSC	**El Rosal**	**62.71**	**229**	P	**P**	**19 09 41.3**	**+0.5**
	comp=Z,4.8nm,0.3s,baz=183,slow=23,SNR=1.7						
	comp=Z,4.8nm,0.3s						
BTK	**Batken**	**62.87**	**57**	IAmb	IAmb	19 09 43.4	
	comp=Z,7.7nm,1.1s						
TARG	**Taragay, Kyrgy**	**64.47**	**51**	IAmb	IAmb	19 09 55.1	
	comp=Z,4.0nm,1.0s						
H10S3	**ASCENSION HYDR**	**68.59**	**162**	T	T	20 24 26.1	
	baz=349,slow=74,SNR=3.9						
H10S2	**ASCENSION HYDR**	**68.60**	**162**	T	T	20 24 30.3	
	baz=231,slow=74,SNR=4.6						
SONM	**Songino Array**	**68.68**	**29**	P	**P**	**19 10 19.2**	**+0.6**
	comp=Z,2.0nm,1.1s,baz=327,slow=6.9,SNR=8.8						
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**68.81**	**28**	P	**P**	**19 10 19.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**93.39**	**46**	P	**P**	**19 12 30.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=342,slow=6.2,SNR=4.7						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**140.28**	**20**	PKP	**PKPdf**	**19 18 43.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=358,slow=2.6,SNR=2.0						
ASAR	**Alice Springs**	**143.82**	**22**	PKhKP	PKPpre	19 18 47.7	
	comp=Z,0.6nm,0.8s,baz=340,slow=2.2,SNR=5.8						
QSPA	**South Pole Qui**	**148.32**	**180**	PKPbc	**PKPbc**	**19 18 59.8**	**-0.4**
	comp=Z,3.1nm,1.1s,baz=310,slow=0.4,SNR=3.5						

IDC 10 19:06:31.5±8.8, 5°.40S×152°.38E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=264.0km s-min=35.3km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**229**	P	P	19 11 36.0	+0.6
	0.2nm,0.5s,baz=63,slow=10,SNR=4.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**25.43**	**223**	P	P	19 12 00.7	-0.5
	0.3nm,0.8s,baz=50,slow=9.2,SNR=6.3						
	0.3nm,0.8s						
SONM	**Songino Array**	**66.61**	**328**	P	P	19 17 24.0	+0.1
	0.3nm,0.4s,baz=122,slow=7.0,SNR=3.7						
	0.3nm,0.4s						

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*IDC **10** 19:10:18.7±0.9, 58°.35N×31°.87W, h0km, mb3.7/15, mbtmp3.7/15, Error ellipse: s-maj=28.4km s-min=14.7km az=2.0*
ISC 10 19:10:20.7±0.9, 58°.4N±0°.2×31°.87W±0°.10, h13km, n17, σ0°70/16, mb3.8/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**23.02**	**66**	P	**P**	**19 15 25.5**	**+0.5**
	1.2nm,0.6s,baz=300,slow=2.9,SNR=1.8						
	1.2nm,0.6s						
ESDC	**Sonseca Array**	**25.86**	**124**	P	**P**	**19 15 52.1**	**+0.3**
	0.9nm,0.9s,baz=330,slow=9.6,SNR=5.3						
	0.9nm,0.9s						
ARCES	**ARCESS Array B**	**26.44**	**42**	P	**P**	**19 15 56.3**	**-0.4**
	2.6nm,0.8s,baz=347,slow=5.0,SNR=4.1						
	2.6nm,0.8s						
RES	**Resolute Bay**	**28.02**	**330**	P	**P**	**19 16 11.2**	**+0.3**
	1.5nm,1.0s,baz=93,slow=9.1,SNR=4.3						
	1.5nm,1.0s						
FINES	**FINESS Array B**	**28.40**	**59**	P	**P**	**19 16 15.9**	**+1.6**
	4.8nm,1.2s,baz=266,slow=9.1,SNR=1.2						
	4.8nm,1.2s						
AKASG	**Malin Array Be**	**35.13**	**75**	P	**P**	**19 17 13.7**	**+0.2**
	0.3nm,0.5s,baz=302,slow=8.7,SNR=1.7						
	0.3nm,0.5s						
ULM	**Lac du Bonnet**	**36.88**	**286**	P	**P**	**19 17 28.4**	**-0.1**
	1.2nm,0.6s,baz=47,slow=8.4,SNR=3.0						
	1.2nm,0.6s						
YKA	**Yellowknife Ar**	**38.41**	**312**	P	**P**	**19 17 40.9**	**-0.4**
	1.3nm,0.9s,baz=59,slow=8.4,SNR=8.3						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**47.76**	**328**	P	**P**	**19 18 57.9**	**+1.0**
	1.3nm,1.0s,baz=36,slow=6.4,SNR=8.0						
	1.3nm,1.0s						
PDAR	**Pinedale Array**	**48.88**	**287**	P	**P**	**19 19 05.8**	**-0.3**
	0.7nm,0.6s,baz=61,slow=7.6,SNR=7.6						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**52.44**	**48**	P	**P**	**19 19 31.6**	**-0.9**
	1.7nm,1.1s,baz=7.6,slow=4.5,SNR=3.9						
	1.7nm,1.1s						
TXAR	**Lajitas Array**	**56.08**	**272**	P	**P**	**19 19 59.5**	**+0.1**
	0.1nm,0.4s,baz=130,slow=4.7,SNR=3.8						
	0.1nm,0.4s						
NVAR	**Mina Array Bea**	**56.51**	**290**	P	**P**	**19 20 02.8**	**+0.2**
	0.4nm,0.5s,baz=9.4,slow=5.3,SNR=2.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**57.45**	**45**	P	**P**	**19 20 08.0**	**-0.7**
	0.9nm,0.9s,baz=321,slow=7.4,SNR=5.8						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**62.02**	**45**	P	**P**	**19 20 40.1**	**-0.2**
	0.5nm,0.8s,baz=335,slow=5.4,SNR=6.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**143.87**	**22**	PKP	PKPbc	19 29 53.1	0.0
	0.3nm,0.9s,baz=339,slow=3.1,SNR=1.7						
QSPA	**South Pole Qui**	**148.26**	**180**	PKPbc	**PKPbc**	**19 30 04.3**	**-0.6**
	3.5nm,1.2s,baz=156,slow=2.5,SNR=2.7						

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*IDC **10** 19:13:43.9±0.9, 57°.89N×31°.85W, h0km, mb3.9/14, mbtmp3.9/17, ML3.4/3, MS4.2/3, Error ellipse: s-maj=26.7km s-min=14.3km az=5.0*
*NEIC **10** 19:13:47.9±2.5, 58°.3N±0°.2×31°.8W±0°.2, h10km±2km, mb4.6/25, Error ellipse: s-maj=28.3km s-min=17.0km az=178.0*
ISC 10 19:13:47.6±0.7, 58°.1N±0°.1×31°.77W±0°.07, h14km, n54, σ1°38/53, mb4.5/33, 1D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.29**	**33**	Pn	**Pn**	**19 15 49.1**	**+1.9**
	0.4nm,0.3s,baz=153,slow=5.6,SNR=2.6						
	17nm,1.0s						
SUMG	**Summit**	**14.74**	**352**	*i* P	**P**	**19 17 21.0**	**-0.8**
EKA	**Eskdalemuir Ar**	**15.89**	**88**	Pn	**Pn**	**19 17 27.7**	**-2.8**
	baz=256,slow=20						
	0.7nm,0.6s						
FRB	**Frobisher Bay**	**18.52**	**303**	P	**P**	**19 18 00.8**	**-2.3**
	baz=85,slow=11,SNR=3.3						
	1.5nm,1.0s						
SCHQ	**Schefferville**	**19.50**	**275**	LR	LR	19 24 24.2	
	comp=Z,594nm,18.3s,baz=50,slow=33						
KONO	**Kongsberg**	**21.18**	**68**	P	**P**	**19 18 30.2**	**-2.0**
KONO				IAmb	IAmb	19 18 30.9	
	comp=Z,30nm,1.5s						
HFS	**Hagfors**	**23.06**	**66**	P	**P**	**19 18 52.3**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=234,slow=12,SNR=2.6						
	comp=Z,2.8nm,1.0s						
BATG	**Bathurst New B**	**23.18**	**257**	P	**P**	**19 18 54.7**	**+1.1**
BATG				IAmb	IAmb	19 18 60.0	
	comp=Z,19nm,1.1s						
F64A	**Sherman**	**25.30**	**257**	P	**P**	**19 19 13.1**	**-0.3**
F64A				IAmb	IAmb	19 19 21.2	
	comp=Z,36nm,1.4s						
ESDC	**Sonseca Array**	**25.69**	**124**	P	**P**	**19 19 19.8**	**+2.8**
ESDC	**Sonseca Array**	**25.69**	**124**	P	**P**	**19 19 16.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=331,slow=8.7,SNR=7.0						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**26.56**	**41**	P	**P**	**19 19 24.4**	**-0.2**
	comp=Z,4.8nm,1.1s,baz=280,slow=10.0,SNR=4.0						
	comp=Z,4.8nm,1.1s						
RES	**Resolute Bay**	**28.24**	**330**	P	**P**	**19 19 39.5**	**0.0**
	comp=Z,2.0nm,1.1s,baz=94,slow=9.2,SNR=4.7						
	comp=Z,2.0nm,1.1s						
FINES	**FINESS Array B**	**28.47**	**59**	P	**P**	**19 19 42.2**	**+0.5**
	comp=Z,3.9nm,1.0s,baz=280,slow=8.3,SNR=2.7						
	comp=Z,3.9nm,1.0s						
FCC	**Fort Churchill**	**31.58**	**298**	P	**P**	**19 20 09.9**	**+0.7**
AKASG	**Malin Array Be**	**35.13**	**75**	P	**P**	**19 20 38.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=305,slow=8.6,SNR=6.0						
	comp=Z,0.2nm,0.4s						
EYMN	**Ely**	**36.16**	**280**	P	**P**	**19 20 50.5**	**+1.3**
EYMN				IAmb	IAmb	19 20 52.7	
	comp=Z,13nm,1.2s						
ULM	**Lac du Bonnet**	**36.99**	**286**	P	**P**	**19 20 54.6**	**-1.6**
	comp=Z,3.0nm,0.9s,baz=52,slow=6.6,SNR=5.5						
	comp=Z,3.0nm,0.9s						
A36M	**Sachs Harbour**	**37.28**	**329**	P	**P**	**19 20 59.4**	**+1.0**
YKA	**Yellowknife Ar**	**38.60**	**312**	P	**P**	**19 21 09.6**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=58,slow=7.8,SNR=3.8						
YKA				PcP	**PcP**	**19 23 21.4**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=59,slow=3.0,SNR=3.7						
	comp=Z,2.4nm,1.0s						
INK	**Inuvik**	**41.69**	**327**	P	**P**	**19 21 35.1**	**0.0**
INK				IAmb	IAmb	19 21 38.3	
	comp=Z,13nm,1.3s						
E28M	**Babbage River**	**43.18**	**329**	P	**P**	**19 21 47.5**	**+0.2**
G29M	**Pine Creek**	**43.91**	**327**	P	**P**	**19 21 51.8**	**-1.4**
E27K	**Coleen River**	**44.02**	**330**	P	**P**	**19 21 54.0**	**-0.2**
E27K				IAmb	IAmb	19 21 55.9	
	comp=Z,11nm,1.2s						
D25K	**Kavik River**	**44.44**	**333**	P	**P**	**19 21 57.1**	**-0.3**
I30M	**Mount Dempster**	**44.57**	**324**	P	**P**	**19 21 59.7**	**+1.0**
I30M				IAmb	IAmb	19 22 03.2	
	comp=Z,16nm,1.2s						
BRTR	**Keskin Array B**	**44.77**	**85**	P	**P**	**19 22 03.4**	**+2.8**
	comp=Z,1.3nm,1.0s,baz=310,slow=9.6,SNR=6.2						
J29N	**Klondike Camp**	**45.67**	**324**	P	**P**	**19 22 09.6**	**+2.3**
D23K	**Nanushuk River**	**45.73**	**334**	P	**P**	**19

s-min=5.9km az=45.0
*MEX **10** 19:17:13.1±1.0, 15°.86N×93°.83W, h108km±8km, MD4.7*
*IDC **10** 19:17:13.1±0.8, 15°.97N×93°.69W, h97km±6km, mb3.9/16, mbtmp4.1/18, Error ellipse: s-maj=16.9km s-min=6.2km az=33.0*
*GCG **10** 19:17:14.9±1.9, 15°.93N×93°.64W, h92km±20km, MD4.9*
*CATAC **10** 19:17:15.2±0.8, 16°N±5°×9°4W±°, h20km±6km, M5.0/10, mb5.1/5, mB5.6/2, MLv4.9/10, Mw(mB)5.1/2, Error ellipse: s-maj=11.3km s-min=4.4km az=26.9, confirmed*

ISC 10 19:17:12.8±0.7, **15°.87N**±0°.03×**93°.83W**±0°.03, **h103**km±6km, **n193**, σ2°12/242, **mb4.2**/22, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.61**	**106**		**Pn**	**19 17 29.2**	**-0.5**
PCIG					**Sn**	**19 17 41.8**	**-0.7**
PCIG		**0.61**	**106**	*eP*	**Pn**	**19 17 29.2**	**-0.5**
PCIG				*eS*	**Sn**	**19 17 41.8**	**-0.7**
NILT	**Santiago Nilte**	**1.02**	**313**	*eP*	**Pn**	**19 17 33.6**	**-0.1**
NILT				*eS*	**Sn**	**19 17 50.0**	**+0.6**
TGIG		**1.13**	**37**		**Pn**	**19 17 34.8**	**-0.2**
TGIG					**Sn**	**19 17 50.2**	**-1.5**
TGIG		**1.13**	**37**	*eP*	**Pn**	**19 17 34.8**	**-0.2**
TGIG				*eS*	**Sn**	**19 17 50.2**	**-1.5**
TGIG		**1.13**	**37**	*eP*	**Pn**	**19 17 34.2**	**-0.7**
TGIG				*eS*	**Sn**	**19 17 50.0**	**-1.7**
TGIG		**1.13**	**37**	*eP*		19 17 34.2	
TGIG				*eS*		19 17 50.0	
TGBT	**Tuxtla Gutierr**	**1.15**	**38**		**Pn**	**19 17 34.6**	**-0.5**
TGBT					**Sn**	**19 17 50.5**	**-1.4**
TGBT	**Tuxtla Gutierr**	**1.15**	**38**	*eP*	**Pn**	**19 17 34.6**	**-0.5**
TGBT				*eS*	**Sn**	**19 17 50.5**	**-1.4**
UXUV	**UXUV**	**1.47**	**348**	*eP*	**Pn**	**19 17 39.3**	**+0.4**
UXUV				*eS*	**Sn**	**19 17 58.1**	**-0.5**
CMIG	**Matias Romero**	**1.58**	**320**		**Pn**	**19 17 40.3**	**+0.1**
CMIG					**Sn**	**19 18 00.9**	**0.0**
CMIG	**Matias Romero**	**1.58**	**320**	P	**Pn**	**19 17 40.0**	**-0.2**
	314nm,0.2s,baz=151,slow=9.2,SNR=1150						
CMIG				S	**Sn**	**19 18 01.1**	**+0.2**
	3μm,0.4s,baz=69,slow=6.4,SNR=30						
CMIG				LR	LR	19 18 19.8	
	comp=Z,308nm,18.8s,baz=24,slow=42						
CMIG	**Matias Romero**	**1.58**	**320**	*eP*	**Pn**	**19 17 40.3**	**+0.1**
CMIG				*eS*	**Sn**	**19 18 00.9**	**0.0**
CCIG	**Comitan**	**1.68**	**76**	Pn	**Pn**	**19 17 41.5**	**-0.1**
CCIG	**Comitan**	**1.68**	**76**	*eP*	**Pn**	**19 17 41.7**	**0.0**
CCIG				*eS*	**Sn**	**19 18 00.8**	**-2.7**
CCIG	**Comitan**	**1.68**	**76**	P	**Pn**	**19 17 41.7**	**0.0**
CCIG	**Comitan**	**1.68**	**76**	P	**Pn**	**19 17 42.5**	**+0.8**
CCIG	**Comitan**	**1.68**	**76**	S	**Sn**	**19 18 03.1**	**-0.5**
CCIG	**Comitan**	**1.68**	**76**	*eP*	**Pn**	**19 17 41.5**	**-0.1**
CCIG				*eS*	**Sn**	**19 18 00.8**	**-2.7**
CCIG	**Comitan**	**1.68**	**76**	*eP*		19 17 41.5	
CCIG				*eS*		19 18 00.8	
SMCA	**Catarina**	**1.98**	**121**	*eP*	**Pn**	**19 17 45.0**	**-0.2**
SMCA				*eS*	**Sn**	**19 18 08.8**	**-1.1**
SMCA	**Catarina**	**1.98**	**121**	*eP*		19 17 45.0	
SMCA				*eS*		19 18 08.8	
HUIG	**Huatulco**	**2.19**	**268**		**Pn**	**19 17 46.3**	**-1.7**
HUIG					**Sn**	**19 18 10.1**	**-4.8**
HUIG	**Huatulco**	**2.19**	**268**	*eP*	**Pn**	**19 17 46.3**	**-1.7**
HUIG				*eS*	**Sn**	**19 18 10.1**	**-4.8**
HUIG	**Huatulco**	**2.19**	**268**	*eP*	**Pn**	**19 17 45.9**	**-2.1**
HUIG				*i S*	**Sn**	**19 18 10.6**	**-4.3**
HUIG	**Huatulco**	**2.19**	**268**	*eP*		19 17 45.9	
HUIG				*i S*		19 18 10.6	
TUIG	**Tuzandepetl**	**2.22**	**345**	*eP*	**Pn**	**19 17 47.9**	**-0.4**
TUIG				*eS*	**Sn**	**19 18 13.9**	**-1.7**
HUEH	**Huehuetenango**	**2.31**	**103**	Pn	**Pn**	**19 17 50.2**	**+0.4**
HUEH				Sn	**Sn**	**19 18 15.2**	**-2.9**
HUEH	**Huehuetenango**	**2.31**	**103**	P	**Pn**	**19 17 50.5**	**+0.7**
HUEH	**Huehuetenango**	**2.31**	**103**	P	**Pn**	**19 17 50.1**	**+0.4**
HUEH	**Huehuetenango**	**2.31**	**103**	S	**Sn**	**19 18 14.8**	**-3.3**
HUEH	**Huehuetenango**	**2.31**	**103**	*eP*	**Pn**	**19 17 50.0**	**+0.2**
HUEH				*eS*	**Sn**	**19 18 14.8**	**-3.3**
HUEH	**Huehuetenango**	**2.31**	**103**	*eP*		19 17 50.0	
HUEH				*eS*		19 18 14.8	
RTAL	**Retalhuleu**	**2.46**	**123**	Pn	**Pn**	**19 17 52.4**	**+0.9**
RTAL				Sn	**Sn**	**19 18 21.0**	**-0.2**
RTAL	**Retalhuleu**	**2.46**	**123**	P	**Pn**	**19 17 52.6**	**+1.1**
RTAL	**Retalhuleu**	**2.46**	**123**	P	**Pn**	**19 17 52.2**	**+0.7**
RTAL	**Retalhuleu**	**2.46**	**123**	S	**Sn**	**19 18 20.9**	**-0.4**
SOKI	**Kika Raxquin**	**2.57**	**114**	*eP*	**Pn**	**19 17 54.5**	**+1.3**
SOKI	**Kika Raxquin**	**2.57**	**114**	*eP*		19 17 54.5	
NEUV	**Arroyo Zacate**	**2.63**	**314**	*eP*	**Pn**	**19 17 53.6**	**-0.1**
NEUV				*eS*	**Sn**	**19 18 24.4**	**-0.7**
STG8	**El Palmar, Qui**	**2.78**	**120**	*eP*		19 17 51.5	
STG0	**El Palmar, Qui**	**2.80**	**121**	*eP*		19 17 51.8	
PMUV	**Sontecomapan**	**2.93**	**335**	*eP*	**Pn**	**19 17 56.5**	**-1.2**
PMUV				*eS*	**Sn**	**19 18 30.3**	**-2.1**
VHO	**Vista Hermosa**	**3.03**	**294**	*eP*	**Pn**	**19 18 00.6**	**+1.4**
VHO				*eS*	**Sn**	**19 18 33.4**	**-1.5**
PEIG	**Puerto Escondi**	**3.19**	**273**		**Pn**	**19 17 59.9**	**-1.2**
PEIG					**Sn**	**19 18 35.2**	**-3.4**
PEIG	**Puerto Escondi**	**3.19**	**273**	*eP*	**Pn**	**19 17 59.9**	**-1.2**
PEIG				*eS*	**Sn**	**19 18 35.2**	**-3.4**
APG	**El Apazote**	**3.36**	**104**	P	**Pn**	**19 18 02.4**	**-1.3**
	17nm,0.4s,baz=206,slow=15,SNR=187						
APG				S	**Sn**	**19 18 41.8**	**-1.2**
	117nm,0.3s,baz=79,slow=18,SNR=35						
APG	**El Apazote**	**3.36**	**104**	*eP*	**Pn**	**19 18 03.1**	**-0.6**
APG				*eS*	**Sn**	**19 18 41.6**	**-1.3**
APG	**El Apazote**	**3.36**	**104**	*eP*		19 18 03.1	
APG				*eS*		19 18 41.6	
YOIG	**Yosondua**	**3.69**	**286**	*eP*	**Pn**	**19 18 08.3**	**+0.1**
YOIG				*eS*	**Sn**	**19 18 50.1**	**-0.9**
TOIG	**Toxpalan**	**3.80**	**306**	*eP*	**Pn**	**19 18 10.7**	**+1.2**
TOIG				*eS*	**Sn**	**19 18 52.2**	**-1.1**
PETF	**Flores**	**3.95**	**74**	Pn	**Pn**	**19 18 11.2**	**-0.1**
PETF	**Flores**	**3.95**	**74**	*eP*	**Pn**	**19 18 11.2**	**-0.1**
PETF				*eS*	**Sn**	**19 18 54.5**	**-2.2**
PETF	**Flores**	**3.95**	**74**	*eP*		19 18 11.2	
PETF				*eS*		19 18 54.5	
SCIG	**Sabancuy**	**3.98**	**39**	*eP*	**Pn**	**19 18 11.3**	**-0.5**
SCIG				*eS*	**Sn**	**19 18 51.6**	**-6.0**
SCIG	**Sabancuy**	**3.98**	**39**	*eP*	**Pn**	**19 18 11.6**	**-0.2**
SCIG	**Sabancuy**	**3.98**	**39**	*eP*		19 18 11.6	
TXIG	**Tlaxiaco**	**4.01**	**291**	*eP*	**Pn**	**19 18 13.7**	**+1.2**
TXIG				*eS*	**Sn**	**19 18 57.3**	**-1.4**
PNIG	**Pinotepa**	**4.16**	**278**		**Pn**	**19 18 13.3**	**-0.8**
PNIG	**Pinotepa**	**4.16**	**278**	*eP*	**Pn**	**19 18 13.3**	**-0.8**
PNIG				*eS*	**Sn**	**19 18 56.3**	**-5.5**
TPIG	**Tehuac#an**	**4.22**	**307**	*eP*	**Pn**	**19 18 15.9**	**+0.8**
TPIG				*eS*	**Sn**	**19 19 01.8**	**-1.7**
HLIG	**Huajuapan de L**	**4.27**	**298**		**Pn**	**19 18 17.1**	**+1.2**
HLIG	**Huajuapan de L**	**4.27**	**298**	*eP*	**Pn**	**19 18 17.1**	**+1.2**
NUBE	**Las Nubes**	**4.38**	**116**	P	**Pn**	**19 18 18.7**	**+1.4**
NUBE	**Las Nubes**	**4.38**	**116**	P	**Pn**	**19 18 18.9**	**+1.6**
NUBE	**Las Nubes**	**4.38**	**116**	S	**Sn**	**19 19 05.9**	**-1.5**
NUBE	**Las Nubes**	**4.38**	**116**	*i* P	**Pn**	**19 18 18.7**	**+1.4**
NUBE	**Las Nubes**	**4.38**	**116**	*i* P		19 18 18.7	
JAUV	**Jalcomulco**	**4.48**	**321**	*eP*	**Pn**	**19 18 17.9**	**-0.7**
JAUV				*eS*	**Sn**	**19 19 07.5**	**-2.2**
ESQI	**Esquipulas**	**4.53**	**106**	Pn	**Pn**	**19 18 18.7**	**-0.6**
ESQI	**Esquipulas**	**4.53**	**106**	P	**Pn**	**19 18 19.8**	**+0.5**
CEVE	**Cerro Verde**	**4.55**	**116**	P	**Pn**	**19 18 22.6**	**+2.9**
CEVE	**Cerro Verde**	**4.55**	**116**	P	**Pn**	**19 18 22.4**	**+2.7**
CEVE	**Cerro Verde**	**4.55**	**116**	S	**Sn**	**19 19 14.3**	**+2.6**
LVIG	**Laguna Verde**	**4.55**	**328**	*eP*	**Pn**	**19 18 18.0**	**-1.5**
LVIG				*eS*	**Sn**	**19 19 07.1**	**-4.2**
MTO3	**Montecristo**	**4.56**	**108**		**Pn**	**19 18 18.9**	**-0.9**
MTO3	**Montecristo**	**4.56**	**108**	P	**Pn**	**19 18 19.3**	**-0.5**
MTO3	**Montecristo**	**4.56**	**108**	P	**Pn**	**19 18 20.0**	**+0.2**
MTO3	**Montecristo**	**4.56**	**108**	*eP*	**Pn**	**19 18 19.0**	**-0.9**
MTO3	**Montecristo**	**4.56**	**108**	*eP*		19 18 19.0	
POHV	**Veracruz**	**4.57**	**315**	*eP*	**Pn**	**19 18 21.9**	**+1.6**
FTIG	**Fresnillo de T**	**4.59**	**297**		**Pn**	**19 18 21.1**	**+1.1**
FTIG	**Fresnillo de T**	**4.59**	**297**	*eP*	**Pn**	**19 18 21.1**	**+1.1**
FTIG				*eS*	**Sn**	**19 19 10.0**	**-2.3**
JAYA	**Jayaque - finc**	**4.78**	**117**	P	**Pn**	**19 18 24.0**	**+1.2**
JAYA	**Jayaque - finc**	**4.78**	**117**	P	**Sn**	**19 18 23.9**	**+1.2**
JAYA	**Jayaque - finc**	**4.78**	**117**	S	**Sn**	**19 18 16.9**	**-0.2**
JAYA	**Jayaque - finc**	**4.78**	**117**	*eP*	**Pn**	**19 18 23.9**	**+1.1**
JAYA	**Jayaque - finc**	**4.78**	**117**	*eP*		19 18 23.9	
MGIG	**Malinaltepec**	**4.80**	**287**	*eP*	**Pn**	**19 18 24.3**	**+1.3**
MGIG				*eS*	**Sn**	**19 19 16.1**	**-1.4**
TLIG	**Tlapa**	**4.84**	**291**	Pn	**Pn**	**19 18 25.2**	**+1.7**
TLIG	**Tlapa**	**4.84**	**291**	P	**Pn**	**19 18 25.1**	**+1.7**
PMON	**Piamonte**	**4.87**	**116**	P	**Pn**	**19 18 25.6**	**+1.7**
PMON	**Piamonte**	**4.87**	**116**	P	**Pn**	**19 18 25.4**	**+1.5**
PMON	**Piamonte**	**4.87**	**116**	S	**Sn**	**19 19 20.8**	**+1.6**
CRIG	**Cruz Grande**	**5.16**	**280**	*eP*	**Pn**	**19 18 27.5**	**-0.2**
CRIG				*eS*	**Sn**	**19 19 18.6**	**-7.4**
PBCV	**Popocatepetl**	**5.47**	**305**	*eP*	**Pn**	**19 18 33.8**	**+1.6**
PBCV				*eS*	**Sn**	**19 19 29.0**	**-5.1**
PBPN	**Popocatepetl**	**5.56**	**305**	*eP*	**Pn**	**19 18 32.6**	**-1.0**
PBPN				*eP*		19 18 35.1	
PBPN				*eS*	**Sn**	**19 19 33.7**	**-2.7**
PBPN				*eS*		19 19 34.8	
PBXN	**Popocatepetl**	**5.56**	**305**	*eP*	**Pn**	**19 18 34.0**	**+0.3**
PBXN				*eP*		19 18 35.9	
PBXN				*eS*	**Sn**	**19 19 35.3**	**-1.2**
PBXN				*eS*		19 19 37.5	
PPM	**Popocatepetl**	**5.57**	**305**	*eP*	**Pn**	**19 18 36.5**	**+2.8**
PPM				*eS*	**Sn**	**19 19 36.0**	**-0.7**
CXUV	**Coxquihui**	**5.57**	**321**	*eP*	**Pn**	**19 18 33.2**	**-0.2**
CXUV				*eS*	**Sn**	**19 19 34.4**	**-1.7**
DAIG	**Los Arroyos**	**5.70**	**282**	*eP*	**Pn**	**19 18 35.1**	**+0.1**
DAIG				*eS*	**Sn**	**19 19 33.5**	**-5.6**
NISHN	**Nisperales Com**	**5.73**	**90**	*eP*	**Pn**	**19 18 33.7**	**-1.8**
NISHN	**Nisperales Com**	**5.73**	**90**	*eP*		19 18 33.7	
PACA	**Pacayal**	**5.84**	**113**	P	Pn	19 18 43.7	+6.6
PACA	**Pacayal**	**5.84**	**113**	P	Pn	19 18 42.3	+5.2
PACA	**Pacayal**	**5.84**	**113**	S	**Sn**	**19 19 43.0**	**+0.2**
MPVM	**San Francisco**	**5.95**	**305**	*eP*	**Pn**	**19 18 42.3**	**+3.7**
MPVM				*eS*	**Sn**	**19 19 43.3**	**-2.2**
PLIG	**Platanillo**	**5.97**	**296**	*eP*	**Pn**	**19 18 40.9**	**+2.0**
PLIG				*eS*	**Sn**	**19 19 41.8**	**-4.1**
THVM	**De Xico**	**5.98**	**306**	*eP*	**Pn**	**19 18 35.9**	**-3.2**
XCVM	**Xochimilco**	**6.06**	**304**	*eS*	**Sn**	**19 19 46.5**	**-1.8**
TLVM	**San Miguel Top**	**6.06**	**304**	*eP*	Pn	19 18 35.3	-5.0
TLVM				*eS*	**Sn**	**19 19 42.4**	**-6.1**
BJVM	**Benito Juarez**	**6.17**	**305**	*eS*	**Sn**	**19 19 54.8**	**+3.8**
MAVM	**Malinalco, Edo**	**6.21**	**300**	*e*	Pn	19 18 30.4	-12
MAVM				*e*		19 19 37.4	
AOVM	**Tlapan**	**6.23**	**304**	*eP*	**Pn**	**19 18 44.1**	**+1.5**
AOVM				*eS*	**Sn**	**19 19 51.3**	**-1.4**
CJVM	**Cuajimalpa**	**6.25**	**305**	*eS*	**Sn**	**19 19 50.1**	**-2.8**
CAIG	**El Cayaco**	**6.28**	**282**	*eP*	**Pn**	**19 18 43.4**	**+0.4**
CAIG				*eS*	**Sn**	**19 19 47.8**	**-5.6**
MYIG	**Merida**	**6.38**	**37**	*eP*	**Pn**	**19 18 44.2**	**-0.1**
MYIG				*eS*	**Sn**	**19 19 53.1**	**-2.5**
TGUH	**Tegucigalpa,Un**	**6.59**	**105**	Pn	**Pn**	**19 18 47.7**	**+0.4**
DEIG	**Demacu**	**6.62**	**312**	*eP*	**Pn**	**19 18 50.2**	**+2.4**
ARIG	**Puente Sto Nin**	**6.67**	**292**	*eP*	**Pn**	**19 18 50.6**	**+2.4**
ARIG				*eS*	**Sn**	**19 20 00.8**	**-2.1**
TEIG	**Tepich**	**6.83**	**50**	Pn	**Pn**	**19 18 48.9**	**-1.5**
TEIG	**Tepich**	**6.83**	**50**	P	**Pn**	**19 18 49.0**	**-1.4**
	baz=52,slow=20						
TEIG				S	**Sn**	**19 20 01.9**	**-4.8**
	baz=245,slow=24,SNR=4.3						
CTUV	**Llano Grande**	**7.03**	**323**	*eP*	**Pn**	**19 18 51.7**	**-1.3**
CTUV				*eS*	**Sn**	**19 20 05.5**	**-5.9**
ACIG	**Acambay**	**7.06**	**306**	*eP*	**Pn**	**19 18 55.6**	**+2.0**
CRIN	**San Cristobal**	**7.29**	**115**	P	**Pn**	**19 18 59.0**	**+2.2**
CRIN	**San Cristobal**	**7.29**	**115**	P	**Pn**	**19 18 59.0**	**+2.2**
MOIG	**Morelia**	**7.96**	**299**	*eP*	**Pn**	**19 19 06.7**	**+0.6**
MOIG	**Morelia**	**7.96**	**299**	P	**Pn**	**19 19 10.2**	**+4.2**
BOAB	**BOACO BROADBAN**	**8.62**	**112**	Pn	**Pn**	**19 19 14.4**	**-0.3**
BOAB	**BOACO BROADBAN**	**8.62**	**112**	P	**Pn**	**19 19 15.4**	**+0.7**
BOAB	**BOACO BROADBAN**	**8.62**	**112**	P	**Pn**	**19 19 15.6**	**+0.8**
ACON	**Acoyapa**	**9.26**	**114**		**Pn**	**19 19 22.2**	**-1.3**
MMIG	**Aquila**	**9.41**	**286**	*eP*	**Pn**	**19 19 27.3**	**+1.9**
EZ5V		**9.98**	**292**	*eP*	**Pn**	**19 19 37.7**	**+4.3**
MNGA	**Volcan de Coli**	**9.99**	**292**	*eP*	**Pn**	**19 19 37.6**	**+4.0**
INCO	**Volcan de Coli**	**9.99**	**293**	*eP*	**Pn**	**19 19 38.0**	**+4.2**
SOMAC	**Volcano de Col**	**10.02**	**293**	*eP*	**Pn**	**19 19 37.9**	**+3.9**
INDI	**Punta indio, G**	**10.08**	**125**	P	**Pn**	**19 19 35.9**	**+1.3**
CEGR	**Campo Tres**	**10.18**	**292**	*eP*	**Pn**	**19 19 40.0**	**+3.9**
CDAR	**Ciudad de Arme**	**10.18**	**289**	*eP*	**Pn**	**19 19 37.9**	**+2.0**
JTS	**Las Juntas de**	**10.28**	**122**	Pn	**Pn**	**19 19 37.6**	**+0.3**
SOCE	**Pocosol**	**10.50**	**120**		**Pn**	**19 19 40.6**	**+0.2**
SOCE	**Pocosol**	**10.50**	**120**	P	**Pn**	**19 19 40.4**	**0.0**
SOR	**Soroa**	**12.32**	**54**		**Pn**	**19 20 01.9**	**-2.7**
SOR	**Soroa**	**12.32**	**54**	*eP*	**Pn**	**19 20 02.4**	**-2.2**
CAIB	**Caibarien**	**15.07**	**62**	*eP*	**P**	**19 20 42.4**	**-0.8**
MTDJ	**Mount Denham**	**15.76**	**79**	*eP*	**P**	**19 20 55.5**	**+4.6**
PILO	**Pilon**	**16.14**	**73**	*eP*	**P**	**19 20 55.5**	**+0.5**
TXAR	**Lajitas Array**	**16.17**	**328**	P	**Pn**	**19 20 54.4**	**+0.3**
	0.7nm,0.7s,baz=146,slow=10,SNR=7.9						
LMGC	**Las Mercedes**	**16.54**	**73**	*eP*	**P**	**19 21 01.6**	**+2.1**
DWPF	**Disney Wildern**	**16.73**	**41**	*eP*	**P**	**19 21 02.7**	**+1.2**
CHIV	**Chivirico**	**17.07**	**74**	*eP*	**Pn**	**19 21 03.6**	**-1.5**
250A	**Grady**	**17.45**	**22**	P	**P**	**19 21 08.5**	**-0.9**
250A				IAmb	IAmb	19 21 11.5	
	comp=Z,14nm,0.8s						
MARVS	**Santiago de Cu**	**17.55**	**74**	*eP*	**P**	**19 21 08.2**	**-2.4**
PINC	**Pinares de May**	**17.74**	**72**	*eP*	**P**	**19 21 11.6**	**-1.1**
VHRN	**Van Horn**	**18.01**	**327**	P	**Pn**	**19 21 17.3**	**+0.7**
GTBY	**Guantanamo Bay**	**18.27**	**74**	P	**P**	**19 21 15.5**	**-3.0**
GTBY	**Guantanamo Bay**	**18.27**	**74**	*eP*	**P**	**19 21 17.1**	**-1.3**
MOAC	**Moa**	**18.54**	**72**	*eP*	**P**	**19 21 18.0**	**-3.5**
QMBU	**Quimbuelo**	**18.59**	**74**	*eP*	**P**	**19 21 20.3**	**-1.8**
MIAR	**Mount Ida**	**18.60**	**1**		**Pn**	**19 21 22.9**	**-0.5**
MIAR				IAmb	IAmb	19 21 45.1	
	comp=Z,27nm,0.8s						
MASC	**Masc**	**19.12**	**74**	*eP*	**P**	**19 21 26.5**	**-1.3**
GOGA	**Godfrey**	**19.82**	**26**	P	**P**	**19 21 33.3**	**-2.0**
GOGA				IAmb	IAmb	19 22 02.9	
	comp=Z,9.9nm,0.9s						
SMWD	**Samnorwood**	**20.00**	**344**	P	**P**	**19 21 35.4**	**-1.8**
FPAL	**Fort Paine**	**20.00**	**20**	P	**P**	**19 21 33.3**	**-4.0**
FPAL				IAmb	IAmb	19 22 01.5	
	comp=Z,18nm,0.8s						
LCAR	**Lake Charles**	**20.26**	**6**		**P**	**19 21 40.1**	**+0.1**
LCAR				IAmb	IAmb	19 22 15.6	
	comp=Z,10nm,0.9s						
HHAR	**Hobbs**	**20.33**	**360**	P	Pn	19 21 43.4	-0.2
HHAR				IAmb	IAmb	19 22 06.4	
	comp=Z,15nm,0.9s						
QUOK	**Quay**	**20.38**	**353**	P	Pn	19 21 42.8	-1.5
QUOK				IAmb	IAmb	19 22 03.1	
	comp=Z,26nm,0.8s						
WVT	**Waverly**	**20.87**	**14**	P	**P**	**19 21 43.0**	**-3.6**
T35A	**Sooner Cattle**	**21.09**	**354**	P	**P**	**19 21 48.4**	**-0.6**
T35A				IAmb	IAmb	19 22 10.8	
	comp=Z,27nm,0.9s						
GC02	**Grant County #**	**21.20**	**351**	P	**P**	**19 21 46.5**	**-3.6**
TKL	**Tuckaleeches C**	**21.66**	**23**	P	**P**	**19 22 00.8**	**+5.8**
	comp=Z,2.1nm,0.5s,baz=212,slow=13,SNR=2.2						
TKL				S	**S**	**19 25 49.3**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=180,slow=5.1,SNR=1.3						
OTAV	**Otavalo**	**21.72**	**134**	P	**P**	**19 21 55.7**	**-0.6**
SDDR	**Presa de Saban**	**21.73**	**79**	*eP*	**P**	**19 21 53.6**	**-2.4**
RTBA	**Rita Blanca**	**21.96**	**341**	P	**P**	**19 21 59.3**	**+0.9**
RTBA				IAmb	IAmb	19 22 33.8	
	comp=Z,21nm,1.0s						
ROSC	**El Rosal**	**22.08**	**118**	P	**P**	**19 22 00.2**	**+0.1**
	comp=Z,8.0nm,0.4s,baz=354,slow=16,SNR=5.6						
	comp=Z,8.0nm,0.4s						
RUSC	**La Rusia**	**22.64**	**114**	P	**P**	**19 22 06.5**	**+0.5**
FLOC	**Florencia**	**22.86**	**127**	P	**P**	**19 22 08.8**	**+1.1**
N38A	**Joes South For**	**24.84**	**1**	P	**P**	**19 22 23.2**	**-2.2**
O52A	**Adamsville**	**26.32**	**21**	P	**P**	**19 22 38.2**	**-0.7**
ECSD	**EROS Data Cent**	**27.87**	**356**	P	**P**	**19 22 52.2**	**-0.6**
ECSD				IAmb	IAmb	19 22 53.5	
	comp=Z,5.2nm,0.7s						
PDAR	**Pinedale Array**	**30.00**	**336**	P	**P**	**19 23 13.8**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=158,slow=6.2,SNR=2.8						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**31.11**	**321**	P	**P**	**19 23 24.5**	**+2.7**
	comp=Z,2.0nm,0.7s,baz=131,slow=8.8,SNR=15						
	comp=Z,2.0nm,0.7s						
AGMN	**Agassiz Nation**	**32.38**	**357**	IAmb	IAmb	19 23 32.9	
	comp=Z,6.1nm,0.7s						
ULM	**Lac du Bonnet**	**34.33**	**358**	P	**P**	**19 23 46.6**	**-2.7**
ULM				IAmb	IAmb	19 23 49.1	
	comp=Z,5.0nm,0.7s						
ULM	**Lac du Bonnet**	**34.33**	**358**	P	**P**	**19 23 48.0**	**-1.4**
	comp=Z,4.3nm,0.6s,baz=176,slow=9.5,SNR=12						
	comp=Z,4.3nm,0.6s						
FFC	**Flin Flon**	**39.28**	**353**	P	**P**	**19 24 31.8**	**+0.5**
LPAZ	**La Paz**	**40.80**	**140**	P	**P**	**19 24 44.9**	**-0.1**
LPAZ	**La Paz**	**40.80**	**140**	P	**P**	**19 24 45.0**	**0.0**
	comp=Z,0.7nm,0.3s,baz=311,slow=5.1,SNR=5.9						
	comp=Z,0.7nm,0.3s						
YKA	**Yellowknife Ar**	**48.81**	**347**	P	**P**	**19 25 48.0**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=155,slow=7.4,SNR=43						
	comp=Z,3.0nm,0.7s						
FRB	**Frobisher Bay**	**50.92**	**14**	P	**P**	**19 26 02.5**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=182,slow=4.9,SNR=3.9						
	comp=Z,1.4nm,0.8s						
BDFB	**Brasilia**	**55.02**	**123**	P	**P**	**19 26 33.4**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=306,slow=8.8,SNR=7.4						
	comp=Z,4.8nm,0.7s						
INK	**Inuvik**	**58.15**	**344**	P	**P**	**19 26 55.1**	**-0.3**
INK				IAmb	IAmb	19 27 32.9	
	comp=Z,3.7nm,0.7s						
RES	**Resolute Bay**	**58.82**	**360**	P	**P**	**19 26 60.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=206,slow=6.0,SNR=19						
	comp=Z,2.5nm,0.7s						
PLCA	**Paso Flores**	**60.33**	**160**	P	**P**	**19 27 11.8**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=334,slow=8.6,SNR=6.9						
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**60.43**	**337**	P	**P**	**19 27 12.2**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=127,slow=5.6,SNR=8.2						
	comp=Z,0.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**78.61**	**11**	P	**P**	**19 29 03.4**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=249,slow=4.0,SNR=12						
	comp=Z,1.9nm,0.5s						
NB2	**NORSAR Subarra**	**83.35**	**28**	P	**P**	**19 29 29.8**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**83.35**	**28**	P	**P**	**19 29 28.9**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=292,slow=5.3,SNR=5.7						
	comp=Z,1.6nm,0.9s						
HFS	**Hagfors**	**84.82**	**29**	P	**P**	**19 29 35.7**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=25,slow=3.8,SNR=2.4						
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**84.92**	**18**	P	**P**	**19 29 36.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=295,slow=3.3,SNR=18						
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**89.55**	**25**	P	**P**	**19 29 58.3**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=204,slow=4.2,SNR=3.8						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**117.53**	**3**	PKP	**PKiKP**	**19 35 48.5**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=350,slow=4.4,SNR=2.0						
**HHC

of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	4.76	358	P	Pn	19 36 40.8	+1.4
LKBA	Tubou, Lakemba	4.76	358	P	S	19 37 44.5	+1.3
MSVF	Nonsavu	6.11	329		Pn	19 36 54.5	+0.6
MSVF	Nonsavu	6.11	329	P	Pn	19 36 54.2	+0.2
	706nm,0.8s,baz=138,slow=14,SNR=328						
MSVF				S	S	19 38 09.9	0.0
	80nm,1.1s,baz=159,slow=12,SNR=0.7						
MSVF	Nonsavu	6.11	329	P	Pn	19 36 54.8	+0.8
GLKZ	Green Lake	6.25	174	P	Pn	19 36 55.5	+0.2
DGTI	Dogotuki	6.86	347	P	P	19 37 03.5	+0.3
DGTI	Dogotuki	6.86	347	S	S	19 38 27.0	+1.8
FUTU	Fugatoga	8.68	3	P	Pn	19 37 22.8	-0.5
FUTU	Fugatoga	8.68	3	P	P	19 37 24.5	+0.4
NIUE	Niue	9.02	66	P	Pn	19 37 26.5	-0.7
NIUE	Niue	9.02	66	P	Pn	19 37 26.9	-0.3
NIUE	Niue	9.02	66	S	S	19 39 08.4	-2.8
NIUE	Niue	9.02	66	P	Pn	19 37 26.7	-0.5
NIUE				S	S	19 39 07.7	-3.4
AFI	Afiamalu	11.14	37	P	P	19 37 47.7	-3.9
AFI	Afiamalu	11.14	37	P	P	19 37 48.9	-2.7
AFI	Afiamalu	11.14	37	P	P	19 37 48.5	-3.1
PINNC	Pines Island,	12.85	269	P	Pn	19 38 12.3	+0.4
PINNC	Pines Island,	12.85	269	P	Pn	19 38 13.0	+1.1
YATNC	Mamie plateau,	13.41	271	P	Pn	19 38 19.6	+1.1
OUENC	Ouen Island, N	13.42	270	P	Pn	19 38 18.7	+0.1
DVP	Devils Point	13.43	291	P	Pn	19 38 20.0	+1.3
ONTNC	Ouen Toro	13.79	270	P	P	19 38 20.8	+0.2
ONTNC	Ouen Toro	13.79	270	P	Pn	19 38 22.7	-0.2
DZM	Mont Dzumac	13.82	271	P	P	19 38 19.2	-1.9
DZM	Mont Dzumac	13.82	271	P	P	19 38 19.4	-1.7
	8.7nm,0.8s,baz=84,slow=17,SNR=54						
DZM	Mont Dzumac	13.82	271	P	Pn	19 38 22.8	-0.6
OUZ	Omahuta	13.92	207	P	Pn	19 38 25.1	+0.9
GRZ	Great Barrier	14.15	200	P	Pn	19 38 26.4	-0.2
WCZ	Waipu Caves	14.25	204	P	Pn	19 38 28.8	+1.0
KUZ	Kuaotunu	14.53	198	P	Pn	19 38 30.7	-0.2
MXZ	Matakaoa Point	14.74	190	P	Pn	19 38 32.4	-0.9
MXZ				S	S	19 41 06.0	-2.2
WMGZ	Waiomatatini S	14.97	189	P	P	19 38 33.9	+0.7
WMGZ				S	S	19 41 11.6	-1.4
HAZ	Te Kaha	15.01	191	P	P	19 38 34.4	+0.7
HAZ				S	S	19 41 13.8	+0.1
MKAZ	Moumakai	15.03	199	P	Pn	19 38 35.3	-1.4
PKGZ	Pakihiroa	15.07	190	P	Pn	19 38 36.4	-0.7
PKGZ				S	S	19 41 12.6	-2.3
RUGZ	Raukumara Rang	15.23	191	P	P	19 38 33.5	-2.8
RUGZ				S	S	19 41 14.3	-4.0
PUZ	Puketiti	15.24	189	P	P	19 38 36.4	+0.1
PUZ				S	S	19 41 12.9	-5.5
TWGZ	Tauwhareparae	15.39	190	P	P	19 38 39.2	+1.3
TWGZ				S	S	19 41 20.7	-0.6
TOZ	Tahuroa Road	15.51	198	P	P	19 38 38.8	-0.3
TOZ				IAmb	IAmb	19 38 43.1	
	comp=Z,41nm,0.9s						
MWZ	Matawai	15.62	191	P	P	19 38 41.0	+0.6
MWZ				S	S	19 41 24.1	-1.7
URZ	Urewera	15.63	193	P	P	19 38 38.9	-1.5
	comp=Z,24nm,0.3s,baz=36,slow=1.8,SNR=34						
URZ				S	S	19 41 23.6	-2.2
	comp=Z,345nm,1.0s,baz=350,slow=23,SNR=12						
URZ	Urewera	15.63	193	P	P	19 38 39.3	-1.0
URZ				S	S	19 41 24.9	-1.0
MKRZ	Makatiti	15.65	194	P	P	19 38 41.4	+0.6
CNGZ	Carnagh Statio	15.65	189	P	P	19 38 39.6	-1.1
CNGZ				S	S	19 41 22.2	-4.2
MUGZ	Murupara	15.91	193	P	Pn	19 38 46.0	-0.8
MUGZ				S	S	19 41 34.0	+2.5
RIGZ	Rimuhau	15.94	190	P	Pn	19 38 46.1	-1.2
RIGZ				S	S	19 41 30.5	-1.7
RTZ	Ruatahuna	16.00	193	P	P	19 38 44.6	+0.2
RTZ				IAmb	IAmb	19 38 47.3	
	comp=Z,36nm,0.6s						
RTZ	Ruatahuna	16.00	193	P	P	19 38 45.1	+0.6
RTZ				S	S	19 41 31.7	-1.7
KOUNC	Koumac, New Ca	16.06	276	P	Pn	19 38 47.7	-1.1
BKZ	Black Stump Fm	16.63	193	P	P	19 38 53.0	+1.8
NGZ	Ngauruhoe	16.84	196	P	P	19 38 54.3	+0.6
NGZ				S	S	19 41 55.3	+5.2
VRZ	Vera Road	17.02	198	P	P	19 38 56.9	+1.6
BFZ	Birch Farm	18.14	193	P	P	19 39 06.7	-0.5
BFZ				IAmb	IAmb	19 39 12.6	
	comp=Z,39nm,0.6s						
BFZ	Birch Farm	18.14	193	P	P	19 39 06.6	-0.6
MRZ	Mangatainoka R	18.26	194	P	P	19 39 07.0	-1.5
MRZ				IAmb	IAmb	19 39 13.9	
	comp=Z,37nm,0.7s						
MSWZ	Moikau Station	19.05	194	P	P	19 39 16.1	-0.8
SNZO	South Karori	19.08	196	P	P	19 39 15.6	-1.5
SNZO	South Karori	19.08	196	P	P	19 39 18.3	+1.2
BHW	Baring Head	19.13	195	P	P	19 39 16.7	-1.0
PLWZ	Palliser	19.20	194	P	P	19 39 17.1	-1.3
QRZ	Quartz Range	19.26	201	P	P	19 39 17.9	-1.1
TKNZ	Takaka Hill	19.31	200	P	P	19 39 17.5	-2.0
NNZ	Nelson	19.35	198	P	P	19 39 17.4	-2.4
TUWZ	Tuamarina	19.39	197	P	P	19 39 19.6	-0.6
CMWZ	Cape Campbell	19.62	196	P	P	19 39 22.6	+0.2
BSWZ	Blackbirch Sta	19.68	197	P	P	19 39 22.2	-0.8
MRNZ	Matariki Terra	19.70	200	P	P	19 39 21.9	-1.4
THZ	Tophouse	19.99	199	P	P	19 39 25.6	-0.5
DSZ	Denniston Nort	20.32	201	P	P	19 39 29.1	0.0
KHZ	Kahutara	20.42	197	P	P	19 39 29.2	-0.7
KHZ	Kahutara	20.42	197	P	P	19 39 29.4	-0.5
GVZ	Greta Valley S	21.07	197	P	P	19 39 35.0	-0.8
GVZ	Greta Valley S	21.07	197	P	P	19 39 35.3	-0.5
INZ	Inchbonnie	21.32	200	P	P	19 39 37.4	-0.7
AMCZ	Amberley	21.37	198	P	P	19 39 38.0	-0.5
MQZ	McQueen's Vall	21.86	197	P	P	19 39 41.2	-1.7
MQZ				IAmb	IAmb	19 39 43.1	
	comp=Z,56nm,0.9s						
RPZ	Rata Peaks	22.33	200	P	P	19 39 46.0	-1.4
RPZ				IAmb	IAmb	19 39 49.3	
	comp=Z,54nm,0.7s						
JCZ	Jackson Bay	23.42	203	P	P	19 39 58.1	+0.8
TW1H	Toowoomba 1 Ha	26.93	254	P	P	19 40 29.5	+0.7
ARMA	Armidale	27.51	248	P	P	19 40 33.4	-0.6
ARMA				IAmb	IAmb	19 40 35.5	
	comp=Z,36nm,0.8s						
ARMA	Armidale	27.51	248	P	P	19 40 34.9	+0.9
EIDS	Eidsvold	27.70	259	P	P	19 40 35.4	-0.2
EIDS				IAmb	IAmb	19 40 36.1	
	comp=Z,27nm,1.1s						
EIDS	Eidsvold	27.70	259	P	P	19 40 36.1	+0.6
PPT	Papeete	27.76	84	P	P	19 40 38.0	+1.9
	comp=Z,15nm,0.7s,baz=260,slow=22,SNR=1.6						
	comp=Z,15nm,0.7s						
SYDH	Sydney Hard Ro	28.89	241	P	P	19 40 46.7	+0.8
CNB	Canberra Magne	30.38	239	P	P	19 41 00.1	+1.1
CAN	Canberra	30.67	239	P	P	19 41 01.2	-0.4
CAN				IAmb	IAmb	19 41 02.9	
	comp=Z,43nm,1.1s						
CAN	Canberra	30.67	239	P	P	19 41 02.4	+0.9
CAN	Canberra	30.67	239	P	P	19 41 01.5	-0.1
YNG	Young	30.91	241	P	P	19 41 04.7	+1.1
CMSA	Cobar Meteorol	32.71	247	P	P	19 41 19.0	-0.2
QLP	Quilpie	33.82	256	P	P	19 41 28.7	0.0
TOO	Toolangi	33.98	236	P	P	19 41 30.1	+0.2
TAU	Tasmania Unive	34.45	227	P	P	19 41 33.8	0.0
TAU				IAmb	IAmb	19 41 35.3	
	comp=Z,39nm,1.1s						
TAU	Tasmania Unive	34.45	227	P	P	19 41 33.6	-0.2
TAU				PcP	PcP	19 44 01.0	+1.9
MTSU	Mount Surprise	34.97	271	P	P	19 41 38.4	-0.1
PMG	Port Moresby	35.42	287	P	P	19 41 41.3	-1.0
PMG				PcP	PcP	19 44 04.6	+2.1
STKA	Stephens Creek	36.22	247	P	P	19 41 48.5	-0.5
STKA	Stephens Creek	36.22	247	P	P	19 41 48.0	-0.9
	comp=Z,18nm,0.7s,baz=90,slow=9.9,SNR=42						
	comp=Z,18nm,0.7s						
STKA	Stephens Creek	36.22	247	P	P	19 41 48.7	-0.2
ARPS	Mount Arapiles	36.65	239	P	P	19 41 53.1	+0.7
INKA	Innaminka	36.89	254	P	P	19 41 55.2	+0.7
COEN	Coen	37.23	277	P	P	19 41 56.6	-1.0
COEN	Coen	37.23	277	P	P	19 41 57.9	+0.3
HTT	Hallett	38.58	245	P	P	19 42 09.3	+0.7
QIS	Mount Isa	38.77	265	P	P	19 42 09.0	-1.2
LCRK	Leigh Creek	39.06	250	P	P	19 42 12.8	+0.4
WHYH	Whyalla	39.69	246	P	P	19 42 17.7	+0.2
BBOO	Buckleboo	40.95	246	P	P	19 42 25.4	-2.3
BBOO				IAmb	IAmb	19 42 28.1	
	comp=Z,25nm,0.7s						
BBOO	Buckleboo	40.95	246	P	P	19 42 27.6	-0.2
OOD	Oodnadatta	41.36	254	P	P	19 42 31.2	+0.1
AS01	Alice Springs	43.38	259	P	P	19 42 45.9	-1.4
AS31	Alice Springs	43.43	259	P	P	19 42 45.9	-1.8
ASAR	Alice Springs	43.43	259	P	P	19 42 45.2	-2.5
	comp=Z,35nm,1.0s,baz=89,slow=8.4,SNR=183						
ASAR				PcP	PcP	19 44 28.2	+0.1
	comp=Z,6.7nm,0.9s,baz=108,slow=4.7,SNR=9.2						
ASAR				ScP	ScP	19 47 42.9	+0.4
	comp=Z,2.0nm,0.8s,baz=110,slow=4.2,SNR=6.0						
ASAR				S	S	19 48 46.2	-0.6
	comp=Z,2.8nm,0.7s,baz=97,slow=14,SNR=13						
	comp=Z,35nm,1.0s						
WR0	Warramunga Arr	43.54	265	P	P	19 42 46.8	-1.8
WB0	Warramunga Arr	43.72	265	P	P	19 42 47.8	-2.2
WB0				IAmb	IAmb	19 42 49.1	
	comp=Z,44nm,0.8s						
WB2	Warramunga Arr	43.72	265	P	P	19 42 48.3	-1.7
WB2				IAmb	IAmb	19 42 49.2	
	comp=Z,49nm,0.9s						
WRAB	Tennant Creek	43.72	265	P	P	19 42 47.8	-2.2
WRAB				IAmb	IAmb	19 42 49.1	
	comp=Z,47nm,0.9s						
WRA	Warramunga Arr	43.73	265	P	P	19 42 47.8	-2.3
WRA	Warramunga Arr	43.73	265	P	P	19 42 47.3	-2.8
	comp=Z,40nm,0.9s,baz=100,slow=8.3,SNR=68						
WRA				PcP	PcP	19 44 29.6	+0.4
	comp=Z,5.5nm,1.0s,baz=97,slow=4.0,SNR=5.9						
WRA				ScP	ScP	19 47 44.5	+0.8
	comp=Z,4.8nm,0.9s,baz=98,slow=4.0,SNR=8.0						
WRA				S	S	19 48 50.2	-1.0
	comp=Z,2.6nm,0.8s,baz=98,slow=14,SNR=7.0						
	comp=Z,40nm,0.9s						
KDU	Kakadu	47.47	274	P	P	19 43 17.5	-1.5
FORT	Forrest	47.80	249	P	P	19 43 19.8	-1.5
FORT	Forrest	47.80	249	P	P	19 43 20.5	-0.8
WRKA	Warakurna	48.26	256	P	P	19 43 23.8	-1.2
DRS	Darwin Rock St	49.01	273	P	P	19 43 29.0	-1.6
KNRA	Kununurra	49.96	269	P	P	19 43 36.4	-1.3
KNRA				IAmb	IAmb	19 43 36.9	
	comp=Z,30nm,0.7s						
DRV	Dumont d'Urvil	50.80	200	P	P	19 43 44.3	+1.2
FITZ	Fitzroy Crossi	52.16	264	P	P	19 43 51.5	-2.3
	comp=Z,16nm,0.8s,baz=124,slow=6.4,SNR=29						
	comp=Z,16nm,0.8s						
KMBL	Kambalda	53.02	247	P	P	19 44 00.6	+0.6
SWI	Sorong	53.37	287	P	P	19 44 01.0	-1.7
	comp=Z,111nm,0.9s						
VNDA	Vanda	55.36	185	P	P	19 44 17.8	+1.9
	comp=Z,4.3nm,0.7s,baz=3.2,slow=7.5,SNR=6.6						
	comp=Z,4.3nm,0.7s						
VNDA	Vanda	55.36	185	P	P	19 44 18.7	+2.8
VNDA				PcP	PcP	19 45 12.8	+1.8
SOEI	Soe	56.03	274	P	P	19 44 22.6	+0.9
SOEI	Soe	56.03	274	P	P	19 44 21.6	-0.1
	comp=Z,111nm,1.1s						
KLBR	Kellerberrin	56.49	246	P	P	19 44 24.6	0.0
PSA00	Pilbara Seismi	56.56	259	P	P	19 44 23.3	-1.9
MEEK	Meekatharra	56.57	252	P	P	19 44 24.0	-1.2
NWAO	Narrogin (SRO)	56.75	245	P	P	19 44 25.2	-1.1
NWAO				IAmb	IAmb	19 44 27.2	
	comp=Z,34nm,1.1s						
NWAO	Narrogin (SRO)	56.75	245	P	P	19 44 25.8	-0.5
MBWA	Marble Bar	56.77	259	P	P	19 44 25.3	-1.3
MBWA				IAmb	IAmb	19 44 27.2	
	comp=Z,31nm,0.8s						
MBWA	Marble Bar	56.77	259	P	P	19 44 25.3	-1.3
MBWA	Marble Bar	56.77	259	P	P	19 44 24.9	-1.7
BLDU	Ballidu	57.52	247	P	P	19 44 31.7	0.0
SANI	Sanana	57.53	283	P	P	19 44 31.8	-0.2
SANI	Sanana	57.53	283	P	P	19 44 29.9	-2.1
	comp=Z,34nm,1.1s						
TNTI	Ternate	57.57	287	P	P	19 44 31.4	-0.8
	comp=Z,46nm,1.1s						
MUN	Mundaring	57.74	246	P	P	19 44 33.3	+0.1
MORW	Morawa	58.36	249	P	P	19 44 36.4	-1.1
MORW				IAmb	IAmb	19 44 37.9	
	comp=Z,43nm,0.7s						
MORW	Morawa	58.36	249	P	P	19 44 37.7	+0.2
CCD	Concordia, Ant	59.90	195	P	P	19 44 48.5	+0.9
CCD				PcP	PcP	19 45 30.4	+0.9
GIRL	Giralia	61.35	256	P	P	19 44 56.5	-1.1
CASY	Casey	61.45	206	P	P	19 44 57.1	-0.5
PLAI	Plampang	62.34	272	P	P	19 45 04.5	+0.2
SPSI	Sidrap Palu	62.36	278	P	P	19 45 02.3	-2.2
PCI	Palu	63.56	281	P	P	19 45 13.1	+0.8
TOLI2	Tolitoli	63.59	283	P	P	19 45 12.2	-0.2
QSPA	South Pole Qui	67.06	180	P	P	19 45 33.6	-0.2
QSPA				IAmb	IAmb	19 45 39.4	
	comp=Z,23nm,0.8s						
QSPA	South Pole Qui	67.06	180	P	P	19 45 34.9	+1.1
	comp=Z,21nm,0.8s,baz=60,slow=1.0,SNR=59						
	comp=Z,21nm,0.8s						
QSPA	South Pole Qui	67.06	180	P	P	19 45 36.1	+2.3
QSPA				PcP	PcP	19 46 02.6	+3.8
MJAR	Matsushiro Arr	71.89	325	P	P	19 46 02.4	-0.8
	comp=Z,4.6nm,0.8s,baz=154,slow=5.8,SNR=10.0						
	comp=Z,4.6nm,0.8s						
MAJO	Matsushiro	71.90	325	P	P	19 46 03.1	-0.2
KSM	Kuching	73.20	279	P	P	19 46 10.6	-0.8
KSM				IAmb	IAmb	19 46 12.3	
	comp=Z,16nm,0.7s						
KSM	Kuching	73.20	279	P	P	19 46 11.3	-0.1
JHS	Saijyo	73.64	320	P	P	19 46 12.4	-1.1
TPUB	Ta-pu	74.86	304	P	P	19 46 19.1	-1.6
TPUB	Ta-pu	74.86	304	P	P	19 46 19.9	-0.8
SSLB	Suanglung	74.89	304	P	P	19 46 19.0	-1.8
SSLB				IAmb	IAmb	19 46 20.3	
	comp=Z,19nm,0.7s						
KSRS	Korea Array	78.39	319	P	P	19 46 39.8	0.0
	comp=Z,1.0nm,0.7s,baz=151,slow=4.6,SNR=4.3						
	comp=Z,1.0nm,0.7s						
PETK	Petropavlovsk-	78.55	346	P	P	19 46 39.4	-1.0
	comp=Z,8.6nm,0.9s,baz=147,slow=6.7,SNR=6.1						
	comp=Z,8.6nm,0.9s						
USRK	Ussuriysk Ar.	80.72	326	P	P	19 46 52.8	+0.7
USRK	Ussuriysk Ar.	80.72	326	P	P	19 46 52.3	+0.2
	comp=Z,7.5nm,0.9s,baz=150,slow=4.1,SNR=14						
	comp=Z,7.5nm,0.9s						
NJ2	Nanjing	81.04	310	eP	P	19 46 54.5	+0.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PNTR	Pine Nut	82.83	42		P	19 47 05.8	+2.4
PNTR				IAmb	IAmb	19 47 07.6	
	comp=Z,10nm,0.7s						
IPM	Ipoh	82.88	278	P	P	19 47 03.1	-1.0
IPM				IAmb	IAmb	19 47 05.0	
	comp=Z,15nm,0.6s						
IPM	Ipoh	82.88	278	P	P	19 47 03.7	-0.4
NVAR	Mina Array Bea	83.25	43	P	P	19 47 07.5	+1.9
	comp=Z,2.5nm,0.8s,baz=222,slow=8.2,SNR=13						
	comp=Z,2.5nm,0.8s						
CN2	Changchun	83.94	323	eP	P	19 47 09.2	+0.6
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
ELIB	Princess Elisa	84.09	187	dP	P	19 47 10.3	+1.1
	comp=Z,11nm,0.8s						
BNX	BinXian	84.14	325	⇓P	P	19 47 10.0	+0.4
BNX				pmax	pmax		
	comp=Z,16nm,0.9s						
SYO	Syowa Base	84.16	193⇑	ePcP	PcP	19 47 11.0	-1.4
TIA	Tai'an	84.54	313	P	P	19 47 12.4	+0.6
TIA				pmax	pmax		
	comp=Z,19nm,1.1s						
TUC	Tucson	84.98	52	P	P	19 47 15.6	+1.4
TROLL	Troll, Antarti	85.22	180	⇓P	P	19 47 15.7	+0.9
	comp=Z,566nm,0.6s						
SNAA	Sanae	85.52	179	P	P	19 47 17.5	+1.3
SNAA	Sanae	85.52	179	P	P	19 47 16.8	+0.6
	comp=Z,3.2nm,0.7s,baz=184,slow=15,SNR=6.4						
	comp=Z,3.2nm,0.7s						
LL02	Futaleuf	85.95	135	P	P	19 47 19.3	+0.5
LL02				IAmb	IAmb	19 47 22.0	
	comp=Z,14nm,0.8s						
MA2	Magadan	86.05	345	P	P	19 47 17.8	-0.8
U15A	North Rim	86.08	48	P	P	19 47 21.5	+1.8
NONG	Nongkai	86.61	291	P	P	19 47 22.3	0.0
HNS	HongShan	86.82	313	⇓P	P	19 47 24.1	+1.3
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
ENH	Enshi	86.97	305	P	P	19 47 23.4	-0.4
HEH	HeiHe	87.14	329	eP	P	19 47 24.5	+0.5
HEH				pmax	pmax		
	comp=Z,16nm,1.8s						
BJI	Beijing	87.27	316	P	P	19 47 25.3	+0.4
BJI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	Paso Flores	87.97	134	P	P	19 47 30.7	+2.2
	comp=Z,1.9nm,1.0s,baz=252,slow=7.5,SNR=3.8						
	comp=Z,1.9nm,1.0s						
D08A	Wollman Farm,	88.05	36	IAmb	IAmb	19 47 34.3	
	comp=Z,7.0nm,0.9s						
VHRN	Van Horn	88.55	56	IAmb	IAmb	19 47 35.0	
	comp=Z,5.3nm,0.8s						
SRDT	SRDT	88.58	286	P	P	19 47 29.9	-1.7
CAST	Castle Rocks	88.65	12	P	P	19 47 30.5	-0.4
CAST				IAmb	IAmb	19 47 32.2	
	comp=Z,15nm,0.9s						
TXAR	Lajitas Array	88.90	58	P	P	19 47 35.5	+2.5
	comp=Z,2.4nm,0.8s,baz=226,slow=6.8,SNR=22						
TXAR				PKKPbc	PKKPbc	20 05 10.0	-0.4
	comp=Z,0.5nm,0.7s,baz=35,slow=3.1,SNR=4.3						
	comp=Z,2.4nm,0.8s						
KTH	Kantishna Hill	88.99	12	IAmb	IAmb	19 47 34.8	
	comp=Z,17nm,1.0s						
XAN	Xi'an	89.19	308	P	P	19 47 35.0	+0.9
XAN				pmax	pmax		
	comp=Z,20nm,1.1s						
RND	Reindeer	89.27	13	P	P	19 47 34.1	+0.3
KMI	Kunming	89.97	297	⇑P	P	19 47 39.4	+1.2
KMI				pmax	pmax		
	comp=Z,15nm,1.2s						
WRH	Wood River Hil	90.37	13	P	P	19 47 39.9	+1.1
WRH				IAmb	IAmb	19 47 41.3	
	comp=Z,13nm,0.9s						
CMAR	Chiang Mai Arr	90.41	290	P	P	19 47 40.8	+0.7
	comp=Z,10nm,1.0s,baz=127,slow=2.9,SNR=60						
	comp=Z,10nm,1.0s						
CHTO	Chiang Mai	90.55	290	P	P	19 47 41.5	+0.7
CHTO				IAmb	IAmb	19 47 42.9	
	comp=Z,22nm,1.1s						
HHC	Hu-ho-hao-te	90.69	315	eP	P	19 47 39.2	-1.8
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,5.6s						
ILAR	Eielson Array	90.89	13	P	P	19 47 40.9	-0.3
	comp=Z,1.6nm,0.7s,baz=220,slow=5.4,SNR=26						
ILAR				PKKPbc	PKKPbc	20 05 05.9	-1.3
	comp=Z,0.1nm,0.7s,baz=338,slow=3.2,SNR=4.4						
	comp=Z,1.6nm,0.7s						
PDAR	Pinedale Array	91.18	43	P	P	19 47 44.8	+1.3
	comp=Z,1.4nm,0.8s,baz=197,slow=3.1,SNR=16						
PDAR				PKKPbc	PKKPdf	20 05 03.1	+0.8
	comp=Z,0.5nm,0.7s,baz=69,slow=4.9,SNR=5.2						
	comp=Z,1.4nm,0.8s						
PZH	PanZhiHua	91.37	298	P	P	19 47 45.1	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,6.4s						
LZH	Lanzhou	93.83	308	eP	P	19 47 56.1	+0.4
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
ZALV	Zalesovo Beam	112.07	321	PKiKP	PKiKP	19 53 09.7	-1.0
	comp=Z,1.4nm,0.7s,baz=84,slow=2.4,SNR=7.4						
MKAR	Makanchi Array	112.48	313	PKiKP	PKiKP	19 53 11.7	-0.1
	comp=Z,0.9nm,0.6s,baz=194,slow=0.5,SNR=12						
MKAR				SKP		19 56 09.9	
	comp=Z,0.1nm,0.4s,baz=98,slow=8.9,SNR=6.8						
KURBB	Kurchatov Arra	115.47	317	PKP	PKPdf	19 53 16.9	-0.5
	comp=Z,1.2nm,0.6s,baz=103,slow=1.9,SNR=16						
FRB	Frobisher Bay	119.27	29	PKKPbc	PKKPbc	20 03 39.1	-1.2
	comp=Z,1.3nm,0.5s,baz=136,slow=6.0,SNR=4.4						
BVAR	Borovoye Array	120.60	319	Pdiff	Pdif	19 49 55.0	+0.6
	comp=Z,2.1nm,1.1s,baz=355,slow=11,SNR=3.9						
BVAR				PKP	PKPdf	19 53 26.3	-0.8
	comp=Z,4.1nm,0.6s,baz=93,slow=1.0,SNR=24						
BOSA	Boshof	123.74	205	PKP	PKiKP	19 53 35.3	+0.7
	comp=Z,2.7nm,0.7s,baz=198,slow=4.8,SNR=4.3						
SPITS	Spitsbergen Ar	124.33	356	PKP	PKiKP	19 53 34.0	0.0
	comp=Z,4.9nm,0.6s,baz=79,slow=9.4,SNR=8.6						
ARCES	ARCESS Array B	131.27	349	PKP	PKPdf	19 53 45.6	-1.5
	comp=Z,2.3nm,0.6s,baz=339,slow=3.1,SNR=12						
ARCES				SKPbc	SKPbc	19 56 35.3	-0.3
	comp=Z,5.2nm,0.9s,baz=21,slow=4.0,SNR=4.5						
KMBO	Kilima Mbogo	137.63	240	PKP	PKiKP	19 54 02.1	-0.9
	comp=Z,2.4nm,0.8s,baz=46,slow=6.2,SNR=6.9						
KMBO				SKPbc	SKPbc	19 56 59.0	+1.1
	comp=Z,3.9nm,0.9s,baz=62,slow=4.2,SNR=8.5						
FINES	FINESS Array B	138.00	343	PKhKP	PKPpre	19 53 49.1	
	comp=Z,2.0nm,0.8s,baz=108,slow=6.2,SNR=4.9						
FINES				PKP	PKPdf

CJR	Cluj-Napoca	150.34 328	⇑P	PKiKP	19 54 28.1	+0.3
CLL	Collm	150.35 345	⇓*i*PKPbc	PKiKP	19 54 28.7	+1.1
	comp=Z,39nm,0.8s					
CLL			*i* PKPab	PKPab	19 54 35.4	+0.5
	comp=Z,13nm,0.7s					
CLL			*i* x	x	19 54 40.4	
CLL			*e*pPKPab	pPKPab	19 56 07.0	+2.3
CLL			*i* PKSdf	PKSdf	19 57 52.6	-3.3
MORC	Moravsky Berou	150.42 339	*e*PKP	PKiKP	19 54 28.4	+0.5
MORC	Moravsky Berou	150.42 339	⇑P	PKiKP	19 54 28.2	+0.3
BRG	Berggiesshubel	150.52 344	*e*P	PKiKP	19 54 29.2	+1.2
BRG			Amp		19 54 29.9	
	comp=Z,20nm,0.7s					
BRG	Berggiesshubel	150.52 344	P	PKPab	19 54 35.4	-0.3
BRG			Amp		19 54 36.9	
	comp=Z,8.1nm,0.7s					
MARR	Marisel-Cluj	150.59 329	⇑P	PKPdf	19 54 16.2	-5.9
MAUC	Maruska	150.67 338	⇑*e*PKP	PKiKP	19 54 29.9	+1.5
DRGR		150.70 329	⇑P	PKPbc	19 54 27.8	-0.3
ARR	Arges	150.74 325	⇑P	PKiKP	19 54 29.6	+0.9
HSKC	Hora Svate Kat	150.89 344	⇑*e*PKP	PKiKP	19 54 30.3	+1.4
VYHS	Vyhne	151.03 336	*e*PKP	PKiKP	19 54 29.9	+0.7
VYHS			*e*		19 54 39.2	
VRAC	Vranov	151.14 339	*e*PKP	PKiKP	19 54 30.3	+0.9
VRAC			*e*		19 54 39.2	
JAVC	Velka Javorina	151.16 337	*e*PKP	PKiKP	19 54 31.0	+1.5
JAVC			*e*		19 54 40.2	
PRU	Pruhonice	151.16 342	⇑*e*PKP	PKiKP	19 54 30.4	+1.0
KRUC	Moravsky	151.42 339	*e*PKP	PKiKP	19 54 30.1	+0.2
KRUC			*e*		19 54 39.8	
GZR	Gura Zlata	151.68 327	⇓P	PKiKP	19 54 31.1	+0.4
MODS	Modra-Piesok	151.71 337	*e*PKP	PKiKP	19 54 32.0	+1.4
SURR	Surduc	151.74 328	⇓P	PKiKP	19 54 31.4	+0.7
SRE	Strehaia	151.97 326	⇑P	PKiKP	19 54 32.7	+1.5
BZS	Buzias	152.08 329	⇑P	PKiKP	19 54 31.5	+0.1
KHC	Kasperske Hory	152.21 343	⇑*e*PKP	PKiKP	19 54 32.8	+1.2
KHC			*e*PKPAB	PKPab	19 54 43.4	+0.6
HERR	Herculane	152.22 327	⇓P	PKPbc	19 54 31.3	-0.3
CKRC	Cesky Krumlov	152.28 341	⇑*e*PKP	PKiKP	19 54 32.9	+1.1
GERES	GERESS Array B	152.43 342	PKPbc	PKPbc	19 54 30.4	-1.6
	comp=Z,1.0nm,0.4s,baz=31,slow=3.8,SNR=1.6					
CONA	Conrad Observa	152.58 339	*e*PKiKP	PKiKP	19 54 32.8	+0.4
	comp=Z,6.4nm,0.9s					
CONA			*e*PKP	PKPab	19 54 45.6	+1.1
	comp=Z,6.3nm,0.8s					
RONA	Rosalia, Austr	152.62 338	*e*PKiKP	PKiKP	19 54 33.5	+0.9
	comp=Z,7.5nm,0.7s					
RONA			*e*PKP	PKPab	19 54 45.8	+1.2
	comp=Z,10nm,1.1s					
MDVR	Moldovita	152.64 327	⇓P	PKPbc	19 54 32.3	-0.3
MORH	Mrgy, Hungar	152.96 333	⇓P	PKiKP	19 54 33.8	+0.6
MOA	Molln	153.16 341	*e*PKiKP	PKiKP	19 54 34.5	+0.8
	comp=Z,4.6nm,1.1s					
MOA			*e*PKP	PKPab	19 54 48.5	+1.6
	comp=Z,5.1nm,0.9s					
ARSA	Arzberg	153.28 338	*e*PKiKP	PKPbc	19 54 33.8	0.0
	comp=Z,1.7nm,0.8s					
BIOA	Bad Ischl, Aus	153.49 341	*e*PKP	PKPab	19 54 49.7	+1.4
	comp=Z,8.4nm,0.8s					
SOKA	Soboth	153.94 338	*e*PKP	PKPab	19 54 51.3	+1.0
	comp=Z,4.9nm,1.1s					
LESA	Schwarzleotal	154.01 342	*e*PKP	PKPab	19 54 51.9	+1.3
	comp=Z,11nm,1.5s					
OBKA	Obir	154.25 339	*e*PKiKP	PKiKP	19 54 36.9	+0.9
	comp=Z,6.4nm,1.1s					
WATA	Walderalm	154.39 344	*e*PKiKP	PKiKP	19 54 38.1	+1.8
	comp=Z,1.6nm,0.5s					
WATA			*e*PKP	PKPab	19 54 53.5	+1.3
	comp=Z,8.9nm,1.2s					
WTTA	Wattenberg	154.44 344	*e*PKiKP	PKPbc	19 54 37.9	+1.4
	comp=Z,7.6nm,1.1s					
WTTA			*e*PKP	PKPab	19 54 53.5	+1.0
	comp=Z,5.6nm,0.6s					
RETA	Reutte	154.45 345	*e*PKP	PKPab	19 54 53.8	+1.3
	comp=Z,11nm,1.2s					
SQTA	Sankt Quirin	154.59 344	*e*PKP	PKPab	19 54 53.9	+0.7
	comp=Z,9.2nm,1.2s					
ABTA	Abfaltersbach	154.67 342	*e*PKiKP	PKPbc	19 54 37.0	+0.1
	comp=Z,8.1nm,1.1s					
ABTA			*e*PKP	PKPab	19 54 54.0	+0.5
	comp=Z,6.5nm,0.8s					
DAVA	Damuels	154.84 346	*e*PKP	PKPab	19 54 54.4	+0.2
	comp=Z,8.3nm,0.9s					
DBIC	Dimbokro	162.68 159	PKP	PKPdf	19 54 38.5	+0.2
	comp=Z,1.5nm,0.7s,baz=149,slow=3.7,SNR=3.0					
DBIC			PKPab	PKPab	19 55 27.8	-1.1
	comp=Z,2.1nm,0.7s,baz=163,slow=10.0,SNR=3.3					
ESDC	Sonseca Array	162.79 14	PKPab	PKPab	19 55 30.4	+1.5
	comp=Z,2.0nm,1.0s,baz=334,slow=4.4,SNR=7.2					
TORD	Torodi Ar. Bea	170.18 182	PKPab	PKPab	19 56 03.0	+1.1

*IDC **10** 19:37:23.4±8.0, 22°.34S×175°.39W, h592km±96km, mb3.2/6, mbtmp4.0/6, Error ellipse: s-maj=53.8km s-min=32.5km az=168.0*

ISC 10 19:37:23.8±0.9, 22°.3S±0°.3×175°.5W±0°.2, h600km, n8, σ1°20/8, mb3.6/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.21	246	P	P	19 44 03.4	+1.4
	4.2nm,0.8s,baz=97,slow=8.1,SNR=2.8						
	4.2nm,0.8s						
WRA	Warramunga Arr	46.72	263	P	P	19 44 59.5	-1.0
	1.2nm,0.7s,baz=105,slow=6.9,SNR=1.4						
	1.2nm,0.7s						
NVAR	Mina Array Bea	80.71	42	P	P	19 48 35.3	-0.6
	0.9nm,0.7s,baz=258,slow=4.7,SNR=4.9						
	0.9nm,0.7s						
TXAR	Lajitas Array	86.03	56	P	P	19 49 03.5	+1.2
	1.0nm,1.0s,baz=248,slow=4.8,SNR=6.3						
	1.0nm,1.0s						
PLCA	Paso Flores	86.34	133	P	P	19 49 03.0	-0.6
	2.3nm,1.1s,baz=233,slow=5.1,SNR=3.0						
	2.3nm,1.1s						
YKA	Yellowknife Ar	97.13	24	P	P	19 49 52.7	+0.4
	0.3nm,0.8s,baz=235,slow=4.9,SNR=3.9						
	0.3nm,0.8s						
AKASG	Malin Array Be	145.69	332	PKPbc	PKPab	19 55 58.3	+0.1
	1.6nm,0.7s,baz=43,slow=4.0,SNR=3.9						
BRTR	Keskin Array B	149.77	312	PKPbc	PKPbc	19 56 06.0	-1.4
	2.1nm,1.1s,baz=44,slow=4.4,SNR=3.9						

*JMA **10** 19:39:57.8±0.3, 36°.7N±0°.8×14°.2E±°, h33km, MV3.0/31, FAR E OFF FUKUSHIMA PREF*
*IDC **10** 19:40:06.5±2.3, 37°.79N×141°.19E, h0km, mb3.4/4, mbtmp3.3/5, ML2.0/1, MS3.6/2, Error ellipse: s-maj=55.6km s-min=27.2km az=155.0*

ISC 10 19:39:57.5±2.2, 36°.79N±0°.10×142°.3E±0°.1, h9km, n19, σ1°22/19, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.22	285	*e*P	Pg	19 40 21.2	+0.3
ONAJ				*e*S	Sn	19 40 38.6	+1.2
JFK	Kawauchi	1.25	298	*e*P	Pg	19 40 21.6	0.0
JFK				*e*S	Sn	19 40 38.5	+0.2
JHO	Hitachi	1.38	263	P	Pb	19 40 23.1	-0.4
JFFD	Fukushimafurud	1.40	283	*e*P	Pb	19 40 23.6	-0.2
JMM	Marumori	1.59	313	*e*P	Pb	19 40 26.5	-0.6
JOTO	OTAMA OYAMA	1.73	297	*e*P	Pb	19 40 29.1	-0.3
JIO	Ouri	1.81	337	*e*P	Pn	19 40 29.2	+0.3
JOU	Okura	2.02	321	*e*P	Pb	19 40 34.1	-0.3
JFY	Yanaizu	2.14	287	*e*P	Pb	19 40 36.5	+0.1
JAG	Ashikaga	2.29	262	*e*P	Pn	19 40 36.5	+1.0
JMK	Ichinoseki	2.31	339	*e*P	Pn	19 40 36.9	+1.1
JYK	Kaneyama	2.60	325	*e*P	Pn	19 40 41.1	+1.2
MJAR	Matsushiro Arr	3.27	267	Pn	Pn	19 40 51.0	+2.0
	0.3nm,0.3s,baz=84,slow=11,SNR=23						
MJAR				Sn	Sn	19 41 24.6	-3.6
	0.1nm,0.3s,baz=86,slow=15,SNR=4.4						
	1.4nm,0.3s						
JNU	Nakatsue	10.04	252	LR	LR	19 46 28.4	
	comp=Z,292nm,18.0s,baz=81,slow=40						
SONM	Songino Array	28.49	304	P	P	19 45 52.5	-0.6
	0.5nm,0.7s,baz=108,slow=9.3,SNR=2.6						
	0.5nm,0.7s						
TGY	Tagaytay City	29.56	226	LR	LR	19 57 45.1	
	comp=Z,158nm,20.7s,baz=185,slow=36						
MKAR	Makanchi Array	44.83	302	P	P	19 48 11.2	-0.6
	0.2nm,0.6s,baz=86,slow=9.5,SNR=2.4						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	46.69	308	P	P	19 48 26.8	+0.4
	0.4nm,0.9s,baz=83,slow=9.1,SNR=4.7						
	0.4nm,0.9s						
NVAR	Mina Array Bea	74.58	53	P	P	19 51 48.3	+11
	0.2nm,0.3s,baz=298,slow=7.0,SNR=2.3						
	0.2nm,0.3s						

*IDC **10** 19:40:40.9±0.8, 58°.35N×32°.05W, h0km, mb3.8/14, mbtmp3.8/15, ML3.8/1, MS4.0/15, Error ellipse: s-maj=22.9km s-min=14.8km az=8.0*
*NEIC **10** 19:40:40.8±2.7, 58°.36N±0°.07×32°.0W±0°.2, h10km±1km, mb4.3/13, Error ellipse: s-maj=16.9km s-min=8.6km az=238.0*

ISC 10 19:40:42.0±0.6, 58°.4N±0°.1×32°.04W±0°.07, h13km, n44, σ2°00/31, mb3.9/19, MS4.1/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	Ammassalik, Gr	7.75	343	Pn	Pn	19 42 32.1	-2.3
BORG	Borgarnes	8.20	34	Pn	Pn	19 42 38.6	-1.9
BORG	Borgarnes	8.20	34	Pn	Pn	19 42 42.6	+2.1
	1.3nm,0.3s,baz=159,slow=2.4,SNR=6.0						
	7.4nm,0.6s						
SFJD	Kangerlussuaq	12.11	323	LR	LR	19 47 22.4	
	comp=Z,680nm,21.3s,baz=162,slow=33						
ESK	Eskdalemuir	16.01	88	Pn	Pn	19 44 21.9	-4.7
ESK				IAmb	IAmb	19 44 52.3	
	comp=Z,58nm,1.4s						
EKB	Eskdalemuir	16.01	88	Pn	Pn	19 44 22.5	-4.1
DRLN	Deer Lake	17.48	250	Pn	Pn	19 44 41.4	-3.9
FRB	Frobisher Bay	18.28	303	LR	LR	19 51 06.0	
	comp=Z,484nm,18.8s,baz=109,slow=34						
SCHQ	Schefferville	19.34	275	LR	LR	19 50 55.8	
	comp=Z,325nm,21.9s,baz=15,slow=32						
NC204	NORSAR Array S	21.43	64	P	P	19 45 27.9	-1.7
NOA	NORSAR Array B	21.70	64	P	P	19 45 33.7	+1.4
	comp=Z,0.6nm,0.7s,baz=274,slow=11,SNR=3.8						
	comp=Z,0.6nm,0.7s						
HFS	Hagfors	23.10	66	P	P	19 45 49.1	+1.9
	comp=Z,3.0nm,0.7s,baz=284,slow=6.0,SNR=5.1						
	comp=Z,3.0nm,0.7s						
ESDC	Sonseca Array	25.92	124	P	P	19 46 16.4	+2.6
	comp=Z,1.4nm,0.9s,baz=326,slow=10.0,SNR=6.8						
	comp=Z,1.4nm,0.9s						
ARCES	ARCESS Array B	26.51	42	P	P	19 46 18.5	-0.2
	comp=Z,3.1nm,1.0s,baz=282,slow=6.1,SNR=6.6						
	comp=Z,3.1nm,1.0s						
TUE	Stuetta	27.44	97	P	P	19 46 26.5	-1.0
TUE				IAmb	IAmb	19 46 52.4	
	comp=Z,14nm,1.5s						
DAVOX	Davos/Dischmat	27.52	96	LR	LR	19 56 17.7	
	comp=Z,197nm,19.6s,baz=264,slow=34						
RES	Resolute Bay	27.99	330	LR	LR	19 57 13.1	
	comp=Z,160nm,18.3s,baz=206,slow=36						
FINES	FINESS Array B	28.48	59	P	P	19 46 35.2	-1.2
FINES	FINESS Array B	28.48	59	P	P	19 46 37.1	+0.7
	comp=Z,1.9nm,0.8s,baz=302,slow=11,SNR=2.2						
	comp=Z,1.9nm,0.8s						
FIA1	FINESS Array S	28.48	59	P	P	19 46 34.8	-1.6
VRAC	Vranov	29.49	86	LR	LR	19 57 15.8	
	comp=Z,116nm,18.9s,baz=298,slow=34						
FCC	Fort Churchill	31.35	298	P	P	19 47 03.1	+1.3
FCC				IAmb	IAmb	19 47 07.8	
	comp=Z,3.8nm,1.1s						
AKASG	Malin Array Be	35.22	75	P	P	19 47 34.9	-0.7
	comp=Z,0.2nm,0.2s,baz=306,slow=8.6,SNR=8.1						
	comp=Z,0.2nm,0.2s						
KEST	Kesra	35.32	112	LR	LR	20 01 03.6	
	comp=Z,333nm,18.2s,baz=300,slow=35						
VAE	Valguarnera	36.50	104	LR	LR	20 01 53.6	
	comp=Z,289nm,19.7s,baz=12,slow=35						
ULM	Lac du Bonnet	36.80	286	P	P	19 47 49.8	+0.6
	comp=Z,1.3nm,0.6s,baz=80,slow=9.6,SNR=3.4						
ULM				LR	LR	20 01 37.2	
	comp=Z,135nm,21.2s,baz=358,slow=34						
	comp=Z,1.3nm,0.6s						
MLR	Muntele Rosu	36.82	84	LR	LR	20 02 14.8	
	comp=Z,174nm,19.2s,baz=350,slow=35						
YKA	Yellowknife Ar	38.35	312	P	P	19 48 03.3	+1.2
	comp=Z,0.9nm,0.6s,baz=59,slow=8.8,SNR=13						
YKA				LR	LR	20 03 06.8	
	comp=Z,280nm,18.7s,baz=328,slow=35						
	comp=Z,0.9nm,0.6s						
INK	Inuvik	41.44	327	LR	LR	20 04 04.7	
	comp=Z,235nm,19.5s,baz=216,slow=34						
F31M	Tsiigehtchic	42.05	326	P	P	19 48 32.5	-0.1
E28M	Babbage River	42.93	329	P	P	19 48 39.2	-0.7
E27K	Coleen River	43.77	329	P	P	19 48 46.9	+0.2
E27K				IAmb	IAmb	19 48 52.1	
	comp=Z,3.6nm,0.8s						
BRTR	Keskin Array B	44.90	85	P	P	19 48 58.0	+1.8
	comp=Z,0.7nm,0.8s,baz=341,slow=11,SNR=4.6						
	comp=Z,0.7nm,0.8s						
DLBC	Dease Lake	46.84	314	LR	LR	20 06 51.0	
	comp=Z,271nm,18.2s,baz=126,slow=34						
ILAR	Eielson Array	47.72	328	P	P	19 49 19.8	+1.8
	comp=Z,1.8nm,1.0s,baz=31,slow=6.1,SNR=13						
	comp=Z,1.8nm,1.0s						
NEW	Newport	48.52	297	LR	LR	20 08 00.7	
	comp=Z,238nm,18.2s,baz=33,slow=34						
PDAR	Pinedale Array	48.79	287	P	P	19 49 27.3	+0.6
	comp=Z,1.0nm,0.6s,baz=68,slow=7.2,SNR=10.0						
PDAR				LR	LR	20 08 21.0	
	comp=Z,165nm,18.4s,baz=17,slow=34						
	comp=Z,1.0nm,0.6s						
TORD	Torodi Ar. Bea	51.74	136	P	P	19 49 48.2	-0.8
TORD				IAmb	IAmb	19 49 54.0	
	comp=Z,2.2nm,0.9s						
DBIC	Dimbokro	55.67	147	P	P	19 50 18.2	+0.4
	comp=Z,2.6nm,0.8s,baz=340,slow=8.2,SNR=4.7						
	comp=Z,2.6nm,0.8s						
KURBB	Kurchatov Arra	57.52	45	P	P	19 50 31.1	+0.6
	comp=Z,0.8nm,0.7s,baz=326,slow=7.0,SNR=6.8						
	comp=Z,0.8nm,0.7s						
MK31	Makanchi Array	62.09	45	P	P	19 51 01.9	-0.2
MK31				IAmb	IAmb	19 51 02.9	
	comp=Z,1.1nm,0.9s						
MKAR	Makanchi Array	62.09	45	P	P	19 51 02.6	+0.5
	comp=Z,0.7nm,0.7s,baz=330,slow=6.4,SNR=8.4						
	comp=Z,0.7nm,0.7s						
ASAR	Alice Springs	143.92	22	PKP	PKPab	20 00 15.0	+1.0
	comp=Z,0.4nm,0.9s,baz=352,slow=5.3,SNR=2.5						
QSPA	South Pole Qui	148.25	180	PKPbc	PKPdf	20 00 26.0	+3.2
	comp=Z,1.3nm,0.8s,baz=170,slow=6.1,SNR=1.7						

TRN 10 19:40:48.5, 16°.09N×59°.76W, h50km, MD3.6, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSLB	Salisbury	1.73	248	*e*P	Pn	19 41 17.8	+1.7
DSLB				*e*S	Sn	19 41 37.9	+0.8
MDN	Morne-Daniel	1.75	244	*e*P	Pn	19 41 19.1	+2.6
MDN				*e*S	Sn	19 41 39.7	+2.0
TBG	Guadaloupe-3	1.83	263	*e*P	Pn	19 41 19.4	+1.9
TBG				*e*S	Sn	19 41 41.3	+1.6
BIM	Bigot	2.01	219	*e*P	Pn	19 41 22.3	+2.2
ANBD	Bethesda, Anti	2.15	297	*e*P	Pn	19 41 23.1	+1.2
ANBD				*e*S	Sn	19 41 50.2	+2.8
SLBI	Saint Lucia, B	2.37	210	*e*P	Pn	19 41 26.1	+1.3
SLBI				*e*S	Sn	19 41 53.7	+0.9
MBWH		2.43	286	*e*P	Pn	19 41 26.1	+0.3
SLAC	Saint Lucia, A	2.44	207	*e*P	Pn	19 41 26.5	+0.6
SLAC				*e*S	Sn	19 41 55.7	+1.1
ANWB	Willy Bob	2.50	309	*e*P	Pn	19 41 28.4	+1.7
ANWB				*e*S	Sn	19 41 56.6	+0.6
SLB	Belfond	2.57	209	*e*P	Pn	19 41 30.4	+2.7
SLB				*e*S	Sn	19 42 00.3	+2.5

IDC 10 19:44:25.2±20.0, 58°.29N×32°.28W, h0km, mb3.5/3, mbtmp3.5/3, MS3.6/3, Error ellipse: s-maj=380.9km s-min=94.5km az=124.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	16.15	88	P	Pn	19 47 57.0	-16
	3.6nm,0.9s,baz=141,slow=9.5,SNR=3.4						
ARCES	ARCESS Array B	26.63	42	P	P	19 49 38.7	-26
	6.3nm,1.0s,baz=47,slow=34,SNR=2.6						
YKA	Yellowknife Ar	38.30	312	P	P	19 51 46.6	-0.2
	0.5nm,0.7s,baz=60,slow=8.6,SNR=6.8						
	0.5nm,0.7s						
ILAR	Eielson Array	47.71	328	P	P	19 53 02.9	-0.1
	0.7nm,1.0s,baz=33,slow=5.5,SNR=4.2						
	0.7nm,1.0s						
PDAR	Pinedale Array	48.69	287	P	P	19 53 11.1	-0.1
	0.4nm,0.6s,baz=69,slow=8.4,SNR=5.0						
	0.4nm,0.6s						
ELK	Elko	53.04	289	LR	LR	20 15 51.7	
	comp=Z,103nm,19.1s,baz=14,slow=36						
ATD	Arta Tunnel	72.45	97	LR	LR	20 29 40.3	
	comp=Z,8.4nm,21.2s,baz=158,slow=38						
ASAJ	Asahikawa	77.87	4	LR	LR	20 29 51.1	
	comp=Z,106nm,21.1s,baz=177,slow=35						

*JMA **10** 19:48:39.2±0.1, 26°.N±1°.×12°.6E±°, h74km±2km, MV3.7/21, NEAR MIYAKOJIMA ISLAND*
*IDC **10** 19:48:44.5±4.9, 25°.72N×126°.00E, h119km±46km, mb3.4/11, mbtmp3.8/12, Error ellipse: s-maj=41.1km s-min=13.9km az=78.0*

ISC 10 19:48:40.1±0.8, 25°.66N±0°.07×125°.97E±0°.06, h78km±8km, n39, σ1°10/51, mb3.7/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.98	222	P	Pn	19 48 58.8	-0.1
JIKM				*e*S	Sn	19 49 12.7	0.0
JKE	Kume jima 2	0.99	48	P	Pn	19 48 57.7	-1.3
JKE				*e*S	Sn	19 49 11.0	-2.0
JOGS	Gusukube	1.03	210	P	Pn	19 48 59.5	+0.1
JOGS				S	Sn	19 49 14.1	+0.3
JMJ	Miyako jima 2	1.04	216	P	Pn	19 49 00.3	+0.8
JMJ2	Miyako jima3	1.08	213	*i* P	Pn	19 49 00.1	+0.1
JMJ2				*e*S	Sn	19 49 15.2	+0.3
JIRB	Irabujima	1.10	221	P	Pn	19 48 59.7	-0.5
JIRB				*e*S	Sn	19 49 14.6	-0.7
JAGN	Aguni-jima	1.47	51	P	Pn	19 49 04.3	-0.7
JAGN				*e*S	Sn	19 49 22.8	-1.0
JTJ	Tarama	1.53	229	P	Pn	19 49 05.8	0.0
JTJ				*e*S	Sn	19 49 25.1	0.0
JJT3	Tamagusuku3	1.71	73	*e*P	Pn	19 49 07.7	-0.3
JISG	Ishigakijimahi	1.84	235	P	Pn	19 49 09.5	-0.4
JISG				*e*S	Sn	19 49 31.5	-1.0
JNTH	Nagotoyohara	2.04	65	*e*P	Pn	19 49 11.7	-0.7
JIJ	Ishigaki jima	2.10	233	P	Pn	19 49 12.6	-0.8
JIH	Iheya	2.26	52	*e*P	Pn	19 49 15.1	-0.3
JKRS	Kuro-shima	2.27	232	P	Pn	19 49 15.3	-0.3
JKRS				*e*S	Sn	19 49 42.6	-0.2
JOW	Kunigami	2.38	60	P	Pn	19 49 15.2	-1.8
	94nm,0.3s,baz=230,slow=12,SNR=54						
JOW				S	Sn	19 49 47.5	+2.1
	202nm,0.3s,baz=162,slow=19,SNR=14						
JOW	Kunigami	2.38	60	P	Pn	19 49 18.9	+1.8
JOW	Kunigami	2.38	60	P	Pn	19 49 16.7	-0.3
IRIF	Iriomote-Funau	2.42	238	P	Pn	19 49 17.1	-0.5
IRIF				*e*S	Sn	19 49 45.8	-0.6
JYRO	Yoronjima	2.61	58	P	Pn	19 49 20.1	-0.1
JOKE	Okinoerabujima	2.88	53	*e*P	Pn	19 49 23.3	-0.6
YOJ	Yonaguni jima	2.94	247	P	Pn	19 49 25.4	+0.8
NACB	Ninganchiao	4.24	251	P	Pn	19 49 41.8	-0.5
YHNB	Yeheng	4.28	258	P	Pn	19 49 44.9	+2.0
YULB	Yu-li	4.81	243	P	Pn	19 49 47.8	-2.4
SSLB	Suanglung	4.93	249	P	Pn	19 49 50.6	-1.1
TWGBT	Beinan	5.28	239	P	Pn	19 49 53.6	-3.0
TPUB	Ta-pu	5.40	245	P	Pn	19 49 57.7	-0.5
KSRS	Korea Array	11.88	8	P	Pn	19 51 28.1	+1.6
	0.8nm,0.6s,baz=199,slow=14,SNR=4.2						
SONM	Songino Array	26.98	330	P	P	19 54 16.5	+1.8
	0.6nm,0.5s,baz=143,slow=12,SNR=5.6						
	0.6nm,0.5s						
FITZ	Fitzroy Crossi	43.49	180	P	P	19 56 36.3	+0.4
	1.8nm,0.6s,baz=7.7,slow=8.5,SNR=6.2						
	1.8nm,0.6s						
KURBB	Kurchatov Arra	43.88	317	P	P	19 56 38.7	-0.1
	0.3nm,0.4s,baz=108,slow=9.0,SNR=1.8						
	0.3nm,0.4s						
WRA	Warramunga Arr	46.05	169	P	P	19 56 56.6	+0.3
	1.1nm,0.8s,baz=350,slow=9.7,SNR=5.7						
	1.1nm,0.8s						
ASAR	Alice Springs	49.63	170	P	P	19 57 24.6	+0.7
	0.4nm,0.6s,baz=355,slow=8.9,SNR=11						
ASAR				PcP	PcP	19 58 44.7	+0.3
	0.3nm,0.9s,baz=353,slow=3.9,SNR=2.1						
	0.4nm,0.6s						
ILAR	Eielson Array	65.90	28	P	P	19 59 16.8	-0.6
	0.4nm,0.9s,baz=212,slow=4.5,SNR=2.6						
	0.4nm,0.9s						
ARCES	ARCESS Array B	69.79	338	P	P	19 59 41.4	-0.4
	4.4nm,1.0s,baz=17,slow=8.9,SNR=2.5						
	4.4nm,1.0s						
FINES	FINESS Array B	72.35	330	P	P	19 59 56.1	-1.2
	1.4nm,0.9s,baz=71,slow=6.4,SNR=5.3						
	1.4nm,0.9s						
HFS	Hagfors	78.37	332	P	P	20 00 30.6	-1.3
	4.6nm,1.1s,baz=43,slow=6.5,SNR=1.1						
	4.6nm,1.1s						
NOA	NORSAR Array B	78.92	333	P	P	20 00 33.8	-1.1
	0.2nm,0.5s,baz=51,slow=6.1,SNR=2.1						
	0.2nm,0.5s						
YKA	Yellowknife Ar	79.89	24	P	P	20 00 40.0	-0.1
	0.2nm,0.6s,baz=296,slow=6.0,SNR=3.0						
	0.2nm,0.6

SOEJ	**Jacque**	**2.42 271**	Pn	Pg	20 04 32.9	-1.6
SOEJ			Sn	Sg	20 05 04.8	-1.2
SOEJ			IAML		20 05 09.7	
	546nm,0.5s					
LPAZ	**La Paz**	**2.47 287**	Pn	Pb	20 04 33.6	+1.4
LPAZ			Sn	Sg	20 05 06.4	-1.4
LPAZ			IAML		20 05 07.7	
	289nm,0.3s					
SOEO	**Opoqueri**	**2.61 234**	Pn	Pb	20 04 35.5	+1.1
BBOD	**La Paz, Gloria**	**2.83 277**	Pn	Pb	20 04 38.4	+0.1
MOCB	**Mochara**	**4.20 180**	Pn	Pb	20 04 57.5	-4.1
MOCB			Sn	Sb	20 05 48.3	-3.8
MOCB			IAML		20 06 04.9	
	92nm,0.9s					
SIV	**San Ignacio**	**4.53 78**	Pn	Pn	20 05 00.9	+5.4
YJA	**Yavi**	**5.12 178**	Pn	Pn	20 05 09.4	+5.3
PTLB	**Pontes e Lacer**	**6.46 77**	Pn	Pn	20 05 27.0	+4.9
VILB	**Vilhena**	**6.66 53**	Pn	Pn	20 05 29.9	+5.1

*IDC **10** 20:05:49.9±0.7, 6.˚58S×155.˚56E, h118km±6km, mb3.7/11, mbtmp4.1/13, Error ellipse: s-maj=16.2km s-min=13.1km az=54.0*
*NEIC **10** 20:05:53.6±2.6, 6.˚6S±0.˚1×155.˚46E±0.˚08, h156km±8km, mb4.6/28, Error ellipse: s-maj=18.1km s-min=8.5km az=210.0*

ISC 10 20:05:51.8±0.5, 6.˚52S±0.˚07×155.˚67E±0.˚06, h150km, n62, σ2§30/68, mb4.4/23, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.19**	**303**	Pn	**Pn**	**20 06 54.4**	**-0.2**
TATA	**Tatamba Isabel**	**4.50**	**115**	P	**Pn**	**20 06 58.7**	**0.0**
TATA	**Tatamba Isabel**	**4.50**	**115**	S	**Sn**	**20 07 50.5**	**-0.3**
SAVO	**Savo Central**	**4.87**	**123**	P	**Pn**	**20 07 03.8**	**+0.2**
HNR	**Honiara**	**5.13**	**125**	P	**Pn**	**20 07 03.9**	**-3.1**
	39nm,0.5s,baz=306,slow=8.7,SNR=1.9						
HNR				S	**Sn**	**20 08 04.2**	**-1.5**
	57nm,0.5s,baz=333,slow=21,SNR=1.6						
ALEG	**Aligegeo Malai**	**5.46**	**114**	P	**Pn**	**20 07 11.7**	**+0.4**
NGOA	**Tingoa Renbel**	**6.62**	**139**	P	**Pn**	**20 07 27.2**	**+0.3**
PMG	**Port Moresby**	**8.90**	**251**	P	**Pn**	**20 07 58.9**	**+1.6**
	18nm,0.6s,baz=43,slow=12,SNR=7.9						
PMG				S	**Sn**	**20 09 39.6**	**+3.4**
	51nm,0.7s,baz=106,slow=20,SNR=7.9						
COEN	**Coen**	**14.34**	**238**	P	**P**	**20 09 11.2**	**+0.4**
COEN	**Coen**	**14.34**	**238**	P	**P**	**20 09 13.6**	**+2.8**
DZM	**Mont Dzumac**	**18.64**	**147**	Pn	**Pn**	**20 10 01.8**	**+1.5**
DZM	**Mont Dzumac**	**18.64**	**147**	P	**Pn**	**20 10 00.1**	**-0.2**
	8.3nm,0.8s,baz=310,slow=16,SNR=3.7						
DZM	**Mont Dzumac**	**18.64**	**147**	P	**P**	**20 09 56.0**	**-2.2**
EIDS	**Eidsvold**	**19.25**	**193**	P	**Pn**	**20 10 07.4**	**+0.1**
EIDS				IAmb	IAmb	20 10 08.5	
	comp=Z,16nm,0.8s						
QIS	**Mount Isa**	**20.91**	**227**	P	**P**	**20 10 24.3**	**+1.6**
QLP	**Quilpie**	**22.73**	**207**	P	**P**	**20 10 43.0**	**+1.8**
FAKI	**Fak Fak**	**23.61**	**278**	P	**P**	**20 10 46.2**	**-3.2**
KDU	**Kakadu**	**23.66**	**253**	P	**P**	**20 10 50.9**	**+1.0**
WR0	**Warramunga Arr**	**24.48**	**235**	P	**P**	**20 10 54.6**	**-2.6**
WR0				IAmb	IAmb	20 11 01.3	
	comp=Z,21nm,1.0s						
WB0	**Warramunga Arr**	**24.50**	**235**	P	**P**	**20 10 54.8**	**-2.6**
WB0				IAmb	IAmb	20 11 01.0	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**24.62**	**235**	P	**P**	**20 10 55.4**	**-3.1**
WRAB				IAmb	IAmb	20 11 02.5	
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**24.62**	**235**	P	**P**	**20 10 56.4**	**-2.2**
WRA	**Warramunga Arr**	**24.63**	**235**	P	**P**	**20 10 55.0**	**-3.7**
WRA	**Warramunga Arr**	**24.63**	**235**	P	**P**	**20 10 58.3**	**-0.3**
	comp=Z,16nm,0.7s,baz=60,slow=10,SNR=94						
WRA				PcP	**PcP**	**20 14 34.1**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=69,slow=3.3,SNR=1.9						
	comp=Z,16nm,0.7s						
WB1	**Warramunga Ar.**	**24.64**	**235**	P	**P**	**20 10 59.8**	**+1.1**
MTN	**Manton Dam**	**24.97**	**254**	P	**P**	**20 11 02.2**	**+0.5**
MTN	**Manton Dam**	**24.97**	**254**	P	**P**	**20 11 03.3**	**+1.5**
INKA	**Innaminka**	**25.41**	**212**	P	**P**	**20 11 06.3**	**+0.7**
CMSA	**Cobar Meteorol**	**26.58**	**199**	P	**P**	**20 11 16.0**	**-0.1**
AS31	**Alice Springs**	**26.98**	**229**	P	**P**	**20 11 18.6**	**-1.2**
ASAR	**Alice Springs**	**26.98**	**229**	P	**P**	**20 11 20.1**	**+0.2**
ASAR	**Alice Springs**	**26.98**	**229**	P	**P**	**20 11 19.9**	**0.0**
	comp=Z,2.6nm,0.6s,baz=61,slow=9.2,SNR=63						
ASAR				pP	**pP**	**20 11 44.0**	**-5.2**
	comp=Z,2.4nm,0.8s,baz=52,slow=14,SNR=9.0						
ASAR				PcP	**PcP**	**20 14 39.4**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=66,slow=3.2,SNR=2.7						
	comp=Z,2.6nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.13**	**23**	T	T	20 40 08.6	
	baz=202,slow=75,SNR=80						
H11S2	**WAKE ISLAND Hy**	**27.14**	**23**	T	T	20 40 09.2	
	baz=202,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**27.15**	**23**	T	T	20 40 10.1	
	baz=202,slow=75,SNR=43						
KNRA	**Kununurra**	**27.89**	**249**	P	**P**	**20 11 26.1**	**-1.8**
KNRA				IAmb	IAmb	20 11 34.1	
	comp=Z,24nm,1.4s						
OOD	**Oodnadatta**	**28.40**	**220**	P	**P**	**20 11 33.1**	**+0.8**
STKA	**Stephens Creek**	**28.45**	**206**	P	**P**	**20 11 34.5**	**+1.8**
STKA	**Stephens Creek**	**28.45**	**206**	P	**P**	**20 11 33.5**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=358,slow=9.0,SNR=5.9						
	comp=Z,1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**31.45**	**246**	P	**P**	**20 11 57.5**	**-1.9**
BBOO	**Buckleboo**	**31.89**	**212**	P	**P**	**20 12 01.7**	**-1.3**
BBOO				IAmb	IAmb	20 12 41.2	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**32.27**	**195**	P	**P**	**20 12 05.9**	**-0.4**
MMRI	**Maumere**	**33.20**	**264**	P	**P**	**20 12 13.6**	**-1.1**
FORT	**Forrest**	**35.39**	**224**	P	**P**	**20 12 32.4**	**-1.0**
BKZ	**Black Stump Fm**	**37.54**	**153**	P	**P**	**20 12 53.0**	**+1.5**
BKZ				IAmb	IAmb	20 13 12.0	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**37.68**	**244**	P	**P**	**20 12 51.3**	**-1.7**
MBWA				IAmb	IAmb	20 12 55.4	
	comp=Z,28nm,1.2s						
CMAR	**Chiang Mai Arr**	**61.19**	**295**	P	**P**	**20 15 51.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=128,slow=8.5,SNR=2.3						
CMAR				pP	**pP**	**20 16 20.2**	**-6.4**
	comp=Z,1.2nm,0.8s,baz=130,slow=5.9,SNR=6.5						
	comp=Z,0.4nm,0.8s						
SONM	**Songino Array**	**69.30**	**327**	P	**P**	**20 16 45.3**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=137,slow=6.8,SNR=5.8						
SONM				pP	**pP**	**20 17 14.5**	**-4.9**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.0						
	comp=Z,1.3nm,0.7s						
BILL	**Bilibino**	**74.76**	**4**	P	**P**	**20 17 16.6**	**+1.6**
BILL				IAmb	IAmb	20 17 18.8	
	comp=Z,9.1nm,1.2s						
H19K	**Roundabout Mou**	**79.92**	**18**	P	**P**	**20 17 46.1**	**+2.5**
H19K				IAmb	IAmb	20 17 47.6	
	comp=Z,12nm,1.2s						
G19K	**Purcell Mounta**	**80.14**	**18**	P	**P**	**20 17 47.2**	**+2.4**
G19K				IAmb	IAmb	20 17 49.1	
	comp=Z,10nm,1.2s						
E19K	**Redstone River**	**80.99**	**17**	P	**P**	**20 17 52.4**	**+3.0**
E19K				IAmb	IAmb	20 17 53.6	
	comp=Z,7.5nm,0.9s						
ILAR	**Eielson Array**	**82.69**	**21**	P	**P**	**20 17 59.7**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=257,slow=6.0,SNR=5.9						
ILAR				pP	**pP**	**20 18 32.0**	**-3.2**
	comp=Z,0.4nm,0.7s,baz=256,slow=6.1,SNR=2.1						
	comp=Z,1.0nm,0.9s						
D22K	**Ayikyak River**	**83.21**	**17**	P	**P**	**20 18 03.5**	**+2.5**
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**20 18 03.3**	**+0.9**
QSPA				IAmb	IAmb	20 18 11.3	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**20 18 04.5**	**+2.0**
	comp=Z,3.9nm,0.7s,baz=287,slow=1.5,SNR=14						
	comp=Z,3.9nm,0.7s						
MKAR	**Makanchi Array**	**83.49**	**318**	P	**P**	**20 18 04.3**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=99,slow=5.3,SNR=7.2						
MKAR				pP	**pP**	**20 18 34.8**	**-5.8**
	comp=Z,0.6nm,0.8s,baz=95,slow=4.3,SNR=3.2						
	comp=Z,0.6nm,0.7s						
D23K	**Nanushuk River**	**83.84**	**17**	P	**P**	**20 18 07.6**	**+3.5**
D23K				IAmb	IAmb	20 18 08.6	
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**84.16**	**326**	P	**P**	**20 18 08.0**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=92,slow=7.2,SNR=2.6						
	comp=Z,0.7nm,0.6s						
E27K	**Coleen River**	**86.25**	**19**	P	**P**	**20 18 19.4**	**+3.1**
KURBB	**Kurchatov Arra**	**86.91**	**322**	P	**P**	**20 18 20.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=130,slow=3.7,SNR=1.5						
	comp=Z,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**95.61**	**28**	P	**P**	**20 19 01.9**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=267,slow=5.3,SNR=5.4						
	comp=Z,0.6nm,0.9s						

IDC 10 20:28:58.4±3.3, 58.˚73N×32.˚76W, h0km, mb3.4/3, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=104.3km s-min=41.6km az=10.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.39**	**89**	Pn	Pn	20 32 49.7	+0.2
	baz=297,slow=8.7						
	1.3nm,0.6s						
YKA	**Yellowknife Ar**	**37.82**	**311**	P	P	20 36 16.4	+0.5
	0.6nm,0.9s,baz=57,slow=8.7,SNR=5.6						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**47.20**	**328**	P	P	20 37 31.5	-0.6
	0.5nm,0.9s,baz=39,slow=7.0,SNR=3.4						
	0.5nm,0.9s						
PDAR	**Pinedale Array**	**48.32**	**286**	P	P	20 37 41.1	-0.4
	0.4nm,0.8s,baz=53,slow=8.0,SNR=3.8						
	0.4nm,0.8s						

*IDC **10** 20:33:19.3±1.1, 12.˚74S×45.˚34E, h0km, mb4.0/5, mbtmp4.0/6, ML3.4/1, MS3.7/2, Error ellipse: s-maj=33.8km s-min=29.2km az=108.0*
*NEIC **10** 20:33:20.2±0.8, 12.˚75S±0.˚08×45.˚48E±0.˚09, h10km±2km, mb4.3/5, Error ellipse: s-maj=17.2km s-min=10.1km az=133.0*

ISC 10 20:33:19.7±0.6, 12.˚85S±0.˚05×45.˚50E±0.˚07, h10km, n26, σ2§14/30, mb4.2/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.35**	**98**	P	**Pn**	**20 34 27.8**	**+1.8**
SBV				S	**Sn**	**20 35 14.1**	**-2.6**
OPO	**Ambohidratompo**	**5.91**	**164**	P	**Pn**	**20 34 50.0**	**+2.4**
OPO				S	**Sn**	**20 35 51.8**	**-3.8**
FIRM	**Firavahana**	**5.96**	**167**	P	**Pn**	**20 34 50.8**	**+2.5**
FIRM				S	**Sn**	**20 35 53.2**	**-3.6**
ATG	**Ambohiby**	**6.03**	**174**	P	**Pn**	**20 34 51.3**	**+2.1**
ATG				S	**Sn**	**20 35 56.9**	**-1.5**
ABPO	**Ambohimpanom**	**6.35**	**165**	P	**Pn**	**20 34 55.8**	**+2.1**
ABPO	**Ambohimpanom**	**6.35**	**165**	P	**Pn**	**20 34 55.5**	**+1.9**
ABPO				S	**Sn**	**20 36 02.4**	**-3.9**
AVY	**Angavokely**	**6.41**	**161**	P	**Pn**	**20 34 56.3**	**+1.8**
AVY				S	Sn	20 36 01.2	-6.7
DGRM	**Ambatolahisoa**	**6.43**	**172**	P	**Pn**	**20 34 56.9**	**+2.3**
DGRM				S	Sn	20 36 02.4	-5.9
ABM	**Ambohimiarambe**	**7.12**	**166**	P	**Pn**	**20 35 06.4**	**+2.2**
ABM				S	Sn	20 36 18.2	-7.1
VOI	**Vohitsoka**	**9.09**	**172**	Pn	**Pn**	**20 35 32.7**	**+1.5**
MSEY	**Mahe Island**	**12.78**	**51**	Pn	**Pn**	**20 36 20.6**	**-1.0**
KIBK	**Kibwezi**	**12.79**	**324**	Pn	**Pn**	**20 36 20.4**	**-1.4**
RER	**Riviere de l'E**	**12.81**	**132**	Pn	**Pn**	**20 36 23.5**	**+1.3**
KMBO	**Kilima Mbogo**	**14.23**	**324**	Pn	**Pn**	**20 36 40.3**	**-1.4**
	0.2nm,0.3s,baz=172,slow=15,SNR=1.5						
KMBO				Sn	**Sn**	**20 39 19.8**	**-0.1**
	0.4nm,0.3s,baz=72,slow=9.3,SNR=3.3						
	0.5nm,0.3s						
LSZ	**Lusaka**	**16.96**	**260**		**Pn**	**20 37 17.1**	**-0.3**
LSZ	**Lusaka**	**16.96**	**260**	LR	LR	20 43 32.8	
	comp=Z,313nm,18.1s,baz=138,slow=36						
LBTB	**Lobatse**	**22.34**	**234**	P	**P**	**20 38 18.7**	**+0.7**
LBTB				IAmb	IAmb	20 38 37.3	
	comp=Z,10nm,1.2s						
BOSA	**Boshof**	**24.52**	**227**	P	**P**	**20 38 39.0**	**-0.7**
BOSA				IAmb	IAmb	20 39 05.1	
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**24.52**	**227**	P	**P**	**20 38 40.1**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=55,slow=9.2,SNR=5.8						
	comp=Z,4.3nm,0.9s						
PSI	**Prapat**	**55.27**	**77**	LR	LR	21 04 20.5	
	comp=Z,50nm,18.3s,baz=158,slow=34						
ABKAR	**Akbulak array**	**63.14**	**11**	P	**P**	**20 43 46.9**	**-0.7**
ABKAR				IAmb	IAmb	20 43 50.0	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**67.91**	**26**	P	**P**	**20 44 19.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=207,slow=4.8,SNR=2.9						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**77.24**	**180**	P	**P**	**20 45 11.9**	**-2.1**
QSPA	**South Pole Qui**	**77.24**	**180**	P	**P**	**20 45 16.4**	**+2.3**
	comp=Z,5.2nm,1.0s,baz=254,slow=3.9,SNR=11						
	comp=Z,5.2nm,1.0s						
ASAR	**Alice Springs**	**83.51**	**113**	P	**P**	**20 45 50.6**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=263,slow=4.7,SNR=16						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**84.64**	**109**	P	**P**	**20 45 56.5**	**+2.2**
	comp=Z,1.9nm,1.0s,baz=250,slow=3.7,SNR=6.1						
	comp=Z,1.9nm,1.0s						

*IDC **10** 20:40:54.3±1.6, 36.˚71N×142.˚51E, h0km, mb3.7/6, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=38.3km s-min=22.6km az=68.0*
*JMA **10** 20:40:58.0±0.2, 36.˚7N±0.˚6×14˚2E±˚, h45km, MV3.3/33, E OFF FUKUSHIMA PREF*

ISC 10 20:40:56.2±1.3, 36.˚76N±0.˚07×142.˚38E±0.˚09, h10km, n23, σ1§11/24, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**286**	P	**Pn**	**20 41 20.1**	**-0.5**
JFK	**Kawauchi**	**1.35**	**297**	*e*S	**Sb**	**20 41 37.4**	**-1.5**
JHO	**Hitachi**	**1.46**	**265**	*e*P	**Pn**	**20 41 22.2**	**-0.4**
JFFD	**Fukushimafurud**	**1.49**	**284**	P	**Pn**	**20 41 22.8**	**-0.3**
JMM	**Marumori**	**1.68**	**312**	*e*P	**Pn**	**20 41 25.5**	**-0.1**
JOTO	**OTAMA OYAMA**	**1.82**	**297**	P	**Pb**	**20 41 28.2**	**-1.4**
JIO	**Ouri**	**1.88**	**335**	P	**Pn**	**20 41 28.4**	**+0.1**
JAG	**Ashikaga**	**2.38**	**263**	P	**Pn**	**20 41 35.4**	**+0.3**
JMK	**Ichinoseki**	**2.38**	**338**	P	**Pn**	**20 41 35.8**	**+0.6**
JYK	**Kaneyama**	**2.69**	**324**	P	**Pn**	**20 41 40.4**	**+1.0**
JOM	**Ohasama**	**2.84**	**343**	P	**Pn**	**20 41 42.4**	**+0.7**
JRY	**Ryogami san**	**2.90**	**256**	P	**Pn**	**20 41 42.3**	**-0.1**
JOD2	**Odawara 2**	**3.05**	**242**	P	**Pn**	**20 41 44.7**	**+0.2**
JYN	**Shimob**	**3.35**	**249**	P	**Pn**	**20 41 49.6**	**+1.0**
MJAR	**Matsushiro Ar**	**3.36**	**268**	Pn	**Pn**	**20 41 49.4**	**+0.7**
	0.7nm,0.3s,baz=106,slow=11,SNR=49						
MJAR				Sn	**Sn**	**20 42 31.7**	**+3.1**
	0.3nm,0.3s,baz=51,slow=6.7,SNR=5.2						
	12nm,0.7s						
MAT	**Matsushiro**	**3.36**	**268**	P	**Pn**	**20 41 50.4**	**+1.7**
ASAJ	**Asahikawa**	**7.36**	**1**	Pn	**Pn**	**20 42 43.4**	**-0.2**
	0.4nm,0.3s,baz=219,slow=8.3,SNR=5.8						
	2.8nm,0.8s						
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**20 46 51.7**	**-0.7**
	1.4nm,0.7s,baz=106,slow=8.6,SNR=6.3						
	1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**42.67**	**313**	P	**P**	**20 48 54.7**	**+1.9**
	0.7nm,0.6s,baz=93,slow=7.2,SNR=2.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**44.92**	**302**	P	**P**	**20 49 11.6**	**+0.5**
	0.5nm,0.6s,baz=85,slow=10,SNR=7.6						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.78**	**308**	P	**P**	**20 49 26.1**	**+0.4**
	0.6nm,0.3s,baz=82,slow=7.7,SNR=5.1						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**56.90**	**189**	P	**P**	**20 50 40.3**	**-1.0**
	0.3nm,0.7s,baz=6.5,slow=6.8,SNR=1.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**60.63**	**189**	P	**P**	**20 51 07.0**	**-0.2**
	0.3nm,0.7s,baz=15,slow=10,SNR=4.8						
	0.3nm,0.7s						

*IDC **10** 20:46:34.1±0.7, 58.˚30N×31.˚95W, h0km, mb4.0/21, mbtmp3.9/24, ML3.7/2, MS4.0/32, Error ellipse: s-maj=21.1km s-min=11.8km az=180.0*

ISC 10 20:46:36.3±0.6, 58.˚48N±0.˚09×32.˚05W±0.˚07, h13km, n58, σ1§48/32, mb4.0/21, MS3.9/29, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.63**	**342**	IAML		20 50 02.9	
	comp=Z,16nm,0.7s						
ANGG				*i* P	**Sn**	**20 49 50.6**	**-2.4**
BORG	**Borgarnes**	**8.09**	**35**	Pn	**Pn**	**20 48 35.6**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=187,slow=13,SNR=6.2						
	comp=Z,6.0nm,0.5s						
ICESG	**Greenland Ices**	**11.16**	**346**	*i* P	Pn	20 49 24.5	+9.0
ICESG				IAML		20 49 33.3	
	comp=Z,5.0nm,0.8s						
SFJD	**Kangerlussuaq**	**12.01**	**323**	LR	LR	20 53 28.6	
	comp=Z,733nm,18.3s,baz=116,slow=34						
ILULI	**Ilulissat**	**13.57**	**330**	*i* P	Pn	20 49 42.5	-5.6
SUMG	**Summit**	**14.39**	**352**	*i* P	**P**	**20 50 06.1**	**-0.6**
EKA	**Eskdalemuir Ar**	**16.03**	**89**	Pn	**Pn**	**20 50 20.1**	**-1.0**
	baz=295,slow=9.8						
	comp=Z,1.1nm,0.7s						
UPNV	**Upernavik**	**17.23**	**336**	*e*P	**Pn**	**20 50 32.2**	**-4.0**
FRB	**Frobisher Bay**	**18.21**	**302**	LR	LR	20 57 01.6	
	comp=Z,541nm,18.3s,baz=176,slow=34						
SCHQ	**Schefferville**	**19.33**	**274**	P	**Pn**	**20 51 02.2**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=105,slow=3.2,SNR=2.1						
SCHQ				LR	LR	20 57 22.6	
	comp=Z,280nm,18.8s,baz=352,slow=33						
NEEM	**North Greenlan**	**20.13**	**348**	*i* P	Pn	20 51 12.7	+1.1
NB2	**NORSAR Subarra**	**21.64**	**65**	P	**P**	**20 51 28.8**	**+2.8**
	comp=Z,20nm,1.4s,baz=282,slow=11						
NOA	**NORSAR Array B**	**21.64**	**65**	P	**P**	**20 51 26.6**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=282,slow=9.1,SNR=5.7						
NOA				LR	LR	20 58 09.2	
	comp=Z,159nm,19.8s,baz=270,slow=32						
	comp=Z,1.9nm,0.9s						
HFS	**Hagfors**	**23.05**	**66**	P	**P**	**20 51 41.3**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=263,slow=7.3,SNR=5.6						
HFS				LR	LR	20 59 01.5	
	comp=Z,204nm,18.7s,baz=284,slow=32						
	comp=Z,3.6nm,0.7s						
ESDC	**Sonseca Array**	**26.00**	**124**	P	**P**	**20 52 08.3**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=321,slow=9.3,SNR=11						
	comp=Z,2.1nm,0.9s						
ARCES	**ARCESS Array B**	**26.41**	**42**	P	**P**	**20 52 13.3**	**+1.3**
	comp=Z,6.8nm,0.9s,baz=282,slow=7.3,SNR=10						
	comp=Z,6.8nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.54**	**97**	LR	LR	21 02 10.5	
	comp=Z,272nm,22.0s,baz=262,slow=34						
GERES	**GERESS Array B**	**28.24**	**90**	LR	LR	21 03 10.9	
	comp=Z,267nm,18.9s,baz=260,slow=35						
FINES	**FINESS Array B**	**28.42**	**59**	P	**P**	**20 52 30.1**	**0.0**
	comp=Z,2.1nm,0.8s,baz=284,slow=7.0,SNR=4.7						
	comp=Z,2.1nm,0.8s						
VRAC	**Vranov**	**29.48**	**87**	LR	LR	21 04 24.2	
	comp=Z,219nm,18.4s,baz=277,slow=36						
SADO	**Sadowa**	**31.57**	**265**	LR	LR	21 04 31.7	
	comp=Z,390nm,19.0s,baz=4.5,slow=34						
MDT	**Midelt**	**31.62**	**132**	LR	LR	21 02 49.9	
	comp=Z,415nm,20.6s,baz=171,slow=31						
AKASG	**Malin Array Be**	**35.19**	**75**	P	**P**	**20 53 29.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=313,slow=8.8,SNR=7.7						
AKASG				LR	LR	21 08 57.6	
	comp=Z,104nm,18.5s,baz=306,slow=38						
	comp=Z,1.4nm,0.8s						
KEST	**Kesra**	**35.38**	**112**	LR	LR	21 06 17.4	
	comp=Z,448nm,19.5s,baz=315,slow=34						
OBN	**Obninsk**	**36.25**	**65**	LR	LR	21 07 47.7	
	comp=Z,146nm,19.0s,slow=35						
ULM	**Lac du Bonnet**	**36.76**	**286**	P	**P**	**20 53 44.0**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=54,slow=8.0,SNR=3.0						
ULM				LR	LR	21 07 00.4	
	comp=Z,161nm,19.7s,baz=100,slow=33						
	comp=Z,1.7nm,0.9s						
MLR	**Muntele Rosu**	**36.81**	**85**	LR	LR	21 07 39.2	
	comp=Z,253nm,21.7s,baz=246,slow=34						
YKA	**Yellowknife Ar**	**38.26**	**312**	P	**P**	**20 53 57.1**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=61,slow=8.5,SNR=13						
YKA				PcP	**PcP**	**20 56 10.3**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=56,slow=2.9,SNR=5.7						
YKA				LR	LR	21 08 05.1	
	comp=Z,428nm,18.7s,baz=48,slow=34						
	comp=Z,1.9nm,1.0s						
TKL	**Tuckaleechee C**	**40.64**	**259**	LR	LR	21 10 04.2	
	comp=Z,298nm,19.1s,baz=20,slow=35						
INK	**Inuvik**	**41.32**	**327**	LR	LR	21 10 11.2	
	comp=Z,154nm,19.4s,baz=252,slow=34						
BRTR	**Keskin Array B**	**44.89**	**85**	P	**P**	**20 54 49.8**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=308,slow=4.6,SNR=5.4						
	comp=Z,1.3nm,0.9s						
BBTS	**Babate**	**45.25**	**159**	LR	LR	21 09 45.6	
	comp=Z,114nm,18.4s,baz=327,slow=31						
DLBC	**Dease Lake**	**46.74**	**314**	LR	LR	21 13 22.7	
	comp=Z,233nm,19.8s,baz=15,slow=34						
KBZ	**Khabaz**	**46.76**	**74**	P	**P**	**20 55 03.8**	**-1.0**
	comp

baz=52,slow=75,SNR=5.4
MKAR Makanchi Array 36.82 348 P P 21 06 51.8 -1.1
0.2nm,0.3s,baz=171,slow=9.2,SNR=8.8
0.2nm,0.3s
KURBB Kurchatov Array 41.27 346 P P 21 07 29.0 -0.9
0.3nm,0.5s,baz=147,slow=7.8,SNR=3.0
0.3nm,0.5s
ZALV Zalesovo Beam 43.33 353 P P 21 07 45.4 -1.2
1.6nm,0.3s,baz=168,slow=7.8,SNR=8.5
1.6nm,0.3s
BVAR Borovoye Array 45.71 341 P P 21 08 04.4 -1.2
0.2nm,0.3s,baz=150,slow=7.7,SNR=2.4
0.2nm,0.3s
AKTO Aktyubinsk 48.73 331 LR LR 21 32 05.0
comp=Z,86nm,19.3s,baz=242,slow=40
WRA Warramunga Arr 50.92 127 P P 21 08 45.2 -1.1
0.4nm,0.4s,baz=301,slow=10.0,SNR=11
0.4nm,0.4s
ASAR Alice Springs 52.71 131 P P 21 08 59.5 -0.1
0.1nm,0.4s,baz=310,slow=7.2,SNR=1.9
0.1nm,0.4s
FINES FINESS Array B 69.48 332 P P 21 10 53.4 +0.9
2.8nm,1.0s,baz=53,slow=7.4,SNR=2.2
2.8nm,1.0s
ARCES ARCESS Array B 71.98 340 P P 21 11 07.4 -0.3
2.0nm,1.0s,baz=115,slow=7.9,SNR=1.2
2.0nm,1.0s
ILAR Eielson Array 92.22 22 P P 21 12 56.2 +2.4
0.3nm,0.8s,baz=232,slow=4.4,SNR=2.2
0.3nm,0.8s

IDC 10 21:08:49.7±1.4, 8°80N×121°60E, h0km, mb3.3/4, mbtmp3.3/4, MS2.7/1, Error ellipse: s-maj=176.4km s-min=24.0km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**5.31**	**353**		LR		LR	21 12 40.6	
comp=Z,75nm,18.5s,baz=20,slow=44									
WRA	**Warramunga Arr**	**31.19**	**156**	P			P	21 15 10.3	-0.6
0.2nm,0.5s,baz=331,slow=10,SNR=0.9									
0.2nm,0.5s									
ASAR	**Alice Springs**	**34.43**	**160**	P			P	21 15 39.6	+0.3
0.4nm,0.6s,baz=341,slow=7.2,SNR=5.7									
0.4nm,0.6s									
SONM	**Songino Array**	**40.99**	**344**	P			P	21 16 33.4	-1.2
0.3nm,0.6s,baz=152,slow=6.5,SNR=2.2									
0.3nm,0.6s									
MKAR	**Makanchi Array**	**50.52**	**326**	P			P	21 17 50.8	+0.9
0.4nm,1.1s,baz=110,slow=6.7,SNR=1.9									
0.4nm,1.1s									

*IDC **10** 21:44:33.4±0.6, 59°62N×153°53W, h118km±6km, mb3.8/17, mbtmp4.2/21, Error ellipse: s-maj=11.6km s-min=7.9km az=83.0*
*NEIC **10** 21:44:34.7±1.6, 59°62N±0°04×153°39W±0°07, h128km±2km, Error ellipse: s-maj=5.7km s-min=4.6km az=146.0*
*AEIC **10** 21:44:36.0±1.2, 59°62N±0°04×153°35W±0°07, h123km±4km, ML4.2, mb4.5/6(NEIC), ML4.4/166(NEIC), Error ellipse: s-maj=6.1km s-min=5.2km az=144.0*
ISC 10 21:44:34.8±0.5, 59°63N±0°04×153°34W±0°04, h128km±4km, h128km:pP-P, n266, σ0°98/254, mb4.3/30, 1C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.06**	**66**				**Pn**	**21 44 52.2**	**+0.1**
P19K	**Oil Pt**	**0.06**	**66**				**Pn**	**21 44 52.0**	**-0.2**
P19K					Sn		**Sn**	**21 45 04.7**	**-0.6**
P19K					IAML			21 45 06.1	
comp=N,16μm,0.4s									
AUL	**Augustine Lava**	**0.25**	**192**				**Pn**	**21 44 52.6**	**+0.1**
AUL							**Sn**	**21 45 05.8**	**0.0**
AU22	**Augustine Moun**	**0.26**	**182**				**Pn**	**21 44 52.5**	**0.0**
AU22							**Sn**	**21 45 05.7**	**-0.1**
AUCH	**Augustine Cone**	**0.27**	**192**				**Pn**	**21 44 52.8**	**+0.1**
ILS	**Iliamna Low So**	**0.36**	**22**				**Pn**	**21 44 52.9**	**-0.1**
ILSW	**Iliamna Southw**	**0.37**	**15**		Pn		**Pn**	**21 44 52.9**	**-0.1**
ILSW					Sn		**Sn**	**21 45 06.2**	**-0.8**
ILSW					IAML			21 45 07.2	
comp=E,16μm,0.9s									
ILSW					IAML			21 45 07.5	
comp=N,9μm,0.6s									
ILW	**Iliamna West**	**0.44**	**13**				**Pn**	**21 44 53.4**	**-0.1**
O20K	**Slope Mountain**	**0.58**	**38**				**Pn**	**21 44 54.2**	**+0.1**
O20K							**Sn**	**21 45 08.7**	**-0.2**
Q19K	**Cape Douglas,**	**0.72**	**193**		Pn		**Pn**	**21 44 54.8**	**-0.4**
Q19K					Sn		**Sn**	**21 45 09.7**	**-0.7**
O19K	**Port Alsworth**	**0.75**	**319**		Pn		**Pn**	**21 44 55.0**	**-0.2**
O19K					Sn		**Sn**	**21 45 10.1**	**-0.7**
RED	**Redoubt Volcan**	**0.84**	**19**				**Sn**	**21 45 11.8**	**-0.5**
HOM	**Homer**	**0.86**	**87**				**Pn**	**21 44 56.4**	**+0.2**
HOM					Sn		**Sn**	**21 45 12.1**	**-0.2**
NCT	**North Crescent**	**0.96**	**12**				**Sn**	**21 45 13.3**	**-0.8**
O18K	**Koktuh Hills**	**0.97**	**284**				**Pn**	**21 44 56.8**	**-0.4**
O18K					Sn		**Sn**	**21 45 13.1**	**-1.2**
P18K	**Big Mountain,**	**0.99**	**257**		Pn		**Pn**	**21 44 56.9**	**-0.5**
P18K					Sn		**Sn**	**21 45 13.1**	**-1.6**
CNPM	**China Poot**	**1.07**	**95**				**Pn**	**21 44 58.4**	**+0.2**
SYI	**Shuyak Island**	**1.13**	**154**				**Pn**	**21 44 58.4**	**-0.3**
SYI					IAML			21 45 16.4	
comp=E,6μm,0.5s									
BRLK	**Bradley Lake**	**1.25**	**83**		Pn		**Pn**	**21 44 59.5**	**-0.4**
BRLK					IAML			21 45 20.2	
comp=N,5μm,0.3s									
BRLK					IAML			21 45 20.4	
comp=E,5μm,0.4s									
KAHG	**Katmai Hook Gl**	**1.30**	**209**				**Pn**	**21 45 00.5**	**-0.1**
KAHC	**Katmai Hardscr**	**1.31**	**222**				**Pn**	**21 45 00.3**	**-0.4**
N19K	**Bonanza Creek**	**1.32**	**335**				**Pn**	**21 45 00.9**	**+0.1**
N19K	**Bonanza Creek**	**1.32**	**335**		IAML			21 45 20.9	
comp=E,4μm,0.7s									
N19K					IAML			21 45 21.0	
comp=N,3μm,0.8s									
BRSE	**Bradley Lake S**	**1.32**	**84**				**Pn**	**21 45 00.7**	**0.0**
CAPN	**Captain Cook N**	**1.58**	**43**				**Pn**	**21 45 05.4**	**+1.9**
KAKN	**Katmai Knife C**	**1.61**	**215**				**Pn**	**21 45 03.8**	**-0.2**
KCG	**Knife Ck. Glac**	**1.61**	**216**				**Pn**	**21 45 04.0**	**0.0**
N18K	**Kilae Creek**	**1.66**	**311**				**Pn**	**21 45 04.5**	**0.0**
N18K	**Kilae Creek**	**1.66**	**311**		IAML			21 45 27.4	
comp=E,878nm,1.1s									
SPCR	**Spurr Chakacha**	**1.67**	**19**				**Pn**	**21 45 05.1**	**+0.4**
SPU	**Mount Spurr**	**1.68**	**22**				**Pn**	**21 45 05.2**	**+0.4**
SPU	**Mount Spurr**	**1.68**	**22**		IAML			21 45 29.7	
comp=E,1μm,0.6s									
ACHA	**Angle Creek He**	**1.76**	**217**		Pn		**Pn**	**21 45 05.4**	**-0.4**
SLKM	**Skilak Lake**	**1.79**	**59**		Pn		**Pn**	**21 45 06.1**	**0.0**
SLKM					IAML			21 45 30.7	
comp=N,4μm,0.4s									
SLKM					IAML			21 45 30.9	
comp=E,3μm,0.5s									
KDAK	**Kodiak Island**	**1.89**	**168**		Pn		**Pn**	**21 45 06.0**	**-1.3**
KDAK					IAML			21 45 30.9	
comp=E,2μm,0.4s									
KDAK					IAML			21 45 31.6	
comp=E,2μm,0.4s									
KDAK	**Kodiak Island**	**1.89**	**168**	P			**Pn**	**21 45 05.9**	**-1.3**
comp=E,568nm,0.3s,baz=254,slow=4.0,SNR=4403									
KDAK				S			**Sn**	**21 45 30.1**	**-2.0**
comp=E,1μm,0.5s,baz=338,slow=22,SNR=20									
Q17K	**Koliganek Bris**	**1.91**	**276**				**Pn**	**21 45 07.8**	**+0.4**
Q16K	**King Salmon**	**1.96**	**242**				**Pn**	**21 45 08.4**	**+0.4**
Q22K	**Cooper Landing**	**2.00**	**63**				**Pn**	**21 45 08.9**	**+0.4**
SEW	**Seward**	**2.02**	**75**		Pn		**Pn**	**21 45 08.4**	**-0.3**
STLK	**Strandline Lak**	**2.02**	**21**				**Pn**	**21 45 09.1**	**+0.2**
STLK					IAML			21 45 38.1	
comp=E,622nm,0.5s									
STLK					IAML			21 45 38.4	
comp=N,893nm,0.6s									
N17K	**Nushagak Hills**	**2.13**	**297**		IAML			21 45 37.6	
comp=N,576nm,1.2s									
R18K	**Karluk**	**2.15**	**196**		IAML			21 45 38.0	
comp=E,3μm,0.5s									
R18K					IAML			21 45 38.2	
comp=N,4μm,0.5s									
FIS	**Fire Island**	**2.17**	**44**		Pn		**Pn**	**21 45 11.5**	**+0.9**
FIS					IAML			21 45 47.1	
comp=N,3μm,0.6s									
FIS					IAML			21 46 19.4	
comp=E,3μm,1.1s									
M18K	**Stony River**	**2.24**	**328**				**Pn**	**21 45 11.4**	**0.0**
SUA	**Susitna One**	**2.24**	**34**				**Pn**	**21 45 12.4**	**+0.7**
M20K	**Styx River**	**2.26**	**2**				**Pn**	**21 45 12.4**	**+0.5**
M20K	**Styx River**	**2.26**	**2**		IAML			21 45 47.3	
comp=N,479nm,1.2s									
RC01	**Rabbit Creek A**	**2.31**	**49**		Pn		**Pn**	**21 45 12.4**	**0.0**
RC01					IAML			21 45 41.6	
comp=E,3μm,0.4s									
RC01					IAML			21 45 42.6	
comp=N,2μm,0.6s									
M19K	**Big River Lodg**	**2.34**	**348**				**Pn**	**21 45 12.8**	**0.0**
OHAK	**Old Harbor**	**2.41**	**179**		Pn		**Pn**	**21 45 12.1**	**-1.6**
OHAK					IAML			21 45 42.0	
comp=N,608nm,0.3s									
OHAK					IAML			21 45 42.6	
comp=E,593nm,0.4s									
OHAK	**Old Harbor**	**2.41**	**179**	P			**Pn**	**21 45 12.2**	**-1.5**
OHAK	**Old Harbor**	**2.41**	**179**	S			**Sn**	**21 45 40.9**	**-2.7**
O16K	**Kokwok River B**	**2.42**	**271**				**Pn**	**21 45 14.2**	**+0.5**
P16K	**Nushagak River**	**2.46**	**258**				**Pn**	**21 45 14.9**	**+0.7**
PLK1	**Peulik 1**	**2.50**	**224**				**Pn**	**21 45 15.0**	**+0.1**
SKT	**Skwentna**	**2.52**	**20**		IAML			21 45 50.2	
comp=E,445nm,0.5s									
SKT					IAML			21 45 50.7	
comp=N,474nm,0.6s									
M22K	**Willow**	**2.65**	**35**				**Pn**	**21 45 17.0**	**+0.3**
PLBL	**Peulik Blue Cr**	**2.66**	**225**				**Pn**	**21 45 16.9**	**+0.1**
L19K	**White Mountain**	**2.67**	**344**				**Pn**	**21 45 16.9**	**0.0**
L19K	**White Mountain**	**2.67**	**344**		IAML			21 45 51.3	
comp=E,434nm,1.2s									
L19K					IAML			21 45 51.5	
comp=N,402nm,1.0s									
M17K	**Holitna River**	**2.70**	**313**				**Pn**	**21 45 17.7**	**+0.4**
M17K	**Holitna River**	**2.70**	**313**		IAML			21 45 51.1	
comp=N,375nm,0.8s									
M17K					IAML			21 46 09.5	
comp=E,370nm,0.9s									
PWL	**Port Wells**	**2.78**	**62**		Pn		**Pn**	**21 45 18.0**	**-0.4**
PWL					IAML			21 45 51.9	
comp=E,2μm,0.4s									
PMR	**Palmer**	**2.86**	**45**		IAML			21 45 52.8	
comp=E,763nm,0.7s									
PMR					IAML			21 45 53.5	
comp=N,648nm,0.7s									
PMR	**Palmer**	**2.86**	**45**	P			**Pn**	**21 45 18.6**	**-0.7**
PMR	**Palmer**	**2.86**	**45**	S			**Sn**	**21 45 51.7**	**-2.1**
L20K	**Farewell, AK**	**2.87**	**355**				**Pn**	**21 45 19.9**	**+0.4**
KNK	**Knik Glacier**	**3.00**	**51**		IAML			21 45 55.7	
comp=E,2μm,0.7s									
KNK					IAML			21 45 57.2	
comp=N,2μm,0.5s									
GHO	**Glory Hole Cre**	**3.05**	**43**		IAML			21 46 00.4	
comp=E,1μm,0.4s									
GHO					IAML			21 46 01.6	
comp=N,1μm,0.7s									
L18K	**Granite Mounta**	**3.07**	**329**				**Pn**	**21 45 22.0**	**-0.1**
SII	**Sitkinak Islan**	**3.11**	**189**				**Pn**	**21 45 21.0**	**-1.8**
SII					IAML			21 46 00.2	
comp=N,1μm,0.5s									
SII					IAML			21 46 09.7	
comp=E,1μm,0.5s									
SII	**Sitkinak Islan**	**3.11**	**189**	P			**Pn**	**21 45 21.4**	**-1.3**
SII	**Sitkinak Islan**	**3.11**	**189**	S			**Sn**	**21 45 57.3**	**-2.4**
M16K	**Timber Creek**	**3.13**	**299**				**Pn**	**21 45 23.6**	**+0.7**
CUT	**Chulitna**	**3.16**	**27**		IAML			21 46 02.6	
comp=N,1μm,0.5s									
CUT					IAML			21 46 04.0	
comp=E,1μm,0.3s									
SML	**Sawmill**	**3.29**	**46**				**Pn**	**21 45 24.1**	**-0.9**
SML					IAML			21 46 03.6	
comp=N,1μm,1.0s									
SML					IAML			21 46 04.0	
comp=E,872nm,0.8s									
O15K	**Ungalikthiuk R**	**3.35**	**265**				**Pn**	**21 45 26.7**	**+0.9**
GLI	**Glacier Island**	**3.35**	**65**		IAML			21 46 04.8	
comp=E,1μm,0.5s									
GLI					IAML			21 46 06.0	
comp=N,837nm,0.7s									
N15K	**Kwethluk River**	**3.45**	**282**		IAML			21 46 10.1	
comp=N,328nm,0.8s									
L17K	**Donlin**	**3.49**	**318**				**Pn**	**21 45 27.9**	**+0.3**
HIN	**Hinchinbrook I**	**3.52**	**74**		IAML			21 46 08.9	
comp=E,800nm,0.6s									
HIN					IAML			21 46 09.3	
comp=N,1μm,0.5s									
TTA	**Tatalina**	**3.56**	**340**				**Pn**	**21 45 28.2**	**-0.3**
Q23K	**Middleton Isla**	**3.56**	**90**				**Pn**	**21 45 28.5**	**-0.1**
Q23K	**Middleton Isla**	**3.56**	**90**		IAML			21 46 12.4	
comp=E,804nm,1.0s									
Q23K					IAML			21 46 12.9	
comp=N,803nm,1.1s									
L16K	**Owhat River**	**3.67**	**307**		Pn		**Pn**	**21 45 30.7**	**+0.7**
SCM	**Sheep Creek Mo**	**3.69**	**51**		IAML			21 46 13.3	
comp=E,938nm,0.8s									
SCM					IAML			21 46 14.6	
comp=N,1μm,0.6s									
K20K	**Telida**	**3.76**	**355**				**Pn**	**21 45 31.5**	**+0.4**
M15K	**Kasigluk River**	**3.83**	**289**				**Pn**	**21 45 32.8**	**+0.7**
CAST	**Castle Rocks**	**3.85**	**8**		Pn		**Pn**	**21 45 32.7**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.91**	**73**		P		**Pn**	**21 45 32.7**	**-0.4**
K17K	**Iditarod**	**3.92**	**324**				**Pn**	**21 45 33.6**	**+0.3**
K17K	**Iditarod**	**3.92**	**324**		IAML			21 46 36.2	
comp=E,147nm,0.9s									
CHIR	**Chirikof Islan**	**4.01**	**199**				**Pn**	**21 45 32.9**	**-1.6**
CHIR	**Chirikof Islan**	**4.01**	**199**		IAML			21 46 18.1	
comp=E,491nm,0.3s									
CHIR					IAML			21 46 18.3	
comp=N,757nm,0.4s									
CHIR	**Chirikof Islan**	**4.01**	**199**	P			**Pn**	**21 45 32.9**	**-1.6**
TRF	**Thorofare Moun**	**4.10**	**20**		IAML			21 46 23.1	
comp=N,455nm,0.6s									
TRF					IAML			21 46 27.8	
comp=E,246nm,0.7s									
KTH	**Kantishna Hill**	**4.10**	**15**		IAML			21 46 24.7	
comp=N,279nm,0.9s									
KTH					IAML			21 46 24.8	
comp=E,319nm,0.9s									
J18K	**Innoko River**	**4.17**	**339**				**Pn**	**21 45 36.7**	**0.0**
CHGN	**Chignik**	**4.29**	**221**		Pn		**Pn**	**21 45 38.0**	**-0.3**
CHGN					IAML			21 46 26.8	
comp=N,335nm,0.3s									
CHGN					IAML			21 46 27.6	
comp=E,392nm,0.3s									
CHUM	**Lake Minchumin**	**4.30**	**6**				**Pn**	**21 45 38.5**	**+0.2**
RND	**Reindeer**	**4.36**	**28**		Pn		**Pn**	**21 45 38.8**	**-0.3**
RND					IAML			21 46 28.8	
comp=E,423nm,0.6s									
RND					IAML			21 46 29.2	
comp=N,607nm,0.7s									
GOAT	**Goat Mountain**	**4.41**	**74**				**Pn**	**21 45 39.8**	**-0.2**
RAGM	**Ragged Mountai**	**4.41**	**76**				**Pn**	**21 45 39.8**	**-0.1**
M14K	**Bethel**	**4.45**	**288**				**Pn**	**21 45 41.1**	**+0.8**
M14K	**Bethel**	**4.45**	**288**		IAML			21 47 48.6	
comp=N,97nm,3.1s									
M14K					IAML			21 48 37.3	
comp=E,96nm,4.1s									
L15K	**Ungalak Mounta**	**4.51**	**301**				**Pn**	**21 45 42.0**	**+0.9**
J19K	**Poorman**	**4.51**	**347**				**Pn**	**21 45 40.9**	**-0.2**
KAIM	**Kayak Island**	**4.52**	**82**				**Pn**	**21 45 41.5**	**+0.3**
KAIM	**Kayak Island**	**4.52**	**82**		IAML			21 46 35.9	
comp=E,460nm,1.1s									
KAIM					IAML			21 46 49.4	
comp=N,514nm,2.9s									
BMRM	**Bremner River**	**4.55**	**69**				**Pn**	**21 45 41.3**	**-0.4**
J20K	**Nowinta River**	**4.58**	**356**				**Pn**	**21 45 42.2**	**+0.2**
BPAW	**Bear Paw Mtn.**	**4.62**	**13**				**Pn**	**21 45 41.8**	**-0.9**
BPAW	**Bear Paw Mtn.**	**4.62**	**13**		IAML			21 46 33.0	
comp=N,106nm,0.9s									
BPAW					IAML			21 46 58.2	
comp=E,83nm,0.6s									
J17K	**VABM Dome**	**4.67**	**326**				**Pn**	**21 45 43.2**	**-0.1**
K15K	**Wolf Creek Mou**	**4.80**	**307**				**Pn**	**21 45 46.0**	**+0.9**
SUCK	**Suckling Hills**	**4.84**	**81**		IAML			21 48 24.1	
comp=N,274nm,2.6s									
SUCK					IAML			21 48 42.3	
comp=E,306nm,2.6s									
BERG	**Berg Lake**	**4.89**	**77**				**Pn**	**21 45 46.3**	**0.0**
BWN	**Browne**	**4.91**	**20**		IAML			21 46 46.1	
comp=N,336nm,0.8s									
BWN					IAML			21 47 20.4	
comp=E,256nm,0.9s									
L14K	**Kuka Creek**	**4.93**	**294**				**Pn**	**21 45 48.1**	**+1.4**
L14K	**Kuka Creek**	**4.93**	**294**		IAML			21 47 43.5	
comp=E,72nm,1.2s									
WACK	**Wrangell Chich**	**5.00**	**58**				**Pn**	**21 45 48.1**	**+0.1**
GLB	**Gilahina Butte**	**5.04**	**65**		IAML			21 46 47.3	
comp=E,440nm,0.6s									
J16K	**Anvik River**	**5.06**	**320**				**Pn**	**21 45 48.8**	**+0.3**
WAZA	**Wrangell Mount**	**5.12**	**57**				**Pn**	**21 45 49.9**	**+0.4**
VRDI	**Verde Repeater**	**5.15**	**68**		IAML			21 46 47.6	
comp=N,446nm,0.6s									
VRDI					IAML			21 46 47.7	
comp=E,303nm,0.6s									
I20K	**Naaghedeneel**	**5.21**	**355**				**Pn**	**21 45 50.8**	**+0.3**
I20K	**Naaghedeneel**	**5.21**	**355**		IAML			21 47 30.5	
comp=N,198nm,1.1s									
I20K					IAML			21 47 45.0	
comp=E,279nm,1.2s									
SNH	**Sunshine Point**	**5.31**	**80**				**Pn**	**21 45 52.2**	**+0.3**
SNH	**Sunshine Point**	**5.31**	**80**		IAML			21 46 53.8	
comp=E,372nm,1.2s									
NEA2	**Nenana**	**5.37**	**20**		IAML			21 46 51.1	
comp=E,135nm,0.7s									
NEA2					IAML			21 46 51.2	
comp=N,142nm,0.8s									
K24K	**Donnelly Dome**	**5.52**	**37**				**Pn**	**21 45 55.1**	**+0.4**
I17K	**Unalakleet**	**5.52**	**324**				**Pn**	**21 45 54.6**	**0.0**
I21K	**Tanana**	**5.61**	**6**				**Pn**	**21 45 55.6**	**-0.2**
CCB	**Clear Creek Bu**	**5.66**	**25**				**Pn**	**21 45 55.3**	**-1.2**
MENT	**Mentasta**	**5.70**	**50**	P			**Pn**	**21 45 57.2**	**+0.1**
MESA	**MESA**	**5.76**	**80**				**Pn**	**21 45 58.1**	**+0.1**
SDPT	**Sand Point**	**5.76**	**225**				**Pn**	**21 45 57.1**	**-0.9**
SDPT	**Sand Point**	**5.76**	**225**	P			**Pn**	**21 45 57.1**	**-0.9**
COLA	**College**	**5.85**	**24**				**Pn**	**21 45 58.5**	**-0.6**
COLA	**College**	**5.85**	**24**	P			**Pn**	**21 45 58.1**	**-0.9**
YAH	**Yahtse**	**5.86**	**78**				**Pn**	**21 45 59.8**	**+0.3**
H20K	**Anotleneega Mo**	**5.93**	**354**				**Pn**	**21 46 00.2**	**+0.1**
IL31		**5.97**	**28**				**Pn**	**21 45 59.5**	**-1.2**
ILAR	**Eielson Array**	**5.97**	**28**	Pn			**Pn**	**21 45 60.0**	**-0.8**
ILAR	**Eielson Array**	**5.97**	**28**	P			**Pn**	**21 45 59.5**	**-1.3**
comp=N,70nm,0.5s,baz=216,slow=14,SNR=851									
ILAR				S			**Sn**	**21 47 04.0**	**-3.9**
comp=N,63nm,0.8s,baz=212,slow=23,SNR=20									
H18K	**Honhosa River**	**6.01**	**339**				**Pn**	**21 46 01.1**	**-0.2**
H21K	**Melozitna Rive**	**6.06**	**2**				**Pn**	**21 46 01.8**	**0.0**
RKAV	**Rock Avalanche**	**6.06**	**78**				**Pn**	**21 46 02.6**	**+0.5**
CHX	**Chaix Hills**	**6.17**	**81**				**Pn**	**21 46 04.3**	**+0.7**
M27K	**Edge Creek, AK**	**6.21**	**59**				**Pn**	**21 46 04.6**	**+0.6**
J25K	**Salcha River,**	**6.24**	**33**				**Pn**	**21 46 03.7**	**-0.6**
PS4A	**Pavlof South-4**	**6.29**	**231**				**Pn**	**21 46 04.8**	**-0.2**
SAMH	**Samovar Hills**	**6.34**	**80**				**Pn**	**21 46 06.3**	**+0.5**
H23K	**Yukon River**	**6.46**	**14**				**Pn**	**21 46 06.3**	**-1.0**
H16K	**Elim**	**6.53**	**324**				**Pn**	**21 46 08.1**	**-0.1**
BCAR	**Beaver Creek A**	**6.54**	**53**	Pn			**Pn**	**21 46 08.9**	**+0.6**
PCA	**Pinnacle**	**6.61**	**80**				**Pn**	**21 46 09.7**	**+0.4**
O28M	**Mount Upton**	**6.65**	**74**				**Pn**	**21 46 11.0**	**+0.8**
BVCY	**Beaver Creek**	**6.67**	**60**				**Pn**	**21 46 11.0**	**+0.8**
J26L	**Joseph Creek**	**6.70**	**39**				**Pn**	**21 46 10.1**	**-0.5**
G18K	**Tagagawik**	**6.74**	**341**				**Pn**	**21 46 10.6**	**-0.4**
G17K	**Kiwalik Mounta**	**6.79**	**333**				**Pn**	**21 46 11.1**	**-0.6**
G21K	**Allakaket**	**6.91**	**359**				**Pn**	**21 46 13.8**	**+0.4**
YUK8	**Steele Glacier**	**6.91**	**70**				**Pn**	**21 46 15.0**	**+1.3**
K27K	**Chicken**	**6.92**	**46**				**Pn**	**21 46 13.2**	**-0.2**
BCPM	**Bancas Point**	**6.92**	**81**				**Pn**	**21 46 13.1**	**-0.5**
PNL	**Peninsula**	**7.07**	**84**	P			**Pn**	**21 46 15.2**	**-0.3**
G16K	**Koyuk River**	**7.13**	**328**				**Pn**	**21 46 16.0**	**-0.2**
FALS	**False Pass**	**7.26**	**233**	P			**Pn**	**21 46 18.7**	**+0.6**
G23K	**Bananza Creek**	**7.26**	**10**				**Pn**	**21 46 17.2**	**-0.9**
G15K	**Niukluk**	**7.33**	**322**				**Pn**	**21 46 18.6**	**-0.4**
I26K	**Coal Creek Min**	**7.39**	**35**				**Pn**	**21 46 19.1**	**-0.7**
ISLZ	**Isanotski Laza**	**7.48**	**233**				**Pn**	**21 46 20.9**	**-0.1**
H25L	**Birch Creek**	**7.49**	**24**				**Pn**	**21 46 20.3**	**-0.7**
ANM	**Nome**	**7.50**	**316**				**Pn**	**21 46 21.8**	**+0.5**
F20K	**Avaraart Lake**	**7.53**	**353**				**Pn**	**21 46 21.9**	**+0.3**
YUK6	**Outpost Mounta**	**7.56**	**74**				**Pn**	**21 46 22.4**	**+0.1**
G24K	**Hadweenzic Riv**	**7.57**	**18**				**Pn**	**21 46 21.5**	**-0.7**
F21K	**Alatna River**	**7.62**	**360**				**Pn**	**21 46 23.2**	**+0.2**
F17K	**Baldwin Pennin**	**7.72**	**336**				**Pn**	**21 46 23.8**	**-0.3**
M29M	**Somme Creek**	**7.75**	**62**				**Pn**	**21 46 25.4**	**+0.7**
G25K	**Bearman Lake**	**7.87**	**21**				**Pn**	**21 46 25.1**	**-1.1**
F22K	**John River**	**7.93**	**3**				**Pn**	**21 46 26.7**	**-0.3**
HYT	**Haines Junctio**	**7.97**	**75**				**Pn**	**21 46 28.4**	**+0.7**
F15K	**North Star Dit**	**8.01**	**324**				**Pn**	**21 46 28.4**	**+0.3**
E19K	**Redstone River**	**8.05**	**349**				**Pn**	**21 46 29.3**	**+0.7**
I27K	**Kandik River**	**8.06**	**37**				**Pn**	**21 46 28.1**	**-0.8**
L29M	**L29M**	**8.09**	**58**		

HEH	**HeiHe**	**43.84**	**294**	*e*P	**P**	**21 52 26.4**	**-1.3**
HEH				pmax	pmax		
	comp=Z,11nm,0.8s						
SCHQ	**Schefferville**	**43.91**	**56**	P	**P**	**21 52 28.4**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=320,slow=6.8,SNR=6.3						
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**45.01**	**110**	pP	pP	21 53 06.9	+0.5
	comp=Z,1.2nm,0.9s,baz=325,slow=6.1,SNR=5.7						
USRK	**Ussuriysk Ar.**	**45.98**	**285**	P	**P**	**21 52 43.7**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=48,slow=9.7,SNR=7.4						
	comp=Z,2.8nm,0.6s						
BNX	**BinXian**	**47.07**	**290**	⇑P	**P**	**21 52 52.9**	**-0.2**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2	**Changchun**	**49.44**	**290**	*e*P	**P**	**21 53 11.0**	**-0.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
ARCES	**ARCESS Array B**	**51.13**	**1**	P	**P**	**21 53 23.3**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=356,slow=10.0,SNR=5.7						
	comp=Z,2.7nm,0.8s						
KSRS	**Korea Array**	**53.09**	**283**	P	**P**	**21 53 38.1**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=39,slow=7.5,SNR=8.0						
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**54.58**	**305**	P	**P**	**21 53 50.1**	**+0.6**
ULN				IAmb	IAmb	21 53 50.6	
	comp=Z,4.3nm,0.7s						
SONM	**Songino Array**	**54.87**	**306**	P	**P**	**21 53 50.8**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=46,slow=6.8,SNR=42						
	comp=Z,6.1nm,0.7s						
ZALV	**Zalesovo Beam**	**57.57**	**323**	P	**P**	**21 54 10.2**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=39,slow=6.7,SNR=8.9						
ZALV				pP	**pP**	**21 54 38.6**	**-2.4**
	comp=Z,1.3nm,0.6s,baz=19,slow=6.3,SNR=2.9						
	comp=Z,1.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**58.20**	**297**	*e*P	**P**	**21 54 16.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.2s						
FINES	**FINESS Array B**	**59.26**	**0**	P	**P**	**21 54 21.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=354,slow=6.7,SNR=6.6						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**60.14**	**7**	P	**P**	**21 54 27.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=19,slow=5.0,SNR=5.8						
	comp=Z,1.1nm,0.8s						
ARTI	**Arti**	**61.61**	**341**	P	**P**	**21 54 38.5**	**+0.3**
ARTI				IAmb	IAmb	21 54 38.8	
	comp=Z,3.8nm,0.5s						
BVAR	**Borovoye Array**	**62.32**	**332**	P	**P**	**21 54 42.3**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=30,slow=5.0,SNR=18						
	comp=Z,2.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**62.94**	**19**	P	**P**	**21 54 47.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=333,slow=5.5,SNR=2.1						
	comp=Z,1.3nm,0.7s						
GTA	**Gaotai**	**64.50**	**305**	*e*P	**P**	**21 54 58.3**	**+0.7**
GTA				pP	pP	21 55 02.0	-27
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MKAR	**Makanchi Array**	**64.61**	**321**	P	**P**	**21 54 56.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=31,slow=7.2,SNR=5.0						
	comp=Z,0.2nm,0.4s						
XAN	**Xi'an**	**64.97**	**295**	*e*P	**P**	**21 55 01.2**	**+0.5**
WMQ	**Urumqi**	**65.41**	**316**	*e*P	**P**	**21 55 07.7**	**+4.3**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKASG	**Malin Array Be**	**70.01**	**358**	P	**P**	**21 55 31.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=7.2,slow=6.6,SNR=3.0						
	comp=Z,0.2nm,0.3s						
PZH	**PanZhiHua**	**74.63**	**296**	P	**P**	**21 56 00.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,6.0s						
CMAR	**Chiang Mai Arr**	**82.86**	**294**	P	**P**	**21 56 43.6**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=3.7,slow=4.7,SNR=5.2						
	comp=Z,1.8nm,0.3s						
BOSA	**Boshof**	**148.98**	**2**	PKPbc	**PKPbc**	**22 04 06.1**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=337,slow=2.3,SNR=8.5						
QSPA	**South Pole Qui**	**149.43**	**180**	PKPbc	**PKPbc**	**22 04 06.8**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=344,slow=13,SNR=32						

*NEIC **10** 22:07:21.0±0.8, 35°.523N±0°.007×96°.75W±0°.01, h5km±1km, ML2.1/39, ML2.5/17, Error ellipse: s-maj=2.7km s-min=1.8km az=284.0*

NEIC 10 22:07:21.3±0.6, 35°.534N±0°.009×96°.76W±0°.02, h7km±3km, Error ellipse: s-maj=2.3km s-min=1.2km az=106.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**0.37**	**34**		Pg	22 07 29.1	+0.5
DEOK					Sg	22 07 34.4	+0.9
DEOK				IAML		22 07 34.5	
	comp=E,140nm,0.2s						
DEOK				IAML		22 07 34.9	
	comp=N,120nm,0.1s						
W35A	**Tecumseh**	**0.39**	**194**		Pg	22 07 29.2	+0.3
W35A					Sg	22 07 34.8	+0.8
OK031	**S. Brethren Rd**	**0.42**	**351**		Pg	22 07 29.8	+0.2
OK031					Sg	22 07 35.8	+0.7
OK031				IAML		22 07 36.0	
	comp=N,240nm,0.3s						
OK052	**Battle Ridge R**	**0.46**	**355**		Pg	22 07 30.4	+0.2
OK052					Sg	22 07 37.1	+0.8
OK052				IAML		22 07 37.3	
	comp=N,162nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.57**	**257**		Pg	22 07 32.3	0.0
OKCSW					Sg	22 07 40.5	+0.8
OKCSW				IAML		22 07 40.7	
	comp=N,176nm,0.3s						
FNO	**Franklin**	**0.59**	**243**	Pg	Pg	22 07 32.5	-0.3
FNO				IAML		22 07 41.4	
	comp=E,98nm,0.2s						
OK029	**Liberty Lake**	**0.63**	**295**		Pg	22 07 33.2	-0.1
QUOK	**Quay**	**0.64**	**4**		Pg	22 07 33.5	-0.1
QUOK					Sg	22 07 42.5	+0.6
QUOK				IAML		22 07 42.7	
	comp=E,155nm,0.2s						
QUOK				IAML		22 07 44.7	
	comp=N,88nm,0.1s						
OK048	**Pawnee Station**	**0.89**	**350**		Pg	22 07 38.0	-0.5
OK048					Sg	22 07 50.2	+0.1
OK048				IAML		22 07 52.5	
	comp=N,52nm,0.1s						
OK048				IAML		22 07 52.6	
	comp=N,58nm,0.2s						
OK051	**E0350 and S346**	**0.97**	**356**		Pg	22 07 39.6	-0.4
OK051					Sg	22 07 52.6	0.0
BLOK	**Blackwell**	**1.28**	**343**		Pn	22 07 44.3	-1.3
X34A	**Smith Ranch, M**	**1.28**	**224**		Pn	22 07 45.6	0.0
X34A					Sn	22 08 03.9	+0.8
X34A				IAML		22 08 05.0	
	comp=E,40nm,0.3s						
CROK	**Carrier**	**1.39**	**315**		Pn	22 07 46.2	-0.9
KAN13	**South Haven SW**	**1.59**	**339**		Pn	22 07 48.9	-0.9
GC02	**Grant County #**	**1.59**	**326**		Pn	22 07 48.5	-1.4
KAN14	**Manchester OK**	**1.72**	**326**		Pn	22 07 51.4	-0.3
KAN09	**Caldwell North**	**1.74**	**337**	Pn	Pn	22 07 51.6	-0.4
WMOK	**Wichita Mounta**	**1.84**	**245**		Pn	22 07 52.7	-0.6
FCAR	**Ozark Folk Cen**	**3.79**	**83**	Pn	Pn	22 08 19.2	-0.8

*IDC **10** 22:19:19.9±1.6, 0°.04N×125°.74E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/3, Error ellipse: s-maj=150.4km s-min=28.6km az=65.0*

*DJA **10** 22:19:25.2±0.2, 0°.N±2°×12°.6E±°, h10km, M4.0/13, mb4.2/1, MLv3.9/13*

ISC 10 22:19:26.7±1.0, 0°.12N±0°.07×125°.87E±0°.06, h44km, n12, σ1°.51/12, mb3.7/4, MS3.0/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.63**	**66**	P	**Pn**	**22 19 54.2**	**+1.2**
KMSI	**Cibinong**	**1.95**	**284**	P	**Pn**	**22 19 57.4**	**+0.1**
SANI	**Sanana**	**2.15**	**177**	P	**Pn**	**22 19 58.6**	**-1.6**
SANI				S	**Sn**	**22 20 28.4**	**+2.7**
LUWI	**Luwuk**	**3.31**	**250**	P	**Pn**	**22 20 17.5**	**+1.5**
MRSI	**Marisa**	**3.95**	**275**	P	**Pn**	**22 20 24.5**	**-0.4**
APSI	**Ampana**	**4.35**	**256**	P	**Pn**	**22 20 32.0**	**+1.7**
AAI	**Ambon**	**4.43**	**148**	P	**Pn**	**22 20 32.2**	**+0.7**
WRA	**Warramunga Arr**	**21.59**	**158**	P	**P**	**22 24 11.4**	**-1.6**
	2.7nm,0.8s,baz=336,slow=10,SNR=5.0						
WRA				LR	LR	22 34 03.4	
	comp=Z,58nm,18.2s,baz=204,slow=41						
	2.7nm,0.8s						
KSRS	**Korea Array**	**37.20**	**3**	LR	LR	22 43 25.7	
	comp=Z,6.4nm,18.6s,baz=325,slow=39						
SONM	**Songino Array**	**50.46**	**343**	P	**P**	**22 28 19.9**	**-0.4**
	0.2nm,0.4s,baz=164,slow=7.7,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**22 29 28.6**	**-0.8**
	0.5nm,0.4s,baz=124,slow=7.6,SNR=14						
MKAR				LR	LR	22 56 59.7	
	comp=Z,35nm,19.1s,baz=279,slow=38						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.33**	**329**	P	**P**	**22 29 57.5**	**-0.4**
	0.8nm,0.9s,baz=132,slow=6.3,SNR=9.2						
	0.8nm,0.9s						

*IDC **10** 22:40:09.1±0.5, 59°.91N×141°.54W, h0km, mb4.3/23, mbtmp4.3/29, ML3.8/5, MS3.6/24, Error ellipse: s-maj=12.4km s-min=7.4km az=33.0*

*NEIC **10** 22:40:09.8±1.3, 59°.74N±0°.04×141°.67W±0°.04, h8km±1km, Error ellipse: s-maj=6.0km s-min=2.5km az=190.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.46; $M_{\theta\theta}$-4.19; $M_{\phi\phi}$-0.27; $M_{r\theta}$-0.02; $M_{\theta\phi}$-1.68; $M_{\phi r}$0.21; Fault plane solution: $M_0$4.65000×10^{15} NP1:ϕ_s66.81000°, δ45.44000°, λ85.96000°. NP2:ϕ_s252.55000°, δ44.71000°, λ94.09000°. Principal axes: T 4.4698, Plg87.0000°, Azm257.0000°; N 0.3398, Plg3.0000°, Azm70.0000°; P -4.8095, Plg0.0000°, Azm160.0000°;*

*ANF **10** 22:40:10.0±0.4, 59°.78N×141°.58W, h3km±2km, ML4.7/60 Error ellipse: s-maj=1.9km s-min=1.3km az=175.0*

*PGC **10** 22:40:10.6±1.0, 59°.79N×141°.63W, h1km, ML4.5/28, ML4.5(AEIC), 108km west of Yakutat, Ak Southeastern Alaska*

*AEIC **10** 22:40:10.8±1.8, 59°.81N±0°.04×141°.60W±0°.05, h1km±4km, ML4.2, mb4.5/115(NEIC), ML4.4/126(NEIC), Mwr4.4/61(NEIC), Error ellipse: s-maj=6.4km s-min=2.6km az=207.0*

*NEIC **10** 22:40:11.3, 59°.83N×141°.66W, h18km*

ISC 10 22:40:10.8±0.7, 59°.82N±0°.03×141°.64W±0°.02, h12km±4km, n736, σ0°.98/716, mb4.5/102, MS3.6/23, 2D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYK	**Chaix Hills**	**0.36**	**47**		**Pg**	**22 40 18.4**	**+0.3**
CYK					**Sb**	**22 40 24.8**	**0.0**
MESA	**MESA**	**0.39**	**337**		**Pg**	**22 40 18.6**	**0.0**
MESA	**MESA**	**0.39**	**337**	P	**Pg**	**22 40 18.8**	**+0.2**
MESA	**MESA**	**0.39**	**337**	P	**Pg**	**22 40 18.6**	**0.0**
	baz=149,SNR=1000						
CYK	**Cape Yakataga**	**0.50**	**302**		**Pb**	**22 40 21.1**	**-0.4**
CYK					**Sb**	**22 40 29.4**	**+0.8**
RKAV	**Rock Avalanche**	**0.50**	**17**		**Pg**	**22 40 20.9**	**+0.2**
RKAV					**Sb**	**22 40 29.4**	**+0.4**
RKAV	**Rock Avalanche**	**0.50**	**17**	P	**Pg**	**22 40 20.8**	**+0.2**
RKAV				S	**Sb**	**22 40 28.7**	**-0.3**
SAMH	**Samovar Hills**	**0.53**	**54**		**Pb**	**22 40 21.8**	**-0.4**
SAMH	**Samovar Hills**	**0.53**	**54**	P	**Pb**	**22 40 21.8**	**-0.4**
YAH	**Yahtse**	**0.55**	**355**		**Pg**	**22 40 21.2**	**-0.3**
YAH				Sg	**Sg**	**22 40 29.6**	**+0.8**
YAH				IAML		22 40 33.1	
	comp=E,17μm,1.2s						
YAH				IAML		22 40 34.8	
	comp=N,28μm,1.2s						
SNH	**Sunshine Point**	**0.70**	**301**		**Pg**	**22 40 24.5**	**+0.1**
SNH				Sg	**Sg**	**22 40 33.6**	**0.0**
SNH				IAML		22 40 36.6	
	comp=E,16μm,0.6s						
SNH				IAML		22 40 45.0	
	comp=N,18μm,1.0s						
PCA	**Pinnacle**	**0.75**	**68**		**Pg**	**22 40 24.9**	**-0.4**
PCA	**Pinnacle**	**0.75**	**68**	P	**Pg**	**22 40 25.2**	**-0.1**
PINM	**Pinnacle**	**0.75**	**68**	P	**Pg**	**22 40 25.1**	**-0.3**
	baz=252,SNR=349						
BGLC	**Bering Glacier**	**0.88**	**291**		**Pb**	**22 40 28.0**	**+0.1**
BGLC	**Bering Glacier**	**0.88**	**291**	P	**Pb**	**22 40 28.1**	**+0.2**
	baz=106						
BGLC				S	**Sn**	**22 40 41.3**	**-0.2**
	baz=106						
BCPM	**Bancas Point**	**1.02**	**82**	Pg	**Pb**	**22 40 29.1**	**-1.3**
BCPM				Sg	**Sg**	**22 40 44.0**	**+0.3**
BCPM				IAML		22 40 45.3	
	comp=E,8μm,0.7s						
BCPM				IAML		22 40 55.0	
	comp=N,11μm,0.7s						
YKU2	**Yakutat**	**1.05**	**106**		**Pg**	**22 40 30.8**	**-0.1**
YKU2				Sg	**Sn**	**22 40 45.4**	**-0.4**
YKU2	**Yakutat**	**1.05**	**106**	P	**Pg**	**22 40 30.8**	**-0.1**
YKU2	**Yakutat**	**1.05**	**106**	S	**Sn**	**22 40 46.3**	**+0.6**
SUCK	**Suckling Hills**	**1.10**	**284**		**Sn**	**22 40 47.2**	**0.0**
SUCK	**Suckling Hills**	**1.10**	**284**		**Pb**	**22 40 31.1**	**-0.7**
SUCK	**Suckling Hills**	**1.10**	**284**	IAML		22 40 50.1	
	comp=E,9μm,0.7s						
SUCK				IAML		22 40 58.1	
	comp=N,6μm,0.7s						
PNL	**Peninsula**	**1.15**	**97**		**Pb**	**22 40 31.5**	**-1.0**
PNL					**Sn**	**22 40 48.0**	**-0.3**
PNL	**Peninsula**	**1.15**	**97**	P	**Pb**	**22 40 31.6**	**-1.0**
PNL	**Peninsula**	**1.15**	**97**	P	**Pb**	**22 40 31.5**	**-1.0**
PNL	**Peninsula**	**1.15**	**97**	S	**Sn**	**22 40 49.2**	**+0.9**
PNL	**Peninsula**	**1.15**	**97**	P	**Pb**	**22 40 31.6**	**-1.0**
	baz=282,SNR=72						
KIAG	**Kiagna River**	**1.16**	**343**		**Pb**	**22 40 31.2**	**-1.7**
KIAG	**Kiagna River**	**1.16**	**343**	P	**Pb**	**22 40 31.2**	**-1.7**
KIAG				S	**Sb**	**22 40 46.3**	**-1.7**
BERG	**Berg Lake**	**1.18**	**300**		**Pn**	**22 40 32.2**	**-0.9**
BERG					**Sn**	**22 40 49.1**	**0.0**
O28M	**Mount Upton**	**1.20**	**37**		**Pb**	**22 40 31.7**	**-1.8**
O28M	**Mount Upton**	**1.20**	**37**	P	**Pb**	**22 40 31.8**	**-1.8**
O28M				S	**Sb**	**22 40 47.3**	**-1.7**
O28M	**Mount Upton**	**1.20**	**37**	P	**Pb**	**22 40 31.8**	**-1.8**
	baz=218,SNR=842						
O28M				S	**Sb**	**22 40 48.2**	**-0.9**
	baz=218						
NICHA	**Nichawak Mount**	**1.24**	**291**		**Pn**	**22 40 33.5**	**-0.4**
BALM	**Baldy**	**1.27**	**344**		**Pn**	**22 40 32.6**	**-1.8**
BALM					**Sg**	**22 40 51.8**	**+0.2**
BALM	**Baldy**	**1.27**	**344**	P	**Pn**	**22 40 32.8**	**-1.6**
BALM				S	**Sb**	**22 40 49.4**	**-1.5**
KAIM	**Kayak Island**	**1.40**	**276**	Pn	**Pn**	**22 40 35.6**	**-0.5**
KAIM				IAML		22 41 08.0	
	comp=N,4μm,1.6s						
KAIM	**Kayak Island**	**1.40**	**276**	P	**Pn**	**22 40 36.0**	**-0.1**
	baz=91,SNR=30						
HMT	**Hamilton**	**1.41**	**293**		**Pn**	**22 40 35.8**	**-0.5**
O29M	**Mount Kennedy**	**1.61**	**71**		**Pn**	**22 40 38.8**	**-0.3**
O29M	**Mount Kennedy**	**1.61**	**71**	Pn	**Pn**	**22 40 39.1**	**0.0**
O29M				Sg	**Sb**	**22 41 00.9**	**0.0**
O29M	**Mount Kennedy**	**1.61**	**71**	P	**Pn**	**22 40 39.0**	**-0.2**
	baz=255,SNR=564						
O29M				S	**Sn**	**22 41 00.4**	**+0.4**
	baz=255						
RAGM	**Ragged Mountai**	**1.62**	**292**		**Pn**	**22 40 38.5**	**-0.6**
VRDI	**Verde Repeater**	**1.67**	**328**	Pn	**Pn**	**22 40 39.1**	**-0.9**
VRDI				IAML		22 41 05.2	
	comp=N,3μm,0.8s						
GOAT	**Goat Mountain**	**1.72**	**298**		**Pn**	**22 40 39.9**	**-0.6**
YUK8	**Steele Glacier**	**1.74**	**32**		**Pn**	**22 40 41.4**	**+0.4**
YUK8	**Steele Glacier**	**1.74**	**32**	Pn	**Pn**	**22 40 41.2**	**+0.3**
YUK8				Sg	**Sn**	**22 41 04.0**	**+0.8**
YUK8	**Steele Glacier**	**1.74**	**32**	P	**Pn**	**22 40 41.0**	**0.0**
	baz=213,SNR=330						
YUK8				S	**Sn**	**22 41 03.1**	**0.0**
	baz=213						
BMRM	**Bremner River**	**1.87**	**309**	Pn	**Pn**	**22 40 41.7**	**-0.8**
BMRM	**Bremner River**	**1.87**	**309**	P	**Pn**	**22 40 42.2**	**-0.4**
	baz=125,SNR=169						
BMRM				S	**Sb**	**22 41 07.3**	**-0.8**
	baz=125						
YUK7	**Dusty Glacier**	**1.89**	**66**		**Pn**	**22 40 43.7**	**+0.7**
YUK7	**Dusty Glacier**	**1.89**	**66**	Pn	**Pn**	**22 40 44.0**	**+0.9**
YUK7				Sg	**Sb**	**22 41 09.7**	**+0.8**
GLB	**Gilahina Butte**	**1.94**	**328**	Pn	**Pn**	**22 40 43.6**	**0.0**
YUK6	**Outpost Mounta**	**1.98**	**54**		**Pn**	**22 40 45.2**	**+0.9**
YUK6	**Outpost Mounta**	**1.98**	**54**	Pn	**Pn**	**22 40 45.2**	**+0.9**
YUK6				Sg	**Sb**	**22 41 12.4**	**+0.9**
YUK6	**Outpost Mounta**	**1.98**	**54**	P	**Pn**	**22 40 44.9**	**+0.6**
	baz=237,SNR=341						
YUK2	**White River**	**2.01**	**11**		**Pn**	**22 40 45.4**	**+0.8**
YUK2	**White River**	**2.01**	**11**	Pn	**Pn**	**22 40 45.7**	**+1.1**
YUK2				Sg	**Sb**	**22 41 12.6**	**+0.3**
BRWY	**Burwash Landin**	**2.02**	**39**	Pn	**Pb**	**22 40 46.1**	**-1.3**
BRWY				Sg	**Sb**	**22 41 13.0**	**+0.5**
YUK3	**Moose Creek**	**2.04**	**16**		**Pn**	**22 40 46.1**	**+0.9**
YUK3	**Moose Creek**	**2.04**	**16**	Pn	**Pn**	**22 40 46.1**	**+0.9**
YUK3				Sg	**Sb**	**22 41 13.5**	**+0.1**
YUK3	**Moose Creek**	**2.04**	**16**	P	**Pn**	**22 40 45.7**	**+0.5**
	baz=197,SNR=408						
YUK4	**Talbot Arm**	**2.13**	**43**	Pn	**Pb**	**22 40 49.1**	**-0.3**
YUK4				Sg	**Sb**	**22 41 16.6**	**+0.8**
YUK4	**Talbot Arm**	**2.13**	**43**	P	**Pb**	**22 40 48.9**	**-0.4**
	baz=225,SNR=416						
EYAK	**Cordova Ski Ar**	**2.18**	**291**	Pn	**Pn**	**22 40 45.8**	**-0.9**
EYAK	**Cordova Ski Ar**	**2.18**	**291**	P	**Pn**	**22 40 46.1**	**-0.6**
EYAK	**Cordova Ski Ar**	**2.18**	**291**	P	**Pn**	**22 40 45.9**	**-0.9**
	baz=106,SNR=8.9						
YUK5	**Granite Creek**	**2.29**	**53**		**Pn**	**22 40 49.5**	**+1.0**
YUK5	**Granite Creek**	**2.29**	**53**	Pn	**Pn**	**22 40 49.7**	**+1.2**
HYT	**Haines Junctio**	**2.29**	**62**	Pn	**Pn**	**22 40 48.2**	**-0.3**
HYT	**Haines Junctio**	**2.29**	**62**	Pn	**Pn**	**22 40 49.0**	**+0.5**
HYT	**Haines Junctio**	**2.29**	**62**	P	**Pn**	**22 40 48.6**	**+0.1**
	baz=246,SNR=131						
N25K	**Chitina, Valde**	**2.31**	**322**	Pn	**Pn**	**22 40 48.6**	**0.0**
N25K				IAML		22 41 21.2	
	comp=E,2μm,0.5s						
N25K				IAML		22 41 30.1	
	comp=N,2μm,0.6s						
N25K	**Chitina, Valde**	**2.31**	**322**	Pn	**Pn**	**22 40 49.1**	**+0.5**
N25K				Sn	**Sn**	**22 41 18.3**	**+1.4**
N25K	**Chitina, Valde**	**2.31**	**322**	P	**Pn**	**22 40 49.0**	**+0.3**
	baz=138,SNR=371						
N25K				S	**Sn**	**22 41 18.7**	**+1.8**
	baz=138						
P30M	**Million Dollar**	**2.38**	**81**		**Pn**	**22 40 49.8**	**+0.3**
P30M	**Million Dollar**	**2.38**	**81**	Pn	**Pn**	**22 40 49.9**	**+0.4**
P30M	**Million Dollar**	**2.38**	**81**	P	**Pn**	**22 40 49.6**	**+0.1**
	baz=266,SNR=82						
DIV	**Divide**	**2.43**	**304**		**Pn**	**22 40 49.4**	**-0.9**
DIV	**Divide**	**2.43**	**304**	Pn	**Pn**	**22 40 49.6**	**-0.7**
DIV				Sn	**Sn**	**22 41 19.7**	**-0.3**
DIV				Sg	**Sb**	**22 41 22.6**	**-1.6**
WASW	**Wrangell South**	**2.45**	**331**		**Pn**	**22 40 51.8**	**+1.0**
HIN	**Hinchinbrook I**	**2.50**	**285**		**Pn**	**22 40 50.9**	**-0.4**
HIN				IAML		22 41 36.2	
	comp=N,2μm,1.1s						
HIN				IAML		22 41 39.8	
	comp=E,2μm,0.6s						
WACK	**Wrangell Chich**	**2.54**	**330**		**Pn**	**22 40 52.9**	**+1.0**
M27K	**Edge Creek, AK**	**2.55**	**358**		**Pn**	**22 40 52.6**	**+0.6**
M27K	**Edge Creek, AK**	**2.55**	**358**	IAML		22 41 30.7	
	comp=E,2μm,1.2s						
M27K				IAML		22 41 33.4	
	comp=N,2μm,1.4s						
M27K	**Edge Creek, AK**	**2.55**	**358**	Pn	**Pn**	**22 40 52.4**	**+0.3**
M27K	**Edge Creek, AK**	**2.55**	**358**	P	**Pn**	**22 40 52.3**	**+0.3**
	baz=177						
WAZA	**Wrangell Mount**	**2.57**	**333**		**Pn**	**22 40 54.1**	**+1.7**
BVCY	**Beaver Creek**	**2.63**	**8**		**Pn**	**22 40 54.8**	**+1.8**
BVCY	**Beaver Creek**	**2.63**	**8**	Pg	**Pb**	**22 40 56.9**	**-0.9**
BVCY	**Beaver Creek**	**2.63**	**8**	P	**Pn**	**22 40 52.1**	**-0.9**
	baz=188,SNR=350						
M26K	**Nabesna, AK**	**2.67**	**346**		**Pn**	**22 40 53.7**	**0.0**
M26K	**Nabesna, AK**	**2.67**	**346**	IAML		22 41 31.0	
	comp=E,1μm,0.7s						
M26K				IAML		22 41 38.4	
	comp=N,2μm,0.7s						
M26K	**Nabesna, AK**	**2.67**	**346**	Pn	**Pn**	**22 40 53.9**	**+0.3**
M26K				Sn	**Sb**	**22 41 30.1**	**-1.2**
M26K	**Nabesna, AK**	**2.67**	**346**	P	**Pn**	**22 40 53.6**	**0.0**
	baz=164						
KLU	**Klutina**	**2.69**	**310**		**Pn**	**22 40 54.0**	**+0.1**
KLU				IAML		22 41 32.8	
	comp=E,2μm,0.8s						
KLU				IAML		22 41 42.6	
	comp=N,2μm,0.6s						
KLU	**Klutina**	**2.69**	**310**	P	**Pn**	**22 40 53.9**	**0.0**
	baz=125,SNR=63						
KLU				S	**Sn**	**22 41 27.0**	**+0.6**
	baz=125						
PLBC	**Pleasant Camp**	**2.71**	**95**	Pn	**Pn**	**22 40 53.5**	**-0.5**
PLBC	**Pleasant Camp**	**2.71**	**95**	P	**Pn**	**22 40 53.7**	**-0.3**
	baz=281,SNR=17						
N30M	**Aishikik Lake**	**2.78**	**52**		**Pn**	**22 40 55.4**	**+0.2**
N30M	**Aishikik Lake**	**2.78**	**52**	Pn	**Pn**	**22 40 55.3**	**+0.2**
N30M				Pg	**Pb**	**22 41 00.0**	**-0.4**
N30M	**Aishikik Lake**	**2.78**	**52**	P	**Pn**	**22 40 55.4**	**+0.2**
	baz=236,SNR=97						
P23K	**Montague Islan**	**2.91**	**276**		**Pn**	**22 40 56.6**	**-0.1**
P23K	**Montague Islan**	**2.91**	**276**	P	**Pn**	**22 40 56.5**	**-0.3**
	baz=90						
GLI	**Glacier Island**	**2.91**	**294**		**Pn**	**22 40 57.1**	**+0.2**
GLI				IAML		22 41 47.1	
	comp=E,847nm,0.6s						
GLI				IAML		22 41 51.3	
	comp=N,891nm,1.0s						
GLI	**Glacier Island**	**2.91**	**294**	P	**Pn**	**22 40 56.1**	**-0.8**
	baz=108						
O30N	**Mendenhall**	**2.92**	**69**		**Pn**	**22 40 57.0**	**-0.1**
O30N	**Mendenhall**	**2.92**	**69**	Pn	**Pn**	**22 40 57.1**	**+0

PAX	Paxson	3.66 331	Pn	Pn	22 41 08.1	+0.9
PAX	Paxson	3.66 331	P	Pn	22 41 08.1	+0.9
	baz=147,SNR=19					
L29M	L29M	3.71 26		Pn	22 41 08.6	+0.8
L29M	L29M	3.71 26	IAML		22 42 14.6	
	comp=N,740nm,0.8s					
L29M			IAML		22 42 17.8	
	comp=E,840nm,0.8s					
L29M	L29M	3.71 26	Pn	Pn	22 41 08.7	+0.9
L29M	L29M	3.71 26	P	Pn	22 41 08.7	+0.9
	baz=208,SNR=53					
BESE	Bessie Mountai	3.71 107		Pn	22 41 07.0	-0.8
BESE	Bessie Mountai	3.71 107	Pn	Pn	22 41 07.5	-0.4
KNK	Knik Glacier	3.72 298		Pn	22 41 07.8	-0.1
KNK			IAML		22 42 17.7	
	comp=E,801nm,0.8s					
KNK	Knik Glacier	3.72 298	P	Pn	22 41 08.2	+0.3
	baz=112,SNR=7.8					
SML	Sawmill	3.83 304	Pn	Pn	22 41 08.8	-0.8
SML			IAML		22 42 11.6	
	comp=N,717nm,0.9s					
SML			IAML		22 42 12.6	
	comp=E,626nm,1.0s					
SML	Sawmill	3.83 304	P	Pn	22 41 08.6	-0.9
	baz=118,SNR=54					
SEW	Seward	3.94 278		Pn	22 41 09.6	-1.3
SEW	Seward	3.94 278	P	Pn	22 41 09.7	-1.2
	baz=90					
R32K	Eaglecrest	3.99 110		Pn	22 41 11.7	0.0
R32K			IAML		22 42 38.4	
	comp=E,423nm,0.9s					
R32K			IAML		22 42 55.9	
	comp=N,400nm,1.0s					
R32K	Eaglecrest	3.99 110	Pn	Pn	22 41 11.1	-0.6
R32K	Eaglecrest	3.99 110	P	Pn	22 41 11.3	-0.4
	baz=297					
DOT	Dot Lake	4.01 344		Pn	22 41 11.7	-0.2
DOT	Dot Lake	4.01 344	Pn	Pn	22 41 12.8	+0.8
DOT			Pg	Pg	22 41 28.0	+0.5
P32M	Atlin	4.02 90		Pn	22 41 11.6	-0.6
P32M			IAML		22 42 39.1	
	comp=N,360nm,1.0s					
P32M	Atlin	4.02 90	Pn	Pn	22 41 11.6	-0.6
P32M	Atlin	4.02 90	P	Pn	22 41 11.6	-0.6
	baz=278					
JIS	Juneau Island	4.06 109		Pn	22 41 12.2	-0.4
JIS	Juneau Island	4.06 109	P	Pn	22 41 12.6	0.0
GHO	Glory Hole Cre	4.07 302		Pn	22 41 13.3	+0.5
GHO			IAML		22 42 20.8	
	comp=N,551nm,1.0s					
PMR	Palmer	4.08 299		Pn	22 41 13.0	+0.1
PMR			IAML		22 42 19.3	
	comp=E,352nm,0.9s					
PMR			IAML		22 42 28.5	
	comp=N,575nm,1.1s					
PMR	Palmer	4.08 299	P	Pn	22 41 13.5	+0.6
PMR	Palmer	4.08 299	P	Pn	22 41 13.0	+0.1
	baz=112,SNR=13					
O22K	Cooper Landing	4.09 283		Pn	22 41 12.4	-0.6
O22K	Cooper Landing	4.09 283	P	Pn	22 41 12.4	-0.6
	baz=95					
RC01	Rabbit Creek A	4.20 291		Pn	22 41 14.1	-0.6
RC01			IAML		22 42 23.8	
	comp=N,467nm,0.7s					
RC01			IAML		22 42 32.6	
	comp=E,302nm,0.7s					
RC01	Rabbit Creek A	4.20 291	P	Pn	22 41 14.0	-0.6
	baz=103					
RIDG	Independent Ri	4.22 340		Pn	22 41 15.3	+0.4
RIDG			IAML		22 42 27.4	
	comp=N,308nm,1.7s					
RIDG			IAML		22 42 50.3	
	comp=E,401nm,1.4s					
RIDG	Independent Ri	4.22 340	P	Pn	22 41 14.3	-0.5
	baz=157,SNR=41					
K27K	Chicken	4.23 357		Pn	22 41 15.1	+0.2
K27K	Chicken	4.23 357	IAML		22 42 38.9	
	comp=E,391nm,1.8s					
K27K	Chicken	4.23 357	Pn	Pn	22 41 15.3	+0.3
K27K	Chicken	4.23 357	P	Pn	22 41 14.7	-0.3
	baz=177					
M31M	Drury Creek, Y	4.26 53		Pn	22 41 16.4	+0.9
M31M			IAML		22 42 36.7	
	comp=N,467nm,1.4s					
M31M			IAML		22 42 39.7	
	comp=E,534nm,1.1s					
M31M	Drury Creek, Y	4.26 53	Pn	Pn	22 41 16.2	+0.8
M31M	Drury Creek, Y	4.26 53	P	Pn	22 41 15.9	+0.5
	baz=239,SNR=21					
SCRK	Sand Creek	4.32 346		Pn	22 41 16.7	+0.5
SCRK	Sand Creek	4.32 346	P	Pn	22 41 16.8	+0.5
	baz=164,SNR=44					
SIT	Sitka	4.33 127	Pn	Pn	22 41 16.1	-0.1
SIT			IAML		22 42 48.8	
	comp=E,356nm,0.9s					
SIT	Sitka	4.33 127	P	Pn	22 41 16.3	+0.1
SIT	Sitka	4.33 127	P	Pn	22 41 15.7	-0.5
	baz=313					
SLKM	Skilak Lake	4.34 283		Pn	22 41 15.1	-1.4
SLKM			IAML		22 42 38.0	
	comp=E,343nm,0.8s					
SLKM			IAML		22 42 45.9	
	comp=N,261nm,0.9s					
S32K	Killisnoo	4.38 120		Pn	22 41 17.1	0.0
S32K			IAML		22 42 52.3	
	comp=E,289nm,1.3s					
S32K			IAML		22 42 56.8	
	comp=N,401nm,1.5s					
S32K	Killisnoo	4.38 120	Pn	Pn	22 41 17.0	0.0
S32K	Killisnoo	4.38 120	P	Pn	22 41 16.9	-0.2
	baz=306					
DAWY	Dawson	4.39 13	Pn	Pn	22 41 17.3	0.0
DAWY	Dawson	4.39 13	Pn	Pn	22 41 17.7	+0.5
DAWY	Dawson	4.39 13	P	Pn	22 41 17.4	+0.1
	baz=195,SNR=89					
N32M	Quiet Lake	4.44 69		Pn	22 41 17.9	-0.1
N32M	Quiet Lake	4.44 69	Pn	Pn	22 41 17.7	-0.2
N32M	Quiet Lake	4.44 69	P	Pn	22 41 17.8	-0.1
	baz=257,SNR=11					
P33M	Teslin, Yukon	4.45 81		Pn	22 41 17.2	-0.9
P33M			IAML		22 42 37.4	
	comp=N,302nm,1.1s					
P33M	Teslin, Yukon	4.45 81	Pn	Pn	22 41 16.9	-1.1
P33M			Pg	Pb	22 41 28.0	-0.7
P33M	Teslin, Yukon	4.45 81	P	Pn	22 41 17.0	-1.1
	baz=269					
K24K	Donnelly Dome	4.45 336		Pn	22 41 18.2	+0.2
K24K	Donnelly Dome	4.45 336	P	Pn	22 41 20.5	+2.5
	baz=151,SNR=22					
K29M	Barlow Dome	4.48 24		Pn	22 41 19.5	+0.9
K29M	Barlow Dome	4.48 24	IAML		22 42 38.1	
	comp=E,339nm,1.9s					
K29M			IAML		22 42 41.4	
	comp=N,402nm,1.1s					
K29M	Barlow Dome	4.48 24	Pn	Pn	22 41 19.7	+1.1
K29M	Barlow Dome	4.48 24	P	Pn	22 41 19.6	+1.1
	baz=208					
M22K	Willow	4.58 299	P	Pn	22 41 20.4	+0.6
	baz=110					
BRSE	Bradley Lake S	4.60 273		Pn	22 41 20.3	+0.3
BRSE	Bradley Lake S	4.60 273	P	Pn	22 41 20.7	+0.7
	baz=84					
BRLK	Bradley Lake	4.67 273		Pn	22 41 21.1	+0.1
MAYO	Mayo, Yukon	4.67 33	Pn	Pn	22 41 22.6	+1.6
MAYO	Mayo, Yukon	4.67 33	P	Pn	22 41 21.0	0.0
	baz=218					
FARO	Faro, Yukon	4.70 56	Pn	Pn	22 41 22.3	+0.8
FARO	Faro, Yukon	4.70 56	P	Pn	22 41 21.7	+0.2
	baz=243,SNR=24					
SUA	Susitna One	4.77 294		Pn	22 41 22.4	-0.1
SUA	Susitna One	4.77 294	IAML		22 42 39.7	
	comp=N,257nm,0.9s					
SUA			IAML		22 42 52.1	
	comp=E,222nm,0.9s					
SUA	Susitna One	4.77 294	P	Pn	22 41 22.0	-0.5
	baz=106					
J26L	Joseph Creek	4.78 350		Pn	22 41 23.1	+0.4
J26L	Joseph Creek	4.78 350	IAML		22 42 49.8	
	comp=E,230nm,1.1s					
J26L			IAML		22 42 50.8	
	comp=N,266nm,1.1s					
J26L	Joseph Creek	4.78 350	P	Pn	22 41 23.3	+0.7
	baz=168,SNR=105					
CAPN	Captain Cook N	4.83 285	P	Pn	22 41 23.3	+0.2
	baz=96					
Q32M	Nakina River	4.87 96		Pn	22 41 23.4	-0.5
Q32M	Nakina River	4.87 96	IAML		22 43 16.0	
	comp=N,295nm,1.8s					
Q32M			IAML		22 43 26.3	
	comp=E,313nm,1.7s					
Q32M	Nakina River	4.87 96	Pn	Pn	22 41 23.2	-0.8
Q32M	Nakina River	4.87 96	P	Pn	22 41 23.0	-1.0
	baz=285					
CNPM	China Poot	4.87 271		Pn	22 41 24.6	+0.8
J29N	Klondike Camp	4.92 18	Pn	Pn	22 41 25.4	+0.9
J29N	Klondike Camp	4.92 18	P	Pn	22 41 25.2	+0.7
	baz=200,SNR=86					
CUT	Chulitna	4.92 305	P	Pn	22 41 25.8	+1.4
	baz=117,SNR=6.9					
RND	Reindeer	4.98 319		Pn	22 41 26.0	+0.8
RND	Reindeer	4.98 319	IAML		22 42 56.0	
	comp=E,334nm,1.7s					
RND			IAML		22 43 01.6	
	comp=N,211nm,1.3s					
HOM	Homer	5.06 272		Pn	22 41 27.4	+1.0
HOM	Homer	5.06 272	P	Pn	22 41 27.9	+1.5
	baz=83					
J25K	Salcha River,	5.12 342		Pn	22 41 27.0	-0.1
J25K	Salcha River,	5.12 342	Pn	Pn	22 41 27.1	-0.1
J25K	Salcha River,	5.12 342	P	Pn	22 41 27.2	0.0
	baz=158,SNR=48					
MCK	McKinley	5.23 322		Pn	22 41 29.7	+0.9
MCK	McKinley	5.23 322	P	Pn	22 41 29.3	+0.6
	baz=135,SNR=14					
HDA	Harding Lake	5.23 334	P	Pn	22 41 29.9	+1.2
	baz=149,SNR=16					
STLK	Strandline Lak	5.29 293		Pn	22 41 29.0	-0.5
SKT	Skwentna	5.29 298		Pn	22 41 29.3	-0.2
SKT	Skwentna	5.29 298	P	Pn	22 41 29.6	0.0
	baz=109,SNR=12					
SPU	Mount Spurr	5.32 289		Pn	22 41 28.8	-1.3
J30M	Hart River	5.38 25	Pn	Pn	22 41 32.3	+1.4
J30M	Hart River	5.38 25	P	Pn	22 41 32.3	+1.4
	baz=210,SNR=46					
SPCR	Spurr Chakacha	5.40 289	P	Pn	22 41 30.8	-0.3
	baz=100					
RDT	Redoubt	5.42 283		Pn	22 41 29.7	-1.7
R33M	Jennings River	5.44 90		Pn	22 41 31.1	-0.6
R33M	Jennings River	5.44 90	Pn	Pn	22 41 31.0	-0.6
R33M	Jennings River	5.44 90	P	Pn	22 41 31.1	-0.6
	baz=280					
TRF	Thorofare Moun	5.50 315		Pn	22 41 32.9	+0.4
TRF	Thorofare Moun	5.50 315	P	Pn	22 41 34.1	+1.6
	baz=127,SNR=27					
O20K	Slope Mountain	5.53 277		Pn	22 41 32.2	-0.6
O20K	Slope Mountain	5.53 277	P	Pn	22 41 33.9	+1.1
	baz=87					
IL31		5.54 336		Pn	22 41 32.3	-0.6
ILAR	Eielson Array	5.54 336	Pn	Pn	22 41 33.5	+0.7
ILAR	Eielson Array	5.54 336	Pn	Pn	22 41 31.9	-1.0
	comp=N,1.5nm,0.3s,baz=168,slow=12,SNR=69					
ILAR			Sn	Sn	22 42 34.1	-2.3
	comp=N,2.5nm,0.3s,baz=173,slow=28,SNR=4.4					
ILAR			Lg	Lg	22 43 02.2	
	comp=N,3.6nm,0.3s,baz=162,slow=22,SNR=5.1					
	comp=N,2.0nm,0.4s					
I26K	Coal Creek Min	5.55 353	Pn	Pn	22 41 34.0	+0.9
I26K	Coal Creek Min	5.55 353	P	Pn	22 41 33.9	+0.8
	baz=172					
WRH	Wood River Hil	5.56 330		Pn	22 41 33.4	+0.2
DFR	Drift River	5.56 283		Pn	22 41 31.8	-1.5
REF	Redoubt East F	5.56 282		Pn	22 41 32.4	-1.0
RED	Redoubt Volcan	5.60 281		Pn	22 41 32.6	-1.2
RDJH	Redoubt Jeurge	5.62 283		Pn	22 41 33.4	-0.8
CCB	Clear Creek Bu	5.63 332		Pn	22 41 33.8	-0.3
RDWB	Redoubt West	5.63 282		Pn	22 41 33.3	-1.1
SYI	Shuyak Island	5.65 262		Pn	22 41 34.5	+0.1
Q20K	Shuyak Island	5.65 262	P	Pn	22 41 35.2	+0.7
	baz=72					
NCT	North Crescent	5.68 282		Pn	22 41 34.0	-0.9
I28M	Miner Creek	5.70 7		Pn	22 41 35.8	+0.5
I28M	Miner Creek	5.70 7	Pn	Pn	22 41 35.9	+0.7
I28M	Miner Creek	5.70 7	P	Pn	22 41 36.0	+0.7
	baz=188					
MMPY	Sheldon Lake,	5.75 56		Pn	22 41 36.6	+0.8
MMPY	Sheldon Lake,	5.75 56	Pn	Pn	22 41 36.6	+0.8
MMPY	Sheldon Lake,	5.75 56	P	Pn	22 41 36.4	+0.6
	baz=246,SNR=21					
ILS	Iliamna Low So	5.75 276		Pn	22 41 36.5	+0.6
I29M	Ogilvie Camp,	5.77 14	Pn	Pn	22 41 37.6	+1.5
I29M	Ogilvie Camp,	5.77 14	P	Pn	22 41 36.8	+0.7
	baz=197,SNR=60					
S34M	Telegraph Cree	5.78 105		Pn	22 41 36.2	0.0
S34M	Telegraph Cree	5.78 105	Pn	Pn	22 41 35.6	-0.6
S34M	Telegraph Cree	5.78 105	P	Pn	22 41 36.4	+0.2
	baz=294					
ILW	Iliamna West	5.78 277		Pn	22 41 36.8	+0.4
KTH	Kantishna Hill	5.79 314		Pn	22 41 37.1	+0.7
ILSW	Iliamna Southw	5.79 277		Pn	22 41 36.6	+0.1
I27K	Kandik River	5.80 0	Pn	Pn	22 41 37.3	+0.7
I27K	Kandik River	5.80 0	P	Pn	22 41 37.2	+0.6
	baz=180,SNR=123					
COLA	College	5.83 333		Pn	22 41 37.4	+0.5
COLA	College	5.83 333	P	Pn	22 41 38.7	+1.8
COLA	College	5.83 333	P	Pn	22 41 38.1	+1.1
	baz=147					
U33K	Whale Pass	5.86 126		Pn	22 41 37.3	0.0
U33K	Whale Pass	5.86 126	Pn	Pn	22 41 37.3	0.0
P19K	Oil Pt	5.86 273		Pn	22 41 38.3	+0.8
P19K	Oil Pt	5.86 273	P	Pn	22 41 39.0	+1.5
	baz=83,SNR=8.7					
NEA2	Nenana	5.91 327		Pn	22 41 38.5	+0.5
NEA2	Nenana	5.91 327	P	Pn	22 41 38.8	+0.7
	baz=140,SNR=19					
PPLA	Purkeypile	5.93 306		Pn	22 41 39.1	+0.6
PPLA	Purkeypile	5.93 306	P	Pn	22 41 40.6	+2.1
	baz=116					
I30M	Mount Dempster	5.94 22	Pn	Pn	22 41 40.6	+2.1
I30M	Mount Dempster	5.94 22	P	Pn	22 41 40.8	+2.2
	baz=206,SNR=39					
POKR	Poker Plat Res	5.95 336		Pn	22 41 39.0	+0.4
POKR	Poker Plat Res	5.95 336	P	Pn	22 41 39.4	+0.8
	baz=150					
M20K	Styx River	5.98 295		Pn	22 41 39.4	+0.3
M20K	Styx River	5.98 295	P	Pn	22 41 40.8	+1.7
	baz=105					
PRP	Porcupine Dome	5.99 344		Pn	22 41 39.9	+0.6
PRP	Porcupine Dome	5.99 344	P	Pn	22 41 41.5	+2.3
	baz=160,SNR=19					
WRAK	Wrangell Islan	5.99 121	Pn	Pn	22 41 38.4	-0.7
WRAK	Wrangell Islan	5.99 121	P	Pn	22 41 40.1	+1.0
	baz=309					
AUJK	Augustine Jueg	6.00 271		Pn	22 41 40.1	+0.9
KDAK	Kodiak Island	6.04 255		Pn	22 41 39.9	+0.1
KDAK	Kodiak Island	6.04 255	Pn	Pn	22 41 39.5	-0.3
	comp=N,3.5nm,0.3s,baz=140,slow=16,SNR=260					
KDAK			Sn	Sn	22 42 45.8	-3.0
	comp=N,3.3nm,0.3s,baz=66,slow=21,SNR=5.5					
	comp=N,29nm,0.5s					
KDAK	Kodiak Island	6.04 255	P	Pn	22 41 39.9	+0.1
	baz=65					
DLBC	Dease Lake	6.14 98		Pn	22 41 40.8	-0.5
DLBC	Dease Lake	6.14 98	Pn	Pn	22 41 40.3	-1.0
	comp=N,2.5nm,0.3s,baz=283,slow=7.8,SNR=30					
DLBC			Sn	Sn	22 42 49.8	-1.6
	comp=N,2.2nm,0.3s,baz=281,slow=4.2,SNR=3.8					
DLBC			Lg	Lg	22 43 19.2	
	comp=N,2.9nm,0.3s,baz=330,slow=16,SNR=3.4					
	comp=N,5.1nm,0.3s					
DLBC	Dease Lake	6.14 98	Pn	Pn	22 41 40.0	-1.2
DLBC	Dease Lake	6.14 98	P	Pn	22 41 41.1	-0.1
	baz=288					
CAST	Castle Rocks	6.15 310		Pn	22 41 41.1	-0.1
CAST	Castle Rocks	6.15 310	P	Pn	22 41 42.4	+1.1
	baz=121					
BPAW	Bear Paw Mtn.	6.15 318	P	Pn	22 41 42.1	+0.8
	baz=130,SNR=16					
Q19K	Cape Douglas,	6.20 267		Pn	22 41 42.6	+0.6
Q19K	Cape Douglas,	6.20 267	P	Pn	22 41 43.1	+1.1
	baz=76,SNR=18					
O19K	Port Alsworth	6.37 279	P	Pn	22 41 45.5	+1.2
	baz=87					
I23K	Minto, Yukon-K	6.43 330	P	Pn	22 41 46.1	+1.1
	baz=142,SNR=19					
H27K	Steamboat Moun	6.43 0	Pn	Pn	22 41 46.0	+0.8
H27K	Steamboat Moun	6.43 0	P	Pn	22 41 47.7	+2.4
	baz=180					
N19K	Bonanza Creek	6.46 284		Pn	22 41 45.2	-0.4
N19K	Bonanza Creek	6.46 284	P	Pn	22 41 46.0	+0.4
	baz=93					
CHUM	Lake Minchumin	6.48 313		Pn	22 41 45.7	-0.2
CHUM	Lake Minchumin	6.48 313	P	Pn	22 41 46.7	+0.8
	baz=124,SNR=21					
L20K	Farewell, AK	6.49 299		Pn	22 41 46.4	+0.4
L20K	Farewell, AK	6.49 299	P	Pn	22 41 45.8	-0.2
	baz=108					
M19K	Big River Lodg	6.57 294		Pn	22 41 47.3	+0.3
M19K	Big River Lodg	6.57 294	P	Pn	22 41 48.2	+1.1
	baz=102					
H29M	Whitestone	6.59 12	Pn	Pn	22 41 47.0	-0.3
H29M	Whitestone	6.59 12	P	Pn	22 41 47.9	+0.5
	baz=194,SNR=21					
T35M	Bob Quinn	6.63 110	P	Pn	22 41 48.8	+0.9
	baz=301					
OHAK	Old Harbor	6.63 252		Pn	22 41 47.4	-0.5
OHAK	Old Harbor	6.63 252	P	Pn	22 41 47.5	-0.4
OHAK	Old Harbor	6.63 252	P	Pn	22 41 49.0	+1.1
	baz=62					
H24K	Noodor Dome	6.68 337		Pn	22 41 48.9	+0.4
H24K	Noodor Dome	6.68 337	P	Pn	22 41 49.6	+1.0
	baz=152					
H25L	Birch Creek	6.74 345		Pn	22 41 50.2	+0.8
H25L	Birch Creek	6.74 345	P	Pn	22 41 50.7	+1.4
	baz=161					
KAHG	Katmai Hook Gl	6.77 264		Pn	22 41 50.1	+0.2
TGTN	Hyland Airport	6.79 70	P	Pn	22 41 50.9	+0.8
	baz=262					
O18K	Koktuh Hills	6.84 276		Pn	22 41 50.8	0.0
O18K	Koktuh Hills	6.84 276	P	Pn	22 41 51.4	+0.6
	baz=84,SNR=6.9					
L19K	White Mountain	6.84 296		Pn	22 41 50.0	-0.9
L19K	White Mountain	6.84 296	P	Pn	22 41 51.8	+0.9
	baz=104,SNR=22					
H31M	Peel River	6.87 26		Pn	22 41 51.5	+0.3
H31M	Peel River	6.87 26	Pn	Pn	22 41 52.3	+1.1
H31M	Peel River	6.87 26	P	Pn	22 41 53.2	+2.0
	baz=212					
K20K	Telida	6.91 306		Pn	22 41 51.5	-0.2
K20K	Telida	6.91 306	P	Pn	22 41 52.8	+1.1
	baz=115					
P18K	Big Mountain,	6.91 272		Pn	22 41 51.2	-0.5
P18K	Big Mountain,	6.91 272	P	Pn	22 41 52.6	+0.9
	baz=80					
KAHC	Katmai Hardscr	6.96 266		Pn	22 41 52.3	-0.2
Q18K	Katmai Hardscr	6.96 266	P	Pn	22 41 53.2	+0.7
	baz=74,SNR=6.9					
G27K	Doyon Strip	7.01 360	Pn	Pn	22 41 54.4	+1.2
G27K	Doyon Strip	7.01 360	P	Pn	22 41 54.5	+1.3
	baz=180,SNR=57					
H23K	Yukon River	7.02 332		Pn	22 41 53.8	+0.5
H23K	Yukon River	7.02 332	P	Pn	22 41 54.4	+1.1
	baz=145					
R18K	Karluk	7.05 257	P	Pn	22 41 54.6	+1.0
	baz=66					
N18K	Kilae Creek	7.14 283		Pn	22 41 54.4	-0.5
N18K	Kilae Creek	7.14 283	P	Pn	22 41 55.7	+0.8
	baz=90					
M18K	Stony River	7.17 290		Pn	22 41 54.7	-0.5
M18K	Stony River	7.17 290	P	Pn	22 41 55.6	+0.4
	baz=97					
I21K	Tanana	7.19 323	P	Pn	22 41 56.8	+1.2
	baz=133					
G26K	Porcupine Rive	7.22 353	Pn	Pn	22 41 57.9	+1.9
G26K	Porcupine Rive	7.22 353	P	Pn	22 41 58.9	+3.0
	baz=171,SNR=46					
G25K	Bearman Lake	7.25 346	Pn	Pn	22 41 58.9	+2.6
G25K	Bearman Lake	7.25 346	P	Pn	22 41 59.1	+2.7
	baz=162,SNR=13					
G29M	Pine Creek	7.30 11	Pn	Pn	22 41 56.2	-0.9
G29M	Pine Creek	7.30 11	P	Pn	22 41 59.7	+2.6
	baz=194,SNR=8.9					
J20K	Nowinta River	7.32 312		Pn	22 41 56.9	-0.4
J20K	Nowinta River	7.32 312	P	Pn	22 41 57.3	0.0
	baz=120					
G24K	Hadweenzic Riv	7.38 342	P	Pn	22 41 57.6	-0.7
	baz=156,SNR=12					
SII	Sitkinak Islan	7.39 249	P	Pn	22 41 58.4	+0.1
	baz=58					
H22K	Ishtalitna Cre	7.54 328	P	Pn	22 42 01.0	+0.7
	baz=139					
P17K	Kvichak River	7.55 272		Pn	22 42 00.4	-0.2
P17K	Kvichak River	7.55 272	P	Pn	22 42 01.6	+1.1
	baz=78,SNR=5.5					
TTA	Tatalina	7.57 300		Pn	22 42 00.4	-0.5
TTA	Tatalina	7.57 300	P	Pn	22 42 01.2	+0.4
TTA	Tatalina	7.57 300	P	Pn	22 42 01.4	+0.6
	baz=107					
G30M	tAoh Zraii Nji	7.58 16		Pn	22 42 01.0	+0.1
G30M	tAoh Zraii Nji	7.58 16	Pn	Pn	22 42 01.3	+0.3
G30M	tAoh Zraii Nji	7.58 16	P	Pn	22 42 01.1	+0.1
	baz=201					
L18K	Granite Mounta	7.69 295		Pn	22 42 02.0	-0.4
L18K	Granite Mounta	7.69 295	P	Pn	22 42 03.0	+0.6
	baz=101					
BMAR	Burnt Mountain	7.75 352	Pn	Pn	22 42 03.1	-0.1
H21K	Melozitna Rive	7.77 324		Pn	22 42 03.6	+0.1
H21K	Melozitna Rive	7.77 324	P	Pn	22 42 04.7	+1.2
	baz=133,SNR=14					
I20K	Naaghedeneel	7.78 315	P	Pn	22 42 05.4	+1.8
	baz=124					
Q16K	King Salmon	7.78 268	P	Pn	22 42 04.0	+0.4
	baz=75					
N17K	Nushagak Hills	7.78 282		Pn	22 42 03.6	-0.1
N17K	Nushagak Hills	7.78 282	P	Pn	22 42 03.8	+0.1
	baz=88					
O17K	Koliganek Bris	7.79 276		Pn	22 42 03.9	0.0
O17K	Koliganek Bris	7.79 276	P	Pn	22 42 04.1	+0.2
	baz=83,SNR=7.6					
J19K	Poorman	7.80 308		Pn	22 42 03.6	-0.4
J19K	Poorman	7.80 308	P	Pn	22 42 04.6	+0.6
	baz=116					
G31M	Satah River	7.85 22		Pn	22 42 04.8	+0.1
G31M	Satah River	7.85 22	Pn	Pn	22 42 05.2	+0.6
G31M	Satah River	7.85 22	P	Pn	22 42 05.8	+1.2
	baz=208,SNR=14					
G23K	Bananza Creek	7.87 335	P	Pn	22 42 06.3	+1.4
	baz=147,SNR=19					
M17K	Holitna River	7.93 288		Pn	22 42 05.0	-0.6
M17K	Holitna River	7.93 288	P	Pn	22 42 06.7	+1.0
	baz=94					
F26K	Sheenjek River	7.98 353	Pn	Pn	22 42 08.3	+1.9
F26K	Sheenjek River	7.98 353	P	Pn	22 42 06.4	-0.1
	baz=171					
F25K	Christian Rive	8.00 349	Pn	Pn	22 42 08.9	+2.2
F25K	Christian Rive	8.00 349	P	Pn	22 42 07.3	+0.6
	baz=165					
J18K	Innoko River	8.04 303		Pn	22 42 06.7	-0.6
J18K	Innoko River	8.04 303	P	Pn	22 42 08.4	+1.1
	baz=110					
F24K	Squaw Lake	8.21 343	P	Pn	22 42 09.8	+0.3
	baz=157					
F30M	Barrier River	8.24 16	Pn	Pn	22 42 10.2	+0.3
F30M	Barrier River	8.24 16	P	Pn	22 42 10.2	+0.3
	baz=201					
O16K	Kokwok River B	8.32 276		Pn	22 42 11.1	+0.1
O16K	Kokwok River B	8.32 276	P	Pn	22 42 11.8	+0.7
	baz=81,SNR=7.1					
H20K	Anotleneega Mo	8.32 319	P	Pn	22 42 11.5	+0.4
	baz=127					
COLD	Coldfoot	8.35 336	Pn

G21K Allakaket 8.58 326 P **Pn 22 42 16.2 +1.6**
baz=136
GCSA Galena City Sc 8.64 311 P **Pn 22 42 16.8 +1.5**
baz=118
M16K Timber Creek 8.65 285 Pn 22 42 15.4 -0.2
M16K Timber Creek 8.65 285 P **Pn 22 42 16.5 +1.0**
baz=90
E29M Blow River 8.76 9 Pn 22 42 16.7 -0.3
E29M Blow River 8.76 9 Pn **Pn 22 42 19.1 +2.2**
E29M Blow River 8.76 9 P **Pn 22 42 17.7 +0.8**
baz=192
E24K Your Creek 8.81 343 P **Pn 22 42 19.0 +1.2**
baz=157
KOTAN Kotaneelee Air 8.83 80 P **Pn 22 42 19.6 +1.6**
baz=276
E28M Babbage River 8.87 5 Pn 22 42 18.4 -0.1
E28M Babbage River 8.87 5 Pn **Pn 22 42 20.4 +1.9**
E28M Babbage River 8.87 5 P **Pn 22 42 20.7 +2.2**
baz=187,SNR=34
H19K Roundabout Mou 8.88 316 P **Pn 22 42 19.3 +0.6**
baz=123
L16K Owhat River 8.93 290 Pn 22 42 18.2 -1.2
L16K Owhat River 8.93 290 P **Pn 22 42 19.6 +0.3**
baz=94,SNR=5.1
E23K Chandalar 8.97 340 P **Pn 22 42 21.1 +1.0**
baz=153
F22K John River 9.01 333 P **Pn 22 42 21.0 +0.5**
baz=144
J17K VABM Dome 9.04 301 P **Pn 22 42 22.1 +1.2**
baz=105
F21K Alatna River 9.10 330 P **Pn 22 42 23.2 +1.5**
baz=139,SNR=9.5
INK Inuvik 9.22 19 Pn 22 42 23.2 -0.1
INK Inuvik 9.22 19 Pn **Pn 22 42 21.9 -1.5**
comp=N,0.6nm,0.3s,baz=202,slow=15,SNR=32
INK Sn **Sn 22 44 01.9 -4.9**
comp=N,0.8nm,0.3s,baz=294,slow=6.0,SNR=3.3
INK Lg Lg 22 44 55.3
comp=N,0.6nm,0.3s,baz=131,slow=20,SNR=3.5
comp=N,9.2nm,0.8s
INK Inuvik 9.22 19 Pn **Pn 22 42 24.1 +0.8**
INK Inuvik 9.22 19 P **Pn 22 42 24.8 +1.5**
baz=206,SNR=13
N15K Kwethluk River 9.25 280 Pn 22 42 23.0 -0.7
N15K Kwethluk River 9.25 280 P **Pn 22 42 24.8 +1.0**
baz=84
O15K Ungalikthiuk R 9.27 274 Pn 22 42 23.0 -1.0
O15K Ungalikthiuk R 9.27 274 P **Pn 22 42 24.5 +0.5**
baz=78
WRGLY Wrigley 9.32 61 P **Pn 22 42 25.3 +0.5**
baz=257
H18K Honhosa River 9.38 312 P **Pn 22 42 26.2 +0.6**
baz=117
G19K Purcell Mounta 9.44 319 P **Pn 22 42 27.1 +0.7**
baz=125
E22K Anaktuvuk Pass 9.45 336 P **Pn 22 42 27.6 +1.1**
baz=147,SNR=10
D27M Malcolm River 9.47 1 Pn **Pn 22 42 30.1 +3.3**
D27M Malcolm River 9.47 1 P **Pn 22 42 26.7 -0.1**
baz=182
TOLK Toolik Lake Re 9.49 342 P **Pn 22 42 27.2 +0.1**
baz=155
M15K Kasigluk River 9.50 283 P **Pn 22 42 28.1 +0.8**
baz=87
CHGN Chignik 9.55 256 P **Pn 22 42 29.6 +1.7**
baz=61
F20K Avaraart Lake 9.59 325 P **Pn 22 42 29.6 +1.3**
baz=132
D28M Stokes Point 9.63 6 Pn **Pn 22 42 30.7 +1.8**
D28M Stokes Point 9.63 6 P **Pn 22 42 30.1 +1.2**
baz=189,SNR=60
J16K Anvik River 9.68 299 P **Pn 22 42 30.7 +1.1**
baz=102
D25K Kavik River 9.75 350 Pn **Pn 22 42 33.0 +2.4**
D25K Kavik River 9.75 350 P **Pn 22 42 31.9 +1.3**
baz=166,SNR=116
G18K Tagagawik 9.85 315 P **Pn 22 42 32.4 +0.4**
baz=120
D24K Happy Valley 9.86 345 P **Pn 22 42 33.6 +1.5**
baz=158
I17K Unalakleet 9.86 303 P **Pn 22 42 33.0 +0.9**
baz=105
L15K Ungalak Mounta 9.88 289 P **Pn 22 42 33.0 +0.6**
baz=92
C27K Jago River 9.88 356 Pn **Pn 22 42 35.5 +3.1**
C27K Jago River 9.88 356 P **Pn 22 42 32.2 -0.3**
baz=174
H17K Granite Mounta 9.89 309 P **Pn 22 42 33.6 +1.1**
baz=112
K15K Wolf Creek Mou 9.94 293 P **Pn 22 42 34.5 +1.2**
baz=95,SNR=8.8
D23K Nanushuk River 9.96 341 P **Pn 22 42 33.3 -0.2**
baz=152
O14K Tigyukauivet M 9.98 275 P **Pn 22 42 34.6 +0.9**
baz=78
F19K Shaleruckik Mo 10.07 321 P **Pn 22 42 35.6 +0.7**
baz=126
N14K Kuskokwak Cree 10.07 279 P **Pn 22 42 37.3 +2.3**
baz=82
M14K Bethel 10.12 284 P **Pn 22 42 36.0 +0.3**
baz=86
E21K Killik River 10.16 333 P **Pn 22 42 37.7 +1.4**
baz=142
C26K Camden Bay 10.23 354 Pn **Pn 22 42 41.5 +4.3**
C26K Camden Bay 10.23 354 P **Pn 22 42 38.5 +1.3**
baz=170,SNR=18
D22K Ayikyak River 10.25 337 P **Pn 22 42 39.2 +1.7**
baz=147
E19K Redstone River 10.30 325 P **Pn 22 42 39.5 +1.4**
baz=130
C24K Franklin Bluff 10.37 346 P **Pn 22 42 40.3 +1.2**
baz=160
G17K Kiwalik Mounta 10.40 311 P **Pn 22 42 40.0 +0.4**
baz=114
L14K Kuka Creek 10.45 287 P **Pn 22 42 40.0 -0.2**
baz=89
F18K Selawik 10.56 318 P **Pn 22 42 42.3 +0.7**
baz=121
E20K Nigu River 10.56 329 P **Pn 22 42 43.3 +1.6**
baz=136
H16K Elim 10.72 305 P **Pn 22 42 44.1 +0.2**
baz=107
C23K Itkillik River 10.74 343 P **Pn 22 42 44.8 +0.7**
baz=155
BBB Bella Bella 10.75 129 Sn **Sn 22 44 42.8 -1.6**
comp=N,0.5nm,0.3s,baz=355,slow=12,SNR=1.7
M13K Dall Lake 10.84 283 P **Pn 22 42 45.3 -0.1**
baz=83
CHNA Chernabura Isl 10.90 251 P **Pn 22 42 45.5 -0.8**
baz=55
C21K Knifeblade Rid 10.91 335 P **Pn 22 42 45.8 -0.8**
baz=142
J14K Nanvaranak Lak 10.92 295 P **Pn 22 42 47.1 +0.5**
baz=95
D20K Etivluk River 11.00 330 P **Pn 22 42 48.4 +0.6**
baz=137
G16K Koyuk River 11.02 309 P **Pn 22 42 48.5 +0.6**
baz=110
F17K Baldwin Pennin 11.04 315 P **Pn 22 42 49.3 +1.2**
baz=117
D19K Kuna River 11.24 328 P **Pn 22 42 51.2 +0.2**
baz=132
B21K Ikpikpuk River 11.25 336 P **Pn 22 42 52.4 +1.2**
baz=144
E18K Tukpahlearik C 11.32 320 P **Pn 22 42 53.5 +1.5**
baz=123
E17K Hotham Inlet 11.54 318 P **Pn 22 42 56.7 +1.6**
baz=119
G15K Niukluk 11.56 306 P **Pn 22 42 54.8 -0.7**
baz=106
B22K Teshekpuk Lake 11.63 340 P **Pn 22 42 57.5 +1.2**
baz=149
S12K Black Hills 11.64 258 P **Pn 22 42 57.7 +1.2**
baz=61
ANM Nome 12.01 303 P **Pn 22 43 00.4 -1.1**
baz=102
B20K Meade River 12.10 334 P **Pn 22 43 02.9 +0.1**
baz=140
C36M Paulatuk 12.12 31 Pn **Pn 22 43 02.3 -0.6**
C36M Paulatuk 12.12 31 Pn **Pn 22 43 01.2 -1.7**
C36M Paulatuk 12.12 31 P **Pn 22 43 01.3 -1.7**
baz=227
C18K Utukok River 12.21 325 Pn **Pn 22 43 04.8 +0.5**
C18K Utukok River 12.21 325 P **Pn 22 43 04.7 +0.5**
baz=127
D17K Noatak River 12.27 319 P **Pn 22 43 05.6 +0.6**
baz=120
RDOG Red Dog Mine 12.40 321 P **Pn 22 43 07.0 +0.2**
baz=121
A22K Sinclair Lake 12.47 340 P **Pn 22 43 07.4 -0.4**
baz=147
F14K Arctic Creek 12.62 307 P **Pn 22 43 10.1 +0.2**
baz=105
C17K DeLong Mountai 12.71 322 P **Pn 22 43 11.4 +0.3**
baz=122
B18K Kokolik River 12.82 327 P **Pn 22 43 11.9 -0.6**
baz=128
A21K Barrow 13.04 338 P **Pn 22 43 16.0 +0.5**
baz=144
A19K Wainwright 13.17 330 P **Pn 22 43 17.9 +0.6**
baz=132
YKAW3 Yellowknife Wh 13.28 66 P **Pn 22 43 17.5 -1.2**
YKA Yellowknife Ar 13.28 67 Pn **Pn 22 43 16.5 -2.3**
comp=N,0.2nm,0.3s,baz=270,slow=13,SNR=32
YKA Lg Lg 22 47 02.4
baz=319,slow=31
comp=N,4.6nm,0.9s
C16K Lisburne Hills 13.30 319 P **Pn 22 43 19.6 +0.5**
baz=118
A36M Sachs Harbour 13.84 22 Pn **Pn 22 43 23.8 -2.6**
A36M Sachs Harbour 13.84 22 P **Pn 22 43 23.2 -3.2**
A36M Sachs Harbour 13.84 22 P **Pn 22 43 25.1 -1.4**
baz=216,SNR=19
KUKN Kugluktuk,NWT 14.08 44 P **Pn 22 43 28.0 -1.7**
NEW Newport 18.34 118 P **Pn 22 44 23.7 -1.1**
NEW Newport 18.34 118 P **P 22 44 24.9 +0.1**
comp=N,6.2nm,1.0s,baz=314,slow=12,SNR=6.8
NEW LR LR 22 51 25.1
comp=N,134nm,20.9s,baz=313,slow=37
E07A Sunnyside 18.50 126 P **P 22 44 25.6 -1.0**
H04A Detroit Lake 19.16 134 P **P 22 44 32.5 -1.4**
PINE Pine Mountain 20.39 133 IAmb IAmb 22 44 51.7
comp=Z,24nm,1.1s
J04A Umpqua Nationa 20.44 136 IAmb IAmb 22 44 56.0
comp=Z,24nm,1.0s
MSO Missoula 20.85 116 IAmb IAmb 22 44 59.0
comp=Z,32nm,1.3s
L04D Klamath Falls 21.27 137 IAmb IAmb 22 45 01.2
comp=Z,35nm,1.2s
PLID Pearl Lake 21.29 122 P **P 22 44 56.4 -0.8**
YBH Yreka Blue Hor 21.57 139 P **P 22 45 00.1 +0.1**
comp=Z,8.2nm,1.0s,baz=349,slow=4.1,SNR=9.7
YBH Lg Lg 22 51 28.8
comp=Z,0.2nm,0.3s,baz=254,slow=15,SNR=1.4
YBH LR LR 22 51 37.6
comp=Z,250nm,19.8s,baz=348,slow=32
comp=Z,8.2nm,1.0s
J08A Circle Bar Ran 21.70 129 IAmb IAmb 22 45 05.5
comp=Z,18nm,1.1s
FFC Flin Flon 21.79 86 P **P 22 45 02.6 +0.4**
FFC IAmb IAmb 22 45 09.2
comp=Z,14nm,0.9s
EGMT Eagleton 21.94 108 IAmb IAmb 22 45 14.4
comp=Z,36nm,1.1s
LRM Limekiln Ridge 22.28 116 P **P 22 45 06.6 -1.3**
RES Resolute Bay 22.49 30 P **P 22 45 09.4 -0.1**
RES Resolute Bay 22.49 30 P **P 22 45 08.9 -0.6**
DLMT Dillon 22.57 117 IAmb IAmb 22 45 15.7
comp=Z,21nm,1.0s
MCMT McKenzie Canyo 22.87 118 P **P 22 45 13.4 -0.6**
BILL Bilibino 23.60 312 P **P 22 45 20.0 -1.0**
BILL IAmb IAmb 22 45 26.7
comp=Z,30nm,1.5s
YHL Hebgen Lake 23.60 116 IAmb IAmb 22 45 58.8
comp=Z,14nm,1.3s
YMR Madison River 23.84 116 IAmb IAmb 22 45 28.4
comp=Z,17nm,1.1s
FCC Fort Churchill 23.91 72 P **P 22 45 23.4 -0.5**
RLMT Red Lodge 24.28 113 IAmb IAmb 22 45 31.3
comp=Z,10nm,1.0s
PAHR Pah Rah Range 24.52 135 IAmb IAmb 22 45 35.1
comp=Z,12nm,1.2s
LAO LASA Array 24.58 106 IAmb IAmb 23 01 37.3
comp=Z,8.2nm,0.6s
FXWY Fox Creek 24.62 117 IAmb IAmb 22 45 35.8
comp=Z,20nm,1.2s
AFDM Forest Hills D 24.65 139 IAmb IAmb 22 45 34.7
comp=Z,12nm,1.1s
MOOW Moose Ponds 24.66 117 IAmb IAmb 22 45 40.4
comp=Z,15nm,1.3s
LOHW Long Hollow 24.83 117 IAmb IAmb 22 45 37.9
comp=Z,15nm,1.1s
SNOW Snow King Moun 24.88 117 IAmb IAmb 22 45 39.3
comp=Z,9.9nm,0.8s
PNTR Pine Nut 24.99 136 P **P 22 45 33.4 -1.0**
PNTR IAmb IAmb 22 45 44.5
comp=Z,12nm,1.0s
ELK Elko 25.19 127 IAmb IAmb 22 45 40.1
comp=Z,8.6nm,1.0s
ELK Elko 25.19 127 LR LR 22 55 09.6
comp=Z,130nm,21.7s,baz=335,slow=36
WAKR Walker 25.57 137 IAmb IAmb 22 45 58.2
comp=Z,12nm,1.3s
EUNU Eureka 25.85 19 P **P 22 45 41.9 +0.3**
PD31 Pinedale Array 25.96 117 IAmb IAmb 22 45 49.3
comp=Z,11nm,1.4s
PDAR Pinedale Array 25.96 117 P **P 22 45 42.0 -1.2**
PDAR Pinedale Array 25.96 117 P **P 22 45 44.0 +0.8**
comp=Z,2.4nm,1.0s,baz=317,slow=8.1,SNR=12
PDAR PcP **PcP 22 49 11.5 +0.2**
comp=Z,0.3nm,0.6s,baz=117,slow=1.7,SNR=2.8
PDAR LR LR 22 56 12.0
comp=Z,97nm,21.8s,baz=318,slow=37
comp=Z,2.4nm,1.0s
NVAR Mina Array Bea 26.04 135 P **P 22 45 40.9 -3.0**
NVAR Mina Array Bea 26.04 135 P **P 22 45 46.6 +2.7**
comp=Z,5.9nm,1.0s,baz=312,slow=8.3,SNR=17
NV11 Mina Array Sit 26.09 135 IAmb IAmb 22 45 50.4
comp=Z,10nm,1.1s
LHV Little Huntoon 26.12 135 IAmb IAmb 22 45 53.5
comp=Z,12nm,1.2s
DUG Dugway, Tooele 26.64 125 IAmb IAmb 22 46 00.7
comp=Z,8.8nm,1.1s
DSP Deep Springs 27.10 135 IAmb IAmb 22 45 57.7
comp=Z,7.7nm,1.1s
ULM Lac du Bonnet 27.39 90 IAmb IAmb 22 46 02.1
comp=Z,17nm,1.4s
ULM Lac du Bonnet 27.39 90 P **P 22 45 55.5 -0.1**
comp=Z,2.7nm,0.9s,baz=302,slow=8.4,SNR=6.2
ULM LR LR 22 58 01.2
comp=Z,155nm,18.2s,baz=167,slow=39
comp=Z,2.7nm,0.9s
Q16A Castle Valley 28.40 124 IAmb IAmb 22 46 08.8
comp=Z,12nm,1.2s
SRU San Rafael Swe 28.52 123 IAmb IAmb 22 46 09.5
comp=Z,8.3nm,0.9s
GWY Greenwater Val 28.62 135 IAmb IAmb 22 46 10.7
comp=Z,6.2nm,1.1s
O20A White River Ci 28.66 118 IAmb IAmb 22 46 15.3
comp=Z,10nm,1.2s
GSC Goldstone, Bar 29.37 136 IAmb IAmb 22 46 17.7
comp=Z,11nm,1.1s
V12A Nelson 29.70 132 IAmb IAmb 22 46 20.8
comp=Z,13nm,1.4s
PV11 David Mesa, Pa 29.90 121 IAmb IAmb 22 46 50.1
comp=Z,6.4nm,0.9s
PV13 Radium Mtn., P 30.04 121 IAmb IAmb 22 46 22.8
comp=Z,9.6nm,1.0s
ECSD EROS Data Cent 31.43 100 IAmb IAmb 22 46 33.5
comp=Z,5.0nm,1.0s
Y14A Wickenburg 31.98 131 IAmb IAmb 22 46 40.8
comp=Z,7.0nm,0.9s
NEEM North Greenlan 32.76 24 *i* P **P 22 46 43.6 +0.4**
NEEM IAmb IAmb 22 46 49.9
comp=Z,5.6nm,1.1s
MA2 Magadan 32.77 300 LR LR 23 02 02.2
comp=Z,58nm,19.6s,baz=70,slow=40
FRB Frobisher Bay 33.04 51 LR LR 23 01 04.4
comp=Z,76nm,18.1s,baz=301,slow=38
PETK Petropavlovsk- 33.09 286 P **P 22 46 45.9 -0.1**
comp=Z,2.5nm,0.6s,baz=66,slow=12,SNR=4.6
comp=Z,2.5nm,0.6s
UPNV Upernavik 33.32 33 *i* P **P 22 46 48.4 +0.6**
UPNV IAmb IAmb 22 46 49.6
comp=Z,9.1nm,0.6s
ANMO Albuquerque 33.77 122 P **P 22 46 51.4 -1.0**
ANMO IAmb IAmb 22 47 00.6
comp=Z,5.6nm,1.3s
ANMO Albuquerque 33.77 122 LR LR 23 01 38.8
comp=Z,62nm,20.6s,baz=113,slow=38
TIXI Tiksi 34.92 326 P **P 22 47 01.7 +0.1**
TIXI IAmb IAmb 22 47 07.4
comp=Z,7.6nm,1.1s
NOR Nord 35.80 12 *i* P **P 22 47 10.1 +0.9**
NOR IAmb IAmb 22 47 11.0
comp=Z,12nm,1.3s
KAN05 Bluff City Nor 35.90 109 P **P 22 47 09.4 -1.0**
MSTX Muleshoe 36.21 118 P **P 22 47 14.8 +1.5**
MSTX IAmb IAmb 22 47 21.1
comp=Z,10nm,1.1s
P40A Paris 36.84 101 P **P 22 47 19.6 +1.2**
P40A IAmb IAmb 22 47 20.3
comp=Z,12nm,1.0s
WMOK Wichita Mounta 37.39 113 P **P 22 47 24.5 +1.2**
WMOK IAmb IAmb 22 47 30.6
comp=Z,7.8nm,1.1s
SCHQ Schefferville 38.70 63 P **P 22 47 35.2 +1.1**
SCHQ IAmb IAmb 22 47 41.0
comp=Z,12nm,1.0s
SCHQ Schefferville 38.70 63 P **P 22 47 33.5 -0.5**
comp=Z,7.3nm,0.9s,baz=322,slow=9.1,SNR=7.4
comp=Z,7.3nm,0.9s
DAG Danmarks Havn 39.06 18 *i* P **P 22 47 36.0 -0.8**
DAG IAmb IAmb 22 47 37.9
comp=Z,18nm,0.9s
PBMO Poplar Bluff 39.78 102 P **P 22 47 43.4 +0.3**
PBMO IAmb IAmb 22 47 44.7
comp=Z,13nm,0.9s
TXAR Lajitas Array 39.79 123 P **P 22 47 45.3 +1.8**
comp=Z,0.9nm,0.8s,baz=339,slow=6.7,SNR=8.5
TXAR PcP **PcP 22 49 50.0 +0.5**
comp=Z,0.9nm,0.9s,baz=279,slow=2.4,SNR=4.3
TXAR LR LR 23 04 47.4
comp=Z,56nm,21.7s,baz=330,slow=37
comp=Z,0.9nm,0.8s
ICESG Greenland Ices 39.85 33 *i* P **P 22 47 43.4 -0.4**
ICESG IAmb IAmb 22 47 45.2
comp=Z,14nm,0.9s
LCAR Lake Charles 39.98 103 P **P 22 47 45.1 +0.2**
LCAR IAmb IAmb 22 47 46.4
comp=Z,14nm,1.4s
MIAR Mount Ida 40.02 107 P **P 22 47 46.9 +1.7**
DBG Daneborg 40.65 21 *i* P **P 22 47 50.0 0.0**
DBG IAmb IAmb 22 47 51.4
comp=Z,5.5nm,0.9s
SPITS Spitsbergen Ar 41.60 7 P **P 22 47 57.7 -0.1**
comp=Z,5.5nm,0.9s,baz=353,slow=7.3,SNR=5.8
comp=Z,5.5nm,0.9s
Z47A Carrollton 43.79 103 P **P 22 48 17.9 +1.8**
TKL Tuckaleechee C 43.97 97 LR LR 23 07 15.1
comp=Z,171nm,20.7s,baz=332,slow=37
LMN Caledonia Moun 45.76 72 P **P 22 48 31.9 +0.2**
HODGE Hodges 45.86 96 P **P 22 48 33.5 +0.9**
DRLN Deer Lake 46.70 64 P **P 22 48 40.0 +1.0**
KLR Kul'dur 47.83 298 LR LR 23 12 55.3
comp=Z,53nm,18.4s,baz=40,slow=41
BORG Borgarnes 47.92 30 LR LR 23 10 02.8
comp=Z,126nm,21.5s,baz=291,slow=38
ARCES ARCESS Array B 50.61 6 P **P 22 49 08.2 -0.6**
ARCES ARCESS Array B 50.61 6 P **P 22 49 07.5 -1.3**
comp=Z,2.9nm,0.8s,baz=12,slow=6.2,SNR=10.0
ARCES PcP **PcP 22 50 26.5 +0.4**
comp=Z,4.0nm,1.0s,baz=6.9,slow=4.0,SNR=1.9
comp=Z,2.9nm,0.8s
USRK Ussuriysk Ar. 51.49 293 LR LR 23 12 36.4
comp=Z,60nm,18.6s,baz=51,slow=38
BNX BinXian 52.40 298 ||P P 22 49 27.6 +5.1
BNX pmax pmax
comp=Z,4.0nm,0.8s
H11N2 WAKE ISLAND Hy 54.12 245 T T 23 48 18.3
baz=30,slow=76,SNR=57
H11N3 WAKE ISLAND Hy 54.12 245 T T 23 48 13.8
baz=30,slow=76,SNR=67
H11N1 WAKE ISLAND Hy 54.13 245 T T 23 48 19.7
baz=30,slow=76,SNR=42
H11S1 WAKE ISLAND Hy 55.27 245 T T 23 49 37.6
baz=29,slow=76,SNR=92
H11S2 WAKE ISLAND Hy 55.28 245 T T 23 49 43.3
baz=29,slow=76,SNR=45
H11S3 WAKE ISLAND Hy 55.29 245 T T 23 49 38.9
baz=29,slow=76,SNR=49
NC204 NORSAR Array S 57.36 15 P **P 22 49 57.9 -0.3**
NC405 NORSAR Array S 57.65 15 P **P 22 50 00.6 +0.4**
NC405 IAmb IAmb 22 50 26.7
comp=Z,11nm,1.3s
NB2 NORSAR Subarra 57.65 15 P **P 22 50 00.1 -0.2**
comp=Z,1.0nm,0.6s,baz=344,slow=7.4
NOA NORSAR Array B 57.65 15 P **P 22 49 58.8 -1.5**
comp=Z,2.7nm,0.9s,baz=346,slow=6.9,SNR=9.7
NOA PP **PP 22 52 07.0 -0.5**
comp=Z,0.5nm,0.9s,baz=325,slow=7.4,SNR=1.5
comp=Z,2.7nm,0.9s
NB201 NORSAR Array S 57.65 15 P **P 22 50 00.3 0.0**
NAO01 NORSAR Array S 57.80 15 P **P 22 50 01.2 -0.1**
FIA1 FINESS Array S 58.69 7 P **P 22 50 06.7 -0.7**
FINES FINESS Array B 58.69 7 P **P 22 50 06.5 -1.0**
comp=Z,3.4nm,0.6s,baz=11,slow=9.5,SNR=20
comp=Z,3.4nm,0.6s
KSRS Korea Array 58.70 291 LR LR 23 15 10.8
comp=Z,34nm,21.0s,baz=95,slow=36
HFS Hagfors 58.85 14 P **P 22 50 08.3 -0.3**
comp=Z,2.4nm,0.6s,baz=350,slow=4.5,SNR=12
comp=Z,2.4nm,0.6s
SONM Songino Array 59.31 313 P **P 22 50 11.8 -0.3**
comp=Z,3.0nm,0.9s,baz=43,slow=7.2,SNR=15
comp=Z,3.0nm,0.9s
EKA Eskdalemuir Ar 60.52 26 P **P 22 50 20.2 0.0**
comp=Z,7.7nm,0.9s,baz=314,slow=6.7,SNR=6.2
comp=Z,7.7nm,0.9s
ZAA0 Zalesovo Array 60.63 331 IAmb IAmb 22 50 26.2
comp=Z,6.2nm,1.1s
ZALV Zalesovo Beam 60.63 331 P **P 22 50 20.6 -0.3**
ZALV Zalesovo Beam 60.63 331 P **P 22 50 20.5 -0.5**
comp=Z,1.9nm,0.5s,baz=19,slow=6.4,SNR=14
ZALV LR LR 23 19 17.9
comp=Z,38nm,19.4s,baz=40,slow=39
comp=Z,1.9nm,0.5s
ARTI Arti 63.05 348 P **P 22 50 36.8 -0.4**
ARTI Arti 63.05 348 LR LR 23 21 12.1
comp=Z,34nm,18.7s,baz=18,slow=39
HHC Hu-ho-hao-te 63.16 306 *e*P **P 22 50 38.0 -0.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.7s
BRVK Borovoye 64.58 339 P **P 22 50 47.0 -0.3**
BRVK IAmb IAmb 22 50 52.4
comp=Z,3.9nm,1.0s
BVAR Borovoye Array 64.59 339 P **P 22 50 47.1 -0.3**
comp=Z,3.0nm,0.9s,baz=38,slow=7.5,SNR=13
BVAR LR LR 23 22 23.2
comp=Z,61nm,19.6s,baz=18,slow=39
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 65.20 333 P **P 22 50 51.1 -0.3**
comp=Z,2.7nm,0.8s,baz=26,slow=6.1,SNR=17
KURBB LR LR 23 23 25.9
comp=Z,80nm,18.1s,baz=178,slow=40
comp=Z,2.7nm,0.8s
NACGM Naroch 65.25 7 *e*P **P 22 50 52.0 +0.4**
baz=354
OBN Obninsk 65.40 1 P **P 22 50 52.5 -0.1**
comp=Z,31nm,0.7s
OBN pP **pP 22 50 57.1 +0.7**
comp=Z,31nm,0.7s
SJG San Juan 67.23 93 LR LR 23 21 18.8
comp=Z,36nm,21.2s,baz=227,slow=37
CLL Collm 67.34 17 P **P 22 51 05.1 0.0**
comp=Z,8.9nm,1.2s
CLL Collm 67.34 17 *i* P **P 22 51 05.4 +0.3**
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 67.85 329 IAmb IAmb 22 51 13.3
comp=Z,2.3nm,1.0s
MKAR Makanchi Array 67.85 329 P **P 22 51 08.2 -0.2**
MKAR Makanchi Array 67.85 329 P **P 22 51 07.8 -0.6**
comp=Z,1.7nm,0.6s,baz=42,slow=6.3,SNR=25
MKAR LR LR 23 24 27.4
comp=Z,59nm,19.0s,baz=328,slow=39
comp=Z,1.7nm,0.6s
BRG Berggiesshubel 67.90 16 *e*P **P 22 51 09.6 +0.9**
BRG Amp 22 51 11.5
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 67.90 16 P P 22 51 14.2 +5.6
BRG Amp 22 51 14.6
comp=Z,4.6nm,0.8s
MAKZ Makanchi 67.92 329 P **P 22 51 08.6 -0.2**
LYN LuoYang 68.10 301 *e*P **P 22 51 12.8 +2.7**
LYN pmax pmax
comp=Z,19nm,0.9s
KSP Ksiaz 68.25 15 P **P 22 51 11.5 +0.7**
comp=Z,21nm,2.7s
KSP pP **sP 22 51 16.0 -0.2**

comp=Z,21nm,2.7s
DPC Dobruska-Polom 68.74 15 P **P 22 51 14.8 +0.9**
comp=Z,17nm,1.3s
RNPP5 Staryi Chortor 68.84 8 P **P 22 51 14.5 0.0**
AKTO Aktyubinsk 68.95 347 LR LR 23 24 01.5
comp=Z,35nm,18.2s,baz=207,slow=38
GTA Gaotai 68.98 313 *e*P **P 22 51 16.3 +0.6**
GTA pP sP 22 51 21.1 0.0
GTA pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 69.07 324 *e*P **P 22 51 17.7 +1.5**
WMQ pP sP 22 51 21.8 +0.3
WMQ pmax pmax
comp=Z,10.0nm,0.9s
MI28 Mi28,Pidlybu 69.27 7 P **P 22 51 17.5 +0.4**
OJC Ojcow 69.29 13 P **P 22 51 17.8 +0.5**
comp=Z,9.5nm,2.3s
MORC Moravsky Berou 69.46 14 *e*P **P 22 51 17.9 -0.5**
AK21 Malin Array Si 69.50 6 P **P 22 51 18.1 -0.5**
AK22 Malin Array Si 69.52 6 P **P 22 51 18.3 -0.4**
AK20 Malin Array Si 69.53 6 P **P 22 51 18.3 -0.5**
AK19 Malin Array Si 69.55 6 P **P 22 51 18.5 -0.4**
AK18 Malin Array Si 69.56 6 P **P 22 51 18.6 -0.3**
AK03 Malin Array Si 69.56 6 P **P 22 51 18.7 -0.2**
AKASG Malin Array Be 69.58 6 P **P 22 51 18.9 -0.2**
comp=Z,6.6nm,0.7s,baz=356,slow=5.9,SNR=18
comp=Z,6.6nm,0.7s
AKBB Malin Array Si 69.58 6 P **P 22 51 18.8 -0.3**
AK15 Malin Array Si 69.59 6 P **P 22 51 18.8 -0.3**
KIEV Kiev 69.59 6 P **P 22 51 18.5 -0.6**
KIEV Kiev 69.59 6 P **P 22 51 18.8 -0.3**
comp=Z,52nm,1.0s
AK17 Malin Array Si 69.59 6 P **P 22 51 18.9 -0.2**
AK01 Malin Array Si 69.59 6 P **P 22 51 18.8 -0.3**
VRAC Vranov 69.80 15 *e*P **P 22 51 21.2 +0.7**
VRAC *e* 22 51 25.7
ABKAR Akbulak array 69.87 345 P **P 22 51 21.2 +0.3**
ABKAR Akbulak array 69.87 345 IAmb IAmb 22 51 26.3
comp=Z,5.1nm,0.8s
KRUC Moravsky 70.01 15 *e*P **P 22 51 22.3 +0.5**
KRUC *e* 22 51 26.5
STHS Stebnicka Huta 70.23 12 *e*P **P 22 51 24.1 +1.0**
LUBAR Lubar, Ukraine 70.28 7 P **P 22 51 22.4 -1.0**
LANS Liptovska Anna 70.30 13 *e*P **P 22 51 25.0 +1.4**
RETA Reutte 70.70 19 *e*pP **P 22 51 27.0 +0.9**
comp=Z,7.3nm,1.3s
MODS Modra-Piesok 70.80 15 *e*P **P 22 51 28.0 +1.4**
KOLS Kolonicke sedl 70.81 11 *e*P **P 22 51 28.8 +2.1**
VYHS Vyhne 70.88 14 *e*P **P 22 51 27.8 +0.7**
BIOA Bad Ischl, Aus 70.96 17 *e*pP **P 22 51 28.5 +0.8**
comp=Z,6.9nm,0.8s
WATA Walderalm 70.98 19 *e*pP **P 22 51 29.0 +1.1**
comp=Z,5.3nm,0.9s
SQTA Sankt Quirin 71.03 19 *e*pP **P 22 51 29.0 +0.8**
comp=Z,5.6nm,1.0s
CONA Conrad Observa 71.05 16 *e*P **P 22 51 28.8 +0.5**
comp=Z,7.0nm,0.9s
WTTA Wattenberg 71.06 19 *e*pP **P 22 51 29.6 +1.1**
comp=Z,5.4nm,0.8s
LESA Schwarzleotal 71.07 18 *e*pP **P 22 51 29.6 +1.2**
comp=Z,3.5nm,0.9s
FETA Feichten 71.15 20 *e*P **P 22 51 29.6 +0.6**
comp=Z,5.5nm,1.0s
HOLU Holmets 71.23 11 P **P 22 51 30.2 +1.0**
KBA Koelnbreinsper 71.51 18 *e*pP **P 22 51 32.2 +1.0**
comp=Z,7.4nm,0.7s
BERU Beregovo 71.54 11 P **P 22 51 32.2 +1.1**
ARSA Arzberg 71.67 16 *e*pP **P 22 51 32.7 +0.8**
comp=Z,3.5nm,0.8s
ABTA Abfaltersbach 71.71 18 *e*pP **P 22 51 33.6 +1.4**
comp=Z,4.4nm,1.1s
NSLU Nyzhne Selyshc 71.74 10 P **P 22 51 32.7 +0.4**
SOKA Soboth 72.16 17 *e*pP **P 22 51 35.9 +1.0**
comp=Z,4.1nm,1.1s
OBKA Obir 72.25 17 *e*pP **P 22 51 36.3 +0.8**
comp=Z,8.4nm,0.8s
BAL3X Bal3x, Balta 72.36 6 P **P 22 51 36.5 +0.5**
MORH Mrgy, Hungar 73.10 14 P **P 22 51 40.9 +0.5**
comp=Z,4.5nm,2.4s
AAK Ala-Archa 73.66 333 P **P 22 51 44.4 +0.3**
AAK IAmb IAmb 22 51 49.8
comp=Z,3.1nm,0.9s
AAK Ala-Archa 73.66 333 P **P 22 51 44.2 +0.2**
comp=Z,2.1nm,0.8s,baz=56,slow=1.8,SNR=7.9
AAK LR LR 23 30 28.7
comp=Z,55nm,19.5s,baz=18,slow=41
comp=Z,2.1nm,0.8s
KKAR Karatay Array 74.08 336 P **P 22 51 46.5 +0.3**
RUSC La Rusia 74.23 106 P **P 22 51 47.3 -0.7**
ESDC Sonseca Array 74.90 33 P **P 22 51 51.6 +0.5**
ESDC IAmb IAmb 22 52 19.0
comp=Z,6.4nm,1.3s
ESDC Sonseca Array 74.90 33 P **P 22 51 51.2 0.0**
comp=Z,3.7nm,1.0s,baz=341,slow=5.9,SNR=13
comp=Z,3.7nm,1.0s
PZH PanZhiHua 79.62 305 P **P 22 52 18.2 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,5.1s
GNI Garni 80.25 355 LR LR 23 32 23.7
comp=Z,36nm,19.9s,baz=311,slow=39
KMI Kunming 80.42 304 ⇓P **P 22 52 23.2 +0.8**
KMI pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 80.73 4 P **P 22 52 23.6 -0.2**
BRTR Keskin Array B 80.73 4 P **P 22 52 23.9 +0.2**
comp=Z,2.0nm,0.8s,baz=352,slow=5.8,SNR=9.9
comp=Z,2.0nm,0.8s
KEST Kesra 81.82 23 P **P 22 52 30.2 +0.7**
comp=Z,5.9nm,0.9s,baz=292,slow=3.7,SNR=5.6
comp=Z,5.9nm,0.9s
CMAR Chiang Mai Arr 87.93 304 P **P 22 53 00.2 -0.1**
CMAR Chiang Mai Arr 87.93 304 P **P 22 53 00.8 +0.4**
comp=Z,1.2nm,0.4s,baz=5.1,slow=5.7,SNR=22
CMAR LR LR 23 36 19.9
comp=Z,17nm,19.0s,baz=215,slow=38
comp=Z,1.2nm,0.4s
BOSA Boshof 147.54 22 PKPbc **PKPbc 22 59 53.7 -0.7**
comp=Z,2.2nm,0.5s,baz=318,slow=2.4,SNR=10
QSPA South Pole Qui 149.63 180 PKPbc **PKPbc 22 59 57.9 -0.6**
comp=Z,4.6nm,0.8s,baz=131,slow=0.7,SNR=15

NNC 10 22:45:43.9±1.8, 38°.11N×72°.35E, h167km±36km, mb2.7, mpv3.7, 3C, Error ellipse: s-maj=22.6km s-min=10.8km az=14.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.81**	**19**	⇑P	Pn	22 46 55.2	-0.1
	4.1nm,0.3s						
AAK				⇑S	Sn	22 47 51.5	+0.4
	4.6nm,0.6s						
KK31	**Karatay Array**	**5.19**	**345**	P	Pn	22 47 00.1	+0.1
	4.9nm,0.3s,baz=166,slow=12,SNR=55						
KK31				⇑S	Sn	22 48 00.1	+0.4
	0.7nm,0.2s,baz=179,slow=28,SNR=6.0						
AB31	**Akbulak array**	**14.29**	**325**	P	Pn	22 48 58.5	0.0
	0.5nm,0.5s,baz=265,slow=37,SNR=19						

*IDC **10** 22:49:38.2±0.6, 35°.24S×53°.85E, h0km, mb4.1/12, mbtmp4.0/12, MS3.6/12, Error ellipse: s-maj=23.6km s-min=20.9km az=65.0*
*NEIC **10** 22:49:40.6±1.6, 35°.34S±0°.09×54°.2E±0°.1, h10km±1km, mb4.4/15, Error ellipse: s-maj=20.8km s-min=4.0km az=139.0*
ISC 10 22:49:41.2±0.5, 35°.28S±0°.09×54°.0E±0°.1, h17km, n52, σ0§88/32, mb4.3/20, MS3.5/12, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**11.00**	**188**	T	T	23 03 37.9	
	baz=9.5,slow=75,SNR=541						
H04N2	**CROZET ISLANDS**	**11.00**	**188**	T	T	23 03 38.3	
	baz=9.5,slow=75,SNR=1199						
H04N3	**CROZET ISLANDS**	**11.02**	**188**	T	T	23 03 38.3	
	baz=9.5,slow=75,SNR=859						
VOI	**Vohitsoka**	**14.75**	**333**	Pn	**Pn**	**22 53 09.8**	**+0.5**
ABPO	**Ambohimpanom**	**17.28**	**338**	Pn	**P**	**22 53 42.7**	**-0.6**
BOSA	**Boshof**	**25.24**	**277**	P	**P**	**22 55 06.6**	**+0.1**
BOSA				IAmb	IAmb	22 55 12.1	
	comp=Z,14nm,1.3s						
BOSA	**Boshof**	**25.24**	**277**	P	**P**	**22 55 04.6**	**-1.9**
	comp=Z,3.4nm,0.8s,baz=134,slow=10,SNR=4.4						
BOSA				LR	LR	23 03 28.1	
	comp=Z,89nm,19.4s,baz=191,slow=33						
	comp=Z,3.4nm,0.8s						
LBTB	**Lobatse**	**26.54**	**285**	P	**P**	**22 55 20.0**	**+1.7**
LBTB				IAmb	IAmb	22 55 44.3	
	comp=Z,13nm,1.4s						
LBTB	**Lobatse**	**26.54**	**285**	LR	LR	23 04 26.3	
	comp=Z,121nm,18.2s,baz=123,slow=34						
SUR	**Sutherland**	**27.66**	**266**	LR	LR	23 04 38.4	
	comp=Z,107nm,18.8s,baz=150,slow=33						
LSZ	**Lusaka**	**30.54**	**304**	LR	LR	23 06 08.5	
	comp=Z,109nm,20.4s,baz=143,slow=33						
H08S1	**Diego Garcia H**	**32.30**	**36**	T	T	23 29 56.6	
	baz=209,slow=75,SNR=23						
H08S2	**Diego Garcia H**	**32.31**	**36**	T	T	23 29 58.0	
	baz=209,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**32.32**	**36**	T	T	23 29 58.6	
	baz=209,slow=75,SNR=52						
MAW	**Mawson**	**32.77**	**174**	LR	LR	23 05 10.9	
	comp=Z,128nm,19.9s,baz=86,slow=28						
TSUM	**Tsumeb**	**35.90**	**287**	LR	LR	23 09 31.9	
	comp=Z,188nm,21.6s,baz=126,slow=33						
KMBO	**Kilima Mbogo**	**37.40**	**332**	LR	LR	23 10 27.0	
	comp=Z,61nm,19.0s,baz=92,slow=34						
SNAA	**Sanae**	**46.61**	**201**	P	**P**	**22 58 07.0**	**-1.1**
SNAA	**Sanae**	**46.61**	**201**	P	**P**	**22 58 06.8**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=55,slow=12,SNR=2.1						
	comp=Z,3.1nm,1.0s						
H01W2	**Cape Leeuwin H**	**48.51**	**108**	T	T	23 50 23.3	
	baz=251,slow=75,SNR=5.3						
H01W3	**Cape Leeuwin H**	**48.51**	**108**	T	T	23 50 23.9	
	baz=251,slow=75,SNR=4.1						
H01W1	**Cape Leeuwin H**	**48.52**	**108**	T	T	23 50 24.8	
	baz=251,slow=75,SNR=4.1						
NWAO	**Narrogin (SRO)**	**51.60**	**107**	LR	LR	23 16 16.2	
	comp=Z,111nm,18.8s,baz=226,slow=31						
QSPA	**South Pole Qui**	**54.90**	**180**	P	**P**	**22 59 11.4**	**+0.7**
QSPA	**South Pole Qui**	**54.90**	**180**	P	**P**	**22 59 11.1**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=260,slow=1.9,SNR=14						
	comp=Z,2.1nm,0.8s						
BELA	**Belgrano 2**	**55.52**	**195**	P	**P**	**22 59 16.6**	**+1.7**
RAYN	**Ar Rayn**	**59.04**	**351**	P	**P**	**22 59 40.8**	**+0.5**
RAYN				IAmb	IAmb	22 59 41.5	
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**59.55**	**166**	P	**P**	**22 59 42.4**	**-0.8**
VNDA				IAmb	IAmb	22 59 57.4	
	comp=Z,5.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**68.35**	**46**	P	**P**	**23 00 41.8**	**0.0**
CMAR	**Chiang Mai Arr**	**68.35**	**46**	P	**P**	**23 00 42.5**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=231,slow=7.1,SNR=8.2						
CMAR				LR	LR	23 27 47.7	
	comp=Z,17nm,18.0s,baz=200,slow=34						
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**68.83**	**105**	P	**P**	**23 00 45.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=230,slow=5.9,SNR=15						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.07**	**304**	P	**P**	**23 00 47.2**	**+0.8**
TORD				IAmb	IAmb	23 00 48.8	
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**69.28**	**295**	LR	LR	23 29 17.9	
	comp=Z,25nm,19.1s,baz=101,slow=34						
STKA	**Stephens Creek**	**70.64**	**116**	LR	LR	23 26 30.1	
	comp=Z,80nm,20.1s,baz=207,slow=31						
WRA	**Warramunga Arr**	**71.08**	**101**	P	**P**	**23 00 59.6**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=234,slow=5.4,SNR=19						
	comp=Z,1.8nm,0.6s						
SIMJ	**Simiganj**	**74.87**	**12**	P	**P**	**23 01 21.3**	**+0.5**
SIMJ				IAmb	IAmb	23 01 24.2	
	comp=Z,6.9nm,1.4s						
BTK	**Batken**	**76.55**	**13**	P	**P**	**23 01 31.6**	**+1.2**
BTK				IAmb	IAmb	23 01 43.9	
	comp=Z,2.5nm,1.2s						
BRTR	**Keskin Array B**	**76.97**	**344**	P	**P**	**23 01 32.3**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=171,slow=8.4,SNR=9.0						
	comp=Z,1.0nm,0.8s						
KKAR	**Karatay Array**	**79.45**	**12**	P	**P**	**23 01 47.2**	**+0.9**
AAK	**Ala-Archa**	**79.78**	**15**	P	**P**	**23 01 48.5**	**+0.2**
AAK				IAmb	IAmb	23 01 51.4	
	comp=Z,11nm,1.4s						
ABKAR	**Akbulak array**	**84.33**	**4**	P	**P**	**23 02 11.8**	**0.0**
MAKZ	**Makanchi**	**85.50**	**19**	P	**P**	**23 02 18.3**	**+0.5**
MAKZ				IAmb	IAmb	23 02 18.8	
	comp=Z,4.4nm,1.4s						
MK31	**Makanchi Array**	**85.57**	**19**	P	**P**	**23 02 18.1**	**0.0**
MKAR	**Makanchi Array**	**85.57**	**19**	P	**P**	**23 02 17.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=199,slow=4.1,SNR=6.8						
	comp=Z,0.5nm,0.8s						
MDT	**Midelt**	**87.22**	**314**	LR	LR	23 41 49.3	
	comp=Z,63nm,18.1s,baz=150,slow=36						
AKASG	**Malin Array Be**	**88.36**	**345**	P	**P**	**23 02 31.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=166,slow=4.5,SNR=9.5						
	comp=Z,1.7nm,0.7s						
BVAR	**Borovoye Array**	**89.09**	**10**	P	**P**	**23 02 34.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=176,slow=4.5,SNR=4.0						
	comp=Z,0.4nm,0.6s						
ESDC	**Sonseca Array**	**91.77**	**319**	P	**P**	**23 02 47.6**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=137,slow=4.7,SNR=5.1						
	comp=Z,1.4nm,1.1s						
SONM	**Songino Array**	**95.07**	**32**	P	**P**	**23 03 02.1**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=133,slow=10,SNR=3.5						
	comp=Z,0.1nm,0.4s						
AC04	**Llanos de Chal**	**98.32**	**227**	P	Pdif	23 03 18.4	+0.1
ILAR	**Eielson Array**	**147.90**	**17**	PKPbc	**PKPbc**	**23 09 23.5**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=317,slow=3.5,SNR=24						
YKA	**Yellowknife Ar**	**151.84**	**349**	PKPbc	**PKiKP**	**23 09 34.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=19,slow=1.8,SNR=19						

*UPA **10** 22:50:43.0±2.4, 8°.48N×81°.94W, h0km±8km, MW4.5*
*UCR **10** 22:50:44.8±2.3, 8°.37N×81°.93W, h7km±11km, MW3.5*
ISC 10 22:50:43.0±1.0, 8°.46N±0°.04×81°.88W±0°.02, h14km±9km, n38, σ1§08/60, 1C-2D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR2	**Aguacate**	**0.54**	**331**	⇑*i*P	**Pg**	**22 50 53.4**	**-0.3**
CHGR2				*e*S	**Sg**	**22 51 00.5**	**-0.5**
GMAL	**Guarumal, Vera**	**0.94**	**137**	*e*P	**Pn**	**22 51 01.1**	**-0.8**
GMAL				*e*S	**Sn**	**22 51 15.2**	**0.0**
GMAL	**Guarumal, Vera**	**0.94**	**137**	*e*P	**Pn**	**22 51 01.1**	**-0.8**
LPPC	**Paso Canoas**	**0.95**	**275**	*e*P	**Pb**	**22 51 00.9**	**-0.4**
LPPC				*e*S	**Sg**	**22 51 13.8**	**0.0**
PTPM	**Petroterminale**	**1.02**	**256**	⇓*e*P	**Pb**	**22 51 02.0**	**-0.4**
PTPM				*e*S	**Sn**	**22 51 17.7**	**+0.7**
CNI2	**El Empalme, Bo**	**1.12**	**329**	*e*P	**Pg**	**22 51 04.9**	**+0.2**
CNI2				*e*S	**Sg**	**22 51 21.0**	**+1.6**
VITO	**San Vito**	**1.13**	**289**	*e*P	**Pg**	**22 51 04.7**	**-0.2**
VITO				*e*S	**Sg**	**22 51 20.4**	**+0.6**
EDAD	**Golfito**	**1.28**	**279**	*e*P	**Pn**	**22 51 05.7**	**-0.9**
EDAD				*e*S	**Sb**	**22 51 22.5**	**-0.9**
EDP2	**Potrero Grande**	**1.40**	**294**	*e*P	**Pb**	**22 51 08.6**	**-0.3**
EDP2				*e*S	**Sb**	**22 51 27.0**	**+0.4**
PIRO	**Carate, Puerto**	**1.44**	**268**	*e*P	**Pb**	**22 51 09.3**	**-0.3**
PIRO				*e*S	**Sg**	**22 51 30.8**	**+1.3**
CACAO	**El Cacao, Vera**	**1.50**	**137**	*e*P	**Pg**	**22 51 11.5**	**-0.4**
CACAO				*e*S	**Sg**	**22 51 33.8**	**+2.4**
CHIT3	**Chitre**	**1.53**	**109**	*e*P	**Pg**	**22 51 11.7**	**-0.8**
CHIT3				*e*S	**Sg**	**22 51 32.5**	**+0.1**
PNME	**Penonome**	**1.54**	**89**	*e*P	**Pb**	**22 51 10.8**	**-0.5**
PNME				*e*S	**Sg**	**22 51 34.2**	**+1.5**
FIMO	**Fila Mora**	**1.55**	**290**	*e*P	**Pg**	**22 51 13.7**	**+0.8**
FIMO				*e*S	**Sg**	**22 51 32.7**	**-0.3**
DRK0	**Durika**	**1.57**	**301**	*e*P	**Pn**	**22 51 09.7**	**-0.9**
DRK0				*e*S	**Sn**	**22 51 30.0**	**-0.8**
AZU	**Azuero**	**1.72**	**112**	*e*P	**Pb**	**22 51 14.5**	**0.0**
AZU				*e*S	**Sg**	**22 51 37.7**	**-0.9**
AZU	**Azuero**	**1.72**	**112**	*e*P	**Pb**	**22 51 14.4**	**-0.1**
AZU				*e*S	**Sg**	**22 51 37.7**	**-0.9**
EDPE	**Pejibaye, P**	**1.81**	**293**	*e*P	**Pb**	**22 51 16.1**	**+0.2**
EDPE				*e*S	**Sb**	**22 51 38.8**	**+0.3**
BCIP	**Isla Barro Col**	**2.14**	**71**	*e*P	**Pb**	**22 51 20.7**	**-0.8**
BCIP				*e*S	**Sb**	**22 51 48.7**	**+0.7**
BCIP	**Isla Barro Col**	**2.14**	**71**	⇓*i*P	**Pb**	**22 51 21.6**	**0.0**
VERB	**Verbena**	**2.32**	**310**	*e*P	**Pb**	**22 51 23.9**	**-0.9**
VTCV	**VTCV, Calle Va**	**2.37**	**310**	*e*P	**Pb**	**22 51 24.6**	**-1.1**
UPA	**Univ. de Panam**	**2.38**	**77**	*e*P	**Pb**	**22 51 25.5**	**-0.1**
UPA				*e*S	**Sb**	**22 51 56.3**	**+1.4**
REPA	**Paraso**	**2.39**	**305**	*e*P	**Pb**	**22 51 25.3**	**-0.6**
REPA				*e*S	**Sb**	**22 51 55.9**	**+0.6**
CVTQ	**Turrialba Volc**	**2.41**	**310**	*e*P	**Pb**	**22 51 25.8**	**-0.6**
CVTR	**Volcan Turrial**	**2.42**	**310**	*e*P	**Pb**	**22 51 25.5**	**-1.1**
VTLA	**Turrialba Volc**	**2.42**	**310**	*e*P	**Pb**	**22 51 25.4**	**-1.1**
RAFA	**San Farael, Vo**	**2.42**	**308**	*e*P	**Pb**	**22 51 25.4**	**-1.1**
RAFA				*e*S	**Sb**	**22 51 57.0**	**+0.7**
LCR2	**La Lucha 2**	**2.45**	**301**	*e*P	**Pb**	**22 51 25.3**	**-1.7**
VICA	**Volcano Irazu**	**2.46**	**308**	*e*P	**Pb**	**22 51 26.2**	**-1.1**
ABE2	**San Pablo**	**2.48**	**300**	*e*P	**Pb**	**22 51 26.2**	**-1.3**
CVTG	**V. Turrialba,**	**2.51**	**312**	*e*P	**Pb**	**22 51 26.3**	**-1.6**
CVIMO	**Finca Echandi**	**2.56**	**308**	*e*P	**Pb**	**22 51 28.9**	**0.0**
PICV	**PH. Pirrs**	**2.56**	**297**	*e*P	**Pb**	**22 51 29.2**	**+0.4**
ACOS	**Acosta**	**2.62**	**301**	*e*P	**Pb**	**22 51 29.2**	**-0.6**
VBV1	**V. Barva**	**2.74**	**307**	*e*P	**Pb**	**22 51 29.9**	**-2.1**
VBV1				*e*S	**Sb**	**22 52 05.2**	**-0.3**
ARE1	**Arenal 1**	**3.43**	**306**	*e*P	**Pb**	**22 51 40.8**	**-2.9**
JTS	**Las Juntas de**	**3.54**	**301**	*e*P	**Pn**	**22 51 40.8**	**+3.2**

*IDC **10** 23:14:02.3±1.3, 58°.55N×32°.00W, h0km, mb3.6/11, mbtmp3.7/12, ML3.4/1, MS3.4/15, Error ellipse: s-maj=33.3km s-min=19.1km az=14.0*
ISC 10 23:14:04.0±1.2, 58°.5N±0°.2×32°.1W±0°.1, h13km, n23, σ1§10/12, mb3.6/11, MS3.4/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.10**	**35**	Pn	**Pn**	**23 16 01.8**	**+0.7**
	0.5nm,0.3s,baz=194,slow=20,SNR=2.2						
	22nm,1.2s						
SFJD	**Kangerlussuaq**	**12.01**	**323**	LR	LR	23 20 54.7	
	comp=Z,189nm,19.8s,baz=111,slow=34						
FRB	**Frobisher Bay**	**18.21**	**302**	LR	LR	23 24 36.5	
	comp=Z,156nm,18.2s,baz=88,slow=35						
SCHQ	**Schefferville**	**19.33**	**274**	LR	LR	23 23 44.8	
	comp=Z,56nm,18.9s,baz=33,slow=30						
ESDC	**Sonseca Array**	**26.00**	**124**	P	**P**	**23 19 37.9**	**+1.5**
	1.3nm,0.9s,baz=318,slow=8.8,SNR=7.3						
ESDC				LR	LR	23 28 03.0	
	comp=Z,96nm,18.1s,baz=314,slow=32						
	1.3nm,0.9s						
ARCES	**ARCESS Array B**	**26.41**	**42**	P	**P**	**23 19 39.4**	**-0.4**
	3.2nm,0.9s,baz=340,slow=13,SNR=2.5						
	3.2nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.53**	**97**	LR	LR	23 29 00.3	
	comp=Z,79nm,18.5s,baz=262,slow=33						
VRAC	**Vranov**	**29.48**	**87**	LR	LR	23 30 10.7	
	comp=Z,68nm,19.1s,baz=28,slow=33						
AKASG	**Malin Array Be**	**35.19**	**75**	P	**P**	**23 20 56.1**	**-1.2**
	0.5nm,0.5s,baz=305,slow=8.9,SNR=2.8						
AKASG				LR	LR	23 33 30.3	
	comp=Z,36nm,21.4s,baz=258,slow=33						
	0.5nm,0.5s						
KEST	**Kesra**	**35.37**	**112**	LR	LR	23 34 50.5	
	comp=Z,79nm,18.2s,baz=44,slow=35						
ULM	**Lac du Bonnet**	**36.76**	**286**	LR	LR	23 34 46.9	
	comp=Z,70nm,18.3s,baz=84,slow=34						
YKA	**Yellowknife Ar**	**38.27**	**312**	P	**P**	**23 21 22.3**	**-1.1**
	0.3nm,0.7s,baz=59,slow=9.1,SNR=5.1						
YKA				LR	LR	23 35 32.7	
	comp=Z,72nm,18.1s,baz=294,slow=34						
	0.3nm,0.7s						
TKL	**Tuckaleechee C**	**40.64**	**259**	LR	LR	23 36 04.6	
	comp=Z,45nm,18.4s,baz=36,slow=32						
BRTR	**Keskin Array B**	**44.89**	**85**	P	**P**	**23 22 18.0**	**-0.1**
	0.4nm,0.8s,baz=321,slow=5.9,SNR=4.3						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**47.62**	**328**	P	**P**	**23 22 40.5**	**+1.5**
	0.8nm,0.9s,baz=37,slow=7.6,SNR=7.9						
	0.8nm,0.9s						
NEW	**Newport**	**48.46**	**297**	LR	LR	23 41 50.5	
	comp=Z,89nm,18.8s,baz=16,slow=34						
PDAR	**Pinedale Array**	**48.75**	**287**	P	**P**	**23 22 48.2**	**-0.1**
	0.4nm,0.7s,baz=78,slow=7.7,SNR=5.1						
PDAR				LR	LR	23 41 41.2	
	comp=Z,44nm,18.7s,baz=16,slow=34						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**52.43**	**48**	P	**P**	**23 23 15.0**	**-0.7**
	0.6nm,0.7s,baz=290,slow=5.7,SNR=4.1						
	0.6nm,0.7s						
DBIC	**Dimbokro**	**55.77**	**147**	LR	LR	23 44 52.7	
	comp=Z,46nm,18.4s,baz=196,slow=33						
ZALV	**Zalesovo Beam**	**56.91**	**39**	P	**P**	**23 23 49.2**	**+1.1**
	0.8nm,0.6s,baz=309,slow=28,SNR=2.1						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**57.44**	**45**	P	**P**	**23 23 51.5**	**-0.4**
	0.6nm,0.7s,baz=325,slow=6.8,SNR=4.7						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**62.00**	**45**	P	**P**	**23 24 22.4**	**-1.1**
	0.6nm,0.8s,baz=337,slow=6.3,SNR=7.9						
	0.6nm,0.8s						
KMBO	**Kilima Mbogo**	**80.27**	**108**	LR	LR	00 01 06.8	
	comp=Z,15nm,20.1s,baz=82,slow=35						

*IDC **10** 23:19:50.3±1.5, 7°.28S×128°.07E, h0km, mb3.5/4, mbtmp3.5/7, ML3.7/3, Error ellipse: s-maj=98.3km s-min=24.1km az=75.0*
ISC 10 23:20:04.7±1.1, 7°.69S±0°.09×128°.2E±0°.2, h142km, n7, σ1§60/10, mb3.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.63**	**193**	Pn	**Pn**	**23 22 31.0**	**-2.3**
	0.5nm,0.3s,baz=13,slow=14,SNR=7.2						
FITZ				Sn	**Sn**	**23 24 33.1**	**+2.3**
	0.7nm,0.3s,baz=86,slow=15,SNR=3.6						
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**13.57**	**154**	Pn	**Pn**	**23 23 10.1**	**-1.5**
	0.3nm,0.3s,baz=328,slow=14,SNR=13						
WRA				Sn	**Sn**	**23 25 42.9**	**+1.1**
	0.5nm,0.3s,baz=337,slow=20,SNR=6.2						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**16.81**	**162**	P	**Pn**	**23 23 51.0**	**-0.9**
	0.3nm,0.3s,baz=339,slow=12,SNR=11						
ASAR				S	**Sn**	**23 27 01.2**	**+1.5**
	0.8nm,0.6s,baz=342,slow=

RDWB	Redoubt West	0.88	27		Sn	23 25 58.9	-0.9
HOM	Homer	1.01	92		Sn	23 26 01.0	-0.6
HOM	Homer	1.01	92		Pn	23 25 44.3	-0.4
N19K	Bonanza Creek	1.19	339		Pn	23 25 45.9	-0.8
N19K	Bonanza Creek	1.19	339	IAML		23 26 04.8	
	comp=E,18nm,1.0s						
CNPM	China Poot	1.23	97		Pn	23 25 46.1	-0.9
CNPM	China Poot	1.23	97	IAML		23 26 04.7	
	comp=N,112nm,0.4s						
CNPM				IAML		23 26 04.8	
	comp=E,72nm,1.0s						
SYI	Shuyak Island	1.27	149		Pn	23 25 46.6	-0.8
SYI					Sn	23 26 04.8	-1.5
SYI	Shuyak Island	1.27	149	IAML		23 26 05.5	
	comp=E,60nm,0.2s						
SYI				IAML		23 26 05.5	
	comp=N,100nm,0.3s						
KAHC	Katmai Hardscr	1.28	214		Pn	23 25 47.0	-0.6
KAHC					Sn	23 26 05.6	-1.1
KAHG	Katmai Hook Gl	1.30	202		Pn	23 25 47.4	-0.5
BRLK	Bradley Lake	1.39	86		Pn	23 25 48.3	-0.5
BRLK					Sn	23 26 07.1	-1.8
BRLK	Bradley Lake	1.39	86	IAML		23 26 08.1	
	comp=N,97nm,0.2s						
BRLK				IAML		23 26 08.2	
	comp=E,102nm,0.3s						
BRSE	Bradley Lake S	1.47	87		Pn	23 25 49.3	-0.3
N18K	Kilae Creek	1.49	312		Pn	23 25 49.4	-0.5
KAKN	Katmai Knife C	1.60	208		Pn	23 25 50.7	-0.5
CAPN	Captain Cook N	1.63	48	Pn	Pn	23 25 51.6	+0.2
CAPN				IAML		23 26 24.5	
	comp=N,81nm,0.9s						
SPCR	Spurr Chakacha	1.66	25		Pn	23 25 51.2	-0.7
ACHA	Angle Creek He	1.74	211		Pn	23 25 52.3	-0.6
O17K	Koliganek Bris	1.75	274		Pn	23 25 52.7	-0.3
SPCG	Spurr Capps Gl	1.78	26		Pn	23 25 52.8	-0.6
ANCK	Angle Creek	1.79	213		Pn	23 25 53.1	-0.4
N17K	Nushagak Hills	1.96	296		Pn	23 25 55.3	-0.2
STLK	Strandline Lak	2.00	25		Pn	23 25 55.9	-0.2
STLK				IAML		23 26 25.4	
	comp=N,10nm,0.6s						
STLK				IAML		23 26 26.0	
	comp=E,7.8nm,0.8s						
KDAK	Kodiak Island	2.01	164		Pn	23 25 54.6	-1.4
KDAK	Kodiak Island	2.01	164	IAML		23 26 20.9	
	comp=E,44nm,0.8s						
KDAK				IAML		23 26 25.4	
	comp=E,42nm,1.0s						
M18K	Stony River	2.09	330		Pn	23 25 56.3	-0.8
SEW	Seward	2.14	77		Pn	23 25 56.4	-1.3
R18K	Karluk	2.19	192		Pn	23 25 56.7	-1.6
R18K	Karluk	2.19	192	IAML		23 26 25.1	
	comp=E,41nm,0.5s						
R18K				IAML		23 26 26.7	
	comp=N,40nm,0.3s						
M20K	Styx River	2.20	6		Pn	23 25 57.8	-0.7
M19K	Big River Lodg	2.24	351		Pn	23 25 58.0	-1.0
SUA	Susitna One	2.27	38		Pn	23 25 58.8	-0.6
SUA	Susitna One	2.27	38	IAML		23 26 28.9	
	comp=E,34nm,1.2s						
SUA				IAML		23 26 30.6	
	comp=N,22nm,1.0s						
O16K	Kokwok River B	2.27	269		Pn	23 25 59.3	0.0
RC01	Rabbit Creek A	2.38	53		Pn	23 26 00.3	-0.4
OHAK	Old Harbor	2.50	176		Pn	23 26 00.2	-2.0
OHAK				IAML		23 26 30.0	
	comp=N,25nm,1.0s						
OHAK				IAML		23 26 40.3	
	comp=E,22nm,1.1s						
SKT	Skwentna	2.50	23	Pn	Pn	23 26 01.5	-0.8
SKT				IAML		23 26 37.5	
	comp=E,9.4nm,1.2s						
SKT				IAML		23 26 40.9	
	comp=N,5.4nm,0.4s						
M17K	Holitna River	2.53	314	Pn	Pn	23 26 02.3	-0.4
M17K				IAML		23 27 06.9	
	comp=N,10.0nm,1.1s						
L19K	White Mountain	2.55	347		Pn	23 26 02.2	-0.8
L20K	Farewell, AK	2.79	358		Pn	23 26 05.0	-1.0
PWL	Port Wells	2.88	64		Pn	23 26 04.6	-2.6
PMR	Palmer	2.91	48	Pn	Pn	23 26 06.4	-1.2
PMR				IAML		23 26 40.6	
	comp=N,17nm,0.2s						
PMR				IAML		23 26 42.8	
	comp=E,14nm,0.8s						
L18K	Granite Mounta	2.93	331		Pn	23 26 06.8	-1.0
M16K	Timber Creek	2.96	299	Pn	Pn	23 26 07.7	-0.5
M16K				IAML		23 27 01.0	
	comp=E,4.3nm,1.2s						
KNK	Knik Glacier	3.08	54		Pn	23 26 07.6	-2.1
KNK	Knik Glacier	3.08	54	IAML		23 26 50.5	
	comp=E,30nm,1.0s						
GHO	Glory Hole Cre	3.10	46		Pn	23 26 08.4	-1.8
GHO	Glory Hole Cre	3.10	46	IAML		23 26 45.3	
	comp=N,25nm,0.6s						
GHO				IAML		23 26 46.4	
	comp=E,26nm,0.6s						
P23K	Montague Islan	3.16	82		Pn	23 26 09.4	-1.4
CUT	Chulitna	3.16	30	Pn	Pn	23 26 10.6	-0.2
CUT				IAML		23 26 41.5	
	comp=N,24nm,1.1s						
PPLA	Purkeypile	3.28	12	Pn	Pn	23 26 11.8	-0.6
N15K	Kwethluk River	3.28	281	Pn	Pn	23 26 12.6	+0.2
N15K				IAML		23 27 03.5	
	comp=E,7.1nm,1.0s						
N15K				IAML		23 27 39.0	
	comp=N,9.5nm,1.1s						
SML	Sawmill	3.35	49	Pn	Pn	23 26 12.4	-0.9
SML				IAML		23 26 51.6	
	comp=N,16nm,0.7s						
SML				IAML		23 26 58.5	
	comp=E,13nm,1.2s						
TTA	Tatalina	3.43	342		Pn	23 26 13.2	-1.2
GLI	Glacier Island	3.46	67		Pn	23 26 13.5	-1.2
L16K	Owhat River	3.50	308	Pn	Pn	23 26 14.7	-0.6
L16K				IAML		23 27 14.8	
	comp=E,4.5nm,1.2s						
HIN	Hinchinbrook I	3.64	76	Pn	Pn	23 26 16.7	-0.6
K20K	Telida	3.67	357	Pn	Pn	23 26 16.8	-0.8
K20K				IAML		23 28 41.9	
	comp=E,1.9nm,1.2s						
Q23K	Middleton Isla	3.72	91	Pn	Pn	23 26 17.0	-1.1
SCM	Sheep Creek Mo	3.76	53	IAML		23 27 05.7	
	comp=N,20nm,1.2s						
SCM				IAML		23 27 12.9	
	comp=E,12nm,1.1s						
K17K	Iditarod	3.77	325	Pn	Pn	23 26 18.4	-0.5
K17K				IAML		23 28 10.2	
	comp=E,2.3nm,1.0s						
CAST	Castle Rocks	3.80	11		Pn	23 26 18.9	-0.4
EYAK	Cordova Ski Ar	4.03	75	Pn	Pn	23 26 21.3	-1.0
J18K	Innoko River	4.05	340	Pn	Pn	23 26 21.7	-0.9
KTH	Kantishna Hill	4.07	17		Pn	23 26 21.9	-1.0
KTH				IAML		23 27 03.6	
	comp=N,3.1nm,0.9s						
KTH				IAML		23 28 50.3	
	comp=E,3.3nm,1.1s						
TRF	Thorofare Moun	4.08	22		Pn	23 26 22.1	-1.1
TRF	Thorofare Moun	4.08	22	IAML		23 27 09.3	
	comp=N,4.5nm,0.7s						
TRF				IAML		23 27 10.1	
	comp=E,3.9nm,0.8s						
DIV	Divide	4.15	67	Pn	Pn	23 26 23.4	-0.6
KLU	Klutina	4.20	61		Pn	23 26 22.5	-2.2
CHUM	Lake Minchumin	4.24	8		Pn	23 26 24.7	-0.3
CHGN	Chignik	4.26	219		Pn	23 26 24.7	-0.7
RND	Reindeer	4.36	30		Pn	23 26 25.2	-1.6
RND	Reindeer	4.36	30	IAML		23 27 14.1	
	comp=E,6.0nm,1.2s						
RND				IAML		23 27 17.0	
	comp=N,3.5nm,1.2s						
M24K	Tolsona, Glenn	4.37	53		Pn	23 26 25.1	-1.8
M24K	Tolsona, Glenn	4.37	53	IAML		23 29 28.9	
	comp=N,11nm,1.1s						
J19K	Poorman	4.41	349		Pn	23 26 25.9	-1.5
BMRM	Bremner River	4.66	70		Pn	23 26 29.3	-1.5
N25K	Chitina, Valde	4.84	63		Pn	23 26 32.5	-0.7
N25K	Chitina, Valde	4.84	63	IAML		23 27 39.5	
	comp=E,4.8nm,1.0s						
GLB	Gilahina Butte	5.15	66		Pn	23 26 36.3	-1.1
VRDI	Verde Repeater	5.26	69		Pn	23 26 37.9	-1.1
VRDI	Verde Repeater	5.26	69	IAML		23 27 53.5	
	comp=N,5.2nm,1.2s						
NEA2	Nenana	5.35	22		Pn	23 26 38.3	-1.7
NEA2	Nenana	5.35	22	IAML		23 29 15.6	
	comp=N,0.9nm,1.1s						
NEA2				IAML		23 30 15.7	
	comp=E,2.1nm,1.1s						
BALM	Baldy	5.76	72		Pn	23 26 44.5	-1.1
I23K	Minto, Yukon-K	5.81	18		Pn	23 26 44.8	-1.4

IDC 10 23:30:29.6±2.5, 2°18.N×98°59.E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=110.1km s-min=29.1km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.39	124	P	P	23 38 17.9	-0.1
	0.2nm,0.5s,baz=307,slow=9.3,SNR=4.6 0.2nm,0.5s						
SONM	Songino Array	45.98	7	P	P	23 38 55.0	+0.3
	0.1nm,0.3s,baz=184,slow=7.1,SNR=1.6 0.1nm,0.3s						
MKAR	Makanchi Array	46.66	345	P	P	23 38 59.9	+0.1
	0.3nm,0.4s,baz=157,slow=9.1,SNR=9.6 0.3nm,0.4s						
ZALV	Zalesovo Beam	52.83	350	P	P	23 39 46.9	+0.1
	0.3nm,0.3s,baz=168,slow=7.4,SNR=2.3 0.3nm,0.3s						
FINES	FINESS Array B	79.78	332	P	P	23 42 38.8	-0.7
	3.9nm,1.1s,baz=107,slow=6.7,SNR=3.9 3.9nm,1.1s						

IDC 10 23:35:46.0±3.4, 26°29N×143°77E, h82km±27km, mb3.3/7, mbtmp3.7/8, MS3.0/2, Error ellipse: s-maj=34.8km s-min=22.5km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.63	300	P	Pn	23 36 11.8	-1.2
	65nm,0.3s,baz=151,slow=19,SNR=5.7						
JCJ				S	Sn	23 36 34.0	+0.4
	110nm,0.7s,baz=101,slow=24,SNR=6.4						
KSRS	Korea Array	17.44	314	P	P	23 39 45.4	+1.4
	2.9nm,0.8s,baz=137,slow=12,SNR=7.9						
KSRS				LR	LR	23 46 36.6	
	comp=Z,16nm,18.1s,baz=50,slow=37						
PMG	Port Moresby	35.63	174	LR	LR	23 56 41.2	
	comp=Z,57nm,19.7s,baz=143,slow=35						
SONM	Songino Array	36.28	316	P	P	23 42 40.2	-1.3
	0.2nm,0.5s,baz=134,slow=10,SNR=2.2 0.2nm,0.5s						
WRA	Warramunga Arr	46.85	192	P	P	23 44 08.1	+0.1
	2.4nm,0.8s,baz=9.3,slow=8.3,SNR=11 2.4nm,0.8s						
MKAR	Makanchi Array	52.08	310	P	P	23 44 47.5	-0.1
	0.5nm,0.8s,baz=97,slow=7.8,SNR=6.5 0.5nm,0.8s						
KURBB	Kurchatov Arra	54.62	315	P	P	23 45 07.0	+0.9
	0.4nm,0.7s,baz=92,slow=7.9,SNR=4.2 0.4nm,0.7s						
ILAR	Eielson Array	57.74	28	P	P	23 45 30.0	+1.9
	0.5nm,1.1s,baz=248,slow=6.1,SNR=2.5						
ILAR				pP	pwP	23 45 50.6	-2.8
	0.3nm,0.7s,baz=267,slow=7.5,SNR=3.0 0.5nm,1.1s						
YKA	Yellowknife Ar	72.17	29	P	P	23 47 00.5	-1.1
	0.1nm,0.3s,baz=294,slow=6.4,SNR=1.5						
YKA				pP	pP	23 47 22.2	+0.4
	0.4nm,0.7s,baz=294,slow=6.2,SNR=3.0 0.1nm,0.3s						
ARCES	ARCESS Array B	74.77	341	P	P	23 47 16.0	-0.8
	4.7nm,1.1s,baz=35,slow=4.4,SNR=6.8 4.7nm,1.1s						

NEIC ***11*** *00:06:42.6±1.6, 59°74N×0°03×141°66W±0°03, h10km±2km, Error ellipse: s-maj=5.8km s-min=3.0km az=13.0*

AEIC 11 00:06:44.4±2.6, 59°89N±0°03×141°64W±0°03, h4km±6km, ML2.6, ML3.4/12(NEIC), Error ellipse: s-maj=4.8km s-min=2.0km az=176.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	Chaix Hills	0.32	57		Pg	00 06 50.8	+0.3
CHX					Sb	00 06 57.4	-0.8
MESA	MESA	0.33	332	Pg	Pg	00 06 50.0	-0.8
MESA				IAML		00 06 58.9	
	comp=E,2μm,0.7s						
MESA				IAML		00 07 00.7	
	comp=N,2μm,1.0s						
MESA	MESA	0.33	332		Sb	00 06 58.0	-0.6
RKAV	Rock Avalanche	0.44	20		Pg	00 06 53.1	+0.3
RKAV					Sb	00 07 01.8	0.0
CYK	Cape Yakataga	0.47	295		Sb	00 07 02.3	-0.1
YAH	Yahtse	0.48	354	Pg	Pg	00 06 53.9	+0.3
YAH				IAML		00 07 05.4	
	comp=N,918nm,1.1s						
SAMH	Samovar Hills	0.49	61		Pg	00 06 54.1	+0.2
BARK	Barkley Ridge	0.67	321		Pg	00 06 57.1	-0.1
BARK					Sb	00 07 07.6	-0.7
SNH	Sunshine Point	0.67	296		Pg	00 06 57.1	-0.1
SNH	Sunshine Point	0.67	296		Sb	00 07 07.8	-0.4
PCA	Pinnacle	0.73	73		Pg	00 06 58.1	-0.2
BCPM	Bancas Point	1.01	86	Pg	Pg	00 07 02.6	-1.2
BCPM				IAML		00 07 39.5	
	comp=E,2μm,0.3s						
SUCK	Suckling Hills	1.09	281	Pg	Pg	00 07 04.2	-1.0
SUCK				IAML		00 07 41.6	
	comp=E,1μm,0.8s						
SUCK				IAML		00 07 43.1	
	comp=N,2μm,0.5s						
KIAG	Kiagna River	1.09	341		Pg	00 07 03.7	-1.7
KIAG					Sg	00 07 19.1	-0.5
O28M	Mount Upton	1.14	39		Pg	00 07 04.3	-2.0
O28M					Sg	00 07 20.3	-0.8
BERG	Berg Lake	1.15	297		Pg	00 07 04.9	-1.5
PNL	Peninsula	1.16	100		Pg	00 07 04.8	-1.8
BALM	Baldy	1.20	343		Pg	00 07 05.3	-2.1
NICHA	Nichawak Mount	1.22	288		Pg	00 07 06.3	-1.4
HMT	Hamilton	1.39	290		Pn	00 07 08.8	-1.8
KAIM	Kayak Island	1.40	273		Pn	00 07 09.0	-1.7
O29M	Mount Kennedy	1.59	74		Pn	00 07 11.7	-1.7
RAGM	Ragged Mountai	1.60	289		Pn	00 07 11.0	-2.5
VRDI	Verde Repeater	1.61	327		Pn	00 07 11.8	-2.0
VRDI	Verde Repeater	1.61	327		Sn	00 07 33.8	-1.3
YUK8	Steele Glacier	1.68	33		Pn	00 07 14.1	-0.7
GOAT	Goat Mountain	1.69	296		Pn	00 07 12.7	-2.1
BMRM	Bremner River	1.82	308		Pn	00 07 15.2	-1.4
YUK7	Dusty Glacier	1.86	68		Pn	00 07 16.3	-0.9
GLB	Gilahina Butte	1.89	326		Sn	00 07 41.9	+0.2
GLB	Gilahina Butte	1.89	326		Pn	00 07 16.5	-0.9
GLB					Pb	00 07 16.8	-2.6
YUK6	Outpost Mounta	1.94	56		Pn	00 07 17.8	-0.6
YUK2	White River	1.94	11		Pn	00 07 18.0	-0.2
YUK3	Moose Creek	1.98	17		Pn	00 07 18.9	+0.1
N25K	Chitina, Valde	2.25	321		Pn	00 07 21.1	-1.4
HYT	Haines Junctio	2.26	64	Pn	Pn	00 07 21.5	-1.2
WASW	Wrangell South	2.39	330		Pn	00 07 24.1	-0.4
DIV	Divide	2.39	303		Pn	00 07 22.8	-1.6
M27K	Edge Creek, AK	2.48	357		Pn	00 07 25.8	+0.1
M26K	Nabesna, AK	2.60	346		Pn	00 07 25.4	-1.9
KLU	Klutina	2.65	309		Pn	00 07 26.4	-1.5
M29M	Somme Creek	2.99	30		Pn	00 07 32.6	0.0
M24K	Tolsona, Glenn	3.13	317		Pn	00 07 33.3	-1.2
L27K	Beaver Creek,	3.18	358		Pn	00 07 34.7	-0.5
BCAR	Beaver Creek A	3.19	359	Pn	Pn	00 07 35.2	-0.1
MENT	Mentasta	3.22	343		Pn	00 07 35.1	-0.6
L26K	Log Cabin Wild	3.25	346		Pn	00 07 36.4	+0.3
L29M	L29M	3.64	26		Pn	00 07 41.7	+0.1
DOT	Dot Lake	3.94	344		Pn	00 07 45.8	+0.1
GHO	Glory Hole Cre	4.03	301		Pn	00 07 43.6	-3.3

NOU ***11*** *00:06:54.0, 33°94S×118°16E, h0km, MLv4.3/13, Western Australia*

CUPWA ***11*** *00:06:56.0±2.4, 33°86S×118°12E, h9km±48km, ML3.5, Region: WESTERN AUSTRALIA*

AUST ***11*** *00:06:56.1±0.4, 34°S±3°×11°8E±°, h10km, mb3.8/3, ML3.5/8, Error ellipse: s-maj=7.0km s-min=6.1km az=33.4*

ISC 11 00:06:55.0±0.9, 33°83S±0°04×118°26E±0°05, h10km, n40, σ1§17/43, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUKUL	Kulin High Sch	1.16	356	P	Pg	00 07 18.1	+0.7
AUKUL				S	Sn	00 07 33.6	+0.3
AUALB	St Joseph's Co	1.20	194	P	Pb	00 07 17.1	-0.8
AUALB	St Joseph's Co	1.20	194	P	Pb	00 07 17.1	-0.8
NWAO	Narrogin (SRO)	1.24	316	P	Pn	00 07 17.8	-0.6
NWAO	Narrogin (SRO)	1.24	316	P	Pn	00 07 18.0	-0.4
NWAO	Narrogin (SRO)	1.24	316	S	Sb	00 07 34.1	-0.5
NWAO	Narrogin (SRO)	1.24	316	P	Pn	00 07 18.1	-0.4
NWAO	Narrogin (SRO)	1.24	316	S	Sb	00 07 34.2	-0.4
NWAO	Narrogin (SRO)	1.24	316	P	Pn	00 07 17.8	-0.6
NWAO				S	Sb	00 07 33.8	-0.8
PING	Pingelly	1.69	321	PG	Pb	00 07 26.2	0.0
PING	Pingelly	1.69	321	SG	Sg	00 07 48.7	-0.7
CORI2	Corrigin	1.79	346	PG	Pb	00 07 28.3	+0.4
CORI2				SG	Sg	00 07 51.8	-0.8
AUHAR	St Anne's Scho	2.11	290	P	Pb	00 07 32.5	-0.9
AUHAR	St Anne's Scho	2.11	290	S	Sb	00 07 58.7	-1.0
KLBR	Kellerberrin	2.27	349	P	Pb	00 07 34.6	-1.6
KLBR	Kellerberrin	2.27	349	S	Sb	00 08 04.0	-0.3
KLBR	Kellerberrin	2.27	349	P	Pb	00 07 34.5	-1.6
KLBR	Kellerberrin	2.27	349	S	Sb	00 08 04.5	+0.2
KLBR	Kellerberrin	2.27	349	P	Pb	00 07 34.5	-1.6
AUBUS	Georgiana Moll	2.40	273	P	Pn	00 07 35.8	+1.4
MECK	Meckering	2.43	334	SG	Sb	00 08 10.2	+1.3
MUN	Mundaring	2.52	316	P	Pn	00 07 37.3	+1.2
MUN	Mundaring	2.52	316	S	Sn	00 08 07.6	+0.7
MUN	Mundaring	2.52	316	P	Pn	00 07 36.6	+0.5
MUN	Mundaring	2.52	316	S	Sn	00 08 08.7	+1.8
MUN	Mundaring	2.52	316	P	Pn	00 07 37.4	+1.2
BLDU	Ballidu	3.46	337	P	Pn	00 07 49.6	+0.6
BLDU	Ballidu	3.46	337	P	Pn	00 07 49.3	+0.3
BLDU	Ballidu	3.46	337	P	Pn	00 07 50.0	+1.0
KMBL	Kambalda	3.92	52	P	Pn	00 07 57.5	+2.1
KMBL	Kambalda	3.92	52	P	Pn	00 07 57.4	+2.1
MORW	Morawa	5.11	338	P	Pn	00 08 12.2	+0.5
	comp=Z,0.2nmcomp=Z,12nm,1.3s						
MORW	Morawa	5.11	338	S	Sn	00 09 09.4	-1.4
MORW	Morawa	5.11	338	P	Pn	00 08 12.4	+0.7
MEEK	Meekatharra	7.18	3	P	Pn	00 08 40.9	+0.9
	comp=Z,6.6nm,0.9s,comp=Z,0.1nm						
MEEK	Meekatharra	7.18	3	P	Pn	00 08 41.4	+1.3
FORT	Forrest	8.84	73	P	Pn	00 09 04.0	+1.2
	comp=Z,39nm,0.7s,comp=Z,0.2nm						
FORT	Forrest	8.84	73	S	Sn	00 10 39.2	-3.3
FORT	Forrest	8.84	73	P	Pn	00 09 04.0	+1.2

MOS ***11*** *00:07:16.9±1.0, 59°88N×141°57W, h9km, mb5.2/94, MS4.5/7, Error ellipse: s-maj=9.3km s-min=3.7km az=103.2*

IDC ***11*** *00:07:17.5±0.4, 59°97N×141°56W, h0km, mb4.5/33, mbtmp4.5/40, ML4.0/7, MS4.3/72, Error ellipse: s-maj=10.9km s-min=6.7km az=34.0*

NEIC ***11*** *00:07:18.2, 59°77N×141°60W, h9km*

AEIC ***11*** *00:07:18.3±1.6, 59°79N±0°04×141°63W±0°08, h14km±3km, ML4.8, mb5.1/479(NEIC), ML4.9/116(NEIC), Mwr5.0/68(NEIC), Mww5.0/87(NEIC), Error ellipse: s-maj=6.3km s-min=4.8km az=61.0*

NEIC ***11*** *00:07:18.4±1.5, 59°80N±0°04×141°59W±0°08, h7km±3km, Error ellipse: s-maj=6.0km s-min=5.3km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr2.82; Mθθ-3.26; Mφφ0.44; Mrθ0.92; Mθφ-1.62; Mφr-0.58; Fault plane solution: M0 3.63000×10^16 NP1:φs89.15000°, δ54.30000°, λ116.86000°. NP2:φs228.19000°, δ43.58000°, λ57.84000°. Principal axes: T 3.2262, Plg68.0000°, Azm56.0000°; N 0.7025, Plg22.0000°, Azm253.0000°; P -3.9287, Plg6.0000°, Azm160.0000°;*

NEIC ***11*** *00:07:18.2, 59°77N×141°60W, h12km*

NEIC ***11*** *00:07:18.2, 59°77N×142°00W, h12km, Moment Tensor Solution. Duration: !§7 Moment tensor: Scale 10^16Nm; Mrr3.15; Mθθ-3.43; Mφφ0.28; Mrθ2.88; Mθφ-1.39; Mφr0.72; Fault plane solution: M0 4.61000×10^16 NP1: φs247.12000°, δ25.09000°, λ82.96000°. NP2:φs74.88000°, δ65.12000°, λ93.28000°. Principal axes: T 4.2430, Plg70.0000°, Azm352.0000°; N 0.7350, Plg3.0000°, Azm254.0000°; P -4.9780, Plg20.0000°, Azm162.0000°;*

GCMT ***11*** *00:07:22.3±0.2, 59°94N±0°01×141°63W±0°03, h12km, MW5.0/129, Moment Tensor Solution. s82,c103; s129,c218; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.79±.08; Mθθ-3.87±.07; Mφφ0.07±.08; Mrθ0.98±.21; Mθφ-1.59±.06; Mφr-0.88±.28; Best double couple: M0 4.34400×10^16 NP1:φs233.00000°, δ43.00000°, λ64.00000°. NP2:φs87.00000°, δ52.00000°, λ113.00000°. Principal axes: T 4.2080, Plg72.0000°, Azm58.0000°; N 0.2690, Plg18.0000°, Azm253.0000°; P -4.4810, Plg5.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 00:07:18.9±0.4, 59°81N±0°02×141°57W±0°01, h12km±2km, h12km:pP-P, n1361, σ1§17/1384, mb5.0/339, MS4.4/90, 14C-7D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	Chaix Hills	0.34	41		Pg	00 07 26.0	+0.2
CHX					Sg	00 07 31.3	+0.8
MESA	MESA	0.42	333		Pg	00 07 26.2	-1.0
MESA					Sg	00 07 32.9	0.0
MESA				IAML		00 07 37.2	
	comp=E,166μm,0.4s						
MESA	MESA	0.42	333	P	Pg	00 07 26.4	-0.8
	baz=151,SNR=174						
MESA				S	Sg	00 07 32.5	-0.3
	baz=151						
RKAV	Rock Avalanche	0.51	13		Pg	00 07 28.5	-0.4
RKAV					Sb	00 07 36.9	-0.4
SAMH	Samovar Hills	0.51	50		Pg	00 07 28.8	-0.1
CYK	Cape Yakataga	0.54	302		Pg	00 07 28.7	-0.7
YAH	Yahtse	0.57	351		Pg	00 07 29.4	-0.6
YAH					Sg	00 07 37.5	0.0
YAH				IAML		00 07 46.4	
	comp=E,67μm,1.3s						
PCA	Pinnacle	0.72	66		Pg	00 07 32.5	-0.3
PINM	Pinnacle	0.72	66	P	Pg	00 07 32.5	-0.4
	baz=243,SNR=296						
SNH	Sunshine Point	0.74	301		Sg	00 07 42.4	-0.5
SNH	Sunshine Point	0.74	301		Pg	00 07 32.1	-1.1
SNH				IAML		00 07 57.9	
	comp=N,42μm,1.0s						
BARK	Barkley Ridge	0.76	323		Pg	00 07 31.9	-1.6
BARK					Sg	00 07 42.3	-1.1
BGLC	Bering Glacier	0.92	291		Pg	00 07 35.5	-1.1
BGLC	Bering Glacier	0.92	291	P	Pg	00 07 35.8	-0.8
	baz=111,SNR=9.6						
BCPM	Bancas Point	0.99	81		Pg	00 07 36.8	-1.1
BCPM					Sb	00 07 51.6	+0.7
YKU2	Yakutat	1.01

	baz=95						
HMT	Hamilton	1.45	293		Pn	00 07 43.6	-1.3
O29M	Mount Kennedy	1.58	70		Pn	00 07 46.4	-0.5
O29M	Mount Kennedy	1.58	70	IAML		00 08 19.6	
	comp=N,13µm,0.8s						
O29M				IAML		00 08 20.0	
	comp=E,13µm,0.7s						
O29M	Mount Kennedy	1.58	70	P	Pn	00 07 46.3	-0.5
	baz=251,SNR=119						
O29M				S	Sb	00 08 08.4	+0.3
	baz=251						
RAGM	Ragged Mountai	1.66	292		Pn	00 07 47.1	-0.8
RAGM	Ragged Mountai	1.66	292	IAML		00 08 24.4	
	comp=E,20µm,0.9s						
VRDI	Verde Repeater	1.70	328		Pn	00 07 46.6	-2.0
VRDI					Sn	00 08 10.2	-0.2
YUK8	Steele Glacier	1.73	30	P	Pn	00 07 48.8	-0.2
	baz=210,SNR=168						
YUK8				S	Sn	00 08 11.2	0.0
	baz=210						
YUK7	Dusty Glacier	1.86	66		Pn	00 07 51.2	+0.4
BMRM	Bremner River	1.91	309		Pn	00 07 49.7	-1.6
BMRM	Bremner River	1.91	309	P	Pn	00 07 50.8	-0.5
	baz=127,SNR=122						
BMRM				S	Sn	00 08 15.4	+0.2
	baz=127						
YUK6	Outpost Mounta	1.96	53	P	Pn	00 07 52.6	+0.5
	baz=234,SNR=228						
YUK6				Sb	Sg	00 08 20.7	-1.2
	baz=234						
GLB	Gilahina Butte	1.98	327		Pn	00 07 50.7	-1.5
GLB	Gilahina Butte	1.98	327	IAML		00 08 19.9	
	comp=E,7µm,1.2s						
GLB				IAML		00 08 26.7	
	comp=N,8µm,0.9s						
YUK2	White River	2.02	10		Pn	00 07 53.5	+0.7
YUK3	Moose Creek	2.05	15		Pn	00 07 54.3	+0.9
YUK3	Moose Creek	2.05	15	P	Pn	00 07 53.8	+0.4
	baz=195,SNR=246						
YUK3				S	Sb	00 08 20.7	-1.0
	baz=195						
YUK4	Talbot Arm	2.11	42	P	Pb	00 07 56.4	-0.8
	baz=222,SNR=239						
YUK4				S	Sb	00 08 24.4	+0.9
	baz=222						
EYAK	Cordova Ski Ar	2.22	291		Pn	00 07 53.4	-2.1
EYAK	Cordova Ski Ar	2.22	291	P	Pn	00 07 53.4	-2.1
EYAK	Cordova Ski Ar	2.22	291	P	Pn	00 07 53.7	-1.8
	baz=108,SNR=29						
HYT	Haines Junctio	2.27	61		Pn	00 07 55.9	-0.4
HYT	Haines Junctio	2.27	61	P	Pn	00 07 56.3	0.0
	baz=244,SNR=183						
HYT				Sb	Sb	00 08 29.1	+1.3
	baz=244						
P30M	Million Dollar	2.34	80		Pn	00 07 57.2	-0.1
P30M	Million Dollar	2.34	80	IAML		00 08 52.2	
	comp=E,6µm,1.1s						
P30M				IAML		00 08 53.5	
	comp=N,9µm,1.1s						
P30M	Million Dollar	2.34	80	P	Pn	00 07 57.0	-0.2
	baz=263						
P30M				S	Sn	00 08 26.7	+0.8
	baz=263						
N25K	Chitina, Valde	2.34	322		Pn	00 07 57.0	-0.2
N25K	Chitina, Valde	2.34	322	P	Pn	00 07 57.0	-0.2
	baz=139,SNR=190						
N25K				S	Sn	00 08 27.0	+1.0
	baz=139						
Q23K	Middleton Isla	2.46	263	Sb	Sb	00 08 33.8	+0.6
	baz=80						
WASW	Wrangell South	2.48	330		Pn	00 07 59.1	-0.2
HIN	Hinchinbrook I	2.54	286		Pn	00 07 59.6	-0.3
HIN				IAML		00 08 45.3	
	comp=N,7µm,0.8s						
HIN				IAML		00 08 46.5	
	comp=E,6µm,0.9s						
M27K	Edge Creek, AK	2.56	357		Pn	00 08 00.4	0.0
M27K	Edge Creek, AK	2.56	357	IAML		00 08 47.3	
	comp=N,8µm,1.2s						
M27K				IAML		00 08 50.1	
	comp=E,6µm,1.2s						
M27K	Edge Creek, AK	2.56	357	P	Pn	00 08 00.5	+0.1
	baz=176						
M27K				S	Sn	00 08 31.5	-0.1
	baz=176						
WACK	Wrangell Chich	2.57	330		Pn	00 07 59.8	-0.8
WAZA	Wrangell Mount	2.60	332		Pn	00 08 02.0	+1.0
BVCY	Beaver Creek	2.64	7		Pn	00 08 02.1	+0.8
BVCY	Beaver Creek	2.64	7	P	Pn	00 08 02.5	+1.1
	baz=187,SNR=434						
BVCY				S	Sn	00 08 34.5	+1.2
	baz=187						
PLBC	Pleasant Camp	2.67	95	P	Pn	00 08 01.4	-0.2
	baz=279,SNR=40						
PLBC				S	Sn	00 08 34.5	+0.6
	baz=279						
M26K	Nabesna, AK	2.69	346		Pn	00 08 01.1	-0.9
M26K	Nabesna, AK	2.69	346	IAML		00 08 53.2	
	comp=E,4µm,1.4s						
M26K				IAML		00 08 56.1	
	comp=N,4µm,1.2s						
M26K	Nabesna, AK	2.69	346	P	Pn	00 08 02.4	+0.3
	baz=164,SNR=175						
M26K				S	Sn	00 08 36.9	+2.2
	baz=164						
KLU	Klutina	2.73	310	Pn	Pn	00 08 02.1	-0.5
KLU				IAML		00 08 45.6	
	comp=N,4µm,0.7s						
KLU				IAML		00 08 51.5	
	comp=E,4µm,1.2s						
KLU	Klutina	2.73	310	P	Pn	00 08 02.1	-0.5
	baz=127,SNR=90						
KLU				S	Sn	00 08 36.5	+1.0
	baz=127						
N30M	Aishikik Lake	2.76	51		Pn	00 08 02.3	-0.7
N30M				IAML		00 08 56.9	
	comp=N,3µm,1.2s						
N30M	Aishikik Lake	2.76	51	P	Pn	00 08 02.8	-0.2
	baz=234,SNR=102						
N30M				S	Sn	00 08 37.1	+0.8
	baz=234						
O30N	Mendenhall	2.90	68		Pn	00 08 04.2	-0.6
O30N				IAML		00 09 00.4	
	comp=N,5µm,1.1s						
O30N				IAML		00 09 04.7	
	comp=E,3µm,1.4s						
O30N	Mendenhall	2.90	68	P	Pn	00 08 04.5	-0.3
	baz=252,SNR=54						
P23K	Montague Islan	2.94	276		Pn	00 08 04.2	-1.2
P23K	Montague Islan	2.94	276	P	Pn	00 08 04.6	-0.9
	baz=92,SNR=7.6						
P23K				S	Sn	00 08 41.3	+0.6
	baz=92						
GLI	Glacier Island	2.95	294		Pn	00 08 04.9	-0.6
GLI	Glacier Island	2.95	294	P	Pn	00 08 04.3	-1.3
	baz=109,SNR=9.8						
GLI				S	Sn	00 08 42.6	+1.7
	baz=109						
M29M	Somme Creek	3.05	28		Pn	00 08 06.7	-0.2
M29M	Somme Creek	3.05	28	IAML		00 09 02.3	
	comp=E,3µm,1.3s						
M29M	Somme Creek	3.05	28	P	Pn	00 08 07.2	+0.3
	baz=210,SNR=136						
M29M				Sb	Sb	00 08 52.9	+2.7
	baz=210						
HARP	HAARP	3.13	328		Pn	00 08 07.3	-0.8
HARP	HAARP	3.13	328	P	Pn	00 08 08.7	+0.7
	baz=144,SNR=82						
SKAG	Skagway	3.19	94		Pn	00 08 08.2	-0.6
SKAG	Skagway	3.19	94	IAML		00 09 08.9	
	comp=E,3µm,0.9s						
SKAG				IAML		00 09 09.2	
	comp=N,3µm,1.3s						
SKAG	Skagway	3.19	94	P	Pn	00 08 08.7	-0.1
SKAG	Skagway	3.19	94	P	Pn	00 08 08.4	-0.4
	baz=278,SNR=20						
M24K	Tolsona, Glenn	3.22	318		Pn	00 08 08.4	-0.9
M24K	Tolsona, Glenn	3.22	318	IAML		00 09 11.5	
	comp=N,4µm,1.4s						
M24K	Tolsona, Glenn	3.22	318	P	Pn	00 08 08.7	-0.6
	baz=134,SNR=42						
L27K	Beaver Creek,	3.27	358	Pn	Pn	00 08 10.2	+0.2
L27K	Beaver Creek,	3.27	358	P	Pn	00 08 09.6	-0.4
	baz=177						
L27K				Sb	Sb	00 08 58.7	+2.1
	baz=177						
BCAR	Beaver Creek A	3.27	358	Pn	Pn	00 08 09.1	-0.9

MENT	Mentasta	3.31	343	Pn	Pn	00 08 10.6	+0.1
MENT				IAML		00 09 04.6	
	comp=E,2µm,1.1s						
MENT				IAML		00 09 06.8	
	comp=N,2µm,1.4s						
MENT	Mentasta	3.31	343	P	Pn	00 08 11.6	+1.1
R31K	City Hall, Gus	3.31	112	P	Pn	00 08 09.8	-0.8
	baz=297						
S31K	Pelican	3.33	121		Pn	00 08 10.7	0.0
S31K				IAML		00 09 37.0	
	comp=E,3µm,1.5s						
S31K	Pelican	3.33	121	P	Pn	00 08 09.5	-1.3
	baz=306,SNR=14						
L26K	Log Cabin Wild	3.34	346		Pn	00 08 11.2	+0.2
L26K	Log Cabin Wild	3.34	346	IAML		00 08 55.4	
	comp=E,2µm,0.5s						
L26K	Log Cabin Wild	3.34	346	P	Pn	00 08 11.6	+0.7
	baz=164,SNR=72						
L26K				S	Sn	00 08 52.6	+2.0
	baz=164						
WHY	Whitehorse	3.44	73		Pn	00 08 12.1	-0.3
WHY	Whitehorse	3.44	73	P	Pn	00 08 12.2	-0.3
	baz=258,SNR=40						
WHY				Sb	Sb	00 09 03.1	+1.5
	baz=258						
SCM	Sheep Creek Mo	3.48	308		Pn	00 08 11.6	-1.2
SCM	Sheep Creek Mo	3.48	308	IAML		00 09 16.4	
	comp=E,3µm,1.4s						
SCM				IAML		00 09 18.2	
	comp=N,2µm,0.8s						
SCM	Sheep Creek Mo	3.48	308	P	Pn	00 08 11.6	-1.2
SCM	Sheep Creek Mo	3.48	308	P	Pn	00 08 11.7	-1.1
	baz=123,SNR=34						
SCM				S	Sn	00 08 54.9	+0.9
	baz=123						
PWL	Port Wells	3.52	290		Pn	00 08 12.0	-1.5
PWL	Port Wells	3.52	290	P	Pn	00 08 12.9	-0.6
	baz=105						
PWL				S	Sn	00 08 54.9	-0.2
	baz=105						
M23K	Glacier View	3.62	306		Pn	00 08 13.3	-1.4
M23K	Glacier View	3.62	306	P	Pn	00 08 13.5	-1.2
	baz=121,SNR=58						
M23K				S	Sn	00 08 57.3	0.0
	baz=121						
M30M	Minto, Yukon	3.62	38	Pn	Pn	00 08 14.8	+0.1
M30M				IAML		00 09 16.9	
	comp=N,2µm,1.5s						
M30M				IAML		00 09 17.6	
	comp=E,2µm,0.9s						
M30M	Minto, Yukon	3.62	38	P	Pn	00 08 14.7	0.0
	baz=221,SNR=53						
M30M				Sb	Sb	00 09 09.5	+3.0
	baz=221						
BESE	Bessie Mountai	3.67	107		Pn	00 08 15.0	-0.5
PAX	Paxson	3.69	331	Pn	Pn	00 08 15.4	-0.3
PAX	Paxson	3.69	331	P	Pn	00 08 15.4	-0.3
PAX	Paxson	3.69	331	P	Pn	00 08 15.4	-0.3
	baz=148,SNR=73						
PAX				Sb	Sb	00 09 11.2	+2.6
	baz=148						
L29M	L29M	3.70	25		Pn	00 08 16.2	+0.3
L29M	L29M	3.70	25	IAML		00 09 23.5	
	comp=E,3µm,1.3s						
L29M				IAML		00 09 30.4	
	comp=N,3µm,0.9s						
L29M	L29M	3.70	25	P	Pn	00 08 15.6	-0.3
	baz=207,SNR=77						
L29M				Sb	Sb	00 09 12.8	+3.8
	baz=207						
KNK	Knik Glacier	3.76	298		Pn	00 08 15.9	-0.7
KNK				IAML		00 09 36.4	
	comp=N,2µm,1.4s						
KNK	Knik Glacier	3.76	298	P	Pn	00 08 15.5	-1.1
	baz=113,SNR=20						
KNK				S	Sn	00 09 01.4	+0.6
	baz=113						
SML	Sawmill	3.87	304	Pn	Pn	00 08 16.5	-1.8
SML				IAML		00 09 24.9	
	comp=N,2µm,1.2s						
SML				IAML		00 09 31.9	
	comp=E,2µm,1.2s						
SML	Sawmill	3.87	304	P	Pn	00 08 16.5	-1.8
SML	Sawmill	3.87	304	P	Pn	00 08 18.3	0.0
	baz=118,SNR=43						
R32K	Eaglecrest	3.95	110		Pn	00 08 19.4	+0.1
R32K				IAML		00 09 42.3	
	comp=N,2µm,1.2s						
R32K				IAML		00 09 51.1	
	comp=E,2µm,1.1s						
R32K	Eaglecrest	3.95	110	P	Pn	00 08 18.7	-0.6
	baz=296						
SEW	Seward	3.98	278	Pn	Pn	00 08 17.6	-2.0
SEW	Seward	3.98	278	P	Pn	00 08 18.5	-1.1
	baz=91						
SEW				S	Sn	00 09 07.2	+1.2
	baz=91						
P32M	Atlin	3.99	90		Pn	00 08 18.8	-1.1
P32M	Atlin	3.99	90	IAML		00 09 31.6	
	comp=N,2µm,1.4s						
P32M				IAML		00 09 33.3	
	comp=E,2µm,1.1s						
P32M	Atlin	3.99	90	P	Pn	00 08 18.7	-1.1
	baz=276,SNR=12						
P32M				Sb	Sb	00 09 19.6	+2.4
	baz=276						
JIS	Juneau Island	4.02	109		Pn	00 08 19.8	-0.3
JIS	Juneau Island	4.02	109	P	Pn	00 08 19.4	-0.8
DOT	Dot Lake	4.03	344		Pn	00 08 19.8	-0.6
GHO	Glory Hole Cre	4.11	302		Pn	00 08 21.1	-0.4
GHO				IAML		00 09 35.3	
	comp=N,1µm,1.5s						
GHO				IAML		00 09 42.7	
	comp=E,2µm,1.4s						
PMR	Palmer	4.12	299		Pn	00 08 21.4	-0.3
PMR				IAML		00 09 37.6	
	comp=N,1µm,1.4s						
PMR	Palmer	4.12	299	P	Pn	00 08 21.3	-0.3
PMR	Palmer	4.12	299	P	Pn	00 08 21.4	-0.3
PMR	Palmer	4.12	299	P	Pn	00 08 21.4	-0.3
	baz=113,SNR=14						
PMR				Sb	Sb	00 09 23.8	+2.7
	baz=113						
O22K	Cooper Landing	4.13	283		Pn	00 08 19.4	-2.3
O22K	Cooper Landing	4.13	283	P	Pn	00 08 20.6	-1.1
	baz=96						
M31M	Drury Creek, Y	4.24	52		Pn	00 08 23.1	-0.2
M31M	Drury Creek, Y	4.24	52	P	Pn	00 08 23.8	+0.5
	baz=238,SNR=55						
M31M				Sg	Sg	00 09 38.1	+3.2
	baz=238						
RIDG	Independent Ri	4.24	340	Pn	Pn	00 08 23.3	-0.1
RIDG				IAML		00 09 57.3	
	comp=E,2µm,1.3s						
RIDG				IAML		00 10 04.3	
	comp=N,1µm,1.5s						
RIDG	Independent Ri	4.24	340	P	Pn	00 08 25.5	+2.1
	baz=157,SNR=29						
RIDG				S	Sn	00 09 14.1	+1.3
	baz=157						
RC01	Rabbit Creek A	4.25	291	Pn	Pn	00 08 22.5	-0.8
RC01	Rabbit Creek A	4.25	291	P	Pn	00 08 22.6	-0.8
	baz=104,SNR=10.0						
RC01				S	Sn	00 09 13.3	+0.6
	baz=104						
K27K	Chicken	4.25	357		Pn	00 08 22.6	-0.7
K27K	Chicken	4.25	357	IAML		00 09 45.1	
	comp=E,2µm,1.4s						
K27K	Chicken	4.25	357	P	Pn	00 08 24.1	+0.8
	baz=176						
K27K				S	Sn	00 09 13.6	+0.8
	baz=176						
SIT	Sitka	4.29	127	Pn	Pn	00 08 24.8	+1.0
SIT				IAML		00 10 00.6	
	comp=E,2µm,1.4s						
SIT	Sitka	4.29	127	P	Pn	00 08 23.5	-0.3
SIT	Sitka	4.29	127	P	Pn	00 08 24.8	+1.0
SIT	Sitka	4.29	127	P	Pn	00 08 24.3	+0.4
	baz=313						
SIT				Sg	Sg	00 09 38.7	+2.3
	baz=313						
SCRK	Sand Creek	4.34	346	Pn	Pn	00 08 24.1	-0.6
SCRK				IAML		00 09 47.8	
	comp=E,1µm,1.5s						
SCRK	Sand Creek	4.34	346	P	Pn	00 08 25.2	+0.5
	baz=163,SNR=41						

SCRK				S	Sn	00 09 16.0	+0.8
	baz=163						
S32K	Killisnoo	4.34	120		Pn	00 08 25.3	+0.7
S32K				IAML		00 10 02.8	
	comp=E,2µm,1.1s						
S32K	Killisnoo	4.34	120	Pb	Pb	00 08 34.5	-0.5
	baz=305						
S32K				Sg	Sg	00 09 41.2	+3.1
	baz=305						
SLKM	Skilak Lake	4.38	283		Pn	00 08 23.0	-2.2
DAWY	Dawson	4.40	13	Pn	Pn	00 08 25.2	-0.3
DAWY	Dawson	4.40	13	P	Pn	00 08 25.3	-0.1
	baz=194,SNR=78						
DAWY				Sb	Sb	00 09 33.6	+4.6
	baz=194						
N32M	Quiet Lake	4.41	69		Pn	00 08 25.5	-0.2
N32M	Quiet Lake	4.41	69	P	Pn	00 08 25.4	-0.2
	baz=255						
N32M				Sb	Sb	00 09 32.9	+3.5
	baz=255						
P33M	Teslin, Yukon	4.41	81		Pn	00 08 24.8	-0.9
P33M	Teslin, Yukon	4.41	81	IAML		00 09 55.3	
	comp=E,2µm,1.4s						
P33M	Teslin, Yukon	4.41	81	Pb	Pb	00 08 35.6	-0.7
	baz=268,SNR=22						
P33M				Sb	Sb	00 09 32.8	+3.3
	baz=268						
K24K	Donnelly Dome	4.48	335		Pn	00 08 28.9	+2.3
K24K	Donnelly Dome	4.48	335	P	Pn	00 08 27.6	+1.0
	baz=152						
K24K				S	Sn	00 09 18.1	-0.5
	baz=152						
K29M	Barlow Dome	4.48	24		Pn	00 08 27.1	+0.4
K29M	Barlow Dome	4.48	24	IAML		00 09 55.6	
	comp=N,1µm,1.1s						
K29M	Barlow Dome	4.48	24	P	Pn	00 08 27.4	+0.7
	baz=207						
K29M				Sb	Sb	00 09 35.0	+3.4
	baz=207						
M22K	Willow	4.62	299	Pb	Pb	00 08 39.3	-0.5
	baz=111						
M22K				Sb	Sb	00 09 39.3	+3.9
	baz=111						
BRSE	Bradley Lake S	4.64	273		Pn	00 08 28.0	-0.8
BRSE	Bradley Lake S	4.64	273	P	Pn	00 08 29.3	+0.6
	baz=86,SNR=9.4						
BRSE				S	Sn	00 09 21.6	-0.9
	baz=86						
MAYO	Mayo, Yukon	4.66	33		Pn	00 08 29.3	+0.2
MAYO	Mayo, Yukon	4.66	33	P	Pn	00 08 29.7	+0.7
	baz=217,SNR=65						
FARO	Faro, Yukon	4.68	55		Pn	00 08 29.9	+0.5
FARO	Faro, Yukon	4.68	55	P	Pn	00 08 29.9	+0.5
	baz=242,SNR=38						
FARO				Sb	Sb	00 09 40.1	+3.0
	baz=242						
BRLK	Bradley Lake	4.71	274		Pn	00 08 29.8	+0.1
J26L	Joseph Creek	4.80	350		Pn	00 08 30.8	-0.2
J26L	Joseph Creek	4.80	350	IAML		00 09 57.9	
	comp=N,767nm,1.4s						
J26L				IAML		00 10 00.0	
	comp=E,776nm,1.2s						
J26L	Joseph Creek	4.80	350	P	Pn	00 08 31.5	+0.5
	baz=168,SNR=53						
J26L				S	Sn	00 09 26.7	+0.1
	baz=168						
SUA	Susitna One	4.81	294		Pn	00 08 30.7	-0.5
SUA	Susitna One	4.81	294	P	Pn	00 08 31.6	+0.4
	baz=106						
SUA				Sb	Sb	00 09 44.9	+3.8
	baz=106						
Q32M	Nakina River	4.83	96		Pn	00 08 30.8	-0.8
Q32M	Nakina River	4.83	96	P	Pn	00 08 31.6	+0.1
	baz=284,SNR=9.8						
CAPN	Captain Cook N	4.87	286		Pn	00 08 31.6	-0.2
CAPN	Captain Cook N	4.87	286	P	Pn	00 08 33.1	+1.3
	baz=98						
CNPM	China Poot	4.91	271		Pn	00 08 32.4	-0.1
J29N	Klondike Camp	4.92	17		Pn	00 08 32.7	+0.1
J29N	Klondike Camp	4.92	17	P	Pn	00 08 33.7	+1.0
	baz=200,SNR=64						
CUT	Chulitna	4.96	305		Pn	00 08 33.1	0.0
CUT	Chulitna	4.96	305	P	Pn	00 08 33.5	+0.4
	baz=118,SNR=22						
RND	Reindeer	5.01	319		Pn	00 08 33.7	-0.2
RND	Reindeer	5.01	319	P	Pn	00 08 33.7	-0.2
HOM	Homer	5.10	273		Pn	00 08 35.7	+0.7
HOM	Homer	5.10	273	P	Pn	00 08 35.2	+0.1
	baz=84						
J25K	Salcha River,	5.14	341		Pn	00 08 34.6	-1.0
J25K	Salcha River,	5.14	341	P	Pn	00 08 36.4	+0.7
	baz=158,SNR=45						
HDA	Harding Lake	5.26	334		Pn	00 08 37.2	0.0
HDA	Harding Lake	5.26	334	P	Pn	00 08 38.3	+1.0
	baz=149,SNR=30						
HDA				Sb	Sb	00 09 57.8	+4.0
	baz=149						
MCK	McKinley	5.26	322	Pn	Pn	00 08 37.6	+0.3
MCK	McKinley	5.26	322	P	Pn	00 08 37.6	+0.3
MCK	McKinley	5.26	322	P	Pn	00 08 37.1	-0.3
	baz=135,SNR=30						
STLK	Strandline Lak	5.33	293		Pn	00 08 37.2	-1.0
SKT	Skwentna	5.33	298		Pn	00 08 37.7	-0.5
SKT	Skwentna	5.33	298	P	Pn	00 08 37.7	-0.5
	baz=110,SNR=13						
SKT				Sb	Sb	00 10 00.4	+4.7
	baz=110						
SPCG	Spurr Capps Gl	5.37	291		Pn	00 08 39.4	+0.6
J30M	Hart River	5.38	25	P	Pn	00 08 39.6	+0.6
	baz=209,SNR=72						
J30M				Sb	Sb	00 10 02.7	+5.5
	baz=209						
R33M	Jennings River	5.40	90		Pn	00 08 38.7	-0.6
R33M	Jennings River	5.40	90	P	Pn	00 08 38.4	-1.0
	baz=279						
R33M				Sg	Sg	00 10 14.9	+2.8
	baz=279						
SPCR	Spurr Chakacha	5.44	289	P	Pn	00 08 40.0	+0.2
	baz=100						
T33K	Petersburg	5.44	120	Pg	Pg	00 09 00.9	-2.1
	baz=307						
T33K				S	Sn	00 09 43.2	+1.0
	baz=307						
RDT	Redoubt	5.46	283		Pn	00 08 37.6	-2.5
TRF	Thorofare Moun	5.54	315	Pn	Pn	00 08 41.3	+0.2
TRF	Thorofare Moun	5.54	315	P	Pn	00 08 41.8	+0.6
	baz=128,SNR=80						
IL31		5.56	336		Pn	00 08 40.8	-0.6
ILAR	Eielson Array	5.56	336	Pn	Pn	00 08 40.4	-1.0
ILAR	Eielson Array	5.56	336	Pn	Pn	00 08 40.0	-1.4
	comp=E,5.4nm,0.3s,baz=166,slow=13,SNR=86						
ILAR				Lg	Lg	00 10 06.4	
	comp=E,2.7nm,0.3s,baz=150,slow=18,SNR=1.3						
	comp=E,6.5nm,0.4s						
ILAR	Eielson Array	5.56	336	P	Pn	00 08 40.4	-1.0
O20K	Slope Mountain	5.56	278		Pn	00 08 40.4	-1.1
O20K	Slope Mountain	5.56	278	P	Pn	00 08 41.3	-0.2
	baz=88						
I26K	Coal Creek Min	5.57	353	Pn	Pn	00 08 41.9	+0.4
I26K	Coal Creek Min	5.57	353	P	Pn	00 08 41.8	+0.4
	baz=172						
WRH	Wood River Hil	5.59	330	Pn	Pn	00 08 41.4	-0.3
DFR	Drift River	5.60	283		Pn	00 08 40.7	-1.3
RED	Redoubt Volcan	5.64	281		Pn	00 08 42.7	+0.2
RDJH	Redoubt Jeurge	5.66	283		Pn	00 08 41.9	-0.9
CCB	Clear Creek Bu	5.66	332		Pn	00 08 42.3	-0.5
RDWB	Redoubt West	5.67	282		Pn	00 08 41.8	-1.3
SYI	Shuyak Island	5.69	263		Pn	00 08 41.9	-1.2
Q20K	Shuyak Island	5.69	263	P	Pn	00 08 42.8	-0.3
	baz=74						
I28M	Miner Creek	5.71	7		Pn	00 08 43.3	-0.2
I28M	Miner Creek	5.71	7	P	Pn	00 08 44.1	+0.5
	baz=188,SNR=116						
NCT	North Crescent	5.72	283		Pn	00 08 42.2	-1.4
MMPY	Sheldon Lake,	5.72	56		Pn	00 08 44.0	+0.3
MMPY	Sheldon Lake,	5.72	56	P	Pn	00 08 44.1	+0.5
	baz=245,SNR=32						
MMPY				S	Sn	00 09 49.9	+0.6
	baz=245

I29M	Ogilvie Camp,	5.78 14	P	Pn	00 08 45.0	+0.6
	baz=196,SNR=68					
I29M			S	Sn	00 09 52.2	+1.8
	baz=196					
ILS	Iliamna Low So	5.79 276		Pn	00 08 44.6	-0.1
I27K	Kandik River	5.82 360	P	Pn	00 08 45.4	+0.5
	baz=180,SNR=129					
ILW	Iliamna West	5.82 277		Pn	00 08 43.7	-1.4
U33K	Whale Pass	5.82 126		Pn	00 08 46.4	+1.5
U33K	Whale Pass	5.82 126	Pb	Pb	00 08 58.4	-1.8
	baz=313					
KTH	Kantishna Hill	5.82 314		Pn	00 08 45.0	0.0
ILSW	Iliamna Southw	5.83 277		Pn	00 08 44.5	-0.7
COLA	College	5.87 333		Pn	00 08 46.1	+0.7
COLA	College	5.87 333	P	Pn	00 08 46.4	+0.9
COLA	College	5.87 333	*i* P	Pn	00 08 44.8	-0.7
COLA	College	5.87 333	P	Pn	00 08 46.2	+0.7
	baz=147					
OPT	Oil Point	5.90 274		Pn	00 08 46.6	+0.5
P19K	Oil Pt	5.90 274		Pn	00 08 45.6	-0.5
P19K	Oil Pt	5.90 274	P	Pn	00 08 46.0	-0.1
	baz=84,SNR=13					
P19K			S	Sn	00 09 53.6	0.0
	baz=84					
I30M	Mount Dempster	5.94 22	Pn	Pn	00 08 47.6	+0.8
I30M	Mount Dempster	5.94 22	P	Pn	00 08 48.0	+1.3
	baz=206,SNR=39					
NEA2	Nenana	5.95 327		Pn	00 08 47.2	+0.6
NEA2	Nenana	5.95 327	P	Pn	00 08 46.7	0.0
	baz=140,SNR=48					
WRAK	Wrangell Islan	5.95 121		Pn	00 08 47.0	+0.3
WRAK	Wrangell Islan	5.95 121	P	Pn	00 08 46.6	-0.1
	baz=306					
PPLA	Purkeypile	5.97 306		Pn	00 08 47.8	+0.6
PPLA	Purkeypile	5.97 306	P	Pn	00 08 47.4	+0.3
	baz=117					
POKR	Poker Plat Res	5.98 335		Pn	00 08 47.6	+0.4
POKR	Poker Plat Res	5.98 335	P	Pn	00 08 47.9	+0.7
	baz=150					
PRP	Porcupine Dome	6.01 344	Pn	Pn	00 08 48.2	+0.6
PRP	Porcupine Dome	6.01 344	P	Pn	00 08 48.3	+0.6
	baz=160,SNR=34					
M20K	Styx River	6.02 295		Pn	00 08 48.0	+0.2
M20K	Styx River	6.02 295	P	Pn	00 08 48.5	+0.8
	baz=105,SNR=7.2					
AUL	Augustine Lava	6.04 271		Pn	00 08 48.6	+0.6
AUCH	Augustine Cone	6.05 271		Pn	00 08 48.9	+0.7
KDAK	Kodiak Island	6.07 255	Pn	Pn	00 08 47.9	-0.5
	comp=E,4.0nm,0.3s,baz=256,slow=6.3,SNR=56					
KDAK			Sn	Sn	00 09 54.7	-3.0
	comp=E,6.7nm,0.3s,baz=160,slow=3.3,SNR=1.8					
KDAK			LR	LR	00 11 41.1	
	comp=E,3µm,18.7s,baz=228,slow=43					
	comp=E,28nm,0.5s					
KDAK	Kodiak Island	6.07 255	*i* P	Pn	00 08 47.5	-0.9
KDAK	Kodiak Island	6.07 255	P	Pn	00 08 47.8	-0.6
	baz=66					
KDAK			S	Sn	00 09 56.6	-1.2
	baz=66					
DLBC	Dease Lake	6.10 98		Pn	00 08 48.2	-0.7
DLBC	Dease Lake	6.10 98	Pn	Pn	00 08 47.9	-0.9
	comp=E,3.7nm,0.3s,baz=233,slow=9.5,SNR=29					
DLBC			Pg	Pb	00 09 00.6	-4.4
	comp=E,4.3nm,0.3s,baz=268,slow=9.0,SNR=7.5					
DLBC			Lg	Lg	00 10 30.9	
	comp=E,17nm,0.3s,baz=304,slow=15,SNR=1.4					
DLBC			LR	LR	00 11 13.2	
	comp=E,3µm,18.4s,baz=282,slow=38					
	comp=E,11nm,0.5s					
DLBC	Dease Lake	6.10 98	P	Pn	00 08 48.0	-0.9
	baz=288					
DLBC			S	Sn	00 09 59.2	+0.6
	baz=288					
BPAW	Bear Paw Mtn.	6.18 318		Pn	00 08 48.6	-1.4
BPAW	Bear Paw Mtn.	6.18 318	P	Pn	00 08 49.6	-0.3
	baz=130,SNR=28					
CAST	Castle Rocks	6.18 310	Pn	Pn	00 08 49.8	-0.2
CAST	Castle Rocks	6.18 310	P	Pn	00 08 49.6	-0.4
	baz=121,SNR=16					
Q19K	Cape Douglas,	6.24 267	Pn	Pn	00 08 50.3	-0.4
Q19K	Cape Douglas,	6.24 267	P	Pn	00 08 50.5	-0.2
	baz=77,SNR=42					
Q19K			S	Sn	00 10 01.5	-0.3
	baz=77					
CRAG	Craig	6.28 130	Pn	Pn	00 08 51.1	-0.1
CRAG	Craig	6.28 130	P	Pn	00 08 50.0	-1.2
CRAG	Craig	6.28 130	P	Pn	00 08 50.4	-0.8
	baz=317					
O19K	Port Alsworth	6.41 279	P	Pn	00 08 53.4	+0.4
	baz=88,SNR=9.2					
WTLY	Watson Lake, Y	6.42 82	Pg	Pg	00 09 21.0	-0.7
	baz=272					
H27K	Steamboat Moun	6.45 0		Pn	00 08 53.8	+0.2
H27K	Steamboat Moun	6.45 0	P	Pn	00 08 54.6	+1.0
	baz=180,SNR=181					
I23K	Minto, Yukon-K	6.46 329		Pn	00 08 53.1	-0.5
I23K	Minto, Yukon-K	6.46 329	P	Pn	00 08 53.6	-0.1
	baz=142,SNR=13					
I23K			Sb	Sb	00 10 33.1	+5.0
	baz=142					
N19K	Bonanza Creek	6.50 285		Pn	00 08 54.0	-0.3
N19K	Bonanza Creek	6.50 285	P	Pn	00 08 54.1	-0.3
	baz=94					
CHUM	Lake Minchumin	6.52 313		Pn	00 08 53.8	-0.7
CHUM	Lake Minchumin	6.52 313	P	Pn	00 08 54.4	-0.1
	baz=124,SNR=41					
CHUM			Sb	Sb	00 10 32.6	+2.6
	baz=124					
L20K	Farewell, AK	6.53 299		Pn	00 08 53.3	-1.4
L20K	Farewell, AK	6.53 299	P	Pn	00 08 54.0	-0.8
	baz=109					
T35M	Bob Quinn	6.59 111		Pn	00 08 55.6	+0.1
T35M	Bob Quinn	6.59 111	P	Pn	00 08 55.6	+0.1
	baz=300					
H29M	Whitestone	6.60 11		Pn	00 08 55.2	-0.4
H29M	Whitestone	6.60 11	P	Pn	00 08 56.2	+0.6
	baz=194,SNR=55					
M19K	Big River Lodg	6.61 294		Pn	00 08 55.1	-0.6
M19K	Big River Lodg	6.61 294	P	Pn	00 08 55.7	0.0
	baz=103,SNR=10.0					
OHAK	Old Harbor	6.66 252		Pn	00 08 56.0	-0.4
OHAK	Old Harbor	6.66 252	P	Pn	00 08 54.9	-1.6
OHAK	Old Harbor	6.66 252	P	Pn	00 08 56.6	+0.1
	baz=62					
H24K	Noodor Dome	6.70 337		Pn	00 08 57.3	+0.3
H24K	Noodor Dome	6.70 337	P	Pn	00 08 57.4	+0.3
	baz=152,SNR=30					
TGTN	Hyland Airport	6.76 69	P	Pn	00 08 58.9	+1.0
	baz=261					
H25L	Birch Creek	6.77 345		Pn	00 08 59.2	+1.4
H25L	Birch Creek	6.77 345	P	Pn	00 08 59.2	+1.4
	baz=161,SNR=27					
H25L			Sb	Sb	00 10 42.2	+5.3
	baz=161					
KAHG	Katmai Hook Gl	6.80 264		Pn	00 08 58.4	-0.1
H31M	Peel River	6.87 26		Pn	00 08 59.6	+0.3
H31M	Peel River	6.87 26	P	Pn	00 09 00.6	+1.3
	baz=212,SNR=27					
O18K	Koktuh Hills	6.88 276	P	Pn	00 08 59.0	-0.4
	baz=85,SNR=12					
L19K	White Mountain	6.88 296		Pn	00 08 58.3	-1.2
L19K	White Mountain	6.88 296	P	Pn	00 08 58.7	-0.9
	baz=104,SNR=21					
K20K	Telida	6.94 306		Pn	00 09 00.4	+0.1
K20K	Telida	6.94 306	P	Pn	00 09 00.5	+0.1
	baz=115					
P18K	Big Mountain,	6.95 272		Pn	00 09 00.4	0.0
P18K	Big Mountain,	6.95 272	P	Pn	00 09 00.0	-0.4
	baz=81					
P18K			S	Sn	00 10 19.4	+0.1
	baz=81					
V35K	Ketchikan	6.98 126	Pb	Pb	00 09 19.4	-0.6
	baz=314					
KAHC	Katmai Hardscr	6.99 266		Pn	00 09 01.1	0.0
Q18K	Katmai Hardscr	6.99 266	P	Pn	00 09 00.6	-0.6
	baz=75,SNR=12					
G27K	Doyon Strip	7.03 360		Pn	00 09 01.6	+0.1
G27K	Doyon Strip	7.03 360	P	Pn	00 09 02.6	+1.1
	baz=179,SNR=176					
G27K			Sb	Sb	00 10 51.2	+6.6
	baz=179					
H23K	Yukon River	7.05 332		Pn	00 09 01.8	-0.1
H23K	Yukon River	7.05 332	P	Pn	00 09 02.1	+0.3
	baz=145					
R18K	Karluk	7.08 257	P	Pn	00 09 02.9	+0.7
	baz=66					
KAKN	Katmai Knife C	7.12 264		Pn	00 09 02.8	-0.1
N18K	Kilae Creek	7.18 283		Pn	00 09 02.6	-1.0
N18K	Kilae Creek	7.18 283	P	Pn	00 09 03.0	-0.6
	baz=91,SNR=7.2					
N18K			Sb	Sb	00 10 54.7	+5.7
	baz=91					
M18K	Stony River	7.21 290		Pn	00 09 03.0	-1.0
M18K	Stony River	7.21 290	P	Pn	00 09 03.8	-0.1
	baz=98,SNR=11					
I21K	Tanana	7.23 323		Pn	00 09 03.7	-0.5
I21K	Tanana	7.23 323	P	Pn	00 09 04.0	-0.1
	baz=133					
G26K	Porcupine Rive	7.24 353		Pn	00 09 02.7	-1.7
G26K	Porcupine Rive	7.24 353	P	Pn	00 09 06.5	+2.2
	baz=171,SNR=95					
G25K	Bearman Lake	7.28 346		Pn	00 09 04.9	0.0
G25K	Bearman Lake	7.28 346	P	Pn	00 09 06.1	+1.3
	baz=162,SNR=45					
G25K			Sb	Sb	00 10 57.5	+5.9
	baz=162					
ACHA	Angle Creek He	7.28 263	Pn	Pn	00 09 03.7	-1.3
U35K	Hyder	7.29 117	P	Pn	00 09 05.5	+0.5
	baz=307					
G29M	Pine Creek	7.31 11		Pn	00 09 05.4	0.0
G29M	Pine Creek	7.31 11	P	Pn	00 09 06.2	+0.9
	baz=194,SNR=27					
G29M			Sb	Sb	00 10 58.2	+5.6
	baz=194					
J20K	Nowinta River	7.36 312		Pn	00 09 05.6	-0.4
J20K	Nowinta River	7.36 312	P	Pn	00 09 06.0	-0.1
	baz=121,SNR=26					
ANCK	Angle Creek	7.37 263		Pn	00 09 06.8	+0.5
G24K	Hadweenzic Riv	7.41 342		Pn	00 09 06.6	-0.1
G24K	Hadweenzic Riv	7.41 342	P	Pn	00 09 07.5	+0.8
	baz=156,SNR=24					
SII	Sitkinak Islan	7.42 249	P	Pn	00 09 06.8	-0.1
	baz=59					
H22K	Ishtalitna Cre	7.57 328		Pn	00 09 09.4	+0.4
H22K	Ishtalitna Cre	7.57 328	P	Pn	00 09 09.4	+0.4
	baz=139,SNR=30					
H22K			Sb	Sb	00 11 05.5	+5.4
	baz=139					
G30M	tAoh Zraii Nji	7.59 16		Pn	00 09 09.2	0.0
G30M	tAoh Zraii Nji	7.59 16	P	Pn	00 09 09.5	+0.3
	baz=201,SNR=36					
P17K	Kvichak River	7.59 272		Pn	00 09 09.4	+0.2
P17K	Kvichak River	7.59 272	P	Pn	00 09 09.1	-0.1
	baz=79,SNR=8.4					
TTA	Tatalina	7.61 300		Pn	00 09 08.5	-1.0
TTA	Tatalina	7.61 300	P	Pn	00 09 08.7	-0.8
TTA	Tatalina	7.61 300	P	Pn	00 09 08.5	-1.0
TTA	Tatalina	7.61 300	P	Pn	00 09 09.5	0.0
	baz=108,SNR=10					
TTA			Sb	Sb	00 11 06.7	+5.5
	baz=108					
L18K	Granite Mounta	7.73 295		Pn	00 09 10.2	-0.9
L18K	Granite Mounta	7.73 295	P	Pn	00 09 10.4	-0.7
	baz=102					
L18K			Sb	Sb	00 11 08.7	+4.0
	baz=102					
BMAR	Burnt Mountain	7.77 351	Pn	Pn	00 09 11.9	+0.3
H21K	Melozitna Rive	7.80 324		Pn	00 09 12.3	+0.2
H21K	Melozitna Rive	7.80 324	P	Pn	00 09 12.3	+0.2
	baz=134,SNR=46					
I20K	Naaghedeneel	7.81 315		Pn	00 09 12.3	+0.1
I20K	Naaghedeneel	7.81 315	P	Pn	00 09 12.8	+0.5
	baz=124					
Q16K	King Salmon	7.82 268	P	Pn	00 09 12.1	-0.2
	baz=76					
Q16K			S	Sn	00 10 38.5	-2.1
	baz=76					
N17K	Nushagak Hills	7.82 282	P	Pn	00 09 12.0	-0.4
	baz=89,SNR=6.8					
O17K	Koliganek Bris	7.83 276	P	Pn	00 09 12.0	-0.5
	baz=83,SNR=13					
J19K	Poorman	7.84 308		Pn	00 09 11.6	-1.1
J19K	Poorman	7.84 308	P	Pn	00 09 12.7	0.0
	baz=116,SNR=22					
G31M	Satah River	7.85 22		Pn	00 09 12.6	-0.2
G31M	Satah River	7.85 22	P	Pn	00 09 13.0	+0.3
	baz=208,SNR=36					
G31M			Sb	Sb	00 11 13.1	+4.9
	baz=208					
G23K	Bananza Creek	7.90 335		Pn	00 09 13.4	-0.1
G23K	Bananza Creek	7.90 335	P	Pn	00 09 13.9	+0.4
	baz=147,SNR=62					
M17K	Holitna River	7.97 288		Pn	00 09 14.6	+0.2
M17K	Holitna River	7.97 288	P	Pn	00 09 14.1	-0.2
	baz=95					
F26K	Sheenjek River	8.00 353		Pn	00 09 15.1	+0.3
F26K	Sheenjek River	8.00 353	P	Pn	00 09 15.7	+0.8
	baz=170,SNR=152					
F25K	Christian Rive	8.02 349		Pn	00 09 16.1	+0.9
F25K	Christian Rive	8.02 349	P	Pn	00 09 16.0	+0.9
	baz=165,SNR=84					
J18K	Innoko River	8.09 303		Pn	00 09 15.3	-0.7
J18K	Innoko River	8.09 303	P	Pn	00 09 15.8	-0.2
	baz=110					
F24K	Squaw Lake	8.23 343	P	Pn	00 09 18.2	+0.2
	baz=157,SNR=61					
F24K			S	Sn	00 10 50.7	-0.1
	baz=157					
F30M	Barrier River	8.24 16		Pn	00 09 18.8	+0.8
F30M	Barrier River	8.24 16	P	Pn	00 09 19.3	+1.2
	baz=200					
DIB	Dawson Inlet,	8.31 139		Pn	00 09 18.3	-0.8
H20K	Anotleneega Mo	8.36 319	P	Pn	00 09 19.6	-0.1
	baz=127,SNR=27					
H20K			Sb	Sb	00 11 28.8	+6.1
	baz=127					
O16K	Kokwok River B	8.36 276		Pn	00 09 19.3	-0.4
O16K	Kokwok River B	8.36 276	P	Pn	00 09 19.4	-0.4
	baz=82,SNR=8.1					
COLD	Coldfoot	8.38 336		Pn	00 09 20.0	0.0
COLD	Coldfoot	8.38 336	P	Pn	00 09 20.5	+0.5
	baz=149,SNR=48					
TOAD	Toad River Com	8.41 89	P	Pn	00 09 19.4	-1.1
	baz=283					
TOAD			Sb	Sb	00 11 30.1	+5.9
	baz=283					
P16K	Nushagak River	8.41 272	P	Pn	00 09 20.3	-0.1
	baz=78					
F31M	Tsiigehtchic	8.41 21	Pn	Pn	00 09 20.1	-0.3
F31M	Tsiigehtchic	8.41 21	P	Pn	00 09 20.6	+0.2
	baz=208,SNR=46					
F31M			Sb	Sb	00 11 31.2	+7.1
	baz=208					
E27K	Coleen River	8.41 360		Pn	00 09 20.3	-0.2
E27K	Coleen River	8.41 360	P	Pn	00 09 20.7	+0.2
	baz=180,SNR=90					
L17K	Donlin	8.46 293		Pn	00 09 20.5	-0.6
L17K	Donlin	8.46 293	P	Pn	00 09 20.5	-0.6
	baz=99,SNR=11					
E25K	Arctic Village	8.53 350		Pn	00 09 22.8	+0.7
E25K	Arctic Village	8.53 350	P	Pn	00 09 24.1	+2.1
	baz=126,SNR=71					
K17K	Iditarod	8.57 297		Pn	00 09 21.8	-0.8
K17K	Iditarod	8.57 297	P	Pn	00 09 21.6	-1.0
	baz=102					
N16K	Nishlik Lake	8.61 282	P	Pn	00 09 22.5	-0.7
	baz=87					
G21K	Allakaket	8.62 326		Pn	00 09 23.0	-0.3
G21K	Allakaket	8.62 326	P	Pn	00 09 23.3	+0.1
	baz=136					
GCSA	Galena City Sc	8.67 311	P	Pn	00 09 24.2	+0.2
	baz=118					
M16K	Timber Creek	8.69 286		Pn	00 09 23.5	-0.7
M16K	Timber Creek	8.69 286	P	Pn	00 09 23.7	-0.6
	baz=91					
E29M	Blow River	8.76 9		Pn	00 09 25.5	+0.2
E29M	Blow River	8.76 9	P	Pn	00 09 26.1	+0.9
	baz=192,SNR=82					
KOTAN	Kotaneelee Air	8.79 80	P	Pn	00 09 26.5	+0.8
	baz=275					
E24K	Your Creek	8.83 343		Pn	00 09 26.2	-0.1
E24K	Your Creek	8.83 343	P	Pn	00 09 27.5	+1.2
	baz=157					
E28M	Babbage River	8.88 5		Pn	00 09 27.6	+0.8
E28M	Babbage River	8.88 5	P	Pn	00 09 27.7	+0.8
	baz=186					
H19K	Roundabout Mou	8.91 316	Pn	Pn	00 09 27.2	-0.1
H19K	Roundabout Mou	8.91 316	P	Pn	00 09 27.6	+0.2
	baz=123,SNR=33					
L16K	Owhat River	8.97 290	Pn	Pn	00 09 27.8	-0.3
L16K	Owhat River	8.97 290	P	Pn	00 09 27.4	-0.6
	baz=94,SNR=13					
E23K	Chandalar	9.00 340		Pn	00 09 29.3	+0.7
E23K	Chandalar	9.00 340	P	Pn	00 09 28.9	+0.3
	baz=153,SNR=45					
F22K	John River	9.04 333		Pn	00 09 30.5	+1.5
F22K	John River	9.04 333	P	Pn	00 09 29.2	+0.2
	baz=144					
J17K	VABM Dome	9.08 301		Pn	00 09 29.8	+0.2
J17K	VABM Dome	9.08 301	P	Pn	00 09 29.3	-0.2
	baz=106					
F21K	Alatna River	9.13 330		Pn	00 09 31.3	+1.0
F21K	Alatna River	9.13 330	P	Pn	00 09 30.4	+0.1
	baz=139,SNR=14					
INK	Inuvik	9.22 19	Pn	Pn	00 09 31.5	0.0
INK	Inuvik	9.22 19	Pn	Pn	00 09 31.4	-0.1
	comp=E,2.4nm,0.3s,baz=200,slow=9.3,SNR=72					
INK			Sn	Sn	00 11 09.9	-5.1
	comp=E,1.3nm,0.3s,baz=156,slow=27,SNR=1.6					
INK			Lg	Lg	00 12 03.6	
	comp=E,1.7nm,0.3s,baz=119,slow=31,SNR=2.1					
INK			LR	LR	00 13 11.7	
	comp=E,3µm,21.1s,baz=205,slow=39					
	comp=E,10nm,0.5s					
INK	Inuvik	9.22 19	P	Pn	00 09 31.5	0.0
INK	Inuvik	9.22 19	P	Pn	00 09 32.2	+0.7
	baz=206,SNR=41					
N15K	Kwethluk River	9.29 280	Pn	Pn	00 09 31.6	-0.8
N15K	Kwethluk River	9.29 280	P	Pn	00 09 32.2	-0.3
	baz=84					
WRGLY	Wrigley	9.30 61	Pn	Pn	00 09 32.7	+0.1
WRGLY	Wrigley	9.30 61	P	Pn	00 09 32.8	+0.3
	baz=256					
O15K	Ungalikthiuk R	9.30 274		Pn	00 09 30.3	-2.4
O15K	Ungalikthiuk R	9.30 274	P	Pn	00 09 32.6	-0.1
	baz=78					
H18K	Honhosa River	9.42 312		Pn	00 09 33.6	-0.7
H18K	Honhosa River	9.42 312	P	Pn	00 09 34.5	+0.2
	baz=117					
E22K	Anaktuvuk Pass	9.48 336	Pn	Pn	00 09 35.6	+0.5
E22K	Anaktuvuk Pass	9.48 336	P	Pn	00 09 35.5	+0.5
	baz=147,SNR=77					
G19K	Purcell Mounta	9.48 319	Pn	Pn	00 09 34.9	-0.2
G19K	Purcell Mounta	9.48 319	P	Pn	00 09 34.7	-0.3
	baz=125,SNR=15					
D27M	Malcolm River	9.48 1	Pn	Pn	00 09 35.4	+0.3
D27M	Malcolm River	9.48 1	P	Pn	00 09 36.4	+1.2
	baz=182,SNR=162					
TOLK	Toolik Lake Re	9.52 342	Pn	Pn	00 09 36.1	+0.5
TOLK	Toolik Lake Re	9.52 342	P	Pn	00 09 36.6	+1.0
	baz=155,SNR=50					
M15K	Kasigluk River	9.54 284		Pn	00 09 35.7	-0.2
M15K	Kasigluk River	9.54 284	P	Pn	00 09 35.5	-0.4
	baz=87					
CHGN	Chignik	9.59 256	P	Pn	00 09 36.5	-0.1
	baz=62					
F20K	Avaraart Lake	9.62 325		Pn	00 09 36.6	-0.4
F20K	Avaraart Lake	9.62 325	P	Pn	00 09 37.2	+0.2
	baz=132,SNR=23					
D28M	Stokes Point	9.64 6	P	Pn	00 09 38.3	+1.1
	baz=188,SNR=116					
J16K	Anvik River	9.72 299		Pn	00 09 37.8	-0.5
J16K	Anvik River	9.72 299	P	Pn	00 09 38.0	-0.3
	baz=102					
D25K	Kavik River	9.77 350	P	Pn	00 09 40.2	+1.1
	baz=165					
D24K	Happy Valley	9.88 345		Pn	00 09 41.9	+1.3
D24K	Happy Valley	9.88 345	P	Pn	00 09 42.8	+2.2
	baz=158,SNR=30					
G18K	Tagagawik	9.88 315		Pn	00 09 41.0	+0.4
G18K	Tagagawik	9.88 315	P	Pn	00 09 41.2	+0.6
	baz=120					
C27K	Jago River	9.90 356	P	Pn	00 09 43.5	+2.7
	baz=174,SNR=84					
I17K	Unalakleet	9.90 303	Pn	Pn	00 09 40.1	-0.7
I17K	Unalakleet	9.90 303	P	Pn	00 09 42.2	+1.4
	baz=106					
L15K	Ungalak Mounta	9.92 289	P	Pn	00 09 41.1	0.0
	baz=92					
H17K	Granite Mounta	9.93 309		Pn	00 09 40.5	-0.7
H17K	Granite Mounta	9.93 309	P	Pn	00 09 41.6	+0.4
	baz=113					
K15K	Wolf Creek Mou	9.98 293		Pn	00 09 41.3	-0.7
K15K	Wolf Creek Mou	9.98 293	P	Pn	00 09 41.9	0.0
	baz=96					
D23K	Nanushuk River	9.99 341		Pn	00 09 42.0	0.0
D23K	Nanushuk River	9.99 341	P	Pn	00 09 44.0	+1.9
	baz=152,SNR=17					
O14K	Tigyukauivet M	10.02 275	P	Pn	00 09 43.5	+1.1
	baz=78					
F19K	Shaleruckik Mo	10.11 321		Pn	00 09 42.5	-1.1
F19K	Shaleruckik Mo	10.11 321	P	Pn	00 09 43.6	-0.1
	baz=126					
N14K	Kuskokwak Cree	10.11 279	P	Pn	00 09 44.7	+1.1
	baz=82					
M14K	Bethel	10.16 284	Pn	Pn	00 09 43.2	-1.1
M14K	Bethel	10.16 284	P	Pn	00 09 45.1	+0.7
	baz=87					
E21K	Killik River	10.20 333		Pn	00 09 45.5	+0.6
E21K	Killik River	10.20 333	P	Pn	00 09 46.8	+1.9
	baz=142					
C26K	Camden Bay	10.25 354	P	Pn	00 09 47.4	+1.8
	baz=170,SNR=29					
D22K	Ayikyak River	10.28 337	Pn	Pn	00 09 47.1	+1.1
D22K	Ayikyak River	10.28 337	P	Pn	00 09 47.5	+1.4
	baz=147					
E19K	Redstone River	10.33 325		Pn	00 09 47.0	+0.3
E19K	Redstone River	10.33 325	P	Pn	00 09 47.2	+0.5
	baz=130					
C24K	Franklin Bluff	10.40 346		Pn	00 09 48.4	+0.8
C24K	Franklin Bluff	10.40 346	P	Pn	00 09 48.8	+1.3
	baz=160,SNR=34					
G17K	Kiwalik Mounta	10.44 311	P	Pn	00 09 48.0	-0.2
	baz=114					
L14K	Kuka Creek	10.49 288		Pn	00 09 48.8	-0.1
L14K	Kuka Creek	10.49 288	P	Pn	00 09 49.0	+0.1
	baz=89					
E20K	Nigu River	10.59 329	P	Pn	00 09 52.0	+1.6
	baz=136					
F18K	Selawik	10.60 318	P	Pn	00 09 50.4	+0.1
	baz=122,SNR=10					
BBB	Bella Bella	10.71 130	Pn	Pn	00 09 55.0	+3.1
	comp=E,0.7nm,0.3s,baz=256,slow=9.2,SNR=1.9					
BBB			Lg	Lg	00 13 00.4	
	comp=E,0.5nm,0.3s,baz=209,slow=11,SNR=1.3					
BBB			LR	LR	00 13 59.7	
	comp=E,1µm,19.5s,baz=333,slow=37					
	comp=E,14nm,0.8s					
C23K	Itkillik River	10.76 343	Pn	Pn	00 09 53.2	+0.6
C23K	Itkillik River	10.76 343	P	Pn	00 09 54.1	+1.5
	baz=155,SNR=17					
H16K	Elim	10.76 306	P	Pn	00 09 53.0	+0.4
	baz=107					
M13K	Dall Lake	10.88 283	P	Pn	00 09 53.9	-0.2
	baz=84					
C21K	Knifeblade Rid	10.94 334	P	Pn	00 09 56.9	+1.8
	baz=142					
D20K	Etivluk River	11.03 330	P	Pn	00 09 57.3	+0.9
	baz=137					
G16K	Koyuk River	11.06 309		Pn	00 09 56.1	-0.5
G16K	Koyuk River	11.06 309	P	Pn	00 09 56.8	+0.2
	baz=111					
F17K	Baldwin Pennin	11.07 315	Pn	Pn	00 09 56.6	-0.2
F17K	Baldwin Pennin	11.07 315	P	Pn	00 09 56.6	-0.2
	baz=118,SNR=7.6					
D19K	Kuna River	11.27 328		Pn	00 09 59.4	-0.2
D19K	Kuna River	11.27 328	P	Pn	00 09 59.9	+0.3
	baz=133		

F15K North Star Dit 12.06 309 P Pn 00 10 09.9 -0.4
baz=109
C36M Paulatuk 12.11 31 Pn Pn 00 10 08.7 -2.3
C36M Paulatuk 12.11 31 P Pn 00 10 08.9 -2.1
baz=226,SNR=56
B20K Meade River 12.13 334 Pn Pn 00 10 10.9 -0.4
B20K Meade River 12.13 334 P Pn 00 10 10.8 -0.4
baz=140
C18K Utukok River 12.24 325 Pn Pn 00 10 12.0 -0.8
C18K Utukok River 12.24 325 P Pn 00 10 12.2 -0.6
baz=127,SNR=13
D17K Noatak River 12.31 319 P Pn 00 10 14.4 +0.7
baz=120,SNR=15
RDOG Red Dog Mine 12.43 321 Pn Pn 00 10 14.5 -0.9
RDOG Red Dog Mine 12.43 321 P Pn 00 10 15.2 -0.2
baz=121
A22K Sinclair Lake 12.50 339 P Pn 00 10 16.8 +0.5
baz=147
F14K Arctic Creek 12.66 307 P Pn 00 10 18.4 -0.1
baz=105
C17K DeLong Mountai 12.74 322 P Pn 00 10 19.6 -0.1
baz=122
B18K Kokolik River 12.85 327 P Pn 00 10 21.1 0.0
baz=128
A21K Barrow 13.07 338 P Pn 00 10 24.4 +0.4
baz=144
A19K Wainwright 13.21 330 P Pn 00 10 25.7 -0.2
baz=132
YKA Yellowknife Ar 13.25 67 Pn Pn 00 10 24.7 -1.9
comp=E,0.3nm,0.3s,baz=270,slow=13,SNR=53
YKA Lg Lg 00 14 11.0
baz=276,slow=28
comp=E,13nm,1.1s
TNA Tin City 13.33 307 Pn 00 10 28.0 +0.4
TNA Tin City 13.33 307 P Pn 00 10 27.2 -0.3
baz=103
C16K Lisburne Hills 13.34 319 Pn Pn 00 10 27.5 -0.2
C16K Lisburne Hills 13.34 319 P Pn 00 10 26.8 -0.9
baz=118
CBB Campbell River 13.47 129 Pn 00 10 28.5 -1.2
A36M Sachs Harbour 13.85 21 Pn Pn 00 10 32.1 -2.5
A36M Sachs Harbour 13.85 21 P Pn 00 10 32.1 -2.5
baz=216,SNR=60
LLLB Lillooet 14.47 121 Pn 00 10 43.3 -0.1
CLRS Cowichan Lake 14.93 130 Pn 00 10 49.2 -0.4
PGC Sidney 15.33 129 Pn 00 10 52.8 -2.1
NLWA Neilton Lookou 16.20 132 Pn 00 11 03.6 -2.6
GNW Green Mountain 16.46 130 Pn 00 11 08.6 -0.9
WISH Wishkah 16.47 133 Pn 00 11 07.3 -2.3
WISH IAmb IAmb 00 11 17.1
comp=Z,194nm,1.9s
E03A Lebam 17.03 133 Pn 00 11 15.0 -1.6
D05A Enumclaw 17.09 129 Pn 00 11 16.6 -0.9
D05A IAmb IAmb 00 11 24.1
comp=Z,227nm,1.8s
B08A Colville Reser 17.26 122 P Pn 00 11 19.4 -0.2
LON Longmire 17.52 129 P Pn 00 11 22.1 -0.7
LON Longmire 17.52 129 P Pn 00 11 22.2 -0.7
LON pmax pmax
comp=Z,20nm,1.3s
F03A Seaside 17.55 134 Pn 00 11 21.9 -1.3
F03A IAmb IAmb 00 11 29.9
comp=Z,321nm,1.7s
LTY Liberty 17.57 126 P Pn 00 11 23.4 0.0
LTY IAmb IAmb 00 11 29.5
comp=Z,193nm,1.9s
F04D Rainier, OR 17.63 133 Pn Pn 00 11 22.3 -1.8
F04D IAmb IAmb 00 11 29.8
comp=Z,185nm,1.9s
C09A Chrisman Ranch 18.15 121 P Pn 00 11 30.1 -0.4
MXC Moxie City 18.27 127 P Pn 00 11 30.3 -1.7
G03D McMinnville, O 18.28 135 P Pn 00 11 30.9 -1.2
G03D IAmb IAmb 00 11 37.5
comp=Z,241nm,2.0s
NEW Newport 18.30 118 P Pn 00 11 31.8 -0.7
NEW Newport 18.30 118 P P 00 11 33.6 +1.0
comp=Z,0.1nm,0.3s,baz=324,slow=12,SNR=13
NEW Lg Lg 00 16 59.0
comp=Z,0.1nm,0.3s,baz=232,slow=23,SNR=3.5
NEW LR LR 00 18 30.9
comp=Z,712nm,19.5s,baz=313,slow=37
comp=Z,14nm,1.1s
D08A Wollman Farm, 18.45 124 P P 00 11 33.0 -1.2
E07A Sunnyside 18.46 126 P P 00 11 32.8 -1.5
HAWA Hanford 18.73 126 P P 00 11 37.0 -0.2
HOOD Mount Hood Mea 18.78 132 P P 00 11 36.4 -1.5
E08A Dider Farm, El 18.84 125 P Pn 00 11 39.1 +0.1
F07A Phinny Hill Vi 18.97 128 P Pn 00 11 40.3 -0.2
H04D Lebanon 19.06 135 P P 00 11 40.0 -0.8
H04A Detroit Lake 19.12 134 P P 00 11 40.7 -0.8
E09A Wood Farm, Sta 19.21 123 P P 00 11 42.5 +0.1
G06A Carlson Farm, 19.24 130 P P 00 11 42.6 -0.3
BUCK Buck Mountain 19.26 136 P P 00 11 42.2 -0.9
BUCK IAmb IAmb 00 11 49.9
comp=Z,242nm,1.8s
I03D Drain, OR 19.57 137 P P 00 11 45.5 -0.9
I05D Terrebonne, OR 19.73 133 P P 00 11 47.0 -1.3
I04A Tendick Farm, 19.81 135 P P 00 11 49.1 0.0
I04A IAmb IAmb 00 11 56.6
comp=Z,179nm,1.7s
J01E Myrtle Point 19.85 139 P P 00 11 49.6 +0.2
J01E IAmb IAmb 00 12 00.3
comp=Z,117nm,1.3s
G08A Pilot Rock 19.86 127 P P 00 11 49.5 -0.2
DBO Dodson Butte 20.12 138 P P 00 11 52.0 -0.5
PINE Pine Mountain 20.35 133 P P 00 11 55.4 +0.3
PINE IAmb IAmb 00 12 00.3
comp=Z,218nm,1.8s
K02D Willamette Mer 20.35 139 P P 00 11 53.6 -1.4
J04A Umpqua Nationa 20.40 136 P P 00 11 54.9 -0.8
J04A IAmb IAmb 00 12 09.0
comp=Z,112nm,1.2s
I07A Izee 20.65 130 P P 00 11 58.3 +0.1
J05D Fort Rock, OR 20.68 134 P 00 11 59.6 +1.0
J05D IAmb IAmb 00 12 08.2
comp=Z,90nm,1.3s
MSO Missoula 20.81 116 P 00 12 00.7 +0.7
MSO IAmb IAmb 00 12 11.2
comp=Z,113nm,1.2s
BMO Blue Mountains 20.89 125 P 00 12 01.6 +0.7
BMO Blue Mountains 20.89 125 P P 00 12 01.6 +0.7
BMO pmax pmax
comp=Z,41nm,1.3s
L02F Cave Junction 20.90 140 P P 00 12 01.3 +0.4
L02F IAmb IAmb 00 12 10.0
comp=Z,93nm,1.6s
OVMT Ovando 21.06 115 P P 00 12 02.7 0.0
K04D Chiloquin, OR 21.07 136 P P 00 12 02.7 -0.1
K04D IAmb IAmb 00 12 14.5
comp=Z,101nm,1.1s
L04D Klamath Falls 21.23 137 P P 00 12 04.4 -0.3
L04D IAmb IAmb 00 12 14.0
comp=Z,78nm,1.2s
PLID Pearl Lake 21.25 122 P P 00 12 03.7 -1.2
PLID IAmb IAmb 00 12 12.5
comp=Z,77nm,1.6s
BPMT Black Pine Rid 21.32 116 P P 00 12 05.7 -0.1
LYMT Lyon Mountain 21.46 114 P P 00 12 07.1 0.0
YBH Yreka Blue Hor 21.53 139 P P 00 12 08.2 +0.4
YBH Yreka Blue Hor 21.53 139 P P 00 12 10.7 +2.9
comp=Z,13nm,1.0s,baz=334,slow=5.3,SNR=12
YBH LR LR 00 19 08.5
comp=Z,930nm,20.1s,baz=338,slow=33
comp=Z,13nm,1.0s
KRPM Rodgers 21.62 142 P P 00 12 08.7 0.0
J08A Circle Bar Ran 21.66 129 P P 00 12 08.7 -0.5
FFC Flin Flon 21.75 86 P P 00 12 10.3 +0.3
FFC IAmb IAmb 00 12 17.0
comp=Z,67nm,1.2s
FFC Flin Flon 21.75 86 P P 00 12 10.3 +0.3
FFC pmax pmax
comp=Z,67nm,1.2s
EGMT Eagleton 21.90 108 P P 00 12 11.6 0.0
JCC Jacoby Creek, 21.93 142 P P 00 12 10.9 -1.0
KHMM Horse Mountain 21.98 142 P P 00 12 10.8 -1.8
KHMM IAmb IAmb 00 12 23.7
comp=Z,129nm,1.3s
LRM Limekiln Ridge 22.24 116 P P 00 12 15.4 -0.2
KMPM Mount Pierce 22.27 143 P P 00 12 14.4 -1.3
WVOR Wild Horse Val 22.38 131 P P 00 12 16.4 -0.5
WVOR IAmb IAmb 00 12 22.6
comp=Z,105nm,1.5s
WVOR Wild Horse Val 22.38 131 P P 00 12 16.4 -0.5
WVOR pmax pmax
comp=Z,105nm,1.5s
RES Resolute Bay 22.48 30 P P 00 12 15.7 -1.9
RES IAmb IAmb 00 12 37.6
comp=Z,54nm,1.3s
RES Resolute Bay 22.48 30 P P 00 12 15.7 -1.9
RES pmax pmax
comp=Z,54nm,1.3s
DLMT Dillon 22.53 117 P P 00 12 18.3 -0.2
DLMT IAmb IAmb 00 12 27.3
comp=Z,122nm,1.3s
KMRM Mail Ridge 22.58 142 P P 00 12 19.2 +0.3
KMRM IAmb IAmb 00 12 38.4
comp=Z,96nm,1.3s
MFID Camas Ranch 22.68 125 P P 00 12 20.6 +0.5
HATC Hat Creek Radi 22.77 138 P P 00 12 21.4 +0.4
HATC IAmb IAmb 00 12 33.8
comp=Z,87nm,1.2s
BOZ Bozeman (W) 22.79 115 P P 00 12 21.2 -0.1
BOZ Bozeman (W) 22.79 115 P P 00 12 21.2 -0.1
BOZ pmax pmax
comp=Z,53nm,1.5s
MCMT McKenzie Canyo 22.83 118 P P 00 12 21.7 -0.1
O02D Mt. Diablo Mer 22.91 141 P P 00 12 21.6 -0.9
O02D IAmb IAmb 00 12 28.5
comp=Z,155nm,2.0s
KCPM Cahto Peak 23.11 143 P P 00 12 23.0 -1.6
HLID Hailey 23.15 122 P P 00 12 25.1 +0.1
QLMT Earthquake Lak 23.47 116 P P 00 12 28.2 -0.1
GCMT Greycliff 23.55 112 P P 00 12 29.3 +0.3
YHL Hebgen Lake 23.56 116 P P 00 12 29.2 -0.1
YHL IAmb IAmb 00 12 34.0
comp=Z,124nm,1.7s
BILL Bilibino 23.63 312 P P 00 12 28.9 -0.6
BILL IAmb IAmb 00 12 35.4
comp=Z,85nm,1.4s
BILL Bilibino 23.63 312 *ce*P P 00 12 29.3 -0.2
BILL pmax pmax
comp=Z,78nm,1.7s
YHB Horse Butte 23.63 116 P P 00 12 30.8 +0.9
YHB IAmb IAmb 00 12 34.6
comp=Z,145nm,1.9s
YHH Holmes Hill 23.76 115 P P 00 12 31.6 +0.3
YMR Madison River 23.80 116 P P 00 12 31.8 +0.3
YMR IAmb IAmb 00 12 40.6
comp=Z,62nm,1.2s
FCC Fort Churchill 23.88 72 IAmb IAmb 00 12 34.0
comp=Z,136nm,1.8s
YNM Yellowstone No 23.88 115 P P 00 12 32.1 -0.2
YNM IAmb IAmb 00 12 54.3
comp=Z,80nm,1.6s
YNR Norris Junctio 23.90 115 P P 00 12 32.5 0.0
YNR IAmb IAmb 00 12 53.7
comp=Z,90nm,1.8s
HOPS Hopland Field 23.90 142 P P 00 12 32.3 +0.1
YNE Yellowstone No 23.98 114 P P 00 12 33.3 0.0
YFT Old Faithful 24.03 116 P P 00 12 33.6 -0.1
YFT IAmb IAmb 00 12 46.0
comp=Z,130nm,1.9s
YMP Mirror Lake Pl 24.12 115 P P 00 12 34.5 -0.1
YMP IAmb IAmb 00 12 52.7
comp=Z,76nm,1.7s
LKWY Lake 24.14 115 P P 00 12 34.3 -0.5
LKWY IAmb IAmb 00 12 45.1
comp=Z,79nm,1.4s
LKWY Lake 24.14 115 P P 00 12 34.3 -0.5
LKWY pmax pmax
comp=Z,79nm,1.5s
H17A Grant Village 24.19 116 P P 00 12 34.6 -0.6
H17A IAmb IAmb 00 12 46.0
comp=Z,72nm,1.3s
RLMT Red Lodge 24.24 113 P P 00 12 35.8 +0.1
RLMT IAmb IAmb 00 12 39.1
comp=Z,124nm,1.8s
DGMT Dagmar 24.31 101 P P 00 12 36.1 0.0
PAHR Pah Rah Range 24.48 135 P P 00 12 37.7 -0.1
LAO LASA Array 24.54 106 P P 00 12 38.6 +0.4
FXWY Fox Creek 24.58 117 P P 00 12 38.7 0.0
FXWY IAmb IAmb 00 12 47.9
comp=Z,64nm,1.3s
AFDM Forest Hills D 24.61 139 P P 00 12 38.5 -0.3
MOOW Moose Ponds 24.62 117 P P 00 12 39.0 -0.1
TPAW Teton Pass 24.73 118 P P 00 12 41.3 +1.2
LOHW Long Hollow 24.79 117 P P 00 12 41.3 +0.7
SNOW Snow King Moun 24.84 117 P P 00 12 40.4 -0.7
SNOW IAmb IAmb 00 12 50.8
comp=Z,73nm,1.3s
PNTR Pine Nut 24.95 136 P P 00 12 42.0 -0.2
PNTR IAmb IAmb 00 12 51.7
comp=Z,48nm,1.1s
ELK Elko 25.15 128 P P 00 12 44.5 +0.5
ELK IAmb IAmb 00 12 49.5
comp=Z,46nm,1.5s
ELK Elko 25.15 128 P P 00 12 44.5 +0.5
ELK pmax pmax
comp=Z,46nm,1.5s
SHEM Shemya Is, Ala 25.20 273 LR LR 00 23 13.8
comp=Z,1μm,19.8s,baz=66,slow=38
AHID Auburn Hatcher 25.23 119 P P 00 12 44.7 0.0
HVU Hansel Valley 25.31 123 P P 00 12 45.8 +0.5
HVU IAmb IAmb 00 12 55.9
comp=Z,58nm,1.3s
HVU Hansel Valley 25.31 123 P P 00 12 45.8 +0.5
HVU pmax pmax
comp=Z,58nm,1.3s
WAKR Walker 25.53 137 P P 00 12 47.6 +0.2
WAKR IAmb IAmb 00 12 55.8
comp=Z,98nm,1.6s
CMB Columbia Colle 25.63 139 P P 00 12 48.5 +0.4
CMB IAmb IAmb 00 12 54.7
comp=Z,60nm,1.8s
CMB Columbia Colle 25.63 139 P P 00 12 48.5 +0.4
CMB pmax pmax
comp=Z,60nm,1.8s
RYN Ryan 25.75 135 P P 00 12 49.6 +0.3
EUNU Eureka 25.85 19 P P 00 12 50.6 +0.8
BGU Big Grassy Mou 25.90 124 P P 00 12 50.9 +0.2
PD31 Pinedale Array 25.92 117 P P 00 12 49.8 -1.1
PDAR Pinedale Array 25.92 117 P P 00 12 50.7 -0.2
PDAR Pinedale Array 25.92 117 P P 00 12 52.3 +1.3
comp=Z,6.9nm,1.2s,baz=310,slow=5.3,SNR=18
PDAR PcP PcP 00 16 19.6 +0.3
comp=Z,0.6nm,0.7s,baz=292,slow=1.5,SNR=1.7
PDAR LR LR 00 23 58.6
comp=Z,610nm,18.6s,baz=316,slow=38
comp=Z,6.9nm,1.2s
HWUT Hardware Ranch 25.97 121 P P 00 12 51.5 +0.2
HWUT IAmb IAmb 00 13 03.5
comp=Z,78nm,1.9s
NVAR Mina Array Bea 26.00 135 P P 00 12 52.4 +0.7
NVAR Mina Array Bea 26.00 135 P P 00 12 53.3 +1.7
comp=Z,5.5nm,0.8s,baz=309,slow=8.5,SNR=25
NVAR LR LR 00 22 05.5
comp=Z,886nm,20.9s,baz=344,slow=34
comp=Z,5.5nm,0.8s
NV11 Mina Array Sit 26.05 135 P P 00 12 51.6 -0.4
NV11 IAmb IAmb 00 13 00.5
comp=Z,27nm,1.1s
Q09A Carvers 26.05 133 P P 00 12 53.3 +1.3
LHV Little Huntoon 26.09 135 P P 00 12 52.2 +0.1
LHV IAmb IAmb 00 13 00.9
comp=Z,44nm,1.2s
TCUT Toone Canyon 26.43 121 P P 00 12 55.6 0.0
TCUT IAmb IAmb 00 13 04.2
comp=Z,49nm,1.6s
DUG Dugway, Tooele 26.61 125 P P 00 12 57.6 +0.6
DUG Dugway, Tooele 26.61 125 P P 00 12 57.7 +0.6
DUG pmax pmax
comp=Z,29nm,1.2s
BBGB Big Mountain B 26.75 141 P P 00 12 58.5 +0.2
BBGB IAmb IAmb 00 13 07.0
comp=Z,61nm,1.2s
MZP Montezuma Peak 26.98 134 P P 00 13 00.2 -0.4
SPR3 Spring Creek 3 27.00 128 P P 00 13 01.3 +0.4
MDND Maddock 27.01 97 P P 00 13 00.8 +0.3
DSP Deep Springs 27.06 135 P P 00 13 01.9 +1.0
DSP IAmb IAmb 00 13 09.9
comp=Z,33nm,1.3s
R11B Troy Canyon, C 27.08 131 P P 00 13 01.2 -0.1
R11B IAmb IAmb 00 13 09.3
comp=Z,64nm,1.8s
PMPB Monarch Peak 27.16 141 P P 00 13 02.8 +0.8
BSUT Blindstream Ca 27.19 121 P P 00 13 02.0 -0.6
MPU Maple Canyon 27.25 123 P P 00 13 02.2 -0.7
E28A Huff 27.34 101 P P 00 13 04.1 +0.7
ULM Lac du Bonnet 27.35 90 P P 00 13 03.7 +0.2
ULM IAmb IAmb 00 13 09.9
comp=Z,66nm,1.6s
ULM Lac du Bonnet 27.35 90 P P 00 13 03.8 +0.4
comp=Z,16nm,1.2s,baz=297,slow=9.5,SNR=5.7
comp=Z,16nm,1.2s
ULM Lac du Bonnet 27.35 90 P P 00 13 03.4 -0.1
GMN Gold Mountain 27.38 134 P P 00 13 03.5 -0.6
K22A Casper 27.41 113 P P 00 13 04.2 0.0
K22A IAmb IAmb 00 13 14.4
comp=Z,58nm,1.5s
PSUT Pine Spring 27.59 128 P P 00 13 06.7 +0.7
S11A Rachel 27.63 132 P P 00 13 07.6 +1.3
S11A IAmb IAmb 00 13 36.8
comp=Z,56nm,1.2s
RDMU Red Mountain 27.68 120 P P 00 13 07.1 +0.3
RDMU IAmb IAmb 00 13 15.1
comp=Z,34nm,1.3s
TMUT Trail Mountain 28.03 123 P P 00 13 09.9 -0.1
TPNV Topopah Spring 28.06 133 P P 00 13 09.2 -0.9
TPNV Topopah Spring 28.06 133 P P 00 13 09.2 -0.9
TPNV pmax pmax
comp=Z,25nm,1.4s
WCT Wildcat Mounta 28.06 134 P P 00 13 09.0 -1.0
WCT IAmb IAmb 00 13 18.6
comp=Z,36nm,1.7s
TCRU Three Creeks R 28.10 126 P P 00 13 09.9 -0.6
TCRU IAmb IAmb 00 13 33.5
comp=Z,68nm,1.8s
PRN Pahroc Range 28.11 131 P P 00 13 10.4 -0.1
PRN IAmb IAmb 00 13 24.1
comp=Z,44nm,1.7s
P18A Preston Nutter 28.16 122 P P 00 13 11.9 +0.7
P18A IAmb IAmb 00 13 15.2
comp=Z,63nm,1.5s
MSU Marysvale 28.29 126 P P 00 13 13.2 +1.0
MSU Marysvale 28.29 126 P P 00 13 13.2 +1.0
Q16A Castle Valley 28.36 124 P P 00 13 12.1 -0.8
Q16A IAmb IAmb 00 13 21.1
comp=Z,42nm,1.3s
ISA Isabella, Lake 28.43 138 P P 00 13 12.9 -0.4
ISA Isabella, Lake 28.43 138 P P 00 13 12.9 -0.4
ISA pmax pmax
comp=Z,22nm,1.3s
SRU San Rafael Swe 28.48 123 P P 00 13 13.8 0.0
SRU IAmb IAmb 00 13 21.8
comp=Z,42nm,1.3s
SRU San Rafael Swe 28.48 123 P P 00 13 13.9 0.0
SRU pmax pmax
comp=Z,42nm,1.3s
GWY Greenwater Val 28.59 135 P P 00 13 13.8 -1.0
GWY IAmb IAmb 00 13 18.7
comp=Z,51nm,1.8s
AGMN Agassiz Nation 28.60 93 P P 00 13 14.1 -0.5
O20A White River Ci 28.62 118 P P 00 13 15.8 +0.6
O20A IAmb IAmb 00 13 22.7
comp=Z,35nm,1.3s
MTPU Mount Pierson 28.69 126 P P 00 13 16.6 +0.6
SHPR Sheep Range 28.86 132 P P 00 13 17.8 +0.5
PKCU Pink Cliffs 29.15 127 P P 00 13 20.2 +0.2
PKCU IAmb IAmb 00 14 08.9
comp=Z,30nm,1.4s
LCMT Little Creek M 29.15 129 P P 00 13 20.2 +0.4
LCMT IAmb IAmb 00 13 24.8
comp=Z,39nm,1.9s
KNB Kanab 29.31 128 P P 00 13 21.3 0.0
KNB IAmb IAmb 00 13 32.4
comp=Z,41nm,1.6s
KNB Kanab 29.31 128 P P 00 13 21.3 0.0
KNB pmax pmax
comp=Z,41nm,1.6s
GSC Goldstone, Bar 29.33 136 P P 00 13 22.1 +0.7
GSC IAmb IAmb 00 13 29.9
comp=Z,27nm,1.1s
GSC Goldstone, Bar 29.33 136 P P 00 13 22.1 +0.7
GSC pmax pmax
comp=Z,27nm,1.1s
V12A Nelson 29.66 132 P P 00 13 25.0 +0.7
V12A IAmb IAmb 00 13 33.1
comp=Z,33nm,1.4s
PV23 Carpenter Ridg 29.68 121 P P 00 13 24.9 +0.3
PV23 IAmb IAmb 00 13 32.1
comp=Z,41nm,1.1s
SUSD Miller 29.71 102 P P 00 13 25.8 +1.2
SUSD IAmb IAmb 00 13 31.3
comp=Z,27nm,1.1s
PV10 Paradox Valley 29.73 122 P P 00 13 25.9 +0.9
PV07 Paradox Valley 29.84 121 P P 00 13 26.5 +0.5
PV07 IAmb IAmb 00 13 33.3
comp=Z,29nm,1.3s
PV11 David Mesa, Pa 29.86 121 P P 00 13 26.7 +0.6
PV11 IAmb IAmb 00 13 33.8
comp=Z,46nm,1.2s
PASC Pasadena Art C 29.88 139 P P 00 13 25.7 -0.5
PV15 Paradox Valley 30.00 121 P P 00 13 28.1 +0.6
PV15 IAmb IAmb 00 13 34.6
comp=Z,29nm,1.2s
PV13 Radium Mtn., P 30.00 121 P P 00 13 26.8 -0.6
PV13 IAmb IAmb 00 13 35.1
comp=Z,40nm,1.3s
U15A North Rim 30.04 128 P P 00 13 27.2 -0.6
U15A IAmb IAmb 00 13 56.6
comp=Z,33nm,1.7s
F33A 5 Mile Ranch, 30.05 97 P P 00 13 27.1 -0.4
BRIGG Briggsdale 30.05 113 P P 00 13 25.4 -2.4
ISCO Idaho Springs 30.08 116 P P 00 13 28.1 -0.1
ISCO Idaho Springs 30.08 116 P P 00 13 28.1 -0.1
ISCO pmax pmax
comp=Z,12nm,1.1s
W13A Hualapai Mount 30.58 132 P P 00 13 33.4 +0.9
W13A IAmb IAmb 00 13 41.1
comp=Z,28nm,1.6s
ELS Elsinore Mount 30.61 138 P P 00 13 32.7 0.0
K30B Basset 30.69 105 P P 00 13 32.6 -0.7
OGNE Ogallala 30.84 110 P P 00 13 34.2 -0.5
OGNE IAmb IAmb 00 14 43.3
comp=Z,23nm,0.9s
MVCO Mesa Verde 30.94 122 P P 00 13 35.5 -0.2
MVCO IAmb IAmb 00 13 42.6
comp=Z,34nm,1.5s
Q24A Divide 30.97 116 P P 00 13 36.4 +0.3
PFO Pinyon Flats O 30.98 137 P P 00 13 36.5 +0.6
PFO Pinyon Flats O 30.98 137 LR LR 00 26 43.5
comp=Z,766nm,18.4s,baz=328,slow=38
PFO Pinyon Flats O 30.98 137 *i* P P 00 13 36.8 +0.8
EYMN Ely 31.04 90 P P 00 13 36.0 -0.2
EYMN IAmb IAmb 00 13 42.3
comp=Z,16nm,0.9s
WUAZ Wupatki 31.19 128 P P 00 13 37.9 0.0
WUAZ IAmb IAmb 00 13 46.3
comp=Z,26nm,1.2s
S22A 4UR Ranch, Cre 31.21 119 P P 00 13 40.4 +2.2
S22A IAmb IAmb 00 13 42.0
comp=Z,54nm,2.0s
ECSD EROS Data Cent 31.39 100 P P 00 13 39.6 +0.2
ECSD IAmb IAmb 00 13 45.7
comp=Z,31nm,1.2s
BLYC Blythe 31.54 134 P P 00 13 41.5 +0.7
BLYC IAmb IAmb 00 13 49.4
comp=Z,35nm,1.4s
SDCO Great Sand Dun 31.80 118 P P 00 13 42.7 -0.7
E38A The Farm, Brul 31.91 92 P P 00 13 44.3 +0.5
E38A IAmb IAmb 00 13 50.3
comp=Z,26nm,1.0s
Y14A Wickenburg 31.94 131 P P 00 13 46.3 +1.9
Y14A IAmb IAmb 00 13 53.1
comp=Z,21nm,1.2s
YUH Yuha Desert 32.04 137 P P 00 13 45.4 +0.3
GLA Glamis 32.06 135 P P 00 13 45.0 -0.3
GLA IAmb IAmb 00 13 53.7
comp=Z,15nm,0.9s
GLA Glamis 32.06 135 P P 00 13 45.1 -0.3
GLA pmax pmax
comp=Z,15nm,1.0s
CBX Cerro Bola 32.09 138 P P 00 13 45.7 0.0
CBX IAmb IAmb 00 14 03.4
comp=Z,33nm,1.2s
X16A Lo Mia Camp, P 32.13 129 P P 00 13 46.9 +0.8
SPMN Marine on St. 32.23 95 P P 00 13 46.2 -0.5
SPMN IAmb IAmb 00 13 53.6
comp=Z,12nm,0.8s
BGNE Belgrade 32.36 105 P P 00 13 49.0 +1.0
KULLO Kullorsuaq 32.36 30 *i* P P 00 13 47.4 -0.1
KULLO IAmb IAmb 00 13 54.4
comp=Z,21nm,1.0s

CCX Cicese 32.50 138 P **P** **00 13 50.1 +1.0**
CCX IAmb IAmb 00 13 57.7
comp=Z,19nm,1.0s
ESJX Sierra Juarez 32.62 137 P **P** **00 13 50.7 +0.3**
X18A Snowflake 32.62 127 P **P** **00 13 51.3 +0.8**
X18A IAmb IAmb 00 13 59.0
comp=Z,28nm,1.2s
113A Mohawk Valley, 32.70 133 P **P** **00 13 51.7 +0.7**
NEEM North Greenlan 32.76 24 *i* P **P** **00 13 50.3 -1.1**
NEEM IAmb IAmb 00 13 54.5
comp=Z,160nm,2.1s
I37A Lemond, Waseca 32.79 97 P **P** **00 13 52.2 +0.6**
T25A Trinidad 32.79 117 P **P** **00 13 52.0 +0.1**
MA2 Magadan 32.80 300 P **P** **00 13 51.6 0.0**
MA2 Magadan 32.80 300 LR LR 00 29 10.4
comp=Z,534nm,18.8s,baz=67,slow=40
MA2 Magadan 32.80 300 *ce* P **P** **00 13 52.4 +0.8**
MA2 pmax pmax
comp=Z,38nm,1.7s
L34A Svendsen Farm, 32.81 102 P **P** **00 13 51.8 -0.1**
L34A IAmb IAmb 00 14 26.3
comp=Z,21nm,1.1s
FRB Frobisher Bay 33.02 51 P **P** **00 13 52.4 -1.1**
comp=Z,31nm,1.2s,baz=299,slow=8.9,SNR=18
FRB LR LR 00 26 56.0
comp=Z,762nm,19.1s,baz=294,slow=36
comp=Z,31nm,1.2s
PEA0B Petropavlovsk- 33.13 286 P **P** **00 13 54.3 -0.3**
PEA0B Petropavlovsk- 33.13 286 *i* P **P** **00 13 54.8 +0.2**
PETK Petropavlovsk- 33.13 286 P **P** **00 13 55.5 +1.0**
PETK Petropavlovsk- 33.13 286 P **P** **00 13 53.8 -0.8**
comp=Z,3.8nm,0.6s,baz=67,slow=12,SNR=8.9
PETK LR LR 00 29 18.1
comp=Z,433nm,18.4s,baz=73,slow=40
comp=Z,3.8nm,0.6s
PETK Petropavlovsk- 33.13 286 P **P** **00 13 55.5 +1.0**
VTX Valle De La Tr 33.23 137 P **P** **00 13 55.3 -0.4**
UPNV Upernavik 33.31 33 *i* P **P** **00 13 57.9 +2.0**
UPNV IAmb IAmb 00 14 02.9
comp=Z,65nm,1.5s
COWI Conover 33.47 90 P **P** **00 13 57.6 0.0**
COWI IAmb IAmb 00 14 04.2
comp=Z,16nm,1.1s
G40A Rib Lake 33.51 92 P **P** **00 13 57.1 -0.8**
CBKS Cedar Bluff 33.61 110 P **P** **00 13 59.6 +0.7**
CBKS Cedar Bluff 33.61 110 P **P** **00 13 59.6 +0.7**
CBKS pmax pmax
comp=Z,57nm,1.6s
ANMO Albuquerque 33.73 122 P **P** **00 13 59.3 -0.9**
ANMO IAmb IAmb 00 14 08.6
comp=Z,41nm,1.6s
ANMO Albuquerque 33.73 122 P **P** **00 14 01.7 +1.6**
comp=Z,2.6nm,1.0s,baz=121,slow=10,SNR=6.1
ANMO PcP **PcP** **00 16 40.5 +1.1**
comp=Z,2.7nm,0.9s,baz=261,slow=4.3,SNR=3.8
ANMO LR LR 00 28 30.2
comp=Z,856nm,18.2s,baz=129,slow=38
comp=Z,2.6nm,1.0s
ANMO Albuquerque 33.73 122 *i* P **P** **00 13 59.7 -0.4**
ANMO pmax pmax
comp=Z,14nm,1.6s
PIX Pinacate 33.90 134 P **P** **00 14 01.4 0.0**
PIX IAmb IAmb 00 14 05.4
comp=Z,52nm,1.5s
N35A Tabor 34.01 103 P **P** **00 14 02.8 +0.5**
RTBA Rita Blanca 34.13 116 P **P** **00 14 03.6 +0.1**
RTBA IAmb IAmb 00 14 11.5
comp=Z,40nm,1.3s
F42A Maple Grove Fa 34.22 90 P **P** **00 14 04.4 +0.4**
TUC Tucson 34.24 130 P **P** **00 14 05.2 +0.8**
TUC IAmb IAmb 00 14 13.3
comp=Z,25nm,1.3s
TUC Tucson 34.24 130 **P** **00 14 05.4 +0.9**
TUC Tucson 34.24 130 P **P** **00 14 07.5 +3.0**
TUC pmax pmax
comp=Z,6.0nm,1.3s
I40A Norwalk 34.28 94 P **P** **00 14 04.8 +0.2**
I40A IAmb IAmb 00 14 11.4
comp=Z,27nm,1.1s
SCIA State Center 34.42 99 P **P** **00 14 05.3 -0.6**
SCIA IAmb IAmb 00 15 13.6
comp=Z,32nm,1.2s
NUUG Nuugaatsiaq 34.67 34 *i* P **P** **00 14 08.8 +1.2**
NUUG IAmb IAmb 00 14 15.2
comp=Z,20nm,1.1s
DUN6 Lazy B Ranch 34.70 127 P **P** **00 14 08.7 +0.2**
KSU1 Kansas State U 34.89 106 P **P** **00 14 10.8 +0.9**
TIXI Tiksi 34.95 326 P **P** **00 14 09.4 -0.7**
TIXI IAmb IAmb 00 14 18.6
comp=Z,42nm,1.7s
TIXI Tiksi 34.95 326 LR LR 00 31 34.8
comp=Z,484nm,18.1s,baz=77,slow=42
TIXI Tiksi 34.95 326 *i* P **P** **00 14 09.2 -0.9**
TIXI pmax pmax
comp=Z,22nm,1.4s
I42A Draeger Farm, 35.14 93 P **P** **00 14 11.1 -0.9**
I42A IAmb IAmb 00 14 42.7
comp=Z,19nm,1.1s
JFWS Jewell Farm 35.17 95 P **P** **00 14 12.3 0.0**
JFWS IAmb IAmb 00 14 18.6
comp=Z,49nm,1.4s
JFWS Jewell Farm 35.17 95 P **P** **00 14 12.3 0.0**
JFWS pmax pmax
comp=Z,49nm,1.4s
N38A Joes South For 35.25 101 P **P** **00 14 12.8 -0.1**
N38A IAmb IAmb 00 14 19.0
comp=Z,19nm,1.0s
H43A Windswept, Lux 35.30 91 P **P** **00 14 14.3 +0.9**
L40A Anamosa 35.30 97 P **P** **00 14 13.9 +0.5**
L40A IAmb IAmb 00 14 19.7
comp=Z,29nm,1.1s
UMMG Uummannaq 35.39 35 *i* P **P** **00 14 14.1 +0.3**
UMMG IAmb IAmb 00 14 20.0
comp=Z,106nm,1.5s
KAN12 Harper NE Stat 35.64 109 P **P** **00 14 17.5 +1.0**
KAN12 IAmb IAmb 00 14 23.8
comp=Z,36nm,1.0s
319A Douglas 35.66 128 P **P** **00 14 17.2 +0.5**
319A IAmb IAmb 00 14 25.7
comp=Z,35nm,1.3s
KAN08 Anthony NE Sta 35.71 109 P **P** **00 14 17.6 +0.6**
E46A Sault Ste Mari 35.73 86 P **P** **00 14 17.6 +0.6**
E46A IAmb IAmb 00 14 18.8
comp=Z,18nm,1.0s
NOKA Waynoka 35.73 111 P **P** **00 14 18.5 +1.3**
NOR Nord 35.81 12 *i* P **P** **00 14 16.4 -1.0**
NOR IAmb IAmb 00 14 24.4
comp=Z,19nm,1.1s
KAN01 Argonia South 35.87 109 P **P** **00 14 18.9 +0.5**
KAN14 Manchester OK 35.93 110 P **P** **00 14 19.8 +0.9**
KAN14 IAmb IAmb 00 14 26.1
comp=Z,40nm,1.2s
OK032 Salt Plains WL 35.94 110 P **P** **00 14 19.7 +0.7**
OK038 West end E0370 35.95 111 P **P** **00 14 19.5 +0.4**
KAN09 Caldwell North 35.95 109 P **P** **00 14 20.1 +1.0**
KAN17 Caldwell West 35.96 109 P **P** **00 14 19.9 +0.7**
ELIS Ellis County 35.97 112 P **P** **00 14 20.1 +0.8**
P38A Dawn 35.99 102 P **P** **00 14 19.8 +0.4**
P38A IAmb IAmb 00 14 25.7
comp=Z,21nm,1.1s
KAN13 South Haven SW 36.12 109 P **P** **00 14 21.6 +1.0**
L42A Oliver, Polo 36.13 96 P **P** **00 14 21.1 +0.6**
L42A IAmb IAmb 00 14 26.7
comp=Z,45nm,1.2s
MSTX Muleshoe 36.17 118 P **P** **00 14 21.6 +0.5**
MSTX IAmb IAmb 00 14 29.1
comp=Z,50nm,1.3s
CROK Carrier 36.29 110 P **P** **00 14 21.9 -0.1**
SMWD Samnorwood 36.37 114 P **P** **00 14 23.4 +0.6**
ILULI Ilulissat 36.44 37 P **P** **00 14 22.9 +0.1**
ILULI IAmb IAmb 00 14 39.8
comp=Z,39nm,1.3s
ILULI Ilulissat 36.44 37 P **P** **00 14 22.9 +0.1**
ILULI pmax pmax
comp=Z,39nm,1.3s
EPT El Paso 36.44 125 P **P** **00 14 25.4 +2.0**
BLOK Blackwell 36.45 109 P **P** **00 14 23.6 +0.3**
N41A Harden Midland 36.50 98 P **P** **00 14 23.4 -0.3**
CSTR Hydro, Custer 36.65 112 P **P** **00 14 25.9 +0.8**
T35A Sooner Cattle 36.66 108 P **P** **00 14 25.5 +0.3**
P40A Paris 36.80 101 P **P** **00 14 26.4 +0.1**
P40A IAmb IAmb 00 14 32.5
comp=Z,44nm,1.2s
OK051 E0350 and S346 36.83 109 P **P** **00 14 27.5 +0.9**

OK048 Pawnee Station 36.85 109 P **P** **00 14 27.7 +0.9**
MNTX Cornudas Mount 36.97 123 P **P** **00 14 28.6 +0.7**
OK029 Liberty Lake 37.11 110 P **P** **00 14 29.4 +0.4**
OK029 IAmb IAmb 00 14 36.9
comp=Z,49nm,1.2s
HSIG 37.12 132 P **P** **00 14 29.8 +0.7**
QUOK Quay 37.16 109 P **P** **00 14 29.7 +0.3**
QUOK IAmb IAmb 00 14 35.6
comp=Z,80nm,1.7s
DKNS Dickens 37.26 116 P **P** **00 14 30.9 +0.6**
DKNS IAmb IAmb 00 14 37.8
comp=Z,39nm,1.6s
OK052 Battle Ridge R 37.26 109 P **P** **00 14 30.6 +0.3**
OK052 IAmb IAmb 00 14 37.2
comp=Z,62nm,1.4s
OK031 S. Brethren Rd 37.28 109 P **P** **00 14 30.3 -0.1**
OK031 IAmb IAmb 00 14 37.3
comp=Z,37nm,1.1s
WMOK Wichita Mounta 37.35 113 P **P** **00 14 31.9 +0.8**
WMOK IAmb IAmb 00 14 38.6
comp=Z,44nm,1.2s
WMOK Wichita Mounta 37.35 113 P **P** **00 14 31.9 +0.8**
WMOK pmax pmax
comp=Z,45nm,1.3s
HDIL Hopedale 37.39 97 P **P** **00 14 31.2 -0.1**
M44A Midewin, Midew 37.40 95 P **P** **00 14 31.4 +0.1**
M44A IAmb IAmb 00 15 48.0
comp=Z,29nm,1.1s
OKCSW OKLAHOMA CITY 37.44 111 **P** **00 14 32.2 +0.4**
POST Post 37.50 117 P **P** **00 14 32.8 +0.5**
POST IAmb IAmb 00 14 36.5
comp=Z,67nm,1.6s
DEOK Depew 37.53 109 P **P** **00 14 32.8 +0.3**
DEOK IAmb IAmb 00 14 39.5
comp=Z,49nm,1.4s
FNO Franklin 37.58 111 P **P** **00 14 32.9 0.0**
R40A Maddies Statio 37.65 102 P **P** **00 14 33.3 -0.2**
R40A IAmb IAmb 00 14 39.5
comp=Z,29nm,1.3s
J47A Sunmer 37.67 90 P **P** **00 14 33.9 +0.2**
J47A IAmb IAmb 00 14 40.6
comp=Z,52nm,1.2s
SN07 Snyder 07 37.75 117 P **P** **00 14 34.0 -0.5**
SN07 IAmb IAmb 00 14 41.9
comp=Z,26nm,1.3s
SFJD Kangerlussuaq 37.80 40 P **P** **00 14 35.0 +0.6**
SFJD Kangerlussuaq 37.80 40 LR LR 00 30 53.9
comp=Z,936nm,18.2s,baz=308,slow=38
SFJD Kangerlussuaq 37.80 40 P **P** **00 14 35.0 +0.6**
TUL3 Leonard 37.81 108 P **P** **00 14 35.4 +0.5**
TUL3 IAmb IAmb 00 14 42.4
comp=Z,70nm,1.5s
ODSA Odessa 37.84 119 P **P** **00 14 35.4 +0.1**
ODSA IAmb IAmb 00 14 43.8
comp=Z,29nm,1.2s
APMT Aspermont 37.91 116 P **P** **00 14 35.4 -0.3**
X34A Smith Ranch, M 37.91 112 P **P** **00 14 36.6 +0.8**
W35A Tecumseh 37.91 110 P **P** **00 14 36.0 +0.3**
W35A IAmb IAmb 00 14 43.5
comp=Z,41nm,1.3s
VHRN Van Horn 37.93 123 P **P** **00 14 36.9 +0.7**
VHRN IAmb IAmb 00 14 45.0
comp=Z,32nm,1.5s
SN05 Snyder 5 37.94 117 P **P** **00 14 36.0 -0.1**
VLDQ Val d'Or 37.97 78 P **P** **00 14 34.2 -1.9**
VLDQ IAmb IAmb 00 14 40.8
comp=Z,33nm,1.1s
SUMG Summit 37.98 28 P **P** **00 14 35.9 -0.5**
SUMG Summit 37.98 28 *i* P **P** **00 14 35.3 -1.2**
SUMG IAmb IAmb 00 14 39.7
comp=Z,97nm,1.9s
SRIG Santa Rosalia 38.19 135 P **P** **00 14 37.4 -0.7**
SRIG IAmb IAmb 00 14 39.5
comp=Z,21nm,0.8s
WTFS Witchita Falls 38.30 113 P **P** **00 14 39.6 +0.6**
CCM Cathedral Cave 38.33 102 P **P** **00 14 38.6 -0.7**
CCM Cathedral Cave 38.33 102 P **P** **00 14 38.6 -0.7**
CCM pmax pmax
comp=Z,27nm,1.3s
SLM Saint Louis 38.38 100 P **P** **00 14 39.7 0.0**
SLM Saint Louis 38.38 100 P **P** **00 14 39.7 0.0**
SLM pmax pmax
comp=Z,110nm,1.8s
HHAR Hobbs 38.41 106 P **P** **00 14 39.9 -0.1**
MNHN Monahans 38.41 120 P **P** **00 14 39.8 -0.3**
MGMO Mountain Grove 38.53 104 P **P** **00 14 40.8 -0.2**
MGMO IAmb IAmb 00 14 46.8
comp=Z,36nm,1.2s
SFIN Lafayette 38.63 95 P **P** **00 14 42.6 +0.9**
SFIN IAmb IAmb 00 14 47.9
comp=Z,43nm,1.5s
SGCY Sterling City 38.64 118 P **P** **00 14 42.9 +0.9**
SCHQ Schefferville 38.67 63 P **P** **00 14 41.9 -0.1**
SCHQ IAmb IAmb 00 14 47.8
comp=Z,55nm,1.2s
SCHQ Schefferville 38.67 63 P **P** **00 14 41.4 -0.6**
comp=Z,12nm,1.1s,baz=319,slow=8.3,SNR=14
SCHQ LR LR 00 31 59.2
comp=Z,440nm,18.1s,baz=324,slow=38
comp=Z,12nm,1.1s
LOOK Love County 38.71 112 P **P** **00 14 43.1 +0.6**
LOOK IAmb IAmb 00 14 45.7
comp=Z,98nm,1.7s
FVM French Village 38.80 101 P **P** **00 14 42.9 -0.3**
FVM IAmb IAmb 00 14 49.2
comp=Z,35nm,1.1s
FVM French Village 38.80 101 P **P** **00 14 42.9 -0.3**
FVM pmax pmax
comp=Z,35nm,1.2s
ALPN Alpine 38.86 122 P **P** **00 14 44.0 0.0**
N47A Urbana 38.96 93 P **P** **00 14 44.0 -0.5**
N47A IAmb IAmb 00 14 51.1
comp=Z,36nm,1.0s
DAG Danmarks Havn 39.07 18 P **P** **00 14 44.6 -0.4**
DAG pmax pmax
comp=Z,43nm,1.4s
DAG Danmarks Havn 39.07 18 *i* P **P** **00 14 43.5 -1.5**
DAG IAmb IAmb 00 14 51.1
comp=Z,30nm,0.8s
NUUK Nuuk 39.07 44 *i* P **P** **00 14 49.0 +3.8**
NUUK IAmb IAmb 00 14 52.3
comp=Z,123nm,1.5s
FW03 Perrin-Whitt E 39.09 113 P **P** **00 14 46.5 +0.8**
FW03 IAmb IAmb 00 14 49.4
comp=Z,82nm,1.8s
PLPT Palo Pinto 39.16 114 P **P** **00 14 45.6 -0.7**
T42A Van Buren 39.21 102 P **P** **00 14 45.9 -0.7**
OLIL Olney 39.38 98 P **P** **00 14 48.0 0.0**
OLIL IAmb IAmb 00 14 54.4
comp=Z,42nm,1.0s
FW06 Azle 39.38 113 P **P** **00 14 48.8 +0.7**
FW06 IAmb IAmb 00 14 55.6
comp=Z,50nm,1.3s
SADO Sadowa 39.44 84 LR LR 00 32 37.7
comp=Z,656nm,19.2s,baz=254,slow=39
OZNA Ozona 39.48 119 P **P** **00 14 49.8 +0.7**
FW07 Weatherford 39.50 113 P **P** **00 14 50.1 +1.0**
FW07 IAmb IAmb 00 14 56.4
comp=Z,70nm,1.5s
SIUC Southern Illin 39.60 100 P **P** **00 14 49.6 -0.3**
SIUC IAmb IAmb 00 14 56.1
comp=Z,41nm,1.1s
FCAR Ozark Folk Cen 39.61 105 P **P** **00 14 49.2 -0.7**
N49A Columbus Grove 39.70 92 P **P** **00 14 50.7 +0.1**
N49A IAmb IAmb 00 14 57.0
comp=Z,32nm,1.1s
O48B Farmland 39.70 94 P **P** **00 14 50.5 -0.2**
O48B IAmb IAmb 00 15 10.4
comp=Z,46nm,1.5s
CGM3 Cape Girardeau 39.71 101 P **P** **00 14 50.8 0.0**
PBMO Poplar Bluff 39.74 102 IAmb IAmb 00 14 56.9
comp=Z,72nm,1.2s
TX31 Lajitas Ar. Si 39.75 123 P **P** **00 14 51.4 +0.1**
TXAR Lajitas Array 39.75 123 P **P** **00 14 51.7 +0.4**
TXAR Lajitas Array 39.75 123 P **P** **00 14 53.6 +2.2**
comp=Z,1.1nm,0.8s,baz=329,slow=6.1,SNR=12
TXAR PcP **PcP** **00 16 57.1 -0.4**
comp=Z,0.9nm,0.8s,baz=339,slow=3.2,SNR=2.5
TXAR LR LR 00 32 36.2
comp=Z,509nm,19.0s,baz=326,slow=38
comp=Z,1.1nm,0.8s
BLO Bloomington 39.83 96 P **P** **00 14 51.1 -0.7**
BLO Bloomington 39.83 96 P **P** **00 14 51.1 -0.7**
BLO pmax pmax
comp=Z,14nm,0.9s

ICESG Greenland Ices 39.84 33 *i* P **P** **00 14 50.7 -1.3**
ICESG IAmb IAmb 00 14 56.7
comp=Z,49nm,1.2s
SAND Sanderson 39.88 121 P **P** **00 14 51.9 -0.4**
FW13 Cleburne 39.96 113 P **P** **00 14 53.8 +0.8**
FW13 IAmb IAmb 00 15 00.2
comp=Z,98nm,2.0s
MIAR Mount Ida 39.98 107 P **P** **00 14 52.7 -0.4**
MIAR IAmb IAmb 00 14 59.8
comp=Z,49nm,1.3s
MIAR Mount Ida 39.98 107 P **P** **00 14 52.7 -0.4**
MIAR pmax pmax
comp=Z,49nm,1.3s
YAK Yakutsk 39.99 313 P **P** **00 14 52.2 -0.6**
YAK IAmb IAmb 00 14 57.3
comp=Z,34nm,0.8s
YAK Yakutsk 39.99 313 LR LR 00 33 36.8
comp=Z,873nm,18.4s,baz=60,slow=40
YAK Yakutsk 39.99 313 *e* P **P** **00 14 52.5 -0.3**
YAK *e**PP **pP** **00 14 56.6 +0.2**
YAK *e* 00 16 24.2
YAK *e*PPP PPP 00 16 46.9
YAK *e* 00 16 58.2
YAK *e*S **S** **00 20 57.2 -0.4**
YAK *e* 00 25 00.3
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,132nm,4.0s
YAK pmax pmax
comp=N,118nm,3.8s
YAK pmax pmax
comp=E,66nm,3.5s
YAK smax smax
comp=N,233nm,5.7s
YAK smax smax
comp=E,267nm,5.8s
YAK MLR MLR
comp=Z,729nm,17.0s
YAK MLR MLR
comp=N,161nm,14.0s
YAK MLR MLR
comp=E,726nm,22.0s
BRDY Brady 40.13 116 P **P** **00 14 55.2 +0.8**
USIN University of 40.19 98 P **P** **00 14 54.8 0.0**
USIN IAmb IAmb 00 15 01.0
comp=Z,61nm,1.3s
TREL Terrell 40.27 112 P **P** **00 14 56.2 +0.7**
Z38A Mt. Pleasant 40.35 110 P **P** **00 14 56.6 +0.5**
Z38A IAmb IAmb 00 15 04.2
comp=Z,58nm,1.3s
X40A Basin Creek Fa 40.38 107 P **P** **00 14 55.8 -0.6**
UALR University of 40.39 106 P **P** **00 14 56.3 -0.2**
UALR IAmb IAmb 00 14 58.1
comp=Z,58nm,1.8s
T45A Paducah 40.43 100 P **P** **00 14 57.9 +1.1**
JCT Junction City 40.45 118 P **P** **00 14 58.0 +0.9**
JCT IAmb IAmb 00 15 01.3
comp=Z,74nm,1.9s
JCT Junction City 40.45 118 P **P** **00 14 58.0 +0.9**
JCT pmax pmax
comp=Z,74nm,1.9s
HICK Hickman 40.52 101 P **P** **00 14 58.9 +1.4**
HICK IAmb IAmb 00 15 04.9
comp=Z,52nm,1.0s
PEBM Pemiscott Bayo 40.54 102 P **P** **00 14 58.5 +0.8**
GNAR Gosnell 40.58 102 P **P** **00 14 58.0 0.0**
N51A Ashland 40.61 90 P **P** **00 14 58.2 -0.1**
N51A IAmb IAmb 00 15 00.1
comp=Z,82nm,1.7s
DBG Daneborg 40.65 21 *i* P **P** **00 14 56.0 -2.2**
DBG IAmb IAmb 00 14 59.6
comp=Z,10.0nm,0.5s
M52A Chesterland 40.66 89 P **P** **00 14 58.9 +0.2**
M52A IAmb IAmb 00 15 05.4
comp=Z,57nm,1.3s
WCI Wyandotte Cave 40.67 97 P **P** **00 14 58.5 -0.3**
WCI Wyandotte Cave 40.67 97 P **P** **00 14 58.5 -0.3**
WCI pmax pmax
comp=Z,32nm,1.7s
TRQ Mont Tremblant 40.71 79 P **P** **00 14 58.8 -0.3**
LNXT Lenox 40.73 102 P **P** **00 14 59.3 0.0**
LNXT IAmb IAmb 00 15 03.7
comp=Z,51nm,0.9s
ACSO Alum Creek Sta 40.82 92 P **P** **00 14 59.0 -0.9**
UTMT University of 40.85 101 P **P** **00 14 59.4 -0.9**
WLAR White Oak Lake 40.90 108 P **P** **00 15 00.3 -0.3**
WLAR IAmb IAmb 00 15 07.6
comp=Z,35nm,1.2s
LDAQ Lac Daran 41.12 74 IAmb IAmb 00 15 09.1
comp=Z,70nm,1.3s
WBO Williamsburg 41.21 80 IAmb IAmb 00 15 09.2
comp=Z,40nm,1.2s
P51A Williamsport 41.34 92 IAmb IAmb 00 15 10.2
comp=Z,36nm,1.2s
N53A Lisbon 41.47 89 IAmb IAmb 00 15 26.8
comp=Z,31nm,1.1s
WVT Waverly 41.54 100 P **P** **00 15 06.9 +1.0**
WVT Waverly 41.54 100 P **P** **00 15 06.9 +1.0**
WVT pmax pmax
comp=Z,20nm,1.2s
SPITS Spitsbergen Ar 41.61 7 P **P** **00 15 05.3 -0.7**
comp=Z,8.2nm,0.7s,baz=20,slow=2.7,SNR=12
SPITS LR LR 00 32 35.1
comp=Z,215nm,20.0s,baz=312,slow=37
comp=Z,8.2nm,0.7s
LPIG La Paz 41.82 135 LR LR 00 32 54.9
comp=Z,236nm,18.5s,baz=340,slow=37
LMQ La Malbaie 41.86 74 IAmb IAmb 00 15 14.6
comp=Z,57nm,1.3s
SSFO Shawnee State 41.87 93 IAmb IAmb 00 15 14.8
comp=Z,38nm,1.2s
ICQ Pointe Anglais 41.96 70 IAmb IAmb 00 15 15.1
comp=Z,62nm,1.3s
L56A Greenwood 42.14 85 IAmb IAmb 00 15 16.9
comp=Z,39nm,1.2s
PLAL Pickwick Lake 42.32 101 IAmb IAmb 00 15 18.7
comp=Z,37nm,1.2s
V48A Smith Brothers 42.34 100 IAmb IAmb 00 15 19.0
comp=Z,43nm,1.5s
ISOG Isortoq, Green 42.38 37 *i* P **P** **00 15 10.3 -2.1**
ISOG IAmb IAmb 00 15 14.2
comp=Z,62nm,1.5s
Y45A Yeager Farm, C 42.49 104 IAmb IAmb 00 15 17.0
comp=Z,70nm,1.5s
143A Socs Landing, 42.53 107 IAmb IAmb 00 15 22.1
comp=Z,69nm,1.2s
HKT Hockley 42.71 114 P **P** **00 15 17.9 +2.4**
HKT IAmb IAmb 00 15 23.4
comp=Z,40nm,1.4s
HKT Hockley 42.71 114 *i* P **P** **00 15 17.0 +1.6**
HKT pmax pmax
comp=Z,35nm,1.5s
ANGG Ammassalik, Gr 42.74 36 *i* P **P** **00 15 11.2 -4.2**
ANGG IAmb IAmb 00 15 23.6
comp=Z,86nm,1.3s
D62A Allapoint, All 42.80 74 IAmb IAmb 00 15 22.6
comp=Z,68nm,1.3s
BINY Binghamton 42.89 84 IAmb IAmb 00 15 23.0
comp=Z,66nm,1.2s
E62A Clayton Lake 42.90 74 IAmb IAmb 00 15 22.5
comp=Z,25nm,0.9s
SSPA Standing Stone 43.09 87 P **P** **00 15 20.1 +1.6**
SSPA IAmb IAmb 00 15 24.9
comp=Z,36nm,1.2s
TZTN Tazewell 43.35 96 IAmb IAmb 00 15 27.4
comp=Z,62nm,1.4s
P57A Homestead Farm 43.89 88 IAmb IAmb 00 15 31.4
comp=Z,22nm,1.1s
TKL Tuckaleechee C 43.94 97 IAmb IAmb 00 15 31.1
comp=Z,33nm,1.4s
TKL Tuckaleechee C 43.94 97 LR LR 00 34 21.2
comp=Z,2um,19.9s,baz=328,slow=37
BATG Bathurst New B 44.11 71 IAmb IAmb 00 15 33.5
comp=Z,30nm,1.2s
YSS Yuzhno-Sakhali 44.42 288 *e* P P 00 15 21.8 -7.3
YSS pmax pmax
comp=Z,20nm,0.7s
GRNR Gornyy 44.67 297 *e* P P 00 15 22.2 -8.9
GRNR MLR MLR
comp=N,400nm,12.0s
GRNR MLR MLR

comp=Z,470nm,14.0s
JMIC Jan Mayen 45.41 20 LR LR 00 35 11.9
comp=Z,341nm,18.2s,baz=344,slow=37
PAULI Pauline 45.58 96 IAmb IAmb 00 15 45.0
comp=Z,18nm,1.0s
GOGA Godfrey 45.87 98 IAmb IAmb 00 15 47.4
comp=Z,24nm,1.4s
ZEA Zeya 46.53 305 *e*P **P** **00 15 49.2 +3.4**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=Z,700nm,12.0s
ASAJ Asahikawa 46.55 286 P **P** **00 15 46.1 0.0**
ASAJ comp=Z,4.1nm,0.4s,baz=273,slow=3.2,SNR=3.7 LR LR 00 35 06.8
comp=Z,339nm,21.3s,baz=26,slow=36
comp=Z,4.1nm,0.4s
DRLN Deer Lake 46.68 64 P **P** **00 15 47.3 +0.4**
KLR Kul'dur 47.87 298 LR LR 00 36 29.2
comp=Z,265nm,19.9s,baz=47,slow=37
KLR Kul'dur 47.87 298*ce*P **P** **00 15 56.3 0.0**
KLR pmax pmax
comp=Z,18nm,1.7s
BORG Borgarnes 47.91 30 LR LR 00 37 27.5
comp=Z,472nm,21.0s,baz=325,slow=38
BOD Bodaibo 48.59 316 *e*P **P** **00 16 00.0 -1.6**
BOD pmax pmax
comp=Z,27nm,1.6s
HEH HeiHe 49.02 302 *e*P **P** **00 16 08.2 +3.1**
HEH pmax pmax
comp=Z,13nm,0.9s
ARCES ARCESS Array B 50.62 6 P **P** **00 16 16.8 -0.2**
comp=Z,3.4nm,0.6s,baz=8.7,slow=7.2,SNR=21
ARCES LR LR 00 41 06.0
comp=Z,142nm,18.0s,baz=328,slow=40
comp=Z,3.4nm,0.6s
USRK Ussuriysk Ar. 51.53 294 P **P** **00 16 24.6 +0.4**
USRK Ussuriysk Ar. 51.53 294 P **P** **00 16 23.9 -0.3**
comp=Z,2.2nm,0.6s,baz=31,slow=7.8,SNR=5.8
USRK LR LR 00 39 46.1
comp=Z,434nm,18.6s,baz=53,slow=38
comp=Z,2.2nm,0.6s
USRK Ussuriysk Ar. 51.53 294 P **P** **00 16 24.6 +0.4**
BNX BinXian 52.44 298 ⇓P **P** **00 16 30.5 -0.4**
BNX pmax pmax
comp=Z,12nm,1.0s
H11N2 WAKE ISLAND Hy 54.14 246 T T 01 15 39.1
baz=30,slow=76,SNR=100
H11N3 WAKE ISLAND Hy 54.15 245 T T 01 15 40.2
baz=30,slow=76,SNR=108
H11N1 WAKE ISLAND Hy 54.16 246 T T 01 15 46.1
baz=30,slow=76,SNR=55
CMIG Matias Romero 54.29 121 P **P** **00 16 46.1 +1.3**
comp=Z,0.7nm,0.3s,baz=24,slow=4.1,SNR=2.5
CMIG LR LR 00 40 46.5
comp=Z,282nm,18.5s,baz=360,slow=37
comp=Z,0.7nm,0.3s
MJAR Matsushiro Arr 54.50 283 P **P** **00 16 46.5 +0.3**
comp=Z,1.1nm,0.3s,baz=20,slow=4.8,SNR=4.4
MJAR LR LR 00 41 27.4
comp=Z,155nm,19.1s,baz=62,slow=38
comp=Z,1.1nm,0.3s
CN2 Changchun 54.82 298 *e*P **P** **00 16 45.9 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,160nm,6.0s
CN2 LR LR
comp=N,580nm,20.0s
CN2 LR LR
comp=E,600nm,20.0s
CN2 LR LR
comp=Z,380nm,20.0s
H11S1 WAKE ISLAND Hy 55.30 245 T T 01 16 41.9
baz=29,slow=76,SNR=133
H11S2 WAKE ISLAND Hy 55.31 245 T T 01 16 44.8
baz=29,slow=76,SNR=55
H11S3 WAKE ISLAND Hy 55.31 245 T T 01 16 43.1
baz=29,slow=76,SNR=83
JOF Joensuu 57.48 4 *e*P **P** **00 17 06.5 -0.6**
NC405 NORSAR Array S 57.65 15 P **P** **00 17 08.6 +0.2**
NB2 NORSAR Subarra 57.66 15 P **P** **00 17 07.6 -0.9**
comp=Z,28nm,1.2s,baz=346,slow=7.4
NB2 NORSAR Subarra 57.66 15 P **P** **00 17 07.6 -0.9**
baz=346,slow=7.4
NOA NORSAR Array B 57.66 15 P **P** **00 17 07.5 -0.9**
comp=Z,5.2nm,0.9s,baz=345,slow=7.0,SNR=19
NOA LR LR 00 42 45.4
comp=Z,90nm,19.4s,baz=345,slow=37
comp=Z,5.2nm,0.9s
MOY Mondy 57.99 319 *e*P **P** **00 17 12.0 +1.0**
MOY pmax pmax
comp=Z,39nm,2.9s
NORES NORESS Array B 57.99 15 P **P** **00 17 10.6 -0.2**
FINES FINESS Array B 58.70 7 P **P** **00 17 14.5 -1.2**
comp=Z,5.8nm,0.6s,baz=2.4,slow=8.3,SNR=40
FINES LR LR 00 44 42.8
comp=Z,102nm,18.6s,baz=346,slow=38
comp=Z,5.8nm,0.6s
KSRS Korea Array 58.74 291 P **P** **00 17 17.3 +1.0**
comp=Z,3.2nm,0.8s,baz=36,slow=7.4,SNR=6.7
KSRS LR LR 00 42 19.2
comp=Z,300nm,21.5s,baz=45,slow=36
comp=Z,3.2nm,0.8s
HFS Hagfors 58.85 14 P **P** **00 17 16.2 -0.6**
comp=Z,6.3nm,0.8s,baz=336,slow=3.3,SNR=26
HFS LR LR 00 43 04.6
comp=Z,223nm,19.9s,baz=342,slow=37
comp=Z,6.3nm,0.8s
ULN Ulaanbaatar 59.08 313 P **P** **00 17 19.9 +1.2**
ULN IAmb IAmb 00 17 33.5
comp=Z,11nm,1.1s
ULN Ulaanbaatar 59.08 313 P **P** **00 17 19.9 +1.2**
ULN pmax pmax
comp=Z,11nm,1.1s
SONM Songino Array 59.35 313 P **P** **00 17 21.1 +0.5**
SONM IAmb IAmb 00 17 26.8
comp=Z,22nm,1.2s
SONM Songino Array 59.35 313 P **P** **00 17 21.1 +0.5**
comp=Z,6.3nm,0.9s,baz=36,slow=5.1,SNR=28
SONM LR LR 00 45 16.9
comp=Z,754nm,18.0s,baz=35,slow=38
comp=Z,6.3nm,0.9s
KLMR Klimovskoe 59.67 359 *e*P **P** **00 17 20.6 -1.8**
KLMR pmax pmax
comp=Z,58nm,1.5s
EKA Eskdalemuir Ar 60.52 26 P **P** **00 17 27.7 -0.6**
comp=Z,14nm,0.9s,baz=340,slow=4.6,SNR=13
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 60.67 331 P **P** **00 17 28.9 -0.4**
ZALV Zalesovo Beam 60.67 331 P **P** **00 17 28.3 -1.0**
ZALV Zalesovo Beam 60.67 331 P **P** **00 17 28.8 -0.5**
comp=Z,5.4nm,0.7s,baz=23,slow=6.8,SNR=18
ZALV LR LR 00 46 59.6
comp=Z,366nm,18.4s,baz=20,slow=39
comp=Z,5.4nm,0.7s
ARBE Arbavere 60.70 7 *e*P **P** **00 17 28.5 -0.9**
JNU Nakatsue 60.83 286 LR LR 00 43 43.6
comp=Z,227nm,21.4s,baz=36,slow=36
BORU Boraas 61.16 15 *i*P **P** **00 17 32.0 -0.6**
ONAU Onsala 61.28 16 *i*P **P** **00 17 36.9 +3.5**
KIRV Kirov 61.63 353 LR LR 00 45 25.2
comp=Z,263nm,21.4s,baz=11,slow=37
KIRV Kirov 61.63 353*ce*P **P** **00 17 36.2 +0.4**
VSU Vasula 61.71 7*ce*P **P** **00 17 36.5 +0.2**
VSU pmax pmax
comp=Z,52nm,1.7s
VSU Vasula 61.71 7 *e*P **P** **00 17 36.5 +0.2**
FABU Falkenberg 61.77 16 *i*P **P** **00 17 36.4 -0.4**
SVE Sverdlovsk 62.39 346 *e*P **P** **00 17 40.8 -0.1**
SVE pmax pmax
comp=Z,29nm,1.4s
DEL Delary 62.44 15 *i*P **P** **00 17 40.3 -1.0**
BJUU Bjuv 62.71 16 *i*P **P** **00 17 42.9 -0.1**
ARTI Arti 63.07 348 P **P** **00 17 44.2 -1.3**
ARTI Arti 63.07 348 LR LR 00 47 30.0
comp=Z,214nm,19.3s,baz=17,slow=38
ARTI Arti 63.07 348*d*i P **P** **00 17 45.3 -0.2**
ARTI 00 18 23.4
ARTI 00 20 04.9
ARTI S **S** **00 26 19.6 +4.1**
ARTI SS **SS** **00 30 18.2 -1.9**
ARTI pmax pmax
comp=Z,15nm,0.6s
HHC Hu-ho-hao-te 63.20 306 *e*P **P** **00 17 47.9 +1.2**
HHC pP sP 00 17 51.3 -0.5
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.0s
HHC LR LR
comp=N,570nm,14.5s
HHC LR LR
comp=E,480nm,13.5s
HHC LR LR
comp=Z,1μm,12.2s
LUNU Lund 63.20 16 *i*P **P** **00 17 45.0 -1.3**
VSVD Vaisvydziai 63.98 9 *e*P **P** **00 17 51.8 +0.3**
BTO Baotou 64.03 307 *e*P **P** **00 17 51.6 -0.6**
BTO pP **pP** **00 17 56.2 +0.3**
BTO sP **sP** **00 17 58.6 +1.3**
BTO S **S** **00 26 27.0 -1.1**
BTO sS **sS** **00 26 34.2 -0.1**
BTO Baotou 64.03 307 SS SS 00 30 35.2 -0.8
BTO pmax pmax
comp=Z,9.0nm,0.7s
BTO pmax pmax
comp=Z,540nm,4.9s
BTO LR LR
comp=N,2μm,11.1s
BTO LR LR
comp=E,2μm,13.5s
BTO LR LR
comp=Z,2μm,11.2s
PABE Paberze 64.46 9 *e*P **P** **00 17 54.6 0.0**
BRVK Borovoye 64.61 339 P **P** **00 17 55.3 -0.3**
BRVK IAmb IAmb 00 17 59.7
comp=Z,10nm,1.1s
BRVK Borovoye 64.61 339*ce*P **P** **00 17 53.2 -2.4**
BRVK pmax pmax
comp=Z,16nm,1.7s
BVAR Borovoye Array 64.62 339 P **P** **00 17 55.0 -0.7**
comp=Z,6.2nm,0.9s,baz=32,slow=6.2,SNR=18
BVAR LR LR 00 50 26.6
comp=Z,329nm,20.8s,baz=26,slow=40
comp=Z,6.2nm,0.9s
TIA Tai'an 64.70 299 P **P** **00 17 55.4 -1.1**
TIA LR LR
comp=N,540nm,22.6s
TIA LR LR
comp=E,490nm,23.0s
TIA LR LR
comp=Z,640nm,14.2s
JTS Las Juntas de 64.73 115 LR LR 00 52 01.0
comp=Z,280nm,18.1s,baz=294,slow=41
HNS HongShan 64.76 301 ⇓P **P** **00 17 57.3 +0.4**
HNS *e*S **S** **00 26 43.8 +6.8**
HNS pmax pmax
comp=Z,12nm,1.4s
HNS LR LR
comp=N,370nm,14.7s
HNS LR LR
comp=E,520nm,14.7s
HNS LR LR
comp=Z,530nm,15.1s
IIGN Ignalina 64.78 8 *e*P **P** **00 17 56.8 +0.1**
MOS Moscow 64.80 1 *e*P **P** **00 17 54.3 -2.5**
MOS pmax pmax
comp=Z,46nm,1.0s
KURK Kurchatov 65.13 333 P **P** **00 17 58.4 -0.6**
KURK Kurchatov 65.13 333*ce*P **P** **00 17 58.9 -0.1**
KURK pmax pmax
comp=Z,30nm,1.7s
KURBB Kurchatov Arra 65.23 333 P **P** **00 17 58.7 -1.0**
comp=Z,5.4nm,0.7s,baz=25,slow=6.2,SNR=34
KURBB LR LR 00 48 50.6
comp=Z,327nm,21.5s,baz=124,slow=38
comp=Z,5.4nm,0.7s
NACGM Naroch 65.26 7 *e*P **P** **00 17 59.6 -0.2**
baz=354
OBN Obninsk 65.42 1 P **P** **00 17 59.8 -1.0**
OBN Obninsk 65.42 1*c i*P **P** **00 18 00.1 -0.7**
OBN *e* 00 18 32.4
OBN *i* 00 20 25.4
OBN pmax pmax
comp=Z,100nm,1.7s
OBN MLR MLR
comp=Z,196nm,15.0s
OBN Obninsk 65.42 1 P **P** **00 18 01.2 +0.4**
comp=Z,63nm,1.1s
MNK Minsk 65.73 7 *i*P **P** **00 18 01.2 -1.7**
MNK *i* 00 20 26.3
MNK *i*PPP PPP 00 22 01.0
MNK *i*S **S** **00 26 48.2 -0.2**
MNK *i*SS **SS** **00 31 05.1 +3.7**
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=E,18nm,1.0s
MNK pmax pmax
comp=N,17nm,1.0s
MNK MLR MLR
comp=Z,262nm,15.0s
MNK MLR MLR
comp=E,153nm,18.0s
MNK MLR MLR
comp=N,202nm,16.0s
SUW Suwalki 65.88 10 *e*P **P** **00 18 02.7 -1.1**
SUW Suwalki 65.88 10 *e*P **P** **00 18 04.4 +0.6**
GKP Gorka Klasztor 66.00 14 *e*P **P** **00 18 04.4 -0.2**
ZSN Zaisan 66.59 328 *e*P **P** **00 18 08.1 -0.5**
ZSN pmax pmax
comp=Z,15nm,0.8s
ZSN Zaisan 66.59 328 *e*P **P** **00 18 08.1 -0.5**
comp=Z,15nm,0.8s
BMRD Maredsous 66.90 23 *d*P **P** **00 18 09.3 -1.2**
DOU Dourbes 67.07 23 *d*P **P** **00 18 10.4 -1.1**
BRZS Berezniki 67.09 337 *e*P **P** **00 18 11.2 -0.5**
BRZS Berezniki 67.09 337 *e*P **P** **00 18 11.3 -0.5**
SJG San Juan 67.19 93 LR LR 00 48 03.3
comp=Z,386nm,21.7s,baz=260,slow=36
JOW Kunigami 67.28 284 LR LR 00 49 20.3
comp=Z,54nm,19.5s,baz=28,slow=38
CLL Collm 67.35 17 IAmb IAmb 00 18 18.4
comp=Z,14nm,0.9s
CLL Collm 67.35 17 *i*P **P** **00 18 14.2 +0.9**
CLL *i* 00 18 17.4
CLL pmax pmax
comp=Z,45nm,1.6s
CLL Collm 67.35 17 *i*P **P** **00 18 14.2 +0.9**
comp=Z,45nm,1.6s
CLL *i*pP **pP** **00 18 17.4 +0.4**
comp=Z,45nm,1.6s
CLL *e*PP **PP** **00 20 43.0 +2.0**
NJ2 Nanjing 67.40 295 ⇓P **P** **00 18 14.6 +0.7**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,5.0s
NJ2 LR LR
comp=N,430nm,19.9s
NJ2 LR LR
comp=E,600nm,19.0s
NJ2 LR LR
comp=Z,850nm,18.0s
WLF Walferdange 67.78 22 *d*P **P** **00 18 15.5 -0.5**
MK31 Makanchi Array 67.88 329 IAmb IAmb 00 18 21.1
comp=Z,18nm,1.5s
MK31 Makanchi Array 67.88 329 *i*P **P** **00 18 14.3 -2.5**
MKAR Makanchi Array 67.88 329 P **P** **00 18 15.4 -1.3**
comp=Z,5.3nm,0.8s,baz=44,slow=6.6,SNR=30
MKAR LR LR 00 51 02.9
comp=Z,428nm,20.9s,baz=20,slow=39
comp=Z,5.3nm,0.8s
MKAR Makanchi Array 67.88 329 *i*P **P** **00 18 15.3 -1.5**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 67.91 16 *i*P **P** **00 18 16.3 -0.5**
BRG Amp 00 18 18.9
comp=Z,7.4nm,0.8s
BRG Berggiesshubel 67.91 16 P **P** **00 18 21.5 +4.7**
BRG Amp 00 18 23.2
comp=Z,16nm,1.0s
LPSR Galich'ya Gora 67.94 360 *e*P **P** **00 18 15.6 -1.4**
LPSR pmax pmax
comp=Z,30nm,1.1s
MAKZ Makanchi 67.95 329 P **P** **00 18 16.0 -1.2**
MAKZ Makanchi 67.95 329 P **P** **00 18 16.0 -1.2**
MAKZ pmax pmax
comp=Z,42nm,1.6s
HSKC Hora Svate Kat 68.09 17 *e*P **P** **00 18 19.3 +1.3**
LYN LuoYang 68.14 301 P **P** **00 18 19.4 +0.9**
LYN sP sP 00 18 31.2 +7.6
LYN pmax pmax
comp=Z,39nm,1.6s
LYN pmax pmax
comp=Z,300nm,3.7s
LYN LR LR
comp=N,680nm,13.3s
LYN LR LR
comp=E,580nm,12.8s
LYN LR LR
comp=Z,820nm,12.7s
RICC Richard 68.25 16 *e*P **P** **00 18 20.2 +1.2**
KSP Ksiaz 68.26 15 *e*P **P** **00 18 18.9 -0.1**
KSP Ksiaz 68.26 15 P **P** **00 18 18.8 -0.2**
KSP Ksiaz 68.26 15 P **P** **00 18 18.8 -0.2**
comp=Z,27nm,1.1s
PVCC Panska Ves 68.33 16 *e*P **P** **00 18 20.5 +1.0**
PVCC Panska Ves 68.33 16 *e*P **P** **00 18 20.5 +1.0**
RNPP9 Sopachiv 68.67 8 P **P** **00 18 20.8 -0.8**
DPC Dobruska-Polom 68.74 15 *e*P **P** **00 18 22.0 -0.1**
DPC *e*pP **sP** **00 18 27.0 -0.3**
DPC Dobruska-Polom 68.74 15 *e*P **P** **00 18 22.0 -0.1**
DPC *e* 00 18 27.0
DPC Dobruska-Polom 68.74 15 P **P** **00 18 22.1 -0.1**
comp=Z,30nm,1.1s
RNPP5 Staryi Chortor 68.86 8 P **P** **00 18 21.9 -0.8**
PRU Pruhonice 68.86 16 *e*P **P** **00 18 23.1 +0.3**
PRU Pruhonice 68.86 16 *e*P **P** **00 18 23.1 +0.3**
VORR Voronezh 68.88 359 *e*P **P** **00 18 23.7 +0.9**
VORR pmax pmax
comp=Z,10.0nm,1.1s
AKTO Aktyubinsk 68.97 347 LR LR 00 50 35.7
comp=Z,112nm,20.9s,baz=26,slow=38
GTA Gaotai 69.02 313 P **P** **00 18 23.9 -0.2**
GTA pP sP 00 18 28.8 -0.5
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA LR LR
comp=N,130nm,13.1s
GTA LR LR
comp=E,480nm,17.4s
GTA LR LR
comp=Z,240nm,18.9s
WMQ Urumqi 69.11 324 *e*P **P** **00 18 25.2 +0.7**
WMQ PcP **PcP** **00 18 49.8 +1.3**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ LR LR
comp=Z,270nm,20.7s
OJC Ojcow 69.29 13 *e*P **P** **00 18 26.3 +0.8**
OJC Ojcow 69.29 13 IAmb IAmb 00 18 30.7
comp=Z,9.2nm,0.8s
OJC Ojcow 69.29 13 P **P** **00 18 25.1 -0.4**
OJC Ojcow 69.29 13 P **P** **00 18 25.1 -0.4**
comp=Z,19nm,0.9s
VRH Novokhopyorsk 69.31 358 *e*P **P** **00 18 25.8 +0.2**
VRH pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 69.33 360 *e*P **P** **00 18 22.6 -3.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
STEB Steborice 69.34 14 *e*P **P** **00 18 26.7 +0.9**
STEB *ex* x 00 18 30.7
ZVC Zvikov 69.34 17 *e*P **P** **00 18 25.9 +0.1**
ECH Echery 69.36 22 pP 00 18 30.0 +0.3
MORC Moravsky Berou 69.46 14 IAmb IAmb 00 18 31.6
comp=Z,10nm,1.0s
MORC Moravsky Berou 69.46 14 *e*P **P** **00 18 26.4 -0.2**
AK21 Malin Array Si 69.51 6 P **P** **00 18 25.6 -1.2**
AK22 Malin Array Si 69.53 6 P **P** **00 18 25.7 -1.2**
KHC Kasperske Hory 69.55 17 *e*P **P** **00 18 28.6 +1.4**
KHC *ep*P **sP** **00 18 32.5 +0.2**
KHC Kasperske Hory 69.55 17*ce*P **P** **00 18 28.2 +1.0**
KHC pmax pmax
comp=Z,61nm,1.7s
KHC Kasperske Hory 69.55 17 P **P** **00 18 27.6 +0.4**
comp=Z,15nm,1.9s
AK18 Malin Array Si 69.57 6 P **P** **00 18 26.0 -1.1**
AK04 Malin Array Si 69.57 6 P **P** **00 18 25.7 -1.5**
VORD Divnogorie 69.58 359 *e*P **P** **00 18 25.4 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 69.60 6 P **P** **00 18 27.0 -0.3**
AKASG Malin Array Be 69.60 6 P **P** **00 18 25.6 -1.7**
comp=Z,3.4nm,0.5s,baz=356,slow=6.0,SNR=27
AKASG LR LR 00 51 38.0
comp=Z,167nm,18.1s,baz=354,slow=38
comp=Z,3.4nm,0.5s
AKASG Malin Array Be 69.60 6 *i*P **P** **00 18 26.2 -1.1**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 69.60 6*ce*P **P** **00 18 25.2 -2.1**
AKBB pmax pmax
comp=Z,33nm,0.9s
KIEV Kiev 69.60 6 P **P** **00 18 26.4 -1.0**
KIEV Kiev 69.60 6 P **P** **00 18 26.4 -1.0**
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 69.60 6 P **P** **00 18 26.2 -1.1**
comp=Z,131nm,1.2s
AK17 Malin Array Si 69.60 6 P **P** **00 18 26.2 -1.2**
VRAC Vranov 69.80 15 LR LR 00 53 57.3
comp=Z,137nm,18.4s,baz=337,slow=40
VRAC Vranov 69.80 15 *e*P **P** **00 18 28.6 0.0**
GEC2 GERESS Array S 69.85 17 IAmb IAmb 00 18 35.7
comp=Z,35nm,1.6s
ABKAR Akbulak array 69.89 345 P **P** **00 18 28.2 -0.9**
ABKAR Akbulak array 69.89 345 IAmb IAmb 00 18 34.1
comp=Z,70nm,1.8s
CKRC Cesky Krumlov 69.96 17 *e*P **P** **00 18 29.6 -0.1**
CKRC Cesky Krumlov 69.96 17 *e*P **P** **00 18 29.6 -0.1**
KRUC Moravsky 70.02 15 *e*P **P** **00 18 29.4 -0.6**
XAN Xi'an 70.09 304 ⇑P **P** **00 18 31.4 +0.7**
XAN pmax pmax
comp=Z,11nm,1.5s
XAN LR LR
comp=N,920nm,11.7s
XAN LR LR
comp=E,650nm,11.7s
XAN LR LR
comp=Z,1μm,13.1s
NIE Niedzica 70.14 12 P **P** **00 18 30.3 -0.4**
STHS Stebnicka Huta 70.24 12 *e*P **P** **00 18 31.7 +0.3**
STHS pmax pmax
comp=Z,16nm,0.8s
STHS Stebnicka Huta 70.24 12 *e*P **P** **00 18 31.7 +0.3**
LUBAR Lubar, Ukraine 70.29 7 P **P** **00 18 30.0 -1.6**
LANS Liptovska Anna 70.31 13 *e*P **P** **00 18 33.2 +1.4**
LANS pmax pmax
comp=Z,10.0nm,0.9s
LANS Liptovska Anna 70.31 13 *e*P **P** **00 18 33.2 +1.4**
LZH Lanzhou 70.39 309 *e*P **P** **00 18 34.2 +1.6**
LZH pP sP 00 18 38.8 +1.0
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=N,690nm,12.8s
LZH LR LR
comp=E,710nm,14.0s
LZH LR LR
comp=Z,700nm,16.5s
TDK Taldyqorghan 70.53 331 *e*P **P** **00 18 32.7 -0.5**
TDK pmax pmax
comp=Z,13nm,0.7s
TDK Taldyqorghan 70.53 331 *e*P **P** **00 18 32.8 -0.5**
comp=Z,13nm,0.7s
SMOL Smolenice 70.69 15 *e*P **P** **00 18 34.7 +0.6**
SMOL pmax pmax
comp=Z,18nm,1.8s
RETA Reutte 70.70 19 *ep*P **P** **00 18 35.7 +1.5**
comp=Z,6.1nm,1.2s
WHN Wuhan 70.72 298 P **P** **00 18 34.9 +0.4**
MODS Modra-Piesok 70.81 15 *e*P **P** **00 18 35.3 +0.5**
MODS pmax pmax
comp=Z,96nm,2.0s
MODS Modra-Piesok 70.81 15 *e*P **P** **00 18 35.3 +0.5**
KOLS Kolonicke sedl 70.82 11 *e*P **P** **00 18 35.9 +1.0**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 70.82 11 *e*P **P** **00 18 35.9 +1.0**
VYHS Vyhne 70.88 14 *e*P **P** **00 18 34.9 -0.4**
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS Vyhne 70.88 14 *e*P **P** **00 18 34.9 -0.4**

MOA	Molln	70.90	17	*e*pP		P	00 18 36.2	+0.7
	comp=Z,8.7nm,1.0s							
BIOA	Bad Ischl, Aus	70.97	17	*e*P		P	00 18 35.4	-0.4
	comp=Z,6.6nm,0.8s							
WATA	Walderalm	70.98	19	*e*pP		P	00 18 36.5	+0.4
	comp=Z,47nm,1.7s,SNR=9.0							
SQTA	Sankt Quirin	71.04	19	*e*pP		P	00 18 36.9	+0.5
	comp=Z,33nm,1.7s,SNR=12							
CONA	Conrad Observa	71.06	16	*e*pP		P	00 18 36.7	+0.3
	comp=Z,15nm,1.0s,SNR=8.0							
WTTA	Wattenberg	71.06	19	*e*pP		P	00 18 37.0	+0.4
	comp=Z,37nm,1.4s,SNR=12							
LESA	Schwarzleotal	71.08	18	*e*pP		P	00 18 36.9	+0.4
	comp=Z,22nm,1.4s							
KECS	Kecovo	71.08	13	*e*P		P	00 18 38.3	+1.8
KECS				pmax		pmax		
	comp=Z,13nm,0.6s							
KECS	Kecovo	71.08	13	*e*P		P	00 18 38.3	+1.8
FETA	Feichten	71.15	20	*e*P		P	00 18 36.1	-1.0
	comp=Z,14nm,1.1s							
DAVOX	Davos/Dischmat	71.23	20	LR		LR	00 53 18.2	
	comp=Z,145nm,18.6s,baz=262,slow=39							
HOLU	Holmets	71.23	11	P		P	00 18 37.8	+0.4
TUE	Stuetta	71.44	21	IAmb		IAmb	00 18 44.7	
	comp=Z,11nm,0.9s							
FUORN	Ofenpass-Fuorn	71.46	20	P		P	00 18 40.1	+1.0
KBA	Koelnbreinsper	71.52	18	*e*pP		P	00 18 39.5	+0.1
	comp=Z,18nm,0.8s,SNR=15							
KBA	Koelnbreinsper	71.52	18	P		P	00 18 39.6	+0.3
KMPD	K-Podol'skiy	71.55	8	P		P	00 18 39.1	-0.2
BERU	Beregovo	71.55	11	P		P	00 18 39.5	+0.2
PGAV	Gavieira, Arco	71.56	35	*e*P		P	00 18 41.0	+1.4
PGAV				*i* Amb			00 18 43.8	
	comp=Z,63nm,2.2s							
PSZ	Piszkesteto	71.57	13	P		P	00 18 39.5	0.0
PSZ				IAmb		IAmb	00 18 45.5	
	comp=Z,19nm,1.0s							
PSZ	Piszkesteto	71.57	13	P		P	00 18 39.5	0.0
PSZ				pmax		pmax		
	comp=Z,19nm,1.0s							
PSZ	Piszkesteto	71.57	13	*e*P		P	00 18 40.2	+0.7
ARSA	Arzberg	71.67	16	*e*P		P	00 18 38.4	-1.7
	comp=Z,7.6nm,1.0s							
ARSA	Arzberg	71.67	16	P		P	00 18 40.2	+0.1
ABTA	Abfaltersbach	71.71	18	*e*P		P	00 18 40.1	-0.3
	comp=Z,12nm,1.9s							
TRSU	Trosnyk	71.72	11	P		P	00 18 40.2	-0.1
TRSU	Trosnyk	71.72	11	P		P	00 18 40.2	-0.1
NSLU	Nyzhne Selyshc	71.75	10	P		P	00 18 39.9	-0.6
KPKS	Kokpek	71.90	330	*e*P		P	00 18 41.1	-0.5
KPKS	Kokpek	71.90	330	*e*P		P	00 18 41.1	-0.5
SHLS	Shalkode	72.00	330	*e*P		P	00 18 41.3	-0.9
SHLS				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SHLS	Shalkode	72.00	330	*e*P		P	00 18 41.3	-0.9
	comp=Z,6.9nm,0.8s							
MYKA	Terra Mystica	72.00	18	*e*P		P	00 18 41.6	-0.5
	comp=Z,6.1nm,0.9s							
MPLH	Magyarpolny	72.02	15	P		P	00 18 42.6	+0.4
	comp=Z,40nm,1.5s							
SORM	Soroca	72.10	7	P		P	00 18 42.4	-0.2
SORM	Soroca	72.10	7	P		P	00 18 42.4	-0.2
	comp=Z,25nm,1.4s							
UZB	Uzynbulak	72.12	330	*e*P		P	00 18 42.1	-0.9
UZB	Uzynbulak	72.12	330	*e*P		P	00 18 42.2	-0.9
PBRG	Braganca	72.14	34	*e*P		P	00 18 43.5	+0.4
PBRG				*i* Amb			00 18 52.3	
	comp=Z,35nm,1.6s							
SOKA	Soboth	72.16	17	*e*P		P	00 18 42.3	-0.8
	comp=Z,18nm,1.6s							
PRED	Cave del Predi	72.17	18	P		P	00 18 43.4	+0.2
PRED				IAmb		IAmb	00 18 47.5	
	comp=Z,13nm,1.0s							
POLO	Lamas de Olo	72.24	35	*e*P		P	00 18 42.3	-1.4
POLO				*e*pP		sP	00 18 48.5	-0.4
ZHN	Zhinishke	72.25	330	*e*P		P	00 18 43.0	-0.7
ZHN	Zhinishke	72.25	330	*e*P		P	00 18 43.0	-0.7
CTI	Castel Tesino	72.25	19	P		P	00 18 44.0	+0.3
CTI				IAmb		IAmb	00 18 49.7	
	comp=Z,38nm,1.7s							
CTI	Castel Tesino	72.25	19	P		P	00 18 44.0	+0.3
CTI				pmax		pmax		
	comp=Z,38nm,1.7s							
OBKA	Obir	72.25	17	*e*pP		P	00 18 43.7	0.0
	comp=Z,18nm,0.8s,SNR=6.6							
BNI	Bardonecchia	72.30	23	P		P	00 18 44.2	+0.2
BNI	Bardonecchia	72.30	23	P		P	00 18 44.2	+0.2
BNI				pmax		pmax		
	comp=Z,97nm,2.0s							
PVRL	Vila Real	72.36	35	*e*P		P	00 18 44.1	-0.2
PVRL				*e*pP		sP	00 18 49.0	-0.5
PVRL				*i* Amb			00 18 49.7	
	comp=Z,29nm,1.2s							
SATY	Saty	72.36	330	*e*P		P	00 18 43.8	-0.6
SATY	Saty	72.36	330	*e*P		P	00 18 43.9	-0.6
BURAR	Bucovina Array	72.39	9	P		P	00 18 43.7	-0.8
AAA	Alma-Ata	72.58	332	*e*P		P	00 18 45.2	-0.4
AAA				pmax		pmax		
	comp=Z,12nm,0.7s							
AAA	Alma-Ata	72.58	332	*e*P		P	00 18 45.2	-0.4
	comp=Z,12nm,0.7s							
MVO	Moncorvo	72.66	34	*e*P		P	00 18 45.9	-0.3
MVO				*e*pP		pP	00 18 50.5	+0.6
PVIS	Viseu	72.82	35	*e*P		P	00 18 46.8	-0.3
PVIS				*e*pP		sP	00 18 51.9	-0.4
DRGR		72.98	11	P		P	00 18 49.9	+1.9
MORH	Mrgy, Hungar	73.10	14	P		P	00 18 47.9	-0.7
	comp=Z,7.0nm,0.4s							
MTE	Manteigas	73.22	35	*e*P		P	00 18 52.0	+2.5
MTE				*e*pP		pP	00 18 53.9	+0.7
MTE				*i* Amb			00 18 54.9	
	comp=Z,34nm,1.1s							
MTE	Manteigas	73.22	35	*e*P		P	00 18 49.5	0.0
PCAS	Casmilo, Conde	73.26	36	*e*P		P	00 18 49.4	-0.3
PCAS				*e*pP		sP	00 18 54.1	-0.7
PCAS				*i* Amb			00 19 09.4	
	comp=Z,64nm,1.8s							
BOOM	Boomskoye usch	73.49	332	IAmb		IAmb	00 18 56.4	
	comp=Z,37nm,1.8s							
BOOM	Boomskoye usch	73.49	332	P		P	00 18 50.7	-0.5
KDJ	Kajisay	73.53	331	IAmb		IAmb	00 18 57.5	
	comp=Z,12nm,0.8s							
PSBE	So Bento	73.66	36	*e*pP		pP	00 18 56.7	+0.8
GOMU	GeErMu	73.68	315	P		P	00 18 52.4	-0.2
GOMU				pP		pP	00 18 54.8	-1.6
GOMU				sP		sP	00 18 59.1	+1.3
GOMU				S		S	00 28 25.0	+1.9
GOMU				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GOMU				LR		LR		
	comp=N,660nm,12.9s							
GOMU				LR		LR		
	comp=E,440nm,12.7s							
GOMU				LR		LR		
	comp=Z,1µm,12.6s							
AAK	Ala-Archa	73.69	333	P		P	00 18 52.5	+0.2
AAK				IAmb		IAmb	00 18 57.7	
	comp=Z,36nm,1.8s							
AAK	Ala-Archa	73.69	333	LR		LR	00 56 06.0	
	comp=Z,112nm,19.0s,baz=20,slow=40							
AAK	Ala-Archa	73.69	333	*ce*P		P	00 18 52.9	+0.6
AAK				pmax		pmax		
	comp=Z,19nm,1.7s							
PCBR	Castelo Branco	73.75	35	*e*P		P	00 18 54.6	+2.1
TARG	Taragay, Kyrgy	73.76	330	P		P	00 18 53.5	+0.4
TARG				IAmb		IAmb	00 19 08.9	
	comp=Z,40nm,1.9s							
TARG	Taragay, Kyrgy	73.76	330	P		P	00 18 53.5	+0.4
TARG				pmax		pmax		
	comp=Z,40nm,1.9s							
WUS	Wushi	73.89	329	IAmb		IAmb	00 18 58.8	
	comp=Z,12nm,0.8s							
KKAR	Karatay Array	74.11	336	P		P	00 18 53.5	-1.1
KKAR	Karatay Array	74.11	336	IAmb		IAmb	00 18 59.3	
	comp=Z,4.4nm,0.9s							
KKAR	Karatay Array	74.11	336	P		P	00 18 53.5	-1.1
DZA	Taraz	74.14	335	*e*P		P	00 18 54.3	-0.5
DZA	Taraz	74.14	335	*e*P		P	00 18 54.4	-0.5
PMTG	Montargil	74.24	36	*e*pP		pP	00 18 59.5	+0.4
PMTG				*i* Amb			00 19 00.3	
	comp=Z,29nm,1.4s							
BRLS	Borolday	74.31	337	*e*P		P	00 18 56.6	+0.8
BRLS	Borolday	74.31	337	*e*P		P	00 18 56.6	+0.8
ROSC	El Rosal	74.51	108	P		P	00 18 56.6	-1.1
ROSC				IAmb		IAmb	00 19 04.8	
	comp=Z,34nm,1.4s							
ROSC	El Rosal	74.51	108	P		P	00 18 58.6	+0.9
	comp=Z,2.2nm,0.3s,baz=273,slow=3.6,SNR=1.4							
ROSC				LR		LR	00 55 17.3	
	comp=Z,230nm,18.9s,baz=51,slow=39							
	comp=Z,2.2nm,0.3s							
MLR	Muntele Rosu	74.56	9	P		P	00 18 57.0	-0.4
MLR				IAmb		IAmb	00 19 03.3	
	comp=Z,35nm,1.7s							
MLR	Muntele Rosu	74.56	9	LR		LR	00 55 40.1	
	comp=Z,109nm,18.2s,baz=43,slow=39							
MLR	Muntele Rosu	74.56	9	P		P	00 18 57.0	-0.4
MLR				pmax		pmax		
	comp=Z,35nm,1.7s							
PESTR	Estremoz	74.62	36	*e*P		P	00 18 57.0	-0.7
PESTR				*e*pP		pP	00 19 01.9	+0.4
PCRV	Puerto La Cruz	74.69	96	LR		LR	00 53 00.7	
	comp=Z,199nm,20.1s,slow=37							
BBGH	Gun Hill	74.73	90	P		P	00 18 57.7	-0.9
EVO	Evora	74.80	36	*e*P		P	00 19 00.6	+1.9
EVO				*e*pP		pP	00 19 03.1	+0.7
ESBB	Sonseca Array	74.90	33	P		P	00 18 58.2	-1.0
ESBB				IAmb		IAmb	00 19 05.4	
	comp=Z,25nm,1.2s							
ESDC	Sonseca Array	74.90	33	P		P	00 18 59.5	+0.3
ESDC	Sonseca Array	74.90	33	P		P	00 18 59.5	+0.3
	comp=Z,10nm,1.0s,baz=342,slow=4.9,SNR=16							
ESDC				LR		LR	00 51 59.6	
	comp=Z,240nm,18.2s,baz=324,slow=36							
	comp=Z,10nm,1.0s							
PAB	San Pablo	74.91	33	P		P	00 18 58.7	-0.7
PAB				IAmb		IAmb	00 19 06.0	
	comp=Z,20nm,1.4s							
PAB	San Pablo	74.91	33	P		P	00 18 58.7	-0.7
PAB				pmax		pmax		
	comp=Z,20nm,1.4s							
FUNA	Funafuti	74.92	220	P		P	00 18 59.6	+0.1
CD2	Chengdu	74.95	306	P		P	00 18 59.9	+0.2
CD2				sP		pP	00 19 03.8	+0.3
CD2				S		S	00 28 35.9	-0.9
CD2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CD2				pmax		pmax		
	comp=Z,300nm,4.9s							
CD2				LR		LR		
	comp=N,60nm,22.9s							
CD2				LR		LR		
	comp=Z,660nm,13.3s							
IUG	Iuzhnay	75.12	336	*e*P		P	00 19 00.0	-0.6
IUG				pmax		pmax		
	comp=Z,11nm,1.1s							
IUG	Iuzhnay	75.12	336	*e*P		P	00 19 00.1	-0.6
	comp=Z,11nm,1.1s							
MESJ	Messejana	75.38	37	*e*pP		pP	00 19 06.5	+0.7
PBAR	Barrancos	75.42	35	*e*P		P	00 19 03.7	+1.5
PBAR				*e*pP		pP	00 19 06.7	+0.7
PBAR				*i* Amb			00 19 07.6	
	comp=Z,29nm,1.4s							
NRCA	Norcia	75.62	19	P		P	00 19 03.2	-0.2
PCVE	Castro Verde	75.63	36	*e*P		P	00 19 04.0	+0.6
PCVE				*e*pP		pP	00 19 07.1	-0.2
PCVE				*i* Amb			00 19 11.6	
	comp=Z,45nm,1.6s							
MORF	Marmelete	75.74	37	*e*pP		pP	00 19 08.9	+1.0
ANN	Anapa	75.75	1	*e*P		P	00 19 00.4	-3.6
ANN				*e*S		S	00 28 45.8	+0.6
ANN				pmax		pmax		
	comp=Z,108nm,1.2s							
PFVI	Vila Bisbo	75.85	37	*e*P		P	00 19 04.5	-0.2
PFVI				*e*pP		sP	00 19 09.9	+0.1
PVAQ	Vaqueiros	75.93	36	*e*P		P	00 19 04.4	-0.8
PVAQ				*e*pP		sP	00 19 09.8	-0.5
PBDV	Barranco-do-Ve	76.02	37	*e*pP		pP	00 19 09.0	-0.5
KSH	Kashi	76.30	331	P		P	00 19 09.7	+2.3
KSH				pmax		pmax		
	comp=Z,10.0nm,1.4s							
KSH				LR		LR		
	comp=N,330nm,16.8s							
KSH				LR		LR		
	comp=E,520nm,17.9s							
KSH				LR		LR		
	comp=Z,280nm,12.4s							
KIV	Kislovodsk	76.54	357	P		P	00 19 08.7	+0.1
KIV				IAmb		IAmb	00 19 13.8	
	comp=Z,25nm,1.0s							
KIV	Kislovodsk	76.54	357	*e*P		P	00 19 07.8	-0.8
KIV				pmax		pmax		
	comp=Z,23nm,1.1s							
OTAV	Otavalo	76.58	114	P		P	00 19 08.6	-1.0
OTAV				IAmb		IAmb	00 19 11.4	
	comp=Z,21nm,1.9s							
OTAV	Otavalo	76.58	114	P		P	00 19 08.6	-1.0
OTAV				pmax		pmax		
	comp=Z,21nm,1.9s							
FLOC	Florencia	76.71	110	P		P	00 19 08.2	-1.7
SHA1	Shidzhatmaz	76.76	357	*i* P		P	00 19 09.7	-0.4
KBZ	Khabaz	76.76	357	P		P	00 19 09.7	-0.1
	comp=Z,11nm,1.0s,baz=334,slow=4.8,SNR=9.9							
KBZ				LR		LR	00 58 18.8	
	comp=Z,60nm,20.1s,baz=4.0,slow=40							
	comp=Z,11nm,1.0s							
KBZ	Khabaz	76.76	357	*ce*P		P	00 19 08.8	-0.9
KBZ				pmax		pmax		
	comp=Z,13nm,0.9s							
BTK	Batken	76.97	335	P		P	00 19 10.6	-0.5
BTK				IAmb		IAmb	00 19 16.5	
	comp=Z,24nm,1.5s							
BTK	Batken	76.97	335	P		P	00 19 10.6	-0.5
BTK				pmax		pmax		
	comp=Z,24nm,1.5s							
DRK	Karamyk	77.31	334	P		P	00 19 13.2	0.0
DRK	Karamyk	77.31	334	P		P	00 19 13.3	0.0
DRK				pmax		pmax		
	comp=Z,51nm,0.3s							
MAK	Makhachkala	77.32	353	*e*P		P	00 19 06.6	-6.3
MAK				*e*			00 22 02.3	
MAK				*e*S		S	00 28 54.2	-8.2
MAK				*e*SSS		SSS	00 37 20.8	
MAK				pmax		pmax		
	comp=Z,130nm,1.1s							
MAK				MLR		MLR		
	comp=Z,415nm,18.0s							
PPT	Papeete	77.37	188	LR		LR	00 46 59.0	
	comp=Z,195nm,18.1s,baz=12,slow=31							
GYA	Guiyang	77.62	302	P		P	00 19 13.5	-1.5
GYA				S		S	00 29 09.1	+2.6
GYA				LR		LR		
	comp=Z,510nm,21.8s							
GAR	Garm	78.09	335	P		P	00 19 16.7	-0.8
CHGR	Chuyangaron	78.66	336	P		P	00 19 20.7	+0.1
CHGR	Chuyangaron	78.66	336	P		P	00 19 20.7	+0.1
SIMJ	Simiganj	78.69	336	P		P	00 19 19.6	-1.3
SIMJ				IAmb		IAmb	00 19 26.0	
	comp=Z,15nm,0.9s							
FNA	Florina	78.78	13	P		P	00 19 20.8	-0.4
FNA	Florina	78.78	13	P		P	00 19 20.8	-0.4
FNA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
CUC	Castrocucco	78.82	18	P		P	00 19 20.4	-1.0
CUC				IAmb		IAmb	00 19 26.2	
	comp=Z,14nm,1.1s							
RDO	Rodhopi	78.84	10	P		P	00 19 21.7	+0.3
RDO				IAmb		IAmb	00 19 26.4	
	comp=Z,10nm,0.9s							
SEKA	Sheki	79.08	353	P		P	00 19 24.4	+1.6
ALN	Alexandroupoli	79.14	10	P		P	00 19 22.7	-0.3
ALN	Alexandroupoli	79.14	10	P		P	00 19 22.7	-0.3
ALN				pmax		pmax		
	comp=Z,65nm,1.7s							
ILGA	Ilgaz	79.42	4	P		P	00 19 24.9	0.0
MNGR	Mingechevir, A	79.52	353	P		P	00 19 26.9	+1.8
PZH	PanZhiHua	79.66	306	P		P	00 19 26.3	+0.1
PZH				S		S	00 29 25.7	-2.5
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,120nm,4.3s							
PZH				LR		LR		
	comp=N,310nm,18.2s							
PZH				LR		LR		
	comp=E,360nm,18.2s							
PZH				LR		LR		
	comp=Z,170nm,21.6s							
GANJ	Ganja	79.69	354	P		P	00 19 27.9	+1.8
AVE	Averroes	79.83	38	P		P	00 19 27.2	+0.3
KARS	Kars	79.85	356	P		P	00 19 26.4	-0.7
KARS	Kars	79.85	356	P		P	00 19 26.4	-0.7
KARS				pmax		pmax		
	comp=Z,109nm,1.5s							
MDUB	Mudurnu	79.90	6	P		P	00 19 27.5	+0.1
TOKA	Tokat	80.22	2	P		P	00 19 29.0	+0.1
GNI	Garni	80.27	355	P		P	00 19 29.4	0.0
GNI				IAmb		IAmb	00 19 37.2	
	comp=Z,34nm,1.4s							
GNI	Garni	80.27	355	P		P	00 19 29.4	0.0
GNI				pmax		pmax		
	comp=Z,34nm,1.4s							
BORA	Eskisehir	80.45	6	P		P	00 19 30.1	-0.2
BORA				IAmb		IAmb	00 19 35.7	
	comp=Z,22nm,1.5s							
KMI	Kunming	80.46	304	⇑P		P	00 19 34.3	+3.6
KMI	Kunming	80.46	304	S		S	00 29 38.9	+1.9
KMI				pmax		pmax		
	comp=Z,12nm,1.0s							
KMI				LR		LR		
	comp=N,410nm,22.2s							
KMI				LR		LR		
	comp=E,510nm,16.9s							
KMI				LR		LR		
	comp=Z,370nm,16.1s							
KOPT	Kop Dagi	80.52	358	P		P	00 19 30.4	-0.5
ANTO	Ankara	80.57	4	P		P	00 19 30.1	-0.8
ANTO				IAmb		IAmb	00 19 36.7	
	comp=Z,18nm,0.9s							
ANTO	Ankara	80.57	4	P		P	00 19 30.1	-0.8
ANTO				pmax		pmax		
	comp=Z,18nm,0.9s							
BR131	Keskin Array S	80.75	4	P		P	00 19 30.9	-1.0
BR131	Keskin Array S	80.75	4	P		P	00 19 30.9	-1.0
BR131				pmax		pmax		
	comp=Z,11nm,1.1s							
BRTR	Keskin Array B	80.75	4	P		P	00 19 31.1	-0.8
BRTR	Keskin Array B	80.75	4	P		P	00 19 31.4	-0.6
	comp=Z,6.5nm,0.9s,baz=1.0,slow=3.3,SNR=13							
	comp=Z,6.5nm,0.9s							
BRTR	Keskin Array B	80.75	4	*i* P		P	00 19 31.7	-0.3
BRTR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
LSA	Lhasa	80.85	315	P		P	00 19 33.4	+0.3
LSA				IAmb		IAmb	00 19 47.7	
	comp=Z,16nm,1.0s							
LSA	Lhasa	80.85	315	P		P	00 19 34.3	+1.2
LSA				pmax		pmax		
	comp=Z,11nm,1.0s							
LSA	Lhasa	80.85	315	P		P	00 19 33.4	+0.3
LSA				pmax		pmax		
	comp=Z,16nm,1.0s							
VAE	Valguarnera	81.06	19	LR		LR	01 00 24.2	
	comp=Z,196nm,19.5s,baz=320,slow=39							
MDT	Midelt	81.13	36	LR		LR	00 55 00.1	
	comp=Z,90nm,18.9s,baz=358,slow=35							
NAX	Nakhchivan	81.20	354	P		P	00 19 36.0	+1.7
LKRN	Lenkeran, Azer	81.47	352	P		P	00 19 37.9	+2.3
BNN	Bunyan	81.67	2	P		P	00 19 37.0	+0.1
MANT	Manisa	81.72	8	P		P	00 19 36.4	-0.9
KEST	Kesra	81.82	24	P		P	00 19 37.1	-0.5
KEST				IAmb		IAmb	00 19 43.0	
	comp=Z,13nm,1.1s							
KEST	Kesra	81.82	24	P		P	00 19 36.9	-0.7
	comp=Z,4.2nm,0.9s,baz=18,slow=1.7,SNR=5.1							
KEST				LR		LR	00 57 23.9	
	comp=Z,85nm,18.2s,baz=354,slow=37							
	comp=Z,4.2nm,0.9s							
GURO	Guroymak-BITLI	81.95	357	P		P	00 19 38.0	-0.4
GURO				IAmb		IAmb	00 19 45.2	
	comp=Z,20nm,1.8s							
RAR	Rarotonga	82.09	197	LR		LR	00 50 31.7	
	comp=Z,57nm,19.9s,baz=306,slow=32							
GEVA	Gevas	82.16	356	P		P	00 19 39.8	+0.3
GEVA				IAmb		IAmb	00 19 45.4	
	comp=Z,25nm,1.3s							
ISP	Isparta	82.50	6	P		P	00 19 39.7	-1.5
ISP	Isparta	82.50	6	P		P	00 19 39.7	-1.5
ISP				pmax		pmax		
	comp=Z,37nm,1.3s							
NIL	Nilore	82.54	331	P		P	00 19 40.6	-0.8
NIL	Nilore	82.54	331	P		P	00 19 40.6	-0.8
NIL				pmax		pmax		
	comp=Z,69nm,1.8s							
KBL	Kabul	82.65	335	P		P	00 19 41.4	-0.8
KBL	Kabul	82.65	335	P		P	00 19 41.4	-0.8
KBL				pmax		pmax		
	comp=Z,11nm,1.3s							
QIZ	Qiongzhong	82.69	295	P		P	00 19 43.5	+1.2
QIZ	Qiongzhong	82.69	295	S		SKSac	00 30 01.2	-2.3
QIZ				LR		LR		
	comp=N,280nm,11.7s							
QIZ				LR		LR		
	comp=E,280nm,21.3s							
QIZ				LR		LR		
	comp=Z,290nm,13.1s							
HNR	Honiara	83.09	238	LR		LR	00 53 59.0	
	comp=Z,139nm,18.2s,baz=326,slow=34							
ATAH	Atahualpa	83.11	117	LR		LR	00 59 25.1	
	comp=Z,136nm,19.0s,baz=332,slow=38							
SLVN	Son La	83.31	301	P		P	00 19 45.1	-0.5
SLVN				IAmb		IAmb	00 19 51.5	
	comp=Z,14nm,0.9s							
GAZ	Gaziantep	83.37	1	P		P	00 19 46.2	+0.5
GAZ				IAmb		IAmb	00 19 51.6	
	comp=Z,15nm,0.9s							
BOAV	Boa Vista	83.43	97	P		P	00 19 46.1	0.0
ARG	Arkhangelos	83.95	8	P		P	00 19 46.3	-2.3
ARG	Arkhangelos	83.95	8	P		P	00 19 46.3	-2.3
ARG				pmax		pmax		
	comp=Z,174nm,1.9s							
HRA	Herat	84.11	340	P		P	00 19 49.0	-0.7
HRA				IAmb		IAmb	00 19 55.5	
	comp=Z,14nm,1.6s							
SHL	Shillong	84.35	313	P		P	00 19 50.2	-0.8
SHL	Shillong	84.35	313	P		P	00 19 50.2	-0.8
SHL				pmax		pmax		
	comp=Z,25nm,0.4s							
IDI	Anoyia	84.59	11	LR		LR	01 02 07.1	
	comp=Z,90nm,18.7s,baz=305,slow=39							
MDP	Montagnes des	85.09	88	LR		LR	00 58 32.5	
	comp=Z,192nm,19.4s,baz=312,slow=36							
CSS	Mathiatis	85.48	4	P		P	00 19 55.1	-1.2
CSS				IAmb		IAmb	00 20 01.4	
	comp=Z,16nm,1.1s							
CZSB	Cruzeiro do Su	86.25	112	P		P	00 20 00.6	+0.3
BRDH	Bariadhala	87.06	312	LR		LR	01 01 49.9	
	comp=Z,225nm,18.8s,baz=24,slow=38							
MMAI	Mount Meron Ar	87.49	3	P		P	00 20 06.0	-0.3

NEIC 11 00:11:37.1±0.7, 36°.360N±0°.009×98°.15W±0°.01, h5km±1km, mb_Lg2.5/23, ML2.2/59, Error ellipse: s-maj=2.5km s-min=1.7km az=53.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**43**		**Pg**	00 11 41.9	+0.8
CROK				Sg	Sg	00 11 45.1	+1.4
CROK				IAML		00 11 45.3	
	comp=E,448nm,0.1s						
CROK				IAML		00 11 45.3	
	comp=N,741nm,0.3s						
OK032	**Salt Plains WL**	**0.45**	**354**		Pg	00 11 46.0	+0.2
OK032				Sg	Sg	00 11 52.2	+0.6
OK032				IAML		00 11 55.5	
	comp=N,159nm,0.2s						
OK032				IAML		00 12 01.0	
	comp=N,204nm,0.2s						
OK038	**West end E0370**	**0.49**	**284**		Pg	00 11 46.9	+0.3
OK038				Sg	Sg	00 11 53.8	+0.8
OK038				IAML		00 11 57.6	
	comp=N,290nm,0.2s						
GC02	**Grant County #**	**0.54**	**25**		Pg	00 11 48.1	+0.5
GC02				Sg	Sg	00 11 55.5	+0.8
KAN14	**Manchester OK**	**0.61**	**14**		Pg	00 11 49.3	+0.4
KAN14				Sg	Sg	00 11 57.7	+0.8
KAN14				IAML		00 11 58.0	
	comp=E,142nm,0.2s						
KAN14				IAML		00 11 58.3	
	comp=N,129nm,0.2s						
NOKA	**Waynoka**	**0.69**	**294**		Pg	00 11 50.6	+0.2
NOKA				Sg	Sg	00 11 59.8	+0.5
NOKA				IAML		00 12 00.9	
	comp=N,155nm,0.2s						
NOKA				IAML		00 12 04.5	
	comp=E,111nm,0.3s						
KAN17	**Caldwell West**	**0.75**	**24**		Pg	00 11 51.6	+0.1
KAN17					Sg	00 12 01.3	+0.1
KAN17				IAML		00 12 02.2	
	comp=E,144nm,0.3s						
KAN17				IAML		00 12 05.6	
	comp=N,95nm,0.3s						
OK029	**Liberty Lake**	**0.80**	**135**		Pg	00 11 51.9	-0.5
OK029				IAML		00 12 06.4	
	comp=N,83nm,0.4s						
OK029				IAML		00 12 06.6	
	comp=N,91nm,0.4s						
CSTR	**Hydro, Custer**	**0.84**	**212**	Pg	Pg	00 11 53.3	+0.1
KAN13	**South Haven SW**	**0.85**	**39**	IAML		00 12 06.7	
	comp=E,122nm,0.2s						
BLOK	**Blackwell**	**0.85**	**62**		Pg	00 11 53.2	-0.3
KAN01	**Argonia South**	**0.85**	**21**	Pg	Pg	00 11 53.3	-0.2
KAN08	**Anthony NE Sta**	**0.88**	**9**		Pg	00 11 54.0	0.0
KAN08				IAML		00 12 07.5	
	comp=N,66nm,0.1s						
KAN12	**Harper NE Stat**	**0.94**	**7**	IAML		00 12 12.2	
	comp=E,105nm,0.4s						
KAN12				IAML		00 12 17.2	
	comp=N,108nm,0.3s						
OK048	**Pawnee Station**	**0.97**	**86**		Pg	00 11 55.8	0.0
ELIS	**Ellis County**	**1.07**	**254**		Pg	00 11 57.6	0.0
ELIS				IAML		00 12 19.0	
	comp=N,60nm,0.2s						
ELIS				IAML		00 12 21.1	
	comp=E,61nm,0.3s						
OK051	**E0350 and S346**	**1.07**	**82**		Pg	00 11 57.4	-0.2
OK031	**S. Brethren Rd**	**1.14**	**111**		Pg	00 11 59.0	+0.1
OK031				IAML		00 12 17.4	
	comp=E,43nm,0.2s						
OK031				IAML		00 12 21.1	
	comp=E,67nm,0.3s						
OK052	**Battle Ridge R**	**1.15**	**108**		Pg	00 11 58.2	-0.9
OK052				IAML		00 12 18.0	
	comp=E,43nm,0.3s						
FNO	**Franklin**	**1.26**	**151**		Pg	00 12 00.6	-0.7
FNO				IAML		00 12 22.6	
	comp=E,54nm,0.2s						
T35A	**Sooner Cattle**	**1.43**	**67**		Pn	00 12 03.3	-0.4
DEOK	**Depew**	**1.43**	**111**		Pn	00 12 02.0	-1.8
W35A	**Tecumseh**	**1.59**	**139**		Pn	00 12 05.4	-0.5
WMOK	**Wichita Mounta**	**1.70**	**198**		Pn	00 12 07.5	0.0
WMOK	**Wichita Mounta**	**1.70**	**198**	Pn	Pn	00 12 07.6	+0.1
WMOK				IAmb_Lg		00 12 29.8	
	comp=Z,1.5nm,1.0s						
X34A	**Smith Ranch, M**	**1.77**	**172**		Pn	00 12 07.4	-1.1
TUL3	**Leonard**	**1.96**	**103**		Pn	00 12 09.2	-1.8
SMWD	**Samnorwood**	**2.12**	**234**		Pn	00 12 12.3	-0.9
LOOK	**Love County**	**2.49**	**161**	Pn	Pn	00 12 16.6	-1.8
WTFS	**Witchita Falls**	**2.60**	**186**		Pn	00 12 18.2	-1.7
HHAR	**Hobbs**	**3.40**	**90**	Pn	Pn	00 12 28.3	-2.5
FW06	**Azle**	**3.42**	**172**	Pn	Pn	00 12 31.1	0.0
N35A	**Tabor**	**4.90**	**23**	IAmb_Lg		00 14 10.3	
	comp=Z,18nm,0.8s						
T42A	**Van Buren**	**5.71**	**81**	IAmb_Lg		00 14 50.3	
	comp=Z,5.4nm,1.2s						
JCT	**Junction City**	**6.03**	**194**	IAmb_Lg		00 14 54.9	
	comp=Z,3.7nm,0.9s						
PBMO	**Poplar Bluff**	**6.23**	**84**	IAmb_Lg		00 14 56.3	
	comp=Z,36nm,1.1s						
FVM	**French Village**	**6.38**	**73**	IAmb_Lg		00 15 05.0	
	comp=Z,14nm,1.1s						
143A	**Socs Landing,**	**6.65**	**121**	IAmb_Lg		00 15 05.5	
	comp=Z,7.5nm,0.7s						
HKT	**Hockley**	**6.68**	**162**	IAmb_Lg		00 15 05.3	
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**6.91**	**261**	IAmb_Lg		00 15 25.4	
	comp=Z,2.0nm,1.1s						
S44A	**Carbondale**	**7.24**	**77**	IAmb_Lg		00 15 27.4	
	comp=Z,12nm,1.1s						
SIUC	**Southern Illin**	**7.27**	**77**	IAmb_Lg		00 15 25.7	
	comp=Z,13nm,0.9s						

GCG 11 00:24:10.6±1.2, 14°.99N×92°.33W, h75km±9km, MD4.3
MEX 11 00:24:12.9±0.8, 14°.58N×92°.64W, h31km±54km, MD3.9

ISC 11 00:24:09.9±2.0, 14°.6N±0°.1×92°.55W±0°.08, h69km±18km, n11, σ1§43/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.53**	**59**	*e*P	**Pn**	**00 24 22.3**	**-0.6**
SMCA				*e*S	**Sn**	**00 24 31.5**	**-1.2**
SMCA	**Catarina**	**0.53**	**59**	*e*P		00 24 22.3	
SMCA				*e*S		00 24 31.5	
RTAL	**Retalhuleu**	**0.83**	**94**	*e*P	**Pn**	**00 24 28.2**	**+1.9**
RTAL				*e*S	**Sn**	**00 24 38.5**	**+0.1**
SOKI	**Kika Raxquin**	**1.14**	**78**	*e*P	**Pn**	**00 24 30.7**	**+0.3**
SOKI	**Kika Raxquin**	**1.14**	**78**	*e*P		00 24 30.7	
STG8	**El Palmar, Qui**	**1.17**	**96**	*e*P		00 24 26.9	
STG0	**El Palmar, Qui**	**1.18**	**97**	*e*P		00 24 27.0	
STG0				*i* S		00 24 40.3	
HUEH	**Huehuetenango**	**1.25**	**54**	*e*P	**Pn**	**00 24 34.3**	**+2.6**
HUEH				*e*S	**Sn**	**00 24 49.0**	**+0.9**
PCIG		**1.29**	**330**	*e*P	**Pn**	**00 24 31.9**	**-0.2**
PCIG				*e*S	**Sn**	**00 24 47.7**	**-1.0**
ESSG	**Sabana Grande**	**1.68**	**97**	*e*P	**Pn**	**00 24 37.4**	**+0.1**
ESSG	**Sabana Grande**	**1.68**	**97**	*e*P		00 24 37.4	
APG	**El Apazote**	**2.06**	**78**	*e*P	**Pn**	**00 24 40.0**	**-2.5**
APG	**El Apazote**	**2.06**	**78**	*e*P		00 24 40.0	
TGIG		**2.25**	**346**	*e*P	**Pn**	**00 24 45.1**	**+0.1**
TGIG				*e*S	**Sn**	**00 25 10.7**	**-1.1**
UXUV	**UXUV**	**3.12**	**331**	*e*P	**Pn**	**00 24 57.2**	**+0.5**
UXUV				*e*S	**Sn**	**00 25 33.2**	**+0.2**
CMIG	**Matias Romero**	**3.36**	**318**	*e*P	**Pn**	**00 25 01.3**	**+1.4**
CMIG				*e*S	**Sn**	**00 25 38.9**	**+0.2**
NEUV	**Arroyo Zacate**	**4.41**	**315**	*e*P	**Pn**	**00 25 15.5**	**+1.2**
NEUV				*e*S	**Sn**	**00 26 02.2**	**-2.2**

RSNC 11 00:37:43.2±0.0, 7°.N±1°.×7°.7W±°, h19km±2km, M2.7, ML2.5
UPA 11 00:37:43.6±0.5, 7°.31N×77°.47W, h10km±3km, MW4.0

ISC 11 00:37:41.1±1.1, 7°.30N±0°.03×77°.34W±0°.02, h17km±8km, n32, σ1§71/60, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.49**	**253**	P	**Pg**	**00 37 51.1**	**+0.2**
PTAC				S	**Sb**	**00 37 58.9**	**+0.8**
PTAC	**Punta Ardita,**	**0.49**	**253**	*e*P	**Pg**	**00 37 51.2**	**+0.3**
PTAC				*e*S	**Sg**	**00 37 57.3**	**-0.2**
APAC	**Apartado, Choc**	**0.96**	**51**	P	**Pn**	**00 38 00.2**	**+0.4**
APAC				S	**Sn**	**00 38 14.5**	**+1.3**
SOLC	**Bahia Solano**	**1.06**	**184**	P	**Pn**	**00 38 00.7**	**-0.5**
SOLC				S	**Sb**	**00 38 16.3**	**+1.6**
DBBC	**Dabeiba**	**1.16**	**104**	P	**Pn**	**00 38 01.5**	**-1.0**
DBBC				S	**Sb**	**00 38 17.3**	**-0.1**
CAPC	**Capurgana**	**1.33**	**359**	P	**Pg**	**00 38 06.2**	**-0.6**
CAPC				S	**Sg**	**00 38 24.4**	**+0.2**
UPD2	**Meteti**	**1.41**	**332**	*e*P	**Pg**	**00 38 07.2**	**-1.2**
UPD2				*e*S	**Sg**	**00 38 27.3**	**+0.5**
LCBC	**Los crdobas,**	**1.83**	**32**	P	**Pb**	**00 38 14.0**	**-0.1**
LCBC				S	**Sg**	**00 38 38.1**	**-1.9**
CBOC	**Ciudad Bolivar**	**1.94**	**137**	P	**Pn**	**00 38 12.2**	**-1.2**
CBOC				S	**Sn**	**00 38 34.6**	**-2.9**
PIZC	**Pizarro, Choco**	**2.31**	**181**	P	**Pn**	**00 38 19.1**	**+0.7**
PIZC				S	**Sn**	**00 38 47.1**	**+0.6**
ZARC	**Zaragoza, Cauc**	**2.47**	**85**	P	**Pn**	**00 38 21.6**	**+1.0**
ZARC				S	**Sn**	**00 38 51.3**	**+0.9**
PLMC	**San Jos del P**	**2.60**	**156**	P	**Pn**	**00 38 23.0**	**+0.6**
GUY2C	**Guyana, Caldas**	**2.84**	**136**	P	**Pn**	**00 38 27.0**	**+0.9**
GUY2C				S	**Sn**	**00 39 02.4**	**+2.2**
AZU	**Azuero**	**2.95**	**280**	P	**Pn**	**00 38 28.1**	**+0.9**
AZU				S	**Sn**	**00 39 01.4**	**-0.8**
AZU	**Azuero**	**2.95**	**280**	*e*P	**Pn**	**00 38 28.0**	**+0.9**
AZU				*e*S	**Sn**	**00 39 01.9**	**-0.3**
PTBC	**PUERTO BERRIO,**	**2.96**	**105**	P	**Pn**	**00 38 28.8**	**+1.5**
PTBC				S	**Sn**	**00 39 03.9**	**+1.4**
BCIP	**Isla Barro Col**	**3.09**	**307**	P	**Pn**	**00 38 29.6**	**+0.4**
BCIP				S	**Sn**	**00 39 05.6**	**-0.2**
BCIP	**Isla Barro Col**	**3.09**	**307**	*e*P	**Pn**	**00 38 30.5**	**+1.4**
BCIP				*e*S	**Sn**	**00 39 06.1**	**+0.3**
CHIT3	**Chitre**	**3.12**	**282**	*e*P	**Pn**	**00 38 30.4**	**+0.9**
CHIT3				*e*S	**Sn**	**00 39 05.9**	**-0.6**
PNME	**Penonome**	**3.19**	**292**	*e*P	**Pn**	**00 38 31.6**	**+1.2**
MALC	**Bahia Malaga**	**3.26**	**180**	P	**Pn**	**00 38 33.2**	**+1.7**
MALC				S	**Sn**	**00 39 11.1**	**+1.2**
SJCC	**San Jacinto, C**	**3.35**	**39**	P	**Pn**	**00 38 33.6**	**+0.8**
SJCC				S	**Sn**	**00 39 11.6**	**-0.7**
YOTC	**Yotoco, Valle**	**3.44**	**163**	P	**Pn**	**00 38 31.9**	**-2.1**
YOTC				S	**Sn**	**00 39 09.7**	**-4.7**
CACAO	**El Cacao, Vera**	**3.49**	**271**	P	**Pn**	**00 38 34.7**	**0.0**
CACAO				S	**Sn**	**00 39 11.8**	**-3.8**
CACAO	**El Cacao, Vera**	**3.49**	**271**	*e*P	**Pn**	**00 38 35.6**	**+0.9**
CACAO				*e*S	**Sn**	**00 39 15.5**	**-0.2**
GMAL	**Guarumal, Vera**	**3.89**	**277**	*e*P	**Pn**	**00 38 41.5**	**+1.4**
GMAL				*e*S	**Sn**	**00 39 24.1**	**-1.3**
ORTC	**Ortega, Tolima**	**3.96**	**148**	P	**Pn**	**00 38 43.0**	**+1.9**
ORTC				S	**Sn**	**00 39 28.8**	**+1.6**
OCAC	**Ocana**	**4.09**	**76**	P	**Pn**	**00 38 45.0**	**+1.9**
OCAC				S	**Sn**	**00 39 31.5**	**+0.8**
JAMC	**Jamundi, Valle**	**4.11**	**171**	P	**Pn**	**00 38 43.7**	**+0.4**
JAMC				S	**Sn**	**00 39 25.6**	**-5.5**
BARC	**Barichara**	**4.19**	**99**	P	**Pn**	**00 38 46.6**	**+2.2**
POPC	**Popayan, Colom**	**4.77**	**172**	P	**Pn**	**00 38 55.5**	**+3.1**
CRJC	**Cerrejon, Guaj**	**5.75**	**50**	P	**Pn**	**00 39 02.6**	**-3.2**
CRJC				S	**Sn**	**00 40 09.3**	**-2.2**

ISN 11 00:47:37.6±1.3, 32°.84N×47°.38E, h0km±534km, ML2.8
TEH 11 00:47:39.4, 32°.91N×47°.44E, h10km±41km

ISC 11 00:47:40.9±1.3, 32°.90N±0°.09×47°.44E±0°.04, h15km, n15, σ1§31/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.71**	**29**	Pg	**Pg**	**00 47 53.0**	**-1.8**
IDOB	**Doab**	**1.08**	**35**	Pg	**Pb**	**00 47 59.9**	**-1.5**
IBDR	**Badra**	**1.29**	**280**	*e*Pn	**Pn**	**00 48 05.0**	**+0.7**
IBDR				*e*Sn	**Sg**	**00 48 23.0**	**+0.6**
BDRS	**Dareh Seyedi**	**1.60**	**48**	Pg	**Pn**	**00 48 09.8**	**+0.9**
HSAM	**Samen**	**1.63**	**36**	Pg	**Pn**	**00 48 10.1**	**+0.9**
GLG1	**Gilan-e-Gharb**	**1.76**	**314**	Pg	**Pn**	**00 48 11.3**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.96**	**4**	Pn	**Pn**	**00 48 15.8**	**+1.9**
KGS1	**Ghasr-e-Shirin**	**2.23**	**317**	Pn	**Pn**	**00 48 18.2**	**+0.9**
HAGD	**Aghdareh**	**2.38**	**36**	Pn	**Pn**	**00 48 21.0**	**+1.3**
BHD	**Baghdad**	**2.60**	**279**	*e*Pn	**Pn**	**00 48 22.0**	**-0.3**
BHD				*e*Sn	**Sn**	**00 48 55.0**	**+1.4**
HGHA	**Hamedan- Ghaye**	**2.84**	**24**	Pn	**Pn**	**00 48 27.1**	**+1.3**
IPIR	**Pirpir**	**2.91**	**93**	Pn	**Pn**	**00 48 28.1**	**+1.1**
IKLH	**Kolahrood**	**3.50**	**82**	Pn	**Pn**	**00 48 36.2**	**+1.2**
IKRK	**Kirkuk**	**3.58**	**315**	*e*Pn	**Pn**	**00 48 36.0**	**+0.1**
IKRK				*e*Sn	**Sn**	**00 49 20.0**	**+2.0**
IKRK				AML	AML	00 49 20.3	
	comp=E,34nm,0.7s						
IKRK				AML	AML	00 49 42.5	
	comp=N,39nm,0.1s						
IZEF	**Zefreh**	**4.11**	**89**	Pn	**Pn**	**00 48 44.4**	**+1.0**

IDC 11 00:50:53.8±2.5, 5°.05S×151°.65E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=190.4km s-min=29.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.43**	**227**	P	P	00 55 54.6	+0.1
	0.5nm,0.6s,baz=51,slow=10,SNR=3.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.20**	**221**	P	P	00 56 21.2	-0.3
	1.6nm,1.1s,baz=58,slow=9.5,SNR=8.3						
	1.6nm,1.1s						
ILAR	**Eielson Array**	**82.82**	**22**	P	P	01 03 19.7	-0.1
	0.6nm,0.7s,baz=242,slow=5.5,SNR=7.1						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.29**	**287**	PKPbc	PKPbc	01 10 45.7	0.0
	1.0nm,0.3s,baz=89,slow=2.4,SNR=2.0						

IDC 11 00:54:59.9±1.5, 9°.86S×150°.37E, h0km, mb3.7/5,
mbtmp3.7/7, ML2.7/2, Error ellipse: s-maj=36.2km
s-min=25.1km az=128.0

ISC 11 00:55:04.8±1.2, 9°.9S±0°.2×150°.4E±0°.1, h35km, n8, σ1§38/9, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**279**	Pn	**Pn**	**00 55 51.3**	**-2.1**
	9.7nm,0.3s,baz=84,slow=9.4,SNR=6.6						
PMG				Sn	**Sn**	**00 56 33.3**	**+2.4**
	8.8nm,0.3s,baz=264,slow=21,SNR=8.6						
	19nm,0.3s						
WRA	**Warramunga Arr**	**18.43**	**235**	P	**P**	**00 59 16.8**	**-0.7**
	0.1nm,0.3s,baz=64,slow=11,SNR=5.6						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**20.86**	**227**	P	**P**	**00 59 44.1**	**+0.2**
	1.7nm,0.8s,baz=62,slow=10,SNR=11						
	1.7nm,0.8s						
STKA	**Stephens Creek**	**23.32**	**199**	P	**P**	**01 00 10.5**	**+0.7**
	2.2nm,0.8s,baz=356,slow=13,SNR=3.2						
	2.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.35**	**249**	P	**P**	**01 00 28.4**	**-0.4**
	4.0nm,0.8s,baz=97,slow=7.2,SNR=11						
	4.0nm,0.8s						
SONM	**Songino Array**	**69.47**	**330**	P	**P**	**01 06 09.8**	**0.0**
	0.5nm,1.0s,baz=130,slow=4.5,SNR=3.6						
	0.5nm,1.0s						
ILAR	**Eielson Array**	**87.77**	**22**	P	**P**	**01 07 50.5**	**+0.6**
	0.4nm,0.9s,baz=262,slow=6.2,SNR=2.1						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.20**	**279**	PKPbc	**PKPbc**	**01 14 50.9**	**+0.1**
	38nm,0.3s,baz=53,slow=2.4,SNR=10						

IDC 11 00:58:54.6±2.7, 7°.33S×133°.28E, h0km, mb4.0/1, mbtmp3.8/4, ML3.6/3, Error ellipse: s-maj=104.0km s-min=28.8km az=84.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.58**	**175**	Pn	Pn	01 01 55.0	0.0
	0.3nm,0.3s,baz=353,slow=13,SNR=16						
WRA				Sn	Sn	01 04 11.8	-4.2
	0.4nm,0.3s,baz=5.4,slow=23,SNR=5.6						
	0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.03**	**214**	Pn	Pn	01 02 01.4	+0.2
	0.3nm,0.3s,baz=27,slow=13,SNR=10.0						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**16.25**	**178**	Pn	Pn	01 02 44.4	-0.2
	0.2nm,0.3s,baz=1.3,slow=11,SNR=10.0						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**70.31**	**325**	P	P	01 10 10.2	0.0
	0.7nm,0.4s,baz=121,slow=6.1,SNR=12						
	0.7nm,0.4s						

IDC 11 01:01:47.2±1.4, 8°.26S×128°.05E, h0km, mb3.7/3, mbtmp3.9/6, ML4.2/3, Error ellipse: s-maj=82.9km s-min=22.0km az=68.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.06**	**193**	Pn	Pn	01 04 13.8	+0.7
	2.1nm,0.3s,baz=8.7,slow=13,SNR=15						
FITZ				Sn	Sn	01 06 00.5	-6.2
	3.5nm,0.3s,baz=89,slow=17,SNR=4.6						
	4.5nm,0.3s						
WRA	**Warramunga Arr**	**13.12**	**153**	Pn	Pn	01 04 52.8	-2.2
	1.3nm,0.3s,baz=328,slow=14,SNR=19						
WRA				Sn	Sn	01 07 08.1	-14
	1.5nm,0.3s,baz=331,slow=23,SNR=5.3						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**16.32**	**161**	Pn	Pn	01 05 36.8	-1.1
	0.8nm,0.3s,baz=334,slow=9.6,SNR=23						
ASAR				Sn	Sn	01 08 29.9	-10
	0.5nm,0.3s,baz=320,slow=21,SNR=4.7						
	2.4nm,0.6s						
STKA	**Stephens Creek**	**26.67**	**154**	P	P	01 07 28.8	+0.8
	2.3nm,0.6s,baz=323,slow=11,SNR=4.8						
	2.3nm,0.6s						
MKAR	**Makanchi Array**	**68.24**	**328**	P	P	01 12 50.0	+0.3
	0.2nm,0.5s,baz=124,slow=7.8,SNR=2.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**72.58**	**329**	P	P	01 13 15.9	-0.3
	0.3nm,0.5s,baz=137,slow=5.0,SNR=6.4						
	0.3nm,0.5s						

NEIC 11 01:14:29.0±2.1, 11°.81N±0°.07×93°.65E±0°.07, h116km±6km, mb4.5/37, Error ellipse: s-maj=10.7km s-min=9.9km az=172.0
IDC 11 01:14:29.2±2.0, 11°.68N×93°.65E, h125km±17km, mb3.9/12, mbtmp4.3/15, MS2.4/1, Error ellipse: s-maj=22.0km s-min=11.4km az=67.0
NDI 11 01:14:30.1, 11°.81N×93°.57E, h115km, mb4.5, ML4.4, mb4.5(NEIC)

ISC 11 01:14:27.1±0.4, 11°.74N±0°.04×93°.65E±0°.06, h100km, n89, σ1§64/93, mb4.5/36, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.89**	**265**	Pn	**Pn**	**01 14 48.8**	**+2.5**
PBA				Sn	**Sn**	**01 15 04.2**	**+3.4**
PBA	**Port Blair**	**0.89**	**265**	*e*P	**Pn**	**01 14 48.8**	**+2.5**
PBA				*e*S	**Sn**	**01 15 05.0**	**+4.2**
PBA				IAML		01 15 06.7	
	comp=E,15μm,0.3s						
PBA				IAML		01 15 07.0	
	comp=E,17μm,0.3s						
DGPR	**DIGLIPUR**	**1.59**	**334**	*e*P	**Pn**	**01 14 56.2**	**+1.7**
DGPR				*e*S	**Sn**	**01 15 17.0**	**+1.7**
DGPR				IAML		01 15 17.9	
	comp=E,2μm,0.4s						
DGPR				IAML		01 15 18.5	
	comp=E,2μm,0.3s						
CMBY	**CAMPBELL BAY**	**4.71**	**177**	*e*P	**Pn**	**01 15 37.0**	**+1.2**
CMBY				*e*S	**Sn**	**01 16 27.8**	**-1.5**
CMBY				IAML		01 16 33.9	
	comp=E,523nm,0.1s						
CMBY				IAML		01 16 35.1	
	comp=E,617nm,0.4s						
SRIT	**Nakonsritamara**	**6.64**	**118**	Pn	**Pn**	**01 16 04.2**	**+2.1**
CM31	**Chiang Mai Arr**	**8.41**	**37**	Pn	**Pn**	**01 16 28.1**	**+2.0**
CMAR	**Chiang Mai Arr**	**8.41**	**37**	Pn	**Pn**	**01 16 26.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**8.41**	**37**	P	**Pn**	**01 16 28.9**	**+2.7**
	comp=E,6.5nm,0.8s,baz=231,slow=14,SNR=38						
CMAR				S	Sn	01 18 08.9	+9.5
	comp=E,1.0nm,0.4s,baz=228,slow=33,SNR=1.9						
CMAR				LR	LR	01 19 42.9	
	comp=E,28nm,20.4s,baz=205,slow=37						
CHTO	**Chiang Mai**	**8.69**	**35**	Pn	**Pn**	**01 16 32.6**	**+2.6**
PSI	**Prapat**	**10.31**	**149**	P	Pn	01 16 55.9	+3.7
	comp=E,2.5nm,0.4s,baz=325,slow=14,SNR=3.6						
RPSI	**Rantau Prapat**	**10.40**	**149**		**Pn**	**01 16 55.9**	**+2.6**
BRDH	**Bariadhala**	**11.04**	**350**	S	**Sn**	**01 18 56.3**	**-7.2**
	comp=E,105nm,0.3s,baz=338,slow=21,SNR=6.9						
VIS	**Vishakhapatnam**	**11.62**	**302**	*e*P	**Pn**	**01 17 09.6**	**-0.1**
VIS				*e*S	Sn	01 19 06.6	-11
AZL	**Aizawl**	**11.97**	**356**	*e*P	**Pn**	**01 17 13.7**	**-0.8**
AZL				*e*S	Sn	01 19 17.6	-8.4
AZL				IAML		01 19 29.3	
	comp=E,128nm,0.3s						
AZL				IAML		01 19 33.6	
	comp=E,82nm,0.4s						
IMP	**Imphal**	**13.02**	**1**	*e*P	**Pn**	**01 17 28.1**	**-0.2**
MDRS	**Chennai**	**13.16**	**277**	*e*S	Sn	01 19 42.7	-12
PALK	**Pallekele**	**13.52**	**252**	Pn	**Pn**	**01 17 34.0**	**-0.9**
PALK	**Pallekele**	**13.52**	**252**	P	**Pn**	**01 17 35.7**	**+0.9**
	comp=E,4.0nm,0.9s,baz=67,slow=14,SNR=1.6						
PALK				S	Sn	01 19 51.7	-12
	comp=E,17nm,0.4s,baz=145,slow=16,SNR=8.9						
SLVN	**Son La**	**13.69**	**45**	Pn	**Pn**	**01 17 37.1**	**0.0**
JHSG	**JHARSUGUGA**	**13.73**	**318**	*e*P	**P**	**01 17 40.6**	**-2.2**
SHL	**Shillong**	**13.85**	**353**	Pn	**Pn**	**01 17 39.0**	**-0.3**
SHL	**Shillong**	**13.85**	**353**	*e*P	**Pn**	**01 17 40.0**	**+0.7**
BOK	**Bokaro**	**14.08**	**329**	*e*P	**P**	**01 17 45.3**	**-1.3**
BOK				IAmb	IAmb	01 17 46.8	
	comp=Z,23nm,0.5s						
BOK				*e*S	Sn	01 20 04.4	-13
MYKOM	**Kota Tinggi**	**14.15**	**134**	P	**P**	**01 17 49.1**	**+1.6**
ZIRO	**ZIRO**	**15.71**	**1**	*e*P	**Pn**	**01 18 01.7**	**-1.2**
ZIRO				*e*S	Sn	01

MKAR Makanchi Array 36.23 347 P **P** **01 21 20.3 -0.1**
MKAR Makanchi Array 36.23 347 P **P** **01 21 20.4 0.0**
comp=Z,1.8nm,0.5s,baz=167,slow=9.1,SNR=40
MKAR pP **pwP** **01 21 47.7 +2.9**
comp=Z,0.8nm,0.4s,baz=169,slow=9.3,SNR=3.6
comp=Z,1.8nm,0.5s
MAKZ Makanchi 36.32 346 P **P** **01 21 20.4 -0.7**
MAKZ IAmb IAmb 01 21 22.0
comp=Z,2.1nm,0.6s
KK31 Karatay Array 37.13 332 P **P** **01 21 27.8 -0.2**
KKAR Karatay Array 37.13 332 P **P** **01 21 27.6 -0.5**
SONM Songino Array 37.53 14 P **P** **01 21 31.8 +0.3**
SONM Songino Array 37.53 14 P **P** **01 21 31.9 +0.3**
comp=Z,0.7nm,0.3s,baz=197,slow=8.3,SNR=11
SONM ScP **ScP** **01 27 22.9 -3.2**
comp=Z,0.4nm,0.8s,baz=197,slow=3.7,SNR=5.8
comp=Z,0.7nm,0.3s
KURBB Kurchatov Arra 40.70 345 P **P** **01 21 57.7 0.0**
comp=Z,0.6nm,0.3s,baz=164,slow=7.6,SNR=14
KURBB pP **pwP** **01 22 25.7 +3.2**
comp=Z,1.0nm,0.8s,baz=164,slow=7.3,SNR=2.8
KURBB ScP **ScP** **01 27 34.5 -3.5**
comp=Z,0.2nm,0.3s,baz=151,slow=2.5,SNR=1.6
comp=Z,0.6nm,0.3s
KURK Kurchatov 40.77 345 P **P** **01 21 58.0 -0.2**
ZAA0 Zalesovo Array 42.68 352 P **P** **01 22 14.1 +0.3**
ZAA0 IAmb IAmb 01 22 14.8
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 42.68 352 P **P** **01 22 14.1 +0.3**
comp=Z,10nm,0.3s,baz=176,slow=8.8,SNR=68
comp=Z,10nm,0.3s
FITZ Fitzroy Crossi 43.31 133 P **P** **01 22 18.3 -1.1**
KNRA Kununurra 44.16 127 P **P** **01 22 25.6 -0.6**
BVAR Borovoye Array 45.20 340 P **P** **01 22 33.7 -0.3**
comp=Z,1.7nm,0.3s,baz=138,slow=9.1,SNR=28
comp=Z,1.7nm,0.3s
BRVK Borovoye 45.26 340 P **P** **01 22 34.0 -0.4**
BRVK IAmb IAmb 01 22 34.7
comp=Z,2.9nm,0.6s
ABKAR Akbulak array 46.64 330 P **P** **01 22 45.0 -0.3**
ABKAR IAmb IAmb 01 22 45.8
comp=Z,2.9nm,0.6s
NWAO Narrogin (SRO) 49.80 154 P **P** **01 23 08.6 -1.2**
WB0 Warramunga Arr 50.89 128 P **P** **01 23 17.2 -1.1**
WB0 IAmb IAmb 01 23 35.7
comp=Z,11nm,1.4s
WRA Warramunga Arr 50.95 128 P **P** **01 23 17.5 -1.2**
WRA Warramunga Arr 50.95 128 P **P** **01 23 17.9 -0.9**
comp=Z,3.8nm,0.6s,baz=301,slow=10.0,SNR=43
comp=Z,3.8nm,0.6s
WRAB Tennant Creek 50.95 128 P **P** **01 23 17.7 -1.0**
WRAB IAmb IAmb 01 23 18.4
comp=Z,5.2nm,0.6s
WB2 Warramunga Arr 50.96 128 P **P** **01 23 17.8 -1.0**
WB2 IAmb IAmb 01 23 18.7
comp=Z,5.3nm,0.6s
WR0 Warramunga Arr 51.11 128 P **P** **01 23 19.0 -1.0**
WR0 IAmb IAmb 01 23 20.3
comp=Z,6.3nm,1.1s
ARTI Arti 52.21 336 P **P** **01 23 26.5 -1.1**
ARTI IAmb IAmb 01 23 27.7
comp=Z,3.9nm,1.1s
ASAR Alice Springs 52.80 132 P **P** **01 23 31.5 -1.0**
comp=Z,2.3nm,0.4s,baz=308,slow=6.6,SNR=33
comp=Z,2.3nm,0.4s
FORT Forrest 53.67 143 P **P** **01 23 37.1 -1.5**
FORT IAmb IAmb 01 24 11.2
comp=Z,11nm,1.0s
ABPO Ambohimpanom 55.02 237 P **P** **01 23 49.2 +0.4**
BBOO Buckleboo 60.01 139 P **P** **01 24 21.6 -1.9**
STKA Stephens Creek 63.14 135 P **P** **01 24 42.8 -1.7**
comp=Z,1.6nm,0.8s,baz=303,slow=8.2,SNR=3.1
comp=Z,1.6nm,0.8s
TIXI Tiksi 63.56 12 P **P** **01 24 45.7 -0.9**
TIXI IAmb IAmb 01 24 46.3
comp=Z,3.9nm,0.5s
FIA1 FINESS Array S 69.09 332 P **P** **01 25 20.8 -1.2**
FINES FINESS Array B 69.09 332 P **P** **01 25 21.1 -1.0**
FINES FINESS Array B 69.09 332 P **P** **01 25 21.3 -0.8**
comp=Z,1.1nm,0.6s,baz=103,slow=5.6,SNR=12
comp=Z,1.1nm,0.6s
LSZ Lusaka 70.15 249 P **P** **01 25 29.4 -0.1**
LSZ IAmb IAmb 01 25 44.3
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 71.49 340 P **P** **01 25 36.5 -0.1**
comp=Z,0.7nm,0.3s,baz=100,slow=6.3,SNR=12
comp=Z,0.7nm,0.3s
LBTB Lobatse 75.69 240 P **P** **01 26 01.6 -0.6**
LBTB IAmb IAmb 01 26 11.8
comp=Z,12nm,1.4s
SPITS Spitsbergen Ar 75.98 348 P **P** **01 26 02.6 -0.1**
comp=Z,1.7nm,0.4s,baz=114,slow=10,SNR=14
comp=Z,1.7nm,0.4s
BOSA Boshof 77.25 237 P **P** **01 26 10.2 -0.7**
comp=Z,3.8nm,1.0s,baz=70,slow=5.2,SNR=5.7
comp=Z,3.8nm,1.0s
WIN Windhoek 82.33 245 P **P** **01 26 38.3 -0.3**
PLCA Paso Flores 147.94 203 PKPbc **PKPdf** **01 33 58.7 +0.7**
comp=Z,1.1nm,0.9s,baz=195,slow=1.4,SNR=3.8
CPUP Villa Florida 149.06 238 PKPbc **PKPbc** **01 34 03.8 -0.5**
comp=Z,1.1nm,0.6s,baz=97,slow=6.1,SNR=4.2

IDC 11 01:15:02.0±11.0, 9°.78S×151°.18E, h0km, mb3.3/2, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=319.3km s-min=38.1km az=114.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.14**	**236**	P	Pn	01 19 27.4	-0.3
	0.1nm,0.3s,baz=61,slow=10,SNR=5.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.52**	**228**	P	P	01 19 52.3	-0.5
	0.2nm,0.3s,baz=57,slow=9.5,SNR=2.4						
	0.2nm,0.3s						
SONM	**Songino Array**	**69.71**	**330**	P	P	01 26 13.9	+0.1
	0.4nm,0.7s,baz=132,slow=4.4,SNR=3.6						
	0.4nm,0.7s						

IDC 11 01:18:02.7±1.1, 6°.52N×125°.36E, h0km, mb3.6/5, mbtmp3.6/5, MS2.8/1, Error ellipse: s-maj=117.8km s-min=21.1km az=65.0

ISC 11 01:18:20.1±1.2, 6°.3N±0°.4×125°.2E±0°.9, h150km, n8, σ0.91/6, mb3.5/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.88**	**29**	LR	LR	01 18 07.9	
	comp=Z,56nm,20.7s,baz=106,slow=8.9						
KAPI	**Kappang**	**12.46**	**206**	LR	LR	01 25 58.9	
	comp=Z,39nm,18.6s,baz=28,slow=37						
WRA	**Warramunga Arr**	**27.60**	**161**	P	**P**	**01 23 53.7**	**+0.1**
	0.8nm,0.8s,baz=334,slow=10,SNR=3.3						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**30.98**	**164**	P	**P**	**01 24 24.3**	**+0.8**
	0.3nm,0.5s,baz=337,slow=8.9,SNR=1.7						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**41.07**	**158**	P	**P**	**01 25 48.3**	**-0.9**
	1.6nm,0.9s,baz=340,slow=10,SNR=3.2						
	1.6nm,0.9s						
MKAR	**Makanchi Array**	**54.56**	**325**	P	**P**	**01 27 33.2**	**+0.4**
	0.2nm,0.4s,baz=124,slow=6.7,SNR=4.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**58.74**	**327**	P	**P**	**01 28 01.5**	**-0.7**
	0.7nm,0.6s,baz=112,slow=6.3,SNR=9.4						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**121.23**	**50**	PKP	**PKiKP**	**01 36 56.9**	**+0.6**
	0.8nm,0.8s,baz=303,slow=2.7,SNR=8.1						

IDC 11 01:19:36.9±0.9, 25°.66N×141°.72E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=28.0km s-min=16.4km az=105.0

ISC 11 01:19:38.4±1.0, 25°.64N±0°.10×141°.8E±0°.2, h10km, n18, σ1.21/13, mb3.8/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.48**	**13**	Pn	**Pn**	**01 20 03.9**	**-1.2**
	142nm,0.3s,baz=74,slow=2.4,SNR=22						
JCJ				Sn	**Sg**	**01 20 26.1**	**0.0**
	77nm,0.3s,baz=254,slow=22,SNR=12						
KSRS	**Korea Array**	**16.68**	**318**	Pn	**P**	**01 23 36.3**	**+1.8**
	0.2nm,0.3s,baz=134,slow=12,SNR=11						
H11N1	**WAKE ISLAND Hy**	**23.86**	**99**	T	T	01 50 07.3	
	baz=288,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**23.86**	**99**	T	T	01 50 07.4	
	baz=288,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**23.87**	**99**	T	T	01 50 09.1	
	baz=288,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy**	**24.10**	**102**	T	T	01 50 24.2	
	baz=291,slow=75,SNR=222						
H11S1	**WAKE ISLAND Hy**	**24.10**	**102**	T	T	01 50 24.0	
	baz=291,slow=75,SNR=175						
H11S2	**WAKE ISLAND Hy**	**24.11**	**102**	T	T	01 50 25.2	
	baz=291,slow=75,SNR=247						
SONM	**Songino Array**	**35.55**	**318**	P	**P**	**01 26 36.8**	**+1.0**
	0.4nm,0.5s,baz=124,slow=7.6,SNR=2.1						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.24**	**269**	P	**P**	**01 27 15.2**	**-0.4**
	1.5nm,0.3s,baz=83,slow=8.2,SNR=1.7						
	1.5nm,0.3s						
WRA	**Warramunga Arr**	**45.89**	**190**	P	**P**	**01 28 00.8**	**-0.5**
	3.6nm,0.8s,baz=8.6,slow=8.4,SNR=15						
	3.6nm,0.8s						
ASAR	**Alice Springs**	**49.61**	**190**	P	**P**	**01 28 30.4**	**+0.3**
	0.4nm,0.6s,baz=13,slow=12,SNR=4.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**51.15**	**311**	P	**P**	**01 28 42.0**	**+0.4**
	0.5nm,0.6s,baz=96,slow=8.3,SNR=5.6						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**53.82**	**315**	P	**P**	**01 29 00.3**	**-0.9**
	0.4nm,0.5s,baz=92,slow=7.7,SNR=4.5						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**58.89**	**318**	P	**P**	**01 29 36.8**	**-0.7**
	0.8nm,0.6s,baz=83,slow=5.2,SNR=4.0						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**59.14**	**28**	P	**P**	**01 29 40.6**	**+1.7**
	0.6nm,0.8s,baz=257,slow=5.9,SNR=6.6						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**73.57**	**28**	P	**P**	**01 31 11.9**	**+0.5**
	0.7nm,0.7s,baz=293,slow=6.3,SNR=12						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**79.10**	**334**	P	**P**	**01 31 40.9**	**-1.9**
	1.1nm,0.6s,baz=84,slow=5.9,SNR=8.4						
	1.1nm,0.6s						

IDC 11 01:26:36.9±3.7, 36°.36N×71°.60E, h94km±31km, mb3.5/14, mbtmp3.9/19, Error ellipse: s-maj=23.8km s-min=16.7km az=7.0
NNC 11 01:26:41.7±4.1, 36°.72N×71°.35E, h114km±70km, mb3.4, mpv3.9, Error ellipse: s-maj=40.2km s-min=30.1km az=133.0

ISC 11 01:26:37.9±0.6, 36°.35N±0°.05×71°.68E±0°.08, h114km, n38, σ2.04/46, mb3.6/14, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**4.50**	**143**	*e*P	**Pn**	**01 27 45.0**	**+1.1**
JMU				*e*S	**Sn**	**01 28 35.2**	**0.0**
JMU				IAML		01 28 43.1	
	398nm,0.7s						
JMU				IAML		01 28 43.7	
	comp=E,190nm,0.5s						
DHRM	**DHARAMSHALA**	**5.60**	**136**	*e*P	**Pn**	**01 27 59.8**	**+0.7**
DHRM				*e*S	**Sn**	**01 29 01.2**	**-1.1**
DHRM				IAML		01 29 11.5	
	comp=E,182nm,0.3s						
DHRM				IAML		01 29 11.7	
	comp=E,152nm,0.6s						
AML	**Almayashu**	**5.98**	**15**	P	**Pn**	**01 28 04.8**	**+0.5**
	SNR=52						
UCH	**Uchtor**	**6.27**	**20**	P	**Sn**	**01 29 14.4**	**-4.3**
	SNR=6.7						
BHK	**Bhakra**	**6.30**	**140**	*e*S	**Sn**	**01 29 18.4**	**-0.6**
EKS2	**Erkin-Say**	**6.51**	**14**	P	**Pn**	**01 28 12.5**	**+1.4**
	SNR=14						
AAK	**Ala-Archa**	**6.64**	**18**	P	**Pn**	**01 28 13.8**	**+0.8**
	comp=E,9.9nm,0.3s,baz=186,slow=6.5,SNR=41						
AAK				S	**Sn**	**01 29 26.0**	**-1.4**
	comp=E,8.8nm,0.6s,baz=318,slow=20,SNR=6.7						
AAK	**Ala-Archa**	**6.64**	**18**	⇑P	**Pn**	**01 28 14.1**	**+1.0**
	SNR=23						
AAK	**Ala-Archa**	**6.64**	**18**	⇑P	**Pn**	**01 28 13.8**	**+0.8**
	comp=E,4.8nm,0.3s						
AAK				⇓S	**Sn**	**01 29 26.2**	**-1.2**
	comp=E,7.5nm,0.6s						
KK31	**Karatay Array**	**6.80**	**353**	⇑P	**Pn**	**01 28 13.6**	**-1.4**
	comp=E,1.9nm,0.2s,baz=185,slow=13,SNR=156						
KK31				⇓S	**Sn**	**01 29 26.2**	**-4.9**
	comp=E,3.4nm,0.3s,baz=180,slow=22,SNR=7.3						
SMLA	**Simla**	**6.93**	**137**	*e*P	**Pn**	**01 28 16.5**	**-0.3**
SMLA				*e*S	**Sn**	**01 29 33.4**	**-0.7**
SMLA				IAML		01 29 38.2	
	comp=E,67nm,0.4s						
SMLA				IAML		01 29 43.2	
	comp=E,76nm,0.4s						
CHMS	**Chumysh**	**7.05**	**19**	P	**Pn**	**01 28 19.0**	**+0.5**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.22**	**24**	P	**Pn**	**01 28 22.6**	**+1.6**
	comp=E,4.0nm,0.6s						
TKM2	**Tokmak 2**	**7.22**	**24**	⇑P	**Pn**	**01 28 21.6**	**+0.7**
	comp=E,3.2nm,0.7s						
TKM2				⇑S	**Sn**	**01 29 39.7**	**-1.8**
	comp=E,3.2nm,0.7s						
KUDL	**Kundal**	**9.14**	**152**	*e*P	**Pn**	**01 28 44.5**	**-2.2**
KUDL				*e*S	**Sn**	**01 30 20.4**	**-7.5**
KUDL				IAML		01 30 31.6	
	comp=E,16nm,0.7s						
KUDL				IAML		01 30 38.8	
	comp=E,13nm,0.5s						
PTH	**Pithoragarh**	**9.87**	**131**	*e*P	**Pn**	**01 28 55.2**	**-1.6**
MKAR	**Makanchi Array**	**13.10**	**34**	P	**Pn**	**01 29 38.8**	**-0.7**
	comp=E,0.3nm,0.6s,baz=220,slow=13,SNR=3.4						
KURBB	**Kurchatov Arra**	**15.10**	**17**	P	**Pn**	**01 30 01.1**	**-3.8**
	comp=E,2.4nm,0.6s,baz=205,slow=11,SNR=16						
AB31	**Akbulak array**	**15.48**	**330**	P	**Pn**	**01 30 05.9**	**-3.9**
	comp=E,0.8nm,0.3s,baz=137,slow=12,SNR=75						
BVAR	**Borovoye Array**	**16.70**	**357**	P	**Pn**	**01 30 23.6**	**-1.2**
	comp=E,0.9nm,0.4s,baz=168,slow=13,SNR=8.8						
AKTO	**Aktyubinsk**	**17.18**	**329**	P	**P**	**01 30 29.1**	**-1.4**
	comp=E,5.3nm,0.5s,baz=139,slow=12,SNR=15						
AKTO	**Aktyubinsk**	**17.18**	**329**	⇑P	**Pn**	**01 30 30.9**	**+0.1**
	comp=E,3.8nm,0.6s						
ZALV	**Zalesovo Beam**	**19.83**	**23**	P	**P**	**01 31 00.3**	**+1.0**
	comp=E,8.5nm,0.4s,baz=216,slow=11,SNR=38						
GNI	**Garni**	**21.46**	**288**	P	**P**	**01 31 17.8**	**+0.6**
	comp=E,2.9nm,0.6s,baz=352,slow=7.4,SNR=6.2						
	comp=E,2.9nm,0.6s						
ARTI	**Arti**	**21.97**	**340**	P	**P**	**01 31 22.0**	**-0.2**
	comp=E,2.8nm,0.6s,baz=148,slow=4.1,SNR=7.7						
	comp=E,2.8nm,0.6s						
KBZ	**Khabaz**	**23.15**	**297**	P	**P**	**01 31 33.6**	**-0.6**
	comp=E,0.4nm,0.5s,baz=114,slow=10.0,SNR=5.2						
	comp=E,0.4nm,0.5s						
SONM	**Songino Array**	**27.97**	**55**	P	**P**	**01 32 19.9**	**+2.1**
	comp=E,0.4nm,0.6s,baz=263,slow=12,SNR=3.1						
	comp=E,0.4nm,0.6s						
AKASG	**Malin Array Be**	**33.46**	**309**	P	**P**	**01 33 06.2**	**+0.4**
	comp=E,0.7nm,0.6s,baz=83,slow=7.2,SNR=5.0						
	comp=E,0.7nm,0.6s						
FINES	**FINESS Array B**	**37.91**	**326**	P	**P**	**01 33 45.0**	**+1.3**
	comp=E,0.7nm,0.3s,baz=117,slow=8.9,SNR=15						
	comp=E,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**41.49**	**337**	P	**P**	**01 34 14.8**	**+1.6**
	comp=E,6.3nm,1.1s,baz=114,slow=8.4,SNR=8.8						
	comp=E,6.3nm,1.1s						
HFS	**Hagfors**	**43.52**	**322**	P	**P**	**01 34 30.4**	**+0.7**
	comp=E,1.4nm,0.5s,baz=104,slow=11,SNR=10						
	comp=E,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**44.83**	**323**	P	**P**	**01 34 40.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.83**	**323**	P	**P**	**01 34 40.8**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=95,slow=7.9,SNR=6.8						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**74.77**	**16**	P	**P**	**01 38 05.5**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=326,slow=7.0,SNR=5.5						
	comp=Z,0.5nm,0.8s						
BOSA	**Boshof**	**77.99**	**221**	P	**P**	**01 38 24.4**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=80,slow=6.1,SNR=3.7						
	comp=Z,1.4nm,0.6s						
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**	**01 38 42.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=348,slow=5.4,SNR=15						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**81.45**	**122**	P	**P**	**01 38 44.7**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=330,slow=6.1,SNR=2.4						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**83.72**	**125**	P	**P**	**01 38 55.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=285,slow=6.0,SNR=2.6						
	comp=Z,0.4nm,0.6s						

IDC 11 01:27:28.6±53.0, 18°.06S×178°.23E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=943.0km s-min=147.3km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.76**	**240**	P	P	01 34 30.2	+0.7
	2.3nm,0.8s,baz=90,slow=7.1,SNR=4.2						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**41.45**	**260**	P	P	01 35 17.2	-0.3
	0.4nm,0.4s,baz=97,slow=7.6,SNR=20						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**41.67**	**255**	P	P	01 35 18.9	-0.4
	4.2nm,0.6s,baz=88,slow=8.8,SNR=46						
	4.2nm,0.6s						

IDC 11 01:54:44.7±1.0, 10°.18S×152°.23E, h0km, mb3.9/9, mbtmp3.8/11, ML3.4/1, MS3.5/12, Error ellipse: s-maj=31.3km s-min=21.8km az=113.0

ISC 11 01:54:50.1±0.9, 10°.2S±0°.2×152°.1E±0°.1, h35km, n21, σ0.98/12, mb3.9/9, MS3.4/9, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.96**	**279**	Pn	**Pn**	**01 56 01.2**	**-0.9**
	5.5nm,0.4s,baz=230,slow=20,SNR=1.6						
PMG				Sn	Sn	01 57 08.5	+10
	3.4nm,0.3s,baz=246,slow=16,SNR=1.5						
HNR	**Honiara**	**7.74**	**85**	LR	LR	01 58 58.9	
	comp=Z,93nm,18.9s,baz=294,slow=33						
DZM	**Mont Dzumac**	**18.12**	**132**	LR	LR	02 04 58.8	
	comp=Z,274nm,18.4s,baz=222,slow=34						
WRA	**Warramunga Arr**	**19.71**	**238**	P	**P**	**01 59 16.5**	**-0.2**
	0.1nm,0.3s,baz=62,slow=10,SNR=5.4						
WRA				LR	LR	02 06 38.6	
	comp=Z,172nm,18.2s,baz=66,slow=36						
	1.8nm,1.0s						
ASAR	**Alice Springs**	**21.96**	**230**	P	**P**	**01 59 41.0**	**0.0**
	1.1nm,0.6s,baz=62,slow=9.8,SNR=12						
ASAR				LR	LR	02 07 59.6	
	comp=Z,152nm,19.1s,baz=76,slow=36						
	1.1nm,0.6s						
STKA	**Stephens Creek**	**23.69**	**203**	P	**P**	**01 59 58.3**	**-0.4**
	1.3nm,0.6s,baz=12,slow=9.1,SNR=4.2						
STKA				LR	LR	02 09 40.4	
	comp=Z,131nm,19.0s,baz=26,slow=38						
	1.3nm,0.6s						
GUMO	**Guam**	**24.69**	**343**	LR	LR	02 07 50.0	
	comp=Z,27nm,19.5s,baz=80,slow=32						
FITZ	**Fitzroy Crossi**	**26.84**	**250**	LR	LR	02 10 01.0	
	comp=Z,156nm,18.1s,baz=32,slow=34						
URZ	**Urewera**	**35.83**	**145**	LR	LR	02 15 41.9	
	comp=Z,90nm,18.1s,baz=5.5,slow=35						
CMAR	**Chiang Mai Arr**	**59.69**	**298**	P	**P**	**02 04 52.0**	**+0.5**
	0.7nm,0.3s,baz=111,slow=5.9,SNR=4.5						
	0.7nm,0.3s						
KLR	**Kul'dur**	**61.81**	**345**	LR	LR	02 29 22.6	
	comp=Z,19nm,20.3s,baz=80,slow=34						
SONM	**Songino Array**	**70.54**	**329**	P	**P**	**02 06 02.1**	**+0.5**
	0.7nm,0.7s,baz=142,slow=5.1,SNR=6.5						
	0.7nm,0.7s						
YAK	**Yakutsk**	**74.09**	**349**	LR	LR	02 41 57.0	
	comp=Z,15nm,18.3s,baz=5.0,slow=38						
QSPA	**South Pole Qui**	**79.81**	**180**	P	**P**	**02 06 55.8**	**+1.0**
	1.7nm,1.1s,baz=37,slow=1.1,SNR=4.7						
	1.7nm,1.1s						
MKAR	**Makanchi Array**	**83.94**	**320**	P	**P**	**02 07 16.9**	**+0.2**
	0.8nm,0.9s,baz=102,slow=8.8,SNR=6.1						
	0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**85.25**	**327**	P	**P**	**02 07 24.5**	**+1.5**
	0.4nm,0.3s,baz=123,slow=5.3,SNR=2.1						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**87.36**	**22**	P	**P**	**02 07 33.5**	**+0.2**
	0.9nm,0.8s,baz=244,slow=4.7,SNR=7.1						
	0.9nm,0.8s						
NVAR	**Mina Array Bea**	**95.91**	**52**	P	**P**	**02 08 11.8**	**-2.0**
	0.2nm,0.8s,baz=296,slow=3.8,SNR=3.5						
	0.2nm,0.8s						
SNAA	**Sanae**	**96.64**	**188**	LR	LR	02 50 43.8	
	comp=Z,65nm,19.0s,baz=94,slow=35						
NEW	**Newport**	**98.00**	**42**	LR	LR	02 45 04.8	
	comp=Z,53nm,20.0s,baz=269,slow=31						
TORD	**Torodi Ar. Bea**	**150.90**	**279**	PKPbc	**PKPbc**	**02 14 40.2**	**+0.1**
	0.6nm,0.8s,baz=83,slow=2.4,SNR=4.4						

FCIAR 11 01:55:17.0, 86°.05N×41°.68E, h10km, station OMEGA has station magnitude of 3.30 station ZFI2 has station magnitude of 3.30
IDC 11 01:55:17.7±0.9, 86°.71N×44°.49E, h0km, mb3.5/10, mbtmp3.5/11, ML3.8/1, MS3.3/9, Error ellipse: s-maj=35.4km s-min=16.1km az=77.0
NEIC 11 01:55:18.7±1.8, 86°.60N±0°.06×4°.2E±°, h10km±1km, mb4.0/10, Error ellipse: s-maj=21.0km s-min=6.2km az=247.0

ISC 11 01:55:19.1±0.6, 86°.55N±0°.06×41°.08E±0°.10, h10km, n35, σ1.70/31, mb3.7/16, MS3.3/8, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.81**	**170**	*e*P	**Pn**	**01 56 44.2**	**-0.9**
ZFI2				*e*S	Sn	01 57 43.1	-8.6
	18nm,2.6s						
OMEGA	**Omega**	**5.84**	**169**	*e*P	**Pn**	**01 56 44.2**	**-1.3**
OMEGA				*e*S	Sn	01 57 43.1	-9.2
	17nm,2.8s						
KBS	**Kingsbay**	**8.29**	**221**	Pn	**Pn**	**01 57 20.6**	**+1.6**
KBS	**Kingsbay**	**8.29**	**221**	*e*P	Pn	01 57 08.6	-10
KBS				*e*S	Sn	01 58 32.1	-20
SPA0	**Spitsbergen Ar**	**8.86**	**214**	*e*P	**Pn**	**01 57 27.0**	**+0.1**
SPA0				*e*S	**Sn**	**01 59 01.0**	**-5.6**
SPITS	**Spitsbergen Ar**	**8.86**	**214**	Pn	**Pn**	**01 57 28.0**	**+1.1**
	baz=24,slow=14						
SPITS				Sn	**Sn**	**01 59 04.0**	**-2.6**
	baz=26,slow=9.7						
	4.6nm,0.8s						
SPB2	**Spitsbergen Ar**	**8.87**	**214**	Pn	**Pn**	**01 57 27.1**	**+0.1**
EUNU	**Eureka**	**12.43**	**320**	Pn	**Pn**	**01 58 15.7**	**0.0**
ARCES	**ARCESS Array B**	**17.27**	**199**	P	**Pn**	**01 59 19.6**	**-0.3**
	6.6nm,1.1s,baz=5.2,slow=11,SNR=4.2						
ARCES				LR	LR	02 05 35.8	
	comp=Z,93nm,18.6s,baz=34,slow=35						
B22K	**Teshekpuk Lake**	**23.16**	**12**	P	**P**	**02 00 23.4**	**-1.6**
D27M	**Malcolm River**	**24.36**	**2**	P	**P**	**02 00 36.7**	**0.0**
D19K	**Kuna River**	**24.94**	**17**	P	**P**	**02 00 41.6**	**-0.3**
D19K				IAmb	IAmb	02 00 45.1	
	comp=Z,4.8nm,1.1s						
E29M	**Blow River**	**25.22**	**359**	P	**P**	**02 00 44.1**	**-0.2**

comp=Z,0.4nm,0.2s
ABKAR Akbulak array 37.66 160 P P 02 02 35.7 +2.0
MK31 Makanchi Array 40.84 136 P P 02 02 59.7 -0.6
MKAR Makanchi Array 40.84 136 P P 02 02 58.9 -1.4
comp=Z,0.2nm,0.8s,baz=353,slow=5.8,SNR=2.3
comp=Z,0.2nm,0.8s
AAK Ala-Archa 44.69 145 P P 02 03 30.5 -1.2
AAK IAmb IAmb 02 03 34.6
comp=Z,1.4nm,0.8s
AAK Ala-Archa 44.69 145 LR LR 02 25 16.8
comp=Z,38nm,18.2s,baz=48,slow=40
NEW Newport 45.17 340 LR LR 02 22 31.2
comp=Z,74nm,18.1s,baz=320,slow=36
BRTR Keskin Array B 47.02 188 P P 02 03 52.3 +2.1
comp=Z,0.6nm,0.8s,baz=5.0,slow=7.2,SNR=1.9
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 50.47 332 P P 02 04 15.8 -1.0
comp=Z,0.6nm,0.9s,baz=20,slow=4.7,SNR=4.4
comp=Z,0.6nm,0.9s
NVAR Mina Array Bea 55.02 340 P P 02 04 49.2 -1.2
comp=Z,0.4nm,0.8s,baz=358,slow=7.3,SNR=3.5
comp=Z,0.4nm,0.8s
ANMO Albuquerque 58.19 329 LR LR 02 29 25.8
comp=Z,32nm,20.3s,baz=108,slow=35
TXAR Lajitas Array 63.69 326 P P 02 05 51.0 +0.8
comp=Z,0.4nm,0.9s,baz=10,slow=7.6,SNR=4.2
comp=Z,0.4nm,0.9s

*GUC **11** 02:17:50.3±0.5, 22°.12S×68°.67W, h117km±3km, ML3.5*
*IDC **11** 02:17:56.2±11.0, 21°.79S×67°.90W, h141km±80km, mb3.5/1, mbtmp3.8/3, Error ellipse: s-maj=132.0km s-min=41.4km az=180.0*
ISC 11 02:17:51.0±1.4, 22°.12S±0°.05×68°.70W±0°.10, h110km±11km, n13, σ0.74/17, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**302**	*eP*	**Pn**	**02 18 08.6**	**-0.1**
PB09				*eS*	**Sn**	**02 18 22.2**	**+0.1**
PB09				IAML		02 18 24.4	
comp=E,1μm,0.4s							
AF01	**San Pedro de A**	**0.96**	**150**	*eP*	**Pn**	**02 18 11.3**	**-0.8**
PB03	**IPOC Station P**	**0.98**	**274⇑**	*eP*	**Pn**	**02 18 12.1**	**-0.1**
PB03				*eS*	**Sn**	**02 18 29.0**	**+0.9**
PB03				IAML		02 18 30.8	
comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.00**	**234⇑**	*eP*	**Pn**	**02 18 12.3**	**0.0**
PB06				*eS*	**Sn**	**02 18 28.9**	**+0.5**
PB06				IAML		02 18 31.1	
comp=E,2μm,0.3s							
PB01	**IPOC Station P**	**1.30**	**325**	*eP*	**Pn**	**02 18 15.0**	**-0.6**
PB01				*eS*	**Sn**	**02 18 34.1**	**0.0**
PB01				IAML		02 18 35.6	
comp=E,814nm,0.3s							
PB08	**IPOC Station P**	**2.01**	**348**	*eP*	**Pn**	**02 18 24.7**	**+0.1**
PB08				*eS*	**Sn**	**02 18 51.3**	**+1.2**
PB08				IAML		02 18 56.3	
comp=E,211nm,0.3s							
TA01	**Diego Aracena**	**2.07**	**318**	*eP*	**Pn**	**02 18 23.8**	**-1.1**
TA01				*eS*	**Sn**	**02 18 50.6**	**-0.2**
TA01				IAML		02 18 57.8	
comp=N,343nm,0.4s							
PB11	**IPOC Station P**	**2.51**	**339⇑**	*eP*	**Pn**	**02 18 29.6**	**-1.1**
PB11				IAML		02 19 11.1	
comp=N,318nm,0.1s							
PB14	**IPOC Station P**	**2.95**	**212**	*eP*	**Pn**	**02 18 36.8**	**+0.2**
LPAZ	**La Paz**	**5.82**	**5**	P	**Pn**	**02 19 16.5**	**+0.9**
comp=N,1.6nm,0.5s,baz=188,slow=7.1,SNR=13							
SIV	**San Ignacio**	**9.44**	**51**	P	Pn	02 19 58.6	-5.5
comp=N,6.2nm,0.5s,baz=237,slow=11,SNR=37							
SIV				S	Sn	02 21 35.4	-13
comp=N,0.8nm,0.7s,baz=190,slow=12,SNR=1.6							
TORD	**Torodi Ar. Bea**	**77.38**	**70**	P	P	02 29 31.5	-2.8
comp=N,0.4nm,0.4s,baz=244,slow=5.6,SNR=4.0							
comp=N,0.4nm,0.4s							
MKAR	**Makanchi Array**	**146.01**	**37**	PKPbc	**PKPdf**	**02 37 16.6**	**-0.4**
comp=N,0.5nm,0.7s,baz=304,slow=3.1,SNR=5.3							

*IDC **11** 02:20:13.3±1.2, 59°.82N×141°.74W, h0km, mb3.7/6, mbtmp3.5/11, ML2.9/4, MS3.0/1, Error ellipse: s-maj=21.8km s-min=12.9km az=21.0*
*ANF **11** 02:20:14.1±0.3, 59°.76N×141°.66W, h2km±2km, ML3.7/44, Error ellipse: s-maj=2.4km s-min=1.1km az=178.0*
*NEIC **11** 02:20:15.1±2.0, 59°.78N±0°.03×141°.66W±0°.04, h14km±4km, Error ellipse: s-maj=4.7km s-min=2.7km az=174.0*
*AEIC **11** 02:20:16.1±2.4, 59°.86N±0°.04×141°.70W±0°.05, h22km±7km, ML3.3, ML3.5/84(NEIC), Error ellipse: s-maj=5.6km s-min=2.9km az=201.0*
ISC 11 02:20:14.7±1.1, 59°.79N±0°.04×141°.68W±0°.02, h13km±8km, n238, σ1.19/256, mb3.8/6, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.39**	**46**		**Pg**	**02 20 22.9**	**+0.4**
CHX					**Sb**	**02 20 29.6**	**0.0**
MESA	**MESA**	**0.41**	**341**		**Pg**	**02 20 22.9**	**0.0**
MESA				Sg	**Sb**	**02 20 30.1**	**-0.1**
MESA	**MESA**	**0.41**	**341**	P	**Pg**	**02 20 22.9**	**0.0**
baz=165,SNR=162							
MESA				S	**Sb**	**02 20 29.1**	**-1.1**
baz=165							
CYK	**Cape Yakataga**	**0.50**	**306**		**Pb**	**02 20 25.5**	**+0.2**
CYK					**Sb**	**02 20 33.6**	**+1.1**
RKAV	**Rock Avalanche**	**0.54**	**18**		**Pg**	**02 20 25.0**	**-0.2**
RKAV					**Sb**	**02 20 33.6**	**-0.2**
SAMH	**Samovar Hills**	**0.56**	**53**		**Pb**	**02 20 26.3**	**-0.2**
YAH	**Yahtse**	**0.57**	**357**	Pg	**Pg**	**02 20 25.4**	**-0.5**
YAH				Sg	**Sg**	**02 20 33.8**	**+0.2**
YAH				IAML		02 20 40.4	
comp=E,3μm,1.1s							
SNH	**Sunshine Point**	**0.70**	**304**		**Pg**	**02 20 28.4**	**+0.1**
SNH				Sg	**Sb**	**02 20 38.7**	**+0.3**
SNH				IAML		02 20 41.4	
comp=E,3μm,0.6s							
SNH				IAML		02 20 49.7	
comp=N,3μm,0.6s							
PCA	**Pinnacle**	**0.78**	**66**		**Pg**	**02 20 29.5**	**-0.3**
PINM	**Pinnacle**	**0.78**	**66**	P	**Pg**	**02 20 29.4**	**-0.3**
baz=240,SNR=26							
PINM				S	**Sb**	**02 20 40.2**	**-0.6**
baz=240							
BGLC	**Bering Glacier**	**0.87**	**293**		**Pg**	**02 20 32.3**	**+0.8**
BGLC	**Bering Glacier**	**0.87**	**293**	P	**Pb**	**02 20 31.9**	**+0.2**
baz=119							
BGLC				Sb	**Sn**	**02 20 45.9**	**+0.6**
baz=119							
BCPM	**Bancas Point**	**1.04**	**80**		**Pb**	**02 20 33.7**	**-1.0**
BCPM				Sg	**Sb**	**02 20 48.0**	**-0.3**
BCPM				IAML		02 20 50.1	
comp=E,903nm,0.7s							
BCPM				IAML		02 20 59.1	
comp=N,807nm,0.9s							
YKU2	**Yakutat**	**1.06**	**105**		**Pb**	**02 20 34.9**	**0.0**
YKU2				IAML		02 20 53.1	
comp=E,2μm,1.3s							
YKU2	**Yakutat**	**1.06**	**105**		**Sn**	**02 20 51.5**	**+1.8**
SUCK	**Suckling Hills**	**1.09**	**286**		**Pn**	**02 20 36.0**	**+0.3**
SUCK					**Sg**	**02 20 50.3**	**+0.4**
SUCK				IAML		02 20 54.2	
comp=E,1μm,0.7s							
SUCK				IAML		02 20 56.6	
comp=N,1μm,0.5s							
PNL	**Peninsula**	**1.16**	**95**		**Pb**	**02 20 36.2**	**-0.4**
PNL	**Peninsula**	**1.16**	**95**	P	**Pb**	**02 20 36.0**	**-0.7**
baz=271,SNR=118							
PNL				S	**Sg**	**02 20 52.1**	**0.0**
baz=271							
KIAG	**Kiagna River**	**1.18**	**344**		**Pb**	**02 20 35.2**	**-1.9**
KIAG					**Sb**	**02 20 50.7**	**-1.7**
O28M	**Mount Upton**	**1.23**	**36**		**Pn**	**02 20 36.3**	**-1.6**
O28M	**Mount Upton**	**1.23**	**36**	P	**Pn**	**02 20 36.4**	**-1.6**
baz=215							
O28M				S	**Sg**	**02 20 55.5**	**+1.1**
baz=215							
NICHA	**Nichawak Mount**	**1.23**	**292**		**Pn**	**02 20 37.9**	**+0.2**
BALM	**Baldy**	**1.29**	**345**		**Pn**	**02 20 37.0**	**-1.6**
KAIM	**Kayak Island**	**1.39**	**277**	Pn	**Pn**	**02 20 40.0**	**+0.3**
KAIM				IAML		02 21 10.6	
comp=E,719nm,1.2s							
KAIM				IAML		02 21 11.3	
comp=N,723nm,1.0s							
KAIM	**Kayak Island**	**1.39**	**277**	P	**Pn**	**02 20 40.2**	**+0.4**
baz=99							
KAIM				S	**Sg**	**02 20 59.9**	**+0.6**
baz=99							
HMT	**Hamilton**	**1.41**	**294**	Pn	**Pn**	**02 20 40.1**	**0.0**
RAGM	**Ragged Mountai**	**1.61**	**293**	Pn	**Pn**	**02 20 43.4**	**+0.4**
O29M	**Mount Kennedy**	**1.64**	**70**		**Pn**	**02 20 43.7**	**+0.3**
O29M	**Mount Kennedy**	**1.64**	**70**	P	**Pn**	**02 20 43.5**	**+0.1**
baz=249							
O29M				S	**Sb**	**02 21 05.6**	**+0.2**
baz=249							
VRDI	**Verde Repeater**	**1.69**	**329**	Pn	**Pn**	**02 20 43.0**	**-1.1**
VRDI				IAML		02 21 08.8	
comp=N,356nm,0.7s							
VRDI				IAML		02 21 09.2	
comp=E,396nm,0.6s							
GOAT	**Goat Mountain**	**1.72**	**299**		**Pn**	**02 20 43.9**	**-0.5**
YUK8	**Steele Glacier**	**1.77**	**31**		**Pn**	**02 20 45.8**	**+0.5**
YUK8	**Steele Glacier**	**1.77**	**31**	P	**Pn**	**02 20 45.9**	**+0.6**
baz=211,SNR=626							
YUK8				S	**Sb**	**02 21 09.7**	**+0.3**
baz=211							
BMRM	**Bremner River**	**1.87**	**310**	P	**Pn**	**02 20 46.4**	**-0.1**
baz=131,SNR=38							
BMRM				S	**Sb**	**02 21 12.3**	**+0.2**
baz=131							
YUK7	**Dusty Glacier**	**1.92**	**66**		**Pn**	**02 20 48.2**	**+0.9**
GLB	**Gilahina Butte**	**1.96**	**329**	Pn	**Pn**	**02 20 47.6**	**-0.1**
YUK6	**Outpost Mounta**	**2.01**	**54**		**Pn**	**02 20 49.6**	**+1.0**
YUK6	**Outpost Mounta**	**2.01**	**54**	P	**Pn**	**02 20 49.6**	**+1.0**
baz=234,SNR=169							
YUK6				S	**Sb**	**02 21 16.3**	**0.0**
baz=234							
YUK2	**White River**	**2.04**	**11**		**Pn**	**02 20 49.6**	**+0.7**
YUK3	**Moose Creek**	**2.08**	**16**		**Pn**	**02 20 50.6**	**+1.1**
YUK3	**Moose Creek**	**2.08**	**16**	P	**Pn**	**02 20 50.4**	**+1.0**
baz=196,SNR=80							
YUK3				S	**Sb**	**02 21 18.1**	**-0.1**
baz=196							
YUK4	**Talbot Arm**	**2.16**	**43**	P	**Pb**	**02 20 53.2**	**-0.5**
baz=222,SNR=325							
YUK4				S	**Sg**	**02 21 22.2**	**-1.9**
baz=222							
EYAK	**Cordova Ski Ar**	**2.17**	**292**	Pn	**Pn**	**02 20 50.4**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.17**	**292**	P	**Pn**	**02 20 50.5**	**0.0**
baz=112							
N25K	**Chitina, Valde**	**2.32**	**323**	Pn	**Pn**	**02 20 53.1**	**+0.5**
N25K				IAML		02 21 28.1	
comp=E,186nm,0.6s							
N25K				IAML		02 21 28.5	
comp=N,298nm,0.6s							
N25K	**Chitina, Valde**	**2.32**	**323**	P	**Pn**	**02 20 53.2**	**+0.6**
baz=142,SNR=50							
N25K				S	**Sb**	**02 21 23.7**	**-1.2**
baz=142							
YUK5	**Granite Creek**	**2.32**	**53**		**Pn**	**02 20 54.2**	**+1.4**
HYT	**Haines Junctio**	**2.32**	**62**	Pn	**Pn**	**02 20 53.0**	**+0.2**
HYT	**Haines Junctio**	**2.32**	**62**	P	**Pn**	**02 20 53.3**	**+0.6**
baz=243,SNR=49							
P30M	**Million Dollar**	**2.40**	**80**	P	**Pn**	**02 20 54.4**	**+0.7**
baz=261							
DIV	**Divide**	**2.43**	**305**	Pn	**Pn**	**02 20 53.5**	**-0.6**
HIN	**Hinchinbrook I**	**2.49**	**286**	Pn	**Pn**	**02 20 54.6**	**-0.3**
HIN				IAML		02 21 40.2	
comp=N,328nm,1.0s							
HIN				IAML		02 21 48.9	
comp=E,322nm,0.8s							
M27K	**Edge Creek, AK**	**2.58**	**358**	P	**Pn**	**02 20 56.9**	**+0.6**
baz=178							
BVCY	**Beaver Creek**	**2.66**	**8**	P	**Pn**	**02 20 58.4**	**+1.1**
baz=189,SNR=31							
M26K	**Nabesna, AK**	**2.69**	**347**	P	**Pn**	**02 20 58.2**	**+0.4**
baz=166							
M26K				S	**Sb**	**02 21 33.2**	**-2.5**
baz=166							
KLU	**Klutina**	**2.70**	**311**	Pn	**Pn**	**02 20 58.0**	**+0.2**
KLU				IAML		02 21 39.9	
comp=E,329nm,0.5s							
KLU	**Klutina**	**2.70**	**311**	P	**Pn**	**02 20 58.0**	**+0.2**
baz=129,SNR=21							
PLBC	**Pleasant Camp**	**2.72**	**95**	P	**Pn**	**02 20 58.7**	**+0.6**
baz=277							
N30M	**Aishikik Lake**	**2.81**	**52**	Pn	**Pn**	**02 20 59.7**	**+0.2**
N30M	**Aishikik Lake**	**2.81**	**52**	P	**Pn**	**02 20 59.9**	**+0.5**
baz=234,SNR=123							
P23K	**Montague Islan**	**2.89**	**277**	P	**Pn**	**02 21 00.9**	**+0.5**
baz=94							
GLI	**Glacier Island**	**2.91**	**294**	Pn	**Pn**	**02 21 00.3**	**-0.3**
GLI				IAML		02 21 46.1	
comp=E,146nm,0.6s							
GLI				IAML		02 22 00.1	
comp=N,122nm,1.4s							
GLI	**Glacier Island**	**2.91**	**294**	P	**Pn**	**02 21 01.5**	**+0.9**
baz=112							
O30N	**Mendenhall**	**2.95**	**68**	Pn	**Pn**	**02 21 01.7**	**+0.4**
O30N	**Mendenhall**	**2.95**	**68**	P	**Pn**	**02 21 01.7**	**+0.4**
baz=251,SNR=42							
M29M	**Somme Creek**	**3.08**	**29**	P	**Pn**	**02 21 03.9**	**+0.7**
baz=211							
HARP	**HAARP**	**3.11**	**329**	P	**Pn**	**02 21 05.1**	**+1.6**
baz=147							
M24K	**Tolsona, Glenn**	**3.19**	**319**	Pn	**Pn**	**02 21 05.7**	**+1.1**
M24K				IAML		02 22 10.5	
comp=N,228nm,0.9s							
M24K	**Tolsona, Glenn**	**3.19**	**319**	P	**Pn**	**02 21 05.9**	**+1.3**
baz=136,SNR=15							
L27K	**Beaver Creek,**	**3.28**	**359**	P	**Pn**	**02 21 05.9**	**0.0**
baz=179							
BCAR	**Beaver Creek A**	**3.29**	**359**	Pn	**Pn**	**02 21 07.0**	**+1.1**
MENT	**Mentasta**	**3.31**	**344**	Pn	**Pn**	**02 21 07.7**	**+1.5**
MENT				IAML		02 22 10.3	
comp=N,76nm,1.3s							
MENT				IAML		02 22 17.4	
comp=E,125nm,0.8s							
L26K	**Log Cabin Wild**	**3.34**	**347**	Pn	**Pn**	**02 21 08.4**	**+1.8**
L26K				IAML		02 21 51.4	
comp=E,92nm,0.5s							
L26K	**Log Cabin Wild**	**3.34**	**347**	P	**Pn**	**02 21 09.1**	**+2.4**
baz=166,SNR=27							
SCM	**Sheep Creek Mo**	**3.44**	**309**	Pn	**Pn**	**02 21 08.1**	**0.0**
SCM	**Sheep Creek Mo**	**3.44**	**309**	P	**Pn**	**02 21 08.3**	**+0.2**
baz=126							
PWL	**Port Wells**	**3.48**	**291**	Pn	**Pn**	**02 21 08.0**	**-0.5**
PWL				IAML		02 22 21.7	
comp=N,71nm,0.8s							
PWL	**Port Wells**	**3.48**	**291**	P	**Pn**	**02 21 08.7**	**+0.2**
baz=107							
WHY	**Whitehorse**	**3.50**	**73**	Pn	**Pn**	**02 21 08.0**	**-0.9**
WHY	**Whitehorse**	**3.50**	**73**	P	**Pn**	**02 21 09.5**	**+0.6**
baz=257,SNR=14							
M23K	**Glacier View**	**3.58**	**307**	P	**Pn**	**02 21 11.1**	**+1.2**
baz=123,SNR=11							
M30M	**Minto, Yukon**	**3.66**	**38**	Pn	**Pn**	**02 21 11.8**	**+0.8**
M30M	**Minto, Yukon**	**3.66**	**38**	P	**Pn**	**02 21 11.8**	**+0.8**
baz=221,SNR=18							
PAX	**Paxson**	**3.67**	**332**	Pn	**Pn**	**02 21 12.6**	**+1.4**
PAX	**Paxson**	**3.67**	**332**	P	**Pn**	**02 21 12.3**	**+1.1**
baz=150							
KNK	**Knik Glacier**	**3.72**	**299**	Pn	**Pn**	**02 21 12.3**	**+0.5**
KNK				IAML		02 22 12.8	
comp=E,102nm,0.6s							
KNK	**Knik Glacier**	**3.72**	**299**	P	**Pn**	**02 21 12.3**	**+0.5**
baz=115,SNR=11							
L29M	**L29M**	**3.74**	**26**	P	**Pn**	**02 21 13.3**	**+1.1**
baz=208							
SML	**Sawmill**	**3.83**	**305**	Pn	**Pn**	**02 21 13.5**	**+0.1**
SML				IAML		02 22 20.5	
comp=E,78nm,0.9s							
SML				IAML		02 22 21.1	
comp=N,111nm,1.1s							
SML	**Sawmill**	**3.83**	**305**	P	**Pn**	**02 21 14.6**	**+1.2**
baz=120							
SEW	**Seward**	**3.92**	**278**	Pn	**Pn**	**02 21 14.0**	**-0.5**
DOT	**Dot Lake**	**4.03**	**345**	Pn	**Pn**	**02 21 17.5**	**+1.4**
P32M	**Atlin**	**4.04**	**89**	Pn	**Pn**	**02 21 15.7**	**-0.6**
GHO	**Glory Hole Cre**	**4.07**	**302**	Pn	**Pn**	**02 21 17.4**	**+0.7**
GHO				IAML		02 22 24.9	
comp=N,109nm,0.9s							
GHO				IAML		02 22 25.9	
comp=E,101nm,0.8s							
O22K	**Cooper Landing**	**4.08**	**283**	Pn	**Pn**	**02 21 15.7**	**-1.0**
PMR	**Palmer**	**4.08**	**299**	Pn	**Pn**	**02 21 17.3**	**+0.6**
PMR				IAML		02 22 32.3	
comp=E,59nm,1.1s							
PMR				IAML		02 22 32.6	
comp=N,59nm,1.2s							
PMR	**Palmer**	**4.08**	**299**	P	**Pn**	**02 21 17.6**	**+0.8**
baz=114							
RC01	**Rabbit Creek A**	**4.20**	**292**	Pn	**Pn**	**02 21 17.9**	**-0.4**
RC01				IAML		02 22 37.7	
comp=E,44nm,0.6s							
RC01				IAML		02 22 38.6	
comp=N,74nm,0.7s							
RC01	**Rabbit Creek A**	**4.20**	**292**	P	**Pn**	**02 21 18.6**	**+0.2**
baz=106							
RIDG	**Independent Ri**	**4.24**	**341**	Pn	**Pn**	**02 21 20.4**	**+1.4**
RIDG	**Independent Ri**	**4.24**	**341**	P	**Pn**	**02 21 20.5**	**+1.5**
baz=158							
K27K	**Chicken**	**4.26**	**358**	P	**Pn**	**02 21 20.9**	**+1.8**
baz=177							
M31M	**Drury Creek, Y**	**4.29**	**53**	P	**Pn**	**02 21 20.6**	**+0.9**
baz=238							
SLKM	**Skilak Lake**	**4.33**	**283**	Pn	**Pn**	**02 21 19.2**	**-1.0**
SLKM				IAML		02 22 45.8	
comp=E,48nm,1.4s							
SLKM				IAML		02 22 51.6	
comp=N,43nm,1.4s							
SCRK	**Sand Creek**	**4.34**	**346**	Pn	**Pn**	**02 21 22.2**	**+1.8**
SCRK	**Sand Creek**	**4.34**	**346**	P	**Pn**	**02 21 22.2**	**+1.8**
baz=165,SNR=8.4							
DAWY	**Dawson**	**4.42**	**13**	Pn	**Pn**	**02 21 22.0**	**+0.5**
DAWY	**Dawson**	**4.42**	**13**	P	**Pn**	**02 21 22.3**	**+0.8**
baz=195,SNR=52							
N32M	**Quiet Lake**	**4.47**	**69**	P	**Pn**	**02 21 22.7**	**+0.5**
baz=255							
K29M	**Barlow Dome**	**4.52**	**24**	P	**Pn**	**02 21 24.2**	**+1.3**
baz=207							
BRSE	**Bradley Lake S**	**4.58**	**273**	P	**Pn**	**02 21 25.0**	**+1.3**
baz=87							
BRLK	**Bradley Lake**	**4.65**	**274**	Pn	**Pn**	**02 21 25.4**	**+0.8**
BRLK				IAML		02 22 03.5	
comp=N,48nm,1.3s							
BRLK				IAML		02 22 35.9	
comp=E,66nm,0.4s							
MAYO	**Mayo, Yukon**	**4.71**	**33**	Pn	**Pn**	**02 21 26.5**	**+1.2**
FARO	**Faro, Yukon**	**4.73**	**55**	Pn	**Pn**	**02 21 25.8**	**+0.1**
SUA	**Susitna One**	**4.77**	**294**	Pn	**Pn**	**02 21 26.7**	**+0.4**
SUA				IAML		02 22 50.5	
comp=E,30nm,0.9s							
SUA				IAML		02 22 51.9	
comp=N,29nm,0.7s							
SUA	**Susitna One**	**4.77**	**294**	P	**Pn**	**02 21 28.4**	**+2.1**
baz=108							
J26L	**Joseph Creek**	**4.81**	**350**	Pn	**Pn**	**02 21 28.0**	**+1.2**
J26L				IAML		02 22 54.2	
comp=E,28nm,1.1s							
J26L	**Joseph Creek**	**4.81**	**350**	P	**Pn**	**02 21 28.3**	**+1.5**
baz=169,SNR=17							
CNPM	**China Poot**	**4.86**	**271**	Pn	**Pn**	**02 21 28.0**	**+0.6**
CUT	**Chulitna**	**4.92**	**306**	Pn	**Pn**	**02 21 29.3**	**+1.1**
CUT	**Chulitna**	**4.92**	**306**	P	**Pn**	**02 21 29.6**	**+1.3**
baz=120							
J29N	**Klondike Camp**	**4.95**	**18**	Pn	**Pn**	**02 21 30.9**	**+2.1**
J29N	**Klondike Camp**	**4.95**	**18**	P	**Pn**	**02 21 30.9**	**+2.1**
baz=200,SNR=6.9							
RND	**Reindeer**	**4.99**	**320**	Pn	**Pn**	**02 21 30.3**	**+1.0**
RND				IAML		02 22 54.2	
comp=E,34nm,1.4s							
RND				IAML		02 22 54.7	
comp=N,25nm,1.1s							
J25K	**Salcha River,**	**5.14**	**342**	P	**Pn**	**02 21 32.8**	**+1.5**
baz=159							
MCK	**McKinley**	**5.24**	**322**	Pn	**Pn**	**02 21 33.3**	**+0.6**
MCK	**McKinley**	**5.24**	**322**	P	**Pn**	**02 21 34.0**	**+1.3**
baz=136							
HDA	**Harding Lake**	**5.25**	**334**	Pn	**Pn**	**02 21 33.9**	**+1.1**
HDA	**Harding Lake**	**5.25**	**334**	P	**Pn**	**02 21 34.1**	**+1.3**
baz=150							
STLK	**Strandline Lak**	**5.28**	**293**	Pn	**Pn**	**02 21 33.4**	**+0.1**
SKT	**Skwentna**	**5.29**	**299**	Pn	**Pn**	**02 21 33.3**	**0.0**
SKT	**Skwentna**	**5.29**	**299**	P	**Pn**	**02 21 34.7**	**+1.3**
baz=111							
SPU	**Mount Spurr**	**5.32**	**290**	Pn	**Pn**	**02 21 34.6**	**+0.9**
J30M	**Hart River**	**5.41**	**25**	P	**Pn**	**02 21 36.6**	**+1.5**
baz=209							
TRF	**Thorofare Moun**	**5.50**	**315**	Pn	**Pn**	**02 21 38.3**	**+1.8**
TRF	**Thorofare Moun**	**5.50**	**315**	P	**Pn**	**02 21 37.8**	**+1.4**
baz=129							
O20K	**Slope Mountain**	**5.51**	**278**	P	**Pn**	**02 21 38.2**	**+1.7**
baz=90							
IL31		**5.55**	**336**	Pn	**Pn**	**02 21 37.0**	**+0.1**
ILAR	**Eielson Array**	**5.55**	**336**	Pn	**Pn**	**02 21 38.4**	**+1.4**
ILAR	**Eielson Array**	**5.55**	**336**	Pn	**Pn**	**02 21 36.2**	**-0.8**
comp=N,0.3nm,0.3s,baz=159,slow=12,SNR=32							
ILAR				Lg	Lg	02 23 08.2	
comp=N,0.5nm,0.3s,baz=146,slow=28,SNR=4.6							
ILAR				LR	LR	02 23 45.7	
comp=N,151nm,21.0s,baz=216,slow=38							
comp=N,0.5nm,0.6s							
WRH	**Wood River Hil**	**5.57**	**330**	Pn	**Pn**	**02 21 38.6**	**+1.4**
I26K	**Coal Creek Min**	**5.58**	**354**	P	**Pn**	**02 21 39.4**	**+2.2**
baz=172							
SYI	**Shuyak Island**	**5.63**	**262**	Pn	**Pn**	**02 21 39.4**	**+1.4**
CCB	**Clear Creek Bu**	**5.65**	**332**	Pn	**Pn**	**02 21 39.0**	**+0.7**
I28M	**Miner Creek**	**5.73**	**7**	P	**Pn**	**02 21 41.5**	**+1.9**
baz=189,SNR=14							
ILSW	**Iliamna Southw**	**5.78**	**277**	Pn	**Pn**	**02 21 41.4**	**+1.3**
MMPY	**Sheldon Lake,**	**5.78**	**56**	Pn	**Pn**	**02 21 40.9**	**+0.8**
MMPY	**Sheldon Lake,**	**5.78**	**56**	P	**Pn**	**02 21 41.3**	**+1.2**
baz=244,SNR=10							
S34M	**Telegraph Cree**	**5.79**	**104**	Pn	**Pn**	**02 21 40.2**	**0.0**
KTH	**Kantishna Hill**	**5.79**	**315**	Pn	**Pn**	**02 21 41.5**	**+1.2**
I27K	**Kandik River**	**5.83**	**0**	P	**Pn**	**02 21 42.7**	**+1.8**
baz=180							
P19K	**Oil Pt**	**5.85**	**274**	Pn	**Pn**	**02 21 42.8**	**+1.7**
P19K	**Oil Pt**	**5.85**	**274**	P	**Pn**	**02 21 42.4**	**+1.3**
baz=85							
NEA2	**Nenana**	**5.93**	**327**	Pn	**Pn**	**02 21 42.8**	**+0.7**
NEA2	**Nenana**	**5.93**	**327**	P	**Pn**	**02 21 43.1**	**+1.0**
baz=142,SNR=5.4							
PPLA	**Purkeypile**	**5.94**	**306**	Pn	**Pn**	**02 21 43.5**	**+1.2**
I30M	**Mount Dempster**	**5.98**	**22**	Pn	**Pn**	**02 21 45.2**	**+2.3**
I30M	**Mount Dempster**	**5.98**	**22**	P	**Pn**	**02 21 44.9**	**+2.0**
baz

L19K	White Mountain baz=106	6.84 296	P	Pn	02 21 55.4 +0.7
P18K	Big Mountain, baz=82	6.89 273	P	Pn	02 21 56.8 +1.4
K20K	Telida baz=116	6.91 306	P	Pn	02 21 56.7 +1.1
Q18K	Katmai Hardscr baz=76	6.94 266	P	Pn	02 21 56.4 +0.3
FYU	Fort Yukon	6.99 348	Pn	Pn	02 22 00.2 +3.7
H23K	Yukon River baz=146	7.04 333	P	Pn	02 21 58.4 +1.0
N18K	Kilae Creek baz=92	7.13 283	P	Pn	02 21 59.2 +0.5
M18K	Stony River baz=98	7.16 290	P	Pn	02 21 60.0 +1.0
I21K	Tanana baz=134	7.20 323	P	Pn	02 22 00.7 +1.1
G26K	Porcupine Rive baz=172	7.25 353	P	Pn	02 22 01.1 +0.9
G25K	Bearman Lake baz=162	7.28 346	P	Pn	02 22 01.4 +0.8
J20K	Nowinta River baz=122	7.33 312	P	Pn	02 22 02.5 +1.2
G29M	Pine Creek baz=194	7.33 11	P	Pn	02 22 03.0 +1.6
H22K	Ishtalitna Cre baz=140	7.55 328	P	Pn	02 22 05.6 +1.2
TTA	Tatalina	7.57 301	Pn	Pn	02 22 04.6 -0.1
TTA	Tatalina baz=109	7.57 301	P	Pn	02 22 05.6 +0.9
N17K	Nushagak Hills baz=90	7.77 282	P	Pn	02 22 08.2 +0.8
BMAR	Burnt Mountain	7.77 352	Pn	Pn	02 22 09.0 +1.5
O17K	Koliganek Bris baz=84	7.78 277	P	Pn	02 22 08.4 +1.0
H21K	Melozitna Rive baz=134	7.78 324	P	Pn	02 22 08.0 +0.5
J19K	Poorman baz=117	7.81 309	P	Pn	02 22 08.4 +0.6
G31M	Satah River	7.89 22	Pn	Pn	02 22 10.3 +1.4
G23K	Bananza Creek baz=148	7.89 335	P	Pn	02 22 09.8 +0.8
M17K	Holitna River baz=96	7.92 289	P	Pn	02 22 10.3 +0.8
F26K	Sheenjek River baz=171,SNR=12	8.01 353	P	Pn	02 22 12.2 +1.6
J18K	Innoko River baz=111	8.05 304	P	Pn	02 22 12.2 +1.1
F24K	Squaw Lake baz=158	8.23 343	P	Pn	02 22 15.1 +1.4
O16K	Kokwok River B baz=82	8.30 276	P	Pn	02 22 15.7 +1.0
H20K	Anotleneega Mo baz=128	8.33 319	P	Pn	02 22 16.1 +1.0
COLD	Coldfoot	8.37 337	Pn	Pn	02 22 17.0 +1.5
COLD	Coldfoot baz=149	8.37 337	P	Pn	02 22 16.9 +1.4
E25K	Arctic Village	8.53 350	Pn	Pn	02 22 20.3 +2.5
G21K	Allakaket baz=137	8.60 327	P	Pn	02 22 19.4 +0.7
E24K	Your Creek baz=157	8.83 343	P	Pn	02 22 25.9 +4.0
E28M	Babbage River baz=187	8.90 5	P	Pn	02 22 24.9 +2.1
L16K	Owhat River	8.92 290	Pn	Pn	02 22 23.8 +0.7
F22K	John River baz=144	9.03 333	P	Pn	02 22 26.8 +2.2
INK	Inuvik comp=N,0.1nm,0.3s,baz=214,slow=15,SNR=6.4	9.25 19	Pn	Pn	02 22 28.9 +1.3
INK	comp=N,0.1nm,0.3s,baz=223,slow=19,SNR=3.5 comp=N,1.5nm,0.8s		Lg	Lg	02 24 49.5
TOLK	Toolik Lake Re	9.51 342	Pn	Pn	02 22 35.0 +3.8
D25K	Kavik River baz=166	9.78 350	P	Pn	02 22 37.4 +2.5
YKA	Yellowknife Ar comp=N,0.2nm,0.7s,baz=268,slow=14,SNR=3.9	13.31 67	Pn	Pn	02 23 22.3 -0.7
YKA	baz=263,slow=29,SNR=1.9		Lg	Lg	02 27 01.7
A36M	Sachs Harbour	13.88 22	Pn	Pn	02 23 29.0 -1.8
H11N2	WAKE ISLAND Hy baz=26,slow=74	54.09 245	T	T	03 28 19.2
H11N3	WAKE ISLAND Hy baz=26,slow=74	54.09 245	T	T	03 28 21.6
H11N1	WAKE ISLAND Hy baz=26	54.10 245	T	T	03 28 31.3
H11S1	WAKE ISLAND Hy baz=29	55.24 245	T	T	03 29 39.3
H11S2	WAKE ISLAND Hy baz=29	55.25 245	T	T	03 29 36.4
H11S3	WAKE ISLAND Hy baz=29	55.26 245	T	T	03 29 39.6
FINES	FINESS Array B comp=N,1.2nm,0.9s,baz=1.9,slow=4.2,SNR=3.8 comp=N,1.2nm,0.9s	58.72 7	P	P	02 30 11.6 +0.1
BVAR	Borovoye Array comp=N,0.3nm,0.5s,baz=325,slow=7.4,SNR=2.8 comp=N,0.3nm,0.5s	64.61 339	P	P	02 30 52.0 +0.7
KURBB	Kurchatov Arra comp=N,0.4nm,0.6s,baz=31,slow=5.1,SNR=4.4 comp=N,0.4nm,0.6s	65.22 333	P	P	02 30 55.4 0.0
MKAR	Makanchi Array comp=N,0.3nm,0.7s,baz=39,slow=7.4,SNR=2.6 comp=N,0.3nm,0.7s	67.86 329	P	P	02 31 12.5 +0.1
AKASG	Malin Array Be comp=N,0.4nm,0.4s,baz=358,slow=6.5,SNR=2.4 comp=N,0.4nm,0.4s	69.61 6	P	P	02 31 22.9 -0.2
CMAR	Chiang Mai Arr comp=N,0.6nm,0.3s,baz=35,slow=4.3,SNR=4.2 comp=N,0.6nm,0.3s	87.93 304	P	P	02 33 05.0 +0.8

TRN 11 02:38:53.3, 15°.26N×60°.61W, h31km, MD3.6, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	0.55	208	eP	Pn	02 39 05.8	+0.7
ILAM				eS	Sn	02 39 14.8	+1.6
SVN	Savane Anatole	0.68	232	eP	Pn	02 39 08.6	+1.6
SVN				eS	Sn	02 39 20.3	+3.7
MDN	Morne-Daniel	0.76	274	eP	Pb	02 39 09.9	+1.9
MDN				eS	Sn	02 39 21.1	+2.8
DSLB	Salisbury	0.80	283	eP	Pb	02 39 10.4	+1.6
DSLB				eS	Sn	02 39 21.6	+2.2
BIM	Bigot	0.87	211	eP	Pb	02 39 11.1	+1.2
BIM				eS	Sb	02 39 23.0	+1.9
TBG	Guadaloupe-3	1.16	301	eP	Pb	02 39 15.1	+0.3
TBG				eS	Sb	02 39 29.6	+0.2
SLBI	Saint Lucia, B	1.28	196	eP	Pb	02 39 16.1	-0.8
SLBI				eS	Sb	02 39 32.9	-0.1
SLAC	Saint Lucia, A	1.39	192	eP	Pb	02 39 18.0	-0.6
SLAC				eS	Sb	02 39 35.1	-0.9
SLB	Belfond	1.49	196	eP	Pb	02 39 20.7	+0.3
SLB				eS	Sb	02 39 38.9	0.0
SVB	Belmont	2.08	198	eP	Pb	02 39 28.4	-1.9
SVB				eS	Sn	02 39 52.5	+1.6
GCMP	Grenada, Carri	2.87	196	eP	Pn	02 39 39.4	+2.4
GCMP				eS	Sn	02 40 12.8	+2.2
GRGR	Grenville	3.27	198	eP	Pn	02 39 45.4	+2.8
GRGR				eS	Sn	02 40 22.8	+2.2

*IDC **11** 02:49:25.7±4.3, 3°.02S×131°.16E, h0km, mb3.7/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=293.2km s-min=30.4km az=72.0*
*DJA **11** 02:49:30.6±0.3, 3°.S±3°×13°.1E±°, h10km, M3.5/11, MLv3.5/11*
ISC 11 02:49:32.5±1.0, 3°.15S±0°.06×130°.81E±0°.06, h35km, n11, σ1§44/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.45	81	P	Pn	02 49 56.7	+0.4
BNDI	Bandanaira	1.63	214	P	Pn	02 49 59.6	+0.8
MSAI	Masohi	1.89	264	P	Pn	02 50 03.4	+1.1
SWI	Sorong	2.32	11	P	Pn	02 50 08.2	0.0
SWI				S	Sn	02 50 37.8	+2.2
KMPI	Kaimana, Papua	2.93	100	P	Pn	02 50 18.0	+1.4
NLAI	Namlea	3.71	269	P	Pn	02 50 28.3	+1.0
RKPI	Ransiki, Papua	3.74	64	P	Pn	02 50 28.7	+0.9
SAUI	Saumlaki	4.82	174	P	Pn	02 50 44.4	+1.7
WRA	Warramunga Arr 0.3nm,0.3s,baz=350,slow=12,SNR=7.9 0.5nm,0.5s	17.04	169	P	Pn	02 53 26.9	-1.3
ASAR	Alice Springs	20.61	172	P	P	02 54 07.3	-1.6
	3.1nm,0.3s,baz=352,slow=10,SNR=73 3.1nm,0.3s						
MKAR	Makanchi Array 0.2nm,0.5s,baz=122,slow=7.4,SNR=2.9 0.2nm,0.5s	65.50	326	P	P	03 00 11.5	-0.9

IDC 11 02:55:21.2±1.4, 5°.77N×124°.93E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/2, Error ellipse: s-maj=46.7km s-min=18.6km az=92.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W) 129nm,0.3s,baz=17,slow=5.4,SNR=2.6	1.44	27	Pn	Pb	02 55 49.1	+0.2
DAV	82nm,0.3s,baz=242,slow=22,SNR=4.4			Sn	Sn	02 56 08.7	+0.5
WRA	Warramunga Arr 0.3nm,0.3s,baz=341,slow=10,SNR=11 0.3nm,0.3s	27.18	160	P	P	03 01 07.7	+1.1
ASAR	Alice Springs 0.3nm,0.5s,baz=337,slow=8.7,SNR=4.3 0.3nm,0.5s	30.54	164	P	P	03 01 35.9	-0.7
STKA	Stephens Creek 2.0nm,0.8s,baz=333,slow=6.8,SNR=4.2 2.0nm,0.8s	40.67	158	P	P	03 03 02.7	-0.7
PETK	Petropavlovsk- comp=Z,17nm,20.4s,baz=97,slow=36	54.26	24	LR	LR	03 28 01.6	
MKAR	Makanchi Array 0.1nm,0.5s,baz=134,slow=6.8,SNR=1.6 0.1nm,0.5s	54.87	325	P	P	03 04 53.1	-0.3
TIXI	Tiksi comp=Z,31nm,19.5s,baz=191,slow=37	65.84	1	LR	LR	03 36 24.0	

IDC 11 02:59:01.9±3.6, 10°.08S×151°.92E, h0km, mb3.2/3, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=101.5km s-min=33.6km az=104.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr baz=62,slow=10,SNR=2.3 0.3nm,0.5s	19.59	238	P	P	03 03 31.9	+0.1
ASAR	Alice Springs 0.2nm,0.4s,baz=60,slow=9.5,SNR=6.0 0.2nm,0.4s	21.86	230	P	P	03 03 56.4	-0.1
STKA	Stephens Creek 0.3nm,0.3s,baz=40,slow=8.2,SNR=2.8 0.3nm,0.3s	23.70	202	P	P	03 04 15.6	0.0
SONM	Songino Array 0.4nm,0.6s,baz=122,slow=5.4,SNR=3.5 0.4nm,0.6s	70.35	329	P	P	03 10 17.7	0.0

*IDC **11** 03:03:56.9±1.2, 10°.28S×152°.20E, h0km, mb4.0/8, mbtmp4.0/10, ML4.1/1, MS3.4/8, Error ellipse: s-maj=33.2km s-min=22.4km az=112.0*
*NEIC **11** 03:04:02.6±1.8, 10°.0S±0°.1×151°.7E±0°.1, h10km±2km, mb4.3/12, Error ellipse: s-maj=25.3km s-min=12.2km az=132.0*
ISC 11 03:04:03.5±0.9, 10°.11S±0°.09×151°.9E±0°.1, h35km, n30, σ1§35/24, mb4.0/9, MS3.5/4, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.70	278	Pn	Pn	03 05 12.6	+0.7
PMG	8.9nm,0.2s,baz=318,slow=20,SNR=0.7			Sn	Sn	03 06 18.8	+14
PMG	1.6nm,0.3s,baz=1.6,slow=3.7,SNR=1.8			LR	LR	03 06 55.6	
RABL	Rabaul	5.89	3	Pn	Pn	03 05 28.1	-0.3
HNR	Honiara	7.99	86	LR	LR	03 08 08.2	
COEN	Coen	9.32	245	Pn	Pn	03 06 14.3	-1.2
JAY	Jayapura	13.41	303	LR	LR	03 13 03.3	
EIDS	Eidsvold	15.20	183	Pn	Pn	03 07 37.7	+2.0
EIDS				IAmb	IAmb	03 07 53.4	
DZM	Mont Dzumac	18.35	132	LR	LR	03 14 18.6	
WR0	Warramunga Arr	19.37	238	P	Pn	03 08 28.1	+0.3
WR0				IAmb	IAmb	03 08 34.3	
WRAB	Tennant Creek	19.52	238	P	Pn	03 08 29.9	+0.4
WRAB				IAmb	IAmb	03 08 35.1	
WB2	Warramunga Arr	19.52	238	P	Pn	03 08 29.4	-0.2
WB2				IAmb	IAmb	03 08 49.6	
WRA	Warramunga Arr	19.53	238	P	Pn	03 08 29.7	+0.1
WRA	Warramunga Arr comp=Z,0.5nm,0.3s,baz=61,slow=9.6,SNR=14 comp=Z,2.3nm,0.5s	19.53	238	P	P	03 08 28.7	+0.5
MTN	Manton Dam	20.50	260	P	P	03 08 37.5	-1.3
MTN				IAmb	IAmb	03 08 41.4	
FAKI	Fak Fak	20.75	289	P	P	03 08 40.1	-1.4
AS31	Alice Springs	21.81	230	P	P	03 08 52.7	-0.1
ASAR	Alice Springs comp=Z,2.3nm,0.7s,baz=55,slow=9.8,SNR=29 comp=Z,2.3nm,0.7s	21.81	230	P	P	03 08 53.4	+0.5
KNRA	Kununurra	23.18	254	P	P	03 09 07.2	-0.2
KNRA				IAmb	IAmb	03 09 28.1	
STKA	Stephens Creek	23.66	202	P	P	03 09 14.4	+2.5
STKA	Stephens Creek comp=Z,1.2nm,0.7s,baz=14,slow=10.0,SNR=5.0	23.66	202	P	P	03 09 09.8	-2.0
STKA	comp=Z,148nm,18.2s,baz=23,slow=38 comp=Z,1.2nm,0.7s			LR	LR	03 18 59.7	
FITZ	Fitzroy Crossi	26.62	250	P	P	03 09 39.1	+0.1
FITZ	Fitzroy Crossi comp=Z,6.7nm,0.6s,baz=91,slow=6.7,SNR=18 comp=Z,6.7nm,0.6s	26.62	250	P	P	03 09 38.0	-1.1
FORT	Forrest	30.22	224	P	P	03 10 11.0	0.0
RPZ	Rata Peaks	37.40	157	LR	LR	03 24 44.5	
JOW	Kunigami comp=Z,56nm,20.7s,baz=288,slow=34	43.28	329	LR	LR	03 28 54.5	
MJAR	Matsushiro Arr comp=Z,27nm,21.8s,baz=185,slow=32	48.15	345	LR	LR	03 29 51.7	
CMAR	Chiang Mai Arr comp=Z,1.0nm,0.3s,baz=113,slow=7.7,SNR=5.0 comp=Z,1.0nm,0.3s	59.43	298	P	P	03 14 04.7	+1.5
SONM	Songino Array comp=Z,1.1nm,0.9s,baz=142,slow=5.6,SNR=4.5 comp=Z,1.1nm,0.9s	70.34	329	P	P	03 15 15.3	+1.5
QSPA	South Pole Qui comp=Z,2.7nm,0.9s,baz=12,slow=3.6,SNR=4.5 comp=Z,2.7nm,0.9s	79.89	180	P	P	03 16 06.8	-1.8
ZALV	Zalesovo Beam comp=Z,0.4nm,0.3s,baz=109,slow=11,SNR=4.0 comp=Z,0.4nm,0.3s	85.05	327	P	P	03 16 36.9	+1.4
ILAR	Eielson Array comp=Z,0.5nm,0.9s,baz=253,slow=5.9,SNR=5.1 comp=Z,0.5nm,0.9s	87.39	22	P	P	03 16 44.4	-2.5

*IDC **11** 03:06:17.9±1.5, 3°.79N×126°.35E, h0km, mb3.7/6, mbtmp3.7/6, MS3.1/1, Error ellipse: s-maj=110.1km s-min=19.7km az=68.0*
*DJA **11** 03:06:21.4±0.4, 3°N±3°×12°7E±°, h10km, M3.5/7, MLv3.5/7*
ISC 11 03:06:18.5±1.3, 4°.1N±0°.2×127°.07E±0°.09, h10km, n10, σ1§05/8, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.59	256	P	Pg	03 06 48.7	-0.3
SGSI				S	Sg	03 07 10.2	+0.6
TNTI	Ternate	3.29	175	P	Pn	03 06 57.6	-13
KMSI	Cibinong	4.65	222	P	Pn	03 07 18.1	-11
FITZ	Fitzroy Crossi 1.2nm,0.5s,baz=12,slow=12,SNR=1.1 1.2nm,0.5s	22.08	184	P	P	03 11 12.2	-1.7
WRA	Warramunga Arr 3.6nm,1.1s,baz=340,slow=10,SNR=12 3.6nm,1.1s	24.91	164	P	P	03 11 41.5	-0.5
ASAR	Alice Springs 0.5nm,0.7s,baz=350,slow=7.7,SNR=4.9 0.5nm,0.7s	28.37	167	P	P	03 12 13.0	-0.1
STKA	Stephens Creek 2.1nm,0.8s,baz=353,slow=10,SNR=3.9 2.1nm,0.8s	38.33	160	P	P	03 13 41.0	+1.3
MKAR	Makanchi Array 0.2nm,0.4s,baz=125,slow=7.0,SNR=5.2 0.2nm,0.4s	57.47	325	P	P	03 16 07.4	-0.3
MA2	Magadan comp=Z,15nm,19.8s,baz=108,slow=38	58.29	14	LR	LR	03 42 59.8	
KURBB	Kurchatov Arra 0.2nm,0.5s,baz=124,slow=5.9,SNR=4.5 0.2nm,0.5s	61.63	327	P	P	03 16 36.5	+0.1

*MOS **11** 03:15:28.8±0.9, 31°.65S×58°.19E, h11km, mb5.2/48, Error ellipse: s-maj=14.4km s-min=6.7km az=95.3*
*IDC **11** 03:15:29.1±0.5, 31°.65S×58°.20E, h0km, mb4.6/24, mbtmp4.6/25, ML5.0/1, MS3.9/22, Error ellipse: s-maj=18.1km s-min=13.1km az=52.0*
*NEIC **11** 03:15:30.7±1.3, 31°.65S±0°.09×58°.1E±0°.1, h10km±1km, mb5.1/68, Error ellipse: s-maj=17.8km s-min=15.0km az=236.0*
*GCMT **11** 03:15:31.7±0.3, 31°.66S±0°.02×58°.01E±0°.04, h12km, MW4.9/84, Moment Tensor Solution. s21,c25; s84,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77±.07; $M_{\theta\theta}$1.47±.06; $M_{\phi\phi}$0.30±.08; $M_{r\theta}$1.35±.24; $M_{\theta\phi}$0.24±.06; $M_{\phi r}$1.18±.32; Best double couple: $M_0$2.41400×10^{16} NP1:ϕ_s88.00000°, δ24.00000°, λ-62.00000°. NP2: ϕ_s238.00000°, δ69.00000°, λ-102.00000°. Principal axes: T 2.1990, Plg23.0000°, Azm337.0000°; N 0.4350, Plg11.0000°, Azm243.0000°; P -2.6290, Plg64.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 03:15:31.7±0.3, 31°.65S±0°.07×58°.12E±0°.07, h17km, n426, σ0§86/386, mb5.0/126, MS4.0/25, 15C-4D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.66	348	Pn	Pn	03 17 59.7	-4.0
FOMA	Nahampoana Res	11.85	301	Pn	Pn	03 18 18.7	-1.2
VOI	Vohitsoka	14.00	311	Pn	Pn	03 18 47.6	-1.9
H04N2	CROZET ISLANDS baz=22,slow=75,SNR=802	15.30	197	T	T	03 34 24.0	
H04N1	CROZET ISLANDS baz=22,slow=75,SNR=1342	15.30	197	T	T	03 34 25.1	
H04N3	CROZET ISLANDS baz=22,slow=75,SNR=1241	15.32	197	T	T	03 34 23.0	
H04S1	CROZET ISLANDS baz=25	15.91	196	T	T	03 35 28.9	
H04S3	CROZET ISLANDS baz=25	15.91	196	T	T	03 35 29.7	
H04S2	CROZET ISLANDS baz=25	15.93	196	T	T	03 35 27.2	
ABPO	Ambohimpanom	15.96	319	Pn	Pn	03 19 16.1	+0.5
ABPO	Ambohimpanom	15.96	319	P	Pn	03 19 16.1	+0.5
ABPO	comp=Z,77nm,1.3s			pmax	pmax		
OPO	Ambohidratompo comp=Z,0.6nm,0.3s,baz=148,slow=13,SNR=14	16.34	320	Pn	Pn	03 19 21.0	+0.5
OPO	comp=Z,0.1nm,0.3s,baz=262,slow=22,SNR=2.2			Sn	Sn	03 22 05.4	-16
OPO	comp=Z,418nm,21.5s,baz=360,slow=31 comp=Z,18nm,0.5s			LR	LR	03 23 57.3	
AIS	Amsterdam Isla	17.12	116		P	03 19 30.1	-1.6
H08S1	Diego Garcia H baz=207,slow=76,SNR=101	27.38	32	T	T	03 49 36.9	
H08S2	Diego Garcia H baz=207,slow=76,SNR=60	27.39	32	T	T	03 49 40.5	
H08S3	Diego Garcia H baz=207,slow=76,SNR=110	27.40	32	T	T	03 49 39.3	
BOSA	Boshof	28.52	268	LR	LR	03 30 24.1	
	comp=Z,154nm,21.4s,baz=116,slow=31						
LBTB	Lobatse	29.31	275	LR	LR	03 31 53.2	
	comp=Z,101nm,19.0s,baz=119,slow=34						
SUR	Sutherland	31.54	259	LR	LR	03 32 19.4	
	comp=Z,178nm,20.7s,baz=112,slow=32						
LSZ	Lusaka	31.78	294	P	P	03 21 55.7	+0.2
LSZ	Lusaka comp=Z,227nm,19.8s,baz=134,slow=34	31.78	294	LR	LR	03 33 36.3	
LSZ	Lusaka	31.78	294	P	P	03 21 55.7	+0.2
LSZ	comp=Z,12nm,1.2s			pmax	pmax		
KIBK	Kibwezi	34.76	323	P	P	03 22 21.7	+0.3
KAAM	Kaadhehdhoo	34.93	27	P	P	03 22 23.2	+0.5
KAAM	comp=Z,17nm,0.9s			IAmb	IAmb	03 22 26.4	
MAW	Mawson	36.10	177	LR	LR	03 33 27.4	
	comp=Z,317nm,20.0s,baz=350,slow=30						
KMBO	Kilima Mbogo	36.20	323	P	P	03 22 34.3	+0.3
KMBO	Kilima Mbogo comp=Z,1.4nm,0.7s,baz=133,slow=8.1,SNR=4.7	36.20	323	P	P	03 22 34.7	+0.8
KMBO	comp=Z,100nm,20.3s,baz=122,slow=33 comp=Z,1.4nm,0.7s			LR	LR	03 35 25.2	
KMBO	Kilima Mbogo	36.20	323	ceP	P	03 22 33.9	-0.1
KMBO	comp=Z,2.0nm,0.8s			pmax	pmax		
TSUM	Tsumeb	38.44	279	LR	LR	03 37 30.9	
	comp=Z,227nm,18.5s,baz=112,slow=34						
SYO	Syowa Base	38.88	191	⇑iP	P	03 22 56.4	+0.6
SYO	Syowa Base	38.88	191	⇓ipP	pP	03 22 58.2	-1.6
MBAR	Mbarara	40.29	315	iP	P	03 23 08.5	+0.1
MBAR	comp=Z,8.0nm,1.4s			pmax	pmax		
LODK	Lodwar	41.05	324	P	P	03 23 14.6	+0.1
PALK	Pallekele comp=Z,108nm,18.2s,baz=202,slow=31	44.31	33	LR	LR	03 38 12.5	
ATD	Arta Tunnel comp=Z,13nm,21.7s,baz=164,slow=32	45.36	339	LR	LR	03 39 27.0	
H01W2	Cape Leeuwin H baz=257,slow=75,SNR=44	46.43	110	T	T	04 13 37.3	
H01W3	Cape Leeuwin H baz=257,slow=75,SNR=48	46.44	110	T	T	04 13 39.5	
H01W1	Cape Leeuwin H baz=257,slow=75,SNR=47	46.45	110	T	T	04 13 37.6	
NVL	N'Iazarevskaya	46.53	199	eP	P	03 23 58.2	+0.3
NVL	comp=Z,12nm,0.9s			pmax	pmax		
NVL				MLR	MLR		
	comp=Z,157nm,16.0s						
SNAA	Sanae	51.22	201	P	P	03 24 33.7	-0.3
SNAA	comp=Z,16nm,1.0s			IAmb	IAmb	03 24 35.1	
SNAA	Sanae comp=Z,260nm,0.8s	51.22	201	⇑P	P	03 24 33.8	-0.2
SNAA	Sanae comp=Z,13nm,0.9s,baz=89,slow=6.4,SNR=14 comp=Z,13nm,0.9s	51.22	201	P	P	03 24 34.2	+0.2
SNAA	Sanae	51.22	201	eP	P	03 24 30.9	-3.1
BKNI	Bangkinang	51.57	60	P	P	03 24 38.5	+1.3
PSI	Prapat	51.72	56	LR	LR	03 40 56.2	
	comp=Z,58nm,20.6s,baz=191,slow=30						
VNA2	Neumayer--Watz comp=Z,14nm,0.7s,baz=71,slow=17	52.46	202	⇑P	P	03 24 43.6	+0.5
HYB	Hyderabad	52.58	25	eP	P	03 24 45.0	+0.4
HYB	comp=Z,293nm,1.1s			IVmB_BB		03 24 45.2	
VNA3	Neumayer Olymp comp=Z,20nm,0.8s	53.25	202	⇑P	P	03 24 48.8	-0.2
WSAR	Wadi Sarin	54.58	1	LR	LR	03 43 05.3	
	comp=Z,155nm,21.1s,baz=226,slow=30						
PSA00	Pilbara Seismi	55.47	96	P	P	03 25 05.4	-0.4
PSA00	comp=Z,30nm,1.8s			IAmb	IAmb	03 26 58.8	
MBWA	Marble Bar	55.54	95	P	P	03 25 05.6	-0.7
RAYN	Ar Rayn	56.17	346	P	P	03 25 10.9	+0.3
RAYN	Ar Rayn	56.17	346	P	P	03 25 10.9	+0.3
RAYN	comp=Z,11nm,1.1s			pmax	pmax		
TRIS	Tristan da Cun	57.19	244	P	P	03 25 17.3	-0.6
QSPA	South Pole Qui	58.52	180	P	P	03 25 26.7	-0.2
QSPA	South Pole Qui comp=Z,34nm,0.7s,baz=281,slow=10,SNR=204 comp=Z,34nm,0.7s	58.52	180	P	P	03 25 27.3	+0.3
PLAI	Plampang comp=Z,36nm,1.1s	59.64	81	P	P	03 25 36.8	+1.5
FITZ	Fitzroy Crossi comp=Z,6.2nm,0.6s,baz=249,slow=8.6,SNR=3.1 comp=Z,6.2nm,0.6s	61.88	95	P	P	03 25 49.2	-1.2
VNDA	Vanda comp=Z,7.2nm,0.9s,baz=262,slow=6.6,SNR=7.1 comp=Z,7.2nm,0.9s	62.25	166	P	P	03 25 52.2	+0.1
BRDH	Bariadhala comp=Z,102nm,18.7s,baz=250,slow=33	62.84	35	LR	LR	03 49 58.2	

KAPI Kappang 63.32 79 P **P** **03 25 60.0 -0.1**
comp=Z,3.9nm,0.4s,baz=249,slow=18,SNR=2.1
comp=Z,3.9nm,0.4s
KAPI Kappang 63.32 79 P **P** **03 26 00.1 0.0**
KAPI pmax pmax
comp=Z,19nm,1.1s
CM31 Chiang Mai Arr 63.37 44 P **P** **03 26 00.4 +0.1**
CM31 IAmb IAmb 03 26 03.4
comp=Z,23nm,1.1s
CMAR Chiang Mai Arr 63.37 44 P **P** **03 26 00.1 -0.2**
CMAR Chiang Mai Arr 63.37 44 P **P** **03 26 00.3 +0.1**
comp=Z,7.0nm,0.6s,baz=230,slow=7.1,SNR=26
CMAR LR LR 03 48 26.1
comp=Z,79nm,21.8s,baz=215,slow=31
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 63.37 44 *ce*P **P** **03 26 00.8 +0.5**
CMAR pmax pmax
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 63.64 44 P **P** **03 26 00.8 -1.2**
CHTO IAmb IAmb 03 26 05.3
comp=Z,20nm,1.6s
CHTO Chiang Mai 63.64 44 P **P** **03 26 00.9 -1.2**
CHTO pmax pmax
comp=Z,20nm,1.6s
BBOO Buckleboo 64.43 114 P **P** **03 26 07.5 +0.3**
BBOO IAmb IAmb 03 26 08.1
comp=Z,17nm,0.9s
SOEI Soe 64.67 86 P **P** **03 26 10.7 +1.5**
comp=Z,37nm,1.2s
EIL Elat 64.83 338 LR LR 03 49 38.0
comp=Z,107nm,21.5s,baz=116,slow=32
SHL Shillong 65.40 34 P **P** **03 26 13.3 -0.4**
SHL Shillong 65.40 34 P **P** **03 26 13.3 -0.4**
SHL pmax pmax
comp=Z,40nm,1.4s
KNRA Kununurra 65.64 94 P **P** **03 26 15.1 -0.2**
KNRA IAmb IAmb 03 26 15.7
comp=Z,19nm,0.9s
ASAR Alice Springs 66.39 104 P **P** **03 26 19.8 -0.4**
comp=Z,18nm,0.7s,baz=240,slow=5.9,SNR=31
comp=Z,18nm,0.7s
AS31 Alice Springs 66.40 104 P **P** **03 26 19.1 -1.0**
AS31 IAmb IAmb 03 26 20.5
comp=Z,6.4nm,0.7s
NIL Nilore 66.50 14 P **P** **03 26 19.6 -0.8**
ASF Jabal al Asfar 66.57 340 LR LR 03 53 10.2
comp=Z,110nm,18.2s,baz=190,slow=34
KBL Kabul 66.63 10 P **P** **03 26 21.4 0.0**
KBL IAmb IAmb 03 26 23.2
comp=Z,11nm,1.0s
KBL Kabul 66.63 10 P **P** **03 26 21.4 0.0**
KBL pmax pmax
comp=Z,11nm,1.0s
MMAI Mount Meron Ar 67.80 339 P **P** **03 26 29.0 +0.3**
comp=Z,1.5nm,0.7s,baz=134,slow=6.2,SNR=1.7
MMAI LR LR 03 54 12.2
comp=Z,57nm,18.1s,baz=147,slow=34
comp=Z,1.5nm,0.7s
WRA Warramunga Arr 68.40 101 P **P** **03 26 31.8 -1.0**
WRA Warramunga Arr 68.40 101 P **P** **03 26 32.6 -0.3**
comp=Z,21nm,0.8s,baz=242,slow=5.5,SNR=18
comp=Z,21nm,0.8s
WB2 Warramunga Arr 68.41 101 P **P** **03 26 32.0 -0.9**
WRAB Tennant Creek 68.41 101 P **P** **03 26 32.2 -0.7**
WRAB Tennant Creek 68.41 101 *i* P **P** **03 26 32.2 -0.7**
WRAB pmax pmax
comp=Z,35nm,0.9s
WB0 Warramunga Arr 68.52 101 P **P** **03 26 32.5 -1.2**
SLVN Son La 68.55 46 P **P** **03 26 34.3 +0.6**
SLVN IAmb IAmb 03 26 37.4
comp=Z,39nm,1.7s
WR0 Warramunga Arr 68.56 101 P **P** **03 26 32.4 -1.4**
WR0 IAmb IAmb 03 26 34.4
comp=Z,15nm,0.8s
STKA Stephens Creek 69.09 115 P **P** **03 26 36.5 -0.6**
STKA Stephens Creek 69.09 115 P **P** **03 26 37.1 +0.1**
comp=Z,13nm,0.7s,baz=263,slow=5.3,SNR=21
comp=Z,13nm,0.7s
STKA Stephens Creek 69.09 115 *i* P **P** **03 26 36.6 -0.4**
TORD Torodi Ar. Bea 70.03 300 P **P** **03 26 42.5 -0.4**
TORD Torodi Ar. Bea 70.03 300 P **P** **03 26 43.1 +0.2**
comp=Z,2.0nm,0.4s,baz=109,slow=3.9,SNR=5.5
comp=Z,2.0nm,0.4s
SIMJ Simiganj 70.68 9 P **P** **03 26 46.9 +0.4**
SIMJ IAmb IAmb 03 26 49.1
comp=Z,30nm,1.2s
DZET Dzherino 70.80 9 P **P** **03 26 48.2 +1.0**
DZET pmax pmax
comp=Z,23nm,1.0s
DBIC Dimbokro 71.05 291 P **P** **03 26 49.8 +0.6**
comp=Z,5.1nm,1.0s,baz=104,slow=7.0,SNR=4.1
comp=Z,5.1nm,1.0s
GAR Garm 71.20 10 P **P** **03 26 49.0 -0.6**
PZH PanZhiHua 71.25 41 P **P** **03 26 53.1 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
GURO Guroymak-BITLI 71.43 347 P **P** **03 26 51.4 +0.3**
DRK Karamyk 71.90 11 P **P** **03 26 53.5 -0.6**
DRK IAmb IAmb 03 26 55.3
comp=Z,13nm,1.0s
DRK Karamyk 71.90 11 P **P** **03 26 53.5 -0.6**
DRK pmax pmax
comp=Z,13nm,1.0s
BTK Batken 72.31 10 P **P** **03 26 57.1 +0.8**
BTK IAmb IAmb 03 27 00.1
comp=Z,43nm,1.7s
BTK Batken 72.31 10 P **P** **03 26 57.1 +0.8**
BTK pmax pmax
comp=Z,43nm,1.7s
GNI Garni 72.50 349 P **P** **03 26 57.4 -0.1**
GNI IAmb IAmb 03 27 02.6
comp=Z,16nm,1.1s
GNI Garni 72.50 349 *i* P **P** **03 26 56.3 -1.2**
GNI pmax pmax
comp=Z,29nm,1.5s
KSH Kashi 72.72 14 P **P** **03 26 56.2 -2.6**
KSH pP sP 03 27 03.9 -0.6
KSH pmax pmax
comp=Z,13nm,0.9s
KARP Karpathos 72.89 334 P **P** **03 26 59.4 -0.3**
comp=Z,66nm,1.1s
KOPT Kop Dagi 73.15 346 P **P** **03 27 01.3 -0.2**
KOPT IAmb IAmb 03 27 24.0
comp=Z,34nm,1.8s
ARSB Arslanbob 73.89 12 P **P** **03 27 05.6 -0.1**
ARSB IAmb IAmb 03 27 15.1
comp=Z,17nm,1.2s
ARSB Arslanbob 73.89 12 P **P** **03 27 05.6 -0.1**
ARSB pmax pmax
comp=Z,17nm,1.2s
IUG Iuzhnay 74.24 9 *e*P **P** **03 27 07.9 +0.3**
IUG pmax pmax
comp=Z,8.0nm,0.7s
IUG Iuzhnay 74.24 9 *e*P **P** **03 27 08.0 +0.3**
comp=Z,8.4nm,0.7s
BR104 Keskin Array S 74.54 341 P **P** **03 27 09.2 -0.3**
comp=Z,40nmcomp=Z,4.5nm,1.1s
BR105 Keskin Array S 74.56 341 P **P** **03 27 09.3 -0.3**
comp=Z,37nmcomp=Z,4.6nm,0.9s
BR131 Keskin Array S 74.56 341 P **P** **03 27 09.1 -0.5**
BR131 Keskin Array S 74.56 341 *i* P **P** **03 27 08.1 -1.5**
BRTR Keskin Array B 74.56 341 P **P** **03 27 09.1 -0.5**
BRTR Keskin Array B 74.56 341 P **P** **03 27 09.5 -0.1**
comp=Z,3.4nm,0.9s,baz=162,slow=8.1,SNR=20
comp=Z,3.4nm,0.9s
BR106 Keskin Array S 74.57 341 P **P** **03 27 09.4 -0.3**
comp=Z,39nmcomp=Z,5.1nm,1.0s
ANTO Ankara 74.93 340 P **P** **03 27 12.1 +0.4**
ANTO Ankara 74.93 340 P **P** **03 27 12.1 +0.4**
comp=Z,3.1nm,0.7s
MANT Manisa 75.02 336 P **P** **03 27 12.7 +0.3**
MANT IAmb IAmb 03 27 14.1
comp=Z,13nm,1.1s
WUS Wushi 75.06 16 IAmb IAmb 03 27 16.5
comp=Z,22nm,1.4s
BRLS Borolday 75.09 9 *e*P **P** **03 27 10.7 -1.7**
BRLS Borolday 75.09 9 *e*P **P** **03 27 10.8 -1.7**
DZA Taraz 75.16 10 *e*P **P** **03 27 13.1 +0.3**
DZA Taraz 75.16 10 *e*P **P** **03 27 13.2 +0.3**
SWI Sorong 75.22 82 P **P** **03 27 14.9 +1.0**
comp=Z,29nm,1.0s
KK31 Karatay Array 75.25 9 P **P** **03 27 13.6 +0.3**
KK31 IAmb IAmb 03 27 15.3
comp=Z,15nm,1.1s
KK31 Karatay Array 75.25 9 P **P** **03 27 13.6 +0.3**
KK31 pmax pmax
comp=Z,15nm,1.1s
KKAR Karatay Array 75.25 9 P **P** **03 27 13.8 +0.4**
KKAR Karatay Array 75.25 9 P **P** **03 27 13.8 +0.4**
KKAR pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 75.44 12 P **P** **03 27 15.0 +0.4**
AAK Ala-Archa 75.44 12 *ce*P **P** **03 27 16.2 +1.6**
AAK pmax pmax
comp=Z,16nm,1.7s
KDJ Kajisay 75.48 15 P **P** **03 27 14.4 -0.5**
KDJ IAmb IAmb 03 27 16.6
comp=Z,17nm,0.9s
KDJ Kajisay 75.48 15 P **P** **03 27 14.4 -0.5**
KDJ pmax pmax
comp=Z,17nm,0.9s
BOOM Boomskoye usch 75.57 14 P **P** **03 27 14.9 -0.4**
BOOM Boomskoye usch 75.57 14 P **P** **03 27 15.0 -0.4**
BOOM pmax pmax
comp=Z,9.0nm,1.0s
BORA Eskisehir 75.65 338 P **P** **03 27 15.4 -0.4**
CD2 Chengdu 75.78 39 P **P** **03 27 17.9 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
MDUB Mudurnu 75.96 339 P **P** **03 27 17.9 +0.3**
KBZ Khabaz 76.29 349 P **P** **03 27 19.6 +0.4**
comp=Z,2.3nm,1.0s,baz=253,slow=7.1,SNR=3.8
comp=Z,2.3nm,1.0s
KBZ Khabaz 76.29 349⇑ *e*P **P** **03 27 19.7 +0.5**
KBZ pmax pmax
comp=Z,9.0nm,1.4s
TNSS Tian-Shan 76.30 14 *e*P **P** **03 27 19.7 -0.1**
TNSS Tian-Shan 76.30 14 *e*P **P** **03 27 19.8 -0.1**
SHA1 Shidzhatmaz 76.34 349 *i* P **P** **03 27 19.7 -0.1**
AAA Alma-Ata 76.46 14 *e*P **P** **03 27 20.7 +0.4**
AAA Alma-Ata 76.46 14 *e*P **P** **03 27 20.7 +0.4**
KIV Kislovodsk 76.55 349 *e*P **P** **03 27 21.0 +0.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,76nm,18.0s
UZB Uzynbulak 76.86 16 *e*P **P** **03 27 23.0 +0.3**
UZB pmax pmax
comp=Z,18nm,1.7s
UZB Uzynbulak 76.86 16 *e*P **P** **03 27 23.0 +0.3**
comp=Z,18nm,1.7s
SHLS Shalkode 76.97 16 *e*P **P** **03 27 24.2 +0.9**
SHLS pmax pmax
comp=Z,8.0nm,0.8s
SHLS Shalkode 76.97 16 *e*P **P** **03 27 24.3 +0.9**
comp=Z,7.9nm,0.8s
KPKS Kokpek 77.08 15 *e*P **P** **03 27 24.1 +0.2**
KPKS pmax pmax
comp=Z,13nm,1.4s
KPKS Kokpek 77.08 15 *e*P **P** **03 27 24.2 +0.2**
comp=Z,13nm,1.4s
RKPI Ransiki, Papua 77.34 84 P **P** **03 27 27.5 +1.5**
TDK Taldyqorghan 78.49 15 *e*P **P** **03 27 32.3 +0.8**
TDK Taldyqorghan 78.49 15 *e*P **P** **03 27 32.3 +0.8**
EIDS Eidsvold 79.48 113 P **P** **03 27 37.2 -0.5**
WMQ Urumqi 79.83 21 *e*P **P** **03 27 41.1 +2.1**
WMQ pmax pmax
comp=Z,19nm,0.9s
LZH Lanzhou 79.86 36 *e*P **P** **03 27 40.4 +0.9**
LZH sP pwP 03 27 47.8 -1.4
LZH pmax pmax
comp=Z,21nm,1.1s
TIRR Tirgusor 80.44 339 P **P** **03 27 42.2 0.0**
comp=Z,15nm,1.2s
ABKAR Akbulak array 80.56 1 P **P** **03 27 41.9 -0.7**
ABKAR IAmb IAmb 03 27 44.2
comp=Z,12nm,1.0s
GTA Gaotai 80.61 31 *e*P **P** **03 27 45.0 +1.6**
GTA sP pwP 03 27 52.8 -0.4
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA LR LR
comp=Z,93nm,12.7s
GTA LR LR
comp=Z,120nm,12.4s
GTA LR LR
comp=Z,95nm,16.7s
XAN Xi'an 80.98 41 ⇓P **P** **03 27 47.2 +1.8**
XAN pmax pmax
comp=Z,13nm,1.4s
MAKZ Makanchi 81.01 16 P **P** **03 27 45.1 -0.1**
MAKZ Makanchi 81.01 16 P **P** **03 27 45.1 -0.1**
MAKZ pmax pmax
comp=Z,13nm,1.3s
MK31 Makanchi Array 81.07 17 P **P** **03 27 45.1 -0.5**
MK31 IAmb IAmb 03 27 49.3
comp=Z,21nm,1.8s
MK31 Makanchi Array 81.07 17 *ce*P **P** **03 27 44.2 -1.3**
MKAR Makanchi Array 81.07 17 P **P** **03 27 45.2 -0.3**
MKAR Makanchi Array 81.07 17 P **P** **03 27 45.6 +0.1**
comp=Z,2.2nm,0.9s,baz=211,slow=4.2,SNR=21
comp=Z,2.2nm,0.9s
KEST Kesra 81.16 322 P **P** **03 27 47.9 +1.6**
comp=Z,4.6nm,0.9s,baz=120,slow=3.0,SNR=5.4
KEST LR LR 04 04 22.4
comp=Z,103nm,19.7s,baz=234,slow=36
comp=Z,4.6nm,0.9s
AKTO Aktyubinsk 81.72 360 LR LR 04 00 48.9
comp=Z,67nm,20.9s,baz=53,slow=33
MLR Muntele Rosu 82.14 338 P **P** **03 27 50.8 -0.6**
MLR IAmb IAmb 03 28 07.8
comp=Z,18nm,1.2s
MLR Muntele Rosu 82.14 338 P **P** **03 27 50.8 -0.6**
MLR pmax pmax
comp=Z,18nm,1.2s
MLR Muntele Rosu 82.14 338 P **P** **03 27 51.6 +0.2**
comp=Z,9.8nm,1.1s
VRI Vrincioaia 82.23 338 P **P** **03 27 52.0 +0.3**
VRI pmax pmax
comp=Z,29nm,1.2s
VRI Vrincioaia 82.23 338 P **P** **03 27 51.6 -0.1**
comp=Z,29nm,1.2s
PLOR3 Plostina Array 82.24 338 P **P** **03 27 51.5 -0.3**
comp=Z,36nm,1.1s
BRZS Berezniki 82.29 9 *e*P **P** **03 27 52.2 +0.4**
BRZS Berezniki 82.29 9 *e*P **P** **03 27 52.3 +0.4**
ZSN Zaisan 82.33 18 *e*P **P** **03 27 53.0 +0.8**
ZSN pmax pmax
comp=Z,14nm,1.0s
ZSN Zaisan 82.33 18 *e*P **P** **03 27 53.0 +0.8**
comp=Z,14nm,1.0s
VOIR 82.39 337 P **P** **03 27 51.9 -0.7**
VOIR 82.39 337 P **P** **03 27 51.9 -0.7**
comp=Z,9.2nm,1.2s
VRH Novokhopyorsk 83.75 350 *e*P **P** **03 27 56.3 -3.0**
VRH pmax pmax
comp=Z,10.0nm,1.1s
SORM Soroca 83.78 340 P **P** **03 27 58.3 -1.3**
SORM Soroca 83.78 340 P **P** **03 27 58.3 -1.3**
comp=Z,12nm,1.6s
KURBB Kurchatov Arra 83.88 13 P **P** **03 28 00.6 +0.6**
comp=Z,6.5nm,0.9s,baz=205,slow=5.7,SNR=48
comp=Z,6.5nm,0.9s
KURK Kurchatov 83.98 13 P **P** **03 28 00.7 +0.1**
KURK Kurchatov 83.98 13 *ce*P **P** **03 28 01.5 +0.9**
KURK pmax pmax
comp=Z,37nm,1.7s
VSR Storozhevoye 84.18 348 *e*P **P** **03 27 59.9 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BURAR Bucovina Array 84.26 338 P **P** **03 28 01.9 -0.3**
BURAR Bucovina Array 84.26 338 P **P** **03 28 01.9 -0.3**
LTZ Lake Taylor 84.47 138 P **P** **03 28 03.0 -0.7**
VORR Voronezh 84.61 348 *e*P **P** **03 27 59.9 -3.8**
VORR pmax pmax
comp=Z,10.0nm,0.9s
KMPD K-Podol'skiy 84.72 340 P **P** **03 28 03.0 -1.4**
BVAR Borovoye Array 84.99 7 P **P** **03 28 06.2 +0.5**
comp=Z,14nm,0.8s,baz=175,slow=5.5,SNR=51
BVAR LR LR 04 05 24.4
comp=Z,71nm,18.2s,baz=169,slow=35
comp=Z,14nm,0.8s
BRVK Borovoye 85.01 7 P **P** **03 28 04.8 -0.9**
BRVK IAmb IAmb 03 28 07.5
comp=Z,16nm,1.0s
BRVK Borovoye 85.01 7 *ce*P **P** **03 28 06.8 +1.1**
BRVK pmax pmax
comp=Z,30nm,1.7s
NJ2 Nanjing 85.51 48 *e*P **P** **03 28 10.6 +1.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LPSR Galich'ya Gora 85.55 348 *e*P **P** **03 28 06.2 -2.2**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
LUBAR Lubar, Ukraine 85.57 341 P **P** **03 28 08.0 -0.6**
AK10 Malin Array Si 85.78 342 P **P** **03 28 09.4 -0.2**
AK06 Malin Array Si 85.78 342 P **P** **03 28 09.5 -0.1**
AK08 Malin Array Si 85.81 342 P **P** **03 28 09.4 -0.3**
AK02 Malin Array Si 85.84 342 P **P** **03 28 09.5 -0.4**
KIEV Kiev 85.88 342 P **P** **03 28 10.7 +0.6**
KIEV pmax pmax
comp=Z,35nm,0.8s
KIEV Kiev 85.88 342 P **P** **03 28 09.6 -0.5**
comp=Z,36nm,0.8s
AKASG Malin Array Be 85.88 342 P **P** **03 28 09.9 -0.2**
comp=Z,1.7nm,0.7s,baz=165,slow=4.1,SNR=12
comp=Z,1.7nm,0.7s
AKASG Malin Array Be 85.88 342 *ce*P **P** **03 28 09.8 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 85.88 342 *ce*P P 03 28 04.2 -5.9
AKBB pmax pmax
comp=Z,17nm,1.6s
AKBB Malin Array Si 85.88 342 P **P** **03 28 09.5 -0.6**
AK16 Malin Array Si 85.88 342 P **P** **03 28 09.4 -0.7**
AK17 Malin Array Si 85.91 342 P **P** **03 28 09.8 -0.4**
AK19 Malin Array Si 85.95 342 P **P** **03 28 10.4 -0.1**
MI28 Mi28,Pidlybu 86.50 341 P **P** **03 28 13.2 0.0**
HNS HongShan 86.66 42 ⇑P **P** **03 28 16.1 +1.8**
HNS pmax pmax
comp=Z,18nm,1.0s
SOKA Soboth 87.12 332 *e*P **P** **03 28 17.4 +0.9**
comp=Z,6.8nm,1.4s
OBKA Obir 87.18 332 *e*P **P** **03 28 18.1 +1.3**
comp=Z,17nm,2.0s
RNPP5 Staryi Chortor 87.27 340 P **P** **03 28 16.3 -0.6**
MDT Midelt 87.28 311 LR LR 04 08 32.3
comp=Z,128nm,18.3s,baz=230,slow=36
ARSA Arzberg 87.39 333 *e*P **P** **03 28 18.6 +0.9**
comp=Z,9.8nm,1.3s
HHC Hu-ho-hao-te 87.41 38 *e*P **P** **03 28 18.8 +0.8**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.5s
RONA Rosalia, Austr 87.46 333 *i* P **P** **03 28 18.6 +0.6**
comp=Z,5.3nm,0.7s
TEOL Teolo 87.48 329 P **P** **03 28 18.0 -0.1**
LANS Liptovska Anna 87.50 336 *e*P **P** **03 28 18.9 +0.7**
LANS pmax pmax
comp=Z,5.0nm,1.3s
LANS Liptovska Anna 87.50 336 *e*P **P** **03 28 18.9 +0.7**
MODS Modra-Piesok 87.64 334 *e*P **P** **03 28 19.4 +0.6**
MODS pmax pmax
comp=Z,27nm,1.3s
MODS Modra-Piesok 87.64 334 *e*P **P** **03 28 19.4 +0.6**
ARTI Arti 87.68 0 P **P** **03 28 19.2 +0.4**
ARTI IAmb IAmb 03 28 20.5
comp=Z,11nm,1.0s
ARTI Arti 87.68 0 *d i*P **P** **03 28 20.1 +1.3**
ARTI 03 31 41.0
ARTI S **SKSac** **03 38 46.9 +1.4**
ARTI pmax pmax
comp=Z,20nm,1.6s
CONA Conrad Observa 87.81 333 *i* P **P** **03 28 20.3 +0.6**
comp=Z,11nm,1.2s
JAVC Velka Javorina 87.90 335 *e*P **P** **03 28 20.7 +0.6**
CTI Castel Tesino 88.03 330 P **P** **03 28 21.4 +0.6**
CTI IAmb IAmb 03 28 24.5
comp=Z,12nm,1.1s
CTI Castel Tesino 88.03 330 P **P** **03 28 21.5 +0.6**
CTI pmax pmax
comp=Z,13nm,1.1s
KBA Koelnbreinsper 88.13 331 *e*P **P** **03 28 22.6 +1.2**
comp=Z,6.6nm,1.2s
ABTA Abfaltersbach 88.21 331 *e*P **P** **03 28 22.7 +1.1**
comp=Z,8.0nm,1.1s,SNR=7.9
OJC Ojcow 88.30 337 P **P** **03 28 20.6 -1.3**
OJC IAmb IAmb 03 28 22.8
comp=Z,9.3nm,1.1s
OJC Ojcow 88.30 337 P **P** **03 28 20.6 -1.3**
OJC pmax pmax
comp=Z,9.0nm,1.1s
OJC Ojcow 88.30 337 P **P** **03 28 21.9 0.0**
comp=Z,10.0nm,1.5s
ZAA0 Zalesovo Array 88.32 15 P **P** **03 28 20.7 -1.2**
ZAA0 IAmb IAmb 03 28 25.2
comp=Z,6.1nm,1.0s
ZALV Zalesovo Beam 88.32 15 P **P** **03 28 20.2 -1.7**
ZALV Zalesovo Beam 88.32 15 P **P** **03 28 21.3 -0.6**
comp=Z,4.0nm,0.9s,baz=222,slow=4.0,SNR=12
ZALV LR LR 04 05 14.5
comp=Z,68nm,20.0s,baz=206,slow=34
comp=Z,4.0nm,0.9s
OBN Obninsk 88.37 348 *de*P **P** **03 28 23.0 +1.0**
OBN *e* 03 31 52.2
OBN pmax pmax
comp=Z,37nm,1.7s
MOA Molln 88.38 332 *e*P **P** **03 28 22.8 +0.5**
comp=Z,8.6nm,1.2s
BIOA Bad Ischl, Aus 88.50 332 *e*P **P** **03 28 23.2 +0.3**
comp=Z,1.8nm,0.5s
KRUC Moravsky 88.54 334 *e*P **P** **03 28 22.3 -0.8**
VRAC Vranov 88.67 334 *e*P **P** **03 28 23.1 -0.6**
LESA Schwarzleotal 88.68 331 *e*P **P** **03 28 24.1 +0.2**
comp=Z,6.8nm,0.8s
MORC Moravsky Berou 88.72 335 *e*P **P** **03 28 23.0 -0.9**
MORC Moravsky Berou 88.72 335 P **P** **03 28 25.0 +1.1**
MORC pmax pmax
comp=Z,7.0nm,2.0s
MOS Moscow 88.78 349 *e*P **P** **03 28 21.7 -2.3**
MOS pmax pmax
comp=Z,32nm,1.4s
WTTA Wattenberg 88.99 330 *i* P **P** **03 28 26.1 +0.6**
comp=Z,5.0nm,0.7s,SNR=5.8
WTTA Wattenberg 88.99 330 P **P** **03 28 26.1 +0.6**
WTTA pmax pmax
comp=Z,14nm,1.2s
WATA Walderalm 89.07 330 *e*P **P** **03 28 25.9 +0.1**
comp=Z,8.9nm,1.1s
FUORN Ofenpass-Fuorn 89.07 329 P **P** **03 28 25.8 -0.1**
FUORN IAmb IAmb 03 28 29.5
comp=Z,8.5nm,1.1s
SQTA Sankt Quirin 89.13 330 *e*P **P** **03 28 26.5 +0.4**
comp=Z,9.4nm,0.9s,SNR=8.4
FETA Feichten 89.18 330 *e*P **P** **03 28 27.1 +0.8**
comp=Z,7.1nm,0.9s,SNR=9.2
GERES GERESS Array B 89.40 332 P **P** **03 28 27.3 +0.1**
comp=Z,0.5nm,0.4s,baz=138,slow=8.5,SNR=2.3
comp=Z,0.5nm,0.4s
RETA Reutte 89.53 330 *e*P **P** **03 28 28.4 +0.5**
comp=Z,6.5nm,0.8s
DPC Dobruska-Polom 89.63 335 P **P** **03 28 28.6 +0.4**
comp=Z,7.4nm,1.4s
KHC Kasperske Hory 89.68 333 *ce*P **P** **03 28 27.0 -1.5**
KHC Kasperske Hory 89.68 333 P **P** **03 28 28.3 -0.2**
comp=Z,6.0nm,2.8s
DAVA Damuels 89.75 329 *e*P **P** **03 28 29.6 +0.6**
comp=Z,3.5nm,0.6s
SONM Songino Array 90.19 30 P **P** **03 28 31.7 +0.6**
comp=Z,2.5nm,1.0s,baz=215,slow=4.7,SNR=10.0
comp=Z,2.5nm,1.0s
ULN Ulaanbaatar 90.50 31 P **P** **03 28 32.0 -0.5**
ULN Ulaanbaatar 90.50 31 *i* P **P** **03 28 31.6 -0.9**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ESDC Sonseca Array 91.36 317 P **P** **03 28 37.2 +0.6**
ESDC IAmb IAmb 03 29 32.1
comp=Z,16nm,1.7s
ESDC Sonseca Array 91.36 317 P **P** **03 28 38.1 +1.5**
comp=Z,1.8nm,0.9s,baz=123,slow=3.5,SNR=9.6
comp=Z,1.8nm,0.9s
CLL Collm 91.64 334 P **P** **03 28 36.8 -0.7**
CLL Collm 91.64 334 P **P** **03 28 36.8 -0.7**
PLCA Paso Flores 93.76 216 LR LR 04 03 31.5
comp=Z,72nm,20.1s,baz=157,slow=31
CN2 Changchun 97.01 42 *e*P **P** **03 29 02.6 +0.3**
C16K Lisburne Hills 135.65 21 P **PKiKP** **03 34 50.8 -0.9**
baz=303
A19K Wainwright 135.73 18 P **PKiKP** **03 34 51.4 -0.5**
baz=310
A21K Barrow 136.06 15 P **PKiKP** **03 34 51.8 -0.7**
baz=316
B18K Kokolik River 136.06 19 P **PKiKP** **03 34 51.7 -0.9**
baz=308

C23K	Itkillik River	138.51	15	P	PKPdf	03 34 56.0	+0.6
	baz=322						
D22K	Ayikyak River	138.77	16	P	PKiKP	03 34 56.8	-1.4
	baz=318						
E21K	Killik River	138.78	17	P	PKiKP	03 34 57.1	-1.2
	baz=317						
I21K	Tanana	141.70	20	P	PKiKP	03 35 02.5	-1.7
	baz=316						
G24K	Hadweenzic Riv	141.72	16	P	PKPdf	03 35 02.0	+0.6
	baz=324						
J20K	Nowinta River	141.74	22	P	PKPdf	03 35 01.4	0.0
	baz=313						
E29M	Blow River	142.06	10	P	PKPdf	03 35 01.9	0.0
	baz=338						
C36M	Paulatuk	142.23	1	P	PKPdf	03 35 02.4	+0.2
	baz=357						
H24K	Noodor Dome	142.31	17	P	PKPdf	03 35 02.6	0.0
	baz=322						
N16K	Nishlik Lake	142.32	29	P	PKPdf	03 35 02.8	+0.2
	baz=303						
K20K	Telida	142.32	23	P	PKPdf	03 35 02.6	0.0
	baz=312						
G26K	Porcupine Rive	142.33	14	P	PKPdf	03 35 02.6	+0.2
	baz=329						
M17K	Holitna River	142.33	27	P	PKPdf	03 35 02.0	-0.6
	baz=306						
H25L	Birch Creek	142.46	16	P	PKPdf	03 35 02.6	-0.1
	baz=325						
I23K	Minto, Yukon-K	142.46	19	P	PKPdf	03 35 02.6	-0.1
	baz=320						
CHUM	Lake Minchumin	142.53	22	P	PKPdf	03 35 02.5	-0.4
	baz=315						
INK	Inuvik	142.68	7	P	PKPdf	03 35 02.8	-0.2
	baz=344						
BPAW	Bear Paw Mtn.	142.78	21	P	PKPdf	03 35 03.0	-0.3
	baz=317						
L19K	White Mountain	142.82	25	P	PKPdf	03 35 02.6	-0.9
	baz=310						
G27K	Doyon Strip	142.87	13	P	PKPdf	03 35 02.5	-1.0
	baz=332						
M18K	Stony River	142.90	26	P	PKPdf	03 35 02.9	-0.7
	baz=308						
CAST	Castle Rocks	142.93	22		PKPpre	03 35 00.7	
CAST	Castle Rocks	142.93	22	P	PKPdf	03 35 03.0	-0.7
	baz=315						
PRP	Porcupine Dome	143.15	16	P	PKPdf	03 35 03.3	-0.8
	baz=325						
PPLA	Purkeypile	143.26	23	P	PKPdf	03 35 03.7	-0.7
	baz=314						
N18K	Kilae Creek	143.37	27	P	PKPdf	03 35 03.8	-0.7
	baz=307						
G29M	Pine Creek	143.41	11	P	PKPdf	03 35 03.6	-0.8
	baz=337						
ILAR	Eielson Array	143.42	18	PKhKP	PKPpre	03 35 01.0	
	comp=Z,0.9nm,0.9s,baz=326,slow=4.0,SNR=6.9						
TRF	Thorofare Moun	143.47	21	P	PKPdf	03 35 03.8	-1.0
	baz=317						
F31M	Tsiigehtchic	143.49	8	P	PKPdf	03 35 04.4	-0.1
	baz=343						
G30M	tAoh Zraii Nji	143.61	9	P	PKPdf	03 35 03.9	-0.8
	baz=339						
M20K	Styx River	143.63	24	P	PKPdf	03 35 04.0	-1.0
	baz=312						
MCK	McKinley	143.66	20	P	PKPdf	03 35 04.4	-0.5
	baz=319						
HDA	Harding Lake	143.69	18	P	PKPdf	03 35 04.3	-0.7
	baz=322						
N19K	Bonanza Creek	143.83	27	PKPpre	PKPpre	03 35 02.4	
N19K	Bonanza Creek	143.83	27	P	PKPdf	03 35 04.7	-0.7
	baz=309						
I26K	Coal Creek Min	143.87	15		PKPbc	03 35 03.2	+0.2
I26K	Coal Creek Min	143.87	15	P	PKPdf	03 35 04.8	-0.4
	baz=328						
G31M	Satah River	143.92	8	PKPpre	PKPpre	03 35 01.8	
G31M	Satah River	143.92	8	P	PKPdf	03 35 04.5	-0.7
	baz=342						
J25K	Salcha River,	143.93	17	P	PKPdf	03 35 04.5	-0.1
	baz=325						
I27K	Kandik River	143.94	14	P	PKPdf	03 35 04.8	-0.6
	baz=331						
H29M	Whitestone	143.99	11		PKPdf	03 35 04.5	-1.0
H29M	Whitestone	143.99	11	P	PKPdf	03 35 05.2	-0.2
	baz=336						
P17K	Kvichak River	144.01	30	P	PKPdf	03 35 05.3	-0.3
	baz=305						
SDPT	Sand Point	144.03	37	P	PKPdf	03 35 04.8	-1.0
	baz=295						
S14K	Fog Glacier	144.08	36	P	PKPdf	03 35 04.8	-1.2
	baz=297						
SKT	Skwentna	144.12	23	P	PKPdf	03 35 05.2	-0.6
	baz=314						
O18K	Koktuh Hills	144.13	28	PKPdf	PKPdf	03 35 04.7	-1.2
O18K	Koktuh Hills	144.13	28	P	PKPdf	03 35 05.0	-0.8
	baz=307						
Q16K	King Salmon	144.21	31	P	PKPdf	03 35 05.3	-0.7
	baz=304						
O19K	Port Alsworth	144.28	27	P	PKPdf	03 35 05.4	-0.6
	baz=308,SNR=5.2						
R16K	Pilot Point	144.40	33	P	PKPdf	03 35 06.7	+0.4
	baz=301						
P18K	Big Mountain,	144.40	29	P	PKPdf	03 35 06.1	-0.3
	baz=306						
I28M	Miner Creek	144.41	13	P	PKPdf	03 35 06.0	-0.2
	baz=333						
SPCR	Spurr Chakacha	144.42	25	P	PKPdf	03 35 06.0	-0.4
	baz=312						
J26L	Joseph Creek	144.46	16	PKPdf	PKPbc	03 35 04.9	-0.1
J26L	Joseph Creek	144.46	16	P	PKPdf	03 35 06.1	-0.3
	baz=327						
SUA	Susitna One	144.75	24	PKPdf	PKPbc	03 35 05.9	-0.1
SUA	Susitna One	144.75	24	P	PKPbc	03 35 05.6	-0.4
	baz=314,SNR=8.3						
M22K	Willow	144.75	23	P	PKPdf	03 35 06.0	-0.8
	baz=316						
RIDG	Independent Ri	144.78	18	P	PKPbc	03 35 05.6	-0.4
	baz=325						
I29M	Ogilvie Camp,	144.78	12	P	PKPdf	03 35 06.2	-0.7
	baz=335,SNR=18						
SCRK	Sand Creek	144.80	17	PKPdf	PKPdf	03 35 06.3	-0.8
SCRK	Sand Creek	144.80	17	P	PKPbc	03 35 05.7	-0.4
	baz=326,SNR=13						
H31M	Peel River	144.98	9	P	PKPbc	03 35 06.3	-0.1
	baz=341						
PMR	Palmer	145.20	23	P	PKPdf	03 35 07.9	+0.3
	baz=317,SNR=6.3						
K27K	Chicken	145.21	15	P	PKPdf	03 35 07.7	+0.1
	baz=329						
I30M	Mount Dempster	145.23	11	P	PKPdf	03 35 08.1	+0.3
	baz=338						
PAX	Paxson	145.24	19	P	PKPbc	03 35 06.7	-0.7
	baz=323,SNR=16						
SML	Sawmill	145.30	22	P	PKPdf	03 35 07.7	-0.1
	baz=318						
Q19K	Cape Douglas,	145.33	29	P	PKPdf	03 35 08.3	+0.3
	baz=308						
RC01	Rabbit Creek A	145.36	24	P	PKPab	03 35 07.7	-0.3
	baz=316						
M23K	Glacier View	145.50	21	P	PKPab	03 35 08.5	0.0
	baz=319,SNR=5.4						
KNK	Knik Glacier	145.55	22	P	PKPab	03 35 08.4	-0.3
	baz=318						
SCM	Sheep Creek Mo	145.59	21	P	PKPab	03 35 08.7	-0.2
	baz=320						
J29N	Klondike Camp	145.62	12	P	PKPab	03 35 08.7	-0.3
	baz=335,SNR=12						
DAWY	Dawson	145.75	14	P	PKPab	03 35 08.9	-0.5
	baz=333,SNR=13						
L26K	Log Cabin Wild	145.75	17	P	PKPab	03 35 09.1	-0.3
	baz=326						
HARP	HAARP	145.78	19	P	PKPab	03 35 09.6	+0.1
	baz=323						
O22K	Cooper Landing	145.80	24	P	PKPab	03 35 09.6	0.0
	baz=315						
R18K	Karluk	145.81	31	P	PKPab	03 35 09.4	-0.2
	baz=305						
J30M	Hart River	145.84	11	P	PKPab	03 35 09.9	+0.1
	baz=338						
BRSE	Bradley Lake S	145.94	26	P	PKPab	03 35 11.0	+0.8
	baz=313						
PWL	Port Wells	146.00	23	P	PKPab	03 35 10.0	-0.4
	baz=317						
Q20K	Shuyak Island	146.04	28	P	PKPab	03 35 10.1	-0.5
	baz=309						
L27K	Beaver Creek,	146.09	16	P	PKPab	03 35 10.3	-0.5
	baz=329,SNR=6.4						
BCAR	Beaver Creek A	146.10	16	PKPdf	PKPab	03 35 10.7	-0.1
SEW	Seward	146.16	25	P	PKPab	03 35 10.4	-0.6
	baz=315						
CHIR	Chirikof Islan	146.23	34	P	PKPab	03 35 11.5	+0.1
	baz=302						
KLU	Klutina	146.28	21	P	PKPab	03 35 11.4	-0.2
	baz=321						
K29M	Barlow Dome	146.31	12	P	PKPab	03 35 11.8	+0.2
	baz=336						
KDAK	Kodiak Island	146.48	30	P	PKPab	03 35 12.3	0.0
	baz=308						
N25K	Chitina, Valde	146.58	20	P	PKPab	03 35 12.7	0.0
	baz=323,SNR=10						
M27K	Edge Creek, AK	146.68	17	P	PKPab	03 35 12.8	-0.3
	baz=328						
MAYO	Mayo, Yukon	146.82	11	P	PKPab	03 35 13.2	-0.3
	baz=338						
L29M	L29M	146.86	13	P	PKPab	03 35 13.0	-0.7
	baz=334						
BVCY	Beaver Creek	146.88	16	P	PKPab	03 35 14.0	+0.2
	baz=330						
P23K	Montague Islan	146.95	23	P	PKPab	03 35 14.1	0.0
	baz=318						
FCC	Fort Churchill	147.01	333		PKPbc	03 35 12.5	-0.3
FCC	Fort Churchill	147.01	333	PKP2	PKPbc	03 35 12.5	-0.3
BMRM	Bremner River	147.09	20	P	PKPab	03 35 14.3	-0.4
	baz=323						
M29M	Somme Creek	147.39	14	P	PKPab	03 35 14.6	-1.3
	baz=333						
YUK3	Moose Creek	147.53	16	P	PKPbc	03 35 15.0	+0.5
	baz=330						
M30M	Minto, Yukon	147.60	13	P	PKiKP	03 35 15.4	-1.1
	baz=336						
KAIM	Kayak Island	147.97	21	P	PKPbc	03 35 15.1	-0.4
	baz=322						
YUK8	Steele Glacier	148.12	16	P	PKPbc	03 35 15.9	-0.3
	baz=330						
YUK4	Talbot Arm	148.33	15	P	PKPbc	03 35 16.0	-0.6
	baz=332						
M31M	Drury Creek, Y	148.38	11	P	PKPbc	03 35 16.3	-0.2
	baz=339						
WRGLY	Wrigley	148.38	1	P	PKiKP	03 35 17.4	-0.6
	baz=357						
MMPY	Sheldon Lake,	148.43	8	P	PKiKP	03 35 17.4	-0.8
	baz=345						
O28M	Mount Upton	148.46	17	P	PKPbc	03 35 17.3	+0.2
	baz=329						
MESA	MESA	148.50	19	P	PKiKP	03 35 17.6	-1.1
	baz=326						
FARO	Faro, Yukon	148.52	10	P	PKiKP	03 35 17.6	-0.8
	baz=341						
N30M	Aishikik Lake	148.56	14	P	PKPbc	03 35 17.1	+0.1
	baz=335						
YUK6	Outpost Mounta	148.75	15	P	PKPbc	03 35 17.5	-0.2
	baz=332						
YKA	Yellowknife Ar	148.78	353	PKPbc	PKPbc	03 35 17.6	+0.2
	comp=Z,7.3nm,0.8s,baz=358,slow=2.4,SNR=50						
PINM	Pinnacle	149.03	18	P	PKPbc	03 35 18.0	-0.3
	baz=329						
HYT	Haines Junctio	149.05	15	P	PKPbc	03 35 18.0	-0.3
	baz=334						
O29M	Mount Kennedy	149.27	16	P	PKPbc	03 35 17.2	-1.7
	baz=331						
O30N	Mendenhall	149.39	14	P	PKPbc	03 35 18.7	-0.4
	baz=336						
N32M	Quiet Lake	149.58	11	P	PKPbc	03 35 18.4	-1.2
	baz=341						
PNL	Peninsula	149.62	18	P	PKPbc	03 35 18.9	-0.7
	baz=330						
WHY	Whitehorse	149.73	13	P	PKPbc	03 35 19.3	-0.7
	baz=338						
P30M	Million Dollar	149.80	15	P	PKPbc	03 35 19.8	-0.4
	baz=334						
TGTN	Hyland Airport	149.82	6	P	PKiKP	03 35 20.5	-0.6
	baz=349						
P33M	Teslin, Yukon	150.51	11	P	PKPbc	03 35 21.6	-0.3
	baz=339						
PLBC	Pleasant Camp	150.53	15	P	PKiKP	03 35 22.6	+0.1
	baz=334						
SKAG	Skagway	150.75	14	P	PKiKP	03 35 23.4	+0.4
	baz=336						
P32M	Atlin	150.94	12	P	PKiKP	03 35 24.2	+0.7
	baz=339						
L44A	Lake County Fo	151.05	301	P	PKiKP	03 35 24.0	-0.2
	baz=80						
WTLY	Watson Lake, Y	151.16	7	P	PKiKP	03 35 24.8	+0.9
	baz=348						
R33M	Jennings River	151.58	10	P	PKiKP	03 35 26.1	+1.1
	baz=344						
R31K	City Hall, Gus	151.62	15	P	PKiKP	03 35 26.1	+1.3
	baz=335						
EYMN	Ely	151.78	314		PKiKP	03 35 25.3	-0.3
Q32M	Nakina River	151.79	11	P	PKiKP	03 35 27.0	+1.6
	baz=341						
DLBC	Dease Lake	152.64	9	P	PKiKP	03 35 28.7	+1.7
	baz=345						
S34M	Telegraph Cree	152.98	11	P	PKiKP	03 35 28.9	+1.3
	baz=342						
ULM	Lac du Bonnet	153.18	321	PKPdf	PKPdf	03 35 21.4	+0.6
ULM	Lac du Bonnet	153.18	321	PKPbc	PKPbc	03 35 27.4	-0.7
	comp=Z,4.7nm,0.9s,baz=80,slow=2.3,SNR=8.2						
ULM	Lac du Bonnet	153.18	321	PKIKP	PKPdf	03 35 21.4	+0.6
WRAK	Wrangell Islan	154.18	13	P	PKiKP	03 35 30.9	+0.8
	baz=339						
U33K	Whale Pass	154.30	15	P	PKiKP	03 35 31.5	+1.1
	baz=338						
RLMT	Red Lodge	163.33	327	PKPdf	PKPdf	03 35 31.6	-1.9
TXAR	Lajitas Array	164.13	266	PKPab	PKPab	03 36 28.4	+0.2
	comp=Z,1.4nm,1.1s,baz=86,slow=5.0,SNR=4.5						
PDAR	Pinedale Array	165.20	322	PKP	PKPdf	03 35 32.9	-2.4
	comp=Z,1.5nm,1.1s,baz=113,slow=2.3,SNR=5.3						
PDAR				PKPab	PKPab	03 36 31.1	-1.4
	comp=Z,0.7nm,0.9s,baz=353,slow=3.7,SNR=1.8						
NVAR	Mina Array Bea	172.62	338	PKPab	PKPab	03 37 05.7	+0.3
	comp=Z,0.7nm,0.8s,baz=12,slow=5.6,SNR=3.6						

*SJA **11** 03:16:34.3±0.7, 19°.31S×70°.23W, h37km±2km, ML3.3, MW3.6*
*GUC **11** 03:16:36.5±0.6, 19°.29S×70°.19W, h43km±3km, ML3.4*
ISC 11 03:16:35.6±1.1, 19°.31S±0°.03×70°.29W±0°.06, h29km±13km, n22, σ1°38/39, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.69**	**357**	*e*P		**Pb**	**03 16 49.1**	**-0.2**
PB12				*i* S		**Sb**	**03 16 58.9**	**+0.3**
PB12				IAML			03 17 00.1	
	comp=N,4μm,0.1s							
PB12	**IPOC Station P**	**0.69**	**357**	*e*P		**Pb**	**03 16 49.1**	**-0.2**
PB12				*e*S		**Sb**	**03 16 59.8**	**+1.1**
PB12				IAML			03 17 02.2	
	comp=Z,1μm,0.4s							
PB11	**IPOC Station P**	**0.75**	**127**	*e*P		**Pb**	**03 16 49.4**	**-0.8**
PB11				*i* S		**Sb**	**03 16 59.6**	**-0.6**
PB11				IAML			03 17 00.7	
	comp=E,3μm,0.3s							
PB11	**IPOC Station P**	**0.75**	**127**	*e*P		**Pb**	**03 16 49.3**	**-0.9**
PB11				*e*S		**Sb**	**03 17 00.1**	**0.0**
PB11				IAML			03 17 00.4	
	comp=Z,1μm,0.1s							
AP01	**Chacalluta**	**0.94**	**357**	*e*P		**Pn**	**03 16 52.4**	**-0.3**
AP01				*e*S		**Sb**	**03 17 05.3**	**-0.1**
AP01				IAML			03 17 08.4	
	comp=E,3μm,0.2s							
AP01	**Chacalluta**	**0.94**	**357**	*e*P		**Pn**	**03 16 52.5**	**-0.3**
AP01				*e*S		**Sb**	**03 17 05.4**	**0.0**
AP01				IAML			03 17 06.4	
	comp=Z,2μm,0.3s							
TA02	**Huaiquique**	**0.96**	**171**	*e*P		**Pn**	**03 16 53.3**	**+0.1**
TA02	**Huaiquique**	**0.96**	**171**	*e*P		**Pn**	**03 16 53.0**	**-0.2**
TA02				*e*S		**Sn**	**03 17 06.3**	**+0.4**
TA02				IAML			03 17 08.8	
	comp=Z,1μm,0.1s							
TA01	**Diego Aracena**	**1.25**	**175**	*e*P		**Pn**	**03 16 57.2**	**+0.1**
TA01				*e*S		**Sn**	**03 17 13.1**	**+0.2**
TA01				IAML			03 17 16.4	
	comp=E,960nm,0.4s							
TA01	**Diego Aracena**	**1.25**	**175**	*e*P		**Pn**	**03 16 57.2**	**+0.1**
TA01				*e*S		**Sn**	**03 17 13.8**	**+0.8**
TA01				IAML			03 17 16.1	
	comp=Z,684nm,0.4s							
PB08	**IPOC Station P**	**1.35**	**128**	*e*P		**Pn**	**03 16 58.2**	**-0.7**
PB08				*e*S		**Sn**	**03 17 15.3**	**-0.7**
PB08				IAML			03 17 15.9	
	comp=E,685nm,0.1s							
PB08	**IPOC Station P**	**1.35**	**128**	*e*P		**Pn**	**03 16 58.1**	**-0.8**
PB08				*e*S		**Sn**	**03 17 16.0**	**0.0**
PB08				IAML			03 17 18.5	
	comp=Z,534nm,0.4s							
PB01	**IPOC Station P**	**1.88**	**156**	*e*P		**Pn**	**03 17 05.5**	**-0.4**
PB01				IAML			03 17 38.8	
	comp=E,264nm,0.2s							
PB01	**IPOC Station P**	**1.88**	**156**	*e*P		**Pn**	**03 17 05.4**	**-0.4**
PB01				*e*S		**Sn**	**03 17 30.0**	**+1.3**
PB01				IAML			03 17 49.1	
	comp=Z,126nm,0.2s							
PB09	**IPOC Station P**	**2.66**	**159**	*e*P		**Pn**	**03 17 17.6**	**+0.9**
PB09				IAML			03 18 00.1	
	comp=N,182nm,0.3s							
PB09	**IPOC Station P**	**2.66**	**159**	*e*P		**Pn**	**03 17 17.4**	**+0.8**
PB09				*e*S		**Sn**	**03 17 46.1**	**-1.9**
PB09				IAML			03 18 02.4	
	comp=Z,165nm,0.5s							
PB03	**IPOC Station P**	**2.77**	**170**	*e*P		**Pn**	**03 17 18.4**	**+0.2**
PB03				IAML			03 17 57.6	
	comp=E,138nm,0.1s							
PB03	**IPOC Station P**	**2.77**	**170**	*e*P		**Pn**	**03 17 18.2**	**+0.1**
PB03				*e*S		**Sb**	**03 18 02.0**	**+3.9**
PB03				IAML			03 18 13.0	
	comp=Z,102nm,0.5s							
PB06	**IPOC Station P**	**3.44**	**169**	*e*P		**Pn**	**03 17 27.1**	**-0.4**
PB06				*e*S		**Sb**	**03 18 21.3**	**+3.8**
PB06				IAML			03 18 24.6	
	comp=Z,57nm,0.4s							
LPAZ	**La Paz**	**3.64**	**35**	*e*P		**Pn**	**03 17 33.1**	**+2.5**
PB10	**IPOC Station P**	**4.19**	**183**	*e*P		**Pn**	**03 17 36.8**	**-0.7**
PB10				*e*S		**Sn**	**03 18 24.7**	**-0.8**
PB10				IAML			03 18 54.8	
	comp=Z,20nm,1.2s							
PB14	**IPOC Station P**	**5.29**	**181**	*e*P		**Pn**	**03 17 51.4**	**-1.6**
PB14				*e*S		**Sn**	**03 18 49.3**	**-3.8**
PB14				IAML			03 19 20.5	
	comp=Z,27nm,4.6s							

*IDC **11** 03:17:43.3±1.2, 5°.77S×130°.70E, h0km, mb4.2/7, mbtmp4.3/10, ML4.6/3, Error ellipse: s-maj=67.7km s-min=18.5km az=71.0*
*DJA **11** 03:17:54.0±1.1, 6°.S±2°.×13°.1E±°, h15km±9km, M4.7/14, mB5.5/4, mb4.8/6, MLv4.5/14, Mw(mB)5.0/4*
*NEIC **11** 03:17:54.7±1.5, 5°.89S±0°.06×130°.7E±0°.1, h94km±7km, mb4.4/11, Error ellipse: s-maj=19.9km s-min=8.6km az=95.0*
ISC 11 03:17:55.0±0.5, 5°.91S±0°.04×130°.69E±0°.06, h100km, n76, σ1°21/72, mb4.4/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.58**	**331**	P		**Pn**	**03 18 22.8**	**+0.5**
BNDI	**Bandanaira**	**1.58**	**331**	P		**Pn**	**03 18 22.4**	**+0.1**
BNDI				S		**Sn**	**03 18 43.3**	**+0.3**
SAUI	**Saumlaki**	**2.15**	**164**			**Pn**	**03 18 31.2**	**+1.7**
SAUI				Sn		**Sn**	**03 18 55.7**	**-0.1**
SAUI	**Saumlaki**	**2.15**	**164**	P		**Pn**	**03 18 31.1**	**+1.6**
SAUI	**Saumlaki**	**2.15**	**164**	P		**Pn**	**03 18 29.8**	**+0.3**
SAUI				S		**Sn**	**03 18 56.9**	**+1.1**
MSAI	**Masohi**	**3.09**	**325**	P		**Pn**	**03 18 42.2**	**+0.2**
MSAI				S		**Sn**	**03 19 17.9**	**-0.4**
AAI	**Ambon**	**3.32**	**312**	P		**Pn**	**03 18 45.3**	**+0.2**
FAKI	**Fak Fak**	**3.36**	**28**	Pn		**Pn**	**03 18 44.9**	**-0.6**
FAKI				Sn		**Sn**	**03 19 22.8**	**-1.8**
FAKI	**Fak Fak**	**3.36**	**28**	P		**Pn**	**03 18 45.1**	**-0.5**
FAKI	**Fak Fak**	**3.36**	**28**	S		**Sn**	**03 19 23.3**	**-1.3**
FAKI	**Fak Fak**	**3.36**	**28**	P		**Pn**	**03 18 45.3**	**-0.3**
KMPI	**Kaimana, Papua**	**3.75**	**54**	P		**Pn**	**03 18 51.3**	**+0.5**
NLAI	**Namlea**	**4.45**	**306**	P		**Pn**	**03 19 01.2**	**+0.9**
SWI	**Sorong**	**5.05**	**7**	P		**Pn**	**03 19 07.8**	**-0.6**
	1.2nm4μm47nm,0.4s							
RKPI	**Ransiki, Papua**	**5.59**	**39**	P		**Pn**	**03 19 15.9**	**+0.1**
SANI	**Sanana**	**6.06**	**309**	P		**Pn**	**03 19 22.7**	**+0.6**
DRS	**Darwin Rock St**	**6.48**	**178**	P		**Pn**	**03 19 27.2**	**-0.7**
MTN	**Manton Dam**	**6.90**	**176**	Pn		**Pn**	**03 19 31.7**	**-1.9**
MTN	**Manton Dam**	**6.90**	**176**	P		**Pn**	**03 19 32.4**	**-1.2**
KDU	**Kakadu**	**6.96**	**165**	P		**Pn**	**03 19 33.3**	**-1.1**
BAKI	**Biak**	**7.16**	**49**	P		**Pn**	**03 19 39.1**	**+2.0**
	0.4nm87nm,0.8s							
SOEI	**Soe**	**7.42**	**239**	Pn		**Pn**	**03 19 40.3**	**-0.4**
SOEI	**Soe**	**7.42**	**239**	P		**Pn**	**03 19 41.8**	**+1.1**
SOEI	**Soe**	**7.42**	**239**	S		**Sn**	**03 21 04.5**	**+1.1**
SOEI	**Soe**	**7.42**	**239**	P		**Pn**	**03 19 41.6**	**+0.9**
	0.2nm60nm,0.8s							
BATI	**Baumata**	**8.16**	**238**	P		**Pn**	**03 19 51.1**	**+0.4**
SMPI	**Sarmi**	**8.90**	**64**	P		**Pn**	**03 20 03.7**	**+2.9**
KNRA	**Kununurra**	**9.89**	**191**	Pn		**Pn**	**03 20 10.6**	**-3.6**
KAPI	**Kappang**	**10.92**	**274**	Pn		Pn	03 20 20.8	-7.5
FITZ	**Fitzroy Crossi**	**13.08**	**202**	Pn		Pn	03 20 52.1	-4.9
FITZ	**Fitzroy Crossi**	**13.08**	**202**	Pn		Pn	03 20 51.3	-5.6
	4.7nm,0.3s,baz=24,slow=12,SNR=83							
FITZ				Sn		Sn	03 23 07.9	-13
	1.8nm,0.3s,baz=257,slow=22,SNR=4.3							
	11nm,0.3s							
PLAI	**Plampang**	**13.13**	**256**	P		**Pn**	**03 20 59.7**	**+2.1**
WB0	**Warramunga Arr**	**14.24**	**166**	Pn		Pn	03 21 06.7	-5.4
WRAB	**Tennant Creek**	**14.39**	**166**	Pn		**Pn**	**03 21 11.1**	**-2.9**
WRA	**Warramunga Arr**	**14.39**	**166**	Pn		Pn	03 21 08.4	-5.7
WRA	**Warramunga Arr**	**14.39**	**166**	Pn		Pn	03 21 08.9	-5.1
	1.6nm,0.3s,baz=350,slow=13,SNR=26							
WRA				Sn		Sn	03 23 41.5	-11
	4.1nm,0.3s,baz=348,slow=25,SNR=15							
	3.8nm,0.5s							
WB2	**Warramunga Arr**	**14.39**	**166**	Pn		Pn	03 21 09.3	-4.8
WR0	**Warramunga Arr**	**14.46**	**165**	Pn		Pn	03 21 10.1	-4.8
COEN	**Coen**	**14.66**	**124**	Pn		**Pn**	**03 21 16.7**	**-0.9**
COEN	**Coen**	**14.66**	**124**	P		**Pn**	**03 21 19.4**	**+1.8**
QIS	**Mount Isa**	**16.94**	**150**	P		**Pn**	**03 21 44.7**	**-1.3**
AS31	**Alice Springs**	**17.92**	**170**	P		**P**	**03 21 55.9**	**-1.2**
ASAR	**Alice Springs**	**17.92**	**170**	P		**P**	**03 21 56.8**	**-0.3**
	1.9nm,0.3s,baz=344,slow=8.9,SNR=78							
ASAR				S		S	03 25 04.2	-14
	3.3nm,0.7s,baz=352,slow=25,SNR=7.0							
	7.4nm,0.7s							
AS01	**Alice Springs**	**17.93**

WMQ	Urumqi	62.87 326	eP	P	03 28 12.6	+2.1
WMQ			pmax	pmax		
comp=Z,18nm,1.1s						
MK31	Makanchi Array	67.70 326	P	P	03 28 42.1	+0.5
MK31			IAmb	IAmb	03 28 42.8	
comp=Z,2.9nm,0.9s						
MKAR	Makanchi Array	67.70 326	P	P	03 28 41.2	-0.5
MKAR	Makanchi Array	67.70 326	P	P	03 28 41.9	+0.2
comp=Z,2.8nm,0.5s,baz=115,slow=7.1,SNR=27						
comp=Z,2.8nm,0.5s						
MAKZ	Makanchi	67.88 326	P	P	03 28 42.8	+0.1
MAKZ			IAmb	IAmb	03 28 43.7	
comp=Z,6.1nm,1.2s						
ZALV	Zalesovo Beam	70.92 333	P	P	03 29 01.0	-0.2
ZALV	Zalesovo Beam	70.92 333	P	P	03 29 00.7	-0.5
comp=Z,1.1nm,0.5s,baz=114,slow=5.6,SNR=2.0						
comp=Z,1.1nm,0.5s						
KURBB	Kurchatov Arra	71.95 328	P	P	03 29 07.7	+0.2
comp=Z,1.6nm,0.5s,baz=124,slow=5.0,SNR=14						
comp=Z,1.6nm,0.5s						
KURK	Kurchatov	71.95 328	P	P	03 29 07.2	-0.3
BVAR	Borovoye Array	77.52 327	P	P	03 29 39.4	-0.2
comp=Z,1.7nm,0.6s,baz=118,slow=8.6,SNR=5.2						
comp=Z,1.7nm,0.6s						
ABKAR	Abkulak array	82.09 321	P	P	03 30 02.8	-1.6

IDC ***11*** *03:22:30.4±0.7,54°.92S×128°.95W,h0km,mb3.8/7, mbtmp3.8/7,MS4.5/32,Error ellipse: s-maj=29.1km s-min=21.5km az=158.0*

GCMT ***11*** *03:22:38.0±0.1,55°.41S±0°.01×128°.68W±0°.01,h15km, MW5.3/146,Moment Tensor Solution. s106,c173; s146,c255; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.22±.02; $M_{\theta\theta}$0.79±.02; $M_{\phi\phi}$-0.57±.02; $M_{r\theta}$0.03±.05; $M_{\theta\phi}$1.02±.01; $M_{r\phi}$0.22±.05; Best double couple: $M_0$1.24800×10^{17} NP1:ϕ_s197.00000°,δ79.00000°, λ-4.00000°. NP2:ϕ_s197.00000°,δ86.00000°, λ-169.00000°. Principal axes: T 1.3450, Plg5.0000°, Azm332.0000°; N -0.1930, Plg78.0000°, Azm219.0000°; P -1.1520, Plg11.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 11 03:22:31.9±0.7,54°.9S±0°.2×128°.9W±0°.2,h10km,n59, σ0^{s}87/14,mb4.0/7,MS4.6/33,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	32.57	134	LR	LR	03 38 17.7	
comp=Z,1μm,21.8s,baz=243,slow=29							
QSPA	South Pole Qui	35.26	180	P	P	03 29 26.8	+0.4
2.7nm,1.0s,baz=271,slow=4.8,SNR=2.9							
2.7nm,1.0s							
URZ	Urewera	39.56	272	LR	LR	03 42 42.3	
comp=Z,1μm,20.4s,baz=218,slow=31							
H03S2	Juan Fernandez	40.42	80	T	T	04 13 12.2	
baz=221,slow=74,SNR=110							
H03S1	Juan Fernandez	40.43	80	T	T	04 13 14.4	
baz=221,slow=74,SNR=90							
H03S3	Juan Fernandez	40.44	80	T	T	04 13 14.3	
baz=221,slow=74,SNR=106							
PLCA	Paso Flores	40.48	94	LR	LR	03 43 03.3	
comp=Z,469nm,19.5s,baz=226,slow=30							
PPT	Papeete	40.50	329	LR	LR	03 42 35.9	
comp=Z,1μm,18.9s,baz=162,slow=30							
H03N3	Juan Fernandez	40.70	79	T	T	04 13 32.1	
baz=224,slow=72,SNR=141							
H03N2	Juan Fernandez	40.71	79	T	T	04 13 31.0	
baz=224,slow=72,SNR=1619							
H03N1	Juan Fernandez	40.72	79	T	T	04 13 31.8	
baz=224,slow=72,SNR=1364							
RAR	Rarotonga	40.86	313	LR	LR	03 42 38.8	
comp=Z,533nm,18.9s,baz=146,slow=30							
SNAA	Sanae	48.17	160	P	P	03 31 11.7	-0.1
0.9nm,0.5s,baz=220,slow=11,SNR=5.9							
SNAA				LR	LR	03 49 56.4	
comp=Z,1μm,20.8s,baz=215,slow=34							
0.9nm,0.5s							
MSVF	Nonsavu	54.67	291	LR	LR	03 50 06.2	
comp=Z,137nm,20.9s,baz=155,slow=30							
MAW	Mawson	57.48	185	LR	LR	03 54 42.4	
comp=Z,386nm,19.9s,baz=162,slow=34							
CPUP	Villa Florida	58.42	92	LR	LR	03 54 18.9	
comp=Z,560nm,18.1s,baz=226,slow=33							
NNA	Nana	58.97	64	LR	LR	03 49 10.7	
comp=Z,34nm,21.7s,baz=218,slow=27							
LPAZ	La Paz	60.13	75	P	P	03 32 39.5	-0.7
1.2nm,0.8s,baz=132,slow=3.4,SNR=7.0							
1.2nm,0.8s							
ATAH	Atahualpa	62.30	60	LR	LR	03 53 41.6	
comp=Z,495nm,19.4s,baz=213,slow=30							
STKA	Stephens Creek	64.30	251	LR	LR	03 55 22.9	
comp=Z,550nm,21.9s,baz=172,slow=31							
SIV	San Ignacio	64.36	81	P	P	03 33 07.4	-0.5
1.2nm,1.0s,baz=181,slow=5.1,SNR=3.9							
SIV				LR	LR	03 56 15.1	
comp=Z,89nm,21.9s,baz=264,slow=32							
1.2nm,1.0s							
HNR	Honiara	71.50	280	LR	LR	04 01 29.0	
comp=Z,94nm,18.6s,baz=15,slow=33							
ROSC	El Rosal	74.66	57	LR	LR	04 01 18.6	
comp=Z,275nm,19.9s,baz=250,slow=31							
JTS	Las Juntas de	74.70	45	LR	LR	03 59 25.1	
comp=Z,208nm,19.4s,baz=134,slow=30							
ASAR	Alice Springs	74.93	250	P	P	03 34 12.9	-0.2
0.4nm,0.6s,baz=128,slow=6.7,SNR=20							
0.4nm,0.6s							
H01W1	Cape Leeuwin H	75.51	229	T	T	04 57 56.7	
baz=148,slow=76,SNR=31							
H01W2	Cape Leeuwin H	75.51	229	T	T	04 57 53.6	
baz=148,slow=76,SNR=29							
H01W3	Cape Leeuwin H	75.53	229	T	T	04 57 57.6	
baz=148,slow=76,SNR=32							
NWAO	Narrogin (SRO)	75.78	233	LR	LR	03 59 35.9	
comp=Z,525nm,21.9s,baz=124,slow=29							
CMIG	Matias Romero	77.35	33	LR	LR	04 01 52.5	
comp=Z,124nm,21.6s,baz=206,slow=30							
WRA	Warramunga Arr	77.68	253	P	P	03 34 27.4	-1.3
0.4nm,0.5s,baz=140,slow=5.5,SNR=7.3							
WRA				LR	LR	04 04 58.5	
comp=Z,405nm,19.9s,baz=144,slow=33							
0.4nm,0.5s							
LPIG	La Paz	80.31	17	LR	LR	04 02 07.0	
comp=Z,194nm,20.3s,baz=199,slow=30							
FITZ	Fitzroy Crossi	83.91	247	LR	LR	04 06 56.9	
comp=Z,426nm,21.6s,baz=140,slow=32							
PCRV	Puerto La Cruz	84.08	63	LR	LR	04 08 34.3	
comp=Z,438nm,18.9s,slow=33							
TXAR	Lajitas Array	86.68	22	P	P	03 35 16.9	+1.4
0.5nm,0.8s,baz=234,slow=5.8,SNR=3.9							
0.5nm,0.8s							
RCBR	Riachuelo	87.03	96	LR	LR	04 11 41.9	
comp=Z,55nm,19.3s,baz=216,slow=34							
PFO	Pinyon Flats O	88.82	10	LR	LR	04 07 03.4	
comp=Z,255nm,18.1s,baz=205,slow=30							
SUR	Sutherland	89.25	155	LR	LR	04 08 21.0	
comp=Z,237nm,20.9s,baz=188,slow=31							
SJG	San Juan	90.07	58	LR	LR	04 10 46.6	
comp=Z,86nm,20.8s,baz=218,slow=32							
H11S2	WAKE ISLAND Hy	91.16	301	T	T	05 16 55.0	
baz=148,slow=75,SNR=46							
H11S3	WAKE ISLAND Hy	91.17	301	T	T	05 16 56.6	
baz=148,slow=75,SNR=34							
H11S1	WAKE ISLAND Hy	91.18	301	T	T	05 16 59.4	
baz=148,slow=75,SNR=20							
ANMO	Albuquerque	91.57	18	LR	LR	04 08 55.2	
comp=Z,100nm,18.0s,baz=1,0,slow=30							
H11N3	WAKE ISLAND Hy	92.10	302	T	T	05 18 04.8	
baz=149,slow=76,SNR=12							
H11N1	WAKE ISLAND Hy	92.11	302	T	T	05 18 05.7	
baz=149,slow=76,SNR=14							
H11N2	WAKE ISLAND Hy	92.12	302	T	T	05 18 06.9	
baz=149,slow=76,SNR=13							
NVAR	Mina Array Bea	93.43	8	LR	LR	04 10 15.0	
comp=Z,310nm,18.4s,baz=181,slow=31							
BOSA	Boshof	93.90	157	LR	LR	04 15 09.4	
comp=Z,352nm,18.7s,baz=196,slow=34							
YBH	Yreka Blue Hor	96.42	5	LR	LR	04 09 39.1	
comp=Z,409nm,21.7s,baz=184,slow=29							
LBTB	Lobatse	97.45	157	LR	LR	04 16 07.5	
comp=Z,267nm,19.4s,baz=192,slow=33							
KAPI	Kappang	97.94	250	LR	LR	04 16 50.0	
comp=Z,292nm,20.6s,baz=140,slow=33							
PDAR	Pinedale Array	98.71	14	LR	LR	04 12 23.5	
comp=Z,176nm,20.6s,baz=186,slow=30							
ILAR	Eielson Array	120.15	351	PKP	PKPdf	03 41 20.3	-1.1
0.3nm,0.6s,baz=211,slow=1.9,SNR=6.2							
SONM	Songino Array	145.55	282	PKPbc	PKPab	03 42 10.4	+0.5
1.3nm,0.6s,baz=169,slow=2.9,SNR=8.4							
KEST	Kesra	145.63	106	PKPbc	PKPab	03 42 11.2	+0.7
2.0nm,0.8s,baz=297,slow=2.3,SNR=1.8							
EKA	Eskdalemuir Ar	149.65	67	PKPbc	PKPbc	03 42 20.6	+0.2
1.4nm,0.7s,baz=251,slow=2.2,SNR=4.7							
SPITS	Spitsbergen Ar	153.75	15	PKPab	PKPab	03 42 41.5	-0.9
4.6nm,0.8s,baz=307,slow=5.2,SNR=13							
MKAR	Makanchi Array	158.82	260	PKPab	PKPab	03 43 05.0	0.0
0.4nm,0.7s,baz=114,slow=6.4,SNR=2.2							
ZALV	Zalesovo Beam	160.44	281	PKPab	PKPab	03 43 12.8	+1.0
0.8nm,0.7s,baz=122,slow=4.1,SNR=3.9							

DJA 11 03:26:39.4±0.7,7°S±5°×12°1E±°,h499km±9km,M4.0/13, mB4.8/1,mb4.2/2,MLv3.9/13,Mw(mB)4.0/1,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.14	326	P	P	03 27 41.8	+0.7
MMRI	Maumere	1.88	144	P	P	03 27 44.8	+1.0
BBSI	Bau Bau	2.15	42	P	P	03 27 44.7	-0.5
WBSI	Waikabubak, Su	3.06	214	P	P	03 27 51.0	+0.3
WBSI				S	S	03 28 48.4	-0.3
BASI	Baing, Sumba	3.15	190	P	P	03 27 52.1	+0.8
BASI				S	S	03 28 50.1	+0.3
SPSI	Sidrap Palu	3.40	336	P	P	03 27 52.6	-0.6
PLAI	Plampang	3.74	242	P	P	03 27 56.7	+1.0
BATI	Baumata	3.98	141	P	P	03 27 57.9	+0.3
SOEI	Soe	4.07	131	P	P	03 27 58.3	-0.2
TWSI	Taliwang, Sumb	4.51	249	P	P	03 28 02.3	+0.3
JAGI	Jajag, Banyuwa	7.05	258	P	P	03 28 25.3	-0.8

WEL 11 03:26:40.6±1.0,32°S±18°×17°9W±4°7,h295km±14km, M4.3/7,mB4.5/4,MLv4.5/7,Mw(mB)3.6/4,Error ellipse: s-maj=65.2km s-min=5.6km az=111.1,confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.59	21	P	Pn	03 27 32.4	+0.3
GLKZ				S	S	03 28 13.4	+0.2
MXZ	Matakaoa Point	6.26	200	P	Pn	03 28 11.2	-1.6
MXZ				S	S	03 29 25.5	-1.6
WMGZ	Waiomatatini S	6.47	199	P	Pn	03 28 15.6	+0.3
WMGZ				S	S	03 29 33.6	+1.8
HAZ	Te Kaha	6.60	203	P	Pn	03 28 17.8	+0.9
HAZ				S	S	03 29 35.6	+1.0
PKGZ	Pakihiroa	6.61	201	P	Pn	03 28 17.4	+0.4
PKGZ				S	S	03 29 34.8	-0.1
PUZ	Puketiti	6.75	199	P	Pn	03 28 18.3	-0.4
PUZ				S	S	03 29 37.8	-0.2
RUGZ	Raukumara Rang	6.83	203	P	Pn	03 28 20.2	+0.5
RUGZ				S	S	03 29 41.6	+1.8
TWGZ	Tauwhareparae	6.93	200	P	Pn	03 28 20.2	-0.7
TWGZ				S	S	03 29 43.5	+1.5
CNGZ	Carnagh Statio	7.15	198	P	Pn	03 28 23.6	0.0
TKGZ	Te Karaka	7.21	200	P	Pn	03 28 24.0	-0.3
TKGZ				S	S	03 29 48.5	+0.3
URZ	Urewera	7.29	205	P	Pn	03 28 25.6	+0.4
URZ				S	S	03 29 49.3	-0.6
MUGZ	Murupara	7.61	206	P	Pn	03 28 28.8	-0.4
MUGZ				S	S	03 29 57.2	+0.1
RTZ	Ruatahuna	7.65	204	P	Pn	03 28 29.9	+0.1
KNZ	Kokohu	7.80	199	P	Pn	03 28 30.4	-1.1
KNZ				S	S	03 30 00.9	-0.5
ARHZ	Aropaoanui	8.23	202	P	Pn	03 28 37.3	+0.5
ARHZ				S	S	03 30 10.2	-0.8
MCHZ	McNeill Hill	8.49	203	P	Pn	03 28 40.7	+0.7
MCHZ				S	S	03 30 15.8	-1.2
KWHZ	Kaweka Forest	8.57	205	P	Pn	03 28 40.9	-0.1
KWHZ				S	S	03 30 16.5	-2.4
KAHZ	Kahuranaki	8.75	201	P	Pn	03 28 42.7	-0.6
KAHZ				S	S	03 30 22.7	-0.3
KRHZ	Kereru	8.78	204	P	Pn	03 28 42.5	-1.1
KRHZ				S	S	03 30 18.9	-4.7
DVHZ	Dannevirke	9.44	203	P	Pn	03 28 50.1	-1.6

IDC ***11*** *03:30:03.1±2.1,0°.35N×124°.63E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=232.8km s-min=29.2km az=63.0*

DJA ***11*** *03:30:13.7±1.3,1°N±3°×12°6E±°,h24km±12km,M3.7/7, MLv3.7/7*

ISC 11 03:30:12.2±1.4,0°.9N±0°.1×126°.08E±0°.06,h10km,n8, σ3^{s}34/8,mb3.2/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.29	94	P	Pg	03 30 37.3	+0.3
TNTI				S	Sg	03 30 54.4	+0.7
KMSI	Cibinong	2.12	262	P	Pn	03 30 48.6	+0.9
KMSI				S	Sn	03 31 15.4	+1.2
SANI	Sanana	2.90	182	P	Pn	03 30 58.8	+0.3
LUWI	Luwuk	3.82	240	P	Pn	03 31 13.0	+1.9
NLAI	Namlea	4.20	166	P	Pn	03 31 20.1	+3.7
WRA	Warramunga Arr	22.21	159	P	P	03 35 03.1	-6.0
0.3nm,0.3s,baz=334,slow=11,SNR=2.0							
0.3nm,0.3s							
ASAR	Alice Springs	25.55	163	P	P	03 35 32.9	-8.5
0.2nm,0.4s,baz=345,slow=10,SNR=4.2							
0.2nm,0.4s							
MKAR	Makanchi Array	59.55	327	P	P	03 40 06.1	-10
0.2nm,0.4s,baz=122,slow=8.7,SNR=2.7							
0.2nm,0.4s							

SJA ***11*** *03:32:59.5±0.6,21°.27S×68°.73W,h139km±5km,ML4.6, MW4.4*

RSNC ***11*** *03:33:01.5±1.8,21°S±10°×6°9W±1°0,h123km±21km,M4.4, mB5.1,mb4.6,Mw(mB)4.7,MwMwp4.5,Mwp4.9*

NEIC ***11*** *03:33:01.5±1.9,21°.26S±0°.02×68°.65W±0°.07,h119km±5km, mb4.8/100,Mww4.6/10,Error ellipse: s-maj=9.8km s-min=2.9km az=82.0*

GUC ***11*** *03:33:02.2±0.8,21°.28S×68°.73W,h130km±5km,ML4.5*

VAO ***11*** *03:33:02.4±0.3,21°.18S×68°.43W,h123km,mb4.9*

IDC ***11*** *03:33:03.1±0.6,21°.20S×68°.34W,h128km±5km,mb4.2/11, mbtmp4.6/15,MS3.4/4,Error ellipse: s-maj=16.7km s-min=12.5km az=80.0*

ISC 11 03:33:01.3±0.4,21°.28S±0°.03×68°.64W±0°.04,h125km±4km, n227,σ1^{s}62/259,mb4.8/47,5C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.76	227		Pn	03 33 22.4	+0.6
PB09				Sn	Sn	03 33 37.2	-0.2
PB09	IPOC Station P	0.76	227	⇑iP	Pn	03 33 22.5	+0.6
PB09				eS	Sn	03 33 38.2	+0.8
PB09				IAML		03 33 39.8	
comp=E,10μm,0.4s							
PB09	IPOC Station P	0.76	227	eP	Pn	03 33 21.7	-0.1
PB09				IAML		03 33 39.3	
comp=Z,10μm,1.1s							
PB01	IPOC Station P	0.83	286	Pn	Pn	03 33 22.4	+0.2
PB01				Sn	Sn	03 33 37.1	-1.0
PB01	IPOC Station P	0.83	286	eP	Pn	03 33 22.2	-0.1
PB01				eS	Sn	03 33 37.7	-0.4
PB01	IPOC Station P	0.83	286	eP	Pn	03 33 22.1	-0.1
PB01				eS	Sn	03 33 37.9	-0.2
PB01				IAML		03 33 41.0	
comp=Z,9μm,0.2s							
PB08	IPOC Station P	1.23	337	Pn	Pn	03 33 26.9	+0.5
PB08				Sn	Sn	03 33 45.6	0.0
PB08	IPOC Station P	1.23	337	eP	Pn	03 33 27.1	+0.6
PB08				IAML		03 33 46.9	
comp=N,4μm,0.2s							
PB08	IPOC Station P	1.23	337	eP	Pn	03 33 27.0	+0.5
PB08				eS	Sn	03 33 47.2	+1.6
PB08				IAML		03 33 48.7	
comp=Z,4μm,0.4s							
PB03	IPOC Station P	1.29	233	⇑iP	Pn	03 33 27.2	+0.4
PB03				eS	Sn	03 33 46.3	0.0
PB03				IAML		03 33 47.8	
comp=N,7μm,0.4s							
PB03	IPOC Station P	1.29	233	eP	Pn	03 33 27.1	+0.3
PB03				eS	Sn	03 33 46.6	+0.3
PB03				IAML		03 33 49.6	
comp=Z,6μm,0.2s							
TA01	Diego Aracena	1.61	296	Pn	Pn	03 33 30.0	-0.2
TA01				Sn	Sn	03 33 51.0	-1.4
TA01	Diego Aracena	1.61	296	iP	Pn	03 33 30.2	-0.1
TA01				iS	Sn	03 33 51.4	-0.9
TA01	Diego Aracena	1.61	296	eP	Pn	03 33 29.4	-0.8
TA01				eS	Sn	03 33 52.4	+0.1
TA01				IAML		03 33 56.0	
comp=Z,9μm,0.5s							
PB06	IPOC Station P	1.67	211	⇑iP	Pn	03 33 31.7	+0.6
PB06	IPOC Station P	1.67	211	eP	Pn	03 33 31.6	+0.5
PB06				eS	Sn	03 33 54.6	+0.7
PB06				IAML		03 33 56.4	
comp=Z,5μm,0.3s							
AF01	San Pedro de A	1.72	166	Pn	Pn	03 33 32.8	+0.9
AF01				Sn	Sn	03 33 57.0	+1.8
AF01	San Pedro de A	1.72	166	eP	Pn	03 33 33.5	+1.6
AF01	San Pedro de A	1.72	166	eP	Pn	03 33 33.0	+1.1
AF01				IAML		03 34 15.7	
comp=Z,5μm,0.9s							
TA02	Huaiquique	1.72	305	Pn	Pn	03 33 31.0	-0.5
TA02				Sn	Sn	03 33 53.5	-1.2
TA02	Huaiquique	1.72	305	eP	Pn	03 33 31.3	-0.2
TA02				eS	Sn	03 33 53.7	-1.0
TA02				IAML		03 33 54.6	
comp=E,12μm,0.5s							
TA02	Huaiquique	1.72	305	eP	Pn	03 33 31.1	-0.5
TA02				eS	Sn	03 33 56.0	+1.3
TA02				IAML		03 34 00.9	
comp=Z,4μm,0.8s							
PB11	IPOC Station P	1.79	327	Pn	Pn	03 33 32.0	-0.6
PB11				Sn	Sn	03 33 55.8	-0.6
PB11	IPOC Station P	1.79	327	eP	Pn	03 33 32.3	-0.2
PB11				eS	Sn	03 33 56.3	-0.1
PB11				IAML		03 33 58.0	
comp=E,7μm,0.2s							
PB11	IPOC Station P	1.79	327	eP	Pn	03 33 32.3	-0.2
PB11				eS	Sn	03 33 56.9	+0.5
PB11				IAML		03 33 57.3	
comp=Z,3μm,0.4s							
PB10	IPOC Station P	2.85	218	eP	Pn	03 33 45.5	-0.2
PB10				eS	Sn	03 34 10.2	-10
YJA	Yavi	3.04	108	eP	Pn	03 33 50.2	+1.6
YJA				eS	Sn	03 34 27.9	+2.8
PB12	IPOC Station P	3.09	329	Pn	Pn	03 33 47.0	-2.0
PB12				Sn	Sn	03 34 21.8	-4.0
PB12	IPOC Station P	3.09	329	eP	Pn	03 33 47.5	-1.5
PB12				eS	Sn	03 34 25.1	-0.7
PB12				IAML		03 34 33.4	
comp=Z,846nm,0.4s							
AP01	Chacalluta	3.31	331	Pn	Pn	03 33 50.2	-1.5
AP01				Sn	Sn	03 34 29.7	-1.1
AP01	Chacalluta	3.31	331	eP	Pn	03 33 50.7	-1.0
AP01				eS	Sn	03 34 18.2	-12
AP01				IAML		03 34 36.0	
comp=Z,1μm,0.5s							
PB14	IPOC Station P	3.71	206	Pn	Pn	03 33 56.7	-0.6
PB14				Sn	Sn	03 34 35.8	-4.9
PB14	IPOC Station P	3.71	206	eP	Pn	03 33 56.4	-1.0
PB14				eS	Sn	03 34 25.5	-15
PB14				IAML		03 34 51.5	
comp=Z,1μm,0.8s							
PB18	Visviri	3.75	348	Pn	Pn	03 33 59.5	+1.4
PB18				Sn	Sn	03 34 35.6	-6.5
PB18	Visviri	3.75	348	eP	Pn	03 34 00.1	+1.9
GO02	Mina Guanaco	3.96	193	Pn	Pn	03 34 00.3	-0.5
GO02				Sn	Sn	03 34 44.8	-2.0
GO02	Mina Guanaco	3.96	193	eP	Pn	03 33 59.7	-1.0
GO02				eS	Sn	03 34 31.0	-16
SLA	San Lorenzo	4.48	140	eP	Pn	03 34 04.1	-3.4
LPAZ	La Paz	4.99	6	Pn	Pn	03 34 15.2	+0.4
LPAZ	La Paz	4.99	6	P	Pn	03 34 15.8	+1.1
comp=Z,51nm,0.6s,baz=204,slow=5.3,SNR=195							
LPAZ				S	Sn	03 35 08.6	-3.1
comp=Z,114nm,1.0s,baz=213,slow=10,SNR=5.2							
LPAZ				LR	LR	03 35 58.6	
comp=Z,94nm,19.1s,baz=142,slow=36							
LPAZ	La Paz	4.99	6	eP	Pn	03 34 16.5	+1.8
AC01	Pan de Azucar	5.17	200	Pn	Pn	03 34 14.4	-2.2
AC01	Pan de Azucar	5.17	200	eP	Pn	03 34 14.8	-1.7
AC01				eS	Sn	03 35 11.2	-4.0
AC01				IAML		03 35 30.9	
comp=Z,427nm,0.6s							
AC02	Maricunga	5.55	185	Pn	Pn	03 34 21.8	-0.4
AC06	Mina Casimiro	6.25	194	Pn	Pn	03 34 28.0	-3.2
AC04	Llanos de Chal	7.24	197	Pn	Pn	03 34 39.9	-4.5
LCO	Las Campanas	7.92	193	Pn	Pn	03 34 49.8	-4.2
CO01	Juntas del Tor	8.76	188	Pn	Pn	03 35 02.9	-2.3
SIV	San Ignacio	8.89	55	P	Pn	03 35 03.2	-3.6
comp=Z,247nm,0.5s,baz=254,slow=8.9,SNR=696							
SIV				LR	LR	03 39 01.6	
comp=Z,90nm,21.9s,baz=264,slow=42							
MURT	Porto Murtinho	10.28	94	eP	Pn	03 35 22.9	-2.5
CFA	Coronel Fontan	10.29	178	P	Pn	03 35 22.2	-3.4
comp=Z,5.1nm,0.3s,baz=7.1,slow=12,SNR=49							
CFA				S	Sn	03 37 10.7	-8.5
comp=Z,12nm,0.5s,baz=184,slow=18,SNR=8.0							
PTLB	Pontes e Lacer	10.72	59	Pn	Pn	03 35 26.9	-4.4
BDQN	Bodoquena, MS	11.14	88	eP	Pn	03 35 34.0	-3.0
CPUP	Villa Florida	11.51	118	Pn	Pn	03 35 38.6	-3.2
CPUP	Villa Florida	11.51	118	P	Pn	03 35 39.0	-2.8
comp=Z,5.3nm,0.7s,baz=278,slow=10,SNR=14							
CPUP	Villa Florida	11.51	118	eP	Pn	03 35 39.8	-2.0
VILB	Vilhena	11.55	46	Pn	Pn	03 35 39.2	-3.4
VILB	Vilhena	11.55	46	eP	Pn	03 35 39.8	-2.8
VA03	San Esteban	11.57	188	Pn	Pn	03 35 38.0	-4.7
AQDB	Aquidauana	12.12	89	Pn	Pn	03 35 48.8	-1.1
AQDB	Aquidauana	12.12	89	eP	Pn	03 35 48.0	-1.9
NNA	Nana	12.13	318	P	Pn	03 35 48.8	-1.3
comp=Z,11nm,0.6s,baz=184,slow=12,SNR=5.8							
MT02	Curacav	12.14	190	Pn	Pn	03 35 48.6	-1.5
MT08	Bocatoma Ro	12.18	185	Pn	Pn	03 35 50.0	-0.8
MT13	San Alfonso	12.50	186	Pn	Pn	03 35 52.4	-2.5

SPB Sao Paulo 19.74 101 eP P P 03 37 21.9 +0.6
LL04 Puerto Octay 19.83 188 P P P 03 37 22.5 +0.4
LL04 IAmb IAmb 03 37 24.3
comp=Z,18nm,0.8s
VAO Valinhos 20.15 99 P P P 03 37 24.0 -1.8
VAO IAmb IAmb 03 37 25.7
comp=Z,35nm,0.5s
VAO Valinhos 20.15 99 eP P P 03 37 24.4 -1.4
BDFB Brasilia 20.34 77 P P P 03 37 26.3 -1.7
BDFB Brasilia 20.34 77 P P P 03 37 26.4 -1.6
comp=Z,40nm,0.5s,baz=250,slow=10,SNR=146
comp=Z,40nm,0.5s
LL05 Los Muermos 20.48 190 P P P 03 37 30.3 +1.2
PMNB Patos De Minas 21.05 86 eP P P 03 37 34.3 -1.2
LL01 San Ignacio de 21.28 188 P P P 03 37 37.7 +0.1
LL01 IAmb IAmb 03 37 43.9
comp=Z,21nm,0.8s
LL02 Futaleuf 22.02 186 P P P 03 37 46.8 +1.3
GO07 Milladeo Hill, 22.18 190 P P P 03 37 48.0 +0.9
AY01 Puyuhuapi 23.32 187 P P P 03 37 57.8 -0.3
OTAV Otavalo 23.43 335 eP P P 03 38 01.9 +1.9
DIAM Diamantina, MG 23.67 87 eP P P 03 38 01.5 -0.3
FLOC Florencia 23.73 342 P P P 03 38 02.5 +0.4
FLOC IAmb IAmb 03 38 32.3
comp=Z,13nm,0.7s
MAL2 Monte Alegre, 23.77 38 P P P 03 38 00.8 -1.7
JANB Januaria 23.91 79 eP P P 03 38 02.5 -1.3
SDBA SAO DESIDERIO 24.34 73 eP P P 03 38 07.1 -0.6
COYC Coyhaique 24.40 186 P P P 03 38 08.4 +0.6
BOAV Boa Vista 24.83 20 P P P 03 38 12.3 +0.2
BOAV IAmb IAmb 03 38 13.1
comp=Z,41nm,0.6s
BOAV Boa Vista 24.83 20 eP P P 03 38 12.5 +0.4
CAM01 Campos-RJ 25.09 96 eP P P 03 38 13.0 -1.4
SJMB Sao Joao De Ma 25.91 89 eP P P 03 38 21.3 -0.6
BSFB Barra de Sao F 26.21 90 eP P P 03 38 23.8 -0.7
RIB01 Linhares ES 26.55 91 eP P P 03 38 27.2 -0.4
RUSC La Rusia 27.35 350 P P P 03 38 35.4 +0.1
RUSC IAmb IAmb 03 39 06.0
comp=Z,17nm,0.8s
TMAB Tom-Au,PA,Br 27.45 50 eP P P 03 38 34.7 -1.0
GUA01 Guaratinga, BA 27.65 85 eP P P 03 38 37.3 -0.2
NBPB Pedra_Branca-C 32.20 65 eP P P 03 39 18.4 +0.6
NBAN Anadia - AL 33.18 75 eP P P 03 39 26.7 +0.5
RCBR Riachuelo 35.22 69 P P P 03 39 43.0 -0.9
RCBR IAmb IAmb 03 39 46.0
comp=Z,17nm,0.8s
MPOM Morne Pois Mar 36.31 13 P P P 03 39 52.3 -0.7
BIM Bigot 36.34 12 P P P 03 39 52.3 -1.0
OBIP Obispado Ponce 39.13 3 P P P 03 40 15.3 -1.4
PDPR Patillas Dam, 39.14 4 P P P 03 40 14.7 -2.0
CELP Cerrillos 39.16 3 P P P 03 40 14.8 -2.2
SJG San Juan 39.22 4 P P P 03 40 15.4 -2.0
SJG IAmb IAmb 03 40 18.3
comp=Z,37nm,1.2s
UUPR Utuado, UPR, P 39.33 3 P P P 03 40 16.7 -1.6
GCPR Guaynabo City 39.42 4 P P P 03 40 17.0 -2.2
GCPR IAmb IAmb 03 40 26.0
comp=Z,43nm,1.4s
AOPR Arecibo Observ 39.42 3 P P P 03 40 17.1 -2.1
061Z Ochoppi 48.35 345 P P P 03 41 31.1 +0.7
DWPF Disney Wildern 50.63 345 P P P 03 41 48.2 +0.6
NHSC New Hope 55.19 348 P P P 03 42 20.5 -0.5
JSC Jenkinsville 56.54 347 P P P 03 42 30.4 -0.3
JSC IAmb IAmb 03 43 04.0
comp=Z,5.3nm,0.9s
BIRD Birdtown, Kers 56.74 348 P P P 03 42 33.0 +1.0
BIRD IAmb IAmb 03 43 04.5
comp=Z,14nm,0.9s
HNDO Hondo 58.51 329 P P P 03 42 44.2 -0.3
HNDO IAmb IAmb 03 43 17.5
comp=Z,4.3nm,0.7s
SWET Sewanee 58.53 343 P P P 03 42 44.3 -0.4
SWET IAmb IAmb 03 42 45.5
comp=Z,6.0nm,0.6s
BLA Blacksburg 59.23 349 P P P 03 42 49.0 -0.4
WVT Waverly 59.91 342 P P P 03 42 53.8 -0.3
WVT IAmb IAmb 03 43 25.2
comp=Z,6.5nm,0.8s
S54A Dingess, Beckl 59.96 348 P P P 03 42 54.8 +0.4
S54A IAmb IAmb 03 42 56.5
comp=Z,14nm,1.0s
VNA3 Neumayer Olymp 60.20 161 ⇑P P P 03 42 57.6 +1.9
comp=Z,7.5nm,0.8s
R55A Marlinton 60.22 350 P P P 03 42 56.7 +0.5
R55A IAmb IAmb 03 43 26.3
comp=Z,20nm,1.3s
MIAR Mount Ida 60.37 336 P P P 03 42 57.2 0.0
MIAR IAmb IAmb 03 43 28.8
comp=Z,3.2nm,0.7s
Q56A Snyder Ridge, 60.81 351 P P P 03 43 01.6 +1.4
Q56A IAmb IAmb 03 43 02.5
comp=Z,11nm,0.8s
PBMO Poplar Bluff 61.30 340 P P P 03 43 02.6 -0.8
PBMO IAmb IAmb 03 43 34.8
comp=Z,6.4nm,0.6s
LOOK Love County 61.32 333 P P P 03 43 02.3 -1.4
LOOK IAmb IAmb 03 43 19.4
comp=Z,5.2nm,0.6s
MCWV Mont Chateau 61.52 350 P P P 03 43 04.8 0.0
P53A Whipple 61.61 349 P P P 03 43 06.2 +0.6
P53A IAmb IAmb 03 43 07.8
comp=Z,17nm,0.9s
O54A Avella 62.11 350 P P P 03 43 09.4 +0.5
O54A IAmb IAmb 03 43 10.4
comp=Z,9.3nm,0.8s
SSPA Standing Stone 62.19 352 P P P 03 43 10.3 +1.0
SSPA IAmb IAmb 03 43 10.6
comp=Z,25nm,1.4s
MGMO Mountain Grove 62.24 339 P P P 03 43 10.6 +0.7
ODNJ Ogdensburg 62.29 355 P P P 03 43 10.2 +0.2
ODNJ IAmb IAmb 03 43 40.9
comp=Z,19nm,1.3s
O53A New Philadelph 62.32 349 P P P 03 43 10.9 +0.7
O53A IAmb IAmb 03 43 47.2
comp=Z,19nm,1.5s
SNAA Sanae 62.41 161 P P P 03 43 11.9 +1.3
SNAA IAmb IAmb 03 43 29.1
comp=Z,16nm,1.3s
SNAA Sanae 62.41 161 ⇑P P P 03 43 12.3 +1.8
comp=Z,114nm,0.7s
SNAA Sanae 62.41 161 P P P 03 43 11.9 +1.3
comp=Z,4.6nm,0.7s,baz=278,slow=9.1,SNR=11
comp=Z,4.6nm,0.7s
M57A Sunshine Farm, 62.79 353 P P P 03 43 14.2 +0.8
KSPA Keystone Colle 62.86 354 P P P 03 43 14.5 +0.7
KSPA IAmb IAmb 03 43 38.6
comp=Z,27nm,1.4s
R40A Maddies Statio 63.27 339 P P P 03 43 16.9 +0.3
R40A IAmb IAmb 03 43 17.6
comp=Z,4.6nm,0.6s
HRV Adam Dziewonsk 63.52 358 P P P 03 43 18.5 +0.4
L56A Greenwood 63.63 353 P P P 03 43 19.2 +0.3
L56A IAmb IAmb 03 43 20.5
comp=Z,10nm,0.6s
ERPA Erie 63.94 351 P P P 03 43 21.3 +0.4
WVNY West Valley, N 64.03 352 P P P 03 43 22.2 +0.7
MMNY Mt. Morris Dam 64.26 352 P P P 03 43 23.4 +0.5
NCB Newcomb 65.13 356 P P P 03 43 29.2 +0.6
DELO Deloro Mine 65.99 353 P P P 03 43 34.5 +0.4
DELO IAmb IAmb 03 43 49.7
comp=Z,19nm,1.1s
WBO Williamsburg 66.23 355 P P P 03 43 36.2 +0.6
WBO IAmb IAmb 03 44 04.6
comp=Z,15nm,1.2s
F64A Sherman 66.82 0 P P P 03 43 39.5 +0.2
E62A Clayton Lake 67.58 359 P P P 03 43 45.0 +0.9
E62A IAmb IAmb 03 44 21.4
comp=Z,32nm,1.5s
D62A Allapoint, All 68.04 360 P P P 03 43 47.6 +0.6
D62A IAmb IAmb 03 43 51.8
comp=Z,30nm,1.4s
DBIC Dimbokro 68.43 73 P P P 03 43 50.0 -0.2
DBIC Dimbokro 68.43 73 P P P 03 43 50.2 0.0
comp=Z,24nm,0.8s,baz=232,slow=6.5,SNR=32
comp=Z,24nm,0.8s
QSPA South Pole Qui 68.91 180 P P P 03 43 54.6 +2.1
QSPA IAmb IAmb 03 43 56.0
comp=Z,17nm,1.2s
QSPA South Pole Qui 68.91 180 P P P 03 43 55.0 +2.5
comp=Z,4.0nm,0.6s,baz=175,slow=0.9,SNR=26
QSPA pP pP 03 44 26.6 +2.2
comp=Z,2.9nm,0.6s,baz=169,slow=5.2,SNR=4.3
comp=Z,4.0nm,0.6s

LDAQ Lac Daran 68.96 358 P P P 03 43 53.5 +0.7
LDAQ IAmb IAmb 03 44 34.9
comp=Z,18nm,1.4s
VLDQ Val d'Or 69.52 354 P P P 03 43 57.0 +0.9
VLDQ IAmb IAmb 03 43 58.0
comp=Z,8.8nm,0.7s
ECSD EROS Data Cent 69.60 339 P P P 03 43 56.9 +0.1
ICQ Pointe Anglais 70.49 1 P P P 03 44 02.3 +0.3
ICQ IAmb IAmb 03 44 03.5
comp=Z,8.9nm,0.9s
EYMN Ely 71.90 344 P P P 03 44 10.0 -0.6
BSUT Blindstream Ca 72.92 328 P P P 03 44 19.2 +1.9
TPNV Topopah Spring 73.28 322 P P P 03 44 21.1 +1.9
SPR3 Spring Creek 3 73.65 324 P P P 03 44 24.0 +2.5
PDAR Pinedale Array 74.05 330 P P P 03 44 25.2 +1.5
comp=Z,0.5nm,0.5s,baz=124,slow=7.9,SNR=8.8
comp=Z,0.5nm,0.5s
HWUT Hardware Ranch 74.13 328 P P P 03 44 26.0 +1.9
ULM Lac du Bonnet 75.18 342 P P P 03 44 30.0 +0.3
ULM Lac du Bonnet 75.18 342 P P P 03 44 30.1 +0.4
comp=Z,2.0nm,0.5s,baz=166,slow=5.4,SNR=7.7
ULM LR LR 04 19 53.1
comp=Z,55nm,18.4s,baz=61,slow=37
comp=Z,2.0nm,0.5s
NVAR Mina Array Bea 75.48 322 P P P 03 44 34.7 +2.7
comp=Z,1.7nm,0.8s,baz=166,slow=7.2,SNR=9.5
NVAR pP pP 03 45 06.2 +1.7
comp=Z,1.2nm,0.8s,baz=148,slow=5.8,SNR=4.0
comp=Z,1.7nm,0.8s
RLMT Red Lodge 75.74 332 IAmb IAmb 03 44 53.3
comp=Z,14nm,0.7s
SCHQ Schefferville 75.81 1 P P P 03 44 33.8 +0.5
SCHQ IAmb IAmb 03 44 48.4
comp=Z,6.3nm,0.6s
SCHQ Schefferville 75.81 1 P P P 03 44 33.5 +0.2
comp=Z,3.6nm,0.7s,baz=209,slow=4.4,SNR=8.3
comp=Z,3.6nm,0.7s
YHL Hebgen Lake 76.40 330 P P P 03 44 40.0 +2.8
TORD Torodi Ar. Bea 77.04 70 P P P 03 44 40.4 -0.7
TORD IAmb IAmb 03 44 41.9
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 77.04 70 P P P 03 44 40.7 -0.4
comp=Z,12nm,0.6s,baz=249,slow=5.2,SNR=20
comp=Z,12nm,0.6s
MCMT McKenzie Canyo 77.16 329 P P P 03 44 43.0 +1.6
PLID Pearl Lake 78.88 328 P P P 03 44 52.6 +1.8
PINE Pine Mountain 80.55 324 IAmb IAmb 03 45 03.5
comp=Z,7.7nm,0.8s
C09A Chrisman Ranch 81.91 329 IAmb IAmb 03 45 09.6
comp=Z,6.7nm,0.6s
ESDC Sonseca Array 85.50 44 P P P 03 45 25.4 +0.1
ESDC Sonseca Array 85.50 44 P P P 03 45 26.2 +1.0
comp=Z,2.3nm,1.1s,baz=246,slow=5.4,SNR=8.2
comp=Z,2.3nm,1.1s
YKA Yellowknife Ar 91.06 340 P P P 03 45 52.5 +1.5
comp=Z,2.8nm,0.6s,baz=138,slow=4.4,SNR=53
YKA pP pP 03 46 25.2 +0.5
comp=Z,1.8nm,0.7s,baz=139,slow=4.6,SNR=4.8
comp=Z,2.8nm,0.6s
RES Resolute Bay 97.21 353 LR LR 04 33 29.3
comp=Z,81nm,18.2s,baz=152,slow=37
ASAR Alice Springs 130.23 207 PKP PKiKP 03 51 58.6 +0.3
comp=Z,0.1nm,0.3s,baz=159,slow=3.8,SNR=4.6
ASAR pPKP pPKPdf 03 52 32.4 0.0
comp=Z,0.4nm,0.7s,baz=132,slow=1.4,SNR=2.3
WRA Warramunga Arr 133.27 210 PKP PKiKP 03 52 04.9 +0.4
comp=Z,0.5nm,0.6s,baz=146,slow=1.7,SNR=2.4
WRA pPKP pPKPdf 03 52 37.4 -0.8
comp=Z,0.5nm,0.7s,baz=141,slow=1.9,SNR=2.1
BVAR Borovoye Array 135.47 34 PKP PKiKP 03 52 08.3 +0.4
comp=Z,0.5nm,0.7s,baz=318,slow=1.9,SNR=2.7
KURBB Kurchatov Arra 141.01 33 PKhKP PKPpre 03 52 12.9
comp=Z,0.3nm,0.6s,baz=285,slow=2.7,SNR=2.3
ZALV Zalesovo Beam 141.65 25 PKP PKPdf 03 52 18.5 +0.9
comp=Z,2.1nm,0.6s,baz=269,slow=5.1,SNR=7.5
ZALV pPKP pPKPdf 03 52 52.7 0.0
comp=Z,0.8nm,0.7s,baz=238,slow=1.0,SNR=1.8
KSH Kashi 144.76 51 PKP PKPdf 03 52 24.3 +0.6
MAKZ Makanchi 145.12 36 PKPdf PKPdf 03 52 24.7 +0.8
MK31 Makanchi Array 145.31 36 PKPdf PKPab 03 52 25.6 +1.0
MKAR Makanchi Array 145.31 36 PKPdf PKPab 03 52 25.3 +0.7
MKAR Makanchi Array 145.31 36 PKPbc PKPab 03 52 25.8 +1.2
comp=Z,6.9nm,0.7s,baz=328,slow=3.8,SNR=70
MKAR pPKPbc pPKPdf 03 52 59.9 +0.3
comp=Z,1.4nm,0.9s,baz=321,slow=3.1,SNR=1.7
SONM Songino Array 153.20 7 PKPbc PKiKP 03 52 46.0 +1.4
comp=Z,0.7nm,0.4s,baz=301,slow=1.4,SNR=8.4
HHC Hu-ho-hao-te 160.49 360 eP PKPdf 03 52 47.6 +1.2
NJ2 Nanjing 167.36 330 eP PKPdf 03 52 53.3 +0.5
NJ2 pmax pmax
comp=Z,11nm,0.5s
PZH PanZhiHua 169.78 58 PKP PKPdf 03 52 53.5 -1.2

CATAC 11 03:52:02.8±0.3, 12°N±2°×8°7W±°, h30km±2km, M4.0/43, MLv4.0/43, Error ellipse: s-maj=4.3km s-min=1.9km az=29.4, confirmed
UCR 11 03:52:03.1±0.7, 12°07N×87°14W, h65km±19km, MW3.8
SNET 11 03:52:04.9±1.1, 12°41N×87°17W, h104km±31km, ML3.6
ISC 11 03:52:03.0±1.2, 11°98N±0°04×87°20W±0°03, h32km±11km, n212, a0°63/225, 12C-20D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BC86	Nagarote	0.68	65	⇑P	Pb	03 52 16.5	-0.1
BC86	Nagarote	0.68	65	P	Pb	03 52 16.4	-0.1
BC86	Nagarote	0.68	65	S	Sb	03 52 26.6	+0.8
BC86	Nagarote	0.68	65	P	Pb	03 52 16.1	-0.5
TEL3	Telica 3	0.69	30	⇓P	Pb	03 52 16.5	-0.1
TEL3	Telica 3	0.69	30	P	Pb	03 52 16.6	-0.1
TEL3	Telica 3	0.69	30	P	Pb	03 52 16.6	-0.1
QUEN	Al S del Volca	0.70	29	P	Pb	03 52 16.4	-0.5
QUEN				S	Sb	03 52 26.9	+0.6
QUEN	Al S del Volca	0.70	29	P	Pb	03 52 15.9	-1.0
CNGA	Al SSO del Vol	0.71	43	⇓P	Pb	03 52 16.8	-0.2
CNGA	Al SSO del Vol	0.71	43	P	Pb	03 52 16.9	-0.2
CNGA				S	Sb	03 52 26.7	+0.2
CNGA	Al SSO del Vol	0.71	43	P	Pb	03 52 16.8	-0.2
LEVN	Ruinas Leon Vi	0.71	53	⇓P	Pb	03 52 16.6	-0.3
LEVN	Ruinas Leon Vi	0.71	53	P	Pb	03 52 16.7	-0.3
LEVN				S	Sb	03 52 27.1	+0.6
LEVN	Ruinas Leon Vi	0.71	53	P	Pb	03 52 16.6	-0.3
CNGN	Cerro Negro	0.71	43	⇓P	Pb	03 52 16.7	-0.4
CNGN	Cerro Negro	0.71	43	P	Pb	03 52 16.7	-0.4
CNGN	Cerro Negro	0.71	43	S	Sb	03 52 27.6	+0.9
CNGN	Cerro Negro	0.71	43	P	Pb	03 52 16.8	-0.4
HERN	Volcan Telica	0.72	30	P	Pb	03 52 10.0	-7.4
CRIN	San Cristobal	0.73	11	⇓P	Pb	03 52 17.3	-0.1
CRIN	San Cristobal	0.73	11	P	Pb	03 52 17.4	-0.1
CRIN	San Cristobal	0.73	11	S	Sb	03 52 28.3	+1.0
CRIN	San Cristobal	0.73	11	P	Pb	03 52 17.4	-0.1
CRIN	San Cristobal	0.73	11	eP	Pb	03 52 17.3	-0.1
PLRN	Geotermica Pol	0.74	35	⇓P	Pb	03 52 16.9	-0.5
PLRN	Geotermica Pol	0.74	35	P	Pb	03 52 17.0	-0.5
PLRN				S	Sb	03 52 27.5	+0.2
PLRN	Geotermica Pol	0.74	35	P	Pb	03 52 17.0	-0.5
POLN	Al Sur del Vol	0.77	29	⇑P	Pb	03 52 17.5	-0.5
POLN	Al Sur del Vol	0.77	29	P	Pb	03 52 17.5	-0.5
POLN				S	Sb	03 52 28.4	+0.2
POLN	Al Sur del Vol	0.77	29	P	Pb	03 52 17.6	-0.5
ILCN	San Idelfonso	0.77	39	⇓P	Pb	03 52 10.8	-7.3
ILCN	San Idelfonso	0.77	39	P	Pb	03 52 10.8	-7.2
ILCN	San Idelfonso	0.77	39	P	Pb	03 52 10.8	-7.3
MOMN	Momotombo	0.77	56	⇓P	Pb	03 52 17.4	-0.7
MOMN	Momotombo	0.77	56	P	Pb	03 52 17.4	-0.7
MOMN				S	Sb	03 52 28.6	+0.2
MOMN	Momotombo	0.77	56	P	Pb	03 52 17.4	-0.7
AMTN	Mateare	0.79	71	⇓P	Pb	03 52 18.1	-0.3
AMTN	Mateare	0.79	71	P	Pb	03 52 18.1	-0.3
AMTN	Mateare	0.79	71	S	Sb	03 52 29.2	+0.4
AMTN	Mateare	0.79	71	P	Pb	03 52 18.1	-0.3
SAPS	Ciudad Sandino	0.80	76	⇓P	Pb	03 52 17.9	-0.5
SAPS	Ciudad Sandino	0.80	76	S	Sb	03 52 29.4	+0.4
SAPS	Ciudad Sandino	0.80	76	P	Pb	03 52 18.0	-0.5
SAPS	Ciudad Sandino	0.80	76	P	Pb	03 52 18.0	-0.5
SAPS	Ciudad Sandino	0.80	76	S	Sb	03 52 29.7	+0.7
APYN	Apoyeque	0.87	73	⇓P	Pb	03 52 18.7	-0.9
APYN	Apoyeque	0.87	73	P	Pb	03 52 18.7	-0.9
APYN				S	Sb	03 52 30.5	-0.5
APYN	Apoyeque	0.87	73	P	Pb	03 52 18.8	-0.9
ABCN	Banco Central	0.88	80	P	Pn	03 52 19.3	+0.1
ABCN	Banco Central	0.88	80	S	Sb	03 52 31.4	+0.1
ABCN	Banco Central	0.88	80	P	Pn	03 52 19.4	+0.1

APQ2 Apoyeque 0.88 75 ⇑P Pn 03 52 19.0 -0.2
APQ2 Apoyeque 0.88 75 P Pn 03 52 19.1 -0.2
APQ2 S Sb 03 52 30.4 -0.9
APQ2 Apoyeque 0.88 75 P Pn 03 52 19.0 -0.2
USIM UNAN 0.91 81 S Sb 03 52 32.3 0.0
USIM UNAN 0.91 81 P Pn 03 52 19.7 0.0
USIM UNAN 0.91 81 P Pn 03 52 19.7 0.0
UNAN Cigeo UNAN 0.92 81 ⇓P Pn 03 52 19.6 -0.1
UNAN Cigeo UNAN 0.92 81 P Pn 03 52 19.7 -0.1
UNAN S Sb 03 52 32.1 -0.2
UNAN Cigeo UNAN 0.92 81 P Pn 03 52 19.6 -0.1
ALLN Telcor Managua 0.92 79 S Sb 03 52 31.4 -1.1
ALLN Telcor Managua 0.92 79 P Pn 03 52 19.7 0.0
ALLN Telcor Managua 0.92 79 P Pn 03 52 19.8 0.0
TISN Laguna Tiscapa 0.92 80 ⇓P Pn 03 52 19.7 -0.1
TISN Laguna Tiscapa 0.92 80 P Pn 03 52 19.9 0.0
TISN Laguna Tiscapa 0.92 80 P Pn 03 52 19.8 -0.1
ENAN Enatrel Managu 0.93 81 ⇑P Pn 03 52 20.3 +0.4
ENAN Enatrel Managu 0.93 81 P Pn 03 52 20.3 +0.4
ENAN Enatrel Managu 0.93 81 S Sb 03 52 32.3 -0.4
ENAN Enatrel Managu 0.93 81 P Pn 03 52 20.3 +0.4
R4DEC Barrio San Lui 0.94 79 ⇑P Pn 03 52 20.1 -0.1
R4DEC Barrio San Lui 0.94 79 P Pn 03 52 20.1 -0.1
R4DEC Barrio San Lui 0.94 79 S Sb 03 52 32.9 -0.3
R4DEC Barrio San Lui 0.94 79 P Pn 03 52 20.1 -0.1
R4DEC Barrio San Lui 0.94 79 S Sb 03 52 32.2 -1.0
MAFN Magfor 0.94 83 S Sb 03 52 33.1 -0.1
MAFN Magfor 0.94 83 P Pn 03 52 20.3 +0.1
MAFN Magfor 0.94 83 P Pn 03 52 20.3 +0.1
MGAN Managua 0.94 80 ⇓P Pn 03 52 20.0 -0.1
MGAN Managua 0.94 80 P Pn 03 52 20.1 -0.1
MGAN P Pn 03 52 20.1 -0.1
MGAN Managua 0.94 80 S Sb 03 52 32.4 -0.8
MGAN S 03 52 32.8
MGAN Managua 0.94 80 P Pn 03 52 11.8 -8.4
MGAN Managua 0.94 80 P Pn 03 52 20.1 -0.1
MGAN Managua 0.94 80 S Sb 03 52 32.2 -1.0
MGAN Managua 0.94 80 eP Pn 03 52 19.7 -0.4
MGAN eS Sb 03 52 32.8 -0.4
MAS3 Al N del Volca 1.00 87 P Pn 03 52 20.8 -0.2
MAS3 S Sb 03 52 34.0 -0.8
MAS3 Al N del Volca 1.00 87 P Pn 03 52 20.7 -0.2
SABN Sabanita 1.01 91 P Pn 03 52 19.9 -1.1
SABN Sabanita 1.01 91 ⇑P Pn 03 52 19.9 -1.1
SABN Sabanita 1.01 91 P Pn 03 52 20.0 -1.1
AERN Aeropuerto Man 1.02 80 P Pn 03 52 20.7 -0.5
AERN Aeropuerto Man 1.02 80 S Sn 03 52 34.3 -0.1
AERN Aeropuerto Man 1.02 80 P Sn 03 52 33.0 -1.5
MASN Masaya 1.02 89 P Pn 03 52 21.3 +0.1
MASN S Sn 03 52 34.6 +0.1
MASN Masaya 1.02 89 P Pn 03 52 21.9 +0.6
MASN Masaya 1.02 89 P Pn 03 52 21.8 +0.6
MASN Masaya 1.02 89 S Sn 03 52 35.5 +0.9
BC87 San Francisco 1.03 59 P Pn 03 52 21.1 -0.3
BC87 San Francisco 1.03 59 S Sn 03 52 35.1 +0.4
BC87 San Francisco 1.03 59 P Pn 03 52 21.1 -0.3
NANN Nandasmo 1.05 92 P Pn 03 52 22.0 +0.4
NANN Nandasmo 1.05 92 ⇓P Pn 03 52 22.4 +0.8
NANN Nandasmo 1.05 92 S Sn 03 52 36.3 +1.0
NANN Nandasmo 1.05 92 P Pn 03 52 22.6 +0.9
NANN Nandasmo 1.05 92 P Pn 03 52 22.6 +0.9
NANN Nandasmo 1.05 92 S Sn 03 52 36.3 +1.0
CSGN Cosiguina Volc 1.06 341 ⇑P Pn 03 52 21.6 -0.2
CSGN Cosiguina Volc 1.06 341 P Pn 03 52 21.6 -0.2
CSGN S Sn 03 52 35.6 +0.2
CSGN Cosiguina Volc 1.06 341 P Pn 03 52 21.6 -0.2
CSGN Cosiguina Volc 1.06 341 eP Pn 03 52 21.4 -0.3
CSGN eS Sn 03 52 35.3 -0.1
POTN Potosi Cosigui 1.06 344 ⇑P Pn 03 52 21.6 -0.2
POTN Potosi Cosigui 1.06 344 P Pn 03 52 21.6 -0.2
POTN S Sn 03 52 35.4 0.0
POTN Potosi Cosigui 1.06 344 P Pn 03 52 21.6 -0.2
LIMN Finca el Limon 1.35 37 ⇓P Pn 03 52 25.5 -0.3
LIMN Finca el Limon 1.35 37 P Pn 03 52 25.6 -0.3
LIMN Finca el Limon 1.35 37 P Pn 03 52 25.5 -0.3
CNCH Conchagua 1.44 334 eP Pn 03 52 26.9 -0.1
CNCH eS Sn 03 52 44.3 -0.6
CNCH IAML 03 52 52.1
comp=Z,4μm,0.4s
CNCH Conchagua 1.44 334 ⇓P Pn 03 52 27.0 0.0
CNCH Conchagua 1.44 334 P Pn 03 52 27.1 +0.1
CNCH Conchagua 1.44 334 P Pn 03 52 26.9 -0.1
CHOHN Orocuina 1.50 1 P Pn 03 52 27.9 0.0
JAPN AI SSO del Vol 1.55 107 P Pn 03 52 28.8 +0.3
JAPN AI SSO del Vol 1.55 107 P Pn 03 52 28.8 +0.3
BOAB BOACO BROADBAN .57 72 ⇓P Pn 03 52 28.1 -0.6
BOAB BOACO BROADBAN .57 72 P Pn 03 52 28.2 -0.6
BOAB BOACO BROADBAN .57 72 S Sn 03 52 48.1 +0.2
BOAB BOACO BROADBAN .57 72 P Pn 03 52 28.1 -0.6
CONN Concepcion 1.59 105 P Pn 03 52 22.9 -6.2
CONN Concepcion 1.59 105 P Pn 03 52 22.9 -6.2
LCRUZ La Cruz 1.78 120 eP Pn 03 52 31.1 -0.5
BLLM Bellamira 1.78 325 eP Pn 03 52 31.8 +0.1
LCY Lacayo 1.79 323 eP Pn 03 52 32.0 +0.1
RANC El Ranchito 1.80 324 eP Pn 03 52 32.1 0.0
RANC eS Sn 03 52 53.1 -0.7
RANC IAML 03 52 58.6
comp=Z,627nm,0.2s
CARN Rivas 1.82 115 P Pn 03 52 32.1 0.0
CARN S Sn 03 52 54.2 +0.1
CARN Rivas 1.82 115 P Pn 03 52 32.1 0.0
PACA Pacayal 1.85 324 eP Pn 03 52 32.8 +0.1
PACA Pacayal 1.85 324 S Sn 03 52 55.4 +0.3
PACA Pacayal 1.85 324 P Pn 03 52 32.9 +0.2
PACA Pacayal 1.85 324 P Pn 03 52 32.9 +0.2
PACA Pacayal 1.85 324 S Sn 03 52 55.5 +0.5
RCVN Varillal2 1.88 31 ⇑P Pn 03 52 33.3 +0.2
RCVN Varillal2 1.88 31 S Sn 03 52 56.6 +0.9
RCVN Varillal2 1.88 31 P Pn 03 52 33.3 +0.2
RCVN Varillal2 1.88 31 S Sn 03 52 56.5 +0.8
RCVN Varillal2 1.88 31 P Pn 03 52 33.3 +0.2
RCPN Sur Rio San Ju 1.88 35 ⇑P Pn 03 52 33.5 +0.4
RCPN Sur Rio San Ju 1.88 35 P Pn 03 52 33.5 +0.4
ALJI Alcalda de J 1.90 315 eP Pn 03 52 32.8 -0.4
TECA Tecapa 1.98 320 eP Pn 03 52 34.5 -0.1
ACON Acoyapa 1.98 90 P Pn 03 52 33.8 -0.6
ACON Acoyapa 1.98 90 S Sn 03 52 57.8 +0.3
ACON Acoyapa 1.98 90 P Pn 03 52 33.7 -0.6
ACON Acoyapa 1.98 90 eP Pn 03 52 33.8 -0.6
CAHU Cacaocuatique 2.04 331 eP Pn 03 52 33.8 -1.6
TGUH Tegucigalpa,Un 2.07 358 ⇓P Pn 03 52 36.2 +0.5
TGUH Tegucigalpa,Un 2.07 358 P Pn 03 52 36.3 +0.5
TGUH S Sn 03 53 00.5 0.0
TGUH Tegucigalpa,Un 2.07 358 P Pn 03 52 36.3 +0.5
ELI1 Hacienda Flor 2.09 129 eP Pn 03 52 36.8 +1.0
PQSS Presa 15 de Se 2.11 321 eP Pn 03 52 36.5 +0.3
PQSS IAML 03 53 05.1
comp=Z,93nm,0.2s
PQSS Presa 15 de Se 2.11 321 ⇑P Pn 03 52 36.6 +0.4
PQSS Presa 15 de Se 2.11 321 P Pn 03 52 36.6 +0.4
PQSS Presa 15 de Se 2.11 321 S Sn 03 53 01.2 -0.1
PQSS Presa 15 de Se 2.11 321 P Pn 03 52 36.7 +0.4
ALIBA Liberia Airpor 2.12 130 eP Pn 03 52 37.0 +0.7
VRLE La Escondida, 2.15 123 eP Pn 03 52 39.2 +2.4
TECO Alcaldia de Te 2.19 315 eP Pn 03 52 36.9 -0.3
TECO Alcaldia de Te 2.19 315 S Sn 03 53 02.1 -1.3
TECO Alcaldia de Te 2.19 315 P Pn 03 52 37.1 -0.3
TECO Alcaldia de Te 2.19 315 S Sn 03 53 01.9 -1.5
TECO Alcaldia de Te 2.19 315 P Pn 03 52 37.0 -0.3
UESV Universidad de 2.27 317 ⇑P Pn 03 52 38.4 +0.1
UESV Universidad de 2.27 317 S Sn 03 53 05.0 -0.2
UESV Universidad de 2.27 317 P Pn 03 52 38.5 +0.1
UESV Universidad de 2.27 317 P Pn 03 52 38.5 +0.1
SCLA Alcaldia de Sa 2.27 319 eP Pn 03 52 38.9 +0.4
SCLA Alcaldia de Sa 2.27 319 P Pn 03 52 39.3 +0.8
SCLA Alcaldia de Sa 2.27 319 S Sn 03 53 06.6 +1.1
SCLA Alcaldia de Sa 2.27 319 P Pn 03 52 39.0 +0.4
COEG Centro de Oper 2.32 315 eP Pn 03 52 38.9 -0.2
COEG Centro de Oper 2.32 315 S Sn 03 53 06.7 +0.1
COEG Centro de Oper 2.32 315 P Pn 03 52 39.2 0.0
COEG Centro de Oper 2.32 315 P Pn 03 52 39.1 0.0
HORNC Hornillas 2.34 122 eP Pn 03 52 39.8 +0.3
COLC Colonia 2.35 123 eP Pn 03 52 40.5 +1.0
BAGA Bagaces 2.38 127 eP Pn 03 52 41.7 +1.8
CUI Cuipilapa 2.39 123 eP Pn 03 52 40.2 +0.2
LFRS El Faro 2.45 312 eP Pn 03 52 40.7 -0.3
LOMA Loma Larga 2.54 311 eP Pn 03 52 42.1 -0.1
VERA Finca Concepci 2.54 116 eP Pn 03 52 41.5 -0.7
INDI Punta indio, G 2.68 141 P Pn 03 52 44.4 +0.4

INDI	Punta indio, G	2.68	141	S	Sn	03 53 12.8	-2.5
INDI	Punta indio, G	2.68	141	P	Pn	03 52 44.0	0.0
PMON	Piamonte	2.69	310	eP	Pn	03 52 44.4	+0.1
PMON	Piamonte	2.69	310	P	Pn	03 52 44.7	+0.4
PMON	Piamonte	2.69	310	P	Pn	03 52 44.6	+0.4
JAYA	Jayaque - finc	2.76	307	eP	Pn	03 52 44.9	-0.3
JAYA	Jayaque - finc	2.76	307	⇓P	Pn	03 52 45.1	-0.1
JAYA	Jayaque - finc	2.76	307	P	Pn	03 52 45.2	-0.1
JAYA	Jayaque - finc	2.76	307	P	Pn	03 52 45.1	-0.1
JTS	Las Juntas de	2.77	127	eP	Pn	03 52 45.2	-0.1
ARE1	Arenal 1	2.86	122	eP	Pn	03 52 46.5	0.0
VARE2	V. Arenal	2.86	122	eP	Pn	03 52 47.4	+0.8
NUBE	Las Nubes	3.16	308	P	Pn	03 52 51.0	+0.2
NUBE	Las Nubes	3.16	308	P	Pn	03 52 50.9	+0.2
MTO3	Montecristo	3.20	319	P	Pn	03 52 51.8	+0.4
MTO3	Montecristo	3.20	319	P	Pn	03 52 52.1	+0.7
MTO3	Montecristo	3.20	319	P	Pn	03 52 52.1	+0.7
ABE2	San Pablo	3.83	126	eP	Pn	03 53 01.8	+1.8
LCR2	La Lucha 2	3.84	125	eP	Pn	03 53 03.4	+3.2
DRK0	Durika	4.73	124	eP	Pn	03 53 13.2	+0.8
PIRO	Carate, Puerto	5.20	133	eP	Pn	03 53 20.6	+1.9

*IDC **11** 03:56:42.1±2.1, 15°.22S×173°.37W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=128.6km s-min=30.3km az=151.0*

ISC 11 03:56:46.7±1.9, 15°.2S±0°.7×173°.5W±0°.4, h30km, n6, σ0.54/6, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	50.13	252	P	P	04 05 39.6	-0.1
	0.5nm,0.6s,baz=83,slow=8.2,SNR=6.6						
	0.5nm,0.6s						
NVAR	Mina Array Bea	74.20	42	P	P	04 08 21.3	+0.2
	0.9nm,0.9s,baz=232,slow=11,SNR=5.0						
	0.9nm,0.9s						
TXAR	Lajitas Array	80.53	56	P	P	04 08 56.8	+0.2
	0.2nm,0.4s,baz=246,slow=4.2,SNR=2.6						
	0.2nm,0.4s						
PDAR	Pinedale Array	82.14	42	P	P	04 09 04.5	-0.4
	0.7nm,0.9s,baz=256,slow=8.9,SNR=5.0						
	0.7nm,0.9s						
ILAR	Eielson Array	82.25	11	P	P	04 09 04.4	-0.3
	0.3nm,0.8s,baz=207,slow=5.2,SNR=4.5						
	0.3nm,0.8s						
BRTR	Keskin Array B	145.96	321	PKPbc	PKPab	04 16 25.1	+0.7
	0.5nm,0.7s,baz=61,slow=3.2,SNR=3.6						

*NEIC **11** 04:04:12.9±0.9, 35°.11N±0°.01×97°.60W±0°.02, h8km±8km, Error ellipse: s-maj=2.4km s-min=1.3km az=55.0*

NEIC 11 04:04:12.8±0.8, 35°.139N±0°.010×-97°.62W±0°.01, h5km±1km, mb_Lg1.8/5, ML1.8/35, ML2.3/10, Error ellipse: s-maj=2.6km s-min=2.3km az=292.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FNO	Franklin	0.21	57		Pg	04 04 17.8	+0.8
FNO				Sg	Sg	04 04 21.4	+1.5
FNO				IAML		04 04 24.4	
	comp=E,206nm,0.5s						
OKCSW	OKLAHOMA CITY	0.30	29	Pg	Pb	04 04 19.9	-0.9
OKCSW				IAML		04 04 26.2	
	comp=E,63nm,0.2s						
OKCSW				IAML		04 04 26.5	
	comp=N,76nm,0.3s						
X34A	Smith Ranch, M	0.56	198	Pg	Pg	04 04 24.2	+0.6
W35A	Tecumseh	0.61	89	Pg	Pg	04 04 24.3	-0.2
W35A				Sg	Sg	04 04 32.6	+0.2
W35A				IAML		04 04 36.2	
	comp=N,30nm,0.4s						
OK029	Liberty Lake	0.67	12	Pg	Pg	04 04 25.8	+0.2
OK029				IAML		04 04 41.7	
	comp=N,28nm,0.2s						
OK029				IAML		04 04 44.3	
	comp=N,23nm,0.4s						
OK031	S. Brethren Rd	1.03	38	Pg	Pg	04 04 32.0	-0.6
OK031				IAML		04 04 48.4	
	comp=N,66nm,0.3s						
WMOK	Wichita Mounta	1.03	248	Pg	Pg	04 04 32.1	-0.5
OK052	Battle Ridge R	1.08	38	Pg	Pg	04 04 33.4	-0.2
LOOK	Love County	1.20	162	Pg	Pg	04 04 35.4	-0.4
LOOK				IAML		04 04 57.1	
	comp=N,21nm,0.2s						
LOOK				IAML		04 04 57.3	
	comp=E,22nm,0.2s						
QUOK	Quay	1.27	36		Pg	04 04 36.6	-0.6
OK048	Pawnee Station	1.39	23		Pn	04 04 38.4	-0.4
CROK	Carrier	1.39	348		Pn	04 04 38.4	-0.5
OK051	E0350 and S346	1.50	25		Pn	04 04 40.4	-0.1
OK038	West end E0370	1.62	326	IAmb_Lg		04 05 03.4	
	comp=Z,5.6nm,1.0s						
TUL3	Leonard	1.68	62		Pn	04 04 42.3	-0.5
T35A	Sooner Cattle	1.99	27	Pn	Pn	04 04 46.0	-1.0
FW03	Perrin-Whitt E	2.13	190	IAmb_Lg		04 05 21.8	
	comp=Z,4.4nm,0.7s						
MIAR	Mount Ida	3.38	99	Pn	Pn	04 05 06.6	+0.4
S39A	Bolivar	4.30	52	IAmb_Lg		04 07 18.9	
	comp=Z,1.2nm,0.9s						

DJA 11 04:08:51.1±0.4, 9°S±7°×11°8E±°, h119km±6km, M3.8/12, mb3.8/1, MLv3.8/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PLAI	Plampang	0.57	250	P	Pn	04 09 10.8	+1.4
PLAI				S	Sn	04 09 25.3	+2.1
TWSI	Taliwang, Sumb	1.43	266	P	Pn	04 09 18.3	+0.7
WBSI	Waikabubak, Su	1.46	134	P	Pn	04 09 18.3	+0.3
WBSI				S	Sn	04 09 39.0	+0.5
BASI	Baing, Sumba	2.73	126	P	Pn	04 09 34.3	+0.5
DNP	Denpasar	3.08	269	P	Pn	04 09 38.0	-0.3
SRBI	Singaraja	3.12	280	P	Pn	04 09 39.6	+0.6
SRBI				S	Sn	04 10 16.6	+0.7
BSSI	Bau Bau, Buton	3.28	41	P	Pn	04 09 40.9	-0.1
MMRI	Maumere	3.87	90	P	Pn	04 09 49.1	+0.1
JAGI	Jajag, Banyuwa	4.12	272	P	Pn	04 09 51.8	-0.5
GMJI	Gumukmas	4.84	274	P	Pn	04 10 01.1	-0.8
BATI	Baumata	5.50	107	P	Pn	04 10 10.6	-0.2
SOEI	Soe	5.98	101	P	Pn	04 10 17.6	+0.2

*IDC **11** 04:21:09.4±1.1, 21°.30S×178°.10W, h482km±11km, mb4.0/19, mbtmp4.8/23, Error ellipse: s-maj=12.9km s-min=11.0km az=129.0*

*NEIC **11** 04:21:10.3±2.1, 21°.3S±0°.1×178°.1W±0°.1, h489km±6km, mb4.6/225, Error ellipse: s-maj=17.8km s-min=15.3km az=136.0*

*NOU **11** 04:21:28.1, 21°.48S×179°.40W, h631km, mb4.8/30, Fiji Islands Region*

ISC 11 04:21:10.4±0.3, 21°.31S±0°.07×178°.07W±0°.06, h500km, n350, σ1.01/272, mb4.6/144, 46C-13D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.10	314	P	P	04 22 36.5	-2.0
MSVF	Nonsavu	5.10	314	P	P	04 22 36.7	-1.9
	177nm,0.5s,baz=132,slow=8.6,SNR=227						
MSVF				S	S	04 23 47.8	-2.5
	45nm,1.0s,baz=156,slow=20,SNR=0.6						
FUTU	Fugatoga	6.97	360	P	P	04 22 53.8	-2.7
NIUE	Niue	7.96	75	P	P	04 23 03.6	-2.9
PINNC	Pines Island,	13.50	262	P	P	04 24 05.6	+0.7
DZM	Mont Dzumac	14.41	264	P	P	04 24 14.5	-0.2
	14nm,0.8s,baz=133,slow=15,SNR=9.6						
DZM				S	S	04 26 48.2	+1.6
	6.6nm,1.0s,baz=170,slow=14,SNR=3.0						
KOUNC	Koumac, New Ca	16.50	269	P	P	04 24 38.2	+1.8
RAR	Rarotonga	17.06	93	P	P	04 24 41.7	-0.4
	34nm,1.1s,baz=263,slow=5.1,SNR=3.7						
URZ	Urewera	17.39	193	P	P	04 24 43.4	-1.6
	2.7nm,0.3s,baz=5.0,slow=4.4,SNR=11						
URZ				S	S	04 27 35.9	-4.6
	8.7nm,0.9s,baz=330,slow=8.1,SNR=6.1						
RTZ	Ruatahuna	17.77	193	P	P	04 24 49.0	+0.4
RTZ				IAmb	IAmb	04 24 59.0	
	comp=Z,21nm,1.5s						
QRZ	Quartz Range	21.03	200	P	P	04 25 17.8	-0.5
QRZ				IAmb	IAmb	04 25 35.0	
	comp=Z,27nm,1.1s						
LTZ	Lake Taylor	22.89	199	P	P	04 25 36.9	+1.8
LTZ				IAmb	IAmb	04 26 17.3	
	comp=Z,18nm,1.2s						
TW1H	Toowoomba 1 Ha	27.93	251	P	P	04 26 20.1	+0.2
EIDS	Eidsvold	28.58	256	P	P	04 26 25.4	-0.1
EIDS				IAmb	IAmb	04 26 26.4	
	comp=Z,20nm,0.9s						
EIDS	Eidsvold	28.58	256	P	P	04 26 25.4	-0.1
ARMA	Armidale	28.66	245	P	P	04 26 27.0	+0.7
ARMA	Armidale	28.66	245	P	P	04 26 27.1	+0.8
SYDH	Sydney Hard Ro	30.19	239	P	P	04 26 40.8	+1.4
CNB	Canberra Magne	31.72	237	P	P	04 26 53.7	+1.0
CAN	Canberra	32.01	237	P	P	04 26 55.4	+0.3
CAN	Canberra	32.01	237	P	P	04 26 55.7	+0.6
CMSA	Cobar Meteorol	33.88	245	P	P	04 27 10.9	-0.1
QLP	Quilpie	34.76	254	P	P	04 27 18.0	-0.5
TOO	Toolangi	35.37	235	P	P	04 27 23.3	-0.1
MTSU	Mount Surprise	35.49	268	P	P	04 27 24.7	0.0
STKA	Stephens Creek	37.38	245	P	P	04 27 40.2	0.0
STKA	Stephens Creek	37.38	245	P	P	04 27 40.2	0.0
	comp=Z,20nm,0.8s,baz=95,slow=9.7,SNR=35						
	comp=Z,20nm,0.8s						
STKA	Stephens Creek	37.38	245	P	P	04 27 40.4	+0.3
COEN	Coen	37.57	275	P	P	04 27 42.1	+0.2
COEN	Coen	37.57	275	P	P	04 27 42.1	+0.2
INKA	Innaminka	37.88	252	P	P	04 27 44.7	+0.5
QIS	Mount Isa	39.45	263	P	P	04 27 56.6	-0.6
HTT	Hallett	39.80	243	P	P	04 27 59.9	+0.1
LCRK	Leigh Creek	40.16	248	P	P	04 28 02.7	0.0
WHYH	Whyalla	40.88	244	P	P	04 28 08.6	+0.2
BBOO	Buckleboo	42.13	244	P	P	04 28 17.4	-1.0
BBOO	Buckleboo	42.13	244	P	P	04 28 18.1	-0.3
OOD	Oodnadatta	42.36	252	P	P	04 28 20.7	+0.5
AS01	Alice Springs	44.23	258	P	P	04 28 34.6	-0.4
WR0	Warramunga Arr	44.24	263	P	P	04 28 33.8	-1.2
WR0				IAmb	IAmb	04 28 35.1	
	comp=Z,21nm,1.1s						
JAY	Jayapura	44.24	289	P	P	04 28 35.4	+0.2
	comp=Z,885nmcomp=Z,83nm,1.0s						
AS31	Alice Springs	44.27	258	P	P	04 28 34.1	-1.2
ASAR	Alice Springs	44.27	258	P	P	04 28 35.0	-0.3
	comp=Z,32nm,0.8s,baz=88,slow=8.4,SNR=240						
ASAR				PcP	PcP	04 30 09.2	+0.2
	comp=Z,5.2nm,0.8s,baz=100,slow=4.6,SNR=11						
ASAR				ScP	ScP	04 33 17.7	+4.5
	comp=Z,0.5nm,0.7s,baz=97,slow=4.1,SNR=2.5						
ASAR				S	S	04 34 30.6	-1.9
	comp=Z,3.2nm,0.9s,baz=94,slow=15,SNR=17						
	comp=Z,32nm,0.8s						
WB0	Warramunga Arr	44.41	263	P	P	04 28 35.4	-1.0
WB2	Warramunga Arr	44.42	263	P	P	04 28 35.2	-1.2
WRAB	Tennant Creek	44.42	263	P	P	04 28 35.5	-0.9
WRA	Warramunga Arr	44.43	263	P	P	04 28 35.1	-1.4
WRA	Warramunga Arr	44.43	263	P	P	04 28 35.6	-0.9
	comp=Z,27nm,0.9s,baz=96,slow=7.6,SNR=114						
WRA				PcP	PcP	04 30 10.2	+0.5
	comp=Z,1.2nm,0.8s,baz=110,slow=3.8,SNR=4.7						
WRA				S	S	04 34 31.9	-2.8
	comp=Z,0.9nm,1.1s,baz=97,slow=14,SNR=3.7						
	comp=Z,27nm,0.9s						
GENI	Genyem	44.68	289	P	P	04 28 39.3	+0.8
GENI	Genyem	44.68	289	P	P	04 28 38.9	+0.4
SMPI	Sarmi	46.25	289	P	P	04 28 50.6	+0.1
	comp=Z,62nm,0.9s						
KDU	Kakadu	47.91	272	P	P	04 29 02.5	-0.5
FORT	Forrest	48.92	247	P	P	04 29 09.4	-1.0
FORT	Forrest	48.92	247	P	P	04 29 10.0	-0.4
MTN	Manton Dam	49.11	271	P	P	04 29 11.0	-1.0
MTN				IAmb	IAmb	04 29 12.4	
	comp=Z,21nm,0.7s						
MTN	Manton Dam	49.11	271	P	P	04 29 11.0	-1.0
WRKA	Warakurna	49.19	255	P	P	04 29 12.1	-0.4
KNRA	Kununurra	50.54	267	P	P	04 29 22.1	-0.4
KNRA				IAmb	IAmb	04 29 22.8	
	comp=Z,16nm,0.8s						
FITZ	Fitzroy Crossi	52.86	263	P	P	04 29 39.1	-0.2
SWI	Sorong	53.39	286	P	P	04 29 43.6	+0.4
KMBL	Kambalda	54.17	246	P	P	04 29 47.9	-0.6
SOEI	Soe	56.46	272	P	P	04 30 04.1	-0.7
SOEI	Soe	56.46	272	P	P	04 30 06.2	+1.4
	comp=Z,85nm,0.9s						
PSA00	Pilbara Seismi	57.42	257	P	P	04 30 10.2	-1.1
PSA00				IAmb	IAmb	04 30 12.2	
	comp=Z,36nm,0.9s						
PSA00	Pilbara Seismi	57.42	257	P	P	04 30 11.0	-0.2
MEEK	Meekatharra	57.59	251	P	P	04 30 11.9	-0.5
MBWA	Marble Bar	57.62	258	P	P	04 30 11.6	-0.9
SANI	Sanana	57.67	282	P	P	04 30 13.2	+0.2
SANI	Sanana	57.67	282	P	P	04 30 13.2	+0.2
	comp=Z,43nm,1.3s						
MMRI	Maumere	58.72	273	P	P	04 30 20.5	+0.4
	comp=Z,37nm,0.6s						
SPSI	Sidrap Palu	62.66	277	P	P	04 30 45.8	-0.4
	comp=Z,15nm,0.9s						
PLAI	Plampang	62.81	271	P	P	04 30 47.2	0.0
	comp=Z,54nm,1.2s						
TWSI	Taliwang, Sumb	63.68	271	P	P	04 30 52.8	+0.1
	comp=Z,48nm,1.1s						
TOLI2	Tolitoli	63.71	282	P	P	04 30 52.2	-0.7
QSPA	South Pole Qui	68.76	180	P	P	04 31 24.7	+1.0
QSPA				IAmb	IAmb	04 31 26.6	
	comp=Z,15nm,0.9s						
QSPA	South Pole Qui	68.76	180	P	P	04 31 25.1	+1.5
	comp=Z,12nm,0.8s,baz=83,slow=1.0,SNR=39						
	comp=Z,12nm,0.8s						
KKM	Kota Kinabalu	69.90	285	P	P	04 31 31.6	+0.3
KKM				IAmb	IAmb	04 31 33.0	
	comp=Z,22nm,1.0s						
MJAR	Matsushiro Arr	70.82	324	P	P	04 31 35.9	-0.3
	comp=Z,7.5nm,0.6s,baz=143,slow=5.9,SNR=12						
	comp=Z,7.5nm,0.6s						
MAJO	Matsushiro	70.82	324	P	P	04 31 36.2	0.0
MAJO				IAmb	IAmb	04 32 09.8	
	comp=Z,22nm,1.5s						
ADK	Adak	72.89	1	P	P	04 31 47.6	-0.2
KSM	Kuching	73.46	278	P	P	04 31 52.1	0.0
TPUB	Taupo	74.36	303	P	P	04 31 56.2	-0.8
UNV	Unalaska Valle	75.51	7	P	P	04 32 01.9	-0.8
PETK	Petropavlovsk-	77.03	345	P	P	04 32 11.6	+0.4
PETK	Petropavlovsk-	77.03	345	P	P	04 32 10.6	-0.5
	comp=Z,5.4nm,0.9s,baz=134,slow=8.5,SNR=4.2						
	comp=Z,5.4nm,0.9s						
KSRS	Korea Array	77.45	319	P	P	04 32 14.7	+0.9
	comp=Z,3.5nm,0.7s,baz=124,slow=5.9,SNR=10						
	comp=Z,3.5nm,0.7s						
SAO	San Andreas Ge	78.66	43	P	P	04 32 22.4	+2.1
SAO				IAmb	IAmb	04 32 23.2	
	comp=Z,20nm,0.9s						
BELA	Belgrano 2	78.77	173	P	P	04 32 21.2	+0.9
BCW	Bitter Crk WRg	78.90	46	P	P	04 32 24.1	+2.3
BCW				IAmb	IAmb	04 32 24.8	
	comp=Z,20nm,0.8s						
PASC	Pasadena Art C	79.29	47	IAmb	IAmb	04 32 26.0	
	comp=Z,13nm,0.8s						
KMPM	Mount Pierce	79.30	39	P	P	04 32 26.6	+2.8
VTX	Valle De La Tr	79.42	50	IAmb	IAmb	04 32 27.6	
	comp=Z,19nm,1.3s						
USRK	Ussurysk Ar.	79.59	326	P	P	04 32 26.3	+1.2
	comp=Z,6.4nm,0.7s,baz=121,slow=3.4,SNR=18						
	comp=Z,6.4nm,0.7s						
ESJX	Sierra Juarez	79.64	50	IAmb	IAmb	04 32 28.9	
	comp=Z,16nm,1.1s						
O02D	Mt. Diablo Mer	79.94	40	IAmb	IAmb	04 32 30.5	
	comp=Z,24nm,0.8s						
CCAC	Calif City Air	79.96	46	P	P	04 32 28.4	+1.0
PFO	Pinyon Flats O	80.16	48	P	P	04 32 30.1	+1.6
NJ2	Nanjing	80.34	310	eP	P	04 32 30.7	+1.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YBH	Yreka Blue Hor	80.96	39	P	P	04 32 33.8	+1.4
YBH				IAmb	IAmb	04 32 35.4	
	comp=Z,16nm,0.8s						
WAKR	Walker	80.98	43	IAmb	IAmb	04 32 35.6	
	comp=Z,21nm,1.0s						
GLA	Glamis	81.00	49	IAmb	IAmb	04 32 36.0	
	comp=Z,22nm,1.0s						
PNTR	Pine Nut	81.22	42	P	P	04 32 35.2	+1.1
LHV	Little Huntoon	81.43	43	IAmb	IAmb	04 32 37.8	
	comp=Z,15nm,0.9s						
BLYC	Blythe	81.59	49	IAmb	IAmb	04 32 38.7	
	comp=Z,13nm,0.8s						
KDAK	Kodiak Island	81.62	13	P	P	04 32 37.1	+1.9
	comp=Z,10nm,0.9s,baz=260,slow=6.1,SNR=2.3						
	comp=Z,10nm,0.9s						
NVAR	Mina Array Bea	81.66	43	P	P	04 32 36.9	+0.6
NVAR	Mina Array Bea	81.66	43	P	P	04 32 37.8	+1.6
	comp=Z,8.6nm,0.8s,baz=224,slow=9.0,SNR=31						
	comp=Z,8.6nm,0.8s						
PAHR	Pah Rah Range	81.72	42	IAmb	IAmb	04 32 39.0	
	comp=Z,14nm,1.0s						
NV11	Mina Array Sit	81.75	43	IAmb	IAmb	04 32 39.2	
	comp=Z,14nm,0.9s						
TPNV	Topopah Spring	82.16	45	IAmb	IAmb	04 32 41.4	
	comp=Z,12nm,0.8s						
J04A	Umpqua Nationa	82.25	38	P	P	04 32 40.6	+1.4
V12A	Nelson	82.43	47	P	P	04 32 41.1	+1.1
I04A	Tendick Farm,	82.43	37	IAmb	IAmb	04 32 41.7	
	comp=Z,10nm,0.7s						
J05D	Fort Rock, OR	82.78	38	P	P	04 32 42.9	+1.2
S11A	Rachel	82.88	45	IAmb	IAmb	04 32 44.4	
	comp=Z,17nm,0.8s						
CN2	Changchun	82.90	323	eP	P	04 32 42.5	+0.4
CN2				eS	S	04 42 21.1	+2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,1.6s						
CN2				pmax	pmax		
	comp=Z,130nm,5.0s						
O18K	Koktuh Hills	83.01	11	IAmb	IAmb	04 32 43.4	
	comp=Z,18nm,0.8s						
BNX	BinXian	83.05	325	⇓P	P	04 32 43.1	+0.3
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
H04A	Detroit Lake	83.12	37	IAmb	IAmb	04 32 45.5	
	comp=Z,34nm,1.3s						
IPM	Ipoh	83.17	277	P	P	04 32 44.6	+0.3
PRN	Pahroc Range	83.21	46	IAmb	IAmb	04 32 47.0	
	comp=Z,17nm,0.9s						
I05D	Terrebonne, OR	83.37	37	IAmb	IAmb	04 32 47.2	
	comp=Z,21nm,0.9s						
O19K	Port Alsworth	83.49	12	P	P	04 32 44.2	-0.4
WVOR	Wild Horse Val	83.79	40	IAmb	IAmb	04 32 49.4	
	comp=Z,14nm,1.1s						
HOOD	Mount Hood Mea	83.81	36	IAmb	IAmb	04 32 48.6	
	comp=Z,20nm,1.2s						
KULM	Kulim	83.82	278	IAmb	IAmb	04 32 49.6	
	comp=Z,17nm,0.9s						
M17K	Holitna River	84.08	10	IAmb	IAmb	04 32 51.3	
	comp=Z,18nm,1.0s						
X16A	Lo Mia Camp, P	84.12	50	IAmb	IAmb	04 32 51.8	
	comp=Z,12nm,1.0s						
LCMT	Little Creek M	84.21	47	P	P	04 32 50.9	+1.8
I07A	Izee	84.26	38	IAmb	IAmb	04 32 51.9	
	comp=Z,14nm,1.0s						
G06A	Carlson Farm,	84.32	37	IAmb	IAmb	04 32 51.6	
	comp=Z,10nm,1.0s						
J08A	Circle Bar Ran	84.43	39	IAmb	IAmb	04 32 52.6	
	comp=Z,12nm,1.1s						
RPSI	Rantau Prapat	84.46	275	IAmb	IAmb	04 32 51.6	
	comp=Z,16nm,0.8s						
U15A	North Rim	84.56	48	IAmb	IAmb	04 32 53.9	
	comp=Z,17nm,0.8s						
PSUT	Pine Spring	84.61	45	P	P	04 32 51.8	+0.7
PGC	Sidney	84.97	33	IAmb	IAmb	04 32 54.6	
	comp=Z,8.1nm,0.8s						
PKCU	Pink Cliffs	85.07	47	IAmb	IAmb	04 32 57.0	
	comp=Z,14nm,0.8s						
STLK	Strandline Lak	85.17	12	IAmb	IAmb	04 32 55.0	
	comp=Z,6.9nm,0.8s						
GSI	Gunungsitoli	85.21	273	P	P	04 32 54.8	+0.5
G08A	Pilot Rock	85.30	37	IAmb	IAmb	04 32 56.7	
	comp=Z,15nm,1.0s						
MXC	Moxie City	85.33	36	P	P	04 32 55.4	+1.2
MTPU	Mount Pierson	85.47	46	IAmb	IAmb	04 32 58.7	
	comp=Z,7.6nm,0.8s						
E07A	Sunnyside	85.56	36	IAmb	IAmb	04 32 57.9	
	comp=Z,14nm,1.0s						
HAWA	Hanford	85.64	36	IAmb	IAmb	04 32 58.3	
	comp=Z,14nm,0.9s						
ELIB	Princess Elisa	85.83	187	dP	P	04 32 56.6	+0.3
	comp=Z,11nm,0.9s						
SYO	Syowa Base	85.92	193	⇑eP	P	04 32 55.6	-1.0
E08A	Dider Farm, El	85.96	36	IAmb	IAmb	04 32 59.7	
	comp=Z,14nm,1.1s						
BMO	Blue Mountains	85.99	38	IAmb	IAmb	04 32 59.6	
	comp=Z,6.6nm,0.8s						
SRIT	Nakonsritamara	86.02	281	P	P	04 32 59.6	+1.5
HNS	HongShan	86.04	313	⇓P	P	04 32 59.1	+1.4
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LYN	LuoYang	86.21	309	⇑P	P	04 33 00.6	+2.0
LYN				pmax	pmax		
	comp=Z,26nm,0.7s						
D08A	Wollman Farm,	86.37	36	IAmb	IAmb	04 33 01.7	
	comp=Z,15nm,1.0s						
BJT	Baijiatuau	86.41	315	IAmb	IAmb	04 32 56.4	
	comp=Z,6.1nm,0.5s						
E09A	Wood Farm, Sta	86.48	37	IAmb	IAmb	04 33 01.9	
	comp=Z,21nm,1.2s						
TMUT	Trail Mountain	86.77	46	P	P	04 33 03.0	+1.5
TMUT				IAmb	IAmb	04 33 04.4	
	comp=Z,13nm,1.0s						
CAST	Castle Rocks	86.88	11	IAmb	IAmb	04 33 01.0	
	comp=Z,13nm,0.9s						
PLID	Pearl Lake	86.88	39	IAmb	IAmb	04 33 03.4	
	comp=Z,7.0nm,0.9s						
TLIG	Tlapa	86.92	70	IAmb	IAmb	04 33 05.7	
	comp=Z,5.8nm,0.6s						
B08A	Colville Reser	86.93	35	IAmb	IAmb	04 33 03.5	
	comp=Z,13nm,0.8s						
SRU	San Rafael Swe	87.13	46	P	P	04 33 03.8	+0.7
SRU				IAmb	IAmb	04 33 05.4	
	comp=Z,11nm,0.9s						
VHRN	Van Horn	87.17	56	IAmb	IAmb	04 33 06.4	
	comp=Z,13nm,0.9s						
C09A	Chrisman Ranch	87.17	36	IAmb	IAmb	04 33 05.0	
	comp=Z,12nm,0.8s						
SNAA	Sanae	87.20	178	P	P	04 33 02.9	+0.1
	comp=

comp=Z,5.2nm,0.8s
TPAW Teton Pass 89.08 42 IAmb IAmb 04 33 13.7
comp=Z,7.6nm,0.9s
IL31 89.12 13 IAmb IAmb 04 33 12.2
comp=Z,18nm,1.4s
ILAR Eielson Array 89.12 13 P **P 04 33 10.8 -0.8**
ILAR Eielson Array 89.12 13 P **P 04 33 11.1 -0.4**
comp=Z,3.0nm,0.7s,baz=220,slow=5.7,SNR=37
comp=Z,3.0nm,0.7s
LOHW Long Hollow 89.36 42 IAmb IAmb 04 33 15.7
comp=Z,5.9nm,0.8s
E18K Tukpahlearik C 89.42 7 IAmb IAmb 04 33 14.2
comp=Z,8.9nm,1.0s
YHB Horse Butte 89.58 41 IAmb IAmb 04 33 17.5
comp=Z,12nm,1.0s
PD31 Pinedale Array 89.60 43 IAmb IAmb 04 33 16.3
comp=Z,7.3nm,0.8s
PDAR Pinedale Array 89.60 43 P **P 04 33 15.0 +0.5**
PDAR Pinedale Array 89.60 43 P **P 04 33 15.3 +0.7**
comp=Z,6.5nm,0.8s,baz=211,slow=2.8,SNR=62
comp=Z,6.5nm,0.8s
YFT Old Faithful 89.64 41 IAmb IAmb 04 33 18.5
comp=Z,8.8nm,0.8s
KMI Kunming 89.66 297 ⇓P **P 04 33 17.2 +2.0**
KMI pmax pmax
comp=Z,10.0nm,0.9s
YMR Madison River 89.67 41 IAmb IAmb 04 33 17.9
comp=Z,11nm,0.9s
BOZ Bozeman (W) 89.75 40 IAmb IAmb 04 33 17.7
comp=Z,8.3nm,0.9s
M30M Minto, Yukon 89.76 18 IAmb IAmb 04 33 16.3
comp=Z,12nm,0.9s
H17A Grant Village 89.77 41 IAmb IAmb 04 33 19.0
comp=Z,8.5nm,0.9s
BILL Bilibino 89.83 354 P **P 04 33 14.7 -0.1**
BILL IAmb IAmb 04 33 16.6
comp=Z,5.2nm,1.0s
HHC Hu-ho-hao-te 89.87 314 *e*P P 04 33 20.4 +4.7
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.1s
LKWY Lake 89.97 41 IAmb IAmb 04 33 20.1
comp=Z,8.8nm,0.9s
PRP Porcupine Dome 90.05 13 IAmb IAmb 04 33 18.3
comp=Z,9.3nm,1.2s
MSTX Muleshoe 90.25 54 IAmb IAmb 04 33 19.6
comp=Z,11nm,0.9s
DAWY Dawson 90.25 16 IAmb IAmb 04 33 18.5
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 90.32 290 P **P 04 33 19.8 +1.6**
CMAR Chiang Mai Arr 90.32 290 P **P 04 33 20.1 +2.0**
comp=Z,8.3nm,0.8s,baz=130,slow=3.1,SNR=43
comp=Z,8.3nm,0.8s
YNE Yellowstone No 90.43 41 IAmb IAmb 04 33 21.2
comp=Z,10nm,1.0s
CHTO Chiang Mai 90.46 290 P **P 04 33 18.6 -0.2**
CHTO IAmb IAmb 04 33 21.5
comp=Z,9.6nm,0.8s
833A Chaparral WMA, 90.52 60 IAmb IAmb 04 33 21.2
comp=Z,7.7nm,0.9s
COLD Coldfoot 90.68 10 IAmb IAmb 04 33 20.5
comp=Z,8.4nm,1.0s
POST Post 90.82 55 IAmb IAmb 04 33 21.8
comp=Z,8.2nm,0.8s
J29N Klondike Camp 90.87 16 IAmb IAmb 04 33 21.9
comp=Z,8.3nm,0.8s
PZH PanZhiHua 91.03 298 P **P 04 33 22.0 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
E22K Anaktuvuk Pass 91.25 10 IAmb IAmb 04 33 22.8
comp=Z,7.3nm,1.0s
K22A Casper 91.50 44 P **P 04 33 23.4 +0.1**
K22A IAmb IAmb 04 33 25.2
comp=Z,9.3nm,1.0s
APMT Aspermont 91.98 55 IAmb IAmb 04 33 28.2
comp=Z,3.2nm,0.8s
BRDY Brady 92.03 57 IAmb IAmb 04 33 27.6
comp=Z,4.7nm,1.0s
PLPT Palo Pinto 93.17 56 P **P 04 33 31.3 +0.3**
PLPT IAmb IAmb 04 33 33.0
comp=Z,7.7nm,0.9s
LZH Lanzhou 93.21 307 *e*P **P 04 33 33.2 +1.9**
LZH pmax pmax
comp=Z,14nm,1.0s
LAO LASA Array 93.56 41 IAmb IAmb 04 33 34.8
comp=Z,7.6nm,0.9s
INK Inuvik 95.07 15 P **P 04 33 38.3 -0.4**
comp=Z,2.2nm,1.0s,baz=249,slow=3.3,SNR=5.5
comp=Z,2.2nm,1.0s
SONM Songino Array 96.32 319 P **P 04 33 44.7 -0.4**
comp=Z,0.3nm,0.5s,baz=132,slow=2.1,SNR=2.7
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 97.27 25 P **P 04 33 48.7 -0.1**
comp=Z,0.7nm,0.9s,baz=241,slow=4.5,SNR=7.8
comp=Z,0.7nm,0.9s
RES Resolute Bay 108.59 16 PKiKP **PKiKP 04 38 40.4 -0.7**
comp=Z,0.4nm,0.8s,baz=311,slow=0.9,SNR=4.5
ZALV Zalesovo Beam 111.08 321 PKiKP **PKiKP 04 38 45.7 -0.7**
comp=Z,1.2nm,0.6s,baz=152,slow=1.0,SNR=7.2
MKAR Makanchi Array 111.70 313 Pdiff **Pdif 04 34 55.6 +2.1**
comp=Z,0.3nm,0.7s,baz=64,slow=3.4,SNR=2.3
MKAR PKiKP **PKiKP 04 38 47.2 -0.7**
comp=Z,1.4nm,0.8s,baz=67,slow=1.8,SNR=12
MKAR PKKPbc **PKKPbc 04 49 43.5 -0.2**
comp=Z,0.5nm,0.8s,baz=262,slow=3.7,SNR=4.2
KURBB Kurchatov Arra 114.59 317 PKiKP PKPdf 04 38 52.4 -0.8
comp=Z,1.5nm,0.6s,baz=99,slow=1.8,SNR=15
BDFB Brasília 118.77 123 PKP **PKiKP 04 39 02.8 +0.2**
comp=Z,2.1nm,0.8s,baz=194,slow=4.1,SNR=3.2
SCHQ Schefferville 119.35 38 PKP **PKPdf 04 39 01.0 -1.3**
comp=Z,1.1nm,0.7s,baz=349,slow=4.5,SNR=3.6
BVAR Borovoye Array 119.65 320 PKP **PKPdf 04 39 02.5 -0.4**
comp=Z,2.9nm,0.4s,baz=80,slow=1.7,SNR=21
KKAR Karatay Array 119.69 308 **PKPdf 04 39 01.6 -1.8**
BRVK Borovoye 119.72 320 PKPdf **PKPdf 04 39 01.9 -1.1**
SPITS Spitsbergen Ar 122.67 356 PKP **PKiKP 04 39 08.0 -0.3**
comp=Z,13nm,0.8s,baz=64,slow=5.7,SNR=5.6
SUMG Summit 123.95 14 PKPdf **PKPdf 04 39 11.0 -0.1**
BOSA Boshof 125.50 205 PKP **PKiKP 04 39 16.2 +0.6**
comp=Z,1.8nm,0.7s,baz=167,slow=5.7,SNR=2.0
ARTI Arti 125.93 325 PKPdf **PKPdf 04 39 13.9 -1.0**
ABKAR Akbulak array 126.62 316 PKPdf **PKPdf 04 39 14.8 -1.6**
ARCES ARCESS Array B 129.70 349 PKP **PKPdf 04 39 21.6 0.0**
comp=Z,5.8nm,0.7s,baz=51,slow=1.4,SNR=22
FINES FINESS Array B 136.53 343 PKhKP PKPpre 04 39 27.3
comp=Z,3.7nm,0.9s,baz=24,slow=7.1,SNR=3.6
FINES PKP **PKiKP 04 39 35.6 -1.0**
comp=Z,2.4nm,0.6s,baz=46,slow=6.0,SNR=5.7
KMBO Kilima Mbogo 138.90 242 PKP **PKPdf 04 39 41.3 +0.5**
comp=Z,1.8nm,0.7s,baz=166,slow=2.1,SNR=5.0
NB2 NORSAR Subarra139.77 353 PKP PKPpre 04 39 33.6
comp=Z,7.3nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B139.77 353 PKhKP PKPpre 04 39 33.2
comp=Z,1.6nm,0.8s,baz=14,slow=2.4,SNR=7.7
NOA PKP **PKiKP 04 39 42.6 -0.6**
comp=Z,2.0nm,0.7s,baz=14,slow=4.1,SNR=8.1
HFS Hagfors 140.33 351 PKhKP PKPpre 04 39 34.6
comp=Z,1.7nm,0.3s,baz=64,slow=3.4,SNR=15
FABU Falkenberg 143.48 350 *i* P PKPab 04 39 44.0 -1.5
BLEU Blekinge 143.56 347 *i* P PKPab 04 39 44.5 -1.4
SUW Suwałki 143.57 339 *e*PKP **PKPdf 04 39 46.7 -0.8**
AKASG Malin Array Be 143.69 331 PKP PKPab 04 39 46.0 -0.6
comp=Z,10nm,0.6s,baz=43,slow=4.3,SNR=100
AKASG SKPbc **SKiKP 04 42 41.0 +1.1**
comp=Z,1.4nm,0.9s,baz=45,slow=2.2,SNR=4.3
KIEV Kiev 143.70 331 PKPdf PKPab 04 39 45.1 -1.5
KIEV Kiev 143.70 331 ⇓P PKPab 04 39 46.2 -0.4
DEL Delary 143.79 349 *i* P PKPab 04 39 45.0 -1.7
BJUU Bjuv 144.31 349 *i* P PKPbc 04 39 47.2 -1.2
MUD Monsted U'grnd 144.49 353 *i* P PKPbc 04 39 48.0 -1.0
RNPP9 Sopachiv 144.62 334 PKP **PKPdf 04 39 49.0 -0.5**
LUNU Lund 144.66 349 *i* P **PKPdf 04 39 48.2 -1.2**
RNPP8 Varash 144.69 334 PKP **PKPdf 04 39 49.4 -0.2**
RNPP5 Staryi Chortor 144.76 334 PKP PKPbc 04 39 49.7 -0.3
LUBAR Lubar, Ukraine 144.90 331 PKP **PKPdf 04 39 49.7 -0.3**
SSRD Sdr. Stenderup 145.40 352 *i* P **PKPab 04 39 52.3 -0.6**
EKA Eskdalemuir Ar 145.81 5 PKPbc **PKPbc 04 39 52.8 -0.2**
comp=Z,5.9nm,0.7s,baz=346,slow=2.8,SNR=9.5
SORM Soroca 145.86 328 ⇑P **PKPbc 04 39 52.7 -0.6**
PURM Purcari 146.11 325 ⇑P **PKPbc 04 39 54.7 +0.6**
BEL Belsk 146.19 339 *e*PKP **PKPbc 04 39 54.8 +0.6**
MILM Milestii Mici 146.43 326 ⇓P **PKPbc 04 39 55.1 +0.1**
ILGA Ilgaz 146.70 313 **PKPbc 04 39 56.0 -0.3**
BRTR Keskin Array B 147.33 311 PKPbc **PKPbc 04 39 57.2 -0.7**
BRTR Keskin Array B 147.33 311 PKP **PKPdf 04 39 54.9 +0.2**
comp=Z,5.0nm,0.8s,baz=80,slow=1.4,SNR=38
BRTR PKPbc **PKPbc 04 39 58.0 +0.1**
comp=Z,4.8nm,0.7s,baz=138,slow=3.5,SNR=30
KIRS Kirsehir-Merke 147.37 310 ⇓P **PKPbc 04 39 58.3 +0.3**
VLDR Vladesti 147.51 325 ⇑P **PKPab 04 40 00.7 -0.9**
SCTR Scanteiesti 147.66 325 ⇑P **PKiKP 04 39 59.3 -0.6**
GHRR 147.72 326 ⇑P **PKiKP 04 39 60.0 0.0**
BURAR Bucovina Array 147.73 330 PKPdf **PKPdf 04 39 54.9 -0.1**
BURAR Bucovina Array 147.73 330 ⇑P **PKPbc 04 39 59.1 +0.5**
TESR Tescani 147.81 327 ⇑P **PKPbc 04 39 58.6 -0.1**
ANTO Ankara 147.85 312 ⇑P **PKiKP 04 40 00.0 -0.6**
OJC Ojcow 147.89 338 *e*PKP **PKiKP 04 39 59.6 -0.6**
CFR Carcaliu 147.90 324 ⇑P **PKPbc 04 39 58.9 -0.1**
TPGR Topolog 147.95 323 ⇑P **PKPbc 04 39 59.3 +0.2**
MMAI Mount Meron Ar 148.15 299 PKPbc **PKiKP 04 40 00.8 -0.6**
comp=Z,7.5nm,0.5s,baz=72,slow=5.4,SNR=21
VRI Vrincioaia 148.21 326 ⇑P **PKiKP 04 40 00.3 -0.7**
HARR Harsova 148.32 323 ⇑P **PKiKP 04 40 01.0 -0.2**
TLBR Topalu 148.35 323 ⇑P **PKiKP 04 40 01.2 -0.1**
KSP Ksiaz 148.44 343 *e*PKP **PKiKP 04 40 01.0 -0.3**
MANR Mangalia 148.49 322 ⇑P **PKiKP 04 40 01.7 +0.1**
STEB Steborice 148.80 340 ⇑*e*PKP **PKiKP 04 40 01.8 -0.3**
DOPR Dopca 148.82 328 ⇑P **PKiKP 04 40 02.6 +0.3**
CLL Collm 148.83 347 PKPbc **PKPbc 04 40 00.7 -0.3**
CLL Collm 148.83 347 *e*PKPdf **PKPdf 04 39 58.0 +1.5**
CLL ⇓*i*PKPbc **PKiKP 04 40 01.6 -0.5**
comp=Z,30nm,1.0s
CLL ⇑*i*PKPab **PKPab 04 40 06.9 0.0**
comp=Z,11nm,0.8s
CLL *e*pPKPbc **pPKPdf 04 41 56.0 +0.8**
DPC Dobruska-Polom 148.88 342 ⇑*e*PKP **PKiKP 04 40 02.4 +0.1**
LANS Liptovska Anna 148.90 337 *e*PKP **PKiKP 04 40 03.3 +0.9**
MORC Moravsky Berou 149.01 340 *e*PKP **PKiKP 04 40 02.6 0.0**
MORC Moravsky Berou 149.01 340 ⇑P **PKiKP 04 40 02.8 +0.2**
MESR Meseseni 149.11 332 ⇑P **PKiKP 04 40 03.4 +0.6**
PVCC Panska Ves 149.19 344 ⇑*e*PKP **PKiKP 04 40 03.1 +0.2**
MAUC Maruska 149.28 339 ⇑*e*PKP **PKiKP 04 40 03.6 +0.4**
CSS Mathiatis 149.29 303 PKPbc **PKPbc 04 40 01.2 -1.6**
VOIR 149.36 327 ⇑P **PKiKP 04 40 03.2 -0.3**
MARR Marisel-Cluj 149.39 331 ⇓P **PKPdf 04 39 59.8 +2.1**
HSKC Hora Svate Kat 149.39 346 ⇑*e*PKP **PKiKP 04 40 03.1 -0.2**
DRGR 149.49 331 ⇑P **PKiKP 04 40 03.6 -0.2**
TNR Turnu Rosu 149.59 328 ⇑P **PKPbc 04 40 02.9 -0.2**
ARR Arges 149.62 327 ⇑P **PKiKP 04 40 04.7 +0.7**
PRU Pruhonice 149.69 344 ⇑*e*PKP **PKiKP 04 40 04.0 +0.1**
GOPC GO Pecny, Ondr 149.69 343 ⇑*e*PKP **PKiKP 04 40 04.0 0.0**
VRAC Vranov 149.72 341 *e*PKP **PKiKP 04 40 04.2 +0.2**
VRAC Vranov 149.72 341 ⇓P **PKiKP 04 40 04.0 0.0**
JAVC Velka Javorina 149.77 339 *e*PKP **PKiKP 04 40 05.5 +1.3**
KRUC Moravsky 150.00 341 *e*PKP **PKiKP 04 40 04.7 +0.1**
TREC Trest 150.06 342 ⇑*e*PKP **PKiKP 04 40 04.7 0.0**
DEV Deva 150.08 330 ⇓P **PKiKP 04 40 05.0 +0.1**
MODS Modra-Piesok 150.32 339 *e*PKP **PKiKP 04 40 06.1 +0.8**
SIRR Siria 150.35 332 ⇑P **PKiKP 04 40 05.9 +0.5**
SRO Srobarova 150.44 337 *e*PKP **PKPbc 04 40 02.2 -2.8**
SRO *e* 04 40 06.4
SRO *e* 04 40 15.9
GZR Gura Zlata 150.50 329 ⇓P **PKiKP 04 40 05.4 -0.4**
SURR Surduc 150.54 331 ⇑P **PKPbc 04 40 05.3 0.0**
KHC Kasperske Hory 150.73 344 ⇑*e*PKP **PKiKP 04 40 06.2 +0.1**
KHC ⇑*e*PKP **PKPab 04 40 15.9 +1.0**
BAND Balkesir-Ban 150.76 316 ⇑P **PKiKP 04 40 06.4 0.0**
CKRC Cesky Krumlov 150.82 343 ⇑*e*PKP **PKiKP 04 40 06.4 +0.1**
SRE Strehaia 150.83 328 ⇑P **PKiKP 04 40 07.2 +0.8**
BZS Buzias 150.87 331 ⇑P **PKiKP 04 40 06.3 -0.2**
GERES GERESS Array B 150.96 344 PKPbc **PKiKP 04 40 06.8 0.0**
comp=Z,11nm,0.8s,baz=18,slow=1.7,SNR=22
HERR Herculane 151.05 329 ⇓P **PKiKP 04 40 06.9 0.0**
CONA Conrad Observa 151.17 340 *i* PKP **PKiKP 04 40 07.4 +0.3**
comp=Z,6.4nm,0.6s
RONA Rosalia, Austr 151.23 340 *i* PKP **PKiKP 04 40 07.6 +0.4**
comp=Z,13nm,0.6s
MANT Manisa 151.41 313 PKPbc **PKPbc 04 40 07.2 -0.7**
MDVR Moldovita 151.46 330 ⇑P **PKiKP 04 40 08.0 +0.2**
MORH Mrgy, Hungar 151.66 335 ⇑P **PKiKP 04 40 08.3 +0.3**
MOA Molln 151.72 342 *e*PKP **PKiKP 04 40 08.1 -0.1**
comp=Z,1.2nm,0.4s
BIOA Bad Ischl, Aus 152.03 343 *i* PKP **PKiKP 04 40 08.7 -0.2**
comp=Z,1.1nm,0.2s
BOVS Bovan 152.32 328 ⇑P **PKiKP 04 40 09.3 -0.2**
LESA Schwarzleotal 152.53 344 *i* PKP **PKiKP 04 40 09.9 -0.1**
comp=Z,3.9nm,0.8s
KBA Koelnbreinsper 152.68 343 *i* PKP **PKPbc 04 40 10.0 -0.3**
comp=Z,5.2nm,0.9s
OBKA Obir 152.84 341 *i* PKiKP **PKiKP 04 40 11.7 +1.0**
comp=Z,2.2nm,0.6s
WATA Walderalm 152.89 346 *i* PKP **PKiKP 04 40 10.9 +0.1**
comp=Z,0.8nm,0.2s
WTTA Wattenberg 152.94 345 *i* PKP **PKiKP 04 40 11.2 +0.2**
comp=Z,3.4nm,0.3s
MYKA Terra Mystica 153.00 342 *e*PKP **PKPbc 04 40 10.6 -0.3**
comp=Z,1.8nm,0.4s
SQTA Sankt Quirin 153.08 346 *i* PKP **PKiKP 04 40 11.4 +0.2**
comp=Z,4.9nm,0.7s
ABTA Abfaltersbach 153.21 344 *e*PKP **PKiKP 04 40 11.2 -0.2**
comp=Z,8.1nm,0.7s
FETA Feichten 153.38 346 *e*PKP **PKiKP 04 40 12.3 +0.4**
comp=Z,4.0nm,0.8s
FUORN Ofenpass-Fuorn 153.86 347 PKPbc **PKiKP 04 40 13.1 +0.1**
ESDC Sonseca Array 161.01 14 PKP **PKPdf 04 40 13.8 +0.5**
comp=Z,0.4nm,0.8s,baz=340,slow=7.0,SNR=4.2
ESDC PKPab **PKPab 04 40 59.5 0.0**
comp=Z,2.2nm,1.1s,baz=349,slow=5.6,SNR=6.4
DBIC Dimbokro 164.03 155 PKP **PKPdf 04 40 16.7 -0.2**
comp=Z,5.1nm,0.8s,baz=284,slow=0.6,SNR=4.4
TORD Torodi Ar. Bea 171.88 178 PKPab **PKPab 04 41 48.1 +0.3**
TORD Torodi Ar. Bea 171.88 178 PKP **PKPdf 04 40 21.7 -0.5**
comp=Z,2.0nm,0.3s,baz=173,slow=1.2,SNR=3.7
TORD PKPab **PKPab 04 41 48.0 +0.1**
comp=Z,1.2nm,0.3s,baz=149,slow=3.1,SNR=2.6

*IDC **11** 04:32:07.6±3.4, 10°.10S×161°.10E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=109.7km s-min=42.2km az=134.0*
*NOU **11** 04:32:10.3, 10°.69S×161°.56E, h53km, MLv4.3/9, Solomon Islands*
ISC 11 04:32:12.3±1.0, 10°.67S±0°.08×161°.49E±0°.07, h61km, n13, σ1§45/13, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.46**	**64**	P	**Pn**	04 32 22.8	**-1.1**
HURO	**Huro Makira**	**0.46**	**64**	S	**Sn**	04 32 31.1	**-1.2**
NGOA	**Tingoa Renbel**	**1.65**	**238**	P	**Pn**	04 32 37.2	**-1.9**
HNR	**Honiara**	**1.95**	**309**	P	**Pn**	04 32 43.0	**-0.2**
ALEG	**Aligegeo Malai**	**2.06**	**338**	P	**Pn**	04 32 42.8	**-1.8**
ALEG	**Aligegeo Malai**	**2.06**	**338**	S	**Sn**	04 33 08.4	**-0.8**
SAVO	**Savo Central**	**2.24**	**312**	P	**Pn**	04 32 44.6	**-2.5**
SAVO	**Savo Central**	**2.24**	**312**	S	**Sn**	04 33 13.9	**+0.3**
TATA	**Tatamba Isabel**	**2.81**	**324**	P	**Pn**	04 32 54.1	**-0.8**
WRA	**Warramunga Arr**	**27.72**	**247**	P	**P**	04 37 56.4	**+1.1**
	1.5nm,1.2s,baz=73,slow=8.8,SNR=3.0						
	1.5nm,1.2s						
SONM	**Songino Array**	**75.93**	**325**	P	**P**	04 43 53.6	**+0.9**
	0.7nm,0.5s,baz=136,slow=6.0,SNR=5.4						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**84.53**	**20**	P	**P**	04 44 39.7	**+1.3**
	0.6nm,1.0s,baz=237,slow=5.3,SNR=3.3						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**90.41**	**318**	P	**P**	04 45 07.2	**0.0**
	0.2nm,0.5s,baz=102,slow=4.7,SNR=1.7						
	0.2nm,0.5s						

*IDC **11** 04:35:45.4±1.1, 59°.81N×141°.64W, h0km, mb3.4/3, mbtmp3.3/8, ML3.1/5, Error ellipse: s-maj=17.9km s-min=13.5km az=23.0*
*ANF **11** 04:35:45.0±0.4, 59°.80N×141°.60W, h4km±2km, ML3.7/44, Error ellipse: s-maj=3.8km s-min=1.6km az=171.0*
*NEIC **11** 04:35:45.3±1.8, 59°.77N±0°.02×141°.67W±0°.02, h10km±7km, Error ellipse: s-maj=3.0km s-min=1.3km az=170.0*
*AEIC **11** 04:35:46.1±2.4, 59°.84N±0°.03×141°.64W±0°.03, h13km±4km, ML3.4, ML3.5/77(NEIC), Error ellipse: s-maj=4.5km s-min=2.1km az=186.0*
ISC 11 04:35:45.5±1.2, 59°.80N±0°.04×141°.64W±0°.02, h11km±8km, n198, σ1§11/219, mb3.6/3, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.38**	**44**	**Pg**	**Pn**	**04 35 53.1**	**+0.1**
CHX					**Sb**	**04 35 59.9**	**-0.3**
MESA	**MESA**	**0.41**	**338**	Pg	**Pg**	**04 35 53.6**	**-0.1**
MESA				Sg	**Sb**	**04 36 00.6**	**-0.8**
MESA	**MESA**	**0.41**	**338**	P	**Pg**	**04 35 53.7**	**-0.1**
	baz=156,SNR=252						
CYK	**Cape Yakataga**	**0.51**	**305**		**Pb**	**04 35 56.5**	**0.0**
RKAV	**Rock Avalanche**	**0.53**	**16**		**Pg**	**04 35 55.5**	**-0.3**
RKAV					**Sb**	**04 36 03.6**	**-1.0**
SAMH	**Samovar Hills**	**0.55**	**52**		**Pb**	**04 35 57.1**	**-0.1**
YAH	**Yahtse**	**0.57**	**355**	Pg	**Pg**	**04 35 56.3**	**-0.4**
YAH				Sg	**Sb**	**04 36 04.6**	**-1.3**
YAH				IAML		04 36 09.9	
	comp=N,4μm,1.2s						
SNH	**Sunshine Point**	**0.71**	**303**	Pg	**Pg**	**04 35 59.4**	**0.0**
SNH				Sg	**Sb**	**04 36 10.4**	**+0.5**
SNH				IAML		04 36 11.8	
	comp=N,3μm,0.8s						
SNH				IAML		04 36 19.5	
	comp=E,2μm,0.7s						
BARK	**Barkley Ridge**	**0.74**	**325**		**Pg**	**04 35 59.5**	**-0.4**
BARK					**Sb**	**04 36 10.2**	**-0.6**
PCA	**Pinnacle**	**0.76**	**66**	Pg	**Pg**	**04 35 59.6**	**-0.5**
PINM	**Pinnacle**	**0.76**	**66**	P	**Pg**	**04 35 59.9**	**-0.3**
	baz=250,SNR=50						
BGLC	**Bering Glacier**	**0.89**	**292**		**Pb**	**04 36 02.9**	**-0.1**
BGLC					**Sn**	**04 36 16.6**	**-0.2**
BGLC	**Bering Glacier**	**0.89**	**292**	P	**Pb**	**04 36 02.8**	**-0.1**
	baz=108						
BCPM	**Bancas Point**	**1.02**	**80**	Pg	**Pg**	**04 36 04.1**	**-1.0**
BCPM				Sg	**Sb**	**04 36 18.4**	**-0.3**
BCPM				IAML		04 36 23.9	
	comp=N,1μm,0.4s						
BCPM				IAML		04 36 24.2	
	comp=E,2μm,0.4s						
YKU2	**Yakutat**	**1.04**	**105**		**Pn**	**04 36 07.9**	**+1.9**
YKU2					**Sn**	**04 36 21.8**	**+1.3**
SUCK	**Suckling Hills**	**1.11**	**285**		**Pn**	**04 36 06.9**	**-0.1**
SUCK				Sg	**Sn**	**04 36 23.7**	**+1.3**
SUCK				IAML		04 36 25.2	
	comp=E,881nm,0.6s						
SUCK				IAML		04 36 33.0	
	comp=N,989nm,0.6s						
PNL	**Peninsula**	**1.14**	**95**		**Pb**	**04 36 06.3**	**-1.0**
PNL	**Peninsula**	**1.14**	**95**	P	**Pb**	**04 36 06.3**	**-1.0**
	baz=279,SNR=14						
KIAG	**Kiagna River**	**1.19**	**343**		**Pb**	**04 36 06.2**	**-1.9**
BERG	**Berg Lake**	**1.19**	**301**		**Pb**	**04 36 07.0**	**-1.1**
O28M	**Mount Upton**	**1.22**	**36**		**Pb**	**04 36 07.3**	**-1.4**
O28M	**Mount Upton**	**1.22**	**36**	P	**Pb**	**04 36 06.9**	**-1.8**
	baz=218						
O28M				S	**Sb**	**04 36 23.1**	**-1.5**
	baz=218						
NICHA	**Nichawak Mount**	**1.25**	**292**		**Pn**	**04 36 08.7**	**-0.2**
BALM	**Baldy**	**1.29**	**345**		**Pn**	**04 36 07.8**	**-1.8**
KAIM	**Kayak Island**	**1.41**	**277**	Pn	**Pn**	**04 36 10.6**	**-0.5**
KAIM				IAML		04 36 34.8	
	comp=N,567nm,0.6s						
KAIM	**Kayak Island**	**1.41**	**277**	P	**Pn**	**04 36 10.8**	**-0.3**
	baz=93,SNR=6.7						
KAIM				S	**Sg**	**04 36 31.3**	**+0.6**
	baz=93						
HMT	**Hamilton**	**1.42**	**294**	Pn	**Pn**	**04 36 10.6**	**-0.7**
O29M	**Mount Kennedy**	**1.62**	**70**	P	**Pn**	**04 36 13.8**	**-0.3**
	baz=254						
O29M				S	**Sb**	**04 36 35.9**	**-0.1**
	baz=254						
RAGM	**Ragged Mountai**	**1.63**	**293**	Pn	**Pn**	**04 36 13.4**	**-0.8**
VRDI	**Verde Repeater**	**1.69**	**329**	Pn	**Pn**	**04 36 13.8**	**-1.4**
VRDI				IAML		04 36 40.4	
	comp=N,424nm,0.6s						
YUK8	**Steele Glacier**	**1.76**	**31**		**Pb**	**04 36 16.7**	**-1.2**
YUK8	**Steele Glacier**	**1.76**	**31**	P	**Pn**	**04 36 16.0**	**-0.2**
	baz=213,SNR=50						
YUK8				S	**Sb**	**04 36 38.9**	**-1.1**
	baz=213						
BMRM	**Bremner River**	**1.88**	**310**	Pn	**Pn**	**04 36 17.0**	**-0.7**
BMRM	**Bremner River**	**1.88**	**310**	P	**Pn**	**04 36 17.2**	**-0.5**
	baz=126,SNR=57						
BMRM				S	**Sb**	**04 36 42.8**	**-0.7**
	baz=126						
GLB	**Gilahina Butte**	**1.97**	**328**	Pn	**Pn**	**04 36 18.0**	**-0.8**
YUK6	**Outpost Mounta**	**2.00**	**53**		**Pn**	**04 36 20.1**	**+0.7**
YUK6	**Outpost Mounta**	**2.00**	**53**	P	**Pn**	**04 36 19.5**	**+0.1**
	baz=237,SNR=46						
YUK6				Sb	**Sb**	**04 36 47.5**	**+0.6**
	baz=237						
YUK2	**White River**	**2.04**	**11**		**Pn**	**04 36 20.4**	**+0.5**
YUK3	**Moose Creek**	**2.07**	**16**		**Pb**	**04 36 21.6**	**-1.6**
YUK3	**Moose Creek**	**2.07**	**16**	P	**Pn**	**04 36 20.2**	**-0.2**
	baz=197,SNR=107						
YUK3				Sb	**Sb**	**04 36 49.1**	**+0.1**
	baz=197						
YUK4	**Talbot Arm**	**2.15**	**42**	P	**Pb**	**04 36 23.8**	**-0.7**
	baz=225,SNR=58						
EYAK	**Cordova Ski Ar**	**2.19**	**292**	Pn	**Pn**	**04 36 21.1**	**-0.7**
EYAK	**Cordova Ski Ar**	**2.19**	**292**	P	**Pn**	**04 36 20.9**	**-0.9**
	baz=108						
EYAK				S	**Sb**	**04 36 50.9**	**-1.3**
	baz=108						
HYT	**Haines Junctio**	**2.30**	**62**	Pn	**Pn**	**04 36 24.4**	**+0.9**
HYT	**Haines Junctio**	**2.30**	**62**	P	**Pn**	**04 36 23.5**	**0.0**
	baz=246						
YUK5	**Granite Creek**	**2.30**	**53**		**Pn**	**04 36 24.1**	**+0.5**
N25K	**Chitina, Valde**	**2.33**	**323**	Pn	**Pn**	**04 36 23.7**	**-0.1**
N25K				IAML		04 36 56.5	
	comp=E,249nm,0.4s						
N25K				IAML		04 36 57.3	
	comp=N,270nm,0.6s						
N25K	**Chitina, Valde**	**2.33**	**323**	P	**Pn**	**04 36 23.7**	**-0.1**
	baz=140,SNR=43						
N25K				S	**Sb**	**04 36 54.2**	**-2.0**
	baz=140						
P30M	**Million Dollar**	**2.38**	**80**	P	**Pn**	**04 36 24.4**	**-0.1**
	baz=265						
DIV	**Divide**	**2.44**	**305**	Pn	**Pn**	**04 36 25.1**	**-0.3**
HIN	**Hinchinbrook I**	**2.51**	**286**	Pn	**Pn**	**04 36 26.8**	**+0.6**
HIN				IAML		04 37 02.5	
	comp=N,240nm,1.1s						
HIN				IAML		04 37 13.2	
	comp=E,349nm,1.3s						
M27K	**Edge Creek, AK**	**2.57**	**358**	Pn	**Pn**	**04 36 27.8**	**+0.6**
M27K				IAML		04 37 08.3	
	comp=N,166nm,0.8s						
M27K				IAML		04 37 10.0	
	comp=E,222nm,0.9s						
M27K	**Edge Creek, AK**	**2.57**	**358**	P	**Pn**	**04 36 27.5**	**+0.2**
	baz=177,SNR=44						
BVCY	**Beaver Creek**	**2.66**	**8**		**Pn**	**04 36 29.5**	**+1.3**
BVCY	**Beaver Creek**	**2.66**	**8**	Pb	**Pb**	**04 36 32.0**	**-1.0**
	baz=189,S

L27K	Beaver Creek,	3.28 359	P	Pn	04 36 37.0	+0.2
	baz=178					
BCAR	Beaver Creek A	3.28 359	Pn	Pn	04 36 37.6	+0.7
MENT	Mentasta	3.31 343	Pn	Pn	04 36 36.5	-0.7
MENT			IAML		04 37 39.8	
	comp=E,101nm,0.7s					
SCM	Sheep Creek Mo	3.46 309	Pn	Pn	04 36 38.6	-0.7
SCM	Sheep Creek Mo	3.46 309	P	Pn	04 36 38.9	-0.4
	baz=123					
WHY	Whitehorse	3.48 73	Pn	Pn	04 36 40.3	+0.6
WHY	Whitehorse	3.48 73	P	Pn	04 36 39.6	-0.1
	baz=259					
PWL	Port Wells	3.50 291	Pn	Pn	04 36 39.1	-0.6
PWL			IAML		04 37 54.4	
	comp=N,68nm,1.2s					
PWL	Port Wells	3.50 291	P	Pn	04 36 39.6	-0.2
	baz=104					
M23K	Glacier View	3.59 307	P	Pn	04 36 41.9	+0.8
	baz=121,SNR=6.4					
M30M	Minto, Yukon	3.65 38	Pn	Pn	04 36 42.4	+0.5
M30M			IAML		04 37 48.1	
	comp=E,62nm,1.0s					
M30M	Minto, Yukon	3.65 38	P	Pn	04 36 42.3	+0.5
	baz=223,SNR=16					
PAX	Paxson	3.68 332	Pn	Pn	04 36 42.5	+0.1
PAX	Paxson	3.68 332	P	Pn	04 36 42.5	+0.1
	baz=148,SNR=11					
BESE	Bessie Mountai	3.70 106	Pn	Pn	04 36 43.3	+0.7
L29M	L29M	3.73 25	P	Pn	04 36 43.3	+0.3
	baz=209					
KNK	Knik Glacier	3.73 299	Pn	Pn	04 36 42.4	-0.6
KNK			IAML		04 37 52.3	
	comp=N,106nm,1.0s					
KNK			IAML		04 37 52.6	
	comp=E,85nm,1.1s					
KNK	Knik Glacier	3.73 299	P	Pn	04 36 43.4	+0.3
	baz=112,SNR=8.2					
SML	Sawmill	3.85 304	Pn	Pn	04 36 45.2	+0.6
SML			IAML		04 37 51.8	
	comp=N,110nm,0.8s					
SML			IAML		04 37 55.0	
	comp=E,77nm,0.9s					
SML	Sawmill	3.85 304	P	Pn	04 36 44.3	-0.4
	baz=118					
SEW	Seward	3.94 278	Pn	Pn	04 36 45.0	-0.8
SEW	Seward	3.94 278	P	Pn	04 36 45.4	-0.5
	baz=90					
P32M	Atlin	4.02 90	Pb	Pb	04 36 56.4	+0.1
	baz=277					
DOT	Dot Lake	4.04 344	Pn	Pn	04 36 47.4	+0.2
GHO	Glory Hole Cre	4.08 302	Pn	Pn	04 36 48.1	+0.2
GHO			IAML		04 37 49.9	
	comp=N,74nm,0.9s					
GHO			IAML		04 37 56.1	
	comp=E,84nm,0.7s					
PMR	Palmer	4.10 299	Pn	Pn	04 36 47.3	-0.7
PMR			IAML		04 37 55.0	
	comp=N,61nm,0.7s					
PMR	Palmer	4.10 299	P	Pn	04 36 48.1	+0.1
	baz=112					
O22K	Cooper Landing	4.10 283	Pn	Pn	04 36 48.0	0.0
O22K	Cooper Landing	4.10 283	P	Pn	04 36 48.2	+0.2
	baz=96					
RC01	Rabbit Creek A	4.21 291	Pn	Pn	04 36 49.1	-0.6
RC01			IAML		04 37 56.9	
	comp=E,41nm,0.5s					
RC01			IAML		04 38 12.0	
	comp=N,52nm,0.8s					
RC01	Rabbit Creek A	4.21 291	P	Pn	04 36 50.2	+0.5
	baz=104					
RIDG	Independent Ri	4.24 340	P	Pn	04 36 50.6	+0.6
	baz=157					
K27K	Chicken	4.25 357	P	Pn	04 36 50.8	+0.6
	baz=177					
M31M	Drury Creek, Y	4.28 53	Pn	Pn	04 36 50.9	+0.4
M31M			IAML		04 38 06.2	
	comp=N,44nm,0.9s					
M31M			IAML		04 38 14.9	
	comp=E,53nm,1.3s					
M31M	Drury Creek, Y	4.28 53	P	Pn	04 36 50.9	+0.4
	baz=239					
SIT	Sitka	4.31 127	Pn	Pn	04 36 51.4	+0.5
SIT			IAML		04 38 31.9	
	comp=E,47nm,1.1s					
SIT			IAML		04 39 35.5	
	comp=N,39nm,1.4s					
SCRK	Sand Creek	4.34 346	Pn	Pn	04 36 51.9	+0.4
SCRK	Sand Creek	4.34 346	P	Pn	04 36 52.4	+0.9
	baz=164,SNR=7.7					
SLKM	Skilak Lake	4.35 283	Pn	Pn	04 36 50.1	-1.4
SLKM			IAML		04 38 19.0	
	comp=E,38nm,0.9s					
S32K	Killisnoo	4.37 119	Pn	Pn	04 36 53.4	+1.6
S32K			IAML		04 38 17.0	
	comp=N,40nm,1.4s					
S32K	Killisnoo	4.37 119	P	Pn	04 36 52.8	+1.1
	baz=306					
DAWY	Dawson	4.42 13	Pn	Pn	04 36 53.3	+0.8
DAWY	Dawson	4.42 13	P	Pn	04 36 53.6	+1.1
	baz=195,SNR=13					
N32M	Quiet Lake	4.45 69	P	Pn	04 36 53.6	+0.7
	baz=256					
P33M	Teslin, Yukon	4.45 81	Pn	Pn	04 36 54.2	+1.3
P33M	Teslin, Yukon	4.45 81	Pb	Pb	04 37 03.5	-0.2
	baz=269					
K24K	Donnelly Dome	4.47 336	P	Pn	04 36 53.9	+0.7
	baz=152					
K29M	Barlow Dome	4.51 24	P	Pn	04 36 54.9	+1.1
	baz=208					
BRSE	Bradley Lake S	4.60 273	P	Pn	04 36 55.7	+0.7
	baz=85					
BRLK	Bradley Lake	4.67 274	Pn	Pn	04 36 56.4	+0.4
BRLK			IAML		04 38 29.0	
	comp=N,54nm,1.2s					
MAYO	Mayo, Yukon	4.69 33	Pn	Pn	04 36 56.8	+0.6
FARO	Faro, Yukon	4.72 55	Pn	Pn	04 36 57.5	+1.0
SUA	Susitna One	4.79 294	Pn	Pn	04 36 56.9	-0.7
SUA	Susitna One	4.79 294	P	Pn	04 36 59.3	+1.7
	baz=106					
J26L	Joseph Creek	4.81 350	P	Pn	04 36 59.0	+1.2
	baz=168					
CNPM	China Poot	4.87 271	Pn	Pn	04 36 59.3	+0.6
CUT	Chulitna	4.94 306	Pn	Pn	04 36 59.9	+0.4
J29N	Klondike Camp	4.94 17	Pn	Pn	04 37 02.0	+2.3
RND	Reindeer	5.00 320	Pn	Pn	04 37 01.8	+1.3
HOM	Homer	5.07 273	Pn	Pn	04 37 02.2	+0.9
J25K	Salcha River,	5.14 342	P	Pn	04 37 03.5	+1.1
	baz=158					
MCK	McKinley	5.25 322	Pn	Pn	04 37 04.2	+0.3
HDA	Harding Lake	5.26 334	Pn	Pn	04 37 04.6	+0.7
STLK	Strandline Lak	5.30 293	Pn	Pn	04 37 03.9	-0.6
SKT	Skwentna	5.30 299	Pn	Pn	04 37 03.3	-1.3
SKT	Skwentna	5.30 299	P	Pn	04 37 06.2	+1.6
	baz=110					
J30M	Hart River	5.40 25	P	Pn	04 37 08.1	+2.0
	baz=210					
R33M	Jennings River	5.44 90	Pn	Pn	04 37 06.1	-0.5
IL31		5.56 336	Pn	Pn	04 37 08.5	+0.5
ILAR	Eielson Array	5.56 336	Pn	Pn	04 37 08.8	+0.7
	comp=N,0.6nm,0.3s,baz=152,slow=12,SNR=17					
ILAR			Lg	Lg	04 38 35.8	
	comp=N,0.6nm,0.3s,baz=147,slow=29,SNR=4.2					
	comp=N,0.5nm,0.4s					
I26K	Coal Creek Min	5.58 353	P	Pn	04 37 10.2	+1.8
	baz=172					
WRH	Wood River Hil	5.58 330	Pn	Pn	04 37 09.0	+0.7
SYI	Shuyak Island	5.65 263	Pn	Pn	04 37 09.6	+0.3
CCB	Clear Creek Bu	5.66 332	Pn	Pn	04 37 09.0	-0.4
I28M	Miner Creek	5.73 7	P	Pn	04 37 12.2	+1.7
	baz=189					
S34M	Telegraph Cree	5.77 105	Pn	Pn	04 37 11.2	+0.1
I29M	Ogilvie Camp,	5.79 14	Pn	Pn	04 37 13.5	+2.2
ILSW	Iliamna Southw	5.79 277	Pn	Pn	04 37 11.2	-0.2
KTH	Kantishna Hill	5.81 314	Pn	Pn	04 37 12.8	+1.3
I27K	Kandik River	5.83 0	P	Pn	04 37 13.8	+2.0
	baz=180					
P19K	Oil Pt	5.87 274	Pn	Pn	04 37 13.6	+1.2
P19K	Oil Pt	5.87 274	P	Pn	04 37 13.4	+1.1
	baz=83					
NEA2	Nenana	5.94 327	Pn	Pn	04 37 12.9	-0.3
KDAK	Kodiak Island	6.04 255	Pn	Pn	04 37 12.8	-1.9
KDAK	Kodiak Island	6.04 255	Pn	Pn	04 37 14.8	+0.2
	comp=N,1.0nm,0.3s,baz=151,slow=19,SNR=35					
KDAK			Sn	Sn	04 38 20.3	-3.3
	baz=41,slow=20					
	comp=N,6.8nm,0.8s					
DLBC	Dease Lake	6.13 98	Pn	Pn	04 37 17.3	+1.3
DLBC	Dease Lake	6.13 98	Pn	Pn	04 37 17.9	+1.8
	comp=N,0.4nm,0.3s,baz=248,slow=13,SNR=7.5					
DLBC			Sn	Sn	04 38 21.7	-4.5
	comp=N,0.4nm,0.3s,baz=298,slow=25,SNR=0.8					
DLBC			Lg	Lg	04 38 55.6	
	comp=N,0.4nm,0.3s,baz=156,slow=20,SNR=3.2					
	comp=N,0.9nm,0.3s					
CAST	Castle Rocks	6.16 311	Pn	Pn	04 37 13.9	-2.5
BPAW	Bear Paw Mtn.	6.17 318	Pn	Pn	04 37 16.6	+0.2
Q19K	Cape Douglas,	6.20 267	Pn	Pn	04 37 17.5	+0.6
Q19K	Cape Douglas,	6.20 267	P	Pn	04 37 18.1	+1.2
	baz=76,SNR=6.1					
I23K	Minto, Yukon-K	6.45 330	Pn	Pn	04 37 20.8	+0.6
N19K	Bonanza Creek	6.46 285	Pn	Pn	04 37 20.6	0.0
CHUM	Lake Minchumin	6.50 314	P	Pn	04 37 21.3	+0.3
	baz=124					
L20K	Farewell, AK	6.51 300	P	Pn	04 37 21.7	+0.6
	baz=109					
M19K	Big River Lodg	6.58 294	P	Pn	04 37 22.6	+0.5
	baz=103					
T35M	Bob Quinn	6.62 110	Pn	Pn	04 37 23.9	+1.2
OHAK	Old Harbor	6.62 252	Pn	Pn	04 37 22.8	+0.1
OHAK	Old Harbor	6.62 252	P	Pn	04 37 22.9	+0.3
	baz=62					
O18K	Koktuh Hills	6.84 276	Pn	Pn	04 37 25.6	-0.1
O18K	Koktuh Hills	6.84 276	P	Pn	04 37 25.8	+0.1
	baz=84					
L19K	White Mountain	6.86 296	P	Pn	04 37 26.3	+0.4
	baz=104					
P18K	Big Mountain,	6.91 273	Pn	Pn	04 37 27.1	+0.4
Q18K	Katmai Hardscr	6.96 266	P	Pn	04 37 27.4	0.0
	baz=74					
FYU	Fort Yukon	6.99 348	Pn	Pn	04 37 29.2	+1.5
TTA	Tatalina	7.58 301	Pn	Pn	04 37 35.6	-0.3
BMAR	Burnt Mountain	7.77 352	Pn	Pn	04 37 40.6	+2.1
O17K	Koliganek Bris	7.80 277	P	Pn	04 37 39.3	+0.5
	baz=83					
G31M	Satah River	7.88 22	Pn	Pn	04 37 41.1	+1.3
G23K	Bananza Creek	7.90 335	P	Pn	04 37 40.9	+0.7
	baz=148					
M17K	Holitna River	7.94 288	Pn	Pn	04 37 40.0	-0.7
F26K	Sheenjek River	8.01 353	P	Pn	04 37 43.7	+2.0
	baz=171					
F25K	Christian Rive	8.03 349	P	Pn	04 37 44.2	+2.3
	baz=165					
O16K	Kokwok River B	8.32 276	P	Pn	04 37 46.1	+0.1
	baz=81					
E24K	Your Creek	8.83 343	Pn	Pn	04 37 54.9	+1.9
E28M	Babbage River	8.89 5	Pn	Pn	04 37 57.0	+3.2
L16K	Owhat River	8.94 290	Pn	Pn	04 37 54.5	+0.2
INK	Inuvik	9.24 19	Pn	Pn	04 38 01.6	+3.0
INK	Inuvik	9.24 19	Pn	Pn	04 38 00.8	+2.3
	comp=N,0.1nm,0.3s,baz=191,slow=10,SNR=9.6					
INK			Sn	Sn	04 39 41.5	-0.8
	comp=N,0.1nm,0.3s,baz=125,slow=19,SNR=2.3					
INK			Lg	Lg	04 40 35.6	
	comp=N,0.1nm,0.3s,baz=285,slow=27,SNR=3.6					
	comp=N,1.0nm,0.7s					
D25K	Kavik River	9.78 350	Pn	Pn	04 38 09.3	+3.5
C36M	Paulatuk	12.14 31	Pn	Pn	04 38 40.3	+2.3
YKA	Yellowknife Ar	13.29 67	Pn	Pn	04 38 52.7	-1.1
	comp=N,0.1nm,0.3s,baz=271,slow=13,SNR=4.2					
YKA			Lg	Lg	04 42 37.8	
	baz=274,slow=28,SNR=1.7					
	comp=N,0.1nm,0.4s					
A36M	Sachs Harbour	13.87 21	Pn	Pn	04 39 04.0	+2.4
RES	Resolute Bay	22.51 30	P	P	04 40 45.3	+0.7
	comp=N,0.5nm,0.7s,baz=259,slow=12,SNR=2.4					
	comp=N,0.5nm,0.7s					
H11S1	WAKE ISLAND Hy	55.26 245	T	T	05 45 17.2	
	baz=29,slow=75,SNR=8.7					
H11S2	WAKE ISLAND Hy	55.27 245	T	T	05 45 11.6	
	baz=29,slow=75,SNR=4.0					
H11S3	WAKE ISLAND Hy	55.28 245	T	T	05 45 19.7	
	baz=29,slow=75,SNR=4.0					
MKAR	Makanchi Array	67.87 329	P	P	04 46 46.6	+3.1
	comp=N,0.2nm,0.5s,baz=40,slow=8.2,SNR=3.1					
	comp=N,0.2nm,0.5s					
AKASG	Malin Array Be	69.61 6	P	P	04 46 53.9	-0.3
	comp=N,0.4nm,0.5s,baz=359,slow=6.1,SNR=1.7					
	comp=N,0.4nm,0.5s					
QSPA	South Pole Qui	149.61 180	PKPbc	PKiKP	04 55 34.1	-0.4
	comp=N,0.7nm,0.7s,baz=56,slow=5.4,SNR=1.5					

IDC 11 04:55:37.8±2.0, 4°.47S×150°.70E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=139.0km s-min=28.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.15	225	P	P	05 00 35.4	-0.1
	0.5nm,0.6s,baz=51,slow=10,SNR=2.7						
	0.5nm,0.6s						
ASAR	Alice Springs	25.04	219	P	P	05 01 03.3	-0.7
	1.0nm,0.8s,baz=45,slow=9.5,SNR=12						
	1.0nm,0.8s						
ILAR	Eielson Array	82.65	23	P	P	05 08 02.4	-0.5
	0.4nm,0.7s,baz=247,slow=5.7,SNR=6.3						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	148.22	288	PKPbc	PKiKP	05 15 27.9	-0.7
	1.3nm,0.4s,baz=60,slow=2.4,SNR=1.2						

NEIC 11 05:04:50.7±2.4, 25°.7S±0°.1×180°.0W±0°.1, h455km±7km, mb4.2/16, Error ellipse: s-maj=18.7km s-min=17.7km az=221.0

IDC 11 05:04:53.2±2.8, 25°.53S×179°.75E, h488km±28km, mb3.5/5, mbtmp4.3/6, Error ellipse: s-maj=27.9km s-min=21.9km az=132.0

ISC 11 05:04:52.6±0.6, 25°.64S±0°.08×179°.9E±0°.1, h493km, n42, σ1°.02/45, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.06	347	P	P	05 06 48.9	-0.8
	2.9nm,0.4s,baz=164,slow=15,SNR=8.1						
NIUE	Niue	11.42	57	P	P	05 07 22.9	-2.1
URZ	Urewera	12.81	190	P	P	05 07 37.7	-1.9
	2.3nm,0.3s,baz=8.5,slow=4.8,SNR=6.3						
URZ				S	S	05 09 55.7	-1.7
	6.7nm,0.7s,baz=307,slow=20,SNR=8.6						
TCW	Tory Channel	16.23	195	P	P	05 08 14.3	-1.3
ARMA	Armidale	25.41	253	P	P	05 09 40.2	-0.1
ARMA				IAmb	IAmb	05 09 41.7	
	comp=Z,12nm,1.1s						
EIDS	Eidsvold	26.03	264	P	P	05 09 45.9	+0.2
EIDS				IAmb	IAmb	05 09 55.9	
	comp=Z,13nm,1.5s						
CAN	Canberra	28.26	243	P	P	05 10 05.5	+0.2
TOO	Toolangi	31.49	239	P	P	05 10 33.6	+0.4
TOO				IAmb	IAmb	05 10 43.1	
	comp=Z,8.5nm,1.4s						
STKA	Stephens Creek	34.06	250	P	P	05 10 55.3	+0.2
STKA	Stephens Creek	34.06	250	P	P	05 10 55.1	0.0
	comp=Z,2.5nm,0.4s,baz=86,slow=11,SNR=12						
	comp=Z,2.5nm,0.4s						
COEN	Coen	36.37	282	P	P	05 11 15.1	+0.5
COEN				IAmb	IAmb	05 11 46.3	
	comp=Z,12nm,1.4s						
BBOO	Buckleboo	38.74	249	P	P	05 11 33.1	-0.7
BBOO				IAmb	IAmb	05 12 03.7	
	comp=Z,29nm,1.5s						
AS31	Alice Springs	41.73	263	P	P	05 11 57.8	-0.2
ASAR	Alice Springs	41.73	263	P	P	05 11 57.7	-0.3
ASAR	Alice Springs	41.73	263	P	P	05 11 57.5	-0.5
	comp=Z,2.6nm,0.4s,baz=92,slow=7.8,SNR=41						
	comp=Z,2.6nm,0.4s						
WRAB	Tennant Creek	42.26	268	P	P	05 12 01.6	-0.6
WRA	Warramunga Arr	42.27	268	P	P	05 12 01.1	-1.1
WRA	Warramunga Arr	42.27	268	P	P	05 12 01.1	-1.1
	comp=Z,3.2nm,0.4s,baz=99,slow=7.6,SNR=80						
	comp=Z,3.2nm,0.4s						
KNRA	Kununurra	48.65	271	P	P	05 12 51.1	-0.1
KNRA				IAmb	IAmb	05 13 33.6	
	comp=Z,26nm,1.4s						
FITZ	Fitzroy Crossi	50.67	267	P	P	05 13 06.1	0.0
FITZ	Fitzroy Crossi	50.67	267	P	P	05 13 05.8	-0.3
	comp=Z,2.3nm,0.5s,baz=92,slow=7.6,SNR=9.2						
	comp=Z,2.3nm,0.5s						
QSPA	South Pole Qui	64.45	180	P	P	05 14 41.7	+2.1
QSPA				IAmb	IAmb	05 14 47.5	
	comp=Z,5.6nm,1.3s						
QSPA	South Pole Qui	64.45	180	P	P	05 14 41.4	+1.7
	comp=Z,1.4nm,0.7s,baz=42,slow=7.4,SNR=7.1						
	comp=Z,1.4nm,0.7s						
BELA	Belgrano 2	74.73	173	P	P	05 15 40.5	-0.4
BELA				IAmb	IAmb	05 15 43.3	
	comp=Z,3.8nm,0.7s						
PMSA	Palmer Station	77.34	157	P	P	05 15 58.1	+2.6
L19K	White Mountain	89.82	12	P	P	05 16 59.9	+2.4
BVAR	Borovoye Array	121.70	318	PKP	PKiKP	05 22 49.5	-0.3
	comp=Z,0.5nm,0.4s,baz=132,slow=4.1,SNR=1.8						
ARCES	ARCESS Array B	133.57	348	PKP	PKiKP	05 23 12.4	-0.7
	comp=Z,4.2nm,1.0s,baz=46,slow=2.3,SNR=1.8						
SHEL	Horse Pasture	138.29	172	PKPdf	PKPdf	05 23 22.7	+0.6
NC303	NORSAR Array S	143.58	351	PKPdf	PKPdf	05 23 29.4	-0.8
NC405	NORSAR Array S	143.64	350	PKPdf	PKPdf	05 23 29.5	-0.8
NB201	NORSAR Array S	143.76	351		PKPdf	05 23 30.0	-0.5
NB2	NORSAR Subarra	143.78	351	PKP	PKPdf	05 23 29.7	-0.9
	comp=Z,0.6nm,0.5s,baz=16,slow=5.0,SNR=6.5						
NOA	NORSAR Array B	143.78	351	PKP	PKPdf	05 23 29.4	-1.2
	comp=Z,0.8nm,0.5s,baz=16,slow=5.0,SNR=6.5						
NC602	NORSAR Array S	144.02	350	PKPbc	PKPdf	05 23 30.4	-0.5
HFS	Hagfors	144.23	348	PKP	PKPdf	05 23 30.8	-0.5
	comp=Z,2.5nm,0.4s,baz=90,slow=4.4,SNR=26						
KONO	Kongsberg	145.35	351	PKPdf	PKPab	05 23 35.1	-0.2
AKASG	Malin Array Be	146.38	326	PKPbc	PKPbc	05 23 37.3	-0.2
	comp=Z,0.4nm,0.3s,baz=47,slow=4.0,SNR=5.2						
ILGA	Ilgaz	148.10	307	PKPbc	PKiKP	05 23 43.8	-0.2
MMAI	Mount Meron Ar	148.33	292	PKPbc	PKiKP	05 23 44.6	0.0
	comp=Z,0.4nm,0.3s,baz=64,slow=6.6,SNR=3.5						
BRTR	Keskin Array B	148.55	305	PKPdf	PKPdf	05 23 40.1	+0.7
BRTR				PKPbc	PKiKP	05 23 45.0	+0.1
BRTR				PKPab	PKPab	05 23 49.7	+0.6
BRTR	Keskin Array B	148.55	305	PKPbc	PKiKP	05 23 45.0	+0.1
	comp=Z,0.8nm,0.6s,baz=106,slow=4.4,SNR=4.8						

TRN 11 05:05:53.7, 11°.85N×61°.40W, h19km, MD3.5, South-east of Grenada., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	Grenville	0.38	318	eP	Pb	05 06 02.0	+0.1
GRGR				eS	Sb	05 06 07.5	0.0
GRFF	Grenada Fort F	0.39	301	eP	Pb	05 06 02.3	+0.2
GRFF				eS	Sb	05 06 07.8	0.0
GRW	Mount Saint Ca	0.40	320	eP	Pb	05 06 03.0	+0.5
GRW				eS	Sb	05 06 08.7	+0.4
GRSS	Sisters	0.49	335	eP	Pb	05 06 03.8	0.0
GRSS				eS	Sg	05 06 10.5	0.0
GCMP	Grenada, Carri	0.63	358	eP	Pb	05 06 06.0	-0.2
GCMP				eS	Sb	05 06 14.0	-0.6
TOSP	Speyside	1.01	123	eP	Pg	05 06 13.3	+0.1
TRN	Trinidad (W)	1.19	180	eP	Pb	05 06 16.0	+0.2
TRN				eS	Sn	05 06 31.0	-0.1
SVOC	Richmond Hill,	1.31	8	eP	Pb	05 06 17.4	-0.3
SVOC				eS	Sb	05 06 35.0	+0.8
SVT	Saint Vincent	1.32	7	eP	Pn	05 06 17.3	+0.1
SVT				eS	Sb	05 06 35.3	+0.7
SVB	Belmont	1.42	6	eP	Pn	05 06 18.8	+0.2
SVB				eS	Sb	05 06 37.7	+0.2
SLB	Belfond	2.00	10	eP	Pb	05 06 28.6	-1.0
SLB				eS	Sn	05 06 52.4	+1.3
SLAC	Saint Lucia, A	2.09	13	eP	Pn	05 06 29.0	+1.2
SLAC				eS	Sn	05 06 53.7	+0.2
SLBI	Saint Lucia, B	2.20	11	eP	Pn	05 06 30.0	+0.7
SLBI				eS	Sn	05 06 57.0	+1.0
BIM	Bigot	2.67	7	eP	Pn	05 06 36.1	+0.3
BIM				eS	Sn	05 07 07.4	-0.4
MDN	Morne-Daniel	3.45	0	eP	Pn	05 06 46.8	+0.3
MDN				eS	Sn	05 07 25.9	-0.9
DSLB	Salisbury	3.57	360	eP	Pn	05 06 48.0	-0.2
DSLB				eS	Sn	05 07 28.2	-1.7
TBG	Guadaloupe-3	3.99	357	eP	Pn	05 06 54.0	+0.1
ANBD	Bethesda, Anti	5.18	356	eP	Pn	05 07 11.4	+1.1
ANBD				eS	Sn	05 08 08.5	-1.1
SKI	Saint Kitts	5.61	347	eP	Pn	05 07 16.7	+0.5

GCG 11 05:14:46.5±1.4, 14°.23N×92°.95W, h27km±33km, MD4.5
MEX 11 05:14:53.4±0.7, 14°.69N×92°.95W, h15km±56km, MD4.0

ISC 11 05:14:45.9±3.7, 14°.5N±0°.1×93°.11W±0°.07, h11km±26km, n16, σ2°.01/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	Catarina	1.07	69	eP	Pb	05 15 05.5	-1.0
SMCA	Catarina	1.07	69	eP		05 15 05.5	
PCIG		1.23	355	eP	Pb	05 15 08.6	-0.5
PCIG				eS	Sb	05 15 22.3	-2.7
RTAL	Retalhuleu	1.37	88	eP	Pn	05 15 08.9	-2.2
RTAL				eS	Sb	05 15 22.7	-6.5
STG8	El Palmar, Qui	1.70	91	eP		05 15 10.6	
STG8				i S		05 15 30.3	
STG0	El Palmar, Qui	1.71	91	eP		05 15 10.3	
STG0				i S		05 15 31.0	
HUEH	Huehuetenango	1.77	61	eP	Pn	05 15 16.6	0.0
HUEH				i S	Sn	05 15 40.1	+0.9
CCIG	Comitan	2.03	27	eP	Pn	05 15 22.9	+2.7
CCIG				eS	Sb	05 15 47.8	-0.4
TGIG		2.29	360	eP	Pn	05 15 25.5	+1.8
TGIG				i S	Sn	05 15 52.1	+0.2
FG8	Yepocapa, Chim	2.48	95	eP		05 15 18.3	
NILT	Santiago Nilte	2.53	325	eP	Pn	05 15 27.8	+0.8
NILT				eS	Sn	05 15 55.4	-2.5
APG	El Apazote	2.61	78	eP	Pn	05 15 27.4	-1.0
APG	El Apazote	2.61	78	eP		05 15 27.4	
UXUV	UXUV	3.00	341	eP	Pn	05 15 36.3	+2.9
UXUV				eS	Sn	05 16 09.0	-0.3
CMIG	Matias Romero	3.11	327	eP	Pn	05 15 35.3	+0.3
CMIG				eS	Sn	05 16 14.6	+2.4
HUIG	Huatulco	3.17	294	eP	Pn	05 15 34.2	-1.6
NUBE	Las Nubes	3.28	100	eP	Pn	05 15 34.7	-2.7
NUBE	Las Nubes	3.28	100	eP		05 15 34.7	
PETF	Flores	3.96	52	eP	Pn	05 15 47.7	+1.1
NEUV	Arroyo Zacate	4.13	322	eP	Pn	05 15 47.9	-1.1
NEUV				eS	Sn	05 16 34.2	-3.1
PEIG	Puerto Escondi	4.18	292	eP	Pn	05 15 49.4	-0.3
SCIG	Sabancuy	4.83	22	eP	Pn	05 15 59.9	+1.3
SCIG				eS	Sn	05 16 54.7

OKFG	Magazine Ridge	0.62	275		Pn	05 30 55.9	+0.2
OKRE	Okmok R'deer P	0.78	282		Pn	05 30 57.3	-0.3
OKWE	Okmok W'ng Wal	0.82	278		Pn	05 30 58.1	+0.1
AKMO	Akutan Morgan	0.89	35		Pn	05 30 59.0	+0.2
AKMO					Sn	05 31 11.6	0.0
ZRO	Akutan Zero	0.90	36		Pn	05 30 58.9	-0.2
ZRO					Sn	05 31 11.7	-0.1
LVA	Lava Point	0.94	32	Pn	Pn	05 30 59.8	+0.2
AHB	Akutan Harbor	0.98	40		Pn	05 31 00.0	0.0
AHB					Sn	05 31 13.5	0.0
AKGG	Akutan Green G	0.99	32		Pn	05 31 00.2	+0.1
AKSA	Akutan Strait	1.04	42		Pn	05 31 00.4	-0.3

NEIC 11 05:35:12.6±1.3, 38°.01N±0°.02×97°.98W±0°.02, h5km±2km, mb_Lg2.8/86, ML3.1/18, Error ellipse: s-maj=3.4km s-min=3.1km az=20.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	Harper NE Stat	0.71	181	Pg	Pg	05 35 26.6	+0.4
KAN12				Sg	Sg	05 35 35.0	-0.5
KAN12				IAML		05 35 40.9	
	comp=N,1μm,0.4s						
KAN12				IAML		05 35 42.8	
	comp=E,1μm,0.4s						
KAN08	Anthony NE Sta	0.78	180		Pg	05 35 27.7	+0.1
KAN08				Sg	Sg	05 35 38.1	+0.4
KAN01	Argonia South	0.87	169		Pg	05 35 29.5	+0.3
KAN01				Sg	Sg	05 35 40.9	+0.3
KAN05	Bluff City Nor	0.90	175		Pg	05 35 30.1	+0.2
KAN05				Sg	Sg	05 35 41.7	+0.1
KAN05				IAML		05 35 44.3	
	comp=N,506nm,0.3s						
KAN05				IAML		05 35 50.6	
	comp=E,506nm,0.2s						
KAN09	Caldwell North	0.92	162		Pg	05 35 30.4	+0.2
KAN09				Sg	Sb	05 35 43.0	-0.4
KAN09				IAML		05 35 51.3	
	comp=E,867nm,0.3s						
KAN17	Caldwell West	0.98	170		Pg	05 35 31.5	+0.2
KAN17				Sg	Sg	05 35 44.1	+0.1
KAN17				IAML		05 35 50.8	
	comp=E,543nm,0.3s						
KAN17				IAML		05 35 51.9	
	comp=N,550nm,0.2s						
KAN14	Manchester OK	1.05	179	Pg	Pg	05 35 32.7	0.0
KAN14				Sg	Sg	05 35 46.4	+0.1
KAN14				IAML		05 35 52.9	
	comp=E,362nm,0.1s						
KAN14				IAML		05 35 59.0	
	comp=N,431nm,0.2s						
KAN13	South Haven SW	1.07	158		Pg	05 35 33.2	+0.1
GC02	Grant County #	1.16	175		Pg	05 35 34.9	+0.1
OK032	Salt Plains WL	1.22	189		Pg	05 35 35.6	-0.3
OK032				IAML		05 36 04.3	
	comp=N,575nm,0.2s						
BLOK	Blackwell	1.39	154		Pn	05 35 38.6	0.0
CROK	Carrier	1.50	180		Pn	05 35 39.6	-0.6
KSU1	Kansas State U	1.53	44		Pb	05 35 41.1	-0.3
NOKA	Waynoka	1.57	209		Pb	05 35 41.7	-0.4
T35A	Sooner Cattle	1.60	133		Pb	05 35 42.0	-0.5
CBKS	Cedar Bluff	1.60	301		Pb	05 35 42.3	-0.3
OK038	West end E0370	1.65	202		Pb	05 35 43.1	-0.3
OK051	E0350 and S346	1.75	148		Pb	05 35 44.7	-0.6
OK048	Pawnee Station	1.79	152	Pn	Pb	05 35 45.2	-0.6
QUOK	Quay	2.10	151	Pn	Pn	05 35 47.7	-0.7
OK052	Battle Ridge R	2.22	155		Pn	05 35 50.0	0.0
OK031	S. Brethren Rd	2.25	156		Pn	05 35 50.9	+0.5
OK029	Liberty Lake	2.25	169		Pn	05 35 50.6	+0.2
ELIS	Ellis County	2.26	211		Pn	05 35 51.8	+1.2
ADOK	Arcadia Dam	2.40	168	Pn	Pn	05 35 52.6	0.0
CSTR	Hydro, Custer	2.43	194	Pn	Pn	05 35 52.3	-0.6
DEOK	Depew	2.46	151	Pn	Pn	05 35 53.6	+0.2
OKCSW	OKLAHOMA CITY	2.63	170	Pn	Pn	05 35 56.5	+0.7
OKCSW				IAmb_Lg		05 36 41.6	
	comp=Z,34nm,0.7s						
TUL3	Leonard	2.73	139	Pn	Pn	05 35 58.1	+1.1
FNO	Franklin	2.79	170	Pn	Pn	05 35 58.3	+0.5
W35A	Tecumseh	2.98	162		Pn	05 36 01.3	+0.7
U38A	Gravette	3.27	118	IAmb_Lg		05 36 57.9	
	comp=Z,21nm,0.7s						
WMOK	Wichita Mounta	3.33	191	Pn	Pn	05 36 06.3	+1.0
N35A	Tabor	3.37	32	Pn	Pn	05 36 08.2	+2.2
BGNE	Belgrade	3.40	358	Pn	Pn	05 36 07.5	+1.2
BGNE				IAmb_Lg		05 37 07.9	
	comp=Z,20nm,0.7s						
X34A	Smith Ranch, M	3.40	178	Pn	Pn	05 36 06.9	+0.6
X34A				IAmb_Lg		05 37 08.2	
	comp=Z,31nm,1.2s						
SMWD	Samnorwood	3.42	213		Pn	05 36 08.2	+1.5
SMWD				IAmb_Lg		05 37 04.1	
	comp=Z,22nm,0.7s						
HHAR	Hobbs	3.66	117	Pn	Pn	05 36 11.0	+1.2
P38A	Dawn	3.83	64	IAmb_Lg		05 37 14.9	
	comp=Z,24nm,0.7s						
LOOK	Love County	4.06	171	Pn	Pn	05 36 16.7	+1.3
LOOK				IAmb_Lg		05 37 32.7	
	comp=Z,17nm,0.8s						
OGNE	Ogallala	4.29	314		Pb	05 36 28.2	-0.4
OGNE				IAmb_Lg		05 37 35.7	
	comp=Z,33nm,0.7s						
R40A	Maddies Statio	4.51	85	Pn	Pn	05 36 22.9	+1.4
N38A	Joes South For	4.61	51	IAmb_Lg		05 37 51.7	
	comp=Z,28nm,0.8s						
MGMO	Mountain Grove	4.61	99		Pn	05 36 25.1	+2.1
MGMO				IAmb_Lg		05 37 45.2	
	comp=Z,22nm,0.8s						
P40A	Paris	4.88	70	Pn	Pn	05 36 29.5	+2.9
DKNS	Dickens	4.95	210	Pn	Pn	05 36 29.5	+1.8
DKNS				IAmb_Lg		05 37 57.6	
	comp=Z,15nm,0.8s						
MIAR	Mount Ida	4.96	133	IAmb_Lg		05 37 57.8	
	comp=Z,24nm,0.8s						
APMT	Aspermont	4.99	201	Pn	Pn	05 36 29.4	+1.2
APMT				IAmb_Lg		05 37 57.2	
	comp=Z,12nm,0.8s						
FCAR	Ozark Folk Cen	5.14	113	IAmb_Lg		05 37 53.6	
	comp=Z,13nm,0.7s						
T25A	Trinidad	5.18	262	IAmb_Lg		05 37 59.9	
	comp=Z,19nm,1.0s						
PLPT	Palo Pinto	5.19	183	Pn	Pn	05 36 31.4	+0.5
CCM	Cathedral Cave	5.32	87	IAmb_Lg		05 38 06.6	
	comp=Z,13nm,0.8s						
Z38A	Mt. Pleasant	5.33	152	IAmb_Lg		05 38 10.6	
	comp=Z,18nm,0.8s						
X40A	Basin Creek Fa	5.44	129	IAmb_Lg		05 38 09.9	
	comp=Z,21nm,0.8s						
SN07	Snyder 07	5.45	207	IAmb_Lg		05 38 20.0	
	comp=Z,16nm,0.9s						
ABTX	Abilene, Hawle	5.54	195	IAmb_Lg		05 38 19.5	
	comp=Z,13nm,1.0s						
SN05	Snyder 5	5.64	206	IAmb_Lg		05 38 17.6	
	comp=Z,23nm,0.9s						
POST	Post	5.71	211	IAmb_Lg		05 38 24.8	
	comp=Z,12nm,0.8s						
Q24A	Divide	5.71	282	IAmb_Lg		05 38 16.7	
	comp=Z,17nm,0.8s						
ECSD	EROS Data Cent	5.81	10	IAmb_Lg		05 38 22.1	
	comp=Z,11nm,0.7s						
WLAR	White Oak Lake	5.85	136	IAmb_Lg		05 38 18.2	
	comp=Z,19nm,0.7s						
PBMO	Poplar Bluff	6.13	99	IAmb_Lg		05 38 31.5	
	comp=Z,20nm,0.7s						
ISCO	Idaho Springs	6.22	289	IAmb_Lg		05 38 36.3	
	comp=Z,14nm,0.9s						
SUSD	Miller	6.47	354	IAmb_Lg		05 38 39.7	
	comp=Z,13nm,0.8s						
CGM3	Cape Girardeau	6.64	94	IAmb_Lg		05 38 42.2	
	comp=Z,19nm,1.1s						
HDIL	Hopedale	7.20	67	IAmb_Lg		05 39 02.9	
	comp=Z,14nm,0.8s						
OZNA	Ozona	7.53	201	IAmb_Lg		05 39 23.8	
	comp=Z,13nm,0.7s						
143A	Socs Landing,	7.54	133	IAmb_Lg		05 39 26.6	
	comp=Z,13nm,0.8s						
JCT	Junction City	7.66	192	IAmb_Lg		05 39 35.9	
	comp=Z,12nm,0.7s						
JFWS	Jewell Farm	7.66	48	IAmb_Lg		05 39 20.9	
	comp=Z,14nm,0.8s						
MNHN	Monahans	7.73	212	IAmb_Lg		05 39 30.0	
	comp=Z,10nm,1.0s						
SAND	Sanderson	8.74	204	IAmb_Lg		05 40 05.0	
	comp=Z,6.6nm,0.8s						
DRIO	Del Rio	8.84	195	IAmb_Lg		05 40 06.4	
	comp=Z,8.6nm,1.0s						
VHRN	Van Horn	9.24	221	IAmb_Lg		05 40 31.0	
	comp=Z,11nm,1.2s						

AEIC 11 05:45:46.8±0.8, 54°.0N±0°.2×165°.6W±0°.2, h108km±4km, Error ellipse: s-maj=30.7km s-min=5.3km az=149.0

NEIC 11 05:45:47.1±0.6, 54°.0N±0°.2×165°.6W±0°.2, h112km±7km, ML2.5(AEIC), Error ellipse: s-maj=37.4km s-min=5.4km az=150.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.19	336		Pn	05 46 02.6	-0.1
AKSA					Sn	05 46 14.5	+0.1
AHB	Akutan Harbor	0.21	316		Pn	05 46 02.7	-0.1
AHB					Sn	05 46 14.7	+0.1
ZRO	Akutan Zero	0.28	298		Pn	05 46 02.8	-0.3
ZRO					Sn	05 46 15.2	+0.2
AKMO	Akutan Morgan	0.29	296		Pn	05 46 03.1	0.0
AKMO					Sn	05 46 14.8	-0.2
LVA	Lava Point	0.34	306	Pn	Pn	05 46 03.2	0.0
UNV	Unalaska Valle	0.57	258		Pn	05 46 04.7	+0.1
UNV	Unalaska Valle	0.57	258		Sn	05 46 17.7	0.0
MSW	Makushin Switc	0.72	267		Pn	05 46 05.7	-0.2
MSW					Sn	05 46 20.3	+0.3
WEBT	Westdahl Beart	0.79	37		Pn	05 46 06.1	-0.3
WEBT					Sn	05 46 20.9	-0.1
MGOD	Makushin Gods	0.79	258		Pn	05 46 06.5	0.0
MGOD					Sn	05 46 21.1	0.0
MAPS	Pakushin South	0.83	260		Pn	05 46 06.5	-0.3
MAPS					Sn	05 46 21.8	+0.2
ISLZ	Isanotski Laza	1.33	54		Pn	05 46 12.0	0.0
ISLZ					Sn	05 46 31.2	+0.3
ISNN	Isanotski Nort	1.36	49		Pn	05 46 12.6	+0.3
OKFG	Magazine Ridge	1.50	249		Pn	05 46 13.7	-0.3
FALS	False Pass	1.54	54		Pn	05 46 14.7	+0.2
CHGN	Chignik	4.72	57	Pn	Pn	05 46 55.5	-0.6
OHAK	Old Harbor	7.68	60	Pn	Pn	05 47 33.8	-2.3

UCR 11 05:56:44.8±1.2, 9°.45N×79°.35W, h45km±7km, MW3.8
RSNC 11 05:56:45.5±0.0, 10°.N±3°.×7°.9W±°., h47km±6km, M3.1, mb4.3, ML3.0, MLv3.8
UPA 11 05:56:45.7±0.5, 9°.45N×79°.32W, h25km±4km, MW3.8

ISC 11 05:56:44.5±6.1, 9°.52N±0°.04×79°.38W±0°.03, h39km±11km, n44, σ2°.13/79, 3C-3D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPA	Univ. de Panam	0.56	195	eP	Pn	05 56 55.7	-0.4
UPA				eS	Sn	05 57 03.5	-0.7
BCIP	Isla Barro Col	0.57	232	P	Pn	05 56 56.6	+0.4
BCIP				S	Sn	05 57 05.5	+1.0
BCIP	Isla Barro Col	0.57	232	↑iP	Pn	05 56 56.6	+0.4
BCIP				eS	Sn	05 57 05.4	+1.0
BCIP	Isla Barro Col	0.57	232	↑iP	Pn	05 56 56.7	+0.4
BCIP				eS	Sn	05 57 05.4	+1.0
BCIP	Isla Barro Col	0.57	232	P	Pn	05 56 56.8	+0.4
BCIP				S	Sn	05 57 05.5	+1.0
PNME	Penonome	1.39	222	eP	Pn	05 57 08.8	+1.4
PNME				eS	Sn	05 57 25.9	+1.4
UPD2	Meteti	1.66	126	eP	Pn	05 57 11.4	+0.3
UPD2				eS	Sn	05 57 31.8	+0.5
CHIT3	Chitre	1.86	213	⇓eP	Pn	05 57 14.1	+0.2
CHIT3				eS	Sn	05 57 36.5	+0.4
AZU	Azuero	1.93	207	P	Pn	05 57 14.7	-0.1
AZU				S	Sn	05 57 37.3	-0.6
AZU	Azuero	1.93	207	⇓iP	Pn	05 57 14.8	0.0
AZU				eS	Sn	05 57 37.7	-0.2
AZU	Azuero	1.93	207	⇓iP	Pn	05 57 14.7	-0.1
AZU				eS	Sn	05 57 37.5	-0.4
AZU	Azuero	1.93	207	P	Pn	05 57 14.7	-0.1
AZU				S	Sn	05 57 37.3	-0.6
CAPC	Capurgana	2.19	114	P	Pn	05 57 18.2	-0.2
CAPC				S	Sn	05 57 50.3	+6.0
CAPC	Capurgana	2.19	114	P	Pn	05 57 18.2	-0.2
CAPC				S	Sn	05 57 50.3	+6.0
GMAL	Guarumal, Vera	2.53	226	P	Pn	05 57 23.9	+0.8
GMAL				S	Sn	05 57 53.5	+0.8
GMAL	Guarumal, Vera	2.53	226	eP	Pn	05 57 24.1	+1.0
GMAL				eS	Sn	05 57 53.6	+0.9
GMAL	Guarumal, Vera	2.53	226	eP	Pn	05 57 24.1	+1.0
GMAL	Guarumal, Vera	2.53	226	P	Pn	05 57 23.9	+0.8
GMAL				S	Sn	05 57 53.5	+0.8
CACAO	El Cacao, Vera	2.61	214	eP	Pn	05 57 25.7	+1.5
PTAC	Punta Ardita,	2.83	146	↑eP	Pn	05 57 25.6	-1.6
LCBC	Los crdobas,	3.05	102	P	Pn	05 57 31.8	+1.6
LCBC				S	Sn	05 58 06.9	+1.4
LCBC	Los crdobas,	3.05	102	eP	Pn	05 57 31.9	+1.7
LCBC				eS	Sn	05 58 04.9	-0.5
LCBC	Los crdobas,	3.05	102	P	Pn	05 57 31.8	+1.6
LCBC				S	Sn	05 58 06.9	+1.4
APAC	Apartado, Choc	3.21	120	P	Pn	05 57 34.0	+1.6
APAC				S	Sn	05 58 13.2	+3.8
APAC	Apartado, Choc	3.21	120	P	Pn	05 57 34.0	+1.6
APAC				S	Sn	05 58 13.2	+3.8
IRES	Siquirres	4.10	278	eP	Pn	05 57 46.4	+1.7
SJCC	San Jacinto, C	4.16	85	P	Pn	05 57 45.7	+0.2
SJCC				S	Sn	05 58 29.0	-4.0
SJCC	San Jacinto, C	4.16	85	P	Pn	05 57 45.7	+0.2
SJCC				S	Sn	05 58 29.0	-4.0
TURIB	Turrialba	4.26	275	eP	Pn	05 57 48.5	+1.6
VERB	Verbena	4.27	276	eP	Pn	05 57 48.7	+1.5
PRVC	Isla de Provid	4.29	333	P	Pn	05 57 46.6	-0.7
PRVC				S	Sn	05 58 34.4	-1.7
PRVC	Isla de Provid	4.29	333	eP	Pn	05 57 46.2	-1.1
PRVC				eS	Sn	05 58 33.5	-2.6
PRVC	Isla de Provid	4.29	333	P	Pn	05 57 46.6	-0.7
PRVC				S	Sn	05 58 34.4	-1.7
VTCV	VTCV, Calle Va	4.31	276	eP	Pn	05 57 48.9	+1.2
VTLA	Turrialba Volc	4.36	277	eP	Pn	05 57 50.4	+1.9
RAFA	San Farael, Vo	4.39	276	eP	Pn	05 57 50.7	+1.8
ZARC	Zaragoza, Cauc	4.91	114	P	Pn	05 57 56.0	+0.2
ZARC				S	Sn	05 58 48.3	-3.1
ZARC	Zaragoza, Cauc	4.91	114	P	Pn	05 57 56.0	+0.2
ZARC				S	Sn	05 58 48.3	-3.1
CBOC	Ciudad Bolivar	4.94	137	P	Pn	05 57 55.0	-1.3
CBOC				S	Sn	05 58 46.8	-5.5
CBOC	Ciudad Bolivar	4.94	137	P	Pn	05 57 55.0	-1.3
CBOC				S	Sn	05 58 46.8	-5.5
BLUN	Bluefields	4.97	300	P	Pn	05 57 57.8	+1.2
BLUN				S	Sn	05 58 48.0	-4.8
BLUN	Bluefields	4.97	300	P	Pn	05 57 57.8	+1.2
BLUN				S	Sn	05 58 48.0	-4.8
ARGC	Ariguani, Magd	5.08	86	P	Pn	05 57 58.5	+0.4
ARGC				S	Sn	05 58 54.6	-0.9
ARGC	Ariguani, Magd	5.08	86	P	Pn	05 57 58.5	+0.4
ARGC				S	Sn	05 58 54.6	-0.9

ROM 11 06:19:49.4±0.1, 42°.799N±0°.004×12°.773E±0°.005, h7km, ML2.2/65, 1C-12D, Error ellipse: s-maj=0.4km s-min=0.2km az=83.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAVE	Gavelli	0.14	140	⇓P	Pg	06 19 53.0	+0.6
GAVE				S	Sg	06 19 55.8	+1.5
GAVE				AML	AML		
	comp=E,4240μm,1.1s						
GAVE				AML	AML		
	comp=N,1210μm,0.3s						
GAVE				AML	AML		
	comp=N,3720μm,0.3s						
GAVE				AML	AML		
	comp=N,1209μm,0.3s						
GAVE				AML	AML		
	comp=E,4315μm,1.1s						
GAVE				AML	AML		
	comp=E,3957μm,0.2s						
GAVE				AML	AML		
	comp=N,3719μm,0.3s						
MOMA	Monte Martano	0.15	272	⇓P	Pg	06 19 52.8	+0.3
MOMA				S	Sg	06 19 55.9	+1.3
MOMA				AML	AML		
	comp=N,1450μm,0.4s						
MOMA				AML	AML		
	comp=E,3005μm,0.2s						
MOMA				AML	AML		
	comp=N,1520μm,0.2s						
MOMA				AML	AML		
	comp=E,2815μm,0.2s						
MOMA				AML	AML		
	comp=N,1450μm,0.3s						
MOMA				AML	AML		
	comp=E,2818μm,0.2s						
MOMA				AML	AML		
	comp=E,3002μm,0.2s						
MOMA				AML	AML		
	comp=N,1448μm,0.3s						
MOMA				AML	AML		
	comp=N,1521μm,0.2s						
ARRO	Arrone	0.22	181	P	Pg	06 19 54.5	+0.8
ARRO				S	Sg	06 19 58.7	+2.0
ARRO				AML	AML		
	comp=E,928μm,0.3s						
ARRO				AML	AML		
	comp=N,924μm,0.2s						
ARRO				AML	AML		
	comp=E,928μm,1.7s						
ARRO				AML	AML		
	comp=N,925μm,0.2s						
ARRO				AML	AML		
	comp=E,928μm,0.3s						
CESI	CESI - Serrava	0.23	25	⇓P	Pg	06 19 54.6	+0.7
CESI				S	Sg	06 19 59.0	+2.0
CESI				AML	AML		
	comp=N,1715μm,0.5s						
CESI				AML	AML		
	comp=E,1620μm,0.3s						
CESI				AML	AML		
	comp=E,1622μm,0.3s						
CESI				AML	AML		
	comp=N,1713μm,0.5s						
CESX	Cesi	0.24	217	⇑P	Pg	06 19 54.6	+0.6
CESX				S	Sg	06 19 58.9	+1.7
CESX				AML	AML		
	comp=E,1320μm,1.3s						
CESX				AML	AML		
	comp=N,1785μm,0.3s						
CESX				AML	AML		
	comp=E,1320μm,0.7s						
CESX				AML	AML		
	comp=N,1784μm,0.3s						
NRCA	Norcia	0.25	82	⇓P	Pg	06 19 55.1	+0.7
NRCA				S	Sb	06 19 59.4	-1.6
NRCA				AML	AML		
	comp=E,1006μm,0.2s						
NRCA				AML	AML		
	comp=N,920μm,1.0s						
NRCA				AML	AML		
	comp=E,1031μm,0.2s						
NRCA				AML	AML		
	comp=N,920μm,1.0s						
NRCA				AML	AML		
	comp=N,867μm,1.0s						
NRCA				AML	AML		
	comp=E,1006μm,0.2s						
NRCA				AML	AML		
	comp=N,920μm,1.0s						
NRCA				AML	AML		
	comp=N,741μm,0.2s						
NRCA				AML	AML		
	comp=E,1004μm,0.2s						
NRCA				AML	AML		
	comp=N,667μm,0.2s						
ASSB	Assisi San Ben	0.26	341	⇓P	Pg	06 19 55.0	+0.5
ASSB				S	Sb	06 19 59.6	-1.5
ASSB				AML	AML		
	comp=E,952μm,1.6s						
ASSB				AML	AML		
	comp=N,1275μm,0.5s						
ASSB				AML	AML		
	comp=E,952μm,0.4s						
ASSB				AML	AML		
	comp=N,1139μm,0.3s						
ASSB				AML	AML		
	comp=E,903μm,0.5s						
LNSS	Leonessa	0.28	135	⇓P	Pg	06 19 55.4	+0.6
LNSS				S	Sb	06 20 00.4	-1.3
LNSS				AML	AML		
	comp=N,1180μm,1.4s						
LNSS				AML	AML		
	comp=E,1900μm,0.5s						
LNSS				AML	AML		
	comp=E,1805μm,0.4s						
LNSS				AML	AML		
	comp=N,1405μm,1.4s						
LNSS				AML	AML		
	comp=N,1405μm,0.6s						
LNSS				AML	AML		
	comp=N,1180μm,0.6s						
LNSS				AML	AML		
	comp=E,1654μm,0.2s						
LNSS				AML	AML		
	comp=E,1780μm,0.2s						
LNSS				AML	AML		
	comp=N,1200μm,0.3s						
MC2	Monte Cornacci	0.33	70	⇓P	Pg	06 19 56.5	+0.7
MC2				S	Sb	06 20 02.9	-0.4
FDMO	Fiordimonte	0.33	44	⇓P	Pg	06 19 56.4	+0.6
FDMO				S	Sb	06 20 02.1	-1.1
FDMO				AML	AML		
	comp=E,483μm,0.3s						
FDMO				AML	AML		
	comp=N,402μm,1.2s						
FDMO				AML	AML		
	comp=E,482μm,0.3s						
FDMO				AML	AML		
	comp=E,483μm,0.3s						
FDMO				AML	AML		
	comp=N,372μm,0.3s						
ATCC	AVT- Casa Cast	0.40	346	P	Pg	06 19 57.9	+0.7
ATCC				S	Sb	06 20 04.5	-0.6
ATCC				AML	AML		
	comp=N,638μm,0.6s						
ATCC				AML	AML		
	comp=E,618μm,0.7s						
ATCC				AML	AML		
	comp=N,563μm,0.3s						
MMO1	Montemonaco	0.42	76	⇓P	Pg	06 19 58.0	+0.5
MMO1				S	Sb	06 20 04.8	-1.0
RM33	Pellescritta (	0.44	132	⇓P	Pg	06 19 58.1	+0.3
RM33				S	Sb	06 20 05.6	-0.7
RM33				AML	AML		
	comp=E,430μm,1.0s						
RM33				AML	AML		
	comp=N,413μm,0.2s						
RM33				AML	AML		
	comp=E,430μm,1.0s						
RM33				AML	AML		
	comp=N,413μm,0.2s						
RM33				AML	AML		
	comp=E,398μm,0.3s						
SMA1	SAN MARTINO	0.45	112	P	Pg	06 19 58.6	+0.5
SMA1				S	Sb	06 20 06.6	0.0
SMA1				AML	AML		
	comp=N,494μm,1.1s						
SMA1				AML	AML		
	comp=E,472μm,0.3s						
SMA1				AML	AML		
	comp=E,473μm,0.3s						
SMA1				AML	AML		
	comp=N,494μm,0.9s						
SMA1				AML	AML		
	comp=N,470μm,0.4s						
SNTG	Esanatoglia	0.47	15	P	Pg	06 19 58.9	+0.4
SNTG				S	Sb	06 20 07.3	0.0
SNTG				AML	AML		
	comp=N,253μm,1.0s						
SNTG				AML	AML		
	comp=E,240μm,0.8s						
SNTG				AML	AML		
	comp=N,156μm,1.6s						
SNTG				AML	AML		
	comp=E,158μm,0.5s						
SNTG				AML	AML		
	comp=N,156μm,0.4s						
SNTG				AML	AML		
	comp=E,158μm,1.5s						
SNTG				AML	AML		
	comp=E,154μm,0.2s						
SNTG				AML	AML		
	comp=N,150μm,0.5s						
MURB	Monte Urbino	0.50	339	P	Pg	06 19 59.6	+0.6
MURB				S	Sb	06 20 08.0	-0.1
MURB				AML	AML		

```
      comp=E,956μm,0.5s
MURB                          AML   AML
      comp=E,992μm,0.5s
MURB                          AML   AML
      comp=N,1061μm,0.3s
MURB                          AML   AML
      comp=N,1155μm,0.3s
MURB                          AML   AML
      comp=E,992μm,1.5s
MURB                          AML   AML
      comp=N,1155μm,1.7s
MURB                          AML   AML
      comp=E,955μm,1.3s
MURB                          AML   AML
      comp=N,1061μm,1.7s
MURB                          AML   AML
      comp=E,995μm,0.5s
MURB                          AML   AML
      comp=N,1155μm,0.3s
MGAB  Montegabbione     0.50 283  P     Pg    06 19 59.5 +0.5
MGAB                          AML   AML
      comp=E,300μm,1.3s
MGAB                          AML   AML
      comp=N,287μm,1.2s
MGAB                          AML   AML
      comp=N,294μm,0.3s
MGAB                          AML   AML
      comp=E,298μm,0.3s
MGAB                          AML   AML
      comp=N,294μm,1.7s
MGAB                          AML   AML
      comp=N,264μm,0.3s
CAMP  Campotosto        0.54 119  ⇓P    Pg    06 19 59.9 +0.2
CAMP                          S     Sb    06 20 08.9 -0.3
CAMP                          AML   AML
      comp=E,93μm,0.6s
CAMP                          AML   AML
      comp=E,93μm,0.6s
CAMP                          AML   AML
      comp=N,92μm,0.8s
MF5   Montefalcone A    0.54  69  ⇓P    Pb    06 20 00.6 -0.7
MF5                           S     Sb    06 20 09.9 +0.7
MF5                           AML   AML
      comp=N,334μm,0.2s
MF5                           AML   AML
      comp=E,274μm,1.2s
MF5                           AML   AML
      comp=N,334μm,0.2s
MF5                           AML   AML
      comp=N,334μm,1.8s
MF5                           AML   AML
      comp=E,274μm,0.8s
EL6   Elcito            0.58  24  P     Pg    06 20 00.8 +0.2
EL6                           S     Sb    06 20 10.4  0.0
EL6                           AML   AML
      comp=E,479μm,0.4s
EL6                           AML   AML
      comp=N,450μm,0.9s
EL6                           AML   AML
      comp=E,478μm,0.4s
ATFO  Monte Foce - G    0.59 345  P     Pg    06 20 01.3 +0.6
ATFO                          S     Sb    06 20 11.2 +0.6
ATFO                          AML   AML
      comp=E,282μm,0.3s
ATFO                          AML   AML
      comp=N,248μm,0.3s
ATFO                          AML   AML
      comp=E,283μm,0.3s
FIAM  Fiamignano        0.59 154  P     Pg    06 20 00.9 +0.1
FIAM                          S     Sb    06 20 10.7 +0.1
FIAM                          AML   AML
      comp=N,112μm,1.0s
FIAM                          AML   AML
      comp=E,126μm,0.4s
SRES  S.Oreste - Sor    0.59 199  P     Pb    06 20 01.6 -0.5
SRES                          S     Sb    06 20 10.8  0.0
SRES                          AML   AML
      comp=N,154μm,0.3s
SRES                          AML   AML
      comp=E,164μm,0.3s
TERO  Teramo            0.64 106  P     Pg    06 20 02.1 +0.5
TERO                          AML   AML
      comp=E,71μm,1.5s
TERO                          AML   AML
      comp=N,90μm,1.1s
TERO                          AML   AML
      comp=E,71μm,0.5s
TERO                          AML   AML
      comp=N,90μm,0.9s
TERO                          AML   AML
      comp=E,67μm,0.2s
TERO                          AML   AML
      comp=N,88μm,0.4s
ATVO  AVT- Monte Val    0.64 335  P     Pg    06 20 01.9 +0.2
ATVO                          AML   AML
      comp=E,132μm,1.1s
ATVO                          AML   AML
      comp=E,132μm,0.9s
ATVO                          AML   AML
      comp=N,108μm,0.9s
ATPI  Pietralunga -     0.70 337  P     Pb    06 20 03.6 -0.5
ATPI                          AML   AML
      comp=N,111μm,0.4s
ATPI                          AML   AML
      comp=N,111μm,0.4s
ATPI                          AML   AML
      comp=E,122μm,0.4s
ATPI                          AML   AML
      comp=E,122μm,0.4s
ARVD  Arcevia           0.71  10  P     Pg    06 20 03.4 +0.4
ARVD                          AML   AML
      comp=E,85μm,0.5s
ARVD                          AML   AML
      comp=N,60μm,0.4s
ARVD                          AML   AML
      comp=N,60μm,1.6s
ARVD                          AML   AML
      comp=E,85μm,1.5s
ARVD                          AML   AML
      comp=N,60μm,0.4s
ARVD                          AML   AML
      comp=E,85μm,0.5s
PIEI  Pieia             0.76 347  P     Pg    06 20 04.2 +0.3
PIEI                          S     Sb    06 20 16.7 +1.3
PIEI                          AML   AML
      comp=N,124μm,0.5s
PIEI                          AML   AML
      comp=E,149μm,0.3s
PIEI                          AML   AML
      comp=N,124μm,0.5s
PIEI                          AML   AML
      comp=E,149μm,0.3s
CERT  Cerreto           0.86 170  P     Pg    06 20 05.5 -0.5
CERT                          S     Sb    06 20 19.2 +0.7
CERT                          AML   AML
      comp=N,83μm,1.4s
CERT                          AML   AML
      comp=E,136μm,0.6s
CERT                          AML   AML
      comp=N,83μm,0.6s
CERT                          AML   AML
      comp=E,122μm,0.5s
CERT                          AML   AML
      comp=N,67μm,0.4s
```

ROM 11 06:20:14.8±0.1, 42°.798N±0°.003×12°.771E±0°.004, h8km, Md2.0/7, ML1.9/18, 1D, Error ellipse: s-maj=0.3km s-min=0.2km az=116.0, Central Italy

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                 Op    ISC  h m s     ISC
GAVE  Gavelli           0.14 139  P     Pg   06 20 18.4 +0.6
GAVE                              S     Sg   06 20 21.1 +1.1
GAVE                              AML   AML
      comp=E,1187μm,0.2s
GAVE                              AML   AML
      comp=N,372μm,0.3s
GAVE                              AML   AML
      comp=N,1004μm,0.2s
GAVE                              AML   AML
      comp=E,1244μm,0.2s
GAVE                              END
MOMA  Monte Martano     0.15 272  ⇓P    Pg   06 20 18.1 +0.1
MOMA                              S     Sg   06 20 21.5 +1.2
MOMA                              AML   AML
      comp=E,946μm,0.2s
MOMA                              AML   AML
      comp=E,1019μm,0.2s
MOMA                              AML   AML
      comp=N,535μm,0.3s
MOMA                              AML   AML
      comp=N,558μm,0.3s
MOMA                              END
ARRO  Arrone            0.22 181  P     Pg   06 20 20.2 +1.0
ARRO                              S     Sg   06 20 23.9 +1.7
CESI  CESI - Serrava    0.23  25  P     Pg   06 20 20.2 +0.8
CESI                              S     Sg   06 20 24.1 +1.5
CESI                              AML   AML
      comp=N,615μm,0.3s
CESI                              AML   AML
      comp=E,540μm,0.4s
CESI                              END
CESX  Cesi              0.23 217  P     Pg   06 20 20.1 +0.6
CESX                              S     Sg   06 20 24.0 +1.3
CESX                              AML   AML
      comp=N,517μm,0.6s
CESX                              AML   AML
      comp=E,421μm,0.2s
CESX                              END
NRCA  Norcia            0.26  82  P     Pg   06 20 20.4 +0.5
NRCA                              S     Sb   06 20 24.9 -1.3
ASSB  Assisi San Ben    0.26 341  P     Pg   06 20 20.6 +0.7
ASSB                              S     Sb   06 20 25.1 -1.2
FEMA  Monte Fema        0.26  51  P     Pg   06 20 20.8 +0.7
FEMA                              S     Sb   06 20 25.4 -1.1
LNSS  Leonessa          0.28 134  P     Pg   06 20 21.0 +0.7
LNSS                              S     Sb   06 20 25.8 -1.1
LNSS                              AML   AML
      comp=N,322μm,0.3s
LNSS                              AML   AML
      comp=E,416μm,0.2s
LNSS                              AML   AML
      comp=E,440μm,0.2s
LNSS                              AML   AML
      comp=N,395μm,0.4s
LNSS                              END
MC2   Monte Cornacci    0.33  69  P     Pg   06 20 22.0 +0.6
MC2                               S     Sb   06 20 28.8 +0.3
FDMO  Fiordimonte       0.33  44  P     Pg   06 20 21.8 +0.5
FDMO                              S     Sb   06 20 27.7 -0.7
FDMO                              AML   AML
      comp=N,137μm,0.3s
FDMO                              AML   AML
      comp=E,179μm,0.2s
FDMO                              END
MML1  Montelago di S    0.35  25  P     Pb   06 20 22.5 -0.8
MML1                              S     Sb   06 20 28.2 -0.7
ATCC  AVT- Casa Cast    0.40 346  P     Pb   06 20 23.5 -0.6
ATCC                              S     Sb   06 20 29.8 -0.5
MMO1  Montemonaco       0.42  76  P     Pg   06 20 23.3 +0.3
MMO1                              S     Sb   06 20 30.2 -0.8
MMO1                              END
```

*IDC **11** 06:21:08.6±1.3, 25°.67N×141°.65E, h0km, mb3.6/6, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=38.6km s-min=17.8km az=92.0*

ISC 11 06:21:10.2±1.4, 25°.6N±0°.1×141°.6E±0°.2, h10km, n11, σ0°89/8, mb3.6/6, Volcano Islands region

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                 Op    ISC  h m s     ISC
JCJ   Chichijima        1.56  20  Pn    Pn   06 21 36.7 -1.3
      29nm,0.3s,baz=294,slow=20,SNR=6.6
JCJ                               Sn    Sn   06 21 58.4  0.0
      6.6nm,0.3s,baz=288,slow=19,SNR=1.4
KSRS  Korea Array      16.56 319  Pn    Pn   06 25 03.6 +1.1
      0.2nm,0.3s,baz=136,slow=12,SNR=11
      0.4nm,0.3s
H11S3 WAKE ISLAND Hy 24.29 102    T     T    06 51 57.0
      baz=291,slow=75,SNR=28
H11S1 WAKE ISLAND Hy 24.30 102    T     T    06 52 02.2
      baz=291,slow=75,SNR=23
H11S2 WAKE ISLAND Hy 24.31 102    T     T    06 52 02.4
      baz=291,slow=75,SNR=28
SONM  Songino Array    35.43 318  P     P    06 28 05.8 -0.8
      0.2nm,0.5s,baz=130,slow=6.3,SNR=2.1
      0.2nm,0.5s
WRA   Warramunga Arr   45.84 190  P     P    06 29 33.0 +0.3
      4.0nm,0.8s,baz=7.3,slow=8.2,SNR=17
      4.0nm,0.8s
ASAR  Alice Springs    49.56 189  P     P    06 30 01.5  0.0
      0.4nm,0.8s,baz=12,slow=8.6,SNR=2.2
      0.4nm,0.8s
MKAR  Makanchi Array   51.01 311  P     P    06 30 11.4 -0.9
      0.5nm,0.8s,baz=98,slow=7.1,SNR=5.5
      0.5nm,0.8s
KURBB Kurchatov Arra   53.70 315  P     P    06 30 33.1 +1.0
      0.9nm,0.9s,baz=96,slow=7.7,SNR=6.2
      0.9nm,0.9s
BVAR  Borovoye Array   58.77 318  P     P    06 31 08.1 -0.3
      0.5nm,0.5s,baz=104,slow=6.1,SNR=2.5
      0.5nm,0.5s
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*NEIC **11** 06:23:12.8, 51°.35N×178°.32W, h40km*
*NEIC **11** 06:23:12.8, 50°.95N×178°.00W, h40km, Moment Tensor Solution. Duration: 2τ0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.72; $M_{\theta\theta}$-6.11; $M_{\phi\phi}$0.39; $M_{r\theta}$2.64; $M_{\theta\phi}$-2.12; $M_{\phi r}$3.44; Fault plane solution: $M_0$7.64000×10^{16} NP1: ϕ_s=273.93000°, δ33.87000°, λ125.36000°. NP2: ϕ_s=53.41000°, δ62.97000°, λ68.77000°. Principal axes: T 7.5667, Plg65.0000°, Azm286.0000°; N 0.1418, Plg19.0000°, Azm63.0000°; P -7.7085, Plg15.0000°, Azm159.0000°;*
*GCMT **11** 06:23:13.6±0.2, 51°.26N±0°.01×178°.03W±0°.02, h44km, MW5.2/140, Moment Tension Solution. s107,c151; s140,c220; Duration: 1τ0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.67±.02; $M_{\theta\theta}$-0.69±.01; $M_{\phi\phi}$0.02±.01; $M_{r\theta}$0.29±.01; $M_{\theta\phi}$-0.27±.01; $M_{\phi r}$0.23±.01; Best double couple: $M_0$0.81800×10^{17} NP1:ϕ_s263.00000°, δ33.00000°, λ108.00000°. NP2:ϕ_s62.00000°, δ59.00000°, λ79.00000°. Principal axes: T 0.7730, Plg74.0000°, Azm302.0000°; N 0.0890, Plg10.0000°, Azm68.0000°; P -0.8630, Plg13.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **11** 06:23:13.1±2.0, 51°.29N±0°.05×178°.22W±0°.05, h38km±4km Error ellipse: s-maj=7.7km s-min=3.6km az=161.0*
*MOS **11** 06:23:13.0±1.0, 51°.52N×178°.24W, h54km, mb5.3/75, MS4.6/8, Error ellipse: s-maj=6.2km s-min=4.7km az=91.5*
*BJI **11** 06:23:13.0, 51°.59N×178°.66W, h48km, mB5.4/33, mb5.3/78, Ms5.0/56, Ms7 4.7/57*
*IDC **11** 06:23:14.5±2.4, 51°.53N×178°.28W, h55km±20km, mb4.5/33, mbtmp4.7/37, ML5.1/2, MS4.4/71, Error ellipse: s-maj=13.8km s-min=8.5km az=156.0*
*NEIC **11** 06:23:14.6±1.6, 51°.44N±0°.07×178°.26W±0°.06, h51km±3km, mb5.3/675, Mww5.2/34, ML5.3(AEIC), Error ellipse: s-maj=9.9km s-min=5.2km az=178.0*

ISC 11 06:23:14.0±0.3, 51°.42N±0°.05×178°.29W±0°.03, h51km±2km, h51km:pP-P, n1291, σ1906/1199, mb5.3/455, MS4.5/103, 45C-10D, Andreanof Islands

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                 Op    ISC  h m s     ISC
TAFL  Tanaga Flats      0.42  36          Sn   06 23 31.5 -0.2
TASE  Tanaga Southea    0.44  21          Pn   06 23 24.9 +0.2
GALAA Gareloi Lava P    0.45 319          Pn   06 23 25.4 +0.7
GASW  Gareloi Southw    0.50 316          Pn   06 23 25.8 +0.5
TAFP  Tanaga Falls P    0.52  22          Pn   06 23 25.8 +0.3
KIMD  Kanaga Island     0.74  62          Pn   06 23 27.3 -0.9
KIWB  Kanaga Island     0.83  58          Pn   06 23 28.9 -0.5
KIKV  Kanaga Island     0.84  56          Pn   06 23 29.1 -0.4
KICM  Kanaga Island     0.85  54          Pn   06 23 29.6 -0.1
KINC  Kanaga Island     0.89  54          Pn   06 23 30.3 +0.1
KIRH  Kanaga Island     0.89  57          Pn   06 23 29.9 -0.3
ADK   Adak              1.10  65          Pn   06 23 32.3 -0.8
ADK                                       Sn   Sn   06 23 47.0 -0.2
ADK   Adak              1.10  65  P       Pn   06 23 32.2 -0.9
GSCK  Great Sitkin C    1.45  65          Pn   06 23 38.0 +0.1
GSSP  Great Sitkin S    1.48  62          Pn   06 23 38.5 +0.3
GSMY  Great Sitkin M    1.52  65          Pn   06 23 38.8  0.0
GSTR  Great Sitkin T    1.54  63          Pn   06 23 39.5 +0.4
ATKA  Atka Island       2.66  71  Pn      Pn   06 23 53.8 -0.5
ATKA                                      Sn   06 24 24.9 -0.4
SHEM  Shemya Is, Ala    4.87 289  P       Pn   06 24 24.4 -0.2
      29nm,0.3s,baz=92,slow=3.3,SNR=14
SHEM                              S       Sn   06 25 20.4 +0.8
      129nm,0.5s,baz=137,slow=19,SNR=1.3
      65nm,0.3s
OKWE  Okmok W'ng Wal    6.48  68          Pn   06 24 49.5 +2.8
OKWR  Okmok West Rim    6.49  68          Sn   06 26 05.9 +6.3
OKTU  Okmok Mt. Tuli    6.58  69          Pn   06 24 50.2 +2.2
OKFG  Magazine Ridge    6.66  69          Pn   06 24 51.3 +2.2
P08K  Saint George I    7.31  41  Pn      Pn   06 24 57.5 -0.5
P08K                                      Sn   06 26 18.9 -0.6
MAPS  Pakushin South    7.31  66          Pn   06 24 59.4 +1.3
MGOD  Makushin Gods     7.35  67          Pn   06 25 00.5 +1.9
MSW   Makushin Switc    7.43  66          Pn   06 25 02.4 +2.7
SPIA  Saint Paul Isl    7.44  36  Pn      Pn   06 25 01.9 +2.1
SPIA  Saint Paul Isl    7.44  36  P       Pn   06 25 01.0 +1.3
      baz=222,SNR=6.8
UNV   Unalaska Valle    7.57  67  Pn      Pn   06 25 03.5 +1.9
UNV   Unalaska Valle    7.57  67  P       Pn   06 25 03.3 +1.7
      baz=256
LVA   Lava Point        7.92  65  Pn      Pn   06 25 07.6 +1.2
ZRO   Akutan Zero       7.94  66          Pn   06 25 08.8 +2.2
ISLZ  Isanotski Laza    9.38  64          Pn   06 25 28.1 +1.7
FALS  False Pass        9.58  63  Pn      Pn   06 25 29.6 +0.6
S12K  Black Hills      10.56  60  Pn      Pn   06 25 44.2 +1.7
M11K  Mekoryuk         11.24  32  Pn      Pn   06 25 53.1 +1.5
M11K  Mekoryuk         11.24  32  P       Pn   06 25 52.9 +1.3
      baz=222,SNR=5.1
SDPT  Sand Point       11.34  63  Pn      Pn   06 25 52.4 -0.6
SDPT  Sand Point       11.34  63  P       Pn   06 25 53.5 +0.4
      baz=257
CNBA  Chernabura Isl   11.74  66          Pn   06 25 58.7 +0.2
CHNA  Chernabura Isl   11.74  66  P       Pn   06 25 58.9 +0.4
      baz=261
M13K  Dall Lake        12.28  37  Pn      Pn   06 26 04.9 -0.9
M13K  Dall Lake        12.28  37  P       Pn   06 26 08.5 +2.7
      baz=229,SNR=9.5
O14K  Tigyukauivet M   12.44  44  Pn      Pn   06 26 07.3 -0.7
O14K  Tigyukauivet M   12.44  44  P       Pn   06 26 10.0 +1.9
      baz=238
N14K  Kuskokwak Cree   12.63  41  P       Pn   06 26 13.3 +2.7
      baz=235
CHGN  Chignik          12.69  60  Pn      Pn   06 26 09.8 -1.7
K13K  Kusilvak Mount   12.90  30  Pn      Pn   06 26 15.2 +1.0
K13K  Kusilvak Mount   12.90  30  P       Pn   06 26 16.6 +2.4
      baz=221
M14K  Bethel           13.02  38  Pn      Pn   06 26 14.8 -1.1
M14K  Bethel           13.02  38  P       Pn   06 26 18.0 +2.1
      baz=231,SNR=9.3
O15K  Ungalikthiuk R   13.04  46  P       Pn   06 26 18.3 +2.0
      baz=242
L14K  Kuka Creek       13.13  35  Pn      Pn   06 26 18.7 +1.2
L14K  Kuka Creek       13.13  35  P       Pn   06 26 20.6 +3.1
      baz=228,SNR=11
N15K  Kwethluk River   13.43  42  Pn      Pn   06 26 23.4 +1.8
N15K  Kwethluk River   13.43  42  P       Pn   06 26 24.4 +2.8
      baz=237,SNR=24
M15K  Kasigluk River   13.48  40  P       Pn   06 26 24.1 +1.8
      baz=234
L15K  Ungalak Mounta   13.79  35  P       Pn   06 26 28.1 +1.7
      baz=229
P16K  Nushagak River   13.82  49  P       Pn   06 26 29.1 +2.2
      baz=245
J14K  Nanvaranak Lak   13.85  29  Pn      Pn   06 26 28.1 +0.9
J14K  Nanvaranak Lak   13.85  29  P       Pn   06 26 29.7 +2.5
      baz=222
O16K  Kokwok River B   14.02  46  Pn      Pn   06 26 29.7 +0.1
O16K  Kokwok River B   14.02  46  P       Pn   06 26 31.7 +2.1
      baz=243
N16K  Nishlik Lake     14.15  43  P       Pn   06 26 33.7 +2.3
      baz=239
K15K  Wolf Creek Mou   14.18  33  Pn      Pn   06 26 31.8  0.0
K15K  Wolf Creek Mou   14.18  33  P       Pn   06 26 34.6 +2.9
      baz=227
PET   Petropavlovsk    14.21 286  Pn      Pn   06 26 32.6 +0.5
PET   Petropavlovsk    14.21 286  eP      Pn   06 26 33.9 +1.8
PET                               eS      Sn   06 29 04.8 -3.3
PET                               pmax    pmax
      comp=Z,200nm,18.9s
PET                               MLR     MLR
      comp=Z,500nm,16.0s
Q16K  King Salmon      14.33  51  P       Pn   06 26 35.9 +2.3
      baz=249,SNR=5.9
M16K  Timber Creek     14.37  41  Pn      Pn   06 26 34.3 +0.1
M16K  Timber Creek     14.37  41  P       P    06 26 37.3 -2.6
      baz=237
O17K  Koliganek Bris   14.56  47  P       P    06 26 39.4 -2.6
      baz=244,SNR=9.0
L16K  Owhat River      14.56  38  Pn      Pn   06 26 37.2 +0.5
L16K  Owhat River      14.56  38  P       Pn   06 26 39.4 +2.7
      baz=233,SNR=21
P17K  Kvichak River    14.62  49  P       P    06 26 40.6 -2.1
      baz=247,SNR=14
PEA0B Petropavlovsk-   14.78 286  Pn      Pn   06 26 40.0 +0.4
PEA0B Petropavlovsk-   14.78 286  P       Pn   06 26 40.1 +0.4
PETK  Petropavlovsk-   14.78 286  Pn      Pn   06 26 42.0 +2.3
PETK  Petropavlovsk-   14.78 286  P       Pn   06 26 38.8 -0.9
      comp=Z,6.9nm,1.1s,baz=81,slow=19,SNR=2.2
PETK                              LR      LR   06 32 08.9
      comp=Z,3μm,21.8s,baz=90,slow=36
PETK  Petropavlovsk-   14.78 286  P       Pn   06 26 42.0 +2.3
ANM   Nome             14.80  22  P       P    06 26 43.3 -1.4
ANM   Nome             14.80  22  P       P    06 26 43.0 -1.7
      baz=213
ACHA  Angle Creek He   14.83  54  Pn      Pn   06 26 41.6 +1.2
N17K  Nushagak Hills   14.86  44  Pn      Pn   06 26 42.2 +1.5
N17K  Nushagak Hills   14.86  44  P       Pn   06 26 42.9 +2.3
      baz=242,SNR=8.2
SII   Sitkinak Islan   15.04  61  Pn      Pn   06 26 44.4 +1.3
SII                               IAmb    IAmb 06 26 49.7
      comp=Z,76nm,0.6s
SII   Sitkinak Islan   15.04  61  P       Pn   06 26 44.3 +1.2
      baz=260
R18K  Karluk           15.11  57  P       Pn   06 26 43.2 -0.7
      baz=256
Q18K  Katmai Hardscr   15.13  52  P       Pn   06 26 46.1 +1.9
      baz=252,SNR=21
TNA   Tin City         15.14  17  Pn      Pn   06 26 45.0 +0.7
J16K  Anvik River      15.17  32  Pn      Pn   06 26 44.7  0.0
J16K  Anvik River      15.17  32  P       Pn   06 26 46.3 +1.6
      baz=227,SNR=28
M17K  Holitna River    15.19  41  Pn      Pn   06 26 45.6 +0.7
M17K                              IAmb    IAmb 06 26 52.6
      comp=Z,266nm,1.1s
M17K  Holitna River    15.19  41  P       P    06 26 47.4 -1.7
      baz=238,SNR=45
L17K  Donlin           15.26  38  P       P    06 26 49.1 -0.7
      baz=234,SNR=18
P18K  Big Mountain,    15.27  50  Pn      Pn   06 26 47.0 +1.0
P18K  Big Mountain,    15.27  50  P       Pn   06 26 47.8 +1.8
      baz=249,SNR=8.4
F14K  Arctic Creek     15.37  19  P       P    06 26 49.7 -1.4
      baz=209
O18K  Koktuh Hills     15.46  48          P    06 26 51.0 -1.1
O18K  Koktuh Hills     15.46  48  P       P    06 26 50.7 -1.4
      baz=247,SNR=20
G15K  Niukluk          15.48  23  P       Pn   06 26 50.1 +1.5
      baz=215
N18K  Kilae Creek      15.50  45  Pn      Pn   06 26 49.5 +0.6
N18K  Kilae Creek      15.50  45  P       P    06 26 51.1 -1.4
      baz=243,SNR=10.0
I17K  Unalakleet       15.56  30  Pn      Pn   06 26 50.0 +0.3
I17K  Unalakleet       15.56  30  P       Pn   06 26 51.2 +1.5
      baz=225
K17K  Iditarod         15.61  36  Pn      Pn   06 26 51.3 +1.0
K17K  Iditarod         15.61  36  P       Pn   06 26 51.5 +1.2
      baz=233
OHAK  Old Harbor       15.65  58  Pn      Pn   06 26 50.7 -0.2
OHAK  Old Harbor       15.65  58  P       Pn   06 26 49.1 -1.7
      baz=259,SNR=7.6
H16K  Elim             15.67  26  P       Pn   06 26 52.4 +1.3
      baz=220,SNR=6.0
J17K  VABM Dome        15.76  33  Pn      Pn   06 26 53.1 +0.9
J17K                              IAmb    IAmb 06 26 59.3
      comp=Z,170nm,1.2s
J17K  VABM Dome        15.76  33  P       Pn   06 26 53.4 +1.1
      baz=229
Q19K  Cape Douglas,    15.89  52  Pn      Pn   06 26 54.8 +0.9
Q19K  Cape Douglas,    15.89  52  P       Pn   06 26 54.1 +0.2
      baz=252
M18K  Stony River      15.91  42  P       Pn   06 26 54.8 +0.7
      baz=241,SNR=23
L18K  Granite Mounta   15.93  39  Pn      Pn   06 26 55.3 +0.8
L18K  Granite Mounta   15.93  39  P       Pn   06 26 54.4 -0.1
      baz=237
F15K  North Star Dit   15.93  21  P       P    06 26 56.5 -0.8
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F15K	North Star Dit	15.93	21	P		Pn	06 26 55.2 +0.8
	baz=212						
O19K	Port Alsworth	16.00	47	Pn		Pn	06 26 55.7 +0.4
O19K	Port Alsworth	16.00	47	P		P	06 26 56.9 -1.1
	baz=247,SNR=16						
KDAK	Kodiak Island	16.14	57	Pn		Pn	06 26 55.9 -1.1
KDAK	Kodiak Island	16.14	57	P		Pn	06 26 53.7 -3.4
	comp=Z,28nm,0.3s,baz=296,slow=3.3,SNR=56						
KDAK				S		Sn	06 29 52.6 -2.1
	comp=Z,6.9nm,0.4s,baz=221,slow=19,SNR=2.1						
KDAK	Kodiak Island	16.14	57	*i* P		Pn	06 26 54.4 -2.6
KDAK	Kodiak Island	16.14	57	P		Pn	06 26 55.3 -1.7
	baz=258						
N19K	Bonanza Creek	16.18	45	Pn		Pn	06 26 57.8 +0.1
N19K	Bonanza Creek	16.18	45	P		P	06 26 59.6 -0.5
	baz=245						
G16K	Koyuk River	16.23	24	P		P	06 26 59.8 -0.7
	baz=218						
P19K	Oil Pt	16.32	50	Pn		Pn	06 26 58.7 -0.7
P19K	Oil Pt	16.32	50	P		P	06 27 00.7 -0.9
	baz=251						
Q20K	Shuyak Island	16.43	54	P		Pn	06 27 01.7 +1.0
	baz=255,SNR=5.2						
SYI	Shuyak Island	16.43	54	Pn		Pn	06 27 00.9 +0.2
ILSW	Iliamna Southw	16.47	49	Pn		Pn	06 27 00.9 -0.5
H17K	Granite Mounta	16.56	28	Pn		Pn	06 27 02.0 -0.3
H17K	Granite Mounta	16.56	28	P		P	06 27 04.2 0.0
	baz=224						
TTA	Tatalina	16.59	37	Pn		Pn	06 27 02.7 -0.1
TTA	Tatalina	16.59	37	P		Pn	06 27 02.7 -0.1
TTA				pmax		pmax	
	comp=Z,59nm,1.1s						
TTA	Tatalina	16.59	37	P		P	06 27 04.7 +0.1
	baz=236,SNR=26						
J18K	Innoko River	16.63	35			P	06 27 04.8 -0.2
J18K	Innoko River	16.63	35	P		P	06 27 04.3 -0.8
	baz=234						
L19K	White Mountain	16.65	41	P		P	06 27 05.1 -0.1
L19K	White Mountain	16.65	41	P		P	06 27 05.1 -0.1
	baz=240,SNR=39						
M19K	Big River Lodg	16.70	42	P		P	06 27 06.5 +0.7
M19K	Big River Lodg	16.70	42	P		P	06 27 06.2 +0.4
	baz=242						
O20K	Slope Mountain	16.75	49	P		P	06 27 06.6 +0.1
	baz=250,SNR=5.1						
G17K	Kiwalik Mounta	16.77	26	P		P	06 27 06.8 +0.3
	baz=221						
HOM	Homer	17.09	51	P		P	06 27 10.3 +0.3
HOM				IAmb		IAmb	06 27 14.3
	comp=Z,155nm,1.0s						
H18K	Honhosa River	17.18	29	P		P	06 27 11.7 +0.7
	baz=226						
L20K	Farewell, AK	17.19	41	P		P	06 27 12.2 +0.9
	baz=241						
M20K	Styx River	17.23	43			Pn	06 27 10.9 +0.2
M20K	Styx River	17.23	43	P		P	06 27 11.5 -0.2
	baz=244,SNR=33						
CNPM	China Poot	17.25	51	P		Pn	06 27 11.2 +0.3
F17K	Baldwin Pennin	17.34	23			Pn	06 27 12.0 +0.1
F17K	Baldwin Pennin	17.34	23	P		P	06 27 13.9 +1.1
	baz=218,SNR=11						
J19K	Poorman	17.34	35	P		P	06 27 13.5 +0.6
J19K	Poorman	17.34	35	P		P	06 27 13.4 +0.6
	baz=234,SNR=43						
SPCR	Spurr Chakacha	17.35	46	P		P	06 27 14.3 +1.3
	baz=247,SNR=36						
GCSA	Galena City Sc	17.37	32	P		P	06 27 14.2 +1.0
	baz=230,SNR=40						
BRLK	Bradley Lake	17.48	51			Pn	06 27 13.4 -0.5
BRLK				IAmb		IAmb	06 27 18.7
	comp=Z,241nm,1.7s						
BRSE	Bradley Lake S	17.55	51	P		Pn	06 27 14.9 +0.3
	baz=254						
K20K	Telida	17.56	38	P		P	06 27 15.4 +0.2
K20K	Telida	17.56	38	P		P	06 27 16.2 +0.9
	baz=238						
G18K	Tagagawik	17.61	27	P		P	06 27 17.5 +1.6
	baz=224						
STLK	Strandline Lak	17.63	45			P	06 27 16.3 +0.2
CAPN	Captain Cook N	17.67	48			Pn	06 27 15.6 -0.5
CAPN				IAmb		IAmb	06 27 23.5
	comp=Z,360nm,1.8s						
CAPN	Captain Cook N	17.67	48	P		P	06 27 17.4 +0.9
	baz=250						
E17K	Hotham Inlet	17.71	21	P		P	06 27 19.2 +2.3
	baz=216						
F18K	Selawik	17.87	25	P		P	06 27 20.4 +1.8
	baz=221,SNR=22						
SKT	Skwentna	17.95	44	P		P	06 27 20.0 +0.4
SKT				IAmb		IAmb	06 27 23.8
	comp=Z,242nm,1.7s						
SKT	Skwentna	17.95	44	P		P	06 27 21.0 +1.3
	baz=246,SNR=32						
D17K	Noatak River	17.96	19	P		P	06 27 21.3 +1.7
	baz=212,SNR=33						
J20K	Nowinta River	17.98	35	P		Pn	06 27 21.4 +1.6
	baz=236,SNR=20						
H19K	Roundabout Mou	18.02	30	P		Pn	06 27 21.2 +0.8
H19K	Roundabout Mou	18.02	30	P		Pn	06 27 21.1 +0.8
	baz=229,SNR=11						
SLKM	Skilak Lake	18.02	49	P		Pn	06 27 20.6 +0.2
C16K	Lisburne Hills	18.04	16	P		Pn	06 27 22.3 +1.8
	baz=207						
PPLA	Purkeypile	18.08	41	P		Pn	06 27 21.5 +0.2
PPLA				IAmb		IAmb	06 27 28.1
	comp=Z,281nm,1.5s						
PPLA	Purkeypile	18.08	41	P		Pn	06 27 22.9 +1.7
	baz=243,SNR=23						
SUA	Susitna One	18.10	46	P		P	06 27 20.4 -1.0
SUA	Susitna One	18.10	46	P		Pn	06 27 22.8 +1.3
	baz=249,SNR=9.6						
I20K	Naaghedeneel	18.21	34	P		P	06 27 22.5 +0.1
	baz=234						
G19K	Purcell Mounta	18.25	28	P		Pn	06 27 24.2 +1.1
	baz=226,SNR=20						
O22K	Cooper Landing	18.25	49	P		Pn	06 27 23.2 +0.1
O22K				IAmb		IAmb	06 27 34.5
	comp=Z,295nm,0.9s						
O22K	Cooper Landing	18.25	49	P		P	06 27 22.2 -0.6
	baz=253,SNR=9.1						
E18K	Tukpahlearik C	18.27	22	P		Pn	06 27 24.5 +1.1
	baz=217,SNR=5.0						
SEW	Seward	18.27	50	P		P	06 27 22.4 -0.7
SEW	Seward	18.27	50	P		P	06 27 22.9 -0.2
	baz=254,SNR=6.7						
BILL	Bilibino	18.29	341	P		Pn	06 27 25.2 +1.5
BILL	Bilibino	18.29	341	*ce*P		Pn	06 27 25.1 +1.5
BILL				pmax		pmax	
	comp=Z,81nm,1.3s						
RDOG	Red Dog Mine	18.30	19			Pn	06 27 24.5 +0.8
RDOG	Red Dog Mine	18.30	19	P		Pn	06 27 24.1 +0.5
	baz=212						
CAST	Castle Rocks	18.36	39			Pn	06 27 25.9 +1.3
CAST	Castle Rocks	18.36	39	P		Pn	06 27 24.5 0.0
	baz=241,SNR=32						
RC01	Rabbit Creek A	18.43	47			P	06 27 25.1 +0.3
RC01	Rabbit Creek A	18.43	47	P		P	06 27 25.0 +0.1
	baz=251						
M22K	Willow	18.48	45	P		Pn	06 27 26.5 +0.5
	baz=249						
H20K	Anotleneega Mo	18.50	31	P		Pn	06 27 26.1 -0.1
	baz=232,SNR=24						
CHUM	Lake Minchumin	18.50	38	P		P	06 27 25.7 +0.1
	baz=240,SNR=20						
F19K	Shaleruckik Mo	18.54	26	P		Pn	06 27 26.8 +0.1
	baz=224,SNR=25						
C17K	DeLong Mountai	18.60	18	P		Pn	06 27 28.0 +0.6
	baz=211,SNR=41						
CUT	Chulitna	18.67	43	P		P	06 27 27.6 +0.2
CUT				IAmb		IAmb	06 27 31.9
	comp=Z,243nm,1.3s						
CUT	Chulitna	18.67	43	P		P	06 27 27.8 +0.4
	baz=247,SNR=20						
PMR	Palmer	18.87	46	P		P	06 27 28.7 -0.9
PMR	Palmer	18.87	46	P		P	06 27 28.7 -0.9
PMR				pmax		pmax	
	comp=Z,26nm,1.2s						
PMR	Palmer	18.87	46	P		P	06 27 30.2 +0.5
	baz=251						
KTH	Kantishna Hill	18.89	39	P		Pn	06 27 30.9 0.0
KTH				IAmb		IAmb	06 27 41.5
	comp=Z,259nm,1.0s						
PWL	Port Wells	19.01	49	P		P	06 27 31.1 -0.1
	baz=254						
GHO	Glory Hole Cre	19.02	46	P		P	06 27 32.0 +0.5
TRF	Thorofare Moun	19.10	40	P		Pn	06 27 33.1 -0.5
TRF				IAmb		IAmb	06 27 40.6
	comp=Z,91nm,0.8s						
TRF	Thorofare Moun	19.10	40	P		P	06 27 32.6 +0.3
	baz=244,SNR=45						
BPAW	Bear Paw Mtn.	19.12	38	P		Pn	06 27 33.5 -0.1
BPAW	Bear Paw Mtn.	19.12	38	P		Pn	06 27 33.3 -0.4
	baz=241,SNR=34						
KNK	Knik Glacier	19.12	47	P		P	06 27 32.6 +0.1
KNK	Knik Glacier	19.12	47	P		P	06 27 32.5 +0.1
	baz=252,SNR=9.1						
E19K	Redstone River	19.14	25	P		Pn	06 27 33.8 -0.1
	baz=223						
C18K	Utukok River	19.14	19	P		Pn	06 27 34.0 0.0
	baz=214,SNR=48						
MA2	Magadan	19.18	307	P		P	06 27 33.5 +0.4
MA2	Magadan	19.18	307	P		P	06 27 32.8 -0.2
	comp=Z,0.9nm,0.3s,baz=88,slow=9.6,SNR=9.6						
MA2				LR		LR	06 34 30.8
	comp=Z,2μm,20.0s,baz=102,slow=35						
	comp=Z,5.1nm,0.5s						
MA2	Magadan	19.18	307	*ce*P		Pn	06 27 35.4 +1.1
MA2				pmax		pmax	
	comp=Z,11nm,1.0s						
P23K	Montague Islan	19.24	52	P		P	06 27 34.3 +0.6
	baz=257						
F20K	Avaraart Lake	19.27	27	P		Pn	06 27 35.8 +0.5
F20K	Avaraart Lake	19.27	27	P		Pn	06 27 35.4 +0.1
	baz=227,SNR=30						
H21K	Melozitna Rive	19.29	33	P		Pn	06 27 35.8 +0.2
	baz=235,SNR=86						
SML	Sawmill	19.30	46			Pn	06 27 35.4 -0.5
SML	Sawmill	19.30	46	P		Pn	06 27 35.4 -0.5
SML				pmax		pmax	
	comp=Z,48nm,1.0s						
SML	Sawmill	19.30	46	P		P	06 27 35.0 +0.5
	baz=251,SNR=7.5						
I21K	Tanana	19.31	34	P		Pn	06 27 35.8 -0.1
	baz=237						
SEY	Seymchan	19.43	318	P		Pn	06 27 36.6 -0.6
	comp=Z,4.7nm,0.5s,baz=112,slow=11,SNR=17						
SEY				LR		LR	06 34 52.1
	comp=Z,2μm,19.4s,baz=124,slow=36						
SEY	Seymchan	19.43	318	*ce*P		Pn	06 27 37.5 +0.3
SEY				pmax		pmax	
	comp=Z,101nm,1.1s						
M23K	Glacier View	19.57	46	P		Pn	06 27 38.3 -0.7
	baz=252,SNR=7.4						
G21K	Allakaket	19.58	30	IAmb		IAmb	06 27 40.4
	comp=Z,108nm,0.8s						
G21K	Allakaket	19.58	30	P		Pn	06 27 38.9 -0.2
	baz=232						
GLI	Glacier Island	19.60	49	P		P	06 27 38.1 +0.4
	baz=255						
B18K	Kokolik River	19.63	17	P		Pn	06 27 38.8 -0.8
	baz=212						
RND	Reindeer	19.66	41	P		P	06 27 37.6 -0.8
RND	Reindeer	19.66	41	P		P	06 27 37.6 -0.8
RND				pmax		pmax	
	comp=Z,44nm,0.7s						
D19K	Kuna River	19.70	22	P		Pn	06 27 39.7 -0.9
	baz=220						
BWN	Browne	19.75	39	P		Pn	06 27 40.6 -0.4
BWN				IAmb		IAmb	06 27 54.3
	comp=Z,236nm,0.9s						
SCM	Sheep Creek Mo	19.76	46	P		P	06 27 38.4 -1.1
SCM	Sheep Creek Mo	19.76	46	P		P	06 27 38.4 -1.1
SCM				pmax		pmax	
	comp=Z,63nm,1.0s						
SCM	Sheep Creek Mo	19.76	46	P		P	06 27 40.1 +0.6
	baz=252,SNR=15						
MCK	McKinley	19.76	40	P		P	06 27 38.7 -0.7
MCK				IAmb		IAmb	06 27 54.0
	comp=Z,229nm,1.7s						
MCK	McKinley	19.76	40	P		P	06 27 38.7 -0.7
MCK				pmax		pmax	
	comp=Z,229nm,1.7s						
MCK	McKinley	19.76	40	P		P	06 27 39.3 -0.1
	baz=245,SNR=16						
H22K	Ishtalitna Cre	19.91	33	P		Pn	06 27 42.5 -0.6
	baz=236,SNR=30						
E20K	Nigu River	20.00	24	P		Pn	06 27 43.2 -0.8
	baz=224,SNR=50						
F21K	Alatna River	20.04	28	P		Pn	06 27 43.5 -1.0
	baz=230						
NEA2	Nenana	20.09	38	P		P	06 27 43.3 +0.4
NEA2	Nenana	20.09	38	P		P	06 27 43.3 +0.4
	baz=243,SNR=32						
EYAK	Cordova Ski Ar	20.17	50	P		P	06 27 44.3 +0.6
	baz=258						
D20K	Etivluk River	20.23	23	P		P	06 27 45.2 +0.8
	baz=222						
I23K	Minto, Yukon-K	20.24	36	P		P	06 27 45.7 +1.1
I23K				IAmb		IAmb	06 27 59.8
	comp=Z,344nm,1.8s						
I23K	Minto, Yukon-K	20.24	36	P		P	06 27 45.3 +0.8
	baz=241,SNR=40						
DIV	Divide	20.29	49	P		P	06 27 45.8 +0.6
KLU	Klutina	20.31	48	P		P	06 27 44.5 -0.9
KLU				IAmb		IAmb	06 28 03.0
	comp=Z,192nm,1.4s						
KLU	Klutina	20.31	48	P		P	06 27 46.1 +0.7
	baz=255,SNR=12						
M24K	Tolsona, Glenn	20.36	46	P		P	06 27 46.2 +0.2
M24K				IAmb		IAmb	06 28 03.5
	comp=Z,139nm,0.8s						
M24K	Tolsona, Glenn	20.36	46	P		P	06 27 46.2 +0.2
	baz=253,SNR=8.3						
WRH	Wood River Hil	20.41	39	P		P	06 27 46.4 -0.1
A19K	Wainwright	20.48	17	P		Pn	06 27 48.7 -0.9
	baz=212						
H23K	Yukon River	20.51	34	P		P	06 27 48.3 +0.8
H23K	Yukon River	20.51	34	P		P	06 27 48.4 +0.8
	baz=239,SNR=20						
CCB	Clear Creek Bu	20.60	38	P		P	06 27 48.1 -0.3
CCB				IAmb		IAmb	06 28 06.1
	comp=Z,142nm,1.7s						
F22K	John River	20.61	29	P		P	06 27 49.9 +1.3
	baz=232						
COLA	College	20.68	38	P		P	06 27 50.2 +0.9
COLA				IAmb		IAmb	06 28 09.9
	comp=Z,89nm,1.0s						
COLA	College	20.68	38	*i* P		P	06 27 49.9 +0.6
COLA				pmax		pmax	
	comp=Z,77nm,0.9s						
COLA	College	20.68	38	P		P	06 27 50.0 +0.7
	baz=244						
E21K	Killik River	20.71	25	P		P	06 27 50.6 +0.9
	baz=227						
BMRM	Bremner River	20.81	50	P		P	06 27 52.0 +1.3
BMRM				IAmb		IAmb	06 28 08.3
	comp=Z,95nm,1.0s						
BMRM	Bremner River	20.81	50	P		P	06 27 50.5 -0.2
	baz=258,SNR=7.9						
G23K	Bananza Creek	20.82	32	P		P	06 27 51.6 +0.7
	baz=236,SNR=37						
HDA	Harding Lake	20.84	39	P		P	06 27 50.7 -0.4
HDA				PcP		PcP	06 31 58.3 +0.7
HDA	Harding Lake	20.84	39	P		P	06 27 51.6 +0.6
	baz=246,SNR=16						
HARP	HAARP	20.91	46	P		P	06 27 51.9 +0.1
	baz=254,SNR=9.3						
PAX	Paxson	20.94	44	P		P	06 27 51.6 -0.6
PAX				IAmb		IAmb	06 28 07.9
	comp=Z,182nm,1.4s						
PAX	Paxson	20.94	44	P		P	06 27 51.6 -0.6
PAX				pmax		pmax	
	comp=Z,182nm,1.4s						
PAX	Paxson	20.94	44	P		P	06 27 51.8 -0.4
	baz=252,SNR=35						
POKR	Poker Plat Res	20.95	37	P		P	06 27 53.1 +0.9
POKR				IAmb		IAmb	06 28 06.9
	comp=Z,111nm,1.1s						
POKR	Poker Plat Res	20.95	37	P		P	06 27 53.6 +1.4
	baz=244,SNR=14						
N25K	Chitina, Valde	20.95	48	P		P	06 27 52.9 +0.5
N25K	Chitina, Valde	20.95	48	P		P	06 27 52.9 +0.5
	baz=256,SNR=12						
C21K	Knifeblade Rid	21.00	23	P		P	06 27 53.1 +0.4
	baz=224						
IL31		21.01	39	P		P	06 27 51.6 -1.2
ILAR	Eielson Array	21.01	39	P		P	06 27 51.9 -1.0
ILAR	Eielson Array	21.01	39	P		P	06 27 51.6 -1.3
	comp=Z,3.2nm,0.6s,baz=238,slow=9.5,SNR=26						
ILAR				S		S	06 31 44.3 +0.5
	comp=Z,1.4nm,1.0s,baz=253,slow=18,SNR=2.7						
ILAR				PcP		PcP	06 31 57.3 -0.5
	comp=Z,3.6nm,0.7s,baz=277,slow=3.0,SNR=7.5						
ILAR				LR		LR	06 37 04.2
	comp=Z,1μm,19.7s,baz=232,slow=40						
	comp=Z,3.2nm,0.6s						
COLD	Coldfoot	21.05	31	P		P	06 27 53.1 -0.2
COLD	Coldfoot	21.05	31	P		P	06 27 54.1 +0.8
	baz=235,SNR=27						
K24K	Donnelly Dome	21.09	42	P		P	06 27 53.8 +0.1
	baz=249,SNR=8.6						
B20K	Meade River	21.09	20	P		P	06 27 54.5 +0.8
B20K				IAmb		IAmb	06 28 05.6
	comp=Z,113nm,1.0s						
B20K	Meade River	21.09	20	P		P	06 27 54.1 +0.5
	baz=219						
E22K	Anaktuvuk Pass	21.11	28	P		P	06 27 55.0 +1.0
E22K				IAmb		IAmb	06 28 13.3
	comp=Z,108nm,1.1s						
E22K	Anaktuvuk Pass	21.11	28	P		P	06 27 54.4 +0.4
	baz=231,SNR=34						
H24K	Noodor Dome	21.12	35	P		P	06 27 54.3 +0.3
H24K				IAmb		IAmb	06 28 10.4
	comp=Z,95nm,1.1s						
H24K	Noodor Dome	21.12	35	P		P	06 27 54.8 +0.8
	baz=242						
GLB	Gilahina Butte	21.28	49	P		P	06 27 55.3 -0.6
GLB				IAmb		IAmb	06 28 14.6
	comp=Z,107nm,1.3s						
D22K	Ayikyak River	21.36	25	P		P	06 27 57.1 +0.6
	baz=228,SNR=29						
B21K	Ikpikpuk River	21.38	23	P		P	06 27 57.5 +0.8
	baz=224						
VRDI	Verde Repeater	21.41	49	IAmb		IAmb	06 28 16.3
	comp=Z,146nm,1.5s						
RIDG	Independent Ri	21.45	42	IAmb		IAmb	06 28 18.2
	comp=Z,129nm,1.1s						
RIDG	Independent Ri	21.45	42	P		P	06 27 57.5 -0.2
	baz=251,SNR=12						
J25K	Salcha River,	21.55	40	P		P	06 27 58.1 -0.6
	baz=248,SNR=16						
G24K	Hadweenzic Riv	21.68	33	P		P	06 28 00.9 +0.9
	baz=240						
MENT	Mentasta	21.69	45	P		P	06 28 00.1 -0.1
E23K	Chandalar	21.72	29	P		P	06 28 01.2 +0.7
	baz=234						
DOT	Dot Lake	21.75	43	IAmb		IAmb	06 28 20.2
	comp=Z,86nm,1.2s						
PRP	Porcupine Dome	21.85	37	P		P	06 28 02.1 +0.1
	baz=246						
M26K	Nabesna, AK	21.88	46	P		P	06 28 02.2 0.0
	baz=256,SNR=13						
L26K	Log Cabin Wild	21.88	45	IAmb		IAmb	06 28 23.9
	comp=Z,94nm,0.9s						
L26K	Log Cabin Wild	21.88	45	P		P	06 28 01.7 -0.5
	baz=254,SNR=14						
SCRK	Sand Creek	21.89	42	P		P	06 28 01.4 -1.0
SCRK	Sand Creek	21.89	42	P		P	06 28 01.7 -0.7
	baz=251,SNR=20						
D23K	Nanushuk River	21.96	27	P		P	06 28 03.8 +0.8
D23K				IAmb		IAmb	06 28 22.0
	comp=Z,118nm,0.9s						
D23K	Nanushuk River	21.96	27	P		P	06 28 03.1 +0.1
	baz=231						
F24K	Squaw Lake	21.96	31	P		P	06 28 03.9 +0.9
F24K				IAmb		IAmb	06 28 22.7
	comp=Z,95nm,1.1s						
F24K	Squaw Lake	21.96	31	P		P	06 28 03.0 -0.1
	baz=238						
H25L	Birch Creek	22.06	35	P		P	06 28 04.2 +0.2
	baz=244,SNR=24						
E24K	Your Creek	22.08	30	P		P	06 28 04.6 +0.2
	baz=236						
TOLK	Toolik Lake Re	22.08	28	P		P	06 28 04.9 +0.6
TOLK				IAmb		IAmb	06 28 17.9
	comp=Z,131nm,1.3s						
TOLK	Toolik Lake Re	22.08	28	P		P	06 28 03.6 -0.8
	baz=233,SNR=37						
B22K	Teshekpuk Lake	22.19	22	P		P	06 28 05.4 0.0
B22K				IAmb		IAmb	06 28 23.0
	comp=Z,71nm,1.1s						
B22K	Teshekpuk Lake	22.19	22	P		P	06 28 05.5 +0.2
	baz=224,SNR=15						
G25K	Bearman Lake	22.19	34	P		P	06 28 05.8 +0.4
	baz=242						
J26L	Joseph Creek	22.24	41	P		P	06 28 05.2 -0.9
	baz=250,SNR=21						
A21K	Barrow	22.24	18	P		P	06 28 06.0 +0.1
	baz=216,SNR=5.8						
A22K	Sinclair Lake	22.33	20	P		P	06 28 06.8 -0.1
	baz=221						
M27K	Edge Creek, AK	22.38	47	IAmb		IAmb	06 28 25.5
	comp=Z,102nm,1.1s						
M27K	Edge Creek, AK	22.38	47	P		P	06 28 07.5 -0.2
	baz=258,SNR=23						
FYU	Fort Yukon	22.41	35	IAmb		IAmb	06 28 26.8
	comp=Z,274nm,1.3s						
C23K	Itkillik River	22.54	25	P		P	06 28 09.8 +0.6
C23K				IAmb		IAmb	06 28 28.0
	comp=Z,128nm,1.0s						
C23K	Itkillik River	22.54	25	P		P	06 28 09.3 +0.1
	baz=229,SNR=50						
L27K	Beaver Creek,	22.56	45	P		P	06 28 09.2 -0.3
	baz=256,SNR=14						
BCAR	Beaver Creek A	22.58	45	P		P	06 28 08.8 -1.0
D24K	Happy Valley	22.61	27	P		P	06 28 09.9 0.0
	baz=233						
I26K	Coal Creek Min	22.68	39	P		P	06 28 09.5 -1.2
	baz=249						
K27K	Chicken	22.71	42	P		P	06 28 10.5 -0.6
	baz=253						
F25K	Christian Rive	22.74	32	P		P	06 28 10.9 -0.6
	baz=241						
PINM	Pinnacle	22.80	53	P		P	06 28 11.0 -1.2
	baz=265						
BVCY	Beaver Creek	22.85	47	P		P	06 28 11.4 -1.2
	baz=258,SNR=13						
O28M	Mount Upton	22.90	51	P		P	06 28 12.7 -0.7
	baz=263						
YUK3	Moose Creek	22.92	48	P		P	06 28 12.6 -0.9
	baz=260,SNR=5.9						
C24K	Franklin Bluff	22.98	26	P		P	06 28 14.0 +0.2
	baz=232						
BMAR	Burnt Mountain	23.03	33	P		P	06 28 14.7 +0.4
E25K	Arctic Village	23.03	31	P		P	06 28 14.6 +0.3
E25K				IAmb		IAmb	06 28 32.6
	comp=Z,127nm,1.2s						
E25K	Arctic Village	23.03	31	P		P	06 28 14.2 -0.1
	baz=240,SNR=40						
G26K	Porcupine Rive	23.09	35	P		P	06 28 15.1 +0.2
	baz=245,SNR=44						
YUK8	Steele Glacier	23.18	50	P		P	06 28 15.2 -0.9
	baz=262						
F26K	Sheenjek River	23.30	33	P		P	06 28 17.1 +0.1
F26K	Sheenjek River	23.30	33	P		P	06 28 17.4 +0.4
	baz=243,SNR=24						
I27K	Kandik River	23.39	39	P		P	06 28 17.4 -0.5
	baz=250						
D25K	Kavik River	23.42	28	IAmb		IAmb	06 28 39.5
	comp=Z,72nm,1.0s						
D25K	Kavik River	23.42	28	P		P	06 28 16.8 -1.3
	baz=236						
H27K	Steamboat Moun	23.64	37	P		P	06 28 19.0 -1.2
	baz=249						
O29M	Mount Kennedy	23.65	52	P		P	06 28 19.4 -1.0
	baz=266						
YUK4	Talbot Arm	23.72	50	P		P	06 28 21.1 0.0
	baz=263						
G27K	Doyon Strip	23.80	36	P		P	06 28 20.1 -1.6
	baz=248,SNR=6.5						
Y

TYV Tymovskoe 24.31 284 *e*P **P 06 28 27.4 +1.0**
TYV pmax pmax
comp=Z,600nm,4.8s
TYV pmax pmax
comp=Z,47nm,1.4s
C27K Jago River 24.38 29 P **P 06 28 26.8 -0.1**
C27K Jago River 24.38 29 P **P 06 28 27.0 +0.1**
baz=239,SNR=29
E27K Coleen River 24.38 33 P **P 06 28 27.2 +0.3**
baz=245,SNR=26
J29N Klondike Camp 24.45 42 P **P 06 28 27.8 +0.1**
J29N IAmb IAmb 06 28 51.4
comp=Z,111nm,1.8s
J29N Klondike Camp 24.45 42 P **P 06 28 27.2 -0.4**
baz=257
N30M Aishikik Lake 24.48 50 P **P 06 28 27.3 -0.7**
baz=265
K29M Barlow Dome 24.62 44 P **P 06 28 28.6 -0.7**
baz=259
I29M Ogilvie Camp, 24.63 40 P **P 06 28 27.8 -1.5**
baz=255,SNR=23
M30M Minto, Yukon 24.74 47 P **P 06 28 29.9 -0.4**
M30M Minto, Yukon 24.74 47 P **P 06 28 29.1 -1.2**
baz=262
H29M Whitestone 24.85 38 P **P 06 28 29.8 -1.3**
baz=253
D27M Malcolm River 25.05 31 P **P 06 28 33.2 +0.1**
baz=244,SNR=22
G29M Pine Creek 25.19 37 P **P 06 28 33.2 -1.1**
baz=252
UGL Uglegorsk 25.24 280 *e*P **P 06 28 36.0 +1.1**
UGL *e*S **S 06 32 54.8 -1.9**
UGL pmax pmax
comp=Z,100nm,0.9s
UGL pmax pmax
comp=Z,700nm,4.9s
UGL MLR MLR
comp=E,900nm,14.0s
E28M Babbage River 25.25 33 P **P 06 28 35.4 +0.6**
E28M **PcP 06 32 07.1 +0.5**
E28M Babbage River 25.25 33 P **P 06 28 34.1 -0.7**
baz=247
J30M Hart River 25.27 43 P **P 06 28 34.4 -0.8**
J30M Hart River 25.27 43 P **P 06 28 35.0 -0.2**
baz=259,SNR=8.5
MAYO Mayo, Yukon 25.29 45 IAmb IAmb 06 29 07.0
comp=Z,60nm,1.0s
MAYO Mayo, Yukon 25.29 45 P **P 06 28 35.2 0.0**
baz=261
I30M Mount Dempster 25.39 41 P **P 06 28 35.1 -1.1**
baz=257,SNR=27
YSS Yuzhno-Sakhali 25.63 275 P **P 06 28 39.5 +1.0**
YSS Yuzhno-Sakhali 25.63 275 *oe*P **P 06 28 39.9 +1.5**
YSS *e**PP **pP 06 28 52.4 +1.2**
YSS *e*S **S 06 32 59.2 -3.7**
YSS pmax pmax
comp=Z,700nm,6.2s
YSS pmax pmax
comp=Z,110nm,1.1s
YSS MLR MLR
comp=N,300nm,16.0s
E29M Blow River 25.73 34 P **P 06 28 39.7 +0.6**
baz=249,SNR=22
D28M Stokes Point 25.80 31 P **P 06 28 40.1 +0.3**
baz=246
M31M Drury Creek, Y 25.81 48 P **P 06 28 39.8 -0.2**
baz=266
G30M tAoh Zraii Nji 25.89 37 P **P 06 28 39.4 -1.3**
baz=254
F30M Barrier River 26.23 36 P **P 06 28 42.4 -1.2**
baz=253
FARO Faro, Yukon 26.30 48 P **P 06 28 44.5 0.0**
FARO **PcP 06 32 10.3 +1.1**
FARO Faro, Yukon 26.30 48 P **P 06 28 43.2 -1.2**
baz=267
H31M Peel River 26.34 40 P **P 06 28 43.6 -1.1**
baz=258
N32M Quiet Lake 26.39 51 P **P 06 28 44.3 -0.9**
baz=269
P33M Teslin, Yukon 26.52 53 P **P 06 28 46.2 -0.3**
P33M Teslin, Yukon 26.52 53 P **P 06 28 45.7 -0.8**
baz=271
G31M Satah River 26.61 38 P **P 06 28 46.1 -1.0**
baz=256
F31M Tsiigehtchic 26.94 37 P **P 06 28 49.1 -0.9**
F31M Tsiigehtchic 26.94 37 P **P 06 28 49.4 -0.6**
baz=256,SNR=6.5
JKA Kamikawa-asahi 27.02 270 P **P 06 28 52.2 +1.1**
JKA IAmb IAmb 06 28 54.1
comp=Z,145nm,1.1s
ASAJ Asahikawa 27.02 270 P **P 06 28 52.6 +1.6**
comp=Z,103nm,1.1s,baz=15,slow=3.5,SNR=20
comp=Z,103nm,1.1s
INK Inuvik 27.24 35 P **P 06 28 52.8 +0.1**
INK **PcP 06 32 11.6 +0.4**
INK Inuvik 27.24 35 LR LR 06 40 52.3
comp=Z,733nm,19.6s,baz=238,slow=39
INK Inuvik 27.24 35 P **P 06 28 52.8 +0.1**
INK 06 32 11.6
INK pmax pmax
comp=Z,33nm,1.2s
INK Inuvik 27.24 35 P **P 06 28 52.7 +0.1**
baz=254,SNR=7.6
V35K Ketchikan 27.71 63 P **P 06 28 57.3 +0.3**
baz=282
DLBC Dease Lake 28.07 57 LR LR 06 41 08.5
comp=Z,608nm,19.4s,baz=283,slow=38
GRNR Gornyy 28.11 287 ‖ *i*P P 06 28 49.8 -11
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR MLR MLR
comp=Z,360nm,16.0s
T35M Bob Quinn 28.16 60 P **P 06 29 00.8 -0.3**
baz=279
WTLY Watson Lake, Y 28.53 53 P **P 06 29 04.1 -0.3**
baz=275
TGTN Hyland Airport 28.70 50 P **P 06 29 05.4 -0.6**
baz=272
YAK Yakutsk 29.63 311 LR LR 06 41 28.2
comp=Z,2µm,18.7s,baz=90,slow=37
YAK Yakutsk 29.63 311 *i*P **P 06 29 16.3 +2.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s
TEY Ternei 30.32 276⇑ *e*P **P 06 29 20.6 +0.3**
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=E,20nm,1.2s
TEY pmax pmax
comp=Z,30nm,1.2s
TOAD Toad River Com 30.49 55 P **P 06 29 20.8 -0.9**
baz=280
BBB Bella Bella 30.54 69 LR LR 06 42 05.1
comp=Z,329nm,18.0s,baz=278,slow=37
TIXI Tiksi 30.75 330 P **P 06 29 23.9 0.0**
TIXI PcP **PcP 06 32 20.0 0.0**
TIXI Tiksi 30.75 330 P **P 06 29 24.6 +0.7**
comp=Z,3.1nm,0.4s,baz=122,slow=13,SNR=10
TIXI PcP **PcP 06 32 19.6 -0.3**
comp=Z,23nm,0.8s,baz=105,slow=3.1,SNR=15
TIXI LR LR 06 42 35.9
comp=Z,1µm,19.2s,baz=156,slow=38
comp=Z,3.1nm,0.4s
TIXI Tiksi 30.75 330 *i*P **P 06 29 26.5 +2.6**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 30.75 330 P **P 06 29 26.9 +3.0**
TIXI PcP **PcP 06 32 19.7 -0.3**
C36M Paulatuk 30.81 34 P **P 06 29 24.4 0.0**
baz=263,SNR=11
WRGLY Wrigley 30.85 46 P **P 06 29 24.7 -0.2**
baz=274,SNR=8.6
A36M Sachs Harbour 30.89 29 P **P 06 29 25.7 +0.6**
A36M IAmb IAmb 06 29 45.7
comp=Z,53nm,0.8s
A36M Sachs Harbour 30.89 29 P **P 06 29 25.3 +0.2**
baz=257,SNR=39
KLR Kul'dur 31.47 286 LR LR 06 42 07.4
comp=Z,1µm,21.3s,baz=71,slow=36
KLR Kul'dur 31.47 286 *ce*P **P 06 29 30.4 0.0**
KLR pmax pmax
comp=Z,80nm,1.5s
ZEA Zeya 32.49 296 *e*P **P 06 29 40.3 +1.0**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,300nm,15.0s

CBB Campbell River 32.93 71 P **P 06 29 44.9 +1.7**
CBB IAmb IAmb 06 29 46.2
comp=Z,112nm,1.5s
JSD Sado 33.13 263 P **P 06 29 44.5 -0.6**
JSD IAmb IAmb 06 30 30.5
comp=Z,140nm,1.9s
OZB Mount Ozzard 33.29 73 P **P 06 29 46.9 +0.5**
OZB IAmb IAmb 06 29 59.0
comp=Z,47nm,1.0s
USA0B Ussuriysk Arra 33.60 278 P **P 06 29 48.8 -0.3**
USA0B IAmb IAmb 06 29 49.6
comp=Z,17nm,0.7s
USA0B **PcP 06 32 30.0 +1.7**
USA0B Ussuriysk Arra 33.60 278 *i*P **P 06 29 49.0 -0.1**
USRK Ussuriysk Ar. 33.60 278 P **P 06 29 48.8 -0.4**
USRK PcP **PcP 06 32 29.7 +1.4**
USRK Ussuriysk Ar. 33.60 278 P **P 06 29 49.0 -0.1**
comp=Z,18nm,0.7s,baz=54,slow=9.6,SNR=34
USRK PcP **PcP 06 32 28.9 +0.6**
comp=Z,5.7nm,1.0s,baz=74,slow=7.7,SNR=5.9
comp=Z,18nm,0.7s
HEH HeiHe 33.65 290 *e*P **P 06 29 48.0 -1.5**
HEH pmax pmax
comp=Z,29nm,1.6s
HEH LR LR
comp=Z,460nm,19.8s
HEH LR LR
comp=Z,630nm,16.6s
HEH LR LR
comp=Z,920nm,18.4s
H11N2 WAKE ISLAND Hy 33.70 206 T T 07 06 06.0
baz=17,slow=76
H11N3 WAKE ISLAND Hy 33.71 206 T T 07 06 16.0
baz=17,slow=76
H11N1 WAKE ISLAND Hy 33.72 206 T T 07 06 20.0
baz=17,slow=76
KIP Kipapa 33.86 145 P **P 06 29 52.2 +0.7**
MAJO Matsushiro 34.10 261 P **P 06 29 53.9 +0.3**
MAJO IAmb IAmb 06 29 55.7
comp=Z,64nm,1.1s
MAJO Matsushiro 34.10 261 *i*P **P 06 29 54.7 +1.1**
MAJO pmax pmax
comp=Z,102nm,1.4s
MAJO Matsushiro 34.10 261 P **P 06 29 54.5 +0.9**
MAJO pP **pP 06 30 07.1 +0.5**
MAJO PcP **PcP 06 32 30.5 +0.7**
MJAR Matsushiro Arr 34.10 261 P **P 06 29 53.9 +0.3**
comp=Z,15nm,0.8s,baz=52,slow=8.4,SNR=22
MJAR PcP **PcP 06 32 29.1 -0.8**
comp=Z,3.6nm,0.8s,baz=62,slow=2.7,SNR=6.4
MJAR LR LR 06 41 44.0
comp=Z,1µm,21.7s,baz=30,slow=32
comp=Z,15nm,0.8s
MJB9 Matsu-Tunnel 34.10 261 P **P 06 29 55.1 +1.5**
CLRS Cowichan Lake 34.16 73 P **P 06 29 55.4 +1.4**
CLRS IAmb IAmb 06 30 08.6
comp=Z,53nm,1.1s
VLA Vladivostok 34.23 276 *i*P **P 06 29 56.1 +1.6**
VLA pmax pmax
comp=Z,24nm,1.0s
PGC Sidney 34.65 73 P **P 06 29 58.3 +0.2**
PGC IAmb IAmb 06 30 09.5
comp=Z,68nm,1.5s
LLLB Lillooet 34.75 69 P **P 06 30 00.4 +1.3**
LLLB IAmb IAmb 06 30 10.4
comp=Z,47nm,1.1s
MDJ Mudanjiang 34.88 280 P **P 06 29 59.3 -0.8**
MDJ IAmb IAmb 06 30 00.7
comp=Z,29nm,1.1s
MDJ Mudanjiang 34.88 280 P **P 06 29 59.3 -0.8**
MDJ pmax pmax
comp=Z,29nm,1.0s
H11S1 WAKE ISLAND Hy 34.92 205 T T 07 07 17.0
baz=18,slow=76,SNR=4771
H11S2 WAKE ISLAND Hy 34.94 205 T T 07 07 18.1
baz=18,slow=76,SNR=3766
H11S3 WAKE ISLAND Hy 34.94 205 T T 07 07 18.1
baz=18,slow=76,SNR=3019
NLWA Neilton Lookou 34.96 75 P **P 06 30 02.6 +1.8**
MSHR Mys Shultsa 34.97 276⇑ *e*P **P 06 30 01.7 +0.8**
MSHR pmax pmax
comp=Z,123nm,0.9s
YKA Yellowknife Ar 34.97 47 P **P 06 30 00.1 -0.6**
comp=Z,8.6nm,0.9s,baz=283,slow=8.7,SNR=72
YKA PcP **PcP 06 32 31.9 0.0**
comp=Z,10.0nm,0.9s,baz=282,slow=2.6,SNR=16
YKA LR LR 06 46 59.2
comp=Z,529nm,18.2s,baz=266,slow=41
comp=Z,8.6nm,0.9s
WISH Wishkah 35.14 75 P **P 06 30 03.6 +1.3**
PSTR Posyet 35.15 276 *i*P **P 06 30 02.9 +0.4**
JGF Kuroka 35.24 261 P **P 06 30 03.6 +0.2**
JGF IAmb IAmb 06 30 05.8
comp=Z,70nm,1.0s
GNW Green Mountain 35.51 74 P **P 06 30 06.9 +1.4**
GNW IAmb IAmb 06 30 18.4
comp=Z,57nm,1.0s
E03A Lebam 35.54 76 P **P 06 30 06.4 +0.6**
E03A IAmb IAmb 06 30 22.3
comp=Z,70nm,1.1s
BNX BinXian 35.66 283⇑ P **P 06 30 06.0 -0.9**
BNX pmax pmax
comp=Z,50nm,1.0s
F04D Rainier, OR 36.09 76 P **P 06 30 10.9 +0.4**
D05A Enumclaw 36.18 74 P **P 06 30 12.0 +0.7**
POHA Pohakuloa 36.31 142 P **P 06 30 13.0 +0.1**
POHA pP **pP 06 30 25.9 +0.5**
G03D McMinnville, O 36.37 78 P **P 06 30 14.0 +1.1**
G03D IAmb IAmb 06 30 15.8
comp=Z,57nm,1.2s
LON Longmire 36.50 75 P **P 06 30 15.5 +1.4**
LON IAmb IAmb 06 30 27.1
comp=Z,27nm,0.8s
LON Longmire 36.50 75 P **P 06 30 15.5 +1.4**
LON pmax pmax
comp=Z,27nm,0.8s
COR Corvallis 36.66 79 P **P 06 30 17.3 +1.9**
COR pP **pP 06 30 29.8 +1.5**
LTY Liberty 36.94 73 P **P 06 30 18.7 +0.8**
LTY IAmb IAmb 06 30 29.9
comp=Z,71nm,1.4s
H04D Lebanon 37.04 78 P **P 06 30 20.1 +1.5**
H04D IAmb IAmb 06 30 44.7
comp=Z,61nm,0.9s
BUCK Buck Mountain 37.06 79 P **P 06 30 19.9 +0.9**
BUCK IAmb IAmb 06 30 49.8
comp=Z,55nm,1.1s
B08A Colville Reser 37.22 71 P **P 06 30 21.1 +0.9**
H04A Detroit Lake 37.30 78 P **P 06 30 22.4 +1.5**
HOOD Mount Hood Mea 37.30 77 P **P 06 30 22.1 +1.0**
HOOD IAmb IAmb 06 30 42.4
comp=Z,83nm,1.1s
K02D Willamette Mer 37.44 81 P **P 06 30 22.6 +0.5**
K02D IAmb IAmb 06 30 24.8
comp=Z,31nm,1.3s
DBO Dodson Butte 37.47 81 P **P 06 30 23.9 +1.4**
DBO IAmb IAmb 06 30 40.0
comp=Z,22nm,0.9s
MXC Moxie City 37.50 74 P **P 06 30 23.7 +1.2**
MXC IAmb IAmb 06 30 36.4
comp=Z,88nm,1.6s
I04A Tendick Farm, 37.62 79 IAmb IAmb 06 30 26.2
comp=Z,54nm,0.8s
E07A Sunnyside 37.77 74 IAmb IAmb 06 30 37.1
comp=Z,100nm,1.5s
CN2 Changchun 37.85 281 *e*P **P 06 30 24.3 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 LR LR
comp=Z,670nm,23.0s
CN2 LR LR
comp=Z,570nm,23.0s
CN2 LR LR
comp=Z,680nm,25.0s
G06A Carlson Farm, 37.96 76 P **P 06 30 27.5 +1.0**
G06A IAmb IAmb 06 30 37.9
comp=Z,67nm,1.4s
I05D Terrebonne, OR 37.99 78 P **P 06 30 27.9 +1.1**
I05D IAmb IAmb 06 30 29.4
comp=Z,72nm,1.1s
HAWA Hanford 38.05 74 P **P 06 30 28.4 +1.2**
HAWA IAmb IAmb 06 30 39.4
comp=Z,61nm,0.8s
F07A Phinny Hill Vi 38.06 75 P **P 06 30 28.4 +1.2**
F07A IAmb IAmb 06 30 40.2
comp=Z,56nm,0.9s

D08A Wollman Farm, 38.09 73 IAmb IAmb 06 30 38.2
comp=Z,57nm,1.2s
C09A Chrisman Ranch 38.11 71 IAmb IAmb 06 30 38.4
comp=Z,63nm,1.0s
E08A Dider Farm, El 38.28 73 IAmb IAmb 06 30 31.4
comp=Z,34nm,1.0s
JCJ Chichijima 38.39 246 LR LR 06 43 34.2
comp=Z,531nm,21.1s,baz=344,slow=32
PINE Pine Mountain 38.53 78 IAmb IAmb 06 30 44.2
comp=Z,88nm,1.3s
L04D Klamath Falls 38.54 81 P **P 06 30 32.7 +1.2**
L04D IAmb IAmb 06 30 56.2
comp=Z,47nm,1.0s
YBH Yreka Blue Hor 38.56 82 P **P 06 30 33.2 +1.7**
YBH Yreka Blue Hor 38.56 82 LR LR 06 43 10.5
comp=Z,598nm,21.8s,baz=306,slow=31
YBH Yreka Blue Hor 38.56 82 P **P 06 30 33.3 +1.7**
YBH pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 38.56 292 P **P 06 30 31.2 -0.3**
HIA Hailar 38.56 292 P **P 06 30 31.2 -0.3**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 38.56 292 P **P 06 30 31.1 -0.3**
HIA pP **pP 06 30 43.8 -1.0**
NEW Newport 38.57 70 P **P 06 30 31.8 +0.2**
NEW IAmb IAmb 06 30 42.6
comp=Z,78nm,0.9s
NEW Newport 38.57 70 LR LR 06 43 53.1
comp=Z,432nm,21.6s,baz=291,slow=32
NEW Newport 38.57 70 P **P 06 30 31.8 +0.2**
NEW pmax pmax
comp=Z,78nm,1.0s
J05D Fort Rock, OR 38.62 79 P **P 06 30 32.2 0.0**
J05D IAmb IAmb 06 30 50.6
comp=Z,41nm,0.9s
K04D Chiloquin, OR 38.66 80 IAmb IAmb 06 30 52.9
comp=Z,65nm,0.8s
E09A Wood Farm, Sta 38.82 73 IAmb IAmb 06 30 36.3
comp=Z,70nm,1.2s
G08A Pilot Rock 38.95 75 IAmb IAmb 06 30 46.8
comp=Z,52nm,1.6s
I07A Izee 39.25 77 IAmb IAmb 06 30 53.4
comp=Z,38nm,0.9s
O02D Mt. Diablo Mer 39.40 84 P **P 06 30 40.0 +1.3**
O02D IAmb IAmb 06 30 57.4
comp=Z,26nm,0.8s
RES Resolute Bay 39.57 24 P **P 06 30 38.8 -0.7**
RES Resolute Bay 39.57 24 LR LR 06 49 47.5
comp=Z,623nm,20.6s,baz=282,slow=40
RES Resolute Bay 39.57 24 P **P 06 30 38.8 -0.7**
RES pmax pmax
comp=Z,31nm,2.0s
HATC Hat Creek Radi 39.85 82 P **P 06 30 44.1 +1.7**
HATC IAmb IAmb 06 31 03.2
comp=Z,71nm,0.8s
KSRS Korea Array 39.95 271 P **P 06 30 44.1 +1.0**
comp=Z,22nm,1.0s,baz=58,slow=8.2,SNR=40
KSRS PcP **PcP 06 32 47.8 +0.2**
comp=Z,2.4nm,0.8s,baz=72,slow=4.0,SNR=2.8
KSRS LR LR 06 46 12.7
comp=Z,184nm,21.8s,baz=70,slow=34
comp=Z,22nm,1.0s
KS19 Wonju Array Si 39.96 271 P **P 06 30 44.1 +0.9**
KS19 IAmb IAmb 06 30 45.0
comp=Z,65nm,1.2s
KSAR Wonju Array Be 39.98 271 P **P 06 30 43.9 +0.5**
KSAR Wonju Array Be 39.98 271 P **P 06 30 43.9 +0.5**
SNY Shenyang 40.08 280⇑ P **P 06 30 45.0 +0.9**
SNY S **S 06 36 49.2 +2.8**
SNY pmax pmax
comp=Z,68nm,1.2s
SNY pmax pmax
comp=Z,340nm,2.8s
SNY LR LR
comp=Z,930nm,8.0s
SNY LR LR
comp=Z,580nm,6.9s
SNY LR LR
comp=Z,770nm,20.0s
BMO Blue Mountains 40.18 75 P **P 06 30 45.5 +0.4**
BMO IAmb IAmb 06 30 57.1
comp=Z,38nm,1.1s
BMO Blue Mountains 40.18 75 P **P 06 30 45.5 +0.4**
BMO pmax pmax
comp=Z,38nm,1.2s
J08A Circle Bar Ran 40.27 77 IAmb IAmb 06 30 48.2
comp=Z,41nm,1.1s
WVOR Wild Horse Val 40.68 79 IAmb IAmb 06 31 07.5
comp=Z,44nm,0.9s
WVOR Wild Horse Val 40.68 79 P **P 06 30 50.6 +1.3**
WVOR pmax pmax
comp=Z,55nm,1.0s
INCN Inchon 40.74 272 P **P 06 30 50.8 +1.1**
INCN IAmb IAmb 06 30 51.7
comp=Z,132nm,1.4s
INCN Inchon 40.74 272 P **P 06 30 50.8 +1.1**
INCN pmax pmax
comp=Z,131nm,1.4s
JNU Nakatsue 40.89 264 P **P 06 30 52.0 +1.0**
JNU IAmb IAmb 06 30 53.3
comp=Z,133nm,1.3s
JNU Nakatsue 40.89 264 P **P 06 30 51.8 +0.8**
comp=Z,46nm,0.9s,baz=58,slow=5.4,SNR=13
comp=Z,46nm,0.9s
TJN Taejon 40.98 270 P **P 06 30 52.5 +0.9**
TJN Taejon 40.98 270 *i*P **P 06 30 52.3 +0.7**
MSO Missoula 41.16 70 P **P 06 30 53.5 +0.4**
MSO IAmb IAmb 06 31 03.4
comp=Z,67nm,1.1s
PAHR Pah Rah Range 41.79 82 P **P 06 30 59.1 +0.6**
PAHR IAmb IAmb 06 31 16.1
comp=Z,25nm,0.8s
MFID Camas Ranch 41.85 76 IAmb IAmb 06 31 09.8
comp=Z,95nm,1.9s
PNTR Pine Nut 42.03 83 P **P 06 31 01.4 +1.0**
PNTR IAmb IAmb 06 31 18.5
comp=Z,60nm,0.6s
SAO San Andreas Ge 42.30 87 P **P 06 31 03.0 +0.6**
SAO San Andreas Ge 42.30 87 P **P 06 31 03.0 +0.6**
SAO pmax pmax
comp=Z,33nm,1.3s
ALE Alert 42.53 10 P **P 06 31 04.0 +0.2**
ALE pP **pP 06 31 17.6 +0.4**
ALE sP **sP 06 31 23.3 +0.2**
ALE PcP **PcP 06 32 55.4 +0.1**
HLID Hailey 42.62 75 IAmb IAmb 06 31 17.1
comp=Z,58nm,1.3s
DLMT Dillon 42.72 71 P **P 06 31 06.1 +0.1**
EGMT Eagleton 42.97 66 IAmb IAmb 06 31 48.6
comp=Z,36nm,0.8s
DL2 Dalian 43.00 277 P **P 06 31 08.2 +0.2**
DL2 pmax pmax
comp=Z,41nm,0.8s
BOZ Bozeman (W) 43.17 70 IAmb IAmb 06 31 19.9
comp=Z,65nm,0.9s
LHV Little Huntoon 43.22 84 IAmb IAmb 06 31 29.9
comp=Z,50nm,1.3s
NVAR Mina Array Bea 43.23 83 P **P 06 31 10.9 +0.7**
comp=Z,9.4nm,0.9s,baz=290,slow=7.9,SNR=54
NVAR PcP **PcP 06 32 59.0 +0.3**
comp=Z,3.5nm,0.9s,baz=303,slow=5.0,SNR=2.1
NVAR LR LR 06 45 49.7
comp=Z,354nm,22.0s,baz=292,slow=31
comp=Z,9.4nm,0.9s
XLT XiLinHaoTe 43.48 287 *e*P **P 06 31 13.0 +0.9**
XLT pP pP 06 31 25.5 +0.1
XLT pmax pmax
comp=Z,57nm,1.2s
QLMT Earthquake Lak 43.71 71 P **P 06 31 14.6 +0.6**
ELK Elko 43.74 78 LR LR 06 46 13.8
comp=Z,552nm,21.8s,baz=300,slow=32
ELK Elko 43.74 78 P **P 06 31 15.2 +0.9**
YHL Hebgen Lake 43.84 71 IAmb IAmb 06 31 26.3
comp=Z,76nm,1.0s
FFC Flin Flon 43.86 54 P **P 06 31 14.4 -0.4**
FFC PcP **PcP 06 33 00.5 +0.3**
FFC Flin Flon 43.86 54 P **P 06 31 14.4 -0.4**
FFC pmax pmax
comp=Z,16nm,1.5s
YHB Horse Butte 43.89 71 P **P 06 31 16.0 +0.5**
YHB IAmb IAmb 06 31 26.5
comp=Z,66nm,0.9s
YMR Madison River 44.07 71 P **P 06 31 17.3 +0.3**
YMR IAmb IAmb 06 31 28.1
comp=Z,72nm,0.9s

YHH	Holmes Hill	44.07	71	P	P	06 31 17.7	+0.7
DSP	Deep Springs	44.09	84	P	P	06 31 18.4	+1.5
YNM	Yellowstone No	44.19	71	P	P	06 31 18.4	+0.5
YNM				IAmb	IAmb	06 31 35.8	
	comp=Z,63nm,0.9s						
YNR	Norris Junctio	44.21	71	IAmb	IAmb	06 31 29.8	
	comp=Z,76nm,1.0s						
MZP	Montezuma Peak	44.25	83	P	P	06 31 19.0	+0.5
YFT	Old Faithful	44.27	71	IAmb	IAmb	06 31 36.8	
	comp=Z,61nm,1.0s						
YNE	Yellowstone No	44.45	70	P	P	06 31 20.2	+0.2
YNE				IAmb	IAmb	06 31 35.3	
	comp=Z,32nm,0.8s						
H17A	Grant Village	44.45	71	IAmb	IAmb	06 31 39.3	
	comp=Z,64nm,0.9s						
LKWY	Lake	44.46	71	P	P	06 31 21.8	+1.7
LKWY				IAmb	IAmb	06 31 36.3	
	comp=Z,52nm,0.8s						
LKWY	Lake	44.46	71	P	P	06 31 21.8	+1.7
LKWY				pmax	pmax		
	comp=Z,52nm,0.9s						
YMP	Mirror Lake Pl	44.51	71	IAmb	IAmb	06 31 38.1	
	comp=Z,58nm,1.0s						
FXWY	Fox Creek	44.61	72	P	P	06 31 21.7	+0.4
HVU	Hansel Valley	44.63	76	IAmb	IAmb	06 31 23.4	
	comp=Z,32nm,0.9s						
MOOW	Moose Ponds	44.72	72	P	P	06 31 22.2	+0.1
BCW	Bitter Crk WRg	44.73	88	IAmb	IAmb	06 31 51.8	
	comp=Z,109nm,1.9s						
TPAW	Teton Pass	44.74	73	P	P	06 31 22.3	0.0
TPAW				IAmb	IAmb	06 31 23.8	
	comp=Z,64nm,1.6s						
RLMT	Red Lodge	44.82	70	P	P	06 31 23.4	+0.5
SNOW	Snow King Moun	44.88	72	P	P	06 31 24.3	+0.9
SNOW				IAmb	IAmb	06 31 42.5	
	comp=Z,38nm,1.1s						
LOHW	Long Hollow	44.88	72	IAmb	IAmb	06 31 25.5	
	comp=Z,46nm,1.6s						
BGU	Big Grassy Mou	44.98	77	P	P	06 31 24.6	+0.4
AHID	Auburn Hatcher	45.07	74	IAmb	IAmb	06 31 27.7	
	comp=Z,47nm,1.2s						
WCT	Wildcat Mounta	45.29	84	P	P	06 31 27.1	+0.5
S11A	Rachel	45.30	82	P	P	06 31 27.0	+0.3
SPR3	Spring Creek 3	45.34	80	P	P	06 31 27.3	+0.1
TPNV	Topopah Spring	45.43	83	P	P	06 31 28.3	+0.6
TPNV				IAmb	IAmb	06 31 29.5	
	comp=Z,30nm,0.8s						
TPNV	Topopah Spring	45.43	83	P	P	06 31 28.3	+0.6
TPNV				pmax	pmax		
	comp=Z,30nm,0.9s						
HWUT	Hardware Ranch	45.47	75	P	P	06 31 28.6	+0.6
DUG	Dugway, Tooele	45.55	77	IAmb	IAmb	06 31 30.7	
	comp=Z,103nm,1.2s						
DUG	Dugway, Tooele	45.55	77	P	P	06 31 29.7	+1.1
DUG				pmax	pmax		
	comp=Z,67nm,1.1s						
GWY	Greenwater Val	45.65	85	IAmb	IAmb	06 31 43.7	
	comp=Z,23nm,1.0s						
BJI	Beijing	45.67	282	P	P	06 31 29.9	+0.5
BJI				pP	pP	06 31 42.8	0.0
BJI				PcP	PcP	06 33 07.1	+0.4
BJI				PP	PP	06 33 17.4	+0.6
BJI				ScP	ScP	06 36 56.2	+1.2
BJI				S	S	06 38 08.2	-0.3
BJI				pmax	pmax		
	comp=Z,12nm,1.1s						
BJI				pmax	pmax		
	comp=Z,140nm,5.7s						
BJI				LR	LR		
	comp=Z,430nm,18.8s						
BJI				LR	LR		
	comp=Z,280nm,19.0s						
BJI				LR	LR		
	comp=Z,440nm,24.0s						
BJT	Baijiatuau	45.69	282	IAmb	IAmb	06 31 31.5	
	comp=Z,36nm,1.2s						
BJT	Baijiatuau	45.69	282	P	P	06 31 29.5	-0.1
FCC	Fort Churchill	45.70	46	P	P	06 31 28.9	-0.5
FCC	Fort Churchill	45.70	46	P	P	06 31 28.9	-0.5
FCC				pmax	pmax		
	comp=Z,12nm,0.8s						
LAO	LASA Array	45.72	66	IAmb	IAmb	06 31 40.4	
	comp=Z,95nm,1.2s						
TCUT	Toone Canyon	45.85	76	IAmb	IAmb	06 31 33.1	
	comp=Z,32nm,0.9s						
DGMT	Dagmar	45.88	63	P	P	06 31 30.3	-0.7
DGMT				IAmb	IAmb	06 32 06.8	
	comp=Z,42nm,1.1s						
PRN	Pahroc Range	45.88	82	IAmb	IAmb	06 31 47.7	
	comp=Z,46nm,0.8s						
PSUT	Pine Spring	45.92	80	P	P	06 31 32.3	+0.6
PSUT				IAmb	IAmb	06 31 56.7	
	comp=Z,30nm,0.8s						
PDAR	Pinedale Array	45.99	73	P	P	06 31 32.2	-0.1
PDAR	Pinedale Array	45.99	73	P	P	06 31 32.5	+0.3
	comp=Z,31nm,0.8s,baz=317,slow=3.2,SNR=174						
PDAR				LR	LR	06 47 57.5	
	comp=Z,299nm,20.0s,baz=299,slow=32						
	comp=Z,31nm,0.8s						
GSC	Goldstone, Bar	46.13	86	P	P	06 31 33.7	+0.5
GSC				IAmb	IAmb	06 31 48.1	
	comp=Z,30nm,0.8s						
GSC	Goldstone, Bar	46.13	86	P	P	06 31 33.7	+0.5
GSC				pmax	pmax		
	comp=Z,30nm,0.9s						
MPU	Maple Canyon	46.38	77	P	P	06 31 35.7	+0.5
MPU				IAmb	IAmb	06 31 37.0	
	comp=Z,18nm,0.8s						
ULN	Ulaanbaatar	46.52	297	P	P	06 31 37.6	+1.4
ULN	Ulaanbaatar	46.52	297	⇓*i* P	P	06 31 37.6	+1.4
ULN				pmax	pmax		
	comp=Z,16nm,1.0s						
ULN	Ulaanbaatar	46.52	297	P	P	06 31 37.1	+0.9
ULN				pP	pP	06 31 50.3	+0.5
BSUT	Blindstream Ca	46.59	76	P	P	06 31 37.3	+0.2
BSUT				IAmb	IAmb	06 31 49.4	
	comp=Z,73nm,1.4s						
TCRU	Three Creeks R	46.74	79	P	P	06 31 39.0	+0.9
TCRU				IAmb	IAmb	06 31 40.4	
	comp=Z,25nm,0.8s						
SONM	Songino Array	46.91	297	P	P	06 31 40.4	+1.2
SONM	Songino Array	46.91	297	P	P	06 31 39.4	+0.2
	comp=Z,6.8nm,0.9s,baz=54,slow=8.8,SNR=37						
SONM				PcP	PcP	06 33 11.8	+0.7
	comp=Z,12nm,1.1s,baz=70,slow=1.9,SNR=6.4						
SONM				LR	LR	06 52 19.6	
	comp=Z,1μm,20.0s,baz=70,slow=37						
	comp=Z,6.8nm,0.9s						
SONM	Songino Array	46.91	297	P	P	06 31 40.4	+1.2
SONM				pmax	pmax		
	comp=Z,21nm,1.2s						
V12A	Nelson	47.08	84	P	P	06 31 40.9	+0.3
V12A				IAmb	IAmb	06 31 51.4	
	comp=Z,38nm,1.6s						
TMUT	Trail Mountain	47.08	77	IAmb	IAmb	06 31 42.9	
	comp=Z,47nm,1.0s						
LCMT	Little Creek M	47.25	81	P	P	06 31 42.9	+0.9
LCMT				IAmb	IAmb	06 31 44.1	
	comp=Z,32nm,1.0s						
MTPU	Mount Pierson	47.26	79	IAmb	IAmb	06 31 44.6	
	comp=Z,29nm,1.0s						
NEEM	North Greenlan	47.32	14	*i* P	P	06 31 41.0	-1.1
NEEM				IAmb	IAmb	06 31 45.5	
	comp=Z,21nm,1.1s						
Q16A	Castle Valley	47.34	78	IAmb	IAmb	06 31 44.8	
	comp=Z,87nm,1.4s						
PFO	Pinyon Flats O	47.45	87	P	P	06 31 43.9	+0.4
PFO				IAmb	IAmb	06 31 53.8	
	comp=Z,40nm,1.8s						
PFO	Pinyon Flats O	47.45	87	LR	LR	06 47 15.7	
	comp=Z,368nm,21.8s,baz=288,slow=30						
PFO	Pinyon Flats O	47.45	87	*i* P	P	06 31 43.5	-0.1
PFO				pmax	pmax		
	comp=Z,14nm,1.3s						
PFO	Pinyon Flats O	47.45	87	P	P	06 31 43.9	+0.4
PFO				pP	pP	06 31 57.3	+0.4
PFO				sP	sP	06 32 03.7	+1.1
PFO				PcP	PcP	06 33 14.0	+0.7
P18A	Preston Nutter	47.46	76	P	P	06 31 44.7	+0.9
P18A				IAmb	IAmb	06 31 45.9	
	comp=Z,56nm,1.0s						
TIA	Tai'an	47.47	278	P	P	06 31 43.9	+0.3
TIA				S	S	06 38 26.6	-7.7
TIA				pmax	pmax		
	comp=Z,51nm,1.1s						
TIA				pmax	pmax		
	comp=Z,350nm,5.3s						
TIA				LR	LR		
	comp=Z,250nm,13.7s						
TIA				LR	LR		
	comp=Z,550nm,20.6s						
TIA				LR	LR		
	comp=Z,580nm,23.5s						
KNB	Kanab	47.51	81	IAmb	IAmb	06 32 07.5	
	comp=Z,29nm,1.0s						
PKCU	Pink Cliffs	47.56	80	P	P	06 31 44.6	0.0
PKCU				IAmb	IAmb	06 32 09.8	
	comp=Z,23nm,0.8s						
SRU	San Rafael Swe	47.61	77	IAmb	IAmb	06 31 47.5	
	comp=Z,61nm,1.0s						
MOY	Mondy	47.70	304	*e* P	P	06 31 45.8	+0.5
MOY				pmax	pmax		
	comp=Z,12nm,1.2s						
K22A	Casper	47.87	71	IAmb	IAmb	06 31 56.7	
	comp=Z,36nm,0.8s						
HHC	Hu-ho-hao-te	47.98	286	⇑*i* P	P	06 31 48.9	+1.3
HHC				pP	pP	06 32 02.8	+1.7
HHC				sP	sP	06 32 07.3	+0.4
HHC				pmax	pmax		
	comp=Z,60nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,4.5s						
HHC				LR	LR		
	comp=Z,590nm,18.6s						
HHC				LR	LR		
	comp=Z,640nm,18.1s						
HHC				LR	LR		
	comp=Z,910nm,19.4s						
GUMO	Guam	47.98	232	LR	LR	06 47 41.9	
	comp=Z,102nm,21.8s,baz=43,slow=30						
W13A	Hualapai Mount	48.08	84	P	P	06 31 48.7	+0.1
CBX	Cerro Bola	48.19	89	IAmb	IAmb	06 32 06.2	
	comp=Z,30nm,1.0s						
HNS	HongShan	48.21	281	⇓P	P	06 31 50.4	+1.2
HNS				pmax	pmax		
	comp=Z,61nm,1.2s						
HNS				LR	LR		
	comp=Z,320nm,18.8s						
HNS				LR	LR		
	comp=Z,410nm,19.1s						
HNS				LR	LR		
	comp=Z,500nm,18.8s						
U15A	North Rim	48.21	81	P	P	06 31 50.3	+0.6
U15A				IAmb	IAmb	06 31 51.7	
	comp=Z,50nm,1.1s						
KULLO	Kullorsuaq	48.33	18	*i* P	P	06 31 48.8	-0.9
KULLO				IAmb	IAmb	06 31 52.0	
	comp=Z,6.6nm,0.8s						
O20A	White River Ci	48.37	75	P	P	06 31 51.0	+0.4
BLYC	Blythe	48.57	85	P	P	06 31 52.5	+0.5
BLYC				IAmb	IAmb	06 32 06.7	
	comp=Z,19nm,0.8s						
MDND	Maddock	48.78	61	P	P	06 31 53.8	+0.3
GLA	Glamis	48.84	86	IAmb	IAmb	06 32 11.4	
	comp=Z,22nm,0.8s						
ESJX	Sierra Juarez	48.84	88	P	P	06 31 54.6	+0.2
E28A	Huff	48.91	63	IAmb	IAmb	06 32 21.4	
	comp=Z,27nm,0.9s						
PV23	Carpenter Ridg	48.95	77	P	P	06 31 55.5	+0.3
PV10	Paradox Valley	48.98	77	P	P	06 31 56.1	+0.6
BTO	Baotou	49.06	287	*e* P	P	06 31 57.6	+1.8
BTO				pP	pP	06 32 10.0	+0.6
BTO				sP	sP	06 32 15.2	0.0
BTO				PP	PP	06 33 51.2	+1.7
BTO				S	S	06 38 56.2	-0.6
BTO				sS	sS	06 39 14.8	-4.9
BTO				SS	SS	06 42 22.1	-5.7
BTO				pmax	pmax		
	comp=Z,310nm,1.0s						
BTO				pmax	pmax		
	comp=Z,1μm,4.4s						
BTO				LR	LR		
	comp=Z,1μm,21.6s						
BTO				LR	LR		
	comp=Z,1μm,21.0s						
BTO				LR	LR		
	comp=Z,2μm,18.6s						
NJ2	Nanjing	49.13	272	⇑P	P	06 31 56.5	+0.2
NJ2				pmax	pmax		
	comp=Z,37nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,290nm,3.7s						
NJ2				LR	LR		
	comp=Z,580nm,17.1s						
NJ2				LR	LR		
	comp=Z,380nm,18.9s						
NJ2				LR	LR		
	comp=Z,500nm,17.0s						
PV07	Paradox Valley	49.18	77	P	P	06 31 57.2	+0.3
PV07				IAmb	IAmb	06 31 58.1	
	comp=Z,49nm,1.1s						
PV15	Paradox Valley	49.34	77	P	P	06 31 58.0	-0.2
PV15				IAmb	IAmb	06 31 59.4	
	comp=Z,46nm,1.0s						
VTX	Valle De La Tr	49.36	89	P	P	06 31 57.0	-1.2
WUAZ	Wupatki	49.37	81	IAmb	IAmb	06 32 15.5	
	comp=Z,28nm,0.8s						
ULM	Lac du Bonnet	49.40	57	P	P	06 31 56.5	-1.7
	comp=Z,3.4nm,0.6s,baz=306,slow=8.1,SNR=10						
ULM				LR	LR	06 52 51.1	
	comp=Z,360nm,21.2s,baz=303,slow=36						
	comp=Z,3.4nm,0.6s						
ULM	Lac du Bonnet	49.40	57	*i* P	P	06 31 57.8	-0.3
TIY	Taiyuan	49.41	282	P	P	06 32 00.2	+1.7
TIY				S	S	06 39 02.8	+1.1
TIY				pmax	pmax		
	comp=Z,56nm,0.8s						
TIY				LR	LR		
	comp=Z,760nm,21.3s						
TIY				LR	LR		
	comp=Z,360nm,13.7s						
TIY				LR	LR		
	comp=Z,560nm,15.8s						
113A	Mohawk Valley,	49.69	86	IAmb	IAmb	06 32 10.8	
	comp=Z,27nm,1.5s						
KBS	Kingsbay	49.77	357	*e* P	P	06 32 01.4	+0.8
KBS				IAmb	IAmb	06 32 03.2	
	comp=Z,30nm,1.0s						
KBS	Kingsbay	49.77	357	*i* P	P	06 32 00.6	0.0
UPNV	Upernavik	49.83	19	*i* P	P	06 32 00.0	-1.1
UPNV				IAmb	IAmb	06 32 02.8	
	comp=Z,7.9nm,0.6s						
X16A	Lo Mia Camp, P	50.05	83	P	P	06 32 04.1	+0.5
X16A				IAmb	IAmb	06 32 14.6	
	comp=Z,38nm,1.5s						
MVCO	Mesa Verde	50.05	78	P	P	06 32 03.8	+0.2
MVCO				IAmb	IAmb	06 32 34.8	
	comp=Z,30nm,0.8s						
ISCO	Idaho Springs	50.16	73	IAmb	IAmb	06 32 20.2	
	comp=Z,33nm,1.2s						
ISCO	Idaho Springs	50.16	73	P	P	06 32 05.2	+0.7
ISCO				pmax	pmax		
	comp=Z,25nm,1.4s						
SFX	San Felipe	50.19	88	P	P	06 32 03.2	-1.1
SPB5	Spitsbergen Ar	50.35	356	P	P	06 32 05.2	+0.1
SPA0	Spitsbergen Ar	50.35	356	*e* P	P	06 32 04.9	-0.3
SPA0				IAmb	IAmb	06 32 07.8	
	comp=Z,67nm,1.1s						
SPITS	Spitsbergen Ar	50.35	356	P	P	06 32 04.1	-1.0
	comp=Z,13nm,0.7s,baz=42,slow=6.7,SNR=49						
SPITS				PcP	PcP	06 33 22.9	0.0
	comp=Z,16nm,1.0s,baz=48,slow=2.1,SNR=5.0						
	comp=Z,13nm,0.7s						
SPITS	Spitsbergen Ar	50.35	356	P	P	06 32 04.8	-0.3
SPITS				pmax	pmax		
	comp=Z,65nm,1.2s						
BRIGG	Briggsdale	50.44	72	IAmb	IAmb	06 32 08.6	
	comp=Z,46nm,0.9s						
AGMN	Agassiz Nation	50.55	59	IAmb	IAmb	06 32 07.2	
	comp=Z,28nm,1.3s						
S22A	4UR Ranch, Cre	50.72	76	P	P	06 32 09.7	+1.0
S22A				IAmb	IAmb	06 32 11.0	
	comp=Z,40nm,1.1s						
X18A	Snowflake	50.90	81	P	P	06 32 10.5	+0.5
X18A				IAmb	IAmb	06 32 27.6	
	comp=Z,21nm,1.0s						
NUUG	Nuugaatsiaq	51.36	19	*i* P	P	06 32 12.4	-0.3
NUUG				IAmb	IAmb	06 32 14.6	
	comp=Z,7.1nm,0.8s						
DAG	Danmarks Havn	51.42	6	P	P	06 32 13.3	+0.2
DAG				pmax	pmax		
	comp=Z,9.0nm,2.6s						
DAG	Danmarks Havn	51.42	6	*i* P	P	06 32 11.5	-1.6
DAG				IAmb	IAmb	06 32 13.3	
	comp=Z,8.8nm,1.4s						
LYN	LuoYang	51.44	279	⇑P	P	06 32 14.6	+0.8
LYN				pmax	pmax		
	comp=Z,86nm,0.9s						
LYN				pmax	pmax		
	comp=Z,470nm,3.8s						
LYN				LR	LR		
	comp=Z,410nm,15.8s						
LYN				LR	LR		
	comp=Z,500nm,15.2s						
LYN				LR	LR		
	comp=Z,590nm,19.2s						
HOPEN	Hopen	51.47	353	*e* P	P	06 32 13.7	+0.3
HOPEN				IAmb	IAmb	06 32 15.2	
	comp=Z,47nm,1.1s						
SDCO	Great Sand Dun	51.53	75	IAmb	IAmb	06 32 16.7	
	comp=Z,25nm,0.9s						
TUC	Tucson	51.86	84	P	P	06 32 17.4	+0.3
TUC				pmax	pmax		
	comp=Z,11nm,1.2s						
TUC	Tucson	51.86	84	P	P	06 32 17.5	+0.4
TUC				pP	pP	06 32 30.2	-0.3
UMMG	Uummannaq	52.25	20	*i* P	P	06 32 19.3	0.0
UMMG				IAmb	IAmb	06 32 22.0	
	comp=Z,6.7nm,0.7s						
DUN6	Lazy B Ranch	52.75	83	IAmb	IAmb	06 32 35.5	
	comp=Z,66nm,1.3s						
ANMO	Albuquerque	52.77	79	P	P	06 32 24.4	+0.5
ANMO	Albuquerque	52.77	79	LR	LR	06 51 59.1	
	comp=Z,324nm,22.0s,baz=122,slow=33						
ANMO	Albuquerque	52.77	79	⇑*i* P	P	06 32 24.4	+0.5
ANMO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ANMO	Albuquerque	52.77	79	P	P	06 32 24.2	+0.2
FRB	Frobisher Bay	52.82	32	LR	LR	06 58 07.4	
	comp=Z,789nm,18.6s,baz=306,slow=40						
FRB	Frobisher Bay	52.82	32	P	P	06 32 22.4	-1.2
FRB				pmax	pmax		
	comp=Z,18nm,1.2s						
ECSD	EROS Data Cent	52.93	64	P	P	06 32 24.2	-0.6
ECSD				IAmb	IAmb	06 32 24.7	
	comp=Z,21nm,1.1s						
WHN	Wuhan	52.97	274	⇑P	P	06 32 25.0	-0.2
WHN				pmax	pmax		
	comp=Z,170nm,0.9s						
WHN				LR	LR		
	comp=Z,2μm,15.0s						
EYMN	Ely	53.08	57	IAmb	IAmb	06 32 27.0	
	comp=Z,22nm,1.1s						
SUMG	Summit	53.18	14	P	P	06 32 26.3	-0.3
SUMG				IAmb	IAmb	06 32 42.9	
	comp=Z,21nm,1.0s						
SUMG	Summit	53.18	14	P	P	06 32 26.3	-0.3
SUMG				pmax	pmax		
	comp=Z,21nm,1.0s						
SUMG	Summit	53.18	14	*i* P	P	06 32 25.4	-1.2
SUMG				IAmb	IAmb	06 32 29.3	
	comp=Z,7.3nm,0.8s						
319A	Douglas	53.43	84	IAmb	IAmb	06 32 51.2	
	comp=Z,22nm,1.0s						
DBG	Daneborg	53.69	7	*i* P	P	06 32 28.2	-1.6
DBG				IAmb	IAmb	06 32 30.1	
	comp=Z,3.9nm,0.6s						
BJO1	Bjornoya	53.83	354	*e* P	P	06 32 31.5	+0.7
E38A	The Farm, Brul	53.89	58	IAmb	IAmb	06 32 41.6	
	comp=Z,26nm,0.8s						
XAN	Xi'an	53.96	281	⇑P	P	06 32 32.6	+0.1
XAN				pP	pP	06 32 46.0	-0.3
XAN				sP	sP	06 32 49.5	-2.6
XAN				pmax	pmax		
	comp=Z,59nm,1.3s						
XAN				LR	LR		
	comp=Z,490nm,15.8s						
XAN				LR	LR		
	comp=Z,400nm,21.3s						
XAN				LR	LR		
	comp=Z,650nm,20.6s						
XAN	Xi'an	53.96	281	P	P	06 32 32.3	-0.2
XAN				pP	pP	06 32 46.0	-0.2
HSIG		54.02	87	P	P	06 32 32.2	-0.7
RTBA	Rita Blanca	54.05	75	P	P	06 32 33.5	+0.2
RTBA				IAmb	IAmb	06 32 43.7	
	comp=Z,39nm,0.9s						
SPMN	Marine on St.	54.10	60	IAmb	IAmb	06 32 33.8	
	comp=Z,30nm,1.3s						
L34A	Svendsen Farm,	54.19	66	P	P	06 32 33.5	-0.6
ZAA0	Zalesovo Array	54.23	314	P	P	06 32 33.9	-0.2
ZAA0				PcP	PcP	06 33 38.1	+0.3
ZAA0				IAmb	IAmb	06 33 39.4	
	comp=Z,52nm,1.9s						
ZALV	Zalesovo Beam	54.23	314	P	P	06 32 33.8	-0.3
	comp=Z,0.5nm,0.3s,baz=42,slow=8.6,SNR=4.5						
ZALV				PcP	PcP	06 33 38.0	+0.2
	comp=Z,4.1nm,0.4s,baz=53,slow=5.0,SNR=9.1						
ZALV				LR	LR	06 57 01.3	
	comp=Z,401nm,19.9s,baz=64,slow=37						
ZALV	Zalesovo Beam	54.23	314	*i* P	P	06 32 35.2	+1.1
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CBKS	Cedar Bluff	54.28	71	P	P	06 32 35.2	+0.5
CBKS	Cedar Bluff	54.28	71	P	P	06 32 35.3	+0.5
CBKS				pmax	pmax		
	comp=Z,107nm,0.9s						
I37A	Lemond, Waseca	54.54	62	IAmb	IAmb	06 32 37.3	
	comp=Z,44nm,1.0s						
EPT	El Paso	54.88	82	IAmb	IAmb	06 32 41.2	
	comp=Z,49nm,0.9s						
G40A	Rib Lake	55.47	59	P	P	06 32 43.2	-0.1
G40A				PcP	PcP	06 33 43.4	+0.6
G40A				IAmb	IAmb	06 33 44.2	
	comp=Z,21nm,0.9s						
SFJD	Kangerlussuaq	55.49	22	LR	LR	07 00 00.2	
	comp=Z,272nm,19.4s,baz=315,slow=40						
SFJD	Kangerlussuaq	55.49	22	*i* P	P	06 32 42.6	-0.4
SFJD				IAmb	IAmb	06 32 44.3	
	comp=Z,9.3nm,0.9s						
CNSH	ChangSha	55.50	273	P	P	06 32 43.2	-0.4
CNSH				pmax	pmax		
	comp=Z,23nm,1.3s						
COWI	Conover	55.50	58	IAmb	IAmb	06 32 53.0	
	comp=Z,21nm,1.1s						
LZH	Lanzhou	55.67	286	*e* P	P	06 32 46.4	+1.4
LZH				pP	pP	06 32 59.9	+1.1
LZH				pmax	pmax		
	comp=Z,150nm,1.3s						
LZH				pmax	pmax		
	comp=Z,450nm,4.0s						
LZH				LR	LR		
	comp=Z,770nm,17.0s						
LZH				LR	LR		
	comp=Z,640nm,17.2s						
LZH				LR	LR		
	comp=Z,1μm,19.2s						
MSTX	Muleshoe	55.69	77	P	P	06 32 45.1	0.0
MSTX				IAmb	IAmb	06 32 56.1	
	comp=Z,39nm,0.8s						
AMTX	Amarillo	55.73	75	IAmb	IAmb	06 32 55.8	
	comp=Z,26nm,0.8s						
GTA	Gaotai	55.84	292	P	P	06 32 46.4	+0.3
GTA				pP	pP	06 33 00.4	+0.3
GTA				sS	sS	06 40 50.7	-1.4
GTA				pmax	pmax		
	comp=Z,87nm,1.0s						
GTA				pmax	pmax		
	comp=Z,310nm,4.0s						
GTA				LR	LR		
	comp=Z,520nm,18.2s						
GTA				LR	LR		
	comp=Z,450nm,18.9s						
GTA				LR	LR		
	comp=Z,860nm,19.3s						
SCIA	State Center	56.02	64	IAmb	IAmb	06 32 48.0	
	comp=Z,44nm,1.1s						
I40A	Norwalk	56.15	60	P	P	06 32 47.7	-0.4
I40A				IAmb	IAmb	06 32 58.2	
	comp=Z,19nm,0.9s						
CLNB	Carlsbad	56.17	79	P	P	06 32 47.9	-0.6
NOKA	Waynoka	56.20	72	P	P	06 32 48.5	-0.1
NOKA				IAmb	IAmb	06 32 58.8	
	comp=Z,55nm,1.1s						
F42A	Maple Grove Fa	56.25	57	IAmb	IAmb	06 32 59.4	
	comp=Z,26nm,0.7s						
ELIS	Ellis County	56.30	73	IAmb	IAmb	06 32 59.8	

comp=Z,42nm,1.1s
OK038 West end E0370 56.42 72 IAmb IAmb 06 33 00.4
comp=Z,45nm,1.1s
SMWD Samnorwood 56.45 74 P **P 06 32 50.9 +0.5**
SMWD IAmb IAmb 06 33 01.1
comp=Z,43nm,0.8s
VHRN Van Horn 56.51 81 IAmb IAmb 06 33 01.7
comp=Z,28nm,0.9s
KAN05 Bluff City Nor 56.52 71 P **P 06 32 50.1 -0.7**
KAN05 IAmb IAmb 06 32 52.3
comp=Z,33nm,0.9s
OK032 Salt Plains WL 56.52 71 IAmb IAmb 06 33 00.8
comp=Z,36nm,1.0s
KAN01 Argonia South 56.55 71 IAmb IAmb 06 33 01.4
comp=Z,57nm,1.0s
KAN14 Manchester OK 56.56 71 IAmb IAmb 06 33 00.8
comp=Z,33nm,1.2s
KAN17 Caldwell West 56.62 71 P **P 06 32 51.2 -0.3**
N38A Joes South For 56.74 65 IAmb IAmb 06 32 52.8
comp=Z,44nm,0.8s
PECS Pecos 56.79 80 IAmb IAmb 06 33 03.3
comp=Z,19nm,1.1s
CROK Carrier 56.86 72 P **P 06 32 52.7 -0.5**
CROK IAmb IAmb 06 33 03.2
comp=Z,56nm,1.1s
JFWS Jewell Farm 57.00 61 P **P 06 32 53.5 -0.6**
JFWS IAmb IAmb 06 33 03.7
comp=Z,30nm,0.9s
JFWS Jewell Farm 57.00 61 P **P 06 32 53.5 -0.6**
JFWS pmax pmax
comp=Z,30nm,0.9s
DKNS Dickens 57.02 76 IAmb IAmb 06 32 57.1
comp=Z,33nm,0.9s
L40A Anamosa 57.03 62 P **P 06 32 53.9 -0.4**
L40A IAmb IAmb 06 33 20.4
comp=Z,29nm,1.0s
POST Post 57.08 77 IAmb IAmb 06 33 05.1
comp=Z,37nm,0.9s
ODSA Odessa 57.09 78 IAmb IAmb 06 33 04.9
comp=Z,24nm,0.8s
VADS Vadso 57.12 349 *e*P **P 06 32 54.2 -0.3**
SN07 Snyder 07 57.43 76 IAmb IAmb 06 33 07.5
comp=Z,19nm,0.8s
T35A Sooner Cattle 57.45 70 IAmb IAmb 06 33 07.1
comp=Z,45nm,0.9s
MNHN Monahans 57.49 79 P **P 06 32 57.7 -0.1**
MNHN IAmb IAmb 06 33 07.8
comp=Z,44nm,0.8s
OK051 E0350 and S346 57.54 71 IAmb IAmb 06 33 07.9
comp=Z,53nm,1.0s
WMOK Wichita Mounta 57.58 74 IAmb IAmb 06 33 09.0
comp=Z,25nm,0.8s
WMOK Wichita Mounta 57.58 74 P **P 06 32 58.2 -0.2**
SN05 Snyder 5 57.58 77 IAmb IAmb 06 33 08.4
comp=Z,20nm,0.8s
ALPN Alpine 57.62 81 IAmb IAmb 06 33 08.8
comp=Z,18nm,0.8s
OK029 Liberty Lake 57.65 72 P **P 06 32 58.6 -0.3**
OK029 IAmb IAmb 06 33 00.9
comp=Z,44nm,0.9s
JMIC Jan Mayen 57.68 4 LR LR 06 57 09.5
comp=Z,154nm,21.2s,baz=354,slow=35
APMT Aspermont 57.74 76 P **P 06 32 59.4 -0.1**
APMT IAmb IAmb 06 33 01.9
comp=Z,39nm,1.0s
QUOK Quay 57.84 71 IAmb IAmb 06 33 10.1
comp=Z,41nm,0.9s
OK052 Battle Ridge R 57.90 71 P **P 06 33 00.2 -0.4**
LPIG La Paz 57.92 91 LR LR 06 55 07.3
comp=Z,48nm,18.1s,baz=316,slow=33
L42A Oliver, Polo 57.93 62 IAmb IAmb 06 33 01.2
comp=Z,49nm,1.2s
ARA0 ARCESS Array S 58.10 350 *e*P **P 06 33 01.0 -0.5**
ARA0 IAmb IAmb 06 33 05.7
comp=Z,70nm,1.4s
ARCES ARCESS Array B 58.10 350 P **P 06 33 00.3 -1.1**
comp=Z,3.1nm,0.4s,baz=23,slow=6.9,SNR=6.5
ARCES LR LR 07 00 35.3
comp=Z,156nm,19.4s,baz=16,slow=39
comp=Z,3.1nm,0.4s
N41A Harden Midland 58.14 63 P **P 06 33 01.2 -0.9**
N41A IAmb IAmb 06 33 02.7
comp=Z,61nm,1.3s
X34A Smith Ranch, M 58.24 73 IAmb IAmb 06 33 14.1
comp=Z,50nm,1.1s
TX31 Lajitas Ar. Si 58.33 82 P **P 06 33 03.7 -0.1**
TX31 IAmb IAmb 06 33 14.1
comp=Z,20nm,0.9s
TXAR Lajitas Array 58.33 82 P **P 06 33 03.7 -0.1**
comp=Z,14nm,1.0s,baz=302,slow=4.9,SNR=58
TXAR LR LR 06 58 33.4
comp=Z,93nm,18.1s,baz=318,slow=36
comp=Z,14nm,1.0s
W35A Tecumseh 58.44 72 P **P 06 33 04.5 +0.2**
JETT Jettan, Norway 58.56 352 *e*P **P 06 33 04.0 -0.7**
JETT IAmb IAmb 06 33 06.2
comp=Z,21nm,0.6s
TRO Tromso 58.60 353 *e*P **P 06 33 04.5 -0.4**
HPIG 58.79 85 IAmb IAmb 06 33 24.0
comp=Z,15nm,0.9s
OZNA Ozona 58.79 78 P **P 06 33 06.6 -0.3**
OZNA IAmb IAmb 06 33 16.8
comp=Z,31nm,0.8s
KTK1 Kautokeino 58.84 351 *e*P **P 06 33 05.8 -0.8**
KTK1 IAmb IAmb 06 33 06.6
comp=Z,18nm,0.9s
SAND Sanderson 58.85 80 P **P 06 33 06.8 -0.6**
U38A Gravette 59.02 69 IAmb IAmb 06 33 17.8
comp=Z,35nm,0.9s
FW03 Perrin-Whitt E 59.18 75 IAmb IAmb 06 33 11.4
comp=Z,30nm,0.8s
KURK Kurchatov 59.22 314 P **P 06 33 08.8 -0.6**
KURK Kurchatov 59.22 314 *ce*P **P 06 33 08.3 -1.2**
KURK pmax pmax
comp=Z,15nm,1.3s
CD2 Chengdu 59.27 282 P **P 06 33 10.4 +0.1**
CD2 pP pP 06 33 24.4 +0.2
CD2 S **S 06 41 13.6 -1.0**
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 pmax pmax
comp=Z,180nm,5.6s
CD2 LR LR
comp=Z,930nm,14.6s
CD2 LR LR
comp=Z,620nm,9.4s
KURBB Kurchatov Arra 59.33 314 P **P 06 33 08.8 -1.5**
comp=Z,3.9nm,0.5s,baz=41,slow=6.8,SNR=30
KURBB PcP **PcP 06 33 57.8 0.0**
comp=Z,2.1nm,0.5s,baz=44,slow=3.8,SNR=7.5
KURBB LR LR 07 00 41.6
comp=Z,744nm,18.8s,baz=114,slow=38
comp=Z,3.9nm,0.5s
HHAR Hobbs 59.39 69 P **P 06 33 10.1 -0.9**
HHAR IAmb IAmb 06 33 11.1
comp=Z,25nm,0.8s
Z35A Perchaven, San 59.47 74 IAmb IAmb 06 33 13.5
comp=Z,40nm,1.0s
FW06 Azle 59.53 74 IAmb IAmb 06 33 30.1
comp=Z,29nm,0.8s
FW07 Weatherford 59.58 75 IAmb IAmb 06 33 14.4
comp=Z,39nm,0.9s
WMQ Urumqi 59.58 303 *e*P **P 06 33 16.3 +4.1**
WMQ LR LR
comp=Z,720nm,15.1s
WMQ LR LR
comp=Z,720nm,22.1s
WMQ LR LR
comp=Z,660nm,20.9s
CCM Cathedral Cave 59.73 66 P **P 06 33 12.1 -1.1**
CCM Cathedral Cave 59.73 66 P **P 06 33 12.1 -1.1**
CCM pmax pmax
comp=Z,96nm,1.6s
CCM Cathedral Cave 59.73 66 P **P 06 33 11.8 -1.4**
MGMO Mountain Grove 59.76 67 P **P 06 33 12.1 -1.4**
SCHQ Schefferville 59.77 39 P **P 06 33 11.4 -1.8**
comp=Z,8.0nm,1.2s,baz=316,slow=7.5,SNR=4.2
SCHQ LR LR 07 00 58.9
comp=Z,551nm,18.3s,baz=322,slow=38
comp=Z,8.0nm,1.2s
BRDY Brady 59.84 77 IAmb IAmb 06 33 33.7
comp=Z,18nm,1.0s
JCT Junction City 59.91 78 IAmb IAmb 06 33 34.0
comp=Z,34nm,1.1s
FW13 Cleburne 60.04 75 IAmb IAmb 06 33 33.8
comp=Z,35nm,0.9s
DRIO Del Rio 60.15 79 IAmb IAmb 06 33 25.5
comp=Z,21nm,1.0s
FVM French Village 60.25 65 P **P 06 33 15.8 -1.0**
FVM French Village 60.25 65 P **P 06 33 15.8 -1.0**
FVM pmax pmax
comp=Z,141nm,1.7s
MK31 Makanchi Array 60.25 309 P **P 06 33 15.4 -1.3**
MK31 Makanchi Array 60.25 309 *ce*P **P 06 33 15.7 -1.0**
MKAR Makanchi Array 60.25 309 P **P 06 33 15.1 -1.6**
MKAR Makanchi Array 60.25 309 P **P 06 33 14.9 -1.8**
comp=Z,2.3nm,0.3s,baz=41,slow=6.2,SNR=33
MKAR PcP **PcP 06 34 00.5 -1.1**
comp=Z,2.2nm,0.5s,baz=46,slow=4.6,SNR=4.9
MKAR LR LR 06 59 47.0
comp=Z,725nm,21.9s,baz=47,slow=36
comp=Z,2.3nm,0.3s
MKAR Makanchi Array 60.25 309 *i* P **P 06 33 16.1 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
WHTX Lake Whitney, 60.28 75 P **P 06 33 17.3 +0.2**
WHTX IAmb IAmb 06 33 27.7
comp=Z,32nm,0.7s
MAKZ Makanchi 60.40 309 P **P 06 33 17.5 -0.2**
MAKZ Makanchi 60.40 309 P **P 06 33 17.5 -0.2**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
SFIN Lafayette 60.45 61 P **P 06 33 18.3 +0.2**
T42A Van Buren 60.53 67 P **P 06 33 17.3 -1.4**
T42A IAmb IAmb 06 33 18.2
comp=Z,24nm,1.0s
T42A PcP **PcP 06 34 03.0 +0.2**
STEI Steigen 60.54 354 *e*P **P 06 33 18.0 -0.3**
TREL Terrell 60.58 73 P **P 06 33 19.1 0.0**
GYA Guiyang 60.63 276 P **P 06 33 19.5 -0.2**
GYA S **S 06 41 31.0 -1.3**
GYA pmax pmax
comp=Z,31nm,1.2s
GYA LR LR
comp=Z,400nm,22.0s
FCAR Ozark Folk Cen 60.72 68 P **P 06 33 19.1 -1.0**
MIAR Mount Ida 60.81 70 P **P 06 33 20.3 -0.4**
GOMU GeErMu 60.93 292 P **P 06 33 22.0 +0.1**
GOMU S **S 06 41 39.4 +3.0**
GOMU pmax pmax
comp=Z,35nm,0.7s
GOMU LR LR
comp=Z,1μm,16.0s
GOMU LR LR
comp=Z,440nm,16.2s
GOMU LR LR
comp=Z,1μm,15.9s
TGY Tagaytay City 60.96 256 P **P 06 33 22.4 +0.5**
comp=Z,135nm,0.3s,baz=0.0,slow=1.0,SNR=7.4
TGY LR LR 06 55 06.8
comp=Z,129nm,19.9s,baz=272,slow=31
AAM Ann Arbor 60.97 58 IAmb IAmb 06 33 32.0
comp=Z,36nm,0.9s
435B Jarrell 61.05 76 IAmb IAmb 06 33 25.8
comp=Z,45nm,1.1s
BVAR Borovoye Array 61.06 320 P **P 06 33 20.9 -1.2**
comp=Z,7.7nm,0.4s,baz=52,slow=7.0,SNR=53
BVAR PcP **PcP 06 34 04.8 +0.1**
comp=Z,8.5nm,0.7s,baz=53,slow=5.7,SNR=9.4
BVAR LR LR 07 02 15.0
comp=Z,882nm,19.0s,baz=45,slow=38
comp=Z,7.7nm,0.4s
BRVK Borovoye 61.08 320 P **P 06 33 21.5 -0.7**
BRVK Borovoye 61.08 320 *ce*P **P 06 33 21.7 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 61.08 320 P **P 06 33 22.0 -0.1**
BRVK PcP **PcP 06 34 05.0 +0.2**
FAUS Fauske 61.08 354 *e*P **P 06 33 22.6 +0.6**
SIUC Southern Illin 61.12 65 P **P 06 33 21.9 -0.8**
SIUC IAmb IAmb 06 33 23.1
comp=Z,38nm,0.8s
LCAR Lake Charles 61.16 67 P **P 06 33 21.7 -1.3**
LCAR IAmb IAmb 06 33 22.9
comp=Z,31nm,1.0s
CGM3 Cape Girardeau 61.16 66 IAmb IAmb 06 33 23.3
comp=Z,58nm,1.7s
K50A Casco 61.18 57 IAmb IAmb 06 33 33.9
comp=Z,28nm,0.7s
237A Washetta, Mont 61.26 74 IAmb IAmb 06 33 25.6
comp=Z,34nm,0.8s
X40A Basin Creek Fa 61.29 70 IAmb IAmb 06 33 34.1
comp=Z,44nm,1.1s
UALR University of 61.37 69 P **P 06 33 24.2 -0.3**
UALR IAmb IAmb 06 33 34.5
comp=Z,48nm,1.2s
PARMO Parma 61.55 66 P **P 06 33 25.4 -0.2**
SADO Sadowa 61.56 53 LR LR 07 00 45.1
comp=Z,234nm,20.1s,baz=275,slow=37
WLAR White Oak Lake 61.69 71 P **P 06 33 27.0 +0.4**
SVE Sverdlovsk 61.73 328 *e*P **P 06 33 27.1 +0.6**
SVE pmax pmax
comp=Z,15nm,0.9s
PVMO Portageville 61.76 66 P **P 06 33 26.6 -0.4**
HBAR Harrisburg 61.81 68 P **P 06 33 27.0 -0.3**
USIN University of 61.82 64 P **P 06 33 27.4 0.0**
M50A Fremont 61.93 58 IAmb IAmb 06 33 39.0
comp=Z,30nm,0.9s
KONS Konsvik 62.09 355 *e*P **P 06 33 29.2 +0.5**
GLAT Glass 62.09 66 P **P 06 33 29.6 +0.3**
LNXT Lenox 62.10 66 P **P 06 33 29.8 +0.5**
NATX Nacogdoches 62.12 73 IAmb IAmb 06 33 31.1
comp=Z,32nm,1.0s
Z41A Richland Creek 62.17 71 P **P 06 33 30.0 +0.2**
Z41A IAmb IAmb 06 33 40.4
comp=Z,55nm,1.3s
STOK Stokkvaagen 62.26 355 *e*P **P 06 33 29.9 0.0**
CCAR Cane Creek 62.31 70 P **P 06 33 31.0 +0.2**
MOR8 Moi Rana 62.33 354 *e*P **P 06 33 29.7 -0.8**
P49A Miami Univ. Ec 62.35 61 P **P 06 33 30.7 -0.2**
WCI Wyandotte Cave 62.40 63 P **P 06 33 31.2 -0.1**
WCI Wyandotte Cave 62.40 63 P **P 06 33 31.2 -0.1**
WCI pmax pmax
comp=Z,80nm,1.0s
WCI Wyandotte Cave 62.40 63 P **P 06 33 31.1 -0.2**
LEIR Leirfjorden 62.47 355 *e*P **P 06 33 30.9 -0.4**
LEIR IAmb IAmb 06 33 31.5
comp=Z,26nm,1.4s
MET Memphis--Engin 62.53 67 P **P 06 33 32.2 0.0**
N51A Ashland 62.63 58 P **P 06 33 33.1 +0.3**
HKT Hockley 62.70 76 P **P 06 33 33.5 +0.2**
HKT IAmb IAmb 06 33 53.7
comp=Z,67nm,1.5s
HKT Hockley 62.70 76 *i* P **P 06 33 34.2 +0.9**
HKT pmax pmax
comp=Z,34nm,1.2s
M52A Chesterland 62.72 57 P **P 06 33 33.5 +0.1**
M52A IAmb IAmb 06 33 44.3
comp=Z,38nm,0.9s
ACSO Alum Creek Sta 62.79 59 P **P 06 33 34.2 +0.3**
ACSO IAmb IAmb 06 33 44.6
comp=Z,26nm,0.8s
BORG Borgarnes 62.80 11 LR LR 07 01 15.2
comp=Z,186nm,21.1s,baz=332,slow=36
ARTI Arti 62.83 329 P **P 06 33 33.5 -0.4**
ARTI IAmb IAmb 06 33 36.0
comp=Z,12nm,0.9s
ARTI Arti 62.83 329 *d i* P **P 06 33 33.2 -0.7**
ARTI *PP **pP 06 33 45.8 -2.1**
ARTI 06 34 11.6
ARTI S **S 06 41 56.1 -2.9**
ARTI pmax pmax
comp=Z,18nm,1.2s
ARTI MLR MLR
comp=Z,402nm,18.0s
ARTI Arti 62.83 329 P **P 06 33 33.4 -0.4**
ERPA Erie 63.02 56 IAmb IAmb 06 34 13.9
comp=Z,35nm,0.9s
WVT Waverly 63.02 65 P **P 06 33 35.2 -0.3**
WVT IAmb IAmb 06 33 36.6
comp=Z,44nm,1.0s
WVT Waverly 63.02 65 P **P 06 33 35.2 -0.3**
WVT pmax pmax
comp=Z,44nm,1.0s
WVT Waverly 63.02 65 P **P 06 33 35.1 -0.3**
WVT PcP **PcP 06 34 12.6 -0.4**
P51A Williamsport 63.28 60 IAmb IAmb 06 33 47.1
comp=Z,29nm,0.9s
143A Socs Landing, 63.39 70 P **P 06 33 38.2 +0.2**
HNR Honiara 63.46 204 LR LR 06 57 45.6
comp=Z,176nm,19.8s,baz=350,slow=33
O52A Adamsville 63.49 58 P **P 06 33 38.9 +0.3**
N53A Lisbon 63.52 57 P **P 06 33 39.4 +0.7**
N53A IAmb IAmb 06 34 16.3
comp=Z,46nm,1.2s
JOF Joensuu 63.63 345 *e*P **P 06 33 38.6 -0.5**
PZH PanZhiHua 63.65 280 P **P 06 33 40.5 +0.6**
PZH S **S 06 42 13.7 +3.4**
PZH pmax pmax
comp=Z,60nm,1.2s
PZH pmax pmax
comp=Z,290nm,3.5s
PZH LR LR
comp=Z,230nm,18.0s
PZH LR LR
comp=Z,200nm,17.2s
PZH LR LR
comp=Z,330nm,22.6s
KIRV Kirov 63.67 334 LR LR 07 03 40.5
comp=Z,985nm,21.2s,baz=26,slow=38
KIRV Kirov 63.67 334 *ce*P **P 06 33 39.7 +0.3**
PLAL Pickwick Lake 63.70 66 P **P 06 33 39.7 -0.3**
O53A New Philadelph 63.72 58 P **P 06 33 39.9 -0.1**
O53A IAmb IAmb 06 34 16.7
comp=Z,38nm,0.8s
ZAIG Zacatecas 63.73 86 IAmb IAmb 06 33 57.8
comp=Z,16nm,1.0s
DAV Davao City (W) 63.79 247 LR LR 06 57 04.6
comp=Z,350nm,22.0s,baz=24,slow=32
CLTN Cedars of Leba 63.90 64 P **P 06 33 41.7 +0.4**
JAY Jayapura 64.02 227 LR LR 06 57 11.9
comp=Z,335nm,20.6s,baz=10,slow=32
KMI Kunming 64.03 278 ⇑P **P 06 33 42.9 +0.3**
KMI pmax pmax
comp=Z,36nm,1.1s
KMI LR LR
comp=Z,170nm,16.5s
KMI LR LR
comp=Z,230nm,17.3s
KMI LR LR
comp=Z,330nm,31.6s
KLMR Klimovskoe 64.04 340 *e*P **P 06 33 40.4 -1.4**
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR MLR MLR
comp=Z,788nm,18.0s
QIZ Qiongzhong 64.08 268 P **P 06 33 43.7 +1.0**
QIZ S **S 06 42 18.9 +3.3**
QIZ LR LR
comp=Z,250nm,17.9s
QIZ LR LR
comp=Z,370nm,15.2s
QIZ LR LR
comp=Z,280nm,14.4s
P53A Whipple 64.18 59 P **P 06 33 43.4 +0.4**
O54A Avella 64.21 57 P **P 06 33 43.5 +0.3**
L56A Greenwood 64.25 54 IAmb IAmb 06 34 23.9
comp=Z,47nm,0.9s
GENI Genyem 64.33 227 P **P 06 33 44.5 +0.2**
VAF Ylistaro 64.69 350 *e*P **P 06 33 46.2 +0.2**
146A Union 64.81 69 P **P 06 33 47.5 +0.2**
Z47A Carrollton 64.98 68 P **P 06 33 48.3 0.0**
SSPA Standing Stone 65.18 56 P **P 06 33 49.7 +0.2**
SSPA IAmb IAmb 06 34 15.5
comp=Z,61nm,1.4s
SSPA Standing Stone 65.18 56 P **P 06 33 49.4 -0.2**
SSPA pP **pP 06 34 04.2 +0.6**
KEF Keuruu 65.27 348 *e*P **P 06 33 48.8 -0.9**
S54A Dingess, Beckl 65.44 60 IAmb IAmb 06 34 02.6
comp=Z,52nm,0.9s
346A Big Creek Wild 65.48 70 IAmb IAmb 06 34 02.4
comp=Z,44nm,1.1s
TKL Tuckaleechee C 65.65 63 P **P 06 33 52.9 +0.2**
TKL Tuckaleechee C 65.65 63 LR LR 07 03 11.1
comp=Z,240nm,20.5s,baz=326,slow=36
TKL Tuckaleechee C 65.65 63 P **P 06 33 52.9 +0.2**
TKL pmax pmax
comp=Z,103nm,1.0s
LRAL Lakeview Retre 65.72 67 IAmb IAmb 06 33 53.7
comp=Z,39nm,0.9s
R55A Marlinton 65.73 59 P **P 06 33 54.1 +0.8**
R55A IAmb IAmb 06 34 24.7
comp=Z,46nm,1.2s
FINES FINESS Array B 65.81 347 P **P 06 33 51.6 -1.6**
comp=Z,2.4nm,0.3s,baz=12,slow=7.8,SNR=18
FINES LR LR 07 02 57.9
comp=Z,169nm,21.6s,baz=19,slow=36
comp=Z,2.4nm,0.3s
SLVN Son La 66.09 275 IAmb IAmb 06 34 11.7
comp=Z,20nm,1.2s
U54A Nelsons Funny 66.10 61 P **P 06 33 56.0 +0.3**
KDJ Kajisay 66.15 308 P **P 06 33 56.3 +0.2**
KDJ Kajisay 66.15 308 P **P 06 33 56.3 +0.2**
KDJ pmax pmax
comp=Z,18nm,1.2s
V53A Saluda 66.18 62 P **P 06 33 56.7 +0.5**
RKPI Ransiki, Papua 66.28 234 P **P 06 33 57.2 +0.3**
TKM2 Tokmak 2 66.33 310 P **P 06 33 59.0 +1.8**
SNR=7.3
BLA Blacksburg 66.36 60 P **P 06 33 57.5 +0.3**
BLA IAmb IAmb 06 34 08.4
comp=Z,65nm,1.4s
BLA Blacksburg 66.36 60 P **P 06 33 57.5 +0.3**
BLA pmax pmax
comp=Z,65nm,1.4s
BOOM Boomskoye usch 66.49 309 P **P 06 33 58.6 +0.4**
ULHL Ulahol 66.53 309 P **P 06 34 01.4 +2.9**
SNR=5.0
USP Ospenovka 66.60 311 P **P 06 33 58.7 0.0**
SNR=8.5
AKN Aaknes 66.67 357 *e*P **P 06 33 57.7 -1.1**
AKN IAmb IAmb 06 34 05.1
comp=Z,639nm,3.0s
TNCH TengChong 66.71 281 P **P 06 34 01.3 +1.5**
TNCH S **S 06 42 46.9 -1.0**
TNCH pmax pmax
comp=Z,120nm,0.7s
TNCH pmax pmax
comp=Z,440nm,5.5s
TNCH LR LR
comp=Z,680nm,19.4s
TNCH LR LR
comp=Z,600nm,25.8s
TNCH LR LR
comp=Z,260nm,22.0s
DOMB Dombas 66.73 356 *e*P **P 06 33 59.7 +0.5**
DOMB IAmb IAmb 06 34 01.9
comp=Z,21nm,1.5s
RAF Rauma 66.76 350 *e*P **P 06 33 59.5 +0.1**
KBK Karagaybulak 66.84 310 P **P 06 34 03.1 +2.7**
SNR=5.4
V55A Taylorsville 66.92 61 P **P 06 34 01.5 +0.7**
U56A King 67.01 60 P **P 06 34 02.2 +0.8**
U56A IAmb IAmb 06 34 02.7
comp=Z,46nm,1.0s
BRAL Brewton 67.05 69 P **P 06 34 02.1 +0.4**
AAK Ala-Archa 67.08 310 P **P 06 34 01.4 -0.5**
AAK Ala-Archa 67.08 310 LR LR 07 06 21.1
comp=Z,355nm,18.9s,baz=34,slow=39
AAK Ala-Archa 67.08 310 P **P 06 34 00.0 -1.9**
SNR=8.5
AAK Ala-Archa 67.08 310 *i* P **P 06 34 03.2 +1.3**
AAK pmax pmax
comp=Z,14nm,1.3s
R58B Mineral 67.16 58 P **P 06 34 02.4 +0.2**
R58B IAmb IAmb 06 34 43.2
comp=Z,35nm,1.5s
MEF Metsahovi 67.22 348 *e*P **P 06 34 02.1 -0.2**
SWI Sorong 67.23 237 P **P 06 34 03.0 +0.1**
comp=Z,85nm,1.0s
EKS2 Erkin-Say 67.40 311 P **P 06 34 04.9 +1.0**
SNR=7.0
NC204 NORSAR Array S 67.42 355 IAmb IAmb 06 36 02.0
comp=Z,48nm,1.7s
GOGA Godfrey 67.47 64 P **P 06 34 03.9 -0.4**
GOGA Godfrey 67.47 64 P **P 06 34 03.9 -0.4**
GOGA pmax pmax
comp=Z,79nm,0.9s
PMG Port Moresby 67.52 217 LR LR 06 58 23.7
comp=Z,244nm,20.8s,baz=18,slow=31
HODGE Hodges 67.54 63 P **P 06 34 05.0 +0.3**
NB201 NORSAR Array S 67.62 355 IAmb IAmb 06 34 21.2
comp=Z,87nm,1.8s
NB2 NORSAR Subarra 67.63 355 P **P 06 34 04.4 -0.5**
comp=Z,24nm,1.4s,baz=7.4,slow=6.9
NB2 NORSAR Subarra 67.63 355 P **P 06 34 04.4 -0.5**
baz=7.4,slow=6.9
NOA NORSAR Array B 67.63 355 P **P 06 34 04.1 -0.9**

comp=Z,3.1nm,0.8s,baz=6.7,slow=6.5,SNR=16
NOA LR LR 07 02 13.8
comp=Z,208nm,21.7s,baz=5.0,slow=35
comp=Z,3.1nm,0.8s
LSA Lhasa 67.72 290 P **P** **06 34 08.6 +2.0**
LSA pmax pmax
comp=Z,100nm,1.0s
LSA Lhasa 67.72 290 P **P** **06 34 08.4 +1.8**
LSA pP **pP** **06 34 22.2 +1.5**
AKTO Aktyubinsk 67.83 325 LR LR 07 06 56.9
comp=Z,631nm,18.1s,baz=36,slow=39
AML Almayashu 67.85 310 P **P** **06 34 08.8 +1.7**
SNR=8.1
NC602 NORSAR Array S 67.92 355 *e*P **P** **06 34 07.4 +0.7**
NORES NORESS Array B 67.92 355 P **P** **06 34 07.2 +0.5**
T59A Double "B" Far 68.07 58 P **P** **06 34 07.8 -0.2**
T59A IAmb IAmb 06 34 19.2
comp=Z,29nm,1.1s
ABKAR Akbulak array 68.09 323 P **P** **06 34 07.8 -0.1**
W57A Gilead 68.11 61 P **P** **06 34 08.2 -0.1**
W57A IAmb IAmb 06 34 09.4
comp=Z,33nm,1.1s
V58A Windy Hill, Pi 68.11 60 IAmb IAmb 06 34 09.6
comp=Z,38nm,1.0s
SKAR Skarslia 68.12 357 *e*P **P** **06 34 08.8 +0.7**
SKAR IAmb IAmb 06 34 10.8
comp=Z,18nm,1.2s
BIRD Birdtown, Kers 68.23 62 IAmb IAmb 06 34 10.3
comp=Z,58nm,1.1s
HFS Hagfors 68.38 354 P **P** **06 34 08.5 -1.0**
comp=Z,3.3nm,0.4s,baz=356,slow=2.2,SNR=31
comp=Z,3.3nm,0.4s
VSU Vasula 68.59 346 *e*P **P** **06 34 09.6 -1.3**
KK31 Karatay Array 68.59 313 P **P** **06 34 10.1 -1.1**
KK31 Karatay Array 68.59 313 P **P** **06 34 10.1 -1.1**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 68.59 313 P **P** **06 34 10.8 -0.4**
KKAR Karatay Array 68.59 313 P **P** **06 34 10.8 -0.4**
KSH Kashi 68.73 307 P **P** **06 34 17.0 +4.7**
KSH pmax pmax
comp=Z,24nm,1.3s
KSH LR LR
comp=Z,390nm,23.4s
KSH LR LR
comp=Z,510nm,17.5s
KSH LR LR
comp=Z,860nm,23.4s
Y57A Sumter 68.73 62 P **P** **06 34 12.7 +0.5**
ARSB Arslanbob 68.81 310 P **P** **06 34 13.2 +0.4**
ARSB Arslanbob 68.81 310 P **P** **06 34 13.2 +0.4**
ARSB pmax pmax
comp=Z,11nm,1.0s
X58A Rowland 68.91 61 IAmb IAmb 06 34 14.7
comp=Z,56nm,1.1s
MSVF Nonsavu 68.93 184 LR LR 06 59 33.5
comp=Z,195nm,19.2s,baz=13,slow=32
W59A Clinton 68.94 60 IAmb IAmb 06 34 14.9
comp=Z,39nm,0.9s
ODD1 Odda 68.95 357 *e*P **P** **06 34 14.0 +0.8**
KONO Kongsberg 69.10 356 *e*P **P** **06 34 15.1 +1.0**
MOS Moscow 69.13 339 *e*P **P** **06 34 10.7 -3.6**
MOS pmax pmax
comp=Z,37nm,0.8s
Y58A Scranton 69.22 62 P **P** **06 34 16.0 +0.8**
BLS5 Blasjo 69.44 357 *e*P **P** **06 34 16.7 +0.5**
MYLDM Lahad Datu 69.45 252 P **P** **06 34 16.0 -0.9**
MYLDM IAmb IAmb 06 34 19.8
comp=Z,56nm,1.2s
UBPT Khong Chiam 69.64 269 P **P** **06 34 18.0 0.0**
OBN Obninsk 69.94 340 P **P** **06 34 19.8 +0.5**
OBN Obninsk 69.94 340 *de*P **P** **06 34 19.1 -0.2**
OBN *e* 06 36 58.1
OBN *e*PPP PPP 06 38 37.0
OBN *e*S **S** **06 43 32.5 +7.4**
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,440nm,17.0s
SLIT Slitere, Latvi 70.01 348 *e*P **P** **06 34 19.4 -0.2**
TLIG Tlapa 70.10 87 P **P** **06 34 20.3 -0.8**
SHL Shillong 70.34 286 P **P** **06 34 22.2 -0.3**
SHL Shillong 70.34 286 P **P** **06 34 22.2 -0.3**
SHL pmax pmax
comp=Z,306nm,1.3s
TJOU Tjoern 70.61 354 *i* P **P** **06 34 23.8 +0.5**
BORU Boraas 70.93 354 *i* P **P** **06 34 25.6 +0.4**
CHTO Chiang Mai 71.06 277 P **P** **06 34 26.9 +0.2**
CHTO IAmb IAmb 06 34 28.0
comp=Z,28nm,1.3s
CHTO Chiang Mai 71.06 277 P **P** **06 34 26.9 +0.2**
CHTO pmax pmax
comp=Z,28nm,1.3s
ONAU Onsala 71.22 354 *i* P **P** **06 34 26.6 -0.5**
CMAR Chiang Mai Arr 71.32 276 P **P** **06 34 28.6 +0.3**
comp=Z,10.0nm,0.9s,baz=26,slow=6.8,SNR=44
CMAR LR LR 07 09 40.4
comp=Z,144nm,18.6s,baz=40,slow=39
comp=Z,10.0nm,0.9s
FABU Falkenberg 71.56 354 *i* P **P** **06 34 28.4 -0.7**
IIGN Ignalina 71.66 346 *e*P **P** **06 34 29.4 -0.3**
LPSR Galich'ya Gora 71.71 337 *e*P **P** **06 34 29.4 -0.7**
LPSR pmax pmax
comp=Z,31nm,1.4s
PABE Paberze 71.85 347 IAmb IAmb 06 34 31.8
comp=Z,63nm,1.3s
PABE Paberze 71.85 347 *e*P **P** **06 34 30.5 -0.3**
GAR Garm 71.89 310 P **P** **06 34 30.6 -1.0**
GAR IAmb IAmb 06 34 48.3
comp=Z,88nm,1.7s
DEL Delary 72.00 353 *i* P **P** **06 34 30.0 -1.8**
BLEU Blekinge 72.01 352 *i* P **P** **06 34 30.8 -1.0**
MNK Minsk 72.21 344 *i* P **P** **06 34 32.6 -0.4**
MNK *i* *PP **pP** **06 34 46.5 -0.9**
MNK *i* 06 37 13.6
MNK *i* PPP PPP 06 38 56.9
MNK *i* S **S** **06 43 52.3 +0.9**
MNK *i* *SS **sS** **06 44 16.7 +2.1**
MNK *i* SS **SS** **06 48 31.6 +3.2**
MNK pmax pmax
comp=E,38nm,0.8s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK MLR MLR
comp=Z,497nm,21.0s
MNK MLR MLR
comp=E,379nm,18.0s
MNK MLR MLR
comp=N,232nm,19.0s
VRH Novokhopyorsk 72.28 335 *e*P **P** **06 34 30.6 -2.9**
VRH pmax pmax
comp=Z,30nm,1.6s
VORR Voronezh 72.50 337 *e*P **P** **06 34 34.7 -0.1**
VORR pmax pmax
comp=Z,72nm,0.4s
DWPF Disney Wildern 72.58 67 P **P** **06 34 36.1 +0.5**
BRDH Bariadhala 72.65 285 LR LR 07 08 28.4
comp=Z,222nm,21.5s,baz=46,slow=37
CMIG Matias Romero 72.75 84 LR LR 07 02 29.0
comp=Z,103nm,21.9s,baz=306,slow=32
SIMJ Simiganj 72.79 311 P **P** **06 34 37.1 +0.1**
LUNU Lund 72.87 353 *i* P **P** **06 34 36.9 -0.1**
VSR Storozhevoye 72.93 336 *e*P **P** **06 34 34.8 -2.6**
VSR pmax pmax
comp=Z,50nm,1.8s
VORD Divnogorie 73.12 336 *e*P **P** **06 34 35.6 -2.9**
VORD pmax pmax
comp=Z,30nm,1.7s
COEN Coen 73.22 219 P **P** **06 34 39.2 -0.3**
COEN IAmb IAmb 06 34 40.6
comp=Z,29nm,1.1s
COEN Coen 73.22 219 P **P** **06 34 39.2 -0.3**
comp=Z,28nm,1.1s
BSD Bornholm Skovb 73.27 352 *e*P **P** **06 34 39.3 +0.1**
BSD Bornholm Skovb 73.27 352 *i* P **P** **06 34 38.9 -0.4**
BSD IAmb IAmb 06 34 40.2
comp=Z,12nm,0.5s
EKA Eskdalemuir Ar 73.54 3 P **P** **06 34 41.5 +0.5**
comp=Z,1.2nm,0.3s,baz=0.3,slow=4.9,SNR=26
comp=Z,1.2nm,0.3s
RAR Rarotonga 74.13 162 LR LR 07 01 30.7
comp=Z,482nm,19.1s,baz=345,slow=31
NIL Nilore 74.65 305 P **P** **06 34 48.6 +0.8**
NIL IAmb IAmb 06 35 22.9
comp=Z,50nm,1.4s
NIL Nilore 74.65 305 P **P** **06 34 48.6 +0.8**
NIL pmax pmax
comp=Z,50nm,1.4s
TTSI Tana Toraja 75.31 246 P **P** **06 34 52.1 +0.3**
comp=Z,1μmcomp=Z,22nm,0.9s
AK04 Malin Array Si 75.59 342 P **P** **06 34 52.3 -0.6**
AKASG Malin Array Be 75.60 342 P **P** **06 34 52.3 -0.7**
AKASG Malin Array Be 75.60 342 P **P** **06 34 52.2 -0.7**
comp=Z,2.6nm,0.3s,baz=20,slow=5.8,SNR=36
comp=Z,2.6nm,0.3s
AKASG Malin Array Be 75.60 342 P **P** **06 34 52.3 -0.7**
AKASG pmax pmax
comp=Z,18nm,1.4s
AKBB Malin Array Si 75.60 342 P **P** **06 34 52.3 -0.7**
AKBB IAmb IAmb 06 34 54.6
comp=Z,54nm,1.5s
AKBB Malin Array Si 75.60 342 *ce*P **P** **06 34 52.6 -0.4**
AKBB Malin Array Si 75.60 342 P **P** **06 34 52.2 -0.7**
KIEV Kiev 75.61 342 P **P** **06 34 52.4 -0.6**
KIEV IAmb IAmb 06 34 54.6
comp=Z,48nm,1.5s
KIEV Kiev 75.61 342 ⇑P **P** **06 34 52.2 -0.8**
KIEV Kiev 75.61 342 P **P** **06 34 52.7 -0.3**
KIEV Kiev 75.61 342 P **P** **06 34 51.9 -1.1**
comp=Z,77nm,1.5s
AK15 Malin Array Si 75.63 342 P **P** **06 34 52.5 -0.6**
MI28 Mi28,Pidlybu 75.67 343 P **P** **06 34 52.8 -0.5**
RNPP5 Staryi Chortor 75.69 345 P **P** **06 34 52.1 -1.3**
SOR Soroa 75.69 72 IAmb IAmb 06 35 06.1
comp=Z,52nm,1.2s
KBL Kabul 76.06 308 P **P** **06 34 54.9 -1.2**
KBL Kabul 76.06 308 P **P** **06 34 54.9 -1.2**
KBL pmax pmax
comp=Z,20nm,1.2s
MTSU Mount Surprise 76.59 216 P **P** **06 34 58.8 -0.1**
comp=Z,10nm,0.9s
LUBAR Lubar, Ukraine 76.62 343 P **P** **06 34 56.9 -1.9**
KDU Kakadu 76.77 229 P **P** **06 34 58.9 -1.0**
CLL Collm 77.20 353 P **P** **06 35 01.4 -0.5**
CLL Collm 77.20 353 *i* P **P** **06 35 01.2 -0.8**
CLL MLR MLR
comp=Z,400nm,19.9s
CLL Collm 77.20 353 *i* P **P** **06 35 01.2 -0.8**
CLL AMS AMS 07 12 00.0
comp=Z,400nm,19.9s
MTN Manton Dam 77.55 230 P **P** **06 35 03.4 -0.9**
MTN IAmb IAmb 06 35 05.3
comp=Z,50nm,1.1s
MTN Manton Dam 77.55 230 P **P** **06 35 03.6 -0.7**
comp=Z,38nm,1.3s
BRG Berggiesshubel 77.55 352 *e*P **P** **06 35 04.6 +0.6**
BRG Amp 06 35 06.5
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 77.55 352 P P 06 35 13.9 +10
BRG Amp 06 35 14.3
comp=Z,5.5nm,1.0s
OJC Ojcow 77.57 348 P **P** **06 35 04.3 +0.2**
OJC Ojcow 77.57 348 P **P** **06 35 04.3 +0.2**
KWP Kalwaria Pacla 77.74 346 P **P** **06 35 05.3 +0.2**
KWP Kalwaria Pacla 77.74 346 P **P** **06 35 05.3 +0.2**
comp=Z,41nm,0.8s
DPC Dobruska-Polom 77.85 350 *e*P **P** **06 35 06.6 +0.9**
DPC Dobruska-Polom 77.85 350 *e*P **P** **06 35 06.6 +0.9**
DPC Dobruska-Polom 77.85 350 P **P** **06 35 05.6 -0.1**
comp=Z,12nm,1.5s
HSKC Hora Svate Kat 77.86 352 *e*P **P** **06 35 06.7 +1.0**
MAK Makhachkala 77.94 327 *e*P **P** **06 35 05.5 -0.7**
MAK *e**PP **pP** **06 35 19.0 -1.7**
MAK *e**SP **sP** **06 35 26.4 0.0**
MAK *e*S **S** **06 44 54.8 -0.6**
MAK *e**SS **ScS** **06 45 21.4 +0.2**
MAK pmax pmax
comp=Z,223nm,1.1s
NDNU Novodnistrovsk 77.97 343 P **P** **06 35 05.8 -0.5**
STEB Steborice 78.10 349 *e*P **P** **06 35 06.8 -0.2**
KMPD K-Podol'skiy 78.17 343 P **P** **06 35 06.6 -0.8**
SORM Soroca 78.23 342 ⇑P **P** **06 35 07.3 -0.5**
SORM Soroca 78.23 342 P **P** **06 35 07.4 -0.3**
SORM Soroca 78.23 342 P **P** **06 35 07.2 -0.5**
comp=Z,902nmcomp=Z,53nm,0.8s
MTO3 Montecristo 78.23 82 P **P** **06 35 07.9 -0.7**
MORC Moravsky Berou 78.28 350 *e*P **P** **06 35 08.2 +0.1**
SOEI Soe 78.41 238 P **P** **06 35 09.5 +0.2**
comp=Z,27nm,0.9s
KOLS Kolonicke sedl 78.49 346 *e*P **P** **06 35 10.0 +0.8**
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 78.49 346 *e*P **P** **06 35 10.0 +0.8**
BGES Gesves 78.53 358 *d*P **P** **06 35 10.1 +0.7**
KIV Kislovodsk 78.58 331 P **P** **06 35 09.7 -0.2**
KIV IAmb IAmb 06 35 11.4
comp=Z,62nm,1.5s
KIV Kislovodsk 78.58 331 ⇑P **P** **06 35 08.5 -1.4**
KIV Kislovodsk 78.58 331 *e*P **P** **06 35 08.7 -1.3**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,405nm,19.0s
KIV Kislovodsk 78.58 331 P **P** **06 35 09.5 -0.5**
comp=Z,19nm,0.8s
BMRD Maredsous 78.62 358 *d*P **P** **06 35 10.2 +0.3**
KSV Kosov 78.65 344 P **P** **06 35 09.5 -0.6**
KSV Kosov 78.65 344 P **P** **06 35 09.5 -0.6**
LANS Liptovska Anna 78.66 348 *e*P **P** **06 35 12.0 +1.8**
LANS pmax pmax
comp=Z,19nm,1.6s
LANS Liptovska Anna 78.66 348 *e*P **P** **06 35 12.0 +1.8**
KBZ Khabaz 78.73 331 P **P** **06 35 10.9 +0.4**
comp=Z,8.0nm,0.9s,baz=14,slow=1.6,SNR=12
comp=Z,8.0nm,0.9s
KBZ Khabaz 78.73 331 *ce*P **P** **06 35 11.4 +0.8**
KBZ pmax pmax
comp=Z,19nm,1.1s
SHA1 Shidzhatmaz 78.79 331 *i* P **P** **06 35 10.8 -0.5**
VRAC Vranov 78.85 350 LR LR 07 09 15.2
comp=Z,162nm,21.5s,baz=21,slow=35
VRAC Vranov 78.85 350 *e*P **P** **06 35 11.6 +0.4**
VRAC Vranov 78.85 350 ⇑P **P** **06 35 11.3 0.0**
VRAC Vranov 78.85 350 P **P** **06 35 11.2 0.0**
HOLU Holmets 78.87 346 P **P** **06 35 11.3 0.0**
GRFO Grafenberg 78.94 354 P **P** **06 35 11.8 +0.1**
GRFO IAmb IAmb 06 35 13.4
comp=Z,19nm,0.9s
GRFO Grafenberg 78.94 354 P **P** **06 35 11.8 +0.1**
GRFO pmax pmax
comp=Z,19nm,0.9s
KRUC Moravsky 79.11 350 *e*P **P** **06 35 12.8 +0.2**
BERU Beregovo 79.11 346 P **P** **06 35 13.3 +0.7**
JAVC Velka Javorina 79.17 349 *e*P **P** **06 35 14.7 +1.7**
KECS Kecovo 79.18 347 *e*P **P** **06 35 12.1 -0.9**
KECS pmax pmax
comp=Z,10.0nm,0.6s
KECS Kecovo 79.18 347 *e*P **P** **06 35 12.1 -0.9**
BUR08 Bucovina Ar. S 79.27 344 P **P** **06 35 13.7 0.0**
BURAR Bucovina Array 79.30 344 ⇑P **P** **06 35 13.8 0.0**
BURAR Bucovina Array 79.30 344 P **P** **06 35 14.0 +0.2**
ANN Anapa 79.30 335 *e*P **P** **06 35 10.9 -2.8**
ANN *e**PP **pP** **06 35 27.2 -1.0**
ANN *e*S **S** **06 45 06.2 -3.7**
ANN *e*SS **SS** **06 50 17.3 +1.3**
ANN pmax pmax
comp=Z,96nm,1.0s
MILM Milestii Mici 79.30 341 ⇑P **P** **06 35 12.8 -0.9**
MILM Milestii Mici 79.30 341 P **P** **06 35 12.7 -0.9**
KHC Kasperske Hory 79.31 352 *e*P **P** **06 35 13.4 -0.4**
KHC Kasperske Hory 79.31 352 *ce*P **P** **06 35 14.5 +0.7**
KHC pmax pmax
comp=Z,36nm,1.3s
KHC Kasperske Hory 79.31 352 P **P** **06 35 13.6 -0.2**
comp=Z,17nm,1.5s
HRA Herat 79.42 313 P **P** **06 35 14.7 -0.1**
GERES GERESS Array B 79.59 352 P **P** **06 35 15.0 -0.3**
GERES GERESS Array B 79.59 352 P **P** **06 35 14.3 -1.1**
comp=Z,2.6nm,0.6s,baz=12,slow=6.8,SNR=10
comp=Z,2.6nm,0.6s
GERES GERESS Array B 79.59 352 P **P** **06 35 15.0 -0.3**
MODS Modra-Piesok 79.69 350 *e*P **P** **06 35 17.4 +1.6**
MODS pmax pmax
comp=Z,43nm,1.3s
MODS Modra-Piesok 79.69 350 *e*P **P** **06 35 17.4 +1.6**
TGUH Tegucigalpa,Un 79.78 80 P **P** **06 35 17.5 +0.5**
SOC Sochi 79.80 333 *e*P **P** **06 35 14.9 -1.5**
SOC *e* 06 38 15.9
SOC *e*PPP PPP 06 40 06.5
SOC *e*S **S** **06 45 14.3 -0.9**
SOC MLR MLR
comp=Z,986nm,20.0s
PSZ Piszkesteto 79.82 348 P **P** **06 35 16.8 +0.2**
PSZ Piszkesteto 79.82 348 P **P** **06 35 16.8 +0.2**
PSZ pmax pmax
comp=Z,23nm,1.3s
ARCR ARCALIA 79.96 344 ⇑P **P** **06 35 16.8 -0.5**
TESR Tescani 80.11 343 P **P** **06 35 17.9 -0.2**
comp=Z,13nm,0.8s
CONA Conrad Observa 80.29 350 *i* P **P** **06 35 19.2 +0.1**
comp=Z,3.0nm,0.5s,SNR=6.4
KULM Kulim 80.31 266 P **P** **06 35 19.5 -0.1**
BFO Black Forest 80.47 356 P **P** **06 35 19.5 -0.5**
BFO IAmb IAmb 06 35 20.5
comp=Z,46nm,1.8s
BFO Black Forest 80.47 356 P **P** **06 35 19.5 -0.5**
BFO pmax pmax
comp=Z,45nm,1.8s
RONA Rosalia, Austr 80.47 350 *i* P **P** **06 35 20.6 +0.5**
comp=Z,3.6nm,0.6s
DRGR 80.51 346 ⇑P **P** **06 35 19.8 -0.5**
DRGR 80.51 346 P **P** **06 35 19.8 -0.5**
QIS Mount Isa 80.61 220 P **P** **06 35 20.4 -0.6**
comp=Z,9.0nm,1.6s
ECH Echery 80.63 356 P **P** **06 35 20.9 0.0**
ECH Echery 80.63 356 P **P** **06 35 20.9 0.0**
ECH pmax pmax
comp=Z,27nm,1.4s
BIOA Bad Ischl, Aus 80.74 352 *i* P **P** **06 35 22.4 +0.9**
comp=Z,3.3nm,0.3s
COVR Voineasa-Covas 80.83 343 ⇑P **P** **06 35 20.9 -1.1**
MPLH Magyarpolny 80.85 349 P **P** **06 35 22.3 +0.3**
comp=Z,54nm,1.5s
DOPR Dopca 80.86 344 ⇑P **P** **06 35 21.3 -0.9**
CLF Chambon-Foret 80.93 360 P **P** **06 35 22.5 +0.1**
ARSA Arzberg 80.99 351 *i* P **P** **06 35 23.1 +0.2**
comp=Z,1.4nm,0.3s
ARSA Arzberg 80.99 351 P **P** **06 35 23.9 +1.1**
MYKOM Kota Tinggi 81.03 262 P **P** **06 35 24.5 +1.0**
EIDS Eidsvold 81.07 208 P **P** **06 35 23.6 +0.4**
EIDS Eidsvold 81.07 208 P **P** **06 35 24.3 +1.0**
comp=Z,11nm,1.6s
LESA Schwarzleotal 81.08 352 *i* P **P** **06 35 23.5 +0.1**
comp=Z,2.9nm,0.5s
CFR Carcaliu 81.11 341 ⇑P **P** **06 35 22.6 -0.9**
CFR Carcaliu 81.11 341 P **P** **06 35 22.5 -0.9**
KNRA Kununurra 81.14 231 P **P** **06 35 24.2 +0.4**
comp=Z,21nm,1.4s
RETA Reutte 81.16 354 *e*P **P** **06 35 24.4 +0.6**
comp=Z,6.5nm,0.8s
MLR Muntele Rosu 81.22 343 P **P** **06 35 24.6 +0.4**
MLR IAmb IAmb 06 35 27.0
comp=Z,44nm,1.2s
MLR Muntele Rosu 81.22 343 LR LR 07 16 41.7
comp=Z,354nm,19.0s,baz=66,slow=40
MLR Muntele Rosu 81.22 343 ⇑P **P** **06 35 24.1 -0.2**
MLR Muntele Rosu 81.22 343 P **P** **06 35 25.8 +1.6**
WATA Walderalm 81.26 353 *i* P **P** **06 35 24.8 +0.4**
comp=Z,27nm,1.2s
WTTA Wattenberg 81.32 353 *i* P **P** **06 35 25.7 +0.9**
comp=Z,35nm,1.5s,SNR=6.3
KBA Koelnbreinsper 81.37 352 *i* P **P** **06 35 25.7 +0.6**
comp=Z,13nm,0.4s,SNR=16
KBA Koelnbreinsper 81.37 352 P **P** **06 35 25.3 +0.3**
GNI Garni 81.38 328 P **P** **06 35 25.8 +0.6**
GNI IAmb IAmb 06 35 47.5
comp=Z,37nm,1.1s
GNI Garni 81.38 328 LR LR 07 16 18.8
comp=Z,429nm,19.9s,baz=30,slow=39
GNI Garni 81.38 328 P **P** **06 35 25.8 +0.6**
GNI pmax pmax
comp=Z,37nm,1.2s
SQTA Sankt Quirin 81.40 353 *i* P **P** **06 35 25.1 0.0**
comp=Z,4.3nm,0.5s
DAVA Damuels 81.42 354 *i* P **P** **06 35 26.9 +1.6**
comp=Z,12nm,1.2s
VOIR 81.44 344 P **P** **06 35 25.6 +0.3**
ARR Arges 81.58 344 ⇑P **P** **06 35 25.5 -0.5**
SOKA Soboth 81.61 351 *e*P **P** **06 35 26.4 +0.2**
comp=Z,9.2nm,0.6s,SNR=16
SURR Surduc 81.61 346 ⇑P **P** **06 35 26.1 0.0**
FETA Feichten 81.63 354 *i* P **P** **06 35 27.3 +0.9**
comp=Z,4.8nm,0.7s
PERS Pernice 81.64 351 *i* P **P** **06 35 27.1 +0.8**
PERS *i* 06 35 27.9
comp=Z,23nm,0.9s
TIRR Tirgusor 81.74 341 P **P** **06 35 26.0 -0.8**
TIRR IAmb IAmb 06 35 28.3
comp=Z,60nm,1.6s
TIRR Tirgusor 81.74 341 P **P** **06 35 26.0 -0.8**
TIRR pmax pmax
comp=Z,60nm,1.6s
CHIV Chivirico 81.75 68 P **P** **06 35 26.7 -0.5**
CHIV IAmb IAmb 06 35 39.1
comp=Z,42nm,1.0s
ABTA Abfaltersbach 81.77 353 *i* P **P** **06 35 26.9 -0.1**
comp=Z,19nm,1.1s,SNR=6.6
MYKA Terra Mystica 81.79 352 *i* P **P** **06 35 26.8 -0.3**
comp=Z,11nm,1.0s
BZS Buzias 81.82 346 ⇑P **P** **06 35 26.5 -0.7**
BZS Buzias 81.82 346 P **P** **06 35 27.5 +0.3**
OBKA Obir 81.82 351 *i* P **P** **06 35 26.9 -0.4**
comp=Z,5.2nm,0.5s
GZR Gura Zlata 81.86 345 ⇑P **P** **06 35 27.7 +0.1**
GZR Gura Zlata 81.86 345 P **P** **06 35 27.6 +0.1**
DAVOX Davos/Dischmat 81.92 354 LR LR 07 10 54.4
comp=Z,192nm,22.0s,baz=15,slow=35
KMMI Kalianget 81.93 248 P **P** **06 35 28.8 +0.7**
comp=Z,38nm,1.0s
PRED Cave del Predi 81.98 352 P **P** **06 35 28.2 +0.1**
PRED IAmb IAmb 06 35 30.7
comp=Z,34nm,1.2s
BOAB BOACO BROADBAND 82.01 80 P **P** **06 35 28.4 -0.2**
BOAB IAmb IAmb 06 35 48.1
comp=Z,80nm,1.3s
FUORN Ofenpass-Fuorn 82.06 354 P **P** **06 35 29.0 +0.2**
FUORN IAmb IAmb 06 35 31.3
comp=Z,30nm,1.8s
WB0 Warramunga Arr 82.09 224 P **P** **06 35 28.3 -0.5**
WB0 IAmb IAmb 06 35 29.4
comp=Z,46nm,1.6s
NMDO Nuevo Mundo 82.12 67 P **P** **06 35 28.5 -0.6**
NMDO IAmb IAmb 06 37 22.9
comp=Z,122nm,1.7s
CADS Cadrg 82.18 352 *i* P **P** **06 35 28.9 -0.3**
WR0 Warramunga Arr 82.19 224 P **P** **06 35 28.7 -0.6**
WRAB Tennant Creek 82.25 224 P **P** **06 35 28.6 -1.0**
WRAB Tennant Creek 82.25 224 P **P** **06 35 28.6 -1.0**
WRAB pmax pmax
comp=Z,17nm,1.2s
WB2 Warramunga Arr 82.26 224 P **P** **06 35 29.1 -0.5**
WB2 IAmb IAmb 06 35 30.4
comp=Z,24nm,1.2s
TUE Stuetta 82.26 355 P **P** **06 35 28.9 -0.9**
TUE Stuetta 82.26 355 P **P** **06 35 29.8 0.0**
comp=Z,68nm,1.3s
WRA Warramunga Arr 82.26 224 P **P** **06 35 28.9 -0.9**
WRA Warramunga Arr 82.26 224 P **P** **06 35 29.0 -0.7**
comp=Z,8.2nm,1.0s,baz=38,slow=6.1,SNR=23
comp=Z,8.2nm,1.0s
WRA Warramunga Arr 82.26 224 *i* P **P** **06 35 29.2 -0.5**
WRA pmax pmax
comp=Z,7.0nm,0.9s
HERR Herculane 82.42 345 ⇑P **P** **06 35 30.0 -0.3**
CTI Castel Tesino 82.53 353 P **P** **06 35 30.7 -0.4**
CTI IAmb IAmb 06 35 39.9
comp=Z,26nm,1.5s
CTI Castel Tesino 82.53 353 P **P** **06 35 30.7 -0.4**
CTI pmax pmax
comp=Z,26nm,1.5s
MDVR Moldovita 82.62 346 ⇑P **P** **06 35 31.1 -0.4**
SKDS Skadanscina 82.83 351 *i* P **P** **06 35 32.4 -0.1**
KOPT Kop Dagi 82.84 331 P **P** **06 35 33.6 +0.6**
KOPT IAmb IAmb 06 35 57.5
comp=Z,20nm,1.1s
ESPN Las Esperanzas 83.05 79 P **P** **06 35 33.5 -0.5**
ESPN IAmb IAmb 06 35 35.7
comp=Z,46nm,0.9s
TEOL Teolo 83.22 353 P **P** **06 35 34.2 -0.3**
PSI Prapat 83.31 266 LR LR 07 12 40.7
comp=Z,140nm,20.8s,baz=52,slow=36
PSI Prapat 83.31 266 P **P** **06 35 35.1 -0.5**

PSI pmax pmax
comp=Z,46nm,1.0s
RPSI Rantau Prapat 83.40 266 P P 06 35 35.1 -0.7
RPSI IAmb IAmb 06 35 36.7
comp=Z,46nm,1.0s
GEVA Gevas 83.59 328 IAmb IAmb 06 35 38.5
comp=Z,29nm,1.1s
GURO Guroymak-BITLI 83.71 329 P P 06 35 37.8 +0.5
GURO IAmb IAmb 06 35 40.2
comp=Z,36nm,1.5s
BOVS Bovan 83.75 346 ⇓P **P 06 35 37.1 -0.1**
ILGA Ilgaz 83.77 336 P **P 06 35 37.9 +0.2**
BNI Bardonecchia 83.81 356 P **P 06 35 38.9 +1.2**
BNI IAmb IAmb 06 35 40.2
comp=Z,49nm,1.4s
BNI Bardonecchia 83.81 356 P **P 06 35 38.9 +1.2**
BNI pmax pmax
comp=Z,49nm,1.4s
JTS Las Juntas de 84.12 81 LR LR 07 13 45.7
comp=Z,61nm,21.1s,baz=119,slow=36
ZCCA Zocca 84.27 353 P **P 06 35 41.4 +1.5**
QLP Quilpie 84.38 213 P **P 06 35 40.9 +0.5**
comp=Z,64nm,1.3s
HYB Hyderabad 84.50 291 *e*P **P 06 35 41.3 -0.2**
HYB IVmB_BB 06 35 41.8
comp=Z,585nm,1.0s
FITZ Fitzroy Crossi 84.74 232 P **P 06 35 42.2 -0.2**
FITZ Fitzroy Crossi 84.74 232 P **P 06 35 42.9 +0.5**
comp=Z,9.1nm,1.0s
MDUB Mudurnu 84.93 338 P **P 06 35 43.6 +0.2**
BR131 Keskin Array S 85.04 336 P **P 06 35 44.0 0.0**
BR131 IAmb IAmb 06 35 45.1
comp=Z,22nm,1.1s
BR131 Keskin Array S 85.04 336 P **P 06 35 44.0 0.0**
BR131 pmax pmax
comp=Z,22nm,1.1s
BRTR Keskin Array B 85.04 336 P **P 06 35 43.7 -0.3**
comp=Z,11nm,0.9s,baz=43,slow=2.2,SNR=42
comp=Z,11nm,0.9s
OSSC Osservatorio P 85.07 353 P **P 06 35 44.1 +0.1**
OSSC IAmb IAmb 06 35 44.6
comp=Z,44nm,1.0s
ANTO Ankara 85.11 336 P **P 06 35 46.3 +2.0**
ANTO pmax pmax
comp=Z,16nm,1.2s
BNN Bunyan 85.27 334 P **P 06 35 45.2 0.0**
PDG Podgorica 85.29 347 ⇑P **P 06 35 44.8 -0.3**
FDMO Fiordimonte 85.40 352 IAmb IAmb 06 35 47.4
comp=Z,44nm,1.2s
RDO Rodhopi 85.50 342 IAmb IAmb 06 35 48.3
comp=Z,40nm,1.2s
KIRS Kirsehir-Merke 85.52 335 ⇑P **P 06 35 45.6 -0.8**
NRCA Norcia 85.60 352 P **P 06 35 46.8 +0.1**
BORA Eskisehir 85.67 338 P **P 06 35 46.7 -0.4**
BORA IAmb IAmb 06 35 48.1
comp=Z,46nm,1.3s
ARMA Armidale 85.68 206 P **P 06 35 47.9 +0.9**
ARMA IAmb IAmb 06 35 59.9
comp=Z,49nm,1.4s
ARMA Armidale 85.68 206 P **P 06 35 47.3 +0.2**
comp=Z,25nm,1.1s
AS06 Alice Springs 85.69 223 P **P 06 35 47.5 +0.4**
comp=Z,16nm,1.0s
AS31 Alice Springs 85.73 223 P **P 06 35 47.1 -0.2**
AS31 Alice Springs 85.73 223 P **P 06 35 47.4 +0.1**
comp=Z,4.1nm,0.8s
ASAR Alice Springs 85.73 223 P **P 06 35 47.4 0.0**
ASAR Alice Springs 85.73 223 P **P 06 35 47.5 +0.1**
comp=Z,10nm,0.8s,baz=29,slow=4.8,SNR=71
comp=Z,10nm,0.8s
AS19 Alice Springs 85.74 223 P **P 06 35 47.1 -0.2**
comp=Z,19nm,1.0s
MDSI Maura Dua 85.74 257 P **P 06 35 46.0 -1.6**
comp=Z,1μmcomp=Z,26nm,1.3s
CAMP Campotosto 85.87 351 P **P 06 35 48.3 +0.2**
CESX Cesi 85.87 352 P **P 06 35 47.7 -0.3**
CESX IAmb IAmb 06 35 49.3
comp=Z,23nm,1.0s
INTR Introdacqua 86.34 351 P **P 06 35 50.5 +0.1**
INTR IAmb IAmb 06 35 52.2
comp=Z,27nm,1.1s
GAZ Gaziantep 86.45 332 P **P 06 35 51.6 +0.6**
GAZ IAmb IAmb 06 35 52.6
comp=Z,48nm,1.2s
BANI BANI 86.48 65 P **P 06 35 49.7 -1.8**
FNA Florina 86.58 345 P **P 06 35 50.6 -1.0**
FNA IAmb IAmb 06 36 10.5
comp=Z,7.9nm,0.7s
FNA Florina 86.58 345 P **P 06 35 50.6 -1.0**
FNA pmax pmax
comp=Z,8.0nm,0.7s
MVO Moncorvo 87.48 7 *e*P **P 06 35 55.6 -0.3**
MVO *i* Amb 06 35 55.9
comp=Z,30nm,1.5s
PVIS Viseu 87.86 7 *e*P **P 06 35 57.3 -0.4**
CUC Castrocucco 88.13 349 P **P 06 35 58.0 -1.0**
CUC IAmb IAmb 06 35 58.8
comp=Z,12nm,1.0s
MTE Manteigas 88.20 7 P **P 06 35 59.2 -0.2**
MTE IAmb IAmb 06 36 00.3
comp=Z,33nm,1.3s
MTE Manteigas 88.20 7 *e*P **P 06 35 59.4 0.0**
MTE *i* Amb 06 36 00.4
comp=Z,33nm,1.4s
CMSA Cobar Meteorol 88.47 210 P **P 06 36 01.3 +1.0**
comp=Z,17nm,1.3s
PCBR Castelo Branco 88.76 7 *e*P **P 06 36 00.8 -1.1**
TIP Timpagrande 88.82 348 P **P 06 36 02.0 -0.3**
TIP IAmb IAmb 06 36 02.7
comp=Z,13nm,0.8s
TIP Timpagrande 88.82 348 ⇑P **P 06 36 02.8 +0.5**
TIP Timpagrande 88.82 348 P **P 06 36 01.7 -0.6**
CELP Cerrillos 88.85 62 P **P 06 36 03.2 +0.6**
OBIP Obispado Ponce 88.86 62 P **P 06 36 02.5 -0.2**
GCPR Guaynabo City 88.93 62 P **P 06 36 03.6 +0.6**
TOZ Tahuroa Road 88.94 185 P **P 06 36 02.1 -0.2**
TOZ IAmb IAmb 06 36 14.0
comp=Z,37nm,1.5s
SJG San Juan 89.06 62 P **P 06 36 04.7 +1.1**
SJG San Juan 89.06 62 LR LR 07 18 38.8
comp=Z,145nm,19.4s,baz=325,slow=37
SJG San Juan 89.06 62 P **P 06 36 04.7 +1.1**
SJG pmax pmax
comp=Z,91nm,1.3s
ESBB Sonseca Array 89.14 4 IAmb IAmb 06 36 04.3
comp=Z,14nm,1.2s
ESDC Sonseca Array 89.15 4 P **P 06 36 03.1 -0.7**
ESDC Sonseca Array 89.15 4 P **P 06 36 02.8 -1.0**
comp=Z,12nm,1.2s,baz=345,slow=3.8,SNR=22
ESDC LR LR 07 17 16.1
comp=Z,143nm,19.8s,baz=349,slow=36
comp=Z,12nm,1.2s
PMRV Marv??o 89.18 7 *e*P **P 06 36 04.1 +0.2**
URZ Urewera 89.40 184 LR LR 07 10 08.3
comp=Z,233nm,21.4s,baz=132,slow=31
WRKA Warakurna 89.40 227 P **P 06 36 05.1 +0.2**
comp=Z,17nm,1.2s
PESTR Estremoz 89.72 7 *e*P **P 06 36 05.4 -1.1**
CEL Celeste 89.83 349 P **P 06 36 05.7 -1.3**
STKA Stephens Creek 90.14 213 P **P 06 36 08.6 +0.4**
STKA Stephens Creek 90.14 213 P **P 06 36 09.2 +1.1**
comp=Z,149nm,1.6s
STKA Stephens Creek 90.14 213 P **P 06 36 08.3 +0.2**
comp=Z,19nm,0.9s,baz=1.1,slow=7.5,SNR=23
STKA LR LR 07 14 08.9
comp=Z,276nm,18.6s,baz=20,slow=34
comp=Z,19nm,0.9s
STKA Stephens Creek 90.14 213 P **P 06 36 08.6 +0.4**
STKA pmax pmax
comp=Z,168nm,1.2s
YNG Young 90.24 207 P **P 06 36 08.4 -0.2**
comp=Z,91nm,1.0s
PBAR Barrancos 90.45 7 *e*P **P 06 36 09.2 -0.6**
PBAR *i* Amb 06 36 30.5
comp=Z,32nm,1.8s
WSAR Wadi Sarin 90.48 310 LR LR 07 20 54.7
comp=Z,211nm,20.5s,baz=86,slow=38
VAE Valguarnera 90.78 350 LR LR 07 22 34.9
comp=Z,240nm,18.2s,baz=16,slow=39
MMAI Mount Meron Ar 90.85 332 P **P 06 36 10.6 -1.3**
comp=Z,0.6nm,0.3s,baz=55,slow=7.2,SNR=5.2
MMAI LR LR 07 23 06.4
comp=Z,157nm,18.3s,baz=10.0,slow=40
comp=Z,0.6nm,0.3s
PALK Pallekele 91.17 283 LR LR 07 20 54.6
comp=Z,103nm,20.6s,baz=36,slow=38

ASF Jabal al Asfar 91.19 331 LR LR 07 24 07.7
comp=Z,382nm,18.7s,baz=37,slow=40
KEST Kesra 92.96 354 P **P 06 36 19.0 -2.6**
comp=Z,6.3nm,0.9s,baz=288,slow=3.2,SNR=3.9
EIL Elat 94.11 331 LR LR 07 26 36.4
comp=Z,236nm,18.2s,baz=47,slow=40
MEEK Meekatharra 95.40 233 P **P 06 36 32.4 -0.2**
comp=Z,29nm,2.3s
OTAV Otavalo 95.96 82 P **P 06 36 35.5 -0.6**
OTAV Otavalo 95.96 82 P **P 06 36 35.5 -0.6**
OTAV pmax pmax
comp=Z,5.0nm,1.2s
OTAV Otavalo 95.96 82 *e*P **P 06 36 37.2 +1.2**
RAYN Ar Rayn 96.05 320 P **P 06 36 34.4 -1.5**
RAYN IAmb IAmb 06 36 36.2
comp=Z,11nm,1.1s
RAYN Ar Rayn 96.05 320 P **P 06 36 34.9 -1.0**
PCRV Puerto La Cruz 96.34 65 LR LR 07 20 17.6
comp=Z,91nm,21.8s,slow=36
TORD Torodi Ar. Bea 115.70 0 **PKiKP 06 41 49.5 -1.2**
H03N2 Juan Fernandez 120.85 106 T T 08 54 35.8
baz=317,slow=77
H03N1 Juan Fernandez 120.86 106 T T 08 54 33.2
baz=317,slow=77
H03N3 Juan Fernandez 120.87 106 T T 08 54 47.5
baz=317,slow=77
KMBO Kilima Mbogo 121.64 317 **PKPdf 06 42 01.2 -1.2**
KMBO Kilima Mbogo 121.64 317 PKIKP **PKPdf 06 42 01.3 -1.2**
DBIC Dimbokro 121.86 8 PKP **PKPdf 06 42 01.6 -0.9**
comp=Z,6.0nm,0.5s,baz=331,slow=2.3,SNR=18
SNDB Serra Nova Dou 121.97 67 *e*P **PKiKP 06 42 03.6 +0.7**
BDQN Bodoquena, MS 125.31 78 *e*P **PKiKP 06 42 09.5 +0.2**
PLCA Paso Flores 130.68 107 **PKPdf 06 42 18.9 +0.2**
PLCA Paso Flores 130.68 107 PKP **PKPdf 06 42 18.2 -0.4**
comp=Z,5.0nm,1.0s,baz=293,slow=5.7,SNR=6.4
PLCA Paso Flores 130.68 107 PKIKP **PKPdf 06 42 18.9 +0.2**
BB19B Bebedouro 130.75 71 *e*P **PKiKP 06 42 20.7 +0.5**
QSPA South Pole Qui 141.18 180 PKPdf **PKPdf 06 42 36.1 -1.2**
TSUM Tsumeb 145.50 333 **PKPdf 06 42 46.4 -0.1**
LPHEP Lephephe 146.35 317 *i* P **PKPbc 06 42 49.4 +0.4**
GRTLG Ghanzi 146.36 326 *i* P **PKPab 06 42 49.8 -0.2**
KDWAN Kaudwane 146.87 319 *i* P **PKPbc 06 42 51.0 +0.5**
POGA Pongola 146.99 305 **PKPbc 06 42 51.1 +0.5**
KGCAE Kacgae 147.36 323 *i* P **PKPbc 06 42 52.4 +0.4**
LBTB Lobatse 147.92 316 **PKPbc 06 42 54.1 +0.8**
LBTB Lobatse 147.92 316 PKP2 **PKPbc 06 42 54.2 +0.8**
SKOMA Sekoma 148.18 319 *i* P **PKPbc 06 42 54.5 +0.4**
KOOLE Kule 148.22 326 *i* P **PKPbc 06 42 54.9 +0.7**
WIN Windhoek 148.82 332 **PKPbc 06 42 56.3 +0.4**
WIN Windhoek 148.82 332 PKP2 **PKPbc 06 42 56.3 +0.4**
MAKGR Makgori 148.96 317 *i* P **PKPbc 06 42 56.6 +0.5**
BELA Belgrano 2 150.31 165 PKPbc **PKPbc 06 42 57.5 -0.2**
BOSA Boshof 151.18 313 PKPbc **PKPbc 06 43 01.3 -0.1**
comp=Z,31nm,0.8s,baz=41,slow=3.2,SNR=36
ELIB Princess Elisa 157.26 197 *d*PKPdf **PKPdf 06 43 01.5 -1.1**
ELIB *d*PKP **PKPab 06 43 33.2 -0.8**
SNAA Sanae 159.58 176 PKPdf **PKPdf 06 43 05.9 +0.6**
SNAA PKPab **PKPab 06 43 43.9 -0.1**
SNAA Sanae 159.58 176 PKIKP **PKPdf 06 43 05.9 +0.6**
SNAA 06 43 43.9
TRIS Tristan da Cun 162.53 40 PKPdf **PKPdf 06 43 07.6 -1.8**
TRIS PKPab **PKPab 06 43 56.0 -1.7**

ISK ***11*** *06:24:19.0,34.°93N×25.°71E,h112km±2km,ML3.4/14*
AFAD ***11*** *06:24:23.8,35.°37N×26.°05E,h27km±4km,MW3.6*
THE ***11*** *06:24:25.1,35.°25N×25.°79E,h29km±3km,ML3.5/3,Error ellipse: s-maj=3.3km s-min=0.7km az=171.0*
ATH ***11*** *06:24:25.0,35.°26N×25.°86E,h33km±4km,ML3.4/14, Manual Solution by A.Plessa First location: 2019/03/11 06:25:27, This location: 2019/03/11 07:28:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 3 km*
HLW ***11*** *06:24:26.5,34.°61N×26.°16E,h13km±15km,Md3.8,Ml3.8*
ISC 11 06:24:21.8±1.1,**35.°05N**±0.°04×**25.°85E**±0.°03,**h72**km±9km, **n96**,σ1°**77**/126,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.31**	**78**	P	**Pn**	**06 24 33.4**	**+0.1**
ZKR				S	**Sn**	**06 24 39.6**	**-2.1**
9μm,0.5s							
ZKR	**Zakros**	**0.31**	**78**	P	**Pn**	**06 24 33.5**	**+0.2**
IACM	**Heraklion**	**0.69**	**292**	P	**Pn**	**06 24 38.0**	**+1.3**
IACM				S	**Sn**	**06 24 47.4**	**-0.3**
IDI	**Anoyia**	**0.82**	**287**	P	**Pn**	**06 24 39.8**	**+1.5**
IDI				S	**Sn**	**06 24 50.4**	**-0.1**
TMBK	**Timbaki Herakl**	**0.89**	**272**	P	**Pn**	**06 24 41.3**	**+2.3**
PRNS	**Prines Rethymn**	**1.15**	**286**	P	**Pn**	**06 24 45.2**	**+3.0**
KARP	**Karpathos**	**1.19**	**65**	Pn	**Pn**	**06 24 44.6**	**+1.8**
KARP				Sn	**Sn**	**06 25 03.7**	**+5.2**
KARP	**Karpathos**	**1.19**	**65**	P	**Pn**	**06 24 44.6**	**+1.8**
KARP				S	**Sn**	**06 24 59.5**	**+1.0**
2μm,0.6s							
KARP	**Karpathos**	**1.19**	**65**	P	**Pn**	**06 24 44.7**	**+1.8**
KARP				S	**Sn**	**06 24 58.3**	**-0.2**
THR3	**Thira Island,**	**1.41**	**345**	P	**Pn**	**06 24 45.3**	**-0.3**
GVD	**Gavdhos**	**1.46**	**262**	P	**Pn**	**06 24 48.4**	**+2.1**
GVD	**Gavdhos**	**1.46**	**262**	P	**Pn**	**06 24 48.7**	**+2.4**
CMBO	**Columbo, Santo**	**1.46**	**346**	P	**Pn**	**06 24 45.7**	**-0.7**
CMBO				S	**Sn**	**06 25 01.6**	**-3.2**
2μm,0.6s							
CMBO	**Columbo, Santo**	**1.46**	**346**	P	**Pn**	**06 24 46.6**	**+0.2**
CHAN	**Chania**	**1.55**	**288**	P	**Pn**	**06 24 50.6**	**+3.2**
AMGA	**Amorgos Island**	**1.78**	**1**	P	**Pn**	**06 24 50.4**	**-0.2**
APE	**Apeiranthos**	**2.03**	**353**	P	**Pn**	**06 24 53.7**	**-0.3**
APE	**Apeiranthos**	**2.03**	**353**	P	**Pn**	**06 24 53.9**	**-0.1**
YAZI	**Mula-Dat§a-**	**2.09**	**38**	P	**Pn**	**06 24 54.6**	**0.0**
YAZI				S	**Sn**	**06 25 18.5**	**-1.2**
YAZI				*i* AML	AML	06 25 21.0	
comp=N,57nm,0.9s							
YAZI				*i* AML	AML	06 25 21.0	
comp=E,42nm,0.6s							
DAT	**Datca**	**2.19**	**39**	Pn	**Pn**	**06 24 57.6**	**+1.4**
DAT				Sn	**Sn**	**06 25 25.6**	**+3.3**
ARG	**Arkhangelos**	**2.19**	**57**	Pn	**Pn**	**06 24 57.5**	**+1.4**
ARG				Sn	**Sn**	**06 25 25.6**	**+3.3**
ARG	**Arkhangelos**	**2.19**	**57**	P	**Pn**	**06 24 57.5**	**+1.4**
ARG	**Arkhangelos**	**2.19**	**57**	P	**Pn**	**06 24 57.6**	**+1.4**
ANKY	**Antikythira Is**	**2.23**	**292**	P	**Pn**	**06 24 57.7**	**+1.1**
ANKY	**Antikythira Is**	**2.23**	**292**	P	**Pn**	**06 24 58.0**	**+1.3**
BODT	**Bodrum**	**2.33**	**30**	Pn	**Pn**	**06 24 58.9**	**+0.9**
TURN	**Turunc**	**2.60**	**48**	P	**Pn**	**06 25 01.8**	**+0.2**
TURN				S	**Sn**	**06 25 31.1**	**-1.0**
TURN				*i* AML	AML	06 25 38.0	
comp=N,54nm,0.5s							
TURN				*i* AML	AML	06 25 43.0	
comp=E,46nm,0.7s							
MLSB	**Milas**	**2.73**	**34**	Pn	**Pn**	**06 25 04.6**	**+1.2**
MLSB				Sn	**Sn**	**06 25 37.7**	**+2.3**
SMG	**Samos**	**2.77**	**16**	P	**Pn**	**06 25 04.1**	**+0.1**
SMG	**Samos**	**2.77**	**16**	P	**Pn**	**06 25 04.1**	**+0.1**
YER	**Yerkesik**	**2.87**	**43**	Pn	**Pn**	**06 25 06.6**	**+1.3**
GCAM	**G?zelcaml?**	**2.87**	**23**	P	**Pn**	**06 25 06.3**	**+1.0**
GCAM				S	**Sn**	**06 25 37.1**	**-1.7**
GCAM				*i* AML	AML	06 25 39.0	
comp=E,74nm,0.4s							
GCAM				*i* AML	AML	06 25 41.0	
comp=N,34nm,0.4s							
DALY	**Dalyan (Mula)**	**2.88**	**51**	Pn	**Pn**	**06 25 06.6**	**+1.2**
VLI	**Veliai**	**2.89**	**306**	P	**Pn**	**06 25 05.9**	**+0.4**
VLI	**Veliai**	**2.89**	**306**	P	**Pn**	**06 25 06.1**	**+0.6**
MULA	**Mugla, Merkez-**	**2.98**	**42**	P	**Pn**	**06 25 08.5**	**+1.7**
MULA				S	**Sn**	**06 25 36.5**	**-4.9**
MULA				*i* AML	AML	06 25 46.0	
comp=E,65nm,0.6s							
MULA				*i* AML	AML	06 25 50.0	
comp=N,26nm,0.6s							
FETY	**Fethiye**	**3.07**	**58**	Pn	**Pn**	**06 25 08.8**	**+0.8**
FETY	**Fethiye**	**3.07**	**58**	P	**Pn**	**06 25 09.6**	**+1.6**
FETY				S	**Sn**	**06 25 45.0**	**+1.3**
IZZE	**Mula-Seydike**	**3.08**	**62**	P	**Pn**	**06 25 08.8**	**+0.6**
IZZE				S	**Sn**	**06 25 39.4**	**-4.4**
IZZE				*i* AML	AML	06 25 44.0	
comp=N,197nm,0.4s							
IZZE				*i* AML	AML	06 25 47.0	
comp=E,96nm,0.4s							
AYDN	**Tasoluk**	**3.08**	**32**	P	**Pn**	**06 25 09.5**	**+1.3**
AYDN				S	**Sn**	**06 25 36.7**	**-7.3**
AYDN				*i* AML	AML	06 25 45.0	
comp=E,17nm,0.6s							
AYDN				*i* AML	AML	06 25 47.0	
comp=N,25nm,0.6s							
SABU	**Mula-Dalaman**	**3.09**	**54**	P	**Pn**	**06 25 09.8**	**+1.5**
SABU				S	**Sn**	**06 25 47.0**	**+2.8**
SABU				*i* AML	AML	06 25 49.0	
comp=N,28nm,0.8s							
SABU				*i* AML	AML	06 25 50.0	
comp=E,26nm,0.5s							
KARY	**Karystos**	**3.19**	**340**	P	**Pn**	**06 25 10.6**	**+1.0**
KRND	**KRANIDI**	**3.19**	**318**	P	**Pn**	**06 25 10.8**	**+1.2**
KSL	**Kastellorizon**	**3.24**	**69**	P	**Pn**	**06 25 10.9**	**+0.6**
KSL	**Kastellorizon**	**3.24**	**69**	P	**Pn**	**06 25 11.0**	**+0.8**
MET4	**Agioi Theodoro**	**3.24**	**323**	P	**Pn**	**06 25 11.7**	**+1.4**
MET5	**Makryloggos,Me**	**3.26**	**323**	P	**Pn**	**06 25 11.8**	**+1.2**
AKAS	**Kas**	**3.28**	**68**	P	**Pn**	**06 25 11.9**	**+0.9**
AKAS				S	**Sn**	**06 25 45.8**	**-3.1**
AKAS				*i* AML	AML	06 25 51.0	
comp=E,87nm,0.4s							
AKAS				*i* AML	AML	06 25 52.0	
comp=N,116nm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**3.33**	**29**	Pn	**Pn**	**06 25 12.7**	**+1.1**
ATHU	**Athens Univers**	**3.35**	**331**	P	**Pn**	**06 25 13.4**	**+1.6**
URLA	**Izmir**	**3.36**	**10**	P	**Pn**	**06 25 11.5**	**-0.4**
URLA				S	**Sn**	**06 25 48.9**	**-1.8**
URLA				*i* AML	AML	06 25 51.0	
comp=E,36nm,0.4s							
URLA				*i* AML	AML	06 25 52.0	
comp=N,38nm,0.5s							
CAME	**Cameli-Denizli**	**3.38**	**55**	Pn	**Pn**	**06 25 13.4**	**+1.0**
DION	**Dionisos Attik**	**3.39**	**334**	P	**Pn**	**06 25 13.6**	**+1.2**
PTL	**Penteli**	**3.39**	**333**	P	**Pn**	**06 25 13.6**	**+1.2**
DNZT	**Denizli-Tavas-**	**3.40**	**48**	P	**Pn**	**06 25 13.5**	**+0.9**
DNZT				S	**Sn**	**06 25 50.3**	**-1.5**
DNZT				*i* AML	AML	06 25 59.0	
comp=E,30nm,0.9s							
DNZT				*i* AML	AML	06 26 04.0	
comp=N,21nm,0.6s							
ESEN	**Aydn-Nazilli**	**3.41**	**36**	P	**Pn**	**06 25 14.1**	**+1.6**
ESEN				S	**Sn**	**06 25 49.9**	**-1.8**
ESEN				*i* AML	AML	06 25 57.0	
comp=N,9.6nm,0.5s							
ESEN				*i* AML	AML	06 25 57.0	
comp=E,13nm,0.4s							
TAVA	**DENIZLI_Tavas**	**3.46**	**45**	P	**Pn**	**06 25 15.2**	**+1.8**
TAVA				S	**Sn**	**06 25 52.6**	**-0.6**
TAVA				*i* AML	AML	06 26 01.0	
comp=N,15nm,0.7s							
TAVA				*i* AML	AML	06 26 04.0	
comp=E,14nm,0.3s							
CAEL	**Denizli, Camel**	**3.49**	**53**	P	**Pn**	**06 25 14.4**	**+0.5**
CAEL				S	**Sn**	**06 25 52.5**	**-1.7**
CAEL				*i* AML	AML	06 26 03.0	
comp=N,56nm,0.6s							
CAEL				*i* AML	AML	06 26 05.0	
comp=E,67nm,0.9s							
SLUM	**Salum**	**3.59**	**189**	P	**Pn**	**06 25 16.2**	**+1.2**
SLUM				S	**Sn**	**06 25 52.5**	**-3.7**
DNIZ	**Denizli-Tavas-**	**3.64**	**44**	P	**Pn**	**06 25 15.9**	**0.0**
DNIZ				S	**Sn**	**06 25 56.5**	**-1.2**
DNIZ				*i* AML	AML	06 26 05.0	
comp=N,39nm,0.2s							
DNIZ				*i* AML	AML	06 26 09.0	
comp=E,58nm,0.3s							
ODEM	**Odemis-Izmir**	**3.69**	**28**	Pn	**Pn**	**06 25 17.5**	**+1.1**
APMY	**Acipayam-Deniz**	**3.69**	**48**	Pn	**Pn**	**06 25 17.5**	**+0.9**
ELL	**Elmali**	**3.71**	**62**	Pn	**Pn**	**06 25 17.6**	**+0.8**
ELL	**Elmali**	**3.71**	**62**	P	**Pn**	**06 25 18.4**	**+1.6**
GOLH	**Golhisar**	**3.72**	**53**	P	**Pn**	**06 25 18.5**	**+1.6**
GOLH				S	**Sn**	**06 25 57.1**	**-2.4**
GOLH				*i* AML	AML	06 26 07.0	
comp=N,29nm,0.4s							
GOLH				*i* AML	AML	06 26 10.0	
comp=E,31nm,0.4s							
LTK	**Loutraki**	**3.77**	**323**	P	**Pn**	**06 25 18.4**	**+1.0**
VIL2	**Platees**	**3.78**	**327**	P	**Pn**	**06 25 17.3**	**-0.3**
KYMI	**Kymi, Euboea I**	**3.84**	**339**	P	**Pn**	**06 25 19.6**	**+1.1**
AKUM	**Antalya-Kumluc**	**3.88**	**70**	P	**Pn**	**06 25 19.9**	**+1.0**
AKUM				S	**Sn**	**06 26 00.2**	**-3.0**
AKUM				*i* AML	AML	06 26 04.0	
comp=N,29nm,0.6s							
AKUM				*i* AML	AML	06 26 05.0	
comp=E,35nm,0.4s							
GUR	**Goura**	**4.03**	**317**	P	**Pn**	**06 25 21.7**	**+0.4**
KULA	**Kula-Manisa**	**4.13**	**32**	Pn	**Pn**	**06 25 23.4**	**+0.9**
KORT	**Korkueli**	**4.14**	**61**	P	**Pn**	**06 25 23.9**	**+1.2**
KORT				S	**Sn**	**06 26 09.4**	**-0.4**
KORT				*i* AML	AML	06 26 14.0	
comp=E,58nm,0.5s							
KORT				*i* AML	AML	06 26 15.0	
comp=N,14nm,0.4s							
SIGR	**SIGRI**	**4.16**	**0**	P	**Pn**	**06 25 23.0**	**+0.3**
AMT	**Artemida-Makis**	**4.16**	**308**	P	**Pn**	**06 25 24.4**	**+1.5**
KLV	**Kalavryta, Ach**	**4.22**	**316**	P	**Pn**	**06 25 24.2**	**+0.5**
LKR	**Lokris**	**4.26**	**328**	P	**Pn**	**06 25 25.9**	**+1.8**
GORD	**Gordes-Manisa**	**4.28**	**25**	Pn	**Pn**	**06 25 25.4**	**+0.9**
DRO	**Drossia**	**4.42**	**312**	P	**Pn**	**06 25 28.2**	**+1.8**
USAK	**Uak-Merkez**	**4.46**	**34**	P	**Pn**	**06 25 28.1**	**+1.2**
DB3	**El Dabaa**	**4.60**	**150**	P	**Pn**	**06 25 29.1**	**+0.2**
EFP	**Efpalio**	**4.62**	**318**	P	**Pn**	**06 25 29.6**	**+0.5**
ANX	**Ano Chora**	**4.74**	**319**	P	**Pn**	**06 25 32.0**	**+1.3**
SIMA	**Simav-Kutahya**	**4.74**	**31**	Pn	**Pn**	**06 25 32.4**	**+1.5**
XOR	**Xorichti**	**4.80**	**335**	P	**Pn**	**06 25 32.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**4.95**	**324**	P	**Pn**	**06 25 35.8**	**+2.1**
SHUT	**Suhut-Afyon**	**5.15**	**46**	Pn	**Pn**	**06 25 36.9**	**+0.5**
SEYD	**Seydisehir-KON**	**5.38**	**62**	Pn	**Pn**	**06 25 40.2**	**+0.5**
EVGI	**Lefkada island**	**5.48**	**312**	P	**Pn**	**06 25 41.5**	**+0.7**
LKD2	**Lefkada island**	**5.59**	**313**	P	**Pn**	**06 25 42.6**	**+0.2**
SWA2		**5.80**	**183**	P	**Pn**	**06 25 46.3**	**+1.1**
SWA2				S	**Sn**	**06 26 47.1**	**-3.3**
HNAT	**Natroun**	**6.74**	**142**	P	**Pn**	**06 25 58.4**	**+0.2**
RYAN	**Fayoum**	**7.04**	**146**	P	**Pn**	**06 26 02.3**	**+0.1**
HHAG	**Hagoal**	**7.33**	**132**	P	**Pn**	**06 26 06.7**	**+0.5**
NBNS	**Bani Suef**	**7.91**	**143**	P	**Pn**	**06 26 14.6**	**+0.5**
HFRF	**Wahat Farafira**	**8.15**	**164**	P	**Pn**	**06 26 17.8**	**+0.3**
HFRF				S	Sn	06 27 38.2	-10
ASUT		**9.06**	**146**	P	**Pn**	**06 26 29.9**	**+0.1**

BJI ***11*** *06:37.°43.9,32.°77N×133.°30E,h43km,mB4.8/18,mb4.7/59, Ms4.3/30,Ms7 4.1/30*
MOS ***11*** *06:37.°48.6±0.9,33.°15N×132.°63E,h34km,mb5.0/35,Error ellipse: s-maj=8.1km s-min=4.7km az=105.6*
IDC ***11*** *06:37.°51.6±1.4,33.°20N×132.°64E,h45km±12km,mb4.1/26, mbtmp4.4/32,ML4.0/7,MS3.7/7,Error ellipse: s-maj=12.5km s-min=10.8km az=63.0*
NEIC ***11*** *06:37.°51.9±1.7,33.°21N±0.°07×132.°73E±0.°05,h44km±6km, mb4.9/93,Error ellipse: s-maj=10.1km s-min=5.9km az=165.0*
JMA ***11*** *06:37.°51.3±0.0,33.°2N±0.°1×132.°7E±0.°1,h38km,MD4.6/40, MV4.7/40,SW KOCHI PREF*
JMA Felt III J1 at SW KOCHI PREF .
NIED ***11*** *06:37.°51.3,33.°19N×132.°71E,h38km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$1.30; $M_{r\theta}$0.32; $M_{\theta\phi}$-0.95; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.51000×10^{16} NP1: ϕ_s296.00000°,δ73.00000°,λ-165.00000°. NP2: ϕ_s202.00000°,δ75.00000°,λ-17.00000°.*
ISC 11 06:37:51.4±0.4,**33.°17N**±0.°03×**132.°72E**±0.°03,**h42**km±3km, **h41**km:**pP-P,n374**,σ1°**32**/358,**mb4.8**/109,**MS4.0**/12, **13C-18D,Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWA2	**Uwa jima 2**	**0.09**	**297**	P

JET				*e*S	Sn	06 38 12.9	-0.9
JET	**Tanbara**	**0.66**	**24**	A	A	06 38 03.9	
comp=N,167nm,0.7s,comp=E,151nm,0.3s							
JKHR	**Kochiharuno**	**0.73**	**62**	A	A	06 38 05.1	
comp=N,45nm,1.3s,comp=E,66nm,1.3s							
JSKE	**Saikikamae**	**0.78**	**242**	A	A	06 38 06.0	
comp=N,33nm,1.7s,comp=E,24nm,1.2s							
JUS	**Usuki**	**0.82**	**263**	*i* P	Pn	06 38 06.1	-0.4
JUS				*e*S	Sn	06 38 17.2	-0.3
JUS	**Usuki**	**0.82**	**263**	A	A	06 38 06.1	
comp=N,27nm,2.7s,comp=E,33nm,3.5s							
JKI	**Kunimi**	**1.07**	**296**	A	A	06 38 10.0	
comp=N,66nm,2.3s,comp=E,32nm,2.5s							
JBEP	**Beppuamama**	**1.11**	**279**	A	A	06 38 10.7	
comp=N,54nm,1.3s,comp=E,57nm,1.0s							
JMN	**Monobe**	**1.12**	**60**	Pn	Pn	06 38 10.0	-0.6
JMN				Sn	Sn	06 38 23.1	-1.6
JMN	**Monobe**	**1.12**	**60**	P	Pn	06 38 10.0	-0.6
JMN	**Monobe**	**1.12**	**60**	*i* P	Pn	06 38 09.9	-0.6
JMN	**Monobe**	**1.12**	**60**	A	A	06 38 09.9	
comp=N,24nm,1.0s,comp=E,25nm,1.0s							
JKD	**Kudamatsu**	**1.13**	**321**	A	A	06 38 10.9	
comp=N,41nm,2.3s,comp=E,28nm,4.2s							
JHHC	**Hyugahichiya**	**1.17**	**232**	A	A	06 38 11.7	
comp=N,10.0nm,2.4s,comp=E,17nm,1.8s							
JKIT	**Kitakata**	**1.20**	**243**	A	A	06 38 12.1	
comp=N,10.0nm,0.5s,comp=E,9.0nm,1.9s							
MRT2	**Murotomisaki 2**	**1.21**	**79**	A	A	06 38 12.3	
comp=N,14nm,2.3s,comp=E,21nm,1.1s							
JTSN	**Tsuno**	**1.38**	**228**	A	A	06 38 14.9	
comp=N,11nm,1.6s,comp=E,11nm,2.8s							
JMAF	**Mimaanabuki**	**1.48**	**54**	A	A	06 38 16.1	
comp=N,18nm,1.2s,comp=E,10.0nm,2.4s							
JHIK	**Hikimi**	**1.51**	**334**	A	A	06 38 16.4	
comp=N,14nm,1.2s,comp=E,12nm,2.3s							
JHT	**Toyohira**	**1.51**	**351**	A	A	06 38 16.4	
comp=N,24nm,0.3s,comp=E,26nm,0.8s							
JJG	**Jouge**	**1.51**	**14**	A	A	06 38 16.5	
comp=N,17nm,0.7s,comp=E,31nm,2.8s							
JNU	**Nakatsue**	**1.55**	**269**	P	Pn	06 38 16.5	0.0
comp=E,3µm,0.8s,baz=96,slow=12,SNR=884							
JNU				LR	LR	06 38 56.2	
comp=E,2µm,19.8s,baz=62,slow=44							
JNU	**Nakatsue**	**1.55**	**269**	P	Pn	06 38 16.6	+0.1
JNU	**Nakatsue**	**1.55**	**269**	A	A	06 38 17.2	
comp=N,14nm,2.6s,comp=E,14nm,2.8s							
JJS	**Sakaide**	**1.57**	**40**	A	A	06 38 17.4	
comp=N,32nm,0.6s,comp=E,19nm,1.9s							
JAI	**Aioi**	**1.57**	**66**	A	A	06 38 17.6	
comp=N,18nm,1.1s,comp=E,11nm,1.0s							
JFA	**Akaike**	**1.70**	**289**	A	A	06 38 19.3	
comp=N,23nm,3.1s,comp=E,7.0nm,1.3s							
JIU3	**Izumi3**	**1.72**	**249**	A	A	06 38 19.8	
comp=N,9.0nm,1.4s,comp=E,7.0nm,1.0s							
JTY	**Toyota**	**1.76**	**309**	A	A	06 38 20.1	
comp=N,23nm,2.1s,comp=E,15nm,2.1s							
JTA	**Tamana**	**1.85**	**264**	A	A	06 38 21.5	
comp=N,18nm,3.5s,comp=E,11nm,1.7s							
JHS	**Saijyo**	**1.85**	**10**	P	Pn	06 38 19.2	-1.4
JHS	**Saijyo**	**1.85**	**10**	A	A	06 38 21.4	
comp=N,11nm,1.3s,comp=E,19nm,3.5s							
JTZ	**Takazaki**	**1.87**	**228**	A	A	06 38 22.0	
comp=N,11nm,3.2s,comp=E,12nm,2.9s							
JNKG	**Nichinankitago**	**1.89**	**217**	A	A	06 38 22.3	
comp=N,18nm,5.2s,comp=E,4.0nm,2.6s							
JGT2	**ShimaneMisato**	**1.90**	**355**	A	A	06 38 22.0	
comp=N,11nm,1.0s,comp=E,15nm,2.4s							
JFI	**Itaya**	**1.97**	**278**	A	A	06 38 23.2	
comp=N,11nm,4.7s,comp=E,6.0nm,2.3s							
JNAR	**Kushima--Naru**	**2.05**	**217**	A	A	06 38 24.6	
comp=N,10.0nm,3.6s,comp=E,15nm,3.6s							
JHD	**Hondo**	**2.29**	**253**	A	A	06 38 27.9	
comp=N,6.0nm,1.7s,comp=E,7.0nm,1.7s							
JISK	**Izumosakaura**	**2.33**	**3**	A	A	06 38 28.2	
comp=N,23nm,1.1s,comp=E,24nm,0.8s							
JNM	**Ikuma**	**2.33**	**6**	A	A	06 38 28.3	
comp=N,43nm,2.1s,comp=E,34nm,1.9s							
JKR	**Kurayoshi**	**2.38**	**22**	A	A	06 38 29.1	
comp=N,17nm,1.0s,comp=E,16nm,1.4s							
JMIK	**Miki**	**2.53**	**49**	A	A	06 38 31.3	
comp=N,11nm,1.8s,comp=E,9.0nm,1.3s							
JTU	**Tsushima**	**3.08**	**297**	P	Pn	06 38 37.2	-0.2
JOI	**OKI**	**3.14**	**8**	A	A	06 38 39.8	
comp=N,18nm,1.2s,comp=E,14nm,0.9s							
JKY	**Yasaka**	**3.14**	**38**	A	A	06 38 40.0	
comp=N,13nm,1.9s,comp=E,7.0nm,3.2s							
INU	**Inuyama**	**4.17**	**57**	Pn	Pn	06 38 52.6	+0.2
INU				Sn	Sn	06 39 38.6	-1.3
INU	**Inuyama**	**4.17**	**57**	P	Pn	06 38 53.2	+0.8
JGF	**Kuroka**	**4.53**	**56**	Pn	Pn	06 38 57.5	-0.1
JGF	**Kuroka**	**4.53**	**56**	P	Pn	06 38 57.6	+0.1
JSG	**Sagara**	**4.78**	**70**	Pn	Pn	06 39 00.8	-0.1
JSG	**Sagara**	**4.78**	**70**	P	Pn	06 39 01.8	+0.9
TJN	**Taejon**	**5.45**	**307**	Pn	Pn	06 39 09.3	-0.7
TJN	**Taejon**	**5.45**	**307**	P	Pn	06 39 10.7	+0.7
TJN	**Taejon**	**5.45**	**307⇑**	*e*P	Pn	06 39 10.6	+0.6
MAJO	**Matsushiro**	**5.62**	**52**	Pn	Pn	06 39 13.2	+0.7
MAJO	**Matsushiro**	**5.62**	**52**	P	Pn	06 39 13.4	+0.9
MAJO	**Matsushiro**	**5.62**	**52**	*c i* P	Pn	06 39 13.4	+0.9
MJB9	**Matsu-Tunnel**	**5.62**	**52**		Pn	06 39 13.9	+1.4
MJAR	**Matsushiro Arr**	**5.63**	**52**	P	Pn	06 39 13.8	+1.3
comp=E,14nm,0.3s,baz=244,slow=14,SNR=412							
KSRS	**Korea Array**	**5.80**	**319**	P	Pn	06 39 14.7	-0.1
comp=E,1.8nm,0.3s,baz=137,slow=14,SNR=16							
KSRS				S	Sn	06 40 19.0	-1.0
comp=E,30nm,0.8s,baz=135,slow=19,SNR=1.8							
comp=E,4.3nm,0.4s							
KSAR	**Wonju Array Be**	**5.81**	**318**	Pn	Pn	06 39 13.3	-1.7
KSAR	**Wonju Array Be**	**5.81**	**318**	P	Pn	06 39 13.3	-1.7
KS19	**Wonju Array Si**	**5.86**	**319**		Pn	06 39 14.8	-0.9
JHJ	**Hachijo jima 2**	**5.92**	**89**	P	Pn	06 39 16.4	-0.1
comp=E,48nm,0.3s,baz=252,slow=20,SNR=7.5							
JHJ				LR	LR	06 41 36.3	
comp=E,1µm,18.5s,baz=294,slow=37							
comp=E,313nm,0.5s							
JHJ2	**Mitsune**	**5.95**	**89**	Pn	Pn	06 39 15.9	-1.1
JSD	**Sado**	**6.63**	**41**	Pn	Pn	06 39 27.8	+1.6
JSD	**Sado**	**6.63**	**41**	P	Pn	06 39 27.2	+1.0
JOW	**Kunigami**	**7.40**	**213**	P	Pn	06 39 35.6	-1.3
comp=E,2.1nm,0.3s,baz=90,slow=20,SNR=5.4							
JOW				S	Sn	06 40 54.0	-5.6
comp=E,8.7nm,0.4s,baz=108,slow=20,SNR=1.3							
comp=E,23nm,1.0s							
JMM	**Marumori**	**8.07**	**52**	Pn	Pn	06 39 47.5	+1.5
JMM	**Marumori**	**8.07**	**52**	P	Pn	06 39 47.2	+1.2
MSHR	**Mys Shultsa**	**9.47**	**353⇓**	*e*P	Pn	06 40 04.9	-0.3
PSTR	**Posyet**	**9.58**	**351⇓**	*e*P	Pn	06 40 06.4	-0.3
USA0B	**Ussuriysk Arra**	**11.03**	**357**	Pn	Pn	06 40 25.4	-1.0
USA0B	**Ussuriysk Arra**	**11.03**	**357**	P	Pn	06 40 25.4	-1.0
USRK	**Ussuriysk Ar.**	**11.03**	**357**	Pn	Pn	06 40 26.5	+0.1
USRK	**Ussuriysk Ar.**	**11.03**	**357**	P	Pn	06 40 27.9	+1.5
comp=E,0.5nm,0.3s,baz=190,slow=14,SNR=7.3							
comp=E,1.5nm,0.4s							
MDJ	**Mudanjiang**	**11.68**	**349**	P	Pn	06 40 39.3	+3.9
MDJ				pP		06 40 47.7	
MDJ				S	Sn	06 42 43.4	-1.0
MDJ				pmax	pmax		
comp=E,9.0nm,1.2s							
MDJ				LR	LR		
comp=E,500nm,19.7s							
MDJ				LR	LR		
comp=E,840nm,20.8s							
MDJ	**Mudanjiang**	**11.68**	**349**	P	Pn	06 40 35.0	-0.4
NJ2	**Nanjing**	**11.75**	**268**	*e*P	Pn	06 40 36.1	-0.2
NJ2				pmax	pmax		
comp=E,8.0nm,0.5s							
NJ2				LR	LR		
comp=E,640nm,14.7s							
NJ2				LR	LR		
comp=E,900nm,17.1s							
NJ2				LR	LR		
comp=E,570nm,11.4s							
CN2	**Changchun**	**12.04**	**334**	*e*P	Pn	06 40 43.6	+3.3
CN2				*e*PP	P	06 40 54.4	+2.1
TIA	**Tai'an**	**13.19**	**288**	P	Pn	06 40 58.1	+2.1
TIA				pmax	pmax		
comp=E,21nm,1.3s							
TIA				pmax	pmax		
comp=E,320nm,4.9s							
TIA				LR	LR		
comp=E,2µm,13.1s							
TIA				LR	LR		
comp=E,530nm,6.9s							
TIA				LR	LR		
comp=E,690nm,15.9s							
BNX	**BinXian**	**13.20**	**343**	⇓P	P	06 41 01.5	-3.7
BNX				pmax	pmax		
comp=E,8.0nm,0.9s							
ASAJ	**Asahikawa**	**13.37**	**32**	P	Pn	06 40 57.9	-0.5
comp=E,1.1nm,0.3s,baz=234,slow=17,SNR=7.8							
comp=E,17nm,0.7s							
ASAJ	**Asahikawa**	**13.37**	**32**	P	Pn	06 40 58.5	+0.1
JKA	**Kamikawa-asahi**	**13.37**	**32**	Pn	Pn	06 40 58.5	+0.2
BJT	**Baijiatuau**	**14.94**	**302**		P	06 41 26.2	+1.6
BJI	**Beijing**	**14.94**	**302**	P	P	06 41 24.7	+0.2
BJI				pP	Pn	06 41 33.6	+14
BJI				S	Sn	06 44 07.5	+3.6
BJI				pmax	pmax		
comp=E,31nm,0.8s							
BJI				pmax	pmax		
comp=E,93nm,5.8s							
BJI				LR	LR		
comp=E,430nm,18.7s							
BJI				LR	LR		
comp=E,280nm,22.5s							
BJI				LR	LR		
comp=E,440nm,24.3s							
HNS	**HongShan**	**15.30**	**291**	⇑P	Pn	06 41 25.1	+0.7
HNS				S	Sn	06 44 18.4	+5.7
HNS				pmax	pmax		
comp=E,48nm,0.8s							
YSS	**Yuzhno-Sakhali**	**15.74**	**26**	P	Pn	06 41 30.5	+0.5
YSS	**Yuzhno-Sakhali**	**15.74**	**26**	P	Pn	06 41 30.3	+0.2
YSS	**Yuzhno-Sakhali**	**15.74**	**26**	*e*P	Pn	06 41 30.2	+0.2
YSS				pmax	pmax		
comp=Z,20nm,0.9s							
WHN	**Wuhan**	**15.83**	**265**	⇓P	P	06 41 35.4	+0.9
WHN				sP	pP	06 41 46.9	+2.3
KLR	**Kul'dur**	**16.06**	**358**	P	Pn	06 41 35.0	+0.9
comp=Z,1.0nm,0.3s,baz=158,slow=11,SNR=25							
comp=Z,14nm,0.9s							
KLR	**Kul'dur**	**16.06**	**358**	*e*P	Pn	06 41 34.6	+0.5
KLR				pmax	pmax		
comp=Z,50nm,1.3s							
XLT	**XiLinHaoTe**	**16.83**	**314**	*e*P	P	06 41 49.4	+3.8
XLT				sP	sP	06 42 04.3	+3.2
XLT				pmax	pmax		
comp=Z,7.0nm,0.9s							
XLT				LR	LR		
comp=Z,660nm,18.6s							
XLT				LR	LR		
comp=Z,840nm,18.1s							
LYN	**LuoYang**	**16.88**	**280**	P	P	06 41 45.4	-0.7
LYN				PP	sP	06 41 59.3	-2.3
LYN				pmax	pmax		
comp=Z,63nm,1.1s							
LYN				pmax	pmax		
comp=Z,200nm,4.9s							
LYN				LR	LR		
comp=Z,380nm,13.1s							
LYN				LR	LR		
comp=Z,480nm,14.1s							
LYN				LR	LR		
comp=Z,590nm,19.4s							
HEH	**HeiHe**	**17.51**	**349**	*e*P	P	06 41 53.0	0.0
HEH				pmax	pmax		
comp=Z,20nm,0.7s							
CNSH	**ChangSha**	**17.73**	**259**	P	P	06 41 55.7	+0.2
CNSH				pmax	pmax		
comp=Z,31nm,1.0s							
HHC	**Hu-ho-hao-te**	**18.52**	**300**	*e*P	Pn	06 42 05.8	+1.0
HHC				pmax	pmax		
comp=Z,17nm,0.9s							
HHC				pmax	pmax		
comp=Z,100nm,3.6s							
HHC				LR	LR		
comp=Z,400nm,19.6s							
HHC				LR	LR		
comp=Z,690nm,19.1s							
HHC				LR	LR		
comp=Z,930nm,21.9s							
HIA	**Hailar**	**18.77**	**333**	P	P	06 42 06.7	-0.1
HIA	**Hailar**	**18.77**	**333**	P	P	06 42 06.7	-0.1
HIA				pmax	pmax		
comp=Z,29nm,0.8s							
TYV	**Tymovskoe**	**19.12**	**19**	*e*P	Pn	06 42 18.2	+6.4
TYV				pmax	pmax		
comp=Z,200nm,5.0s							
TYV				pmax	pmax		
comp=Z,10.0nm,1.1s							
BTO	**Baotou**	**19.58**	**299**	*e*P	Pn	06 42 18.4	+0.9
BTO				pP	pP	06 42 28.7	+2.6
BTO				sP	sP	06 42 34.9	+3.5
BTO				PP	PnPn	06 42 37.8	+6.2
BTO				S	Sn	06 45 56.6	+0.2
BTO				pmax	pmax		
comp=Z,39nm,0.8s							
BTO				pmax	pmax		
comp=Z,360nm,5.5s							
BTO				LR	LR		
comp=Z,1µm,15.9s							
BTO				LR	LR		
comp=Z,2µm,19.7s							
BTO				LR	LR		
comp=Z,2µm,19.6s							
HKPS	**Hong Kong Po S**	**19.67**	**241**		P	06 42 16.8	-0.1
HKPS				IAmb	IAmb	06 42 17.2	
comp=Z,46nm,0.8s							
HKPS	**Hong Kong Po S**	**19.67**	**241**	P	P	06 42 16.2	-0.8
HKPS				IAmb	IAmb	06 42 17.2	
comp=Z,46nm,0.8s							
XAN	**Xi'an**	**19.84**	**279**	⇑P	P	06 42 18.7	0.0
XAN				pmax	pmax		
comp=Z,13nm,0.9s							
XAN				LR	LR		
comp=Z,660nm,22.7s							
XAN				LR	LR		
comp=Z,500nm,19.2s							
XAN				LR	LR		
comp=Z,300nm,19.9s							
ENH	**Enshi**	**19.97**	**268**		P	06 42 19.6	-0.5
ENH				IAmb	IAmb	06 42 20.4	
comp=Z,34nm,0.7s							
ENH	**Enshi**	**19.97**	**268**	P	P	06 42 19.6	-0.5
ZEA	**Zeya**	**20.93**	**351**	*e*P	Pn	06 42 32.3	-0.7
ZEA				pmax	pmax		
comp=N,20nm,1.0s							
ZEA				pmax	pmax		
comp=Z,40nm,0.9s							
GYA	**Guiyang**	**23.54**	**260**	P	P	06 42 56.3	-1.8
GYA				pmax	pmax		
comp=Z,16nm,1.0s							
LZH	**Lanzhou**	**23.90**	**285**	*e*P	P	06 43 00.8	-0.6
LZH				pP	pP	06 43 10.3	-2.3
LZH				sP	sP	06 43 15.5	-2.2
LZH				pmax	pmax		
comp=Z,76nm,1.1s							
LZH				LR	LR		
comp=Z,770nm,17.5s							
LZH				LR	LR		
comp=Z,760nm,15.4s							
LZH				LR	LR		
comp=Z,1µm,16.3s							
ULN	**Ulaanbaatar**	**24.27**	**315**	P	P	06 43 04.1	-0.6
ULN	**Ulaanbaatar**	**24.27**	**315**	*d i* P	P	06 43 04.8	+0.1
ULN				pmax	pmax		
comp=Z,12nm,0.7s							
CD2	**Chengdu**	**24.62**	**273**	P	P	06 43 07.1	-0.8
CD2				sP	sP	06 43 23.6	-0.6
CD2				pmax	pmax		
comp=Z,90nm,1.1s							
SONM	**Songino Array**	**24.65**	**314**	P	P	06 43 07.6	-0.5
SONM	**Songino Array**	**24.65**	**314**	P	P	06 43 07.3	-0.8
comp=Z,4.2nm,0.5s,baz=134,slow=9.7,SNR=25							
comp=Z,4.2nm,0.5s							
SONM	**Songino Array**	**24.65**	**314**	P	P	06 43 07.6	-0.5
SONM				pmax	pmax		
comp=Z,7.0nm,1.2s							
QIZ	**Qiongzhong**	**24.84**	**241**	P	P	06 43 08.7	-1.2
QIZ				S	S	06 47 27.5	-2.4
QIZ				LR	LR		
comp=Z,260nm,14.4s							
QIZ				LR	LR		
comp=Z,410nm,11.7s							
QIZ				LR	LR		
comp=Z,210nm,23.4s							
PETK	**Petropavlovsk-**	**26.77**	**34**	P	P	06 43 26.5	-0.6
comp=Z,5.0nm,0.9s,baz=212,slow=9.9,SNR=3.5							
PETK				LR	LR	06 53 30.1	
comp=Z,237nm,22.0s,baz=114,slow=35							
comp=Z,5.0nm,0.9s							
GTA	**Gaotai**	**27.14**	**293**	*e*P	P	06 43 29.6	-1.2
GTA				pP	pP	06 43 44.2	+2.1
GTA				pmax	pmax		
comp=Z,4.0nm,0.9s							
PET	**Petropavlovsk**	**27.18**	**35⇓**	*e*P	P	06 43 30.5	-0.2
PET				pmax	pmax		
comp=Z,61nm,1.2s							
PZH	**PanZhiHua**	**27.62**	**264**	P	P	06 43 37.1	+2.0
PZH				pmax	pmax		
comp=Z,20nm,0.7s							
PZH				pmax	pmax		
comp=Z,150nm,5.3s							
YAK	**Yakutsk**	**28.94**	**357**	LR	LR	06 54 50.9	
comp=Z,167nm,21.5s,baz=206,slow=35							
MA2	**Magadan**	**29.00**	**19**	LR	LR	06 54 55.8	
comp=Z,59nm,18.2s,baz=232,slow=35							
MA2	**Magadan**	**29.00**	**19**	P	P	06 43 47.8	+0.9
MA2	**Magadan**	**29.00**	**19⇑**	*e*P	P	06 43 49.2	+2.3
MA2				pmax	pmax		
comp=Z,17nm,2.6s							
SGSI	**Sangihe**	**30.10**	**194**	P	P	06 43 59.9	+2.9
UBPT	**Khong Chiam**	**30.43**	**241**	P	P	06 43 59.6	-0.4
UBPT				IAmb	IAmb	06 44 00.3	
comp=Z,11nm,0.7s							
UBPT	**Khong Chiam**	**30.43**	**241**	P	P	06 43 59.8	-0.2
NONG	**Nongkai**	**30.48**	**248**	P	P	06 44 01.0	+0.5
MYLDM	**Lahad Datu**	**30.84**	**209**	P	P	06 44 03.4	-0.2
MYLDM				IAmb	IAmb	06 44 09.7	
comp=Z,42nm,1.2s							
MYLDM	**Lahad Datu**	**30.84**	**209**	P	P	06 44 04.7	+1.1
KKM	**Kota Kinabalu**	**31.05**	**213**	P	P	06 44 07.3	+1.7
SEY	**Seymchan**	**32.27**	**17⇑**	*e*P	P	06 44 17.3	+1.6
SEY				pmax	pmax		
comp=Z,7.0nm,2.1s							
H11N2	**WAKE ISLAND Hy**	**33.24**	**105**	T	T	07 19 14.4	
baz=300,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**33.24**	**105**	T	T	07 19 14.8	
baz=300,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**33.26**	**105**	T	T	07 19 15.8	
baz=300,slow=75,SNR=22							
CMAR	**Chiang Mai Arr**	**33.58**	**253**	P	P	06 44 27.3	-0.4
CMAR	**Chiang Mai Arr**	**33.58**	**253**	P	P	06 44 26.6	-1.1
comp=Z,1.2nm,0.3s,baz=55,slow=8.0,SNR=11							
CMAR				PcP	PcP	06 47 07.9	+0.4
comp=Z,0.8nm,0.4s,baz=24,slow=1.0,SNR=5.8							
comp=Z,1.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**33.58**	**253**	*i* P	P	06 44 27.2	-0.4
CMAR				pmax	pmax		
comp=Z,2.0nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**33.71**	**107**	T	T	07 19 46.8	
baz=303,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**33.72**	**107**	T	T	07 19 47.0	
baz=303,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**33.73**	**107**	T	T	07 19 48.1	
baz=303,slow=75,SNR=22							
FAKI	**Fak Fak**	**35.90**	**181**	P	P	06 44 47.6	0.0
FAKI	**Fak Fak**	**35.90**	**181**	P	P	06 44 49.1	+1.5
comp=Z,47nm,0.9s							
FAKI				pP	pP	06 45 01.6	+2.5
comp=Z,47nm,0.9s							
SBUM	**Sibu**	**36.10**	**216**	P	P	06 44 49.3	-0.1
SBUM	**Sibu**	**36.10**	**216**	P	P	06 44 51.3	+2.0
WMQ	**Urumqi**	**36.41**	**300**	*e*P	P	06 44 53.5	+1.7
WMQ				LR	LR		
comp=Z,580nm,13.1s							
WMQ				LR	LR		
comp=Z,710nm,19.3s							
WMQ				LR	LR		
comp=Z,650nm,21.9s							
KSM	**Kuching**	**37.91**	**218**	P	P	06 45 07.0	+2.3
TTSI	**Tana Toraja**	**38.03**	**201**	P	P	06 45 07.0	+1.3
KDI	**Kendari**	**38.15**	**196**	P	P	06 45 08.0	+1.3
TIXI	**Tiksi**	**38.59**	**358**	LR	LR	07 01 29.9	
comp=Z,227nm,20.1s,baz=188,slow=37							
TIXI	**Tiksi**	**38.59**	**358⇑**	*e*P	P	06 45 09.0	-0.8
TIXI				pmax	pmax		
comp=Z,4.0nm,1.4s							
SRIT	**Nakonsritamara**	**39.15**	**239**	P	P	06 45 16.0	+0.8
ZAA0	**Zalesovo Array**	**39.50**	**316**	P	P	06 45 17.4	-0.2
ZAA0				IAmb	IAmb	06 45 20.4	
comp=Z,14nm,0.9s							
ZALV	**Zalesovo Beam**	**39.50**	**316**	P	P	06 45 17.1	-0.6
ZALV	**Zalesovo Beam**	**39.50**	**316**	PcP	PcP	06 47 24.7	0.0
comp=Z,0.7nm,0.5s,baz=156,slow=1.4,SNR=2.3							
ZALV	**Zalesovo Beam**	**39.50**	**316**	P	P	06 45 17.1	-0.6
BILL	**Bilibino**	**39.87**	**19**	P	P	06 45 21.3	+0.7
BILL	**Bilibino**	**39.87**	**19⇓**	*e*P	P	06 45 22.3	+1.7
BILL				pmax	pmax		
comp=Z,9.0nm,0.8s							
BILL	**Bilibino**	**39.87**	**19**	P	P	06 45 22.8	+2.2
BILL				pP	pP	06 45 33.1	+0.8
MK31	**Makanchi Array**	**40.29**	**305**	P	P	06 45 23.1	-1.3
MK31	**Makanchi Array**	**40.29**	**305**	*c i* P	P	06 45 22.8	-1.6
MKAR	**Makanchi Array**	**40.29**	**305**	P	P	06 45 23.0	-1.4
comp=Z,2.1nm,0.6s,baz=93,slow=10,SNR=32							
MKAR				PcP	PcP	06 47 26.7	-0.7
comp=Z,0.3nm,0.6s,baz=82,slow=5.3,SNR=1.3							
comp=Z,2.1nm,0.6s							
MAKZ	**Makanchi**	**40.51**	**305**	P	P	06 45 25.0	-1.2
MAKZ	**Makanchi**	**40.51**	**305**	P	P	06 45 25.0	-1.2
MAKZ				pmax	pmax		
comp=Z,3.0nm,0.8s							
MAKZ	**Makanchi**	**40.51**	**305**	P	P	06 45 24.9	-1.3
MAKZ				sP	sP	06 45 40.6	-2.3
KULM	**Kulim**	**40.75**	**234**	P	P	06 45 28.6	+0.1
KULM	**Kulim**	**40.75**	**234**	P	P	06 45 28.9	+0.5
IPM	**Ipoh**	**41.09**	**233**	P	P	06 45 31.0	-0.3
IPM	**Ipoh**	**41.09**	**233**	P	P	06 45 31.0	-0.3
MYKOM	**Kota Tinggi**	**41.32**	**227**	P	P	06 45 33.9	+0.8
MYKOM	**Kota Tinggi**	**41.32**	**227**	P	P	06 45 34.4	+1.2
WUS	**Wushi**	**42.80**	**297**	P	P	06 45 44.0	-1.1
KURK	**Kurchatov**	**42.86**	**311**	P	P	06 45 44.2	-1.2
KURK	**Kurchatov**	**42.86**	**311**	*c i* P	P	06 45 43.9	-1.4
KURK				pmax	pmax		
comp=Z,14nm,1.2s							
KURK	**Kurchatov**	**42.86**	**311**	P	P	06 45 44.0	-1.3
KURBB	**Kurchatov Arra**	**42.91**	**311**	P	P	06 45 44.3	-1.4
comp=Z,5.8nm,0.6s,baz=97,slow=9.0,SNR=54							
KURBB				PcP	PcP	06 47 34.4	-1.4
comp=Z,0.4nm,0.5s,baz=98,slow=3.4,SNR=2.1							
comp=Z,5.8nm,0.6s							
**P

comp=Z,16nm,0.6s,baz=101,slow=9.3,SNR=85
BVAR PcP **PcP** **06 47 53.0 -0.4**
comp=Z,1.4nm,0.5s,baz=108,slow=4.2,SNR=4.2
comp=Z,16nm,0.6s
BRVK Borovoye 48.05 314 P **P** **06 46 25.8 -0.5**
BRVK Borovoye 48.05 314 *c i* P **P** **06 46 25.6 -0.8**
BRVK pmax pmax
comp=Z,17nm,0.6s
BRVK Borovoye 48.05 314 P **P** **06 46 25.9 -0.5**
BRVK pP **pP** **06 46 37.4 -0.8**
KNRA Kununurra 48.72 185 P **P** **06 46 32.0 +0.2**
KNRA Kununurra 48.72 185 P **P** **06 46 31.7 -0.1**
comp=Z,24nm,1.1s
KK31 Karatay Array 48.91 301 P **P** **06 46 32.4 -0.8**
KK31 IAmb IAmb 06 46 33.2
comp=Z,13nm,0.7s
KK31 Karatay Array 48.91 301 P **P** **06 46 32.4 -0.8**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 48.91 301 P **P** **06 46 32.3 -0.9**
KKAR Karatay Array 48.91 301 P **P** **06 46 32.3 -0.9**
GAR Garm 49.91 295 P **P** **06 46 39.8 -1.2**
SIMJ Simiganj 50.98 295 P **P** **06 46 48.0 -1.0**
SIMJ IAmb IAmb 06 46 49.0
comp=Z,11nm,0.8s
SIMJ Simiganj 50.98 295 P **P** **06 46 48.1 -1.0**
DZET Dzherino 51.08 296 P **P** **06 46 48.9 -0.9**
DZET pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 52.09 290 P **P** **06 46 56.6 -1.0**
KBL Kabul 52.09 290 P **P** **06 46 56.6 -1.0**
KBL pmax pmax
comp=Z,6.0nm,0.9s
WB0 Warramunga Arr 52.67 178 P **P** **06 47 01.4 -0.1**
WB0 IAmb IAmb 06 47 02.1
comp=Z,8.8nm,0.6s
WRAB Tennant Creek 52.83 178 *d i* P **P** **06 47 02.9 +0.2**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WB2 Warramunga Arr 52.84 178 P **P** **06 47 02.7 -0.1**
WB2 IAmb IAmb 06 47 03.9
comp=Z,10nm,0.8s
WRA Warramunga Arr 52.84 178 P **P** **06 47 03.0 +0.2**
WRA Warramunga Arr 52.84 178 P **P** **06 47 02.8 0.0**
comp=Z,8.4nm,0.8s,baz=355,slow=8.2,SNR=48
comp=Z,8.4nm,0.8s
WRA Warramunga Arr 52.84 178 *i* P **P** **06 47 03.0 +0.2**
WRA pmax pmax
comp=Z,8.0nm,0.6s
WR0 Warramunga Arr 52.86 178 P **P** **06 47 03.3 +0.3**
WR0 IAmb IAmb 06 47 03.7
comp=Z,11nm,0.7s
I20K Naaghedeneel 53.25 31 P **P** **06 47 06.7 +1.3**
I20K IAmb IAmb 06 47 06.9
comp=Z,14nm,0.8s
B21K Ikpikpuk River 53.30 25 P **P** **06 47 05.6 0.0**
B21K IAmb IAmb 06 47 22.1
comp=Z,12nm,1.2s
SVE Sverdlovsk 53.36 319 *e*P **P** **06 47 06.7 +0.4**
SVE pmax pmax
comp=Z,18nm,0.6s
K20K Telida 53.46 32 P **P** **06 47 07.8 +0.8**
K20K IAmb IAmb 06 47 44.1
comp=Z,40nm,1.9s
G21K Allakaket 53.64 29 P **P** **06 47 08.5 +0.3**
G21K IAmb IAmb 06 47 26.7
comp=Z,9.6nm,1.0s
QIS Mount Isa 53.83 172 P **P** **06 47 10.4 +0.3**
TV1H Townsville Har 53.84 163 P **P** **06 47 11.5 +1.3**
CAST Castle Rocks 54.35 32 P **P** **06 47 14.7 +1.2**
CAST IAmb IAmb 06 47 26.4
comp=Z,26nm,1.8s
PALK Pallekele 54.51 254 P **P** **06 47 15.7 +0.4**
PALK IAmb IAmb 06 47 16.4
comp=Z,13nm,0.9s
PALK Pallekele 54.51 254 P **P** **06 47 15.7 +0.4**
PALK pmax pmax
comp=Z,13nm,0.9s
ARTI Arti 54.65 319 P **P** **06 47 15.3 -0.4**
ARTI IAmb IAmb 06 47 15.9
comp=Z,11nm,0.8s
ARTI Arti 54.65 319 P **P** **06 47 14.9 -0.8**
comp=Z,9.9nm,0.6s,baz=102,slow=3.4,SNR=16
comp=Z,9.9nm,0.6s
ARTI Arti 54.65 319 *c i* P **P** **06 47 14.9 -0.8**
ARTI 06 49 14.9
ARTI S **S** **06 54 52.0 -0.5**
ARTI SS **SS** **06 58 33.7 -1.6**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
ARTI Arti 54.65 319 P **P** **06 47 14.9 -0.8**
ARTI pP **pP** **06 47 26.1 -1.7**
ARTI sP **sP** **06 47 31.0 -1.7**
ABKAR Akbulak array 54.96 310 P **P** **06 47 17.1 -1.0**
D24K Happy Valley 55.35 25 P **P** **06 47 21.3 +0.8**
D24K IAmb IAmb 06 47 36.3
comp=Z,25nm,1.6s
C24K Franklin Bluff 55.37 25 P **P** **06 47 20.9 +0.2**
I23K Minto, Yukon-K 55.41 30 P **P** **06 47 21.6 +0.6**
I23K IAmb IAmb 06 47 39.7
comp=Z,24nm,1.6s
E24K Your Creek 55.53 27 P **P** **06 47 22.9 +0.9**
MCK McKinley 55.73 32 P **P** **06 47 24.2 +0.8**
MCK McKinley 55.73 32 P **P** **06 47 24.2 +0.8**
MCK pmax pmax
comp=Z,45nm,1.9s
F24K Squaw Lake 55.80 27 P **P** **06 47 25.5 +1.6**
RND Reindeer 55.80 32 P **P** **06 47 25.3 +1.3**
RND IAmb IAmb 06 47 39.5
comp=Z,9.9nm,0.9s
RND Reindeer 55.80 32 P **P** **06 47 25.3 +1.3**
RND pmax pmax
comp=Z,10.0nm,0.9s
PSA00 Pilbara Seismi 55.81 195 P **P** **06 47 22.9 -1.4**
AKTO Aktyubinsk 55.93 312 P **P** **06 47 24.6 -0.5**
comp=Z,5.8nm,0.6s,baz=79,slow=9.5,SNR=15
comp=Z,5.8nm,0.6s
WRH Wood River Hil 56.02 31 P **P** **06 47 24.7 -0.7**
WRH IAmb IAmb 06 48 15.9
comp=Z,16nm,1.5s
ILAR Eielson Array 56.49 30 P **P** **06 47 28.6 -0.3**
comp=Z,0.9nm,0.9s,baz=275,slow=7.8,SNR=9.6
comp=Z,0.9nm,0.9s
HDA Harding Lake 56.52 31 P **P** **06 47 29.8 +0.8**
HDA IAmb IAmb 06 47 47.3
comp=Z,14nm,1.0s
AS01 Alice Springs 56.53 179 P **P** **06 47 30.2 +0.6**
AS31 Alice Springs 56.53 179 P **P** **06 47 28.6 -0.9**
ASAR Alice Springs 56.53 179 P **P** **06 47 29.3 -0.3**
ASAR Alice Springs 56.53 179 P **P** **06 47 29.9 +0.3**
comp=Z,4.7nm,0.7s,baz=11,slow=13,SNR=82
comp=Z,4.7nm,0.7s
COCO West Island 56.62 223 P **P** **06 47 29.2 -1.1**
COCO West Island 56.62 223 P **P** **06 47 29.2 -1.1**
COCO pmax pmax
comp=Z,94nm,1.2s
BMAR Burnt Mountain 57.08 27 P **P** **06 47 32.6 -0.4**
SCRK Sand Creek 57.86 31 P **P** **06 47 39.1 +0.4**
SCRK IAmb IAmb 06 47 57.3
comp=Z,9.7nm,1.0s
WRKA Warakurna 58.04 185 P **P** **06 47 41.1 +0.9**
MENT Mentasta 58.18 32 P **P** **06 47 40.7 -0.1**
MENT IAmb IAmb 06 48 01.4
comp=Z,7.5nm,0.8s
MENT Mentasta 58.18 32 P **P** **06 47 41.2 +0.4**
M26K Nabesna, AK 58.61 33 P **P** **06 47 45.1 +1.3**
VRDI Verde Repeater 58.65 34 P **P** **06 47 45.4 +1.1**
KIRV Kirov 58.99 323 *ce*P **P** **06 47 46.0 -0.4**
L27K Beaver Creek, 58.99 32 P **P** **06 47 47.5 +1.0**
L27K IAmb IAmb 06 48 00.3
comp=Z,7.9nm,1.1s
BCAR Beaver Creek A 59.01 32 P **P** **06 47 47.5 +0.9**
M27K Edge Creek, AK 59.13 33 P **P** **06 47 48.2 +0.6**
I28M Miner Creek 59.27 29 P **P** **06 47 46.8 -1.6**
E29M Blow River 59.39 25 P **P** **06 47 48.5 -0.6**
H29M Whitestone 59.72 28 P **P** **06 47 51.8 +0.4**
G30M tAoh Zraii Nji 60.35 27 P **P** **06 47 57.2 +1.5**
G30M IAmb IAmb 06 48 20.2
comp=Z,16nm,1.2s
L29M L29M 60.61 31 P **P** **06 47 56.3 -1.3**
L29M IAmb IAmb 06 49 46.6
comp=Z,27nm,1.8s
M29M Somme Creek 60.65 32 P **P** **06 47 59.7 +1.8**
M29M IAmb IAmb 06 48 20.7
comp=Z,8.2nm,1.1s

EIDS Eidsvold 60.79 161 P **P** **06 47 59.6 +0.6**
EIDS IAmb IAmb 06 48 00.5
comp=Z,16nm,1.4s
INK Inuvik 60.98 25 P **P** **06 48 01.2 +1.3**
G31M Satah River 61.11 27 P **P** **06 48 01.7 +0.9**
M30M Minto, Yukon 61.35 32 P **P** **06 48 03.7 +1.0**
M30M IAmb IAmb 06 49 48.3
comp=Z,20nm,1.8s
A36M Sachs Harbour 62.41 20 P **P** **06 48 09.8 +0.4**
A36M IAmb IAmb 06 48 36.8
comp=Z,12nm,0.9s
FARO Faro, Yukon 62.98 32 P **P** **06 48 14.7 +1.1**
KLMR Klimovskoe 63.13 327 *e*P **P** **06 48 12.3 -2.2**
KLMR pmax pmax
comp=Z,25nm,1.3s
FORT Forrest 63.76 184 P **P** **06 48 18.8 -0.1**
C36M Paulatuk 63.82 23 P **P** **06 48 20.2 +1.3**
C36M IAmb IAmb 06 48 31.7
comp=Z,7.9nm,0.8s
ARCES ARCESS Array B 65.01 338 P **P** **06 48 25.7 -1.0**
comp=Z,4.9nm,1.0s,baz=66,slow=9.4,SNR=10.0
ARCES LR LR 07 20 35.3
comp=Z,91nm,21.1s,baz=59,slow=40
comp=Z,4.9nm,1.0s
STKA Stephens Creek 65.24 172 P **P** **06 48 29.1 +0.5**
comp=Z,6.2nm,0.9s,baz=330,slow=8.5,SNR=10
comp=Z,6.2nm,0.9s
STKA Stephens Creek 65.24 172 *de*P **P** **06 48 28.8 +0.3**
OBN Obninsk 66.79 322‖ *eP* **P** **06 48 37.9 -0.4**
OBN *e* 06 49 08.2
OBN *e* 06 51 01.9
OBN pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 67.85 308 P **P** **06 48 44.2 -1.0**
comp=Z,6.8nm,0.9s,baz=97,slow=1.6,SNR=12
comp=Z,6.8nm,0.9s
KBZ Khabaz 67.85 308 *de*P **P** **06 48 45.1 -0.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 67.89 309 *e*P **P** **06 48 45.5 -0.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
SHA1 Shidzhatmaz 68.01 309‖ *eP* **P** **06 48 48.0 +1.4**
FINES FINESS Array B 68.77 330 P **P** **06 48 50.5 -0.2**
comp=Z,3.6nm,0.4s,baz=66,slow=6.0,SNR=37
comp=Z,3.6nm,0.4s
FINES FINESS Array B 68.77 330 *i* P **P** **06 48 50.7 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.4s
DAG Danmarks Havn 68.88 353 P **P** **06 48 49.9 -1.2**
DAG pmax pmax
comp=Z,8.0nm,1.2s
NEEM North Greenlan 69.62 1 *i* P P 06 49 00.9 +4.9
NEEM IAmb IAmb 06 49 09.3
comp=Z,7.0nm,0.8s
TULEG Thule 69.72 5 P **P** **06 48 56.8 +0.5**
TULEG Thule 69.72 5 *i* P **P** **06 48 57.0 +0.7**
TULEG IAmb IAmb 06 48 58.7
comp=Z,36nm,0.6s
ARPS Mount Arapiles 70.10 172 P **P** **06 48 58.9 -0.2**
YKA Yellowknife Ar 70.60 27 P **P** **06 49 02.6 +0.7**
comp=Z,0.5nm,0.8s,baz=301,slow=6.6,SNR=8.3
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 70.60 27 *i* P **P** **06 49 06.0 +4.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
MNK Minsk 71.51 324 *i* P **P** **06 49 06.1 -1.5**
MNK *i* *PP **pP** **06 49 17.6 -2.5**
MNK *i* 06 51 44.7
MNK *i* PPP PPP 06 53 28.5
MNK *i* S **S** **06 58 22.8 -0.4**
MNK *i* SS **SS** **07 02 59.5 +1.7**
MNK pmax pmax
comp=E,26nm,0.8s
MNK pmax pmax
comp=Z,18nm,0.7s
MNK pmax pmax
comp=N,8.0nm,0.6s
MNK MLR MLR
comp=Z,172nm,17.0s
MNK MLR MLR
comp=E,124nm,15.0s
MNK MLR MLR
comp=N,182nm,19.0s
MARD Mardin 72.18 303 P **P** **06 49 11.7 -0.4**
MARD IAmb IAmb 06 49 12.7
comp=Z,12nm,0.7s
AK03 Malin Array Si 72.78 320 P **P** **06 49 14.2 -1.1**
AKASG Malin Array Be 72.79 320 P **P** **06 49 14.7 -0.6**
AKASG Malin Array Be 72.79 320 P **P** **06 49 14.3 -1.0**
comp=Z,5.7nm,0.6s,baz=56,slow=6.4,SNR=25
comp=Z,5.7nm,0.6s
AKASG Malin Array Be 72.79 320 *i* P **P** **06 49 14.6 -0.7**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 72.79 320 P **P** **06 49 14.5 -0.8**
AKBB IAmb IAmb 06 49 15.5
comp=Z,12nm,1.1s
AKBB Malin Array Si 72.79 320‖ *i* P **P** **06 49 14.8 -0.5**
AKBB pmax pmax
comp=Z,42nm,3.9s
AKBB Malin Array Si 72.79 320 P **P** **06 49 14.4 -0.9**
KIEV Kiev 72.81 320 P **P** **06 49 14.6 -0.8**
KIEV Kiev 72.81 320 P **P** **06 49 14.6 -0.8**
KIEV pmax pmax
comp=Z,10.0nm,1.1s
KIEV Kiev 72.81 320 P **P** **06 49 14.3 -1.1**
comp=Z,54nm,1.9s
PABE Paberze 72.87 326 P **P** **06 49 15.7 0.0**
MI28 Mi28,Pidlybu 73.51 320 P **P** **06 49 16.9 -2.7**
LUBAR Lubar, Ukraine 74.00 319 P **P** **06 49 19.8 -2.7**
RNPP8 Varash 74.25 321 P **P** **06 49 21.7 -2.2**
RNPP5 Staryi Chortor 74.29 321 P **P** **06 49 22.5 -1.6**
SUMG Summit 74.36 357 P **P** **06 49 24.1 -0.6**
SUMG IAmb IAmb 06 49 53.1
comp=Z,45nm,2.0s
SUMG Summit 74.36 357 P **P** **06 49 24.1 -0.6**
SUMG pmax pmax
comp=Z,45nm,2.0s
SUMG Summit 74.36 357 *i* P **P** **06 49 25.0 +0.3**
SUMG IAmb IAmb 06 49 29.5
comp=Z,6.3nm,1.0s
HFS Hagfors 74.47 333 P **P** **06 49 24.7 -0.3**
comp=Z,3.2nm,0.5s,baz=77,slow=7.8,SNR=12
comp=Z,3.2nm,0.5s
NC405 NORSAR Array S 74.56 334 P **P** **06 49 25.3 -0.3**
GAZ Gaziantep 74.73 304 P **P** **06 49 27.5 +0.4**
GAZ IAmb IAmb 06 49 28.1
comp=Z,11nm,0.8s
NB2 NORSAR Subarra 74.79 335 P **P** **06 49 27.2 +0.3**
comp=Z,7.4nm,1.0s,baz=50,slow=5.9
NB2 NORSAR Subarra 74.79 335 P **P** **06 49 27.7 +0.8**
NOA NORSAR Array B 74.79 335 P **P** **06 49 26.7 -0.2**
comp=Z,1.7nm,0.6s,baz=49,slow=5.7,SNR=12
comp=Z,1.7nm,0.6s
NORES NORESS Array B 74.87 334 P **P** **06 49 27.7 +0.4**
RAYN Ar Rayn 75.32 289 P **P** **06 49 29.9 -0.7**
RAYN IAmb IAmb 06 49 30.9
comp=Z,9.3nm,0.9s
RAYN Ar Rayn 75.32 289 P **P** **06 49 29.9 -0.7**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
KMPD K-Podol'skiy 75.46 319 P **P** **06 49 29.5 -1.4**
NUUG Nuugaatsiaq 75.50 2 *i* P **P** **06 49 29.4 -1.4**
NUUG IAmb IAmb 06 49 30.8
comp=Z,5.4nm,0.6s
BR131 Keskin Array S 75.84 308 P **P** **06 49 33.0 -0.5**
BR131 IAmb IAmb 06 49 34.5
comp=Z,8.8nm,0.8s
BR131 Keskin Array S 75.84 308 *d i* P **P** **06 49 33.3 -0.2**
BRTR Keskin Array B 75.84 308 P **P** **06 49 33.0 -0.5**
BRTR Keskin Array B 75.84 308 P **P** **06 49 32.8 -0.8**
comp=Z,6.4nm,0.8s,baz=90,slow=5.2,SNR=32
comp=Z,6.4nm,0.8s
BRTR Keskin Array B 75.84 308 *i* P **P** **06 49 33.2 -0.3**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BR104 Keskin Array S 75.85 308 P **P** **06 49 31.8 -1.7**
comp=Z,74nmcomp=Z,11nm,0.9s
BR106 Keskin Array S 75.85 308 P **P** **06 49 32.9 -0.6**
comp=Z,75nmcomp=Z,9.6nm,0.9s
BR105 Keskin Array S 75.86 308 P **P** **06 49 33.1 -0.5**
comp=Z,95nmcomp=Z,13nm,0.9s
UMMG Uummannaq 76.39 2 *i* P **P** **06 49 32.8 -3.0**
UMMG IAmb IAmb 06 49 34.4
comp=Z,7.4nm,0.9s

BUR08 Bucovina Ar. S 76.67 318 P **P** **06 49 38.0 0.0**
BURAR Bucovina Array 76.68 318 P **P** **06 49 38.1 +0.1**
BURAR Bucovina Array 76.68 318 P **P** **06 49 38.1 +0.1**
VRI Vrincioaia 76.81 316 P **P** **06 49 39.6 +0.9**
VRI Vrincioaia 76.81 316 P **P** **06 49 39.6 +0.9**
BORA Eskisehir 77.84 310 P **P** **06 49 43.3 -1.4**
BORA IAmb IAmb 06 49 44.9
comp=Z,10nm,0.8s
OJC Ojcow 78.02 323 *e*P **P** **06 49 46.0 +0.6**
OJC Ojcow 78.02 323 P **P** **06 49 45.8 +0.4**
OJC IAmb IAmb 06 49 47.2
comp=Z,16nm,0.9s
OJC Ojcow 78.02 323 P **P** **06 49 45.8 +0.4**
OJC pmax pmax
comp=Z,16nm,0.9s
MMAI Mount Meron Ar 78.14 302 P **P** **06 49 46.1 -0.3**
comp=Z,0.5nm,0.3s,baz=64,slow=12,SNR=1.8
comp=Z,0.5nm,0.3s
NIE Niedzica 78.26 322 *e*P **P** **06 49 47.9 +1.2**
KSP Ksiaz 79.37 325 *e*P **P** **06 49 53.8 +1.0**
MORC Moravsky Berou 79.44 323 P **P** **06 49 54.5 +1.3**
MORC pmax pmax
comp=Z,7.0nm,1.0s
VRAC Vranov 80.21 323 P **P** **06 49 57.5 +0.2**
comp=Z,3.8nm,0.7s,baz=37,slow=5.1,SNR=4.2
comp=Z,3.8nm,0.7s
CLL Collm 80.62 326 *i* P **P** **06 49 59.9 +0.4**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 80.62 326 AMS AMS 08 15 00.0
comp=Z,300nm,19.8s
CLL Collm 80.62 326 *i* P **P** **06 49 59.9 +0.4**
comp=Z,6.0nm,0.9s
GERES GERESS Array B 81.95 324 P **P** **06 50 07.0 +0.3**
comp=Z,1.2nm,0.7s,baz=45,slow=9.9,SNR=3.3
comp=Z,1.2nm,0.7s
GERES GERESS Array B 81.95 324 P **P** **06 50 07.0 +0.3**
NVAR Mina Array Bea 82.94 48 P **P** **06 50 14.1 +1.8**
comp=Z,0.2nm,0.4s,baz=313,slow=4.0,SNR=2.5
comp=Z,0.2nm,0.4s
ATD Arta Tunnel 83.69 280 LR LR 07 31 52.5
comp=Z,9.0nm,19.7s,baz=14,slow=39
EKA Eskdalemuir Ar 84.09 336 P **P** **06 50 18.2 +0.7**
comp=Z,2.1nm,0.8s,baz=53,slow=7.3,SNR=1.6
comp=Z,2.1nm,0.8s
PDAR Pinedale Array 85.35 41 P **P** **06 50 24.6 +0.1**
comp=Z,0.4nm,0.9s,baz=321,slow=4.2,SNR=3.9
comp=Z,0.4nm,0.9s
ULM Lac du Bonnet 86.48 29 P **P** **06 50 28.6 -1.0**
ULM IAmb IAmb 06 50 43.3
comp=Z,5.8nm,0.8s
ULM Lac du Bonnet 86.48 29 P **P** **06 50 28.6 -1.0**
ULM pmax pmax
comp=Z,6.0nm,0.9s
PV10 Paradox Valley 88.58 44 P **P** **06 50 39.2 -1.1**
PV10 IAmb IAmb 06 51 04.5
comp=Z,9.9nm,1.0s
QSPA South Pole Qui 122.93 180 PKP **PKPdf** **06 56 41.0 -1.1**
comp=Z,1.2nm,0.9s,baz=0.0,slow=4.0,SNR=1.7
LPAZ La Paz 154.76 53 PKPab **PKPab** **06 58 01.8 -2.6**
comp=Z,1.2nm,0.5s,baz=296,slow=8.1,SNR=11

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*IDC **11** 06:43:52.6±0.6, 50°.09S×115°.65E, h0km, mb4.5/11, mbtmp4.5/11, MS3.9/18, Error ellipse: s-maj=32.0km s-min=16.3km az=113.0*
*NEIC **11** 06:43:55.8±2.1, 50°.12S±0°.09×115°.3E±0°.1, h10km±1km, mb4.9/24, Error ellipse: s-maj=15.1km s-min=11.7km az=334.0*
*GCMT **11** 06:43:56.8±0.4, 49°.90S±0°.02×114°.83E±0°.06, h23km±1km, MW4.9/73, Moment Tensor Solution. s16,c17; s73,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.51±.25; $M_{\theta\theta}$2.07±.15; $M_{\phi\phi}$0.44±.15; $M_{r\theta}$0.80±.18; $M_{\phi\theta}$-0.91±.09; $M_{\phi r}$1.63±.24; Best double couple: $M_0$2.96600×10^{16} NP1:ϕ_s138.00000°, δ50.00000°, λ-53.00000°. NP2: ϕ_s269.00000°, δ52.00000°, λ-126.00000°. Principal axes: T 2.4780, Plg1.0000°, Azm23.0000°; N 0.9800, Plg27.0000°, Azm293.0000°; P -3.4550, Plg63.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 06:43:54.6±0.3, **50°.12S**±0°.07×**115°.5E**±0°.1, **h10**km, **n129**, σ**0**s**92**/122, **mb4.8**/28, **MS3.9**/17, **3C-4D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.24**	**356**	T	T	07 02 57.6	
baz=175,slow=73,SNR=74							
H01W1	**Cape Leeuwin H**	**15.25**	**356**	T	T	07 02 57.7	
baz=175,slow=73,SNR=82							
H01W3	**Cape Leeuwin H**	**15.26**	**356**	T	T	07 02 54.3	
baz=175,slow=73,SNR=80							
CASY	**Casey**	**16.40**	**187**	Pn	**Pn**	**06 47 44.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**17.23**	**5**	Pn	**Pn**	**06 47 55.2**	**0.0**
NWAO	**Narrogin (SRO)**	**17.23**	**5**	LR	LR	06 52 49.6	
comp=Z,764nm,21.1s,baz=208,slow=31							
MORW	**Morawa**	**21.03**	**1**	P	**P**	**06 48 37.0**	**-1.4**
FORT	**Forrest**	**21.52**	**31**	P	**P**	**06 48 44.2**	**+0.6**
FORT				IAmb	IAmb	06 48 54.1	
comp=Z,56nm,1.1s							
BBOO	**Buckleboo**	**23.06**	**49**	P	**P**	**06 49 00.8**	**+0.8**
BBOO				IAmb	IAmb	06 49 08.4	
comp=Z,22nm,1.0s							
STKA	**Stephens Creek**	**26.65**	**57**	P	**P**	**06 49 33.2**	**-0.1**
STKA	**Stephens Creek**	**26.65**	**57**	P	**P**	**06 49 32.4**	**-1.0**
comp=Z,6.2nm,0.9s,baz=212,slow=9.7,SNR=5.4							
comp=Z,6.2nm,0.9s							
PSA00	**Pilbara Seismi**	**28.70**	**9**	P	**P**	**06 49 52.1**	**+0.4**
PSA00				IAmb	IAmb	06 50 13.2	
comp=Z,23nm,1.9s							
ASAR	**Alice Springs**	**30.08**	**35**	P	**P**	**06 50 04.6**	**+0.5**
ASAR	**Alice Springs**	**30.08**	**35**	P	**P**	**06 50 02.6**	**-1.5**
comp=Z,2.0nm,0.8s,baz=206,slow=7.8,SNR=12							
ASAR				LR	LR	07 00 38.8	
comp=Z,260nm,20.8s,baz=76,slow=34							
comp=Z,2.0nm,0.8s							
AS31	**Alice Springs**	**30.08**	**35**	P	**P**	**06 50 03.5**	**-0.6**
MAW	**Mawson**	**31.05**	**216**	P	**P**	**06 50 12.6**	**+0.5**
comp=Z,38nm,1.0s,baz=117,slow=16,SNR=2.0							
MAW				LR	LR	07 01 21.3	
comp=Z,264nm,18.9s,baz=96,slow=34							
comp=Z,38nm,1.0s							
VNDA	**Vanda**	**32.49**	**163**	P	**P**	**06 50 24.1**	**-0.6**
VNDA				IAmb	IAmb	06 51 04.0	
comp=Z,21nm,1.6s							
VNDA	**Vanda**	**32.49**	**163**	LR	LR	07 03 02.0	
comp=Z,237nm,18.1s,baz=306,slow=35							
FITZ	**Fitzroy Crossi**	**32.98**	**18**	P	**P**	**06 50 29.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**32.98**	**18**	LR	LR	07 02 36.6	
comp=Z,299nm,19.4s,baz=144,slow=34							
WRA	**Warramunga Arr**	**33.65**	**33**	P	**P**	**06 50 36.0**	**+0.7**
WRA	**Warramunga Arr**	**33.65**	**33**	P	**P**	**06 50 33.8**	**-1.6**
comp=Z,9.2nm,1.0s,baz=202,slow=10,SNR=11							
comp=Z,9.2nm,1.0s							
WB2	**Warramunga Arr**	**33.65**	**33**	P	**P**	**06 50 35.4**	**0.0**
WRAB	**Tennant Creek**	**33.66**	**33**	P	**P**	**06 50 34.8**	**-0.7**
WRAB				IAmb	IAmb	06 50 42.6	
comp=Z,28nm,1.1s							
WR0	**Warramunga Arr**	**33.71**	**34**	P	**P**	**06 50 35.2**	**-0.7**
WR0				IAmb	IAmb	06 50 42.9	
comp=Z,27nm,1.2s							
WB0	**Warramunga Arr**	**33.83**	**33**	P	**P**	**06 50 36.1**	**-0.9**
WB0				IAmb	IAmb	06 50 43.9	
comp=Z,20nm,1.1s							
SYO	**Syowa Base**	**39.60**	**213**‖	*eP*	**P**	**06 51 24.5**	**-1.0**
SYO	**Syowa Base**	**39.60**	**213**‖	*es*P	sP	06 51 30.0	+1.7
QSPA	**South Pole Qui**	**40.01**	**180**	P	**P**	**06 51 29.8**	**+0.5**
QSPA				IAmb	IAmb	06 51 57.0	
comp=Z,60nm,2.0s							
QSPA	**South Pole Qui**	**40.01**	**180**	P	**P**	**06 51 28.9**	**-0.3**
comp=Z,2.9nm,0.8s,baz=296,slow=2.1,SNR=13							
QSPA				LR	LR	07 07 27.5	
comp=Z,372nm,18.0s,baz=324,slow=35							
comp=Z,2.9nm,0.8s							
LEM	**Lembang**	**43.65**	**349**	LR	LR	07 05 59.1	
comp=Z,128nm,21.3s,baz=42,slow=30							
ELIB	**Princess Elisa**	**43.97**	**207**	*dP*	**P**	**06 52 00.9**	**-0.5**
RTZ	**Ruatahuna**	**44.27**	**99**	P	**P**	**06 52 04.6**	**+0.3**
RTZ				IAmb	IAmb	06 52 07.9	
comp=Z,15nm,1.0s							
PMG	**Port Moresby**	**48.35**	**44**	LR	LR	07 12 06.9	
comp=Z,185nm,19.5s,baz=275,slow=35							
BELA	**Belgrano 2**	**50.95**	**188**	P	**P**	**06 52 55.6**	**+0.2**

BELA IAmb IAmb 06 53 03.2
comp=Z,13nm,0.9s
SNAA Sanae 50.99 201 P **P** **06 52 55.8 -0.1**
SNAA IAmb IAmb 06 53 09.8
comp=Z,36nm,1.6s
SNAA Sanae 50.99 201 ⇑P **P** **06 52 56.2 +0.3**
comp=Z,69nm,0.8s
SNAA Sanae 50.99 201 P **P** **06 52 55.5 -0.5**
comp=Z,8.7nm,1.1s,baz=149,slow=5.0,SNR=3.6
SNAA LR LR 07 13 10.7
comp=Z,232nm,18.7s,baz=104,slow=34
comp=Z,8.7nm,1.1s
JAY Jayapura 52.05 33 LR LR 07 14 34.5
comp=Z,330nm,21.0s,baz=190,slow=36
VNA2 Neumayer--Watz 52.56 200 ⇑P **P** **06 53 07.0 -0.6**
comp=Z,6.5nm,0.8s,baz=160,slow=16
HNR Honiara 54.72 58 LR LR 07 15 45.0
comp=Z,136nm,18.3s,baz=274,slow=35
GUMO Guam 68.50 31 LR LR 07 24 55.0
comp=Z,48nm,18.4s,baz=168,slow=36
CMAR Chiang Mai Arr 69.82 343 P **P** **06 55 05.3 +0.2**
CMAR Chiang Mai Arr 69.82 343 P **P** **06 55 04.8 -0.3**
comp=Z,1.4nm,0.3s,baz=172,slow=5.7,SNR=14
CMAR LR LR 07 25 09.9
comp=Z,17nm,18.5s,baz=220,slow=36
comp=Z,1.4nm,0.3s
BRDH Bariadhala 75.49 337 LR LR 07 25 26.5
comp=Z,57nm,19.2s,baz=245,slow=33
PZH PanZhiHua 77.25 347 P **P** **06 55 52.2 +3.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
SHL Shillong 78.20 338 P **P** **06 55 54.3 +0.1**
KMBO Kilima Mbogo 81.57 278 P **P** **06 56 13.5 +0.6**
comp=Z,1.4nm,0.2s,baz=71,slow=10,SNR=4.7
comp=Z,1.4nm,0.2s
NJ2 Nanjing 81.86 3 *e*P **P** **06 56 16.3 +2.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
XAN Xi'an 83.99 355 ⇑P **P** **06 56 24.9 +0.3**
XAN sP pwP 06 56 31.9 +0.1
XAN pmax pmax
comp=Z,10.0nm,1.5s
PTCN Pitcairn Islan 85.37 124 P **P** **06 56 33.0 +1.0**
LZH Lanzhou 86.44 351 *e*P **P** **06 56 38.2 +1.2**
LZH pP pwP 06 56 45.0 +0.8
LZH pmax pmax
comp=Z,21nm,1.1s
HNS HongShan 87.15 359 ⇓P **P** **06 56 41.3 +1.1**
HNS pmax pmax
comp=Z,10.0nm,1.4s
LL01 San Ignacio de 87.63 174 P **P** **06 56 43.1 +0.3**
KSAR Wonju Array Be 87.88 10 P **P** **06 56 44.1 +0.4**
KSRS Korea Array 87.89 10 P **P** **06 56 43.0 -0.7**
comp=Z,2.3nm,0.9s,baz=181,slow=4.1,SNR=5.3
KSRS LR LR 07 37 07.1
comp=Z,13nm,20.7s,baz=30,slow=36
comp=Z,2.3nm,0.9s
MJAR Matsushiro Arr 88.60 18 P **P** **06 56 46.5 -0.7**
comp=Z,4.2nm,1.1s,baz=195,slow=5.6,SNR=4.3
MJAR LR LR 07 34 25.1
comp=Z,22nm,19.5s,baz=125,slow=34
comp=Z,4.2nm,1.1s
PLCA Paso Flores 89.37 175 P **P** **06 56 51.9 +0.7**
PLCA IAmb IAmb 06 57 17.2
comp=Z,16nm,1.5s
PLCA Paso Flores 89.37 175 P **P** **06 56 51.1 -0.1**
comp=Z,2.9nm,0.9s,baz=206,slow=5.0,SNR=8.2
PLCA LR LR 07 34 53.3
comp=Z,140nm,18.1s,baz=250,slow=34
comp=Z,2.9nm,0.9s
GTA Gaotai 90.21 348 *e*P **P** **06 56 55.2 +0.4**
GTA sP pwP 06 57 01.6 -0.4
GTA pmax pmax
comp=Z,4.0nm,1.2s
HHC Hu-ho-hao-te 90.65 357 *e*P **P** **06 56 56.0 -0.8**
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,180nm,5.4s
CN2 Changchun 93.95 7 *e*P **P** **06 57 07.8 -4.0**
WMQ Urumqi 96.64 340 *e*P **P** **06 57 26.4 +2.1**
AAK Ala-Archa 99.07 331 LR LR 07 36 30.2
comp=Z,80nm,21.5s,baz=247,slow=32
FINES FINESS Array B 131.89 320 PKP **PKPdf** **07 03 06.6 -0.1**
comp=Z,2.2nm,0.9s,baz=134,slow=4.0,SNR=2.2
ILAR Eielson Array 136.74 38 PKP **PKPdf** **07 03 15.1 -0.7**
comp=Z,0.5nm,1.0s,baz=256,slow=3.4,SNR=2.3
SOCE Pocosol 137.05 150 **PKPdf** **07 03 16.9 -1.0**
BMAR Burnt Mountain 138.50 35 PKPdf **PKiKP** **07 03 20.8 -0.3**
O02D Mt. Diablo Mer 138.71 81 PKPdf **PKPdf** **07 03 20.0 -0.3**
VHRN Van Horn 144.24 107 **PKPab** **07 03 29.1 +0.7**
E08A Dider Farm, El 144.24 74 PKPdf **PKPdf** **07 03 29.9 +0.1**
MTPU Mount Pierson 144.30 91 **PKPdf** **07 03 30.7 0.0**
TCRU Three Creeks R 144.46 90 PKPdf **PKPdf** **07 03 31.1 +0.3**
D08A Wollman Farm, 144.57 73 PKPdf PKPbc 07 03 29.7 +0.5
MSU Marysvale 144.58 91 PKPdf **PKPab** **07 03 30.0 +0.4**
MFID Camas Ranch 144.84 81 **PKPdf** **07 03 31.4 +0.2**
DUG Dugway, Tooele 145.11 88 PKPbc **PKPdf** **07 03 32.3 +0.5**
NOR Nord 145.13 349 *i* P **PKPbc** **07 03 28.5 -1.5**
BMNM Bear Mountains 145.16 101 PKPdf **PKPdf** **07 03 32.5 +0.3**
C09A Chrisman Ranch 145.28 73 **PKPdf** **07 03 31.9 +0.3**
PECS Pecos 145.33 108 PKPbc **PKPbc** **07 03 32.5 +0.3**
BGU Big Grassy Mou 145.36 86 **PKPdf** **07 03 32.4 +0.2**
SAND Sanderson 145.38 111 PKPdf **PKPdf** **07 03 32.7 +0.2**
Q16A Castle Valley 145.46 91 PKPdf **PKPbc** **07 03 33.0 +0.5**
PLID Pearl Lake 145.52 78 **PKPdf** **07 03 32.8 +0.4**
A36M Sachs Harbour 145.62 29 **PKPdf** **07 03 31.6 +0.2**
TMUT Trail Mountain 145.65 90 PKPdf **PKPbc** **07 03 33.7 +0.4**
MPU Maple Canyon 145.77 89 PKPdf **PKPdf** **07 03 32.7 -0.3**
HLID Hailey 145.81 81 PKPdf **PKPab** **07 03 34.3 +0.4**
DRIO Del Rio 145.89 114 PKPdf **PKPbc** **07 03 34.1 +0.2**
CLNB Carlsbad 145.94 107 PKPdf **PKPbc** **07 03 34.6 +0.5**
HVU Hansel Valley 145.97 85 PKPbc **PKPab** **07 03 35.1 +0.5**
SRU San Rafael Swe 145.98 91 PKPbc **PKPbc** **07 03 34.8 +0.6**
MNHN Monahans 145.98 109 PKPbc **PKPbc** **07 03 34.4 +0.2**
ANMO Albuquerque 146.09 100 PKPbc **PKPbc** **07 03 34.7 +0.1**
ANMO Albuquerque 146.09 100 PKPbc **PKPdf** **07 03 34.1 +0.4**
comp=Z,4.0nm,0.9s,baz=175,slow=8.0,SNR=21
GDHS Morne Mazeau, 146.16 185 PKPbc **PKPdf** **07 03 34.6 +0.5**
MVCO Mesa Verde 146.19 95 **PKPbc** **07 03 35.1 +0.2**
PV13 Radium Mtn., P 146.54 94 **PKPbc** **07 03 36.3 +0.4**
PV23 Carpenter Ridg 146.58 93 PKPbc **PKPbc** **07 03 36.8 +0.7**
PV11 David Mesa, Pa 146.58 93 **PKPbc** **07 03 36.1 +0.1**
ODSA Odessa 146.66 108 PKPbc **PKPbc** **07 03 36.5 +0.2**
OZNA Ozona 146.68 111 PKPbc **PKPbc** **07 03 37.0 +0.7**
HNDO Hondo 146.75 115 PKPbc **PKPbc** **07 03 37.2 +0.7**
SGCY Sterling City 147.38 110 **PKPbc** **07 03 38.6 +0.3**
S22A 4UR Ranch, Cre 147.57 96 **PKPbc** **07 03 39.6 +0.7**
MSTX Muleshoe 147.77 105 **PKPbc** **07 03 39.9 +0.5**
DLMT Dillon 147.79 80 **PKPbc** **07 03 38.4 -0.7**
POST Post 147.95 108 PKPbc **PKPbc** **07 03 41.1 +1.3**
DAG Danmarks Havn 147.98 342 *i* P **PKPdf** **07 03 36.1 +0.7**
O20A White River Ci 148.02 91 **PKPbc** **07 03 40.8 +0.9**
BRDY Brady 148.20 113 PKPbc **PKiKP** **07 03 41.8 -0.4**
PDAR Pinedale Array 148.53 86 PKPbc **PKPdf** **07 03 38.1 +0.5**
comp=Z,0.5nm,0.8s,baz=239,slow=2.4,SNR=3.6
T25A Trinidad 148.75 99 PKPbc **PKPbc** **07 03 42.8 +0.8**
APMT Aspermont 148.97 109 **PKPbc** **07 03 42.9 +0.5**
EUNU Eureka 149.03 7 **PKPbc** **07 03 41.0 -0.2**
Q24A Divide 149.35 96 PKPbc **PKPbc** **07 03 44.3 +0.8**
RTBA Rita Blanca 149.38 102 PKPbc **PKPbc** **07 03 43.9 +0.5**
HNVL Huntsville, TX 149.86 118 PKPbc **PKiKP** **07 03 45.5 0.0**
FW03 Perrin-Whitt E 150.01 112 PKPbc **PKPbc** **07 03 45.3 +0.4**
YKA Yellowknife Ar 150.42 46 **PKPbc** **07 03 44.4 -0.5**
YKA Yellowknife Ar 150.42 46 PKP **PKPdf** **07 03 38.5 -1.1**
comp=Z,0.1nm,0.7s,baz=264,slow=2.1,SNR=2.0
YKA PKPbc **PKPbc** **07 03 44.2 -0.7**
comp=Z,1.9nm,0.8s,baz=276,slow=2.4,SNR=36
Z35A Perchaven, San 150.69 112 PKPbc **PKPbc** **07 03 47.1 +0.6**
WMOK Wichita Mounta 150.74 109 PKPdf **PKPdf** **07 03 40.8 -0.3**
WMOK **PKPbc** **07 03 46.7 +0.1**
WMOK PKPab **PKPab** **07 03 54.7 +1.0**
NEEM North Greenlan 152.09 354 *i* P **PKPbc** **07 03 48.1 -0.7**
RES Resolute Bay 152.30 17 PKPdf **PKPdf** **07 03 41.1 -1.0**
RES **PKPbc** **07 03 49.0 +0.1**
RES PKPab **PKPab** **07 03 59.4 +0.4**
CROK Carrier 152.39 107 PKPdf **PKPdf** **07 03 41.9 -1.6**
CROK PKPbc **PKiKP** **07 03 51.4 +0.7**
CROK PKPab **PKPab** **07 04 00.5 -0.1**
KULLO Kullorsuaq 155.25 355 *i* P **PKPdf** **07 03 49.8 +3.5**
CGM3 Cape Girardeau 157.91 116 PKPdf **PKPdf** **07 03 49.5 -1.4**
CGM3 PKPab **PKPab** **07 04 23.5 -0.5**

*LDG **11** 06:48:34.9±0.1, 47°.27N×6°.64E, h2km, Md2.2/2, Ml2.1/3, Error ellipse: s-maj=2.2km s-min=1.6km az=100.0*
STR 11 06:48:34.8±0.4, 47°.N±2°×°±°, h4km, MLv2.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=103.0, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMF	**Charmoille**	**0.02**	**185**	Pg	Pg	06 48 34.8	-0.8
CHMF				Sg	Sg	06 48 35.8	-0.5
BOUC	**Bouclans**	**0.27**	**265**	Pg	Pg	06 48 39.9	-0.1
BOUC				Sg	Sg	06 48 44.6	+1.0
BRANT	**Les Verrieres**	**0.35**	**201**	Pg	Pg	06 48 41.6	+0.1
BRANT				Sg	Sg	06 48 46.6	+0.3
RONF	**Ronchamp**	**0.44**	**359**	Pg	Pg	06 48 43.2	-0.1
RONF				Sg	Sg	06 48 49.6	+0.5
HINF	**Hinteralfeld**	**0.56**	**14**	*e*Pg	Pg	06 48 45.7	+0.1
HINF				*e*Sg	Sg	06 48 52.2	-0.7
	7.6nm,0.4s						
HINF				*e*Sn	Sb	06 48 56.4	+0.7
	0.9nm,0.2s						
BALST	**Balsthal**	**0.71**	**84**	Sg	Sb	06 48 60.0	+0.1
BALST	**Balsthal**	**0.71**	**84**	Pg	Pb	06 48 49.1	-0.7
RIVEL	**MONT RIVEL**	**0.71**	**225**	Pg	Pb	06 48 49.9	+0.1
RIVEL				Sg	Sn	06 49 01.6	-1.5
CABF	**La Chapelle**	**0.76**	**211**	*e*Pg	Pb	06 48 50.6	-0.1
CABF				*e*Sg	Sb	06 49 00.8	-0.6
	3.9nm,0.2s						
HAU	**Haudompre**	**0.77**	**344**	*e*Pg	Pg	06 48 49.4	0.0
HAU				*e*Sg	Sb	06 49 00.5	-1.0
	16nm,0.3s						
WALT	**Westhalten**	**0.81**	**31**	Pg	Pg	06 48 50.6	+0.2
ENDD	**Endenburg**	**0.86**	**58**	Pg	Pg	06 48 51.1	-0.1
ENDD	**Endenburg**	**0.86**	**58**	Sg	Sg	06 49 02.7	+0.3
ECH	**Echery**	**1.01**	**20**	Pg	Pg	06 48 53.3	-0.8
ECH				Sg	Sg	06 49 07.0	-0.1
ECH	**Echery**	**1.01**	**20**	Pg	Pg	06 48 53.4	-0.6
ECH				Sg	Sg	06 49 07.0	-0.1
XAFF	**Xaffevillers**	**1.14**	**359**	Pg	Pg	06 48 56.1	-0.5
XAFF				Sg	Sb	06 49 12.2	0.0
CDF	**Champ du Feu**	**1.22**	**20**	*e*Pg	Pg	06 48 56.7	-1.4
CDF				*e*Sg	Sg	06 49 12.8	-1.1
	3.8nm,0.3s						
DIX	**Grande Dixence**	**1.30**	**156**	Pg	Pg	06 48 59.3	-0.3
DIX	**Grande Dixence**	**1.30**	**156**	Sg	Sb	06 49 17.1	+0.2
EMBD	**Embd, Matterta**	**1.33**	**142**	Pg	Pb	06 49 00.4	+0.1
LOR	**Lormes**	**1.90**	**271**	*e*Sg	Sb	06 49 34.3	+0.1
	1.6nm,0.3s						

*IDC **11** 06:59:21.7±1.3, 2°.15N×127°.63E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=98.2km s-min=17.4km az=71.0*
*DJA **11** 06:59:36.8±0.5, 2°N±3°×12°7E±°, h96km±7km, M4.3/11, mB5.0/1, mb4.3/3, MLv4.3/11, Mw(mB)4.4/1*
ISC 11 06:59:35.1±1.0, 1°.89N±0°.08×127°.4E±0°.1, h112km, n14, σ0°89/15, mb3.5/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.11**	**182**	P	**Pn**	**06 59 58.6**	**+0.9**
SGSI	**Sangihe**	**2.59**	**313**	P	**Pn**	**07 00 16.8**	**+1.0**
SGSI				S	**Sn**	**07 00 46.3**	**-0.8**
KMSI	**Cibinong**	**3.67**	**249**	P	**Pn**	**07 00 31.0**	**+0.9**
SANI	**Sanana**	**4.17**	**200**	P	**Pn**	**07 00 36.6**	**-0.1**
NLAI	**Namlea**	**5.11**	**184**	P	**Pn**	**07 00 51.0**	**+1.6**
	0.3nm2μm38nm,0.9s						
MRSI	**Marisa**	**5.65**	**256**	P	**Pn**	**07 00 57.8**	**+1.1**
	0.2nm35nm,1.3s						
APSI	**Ampana**	**6.40**	**244**	P	**Pn**	**07 01 07.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.94**	**185**	P	**P**	**07 03 57.6**	**-0.7**
	3.1nm,0.8s,baz=352,slow=8.9,SNR=2.3						
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**22.74**	**163**	P	**P**	**07 04 27.4**	**-0.5**
	8.2nm,0.5s,baz=342,slow=9.8,SNR=34						
	8.2nm,0.5s						
ASAR	**Alice Springs**	**26.18**	**166**	P	**P**	**07 04 58.6**	**-0.7**
	0.9nm,0.5s,baz=344,slow=9.1,SNR=13						
	0.9nm,0.5s						
STKA	**Stephens Creek**	**36.18**	**159**	P	**P**	**07 06 26.9**	**0.0**
	1.7nm,0.3s,baz=314,slow=10,SNR=7.6						
	1.7nm,0.3s						
SONM	**Songino Array**	**49.24**	**341**	P	**P**	**07 08 11.6**	**-0.7**
	0.2nm,0.4s,baz=174,slow=4.3,SNR=2.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.45**	**326**	P	**P**	**07 09 26.8**	**+0.6**
	0.2nm,0.5s,baz=119,slow=8.1,SNR=3.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.64**	**328**	P	**P**	**07 09 54.5**	**+0.3**
	0.2nm,0.5s,baz=125,slow=6.4,SNR=2.2						
	0.2nm,0.5s						

*SJA **11** 07:02:39.0±0.6, 35°.71S×73°.69W, h29km±6km, ML3.8, MW3.9*
*GUC **11** 07:02:44.9±0.9, 35°.76S×73°.07W, h21km±5km, ML3.6*
ISC 11 07:02:41.1±1.4, 35°.72S±0°.03×73°.23W±0°.06, h6km±11km, n33, σ1°82/54, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.03**	**178**	⇓*i*P	**Pg**	**07 03 01.8**	**+1.0**
BI05				*e*S	**Sg**	**07 03 14.5**	**+0.3**
BI05				IAML		07 03 19.3	
	comp=E,4μm,0.5s						
BI05	**Punta Hualpn**	**1.03**	**178**	*e*P	**Pg**	**07 03 01.4**	**+0.5**
BI05				IAML		07 03 19.7	
	comp=Z,911nm,0.3s						
GO05	**Hualane**	**1.27**	**57**	⇑*i*P	**Pn**	**07 03 05.1**	**-0.4**
GO05				*i* S	**Sb**	**07 03 20.8**	**-1.4**
GO05				IAML		07 03 24.9	
	comp=N,1μm,0.5s						
ML02	**Panimavida**	**1.47**	**92**	⇓*i*P	**Pb**	**07 03 09.2**	**+0.3**
ML02				*i* S	**Sn**	**07 03 27.2**	**-0.6**
ML02				IAML		07 03 35.5	
	comp=N,2μm,0.6s						
ML02	**Panimavida**	**1.47**	**92**	*e*P	**Pb**	**07 03 09.2**	**+0.3**
ML02				*e*S	**Sg**	**07 03 30.6**	**+2.2**
ML02				IAML		07 03 35.2	
	comp=Z,1μm,0.6s						
BO03	**Pichilemu**	**1.60**	**41**	*e*P	**Pb**	**07 03 10.6**	**-0.5**
BO03				IAML		07 03 37.2	
	comp=N,1μm,0.3s						
BI02	**San Fabin de**	**1.84**	**121**	⇑*i*P	**Pn**	**07 03 13.8**	**+0.5**
BI02				*i* S	**Sn**	**07 03 36.7**	**-0.3**
BI02				IAML		07 03 39.1	
	comp=N,714nm,0.8s						
BO01	**Tunca**	**2.20**	**54**	*e*P	**Pb**	**07 03 20.5**	**-0.8**
BO01				*e*S	**Sn**	**07 03 46.3**	**+0.6**
BO01				IAML		07 03 57.5	
	comp=N,260nm,0.3s						
BO01	**Tunca**	**2.20**	**54**	*e*P	**Pn**	**07 03 19.5**	**+1.3**
BO01				*e*S	**Sg**	**07 03 51.9**	**+0.1**
BO01				IAML		07 03 56.1	
	comp=Z,236nm,0.6s						
BO02	**Sierra Bellavi**	**2.20**	**66**	*e*P	**Pn**	**07 03 19.1**	**+0.7**
BO02				IAML		07 03 53.7	
	comp=N,1μm,0.3s						
BO02	**Sierra Bellavi**	**2.20**	**66**	*e*P	**Pb**	**07 03 19.9**	**-1.5**
BO02				*e*S	**Sg**	**07 03 50.5**	**-1.4**
BO02				IAML		07 03 53.2	
	comp=Z,760nm,0.5s						
VA05	**Santo Domingo**	**2.45**	**33**	IAML		07 04 08.1	
	comp=N,642nm,0.5s						
MT01	**Popeta**	**2.46**	**42**	*e*P	**Pn**	**07 03 22.3**	**+0.4**
MT01				*e*S	**Sb**	**07 03 56.2**	**-0.2**
MT01				IAML		07 04 06.0	
	comp=Z,197nm,0.5s						
MT09	**Talagante**	**2.67**	**44**	*e*P	**Pn**	**07 03 26.6**	**+1.7**
MT09				IAML		07 04 11.8	
	comp=N,518nm,0.5s						
BO04	**La Punta**	**2.76**	**52**	*e*P	**Pn**	**07 03 27.8**	**+1.8**
BO04				IAML		07 04 12.1	
	comp=N,310nm,0.6s						
CANA	**Caviahue**	**2.78**	**142**	*e*P	**Pn**	**07 03 24.2**	**-2.1**
CANA				*e*S	**Sb**	**07 04 04.1**	**-1.5**
MT12	**Pirque**	**2.96**	**49**	*e*P	**Pn**	**07 03 30.3**	**+1.5**
MT12				IAML		07 04 22.2	
	comp=E,721nm,0.6s						
MT02	**Curacav**	**3.00**	**36**	IAML		07 04 25.3	
	comp=E,107nm,0.4s						
MT02	**Curacav**	**3.00**	**36**	*e*P	**Pn**	**07 03 29.9**	**+0.7**
MT02				*e*S	**Sb**	**07 04 10.6**	**-1.3**
MT02				IAML		07 04 18.5	
	comp=Z,126nm,0.5s						
MT05	**Renca**	**3.10**	**42**	*e*P	**Pn**	**07 03 29.2**	**-1.5**
MT05				*e*S	**Sb**	**07 04 12.7**	**-2.1**
MT05				IAML		07 04 25.7	
	comp=Z,157nm,0.5s						
LMEL	**Las Melosas**	**3.11**	**54**	*e*P	**Pb**	**07 03 34.4**	**-2.5**
LMEL				*e*S	**Sb**	**07 04 14.3**	**-0.8**
EDS3	**Malargue**	**3.11**	**92**	*e*P	**Pb**	**07 03 34.2**	**-2.8**
EDS3				*e*S	**Sb**	**07 04 17.7**	**+2.4**
MT13	**San Alfonso**	**3.12**	**52**	*e*P	**Pb**	**07 03 34.0**	**-3.1**
MT13				*e*S	**Sb**	**07 04 14.0**	**-1.5**
MT13				IAML		07 04 24.4	
	comp=Z,155nm,1.3s						
MT03	**Universidad Ad**	**3.15**	**46**	*e*P	**Pn**	**07 03 33.5**	**+2.1**
MT03				*e*S	**Sb**	**07 04 14.8**	**-1.5**
MT03				IAML		07 04 28.8	
	comp=Z,218nm,0.4s						
ROC1	**El Roble**	**3.29**	**34**	*e*P	**Pn**	**07 03 34.9**	**+1.5**
ROC1				*e*S	**Sg**	**07 04 28.4**	**+1.6**
PEL	**Peldehue**	**3.32**	**40**	*e*P	**Pn**	**07 03 33.7**	**+0.1**
PEL				*e*S	**Sg**	**07 04 24.2**	**-3.5**
MT04	**Ro Olivares**	**3.44**	**49**	*e*P	**Pn**	**07 03 37.9**	**+2.5**
MT04				*e*S	Sn	07 04 05.5	-11
MT04				IAML		07 04 07.5	
	comp=Z,454nm,0.1s						
MT08	**Bocatoma Ro**	**3.48**	**50**	*e*P	**Pb**	**07 03 40.4**	**-3.0**
MT08				*e*S	Sn	07 04 06.3	-12
MT08				IAML		07 04 08.4	
	comp=Z,319nm,0.2s						
VA03	**San Esteban**	**3.69**	**38**	*e*P	**Pn**	**07 03 40.2**	**+1.5**
VA03				*e*S	**Sb**	**07 04 31.8**	**+0.1**
VA03				IAML		07 04 43.6	
	comp=Z,151nm,1.0s						
LR03	**Panguipulli**	**3.97**	**170**	*e*P	**Pn**	**07 03 44.0**	**+1.4**
LR03				*e*S	**Sn**	**07 04 29.2**	**-0.2**
LR03				IAML		07 04 53.5	
	comp=Z,160nm,0.5s						
RFA	**San Rafael**	**4.01**	**78**	*e*P	**Pn**	**07 03 47.1**	**+3.9**
RFA				*e*S	**Sb**	**07 04 40.1**	**-0.9**
RFA				IAML		07 04 51.8	
	comp=Z,47nm,0.7s						
RTLS	**Leoncito**	**5.10**	**41**	*e*P	**Pn**	**07 04 01.0**	**+2.7**
RTLS				*e*S	**Sb**	**07 05 17.3**	**+4.8**
RTLS				IAML		07 05 28.2	
	comp=Z,83nm,1.0s						
CO03	**El Pedregal**	**5.31**	**24**	*e*P	**Pn**	**07 04 02.5**	**+1.4**
CO03				*e*S	**Sn**	**07 05 03.6**	**+1.0**
CO03				IAML		07 05 43.9	
	comp=Z,27nm,0.6s						

IDC 11 07:06:11.1±3.0, 50°.11S×115°.98E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=84.9km s-min=59.0km az=148.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.27**	**354**	T	T	07 25 22.1	
	baz=175,slow=73,SNR=4.5						
H01W1	**Cape Leeuwin H**	**15.27**	**354**	T	T	07 25 21.6	
	baz=175,slow=73,SNR=5.5						
H01W3	**Cape Leeuwin H**	**15.28**	**354**	T	T	07 25 24.2	
	baz=175,slow=73,SNR=5.0						
ASAR	**Alice Springs**	**29.88**	**34**	P	P	07 12 21.6	+1.2
	0.6nm,0.7s,baz=209,slow=7.4,SNR=5.3						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**33.46**	**33**	P	P	07 12 50.6	-1.2
	1.8nm,0.9s,baz=202,slow=10,SNR=6.2						
	1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**69.91**	**343**	P	P	07 17 23.9	+0.1
	1.5nm,0.3s,baz=167,slow=5.9,SNR=4.2						
	1.5nm,0.3s						
YKA	**Yellowknife Ar**	**150.17**	**46**	PKPbc	PKPbc	07 26 02.1	-0.4
	0.5nm,0.8s,baz=276,slow=2.5,SNR=8.3						

*NNC **11** 07:14:48.1±0.7, 49°.74N×81°.76E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=7.8km s-min=3.0km az=46.0, Suspected Mining explosion.*
*IDC **11** 07:14:51.1±1.3, 49°.72N×81°.58E, h0km, mbtmp2.4/3, ML1.9/3, Error ellipse: s-maj=18.8km s-min=10.3km az=60.0*
ISC 11 07:14:48.7±1.2, 49°.57N±0°.08×81°.4E±0°.1, h0km, n7, σ0°69/6, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.13**	**304**	⇑Pg	**Pg**	**07 15 29.1**	**-0.4**
	3.6nm,0.6s						
KURK				⇓Lg	Lg	07 15 59.2	
	16nm,1.0s						
KURBB	**Kurchatov Arra**	**2.13**	**301**	Pn	**Pb**	**07 15 28.4**	**+0.3**
	0.2nm,0.3s,baz=112,slow=18,SNR=23						
KURBB				Lg	Lg	07 15 59.6	
	0.5nm,0.3s,baz=114,slow=30,SNR=9.8						
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**2.13**	**301**	⇓Pg	**Pg**	**07 15 29.3**	**-0.2**
	3.8nm,0.5s						
KURBB				⇓Lg	Lg	07 15 59.7	
	11nm,0.5s						
MK31	**Makanchi Array**	**2.84**	**168**	⇑Pg	**Pg**	**07 15 42.3**	**-0.7**
	0.3nm,0.3s,baz=355,slow=14,SNR=25						
MK31				⇑Lg	Lg	07 16 22.3	
	1.1nm,0.4s,baz=353,slow=29,SNR=12						
MKAR	**Makanchi Array**	**2.84**	**168**	Pn	**Pb**	**07 15 41.0**	**+0.8**
	0.4nm,0.3s,baz=349,slow=12,SNR=21						
MKAR				Lg	Lg	07 16 23.2	
	1.0nm,0.3s,baz=353,slow=28,SNR=15						
	0.7nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.87**	**25**	I	I	07 41 50.0	
	0.1nm,1.1s,baz=202,slow=320,SNR=6.6						
ZALV	**Zalesovo Beam**	**4.87**	**25**	Pn	**Pn**	**07 16 03.2**	**0.0**
	0.2nm,0.3s,baz=213,slow=9.5,SNR=1.8						
ZALV				Lg	Lg	07 17 19.8	
	baz=200,slow=25						
	0.3nm,0.3s						

*IDC **11** 07:25:20.9±2.7, 23°.56S×179°.68W, h537km±26km, mb3.3/3, mbtmp4.2/5, Error ellipse: s-maj=45.5km s-min=30.1km az=131.0*
*NEIC **11** 07:25:21.6±1.0, 23°.6S±0°.2×179°.60W±0°.05, h539km±14km, mb4.3/17, Error ellipse: s-maj=24.8km s-min=5.5km az=186.0*
ISC 11 07:25:20.9±0.8, 23°.6S±0°.1×179°.6W±0°.1, h536km, n26, σ0°70/25, mb4.2/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.21**	**339**	P	**P**	**07 27 01.6**	**+0.7**
MSVF	**Nonsavu**	**6.21**	**339**	P	**P**	**07 27 00.8**	**-0.1**
	5.4nm,0.4s,baz=142,slow=19,SNR=17						
NIUE	**Niue**	**10.10**	**65**	P	**P**	**07 27 40.0**	**+0.4**
URZ	**Urewera**	**14.90**	**190**	P	**P**	**07 28 28.8**	**-0.5**
	2.7nm,0.5s,baz=21,slow=3.2,

WRAB	Tennant Creek	42.75	266	P	P	07 32 31.1	-0.4
WRA	Warramunga Arr	42.76	266	P	P	07 32 30.8	-0.6
WRA	Warramunga Arr	42.76	266	P	P	07 32 30.6	-0.8
	comp=Z,4.0nm,0.5s,baz=103,slow=7.9,SNR=54						
	comp=Z,4.0nm,0.5s						
FORT	Forrest	46.74	249	P	P	07 33 01.4	-0.4
KNRA	Kununurra	49.02	269	P	P	07 33 19.2	+0.1
KNRA				IAmb	IAmb	07 33 46.7	
	comp=Z,18nm,1.5s						
FITZ	Fitzroy Crossi	51.19	265	P	P	07 33 35.4	+0.4
MORW	Morawa	57.30	250	P	P	07 34 17.9	+0.1
MORW				IAmb	IAmb	07 34 57.0	
	comp=Z,26nm,1.5s						
TOLI2	Tolitoli	62.82	284	P	P	07 34 54.1	-0.6
QSPA	South Pole Qui	66.50	180	P	P	07 35 18.0	+0.8
HFS	Hagfors	142.29	349	PKP	PKPdf	07 43 49.7	-2.2
	comp=Z,3.7nm,0.9s,baz=11,slow=1.5,SNR=8.2						
AKASG	Malin Array Be	144.88	328	PKP	PKPbc	07 43 57.7	+0.5
	comp=Z,0.1nm,0.2s,baz=44,slow=4.0,SNR=4.6						

*IDC **11** 07:29:56.1±1.7, 22°.31S×170°.00E, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, MS2.7/2, Error ellipse: s-maj=47.4km s-min=33.9km az=0.0*
*NOU **11** 07:29:59.0, 22°.27S×169°.85E, h0km, MLv3.8/6, Southeast of Loyalty Islands*
ISC 11 07:29:59.9±1.4, 22°.3S±0°.2×169°.9E±0°.1, h21km, n12, σ0s87/12, mb3.8/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.90	294	P	Pn	07 30 32.0	+1.0
MARNC	Mare, Loyalty	1.90	294	S	Sb	07 30 56.4	-0.6
YATNC	Mamie plateau,	2.79	274	P	Pn	07 30 43.4	+0.1
OUENC	Ouen Island, N	2.83	266	P	Pn	07 30 44.7	+0.9
ONTNC	Ouen Toro	3.18	269	P	Pn	07 30 50.1	+1.4
DZM	Mont Dzumac	3.20	273	Pn	Pn	07 30 49.8	+0.8
	7.9nm,0.3s,baz=90,slow=17,SNR=12						
DZM				Sn	Sn	07 31 25.9	-0.7
	25nm,0.3s,baz=127,slow=20,SNR=7.5						
DZM				LR	LR	07 32 10.8	
	comp=Z,234nm,18.7s,baz=40,slow=41						
	17nm,0.3s						
DZM	Mont Dzumac	3.20	273	P	Pn	07 30 50.2	+1.1
MSVF	Nonsavu	8.90	61	LR	LR	07 34 32.0	
	comp=Z,23nm,19.3s,baz=204,slow=31						
ASAR	Alice Springs	33.11	260	P	P	07 36 34.6	-0.1
	0.6nm,0.7s,baz=89,slow=8.3,SNR=9.0						
	0.6nm,0.7s						
WRA	Warramunga Arr	33.20	267	P	P	07 36 35.6	+0.1
	0.6nm,0.7s,baz=100,slow=7.8,SNR=3.0						
	0.6nm,0.7s						
QSPA	South Pole Qui	67.80	180	P	P	07 40 55.7	-0.5
	1.8nm,0.9s,baz=17,slow=3.0,SNR=2.9						
	1.8nm,0.9s						
ILAR	Eielson Array	92.93	17	P	P	07 43 10.8	-0.2
	0.3nm,0.6s,baz=213,slow=4.6,SNR=5.7						
	0.3nm,0.6s						

*NAO **11** 07:47:47.8±2.2, 73°.92N×8°.03E, ML3.1*
*BER **11** 07:47:51.8±3.5, 73°.85N×8°.37E, h15km±22km, mb(Pn)3.8, ML3.1(NAO), Confirmed Earthquake*
*KOLA **11** 07:48:02.2, 73°.39N×10°.53E, h0km, ML2.0, Error ellipse: s-maj=47.7km s-min=20.3km az=130.0, Norwegian sea*
ISC 11 07:47:50.4±1.0, 73°.87N±0°.04×9°.76E±0°.06, h10km, n38, σ2s34/55, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	Bjornoya	2.61	71	eP	Pb	07 48 36.9	-0.4
BJO1				eS	Sb	07 49 05.8	-3.4
BJO1				IAML		07 49 12.0	
	comp=Z,5.7nm,0.3s						
BJO1	Bjornoya	2.61	71	Pn	Pb	07 48 36.8	-0.4
BJO1				Sn	Sn	07 49 04.5	+0.3
HSPB	Hornsund (broa	3.47	22	eP	Pn	07 48 44.1	-0.3
HSPB				eS	Sn	07 49 24.6	-0.8
HSPB				IAML		07 49 42.4	
	comp=Z,2.2nm,0.6s						
HSPB	Hornsund (broa	3.47	22	Pn	Pn	07 48 43.8	-0.5
BRBA	Barentsburg A	4.35	12	eP	Pn	07 48 56.7	+0.3
BRBA				IAML		07 49 49.2	
	comp=Z,8.5nm,0.8s						
BRBA				eS	Sn	07 49 49.2	+2.2
BRBA	Barentsburg A	4.35	12	Pn	Pn	07 48 56.6	+0.3
BRBB	Barentsburg B	4.38	12	eP	Pn	07 48 57.0	+0.2
BRBB				eS	Sn	07 49 47.7	-0.2
BRBB	Barentsburg B	4.38	12	Pn	Pn	07 48 57.1	+0.2
BRBB				Sn	Sn	07 49 45.5	-2.4
SPA0	Spitsbergen Ar	4.62	17	Pn	Pn	07 49 01.4	+1.3
	baz=194,slow=16						
SPA0				Sn	Sn	07 49 55.6	+1.9
	baz=197,slow=22						
SPA0	Spitsbergen Ar	4.62	17	Pn	Pn	07 49 01.4	+1.3
	baz=194,slow=16						
SPA0				Sn	Sn	07 49 55.6	+1.9
	baz=197,slow=22						
HOPEN	Hopen	4.72	49	eP	Pn	07 49 03.6	+2.1
HOPEN				eS	Sn	07 49 55.4	-0.7
HOPEN				IAML		07 49 59.1	
	comp=Z,2.9nm,0.3s						
HOPEN	Hopen	4.72	49	Pn	Pn	07 49 03.6	+2.1
HOPEN				Sn	Sn	07 49 55.2	-0.9
KBS	Kingsbay	5.11	5	eP	Pn	07 49 06.3	-0.5
KBS				eS	Sn	07 50 04.0	-1.8
KBS				IAML		07 50 14.9	
	comp=Z,2.3nm,1.7s						
KBS	Kingsbay	5.11	5	Pn	Pn	07 49 06.2	-0.7
KBS				Sn	Sn	07 50 02.9	-2.9
TRO	Tromso	5.13	141	eS	Sn	07 50 06.1	-0.3
TRO				IAML		07 50 11.9	
	comp=Z,6.7nm,0.6s						
JETT	Jettan, Norway	5.47	137	eP	Pn	07 49 14.9	+3.0
JETT				eS	Sn	07 50 16.1	+1.3
JETT				IAML		07 50 21.7	
	comp=Z,3.9nm,0.5s						
LOF	Lofoten	5.90	166	eP	Pn	07 49 19.2	+1.5
LOF				eS	Sn	07 50 19.8	-5.4
LOF				IAML		07 50 24.4	
	comp=Z,4.1nm,0.5s						
KIF	Kilpisjarvi	6.02	139	eP	Pn	07 49 22.8	+3.5
KIF				eS	Sn	07 50 27.9	-0.1
KIF	Kilpisjarvi	6.02	139	Pn	Pn	07 49 22.7	+3.4
KIF				Sn	Sn	07 50 28.0	-0.1
JNW	Jan Mayen West	6.18	252	eP	Pn	07 49 15.4	-6.1
STEI	Steigen	6.23	161	eP	Pn	07 49 24.3	+2.0
STEI				eS	Sn	07 50 30.6	-2.7
STEI				IAML		07 50 48.4	
	comp=Z,1.7nm,0.7s						
JMI	Jan Mayen	6.32	251	eP	Pn	07 49 14.4	-9.0
KTK1	Kautokeino	6.49	132	eP	Pn	07 49 30.0	+4.3
KTK1				eS	Sn	07 50 40.0	+0.3
KTK1				IAML		07 50 54.5	
	comp=Z,1.5nm,1.0s						
ARA0	ARCESS Array S	6.58	124	Pn	Pn	07 49 31.8	+4.8
	baz=321,slow=12						
ARA0				Sn	Sn	07 50 42.0	+0.1
	baz=317,slow=22						
ARA0				IAML		07 50 49.4	
	comp=Z,1.8nm,0.3s						
ARA0	ARCESS Array S	6.58	124	Pn	Pn	07 49 31.8	+4.8
	baz=321,slow=12						
ARA0				Sn	Sn	07 50 42.0	+0.1
	baz=317,slow=22						
ARCES	ARCESS Array B	6.58	124	P	Pn	07 49 31.8	+4.8
ARCES				S	Sn	07 50 39.2	-2.8
FAUS	Fauske	6.77	162	IAML		07 50 41.2	
	comp=Z,2.1nm,0.7s						
FAUS				eS	Sn	07 50 41.3	-5.3
FAUS	Fauske	6.77	162	P	Pn	07 49 33.5	+3.8
FAUS				S	Sn	07 50 42.3	-4.3
KEV	Kevo	6.78	119	eP	Pn	07 49 32.3	+2.7
KEV				eS	Sn	07 50 46.7	0.0
KEV	Kevo	6.78	119	Pn	Pn	07 49 34.9	+5.3
KEV				Sn	Sn	07 50 45.8	-0.9
HEF	Hetta	7.08	134	eP	Pn	07 49 34.8	+1.0
HEF				eS	Sn	07 50 51.6	-2.6
VADS	Vadso	7.12	112	eS	Sn	07 50 55.4	+0.2
VADS				IAML		07 50 58.1	
	comp=Z,4.4nm,0.5s						
VADS	Vadso	7.12	112	S	Sn	07 50 52.1	-3.1
DBG	Daneborg	8.19	287	eP	Pn	07 49 41.0	-8.1
DBG				eS	Sn	07 51 01.4	-20
DBG	Daneborg	8.19	287	Pn	Pn	07 49 40.6	-8.4
DBG				Sn	Sn	07 51 00.2	-21
TERR	Teriberka	9.24	108	S	Sn	07 51 45.5	-1.7
APA0	Apatity Array	9.84	118	S	Sn	07 51 56.9	-5.2
KVDA	Kovda	10.53	121	S	Sn	07 52 16.1	-2.9

ASRS 11 07:54:26.0±1.2, 52°.59N×89°.87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*NNC **11** 07:55:05.6±3.3, 53°.40N×87°.76E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=24.9km s-min=13.6km az=68.0, Suspected Mining explosion.*
ASRS 11 07:55:01.0±1.2, 53°.64N×87°.93E, h0km, M2.8, 7C-4D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.87	281	⇑P	Pg	07 55 37.4	+0.5
ZAA0				⇑S	Sg	07 56 02.9	+1.8
	0.4nm,0.3s						
	2.8nm,0.5s						
KURK	Kurchatov	6.43	247	⇓Pn	Pn	07 56 39.5	+2.7
KURK				⇓Sn	Sn	07 57 52.2	+1.3
	0.6nm,0.6s						
	1.1nm,0.5s						
KURK				⇑Lg	Lg	07 58 25.2	
	4.9nm,0.8s						
KURBB	Kurchatov Arra	6.53	246	⇑Pn	Pn	07 56 41.8	+3.6
	1.2nm,0.5s						
KURBB				⇑Sn	Sn	07 57 54.3	+1.0
	5.8nm,0.6s						
KURBB				⇓Lg	Lg	07 58 29.5	
	7.7nm,0.7s						
MK31	Makanchi Array	7.75	210	⇓Pn	Pn	07 56 58.9	+4.0
	0.2nm,0.3s,baz=29,slow=13,SNR=11						
MK31				⇑Sn	Sn	07 58 19.6	-3.8
	0.4nm,0.6s						
MK31				⇑Lg	Lg	07 59 05.3	
	0.7nm,0.6s						

*IDC **11** 08:00:01.0±0.9, 58°.60N×31°.74W, h0km, mb3.8/13, mbtmp3.8/15, ML2.9/2, MS3.9/53, Error ellipse: s-maj=28.8km s-min=13.6km az=174.0*
*NEIC **11** 08:00:02.4±1.2, 58°.5N±0°.1×31°.7W±0°.1, h10km±1km, mb4.5/61, Error ellipse: s-maj=20.2km s-min=9.0km az=168.0*
ISC 11 08:00:02.2±0.6, 58°.6N±0°.1×31°.74W±0°.06, h10km, n127, σ0s77/88, mb4.4/44, MS3.8/49, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	7.37	297	Pn	Pn	08 01 48.9	-0.8
ANGG	Ammassalik, Gr	7.61	341	Pn	Pn	08 01 51.9	-1.1
BORG	Borgarnes	7.94	34	Pn	Pn	08 01 56.5	-1.0
BORG	Borgarnes	7.94	34	Pn	Pn	08 01 58.4	+0.9
	1.0nm,0.3s,baz=250,slow=17,SNR=8.7						
BORG				Sn	Sn	08 03 27.9	+0.6
	0.4nm,0.3s,baz=321,slow=16,SNR=2.2						
BORG				LR	LR	08 04 13.9	
	comp=Z,653nm,19.8s,baz=213,slow=32						
	13nm,0.8s						
JMIC	Jan Mayen	15.76	28	LR	LR	08 08 13.1	
	comp=Z,151nm,21.5s,baz=177,slow=31						
DRLN	Deer Lake	17.70	250	Pn	Pn	08 04 07.7	-0.9
FRB	Frobisher Bay	18.31	302	LR	LR	08 10 25.8	
	comp=Z,853nm,18.5s,baz=80,slow=34						
SCHQ	Schefferville	19.48	274	P	P	08 04 28.3	-0.8
SCHQ	Schefferville	19.48	274	P	Pn	08 04 30.7	+0.4
	0.2nm,0.3s,baz=37,slow=8.5,SNR=5.9						
SCHQ				LR	LR	08 10 47.6	
	comp=Z,428nm,18.5s,baz=52,slow=33						
	1.5nm,0.6s						
NBO00	NORSAR Array S	21.26	65	P	P	08 04 46.7	-1.5
NOA	NORSAR Array B	21.47	65	LR	LR	08 11 55.1	
	comp=Z,245nm,19.0s,baz=285,slow=33						
NC303	NORSAR Array S	21.50	64	P	P	08 04 49.4	-1.5
NB201	NORSAR Array S	21.50	65	P	P	08 04 50.2	-0.6
NB201				IAmb	IAmb	08 05 17.1	
	comp=Z,27nm,1.5s						
ICQ	Pointe Anglais	22.49	262	P	P	08 05 01.5	0.0
ICQ				IAmb	IAmb	08 05 35.4	
	comp=Z,22nm,1.5s						
HFS	Hagfors	22.88	67	LR	LR	08 13 42.4	
	comp=Z,158nm,18.9s,baz=284,slow=36						
BATG	Bathurst New B	23.30	256	P	P	08 05 10.8	+0.9
BATG				IAmb	IAmb	08 05 21.1	
	comp=Z,18nm,1.2s						
ILON	Igloolik, Nuna	23.72	318	P	P	08 05 14.2	+0.3
ESDC	Sonseca Array	25.91	125	P	P	08 05 35.0	+0.7
	comp=Z,1.0nm,0.8s,baz=322,slow=8.9,SNR=4.5						
ESDC				LR	LR	08 14 22.3	
	comp=Z,121nm,18.9s,baz=306,slow=33						
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	26.25	42	P	P	08 05 37.4	+0.4
	comp=Z,2.1nm,0.7s,baz=264,slow=11,SNR=5.8						
ARCES				LR	LR	08 13 14.6	
	comp=Z,91nm,20.8s,baz=320,slow=30						
	comp=Z,2.1nm,0.7s						
DAVOX	Davos/Dischmat	27.38	97	LR	LR	08 15 33.9	
	comp=Z,291nm,20.8s,baz=266,slow=34						
RES	Resolute Bay	27.89	330	LR	LR	08 16 25.1	
	comp=Z,144nm,18.8s,baz=58,slow=35						
GERES	GERESS Array B	28.08	90	LR	LR	08 16 55.1	
	comp=Z,290nm,19.1s,baz=271,slow=36						
FINES	FINESS Array B	28.24	59	P	P	08 05 54.8	-0.1
	comp=Z,1.3nm,0.8s,baz=308,slow=6.8,SNR=1.4						
FINES				LR	LR	08 15 17.2	
	comp=Z,185nm,18.2s,baz=296,slow=32						
	comp=Z,1.3nm,0.8s						
VRAC	Vranov	29.32	87	LR	LR	08 17 56.1	
	comp=Z,225nm,18.2s,baz=308,slow=37						
MDT	Midelt	31.55	133	LR	LR	08 18 30.3	
	comp=Z,190nm,18.1s,baz=339,slow=35						
SADO	Sadowa	31.74	265	LR	LR	08 17 56.1	
	comp=Z,385nm,18.3s,baz=112,slow=34						
AKASG	Malin Array Be	35.02	76	P	P	08 06 54.6	+0.2
	comp=Z,0.5nm,0.5s,baz=318,slow=8.5,SNR=6.8						
AKASG				LR	LR	08 20 41.2	
	comp=Z,124nm,19.5s,baz=248,slow=35						
	comp=Z,0.5nm,0.5s						
KEST	Kesra	35.25	112	LR	LR	08 20 49.1	
	comp=Z,217nm,18.2s,baz=355,slow=35						
OBN	Obninsk	36.07	65	LR	LR	08 20 59.6	
	comp=Z,147nm,20.0s,baz=336,slow=35						
VAE	Valguarnera	36.40	105	LR	LR	08 20 57.0	
	comp=Z,244nm,18.3s,baz=338,slow=34						
MLR	Muntele Rosu	36.64	85	LR	LR	08 23 29.5	
	comp=Z,192nm,18.4s,baz=353,slow=38						
ULM	Lac du Bonnet	36.90	286	P	P	08 07 11.0	+0.3
	comp=Z,2.1nm,0.8s,baz=53,slow=9.1,SNR=4.9						
ULM				LR	LR	08 20 47.4	
	comp=Z,206nm,19.8s,baz=40,slow=34						
	comp=Z,2.1nm,0.8s						
A36M	Sachs Harbour	36.94	329	P	P	08 07 10.7	0.0
A36M				IAmb	IAmb	08 07 13.3	
	comp=Z,9.7nm,1.2s						
YKA	Yellowknife Ar	38.33	312	P	P	08 07 23.6	+1.0
YKA	Yellowknife Ar	38.33	312	P	P	08 07 22.3	-0.3
	comp=Z,1.6nm,1.0s,baz=58,slow=8.7,SNR=20						
YKA				PcP	PcP	08 09 36.3	+0.2
	comp=Z,0.4nm,0.9s,baz=53,slow=2.8,SNR=4.4						
YKA				LR	LR	08 22 25.9	
	comp=Z,337nm,19.4s,baz=40,slow=35						
	comp=Z,1.6nm,1.0s						
KIRV	Kirov	39.86	54	LR	LR	08 22 22.6	
	comp=Z,106nm,18.4s,baz=297,slow=34						
TKL	Tuckaleechee C	40.81	259	LR	LR	08 23 29.1	
	comp=Z,341nm,19.7s,baz=22,slow=34						
INK	Inuvik	41.35	327	P	P	08 07 47.7	+0.1
INK				IAmb	IAmb	08 07 48.9	
	comp=Z,7.9nm,1.2s						
INK	Inuvik	41.35	327	LR	LR	08 24 30.0	
	comp=Z,171nm,19.2s,baz=286,slow=36						
F31M	Tsiigetchtic	41.97	326	P	P	08 07 53.3	+0.6
G31M	Satah River	42.46	325	P	P	08 07 56.6	-0.1
G31M				IAmb	IAmb	08 08 00.1	
	comp=Z,10.0nm,1.2s						
E29M	Blow River	42.53	328	P	P	08 07 58.1	+0.8
E28M	Babbage River	42.83	329	P	P	08 08 00.3	+0.6
C27K	Jago River	43.20	332	P	P	08 08 03.4	+0.7
H31M	Peel River	43.22	324	P	P	08 08 04.2	+1.3
H31M				IAmb	IAmb	08 08 29.9	
	comp=Z,9.1nm,1.2s						
G29M	Pine Creek	43.57	327	P	P	08 08 05.9	+0.2
G29M				IAmb	IAmb	08 08 07.6	
	comp=Z,15nm,1.2s						
E27K	Coleen River	43.67	329	P	P	08 08 07.2	+0.6
E27K				IAmb	IAmb	08 08 10.3	
	comp=Z,6.2nm,1.1s						
D25K	Kavik River	44.08	332	P	P	08 08 10.0	+0.2
H29M	Whitestone	44.15	326	P	P	08 08 10.6	+0.3
H29M				IAmb	IAmb	08 08 29.5	
	comp=Z,15nm,1.4s						
I30M	Mount Dempster	44.24	324	P	P	08 08 12.1	+0.8
I30M				IAmb	IAmb	08 08 13.4	
	comp=Z,10.0nm,1.1s						
G27K	Doyon Strip	44.67	328	P	P	08 08 15.4	+0.8
G27K				IAmb	IAmb	08 08 47.7	
	comp=Z,6.2nm,1.4s						
J30M	Hart River	44.68	324	P	P	08 08 15.2	+0.5
J30M				IAmb	IAmb	08 08 17.6	
	comp=Z,11nm,1.2s						
BRTR	Keskin Array B	44.72	85	P	P	08 08 15.7	+0.2
BRTR	Keskin Array B	44.72	85	LR	LR	08 27 03.6	
	comp=Z,110nm,21.9s,baz=312,slow=36						
E25K	Arctic Village	44.76	331	P	P	08 08 15.8	+0.6
B22K	Teshekpuk Lake	44.92	336	P	P	08 08 17.1	+0.6
ARTI	Arti	45.00	52	LR	LR	08 25 57.8	
	comp=Z,107nm,19.6s,baz=298,slow=35						
BMAR	Burnt Mountain	45.01	330	P	P	08 08 18.1	+0.8
I28M	Miner Creek	45.15	326	P	P	08 08 19.3	+0.8
F25K	Christian Rive	45.17	330	P	P	08 08 19.8	+1.2
F25K				IAmb	IAmb	08 08 24.2	
	comp=Z,5.5nm,1.2s						
BBTS	Babate	45.26	159	LR	LR	08 23 25.5	
	comp=Z,60nm,19.1s,baz=213,slow=31						
TOLK	Toolik Lake Re	45.36	333	P	P	08 08 19.9	-0.2
D23K	Nanushuk River	45.37	334	P	P	08 08 21.6	+1.5
D23K				IAmb	IAmb	08 08 23.1	
	comp=Z,10nm,1.3s						
E24K	Your Creek	45.53	332	P	P	08 08 22.3	+0.9
E24K				IAmb	IAmb	08 08 23.9	
	comp=Z,5.1nm,1.4s						
K29M	Barlow Dome	45.56	323	P	P	08 08 22.2	+0.4
F24K	Squaw Lake	45.80	331	P	P	08 08 24.8	+1.2
F24K				IAmb	IAmb	08 08 26.4	
	comp=Z,7.0nm,1.2s						
DAWY	Dawson	45.98	324	P	P	08 08 25.6	+0.5
I26K	Coal Creek Min	46.19	327	P	P	08 08 27.4	+0.9
I26K				IAmb	IAmb	08 08 41.1	
	comp=Z,9.5nm,1.3s						
L29M	L29M	46.28	323	P	P	08 08 28.4	+1.0
G24K	Hadweenzic Riv	46.31	330	P	P	08 08 28.9	+1.3
G24K				IAmb	IAmb	08 08 32.5	
	comp=Z,6.0nm,1.1s						
X40A	Basin Creek Fa	46.42	266	P	P	08 08 28.8	0.0
X40A				IAmb	IAmb	08 08 34.7	
	comp=Z,7.2nm,1.2s						
KBZ	Khabaz	46.59	74	LR	LR	08 29 10.5	
	comp=Z,70nm,18.9s,baz=342,slow=38						
DLBC	Dease Lake	46.81	314	LR	LR	08 26 59.4	
	comp=Z,308nm,19.7s,baz=61,slow=35						
K27K	Chicken	46.82	326	P	P	08 08 33.5	+2.0
M29M	Somme Creek	46.87	322	P	P	08 08 32.6	+0.5
J26L	Joseph Creek	46.90	327	P	P	08 08 32.8	+0.5
G23K	Bananza Creek	46.96	331	P	P	08 08 32.3	-0.3
H24K	Noodor Dome	47.08	330	P	P	08 08 34.8	+1.2
H24K				IAmb	IAmb	08 08 36.3	
	comp=Z,5.0nm,1.1s						
N30M	Aishikik Lake	47.14	321	P	P	08 08 34.4	+0.3
N30M				IAmb	IAmb	08 09 08.0	
	comp=Z,5.3nm,1.2s						
SCRK	Sand Creek	47.42	326	P	P	08 08 36.9	+0.5
BCAR	Beaver Creek A	47.45	324	P	P	08 08 38.1	+1.6
YNE	Yellowstone No	47.48	290	P	P	08 08 37.4	+0.1
YNE				IAmb	IAmb	08 08 40.2	
	comp=Z,4.1nm,1.1s						
H23K	Yukon River	47.52	330	P	P	08 08 38.0	+1.0
H23K				IAmb	IAmb	08 08 49.2	
	comp=Z,4.4nm,1.1s						
SJG	San Juan	47.58	227	LR	LR	08 26 22.1	
	comp=Z,21nm,20.2s,baz=21,slow=33						
IL31		47.63	328	P	P	08 08 38.5	+0.7
IL31				IAmb	IAmb	08 08 58.8	
	comp=Z,8.2nm,1.4s						
ILAR	Eielson Array	47.63	328	P	P	08 08 38.1	+0.3
	comp=Z,2.0nm,1.0s,baz=28,slow=6.3,SNR=17						
ILAR				PcP	PcP	08 10 06.4	-0.8
	comp=Z,0.3nm,0.6s,baz=5.3,slow=2.8,SNR=6.8						
ILAR				LR	LR	08 29 07.9	
	comp=Z,103nm,20.3s,baz=71,slow=37						
	comp=Z,2.0nm,1.0s						
DOT	Dot Lake	47.69	326	P	P	08 08 38.7	+0.3
E19K	Redstone River	48.06	335	P	P	08 08 42.2	+1.0
E19K				IAmb	IAmb	08 08 49.6	
	comp=Z,5.8nm,1.1s						
NEW	Newport	48.57	297	LR	LR	08 28 31.2	
	comp=Z,357nm,18.8s,baz=18,slow=35						
PDAR	Pinedale Array	48.88	287	P	P	08 08 47.0	-1.2
	comp=Z,1.2nm,0.8s,baz=67,slow=8.5,SNR=8.9						
PDAR				LR	LR	08 28 14.4	
	comp=Z,132nm,18.5s,baz=358,slow=35						
	comp=Z,1.2nm,0.8s						
AKTO	Aktyubinsk	49.00	58	LR	LR	08 29 02.8	
	comp=Z,153nm,19.1s,baz=320,slow=36						
GNI	Garni	50.15	76	LR	LR	08 30 27.3	
	comp=Z,68nm,20.0s,baz=336,slow=36						
BBB	Bella Bella	50.57	308	LR	LR	08 30 23.1	
	comp=Z,219nm,21.2s,baz=112,slow=36						
K20K	Telida	50.68	330	P	P	08 09 02.4	+1.2
ABKAR	Akbulak array	50.71	58	P	P	08 09 00.9	-0.7
ABKAR				PcP	PcP	08 10 18.8	+0.1
MMAI	Mount Meron Ar	50.74	90	LR	LR	08 33 53.6	
	comp=Z,69nm,18.9s,baz=273,slow=40						
HWUT	Hardware Ranch	50.75	288	P	P	08 09 02.1	-0.1
BMO	Blue Mountains	51.14	294	P	P	08 09 04.7	-0.3
ASF	Jabal al Asfar	52.18	89	LR	LR	08 33 13.4	
	comp=Z,62nm,18.8s,baz=340,slow=38						
BVAR	Borovoye Array	52.26	48	P	P	08 09 13.2	+0.1
	comp=Z,0.7nm,0.6s,baz=305,slow=5.1,SNR=4.8						
	comp=Z,0.7nm,0.6s						
J08A	Circle Bar Ran	52.82	294	P	P	08 09 18.4	+0.8
ANMO	Albuquerque	53.20	278	LR	LR	08 31 03.9	
	comp=Z,148nm,19.9s,baz=212,slow=35						
SAND	Sanderson	54.84	271	P	P	08

comp=Z,126nm,19.9s,baz=101,slow=35
LPIG La Paz 63.85 274 LR LR 08 37 54.5
comp=Z,67nm,19.2s,baz=338,slow=36
KBL Kabul 66.44 62 P **P** **08 10 51.9 +0.2**
KBL IAmb IAmb 08 11 17.1
comp=Z,6.8nm,1.4s
H10S3 ASCENSION HYDR 68.68 162 T T 09 25 26.2
baz=226,slow=74,SNR=4.4
H10S2 ASCENSION HYDR 68.69 162 T T 09 25 25.9
baz=354,slow=74,SNR=3.5
KMBO Kilima Mbogo 80.14 109 LR LR 08 48 29.7
comp=Z,58nm,18.3s,baz=56,slow=36
LSZ Lusaka 88.25 123 LR LR 08 53 50.3
comp=Z,123nm,18.9s,baz=296,slow=37
LBTB Lobatse 95.82 130 LR LR 08 55 33.3
comp=Z,54nm,18.9s,baz=228,slow=35
BOSA Boshof 98.89 132 LR LR 08 56 15.3
comp=Z,60nm,19.6s,baz=343,slow=34

*STR **11** 08:05:13.2±0.6, 47°N±4°×±°, h5km, MLv1.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=136.3, preliminary*
*LDG **11** 08:05:13.1±0.2, 47°28N×6°72E, h2km, Md2.2/2, Ml2.5/5, Error ellipse: s-maj=5.0km s-min=2.7km az=115.0*
*BGR **11** 08:05:14.9±1.2, 47°32N×6°73E, h10km, ML1.8/4, Error ellipse: s-maj=10.0km s-min=6.7km az=44.0*
ISC 11 08:05:13.1±1.0, 47°28N±0°03×6°70E±0°03, h3km±9km, n20, σ0°56/30, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMF	**Charmoille**	**0.04**	**225**	Pg	**Pg**	**08 05 13.7**	**-0.4**
CHMF				Sg	**Sg**	**08 05 14.7**	**-0.1**
BOUC	**Bouclans**	**0.30**	**264**	Pg	**Pg**	**08 05 18.7**	**-0.1**
BOUC				Sg	**Sg**	**08 05 23.5**	**+0.6**
BRANT	**Les Verrieres**	**0.37**	**204**	Sg	**Sg**	**08 05 25.5**	**+0.4**
BRANT	**Les Verrieres**	**0.37**	**204**	Pg	**Pg**	**08 05 20.0**	**-0.2**
BOURR	**Bourrignon**	**0.38**	**72**	Pg	**Pg**	**08 05 21.3**	**+0.9**
BOURR	**Bourrignon**	**0.38**	**72**	Sg	**Sg**	**08 05 25.9**	**+0.6**
RONF	**Ronchamp**	**0.43**	**356**	Pg	**Pg**	**08 05 21.6**	**+0.3**
RONF				Sg	**Sg**	**08 05 28.2**	**+1.2**
HINF	**Hinteralfeld**	**0.55**	**11**	*e*Pg	**Pg**	**08 05 23.6**	**0.0**
HINF				*e*Sg	**Sg**	**08 05 30.1**	**-0.6**
BALST	**Balsthal**	**0.68**	**85**	*e*Pg	**Pb**	**08 05 28.0**	**+0.4**
BALST				*e*Sg	**Sg**	**08 05 35.3**	**+0.4**
HAU	**Haudompre**	**0.76**	**342**	*e*Pg	**Pg**	**08 05 28.1**	**+0.4**
HAU				*e*Sg	**Sg**	**08 05 38.7**	**+1.1**
17nm,0.2s							
CABF	**La Chapelle**	**0.79**	**212**	*e*Pg	**Pg**	**08 05 28.3**	**+0.1**
CABF				*e*Sg	**Sg**	**08 05 39.0**	**+0.6**
ECH	**Echery**	**0.99**	**18**	*e*Pg	**Pg**	**08 05 32.1**	**+0.1**
ECH				*e*Sg	**Sg**	**08 05 45.2**	**+0.5**
SULZ	**Cheisacher**	**0.99**	**75**	*e*Sg	**Sb**	**08 05 46.2**	**-0.2**
METMA	**Mettma DE**	**1.14**	**67**	*e*Sg	**Sg**	**08 05 49.8**	**+0.2**
BERGE	**Lenzkirch (DE)**	**1.17**	**59**	*e*Sg	**Sb**	**08 05 51.0**	**-0.4**
CDF	**Champ du Feu**	**1.20**	**19**	*e*Pg	**Pg**	**08 05 35.1**	**-0.9**
CDF				*e*Sg	**Sg**	**08 05 50.9**	**-0.7**
9.2nm,0.4s							
SLE	**Schleitheim**	**1.31**	**68**	*e*Pn	**Pn**	**08 05 37.9**	**-0.4**
SLE				*e*Sg	**Sg**	**08 05 54.8**	**-0.3**
SFTF	**Sexfontaines**	**1.45**	**310**	*e*Sg	**Sb**	**08 05 59.2**	**-0.4**
26nm,0.2s							
BFO	**Black Forest**	**1.52**	**46**	*e*Sg	**Sg**	**08 06 01.6**	**-0.3**
LOR	**Lormes**	**1.93**	**271**	*e*Sg	**Sb**	**08 06 13.4**	**-0.1**
2.1nm,0.2s							

*NEIC **11** 08:10:36.5±1.5, 60°26N±0°03×151°04W±0°06, h76km±3km, Error ellipse: s-maj=4.6km s-min=3.7km az=103.0*
AEIC 11 08:10:37.3±1.2, 60°23N±0°03×151°03W±0°05, h68km±1km, ML2.8, ML2.9/166(NEIC), Error ellipse: s-maj=3.8km s-min=3.4km az=154.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.47**	**171**		Pn	08 10 49.5	-0.3
BRLK				Sn	Sn	08 10 58.6	-0.2
SLKM	**Skilak Lake**	**0.49**	**55**		Pn	08 10 48.9	-1.0
SLKM				Sn	Sn	08 10 57.8	-1.3
SLKM				IAML		08 10 58.3	
comp=E,933nm,0.2s							
BRSE	**Bradley Lake S**	**0.51**	**164**		Pn	08 10 49.6	-0.5
BRSE					Sn	08 10 58.9	-0.6
CAPN	**Captain Cook N**	**0.54**	**353**		Pn	08 10 49.9	-0.5
CAPN				IAML		08 11 02.0	
comp=E,835nm,0.4s							
HOM	**Homer**	**0.65**	**209**		Pn	08 10 51.4	-0.1
HOM	**Homer**	**0.65**	**209**		Sn	08 11 02.7	+0.7
O22K	**Cooper Landing**	**0.69**	**68**		Pn	08 10 51.5	-0.4
O22K				IAML		08 11 07.7	
comp=E,668nm,0.6s							
O22K				IAML		08 11 10.0	
comp=N,704nm,0.6s							
CNPM	**China Poot**	**0.71**	**189**		Pn	08 10 52.1	-0.2
CNPM				IAML		08 11 03.9	
comp=E,552nm,0.4s							
CNPM				IAML		08 11 04.0	
comp=N,676nm,0.3s							
CNPM	**China Poot**	**0.71**	**189**		Sn	08 11 03.2	-0.1
RDT	**Redoubt**	**0.77**	**297**		Pn	08 10 51.7	-1.2
RDT					Sn	08 11 03.1	-1.3
SEW	**Seward**	**0.80**	**98**		Pn	08 10 52.5	-0.7
O20K	**Slope Mountain**	**0.81**	**260**		Pn	08 10 53.0	-0.4
O20K					Sn	08 11 04.9	-0.5
REF	**Redoubt East F**	**0.87**	**288**		Pn	08 10 53.1	-1.2
REF					Sn	08 11 05.5	-1.3
RED	**Redoubt Volcan**	**0.89**	**283**		Pn	08 10 53.3	-1.1
RED					Sn	08 11 05.8	-1.2
DFR	**Drift River**	**0.90**	**295**		Pn	08 10 53.4	-1.2
DFR					Sn	08 11 06.0	-1.2
RDWB	**Redoubt West**	**0.94**	**287**		Pn	08 10 53.9	-1.2
RDWB					Sn	08 11 06.8	-1.4
RDJH	**Redoubt Jeurge**	**0.95**	**293**		Pn	08 10 54.2	-1.0
RDJH					Sn	08 11 07.6	-0.9
NCT	**North Crescent**	**1.00**	**290**		Pn	08 10 54.8	-1.0
ILS	**Iliamna Low So**	**1.06**	**256**		Pn	08 10 55.9	-0.6
RC01	**Rabbit Creek A**	**1.07**	**36**		Pn	08 10 55.9	-0.7
ILSW	**Iliamna Southw**	**1.09**	**258**		Pn	08 10 56.2	-0.7
ILSW				IAML		08 11 11.4	
comp=N,247nm,0.4s							
ILSW				IAML		08 11 11.9	
comp=E,265nm,0.3s							
SPCR	**Spurr Chakacha**	**1.13**	**330**		Pn	08 10 56.5	-0.9
CKL	**Chakachamna La**	**1.16**	**327**		Pn	08 10 57.1	-0.8
SPCG	**Spurr Capps Gl**	**1.17**	**336**		Pn	08 10 57.4	-0.6
SPBG	**Spurr Blockage**	**1.23**	**328**		Pn	08 10 58.1	-0.5
SUA	**Susitna One**	**1.25**	**6**		Pn	08 10 58.3	-0.7
SUA				IAML		08 11 14.5	
comp=N,106nm,0.6s							
SUA				IAML		08 11 15.6	
comp=E,115nm,0.6s							
P19K	**Oil Pt**	**1.25**	**243**		Pn	08 10 58.9	0.0
STLK	**Strandline Lak**	**1.33**	**343**		Pn	08 10 59.8	-0.3
STLK				IAML		08 11 17.6	
comp=E,97nm,0.2s							
AU22	**Augustine Moun**	**1.46**	**235**		Pn	08 11 01.6	0.0
PWL	**Port Wells**	**1.47**	**63**	Pn	Pn	08 11 01.3	-0.6
AUL	**Augustine Lava**	**1.48**	**236**		Pn	08 11 02.1	+0.2
AUJK	**Augustine Jueg**	**1.49**	**235**		Pn	08 11 02.3	+0.3
AUCH	**Augustine Cone**	**1.50**	**236**		Pn	08 11 02.4	+0.1
O19K	**Port Alsworth**	**1.64**	**270**		Pn	08 11 03.2	-0.8
O19K				IAML		08 11 26.5	
comp=N,212nm,0.4s							
O19K				IAML		08 11 39.2	
comp=E,210nm,0.5s							
PMR	**Palmer**	**1.65**	**33**		Pn	08 11 03.4	-0.7
PMR				IAML		08 11 23.8	
comp=N,202nm,0.3s							
PMR				IAML		08 11 23.9	
comp=E,104nm,0.2s							
KNK	**Knik Glacier**	**1.73**	**46**		Pn	08 11 04.9	-0.4
SYI	**Shuyak Island**	**1.77**	**204**		Pn	08 11 06.2	+0.4
SYI				IAML		08 11 29.2	
comp=N,97nm,0.8s							
SYI				IAML		08 11 29.8	
comp=E,86nm,1.1s							
SKT	**Skwentna**	**1.77**	**352**		Pn	08 11 05.7	-0.2
SKT				IAML		08 11 28.4	
comp=N,126nm,0.3s							
SKT				IAML		08 11 29.1	
comp=E,155nm,0.5s							
N19K	**Bonanza Creek**	**1.81**	**290**	Pn	Pn	08 11 05.5	-0.8
N19K				IAML		08 11 29.1	
comp=E,89nm,0.4s							
N19K				IAML		08 11 29.7	
comp=N,61nm,0.5s							
P23K	**Montague Islan**	**1.83**	**96**		Pn	08 11 05.8	-0.8
GHO	**Glory Hole Cre**	**1.86**	**33**		Pn	08 11 06.5	-0.5
GHO				IAML		08 11 29.7	
comp=E,168nm,0.4s							
GHO				IAML		08 11 33.7	
comp=N,116nm,0.5s							
Q19K	**Cape Douglas,**	**1.86**	**227**		Pn	08 11 07.5	+0.4
Q19K				IAML		08 11 34.1	
comp=E,170nm,0.8s							
Q19K				IAML		08 11 59.7	
comp=N,121nm,0.8s							
M20K	**Styx River**	**1.95**	**329**		Pn	08 11 08.1	-0.2
GLI	**Glacier Island**	**2.05**	**70**	Pn	Pn	08 11 08.6	-1.0
SML	**Sawmill**	**2.06**	**39**	Pn	Pn	08 11 09.2	-0.4
SML				IAML		08 11 34.5	
comp=N,76nm,0.6s							
SML				IAML		08 11 34.6	
comp=E,93nm,0.8s							
O18K	**Koktuh Hills**	**2.13**	**262**		Pn	08 11 09.9	-0.8
O18K				IAML		08 11 49.9	
comp=N,36nm,0.6s							
O18K				IAML		08 11 50.1	
comp=E,40nm,0.6s							
CUT	**Chulitna**	**2.21**	**9**	Pn	Pn	08 11 10.7	-1.0
CUT				IAML		08 11 44.0	
comp=N,92nm,0.7s							
CUT				IAML		08 11 49.7	
comp=E,87nm,0.6s							
M23K	**Glacier View**	**2.25**	**44**		Pn	08 11 11.8	-0.4
HIN	**Hinchinbrook I**	**2.26**	**84**	Pn	Pn	08 11 11.7	-0.7
HIN				IAML		08 11 38.5	
comp=E,69nm,0.4s							
HIN				IAML		08 11 39.0	
comp=N,93nm,0.7s							
P18K	**Big Mountain,**	**2.28**	**250**	Pn	Pn	08 11 11.9	-0.9
M19K	**Big River Lodg**	**2.34**	**317**	Pn	Pn	08 11 13.0	-0.5
M19K				IAML		08 11 40.9	
comp=E,51nm,0.4s							
SCM	**Sheep Creek Mo**	**2.41**	**47**	Pn	Pn	08 11 14.2	-0.3
SCM				IAML		08 11 45.6	
comp=N,83nm,0.1s							
N18K	**Kilae Creek**	**2.45**	**283**		Pn	08 11 14.1	-0.9
KDAK	**Kodiak Island**	**2.58**	**199**	Pn	Pn	08 11 16.1	-0.7
KDAK				IAML		08 11 46.4	
comp=N,38nm,0.8s							
KDAK				IAML		08 11 47.0	
comp=N,51nm,0.5s							
EYAK	**Cordova Ski Ar**	**2.64**	**81**	Pn	Pn	08 11 16.5	-1.0
L20K	**Farewell, AK**	**2.64**	**330**		Pn	08 11 16.9	-0.7
M18K	**Stony River**	**2.67**	**300**		Pn	08 11 16.8	-1.1
L19K	**White Mountain**	**2.69**	**318**	Pn	Pn	08 11 17.9	-0.4
L19K				IAML		08 11 49.4	
comp=E,25nm,0.3s							
PPLA	**Purkeypile**	**2.73**	**349**	Pn	Pn	08 11 19.1	+0.2
DIV	**Divide**	**2.74**	**68**	Pn	Pn	08 11 18.1	-0.8
KLU	**Klutina**	**2.80**	**61**		Pn	08 11 19.1	-0.7
KAKN	**Katmai Knife C**	**2.84**	**229**		Pn	08 11 20.4	+0.1
P17K	**Kvichak River**	**2.93**	**252**		Pn	08 11 21.5	+0.1
ACHA	**Angle Creek He**	**3.00**	**229**	Pn	Pn	08 11 23.3	+0.9
M24K	**Tolsona, Glenn**	**3.01**	**49**		Pn	08 11 22.8	+0.1
M24K				IAML		08 12 08.0	
comp=N,48nm,1.1s							
N17K	**Nushagak Hills**	**3.07**	**278**	Pn	Pn	08 11 22.7	-0.7
N17K				IAML		08 12 15.3	
comp=N,16nm,1.1s							
N17K				IAML		08 12 17.9	
comp=E,17nm,0.9s							
O17K	**Koliganek Bris**	**3.08**	**264**		Pn	08 11 23.1	-0.4
RAGM	**Ragged Mountai**	**3.17**	**84**	Pn	Pn	08 11 23.6	-1.1
CAST	**Castle Rocks**	**3.24**	**352**		Pn	08 11 25.3	-0.4
OHAK	**Old Harbor**	**3.24**	**202**	Pn	Pn	08 11 24.6	-1.0
OHAK				IAML		08 12 00.9	
comp=E,17nm,0.6s							
OHAK				IAML		08 12 01.2	
comp=N,24nm,0.4s							
TRF	**Thorofare Moun**	**3.25**	**6**		Pn	08 11 26.0	0.0
TRF				IAML		08 12 19.7	
comp=E,22nm,1.1s							
TRF				IAML		08 12 21.3	
comp=N,16nm,1.1s							
BMRM	**Bremner River**	**3.25**	**74**	Pn	Pn	08 11 25.1	-0.8
KAIM	**Kayak Island**	**3.33**	**92**	Pn	Pn	08 11 26.0	-0.8
KAIM				IAML		08 11 57.2	
comp=E,34nm,1.1s							
KAIM				IAML		08 12 05.4	
comp=N,51nm,0.8s							
KTH	**Kantishna Hill**	**3.34**	**1**		Pn	08 11 27.2	+0.2
KTH				IAML		08 12 23.1	
comp=E,19nm,0.9s							
KTH				IAML		08 12 26.5	
comp=N,17nm,1.0s							
RND	**Reindeer**	**3.35**	**17**		Pn	08 11 27.9	+0.7
M17K	**Holitna River**	**3.35**	**293**	Pn	Pn	08 11 26.7	-0.6
M17K				IAML		08 12 05.4	
comp=N,34nm,0.9s							
M17K				IAML		08 12 29.4	
comp=E,26nm,1.0s							
HMT	**Hamilton**	**3.37**	**85**	Pn	Pn	08 11 26.5	-1.0
L18K	**Granite Mounta**	**3.39**	**309**	Pn	Pn	08 11 27.2	-0.5
L18K				IAML		08 12 05.5	
comp=N,13nm,0.8s							
N25K	**Chitina, Valde**	**3.43**	**63**	Pn	Pn	08 11 27.9	-0.5
N25K				IAML		08 12 07.8	
comp=E,32nm,0.5s							
HARP	**HAARP**	**3.57**	**50**		Pn	08 11 30.3	+0.1
TTA	**Tatalina**	**3.61**	**321**	Pn	Pn	08 11 30.2	-0.6
O16K	**Kokwok River B**	**3.62**	**263**	Pn	Pn	08 11 30.5	-0.3
O16K				IAML		08 12 28.7	
comp=N,37nm,1.0s							
O16K				IAML		08 12 28.8	
comp=E,13nm,0.9s							
BERG	**Berg Lake**	**3.65**	**84**	Pn	Pn	08 11 29.6	-1.7
MCK	**McKinley**	**3.65**	**15**		Pn	08 11 32.1	+0.8
WACK	**Wrangell Chich**	**3.70**	**59**		Pn	08 11 31.8	-0.4
CHUM	**Lake Minchumin**	**3.72**	**351**		Pn	08 11 31.9	-0.2
P16K	**Nushagak River**	**3.73**	**254**		Pn	08 11 32.5	0.0
GLB	**Gilahina Butte**	**3.74**	**68**	Pn	Pn	08 11 31.4	-1.1
GLB				IAML		08 12 14.5	
comp=N,34nm,0.5s							
GLB				IAML		08 12 14.5	
comp=E,18nm,0.4s							
WASW	**Wrangell South**	**3.74**	**60**		Pn	08 11 32.6	-0.1
PAX	**Paxson**	**3.82**	**42**		Pn	08 11 33.7	0.0
VRDI	**Verde Repeater**	**3.85**	**72**	Pn	Pn	08 11 33.6	-0.7
VRDI				IAML		08 12 19.0	
comp=N,18nm,1.1s							
VRDI				IAML		08 12 27.9	
comp=E,9.5nm,1.1s							
N16K	**Nishlik Lake**	**3.85**	**277**		Pn	08 11 34.0	-0.1
BPAW	**Bear Paw Mtn.**	**3.88**	**0**		Pn	08 11 34.3	-0.2
M16K	**Timber Creek**	**3.99**	**285**	Pn	Pn	08 11 35.3	-0.6
L17K	**Donlin**	**4.00**	**302**		Pn	08 11 35.2	-0.8
J18K	**Innoko River**	**4.22**	**323**	Pn	Pn	08 11 39.1	0.0
J20K	**Nowinta River**	**4.22**	**341**		Pn	08 11 39.0	-0.1
K17K	**Iditarod**	**4.29**	**309**	Pn	Pn	08 11 39.7	-0.2
K17K				IAML		08 13 15.9	
comp=E,6.2nm,1.2s							
KIAG	**Kiagna River**	**4.33**	**77**		Pn	08 11 40.0	-0.8
J19K	**Poorman**	**4.35**	**332**	Pn	Pn	08 11 41.3	+0.5
J19K				IAML		08 14 28.6	
comp=E,9.8nm,0.9s							
J19K				IAML		08 14 31.3	
comp=N,7.7nm,0.7s							
BALM	**Baldy**	**4.35**	**76**		Pn	08 11 39.7	-1.2
L16K	**Owhat River**	**4.38**	**293**	Pn	Pn	08 11 40.8	-0.4
MENT	**Mentasta**	**4.42**	**49**	Pn	Pn	08 11 41.7	-0.2
MENT				IAML		08 12 46.1	
comp=N,17nm,0.6s							
MENT				IAML		08 12 50.7	
comp=E,20nm,0.5s							
M26K	**Nabesna, AK**	**4.44**	**57**	Pn	Pn	08 11 42.1	0.0
M26K				IAML		08 12 33.2	
comp=N,12nm,0.7s							
M26K				IAML		08 12 33.5	
comp=E,8.2nm,0.6s							
WRH	**Wood River Hil**	**4.47**	**17**		Pn	08 11 42.4	0.0
NEA2	**Nenana**	**4.47**	**11**		Pn	08 11 42.3	-0.2
N15K	**Kwethluk River**	**4.52**	**273**	Pn	Pn	08 11 43.3	+0.1
N15K				IAML		08 13 10.1	
comp=E,14nm,1.1s							
N15K				IAML		08 14 08.9	
comp=N,9.1nm,1.1s							
MESA	**MESA**	**4.53**	**87**	Pn	Pn	08 11 43.4	-0.1
RIDG	**Independent Ri**	**4.57**	**37**		Pn	08 11 44.2	+0.4
RIDG				IAML		08 12 35.3	
comp=E,9.7nm,0.6s							
RIDG				IAML		08 12 35.9	
comp=N,12nm,0.5s							
HDA	**Harding Lake**	**4.61**	**23**		Pn	08 11 44.8	+0.4
HDA				IAML		08 12 37.2	
comp=E,20nm,0.5s							
L26K	**Log Cabin Wild**	**4.61**	**49**	Pn	Pn	08 11 44.8	+0.4
L26K				IAML		08 12 44.9	
comp=N,10.0nm,0.5s							
L26K				IAML		08 12 57.4	
comp=E,14nm,0.5s							
YAH	**Yahtse**	**4.62**	**84**	Pn	Pn	08 11 44.8	0.0
YAH				IAML		08 12 37.0	
comp=E,7.3nm,1.1s							
CCB	**Clear Creek Bu**	**4.68**	**17**		Pn	08 11 45.2	-0.1
CCB				IAML		08 12 39.8	
comp=N,4.6nm,0.2s							
DOT	**Dot Lake**	**4.75**	**41**	Pn	Pn	08 11 46.5	+0.2
M15K	**Kasigluk River**	**4.80**	**280**		Pn	08 11 46.5	-0.6
COLA	**College**	**4.89**	**16**		Pn	08 11 48.0	-0.2
M27K	**Edge Creek, AK**	**4.90**	**60**	Pn	Pn	08 11 48.9	+0.4
M27K				IAML		08 12 45.0	
comp=N,6.4nm,0.8s							
IL31		**4.95**	**21**		Pn	08 11 48.7	-0.2
ILAR	**Eielson Array**	**4.95**	**21**	Pn	Pn	08 11 48.8	-0.2
J17K	**VABM Dome**	**4.96**	**313**	Pn	Pn	08 11 48.9	-0.3
I21K	**Tanana**	**4.99**	**355**		Pn	08 11 50.0	+0.4
I21K				IAML		08 14 32.0	
comp=E,9.3nm,0.9s							
I21K				IAML		08 14 36.0	
comp=N,7.7nm,1.1s							
I23K	**Minto, Yukon-K**	**5.00**	**8**		Pn	08 11 49.6	0.0
I23K				IAML		08 15 06.1	
comp=E,5.5nm,0.8s							
SCRK	**Sand Creek**	**5.01**	**38**	Pn	Pn	08 11 49.1	-0.7
SCRK				IAML		08 13 19.2	
comp=E,4.0nm,0.9s							
J25K	**Salcha River,**	**5.12**	**28**		Pn	08 11 51.5	0.0
J25K				IAML		08 12 49.5	
comp=N,8.2nm,0.5s							
POKR	**Poker Plat Res**	**5.18**	**17**	Pn	Pn	08 11 52.6	+0.4
POKR				IAML		08 12 50.3	
comp=E,6.2nm,0.6s							
YUK2	**White River**	**5.20**	**68**		Pn	08 11 52.1	-0.4
L27K	**Beaver Creek,**	**5.22**	**53**	Pn	Pn	08 11 53.0	+0.2
BCAR	**Beaver Creek A**	**5.24**	**53**	Pn	Pn	08 11 52.9	-0.2
L15K	**Ungalak Mounta**	**5.30**	**290**		Pn	08 11 53.0	-0.8
PCA	**Pinnacle**	**5.38**	**87**	Pn	Pn	08 11 54.5	-0.5
O28M	**Mount Upton**	**5.38**	**80**		Pn	08 11 54.8	-0.4
M14K	**Bethel**	**5.43**	**280**	Pn	Pn	08 11 56.1	+0.5
K15K	**Wolf Creek Mou**	**5.47**	**297**	Pn	Pn	08 11 56.0	-0.2
J16K	**Anvik River**	**5.48**	**308**	Pn	Pn	08 11 56.3	+0.1
H21K	**Melozitna Rive**	**5.51**	**352**		Pn	08 11 57.1	+0.5
J26L	**Joseph Creek**	**5.51**	**36**	Pn	Pn	08 11 56.7	-0.1
H23K	**Yukon River**	**5.66**	**6**		Pn	08 11 58.6	-0.1
K27K	**Chicken**	**5.67**	**44**	Pn	Pn	08 11 59.5	+0.6
H22K	**Ishtalitna Cre**	**5.69**	**359**		Pn	08 11 59.1	0.0
H24K	**Noodor Dome**	**5.81**	**13**		Pn	08 12 00.7	0.0
PRP	**Porcupine Dome**	**5.87**	**23**		Pn	08 12 01.9	+0.1
H18K	**Honhosa River**	**5.98**	**329**	Pn	Pn	08 12 03.6	+0.5
I26K	**Coal Creek Min**	**6.24**	**32**		Pn	08 12 06.1	-0.6
G21K	**Allakaket**	**6.41**	**351**	Pn	Pn	08 12 09.6	+0.7
H25L	**Birch Creek**	**6.50**	**19**		Pn	08 12 10.3	+0.2
G23K	**Bananza Creek**	**6.52**	**4**	Pn	Pn	08 12 10.2	-0.3
G24K	**Hadweenzic Riv**	**6.69**	**12**		Pn	08 12 12.0	-0.7
F21K	**Alatna River**	**7.10**	**352**		Pn	08 12 18.7	+0.3
I28M	**Miner Creek**	**7.29**	**39**		Pn	08 12 20.9	-0.1
H27K	**Steamboat Moun**	**7.39**	**31**		Pn	08 12 21.7	-0.6
G27K	**Doyon Strip**	**7.81**	**28**		Pn	08 12 27.1	-1.0

*SJA **11** 08:15:54.6±0.7, 23°67S×68°64W, h116km±5km, ML3.6, MW3.6*
*GUC **11** 08:15:55.6±0.7, 23°75S×68°64W, h110km±6km, ML4.0*
ISC 11 08:15:55.4±1.4, 23°59S±0°03×68°72W±0°05, h122km±12km, n26, σ1°75/38, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.81**	**38**	⇓*i*P	**Pn**	**08 16 15.7**	**-0.4**
AF01				*i* S	**Sn**	**08 16 30.9**	**-0.9**
AF01				IAML		08 16 31.9	
comp=N,8μm,0.4s							
AF01	**San Pedro de A**	**0.81**	**38**	*e*P	**Pn**	**08 16 15.8**	**-0.4**
AF01				*e*S	**Sn**	**08 16 31.2**	**-0.6**
AF01				IAML		08 16 31.5	
comp=Z,2μm,0.1s							
PB06	**IPOC Station P**	**1.18**	**318**	⇑*i*P	**Pn**	**08 16 20.8**	**+1.2**
PB06				*i* S	**Sn**	**08 16 39.3**	**+1.4**
PB06				IAML		08 16 40.2	
comp=E,5μm,0.1s							
PB06	**IPOC Station P**	**1.18**	**318**	*e*P	**Pn**	**08 16 20.5**	**+1.0**
PB06				IAML		08 16 41.9	
comp=Z,2μm,0.3s							
PB10	**IPOC Station P**	**1.68**	**272**	*e*P	**Pn**	**08 16 26.1**	**+1.1**
PB10				*e*S	**Sn**	**08 16 49.2**	**+1.6**
PB10				IAML		08 17 00.1	
comp=Z,204nm,0.3s							
GO02	**Mina Guanaco**	**1.75**	**207**	⇓*i*P	**Pn**	**08 16 26.0**	**-0.2**
GO02				*i* S	**Sn**	**08 16 48.9**	**-0.7**
GO02				IAML		08 16 50.7	
comp=N,2μm,0.2s							
GO02	**Mina Guanaco**	**1.75**	**207**	*e*P	**Pn**	**08 16 25.3**	**-0.9**
GO02				*e*S	**Sn**	**08 16 49.2**	**-0.4**
PB03	**IPOC Station P**	**1.81**	**328**	⇑*i*P	**Pn**	**08 16 28.1**	**+1.3**
PB03				*i* S	**Sn**	**08 16 52.0**	**+1.4**
PB03				IAML		08 16 53.4	
comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**1.81**	**328**	*e*P	**Pn**	**08 16 28.0**	**+1.2**
PB03				IAML		08 16 55.1	
comp=Z,865nm,0.2s							
PB14	**IPOC Station P**	**1.85**	**236**	⇑*i*P	**Pn**	**08 16 27.3**	**0.0**

PB12 IAML 08 18 50.2
comp=Z,29nm,0.9s

*IDC **11** 08:20:46.9±0.7, 36°.68N×142°.43E, h0km, mb4.1/21, mbtmp4.1/27, ML3.5/6, MS3.7/2, Error ellipse: s-maj=16.4km s-min=15.4km az=128.0*
*MOS **11** 08:20:47.3±0.9, 36°.76N×142°.38E, h13km, mb4.6/21, Error ellipse: s-maj=10.5km s-min=5.9km az=119.3*
*NIED **11** 08:20:49.0, 36°.73N×142°.45E, h58km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.51; Mθθ0.53; Mφφ-3.04; Mrθ0.47; Mθφ-1.19; Mφr2.94; Fault plane solution: M0 4.20000×10^15 NP1: φs207.00000°, δ23.00000°, λ106.00000°. NP2: φs10.00000°, δ68.00000°, λ83.00000°.*
*JMA **11** 08:20:49.0±0.3, 36°.7N±0°.8×14°.2E±°, h58km, MV4.1/34, FAR E OFF FUKUSHIMA PREF*
*NEIC **11** 08:20:50.1±1.6, 36°.87N±0°.08×142°.4E±0°.1, h10km±1km, mb4.6/26, Error ellipse: s-maj=14.8km s-min=11.9km az=127.0*
*BJI **11** 08:20:50.0, 36°.79N×142°.18E, h26km, mB4.8/11, mb4.6/44, Ms4.2/19, Ms7 4.0/22*
ISC 11 08:20:49.1±1.4, 36°.74N±0°.04×142°.32E±0°.04, h12km±8km, n147, σ1§56/157, mb4.5/52, MS4.0/10, 10C-9D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.27 287**		P	**Pg**	**08 21 12.4**	**-1.3**
ONAJ				eS	**Sg**	**08 21 29.8**	**-0.4**
JFK	**Kawauchi**	**1.32 299**		P	**Pb**	**08 21 12.8**	**-1.0**
JHO	**Hitachi**	**1.42 265**		P	**Pb**	**08 21 14.0**	**-1.4**
JFFD	**Fukushimafurud**	**1.46 285**		P	**Pb**	**08 21 14.5**	**-1.7**
JMM	**Marumori**	**1.66 313**			**Pb**	**08 21 17.6**	**-2.0**
JMM	**Marumori**	**1.66 313**		P	**Pb**	**08 21 17.5**	**-2.1**
JMM	**Marumori**	**1.66 313**		i P	**Pb**	**08 21 17.5**	**-2.1**
JOTO	**OTAMA OYAMA**	**1.79 298**		i P	**Pb**	**08 21 20.4**	**-1.5**
JOTO				S	**Sb**	**08 21 44.2**	**0.0**
JIO	**Ouri**	**1.88 336**		P	**Pn**	**08 21 20.2**	**-0.8**
JAG	**Ashikaga**	**2.33 263**		P	**Pn**	**08 21 27.4**	**+0.2**
JAG				eS	**Sn**	**08 21 55.9**	**0.0**
BSO1	**Boso 1**	**2.35 208**		eP	**Pn**	**08 21 26.6**	**-0.4**
BSO1				eS	**Sn**	**08 21 56.3**	**+0.8**
JMK	**Ichinoseki**	**2.38 339**		P	**Pn**	**08 21 27.7**	**-0.2**
JYK	**Kaneyama**	**2.67 325**		P	**Pn**	**08 21 32.1**	**+0.1**
JYK				S	**Sn**	**08 22 05.0**	**+0.7**
JOM	**Ohasama**	**2.85 344**		eP	**Pn**	**08 21 34.1**	**-0.3**
JRY	**Ryogami san**	**2.85 256**		P	**Pn**	**08 21 34.6**	**+0.1**
JRY				eS	**Sn**	**08 22 08.8**	**0.0**
JOD2	**Odawara 2**	**3.01 242**		eP	**Pn**	**08 21 37.2**	**+0.6**
JYN	**Shimob**	**3.30 249**		P	**Pn**	**08 21 41.9**	**+1.2**
JYN				eS	**Sn**	**08 22 20.9**	**+1.1**
MJAR	**Matsushiro Arr**	**3.31 268**		Pn	**Pn**	**08 21 42.2**	**+1.4**
	2.3nm,0.3s,baz=98,slow=11,SNR=89						
MJAR				Sn	**Sn**	**08 22 22.4**	**+2.3**
	1.5nm,0.3s,baz=80,slow=12,SNR=4.8						
MJAR				LR	LR	08 23 15.5	
	comp=Z,1μm,18.4s,baz=162,slow=44						
	52nm,0.6s						
MAJO	**Matsushiro**	**3.32 268**			**Pn**	**08 21 42.4**	**+1.6**
MAJO	**Matsushiro**	**3.32 268**		P	**Pn**	**08 21 42.7**	**+1.9**
MAJO	**Matsushiro**	**3.32 268**		c iP	**Pn**	**08 21 42.3**	**+1.5**
MAT	**Matsushiro**	**3.32 268**		P	**Pn**	**08 21 42.4**	**+1.6**
MAT				eS	**Sb**	**08 22 24.8**	**-3.4**
MJB9	**Matsu-Tunnel**	**3.32 268**			**Pb**	**08 21 43.5**	**-4.4**
JSD	**Sado**	**3.49 293**		Pn	**Pn**	**08 21 44.1**	**+0.9**
JSG	**Sagara**	**3.95 240**		P	Pb	08 21 53.2	-5.4
JHJ2	**Mitsune**	**4.16 210**		P	**Pn**	**08 21 54.6**	**+2.2**
JHJ	**Hachijo jima 2**	**4.17 211**		Pn	**Pn**	**08 21 52.4**	**-0.2**
	45nm,0.3s,baz=77,slow=19,SNR=5.8						
JHJ				Sn	**Sn**	**08 22 37.2**	**-4.0**
	107nm,0.3s,baz=68,slow=22,SNR=7.8						
	117nm,0.3s						
JGF	**Kuroka**	**4.17 256**			**Pn**	**08 21 55.5**	**+2.9**
JGF	**Kuroka**	**4.17 256**		P	**Pn**	**08 21 55.1**	**+2.5**
INU	**Inuyama**	**4.52 254**			**Pn**	**08 21 59.2**	**+1.9**
INU	**Inuyama**	**4.52 254**		P	**Pn**	**08 22 00.2**	**+2.9**
ERM	**Erimo**	**5.31 7**		Pn	**Pn**	**08 22 07.9**	**-0.3**
ERM	**Erimo**	**5.31 7**	⇑	eP	**Pn**	**08 22 07.7**	**-0.5**
JKA	**Kamikawa-asahi**	**7.37 2**		Pn	**Pn**	**08 22 36.6**	**+0.1**
ASAJ	**Asahikawa**	**7.37 2**		Pn	**Pn**	**08 22 36.7**	**+0.2**
	1.1nm,0.3s,baz=180,slow=7.6,SNR=6.5						
	4.9nm,0.4s						
JMN	**Monobe**	**7.53 249**		Pn	**Pn**	**08 22 41.5**	**+2.8**
JNU	**Nakatsue**	**10.06 252**		Pn	**Pn**	**08 23 15.1**	**+1.6**
JNU	**Nakatsue**	**10.06 252**		Pn	**Pn**	**08 23 16.2**	**+2.8**
	0.3nm,0.3s,baz=2.2,slow=13,SNR=2.4						
YSS	**Yuzhno-Sakhali**	**10.21 2**		eP	**Pn**	**08 23 15.2**	**-0.2**
YSS				eS	**Sn**	**08 25 05.1**	**-4.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
MSHR	**Mys Shultsa**	**10.39 308**	⇓	eP	**Pn**	**08 23 20.5**	**+2.6**
MSHR				pmax	pmax		
	comp=Z,27nm,1.2s						
USA0B	**Ussuriysk Arra**	**10.83 317**	⇓	eP	**Pn**	**08 23 24.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.83 317**		Pn	**Pn**	**08 23 22.0**	**-1.9**
USRK	**Ussuriysk Ar.**	**10.83 317**		Pn	**Pn**	**08 23 25.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=123,slow=13,SNR=9.5						
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**11.53 278**		Pn	**Pn**	**08 23 36.4**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=84,slow=12,SNR=11						
	comp=Z,3.5nm,0.8s						
KLR	**Kul'dur**	**14.67 332**		Pn	**P**	**08 24 18.8**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=128,slow=14,SNR=5.8						
	comp=Z,2.0nm,0.8s						
KLR	**Kul'dur**	**14.67 332**		eP	**P**	**08 24 21.4**	**-1.2**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
CN2	**Changchun**	**14.68 304**		eP	**P**	**08 24 18.8**	**-3.9**
CN2				ePP	**PnPn**	**08 24 30.8**	**+6.5**
CN2				eS	**Sn**	**08 27 00.2**	**+1.3**
CN2				LR	LR		
	comp=Z,490nm,14.0s						
CN2				LR	LR		
	comp=Z,450nm,14.0s						
CN2				LR	LR		
	comp=Z,350nm,14.0s						
NJ2	**Nanjing**	**19.91 263**		eP	**Pn**	**08 25 23.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZEA	**Zeya**	**19.97 333**		eP	**Pn**	**08 25 23.5**	**+0.8**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
TIA	**Tai'an**	**20.26 276**		P	Pn	08 25 25.4	-0.9
TIA				pmax	pmax		
	comp=Z,13nm,1.2s						
TIA				pmax	pmax		
	comp=Z,330nm,4.9s						
TIA				LR	LR		
	comp=Z,430nm,15.1s						
TIA				LR	LR		
	comp=Z,450nm,15.1s						
XLT	**XiLinHaoTe**	**21.19 298**		eP	**P**	**08 25 32.1**	**-2.4**
XLT				pP	pwP	08 25 41.5	+0.8
XLT				PP	**PnPn**	**08 25 57.0**	**+3.2**
XLT				S	**S**	**08 29 28.6**	**-1.3**
XLT				pmax	pmax		
	comp=Z,17nm,0.8s						
XLT				LR	LR		
	comp=Z,410nm,16.2s						
XLT				LR	LR		
	comp=Z,370nm,18.5s						
HNS	**HongShan**	**22.02 280**	⇓	P	**P**	**08 25 40.8**	**-2.5**
HNS				eS	**S**	**08 29 40.6**	**-5.4**
HNS				pmax	pmax		
	comp=Z,28nm,0.8s						
HNS				LR	LR		
	comp=Z,470nm,16.5s						
HNS				LR	LR		
	comp=Z,340nm,16.1s						
MA2	**Magadan**	**23.50 11**		P	**P**	**08 25 58.9**	**+0.3**
MA2	**Magadan**	**23.50 11**		P	**P**	**08 25 58.6**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=184,slow=9.9,SNR=6.9						
	comp=Z,3.8nm,0.7s						
MA2	**Magadan**	**23.50 11**	⇑	i P	**P**	**08 25 59.0**	**+0.5**
MA2				pmax	pmax		
	comp=Z,16nm,2.4s						
HHC	**Hu-ho-hao-te**	**24.26 289**		eP	**P**	**08 26 06.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
LYN	**LuoYang**	**24.32 274**		P	**P**	**08 26 05.9**	**-0.7**
LYN				pmax	pmax		
	comp=Z,31nm,0.9s						
LYN				LR	LR		
	comp=Z,300nm,12.6s						
LYN				LR	LR		
	comp=Z,480nm,17.3s						
LYN				LR	LR		
	comp=Z,540nm,12.9s						
CIT	**Chita**	**25.40 316**		eP	**P**	**08 26 15.4**	**-0.8**
CIT				e		08 26 23.9	
CIT				pmax	pmax		
	comp=Z,88nm,2.0s						
YAK	**Yakutsk**	**26.52 347**		eP	**P**	**08 26 26.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
SEY	**Seymchan**	**26.95 10**		eP	**P**	**08 26 29.6**	**-0.4**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN	**Xi'an**	**27.29 274**	⇑	P	**P**	**08 26 34.0**	**+0.5**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				LR	LR		
	comp=Z,230nm,15.1s						
XAN				LR	LR		
	comp=Z,350nm,19.2s						
XAN				LR	LR		
	comp=Z,370nm,19.2s						
H11N2	**WAKE ISLAND Hy**	**27.37 122**		T	T	08 55 10.2	
	baz=313,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**27.38 122**		T	T	08 55 04.3	
	baz=313,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.39 122**		T	T	08 55 11.6	
	baz=313,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.09 124**		T	T	08 56 11.9	
	baz=316,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**28.09 124**		T	T	08 56 03.9	
	baz=316,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**28.10 124**		T	T	08 56 11.1	
	baz=316,slow=76,SNR=8.1						
ULN	**Ulaanbaatar**	**28.12 304**		P	**P**	**08 26 41.4**	**+0.4**
ULN				IAmb	IAmb	08 26 42.5	
	comp=Z,10nm,1.1s						
ULN	**Ulaanbaatar**	**28.12 304**	⇑	i P	**P**	**08 26 40.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**28.55 304**		P	**P**	**08 26 45.2**	**+0.4**
SONM				IAmb	IAmb	08 26 46.4	
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**28.55 304**		P	**P**	**08 26 45.7**	**+0.9**
	comp=Z,11nm,0.8s,baz=105,slow=9.3,SNR=42						
	comp=Z,11nm,0.8s						
LZH	**Lanzhou**	**30.84 281**		eP	**P**	**08 27 06.0**	**+0.8**
LZH				pP	pwP	08 27 17.8	+6.1
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH				LR	LR		
	comp=Z,230nm,13.9s						
LZH				LR	LR		
	comp=Z,470nm,13.2s						
LZH				LR	LR		
	comp=Z,430nm,15.8s						
CD2	**Chengdu**	**32.41 271**		P	**P**	**08 27 18.3**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**33.35 288**		eP	**P**	**08 27 27.8**	**+0.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				LR	LR		
	comp=Z,140nm,14.9s						
GTA				LR	LR		
	comp=Z,130nm,16.7s						
GTA				LR	LR		
	comp=Z,160nm,19.3s						
QIZ	**Qiongzhong**	**33.48 247**		P	**P**	**08 27 30.5**	**+2.2**
QIZ				LR	LR		
	comp=Z,210nm,15.8s						
QIZ				LR	LR		
	comp=Z,230nm,16.5s						
QIZ				LR	LR		
	comp=Z,200nm,16.5s						
TIXI	**Tiksi**	**35.67 353**		LR	LR	08 44 19.5	
	comp=Z,88nm,18.8s,baz=187,slow=40						
TIXI	**Tiksi**	**35.67 353**	⇓	eP	**P**	**08 27 46.4**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,14nm,3.3s						
PZH	**PanZhiHua**	**35.80 265**		P	**P**	**08 27 50.5**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
GOMU	**GeErMu**	**37.90 284**		P	**P**	**08 28 07.2**	**+0.7**
GOMU				pP	pwP	08 28 10.8	-2.4
GOMU				sP	sP	08 28 15.0	+4.2
GOMU				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ	**Urumqi**	**41.62 297**		eP	**P**	**08 28 40.2**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
ZAA0	**Zalesovo Array**	**42.65 313**		P	**P**	**08 28 45.3**	**+0.1**
ZALV	**Zalesovo Beam**	**42.65 313**		P	**P**	**08 28 45.3**	**+0.1**
ZALV	**Zalesovo Beam**	**42.65 313**		P	**P**	**08 28 45.4**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=100,slow=8.1,SNR=7.8						
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**44.89 303**		P	**P**	**08 29 03.2**	**-0.2**
MK31	**Makanchi Array**	**44.89 303**		c iP	**P**	**08 29 03.2**	**-0.2**
MKAR	**Makanchi Array**	**44.89 303**		P	**P**	**08 29 03.0**	**-0.5**
MKAR	**Makanchi Array**	**44.89 303**		P	**P**	**08 29 03.6**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=89,slow=9.0,SNR=27						
	comp=Z,2.7nm,0.7s						
MAKZ	**Makanchi**	**45.10 303**		P	**P**	**08 29 04.9**	**-0.2**
MAKZ				IAmb	IAmb	08 29 08.5	
	comp=Z,3.8nm,0.8s						
MAKZ	**Makanchi**	**45.10 303**		P	**P**	**08 29 04.9**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
Q19K	**Cape Douglas,**	**46.24 40**		P	**P**	**08 29 12.8**	**-1.1**
KURK	**Kurchatov**	**46.69 308**		P	**P**	**08 29 17.2**	**-0.3**
KURK				IAmb	IAmb	08 29 18.3	
	comp=Z,9.9nm,0.9s						
KURK	**Kurchatov**	**46.69 308**	⇑	eP	**P**	**08 29 17.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s						
KURBB	**Kurchatov Arra**	**46.76 308**		P	**P**	**08 29 18.1**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=83,slow=8.0,SNR=27						
	comp=Z,5.8nm,0.9s						
WUS	**Wushi**	**48.32 296**		P	**P**	**08 29 31.0**	**+0.5**
IL31		**49.35 32**		P	**P**	**08 29 38.1**	**+0.2**
ILAR	**Eielson Array**	**49.35 32**		P	**P**	**08 29 37.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=268,slow=6.8,SNR=11						
	comp=Z,1.0nm,0.8s						
BOOM	**Boomskoye usch**	**50.29 298**		P	**P**	**08 29 46.6**	**+1.0**
BOOM				IAmb	IAmb	08 29 58.4	
	comp=Z,4.0nm,0.9s						
BOOM	**Boomskoye usch**	**50.29 298**		P	**P**	**08 29 46.6**	**+1.0**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
C27K	**Jago River**	**50.54 26**		P	**P**	**08 29 48.4**	**+1.6**
AAK	**Ala-Archa**	**51.27 299**		P	**P**	**08 29 53.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=153,slow=7.0,SNR=4.8						
	comp=Z,1.1nm,0.6s						
AAK	**Ala-Archa**	**51.27 299**	⇓	i P	**P**	**08 29 53.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
BVAR	**Borovoye Array**	**51.31 313**		P	**P**	**08 29 53.0**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=64,slow=6.8,SNR=7.5						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**51.31 313**		P	**P**	**08 29 53.0**	**+0.1**
BRVK	**Borovoye**	**51.37 313**	⇓	i P	**P**	**08 29 53.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**53.90 301**		P	**P**	**08 30 12.8**	**+0.5**
KK31				IAmb	IAmb	08 30 22.9	
	comp=Z,4.6nm,1.1s						
KK31	**Karatay Array**	**53.90 301**		P	**P**	**08 30 12.8**	**+0.5**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**53.90 301**		P	**P**	**08 30 11.7**	**-0.6**
KKAR	**Karatay Array**	**53.90 301**		P	**P**	**08 30 11.7**	**-0.6**
TRKS	**Terek-Say**	**53.99 299**		P	**P**	**08 30 12.4**	**-0.7**
TRKS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GAR	**Garm**	**55.48 296**		P	**P**	**08 30 24.3**	**+0.4**
GAR				IAmb	IAmb	08 30 25.1	
	comp=Z,16nm,1.2s						
SIMJ	**Simiganj**	**56.56 296**		P	**P**	**08 30 32.1**	**+0.5**
SIMJ				IAmb	IAmb	08 30 32.8	
	comp=Z,11nm,0.9s						
DZET	**Dzherino**	**56.63 296**		P	**P**	**08 30 32.8**	**+0.6**
DZET				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**56.88 189**		P	**P**	**08 30 33.0**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=6.7,slow=7.5,SNR=5.8						
	comp=Z,2.1nm,1.0s						
WRA	**Warramunga Arr**	**56.88 189**		i P	**P**	**08 30 34.0**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARTI	**Arti**	**57.17 319**		P	**P**	**08 30 35.1**	**-0.5**
ARTI				IAmb	IAmb	08 30 46.6	
	comp=Z,5.7nm,0.9s						
ARTI	**Arti**	**57.17 319**		P	**P**	**08 30 35.7**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=23,slow=6.2,SNR=4.7						
	comp=Z,2.0nm,0.5s						
ARTI	**Arti**	**57.17 319**	c	i P	**P**	**08 30 35.5**	**0.0**
ARTI						08 31 30.3	
ARTI				S	**S**	**08 38 29.8**	**-0.7**
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KBL	**Kabul**	**58.20 292**		P	**P**	**08 30 43.2**	**-0.1**
KBL				IAmb	IAmb	08 30 44.0	
	comp=Z,5.6nm,0.9s						
KBL	**Kabul**	**58.20 292**		P	**P**	**08 30 43.3**	**-0.1**
KBL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ABKAR	**Akbulak array**	**58.69 311**		P	**P**	**08 30 46.1**	**-0.2**
ABKAR				IAmb	IAmb	08 30 46.9	
	comp=Z,3.5nm,0.9s						
AKTO	**Aktyubinsk**	**59.41 312**		P	**P**	**08 30 51.0**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=73,slow=10,SNR=4.7						
	comp=Z,1.8nm,0.8s						
AKTO	**Aktyubinsk**	**59.41 312**		P	**P**	**08 30 51.0**	**-0.3**
AS31	**Alice Springs**	**60.60 189**		P	**P**	**08 30 59.9**	**+0.2**
ASAR	**Alice Springs**	**60.60 189**		P	**P**	**08 30 58.9**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=10,slow=7.1,SNR=13						
	comp=Z,1.1nm,0.8s						
KIRV	**Kirov**	**60.92 323**	⇓	eP	**P**	**08 31 02.0**	**+0.5**
RES	**Resolute Bay**	**62.70 15**		P	**P**	**08 31 13.6**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=324,slow=6.8,SNR=3.9						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**63.70 30**		P	**P**	**08 31 19.7**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=300,slow=7.1,SNR=5.9						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**69.41 333**		P	**P**	**08 31 56.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=18,slow=13,SNR=4.4						
	comp=Z,2.1nm,0.8s						
KBZ	**Khabaz**	**71.65 311**		P	**P**	**08 32 11.0**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=80,slow=2.5,SNR=6.9						
	comp=Z,3.6nm,0.8s						
KBZ	**Khabaz**	**71.65 311**	⇓	eP	**P**	**08 32 11.1**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV	**Kislovodsk**	**71.65 311**		eP	**P**	**08 32 11.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
SHA1	**Shidzhatmaz**	**71.79 311**	⇑	eP	**P**	**08 32 13.3**	**+1.6**
GNI	**Garni**	**72.47 307**	⇑	eP	**P**	**08 32 17.3**	**+1.6**
GNI				pmax	pmax		
	comp=Z,22nm,1.5s						
MNK	**Minsk**	**73.15 326**		i P	**P**	**08 32 17.8**	**-1.4**
MNK				i		08 35 00.2	
MNK				i PPP	PPP	08 36 45.0	
MNK				i S	**S**	**08 41 43.7**	**-2.8**
MNK				i SS	**SS**	**08 46 27.2**	**+0.4**
MNK				pmax	pmax		
	comp=N,34nm,0.8s						
MNK				pmax	pmax		
	comp=Z,12nm,0.6s						
MNK				pmax	pmax		
	comp=E,14nm,0.6s						
MNK				MLR	MLR		
	comp=N,415nm,19.0s						
MNK				MLR	MLR		
	comp=E,201nm,17.0s						
MNK				MLR	MLR		
	comp=Z,94nm,13.0s						
NVAR	**Mina Array Bea**	**74.58 54**		P	**P**	**08 32 28.5**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=314,slow=4.8,SNR=3.6						
	comp=Z,0.7nm,0.9s						
NOA	**NORSAR Array B**	**74.74 338**		P	**P**	**08 32 29.7**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=40,slow=5.7,SNR=1.9						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**74.98 323**		P	**P**	**08 32 30.3**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=44,slow=6.0,SNR=8.8						
	comp=Z,2.6nm,0.8s						
AKASG	**Malin Array Be**	**74.98 323**		i P	**P**	**08 32 30.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	**Malin Array Si**	**74.98 323**	⇓	i P	**P**	**08 32 30.1**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
P18A	**Preston Nutter**	**78.90 49**		P	**P**	**08 32 52.9**	**+0.1**
BURAR	**Bucovina Array**	**78.99 322**		P	**P**	**08 32 52.8**	**0.0**
BURAR	**Bucovina Array**	**78.99 322**		P	**P**	**08 32 52.8**	**0.0**
SRU	**San Rafael Swe**	**79.06 49**		P	**P**	**08 32 54.5**	**+1.1**
SRU	**San Rafael Swe**	**79.06 49**		P	**P**	**08 32 54.5**	**+1.1**
SRU				pmax	pmax		
	comp=Z,118nm,0.7s						
BRTR	**Keskin Array B**	**79.59 312**		P	**P**	**08 32 56.6**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=230,slow=1.1,SNR=4.2						
	comp=Z,1.9nm,0.9s						
PV10	**Paradox Valley**	**80.42 49**		P	**P**	**08 33 02.0**	**+1.1**
PV10				IAmb	IAmb	08 33 44.8	
	comp=Z,7.2nm,0.6s						
TXAR	**Lajitas Array**	**89.72 53**		P	**P**	**08 33 47.7**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=331,slow=5.0,SNR=4.0						
	comp=Z,0.7nm,0.9s						

*IDC **11** 08:27:02.4±0.9, 36°.65N×142°.44E, h0km, mb3.9/11, mbtmp4.0/14, ML3.8/3, MS3.5/8, Error ellipse: s-maj=24.1km s-min=17.4km az=90.0*
*NEIC **11** 08:27:04.0±1.6, 36°.51N±0°.07×142°.5E±0°.1, h10km±1km, mb4.5/28, Error ellipse: s-maj=17.4km s-min=11.5km az=81.0*
*NIED **11** 08:27:04.3, 36°.73N×142°.46E, h39km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.03; Mθθ0.21; Mφφ-3.24; Mrθ-0.29; Mθφ-1.25; Mφr3.30; Fault plane solution: M0 4.73000×10^15 NP1: φs217.00000°, δ26.00000°, λ123.00000°. NP2: φs1.00000°, δ68.00000°, λ75.00000°.*
*JMA **11** 08:27:04.3±0.3, 36°.7N±0°.7×14°.2E±°, h39km, MV4.0/36, FAR E OFF FUKUSHI

MJAR Matsushiro Arr 3.37 270 Pn **Pn 08 27 57.5 +1.5**
3.7nm,0.3s,baz=91,slow=13,SNR=106
MJAR Sn **Sn 08 28 38.7 +2.1**
1.3nm,0.3s,baz=79,slow=13,SNR=5.8
24nm,0.3s
MAJO Matsushiro 3.37 270 Pn **Pn 08 27 57.9 +1.8**
MAT Matsushiro 3.37 270 *eP* **Pn 08 27 58.3 +2.3**
MJB9 Matsu-Tunnel 3.37 270 Pn **Pn 08 27 59.0 +3.0**
JSD Sado 3.58 294 Pn **Pn 08 28 00.4 +1.5**
JSD Sado 3.58 294 *eP* **Pn 08 27 59.6 +0.7**
JHJ2 Mitsune 4.10 212 Pn **Pn 08 28 05.0 -1.1**
JHJ Hachijo jima 2 4.11 212 Pn **Pn 08 28 07.1 +0.9**
30nm,0.3s,baz=76,slow=19,SNR=9.7
JHJ Sn **Sn 08 28 53.6 -1.3**
34nm,0.3s,baz=66,slow=22,SNR=6.4
84nm,0.4s
JGF Kuroka 4.20 257 Pn **Pn 08 28 10.5 +3.0**
JTM Tenmabayashi 4.28 346 Pn **Pn 08 28 08.8 +0.3**
INU Inuyama 4.54 255 Pn **Pn 08 28 12.7 +0.6**
ERM Erimo 5.41 6 Pn **Pn 08 28 24.3 +0.3**
JKA Kamikawa-asahi 7.48 1 Pn **Pn 08 28 51.7 -0.8**
ASAJ Asahikawa 7.48 1 Pn **Pn 08 28 51.4 -1.1**
1.9nm,0.3s,baz=254,slow=6.4,SNR=9.9
5.8nm,0.4s
JMN Monobe 7.55 250 Pn **Pn 08 28 52.1 -1.3**
JCJ Chichijima 9.51 181 Sn Sn 08 30 54.8 -13
11nm,0.3s,baz=272,slow=20,SNR=2.7
JNU Nakatsue 10.08 253 Pn **Pn 08 29 26.6 -1.6**
USRK Ussuriysk Ar. 10.95 317 Pn **Pn 08 29 42.8 +2.8**
0.2nm,0.3s,baz=123,slow=14,SNR=6.3
USRK LR LR 08 33 12.8
comp=Z,261nm,20.6s,baz=20,slow=34
KSRS Korea Array 11.59 278 Pn **Pn 08 29 52.8 +4.0**
0.2nm,0.3s,baz=96,slow=11,SNR=10
KSRS LR LR 08 33 58.0
comp=Z,351nm,19.7s,baz=85,slow=36
GUMO Guam 23.05 174 LR LR 08 43 19.0
comp=Z,34nm,19.5s,baz=62,slow=42
MA2 Magadan 23.59 11 P **P 08 32 15.3 +1.0**
1.7nm,0.6s,baz=177,slow=9.0,SNR=4.7
1.7nm,0.6s
H11N2 WAKE ISLAND Hy 27.27 121 T T 09 01 26.7
baz=313,slow=75,SNR=20
H11N1 WAKE ISLAND Hy 27.28 122 T T 09 01 27.4
baz=313,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 27.29 121 T T 09 01 28.0
baz=313,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 27.98 124 T T 09 02 22.0
baz=316,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 27.98 124 T T 09 02 24.8
baz=316,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 28.00 124 T T 09 02 21.0
baz=316,slow=76,SNR=9.9
SONM Songino Array 28.66 304 P **P 08 33 01.6 +1.0**
SONM Songino Array 28.66 304 P **P 08 33 01.1 +0.5**
2.5nm,0.8s,baz=104,slow=8.9,SNR=12
2.5nm,0.8s
BILL Bilibino 34.20 16 P **P 08 33 50.2 +1.3**
BILL IAmb IAmb 08 34 26.1
comp=Z,6.5nm,1.4s
CMAR Chiang Mai Arr 42.16 257 LR LR 08 52 25.7
comp=Z,55nm,18.8s,baz=60,slow=36
ZALV Zalesovo Beam 42.76 313 P **P 08 35 01.1 0.0**
comp=Z,0.7nm,0.4s,baz=91,slow=5.8,SNR=1.5
comp=Z,0.7nm,0.4s
C18K Utukok River 44.29 26 P **P 08 35 13.8 +0.5**
M17K Holitna River 44.50 37 P **P 08 35 15.2 +0.3**
G18K Tagagawik 44.60 30 P **P 08 35 16.7 +1.0**
G18K IAmb IAmb 08 35 49.5
comp=Z,5.8nm,1.2s
MK31 Makanchi Array 44.99 303 P **P 08 35 19.6 +0.4**
MKAR Makanchi Array 44.99 303 P **P 08 35 19.6 +0.4**
MKAR Makanchi Array 44.99 303 P **P 08 35 19.3 +0.2**
comp=Z,0.9nm,0.6s,baz=87,slow=9.7,SNR=10.0
comp=Z,0.9nm,0.6s
J19K Poorman 45.59 33 P **P 08 35 24.6 +1.0**
J19K IAmb IAmb 08 35 38.1
comp=Z,8.1nm,1.4s
BRDH Bariadhala 45.75 267 LR LR 08 58 50.1
comp=Z,125nm,18.1s,baz=311,slow=42
KAPI Kappang 46.52 212 LR LR 08 54 27.4
comp=Z,34nm,20.8s,baz=126,slow=35
KURK Kurchatov 46.80 309 P **P 08 35 33.6 +0.3**
KURK IAmb IAmb 08 35 48.6
comp=Z,4.2nm,0.8s
B21K Ikpikpuk River 46.81 25 P **P 08 35 34.3 +1.1**
B21K IAmb IAmb 08 35 37.7
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 46.87 308 P **P 08 35 33.9 +0.1**
comp=Z,3.4nm,0.2s,baz=82,slow=8.0,SNR=7.5
comp=Z,3.4nm,0.2s
B22K Teshekpuk Lake 47.35 24 P **P 08 35 38.1 +0.8**
B22K IAmb IAmb 08 35 46.7
comp=Z,3.8nm,1.1s
D22K Ayikyak River 47.37 26 P **P 08 35 38.4 +0.8**
E22K Anaktuvuk Pass 47.60 28 P **P 08 35 40.4 +1.1**
E22K IAmb IAmb 08 36 04.5
comp=Z,6.6nm,1.4s
BPAW Bear Paw Mtn. 47.63 33 P **P 08 35 40.4 +0.7**
C23K Itkillik River 48.22 25 P **P 08 35 45.6 +1.5**
D24K Happy Valley 48.78 26 P **P 08 35 49.1 +0.7**
D24K IAmb IAmb 08 36 22.6
comp=Z,6.2nm,1.2s
E24K Your Creek 48.83 28 P **P 08 35 48.2 -0.7**
E24K IAmb IAmb 08 36 03.7
comp=Z,7.1nm,1.4s
D25K Kavik River 49.66 26 P **P 08 35 56.5 +1.3**
C27K Jago River 50.61 26 P **P 08 36 02.3 0.0**
PSI Prapat 52.27 240 LR LR 08 58 04.9
comp=Z,23nm,20.9s,baz=40,slow=36
K29M Barlow Dome 53.57 33 P **P 08 36 23.8 -0.8**
K29M IAmb IAmb 08 36 30.4
comp=Z,6.7nm,1.4s
G30M tAoh Zraii Nji 53.59 29 P **P 08 36 25.8 +1.2**
KNRA Kununurra 53.59 196 P **P 08 36 22.1 -3.0**
I30M Mount Dempster 53.81 31 P **P 08 36 28.2 +1.8**
I30M IAmb IAmb 08 37 05.7
comp=Z,4.9nm,1.1s
G31M Satah River 54.36 29 P **P 08 36 31.2 +1.1**
G31M IAmb IAmb 08 36 43.0
comp=Z,5.5nm,1.4s
INK Inuvik 54.39 27 P **P 08 36 31.0 +0.7**
H31M Peel River 54.54 30 P **P 08 36 32.1 +0.5**
SIMJ Simiganj 56.65 296 P **P 08 36 47.6 +0.3**
SIMJ IAmb IAmb 08 37 31.4
comp=Z,3.7nm,0.7s
WRA Warramunga Arr 56.78 189 P **P 08 36 48.1 +0.1**
comp=Z,1.0nm,0.9s,baz=6.8,slow=7.0,SNR=7.5
comp=Z,1.0nm,0.9s
ABKAR Akbulak array 58.80 311 P **P 08 37 01.8 -0.2**
ASAR Alice Springs 60.51 189 P **P 08 37 11.9 -2.1**
ASAR Alice Springs 60.51 189 P **P 08 37 14.3 +0.3**
comp=Z,0.7nm,0.7s,baz=0.7,slow=6.0,SNR=8.4
comp=Z,0.7nm,0.7s
FINES FINESS Array B 69.53 333 P **P 08 38 12.0 -0.3**
comp=Z,1.2nm,0.7s,baz=24,slow=7.1,SNR=1.2
comp=Z,1.2nm,0.7s
O02D Mt. Diablo Mer 70.73 54 P **P 08 38 20.1 -0.1**
NVAR Mina Array Bea 74.60 54 P **P 08 38 41.7 -1.7**
NOA NORSAR Array B 74.86 338 P **P 08 38 44.4 +0.1**
comp=Z,0.6nm,0.7s,baz=32,slow=6.8,SNR=1.3
comp=Z,0.6nm,0.7s
AKASG Malin Array Be 75.09 323 P **P 08 38 45.7 0.0**
comp=Z,0.6nm,0.5s,baz=51,slow=5.2,SNR=1.9
comp=Z,0.6nm,0.5s
PDAR Pinedale Array 77.39 46 P **P 08 38 59.8 +0.6**
comp=Z,0.3nm,0.9s,baz=301,slow=9.8,SNR=2.2
comp=Z,0.3nm,0.9s
VRAC Vranov 81.88 328 LR LR 09 19 54.6
comp=Z,73nm,18.5s,baz=345,slow=39

*IDC **11** 08:31:40.3±0.7, 36°.71N×142°.41E, h0km, mb3.8/15, mbtmp3.8/20, ML3.5/5, MS3.1/1, Error ellipse: s-maj=17.4km s-min=15.7km az=152.0*
*NIED **11** 08:31:42.7, 36°.74N×142°.39E, h58km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.44; $M_{\theta\theta}$0.34; $M_{\phi\phi}$-0.78; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.25; $M_{\phi r}$0.85; Fault plane solution: $M_0$1.08000×10^{15} NP1: ϕ_s216.00000°, δ21.00000°, λ125.00000°. NP2: ϕ_s360.00000°, δ73.00000°, λ78.00000°.*
*NEIC **11** 08:31:42.6±2.0, 36°.82N±0°.06×142°.35E±0°.09, h10km±1km, mb4.5/19 Error ellipse: s-maj=12.1km s-min=10.5km az=74.0*

*JMA **11** 08:31:42.7±0.2, 36°.7N±0°.6×14°2E±°, h58km, MV3.9/36, E OFF FUKUSHIMA PREF*
ISC 11 08:31:41.6±2.9, 36°.74N±0°.04×142°.35E±0°.06, h9km±18km, n78, σ1°08/83, mb4.3/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.30**	**287**	P	**Pn**	**08 32 05.3**	**-0.6**
ONAJ				*e*S	**Sg**	**08 32 22.4**	**-0.9**
JFK	**Kawauchi**	**1.34**	**298**	P	**Pn**	**08 32 05.9**	**-0.6**
JHO	**Hitachi**	**1.44**	**265**	P	**Pn**	**08 32 07.3**	**-0.5**
JHO				*e*S	**Sb**	**08 32 25.8**	**-1.2**
JFFD	**Fukushimafurud**	**1.48**	**284**	P	**Pn**	**08 32 07.8**	**-0.6**
JMM	**Marumori**	**1.68**	**313**		**Pn**	**08 32 10.7**	**-0.4**
JMM				Sn	**Sn**	**08 32 31.8**	**-1.0**
JMM	**Marumori**	**1.68**	**313**	P	**Pn**	**08 32 10.8**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.81**	**298**	P	**Pn**	**08 32 13.5**	**+0.5**
JOTO				*e*S	**Sn**	**08 32 35.9**	**-0.2**
JIO	**Ouri**	**1.89**	**335**	P	**Pn**	**08 32 13.6**	**-0.5**
JIO				S	**Sn**	**08 32 37.0**	**-1.0**
JAG	**Ashikaga**	**2.35**	**263**	P	**Pn**	**08 32 20.8**	**+0.4**
BSO1	**Boso 1**	**2.36**	**209**	*e*P	**Pn**	**08 32 21.3**	**+1.3**
BSO1				*e*S	**Sn**	**08 32 49.3**	**+0.4**
JMK	**Ichinoseki**	**2.38**	**338**	P	**Pn**	**08 32 20.9**	**+0.1**
JMK				*e*S	**Sn**	**08 32 49.6**	**-0.6**
JYK	**Kaneyama**	**2.69**	**325**	P	**Pn**	**08 32 25.5**	**+0.5**
JOM	**Ohasama**	**2.85**	**343**	P	**Pn**	**08 32 27.3**	**0.0**
JRY	**Ryogami san**	**2.88**	**257**	*i* P	**Pn**	**08 32 27.8**	**+0.2**
JRY				*e*S	**Sn**	**08 33 01.1**	**-1.3**
JOD2	**Odawara 2**	**3.03**	**242**	P	**Pn**	**08 32 30.1**	**+0.4**
JYN	**Shimob**	**3.32**	**249**	P	**Pn**	**08 32 34.9**	**+1.1**
MJAR	**Matsushiro Arr**	**3.34**	**268**	Pn	**Pn**	**08 32 35.1**	**+1.1**
	2.0nm,0.3s,baz=84,slow=10,SNR=42						
MJAR				Sn	**Sn**	**08 33 14.8**	**+1.0**
	1.6nm,0.3s,baz=209,slow=33,SNR=4.6						
MJAR				LR	LR	08 34 10.3	
	comp=Z,329nm,21.9s,baz=125,slow=44						
	25nm,0.5s						
MAJO	**Matsushiro**	**3.34**	**268**		**Pn**	**08 32 35.7**	**+1.7**
MAJO	**Matsushiro**	**3.34**	**268**	P	**Pn**	**08 32 35.7**	**+1.7**
MAT	**Matsushiro**	**3.34**	**268**	P	**Pn**	**08 32 35.6**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.34**	**268**		**Pn**	**08 32 36.7**	**+2.7**
JSD	**Sado**	**3.51**	**293**	Pn	**Pn**	**08 32 37.2**	**+0.9**
JTM	**Tenmabayashi**	**4.17**	**346**	Pn	**Pn**	**08 32 46.0**	**+0.7**
JHJ2	**Mitsune**	**4.17**	**211**	Pn	**Pn**	**08 32 46.0**	**+0.6**
JHJ	**Hachijo jima 2**	**4.18**	**211**	Pn	**Pn**	**08 32 45.4**	**-0.2**
	13nm,0.3s,baz=270,slow=20,SNR=2.4						
JHJ				Sn	**Sn**	**08 33 30.6**	**-4.0**
	55nm,0.3s,baz=22,slow=23,SNR=4.9						
	230nm,0.8s						
JGF	**Kuroka**	**4.20**	**256**	Pn	**Pn**	**08 32 48.0**	**+2.2**
JGF	**Kuroka**	**4.20**	**256**	P	**Pn**	**08 32 48.2**	**+2.4**
INU	**Inuyama**	**4.54**	**254**	Pn	**Pn**	**08 32 51.9**	**+1.4**
INU	**Inuyama**	**4.54**	**254**	P	**Pn**	**08 32 53.3**	**+2.8**
ERM	**Erimo**	**5.31**	**7**	Pn	**Pn**	**08 33 00.0**	**-1.0**
ASAJ	**Asahikawa**	**7.37**	**1**	Pn	**Pn**	**08 33 29.2**	**-0.1**
	2.3nm,0.3s,baz=267,slow=9.0,SNR=10.0						
ASAJ				Sn	**Sn**	**08 34 52.8**	**-0.4**
	0.7nm,0.3s,baz=137,slow=27,SNR=1.6						
	5.1nm,0.3s						
JKA	**Kamikawa-asahi**	**7.37**	**1**	Pn	**Pn**	**08 33 28.8**	**-0.6**
JMN	**Monobe**	**7.55**	**249**	Pn	**Pn**	**08 33 32.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.85**	**317**	Pn	**Pn**	**08 34 17.8**	**+0.7**
	0.2nm,0.3s,baz=120,slow=10,SNR=1.6						
	1.1nm,0.6s						
KSRS	**Korea Array**	**11.55**	**278**	Pn	**Pn**	**08 34 29.5**	**+2.9**
	0.1nm,0.3s,baz=86,slow=13,SNR=2.6						
	1.1nm,0.6s						
MA2	**Magadan**	**23.49**	**11**	P	**P**	**08 36 51.0**	**-0.5**
MA2	**Magadan**	**23.49**	**11**	P	**P**	**08 36 51.5**	**+0.1**
	2.9nm,0.6s,baz=205,slow=8.5,SNR=7.1						
	2.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.35**	**122**	T	T	09 06 18.7	
	baz=314,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.36**	**122**	T	T	09 06 25.4	
	baz=314,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**27.37**	**122**	T	T	09 06 10.7	
	baz=314,slow=74,SNR=12						
ENH	**Enshi**	**28.06**	**266**	P	**P**	**08 37 33.2**	**-0.2**
H11S1	**WAKE ISLAND Hy**	**28.07**	**124**	T	T	09 07 00.6	
	baz=316,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**28.07**	**124**	T	T	09 07 03.8	
	baz=316,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**28.09**	**124**	T	T	09 07 15.0	
	baz=316,slow=76,SNR=5.8						
SONM	**Songino Array**	**28.57**	**304**	P	**P**	**08 37 38.5**	**+0.6**
SONM	**Songino Array**	**28.57**	**304**	P	**P**	**08 37 38.7**	**+0.7**
	4.3nm,0.9s,baz=104,slow=8.1,SNR=16						
	4.3nm,0.9s						
ZALV	**Zalesovo Beam**	**42.67**	**313**	P	**P**	**08 39 38.3**	**0.0**
	0.8nm,0.5s,baz=59,slow=5.7,SNR=3.6						
	0.8nm,0.5s						
MK31	**Makanchi Array**	**44.91**	**303**	P	**P**	**08 39 55.8**	**-0.8**
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**08 39 56.8**	**+0.2**
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**08 39 56.7**	**+0.1**
	0.8nm,0.6s,baz=85,slow=10,SNR=9.7						
	0.8nm,0.6s						
B20K	**Meade River**	**45.95**	**25**	P	**P**	**08 40 03.8**	**-0.5**
B20K				IAmb	IAmb	08 40 06.4	
	comp=Z,6.5nm,1.2s						
KURK	**Kurchatov**	**46.70**	**308**	P	**P**	**08 40 10.6**	**0.0**
KURK				IAmb	IAmb	08 40 13.6	
	comp=Z,4.0nm,0.6s						
B21K	**Ikpikpuk River**	**46.73**	**25**	P	**P**	**08 40 11.6**	**+1.0**
B21K				IAmb	IAmb	08 40 34.6	
	comp=Z,6.2nm,1.4s						
KURBB	**Kurchatov Arra**	**46.77**	**308**	P	**P**	**08 40 11.1**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=83,slow=7.9,SNR=13						
	comp=Z,1.9nm,0.7s						
BRLK	**Bradley Lake**	**47.62**	**39**	P	**P**	**08 40 16.7**	**-1.0**
C23K	**Itkillik River**	**48.14**	**25**	P	**P**	**08 40 22.7**	**+1.2**
C23K				IAmb	IAmb	08 40 58.5	
	comp=Z,8.3nm,1.4s						
ILAR	**Eielson Array**	**49.34**	**32**	P	**P**	**08 40 31.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=272,slow=6.4,SNR=8.3						
	comp=Z,0.9nm,0.8s						
C27K	**Jago River**	**50.53**	**26**	P	**P**	**08 40 41.3**	**+1.5**
C27K				IAmb	IAmb	08 41 20.7	
	comp=Z,6.1nm,1.5s						
BVAR	**Borovoye Array**	**51.33**	**313**	P	**P**	**08 40 46.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=232,slow=38,SNR=3.7						
	comp=Z,0.4nm,0.4s						
I28M	**Miner Creek**	**52.23**	**31**	P	**P**	**08 40 52.1**	**-0.6**
I28M				IAmb	IAmb	08 41 20.6	
	comp=Z,6.1nm,1.4s						
G29M	**Pine Creek**	**52.82**	**29**	P	**P**	**08 40 56.7**	**-0.3**
G29M				IAmb	IAmb	08 41 07.9	
	comp=Z,7.5nm,1.4s						
G30M	**tAoh Zraii Nji**	**53.51**	**29**	P	**P**	**08 41 03.4**	**+1.3**
G30M				IAmb	IAmb	08 41 25.0	
	comp=Z,6.7nm,1.4s						
G31M	**Satah River**	**54.28**	**29**	P	**P**	**08 41 07.6**	**0.0**
G31M				IAmb	IAmb	08 41 16.2	
	comp=Z,6.6nm,1.4s						
INK	**Inuvik**	**54.30**	**27**	P	**P**	**08 41 08.3**	**+0.5**
INK				IAmb	IAmb	08 41 09.6	
	comp=Z,3.7nm,1.2s						
H31M	**Peel River**	**54.46**	**30**	P	**P**	**08 41 09.9**	**+0.9**
H31M				IAmb	IAmb	08 41 53.0	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**56.88**	**189**	P	**P**	**08 41 26.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=7.3,slow=7.0,SNR=4.6						
	comp=Z,0.3nm,0.5s						
ARTI	**Arti**	**57.18**	**319**	P	**P**	**08 41 28.5**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=278,slow=20,SNR=3.7						
	comp=Z,1.9nm,0.6s						
C36M	**Paulatuk**	**57.38**	**25**	P	**P**	**08 41 30.7**	**+0.9**
ABKAR	**Akbulak array**	**58.70**	**311**	P	**P**	**08 41 39.5**	**+0.1**
ASAR	**Alice Springs**	**60.61**	**189**	P	**P**	**08 41 52.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=10,slow=7.6,SNR=4.3						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**63.68**	**30**	P	**P**	**08 42 12.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=306,slow=7.2,SNR=5.4						
	comp=Z,0.3nm,0.7s						
GDXM	**Geysers**	**71.42**	**55**	P	**P**	**08 43 02.4**	**0.0**
NVAR	**Mina Array Bea**	**74.56**	**54**	P	**P**	**08 43 21.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=260,slow=7.4,SNR=4.4						
	comp=Z,0.4nm,0.6s						
AKASG	**Malin Array Be**	**74.99**	**323**	P	**P**	**08 43 23.3**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=40,slow=7.3,SNR=1.3						
	comp=Z,0.2nm,0.2s						
PDAR	**Pinedale Array**	**77.33**	**46**	P	**P**	**08 43 37.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=282,slow=2.9,SNR=4.4						
	comp=Z,0.4nm,0.7s						
FNO	**Franklin**	**89.36**	**45**	P	**P**	**08 44 38.3**	**-0.4**
TXAR	**Lajitas Array**	**89.70**	**53**	P	**P**	**08 44 40.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=305,slow=2.6,SNR=4.0						
	comp=Z,0.5nm,0.8s						
LPAZ	**La Paz**	**146.19**	**61**	PKPbc	**PKPdf**	**08 51 23.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=323,slow=5.1,SNR=4.4						

*CATAC **11** 08:53:24.1±0.6, 13°N±4°×8°9W±°, h27km±4km, M3.2/13, MLv3.2/13, Error ellipse: s-maj=8.0km s-min=4.3km az=19.3, confirmed*
*SNET **11** 08:53:25.4±0.7, 13°.00N×88°.95W, h39km±17km, ML3.2*
*GCG **11** 08:53:25.8±1.1, 13°.00N×88°.98W, h34km±6km, MD3.7*
ISC 11 08:53:24.6±1.8, 12°.89N±0°.08×88°.98W±0°.03, h34km±3km, n102, σ0°56/111, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.59**	**43**	*e*P	**Pb**	**08 53 36.1**	**-0.5**
ALJI	**Alcalda de J**	**0.59**	**43**	S	**Sn**	**08 53 45.6**	**+0.7**
ALJI	**Alcalda de J**	**0.59**	**43**	P	**Pn**	**08 53 36.4**	**-0.1**
ALJI	**Alcalda de J**	**0.59**	**43**	P	**Pn**	**08 53 36.3**	**-0.1**
ALJI	**Alcalda de J**	**0.59**	**43**	S	**Sn**	**08 53 45.8**	**+0.9**
TECO	**Alcaldia de Te**	**0.67**	**17**	‖*e*P	**Pn**	**08 53 37.0**	**-0.6**
TECO	**Alcaldia de Te**	**0.67**	**17**	P	**Pn**	**08 53 37.2**	**-0.5**
TECO	**Alcaldia de Te**	**0.67**	**17**	S	**Sn**	**08 53 47.0**	**0.0**
TECO	**Alcaldia de Te**	**0.67**	**17**	S	**Sn**	**08 53 47.0**	**0.0**
TECO	**Alcaldia de Te**	**0.67**	**17**	P	**Pn**	**08 53 37.1**	**-0.5**
LALI	**Alcalda de L**	**0.68**	**331**	*e*P	**Pn**	**08 53 37.4**	**-0.3**
LALI				*e*S	**Sn**	**08 53 46.8**	**-0.3**
LALI	**Alcalda de L**	**0.68**	**331**	P	**Sb**	**08 53 46.4**	**-0.9**
LALI	**Alcalda de L**	**0.68**	**331**	*e*P	**Pn**	**08 53 37.4**	**-0.3**
LALI				*e*S	**Sn**	**08 53 46.7**	**-0.3**
LALI	**Alcalda de L**	**0.68**	**331**	*e*P		08 53 37.4	
LALI				*e*S		08 53 46.7	
COEG	**Centro de Oper**	**0.73**	**8**	*e*P	**Pn**	**08 53 38.0**	**-0.5**
COEG				IAML		08 53 54.7	
	comp=Z,367nm,0.3s						
COEG	**Centro de Oper**	**0.73**	**8**	S	**Sn**	**08 53 48.9**	**+0.3**
COEG	**Centro de Oper**	**0.73**	**8**	P	**Pn**	**08 53 37.8**	**-0.7**
COEG	**Centro de Oper**	**0.73**	**8**	P	**Pn**	**08 53 37.9**	**-0.7**
LFRS	**El Faro**	**0.73**	**354**	*e*P	**Pn**	**08 53 38.1**	**-0.5**
LFRS				*e*S	**Sb**	**08 53 48.0**	**-1.0**
PANCS	**Alcalda de**	**0.74**	**345**	P	**Sb**	**08 53 47.7**	**-1.4**
TECA	**Tecapa**	**0.76**	**38**	*e*P	**Pn**	**08 53 38.7**	**-0.3**
TECA				*e*P	**Pn**	**08 53 38.7**	**-0.3**
TECA				*e*S	**Sn**	**08 53 49.4**	**0.0**
TECA				IAML		08 53 50.7	
	comp=Z,336nm,0.1s						
UESV	**Universidad de**	**0.76**	**14**	*e*P	**Pn**	**08 53 38.5**	**-0.5**
UESV				IAML		08 53 50.2	
	comp=Z,628nm,0.1s						
UESV	**Universidad de**	**0.76**	**14**	S	**Sb**	**08 53 49.6**	**-0.1**
UESV	**Universidad de**	**0.76**	**14**	P	**Pn**	**08 53 38.7**	**-0.3**
UESV	**Universidad de**	**0.76**	**14**	S	**Sb**	**08 53 49.7**	**-0.1**
UESV	**Universidad de**	**0.76**	**14**	P	**Pn**	**08 53 38.5**	**-0.5**
LOMA	**Loma Larga**	**0.77**	**346**	*e*P	**Pn**	**08 53 38.7**	**-0.4**
LOMA				*e*S	**Sn**	**08 53 49.4**	**-0.2**
LOMA				IAML		08 53 52.2	
	comp=Z,1μm,0.2s						
LOMA	**Loma Larga**	**0.77**	**346**	P	**Pn**	**08 53 38.8**	**-0.4**
LOMA	**Loma Larga**	**0.77**	**346**	S	**Sn**	**08 53 49.6**	**+0.1**
LOMA	**Loma Larga**	**0.77**	**346**	P	**Pn**	**08 53 38.7**	**-0.4**
PAVA	**Las Pavas**	**0.82**	**3**	*e*P	**Pn**	**08 53 39.5**	**-0.3**
PAVA				IAML		08 53 54.6	
	comp=Z,348nm,0.2s						
PAVA	**Las Pavas**	**0.82**	**3**	P	**Pn**	**08 53 39.5**	**-0.3**
PAVA	**Las Pavas**	**0.82**	**3**	S	**Sb**	**08 53 51.0**	**-0.3**
PAVA	**Las Pavas**	**0.82**	**3**	P	**Pn**	**08 53 39.5**	**-0.3**
PAVA	**Las Pavas**	**0.82**	**3**	S	**Sb**	**08 53 51.1**	**-0.3**
ITCA	**Escuela Especi**	**0.83**	**340**	P	**Sb**	**08 53 51.0**	**-0.6**
UTEC	**Universidad Te**	**0.83**	**345**	P	**Sb**	**08 53 51.3**	**-0.4**
PQSS	**Presa 15 de Se**	**0.84**	**29**	*e*P	**Pn**	**08 53 39.8**	**-0.1**
PQSS				IAML		08 53 52.1	
	comp=Z,2μm,0.1s						
PQSS	**Presa 15 de Se**	**0.84**	**29**	S	**Sb**	**08 53 52.0**	**+0.2**
PQSS	**Presa 15 de Se**	**0.84**	**29**	P	**Pn**	**08 53 40.0**	**+0.1**
PQSS	**Presa 15 de Se**	**0.84**	**29**	S	**Sb**	**08 53 52.0**	**+0.2**
PQSS	**Presa 15 de Se**	**0.84**	**29**	P	**Pn**	**08 53 39.9**	**-0.1**
IGN	**Direccin Gen**	**0.84**	**347**	P	**Sb**	**08 53 51.4**	**-0.5**
SEMO	**Seminario San**	**0.84**	**344**	P	**Sb**	**08 53 51.1**	**-0.9**
SCLA	**Alcaldia de Sa**	**0.84**	**17**	‖*e*P	**Pn**	**08 53 40.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.84**	**17**	P	**Pn**	**08 53 40.1**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.84**	**17**	S	**Sb**	**08 53 51.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.84**	**17**	S	**Sb**	**08 53 51.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.84**	**17**	P	**Pn**	**08 53 40.0**	**-0.1**
UESS	**Universidad de**	**0.85**	**346**	*e*P	**Pn**	**08 53 39.9**	**-0.3**
LCY	**Lacayo**	**0.85**	**52**	*e*P	**Pn**	**08 53 40.2**	**0.0**
UEES	**Universidad Ev**	**0.86**	**343**	*e*P	**Pn**	**08 53 39.9**	**-0.4**
UEES	**Universidad Ev**	**0.86**	**343**	S	**Sb**	**08 53 51.9**	**-0.5**
UEES	**Universidad Ev**	**0.86**	**343**	P	**Pn**	**08 53 40.0**	**-0.3**
UEES	**Universidad Ev**	**0.86**	**343**	P	**Pn**	**08 53 40.0**	**-0.3**
LFU	**La Fuente**	**0.86**	**351**	*e*P	**Pn**	**08 53 40.0**	**-0.3**
PACA	**Pacayal**	**0.86**	**48**	*e*P	**Pn**	**08 53 40.2**	**-0.2**
PACA				IAML		08 53 53.2	
	comp=Z,6μm,0.2s						
PACA	**Pacayal**	**0.86**	**48**	P	**Pn**	**08 53 40.2**	**-0.2**
PACA	**Pacayal**	**0.86**	**48**	S	**Sb**	**08 53 52.5**	**0.0**
PACA

σ1$58/17, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.01	167	P	Pn	09 15 28.6	+0.9
KOUNC	Koumac, New Ca	6.50	208	P	Pn	09 16 16.0	+1.6
MARNC	Mare, Loyalty	6.69	176	P	Pn	09 16 15.9	-0.9
YATNC	Mamie plateau,	7.26	184	P	Pn	09 16 24.0	-0.6
DZM	Mont Dzumac	7.32	188	P	Pn	09 16 25.3	-0.2
	31nm,0.4s,baz=15,slow=9.4,SNR=73						
DZM				S	Sn	09 17 49.6	+2.4
	19nm,0.3s,baz=118,slow=21,SNR=11						
ONTNC	Ouen Toro	7.55	187	P	Pn	09 16 30.6	+2.1
OUENC	Ouen Island, N	7.62	185	S	Sn	09 17 50.9	-3.5
OUENC	Ouen Island, N	7.62	185	P	Pn	09 16 29.8	+0.3
URZ	Urewera	24.89	162	P	P	09 19 52.9	+1.1
	2.7nm,0.6s,baz=341,slow=8.8,SNR=2.0						
	2.7nm,0.6s						
STKA	Stephens Creek	29.12	230	P	P	09 20 30.1	+0.2
	6.8nm,0.4s,baz=52,slow=9.2,SNR=34						
	6.8nm,0.4s						
WRA	Warramunga Arr	32.02	256	P	P	09 20 54.2	-1.4
	0.2nm,0.5s,baz=83,slow=8.3,SNR=1.3						
	0.2nm,0.5s						
ASAR	Alice Springs	32.85	249	P	P	09 21 00.9	-1.9
	0.6nm,0.4s,baz=80,slow=9.0,SNR=8.6						
	0.6nm,0.4s						
QSPA	South Pole Qui	75.25	180	P	P	09 26 10.3	+0.7
	1.8nm,0.6s,baz=218,slow=0.8,SNR=18						
	1.8nm,0.6s						
ILAR	Eielson Array	86.51	18	P	P	09 27 09.3	+0.3
	0.3nm,0.6s,baz=234,slow=4.3,SNR=4.4						
	0.3nm,0.6s						
MKAR	Makanchi Array	97.39	316	P	P	09 28 00.3	+0.3
	0.3nm,0.6s,baz=102,slow=5.8,SNR=3.0						
	0.3nm,0.6s						
ARCES	ARCESS Array B	120.35	345	PKP	PKPdf	09 33 15.9	-0.6
	3.9nm,0.9s,baz=87,slow=1.9,SNR=9.2						

NAO 11 09:22:45.7, 38.°19N×30.°80E, h10km, mb3.9
IDC 11 09:22:46.9±1.0, 37.°94N×28.°79E, h0km, mb3.8/9,
mbtmp3.8/15, ML3.8/5, MS3.0/7, Error ellipse:
s-maj=19.6km s-min=14.8km az=25.0
ISK 11 09:22:47.5, 37.°89N×28.°74E, h6km, ML3.9/34
AFAD 11 09:22:48.1, 37.°89N×28.°72E, h7km±2km, MW3.8
THE 11 09:22:50.8, 37.°91N×28.°61E, h11km±1km, ML3.8/3, Error ellipse: s-maj=2.0km s-min=0.4km az=41.0

ISC 11 09:22:48.3±0.9, 37.°89N±0.°02×28.°73E±0.°02, h12km±7km, n91, σ0$62/105, mb3.7/10, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESEN	Aydn-Nazilli	0.32	254	P	Pg	09 22 54.6	-0.1
ESEN				S	Sg	09 22 58.8	-0.2
DNIZ	Denizli-Tavas-	0.36	137	P	Pg	09 22 55.7	+0.2
NAZL	Nazilli-Aydin	0.36	283	Pg	Pg	09 22 55.2	-0.3
NAZL				Sg	Sb	09 23 01.7	-0.6
KIRA	zmir-Kiraz	0.41	320	P	Pg	09 22 56.4	0.0
KIRA				S	Sg	09 23 02.6	+0.7
TAVA	DENIZLI_Tavas	0.44	161	P	Pg	09 22 57.3	+0.2
TAVA				S	Sg	09 23 03.3	+0.3
APMY	Acipayam-Deniz	0.61	132	Pg	Pg	09 22 59.8	-0.5
MANT	Manisa	0.62	347	P	Pg	09 23 00.3	-0.1
MANT				S	Sg	09 23 09.1	+0.4
KULA	Kula-Manisa	0.63	355	Pg	Pg	09 23 00.1	-0.5
KULA				Sg	Sb	09 23 09.5	-0.7
ODEM	Odemis-Izmir	0.65	307	Pg	Pg	09 23 00.6	-0.3
ODEM				Sg	Sb	09 23 10.2	-0.5
DNZT	Denizli-Tavas-	0.65	159	P	Pg	09 23 00.8	-0.1
DNZT				S	Sg	09 23 09.2	-0.3
IZMR	zmir-demi	0.67	292	P	Pg	09 23 00.9	-0.3
IZMR				S	Sg	09 23 09.8	-0.1
AYDB	Zeytinkoy-Aydi	0.67	275	Pg	Pg	09 23 01.1	-0.2
INCE	Denizli-Bozkur	0.69	105	P	Pg	09 23 01.9	+0.2
INCE				S	Sb	09 23 12.1	+0.2
AYDN	Tasoluk	0.71	252	P	Pg	09 23 02.0	-0.1
AYDN				S	Sb	09 23 12.7	+0.2
PASA	Karahalli, USA	0.75	52	P	Pg	09 23 02.0	-0.9
PASA				S	Sg	09 23 12.2	-0.5
KHL	Karahalli	0.76	55	Pg	Pg	09 23 02.4	-0.7
YER	Yerkesik	0.83	206	Pg	Pg	09 23 03.9	-0.5
USAK	Uak-Merkez	0.86	15	P	Pg	09 23 04.2	-0.6
USAK				S	Sb	09 23 16.3	-0.4
MLSB	Milas	0.96	232	Pg	Pg	09 23 06.5	-0.4
GOMA	Golmarmara-Man	1.04	322	Pg	Pg	09 23 07.9	-0.5
BASM	Basmaki-Afyon	1.04	88	Pg	Pg	09 23 07.4	-1.0
CAME	Cameli-Denizli	1.04	154	Pg	Pg	09 23 07.9	-0.6
DALY	Dalyan (Mula)	1.07	183	Pg	Pb	09 23 08.4	-0.4
GORD	Gordes-Manisa	1.11	337	Pn	Pb	09 23 09.1	-0.4
TURN	Turunc	1.18	199	Pn	Pb	09 23 09.8	-0.8
SHAP	Saphane-Kutahy	1.20	19	Pn	Pb	09 23 10.7	-0.4
GCAM	G?zelcaml?	1.20	262	Pn	Pb	09 23 11.1	+0.1
SIMA	Simav-Kutahya	1.21	9	Pn	Pb	09 23 10.9	-0.4
AKS	Akhisar	1.23	324	Pn	Pb	09 23 11.4	-0.1
AKS				Sn	Sn	09 23 28.9	+1.0
SMAA	Simav-Kutahya	1.23	9	Pn	Pn	09 23 11.3	-0.1
GEDZ	Gediz	1.27	25	Pn	Pb	09 23 12.3	0.0
FETY	Fethiye	1.28	167	Pn	Pn	09 23 12.3	+0.2
DIDI	Didim-Aydin	1.29	247	Pn	Pg	09 23 12.9	-0.2
YKAV	Yalikavak-Bodr	1.38	237	Pn	Pb	09 23 14.0	-0.1
BODT	Bodrum	1.40	234	Pn	Pn	09 23 14.0	+0.3
DATC	Datca-Mugla	1.41	218	Pn	Pb	09 23 14.6	0.0
ISP	Isparta	1.42	92	Pn	Pn	09 23 14.2	+0.1
BLCB	Balcova	1.42	291	Pn	Pn	09 23 14.1	+0.1
GMLD	Gumuldur	1.45	278	Pn	Pb	09 23 15.5	+0.3
ELL	Elmali	1.47	140	Pn	Pn	09 23 15.1	+0.3
DAT	Datca	1.48	219	Pn	Pb	09 23 15.5	-0.3
SMG	Samos	1.51	264	P	Pn	09 23 14.9	-0.4
SMG				S	Sn	09 23 33.6	-1.3
	2μm,0.5s						
BCK	Bucak	1.53	106	Pn	Pn	09 23 15.9	+0.3
KORT	Korkueli	1.56	124	Pn	Pn	09 23 16.4	+0.3
SHUT	Suhut-Afyon	1.58	65	Pn	Pn	09 23 16.5	+0.2
TVSB	Tavsanli	1.66	20	Pn	Pn	09 23 17.8	+0.4
DST	Dursunbey	1.72	357	Pn	Pn	09 23 17.9	-0.2
ARG	Arkhangelos	1.74	196	Pn	Pn	09 23 19.2	+0.9
ARG	Arkhangelos	1.74	196	P	Pb	09 23 19.4	-0.8
ARG				S	Sb	09 23 41.7	-0.2
	2μm,1.2s						
KSL	Kastellorizon	1.86	158	P	Pb	09 23 21.9	-0.4
KSL				S	Sb	09 23 46.1	+0.5
	2μm,0.8s						
PRK	Paraskevi	2.36	306	P	Pn	09 23 26.9	0.0
SIGR	SIGRI	2.62	301	P	Pn	09 23 31.0	+0.6
KARP	Karpathos	2.66	209	P	Pn	09 23 31.6	+0.6
LIA	Limnos Island	3.42	307	P	Pn	09 23 42.0	+0.5
ZKR	Zakros	3.43	217	P	Pn	09 23 42.1	+0.5
SMTH	Samothraki Isl	3.58	317	P	Pn	09 23 43.9	+0.1
ALN	Alexandroupoli	3.66	326	P	Pn	09 23 44.8	+0.1
IDI	Anoyia	4.04	231	Pn	Pn	09 23 51.8	+1.7
	31nm,0.7s,baz=54,slow=17,SNR=17						
THAS	Thassos island	4.13	312	P	Pn	09 23 51.2	-0.1
BRTR	Keskin Array B	4.25	63	Pn	Pn	09 23 53.7	+0.7
	0.5nm,0.3s,baz=357,slow=21,SNR=30						
BRTR				Pg	Pb	09 24 04.9	+1.8
	0.6nm,0.3s,baz=237,slow=11,SNR=12						
	3.9nm,0.6s						
OUR	Ouranopolis	4.43	305	P	Pn	09 23 55.6	+0.2
KAVA	Kavala	4.51	315	P	Pn	09 23 56.8	+0.4
KOKK	Kokkinochori,	4.69	310	P	Pn	09 23 59.1	+0.1
NVR	Nevrokopi	5.11	314	P	Pn	09 24 05.0	+0.3
SRS	Serrai	5.12	311	P	Pn	09 24 05.0	+0.1
BARS	Barje	7.22	315	*i* Pn	Pn	09 24 34.7	+1.0
MMAI	Mount Meron Ar	7.30	130	Pn	Pn	09 24 34.3	-0.5
	6.2nm,0.3s,baz=309,slow=13,SNR=18						
MMAI				Sn	Sn	09 25 55.8	-1.9
	1.8nm,0.3s,baz=247,slow=25,SNR=2.7						
MMAI				LR	LR	09 28 02.1	
	comp=Z,67nm,19.5s,baz=288,slow=43						
	3.3nm,0.3s						
MLR	Muntele Rosu	7.88	346	Pn	Pn	09 24 43.7	+0.9
	0.9nm,0.3s,baz=155,slow=6.1,SNR=11						
MLR				LR	LR	09 28 24.7	
	comp=Z,401nm,18.9s,baz=86,slow=43						
	16nm,0.8s						
ASF	Jabal al Asfar	8.79	128	Pn	Pn	09 24 55.3	0.0
	0.3nm,0.3s,baz=319,slow=9.3,SNR=2.1						
ASF				Sn	Sn	09 26 36.4	+2.0
	0.2nm,0.3s,baz=233,slow=1.0,SNR=1.7						
	0.9nm,0.3s						
EIL	Elat	9.69	146	Pn	Pn	09 25 07.2	-0.3
	0.8nm,0.3s,baz=5.1,slow=12,SNR=2.7						
EIL				Sn	Sn	09 26 55.3	-1.1
	0.5nm,0.3s,baz=270,slow=20,SNR=1.7						
EIL				LR	LR	09 29 41.1	
	comp=Z,46nm,18.9s,baz=67,slow=43						
	4.4nm,0.7s						
GNI	Garni	12.66	75	LR	LR	09 31 52.6	
	comp=Z,23nm,18.2s,baz=298,slow=43						
AKASG	Malin Array Be	12.82	1	LR	LR	09 30 25.6	
	comp=Z,67nm,21.8s,baz=242,slow=36						
VRAC	Vranov	14.39	326	LR	LR	09 31 37.4	
	comp=Z,84nm,18.7s,baz=152,slow=37						
GERES	GERESS Array B	15.44	320	Pn	P	09 26 30.1	-0.5
	0.6nm,0.3s,baz=19,slow=14,SNR=3.6						
NACGM	Naroch	17.07	356	*e*P	P	09 26 49.4	+0.9
	baz=175						
FINES	FINESS Array B	23.64	357	P	P	09 27 59.4	+0.2
	4.6nm,0.9s,baz=157,slow=10,SNR=5.7						
	4.6nm,0.9s						
HFS	Hagfors	24.23	342	P	P	09 28 05.1	+0.3
	6.2nm,0.8s,baz=152,slow=6.7,SNR=6.5						
	6.2nm,0.8s						
ESDC	Sonseca Array	25.48	284	P	P	09 28 17.7	+1.3
	0.6nm,0.7s,baz=81,slow=7.0,SNR=4.8						
	0.6nm,0.7s						
NB2	NORSAR Subarra	25.65	340	P	P	09 28 17.4	-0.3
	comp=Z,2.5nm,1.1s,baz=143,slow=9.3						
NOA	NORSAR Array B	25.65	340	P	P	09 28 17.6	-0.2
	comp=Z,1.4nm,0.9s,baz=144,slow=8.7,SNR=4.9						
NOA				LR	LR	09 39 37.9	
	comp=Z,74nm,19.6s,baz=165,slow=40						
	comp=Z,1.4nm,0.9s						
BVA0	Borovoye Array	32.39	49	⇑Lg	Lg	09 31 07.3	
	comp=Z,2.5nm,0.8s,baz=114,slow=24,SNR=5.1						
KURBB	Kurchatov Arra	37.18	54	P	P	09 29 59.9	+0.8
	comp=Z,2.1nm,0.6s,baz=279,slow=8.9,SNR=14						
	comp=Z,2.1nm,0.6s						
KURBB	Kurchatov Arra	37.18	54	⇓Lg	Lg	09 30 32.2	
	comp=Z,16nm,0.7s						
KURBB	Kurchatov Arra	37.18	54	⇓Pg	P	09 30 00.3	+1.2
	comp=Z,1.7nm,0.4s						
KURK	Kurchatov	37.24	53	⇑Lg	Lg	09 30 31.7	
	comp=Z,3.4nm,0.7s						
KURK	Kurchatov	37.24	53	⇓Lg	P	09 29 59.0	-0.5
	comp=Z,2.6nm,0.9s						
MK31	Makanchi Array	39.89	60	⇑Lg	Lg	09 32 49.9	
	comp=Z,1.6nm,0.8s,baz=317,slow=28,SNR=5.0						
MKAR	Makanchi Array	39.89	60	P	P	09 30 21.8	-0.2
	comp=Z,1.3nm,0.8s,baz=277,slow=7.6,SNR=8.8						
	comp=Z,1.3nm,0.8s						
ZALV	Zalesovo Beam	41.04	48	P	P	09 30 31.0	-0.4
	comp=Z,0.6nm,0.3s,baz=282,slow=6.9,SNR=1.3						
	comp=Z,0.6nm,0.3s						
YKA	Yellowknife Ar	75.70	343	P	P	09 34 32.9	-0.3
	comp=Z,0.4nm,0.9s,baz=17,slow=6.5,SNR=6.8						
	comp=Z,0.4nm,0.9s						
ILAR	Eielson Array	77.62	358	P	P	09 34 43.7	-0.4
	comp=Z,0.2nm,0.6s,baz=341,slow=4.4,SNR=5.4						
	comp=Z,0.2nm,0.6s						

IDC 11 09:27:37.4±1.5, 24.°66N×143.°85E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=46.5km s-min=33.4km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.29	193	P	P	09 35 57.0	-0.1
	1.4nm,0.7s,baz=13,slow=8.7,SNR=1.1						
	1.4nm,0.7s						
MKAR	Makanchi Array	53.19	311	P	P	09 36 57.2	-0.1
	0.6nm,0.7s,baz=88,slow=8.6,SNR=5.2						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	55.82	316	P	P	09 37 16.3	0.0
	1.9nm,0.6s,baz=92,slow=7.6,SNR=14						
	1.9nm,0.6s						
BVAR	Borovoye Array	60.85	318	P	P	09 37 51.4	-0.2
	0.9nm,0.4s,baz=93,slow=8.9,SNR=5.8						
	0.9nm,0.4s						
YKA	Yellowknife Ar	73.57	28	P	P	09 39 12.1	+0.1
	0.2nm,0.8s,baz=286,slow=7.1,SNR=5.7						
	0.2nm,0.8s						

BJI 11 09:28:02.6, 12.°12N×143.°87E, h11km, mB5.1/13, mb5.0/61, Ms5.7/11, Ms7 5.4/11
IDC 11 09:28:03.5±0.5, 12.°14N×143.°68E, h0km, mb4.9/28, mbtmp4.9/29, ML4.0/1, MS4.7/3, Error ellipse: s-maj=17.1km s-min=11.3km az=83.0
MOS 11 09:28:03.6±0.9, 12.°12N×143.°69E, h15km, mb5.2/30, Error ellipse: s-maj=9.6km s-min=5.1km az=112.0
NEIC 11 09:28:05.0±1.4, 12.°13N±0.°05×143.°89E±0.°10, h10km±1km, mb5.0/207, Error ellipse: s-maj=16.1km s-min=8.1km az=277.0
GCMT 11 09:28:08.0±0.3, 11.°93N±0.°03×143.°66E±0.°02, h12km, MW4.9/67, Moment Tensor Solution. s23,c25; s67,c83; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.26±.16; Mθθ-0.76±.14; Mφφ3.02±.11; Mrθ-0.62±.60; Mrφ-0.91±.12; Mθφ-0.47±.32; Best double couple: M0=2.91800×1016 NP1:φs145.00000°, δ46.00000°, λ-123.00000°. NP2: φs9.00000°, δ53.00000°, λ-60.00000°. Principal axes: T 3.2470, Plg3.0000°, Azm78.0000°; N -0.6610, Plg24.0000°, Azm169.0000°; P -2.5890, Plg66.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 11 09:28:14.8±0.8, 12.°8N±3.°3×14.°4E±.°, h87km±8km, M5.0/49, mb5.1/49, mB5.5/12, Mw(mB)5.0/12

ISC 11 09:28:06.1±0.7, 12.°08N±0.°04×143.°87E±0.°05, h17km±3km, n588, σ1$20/519, mb5.0/221, MS5.4/9, 12C-13D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.79	33	Pn	Pn	09 28 36.5	+0.5
GUMO	Guam	1.79	33	Pn	Pn	09 28 36.9	+0.9
	427nm,0.3s,baz=158,slow=18,SNR=88						
GUMO				Sn	Sb	09 28 59.9	-0.5
	633nm,0.3s,baz=14,slow=21,SNR=6.7						
GUMO				LR	LR	09 29 33.2	
	comp=Z,4μm,20.3s,baz=205,slow=48						
GUMO	Guam	1.79	33	P	Pn	09 28 36.6	+0.5
JAY	Jayapura	14.84	192	Pn	Pn	09 31 36.3	+1.0
	0.7nm,0.3s,baz=326,slow=5.0,SNR=8.4						
JAY				LR	LR	09 36 12.3	
	comp=Z,585nm,18.9s,baz=28,slow=33						
	14nm,0.8s						
JAY	Jayapura	14.84	192	P	P	09 31 41.5	+0.5
	53nm,0.9s						
SMPI	Sarmi	14.89	200	P	P	09 31 41.1	-0.4
	2μm49nm,1.0s						
JCJ	Chichijima	15.02	354		Pn	09 31 39.9	+2.3
GENI	Genyem	15.04	194	P	Pn	09 31 39.0	+1.1
GENI	Genyem	15.04	194	P	P	09 31 40.9	-2.2
	116nm,1.2s						
PATS	Pohnpei	15.16	109	Pn	Pn	09 31 38.3	-1.3
PATS	Pohnpei	15.16	109	P	Pn	09 31 39.9	+0.3
	comp=Z,163nm,1.3s						
PATS	Pohnpei	15.16	109	S	Sn	09 34 18.7	-8.6
RABL	Rabaul	18.15	152		Pn	09 32 15.8	-1.6
FAKI	Fak Fak	18.86	219	P	P	09 32 24.8	-0.7
FAKI	Fak Fak	18.86	219	P	Pn	09 32 27.6	+1.5
JOW	Kunigami	20.74	317	P	P	09 32 45.4	-0.6
JOW				IAmb	IAmb	09 32 47.5	
	comp=Z,43nm,0.5s						
JOW	Kunigami	20.74	317	P	Pn	09 32 46.7	-1.7
	comp=Z,39nm,0.6s,baz=162,slow=11,SNR=9.3						
PMG	Port Moresby	21.60	171	P	P	09 32 55.0	-0.1
	comp=Z,24nm,0.8s,baz=6.4,slow=16,SNR=3.8						
	comp=Z,24nm,0.8s						
AAI	Ambon	22.10	226	P	P	09 33 00.9	+0.3
	comp=Z,3μmcomp=Z,212nm,0.9s						
SANI	Sanana	22.65	233	P	P	09 33 06.5	0.0
KMSI	Cibinong	22.81	241	P	P	09 33 09.7	+1.5
H11S3	WAKE ISLAND Hy	22.90	71	T	T	09 57 13.5	
	baz=252,slow=74,SNR=18						
H11S1	WAKE ISLAND Hy	22.91	71	T	T	09 57 11.2	
	baz=252						
H11S2	WAKE ISLAND Hy	22.91	71	T	T	09 57 11.7	
	baz=252,slow=74,SNR=34						
H11N1	WAKE ISLAND Hy	23.38	68	T	T	09 57 42.4	
	baz=255,slow=75,SNR=47						
H11N2	WAKE ISLAND Hy	23.39	68	T	T	09 57 47.9	
	baz=255,slow=75,SNR=41						
H11N3	WAKE ISLAND Hy	23.40	68	T	T	09 57 50.6	
	baz=255,slow=75,SNR=32						
JMN	Monobe	23.40	339	P	P	09 33 13.5	-0.6
JMN				IAmb	IAmb	09 33 26.5	
	comp=Z,57nm,1.4s						
JNU	Nakatsue	24.09	332	P	P	09 33 19.8	-1.0
JNU	Nakatsue	24.09	332	P	P	09 33 19.9	-0.8
	comp=Z,23nm,0.7s,baz=47,slow=12,SNR=16						
	comp=Z,23nm,0.7s						
JGF	Kuroka	24.15	347	P	P	09 33 19.0	-2.3
JGF				IAmb	IAmb	09 33 19.6	
	comp=Z,52nm,1.6s						
YULB	Yu-li	24.23	301	P	P	09 33 20.5	-1.6
YULB				IAmb	IAmb	09 33 31.5	
	comp=Z,47nm,1.4s						
MRSI	Marisa	24.63	244	P	P	09 33 26.4	+0.6
	comp=Z,2μmcomp=Z,153nm,1.1s						
SSLB	Suanglung	24.68	301	P	P	09 33 25.3	-1.0
SSLB				IAmb	IAmb	09 33 37.9	
	comp=Z,18nm,0.6s						
LUWI	Luwuk	24.68	240	P	P	09 33 25.9	-0.4
LUWI	Luwuk	24.68	240	P	P	09 33 25.8	-0.5
LUWI	Luwuk	24.68	240	P	P	09 33 25.8	-0.5
YHNB	Yeheng	24.70	304	P	P	09 33 25.8	-0.7
YHNB				IAmb	IAmb	09 33 27.1	
	comp=Z,30nm,1.0s						
TPUB	Ta-pu	24.75	300	P	P	09 33 23.7	-3.2
MJAR	Matsushiro Arr	24.88	349	P	P	09 33 26.2	-1.7
	comp=Z,3.6nm,0.6s,baz=194,slow=9.9,SNR=6.5						
	comp=Z,3.6nm,0.6s						
MAJO	Matsushiro	24.89	349	P	P	09 33 26.6	-1.4
MAJO				IAmb	IAmb	09 33 36.0	
	comp=Z,60nm,1.6s						
MAJO	Matsushiro	24.89	349	⇓*e*P	P	09 33 27.2	-0.8
MJB9	Matsu-Tunnel	24.89	349	P	P	09 33 27.4	-0.6
MJB9				IAmb	IAmb	09 33 37.0	
	comp=Z,59nm,1.6s						
TOLI2	Tolitoli	25.36	246	P	P	09 33 32.5	0.0
TOLI2				IAmb	IAmb	09 33 50.2	
	comp=Z,42nm,1.0s						
COEN	Coen	25.88	182	P	P	09 33 37.5	+0.3
COEN				IAmb	IAmb	09 33 39.6	
	comp=Z,35nm,1.1s						
COEN	Coen	25.88	182	P	P	09 33 37.3	+0.2
	comp=Z,31nm,1.6s						
COEN	Coen	25.88	182	P	P	09 33 37.1	0.0
MYLDM	Lahad Datu	25.99	257	P	P	09 33 38.0	-0.2
MYLDM	Lahad Datu	25.99	257	P	P	09 33 40.2	+2.0
KDU	Kakadu	27.08	205	P	P	09 33 49.7	+1.7
	comp=Z,68nm,1.0s						
KDU	Kakadu	27.08	205	P	P	09 33 49.3	+1.3
MTN	Manton Dam	27.80	207	P	P	09 33 54.0	-0.4
MTN				IAmb	IAmb	09 33 54.8	
	comp=Z,26nm,0.9s						
MTN	Manton Dam	27.80	207	P	P	09 33 54.1	-0.4
	comp=Z,31nm,1.6s						
TTSI	Tana Toraja	28.24	239	P	P	09 33 58.8	+0.4
	comp=Z,18nm,1.2s						
TJN	Taejon	28.40	331	P	P	09 33 59.0	-0.6
TJN	Taejon	28.40	331	⇑*i*P	P	09 33 59.0	-0.6
KSRS	Korea Array	29.03	333	P	P	09 34 04.3	-0.8
	comp=Z,3.7nm,0.7s,baz=144,slow=8.9,SNR=13						
KSRS				PcP	PcP	09 37 14.8	+1.3
	comp=Z,1.7nm,0.7s,baz=182,slow=2.5,SNR=5.3						
	comp=Z,3.7nm,0.7s						
SOEI	Soe	29.16	223	P	P	09 34 07.8	+1.1
	comp=Z,32nm,1.2s						
MTSU	Mount Surprise	30.03	179	P	P	09 34 15.1	+0.9
	comp=Z,4.0nm,0.9s						
NJ2	Nanjing	30.40	315	*e*P	P	09 34 16.4	-1.0
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KNRA	Kununurra	31.37	209	P	P	09 34 25.8	-0.3
KNRA				IAmb	IAmb	09 34 30.0	
	comp=Z,28nm,1.1s						
KNRA	Kununurra	31.37	209	P	P	09 34 26.0	-0.1
	comp=Z,20nm,1.0s						
ASAJ	Asahikawa	31.94	358	P	P	09 34 31.1	+0.2
	comp=Z,4.4nm,0.6s,baz=238,slow=13,SNR=1.7						
	comp=Z,4.4nm,0.6s						
MSHR	Mys Shultsa	32.34	342	⇑*e*P	P	09 34 33.7	-0.6
MSHR				pmax	pmax		
	comp=Z,24nm,1.2s						
QIS	Mount Isa	32.70	187	P	P	09 34 38.0	+0.2
	comp=Z,25nm,1.5s						
QIS	Mount Isa	32.70	187	P	P	09 34 37.7	-0.1
SBUM	Sibu	32.78	256	P	P	09 34 38.2	-0.5
SBUM	Sibu	32.78	256	P	P	09 34 39.2	+0.6
WB0	Warramunga Arr	33.00	197	P	P	09 34 39.1	-1.2
WR0	Warramunga Arr	33.14	196	P	P	09 34 41.0	-0.6
WRAB	Tennant Creek	33.17	197	P	P	09 34 41.4	-0.4
WRAB				IAmb	IAmb	09 34 42.5	
	comp=Z,18nm,0.7s						
WRAB	Tennant Creek	33.17	197	*d i*P	P	09 34 41.4	-0.4
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s						
WB2	Warramunga Arr	33.17	197	P	P	09 34 41.3	-0.6
WB2				IAmb	IAmb	09 34 42.7	
	comp=Z,20nm,0.7s						
WRA	Warramunga Arr	33.18	197	P	P	09 34 41.1	-0.8
WRA	Warramunga Arr	33.18	197	P	P	09 34 41.6	-0.3
	comp=Z,14nm,0.7s,baz=19,slow=9.8,SNR=42						
	comp=Z,14nm,0.7s						
DL2	Dalian	33.23	327	P	P	09 34 41.8	-0.4
DL2				pmax	pmax		
	comp=Z,45nm,0.8s						
USRK	Ussuriysk Ar.	33.60	344

XAN pmax pmax
comp=Z,16nm,0.7s
TYV Tymovskoe 38.68 359 *e*P **P 09 35 28.6 -0.2**
TYV pmax pmax
comp=Z,400nm,3.6s
TYV pmax pmax
comp=Z,6.0nm,1.4s
TPI Tanjungpandan 38.90 250 P **P 09 35 30.8 -0.2**
comp=Z,534nmcomp=Z,48nm,0.8s
INKA Innaminka 39.70 184 P **P 09 35 37.4 -0.1**
XLT XiLinHaoTe 39.72 328 *e*P **P 09 35 37.1 -0.6**
XLT pmax pmax
comp=Z,46nm,0.6s
WRKA Warakurna 39.90 202 P **P 09 35 39.3 +0.1**
comp=Z,45nm,0.8s
WRKA Warakurna 39.90 202 P **P 09 35 39.2 -0.1**
TW1H Toowoomba 1 Ha 40.16 169 P **P 09 35 42.4 +0.9**
AUWSH Wavell State H 40.24 167 P **P 09 35 42.9 +0.9**
HHC Hu-ho-hao-te 40.30 321 *e*P **P 09 35 42.6 0.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,210nm,5.6s
HEH HeiHe 40.39 344 *e*P **P 09 35 42.1 -0.9**
HEH pmax pmax
comp=Z,22nm,0.7s
OOD Oodnadatta 40.42 191 P **P 09 35 43.4 -0.1**
DZM Mont Dzumac 40.52 147 P **P 09 35 44.4 -0.1**
DZM Mont Dzumac 40.52 147 P **P 09 35 46.1 +1.5**
LEM Lembang 40.65 244 P **P 09 35 45.6 -0.2**
comp=Z,25nm,1.0s
PSA00 Pilbara Seismi 40.93 215 P **P 09 35 47.5 -0.3**
PSA00 Pilbara Seismi 40.93 215 P **P 09 35 47.9 +0.1**
comp=Z,33nm,2.0s
MYKOM Kota Tinggi 40.96 259 P **P 09 35 47.9 -0.4**
MYKOM IAmb IAmb 09 35 49.0
comp=Z,20nm,0.8s
MYKOM Kota Tinggi 40.96 259 P **P 09 35 48.5 +0.3**
BTO Baotou 41.12 320 *e*P **P 09 35 50.2 +0.8**
BTO pP **sP 09 35 54.8 +0.3**
BTO sP **pwP 09 35 57.4 -2.7**
BTO PP **PnPn 09 37 29.1 +0.3**
BTO S **S 09 42 03.1 +1.3**
BTO sS **sS 09 42 10.9 +2.9**
BTO SS **SS 09 45 02.4 -2.3**
BTO pmax pmax
comp=Z,53nm,0.7s
BTO pmax pmax
comp=Z,370nm,4.4s
BTO LR LR
comp=Z,7μm,13.0s
BTO LR LR
comp=Z,9μm,12.4s
BTO LR LR
comp=Z,9μm,12.6s
CNJI Cibinong 41.30 244 P **P 09 35 51.5 +0.5**
comp=Z,16nm,1.0s
CD2 Chengdu 41.48 303 P **P 09 35 51.3 -1.0**
CD2 sP sP 09 35 56.9 -0.6
CD2 pmax pmax
comp=Z,40nm,0.8s
PZH PanZhiHua 42.07 296 P **P 09 35 58.3 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.1s
PETK Petropavlovsk- 42.39 12 PcP **PcP 09 37 52.2 -0.3**
comp=Z,2.5nm,0.7s,baz=123,slow=1.6,SNR=7.0
LCRK Leigh Creek 42.63 187 P **P 09 36 01.8 +0.2**
MDSI Maura Dua 42.76 250 P **P 09 36 02.7 -0.2**
comp=Z,894nmcomp=Z,34nm,1.0s
ARMA Armidale 42.91 170 P **P 09 36 04.4 +0.4**
comp=Z,21nm,1.0s
ARMA Armidale 42.91 170 P **P 09 36 04.7 +0.7**
KULM Kulim 43.21 265 P **P 09 36 06.2 -0.4**
LZH Lanzhou 43.23 310 *e*P **P 09 36 06.8 +0.1**
LZH sP pwP 09 36 15.9 -1.6
LZH pmax pmax
comp=Z,29nm,1.0s
CMSA Cobar Meteorol 43.40 178 P **P 09 36 07.8 -0.1**
comp=Z,25nm,0.9s
CMSA Cobar Meteorol 43.40 178 P **P 09 36 07.7 -0.1**
ZEA Zeya 43.61 346‖ *e*P **P 09 36 07.2 -2.0**
CM31 Chiang Mai Arr 43.72 284 P **P 09 36 10.5 -0.2**
CMAR Chiang Mai Arr 43.72 284 P **P 09 36 09.7 -1.0**
CMAR Chiang Mai Arr 43.72 284 P **P 09 36 10.7 -0.1**
comp=Z,5.3nm,0.8s,baz=87,slow=6.2,SNR=22
comp=Z,5.3nm,0.8s
CMAR Chiang Mai Arr 43.72 284 *i* P **P 09 36 10.6 -0.1**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 43.76 183 P **P 09 36 09.4 -1.3**
STKA Stephens Creek 43.76 183 P **P 09 36 10.2 -0.5**
comp=Z,92nm,1.1s
STKA Stephens Creek 43.76 183 P **P 09 36 10.2 -0.5**
comp=Z,13nm,0.8s,baz=349,slow=9.1,SNR=21
comp=Z,13nm,0.8s
STKA Stephens Creek 43.76 183 P **P 09 36 10.2 -0.5**
STKA Stephens Creek 43.76 183 *c i*P **P 09 36 09.6 -1.1**
MNAI Manna 43.84 251 P **P 09 36 11.2 -0.5**
MSVF Nonsavu 44.90 131 P **P 09 36 21.1 +0.9**
MSVF IAmb IAmb 09 36 22.8
comp=Z,25nm,0.8s
MSVF Nonsavu 44.90 131 P **P 09 36 22.3 +2.1**
MSVF Nonsavu 44.90 131‖ *i*P **P 09 36 21.4 +1.2**
MSVF pmax pmax
comp=Z,131nm,3.6s
FORT Forrest 45.24 199 P **P 09 36 21.9 -0.7**
FORT Forrest 45.24 199 P **P 09 36 23.2 +0.6**
comp=Z,47nm,1.2s
FORT Forrest 45.24 199 P **P 09 36 23.5 +0.9**
BBOO Buckleboo 45.26 189 P **P 09 36 21.4 -1.2**
BBOO Buckleboo 45.26 189 P **P 09 36 22.6 0.0**
comp=Z,61nm,0.8s
BBOO Buckleboo 45.26 189 P **P 09 36 22.8 +0.1**
PSI Prapat 45.45 262 P **P 09 36 24.8 +0.1**
PSI Prapat 45.45 262 P **P 09 36 23.8 -0.9**
PSI pmax pmax
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 45.48 262 P **P 09 36 23.8 -0.9**
HTT Hallett 45.50 186 P **P 09 36 24.8 +0.1**
comp=Z,23nm,0.8s
HTT Hallett 45.50 186 P **P 09 36 24.7 +0.1**
YNG Young 46.32 175 P **P 09 36 31.3 +0.2**
comp=Z,55nm,1.2s
ULN Ulaanbaatar 47.08 327 P **P 09 36 36.6 -0.4**
ULN IAmb IAmb 09 36 37.5
comp=Z,11nm,0.7s
ULN Ulaanbaatar 47.08 327 *d i*P **P 09 36 37.0 -0.1**
ULN pmax pmax
comp=Z,11nm,0.7s
SONM Songino Array 47.42 326 P **P 09 36 39.2 -0.5**
SONM IAmb IAmb 09 36 41.0
comp=Z,10nm,0.6s
SONM Songino Array 47.42 326 P **P 09 36 39.3 -0.4**
comp=Z,9.0nm,0.5s,baz=149,slow=7.2,SNR=50
SONM PcP **PcP 09 38 10.2 +0.1**
comp=Z,2.5nm,0.5s,baz=150,slow=4.0,SNR=5.3
comp=Z,9.0nm,0.5s
CNB Canberra Magne 47.42 174 P **P 09 36 40.5 +0.8**
comp=Z,23nm,1.1s
GTA Gaotai 47.46 313 *e*P **P 09 36 40.3 +0.1**
GTA sP pwP 09 36 49.5 -1.5
GTA PcP **PcP 09 38 11.3 +0.8**
GTA pmax pmax
comp=Z,17nm,0.7s
GTA LR LR
comp=Z,4μm,16.0s
GTA LR LR
comp=Z,2μm,18.9s
GTA LR LR
comp=Z,2μm,16.4s
MA2 Magadan 47.68 5 P **P 09 36 40.7 -0.7**
MA2 Magadan 47.68 5 LR LR 09 56 03.3
comp=Z,1μm,19.3s,baz=184,slow=35
MA2 Magadan 47.68 5 P **P 09 36 41.6 +0.2**
MA2 Magadan 47.68 5⇑ *i*P **P 09 36 40.9 -0.5**
MA2 pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 47.68 5 P **P 09 36 41.3 -0.1**
comp=Z,6.4nm,0.6s
ARPS Mount Arapiles 48.63 182 P **P 09 36 49.7 +0.8**
comp=Z,67nm,0.7s
ARPS Mount Arapiles 48.63 182 P **P 09 36 49.8 +0.8**
MORW Morawa 48.95 213 P **P 09 36 51.6 -0.1**
comp=Z,45nm,1.0s
MORW Morawa 48.95 213 P **P 09 36 51.5 -0.1**
TOO Toolangi 49.41 178 P **P 09 36 56.3 +1.3**
comp=Z,14nm,1.3s
BLDU Ballidu 49.84 211 P **P 09 36 58.1 -0.2**
comp=Z,46nm,0.9s
BLDU Ballidu 49.84 211 P **P 09 36 58.2 -0.2**
KLBR Kellerberrin 50.13 209 P **P 09 37 00.1 -0.5**
comp=Z,59nm,0.9s
KLBR Kellerberrin 50.13 209 P **P 09 37 00.1 -0.5**
GOMU GeErMu 50.15 307 P **P 09 37 01.2 0.0**
GOMU pP pP 09 37 04.3 -0.8
GOMU sP sP 09 37 07.5 +1.1
GOMU S **S 09 44 12.3 -0.4**
GOMU pmax pmax
comp=Z,23nm,0.7s
GOMU LR LR
comp=Z,3μm,15.1s
GOMU LR LR
comp=Z,1μm,15.2s
GOMU LR LR
comp=Z,3μm,15.9s
SHL Shillong 50.71 293 P **P 09 37 04.1 -1.2**
SHL IAmb IAmb 09 37 06.0
comp=Z,13nm,0.6s
SHL Shillong 50.71 293 P **P 09 37 04.1 -1.2**
SHL pmax pmax
comp=Z,13nm,0.6s
YAK Yakutsk 50.91 351 P **P 09 37 04.9 -1.1**
YAK Yakutsk 50.91 351 *e*P **P 09 37 04.2 -1.8**
YAK *e* 09 38 20.8
YAK *e* 09 39 10.5
YAK *e*PPP PPP 09 39 57.1
YAK *e*S **S 09 44 21.9 +0.3**
YAK pmax pmax
comp=Z,17nm,0.7s
YAK pmax pmax
comp=N,2.0nm,0.6s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,134nm,3.3s
YAK pmax pmax
comp=N,164nm,4.6s
YAK pmax pmax
comp=E,109nm,4.3s
YAK smax smax
comp=N,153nm,5.9s
YAK smax smax
comp=E,209nm,4.7s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=E,284nm,15.0s
SEY Seymchan 51.14 5‖ *i*P **P 09 37 08.1 +0.4**
SEY pmax pmax
comp=Z,28nm,3.8s
MOY Mondy 52.48 328 *e*P **P 09 37 17.7 -0.4**
MOY pmax pmax
comp=Z,13nm,1.3s
WMQ Urumqi 57.48 315 *e*P **P 09 37 54.8 +0.4**
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ LR LR
comp=Z,3μm,12.9s
WMQ LR LR
comp=Z,2μm,14.9s
WMQ LR LR
comp=Z,2μm,19.7s
BILL Bilibino 57.80 10 P **P 09 37 54.9 -1.2**
BILL Bilibino 57.80 10‖ *e*P **P 09 37 56.1 0.0**
BILL pmax pmax
comp=Z,6.0nm,0.7s
BKZ Black Stump Fm 59.36 151 P **P 09 38 07.8 +0.4**
BKZ IAmb IAmb 09 38 08.6
comp=Z,11nm,0.8s
TIXI Tiksi 60.23 355 P **P 09 38 12.0 -0.8**
TIXI Tiksi 60.23 355‖ *e*P **P 09 38 14.4 +1.6**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
ZSN Zaisan 60.36 318 *e*P **P 09 38 13.5 -0.7**
ZSN Zaisan 60.36 318 *e*P **P 09 38 13.6 -0.7**
SDPT Sand Point 60.93 33 P **P 09 38 18.0 +0.2**
baz=248
M13K Dall Lake 61.69 27 P **P 09 38 23.0 +0.1**
baz=242
S14K Fog Glacier 61.77 32 P **P 09 38 23.3 -0.4**
baz=248
MK31 Makanchi Array 61.91 317 P **P 09 38 24.1 -0.7**
MK31 IAmb IAmb 09 38 25.3
comp=Z,7.6nm,0.8s
MK31 Makanchi Array 61.91 317 *i* P **P 09 38 24.0 -0.7**
MKAR Makanchi Array 61.91 317 P **P 09 38 24.4 -0.3**
comp=Z,8.6nm,0.6s,baz=91,slow=8.7,SNR=91
comp=Z,8.6nm,0.6s
MAKZ Makanchi 62.12 317 P **P 09 38 25.8 -0.4**
MAKZ Makanchi 62.12 317 P **P 09 38 25.8 -0.4**
MAKZ pmax pmax
comp=Z,17nm,0.8s
ZAA0 Zalesovo Array 62.29 325 P **P 09 38 25.5 -1.6**
ZALV Zalesovo Beam 62.29 325 P **P 09 38 26.1 -1.0**
comp=Z,15nm,0.5s,baz=108,slow=7.3,SNR=61
ZALV PcP **PcP 09 39 05.8 -1.0**
comp=Z,9.2nm,0.5s,baz=128,slow=4.4,SNR=16
comp=Z,15nm,0.5s
PALK Pallekele 62.35 272 P **P 09 38 27.5 -0.8**
PALK IAmb IAmb 09 38 29.2
comp=Z,12nm,0.9s
PALK Pallekele 62.35 272 P **P 09 38 27.5 -0.8**
PALK pmax pmax
comp=Z,12nm,0.9s
CHGN Chignik 62.36 32 P **P 09 38 27.6 +0.1**
baz=249
TNA Tin City 62.59 20 P **P 09 38 29.5 +0.6**
baz=235
SHLS Shalkode 63.20 312 *e*P **P 09 38 30.4 -3.2**
SHLS Shalkode 63.20 312 *e*P **P 09 38 30.4 -3.2**
PDGK Podgornoye 63.20 313 P **P 09 38 32.3 -1.3**
UZB Uzynbulak 63.52 312 *e*P **P 09 38 34.4 -1.3**
UZB Uzynbulak 63.52 312 *e*P **P 09 38 34.4 -1.3**
G15K Niukluk 63.66 22 P **P 09 38 35.9 -0.1**
baz=239
N16K Nishlik Lake 63.77 28 P **P 09 38 36.8 -0.1**
baz=247
KPKS Kokpek 63.81 313 *e*P **P 09 38 36.5 -1.0**
KPKS Kokpek 63.81 313 *e*P **P 09 38 36.6 -1.0**
M16K Timber Creek 63.90 27 P **P 09 38 37.8 +0.1**
baz=246
SATY Saty 63.95 312 *e*P **P 09 38 37.2 -1.3**
SATY Saty 63.95 312 *e*P **P 09 38 37.3 -1.3**
TDK Taldyqorghan 64.23 314 *e*P **P 09 38 39.1 -1.1**
TDK pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 64.23 314 *e*P **P 09 38 39.1 -1.1**
comp=Z,10nm,0.7s
O17K Koliganek Bris 64.28 29 P **P 09 38 40.1 0.0**
baz=249
G16K Koyuk River 64.48 22 P **P 09 38 42.3 +0.9**
baz=241
L17K Donlin 64.64 26 P **P 09 38 43.3 +0.8**
baz=246
SII Sitkinak Islan 64.67 33 P **P 09 38 43.0 +0.2**
baz=253
KDJ Kajisay 64.73 311 P **P 09 38 42.7 -1.1**
J17K VABM Dome 64.83 25 P **P 09 38 44.4 +0.6**
baz=245
K17K Iditarod 64.88 26 P **P 09 38 45.1 +1.0**
baz=246
C16K Lisburne Hills 64.96 19 P **P 09 38 45.3 +0.8**
baz=237
TNSS Tian-Shan 65.01 312 *e*P **P 09 38 44.5 -1.3**
TNSS Tian-Shan 65.01 312 *e*P **P 09 38 44.6 -1.3**
KURK Kurchatov 65.11 320 P **P 09 38 45.0 -0.8**
KURK Kurchatov 65.11 320 *c i*P **P 09 38 45.0 -0.8**
KURK pmax pmax
comp=Z,42nm,0.7s
KURBB Kurchatov Arra 65.15 320 P **P 09 38 45.3 -0.7**
comp=Z,32nm,0.7s,baz=104,slow=6.7,SNR=234
comp=Z,32nm,0.7s
N18K Kilae Creek 65.17 28 P **P 09 38 45.5 -0.6**
baz=249
F17K Baldwin Pennin 65.38 21 IAmb IAmb 09 38 51.2
comp=Z,7.0nm,0.6s
F17K Baldwin Pennin 65.38 21 P **P 09 38 47.3 +0.1**
baz=242
KSH Kashi 65.39 308 P **P 09 38 50.4 +2.4**
KSH pmax pmax
comp=Z,18nm,0.6s
M18K Stony River 65.48 27 P **P 09 38 48.1 +0.1**
baz=249
E17K Hotham Inlet 65.49 20 P **P 09 38 48.5 +0.5**
baz=241
Q19K Cape Douglas, 65.66 30 P **P 09 38 49.7 +0.4**
baz=252
BOOM Boomskoye usch 65.68 311 IAmb IAmb 09 38 50.9
comp=Z,4.9nm,0.5s
BOOM Boomskoye usch 65.68 311 P **P 09 38 49.3 -0.6**
O19K Port Alsworth 65.73 29 P **P 09 38 50.0 +0.4**
baz=251
C17K DeLong Mountai 65.75 19 P **P 09 38 50.0 +0.4**
baz=239
J18K Innoko River 65.83 25 P **P 09 38 50.2 0.0**
baz=247
N19K Bonanza Creek 65.86 28 IAmb IAmb 09 39 05.4
comp=Z,21nm,1.4s
N19K Bonanza Creek 65.86 28 P **P 09 38 50.6 0.0**
baz=251
H18K Honhosa River 65.86 23 P **P 09 38 50.3 -0.1**
baz=245
TTA Tatalina 65.93 26 P **P 09 38 49.4 -1.6**
TTA IAmb IAmb 09 39 35.9
comp=Z,21nm,1.6s
TTA Tatalina 65.93 26 P **P 09 38 49.4 -1.6**
TTA pmax pmax
comp=Z,21nm,1.6s
TTA Tatalina 65.93 26 P **P 09 38 51.1 +0.1**
baz=248
TKM2 Tokmak 2 65.98 312 P **P 09 38 51.1 -0.8**
F18K Selawik 66.02 21 P **P 09 38 51.6 +0.2**
baz=243
E18K Tukpahlearik C 66.07 20 P **P 09 38 52.1 +0.4**
baz=242
G18K Tagagawik 66.07 22 P **P 09 38 52.0 +0.2**
baz=244
P19K Oil Pt 66.08 30 P **P 09 38 52.2 +0.2**
baz=252
L19K White Mountain 66.16 27 P **P 09 38 52.9 +0.5**
baz=250
Q20K Shuyak Island 66.19 31 P **P 09 38 52.9 +0.3**
baz=254
M19K Big River Lodg 66.27 27 P **P 09 38 53.9 +0.8**
baz=250
GCSA Galena City Sc 66.27 24 P **P 09 38 53.4 +0.5**
baz=247
C18K Utukok River 66.46 19 P **P 09 38 54.4 +0.1**
baz=241
J19K Poorman 66.49 25 P **P 09 38 55.0 +0.5**
baz=248
B18K Kokolik River 66.63 18 P **P 09 38 56.1 +0.9**
baz=240
L20K Farewell, AK 66.69 27 P **P 09 38 56.4 +0.6**
baz=250
H19K Roundabout Mou 66.75 23 P **P 09 38 56.1 0.0**
baz=247
AAK Ala-Archa 66.76 311 P **P 09 38 55.7 -1.2**
AAK Ala-Archa 66.76 311 *de*P **P 09 38 56.4 -0.4**
AAK pmax pmax
comp=Z,5.0nm,1.1s
M20K Styx River 66.82 27 P **P 09 38 56.2 -0.5**
baz=251
HOM Homer 66.85 30 P **P 09 38 56.9 +0.1**
baz=254
K20K Telida 66.90 26 P **P 09 38 57.5 +0.4**
baz=250
J20K Nowinta River 67.16 25 IAmb IAmb 09 39 03.2
comp=Z,14nm,1.2s
J20K Nowinta River 67.16 25 P **P 09 38 59.2 +0.5**
baz=250
E19K Redstone River 67.25 21 IAmb IAmb 09 39 02.7
comp=Z,10nm,1.2s
E19K Redstone River 67.25 21 P **P 09 39 00.4 +1.2**
baz=245
A19K Wainwright 67.27 18 P **P 09 39 00.7 +1.4**
baz=240
BRSE Bradley Lake S 67.32 30 P **P 09 39 00.3 +0.5**
baz=254
NIL Nilore 67.33 301 P **P 09 38 59.9 -0.5**
NIL Nilore 67.33 301 P **P 09 38 59.9 -0.5**
NIL pmax pmax
comp=Z,51nm,0.7s
H20K Anotleneega Mo 67.34 23 P **P 09 39 00.7 +0.9**
baz=248
D19K Kuna River 67.40 20 IAmb IAmb 09 39 01.7
comp=Z,12nm,1.2s
D19K Kuna River 67.40 20 P **P 09 39 00.3 +0.1**
baz=244
PPLA Purkeypile 67.56 26 P **P 09 39 01.6 +0.1**
baz=252
F20K Avaraart Lake 67.62 22 IAmb IAmb 09 39 59.9
comp=Z,14nm,1.6s
F20K Avaraart Lake 67.62 22 P **P 09 39 02.3 +0.7**
baz=247
CAST Castle Rocks 67.77 26 P **P 09 39 02.4 -0.3**
CAST IAmb IAmb 09 39 03.6
comp=Z,5.7nm,0.6s
CAST Castle Rocks 67.77 26 P **P 09 39 02.5 -0.1**
baz=252
CHUM Lake Minchumin 67.82 25 P **P 09 39 03.4 +0.5**
baz=251
E20K Nigu River 67.94 20 P **P 09 39 04.3 +0.6**
baz=246
D20K Etivluk River 67.99 20 P **P 09 39 04.0 +0.1**
baz=245
O22K Cooper Landing 68.00 29 P **P 09 39 04.1 0.0**
baz=255
SEW Seward 68.04 30 P **P 09 39 04.0 -0.3**
baz=256
M22K Willow 68.15 28 P **P 09 39 05.0 +0.1**
baz=254
RC01 Rabbit Creek A 68.15 29 P **P 09 39 05.0 0.0**
baz=255
H21K Melozitna Rive 68.20 24 IAmb IAmb 09 39 07.3
comp=Z,29nm,1.9s
H21K Melozitna Rive 68.20 24 P **P 09 39 05.7 +0.4**
baz=250
G21K Allakaket 68.23 23 P **P 09 39 06.0 +0.5**
baz=249
B20K Meade River 68.36 18 P **P 09 39 06.7 +0.5**
baz=244
I21K Tanana 68.37 24 P **P 09 39 07.0 +0.7**
baz=251
BPAW Bear Paw Mtn. 68.44 25 P **P 09 39 07.0 +0.1**
baz=253
F21K Alatna River 68.50 22 P **P 09 39 06.6 -0.5**
baz=249
TRF Thorofare Moun 68.55 26 P **P 09 39 06.9 -0.8**
baz=254
PMR Palmer 68.57 28 P **P 09 39 07.0 -0.5**
baz=255
BRZS Berezniki 68.75 319 *e*P **P 09 39 08.1 -0.9**
BRZS Berezniki 68.75 319 *e*P **P 09 39 08.2 -0.9**
PWL Port Wells 68.76 29 P **P 09 39 08.5 -0.3**
baz=256
E21K Killik River 68.77 21 IAmb IAmb 09 39 27.5
comp=Z,23nm,1.8s
E21K Killik River 68.77 21 P **P 09 39 09.2 +0.4**
baz=248
C21K Knifeblade Rid 68.77 20 P **P 09 39 09.2 +0.4**
baz=247
OTUK Ortayu 68.79 317 P **P 09 39 08.5 -0.8**
KNK Knik Glacier 68.83 28 P **P 09 39 09.2 -0.2**
baz=256
H22K Ishtalitna Cre 68.84 23 P **P 09 39 09.0 -0.3**
baz=252
SML Sawmill 68.99 28 P **P 09 39 10.2 -0.1**
baz=256
B21K Ikpikpuk River 69.01 19 IAmb IAmb 09 39 12.0
comp=Z,7.1nm,0.8s
B21K Ikpikpuk River 69.01 19 P **P 09 39 10.9 +0.6**
baz=247
F22K John River 69.07 22 P **P 09 39 11.3 +0.6**
baz=250
A21K Barrow 69.10 17 P **P 09 39 11.9 +1.1**
baz=244
DZA Taraz 69.10 311 *e*P **P 09 39 10.3 -1.1**
DZA pmax pmax
comp=Z,5.0nm,0.4s
DZA Taraz 69.10 311 *e*P **P 09 39 10.3 -1.1**
comp=Z,5.4nm,0.4s
MCK McKinley 69.21 26 P **P 09 39 11.7 +0.1**
baz=255

M23K	**Glacier View**	69.26	28	P	P	09 39 12.5	+0.5
	baz=256						
GLI	**Glacier Island**	69.35	29	P	P	09 39 13.1	+0.5
	baz=257						
D22K	**Ayikyak River**	69.37	20	IAmb	IAmb	09 39 14.7	
	comp=Z,24nm,1.2s						
D22K	**Ayikyak River**	69.37	20	P	P	09 39 13.2	+0.7
	baz=249						
BTK	**Batken**	69.38	308	P	P	09 39 12.3	-1.0
NEA2	**Nenana**	69.38	25	P	P	09 39 12.6	-0.1
	baz=254						
E22K	**Anaktuvuk Pass**	69.41	21	IAmb	IAmb	09 39 17.1	
	comp=Z,7.6nm,0.8s						
E22K	**Anaktuvuk Pass**	69.41	21	P	P	09 39 13.4	+0.6
	baz=250,SNR=9.1						
I23K	**Minto, Yukon-K**	69.42	25	P	P	09 39 13.5	+0.7
	baz=254,SNR=5.7						
A22K	**Sinclair Lake**	69.45	18	P	P	09 39 14.0	+1.1
	baz=246						
SCM	**Sheep Creek Mo**	69.46	28	P	P	09 39 13.5	+0.2
	baz=257						
H23K	**Yukon River**	69.54	24	P	P	09 39 14.2	+0.6
	baz=253						
G23K	**Bananza Creek**	69.61	23	P	P	09 39 14.8	+0.7
	baz=253						
B22K	**Teshekpuk Lake**	69.67	19	P	P	09 39 15.1	+0.9
	baz=248,SNR=14						
COLD	**Coldfoot**	69.70	22	IAmb	IAmb	09 39 17.9	
	comp=Z,8.4nm,0.8s						
COLD	**Coldfoot**	69.70	22	P	P	09 39 15.3	+0.8
	baz=252,SNR=11						
KK31	**Karatay Array**	69.71	312	IAmb	IAmb	09 39 15.9	
	comp=Z,23nm,1.4s						
KK31	**Karatay Array**	69.71	312	*i* P	P	09 39 14.2	-0.9
KKAR	**Karatay Array**	69.71	312	P	P	09 39 14.0	-1.1
KKAR	**Karatay Array**	69.71	312	IAmb	IAmb	09 39 15.8	
	comp=Z,15nm,1.4s						
KKAR	**Karatay Array**	69.71	312	P	P	09 39 14.0	-1.1
WRH	**Wood River Hil**	69.76	25	P	P	09 39 14.6	-0.4
WRH				IAmb	IAmb	09 39 15.0	
	comp=Z,6.7nm,0.7s						
COLA	**College**	69.96	25	*e*P	P	09 39 16.5	+0.3
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
IUG	**luzhnay**	70.03	311	*e*P	P	09 39 16.3	-1.0
IUG				pmax	pmax		
	comp=Z,9.0nm,0.5s						
IUG	**luzhnay**	70.03	311	*e*P	P	09 39 16.4	-0.9
	comp=Z,8.8nm,0.5s						
KLU	**Klutina**	70.04	29	P	P	09 39 17.5	+0.6
	baz=258						
M24K	**Tolsona, Glenn**	70.05	28	P	P	09 39 17.9	+1.0
	baz=258						
D23K	**Nanushuk River**	70.08	20	IAmb	IAmb	09 39 19.0	
	comp=Z,11nm,0.8s						
D23K	**Nanushuk River**	70.08	20	P	P	09 39 18.1	+1.2
	baz=251						
E23K	**Chandalar**	70.17	21	IAmb	IAmb	09 39 22.3	
	comp=Z,17nm,0.8s						
E23K	**Chandalar**	70.17	21	P	P	09 39 18.7	+1.1
	baz=252						
POKR	**Poker Plat Res**	70.20	25	P	P	09 39 16.5	-1.1
	baz=256						
H24K	**Noodor Dome**	70.20	24	IAmb	IAmb	09 39 21.8	
	comp=Z,14nm,1.3s						
H24K	**Noodor Dome**	70.20	24	P	P	09 39 18.0	+0.3
	baz=255						
BRLS	**Borolday**	70.20	311	*e*P	P	09 39 18.0	-0.2
BRLS	**Borolday**	70.20	311	*e*P	P	09 39 18.0	-0.2
HDA	**Harding Lake**	70.22	26	P	P	09 39 17.3	-0.6
	baz=256						
IL31		70.34	25	P	P	09 39 17.7	-0.8
IL31				IAmb	IAmb	09 39 18.0	
	comp=Z,7.5nm,0.5s						
ILAR	**Eielson Array**	70.34	25	P	P	09 39 17.4	-1.1
ILAR	**Eielson Array**	70.34	25	P	P	09 39 17.6	-0.9
	comp=Z,4.9nm,0.5s,baz=251,slow=5.7,SNR=172						
	comp=Z,4.9nm,0.5s						
TOLK	**Toolik Lake Re**	70.36	21	P	P	09 39 19.1	+0.5
	baz=252,SNR=7.8						
C23K	**Itkillik River**	70.39	20	IAmb	IAmb	09 39 23.1	
	comp=Z,15nm,0.8s						
C23K	**Itkillik River**	70.39	20	P	P	09 39 19.8	+1.0
	baz=251						
BVA0	**Borovoye Array**	70.51	322	*i* P	P	09 39 18.9	-0.9
BVAR	**Borovoye Array**	70.51	322	P	P	09 39 19.6	-0.2
	comp=Z,50nm,0.4s,baz=103,slow=8.3,SNR=208						
	comp=Z,50nm,0.4s						
PAX	**Paxson**	70.55	27	IAmb	IAmb	09 39 20.7	
	comp=Z,6.2nm,0.6s						
PAX	**Paxson**	70.55	27	P	P	09 39 19.9	0.0
	baz=258,SNR=5.3						
BMRM	**Bremner River**	70.56	29	P	P	09 39 20.5	+0.4
	baz=260						
BRVK	**Borovoye**	70.57	322	P	P	09 39 19.8	-0.4
BRVK	**Borovoye**	70.57	322	*c i* P	P	09 39 19.6	-0.6
BRVK				pmax	pmax		
	comp=Z,27nm,0.6s						
HARP	**HAARP**	70.58	28	P	P	09 39 20.5	+0.5
	baz=259						
E24K	**Your Creek**	70.58	22	IAmb	IAmb	09 39 23.2	
	comp=Z,9.8nm,1.0s						
E24K	**Your Creek**	70.58	22	P	P	09 39 20.7	+0.7
	baz=254,SNR=11						
G24K	**Hadweenzic Riv**	70.58	23	P	P	09 39 20.9	+0.9
	baz=255						
K24K	**Donnelly Dome**	70.59	26	P	P	09 39 20.5	+0.4
	baz=258						
F24K	**Squaw Lake**	70.64	22	P	P	09 39 21.0	+0.6
	baz=254						
N25K	**Chitina, Valde**	70.68	29	P	P	09 39 20.7	-0.1
	baz=259						
SIMJ	**Simiganj**	70.77	307	P	P	09 39 21.4	-0.4
D24K	**Happy Valley**	70.78	20	P	P	09 39 21.8	+0.7
	baz=253						
KBL	**Kabul**	70.81	302	P	P	09 39 20.9	-1.4
KBL				IAmb	IAmb	09 39 23.9	
	comp=Z,14nm,0.9s						
KBL	**Kabul**	70.81	302	P	P	09 39 20.9	-1.4
KBL				pmax	pmax		
	comp=Z,14nm,0.9s						
J25K	**Salcha River,**	70.94	26	IAmb	IAmb	09 39 26.4	
	comp=Z,26nm,1.7s						
J25K	**Salcha River,**	70.94	26	P	P	09 39 21.6	-0.7
	baz=258						
RIDG	**Independent Ri**	70.98	26	P	P	09 39 21.9	-0.6
RIDG	**Independent Ri**	70.98	26	P	P	09 39 22.7	+0.1
	baz=258						
C24K	**Franklin Bluff**	70.98	20	P	P	09 39 23.6	+1.2
	baz=253,SNR=14						
BGLC	**Bering Glacier**	71.06	30	P	P	09 39 21.8	-1.2
	baz=261						
PRP	**Porcupine Dome**	71.07	25	P	P	09 39 21.6	-1.5
	baz=257						
H25L	**Birch Creek**	71.12	24	P	P	09 39 23.9	+0.6
	baz=257						
G25K	**Bearman Lake**	71.13	23	P	P	09 39 23.8	+0.5
	baz=256						
DOT	**Dot Lake**	71.31	27	IAmb	IAmb	09 39 25.2	
	comp=Z,9.7nm,0.7s						
SCRK	**Sand Creek**	71.40	26	IAmb	IAmb	09 39 30.0	
	comp=Z,38nm,2.0s						
SCRK	**Sand Creek**	71.40	26	P	P	09 39 25.4	+0.3
	baz=259						
F25K	**Christian Rive**	71.50	22	IAmb	IAmb	09 39 29.1	
	comp=Z,7.8nm,0.8s						
F25K	**Christian Rive**	71.50	22	P	P	09 39 26.2	+0.6
	baz=256						
L26K	**Log Cabin Wild**	71.51	27	IAmb	IAmb	09 39 27.2	
	comp=Z,6.7nm,0.6s						
L26K	**Log Cabin Wild**	71.51	27	P	P	09 39 26.2	+0.5
	baz=260,SNR=5.5						
E25K	**Arctic Village**	71.65	22	IAmb	IAmb	09 39 37.9	
	comp=Z,11nm,1.1s						
E25K	**Arctic Village**	71.65	22	P	P	09 39 27.4	+0.9
	baz=256,SNR=11						
D25K	**Kavik River**	71.66	21	IAmb	IAmb	09 39 28.1	
	comp=Z,13nm,0.7s						
D25K	**Kavik River**	71.66	21	P	P	09 39 27.0	+0.5
	baz=255,SNR=18						
J26L	**Joseph Creek**	71.68	26	IAmb	IAmb	09 39 30.3	
	comp=Z,8.4nm,0.7s						
J26L	**Joseph Creek**	71.68	26	P	P	09 39 26.6	-0.1
	baz=259						
BMAR	**Burnt Mountain**	71.86	23	P	P	09 39 27.8	0.0
I26K	**Coal Creek Min**	72.00	25	P	P	09 39 28.6	0.0
	baz=260						
G26K	**Porcupine Rive**	72.06	23	P	P	09 39 29.7	+0.8
	baz=258						
M27K	**Edge Creek, AK**	72.07	28	P	P	09 39 29.3	0.0
	baz=262						
F26K	**Sheenjek River**	72.08	22	IAmb	IAmb	09 39 34.3	
	comp=Z,17nm,1.2s						
F26K	**Sheenjek River**	72.08	22	P	P	09 39 30.1	+1.0
	baz=258						
L27K	**Beaver Creek,**	72.20	27	P	P	09 39 30.0	+0.2
	baz=262						
K27K	**Chicken**	72.24	26	P	P	09 39 30.8	+0.8
	baz=261						
C26K	**Camden Bay**	72.30	20	P	P	09 39 31.6	+1.3
	baz=256						
BVCY	**Beaver Creek**	72.55	28	P	P	09 39 32.1	+0.1
	baz=263						
C27K	**Jago River**	72.65	20	IAmb	IAmb	09 39 34.5	
	comp=Z,14nm,0.7s						
C27K	**Jago River**	72.65	20	P	P	09 39 33.0	+0.6
	baz=258						
YUK3	**Moose Creek**	72.66	29	P	P	09 39 33.1	+0.2
	baz=263						
O28M	**Mount Upton**	72.67	30	P	P	09 39 33.4	+0.4
	baz=264						
I27K	**Kandik River**	72.68	25	P	P	09 39 33.5	+0.8
	baz=261						
H27K	**Steamboat Moun**	72.82	24	P	P	09 39 34.9	+1.3
	baz=261						
G27K	**Doyon Strip**	72.86	24	P	P	09 39 35.1	+1.4
	baz=260						
YUK8	**Steele Glacier**	72.93	29	P	P	09 39 35.5	+1.0
	baz=264						
E27K	**Coleen River**	73.12	22	P	P	09 39 36.0	+0.8
	baz=260						
I28M	**Miner Creek**	73.35	25	P	P	09 39 37.5	+0.7
	baz=262						
DAWY	**Dawson**	73.41	27	P	P	09 39 38.0	+0.9
DAWY				IAmb	IAmb	09 39 40.9	
	comp=Z,23nm,1.5s						
DAWY	**Dawson**	73.41	27	P	P	09 39 37.6	+0.5
	baz=263,SNR=8.9						
O29M	**Mount Kennedy**	73.42	30	P	P	09 39 37.3	0.0
	baz=265						
YUK4	**Talbot Arm**	73.48	29	P	P	09 39 39.1	+1.4
	baz=265						
D27M	**Malcolm River**	73.53	21	IAmb	IAmb	09 39 39.7	
	comp=Z,11nm,0.8s						
D27M	**Malcolm River**	73.53	21	P	P	09 39 38.7	+1.1
	baz=260						
M29M	**Somme Creek**	73.66	28	P	P	09 39 39.3	+0.7
	baz=265						
L29M	**L29M**	73.88	28	IAmb	IAmb	09 39 44.7	
	comp=Z,28nm,1.2s						
L29M	**L29M**	73.88	28	P	P	09 39 41.4	+1.5
	baz=265						
E28M	**Babbage River**	73.94	22	P	P	09 39 41.3	+1.2
	baz=262,SNR=15						
J29N	**Klondike Camp**	73.97	26	IAmb	IAmb	09 39 45.7	
	comp=Z,28nm,1.4s						
J29N	**Klondike Camp**	73.97	26	P	P	09 39 41.3	+1.0
	baz=264,SNR=5.1						
HYT	**Haines Junctio**	73.99	30	IAmb	IAmb	09 39 53.3	
	comp=Z,11nm,0.9s						
HYT	**Haines Junctio**	73.99	30	P	P	09 39 41.7	+1.1
	baz=266						
I29M	**Ogilvie Camp,**	74.02	25	IAmb	IAmb	09 40 59.3	
	comp=Z,11nm,0.6s						
I29M	**Ogilvie Camp,**	74.02	25	P	P	09 39 41.5	+0.9
	baz=264,SNR=8.1						
H29M	**Whitestone**	74.09	24	IAmb	IAmb	09 39 52.1	
	comp=Z,15nm,1.0s						
H29M	**Whitestone**	74.09	24	P	P	09 39 42.0	+1.1
	baz=264						
K29M	**Barlow Dome**	74.21	27	IAmb	IAmb	09 39 46.5	
	comp=Z,27nm,1.2s						
K29M	**Barlow Dome**	74.21	27	P	P	09 39 42.8	+0.9
	baz=265						
P30M	**Million Dollar**	74.21	31	P	P	09 39 42.8	+0.9
	baz=267						
N30M	**Aishikik Lake**	74.23	29	P	P	09 39 42.6	+0.6
	baz=266						
G29M	**Pine Creek**	74.30	24	IAmb	IAmb	09 39 46.4	
	comp=Z,21nm,1.1s						
G29M	**Pine Creek**	74.30	24	P	P	09 39 43.0	+0.8
	baz=264						
D28M	**Stokes Point**	74.32	21	P	P	09 39 43.4	+1.2
	baz=262						
M30M	**Minto, Yukon**	74.45	28	P	P	09 39 43.8	+0.6
	baz=266						
E29M	**Blow River**	74.51	22	P	P	09 39 44.5	+1.1
	baz=264						
J30M	**Hart River**	74.79	26	IAmb	IAmb	09 39 49.0	
	comp=Z,33nm,1.5s						
J30M	**Hart River**	74.79	26	P	P	09 39 46.1	+0.9
	baz=266						
I30M	**Mount Dempster**	74.81	25	P	P	09 39 45.9	+0.6
	baz=266						
MAYO	**Mayo, Yukon**	74.92	27	P	P	09 39 46.3	+0.4
	baz=267						
G30M	**tAoh Zraii Nji**	75.01	24	P	P	09 39 46.9	+0.6
G30M				IAmb	IAmb	09 39 50.8	
	comp=Z,16nm,0.8s						
G30M	**tAoh Zraii Nji**	75.01	24	P	P	09 39 47.4	+1.0
	baz=266						
F30M	**Barrier River**	75.23	23	P	P	09 39 48.8	+1.3
	baz=266,SNR=14						
WHY	**Whitehorse**	75.27	30	P	P	09 39 49.1	+1.1
	baz=268						
M31M	**Drury Creek, Y**	75.55	29	IAmb	IAmb	09 39 53.9	
	comp=Z,17nm,1.4s						
M31M	**Drury Creek, Y**	75.55	29	P	P	09 39 50.2	+0.7
	baz=268						
H31M	**Peel River**	75.69	25	P	P	09 39 51.2	+0.9
	baz=268						
G31M	**Satah River**	75.77	24	P	P	09 39 51.5	+0.9
	baz=267,SNR=22						
P32M	**Atlin**	75.83	31	P	P	09 39 52.1	+0.9
	baz=270						
F31M	**Tsiigehtchic**	76.00	23	IAmb	IAmb	09 39 52.8	
	comp=Z,12nm,0.7s						
F31M	**Tsiigehtchic**	76.00	23	P	P	09 39 52.5	+0.6
	baz=268						
FARO	**Faro, Yukon**	76.03	29	P	P	09 39 52.5	+0.2
	baz=269						
INK	**Inuvik**	76.12	22	IAmb	IAmb	09 39 54.0	
	comp=Z,16nm,0.9s						
INK	**Inuvik**	76.12	22	P	P	09 39 52.7	+0.1
INK	**Inuvik**	76.12	22	P	P	09 39 53.1	+0.6
	baz=268						
N32M	**Quiet Lake**	76.15	30	P	P	09 39 53.6	+0.6
	baz=270						
P33M	**Teslin, Yukon**	76.29	31	P	P	09 39 54.0	+0.2
	baz=270						
SVE	**Sverdlovsk**	76.29	326	*e*P	P	09 39 53.7	-0.1
SVE				pmax	pmax		
	comp=Z,19nm,0.8s						
AB31	**Akbulak array**	77.00	318	*i* P	P	09 39 56.8	-1.2
ABKAR	**Akbulak array**	77.00	318	P	P	09 39 57.3	-0.7
ABKAR	**Akbulak array**	77.00	318	IAmb	IAmb	09 39 57.8	
	comp=Z,18nm,0.7s						
S34M	**Telegraph Cree**	77.21	33	P	P	09 39 59.7	+0.8
	baz=272						
R33M	**Jennings River**	77.24	32	IAmb	IAmb	09 40 03.7	
	comp=Z,11nm,0.9s						
R33M	**Jennings River**	77.24	32	P	P	09 39 59.4	+0.2
	baz=272						
ARTI	**Arti**	77.55	325	P	P	09 39 60.0	-0.9
ARTI				IAmb	IAmb	09 40 00.7	
	comp=Z,24nm,1.1s						
ARTI	**Arti**	77.55	325	P	P	09 39 60.0	-0.9
	comp=Z,12nm,0.5s,baz=84,slow=6.7,SNR=17						
	comp=Z,12nm,0.5s						
ARTI	**Arti**	77.55	325	*c i* P	P	09 39 59.9	-0.9
ARTI						09 42 51.6	
ARTI				S	S	09 49 52.1	+0.7
ARTI				SS	SS	09 54 57.5	+7.2
ARTI				pmax	pmax		
	comp=Z,24nm,1.1s						
ARTI				MLR	MLR		
	comp=Z,1μm,13.0s						
T35M	**Bob Quinn**	77.73	34	P	P	09 40 02.6	+0.7
	baz=273						
DLBC	**Dease Lake**	77.77	32	P	P	09 40 03.3	+1.1
	baz=273						
AKTO	**Aktyubinsk**	78.17	319	P	P	09 40 03.4	-1.1
	comp=Z,8.7nm,0.6s,baz=78,slow=7.5,SNR=23						
	comp=Z,8.7nm,0.6s						
WTLY	**Watson Lake, Y**	78.30	31	IAmb	IAmb	09 40 09.4	
	comp=Z,21nm,1.0s						
WTLY	**Watson Lake, Y**	78.30	31	P	P	09 40 06.0	+1.0
	baz=274						
TGTN	**Hyland Airport**	78.46	29	P	P	09 40 06.8	+0.8
	baz=274						
A36M	**Sachs Harbour**	78.87	18	P	P	09 40 08.2	+0.3
	baz=275						
C36M	**Paulatuk**	79.52	21	IAmb	IAmb	09 40 15.6	
	comp=Z,20nm,1.1s						
C36M	**Paulatuk**	79.52	21	P	P	09 40 11.4	-0.1
	baz=276						
TOAD	**Toad River Com**	80.23	32	P	P	09 40 15.8	+0.2
	baz=277						
WRGLY	**Wrigley**	80.52	27	IAmb	IAmb	09 40 28.8	
	comp=Z,12nm,0.8s						
WRGLY	**Wrigley**	80.52	27	P	P	09 40 17.8	+0.8
	baz=278						
KOTAN	**Kotaneelee Air**	80.66	30	P	P	09 40 18.7	+0.8
	baz=278						
KIRV	**Kirov**	82.11	328	P	P	09 40 25.2	-0.3
	comp=Z,40nm,0.5s,baz=100,slow=4.4,SNR=7.3						
	comp=Z,40nm,0.5s						
GNW	**Green Mountain**	83.40	43	IAmb	IAmb	09 40 46.3	
	comp=Z,25nm,1.7s						
EUNU	**Eureka**	84.48	8	IAmb	IAmb	09 40 39.2	
	comp=Z,7.4nm,0.8s						
YBH	**Yreka Blue Hor**	84.59	49	P	P	09 40 39.5	+0.6
YBH	**Yreka Blue Hor**	84.59	49	P	P	09 40 39.5	+0.6
YBH				pmax	pmax		
	comp=Z,39nm,1.8s						
YKA	**Yellowknife Ar**	84.64	27	P	P	09 40 39.1	+0.6
	comp=Z,3.1nm,0.5s,baz=288,slow=5.5,SNR=99						
	comp=Z,3.1nm,0.5s						
LTY	**Liberty**	84.90	43	IAmb	IAmb	09 40 52.4	
	comp=Z,31nm,2.0s						
MXC	**Moxie City**	85.30	44	IAmb	IAmb	09 41 13.2	
	comp=Z,16nm,1.7s						
J05D	**Fort Rock, OR**	85.34	47	P	P	09 40 42.5	-0.2
J05D				IAmb	IAmb	09 41 04.8	
	comp=Z,27nm,1.8s						
SPA0	**Spitsbergen Ar**	85.37	351	*e*P	P	09 40 42.5	+0.6
SPA0				IAmb	IAmb	09 40 42.6	
	comp=Z,47nm,1.5s						
SPITS	**Spitsbergen Ar**	85.37	351	P	P	09 40 41.9	-0.1
	comp=Z,29nm,0.5s,baz=39,slow=5.5,SNR=1.6						
PINE	**Pine Mountain**	85.45	46	IAmb	IAmb	09 40 59.6	
	comp=Z,24nm,1.5s						
B08A	**Colville Reser**	85.54	42	IAmb	IAmb	09 40 46.2	
	comp=Z,9.9nm,0.6s						
HAWA	**Hanford**	85.85	44	IAmb	IAmb	09 40 59.9	
	comp=Z,28nm,1.9s						
LVZ	**Lovozero**	85.95	339	*ce*P	P	09 40 44.1	-1.0
LVZ				pmax	pmax		
	comp=Z,80nm,2.0s						
LVZ	**Lovozero**	85.95	339	P	P	09 40 44.0	-1.0
	comp=Z,44nm,1.1s						
D08A	**Wollman Farm,**	86.11	43	IAmb	IAmb	09 42 45.8	
	comp=Z,31nm,2.0s						
RES	**Resolute Bay**	86.23	13	IAmb	IAmb	09 40 50.4	
	comp=Z,13nm,0.9s						
C09A	**Chrisman Ranch**	86.36	42	IAmb	IAmb	09 40 50.7	
	comp=Z,8.2nm,0.8s						
KLMR	**Klimovskoe**	86.41	332	*e*P	P	09 40 45.0	-2.3
KLMR				pmax	pmax		
	comp=Z,11nm,0.6s						
G08A	**Pilot Rock**	86.49	45	IAmb	IAmb	09 41 00.8	
	comp=Z,22nm,1.9s						
VADS	**Vadso**	86.76	342	*e*P	P	09 40 48.3	-0.6
VADS				IAmb	IAmb	09 40 48.5	
	comp=Z,35nm,0.8s						
NEW	**Newport**	87.00	41	IAmb	IAmb	09 40 53.9	
	comp=Z,12nm,0.8s						
NEW	**Newport**	87.00	41	P	P	09 40 51.8	+1.2
J08A	**Circle Bar Ran**	87.29	46	IAmb	IAmb	09 41 22.2	
	comp=Z,19nm,1.6s						
WVOR	**Wild Horse Val**	87.40	47	IAmb	IAmb	09 41 05.5	
	comp=Z,8.7nm,1.2s						
PNTR	**Pine Nut**	87.47	51	IAmb	IAmb	09 41 00.7	
	comp=Z,5.0nm,0.7s						
KEV	**Kevo**	87.64	342	P	P	09 40 51.8	-1.4
BMO	**Blue Mountains**	87.74	45	IAmb	IAmb	09 40 58.0	
	comp=Z,7.1nm,0.8s						
VRH	**Novokhopyorsk**	88.16	322	*e*P	P	09 40 52.3	-3.7
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARA0	**ARCESS Array S**	88.21	342	*e*P	P	09 40 55.2	-0.7
ARA0				IAmb	IAmb	09 40 55.6	
	comp=Z,23nm,0.6s						
ARCES	**ARCESS Array B**	88.21	342	P	P	09 40 55.5	-0.4
	comp=Z,11nm,0.5s,baz=72,slow=7.4,SNR=113						
	comp=Z,11nm,0.5s						
PLID	**Pearl Lake**	88.57	44	P	P	09 40 58.8	+0.3
NVAR	**Mina Array Bea**	88.62	51	P	P	09 40 59.4	+0.6
NVAR	**Mina Array Bea**	88.62	51	P	P	09 41 00.9	+2.2
	comp=Z,4.0nm,0.6s,baz=265,slow=5.7,SNR=37						
	comp=Z,4.0nm,0.6s						
NV11	**Mina Array Sit**	88.73	51	IAmb	IAmb	09 41 05.7	
	comp=Z,15nm,1.6s						
MFID	**Camas Ranch**	89.14	46	IAmb	IAmb	09 41 06.2	
	comp=Z,8.4nm,1.0s						
KTK1	**Kautokeino**	89.17	342	*e*P	P	09 40 59.4	-1.0
KTK1				IAmb	IAmb	09 41 00.9	
	comp=Z,98nm,1.6s						
LPSR	**Galich'ya Gora**	89.37	324	*e*P	P	09 41 00.0	-1.7
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MZP	**Montezuma Peak**	89.50	52	IAmb	IAmb	09 44 10.6	
	comp=Z,3.0nm,0.4s						
VORR	**Voronezh**	89.51	323	*e*P	P	09 41 01.1	-1.3
VORR				pmax	pmax		
	comp=Z,52nm,0.4s						
KBZ	**Khabaz**	89.53	315	P	P	09 41 01.0	-1.6
	comp=Z,1.7nm,0.6s,baz=93,slow=3.5,SNR=5.0						
	comp=Z,1.7nm,0.6s						
VSR	**Storozhevoye**	89.69	323	*e*P	P	09 40 58.6	-4.6
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD	**Divnogorie**	89.69	322	*e*P	P	09 40 58.4	-4.8
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JETT	**Jettan, Norway**	89.70	343	*e*P	P	09 41 02.0	-0.9
JETT				IAmb	IAmb	09 41 02.9	
	comp=Z,27nm,0.8s						
OBN	**Obninsk**	89.83	327	*de*P	P	09 41 02.2	-1.5
OBN				*e*		09 44 34.6	
OBN				*e*S	S	09 52 00.9	+5.9
OBN				pmax	pmax		
	comp=Z,19nm,0.8s						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s						
TRO	**Tromso**	90.08	343	*e*P	P	09 41 03.6	-1.0
TRO				IAmb	IAmb	09 41 04.4	
	comp=Z,22nm,1.1s						
GSC	**Goldstone, Bar**	90.57	54	IAmb	IAmb	09 41 13.3	
	comp=Z,20nm,1.7s						
TPNV	**Topopah Spring**	90.57	52	IAmb	IAmb	09 41 14.0	
	comp=Z,4.8nm,0.7s						
PFO	**Pinyon Flats O**	91.29	55	P	P	09 41 15.2	+4.0
YHL	**Hebgen Lake**	91.91	43	IAmb	IAmb	09 41 18.6	
	comp=Z,7.7nm,1.1s						

comp=Z,0.6nm,0.6s,baz=236,slow=3.7,SNR=8.4
comp=Z,0.6nm,0.6s
STOK Stokkvaagen 93.90 342 *eP* **P 09 41 21.9 -0.4**
LEIR Leirfjorden 94.02 342 *eP* **P 09 41 22.4 -0.5**
LEIR IAmb IAmb 09 41 22.9
comp=Z,11nm,0.9s
FCC Fort Churchill 95.33 26 IAmb IAmb 09 41 40.4
comp=Z,4.4nm,0.9s
AKASG Malin Array Be 95.68 324 P **P 09 41 29.8 -1.1**
comp=Z,0.9nm,0.4s,baz=52,slow=5.2,SNR=6.6
comp=Z,0.9nm,0.4s
AKASG Malin Array Be 95.68 324 *i* P **P 09 41 30.7 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 97.81 337 P **P 09 41 38.4 -1.9**
comp=Z,4.1nm,0.5s,baz=99,slow=3.8,SNR=26
comp=Z,4.1nm,0.5s
NB2 NORSAR Subarra 98.10 339 P **P 09 41 39.8 -1.9**
comp=Z,3.1nm,0.6s,baz=47,slow=5.1
NB2 NORSAR Subarra 98.10 339 P **P 09 41 39.8 -1.9**
baz=47,slow=5.1
NOA NORSAR Array B 98.10 339 P **P 09 41 40.0 -1.7**
comp=Z,3.0nm,0.6s,baz=49,slow=4.8,SNR=13
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 98.10 339 P **P 09 41 40.0 -1.7**
DOMB Dombas 98.13 340 *eP* **P 09 41 41.2 -0.6**
TROLL Troll, Antarti 115.79 192 ⇑P **Pdif 09 43 09.5 +9.4**
comp=Z,26nm,0.1s
PLCA Paso Flores 138.44 140 PKP **PKPdf 09 47 31.8 +0.7**
comp=Z,3.2nm,1.0s,baz=55,slow=4.0,SNR=5.5
MT08 Bocatoma Ro 142.46 130 PKPdf 09 47 37.2 -1.6
CO03 El Pedregal 143.03 126 PKPdf PKPab 09 47 35.8 +0.9
GO04 Tololo Observa 143.19 125 PKPbc 09 47 37.0 -0.1
CZSB Cruzeiro do Su 143.73 87 PKPdf PKPbc 09 47 39.0 +0.2
DBIC Dimbokro 143.75 299 PKPdf PKPab 09 47 37.6 -0.5
DBIC Dimbokro 143.75 299 PKP PKPbc 09 47 38.6 -0.2
comp=Z,7.8nm,0.7s,baz=26,slow=1.8,SNR=14
DBIC Dimbokro 143.75 299 PKIKP PKPab 09 47 37.6 -0.5
CFA Coronel Fontan 144.62 128 PKP **PKPdf 09 47 42.0 -0.4**
comp=Z,9.3nm,0.8s,baz=249,slow=4.3,SNR=19
LPAZ La Paz 148.71 101 PKPdf 09 47 51.0 +0.6
LPAZ La Paz 148.71 101 PKPbc **PKiKP 09 47 55.6 0.0**
comp=Z,5.4nm,0.8s,baz=301,slow=2.2,SNR=15
LPAZ La Paz 148.71 101 PKIKP **PKPdf 09 47 51.0 +0.6**
SIV San Ignacio 155.50 102 PKPab **PKPab 09 48 27.1 +1.6**
comp=Z,2.8nm,1.0s,baz=317,slow=2.3,SNR=6.1
CPUP Villa Florida 155.52 128 PKP **PKPdf 09 48 00.8 +1.3**
comp=Z,1.8nm,0.8s,baz=258,slow=2.5,SNR=3.8
CPUP PKPab **PKPab 09 48 26.8 +1.6**
comp=Z,2.3nm,0.8s,baz=14,slow=18,SNR=3.7

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*BJI **11** 09:33:40.8,25°.33N×141°.95E,h10km,mB5.5/85,mb5.0/84, Ms5.6/99,Ms7 5.4/96*
*IDC **11** 09:33:43.8±0.5,25°.55N×141°.13E,h0km,mb4.5/25, mbtmp4.4/27,ML3.4/2,MS4.7/34,Error ellipse: s-maj=16.9km s-min=12.9km az=74.0*
*JMA **11** 09:33:44.1±0.5,25°.7N±0°.8×14°1E±°,h12km,MD6.1/18, MV4.8/18,IOTO ISLANDS REGION*
*MOS **11** 09:33:45.2±1.6,25°.48N×141°.44E,h13km,mb5.1/56, MS5.1/11,Error ellipse: s-maj=8.8km s-min=4.6km az=113.2*
*NEIC **11** 09:33:47.2,25°.41N×142°.00E,h12km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16^Nm; Mrr9.57; Mθθ-4.76; Mφφ-4.80; Mrθ0.90; Mθφ-2.36; Mφr-1.89; Fault plane solution: M0 8.54000×10^16^ NP1:φs53.02000°, δ43.20000°,λ103.21000°. NP2:φs215.16000°,δ48.21000°, λ77.89000°. Principal axes: T 9.9094, Plg81.0000°, Azm59.0000°; N -2.7364, Plg9.0000°, Azm223.0000°; P -7.1730, Plg3.0000°, Azm314.0000°;*
*NEIC **11** 09:33:47.7±2.3,25°.60N±0°.07×141°.46E±0°.07,h15km±3km, mb5.1/193,Mww5.2/30 Error ellipse: s-maj=13.3km s-min=2.8km az=138.0*
*NEIC **11** 09:33:47.2,25°.61N×141°.45E,h12km*
*GCMT **11** 09:33:51.7±0.1,25°.53N±0°.01×141°.19E±0°.01,h12km, MW5.3/165,Moment Tensor Solution. s123,c190; s165,c277; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr1.16±.01; Mθθ-0.60±.01; Mφφ-0.55±.01; Mrθ-0.60±.04; Mθφ-0.26±.01; Mφr-0.51±.04; Best double couple: M0 1.26900×10^17^ NP1:φs47.00000°,δ26.00000°, λ89.00000°. NP2:φs229.00000°,δ64.00000°,λ91.00000°. Principal axes: T 1.4310, Plg71.0000°, Azm140.0000°; N -0.3240, Plg1.0000°, Azm49.0000°; P -1.1060, Plg19.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 09:33:48.4±0.4,25°.58N±0°.04×141°.57E±0°.04,h21km±3km, h22km:pP-P,n648,σ1s79/565,mb5.0/203,MS5.2/71, 16C-17D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.19**	**27**	P	**Pn**	**09 34 09.6**	**-0.1**
JHH2				S	**Sb**	**09 34 28.6**	**+3.5**
JHH2	**Haha-jima-NKT2**	**1.19**	**27**	A	A	09 34 09.6	
comp=N,336nm,5.3s,comp=E,363nm,6.8s							
CBIJ	**Chichi jima**	**1.61**	**20**	*eP*	**Pn**	**09 34 14.4**	**-1.2**
CBIJ				*eS*	**Sb**	**09 34 37.0**	**-0.4**
CBIJ	**Chichi jima**	**1.61**	**20**	A	A	09 34 14.4	
comp=N,273nm,7.7s,comp=E,294nm,6.2s							
JCJ	**Chichijima**	**1.61**	**20**	Pn	**Pn**	**09 34 15.8**	**+0.2**
JCJ	**Chichijima**	**1.61**	**20**	Pn	Pn	09 34 09.0	-6.6
comp=E,552nm,0.3s,baz=294,slow=20,SNR=57							
JCJ				Sn	**Sn**	**09 34 30.2**	**-5.6**
comp=E,154nm,0.3s,baz=268,slow=17,SNR=4.2							
JCJ				LR	LR	09 34 47.1	
comp=E,8μm,20.2s,baz=225,slow=35							
JHJ	**Hachijo jima 2**	**7.68**	**349**	LR	LR	09 38 26.2	
comp=E,16μm,19.1s,baz=106,slow=37							
JMKN	**Mikurajimanish**	**8.46**	**349**	A	A	09 35 47.0	
comp=N,59nm,5.9s,comp=E,73nm,5.9s							
JMYK	**Miyake Tsubota**	**8.64**	**349**	A	A	09 35 49.4	
comp=N,60nm,11.3s,comp=E,89nm,4.8s							
JSKK	**Shikinejimakit**	**8.97**	**347**	A	A	09 35 53.7	
comp=N,29nm,4.9s,comp=E,40nm,6.0s							
TTO3	**TONANKAI O.B.S**	**9.02**	**337**	A	A	09 35 53.4	
comp=N,159nm,8.0s,comp=E,148nm,9.6s							
TTO1	**TONANKAI O.B.S**	**9.03**	**334**	A	A	09 35 53.2	
comp=N,172nm,8.6s,comp=E,166nm,7.9s							
TTO2	**TONANKAI O.B.S**	**9.04**	**335**	A	A	09 35 53.5	
comp=N,151nm,8.5s,comp=E,151nm,8.1s							
TTO4	**TONANKAI O.B.S**	**9.10**	**338**	A	A	09 35 54.7	
comp=N,71nm,7.8s,comp=E,90nm,7.4s							
JKDJ	**Kitadaitoujima**	**9.27**	**275**	A	A	09 35 53.7	
comp=N,105nm,8.7s,comp=E,61nm,7.3s							
TTO5	**TONANKAI O.B.S**	**9.27**	**340**	A	A	09 35 57.1	
comp=N,50nm,8.3s,comp=E,60nm,5.9s							
JIM2	**Oshima 3**	**9.30**	**349**	A	A	09 35 58.6	
comp=N,29nm,6.0s,comp=E,29nm,10.8s							
JMZ	**Minamidaito 2**	**9.33**	**274**	Pn	**Pn**	**09 36 02.4**	**+0.7**
JMZ	**Minamidaito 2**	**9.33**	**274**	A	A	09 35 54.6	
comp=N,71nm,7.8s,comp=E,84nm,8.7s							
JWKM	**Wakayamakushim**	**9.34**	**329**	A	A	09 35 56.9	
comp=N,11nm,7.7s,comp=E,14nm,8.2s							
TATJ	**Tateyama 2**	**9.54**	**352**	A	A	09 36 02.1	
comp=N,47nm,10.3s,comp=E,57nm,11.9s							
JKKS	**Kakegawashinom**	**9.65**	**342**	A	A	09 36 02.7	
comp=N,36nm,8.6s,comp=E,29nm,6.3s							
JIE	**Ise**	**9.74**	**336**	A	A	09 36 03.2	
comp=N,22nm,8.7s,comp=E,15nm,8.8s							
JKN2	**Miekihoku**	**9.78**	**333**	P	**Pn**	**09 36 11.6**	**+3.8**
JAA	**Atsumi**	**9.80**	**338**	A	A	09 36 04.3	
comp=N,8.0nm,8.1s,comp=E,12nm,8.4s							
HMMJ	**Hamamatsu 2**	**9.83**	**341**	*eP*	Pn	09 36 15.9	+7.4
MRT2	**Murotomisaki 2**	**10.12**	**322**	A	A	09 36 07.2	
comp=N,14nm,9.3s,comp=E,11nm,10.3s							
JNY	**Yasuok**	**10.26**	**343**	*eP*	Pn	09 36 21.2	+6.7
JAO	**Obara**	**10.35**	**340**	*eP*	Pn	09 36 22.3	+6.7
INU	**Inuyama**	**10.50**	**339**	Pn	**Pn**	**09 36 17.7**	**+0.1**
JMN	**Monobe**	**10.52**	**322**		**Pn**	**09 36 17.6**	**-0.4**
JMN	**Monobe**	**10.52**	**322**	A	A	09 36 12.7	
comp=N,11nm,8.6s,comp=E,11nm,8.6s							
JTO	**Tosashimizu**	**10.55**	**316**	A	A	09 36 12.6	
comp=N,31nm,9.9s,comp=E,24nm,8.5s							
JKHR	**Kochiharuno**	**10.57**	**320**	A	A	09 36 13.2	
comp=N,19nm,9.6s,comp=E,19nm,8.5s							
JMTN	**Minamitane**	**10.58**	**299**	A	A	09 36 12.1	
comp=N,15nm,8.3s,comp=E,14nm,8.7s							
JTN	**Tanegashima 3**	**10.63**	**301**	A	A	09 36 12.8	
comp=N,10.0nm,7.4s,comp=E,21nm,8.7s							
JGF	**Kuroka**	**10.63**	**341**		**Pn**	**09 36 17.7**	**-1.8**
JZK	**Kikaishima**	**10.70**	**287**	A	A	09 36 13.4	
comp=N,51nm,7.2s,comp=E,59nm,9.8s							
JNKG	**Nichinankitago**	**10.81**	**306**	A	A	09 36 15.6	
comp=N,18nm,9.9s,comp=E,14nm,9.1s							
JNAR	**Kushima--Naru**	**10.82**	**306**	A	A	09 36 15.7	
comp=N,13nm,8.7s,comp=E,13nm,9.3s							
UWA2	**Uwa jima 2**	**10.89**	**316**	A	A	09 36 17.3	
comp=N,11nm,8.5s,comp=E,18nm,8.8s							
JET	**Tanbara**	**11.03**	**320**	A	A	09 36 19.4	
comp=N,13nm,8.7s,comp=E,9.0nm,11.1s							
JAM	**Amami Oshima**	**11.04**	**287**	A	A	09 36 18.0	
comp=N,9.0nm,7.3s,comp=E,11nm,9.4s							
JTSN	**Tsuno**	**11.04**	**309**	A	A	09 36 18.8	
comp=N,12nm,8.6s,comp=E,12nm,10.4s							
JSKE	**Saikikamae**	**11.09**	**313**	A	A	09 36 19.7	
comp=N,8.0nm,8.5s,comp=E,9.0nm,10.6s							
JKC	**Kuchinoerabu**	**11.16**	**298**	A	A	09 36 20.0	
comp=N,12nm,8.9s,comp=E,11nm,9.3s							
JNN	**Nakanoshima**	**11.20**	**295**	A	A	09 36 20.4	
comp=N,18nm,9.0s,comp=E,18nm,9.2s							
MJAR	**Matsushiro Arr**	**11.30**	**346**	Pn	**Pn**	**09 36 27.6**	**-1.0**
comp=E,0.1nm,0.3s,baz=166,slow=9.6,SNR=6.0							
MJAR				LR	LR	09 40 42.4	
comp=E,21μm,18.6s,baz=156,slow=37							
comp=E,1.3nm,0.8s							
JUS	**Usuki**	**11.36**	**313**	A	A	09 36 23.4	
comp=N,10.0nm,8.7s,comp=E,11nm,9.4s							
JZO	**Okuchi**	**11.62**	**307**	A	A	09 36 26.6	
comp=N,10.0nm,10.2s,comp=E,9.0nm,8.2s							
JKI	**Kunimi**	**11.83**	**315**	A	A	09 36 30.0	
comp=N,11nm,9.1s,comp=E,11nm,8.7s							
JNU	**Nakatsue**	**11.97**	**311**		**Pn**	**09 36 35.2**	**-2.7**
JNU	**Nakatsue**	**11.97**	**311**	Pn	**Pn**	**09 36 37.0**	**-0.8**
comp=E,0.2nm,0.3s,baz=161,slow=8.5,SNR=3.8							
JOW	**Kunigami**	**12.00**	**279**	LR	LR	09 40 27.6	
comp=E,5μm,20.4s,baz=112,slow=35							
JMM	**Marumori**	**12.27**	**357**	Pn	**Pn**	**09 36 39.0**	**-2.8**
GUMO	**Guam**	**12.32**	**165**	LR	LR	09 40 43.8	
comp=E,8μm,19.9s,baz=354,slow=34							
TJN	**Taejon**	**16.24**	**315**	P	**P**	**09 37 37.2**	**-0.9**
TJN				IAmb	IAmb	09 37 38.3	
comp=Z,224nm,1.5s							
TJN	**Taejon**	**16.24**	**315**	⇓*eP*	**P**	**09 37 37.5**	**-0.6**
KSRS	**Korea Array**	**16.58**	**319**	Pn	**P**	**09 37 41.1**	**-0.8**
comp=Z,0.7nm,0.3s,baz=134,slow=12,SNR=26							
KSAR	**Wonju Array Be**	**16.59**	**319**	P	**P**	**09 37 42.8**	**+0.7**
KSAR	**Wonju Array Be**	**16.59**	**319**	P	**P**	**09 37 42.8**	**+0.7**
KS19	**Wonju Array Si**	**16.64**	**319**	P	**P**	**09 37 41.9**	**-0.8**
KS19				IAmb	IAmb	09 37 45.4	
comp=Z,202nm,1.6s							
INCN	**Inchon**	**17.38**	**317**	P	**P**	**09 37 51.7**	**+0.9**
INCN				IAmb	IAmb	09 37 55.6	
comp=Z,334nm,1.6s							
INCN	**Inchon**	**17.38**	**317**	P	**P**	**09 37 51.7**	**+0.9**
INCN				pmax	pmax		
comp=Z,334nm,1.7s							
YHNB	**Yeheng**	**18.31**	**272**	P	**P**	**09 38 01.7**	**+0.5**
ASAJ	**Asahikawa**	**18.52**	**2**	P	**Pn**	**09 38 04.0**	**+0.5**
comp=Z,0.3nm,0.3s,baz=191,slow=24,SNR=4.8							
comp=Z,8.3nm,0.9s							
YULB	**Yu-li**	**18.58**	**268**	P	**Pn**	**09 38 04.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**18.75**	**10**	*c iP*	**Pn**	**09 38 09.1**	**+2.8**
YUK				*e*S	**Sn**	**09 41 29.0**	**-6.3**
YUK				MLR	MLR		
comp=Z,4μm,12.0s							
YUK				MLR	MLR		
comp=N,2μm,11.0s							
SSE	**Sheshan**	**18.76**	**292**	P	**P**	**09 38 05.5**	**-0.5**
SSE				S	**Sn**	**09 41 34.9**	**-0.9**
SSE				pmax	pmax		
comp=N,44nm,1.6s							
SSE				pmax	pmax		
comp=N,2μm,8.0s							
SSE				LR	LR		
comp=N,2μm,10.9s							
SSE				LR	LR		
comp=N,2μm,11.1s							
SSLB	**Suanglung**	**18.82**	**269**	P	**P**	**09 38 05.1**	**-1.7**
TWG	**Pinlang**	**18.90**	**266**	P	**P**	**09 38 06.6**	**-1.0**
MSHR	**Mys Shultsa**	**19.00**	**336**	*d iP*	**P**	**09 38 08.0**	**-0.6**
MSHR				pmax	pmax		
comp=Z,29nm,1.4s							
TPUB	**Ta-pu**	**19.20**	**268**	P	**P**	**09 38 09.1**	**-1.8**
TPUB				IAmb	IAmb	09 38 20.0	
comp=Z,150nm,1.4s							
TEY	**Ternei**	**19.83**	**350**	*ceP*	**P**	**09 38 15.5**	**-2.1**
TEY				pmax	pmax		
comp=N,200nm,7.7s							
TEY				pmax	pmax		
comp=Z,200nm,7.7s							
TEY				pmax	pmax		
comp=E,100nm,7.7s							
TEY				MLR	MLR		
comp=E,200nm,10.0s							
TEY				MLR	MLR		
comp=N,200nm,12.0s							
TEY				MLR	MLR		
comp=Z,100nm,15.0s							
USA0B	**Ussuriysk Arra**	**20.15**	**340**	⇑*eP*	**P**	**09 38 22.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**20.15**	**340**	P	**P**	**09 38 18.7**	**-2.4**
comp=Z,3.7nm,0.9s,baz=156,slow=9.8,SNR=5.7							
KUR	**Kuril'sk**	**20.26**	**13**	P	**P**	**09 38 21.1**	**-1.2**
KUR				*e*		09 38 37.8	
KUR				S	**S**	**09 42 09.5**	**+0.9**
KUR				pmax	pmax		
comp=Z,327nm,1.0s							
KUR				pmax	pmax		
comp=Z,4μm,8.7s							
KUR				MLR	MLR		
comp=Z,5μm,9.0s							
KUR				MLR	MLR		
comp=N,4μm,10.0s							
KUR				MLR	MLR		
comp=E,5μm,10.0s							
QZH	**Quanzhou**	**20.79**	**273**	P	**P**	**09 38 29.0**	**+0.8**
QZH				S	**S**	**09 42 20.2**	**+0.8**
QZH				pmax	pmax		
comp=E,70nm,1.2s							
QZH				pmax	pmax		
comp=E,2μm,4.5s							
QZH				LR	LR		
comp=E,5μm,10.7s							
QZH				LR	LR		
comp=E,2μm,14.6s							
QZH				LR	LR		
comp=E,4μm,11.8s							
NJ2	**Nanjing**	**20.90**	**293**	*eP*	**P**	**09 38 29.4**	**0.0**
NJ2				pP	Pn	09 38 31.7	-0.3
NJ2				S	Sn	09 42 25.8	-1.7
NJ2				sS	**pS**	**09 42 32.4**	**-0.2**
NJ2				pmax	pmax		
comp=E,100nm,1.4s							
NJ2				pmax	pmax		
comp=E,2μm,3.7s							
NJ2				LR	LR		
comp=E,6μm,9.0s							
NJ2				LR	LR		
comp=E,4μm,10.4s							
NJ2				LR	LR		
comp=E,6μm,9.0s							
MDJ	**Mudanjiang**	**21.33**	**336**	P	**P**	**09 38 37.6**	**+3.7**
MDJ				S	Sn	09 42 36.7	-0.9
MDJ				pmax	pmax		
comp=E,14nm,2.0s							
MDJ				LR	LR		
comp=E,7μm,14.1s							
MDJ				LR	LR		
comp=E,7μm,11.9s							
MDJ				LR	LR		
comp=E,9μm,13.7s							
YSS	**Yuzhno-Sakhali**	**21.36**	**2**	P	**P**	**09 38 35.3**	**+1.2**
YSS				IAmb	IAmb	09 38 39.2	
comp=Z,168nm,1.8s							
YSS	**Yuzhno-Sakhali**	**21.36**	**2**	⇑*eP*	**P**	**09 38 36.7**	**+2.6**
YSS				*e**SP	**pwP**	**09 38 44.5**	**+1.3**
YSS				*e*S	Sn	09 42 37.3	-0.9
YSS				pmax	pmax		
comp=Z,30nm,1.2s							
YSS				pmax	pmax		
comp=Z,2μm,4.9s							
YSS				smax	smax		
comp=N,8μm,9.1s							
YSS				smax	smax		
comp=E,6μm,10.0s							
YSS				MLR	MLR		
comp=Z,7μm,16.0s							
YSS				MLR	MLR		
comp=N,7μm,15.0s							
YSS				MLR	MLR		
comp=E,8μm,14.0s							
DL2	**Dalian**	**21.41**	**313**	P	**P**	**09 38 33.4**	**-1.4**
DL2				pP	**pP**	**09 38 41.6**	**+1.6**
DL2				S	**S**	**09 42 32.6**	**+1.1**
DL2				pmax	pmax		
comp=E,55nm,1.4s							
DL2				pmax	pmax		
comp=E,990nm,5.8s							
DL2				LR	LR		
comp=E,7μm,9.4s							
DL2				LR	LR		
comp=E,9μm,12.7s							
DL2				LR	LR		
comp=E,8μm,13.9s							
SNY	**Shenyang**	**21.99**	**322**	⇓P	**P**	**09 38 42.4**	**+1.4**
SNY				S	**S**	**09 42 45.0**	**+2.3**
SNY				pmax	pmax		
comp=E,35nm,1.2s							
SNY				pmax	pmax		
comp=E,2μm,5.0s							
SNY				LR	LR		
comp=E,3μm,10.3s							
SNY				LR	LR		
comp=E,3μm,12.0s							
SNY				LR	LR		
comp=E,7μm,10.3s							
CN2	**Changchun**	**22.43**	**328**	*eP*	**P**	**09 38 44.1**	**-1.6**
CN2				*e*S	**S**	**09 42 46.5**	**-4.4**
CN2				pmax	pmax		
comp=E,2μm,7.0s							
CN2				LR	LR		
comp=E,9μm,11.0s							
CN2				LR	LR		
comp=E,7μm,11.0s							
CN2				LR	LR		
comp=E,7μm,11.0s							
TGY	**Tagaytay City**	**22.48**	**243**	LR	LR	09 46 09.1	
comp=E,1μm,21.0s,baz=56,slow=34							
BNX	**BinXian**	**23.11**	**334**	⇓P	**P**	**09 38 53.6**	**+0.8**
BNX				pP	**pP**	**09 38 57.3**	**-0.8**
BNX				S	**S**	**09 43 05.5**	**+2.6**
BNX				sS	**pS**	**09 43 10.1**	**+1.7**
BNX				pmax	pmax		
comp=E,15nm,1.4s							
BNX				pmax	pmax		
comp=E,2μm,7.9s							
BNX				LR	LR		
comp=E,5μm,13.6s							
BNX				LR	LR		
comp=E,7μm,10.8s							
BNX				LR	LR		
comp=E,5μm,10.8s							
TIA	**Tai'an**	**23.44**	**303**	P	**P**	**09 38 56.3**	**0.0**
TIA				S	**S**	**09 43 07.9**	**-0.7**
TIA				pmax	pmax		
comp=E,100nm,1.6s							
TIA				pmax	pmax		
comp=E,3μm,4.2s							
TIA				LR	LR		
comp=E,9μm,11.0s							
TIA				LR	LR		
comp=E,6μm,12.3s							
TIA				LR	LR		
comp=E,8μm,16.7s							
UGL	**Uglegorsk**	**23.46**	**1**	*eP*	**P**	**09 38 59.8**	**+3.5**
UGL				*e*		09 39 24.5	
UGL				*e*SS	**SnSn**	**09 43 51.0**	**+6.0**
UGL				pmax	pmax		
comp=Z,100nm,2.0s							
UGL				pmax	pmax		
comp=Z,5μm,9.3s							
DAV	**Davao City (W)**	**23.91**	**222**	LR	LR	09 46 40.0	
comp=Z,1μm,21.6s,baz=20,slow=33							
DAV	**Davao City (W)**	**23.91**	**222**	P	**P**	**09 39 01.0**	**+0.1**
H11N1	**WAKE ISLAND Hy 24.07**	**99**		T	T	10 04 18.8	
baz=290,slow=76,SNR=144							
H11N2	**WAKE ISLAND Hy 24.07**	**99**		T	T	10 04 17.3	
baz=290,slow=76,SNR=189							
H11N3	**WAKE ISLAND Hy 24.08**	**99**		T	T	10 04 17.6	
baz=290,slow=76,SNR=208							
H11S3	**WAKE ISLAND Hy 24.30**	**102**		T	T	10 04 33.0	
baz=291,slow=75,SNR=1098							
H11S1	**WAKE ISLAND Hy 24.31**	**102**		T	T	10 04 33.6	
baz=291,slow=75,SNR=1417							
H11S2	**WAKE ISLAND Hy 24.32**	**102**		T	T	10 04 34.4	
baz=291,slow=75,SNR=1433							
WHN	**Wuhan**	**24.50**	**288**	⇑P	**P**	**09 39 06.9**	**+0.7**
WHN				sP	**pP**	**09 39 12.0**	**+0.2**
WHN				S	**S**	**09 43 22.3**	**-3.2**
WHN				pmax	pmax		
comp=Z,360nm,1.1s							
WHN				pmax	pmax		
comp=Z,6μm,3.9s							
WHN				LR	LR		
comp=Z,15μm,9.7s							
WHN				LR	LR		
comp=Z,10μm,10.8s							
WHN				LR	LR		
comp=Z,17μm,10.1s							
KLR	**Kul'dur**	**24.82**	**345**	*eP*	**P**	**09 39 08.0**	**-1.0**
KLR				pmax	pmax		
comp=Z,9.0nm,1.4s							
TYV	**Tymovskoe**	**25.26**	**2**	*eP*	**P**	**09 39 15.7**	**+2.8**
TYV				pmax	pmax		
comp=Z,14nm,0.9s							
TYV				pmax	pmax		
comp=Z,2μm,6.4s							
GRNR	**Gornyy**	**25.46**	**352**	*eP*	**P**	**09 39 15.9**	**+1.1**
GRNR				MLR	MLR		
comp=E,2μm,12.0s							
BJT	**Baijiatuau**	**25.64**	**310**	P	**P**	**09 39 14.5**	**-2.0**
BJT				IAmb	IAmb	09 39 35.9	
comp=Z,128nm,2.0s							
BJT	**Baijiatuau**	**25.64**	**310**	P	**P**	**09 39 14.5**	**-2.0**
BJT				pmax	pmax		
comp=Z,128nm,2.0s							
BJI	**Beijing**	**25.65**	**310**	P	**P**	**09 39 15.7**	**-0.8**
BJI				pP	**pP**	**09 39 21.6**	**-0.5**
BJI				PP	**PnPn**	**09 39 54.7**	**+1.8**
BJI				S	**S**	**09 43 41.1**	**-2.6**
BJI				pmax	pmax		
comp=Z,850nm,7.2s							
BJI				LR	LR		
comp=Z,3μm,11.1s							
BJI				LR	LR		
comp=Z,2μm,10.7s							
BJI				LR	LR		
comp=Z,3μm,10.7s							
CNSH	**ChangSha**	**25.65**	**282**	P	**P**	**09 39 17.7**	**+1.0**
CNSH				S	**S**	**09 43 46.2**	**+2.2**
CNSH				pmax	pmax		
comp=Z,10.0nm,0.6s							
CNSH				LR	LR		
comp=Z,4μm,9.7s							
CNSH				LR	LR		
comp=Z,5μm,9.4s							
CNSH				LR	LR		
comp=Z,6μm,9.4s							
HNS	**HongShan**	**25.67**	**304**	⇑P	**P**	**09 39 15.3**	**-1.5**
HNS				S	**S**	**09 43 46.0**	**+1.9**
HNS				pmax	pmax		
comp=Z,58nm,2.3s							
HNS				pmax	pmax		
comp=Z,2μm,4.9s							
HNS				LR	LR		
comp=Z,8μm,14.3s							
HNS				LR	LR		
comp=Z,5μm,13.7s							
HNS				LR	LR		
comp=Z,7μm,14.6s							
GZH	**Guangzhou**	**25.82**	**270**	P	**P**	**09 39 14.4**	**-3.8**
GZH				pP	**pP**	**09 39 21.2**	**-2.7**
GZH				S	**S**	**09 43 39.8**	**-6.9**
GZH				pmax	pmax		
comp=Z,1μm,4.0s							
GZH				LR	LR		
comp=Z,4μm,10.9s							
GZH				LR	LR		
comp=Z,3μm,9.1s							
GZH				LR	LR		
comp=Z,5μm,10.5s							
LYN	**LuoYang**	**26.65**	**297**	P	**P**	**09 39 26.5**	**+0.8**
LYN				S	**S**	**09 44 01.5**	**+1.7**

LYN				pmax	pmax	
	comp=Z,36nm,0.9s					
LYN				pmax	pmax	
	comp=Z,1μm,4.9s					
LYN				LR	LR	
	comp=Z,7μm,15.7s					
LYN				LR	LR	
	comp=Z,7μm,12.3s					
LYN				LR	LR	
	comp=Z,5μm,15.4s					
SGSI	**Sangihe**	**26.67**	**218**	P	**P**	**09 39 29.0 +3.0**
HEH	**HeiHe**	**26.96**	**340**	*e*P	**P**	**09 39 28.2 -0.1**
HEH				pP	**pP**	**09 39 32.6 -1.2**
HEH				S	**S**	**09 44 05.0 +0.8**
HEH				pmax	pmax	
	comp=Z,12nm,0.9s					
HEH				pmax	pmax	
	comp=Z,760nm,9.2s					
HEH				LR	LR	
	comp=Z,5μm,15.1s					
HEH				LR	LR	
	comp=Z,8μm,12.8s					
HEH				LR	LR	
	comp=Z,10μm,15.3s					
SKR	**Severo-Kuril's**	**27.45**	**20**	*e*P	**P**	**09 39 29.4 -3.3**
SKR				*e*S	**S**	**09 44 18.9 +6.9**
SKR				pmax	pmax	
	comp=Z,800nm,5.3s					
SKR				MLR	MLR	
	comp=Z,3μm,11.0s					
TIY	**Taiyuan**	**27.48**	**303**	P	**P**	**09 39 35.2 +2.0**
TIY				S	**S**	**09 44 13.4 +0.5**
TIY				pmax	pmax	
	comp=Z,47nm,1.4s					
TIY				pmax	pmax	
	comp=Z,1μm,4.5s					
TIY				LR	LR	
	comp=Z,5μm,15.8s					
TIY				LR	LR	
	comp=Z,3μm,19.2s					
TIY				LR	LR	
	comp=Z,4μm,16.5s					
NKL	**Nikolayevsk**	**27.55**	**359**	*e*P	**P**	**09 39 30.4 -3.1**
NKL				*e*S	**S**	**09 44 14.0 +0.6**
NKL				pmax	pmax	
	comp=N,43nm,1.2s					
NKL				pmax	pmax	
	comp=E,84nm,1.2s					
NKL				pmax	pmax	
	comp=Z,141nm,1.2s					
NKL				smax	smax	
	comp=E,267nm,4.1s					
NKL				smax	smax	
	comp=N,312nm,5.8s					
NKL				MLR	MLR	
	comp=E,5μm,11.0s					
NKL				MLR	MLR	
	comp=N,4μm,17.0s					
NKL				MLR	MLR	
	comp=Z,7μm,18.0s					
XLT	**XiLinHaoTe**	**27.63**	**318**	*e*P	**P**	**09 39 37.0 +2.5**
XLT				PP	**PnPn**	**09 40 23.4 +3.3**
XLT				PcP	**PcP**	**09 42 50.1 -1.5**
XLT				S	**S**	**09 44 15.6 +0.5**
XLT				pmax	pmax	
	comp=Z,11nm,1.0s					
XLT				pmax	pmax	
	comp=Z,1μm,7.0s					
XLT				LR	LR	
	comp=Z,490nm,11.3s					
XLT				LR	LR	
	comp=Z,5μm,16.3s					
XLT				LR	LR	
	comp=Z,6μm,15.4s					
JAY	**Jayapura**	**27.94**	**182**	LR	LR	09 48 31.0
	comp=Z,3μm,20.2s,baz=352,slow=32					
HHC	**Hu-ho-hao-te**	**29.18**	**309⇓**	*i*P	**P**	**09 39 49.0 +0.6**
HHC				sP	pP	09 39 55.8 +1.7
HHC				S	**S**	**09 44 38.2 -1.6**
HHC				pmax	pmax	
	comp=Z,37nm,2.0s					
HHC				pmax	pmax	
	comp=Z,1μm,6.3s					
HHC				LR	LR	
	comp=Z,3μm,13.7s					
HHC				LR	LR	
	comp=Z,4μm,14.2s					
HHC				LR	LR	
	comp=Z,5μm,15.7s					
XAN	**Xi'an**	**29.46**	**294**	⇓P	**P**	**09 39 51.5 +0.6**
XAN				pP	pP	09 39 56.1 -0.4
XAN				sP	sP	09 39 58.7 -0.2
XAN				PP	**PP**	**09 40 53.2 -4.3**
XAN				S	**S**	**09 44 45.9 +1.8**
XAN				SS	**SnSn**	**09 46 17.2 +5.4**
XAN				pmax	pmax	
	comp=Z,56nm,2.0s					
XAN				pmax	pmax	
	comp=Z,2μm,7.3s					
XAN				LR	LR	
	comp=Z,6μm,12.4s					
XAN				LR	LR	
	comp=Z,5μm,13.7s					
XAN				LR	LR	
	comp=Z,7μm,13.1s					
QIZ	**Qiongzhong**	**30.02**	**264**	P	**P**	**09 39 54.3 -1.6**
QIZ				S	**S**	**09 44 48.6 -4.4**
QIZ				sS	**sS**	**09 45 02.4 0.0**
QIZ				pmax	pmax	
	comp=Z,730nm,9.2s					
QIZ				LR	LR	
	comp=Z,3μm,8.2s					
QIZ				LR	LR	
	comp=Z,2μm,7.6s					
QIZ				LR	LR	
	comp=Z,2μm,8.2s					
ZEA	**Zeya**	**30.09**	**343**	*e*P	**P**	**09 39 57.2 +1.1**
ZEA				*e*S	**S**	**09 44 55.4 +1.9**
ZEA				smax	smax	
	comp=N,900nm,16.8s					
ZEA				MLR	MLR	
	comp=E,3μm,13.0s					
ZEA				MLR	MLR	
	comp=N,4μm,14.0s					
ZEA				MLR	MLR	
	comp=Z,3μm,16.0s					
BTO	**Baotou**	**30.19**	**308**	*e*P	**P**	**09 40 00.1 +2.8**
BTO				pP	**sP**	**09 40 05.0 -0.3**
BTO				sP	**pwP**	**09 40 07.9 +1.4**
BTO				PP	**PnPn**	**09 40 58.8 +3.8**
BTO				S	**S**	**09 44 58.2 +2.6**
BTO				sS	**sS**	**09 45 04.2 -1.3**
BTO				SS	**ScP**	**09 46 36.5 -2.8**
BTO				pmax	pmax	
	comp=Z,82nm,1.6s					
BTO				pmax	pmax	
	comp=Z,3μm,4.3s					
BTO				LR	LR	
	comp=Z,7μm,15.9s					
BTO				LR	LR	
	comp=Z,9μm,12.3s					
BTO				LR	LR	
	comp=Z,10μm,16.4s					
PET	**Petropavlovsk**	**30.27**	**21**	*e*P	P	09 40 05.9 +8.2
PET				*e*S	**S**	**09 44 59.5 +3.2**
PET				pmax	pmax	
	comp=Z,300nm,11.0s					
PET				MLR	MLR	
	comp=Z,2μm,12.0s					
GYA	**Guiyang**	**31.32**	**279**	P	**P**	**09 40 07.6 +0.1**
GYA				S	**S**	**09 45 12.3 -1.3**
GYA				pmax	pmax	
	comp=Z,790nm,4.0s					
GYA				LR	LR	
	comp=Z,3μm,14.2s					
GYA				LR	LR	
	comp=Z,2μm,13.3s					
GYA				LR	LR	
	comp=Z,3μm,14.1s					
MRSI	**Marisa**	**31.33**	**220**	P	**P**	**09 40 08.4 +1.0**
	comp=Z,2μmcomp=Z,50nm,1.4s					
CD2	**Chengdu**	**33.62**	**288**	P	**P**	**09 40 26.1 -1.4**
CD2				sP	pP	09 40 31.4 -1.8
CD2				PP	**PP**	**09 41 42.6 -1.1**
CD2				S	**S**	**09 45 46.6 -2.6**
CD2				pmax	pmax	
	comp=Z,40nm,2.0s					
CD2				pmax	pmax	
	comp=Z,3μm,4.0s					
CD2				LR	LR	
	comp=Z,6μm,12.6s					
CD2				LR	LR	
	comp=Z,6μm,11.2s					
LZH	**Lanzhou**	**33.86**	**297**	P	**P**	**09 40 29.6 -0.1**
LZH				sP	pwP	09 40 39.6 +0.7
LZH				S	**S**	**09 45 55.3 +2.3**
LZH				SS	**SnSn**	**09 48 00.0 +1.1**
LZH				pmax	pmax	
	comp=Z,64nm,1.4s					
LZH				pmax	pmax	
	comp=Z,1μm,4.3s					
LZH				LR	LR	
	comp=Z,5μm,13.0s					
LZH				LR	LR	
	comp=Z,3μm,14.2s					
LZH				LR	LR	
	comp=Z,5μm,14.9s					
CIT	**Chita**	**33.88**	**329**	*e*P	**P**	**09 40 33.1 +3.6**
CIT				*e*		09 40 39.2
CIT				*e*		09 41 44.8
MA2	**Magadan**	**34.58**	**8**	P	**P**	**09 40 35.2 -0.2**
MA2				IAmb	IAmb	09 40 47.7
	comp=Z,55nm,1.5s					
MA2	**Magadan**	**34.58**	**8***c*	*i*P	**P**	**09 40 37.0 +1.6**
MA2				pmax	pmax	
	comp=Z,48nm,1.9s					
SLVN	**Son La**	**34.73**	**271**	P	**P**	**09 40 36.2 -1.1**
SLVN				IAmb	IAmb	09 40 40.3
	comp=Z,36nm,1.6s					
SAUI	**Saumlaki**	**34.82**	**198**	P	**P**	**09 40 41.6 +3.7**
KMI	**Kunming**	**35.01**	**278**	⇑P	**P**	**09 40 38.5 -1.3**
KMI				S	**S**	**09 46 13.3 +2.2**
KMI				ScS	**ScS**	**09 51 01.6 +1.3**
KMI				pmax	pmax	
	comp=Z,58nm,0.9s					
KMI				pmax	pmax	
	comp=Z,850nm,7.3s					
KMI				LR	LR	
	comp=Z,3μm,12.9s					
KMI				LR	LR	
	comp=Z,2μm,9.1s					
KMI				LR	LR	
	comp=Z,2μm,9.6s					
ULN	**Ulaanbaatar**	**35.06**	**318**	P	**P**	**09 40 38.2 -1.7**
ULN				IAmb	IAmb	09 40 43.2
	comp=Z,28nm,1.0s					
ULN	**Ulaanbaatar**	**35.06**	**318⇓**	*i*P	**P**	**09 40 38.6 -1.4**
ULN				pmax	pmax	
	comp=Z,34nm,1.0s					
SONM	**Songino Array**	**35.45**	**318**	P	**P**	**09 40 40.5 -2.8**
SONM				IAmb	IAmb	09 40 46.3
	comp=Z,48nm,1.7s					
SONM	**Songino Array**	**35.45**	**318**	P	**P**	**09 40 41.2 -2.0**
	comp=Z,7.0nm,0.8s,baz=130,slow=9.1,SNR=19					
	comp=Z,7.0nm,0.8s					
PZH	**PanZhiHua**	**35.70**	**280**	P	**P**	**09 40 45.0 -0.6**
PZH				S	**S**	**09 46 21.8 +0.4**
PZH				pmax	pmax	
	comp=Z,50nm,1.0s					
PZH				pmax	pmax	
	comp=Z,700nm,5.0s					
PZH				LR	LR	
	comp=Z,2μm,12.0s					
PZH				LR	LR	
	comp=Z,2μm,12.9s					
PZH				LR	LR	
	comp=Z,1μm,11.8s					
SPSI	**Sidrap Palu**	**36.19**	**219**	P	**P**	**09 40 50.3 +0.6**
	comp=Z,3μmcomp=Z,2μmcomp=Z,23nm,0.9s					
KAPI	**Kappang**	**37.06**	**218**	LR	LR	09 57 45.0
	comp=Z,227nm,19.8s,baz=30,slow=39					
YAK	**Yakutsk**	**37.32**	**351⇓**	*e*P	**P**	**09 40 59.3 +0.5**
YAK				pmax	pmax	
	comp=Z,75nm,4.0s					
YAK	**Yakutsk**	**37.32**	**351**	*e*SS	SS	09 49 22.2 -6.5
GTA	**Gaotai**	**37.49**	**302**	*e*P	**P**	**09 40 59.2 -1.6**
GTA				sP	sP	09 41 08.9 +0.1
GTA				PP	**PnPn**	**09 42 31.4 +4.2**
GTA				S	**S**	**09 46 50.1 +1.5**
GTA				SS	**SnSn**	**09 49 23.0 -3.7**
GTA				pmax	pmax	
	comp=Z,6.0nm,1.1s					
GTA				pmax	pmax	
	comp=Z,800nm,4.4s					
GTA				LR	LR	
	comp=Z,4μm,16.4s					
GTA				LR	LR	
	comp=Z,2μm,19.6s					
GTA				LR	LR	
	comp=Z,2μm,17.1s					
BSSI	**Bau Bau, Buton**	**37.60**	**216**	P	**P**	**09 41 05.3 +3.6**
	comp=Z,3μmcomp=Z,2μmcomp=Z,81nm,1.7s					
SEY	**Seymchan**	**38.04**	**8**	*e*P	**P**	**09 41 04.3 -0.6**
SEY				pmax	pmax	
	comp=Z,13nm,1.4s					
IRK	**Irkutsk**	**38.71**	**323**	*e*P	**P**	**09 41 12.8 +2.1**
IRK				*e*		09 42 40.7
IRK				pmax	pmax	
	comp=Z,79nm,2.6s					
TNCH	**TengChong**	**38.80**	**279**	P	**P**	**09 41 13.1 +1.1**
TNCH				sP	sP	09 41 19.5 -0.9
TNCH				PP	**PnPn**	**09 42 45.1 +1.9**
TNCH				S	**S**	**09 47 12.1 +3.4**
TNCH				pmax	pmax	
	comp=Z,99nm,0.6s					
TNCH				pmax	pmax	
	comp=Z,690nm,3.4s					
TNCH				LR	LR	
	comp=Z,1μm,11.8s					
TNCH				LR	LR	
	comp=Z,2μm,10.4s					
TNCH				LR	LR	
	comp=Z,2μm,12.0s					
MMRI	**Maumere**	**38.86**	**211**	P	**P**	**09 41 11.1 -1.2**
MMRI	**Maumere**	**38.86**	**211**	P	**P**	**09 41 13.3 +1.0**
SOEI	**Soe**	**38.95**	**208**	P	**P**	**09 41 17.0 +3.8**
	comp=Z,2μmcomp=Z,27nm,0.7s					
HNR	**Honiara**	**39.13**	**178**	LR	LR	09 58 32.4
	comp=Z,356nm,18.0s,baz=318,slow=38					
COEN	**Coen**	**39.32**	**178**	P	**P**	**09 41 17.9 +1.8**
MTN	**Manton Dam**	**39.52**	**196**	P	**P**	**09 41 15.8 -2.0**
MTN	**Manton Dam**	**39.52**	**196**	P	**P**	**09 41 15.6 -2.2**
	comp=Z,39nm,0.8s					
CHTO	**Chiang Mai**	**39.91**	**269**	P	**P**	**09 41 19.6 -1.5**
CHTO	**Chiang Mai**	**39.91**	**269**	P	**P**	**09 41 19.6 -1.5**
CHTO				pmax	pmax	
	comp=Z,12nm,1.1s					
CMAR	**Chiang Mai Arr**	**40.01**	**269**	P	**P**	**09 41 21.9 -0.1**
CMAR	**Chiang Mai Arr**	**40.01**	**269**	P	**P**	**09 41 20.8 -1.2**
	comp=Z,3.4nm,0.3s,baz=56,slow=8.4,SNR=15					
CMAR				PcP	**PcP**	**09 43 25.7 -1.2**
	comp=Z,1.3nm,0.6s,baz=74,slow=2.9,SNR=5.4					
CMAR	**Chiang Mai Arr**	**40.01**	**269**	*i*P	**P**	**09 41 24.5 +2.5**
CMAR				pmax	pmax	
	comp=Z,3.0nm,0.3s					
MOY	**Mondy**	**40.26**	**321**	*e*P	**P**	**09 41 26.3 +2.5**
MOY				pmax	pmax	
	comp=Z,67nm,3.6s					
GOMU	**GeErMu**	**41.15**	**296**	P	**P**	**09 41 30.1 -1.6**
GOMU				pP	pP	09 41 34.2 -3.2
GOMU				sP	sP	09 41 38.2 -1.5
GOMU				S	**S**	**09 47 47.1 +2.9**
GOMU				pmax	pmax	
	comp=Z,42nm,1.3s					
GOMU				pmax	pmax	
	comp=Z,660nm,6.0s					
GOMU				LR	LR	
	comp=Z,3μm,12.3s					
GOMU				LR	LR	
	comp=Z,1μm,12.7s					
GOMU				LR	LR	
	comp=Z,2μm,12.5s					
PLAI	**Plampang**	**41.30**	**217**	P	**P**	**09 41 34.5 +1.9**
	comp=Z,2μmcomp=Z,2μmcomp=Z,68nm,1.6s					
TWSI	**Taliwang, Sumb**	**41.72**	**218**	P	**P**	**09 41 36.6 +0.6**
	comp=Z,2μmcomp=Z,37nm,0.9s					
KMMI	**Kalianget**	**42.09**	**223**	P	**P**	**09 41 42.0 +2.9**
	comp=Z,3μmcomp=Z,2μmcomp=Z,42nm,1.3s					
SRBI	**Singaraja**	**42.15**	**221**	P	**P**	**09 41 42.1 +2.5**
	comp=Z,6μmcomp=Z,68nm,1.1s					
ABJI	**Asem Bagus**	**42.51**	**222**	P	**P**	**09 41 45.3 +2.8**
	comp=Z,70nm,0.9s					
DNP	**Denpasar**	**42.63**	**220**	P	**P**	**09 41 45.9 +2.5**
GRJI	**Gresik**	**42.93**	**225**	P	**P**	**09 41 48.4 +2.5**
JAGI	**Jajag, Banyuwa**	**43.09**	**222**	P	**P**	**09 41 49.5 +2.3**
	comp=Z,4μmcomp=Z,2μmcomp=Z,36nm,2.8s					
TPI	**Tanjungpandan**	**43.27**	**234**	P	**P**	**09 41 50.7 +2.0**
	comp=Z,3μmcomp=Z,2μmcomp=Z,35nm,1.1s					
GMJI	**Gumukmas**	**43.37**	**223**	P	**P**	**09 41 51.8 +2.4**
	comp=Z,2μmcomp=Z,34nm,1.3s					
NGJI	**Ngawi**	**43.92**	**226**	P	**P**	**09 41 56.3 +2.4**
	comp=Z,19nm,1.0s					
IPM	**Ipoh**	**44.15**	**249**	IAmb	IAmb	09 42 07.6
	comp=Z,47nm,1.6s					
PWJI	**Pagerwojo**	**44.20**	**225**	P	**P**	**09 41 59.3 +3.2**
LSA	**Lhasa**	**44.58**	**287**	P	**P**	**09 41 59.9 +0.3**
LSA				S	**S**	**09 48 29.3 -5.5**
LSA				LR	LR	
	comp=Z,640nm,11.9s					
LSA				LR	LR	
	comp=Z,2μm,13.7s					
SHL	**Shillong**	**44.60**	**281**	P	**P**	**09 41 59.2 -0.3**
SHL				pmax	pmax	
	comp=Z,37nm,0.9s					
BILL	**Bilibino**	**45.05**	**13**	P	**P**	**09 42 02.7 +0.3**
BILL				IAmb	IAmb	09 43 10.6
	comp=Z,46nm,1.9s					
BILL	**Bilibino**	**45.05**	**13⇓**	*e*P	**P**	**09 42 03.4 +1.1**
BILL				pmax	pmax	
	comp=Z,46nm,2.0s					
BRDH	**Bariadhala**	**45.45**	**277**	LR	LR	10 04 31.5
	comp=Z,627nm,18.4s,baz=86,slow=41					
WRAB	**Tennant Creek**	**45.78**	**189**	P	**P**	**09 42 06.5 -2.1**
WRAB	**Tennant Creek**	**45.78**	**189***c*	*i*P	**P**	**09 42 06.9 -1.7**
WRAB				pmax	pmax	
	comp=Z,67nm,0.8s					
WRA	**Warramunga Arr**	**45.79**	**190**	P	**P**	**09 42 06.6 -2.1**
WRA	**Warramunga Arr**	**45.79**	**190**	P	**P**	**09 42 06.8 -1.8**
	comp=Z,45nm,0.8s,baz=8.2,slow=8.4,SNR=73					
WRA				LR	LR	10 01 03.0
	comp=Z,670nm,18.3s,baz=1.5,slow=36					
QIS	**Mount Isa**	**45.90**	**183**	P	**P**	**09 42 07.5 -2.0**
	comp=Z,16nm,2.3s					
FITZ	**Fitzroy Crossi**	**46.09**	**201**	P	**P**	**09 42 11.4 +0.4**
FITZ	**Fitzroy Crossi**	**46.09**	**201**	P	**P**	**09 42 09.3 -1.7**
	comp=Z,5.6nm,1.2s					
LEM	**Lembang**	**46.11**	**230**	LR	LR	10 02 14.3
	comp=Z,209nm,20.9s,baz=39,slow=37					
LEM	**Lembang**	**46.11**	**230**	P	**P**	**09 42 12.2 +0.7**
	comp=Z,3μmcomp=Z,83nm,1.9s					
SPIA	**Saint Paul Isl**	**46.53**	**34**	P	**P**	**09 42 12.9 -1.1**
	baz=248					
TIXI	**Tiksi**	**46.66**	**355**	P	**P**	**09 42 13.3 -1.6**
TIXI	**Tiksi**	**46.66**	**355⇓**	*e*P	**P**	**09 42 14.9 0.0**
TIXI				pmax	pmax	
	comp=Z,26nm,3.0s					
P08K	**Saint George I**	**46.67**	**35**	P	**P**	**09 42 14.4 -0.8**
	baz=249					
PSI	**Prapat**	**46.81**	**248**	LR	LR	09 59 23.2
	comp=Z,478nm,19.9s,baz=52,slow=33					
PSI	**Prapat**	**46.81**	**248**	P	**P**	**09 42 16.1 -0.9**
PSI				pmax	pmax	
	comp=Z,17nm,0.9s					
RPSI	**Rantau Prapat**	**46.87**	**248**	P	**P**	**09 42 16.1 -1.3**
RPSI				IAmb	IAmb	09 42 24.2
	comp=Z,16nm,0.9s					
MDSI	**Maura Dua**	**47.00**	**236**	P	**P**	**09 42 18.4 +0.1**
	comp=Z,3μmcomp=Z,2μmcomp=Z,44nm,1.9s					
WMQ	**Urumqi**	**47.03**	**307**	*e*P	**P**	**09 42 20.4 +2.1**
WMQ				PP	**PP**	**09 44 11.3 +2.4**
WMQ				S	**S**	**09 49 10.7 +1.7**
WMQ				pmax	pmax	
	comp=Z,37nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,1μm,4.5s					
WMQ				LR	LR	
	comp=Z,3μm,15.5s					
WMQ				LR	LR	
	comp=Z,2μm,13.9s					
WMQ				LR	LR	
	comp=Z,2μm,18.5s					
MNSI	**Mandailing Nat**	**47.38**	**245**	P	**P**	**09 42 21.7 +0.4**
PPI	**Padang Panjang**	**47.44**	**243**	P	**P**	**09 42 23.9 +2.2**
	comp=Z,32nm,1.3s					
UNV	**Unalaska Valle**	**47.48**	**39**	P	**P**	**09 42 22.4 +0.9**
	baz=255					
GSI	**Gunungsitoli**	**48.75**	**247**	P	**P**	**09 42 30.7 -1.3**
ZSN	**Zaisan**	**49.32**	**312**	*e*P	**P**	**09 42 36.4 +0.5**
ZSN				pmax	pmax	
	comp=Z,32nm,1.3s					
ZSN	**Zaisan**	**49.32**	**312**	*e*P	**P**	**09 42 36.4 +0.5**
	comp=Z,32nm,1.3s					
AS06	**Alice Springs**	**49.48**	**189**	P	**P**	**09 42 35.3 -2.0**
	comp=Z,9.8nm,1.0s					
AS31	**Alice Springs**	**49.51**	**189**	P	**P**	**09 42 37.3 -0.2**
	comp=Z,4.0nm,0.8s					
ASAR	**Alice Springs**	**49.51**	**189**	P	**P**	**09 42 36.9 -0.7**
ASAR	**Alice Springs**	**49.51**	**189**	P	**P**	**09 42 35.6 -2.0**
	comp=Z,4.1nm,0.9s,baz=8.9,slow=8.8,SNR=22					
ASAR				PcP	**PcP**	**09 43 59.2 -0.2**
	comp=Z,3.1nm,1.0s,baz=14,slow=4.5,SNR=4.8					
ASAR				LR	LR	10 03 00.4
	comp=Z,630nm,19.5s,baz=22,slow=36					
	comp=Z,4.1nm,0.9s					
ASAR	**Alice Springs**	**49.51**	**189**	P	**P**	**09 42 36.9 -0.7**
AS19	**Alice Springs**	**49.54**	**189**	P	**P**	**09 42 36.1 -1.7**
	comp=Z,14nm,1.0s					
M11K	**Mekoryuk**	**49.66**	**31**	P	**P**	**09 42 40.4 +2.2**
	baz=250					
ZALV	**Zalesovo Beam**	**50.28**	**320**	P	**P**	**09 42 41.9 -1.2**
ZALV	**Zalesovo Beam**	**50.28**	**320**	P	**P**	**09 42 40.0 -3.1**
	comp=Z,0.6nm,0.3s,baz=115,slow=6.8,SNR=1.4					
ZALV				PcP	**PcP**	**09 44 00.8 -0.9**
	comp=Z,2.2nm,0.7s,baz=90,slow=3.3,SNR=4.5					
	comp=Z,0.6nm,0.3s					
ZALV	**Zalesovo Beam**	**50.28**	**320**	P	**P**	**09 42 41.9 -1.2**
S12K	**Black Hills**	**50.43**	**38**	P	**P**	**09 42 42.9 -1.3**
	baz=257					
K13K	**Kusilvak Mount**	**50.90**	**29**	P	**P**	**09 42 48.1 +0.5**
	baz=250					
TNA	**Tin City**	**51.00**	**24**	P	**P**	**09 42 49.8 +1.5**
	baz=244					
MK31	**Makanchi Array**	**51.03**	**311***d*	*i*P	**P**	**09 42 49.8 +0.9**
MKAR	**Makanchi Array**	**51.03**	**311**	P	**P**	**09 42 46.9 -2.0**
MKAR	**Makanchi Array**	**51.03**	**311**	P	**P**	**09 42 46.2 -2.7**
	comp=Z,2.9nm,0.7s,baz=90,slow=8.6,SNR=15					
	comp=Z,2.9nm,0.7s					
MKAR	**Makanchi Array**	**51.03**	**311**	*i*P	**P**	**09 42 49.7 +0.8**
MKAR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SDPT	**Sand Point**	**51.24**	**38**	P	**P**	**09 42 52.0 +1.8**
	baz=259					
MAKZ	**Makanchi**	**51.24**	**311**	P	**P**	**09 42 48.6 -1.9**
MAKZ				IAmb	IAmb	09 42 54.7
	comp=Z,25nm,1.1s					
MAKZ	**Makanchi**	**51.24**	**311**	P	**P**	**09 42 48.6 -1.9**
MAKZ				pmax	pmax	
	comp=Z,25nm,1.2s					
F14K	**Arctic Creek**	**51.56**	**25**	P	**P**	**09 42 55.0 +2.5**
	baz=246					
ANM	**Nome**	**51.56**	**26**	P	**P**	**09 42 54.7 +2.1**
	baz=247					
N14K	**Kuskokwak Cree**	**51.66**	**32**	P	**P**	**09 42 53.8 +0.5**
	baz=254					
O14K	**Tigyukauivet M**	**51.69**	**33**	P	**P**	**09 42 54.4 +0.8**
	baz=255					
QLP	**Quilpie**	**51.92**	**177**	P	**P**	**09 42 53.6 -2.0**
	comp=Z,24nm,1.1s					
WRKA	**Warakurna**	**51.93**	**195**	P	**P**	**09 42 54.2 -1.6**
	comp=Z,17nm,2.4s					
L15K	**Ungalak Mounta**	**52.24**	**30**	P	**P**	**09 42 57.4 -0.3**
	baz=253					
G15K	**Niukluk**	**52.26**	**26**	P	**P**	**09 42 57.5 -0.2**
	baz=248					
F15K	**North Star Dit**	**52.29**	**25**	P	**P**	**09 42 58.1 +0.1**
	baz=247					
O15K	**Ungalikthiuk R**	**52.39**	**34**	P	**P**	**09 43 00.5 +1.7**
	baz=257					
K15K	**Wolf Creek Mou**	**52.41**	**30**	P	**P**	**09 43 01.0 +2.1**
	baz=253					
H16K	**Elim**	**52.85**	**27**	P	**P**	**09 43 03.6 +1.4**
	baz=250					
SHLS	**Shalkode**	**53.00**	**306**	*e*P	**P**	**09 43 01.7 -2.0**
SHLS				pmax	pmax	
	comp=Z,16nm,0.8s					
SHLS	**Shalkode**	**53.00**	**306**	*e*P	**P**	**09 43 01.8 -2.0**
	comp=Z,16nm,0.8s					
G16K	**Koyuk River**	**53.06**	**26**	P	**P**	**09 43 05.8 +2.1**
	baz=250					

C16K	Lisburne Hills	53.10	22	P	P	09 43 05.4	+1.5
	baz=245						
J16K	Anvik River	53.11	29	P	P	09 43 06.8	+2.7
	baz=253						
DZM	Mont Dzumac	53.16	151	LR	LR	10 02 53.4	
	comp=Z,1µm,21.1s,slow=33						
M16K	Timber Creek	53.25	32	P	P	09 43 04.5	-0.6
	baz=256						
I17K	Unalakleet	53.25	28	P	P	09 43 06.8	+1.7
	baz=252						
WUS	Wushi	53.27	303	IAmb	IAmb	09 43 10.7	
	comp=Z,28nm,1.1s						
UZB	Uzynbulak	53.32	306	eP	P	09 43 06.5	+0.3
UZB	Uzynbulak	53.32	306	eP	P	09 43 06.5	+0.3
O16K	Kokwok River B	53.35	33	P	P	09 43 06.6	+0.7
	baz=258						
KPKS	Kokpek	53.56	306	eP	P	09 43 08.5	+0.7
KPKS	Kokpek	53.56	306	eP	P	09 43 08.6	+0.7
D17K	Noatak River	53.64	23	P	P	09 43 10.1	+2.2
	baz=247,SNR=20						
KURK	Kurchatov	53.66	315	P	P	09 43 06.0	-2.3
KURK				IAmb	IAmb	09 43 17.4	
	comp=Z,22nm,1.1s						
KURK	Kurchatov	53.66	315	‖eP	P	09 43 06.0	-2.3
KURK				pmax	pmax		
	comp=Z,22nm,1.0s						
TDK	Taldyqorghan	53.71	308	eP	P	09 43 09.2	+0.4
TDK				pmax	pmax		
	comp=Z,25nm,1.6s						
TDK	Taldyqorghan	53.71	308	eP	P	09 43 09.3	+0.4
	comp=Z,25nm,1.6s						
KURBB	Kurchatov Arra	53.72	315	P	P	09 43 06.4	-2.3
	comp=Z,5.8nm,0.7s,baz=93,slow=7.5,SNR=21						
	comp=Z,5.8nm,0.7s						
G17K	Kiwalik Mounta	53.77	26	P	P	09 43 11.2	+2.3
	baz=251						
SATY	Saty	53.78	306	eP	P	09 43 09.9	+0.4
SATY	Saty	53.78	306	eP	P	09 43 09.9	+0.4
J17K	VABM Dome	53.80	29	P	P	09 43 09.2	+0.1
	baz=254						
L17K	Donlin	53.82	30	P	P	09 43 10.0	+0.7
	baz=256						
RDOG	Red Dog Mine	53.84	23	P	P	09 43 11.1	+1.7
	baz=247						
F17K	Baldwin Pennin	53.85	25	P	P	09 43 10.2	+0.8
	baz=250						
E17K	Hotham Inlet	53.86	24	P	P	09 43 11.3	+1.8
	baz=249						
H17K	Granite Mounta	53.89	27	P	P	09 43 12.1	+2.3
	baz=253						
C17K	DeLong Mountai	53.91	22	P	P	09 43 12.4	+2.5
	baz=247						
K17K	Iditarod	53.96	30	P	P	09 43 11.7	+1.4
	baz=256						
N17K	Nushagak Hills	53.98	32	P	P	09 43 12.6	+2.1
	baz=258						
M17K	Holitna River	54.05	31	P	P	09 43 13.1	+2.1
	baz=258						
P17K	Kvichak River	54.10	34	P	P	09 43 12.1	+0.7
	baz=260						
TARG	Taragay, Kyrgy	54.30	304	IAmb	IAmb	09 43 18.6	
	comp=Z,27nm,1.0s						
TARG	Taragay, Kyrgy	54.30	304	P	P	09 43 12.0	-1.7
TARG				pmax	pmax		
	comp=Z,29nm,1.0s						
E18K	Tukpahlearik C	54.43	24	IAmb	IAmb	09 43 19.9	
	comp=Z,21nm,1.0s						
E18K	Tukpahlearik C	54.43	24	P	P	09 43 15.4	+1.7
	baz=250						
F18K	Selawik	54.51	25	P	P	09 43 17.3	+3.1
	baz=252,SNR=6.6						
L18K	Granite Mounta	54.58	30	P	P	09 43 18.1	+3.3
	baz=258						
H18K	Honhosa River	54.58	27	P	P	09 43 15.5	+0.7
	baz=254						
C18K	Utukok River	54.66	22	P	P	09 43 15.3	0.0
	baz=249						
G18K	Tagagawik	54.68	26	P	P	09 43 14.9	-0.7
	baz=253						
B18K	Kokolik River	54.72	21	P	P	09 43 14.5	-1.3
	baz=248,SNR=6.9						
KDJ	Kajisay	54.74	305	IAmb	IAmb	09 43 30.4	
	comp=Z,18nm,1.1s						
KDJ	Kajisay	54.74	305	P	P	09 43 12.4	-4.2
Q18K	Katmai Hardscr	54.74	35	P	P	09 43 16.8	+0.5
	baz=262						
P18K	Big Mountain,	54.74	34	P	P	09 43 15.1	-1.0
	baz=261						
M18K	Stony River	54.83	31	P	P	09 43 18.0	+1.4
	baz=259						
O18K	Koktuh Hills	54.83	33	P	P	09 43 17.7	+1.0
	baz=261						
J18K	Innoko River	54.84	29	P	P	09 43 17.1	+0.3
	baz=257						
TNSS	Tian-Shan	54.85	306	eP	P	09 43 17.5	-0.1
TNSS	Tian-Shan	54.85	306	eP	P	09 43 17.5	-0.1
AAA	Alma-Ata	54.86	306	eP	P	09 43 17.9	+0.6
AAA	Alma-Ata	54.86	306	eP	P	09 43 17.9	+0.6
A19K	Wainwright	55.28	20	P	P	09 43 21.2	+1.4
	baz=248						
F19K	Shaleruckik Mo	55.29	25	P	P	09 43 20.3	+0.4
	baz=253						
O19K	Port Alsworth	55.33	33	P	P	09 43 21.6	+1.4
	baz=261						
N19K	Bonanza Creek	55.34	32	P	P	09 43 21.1	+0.6
	baz=261						
G19K	Purcell Mounta	55.36	26	IAmb	IAmb	09 44 28.0	
	comp=Z,15nm,0.9s						
G19K	Purcell Mounta	55.36	26	P	P	09 43 22.7	+2.3
	baz=254						
L19K	White Mountain	55.41	31	P	P	09 43 23.1	+2.2
	baz=259						
J19K	Poorman	55.44	28	IAmb	IAmb	09 43 40.4	
	comp=Z,30nm,1.4s						
J19K	Poorman	55.44	28	P	P	09 43 23.1	+2.0
	baz=257						
H19K	Roundabout Mou	55.46	27	P	P	09 43 22.8	+1.7
	baz=256						
BOOM	Boomskoye usch	55.62	305	IAmb	IAmb	09 43 27.5	
	comp=Z,20nm,1.0s						
BOOM	Boomskoye usch	55.62	305	P	P	09 43 21.5	-1.5
D19K	Kuna River	55.67	23	IAmb	IAmb	09 44 27.7	
	comp=Z,18nm,0.9s						
D19K	Kuna River	55.67	23	P	P	09 43 24.9	+2.2
	baz=252						
E19K	Redstone River	55.67	24	IAmb	IAmb	09 43 42.1	
	comp=Z,20nm,1.1s						
E19K	Redstone River	55.67	24	P	P	09 43 23.7	+1.0
	baz=254,SNR=8.0						
MSVF	Nonsavu	55.80	137	LR	LR	10 03 34.9	
	comp=Z,438nm,21.6s,baz=330,slow=32						
KSH	Kashi	55.89	302	P	P	09 43 29.4	+4.5
KSH				S	S	09 51 20.8	+9.3
KSH				pmax	pmax		
	comp=Z,31nm,1.0s						
KSH				pmax	pmax		
	comp=Z,660nm,6.2s						
KSH				LR	LR		
	comp=Z,1µm,15.1s						
KSH				LR	LR		
	comp=Z,3µm,18.2s						
KSH				LR	LR		
	comp=Z,3µm,17.9s						
KDAK	Kodiak Island	55.91	36	P	P	09 43 24.6	+0.1
	comp=Z,8.7nm,0.7s,baz=27,slow=6.8,SNR=2.5						
	comp=Z,8.7nm,0.7s						
L20K	Farewell, AK	55.91	30	P	P	09 43 25.1	+0.6
	baz=260						
K20K	Telida	55.98	29	IAmb	IAmb	09 43 31.4	
	comp=Z,26nm,1.4s						
K20K	Telida	55.98	29	P	P	09 43 25.3	+0.3
	baz=259						
H20K	Anotleneega Mo	56.08	27	P	P	09 43 27.0	+1.3
	baz=257						
J20K	Nowinta River	56.11	28	IAmb	IAmb	09 43 32.3	
	comp=Z,18nm,1.0s						
J20K	Nowinta River	56.11	28	P	P	09 43 26.9	+1.0
	baz=259						
F20K	Avaraart Lake	56.13	25	P	P	09 43 26.9	+1.1
	baz=255						
D20K	Etivluk River	56.26	23	P	P	09 43 28.2	+1.3
	baz=253						
E20K	Nigu River	56.28	23	P	P	09 43 28.0	+0.9
	baz=254						
B20K	Meade River	56.47	21	P	P	09 43 30.1	+1.9
	baz=252						
HOM	Homer	56.59	34	P	P	09 43 30.3	+1.0
	baz=264						
AAK	Ala-Archa	56.68	306	P	P	09 43 29.2	-1.3
AAK	Ala-Archa	56.68	306	P	P	09 43 27.4	-3.1
	comp=Z,1.9nm,0.7s,baz=98,slow=8.8,SNR=10						
	comp=Z,1.9nm,0.7s						
AAK	Ala-Archa	56.68	306	ceP	P	09 43 30.8	+0.3
AAK				pmax	pmax		
	comp=Z,14nm,1.3s						
PPLA	Purkeypile	56.75	30	P	P	09 43 31.1	+0.5
	baz=261						
CHUM	Lake Minchumin	56.85	29	P	P	09 43 31.1	0.0
	baz=261						
G21K	Allakaket	56.86	26	IAmb	IAmb	09 43 37.2	
	comp=Z,22nm,1.2s						
G21K	Allakaket	56.86	26	P	P	09 43 32.1	+1.0
	baz=258						
CAST	Castle Rocks	56.88	29	P	P	09 43 34.2	+2.8
	baz=261						
ARLS	Aral	56.88	305	P	P	09 43 33.9	+2.0
ARLS				pmax	pmax		
	comp=Z,21nm,1.0s						
SKT	Skwentna	56.92	31	P	P	09 43 34.1	+2.4
	baz=263						
CMSA	Cobar Meteorol	56.93	176	P	P	09 43 33.1	+1.2
	comp=Z,22nm,2.3s						
H21K	Melozitna River	56.96	27	IAmb	IAmb	09 43 38.2	
	comp=Z,38nm,1.3s						
H21K	Melozitna Rive	56.96	27	P	P	09 43 33.7	+1.8
	baz=259						
C21K	Knifeblade Rid	57.02	22	P	P	09 43 34.5	+2.2
	baz=255						
F21K	Alatna River	57.02	25	P	P	09 43 33.6	+1.3
	baz=257						
A21K	Barrow	57.05	20	P	P	09 43 33.1	+0.7
	baz=252						
E21K	Killik River	57.12	23	IAmb	IAmb	09 44 33.9	
	comp=Z,18nm,0.9s						
E21K	Killik River	57.12	23	P	P	09 43 35.0	+2.0
	baz=256						
STKA	Stephens Creek	57.13	180	P	P	09 43 33.1	-0.3
STKA	Stephens Creek	57.13	180	P	P	09 43 34.2	+0.9
	comp=Z,76nm,1.1s						
STKA	Stephens Creek	57.13	180	P	P	09 43 31.8	-1.6
	comp=Z,7.1nm,0.7s,baz=331,slow=8.0,SNR=11						
STKA				LR	LR	10 07 58.3	
	comp=Z,1µm,21.7s,baz=3.2,slow=36						
	comp=Z,7.1nm,0.7s						
STKA	Stephens Creek	57.13	180	ceP	P	09 43 34.3	+0.9
B21K	Ikpikpuk River	57.20	22	IAmb	IAmb	09 43 52.9	
	comp=Z,20nm,1.2s						
B21K	Ikpikpuk River	57.20	22	P	P	09 43 33.5	0.0
	baz=255						
I21K	Tanana	57.21	27	IAmb	IAmb	09 43 41.9	
	comp=Z,16nm,0.9s						
I21K	Tanana	57.21	27	P	P	09 43 33.3	-0.3
	baz=260,SNR=7.7						
BRZS	Berezniki	57.46	314	eP	P	09 43 35.9	+0.2
BRZS	Berezniki	57.46	314	eP	P	09 43 36.0	+0.2
BPAW	Bear Paw Mtn.	57.46	29	P	P	09 43 36.1	+0.6
	baz=262						
A22K	Sinclair Lake	57.46	20	P	P	09 43 36.6	+1.3
	baz=254,SNR=7.7						
F22K	John River	57.57	25	P	P	09 43 36.8	+0.6
	baz=258						
H22K	Ishtalitna Cre	57.58	27	P	P	09 43 37.6	+1.3
	baz=260						
RC01	Rabbit Creek A	57.68	32	P	P	09 43 37.3	+0.3
	baz=265						
TRF	Thorofare Moun	57.68	30	P	P	09 43 37.6	+0.4
	baz=263						
D22K	Ayikyak River	57.68	23	P	P	09 43 37.6	+0.6
	baz=257						
SEW	Seward	57.73	34	P	P	09 43 37.4	0.0
	baz=266						
B22K	Teshekpuk Lake	57.78	21	P	P	09 43 38.6	+1.0
	baz=256						
E22K	Anaktuvuk Pass	57.84	24	P	P	09 43 37.3	-0.8
	baz=258						
PMR	Palmer	58.01	32	P	P	09 43 40.0	+0.7
	baz=265						
G23K	Bananza Creek	58.26	26	IAmb	IAmb	09 43 47.3	
	comp=Z,36nm,1.6s						
G23K	Bananza Creek	58.26	26	P	P	09 43 42.0	+0.9
	baz=261						
COLD	Coldfoot	58.27	25	P	P	09 43 42.5	+1.4
	baz=261						
BBOO	Buckleboo	58.30	185	P	P	09 43 40.4	-1.2
BBOO	Buckleboo	58.30	185	P	P	09 43 40.2	-1.4
	comp=Z,38nm,0.9s						
I23K	Minto, Yukon-K	58.30	28	IAmb	IAmb	09 43 55.1	
	comp=Z,46nm,1.6s						
I23K	Minto, Yukon-K	58.30	28	P	P	09 43 41.6	+0.3
	baz=263						
MCK	McKinley	58.31	29	P	P	09 43 40.3	-1.2
MCK	McKinley	58.31	29	P	P	09 43 40.3	-1.2
MCK				pmax	pmax		
	comp=Z,53nm,1.6s						
MCK	McKinley	58.31	29	P	P	09 43 42.7	+1.3
	baz=264,SNR=5.8						
RND	Reindeer	58.32	30	IAmb	IAmb	09 44 38.0	
	comp=Z,16nm,1.1s						
RND	Reindeer	58.32	30	P	P	09 43 42.3	+0.8
H23K	Yukon River	58.32	27	IAmb	IAmb	09 43 47.8	
	comp=Z,17nm,1.1s						
H23K	Yukon River	58.32	27	P	P	09 43 43.6	+2.2
	baz=262						
NEA2	Nenana	58.35	28	IAmb	IAmb	09 43 47.3	
	comp=Z,32nm,1.3s						
NEA2	Nenana	58.35	28	P	P	09 43 43.5	+1.8
	baz=263,SNR=7.5						
D23K	Nanushuk River	58.41	23	IAmb	IAmb	09 43 49.4	
	comp=Z,21nm,1.0s						
D23K	Nanushuk River	58.41	23	P	P	09 43 43.8	+1.8
	baz=259						
SML	Sawmill	58.41	32	P	P	09 43 42.8	+0.6
	baz=266						
C23K	Itkillik River	58.60	22	IAmb	IAmb	09 43 50.2	
	comp=Z,20nm,0.9s						
C23K	Itkillik River	58.60	22	P	P	09 43 44.0	+0.7
	baz=259						
E23K	Chandalar	58.63	24	IAmb	IAmb	09 44 40.9	
	comp=Z,26nm,1.2s						
E23K	Chandalar	58.63	24	P	P	09 43 44.6	+0.9
	baz=261						
ARK	Arkit	58.64	305	P	P	09 43 43.7	-0.5
ARK				pmax	pmax		
	comp=Z,25nm,1.0s						
M23K	Glacier View	58.70	32	P	P	09 43 46.5	+2.3
	baz=266						
HYB	Hyderabad	58.74	276	eP	P	09 43 45.9	+0.8
HYB				IVmB_BB		09 43 53.3	
	comp=Z,924nm,4.4s						
HYB				ePcP	PcP	09 44 32.9	-2.0
HYB				eScP	ScP	09 48 34.0	-0.2
HYB				eS	S	09 51 50.6	+1.4
TOLK	Toolik Lake Re	58.75	24	IAmb	IAmb	09 44 40.6	
	comp=Z,16nm,0.9s						
TOLK	Toolik Lake Re	58.75	24	P	P	09 43 46.2	+1.7
	baz=260						
BVAR	Borovoye Array	58.79	318	P	P	09 43 41.6	-3.4
	comp=Z,5.1nm,0.7s,baz=94,slow=7.9,SNR=20						
	comp=Z,5.1nm,0.7s						
BRVK	Borovoye	58.85	318	P	P	09 43 46.1	+0.8
BRVK	Borovoye	58.85	318	‖eP	P	09 43 46.5	+1.1
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
SCM	Sheep Creek Mo	58.89	32	P	P	09 43 45.4	-0.2
	baz=266						
COLA	College	58.91	28	‖eP	P	09 43 47.5	+2.0
COLA				pmax	pmax		
	comp=Z,42nm,3.3s						
COLA	College	58.91	28	P	P	09 43 45.1	-0.4
	baz=264						
GLI	Glacier Island	58.95	33	P	P	09 43 44.8	-1.1
	baz=267						
NIL	Nilore	58.99	295	P	P	09 43 45.6	-1.1
NIL	Nilore	58.99	295	P	P	09 43 45.6	-1.1
NIL				pmax	pmax		
	comp=Z,202nm,1.9s						
H24K	Noodor Dome	59.00	27	P	P	09 43 46.5	+0.2
	baz=264						
E24K	Your Creek	59.05	24	P	P	09 43 46.5	-0.1
	baz=262						
DRK	Karamyk	59.10	302	IAmb	IAmb	09 43 57.6	
	comp=Z,20nm,1.1s						
D24K	Happy Valley	59.10	23	IAmb	IAmb	09 43 53.8	
	comp=Z,17nm,0.8s						
D24K	Happy Valley	59.10	23	P	P	09 43 47.1	+0.3
	baz=261						
POKR	Poker Plat Res	59.11	28	P	P	09 43 47.9	+0.9
	baz=264						
F24K	Squaw Lake	59.20	25	P	P	09 43 48.2	+0.6
	baz=263						
C24K	Franklin Bluff	59.24	22	IAmb	IAmb	09 43 54.5	
	comp=Z,18nm,0.9s						
C24K	Franklin Bluff	59.24	22	P	P	09 43 48.0	+0.3
	baz=260						
HDA	Harding Lake	59.25	29	P	P	09 43 47.9	-0.1
	baz=265						
G24K	Hadweenzic Riv	59.26	26	IAmb	IAmb	09 44 02.0	
	comp=Z,27nm,1.3s						
G24K	Hadweenzic Riv	59.26	26	P	P	09 43 49.5	+1.5
	baz=264						
TRKS	Terek-Say	59.29	305	P	P	09 43 47.2	-1.6
TRKS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
IL31		59.31	28	IAmb	IAmb	09 43 52.8	
	comp=Z,18nm,1.1s						
ILAR	Eielson Array	59.31	28	P	P	09 43 47.7	-0.6
ILAR	Eielson Array	59.31	28	P	P	09 43 48.4	+0.1
	comp=Z,8.0nm,0.9s,baz=264,slow=5.8,SNR=28						
	comp=Z,8.0nm,0.9s						
KKAR	Karatay Array	59.53	307	P	P	09 43 48.3	-2.0
KKAR	Karatay Array	59.53	307	IAmb	IAmb	09 43 54.4	
	comp=Z,21nm,1.2s						
KKAR	Karatay Array	59.53	307	P	P	09 43 48.3	-2.0
K24K	Donnelly Dome	59.72	29	P	P	09 43 50.4	-0.8
	baz=267						
BTK	Batken	59.75	303	P	P	09 43 52.8	+0.9
BTK				pmax	pmax		
	comp=Z,11nm,1.2s						
G25K	Bearman Lake	59.81	26	P	P	09 43 51.7	0.0
	baz=265						
PAX	Paxson	59.81	30	P	P	09 43 53.5	+1.5
	baz=268						
H25L	Birch Creek	59.88	27	P	P	09 43 54.4	+2.2
	baz=265						
HARP	HAARP	59.94	31	P	P	09 43 50.9	-1.8
	baz=268						
PRP	Porcupine Dome	59.94	27	IAmb	IAmb	09 44 14.1	
	comp=Z,22nm,1.8s						
PRP	Porcupine Dome	59.94	27	P	P	09 43 51.6	-1.3
	baz=266						
J25K	Salcha River,	59.95	28	P	P	09 43 52.7	-0.2
	baz=267						
D25K	Kavik River	59.99	23	IAmb	IAmb	09 43 59.9	
	comp=Z,12nm,0.8s						
D25K	Kavik River	59.99	23	P	P	09 43 53.2	+0.2
	baz=263,SNR=10						
IUG	Iuzhnay	60.02	305	eP	P	09 43 54.0	+0.3
IUG				pmax	pmax		
	comp=Z,16nm,1.1s						
IUG	Iuzhnay	60.02	305	eP	P	09 43 54.1	+0.3
	comp=Z,16nm,1.1s						
BRLS	Borolday	60.03	307	eP	P	09 43 57.9	+4.2
BRLS	Borolday	60.03	307	eP	P	09 43 54.9	+1.2
F25K	Christian Rive	60.07	25	P	P	09 43 54.5	+0.9
	baz=265						
RIDG	Independent Ri	60.13	29	P	P	09 43 55.3	+1.2
	baz=268						
E25K	Arctic Village	60.15	24	IAmb	IAmb	09 44 00.3	
	comp=Z,14nm,1.1s						
E25K	Arctic Village	60.15	24	P	P	09 43 55.3	+1.2
	baz=264,SNR=14						
BMRM	Bremner River	60.16	33	P	P	09 43 56.2	+1.9
	baz=269						
KAIM	Kayak Island	60.25	34	P	P	09 43 53.5	-1.4
	baz=270						
SCRK	Sand Creek	60.52	29	P	P	09 43 57.6	+0.8
SCRK				IAmb	IAmb	09 44 02.0	
	comp=Z,20nm,0.9s						
SCRK	Sand Creek	60.52	29	P	P	09 43 54.9	-1.9
	baz=268,SNR=16						
C26K	Camden Bay	60.57	22	P	P	09 43 56.8	0.0
	baz=264						
PALK	Pallekele	60.65	264	LR	LR	10 08 48.2	
	comp=Z,134nm,21.4s,baz=61,slow=35						
F26K	Sheenjek River	60.65	25	IAmb	IAmb	09 44 11.6	
	comp=Z,16nm,1.1s						
F26K	Sheenjek River	60.65	25	P	P	09 43 57.7	+0.2
	baz=266						
J26L	Joseph Creek	60.72	29	IAmb	IAmb	09 44 03.0	
	comp=Z,18nm,0.8s						
J26L	Joseph Creek	60.72	29	P	P	09 43 58.9	+0.8
	baz=268						
G26K	Porcupine Rive	60.74	26	P	P	09 43 57.7	-0.4
	baz=267						
L26K	Log Cabin Wild	60.78	30	P	P	09 43 58.1	-0.5
	baz=269						
I26K	Coal Creek Min	60.92	28	P	P	09 43 59.3	-0.1
	baz=268						
M26K	Nabesna, AK	60.94	31	P	P	09 43 59.8	+0.2
	baz=270						
C27K	Jago River	60.95	23	IAmb	IAmb	09 44 06.6	
	comp=Z,10nm,0.8s						
C27K	Jago River	60.95	23	P	P	09 44 00.1	+0.6
	baz=265						
CAN	Canberra	60.97	173	P	P	09 43 59.6	-0.4
CAN	Canberra	60.97	173	P	P	09 43 59.7	-0.3
	comp=Z,31nm,1.8s						
CAN	Canberra	60.97	173	P	P	09 43 59.6	-0.4
CAN				pmax	pmax		
	comp=Z,38nm,1.3s						
K27K	Chicken	61.36	29	P	P	09 44 03.0	+0.6
	baz=270						
SIMJ	Simiganj	61.38	302	P	P	09 44 00.7	-2.4
M27K	Edge Creek, AK	61.46	31	P	P	09 44 01.6	-1.6
	baz=271						
L27K	Beaver Creek,	61.48	30	P	P	09 44 02.4	-0.8
	baz=271						
MESA	MESA	61.49	34	P	P	09 44 02.8	-0.7
	baz=272						
DZET	Dzherino	61.49	302	P	P	09 44 04.8	+1.0
DZET				pmax	pmax		
	comp=Z,19nm,1.0s						
BCAR	Beaver Creek A	61.50	30	P	P	09 44 04.8	+1.4
I27K	Kandik River	61.57	27	P	P	09 44 04.0	+0.2
	baz=270						
G27K	Doyon Strip	61.57	26	P	P	09 44 03.0	-0.8
	baz=269						
H27K	Steamboat Moun	61.61	27	P	P	09 44 03.9	-0.2
	baz=269						
E27K	Coleen River	61.63	24	P	P	09 44 03.4	-0.8
	baz=268						
D27M	Malcolm River	61.90	23	IAmb	IAmb	09 44 19.6	
	comp=Z,14nm,1.1s						
D27M	Malcolm River	61.90	23	P	P	09 44 03.5	-2.5
	baz=268						
BVCY	Beaver Creek	61.94	31	P	P	09 44 05.8	-0.5
	baz=272						
ARPS	Mount Arapiles	62.01	180	P	P	09 44 07.0	0.0
	comp=Z,34nm,0.9s						
YUK3	Moose Creek	62.15	32	P	P	09 44 07.3	-0.7
	baz=273						
KBL	Kabul	62.21	297	P	P	09 44 07.0	-1.9
KBL	Kabul	62.21	297	P	P	09 44 07.0	-1.9
KBL				pmax	pmax		
	comp=Z,42nm,1.0s						
I28M	Miner Creek	62.27	28	IAmb	IAmb	09 44 33.5	
	comp=Z,21nm,1.3s						
I28M	Miner Creek	62.27	28	P	P	09 44 07.7	-0.9
	baz=271						
E28M	Babbage River	62.41	24	IAmb	IAmb	09 44 16.6	
	comp=Z,15nm,0.8s						
E28M	Babbage River	62.41	24	P	P	09 44 08.9	-0.5
	baz=270,SNR=24						
YUK8	Steele Glacier	62.51	32	P	P	09 44 10.3	-0.1
	baz=274						
DAWY	Dawson	62.54	29	P	P	09 44 10.5	+0.2
	baz=272						
D28M	Stokes Point	62.70	23	P	P	09 44 11.5	+0.3
	baz=270						
H29M	Whitestone	62.89	27	IAmb	IAmb	09 44 18.4	
	comp=Z,28nm,1.4s						
H29M	Whitestone	62.89	27	P	P	09 44 13.2	+0.5
	baz=272						
TOO	Toolangi	62.92	176	P	P	09 44 13.2	+0.1
TOO				IAmb	IAmb	09 44 25.8	
	comp=Z,21nm,1.6s						
TOO	Toolangi	62.92	176	P	P	09 44 15.3	+2.3
TOO	Toolangi	62.92	176	P	P	09 44 13.2	+0.1
TOO				pmax	pmax		
	comp=Z,21nm,1.6s						
I29M	Ogilvie Camp,	62.95	28	IAmb	IAmb	09 44 18.5	
	comp=Z,18nm,1.1s						

I29M	**Ogilvie Camp,**	62.95	28	P	**P**	**09 44 13.9 +0.9**
	baz=273,SNR=6.7					
G29M	**Pine Creek**	63.01	26	P	**P**	**09 44 13.9 +0.5**
	baz=272					
E29M	**Blow River**	63.01	24	IAmb	IAmb	09 44 28.0
	comp=Z,12nm,0.9s					
E29M	**Blow River**	63.01	24	P	**P**	**09 44 15.5 +2.2**
	baz=272					
J29N	**Klondike Camp**	63.04	29	P	**P**	**09 44 14.5 +0.8**
	baz=273					
YUK4	**Talbot Arm**	63.04	32	P	**P**	**09 44 16.3 +2.3**
	baz=274					
M29M	**Somme Creek**	63.05	31	IAmb	IAmb	09 44 21.9
	comp=Z,17nm,0.9s					
M29M	**Somme Creek**	63.05	31	P	**P**	**09 44 16.0 +2.2**
	baz=274					
L29M	**L29M**	63.16	30	P	**P**	**09 44 15.6 +1.2**
	baz=274					
O29M	**Mount Kennedy**	63.16	33	P	**P**	**09 44 15.7 +1.1**
	baz=275					
YUK6	**Outpost Mounta**	63.21	33	P	**P**	**09 44 17.0 +1.9**
	baz=275					
K29M	**Barlow Dome**	63.38	29	IAmb	IAmb	09 44 22.0
	comp=Z,15nm,1.0s					
K29M	**Barlow Dome**	63.38	29	P	**P**	**09 44 16.4 +0.4**
	baz=274					
HYT	**Haines Junctio**	63.64	33	P	**P**	**09 44 19.9 +2.1**
	baz=276					
G30M	**tAoh Zraii Nji**	63.71	26	P	**P**	**09 44 19.6 +1.5**
	baz=274					
I30M	**Mount Dempster**	63.77	28	IAmb	IAmb	09 44 25.2
	comp=Z,12nm,0.9s					
I30M	**Mount Dempster**	63.77	28	P	**P**	**09 44 20.3 +1.7**
	baz=274					
N30M	**Aishikik Lake**	63.78	32	P	**P**	**09 44 19.4 +0.8**
	baz=276					
M30M	**Minto, Yukon**	63.81	31	P	**P**	**09 44 18.6 -0.2**
	baz=275					
F30M	**Barrier River**	63.84	25	P	**P**	**09 44 18.4 -0.5**
	baz=274,SNR=8.4					
J30M	**Hart River**	63.84	28	IAmb	IAmb	09 44 26.0
	comp=Z,13nm,1.1s					
J30M	**Hart River**	63.84	28	P	**P**	**09 44 18.5 -0.6**
	baz=275					
P30M	**Million Dollar**	63.98	33	P	**P**	**09 44 19.8 -0.2**
	baz=276					
O30N	**Mendenhall**	64.33	33	P	**P**	**09 44 21.4 -0.9**
	baz=277					
G31M	**Satah River**	64.48	26	P	**P**	**09 44 22.3 -0.8**
	baz=276,SNR=9.8					
H31M	**Peel River**	64.56	27	P	**P**	**09 44 22.5 -1.2**
	baz=276					
INK	**Inuvik**	64.64	24	P	**P**	**09 44 23.8 -0.2**
	comp=Z,6.6nm,1.0s,baz=284,slow=7.6,SNR=10					
	comp=Z,6.6nm,1.0s					
INK	**Inuvik**	64.64	24	P	**P**	**09 44 22.9 -1.1**
	baz=276,SNR=7.1					
F31M	**Tsiigehtchic**	64.64	25	P	**P**	**09 44 22.9 -1.1**
	baz=276,SNR=6.6					
SKAG	**Skagway**	64.88	34	P	P	09 44 19.9 -5.8
	baz=278					
WHY	**Whitehorse**	64.94	33	P	**P**	**09 44 25.0 -1.3**
	baz=278					
M31M	**Drury Creek, Y**	64.96	31	IAmb	IAmb	09 44 33.4
	comp=Z,9.4nm,0.8s					
M31M	**Drury Creek, Y**	64.96	31	P	**P**	**09 44 26.2 -0.2**
	baz=278					
ARTI	**Arti**	65.39	323	P	**P**	**09 44 26.5 -2.7**
	comp=Z,3.4nm,0.7s,baz=6.6,slow=3.8,SNR=3.3					
	comp=Z,3.4nm,0.7s					
ARTI	**Arti**	65.39	323	*c iP*	**P**	**09 44 26.2 -3.0**
ARTI				S	**S**	**09 53 10.0 -2.1**
ARTI				pmax	pmax	
	comp=Z,19nm,2.8s					
FARO	**Faro, Yukon**	65.44	31	IAmb	IAmb	09 44 46.1
	comp=Z,27nm,1.4s					
FARO	**Faro, Yukon**	65.44	31	P	**P**	**09 44 28.9 -0.5**
	baz=278					
R32K	**Eaglecrest**	65.47	35	P	**P**	**09 44 28.9 -0.8**
	baz=279,SNR=6.3					
P32M	**Atlin**	65.67	34	P	**P**	**09 44 30.8 -0.2**
	baz=279					
ABKAR	**Akbulak array**	65.76	315	P	**P**	**09 44 28.4 -3.3**
P33M	**Teslin, Yukon**	66.02	33	P	**P**	**09 44 33.7 +0.4**
	baz=280					
T33K	**Petersburg**	66.56	37	P	**P**	**09 44 34.2 -2.5**
	baz=281					
U33K	**Whale Pass**	66.61	37	P	**P**	**09 44 35.5 -1.5**
	baz=281					
AKTO	**Aktyubinsk**	66.74	316	P	**P**	**09 44 35.0 -2.9**
	comp=Z,1.1nm,0.5s,baz=70,slow=11,SNR=6.0					
	comp=Z,1.1nm,0.5s					
A36M	**Sachs Harbour**	66.89	20	IAmb	IAmb	09 44 44.9
	comp=Z,11nm,0.9s					
A36M	**Sachs Harbour**	66.89	20	P	**P**	**09 44 37.7 -0.8**
	baz=282,SNR=6.2					
R33M	**Jennings River**	67.09	34	P	**P**	**09 44 40.2 0.0**
	baz=282					
V35K	**Ketchikan**	67.61	38	P	**P**	**09 44 44.1 +0.8**
	baz=283					
DLBC	**Dease Lake**	67.77	35	P	**P**	**09 44 44.9 +0.5**
	comp=Z,2.8nm,1.0s,baz=290,slow=8.3,SNR=8.6					
	comp=Z,2.8nm,1.0s					
DLBC	**Dease Lake**	67.77	35	P	**P**	**09 44 44.1 -0.3**
	baz=283					
C36M	**Paulatuk**	67.85	22	IAmb	IAmb	09 44 50.1
	comp=Z,16nm,1.0s					
C36M	**Paulatuk**	67.85	22	P	**P**	**09 44 44.6 0.0**
	baz=284,SNR=7.7					
TGTN	**Hyland Airport**	67.94	31	P	**P**	**09 44 44.5 -0.9**
	baz=283,SNR=6.7					
WTLY	**Watson Lake, Y**	68.01	33	P	**P**	**09 44 45.9 +0.1**
	baz=283,SNR=6.9					
KIRV	**Kirov**	69.64	326⇑	*e*P	**P**	**09 44 55.8 -0.1**
WRGLY	**Wrigley**	69.68	29	P	**P**	**09 44 55.2 -0.9**
	baz=286,SNR=8.2					
TOAD	**Toad River Com**	70.09	34	P	**P**	**09 44 59.1 +0.3**
	baz=287,SNR=6.9					
EUNU	**Eureka**	71.48	8	IAmb	IAmb	09 45 09.5
	comp=Z,34nm,1.9s					
URZ	**Urewera**	71.71	151	LR	LR	10 14 33.3
	comp=Z,311nm,20.8s,baz=54,slow=34					
RAR	**Rarotonga**	73.51	124	LR	LR	10 09 53.9
	comp=Z,679nm,20.9s,baz=282,slow=29					
RES	**Resolute Bay**	73.66	13	P	**P**	**09 45 23.0 +3.1**
RES				pmax	pmax	
	comp=Z,10.0nm,1.0s					
PLWZ	**Palliser**	73.73	154	P	**P**	**09 45 21.1 +0.4**
YKA	**Yellowknife Ar**	73.74	28	P	**P**	**09 45 20.9 +0.4**
	comp=Z,12nm,0.9s,baz=293,slow=5.9,SNR=22					
	comp=Z,12nm,0.9s					
YKA	**Yellowknife Ar**	73.74	28	*i* P	**P**	**09 45 20.8 +0.3**
YKA				pmax	pmax	
	comp=Z,12nm,0.9s					
RPZ	**Rata Peaks**	74.07	158	LR	LR	10 14 22.8
	comp=Z,887nm,21.8s,baz=332,slow=33					
WSAR	**Wadi Sarin**	74.30	289	LR	LR	10 19 53.7
	comp=Z,320nm,20.7s,baz=94,slow=38					
ARCES	**ARCESS Array B**	74.79	341	P	**P**	**09 45 24.6 -2.0**
	comp=Z,5.6nm,1.0s,baz=72,slow=5.6,SNR=3.5					
	comp=Z,5.6nm,1.0s					
MAK	**Makhachkala**	75.84	311	*e*P	**P**	**09 45 34.3 +1.2**
MAK				*e*		09 48 24.4
MAK				*e*S	**S**	**09 55 18.6 +4.3**
MAK				*e*SS	**SS**	**10 00 08.9 +2.9**
MAK				pmax	pmax	
	comp=Z,32nm,0.4s					
MAK				MLR	MLR	
	comp=Z,3μm,15.0s					
VRH	**Novokhopyorsk**	76.32	320	*e*P	**P**	**09 45 36.1 +0.5**
VRH				pmax	pmax	
	comp=Z,9.0nm,0.9s					
MOS	**Moscow**	76.64	326	*e*P	**P**	**09 45 35.1 -2.3**
MOS				MLR	MLR	
	comp=Z,2μm,17.0s					
B08A	**Colville Reser**	77.02	43	IAmb	IAmb	09 45 47.4
	comp=Z,14nm,0.9s					
MXC	**Moxie City**	77.14	44	IAmb	IAmb	09 45 55.3
	comp=Z,29nm,1.6s					
DAG	**Danmarks Havn**	77.17	355	P	**P**	**09 45 41.5 +1.5**
LPSR	**Galich'ya Gora**	77.31	322	*e*P	**P**	**09 45 40.4 -0.8**
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
OBN	**Obninsk**	77.46	325⇓	*e*P	**P**	**09 45 43.7 +1.7**
OBN				*e*		09 48 39.2
OBN				*i* S	S	09 55 22.3 -9.2
OBN				pmax	pmax	
	comp=Z,17nm,1.1s					
OBN				MLR	MLR	
	comp=Z,2μm,17.0s					
VSR	**Storozhevoye**	77.77	321	*e*P	**P**	**09 45 43.2 -0.6**
VSR				pmax	pmax	
	comp=Z,10.0nm,1.0s					
VORD	**Divnogorie**	77.81	321	*e*P	**P**	**09 45 43.6 -0.4**
VORD				pmax	pmax	
	comp=Z,7.0nm,1.0s					
NEW	**Newport**	78.40	42	IAmb	IAmb	09 45 53.3
	comp=Z,19nm,1.1s					
NEW	**Newport**	78.40	42	P	**P**	**09 45 49.6 +2.1**
NEW				pmax	pmax	
	comp=Z,22nm,1.4s					
E09A	**Wood Farm, Sta**	78.51	44	IAmb	IAmb	09 45 54.1
	comp=Z,16nm,1.1s					
KBZ	**Khabaz**	78.64	313	P	**P**	**09 45 45.7 -3.0**
	comp=Z,1.2nm,0.7s,baz=31,slow=12,SNR=2.4					
	comp=Z,1.2nm,0.7s					
KBZ	**Khabaz**	78.64	313⇑	*e*P	**P**	**09 45 50.6 +1.9**
KBZ				pmax	pmax	
	comp=Z,10.0nm,1.0s					
FINES	**FINESS Array B**	79.06	334	P	**P**	**09 45 47.2 -3.5**
	comp=Z,5.5nm,0.5s,baz=53,slow=6.5,SNR=25					
	comp=Z,5.5nm,0.5s					
PPT	**Papeete**	79.52	115	LR	LR	10 15 48.5
	comp=Z,608nm,19.1s,baz=298,slow=32					
WVOR	**Wild Horse Val**	79.93	48	IAmb	IAmb	09 46 10.8
	comp=Z,48nm,1.8s					
WVOR	**Wild Horse Val**	79.93	48	P	**P**	**09 45 58.4 +2.3**
WVOR				pmax	pmax	
	comp=Z,12nm,1.9s					
PLID	**Pearl Lake**	80.48	45	P	**P**	**09 45 59.9 +0.7**
CMB	**Columbia Colle**	80.58	52	IAmb	IAmb	09 46 13.1
	comp=Z,25nm,1.6s					
PAHR	**Pah Rah Range**	80.58	51	IAmb	IAmb	09 46 13.3
	comp=Z,35nm,1.8s					
SOC	**Sochi**	80.78	314	*e*P	**P**	**09 46 02.1 +1.7**
SOC				*e*		09 49 05.0
SOC				*e*PPP	PPP	09 50 52.5
SOC				*e*S	**SKSac**	**09 56 13.6 -4.3**
SOC				*e*SS	**SS**	**10 01 19.8 -0.4**
SOC				MLR	MLR	
	comp=Z,2μm,19.0s					
MFID	**Camas Ranch**	81.35	46	IAmb	IAmb	09 46 17.4
	comp=Z,33nm,1.4s					
NVAR	**Mina Array Bea**	81.89	51	P	**P**	**09 46 07.2 +0.5**
NVAR	**Mina Array Bea**	81.89	51	P	**P**	**09 46 07.5 +0.8**
	comp=Z,2.4nm,0.7s,baz=296,slow=5.8,SNR=12					
	comp=Z,2.4nm,0.7s					
SUMG	**Summit**	82.11	0	P	**P**	**09 46 07.2 -0.2**
EGMT	**Eagleton**	82.87	40	IAmb	IAmb	09 46 18.2
	comp=Z,16nm,0.8s					
ELK	**Elko**	82.96	48	P	**P**	**09 46 11.7 -0.6**
FFC	**Flin Flon**	83.32	32	P	**P**	**09 46 13.7 +0.2**
FFC				IAmb	IAmb	09 46 19.4
	comp=Z,20nm,1.1s					
FFC	**Flin Flon**	83.32	32	P	**P**	**09 46 13.7 +0.2**
FFC				pmax	pmax	
	comp=Z,20nm,1.1s					
AKASG	**Malin Array Be**	83.51	324	P	**P**	**09 46 13.2 -1.4**
AKASG	**Malin Array Be**	83.51	324	P	**P**	**09 46 11.2 -3.3**
	comp=Z,4.4nm,0.8s,baz=52,slow=5.2,SNR=12					
	comp=Z,4.4nm,0.8s					
AKASG	**Malin Array Be**	83.51	324	*i* P	**P**	**09 46 13.3 -1.3**
AKASG				pmax	pmax	
	comp=Z,6.0nm,0.9s					
AKBB	**Malin Array Si**	83.51	324	IAmb	IAmb	09 46 20.8
	comp=Z,16nm,1.4s					
AKBB	**Malin Array Si**	83.51	324	⇓*i*P	**P**	**09 46 14.0 -0.6**
AKBB				pmax	pmax	
	comp=Z,13nm,1.5s					
AKBB	**Malin Array Si**	83.51	324	P	**P**	**09 46 13.6 -1.0**
KIEV	**Kiev**	83.52	324	P	**P**	**09 46 13.8 -0.8**
KIEV	**Kiev**	83.52	324	P	**P**	**09 46 13.9 -0.8**
KIEV				pmax	pmax	
	comp=Z,15nm,1.4s					
YHL	**Hebgen Lake**	83.61	43	IAmb	IAmb	09 46 24.3
	comp=Z,16nm,1.0s					
WCT	**Wildcat Mounta**	83.82	52	IAmb	IAmb	09 46 30.1
	comp=Z,15nm,1.4s					
TPNV	**Topopah Spring**	84.01	52	IAmb	IAmb	09 46 24.5
	comp=Z,11nm,1.0s					
GWY	**Greenwater Val**	84.06	53	IAmb	IAmb	09 46 29.9
	comp=Z,9.4nm,0.9s					
FCC	**Fort Churchill**	84.21	26	IAmb	IAmb	09 46 29.3
	comp=Z,32nm,1.8s					
YNE	**Yellowstone No**	84.25	43	IAmb	IAmb	09 46 32.7
	comp=Z,16nm,1.3s					
FXWY	**Fox Creek**	84.31	44	IAmb	IAmb	09 46 27.8
	comp=Z,18nm,1.3s					
TPAW	**Teton Pass**	84.43	44	IAmb	IAmb	09 46 32.8
	comp=Z,26nm,1.4s					
HFS	**Hagfors**	84.59	337	P	**P**	**09 46 16.1 -3.9**
	comp=Z,4.4nm,0.9s,baz=119,slow=5.2,SNR=4.7					
NC204	**NORSAR Array S**	84.79	338	P	**P**	**09 46 20.3 -0.7**
NB2	**NORSAR Subarra**	84.81	338	P	**P**	**09 46 17.1 -4.0**
	comp=Z,13nm,1.1s,baz=45,slow=5.1					
NOA	**NORSAR Array B**	84.81	338	P	**P**	**09 46 17.4 -3.6**
	comp=Z,4.5nm,0.9s,baz=46,slow=4.8,SNR=9.2					
	comp=Z,4.5nm,0.9s					
DUG	**Dugway, Tooele**	84.85	48	IAmb	IAmb	09 46 30.0
	comp=Z,9.3nm,0.9s					
DUG	**Dugway, Tooele**	84.85	48	P	**P**	**09 46 24.8 +3.0**
DUG				pmax	pmax	
	comp=Z,11nm,1.3s					
PSUT	**Pine Spring**	84.95	50	IAmb	IAmb	09 46 36.6
	comp=Z,15nm,1.4s					
HWUT	**Hardware Ranch**	84.98	46	IAmb	IAmb	09 46 30.7
	comp=Z,17nm,1.2s					
RAYN	**Ar Rayn**	85.25	294	P	**P**	**09 46 22.5 -1.5**
RAYN				IAmb	IAmb	09 46 29.6
	comp=Z,14nm,1.0s					
RAYN	**Ar Rayn**	85.25	294	P	**P**	**09 46 22.5 -1.5**
RAYN				pmax	pmax	
	comp=Z,14nm,1.0s					
PFO	**Pinyon Flats O**	85.40	55	IAmb	IAmb	09 46 41.5
	comp=Z,16nm,1.3s					
PFO	**Pinyon Flats O**	85.40	55	P	**P**	**09 46 27.4 +2.7**
PFO				pmax	pmax	
	comp=Z,9.0nm,1.3s					
V12A	**Nelson**	85.58	52	P	**P**	**09 46 25.9 +0.4**
LAO	**LASA Array**	85.62	40	IAmb	IAmb	09 46 32.9
	comp=Z,16nm,0.9s					
PDAR	**Pinedale Array**	85.68	44	P	**P**	**09 46 25.9 -0.1**
PDAR	**Pinedale Array**	85.68	44	P	**P**	**09 46 26.9 +0.8**
	comp=Z,3.1nm,0.8s,baz=280,slow=3.1,SNR=20					
	comp=Z,3.1nm,0.8s					
SFJD	**Kangerlussuaq**	87.26	5	LR	LR	10 25 44.5
	comp=Z,261nm,21.2s,baz=344,slow=36					
113A	**Mohawk Valley,**	87.79	55	IAmb	IAmb	09 46 50.9
	comp=Z,19nm,1.6s					
FRB	**Frobisher Bay**	87.87	13	LR	LR	10 29 30.4
	comp=Z,164nm,20.1s,baz=314,slow=38					
BORG	**Borgarnes**	88.99	353	LR	LR	10 27 01.6
	comp=Z,198nm,19.0s,baz=6.1,slow=36					
ULM	**Lac du Bonnet**	89.02	33	P	**P**	**09 46 42.9 +1.2**
	comp=Z,1.7nm,0.8s,baz=320,slow=5.7,SNR=3.9					
	comp=Z,1.7nm,0.8s					
MORC	**Moravsky Berou**	90.04	328	P	**P**	**09 46 44.5 -2.1**
MORC	**Moravsky Berou**	90.04	328	P	**P**	**09 46 44.5 -2.1**
MORC				pmax	pmax	
	comp=Z,6.0nm,0.6s					
TUC	**Tucson**	90.20	54	P	P	09 46 53.5 +5.8
VRAC	**Vranov**	90.81	328	LR	LR	10 31 23.1
	comp=Z,2μm,18.0s,baz=58,slow=38					
CLL	**Collm**	91.10	331	*e*P	**P**	**09 46 53.0 +1.6**
ANMO	**Albuquerque**	91.88	50	P	P	09 47 01.2 +5.6
ANMO				pmax	pmax	
	comp=Z,3.0nm,2.0s					
KHC	**Kasperske Hory**	92.37	329⇓	*e*P	**P**	**09 46 57.0 -0.4**
KHC				pmax	pmax	
	comp=Z,38nm,3.1s					
GERES	**GERESS Array B**	92.52	329	P	**P**	**09 46 56.3 -1.8**
	comp=Z,1.8nm,0.8s,baz=79,slow=5.7,SNR=1.9					
GERES				LR	LR	10 32 37.2
	comp=Z,1μm,18.1s,baz=62,slow=38					
	comp=Z,1.8nm,0.8s					
LPIG	**La Paz**	94.73	61	LR	LR	10 21 22.9
	comp=Z,330nm,21.9s,baz=316,slow=30					
IDI	**Anoyia**	94.86	313	LR	LR	10 34 43.0
	comp=Z,355nm,19.0s,baz=34,slow=39					
DAVOX	**Davos/Dischmat**	95.79	329	LR	LR	10 34 54.5
	comp=Z,928nm,19.3s,baz=80,slow=38					
SCHQ	**Schefferville**	96.28	16	LR	LR	10 33 12.1
	comp=Z,258nm,21.7s,baz=1.5,slow=37					
TXAR	**Lajitas Array**	96.95	53	P	**P**	**09 47 19.9 +1.1**
	comp=Z,0.3nm,0.7s,baz=302,slow=2.4,SNR=6.7					
TXAR				LR	LR	10 26 30.5
	comp=Z,294nm,19.7s,baz=308,slow=33					
	comp=Z,0.3nm,0.7s					
VAE	**Valguarnera**	100.01	320	LR	LR	10 39 01.9
	comp=Z,617nm,18.6s,baz=82,slow=39					
SYO	**Syowa Base**	117.91	204⇓	*e*PdfZ	**Pdif**	**09 48 51.0 +0.2**
SYO	**Syowa Base**	117.91	204⇓	*e*PDdiff	pPdif	09 48 57.7 +0.7
CZSB	**Cruzeiro do Su**	142.84	68	PKPdf	**PKPdf**	**09 53 19.0 -2.1**
H03N2	**Juan Fernandez**	144.07	112	T	T	12 34 13.0
	baz=271,slow=74,SNR=26					
H03N3	**Juan Fernandez**	144.07	112	T	T	12 34 14.3
	baz=271,slow=74,SNR=39					
H03N1	**Juan Fernandez**	144.09	112	T	T	12 34 14.0
	baz=271,slow=74,SNR=34					
BOAV	**Boa Vista**	144.91	41		**PKPab**	**09 53 23.4 -0.5**
PLCA	**Paso Flores**	149.36	128	PKPbc	**PKPbc**	**09 53 34.8 -1.1**
	comp=Z,3.1nm,0.8s,baz=237,slow=4.0,SNR=10.0					
PLCA	**Paso Flores**	149.36	128	PKP2	**PKPbc**	**09 53 36.1 +0.2**
PB12	**IPOC Station P**	149.70	83	PKPab	**PKPab**	**09 53 42.3 -0.3**
PB18	**Visviri**	150.11	81	PKPab	**PKiKP**	**09 53 41.5 +1.7**
LPAZ	**La Paz**	150.82	77		**PKPbc**	**09 53 39.2 -1.6**
LPAZ	**La Paz**	150.82	77	PKPbc	**PKPbc**	**09 53 40.3 -0.4**
	comp=Z,9.2nm,0.9s,baz=246,slow=4.1,SNR=16					
LPAZ	**La Paz**	150.82	77	PKIKP	**PKPbc**	**09 53 39.2 -1.6**
PB14	**IPOC Station P**	151.07	95		**PKPbc**	**09 53 40.2 -0.5**
CFA	**Coronel Fontan**	153.20	110	PKPbc	**PKPbc**	**09 53 44.5 -0.5**
	comp=Z,1.6nm,0.7s,baz=271,slow=3.9,SNR=6.3					
SIV	**San Ignacio**	156.82	70	PKP	**PKPdf**	**09 53 42.0 -0.9**
	comp=Z,1.7nm,0.9s,baz=92,slow=6.4,SNR=5.6					

ASRS 11 09:40:26.0±1.7, 53°.68N×86°.82E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 11 09:40:39.0±1.0, 54°.32N×86°.13E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

WEL 11 09:41:42.9±0.3, 42°S±2°×17°4E±°, h5km, M2.4/12, ML2.5/9, MLv2.4/12, Error ellipse: s-maj=3.9km s-min=2.5km az=98.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOLW	**Molesworth Sta**	**0.22**	**296**	P		Pg	09 41 47.7	+0.4
MOLW				S		Sg	09 41 51.6	+1.4
KHZ	**Kahutara**	**0.23**	**178**	P		Pg	09 41 47.7	+0.3
KHZ				S		Sg	09 41 51.4	+0.9
KIKS	**Kaikoura**	**0.26**	**154**	P		Pg	09 41 48.6	+0.5
KIKS				S		Sg	09 41 53.0	+1.4
BSWZ	**Blackbirch Sta**	**0.54**	**29**	P		Pg	09 41 53.7	+0.4
WTMC	**Te Mara Farm W**	**0.56**	**219**	P		Pg	09 41 53.9	+0.3
WTMC				S		Sg	09 42 02.0	+1.2
WDFS	**Ward Fire Stat**	**0.58**	**52**	P		Pb	09 41 55.3	-0.3
THZ	**Tophouse**	**0.63**	**312**	P		Pg	09 41 55.4	+0.4
THZ				S		Sg	09 42 04.1	+0.9
CECS	**Cheviot Emerge**	**0.65**	**197**	P		Pg	09 41 55.9	+0.5
SEDS	**Seddon Fire St**	**0.66**	**39**	P		Pb	09 41 56.2	-0.6
BWRS	**Waikakaho Road**	**0.80**	**21**	P		Pg	09 41 58.5	+0.2
TUWZ	**Tuamarina**	**0.82**	**22**	P		Pg	09 41 58.7	+0.1
TUWZ				S		Sb	09 42 10.7	-0.3
GVZ	**Greta Valley S**	**0.86**	**205**	P		Pg	09 41 59.7	+0.3
GVZ				S		Sb	09 42 12.1	-0.1
HAVS	**Havelock**	**0.93**	**12**	P		Pg	09 42 00.2	-0.6
MRNZ	**Matariki Terra**	**0.98**	**324**	P		Pb	09 42 02.0	-0.3
MRNZ				S		Sb	09 42 16.0	+0.5
NNZ	**Nelson**	**0.98**	**353**	P		Pg	09 42 01.4	-0.2
NNZ				S		Sb	09 42 14.9	-0.6
LTZ	**Lake Taylor**	**1.10**	**237**	P		Pg	09 42 03.1	-1.0
LTZ				S		Sg	09 42 17.0	-1.4
TCW	**Tory Channel**	**1.13**	**30**	P		Pg	09 42 03.8	-0.7
TKNZ	**Takaka Hill**	**1.23**	**340**	P		Pg	09 42 06.1	-0.3
BHW	**Baring Head**	**1.27**	**53**	P		Pg	09 42 05.2	-2.0
DSZ	**Denniston Mort**	**1.36**	**288**	P		Pn	09 42 08.6	0.0
DUWZ	**D'Urville Isla**	**1.42**	**12**	P		Pn	09 42 08.4	-1.0
MSWZ	**Moikau Station**	**1.50**	**60**	P		Pn	09 42 07.9	-2.6
QRZ	**Quartz Range**	**1.55**	**331**	P		Pn	09 42 11.6	+0.4
QRZ				S		Sb	09 42 32.0	-0.1
OKCZ	**Okains Bay**	**1.57**	**192**	P		Pn	09 42 08.8	-2.7
CAW	**Cannon Point**	**1.58**	**47**	P		Pn	09 42 09.6	-2.0
CAW				S		Sn	09 42 29.5	-2.8
OXZ	**Oxford**	**1.58**	**223**	P		Pn	09 42 11.4	-0.2
MQZ	**McQueen's Vall**	**1.65**	**203**	P		Pn	09 42 09.0	-3.5
MQZ				S		Sn	09 42 29.0	-5.0
KIW	**Kapiti Island**	**1.68**	**39**	P		Pn	09 42 11.7	-1.4
AKCZ	**Akaroa Harbour**	**1.74**	**195**	P		Pn	09 42 10.9	-3.0
MTW	**Mount Morrison**	**1.80**	**56**	P		Pb	09 42 15.7	-0.6
OGWZ	**Otaki Gorge**	**1.84**	**43**	P		Pn	09 42 13.2	-1.9

WEL 11 09:41:59.5±0.7, 41°S±3°×17°6E±°, h20km±4km, M1.5/6, ML1.8/13, MLv1.5/6, Error ellipse: s-maj=5.4km s-min=2.8km az=124.2, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.10**	**25**	P		Pb	09 42 04.3	-0.7
ANWZ				S		Sb	09 42 08.4	-0.4
BFZ	**Birch Farm**	**0.19**	**225**	P		Pb	09 42 05.4	+0.4
BFZ				S		Sb	09 42 09.8	+1.1
DVHZ	**Dannevirke**	**0.32**	**322**	P		Pb	09 42 07.5	+1.0
DVHZ				S		Sn	09 42 13.3	-1.7
PRHZ	**Porangahau**	**0.33**	**30**	P		Pb	09 42 07.5	+0.9
PRHZ				S		Sn	09 42 13.8	-1.5
PRWZ	**Pori Road**	**0.34**	**269**	P		Pn	09 42 08.2	-1.1
PRWZ				S		Sn	09 42 14.7	-1.0
CPWZ	**Castlepoint**	**0.40**	**205**	P		Pn	09 42 09.4	-0.6
CPWZ				S		Sn	09 42 17.0	+0.1
TIWZ	**Tintock**	**0.47**	**241**	P		Pb	09 42 09.9	+1.0
TIWZ				S		Sn	09 42 17.7	-1.0

comp=Z,9.9nm,1.0s,baz=275,slow=15,SNR=2.5
DZM Mont Dzumac 15.12 155 P **Pn 09 48 35.6 +0.8**
OUENC Ouen Island, N 15.60 155 P **Pn 09 48 41.2 +0.4**
COEN Coen 17.12 250 P 09 49 04.5 +2.9
EIDS Eidsvold 18.81 205 P **Pn 09 49 20.8 -0.1**
JAY Jayapura 19.75 286 P **Pn 09 49 33.1 +0.9**
comp=Z,13nm,0.5s,baz=109,slow=6.1,SNR=11
QIS Mount Isa 22.89 236 P **P 09 50 06.1 +1.8**
ARMA Armidale 23.22 198 P **P 09 50 08.3 +0.6**
ARMA IAmb IAmb 09 50 33.1
comp=Z,17nm,1.1s
QLP Quilpie 23.32 217 P **P 09 50 09.0 +0.4**
INKA Innaminka 26.32 220 P **P 09 50 35.9 -0.2**
CMSA Cobar Meteorol 26.50 208 P **P 09 50 37.7 -0.1**
WR0 Warramunga Arr 26.93 242 P **P 09 50 42.3 +0.5**
WR0 IAmb IAmb 09 50 43.7
comp=Z,7.4nm,0.8s
WB0 Warramunga Arr 26.99 242 P **P 09 50 42.8 +0.5**
WB0 IAmb IAmb 09 50 43.4
comp=Z,8.8nm,0.9s
WRAB Tennant Creek 27.08 242 P **P 09 50 42.7 -0.5**
WRAB IAmb IAmb 09 50 45.2
comp=Z,7.7nm,0.7s
WB2 Warramunga Arr 27.09 242 P **P 09 50 43.6 +0.4**
WB2 IAmb IAmb 09 50 45.2
comp=Z,7.8nm,0.8s
WRA Warramunga Arr 27.10 242 P **P 09 50 42.7 -0.6**
WRA Warramunga Arr 27.10 242 P **P 09 50 43.7 +0.4**
comp=Z,5.8nm,0.4s,baz=69,slow=9.3,SNR=86
comp=Z,5.8nm,0.4s
H11S2 WAKE ISLAND Hy 27.55 15 T T 10 19 23.0
baz=194,slow=76,SNR=253
H11S3 WAKE ISLAND Hy 27.55 14 T T 10 19 27.3
baz=194,slow=76,SNR=225
H11S1 WAKE ISLAND Hy 27.57 15 T T 10 19 32.1
baz=194,slow=76,SNR=160
CAN Canberra 28.58 198 P **P 09 50 56.4 0.0**
CAN IAmb IAmb 09 51 20.2
comp=Z,13nm,1.1s
H11N1 WAKE ISLAND Hy 28.77 14 T T 10 20 58.0
baz=194,slow=76,SNR=104
H11N3 WAKE ISLAND Hy 28.78 14 T T 10 20 53.9
baz=194,slow=76,SNR=96
H11N2 WAKE ISLAND Hy 28.79 14 T T 10 20 59.1
baz=194,slow=76,SNR=126
STKA Stephens Creek 28.83 213 P **P 09 50 58.4 -0.3**
STKA IAmb IAmb 09 51 06.2
comp=Z,35nm,1.2s
STKA Stephens Creek 28.83 213 P **P 09 50 58.1 -0.5**
comp=Z,3.0nm,0.4s,baz=59,slow=15,SNR=8.1
comp=Z,3.0nm,0.4s
STKA Stephens Creek 28.83 213 P **P 09 50 59.4 +0.8**
AS01 Alice Springs 28.97 235 P **P 09 50 59.8 -0.2**
AS31 Alice Springs 29.00 235 P **P 09 50 59.8 -0.5**
ASAR Alice Springs 29.01 235 P **P 09 50 59.5 -0.9**
ASAR Alice Springs 29.01 235 P **P 09 50 59.7 -0.6**
comp=Z,2.4nm,0.5s,baz=65,slow=10,SNR=55
comp=Z,2.4nm,0.5s
LCRK Leigh Creek 29.78 220 P **P 09 51 06.8 -0.2**
OOD Oodnadatta 29.80 226 P **P 09 51 07.2 0.0**
KNRA Kununurra 31.08 253 P **P 09 51 19.1 +0.4**
KNRA IAmb IAmb 09 51 47.0
comp=Z,16nm,1.2s
HTT Hallett 31.48 215 P **P 09 51 21.8 -0.3**
TOO Toolangi 31.81 202 P **P 09 51 25.1 +0.2**
TOO IAmb IAmb 09 51 26.4
comp=Z,9.3nm,1.4s
ARPS Mount Arapiles 32.62 207 P **P 09 51 31.3 -0.7**
BBOO Buckleboo 32.73 219 P **P 09 51 32.6 -0.4**
BBOO Buckleboo 32.73 219 P **P 09 51 31.9 -1.1**
RTZ Ruatahuna 33.93 155 P **P 09 51 41.3 -2.2**
RTZ IAmb IAmb 09 52 01.8
comp=Z,13nm,1.2s
BKZ Black Stump Fm 34.20 156 P **P 09 51 43.2 -2.6**
BKZ IAmb IAmb 09 51 44.6
comp=Z,8.6nm,0.6s
BKZ Black Stump Fm 34.20 156 P **P 09 51 44.6 -1.2**
WRKA Warakurna 34.21 237 P **P 09 51 45.5 -0.6**
FITZ Fitzroy Crossi 34.47 250 P **P 09 51 48.8 +0.5**
FITZ Fitzroy Crossi 34.47 250 P **P 09 51 48.1 -0.2**
TCW Tory Channel 35.20 161 P **P 09 51 51.9 -2.5**
BFZ Birch Farm 35.42 158 P **P 09 51 55.6 -0.7**
MSWZ Moikau Station 35.71 160 P **P 09 51 55.8 -3.0**
JCZ Jackson Bay 36.47 169 P **P 09 52 04.7 -0.6**
FORT Forrest 37.00 229 P **P 09 52 09.6 -0.4**
FORT Forrest 37.00 229 P **P 09 52 09.5 -0.4**
LUWI Luwuk 37.47 279 P **P 09 52 14.7 +0.7**
PSA00 Pilbara Seismi 40.54 247 P **P 09 52 39.8 +0.1**
PSA00 Pilbara Seismi 40.54 247 P **P 09 52 39.2 -0.5**
MBWA Marble Bar 40.55 247 P **P 09 52 39.4 -0.4**
MBWA IAmb IAmb 09 53 06.1
comp=Z,30nm,1.4s
MBWA Marble Bar 40.55 247 P **P 09 52 39.1 -0.7**
PLAI Plampang 41.42 266 P **P 09 52 46.2 -0.9**
MEEK Meekatharra 42.94 240 P **P 09 52 58.7 -0.7**
KLBR Kellerberrin 45.30 233 P **P 09 53 17.7 -0.5**
MORW Morawa 45.84 237 P **P 09 53 22.4 -0.1**
MORW Morawa 45.84 237 P **P 09 53 22.1 -0.4**
NWAO Narrogin (SRO) 46.20 232 P **P 09 53 24.8 -0.5**
NWAO Narrogin (SRO) 46.20 232 P **P 09 53 24.7 -0.5**
MUN Mundaring 46.66 234 P **P 09 53 28.3 -0.6**
CMAR Chiang Mai Arr 65.56 295 P **P 09 55 42.2 -2.0**
CMAR Chiang Mai Arr 65.56 295 P **P 09 55 45.0 +0.9**
comp=Z,1.4nm,0.3s,baz=119,slow=5.1,SNR=11
comp=Z,1.4nm,0.3s
VNDA Vanda 69.16 179 P **P 09 56 03.5 -2.4**
VNDA IAmb IAmb 09 56 08.4
comp=Z,4.0nm,0.9s
VNDA Vanda 69.16 179 P **P 09 56 05.0 -1.0**
comp=Z,4.2nm,0.7s,baz=343,slow=6.7,SNR=9.5
comp=Z,4.2nm,0.7s
SONM Songino Array 73.02 326 P **P 09 56 28.8 -1.1**
SONM IAmb IAmb 09 56 49.6
comp=Z,2.4nm,0.8s
SONM Songino Array 73.02 326 P **P 09 56 32.3 +2.4**
comp=Z,0.7nm,0.7s,baz=145,slow=5.4,SNR=4.6
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 81.64 180 P **P 09 57 16.5 -1.4**
comp=Z,2.1nm,0.8s,baz=174,slow=1.4,SNR=16
comp=Z,2.1nm,0.8s
ILAR Eielson Array 82.97 20 P **P 09 57 24.6 -0.1**
comp=Z,0.5nm,0.5s,baz=242,slow=5.4,SNR=9.1
comp=Z,0.5nm,0.5s
MK31 Makanchi Array 87.49 318 P **P 09 57 46.4 -1.3**
MKAR Makanchi Array 87.50 318 P **P 09 57 47.5 -0.2**
MKAR Makanchi Array 87.50 318 P **P 09 57 48.8 +1.1**
comp=Z,1.0nm,0.6s,baz=102,slow=5.4,SNR=12
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 95.36 28 P **P 09 58 25.6 +1.8**
comp=Z,0.2nm,0.7s,baz=261,slow=4.9,SNR=5.0
comp=Z,0.2nm,0.7s

*NEIC **11** 09:45:42.1±0.9, 59°.66N±0°.04×153°.31W±0°.04, h113km±.5km, Error ellipse: s-maj=6.0km s-min=2.1km az=153.0*

AEIC 11 09:45:43.0±1.0, 59°.67N±0°.04×153°.28W±0°.07, h109km±4km, ML3.1, ML3.3/138(NEIC), **Error ellipse: s-maj=5.9km s-min=4.9km az=134.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.03**	**121**		Pn	09 45 57.5	-0.6
P19K	**Oil Pt**	**0.03**	**121**		Pn	09 45 57.3	-0.7
P19K	**Oil Pt**	**0.03**	**121**		Sn	09 46 09.0	-0.3
AUL	**Augustine Lava**	**0.30**	**196**		Pn	09 45 58.3	-0.3
AUL					Sn	09 46 10.2	-0.1
AU22	**Augustine Moun**	**0.30**	**188**		Pn	09 45 58.1	-0.5
AU22					Sn	09 46 09.9	-0.3
ILS	**Iliamna Low So**	**0.31**	**20**		Pn	09 45 58.2	-0.7
ILS					Sn	09 46 10.1	-0.6
AUCH	**Augustine Cone**	**0.32**	**196**		Pn	09 45 58.4	-0.4
ILSW	**Iliamna Southw**	**0.33**	**12**		Pn	09 45 57.9	-1.0
ILSW				IAML		09 46 10.9	
	comp=E,1μm,0.9s						
ILSW				IAML		09 46 10.9	
	comp=N,612nm,0.4s						
ILSW	**Iliamna Southw**	**0.33**	**12**		Sn	09 46 09.8	-1.0
O20K	**Slope Mountain**	**0.53**	**38**		Pn	09 45 59.5	-0.5
O20K					Sn	09 46 12.4	-0.4
Q19K	**Port Alsworth**	**0.74**	**316**		Pn	09 46 00.6	-1.0
Q19K	**Port Alsworth**	**0.74**	**316**		Sn	09 46 14.2	-1.4
Q19K	**Cape Douglas,**	**0.76**	**194**		Sn	09 46 15.3	-0.7
Q19K	**Cape Douglas,**	**0.76**	**194**		Pn	09 46 01.1	-0.8
RED	**Redoubt Volcan**	**0.80**	**18**		Pn	09 46 01.5	-0.7
RED					Sn	09 46 16.0	-0.6
HOM	**Homer**	**0.83**	**90**		Pn	09 46 02.2	-0.1
HOM				IAML		09 46 18.6	
	comp=N,1μm,0.5s						
RDSO	**Redoubt South**	**0.83**	**19**		Pn	09 46 01.9	-0.8
O18K	**Koktuh Hills**	**0.99**	**282**	Pn	Pn	09 46 02.8	-1.2
O18K				IAML		09 46 18.8	
	comp=N,178nm,1.5s						
O18K				IAML		09 46 18.8	
	comp=E,181nm,0.5s						
O18K	**Koktuh Hills**	**0.99**	**282**		Sn	09 46 18.1	-1.8
RDT	**Redoubt**	**1.01**	**25**		Pn	09 46 03.5	-0.8
RDT					Sn	09 46 19.2	-1.1
P18K	**Big Mountain,**	**1.03**	**255**		Pn	09 46 03.0	-1.5
CNPM	**China Poot**	**1.05**	**97**		Pn	09 46 04.0	-0.6
CNPM				IAML		09 46 22.5	
	comp=E,551nm,0.4s						
CNPM				IAML		09 46 23.4	
	comp=N,743nm,0.6s						
SYI	**Shuyak Island**	**1.16**	**156**		Pn	09 46 05.1	-0.6
SYI				IAML		09 46 23.1	
	comp=E,823nm,0.4s						
BRLK	**Bradley Lake**	**1.22**	**84**	Pn	Pn	09 46 05.5	-0.9
BRLK				IAML		09 46 25.5	
	comp=N,406nm,0.2s						
BRLK				IAML		09 46 28.5	
	comp=E,352nm,0.3s						
BRSE	**Bradley Lake S**	**1.29**	**86**		Pn	09 46 06.4	-0.8
N19K	**Bonanza Creek**	**1.30**	**333**	Pn	Pn	09 46 06.4	-1.0
N19K				IAML		09 46 25.4	
	comp=N,288nm,0.8s						
N19K				IAML		09 46 25.8	
	comp=E,132nm,0.8s						
N19K	**Bonanza Creek**	**1.30**	**333**		Sn	09 46 24.3	-1.7
KAHG	**Katmai Hook Gl**	**1.35**	**210**		Pn	09 46 07.3	-0.7
KAHC	**Katmai Hardscr**	**1.35**	**222**		Pn	09 46 07.2	-0.9
KAHC	**Katmai Hardscr**	**1.35**	**222**		Pn	09 46 07.2	-0.9
CAPN	**Captain Cook N**	**1.53**	**43**		Pn	09 46 10.8	+0.8
CAPN				IAML		09 46 37.2	
	comp=E,533nm,0.5s						
N18K	**Kilae Creek**	**1.65**	**309**		Pn	09 46 10.3	-1.3
KAKN	**Katmai Knife C**	**1.66**	**215**		Pn	09 46 10.8	-0.9
SLKM	**Skilak Lake**	**1.75**	**60**	Pn	Pn	09 46 12.4	-0.4
SLKM				IAML		09 46 34.7	
	comp=N,294nm,0.4s						
SLKM				IAML		09 46 35.8	
	comp=E,200nm,0.3s						
ACHA	**Angle Creek He**	**1.81**	**217**		Pn	09 46 12.6	-1.0
ANCK	**Angle Creek**	**1.87**	**219**		Pn	09 46 13.6	-0.7
KDAK	**Kodiak Island**	**1.92**	**169**		Pn	09 46 13.3	-1.7
KDAK				IAML		09 46 42.0	
	comp=E,150nm,0.6s						
KDAK				IAML		09 46 42.1	
	comp=E,164nm,0.5s						
O17K	**Koliganek Bris**	**1.94**	**275**		Pn	09 46 14.0	-1.1
O22K	**Cooper Landing**	**1.96**	**64**		Pn	09 46 15.0	-0.3
STLK	**Strandline Lak**	**1.97**	**21**		Pn	09 46 15.3	-0.3
STLK				IAML		09 46 43.5	
	comp=N,83nm,0.5s						
SEW	**Seward**	**1.98**	**76**		Pn	09 46 14.8	-0.8
N17K	**Nushagak Hills**	**2.14**	**295**	Pn	Pn	09 46 16.5	-1.2
R18K	**Karluk**	**2.19**	**197**		Pn	09 46 16.7	-1.7
R18K	**Karluk**	**2.19**	**197**	IAML		09 46 47.9	
	comp=N,338nm,0.5s						
SUA	**Susitna One**	**2.19**	**34**		Pn	09 46 18.2	-0.3
M18K	**Stony River**	**2.22**	**327**		Pn	09 46 17.4	-1.3
M20K	**Styx River**	**2.22**	**2**		Pn	09 46 18.2	-0.7
RC01	**Rabbit Creek A**	**2.27**	**49**		Pn	09 46 18.9	-0.4
M19K	**Big River Lodg**	**2.31**	**347**		Pn	09 46 18.8	-1.1
O16K	**Kokwok River B**	**2.45**	**270**		Pn	09 46 20.8	-0.8
OHAK	**Old Harbor**	**2.45**	**180**		Pn	09 46 19.7	-2.0
OHAK				IAML		09 46 50.9	
	comp=N,84nm,0.6s						
OHAK				IAML		09 46 52.3	
	comp=E,59nm,0.5s						
SKT	**Skwentna**	**2.47**	**19**	IAML		09 46 55.6	
	comp=E,73nm,0.3s						
SKT				IAML		09 46 55.7	
	comp=N,82nm,0.3s						
P16K	**Nushagak River**	**2.50**	**257**		Pn	09 46 21.7	-0.6
L19K	**White Mountain**	**2.64**	**344**		Pn	09 46 22.9	-1.3
L19K	**White Mountain**	**2.64**	**344**	IAML		09 46 56.5	
	comp=E,36nm,0.9s						
M17K	**Holitna River**	**2.69**	**312**		Pn	09 46 23.7	-1.1
M17K	**Holitna River**	**2.69**	**312**	IAML		09 47 16.4	
	comp=N,48nm,0.9s						
M17K				IAML		09 47 20.6	
	comp=E,40nm,0.7s						
PWL	**Port Wells**	**2.74**	**62**		Pn	09 46 24.1	-1.4
PWL				IAML		09 46 58.8	
	comp=E,181nm,0.7s						
PMR	**Palmer**	**2.81**	**45**		Pn	09 46 25.1	-1.3
PMR	**Palmer**	**2.81**	**45**	IAML		09 46 58.9	
	comp=N,94nm,0.5s						
PMR				IAML		09 47 05.0	
	comp=E,71nm,0.7s						
L20K	**Farewell, AK**	**2.84**	**354**		Pn	09 46 26.0	-0.7
N16K	**Nishlik Lake**	**2.87**	**289**		Pn	09 46 26.5	-0.7
KNK	**Knik Glacier**	**2.96**	**52**		Pn	09 46 26.8	-1.6
P23K	**Montague Islan**	**2.98**	**81**		Pn	09 46 28.0	-0.7
GHO	**Glory Hole Cre**	**3.01**	**44**		Pn	09 46 27.4	-1.6
GHO	**Glory Hole Cre**	**3.01**	**44**	IAML		09 47 03.7	
	comp=E,184nm,0.5s						
GHO				IAML		09 47 04.6	
	comp=N,177nm,0.4s						
L18K	**Granite Mounta**	**3.05**	**328**		Pn	09 46 28.1	-1.6
CUT	**Chulitna**	**3.11**	**27**		Pn	09 46 30.1	-0.3
M16K	**Timber Creek**	**3.13**	**298**		Pn	09 46 30.0	-0.7
SII	**Sitkinak Islan**	**3.15**	**189**		Pn	09 46 28.7	-2.3
SII	**Sitkinak Islan**	**3.15**	**189**	IAML		09 47 09.8	
	comp=E,146nm,0.8s						
SML	**Sawmill**	**3.24**	**46**		Pn	09 46 30.7	-1.4
SML				IAML		09 47 09.1	
	comp=N,134nm,0.8s						
SML				IAML		09 47 17.7	
	comp=E,115nm,1.2s						
PPLA	**Purkeypile**	**3.28**	**9**		Pn	09 46 33.3	+0.5
O15K	**Ungalikthiuk R**	**3.38**	**264**		Pn	09 46 33.7	-0.3
M23K	**Glacier View**	**3.46**	**50**		Pn	09 46 33.6	-1.4
N15K	**Kwethluk River**	**3.47**	**281**		Pn	09 46 35.0	-0.1
N15K	**Kwethluk River**	**3.47**	**281**	IAML		09 47 15.4	
	comp=E,34nm,0.8s						
N15K				IAML		09 47 15.7	
	comp=N,55nm,0.8s						
HIN	**Hinchinbrook I**	**3.48**	**75**		Pn	09 46 33.7	-1.6
HIN	**Hinchinbrook I**	**3.48**	**75**	IAML		09 47 15.7	
	comp=N,115nm,0.4s						
HIN				IAML		09 47 16.5	
	comp=E,104nm,1.2s						
L17K	**Donlin**	**3.48**	**317**		Pn	09 46 33.9	-1.4
TTA	**Tatalina**	**3.53**	**339**		Pn	09 46 34.5	-1.6
SCM	**Sheep Creek Mo**	**3.64**	**51**		Pn	09 46 36.1	-1.4
SCM	**Sheep Creek Mo**	**3.64**	**51**	IAML		09 47 21.3	
	comp=E,108nm,0.6s						
L16K	**Owhat River**	**3.67**	**307**		Pn	09 46 37.0	-0.8
K20K	**Telida**	**3.72**	**355**		Pn	09 46 37.5	-1.0
CAST	**Castle Rocks**	**3.81**	**8**	Pn	Pn	09 46 39.5	-0.2
CAST				IAML		09 47 24.1	
	comp=E,13nm,1.3s						
EYAK	**Cordova Ski Ar**	**3.87**	**74**		Pn	09 46 38.8	-1.7
K17K	**Iditarod**	**3.91**	**324**		Pn	09 46 39.8	-1.2
K17K	**Iditarod**	**3.91**	**324**	IAML		09 47 18.9	
	comp=E,13nm,1.4s						
K17K				IAML		09 48 05.8	
	comp=N,16nm,1.4s						
DIV	**Divide**	**4.00**	**65**		Pn	09 46 40.7	-1.7
CHIR	**Chirikof Islan**	**4.05**	**199**		Pn	09 46 40.6	-2.4
TRF	**Thorofare Moun**	**4.06**	**19**		Pn	09 46 42.1	-1.1
TRF	**Thorofare Moun**	**4.06**	**19**	IAML		09 47 52.5	
	comp=E,27nm,1.4s						
TRF				IAML		09 47 52.9	
	comp=N,39nm,0.6s						
KTH	**Kantishna Hill**	**4.06**	**15**	IAML		09 47 30.1	
	comp=N,24nm,0.5s						
KTH				IAML		09 47 31.6	
	comp=E,27nm,0.7s						
KLU	**Klutina**	**4.07**	**60**		Pn	09 46 41.5	-1.7
KLU	**Klutina**	**4.07**	**60**	IAML		09 47 29.9	
	comp=E,49nm,0.3s						
J18K	**Innoko River**	**4.15**	**338**		Pn	09 46 42.9	-1.4
M24K	**Tolsona, Glenn**	**4.25**	**52**		Pn	09 46 44.6	-1.0
M24K	**Tolsona, Glenn**	**4.25**	**52**	IAML		09 47 50.8	
	comp=N,65nm,0.9s						
CHUM	**Lake Minchumin**	**4.26**	**6**		Pn	09 46 45.0	-0.6
RND	**Reindeer**	**4.31**	**28**	Pn	Pn	09 46 45.8	-0.7
RND				IAML		09 47 53.6	
	comp=N,20nm,1.0s						
RND				IAML		09 47 54.4	
	comp=E,21nm,0.9s						
GOAT	**Goat Mountain**	**4.38**	**74**		Pn	09 46 47.0	-0.3
J19K	**Poorman**	**4.48**	**347**		Pn	09 46 47.1	-1.6
BMRM	**Bremner River**	**4.51**	**69**		Pn	09 46 47.1	-2.0
L15K	**Ungalak Mounta**	**4.51**	**300**		Pn	09 46 48.5	-0.7
J20K	**Nowinta River**	**4.54**	**355**	Pn	Pn	09 46 48.4	-1.1
J20K				IAML		09 48 16.8	
	comp=N,9.4nm,1.4s						
MCK	**McKinley**	**4.57**	**25**		Pn	09 46 48.9	-1.0
BPAW	**Bear Paw Mtn.**	**4.58**	**13**	IAML		09 47 40.1	
	comp=E,11nm,0.7s						
BPAW				IAML		09 47 49.5	
	comp=N,8.6nm,1.3s						
J17K	**VABM Dome**	**4.66**	**326**	IAML		09 48 14.7	
	comp=N,7.1nm,1.4s						
N25K	**Chitina, Valde**	**4.70**	**62**		Pn	09 46 50.2	-1.5
N25K	**Chitina, Valde**	**4.70**	**62**	IAML		09 47 44.7	
	comp=E,34nm,0.6s						
N25K				IAML		09 47 45.1	
	comp=N,32nm,0.5s						
NICHA	**Nichawak Mount**	**4.72**	**79**		Pn	09 46 51.1	-0.9
K15K	**Wolf Creek Mou**	**4.80**	**307**		Pn	09 46 52.4	-0.6
K15K	**Wolf Creek Mou**	**4.80**	**307**	IAML		09 48 28.7	
	comp=N,9.2nm,1.4s						
K15K				IAML		09 48 38.8	
	comp=E,7.8nm,1.4s						
BERG	**Berg Lake**	**4.86**	**77**	Pn	Pn	09 46 53.1	-0.7
WACK	**Wrangell Chich**	**4.96**	**58**		Pn	09 46 54.4	-1.0
GLB	**Gilahina Butte**	**5.00**	**65**		Pn	09 46 54.2	-1.6
GLB	**Gilahina Butte**	**5.00**	**65**	IAML		09 47 52.4	
	comp=N,43nm,0.9s						
GLB				IAML		09 47 52.5	
	comp=E,24nm,0.7s						
WASW	**Wrangell South**	**5.00**	**59**		Pn	09 46 54.9	-1.0
J16K	**Anvik River**	**5.05**	**319**		Pn	09 46 55.2	-1.1
J16K				IAML		09 48 43.8	
	comp=E,6.6nm,1.3s						
VRDI	**Verde Repeater**	**5.11**	**68**		Pn	09 46 55.6	-1.8
VRDI	**Verde Repeater**	**5.11**	**68**	IAML		09 47 53.2	
	comp=E,16nm,0.7s						
VRDI				IAML		09 47 55.6	
	comp=N,21nm,0.5s						
SNH	**Sunshine Point**	**5.28**	**80**		Pn	09 46 58.9	-0.7
NEA2	**Nenana**	**5.32**	**20**		Pn	09 46 58.2	-1.8
NEA2	**Nenana**	**5.32**	**20**	IAML		09 47 58.1	
	comp=N,5.2nm,0.7s						
NEA2				IAML		09 47 58.6	
	comp=E,6.8nm,0.8s						
GCSA	**Galena City Sc**	**5.37**	**343**		Pn	09 46 59.0	-1.7
WRH	**Wood River Hil**	**5.40**	**25**		Pn	09 46 59.4	-1.7
CCB	**Clear Creek Bu**	**5.62**	**25**		Pn	09 47 02.2	-1.8
M26K	**Nabesna, AK**	**5.70**	**57**		Pn	09 47 05.4	+0.2
MESA	**MESA**	**5.72**	**80**		Pn	09 47 05.1	-0.6
YAH	**Yahtse**	**5.83**	**78**		Pn	09 47 06.8	-0.3
H21K	**Melozitna Rive**	**6.02**	**2**		Pn	09 47 08.3	-1.1
RKAV	**Rock Avalanche**	**6.03**	**79**		Pn	09 47 09.7	-0.1
CHX	**Chaix Hills**	**6.14**	**81**		Pn	09 47 11.0	-0.2
SAMH	**Samovar Hills**	**6.31**	**80**		Pn	09 47 13.6	+0.1
H23K	**Yukon River**	**6.41**	**14**		Pn	09 47 13.8	-1.0
BCAR	**Beaver Creek A**	**6.49**	**53**	Pn	Pn	09 47 15.9	0.0
PCA	**Pinnacle**	**6.57**	**81**		Pn	09 47 16.9	-0.2
O28M	**Mount Upton**	**6.62**	**75**		Pn	09 47 17.7	-0.1
H24K	**Noodor Dome**	**6.67**	**19**		Pn	09 47 16.7	-1.6
G21K	**Allakaket**	**6.88**	**359**	Pn	Pn	09 47 20.6	-0.4
PNL	**Peninsula**	**7.03**	**84**		Pn	09 47 22.3	-1.0
I26K	**Coal Creek Min**	**7.34**	**35**		Pn	09 47 26.2	-1.1
DAWY	**Dawson**	**7.90**	**50**	Pn	Pn	09 47 34.4	-0.6
R33M	**Jennings River**	**11.32**	**82**	Pn	Pn	09 48 21.8	+0.5

*UPP **11** 09:58:23.4±2.9, 64°.63N×30°.96E, h0km, ML2.0*
*IDC **11** 09:58:23.7±3.5, 64°.55N×31°.89E, h0km, mbtmp3.0/4, ML1.9/3, Error ellipse: s-maj=52.8km s-min=12.3km az=104.0*
*HEL **11** 09:58:24.5±0.1, 64°.70N×30°.82E, h0km, ML2.1, Explosion*
*KOLA **11** 09:58:26.9, 64°.70N×30°.85E, h0km, ML2.1, Error ellipse: s-maj=24.0km s-min=9.8km az=160.0, Kostomuksha, Karelia*

ISC 11 09:58:25.2±0.9, 64°.70N±0°.02×30°.67E±0°.04, h0km, n48, σ1§32/76, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.58**	**214**	PG	**Pg**	**09 58 35.8**	**-0.5**
RMF				SG	**Sg**	**09 58 43.3**	**-0.6**
RMF				MSG		09 58 44.2	
	comp=Z,35nm,0.2s						
KU1	**Kurvinen**	**0.98**	**332**	PG	**Pg**	**09 58 43.9**	**-0.1**
KU1				SB	**Sg**	**09 58 57.3**	**+0.6**
KU6	**Riekki**	**1.37**	**347**	PN	**Pg**	**09 58 50.6**	**-0.8**
	baz=162						
KU6				MSG		09 59 06.2	
	comp=Z,22nm,0.2s						
KU6				SN	**Sb**	**09 59 09.3**	**-0.3**
MSF	**Maaselka**	**1.39**	**331**	PN	**Pg**	**09 58 51.2**	**-0.7**
	baz=151						
MSF				SN	**Sb**	**09 59 10.1**	**-0.2**
KU2	**Taivalkoski**	**1.44**	**316**	PN	**Pn**	**09 58 52.2**	**-0.3**
	baz=135						
KU2				SG	**Sg**	**09 59 11.4**	**0.0**
JOF	**Joensuu**	**1.81**	**171**	PG	**Pn**	**09 58 56.8**	**-0.8**
JOF				SN	**Sn**	**09 59 20.8**	**-0.4**
NIF	**Nilsia**	**1.82**	**225**	PG	**Pn**	**09 58 57.8**	**+0.1**
	baz=42						
NIF				SG	**Sn**	**09 59 21.5**	**0.0**
OUL	**Oulu**	**2.07**	**283**	PG	**Pb**	**09 59 02.8**	**-0.8**
OUL				SG	**Sb**	**09 59 30.2**	**+0.4**
RANF	**Ranua**	**2.09**	**311**	PG	**Pb**	**09 59 03.1**	**-0.9**
RANF				SG	**Sb**	**09 59 30.8**	**+0.4**
KVDA	**Kovda**	**2.19**	**24**	P	**Pn**	**09 59 03.0**	**+0.2**
KVDA				S	**Sn**	**09 59 31.7**	**+1.1**
OBF4	**Vikkela, Lumij**	**2.39**	**275**	PG	**Pn**	**09 59 07.0**	**+1.5**
	baz=94						
OBF4				MSG		09 59 37.1	
	comp=Z,8.5nm,0.2s						
OBF4				SG	**Sb**	**09 59 39.7**	**+0.8**
OUF	**Merijarvi**	**2.59**	**265**	PB	**Pn**	**09 59 09.3**	**+1.1**
	baz=81						
OUF				MSG		09 59 42.8	
	comp=Z,12nm,0.2s						
OUF				SG	**Sb**	**09 59 44.7**	**+0.1**
RNF	**Rovaniemi**	**2.72**	**317**	PB	**Pn**	**09 59 12.1**	**+2.1**
RNF				SG	**Sb**	**09 59 49.0**	**+0.6**
OBF0	**Syolatti, Pyha**	**2.78**	**269**	PB	**Pn**	**09 59 12.8**	**+2.0**
OBF0				MSG		09 59 48.2	
	comp=Z,7.4nm,0.2s						
OBF0				SG	**Sb**	**09 59 50.3**

FINES			Pg		**Pb**	**09 59 34.8 +0.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=17,SNR=10					
FINES			Lg		Lg	10 00 25.2
	comp=Z,0.3nm,0.3s,baz=39,slow=29,SNR=5.6					
	comp=Z,1.7nm,0.9s					
PAJU	**Pajala**	**3.88 310**	PG		**Pb**	**09 59 35.4 +1.1**
RAJF	**Raja-Jooseppi**	**3.90 347**	PN		**Pn**	**09 59 27.3 +1.0**
VAF	**Ylistaro**	**3.91 248**	PN		**Pn**	**09 59 28.2 +1.8**
	baz=65					
VAF			SG		**Sg**	**10 00 27.7 -3.0**
SJUU	**Sjulsmark**	**3.92 286**	P		**Pn**	**09 59 26.0 -0.4**
SJUU			S		**Sn**	**10 00 13.7 +0.7**
ERTU	**Ertsjaerv**	**3.98 302**	PG		**Pb**	**09 59 37.8 +1.8**
BURU	**Burvik**	**4.00 272**	P		**Pn**	**09 59 27.1 -0.5**
BURU	**Burvik**	**4.00 272**	PN		**Pn**	**09 59 27.8 +0.2**
ODEU	**Stanfors**	**4.31 271**	P		**Pn**	**09 59 31.0 -0.8**
VJF	**Virojoki**	**4.42 200**	SG		**Sb**	**10 00 41.0 +3.6**
HEF	**Hetta**	**4.66 326**	PG		**Pb**	**09 59 48.6 +1.0**
SVAU	**Svanoeiden**	**4.79 272**	P		**Pn**	**09 59 37.8 -0.6**
TERR	**Teriberka**	**4.84 19**	S		**Sn**	**10 00 33.9 -1.9**
PRVG	**Vayda Guba**	**5.10 6**	P		**Pn**	**09 59 43.8 +1.1**
PRVG			S		**Sn**	**10 00 39.9 -2.3**
HUSU	**Husum**	**5.22 260**	P		**Pn**	**09 59 43.2 -1.1**
ARCES	**ARCESS Array B**	**5.25 340**	Pn		**Pn**	**09 59 45.5 +0.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=67					
ARCES			Lg		Lg	10 01 12.9
	comp=Z,0.2nm,0.3s,baz=155,slow=29,SNR=6.4					
	comp=Z,1.6nm,0.7s					
ARCES	**ARCESS Array B**	**5.25 340**	P		**Pn**	**09 59 45.2 +0.4**
ARCES			S		**Sn**	**10 00 44.8 -1.2**
VADS	**Vadso**	**5.47 355**	P		**Pn**	**09 59 47.2 -0.4**
VADS			S		**Sn**	**10 00 49.6 -1.6**
FAUS	**Fauske**	**6.81 300**	P		**Pn**	**10 00 07.1 +0.9**
FAUS			S		**Sn**	**10 01 22.3 -1.9**
HFS	**Hagfors**	**9.10 248**	Pn		**Pn**	**10 00 37.6 +0.1**
	comp=Z,2.0nm,1.0s,baz=48,slow=15,SNR=5.2					
NOA	**NORSAR Array B**	**9.60 256**	Pn		**Pn**	**10 00 44.6 +0.2**
	baz=67,slow=11,SNR=6.8					
	comp=Z,0.3nm,0.6s					

*NNC **11** 10:03:30.2±3.9, 42°.35N×78°.81E, h0km, mb2.5, mpv2.5,*
Error ellipse: s-maj=33.4km s-min=10.9km az=158.0
*SOME **11** 10:03:30.8, 41°.78N×77°.95E, h15km*
ISC 11 10:03:28.7±4.2, 42°.3N±0°.3×78°.9E±0°.1, h10km, n7,
σ0973/11, 2C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.13**	**21**	⇓P	**Pb**	**10 03 49.8**	**-0.5**
	0.3nm,0.5s						
PDGK				⇑S	**Sn**	**10 04 06.4**	**+0.2**
	0.3nm,0.2s						
TNSS	**Tian-Shan**	**1.64**	**298**	P	**Pb**	**10 03 58.9**	**-0.4**
	2.1nm,0.2s						
TNSS				S	**Sn**	**10 04 18.8**	**-0.6**
	1.2nm,0.2s						
TNSS	**Tian-Shan**	**1.64**	**298**	*e*P	**Pn**	**10 03 58.5**	**+0.6**
	1.6nm,0.1s						
TNSS				*e*S	**Sn**	**10 04 18.5**	**-0.9**
	1.2nm,0.2s						
KTBS	**Karatobe**	**2.18**	**312**	Pg	**Pg**	**10 04 10.7**	**+0.3**
	0.9nm,0.1s						
KTBS				Lg	Lg	10 04 39.4	
	1.6nm,0.3s						
KST	**Kastek**	**2.31**	**290**	Pg	**Pb**	**10 04 11.5**	**+0.9**
	2.0nm,0.3s						
KST				Lg	Lg	10 04 40.4	
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**2.54**	**286**	⇑P	**Pb**	**10 04 13.4**	**-1.1**
	1.2nm,0.4s						
TKM2				⇓S	**Sn**	**10 04 40.8**	**-0.4**
	3.3nm,0.5s						
KRBS	**Karabastau**	**2.77**	**302**	Pg	**Pb**	**10 04 18.5**	**+0.1**
	0.8nm,0.2s						
KRBS				Lg	Lg	10 04 52.6	
	1.1nm,0.2s						

*IDC **11** 10:13:35.0±0.8, 54°.28N×169°.41E, h0km, mb3.8/18,*
mbtmp3.8/21, ML4.2/3, MS4.2/1, Error ellipse:
s-maj=21.9km s-min=12.3km az=175.0
*KRSC **11** 10:13:35.8±2.4, 53°.94N×169°.28E, h64km±49km, Ml4.7*
*MOS **11** 10:13:37.1±0.8, 53°.99N×169°.30E, h34km, mb4.6/9, Error*
ellipse: s-maj=8.0km s-min=5.1km az=35.8
*NEIC **11** 10:13:43.2±2.7, 54°.6N±0°.2×168°.7E±0°.2, h33km±9km,*
mb4.1/12, Error ellipse: s-maj=31.7km s-min=13.3km
az=156.0
ISC 11 10:13:40.0±0.5, 53°.97N±0°.06×169°.24E±0°.05, h35km, n142,
σ1§49/164, mb4.0/32, 6C-9D, Komandorsky Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.27**	**304**	PN	**Pn**	**10 14 13.7**	**-1.2**
BKI				S	**Sn**	**10 14 39.8**	**-1.7**
BKI	**Bering**	**2.27**	**304**	*e*P	**Pn**	**10 14 12.9**	**-2.0**
BKI				*e*S	**Sn**	**10 14 41.2**	**-0.3**
SHEM	**Shemya Is, Ala**	**3.17**	**111**	Pn	**Pn**	**10 14 26.2**	**-1.0**
	17nm,0.3s,baz=313,slow=3.9,SNR=7.2						
SHEM				Sn	**Sn**	**10 15 03.2**	**-0.5**
	17nm,0.3s,baz=295,slow=23,SNR=8.1						
	99nm,0.7s						
KBTR	**Krutoberegovo**	**4.32**	**304**	PN	**Pn**	**10 14 41.3**	**-1.7**
KBTR	**Krutoberegovo**	**4.32**	**304**	*e*P	**Pn**	**10 14 41.3**	**-1.7**
KBG	**Krutoberegovo**	**4.39**	**304**	PN	**Pn**	**10 14 42.9**	**-1.1**
KBG				S	**Sn**	**10 15 35.4**	**+1.5**
KBG	**Krutoberegovo**	**4.39**	**304**	*e*P	**Pn**	**10 14 43.0**	**-1.1**
KBG				*e*S	**Sn**	**10 15 35.4**	**+1.5**
MKZ	**Mys Kozlova**	**4.44**	**281**	PN	**Pn**	**10 14 43.8**	**-0.9**
MKZ	**Mys Kozlova**	**4.44**	**281**	*e*P	**Pn**	**10 14 43.8**	**-0.9**
MKZ				*e*S	**Sn**	**10 15 32.3**	**-2.8**
SMKR	**Semkarok**	**5.16**	**304**	PN	**Pn**	**10 14 55.3**	**+0.7**
SMKR	**Semkarok**	**5.16**	**304**	*e*P	**Pn**	**10 14 55.3**	**+0.7**
ZLN	**Zelenaya**	**5.27**	**296**	PN	**Pn**	**10 14 56.2**	**0.0**
ZLN	**Zelenaya**	**5.27**	**296**	*e*P	**Pn**	**10 14 57.7**	**+1.4**
ZLN				*e*S	**Sn**	**10 15 56.3**	**+0.5**
TUMD	**Tumrok D**	**5.29**	**287**	PN	**Pn**	**10 14 55.8**	**-0.6**
TUMD	**Tumrok D**	**5.29**	**287**	*e*P	**Pn**	**10 14 55.9**	**-0.6**
TUMD				*e*S	**Sn**	**10 15 55.3**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**5.30**	**295**	PN	**Pn**	**10 14 57.2**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**5.30**	**295**	*e*P	**Pn**	**10 14 57.2**	**+0.5**
BZGR				*e*S	**Sn**	**10 15 57.2**	**+0.6**
CIRR	**Tsirk**	**5.33**	**297**	PN	**Pn**	**10 14 56.0**	**-1.1**
BZWR	**Bezymyannyi-We**	**5.42**	**295**	PN	**Pn**	**10 14 59.1**	**+0.8**
BZWR	**Bezymyannyi-We**	**5.42**	**295**	*e*P	**Pn**	**10 14 59.1**	**+0.8**
KLY	**Klyuchi**	**5.46**	**299**	PN	**Pn**	**10 14 56.6**	**-2.1**
KLY	**Klyuchi**	**5.46**	**299**	*e*S	**Sn**	**10 15 56.9**	**-3.2**
KIRR	**Kirishev**	**5.50**	**295**	PN	**Pn**	**10 14 59.7**	**+0.3**
KIRR	**Kirishev**	**5.50**	**295**	*e*P	**Pn**	**10 15 00.0**	**+0.6**
KIRR				*e*S	**Sn**	**10 16 00.8**	**-0.6**
KMNR	**Kamenistaya**	**5.50**	**293**	PN	**Pn**	**10 14 59.7**	**+0.4**
KMNR	**Kamenistaya**	**5.50**	**293**	*e*P	**Pn**	**10 14 59.8**	**+0.4**
KMNR				*e*S	**Sn**	**10 16 01.7**	**+0.3**
KPT	**Kopyto**	**5.56**	**295**	PN	**Pn**	**10 15 00.9**	**+0.6**
KPT	**Kopyto**	**5.56**	**295**	*e*P	**Pn**	**10 15 01.0**	**+0.8**
KPT				*e*S	**Sn**	**10 16 04.3**	**+1.3**
SPN	**Mys Shipunski**	**5.57**	**265**	PN	**Pn**	**10 14 59.5**	**-0.7**
SPN	**Mys Shipunski**	**5.57**	**265**	*e*P	**Pn**	**10 14 59.6**	**-0.7**
SPN				*e*S	**Sn**	**10 15 59.5**	**-3.4**
KOZ	**Kozyrevsk**	**5.78**	**295**	PN	**Pn**	**10 15 03.9**	**+0.8**
KOZ	**Kozyrevsk**	**5.78**	**295**	*e*P	**Pn**	**10 15 05.5**	**+2.4**
KOZ				*e*S	**Sn**	**10 16 09.8**	**+1.7**
SRDR	**Sredinnyy**	**5.94**	**297**	PN	**Pn**	**10 15 06.3**	**+0.9**
SRDR	**Sredinnyy**	**5.94**	**297**	*e*P	**Pn**	**10 15 06.3**	**+0.9**
SRDR				*e*S	**Sn**	**10 16 13.2**	**+0.9**
NLC	**Nalytchevo**	**5.95**	**266**	PN	**Pn**	**10 15 04.9**	**-0.6**
NLC	**Nalytchevo**	**5.95**	**266**	*e*P	**Pn**	**10 15 04.9**	**-0.6**
NLC				*e*S	**Sn**	**10 16 07.9**	**-4.4**
SDLR	**Sedlovina**	**6.20**	**268**	PN	**Pn**	**10 15 08.7**	**-0.3**
SDLR	**Sedlovina**	**6.20**	**268**	*e*P	**Pn**	**10 15 08.7**	**-0.3**
UGLR	**Uglovaya**	**6.25**	**267**	PN	**Pn**	**10 15 09.6**	**-0.1**
UGLR	**Uglovaya**	**6.25**	**267**	*e*P	**Pn**	**10 15 09.9**	**+0.2**
UGLR				*e*S	**Sn**	**10 16 19.3**	**-0.6**
KRER	**Koryakskii**	**6.28**	**268**	PN	**Pn**	**10 15 10.1**	**0.0**
KRER	**Koryakskii**	**6.28**	**268**	*e*P	**Pn**	**10 15 10.2**	**+0.1**
KRER				*e*S	**Sn**	**10 16 20.4**	**-0.3**
AVH	**Avacha**	**6.29**	**268**	PN	**Pn**	**10 15 10.2**	**0.0**
AVH	**Avacha**	**6.29**	**268**	*e*P	**Pn**	**10 15 10.3**	**0.0**
AVH				*e*S	**Sn**	**10 16 20.4**	**-0.4**
OSSR	**Ossora**	**6.29**	**330**	PN	**Pn**	**10 15 08.1**	**-2.0**
OSSR	**Ossora**	**6.29**	**330**	*e*P	**Pn**	**10 15 08.2**	**-2.0**
KRX	**Arik**	**6.33**	**269**	PN	**Pn**	**10 15 10.4**	**-0.4**
KRX	**Arik**	**6.33**	**269**	*e*P	**Pn**	**10 15 10.7**	**-0.1**
KRX				*e*S	**Sn**	**10 16 21.0**	**-0.8**
DALK	**Dalny**	**6.33**	**266**	PN	**Pn**	**10 15 10.2**	**-0.4**
DALK	**Dalny**	**6.33**	**266**	*e*P	**Pn**	**10 15 10.2**	**-0.4**
DALK				*e*S	**Sn**	**10 16 20.0**	**-1.6**
KOK	**Koryaka**	**6.35**	**268**	PN	**Pn**	**10 15 10.6**	**-0.4**
KOK	**Koryaka**	**6.35**	**268**	*e*P	**Pn**	**10 15 10.9**	**-0.1**
KOK				*e*S	**Sn**	**10 16 21.6**	**-0.6**
ESO	**Esso**	**6.38**	**292**	PN	**Pn**	**10 15 11.0**	**-0.4**
ESO	**Esso**	**6.38**	**292**	*e*P	**Pn**	**10 15 11.2**	**-0.2**
ESO				*e*S	**Sn**	**10 16 20.2**	**-2.7**
PET	**Petropavlovsk**	**6.39**	**266**		**Pn**	**10 15 11.7**	**+0.2**
PET	**Petropavlovsk**	**6.39**	**266**	*e*Pn	**Pn**	**10 15 10.8**	**-0.7**
PET				pmax	pmax		
	comp=Z,49nm,0.5s						
PET	**Petropavlovsk**	**6.39**	**266**	*e*P	**Pn**	**10 15 11.5**	**0.0**
PET				*e*S	**Sn**	**10 16 20.6**	**-2.5**
RUS	**Russkaya**	**6.63**	**261**	PN	**Pn**	**10 15 14.1**	**-0.7**
RUS	**Russkaya**	**6.63**	**261**	*e*P	**Pn**	**10 15 14.0**	**-0.7**
RUS				*e*S	**Sn**	**10 16 26.3**	**-2.7**
GNL	**Ganaly**	**6.70**	**272**	PN	**Pn**	**10 15 16.3**	**+0.5**
GNL	**Ganaly**	**6.70**	**272**	*e*P	**Pn**	**10 15 16.5**	**+0.7**
TILK	**Tilichiki**	**6.71**	**347**	PN	**Pn**	**10 15 14.3**	**-1.4**
TILK	**Tilichiki**	**6.71**	**347**	*e*P	**Pn**	**10 15 14.3**	**-1.4**
KRMR	**Karymshinskiy**	**6.74**	**265**	PN	**Pn**	**10 15 16.2**	**-0.1**
KRMR	**Karymshinskiy**	**6.74**	**265**	*e*P	**Pn**	**10 15 16.3**	**-0.1**
KRMR				*e*S	**Sn**	**10 16 29.4**	**-2.4**
GRL	**Gorelyy**	**6.85**	**263**	PN	**Pn**	**10 15 18.7**	**+0.8**
GRL	**Gorelyy**	**6.85**	**263**	*e*P	**Pn**	**10 15 18.8**	**+0.8**
GRL				*e*S	**Sn**	**10 16 33.7**	**-0.9**
PEA0B	**Petropavlovsk-**	**6.93**	**267**		**Pn**	**10 15 19.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**6.93**	**267**	*ce*PN	**Pn**	**10 15 19.2**	**+0.2**
PETK	**Petropavlovsk-**	**6.93**	**267**	Pn	**Pn**	**10 15 19.4**	**+0.4**
	comp=Z,15nm,0.3s,baz=90,slow=20,SNR=173						
PETK				Sn	**Sn**	**10 16 38.2**	**+1.6**
	comp=Z,4.0nm,0.3s,baz=94,slow=23,SNR=1.9						
	comp=Z,17nm,0.4s						
KDTR	**Khodutka, Kamc**	**7.09**	**257**	PN	**Pn**	**10 15 20.5**	**-0.6**
PALN	**Palana**	**7.25**	**319**	PN	**Pn**	**10 15 23.4**	**+0.2**
APC	**Apacha**	**7.29**	**267**	PN	**Pn**	**10 15 24.0**	**+0.1**
APC	**Apacha**	**7.29**	**267**	*e*P	**Pn**	**10 15 24.7**	**+0.8**
SKR	**Severo-Kuril's**	**8.69**	**253**	*e*PN	**Pn**	**10 15 43.2**	**+0.2**
MA2	**Magadan**	**11.56**	**306**	Pn	**Pn**	**10 16 22.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=118,slow=10,SNR=5.6						
	comp=Z,1.1nm,0.2s						
MA2	**Magadan**	**11.56**	**306**	⇓*e*PN	**Pn**	**10 16 23.0**	**+0.7**
SEY	**Seymchan**	**12.55**	**322**	Pn	**Pn**	**10 16 35.2**	**-0.5**
	baz=115,slow=12,SNR=8.7						
SEY	**Seymchan**	**12.55**	**322**	*e*PN	**Pn**	**10 16 37.5**	**+1.7**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BILL	**Bilibino**	**14.19**	**355**		Pn	10 16 52.3	-5.8
BILL	**Bilibino**	**14.19**	**355**	⇑*e*P	**Pn**	**10 16 56.7**	**-1.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
M14K	**Bethel**	**16.85**	**55**	Pn	**Pn**	**10 17 32.9**	**+0.2**
K15K	**Wolf Creek Mou**	**17.40**	**50**	Pn	**P**	**10 17 40.0**	**-0.6**
K15K				IAmb	IAmb	10 17 50.6	
	comp=Z,19nm,1.1s						
L16K	**Owhat River**	**18.21**	**52**	P	**P**	**10 17 52.4**	**+2.8**
ASAJ	**Asahikawa**	**19.94**	**251**	P	**Pn**	**10 18 10.4**	**-0.1**
	comp=Z,7.5nm,0.8s,baz=63,slow=2.3,SNR=2.3						
	comp=Z,7.5nm,0.8s						
YAK	**Yakutsk**	**22.14**	**307**	⇓*e*P	**P**	**10 18 32.5**	**+0.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
B21K	**Ikpikpuk River**	**22.66**	**32**	P	**P**	**10 18 38.3**	**+0.6**
B21K				IAmb	IAmb	10 18 52.9	
	comp=Z,9.9nm,1.2s						
B22K	**Teshekpuk Lake**	**23.34**	**31**	P	**P**	**10 18 43.2**	**-1.4**
B22K				IAmb	IAmb	10 18 55.6	
	comp=Z,8.2nm,1.0s						
KLR	**Kul'dur**	**23.57**	**274**	*e*P	**P**	**10 18 44.8**	**-2.2**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
D23K	**Nanushuk River**	**23.71**	**35**	P	**P**	**10 18 49.8**	**+1.6**
COLA	**College**	**23.89**	**46**	⇓*e*P	**P**	**10 18 53.2**	**+3.4**
COLA				pmax	pmax		
	comp=Z,12nm,1.4s						
TOLK	**Toolik Lake Re**	**23.99**	**36**	P	**P**	**10 18 50.0**	**-0.9**
TOLK				IAmb	IAmb	10 18 57.3	
	comp=Z,7.0nm,0.9s						
IL31		**24.29**	**46**	P	**P**	**10 18 55.7**	**+2.1**
ILAR	**Eielson Array**	**24.29**	**46**	P	**P**	**10 18 50.4**	**-3.2**
	comp=Z,0.4nm,0.8s,baz=254,slow=7.0,SNR=7.5						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**24.29**	**46**	*e*P	**P**	**10 18 53.6**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZEA	**Zeya**	**24.51**	**287**	*e*P	**P**	**10 18 55.7**	**0.0**
TIXI	**Tiksi**	**24.79**	**331**	⇑*e*P	**P**	**10 18 56.6**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BMAR	**Burnt Mountain**	**25.55**	**40**	P	**P**	**10 19 04.9**	**-0.1**
HEH	**HeiHe**	**25.68**	**279**	*e*P	**P**	**10 19 08.7**	**+2.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VRDI	**Verde Repeater**	**25.85**	**55**	P	**P**	**10 19 13.2**	**+5.2**
USRK	**Ussuriysk Ar.**	**26.00**	**263**	P	**P**	**10 19 09.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**26.00**	**263**	P	**P**	**10 19 09.9**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=62,slow=9.5,SNR=8.9						
	comp=Z,2.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**26.00**	**263**	*e*P	**P**	**10 19 09.3**	**0.0**
USRK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BCAR	**Beaver Creek A**	**26.50**	**50**	P	**P**	**10 19 17.2**	**+3.4**
DAWY	**Dawson**	**27.52**	**48**	P	**P**	**10 19 26.9**	**+4.0**
DAWY				IAmb	IAmb	10 19 46.9	
	comp=Z,5.7nm,1.2s						
MAJO	**Matsushiro**	**27.63**	**244**	⇑*e*P	**P**	**10 19 26.9**	**+2.9**
MAJO				pmax	pmax		
	comp=Z,70nm,3.5s						
BNX	**BinXian**	**27.85**	**270**	⇓P	**P**	**10 19 25.9**	**0.0**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
INK	**Inuvik**	**29.79**	**39**	P	**P**	**10 19 41.0**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=311,slow=6.7,SNR=4.4						
	comp=Z,0.3nm,0.5s						
KSRS	**Korea Array**	**32.68**	**257**	P	**P**	**10 20 11.1**	**+2.4**
	comp=Z,2.2nm,0.7s,baz=42,slow=9.4,SNR=8.1						
	comp=Z,2.2nm,0.7s						
KSRS	**Korea Array**	**32.68**	**257**	*e*P	**P**	**10 20 11.5**	**+2.9**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.23**	**184**	T	T	10 56 51.9	
	baz=2.2,slow=76,SNR=752						
H11N3	**WAKE ISLAND Hy**	**34.24**	**184**	T	T	10 56 45.7	
	baz=2.2,slow=76,SNR=544						
H11N1	**WAKE ISLAND Hy**	**34.24**	**184**	T	T	10 56 53.4	
	baz=2.2,slow=76,SNR=763						
H11S1	**WAKE ISLAND Hy**	**35.46**	**184**	T	T	10 58 24.4	
	baz=2.4,slow=76,SNR=344						
H11S3	**WAKE ISLAND Hy**	**35.46**	**184**	T	T	10 58 25.3	
	baz=2.4,slow=76,SNR=90						
H11S2	**WAKE ISLAND Hy**	**35.47**	**184**	T	T	10 58 25.7	
	baz=2.4,slow=76,SNR=362						
YKA	**Yellowknife Ar**	**38.72**	**46**	P	**P**	**10 20 58.6**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=295,slow=8.0,SNR=1.5						
	comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**38.93**	**287**	P	**P**	**10 21 02.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=58,slow=9.2,SNR=2.2						
	comp=Z,0.6nm,0.4s						
NEW	**Newport**	**44.64**	**66**	LR	LR	10 39 49.8	
	comp=Z,275nm,18.0s,baz=312,slow=35						
NVAR	**Mina Array Bea**	**50.26**	**77**	P	**P**	**10 22 31.7**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=297,slow=6.5,SNR=4.5						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**51.77**	**306**	⇓*e*P	**P**	**10 22 42.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,17nm,4.0s						
KURBB	**Kurchatov Arra**	**51.88**	**306**	P	**P**	**10 22 43.4**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=50,slow=7.0,SNR=5.4						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**52.24**	**67**	P	**P**	**10 22 46.1**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=329,slow=1.7,SNR=4.3						
	comp=Z,0.3nm,0.8s						
MK31	**Makanchi Array**	**52.57**	**300**	⇑*e*P	**P**	**10 22 51.5**	**+1.8**
MKAR	**Makanchi Array**	**52.57**	**300**	P	**P**	**10 22 48.2**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=53,slow=6.2,SNR=4.9						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**52.57**	**300**	*e*P	**P**	**10 22 50.6**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**53.98**	**312**	P	**P**	**10 22 59.0**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=46,slow=8.5,SNR=18						
	comp=Z,3.5nm,0.7s						
BRVK	**Borovoye**	**54.00**	**313**	P	**P**	**10 22 58.1**	**-2.0**
BRVK	**Borovoye**	**54.00**	**313**	*c i*P	**P**	**10 22 59.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES	**ARCESS Array B**	**54.00**	**345**	P	**P**	**10 22 58.5**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=23,slow=7.7,SNR=1.2						
	comp=Z,2.8nm,0.8s						
ARTI	**Arti**	**56.39**	**321**	*d i*P	**P**	**10 23 15.7**	**-1.5**
ARTI						10 25 21.8	
ARTI				S	**S**	**10 31 05.3**	**+0.3**
ARTI				SS	**SS**	**10 34 51.5**	**+0.1**
ARTI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**61.21**	**315**	P	**P**	**10 23 49.8**	**-1.0**
ABKAR				IAmb	IAmb	10 23 54.5	
	comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.71**	**265**	P	**P**	**10 24 09.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=43,slow=8.0,SNR=1.2						
	comp=Z,0.4nm,0.3s						
NB2	**NORSAR Subarra**	**64.01**	**348**	P	**P**	**10 24 12.4**	**+3.0**
	comp=Z,0.6nm,0.5s,baz=15,slow=6.9						
NOA	**NORSAR Array B**	**64.01**	**348**	P	**P**	**10 24 08.0**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=16,slow=6.6,SNR=4.8						
	comp=Z,1.2nm,0.8s						
TXAR	**Lajitas Array**	**65.20**	**74**	P	**P**	**10 24 16.7**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=305,slow=5.0,SNR=4.4						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**70.44**	**334**	P	**P**	**10 24 49.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=29,slow=6.1,SNR=1.7						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**70.44**	**334**	P	**P**	**10 24 49.0**	**-1.2**
KIV	**Kislovodsk**	**72.30**	**322**	*e*P	**P**	**10 25 00.3**	**-1.4**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NCK	**Nalchik**	**72.37**	**322**	⇓*e*P	**P**	**10 25 02.0**	**0.0**
NCK				pmax	pmax		
	comp=Z,39nm,0.6s						
BR131	**Keskin Array S**	**79.16**	**327**	⇓*e*P	**P**	**10 25 44.0**	**+3.0**
ASAR	**Alice Springs**	**83.12**	**212**	P	**P**	**10 26 04.6**	**+2.7**
	comp=Z,0.5nm,1.0s,baz=20,slow=5.8,SNR=5.0						
	comp=Z,0.5nm,1.0s						

*NEIC **11** 10:23:30.4±2.0, 61°.46N±0°.02×150°.00W±0°.04, h36km±8km,*
Error ellipse: s-maj=3.7km s-min=2.7km az=192.0
AEIC 11 10:23:29.9±1.9, 61°.44N±0°.04×149°.95W±0°.08, h51km±4km,
ML2.6, ML2.8/124(NEIC), **Error ellipse: s-maj=5.9km**
s-min=5.1km az=139.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.32**	**204**		Pn	10 23 39.4	+0.1
FIS	**Fire Island**	**0.32**	**204**	IAML		10 23 48.0	
	comp=E,1μm,0.4s						
FIS				IAML		10 23 48.0	
	comp=N,854nm,0.6s						
M22K	**Willow**	**0.33**	**346**		Pn	10 23 37.8	-1.6
M22K	**Willow**	**0.33**	**346**		Sn	10 23 45.2	-1.0
RC01	**Rabbit Creek A**	**0.36**	**163**		Pn	10 23 38.9	-0.9
RC01				IAML		10 23 47.8	
	comp=N,747nm,0.2s						
RC01				IAML		10 23 50.9	
	comp=E,445nm,0.3s						
SUA	**Susitna One**	**0.38**	**274**		Sn	10 23 46.0	-1.4
PMR	**Palmer**	**0.42**	**68**		Pn	10 23 39.7	-0.7
PMR				IAML		10 23 48.2	
	comp=N,852nm,0.3s						
PMR				IAML		10 23 49.7	
	comp=E,624nm,0.2s						
**P

L19K	White Mountain	2.44	290	Pn	Pn	10 24 07.0	-0.3
O19K	Port Alsworth	2.48	242	Pn	Pn	10 24 07.4	-0.3
O19K				IAML		10 24 41.6	
	comp=N,81nm,0.6s						
N25K	Chitina, Valde	2.57	84	IAML		10 24 51.2	
	comp=N,37nm,0.5s						
N25K				IAML		10 24 56.0	
	comp=E,28nm,0.5s						
PAX	Paxson	2.60	52	Pn	Pn	10 24 11.9	+2.3
BMRM	Bremner River	2.63	98		Pn	10 24 12.4	+2.4
CHUM	Lake Minchumin	2.69	337		Pn	10 24 10.3	-0.3
BPAW	Bear Paw Mtn.	2.71	350	Pn	Pn	10 24 11.4	+0.4
K20K	Telida	2.72	317		Pn	10 24 10.7	-0.4
M18K	Stony River	2.82	274		Pn	10 24 11.8	-0.6
GLB	Gilahina Butte	2.95	87		Pn	10 24 17.4	+3.1
GLB				IAML		10 25 01.7	
	comp=N,18nm,0.8s						
N18K	Kilae Creek	2.98	258		Pn	10 24 14.0	-0.8
O18K	Koktuh Hills	3.04	241		Pn	10 24 14.8	-0.6
O18K	Koktuh Hills	3.04	241	IAML		10 25 21.2	
	comp=N,16nm,1.4s						
SYI	Shuyak Island	3.09	204		Pn	10 24 16.0	-0.1
SYI	Shuyak Island	3.09	204	IAML		10 25 02.6	
	comp=E,29nm,1.2s						
SYI				IAML		10 25 07.6	
	comp=N,26nm,1.1s						
Q19K	Cape Douglas,	3.12	218		Pn	10 24 16.6	0.0
TTA	Tatalina	3.21	300		Pn	10 24 17.1	-0.8
HDA	Harding Lake	3.28	23		Pn	10 24 20.3	+1.5
HDA				IAML		10 25 13.7	
	comp=N,28nm,0.6s						
HDA				IAML		10 25 16.1	
	comp=E,23nm,0.4s						
MENT	Mentasta	3.29	60		Pn	10 24 19.4	+0.6
MENT				IAML		10 25 20.5	
	comp=E,37nm,1.0s						
L18K	Granite Mounta	3.29	287		Pn	10 24 18.2	-0.7
L18K	Granite Mounta	3.29	287	IAML		10 25 16.9	
	comp=N,13nm,1.2s						
J20K	Nowinta River	3.36	327		Pn	10 24 19.6	-0.2
J20K	Nowinta River	3.36	327	IAML		10 24 58.9	
	comp=N,22nm,0.7s						
J20K				IAML		10 25 00.3	
	comp=E,22nm,0.5s						
L26K	Log Cabin Wild	3.48	60		Pn	10 24 25.8	+4.3
L26K				IAML		10 25 19.4	
	comp=E,22nm,0.5s						
L26K				IAML		10 25 21.5	
	comp=N,24nm,0.5s						
M17K	Holitna River	3.60	273		Pn	10 24 22.4	-0.7
M17K	Holitna River	3.60	273	IAML		10 25 29.0	
	comp=N,22nm,1.4s						
M17K				IAML		10 25 33.6	
	comp=E,24nm,1.1s						
N17K	Nushagak Hills	3.64	259		Pn	10 24 23.1	-0.6
N17K	Nushagak Hills	3.64	259	IAML		10 25 37.1	
	comp=N,13nm,1.4s						
J19K	Poorman	3.66	317		Pn	10 24 23.7	-0.3
J19K				IAML		10 25 16.7	
	comp=E,11nm,0.7s						
J19K				IAML		10 25 24.5	
	comp=N,10nm,1.3s						
I23K	Minto, Yukon-K	3.73	4		Pn	10 24 24.8	-0.2
I23K	Minto, Yukon-K	3.73	4	IAML		10 25 34.3	
	comp=N,15nm,1.4s						
J18K	Innoko River	3.74	306		Pn	10 24 24.5	-0.6
J25K	Salcha River,	3.81	31	IAML		10 25 19.0	
	comp=E,16nm,0.6s						
J25K				IAML		10 25 19.9	
	comp=N,12nm,0.4s						
I21K	Tanana	3.87	347	IAML		10 25 40.9	
	comp=E,9.3nm,1.4s						
O17K	Koliganek Bris	3.90	248		Pn	10 24 26.9	-0.3
L17K	Donlin	4.02	284		Pn	10 24 28.4	-0.5
K17K	Iditarod	4.13	292		Pn	10 24 29.8	-0.6
K17K	Iditarod	4.13	292	IAML		10 25 45.0	
	comp=N,9.0nm,1.5s						
K17K				IAML		10 25 47.1	
	comp=E,12nm,1.3s						
BCAR	Beaver Creek A	4.15	63	Pn	Pn	10 24 32.7	+1.9
J26L	Joseph Creek	4.24	41		Pn	10 24 35.1	+3.2
J26L				IAML		10 25 27.9	
	comp=E,9.9nm,0.8s						
J26L				IAML		10 25 30.0	
	comp=N,11nm,0.5s						
M16K	Timber Creek	4.37	268		Pn	10 24 33.3	-0.5
M16K	Timber Creek	4.37	268	IAML		10 25 50.9	
	comp=N,11nm,1.4s						
M16K				IAML		10 26 37.6	
	comp=E,7.4nm,1.3s						
N16K	Nishlik Lake	4.41	261		Pn	10 24 33.7	-0.5
H21K	Melozitna Rive	4.42	344		Pn	10 24 34.2	-0.2
O16K	Kokwok River B	4.43	249		Pn	10 24 34.1	-0.4
O16K	Kokwok River B	4.43	249	IAML		10 25 35.3	
	comp=N,8.1nm,1.4s						
O16K				IAML		10 25 44.1	
	comp=E,7.6nm,1.2s						
L16K	Owhat River	4.56	278		Pn	10 24 35.5	-0.7
L16K	Owhat River	4.56	278	IAML		10 25 31.8	
	comp=E,7.2nm,1.4s						
L16K				IAML		10 27 20.8	
	comp=N,5.4nm,1.5s						
I26K	Coal Creek Min	4.94	35		Pn	10 24 43.1	+1.6
I26K				IAML		10 25 47.7	
	comp=N,7.7nm,1.4s						
I26K				IAML		10 26 12.1	
	comp=E,10nm,1.0s						
COLD	Coldfoot	5.81	359	Pn	Pn	10 24 54.7	+1.3
BMAR	Burnt Mountain	6.45	19	Pn	Pn	10 25 03.5	+1.3

*SNET **11** 10:29:23.0±0.8, 12°.98N×89°.52W, h50km±8km, ML3.6*
*CATAC **11** 10:29:24.2±0.6, 13°.N±3°×.8°.9W±°, h25km±3km, M3.6/18,*
MLv3.6/18, Error ellipse: s-maj=7.0km s-min=4.4km
az=24.0, confirmed
*GCG **11** 10:29:25.4±0.8, 13°.10N×89°.55W, h46km±12km, MD4.3*
ISC 11 10:29:23.2±1.8, **12°.98N**±0°.07×**89°.49W**±0°.05, **h25**km±13km,
n131, σ0°**38**/138, **13C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.53	18	eP	Pn	10 29 35.4	+0.2
LALI				eS	Sn	10 29 43.0	-0.4
LALI	Alcalda de L	0.53	18	P	Pn	10 29 35.5	+0.3
LALI	Alcalda de L	0.53	18	S	Sn	10 29 43.4	0.0
LALI	Alcalda de L	0.53	18	P	Pn	10 29 35.5	+0.2
LALI	Alcalda de L	0.53	18	i P	Pn	10 29 35.4	+0.2
LALI				i S	Sn	10 29 43.8	+0.4
LALI	Alcalda de L	0.53	18	i P		10 29 35.4	
LALI				i S		10 29 43.8	
JAYA	Jayaque - finc	0.67	3	⇑iP	Pb	10 29 37.1	+0.6
JAYA				eS	Sn	10 29 46.3	-0.8
JAYA	Jayaque - finc	0.67	3	S	Sn	10 29 46.6	-0.5
JAYA	Jayaque - finc	0.67	3	P	Pb	10 29 37.0	+0.6
JAYA	Jayaque - finc	0.67	3	P	Pb	10 29 37.1	+0.6
JAYA	Jayaque - finc	0.67	3	S	Sn	10 29 46.7	-0.5
JAYA	Jayaque - finc	0.67	3	i P	Pb	10 29 37.1	+0.6
JAYA				i S	Sn	10 29 46.5	-0.5
JAYA	Jayaque - finc	0.67	3	i P		10 29 37.1	
JAYA				i S		10 29 46.5	
PANCS	Alcalda de	0.70	26	eP	Pb	10 29 37.3	+0.5
PANCS	Alcalda de	0.70	26	P	Pn	10 29 37.6	+0.1
PANCS	Alcalda de	0.70	26	S	Sn	10 29 47.1	-0.5
PANCS	Alcalda de	0.70	26	S	Sn	10 29 47.1	-0.5
PANCS	Alcalda de	0.70	26	P	Pb	10 29 37.4	+0.5
ITCA	Escuela Especi	0.72	17	eP	Pb	10 29 37.7	+0.5
ITCA	Escuela Especi	0.72	17	S	Sn	10 29 48.0	-0.2
ITCA	Escuela Especi	0.72	17	P	Pn	10 29 37.8	-0.1
ITCA	Escuela Especi	0.72	17	S	Sn	10 29 48.1	-0.1
ITCA	Escuela Especi	0.72	17	P	Pn	10 29 37.8	-0.1
LOMA	Loma Larga	0.73	25	eP	Pn	10 29 38.0	0.0
LOMA				eS	Sn	10 29 48.4	-0.1
LOMA	Loma Larga	0.73	25	P	Pn	10 29 38.2	+0.2
LOMA	Loma Larga	0.73	25	S	Sn	10 29 48.8	+0.3
LOMA	Loma Larga	0.73	25	S	Sn	10 29 49.2	+0.7
LOMA	Loma Larga	0.73	25	P	Pn	10 29 38.1	0.0
PMON	Piamonte	0.75	13	⇑iP	Pb	10 29 38.1	+0.4
PMON	Piamonte	0.75	13	S	Sn	10 29 48.8	-0.1
PMON	Piamonte	0.75	13	P	Pb	10 29 38.1	+0.4
PMON	Piamonte	0.75	13	P	Pb	10 29 38.1	+0.4
LFRS	El Faro	0.77	33	⇑iP	Pn	10 29 38.5	0.0
SEMO	Seminario San	0.77	20	P	Sn	10 29 50.3	+1.1
UTEC	Universidad Te	0.77	21	eP	Pb	10 29 38.4	+0.4
UTEC	Universidad Te	0.77	21	P	Pn	10 29 38.5	0.0
UTEC	Universidad Te	0.77	21	S	Sn	10 29 49.0	-0.4
UTEC	Universidad Te	0.77	21	S	Sn	10 29 49.0	-0.4
UTEC	Universidad Te	0.77	21	P	Pn	10 29 38.6	0.0
UEES	Universidad Ev	0.77	18	i P	Pb	10 29 38.4	+0.4
UEES	Universidad Ev	0.77	18	S	Sn	10 29 49.4	0.0
UEES	Universidad Ev	0.77	18	S	Sn	10 29 49.4	0.0
UEES	Universidad Ev	0.77	18	P	Pb	10 29 38.5	+0.4
UEES	Universidad Ev	0.77	18	P	Pb	10 29 38.5	+0.4
BOQS	Boqueron	0.78	15	⇑iP	Pn	10 29 38.8	0.0
UESS	Universidad de	0.79	21	eP	Pn	10 29 38.8	0.0
IGN	Direccin Gen	0.80	23	P	Pn	10 29 39.1	+0.2
IGN	Direccin Gen	0.80	23	S	Sn	10 29 50.1	+0.2
IGN	Direccin Gen	0.80	23	P	Pn	10 29 39.0	+0.1
PIC2	El Picacho	0.80	17	eP	Pn	10 29 39.0	0.0
CEDA	San Andres	0.83	6	⇑iP	Pb	10 29 39.1	+0.1
LFU	La Fuente	0.85	26	eP	Pn	10 29 40.0	+0.4
CEVE	Cerro Verde	0.85	351	eP	Pb	10 29 39.7	+0.2
CEVE	Cerro Verde	0.85	351	S	Sn	10 29 52.0	+0.3
CEVE	Cerro Verde	0.85	351	P	Pb	10 29 40.0	+0.4
CEVE	Cerro Verde	0.85	351	P	Pb	10 29 39.8	+0.2
SBLS	San Blas	0.87	351	⇑eP	Pb	10 29 39.9	+0.1
SBLS				⇓iP	Pn	10 29 40.0	0.0
COEG	Centro de Oper	0.87	43	eP	Pb	10 29 39.6	-0.1
TECO	Alcaldia de Te	0.89	51	S	Sn	10 29 51.9	-0.3
TECO	Alcaldia de Te	0.89	51	P	Pb	10 29 39.9	-0.1
TECO	Alcaldia de Te	0.89	51	S	Sn	10 29 51.9	-0.3
TECO	Alcaldia de Te	0.89	51	P	Pb	10 29 39.8	-0.2
SNJE	San Jose	0.89	353	⇑eP	Pb	10 29 40.1	0.0
SNVI	San Vicente	0.90	45	eP	Pb	10 29 40.1	-0.1
PAVA	Las Pavas	0.91	36	⇓iP	Pb	10 29 40.6	+0.2
PAVA	Las Pavas	0.91	36	S	Sn	10 29 53.0	+0.2
PAVA	Las Pavas	0.91	36	P	Pb	10 29 40.7	+0.2
PAVA	Las Pavas	0.91	36	S	Sn	10 29 53.0	+0.2
PAVA	Las Pavas	0.91	36	P	Pb	10 29 40.6	+0.2
UESV	Universidad de	0.95	46	⇑iP	Pb	10 29 40.8	-0.2
UESV	Universidad de	0.95	46	S	Sn	10 29 53.1	-0.5
UESV	Universidad de	0.95	46	P	Pb	10 29 40.8	-0.2
UESV	Universidad de	0.95	46	S	Sn	10 29 53.1	-0.5
UESV	Universidad de	0.95	46	P	Pb	10 29 40.8	-0.2
ALJI	Alcalda de J	0.96	69	eP	Pb	10 29 41.1	-0.1
ALJI	Alcalda de J	0.96	69	S	Sn	10 29 54.1	+0.2
ALJI	Alcalda de J	0.96	69	P	Pb	10 29 41.2	0.0
ALJI	Alcalda de J	0.96	69	S	Sn	10 29 54.2	+0.2
ALJI	Alcalda de J	0.96	69	P	Pb	10 29 41.2	0.0
NUBE	Las Nubes	0.96	343	⇑iP	Pb	10 29 40.9	-0.4
NUBE	Las Nubes	0.96	343	S	Sb	10 29 53.5	-0.2
NUBE	Las Nubes	0.96	343	P	Pb	10 29 40.9	-0.4
NUBE	Las Nubes	0.96	343	S	Sb	10 29 53.4	-0.3
NUBE	Las Nubes	0.96	343	P	Pb	10 29 40.9	-0.4
NUBE	Las Nubes	0.96	343	i P	Pb	10 29 40.9	-0.4
NUBE				i S	Sb	10 29 53.3	-0.4
NUBE	Las Nubes	0.96	343	i P		10 29 40.9	
NUBE				i S		10 29 53.3	
UNIC	Universidad Ca	1.00	357	eP	Pn	10 29 41.7	+0.1
UNIC	Universidad Ca	1.00	357	S	Sb	10 29 54.6	-0.2
UNIC	Universidad Ca	1.00	357	P	Pn	10 29 41.9	+0.2
UNIC	Universidad Ca	1.00	357	P	Pn	10 29 41.9	+0.2
SCLA	Alcaldia de Sa	1.03	46	eP	Pn	10 29 42.3	+0.2
SCLA	Alcaldia de Sa	1.03	46	S	Sb	10 29 54.8	-0.9
SCLA	Alcaldia de Sa	1.03	46	P	Pn	10 29 42.3	+0.2
SCLA	Alcaldia de Sa	1.03	46	S	Sb	10 29 55.2	-0.5
SCLA	Alcaldia de Sa	1.03	46	P	Pn	10 29 42.4	+0.2
SLOZ	Alcaldia de Sa	1.08	345	⇑eP	Pn	10 29 42.8	+0.1
SLOZ	Alcaldia de Sa	1.08	345	S	Sn	10 29 58.0	+1.1
SLOZ	Alcaldia de Sa	1.08	345	P	Pn	10 29 42.9	+0.1
SLOZ	Alcaldia de Sa	1.08	345	P	Pn	10 29 42.9	+0.1
TECA	Tecapa	1.09	62	eP	Pn	10 29 43.1	+0.1
PQSS	Presa 15 de Se	1.11	55	eP	Pn	10 29 43.0	-0.1
PQSS	Presa 15 de Se	1.11	55	S	Sb	10 29 57.0	-0.8
PQSS	Presa 15 de Se	1.11	55	P	Pn	10 29 43.3	+0.1
PQSS	Presa 15 de Se	1.11	55	S	Sb	10 29 57.3	-0.5
PQSS	Presa 15 de Se	1.11	55	P	Pn	10 29 43.1	0.0
PACA	Pacayal	1.24	67	eP	Pn	10 29 45.7	+0.8
PACA	Pacayal	1.24	67	S	Sb	10 30 02.4	+0.8
PACA	Pacayal	1.24	67	P	Pn	10 29 45.8	+0.8
PACA	Pacayal	1.24	67	S	Sb	10 30 01.9	+0.3
PACA	Pacayal	1.24	67	P	Pb	10 29 45.9	-0.1
LCY	Lacayo	1.25	69	eP	Pn	10 29 45.6	+0.5
RANC	El Ranchito	1.26	69	eP	Pn	10 29 45.6	+0.3
RANC	El Ranchito	1.26	69	P	Pn	10 29 45.7	+0.5
LLGN	La Laguna	1.29	24	eP	Pn	10 29 45.7	0.0
LLGN	La Laguna	1.29	24	P	Pn	10 29 45.9	+0.1
LLGN	La Laguna	1.29	24	S	Sb	10 30 02.8	-0.4
LLGN	La Laguna	1.29	24	P	Pn	10 29 45.8	0.0
BLLM	Bellamira	1.30	69	⇑eP	Pn	10 29 46.4	+0.6
MTO3	Montecristo	1.42	5	⇑iP	Pn	10 29 47.6	+0.1
MTO3	Montecristo	1.42	5	S	Sn	10 30 05.4	-0.1
MTO3	Montecristo	1.42	5	P	Pn	10 29 47.7	+0.1
MTO3	Montecristo	1.42	5	P	Pn	10 29 47.6	+0.1
MTO3	Montecristo	1.42	5	i P	Pn	10 29 47.6	+0.1
MTO3	Montecristo	1.42	5	i P		10 29 47.6	
CAHU	Cacacuatique	1.47	58	eP	Pn	10 29 48.7	+0.4
ESQI	Esquipulas	1.58	5	⇑iP	Pn	10 29 50.0	+0.4
ESQI	Esquipulas	1.58	5	P	Pn	10 29 50.1	+0.4
CNCH	Conchagua	1.64	79	eP	Pn	10 29 50.8	+0.3
CNCH	Conchagua	1.64	79	P	Pn	10 29 51.1	+0.5
CSGN	Cosiguina Volc	1.88	90	P	Pn	10 29 54.4	+0.6
POTN	Potosi Cosigui	1.94	89	P	Pn	10 29 54.6	+0.2
APG	El Apazote	2.23	335	i P	Pn	10 29 59.2	+0.5
APG	El Apazote	2.23	335	i P		10 29 59.2	
STG0	El Palmar, Qui	2.31	309	eP		10 30 05.0	
STG0				eS		10 30 34.8	
STG8	El Palmar, Qui	2.33	309	eP		10 30 05.6	
POLN	Al Sur del Vol	2.63	97	P	Pn	10 30 03.2	-0.9
LIMN	Finca el Limon	3.05	88	P	Pn	10 30 10.1	+0.3
RCVN	Varilla2	3.27	79	P	Pn	10 30 13.4	+0.5

ISC 11 10:49:13.9±1.4, **48°.4N**±0°.1×**18°.50E**±0°.04, **h10**km, **n6**,
σ0°**55**/10, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	Velka Javorina	0.75	313	ePG	Pb	10 49 29.5	+0.4
JAVC				eSG	Sn	10 49 41.7	-0.4
MODS	Modra-Piesok	0.82	272	ePG	Pn	10 49 31.6	+0.1
MODS				eSG	Sn	10 49 43.6	-0.1
LANS	Liptovska Anna	1.02	38	ePG	Pg	10 49 33.3	-0.3
LANS				eSG	Sn	10 49 48.5	-0.3
KECS	Kecovo	1.33	83	ePG	Pn	10 49 38.1	-0.4
KECS				eSG	Sg	10 49 57.3	+0.8
MORC	Moravsky Berou	1.56	336	ePG	Pn	10 49 42.3	+0.5
VRAC	Vranov	1.59	308	ePG	Pn	10 49 41.3	-0.8

*NNC **11** 10:49:53.9±2.2, 43°.69N×69°.71E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=13.6km s-min=8.1km az=141.0,
Suspected Mining explosion.
*SOME **11** 10:49:54.3, 43°.70N×69°.78E*
*KRNET **11** 10:49:55.8±0.1, 43°.43N×69°.64E, mb2.4*
ISC 11 10:49:51.6±2.4, **43°.9N**±0°.1×**69°.85E**±0°.09, **h0**km, **n11**,
σ1°**30**/20, **12C, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.83	181	P	Pn	10 50 11.1	+0.5
	5.3nm,0.3s						
BRLS				S	Sn	10 50 23.2	-0.3
	45nm,0.3s						
KK31	Karatay Array	0.89	147	⇑P	Pb	10 50 09.8	-0.3
	1.5nm,0.2s,baz=315,slow=15,SNR=66						
KK31				⇑S	Sb	10 50 21.8	-0.7
	9.2nm,0.3s,baz=318,slow=34,SNR=59						
KKAR	Karatay Array	0.89	147	⇑iP	Pg	10 50 09.7	+0.9
KKAR				⇑iS	Sg	10 50 19.9	-0.4
DZA	Taraz	1.45	131	P	Pn	10 50 19.0	-0.1
	87nm,0.1s						
DZA				S	Sg	10 50 36.9	-1.3
	102nm,0.3s						
IUG	Iuzhnay	1.71	176	P	Pn	10 50 23.7	+0.8
	14nm,0.4s						
IUG				S	Sn	10 50 44.9	-0.7
	43nm,0.5s						
MNAS	Manas	2.38	124	⇑iP	Pg	10 50 37.3	+0.1
MNAS				⇑iS	Sg	10 51 07.5	-0.5
TRKS	Terek-Say	2.51	157	⇑iP	Pb	10 50 36.7	-1.0
TRKS				⇑iS	Sn	10 51 06.7	+1.4
ARK	Arkit	2.58	142	⇑iP	Pb	10 50 38.2	-0.6
ARK				⇑iS	Sn	10 51 08.9	+2.0
MRKS	Merke	2.70	113	Pg	Pg	10 50 45.0	+1.6
	7.4nm,0.5s						
MRKS				Lg	Lg	10 51 22.0	
	7.6nm,0.5s						
ARSB	Arslanbob	3.43	137	⇑eP	Pb	10 50 50.7	-2.6
ARSB				⇑eS	Sn	10 51 30.5	+2.6
TNSS	Tian-Shan	5.23	97	Pg	Pg	10 51 31.9	0.0
	2.0nm,0.5s						

*UCR **11** 11:00:09.6±0.8, 13°.23N×87°.42W, h88km±11km, MW3.7*
*CATAC **11** 11:00:10.6±0.5, 12°.N±3°×.8°.8W±°, h32km±4km, M3.6/19,*
MLv3.6/19, Error ellipse: s-maj=8.0km s-min=2.4km
az=28.1, confirmed
*SNET **11** 11:00:11.7±1.0, 12°.66N×87°.77W, h62km±8km, ML3.7*
*GCG **11** 11:00:13.9±2.9, 12°.89N×87°.83W, h30km±999km, MD4.2*
ISC 11 11:00:11.4±1.3, **12°.54N**±0°.07×**87°.82W**±0°.04, **h57**km±14km,
n107, σ0°**70**/123, **2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.50	30	P	Pn	11 00 22.5	-0.7
CSGN				S	Sn	11 00 32.3	+0.4
CSGN	Cosiguina Volc	0.50	30	P	Pn	11 00 22.6	-0.7
CSGN	Cosiguina Volc	0.50	30	⇓eP	Pn	11 00 22.6	-0.7
CSGN				eS	Sn	11 00 32.4	+0.6
POTN	Potosi Cosigui	0.55	34	P	Pn	11 00 23.3	-0.5
POTN				S	Sn	11 00 32.7	+0.1
POTN	Potosi Cosigui	0.55	34	P	Pn	11 00 23.2	-0.5
POTN	Potosi Cosigui	0.55	34	S	Sn	11 00 33.0	+0.4
CNCH	Conchagua	0.73	359	⇓eP	Pn	11 00 25.5	-0.5
CNCH				eS	Sn	11 00 37.2	+0.5
CNCH	Conchagua	0.73	359	P	Pn	11 00 25.6	-0.4
CNCH	Conchagua	0.73	359	P	Pn	11 00 25.6	-0.5
CNCH	Conchagua	0.73	359	S	Sn	11 00 38.1	+1.4
CRIN	San Cristobal	0.77	78	P	Pn	11 00 26.6	+0.2
CRIN	San Cristobal	0.77	78	S	Sn	11 00 38.7	+1.3
CRIN	San Cristobal	0.77	78	S	Sn	11 00 39.3	+1.9
CRIN	San Cristobal	0.77	78	P	Pn	11 00 26.6	+0.2
CRIN	San Cristobal	0.77	78	eP	Pn	11 00 26.4	0.0
CRIN				eS	Sn	11 00 38.9	+1.5
QUEN	Al S del Volca	0.94	87	P	Sn	11 00 39.6	-1.8
TEL3	Telica 3	0.95	88	P	Pn	11 00 27.2	-1.5
TEL3	Telica 3	0.95	88	P	Pn	11 00 27.2	-1.5
TELN	Telica	0.96	86	P	Pn	11 00 28.5	-0.5
TELN				S	Sn	11 00 41.8	-0.2
TELN	Telica	0.96	86	P	Pn	11 00 28.5	-0.5
TELN				S	Sn	11 00 42.0	0.0
HERN	Volcan Telica	0.97	86	S	Sn	11 00 41.7	-0.2
HERN	Volcan Telica	0.97	86	P	Pn	11 00 28.2	-0.7
HERN	Volcan Telica	0.97	86	S	Sn	11 00 41.8	-0.1
HERN	Volcan Telica	0.97	86	P	Pn	11 00 28.3	-0.7
BLLM	Bellamira	0.98	336	eP	Pn	11 00 28.8	-0.4
POLN	Al Sur del Vol	0.99	84	P	Pn	11 00 27.9	-1.3
POLN				S	Sn	11 00 41.4	-0.9
POLN	Al Sur del Vol	0.99	84	P	Pn	11 00 27.4	-1.8
LCY	Lacayo	0.99	332	eP	Pn	11 00 28.9	-0.5
RANC	El Ranchito	1.00	333	eP	Pn	11 00 28.9	-0.5
RANC				eS	Sn	11 00 42.8	-0.1
RANC	El Ranchito	1.00	333	S	Sn	11 00 43.0	+0.2
RANC	El Ranchito	1.00	333	P	Pn	11 00 29.2	-0.3
RANC	El Ranchito	1.00	333	S	Sn	11 00 43.1	+0.3
RANC	El Ranchito	1.00	333	P	Pn	11 00 29.1	-0.3
PACA	Pacayal	1.05	332	eP	Pn	11 00 29.7	-0.4
PACA	Pacayal	1.05	332	P	Pn	11 00 30.2	+0.1
PACA	Pacayal	1.05	332	S	Sn	11 00 44.5	+0.6
PACA	Pacayal	1.05	332	S	Sn	11 00 44.7	+0.8
PACA	Pacayal	1.05	332	P	Pn	11 00 29.9	-0.2
ALJI	Alcalda de J	1.07	317	eP	Pn	11 00 29.5	-0.8
ALJI	Alcalda de J	1.07	317	S	Sn	11 00 44.1	-0.2
ALJI	Alcalda de J	1.07	317	P	Pn	11 00 29.7	-0.6
ALJI	Alcalda de J	1.07	317	S	Sn	11 00 43.4	-0.9
ALJI	Alcalda de J	1.07	317	P	Pn	11 00 29.7	-0.6
CNGA	Al SSO del Vol	1.09	92	P	Pn	11 00 30.7	+0.1
CNGA				S	Sn	11 00 44.2	-0.6
CNGA	Al SSO del Vol	1.09	92	P	Pn	11 00 30.7	+0.1
ILCN	San Idelfonso	1.09	88	P	Pn	11 00 30.0	-0.6
ILCN				S	Sn	11 00 45.1	+0.2
ILCN	San Idelfonso	1.09	88	P	Pn	11 00 30.0	-0.6
CNGN	Cerro Negro	1.09	92	S	Sn	11 00 45.1	+0.2
CNGN	Cerro Negro	1.09	92	P	Pn	11 00 29.9	-0.7
CNGN	Cerro Negro	1.09	92	S	Sn	11 00 45.0	+0.1
CNGN	Cerro Negro	1.09	92	P	Pn	11 00 30.1	-0.6
CHOHN	Orocuina	1.13	34	P	Pn	11 00 30.7	-0.6
CHO

mb4.9/344, Error ellipse: s-maj=13.3km s-min=12.2km az=187.0
GCMT ***11*** *11:00:29.2±0.2, 58°.47N±0°.02×31°.70W±0°.02, h12km, MW4.9/104, Moment Tensor Solution. s15,c16; s104,c151; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.81±.09; Mθθ0.10±.10; Mφφ1.71±.07; Mrθ0.01±.29; Mθφ2.09±.06; Mrφ0.12±.25; Best double couple: M◎2.48200×10^16^ NP1:φs41.00000°, δ44.00000°, λ-81.00000°. NP2:φs208.00000°, δ47.00000°, λ-99.00000°. Principal axes: T 3.1460, Plg1.0000°, Azm304.0000°; N -1.3300, Plg7.0000°, Azm214.0000°; P -1.8190, Plg83.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
INMG ***11*** *11:00:31.0±4.6, 58°.38N×32°.23W, h10km, M4.6, mb4.8, Ms4.1, #DIST_RANGE: DISTANT*
ISC 11 11:00:28.7±0.3, 58°.54N±0°.05×32°.07W±0°.04, h13km, n551, σ1§42/399, mb4.9/196, MS4.1/54, 1C-8D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.56**	**342**				**Pn**	**11 02 16.8**	**-1.6**
ANGG							**Sn**	**11 03 39.8**	**-4.1**
ANGG	**Ammassalik, Gr**	**7.56**	**342**	*i*	P		**Pn**	**11 02 16.5**	**-2.0**
ANGG				*i*	S		**Sn**	**11 03 37.4**	**-6.5**
ISOG	**Isortoq, Green**	**7.74**	**338**	*i*	P		**Pn**	**11 02 19.5**	**-1.3**
BORG	**Borgarnes**	**8.05**	**35**		Pn		**Pn**	**11 02 26.8**	**+1.7**
BORG	**Borgarnes**	**8.05**	**35**		Pn		**Pn**	**11 02 26.6**	**+1.5**
	2.4nm,0.3s,baz=219,slow=6.6,SNR=8.4								
BORG					Sn		**Sn**	**11 03 55.0**	**-0.8**
	0.4nm,0.3s,baz=109,slow=18,SNR=0.9								
BORG					LR		LR	11 04 37.4	
	comp=Z,1μm,20.3s,baz=246,slow=31								
	18nm,0.6s								
NUUK	**Nuuk**	**10.97**	**309**	*e*			**Pn**	**11 03 04.7**	**-0.3**
NUUK				*i*	S		Sn	11 04 37.4	-30
NUUK					IAML			11 04 55.9	
	comp=Z,5.1nm,0.2s								
ICESG	**Greenland Ices**	**11.09**	**346**	*i*	P		**Pn**	**11 03 05.9**	**-1.2**
ICESG				*i*	S		Sn	11 04 44.1	-27
ICESG					IAML			11 04 55.8	
	comp=Z,0.5nm,0.3s								
SFJD	**Kangerlussuaq**	**11.95**	**323**				**Pn**	**11 03 19.5**	**+1.1**
SFJD	**Kangerlussuaq**	**11.95**	**323**		Pn		**Pn**	**11 03 21.5**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=102,slow=8.1,SNR=7.2								
SFJD					Sn		**Sn**	**11 05 24.4**	**-7.0**
	comp=Z,0.8nm,0.3s,baz=278,slow=12,SNR=5.5								
SFJD					LR		LR	11 07 17.6	
	comp=Z,3μm,18.6s,baz=130,slow=34								
	comp=Z,19nm,0.9s								
SFJD	**Kangerlussuaq**	**11.95**	**323**	*i*	P		**Pn**	**11 03 20.6**	**+2.1**
ILULI	**Ilulissat**	**13.51**	**330**		Pn		**Pn**	**11 03 39.0**	**-0.8**
ILULI	**Ilulissat**	**13.51**	**330**	*i*	P		**Pn**	**11 03 38.9**	**-0.8**
SUMG	**Summit**	**14.33**	**352**		Pn		**Pn**	**11 03 50.9**	**-0.4**
SUMG	**Summit**	**14.33**	**352**	*i*	P		**Pn**	**11 03 51.4**	**+0.1**
UMMG	**Uummannaq**	**14.79**	**333**	*i*	P		**Pn**	**11 03 53.8**	**-3.3**
UMMG				*i*	S		Sn	11 06 02.9	-38
UMMG					IAML			11 06 17.8	
	comp=Z,1.0nm,0.3s								
NUUG	**Nuugaatsiaq**	**15.65**	**335**	*i*	P		**Pn**	**11 04 06.2**	**-2.4**
EKA	**Eskdalemuir Ar**	**16.04**	**89**		Pn		**Pn**	**11 04 10.8**	**-2.8**
	comp=Z,4.7nm,0.9s,baz=290,slow=9.7,SNR=5.2								
DRLN	**Deer Lake**	**17.53**	**249**		Pn		**Pn**	**11 04 29.7**	**-2.8**
FRB	**Frobisher Bay**	**18.17**	**302**		P		**P**	**11 04 42.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=85,slow=11,SNR=13								
FRB					LR		LR	11 10 51.3	
	comp=Z,2μm,18.9s,baz=94,slow=34								
	comp=Z,24nm,1.0s								
KULLO	**Kullorsuaq**	**18.66**	**339**	*e*			**P**	**11 04 40.6**	**-5.3**
DAG	**Danmarks Havn**	**18.91**	**9**	*i*	P		**Pn**	**11 04 54.7**	**+5.5**
SCHQ	**Schefferville**	**19.31**	**274**		P		**P**	**11 04 52.5**	**-0.7**
SCHQ	**Schefferville**	**19.31**	**274**		P		**Pn**	**11 04 54.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=66,slow=9.1,SNR=14								
SCHQ					LR		LR	11 11 12.5	
	comp=Z,880nm,18.8s,baz=50,slow=33								
	comp=Z,6.9nm,0.8s								
NEEM	**North Greenlan**	**20.07**	**348**	*i*	P		**P**	**11 05 01.6**	**+0.1**
KONO	**Kongsberg**	**21.18**	**69**		P		**P**	**11 05 13.5**	**+0.1**
KONO					IAmb		IAmb	11 05 20.6	
	comp=Z,126nm,1.7s								
NBO00	**NORSAR Array S**	**21.42**	**65**		P		**P**	**11 05 16.5**	**+0.5**
NAO01	**NORSAR Array S**	**21.51**	**65**		P		**P**	**11 05 17.2**	**+0.2**
NB2	**NORSAR Subarra**	**21.63**	**65**		P		**P**	**11 05 17.2**	**-1.1**
	comp=Z,44nm,1.4s,baz=282,slow=11								
NOA	**NORSAR Array B**	**21.63**	**65**		P		**P**	**11 05 17.3**	**-0.9**
	comp=Z,9.4nm,1.2s,baz=283,slow=9.3,SNR=7.4								
NOA					LR		LR	11 11 49.9	
	comp=Z,140nm,20.6s,baz=275,slow=32								
	comp=Z,9.4nm,1.2s								
NC303	**NORSAR Array S**	**21.66**	**64**		P		**P**	**11 05 19.8**	**+1.2**
NC303					IAmb		IAmb	11 05 25.8	
	comp=Z,129nm,2.0s								
NB201	**NORSAR Array S**	**21.66**	**65**		P		**P**	**11 05 19.6**	**+1.0**
NB201					IAmb		IAmb	11 05 25.8	
	comp=Z,82nm,1.6s								
NC405	**NORSAR Array S**	**21.85**	**65**		P		**P**	**11 05 20.8**	**+0.2**
NC602	**NORSAR Array S**	**21.85**	**66**		P		**P**	**11 05 20.5**	**-0.2**
NC602					IAmb		IAmb	11 05 28.0	
	comp=Z,59nm,1.6s								
TULEG	**Thule**	**22.15**	**338**		P		**P**	**11 05 24.2**	**+0.6**
TULEG					IAmb		IAmb	11 05 38.3	
	comp=Z,94nm,1.6s								
UCC	**Uccle**	**22.21**	**94**	*d*	P		**P**	**11 05 27.9**	**+3.4**
ICQ	**Pointe Anglais**	**22.32**	**262**		P		**P**	**11 05 25.8**	**+0.2**
PGAV	**Gavieira, Arco**	**22.32**	**128**	*e*	P		**P**	**11 05 26.2**	**+0.3**
PGAV				*e*	pP		**pP**	**11 05 29.4**	**+0.3**
PGAV				*i*	AMs_20			11 12 15.6	
	comp=Z,822nm,20.0s								
PCAB	**Cabril**	**22.63**	**128**		P		**P**	**11 05 32.0**	**+2.8**
PCAB				*i*	Amb			11 05 34.5	
	comp=Z,67nm,1.9s								
BMRD	**Maredsous**	**22.71**	**95**	*d*	P		**P**	**11 05 31.9**	**+2.0**
DOU	**Dourbes**	**22.74**	**96**	*d*	P		**P**	**11 05 26.8**	**-3.4**
CLF	**Chambon-Foret**	**22.81**	**102**		P		**P**	**11 05 31.1**	**+0.3**
BGES	**Gesves**	**22.83**	**95**	*d*	P		**P**	**11 05 33.8**	**+2.7**
POLO	**Lamas de Olo**	**23.01**	**128**	*e*	P		**P**	**11 05 33.6**	**+0.4**
POLO				*i*	Amb			11 05 54.3	
	comp=Z,28nm,1.7s								
HFS	**Hagfors**	**23.04**	**66**		P		**P**	**11 05 32.1**	**-1.1**
	comp=Z,11nm,0.9s,baz=248,slow=7.8,SNR=10								
HFS					LR		LR	11 12 16.0	
	comp=Z,165nm,21.1s,baz=295,slow=31								
	comp=Z,11nm,0.9s								
PBRG	**Braganca**	**23.10**	**125**	*e*	P		**P**	**11 05 34.5**	**+0.5**
PBRG				*e*	pP		**pwP**	**11 05 39.5**	**+0.1**
PBRG				*i*	Amb			11 05 40.4	
	comp=Z,58nm,1.6s								
PVRL	**Vila Real**	**23.12**	**128**	*e*	P		**P**	**11 05 36.7**	**+2.4**
BATG	**Bathurst New B**	**23.12**	**256**		P		**P**	**11 05 33.5**	**-0.7**
BATG					IAmb		IAmb	11 05 40.6	
	comp=Z,49nm,1.0s								
BTNL	**Ternell**	**23.26**	**93**	*d*	P		**P**	**11 05 34.6**	**-1.0**
	comp=Z,13nm,1.3s								
MVO	**Moncorvo**	**23.50**	**127**	*e*	P		**P**	**11 05 36.4**	**-1.7**
MVO				*i*	Amb			11 05 42.1	
	comp=Z,89nm,1.5s								
MVO				*i*	AMs_20			11 12 52.2	
	comp=Z,596nm,20.0s								
PVIS	**Viseu**	**23.52**	**129**	*e*	P		**P**	**11 05 39.0**	**+0.8**
NOR	**Nord**	**23.57**	**6**	*i*			**P**	**11 05 35.9**	**-2.5**
COI	**Coimbra**	**23.74**	**130**		P		**P**	**11 05 43.1**	**+2.8**
WLF	**Walferdange**	**23.81**	**95**	*d*	P		**P**	**11 05 43.2**	**+2.3**
PCAS	**Casmilo, Conde**	**23.84**	**131**		P		**P**	**11 05 45.7**	**+4.4**
MTE	**Manteigas**	**23.93**	**129**	*e*	P		**P**	**11 05 42.1**	**-0.1**
MTE				*i*	AMs_20			11 13 12.5	
	comp=Z,705nm,20.0s								
PCBR	**Castelo Branco**	**24.43**	**129**	*e*	P		**P**	**11 05 48.8**	**+2.0**
PCBR				*i*	Amb			11 05 50.4	
	comp=Z,55nm,1.6s								
D62A	**Allapoint, All**	**24.78**	**259**		P		**P**	**11 05 50.3**	**+0.4**
PMTG	**Montargil**	**24.79**	**131**	*e*	P		**P**	**11 05 50.8**	**+0.8**
PMTG				*i*	Amb			11 05 52.5	
	comp=Z,61nm,1.7s								
PMRV	**Marv??o**	**24.81**	**130**	*e*	P		**P**	**11 05 50.3**	**0.0**
LMQ	**La Malbaie**	**25.14**	**261**		P		**P**	**11 05 53.8**	**+0.7**
LMQ					IAmb		IAmb	11 06 01.4	
	comp=Z,57nm,1.3s								
PESTR	**Estremoz**	**25.21**	**131**		P		**P**	**11 05 52.0**	**-1.9**
PESTR					IAmb		IAmb	11 05 56.5	
	comp=Z,23nm,1.0s								
PESTR	**Estremoz**	**25.21**	**131**	*e*	P		**P**	**11 05 51.3**	**-2.6**
PESTR				*i*	Amb			11 05 55.4	
	comp=Z,36nm,1.5s								
ECH	**Echery**	**25.22**	**97**		IAmb		IAmb	11 05 59.2	
	comp=Z,43nm,1.5s								
LDAQ	**Lac Daran**	**25.35**	**263**		P		**P**	**11 05 57.0**	**+1.8**
LDAQ					IAmb		IAmb	11 06 03.5	
	comp=Z,62nm,1.6s								
PBEJ	**Beja**	**25.83**	**132**	*e*	P		**P**	**11 06 00.5**	**+1.0**
PBEJ				*i*	Amb			11 06 06.7	
	comp=Z,40nm,1.5s								
MESJ	**Messejana**	**25.86**	**133**	*e*	P		**P**	**11 05 58.7**	**-1.0**
PAB	**San Pablo**	**25.99**	**125**		P		**P**	**11 05 59.4**	**-1.6**
PAB					IAmb		IAmb	11 06 07.7	
	comp=Z,41nm,1.4s								
PBAR	**Barrancos**	**26.03**	**131**	*e*	P		**P**	**11 06 04.5**	**+3.2**
PBAR				*i*	Amb			11 06 08.7	
	comp=Z,31nm,1.7s								
ESBB	**Sonseca Array**	**26.05**	**124**		IAmb		IAmb	11 06 06.0	
	comp=Z,39nm,1.4s								
ESDC	**Sonseca Array**	**26.05**	**124**		P		**P**	**11 05 59.0**	**-2.5**
ESDC	**Sonseca Array**	**26.05**	**124**		P		**P**	**11 05 58.6**	**-2.9**
	comp=Z,2.9nm,0.9s,baz=317,slow=8.9,SNR=9.2								
ESDC					LR		LR	11 14 28.4	
	comp=Z,411nm,19.0s,baz=320,slow=33								
	comp=Z,2.9nm,0.9s								
PCVE	**Castro Verde**	**26.11**	**133**	*e*	P		**P**	**11 06 05.1**	**+3.1**
PCVE				*e*	pP		**pwP**	**11 06 07.9**	**+0.3**
ARCES	**ARCESS Array B**	**26.37**	**42**		P		**P**	**11 06 04.2**	**+0.1**
	comp=Z,19nm,1.0s,baz=266,slow=7.1,SNR=14								
ARCES					LR		LR	11 14 20.9	
	comp=Z,303nm,18.6s,baz=264,slow=32								
	comp=Z,19nm,1.0s								
CLL	**Collm**	**26.45**	**86**	*i*	Px		**P**	**11 06 07.1**	**+2.1**
	comp=Z,25nm,1.4s								
CLL				*i*	x		x	11 06 10.2	
EUNU	**Eureka**	**26.92**	**342**		P		**P**	**11 06 09.6**	**+0.6**
EUNU					IAmb		IAmb	11 06 36.1	
	comp=Z,30nm,1.4s								
TUE	**Stuetta**	**27.48**	**98**		P		**P**	**11 06 14.5**	**-0.1**
TUE					IAmb		IAmb	11 06 24.5	
	comp=Z,28nm,1.2s								
DAVOX	**Davos/Dischmat**	**27.55**	**97**		LR		LR	11 15 48.9	
	comp=Z,592nm,21.1s,baz=292,slow=34								
RES	**Resolute Bay**	**27.81**	**330**		P		**P**	**11 06 16.9**	**-0.1**
RES	**Resolute Bay**	**27.81**	**330**		LR		LR	11 16 21.8	
	comp=Z,322nm,18.3s,baz=86,slow=34								
FINES	**FINESS Array B**	**28.39**	**59**		P		**P**	**11 06 20.3**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=290,slow=7.9,SNR=5.8								
FINES					LR		LR	11 16 15.5	
	comp=Z,187nm,19.9s,baz=288,slow=34								
	comp=Z,2.4nm,0.7s								
VRAC	**Vranov**	**29.49**	**87**		LR		LR	11 18 23.2	
	comp=Z,384nm,18.2s,baz=300,slow=37								
VRAC	**Vranov**	**29.49**	**87**	*e*	P		**P**	**11 06 34.4**	**+2.2**
M65A	**Busby, Falmout**	**29.49**	**252**		P		**P**	**11 06 32.3**	**+0.1**
	baz=42								
KRUC	**Moravsky**	**29.53**	**87**	*e*	P		**P**	**11 06 34.3**	**+1.7**
MORC	**Moravsky Berou**	**29.71**	**85**	*e*	P		**P**	**11 06 34.8**	**+0.7**
L61B	**Northampton**	**29.86**	**255**		P		**P**	**11 06 35.1**	**-0.4**
	baz=44								
OSSC	**Osservatorio P**	**30.48**	**100**		IAmb		IAmb	11 06 43.1	
	comp=Z,14nm,0.8s								
FCC	**Fort Churchill**	**31.25**	**297**		P		**P**	**11 06 49.5**	**+1.9**
FCC					IAmb		IAmb	11 06 53.3	
	comp=Z,16nm,1.0s								
SADO	**Sadowa**	**31.57**	**265**		LR		LR	11 18 21.4	
	comp=Z,624nm,18.8s,baz=23,slow=34								
NACGM	**Naroch**	**31.60**	**71**	*e*	P		**P**	**11 06 51.6**	**+0.9**
	comp=Z,54μm,27.2s								
MDT	**Midelt**	**31.67**	**132**		LR		LR	11 18 28.6	
	comp=Z,380nm,18.5s,baz=344,slow=34								
MNK	**Minsk**	**32.35**	**71**		P		**P**	**11 06 56.4**	**-0.9**
MNK					P		**P**	**11 06 56.4**	**-0.9**
MNK					P		**P**	**11 06 56.4**	**-0.9**
	comp=Z,13nm,1.0s,baz=302								
MNK				*i*	PP		**PnPn**	**11 08 02.1**	**-1.6**
MNK				*i*	PPP		PPP	11 08 12.8	
MNK				*i*	S		**S**	**11 12 11.6**	**+0.9**
MNK				*i*	SS		**SnSn**	**11 14 05.2**	**+2.7**
MNK				*i*	SSS		SSS	11 14 20.6	
MNK				*i*	LQ		LQ	11 17 28.4	
MNK				*i*	LR		LR	11 18 35.5	
MNK				*i*	LRM		MLR	11 19 53.0	
	comp=Z,230nm,16.4s								
MNK				*i*	LRM		MLR	11 21 55.0	
	comp=E,1μm,22.8s								
MNK				*i*	LRM		MLR	11 22 18.3	
	comp=N,672nm,21.9s								
BUR08	**Bucovina Ar. S**	**35.01**	**82**		P		**P**	**11 07 19.1**	**-1.6**
BURAR	**Bucovina Array**	**35.04**	**83**		P		**P**	**11 07 18.9**	**-2.0**
KIEV	**Kiev**	**35.18**	**75**		P		**P**	**11 07 20.8**	**-1.2**
KIEV					IAmb		IAmb	11 07 25.5	
	comp=Z,23nm,1.2s								
AKASG	**Malin Array Be**	**35.19**	**75**		P		**P**	**11 07 19.7**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=306,slow=8.4,SNR=10								
AKASG					LR		LR	11 20 51.0	
	comp=Z,164nm,19.1s,baz=248,slow=35								
	comp=Z,0.5nm,0.3s								
AKBB	**Malin Array Si**	**35.19**	**75**		IAmb		IAmb	11 07 25.5	
	comp=Z,23nm,1.1s								
KEST	**Kesra**	**35.41**	**112**		LR		LR	11 20 57.0	
	comp=Z,542nm,18.7s,baz=262,slow=35								
COWI	**Conover**	**35.91**	**275**		IAmb		IAmb	11 07 31.9	
	comp=Z,30nm,1.1s								
O52A	**Adamsville**	**36.27**	**262**		IAmb		IAmb	11 07 40.6	
	comp=Z,26nm,1.0s								
P53A	**Whipple**	**36.50**	**261**		IAmb		IAmb	11 07 40.6	
	comp=Z,32nm,1.0s								
S57A	**Dark Hollow, R**	**36.55**	**256**		IAmb		IAmb	11 07 38.5	
	comp=Z,16nm,1.1s								
VAE	**Valguarnera**	**36.57**	**104**		LR		LR	11 21 14.3	
	comp=Z,575nm,19.2s,baz=342,slow=34								
ULM	**Lac du Bonnet**	**36.73**	**286**		P		**P**	**11 07 36.2**	**+1.0**
	comp=Z,8.2nm,0.8s,baz=55,slow=8.5,SNR=15								
ULM					LR		LR	11 21 31.1	
	comp=Z,448nm,18.1s,baz=39,slow=34								
	comp=Z,8.2nm,0.8s								
ACSO	**Alum Creek Sta**	**36.78**	**263**		IAmb		IAmb	11 07 39.8	
	comp=Z,24nm,1.1s								
MLR	**Muntele Rosu**	**36.81**	**85**		LR		LR	11 22 21.5	
	comp=Z,314nm,19.7s,baz=316,slow=36								
E38A	**The Farm, Brul**	**36.84**	**278**		IAmb		IAmb	11 07 38.7	
	comp=Z,16nm,1.1s								
A36M	**Sachs Harbour**	**36.86**	**329**		P		**P**	**11 07 37.1**	**+1.1**
A36M					IAmb		IAmb	11 07 42.6	
	comp=Z,34nm,0.9s								
A36M	**Sachs Harbour**	**36.86**	**329**		P		**P**	**11 07 36.7**	**+0.6**
	baz=61,SNR=30								
N49A	**Columbus Grove**	**36.90**	**265**		IAmb		IAmb	11 07 40.9	
	comp=Z,30nm,1.0s								
FFC	**Flin Flon**	**37.05**	**295**		P		**P**	**11 07 38.8**	**+0.8**
P51A	**Williamsport**	**37.37**	**262**		IAmb		IAmb	11 07 47.1	
	comp=Z,16nm,0.7s								
FNA	**Florina**	**37.70**	**94**		IAmb		IAmb	11 07 52.6	
	comp=Z,16nm,0.9s								
C36M	**Paulatuk**	**37.85**	**325**		IAmb		IAmb	11 08 14.2	
	comp=Z,26nm,1.6s								
C36M	**Paulatuk**	**37.85**	**325**		P		**P**	**11 07 45.6**	**+1.1**
	baz=59								
O48B	**Farmland**	**37.90**	**265**		IAmb		IAmb	11 07 48.9	
	comp=Z,18nm,1.0s								
AGMN	**Agassiz Nation**	**37.96**	**283**		P		**P**	**11 07 46.9**	**+1.2**
L44A	**Lake County Fo**	**37.96**	**270**		P		**P**	**11 07 45.6**	**-0.2**
	baz=45								
SSFO	**Shawnee State**	**38.03**	**261**		IAmb		IAmb	11 07 50.6	
	comp=Z,30nm,1.2s								
YKA	**Yellowknife Ar**	**38.21**	**312**		P		**P**	**11 07 48.2**	**+0.6**
	comp=Z,18nm,1.0s,baz=59,slow=8.5,SNR=59								
YKA					PcP		**PcP**	**11 10 03.4**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=48,slow=3.1,SNR=5.9								
YKA					LR		LR	11 22 41.8	
	comp=Z,788nm,19.9s,baz=40,slow=35								
	comp=Z,18nm,1.0s								
SPMN	**Marine on St.**	**38.41**	**277**		IAmb		IAmb	11 07 52.7	
	comp=Z,26nm,1.1s								
SFIN	**Lafayette**	**38.82**	**267**		IAmb		IAmb	11 07 56.9	
	comp=Z,28nm,1.3s								
RDO	**Rodhopi**	**39.62**	**90**		P		**P**	**11 07 57.7**	**-1.9**
TZTN	**Tazewell**	**39.84**	**260**		IAmb		IAmb	11 08 11.0	
	comp=Z,30nm,1.2s								
WCI	**Wyandotte Cave**	**39.99**	**264**		P		**P**	**11 08 04.1**	**+1.3**
MDND	**Maddock**	**40.15**	**285**		P		**P**	**11 08 04.4**	**+0.4**
MDND					IAmb		IAmb	11 08 09.5	
	comp=Z,31nm,0.9s								
N41A	**Harden Midland**	**40.55**	**270**		IAmb		IAmb	11 08 13.8	
	comp=Z,29nm,1.3s								
TKL	**Tuckaleechee C**	**40.64**	**259**		LR		LR	11 23 52.9	
	comp=Z,588nm,19.4s,baz=35,slow=34								
BG3	**Lake Jocassee**	**40.72**	**257**		IAmb		IAmb	11 08 17.4	
	comp=Z,70nm,1.9s								
USIN	**University of**	**40.90**	**265**		P		**P**	**11 08 11.9**	**+1.6**
USIN					IAmb		IAmb	11 08 16.5	
	comp=Z,38nm,1.1s								
WRGLY	**Wrigley**	**41.12**	**316**		P		**P**	**11 08 12.6**	**+0.9**
	baz=53								
INK	**Inuvik**	**41.26**	**326**		P		**P**	**11 08 12.5**	**-0.4**
INK					IAmb		IAmb	11 08 18.4	
	comp=Z,40nm,1.6s								
INK	**Inuvik**	**41.26**	**326**		LR		LR	11 24 03.0	
	comp=Z,410nm,21.5s,baz=42,slow=34								
INK	**Inuvik**	**41.26**	**326**		P		**P**	**11 08 13.3**	**+0.4**
	baz=51,SNR=14								
ECSD	**EROS Data Cent**	**41.41**	**278**		P		**P**	**11 08 16.3**	**+1.8**
E28A	**Huff**	**41.56**	**284**		P		**P**	**11 08 16.8**	**+1.1**
F31M	**Tsiigehtchic**	**41.88**	**326**		P		**P**	**11 08 18.6**	**+0.6**
	baz=50,SNR=47								
DGMT	**Dagmar**	**42.04**	**289**		P		**P**	**11 08 21.3**	**+1.7**
D28M	**Stokes Point**	**42.05**	**329**		P		**P**	**11 08 20.3**	**+1.0**
	baz=49								
SUSD	**Miller**	**42.13**	**281**		IAmb		IAmb	11 08 26.5	
	comp=Z,17nm,0.9s								
GOGA	**Godfrey**	**42.24**	**257**		P		**P**	**11 08 21.7**	**+0.4**
F30M	**Barrier River**	**42.37**	**326**		P		**P**	**11 08 23.1**	**+1.1**
	baz=49								
G31M	**Satah River**	**42.37**	**325**		P		**P**	**11 08 22.3**	**+0.3**
	baz=50,SNR=20								
E29M	**Blow River**	**42.45**	**328**		IAmb		IAmb	11 08 28.7	
	comp=Z,39nm,1.9s								
E29M	**Blow River**	**42.45**	**328**		P		**P**	**11 08 23.4**	**+0.8**
	baz=48								
CCM	**Cathedral Cave**	**42.71**	**268**		P		**P**	**11 08 25.9**	**+0.8**
E28M	**Babbage River**	**42.75**	**329**		P		**P**	**11 08 26.4**	**+1.3**
	baz=48								
G30M	**tAoh Zraii Nji**	**42.91**	**326**		IAmb		IAmb	11 08 32.1	
	comp=Z,38nm,1.5s								
G30M	**tAoh Zraii Nji**	**42.91**	**326**		P		**P**	**11 08 27.0**	**+0.5**
	baz=48,SNR=9.1								
H31M	**Peel River**	**43.13**	**324**		P		**P**	**11 08 28.3**	**+0.1**
	baz=49								
C27K	**Jago River**	**43.13**	**332**		P		**P**	**11 08 29.1**	**+1.0**
	baz=46								
G29M	**Pine Creek**	**43.48**	**327**		P		**P**	**11 08 31.9**	**+0.8**
	baz=47,SNR=16								
E27K	**Coleen River**	**43.59**	**329**		IAmb		IAmb	11 08 38.0	
	comp=Z,21nm,0.9s								
E27K	**Coleen River**	**43.59**	**329**		P		**P**	**11 08 32.5**	**+0.6**
	baz=46,SNR=17								
IDI	**Anoyia**	**43.65**	**97**		LR		LR	11 28 06.9	
	comp=Z,104nm,18.4s,baz=306,slow=38								
K30B	**Basset**	**43.72**	**280**		IAmb		IAmb	11 08 39.5	
	comp=Z,39nm,1.2s								
BGNE	**Belgrade**	**43.86**	**277**		IAmb		IAmb	11 08 40.1	
	comp=Z,32nm,1.0s								
TGTN	**Hyland Airport**	**43.93**	**317**		P		**P**	**11 08 35.6**	**+0.8**
	baz=49								
ILGA	**Ilgaz**	**43.97**	**83**		P		**P**	**11 08 34.8**	**-0.7**
D25K	**Kavik River**	**44.01**	**332**		P		**P**	**11 08 36.3**	**+1.0**
	baz=44								
H29M	**Whitestone**	**44.06**	**326**		IAmb		IAmb	11 08 41.5	
	comp=Z,23nm,0.9s								
H29M	**Whitestone**	**44.06**	**326**		P		**P**	**11 08 36.4**	**+0.7**
	baz=46,SNR=13								
I30M	**Mount Dempster**	**44.15**	**324**		P		**P**	**11 08 37.5**	**+1.0**
	baz=47								
LAO	**LASA Array**	**44.26**	**288**		IAmb		IAmb	11 08 44.3	
	comp=Z,23nm,0.8s								
C24K	**Franklin Bluff**	**44.27**	**333**		P		**P**	**11 08 38.1**	**+0.9**
	baz=42								
LRAL	**Lakeview Retre**	**44.35**	**260**		IAmb		IAmb	11 08 46.4	
	comp=Z,20nm,1.4s								
TOAD	**Toad River Com**	**44.58**	**312**		P		**P**	**11 08 40.7

baz=44,SNR=24
N32M Quiet Lake 45.89 318 P P 11 08 51.0 +0.6
baz=46
B20K Meade River 45.91 337 P P 11 08 51.2 +0.9
baz=37
C21K Knifeblade Rid 46.08 335 P P 11 08 53.0 +1.3
baz=38
I26K Coal Creek Min 46.10 327 P P 11 08 52.9 +1.1
baz=43
H25L Birch Creek 46.12 329 P P 11 08 53.6 +1.6
baz=42
M30M Minto, Yukon 46.13 322 IAmb IAmb 11 08 59.3
comp=Z,12nm,0.9s
M30M Minto, Yukon 46.13 322 P P 11 08 53.2 +1.0
baz=45
L29M L29M 46.18 323 IAmb IAmb 11 08 59.6
comp=Z,13nm,0.9s
L29M L29M 46.18 323 P P 11 08 53.4 +0.8
baz=44
E22K Anaktuvuk Pass 46.21 333 P P 11 08 52.8 0.0
baz=39
G24K Hadweenzic Riv 46.24 330 IAmb IAmb 11 08 60.0
comp=Z,16nm,1.0s
G24K Hadweenzic Riv 46.24 330 P P 11 08 53.1 +0.2
baz=41
X40A Basin Creek Fa 46.25 266 IAmb IAmb 11 08 56.7
comp=Z,17nm,1.3s
R33M Jennings River 46.37 316 IAmb IAmb 11 09 01.9
comp=Z,19nm,1.1s
R33M Jennings River 46.37 316 P P 11 08 54.0 -0.2
baz=46
P33M Teslin, Yukon 46.46 317 IAmb IAmb 11 09 01.9
comp=Z,26nm,1.3s
P33M Teslin, Yukon 46.46 317 P P 11 08 56.1 +1.2
baz=45
E21K Killik River 46.47 334 P P 11 08 55.8 +1.0
baz=38
A19K Wainwright 46.52 339 P P 11 08 55.7 +0.6
baz=34
COLD Coldfoot 46.53 332 IAmb IAmb 11 09 01.4
comp=Z,9.1nm,1.0s
COLD Coldfoot 46.53 332 P P 11 08 55.8 +0.6
baz=40
CBKS Cedar Bluff 46.59 276 IAmb IAmb 11 09 01.2
comp=Z,23nm,1.2s
MIAR Mount Ida 46.60 267 IAmb IAmb 11 09 02.2
comp=Z,17nm,1.2s
PRP Porcupine Dome 46.61 328 P P 11 08 56.7 +0.7
baz=42
DLBC Dease Lake 46.69 314 LR LR 11 27 36.2
comp=Z,539nm,19.9s,baz=70,slow=35
DLBC Dease Lake 46.69 314 P P 11 08 57.3 +0.7
baz=46
K27K Chicken 46.73 325 P P 11 08 57.6 +0.8
baz=43
KBZ Khabaz 46.76 74 P P 11 08 56.1 -1.2
comp=Z,1.9nm,0.8s,baz=327,slow=4.7,SNR=10
KBZ LR LR 11 28 22.5
comp=Z,150nm,19.2s,baz=332,slow=36
comp=Z,1.9nm,0.8s
KAN13 South Haven SW 46.76 272 IAmb IAmb 11 09 02.6
comp=Z,14nm,0.9s
M29M Somme Creek 46.77 322 P P 11 08 58.1 +0.8
baz=44
F22K John River 46.79 333 P P 11 08 58.2 +0.9
baz=38
KAN01 Argonia South 46.80 273 IAmb IAmb 11 09 00.3
comp=Z,18nm,1.2s
J26L Joseph Creek 46.81 326 P P 11 08 58.5 +0.9
baz=42
D20K Etivluk River 46.84 336 P P 11 08 58.7 +1.0
baz=36
WHY Whitehorse 46.86 319 P P 11 08 59.0 +1.0
baz=44
RLMT Red Lodge 46.87 289 IAmb IAmb 11 09 06.2
comp=Z,11nm,1.1s
G23K Bananza Creek 46.88 331 IAmb IAmb 11 09 05.0
comp=Z,14nm,1.1s
G23K Bananza Creek 46.88 331 P P 11 08 59.8 +1.7
baz=39
H24K Noodor Dome 47.00 330 P P 11 09 00.9 +1.9
baz=40
N30M Aishikik Lake 47.03 321 P P 11 09 00.9 +1.6
baz=44
KAN14 Manchester OK 47.06 273 IAmb IAmb 11 09 04.8
comp=Z,18nm,1.0s
E20K Nigu River 47.12 335 P P 11 09 01.0 +1.1
baz=36
Q32M Nakina River 47.15 316 P P 11 09 01.4 +1.0
baz=45
O30N Mendenhall 47.20 320 P P 11 09 01.8 +1.2
baz=44
P32M Atlin 47.22 317 P P 11 09 01.6 +0.8
baz=44
J25K Salcha River, 47.25 327 P P 11 09 02.4 +1.4
baz=41
K22A Casper 47.27 285 IAmb IAmb 11 09 04.7
comp=Z,14nm,1.1s
YNE Yellowstone No 47.32 289 IAmb IAmb 11 09 08.2
comp=Z,18nm,1.0s
F21K Alatna River 47.33 333 IAmb IAmb 11 09 08.0
comp=Z,12nm,1.0s
F21K Alatna River 47.33 333 P P 11 09 02.3 +0.8
baz=38
SCRK Sand Creek 47.33 326 P P 11 09 02.5 +0.8
baz=42,SNR=12
D19K Kuna River 47.34 336 P P 11 09 02.6 +1.0
baz=35
BCAR Beaver Creek A 47.35 324 P P 11 09 03.3 +1.5
B18K Kokolik River 47.37 338 P P 11 09 02.9 +1.2
baz=33
L27K Beaver Creek, 47.37 324 P P 11 09 03.3 +1.4
baz=42
POKR Poker Plat Res 47.44 329 P P 11 09 03.9 +1.6
baz=40
H23K Yukon River 47.45 330 P P 11 09 03.5 +1.0
baz=39
SJG San Juan 47.45 226 LR LR 11 24 43.2
comp=Z,55nm,21.3s,baz=134,slow=31
S34M Telegraph Cree 47.48 314 P P 11 09 03.7 +1.0
baz=45
IL31 47.55 328 IAmb IAmb 11 09 09.8
comp=Z,16nm,1.1s
ILAR Eielson Array 47.55 328 P P 11 09 03.8 +0.5
ILAR Eielson Array 47.55 328 P P 11 09 04.3 +1.1
comp=Z,6.8nm,1.1s,baz=32,slow=6.0,SNR=23
ILAR PcP PcP 11 10 32.5 -0.3
comp=Z,1.5nm,0.8s,baz=3.2,slow=2.8,SNR=6.4
ILAR LR LR 11 28 39.2
comp=Z,231nm,21.1s,baz=64,slow=35
comp=Z,6.8nm,1.1s
BVCY Beaver Creek 47.55 323 P P 11 09 03.7 +0.4
baz=42
YMP Mirror Lake Pl 47.59 289 IAmb IAmb 11 09 10.7
comp=Z,19nm,1.0s
YUK4 Talbot Arm 47.63 321 P P 11 09 04.0 -0.1
baz=43
HYT Haines Junctio 47.63 320 P P 11 09 04.5 +0.4
baz=43
COLA College 47.74 329 P P 11 09 05.7 +1.1
baz=40
RIDG Independent Ri 47.76 326 P P 11 09 05.4 +0.5
baz=41
T35M Bob Quinn 47.81 313 P P 11 09 05.8 +0.5
baz=44
LKWY Lake 47.84 289 IAmb IAmb 11 09 23.1
comp=Z,11nm,1.2s
YUK6 Outpost Mounta 47.84 321 P P 11 09 06.5 +0.7
baz=43
HDA Harding Lake 47.85 328 IAmb IAmb 11 09 07.7
comp=Z,28nm,1.6s
HDA Harding Lake 47.85 328 P P 11 09 06.1 +0.6
baz=40
C18K Utukok River 47.85 337 P P 11 09 06.0 +0.4
baz=33
L26K Log Cabin Wild 47.86 325 IAmb IAmb 11 09 13.6
comp=Z,27nm,1.4s
L26K Log Cabin Wild 47.86 325 P P 11 09 06.3 +0.6
baz=41
H22K Ishtalitna Cre 47.87 331 P P 11 09 06.3 +0.7
baz=38
SKAG Skagway 47.88 318 P P 11 09 06.2 +0.3
baz=44
G21K Aliakaket 47.90 333 P P 11 09 06.2 +0.3
baz=37
CCB Clear Creek Bu 47.90 328 IAmb IAmb 11 09 12.2
comp=Z,14nm,1.4s
YUK3 Moose Creek 47.90 323 P P 11 09 06.9 +0.6
baz=42,SNR=7.8

M27K Edge Creek, AK 47.91 324 IAmb IAmb 11 09 13.5
comp=Z,15nm,1.0s
M27K Edge Creek, AK 47.91 324 P P 11 09 07.2 +0.9
baz=42
I23K Minto, Yukon-K 47.93 330 P P 11 09 07.3 +1.2
baz=39
P30M Million Dollar 47.97 319 P P 11 09 07.1 +0.6
baz=43
K24K Donnelly Dome 47.98 327 P P 11 09 07.4 +0.7
baz=40
F20K Avaraart Lake 47.99 334 P P 11 09 07.3 +0.7
baz=36
E19K Redstone River 48.00 335 IAmb IAmb 11 09 13.1
comp=Z,9.8nm,0.9s
E19K Redstone River 48.00 335 P P 11 09 08.0 +1.4
baz=35
YHL Hebgen Lake 48.02 290 IAmb IAmb 11 09 14.6
comp=Z,13nm,1.1s
YUK8 Steele Glacier 48.04 322 P P 11 09 07.8 +0.4
baz=42
H17A Grant Village 48.05 289 IAmb IAmb 11 09 15.4
comp=Z,11nm,0.9s
YHB Horse Butte 48.09 290 IAmb IAmb 11 09 15.4
comp=Z,18nm,1.3s
WRH Wood River Hil 48.11 328 IAmb IAmb 11 09 13.9
comp=Z,16nm,1.2s
YFT Old Faithful 48.13 289 IAmb IAmb 11 09 16.1
comp=Z,17nm,1.0s
M26K Nabesna, AK 48.22 324 P P 11 09 09.5 +0.9
baz=41,SNR=10
NEA2 Nenana 48.28 329 P P 11 09 09.0 +0.1
baz=39
DLMT Dillon 48.34 291 IAmb IAmb 11 09 23.8
comp=Z,13nm,1.2s
O29M Mount Kennedy 48.38 320 P P 11 09 11.6 +1.7
baz=42
C17K DeLong Mountai 48.39 338 P P 11 09 10.7 +1.0
baz=32
H21K Melozitna Rive 48.41 332 IAmb IAmb 11 09 16.7
comp=Z,21nm,1.4s
H21K Melozitna Rive 48.41 332 P P 11 09 11.0 +1.1
baz=37
NEW Newport 48.42 297 IAmb IAmb 11 09 16.1
comp=Z,9.7nm,1.1s
NEW Newport 48.42 297 LR LR 11 28 46.3
comp=Z,720nm,20.3s,baz=21,slow=35
R32K Eaglecrest 48.46 316 P P 11 09 11.0 +0.6
baz=43
PAX Paxson 48.53 326 IAmb IAmb 11 09 18.0
comp=Z,20nm,1.0s
PAX Paxson 48.53 326 P P 11 09 11.9 +1.0
baz=40
O28M Mount Upton 48.56 322 P P 11 09 12.0 +0.5
baz=42
I21K Tanana 48.59 331 IAmb IAmb 11 09 17.8
comp=Z,17nm,1.1s
I21K Tanana 48.59 331 P P 11 09 11.9 +0.7
baz=37
MOOW Moose Ponds 48.60 289 IAmb IAmb 11 09 18.1
comp=Z,17nm,1.6s
LOHW Long Hollow 48.63 288 IAmb IAmb 11 09 18.3
comp=Z,13nm,1.4s
F19K Shaleruckik Mo 48.63 335 P P 11 09 12.9 +1.4
baz=35
RDOG Red Dog Mine 48.69 338 P P 11 09 13.3 +1.2
baz=32
PDAR Pinedale Array 48.72 287 P P 11 09 12.4 -0.4
PDAR Pinedale Array 48.72 287 P P 11 09 13.5 +0.6
comp=Z,5.1nm,0.7s,baz=59,slow=5.8,SNR=26
PDAR PP PP 11 11 03.1 -2.5
comp=Z,2.2nm,1.0s,baz=57,slow=11,SNR=4.4
PDAR LR LR 11 28 48.9
comp=Z,254nm,18.9s,baz=5.5,slow=35
comp=Z,5.1nm,0.7s
HARP HAARP 48.88 325 P P 11 09 14.5 +1.0
baz=40
LLLB Lilloet 48.90 302 IAmb IAmb 11 09 21.4
comp=Z,21nm,1.2s
ISCO Idaho Springs 48.91 281 IAmb IAmb 11 09 21.2
comp=Z,25nm,1.4s
MCK McKinley 48.92 328 P P 11 09 14.2 +0.3
baz=38
C16K Lisburne Hills 48.98 339 P P 11 09 15.1 +0.9
baz=30
WRAK Wrangell Islan 49.01 314 P P 11 09 15.3 +0.7
baz=43
D17K Noatak River 49.03 338 P P 11 09 15.6 +1.0
baz=32
G19K Purcell Mounta 49.05 334 P P 11 09 15.4 +0.7
baz=35
H20K Anotleneega Mo 49.06 332 P P 11 09 15.5 +0.6
baz=36
S32K Killisnoo 49.07 316 P P 11 09 15.4 +0.4
baz=43
PINM Pinnacle 49.09 321 P P 11 09 15.4 +0.2
baz=41
PNL Peninsula 49.13 320 P P 11 09 16.2 +0.7
baz=42
AKTO Aktyubinsk 49.15 58 LR LR 11 29 43.5
comp=Z,182nm,18.6s,baz=197,slow=36
WMOK Wichita Mounta 49.18 272 IAmb IAmb 11 09 24.4
comp=Z,31nm,1.6s
BPAW Bear Paw Mtn. 49.19 329 P P 11 09 16.5 +0.6
baz=37
F18K Selawik 49.24 335 P P 11 09 17.4 +1.2
baz=33
Q24A Divide 49.29 280 IAmb IAmb 11 09 23.6
comp=Z,16nm,1.3s
E17K Hotham Inlet 49.30 337 P P 11 09 17.6 +0.9
baz=32
S31K Pelican 49.31 317 P P 11 09 18.0 +1.2
baz=42
N25K Chitina, Valde 49.32 324 P P 11 09 18.2 +1.2
baz=40
B08A Colville Reser 49.38 299 IAmb IAmb 11 09 23.5
comp=Z,20nm,1.1s
H19K Roundabout Mou 49.41 333 P P 11 09 18.7 +1.3
baz=35
M24K Tolsona, Glenn 49.41 326 P P 11 09 18.4 +0.8
baz=39
TIXI Tiksi 49.41 8 P P 11 09 19.4 +2.0
TRF Thorofare Moun 49.52 329 P P 11 09 21.2 +2.7
TRF Thorofare Moun 49.52 329 P P 11 09 18.9 +0.3
baz=37
I20K Naaghedeneel 49.53 332 P P 11 09 18.8 +0.5
baz=36
U33K Whale Pass 49.53 314 P P 11 09 18.1 -0.4
baz=43
V35K Ketchikan 49.53 312 P P 11 09 18.5 -0.1
baz=43
MESA MESA 49.59 322 P P 11 09 18.6 -0.5
baz=40
G18K Tagagawik 49.61 334 P P 11 09 19.3 +0.2
baz=34
SIT Sitka 49.65 316 P P 11 09 19.9 +0.5
baz=42
SMWD Samnorwood 49.66 273 IAmb IAmb 11 09 27.5
comp=Z,25nm,1.5s
CHUM Lake Minchumin 49.72 330 P P 11 09 20.3 +0.4
baz=36
F17K Baldwin Pennin 49.72 336 P P 11 09 19.9 0.0
baz=32
WTFS Witchita Falls 49.76 270 IAmb IAmb 11 09 26.4
comp=Z,14nm,0.7s
KLU Klutina 49.81 325 IAmb IAmb 11 09 27.3
comp=Z,25nm,1.0s
KLU Klutina 49.81 325 P P 11 09 21.5 +0.7
baz=39
BMRM Bremner River 49.82 324 P P 11 09 22.8 +2.0
BMRM Bremner River 49.82 324 P P 11 09 21.4 +0.7
baz=39
RTBA Rita Blanca 49.95 276 IAmb IAmb 11 09 28.1
comp=Z,14nm,0.9s
J20K Nowinta River 49.95 331 P P 11 09 22.3 +0.6
baz=36
SCM Sheep Creek Mo 49.96 326 P P 11 09 22.4 +0.5
baz=38
O20A White River Ci 50.00 284 IAmb IAmb 11 09 39.4
comp=Z,19nm,1.2s
CRAG Craig 50.01 313 P P 11 09 22.8 +0.6
baz=42
CAST Castle Rocks 50.03 329 P P 11 09 25.3 +3.0
CAST IAmb IAmb 11 09 29.0
comp=Z,19nm,1.3s
CAST Castle Rocks 50.03 329 P P 11 09 22.8 +0.5
baz=36
BGLC Bering Glacier 50.06 322 P P 11 09 23.1 +0.7
baz=40

M23K Glacier View 50.11 326 P P 11 09 23.3 +0.4
baz=38
GCSA Galena City Sc 50.16 333 P P 11 09 23.2 0.0
baz=34
H18K Honhosa River 50.17 334 P P 11 09 24.3 +1.0
baz=33
PLID Pearl Lake 50.19 294 IAmb IAmb 11 09 29.8
comp=Z,20nm,1.1s
SML Sawmill 50.28 326 P P 11 09 25.2 +1.0
baz=38
T25A Trinidad 50.28 278 IAmb IAmb 11 09 30.9
comp=Z,14nm,0.9s
GNI Garni 50.32 76 LR LR 11 31 06.2
comp=Z,90nm,18.5s,baz=334,slow=37
CUT Chulitna 50.35 328 P P 11 09 25.5 +0.9
baz=37
G17K Kiwalik Mounta 50.39 335 P P 11 09 25.5 +0.5
baz=32
PLPT Palo Pinto 50.42 270 IAmb IAmb 11 09 33.6
comp=Z,21nm,1.4s
BBB Bella Bella 50.44 307 LR LR 11 30 39.7
comp=Z,587nm,20.8s,baz=354,slow=36
J19K Poorman 50.47 332 IAmb IAmb 11 09 32.8
comp=Z,24nm,1.6s
J19K Poorman 50.47 332 P P 11 09 26.1 +0.5
baz=34
PPLA Purkeypile 50.48 329 P P 11 09 26.0 +0.1
baz=36
EYAK Cordova Ski Ar 50.50 324 P P 11 09 26.9 +1.1
baz=38
KAIM Kayak Island 50.57 323 P P 11 09 26.5 +0.1
baz=39
HWUT Hardware Ranch 50.58 287 IAmb IAmb 11 09 35.0
comp=Z,15nm,1.1s
K20K Telida 50.60 330 P P 11 09 27.3 +0.7
baz=35
KNK Knik Glacier 50.63 326 P P 11 09 29.3 +2.4
KNK Knik Glacier 50.63 326 P P 11 09 27.3 +0.5
baz=37
GLI Glacier Island 50.65 325 P P 11 09 27.2 +0.3
baz=38
PMR Palmer 50.68 327 P P 11 09 27.5 +0.3
PMR Palmer 50.68 327 P P 11 09 27.7 +0.5
baz=37
H17K Granite Mounta 50.71 334 P P 11 09 27.3 -0.1
baz=32
LTY Liberty 50.80 299 IAmb IAmb 11 09 32.4
comp=Z,40nm,1.9s
M22K Willow 50.83 327 P P 11 09 28.0 -0.3
baz=37
G16K Koyuk River 50.86 336 P P 11 09 28.9 +0.4
baz=31
ABKAR Akbulak array 50.87 58 P P 11 09 28.5 -0.3
ABKAR Akbulak array 50.87 58 IAmb IAmb 11 09 31.0
comp=Z,10nm,1.0s
TCUT Toone Canyon 50.87 287 IAmb IAmb 11 09 35.7
comp=Z,18nm,1.1s
MMAI Mount Meron Ar 50.91 89 LR LR 11 34 19.4
comp=Z,104nm,18.6s,baz=314,slow=40
BSUT Blindstream Ca 50.98 286 IAmb IAmb 11 09 44.9
comp=Z,20nm,1.3s
PWL Port Wells 51.03 326 P P 11 09 30.2 +0.3
baz=37
SKT Skwentna 51.05 328 P P 11 09 30.3 +0.3
baz=36
F15K North Star Dit 51.07 337 P P 11 09 30.8 +0.7
baz=30
S22A 4UR Ranch, Cre 51.07 281 IAmb IAmb 11 09 43.2
comp=Z,24nm,1.5s
DKNS Dickens 51.13 272 IAmb IAmb 11 09 37.1
comp=Z,16nm,1.1s
J18K Innoko River 51.18 332 P P 11 09 31.7 +0.7
baz=34
SUA Susitna One 51.24 327 P P 11 09 33.5 +1.9
SUA Susitna One 51.24 327 P P 11 09 31.9 +0.3
baz=36
RC01 Rabbit Creek A 51.26 327 P P 11 09 32.0 +0.5
baz=37
L20K Farewell, AK 51.27 330 P P 11 09 32.4 +0.7
baz=35
P18A Preston Nutter 51.40 285 IAmb IAmb 11 09 41.5
comp=Z,17nm,1.2s
P23K Montague Islan 51.44 324 P P 11 09 33.4 +0.5
baz=37
TTA Tatalina 51.45 331 IAmb IAmb 11 09 40.1
comp=Z,47nm,1.7s
TTA Tatalina 51.45 331 P P 11 09 34.0 +1.0
baz=34
H16K Elim 51.48 335 P P 11 09 34.3 +1.1
baz=31
STLK Strandline Lak 51.52 328 IAmb IAmb 11 09 40.0
comp=Z,19nm,1.1s
G15K Niukluk 51.56 336 P P 11 09 34.5 +0.7
baz=30
Q23K Middleton Isla 51.57 324 P P 11 09 34.4 +0.6
baz=38
F14K Arctic Creek 51.62 338 P P 11 09 34.6 +0.5
baz=29
PV23 Carpenter Ridg 51.66 283 IAmb IAmb 11 09 45.2
comp=Z,19nm,1.1s
PV11 David Mesa, Pa 51.70 283 IAmb IAmb 11 09 41.8
comp=Z,19nm,1.0s
PV10 Paradox Valley 51.73 283 IAmb IAmb 11 09 42.4
comp=Z,23nm,1.2s
I17K Unalakleet 51.78 334 P P 11 09 36.3 +0.9
baz=31
PV13 Radium Mtn., P 51.78 282 IAmb IAmb 11 09 42.3
comp=Z,19nm,1.0s
MPU Maple Canyon 51.81 286 IAmb IAmb 11 09 42.3
comp=Z,19nm,1.2s
J17K VABM Dome 51.82 333 P P 11 09 36.2 +0.5
baz=32
TORD Torodi Ar. Bea 51.89 137 P P 11 09 32.8 -4.0
CAPN Captain Cook N 51.92 327 P P 11 09 37.1 +0.6
baz=36
SEW Seward 51.97 326 P P 11 09 37.6 +0.7
baz=36
NLWA Neilton Lookou 52.15 301 IAmb IAmb 11 09 45.5
comp=Z,21nm,1.1s
K17K Iditarod 52.21 332 P P 11 09 39.1 +0.5
baz=32
L18K Granite Mounta 52.22 331 P P 11 09 39.3 +0.6
baz=33
J16K Anvik River 52.28 333 P P 11 09 39.6 +0.5
baz=31
BRVK Borovoye 52.33 48 P P 11 09 39.7 0.0
BRVK IAmb IAmb 11 09 44.7
comp=Z,16nm,1.4s
MVCO Mesa Verde 52.34 281 IAmb IAmb 11 09 46.6
comp=Z,13nm,0.9s
ASF Jabal al Asfar 52.35 89 LR LR 11 33 41.9
comp=Z,107nm,19.7s,baz=333,slow=38
BVAR Borovoye Array 52.40 48 P P 11 09 39.8 -0.4
comp=Z,6.5nm,1.0s,baz=318,slow=6.0,SNR=16
BVAR LR LR 11 30 35.0
comp=Z,79nm,18.4s,baz=314,slow=34
comp=Z,6.5nm,1.0s
SGCY Sterling City 52.60 271 IAmb IAmb 11 09 50.4
comp=Z,25nm,1.2s
M18K Stony River 52.61 330 P P 11 09 42.2 +0.6
baz=33
I07A Izee 52.61 295 IAmb IAmb 11 09 48.3
comp=Z,18nm,1.4s
BRSE Bradley Lake S 52.65 326 P P 11 09 42.6 +0.6
baz=35
J08A Circle Bar Ran 52.66 294 IAmb IAmb 11 09 48.5
comp=Z,20nm,1.0s
HOOD Mount Hood Mea 52.69 298 IAmb IAmb 11 09 52.2
comp=Z,22nm,1.3s
L17K Donlin 52.70 332 P P 11 09 43.0 +0.7
baz=32
N19K Bonanza Creek 52.82 329 P P 11 09 43.8 +0.6
baz=34
HOM Homer 52.98 326 P P 11 09 44.9 +0.6
baz=35
ANMO Albuquerque 53.02 278 P P 11 09 46.3 +1.0
ANMO Albuquerque 53.02 278 LR LR 11 30 08.6
comp=Z,302nm,19.7s,baz=200,slow=34
JCT Junction City 53.04 269 IAmb IAmb 11 09 50.6
comp=Z,8.7nm,0.8s
ELK Elko 53.06 289 LR LR 11 31 39.9
comp=Z,399nm,18.4s,baz=24,slow=35
M17K Holitna River 53.11 331 P P 11 09 45.8 +0.6
baz=32
O19K Port Alsworth 53.29 328 P P 11 09 47.4 +0.8
baz=34
EIL Elat 53.31 92 LR LR 11 35 12.3
comp=Z,69nm,19.4s,baz=246,slow=39

L16K	Owhat River	53.36	332	P	P	11 09 47.4	+0.3
	baz=31						
J14K	Nanvaranak Lak	53.42	335	P	P	11 09 47.4	-0.1
	baz=29						
H04A	Detroit Lake	53.42	297	IAmb	IAmb	11 09 52.9	
	comp=Z,13nm,1.1s						
P19K	Oil Pt	53.44	327	P	P	11 09 48.0	+0.3
	baz=34						
WVOR	Wild Horse Val	53.44	293	IAmb	IAmb	11 09 59.0	
	comp=Z,22nm,1.2s						
PINE	Pine Mountain	53.51	296	IAmb	IAmb	11 09 55.4	
	comp=Z,12nm,1.0s						
MTPU	Mount Pierson	53.59	285	IAmb	IAmb	11 09 57.7	
	comp=Z,32nm,2.0s						
N17K	Nushagak Hills	53.78	330	P	P	11 09 50.2	0.0
	baz=32						
M16K	Timber Creek	53.82	331	P	P	11 09 50.6	+0.1
	baz=31						
O18K	Koktuh Hills	53.82	328	P	P	11 09 50.7	+0.2
	baz=33						
L15K	Ungalak Mounta	53.87	333	P	P	11 09 51.2	+0.3
	baz=30						
SPR3	Spring Creek 3	53.94	287	IAmb	IAmb	11 10 01.9	
	comp=Z,14nm,1.4s						
Q20K	Shuyak Island	54.06	326	P	P	11 09 52.2	-0.1
	baz=34						
Q19K	Cape Douglas,	54.16	327	P	P	11 09 53.9	+0.8
P18K	Big Mountain,	54.22	328	P	P	11 09 54.0	+0.5
	baz=33						
PCRV	Puerto La Cruz	54.23	221	LR	LR	11 29 14.7	
	comp=Z,59nm,20.3s,slow=32						
N16K	Nishlik Lake	54.24	331	P	P	11 09 54.3	+0.7
	baz=31						
L14K	Kuka Creek	54.45	333	P	P	11 09 55.5	+0.5
	baz=29						
M15K	Kasigluk River	54.53	332	P	P	11 09 56.2	+0.5
	baz=30						
SAND	Sanderson	54.67	271	IAmb	IAmb	11 10 02.9	
	comp=Z,8.8nm,0.9s						
KNB	Kanab	54.70	285	IAmb	IAmb	11 10 03.8	
	comp=Z,32nm,1.6s						
KDAK	Kodiak Island	54.81	326	LR	LR	11 34 12.6	
	comp=Z,308nm,19.0s,baz=261,slow=37						
O16K	Kokwok River B	54.82	330	P	P	11 09 59.3	+1.6
O16K	Kokwok River B	54.82	330	P	P	11 09 58.9	+1.1
	baz=31						
WUAZ	Wupatki	55.12	282	IAmb	IAmb	11 10 09.3	
	comp=Z,18nm,1.3s						
DBIC	Dimbokro	55.84	147	P	P	11 10 02.8	-2.8
DBIC				IAmb	IAmb	11 10 10.9	
	comp=Z,21nm,1.4s						
DBIC	Dimbokro	55.84	147	P	P	11 10 02.6	-3.0
	comp=Z,7.8nm,0.9s,baz=339,slow=7.0,SNR=7.9						
DBIC				LR	LR	11 31 07.4	
	comp=Z,293nm,19.9s,baz=320,slow=33						
	comp=Z,7.8nm,0.9s						
PAHR	Pah Rah Range	55.89	291	IAmb	IAmb	11 10 12.8	
	comp=Z,21nm,1.0s						
YBH	Yreka Blue Hor	55.93	295	LR	LR	11 33 06.7	
	comp=Z,378nm,20.2s,baz=13,slow=35						
TXAR	Lajitas Array	55.97	271	P	P	11 10 07.3	+0.7
TXAR	Lajitas Array	55.97	271	P	P	11 10 07.9	+1.2
	comp=Z,1.8nm,0.8s,baz=58,slow=5.8,SNR=12						
TXAR				ScP	ScP	11 15 02.0	-1.4
	comp=Z,0.6nm,1.0s,baz=180,slow=0.4,SNR=3.8						
TXAR				LR	LR	11 33 24.5	
	comp=Z,97nm,19.2s,baz=32,slow=35						
	comp=Z,1.8nm,0.8s						
RYN	Ryan	56.31	290	IAmb	IAmb	11 10 14.8	
	comp=Z,10nm,1.0s						
NVAR	Mina Array Bea	56.35	290	P	P	11 10 09.7	+0.3
NVAR	Mina Array Bea	56.35	290	P	P	11 10 10.8	+1.4
	comp=Z,1.9nm,0.8s,baz=57,slow=5.3,SNR=12						
NVAR				LR	LR	11 33 35.2	
	comp=Z,261nm,19.6s,baz=1.0,slow=35						
	comp=Z,1.9nm,0.8s						
LHV	Little Huntoon	56.59	290	IAmb	IAmb	11 10 17.1	
	comp=Z,25nm,1.5s						
WAKR	Walker	56.85	291	IAmb	IAmb	11 10 23.4	
	comp=Z,21nm,1.8s						
ZAA0	Zalesovo Array	56.87	39	P	P	11 10 13.4	+0.9
ZALV	Zalesovo Beam	56.87	39	P	P	11 10 12.3	-0.2
ZALV	Zalesovo Beam	56.87	39	P	P	11 10 12.8	+0.3
	comp=Z,0.9nm,0.5s,baz=337,slow=7.1,SNR=6.0						
ZALV				LR	LR	11 34 38.3	
	comp=Z,73nm,18.1s,baz=294,slow=36						
	comp=Z,0.9nm,0.5s						
AFDM	Forest Hills D	57.26	292	IAmb	IAmb	11 10 41.8	
	comp=Z,17nm,1.6s						
GWY	Greenwater Val	57.29	287	IAmb	IAmb	11 10 22.4	
	comp=Z,13nm,0.9s						
KURK	Kurchatov	57.35	45	P	P	11 10 15.1	-0.9
KURK				IAmb	IAmb	11 10 20.5	
	comp=Z,9.8nm,1.0s						
KURBB	Kurchatov Arra	57.40	45	P	P	11 10 15.6	-0.8
	comp=Z,8.6nm,1.1s,baz=322,slow=7.1,SNR=20						
	comp=Z,8.6nm,1.1s						
113A	Mohawk Valley,	58.50	282	IAmb	IAmb	11 10 34.0	
	comp=Z,22nm,1.6s						
ISA	Isabella, Lake	58.60	288	IAmb	IAmb	11 10 35.2	
	comp=Z,13nm,1.4s						
CCAC	Calif City Air	58.77	287	IAmb	IAmb	11 10 33.1	
	comp=Z,14nm,0.9s						
PFO	Pinyon Flats O	59.21	285	P	P	11 10 30.6	+1.2
PFO				IAmb	IAmb	11 10 35.4	
	comp=Z,8.0nm,0.8s						
PFO	Pinyon Flats O	59.21	285	LR	LR	11 34 59.2	
	comp=Z,210nm,19.6s,baz=18,slow=35						
KKAR	Karatay Array	60.26	55	P	P	11 10 36.1	-0.3
KKAR	Karatay Array	60.26	55	IAmb	IAmb	11 10 41.0	
	comp=Z,5.8nm,1.4s						
ZAIG	Zacatecas	60.71	266	P	P	11 10 41.2	+1.2
ZAIG				IAmb	IAmb	11 10 47.1	
	comp=Z,12nm,1.3s						
MAKZ	Makanchi	61.84	45	P	P	11 10 45.9	-1.2
MAKZ				IAmb	IAmb	11 10 51.8	
	comp=Z,9.3nm,1.2s						
MKAR	Makanchi Array	61.96	45	P	P	11 10 46.5	-1.5
MKAR	Makanchi Array	61.96	45	P	P	11 10 47.2	-0.7
	comp=Z,4.4nm,0.8s,baz=335,slow=5.4,SNR=20						
	comp=Z,4.4nm,0.8s						
MA2	Magadan	62.20	358	LR	LR	11 39 01.0	
	comp=Z,102nm,18.3s,baz=26,slow=37						
AAK	Ala-Archa	62.34	53	P	P	11 10 50.8	+0.2
AAK				IAmb	IAmb	11 10 55.8	
	comp=Z,11nm,1.4s						
ROSC	El Rosal	62.73	229	P	P	11 10 54.4	+0.6
	comp=Z,5.2nm,0.3s,baz=65,slow=15,SNR=5.9						
	comp=Z,5.2nm,0.3s						
ARSB	Arslanbob	62.77	55	IAmb	IAmb	11 10 58.9	
	comp=Z,11nm,1.2s						
BTK	Batken	62.87	57	IAmb	IAmb	11 10 57.6	
	comp=Z,10.0nm,1.0s						
LPIG	La Paz	63.68	273	LR	LR	11 38 29.4	
	comp=Z,148nm,19.1s,baz=22,slow=36						
KSH	Kashi	65.55	54	P	P	11 11 14.4	+2.6
KSH				pP	pwP	11 11 17.8	+0.3
KSH				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ	Urumqi	66.48	43	*e*P	P	11 11 21.4	+3.8
WMQ				pmax	pmax		
	comp=Z,15nm,1.3s						
SHEM	Shemya Is, Ala	67.07	343	LR	LR	11 41 31.5	
	comp=Z,98nm,20.4s,baz=76,slow=37						
PETK	Petropavlovsk-	68.43	354	LR	LR	11 43 21.4	
	comp=Z,101nm,18.4s,baz=24,slow=38						
OTAV	Otavalo	68.57	231	P	P	11 11 30.5	-1.1
SONM	Songino Array	68.61	29	P	P	11 11 31.2	+0.1
SONM				IAmb	IAmb	11 11 35.6	
	comp=Z,11nm,1.5s						
SONM	Songino Array	68.61	29	P	P	11 11 32.4	+1.3
	comp=Z,1.6nm,0.9s,baz=326,slow=6.0,SNR=6.6						
	comp=Z,1.6nm,0.9s						
H10S3	ASCENSION HYDR	68.73	162	T	T	12 25 49.7	
	baz=350,slow=74,SNR=12						
H10S2	ASCENSION HYDR	68.74	161	T	T	12 25 53.0	
	baz=230,slow=74,SNR=11						
ULN	Ulaanbaatar	68.75	28	P	P	11 11 33.4	+1.5
ULN				IAmb	IAmb	11 11 36.9	
	comp=Z,10.0nm,1.1s						
GTA	Gaotai	74.51	37	*e*P	P	11 12 07.2	+0.4
GTA				pP	pwP	11 12 12.8	+0.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BNX	BinXian	74.70	15	⇓P	P	11 12 11.1	+3.5
BNX				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CN2	Changchun	76.33	17	*e*P	P	11 12 17.4	+0.5
CN2				*e*PP	PP	11 15 09.9	+2.3
CN2				*e*S	S	11 21 58.7	-2.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.6s						
HHC	Hu-ho-hao-te	76.44	28	*e*P	P	11 12 16.1	-1.7
HHC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
LZH	Lanzhou	78.80	35	*e*P	P	11 12 34.2	+3.1
LZH				pP	PcP	11 12 39.0	-0.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HNS	HongShan	80.47	26	⇓P	P	11 12 41.9	+2.0
HNS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
XAN	Xi'an	82.18	32	⇑P	P	11 12 50.3	+1.1
LYN	LuoYang	82.64	29	P	P	11 12 54.2	+2.7
LYN				pmax	pmax		
	comp=Z,24nm,0.9s						
KSRS	Korea Array	82.91	16	P	P	11 12 55.0	+2.2
	comp=Z,1.2nm,0.7s,baz=360,slow=7.8,SNR=4.1						
KSRS				LR	LR	11 51 05.3	
	comp=Z,37nm,18.5s,baz=25,slow=37						
	comp=Z,1.2nm,0.7s						
NJ2	Nanjing	86.53	24	*e*P	P	11 13 11.2	0.0
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PZH	PanZhiHua	86.99	40	P	P	11 13 14.6	+0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,70nm,3.9s						
LSZ	Lusaka	88.39	123	LR	LR	11 54 17.6	
	comp=Z,371nm,19.0s,baz=321,slow=37						
CMAR	Chiang Mai Arr	93.37	46	P	P	11 13 44.2	+0.7
	comp=Z,1.6nm,0.3s,baz=319,slow=5.4,SNR=6.1						
CMAR				PP	PP	11 17 27.2	+0.4
	comp=Z,0.6nm,0.3s,baz=352,slow=8.7,SNR=5.6						
	comp=Z,1.6nm,0.3s						
LBTB	Lobatse	95.94	130	LR	LR	11 55 35.8	
	comp=Z,116nm,20.4s,baz=332,slow=35						
BOSA	Boshof	99.02	131	LR	LR	11 56 20.7	
	comp=Z,134nm,20.6s,baz=20,slow=34						
WRA	Warramunga Arr	140.20	20	PKP	PKPdf	11 19 55.8	-1.1
	comp=Z,0.7nm,1.0s,baz=348,slow=2.7,SNR=2.6						
ASAR	Alice Springs	143.74	22	PKP	PKPab	11 20 00.3	+0.3
	comp=Z,1.1nm,1.0s,baz=355,slow=2.1,SNR=5.7						
QSPA	South Pole Qui	148.44	180	PKPbc	PKPbc	11 20 11.7	-1.7
	comp=Z,3.3nm,0.9s,baz=224,slow=1.6,SNR=8.8						

FUNV 11 11:03:19.2, 10°.40N×64°.40W, h17km, MW2.4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	Puerto La Cruz	0.32	227	*e*P	Pn	11 03 30.2	+1.1
PCRV	Puerto La Cruz	0.32	227	*e*P	Pg	11 03 25.5	-0.6
PCRV				*e*S	Sg	11 03 30.1	-0.7
PCRV	Puerto La Cruz	0.32	227	*e*P	Pn	11 03 29.6	+0.4
PCRV				*e*S	Sn	11 03 57.4	+22
TACV	Tcata	2.60	265	*e*P	Pn	11 04 00.0	-0.6
BENV	Beln	3.18	263	*e*P	Pn	11 04 08.7	+0.2
BENV				*e*S	Sn	11 04 47.1	+0.9
BENV	Beln	3.18	263	*e*P	Pn	11 04 07.8	-0.8
BENV				*e*S	Sn	11 04 43.5	-2.7
CACV	CAICARA DEL OR	3.52	217	*e*P	Pn	11 04 02.7	-10
CACV	CAICARA DEL OR	3.52	217	*e*P	Pn	11 04 08.8	-4.3
CACV				*e*S	Sn	11 04 45.7	-8.8
CACV	CAICARA DEL OR	3.52	217	*e*P	Pn	11 04 02.3	-11
CACV				*e*S	Sn	11 04 54.9	+0.5
BAUV	El Baul	3.87	248	*e*P	Pn	11 04 16.1	-1.9
BAUV				*e*S	Sn	11 04 59.1	-4.0
BAUV	El Baul	3.87	248	*e*P	Pn	11 04 16.8	-1.2
BAUV	El Baul	3.87	248	*e*P	Pn	11 04 16.4	-1.6
BAUV				*e*S	Sg	11 05 20.8	-2.9

*IDC **11** 11:20:57.8±3.3, 13°.31N×91°.59W, h0km, mb3.3/1, mbtmp3.2/4, ML4.0/2, Error ellipse: s-maj=59.2km s-min=40.6km az=0.0*
*CATAC **11** 11:21:04.5±0.7, 14°N±4°×9°2W±°, h18km±6km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=9.6km s-min=4.6km az=44.5, confirmed*
*GCG **11** 11:21:04.6±1.7, 13°.70N×91°.60W, h50km±52km, MD4.3, ML3.1, MW3.2*
*SNET **11** 11:21:06.4±1.0, 13°.80N×91°.34W, h12km±14km, ML3.5*

ISC 11 11:21:03.2±1.6, 13°.65N±0°.06×91°.58W±0°.05, h20km±5km, n61, σ0°.76/70, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.81	16	*i*P		11 21 22.5	
STG8	El Palmar, Qui	0.83	15	*i*P		11 21 23.0	
RTAL	Retalhuleu	0.88	352	⇓*i*P	Pg	11 21 20.6	+0.2
RTAL				*e*S	Sn	11 21 32.8	+0.1
RTAL				IAML		11 21 42.5	
	comp=Z,391nm,0.2s						
RTAL	Retalhuleu	0.88	352	P	Pg	11 21 20.7	+0.3
RTAL	Retalhuleu	0.88	352	P	Pg	11 21 20.8	+0.5
RTAL				S	Sg	11 21 31.8	-0.2
ESSG	Sabana Grande	1.03	45	*e*P	Pb	11 21 22.0	-0.4
ESSG				*e*S	Sg	11 21 35.4	-1.3
ESSG				IAML		11 21 43.3	
	comp=Z,993nm,0.2s						
ESSG	Sabana Grande	1.03	45	*e*P		11 21 22.0	
ESSG				*e*S		11 21 35.4	
ESSG				IAML		11 21 43.3	
	comp=Z,993nm,0.2s						
ESSJ	San Jos, E	1.05	95	⇑*e*P		11 21 20.0	
ESSJ				*e*S		11 21 33.2	
SOKI	Kika Raxquin	1.18	8	*e*P	Pb	11 21 25.0	-0.1
	comp=Z,780nm,0.4s						
SOKI				*e*S	Sb	11 21 39.8	-0.3
SOKI				IAML		11 21 43.5	
	comp=Z,780nm,0.4s						
SOKI	Kika Raxquin	1.18	8	*e*P		11 21 25.0	
	comp=Z,780nm,0.4s						
SOKI				*e*S		11 21 39.8	
SOKI				IAML		11 21 43.5	
	comp=Z,780nm,0.4s						
SMCA	Catarina	1.29	338	*e*P	Pn	11 21 26.1	0.0
	comp=Z,234nm,0.7s						
SMCA				IAML		11 21 44.1	
	comp=Z,234nm,0.7s						
SMCA	Catarina	1.29	338	*e*P		11 21 26.1	
	comp=Z,234nm,0.7s						
SMCA				IAML		11 21 44.1	
	comp=Z,234nm,0.7s						
HUEH	Huehuetenango	1.66	2	P	Pb	11 21 33.0	-0.2
HUEH	Huehuetenango	1.66	2	S	Sn	11 21 52.9	+0.6
HUEH	Huehuetenango	1.66	2	P	Pn	11 21 32.1	+0.6
APG	El Apazote	1.73	38	Pn	Pb	11 21 34.0	-0.3
	comp=Z,4.1nm,0.3s,baz=207,slow=14,SNR=140						
APG				Sn	Sb	11 21 55.8	+0.1
	comp=Z,2.8nm,0.3s,baz=173,slow=11,SNR=6.9						
APG	El Apazote	1.73	38	⇓*e*P	Pb	11 21 34.4	0.0
APG				*e*S	Sb	11 21 55.8	+0.1
APG	El Apazote	1.73	38	⇓*e*P		11 21 34.4	
APG				*e*S		11 21 55.8	
NUBE	Las Nubes	1.76	82	*e*P	Pn	11 21 32.9	+0.2
NUBE				*e*S	Sn	11 21 53.2	-1.5
NUBE	Las Nubes	1.76	82	P	Pn	11 21 32.9	+0.2
NUBE	Las Nubes	1.76	82	P	Pn	11 21 32.9	+0.2
NUBE	Las Nubes	1.76	82	S	Sn	11 21 54.3	-0.4
NUBE	Las Nubes	1.76	82	*e*P	Pn	11 21 32.9	+0.2
NUBE				*i*S	Sn	11 21 53.4	-1.3
NUBE	Las Nubes	1.76	82	*e*P		11 21 32.9	
NUBE				*i*S		11 21 53.4	
SLOZ	Alcaldia de Sa	1.78	78	*e*P	Pn	11 21 33.1	+0.2
SLOZ				IAML		11 22 02.1	
	comp=Z,389nm,0.4s						
SLOZ	Alcaldia de Sa	1.78	78	P	Pn	11 21 33.7	+0.8
SLOZ	Alcaldia de Sa	1.78	78	P	Pn	11 21 33.6	+0.8
SLOZ	Alcaldia de Sa	1.78	78	S	Sn	11 21 55.1	+0.1
CEVE	Cerro Verde	1.90	84	*e*P	Pn	11 21 35.4	+0.6
CEVE				IAML		11 22 02.3	
	comp=Z,2μm,0.5s						
CEVE	Cerro Verde	1.90	84	P	Pn	11 21 35.4	+0.6
CEVE	Cerro Verde	1.90	84	S	Sn	11 21 58.2	-0.1
CEVE	Cerro Verde	1.90	84	P	Pn	11 21 35.3	+0.6
SBLS	San Blas	1.91	84	*e*P	Pn	11 21 35.1	+0.3
SNJE	San Jose	1.93	83	*e*P	Pn	11 21 35.8	+0.7
UNIC	Universidad Ca	2.00	80	P	Pn	11 21 36.8	+0.9
UNIC	Universidad Ca	2.00	80	P	Pn	11 21 36.7	+0.9
UNIC	Universidad Ca	2.00	80	S	Sn	11 22 00.9	+0.5
JAYA	Jayaque - finc	2.07	90	*e*P	Pn	11 21 37.3	+0.5
JAYA				IAML		11 22 06.8	
	comp=Z,1μm,0.2s						
JAYA	Jayaque - finc	2.07	90	S	Sn	11 22 01.5	-0.7
JAYA	Jayaque - finc	2.07	90	P	Pn	11 21 37.4	+0.5
JAYA	Jayaque - finc	2.07	90	P	Pn	11 21 37.5	+0.5
JAYA	Jayaque - finc	2.07	90	S	Sn	11 22 02.4	+0.1
JAYA	Jayaque - finc	2.07	90	*i*P	Pn	11 21 37.4	+0.5
JAYA	Jayaque - finc	2.07	90	*i*P		11 21 37.4	
LALI	Alcalda de L	2.20	94	P	Pb	11 21 41.6	-0.7
PMON	Piamonte	2.20	88	*e*P	Pn	11 21 39.5	+0.8
PMON	Piamonte	2.20	88	P	Pn	11 21 39.9	+1.2
PMON	Piamonte	2.20	88	P	Pn	11 21 40.0	+1.3
PMON	Piamonte	2.20	88	S	Sn	11 22 06.0	+0.6
MTO3	Montecristo	2.27	71	*e*P	Pn	11 21 40.6	+0.7
MTO3	Montecristo	2.27	71	P	Pn	11 21 40.6	+0.7
MTO3	Montecristo	2.27	71	P	Pn	11 21 40.5	+0.7
MTO3	Montecristo	2.27	71	S	Sn	11 22 08.5	+1.0
MTO3	Montecristo	2.27	71	*e*P	Pn	11 21 40.6	+0.7
	comp=Z,44nm,1.1s						
MTO3				IAML		11 22 21.6	
	comp=Z,44nm,1.1s						
MTO3	Montecristo	2.27	71	*e*P		11 21 40.6	
	comp=Z,44nm,1.1s						
MTO3				IAML		11 22 21.6	
	comp=Z,44nm,1.1s						
LOMA	Loma Larga	2.34	90	*e*P	Pn	11 21 41.5	+0.9
ESQI	Esquipulas	2.35	67	⇑*i*P	Pn	11 21 41.8	+1.1
ESQI	Esquipulas	2.35	67	P	Pn	11 21 41.9	+1.1
ESQI	Esquipulas	2.35	67	P	Pn	11 21 41.9	+1.1
ESQI	Esquipulas	2.35	67	S	Sn	11 22 09.7	+0.6
LFRS	El Faro	2.44	90	*e*P	Pn	11 21 43.4	+1.3
PAVA	Las Pavas	2.56	88	*e*P	Pn	11 21 44.9	+1.2
LLGN	La Laguna	2.60	78	P	Pn	11 21 45.0	+0.7
LLGN	La Laguna	2.60	78	P	Pn	11 21 44.8	+0.5
LLGN	La Laguna	2.60	78	S	Sn	11 22 16.2	+0.7
COEG	Centro de Oper	2.62	90	*e*P	Pn	11 21 46.2	+1.7
SCLA	Alcaldia de Sa	2.77	89	*e*P	Pn	11 21 47.5	+1.1
CMIG	Matias Romero	4.68	317	Pn	Pn	11 22 13.7	+1.0
	comp=Z,3.0nm,0.3s,baz=145,slow=12,SNR=40						
CMIG				Sn	Sn	11 23 05.9	-0.6
	comp=Z,2.1nm,0.3s,baz=39,slow=7.8,SNR=5.1						
	comp=Z,5.5nm,0.3s						
TXAR	Lajitas Array	19.22	326	P	P	11 25 27.0	+0.8
	comp=Z,0.2nm,0.3s,baz=144,slow=7.3,SNR=4.2						
	comp=Z,0.3nm,0.5s						
YKA	Yellowknife Ar	51.46	347	P	P	11 30 05.4	-1.5
	comp=Z,0.2nm,0.6s,baz=154,slow=7.9,SNR=6.1						
	comp=Z,0.2nm,0.6s						
CMAR	Chiang Mai Arr	146.45	342	PKPbc	PKPdf	11 40 42.9	+0.4
	comp=Z,0.5nm,0.4s,baz=333,slow=4.6,SNR=4.7						

*IDC **11** 11:28:10.2±6.8, 5°.71S×130°.31E, h158km±69km, mb3.5/9, mbtmp4.0/12, Error ellipse: s-maj=50.7km s-min=21.7km az=56.0*
*DJA **11** 11:28:13.7±0.2, 6°S±3°×13°0E±°, h197km±4km, M4.3/17, mb4.2/16, mB4.8/6, MLv4.5/17, Mw(mB)4.1/6*
*NEIC **11** 11:28:13.7±2.6, 5°.84S±0°.08×130°.1E±0°.1, h192km±8km, mb4.2/10, Error ellipse: s-maj=16.1km s-min=11.1km az=86.0*

ISC 11 11:28:12.3±0.5, 5°94S±0°.04×130°05E±0°.05, h200km, n71, σ1°98/53, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.42	354	P	Pn	11 28 46.2	+1.0
BNDI	Bandanaira	1.42	354	P	Pn	11 28 46.3	+1.0
BNDI				S	Sn	11 29 11.5	+0.5
SAUI	Saumlaki	2.38	149	Pn	Pn	11 28 56.7	+1.9
SAUI	Saumlaki	2.38	149	P	Pn	11 28 56.5	+1.7
MSAI	Masohi	2.81	336	P	Pn	11 29 00.0	+0.3
AAI	Ambon	2.91	320	P	Pn	11 29 02.6	+1.8
FAKI	Fak Fak	3.71	36	Pn	Pn	11 29 09.9	-0.7
FAKI	Fak Fak	3.71	36	P	Pn	11 29 09.9	-0.7
FAKI	Fak Fak	3.71	36	S	Sn	11 29 52.4	-3.9
FAKI	Fak Fak	3.71	36	P	Pn	11 29 10.1	-0.5
NLAI	Namlea	3.98	312	P	Pn	11 29 16.7	+2.8
KMPI	Kaimana, Papua	4.29	58	P	Pn	11 29 17.5	-0.2
SWI	Sorong	5.19	13	P	Pn	11 29 28.2	-0.9
	0.6nm3μm34nm,0.5s						
SANI	Sanana	5.60	313	P	Pn	11 29 36.1	+1.7
SANI	Sanana	5.60	313	S	Sn	11 30 37.9	-1.4
SANI	Sanana	5.60	313	P	Pn	11 29 35.4	+1.0
	0.2nm653nm55nm,0.9s						
RKPI	Ransiki, Papua	6.03	43	P	Pn	11 29 40.2	+0.3
	48nm,0.6s						
DRS	Darwin Rock St	6.50	173	P	Pn	11 29 47.9	+1.8
SOEI	Soe	6.87	236	Pn	Pn	11 29 53.2	+2.2
SOEI	Soe	6.87	236	P	Pn	11 29 54.6	+3.6
SOEI	Soe	6.87	236	S	Sn	11 31 10.9	+1.6
SOEI	Soe	6.87	236	P	Pn	11 29 54.3	+3.3
	0.2nm11nm,0.7s						
MTN	Manton Dam	6.94	171		Pn	11 29 53.5	+1.7
MTN	Manton Dam	6.94	171	P	Pn	11 29 53.3	+1.5
KDU	Kakadu	7.12	161	P	Pn	11 29 55.1	+1.1
BAKI	Biak	7.67	52	P	Pn	11 30 01.9	+0.7
	0.2nm47nm,0.8s						
KNRA	Kununurra	9.76	187	Pn	Pn	11 30 29.6	+1.2
PLAI	Plampang	12.51	256	P	P	11 31 05.7	-1.9
PLAI	Plampang	12.51	256	P	P	11 31 05.0	-2.6
	26nm,1.0s						
FITZ	Fitzroy Crossi	12.83	199	P	P	11 31 09.9	-1.2
	1.2nm,0.3s,baz=9.0,slow=10.0,SNR=7.1						
FITZ				S	Sn	11 33 23.7	-7.1
	2.5nm,0.3s,baz=225,sl

comp=Z,3.3nm,1.5s
SONM Songino Array 57.46 341 P P 11 37 42.6 +2.2
comp=Z,0.6nm,0.6s,baz=158,slow=5.3,SNR=4.2
comp=Z,0.6nm,0.6s
MK31 Makanchi Array 67.38 327 P P 11 38 48.6 +2.6
MKAR Makanchi Array 67.38 327 P P 11 38 48.4 +2.4
comp=Z,2.6nm,0.7s,baz=120,slow=8.3,SNR=24
comp=Z,2.6nm,0.7s
MAKZ Makanchi 67.56 326 P P 11 38 49.6 +2.5
MAKZ IAmb IAmb 11 38 50.3
comp=Z,4.2nm,1.2s
ZALV Zalesovo Beam 70.66 334 P P 11 39 07.8 +1.8
ZALV Zalesovo Beam 70.66 334 P **P 11 39 07.7 +1.7**
comp=Z,1.3nm,0.6s,baz=142,slow=5.5,SNR=5.3
comp=Z,1.3nm,0.6s
KURBB Kurchatov Arra 71.64 328 P P 11 39 13.9 +2.0
comp=Z,1.0nm,0.5s,baz=126,slow=4.8,SNR=12
comp=Z,1.0nm,0.5s
KURK Kurchatov 71.65 328 P P 11 39 13.8 +1.9
BVAR Borovoye Array 77.20 328 P P 11 39 45.7 +1.7
comp=Z,0.8nm,0.5s,baz=107,slow=9.4,SNR=4.5
comp=Z,0.8nm,0.5s
ILAR Eielson Array 92.37 25 P **P 11 41 00.2 +0.5**
comp=Z,0.2nm,0.7s,baz=272,slow=6.4,SNR=1.8
comp=Z,0.2nm,0.7s
Y14A Wickenburg 115.58 55 **PKiKP 11 46 30.3 -0.9**
CSTR Hydro, Custer 126.44 50 PKPdf **PKiKP 11 46 53.2 +0.8**

KRSC 11 11:35:20.8±2.7, 49°.60N×157°.05E, h47km±33km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.24**	**331**	*eP*	Pn	11 35 41.3	-0.3
SKR				*eS*	Sn	11 35 56.7	-0.4
PAU	**Pauzhetka**	**1.87**	**355**	*eP*	Pn	11 35 52.4	+2.1
PAU				*eS*	Sn	11 36 15.4	+2.7
KDTR	**Khodutka, Kamc**	**2.30**	**16**	*eP*	Pn	11 35 59.3	+3.2
KDTR				*eS*	Sn	11 36 27.2	+4.0
RUS	**Russkaya**	**2.98**	**17**	*eP*	Pn	11 36 08.7	+3.2
GRL	**Gorelyy**	**3.02**	**12**	*eP*	Pn	11 36 10.0	+3.8
KRMR	**Karymshinskiy**	**3.30**	**11**	*eP*	Pn	11 36 15.0	+5.2
DALK	**Dalny**	**3.60**	**17**	*eP*	Pn	11 36 17.6	+3.7
UGLR	**Uglovaya**	**3.78**	**16**	*eP*	Pn	11 36 20.6	+4.0
AVH	**Avacha**	**3.82**	**15**	*eP*	Pn	11 36 21.7	+4.7
KOK	**Koryaka**	**3.83**	**14**	*eP*	Pn	11 36 21.8	+4.6
SDLR	**Sedlovina**	**3.85**	**17**	*eP*	Pn	11 36 21.6	+4.0
KRX	**Arik**	**3.89**	**14**	*eP*	Pn	11 36 23.5	+5.4
GNL	**Ganaly**	**4.14**	**7**	*eP*	Pn	11 36 24.7	+3.3
MKZ	**Mys Kozlova**	**5.74**	**28**	*eP*	Pn	11 36 46.2	+3.0
KBTR	**Krutoberegovo**	**7.48**	**26**	*eP*	Pn	11 37 10.6	+3.5

*IDC **11** 11:36:21.4±1.5, 16°.29N×92°.46E, h0km, mb3.5/5, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=43.4km s-min=21.3km az=56.0*
ISC 11 11:36:26.2±1.5, 16°.3N±0°.2×92°.4E±0°.1, h35km, n6, σ1§04/7, mb3.5/5, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.58**	**70**	Pn	**Pn**	**11 37 59.1**	**-1.5**
	0.3nm,0.3s,baz=254,slow=13,SNR=4.6						
CMAR				Sn	**Sn**	**11 39 15.8**	**+1.4**
	0.6nm,0.3s,baz=254,slow=27,SNR=4.3						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**31.58**	**347**	P	**P**	**11 42 45.7**	**+0.3**
	0.5nm,0.7s,baz=169,slow=8.7,SNR=3.7						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**36.05**	**345**	P	**P**	**11 43 24.3**	**+0.1**
	1.0nm,0.6s,baz=164,slow=8.4,SNR=9.6						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**38.06**	**353**	P	**P**	**11 43 41.4**	**+0.2**
	0.9nm,0.7s,baz=171,slow=10,SNR=4.0						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**54.69**	**130**	P	**P**	**11 45 52.4**	**+0.3**
	0.3nm,0.8s,baz=311,slow=7.8,SNR=1.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**56.72**	**133**	P	**P**	**11 46 07.1**	**+0.4**
	0.1nm,0.5s,baz=307,slow=6.0,SNR=5.0						
	0.1nm,0.5s						

NEIC 11 11:44:15.9±2.4, 37°.02N±0°.04×104°.80W±0°.05, h5km±2km, mb_Lg2.7/88, ML3.1/44, Error ellipse: s-maj=7.8km s-min=6.2km az=143.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.33**	**69**	Pg	Pg	11 44 23.2	+0.7
T25A				Sg	Sg	11 44 28.3	+1.5
T25A				IAML		11 44 28.6	
	comp=N,2μm,0.4s						
SDCO	**Great Sand Dun**	**0.92**	**322**	Pg	Pg	11 44 32.9	-0.7
RTBA	**Rita Blanca**	**1.75**	**109**	Pn	Pn	11 44 47.8	+0.7
RTBA					Sb	11 45 11.3	+0.3
RTBA				IAML		11 45 12.2	
	comp=N,342nm,0.4s						
RTBA				IAML		11 45 12.2	
	comp=N,308nm,0.4s						
RTBA				IAmb_Lg		11 45 15.8	
	comp=Z,32nm,0.7s						
S22A	**4UR Ranch, Cre**	**1.77**	**295**	Pg	Pn	11 44 48.3	+0.7
S22A				IAML		11 45 12.9	
	comp=E,181nm,0.1s						
Q24A	**Divide**	**1.96**	**352**		Pb	11 44 52.3	-0.1
Q24A				IAML		11 45 19.4	
	comp=N,137nm,0.2s						
Q24A				IAML		11 45 19.7	
	comp=E,196nm,0.3s						
ANMO	**Albuquerque**	**2.47**	**214**	Pn	Pn	11 44 57.3	+0.3
ANMO	**Albuquerque**	**2.47**	**214**	IAmb_Lg		11 45 38.8	
	comp=Z,12nm,0.9s						
ISCO	**Idaho Springs**	**2.85**	**347**		Pn	11 45 03.1	+0.7
ISCO				IAmb_Lg		11 45 48.7	
	comp=Z,24nm,1.1s						
MVCO	**Mesa Verde**	**2.97**	**275**	Pn	Pn	11 45 05.4	+1.5
MVCO				IAML		11 45 48.0	
	comp=Z,83nm,0.5s						
PV01	**Paradox Valley**	**3.20**	**292**	IAmb_Lg		11 46 01.5	
	comp=Z,20nm,0.8s						
PV15	**Paradox Valley**	**3.21**	**295**	Pn	Pn	11 45 07.9	+0.6
PV15				IAML		11 45 59.9	
	comp=E,48nm,0.8s						
PV15				IAML		11 46 13.3	
	comp=N,32nm,1.2s						
AMTX	**Amarillo**	**3.31**	**129**	IAmb_Lg		11 46 05.0	
	comp=Z,22nm,0.9s						
PV07	**Paradox Valley**	**3.37**	**296**	Pn	Pn	11 45 10.8	+1.5
PV07				IAML		11 46 21.2	
	comp=N,17nm,0.9s						
PV13	**Radium Mtn., P**	**3.39**	**291**		Pn	11 45 12.2	+2.5
PV13				IAmb_Lg		11 46 12.2	
	comp=Z,22nm,0.9s						
Y22D	**IRIS PASSCAL I**	**3.41**	**211**		Pn	11 45 07.9	-2.0
Y22D				IAmb_Lg		11 46 04.6	
	comp=Z,22nm,0.8s						
PV03	**Paradox Valley**	**3.44**	**292**	IAmb_Lg		11 46 12.2	
	comp=Z,13nm,0.8s						
PV11	**David Mesa, Pa**	**3.48**	**293**		Pn	11 45 12.7	+1.8
PV11				IAmb_Lg		11 46 14.5	
	comp=Z,28nm,0.8s						
PV16	**Nyswonger Mesa**	**3.52**	**293**	IAmb_Lg		11 46 16.3	
	comp=Z,15nm,0.9s						
BRIGG	**Briggsdale**	**3.58**	**6**	IAmb_Lg		11 46 10.1	
	comp=Z,17nm,0.7s						
PV05	**Paradox Valley**	**3.58**	**288**	IAmb_Lg		11 46 13.8	
	comp=Z,15nm,0.8s						
PV10	**Paradox Valley**	**3.63**	**293**		Pn	11 45 14.3	+1.3
PV10				IAmb_Lg		11 46 18.3	
	comp=Z,25nm,1.0s						
PV23	**Carpenter Ridg**	**3.63**	**294**		Pn	11 45 15.5	+2.4
PV23				IAmb_Lg		11 46 17.4	
	comp=Z,26nm,0.9s						
CPRX	**Cap Rock**	**4.05**	**169**		Pn	11 45 20.2	+1.5
SMWD	**Samnorwood**	**4.15**	**116**	IAmb_Lg		11 46 30.2	
	comp=Z,22nm,0.8s						
ELIS	**Ellis County**	**4.43**	**101**	Pn	Pn	11 45 24.6	+0.7
ELIS				IAmb_Lg		11 46 34.8	
	comp=Z,14nm,1.2s						
OGNE	**Ogallala**	**4.47**	**28**	Pn	Pn	11 45 26.6	+2.1
DKNS	**Dickens**	**4.60**	**135**	Pn	Pn	11 45 23.9	-2.4
DKNS				IAmb_Lg		11 46 50.2	
	comp=Z,13nm,1.0s						
OK038	**West end E0370**	**4.89**	**95**	IAmb_Lg		11 46 58.6	
	comp=Z,15nm,0.8s						
SRU	**San Rafael Swe**	**4.98**	**297**	IAmb_Lg		11 46 55.5	
	comp=Z,16nm,1.1s						
SN07	**Snyder 07**	**5.06**	**140**	IAmb_Lg		11 46 58.8	
	comp=Z,14nm,0.8s						
SN05	**Snyder 5**	**5.23**	**141**	IAmb_Lg		11 47 13.1	
	comp=Z,8.6nm,0.8s						
KAN14	**Manchester OK**	**5.47**	**89**	IAmb_Lg		11 47 09.7	
	comp=Z,9.7nm,0.8s						
CROK	**Carrier**	**5.49**	**93**	IAmb_Lg		11 47 19.1	
	comp=Z,11nm,0.7s						
PECS	**Pecos**	**5.69**	**172**	IAmb_Lg		11 47 31.6	
	comp=Z,16nm,0.8s						
KAN09	**Caldwell North**	**5.74**	**87**	IAmb_Lg		11 47 23.7	
	comp=Z,16nm,1.0s						
K22A	**Casper**	**5.78**	**347**	IAmb_Lg		11 47 33.3	
	comp=Z,9.9nm,1.3s						
KAN13	**South Haven SW**	**5.86**	**88**	IAmb_Lg		11 47 28.1	
	comp=Z,11nm,0.7s						
SGCY	**Sterling City**	**5.92**	**148**	IAmb_Lg		11 47 30.4	
	comp=Z,12nm,1.0s						
X16A	**Lo Mia Camp, P**	**6.00**	**246**		Pn	11 45 46.3	+0.8
PKCU	**Pink Cliffs**	**6.01**	**276**	IAmb_Lg		11 47 36.0	
	comp=Z,11nm,0.8s						
OK029	**Liberty Lake**	**6.04**	**99**	IAmb_Lg		11 47 29.5	
	comp=Z,7.6nm,0.7s						
ABTX	**Abilene, Hawle**	**6.10**	**134**	IAmb_Lg		11 47 28.8	
	comp=Z,8.7nm,0.9s						
VHRN	**Van Horn**	**6.22**	**182**	IAmb_Lg		11 47 31.3	
	comp=Z,14nm,1.0s						
OZNA	**Ozona**	**6.80**	**152**	IAmb_Lg		11 48 01.5	
	comp=Z,9.1nm,1.0s						
SAND	**Sanderson**	**7.39**	**162**	IAmb_Lg		11 48 13.1	
	comp=Z,7.4nm,0.8s						
JCT	**Junction City**	**7.73**	**146**	IAmb_Lg		11 48 42.7	
	comp=Z,6.4nm,0.8s						
DRIO	**Del Rio**	**8.34**	**154**	IAmb_Lg		11 48 55.7	
	comp=Z,7.9nm,0.9s						
SUSD	**Miller**	**8.64**	**29**	IAmb_Lg		11 49 01.3	
	comp=Z,8.9nm,0.9s						

IDC 11 11:46:50.4±3.9, 5°.44S×131°.35E, h0km, mb3.3/1, mbtmp3.2/3, ML3.2/2, MS3.5/1, Error ellipse: s-maj=262.2km s-min=32.9km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.71**	**169**	Pn	Pn	11 50 19.8	-0.1
	0.1nm,0.3s,baz=350,slow=11,SNR=6.1						
WRA				Sn	Sn	11 52 48.5	-15
	0.2nm,0.3s,baz=342,slow=22,SNR=7.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**18.29**	**173**	P	Pn	11 51 05.6	-0.2
	0.1nm,0.3s,baz=348,slow=10.0,SNR=12						
ASAR				S	Sn	11 54 13.1	-18
	0.1nm,0.6s,baz=353,slow=29,SNR=1.7						
	0.3nm,0.7s						
BRDH	**Bariadhala**	**47.83**	**307**	LR	LR	12 17 34.6	
	comp=Z,52nm,21.2s,baz=304,slow=39						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	11 57 49.6	+0.1
	0.2nm,0.6s,baz=113,slow=6.9,SNR=2.7						
	0.2nm,0.6s						

IDC 11 11:52:07.1±9.6, 35°.47N×14°.23W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=649.6km s-min=142.1km az=112.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**36.32**	**32**	P	P	11 59 12.2	+0.1
	0.9nm,0.4s,baz=251,slow=14,SNR=8.5						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**67.04**	**39**	P	P	12 03 01.3	-0.4
	0.6nm,0.3s,baz=298,slow=7.9,SNR=4.0						
	0.6nm,0.3s						
SONM	**Songino Array**	**81.56**	**36**	P	P	12 04 27.1	+0.3
	0.2nm,0.3s,baz=318,slow=7.2,SNR=4.4						
	0.2nm,0.3s						

PRE 11 11:53:53.5±0.9, 25°.70S×29°.22E, h0km, ML1.9, Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.79**	**112**	*eP*	Pg	11 54 08.2	-0.4
CRLN				*eS*	Sg	11 54 19.5	+0.8
CRLN				IAML		11 54 26.1	
	comp=Z,17nm,0.7s						
HRAO	**HartRAO**	**1.39**	**262**	*eP*	Pg	11 54 19.7	-0.5
HRAO				*eS*	Sn	11 54 39.7	+0.1
HRAO				IAML		11 54 40.7	
	comp=Z,18nm,0.5s						
PILG	**Pilgrimsrest,**	**1.55**	**61**	*eP*	Pg	11 54 23.7	+0.4
PILG				*eS*	Sn	11 54 44.4	+0.9
PILG				IAML		11 54 47.0	
	comp=Z,19nm,0.5s						
LEPH	**Lephalale, Lim**	**2.24**	**325**	*eP*	Pn	11 54 32.8	+0.8
LEPH				*eS*	Sn	11 55 00.3	0.0
LEPH				IAML		11 55 10.2	
	comp=Z,8.1nm,0.4s						
MOPA	**Mopani**	**2.94**	**43**	*eP*	Pn	11 54 42.5	+1.0
MOPA				*eS*	Sn	11 55 18.4	+0.8
MOPA				IAML		11 55 55.1	
	comp=Z,30nm,0.4s						
LBTB	**Lobatse**	**3.34**	**281**	*eP*	Pn	11 54 48.4	+1.3
LBTB				*eS*	Sn	11 55 27.9	+0.3
MUSN	**Musina, Limpop**	**3.44**	**10**	*eP*	Pn	11 54 49.2	+0.8
MUSN				*eS*	Sn	11 55 30.3	+0.2
MUSN				IAML		11 55 49.6	
	comp=Z,3.0nm,0.4s						
SWZ	**Schweizer**	**3.79**	**246**	*eP*	Pn	11 54 54.5	+1.2
SWZ				*eS*	Sn	11 55 38.6	0.0
SWZ				IAML		11 55 45.8	
	comp=Z,9.7nm,0.4s						

IDC 11 11:55:23.4±4.3, 57°.65N×32°.66W, h0km, mb3.4/4, mbtmp3.4/4, MS2.9/1, Error ellipse: s-maj=115.7km s-min=38.4km az=176.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.49**	**326**	LR	LR	12 01 30.6	
	comp=Z,49nm,18.1s,baz=146,slow=29						
YKA	**Yellowknife Ar**	**38.58**	**313**	P	P	12 02 47.0	-0.4
	0.4nm,0.7s,baz=59,slow=8.9,SNR=6.6						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**48.15**	**328**	P	P	12 04 04.8	+0.1
	0.8nm,1.1s,baz=43,slow=5.0,SNR=4.4						
	0.8nm,1.1s						
PDAR	**Pinedale Array**	**48.69**	**287**	P	P	12 04 09.4	0.0
	0.2nm,0.5s,baz=65,slow=6.6,SNR=5.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**62.82**	**44**	P	P	12 05 50.4	-0.1
	0.2nm,0.5s,baz=338,slow=5.1,SNR=3.2						
	0.2nm,0.5s						

*NOU **11** 12:14:31.9, 38°.74S×177°.95E, h0km, MLv3.6/11, North Island, New Zealand*
*WEL **11** 12:14:35.2±0.3, 39°.5±2°.5×17°.8E±°, h16km±3km, M3.7/19, ML4.0/19, MLv3.7/19, Error ellipse: s-maj=3.7km s-min=2.5km az=127.5, confirmed*
ISC 11 12:14:34.7±0.9, 38°.66S±0°.02×177°.84E±0°.03, h29km±5km, n89, σ1§01/102, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWTS	**Gisborne Waipa**	**0.07**	**61**	P	**Pb**	**12 14 39.0**	**-0.7**
GWTS				S	**Sb**	**12 14 44.0**	**+0.9**
RIGZ	**Rimuhau**	**0.07**	**234**	P	**Pb**	**12 14 39.6**	**-0.2**
RIGZ				S	**Sb**	**12 14 43.2**	**-0.1**
GHHS	**Gisborne Hospi**	**0.14**	**82**	P	**Pn**	**12 14 39.7**	**-1.3**
GISS	**Gisborne 2ZG**	**0.14**	**92**	P	**Pn**	**12 14 39.8**	**-1.2**
GISS				S	**Sb**	**12 14 45.8**	**+1.9**
GKBS	**Kaiti Beach**	**0.15**	**98**	P	**Pn**	**12 14 41.4**	**+0.3**
TKGZ	**Te Karaka**	**0.22**	**2**	P	**Pb**	**12 14 40.4**	**-0.7**
TKGZ				S	**Sb**	**12 14 44.9**	**-0.4**
PRGZ	**Paritu Road**	**0.26**	**173**	P	**Pn**	**12 14 43.0**	**+0.4**
CNGZ	**Carnagh Statio**	**0.34**	**58**	P	**Pn**	**12 14 44.3**	**+0.6**
RAGZ	**Rawiri**	**0.37**	**296**	P	**Pb**	**12 14 42.4**	**-0.8**
RAGZ				S	**Sb**	**12 14 48.2**	**-0.7**
KNZ	**Kokohu**	**0.38**	**200**	P	**Pn**	**12 14 44.6**	**+0.3**
MWZ	**Matawai**	**0.41**	**323**	P	**Pb**	**12 14 42.7**	**-1.0**
MWZ				S	**Sb**	**12 14 47.7**	**-2.1**
SNGZ	**Shannon Statio**	**0.41**	**253**	P	**Pn**	**12 14 43.9**	**-0.7**
SNGZ				S	**Sn**	**12 14 51.3**	**-0.1**
MHGZ	**Mahia Peninsul**	**0.49**	**174**	P	**Pn**	**12 14 46.8**	**+1.0**
TWGZ	**Tauwhareparae**	**0.50**	**13**	P	**Pn**	**12 14 45.6**	**-0.3**
TWGZ				S	**Sn**	**12 14 53.3**	**-0.3**
WHHZ	**Waihua**	**0.63**	**229**	P	**Pn**	**12 14 48.4**	**+0.7**
RAHZ	**Arahi**	**0.64**	**246**	P	**Pn**	**12 14 48.3**	**+0.5**
RTZ	**Ruatahuna**	**0.67**	**274**	P	**Pn**	**12 14 47.8**	**-0.6**
PUZ	**Puketiti**	**0.68**	**29**	P	**Pn**	**12 14 48.2**	**-0.1**
URZ	**Urewera**	**0.70**	**305**	P	**Pb**	**12 14 47.7**	**-0.7**
URZ	**Urewera**	**0.70**	**305**	S	**Sb**	**12 14 57.6**	**-0.1**
URZ	**Urewera**	**0.70**	**305**	P	**Pb**	**12 14 47.6**	**-0.7**
RUGZ	**Raukumara Rang**	**0.71**	**350**	P	**Pn**	**12 14 48.0**	**-0.8**
MTHZ	**Maungataniwha**	**0.80**	**256**	P	**Pb**	**12 14 50.4**	**+0.2**
PKGZ	**Pakihiroa**	**0.82**	**14**	P	**Pb**	**12 14 50.1**	**-0.2**
PKGZ				S	**Sn**	**12 15 02.3**	**+0.9**
MUGZ	**Murupara**	**0.86**	**282**	P	**Pb**	**12 14 50.8**	**-0.3**
ARHZ	**Aropaoanui**	**0.89**	**227**	P	**Pb**	**12 14 52.2**	**+0.6**
HAZ	**Te Kaha**	**0.91**	**357**	P	**Pb**	**12 14 51.2**	**-0.6**
HAZ				S	**Sb**	**12 15 03.8**	**+0.4**
NMHZ	**Naumai**	**0.92**	**241**	P	**Pb**	**12 14 52.5**	**+0.4**
WMGZ	**Waiomatatini S**	**0.96**	**28**	P	**Pb**	**12 14 52.8**	**+0.1**
WMGZ	**Waiomatatini S**	**0.96**	**28**	P	**Pb**	**12 14 52.2**	**-0.5**
WMGZ				S	**Sb**	**12 15 06.8**	**+1.8**
WHRZ	**Whale Island**	**1.05**	**320**	P	**Pb**	**12 14 54.1**	**-0.2**
RRRZ	**Republican Roa**	**1.09**	**287**	P	**Pb**	**12 14 54.5**	**-0.4**
MRHZ	**Matea Rd**	**1.12**	**261**	P	**Pb**	**12 14 55.4**	**-0.1**
MRHZ				S	**Sb**	**12 15 10.9**	**+1.0**
TARZ	**Mount Tarawera**	**1.13**	**292**	P	**Pb**	**12 14 55.4**	**-0.3**
MARZ	**Manawahe**	**1.14**	**306**	P	**Pb**	**12 14 55.3**	**-0.5**
PRRZ	**Plateau Road**	**1.15**	**278**	P	**Pb**	**12 14 55.2**	**-0.6**
CKHZ	**Cape Kidnapper**	**1.16**	**211**	P	**Pb**	**12 14 55.3**	**-0.8**
MXZ	**Matakaoa Point**	**1.16**	**19**	P	**Pb**	**12 14 54.9**	**-1.2**
MXZ	**Matakaoa Point**	**1.16**	**19**	P	**Pb**	**12 14 55.1**	**-0.9**
BKZ	**Black Stump Fm**	**1.17**	**244**	P	**Pb**	**12 14 55.4**	**-0.8**
BKZ	**Black Stump Fm**	**1.17**	**244**	P	**Pb**	**12 14 55.7**	**-0.6**
ALRZ	**Allen Road**	**1.18**	**274**	P	**Pb**	**12 14 56.8**	**+0.4**
MCHZ	**McNeill Hill**	**1.18**	**228**	P	**Pb**	**12 14 56.1**	**-0.5**
MKRZ	**Makatiti**	**1.20**	**295**	P	**Pb**	**12 14 57.9**	**+1.1**
HLRZ	**Highlands Stat**	**1.24**	**289**	P	**Pb**	**12 14 57.7**	**+0.3**
WIZ	**White Island**	**1.24**	**335**	P	**Pb**	**12 14 56.6**	**-0.9**
HRRZ	**Handcock Road**	**1.25**	**282**	P	**Pb**	**12 14 57.5**	**-0.1**
WSRZ	**White Island S**	**1.26**	**335**	P	**Pb**	**12 14 58.1**	**+0.4**
OMRZ	**Omania**	**1.28**	**295**	P	**Pb**	**12 14 57.4**	**-0.8**
HSRZ	**Hossack Road**	**1.30**	**285**	P	**Pb**	**12 14 57.5**	**-1.0**
OPRZ	**Ohinepanea**	**1.30**	**309**	P	**Pn**	**12 14 56.7**	**-0.2**
OPRZ				S	**Sb**	**12 15 14.4**	**-0.4**
WPRZ	**Whakapapatarin**	**1.32**	**276**	P	**Pb**	**12 14 59.8**	**+0.9**
KWHZ	**Kaweka Forest**	**1.34**	**235**	P	**Pb**	**12 14 58.0**	**-1.2**
KAHZ	**Kahuranaki**	**1.36**	**213**	P	**Pb**	**12 14 57.7**	**-1.7**
UTU	**Utuhina**	**1.38**	**290**	P	**Pb**	**12 15 01.1**	**+1.3**
HATZ	**Hinemaiaia**	**1.39**	**260**	P	**Pb**	**12 15 00.9**	**+0.9**
GRRZ	**Galatos Road**	**1.39**	**282**	P	**Pb**	**12 14 59.7**	**-0.4**
KARZ	**Kaharoa**	**1.41**	**297**	P	**Pb**	**12 14 59.1**	**-1.2**
NGRZ	**Ngongotaha**	**1.41**	**293**	P	**Pb**	**12 15 00.1**	**-0.3**
WHTZ	**Whakaora**	**1.47**	**269**	P	**Pb**	**12 15 03.9**	**+2.4**
KRHZ	**Kereru**	**1.50**	**229**	P	**Pb**	**12 15 00.0**	**-2.0**
TGRZ	**Tauranga**	**1.55**	**306**	P	**Pn**	**12 15 00.5**	**+0.1**
PXZ	**Pawanui**	**1.56**	**209**	P	**Pn**	**12 14 59.9**	**-0.6**
RITZ	**Rihia Road**	**1.58**	**258**	P	**Pb**	**12 15 03.1**	**-0.2**
KUTZ	**Kaahu Road**	**1.59**	**276**	P	**Pb**	**12 15 01.9**	**-1.5**
RATZ	**Rangitukua**	**1.63**	**262**	P	**Pb**	**12 15 04.3**	**+0.2**
WATZ	**Wairara**	**1.65**	**268**	P	**Pb**	**12 15 03.2**	**-1.2**
KMRZ	**Kaimai**	**1.70**	**298**	P	**Pb**	**12 15 05.6**	**+0.3**
KATZ	**Kakaramea**	**1.70**	**259**	P	**Pb**	**12 15 06.7**	**+1.3**
ETVZ	**East Tongariro**	**1.73**	**253**	P	**Pb**	**12 15 04.8**	**-1.1**
TMVZ	**Te Maari**	**1.73**	**254**	P	**Pb**	**12 15 04.8**	**-1.1**
NTVZ	**North Tongarir**	**1.74**	**255**	P	**Pb**	**12 15 04.9**	**-1.2**
OTVZ	**Oturere**	**1.77**	**253**	P	**Pb**	**12 15 05.7**	**-0.9**
PNHZ	**Pukenui**	**1.78**	**225**	P	**Pn**	**12 15 03.2**	**-0.4**
MOVZ	**Moawhango**	**1.79**	**245**	P	**Pb**	**12 15 06.0**	**-0.8**
SNVZ	**South Ngauruho**	**1.79**	**252**	P	**Pb**	**12 15 05.0**	**-2.0**
NNVZ	**North Ngauruho**	**1.80**	**254**	P	**Pb**	**12 15 06.3**	**-0.8**
PRHZ	**Porangahau**	**1.85**	**210**	P	**Pn**	**12 15 03.9**	**-0.7**
WNVZ	**Wahianoa**	**1.87**	**248**	P	**Pb**	**12 15 05.9**	**-2.4**
FWVZ	**Far West T-bar**	**1.88**	**251**	P	**Pb**	**12 15 07.2**	**-1.2**
ANWZ	**Angora Road**	**2.08**	**210**	P	**Pn**	**12 15 06.6**	**-1.1**
DVHZ	**Dannevirke**	**2.08**	**218**	P	**Pn**	**12 15 06.5**	**-1.2**
HIZ	**Hauiti**	**2.34**	**273**	P	**Pb**	**12 15 13.9**	**-2.3**
BFZ	**Birch Farm**	**2.36**	**211**	P	**Pn**	**12 15 10.2**	**-1.3**
BFZ	**Birch Farm**	**2.36**	**211**	S	**Sn**	**12 15 40.5**	**+0.9**
KUZ	**Kuaotunu**	**2.55**	**318**	P	**Pn**	**12 15 14.1**	**+0.1**
KHEZ	**Kahui Hut**	**3.05**	**257**	P	**Pn**	**12 15 23.2**	**+2.2**
OUZ	**Omahuta**	**4.83**	**314**	P	**Pn**	**12 15 47.3**	**+1.8**
KHZ	**Kahutara**	**4.98**	**220**	P	**Pn**	**12 15 48.5**	**+1.1**

WEL 11 12:28:14.7±1.3, 34°S±17°×18°0E±3°8, h250km, M3.6/4, mB4.1/2, ML3.8/8, MLv3.6/4, Mw(mB)3.1/2, Error ellipse: s-maj=53.1km s-min=11.0km az=112.5, confirmed, South of Kermadec Islands

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

ISC 11 13:03:11.5±0.3,6°66S±0°03×130°75E±0°04,h92km±2km,
h92km:pP-P,n413,σ1°68/409,mb5.0/116,19C-10D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.43**	**157**		**Pn**	**13 03 35.3**	**-1.1**
SAUI	**Saumlaki**	**1.43**	**157**	P	**Pn**	**13 03 35.9**	**-0.5**
SAUI	**Saumlaki**	**1.43**	**157**	P	**Pn**	**13 03 35.9**	**-0.5**
SAUI				S	**Sn**	**13 03 55.1**	**-0.2**
BNDI	**Bandanaira**	**2.28**	**338**	P	**Pn**	**13 03 45.5**	**-2.0**
BNDI	**Bandanaira**	**2.28**	**338**	P	**Pn**	**13 03 44.8**	**-2.7**
BNDI				S	**Sn**	**13 04 10.6**	**-4.4**
MSAI	**Masohi**	**3.75**	**331**	P	**Pn**	**13 04 05.9**	**-1.4**
AAI	**Ambon**	**3.89**	**319**	P	**Pn**	**13 04 06.9**	**-2.3**
FAKI	**Fak Fak**	**4.00**	**22**	Pn	**Pn**	**13 04 07.2**	**-3.4**
FAKI	**Fak Fak**	**4.00**	**22**	P	**Pn**	**13 04 07.4**	**-3.3**
FAKI	**Fak Fak**	**4.00**	**22**	S	**Sn**	**13 04 53.2**	**-3.4**
FAKI	**Fak Fak**	**4.00**	**22**	P	**Pn**	**13 04 07.4**	**-3.3**
KMPI	**Kaimana, Papua**	**4.19**	**45**	P	**Pn**	**13 04 10.6**	**-2.6**
NLAI	**Namlea**	**4.97**	**313**	P	**Pn**	**13 04 22.2**	**-1.6**
DRS	**Darwin Rock St**	**5.74**	**178**	P	**Pn**	**13 04 33.3**	**-0.9**
SWI	**Sorong**	**5.78**	**5**	P	**Pn**	**13 04 30.8**	**-4.0**
	2.8nm6μm170nm,0.6s						
RKPI	**Ransiki, Papua**	**6.15**	**34**	P	**Pn**	**13 04 37.5**	**-2.4**
MTN	**Manton Dam**	**6.16**	**176**	Pn	**Pn**	**13 04 37.4**	**-2.6**
MTN	**Manton Dam**	**6.16**	**176**	P	**Pn**	**13 04 37.6**	**-2.3**
MTN	**Manton Dam**	**6.16**	**176**	S	**Sn**	**13 05 43.9**	**-5.1**
MTN	**Manton Dam**	**6.16**	**176**	P	**Pn**	**13 04 38.4**	**-1.6**
MTN	**Manton Dam**	**6.16**	**176**	S	**Sn**	**13 05 45.5**	**-3.5**
KDU	**Kakadu**	**6.23**	**164**	P	**Pn**	**13 04 38.0**	**-2.9**
KDU	**Kakadu**	**6.23**	**164**	S	**Sn**	**13 05 44.5**	**-6.1**
KDU	**Kakadu**	**6.23**	**164**	P	**Pn**	**13 04 38.2**	**-2.7**
KDU	**Kakadu**	**6.23**	**164**	S	**Sn**	**13 05 45.5**	**-5.2**
SANI	**Sanana**	**6.59**	**314**	P	**Pn**	**13 04 46.2**	**+0.3**
SANI	**Sanana**	**6.59**	**314**	S	**Sn**	**13 05 58.8**	**-0.8**
SANI	**Sanana**	**6.59**	**314**	P	**Pn**	**13 04 45.5**	**-0.4**
	0.8nm4μm241nm,0.9s						
SOEI	**Soe**	**7.11**	**244**	Pn	**Pn**	**13 04 51.7**	**-1.4**
SOEI	**Soe**	**7.11**	**244**	P	**Pn**	**13 04 52.6**	**-0.5**
SOEI	**Soe**	**7.11**	**244**	S	**Sn**	**13 06 10.1**	**-2.4**
SOEI	**Soe**	**7.11**	**244**	P	**Pn**	**13 04 52.1**	**-1.0**
	3μm4μm308nm,0.7s						
SRPI	**Serui, Papua**	**7.25**	**49**	P	**Pn**	**13 04 53.1**	**-1.8**
	0.7nm110nm,0.9s						
BAKI	**Biak**	**7.62**	**45**	P	**Pn**	**13 04 58.2**	**-1.7**
	1.3nm3μm442nm,0.9s						
BATI	**Baumata**	**7.84**	**243**	P	**Pn**	**13 05 02.3**	**-0.6**
TNTI	**Ternate**	**8.11**	**335**	P	**Pn**	**13 05 05.4**	**-1.2**
BBSI	**Bau Bau**	**8.21**	**278**	P	**Pn**	**13 05 08.4**	**+0.4**
	6μm508nm,1.3s						
WAMI	**Wamena**	**8.40**	**71**	P	**Pn**	**13 05 10.8**	**+0.3**
	9μm294nm,0.8s						
MMRI	**Maumere**	**8.66**	**256**	Pn	**Pn**	**13 05 13.2**	**-0.8**
MMRI	**Maumere**	**8.66**	**256**	P	**Pn**	**13 05 15.5**	**+1.5**
MMRI	**Maumere**	**8.66**	**256**	S	**Sn**	**13 06 49.7**	**-0.3**
MMRI	**Maumere**	**8.66**	**256**	P	**Pn**	**13 05 13.7**	**-0.3**
	3μm170nm,1.5s						
KNRA	**Kununurra**	**9.17**	**192**	Pn	**Pn**	**13 05 17.3**	**-3.7**
KNRA	**Kununurra**	**9.17**	**192**	P	**Pn**	**13 05 17.4**	**-3.7**
SMPI	**Sarmi**	**9.20**	**60**	P	**Pn**	**13 05 19.4**	**-2.0**
	156nm,1.1s						
LUWI	**Luwuk**	**9.71**	**305**	P	**Pn**	**13 05 28.9**	**+0.5**
LUWI	**Luwuk**	**9.71**	**305**	S	**Sn**	**13 07 14.5**	**-1.3**
LUWI	**Luwuk**	**9.71**	**305**	P	**Pn**	**13 05 28.1**	**-0.3**
	2μm157nm,1.2s						
MMPI	**Merauke**	**9.72**	**101**	P	**Pn**	**13 05 26.4**	**-2.1**
KMSI	**Cibinong**	**9.86**	**317**	P	**Pn**	**13 05 30.4**	**0.0**
	337nm,1.2s						
BSSI	**Bau Bau, Buton**	**10.21**	**272**	P	**Pn**	**13 05 35.7**	**+0.6**
	4μm286nm,1.4s						
GENI	**Genyem**	**10.22**	**67**	P	**Pn**	**13 05 33.9**	**-1.5**
GENI	**Genyem**	**10.22**	**67**	S	**Sn**	**13 07 26.7**	**-1.5**
GENI	**Genyem**	**10.22**	**67**	P	**Pn**	**13 05 33.7**	**-1.7**
	2μm141nm,0.9s						
BKSI	**Bulukumba**	**10.65**	**277**	P	**Pn**	**13 05 41.6**	**+0.4**
	1μm136nm,1.4s						
BASI	**Baing, Sumba**	**10.66**	**250**	P	**Pn**	**13 05 39.6**	**-1.7**
APSI	**Ampana**	**10.72**	**302**	P	**Pn**	**13 05 42.3**	**+0.2**
	2μm96nm,0.9s						
JAY	**Jayapura**	**10.74**	**68**	Pn	**Pn**	**13 05 38.4**	**-4.2**
	1.6nm,0.3s,baz=258,slow=9.5,SNR=12						
JAY				Sn	**Sn**	**13 07 35.4**	**-5.6**
	1.4nm,0.3s,baz=294,slow=23,SNR=7.2						
	48nm,1.0s						
JAY	**Jayapura**	**10.74**	**68**	P	**Pn**	**13 05 39.5**	**-3.0**
	53nm,1.0s						
KAPI	**Kappang**	**11.06**	**278**		Pn	13 05 41.6	-5.1
KAPI	**Kappang**	**11.06**	**278**	Pn	**Pn**	**13 05 46.8**	**+0.1**
	2.9nm,0.3s,baz=97,slow=13,SNR=15						
KAPI				Sn	**Sn**	**13 07 45.3**	**-3.2**
	1.4nm,0.3s,baz=78,slow=22,SNR=1.2						
KAPI				LR	LR	13 09 39.4	
	comp=Z,614nm,21.2s,baz=88,slow=37						
KAPI	**Kappang**	**11.06**	**278**	P	**Pn**	**13 05 47.5**	**+0.8**
KAPI	**Kappang**	**11.06**	**278**	S	**Sn**	**13 07 48.1**	**-0.4**
KAPI	**Kappang**	**11.06**	**278**	P	Pn	13 05 41.6	-5.1
SPSI	**Sidrap Palu**	**11.25**	**283**	P	**Pn**	**13 05 50.8**	**+1.4**
	53nm,1.2s						
MRSI	**Marisa**	**11.29**	**309**	P	**Pn**	**13 05 50.3**	**+0.4**
	2μm156nm,1.2s						
TTSI	**Tana Toraja**	**11.46**	**288**	P	**Pn**	**13 05 52.8**	**+0.6**
	3μm49nm,1.0s						
WBSI	**Waikabubak, Su**	**11.62**	**254**	P	**Pn**	**13 05 52.1**	**-2.3**
PCI	**Palu**	**12.29**	**297**	P	**Pn**	**13 06 03.2**	**-0.1**
	2μm132nm,1.1s						
FITZ	**Fitzroy Crossi**	**12.41**	**203**	P	Pn	13 05 58.8	-6.2
FITZ	**Fitzroy Crossi**	**12.41**	**203**	Pn	Pn	13 05 58.9	-6.1
	15nm,0.3s,baz=32,slow=11,SNR=199						
FITZ				Sn	Sn	13 08 06.3	-15
	27nm,0.3s,baz=116,slow=5.1,SNR=15						
	40nm,0.3s						
PLAI	**Plampang**	**13.03**	**260**	P	**Pn**	**13 06 10.8**	**-2.4**
PLAI	**Plampang**	**13.03**	**260**	P	**Pn**	**13 06 09.9**	**-3.3**
	1μm60nm,0.6s						
WB0	**Warramunga Arr**	**13.50**	**165**		Pn	13 06 13.4	-6.0
WRAB	**Tennant Creek**	**13.65**	**165**		Pn	13 06 15.4	-5.9
WRAB	**Tennant Creek**	**13.65**	**165**	*ce*P	Pn	13 06 15.7	-5.6
WRA	**Warramunga Arr**	**13.66**	**166**	Pn	Pn	13 06 15.4	-6.0
	7.2nm,0.3s,baz=348,slow=13,SNR=218						
WRA				Sn	Sn	13 08 35.6	-16
	5.5nm,0.3s,baz=344,slow=24,SNR=11						
WRA				LR	LR	13 12 26.7	
	comp=Z,854nm,21.4s,baz=340,slow=41						
	30nm,0.5s						
WB2	**Warramunga Arr**	**13.66**	**165**		Pn	13 06 15.4	-6.0
WB2	**Warramunga Arr**	**13.66**	**165**	P	Pn	13 06 16.1	-5.3
WR0	**Warramunga Arr**	**13.73**	**165**		Pn	13 06 16.0	-6.3
COEN	**Coen**	**14.21**	**122**	P	**Pn**	**13 06 24.4**	**-4.3**
COEN	**Coen**	**14.21**	**122**	P	**Pn**	**13 06 25.0**	**-3.6**
	comp=Z,86nm,0.8s						
COEN	**Coen**	**14.21**	**122**	P	**Pn**	**13 06 24.3**	**-4.3**
DAV	**Davao City (W)**	**14.58**	**339**	LR	LR	13 13 46.5	
	comp=Z,189nm,18.0s,baz=121,slow=45						
QIS	**Mount Isa**	**16.27**	**149**	P	**Pn**	**13 06 50.3**	**-4.4**
ABJI	**Asem Bagus**	**16.42**	**265**	P	**P**	**13 06 57.2**	**-0.5**
	comp=Z,51nm,0.9s						
PMG	**Port Moresby**	**16.48**	**101**	Pn	**P**	**13 06 59.0**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=279,slow=5.6,SNR=18						
PMG				Sn	Sn	13 09 48.2	-12
	comp=Z,2.2nm,0.3s,baz=174,slow=21,SNR=6.8						
PMG				LR	LR	13 14 18.6	
	comp=Z,356nm,20.1s,baz=276,slow=41						
JAGI	**Jajag, Banyuwa**	**16.55**	**263**	Pn	**Pn**	**13 06 55.0**	**-3.1**
JAGI	**Jajag, Banyuwa**	**16.55**	**263**	P	**Pn**	**13 06 54.9**	**-3.2**
	comp=Z,18nm,0.5s						
KMMI	**Kalianget**	**16.66**	**268**	P	**P**	**13 07 01.0**	**+0.6**
	comp=Z,1μmcomp=Z,72nm,1.1s						
MYLDM	**Lahad Datu**	**16.96**	**314**	P	**Pn**	**13 07 02.2**	**-1.0**
AS06	**Alice Springs**	**17.18**	**170**	P	**Pn**	**13 07 02.1**	**-3.7**
AS31	**Alice Springs**	**17.18**	**170**	P	**Pn**	**13 07 01.2**	**-4.7**
AS31	**Alice Springs**	**17.18**	**170**	P	**Pn**	**13 07 02.1**	**-3.8**
ASAR	**Alice Springs**	**17.18**	**170**	P	**Pn**	**13 07 03.8**	**-2.1**
	comp=Z,11nm,0.3s,baz=351,slow=12,SNR=736						
ASAR				S	Sn	13 10 02.3	-15
	comp=Z,64nm,0.8s,baz=350,slow=25,SNR=15						
ASAR				LR	LR	13 14 12.0	
	comp=Z,593nm,20.5s,baz=349,slow=39						
	comp=Z,56nm,0.6s						
AS01	**Alice Springs**	**17.19**	**170**	P	**Pn**	**13 07 03.0**	**-3.0**
AS19	**Alice Springs**	**17.23**	**170**	P	**Pn**	**13 07 03.0**	**-3.5**
GMJI	**Gumukmas**	**17.23**	**264**	P	**Pn**	**13 07 03.4**	**-3.1**
MTSU	**Mount Surprise**	**17.47**	**132**	P	**P**	**13 07 06.7**	**-2.6**
	comp=Z,30nm,0.7s						
MTSU	**Mount Surprise**	**17.47**	**132**	P	**P**	**13 07 07.0**	**-2.3**
MBWA	**Marble Bar**	**17.93**	**215**	P	**P**	**13 07 12.2**	**-2.1**
MBWA	**Marble Bar**	**17.93**	**215**	P	**P**	**13 07 13.1**	**-1.2**
	comp=Z,50nm,1.3s						
MBWA	**Marble Bar**	**17.93**	**215**	P	**P**	**13 07 13.7**	**-0.6**
GRJI	**Gresik**	**18.14**	**268**	P	**Pn**	**13 07 18.3**	**+0.7**
	comp=Z,143nm,1.0s						
PSAC1	**Pilbara Seismi**	**18.18**	**214**	P	**P**	**13 07 15.6**	**-1.5**
	comp=Z,96nm,0.8s						
PSA00	**Pilbara Seismi**	**18.19**	**214**	P	**P**	**13 07 15.1**	**-2.1**
PSA00	**Pilbara Seismi**	**18.19**	**214**	P	**P**	**13 07 16.4**	**-0.8**
	comp=Z,72nm,0.9s						
PSA00	**Pilbara Seismi**	**18.19**	**214**	P	**P**	**13 07 16.9**	**-0.3**
WRKA	**Warakurna**	**18.43**	**187**	P	**P**	**13 07 17.2**	**-2.6**
WRKA	**Warakurna**	**18.43**	**187**	P	**P**	**13 07 17.6**	**-2.2**
KKM	**Kota Kinabalu**	**19.22**	**311**	P	**P**	**13 07 26.4**	**-2.3**
KKM				IAmb	IAmb	13 07 30.7	
	comp=Z,206nm,1.9s						
KKM	**Kota Kinabalu**	**19.22**	**311**	P	**P**	**13 07 27.9**	**-0.7**
PCJI	**Pacitan**	**19.46**	**264**	P	**P**	**13 07 30.2**	**-1.0**
	comp=Z,38nm,0.6s						
STKI	**Sintang**	**20.35**	**288**	P	Pn	13 07 42.3	-1.4
	comp=Z,60nm,0.9s						
SBUM	**Sibu**	**20.59**	**295**	P	**P**	**13 07 41.9**	**-1.4**
SBUM	**Sibu**	**20.59**	**295**	P	**P**	**13 07 43.0**	**-0.3**
OOD	**Oodnadatta**	**21.54**	**168**	P	**P**	**13 07 53.9**	**+0.5**
KSM	**Kuching**	**21.94**	**291**	P	**P**	**13 07 57.7**	**-0.1**
CMJI	**Cimerak**	**22.15**	**266**	P	**P**	**13 08 00.3**	**+0.3**
	comp=Z,49nm,1.0s						
GIRL	**Giralia**	**22.49**	**223**	P	**P**	**13 08 03.5**	**-0.1**
GIRL	**Giralia**	**22.49**	**223**	P	**P**	**13 08 04.6**	**+1.1**
	comp=Z,300nm,1.7s						
BBJI	**Bungbulang**	**22.93**	**267**	P	**P**	**13 08 08.1**	**-0.1**
LEM	**Lembang**	**22.97**	**268**	P	**P**	**13 08 04.4**	**-4.3**
	comp=Z,8.0nm,0.3s,baz=96,slow=8.5,SNR=4.1						
	comp=Z,8.0nm,0.3s						
LEM	**Lembang**	**22.97**	**268**	P	**P**	**13 08 08.1**	**-0.6**
	comp=Z,34nm,0.8s						
MEEK	**Meekatharra**	**22.98**	**209**	P	**P**	**13 08 07.2**	**-1.4**
	comp=Z,47nm,1.2s						
MEEK	**Meekatharra**	**22.98**	**209**	P	**P**	**13 08 08.3**	**-0.3**
INKA	**Innaminka**	**23.02**	**157**	P	**P**	**13 08 09.7**	**+0.9**
TPI	**Tanjungpandan**	**23.33**	**278**	P	**P**	**13 08 11.5**	**-0.5**
CNJI	**Cibinong**	**23.45**	**267**	P	**P**	**13 08 09.7**	**-3.3**
	comp=Z,37nm,0.9s						
QLP	**Quilpie**	**23.61**	**149**	P	**P**	**13 08 15.8**	**+1.4**
	comp=Z,272nm,1.3s						
QLP	**Quilpie**	**23.61**	**149**	P	**P**	**13 08 15.6**	**+1.2**
FORT	**Forrest**	**24.13**	**186**	P	**P**	**13 08 19.4**	**+0.5**
	comp=Z,202nm,0.9s						
FORT	**Forrest**	**24.13**	**186**	P	**P**	**13 08 19.6**	**+0.7**
LCRK	**Leigh Creek**	**24.68**	**164**	P	**P**	**13 08 25.1**	**+1.1**
CGJI	**Cibinong**	**24.88**	**269**	P	**P**	**13 08 25.9**	**-0.1**
	comp=Z,1μmcomp=Z,27nm,0.8s						
RK1H	**Rockhampton Ha**	**25.25**	**133**	P	**P**	**13 08 31.2**	**+2.0**
KMBL	**Kambalda**	**25.94**	**198**	P	**P**	**13 08 36.3**	**+0.8**
	comp=Z,114nm,0.9s						
KMBL	**Kambalda**	**25.94**	**198**	P	**P**	**13 08 36.0**	**+0.6**
GD1S	**Gladstone Soft**	**26.01**	**133**	P	**P**	**13 08 37.6**	**+1.5**
MORW	**Morawa**	**26.26**	**210**	P	**P**	**13 08 35.4**	**-2.9**
MORW	**Morawa**	**26.26**	**210**	P	**P**	**13 08 38.4**	**+0.1**
	comp=Z,31nm,1.3s						
MORW	**Morawa**	**26.26**	**210**	P	**P**	**13 08 39.5**	**+1.2**
BBOO	**Buckleboo**	**26.49**	**170**	P	**P**	**13 08 39.5**	**-0.8**
BBOO				IAmb	IAmb	13 08 41.9	
	comp=Z,37nm,0.8s						
BBOO	**Buckleboo**	**26.49**	**170**	P	**P**	**13 08 40.5**	**+0.2**
	comp=Z,50nm,1.0s						
BBOO	**Buckleboo**	**26.49**	**170**	P	**P**	**13 08 40.9**	**+0.6**
EIDS	**Eidsvold**	**26.91**	**136**	P	**P**	**13 08 43.8**	**-0.3**
EIDS	**Eidsvold**	**26.91**	**136**	P	**P**	**13 08 45.1**	**+0.9**
EIDS	**Eidsvold**	**26.91**	**136**	P	**P**	**13 08 45.6**	**+1.4**
WHYH	**Whyalla**	**27.00**	**167**	P	**P**	**13 08 46.1**	**+1.2**
STKA	**Stephens Creek**	**27.06**	**159**	P	**P**	**13 08 46.1**	**+0.7**
STKA	**Stephens Creek**	**27.06**	**159**	P	**P**	**13 08 46.4**	**+0.9**
	comp=Z,164nm,0.8s						
STKA	**Stephens Creek**	**27.06**	**159**	P	**P**	**13 08 46.5**	**+1.0**
	comp=Z,22nm,0.7s,baz=338,slow=8.5,SNR=29						
STKA				LR	LR	13 20 49.9	
	comp=Z,741nm,18.6s,baz=331,slow=39						
	comp=Z,22nm,0.7s						
STKA	**Stephens Creek**	**27.06**	**159**	P	**P**	**13 08 46.6**	**+1.2**
STKA	**Stephens Creek**	**27.06**	**159**	*d*P	**P**	**13 08 47.0**	**+1.6**
BLDU	**Ballidu**	**27.23**	**207**	P	**P**	**13 08 47.8**	**+0.7**
	comp=Z,30nm,1.0s						
BLDU	**Ballidu**	**27.23**	**207**	P	**P**	**13 08 47.7**	**+0.7**
KLBR	**Kellerberrin**	**27.62**	**204**	P	**P**	**13 08 50.9**	**+0.4**
	comp=Z,88nm,0.8s						
KLBR	**Kellerberrin**	**27.62**	**204**	P	**P**	**13 08 50.9**	**+0.4**
HTT	**Hallett**	**27.70**	**165**	P	**P**	**13 08 52.1**	**+0.8**
	comp=Z,29nm,0.8s						
HTT	**Hallett**	**27.70**	**165**	P	**P**	**13 08 52.3**	**+1.1**
CMSA	**Cobar Meteorol**	**28.43**	**152**	P	**P**	**13 08 59.1**	**+1.4**
	comp=Z,104nm,1.0s						
CMSA	**Cobar Meteorol**	**28.43**	**152**	P	**P**	**13 08 59.0**	**+1.4**
MUN	**Mundaring**	**28.61**	**206**	P	**P**	**13 08 59.8**	**+0.5**
	comp=Z,33nm,2.2s						
NWAO	**Narrogin (SRO)**	**29.00**	**204**	P	**P**	**13 09 03.3**	**+0.6**
NWAO				IAmb	IAmb	13 09 04.4	
	comp=Z,61nm,1.2s						
NWAO	**Narrogin (SRO)**	**29.00**	**204**	P	**P**	**13 09 03.0**	**+0.2**
	comp=Z,84nm,2.1s						
NWAO	**Narrogin (SRO)**	**29.00**	**204**	LR	LR	13 22 21.3	
	comp=Z,306nm,19.3s,baz=38,slow=40						
NWAO	**Narrogin (SRO)**	**29.00**	**204**	P	**P**	**13 09 03.3**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,61nm,1.3s						
HNR	**Honiara**	**29.04**	**97**	LR	LR	13 21 44.2	
	comp=Z,270nm,18.9s,baz=250,slow=38						
ALEG	**Aligegeo Malai**	**29.75**	**96**	P	**P**	**13 09 09.2**	**-0.4**
PPI	**Padang Panjang**	**30.89**	**280**	P	**P**	**13 09 20.0**	**+0.3**
	comp=Z,30nm,1.3s						
ARPS	**Mount Arapiles**	**31.64**	**163**	P	**P**	**13 09 26.9**	**+1.0**
	comp=Z,61nm,0.7s						
ARPS	**Mount Arapiles**	**31.64**	**163**	P	**P**	**13 09 27.5**	**+1.6**
YNG	**Young**	**31.98**	**152**	P	**P**	**13 09 29.1**	**+0.1**
	comp=Z,447nm,1.2s						
YNG	**Young**	**31.98**	**152**	P	**P**	**13 09 30.9**	**+1.9**
QIZ	**Qiongzhong**	**32.80**	**321**	P	**P**	**13 09 35.5**	**-0.8**
QIZ				S	**S**	**13 14 47.3**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,41nm,1.8s						
QIZ				LR	LR		
	comp=N,200nm,13.7s						
QIZ				LR	LR		
	comp=E,190nm,16.5s						
QIZ				LR	LR		
	comp=Z,170nm,15.8s						
RPSI	**Rantau Prapat**	**33.10**	**285**	P	**P**	**13 09 37.7**	**-1.3**
RPSI				IAmb	IAmb	13 10 06.6	
	comp=Z,24nm,1.0s						
CAN	**Canberra**	**33.10**	**152**	P	**P**	**13 09 39.8**	**+1.0**
CAN	**Canberra**	**33.10**	**152**	P	**P**	**13 09 41.1**	**+2.3**
CAN	**Canberra**	**33.10**	**152**	P	**P**	**13 09 41.4**	**+2.6**
CAN	**Canberra**	**33.10**	**152**	P	**P**	**13 09 39.8**	**+1.0**
CAN				pmax	pmax		
	comp=Z,64nm,0.9s						
CAN	**Canberra**	**33.10**	**152**	P	**P**	**13 09 41.1**	**+2.3**
PSI	**Prapat**	**33.13**	**285**	P	**P**	**13 09 41.0**	**+1.6**
PSI	**Prapat**	**33.13**	**285**	P	**P**	**13 09 37.7**	**-1.7**
PSI				pmax	pmax		
	comp=Z,25nm,1.0s						
UBPT	**Khong Chiam**	**33.20**	**311**	P	**P**	**13 09 38.4**	**-1.5**
UBPT				IAmb	IAmb	13 09 39.7	
	comp=Z,28nm,0.9s						
UBPT	**Khong Chiam**	**33.20**	**311**	P	**P**	**13 09 39.0**	**-0.9**
CNB	**Canberra Magne**	**33.27**	**152**	P	**P**	**13 09 40.7**	**+0.4**
	comp=Z,42nm,1.2s						
CNB	**Canberra Magne**	**33.27**	**152**	P	**P**	**13 09 42.8**	**+2.5**
JOW	**Kunigami**	**33.38**	**356**	LR	LR	13 23 50.3	
	comp=Z,43nm,18.2s,baz=253,slow=38						
TOO	**Toolangi**	**33.57**	**159**	P	**P**	**13 09 46.0**	**+3.1**
JCJ	**Chichijima**	**35.34**	**18**	LR	LR	13 24 46.8	
	comp=Z,31nm,19.4s,baz=252,slow=37						
NONG	**Nongkai**	**36.68**	**312**	P	**P**	**13 10 08.3**	**-1.5**
SANVU	**Saraoutou**	**36.78**	**107**	P	**P**	**13 10 12.6**	**+1.9**
BSI	**Banda Aceh**	**37.38**	**288**	P	**P**	**13 10 15.4**	**-0.4**
	comp=Z,21nm,1.4s						
SRDT	**SRDT**	**37.68**	**304**	P	**P**	**13 10 17.6**	**-0.7**
DZM	**Mont Dzumac**	**37.69**	**118**	LR	LR	13 25 54.5	
	comp=Z,122nm,19.9s,baz=179,slow=36						
DZM	**Mont Dzumac**	**37.69**	**118**	P	**P**	**13 10 20.1**	**+1.6**
YATNC	**Mamie plateau,**	**38.08**	**117**	P	**P**	**13 10 22.9**	**+1.3**
SLVN	**Son La**	**38.31**	**317**	IAmb	IAmb	13 10 45.8	
	comp=Z,24nm,1.2s						
SLVN	**Son La**	**38.31**	**317**	P	**P**	**13 10 23.6**	**0.0**
JNU	**Nakatsue**	**39.56**	**0**	LR	LR	13 24 53.5	
	comp=Z,82nm,21.1s,baz=150,slow=33						
CMAR	**Chiang Mai Arr**	**40.09**	**309**	P	**P**	**13 10 36.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**40.09**	**309**	P	**P**	**13 10 37.6**	**-0.8**
	comp=Z,7.8nm,1.0s,baz=138,slow=7.6,SNR=52						
CMAR				PcP	**PcP**	**13 12 43.5**	**+1.9**
	comp=Z,2.8nm,0.9s,baz=171,slow=2.8,SNR=4.3						
	comp=Z,7.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**40.09**	**309**	*ce*P	**P**	**13 10 37.5**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NJ2	**Nanjing**	**40.13**	**344**	⇓*i*P	**P**	**13 10 38.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,19nm,0.8s						
WHN	**Wuhan**	**40.19**	**338**	⇓P	**P**	**13 10 39.7**	**+0.7**
WHN				pP	**pP**	**13 11 01.4**	**+2.8**
WHN				pmax	pmax		
	comp=Z,100nm,1.1s						
CHTO	**Chiang Mai**	**40.29**	**309**	P	**P**	**13 10 38.5**	**-1.6**
CHTO				IAmb	IAmb	13 10 40.3	
	comp=Z,27nm,1.1s						
CHTO	**Chiang Mai**	**40.29**	**309**	P	**P**	**13 10 38.5**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,27nm,1.1s						
JHJ	**Hachijo jima 2**	**40.48**	**12**	LR	LR	13 26 41.5	
	comp=Z,96nm,18.6s,baz=89,slow=35						
KMI	**Kunming**	**41.72**	**320**	⇑P	**P**	**13 10 51.9**	**0.0**
KMI				sP	pP	13 11 13.9	+1.7
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH	**PanZhiHua**	**43.33**	**321**	P	**P**	**13 11 03.8**	**-1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,170nm,5.5s						
MJAR	**Matsushiro Arr**	**43.54**	**9**	P	**P**	**13 11 05.0**	**-1.2**
	comp=Z,9.3nm,0.9s,baz=183,slow=9.3,SNR=13						
	comp=Z,9.3nm,0.9s						
MJAR	**Matsushiro Arr**	**43.54**	**9**	P	**P**	**13 11 05.0**	**-1.2**
MAJO	**Matsushiro**	**43.54**	**9**	⇓*e*P	**P**	**13 11 03.6**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,147nm,4.0s						
MAJO	**Matsushiro**	**43.54**	**9**	P	**P**	**13 11 05.2**	**-1.0**
MAJO				pP	**pP**	**13 11 27.7**	**+1.9**
KSRS	**Korea Array**	**43.96**	**357**	P	**P**	**13 11 09.7**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=172,slow=8.7,SNR=11						
	comp=Z,2.1nm,0.6s						
LYN	**LuoYang**	**44.48**	**338**	P	**P**	**13 11 13.2**	**-0.5**
LYN				pP	pP	13 11 31.7	-2.1
LYN				pmax	pmax		
	comp=Z,22nm,0.7s						
XAN	**Xi'an**	**45.45**	**334**	⇓P	**P**	**13 11 20.5**	**-1.0**
XAN				pP	pP	13 11 41.6	+0.3
XAN				PcP	**PcP**	**13 13 00.3**	**+1.1**
XAN				ScP	**ScP**	**13 16 46.6**	**+2.7**
XAN				pmax	pmax		
	comp=Z,29nm,1.1s						
XAN	**Xi'an**	**45.45**	**334**	P	**P**	**13 11 20.4**	**-1.0**
XAN				pP	**pP**	**13 11 41.8**	**+0.5**
HNS	**HongShan**	**46.32**	**342**	⇑P	**P**	**13 11 27.5**	**-0.7**
HNS				pmax	pmax		
	comp=Z,27nm,1.0s		

comp=Z,126nm,2.5s
ULN Ulaanbaatar 58.17 341 P **P** **13 12 55.4 -0.6**
ULN IAmb IAmb 13 12 57.6
comp=Z,16nm,0.8s
ULN Ulaanbaatar 58.17 341 *c eP* **P** **13 12 56.6 +0.5**
ULN pmax pmax
comp=Z,20nm,0.9s
ULN Ulaanbaatar 58.17 341 P **P** **13 12 56.5 +0.5**
ULN pP **pP** **13 13 18.8 +2.2**
ULN sP **sP** **13 13 29.5 +3.5**
SONM Songino Array 58.36 341 P **P** **13 12 55.5 -1.8**
SONM Songino Array 58.36 341 P **P** **13 12 57.7 +0.4**
comp=Z,4.6nm,0.6s,baz=158,slow=6.8,SNR=28
comp=Z,4.6nm,0.6s
ZEA Zeya 60.24 358 *e P* **P** **13 13 10.6 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
DRV Dumont d'Urvil 60.25 176 P **P** **13 13 11.7 +1.9**
DRV PcP **PcP** **13 13 55.6 +1.3**
MOY Mondy 63.45 340 *e P* **P** **13 13 32.5 +0.8**
MOY pmax pmax
comp=Z,31nm,2.0s
WMQ Urumqi 63.52 326 *e P* **P** **13 13 32.8 +0.6**
WMQ sP pP 13 13 54.6 +1.4
WMQ PcP **sP** **13 14 04.4 +1.9**
WMQ pmax pmax
comp=Z,23nm,0.9s
PEA0B Petropavlovsk- 63.77 18⇓ *e P* **P** **13 13 35.1 +1.5**
PETK Petropavlovsk- 63.77 18 P **P** **13 13 33.5 -0.1**
PETK Petropavlovsk- 63.77 18 P **P** **13 13 34.6 +1.0**
comp=Z,10nm,0.8s,baz=168,slow=2.8,SNR=23
comp=Z,10nm,0.8s
ZSN Zaisan 67.37 328 *e P* **P** **13 13 56.9 0.0**
ZSN pmax pmax
comp=Z,12nm,0.9s
ZSN Zaisan 67.37 328 *e P* **P** **13 13 57.0 0.0**
comp=Z,12nm,0.9s
NIL Nilore 67.56 310 P **P** **13 13 57.2 -1.2**
NIL Nilore 67.56 310 P **P** **13 13 57.2 -1.2**
NIL pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 67.56 310 P **P** **13 13 58.2 -0.2**
SHLS Shalkode 67.90 322 *e P* **P** **13 13 58.8 -1.7**
SHLS pmax pmax
comp=Z,18nm,1.2s
SHLS Shalkode 67.90 322 *e P* **P** **13 13 58.9 -1.7**
comp=Z,18nm,1.2s
MA2 Magadan 67.92 11 P **P** **13 14 00.7 +0.6**
comp=Z,4.1nm,0.7s,baz=183,slow=5.7,SNR=6.5
comp=Z,4.1nm,0.7s
MA2 Magadan 67.92 11⇑ *i P* **P** **13 14 00.8 +0.6**
MA2 pmax pmax
comp=Z,11nm,1.2s
MA2 Magadan 67.92 11 P **P** **13 14 00.7 +0.6**
MA2 pP **PcP** **13 14 23.6 -2.3**
PDGK Podgornoye 67.98 322 P **P** **13 14 00.2 -0.8**
UZB Uzynbulak 68.17 322 *e P* **P** **13 14 02.0 -0.2**
UZB pmax pmax
comp=Z,15nm,1.3s
UZB Uzynbulak 68.17 322 *e P* **P** **13 14 02.0 -0.2**
comp=Z,15nm,1.3s
KSH Kashi 68.27 317 P **P** **13 14 03.5 +0.6**
KSH sP PcP 13 14 26.5 -1.5
KSH pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 68.35 326 IAmb IAmb 13 14 04.5
comp=Z,24nm,1.1s
MK31 Makanchi Array 68.35 326 *c i P* **P** **13 14 03.1 0.0**
MKAR Makanchi Array 68.35 326 P **P** **13 14 03.1 0.0**
MKAR Makanchi Array 68.35 326 P **P** **13 14 03.4 +0.2**
comp=Z,6.8nm,0.4s,baz=119,slow=8.2,SNR=138
comp=Z,6.8nm,0.4s
YAK Yakutsk 68.49 359 P **P** **13 14 02.5 -1.1**
YAK Yakutsk 68.49 359 P **P** **13 14 04.1 +0.6**
comp=Z,38nm,0.6s,baz=88,slow=0.9,SNR=3.6
comp=Z,38nm,0.6s
YAK Yakutsk 68.49 359 *e P* **P** **13 14 03.0 -0.6**
YAK *e* 13 14 27.6
YAK *e* 13 16 34.4
YAK *e* S **S** **13 22 58.6 +0.5**
YAK *e** SS **sS** **13 23 35.2 0.0**
YAK *e* 13 23 55.0
YAK *e* SS **SS** **13 27 24.3 +0.4**
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,311nm,5.4s
YAK pmax pmax
comp=N,299nm,5.2s
YAK pmax pmax
comp=E,163nm,6.8s
YAK smax smax
comp=E,153nm,5.4s
YAK smax smax
comp=N,157nm,5.7s
YAK Yakutsk 68.49 359 P **P** **13 14 03.6 0.0**
SATY Saty 68.50 321 *e P* **P** **13 14 04.1 -0.1**
SATY pmax pmax
comp=Z,12nm,1.1s
SATY Saty 68.50 321 *e P* **P** **13 14 04.2 -0.1**
comp=Z,12nm,1.1s
CCD Concordia, Ant 68.53 182 P **P** **13 14 06.3 +2.1**
CCD pP **pwP** **13 14 30.3 -0.2**
MAKZ Makanchi 68.53 326 P **P** **13 14 03.6 -0.7**
MAKZ IAmb IAmb 13 14 05.5
comp=Z,37nm,1.2s
MAKZ Makanchi 68.53 326 P **P** **13 14 03.6 -0.7**
MAKZ pmax pmax
comp=Z,37nm,1.2s
MAKZ Makanchi 68.53 326 P **P** **13 14 04.2 0.0**
MAKZ pP **PcP** **13 14 27.1 -1.7**
MAKZ sP **sP** **13 14 38.9 +4.1**
KPKS Kokpek 68.55 322 *e P* **P** **13 14 04.5 0.0**
KPKS pmax pmax
comp=Z,16nm,1.3s
KPKS Kokpek 68.55 322 *e P* **P** **13 14 04.5 0.0**
comp=Z,16nm,1.3s
TNSS Tian-Shan 69.40 321 *e P* **P** **13 14 09.7 -0.5**
TNSS Tian-Shan 69.40 321 *e P* **P** **13 14 09.7 -0.5**
AAA Alma-Ata 69.51 321 *e P* **P** **13 14 10.5 +0.1**
AAA pmax pmax
comp=Z,19nm,0.6s
AAA Alma-Ata 69.51 321 *e P* **P** **13 14 10.5 +0.1**
comp=Z,18nm,0.6s
TDK Taldyqorghan 69.55 323 *e P* **P** **13 14 10.5 -0.1**
TDK pmax pmax
comp=Z,11nm,1.0s
TDK Taldyqorghan 69.55 323 *e P* **P** **13 14 10.5 -0.1**
comp=Z,11nm,1.0s
BOOM Boomskoye usch 69.76 320 IAmb IAmb 13 14 36.7
comp=Z,25nm,1.2s
TKM2 Tokmak 2 70.19 320 P **P** **13 14 15.1 +0.3**
SNR=9.5
TKM2 Tokmak 2 70.19 320 P **P** **13 14 14.9 +0.1**
AAK Ala-Archa 70.76 319 P **P** **13 14 17.4 -0.8**
AAK Ala-Archa 70.76 319 P **P** **13 14 19.4 +1.2**
SNR=14
AAK Ala-Archa 70.76 319⇓ *i P* **P** **13 14 18.4 +0.2**
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 70.76 319 P **P** **13 14 18.8 +0.5**
AAK pP **pP** **13 14 41.5 +1.9**
AML Almayashu 71.04 319 P **P** **13 14 21.0 +0.8**
SNR=26
USP Ospenovka 71.06 320 P **P** **13 14 20.4 +0.5**
SNR=12
KBL Kabul 71.11 310 P **P** **13 14 19.5 -1.1**
KBL Kabul 71.11 310 P **P** **13 14 19.5 -1.1**
KBL pmax pmax
comp=Z,13nm,1.0s
EKS2 Erkin-Say 71.24 319 P **P** **13 14 22.0 +0.9**
SNR=9.8
SEY Seymchan 71.34 10⇑ *e P* **P** **13 14 21.7 +0.7**
SEY pmax pmax
comp=Z,32nm,1.7s
ZAA0 Zalesovo Array 71.61 333 IAmb IAmb 13 14 46.3
comp=Z,20nm,1.0s
ZALV Zalesovo Beam 71.61 333 P **P** **13 14 21.7 -1.2**
ZALV Zalesovo Beam 71.61 333 P **P** **13 14 22.1 -0.8**
comp=Z,18nm,0.9s,baz=130,slow=6.3,SNR=50
comp=Z,18nm,0.9s

BTK Batken 72.05 316 IAmb IAmb 13 14 50.5
comp=Z,49nm,1.8s
KURBB Kurchatov Arra 72.61 328 P **P** **13 14 28.8 -0.1**
comp=Z,11nm,0.9s,baz=127,slow=4.6,SNR=134
comp=Z,11nm,0.9s
KURK Kurchatov 72.61 328 P **P** **13 14 27.9 -1.0**
KURK IAmb IAmb 13 14 53.1
comp=Z,39nm,1.2s
KURK Kurchatov 72.61 328 *d i P* **P** **13 14 27.9 -1.0**
KURK pmax pmax
comp=Z,29nm,1.3s
VNDA Vanda 72.70 173 P **P** **13 14 30.1 +1.1**
VNDA IAmb IAmb 13 14 32.0
comp=Z,19nm,0.9s
VNDA Vanda 72.70 173 P **P** **13 14 30.9 +1.9**
comp=Z,14nm,0.8s,baz=326,slow=7.1,SNR=22
comp=Z,14nm,0.8s
SIMJ Simiganj 72.75 314 P **P** **13 14 29.1 -1.0**
SIMJ IAmb IAmb 13 14 54.0
comp=Z,31nm,1.1s
DZA Taraz 72.94 319 *e P* **P** **13 14 31.0 -0.1**
DZA Taraz 72.94 319 *e P* **P** **13 14 31.1 -0.1**
IUG Iuzhnay 73.48 317 *e P* **P** **13 14 34.2 -0.2**
IUG pmax pmax
comp=Z,19nm,1.1s
IUG Iuzhnay 73.48 317 *e P* **P** **13 14 34.3 -0.2**
comp=Z,19nm,1.1s
KK31 Karatay Array 73.57 318 IAmb IAmb 13 14 59.1
comp=Z,28nm,1.2s
KK31 Karatay Array 73.57 318 *i P* **P** **13 14 34.4 -0.4**
KKAR Karatay Array 73.57 318 P **P** **13 14 33.9 -0.9**
KKAR Karatay Array 73.57 318 P **P** **13 14 33.9 -0.9**
BRLS Borolday 73.99 318 *e P* **P** **13 14 37.2 0.0**
BRLS Borolday 73.99 318 *e P* **P** **13 14 37.3 0.0**
OTUK Ortayu 74.80 324 P **P** **13 14 41.6 -0.2**
BRZS Berezniki 75.45 326 *e P* **P** **13 14 45.5 0.0**
BRZS Berezniki 75.45 326 *e P* **P** **13 14 45.6 0.0**
TIXI Tiksi 78.16 359 P **P** **13 14 59.1 -1.1**
TIXI Tiksi 78.16 359⇑ *e P* **P** **13 14 59.3 -0.9**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
BVA0 Borovoye Array 78.17 328 *i P* **P** **13 15 00.3 -0.4**
BVAR Borovoye Array 78.17 328 P **P** **13 15 00.5 -0.2**
comp=Z,8.7nm,0.7s,baz=129,slow=5.9,SNR=37
comp=Z,8.7nm,0.7s
PPT Papeete 78.21 107 P **P** **13 15 04.1 +2.4**
comp=Z,32nm,0.9s,baz=63,slow=8.1,SNR=2.6
PPT LR LR 13 47 11.5
comp=Z,29nm,18.0s,baz=307,slow=34
comp=Z,32nm,0.9s
BRVK Borovoye 78.24 328 P **P** **13 15 00.2 -0.9**
BRVK Borovoye 78.24 328 *c i P* **P** **13 15 00.8 -0.3**
BRVK pmax pmax
comp=Z,14nm,0.8s
VOI Vohitsoka 81.96 249 P **P** **13 15 21.2 -0.8**
VOI IAmb IAmb 13 15 31.2
comp=Z,39nm,1.5s
AB31 Akbulak array 82.70 321 *i P* **P** **13 15 24.5 -0.6**
ABKAR Akbulak array 82.70 321 P **P** **13 15 23.0 -2.1**
QSPA South Pole Qui 83.32 180 P **P** **13 15 27.2 -0.9**
QSPA South Pole Qui 83.32 180 P **P** **13 15 29.3 +1.2**
comp=Z,26nm,0.8s,baz=269,slow=0.4,SNR=211
comp=Z,26nm,0.8s
SYO Syowa Base 84.25 201⇓ *e P* **P** **13 15 34.0 +1.4**
SVE Sverdlovsk 84.86 329 *e P* **P** **13 15 36.3 +0.4**
SVE pmax pmax
comp=Z,22nm,1.1s
L14K Kuka Creek 84.87 26 IAmb IAmb 13 15 38.5
comp=Z,32nm,1.1s
ARTI Arti 85.89 328 P **P** **13 15 39.7 -1.4**
ARTI Arti 85.89 328 *c i P* **P** **13 15 40.6 -0.4**
ARTI *PP **pP** **13 15 59.8 -3.3**
ARTI 13 18 59.5
ARTI S **SKSac** **13 26 00.4 +2.0**
ARTI pmax pmax
comp=Z,15nm,1.0s
RAYN Ar Rayn 88.29 294 P **P** **13 15 52.6 -0.8**
RAYN Ar Rayn 88.29 294 P **P** **13 15 52.6 -0.8**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
G19K Purcell Mounta 88.94 23 IAmb IAmb 13 16 20.5
comp=Z,18nm,1.2s
H19K Roundabout Mou 88.99 23 IAmb IAmb 13 15 58.6
comp=Z,12nm,1.2s
ELIB Princess Elisa 89.04 197 *d P* **P** **13 15 58.4 +2.3**
comp=Z,9.6nm,1.2s
KIRV Kirov 91.13 329⇑ *e P* **P** **13 16 04.1 -1.7**
G23K Bananza Creek 91.83 23 IAmb IAmb 13 16 34.2
comp=Z,9.3nm,1.1s
COLD Coldfoot 91.87 22 IAmb IAmb 13 16 34.8
comp=Z,8.4nm,1.0s
GEVA Gevas 92.27 308 IAmb IAmb 13 16 36.8
comp=Z,11nm,1.1s
CCB Clear Creek Bu 92.31 25 P **P** **13 16 10.3 -0.9**
CCB IAmb IAmb 13 16 35.4
comp=Z,12nm,1.1s
COLA College 92.34 25⇑ *e P* **P** **13 16 10.8 -0.5**
COLA pmax pmax
comp=Z,33nm,4.0s
ILAR Eielson Array 92.72 25 P **P** **13 16 11.9 -1.2**
comp=Z,1.9nm,0.8s,baz=267,slow=4.3,SNR=21
KMBO Kilima Mbogo 93.34 268 P **P** **13 16 17.6 +0.2**
comp=Z,1.0nm,0.4s,baz=65,slow=7.2,SNR=4.2
comp=Z,1.0nm,0.4s
E25K Arctic Village 93.78 22 IAmb IAmb 13 16 43.8
comp=Z,9.0nm,1.1s
BMAR Burnt Mountain 94.05 23 P **P** **13 16 19.1 -0.2**
J26L Joseph Creek 94.10 26 IAmb IAmb 13 16 44.4
comp=Z,9.3nm,1.1s
TROLL Troll, Antarti 94.67 194 ⇑P **P** **13 16 24.2 +2.0**
comp=Z,518nm,1.1s
BELA Belgrano 2 95.20 183 P **P** **13 16 25.0 +0.7**
BELA IAmb IAmb 13 16 25.8
comp=Z,14nm,1.2s
DAWY Dawson 95.88 26 P **P** **13 16 27.5 -0.1**
DAWY IAmb IAmb 13 16 53.5
comp=Z,12nm,1.1s
SNAA Sanae 96.17 193 ⇑P **P** **13 16 30.9 +2.0**
comp=Z,148nm,1.1s
SNAA Sanae 96.17 193 P **P** **13 16 30.6 +1.7**
comp=Z,5.4nm,0.9s,baz=39,slow=6.9,SNR=6.5
comp=Z,5.4nm,0.9s
SNAA Sanae 96.17 193⇑ *e P* **P** **13 16 30.2 +1.3**
SNAA pmax pmax
comp=Z,39nm,2.8s
KLMR Klimovskoe 96.36 330 *e P* P 13 16 24.3 -5.5
KLMR pmax pmax
comp=Z,16nm,1.7s
ARCES ARCESS Array B 101.52 340 P **Pdif** **13 16 52.5 -0.3**
comp=Z,14nm,1.2s,baz=78,slow=4.9,SNR=3.6
MNK Minsk 102.86 324 *i P* **Pdif** **13 16 55.7 -3.3**
MNK *i* 13 21 11.3
MNK *i* PPP PPP 13 23 20.9
MNK *i* S **SKSac** **13 27 29.9 -0.4**
MNK *i* SS **SS** **13 35 48.5 +0.9**
MNK *i* SSS SSS 13 39 43.6
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,17nm,1.0s
MNK MLR MLR
comp=Z,155nm,16.0s
MNK MLR MLR
comp=N,451nm,22.0s
MNK MLR MLR
comp=E,560nm,21.0s
YKA Yellowknife Ar 107.12 26 PKKPbc PKKPbc 13 32 43.9 -2.3
comp=E,0.3nm,0.8s,baz=110,slow=2.7,SNR=4.8
NVAR Mina Array Bea 110.50 52 PKKPab PKKPab 13 32 45.6 +1.0
comp=E,0.6nm,0.8s,baz=161,slow=3.0,SNR=4.9
PDAR Pinedale Array 116.12 45 PKP **PKiKP** **13 21 45.8 +1.2**
comp=E,0.6nm,0.8s,baz=254,slow=1.1,SNR=6.0
PDAR PKKPbc **PKKPbc** **13 32 15.6 -0.6**
comp=E,1.1nm,0.9s,baz=104,slow=6.3,SNR=7.1
EKA Eskdalemuir Ar 119.22 332 PKP **PKiKP** **13 21 50.2 +0.3**
comp=E,1.5nm,0.5s,baz=26,slow=2.7,SNR=6.5
FRB Frobisher Bay 121.34 10 PKP **PKiKP** **13 21 54.5 +0.7**
comp=E,1.5nm,0.4s,baz=325,slow=6.3,SNR=4.6
ULM Lac du Bonnet 121.76 33 PKP **PKiKP** **13 21 55.4 +0.4**
comp=E,2.5nm,0.8s,baz=311,slow=5.0,SNR=5.0
TXAR Lajitas Array 124.12 59 PKP **PKiKP** **13 22 02.2 +1.7**
comp=E,1.7nm,1.0s,baz=270,slow=1.4,SNR=6.9
ECSD EROS Data Cent 124.55 40 PKPdf **PKPdf** **13 22 00.5 +0.1**
ESDC Sonseca Array 127.78 316 PKP **PKiKP** **13 22 08.3 +0.9**
comp=E,0.5nm,0.4s,baz=70,slow=2.1,SNR=6.0
PLCA Paso Flores 128.94 159 PKP **PKiKP** **13 22 11.2 +1.4**
comp=E,1.9nm,0.8s,baz=211,slow=0.8,SNR=6.0
TORD Torodi Ar. Bea 129.47 281 PKP **PKiKP** **13 22 11.1 -0.3**
comp=E,3.3nm,0.4s,baz=76,slow=0.6,SNR=2.1
POLO Lamas de Olo 129.50 320 *e* PKPdf **PKPdf** **13 22 10.1 -0.1**
MTE Manteigas 129.84 319 *e* PKPdf **PKiKP** **13 22 13.0 +1.4**
SCHQ Schefferville 129.93 13 PKP **PKiKP** **13 22 11.6 +0.3**
comp=E,3.6nm,1.0s,baz=100,slow=15,SNR=4.0
PCBR Castelo Branco 130.08 318 *e* PKPdf **PKPdf** **13 22 10.6 -0.5**
DBIC Dimbokro 135.91 273 PKP **PKiKP** **13 22 24.6 +0.1**
comp=E,2.8nm,0.5s,baz=14,slow=3.7,SNR=4.7
CPUP Villa Florida 146.28 167 PKPbc **PKPab** **13 22 44.2 +1.1**
comp=E,22nm,0.9s,baz=208,slow=2.8,SNR=27
FLF1 Flavio Alfaro- 148.69 102 P **PKPab** **13 22 52.7 -0.5**
PIAT Ana Tenorio 150.07 104 P **PKiKP** **13 22 56.1 +2.0**
OTAV Otavalo 150.18 101 P **PKPdf** **13 22 50.3 +1.9**
LPAZ La Paz 150.53 141 PKP **PKPdf** **13 22 50.6 +1.5**
comp=E,6.9nm,1.2s,baz=132,slow=2.1,SNR=5.8
LPAZ PKPbc **PKiKP** **13 22 57.0 +1.8**
comp=E,15nm,0.5s,baz=76,slow=0.6,SNR=50
GR1C Gorgona, Isla 150.97 96 P **PKPdf** **13 22 50.8 +1.8**
GCUF Volcan Galeras 151.47 100 P **PKiKP** **13 22 59.7 +2.6**
PTAC Punta Ardita, 151.65 87 P **PKiKP** **13 22 57.7 +0.9**
BBAC Balboa, Cauca 151.72 98 P **PKiKP** **13 22 58.4 +1.2**
MALC Bahia Malaga 151.92 94 P **PKiKP** **13 22 59.7 +2.3**
POPC Popayan, Colom 152.37 97 P **PKiKP** **13 22 59.8 +1.2**
YOTC Yotoco, Valle 152.90 94 P **PKiKP** **13 23 00.8 +1.2**
PLMC San Jos del P 153.06 92 P **PKiKP** **13 23 01.8 +2.0**
FLOC Florencia 153.20 100 P **PKiKP** **13 23 02.1 +2.0**
CBOC Ciudad Bolivar 153.39 90 P **PKiKP** **13 23 02.3 +1.7**
GUY2C Guyana, Caldas 153.99 92 P **PKiKP** **13 23 03.7 +1.4**
PRAC Prado 154.31 95 P **PKiKP** **13 23 04.0 +1.6**

NEIC ***11*** *13:10:38.6±2.1, 5°.01S±0°.08×144°.01E±0°.09, h91km±2km, mb4.5/19, Error ellipse: s-maj=13.0km s-min=11.6km az=130.0*
IDC ***11*** *13:10:38.9±1.8, 4°.98S×144°.05E, h96km±16km, mb3.7/7, mbtmp4.0/10, Error ellipse: s-maj=30.2km s-min=11.2km az=52.0*
ISC 11 13:10:38.7±0.6,**5°.02S**±0°.07×**144°.00E**±0°.07,**h98**km,**n37,** σ1**9**03/39,**mb4.3**/13,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,0.5nm,0.4s,baz=70,slow=2.1,SNR=6.0						
PLCA	**Paso Flores**	**128.94**	**159**	PKP	**PKiKP**	**13 22 11.2**	**+1.4**
	comp=E,1.9nm,0.8s,baz=211,slow=0.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**129.47**	**281**	PKP	**PKiKP**	**13 22 11.1**	**-0.3**
	comp=E,3.3nm,0.4s,baz=76,slow=0.6,SNR=2.1						
POLO	**Lamas de Olo**	**129.50**	**320**	*e* PKPdf	**PKPdf**	**13 22 10.1**	**-0.1**
MTE	**Manteigas**	**129.84**	**319**	*e* PKPdf	**PKiKP**	**13 22 13.0**	**+1.4**
SCHQ	**Schefferville**	**129.93**	**13**	PKP	**PKiKP**	**13 22 11.6**	**+0.3**
	comp=E,3.6nm,1.0s,baz=100,slow=15,SNR=4.0						
PCBR	**Castelo Branco**	**130.08**	**318**	*e* PKPdf	**PKPdf**	**13 22 10.6**	**-0.5**
DBIC	**Dimbokro**	**135.91**	**273**	PKP	**PKiKP**	**13 22 24.6**	**+0.1**
	comp=E,2.8nm,0.5s,baz=14,slow=3.7,SNR=4.7						
CPUP	**Villa Florida**	**146.28**	**167**	PKPbc	**PKPab**	**13 22 44.2**	**+1.1**
	comp=E,22nm,0.9s,baz=208,slow=2.8,SNR=27						
FLF1	**Flavio Alfaro-**	**148.69**	**102**	P	**PKPab**	**13 22 52.7**	**-0.5**
PIAT	**Ana Tenorio**	**150.07**	**104**	P	**PKiKP**	**13 22 56.1**	**+2.0**
OTAV	**Otavalo**	**150.18**	**101**	P	**PKPdf**	**13 22 50.3**	**+1.9**
LPAZ	**La Paz**	**150.53**	**141**	PKP	**PKPdf**	**13 22 50.6**	**+1.5**
	comp=E,6.9nm,1.2s,baz=132,slow=2.1,SNR=5.8						
LPAZ				PKPbc	**PKiKP**	**13 22 57.0**	**+1.8**
	comp=E,15nm,0.5s,baz=76,slow=0.6,SNR=50						
GR1C	**Gorgona, Isla**	**150.97**	**96**	P	**PKPdf**	**13 22 50.8**	**+1.8**
GCUF	**Volcan Galeras**	**151.47**	**100**	P	**PKiKP**	**13 22 59.7**	**+2.6**
PTAC	**Punta Ardita,**	**151.65**	**87**	P	**PKiKP**	**13 22 57.7**	**+0.9**
BBAC	**Balboa, Cauca**	**151.72**	**98**	P	**PKiKP**	**13 22 58.4**	**+1.2**
MALC	**Bahia Malaga**	**151.92**	**94**	P	**PKiKP**	**13 22 59.7**	**+2.3**
POPC	**Popayan, Colom**	**152.37**	**97**	P	**PKiKP**	**13 22 59.8**	**+1.2**
YOTC	**Yotoco, Valle**	**152.90**	**94**	P	**PKiKP**	**13 23 00.8**	**+1.2**
PLMC	**San Jos del P**	**153.06**	**92**	P	**PKiKP**	**13 23 01.8**	**+2.0**
FLOC	**Florencia**	**153.20**	**100**	P	**PKiKP**	**13 23 02.1**	**+2.0**
CBOC	**Ciudad Bolivar**	**153.39**	**90**	P	**PKiKP**	**13 23 02.3**	**+1.7**
GUY2C	**Guyana, Caldas**	**153.99**	**92**	P	**PKiKP**	**13 23 03.7**	**+1.4**
PRAC	**Prado**	**154.31**	**95**	P	**PKiKP**	**13 23 04.0**	**+1.6**

IDC ***11*** *13:12:18.3±7.0, 24°.94N×126°.97E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=189.8km s-min=50.3km az=9.0*
JMA ***11*** *13:12:31.0±0.2, 26°.1N±1°.0×127°.1E±0°.5, h47km±1km, MV3.4/13, NEAR OKINAWAJIMA ISLAND*
ISC 11 13:12:31.4±1.3,**26°.1N**±0°.1×**127°.10E**±0°.05,**h49**km±8km, **n18,** σ0**9**63/23,**mb3.5**/7,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.36**	**308**	*i* P	**Pn**	**13 12 40.6**	**-0.4**
JKE				S	**Sn**	**13 12 48.0**	**+0.2**
JAGN	**Aguni-jima**	**0.50**	**14**	*i* P	**Pn**	**13 12 42.2**	**-0.3**
JAGN				S	**Sn**	**13 12 50.8**	**+0.3**
JJT3	**Tamagusuku3**	**0.61**	**86**	*i* P	**Pn**	**13 12 43.7**	**-0.2**
JJT3				*e* S	**Sn**	**13 12 53.5**	**+0.5**
JNTH	**Nagotoyohara**	**0.92**	**63**	*i* P	**Pn**	**13 12 47.5**	**-0.5**
JIH	**Iheya**	**1.21**	**40**	*i* P	**Pn**	**13 12 51.4**	**-0.5**
JOW	**Kunigami**	**1.27**	**55**	P	**Pn**	**13 12 52.7**	**-0.1**
JOW				S	**Sn**	**13 13 08.9**	**+0.1**
JYRO	**Yoronjima**	**1.51**	**52**	P	**Pn**	**13 12 56.0**	**0.0**
JYRO				*e* S	**Sn**	**13 13 14.3**	**-0.3**
JOKE	**Okinoerabujima**	**1.81**	**46**	P	**Pn**	**13 12 59.8**	**-0.4**
JTK	**Tokunoshima**	**2.35**	**44**	*e* P	**Pn**	**13 13 07.0**	**-0.5**
JAMN	**Amaminishikomi**	**2.82**	**40**	*e* P	**Pn**	**13 13 14.0**	**+0.1**
JAM	**Amami Oshima**	**3.20**	**44**	P	**Pn**	**13 13 18.8**	**-0.3**
SONM	**Songino Array**	**27.12**	**328**	P	**P**	**13 18 11.8**	**+2.0**
	0.6nm,0.5s,baz=143,slow=8.9,SNR=3.5						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**40.87**	**312**	P	**P**	**13 20 07.7**	**-0.8**
	0.4nm,0.5s,baz=108,slow=8.5,SNR=7.9						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**41.74**	**323**	P	**P**	**13 20 15.3**	**-0.2**
	1.0nm,0.6s,baz=99,slow=7.6,SNR=3.9						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**44.25**	**317**	P	**P**	**13 20 34.8**	**-1.1**

0.4nm0.4s,baz=107,slow=9.1,SNR=6.9
0.4nm,0.4s
BVAR Borovoye Array 49.70 319 P **P 13 21 18.3 -0.1**
0.7nm,0.5s,baz=100,slow=7.8,SNR=3.6
0.7nm,0.5s
FINES FINESS Array B 72.47 330 P **P 13 23 52.4 -0.1**
1.2nm,0.7s,baz=68,slow=5.4,SNR=4.5
1.2nm,0.7s
YKA Yellowknife Ar 79.06 25 P **P 13 24 30.2 0.0**
0.1nm,0.6s,baz=296,slow=5.6,SNR=3.9
0.1nm,0.6s

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*BJI **11** 13:26:22.7, 1°.74N×97°.99E, h67km, mB5.2/36, mb5.1/78, Ms4.8/71, Ms7 4.7/69*
*NEIC **11** 13:26:24.7±1.7, 1°.91N±0°.05×97°.83E±0°.06, h46km±5km, mb5.5/197, Mww5.2/19, Error ellipse: s-maj=8.7km s-min=6.3km az=119.0*
*NEIC **11** 13:26:25.3, 1°.92N×97°.83E, h50km*
*MOS **11** 13:26:25.2±0.9, 2°.04N×98°.00E, h65km, mb5.8/123, MS4.7/9, Error ellipse: s-maj=6.6km s-min=3.3km az=118.0*
*NEIC **11** 13:26:25.3, 1°.92N×98°.00E, h50km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.15; $M_{\theta\theta}$-2.24; $M_{\phi\phi}$-0.91; $M_{r\theta}$4.37; $M_{\theta\phi}$4.19; $M_{\phi r}$-2.52; Fault plane solution: $M_0$6.82000×10^{16} NP1: ϕ_s335.17000°, δ24.33000°, λ125.72000°. NP2: ϕ_s116.89000°, δ70.46000°, λ75.22000°. Principal axes: T 5.5958, Plg62.0000°, Azm4.0000°; N 2.4412, Plg14.0000°, Azm122.0000°; P -8.0370, Plg24.0000°, Azm218.0000°;*
*DJA **11** 13:26:25.1±0.2, 2°N±1°×9°8E±°, h51km±2km, M5.2/85, mb5.4/85, mB5.6/48, MLv5.7/18, Mw(mB)5.1/48, MwMwp5.0/6, Mwp5.3/6*
*GCMT **11** 13:26:26.3±0.1, 1°.84N±0°.01×97°.87E±0°.01, h48km, MW5.3/126, Moment Tensor Solution. s118,c184; s126,c219; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.76±.02; $M_{\theta\theta}$-0.40±.01; $M_{\phi\phi}$-0.35±.01; $M_{r\theta}$0.51±.01; $M_{\theta\phi}$0.42±.01; $M_{\phi r}$-0.31±.01; Best double couple: $M_0$0.97900×10^{17} NP1:ϕ_s322.00000°, δ27.00000°, λ104.00000°. NP2:ϕ_s126.00000°, δ64.00000°, λ83.00000°. Principal axes: T 0.9650, Plg70.0000°, Azm21.0000°; N 0.0290, Plg6.0000°, Azm129.0000°; P -0.9930, Plg18.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **11** 13:26:26.2±1.7, 1°.99N×98°.04E, h61km±8km, mb5.0/36, mbtmp5.3/39, MS4.4/69 Error ellipse: s-maj=10.8km s-min=8.0km az=68.0*
ISC 11 13:26:25.1±0.3, 1°.88N±0°.03×97°.92E±0°.03, h56km±2km, h57km:pP-P, n1077, σ1s31/1087, mb5.5/386, MS4.5/101, 98C-23D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.67**	**211**			**Pn**	**13 26 37.9**	**-0.9**
GSI	**Gunungsitoli**	**0.67**	**211**	P		**Pn**	**13 26 37.9**	**-0.9**
GSI	**Gunungsitoli**	**0.67**	**211**	S		**Sn**	**13 26 49.0**	**+0.1**
GSI	**Gunungsitoli**	**0.67**	**211**	P		**Pn**	**13 26 38.0**	**-0.9**
GSI				S		**Sn**	**13 26 48.9**	**+0.1**
RPSI	**Rantau Prapat**	**1.29**	**51**	Pn		**Pn**	**13 26 47.8**	**+1.0**
RPSI	**Rantau Prapat**	**1.29**	**51**			**Pn**	**13 26 47.9**	**+1.0**
PSI	**Prapat**	**1.35**	**48**	P		**Pn**	**13 26 47.9**	**-0.1**
	6μm,0.8s,baz=220,slow=7.4,SNR=1150							
PSI				S		**Sn**	**13 27 00.6**	**-4.3**
	3μm,0.6s,baz=145,slow=19,SNR=6.8							
PSI	**Prapat**	**1.35**	**48**	P		**Pn**	**13 26 48.1**	**+0.2**
PSI	**Prapat**	**1.35**	**48**	P		Pn	13 27 01.2	+13
SNSI	**Sinabang, Aceh**	**1.68**	**288**	P		**Pn**	**13 26 51.9**	**-0.2**
TSI	**Tuntungan**	**1.73**	**22**	P		**Pn**	**13 26 53.8**	**+0.9**
PBSI	**Pulau Batu**	**1.96**	**169**	P		**Pn**	**13 26 56.2**	**+0.2**
MNSI	**Mandailing Nat**	**1.98**	**123**	P		**Pn**	**13 26 57.3**	**+1.0**
MLSI	**Meulaboh, Aceh**	**2.81**	**327**	P		**Pn**	**13 27 07.7**	**+0.1**
SISI	**Saibi**	**3.40**	**160**	P		**Pn**	**13 27 15.8**	**+0.1**
PPI	**Padang Panjang**	**3.40**	**133**	P		**Pn**	**13 27 17.4**	**+1.7**
LHMI	**Lhok Sumawe**	**3.46**	**344**	Pn		**Pn**	**13 27 17.0**	**+0.4**
LHMI	**Lhok Sumawe**	**3.46**	**344**	P		**Pn**	**13 27 17.0**	**+0.4**
LHMI	**Lhok Sumawe**	**3.46**	**344**	P		**Pn**	**13 27 16.8**	**+0.2**
BKNI	**Bangkinang**	**3.48**	**116**	Pn		**Pn**	**13 27 18.7**	**+1.9**
BKNI	**Bangkinang**	**3.48**	**116**	P		**Pn**	**13 27 16.4**	**-0.4**
BKNI	**Bangkinang**	**3.48**	**116**	P		**Pn**	**13 27 17.6**	**+0.8**
KULM	**Kulim**	**4.34**	**39**	Pn		**Pn**	**13 27 29.3**	**+0.6**
KULM	**Kulim**	**4.34**	**39**	P		**Pn**	**13 27 29.3**	**+0.6**
BSI	**Banda Aceh**	**4.44**	**324**	P		**Pn**	**13 27 28.9**	**-1.1**
PPSI	**Pulau Pagai**	**5.07**	**156**	P		**Pn**	**13 27 39.8**	**+1.2**
	13nm15μm1μm,1.0s							
MYKOM	**Kota Tinggi**	**5.93**	**91**	Pn		**Pn**	**13 27 51.8**	**+1.4**
MYKOM	**Kota Tinggi**	**5.93**	**91**	P		**Pn**	**13 27 52.1**	**+1.7**
CMBY	**CAMPBELL BAY**	**6.46**	**322**	*e*P		**Pn**	**13 27 59.4**	**+1.7**
CMBY				*e*S		**Sn**	**13 29 06.8**	**-3.4**
SRIT	**Nakonsritamara**	**6.88**	**14**	Pn		**Pn**	**13 28 03.1**	**-0.3**
SRIT	**Nakonsritamara**	**6.88**	**14**	P		**Pn**	**13 28 04.1**	**+0.7**
KSI	**Kapahiang**	**7.21**	**140**	P		**Pn**	**13 28 09.0**	**+0.9**
	3.0nm503nm,0.8s							
MNAI	**Manna**	**7.99**	**141**	Pn		**Pn**	**13 28 19.7**	**+1.1**
MNAI	**Manna**	**7.99**	**141**	P		**Pn**	**13 28 19.4**	**+0.8**
MNAI	**Manna**	**7.99**	**141**	P		**Pn**	**13 28 19.4**	**+0.8**
	460nm,0.6s							
MDSI	**Maura Dua**	**8.89**	**135**	P		**Pn**	**13 28 31.5**	**+0.4**
	2μm220nm,0.7s							
LWLI	**Liwa**	**9.20**	**138**	P		**Pn**	**13 28 35.3**	**0.0**
	509nm,0.7s							
TPI	**Tanjungpandan**	**10.77**	**115**	P		**Pn**	**13 28 59.0**	**+2.3**
	985nm92nm,1.2s							
PBA	**Port Blair**	**10.98**	**332**	*e*P		**Pn**	**13 29 02.3**	**+2.7**
PBA				*e*S		Sn	13 30 50.8	-10
CGJI	**Cibinong**	**11.46**	**137**	P		**Pn**	**13 29 04.4**	**-1.8**
	84nm,0.9s							
DGPR	**DIGLIPUR**	**12.26**	**336**	*e*P		**Pn**	**13 29 13.3**	**-3.7**
SKJI	**Sukabumi**	**12.34**	**136**	P		**Pn**	**13 29 19.6**	**+1.5**
	4μm180nm,0.4s							
NAYO	**Nakonayok**	**12.80**	**15**	P		**Pn**	**13 29 25.8**	**+1.4**
CNJI	**Cibinong**	**12.95**	**135**	P		**Pn**	**13 29 26.1**	**-0.4**
	931nm55nm,0.6s							
LEM	**Lembang**	**12.98**	**132**	P		**Pn**	**13 29 28.4**	**+1.3**
	28nm,0.6s,baz=240,slow=13,SNR=5.1							
LEM	**Lembang**	**12.98**	**132**	P		**Pn**	**13 29 27.7**	**+0.6**
	68nm,0.9s							
BBJI	**Bungbulang**	**13.43**	**134**	P		**Pn**	**13 29 30.2**	**-2.9**
STKI	**Sintang**	**13.67**	**97**	P		**Pn**	**13 29 37.2**	**+0.8**
	352nm,0.9s							
COCO	**West Island**	**14.02**	**184**			**Pn**	**13 29 39.6**	**-1.4**
COCO	**West Island**	**14.02**	**184**	P		**Pn**	**13 29 41.1**	**+0.1**
COCO	**West Island**	**14.02**	**184**	P		**Pn**	**13 29 39.6**	**-1.4**
SBUM	**Sibu**	**14.30**	**87**			**Pn**	**13 29 45.4**	**+0.7**
XMIS	**Christmas Isla**	**14.49**	**148**	P		**Pn**	**13 29 47.4**	**+0.1**
UBPT	**Khong Chiam**	**15.25**	**29**			**Pn**	**13 29 57.1**	**0.0**
UGM	**Wanagama**	**15.90**	**128**	Pn		**Pn**	**13 30 03.2**	**-2.2**
UGM	**Wanagama**	**15.90**	**128**	P		**Pn**	**13 30 05.5**	**+0.1**
UGM	**Wanagama**	**15.90**	**128**	P		**Pn**	**13 30 04.7**	**-0.7**
	66nm,0.9s							
CM31	**Chiang Mai Arr**	**16.50**	**3**	Pn		**Pn**	**13 30 11.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**16.50**	**3**			**Pn**	**13 30 12.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.50**	**3**	P		**Pn**	**13 30 12.6**	**-0.4**
	45nm,0.9s,baz=195,slow=13,SNR=244							
CMAR				LR		LR	13 37 05.5	
	comp=Z,2μm,20.3s,baz=185,slow=39							
PCJI	**Pacitan**	**16.58**	**127**	P		**Pn**	**13 30 10.4**	**-3.6**
CHTO	**Chiang Mai**	**16.86**	**3**			**Pn**	**13 30 16.6**	**-0.7**
CHTO	**Chiang Mai**	**16.86**	**3**	P		**Pn**	**13 30 16.7**	**-0.7**
CHTO				pmax		pmax		
	comp=Z,68nm,0.9s							
PALK	**Pallekele**	**17.97**	**288**	P		**P**	**13 30 30.1**	**-1.0**
PALK	**Pallekele**	**17.97**	**288**	P		**Pn**	**13 30 33.6**	**+2.3**
	comp=Z,9.2nm,0.4s,baz=107,slow=10,SNR=14							
PALK				LR		LR	13 36 47.7	
	comp=Z,2μm,21.3s,baz=104,slow=34							
PALK	**Pallekele**	**17.97**	**288**	P		**Pn**	**13 30 33.8**	**+2.5**
PALK				P		**Pn**	**13 30 33.8**	**+2.5**
PALK				S		**S**	**13 33 57.7**	**+3.2**
PALK				S		**S**	**13 33 57.7**	**+3.2**
PALK	**Pallekele**	**17.97**	**288**	*ce*P		**Pn**	**13 30 33.7**	**+2.5**
KMMI	**Kalianget**	**18.31**	**119**	P		**Pn**	**13 30 35.8**	**+0.5**
	comp=Z,2μmcomp=Z,170nm,1.0s							
KKM	**Kota Kinabalu**	**18.71**	**77**	P		**Pn**	**13 30 40.3**	**+0.1**
KKM	**Kota Kinabalu**	**18.71**	**77**	P		**Pn**	**13 30 41.0**	**+0.8**
ABJI	**Asem Bagus**	**18.90**	**121**	P		**P**	**13 30 41.4**	**+0.1**
	comp=Z,2μmcomp=Z,101nm,0.9s							
JAGI	**Jajag, Banyuwa**	**19.17**	**123**	P		**Pn**	**13 30 45.2**	**-0.5**
BKB	**Balikpapan**	**19.23**	**99**	P		**Pn**	**13 30 46.2**	**-0.1**
BKB				IAmb		IAmb	13 30 58.0	
	comp=Z,489nm,1.3s							
BKB	**Balikpapan**	**19.23**	**99**	P		**Pn**	**13 30 47.1**	**+0.8**
	comp=Z,3μmcomp=Z,330nm,0.8s							
SRBI	**Singaraja**	**19.89**	**120**	P		**Pn**	**13 30 53.3**	**-0.8**
	comp=Z,2μmcomp=Z,281nm,0.8s							
SLVN	**Son La**	**20.19**	**16**	P		**P**	**13 30 54.6**	**-0.7**
SLVN	**Son La**	**20.19**	**16**	P		**P**	**13 30 55.1**	**-0.3**
QIZ	**Qiongzhong**	**20.66**	**34**	P		**P**	**13 31 00.9**	**+0.6**
QIZ	**Qiongzhong**	**20.66**	**34**	P		**P**	**13 31 00.4**	**0.0**
QIZ				pP		**pP**	**13 31 11.1**	**-1.9**
QIZ				S		**S**	**13 34 51.1**	**+2.9**
QIZ				sS		**sS**	**13 35 09.7**	**+1.0**
QIZ				pmax		pmax		
	comp=Z,59nm,1.2s							
QIZ				LR		LR		
	comp=Z,750nm,22.3s							
QIZ				LR		LR		
	comp=Z,720nm,18.9s							
QIZ				LR		LR		
	comp=Z,1μm,25.4s							
QIZ	**Qiongzhong**	**20.66**	**34**	P		**P**	**13 31 01.5**	**+1.1**
MDRS	**Chennai**	**20.73**	**303**	*e*P		Pn	13 31 03.8	-0.2
MDRS				IAmb		IAmb	13 31 07.6	
	comp=Z,203nm,1.2s							
MYLDM	**Lahad Datu**	**20.80**	**80**	P		Pn	13 31 03.5	-1.4
MYLDM				IAmb		IAmb	13 31 17.6	
	comp=Z,189nm,0.9s							
MYLDM	**Lahad Datu**	**20.80**	**80**	P		Pn	13 31 04.2	-0.7
VIS	**Vishakhapatnam**	**21.29**	**319**	*e*P		**P**	**13 31 08.1**	**+1.0**
VIS				IAmb		IAmb	13 31 35.7	
	comp=Z,302nm,1.4s							
BRDH	**Bariadhala**	**21.55**	**344**	P		**P**	**13 31 08.9**	**-1.0**
	comp=Z,169nm,0.3s,baz=97,slow=6.4,SNR=10.0							
BRDH				LR		LR	13 41 22.9	
	comp=Z,1μm,19.9s,baz=163,slow=42							
	comp=Z,169nm,0.3s							
TWSI	**Taliwang, Sumb**	**21.65**	**119**	P		**P**	**13 31 11.6**	**+0.6**
	comp=Z,991nmcomp=Z,85nm,0.8s							
SALM	**Salem**	**21.83**	**297**	*e*P		**P**	**13 31 15.6**	**+2.6**
SALM				IAmb		IAmb	13 31 30.1	
	comp=Z,58nm,0.8s							
SALM				*ex*		x	13 35 07.3	
TRD	**Trivandrum**	**21.88**	**288**	*e*P		**P**	**13 31 15.9**	**+2.4**
KOD	**Kodaikanal**	**21.95**	**293**	*e*P		**P**	**13 31 16.2**	**+1.6**
PCI	**Palu**	**22.09**	**97**	P		**P**	**13 31 16.3**	**+0.5**
	comp=Z,155nm,0.8s							
AZL	**Aizawl**	**22.31**	**347**	*e*P		**P**	**13 31 15.7**	**-2.4**
AZL				IAmb		IAmb	13 31 21.3	
	comp=Z,81nm,0.8s							
RAGD	**RAYAGADA**	**22.32**	**322**	*e*P		**P**	**13 31 18.3**	**0.0**
RAGD				IAmb		IAmb	13 31 22.1	
	comp=Z,85nm,0.9s							
TTSI	**Tana Toraja**	**22.43**	**103**	P		**P**	**13 31 20.0**	**+0.5**
	comp=Z,1μmcomp=Z,132nm,0.8s							
PLAI	**Plampang**	**22.47**	**119**	P		**P**	**13 31 21.0**	**+1.1**
PLAI	**Plampang**	**22.47**	**119**	P		**P**	**13 31 17.3**	**-2.6**
	comp=Z,950nmcomp=Z,83nm,0.7s							
SPSI	**Sidrap Palu**	**22.59**	**105**	P		**P**	**13 31 20.8**	**-0.4**
	comp=Z,73nm,0.9s							
KAPI	**Kappang**	**22.86**	**108**	P		**P**	**13 31 23.9**	**-0.1**
KAPI	**Kappang**	**22.86**	**108**	P		**P**	**13 31 23.5**	**-0.5**
	comp=Z,34nm,0.5s,baz=287,slow=8.9,SNR=13							
KAPI				LR		LR	13 41 21.6	
	comp=Z,1μm,20.4s,baz=279,slow=39							
	comp=Z,34nm,0.5s							
KAPI	**Kappang**	**22.86**	**108**	P		**P**	**13 31 20.8**	**-3.2**
KAPI				P		**P**	**13 31 20.8**	**-3.2**
KAPI				S		**S**	**13 35 25.4**	**-4.1**
KAPI				S		**S**	**13 35 25.4**	**-4.1**
KAPI	**Kappang**	**22.86**	**108**	⇑*e*P		**P**	**13 31 25.3**	**+1.3**
KAPI				pmax		pmax		
	comp=Z,87nm,1.1s							
TOLI2	**Tolitoli**	**22.87**	**92**	P		**P**	**13 31 22.7**	**-1.4**
TOLI2				IAmb		IAmb	13 31 25.4	
	comp=Z,94nm,0.8s							
TOLI2	**Tolitoli**	**22.87**	**92**	P		**P**	**13 31 24.6**	**+0.5**
TNCH	**TengChong**	**23.02**	**1**	⇑P		**P**	**13 31 24.2**	**-1.5**
TNCH				pP		pP	13 31 36.4	-2.1
TNCH				PP		**PnPn**	**13 31 56.3**	**+3.5**
TNCH				S		**S**	**13 35 30.6**	**-1.7**
TNCH				pmax		pmax		
	comp=Z,57nm,1.4s							
TNCH				pmax		pmax		
	comp=Z,300nm,3.2s							
TNCH				LR		LR		
	comp=Z,880nm,11.9s							
TNCH				LR		LR		
	comp=Z,620nm,14.9s							
TNCH				LR		LR		
	comp=Z,1μm,13.6s							
IMP	**Imphal**	**23.14**	**351**	*e*P		**P**	**13 31 23.1**	**-3.6**
IMP				IAmb		IAmb	13 31 32.4	
	comp=Z,86nm,0.8s							
BKSI	**Bulukumba**	**23.30**	**108**	P		**P**	**13 31 28.9**	**+0.5**
	comp=Z,1μmcomp=Z,110nm,0.8s							
KMI	**Kunming**	**23.57**	**11**	⇑P		**P**	**13 31 31.0**	**0.0**
KMI				pP		pP	13 31 45.0	+0.5
KMI				S		**S**	**13 35 42.3**	**+1.0**
KMI				pmax		pmax		
	comp=Z,89nm,1.2s							
KMI				LR		LR		
	comp=Z,3μm,16.1s							
KMI				LR		LR		
	comp=Z,1μm,15.0s							
KMI				LR		LR		
	comp=Z,3μm,15.7s							
APSI	**Ampana**	**23.89**	**96**	P		**P**	**13 31 34.8**	**+1.0**
BSSI	**Bau Bau, Buton**	**23.90**	**110**	P		**P**	**13 31 33.5**	**-0.5**
	comp=Z,2μmcomp=Z,166nm,0.7s							
KOHI	**KOHIMA**	**23.98**	**352**	*e*P		**P**	**13 31 32.1**	**-2.6**
KOHI				IAmb		IAmb	13 31 36.7	
	comp=Z,86nm,0.8s							
MRSI	**Marisa**	**24.05**	**93**	P		**P**	**13 31 35.5**	**+0.2**
	comp=Z,1μmcomp=Z,120nm,0.7s							
JHSG	**JHARSUGUGA**	**24.08**	**326**	*e*P		**P**	**13 31 35.6**	**+0.1**
JHSG				IAmb		IAmb	13 31 38.5	
	comp=Z,96nm,0.9s							
SHL	**Shillong**	**24.25**	**347**	P		**P**	**13 31 35.2**	**-2.0**
SHL	**Shillong**	**24.25**	**347**	P		**P**	**13 31 35.7**	**-1.6**
SNR=66								
SHL	**Shillong**	**24.25**	**347**	*e*P		**P**	**13 31 35.3**	**-1.9**
SHL				IAmb		IAmb	13 31 38.5	
	comp=Z,176nm,0.8s							
SHL	**Shillong**	**24.25**	**347**	P		**P**	**13 31 35.2**	**-2.0**
SHL				pmax		pmax		
	comp=Z,241nm,0.9s							
WBSI	**Waikabubak, Su**	**24.26**	**119**	P		**P**	**13 31 33.9**	**-3.3**
	comp=Z,2μmcomp=Z,222nm,1.0s							
HYB	**Hyderabad**	**24.50**	**310**	*e*P		**P**	**13 31 40.9**	**+1.5**
HYB				IVmB_BB			13 31 42.9	
	comp=Z,3μm,0.8s							
HYB				*e*PcP		**PcP**	**13 35 16.8**	**-0.2**
HYB				*e*S		**S**	**13 35 56.6**	**+0.4**
BOK	**Bokaro**	**24.70**	**333**	*e*P		**P**	**13 31 41.0**	**-0.1**
BOK				IAmb		IAmb	13 31 44.0	
	comp=Z,218nm,0.8s							
PZH	**PanZhiHua**	**24.75**	**8**	P		**P**	**13 31 44.3**	**+2.6**
PZH				S		**S**	**13 36 05.7**	**+5.5**
PZH				pmax		pmax		
	comp=Z,60nm,0.9s							
PZH				pmax		pmax		
	comp=Z,280nm,6.0s							
PZH				LR		LR		
	comp=Z,2μm,17.1s							
PZH				LR		LR		
	comp=Z,640nm,16.7s							
PZH				LR		LR		
	comp=Z,2μm,17.6s							
LUWI	**Luwuk**	**25.02**	**96**	P		**P**	**13 31 44.2**	**+0.1**
MNGI	**Mangalore**	**25.37**	**297**	*e*P		**P**	**13 31 49.6**	**+2.3**
LKP	**Lekhapani**	**25.38**	**356**	*e*P		**P**	**13 31 45.9**	**-1.3**
LKP				IAmb		IAmb	13 31 49.1	
	comp=Z,253nm,1.1s							
BASI	**Baing, Sumba**	**25.56**	**118**	P		**P**	**13 31 49.2**	**+0.2**
	comp=Z,2μmcomp=Z,252nm,1.0s							
BBSI	**Bau Bau**	**25.69**	**107**	P		**P**	**13 31 51.8**	**+1.6**
	comp=Z,2μmcomp=Z,221nm,0.9s							
TGY	**Tagaytay City**	**25.78**	**61**	LR		LR	13 41 34.6	
	comp=Z,408nm,21.5s,baz=243,slow=35							
ZIRO	**ZIRO**	**25.80**	**352**	*e*P		**P**	**13 31 50.4**	**-0.8**
ZIRO				IAmb		IAmb	13 31 52.4	
	comp=Z,236nm,1.0s							
GYA	**Guiyang**	**25.84**	**18**	⇓P		**P**	**13 31 51.0**	**-0.6**
GYA				S		**S**	**13 36 14.4**	**-3.0**
GYA				pmax		pmax		
	comp=Z,33nm,1.0s							
GYA				LR		LR		
	comp=Z,1μm,18.6s							
GYA				LR		LR		
	comp=Z,990nm,14.1s							
GYA				LR		LR		
	comp=Z,2μm,16.1s							
TAWA	**Tawang**	**26.21**	**348**	*e*P		**P**	**13 31 55.2**	**0.0**
TAWA				IAmb		IAmb	13 31 56.9	
	comp=Z,105nm,0.4s							
MMRI	**Maumere**	**26.40**	**114**	P		**P**	**13 31 54.5**	**-2.1**
	comp=Z,48nm,0.6s							
LATR	**Latur**	**26.62**	**309**	*e*P		**P**	**13 31 59.7**	**+1.1**
GTK	**Tadong**	**26.82**	**341**	*e*P		**P**	**13 32 00.1**	**-0.3**
GTK				IAmb		IAmb	13 32 02.4	
	comp=Z,97nm,0.6s							
H08S2	**Diego Garcia H**	**27.07**	**249**	T		T	13 59 42.6	
	baz=70,slow=75,SNR=9130							
H08S3	**Diego Garcia H**	**27.08**	**249**	T		T	13 59 43.9	
	baz=70,slow=75,SNR=8516							
H08S1	**Diego Garcia H**	**27.09**	**249**	T		T	13 59 45.1	
	baz=70,slow=75,SNR=9155							
AKL	**Akola**	**27.68**	**314**	*e*P		**P**	**13 32 09.5**	**+1.4**
AKL				IAmb		IAmb	13 32 16.0	
	comp=Z,43nm,0.8s							
KAD	**Karad**	**27.91**	**305**	*e*P		**P**	**13 32 11.7**	**+1.5**
ALBI	**Allahabad**	**28.00**	**328**	*e*P		**P**	**13 32 11.6**	**+0.8**
ALBI				IAmb		IAmb	13 32 13.1	
	comp=Z,212nm,0.9s							
DAV	**Davao City (W)**	**28.04**	**79**	LR		LR	13 44 40.3	
	comp=Z,362nm,19.7s,baz=240,slow=39							
SANI	**Sanana**	**28.33**	**98**	P		**P**	**13 32 13.2**	**-0.8**
LSA	**Lhasa**	**28.40**	**348**	P		**P**	**13 32 15.2**	**+0.3**
LSA				pmax		pmax		
	comp=Z,60nm,1.1s							
LSA	**Lhasa**	**28.40**	**348**	P		**P**	**13 32 15.3**	**+0.3**
LSA				pmax		pmax		
	comp=Z,65nm,1.1s							
LSA	**Lhasa**	**28.40**	**348**	P		**P**	**13 32 15.2**	**+0.3**
SOEI	**Soe**	**28.67**	**114**	IAmb		IAmb	13 32 51.9	
	comp=Z,65nm,0.8s							
SOEI	**Soe**	**28.67**	**114**	P		**P**	**13 32 14.4**	**-2.7**
	comp=Z,71nm,0.8s							
POO	**Poona**	**28.82**	**307**	*e*P		**P**	**13 32 19.5**	**+1.2**
POO				IAmb		IAmb	13 32 21.1	
	comp=Z,24nm,0.5s							
BHPL	**Bhopal**	**29.08**	**318**	*e*P		**P**	**13 32 21.8**	**+1.2**
BHPL				IAmb		IAmb	13 32 22.6	
	comp=Z,73nm,0.9s							
GIRL	**Giralia**	**29.11**	**148**	P		**P**	**13 32 24.9**	**+4.1**
GIRL	**Giralia**	**29.11**	**148**	P		**P**	**13 32 22.4**	**+1.7**
CD2	**Chengdu**	**29.39**	**10**	P		**P**	**13 32 24.6**	**+1.4**
CD2				pP		pP	13 32 35.8	-1.6
CD2				S		**S**	**13 37 17.4**	**+4.2**
CD2				pmax		pmax		
	comp=Z,20nm,0.6s							
CD2				LR		LR		
	comp=Z,2μm,16.5s							
CD2				LR		LR		
	comp=Z,3μm,15.5s							
NLAI	**Namlea**	**29.61**	**100**	P		**P**	**13 32 28.8**	**+3.5**
CNSH	**ChangSha**	**29.83**	**27**	P		**P**	**13 32 25.4**	**-1.6**
CNSH				S		**S**	**13 37 18.0**	**-2.0**
CNSH				pmax		pmax		
	comp=Z,13nm,1.2s							
CNSH				LR		LR		
	comp=Z,1μm,13.7s							
CNSH				LR		LR		
	comp=Z,550nm,12.9s							
CNSH				LR		LR		
	comp=Z,1μm,14.1s							
JHNI	**Jhansi**	**29.98**	**323**	*e*P		**P**	**13 32 27.9**	**-0.5**
JHNI				IAmb		IAmb	13 32 29.9	
	comp=Z,190nm,0.8s							
ENH	**Enshi**	**30.29**	**20**	P		**P**	**13 32 29.4**	**-1.8**
ENH	**Enshi**	**30.29**	**20**	P		**P**	**13 32 29.4**	**-1.8**
ENH				PcP		**PcP**	**13 35 31.3**	**+0.7**
AAI	**Ambon**	**30.76**	**100**	P		**P**	**13 32 35.5**	**0.0**
	comp=Z,113nm,0.8s							
YULB	**Yu-li**	**31.15**	**45**	P		**P**	**13 32 39.1**	**+0.2**
YULB	**Yu-li**	**31.15**	**45**	P		**P**	**13 32 40.5**	**+1.7**
SSLB	**Suanglung**	**31.17**	**44**	P		**P**	**13 32 38.8**	**-0.2**
PSA00	**Pilbara Seismi**	**31.67**	**139**	P		**P**	**13 32 43.8**	**+0.4**
PSA00	**Pilbara Seismi**	**31.67**	**139**	IAmb		IAmb	13 32 55.5	
	comp=Z,76nm,1.6s							
PSA00	**Pilbara Seismi**	**31.67**	**139**	P		**P**	**13 32 43.7**	**+0.4**
	comp=Z,22nm,1.3s							
PSA00	**Pilbara Seismi**	**31.67**	**139**	P		**P**	**13 32 44.2**	**+0.8**
BHV	**Bhavnagar**	**31.93**	**310**	*e*P		**P**	**13 32 47.7**	**+2.1**
BHV				IAmb		IAmb	13 32 50.3	
	comp=Z,151nm,1.0s							
LGTI	**Lohaghat**	**32.16**	**330**	*e*P		**P**	**13 32 48.3**	**+0.8**
LGTI				IAmb		IAmb	13 33 04.6	
	comp=Z,171nm,1.1s							

LZH				LR	LR	
	comp=Z,2μm,18.0s					
MEEK	**Meekatharra**	**34.68**	**146**	P	**P**	**13 33 08.7 -0.9**
	comp=Z,54nm,0.9s					
MEEK	**Meekatharra**	**34.68**	**146**	P	**P**	**13 33 10.4 +0.8**
SMLA	**Simla**	**35.09**	**328**	*e*P	**P**	**13 33 13.2 +0.2**
SMLA				IAmb	IAmb	13 33 19.8
	comp=Z,109nm,0.8s					
KNRA	**Kununurra**	**35.13**	**121**	P	**P**	**13 33 12.1 -1.5**
LYN	**LuoYang**	**35.22**	**21**	⇑P	**P**	**13 33 13.9 -0.2**
LYN				PP	**PP**	**13 34 36.1 +1.1**
LYN				PcP	**PcP**	**13 35 44.7 +0.6**
LYN				pmax	pmax	
	comp=Z,97nm,1.1s					
LYN				pmax	pmax	
	comp=Z,330nm,4.6s					
LYN				LR	LR	
	comp=Z,2μm,14.4s					
LYN				LR	LR	
	comp=Z,790nm,15.3s					
LYN				LR	LR	
	comp=Z,1μm,15.1s					
MORW	**Morawa**	**35.33**	**152**	P	**P**	**13 33 17.0 +1.8**
MORW				IAmb	IAmb	13 33 29.9
	comp=Z,47nm,1.1s					
MORW	**Morawa**	**35.33**	**152**	P	**P**	**13 33 17.0 +1.8**
	comp=Z,45nm,1.1s					
MORW	**Morawa**	**35.33**	**152**	P	**P**	**13 33 15.8 +0.6**
BHK	**Bhakra**	**35.71**	**328**	*e*P	**P**	**13 33 18.9 +0.5**
BHK				IAmb	IAmb	13 33 20.6
	comp=Z,138nm,0.7s					
NJ2	**Nanjing**	**35.91**	**31**	*e*P	**P**	**13 33 21.8 +1.7**
NJ2				pmax	pmax	
	comp=Z,14nm,0.8s					
NJ2				LR	LR	
	comp=Z,980nm,14.2s					
NJ2				LR	LR	
	comp=Z,680nm,14.2s					
NJ2				LR	LR	
	comp=Z,1μm,15.6s					
JASL	**Jaisalmer**	**35.94**	**316**	*e*P	**P**	**13 33 22.6 +2.2**
MTN	**Manton Dam**	**36.07**	**115**	IAmb	IAmb	13 33 32.7
	comp=Z,22nm,0.6s					
MTN	**Manton Dam**	**36.07**	**115**	P	**P**	**13 33 20.8 -0.8**
	comp=Z,35nm,1.0s					
DHRM	**DHARAMSHALA**	**36.42**	**328**	*e*P	**P**	**13 33 24.5 -0.3**
DHRM				IAmb	IAmb	13 33 39.8
	comp=Z,134nm,0.9s					
SSE	**Sheshan**	**36.45**	**35**	P	**P**	**13 33 24.5 -0.1**
SSE				S	**S**	**13 39 04.3 +1.8**
SSE				pmax	pmax	
	comp=Z,16nm,0.7s					
SSE				pmax	pmax	
	comp=Z,130nm,5.6s					
SSE				LR	LR	
	comp=Z,480nm,15.7s					
SSE				LR	LR	
	comp=Z,240nm,16.2s					
BLDU	**Ballidu**	**36.95**	**152**	P	**P**	**13 33 30.0 +1.1**
KDU	**Kakadu**	**37.23**	**114**	P	**P**	**13 33 29.9 -1.6**
KDU	**Kakadu**	**37.23**	**114**	P	**P**	**13 33 31.7 +0.2**
GTA	**Gaotai**	**37.39**	**2**	P	**P**	**13 33 32.5 -0.2**
GTA				pP	pP	13 33 46.4 -0.8
GTA				PcP	**PcP**	**13 35 52.3 +1.6**
GTA				ScP	**ScP**	**13 39 34.1 +0.7**
GTA				pmax	pmax	
	comp=Z,76nm,0.9s					
GTA				pmax	pmax	
	comp=Z,320nm,5.8s					
GTA				LR	LR	
	comp=Z,340nm,18.5s					
GTA				LR	LR	
	comp=Z,370nm,17.4s					
GTA				LR	LR	
	comp=Z,380nm,23.3s					
JMU	**Jammu**	**37.53**	**327**	*e*P	**P**	**13 33 35.1 +1.3**
JMU				IAmb	IAmb	13 33 36.6
	comp=Z,152nm,0.8s					
MUN	**Mundaring**	**37.88**	**154**	P	**P**	**13 33 40.7 +3.9**
MUN	**Mundaring**	**37.88**	**154**	P	**P**	**13 33 37.6 +0.8**
TIY	**Taiyuan**	**38.07**	**19**	P	**P**	**13 33 40.9 +2.4**
TIY				S	**S**	**13 39 32.7 +5.4**
TIY				pmax	pmax	
	comp=Z,26nm,0.5s					
TIY				LR	LR	
	comp=Z,1μm,18.5s					
TIY				LR	LR	
	comp=Z,670nm,14.4s					
TIY				LR	LR	
	comp=Z,910nm,19.9s					
JOW	**Kunigami**	**38.25**	**47**	LR	LR	13 49 24.9
	comp=Z,357nm,21.5s,baz=252,slow=36					
JOW	**Kunigami**	**38.25**	**47**	P	**P**	**13 33 41.5 +1.5**
KLBR	**Kellerberrin**	**38.25**	**152**	P	**P**	**13 33 42.5 +2.6**
KLBR	**Kellerberrin**	**38.25**	**152**	P	**P**	**13 33 41.3 +1.3**
TIA	**Tai'an**	**38.51**	**25**	P	**P**	**13 33 40.6 -1.5**
TIA				pmax	pmax	
	comp=Z,16nm,0.7s					
TIA				LR	LR	
	comp=Z,1μm,15.1s					
TIA				LR	LR	
	comp=Z,960nm,14.5s					
TIA				LR	LR	
	comp=Z,2μm,15.1s					
HNS	**HongShan**	**38.58**	**22**	⇑P	**P**	**13 33 42.2 -0.4**
HNS				PcP	**PcP**	**13 35 55.3 +1.1**
HNS				*e*S	**S**	**13 39 40.9 +6.2**
HNS				pmax	pmax	
	comp=Z,38nm,0.9s					
HNS				LR	LR	
	comp=Z,260nm,12.6s					
HNS				LR	LR	
	comp=Z,720nm,13.8s					
HNS				LR	LR	
	comp=Z,730nm,15.1s					
NIL	**Nilore**	**39.14**	**327**	P	**P**	**13 33 47.2 -0.2**
NIL	**Nilore**	**39.14**	**327**	P	**P**	**13 33 47.2 -0.2**
NIL				pmax	pmax	
	comp=Z,265nm,0.8s					
NIL	**Nilore**	**39.14**	**327**	P	**P**	**13 33 47.2 -0.2**
NIL				pP	**pP**	**13 34 02.4 +0.5**
NWAO	**Narrogin (SRO)**	**39.14**	**154**	P	**P**	**13 33 48.8 +1.4**
NWAO				IAmb	IAmb	13 34 02.0
	comp=Z,241nm,1.8s					
NWAO	**Narrogin (SRO)**	**39.14**	**154**	P	**P**	**13 33 50.7 +3.3**
NWAO	**Narrogin (SRO)**	**39.14**	**154**	P	**P**	**13 33 48.8 +1.4**
NWAO				pmax	pmax	
	comp=Z,241nm,1.8s					
H01W3	**Cape Leeuwin H**	**39.62**	**159**	T	T	14 15 32.2
	baz=334,slow=76,SNR=20					
H01W2	**Cape Leeuwin H**	**39.62**	**159**	T	T	14 15 38.4
	baz=334,slow=76,SNR=29					
H01W1	**Cape Leeuwin H**	**39.62**	**159**	T	T	14 15 31.6
	baz=334,slow=76,SNR=17					
WRKA	**Warakurna**	**39.79**	**134**	P	**P**	**13 33 53.4 +0.5**
	comp=Z,29nm,0.6s					
WRKA	**Warakurna**	**39.79**	**134**	P	**P**	**13 33 52.6 -0.3**
KMBL	**Kambalda**	**40.15**	**147**	P	**P**	**13 33 58.2 +2.4**
	comp=Z,105nm,0.8s					
KMBL	**Kambalda**	**40.15**	**147**	P	**P**	**13 33 57.6 +1.8**
HHC	**Hu-ho-hao-te**	**40.71**	**16**	*e*P	**P**	**13 34 00.7 +0.3**
HHC				pP	pP	13 34 11.7 -3.3
HHC				S	**S**	**13 40 09.7 +2.9**
HHC				pmax	pmax	
	comp=Z,25nm,1.0s					
HHC				pmax	pmax	
	comp=Z,210nm,4.1s					
HHC				LR	LR	
	comp=Z,1μm,17.1s					
HHC				LR	LR	
	comp=Z,510nm,20.1s					
HHC				LR	LR	
	comp=Z,1μm,15.3s					
SMPI	**Sarmi**	**40.96**	**95**	P	**P**	**13 34 02.0 -0.8**
	comp=Z,33nm,0.8s					
BJT	**Baijiatuau**	**41.42**	**21**	IAmb	IAmb	13 34 08.7
	comp=Z,45nm,0.8s					
BJT	**Baijiatuau**	**41.42**	**21**	P	**P**	**13 34 07.4 +1.2**
BJT	**Baijiatuau**	**41.42**	**21**	P	**P**	**13 34 06.3 +0.1**
BJT	**Baijiatuau**	**41.42**	**21**	P	**P**	**13 34 06.5 +0.4**
BJI	**Beijing**	**41.44**	**21**	P	**P**	**13 34 06.2 -0.1**
BJI				S	**S**	**13 40 17.4 -0.1**
BJI				pmax	pmax	
	comp=Z,32nm,0.8s					
BJI				pmax	pmax	
	comp=Z,150nm,4.6s					
BJI				LR	LR	
	comp=Z,220nm,14.5s					
BJI				LR	LR	
	comp=Z,190nm,15.3s					
BJI				LR	LR	
	comp=Z,200nm,17.7s					
WB0	**Warramunga Arr**	**41.76**	**123**	P	**P**	**13 34 09.1 -0.2**
WB0				IAmb	IAmb	13 34 20.7
	comp=Z,58nm,0.7s					
WRA	**Warramunga Arr**	**41.79**	**123**	P	**P**	**13 34 08.6 -0.9**
WRA	**Warramunga Arr**	**41.79**	**123**	P	**P**	**13 34 09.0 -0.6**
	comp=Z,45nm,0.8s,baz=302,slow=9.1,SNR=204					
WRA				PcP	**PcP**	**13 36 05.9 +0.9**
	comp=Z,19nm,0.8s,baz=307,slow=2.8,SNR=8.6					
WRA				S	**S**	**13 40 17.6 -5.7**
	comp=Z,6.7nm,1.1s,baz=297,slow=16,SNR=7.8					
WRA				PKiKP	**PKiKP**	**13 43 10.9 -0.8**
	comp=Z,0.4nm,0.8s,baz=302,slow=1.7,SNR=1.7					
WRA				LR	LR	13 52 32.9
	comp=Z,491nm,21.8s,baz=290,slow=38					
	comp=Z,45nm,0.8s					
WRAB	**Tennant Creek**	**41.80**	**123**	P	**P**	**13 34 09.4 -0.1**
WRAB				IAmb	IAmb	13 34 18.4
	comp=Z,59nm,0.8s					
WRAB	**Tennant Creek**	**41.80**	**123***c i*P		**P**	**13 34 09.0 -0.6**
WRAB				pmax	pmax	
	comp=Z,58nm,0.8s					
WB2	**Warramunga Arr**	**41.80**	**123**	IAmb	IAmb	13 34 33.6
	comp=Z,56nm,0.7s					
WB2	**Warramunga Arr**	**41.80**	**123**	P	**P**	**13 34 09.0 -0.6**
WR0	**Warramunga Arr**	**41.97**	**123**	IAmb	IAmb	13 34 35.1
	comp=Z,80nm,0.7s					
KBL	**Kabul**	**42.19**	**324**	P	**P**	**13 34 12.6 -0.2**
KBL	**Kabul**	**42.19**	**324**	P	**P**	**13 34 12.9 +0.1**
	SNR=20					
KBL				P	**P**	**13 34 12.9 +0.1**
	SNR=20					
KBL	**Kabul**	**42.19**	**324**	P	**P**	**13 34 12.6 -0.2**
KBL				pmax	pmax	
	comp=Z,48nm,1.0s					
NGCH	**Negor - Chabah**	**42.43**	**307**	P	**P**	**13 34 17.2 +2.6**
KSH	**Kashi**	**42.46**	**335**	P	**P**	**13 34 13.6 -1.2**
KSH				pmax	pmax	
	comp=Z,49nm,0.7s					
KSH				pmax	pmax	
	comp=Z,200nm,5.0s					
KSH				LR	LR	
	comp=Z,450nm,16.5s					
KSH				LR	LR	
	comp=Z,440nm,19.7s					
KSH				LR	LR	
	comp=Z,880nm,17.5s					
GENI	**Genyem**	**42.47**	**96**	P	**P**	**13 34 14.3 -0.8**
JLN	**Jalan Bani Buh**	**42.50**	**301**	P	**P**	**13 34 17.0 +1.7**
JLN				P	**P**	**13 34 17.0 +1.7**
WUS	**Wushi**	**42.62**	**339**	IAmb	IAmb	13 34 17.8
	comp=Z,109nm,0.8s					
WUS	**Wushi**	**42.62**	**339**	P	**P**	**13 34 16.5 +0.3**
WUS				pP	**pP**	**13 34 30.8 0.0**
WUS				sP	**sP**	**13 34 37.5 +0.2**
WMQ	**Urumqi**	**42.74**	**349**	*e*P	**P**	**13 34 17.5 +0.6**
WMQ				pmax	pmax	
	comp=Z,180nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,220nm,3.6s					
WMQ				LR	LR	
	comp=Z,470nm,20.5s					
WMQ				LR	LR	
	comp=Z,560nm,19.3s					
WMQ				LR	LR	
	comp=Z,550nm,22.9s					
WMQ	**Urumqi**	**42.74**	**349**	P	**P**	**13 34 17.6 +0.7**
WMQ				pP	**pP**	**13 34 32.0 +0.5**
DL2	**Dalian**	**42.74**	**28**	P	**P**	**13 34 17.0 +0.1**
DL2				S	**S**	**13 40 39.9 +3.2**
DL2				pmax	pmax	
	comp=Z,96nm,0.8s					
DL2				pmax	pmax	
	comp=Z,630nm,5.5s					
DL2				LR	LR	
	comp=Z,850nm,21.1s					
DL2				LR	LR	
	comp=Z,850nm,19.7s					
DL2				LR	LR	
	comp=Z,980nm,17.3s					
JAY	**Jayapura**	**42.99**	**96**	P	**P**	**13 34 18.1 -1.4**
	comp=Z,42nm,0.8s,baz=87,slow=22,SNR=13					
	comp=Z,42nm,0.8s					
JAY	**Jayapura**	**42.99**	**96**	P	**P**	**13 34 17.9 -1.5**
	comp=Z,43nm,0.8s					
WBK	**Wadi Bani Khal**	**43.05**	**302**	P	**P**	**13 34 21.7 +1.9**
WBK				P	**P**	**13 34 21.7 +1.9**
ASAR	**Alice Springs**	**43.24**	**128**	P	**P**	**13 34 20.9 -0.4**
	comp=Z,13nm,0.7s,baz=297,slow=8.0,SNR=233					
ASAR				PcP	**PcP**	**13 36 11.3 +1.5**
	comp=Z,17nm,0.8s,baz=312,slow=3.2,SNR=14					
ASAR				ScP	**ScP**	**13 39 55.1 -1.4**
	comp=Z,1.1nm,0.9s,baz=296,slow=2.6,SNR=4.4					
ASAR				S	**S**	**13 40 40.2 -4.3**
	comp=Z,4.9nm,0.9s,baz=300,slow=15,SNR=12					
ASAR				PKiKP	**PKiKP**	**13 43 12.4 -0.5**
	comp=Z,0.3nm,0.5s,baz=297,slow=0.5,SNR=6.0					
ASAR				ScS	**ScS**	**13 44 14.9 -1.9**
	comp=Z,0.8nm,1.0s,baz=305,slow=5.6,SNR=4.1					
ASAR				LR	LR	13 52 57.9
	comp=Z,347nm,21.7s,baz=302,slow=37					
	comp=Z,13nm,0.7s					
AS31	**Alice Springs**	**43.24**	**128**	P	**P**	**13 34 20.5 -0.8**
	comp=Z,8.5nm,0.7s					
AS01	**Alice Springs**	**43.27**	**128**	P	**P**	**13 34 21.4 -0.1**
AS06	**Alice Springs**	**43.28**	**128**	P	**P**	**13 34 21.3 -0.3**
	comp=Z,31nm,0.7s					
AS19	**Alice Springs**	**43.30**	**128**	P	**P**	**13 34 21.1 -0.7**
	comp=Z,29nm,0.8s					
MHTO	**MHTO**	**43.32**	**299**	P	**P**	**13 34 22.3 +0.5**
MHTO				P	**P**	**13 34 22.3 +0.5**
FORT	**Forrest**	**43.34**	**141**	P	**P**	**13 34 23.5 +1.6**
FORT				IAmb	IAmb	13 34 40.3
	comp=Z,106nm,0.7s					
FORT	**Forrest**	**43.34**	**141**	P	**P**	**13 34 23.2 +1.3**
	comp=Z,136nm,0.6s					
FORT	**Forrest**	**43.34**	**141**	P	**P**	**13 34 23.9 +2.0**
TJN	**Taejon**	**43.81**	**35***c i*P		**P**	**13 34 24.7 -0.8**
JNU	**Nakatsue**	**43.82**	**41**	P	**P**	**13 34 26.1 +0.3**
JNU				IAmb	IAmb	13 35 23.7
	comp=Z,203nm,2.0s					
JNU	**Nakatsue**	**43.82**	**41**	LR	LR	13 54 58.0
	comp=Z,560nm,18.2s,baz=215,slow=39					
JNU	**Nakatsue**	**43.82**	**41**	P	**P**	**13 34 26.8 +1.0**
SMDO	**Samad**	**44.01**	**302**	P	**P**	**13 34 29.3 +1.7**
SMDO				P	**P**	**13 34 29.3 +1.7**
BIDO	**Bidbid**	**44.12**	**302**	P	**P**	**13 34 30.6 +2.3**
KDJ	**Kajisay**	**44.19**	**338**	P	**P**	**13 34 29.8 +1.1**
KDJ				pmax	pmax	
	comp=Z,263nm,0.9s					
SHLS	**Shalkode**	**44.27**	**341**	*e*P	**P**	**13 34 28.3 -1.1**
SHLS				pmax	pmax	
	comp=Z,62nm,0.8s					
SHLS	**Shalkode**	**44.27**	**341**	*e*P	**P**	**13 34 28.3 -1.1**
	comp=Z,62nm,0.8s					
DRK	**Karamyk**	**44.34**	**331**	P	**P**	**13 34 30.9 +0.7**
UZB	**Uzynbulak**	**44.41**	**340**	*e*P	**P**	**13 34 30.5 0.0**
UZB				pmax	pmax	
	comp=Z,62nm,0.8s					
UZB	**Uzynbulak**	**44.41**	**340**	*e*P	**P**	**13 34 30.6 0.0**
	comp=Z,62nm,0.8s					
PDGK	**Podgornoye**	**44.42**	**341**	P	**P**	**13 34 31.1 +0.6**
SATY	**Saty**	**44.55**	**340**	*e*P	**P**	**13 34 31.6 0.0**
SATY				pmax	pmax	
	comp=Z,80nm,0.9s					
SATY	**Saty**	**44.55**	**340**	*e*P	**P**	**13 34 31.6 0.0**
	comp=Z,80nm,0.9s					
BSY	**Bisya**	**44.62**	**301**	P	**P**	**13 34 34.4 +2.1**
	SNR=8.2					
BSY				P	**P**	**13 34 34.4 +2.1**
	SNR=8.2					
ULHL	**Ulahol**	**44.64**	**337**	P	**P**	**13 34 33.0 +0.5**
	SNR=38					
OHH	**Osh**	**44.70**	**333**	P	**P**	**13 34 33.8 +1.1**
OHH				pmax	pmax	
	comp=Z,117nm,0.9s					
KPKS	**Kokpek**	**44.81**	**340**	*e*P	**P**	**13 34 33.4 -0.2**
KPKS				pmax	pmax	
	comp=Z,59nm,1.1s					
KPKS	**Kokpek**	**44.81**	**340**	*e*P	**P**	**13 34 33.4 -0.2**
	comp=Z,59nm,1.1s					
HOQ	**Hoqain**	**44.84**	**302**	P	**P**	**13 34 36.1 +2.1**
HOQ				P	**P**	**13 34 36.1 +2.1**
XLT	**XiLinHaoTe**	**44.84**	**19**	*e*P	**P**	**13 34 32.6 -1.2**
XLT				pmax	pmax	
	comp=Z,20nm,1.0s					
XLT				pmax	pmax	
	comp=Z,190nm,4.6s					
XLT				LR	LR	
	comp=Z,66nm,14.2s					
XLT				LR	LR	
	comp=Z,570nm,14.3s					
XLT				LR	LR	
	comp=Z,1μm,16.4s					
KSAR	**Wonju Array Be**	**44.85**	**34**	P	**P**	**13 34 33.8 -0.1**
KSAR	**Wonju Array Be**	**44.85**	**34**	P	**P**	**13 34 33.8 -0.1**
KSRS	**Korea Array**	**44.88**	**34**	P	**P**	**13 34 33.6 -0.5**
	comp=Z,36nm,0.8s,baz=221,slow=9.2,SNR=122					
KSRS				LR	LR	13 53 46.5
	comp=Z,489nm,21.0s,baz=220,slow=37					
	comp=Z,36nm,0.8s					
KS19	**Wonju Array Si**	**44.88**	**34**	IAmb	IAmb	13 34 34.5
	comp=Z,46nm,0.8s					
BOOM	**Boomskoye usch**	**44.97**	**337**	IAmb	IAmb	13 34 36.7
	comp=Z,65nm,0.8s					
BOOM	**Boomskoye usch**	**44.97**	**337**	P	**P**	**13 34 35.3 +0.3**
BOOM				pmax	pmax	
	comp=Z,92nm,1.2s					
DMTO	**DMTO**	**45.02**	**293**	P	**P**	**13 34 37.2 +1.7**
DMTO				P	**P**	**13 34 37.2 +1.7**
TNSS	**Tian-Shan**	**45.05**	**338**	*e*P	**P**	**13 34 35.5 -0.4**
TNSS	**Tian-Shan**	**45.05**	**338**	*e*P	**P**	**13 34 35.6 -0.4**
ARLS	**Aral**	**45.10**	**335**	P	**P**	**13 34 37.1 +1.1**
ARLS				pmax	pmax	
	comp=Z,182nm,1.0s					
SIMJ	**Simiganj**	**45.15**	**328**	P	**P**	**13 34 36.1 -0.3**
SIMJ	**Simiganj**	**45.15**	**328**	P	**P**	**13 34 36.1 -0.3**
SIMJ				pP	**pP**	**13 34 51.0 -0.1**
AAA	**Alma-Ata**	**45.21**	**338**	*e*P	**P**	**13 34 36.9 +0.1**
AAA				pmax	pmax	
	comp=Z,57nm,0.7s					
AAA	**Alma-Ata**	**45.21**	**338**	*e*P	**P**	**13 34 36.9 +0.1**
	comp=Z,57nm,0.7s					
BTK	**Batken**	**45.27**	**331**	P	**P**	**13 34 38.6 +1.3**
BTK				pmax	pmax	
	comp=Z,140nm,1.1s					
JASK	**Jask - Hormozg**	**45.30**	**305**	P	**P**	**13 34 40.2 +2.6**
UCH	**Uchtor**	**45.32**	**335**	P	**P**	**13 34 39.2 +1.1**
	SNR=15					
DZET	**Dzherino**	**45.35**	**328**	P	**P**	**13 34 37.5 -0.5**
DZET				pmax	pmax	
	comp=Z,74nm,0.7s					
ARQ	**Araqi**	**45.41**	**301**	P	**P**	**13 34 40.8 +2.1**
ARQ				P	**P**	**13 34 40.8 +2.1**
TKM2	**Tokmak 2**	**45.47**	**337**	P	**P**	**13 34 39.7 +0.7**
	SNR=90					
TKM2	**Tokmak 2**	**45.47**	**337**	P	**P**	**13 34 39.5 +0.5**
KBK	**Karagaybulak**	**45.50**	**336**	P	**P**	**13 34 40.5 +1.3**
	SNR=80					
AML	**Almayashu**	**45.59**	**335**	P	**P**	**13 34 41.3 +1.2**
	SNR=12					
RBK	**Rabkut**	**45.65**	**293**	P	**P**	**13 34 42.6 +2.1**
	SNR=6.9					
RBK				P	**P**	**13 34 42.6 +2.1**
	SNR=6.9					
AAK	**Ala-Archa**	**45.67**	**336**	P	**P**	**13 34 41.3 +0.8**
AAK				IAmb	IAmb	13 34 46.7
	comp=Z,49nm,1.0s					
AAK	**Ala-Archa**	**45.67**	**336**	LR	LR	13 55 21.9
	comp=Z,1μm,21.8s,baz=151,slow=38					
AAK	**Ala-Archa**	**45.67**	**336**	P	**P**	**13 34 41.8 +1.2**
AAK				P	**P**	**13 34 41.8 +1.2**
AAK	**Ala-Archa**	**45.67**	**336**	P	**P**	**13 34 41.6 +1.1**
	SNR=38					
AAK	**Ala-Archa**	**45.67**	**336***c i*P		**P**	**13 34 41.4 +0.8**
AAK				pmax	pmax	
	comp=Z,56nm,1.0s					
AAK	**Ala-Archa**	**45.67**	**336** *i* P		**P**	**13 34 41.6 +1.1**
	SNR=61					
AAK	**Ala-Archa**	**45.67**	**336**	P	**P**	**13 34 41.4 +0.8**
AAK				pP	**pP**	**13 34 56.3 +1.0**
AAK				PcP	**PcP**	**13 36 19.3 +1.4**
SOHO	**SOHO**	**45.70**	**302**	P	**P**	**13 34 42.4 +1.5**
SOHO				P	**P**	**13 34 42.4 +1.5**
FRU1	**Bishkek**	**45.76**	**336**	P	**P**	**13 34 42.4 +1.3**
FRU1				pmax	pmax	
	comp=Z,73nm,0.4s					
ARXS	**Arharly**	**45.76**	**340**	*e*P	**P**	**13 34 41.8 +0.7**
CHMS	**Chumysh**	**45.87**	**336**	P	**P**	**13 34 42.5 +0.6**
	SNR=30					
EKS2	**Erkin-Say**	**45.99**	**335**	P	**P**	**13 34 44.2 +1.2**
	SNR=92					
DOK	**Doka**	**46.01**	**294**	P	**P**	**13 34 45.1 +1.7**
	SNR=8.8					
DOK				P	**P**	**13 34 45.1 +1.7**
	SNR=8.8					
ARK	**Arkit**	**46.08**	**333**	P	**P**	**13 34 44.5 +0.8**
ARK				pmax	pmax	
	comp=Z,87nm,1.0s					
WHFO	**Wadi Hawf**	**46.15**	**293**	P	**P**	**13 34 46.0 +1.5**
	SNR=7.3					
WHFO				P	**P**	**13 34 46.0 +1.5**
	SNR=7.3					
JMN	**Monobe**	**46.19**	**43**	P	**P**	**13 34 45.0 +0.4**
JMN				IAmb	IAmb	13 35 04.8
	comp=Z,44nm,1.0s					
JMN	**Monobe**	**46.19**	**43**	P	**P**	**13 34 45.7 +1.1**
USP	**Ospenovka**	**46.20**	**336**	P	**P**	**13 34 44.8 +0.3**
	SNR=123					
TRKS	**Terek-Say**	**46.25**	**332**	P	**P**	**13 34 45.3 +0.2**
TRKS				pmax	pmax	
	comp=Z,56nm,0.8s					
TDK	**Taldyqorghan**	**46.26**	**341**	*e*P	**P**	**13 34 45.0 0.0**
TDK				pmax	pmax	
	comp=Z,51nm,0.8s					
TDK	**Taldyqorghan**	**46.26**	**341**	*e*P	**P**	**13 34 45.0 0.0**
	comp=Z,51nm,0.8s					
UOSS	**Minazif**	**46.30**	**303**	P	**P**	**13 34 45.1 -0.5**
UOSS	**Minazif**	**46.30**	**303**	P	**P**	**13 34 46.5 +0.9**
UOSS				P	**P**	**13 34 46.5 +0.9**
UOSS	**Minazif**	**46.30**	**303**	P	**P**	**13 34 46.1 +0.5**
SGDS	**Sogindy**	**46.30**	**337**	*e*P	**P**	**13 34 45.3 0.0**
SGDS				pmax	pmax	
	comp=Z,27nm,1.0s					
SGDS	**Sogindy**	**46.30**	**337**	*e*P	**P**	**13 34 45.4 0.0**
	comp=Z,27nm,1.0s					
HATD	**Hatta, Dubai**	**46.31**	**303**	P	**P**	**13 34 47.7 +2.0**
HATD				P	**P**	**13 34 47.7 +2.0**
HATD	**Hatta, Dubai**	**46.31**	**303**	P	**P**	**13 34 46.7 +1.0**
ASHO	**Ashiyiah**	**46.32**	**303**	P	**P**	**13 34 47.8 +2.1**
ALNE	**Al Ain**	**46.34**	**302**	P	**P**	**13 34 47.8 +1.9**
	SNR=7.2					
ALNE				P	**P**	**13 34 47.8 +1.9**
	SNR=7.2					
ALNE	**Al Ain**	**46.34**	**302** *i* P		**P**	**13 34 47.5 +1.6**
	SNR=6.7					
MDH	**Madha**	**46.36**	**304**	P	**P**	**13 34 46.1 +0.1**
SONM	**Songino Array**	**46.36**	**8**	P	**P**	**13 34 45.8 0.0**
SONM				IAmb	IAmb	13 34 47.1
	comp=Z,85nm,0.9s					
SONM	**Songino Array**	**46.36**	**8**	P	**P**	**13 34 46.0 +0.2**
	comp=Z,75nm,0.8s,baz=189,slow=8.5,SNR=375					
SONM				PcP	**PcP**	**13 36 20.7 +0.6**
	comp=Z,13nm,0.7s,baz=184,slow=3.2,SNR=5.0					
SONM				ScP	**ScP**	**13 40 07.9 -1.0**
	comp=Z,2.9nm,1.1s,baz=211,slow=4.3,SNR=5.2					
SONM				LR	LR	13 56 21.3
	comp=Z,972nm,19.6s,baz=184,slow=39					
	comp=Z,75nm,0.8s					
UMZA	**Um Al Zommool**	**46.36**	**300**	P	**P**	**13 34 47.4 +1.3**
UMZA				P	**P**	**13 34 47.4 +1.3**
HRA	**Herat**	**46.39**	**318**	P	**P**	**13 34 46.0 -0.4**
ABTO	**Aybut**	**46.45**	**292**	P	**P**	**13 34 48.6 +1.7**
	SNR=5.2					
ABTO				P	**P**	**13 34 48.6 +1.7**
	SNR=5.2					
ULN	**Ulaanbaatar**	**46.48**	**8**	P	**P**	**13 34 47.1 +0.4**
ULN				IAmb	IAmb	13 34 48.0
	comp=Z,60nm,0.9s					
ULN	**Ulaanbaatar**	**46.48**	**8***c i*P		**P**	**13 34 46.7 -0.1**
ULN				pmax	pmax	
	comp=Z,76nm,1.0s					
ULN	**Ulaanbaatar**	**46.48**	**8**	P	**P**	**13 34 46.6 -0.1**

comp=Z,26nm,1.1s
QIS Mount Isa 46.52 121 P **P 13 34 47.5 +0.1**
MK31 Makanchi Array 46.76 345*c i*P **P 13 34 48.9 0.0**
MKAR Makanchi Array 46.76 345 P **P 13 34 49.4 +0.5**
MKAR Makanchi Array 46.76 345 P **P 13 34 49.0 +0.1**
comp=Z,230nm,0.8s,baz=157,slow=7.5,SNR=1280
MKAR LR LR 13 58 44.5
comp=Z,311nm,20.7s,baz=140,slow=42
comp=Z,230nm,0.8s
MKAR Makanchi Array 46.76 345 P **P 13 34 49.4 +0.5**
NAZ Nazwa, Dubai 46.77 303 P **P 13 34 50.8 +1.6**
NAZ P **P 13 34 50.8 +1.6**
NAZ Nazwa, Dubai 46.77 303 P **P 13 34 50.3 +1.1**
OOD Oodnadatta 46.78 132 P **P 13 34 49.7 +0.4**
ZSN Zaisan 46.78 348 *e*P **P 13 34 49.1 +0.1**
ZSN pmax pmax
comp=Z,44nm,0.9s
ZSN Zaisan 46.78 348 *e*P **P 13 34 49.1 +0.1**
comp=Z,44nm,0.9s
MAKZ Makanchi 46.86 345 P **P 13 34 49.9 +0.3**
MAKZ Makanchi 46.86 345 P **P 13 34 49.9 +0.3**
MAKZ pmax pmax
comp=Z,164nm,0.8s
MAKZ Makanchi 46.86 345 P **P 13 34 49.6 0.0**
MAKZ sP **sP 13 35 11.4 +0.5**
MAKZ PcP **PcP 13 36 22.1 +0.3**
ASUD Al Ashush, Dub 46.91 302 P **P 13 34 52.6 +2.3**
SNR=6.1
ASUD P **P 13 34 52.6 +2.3**
SNR=6.1
ASUD Al Ashush, Dub 46.91 302 *i* P **P 13 34 52.3 +2.0**
SNR=7.5
DZA Taraz 47.24 333 *e*P **P 13 34 52.5 -0.1**
DZA pmax pmax
comp=Z,35nm,0.8s
DZA Taraz 47.24 333 *e*P **P 13 34 52.6 -0.1**
comp=Z,35nm,0.8s
IUG Iuzhnay 47.25 332 *e*P **P 13 34 52.8 -0.1**
IUG pmax pmax
comp=Z,41nm,0.8s
IUG Iuzhnay 47.25 332 *e*P **P 13 34 52.8 -0.1**
comp=Z,41nm,0.8s
COEN Coen 47.53 111 P **P 13 34 55.1 -0.2**
COEN Coen 47.53 111 P **P 13 34 54.7 -0.5**
comp=Z,28nm,0.8s
COEN Coen 47.53 111 P **P 13 34 55.4 +0.1**
KK31 Karatay Array 47.77 333 IAmb IAmb 13 35 14.0
comp=Z,66nm,1.1s
KK31 Karatay Array 47.77 333 *i* P **P 13 34 57.1 +0.3**
KKAR Karatay Array 47.77 333 P **P 13 34 56.9 +0.1**
KKAR Karatay Array 47.77 333 IAmb IAmb 13 35 14.0
comp=Z,38nm,1.1s
KKAR Karatay Array 47.77 333 P **P 13 34 56.9 +0.1**
GUMO Guam 47.85 73 LR LR 13 54 05.3
comp=Z,89nm,21.8s,baz=250,slow=35
MZR Muzera 47.92 300 P **P 13 34 59.9 +1.7**
MZR P **P 13 34 59.9 +1.7**
MZR Muzera 47.92 300 *i* P **P 13 34 59.8 +1.5**
SNR=11
BRLS Borolday 48.03 332 *e*P **P 13 34 57.7 -1.0**
BRLS Borolday 48.03 332 *e*P **P 13 34 57.8 -1.0**
CN2 Changchun 48.37 27 *e*P **P 13 34 59.8 -1.6**
CN2 PcP **PcP 13 36 26.5 -0.7**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,520nm,15.0s
CN2 LR LR
comp=Z,660nm,15.0s
CN2 LR LR
comp=Z,880nm,16.0s
GHWR Ruwais 48.76 301 P **P 13 35 06.2 +1.6**
GHWR P **P 13 35 06.2 +1.6**
JCJ Chichijima 49.24 55 LR LR 13 53 16.1
comp=Z,90nm,21.1s,baz=176,slow=33
MOY Mondy 49.68 3 *e*P **P 13 35 11.3 0.0**
MOY pmax pmax
comp=Z,49nm,1.1s
MTSU Mount Surprise 49.80 116 P **P 13 35 13.1 +0.3**
comp=Z,52nm,0.9s
MTSU Mount Surprise 49.80 116 P **P 13 35 13.8 +1.0**
BBOO Buckleboo 49.88 137 P **P 13 35 13.9 +0.9**
comp=Z,18nm,0.8s
BBOO Buckleboo 49.88 137 P **P 13 35 14.3 +1.2**
JHJ Hachijo jima 2 50.03 47 LR LR 13 56 26.0
comp=Z,219nm,19.7s,baz=94,slow=36
LCRK Leigh Creek 50.07 133 P **P 13 35 15.8 +1.3**
PMG Port Moresby 50.31 104 P **P 13 35 16.3 -0.3**
PMG pP **pP 13 35 30.1 -1.4**
TRNA Turayna 50.45 301 P **P 13 35 18.5 +1.0**
IRK Irkutsk 50.47 5 *e*P **P 13 35 16.5 -0.7**
IRK pmax pmax
comp=Z,127nm,2.2s
INKA Innaminka 50.61 129 P **P 13 35 19.5 +0.8**
MAJO Matsushiro 50.70 42⇑*e*P **P 13 35 19.6 +0.3**
MAJO pmax pmax
comp=Z,75nm,2.4s
MJAR Matsushiro Arr 50.70 42 P **P 13 35 19.0 -0.3**
comp=Z,11nm,0.8s,baz=221,slow=5.5,SNR=14
MJAR LR LR 13 59 11.7
comp=Z,271nm,19.3s,baz=242,slow=39
comp=Z,11nm,0.8s
MJAR Matsushiro Arr 50.70 42 P **P 13 35 19.0 -0.3**
BNX BinXian 50.76 26 ⇑P **P 13 35 18.6 -0.9**
BNX pmax pmax
comp=Z,32nm,0.8s
HIA Hailar 50.77 18 P **P 13 35 19.2 -0.3**
HIA Hailar 50.77 18 P **P 13 35 19.1 -0.5**
SMRA Abu-Samra 50.78 301 P **P 13 35 21.1 +1.1**
MDJ Mudanjiang 50.92 29 P **P 13 35 22.5 +1.7**
MDJ pmax pmax
comp=Z,25nm,0.9s
VLA Vladivostok 51.01 32⇓*e*P **P 13 35 21.8 +0.4**
VLA pmax pmax
comp=Z,16nm,0.9s
OTUK Ortayu 51.18 338 P **P 13 35 23.2 +0.5**
KURBB Kurchatov Arra 51.27 344 P **P 13 35 23.5 +0.3**
comp=Z,114nm,0.7s,baz=166,slow=7.3,SNR=1239
KURBB PcP **PcP 13 36 38.5 +0.8**
comp=Z,12nm,0.8s,baz=153,slow=3.3,SNR=4.0
KURBB S **S 13 42 38.1 +0.3**
comp=Z,0.9nm,0.8s,baz=153,slow=14,SNR=5.6
KURBB LR LR 14 00 29.8
comp=Z,357nm,21.9s,baz=146,slow=40
comp=Z,114nm,0.7s
KURBB Kurchatov Arra 51.27 344 P **P 13 35 23.3 +0.1**
KURK Kurchatov 51.33 344 P **P 13 35 23.8 +0.2**
KURK Kurchatov 51.33 344*c i*P **P 13 35 24.0 +0.3**
KURK pmax pmax
comp=Z,187nm,0.8s
KURK Kurchatov 51.33 344 P **P 13 35 24.0 +0.3**
KURK pP **pP 13 35 39.5 +0.9**
KURK sP **sP 13 35 46.5 +1.4**
CIT Chita 51.65 12 *e*P **P 13 35 26.0 -0.1**
CIT *e* 13 35 38.0
CIT *e* 13 36 39.8
CIT *e* 13 38 22.4
CIT pmax pmax
comp=Z,164nm,2.4s
USA0B Ussuriysk Arra 51.82 31 IAmb IAmb 13 36 10.1
comp=Z,37nm,1.2s
USA0B Ussuriysk Arra 51.82 31*de*P **P 13 35 26.6 -0.8**
USRK Ussuriysk Ar. 51.82 31 P **P 13 35 27.1 -0.3**
USRK Ussuriysk Ar. 51.82 31 P **P 13 35 27.3 -0.1**
comp=Z,8.2nm,0.7s,baz=233,slow=7.1,SNR=20
USRK LR LR 14 00 12.0
comp=Z,602nm,18.7s,baz=223,slow=39
comp=Z,8.2nm,0.7s
HTT Hallett 52.20 136 P **P 13 35 31.4 +0.8**
comp=Z,36nm,0.8s
HTT Hallett 52.20 136 P **P 13 35 32.4 +1.8**
BRZS Berezniki 52.52 340 *e*P **P 13 35 32.7 +0.1**
BRZS pmax pmax
comp=Z,31nm,0.9s
BRZS Berezniki 52.52 340 *e*P **P 13 35 32.7 +0.1**
comp=Z,31nm,0.9s
QLP Quilpie 52.87 126 P **P 13 35 36.4 +0.8**
comp=Z,89nm,0.7s
QLP Quilpie 52.87 126 P **P 13 35 36.6 +1.1**
ZALV Zalesovo Beam 53.01 350 P **P 13 35 36.3 +0.3**
ZALV Zalesovo Beam 53.01 350 P **P 13 35 36.1 0.0**
comp=Z,148nm,0.6s,baz=177,slow=6.9,SNR=683
ZALV S **S 13 43 01.4 -0.2**
comp=Z,1.9nm,0.8s,baz=163,slow=14,SNR=4.1
ZALV LR LR 14 00 48.6
comp=Z,321nm,21.1s,baz=168,slow=39
comp=Z,148nm,0.6s
ZALV Zalesovo Beam 53.01 350 P **P 13 35 36.3 +0.3**
STKA Stephens Creek 53.28 133 P **P 13 35 39.0 +0.4**
STKA Stephens Creek 53.28 133 P **P 13 35 39.0 +0.4**
comp=Z,6.6nm,0.5s,baz=311,slow=6.3,SNR=27
STKA LR LR 13 59 11.6
comp=Z,386nm,21.3s,baz=296,slow=37
comp=Z,6.6nm,0.5s
STKA Stephens Creek 53.28 133 P **P 13 35 39.5 +1.0**
STKA Stephens Creek 53.28 133*c i*P **P 13 35 38.9 +0.4**
HEH HeiHe 54.30 23 *e*P **P 13 35 45.3 -0.3**
HEH pmax pmax
comp=Z,26nm,1.0s
HEH LR LR
comp=Z,530nm,14.9s
HEH LR LR
comp=Z,260nm,14.0s
HEH LR LR
comp=Z,820nm,13.6s
KBD Kabd 54.90 305 P **P 13 35 51.1 +0.8**
JTM Tenmabayashi 54.91 39 P **P 13 35 51.6 +1.4**
RAYN Ar Rayn 55.08 297 P **P 13 35 52.0 +0.2**
RAYN IAmb IAmb 13 35 53.3
comp=Z,30nm,0.8s
RAYN Ar Rayn 55.08 297 P **P 13 35 52.6 +0.8**
RAYN Ar Rayn 55.08 297 P **P 13 35 52.0 +0.2**
RAYN pmax pmax
comp=Z,30nm,0.8s
RAYN Ar Rayn 55.08 297 *i* P **P 13 35 52.4 +0.6**
SNR=25
RAYN Ar Rayn 55.08 297 P **P 13 35 52.0 +0.2**
RAYN sP **sP 13 36 13.8 +0.4**
RAYN PcP **PcP 13 36 53.2 +0.4**
ATD Arta Tunnel 55.44 283 LR LR 13 57 49.0
comp=Z,9.4nm,18.2s,baz=82,slow=34
BVA0 Borovoye Array 55.85 340 *i* P **P 13 35 56.4 -0.4**
BVAR Borovoye Array 55.85 340 P **P 13 35 56.4 -0.4**
comp=Z,121nm,0.8s,baz=140,slow=7.6,SNR=382
BVAR S **S 13 43 37.5 -2.4**
comp=Z,3.4nm,1.1s,baz=139,slow=12,SNR=4.1
BVAR LR LR 14 03 17.5
comp=Z,475nm,20.6s,baz=148,slow=40
comp=Z,121nm,0.8s
BRVK Borovoye 55.91 340 P **P 13 35 56.7 -0.5**
BRVK Borovoye 55.91 340 P **P 13 35 57.2 0.0**
BRVK P **P 13 35 57.2 0.0**
BRVK Borovoye 55.91 340*c i*P **P 13 35 56.7 -0.5**
BRVK pmax pmax
comp=Z,139nm,1.0s
BRVK Borovoye 55.91 340 P **P 13 35 56.8 -0.4**
ARPS Mount Arapiles 56.04 138 P **P 13 35 59.5 +1.1**
CMSA Cobar Meteorol 56.18 130 P **P 13 36 00.3 +0.8**
comp=Z,83nm,0.7s
CMSA Cobar Meteorol 56.18 130 P **P 13 36 00.8 +1.3**
ERM Erimo 56.89 39 P **P 13 36 06.2 +1.9**
RK1H Rockhampton Ha 56.96 119 P **P 13 36 06.2 +1.0**
ZEA Zeya 57.05 20 *e*P **P 13 36 05.6 +0.3**
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA MLR MLR
comp=N,400nm,15.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
BOD Bodaibo 57.21 10 *e*P **P 13 36 06.0 -0.3**
BOD pmax pmax
comp=Z,108nm,1.0s
AB31 Akbulak array 57.26 331 *i* P **P 13 36 06.3 -0.5**
ABKAR Akbulak array 57.26 331 P **P 13 36 06.4 -0.4**
ASAJ Asahikawa 57.69 37 LR LR 14 03 59.0
comp=Z,190nm,18.2s,baz=196,slow=39
ASAJ Asahikawa 57.69 37 P **P 13 36 10.2 +0.3**
JKA Kamikawa-asahi 57.69 37 IAmb IAmb 13 36 25.6
comp=Z,56nm,1.0s
LKRN Lenkeran, Azer 57.87 316 P **P 13 36 12.1 +0.8**
EIDS Eidsvold 58.12 121 IAmb IAmb 13 36 15.1
comp=Z,34nm,0.6s
EIDS Eidsvold 58.12 121 P **P 13 36 13.3 0.0**
comp=Z,52nm,0.8s
EIDS Eidsvold 58.12 121 P **P 13 36 14.2 +0.9**
GRNR Gornyy 58.54 28⇑*i*P **P 13 36 16.1 +0.3**
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,250nm,15.0s
GRNR MLR MLR
comp=Z,640nm,15.0s
TOO Toolangi 58.94 137 P **P 13 36 20.0 +1.2**
comp=Z,8.8nm,0.9s
AKTO Akubinsk 58.98 331 LR LR 14 04 32.4
comp=Z,285nm,19.2s,baz=316,slow=39
AKTO Aktyubinsk 58.98 331 P **P 13 36 17.5 -1.3**
YSS Yuzhno-Sakhali 59.38 34 P **P 13 36 21.9 +0.3**
YSS Yuzhno-Sakhali 59.38 34 *e*P **P 13 36 22.4 +0.7**
YSS *e*S **S 13 44 23.8 -2.6**
YSS pmax pmax
comp=Z,190nm,1.0s
YSS pmax pmax
comp=Z,200nm,5.6s
YSS Yuzhno-Sakhali 59.38 34 P **P 13 36 22.4 +0.7**
YSS pP **pP 13 36 38.2 +1.3**
YNG Young 59.45 132 P **P 13 36 24.0 +1.6**
comp=Z,149nm,1.0s
YNG Young 59.45 132 P **P 13 36 23.7 +1.3**
MNGR Mingechevir, A 59.96 317 P **P 13 36 26.4 +0.6**
SEKA Sheki 60.08 318 P **P 13 36 26.7 0.0**
UGL Uglegorsk 60.25 32 *e*P **P 13 36 28.9 +1.3**
UGL *e*S S 13 44 48.6 +11
UGL pmax pmax
comp=Z,100nm,1.2s
CAN Canberra 60.35 133 P **P 13 36 29.3 +0.7**
CAN IAmb IAmb 13 36 55.3
comp=Z,26nm,1.0s
CAN Canberra 60.35 133 P **P 13 36 28.9 +0.3**
comp=Z,27nm,1.1s
CAN Canberra 60.35 133 P **P 13 36 29.9 +1.3**
CAN Canberra 60.35 133 P **P 13 36 29.3 +0.7**
CAN pmax pmax
comp=Z,26nm,1.0s
CAN Canberra 60.35 133 P **P 13 36 29.9 +1.3**
ARMA Armidale 60.36 127 P **P 13 36 30.7 +1.8**
ARMA IAmb IAmb 13 36 50.3
comp=Z,56nm,1.0s
ARMA Armidale 60.36 127 P **P 13 36 30.1 +1.3**
comp=Z,62nm,1.1s
ARMA Armidale 60.36 127 P **P 13 36 29.9 +1.1**
NAX Nakhchivan 60.38 315 P **P 13 36 29.4 +0.6**
KMBO Kilima Mbogo 60.73 268 P **P 13 36 31.2 -0.6**
KMBO Kilima Mbogo 60.73 268 P **P 13 36 33.2 +1.3**
comp=Z,1.7nm,0.4s,baz=66,slow=9.3,SNR=5.9
KMBO LR LR 13 58 44.4
comp=Z,399nm,20.6s,baz=96,slow=32
GNI Garni 61.31 316 P **P 13 36 34.9 -0.3**
GNI Garni 61.31 316 LR LR 14 07 53.9
comp=Z,105nm,18.5s,baz=105,slow=41
GNI Garni 61.31 316*c i*P **P 13 36 35.5 +0.3**
GNI pmax pmax
comp=Z,71nm,1.1s
GNI Garni 61.31 316 P **P 13 36 35.9 +0.6**
GNI Garni 61.31 316 P **P 13 36 35.8 +0.6**
TYV Tymovskoe 61.63 30 *e*P **P 13 36 38.1 +1.2**
TYV pmax pmax
comp=Z,35nm,1.5s
TYV pmax pmax
comp=Z,300nm,4.5s
GEVA Gevas 61.79 313 IAmb IAmb 13 36 55.9
comp=Z,24nm,0.8s
TRLG Trialeti 62.32 317 P **P 13 36 42.4 +0.4**
SVE Sverdlovsk 62.33 338*de*P **P 13 36 41.4 -0.1**
SVE pmax pmax
comp=Z,144nm,0.9s
SVE MLR MLR
comp=Z,750nm,21.0s
TATA Tatamba Isabel 62.53 100 P **P 13 36 45.2 +1.6**
GURO Guroymak-BITLI 62.63 313 IAmb IAmb 13 36 45.9
comp=Z,34nm,0.9s
KARS Kars 62.66 316 P **P 13 36 45.3 +1.0**
KARS pmax pmax
comp=Z,93nm,0.9s
H04N2 CROZET ISLANDS 62.74 214 T T 14 44 27.5
baz=53,slow=75,SNR=2139
H04N1 CROZET ISLANDS 62.75 214 T T 14 44 28.1
baz=53,slow=75,SNR=1996
H04N3 CROZET ISLANDS 62.76 214 T T 14 44 26.7
baz=53,slow=75,SNR=2208
HNR Honiara 62.79 102 LR LR 14 07 16.8
comp=Z,93nm,18.3s,baz=246,slow=39
ARTI Arti 62.88 337 P **P 13 36 44.3 -0.9**
ARTI Arti 62.88 337 LR LR 14 06 10.6
comp=Z,488nm,21.9s,baz=142,slow=38
ARTI Arti 62.88 337*c i*P **P 13 36 44.6 -0.6**
ARTI *PP **pP 13 36 58.1 -2.5**
ARTI 13 37 27.1
ARTI 13 39 00.8
ARTI S **S 13 45 11.3 +0.7**
ARTI pmax pmax
comp=Z,63nm,0.8s
ARTI MLR MLR
comp=Z,541nm,22.0s
ARTI Arti 62.88 337 P **P 13 36 44.6 -0.6**
ARTI pP **pP 13 36 59.2 -1.4**
H04S1 CROZET ISLANDS 63.08 214 T T 14 44 58.3
baz=52,slow=75,SNR=186
H04S3 CROZET ISLANDS 63.09 214 T T 14 44 49.8
baz=52,slow=75,SNR=132
H04S2 CROZET ISLANDS 63.09 214 T T 14 45 10.8
baz=52,slow=75,SNR=149
NGOA Tingoa Renbel 63.18 104 P **P 13 36 49.3 +1.4**
NCK Nalchik 63.48 319⇓*i*P **P 13 36 50.1 +0.7**
NCK pmax pmax
comp=Z,66nm,0.7s
KBZ Khabaz 64.03 319 P **P 13 36 53.3 +0.2**
comp=Z,77nm,0.8s,baz=126,slow=5.9,SNR=137
KBZ LR LR 14 08 52.4
comp=Z,151nm,20.0s,baz=127,slow=40
comp=Z,77nm,0.8s
KBZ Khabaz 64.03 319*c i*P **P 13 36 53.0 0.0**
KBZ pmax pmax
comp=Z,89nm,0.9s
SHA1 Shidzhatmaz 64.20 319*c i*P **P 13 36 54.6 +0.2**
KVAR Kislovodsk Arr 64.26 319 LR LR 14 08 43.6
comp=Z,121nm,19.7s,baz=120,slow=40
KIV Kislovodsk 64.27 319 P **P 13 36 54.0 -0.7**
KIV Kislovodsk 64.27 319 ⇓P **P 13 36 54.8 +0.1**
KIV Kislovodsk 64.27 319 *e*P **P 13 36 54.6 -0.1**
KIV pmax pmax
comp=Z,105nm,1.0s
KIV MLR MLR
comp=Z,91nm,17.0s
KIV Kislovodsk 64.27 319 *i* P **P 13 36 55.2 +0.4**
SNR=6.1
KIV Kislovodsk 64.27 319 P **P 13 36 54.9 +0.2**
comp=Z,948nmcomp=Z,114nm,1.0s
KIV Kislovodsk 64.27 319 P **P 13 36 54.8 +0.1**
GOF Gofitskoye 64.50 320*ce*P P 13 37 11.1 +15
YAK Yakutsk 64.57 16 P **P 13 36 55.6 -0.6**
YAK Yakutsk 64.57 16 LR LR 14 07 25.6
comp=Z,642nm,21.1s,baz=208,slow=38
YAK Yakutsk 64.57 16*c i*P **P 13 36 55.4 -0.8**
YAK *e**PP **pP 13 37 11.5 -0.1**
YAK *e* 13 37 28.9
YAK *e*PPP PPP 13 40 49.2
YAK *e*S **S 13 45 30.0 -1.3**
YAK *e**SS sS 13 46 08.7 +11
YAK *e* 13 46 43.5
YAK pmax pmax
comp=Z,212nm,1.1s
YAK pmax pmax
comp=N,66nm,1.1s
YAK pmax pmax
comp=E,48nm,1.3s
YAK pmax pmax
comp=Z,311nm,6.8s
YAK pmax pmax
comp=N,137nm,4.2s
YAK pmax pmax
comp=E,165nm,5.4s
YAK smax smax
comp=E,304nm,4.9s
YAK smax smax
comp=N,165nm,5.2s
YAK Yakutsk 64.57 16 P **P 13 36 55.8 -0.4**
YAK pP **pP 13 37 11.7 +0.1**
YAK PcP **PcP 13 37 29.0 -0.7**
GAZ Gaziantep 65.78 310 IAmb IAmb 13 37 06.7
comp=Z,64nm,0.8s
VSLR Vesyoloye 65.84 317*d i*P **P 13 37 05.2 +0.3**
VSLR pmax pmax
comp=Z,95nm,1.0s
MMAI Mount Meron Ar 66.09 305 P **P 13 37 07.8 +1.1**
comp=Z,22nm,0.8s,baz=102,slow=7.8,SNR=24
comp=Z,22nm,0.8s
SOC Sochi 66.10 318 *e*P **P 13 37 04.7 -1.8**
SOC *e* 13 39 29.1
SOC *e*PPP PPP 13 41 04.9
SOC *e*S **S 13 45 50.1 -0.6**
SOC *e*SS **SS 13 50 04.5 -2.8**
SOC pmax pmax
comp=Z,89nm,0.9s
MBAR Mbarara 67.22 269⇓*i*P **P 13 37 16.3 +1.9**
MBAR pmax pmax
comp=Z,10.0nm,0.9s
MBAR Mbarara 67.22 269 P **P 13 37 16.1 +1.7**
MBAR PcP **PcP 13 37 43.8 +1.7**
VRH Novokhopyorsk 67.97 326 *e*P **P 13 37 14.6 -3.5**
VRH pmax pmax
comp=Z,90nm,0.8s
KIRV Kirov 68.00 335 LR LR 14 09 32.9
comp=Z,303nm,20.3s,baz=127,slow=38
KIRV Kirov 68.00 335*c i*P **P 13 37 17.8 -0.4**
ANN Anapa 68.07 318 *e*P **P 13 37 16.5 -2.4**
ANN *e**PP **pP 13 37 29.9 -4.6**
ANN *e*S **S 13 46 12.9 -1.5**
ANN pmax pmax
comp=Z,157nm,1.2s
CSS Mathiatis 68.23 307 IAmb IAmb 13 37 46.1
comp=Z,28nm,0.8s
CSS Mathiatis 68.23 307 P **P 13 37 20.2 0.0**
comp=Z,40nm,1.0s
KOUNC Koumac, New Ca 68.65 113 P **P 13 37 24.6 +1.6**
KIRS Kirsehir-Merke 68.82 311 ⇑P **P 13 37 23.8 -0.1**
BR104 Keskin Array S 69.18 312 P **P 13 37 25.6 -0.6**
comp=Z,226nmcomp=Z,29nm,0.9s
BR131 Keskin Array S 69.19 312*c i*P **P 13 37 25.4 -0.8**
BRTR Keskin Array B 69.19 312 P **P 13 37 25.6 -0.6**
comp=Z,17nm,0.8s,baz=108,slow=6.6,SNR=50
BRTR LR LR 14 12 22.3
comp=Z,105nm,18.3s,baz=106,slow=40
comp=Z,17nm,0.8s
VORD Divnogorie 69.25 325 *e*P **P 13 37 23.1 -3.0**
VORD pmax pmax
comp=Z,50nm,0.9s
VSR Storozhevoye 69.42 325 *e*P **P 13 37 23.7 -3.5**
VSR pmax pmax
comp=Z,50nm,0.9s
VORR Voronezh 69.59 325 *e*P **P 13 37 27.6 -0.6**
VORR pmax pmax
comp=Z,75nm,0.4s
ANTO Ankara 69.86 312 P **P 13 37 29.7 -0.6**
ANTO Ankara 69.86 312 ⇑P **P 13 37 29.7 -0.6**
ANTO Ankara 69.86 312 P **P 13 37 29.7 -0.6**
ANTO pmax pmax
comp=Z,56nm,0.4s
ANTO Ankara 69.86 312 P **P 13 37 29.8 -0.4**
LPSR Galich'ya Gora 70.13 326 *e*P **P 13 37 30.8 -0.7**
LPSR pmax pmax
comp=Z,155nm,0.8s
SIM Simferopol' 70.35 317 *e*P **P 13 37 32.2 -0.9**
SIM pmax pmax
comp=Z,73nm,1.0s
MA2 Magadan 70.41 26 P **P 13 37 33.1 0.0**
MA2 IAmb IAmb 13 37 35.6
comp=Z,74nm,0.8s
MA2 Magadan 70.41 26 P **P 13 37 33.6 +0.4**
comp=Z,56nm,0.7s,baz=238,slow=5.6,SNR=188
MA2 LR LR 14 09 52.5
comp=Z,288nm,21.9s,baz=234,slow=37
comp=Z,56nm,0.7s
MA2 Magadan 70.41 26 P **P 13 37 33.8 +0.7**
MA2 Magadan 70.41 26*c i*P **P 13 37 33.4 +0.3**
MA2 pmax pmax
comp=Z,66nm,0.7s
MA2 Magadan 70.41 26 P **P 13 37 33.0 -0.1**
comp=Z,1μmcomp=Z,116nm,0.8s

MA2 Magadan 70.41 26 P **P** **13 37 33.5 +0.4**
MA2 pP **pP** **13 37 50.0 +1.2**
SANVU Saraoutou 70.59 107 P **P** **13 37 35.4 +0.3**
PEA0B Petropavlovsk- 70.77 33⇓*e*P **P** **13 37 34.9 -0.6**
PETK Petropavlovsk- 70.77 33 P **P** **13 37 35.2 -0.2**
comp=Z,16nm,0.7s,baz=225,slow=3.6,SNR=21
PETK LR LR 14 11 57.0
comp=Z,190nm,18.4s,baz=232,slow=39
comp=Z,16nm,0.7s
NOUC Port Laguerre 70.78 114 P **P** **13 37 36.7 +0.6**
NOUC pP **pP** **13 37 53.3 +1.6**
DZM Mont Dzumac 70.90 114 P **P** **13 37 35.5 -1.4**
DZM Mont Dzumac 70.90 114 P **P** **13 37 38.7 +1.7**
LSZ Lusaka 71.00 253 P **P** **13 37 36.3 -1.4**
LSZ IAmb IAmb 13 37 53.4
comp=Z,128nm,1.9s
LSZ Lusaka 71.00 253 LR LR 14 06 05.8
comp=Z,599nm,18.5s,baz=106,slow=33
LSZ Lusaka 71.00 253 P **P** **13 37 36.3 -1.4**
LSZ pmax pmax
comp=Z,128nm,1.9s
PET Petropavlovsk 71.27 34 P **P** **13 37 39.0 +0.5**
PET Petropavlovsk 71.27 34 *e*P **P** **13 37 39.2 +0.8**
PET *e**SS 13 37 55.2
PET pmax pmax
comp=Z,96nm,0.7s
PET Petropavlovsk 71.27 34 P **P** **13 37 38.7 +0.3**
comp=Z,118nm,0.9s
PET Petropavlovsk 71.27 34 P **P** **13 37 38.7 +0.3**
PET pP **pP** **13 37 54.6 +0.5**
ELL Elmali 71.34 308 P **P** **13 37 40.2 +0.8**
ELL pmax pmax
comp=Z,71nm,0.9s
AKAS Kas 71.47 308 IAmb IAmb 13 37 56.4
comp=Z,40nm,0.7s
MOS Moscow 72.12 329 *e*P **P** **13 37 40.5 -3.0**
MOS *e* 13 37 57.5
MOS pmax pmax
comp=Z,140nm,0.8s
MOS pmax pmax
comp=Z,200nm,0.9s
MOS MLR MLR
comp=Z,1μm,23.0s
TIXI Tiksi 72.39 10 P **P** **13 37 43.6 -1.3**
TIXI IAmb IAmb 13 37 45.2
comp=Z,88nm,0.9s
TIXI Tiksi 72.39 10 P **P** **13 37 44.3 -0.5**
comp=Z,72nm,0.8s,baz=224,slow=2.5,SNR=57
TIXI LR LR 14 12 55.9
comp=Z,537nm,18.9s,baz=199,slow=39
comp=Z,72nm,0.8s
TIXI Tiksi 72.39 10⇑*i*P **P** **13 37 44.1 -0.7**
TIXI pmax pmax
comp=Z,98nm,0.9s
OBN Obninsk 72.42 328 P **P** **13 37 44.2 -1.0**
OBN IAmb IAmb 13 37 46.2
comp=Z,107nm,1.1s
OBN Obninsk 72.42 328 LR LR 14 14 21.1
comp=Z,190nm,18.3s,baz=168,slow=40
OBN Obninsk 72.42 328⇑P **P** **13 37 45.5 +0.2**
OBN Obninsk 72.42 328*c i*P **P** **13 37 44.8 -0.5**
OBN *e* 13 38 03.2
OBN *e* 13 40 31.3
OBN *e*PPP PPP 13 42 13.0
OBN *e*S **S** **13 47 02.0 -2.8**
OBN pmax pmax
comp=Z,233nm,2.5s
OBN MLR MLR
comp=Z,157nm,15.0s
MANT Manisa 72.74 310 IAmb IAmb 13 37 48.8
comp=Z,35nm,0.8s
SEY Seymchan 72.86 23 P **P** **13 37 48.1 +0.4**
comp=Z,38nm,0.7s,baz=238,slow=6.9,SNR=232
SEY LR LR 14 13 20.7
comp=Z,306nm,18.7s,baz=226,slow=39
comp=Z,38nm,0.7s
SEY Seymchan 72.86 23⇑*i*P **P** **13 37 48.0 +0.2**
SEY pmax pmax
comp=Z,50nm,0.8s
ISK Istanbul-Kandi 72.91 312 P **P** **13 37 48.3 -0.2**
KARP Karpathos 73.29 306 *e*P **P** **13 37 51.5 +0.6**
KARP Karpathos 73.29 306 P **P** **13 37 51.3 +0.3**
comp=Z,170nm,0.9s
KLMR Klimovskoe 73.45 334 *e*P **P** **13 37 49.6 -1.7**
KLMR *e* 13 40 32.6
KLMR pmax pmax
comp=Z,51nm,1.0s
BAND Balkesir-Ban 73.47 312⇑P **P** **13 37 51.1 -0.8**
MAW Mawson 73.54 193 LR LR 14 04 11.0
comp=Z,470nm,18.9s,baz=36,slow=31
JURR Jurilovca 73.89 316⇑P **P** **13 37 54.9 +0.7**
TIRR Tirgusor 74.14 316 IAmb IAmb 13 37 56.6
comp=Z,42nm,0.8s
TIRR Tirgusor 74.14 316⇑P **P** **13 37 55.6 0.0**
TIRR Tirgusor 74.14 316 P **P** **13 37 55.6 0.0**
TIRR Tirgusor 74.14 316 P **P** **13 37 55.3 -0.4**
comp=Z,726nmcomp=Z,59nm,0.8s
TPGR Topolog 74.22 316⇑P **P** **13 37 56.0 -0.2**
MILM Milestii Mici 74.45 318⇑*i*P **P** **13 37 56.7 -0.7**
comp=Z,140nm,0.9s
MILM Milestii Mici 74.45 318⇑P **P** **13 37 56.8 -0.6**
MILM Milestii Mici 74.45 318*c i*P **P** **13 37 56.7 -0.7**
MILM pmax pmax
comp=Z,140nm,0.9s
KIS Kishinev 74.47 318 *e*P **P** **13 37 57.0 -0.5**
comp=Z,60nm,0.4s
KIS Kishinev 74.47 318 *e*P **P** **13 37 57.0 -0.5**
KIS pmax pmax
comp=Z,60nm,0.4s
CFR Carcaliu 74.49 316⇑P **P** **13 37 57.8 0.0**
CFR Carcaliu 74.49 316 P **P** **13 37 57.7 0.0**
HARR Harsova 74.53 316⇑P **P** **13 37 58.3 +0.3**
HARR Harsova 74.53 316 P **P** **13 37 58.2 +0.3**
LBTB Lobatse 74.83 244 P **P** **13 37 59.8 -0.5**
LBTB Lobatse 74.83 244 LR LR 14 06 12.0
comp=Z,449nm,20.1s,baz=72,slow=32
LBTB Lobatse 74.83 244 P **P** **13 37 59.8 -0.5**
LBTB pmax pmax
comp=Z,34nm,1.0s
SORM Soroca 75.05 319⇑P **P** **13 38 00.6 -0.3**
SORM Soroca 75.05 319 P **P** **13 38 00.6 -0.3**
SORM Soroca 75.05 319 P **P** **13 38 00.5 -0.4**
comp=Z,126nm,0.9s
IDI Anoyia 75.08 306 IAmb IAmb 13 38 02.6
comp=Z,38nm,0.8s
IDI Anoyia 75.08 306 LR LR 14 15 04.6
comp=Z,114nm,20.6s,baz=108,slow=39
AK09 Malin Array Si 75.10 322 P **P** **13 38 00.7 -0.4**
ALN Alexandroupoli 75.11 312 IAmb IAmb 13 38 02.3
comp=Z,36nm,0.9s
AKASG Malin Array Be 75.16 322 P **P** **13 38 00.2 -1.2**
AKASG IAmb IAmb 13 38 01.9
comp=Z,58nm,0.8s
AKASG Malin Array Be 75.16 322 P **P** **13 38 00.8 -0.7**
comp=Z,29nm,0.7s,baz=91,slow=5.0,SNR=147
AKASG PP **PP** **13 40 44.2 -6.1**
comp=Z,4.0nm,0.8s,baz=97,slow=6.7,SNR=4.1
AKASG LR LR 14 14 35.1
comp=Z,119nm,19.7s,baz=58,slow=38
comp=Z,29nm,0.7s
AKBB Malin Array Si 75.16 322 IAmb IAmb 13 38 01.8
comp=Z,58nm,0.8s
AKBB Malin Array Si 75.16 322*c i*P **P** **13 38 00.6 -0.9**
AKBB pmax pmax
comp=Z,55nm,0.7s
AKBB Malin Array Si 75.16 322 P **P** **13 38 00.5 -0.9**
KIEV Kiev 75.17 322 P **P** **13 38 00.6 -0.9**
KIEV IAmb IAmb 13 38 01.8
comp=Z,52nm,0.8s
KIEV Kiev 75.17 322⇓P **P** **13 38 00.7 -0.8**
KIEV Kiev 75.17 322 P **P** **13 38 00.7 -0.8**
KIEV Kiev 75.17 322 *i* P **P** **13 38 00.9 -0.6**
SNR=22
KDWAN Kaudwane 75.42 245 *i* P P 13 38 18.8 +15
VRI Vrincioaia 75.61 317⇑P **P** **13 38 04.9 +0.7**
VRI Vrincioaia 75.61 317 P **P** **13 38 04.9 +0.7**
VRI Vrincioaia 75.61 317 P **P** **13 38 04.7 +0.5**
comp=Z,66nm,0.8s
PLOR Plostina 75.66 317⇑P **P** **13 38 05.3 +0.8**
PLOR Plostina 75.66 317 P **P** **13 38 05.3 +0.8**
BOSA Boshof 75.74 240 P **P** **13 38 06.2 +0.8**
comp=Z,3.2nm,0.6s,baz=88,slow=4.7,SNR=7.4
BOSA LR LR 14 06 25.8
comp=Z,450nm,20.5s,baz=41,slow=32
comp=Z,3.2nm,0.6s

TESR Tescani 75.80 318⇑P **P** **13 38 05.5 +0.2**
MI30 MI30,Zelenitsa 75.81 322 P **P** **13 38 04.2 -1.0**
MI29 MI29, Kamyanyy 75.94 322 P **P** **13 38 05.5 -0.4**
comp=Z,640nm,0.8s
COVR Voineasa-Covas 75.97 317⇑P **P** **13 38 06.3 +0.1**
MLR Muntele Rosu 76.07 316 IAmb IAmb 13 38 08.7
comp=Z,47nm,0.9s
MLR Muntele Rosu 76.07 316 LR LR 14 19 02.8
comp=Z,132nm,18.6s,baz=90,slow=42
MLR Muntele Rosu 76.07 316⇑P **P** **13 38 07.7 +0.7**
MLR Muntele Rosu 76.07 316 P **P** **13 38 07.6 +0.7**
SKOMA Sekoma 76.25 244 *i* P P 13 38 23.4 +15
KMPD K-Podol'skiy 76.38 320 P **P** **13 38 07.6 -0.9**
DOPR Dopca 76.55 317⇑P **P** **13 38 09.8 +0.3**
VOIR 76.68 316⇑P **P** **13 38 09.7 -0.6**
VOIR 76.68 316 P **P** **13 38 09.7 -0.6**
VOIR 76.68 316 P **P** **13 38 09.5 -0.9**
comp=Z,16nm,0.6s
PAIG Paliouri 76.73 311 P **P** **13 38 10.0 -0.6**
ARR Arges 76.95 316⇑P **P** **13 38 11.9 0.0**
MNK Minsk 76.97 326 *i* P **P** **13 38 11.6 0.0**
comp=E,25nm,0.9s
MNK *i* P **P** **13 38 11.6 0.0**
comp=N,45nm,0.9s
MNK *i* P **P** **13 38 11.6 0.0**
comp=Z,88nm,0.8s,baz=105
MNK *i* pP **PcP** **13 38 24.3 +1.8**
MNK *i* PP **PP** **13 41 04.3 -1.1**
MNK *i* PPP PPP 13 42 51.3
MNK *i* S **S** **13 47 56.6 +1.1**
MNK *i* sS **SKKSac** **13 48 19.9 +0.1**
MNK *i* SS **SS** **13 52 55.5 +2.2**
MNK *i* SSS SSS 13 56 19.9
MNK *i* LQ LQ 14 06 58.7
MNK *i* LR LR 14 11 59.3
MNK *i* LRM MLR 14 15 06.0
comp=N,1μm,19.9s
MNK *i* LRM MLR 14 15 09.0
comp=Z,237nm,18.8s
MNK *i* LRM MLR 14 15 16.7
comp=E,2μm,18.6s
MNK Minsk 76.97 326 *i* P **P** **13 38 11.6 0.0**
MNK *i* *PP **PcP** **13 38 24.3 +1.8**
MNK *i* 13 41 04.3
MNK *i* PPP PPP 13 42 51.2
MNK *i* S **S** **13 47 56.6 +1.1**
MNK *i* *SS **SKKSac** **13 48 19.9 +0.1**
MNK *i* SS **SS** **13 52 55.5 +2.2**
MNK pmax pmax
comp=N,45nm,0.9s
MNK pmax pmax
comp=Z,88nm,0.8s
MNK pmax pmax
comp=E,25nm,0.9s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=Z,237nm,19.0s
MNK MLR MLR
comp=E,2μm,19.0s
BURAR Bucovina Array 76.99 318⇑P **P** **13 38 12.0 -0.2**
BURAR Bucovina Array 76.99 318 P **P** **13 38 11.9 -0.2**
BUR08 Bucovina Ar. S 77.01 318 IAmb IAmb 13 38 14.2
comp=Z,28nm,0.9s
MSZ Milford Sound 77.23 137 P **P** **13 38 15.6 +2.2**
PUL Pulkovo 77.24 331⇓*i*P **P** **13 38 13.6 +0.5**
PUL pmax pmax
comp=Z,107nm,1.1s
RNPP5 Staryi Chortor 77.34 322 P **P** **13 38 13.5 -0.3**
RNPP9 Sopachiv 77.38 322 P **P** **13 38 13.6 -0.4**
WHZ Wether Hill Ro 77.58 138 P **P** **13 38 16.6 +1.4**
KGCAE Kacgae 77.59 246 *i* P P 13 38 29.9 +14
LIT Litokhoron 77.66 311 IAmb IAmb 13 38 15.8
comp=Z,47nm,0.7s
LIT Litokhoron 77.66 311 P **P** **13 38 14.9 -1.0**
NACGM Naroch 77.69 326⇑*i*P **P** **13 38 15.8 +0.2**
comp=Z,68μm,26.5s,baz=104
ITM Ithomi 77.71 308 IAmb IAmb 13 38 36.1
comp=Z,41nm,0.8s
VAY Valandovo 77.77 312 *i* P **P** **13 38 15.9 -0.6**
JOF Joensuu 77.84 335 *e*P **P** **13 38 16.9 +0.6**
APZ The Paps 77.87 139 P **P** **13 38 18.9 +2.1**
CJR Cluj-Napoca 77.91 317⇑P **P** **13 38 17.7 +0.5**
CJR Cluj-Napoca 77.91 317 P **P** **13 38 17.6 +0.5**
WKZ Wanaka 78.03 137 P **P** **13 38 19.7 +1.9**
IIGN Ignalina 78.11 326 *e*P **P** **13 38 18.1 +0.1**
QNGWA Qangwa 78.16 250 *i* P P 13 38 32.7 +14
MARR Marisel-Cluj 78.22 317⇑P **P** **13 38 19.7 +0.7**
DEV Deva 78.24 316 P **P** **13 38 20.5 +1.6**
GZR Gura Zlata 78.25 316⇑P **P** **13 38 18.8 -0.3**
GZR Gura Zlata 78.25 316 P **P** **13 38 18.7 -0.3**
GRTLG Ghanzi 78.32 248 *i* P P 13 38 33.1 +13
EAZ Earnscleugh 78.33 137 P **P** **13 38 21.4 +1.9**
HERR Herculane 78.42 315⇑P **P** **13 38 20.2 +0.3**
LVZ Lovozero 78.44 340 P **P** **13 38 19.2 -0.4**
LVZ IAmb IAmb 13 38 20.4
comp=Z,36nm,0.7s
LVZ Lovozero 78.44 340*c i*P **P** **13 38 19.2 -0.4**
LVZ pmax pmax
comp=Z,39nm,0.8s
LVZ Lovozero 78.44 340 P **P** **13 38 19.3 -0.4**
comp=Z,65nm,0.8s
DRGR 78.52 317⇑P **P** **13 38 21.1 +0.4**
DRGR 78.52 317 P **P** **13 38 21.0 +0.4**
VSU Vasula 78.63 330*c i*P **P** **13 38 19.5 -1.3**
VSU pmax pmax
comp=Z,57nm,0.8s
VSU Vasula 78.63 330 *e*P **P** **13 38 20.2 -0.6**
TJZ Tuapeka 78.73 138 P **P** **13 38 23.2 +1.6**
BOVS Bovan 78.73 314⇑P **P** **13 38 21.3 -0.4**
APA Apatity 78.75 339⇓*i*P **P** **13 38 19.1 -2.2**
APA *i* 13 41 22.4
APA pmax pmax
comp=Z,33nm,0.7s
SURR Surduc 78.75 316⇓P **P** **13 38 22.2 +0.4**
MDVR Moldovita 78.89 315⇓P **P** **13 38 22.5 -0.2**
OHR Ohrid 79.06 311 *i* P **P** **13 38 23.1 -0.6**
BZS Buzias 79.09 316⇑P **P** **13 38 23.4 -0.3**
BZS Buzias 79.09 316 P **P** **13 38 23.3 -0.3**
SIRR Siria 79.15 317⇑P **P** **13 38 24.8 +0.8**
KOLS Kolonicke sedl 79.17 319 *e*P **P** **13 38 25.0 +1.0**
KOLS pmax pmax
comp=Z,42nm,0.9s
KOLS Kolonicke sedl 79.17 319 *e*P **P** **13 38 25.0 +1.0**
KOLS *e* 14 17 54.7
RPZ Rata Peaks 79.18 135 IAmb IAmb 13 38 37.5
comp=Z,53nm,1.0s
RPZ Rata Peaks 79.18 135 LR LR 14 13 51.4
comp=Z,279nm,20.1s,baz=318,slow=36
RPZ Rata Peaks 79.18 135 P **P** **13 38 25.8 +1.6**
RPZ Rata Peaks 79.18 135 P **P** **13 38 25.2 +1.0**
INZ Inchbonnie 79.23 134 IAmb IAmb 13 38 45.0
comp=Z,41nm,1.0s
ARBE Arbavere 79.26 330 *e*P **P** **13 38 25.3 +1.1**
PABE Paberze 79.40 326 *e*P **P** **13 38 25.3 +0.2**
PHP Peshkopia 79.40 312 P **P** **13 38 24.7 -0.8**
PHP pmax pmax
comp=Z,44nm,1.0s
VSVD Vaisvydziai 79.52 327 *e*P **P** **13 38 26.2 +0.5**
SUW Suwalki 79.54 325 *e*P **P** **13 38 25.8 0.0**
SUW Suwalki 79.54 325 *e*P **P** **13 38 25.9 0.0**
QRZ Quartz Range 79.63 132 P **P** **13 38 27.7 +1.0**
QRZ IAmb IAmb 13 38 41.5
comp=Z,96nm,1.1s
QRZ Quartz Range 79.63 132 P **P** **13 38 29.4 +2.7**
QRZ Quartz Range 79.63 132 P **P** **13 38 28.3 +1.7**
FINES FINESS Array B 79.73 332 P **P** **13 38 26.6 -0.2**
FINES FINESS Array B 79.73 332 P **P** **13 38 26.8 0.0**
comp=Z,38nm,0.7s,baz=102,slow=5.6,SNR=120
FINES LR LR 14 19 29.9
comp=Z,294nm,19.0s,baz=112,slow=40
comp=Z,38nm,0.7s
FINES FINESS Array B 79.73 332 *i* P **P** **13 38 26.7 0.0**
FINES pmax pmax
comp=Z,39nm,0.7s
MSF Maaselka 79.77 337 P **P** **13 38 27.2 +0.3**
MSF pmax pmax
comp=Z,109nm,0.8s
SJES Sjenica 79.94 313⇑*i*P **P** **13 38 28.5 +0.1**
IVA Berane 79.95 313⇑*i*P **P** **13 38 27.9 -0.6**
THZ Tophouse 80.09 133 IAmb IAmb 13 38 48.2
comp=Z,42nm,0.7s
THZ Tophouse 80.09 133 P **P** **13 38 30.1 +0.8**

SUR Sutherland 80.14 237 LR LR 14 08 03.9
comp=Z,410nm,18.9s,baz=78,slow=31
SHEM Shemya Is, Ala 80.15 37 P **P** **13 38 29.1 -0.1**
comp=Z,77nm,0.8s,baz=302,slow=8.0,SNR=2.7
SHEM LR LR 14 13 56.0
comp=Z,89nm,21.8s,baz=274,slow=36
comp=Z,77nm,0.8s
MTSE Matsula 80.17 329 *e*P **P** **13 38 29.6 +0.5**
KOME Kolasin 80.22 313⇑*i*P **P** **13 38 29.6 -0.4**
MEF Metsahovi 80.22 331 *e*P **P** **13 38 29.8 +0.4**
KECS Kecovo 80.27 319 *e*P **P** **13 38 30.6 +0.6**
KECS pmax pmax
comp=Z,17nm,0.7s
KECS Kecovo 80.27 319 *e*P **P** **13 38 30.6 +0.6**
BILL Bilibino 80.27 21 P **P** **13 38 28.6 -1.0**
BILL Bilibino 80.27 21*c e*P **P** **13 38 29.1 -0.5**
BILL pmax pmax
comp=Z,20nm,1.5s
FRGS Fruska Gora 80.28 315⇑*i*P **P** **13 38 29.9 -0.3**
ULC Ulcinj 80.32 312⇑*i*P **P** **13 38 28.9 -1.5**
NNZ Nelson 80.33 132 P **P** **13 38 31.1 +0.6**
PDG Podgorica 80.36 313⇑*i*P **P** **13 38 30.1 -0.5**
PDG Podgorica 80.36 313 ⇑P **P** **13 38 30.3 -0.4**
PDG Podgorica 80.36 313⇑*i*P **P** **13 38 30.2 -0.4**
PLE Pljevlja 80.37 314⇑*i*P **P** **13 38 30.8 0.0**
DRME Dracevica, Mon 80.39 312 *e*P **P** **13 38 29.7 -1.1**
DRME Dracevica, Mon 80.39 312⇑*i*P **P** **13 38 29.9 -0.9**
RUDO Rudo 80.41 314⇑*i*P **P** **13 38 30.5 -0.4**
BBLS Lazi&#263i 80.42 314⇑*i*P **P** **13 38 31.3 +0.3**
KEF Keuruu 80.47 333 *e*P **P** **13 38 31.4 +0.6**
NEZ North Egmont 80.51 130 P **P** **13 38 34.2 +2.6**
NIE Niedzica 80.52 320 *e*P **P** **13 38 32.2 +0.9**
NIE Niedzica 80.52 320 P **P** **13 38 32.3 +0.9**
NIE pmax pmax
comp=Z,12nm,1.1s
BEL Belsk 80.58 322 *e*P **P** **13 38 31.9 +0.4**
PSZ Piszkesteto 80.58 318⇑P **P** **13 38 32.4 +0.6**
PSZ Piszkesteto 80.58 318 P **P** **13 38 32.3 +0.6**
PSZ Piszkesteto 80.58 318 *e*P **P** **13 38 32.5 +0.7**
NKME Niksic 80.62 313⇑*i*P **P** **13 38 31.5 -0.6**
CEME Cevo 80.63 313⇑*i*P **P** **13 38 31.7 -0.4**
PBUR Paburge 80.63 326 *e*P **P** **13 38 32.5 +0.8**
KHZ Kahutara 80.68 133 P **P** **13 38 33.8 +1.6**
UPM Unac-Piva 80.70 313 *e*Pg **P** **13 38 32.0 -0.7**
UPM Unac-Piva 80.70 313⇑*i*P **P** **13 38 32.0 -0.7**
HAPS Han Pijesak,Bl 80.77 314⇑*i*P **P** **13 38 33.4 +0.5**
OUL Oulu 80.78 336 P **P** **13 38 32.7 +0.4**
OUL pmax pmax
comp=Z,76nm,1.0s
SYO Syowa Base 80.87 198⇑*e*pP pP 13 38 48.0 -0.5
BRY Bratogost 80.94 313⇑*i*P **P** **13 38 33.3 -0.6**
BRY Bratogost 80.94 313⇑*i*P **P** **13 38 33.3 -0.6**
OJC Ojcow 80.96 320 *e*P **P** **13 38 33.9 +0.3**
OJC Ojcow 80.96 320 P **P** **13 38 34.1 +0.5**
OJC pmax pmax
comp=Z,32nm,0.9s
HIZ Hauiti 80.97 129 P **P** **13 38 38.2 +4.3**
HIZ Hauiti 80.97 129 P **P** **13 38 36.2 +2.3**
MKAZ Moumakai 80.97 128 P **P** **13 38 35.8 +1.8**
LANS Liptovska Anna 81.03 319 *e*P **P** **13 38 34.9 +0.8**
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 81.03 319 *e*P **P** **13 38 34.8 +0.7**
VADS Vadso 81.05 341 *e*P **P** **13 38 34.0 +0.4**
VADS IAmb IAmb 13 38 34.7
comp=Z,76nm,0.9s
TREB Trebinje 81.06 313 *e*Pg **P** **13 38 33.6 -0.7**
MSVF Nonsavu 81.17 108 P **P** **13 38 37.1 +1.6**
MSVF Nonsavu 81.17 108 P **P** **13 38 37.1 +1.6**
MSVF pmax pmax
comp=Z,18nm,1.0s
MORH Mrgy, Hungar 81.22 316⇑P **P** **13 38 34.9 -0.2**
MORH Mrgy, Hungar 81.22 316 P **P** **13 38 34.9 -0.2**
comp=Z,36nm,0.8s
WAZ Wanganui 81.28 131 P **P** **13 38 37.1 +1.6**
TSUM Tsumeb 81.50 250 LR LR 14 10 23.7
comp=Z,211nm,21.5s,baz=48,slow=32
STON Ston 81.55 313⇑*i*P **P** **13 38 35.6 -1.3**
COVZ Chateau Observ 81.61 130 P **P** **13 38 39.0 +1.6**
COVZ PcP **PcP** **13 38 43.5 +0.3**
FWVZ Far West T-bar 81.63 130 P **P** **13 38 39.1 +1.4**
SRO Srobarova 81.63 318 *e*P **P** **13 38 38.4 +1.2**
SRO pmax pmax
comp=Z,35nm,0.7s
SRO Srobarova 81.63 318 *e*P **P** **13 38 38.4 +1.2**
SRO *e* 13 38 49.7
WTVZ West Tongariro 81.63 130 P **P** **13 38 38.8 +1.3**
NGZ Ngauruhoe 81.65 130 P **P** **13 38 39.2 +1.4**
NNVZ North Ngauruho 81.65 130 P **P** **13 38 39.3 +1.6**
VAF Ylistaro 81.66 334 *e*P **P** **13 38 38.0 +1.0**
RAF Rauma 81.67 331 *e*P **P** **13 38 37.6 +0.5**
KRVZ Karewarewa 81.67 130 P **P** **13 38 39.5 +1.7**
WNVZ Wahianoa 81.67 130 P **P** **13 38 39.7 +1.9**
SNVZ South Ngauruho 81.68 130 P **P** **13 38 39.4 +1.4**
KEV Kevo 81.70 341 P **P** **13 38 37.0 -0.1**
KEV IAmb IAmb 13 38 38.4
comp=Z,49nm,0.9s
KEV Kevo 81.70 341 P **P** **13 38 37.0 -0.1**
KEV pmax pmax
comp=Z,49nm,0.9s
ETVZ East Tongariro 81.73 130 P **P** **13 38 39.7 +1.6**
RATZ Rangitukua 81.73 130 P **P** **13 38 39.5 +1.5**
MOVZ Moawhango 81.80 130 P **P** **13 38 39.3 +0.8**
MRZ Mangatainoka R 81.88 131 P **P** **13 38 39.2 +0.5**
TIP Timpagrande 81.96 309 IAmb IAmb 13 38 41.2
comp=Z,100nm,1.7s
TIP Timpagrande 81.96 309⇑P **P** **13 38 39.9 +0.6**
TIP Timpagrande 81.96 309 P **P** **13 38 39.9 +0.6**
comp=Z,32nm,1.4s
TSZ Takapari Road 82.07 131 P **P** **13 38 40.7 +1.0**
MPLH Magyarpolny 82.08 317 P **P** **13 38 39.0 -0.6**
comp=Z,214nm,0.9s
BLY Banja Luka 82.09 315⇑*i*P **P** **13 38 39.9 +0.2**
MATE Matera 82.11 311⇑P **P** **13 38 39.3 -0.6**
MATE Matera 82.11 311 *e*P **P** **13 38 38.6 -1.3**
ARA0 ARCESS Array S 82.14 340 *e*P **P** **13 38 40.3 +0.9**
ARA0 IAmb IAmb 13 38 40.7
comp=Z,57nm,1.0s
ARCES ARCESS Array B 82.14 340 P **P** **13 38 39.8 +0.3**
comp=Z,30nm,0.8s,baz=96,slow=5.1,SNR=75
ARCES LR LR 14 18 50.4
comp=Z,390nm,20.7s,baz=104,slow=38
comp=Z,30nm,0.8s
JAVC Velka Javorina 82.17 319 *e*P **P** **13 38 41.2 +1.1**
STEB Steborice 82.22 320 *e*P **P** **13 38 41.1 +0.8**
PNHZ Pukenui 82.22 131 P **P** **13 38 41.8 +1.2**
A051A Mrakovica 82.31 315⇑*i*P **P** **13 38 40.7 -0.3**
KWHZ Kaweka Forest 82.32 130 P **P** **13 38 42.3 +1.2**
BKZ Black Stump Fm 82.33 130 IAmb IAmb 13 38 42.7
comp=Z,45nm,0.7s
BKZ Black Stump Fm 82.33 130 P **P** **13 38 42.0 +0.8**
BKZ Black Stump Fm 82.33 130 P **P** **13 38 41.9 +0.8**
MORC Moravsky Berou 82.35 320 *e*P **P** **13 38 41.4 +0.4**
MORC Moravsky Berou 82.35 320⇑P **P** **13 38 41.7 +0.7**
MORC Moravsky Berou 82.35 320 P **P** **13 38 41.7 +0.7**
MODS Modra-Piesok 82.38 318 *e*P **P** **13 38 41.7 +0.5**
MODS pmax pmax
comp=Z,41nm,1.2s
MODS Modra-Piesok 82.38 318 *e*P **P** **13 38 41.7 +0.5**
BFZ Birch Farm 82.38 131 P **P** **13 38 42.6 +1.3**
BFZ Birch Farm 82.38 131 P **P** **13 38 42.8 +1.5**
MCHZ McNeill Hill 82.53 130 P **P** **13 38 43.0 +0.8**
A050A Klekovaca 82.54 314⇑*i*P **P** **13 38 40.2 -2.0**
MTHZ Maungataniwha 82.56 129 P **P** **13 38 43.6 +1.2**
CEL Celeste 82.57 308 IAmb IAmb 13 38 45.1
comp=Z,48nm,0.8s
CEL Celeste 82.57 308 P **P** **13 38 42.7 +0.2**
comp=Z,596nmcomp=Z,67nm,0.8s
PRHZ Porangahau 82.61 131 P **P** **13 38 44.1 +1.6**
RTZ Ruatahuna 82.63 129 P **P** **13 38 42.9 +0.1**
URZ Urewera 82.68 129 LR LR 14 17 38.3
comp=Z,238nm,19.0s,baz=8.5,slow=37
URZ Urewera 82.68 129 P **P** **13 38 44.0 +1.1**
URZ Urewera 82.68 129 P **P** **13 38 43.6 +0.7**
KAHZ Kahuranaki 82.72 130 P **P** **13 38 45.0 +1.8**
CUC Castrocucco 82.74 310 IAmb IAmb 13 38 45.3
comp=Z,22nm,0.7s
KTK1 Kautokeino 82.79 339 *e*P **P** **13 38 43.1 +0.3**
KTK1 IAmb IAmb 13 38 43.8
comp=Z,65nm,0.8s
KRLC Kraliky 82.87 320 *e*P **P** **13 38 44.8 +1.1**
KRLC Kraliky 82.87 320 *e*P **P** **13 38 44.8 +1.1**
SGRT San Giovanni R 82.91 312 IAmb IAmb 13 38 45.1

comp=Z,28nm,0.8s
VRAC Vranov 82.92 319 LR LR 14 21 06.6
comp=Z,118nm,19.1s,baz=79,slow=40
VRAC Vranov 82.92 319 *e*P **P** **13 38 44.5 +0.5**
SNGZ Shannon Statio 82.93 129 P **P** **13 38 44.8 +0.5**
RONA Rosalia, Austr 82.97 318 *i* P **P** **13 38 44.4 +0.1**
comp=Z,9.0nm,0.8s
MWZ Matawai 83.01 129 P **P** **13 38 45.0 +0.3**
KRUC Moravsky 83.02 319 *e*P **P** **13 38 44.7 +0.2**
HAMF Hammerfest 83.03 341 *e*P **P** **13 38 44.3 +0.2**
HAMF IAmb IAmb 13 38 45.0
comp=Z,82nm,0.9s
RUGZ Raukumara Rang 83.08 128 P **P** **13 38 45.1 -0.1**
HAZ Te Kaha 83.13 128 P **P** **13 38 45.2 -0.1**
DPC Dobruska-Polom 83.19 320 *e*P **P** **13 38 46.3 +0.9**
DPC *e*pP **pP** **13 38 58.1 -3.3**
DPC Dobruska-Polom 83.19 320 *e*P **P** **13 38 46.3 +0.9**
DPC Dobruska-Polom 83.19 320 P **P** **13 38 46.0 +0.6**
comp=Z,26nm,0.8s
KSP Ksiaz 83.25 321 *e*P **P** **13 38 46.3 +0.7**
KSP Ksiaz 83.25 321 P **P** **13 38 46.3 +0.7**
KSP pmax pmax
comp=Z,27nm,0.9s
OSTC Ostas 83.28 321 *e*P **P** **13 38 46.6 +0.8**
OSTC Ostas 83.28 321 *e*P **P** **13 38 46.6 +0.8**
CONA Conrad Observa 83.28 318 *i* P **P** **13 38 46.1 +0.1**
comp=Z,12nm,0.8s
TWGZ Tauwhareparae 83.34 129 P **P** **13 38 47.2 +0.7**
CRES Cresnjevec Ost 83.40 316⇑ *i*P **P** **13 38 46.4 -0.1**
UPC Upice 83.40 320 *e*P **P** **13 38 47.3 +0.9**
UPC Upice 83.40 320 *e*P **P** **13 38 47.3 +0.9**
ARSA Arzberg 83.46 317 *i* P **P** **13 38 47.3 +0.5**
comp=Z,28nm,1.1s,SNR=8.1
BOJS Bojanci 83.52 315 *i* P **P** **13 38 47.5 +0.3**
BOJS *i* 13 38 48.4
comp=Z,26nm,0.7s
BOJS Bojanci 83.52 315⇑ *i*P **P** **13 38 47.4 +0.3**
CNGZ Carnagh Statio 83.56 129 P **P** **13 38 49.5 +2.0**
WMGZ Waiomatatini S 83.64 128 P **P** **13 38 48.0 +0.1**
VAE Valguarnera 83.70 307 LR LR 14 22 47.5
comp=Z,82nm,18.2s,baz=202,slow=40
SOKA Soboth 83.75 317 *i* P **P** **13 38 49.0 +0.6**
comp=Z,41nm,0.8s,SNR=15
JETT Jettan, Norway 83.89 340 *e*P **P** **13 38 48.8 +0.2**
JETT IAmb IAmb 13 39 03.3
comp=Z,30nm,0.8s
BLEU Blekinge 84.05 326 *i* P **P** **13 38 48.8 -0.8**
LJU Ljubljana 84.06 316 *i* P **P** **13 38 50.6 +0.8**
LJU *i* 13 38 51.8
comp=Z,60nm,0.7s
OBKA Obir 84.07 316 *i* P **P** **13 38 50.7 +0.6**
comp=Z,22nm,0.8s
OBKA Obir 84.07 316⇑ *i*P **P** **13 38 50.0 -0.1**
CEY Cerknica 84.11 316⇑ *i*P **P** **13 38 48.8 -1.4**
HOPEN Hopen 84.22 347 *e*P **P** **13 38 50.2 +0.2**
HOPEN IAmb IAmb 13 39 01.0
comp=Z,33nm,0.5s
INTR Introdacqua 84.30 312 IAmb IAmb 13 39 11.3
comp=Z,109nm,1.9s
PRU Pruhonice 84.30 320 *e*P **P** **13 38 51.4 +0.4**
PRU Pruhonice 84.30 320 *e*P **P** **13 38 51.4 +0.4**
PVCC Panska Ves 84.32 320 P **P** **13 38 51.6 +0.5**
PVCC pmax pmax
comp=Z,20nm,1.1s
CKRC Cesky Krumlov 84.38 319 *e*P **P** **13 38 52.2 +0.7**
CKRC Cesky Krumlov 84.38 319 *e*P **P** **13 38 52.2 +0.7**
CKRC MLR MLR
comp=Z,4μm,23.5s
TRO Tromso 84.41 340 *e*P **P** **13 38 51.0 -0.1**
TRO IAmb IAmb 13 38 51.7
comp=Z,31nm,0.8s
BSD Bornholm Skovb 84.45 325 *e*P **P** **13 38 51.8 +0.2**
BSD Bornholm Skovb 84.45 325 *i* P **P** **13 38 50.0 -1.6**
BSD IAmb IAmb 13 38 52.2
comp=Z,37nm,0.9s
ZVC Zvikov 84.49 319 *e*P **P** **13 38 52.6 +0.6**
AQU L'Aquila 84.68 312 P **P** **13 38 54.1 +0.9**
AQU pmax pmax
comp=Z,56nm,1.1s
MYKA Terra Mystica 84.70 316 *i* P **P** **13 38 53.6 +0.3**
comp=Z,8.7nm,0.6s,SNR=6.6
BRG Berggiesshubel 84.74 321 *i* P **P** **13 38 54.1 +0.9**
BRG Amp 13 38 55.0
comp=Z,13nm,1.0s
BRG Berggiesshubel 84.74 321 P P 13 39 00.5 +7.3
BRG Amp 13 39 01.2
comp=Z,5.1nm,0.9s
BRG pP pP 13 39 08.2 -1.1
BRG Amp 13 39 09.7
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 84.74 321 P **P** **13 38 53.9 +0.7**
BRG pmax pmax
comp=Z,19nm,2.0s
BIOA Bad Ischl, Aus 84.76 318 *i* P **P** **13 38 53.3 -0.1**
comp=Z,13nm,0.6s
GEC2 GERESS Array S 84.78 319 IAmb IAmb 13 38 55.2
comp=Z,25nm,1.0s
GERES GERESS Array B 84.78 319 P **P** **13 38 53.5 -0.1**
GERES GERESS Array B 84.78 319 P **P** **13 38 54.4 +0.8**
comp=Z,14nm,0.8s,baz=97,slow=6.9,SNR=21
GERES LR LR 14 22 03.6
comp=Z,116nm,18.4s,baz=75,slow=39
comp=Z,14nm,0.8s
KHC Kasperske Hory 84.88 319 *e*P **P** **13 38 54.3 +0.3**
KHC *e*pP **pP** **13 39 06.1 -3.9**
KHC Kasperske Hory 84.88 319 *c i*P **P** **13 38 54.1 +0.1**
KHC pmax pmax
comp=Z,26nm,0.8s
NRCA Norcia 84.91 313 IAmb IAmb 13 38 55.7
comp=Z,26nm,1.0s
KBA Koelnbreinsper 84.93 317 *i* P **P** **13 38 54.1 -0.4**
comp=Z,9.7nm,0.7s
KBA Koelnbreinsper 84.93 317 P **P** **13 38 53.8 -0.7**
KBA pmax pmax
comp=Z,23nm,0.8s
FDMO Fiordimonte 84.94 313 IAmb IAmb 13 39 14.6
comp=Z,24nm,1.0s
HSKC Hora Svate Kat 85.05 320 *e*P **P** **13 38 55.5 +0.7**
DEL Delary 85.14 326 *i* P **P** **13 38 54.3 -0.8**
BJO1 Bjornoya 85.23 345 *e*P **P** **13 38 55.7 +0.5**
BJO1 IAmb IAmb 13 38 57.8
comp=Z,43nm,1.1s
LUNU Lund 85.33 326 *i* P **P** **13 38 56.1 +0.1**
WET Wettzell 85.33 319 P **P** **13 38 56.9 +0.6**
WET pmax pmax
comp=Z,29nm,0.9s
CLL Collm 85.36 321 *i* P **P** **13 38 56.4 +0.1**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 85.36 321 *i* P **P** **13 38 56.4 +0.1**
comp=Z,12nm,1.1s
LESA Schwarzleotal 85.40 317 *i* P **P** **13 38 56.3 -0.4**
comp=Z,18nm,0.6s,SNR=7.8
FAUS Fauske 85.43 337 *e*P **P** **13 38 56.6 +0.3**
FAUS IAmb IAmb 13 38 57.1
comp=Z,76nm,0.8s
ABTA Abfaltersbach 85.48 317 *i* P **P** **13 38 56.6 -0.6**
comp=Z,15nm,0.9s
HFS Hagfors 85.49 330 P **P** **13 38 57.3 +0.6**
comp=Z,33nm,0.7s,baz=94,slow=5.3,SNR=50
HFS LR LR 14 20 19.0
comp=Z,201nm,18.8s,baz=96,slow=38
comp=Z,33nm,0.7s
STEI Steigen 85.51 338 *e*P **P** **13 38 56.7 +0.1**
STEI IAmb IAmb 13 38 58.0
comp=Z,125nm,0.8s
BJUU Bjuv 85.59 326 *i* P **P** **13 38 56.8 -0.5**
MOR8 Moi Rana 85.64 336 *e*P **P** **13 38 57.3 -0.1**
MOR8 IAmb IAmb 13 38 57.9
comp=Z,46nm,0.9s
FABU Falkenberg 85.81 327 *i* P **P** **13 38 57.6 -0.8**
BORU Boraas 85.82 327 *i* P **P** **13 38 57.6 -0.8**
WTTA Wattenberg 86.10 317 *i* P **P** **13 38 59.9 -0.3**
comp=Z,32nm,0.8s,SNR=8.4
WTTA Wattenberg 86.10 317 P **P** **13 39 00.0 -0.3**
WTTA pmax pmax
comp=Z,48nm,0.9s
WATA Walderalm 86.14 317 *i* P **P** **13 38 59.9 -0.6**
comp=Z,20nm,0.9s
LOF Lofoten 86.16 338 *e*P **P** **13 38 59.6 -0.3**
LOF IAmb IAmb 13 39 00.3
comp=Z,39nm,0.8s
LEIR Leirfjorden 86.18 336 *e*P **P** **13 39 00.6 +0.6**
LEIR IAmb IAmb 13 39 01.2
comp=Z,64nm,0.8s

KONS Konsvik 86.20 336 *e*P **P** **13 39 00.2 +0.1**
KONS IAmb IAmb 13 39 01.0
comp=Z,26nm,0.9s
MOX Moxa 86.21 320 P **P** **13 39 01.1 +0.6**
MOX pmax pmax
comp=Z,15nm,1.5s
STOK Stokkvaagen 86.23 336 *e*P **P** **13 38 59.9 -0.3**
STOK IAmb IAmb 13 39 01.2
comp=Z,27nm,0.8s
ONAU Onsala 86.26 327 *i* P **P** **13 38 60.0 -0.6**
VNDA Vanda 86.35 169 P **P** **13 39 00.7 +0.1**
comp=Z,0.9nm,0.6s,baz=328,slow=9.1,SNR=1.7
VNDA LR LR 14 12 08.2
comp=Z,316nm,20.0s,baz=307,slow=32
SQTA Sankt Quirin 86.39 317 *i* P **P** **13 39 01.4 -0.2**
comp=Z,29nm,0.9s,SNR=7.3
SPA0 Spitsbergen Ar 86.43 348 *e*P **P** **13 39 00.5 -0.7**
SPA0 IAmb IAmb 13 39 01.2
comp=Z,73nm,1.0s
SPITS Spitsbergen Ar 86.43 348 P **P** **13 39 01.3 +0.2**
comp=Z,48nm,0.7s,baz=105,slow=12,SNR=17
SPITS LR LR 14 23 09.7
comp=Z,407nm,21.5s,baz=84,slow=39
GRF Grafenberg Arr 86.43 319 P **P** **13 39 03.0 +1.3**
GRF pmax pmax
comp=Z,49nm,1.2s
TJOU Tjoern 86.45 328 *i* P **P** **13 39 00.7 -0.7**
NSS Namsos 86.56 334 *e*P **P** **13 39 01.6 -0.3**
NSS IAmb IAmb 13 39 02.8
comp=Z,28nm,0.7s
NC602 NORSAR Array S 86.59 331 *e*P **P** **13 39 02.2 0.0**
NC602 IAmb IAmb 13 39 03.0
comp=Z,49nm,0.8s
NORES NORESS Array B 86.59 331 P **P** **13 39 02.2 0.0**
NORES pmax pmax
comp=Z,7.0nm,0.7s
NC303 NORSAR Array S 86.69 331 IAmb IAmb 13 39 03.5
comp=Z,30nm,0.7s
RETA Reutte 86.70 317 *i* P **P** **13 39 03.1 0.0**
comp=Z,24nm,0.7s,SNR=6.8
STRU Stroemstad 86.71 329 *i* P **P** **13 39 01.9 -0.9**
FETA Feichten 86.72 317 *i* P **P** **13 39 03.4 +0.1**
comp=Z,16nm,0.8s,SNR=6.2
NB201 NORSAR Array S 86.72 331 IAmb IAmb 13 39 04.0
comp=Z,31nm,0.9s
NB2 NORSAR Subarra 86.76 331 P **P** **13 39 02.9 -0.1**
comp=Z,37nm,0.8s,baz=96,slow=4.6
NB2 NORSAR Subarra 86.76 331 P **P** **13 39 02.9 -0.1**
baz=96,slow=4.6
NB2 NORSAR Subarra 86.76 331 P **P** **13 39 00.0 -3.1**
NB2 pmax pmax
comp=Z,11nm,0.8s
NOA NORSAR Array B 86.76 331 P **P** **13 39 03.0 -0.1**
comp=Z,30nm,0.8s,baz=94,slow=4.9,SNR=133
NOA PP **PP** **13 42 20.8 -5.2**
comp=Z,0.7nm,0.7s,baz=91,slow=8.0,SNR=3.2
NOA LR LR 14 20 53.1
comp=Z,229nm,20.6s,baz=75,slow=38
comp=Z,30nm,0.8s
NOA NORSAR Array B 86.76 331 P **P** **13 39 03.0 -0.1**
OSL Oslo 86.97 330 *e*P **P** **13 39 04.9 +0.9**
OSL IAmb IAmb 13 39 05.4
comp=Z,116nm,1.4s
ELIB Princess Elisa 87.03 198 *d*P **P** **13 39 04.8 +0.5**
comp=Z,16nm,0.8s
FUORN Ofenpass-Fuorn 87.03 316 IAmb IAmb 13 39 26.2
comp=Z,34nm,1.2s
BSEG Bad Segeberg 87.08 324 P **P** **13 39 05.7 +1.1**
BSEG pmax pmax
comp=Z,50nm,1.0s
DAVOX Davos/Dischmat 87.30 317 LR LR 14 28 56.4
comp=Z,66nm,18.2s,baz=338,slow=43
DAVA Damuels 87.30 317 *i* P **P** **13 39 06.5 +0.4**
comp=Z,30nm,1.0s,SNR=6.3
KBS Kingsbay 87.39 349 *i* P **P** **13 39 04.0 -1.7**
SSRD Sdr. Stenderup 87.49 325 *i* P **P** **13 39 07.4 +0.8**
SSRD IAmb IAmb 13 39 08.7
comp=Z,71nm,0.8s
KONO Kongsberg 87.54 329 P **P** **13 39 06.8 +0.1**
KONO IAmb IAmb 13 39 08.3
comp=Z,29nm,0.8s
KONO Kongsberg 87.54 329 *e*P **P** **13 39 07.3 +0.5**
KONO IAmb IAmb 13 39 08.0
comp=Z,27nm,0.8s
KONO Kongsberg 87.54 329 P **P** **13 39 07.3 +0.5**
GOET G??ttrup 87.72 327 *i* P **P** **13 39 08.7 +1.0**
GOET IAmb IAmb 13 39 09.8
comp=Z,73nm,0.8s
MUD Monsted U'grnd 87.75 326 P **P** **13 39 09.1 +1.3**
MUD pmax pmax
comp=Z,62nm,1.0s
MUD Monsted U'grnd 87.75 326 *i* P **P** **13 39 08.0 +0.2**
MUD IAmb IAmb 13 39 09.9
comp=Z,52nm,1.0s
KEST Kesra 87.75 306 IAmb IAmb 13 39 11.0
comp=Z,32nm,0.8s
KEST Kesra 87.75 306 P **P** **13 39 09.8 +1.3**
comp=Z,28nm,0.8s,baz=210,slow=0.8,SNR=22
KEST LR LR 14 24 58.3
comp=Z,38nm,18.2s,baz=58,slow=40
comp=Z,28nm,0.8s
DOMB Dombas 87.81 332 *e*P **P** **13 39 08.5 +0.4**
DOMB IAmb IAmb 13 39 09.2
comp=Z,24nm,1.1s
HOMB Homborsund 88.10 328 *e*P **P** **13 39 10.3 +0.8**
HOMB IAmb IAmb 13 39 10.7
comp=Z,18nm,0.9s
HOMB Homborsund 88.10 328 *i* P **P** **13 39 09.0 -0.4**
SKAR Skarslia 88.18 331 *e*P **P** **13 39 11.0 +1.1**
SKAR IAmb IAmb 13 39 11.8
comp=Z,168nm,2.0s
TNS Taunus Mts 88.23 320 P **P** **13 39 11.7 +1.3**
TNS pmax pmax
comp=Z,31nm,1.1s
BFO Black Forest 88.33 318 P **P** **13 39 10.7 -0.2**
BFO Black Forest 88.33 318 P **P** **13 39 10.7 -0.2**
BFO pmax pmax
comp=Z,12nm,0.9s
MOL Molde 88.52 332 IAmb IAmb 13 39 12.0
comp=Z,167nm,2.0s
MOL *e*P **P** **13 39 12.6 +1.3**
AKN Aaknes 88.78 332 *e*P **P** **13 39 13.7 +1.0**
AKN IAmb IAmb 13 39 14.6
comp=Z,29nm,1.2s
SNART Snartemo 88.79 328 *e*P **P** **13 39 13.5 +0.8**
SNART Snartemo 88.79 328 *i* P **P** **13 39 12.4 -0.3**
BUG Bochum--Univer 88.95 321 P **P** **13 39 15.0 +1.4**
BUG pmax pmax
comp=Z,68nm,2.0s
CDF Champ du Feu 89.03 318 *e*P **P** **13 39 14.0 -0.3**
CDF pmax pmax
comp=Z,67nm,1.9s
ODD1 Odda 89.04 330 *e*P **P** **13 39 14.6 +0.7**
SBF Sospel 89.06 314 *e*P **P** **13 39 14.5 +0.1**
SBF pmax pmax
comp=Z,33nm,0.8s
ECH Echery 89.12 318 IAmb IAmb 13 41 04.8
comp=Z,60nm,1.9s
BLS5 Blasjo 89.14 329 *e*P **P** **13 39 15.6 +1.2**
HYA Hoyanger 89.20 331 *e*P **P** **13 39 15.4 +0.9**
LPG La Plagne 89.49 315 *e*P **P** **13 39 17.7 +1.0**
LPG pmax pmax
comp=Z,26nm,0.8s
LPL La Plagne 89.50 315 *e*P **P** **13 39 17.0 +0.3**
LPL pmax pmax
comp=Z,41nm,0.9s
MBDF Montbardon 89.51 315 *e*P **P** **13 39 18.8 +2.2**
MBDF pmax pmax
comp=Z,13nm,1.1s
BNI Bardonecchia 89.56 315 IAmb IAmb 13 39 21.1
comp=Z,15nm,1.0s
BNI Bardonecchia 89.56 315 P P 13 39 21.7 +4.8
BNI pmax pmax
comp=Z,64nm,0.9s
HAU Haudompre 89.67 318 *e*P **P** **13 39 17.1 -0.1**
HAU pmax pmax
comp=Z,22nm,0.8s
BTNL Ternell 89.70 320 *d*P **P** **13 39 18.2 +1.0**
comp=Z,25nm,0.8s
WLF Walferdange 89.73 319 *d*P **P** **13 39 18.7 +1.4**
CABF La Chapelle 89.91 316 *e*P **P** **13 39 18.8 +0.4**
CABF pmax pmax
comp=Z,25nm,0.9s
ORIF Oris-en-Rattie 90.13 315 *e*P **P** **13 39 20.0 +0.5**
ORIF pmax pmax
comp=Z,17nm,0.9s

RCHB Rochefort 90.30 320 *d*P **P** **13 39 19.8 -0.2**
comp=Z,11nm,0.9s
BGES Gesves 90.38 320 *d*P **P** **13 39 21.1 +0.7**
comp=Z,20nm,0.8s
NVL N'lazarevskaya 90.47 199 *e*P P 13 39 35.3 +15
NVL *e*S **S** **13 50 02.1 -8.5**
NVL pmax pmax
comp=Z,22nm,0.9s
GIVF Givet 90.56 320 *e*P **P** **13 39 21.7 +0.5**
GIVF pmax pmax
comp=Z,19nm,0.8s
BMRD Maredsous 90.58 320 *d*P **P** **13 39 22.2 +0.9**
comp=Z,17nm,0.9s
DOU Dourbes 90.71 320 *d*P **P** **13 39 22.6 +0.7**
comp=Z,18nm,1.0s
C16K Lisburne Hills 90.77 22 IAmb IAmb 13 39 42.3
comp=Z,24nm,1.1s
UCC Uccle 90.81 321 *d*P **P** **13 39 23.6 +1.2**
comp=Z,19nm,0.7s
BAIF Baives 90.96 320 *e*P **P** **13 39 23.8 +0.7**
BAIF pmax pmax
comp=Z,44nm,0.8s
VIVF Saint-Julien-I 90.99 315 *e*P **P** **13 39 23.7 +0.3**
VIVF pmax pmax
comp=Z,21nm,0.9s
SSB Saint Sauveur 91.06 315 IAmb IAmb 13 39 25.3
comp=Z,27nm,0.8s
SSB Saint Sauveur 91.06 315 P **P** **13 39 24.6 +0.9**
SSB pmax pmax
comp=Z,37nm,0.9s
LOR Lormes 91.39 317 *e*P **P** **13 39 25.5 +0.3**
LOR pmax pmax
comp=Z,48nm,0.8s
SMF Signal de Mont 91.45 317 *e*P **P** **13 39 25.7 +0.2**
SMF pmax pmax
comp=Z,45nm,0.8s
TAM Tamanrasset 91.49 293 IAmb IAmb 13 39 29.2
comp=Z,8.7nm,0.7s
TAM Tamanrasset 91.49 293 P **P** **13 39 28.1 +1.8**
TAM pmax pmax
comp=Z,14nm,0.9s
SSF Saint Saulge 91.65 317 *e*P **P** **13 39 26.6 +0.2**
SSF pmax pmax
comp=Z,32nm,1.2s
NOR Nord 91.66 352 P **P** **13 39 25.4 -0.3**
NOR pmax pmax
comp=Z,19nm,0.8s
NOR Nord 91.66 352 *i* P **P** **13 39 24.2 -1.5**
NOR IAmb IAmb 13 39 26.4
comp=Z,12nm,0.8s
RDOG Red Dog Mine 91.70 22 IAmb IAmb 13 39 27.4
comp=Z,7.6nm,0.6s
AVF Avril sur Loir 91.78 317 *e*P **P** **13 39 27.2 +0.3**
AVF pmax pmax
comp=Z,28nm,0.9s
QSPA South Pole Qui 91.82 180 P **P** **13 39 28.4 +1.5**
comp=Z,2.4nm,0.9s,baz=238,slow=0.3,SNR=18
QSPA PKKP **PKKPdf** **13 56 43.7 -1.4**
comp=Z,1.3nm,0.7s,baz=187,slow=1.2,SNR=6.3
QSPA LR LR 14 16 52.7
comp=Z,403nm,18.6s,baz=312,slow=33
comp=Z,2.4nm,0.9s
BGF Bois d'Agland 92.14 317 *e*P **P** **13 39 29.4 +0.7**
BGF pmax pmax
comp=Z,43nm,0.9s
TCF Toulx Ste Croi 92.61 316 *e*P **P** **13 39 31.4 +0.6**
TCF pmax pmax
comp=Z,13nm,1.0s
CAF Calviac 92.84 315 *e*P **P** **13 39 32.7 +0.8**
CAF pmax pmax
comp=Z,13nm,0.9s
MTLF Montolieu 92.87 313 *e*P **P** **13 39 32.7 +0.6**
MTLF pmax pmax
comp=Z,15nm,0.8s
RJF Les Rejaudoux 93.19 315 *e*P **P** **13 39 34.3 +0.8**
RJF pmax pmax
comp=Z,18nm,1.0s
JMIC Jan Mayen 93.54 342 LR LR 14 26 38.7
comp=Z,161nm,20.0s,baz=72,slow=39
LDF La Druitiere 93.92 319 *e*P **P** **13 39 37.6 +0.8**
LDF pmax pmax
comp=Z,104nm,2.0s
E19K Redstone River 93.94 22 IAmb IAmb 13 39 38.1
comp=Z,21nm,0.9s
DAG Danmarks Havn 94.08 348 P **P** **13 39 36.3 -0.6**
DAG pmax pmax
comp=Z,26nm,0.9s
DAG Danmarks Havn 94.08 348 *i* P **P** **13 39 35.0 -1.9**
DAG IAmb IAmb 13 39 37.1
comp=Z,21nm,0.9s
MFF Saint Martin d 94.19 317 *e*P **P** **13 39 38.3 +0.2**
MFF pmax pmax
comp=Z,20nm,1.1s
L16K Owhat River 94.31 28 IAmb IAmb 13 39 40.1
comp=Z,18nm,0.9s
K17K Iditarod 94.63 27 IAmb IAmb 13 39 41.7
comp=Z,26nm,0.9s
EKA Eskdalemuir Ar 94.76 326 P **P** **13 39 41.2 +0.7**
comp=Z,10nm,0.7s,baz=98,slow=5.0,SNR=17
comp=Z,10nm,0.7s
ETSF Etsaut 94.94 313 *e*P **P** **13 39 42.4 +0.7**
ETSF pmax pmax
comp=Z,8.0nm,0.8s
SNAA Sanae 95.16 198 LR LR 14 19 25.3
comp=Z,233nm,18.3s,baz=88,slow=33
J19K Poorman 95.48 25 IAmb IAmb 13 39 45.5
comp=Z,15nm,0.9s
SGMF Saint Gilles 95.58 319 *e*P **P** **13 39 44.3 -0.1**
SGMF pmax pmax
comp=Z,77nm,1.7s
TORD Torodi Ar. Bea 95.64 283 P **P** **13 39 45.2 -0.1**
TORD IAmb IAmb 13 41 29.4
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 95.64 283 P **P** **13 39 46.0 +0.7**
comp=Z,1.2nm,0.3s,baz=72,slow=4.8,SNR=2.2
comp=Z,1.2nm,0.3s
E22K Anaktuvuk Pass 95.71 21 IAmb IAmb 13 40 15.8
comp=Z,14nm,1.2s
J20K Nowinta River 96.05 25 IAmb IAmb 13 39 47.7
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 96.30 20 IAmb IAmb 13 39 48.9
comp=Z,15nm,1.2s
K20K Telida 96.33 26 IAmb IAmb 13 39 49.5
comp=Z,18nm,0.9s
E23K Chandalar 96.50 20 IAmb IAmb 13 39 55.0
comp=Z,14nm,1.3s
COLD Coldfoot 96.60 21 IAmb IAmb 13 40 21.1
comp=Z,26nm,1.9s
I21K Tanana 96.62 24 IAmb IAmb 13 39 50.7
comp=Z,13nm,0.9s
O18K Koktuh Hills 96.79 29 IAmb IAmb 13 40 09.3
comp=Z,21nm,0.9s
N19K Bonanza Creek 96.87 28 IAmb IAmb 13 39 52.7
comp=Z,19nm,0.9s
O19K Port Alsworth 97.12 29 IAmb IAmb 13 39 51.8
comp=Z,18nm,1.1s
CAST Castle Rocks 97.16 25 IAmb IAmb 13 40 05.3
comp=Z,20nm,1.4s
BPAW Bear Paw Mtn. 97.39 24 IAmb IAmb 13 39 53.6
comp=Z,13nm,0.9s
ESDC Sonseca Array 97.94 310 P Pdif 13 39 55.9 +0.5
comp=Z,1.4nm,0.9s,baz=86,slow=4.7,SNR=7.5
ESDC PP **PP** **13 43 55.4 +1.0**
comp=Z,0.9nm,0.8s,baz=80,slow=7.5,SNR=3.2
ESDC LR LR 14 26 47.2
comp=Z,121nm,21.3s,baz=86,slow=37
comp=Z,1.4nm,0.9s
EUNU Eureka 98.11 1 IAmb IAmb 13 39 56.4
comp=Z,8.2nm,0.8s
KDAK Kodiak Island 98.69 31 LR LR 14 29 50.3
comp=Z,122nm,18.0s,baz=156,slow=39
ILAR Eielson Array 98.79 23 P **P** **13 39 57.1 -1.4**
comp=Z,0.9nm,0.7s,baz=294,slow=5.2,SNR=10
ILAR PKKP **PKKPbc** **13 56 26.6 -2.2**
comp=Z,0.4nm,0.8s,baz=116,slow=1.5,SNR=5.2
ILAR LR LR 14 26 41.5
comp=Z,117nm,21.4s,baz=260,slow=37
comp=Z,0.9nm,0.7s
NEEM North Greenlan 98.95 353 *i* P **P** **13 39 58.5 -0.9**
NEEM IAmb IAmb 13 40 00.4
comp=Z,11nm,0.9s
YKA Yellowknife Ar 111.25 16 Pdiff **Pdif** **13 40 52.7 -1.3**
comp=Z,0.3nm,0.7s,baz=309,slow=4.4,SNR=5.4
YKA PKiKP **PKiKP** **13 44 52.7 +0.3**
comp=Z,0.3nm,0.6s,baz=322,slow=2.4,SNR=6.1
YKA PP **PP** **13 45 26.8 -5.2**
comp=Z,1.5nm,0.9s,baz=330,slow=7.7,SNR=8.2

YKA				PKKPbc	**PKKPbc**	13 55 47.5	-3.4		
	comp=Z,0.1nm,0.3s,baz=150,slow=3.3,SNR=5.1								
YKA				PKKPab	**PKKPab**	13 55 59.4	0.0		
	comp=Z,0.3nm,0.7s,baz=152,slow=2.8,SNR=4.1								
FFC	**Flin Flon**	121.24	13	PKPdf	**PKPdf**	13 45 11.2	-0.6		
FFC	**Flin Flon**	121.24	13	PKIKP	**PKPdf**	13 45 11.2	-0.6		
SCHQ	**Schefferville**	122.09	350	PKP	**PKPdf**	13 45 13.3	-0.1		
	comp=Z,5.6nm,0.8s,baz=16,slow=3.4,SNR=12								
SCHQ				PP	**PP**	13 46 40.8	-6.9		
	comp=Z,9.6nm,0.9s,baz=24,slow=7.6,SNR=8.0								
ULM	**Lac du Bonnet**	126.73	11	PKP	**PKPdf**	13 45 22.4	-0.1		
	comp=Z,12nm,0.8s,baz=354,slow=2.9,SNR=33								
NVAR	**Mina Array Bea**	127.81	36		**PKiKP**	13 45 25.7	-0.1		
NVAR	**Mina Array Bea**	127.81	36	PKP	**PKiKP**	13 45 26.4	+0.6		
	comp=Z,8.2nm,0.8s,baz=267,slow=2.0,SNR=40								
NVAR				PP	**PP**	13 47 26.0	-0.9		
	comp=Z,1.7nm,0.9s,baz=320,slow=5.0,SNR=2.9								
PDAR	**Pinedale Array**	129.12	26	PKPdf	**PKPdf**	13 45 27.4	-0.2		
PDAR	**Pinedale Array**	129.12	26	PKP	**PKPdf**	13 45 27.8	+0.2		
	comp=Z,3.5nm,0.8s,baz=336,slow=1.8,SNR=26								
PDAR				PP	**PP**	13 47 34.7	-0.3		
	comp=Z,1.3nm,0.8s,baz=336,slow=3.3,SNR=4.9								
BSFB	**Barra de Sao F**	136.25	245	*eP*	**PKiKP**	13 45 44.1	+1.1		
N53A	**Lisbon**	137.50	359		**PKPdf**	13 45 42.8	-0.3		
MSTX	**Muleshoe**	139.37	27	PKPdf	**PKPdf**	13 45 47.0	+0.2		
PLCA	**Paso Flores**	139.94	194	PKhKP	PKPpre	13 45 44.2			
	comp=Z,1.6nm,0.7s,baz=194,slow=4.6,SNR=4.9								
TXAR	**Lajitas Array**	142.71	32	PKP	**PKPdf**	13 45 50.5	-2.4		
	comp=Z,4.0nm,0.8s,baz=272,slow=1.8,SNR=16								
TXAR				PP	**PP**	13 49 01.1	+0.5		
	comp=Z,3.4nm,1.1s,baz=322,slow=3.7,SNR=4.1								
BDFB	**Brasilia**	143.75	246	PKP	**PKPdf**	13 45 54.4	-0.7		
	comp=Z,3.1nm,0.6s,baz=192,slow=6.8,SNR=5.0								
BI02	**San Fabin de**	143.98	195	PKPdf	**PKPdf**	13 45 54.1	-0.9		
ITRB	**Iturama**	144.29	238	*eP*	**PKPdf**	13 45 57.5	+1.6		
ML02	**Panimavida**	144.87	195	PKPdf	**PKPdf**	13 45 56.6	+0.2		
SMTB	**Santa Maria do**	144.99	257	*eP*	**PKPdf**	13 45 58.6	+1.4		
HKT	**Hockley**	145.73	21	PKPbc	**PKPab**	13 45 58.7	0.0		
HKT	**Hockley**	145.73	21	PKP2	**PKPab**	13 45 58.7	0.0		
CPUP	**Villa Florida**	145.99	222	PKPbc	**PKPbc**	13 45 59.1	-0.3		
CPUP	**Villa Florida**	145.99	222	PKPbc	**PKPab**	13 46 00.2	+0.3		
	comp=Z,20nm,0.8s,baz=113,slow=2.2,SNR=39								
CPUP	**Villa Florida**	145.99	222	*eP*	**PKPab**	13 46 00.3	+0.3		
SJPY	**San Joaquin**	146.00	225	*eP*	**PKPab**	13 46 00.3	+0.2		
TMAB	**Tom-Au,PA,Br**	146.04	269	*eP*	**PKPab**	13 46 00.9	+0.4		
ARAG	**Araguaiana, MT**	147.16	244	*eP*	**PKPbc**	13 46 03.0	-0.1		
PRPB	**Paraua pebas**	147.54	262	*eP*	**PKPbc**	13 46 03.8	-0.5		
CFA	**Coronel Fontan**	147.68	202	PKPbc	**PKiKP**	13 46 05.3	-0.8		
	comp=Z,11nm,0.6s,baz=162,slow=2.4,SNR=37								
VA06	**Catapilco**	147.84	197	PKPbc	**PKPbc**	13 46 04.7	+0.3		
SNDB	**Serra Nova Dou**	147.88	250	*eP*	**PKPbc**	13 46 04.2	-0.9		
ZON	**Zonda**	147.90	202	PKPbc	**PKPbc**	13 46 05.4	+0.7		
ZON	**Zonda**	147.90	202	PKP2	**PKPbc**	13 46 05.4	+0.7		
AQDB	**Aquidauana**	148.31	232	PKPbc	**PKPbc**	13 46 06.0	0.0		
AQDB	**Aquidauana**	148.31	232	*eP*	**PKPdf**	13 46 04.0	+1.4		
MURT	**Porto Murtinho**	149.12	229	*eP*	**PKPdf**	13 46 05.7	+1.8		
BDQN	**Bodoquena, MS**	149.15	231	*eP*	**PKPbc**	13 46 06.4	-1.8		
DWPF	**Disney Wildern**	150.17	359	PKPbc	**PKPbc**	13 46 10.7	+0.2		
SALV	**Santo Antonio**	150.51	240	*eP*	**PKPdf**	13 46 08.3	+2.1		
SIV	**San Ignacio**	155.00	235	PKP	**PKPdf**	13 46 12.8	-0.1		
	comp=Z,0.9nm,0.7s,baz=111,slow=5.0,SNR=6.8								
CMIG	**Matias Romero**	157.31	33	PKP	**PKPdf**	13 46 15.3	-0.5		
	comp=Z,0.8nm,0.3s,baz=128,slow=19,SNR=2.0								
LPAZ	**La Paz**	160.16	223	PKP	**PKPdf**	13 46 20.2	+0.2		
	comp=Z,2.7nm,0.8s,baz=42,slow=0.7,SNR=12								
APG	**El Apazote**	161.28	26	PKPab	**PKPab**	13 47 03.8	-0.6		
	comp=Z,0.6nm,0.8s,baz=198,slow=12,SNR=4.9								

*TAP **11** 13:41:36.7,24°.94N×122°.91E,h34km,ML3.4,D*
*JMA **11** 13:41:37.5±0.2,24°.8N±0°.8×122°.8E±0°.9,h0km,MV2.7/6,*
NW OFF ISHIGAKIJIMA IS
ISC 11 13:41:36.5±1.3,24°.76N±0°.03×122°.81E±0°.03,h5km±10km,
n93,σ1°.40/183,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	0.33	159	P	**Pn**	13 41 45.6	-2.4
JYNG				S	**Sb**	13 41 51.3	+0.8
YOJ	**Yonaguni jima**	0.35	149	P	**Pn**	13 41 47.0	-1.2
YOJ				S	**Sb**	13 41 53.0	+2.1
YOJ	**Yonaguni jima**	0.35	149	P	**Pn**	13 41 45.9	-2.3
YOJ				*eS*	**Sb**	13 41 51.9	+0.9
EOS2	**EOS2**	0.63	238	P	**Pb**	13 41 50.5	+0.5
EOS2				S	**Sn**	13 42 02.5	+0.2
EOS3	**EOS3**	0.65	224	*eP*	**Pn**	13 41 51.4	-0.9
EOS3				*i* S	**Sn**	13 42 02.7	-0.1
EOS4	**EOS4**	0.78	216	P	**Pn**	13 41 53.8	0.0
EOS4				*i* S	**Sn**	13 42 06.2	+0.5
TWB1	**Santiao Chiao**	0.79	289	P	**Pg**	13 41 51.2	-0.6
TWB1				*eS*	**Sg**	13 42 02.6	+0.6
EGS		0.81	276	*eP*	**Pg**	13 41 48.7	-3.3
EGS				S	**Sg**	13 41 59.5	-3.0
TWC	**Suao**	0.89	261	*i* P	**Pg**	13 41 53.9	+0.3
TWC				*eS*	**Sb**	13 42 06.6	0.0
ESAO	**Su ao**	0.90	259	*i* P	**Pb**	13 41 54.9	+0.3
ESAO				S	**Sn**	13 42 09.8	+0.6
SXI1	**Grass Mountain**	0.92	292	*i* P	**Pg**	13 41 53.3	-0.8
SXI1				S	**Sg**	13 42 00.8	-5.2
WFSB	**Wu-fen Shan**	0.99	289	*eP*	**Pn**	13 41 57.3	+0.3
WFSB				*eS*	**Sg**	13 42 09.0	+0.7
EWUT	**Wuta**	0.99	252	*i* P	**Pn**	13 41 56.6	-0.5
EWUT				*i* S	**Sn**	13 42 10.8	-0.7
NDS	**Dongshan**	1.01	263	*eP*	**Pb**	13 41 56.7	+0.2
NDS				*eS*	**Sb**	13 42 10.4	+0.5
ENA	**Nanau**	1.03	252	*i* P	**Pn**	13 41 57.2	-0.4
ENA				*eS*	**Sg**	13 42 10.0	+0.3
TWE	**Neicheng**	1.04	268	*i* P	**Pg**	13 41 56.7	+0.1
TWE				S	**Sn**	13 42 13.6	+0.9
EAHA	**Aohua**	1.07	247	*i* P	**Pn**	13 41 57.6	-0.5
EAHA				S	**Sn**	13 42 13.0	-0.3
FUSB	**Fushanzhiwuyua**	1.11	270	P	**Pg**	13 41 57.3	-0.6
FUSB				*eS*	**Sn**	13 42 15.7	+1.1
TWA	**Mucha**	1.14	281	*i* P	Pg	13 41 53.6	-4.8
TWA				*eS*	**Sn**	13 42 17.0	+1.9
ENTT	**Nioudou**	1.14	264	*i* P	**Pn**	13 41 59.5	+0.3
ENTT				*eS*	**Sb**	13 42 14.4	+0.5
LATG	**Datong**	1.19	260	*eP*	**Pn**	13 42 00.4	+0.5
LATG				S	**Sn**	13 42 16.7	+0.1
NWLT	**Wulai**	1.19	271	*i* P	**Pb**	13 41 59.6	-0.1
NWLT				*eS*	**Sg**	13 42 15.5	+0.6
TWY	**Chenhua**	1.22	295	*eP*	**Pn**	13 41 58.2	-2.0
TWY				*eS*	**Sb**	13 42 15.4	-0.6
ETL	**Fush Village**	1.24	241	P	**Pg**	13 42 01.7	+1.4
ETL				*eS*	**Sn**	13 42 19.8	+2.2
NACB	**Ninganchiao**	1.25	243	*eP*	**Pg**	13 42 01.3	+0.7
NACB				S	**Sn**	13 42 18.3	+0.4
TWD	**Chiawan**	1.30	239	*i* P	**Pg**	13 42 01.8	+0.3
TWD				*eS*	**Sn**	13 42 20.7	+1.7
YHNB	**Yeheng**	1.31	266	*i* P	**Pb**	13 42 01.9	+0.2
YHNB				*eS*	**Sn**	13 42 23.6	+4.1
NSK	**Sanguang**	1.33	267	*i* P	**Pb**	13 42 02.1	+0.2
NSK				*eS*	**Sb**	13 42 18.9	-0.3
ETLH	**Xiulin Townshi**	1.33	246	*i* P	**Pg**	13 42 03.0	+0.9
ETLH				*eS*	**Sn**	13 42 23.4	+3.4
NNSB	**Datong**	1.34	256	*i* P	**Pb**	13 42 02.2	0.0
NNSB				*eS*	**Sg**	13 42 20.1	+0.3
NNS	**Nan Shan**	1.35	257	*i* P	**Pg**	13 42 02.8	+0.3
NNS				*eS*	**Sn**	13 42 20.6	+0.1
JISG	**Ishigakijimahi**	1.37	97	*eP*	**Pg**	13 42 04.5	+1.6
ETM	**Tongmen**	1.44	237	*i* P	**Pn**	13 42 02.1	-1.2
ETM				*eS*	**Sg**	13 42 25.1	+2.3
LXIB	**Xiulin Townshi**	1.47	240	*i* P	**Pb**	13 42 04.0	-0.5
LXIB				S	**Sg**	13 42 25.5	+1.6
SHUL	**Shoufeng**	1.50	230	*i* P	**Pb**	13 42 04.4	-0.4
SHUL				*eS*	**Sg**	13 42 26.9	+2.3
WHF	**Hehuan Shan**	1.54	247	*i* P	**Pg**	13 42 06.1	0.0
WHF				S	**Sg**	13 42 26.8	+0.8
NFF	**Wufeng Townshi**	1.55	266	*i* P	**Pg**	13 42 07.0	+0.8
NFF				*eS*	**Sn**	13 42 25.5	+0.2
ESL	**Shilin**	1.57	234	*i* P	**Pn**	13 42 04.8	-0.3
ESL				*eS*	**Sg**	13 42 30.3	+3.2
TWT	**Tachien**	1.57	252	*i* P	**Pg**	13 42 07.3	+0.6
TWT				*eS*	**Sg**	13 42 30.0	+2.8
TDCB	**Techi**	1.59	252	*i* P	**Pg**	13 42 06.9	-0.1
TDCB				*eS*	**Sg**	13 42 27.9	+0.2
LIOB	**Emei**	1.64	266	*i* P	**Pg**	13 42 08.2	+0.2
LIOB				*eS*	**Sn**	13 42 27.6	0.0
NSTT	**Nanjuang**	1.65	266	P	**Pb**	13 42 07.9	+0.4
NSTT				*eS*	**Sn**	13 42 28.0	+0.1
WARBT	**Fenglin Townsh**	1.67	232	*eP*	**Pb**	13 42 07.0	-0.7
WARBT				*eS*	**Sg**	13 42 29.6	-0.5
WUSB	**Renai**	1.73	244	*i* P	**Pb**	13 42 08.5	-0.3
WUSB				*eS*	**Sg**	13 42 31.7	-0.3
HGSD	**Ruisui**	1.79	225	*i* P	**Pb**	13 42 09.0	-0.8
HGSD				*eS*	**Sb**	13 42 32.4	-0.1
EHY	**Hungye**	1.85	228	*i* P	**Pn**	13 42 09.2	+0.4
EHY				*i* S	**Sb**	13 42 34.2	0.0
NMLH	**Miaoli**	1.85	264	*i* P	**Pg**	13 42 13.4	+1.3
NMLH				*eS*	**Sg**	13 42 36.3	+0.1
DPDB	**Guoxing**	1.87	248	*i* P	**Pg**	13 42 13.2	+0.9
DPDB				*eS*	**Sn**	13 42 30.6	-2.5
WCS	**Beigang Elemen**	1.87	248	*i* P	**Pb**	13 42 11.3	+0.1
WCS				*eS*	**Sg**	13 42 36.5	-0.2
ECBN	**Changbin**	1.90	221	*eP*	**Pn**	13 42 10.1	+0.5
ECBN				S	**Sb**	13 42 34.0	-1.7
TWQ1	**Liyutan**	1.90	258	*i* P	**Pb**	13 42 12.4	+0.7
TWQ1				*eS*	**Sb**	13 42 35.4	-0.4
YULB	**Yu-li**	1.94	226	*i* P	**Pn**	13 42 09.8	-0.4
YULB				S	**Sb**	13 42 36.3	-0.7
SMLT	**Sun Moon Lake**	1.95	244	*i* P	**Pb**	13 42 11.9	-0.7
SMLT				*eS*	**Sb**	13 42 36.5	-0.8
SSLB	**Suanglung**	1.95	241	*i* P	**Pn**	13 42 11.2	+0.8
SSLB				*eS*	**Sg**	13 42 41.6	+2.3
EYUL	**Yuli**	1.96	224	*i* P	**Pn**	13 42 10.8	+0.4
EYUL				*eS*	**Sg**	13 42 38.1	-1.5
TWF1	**Yuli**	1.97	225	*i* P	**Pb**	13 42 11.3	-1.6
TWF1				*eS*	**Sb**	13 42 36.8	-1.0
TYC	**Yuchr**	1.98	245	*i* P	**Pb**	13 42 12.8	-0.2
TYC				S	**Sg**	13 42 43.3	+3.2
CHKH	**Chenggong**	2.03	220	*i* P	**Pn**	13 42 11.5	+0.1
CHKH				S	**Sn**	13 42 37.3	+0.3
TCU	**Taichung**	2.04	253	P	**Pg**	13 42 16.5	+0.8
TCU				*eS*	**Sg**	13 42 46.8	+4.3
CHKT	**Chengkung**	2.12	219	*i* P	**Pb**	13 42 14.4	-1.0
CHKT				*eS*	**Sb**	13 42 40.3	-1.7
WJS	**Zhushan**	2.12	244	*i* P	**Pb**	13 42 15.6	+0.2
WJS				*eS*	**Sg**	13 42 45.3	+0.6
YUS	**Yu-Shan**	2.12	234	*i* P	**Pn**	13 42 11.3	-1.8
YUS				*eS*	**Sn**	13 42 39.8	-0.2
WNT	**Mingjian**	2.13	246	*eP*	**Pn**	13 42 11.8	-1.0
WNT				*eS*	**Sb**	13 42 42.2	-0.2
EHD	**Haiduan**	2.17	223	P	**Pn**	13 42 13.0	-0.4
EHD				S	**Sb**	13 42 43.4	-0.3
ECS	**Chishang**	2.21	222	*eP*	**Pb**	13 42 15.9	-1.0
ECS				*eS*	**Sb**	13 42 44.2	-0.3
ALS	**Alishan**	2.22	236	*i* P	**Pb**	13 42 16.5	-0.8
ALS				*eS*	**Sg**	13 42 50.8	+3.0
EDH	**Donghe**	2.25	218	*eP*	**Pn**	13 42 15.0	+0.6
EDH				*i* S	**Sn**	13 42 42.2	-0.4
CHN5	**Tsauling**	2.27	240	*i* P	**Pb**	13 42 17.2	-0.8
CHN5				S	**Sg**	13 42 50.0	+0.6
ELDTW	**Lidau**	2.27	227	*i* P	**Pn**	13 42 15.1	+0.3
ELDTW				S	**Sb**	13 42 44.2	-2.2
WGK	**Gukeng**	2.32	243	*eP*	**Pb**	13 42 18.4	-0.4
WGK				*eS*	**Sg**	13 42 52.0	+1.0
WDLH	**Douliu**	2.33	243	P	**Pb**	13 42 17.2	-1.9
WDLH				*eS*	**Sb**	13 42 48.3	+0.1
LONT	**Longtian**	2.40	220	*i* P	**Pn**	13 42 16.5	-0.1
LONT				*eS*	**Sn**	13 42 47.0	+0.7
WCKO	**Fanlu**	2.41	237	*i* P	**Pb**	13 42 18.7	-1.7
WCKO				S	**Sg**	13 42 52.2	-1.7
LDUT	**Ludao**	2.41	211	*eP*	**Pn**	13 42 15.9	-0.7
LDUT				S	**Sn**	13 42 45.3	-1.3
STYH	**Taoyuan**	2.44	230	*i* P	**Pb**	13 42 18.7	-2.3
STYH				S	**Sb**	13 42 50.8	-0.5
WTK	**Tuku**	2.46	245	*eP*	**Pb**	13 42 19.7	-1.5
WTK				*eS*	**Sn**	13 42 49.0	+1.4
CHN4	**Tsaushan**	2.47	236	*i* P	**Pb**	13 42 20.7	-0.6
CHN4				*eS*	**Sb**	13 42 52.1	+0.1
TPUB	**Ta-pu**	2.47	234	*i* P	**Pb**	13 42 19.4	-2.1
TPUB				S	**Sb**	13 42 52.2	+0.1
TWG	**Pinlang**	2.50	220	P	**Pn**	13 42 17.6	-0.4
TWG				*eS*	**Sb**	13 42 50.4	-2.7
WTP	**Ta-pu**	2.51	234	*i* P	**Pb**	13 42 20.2	-2.0
WTP				*eS*	**Sb**	13 42 52.3	-1.1
CHN1	**Nanshi**	2.61	234	*i* P	**Pb**	13 42 22.6	-1.2
CHN1				S	**Sb**	13 42 54.7	-1.6
SNST	**Tainan City**	2.61	235	P	**Pb**	13 42 23.2	-0.7
SNST				*eS*	**Sb**	13 42 55.1	-1.2
SGST	**Jiashian**	2.64	231	*i* P	**Pb**	13 42 21.7	-2.6
SGST				S	**Sb**	13 42 54.9	-2.1
ECL	**Taimali**	2.75	219	*eP*	**Pn**	13 42 20.9	-0.3
ECL				*eS*	**Sn**	13 42 54.7	-0.1
SCST	**Cishan**	2.83	229	*i* P	**Pb**	13 42 26.9	-0.6
SCST				*eS*	**Sb**	13 43 01.2	-1.2
SSD	**Sandimen**	2.83	225	*i* P	**Pn**	13 42 23.8	+1.4
SSD				S	**Sb**	13 42 59.7	-2.8
TSMG	**Majia**	2.85	225	*i* P	**Pb**	13 42 25.6	-2.3
TSMG				S	**Sb**	13 43 00.0	-3.1
MASBT	**Mashibuluo**	2.93	224	*i* P	**Pn**	13 42 25.4	+1.7
MASBT				S	**Sb**	13 43 02.8	-2.5
LAY	**Lan-yu**	2.94	203	P	**Pn**	13 42 23.6	-0.4
LAY				*eS*	**Sn**	13 42 59.2	-0.5
LYUB	**Lan-yu**	2.97	203	*eP*	**Pn**	13 42 24.7	+0.4
LYUB				*eS*	**Sn**	13 43 01.3	+1.0
TAWH	**Dawu Township**	2.99	217	P	**Pn**	13 42 25.9	+1.4
TAWH				*eS*	**Sn**	13 43 00.0	-0.7
VWUC	**VWUC**	3.06	275	*eP*	**Pn**	13 42 27.9	+2.3
PHUB	**P'eng-hu**	3.21	248	*eP*	**Pn**	13 42 29.8	+2.2
PHUB				*eS*	**Sn**	13 43 06.5	+0.2

WEL 11 13:57:03.2±1.3,32°S±29°×18°0E±2°4,h532km±58km,
M3.6/8,mB3.6/4,ML4.0/7,MLv3.9/8,Mw(mB)2.5/4,Error
ellipse: s-maj=43.8km s-min=23.4km az=35.4,
confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	5.25	221	P	P	13 58 33.4	-0.6
MXZ	**Matakaoa Point**	5.34	192	P	P	13 58 36.2	+1.5
KUZ	**Kuaotunu**	5.49	216	P	P	13 58 36.3	+0.2
WMGZ	**Waiomatatini S**	5.58	190	P	P	13 58 37.2	+0.4
WMGZ				S	S	13 59 54.8	+1.2
HAZ	**Te Kaha**	5.63	196	P	P	13 58 36.6	-0.8
HAZ				S	S	13 59 54.0	-0.6
PKGZ	**Pakihiroa**	5.68	193	P	P	13 58 37.1	-0.7
WCZ	**Waipu Caves**	5.71	229	P	P	13 58 36.5	-1.6
WIAZ	**Waiheke Island**	5.83	219	P	P	13 58 39.8	+0.5
PUZ	**Puketiti**	5.85	191	P	P	13 58 37.6	-1.8
PUZ				S	S	13 59 58.8	+0.6
RUGZ	**Raukumara Rang**	5.86	196	P	P	13 58 40.1	+0.4
RUGZ				S	S	13 59 59.4	+0.8
MBAZ	**Motutapu North**	5.94	220	P	P	13 58 40.6	+0.4
TWGZ	**Tauwhareparae**	6.00	193	P	P	13 58 41.3	+0.4
TWGZ				S	S	14 00 01.8	+1.0
MKAZ	**Moumakai**	6.05	217	P	P	13 58 42.0	+0.7
ETAZ	**East Tamaki Re**	6.06	219	P	P	13 58 43.3	+1.9
MWZ	**Matawai**	6.25	196	P	P	13 58 41.6	-1.5
MWZ				S	S	14 00 05.6	+0.5
CNGZ	**Carnagh Statio**	6.26	191	P	P	13 58 44.7	+1.5
TKGZ	**Te Karaka**	6.28	193	P	P	13 58 42.5	-0.8
URZ	**Urewera**	6.28	199	P	P	13 58 42.3	-1.0
URZ				S	S	14 00 04.7	-0.8
TOZ	**Tahuroa Road**	6.39	211	P	P	13 58 46.0	+1.6

*THE **11** 13:57:11.5,38°.84N×25°.99E,h0km±1km,ML3.6/9,Error*
ellipse: s-maj=1.4km s-min=0.7km az=143.0
*ISK **11** 13:57:11.2,38°.84N×25°.91E,h17km,ML4.0/59*
*ATH **11** 13:57:12.8,38°.84N×26°.00E,h18km±2km,ML3.6/32,*
Manual Solution by N.Liadopoulou First location:
2019/03/11 13:57:52, This location: 2020/07/02 05:33:19
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 0
km; Longitude uncertainty: 1 km
*IDC **11** 13:57:12.0±1.2,38°.85N×26°.19E,h0km,mb3.6/3,*
mbtmp3.7/7,ML4.0/3,Error ellipse: s-maj=18.6km
s-min=13.1km az=84.0
*AFAD **11** 13:57:13.1,38°.84N×25°.99E,h6km,MW3.9*
ISC 11 13:57:12.3±1.1,38°.84N±0°.02×25°.99E±0°.02,h6km±8km,
n187,σ0°.93/218,mb3.7/3,13C-15D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG2	**Marmaro, Chios**	0.31	162	P	**Pb**	13 57 19.5	-0.8
EAG2				S	**Sg**	13 57 23.4	+0.9
KARB	**zmir-Karabur**	0.38	118	P	**Pb**	13 57 20.3	-1.1
KARB				S	**Sg**	13 57 24.4	-0.1
CESE	**eme**	0.56	154	Pg	**Pg**	13 57 22.9	-0.3
FOCM	**Foa**	0.60	102	Pg	**Pb**	13 57 24.8	-0.3
GPNR	**Gulpinar-Canak**	0.63	10	Pg	**Pg**	13 57 24.7	+0.4
CAND	**Candarli**	0.65	80	Pg	**Pb**	13 57 25.7	-0.3
KOCA	**Canakkale, Ayv**	0.67	10	P	**Pg**	13 57 25.5	+0.2
KOCA				S	**Sb**	13 57 35.0	-0.9
URLA	**Izmir**	0.68	135	P	**Pb**	13 57 26.2	-0.3
URLA				S	**Sb**	13 57 34.8	-1.3
AYVA	**Ayvalik**	0.72	49	P	**Pg**	13 57 26.4	+0.2
AYVA				S	**Sb**	13 57 36.1	-1.2
ZEYE	**Izmir, Urla-Ze**	0.72	146	P	**Pg**	13 57 26.4	+0.2
ZEYE				S	**Sb**	13 57 37.0	-0.5
DKL	**Dikili**	0.75	72	Pg	**Pb**	13 57 27.0	-0.8
DKL	**Dikili**	0.75	72	P	**Pb**	13 57 27.3	-0.5
ZEDA	**zmir-Bergama**	0.86	81	P	**Pg**	13 57 28.8	0.0
ZEDA				S	**Sg**	13 57 40.0	+0.1
BLCB	**Balcova**	0.94	118	Pg	**Pb**	13 57 30.7	-0.3
EZNE	**Ezine-Canakkal**	0.96	18	Pg	**Pg**	13 57 30.6	-0.1
BAYC	**CANAKKALE_Bayr**	1.00	26	P	**Pg**	13 57 31.1	-0.3
BAYC				S	**Sb**	13 57 45.8	+0.3
BOZC	**Bozcaada**	1.00	3	Pg	**Pg**	13 57 30.9	-0.6
BOZC	**Bozcaada**	1.00	3	P	**Pg**	13 57 30.8	-0.7
BOZC				S	**Sg**	13 57 44.6	0.0
EFSA	**Agios Efstrati**	1.04	312	P	**Pb**	13 57 32.4	-0.3
DGB	**zmir**	1.06	138	P	**Pb**	13 57 32.5	-0.4
DGB				S	**Sb**	13 57 46.5	-0.5
BUHA	**Balikesir, Bur**	1.07	52	P	**Pg**	13 57 32.4	-0.5
BUHA				S	**Sb**	13 57 47.6	0.0
SKY	**Skiros Island**	1.12	272	P	**Pg**	13 57 33.1	-0.7
SKY				S	**Sb**	13 57 49.4	+0.5
	2μm,0.4s						
SKY	**Skiros Island**	1.12	272	P	**Pg**	13 57 33.2	-0.6
ECEA	**Canakkale, Ece**	1.21	7	P	**Pg**	13 57 34.3	-1.2
ECEA				S	**Sg**	13 57 51.1	-0.2
LIA	**Limnos Island**	1.23	330	P	**Pg**	13 57 34.9	-0.9
LIA				S	**Sg**	13 57 51.6	-0.1
	14μm,0.5s						
LIA	**Limnos Island**	1.23	330	P	**Pg**	13 57 34.8	-1.0
CNKL	**anakkale-Mer**	1.26	14	P	**Pn**	13 57 35.0

TYRN	Tyrnavos	3.04	288	P	Pn	13 58 00.4	-0.4
EDRB	Edirne	3.06	11	Pn	Pn	13 57 59.9	-1.2
EDRB	Edirne	3.06	11	P	Pn	13 57 59.9	-1.2
CTKS	Kestanelik-??a	3.08	38	Pn	Pn	13 58 00.8	-0.6
KLV	Kalavryta, Ach	3.12	256	P	Pn	13 58 01.5	-0.5
ARG	Arkhangelos	3.12	146	P	Pn	13 58 01.4	-0.6
YLV	Yalova	3.13	56	Pn	Pn	13 58 01.9	-0.3
CTYL	Yalikoy Yolu	3.17	33	Pn	Pn	13 58 02.6	0.0
THL	Klokotos Trika	3.17	284	P	Pn	13 58 02.3	-0.4
BGKT	Bogazkoy	3.17	42	Pn	Pn	13 58 02.1	-0.6
ANX	Ano Chora	3.19	267	P	Pn	13 58 03.2	+0.2
VLI	Veliai	3.21	230	P	Pn	13 58 02.2	-1.1
EFP	Efpalio	3.22	264	P	Pn	13 58 03.0	-0.3
KAVV	Kandilli-Istan	3.24	46	Pn	Pn	13 58 03.5	-0.2
ISK	Istanbul-Kandi	3.24	46	Pn	Pn	13 58 03.7	0.0
EVR	Evrytania	3.26	273	P	Pn	13 58 03.5	-0.6
CAVI	Cavuskoy	3.28	64	Pn	Pn	13 58 03.8	-0.4
ADVT	Abdulvahap	3.31	60	Pn	Pn	13 58 04.3	-0.2
KNT	Kendrikon	3.32	315	P	Pn	13 58 04.5	-0.2
OSMT	Osmaniye	3.36	57	Pn	Pn	13 58 05.3	-0.1
KLYT	Kilyos	3.36	43	Pn	Pn	13 58 04.4	-0.9
KARP	Karpathos	3.42	164	P	Pn	13 58 05.1	-1.0
PLD	Plovdiv	3.44	344	Pn	Pn	13 58 04.9	-1.4
HRT	Hereke	3.46	54	Pn	Pn	13 58 05.7	-1.0
GRG	Griva	3.47	309	P	Pn	13 58 06.5	-0.4
VAY	Valandovo	3.61	314	*i* Pn	Pn	13 58 10.4	+1.7
VAY				*i* Sn	Sg	13 59 10.0	+1.9
SILT	Sile	3.64	49	Pn	Pn	13 58 08.8	-0.3
IDI	Anoyia	3.65	194	Pn	Pn	13 58 08.4	-1.0
	12nm,0.4s,baz=12,slow=15,SNR=21						
IDI				Sn	Sn	13 58 50.3	-2.4
	3.9nm,0.3s,baz=73,slow=22,SNR=2.5						
IDI				Lg	Lg	13 59 10.4	
	6.1nm,0.3s,baz=285,slow=13,SNR=4.2						
IDI	Anoyia	3.65	194	P	Pn	13 58 08.7	-0.7
KSL	Kastellorizon	3.92	132	P	Pn	13 58 12.4	-0.6
ICOR	Ion Corvin	5.45	14	⇑P	Pn	13 58 33.7	-0.2
BOVS	Bovan	5.78	327	⇓P	Pn	13 58 38.6	+0.1
TIRR	Tirgusor	5.90	17	⇓P	Pn	13 58 39.6	-0.6
BRTR	Keskin Array B	6.00	79	Pn	Pn	13 58 41.8	0.0
	0.9nm,0.3s,baz=262,slow=14,SNR=8.5						
BRTR				Sn	Sn	13 59 47.1	-3.8
	0.2nm,0.3s,baz=266,slow=23,SNR=1.1						
BRTR				Lg	Lg	14 00 19.5	
	baz=265,slow=35						
	2.7nm,0.4s						
HARR	Harsova	6.02	13	⇓P	Pn	13 58 41.5	-0.4
KIRS	Kirsehir-Merke	6.19	85	⇑P	Pn	13 58 43.9	-0.4
TPGR	Topolog	6.28	16	⇓P	Pn	13 58 45.7	+0.3
CFR	Carcaliu	6.53	13	⇑P	Pn	13 58 48.0	-0.8
HERR	Herculane	6.60	337	⇓P	Pn	13 58 48.9	-0.8
ARR	Arges	6.60	352	⇑P	Pn	13 58 50.2	+0.4
VOIR		6.63	354	⇓P	Pn	13 58 49.6	-0.7
MLR	Muntele Rosu	6.65	360	Pn	Pn	13 58 51.2	+0.7
	2.4nm,0.3s,baz=202,slow=5.4,SNR=13						
MLR				Sn	Sn	14 00 06.8	+0.2
	0.6nm,0.3s,baz=109,slow=7.1,SNR=3.6						
MLR				Lg	Lg	14 00 42.8	
	0.7nm,0.3s,baz=149,slow=13,SNR=3.8						
	10nm,0.5s						
MLR	Muntele Rosu	6.65	360	⇓P	Pn	13 58 51.1	+0.6
MDVR	Moldovita	6.74	333	⇓P	Pn	13 58 51.5	-0.2
LOT	Lotru	6.80	347	⇑P	Pn	13 58 52.1	-0.6
SPBR	Spulber	6.93	4	⇑P	Pn	13 58 55.0	+0.7
GZR	Gura Zlata	6.97	341	⇓P	Pn	13 58 54.0	-0.9
PLOR	Plostina	7.02	4	⇓P	Pn	13 58 56.4	+0.8
VRI	Vrincioaia	7.04	4	⇑P	Pn	13 58 56.7	+0.8
DOPR	Dopca	7.14	357	⇑P	Pn	13 58 57.7	+0.5
SURR	Surduc	7.48	339	⇓P	Pn	13 59 01.8	-0.1
BZS	Buzias	7.51	336	⇓P	Pn	13 59 01.8	-0.4
TESR	Tescani	7.68	3	⇑P	Pn	13 59 05.3	+0.6
SIRR	Siria	8.08	338	⇓P	Pn	13 59 09.6	-0.5
MARR	Marisel-Cluj	8.11	346	⇑P	Pn	13 59 09.9	-0.7
DRGR		8.30	344	⇓P	Pn	13 59 13.0	-0.2
BURAR	Bucovina Array	8.79	357	⇑P	Pn	13 59 20.6	+0.7
MMAI	Mount Meron Ar	9.59	124	Pn	Pn	13 59 29.9	-1.1
	2.4nm,0.3s,baz=305,slow=12,SNR=6.3						
	1.5nm,0.3s						
NOA	NORSAR Array B	24.06	342	P	P	14 02 29.8	+1.8
	1.2nm,0.3s,baz=158,slow=8.6,SNR=3.4						
	1.2nm,0.9s						
EKA	Eskdalemuir Ar	25.54	320	P	P	14 02 44.1	+2.7
	0.9nm,0.6s,baz=109,slow=10.0,SNR=1.6						
	0.9nm,0.6s						
CMAR	Chiang Mai Arr	65.56	85	P	P	14 07 56.8	-0.1
	0.6nm,0.6s,baz=306,slow=6.1,SNR=4.4						
	0.6nm,0.6s						

*IDC **11** 14:07:58.7±7.7, 30.°65S×179.°24W, h478km±107km, mb3.4/3, mbtmp4.2/4, Error ellipse: s-maj=116.7km s-min=36.3km az=178.0*

ISC 11 14:07:54.9±1.8, 30.°29S±0.°10×178.°9W±0.°3, h450km, n29, σ1§47/50, mb3.9/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	7.84	196	P	P	14 09 46.3	-2.1
WMGZ				P	S	14 11 19.0	-2.6
HAZ	Te Kaha	7.95	200	P	P	14 09 50.6	+1.0
HAZ				S	S	14 11 22.4	-1.3
PKGZ	Pakihiroa	7.97	198	P	P	14 09 47.8	-2.0
PKGZ				S	S	14 11 23.2	-1.0
WCZ	Waipu Caves	8.01	224	P	P	14 09 50.5	+0.3
PUZ	Puketiti	8.12	196	P	P	14 09 52.7	+1.3
PUZ				S	S	14 11 25.1	-2.0
RUGZ	Raukumara Rang	8.17	200	P	P	14 09 52.2	+0.1
RUGZ				S	S	14 11 26.4	-2.1
TWGZ	Tauwhareparae	8.29	198	P	P	14 09 55.4	+2.1
TWGZ				P	S	14 11 30.9	+0.4
CNGZ	Carnagh Statio	8.52	196	P	P	14 09 54.9	-0.9
MWZ	Matawai	8.56	199	P	P	14 09 55.3	-0.9
MWZ				S	S	14 11 34.8	-1.1
TKGZ	Te Karaka	8.57	198	P	P	14 09 55.2	-1.1
TKGZ				S	S	14 11 35.6	-0.4
URZ	Urewera	8.62	202	P	P	14 09 54.8	-1.9
	2.9nm,0.3s,baz=352,slow=4.6,SNR=38						
URZ				S	S	14 11 37.2	+0.3
	13nm,0.5s,baz=110,slow=23,SNR=14						
URZ	Urewera	8.62	202	P	P	14 09 54.8	-1.9
URZ				S	S	14 11 35.6	-1.4
RIGZ	Rimuhau	8.84	197	P	P	14 09 59.4	+0.1
RIGZ				S	S	14 11 40.1	-1.5
SNGZ	Shannon Statio	9.03	199	P	P	14 10 00.3	-1.0
SNGZ				S	S	14 11 44.9	-0.4
RAHZ	Arahi	9.23	200	S	S	14 11 49.6	+0.3
BKZ	Black Stump Fm	9.64	202	P	P	14 10 08.4	+0.4
BKZ				S	S	14 11 56.4	-1.2
MCHZ	McNeill Hill	9.83	201	P	P	14 10 11.9	+1.9
MCHZ				S	S	14 12 03.0	+1.7
KWHZ	Kaweka Forest	9.90	202	P	P	14 10 10.7	-0.1
KWHZ				S	S	14 12 03.5	+0.8
KAHZ	Kahuranaki	10.10	199	P	P	14 10 14.2	+1.3
KAHZ				S	S	14 12 09.6	+2.8
KRHZ	Kereru	10.11	201	P	P	14 10 13.2	+0.1
KRHZ				S	S	14 12 06.3	-0.7
PXZ	Pawanui	10.33	199	P	P	14 10 16.2	+0.9
PXZ				S	S	14 12 12.0	+0.9
PNHZ	Pukenui	10.41	201	P	P	14 10 16.3	-0.1
PNHZ				S	S	14 12 14.1	+1.1
PRHZ	Porangahau	10.61	199	P	P	14 10 19.6	+1.2
PRHZ				S	S	14 12 20.9	+4.1
DVHZ	Dannevirke	10.78	201	P	P	14 10 21.6	+1.3
DVHZ				S	S	14 12 21.9	+1.7
BFZ	Birch Farm	11.10	200	P	P	14 10 24.8	+1.0
BFZ				S	S	14 12 28.4	+1.7
ASAR	Alice Springs	42.37	267	P	P	14 15 07.8	-0.5
	1.2nm,0.7s,baz=109,slow=9.0,SNR=38						
	1.2nm,0.7s						
WRA	Warramunga Arr	43.34	273	P	P	14 15 15.2	-0.9
	3.3nm,0.5s,baz=111,slow=8.0,SNR=48						
	3.3nm,0.5s						
PETK	Petropavlovsk-	85.52	346	P	P	14 19 44.5	+0.7
	2.1nm,0.8s,baz=160,slow=5.4,SNR=5.4						
	2.1nm,0.8s						
FINES	FINESS Array B	144.78	339	PKPbc	PKPbc	14 26 40.8	+1.8
	0.9nm,0.3s,baz=52,slow=4.1,SNR=9.1						

*GUC **11** 14:22:17.0±0.7, 33.°84S×70.°86W, h89km±2km, ML4.0*
*NEIC **11** 14:22:17.3±0.6, 33.°83S±0.°04×70.°88W±0.°06, h82km±2km, mb4.1/4, Error ellipse: s-maj=7.2km s-min=6.1km az=121.0*

ISC 11 14:22:16.9±0.9, 33.°82S±0.°03×70.°88W±0.°04, h85km±5km, n53, σ0§42/78, 15C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT09	Talagante	0.11	297		Pn	14 22 29.2	0.0
MT09				Sn	Sn	14 22 38.0	-0.3
MT09	Talagante	0.11	297	⇑*i*P	Pn	14 22 29.3	+0.1
MT09				*e*S	Sn	14 22 38.5	+0.1
MT09				IAML		14 22 39.4	
	comp=N,12μm,0.3s						
BO04	La Punta	0.28	127	Pn	Pn	14 22 29.4	-0.3
BO04				Sn	Sn	14 22 38.7	-0.5
BO04	La Punta	0.28	127⇑	*e*P	Pn	14 22 29.4	-0.3
BO04				*e*S	Sn	14 22 39.1	-0.1
BO04				IAML		14 22 40.0	
	comp=N,24μm,0.4s						
MT12	Pirque	0.29	72⇑	*e*P	Pn	14 22 29.8	0.0
MT12				*e*S	Sn	14 22 39.3	0.0
MT01	Popeta	0.32	263		Pn	14 22 29.9	+0.1
MT01	Popeta	0.32	263⇑	*e*P	Pn	14 22 30.1	+0.2
MT01				*e*S	Sn	14 22 39.6	+0.1
MT01				IAML		14 22 40.2	
	comp=N,16μm,0.3s						
MT15	Las Vizcachas	0.38	54⇑	*e*P	Pn	14 22 30.4	0.0
MT15				*e*S	Sn	14 22 40.5	+0.2
MT15				IAML		14 22 41.1	
	comp=N,11μm,0.2s						
MT05	Renca	0.45	15		Pn	14 22 31.1	+0.3
MT05	Renca	0.45	15⇑	*e*P	Pn	14 22 31.1	+0.3
MT05				*e*S	Sn	14 22 41.5	+0.4
MT05				IAML		14 22 42.7	
	comp=E,20μm,0.5s						
MT03	Universidad Ad	0.45	43		Pn	14 22 30.7	-0.2
MT03	Universidad Ad	0.45	43⇑	*e*P	Pn	14 22 30.8	-0.1
MT03				*e*S	Sn	14 22 41.4	+0.1
MT03				IAML		14 22 42.2	
	comp=E,16μm,0.2s						
MT16	CCHEN	0.49	37		Pn	14 22 31.1	-0.1
MT16	CCHEN	0.49	37⇑	*e*P	Pn	14 22 31.2	+0.1
MT16				*e*S	Sn	14 22 41.8	0.0
MT13	San Alfonso	0.50	81		Pn	14 22 31.3	+0.1
MT13	San Alfonso	0.50	81	*e*P	Pn	14 22 31.3	+0.1
MT13				*e*S	Sn	14 22 42.2	+0.3
MT13				IAML		14 22 44.0	
	comp=E,15μm,0.3s						
MT14	Cerro Calı¡n	0.51	34⇑	*e*P	Pn	14 22 31.4	+0.1
MT14				IAML		14 22 43.4	
	comp=E,8μm,0.6s						
LMEL	Las Melosas	0.56	93		Pn	14 22 32.0	+0.2
LMEL	Las Melosas	0.56	93⇓	*i*P	Pn	14 22 32.1	+0.2
LMEL				*e*S	Sn	14 22 43.3	+0.4
LMEL				IAML		14 22 45.5	
	comp=N,5μm,0.2s						
BO01	Tunca	0.59	197		Pn	14 22 32.2	+0.2
BO01	Tunca	0.59	197⇓	*e*P	Pn	14 22 32.2	+0.2
BO01				*e*S	Sn	14 22 43.5	+0.3
BO01				IAML		14 22 43.9	
	comp=E,7μm,0.2s						
MT02	Curacav	0.60	339		Pn	14 22 32.4	+0.4
MT02	Curacav	0.60	339⇑	*e*P	Pn	14 22 32.5	+0.4
MT02				*e*S	Sn	14 22 43.9	+0.5
MT10	Hacienda Santa	0.62	27⇑	*e*P	Pn	14 22 32.5	+0.2
MT10				*e*S	Sn	14 22 43.9	+0.1
MT10				IAML		14 22 47.5	
	comp=E,5μm,0.3s						
VA05	Santo Domingo	0.64	285		Pn	14 22 32.6	+0.3
VA05	Santo Domingo	0.64	285	*i* P	Pn	14 22 32.6	+0.3
VA05				*i* S	Sn	14 22 44.1	+0.3
VA05				IAML		14 22 45.3	
	comp=N,7μm,0.3s						
FCH	Farellones	0.69	45⇓	*e*P	Pn	14 22 33.6	+0.3
FCH				IAML		14 22 46.5	
	comp=N,7μm,0.2s						
PEL	Peldehue	0.70	13		Pn	14 22 33.4	+0.4
PEL	Peldehue	0.70	13⇑	*e*P	Pn	14 22 33.4	+0.4
PEL				*e*S	Sn	14 22 45.5	+0.5
PEL				IAML		14 22 46.3	
	comp=N,8μm,0.3s						
MT04	Ro Olivares	0.74	56⇓	*e*P	Pn	14 22 33.8	+0.1
MT04				*e*S	Sn	14 22 46.2	0.0
MT04				IAML		14 22 48.0	
	comp=N,4μm,0.2s						
MT08	Bocatoma Ro	0.81	62		Pn	14 22 34.6	+0.3
MT08	Bocatoma Ro	0.81	62⇓	*e*P	Pn	14 22 34.6	+0.3
MT08				*e*S	Sn	14 22 47.1	-0.3
ROCH	El Roble	0.86	352⇑	*i*P	Pn	14 22 35.2	+0.3
ROCH				*e*S	Sn	14 22 48.8	+0.5
VA03	San Esteban	1.09	14		Pn	14 22 37.7	+0.3
VA03	San Esteban	1.09	14⇑	*e*P	Pn	14 22 37.8	+0.3
VA03				*e*S	Sn	14 22 53.3	+0.5
VA03				IAML		14 22 56.0	
	comp=E,4μm,0.2s						
BO03	Pichilemu	1.12	233⇓	*e*P	Pn	14 22 38.0	+0.4
BO03				*e*S	Sn	14 22 53.8	+0.4
BO03				IAML		14 22 55.4	
	comp=N,2μm,0.3s						
VA06	Catapilco	1.31	344		Pn	14 22 40.4	+0.4
VA06	Catapilco	1.31	344⇑	*e*P	Pn	14 22 40.4	+0.4
VA06				*e*S	Sn	14 22 57.4	+0.1
VA06				IAML		14 23 01.2	
	comp=N,4μm,0.5s						
GO05	Hualane	1.47	216⇓	*e*P	Pn	14 22 41.9	-0.1
GO05				*e*S	Sn	14 23 01.5	+0.4
ML02	Panimavida	1.98	193	Pn	Pn	14 22 48.9	+0.2
BI02	San Fabin de	2.85	186	Pn	Pn	14 23 01.2	+0.8
BI02	San Fabin de	2.85	186⇓	*e*P	Pn	14 23 01.5	+1.1
BI02				*e*S	Sn	14 23 34.2	+0.4
BI02				IAML		14 23 40.1	
	comp=N,325nm,0.3s						
ZON	Zonda	2.93	40		Pn	14 23 02.1	+0.6
CO03	El Pedregal	2.98	3	Pn	Pn	14 23 02.7	+0.5
CO06	Fray Jorge	3.21	348		Pn	14 23 04.8	-0.3
BI05	Punta Hualpn	3.48	212	Pn	Pn	14 23 07.2	-1.5
GO04	Tololo Observa	3.64	1		Pn	14 23 10.5	-0.7
CO01	Juntas del Tor	3.89	10		Pn	14 23 15.2	+0.6
AC04	Llanos de Chal	5.60	358		Pn	14 23 36.5	-1.2
LPAZ	La Paz	17.64	9	P	P	14 26 16.9	-0.6
LPAZ				IAmb	IAmb	14 26 21.2	
	comp=Z,3.5nm,0.8s						
EFI	East Falkland	20.11	156	P	P	14 26 43.1	-0.5
BDFB	Brasilia	27.44	54	P	P	14 27 54.9	-0.1
BDFB				IAmb	IAmb	14 28 21.7	
	comp=Z,8.0nm,1.2s						
SNAA	Sanae	51.38	158	P	P	14 31 13.0	+0.5
SNAA				IAmb	IAmb	14 31 40.1	
	comp=Z,7.7nm,1.3s						

WEL 11 14:43:36.1±1.2, 33.°S±16.°×17.°9W±1.°3, h333km±33km, M3.8/5, mB4.5/3, ML4.0/6, MLv3.8/5, Mw(mB)3.6/3, Error ellipse: s-maj=21.4km s-min=17.3km az=9.2, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	5.05	201	P	Pn	14 44 56.5	+1.2
WMGZ				S	S	14 46 00.9	+1.6
PKGZ	Pakihiroa	5.20	203	P	Pn	14 44 57.3	+0.2
PKGZ				S	S	14 46 02.1	-0.3
HAZ	Te Kaha	5.20	206	P	Pn	14 44 57.0	0.0
HAZ				S	S	14 46 01.9	-0.6
PUZ	Puketiti	5.33	201	P	Pn	14 44 59.5	+0.9
PUZ				S	S	14 46 05.5	+0.3
RUGZ	Raukumara Rang	5.42	206	P	Pn	14 44 59.4	-0.4
RUGZ				S	S	14 46 06.7	-0.6
KUZ	Kuaotunu	5.44	227	S	S	14 46 06.8	-0.6
TWGZ	Tauwhareparae	5.51	202	S	S	14 46 11.0	+2.0
WHRZ	Whale Island	5.61	211	P	Pn	14 45 03.0	+1.2
TKGZ	Te Karaka	5.79	202	P	Pn	14 45 04.5	+0.7
TKGZ				S	S	14 46 16.3	+1.6
MWZ	Matawai	5.81	205	P	Pn	14 45 03.5	-0.5
MWZ				S	S	14 46 14.9	-0.3
URZ	Urewera	5.90	208	P	Pn	14 45 04.2	-0.8
URZ				S	S	14 46 16.9	-0.1
RIGZ	Rimuhau	6.06	202	P	Pn	14 45 06.4	-0.6
RIGZ				S	S	14 46 22.2	+1.6
RVAZ	Riverhead Bore	6.18	232	S	S	14 46 25.3	+2.3
MUGZ	Murupara	6.22	209	P	Pn	14 45 08.2	-0.6
MUGZ				S	S	14 46 23.9	0.0
TLZ	Tolley Road	6.67	217	P	Pn	14 45 14.9	+0.8
BKZ	Black Stump Fm	6.92	208	P	Pn	14 45 15.8	-1.3
BKZ				S	S	14 46 40.1	+1.0
KAHZ	Kahuranaki	7.34	203	P	Pn	14 45 21.7	-0.3
KAHZ				S	S	14 46 45.3	-2.8
PNHZ	Pukenui	7.68	206	P	Pn	14 45 24.5	-1.6
PNHZ				S	S	14 46 54.2	-1.4
TSZ	Takapari Road	7.90	207	P	Pn	14 45 27.1	-1.6
MRZ	Mangatainoka R	8.57	207	P	Pn	14 45 34.6	-2.1
MRZ				S	S	14 47 11.3	-3.7

*NEIC **11** 14:54:25.3±2.1, 5.°87N±0.°08×78.°16W±0.°09, h10km±1km, mb4.5/10, Error ellipse: s-maj=16.1km s-min=11.6km az=240.0*
*RSNC **11** 14:54:25.3±0.0, 6.°N±1.°×7.°8W±.°, h26km±3km, M3.4, mb4.3, ML3.2*
*UPA **11** 14:54:32.1±0.8, 6.°29N×78.°33W, h26km±41km, MD4.0, ML4.2, MW4.0*
*IDC **11** 14:54:33.0±3.0, 5.°88N×77.°89W, h78km±30km, mb3.4/9, mbtmp3.8/11, MS3.3/2, Error ellipse: s-maj=30.2km s-min=17.2km az=47.0*

ISC 11 14:54:22.7±1.7, 5.°82N±0.°02×78.°09W±0.°03, h1km±11km, n87, σ2§59/122, mb4.1/12, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	Bahia Solano	0.79	59	P	Pg	14 54 37.7	-0.2
SOLC				S	Sg	14 54 46.7	-1.4
PIZC	Pizarro, Choco	1.12	139	P	Pb	14 54 43.0	-1.9
PIZC				S	Sb	14 54 55.7	-4.2
PTAC	Punta Ardita,	1.35	12	P	Pn	14 54 46.6	-2.0
PTAC				S	Sb	14 55 01.8	-4.7
PTAC	Punta Ardita,	1.35	12⇑	*i*P	Pn	14 54 46.8	-1.9
PTAC				AMP		14 54 47.0	
	comp=Z,21μm,0.2s						
MALC	Bahia Malaga	1.95	157	P	Pn	14 54 56.0	-0.9
MALC				S	Sn	14 55 18.7	-3.3
PLMC	San Jos del P	2.02	117	P	Pn	14 54 55.0	-2.9
PLMC				S	Sn	14 55 15.8	-8.0
CBOC	Ciudad Bolivar	2.07	89	P	Pn	14 54 55.7	-3.0
CBOC				S	Sn	14 55 17.5	-7.7
DBBC	Dabeiba	2.22	57	P	Pn	14 54 59.6	-1.1
DBBC				S	Sn	14 55 25.0	-3.7
YOTC	Yotoco, Valle	2.52	136	P	Pn	14 55 02.6	-2.3
YOTC				S	Sn	14 55 29.7	-6.7
APAC	Apartado, Choc	2.55	36	P	Pn	14 55 06.5	+1.3
APAC				S	Sn	14 55 35.0	-1.9
UPD2	Meteti	2.71	2	*e*P	Pn	14 55 07.2	-0.1
GUY2C	Guyana, Caldas	2.78	102	P	Pn	14 55 07.0	-1.7
GUY2C				S	Sn	14 55 38.4	-4.8
GR1C	Gorgona, Isla	2.80	182	P	Pn	14 55 08.9	+0.3
GR1C				S	Sn	14 55 41.5	-1.5
RECRC	Villamaria, Ca	2.86	107	P	Pn	14 55 09.1	-0.8
RECRC				S	Sn	14 55 41.1	-4.1
CAPC	Capurgana	2.89	15	P	Pn	14 55 11.6	+1.7
CAPC				S	Sn	14 55 43.3	-2.0
AZU	Azuero	2.92	312	P	Pn	14 55 10.0	-0.2
AZU				S	Sn	14 55 43.3	-2.7
AZU	Azuero	2.92	312⇑	*i*P	Pn	14 55 10.1	-0.2
AZU				AMP		14 55 12.0	
	comp=Z,2μm,0.1s						
AZU				*e*S	Sn	14 55 38.9	-7.0
JAMC	Jamundi, Valle	2.95	151	P	Pn	14 55 08.9	-2.0
JAMC				S	Sn	14 55 38.9	-8.2
ANIL	Santa Ana	2.99	116	P	Pn	14 55 11.6	+0.2
ANIL				S	Sn	14 55 44.0	-4.1
CHIT3	Chitre	3.13	313	*e*P	Pn	14 55 13.0	-0.2
CHIT3				*e*S	Sn	14 55 44.0	-7.2
CACAO	El Cacao, Vera	3.14	299	P	Pn	14 55 12.9	-0.3
CACAO				S	Sn	14 55 49.0	-2.4
CACAO	El Cacao, Vera	3.14	299	*e*P	Pn	14 55 13.0	-0.3
CACAO				AMP		14 55 13.5	
	comp=Z,187nm,0.1s						
CACAO				*e*S	Sn	14 55 45.5	-5.9
NORC	Norcasia	3.22	94	P	Pn	14 55 14.3	-0.1
NORC				S	Sn	14 55 48.0	-5.4
ORTC	Ortega, Tolima	3.41	124	P	Pn	14 55 17.0	-0.1
ORTC				S	Sn	14 55 54.0	-4.3
UPA	Univ. de Panam	3.45	336	*e*P	Pn	14 55 17.1	-0.4
PNME	Penonome	3.45	320	*e*P	Pn	14 55 16.8	-0.8
LCBC	Los crdobas,	3.47	29	P	Pn	14 55 19.9	+2.1
LCBC				S	Sn	14 56 00.2	+0.7
CHOR3	La Chorrera	3.48	332	*e*P	Pn	14 55 17.2	-0.7
POPC	Popayan, Colom	3.55	157	P	Pn	14 55 18.5	-0.7
POPC				S	Sn	14 55 56.3	-5.6
ZARC	Zaragoza, Cauc	3.62	63	P	Pn	14 55 19.8	-0.1
ZARC				S	Sn	14 55 59.3	-3.9
GMAL	Guarumal, Vera	3.67	302	P	Pn	14 55 21.8	+1.3
GMAL				S	Sn	14 56 05.9	+1.5
GMAL	Guarumal, Vera	3.67	302	*e*P	Pn	14 55 21.6	+1.1
PTBC	PUERTO BERRIO,	3.69	79	P	Pn	14 55 20.5	-0.3
PTBC				S	Sn	14 56 00.4	-4.5
BCIP	Isla Barro Col	3.75	333	Pn	Pn	14 55 20.9	-0.7
BCIP	Isla Barro Col	3.75	333	P	Pn	14 55 20.9	-0.7
BCIP				S	Sn	14 56 07.5	+1.1
BCIP	Isla Barro Col	3.75	333	*e*P	Pn	14 55 21.0	-0.6
BCIP				*e*S	Sn	14 55 57.6	-8.8
PRAC	Prado	3.82	123	P	Pn	14 55 22.8

	comp=Z,8.2nm,0.6s						
WMOK	Wichita Mounta	34.55	329	P	P	15 01 12.8	-0.1
R40A	Maddies Statio	34.79	340	P	P	15 01 15.5	+0.6
R40A				IAmb	IAmb	15 01 16.3	
	comp=Z,4.3nm,0.6s						
BDFB	Brasilia	36.63	126	LR	LR	15 17 58.0	
	comp=Z,60nm,18.9s,baz=322,slow=38						
EYMN	Ely	43.51	347	P	P	15 02 27.8	+0.1
EYMN				IAmb	IAmb	15 02 29.0	
	comp=Z,4.2nm,1.1s						
RCBR	Riachuelo	43.68	105	LR	LR	15 20 02.2	
	comp=Z,32nm,21.1s,baz=262,slow=35						
PDAR	Pinedale Array	46.12	328	P	P	15 02 50.9	+1.9
	comp=Z,0.5nm,0.6s,baz=123,slow=12,SNR=5.8						
	comp=Z,0.5nm,0.6s						
ULM	Lac du Bonnet	46.73	344	P	P	15 02 53.1	-0.1
	comp=Z,1.6nm,0.6s,baz=176,slow=9.2,SNR=3.9						
	comp=Z,1.6nm,0.6s						
NVAR	Mina Array Bea	48.77	318	P	P	15 03 11.0	+1.4
	comp=Z,0.8nm,0.8s,baz=122,slow=8.2,SNR=4.5						
	comp=Z,0.8nm,0.8s						
YKA	Yellowknife Ar	62.58	342	P	P	15 04 48.8	+0.7
	comp=Z,0.8nm,0.8s,baz=136,slow=6.7,SNR=15						
	comp=Z,0.8nm,0.8s						
BCAR	Beaver Creek A	73.11	335	P	P	15 05 56.2	+1.6
BMAR	Burnt Mountain	75.75	339	P	P	15 06 11.4	+1.6
ILAR	Eielson Array	75.80	336	P	P	15 06 10.9	+0.8
ILAR	Eielson Array	75.80	336	P	P	15 06 11.1	+0.9
	comp=Z,0.3nm,0.7s,baz=107,slow=6.0,SNR=4.9						
	comp=Z,0.3nm,0.7s						
GHO	Glory Hole Cre	75.88	332	P	P	15 06 11.9	+1.2
SUA	Susitna One	76.66	332	P	P	15 06 15.8	+0.6
N19K	Bonanza Creek	78.31	331	P	P	15 06 25.3	+0.8
N19K				IAmb	IAmb	15 06 50.5	
	comp=Z,16nm,1.4s						
TORD	Torodi Ar. Bea	78.78	78	P	P	15 06 27.4	-0.5
TORD	Torodi Ar. Bea	78.78	78	P	P	15 06 26.6	-1.2
	comp=Z,0.7nm,0.3s,baz=270,slow=5.1,SNR=2.0						
	comp=Z,0.7nm,0.3s						
ASAR	Alice Springs	144.47	237	PKP	PKPab	15 14 00.1	+0.1
	comp=Z,0.4nm,0.6s,baz=118,slow=3.6,SNR=7.4						
WRA	Warramunga Arr	145.50	243	PKPbc	PKPbc	15 14 03.2	-0.5
	comp=Z,0.2nm,0.6s,baz=117,slow=3.2,SNR=1.4						

*NOU **11** 15:06:46.9, 38.′76S×177.′92E, h0km, MLv3.6/9, North Island, New Zealand*
*WEL **11** 15:06:49.7±0.3, 39.°S±2.′×17.°8E±.°, h17km±3km, M3.2/52, ML3.8/25, MLv3.2/52, Error ellipse: s-maj=4.4km s-min=2.6km az=117.3, confirmed*

ISC 11 15:06:49.3±1.0, 38.′66S±0.′03×177.′86E±0.′03, h26km±6km, n81, σ0.8/80/88, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	Rimuhau	0.09	241	P	Pb	15 06 54.2	0.0
RIGZ				S	Sb	15 06 58.3	+1.0
TKGZ	Te Karaka	0.23	358	P	Pb	15 06 54.8	-0.6
TKGZ				S	Sb	15 06 59.3	-0.2
PRGZ	Paritu Road	0.26	176	P	Pn	15 06 57.5	0.0
CNGZ	Carnagh Statio	0.33	57	P	Pn	15 06 58.7	+0.3
KNZ	Kokohu	0.39	202	P	Pn	15 06 59.1	-0.1
RAGZ	Rawiri	0.39	296	P	Pb	15 06 56.9	-0.9
RAGZ				S	Sb	15 07 02.8	-0.8
MWZ	Matawai	0.42	322	P	Pb	15 06 57.2	-1.1
SNGZ	Shannon Statio	0.42	254	P	Pb	15 06 58.5	+0.2
SNGZ				S	Sn	15 07 05.8	-0.9
MHGZ	Mahia Peninsul	0.49	176	P	Pn	15 07 01.4	+0.7
TWGZ	Tauwhareparae	0.50	11	P	Pb	15 07 00.1	+0.5
TWGZ				S	Sn	15 07 09.1	+0.5
WHHZ	Waihua	0.64	230	P	Pn	15 07 03.1	+0.3
RAHZ	Arahi	0.65	247	P	Pn	15 07 02.9	-0.1
PUZ	Puketiti	0.67	28	P	Pb	15 07 02.7	+0.3
PUZ				S	Sn	15 07 14.0	+1.2
RTZ	Ruatahuna	0.69	274	P	Pb	15 07 02.4	-0.4
RUGZ	Raukumara Rang	0.71	348	P	Pb	15 07 02.5	-0.7
RUGZ				S	Sb	15 07 12.3	-0.3
URZ	Urewera	0.71	304	P	Pb	15 07 02.1	-1.0
URZ	Urewera	0.71	304	S	Sb	15 07 12.1	-0.4
URZ	Urewera	0.71	304	P	Pb	15 07 02.2	-1.0
PKGZ	Pakihiroa	0.81	12	P	Pn	15 07 04.6	-0.6
MTHZ	Maungataniwha	0.82	256	P	Pb	15 07 05.0	+0.1
MUGZ	Murupara	0.87	282	P	Pn	15 07 05.4	-0.6
ARHZ	Aropaoanui	0.90	228	P	Pb	15 07 06.9	+0.6
HAZ	Te Kaha	0.91	356	P	Pn	15 07 05.7	-0.7
NMHZ	Naumai	0.93	242	P	Pb	15 07 07.5	+0.6
WMGZ	Waiomatatini S	0.95	28	P	Pn	15 07 06.7	-0.3
WHRZ	Whale Island	1.07	319	P	Pn	15 07 08.7	+0.1
RRRZ	Republican Roa	1.10	287	P	Pn	15 07 09.0	-0.1
MRHZ	Matea Rd	1.14	261	P	Pn	15 07 10.2	+0.6
TARZ	Mount Tarawera	1.15	292	P	Pn	15 07 09.9	+0.1
MARZ	Manawahe	1.15	306	P	Pn	15 07 10.0	+0.2
MXZ	Matakaoa Point	1.16	18	P	Pn	15 07 09.6	-0.2
MXZ	Matakaoa Point	1.16	18	P	Pn	15 07 09.6	-0.2
PRRZ	Plateau Road	1.16	278	P	Pn	15 07 10.3	+0.4
CKHZ	Cape Kidnapper	1.16	211	P	Pn	15 07 10.0	0.0
BKZ	Black Stump Fm	1.18	244	P	Pn	15 07 10.5	+0.3
BKZ	Black Stump Fm	1.18	244	P	Pn	15 07 10.2	0.0
ALRZ	Allen Road	1.19	274	P	Pn	15 07 10.8	+0.4
MCHZ	McNeill Hill	1.19	229	P	Pn	15 07 10.5	+0.1
MKRZ	Makatiti	1.21	295	P	Pb	15 07 12.0	+0.3
HLRZ	Highlands Stat	1.25	289	P	Pb	15 07 12.2	-0.1
WIZ	White Island	1.25	335	P	Pn	15 07 11.2	0.0
HRRZ	Handcock Road	1.27	282	P	Pn	15 07 11.7	+0.3
OMRZ	Omania	1.29	295	P	Pn	15 07 12.1	+0.4
OPRZ	Ohinepanea	1.31	308	P	Pn	15 07 11.2	-0.8
HSRZ	Hossack Road	1.31	285	P	Pn	15 07 12.1	0.0
LIRZ	Lichensteins R	1.33	299	P	Pn	15 07 12.3	0.0
WPRZ	Whakapapatarin	1.34	276	P	Pb	15 07 13.3	-0.5
KWHZ	Kaweka Forest	1.35	235	P	Pn	15 07 12.5	-0.1
KAHZ	Kahuranaki	1.36	214	P	Pn	15 07 12.3	-0.5
GRRZ	Galatos Road	1.41	282	P	Pn	15 07 14.2	+0.9
KARZ	Kaharoa	1.42	296	P	Pn	15 07 13.1	-0.5
NGRZ	Ngongotaha	1.43	293	P	Pn	15 07 14.2	+0.6
WHTZ	Whakaora	1.49	269	P	Pb	15 07 17.0	+0.6
KRHZ	Kereru	1.52	229	P	Pn	15 07 14.5	-0.3
TGRZ	Tauranga	1.57	306	P	Pn	15 07 15.9	+0.5
RITZ	Rihia Road	1.59	258	P	Pb	15 07 18.0	-0.2
RATZ	Rangitukua	1.64	262	P	Pb	15 07 18.1	-0.9
WATZ	Wairara	1.66	268	P	Pn	15 07 17.6	+0.7
KMRZ	Kaimai	1.72	298	P	Pb	15 07 20.1	-0.1
KATZ	Kakaramea	1.72	259	P	Pb	15 07 21.4	+1.1
ETVZ	East Tongariro	1.74	254	P	Pn	15 07 19.1	+1.1
TMVZ	Te Maari	1.74	254	P	Pb	15 07 19.6	-1.1
NTVZ	North Tongarir	1.76	255	P	Pn	15 07 19.4	+1.1
WPHZ	Waipukurau	1.78	218	P	Pn	15 07 17.5	-0.9
KRVZ	Karewarewa	1.78	255	P	Pn	15 07 19.6	+1.0
PNHZ	Pukenui	1.79	225	P	Pn	15 07 17.8	-0.9
NNVZ	North Ngauruho	1.81	254	P	Pn	15 07 20.3	+1.3
NGZ	Ngauruhoe	1.83	253	P	Pn	15 07 20.8	+1.5
TLZ	Tolley Road	1.85	280	P	Pn	15 07 19.5	+0.1
PRHZ	Porangahau	1.86	210	P	Pn	15 07 18.4	-1.1
WNVZ	Wahianoa	1.88	249	P	Pn	15 07 20.6	+0.6
TSZ	Takapari Road	2.03	226	P	Pn	15 07 20.6	-1.3
TOZ	Tahuroa Road	2.08	296	P	Pn	15 07 22.2	-0.3
ANWZ	Angora Road	2.09	210	P	Pn	15 07 21.4	-1.3
DWHZ	Dannevirke	2.09	218	P	Pn	15 07 21.6	-1.6
HIZ	Hauiti	2.36	273	P	Pn	15 07 27.9	+1.5
BFZ	Birch Farm	2.37	211	P	Pn	15 07 25.0	-1.5
BFZ	Birch Farm	2.37	211	S	Sn	15 07 54.9	+0.2
BFZ	Birch Farm	2.37	211	P	Pn	15 07 24.8	-1.7
KUZ	Kuaotunu	2.56	318	P	Pn	15 07 31.6	+2.5
KHEZ	Kahui Hut	3.06	257	P	Pn	15 07 38.0	+1.9

*IDC **11** 15:19:28.1±1.4, 51.′06N×178.′69W, h0km, mb3.4/4, mbtmp3.5/5, ML2.1/1, MS3.1/2, Error ellipse: s-maj=48.5km s-min=28.3km az=162.0*
*NEIC **11** 15:19:33.6±2.4, 51.′23N±0.′07×178.′60W±0.′09, h35km±2km, mb4.0/11, ML4.1(AEIC), Error ellipse: s-maj=12.4km s-min=7.9km az=210.0*
*AEIC **11** 15:19:33.1±2.8, 51.′22N±0.′05×178.′52W±0.′05, h29km±7km, Error ellipse: s-maj=7.0km s-min=4.7km az=164.0*

ISC 11 15:19:32.6±1.2, 51.′2N±0.′1×178.′59W±0.′05, h22km±8km, n48, σ1.9/05/41, mb3.8/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.57	348		Pn	15 19 45.0	-0.4
GASW	Gareloi Southw	0.60	344		Pn	15 19 45.2	-0.6
GANO	Gareloi North	0.63	348		Pb	15 19 45.4	+0.4
TASE	Tanaga Southea	0.72	28		Pb	15 19 46.4	-0.1
TAPA	Tanaga Point A	0.78	38		Pb	15 19 47.1	-0.4
TAFP	Tanaga Falls P	0.79	28		Pb	15 19 47.2	-0.4
TAFP					Sb	15 19 58.3	+0.4
KIWB	Kanaga Island	1.11	54		Pn	15 19 51.3	-1.5
KIWB	Kanaga Island	1.11	54		Sn	15 20 06.2	-1.2
KIKV	Kanaga Island	1.11	52		Pn	15 19 51.6	-1.3
KIKV					Sn	15 20 06.3	-1.2
KIRH	Kanaga Island	1.16	53		Pn	15 19 52.4	-1.1
ADK	Adak	1.37	59		Pn	15 19 55.0	-1.4
GSCK	Great Sitkin C	1.71	61		Pn	15 20 00.8	-0.3
GSCK					Sn	15 20 22.4	0.0
GSSP	Great Sitkin S	1.74	58		Pn	15 20 01.6	0.0
GSSP					Sn	15 20 23.8	+0.7
GSMY	Great Sitkin M	1.79	61		Pn	15 20 01.8	-0.3
GSTR	Great Sitkin T	1.81	60	Pn	Pn	15 20 02.6	+0.2
ATKA	Atka Island	2.91	68		Pn	15 20 17.2	-0.3
ATKA					Sn	15 20 51.5	-0.2
MAPS	Pakushin South	7.57	65		Pn	15 21 22.7	+1.2
UNV	Unalaska Valle	7.83	66		Pn	15 21 26.2	+1.2
CNBA	Chernabura Isl	11.99	65	Pn	Pn	15 22 23.0	+1.0
K15K	Wolf Creek Mou	14.46	33	P	P	15 23 03.3	+1.0
PETK	Petropavlovsk-	14.67	287	Pn	Pn	15 22 57.2	-1.4
	baz=93,slow=19,SNR=1.8						
PETK				LR	LR	15 28 46.5	
	comp=Z,50nm,19.1s,baz=90,slow=38						
	2.9nm,1.0s						
N17K	Nushagak Hills	15.14	44	P	P	15 23 10.4	+0.6
O18K	Koktuh Hills	15.74	48	P	P	15 23 17.4	+0.9
O18K				IAmb	IAmb	15 23 34.1	
	comp=Z,12nm,1.1s						
N19K	Bonanza Creek	16.46	45	P	P	15 23 25.5	+0.9
N19K				IAmb	IAmb	15 23 44.4	
	comp=Z,24nm,1.4s						
H17K	Granite Mounta	16.83	28		P	15 23 27.9	-0.7
H17K				IAmb	IAmb	15 23 39.3	
	comp=Z,8.5nm,1.2s						
SLKM	Skilak Lake	18.30	48		Pn	15 23 44.9	0.0
SLKM				IAmb	IAmb	15 23 58.7	
	comp=Z,12nm,1.0s						
KTH	Kantishna Hill	19.17	39	P	Pn	15 23 55.6	+0.3
KTH				IAmb	IAmb	15 24 02.9	
	comp=Z,15nm,1.3s						
H21K	Melozitna Rive	19.57	33	P	Pn	15 24 00.2	+0.1
WRH	Wood River Hil	20.70	38	P	Pn	15 24 11.9	-1.5
ILAR	Eielson Array	21.30	38	P	P	15 24 18.7	+1.3
	comp=Z,0.5nm,0.8s,baz=256,slow=12,SNR=5.0						
	comp=Z,0.5nm,0.8s						
DOT	Dot Lake	22.04	42	P	P	15 24 26.6	+1.2
DOT				IAmb	IAmb	15 25 06.9	
	comp=Z,7.1nm,1.4s						
I28M	Miner Creek	24.29	39	P	P	15 24 48.5	+0.4
I28M				IAmb	IAmb	15 24 57.0	
	comp=Z,6.2nm,1.4s						
H29M	Whitestone	25.13	38	P	P	15 24 56.8	+1.2
H11N2	WAKE ISLAND Hy	33.43	205	T	T	16 01 57.3	
	baz=17						
H11N3	WAKE ISLAND Hy	33.44	205	T	T	16 01 57.2	
	baz=17,slow=74						
H11N1	WAKE ISLAND Hy	33.45	205	T	T	16 02 05.2	
	baz=17,slow=74						
H11S1	WAKE ISLAND Hy	34.65	205	T	T	16 03 35.2	
	baz=17,slow=76						
H11S2	WAKE ISLAND Hy	34.67	205	T	T	16 03 36.3	
	baz=17,slow=76						
H11S3	WAKE ISLAND Hy	34.67	205	T	T	16 03 34.1	
	baz=17,slow=76						
PDAR	Pinedale Array	46.23	72	P	P	15 27 55.1	-1.0
	comp=Z,0.4nm,0.6s,baz=313,slow=3.6,SNR=5.2						
	comp=Z,0.4nm,0.6s						
HHC	Hu-ho-hao-te	47.87	286	eP	P	15 28 03.2	-5.6
MKAR	Makanchi Array	60.25	309	P	P	15 29 37.6	-1.3
	comp=Z,0.3nm,0.8s,baz=60,slow=5.7,SNR=3.8						
	comp=Z,0.3nm,0.8s						
TGY	Tagaytay City	60.73	255	LR	LR	15 53 57.4	
	comp=Z,18nm,19.2s,baz=195,slow=34						
PZH	PanZhiHua	63.51	280	P	P	15 30 04.5	+3.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ASAR	Alice Springs	85.45	223	P	P	15 32 07.1	-1.3
	comp=Z,0.4nm,0.7s,baz=23,slow=5.4,SNR=5.3						
	comp=Z,0.4nm,0.7s						
H03N2	Juan Fernandez	120.97	106	T	T	17 51 02.9	
	baz=317,slow=78,SNR=4.3						
H03N1	Juan Fernandez	120.98	106	T	T	17 50 59.4	
	baz=317,slow=78,SNR=7.1						
H03N3	Juan Fernandez	120.98	106	T	T	17 51 01.7	
	baz=317,slow=78,SNR=6.7						

*TAP **11** 15:22:39.0, 24.′96N×122.′98E, h36km, ML3.3, D*
*JMA **11** 15:22:39.1±0.2, 25.′0N±0.′8×122.′9E±0.′8, h15km±2km, MV3.0/12, NW OFF ISHIGAKIJIMA IS*

ISC 11 15:22:39.1±1.1, 24.′83N±0.′05×122.′87E±0.′02, h17km±9km, n79, σ0.9/99/108, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.38	169	P	Pn	15 22 49.5	-0.3
JYNG				eS	Sn	15 22 57.0	+0.2
YOJ	Yonaguni jima	0.39	161	P	Pn	15 22 49.4	-0.5
YOJ	Yonaguni jima	0.39	161	iP	Pn	15 22 49.6	-0.2
YOJ				i S	Sn	15 22 57.2	+0.3
YOJ	Yonaguni jima	0.39	161	P	Pn	15 22 49.7	-0.2
YOJ				eS	Sn	15 22 57.0	+0.1
EOS2	EOS2	0.71	235	eP	Pn	15 22 54.5	+0.3
EOS2				eS	Sn	15 23 05.2	+0.6
EOS3	EOS3	0.74	223	P	Pn	15 22 55.3	+0.7
EOS3				S	Sn	15 23 06.2	+0.9
TWB1	Santiao Chiao	0.82	283	eP	Pn	15 22 54.9	-1.0
EOS4	EOS4	0.87	215	eP	Pn	15 22 57.4	+1.2
EOS4				eS	Sn	15 23 09.0	+0.8
IRIF	Iriomote-Funau	0.93	122	eP	Pn	15 22 58.2	+0.9
IRIF				eS	Sn	15 23 11.4	+1.2
SXI1	Grass Mountain	0.94	286	eP	Pn	15 22 56.9	-0.7
TWC	Suao	0.95	257	P	Pn	15 22 58.0	+0.4
TIPB	Shuangxi	0.96	279	eP	Pn	15 22 57.4	-0.4
ESAO	Su ao	0.97	255	eP	Pn	15 22 58.8	+0.9
EWUT	Wuta	1.06	249	eP	Pg	15 22 59.9	+0.2
EWUT				eS	Sg	15 23 13.7	+0.1
NDS	Dongshan	1.07	260	eP	Pg	15 22 59.9	+0.2
PCYT	Pengchaiyu	1.07	318	eP	Pg	15 22 59.4	-0.5
TWE	Neicheng	1.10	265	eP	Pg	15 23 00.9	+0.6
ENA	Nanau	1.10	249	eP	Pg	15 23 00.8	+0.4
ENA				eS	Sb	15 23 13.6	-0.1
EAHA	Aohua	1.14	244	eP	Pg	15 23 01.9	+0.8
EAHA				eS	Sb	15 23 14.9	0.0
HATJ	Hateruma jima	1.15	132	eP	Pg	15 23 01.9	+0.6
HATJ				S	Sg	15 23 17.9	+1.5
FUSB	Fushanzhiwuyua	1.17	267	eP	Pg	15 23 02.7	+1.0
JKRS	Kuro-shima	1.20	119	eP	Pg	15 23 02.6	+0.4
JKRS				S	Sg	15 23 18.6	+0.8
ENTT	Nioudou	1.20	261	eP	Pg	15 23 02.9	+0.7
ENTT				eS	Sg	15 23 19.6	+1.6
JIJ	Ishigaki jima	1.25	112	eP	Pg	15 23 02.8	-0.5
LATG	Datong	1.26	257	eP	Pg	15 23 03.3	0.0
LATG				eS	Sg	15 23 20.2	+0.5
TATO	Taipei	1.26	277	P	Pg	15 23 08.4	+5.0
ETL	Fush Village	1.32	240	eP	Pg	15 23 05.0	+0.5
NACB	Ninganchiao	1.33	241	P	Pg	15 23 04.5	-0.2
NACB	Ninganchiao	1.33	241	eP	Pg	15 23 04.6	-0.2
NACB				eS	Sb	15 23 20.9	+0.5
JISG	Ishigakijimahi	1.33	100	eP	Pg	15 23 04.2	-0.6
YHNB	Yeheng	1.37	264	P	Pg	15 23 06.0	+0.5
YHNB	Yeheng	1.37	264	eP	Pg	15 23 06.5	+1.0
TWD	Chiawan	1.38	237	eP	Pg	15 23 05.5	-0.1
NSK	Sanguang	1.38	264	eP	Pg	15 23 06.7	+0.9
ETLH	Xiulin Townshi	1.41	244	eP	Pg	15 23 06.1	-0.1
NNSB	Datong	1.41	254	eP	Pg	15 23 06.9	+0.6
NNSB				eS	Sg	15 23 23.9	-0.8
NNS	Nan Shan	1.42	254	eP	Pg	15 23 07.1	+0.7
ETM	Tongmen	1.52	236	eP	Pg	15 23 07.6	-0.8
LXIB	Xiulin Townshi	1.55	239	eP	Pb	15 23 07.4	0.0
LXIB				eS	Sg	15 23 29.3	+0.1
SHUL	Shoufeng	1.58	229	eP	Pb	15 23 07.9	0.0
FUSS	Fushou	1.59	249	eP	Pg	15 23 10.1	+0.3
FUSS				eS	Sg	15 23 29.8	-0.7
NFF	Wufeng Townshi	1.60	263	eP	Pg	15 23 10.2	+0.2
WHF	Hehuan Shan	1.61	245	eP	Pg	15 23 09.2	-1.0
TWT	Tachien	1.65	250	eP	Pg	15 23 11.3	+0.6
ESL	Shilin	1.66	233	eP	Pb	15 23 08.6	-0.5
TDCB	Techi	1.66	250	eP	Pg	15 23 10.8	-0.3
LIOB	Emei	1.69	264	eP	Pg	15 23 12.9	+1.2
NSTT	Nanjuang	1.71	264	eP	Pg	15 23 12.9	+1.0
WARBT	Fenglin Townsh	1.75	231	eP	Pb	15 23 09.7	-1.1
WARBT				eS	Sb	15 23 32.6	+0.1
OWD	Renai	1.77	241	eP	Pb	15 23 10.7	-0.5
WUSB	Renai	1.80	243	eP	Pb	15 23 11.1	-0.6
WHP	Taichung City	1.83	253	eP	Pg	15 23 14.4	0.0
HGSD	Ruisui	1.88	225	eP	Pb	15 23 12.1	-0.8
HGSD				eS	Sb	15 23 37.0	+0.9
EHY	Hungye	1.93	227	eP	Pb	15 23 12.2	-1.7
EHY				eS	Sn	15 23 36.3	+1.3
WCS	Beigang Elemen	1.94	247	eP	Pg	15 23 14.8	-1.7
YULB	Yu-li	2.03	225	P	Pb	15 23 13.3	-2.2
YULB	Yu-li	2.03	225	eP	Pb	15 23 13.4	-2.1
YULB				eS	Sn	15 23 38.4	+0.9
SMLT	Sun Moon Lake	2.03	243	eP	Pb	15 23 14.6	-1.0
SSLB	Suanglung	2.03	240	P	Pb	15 23 14.5	-1.1
SSLB	Suanglung	2.03	240	eP	Pg	15 23 16.6	-1.5
EYUL	Yuli	2.05	224	eP	Pb	15 23 14.8	-1.0
TYC	Yuchr	2.05	244	eP	Pb	15 23 15.9	0.0
TWF1	Yuli	2.06	225	eP	Pb	15 23 14.7	-1.3
TWF1				eS	Sn	15 23 39.5	+1.3
CHKH	Chenggong	2.12	220	eP	Pb	15 23 16.2	-0.7
WHYT	Xinyi Township	2.16	239	eP	Pb	15 23 17.2	-0.5
FULB	Fuli	2.17	222	eP	Pb	15 23 16.7	-1.2
FULB				eS	Sn	15 23 42.5	+1.5
CHKT	Chengkung	2.21	219	eP	Pn	15 23 15.9	+1.0
ALS	Alishan	2.30	236	eP	Pb	15 23 19.2	-1.0
EDH	Donghe	2.34	218	eP	Pn	15 23 17.7	+1.0
EDH				eS	Sn	15 23 44.3	-0.8
CHN5	Tsauling	2.35	239	eP	Pb	15 23 20.7	-0.3
ELDTW	Lidau	2.35	226	eP	Pb	15 23 18.6	-2.5
ELDTW				eS	Sn	15 23 45.6	0.0
WCKO	Fanlu	2.49	237	eP	Pb	15 23 22.0	-1.4
WCKO				eS	Sb	15 23 53.4	-0.3
LDUT	Ludao	2.50	211	eS	Sn	15 23 48.1	-1.0
STYH	Taoyuan	2.53	230	eP	Pb	15 23 21.9	-2.2
STYH				eS	Sn	15 23 52.0	+2.2
CHN4	Tsaushan	2.55	235	eP	Pb	15 23 22.6	-1.7
CHN4				eS	Sb	15 23 54.2	-1.2
TPUB	Ta-pu	2.55	234	P	Pb	15 23 22.9	-1.5
TPUB	Ta-pu	2.55	234	eP	Pb	15 23 22.6	-1.8
CHN1	Nanshi	2.69	233	eP	Pb	15 23 26.2	-0.7
CHN1				eS	Sb	15 23 59.1	-0.6
SSD	Sandimen	2.92	225	eP	Pb	15 23 28.0	-2.6

*NEIC **11** 15:27:57.6±1.3, 15.′41S±0.′08×174.′0W±0.′1, h41km±5km, mb4.9/21, Error ellipse: s-maj=16.5km s-min=10.9km az=100.0*
*IDC **11** 15:28:26.3±69.0, 16.′31S×178.′67W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1272.0km s-min=173.7km az=77.0*

ISC 11 15:28:01.9±0.6, 15.′46S±0.′07×173.′66W±0.′09, h100km, n31, σ1.9/69/30, mb4.8/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.38	50	Pn	Pn	15 28 38.7	-0.9
AFI					Sn	15 29 05.2	-3.3
NIUE	Niue	5.06	136	Pn	Pn	15 29 16.1	+0.6
NIUE				Sn	Sn	15 30 09.1	-3.7
MXZ	Matakaoa Point	23.14	196	P	P	15 32 59.9	+0.5
RTZ	Ruatahuna	24.50	198	P	P	15 33 13.0	+1.1
RTZ				IAmb	IAmb	15 33 44.7	
	comp=Z,23nm,1.4s						
BKZ	Black Stump Fm	25.15	198	P	P	15 33 18.2	+0.4
QRZ	Quartz Range	27.98	203	P	P	15 33 44.3	+1.2
TUWZ	Tuamarina	28.02	200	P	P	15 33 43.9	+0.5
THZ	Tophouse	28.67	201	P	P	15 33 50.0	+0.7
THZ				IAmb	IAmb	15 34 15.5	
	comp=Z,92nm,2.0s						
LTZ	Lake Taylor	29.79	201	P	P	15 33 59.0	-0.2
LTZ				IAmb	IAmb	15 34 25.3	
	comp=Z,45nm,1.5s						
ARMA	Armidale	35.10	239	P	P	15 34 44.8	-1.0
CAN	Canberra	38.80	232	P	P	15 35 16.2	-0.8
H11S2	WAKE ISLAND Hy	38.89	329	T	T	16 16 21.1	
	baz=147,slow=74						
H11S3	WAKE ISLAND Hy	38.90	329	T	T	16 16 07.3	
	baz=147,slow=74

0.2nm,0.3s

*IDC **11** 15:30:46.2±6.0,2°.28N×128°.12E,h144km±57km,mb3.6/13, mbtmp4.1/13,Error ellipse: s-maj=39.0km s-min=13.1km az=71.0*
*DJA **11** 15:30:48.6±0.4,2°.N±3°.×12°.8E±°,h131km±5km,M4.5/15, mB4.8/3,mb4.5/7,MLv4.5/15,Mw(mB)4.1/3*
*NEIC **11** 15:30:48.9±0.7,2°.25N±0°.09×128°.11E±0°.09,h162km±7km, mb4.4/37,Error ellipse: s-maj=13.4km s-min=11.4km az=224.0*

ISC 11 15:30:47.0±0.4,2°.32N±0°.05×128°.12E±0°.06,h150km,n74, σ1§14/79,mb4.3/29,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.71**	**206**		**Pn**	**15 31 20.5**	**+1.7**
TNTI				Sn	**Sn**	**15 31 45.2**	**+1.9**
TNTI	**Ternate**	**1.71**	**206**	P	**Pn**	**15 31 20.6**	**+1.7**
SGSI	**Sangihe**	**2.92**	**298**	P	**Pn**	**15 31 33.5**	**+0.1**
SGSI				S	**Sn**	**15 32 10.4**	**+1.2**
SWI	**Sorong**	**4.46**	**135**	P	**Pn**	**15 31 54.1**	**+0.8**
SWI				S	**Sn**	**15 32 46.9**	**+2.0**
KMSI	**Cibinong**	**4.48**	**247**	P	**Pn**	**15 31 55.3**	**+1.7**
KMSI				S	**Sn**	**15 32 47.4**	**+1.9**
SANI	**Sanana**	**4.83**	**206**	P	**Pn**	**15 31 57.4**	**-0.9**
DAV	**Davao City (W)**	**5.35**	**332**	Pn	**Pn**	**15 32 06.3**	**+1.2**
NLAI	**Namlea**	**5.61**	**190**	P	**Pn**	**15 32 09.9**	**+1.3**
	0.3nm1μm69nm,0.8s						
MSAI	**Masohi**	**5.69**	**172**	P	**Pn**	**15 32 13.2**	**+3.6**
	0.2nm1μm47nm,0.7s						
LUWI	**Luwuk**	**6.30**	**238**	Pn	**Pn**	**15 32 19.1**	**+1.4**
LUWI	**Luwuk**	**6.30**	**238**	P	**Pn**	**15 32 19.6**	**+1.8**
MRSI	**Marisa**	**6.44**	**254**	P	**Pn**	**15 32 22.2**	**+2.6**
	0.1nm958nm24nm,0.5s						
FAKI	**Fak Fak**	**6.64**	**142**		**Pn**	**15 32 24.3**	**+1.9**
FAKI	**Fak Fak**	**6.64**	**142**	P	**Pn**	**15 32 24.1**	**+1.7**
TOLI2	**Tolitoli**	**7.43**	**261**	Pn	**Pn**	**15 32 34.2**	**+1.4**
MMRI	**Maumere**	**12.36**	**208**	Pn	**Pn**	**15 33 36.9**	**-1.2**
KKM	**Kota Kinabalu**	**12.43**	**288**	P	**P**	**15 33 43.5**	**-1.4**
SOEI	**Soe**	**12.59**	**198**	Pn	**Pn**	**15 33 41.3**	**+0.1**
MTN	**Manton Dam**	**15.36**	**169**	Pn	**Pn**	**15 34 14.3**	**-1.6**
MTN				IAmb	IAmb	15 34 33.0	
	comp=Z,18nm,1.2s						
KSM	**Kuching**	**17.82**	**268**	Pn	**Pn**	**15 34 46.3**	**+0.5**
KNRA	**Kununurra**	**17.89**	**178**		**Pn**	**15 34 45.9**	**-0.8**
KNRA				IAmb	IAmb	15 34 47.2	
	comp=Z,10nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.43**	**187**	P	**P**	**15 35 11.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.43**	**187**	P	**P**	**15 35 11.1**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=8.3,slow=10,SNR=14						
	comp=Z,1.3nm,0.6s						
YULB	**Yu-li**	**21.97**	**343**	P	**P**	**15 35 30.1**	**+1.2**
YULB				IAmb	IAmb	15 35 33.8	
	comp=Z,14nm,1.1s						
COEN	**Coen**	**22.01**	**138**	P	**P**	**15 35 29.1**	**-0.4**
COEN				IAmb	IAmb	15 36 03.7	
	comp=Z,13nm,1.3s						
SSLB	**Suanglung**	**22.44**	**343**	P	**P**	**15 35 34.9**	**+1.2**
SSLB				IAmb	IAmb	15 36 12.2	
	comp=Z,37nm,1.3s						
WB0	**Warramunga Arr**	**22.80**	**165**	P	**P**	**15 35 36.5**	**-0.5**
WRAB	**Tennant Creek**	**22.95**	**165**	P	**P**	**15 35 37.9**	**-0.5**
WRAB				IAmb	IAmb	15 35 48.4	
	comp=Z,4.5nm,0.6s						
WRA	**Warramunga Arr**	**22.95**	**165**	P	**P**	**15 35 37.7**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=348,slow=9.8,SNR=48						
WRA				PcP	**PcP**	**15 39 23.1**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=343,slow=2.2,SNR=1.7						
	comp=Z,2.0nm,0.5s						
WB2	**Warramunga Arr**	**22.95**	**165**	P	**P**	**15 35 38.0**	**-0.4**
WR0	**Warramunga Arr**	**23.02**	**164**	P	**P**	**15 35 38.7**	**-0.4**
YHNB	**Yeheng**	**23.15**	**344**	P	**P**	**15 35 41.3**	**+0.9**
AS31	**Alice Springs**	**26.44**	**168**	P	**P**	**15 36 09.6**	**-0.4**
ASAR	**Alice Springs**	**26.44**	**168**	P	**P**	**15 36 09.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=348,slow=7.1,SNR=30						
ASAR				PcP	**PcP**	**15 39 31.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=352,slow=1.9,SNR=8.9						
	comp=Z,0.4nm,0.4s						
EIDS	**Eidsvold**	**35.40**	**142**	P	**P**	**15 37 28.1**	**-0.5**
EIDS				IAmb	IAmb	15 37 56.9	
	comp=Z,8.4nm,1.2s						
BBOO	**Buckleboo**	**35.74**	**169**	P	**P**	**15 37 29.6**	**-1.8**
STKA	**Stephens Creek**	**36.34**	**160**	P	**P**	**15 37 36.2**	**-0.4**
STKA	**Stephens Creek**	**36.34**	**160**	P	**P**	**15 37 36.5**	**-0.1**
	comp=Z,4.3nm,0.4s,baz=336,slow=11,SNR=11						
	comp=Z,4.3nm,0.4s						
JMM	**Marumori**	**37.24**	**17**	P	**P**	**15 37 45.2**	**+1.2**
ARMA	**Armidale**	**39.54**	**147**	P	**P**	**15 38 03.5**	**-0.1**
ARMA				IAmb	IAmb	15 38 10.4	
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**49.07**	**341**	P	**P**	**15 39 19.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=155,slow=6.0,SNR=2.4						
	comp=Z,0.4nm,0.5s						
PETK	**Petropavlovsk-**	**56.22**	**21**	P	**P**	**15 40 11.6**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=230,slow=2.9,SNR=5.7						
	comp=Z,3.5nm,1.1s						
MIDW	**Midway**	**57.94**	**58**	P	**P**	**15 40 24.8**	**+0.9**
MRNZ	**Matariki Terra**	**59.44**	**142**	P	**P**	**15 40 33.8**	**-0.3**
MK31	**Makanchi Array**	**59.50**	**325**	P	**P**	**15 40 35.0**	**+0.6**
MKAR	**Makanchi Array**	**59.50**	**325**	P	**P**	**15 40 34.8**	**+0.4**
MKAR	**Makanchi Array**	**59.50**	**325**	P	**P**	**15 40 35.1**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=113,slow=8.0,SNR=36						
	comp=Z,1.3nm,0.4s						
YAK	**Yakutsk**	**59.58**	**1**	P	**P**	**15 40 35.1**	**+0.5**
MAKZ	**Makanchi**	**59.68**	**325**	P	**P**	**15 40 36.1**	**+0.5**
KSH	**Kashi**	**60.01**	**315**	P	**P**	15 40 46.7	+8.5
TUWZ	**Tuamarina**	**60.19**	**142**	P	**P**	**15 40 38.5**	**-0.6**
RTZ	**Ruatahuna**	**60.66**	**137**	P	**P**	**15 40 41.7**	**-0.8**
ZALV	**Zalesovo Beam**	**62.47**	**333**	P	**P**	**15 40 53.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=132,slow=5.7,SNR=2.1						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**63.67**	**327**	P	**P**	**15 41 02.4**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=128,slow=6.0,SNR=29						
	comp=Z,1.4nm,0.4s						
KURK	**Kurchatov**	**63.67**	**327**	P	**P**	**15 41 02.4**	**+0.2**
KURK				IAmb	IAmb	15 41 02.8	
	comp=Z,3.2nm,0.5s						
TIXI	**Tiksi**	**69.23**	**0**	P	**P**	**15 41 36.7**	**-0.5**
TIXI				IAmb	IAmb	15 41 37.0	
	comp=Z,2.1nm,0.5s						
BVAR	**Borovoye Array**	**69.25**	**327**	P	**P**	**15 41 38.0**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=116,slow=10,SNR=8.4						
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**69.32**	**327**	P	**P**	**15 41 36.9**	**-1.2**
BRVK				IAmb	IAmb	15 41 39.1	
	comp=Z,3.9nm,0.9s						
ABKAR	**Akbulak array**	**74.11**	**321**	P	**P**	**15 42 06.5**	**-0.3**
L16K	**Owhat River**	**79.68**	**27**	P	**P**	**15 42 38.4**	**+0.7**
L16K				IAmb	IAmb	15 42 39.0	
	comp=Z,18nm,1.4s						
J17K	**VABM Dome**	**80.28**	**26**	P	**P**	**15 42 42.1**	**+1.3**
J17K				IAmb	IAmb	15 42 59.9	
	comp=Z,12nm,1.4s						
K17K	**Iditarod**	**80.45**	**27**	P	**P**	**15 42 42.9**	**+1.1**
C18K	**Utukok River**	**80.89**	**20**	P	**P**	**15 42 44.8**	**+0.7**
H19K	**Roundabout Mou**	**81.88**	**24**	P	**P**	**15 42 50.1**	**+0.8**
H19K				IAmb	IAmb	15 43 09.7	
	comp=Z,9.5nm,1.4s						
B21K	**Ikpikpuk River**	**83.41**	**20**	P	**P**	**15 42 58.1**	**+0.9**
B21K				IAmb	IAmb	15 42 58.9	
	comp=Z,2.6nm,0.6s						
SKT	**Skwentna**	**83.42**	**28**	P	**P**	**15 42 57.0**	**-0.4**
SKT				IAmb	IAmb	15 43 27.9	
	comp=Z,15nm,1.4s						
SLKM	**Skilak Lake**	**83.88**	**29**	P	**P**	**15 42 59.4**	**-0.4**
SLKM				IAmb	IAmb	15 43 08.9	
	comp=Z,13nm,1.2s						
E22K	**Anaktuvuk Pass**	**84.16**	**22**	P	**P**	**15 43 02.0**	**+0.9**
E22K				IAmb	IAmb	15 43 03.2	
	comp=Z,9.5nm,1.5s						
E23K	**Chandalar**	**84.96**	**22**	P	**P**	**15 43 06.3**	**+1.1**
E23K				IAmb	IAmb	15 43 46.0	
	comp=Z,4.4nm,1.2s						
ILAR	**Eielson Array**	**85.78**	**25**	P	**P**	**15 43 08.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=267,slow=5.5,SNR=1.4						
	comp=Z,0.2nm,0.4s						
BMAR	**Burnt Mountain**	**86.83**	**23**	P	**P**	**15 43 15.2**	**+0.9**
I28M	**Miner Creek**	**88.72**	**25**	P	**P**	**15 43 23.6**	**+0.3**
QSPA	**South Pole Qui**	**92.23**	**180**	P	**P**	**15 43 39.2**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=204,slow=2.1,SNR=5.9						
	comp=Z,0.9nm,0.8s						
ARCES	**ARCESS Array B**	**92.24**	**340**	P	**P**	**15 43 38.4**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=86,slow=5.1,SNR=5.6						
	comp=Z,3.3nm,0.8s						

RSNC 11 15:40:46.9±0.0,7°.N±3°.×7°.3W±°,h109km±4km,M1.7,ML1.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.15**	**162**	P	Pn	15 41 03.1	+0.7
BARC				S	Sn	15 41 18.4	+4.4
BARC	**Barichara**	**0.15**	**162**	P	Pn	15 41 03.1	+0.7
BARC				S	Sn	15 41 13.7	-0.3
VMM09	**Lebrija**	**0.39**	**351**	P	Pn	15 41 03.2	0.0
VMM09				S	Sn	15 41 14.2	-1.1
BRJC	**Barrancabermej**	**0.56**	**294**	P	Pn	15 41 03.9	-0.2
BRJC				S	Sn	15 41 21.7	+4.7
PAMC	**Pamplona, Colo**	**0.80**	**41**	P	Pn	15 41 06.0	-0.6
PAMC				S	Sn	15 41 22.6	+1.3
PAMC	**Pamplona, Colo**	**0.80**	**41**	P	Pn	15 41 06.2	-0.4
RUSC	**La Rusia**	**0.85**	**170**	P	Pn	15 41 07.1	0.0
RUSC				S	Sn	15 41 25.7	+3.4
RUSC	**La Rusia**	**0.85**	**170**	P	Pn	15 41 07.0	-0.1
VMM07	**Puerto Wilches**	**0.87**	**315**	P	Pn	15 41 06.9	+0.2
PTBC	**PUERTO BERRIO,**	**1.23**	**261**	P	Pn	15 41 09.7	-0.9
PTBC				S	Sn	15 41 31.1	+2.6
SPBC	**San Pablo de B**	**1.37**	**218**	P	Pn	15 41 12.2	0.0
SPBC				S	Sn	15 41 34.4	+3.0
SPBC	**San Pablo de B**	**1.37**	**218**	P	Pn	15 41 12.0	-0.2
ZARC	**Zaragoza, Cauc**	**1.78**	**295**	P	Pn	15 41 18.1	+1.0
ZARC				S	Sn	15 41 41.5	+1.4
ZARC	**Zaragoza, Cauc**	**1.78**	**295**	P	Pn	15 41 18.3	+1.2
ZARC				S	Sn	15 41 42.8	+2.7
AGCC	**Aguachica**	**1.79**	**349**	P	Pn	15 41 14.4	-3.0
NORC	**Norcasia**	**2.01**	**234**	P	Pn	15 41 21.9	+1.9
NORC				S	Sn	15 41 47.6	+2.3
GUY2C	**Guyana, Caldas**	**2.60**	**235**	P	Pn	15 41 29.4	+1.3
GUY2C				S	Sn	15 42 04.9	+5.2

KRSC 11 15:45:49.2±1.0,54°.93N×164°.76E,h48km±27km,Ml3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.75**	**68**	*eP*	Pn	15 46 05.1	+1.5
BKI				*eS*	Sn	15 46 15.4	+1.4
KBTR	**Krutoberegovo**	**1.69**	**320**	*eP*	Pn	15 46 17.2	+0.9
KBG	**Krutoberegovo**	**1.77**	**320**	*eP*	Pn	15 46 18.7	+1.3
KBG				*eS*	Sn	15 46 39.2	+0.5
MKZ	**Mys Kozlova**	**1.79**	**259**	*eP*	Pn	15 46 19.7	+2.0
ZLN	**Zelenaya**	**2.50**	**298**	*eP*	Pn	15 46 30.9	+3.4
TUMD	**Tumrok D**	**2.52**	**278**	*eP*	Pn	15 46 30.9	+3.2
TUMD				*eS*	Sn	15 47 00.4	+3.2
BZGR	**Bezymyannyi-Gr**	**2.53**	**295**	*eP*	Pn	15 46 30.9	+3.0
BZWR	**Bezymyannyi-We**	**2.64**	**295**	*eP*	Pn	15 46 33.0	+3.5
KMNR	**Kamenistaya**	**2.71**	**290**	*eP*	Pn	15 46 34.1	+3.7
KMNR				*eS*	Sn	15 47 06.9	+4.9
KIRR	**Kirishev**	**2.72**	**294**	*eP*	Pn	15 46 34.2	+3.7
KPT	**Kopyto**	**2.79**	**294**	*eP*	Pn	15 46 35.2	+3.8
KOZ	**Kozyrevsk**	**3.00**	**294**	*eP*	Pn	15 46 37.1	+2.9
SPN	**Mys Shipunski**	**3.34**	**239**	*eP*	Pn	15 46 42.1	+3.2
ESO	**Esso**	**3.59**	**289**	*eP*	Pn	15 46 45.5	+3.1
NLC	**Nalytchevo**	**3.64**	**243**	*eP*	Pn	15 46 47.4	+4.4
SDLR	**Sedlovina**	**3.83**	**247**	*eP*	Pn	15 46 48.7	+3.0
UGLR	**Uglovaya**	**3.90**	**246**	*eP*	Pn	15 46 50.6	+4.0
AVH	**Avacha**	**3.91**	**247**	*eP*	Pn	15 46 51.3	+4.4
KRX	**Arik**	**3.92**	**249**	*eP*	Pn	15 46 51.3	+4.3
KOK	**Koryaka**	**3.96**	**248**	*eP*	Pn	15 46 51.9	+4.4
DALK	**Dalny**	**4.02**	**244**	*eP*	Pn	15 46 51.9	+3.7
PET	**Petropavlovsk**	**4.08**	**245**	*eP*	Pn	15 46 53.2	+4.2
GNL	**Ganaly**	**4.18**	**256**	*eP*	Pn	15 46 54.1	+3.6
KRMR	**Karymshinskiy**	**4.45**	**245**	*eP*	Pn	15 46 59.3	+5.2
RUS	**Russkaya**	**4.47**	**239**	*eP*	Pn	15 46 57.4	+3.0
GRL	**Gorelyy**	**4.62**	**242**	*eS*	Sn	15 47 52.7	+3.7
KDTR	**Khodutka, Kamc**	**5.07**	**235**	*eP*	Pn	15 47 05.4	+2.8

*IDC **11** 15:48:42.2±2.3,50°.60N×178°.60W,h0km,mb3.3/4, mbtmp3.3/4,MS2.9/2,Error ellipse: s-maj=83.6km s-min=28.0km az=168.0*
*NEIC **11** 15:48:49.1±1.5,51°.26N±0°.05×178°.59W±0°.06,h35km±2km, mb4.3/8,ML4.2(AEIC),Error ellipse: s-maj=10.8km s-min=3.1km az=148.0*
*AEIC **11** 15:48:49.9±1.3,51°.31N±0°.09×178°.49W±0°.09,h36km±8km, Error ellipse: s-maj=13.0km s-min=7.5km az=196.0*

ISC 11 15:48:46.9±1.1,51°.2N±0°.1×178°.53W±0°.07,h23km,n43, σ1§43/35,mb3.8/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.62**	**346**		**Pn**	**15 49 00.8**	**+0.5**
GANO	**Gareloi North**	**0.68**	**346**		**Pn**	**15 49 01.3**	**+0.1**
TASE	**Tanaga Southea**	**0.74**	**24**		**Pn**	**15 49 02.2**	**+0.2**
TAFP	**Tanaga Falls P**	**0.81**	**25**		**Pn**	**15 49 03.0**	**0.0**
TAFP					**Sn**	**15 49 14.0**	**-0.4**
KIWB	**Kanaga Island**	**1.10**	**51**		**Pb**	**15 49 07.2**	**-0.1**
KIWB	**Kanaga Island**	**1.10**	**51**		**Sn**	**15 49 21.7**	**+0.2**
KICM	**Kanaga Island**	**1.12**	**47**		**Pb**	**15 49 08.0**	**+0.3**
KIRH	**Kanaga Island**	**1.16**	**50**		**Pb**	**15 49 08.3**	**0.0**
ADK	**Adak**	**1.36**	**57**		**Pb**	**15 49 10.7**	**-0.9**
GSCK	**Great Sitkin C**	**1.70**	**59**		**Pb**	**15 49 16.7**	**-0.9**
GSSP	**Great Sitkin S**	**1.74**	**57**		**Pb**	**15 49 17.9**	**-0.2**
GSSP					**Sb**	**15 49 38.4**	**-1.1**
GSTR	**Great Sitkin T**	**1.80**	**58**	Pn	**Pb**	**15 49 17.9**	**-1.3**
ATKA	**Atka Island**	**2.89**	**67**		**Pn**	**15 49 33.0**	**+1.5**
ATKA					**Sn**	**15 50 07.7**	**+2.2**
MAPS	**Pakushin South**	**7.55**	**65**		**Pn**	**15 50 38.5**	**+3.0**
MREP	**Makushin Rep't**	**7.67**	**65**		**Pn**	**15 50 40.2**	**+3.1**
UNV	**Unalaska Valle**	**7.81**	**65**		**Pn**	**15 50 40.0**	**+0.9**
SDPT	**Sand Point**	**11.59**	**62**	Pn	**Pn**	**15 51 30.7**	**0.0**
N15K	**Kwethluk River**	**13.72**	**42**	Pn	**Pn**	**15 52 00.2**	**+0.3**
PETK	**Petropavlovsk-**	**14.71**	**287**	LR	LR	15 57 40.0	
	comp=Z,40nm,20.5s,baz=116,slow=36						
OHAK	**Old Harbor**	**15.91**	**58**	Pn	**Pn**	**15 52 26.3**	**-2.8**
OHAK				IAmb	IAmb	15 52 30.2	
	comp=Z,29nm,1.3s						
Q19K	**Cape Douglas,**	**16.16**	**52**	P	**P**	**15 52 35.3**	**-0.2**
KDAK	**Kodiak Island**	**16.40**	**56**	Pn	**Pn**	**15 52 33.6**	**-1.7**
CNPM	**China Poot**	**17.52**	**51**	P	**P**	**15 52 50.3**	**-0.2**
CNPM				IAmb	IAmb	15 52 59.2	
	comp=Z,42nm,1.2s						
BRLK	**Bradley Lake**	**17.76**	**50**	P	**P**	**15 52 52.4**	**-0.7**
BRLK				IAmb	IAmb	15 53 24.8	
	comp=Z,38nm,1.4s						
STLK	**Strandline Lak**	**17.92**	**44**	P	**P**	**15 52 54.0**	**-0.8**
SLKM	**Skilak Lake**	**18.30**	**48**		**Pn**	**15 52 58.8**	**-0.3**
ILAR	**Eielson Array**	**21.31**	**38**	P	**P**	**15 53 36.1**	**+4.4**
	comp=Z,0.3nm,0.8s,baz=244,slow=12,SNR=4.6						
	comp=Z,0.3nm,0.8s						
M31M	**Drury Creek, Y**	**26.10**	**48**	P	**P**	**15 54 17.7**	**-0.9**
M31M				IAmb	IAmb	15 54 37.5	
	comp=Z,15nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**33.41**	**205**	T	T	16 31 11.3	
	baz=16,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.42**	**205**	T	T	16 31 11.3	
	baz=16,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.43**	**205**	T	T	16 31 12.2	
	baz=16,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.63**	**205**	T	T	16 32 49.6	
	baz=13,slow=76						
H11S2	**WAKE ISLAND Hy**	**34.64**	**205**	T	T	16 32 46.5	
	baz=13,slow=76						
H11S3	**WAKE ISLAND Hy**	**34.64**	**205**	T	T	16 32 48.2	
	baz=13,slow=76						
KSRS	**Korea Array**	**39.81**	**271**	LR	LR	16 11 38.2	
	comp=Z,22nm,21.2s,baz=125,slow=35						
PDAR	**Pinedale Array**	**46.21**	**72**	P	**P**	**15 57 10.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=309,slow=7.9,SNR=4.9						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**46.89**	**297**	P	**P**	**15 57 14.4**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=64,slow=9.8,SNR=1.5						
	comp=Z,0.2nm,0.5s						
HHC	**Hu-ho-hao-te**	**47.91**	**286**	*eP*	**P**	**15 57 23.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,3.8s						
PZH	**PanZhiHua**	**63.55**	**280**	P	**P**	**15 59 16.5**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
CMAR	**Chiang Mai Arr**	**71.20**	**276**	P	**P**	**16 00 04.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=35,slow=6.7,SNR=4.2						
	comp=Z,0.3nm,0.4s						
H03N2	**Juan Fernandez**	**120.92**	**106**	T	T	18 20 11.7	
	baz=319						
H03N1	**Juan Fernandez**	**120.94**	**106**	T	T	18 19 42.4	
	baz=319,slow=74						
H03N3	**Juan Fernandez**	**120.94**	**106**	T	T	18 20 28.3	
	baz=319,slow=74						

IDC 11 15:49:21.4±2.8,3°.40N×127°.14E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=239.0km s-min=28.7km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**163**	P	P	15 54 40.7	+0.3
	0.2nm,0.6s,baz=343,slow=8.7,SNR=0.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**27.70**	**167**	P	P	15 55 10.5	-1.1
	0.4nm,1.1s,baz=340,slow=6.7,SNR=4.9						
	0.4nm,1.1s						
MKAR	**Makanchi Array**	**58.06**	**325**	P	P	15 59 17.2	+0.7
	0.3nm,0.7s,baz=111,slow=7.9,SNR=3.6						
	0.3nm,0.7s						

*JMA **11** 15:51:49.5±0.1,23°.4N±0°.7×12°.2E±°,h42km±3km, MV4.0/19,TAIWAN REGION*
*NIED **11** 15:51:49.5,23°.41N×121°.70E,h42km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}5.41; $M_{\theta\theta}$1.21; $M_{\phi\phi}$-6.62; $M_{r\theta}$-2.81; $M_{\theta\phi}$-2.28; $M_{\phi r}$-0.64; Fault plane solution: $M_0$7.11000×10^{14} NP1: ϕ_s350.00000°,δ45.00000°,λ51.00000°. NP2: ϕ_s219.00000°,δ57.00000°,λ122.00000°.*
*ASIES **11** 15:51:50.4,23°.42N×121°.72E,h28km,ML4.1,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.69; $M_{\theta\theta}$0.64; $M_{\phi\phi}$-1.33; $M_{r\theta}$-1.62; $M_{\theta\phi}$-2.04; $M_{\phi r}$-0.01; Fault plane solution: $M_0$2.84789×10^{21} NP1: ϕ_s351.50000°,δ54.37000°,λ14.86000°. NP2: ϕ_s252.72000°,δ77.97000°,λ143.44000°. Principal axes: T Plg34.0090°, Azm205.9640°; N Plg51.7770°, Azm57.0120°; P Plg15.3390°, Azm306.6300°;*
*TAP **11** 15:51:50.4,23°.42N×121°.72E,h28km,ML4.1,C*

ISC 11 15:51:47.5±0.9,23°.39N±0°.01×121°.85E±0°.01,h15km±8km, n178,σ0§81/299,7C-49D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.38**	**259**	⇓*iP*	**Pb**	**15 51 57.2**	**+1.3**
ECBN				*eS*	**Sb**	**15 52 01.8**	**+0.2**
HGSD	**Ruisui**	**0.41**	**285**	⇓*iP*	**Pb**	**15 51 57.0**	**+0.6**
HGSD				S	**Sg**	**15 52 01.6**	**+0.3**
TEGC	**Jichi Village**	**0.43**	**318**	*eP*	**Pn**	**15 51 58.1**	**-1.1**
TEGC				*eS*	**Sb**	**15 52 04.1**	**+1.1**
CHKH	**Chenggong**	**0.47**	**245**	⇓*iP*	**Pb**	**15 51 58.1**	**+0.7**
CHKH				S	**Sg**	**15 52 03.7**	**+0.6**
SHUL	**Shoufeng**	**0.48**	**326**	⇓*iP*	**Pn**	**15 51 59.1**	**-0.7**
SHUL				*eS*	**Sb**	**15 52 05.5**	**+1.0**
EHYH	**Wanrong**	**0.48**	**283**	⇓*iP*	**Pb**	**15 51 58.3**	**+0.7**
EHYH				*eS*	**Sb**	**15 52 04.6**	**+0.1**
EGFH	**Guangfu**	**0.48**	**305**	*eP*	**Pb**	**15 51 58.4**	**+0.7**
EGFH				*eS*	**Sg**	**15 52 04.3**	**+0.7**
EYUL	**Yuli**	**0.49**	**265**	⇓*iP*	**Pb**	**15 51 58.8**	**+1.0**
EYUL				S	**Sb**	**15 52 05.5**	**+0.6**
EHY	**Hungye**	**0.50**	**283**	⇓*iP*	**Pb**	**15 51 58.6**	**+0.6**
EHY				*eS*	**Sg**	**15 52 04.9**	**+0.6**
YULB	**Yu-li**	**0.51**	**270**	S	**Sg**	**15 52 05.5**	**+0.9**
YULB	**Yu-li**	**0.51**	**270**	P	**Pb**	**15 51 58.8**	**+0.6**
YULB	**Yu-li**	**0.51**	**270**	⇓*iP*	**Pb**	**15 51 58.7**	**+0.6**
YULB				S	**Sg**	**15 52 05.3**	**+0.7**
TWF1	**Yuli**	**0.51**	**266**	⇓*iP*	**Pb**	**15 51 58.8**	**+0.6**
TWF1				S	**Sg**	**15 52 05.0**	**+0.4**
TEYL	**Yanliau Villag**	**0.53**	**334**	⇓*eP*	**Pb**	**15 51 58.3**	**-0.2**
TEYL				*eS*	**Sb**	**15 52 06.0**	**0.0**
CHKT	**Chengkung**	**0.53**	**237**	⇑*iP*	**Pb**	**15 51 59.1**	**+0.6**
CHK

WJS			S	Sb	15 52 23.3	+0.4
NNSB	**Datong**	**1.12 337**	⇓P	Pn	15 52 08.7	0.0
NNSB			S	Sb	15 52 21.8	-1.3
TPUB	**Ta-pu**	**1.13 266**	P	Pb	15 52 09.1	+0.4
TPUB	**Ta-pu**	**1.13 266**	S	Sb	15 52 23.7	+0.5
TPUB	**Ta-pu**	**1.13 266**	P	Pg	15 52 09.3	0.0
TPUB	**Ta-pu**	**1.13 266**	⇓iP	Pb	15 52 09.0	+0.2
TPUB			eS	Sb	15 52 22.2	-1.1
NNS	**Nan Shan**	**1.14 337**	eP	Pn	15 52 09.0	0.0
NNS			S	Sb	15 52 22.6	-1.0
ECL	**Taimali**	**1.15 227**	eP	Pn	15 52 07.8	-1.2
WCKO	**Fanlu**	**1.15 273**	⇓eP	Pg	15 52 09.9	+0.2
WCKO			S	Sb	15 52 23.8	0.0
WTP	**Ta-pu**	**1.15 263**	⇓iP	Pb	15 52 09.4	+0.3
WTP			i S	Sb	15 52 23.4	-0.5
CHN4	**Tsaushan**	**1.16 268**	⇓iP	Pg	15 52 09.8	-0.1
CHN4			eS	Sb	15 52 24.4	+0.3
WNT	**Mingjian**	**1.18 295**	⇓iP	Pg	15 52 10.3	0.0
WNT			eS	Sb	15 52 25.1	+0.5
LATG	**Datong**	**1.18 345**	⇓iP	Pg	15 52 10.0	-0.3
LATG			eS	Sb	15 52 23.2	-1.5
ESAO	**Su ao**	**1.18 360**	eP	Pg	15 52 11.1	+0.8
ESAO			eS	Sn	15 52 25.0	-0.3
SGST	**Jiashian**	**1.21 256**	⇓iP	Pn	15 52 09.5	-0.4
SGST			S	Sb	15 52 25.5	0.0
TWC	**Suao**	**1.21 360**	P	Pg	15 52 11.1	+0.1
TWC			i S	Sg	15 52 26.4	-0.4
WHP	**Taichung City**	**1.21 317**	eP	Pb	15 52 10.5	+0.3
WHP			i S	Sb	15 52 25.2	-0.5
WGK	**Gukeng**	**1.22 284**	⇓iP	Pb	15 52 10.8	+0.5
WGK			i S	Sb	15 52 26.1	+0.2
CHN1	**Nanshi**	**1.24 261**	⇓iP	Pg	15 52 11.1	-0.3
CHN1			i S	Sn	15 52 27.0	+0.3
WDLH	**Douliu**	**1.24 284**	i P	Pb	15 52 11.2	+0.5
WDLH			S	Sb	15 52 26.6	+0.1
NDS	**Dongshan**	**1.25 354**	eP	Pg	15 52 11.3	-0.2
NDS			eS	Sb	15 52 26.7	+0.2
WDL	**Douliou City**	**1.25 285**	eP	Pb	15 52 11.1	+0.3
SNST	**Tainan City**	**1.26 263**	i P	Pg	15 52 11.5	-0.3
SNST			i S	Sb	15 52 26.9	0.0
ENTT	**Nioudou**	**1.27 348**	⇓P	Pb	15 52 11.4	+0.2
ENTT			eS	Sb	15 52 27.4	+0.1
CHN2	**Minshiung**	**1.27 277**	⇑P	Pg	15 52 12.4	+0.3
CHN2			eS	Sn	15 52 28.1	+0.6
SSD	**Sandimen**	**1.29 241**	eP	Pb	15 52 11.4	-0.2
SSD			eS	Sb	15 52 27.1	-0.9
TSMG	**Majia**	**1.31 239**	eP	Pg	15 52 12.7	+0.1
TCU	**Taichung**	**1.32 305**	⇓eP	Pg	15 52 12.8	-0.1
TCU			eS	Sn	15 52 28.8	+0.2
CHY	**Chiayi**	**1.32 275**	eP	Pb	15 52 12.5	+0.6
CHY			eS	Sn	15 52 28.4	-0.2
TWE	**Neicheng**	**1.34 353**	⇑P	Pg	15 52 12.7	-0.6
YHNB	**Yeheng**	**1.35 341**	P	Pb	15 52 12.8	+0.3
YHNB	**Yeheng**	**1.35 341**	⇓P	Pb	15 52 12.6	+0.1
YHNB			i S	Sn	15 52 28.6	-0.9
SCST	**Cishan**	**1.35 248**	P	Pg	15 52 13.6	+0.1
SCST			eS	Sg	15 52 31.5	+0.4
NSK	**Sanguang**	**1.36 341**	⇓iP	Pb	15 52 12.8	+0.1
NSK			i S	Sn	15 52 28.3	-1.4
MASBT	**Mashibuluo**	**1.37 236**	P	Pn	15 52 12.2	+0.1
WCHH	**Zhanghua**	**1.37 300**	⇓P	Pb	15 52 13.5	+0.6
WCHH			i S	Sb	15 52 30.8	+0.6
LAY	**Lan-yu**	**1.37 192**	eP	Pn	15 52 12.1	-0.1
LAY			eS	Sb	15 52 30.2	0.0
TAWH	**Dawu Township**	**1.37 221**	eP	Pn	15 52 10.7	-1.4
TWQ1	**Liyutan**	**1.38 314**	⇓iP	Pg	15 52 13.7	-0.3
TWQ1			eS	Sb	15 52 30.8	+0.5
WTK	**Tuku**	**1.38 283**	i P	Pb	15 52 13.2	+0.2
WTK			i S	Sn	15 52 29.9	-0.2
FUSB	**Fushanzhiwuyua**	**1.39 350**	eP	Pb	15 52 13.3	+0.1
FUSB			eS	Sn	15 52 29.7	-0.7
LYUB	**Lan-yu**	**1.40 190**	eP	Pn	15 52 11.6	-0.9
CHN3	**Shinhua**	**1.41 257**	eP	Pg	15 52 15.0	+0.5
CHN3			i S	Sg	15 52 33.1	+0.2
NFF	**Wufeng Townshi**	**1.41 332**	P	Pb	15 52 13.9	+0.4
NFF			eS	Sn	15 52 30.7	-0.3
NWLT	**Wulai**	**1.42 347**	eP	Pb	15 52 13.7	0.0
NWLT			S	Sn	15 52 30.6	-0.6
SGLT	**Jiouru**	**1.42 242**	eP	Pg	15 52 15.9	+1.1
SGLT			eS	Sb	15 52 32.4	+0.9
SHHT	**Tainan City**	**1.43 255**	eP	Pg	15 52 15.8	+0.7
SHHT			eS	Sg	15 52 34.4	+0.7
TWM1	**Shoushan**	**1.43 247**	eP	Pg	15 52 15.7	+0.5
TWM1			eS	Sg	15 52 33.7	-0.1
ICHU	**Yijhu**	**1.45 269**	P	Pb	15 52 14.3	+0.1
ICHU			eS	Sn	15 52 32.4	+0.6
EGS		**1.45 3**	eP	Pg	15 52 15.5	+0.1
JYNG	**Yonagunijimaku**	**1.45 43**	eP	Pg	15 52 15.8	+0.3
JYNG			S	Sg	15 52 34.2	-0.3
NSTT	**Nanjuang**	**1.46 328**	P	Pg	15 52 15.1	-0.6
NSTT			eS	Sn	15 52 29.9	-2.4
SSHA	**Shanhua**	**1.46 260**	eP	Pg	15 52 15.4	-0.2
WDJ	**Dajia District**	**1.46 311**	eP	Pb	15 52 15.1	+0.7
WDJ			eS	Sn	15 52 32.6	+0.4
LIOB	**Emei**	**1.47 329**	i P	Pg	15 52 15.3	-0.5
LIOB			eS	Sn	15 52 32.7	+0.4
WSL	**Shuilin Townsh**	**1.50 275**	eP	Pb	15 52 14.8	-0.2
WSL			eS	Sn	15 52 32.9	-0.2
NMLH	**Miaoli**	**1.50 320**	i P	Pb	15 52 15.5	+0.4
NMLH			S	Sn	15 52 33.9	+0.7
YOJ	**Yonaguni jima**	**1.50 45**	eP	Pg	15 52 16.7	+0.3
YOJ			S	Sg	15 52 35.8	-0.2
YOJ	**Yonaguni jima**	**1.50 45**	eP	Pg	15 52 16.5	+0.1
YOJ			eS	Sg	15 52 35.3	-0.7
CHN8	**Yiju**	**1.51 269**	eP	Pb	15 52 15.0	-0.2
CHN8			i S	Sn	15 52 33.5	+0.1
KSHI	**Guanxi Townshi**	**1.51 336**	eP	Pg	15 52 16.2	-0.4
KSHI			eS	Sn	15 52 33.6	+0.1
WSF	**Szhu**	**1.52 280**	eP	Pn	15 52 14.8	+0.7
WSF			i S	Sn	15 52 33.1	-0.5
WTCT	**Ta-ch'eng**	**1.52 288**	i P	Pb	15 52 15.3	-0.1
WTCT			i S	Sn	15 52 33.6	0.0
SLIU	**Shizi**	**1.52 220**	eP	Pn	15 52 13.9	-0.3
SCZT	**Fangliau**	**1.52 229**	eP	Pb	15 52 14.8	-0.6
SCZT			eS	Sb	15 52 34.6	0.0
SNJT	**Kaohsiung City**	**1.54 246**	eP	Pg	15 52 17.5	+0.4
SNJT			S	Sg	15 52 37.4	+0.3
SCLT	**Jiali**	**1.54 262**	eP	Pb	15 52 15.7	-0.1
SCLT			i S	Sn	15 52 34.9	+0.8
TIPB	**Shuangxi**	**1.57 359**	P	Pg	15 52 17.1	-0.7
TIPB			i S	Sb	15 52 35.9	-0.3
SBCB	**Hsinchu**	**1.61 331**	eP	Pg	15 52 17.8	-0.6
SBCB			eS	Sb	15 52 36.9	-0.1
TATO	**Taipei**	**1.61 348**	P	Pb	15 52 17.1	+0.1
TATO	**Taipei**	**1.61 348**	S	Sn	15 52 36.7	+0.7
TWB1	**Santiao Chiao**	**1.62 4**	eP	Pg	15 52 17.5	-1.1
TWB1			i S	Sb	15 52 36.7	-0.5
HSN	**Hsinchu**	**1.62 330**	eP	Pb	15 52 17.7	+0.6
HSN			S	Sb	15 52 37.9	+0.5
TSCK	**Chigu Township**	**1.64 262**	eP	Pb	15 52 17.2	-0.3
WSSB	**Gushan**	**1.65 243**	eP	Pb	15 52 18.3	+0.7
TAP	**Taipei**	**1.67 349**	eP	Pb	15 52 17.4	-0.5
TAP			eS	Sn	15 52 38.2	+0.8
NWF	**Wu-fen Shan**	**1.68 358**	P	Pg	15 52 18.7	-1.1
NWF			S	Sb	15 52 39.3	+0.2
WFSB	**Wu-fen Shan**	**1.68 358**	eP	Pg	15 52 18.8	-1.0
WFSB			eS	Sb	15 52 38.6	-0.3
NCUH	**Zhongli**	**1.69 339**	i P	Pb	15 52 18.7	+0.4
NCUH			S	Sb	15 52 40.1	+0.8
NCU	**National Centr**	**1.69 339**	eP	Pb	15 52 18.2	-0.1
NCU			S	Sb	15 52 39.4	+0.1
SXI1	**Grass Mountain**	**1.70 1**	eP	Pb	15 52 18.9	+0.4
SXI1			S	Sb	15 52 40.5	+0.8
HEN	**Hengchun**	**1.72 217**	eP	Pb	15 52 17.6	-1.2
TWP	**Hsiaoliuchiu**	**1.72 233**	eP	Pg	15 52 20.4	-0.3
TSEB	**Hengchuen, Pin**	**1.73 211**	eP	Pn	15 52 16.8	-0.1
TSEB			eS	Sn	15 52 38.9	+0.2
TWKBT	**Hengchun**	**1.73 214**	eP	Pn	15 52 17.2	+0.1
TWK1	**Hengchun**	**1.73 214**	eP	Pn	15 52 17.7	+0.6
TWS1	**Kuangyinshan**	**1.75 347**	eP	Pn	15 52 17.6	+0.3
YM01	**YM01**	**1.77 352**	eP	Pb	15 52 19.3	-0.3
ZUZH	**Zhuzihu**	**1.79 351**	eP	Pb	15 52 19.3	-0.7
NTST	**Danshui**	**1.81 348**	eP	Pg	15 52 21.5	-0.7
NTST			eS	Sb	15 52 43.2	+0.5
YM08	**YM08**	**1.81 352**	eP	Pb	15 52 19.1	-1.2
ANP	**Anpu**	**1.81 350**	eP	Pb	15 52 19.9	-0.6
HATJ	**Hateruma jima**	**1.91 69**	P	Pg	15 52 22.1	-2.0
HATJ			eS	Sb	15 52 45.3	-0.3
IRIF	**Iriomote-Funau**	**1.96 61**	eP	Pb	15 52 23.0	+0.1
IRIF			eS	Sb	15 52 47.6	+0.6
WDGT	**Dungji**	**2.02 267**	eP	Pn	15 52 21.5	+0.5
PHUB	**P'eng-hu**	**2.10 274**	eP	Pn	15 52 22.5	+0.4
PNG	**Penghu**	**2.12 275**	eP	Pn	15 52 22.8	+0.4
JKRS	**Kuro-shima**	**2.15 66**	P	Pb	15 52 25.8	-0.3
JKRS			eS	Sb	15 52 51.6	-0.9
VCHM	**Qimei**	**2.24 266**	eP	Pn	15 52 24.3	+0.3
JIJ	**Ishigaki jima**	**2.31 65**	P	Pb	15 52 27.3	-1.5
JIJ			eS	Sb	15 52 54.8	-2.4
JISG	**Ishigakijimahi**	**2.54 62**	eP	Pb	15 52 30.3	-2.5
JISG			eS	Sn	15 52 59.6	+0.7
VWUC	**VWUC**	**2.71 306**	eP	Pn	15 52 30.5	0.0
JTJ	**Tarama**	**2.89 64**	eP	Pb	15 52 35.4	-3.3
JTJ			eS	Sn	15 53 09.3	+2.0
PTMZ	**Houxiangcun**	**2.99 304**	eP	Pn	15 52 34.1	-0.2
MATB	**Ma-tsu**	**3.25 328**	eP	Pn	15 52 37.6	-0.4
KNM	**Kinmen**	**3.29 289**	eP	Pn	15 52 39.9	+1.3
KNMB	**Chin-men Tao**	**3.35 289**	eP	Pn	15 52 39.0	-0.3
JIRB	**Irabujima**	**3.35 64**	eP	Pn	15 52 41.8	+2.5
JIRB			eS	Sn	15 53 20.0	+1.1
JMJ2	**Miyako jima3**	**3.45 66**	eP	Pn	15 52 43.6	+2.9
JMJ2			eS	Sn	15 53 23.3	+2.1
JIKM	**Ikemajima**	**3.46 63**	eP	Pn	15 52 43.3	+2.5
JIKM			eS	Sn	15 53 22.5	+1.1
JOGS	**Gusukube**	**3.52 66**	eP	Pn	15 52 44.7	+3.0
JOGS			eS	Sn	15 53 25.4	+2.4
ZPLA	**Ao Xicun**	**3.80 279**	eP	Pn	15 52 45.0	-0.5
XPSS	**Dashiqiu**	**3.83 337**	eP	Pn	15 52 45.7	-0.3
AXDP	**Jialang**	**3.85 294**	eP	Pn	15 52 46.3	+0.1
DSXP	**Dongshan**	**4.08 275**	eP	Pn	15 52 48.7	-0.6
SXFK	**Yanhouchang**	**4.86 309**	eP	Pn	15 52 59.7	-0.4

*NEIC **11** 15:56:53.9±2.1, 5°.93S±0°.09×105°.38E±0°.08, h142km±8km, mb4.2/15, Error ellipse: s-maj=16.5km s-min=5.1km az=222.0*
*DJA **11** 15:56:54.0±0.3, 6°.5S±6°.×10°.5E±°, h141km±4km, M4.3/15, mB5.3/2, mb4.5/4, MLv4.1/15, Mw(mB)4.7/2*
*IDC **11** 15:56:54.7±4.3, 5°.82S×105°.36E, h159km±28km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=89.5km s-min=17.7km az=54.0*

ISC 11 15:56:53.4±0.7, 5°.92S±0°.07×105°.37E±0°.06, h151km±6km, n58, σ1°.26/61, mb4.0/14, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.56**	**347**	P	**Pn**	**15 57 16.0**	**+0.8**
CGJI	**Cibinong**	**0.76**	**155**	P	**Pn**	**15 57 16.9**	**+0.5**
CGJI				S	**Sn**	**15 57 33.6**	**-0.4**
SBJI	**Serang**	**0.78**	**105**	P	**Pn**	**15 57 15.1**	**-1.4**
SBJI				S	**Sn**	**15 57 34.6**	**+0.5**
LWLI	**Liwa**	**1.58**	**304**	P	**Pn**	**15 57 25.3**	**+1.2**
LWLI				S	**Sn**	**15 57 48.7**	**+1.1**
SKJI	**Sukabumi**	**1.60**	**133**	P	**Pn**	**15 57 24.6**	**+0.5**
SKJI				S	**Sn**	**15 57 47.8**	**+0.2**
MDSI	**Maura Dua**	**1.86**	**320**	P	**Pn**	**15 57 28.4**	**+1.4**
MDSI				S	**Sn**	**15 57 52.7**	**0.0**
CNJI	**Cibinong**	**2.23**	**128**	P	**Pn**	**15 57 30.9**	**-0.4**
CNJI				S	**Sn**	**15 57 58.9**	**-1.5**
LEM	**Lembang**	**2.41**	**112**	P	**Pn**	**15 57 35.4**	**+1.8**
	70nm,0.6s,baz=279,slow=8.4,SNR=23						
LEM				S	**Sn**	**15 58 08.6**	**+4.0**
	139nm,0.8s,baz=209,slow=6.8,SNR=7.0						
LEM	**Lembang**	**2.41**	**112**	P	**Pn**	**15 57 33.6**	**0.0**
MNAI	**Manna**	**2.86**	**303**		**Pn**	**15 57 40.5**	**+1.3**
MNAI				Sn	**Sn**	**15 58 14.2**	**-0.2**
MNAI	**Manna**	**2.86**	**303**	P	**Pn**	**15 57 40.0**	**+0.9**
MNAI				S	**Sn**	**15 58 14.8**	**+0.4**
KSI	**Kapahiang**	**3.57**	**309**	P	**Pn**	**15 57 49.5**	**+1.3**
KSI				S	**Sn**	**15 58 32.7**	**+2.0**
CMJI	**Cimerak**	**3.57**	**121**	P	**Pn**	**15 57 47.9**	**-0.3**
CMJI				S	**Sn**	**15 58 29.2**	**-1.4**
XMIS	**Christmas Isla**	**4.54**	**177**	Pn	**Pn**	**15 57 58.1**	**-2.7**
XMIS				Sn	Sn	15 58 43.6	-10
UGM	**Wanagama**	**5.48**	**111**		**Pn**	**15 58 13.9**	**+0.6**
UGM	**Wanagama**	**5.48**	**111**	P	**Pn**	**15 58 12.8**	**-0.5**
	0.3nm36nm,1.1s						
PCJI	**Pacitan**	**6.19**	**112**	P	**Pn**	**15 58 22.4**	**-0.3**
	0.2nm21nm,0.7s						
MYKOM	**Kota Tinggi**	**7.81**	**349**	Pn	**Pn**	**15 58 44.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**9.07**	**107**		**Pn**	**15 59 01.5**	**+0.4**
COCO	**West Island**	**10.48**	**233**	Pn	Pn	15 59 16.0	-3.8
GSI	**Gunungsitoli**	**10.59**	**312**		**Pn**	**15 59 18.2**	**-3.1**
SBUM	**Sibu**	**10.77**	**40**	Pn	**Pn**	**15 59 21.9**	**-1.7**
KULM	**Kulim**	**12.09**	**337**	Pn	**Pn**	**15 59 37.9**	**-3.1**
FITZ	**Fitzroy Crossi**	**23.19**	**123**	P	**P**	**16 01 47.4**	**+0.3**
	1.8nm,0.8s,baz=315,slow=7.1,SNR=2.2						
	1.8nm,0.8s						
H01W3	**Cape Leeuwin H**	**29.94**	**165**	T	T	16 33 39.6	
	baz=344,slow=76,SNR=8.6						
H01W1	**Cape Leeuwin H**	**29.95**	**165**	T	T	16 33 39.6	
	baz=344,slow=76,SNR=9.3						
H01W2	**Cape Leeuwin H**	**29.95**	**165**	T	T	16 33 41.7	
	baz=344,slow=76,SNR=9.0						
WB0	**Warramunga Arr**	**31.39**	**119**	P	**P**	**16 03 00.7**	**+0.3**
WB0				IAmb	IAmb	16 03 35.5	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**31.41**	**119**	P	**P**	**16 03 01.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=303,slow=8.0,SNR=9.0						
WRA				PcP	**PcP**	**16 05 50.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=315,slow=2.2,SNR=10						
	comp=Z,0.2nm,0.3s						
WRAB	**Tennant Creek**	**31.41**	**119**	P	**P**	**16 03 00.9**	**+0.4**
WRAB				IAmb	IAmb	16 03 07.9	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**31.42**	**119**	P	**P**	**16 03 00.9**	**+0.3**
WB2				IAmb	IAmb	16 03 15.9	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	**31.59**	**119**	P	**P**	**16 03 02.2**	**+0.1**
WR0				IAmb	IAmb	16 03 38.4	
	comp=Z,5.9nm,1.4s						
ASAR	**Alice Springs**	**32.63**	**126**	P	**P**	**16 03 12.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=295,slow=7.7,SNR=38						
ASAR				PcP	**PcP**	**16 05 54.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=305,slow=2.2,SNR=4.7						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**32.63**	**126**	P	**P**	**16 03 12.1**	**+0.9**
H08S2	**Diego Garcia H**	**32.69**	**265**	T	T	16 37 40.6	
	baz=90,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**32.70**	**265**	T	T	16 37 50.9	
	baz=90,slow=76,SNR=6.8						
H08S1	**Diego Carcia H**	**32.71**	**265**	T	T	16 37 52.9	
	baz=90,slow=76,SNR=6.8						
STKA	**Stephens Creek**	**42.56**	**132**	P	**P**	**16 04 36.2**	**+1.7**
STKA	**Stephens Creek**	**42.56**	**132**	P	**P**	**16 04 35.5**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=298,slow=9.0,SNR=6.3						
	comp=Z,2.5nm,0.5s						
RABL	**Rabaul**	**46.63**	**90**	P	**P**	**16 05 06.6**	**-0.5**
SONM	**Songino Array**	**53.53**	**1**	P	**P**	**16 05 58.5**	**-0.1**
SONM	**Songino Array**	**53.53**	**1**	P	**P**	**16 05 58.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=171,slow=10,SNR=2.8						
	comp=Z,0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**55.36**	**23**	P	**P**	**16 06 11.6**	**0.0**
USA0B	**Ussuriysk Arra**	**55.36**	**23**	P	**P**	**16 06 11.3**	**-0.3**
USA0B				IAmb	IAmb	16 06 16.9	
	comp=Z,5.9nm,0.8s						
LHI	**Lord Howe Isla**	**56.20**	**124**	P	**P**	**16 06 17.1**	**-0.8**
MK31	**Makanchi Array**	**56.34**	**341**	P	**P**	**16 06 17.9**	**-0.8**
MKAR	**Makanchi Array**	**56.34**	**341**	P	**P**	**16 06 17.6**	**-1.0**
MKAR	**Makanchi Array**	**56.34**	**341**	P	**P**	**16 06 17.4**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=149,slow=9.4,SNR=3.1						
	comp=Z,0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.04**	**220**	T	T	17 12 54.4	
	baz=65,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**61.05**	**220**	T	T	17 13 01.1	
	baz=65,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**61.06**	**220**	T	T	17 12 59.9	
	baz=65,slow=75,SNR=13						
ABKAR	**Akbulak array**	**67.67**	**330**	P	**P**	**16 07 33.5**	**-0.7**
ABKAR				IAmb	IAmb	16 08 03.4	
	comp=Z,1.2nm,0.8s						
BKZ	**Black Stump Fm**	**71.66**	**129**	P	**P**	**16 07 59.7**	**+0.7**
PET	**Petropavlovsk**	**73.88**	**30**	P	**P**	**16 08 11.4**	**-0.2**
QSPA	**South Pole Qui**	**84.06**	**180**	P	**P**	**16 09 09.0**	**+1.9**
QSPA				IAmb	IAmb	16 09 48.5	
	comp=Z,4.0nm,1.5s						
BURAR	**Bucovina Array**	**87.73**	**318**	P	**P**	**16 09 26.9**	**+1.5**
FINES	**FINESS Array B**	**90.06**	**332**	P	**P**	**16 09 36.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=102,slow=6.4,SNR=5.8						
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**144.03**	**46**	PKP	**PKPdf**	**16 16 11.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=291,slow=1.2,SNR=9.8						

*SOME **11** 16:00:57.0, 41°.75N×81°.12E, h20km*
*NNC **11** 16:00:58.3±1.8, 41°.77N×81°.05E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.5km s-min=10.3km az=168.0*

ISC 11 16:00:50.4±2.6, 41°.5N±0°.1×81°.48E±0°.08, h17km, n29, σ2°.09/41, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.13**	**337**	eP	**Pg**	**16 01 30.3**	**-1.0**
	13nm,0.2s						
KTMS				eS	**Sb**	**16 01 54.5**	**-0.2**
	69nm,0.4s						
SHLS	**Shalkode**	**2.24**	**319**	P	**Pb**	**16 01 28.9**	**-1.6**
	47nm,0.2s						
SHLS				S	**Sn**	**16 01 52.6**	**-1.6**
	70nm,0.2s						
SHLS	**Shalkode**	**2.24**	**319**	eP	**Pb**	**16 01 28.9**	**-1.6**
	47nm,0.2s						
SHLS				eS	**Sn**	**16 01 52.5**	**-1.6**
	70nm,0.2s						
UZB	**Uzynbulak**	**2.46**	**313**	Pg	**Pg**	**16 01 36.7**	**-1.0**
	22nm,0.3s						
UZB				Lg	Lg	16 02 05.6	
	68nm,0.2s						
UZB	**Uzynbulak**	**2.46**	**313**	eP	**Pg**	**16 01 36.7**	**-1.0**
	22nm,0.3s						
UZB				eS	**Sb**	**16 02 05.7**	**+1.2**
	68nm,0.2s						
SATY	**Saty**	**2.77**	**306**	Pg	**Pg**	**16 01 41.9**	**-1.6**
	32nm,0.4s						
SATY				Lg	Lg	16 02 14.7	
	78nm,0.4s						
KPKS	**Kokpek**	**2.86**	**315**	Pg	**Pb**	**16 01 42.6**	**+1.5**
	10nm,0.2s						
KPKS				Lg	Lg	16 02 15.8	
	117nm,0.3s						
KPKS	**Kokpek**	**2.86**	**315**	eP	**Pb**	**16 01 42.2**	**+1.1**
	10nm,0.2s						
KPKS				eS	**Sb**	**16 02 15.2**	**-0.7**
	117nm,0.3s						
DJR	**Jarkent**	**3.10**	**337**	Pg	**Pg**	**16 01 47.9**	**-1.9**
	2.4nm,0.4s						
DJR				Lg	Lg	16 02 24.6	
	22nm,0.5s						
DJR	**Jarkent**	**3.10**	**337**	eP	**Pb**	**16 01 47.2**	**+2.1**
	2.4nm,0.4s						
DJR				eS	**Sb**	**16 02 23.6**	**+0.9**
	22nm,0.5s						
KURS	**Kuram**	**3.16**	**310**	Pg	**Pb**	**16 01 48.0**	**+1.9**
	6.1nm,0.4s						
KURS				Lg	Lg	16 02 25.1	
	24nm,0.5s						
KNOS	**Konyrlen**	**3.33**	**330**	Pg	**Pb**	**16 01 49.6**	**+0.5**
	3.8nm,0.4s						
KNOS				Lg	Lg	16 02 27.9	
	14nm,0.4s						
BLB	**Baldybastay**	**3.42**	**321**	Pg	**Pb**	**16 01 51.2**	**+0.6**
	15nm,0.2s						
BLB				Lg	Lg	16 02 30.3	
	35nm,0.6s						
KOTS	**Kotyrbulak**	**3.68**	**300**	eP	**Pb**	**16 01 57.8**	**+2.8**
	4.4nm,0.3s						
KOTS				eS	**Sb**	**16 02 41.6**	**+2.3**
	32nm,0.5s						
TNSS	**Tian-Shan**	**3.70**	**296**	Pg	**Pb**	**16 01 57.1**	**+1.5**
	2.1nm,0.5s						
TNSS				Lg	Lg	16 02 40.8	
	5.3nm,0.5s						
TNSS	**Tian-Shan**	**3.70**	**296**	eP	**Pb**	**16 01 57.1**	**+1.5**
	2.1nm,0.5s						
TNSS				eS	**Sb**	**16 02 40.8**	**+0.4**
	5.3nm,0.5s						
ARXS	**Arharly**	**3.82**	**317**	Pg	**Pb**	**16 01 59.6**	**+2.1**
	4.5nm,0.5s						
ARXS				Lg	Lg	16 02 45.5	
	17nm,0.4s						
MTBS	**Maitube**	**4.09**	**295**	Pg	**Pb**	**16 02 04.8**	**+2.8**
	3.5nm,0.3s						
MTBS				Lg	Lg	16 02 53.9	
	9.1nm,0.4s						
MTBS	**Maitube**	**4.09**	**295**	eP	**Pb**	**16 02 04.8**	**+2.8**
	3.3nm,0.2s						
MTBS				eS	**Sb**	**16 02 54.1**	**+2.9**
	8.7nm,0.3s						
KTBS	**Karatobe**	**4.18**	**304**	Pg	**Pb**	**16 02 05.8**	**+2.

SDDR	**Presa de Saban**	**0.76 180**	⇓*e*Pg		**Pb**	**16 05 08.3**	**-0.2**
SDDR			⇑*e*Sg		**Sb**	**16 05 18.2**	**-0.2**
SDDR			IAML			16 05 19.9	
	comp=N,60nm,0.2s						
SDDR	**Presa de Saban**	**0.76 180**	*i* P		**Pb**	**16 05 08.1**	**-0.5**
SDDR			*e*S		**Sb**	**16 05 18.2**	**-0.2**
SDDR			IAML			16 05 19.1	
	comp=Z,64nm,0.5s						
ABDR	**Alto Bandera**	**1.11 146**	⇓*e*Pg		**Pn**	**16 05 13.8**	**-0.7**
ABDR			⇓*e*Sg		**Sn**	**16 05 29.4**	**+0.1**
ABDR			IAML			16 05 44.4	
	comp=N,65nm,4.3s						
LONE3	**El Aguacate, B**	**1.14 188**	*i* P		**Pb**	**16 05 15.1**	**-0.1**
LONE3			*e*S		**Sn**	**16 05 30.0**	**+0.4**
LONE3			IAML			16 05 31.8	
	comp=Z,24nm,0.6s						
JIDR	**Jimani**	**1.35 203**	⇑*e*Sg		**Sb**	**16 05 37.6**	**+2.1**
JIDR			IAML			16 05 37.9	
	comp=E,54nm,1.6s						
LODU1	**El Espartillar**	**1.39 187**	*i* P		**Pn**	**16 05 17.9**	**-0.1**
LODU1			IAML			16 05 42.6	
	comp=Z,68nm,1.6s						
GRTK	**Grand Turk**	**1.77 5**	*e*S		**Sb**	**16 05 48.3**	**+0.8**
GRTK			IAML			16 05 49.4	
	comp=Z,40nm,1.4s						

*IDC **11** 16:10:06.6±0.9, 64°.45S×175°.18E, $h0^{km}$, mb4.4/5, mbtmp4.3/6, ML4.2/1, MS4.4/4, Error ellipse: s-maj=40.3km s-min=21.2km az=54.0*

*NEIC **11** 16:10:08.7±0.9, 64°.5S±0°.1×174°.8E±0°.6, $h10^{km}\pm2^{km}$, mb4.6/12, Error ellipse: s-maj=43.8km s-min=22.4km az=77.0*

ISC 11 16:10:07.9±0.7,**64°.46S**±0°.09×**175°.0E**±0°.2,**h10**km,**n38**, σ0**73**/27,**mb4.5**/8,**MS4.3**/3,**1D**,**Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.70 187**			**Pn**	**16 13 21.2**	**-0.6**
VNDA	**Vanda**	**13.74 192**			**Pn**	**16 13 21.7**	**-0.7**
VNDA	**Vanda**	**13.74 192**		Pn	**Pn**	**16 13 21.3**	**-1.1**
	1.2nm,0.3s,baz=38,slow=17,SNR=25						
VNDA				LR	LR	16 17 30.1	
	comp=Z,1μm,18.3s,baz=358,slow=32						
	4.1nm,0.5s						
WHZ	**Wether Hill Ro**	**19.01 345**		P	**Pn**	**16 14 30.5**	**+0.3**
WHZ				IAmb	IAmb	16 14 44.3	
	comp=Z,77nm,1.5s						
MLZ	**Mavora Lakes**	**19.51 345**		P	**P**	**16 14 35.0**	**0.0**
MLZ				IAmb	IAmb	16 14 50.0	
	comp=Z,32nm,1.3s						
ODZ	**Otahua Downs**	**19.61 351**		P	**Pn**	**16 14 37.1**	**-0.3**
ODZ				IAmb	IAmb	16 15 01.6	
	comp=Z,29nm,1.4s						
RPZ	**Rata Peaks**	**20.90 352**		LR	LR	16 22 42.6	
	comp=Z,842nm,18.2s,baz=168,slow=36						
QSPA	**South Pole Qui**	**25.63 180**		P	**P**	**16 15 37.9**	**+0.5**
QSPA	**South Pole Qui**	**25.63 180**		P	**P**	**16 15 37.8**	**+0.5**
	comp=Z,30nm,1.0s,baz=28,slow=4.5,SNR=42						
QSPA				LR	LR	16 24 25.1	
	comp=Z,808nm,18.4s,baz=36,slow=34						
	comp=Z,30nm,1.0s						
SYO	**Syowa Base**	**43.17 202**	⇓*e*pP		**P**	**16 18 09.0**	**+1.0**
SNAA	**Sanae**	**44.13 181**		LR	LR	16 35 53.4	
	comp=Z,385nm,18.5s,baz=215,slow=35						
H01W1	**Cape Leeuwin H**	**46.62 279**		T	T	17 09 21.0	
	baz=148,slow=76,SNR=31						
H01W2	**Cape Leeuwin H**	**46.63 279**		T	T	17 09 21.3	
	baz=148,slow=76,SNR=31						
H01W3	**Cape Leeuwin H**	**46.64 279**		T	T	17 09 22.2	
	baz=148,slow=76,SNR=41						
ASAR	**Alice Springs**	**48.76 307**		P	**P**	**16 18 53.0**	**+0.4**
ASAR	**Alice Springs**	**48.76 307**		P	**P**	**16 18 53.8**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=153,slow=7.0,SNR=47						
	comp=Z,4.8nm,0.9s						
AS31	**Alice Springs**	**48.76 307**		P	**P**	**16 18 53.6**	**+0.9**
WR0	**Warramunga Arr**	**51.97 309**		P	**P**	**16 19 17.1**	**+0.2**
WR0				IAmb	IAmb	16 19 18.5	
	comp=Z,17nm,1.4s						
WB2	**Warramunga Arr**	**52.05 309**		P	**P**	**16 19 17.6**	**0.0**
WB2				IAmb	IAmb	16 19 20.7	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**52.05 309**		P	**P**	**16 19 17.6**	**+0.1**
WRA	**Warramunga Arr**	**52.05 309**		P	**P**	**16 19 18.0**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=157,slow=6.6,SNR=20						
	comp=Z,3.4nm,0.7s						
WRAB	**Tennant Creek**	**52.06 309**		P	**P**	**16 19 17.8**	**+0.2**
WB0	**Warramunga Arr**	**52.20 309**		P	**P**	**16 19 18.7**	**+0.1**
WB0				IAmb	IAmb	16 19 19.5	
	comp=Z,5,3nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.85 300**		P	**P**	**16 19 53.2**	**+0.7**
KNRA	**Kununurra**	**57.94 305**		P	**P**	**16 19 59.9**	**-0.2**
PLCA	**Paso Flores**	**63.30 129**		P	**P**	**16 20 37.1**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=217,slow=5.1,SNR=3.3						
	comp=Z,1.5nm,0.9s						
H03S2	**Juan Fernandez**	**66.45 119**		T	T	17 33 38.1	
	baz=206,slow=74,SNR=9.6						
H03S1	**Juan Fernandez**	**66.45 119**		T	T	17 33 49.4	
	baz=206,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**66.47 119**		T	T	17 33 46.8	
	baz=206,slow=74,SNR=8.9						
LPAZ	**La Paz**	**86.39 121**		P	**P**	**16 22 51.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=208,slow=5.9,SNR=3.5						
	comp=Z,0.6nm,0.5s						
H08S2	**Diego Garcia H**	**88.51 255**		T	T	18 01 54.1	
	baz=154,slow=76,SNR=169						
H08S1	**Diego Carcia H**	**88.52 255**		T	T	18 01 59.2	
	baz=154,slow=76,SNR=166						
H08S3	**Diego Garcia H**	**88.53 255**		T	T	18 02 00.1	
	baz=154,slow=76,SNR=195						
ILAR	**Eielson Array**	**131.91 21**		PKP	**PKPdf**	**16 29 19.7**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=234,slow=3.5,SNR=7.8						
KURBB	**Kurchatov Arra**	**136.53 293**		PKP	**PKPdf**	**16 29 27.0**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=124,slow=2.5,SNR=1.7						
KBZ	**Khabaz**	**146.25 255**		PKPbc	**PKPbc**	**16 29 48.0**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=164,slow=7.4,SNR=2.0						
BRTR	**Keskin Array B**	**146.59 241**		PKPbc	**PKPbc**	**16 29 48.4**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=145,slow=5.3,SNR=2.0						
SCHQ	**Schefferville**	**148.58 78**		PKPbc	**PKPbc**	**16 29 52.0**	**-1.5**
	comp=Z,5.1nm,0.9s,baz=98,slow=1.0,SNR=4.9						

IDC 11 16:18:18.3±1.9,**7°.81S**×**155°.25E**,**h0**km,**mb3.6**/4, **mbtmp3.7**/5,**ML2.0**/1,**MS2.7**/1,**Error ellipse: s-maj=68.1km s-min=24.6km az=138.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.92 110**		LR	LR	16 21 28.6	
	comp=Z,83nm,21.8s,baz=14,slow=39						
PMG	**Port Moresby**	**8.16 258**		Pn	Pn	16 20 19.9	+1.8
	1.0nm,0.3s,baz=109,slow=5.5,SNR=5.6						
PMG				Sn	Sn	16 21 50.8	-0.3
	0.5nm,0.3s,baz=222,slow=17,SNR=2.0						
	14nm,0.7s						
WRA	**Warramunga Arr**	**23.58 237**		P	P	16 23 30.6	-0.3
	1.7nm,0.8s,baz=60,slow=9.9,SNR=6.9						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**25.84 230**		P	P	16 23 51.5	-0.2
	0.6nm,0.6s,baz=63,slow=9.1,SNR=15						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**84.03 21**		P	P	16 30 50.4	-0.1
	0.6nm,0.9s,baz=250,slow=4.9,SNR=8.6						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**84.18 319**		P	P	16 30 51.8	+0.2
	0.3nm,0.7s,baz=115,slow=5.8,SNR=4.1						
	0.3nm,0.7s						

*BJI **11** 16:25:45.4, 6°.61S×149°.28E, $h42^{km}$, mB5.7/80, mb5.3/93, Ms5.7/99, Ms7 5.6/97*

*ISC-PP **11** 16:25:51, 6°.05S×149°.01E, $h35^{km}$, Mwppsm6.3, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}0.63±.13; $M_{\theta\theta}$0.01±.15; $M_{\phi\phi}$-0.64±.13; $M_{r\theta}$-0.22±.13; $M_{\theta\phi}$-0.17±.25; $M_{\phi r}$0.15±.15; Fault plane solution: M_o3.51000×10^{18} NP1:ϕ_s186.60000°, δ53.50000°, λ114.40000°. NP2:ϕ_D329.30000°, δ43.00000°, λ60.80000°.*

*NEIC **11** 16:25:52.0±2.1, 6°.05S±0°.08×149°.01E±0°.06, $h35^{km}\pm3^{km}$, mb5.7/285, Ms_20 5.9/857, Mwb5.9/29, Mww5.9/38 Error ellipse: s-maj=11.8km s-min=8.1km az=149.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}9.04; $M_{\theta\theta}$-7.18; $M_{\phi\phi}$-1.86; $M_{r\theta}$-1.62; $M_{\theta\phi}$-0.44; $M_{\phi r}$-0.44; Fault plane solution: M_o8.45000×10^{17} NP1: ϕ_s86.68000°, δ39.27000°, λ92.41000°. NP2:ϕ_s263.56000°, δ50.77000°, λ88.03000°. Principal axes: T 9.2172, Plg84.0000°, Azm160.0000°; N -1.8321, Plg2.0000°, Azm265.0000°; P -7.3851, Plg6.0000°, Azm355.0000°;*

*MOS **11** 16:25:51.6±1.3, 6°.03S×148.91E, $h54^{km}$, mb5.8/43, MS5.7/8 Error ellipse: s-maj=7.0km s-min=4.6km az=110.2*

*NEIC **11** 16:25:51.4, 6°.05S×149°.02E, $h40^{km}$*

*NEIC **11** 16:25:51.4, 5°.95S×149°.12E, $h40^{km}$, Moment Tensor Solution. Duration: 4s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$0.07; $M_{r\theta}$-0.26; $M_{\theta\phi}$0.18; $M_{\phi r}$-0.06; Fault plane solution: M_o1.01000×10^{18} NP1: ϕ_s105.72000°, δ38.23000°, λ99.97000°. NP2: ϕ_s273.11000°, δ52.45000°, λ82.24000°. Principal axes: T 0.9634, Plg81.0000°, Azm148.0000°; N 0.0855, Plg6.0000°, Azm278.0000°; P -1.0489, Plg7.0000°, Azm9.0000°;*

*NEIC **11** 16:25:52.5, 6°.11S×149°.03E, $h38^{km}$*

*IDC **11** 16:25:52.7±0.9, 6°.10S×149°.03E, $h53^{km}\pm6^{km}$, mb5.1/26, mbtmp5.4/29, MS5.4/55, Error ellipse: s-maj=9.8km s-min=6.4km az=115.0*

*IPGP **11** 16:25:53.0, 6°.11S×149°.03E, $h48^{km}$, Mw6.0, Fault plane solution: NP1:ϕ_s104.00000°, δ40.00000°, λ96.00000°. NP2:ϕ_D277.00000°, δ50.00000°, λ85.00000°.*

*GCMT **11** 16:25:55.0±0.1, 6°.28S×149°.11E, $h45^{km}$, MW6.0/164, Moment Tensor Solution. s164,c333; s164,c564; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.94±.01; $M_{\theta\theta}$-1.05±.01; $M_{\phi\phi}$0.11±.01; $M_{r\theta}$-0.25±.01; $M_{\theta\phi}$0.27±.00; $M_{\phi r}$-0.05±.01; Best double couple: M_o1.05400×10^{18} NP1:ϕ_s110.00000°, δ39.00000°, λ101.00000°. NP2:ϕ_s276.00000°, δ52.00000°, λ81.00000°. Principal axes: T 0.9740, Plg81.0000°, Azm145.0000°; N 0.1570, Plg7.0000°, Azm281.0000°; P -1.1350, Plg6.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DJA **11** 16:25:56.0±0.4, 6°.5S±3°.3×14°.9E±°, $h73^{km}\pm4^{km}$, M5.7/84, mB6.1/81, mb5.8/84, Mw5.9/60, Mw(mB)5.8/81, MwMwp5.6/68, Mwp5.8/68*

ISC 11 16:25:52.6±0.3,**6°.12S**±0°.03×**149°.02E**±0°.03,**h51**km±2km, **h51**km:**pP-P**,**n1563**,σ**1944**/1229,**mb5.6**/346,**MS5.8**/494, **49C-26D**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.42 66**		P	**Pn**	**16 26 16.8**	**+0.8**
BULU	**Kimbe**	**1.42 66**		S	**Sn**	**16 26 37.5**	**+4.0**
I40PG	**Keravat**	**3.49 59**		P	**Pn**	**16 26 44.8**	**+0.4**
	baz=223,slow=28						
I40PG				I	I	16 40 00.0	
	61nm,0.3s,baz=235,slow=307,SNR=0.6						
RABL	**Rabaul**	**3.67 59**		Pn	**Pn**	**16 26 48.7**	**+1.7**
PMG	**Port Moresby**	**3.75 209**		P	**Pn**	**16 26 49.8**	**+1.8**
	12μm,0.6s,baz=37,slow=5.5,SNR=2482						
PMG				S	**Sn**	**16 27 34.2**	**+3.3**
	15μm,0.4s,baz=199,slow=12,SNR=30						
PMG				LR	LR	16 27 47.5	
	comp=Z,52μm,18.1s,baz=26,slow=30						
MANU	**Manus Island**	**4.38 338**		Pn	**Pn**	**16 26 56.7**	**+0.1**
MMPI	**Merauke**	**8.88 254**		P	**Pn**	**16 28 01.0**	**+2.7**
	14μm1μm,0.8s						
JAY	**Jayapura**	**9.03 293**		P	**Pn**	**16 28 02.1**	**+1.6**
	45nm,1.0s,baz=129,slow=7.9,SNR=79						
JAY				S	**Sn**	**16 29 43.3**	**+2.4**
	229nm,1.1s,baz=352,slow=12,SNR=1.6						
JAY				LR	LR	16 32 30.2	
	comp=Z,28μm,18.9s,baz=96,slow=44						
JAY	**Jayapura**	**9.03 293**		P	**Pn**	**16 28 04.4**	**+3.9**
	17μm4μm403nm,1.0s						
GENI	**Genyem**	**9.50 291**		P	**Pn**	**16 28 09.9**	**+3.1**
	394nm,1.4s						
GENI	**Genyem**	**9.50 291**		P	**Pn**	**16 28 10.7**	**+3.9**
	23μm12μm392nm,0.8s						
COEN	**Coen**	**9.68 216**		Pn	**Pn**	**16 28 09.6**	**+0.3**
COEN	**Coen**	**9.68 216**		P	**Pn**	**16 28 09.8**	**+0.5**
	comp=Z,0.0nmcomp=Z,122nm,0.7s						
COEN	**Coen**	**9.68 216**		P	**Pn**	**16 28 09.9**	**+0.5**
	comp=Z,122nm,0.7s						
COEN	**Coen**	**9.68 216**		S	**Sn**	**16 29 54.9**	**-1.8**
	comp=Z,122nm,0.7s						
TATA	**Tatamba Isabel**	**10.93 103**		P	**Pn**	**16 28 28.8**	**+2.3**
	comp=Z,646nm,0.9s						
SMPI	**Sarmi**	**11.07 291**		P	Pn	16 28 33.1	+4.7
	comp=Z,17μmcomp=Z,8μmcomp=Z,525nm,1.4s						
HNR	**Honiara**	**11.31 108**		P	**Pn**	**16 28 32.2**	**+0.5**
	comp=Z,337nm,0.9s,baz=283,slow=16,SNR=33						
HNR				S	**Sn**	**16 30 34.0**	**-2.7**
	comp=Z,108nm,0.5s,baz=26,slow=5.8,SNR=1.2						
HNR				LR	LR	16 32 31.2	
	comp=Z,16μm,21.3s,baz=269,slow=35						
ALEG	**Aligegeo Malai**	**11.87 103**		P	**Pn**	**16 28 41.7**	**+2.4**
	comp=Z,713nm,0.7s						
NGOA	**Tingoa Renbel**	**12.17 117**		P	**Pn**	**16 28 45.5**	**+2.1**
	comp=Z,1μm,1.3s						
MTSU	**Mount Surprise**	**12.79 201**		P	**Pn**	**16 28 52.9**	**+1.0**
	comp=Z,302nm,0.7s						
MTSU	**Mount Surprise**	**12.79 201**		P	**Pn**	**16 28 53.4**	**+1.5**
	comp=Z,302nm,0.7s						
SRPI	**Serui, Papua**	**13.43 288**		P	**Pn**	**16 29 02.6**	**+2.0**
	comp=Z,231nm,0.8s						
HURO	**Huro Makira**	**13.46 110**		P	**Pn**	**16 29 02.8**	**+1.8**
	comp=Z,372nm,0.8s						
BAKI	**Biak**	**13.78 290**		P	**Pn**	**16 29 08.7**	**+3.2**
	comp=Z,5μmcomp=Z,322nm,1.3s						
KMPI	**Kaimana, Papua**	**15.45 278**		P	**P**	**16 29 30.7**	**-0.4**
	comp=Z,12μmcomp=Z,250nm,1.2s						
RKPI	**Ransiki, Papua**	**15.50 287**		P	**P**	**16 29 31.3**	**-0.3**
	comp=Z,4μmcomp=Z,227nm,1.3s						
PATS	**Pohnpei**	**15.87 36**			**P**	**16 29 34.7**	**-1.0**
PATS				IAmb	IAmb	16 29 37.0	
	comp=Z,811nm,1.4s						
PATS	**Pohnpei**	**15.87 36**		P	**P**	**16 29 34.3**	**-1.4**
	comp=Z,0.0nmcomp=Z,1μm,1.6s						
PATS	**Pohnpei**	**15.87 36**		P	**P**	**16 29 34.8**	**-0.8**
	comp=Z,2μm,1.6s						
QIS	**Mount Isa**	**17.01 212**		P	**Pn**	**16 29 47.3**	**+0.2**
	comp=Z,0.0nmcomp=Z,364nm,0.9s						
QIS	**Mount Isa**	**17.01 212**		P	**Pn**	**16 29 47.4**	**+0.2**
	comp=Z,364nm,0.9s						
FAKI	**Fak Fak**	**17.02 280**			**P**	**16 29 48.7**	**+0.2**
FAKI	**Fak Fak**	**17.02 280**		P	**P**	**16 29 49.2**	**+0.7**
	comp=Z,255nm,2.2s						
FAKI	**Fak Fak**	**17.02 280**		P	**P**	**16 29 51.3**	**+2.8**
RK1H	**Rockhampton Ha**	**17.22 175**		P	**P**	**16 29 50.6**	**0.0**
	comp=Z,136nm,0.8s						
KDU	**Kakadu**	**17.57 247**		P	**Pn**	**16 29 51.9**	**-2.2**
KDU	**Kakadu**	**17.57 247**		P	**Pn**	**16 29 53.9**	**-0.2**
	comp=Z,368nm,1.1s						
SAUI	**Saumlaki**	**17.68 263**			**P**	**16 29 55.9**	**+0.1**
SAUI				IAmb	IAmb	16 29 58.2	
	comp=Z,680nm,1.0s						
SAUI	**Saumlaki**	**17.68 263**		P	**P**	**16 29 58.5**	**+2.7**
	comp=Z,1μm,1.2s						
SAUI	**Saumlaki**	**17.68 263**		P	**P**	**16 29 56.1**	**+0.3**
	comp=Z,17μmcomp=Z,16μmcomp=Z,1μm,1.2s						
SWI	**Sorong**	**18.48 286**		P	**Pn**	**16 30 06.0**	**+0.9**
	comp=Z,11μmcomp=Z,262nm,1.4s						
MTN	**Manton Dam**	**18.86 248**		P	**P**	**16 30 08.8**	**+0.1**
MTN				IAmb	IAmb	16 30 12.4	
	comp=Z,2μm,1.6s						
MTN	**Manton Dam**	**18.86 248**		P	**P**	**16 30 06.7**	**-2.0**
MTN	**Manton Dam**	**18.86 248**		P	**P**	**16 30 09.4**	**+0.7**
	comp=Z,400nm,0.7s						
DRS	**Darwin Rock St**	**18.94 249**		P	**Pn**	**16 30 10.9**	**+0.2**
	comp=Z,310nm,0.8s						
BNDI	**Bandanaira**	**19.10 274**		P	**Pn**	**16 30 13.0**	**+0.4**
	comp=Z,1μm,1.6s						
BNDI	**Bandanaira**	**19.10 274**		P	**Pn**	**16 30 13.2**	**+0.6**
	comp=Z,17μmcomp=Z,21μmcomp=Z,1μm,1.6s						
EIDS	**Eidsvold**	**19.24 174**		P	**P**	**16 30 13.2**	**+0.4**
EIDS	**Eidsvold**	**19.24 174**		P	**P**	**16 30 13.3**	**+0.4**
	comp=Z,0.0nmcomp=Z,249nm,0.9s						
EIDS	**Eidsvold**	**19.24 174**		P	**Pn**	**16 30 14.9**	**+0.7**
	comp=Z,249nm,0.9s						
WB0	**Warramunga Arr**	**19.65 225**		P	**Pn**	**16 30 18.8**	**-0.3**
WR0	**Warramunga Arr**	**19.68 224**		P	**Pn**	**16 30 19.0**	**-0.4**
WRAB	**Tennant Creek**	**19.79 225**		P	**P**	**16 30 20.1**	**+1.2**
WRAB	**Tennant Creek**	**19.79 225**	*c i*P		**Pn**	**16 30 20.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,2μm,1.0s						
WB2	**Warramunga Arr**	**19.80 225**		P	**P**	**16 30 20.2**	**+1.2**
WRA	**Warramunga Arr**	**19.80 225**		P	**P**	**16 30 20.3**	**+1.2**
	comp=Z,745nm,0.6s,baz=51,slow=11,SNR=453						
WRA				S	**S**	**16 33 59.5**	**-0.1**
	comp=Z,147nm,1.1s,baz=44,slow=21,SNR=23						
WRA				PcP	**PcP**	**16 34 35.6**	**0.0**
	comp=Z,59nm,0.9s,baz=21,slow=1.5,SNR=7.1						
WRA				ScP	**ScP**	**16 38 07.9**	**+0.1**
	comp=Z,48nm,1.0s,baz=37,slow=2.4,SNR=7.0						
WRA				LR	LR	16 38 50.7	
	comp=Z,25μm,19.5s,baz=46,slow=39						
WRA				P3KP		17 05 18.1	
	comp=Z,2.1nm,1.0s,baz=178,slow=2.8,SNR=5.0						
WRA	**Warramunga Arr**	**19.80 225**	*i* P		**P**	**16 30 17.8**	**-1.3**
WRA				pmax	pmax		
	comp=Z,745nm,0.6s						
I39PW	**PALAU INFRASON**	**19.81 313**		I	I	18 26 40.0	
	baz=133,slow=315,SNR=1.0						
GUMO	**Guam**	**20.01 348**		P	**Pn**	**16 30 22.6**	**-0.8**
	comp=Z,348nm,0.6s,baz=160,slow=11,SNR=29						
GUMO				LR	LR	16 38 09.1	
	comp=Z,9μm,18.3s,baz=160,slow=37						
MSAI	**Masohi**	**20.21 277**		P	**P**	**16 30 22.9**	**-0.6**
	comp=Z,16μmcomp=Z,6μmcomp=Z,258nm,0.8s						
RMQ	**Roma**	**20.25 181**		P	Pn	16 30 25.3	-0.9
	comp=Z,100nm,0.9s						
RMQ	**Roma**	**20.25 181**		P	**P**	**16 30 25.1**	**+1.2**
	comp=Z,100nm,0.9s						
KOUNC	**Koumac, New Ca**	**20.62 136**		P	Pn	16 30 29.1	-1.4
	comp=Z,1.0nm,1.0s						
QLP	**Quilpie**	**20.85 192**		P	Pn	16 30 32.2	-1.0
	comp=Z,0.0nmcomp=Z,1μm,1.1s						
QLP	**Quilpie**	**20.85 192**		P	**P**	**16 30 32.0**	**+1.7**
	comp=Z,1μm,1.1s						
AAI	**Ambon**	**20.89 276**		P	**P**	**16 30 31.1**	**+0.3**
	comp=Z,17μmcomp=Z,4μmcomp=Z,324nm,0.8s						
TW1H	**Toowoomba 1 Ha**	**21.49 173**		P	**P**	**16 30 38.2**	**+1.0**
	comp=Z,382nm,1.0s						
DVP	**Devils Point**	**21.99 123**		P	**P**	**16 30 43.8**	**+1.3**
	comp=Z,3μm,1.7s						
KNRA	**Kununurra**	**22.02 243**		P	**P**	**16 30 43.1**	**+0.1**
KNRA	**Kununurra**	**22.02 243**		P	**P**	**16 30 42.8**	**-0.1**
	comp=Z,0.0nmcomp=Z,805nm,1.5s						
NLAI	**Namlea**	**22.03 276**		P	**P**	**16 30 44.3**	**+1.2**
	comp=Z,16μmcomp=Z,5μmcomp=Z,185nm,0.7s						
GC1S	**Gold Coast 1 S**	**22.33 170**		P	**P**	**16 30 47.6**	**+1.5**
	comp=Z,504nm,1.0s						
AS06	**Alice Springs**	**22.66 218**		P	**P**	**16 30 50.3**	**+0.6**
	comp=Z,621nm,0.8s						
TNTI	**Ternate**	**22.68 287**		P	**P**	**16 30 51.8**	**+1.8**
TNTI	**Ternate**	**22.68 287**		P	**P**	**16 30 52.3**	**+2.3**
AS01	**Alice Springs**	**22.68 218**		P	**P**	**16 30 50.9**	**+0.9**
	comp=Z,482nm,0.9s						
AS19	**Alice Springs**	**22.70 218**		P	**P**	**16 30 50.7**	**+0.5**
	comp=Z,411nm,0.8s						
AS31	**Alice Springs**	**22.71 218**		P	**P**	**16 30 51.2**	**+0.9**
AS31	**Alice Springs**	**22.71 218**		P	**P**	**16 30 50.7**	**+0.4**
	comp=Z,0.0nmcomp=Z,133nm,0.6s						
ASAR	**Alice Springs**	**22.71 218**		P	**P**	**16 30 51.1**	**+0.8**
	comp=Z,220nm,0.8s,baz=53,slow=9.6,SNR=886						
ASAR				PcP	**PcP**	**16 34 42.6**	**+1.4**
	comp=Z,98nm,1.0s,baz=42,slow=2.1,SNR=13						
ASAR				S	**S**	**16 34 55.2**	**-0.1**
	comp=Z,101nm,0.9s,baz=32,slow=22,SNR=13						
ASAR				ScP	**ScP**	**16 38 14.9**	**0.0**
	comp=Z,34nm,1.0s,baz=52,slow=3.2,SNR=9.3						
ASAR				LR	LR	16 40 27.5	
	comp=Z,25μm,18.3s,baz=47,slow=38						
ASAR				P3KP		17 05 12.4	
	comp=Z,3.6nm,1.1s,baz=135,slow=3.2,SNR=7.2						
	comp=Z,220nm,0.8s						
INKA	**Innaminka**	**22.89 199**		P	**P**	**16 30 53.0**	**+0.9**
	comp=Z,3μm,1.2s						
DZM	**Mont Dzumac**	**23.13 135**		P	**P**	**16 30 54.4**	**-0.2**
DZM	**Mont Dzumac**	**23.13 135**		P	**P**	**16 30 54.1**	**-0.6**
	comp=Z,156nm,0.6s,baz=325,slow=9.1,SNR=89						
	comp=Z,156nm,0.6s						
DZM	**Mont Dzumac**	**23.13 135**		P	**P**	**16 30 55.2**	**+0.5**
	comp=Z,638nm,0.9s						
ONTNC	**Ouen Toro**	**23.29 135**		P	**P**	**16 30 55.4**	**-0.7**
ONTNC	**Ouen Toro**	**23.29 135**		P	**P**	**16 30 56.4**	**+0.3**
	comp=Z,349nm,0.8s						
SANI	**Sanana**	**23.32 279**		P	**P**	**16 30 52.9**	**-3.7**
SANI	**Sanana**	**23.32 279**		P	**P**	**16 30 58.5**	**+2.0**
	comp=Z,193nm,0.8s						
SANI	**Sanana**	**23.32 279**		P	**P**	**16 30 57.4**	**+0.9**
	comp=Z,11μmcomp=Z,4μmcomp=Z,190nm,0.8s						
YATNC	**Mamie plateau,**	**23.44 134**		P	**P**	**16 30 58.1**	**+0.6**
	comp=Z,1μm,1.4s						
OUENC	**Ouen Island, N**	**23.63 135**		P	**P**	**16 30 59.6**	**+0.2**
	comp=Z,93nm,

RIV			pmax	pmax		
	comp=Z,244nm,1.2s					
APSI	**Ampana**	**27.80 280**	P	P	16 31 48.6	+11
YNG	**Young**	**28.04 181**	P	**P**	**16 31 39.8**	**+0.6**
	comp=Z,724nm,0.8s					
YNG	**Young**	**28.04 181**	P	**P**	**16 31 40.5**	**+1.3**
	comp=Z,270nm,0.8s					
BSSI	**Bau Bau, Buton**	**28.36 268**	P	**P**	**16 31 43.6**	**+1.3**
	comp=Z,8μmcomp=Z,6μmcomp=Z,371nm,1.6s					
BASI	**Baing, Sumba**	**28.44 260**	P	**P**	**16 31 43.4**	**+0.5**
HTT	**Hallett**	**28.75 198**	P	**P**	**16 31 46.6**	**+1.1**
	comp=Z,0.0nmcomp=Z,121nm,0.9s					
HTT	**Hallett**	**28.75 198**	P	**P**	**16 31 46.3**	**+0.8**
	comp=Z,121nm,0.9s					
HTT	**Hallett**	**28.75 198**	P	**P**	**16 31 45.3**	**-0.2**
BKSI	**Bulukumba**	**28.76 270**	P	**P**	**16 31 46.4**	**+0.6**
	comp=Z,8μmcomp=Z,1μmcomp=Z,97nm,0.9s					
CNB	**Canberra Magne**	**29.05 179**	P	**P**	**16 31 49.1**	**+0.9**
	comp=Z,0.0nmcomp=Z,169nm,1.1s					
CNB	**Canberra Magne**	**29.05 179**	P	**P**	**16 31 49.4**	**+1.2**
	comp=Z,169nm,1.1s					
CAN	**Canberra**	**29.06 180**	P	**P**	**16 31 48.8**	**+0.6**
CAN			IAmb	IAmb	16 31 51.0	
	comp=Z,148nm,1.1s					
CAN	**Canberra**	**29.06 180**	P	**P**	**16 31 49.3**	**+1.0**
	comp=Z,0.0nmcomp=Z,142nm,1.6s					
CAN	**Canberra**	**29.06 180**	P	**P**	**16 31 49.1**	**+0.9**
	comp=Z,218nm,1.5s					
CAN	**Canberra**	**29.06 180**	P	**P**	**16 31 48.8**	**+0.6**
CAN			pmax	pmax		
	comp=Z,148nm,1.1s					
CAN			pmax	pmax		
	comp=Z,14μm,22.0s					
TOLI2	**Tolitoli**	**29.09 283**	P	**P**	**16 31 49.0**	**+0.2**
TOLI2	**Tolitoli**	**29.09 283**	P	**P**	**16 31 52.3**	**+3.5**
	comp=Z,48nm,0.8s					
KAPI	**Kappang**	**29.15 271**	P	**P**	**16 31 49.7**	**+0.4**
KAPI	**Kappang**	**29.15 271**	ScP	**ScP**	**16 38 34.0**	**+0.3**
	comp=Z,88nm,0.9s,baz=70,slow=0.8,SNR=15					
KAPI			LR	LR	16 44 58.7	
	comp=Z,7μm,21.6s,baz=72,slow=39					
KAPI	**Kappang**	**29.15 271***c i*	P	**P**	**16 31 47.9**	**-1.3**
KAPI			pmax	pmax		
	comp=Z,158nm,1.5s					
BBOO	**Buckleboo**	**29.17 203**	IAMs_20	IAMs_20	16 44 41.3	
	comp=Z,22μm,18.0s					
BBOO	**Buckleboo**	**29.17 203**	P	**P**	**16 31 49.6**	**+0.5**
	comp=Z,0.0nmcomp=Z,257nm,1.6s					
BBOO	**Buckleboo**	**29.17 203**	P	**P**	**16 31 49.7**	**+0.5**
	comp=Z,257nm,1.6s					
SPSI	**Sidrap Palu**	**29.21 273**	P	**P**	**16 31 51.9**	**+2.1**
TTSI	**Tana Toraja**	**29.26 275**	P	**P**	**16 31 53.3**	**+3.0**
WBSI	**Waikabubak, Su**	**29.55 261**	P	**P**	**16 31 52.3**	**-0.5**
	comp=Z,6μmcomp=Z,552nm,1.6s					
PCI	**Palu**	**29.57 279**	P	**P**	**16 31 56.9**	**+3.9**
	comp=Z,8μmcomp=Z,3μmcomp=Z,210nm,1.0s					
FUNA	**Funafuti**	**30.02 96**	P	**P**	**16 31 56.7**	**-0.3**
FUNA	**Funafuti**	**30.02 96**	P	**P**	**16 31 57.1**	**+0.2**
MSVF	**Nonsavu**	**30.60 115**	P	**P**	**16 32 03.1**	**+1.0**
MSVF	**Nonsavu**	**30.60 115**	LR	LR	16 42 57.7	
	comp=Z,4μm,20.7s,baz=277,slow=34					
MSVF	**Nonsavu**	**30.60 115**	P	**P**	**16 32 03.4**	**+1.3**
	comp=Z,413nm,1.2s					
MSVF	**Nonsavu**	**30.60 115***c i*	P	**P**	**16 32 03.5**	**+1.3**
MSVF			pmax	pmax		
	comp=Z,554nm,1.1s					
MSVF	**Nonsavu**	**30.60 115**	P	**P**	**16 32 03.2**	**+1.0**
MSVF			PcP	**PcP**	**16 35 01.5**	**+1.6**
MSVF			ScP	**ScP**	**16 38 42.8**	**+4.4**
MILA	**Mila**	**30.79 180**	P	**P**	**16 32 04.4**	**+0.8**
	comp=Z,32nm,1.6s					
PLAI	**Plampang**	**31.09 263**	P	**P**	**16 32 04.3**	**-2.1**
	comp=Z,6μmcomp=Z,2μmcomp=Z,249nm,0.8s					
ARPS	**Mount Arapiles**	**31.20 191**	P	**P**	**16 32 07.0**	**-0.1**
	comp=Z,213nm,1.0s					
ARPS	**Mount Arapiles**	**31.20 191**	P	**P**	**16 32 08.2**	**+1.1**
	comp=Z,213nm,1.0s					
FORT	**Forrest**	**31.45 216**	P	**P**	**16 32 10.1**	**+0.8**
FORT	**Forrest**	**31.45 216**	P	**P**	**16 32 10.0**	**+0.6**
	comp=Z,0.0nmcomp=Z,588nm,1.4s					
FORT	**Forrest**	**31.45 216**	P	**P**	**16 32 09.9**	**+0.6**
	comp=Z,588nm,1.4s					
TOO	**Toolangi**	**31.47 185**	IAmb	IAmb	16 32 12.5	
	comp=Z,113nm,1.0s					
TOO	**Toolangi**	**31.47 185**	P	**P**	**16 32 09.5**	**0.0**
	comp=Z,0.0nmcomp=Z,132nm,1.1s					
DGTI	**Dogotuki**	**31.73 111**	P	**P**	**16 32 12.5**	**+0.4**
	comp=Z,463nm,1.2s					
MBWA	**Marble Bar**	**32.06 239**	P	**P**	**16 32 15.5**	**+0.7**
MBWA	**Marble Bar**	**32.06 239**	P	**P**	**16 32 15.1**	**+0.2**
	comp=Z,0.0nmcomp=Z,426nm,1.5s					
MBWA	**Marble Bar**	**32.06 239**	P	**P**	**16 32 15.8**	**+0.9**
	comp=Z,244nm,1.5s					
MBWA	**Marble Bar**	**32.06 239**	P	**P**	**16 32 15.7**	**+0.9**
MBWA			PcP	**PcP**	**16 35 04.4**	**+0.7**
MBWA			ScP	**ScP**	**16 38 47.5**	**+4.3**
PSA00	**Pilbara Seismi**	**32.13 239**	P	**P**	**16 32 15.8**	**+0.3**
PSA00	**Pilbara Seismi**	**32.13 239**	IAmb	IAmb	16 32 18.0	
	comp=Z,437nm,1.0s					
PSA00	**Pilbara Seismi**	**32.13 239**	P	**P**	**16 32 15.9**	**+0.5**
	comp=Z,459nm,1.5s					
PSA00	**Pilbara Seismi**	**32.13 239**	P	**P**	**16 32 16.5**	**+1.0**
	comp=Z,458nm,1.5s					
PSAC1	**Pilbara Seismi**	**32.14 239**	P	**P**	**16 32 16.0**	**+0.4**
	comp=Z,474nm,1.8s					
SRBI	**Singaraja**	**33.60 265**	P	**P**	**16 32 28.4**	**0.0**
	comp=Z,5μmcomp=Z,2μmcomp=Z,79nm,1.5s					
DNP	**Denpasar**	**33.62 264**	P	**P**	**16 32 29.5**	**+0.9**
JCJ	**Chichijima**	**33.68 349**	LR	LR	16 45 40.5	
	comp=Z,3μm,19.2s,baz=166,slow=35					
TGY	**Tagaytay City**	**34.36 306**	LR	LR	16 47 45.1	
	comp=Z,2μm,18.0s,baz=131,slow=38					
ABJI	**Asem Bagus**	**34.56 265**	P	**P**	**16 32 36.7**	**-0.1**
	comp=Z,5μmcomp=Z,2μmcomp=Z,88nm,1.0s					
JAGI	**Jajag, Banyuwa**	**34.66 264**	P	**P**	**16 32 35.2**	**-2.4**
	comp=Z,4μmcomp=Z,4μmcomp=Z,214nm,0.9s					
KMMI	**Kalianget**	**34.83 266**	P	**P**	**16 32 40.1**	**+1.0**
	comp=Z,5μmcomp=Z,2μmcomp=Z,115nm,1.4s					
CORO	**Coronation Par**	**35.22 182**	P	**P**	**16 32 43.4**	**+1.4**
	comp=Z,128nm,1.0s					
GMJI	**Gumukmas**	**35.35 264**	P	**P**	**16 32 42.8**	**-0.8**
	comp=Z,2μmcomp=Z,58nm,1.0s					
MEEK	**Meekatharra**	**35.43 231**	P	**P**	**16 32 45.6**	**+1.4**
	comp=Z,0.0nmcomp=Z,1μm,1.4s					
MEEK	**Meekatharra**	**35.43 231**	P	**P**	**16 32 45.0**	**+0.9**
	comp=Z,1μm,1.4s					
KMBL	**Kambalda**	**35.73 222**	P	**P**	**16 32 47.7**	**+1.1**
	comp=Z,476nm,1.5s					
KMBL	**Kambalda**	**35.73 222**	P	**P**	**16 32 47.2**	**+0.6**
	comp=Z,618nm,1.5s					
MOO	**Moorlands**	**36.20 182**	P	**P**	**16 32 52.0**	**+1.5**
	comp=Z,0.0nmcomp=Z,334nm,1.2s					
MOO	**Moorlands**	**36.20 182**	P	**P**	**16 32 51.8**	**+1.3**
	comp=Z,334nm,1.2s					
TAU	**Tasmania Unive**	**36.67 182**	P	**P**	**16 32 55.7**	**+1.3**
TAU	**Tasmania Unive**	**36.67 182**	IAMs_20	IAMs_20	16 48 27.6	
	comp=Z,18μm,18.0s					
TAU	**Tasmania Unive**	**36.67 182**	P	**P**	**16 32 55.7**	**+1.3**
	comp=Z,256nm,1.2s					
TAU	**Tasmania Unive**	**36.67 182**	P	**P**	**16 32 55.7**	**+1.3**
TAU			pmax	pmax		
	comp=Z,357nm,1.3s					
TAU			pmax	pmax		
	comp=Z,18μm,18.0s					
OUZ	**Omahuta**	**36.75 145**	P	**P**	**16 32 57.0**	**+1.7**
	comp=Z,95nm,1.9s					
OUZ	**Omahuta**	**36.75 145**	P	**P**	**16 32 56.7**	**+1.5**
NGJI	**Ngawi**	**37.31 266**	P	**P**	**16 33 02.2**	**+1.9**
	comp=Z,8μmcomp=Z,4μmcomp=Z,156nm,1.6s					
GIRL	**Giralia**	**37.34 240**	P	**P**	**16 33 01.1**	**+0.7**
	comp=Z,2μm,1.5s					
GIRL	**Giralia**	**37.34 240**	P	**P**	**16 33 02.7**	**+2.2**
	comp=Z,2μm,1.5s					
PCJI	**Pacitan**	**37.59 265**	P	**P**	**16 33 02.1**	**-0.6**
	comp=Z,4μmcomp=Z,6μmcomp=Z,409nm,1.4s					
SBUM	**Sibu**	**37.72 282**	P	**P**	**16 33 04.5**	**+0.7**
UGM	**Wanagama**	**38.24 265**	P	**P**	**16 33 08.2**	**0.0**
	comp=Z,300nm,1.8s					
UGM	**Wanagama**	**38.24 265**	P	**P**	**16 33 08.6**	**+0.4**
	comp=Z,4μmcomp=Z,6μmcomp=Z,303nm,1.8s					
SMRI	**Semarang**	**38.33 266**	P	**P**	**16 33 10.9**	**+2.0**
	comp=Z,2μmcomp=Z,89nm,0.7s					
JOW	**Kunigami**	**38.43 329**	P	**P**	**16 33 10.3**	**+0.7**
JOW			IAmb	IAmb	16 33 13.0	
	comp=Z,268nm,1.2s					
JOW	**Kunigami**	**38.43 329**	LR	LR	16 45 44.1	
	comp=Z,12μm,21.9s,baz=130,slow=31					
JOW	**Kunigami**	**38.43 329**	P	**P**	**16 33 13.2**	**+3.6**
	comp=Z,187nm,0.9s					
YOGI	**Yogyakarta**	**38.47 265**	P	**P**	**16 33 11.3**	**+1.2**
	comp=Z,5μmcomp=Z,281nm,1.3s					
MORW	**Morawa**	**38.61 230**	IAMs_20	IAMs_20	16 50 14.4	
	comp=Z,16μm,20.0s					
MORW	**Morawa**	**38.61 230**	P	**P**	**16 33 11.4**	**+0.3**
	comp=Z,0.0nmcomp=Z,403nm,1.9s					
MORW	**Morawa**	**38.61 230**	P	**P**	**16 33 11.8**	**+0.7**
	comp=Z,403nm,1.9s					
KLBR	**Kellerberrin**	**38.69 225**	P	**P**	**16 33 11.8**	**+0.1**
	comp=Z,865nm,0.7s					
KLBR	**Kellerberrin**	**38.69 225**	P	**P**	**16 33 11.9**	**+0.1**
	comp=Z,865nm,0.7s					
BLDU	**Ballidu**	**38.90 227**	P	**P**	**16 33 14.4**	**+0.9**
	comp=Z,237nm,1.9s					
BLDU	**Ballidu**	**38.90 227**	P	**P**	**16 33 13.8**	**+0.3**
	comp=Z,237nm,1.9s					
AFI	**Afiamalu**	**39.33 104**	P	**P**	**16 33 17.6**	**+0.3**
AFI	**Afiamalu**	**39.33 104**	P	**P**	**16 33 17.6**	**+0.3**
AFI			pmax	pmax		
	comp=Z,702nm,1.3s					
AFI	**Afiamalu**	**39.33 104**	P	**P**	**16 33 17.9**	**+0.6**
AFI			PcP	**PcP**	**16 35 26.7**	**+1.4**
YOJ	**Yonaguni jima**	**39.58 321**	P	**P**	**16 33 19.6**	**+0.5**
YOJ	**Yonaguni jima**	**39.58 321**	P	**P**	**16 33 20.5**	**+1.3**
	comp=Z,196nm,1.3s					
YOJ	**Yonaguni jima**	**39.58 321**	P	**P**	**16 33 19.6**	**+0.5**
YOJ			pmax	pmax		
	comp=Z,572nm,1.6s					
YOJ			pmax	pmax		
	comp=Z,12μm,22.0s					
TOZ	**Tahuroa Road**	**39.62 146**	IAmb	IAmb	16 33 22.4	
	comp=Z,186nm,1.4s					
TWGBT	**Beinan**	**39.67 317**	P	**P**	**16 33 22.2**	**+2.2**
	comp=Z,49nm,0.6s					
TWG	**Pinlang**	**39.68 317**	IAmb	IAmb	16 33 53.4	
	comp=Z,182nm,1.7s					
NWAO	**Narrogin (SRO)**	**39.81 224**	P	**P**	**16 33 21.4**	**+0.4**
NWAO			IAmb	IAmb	16 33 23.3	
	comp=Z,390nm,1.4s					
NWAO	**Narrogin (SRO)**	**39.81 224**	P	**P**	**16 33 21.7**	**+0.7**
	comp=Z,386nm,1.6s					
NWAO	**Narrogin (SRO)**	**39.81 224**	LR	LR	16 50 53.8	
	comp=Z,19μm,19.1s,baz=16,slow=38					
NWAO	**Narrogin (SRO)**	**39.81 224**	P	**P**	**16 33 22.0**	**+1.0**
	comp=Z,180nm,1.6s					
NWAO	**Narrogin (SRO)**	**39.81 224**	P	**P**	**16 33 21.4**	**+0.4**
NWAO			pmax	pmax		
	comp=Z,390nm,1.5s					
NWAO			pmax	pmax		
	comp=Z,24μm,18.0s					
NWAO	**Narrogin (SRO)**	**39.81 224**	P	**P**	**16 33 21.5**	**+0.4**
NWAO			pP	**pP**	**16 33 33.3**	**-0.4**
HIZ	**Hauiti**	**39.84 148**	IAmb	IAmb	16 33 23.6	
	comp=Z,318nm,1.6s					
YULB	**Yu-li**	**39.92 318**	P	**P**	**16 33 20.4**	**-1.6**
YULB			IAmb	IAmb	16 33 54.3	
	comp=Z,131nm,1.2s					
YULB	**Yu-li**	**39.92 318**	P	**P**	**16 33 24.8**	**+2.7**
	comp=Z,101nm,1.2s					
MUN	**Mundaring**	**40.00 226**	P	**P**	**16 33 23.5**	**+0.8**
	comp=Z,372nm,1.8s					
MUN	**Mundaring**	**40.00 226**	P	**P**	**16 33 23.2**	**+0.6**
	comp=Z,372nm,1.8s					
MUN	**Mundaring**	**40.00 226**	P	**P**	**16 33 22.3**	**-0.3**
JHJ	**Hachijo jima 2**	**40.00 348**	LR	LR	16 49 53.0	
	comp=Z,5μm,18.9s,baz=134,slow=36					
TLZ	**Tolley Road**	**40.07 147**	P	**P**	**16 33 24.7**	**+1.5**
VRZ	**Vera Road**	**40.24 148**	P	**P**	**16 33 27.1**	**+2.6**
NACB	**Ninganchiao**	**40.27 319**	P	**P**	**16 33 24.5**	**-0.5**
NACB	**Ninganchiao**	**40.27 319**	P	**P**	**16 33 25.1**	**+0.2**
	comp=Z,188nm,1.7s					
MTKN	**Mount Kenneth**	**40.28 226**	P	**P**	**16 33 26.9**	**+1.9**
	comp=Z,400nm,0.8s					
CMJI	**Cimerak**	**40.30 265**	P	**P**	**16 33 24.3**	**-1.0**
TPUB	**Ta-pu**	**40.31 317**	P	**P**	**16 33 24.8**	**-0.5**
TPUB			IAmb	IAmb	16 33 39.6	
	comp=Z,95nm,1.0s					
TPUB	**Ta-pu**	**40.31 317**	P	**P**	**16 33 27.2**	**+1.9**
	comp=Z,85nm,0.7s					
SSLB	**Suanglung**	**40.42 318**	P	**P**	**16 33 28.3**	**+2.1**
	comp=Z,64nm,1.0s					
QRZ	**Quartz Range**	**40.45 152**	P	**P**	**16 33 28.2**	**+2.0**
	comp=Z,63nm,2.0s					
QRZ	**Quartz Range**	**40.45 152**	P	**P**	**16 33 28.5**	**+2.3**
WATZ	**Wairara**	**40.45 147**	P	**P**	**16 33 29.2**	**+2.9**
NNVZ	**North Ngauruho**	**40.70 148**	P	**P**	**16 33 30.4**	**+1.9**
NGZ	**Ngauruhoe**	**40.72 148**	P	**P**	**16 33 30.5**	**+1.8**
TMVZ	**Te Maari**	**40.73 148**	P	**P**	**16 33 30.5**	**+1.7**
OTVZ	**Oturere**	**40.75 148**	P	**P**	**16 33 30.6**	**+1.7**
ETVZ	**East Tongariro**	**40.75 148**	P	**P**	**16 33 30.8**	**+1.9**
SNVZ	**South Ngauruho**	**40.75 148**	P	**P**	**16 33 30.9**	**+1.9**
YHNB	**Yeheng**	**40.76 320**	P	**P**	**16 33 28.6**	**-0.5**
YHNB			IAmb	IAmb	16 33 46.6	
	comp=Z,328nm,1.3s					
YHNB	**Yeheng**	**40.76 320**	P	**P**	**16 33 31.5**	**+2.4**
	comp=Z,166nm,1.2s					
URZ	**Urewera**	**40.89 146**	LR	LR	16 47 56.5	
	comp=Z,10μm,21.6s,baz=36,slow=32					
URZ	**Urewera**	**40.89 146**	P	**P**	**16 33 30.7**	**+0.8**
	comp=Z,54nm,2.7s					
URZ	**Urewera**	**40.89 146**	P	**P**	**16 33 30.5**	**+0.6**
TATO	**Taipei**	**40.91 320**	P	**P**	**16 33 30.5**	**+0.3**
	comp=Z,148nm,1.6s					
HAZ	**Te Kaha**	**40.93 144**	P	**P**	**16 33 31.4**	**+1.3**
RTZ	**Ruatahuna**	**41.07 146**	IAmb	IAmb	16 33 34.6	
	comp=Z,105nm,0.9s					
RTZ	**Ruatahuna**	**41.07 146**	P	**P**	**16 33 32.5**	**+1.0**
BBJI	**Bungbulang**	**41.09 266**	P	**P**	**16 33 31.4**	**-0.6**
	comp=Z,264nm,0.7s					
LEM	**Lembang**	**41.14 267**	P	**P**	**16 33 32.2**	**-0.2**
	comp=Z,109nm,0.7s,baz=72,slow=5.1,SNR=30					
LEM			LR	LR	16 54 57.9	
	comp=Z,3μm,19.9s,baz=96,slow=42					
	comp=Z,109nm,0.7s					
LEM	**Lembang**	**41.14 267**	P	**P**	**16 33 32.9**	**+0.5**
	comp=Z,4μmcomp=Z,216nm,0.7s					
MTHZ	**Maungataniwha**	**41.16 146**	P	**P**	**16 33 32.4**	**+0.2**
MWZ	**Matawai**	**41.18 145**	P	**P**	**16 33 34.4**	**+2.1**
BKZ	**Black Stump Fm**	**41.19 147**	P	**P**	**16 33 33.5**	**+1.1**
	comp=Z,45nm,2.0s					
BKZ	**Black Stump Fm**	**41.19 147**	P	**P**	**16 33 32.3**	**-0.1**
RAHZ	**Arahi**	**41.34 146**	P	**P**	**16 33 33.7**	**+0.1**
THZ	**Tophouse**	**41.37 153**	P	**P**	**16 33 33.9**	**+0.1**
TPI	**Tanjungpandan**	**41.37 273**	P	**P**	**16 33 36.2**	**+2.0**
	comp=Z,5μmcomp=Z,2μmcomp=Z,125nm,1.1s					
SNGZ	**Shannon Statio**	**41.39 146**	P	**P**	**16 33 35.9**	**+1.9**
PUZ	**Puketiti**	**41.42 144**	P	**P**	**16 33 35.7**	**+1.5**
INZ	**Inchbonnie**	**41.50 155**	IAmb	IAmb	16 33 37.8	
	comp=Z,138nm,1.4s					
TSZ	**Takapari Road**	**41.56 148**	P	**P**	**16 33 35.9**	**+0.5**
CNJI	**Cibinong**	**41.61 266**	P	**P**	**16 33 35.5**	**-0.6**
	comp=Z,4μmcomp=Z,325nm,0.9s					
KNZ	**Kokohu**	**41.74 146**	P	**P**	**16 33 37.5**	**+0.6**
MRZ	**Mangatainoka R**	**41.81 149**	IAmb	IAmb	16 33 39.2	
	comp=Z,173nm,1.2s					
MRZ			IAMs_20	IAMs_20	16 49 37.4	
	comp=Z,12μm,20.0s					
MRZ	**Mangatainoka R**	**41.81 149**	P	**P**	**16 33 37.5**	**+0.1**
SNZO	**South Karori**	**41.86 151**	P	**P**	**16 33 37.5**	**-0.2**
SNZO			IAmb	IAmb	16 33 39.6	
	comp=Z,374nm,1.5s					
SNZO	**South Karori**	**41.86 151**	P	**P**	**16 33 39.1**	**+1.3**
	comp=Z,78nm,1.1s					
LTZ	**Lake Taylor**	**41.90 154**	IAmb	IAmb	16 33 40.3	
	comp=Z,356nm,1.6s					
LTZ			IAMs_20	IAMs_20	16 49 21.8	
	comp=Z,12μm,20.0s					
LTZ	**Lake Taylor**	**41.90 154**	P	**P**	**16 33 39.2**	**+1.0**
NIUE	**Niue**	**41.96 112**	P	**P**	**16 33 39.8**	**+0.8**
NIUE	**Niue**	**41.96 112**	P	**P**	**16 33 39.4**	**+0.5**
NIUE	**Niue**	**41.96 112**	P	**P**	**16 33 41.2**	**+2.3**
PXZ	**Pawanui**	**42.01 148**	P	**P**	**16 33 39.4**	**+0.4**
BHW	**Baring Head**	**42.02 151**	IAmb	IAmb	16 33 40.5	
	comp=Z,167nm,1.2s					
JMN	**Monobe**	**42.15 341**	P	**P**	**16 33 41.4**	**+1.2**
JMN			IAmb	IAmb	16 33 58.2	
	comp=Z,210nm,1.0s					
JMN	**Monobe**	**42.15 341**	P	**P**	**16 33 42.4**	**+2.1**
	comp=Z,236nm,1.0s					
RPZ	**Rata Peaks**	**42.16 156**	P	**P**	**16 33 40.9**	**+0.7**
RPZ			IAmb	IAmb	16 33 43.1	
	comp=Z,108nm,0.9s					
RPZ	**Rata Peaks**	**42.16 156**	LR	LR	16 48 56.1	
	comp=Z,10μm,21.2s,baz=323,slow=33					
RPZ	**Rata Peaks**	**42.16 156**	P	**P**	**16 33 42.0**	**+1.8**
	comp=Z,166nm,1.5s					
RPZ	**Rata Peaks**	**42.16 156**	P	**P**	**16 33 40.8**	**+0.7**
BFZ	**Birch Farm**	**42.16 149**	IAMs_20	IAMs_20	16 49 58.8	
	comp=Z,15μm,20.0s					
BFZ	**Birch Farm**	**42.16 149**	P	**P**	**16 33 41.7**	**+1.4**
	comp=Z,167nm,2.0s					
BFZ	**Birch Farm**	**42.16 149**	P	**P**	**16 33 40.0**	**-0.3**
KHZ	**Kahutara**	**42.17 153**	IAmb	IAmb	16 33 41.6	
	comp=Z,170nm,1.3s					
KHZ	**Kahutara**	**42.17 153**	P	**P**	**16 33 41.5**	**+1.2**
	comp=Z,127nm,1.6s					
KHZ	**Kahutara**	**42.17 153**	P	**P**	**16 33 39.9**	**-0.4**
SKJI	**Sukabumi**	**42.18 266**	P	**P**	**16 33 40.9**	**+0.1**
DCZ	**Deep Cove**	**42.24 161**	P	**P**	**16 33 43.1**	**+2.3**
WKZ	**Wanaka**	**42.32 159**	IAmb	IAmb	16 33 43.8	
	comp=Z,170nm,1.4s					
WKZ	**Wanaka**	**42.32 159**	P	**P**	**16 33 42.1**	**+0.6**
PLWZ	**Palliser**	**42.33 150**	P	**P**	**16 33 41.1**	**-0.5**
LBZ	**Lake Benmore**	**42.38 157**	P	**P**	**16 33 42.2**	**+0.2**
GVZ	**Greta Valley S**	**42.38 154**	IAmb	IAmb	16 33 45.1	
	comp=Z,174nm,0.9s					
GVZ	**Greta Valley S**	**42.38 154**	P	**P**	**16 33 42.3**	**+0.3**
MLZ	**Mavora Lakes**	**42.48 160**	P	**P**	**16 33 43.3**	**+0.5**
MLZ			IAmb	IAmb	16 33 45.2	
	comp=Z,189nm,1.3s					
MLZ	**Mavora Lakes**	**42.48 160**	P	**P**	**16 33 43.7**	**+0.9**
JNU	**Nakatsue**	**42.66 337**	IAmb	IAmb	16 33 58.8	
	comp=Z,210nm,0.9s					
JNU	**Nakatsue**	**42.66 337**	LR	LR	16 49 44.3	
	comp=Z,4μm,21.6s,baz=158,slow=34					
JNU	**Nakatsue**	**42.66 337**	P	**P**	**16 33 45.8**	**+1.4**
	comp=Z,333nm,1.2s					
TMZ	**Timaru**	**42.69 157**	P	**P**	**16 33 44.1**	**-0.5**
PYZ	**Puysegur Point**	**42.72 162**	IAmb	IAmb	16 33 47.5	
	comp=Z,152nm,1.1s					
INU	**Inuyama**	**42.77 346**	IAmb	IAmb	16 33 59.7	
	comp=Z,236nm,1.2s					
INU	**Inuyama**	**42.77 346**	P	**P**	**16 33 47.9**	**+2.7**
	comp=Z,234nm,1.4s					
INU	**Inuyama**	**42.77 346**	P	**P**	**16 33 46.2**	**+1.0**
INU			pP	**pP**	**16 33 58.6**	**-0.2**
QZH	**Quanzhou**	**42.78 317**⇑*i P*		**P**	**16 33 45.4**	**-0.1**
QZH			S	**S**	**16 40 06.4**	**+0.3**
QZH			pmax	pmax		
	comp=Z,100nm,0.8s					
QZH			pmax	pmax		
	comp=Z,1μm,3.7s					
QZH			LR	LR		
	comp=Z,4μm,24.3s					
QZH			LR	LR		
	comp=Z,4μm,25.2s					
QZH			LR	LR		
	comp=Z,10μm,28.0s					
MQZ	**McQueen's Vall**	**42.81 155**	IAmb	IAmb	16 33 47.4	
	comp=Z,339nm,1.5s					
MQZ	**McQueen's Vall**	**42.81 155**	P	**P**	**16 33 45.9**	**+0.4**
WHZ	**Wether Hill Ro**	**42.88 161**	P	**P**	**16 33 46.2**	**+0.2**
WHZ	**Wether Hill Ro**	**42.88 161**	P	**P**	**16 33 47.0**	**+1.0**
JGF	**Kuroka**	**42.93 346**	P	**P**	**16 33 47.9**	**+1.4**
	comp=Z,103nm,0.9s					
CGJI	**Cibinong**	**43.05 267**	P	**P**	**16 33 47.3**	**-0.6**
	comp=Z,3μmcomp=Z,166nm,0.7s					
XMIS	**Christmas Isla**	**43.10 261**	P	**P**	**16 33 48.4**	**+0.1**
XMIS	**Christmas Isla**	**43.10 261**	P	**P**	**16 33 50.3**	**+2.0**
	comp=Z,255nm,0.9s					
ODZ	**Otahua Downs**	**43.11 158**	P	**P**	**16 33 48.8**	**+0.9**
	comp=Z,43nm,1.2s					
MJAR	**Matsushiro Arr**	**43.63 347**	P	**P**	**16 33 52.4**	**+0.2**
	comp=Z,108nm,1.0s,baz=153,slow=8.1,SNR=87					
MJAR			ScP	**ScP**	**16 39 25.2**	**-1.2**
	comp=Z,14nm,0.9s,baz=162,slow=4.4,SNR=10					
MJAR			LR	LR	16 50 08.5	
	comp=Z,5μm,21.6s,baz=168,slow=33					
	comp=Z,108nm,1.0s					
MAJO	**Matsushiro**	**43.63 347**	P	**P**	**16 33 52.4**	**+0.2**
MAJO	**Matsushiro**	**43.63 347**	P	**P**	**16 33 53.1**	**+0.9**
	comp=Z,303nm,1.6s					
MAJO	**Matsushiro**	**43.63 347***c i P*		**P**	**16 33 52.7**	**+0.5**
MAJO			pmax	pmax		
	comp=Z,395nm,1.3s					
MAJO	**Matsushiro**	**43.63 347**	P	**P**	**16 33 52.5**	**+0.3**
MAJO			ScP	**ScP**	**16 39 26.6**	**+0.2**
APZ	**The Paps**	**43.72 161**	P	**P**	**16 33 53.0**	**+0.1**
SYZ	**Scrubby Hill**	**43.85 160**	P	**P**	**16 33 54.8**	**+1.0**
	comp=Z,68nm,1.7s					
HKC	**Hong Kong Obse**	**44.29 311** ⇑*P*		**P**

comp=Z,110nm,1.1s
CTZ Chatham Island 48.09 147 IAmb IAmb 16 34 31.3
comp=Z,144nm,1.2s
CTZ IAMs_20 IAMs_20 16 52 13.3
comp=Z,11μm,21.0s
CTZ Chatham Island 48.09 147 P **P** **16 34 27.7 +0.5**
comp=Z,119nm,1.0s
INCN Inchon 48.15 336 P **P** **16 34 28.9 +1.1**
INCN IAmb IAmb 16 34 31.4
comp=Z,121nm,0.9s
INCN Inchon 48.15 336 P **P** **16 34 28.9 +1.1**
INCN pmax pmax
comp=Z,121nm,1.0s
INCN pmax pmax
comp=Z,6μm,22.0s
INCN Inchon 48.15 336 P **P** **16 34 28.8 +1.0**
BKNI Bangkinang 48.32 276 P **P** **16 34 29.6 +0.1**
CNSH ChangSha 48.73 316 P **P** **16 34 33.4 +1.0**
CNSH S **S** **16 41 33.4 +1.7**
CNSH pmax pmax
comp=Z,23nm,0.7s
CNSH LR LR
comp=Z,2μm,26.7s
CNSH LR LR
comp=Z,3μm,23.7s
CNSH LR LR
comp=Z,6μm,29.8s
PPI Padang Panjang 48.84 275 P **P** **16 34 33.0 -0.5**
MCQ Macquarie Isla 48.90 172 P **P** **16 34 33.5 +0.2**
MCQ Macquarie Isla 48.90 172 P **P** **16 34 33.8 +0.5**
comp=Z,227nm,1.1s
MCQ Macquarie Isla 48.90 172 P **P** **16 34 33.5 +0.2**
MCQ pmax pmax
comp=Z,261nm,1.1s
HJU Haeju 49.00 336 P **P** **16 34 34.7 +0.5**
HJU S **S** **16 41 37.9 +2.8**
HJU AmB
comp=Z,2μm,2.4s
HJU AMS AMS
comp=Z,1μm,4.6s
WHN Wuhan 49.31 320 ⇑P **P** **16 34 37.2 +0.4**
WHN pP **pP** **16 34 51.7 +1.2**
WHN S **S** **16 41 38.5 -1.2**
WHN sS **sS** **16 42 05.6 +2.8**
WHN pmax pmax
comp=Z,1μm,2.0s
WHN pmax pmax
comp=Z,3μm,4.2s
WHN LR LR
comp=Z,11μm,19.2s
WHN LR LR
comp=Z,2μm,10.3s
WHN LR LR
comp=Z,21μm,26.8s
KULM Kulim 49.60 282 P **P** **16 34 40.7 +1.4**
comp=Z,32nm,0.8s
PYAG Pyongyang 49.85 336 P **P** **16 34 41.0 +0.3**
PYAG AmB
comp=Z,743nm,2.5s
PYAG AMS AMS
comp=Z,245nm,3.3s
HHU Hamhung 49.93 338 P **P** **16 34 42.1 +0.8**
HHU S **S** **16 41 51.1 +3.1**
HHU AmB
comp=Z,876nm,2.1s
HHU AMS AMS
comp=Z,85nm,3.1s
YUK Yuzh-Kuril'sk 50.01 357 *e*P **P** **16 34 41.0 -0.8**
YUK *e* 16 36 33.4
YUK *e*PPP PPP 16 37 27.6
YUK *e*S **S** **16 41 50.8 +1.9**
YUK *e*SS **SS** **16 45 19.6 -3.2**
YUK MLR MLR
comp=Z,5μm,20.0s
YUK MLR MLR
comp=N,3μm,12.0s
ASAJ Asahikawa 50.34 354 LR LR 16 56 21.4
comp=N,2μm,19.4s,baz=190,slow=36
ASAJ Asahikawa 50.34 354 P **P** **16 34 44.5 +0.1**
PSI Prapat 50.80 279 P **P** **16 34 48.4 -0.2**
comp=N,10nm,0.5s,baz=105,slow=11,SNR=7.3
PSI LR LR 16 59 05.1
comp=N,3μm,21.8s,baz=134,slow=39
comp=N,10nm,0.5s
MSHR Mys Shultsa 51.13 343*c i*P **P** **16 34 51.3 +1.0**
MSHR pmax pmax
comp=Z,127nm,1.9s
KUR Kuril'sk 51.13 359 *e*P **P** **16 34 50.6 +0.3**
KUR *e*S **S** **16 42 07.1 +2.6**
KUR pmax pmax
comp=Z,2μm,1.5s
KUR MLR MLR
comp=Z,3μm,15.0s
SUJ Sinuiju 51.25 336 P **P** **16 34 50.5 -0.8**
SUJ S **S** **16 42 10.1 +3.7**
SUJ AmB
comp=Z,1μm,2.5s
SUJ AMS AMS
comp=Z,513nm,6.5s
PSTR Posyet 51.29 343*d i*P **P** **16 34 53.2 +1.6**
VLA Vladivostok 51.42 344*d i*P **P** **16 34 54.0 +1.5**
VLA pmax pmax
comp=Z,157nm,1.9s
DL2 Dalian 51.49 333 P **P** **16 34 53.2 +0.1**
DL2 S **S** **16 42 07.6 -2.2**
DL2 pmax pmax
comp=Z,120nm,1.2s
DL2 pmax pmax
comp=Z,970nm,6.2s
DL2 LR LR
comp=Z,5μm,21.6s
DL2 LR LR
comp=Z,5μm,22.2s
DL2 LR LR
comp=Z,8μm,21.7s
TIA Tai'an 51.65 327 P **P** **16 34 53.7 -0.7**
TIA PP **PP** **16 36 48.0 -4.5**
TIA S **S** **16 42 10.8 -1.3**
TIA SS **SS** **16 45 54.0 +4.8**
TIA pmax pmax
comp=Z,66nm,1.3s
TIA pmax pmax
comp=Z,1μm,7.1s
TIA LR LR
comp=Z,7μm,20.6s
TIA LR LR
comp=Z,5μm,22.5s
TIA LR LR
comp=Z,13μm,24.3s
RAR Rarotonga 51.73 112 P **P** **16 34 56.0 +0.7**
RAR Rarotonga 51.73 112 LR LR 16 52 60.0
comp=Z,662nm,20.8s,baz=270,slow=32
RAR Rarotonga 51.73 112 P **P** **16 34 56.0 +0.7**
RAR pmax pmax
comp=Z,434nm,1.4s
RAR Rarotonga 51.73 112 P **P** **16 34 56.5 +1.2**
RAR pP **pP** **16 35 08.5 -0.2**
COCO West Island 51.81 259 P **P** **16 34 56.8 +0.9**
COCO West Island 51.81 259 P **P** **16 34 56.8 +0.9**
COCO pmax pmax
comp=Z,1μm,1.3s
COCO pmax pmax
comp=Z,4μm,22.0s
COCO West Island 51.81 259 P **P** **16 34 57.8 +1.9**
COCO pP **pP** **16 35 09.6 -0.1**
TEY Ternei 52.13 349⇓*e*P **P** **16 34 57.1 -0.7**
GYA Guiyang 52.28 310 P **P** **16 34 59.7 +0.3**
GYA S **S** **16 42 19.6 -1.7**
GYA SS **SS** **16 46 01.6 +1.9**
GYA pmax pmax
comp=Z,750nm,6.4s
GYA LR LR
comp=Z,2μm,21.0s
GYA LR LR
comp=Z,790nm,18.4s
GYA LR LR
comp=Z,2μm,19.4s
USA0B Ussuriysk Arra 52.39 345 IAmb IAmb 16 35 08.4
comp=Z,93nm,1.1s
USA0B Ussuriysk Arra 52.39 345*c i*P **P** **16 35 00.6 +0.9**
USRK Ussuriysk Ar. 52.39 345 P **P** **16 35 00.2 +0.5**
USRK Ussuriysk Ar. 52.39 345 P **P** **16 35 00.4 +0.6**
comp=Z,40nm,0.7s,baz=163,slow=5.4,SNR=47
USRK ScP **ScP** **16 40 01.7 -1.5**
comp=Z,4.0nm,0.8s,baz=174,slow=3.9,SNR=7.8
USRK LR LR 16 55 07.5

comp=Z,5μm,21.1s,baz=154,slow=34
comp=Z,40nm,0.7s
SNY Shenyang 53.08 336 ⇑P **P** **16 35 04.9 +0.1**
SNY S **S** **16 42 33.4 +2.0**
SNY SS **SKiKP** **16 46 18.1 -0.9**
SNY pmax pmax
comp=Z,53nm,2.3s
SNY pmax pmax
comp=Z,1μm,3.3s
SNY LR LR
comp=Z,3μm,17.9s
SNY LR LR
comp=Z,2μm,16.7s
SNY LR LR
comp=Z,5μm,22.6s
YSS Yuzhno-Sakhali 53.14 355 P **P** **16 35 05.8 +0.7**
YSS Yuzhno-Sakhali 53.14 355 P **P** **16 35 08.2 +3.1**
comp=Z,73nm,1.3s
YSS Yuzhno-Sakhali 53.14 355*ce*P **P** **16 35 06.1 +1.0**
YSS *e*S **S** **16 42 29.3 -2.6**
YSS *e*SS **SS** **16 46 15.5 +3.3**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,2μm,4.1s
YSS smax smax
comp=N,900nm,5.7s
YSS smax smax
comp=E,600nm,5.3s
LYN LuoYang 53.16 322 P **P** **16 35 05.0 -0.6**
LYN pP pP 16 35 18.5 -1.0
LYN S **S** **16 42 24.6 -8.2**
LYN SS **SS** **16 46 13.6 +0.4**
LYN pmax pmax
comp=E,61nm,1.1s
LYN pmax pmax
comp=E,1μm,8.1s
LYN LR LR
comp=E,10μm,20.8s
LYN LR LR
comp=E,4μm,24.5s
LYN LR LR
comp=E,16μm,24.5s
MDJ Mudanjiang 53.45 343 P **P** **16 35 08.2 +0.7**
MDJ sP sP 16 35 29.6 +2.3
MDJ S **S** **16 42 38.7 +2.4**
MDJ pmax pmax
comp=E,66nm,2.2s
MDJ pmax pmax
comp=E,2μm,4.8s
MDJ LR LR
comp=E,3μm,23.4s
MDJ LR LR
comp=E,2μm,24.4s
MDJ LR LR
comp=E,9μm,24.4s
MDJ Mudanjiang 53.45 343 P **P** **16 35 08.0 +0.5**
HNS HongShan 53.84 326 ⇑P **P** **16 35 10.1 -0.4**
HNS pP **pP** **16 35 22.7 -1.7**
HNS S **S** **16 42 41.6 -0.3**
HNS sS **sS** **16 43 00.3 -4.1**
HNS SS **SS** **16 46 30.3 +6.6**
HNS pmax pmax
comp=E,80nm,1.2s
HNS pmax pmax
comp=E,1μm,5.5s
HNS LR LR
comp=E,5μm,19.9s
HNS LR LR
comp=E,4μm,19.7s
HNS LR LR
comp=E,9μm,22.0s
XMAS Kiritimati 54.06 83 P **P** **16 35 13.2 +0.5**
CN2 Changchun 54.07 339 *e*P **P** **16 35 11.8 -0.3**
CN2 *e*S **S** **16 42 42.5 -2.2**
CN2 sS sS 16 43 09.7 +2.4
CN2 *e*SS **SS** **16 46 24.6 -2.5**
CN2 pmax pmax
comp=E,30nm,1.8s
CN2 pmax pmax
comp=E,960nm,5.5s
CN2 LR LR
comp=E,3μm,19.0s
CN2 LR LR
comp=E,2μm,19.0s
CN2 LR LR
comp=E,5μm,20.0s
KMI Kunming 54.67 307 ⇑P **P** **16 35 16.9 -0.2**
KMI S **S** **16 42 55.1 +1.1**
KMI pmax pmax
comp=E,36nm,1.3s
KMI pmax pmax
comp=E,500nm,6.8s
KMI LR LR
comp=E,2μm,18.8s
KMI LR LR
comp=E,860nm,16.0s
KMI LR LR
comp=E,2μm,20.2s
BJT Baijiatuau 54.99 329 P **P** **16 35 20.4 +1.5**
comp=E,68nm,2.0s
BJT Baijiatuau 54.99 329 P **P** **16 35 18.5 -0.4**
BJT pmax pmax
comp=Z,69nm,2.0s
BJT Baijiatuau 54.99 329 P **P** **16 35 19.1 +0.3**
BJT pP **pP** **16 35 31.5 -1.3**
BJI Beijing 55.01 329 P **P** **16 35 18.4 -0.5**
BJI pP **pP** **16 35 28.7 -4.2**
BJI sP **sP** **16 35 32.3 -6.4**
BJI S **S** **16 42 57.2 -0.3**
BJI pmax pmax
comp=Z,21nm,2.2s
BJI pmax pmax
comp=Z,480nm,7.8s
BJI LR LR
comp=Z,2μm,20.5s
BJI LR LR
comp=Z,1μm,21.6s
BJI LR LR
comp=Z,4μm,26.7s
XAN Xi'an 55.07 319 ⇑P **P** **16 35 18.4 -1.2**
XAN pP pP 16 35 33.8 +0.2
XAN sP sP 16 35 40.7 +1.3
XAN PcP **PcP** **16 36 21.0 +0.4**
XAN S **S** **16 42 55.0 -3.7**
XAN sS sS 16 43 25.8 +3.8
XAN pmax pmax
comp=Z,48nm,2.0s
XAN pmax pmax
comp=Z,1μm,6.0s
XAN LR LR
comp=Z,2μm,22.0s
XAN LR LR
comp=Z,5μm,23.7s
XAN LR LR
comp=Z,10μm,23.7s
CMAR Chiang Mai Arr 55.08 297 P **P** **16 35 18.6 -1.4**
CMAR Chiang Mai Arr 55.08 297 P **P** **16 35 19.0 -0.9**
comp=Z,3.4nm,0.9s,baz=125,slow=5.6,SNR=25
CMAR LR LR 16 58 53.3
comp=Z,857nm,21.3s,baz=115,slow=36
CMAR PKPPKP **P'P'df** **17 05 26.7 -1.6**
comp=Z,5.7nm,1.1s,baz=240,slow=2.3,SNR=8.5
BNX BinXian 55.12 342 ⇑P **P** **16 35 19.9 +0.2**
BNX pP **pP** **16 35 35.2 +1.5**
BNX sP **sP** **16 35 41.3 +1.7**
BNX PP **PP** **16 37 22.5 -1.1**
BNX S **S** **16 43 00.4 +1.5**
BNX sS **sS** **16 43 26.4 +5.1**
BNX pmax pmax
comp=Z,120nm,1.7s
BNX pmax pmax
comp=Z,1μm,6.5s
BNX LR LR
comp=Z,2μm,21.7s
BNX LR LR
comp=Z,1μm,14.6s
BNX LR LR
comp=Z,6μm,33.6s
CHTO Chiang Mai 55.21 298 P **P** **16 35 19.4 -1.5**
CHTO IAmb IAmb 16 36 28.3
comp=Z,133nm,1.9s
CHTO Chiang Mai 55.21 298 P **P** **16 35 19.4 -1.5**
CHTO pmax pmax
comp=Z,133nm,2.0s
UGL Uglegorsk 55.30 354*c i*P **P** **16 35 21.7 +0.8**

UGL *e*S **S** **16 43 00.6 -0.5**
UGL pmax pmax
comp=Z,2μm,2.6s
UGL pmax pmax
comp=Z,200nm,1.3s
UGL smax smax
comp=N,2μm,6.0s
UGL smax smax
comp=E,800nm,6.0s
UGL MLR MLR
comp=N,2μm,16.0s
TIY Taiyuan 55.34 325 P **P** **16 35 22.2 +0.7**
TIY pP **pP** **16 35 34.1 -1.4**
TIY S **S** **16 42 59.9 -2.4**
TIY pmax pmax
comp=N,630nm,7.4s
TIY LR LR
comp=N,3μm,25.4s
TIY LR LR
comp=N,4μm,24.7s
TIY LR LR
comp=N,8μm,26.1s
PZH PanZhiHua 56.12 308 P **P** **16 35 26.0 -1.3**
PZH S **S** **16 43 09.8 -3.3**
PZH ScS **ScS** **16 45 11.9 -0.8**
PZH pmax pmax
comp=N,10.0nm,1.5s
PZH pmax pmax
comp=N,530nm,7.1s
PZH LR LR
comp=N,2μm,21.4s
PZH LR LR
comp=N,2μm,21.4s
PZH LR LR
comp=N,3μm,25.5s
CD2 Chengdu 56.81 313 P **P** **16 35 31.3 -0.8**
CD2 pP pP 16 35 41.4 -4.8
CD2 PP **PP** **16 37 37.9 -1.1**
CD2 S **S** **16 43 22.4 +0.4**
CD2 sS pS 16 43 40.1 +1.9
CD2 SS **SS** **16 47 16.9 +6.0**
CD2 pmax pmax
comp=N,20nm,1.5s
CD2 pmax pmax
comp=N,850nm,6.0s
CD2 LR LR
comp=N,3μm,21.8s
CD2 LR LR
comp=N,2μm,26.8s
SKR Severo-Kuril's 56.91 5 *e*P **P** **16 35 30.3 -2.0**
SKR *e* 16 36 26.8
SKR *e*S **S** **16 43 19.3 -3.0**
SKR pmax pmax
comp=Z,800nm,3.7s
SKR pmax pmax
comp=Z,337nm,1.2s
SKR MLR MLR
comp=Z,2μm,18.0s
TYV Tymovskoe 57.02 355 *e*P **P** **16 35 34.5 +1.4**
TYV *e*S **S** **16 43 25.9 +2.0**
TYV pmax pmax
comp=Z,2μm,2.7s
TYV pmax pmax
comp=Z,140nm,1.6s
TYV smax smax
comp=N,27nm,2.0s
TYV smax smax
comp=E,20nm,2.0s
TYV smax smax
comp=N,3μm,6.5s
TYV smax smax
comp=E,1μm,6.5s
KLR Kul'dur 57.15 347 S **S** **16 43 25.6 -0.1**
comp=E,0.6nm,0.6s,baz=240,slow=21,SNR=3.7
KLR LR LR 16 58 22.0
comp=E,4μm,20.3s,baz=157,slow=34
KLR Kul'dur 57.15 347*c i*P **P** **16 35 34.5 +0.4**
KLR pmax pmax
comp=Z,251nm,1.5s
GRNR Gornyy 57.70 351⇑*i*P **P** **16 35 39.0 +1.1**
GRNR *e* 16 43 33.0
GRNR pmax pmax
comp=N,10.0nm,1.3s
GRNR pmax pmax
comp=Z,30nm,1.2s
XLT XiLinHaoTe 57.99 332 *e*P **P** **16 35 39.8 -0.4**
XLT pP pP 16 35 53.8 -0.5
XLT sS sS 16 43 57.9 -2.3
XLT SS **SS** **16 47 31.6 +2.5**
XLT pmax pmax
comp=Z,67nm,0.9s
XLT pmax pmax
comp=Z,1μm,3.5s
XLT LR LR
comp=Z,3μm,19.2s
XLT LR LR
comp=Z,6μm,20.8s
HHC Hu-ho-hao-te 58.01 327⇑*i*P **P** **16 35 39.6 -0.9**
HHC pP pP 16 35 52.2 -2.3
HHC sP sP 16 35 57.0 -3.3
HHC S **S** **16 43 33.9 -3.6**
HHC sS sS 16 43 58.2 -2.9
HHC SS **SS** **16 47 33.8 +4.2**
HHC pmax pmax
comp=Z,30nm,1.2s
HHC pmax pmax
comp=Z,960nm,4.7s
HHC LR LR
comp=Z,4μm,19.0s
HHC LR LR
comp=Z,3μm,18.8s
HHC LR LR
comp=Z,7μm,20.1s
TNCH TengChong 58.05 304 ⇑P **P** **16 35 40.0 -1.1**
TNCH pP pP 16 35 52.7 -2.5
TNCH S **S** **16 43 38.5 -0.2**
TNCH pmax pmax
comp=Z,18nm,1.2s
TNCH pmax pmax
comp=Z,460nm,6.9s
TNCH LR LR
comp=Z,600nm,18.6s
TNCH LR LR
comp=Z,750nm,19.9s
TNCH LR LR
comp=Z,2μm,17.1s
BTO Baotou 58.69 326 *e*P **P** **16 35 47.3 +2.1**
BTO PP **PP** **16 38 00.2 +4.6**
BTO S **S** **16 43 48.3 +2.0**
BTO SS **SS** **16 47 43.4 +3.2**
BTO pmax pmax
comp=Z,61nm,2.3s
BTO pmax pmax
comp=Z,2μm,7.5s
BTO LR LR
comp=Z,12μm,24.9s
BTO LR LR
comp=Z,11μm,20.8s
BTO LR LR
comp=Z,18μm,24.8s
HEH HeiHe 59.19 344 *e*P **P** **16 35 47.9 -0.4**
HEH pP **pP** **16 36 01.0 -1.4**
HEH ScP **ScP** **16 40 33.3 +0.4**
HEH S **S** **16 43 52.7 +0.5**
HEH pmax pmax
comp=Z,92nm,1.1s
HEH pmax pmax
comp=Z,2μm,6.3s
HEH LR LR
comp=Z,3μm,20.6s
HEH LR LR
comp=Z,940nm,18.4s
HEH LR LR
comp=Z,4μm,19.3s
PEA0B Petropavlovsk- 59.46 6*c i*P **P** **16 35 50.3 +0.1**
PETK Petropavlovsk- 59.46 6 P **P** **16 35 50.7 +0.6**
PETK Petropavlovsk- 59.46 6 P **P** **16 35 51.1 +0.9**
comp=Z,84nm,0.8s,baz=152,slow=4.3,SNR=154
PETK ScP **ScP** **16 40 33.5 -0.6**
comp=Z,5.5nm,0.9s,baz=203,slow=6.8,SNR=4.0
PETK LR LR 16 57 28.3
comp=Z,5μm,21.7s,baz=199,slow=32
comp=Z,84nm,0.8s
NKL Nikolayevsk 59.47 354 *e*P **P** **16 35 49.2 -0.9**
NKL *e*S **S** **16 43 58.2 +2.5**
NKL pmax pmax

comp=E,202nm,1.6s
NKL pmax pmax
comp=N,92nm,1.7s
NKL pmax pmax
comp=Z,632nm,1.7s
NKL smax smax
comp=N,279nm,4.7s
NKL smax smax
comp=E,840nm,4.7s
PET Petropavlovsk 59.49 7 P **P 16 35 51.2 +0.9**
PET Petropavlovsk 59.49 7 P **P 16 35 52.0 +1.7**
comp=E,591nm,0.8s
PET Petropavlovsk 59.49 7 *e*P **P 16 35 51.6 +1.3**
PET *e**PP **pP 16 36 03.4 -1.0**
PET *e*S **S 16 43 58.8 +2.9**
PET pmax pmax
comp=Z,600nm,11.3s
PET Petropavlovsk 59.49 7 P **P 16 35 50.1 -0.2**
comp=Z,147nm,0.8s
PET pP **pP 16 36 02.9 -1.5**
comp=Z,147nm,0.8s
PET Petropavlovsk 59.49 7 P **P 16 35 51.1 +0.9**
PET pP **pP 16 36 03.3 -1.1**
LZH Lanzhou 59.62 318 *e*P **P 16 35 51.6 -0.2**
LZH sP sP 16 36 09.7 -2.1
LZH S **S 16 43 54.4 -4.3**
LZH SS **SS 16 47 57.7 +2.5**
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,900nm,7.6s
LZH LR LR
comp=Z,3μm,19.6s
LZH LR LR
comp=Z,3μm,18.6s
LZH LR LR
comp=Z,8μm,21.2s
HLK Haleakala 60.00 62 IAMs_20 IAMs_20 16 56 26.6
comp=Z,11μm,22.0s
KHU Kahuku 60.05 64 IAMs_20 IAMs_20 16 57 02.0
comp=Z,8μm,22.0s
MWH Mokuaweoweo 60.15 64 IAMs_20 IAMs_20 16 56 42.5
comp=Z,8μm,22.0s
POHA Pohakuloa 60.29 63 IAMs_20 IAMs_20 16 57 31.4
comp=Z,9μm,20.0s
MLH Mauna Loa 60.34 64 IAMs_20 IAMs_20 16 57 29.5
comp=Z,8μm,20.0s
UWE Uwekahuna 60.40 64 IAMs_20 IAMs_20 16 57 00.2
comp=Z,8μm,21.0s
BYL Byron's Ledge 60.42 64 IAMs_20 IAMs_20 16 56 50.8
comp=Z,7μm,22.0s
HATHI Halema'uma'u T 60.42 64 IAMs_20 IAMs_20 16 57 01.9
comp=Z,7μm,22.0s
PUH Pauahi 60.45 64 IAMs_20 IAMs_20 16 57 12.5
comp=Z,7μm,22.0s
JOKA Jonika Flow 60.66 64 IAMs_20 IAMs_20 16 57 19.0
comp=Z,8μm,21.0s
DRV Dumont d'Urvil 60.76 184 P **P 16 36 00.0 +1.2**
DRV pP **pP 16 36 12.7 +0.9**
HIA Hailar 60.78 338 P **P 16 36 00.9 +1.6**
comp=Z,118nm,0.9s
HIA Hailar 60.78 338 P **P 16 35 59.6 +0.3**
HIA pP **pP 16 36 12.0 -1.5**
PPT Papeete 60.94 107 P **P 16 36 00.2 -0.7**
comp=Z,100nm,1.1s,baz=274,slow=10,SNR=6.2
PPT LR LR 16 59 10.9
comp=Z,960nm,19.8s,baz=269,slow=33
comp=Z,100nm,1.1s
PPTF Pamatai, Papee 60.95 107 P **P 16 36 02.7 +1.6**
IMP Imphal 61.77 302 *e*P **P 16 36 03.5 -3.1**
IMP IAmb IAmb 16 36 18.3
comp=Z,22nm,0.5s
KOHI KOHIMA 61.97 303 *e*P **P 16 36 05.6 -2.3**
KOHI IAmb IAmb 16 36 14.9
comp=Z,72nm,0.8s
SHEM Shemya Is, Ala 62.38 17 P **P 16 36 09.9 0.0**
comp=Z,134nm,0.8s,baz=86,slow=2.0,SNR=5.5
SHEM LR LR 16 58 38.3
comp=Z,4μm,21.9s,baz=192,slow=32
comp=Z,134nm,0.8s
ZEA Zeya 62.40 346 *e*P **P 16 36 10.6 +0.6**
ZEA *e**PP **pP 16 36 24.9 +0.7**
ZEA *e* 16 38 27.0
ZEA *e*S **S 16 44 32.1 -0.9**
ZEA *e*SS **SS 16 48 43.3 +5.6**
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,130nm,1.3s
ZEA pmax pmax
comp=Z,220nm,1.3s
ZEA pmax pmax
comp=N,400nm,1.8s
ZEA pmax pmax
comp=Z,500nm,1.6s
ZEA smax smax
comp=E,600nm,13.1s
ZEA smax smax
comp=N,800nm,9.8s
AZL Aizawl 62.43 301 *e*P **P 16 36 08.5 -2.5**
AZL IAmb IAmb 16 36 20.4
comp=Z,22nm,0.8s
ZIRO ZIRO 62.89 305 *e*P **P 16 36 13.6 -0.5**
ZIRO IAmb IAmb 16 36 21.1
comp=Z,30nm,0.6s
BRDH Bariadhala 62.97 299 LR LR 17 03 56.8
comp=Z,793nm,21.8s,baz=124,slow=36
SHL Shillong 63.78 302 *e*P **P 16 36 18.9 -1.2**
SHL IAmb IAmb 16 36 28.8
comp=Z,50nm,1.2s
SHL Shillong 63.78 302 P **P 16 36 18.1 -1.9**
SHL pmax pmax
comp=Z,45nm,1.0s
GTA Gaotai 64.13 319 P **P 16 36 22.0 0.0**
GTA sP sP 16 36 38.6 -3.5
GTA S **S 16 44 56.9 +1.4**
GTA sS sS 16 45 17.4 -2.3
GTA SS **SS 16 49 12.5 +6.9**
GTA pmax pmax
comp=Z,19nm,1.4s
GTA pmax pmax
comp=Z,640nm,6.2s
GTA LR LR
comp=Z,940nm,21.1s
GTA LR LR
comp=Z,2μm,22.5s
GTA LR LR
comp=Z,2μm,22.2s
TAWA Tawang 64.54 304 *e*P **P 16 36 24.0 -1.2**
TAWA IAmb IAmb 16 36 34.3
comp=Z,53nm,0.6s
ULN Ulaanbaatar 65.20 330 P **P 16 36 28.6 -0.2**
ULN IAmb IAmb 16 36 50.4
comp=Z,111nm,1.4s
ULN Ulaanbaatar 65.20 330 *c i*P **P 16 36 28.8 0.0**
ULN pmax pmax
comp=Z,72nm,1.6s
CIT Chita 65.35 337 *e*P **P 16 36 29.6 0.0**
CIT *e* 16 36 42.2
CIT *e* 16 36 54.6
CIT *e* 16 38 59.2
CIT pmax pmax
comp=Z,352nm,1.8s
SONM Songino Array 65.50 330 P **P 16 36 30.1 -0.7**
SONM IAmb IAmb 16 36 52.2
comp=Z,133nm,1.5s
SONM Songino Array 65.50 330 P **P 16 36 30.5 -0.2**
comp=Z,111nm,0.5s,baz=145,slow=5.1,SNR=42
SONM PKPPKP **P'P'df 17 05 08.7 -0.9**
comp=Z,3.6nm,1.1s,baz=295,slow=1.8,SNR=7.0
comp=Z,11nm,0.5s
MA2 Magadan 65.50 1 P **P 16 36 29.5 -0.8**
MA2 Magadan 65.50 1 P **P 16 36 30.1 -0.2**
comp=Z,55nm,0.9s,baz=163,slow=6.3,SNR=148
MA2 S **S 16 45 13.5 +2.2**
comp=Z,0.6nm,0.2s,baz=90,slow=21,SNR=5.6
MA2 LR LR 17 05 48.1
comp=Z,2μm,18.9s,baz=192,slow=37
comp=Z,55nm,0.9s
MA2 Magadan 65.50 1 P **P 16 36 32.5 +2.1**
comp=Z,191nm,1.9s
MA2 Magadan 65.50 1 *c i*P **P 16 36 29.9 -0.5**
MA2 pmax pmax
comp=Z,310nm,1.8s
MA2 Magadan 65.50 1 P **P 16 36 29.4 -0.9**
comp=Z,4μmcomp=Z,187nm,1.9s
MA2 Magadan 65.50 1 P **P 16 36 30.5 +0.2**
MA2 PcP **PcP 16 37 02.5 +0.7**
CASY Casey 65.68 196 P **P 16 36 31.6 +0.2**
CASY Casey 65.68 196 P **P 16 36 32.0 +0.5**
CASY pP **pP 16 36 44.3 -0.8**
GOMU GeErMu 65.91 314 P **P 16 36 32.9 -1.1**
GOMU S **S 16 45 14.2 -3.8**
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU LR LR
comp=Z,3μm,19.0s
GOMU LR LR
comp=Z,4μm,19.4s
GOMU LR LR
comp=Z,9μm,18.9s
LSA Lhasa 65.93 306 P **P 16 36 32.2 -2.1**
LSA pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 65.93 306 P **P 16 36 33.6 -0.7**
LSA pmax pmax
comp=Z,42nm,1.5s
GTK Tadong 67.15 303 *e*P **P 16 36 39.7 -2.1**
GTK IAmb IAmb 16 37 20.7
comp=Z,144nm,1.6s
BOK Bokaro 68.34 298 *e*P **P 16 36 48.3 -0.8**
BOK IAmb IAmb 16 37 10.4
comp=Z,29nm,1.3s
SEY Seymchan 68.91 2 P **P 16 36 51.6 -0.2**
comp=Z,40nm,1.1s,baz=177,slow=5.0,SNR=85
SEY PKPPKP **P'P'df 17 05 01.1 -1.4**
comp=Z,5.5nm,1.1s,baz=325,slow=1.1,SNR=13
SEY LR LR 17 07 27.8
comp=Z,2μm,19.1s,baz=182,slow=36
comp=Z,40nm,1.1s
SEY Seymchan 68.91 2⇑ *i*P **P 16 36 51.2 -0.6**
SEY pmax pmax
comp=Z,193nm,1.6s
RAGD RAYAGADA 69.27 293 *e*P **P 16 36 54.6 -0.4**
PALK Pallekele 69.44 280 P **P 16 36 56.4 +0.2**
PALK Pallekele 69.44 280 P **P 16 36 56.9 +0.7**
comp=Z,16nm,0.8s,baz=90,slow=5.7,SNR=10
PALK LR LR 17 09 39.5
comp=Z,2μm,21.9s,baz=113,slow=38
comp=Z,16nm,0.8s
PALK Pallekele 69.44 280 *c i*P **P 16 36 57.5 +1.3**
PALK pmax pmax
comp=Z,68nm,1.1s
IRK Irkutsk 69.47 332 *e*P **P 16 36 54.6 -1.0**
IRK pmax pmax
comp=Z,121nm,2.4s
YAK Yakutsk 69.58 350 P **P 16 36 55.8 -0.1**
YAK IAmb IAmb 16 36 59.1
comp=Z,177nm,1.5s
YAK Yakutsk 69.58 350 LR LR 17 10 38.7
comp=Z,1μm,18.3s,baz=158,slow=39
YAK Yakutsk 69.58 350 *e*P **P 16 36 57.6 +1.6**
YAK *e**PP **sP 16 37 14.0 -2.1**
YAK *e* 16 37 20.2
YAK *e* 16 39 31.6
YAK *e*PPP PPP 16 41 13.2
YAK *e*S **S 16 46 01.1 +1.1**
YAK *e**SS **sS 16 46 29.8 +5.2**
YAK *e* 16 46 53.3
YAK *e*SS **SS 16 50 30.0 +1.1**
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,181nm,2.8s
YAK pmax pmax
comp=N,440nm,6.2s
YAK pmax pmax
comp=E,180nm,5.7s
YAK smax smax
comp=N,231nm,3.0s
YAK smax smax
comp=E,110nm,3.1s
BOD Bodaibo 69.74 341 *e*P **P 16 36 55.0 -2.1**
BOD pmax pmax
comp=Z,82nm,1.8s
MALK Mahakanadarawa 69.78 281 P **P 16 36 56.6 -1.7**
TAOE Nuku Hiva Isla 70.19 97 P **P 16 37 00.7 -0.3**
TAOE Nuku Hiva Isla 70.19 97 P **P 16 37 01.7 +0.8**
UNV Unalaska Valle 70.42 26 P **P 16 37 01.2 -0.2**
baz=228
CCD Concordia, Ant 70.48 187 P **P 16 37 02.7 +0.8**
CCD pP **pP 16 37 15.2 -0.4**
MOY Mondy 70.65 331 *e*P **P 16 37 02.1 -0.9**
MOY pmax pmax
comp=Z,118nm,2.4s
P08K Saint George I 71.09 23 P **P 16 37 05.4 0.0**
baz=224
SPIA Saint Paul Isl 71.25 22 P **P 16 37 06.1 -0.2**
baz=223
VNDA Vanda 71.68 177 P **P 16 37 09.4 +0.8**
VNDA Vanda 71.68 177 P **P 16 37 08.2 -0.4**
comp=Z,35nm,0.8s,baz=334,slow=6.9,SNR=53
VNDA LR LR 17 04 47.2
comp=Z,3μm,20.8s,baz=353,slow=33
comp=Z,35nm,0.8s
VNDA Vanda 71.68 177 P **P 16 37 09.4 +0.8**
VNDA pmax pmax
comp=Z,560nm,1.9s
VNDA Vanda 71.68 177 P **P 16 37 09.6 +1.0**
VNDA pP **pP 16 37 22.4 -0.1**
SBA Scott Base 72.29 176 P **P 16 37 13.8 +1.5**
SBA Scott Base 72.29 176 P **P 16 37 13.8 +1.5**
SBA pmax pmax
comp=Z,394nm,1.8s
ALBI Allahabad 72.33 299 *e*P **P 16 37 10.8 -2.7**
FALS False Pass 72.45 27 P **P 16 37 14.0 +0.5**
baz=230
SALM Salem 72.61 284 *e*P **P 16 37 14.7 -0.6**
SALM IAmb IAmb 16 37 20.4
comp=Z,33nm,0.9s
KOD Kodaikanal 73.08 283 *e*P **P 16 37 17.6 -1.0**
KOD IAmb IAmb 16 37 27.3
comp=Z,56nm,1.2s
TRD Trivandrum 73.30 281 *e*P **P 16 37 18.9 -0.5**
HYB Hyderabad 73.39 290 *e*P **P 16 37 20.6 +0.6**
S12K Black Hills 73.59 26 P **P 16 37 20.7 +0.4**
baz=231
SDPT Sand Point 74.08 27 P **P 16 37 24.8 +1.7**
comp=Z,107nm,0.7s
SDPT Sand Point 74.08 27 P **P 16 37 23.3 +0.2**
baz=233
CHNA Chernabura Isl 74.18 28 P **P 16 37 23.9 +0.2**
baz=234
WMQ Urumqi 74.20 319 *e*P **P 16 37 23.3 -0.9**
WMQ S **S 16 46 51.7 -2.4**
WMQ pmax pmax
comp=Z,25nm,1.5s
WMQ pmax pmax
comp=Z,630nm,9.1s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,2μm,20.5s
WMQ LR LR
comp=Z,2μm,22.9s
LGTI Lohaghat 74.80 303 *e*P **P 16 37 26.2 -1.7**
LGTI IAmb IAmb 16 37 40.4
comp=Z,27nm,1.0s
PTH Pithoragarh 74.85 303 *e*P **P 16 37 26.3 -2.2**
PTH IAmb IAmb 16 37 58.8
comp=Z,289nm,1.9s
BILL Bilibino 74.99 7 P **P 16 37 27.5 -0.6**
BILL IAmb IAmb 16 37 49.5
comp=Z,68nm,1.1s
BILL Bilibino 74.99 7 *c i*P **P 16 37 26.7 -1.5**
BILL pmax pmax
comp=Z,50nm,0.9s
M11K Mekoryuk 75.01 21 P **P 16 37 28.6 +0.2**
baz=226
S14K Fog Glacier 75.06 27 P **P 16 37 29.3 +0.4**
baz=234
JHNI Jhansi 75.22 298 *e*P **P 16 37 27.0 -3.4**
JHNI IAmb IAmb 16 37 41.4
comp=Z,14nm,0.7s
AKL Akola 75.50 293 *e*P **P 16 37 32.2 0.0**
CHGN Chignik 75.58 27 P **P 16 37 32.1 +0.3**
baz=235
BHPL Bhopal 75.69 296 *e*P **P 16 37 31.1 -2.1**
BHPL IAmb IAmb 16 37 37.9
comp=Z,12nm,0.8s
GAMB Gambell 75.70 17 P **P 16 37 33.3 +1.0**
baz=220
DGAR Diego Garcia 75.96 264 P **P 16 37 34.4 -0.4**
DGAR Diego Garcia 75.96 264 *c i*P **P 16 37 36.0 +1.1**
DGAR pmax pmax
comp=Z,682nm,1.8s
M13K Dall Lake 76.08 22 P **P 16 37 35.2 +0.6**
baz=229
O14K Tigyukauivet M 76.15 24 IAmb IAmb 16 37 40.5
comp=Z,72nm,0.8s
O14K IAMs_20 IAMs_20 17 06 44.7
comp=Z,5μm,21.0s
O14K Tigyukauivet M 76.15 24 P **P 16 37 35.6 +0.7**
baz=231
N14K Kuskokwak Cree 76.40 23 P **P 16 37 37.2 +0.8**
baz=231
CHIR Chirikof Islan 76.61 29 P **P 16 37 38.1 +0.4**
baz=237
K13K Kusilvak Mount 76.62 21 IAMs_20 IAMs_20 17 06 52.3
comp=Z,6μm,21.0s
K13K Kusilvak Mount 76.62 21 P **P 16 37 38.2 +0.6**
baz=228
O15K Ungalikthiuk R 76.68 24 P **P 16 37 39.2 +1.2**
baz=233
M14K Bethel 76.82 22 IAmb IAmb 16 37 41.9
comp=Z,99nm,1.1s
M14K Bethel 76.82 22 P **P 16 37 39.7 +1.0**
baz=230,SNR=11
L14K Kuka Creek 76.93 22 IAmb IAmb 16 37 45.1
comp=Z,96nm,0.8s
L14K Kuka Creek 76.93 22 P **P 16 37 40.5 +1.2**
baz=230
NDI New Delhi 77.16 301 *e*P **P 16 37 38.7 -2.7**
NDI IAmb IAmb 16 37 46.6
comp=Z,23nm,0.7s
N15K Kwethluk River 77.18 23 IAMs_20 IAMs_20 17 07 36.2
comp=Z,6μm,20.0s
N15K Kwethluk River 77.18 23 P **P 16 37 41.8 +1.0**
baz=232
M15K Kasigluk River 77.27 23 P **P 16 37 42.5 +1.2**
baz=232
P16K Nushagak River 77.36 25 P **P 16 37 42.7 +0.9**
baz=234
KAD Karad 77.46 289 *e*P **P 16 37 42.9 -0.4**
GOA Goa 77.48 287 *e*P **P 16 37 42.8 -0.6**
ZSN Zaisan 77.50 321 *e*P **P 16 37 41.5 -1.4**
ZSN Zaisan 77.50 321 *e*P **P 16 37 41.6 -1.4**
J14K Nanvaranak Lak 77.55 20 IAmb IAmb 16 37 45.8
comp=Z,66nm,1.1s
J14K IAMs_20 IAMs_20 17 07 31.7
comp=Z,6μm,21.0s
J14K Nanvaranak Lak 77.55 20 P **P 16 37 43.6 +0.9**
baz=228
L15K Ungalak Mounta 77.59 22 P **P 16 37 44.0 +0.9**
baz=231
O16K Kokwok River B 77.64 25 IAMs_20 IAMs_20 17 06 58.5
comp=Z,6μm,21.0s
O16K Kokwok River B 77.64 25 P **P 16 37 44.5 +1.1**
baz=234
KUDL Kundal 77.65 300 *e*P **P 16 37 41.2 -2.9**
SII Sitkinak Islan 77.69 28 P **P 16 37 46.6 +2.9**
comp=Z,116nm,1.7s
SII Sitkinak Islan 77.69 28 P **P 16 37 43.9 +0.1**
baz=238
SMLA Simla 77.81 304 *e*P **P 16 37 42.9 -2.1**
SMLA IAmb IAmb 16 37 51.6
comp=Z,104nm,1.4s
N16K Nishlik Lake 77.89 24 P **P 16 37 45.6 +0.8**
baz=233,SNR=9.2
K15K Wolf Creek Mou 77.97 21 P **P 16 37 46.3 +1.1**
baz=230
R18K Karluk 78.09 27 P **P 16 37 46.4 +0.4**
baz=238
P17K Kvichak River 78.11 25 P **P 16 37 46.5 +0.5**
baz=236
TNA Tin City 78.12 17 P **P 16 37 47.4 +1.5**
baz=224
M16K Timber Creek 78.14 23 IAmb IAmb 16 37 49.4
comp=Z,99nm,1.1s
M16K IAMs_20 IAMs_20 17 08 27.5
comp=Z,5μm,20.0s
M16K Timber Creek 78.14 23 P **P 16 37 47.1 +1.0**
baz=233,SNR=9.7
O17K Koliganek Bris 78.16 25 P **P 16 37 46.8 +0.5**
baz=235,SNR=11
ANM Nome 78.18 18 IAmb IAmb 16 40 38.4
comp=Z,151nm,1.8s
ANM IAMs_20 IAMs_20 17 07 55.3
comp=Z,5μm,21.0s
ANM Nome 78.18 18 P **P 16 37 47.0 +0.7**
baz=226
L16K Owhat River 78.36 22 IAmb IAmb 16 37 49.7
comp=Z,63nm,1.2s
L16K Owhat River 78.36 22 P **P 16 37 48.0 +0.7**
baz=233
Q18K Katmai Hardscr 78.43 26 P **P 16 37 47.9 -0.1**
baz=237
OHAK Old Harbor 78.45 28 P **P 16 37 49.6 +1.7**
comp=Z,28nm,1.8s
OHAK Old Harbor 78.45 28 P **P 16 37 48.5 +0.6**
baz=239
F14K Arctic Creek 78.52 17 P **P 16 37 48.8 +0.6**
baz=225
N17K Nushagak Hills 78.56 24 IAMs_20 IAMs_20 17 07 37.4
comp=Z,5μm,20.0s
N17K Nushagak Hills 78.56 24 P **P 16 37 48.4 -0.1**
baz=235
P18K Big Mountain, 78.74 26 IAMs_20 IAMs_20 17 07 19.4
comp=Z,5μm,20.0s
P18K Big Mountain, 78.74 26 P **P 16 37 49.3 -0.2**
baz=237
TIXI Tiksi 78.74 354 P **P 16 37 48.9 -0.4**
TIXI Tiksi 78.74 354⇓ *e*P **P 16 37 47.5 -1.7**
TIXI pmax pmax
comp=Z,48nm,1.5s
DHRM DHARAMSHALA 78.81 304 *e*P **P 16 37 47.9 -2.9**
DHRM IAmb IAmb 16 38 05.3
comp=Z,48nm,0.8s
MK31 Makanchi Array 78.88 320 *c i*P **P 16 37 48.6 -2.0**
MKAR Makanchi Array 78.88 320 P **P 16 37 48.8 -1.8**
MKAR Makanchi Array 78.88 320 P **P 16 37 49.0 -1.6**
comp=Z,4.4nm,0.7s,baz=99,slow=7.4,SNR=44
MKAR PKKPbc **PKKPbc 16 56 44.4 -1.7**
comp=Z,4.3nm,0.8s,baz=298,slow=2.0,SNR=21
MKAR PKPPKP **P'P'df 17 04 46.9 0.0**
comp=Z,5.4nm,1.2s,baz=294,slow=3.9,SNR=3.6
MKAR LR LR 17 13 13.0
comp=Z,1μm,19.7s,baz=92,slow=36
comp=Z,4.4nm,0.7s
MKAR Makanchi Array 78.88 320 P **P 16 37 49.0 -1.6**
G15K Niukluk 78.89 18 P **P 16 37 50.5 +0.3**
baz=228
J16K Amvik River 78.92 21 P **P 16 37 50.8 +0.4**
baz=231
M17K Holitna River 78.96 23 P **P 16 37 50.6 -0.1**
baz=234
O18K Koktuh Hills 79.00 25 P **P 16 37 50.8 -0.2**
baz=237
L17K Donlin 79.06 22 P **P 16 37 51.6 +0.4**
baz=234
KDAK Kodiak Island 79.07 28 P **P 16 37 49.2 -2.1**
comp=Z,15nm,1.1s,baz=328,slow=7.3,SNR=7.9
KDAK LR LR 17 06 56.4
comp=Z,2μm,21.7s,baz=104,slow=31
comp=Z,15nm,1.1s
KDAK Kodiak Island 79.07 28 P **P 16 37 51.1 -0.2**
baz=240
MAKZ Makanchi 79.08 320 P **P 16 37 49.9 -1.8**
MAKZ Makanchi 79.08 320 P **P 16 37 49.9 -1.8**
MAKZ pmax pmax
comp=Z,37nm,1.2s
MAKZ pmax pmax
comp=Z,2μm,21.0s
N18K Kilae Creek 79.17 24 IAMs_20 IAMs_20 17 06 40.7
comp=Z,5μm,22.0s
N18K Kilae Creek 79.17 24 P **P 16 37 51.6 -0.3**
baz=236,SNR=6.9
Q19K Cape Douglas, 79.18 26 IAmb IAmb 16 38 19.2
comp=Z,104nm,1.1s
Q19K Cape Douglas, 79.18 26 P **P 16 37 51.6 -0.3**
baz=238
F15K North Star Dit 79.19 18 IAMs_20 IAMs_20 17 08 56.2
comp=Z,5μm,20.0s
F15K North Star Dit 79.19 18 P **P 16 37 51.6 -0.2**
baz=227
H16K Elim 79.23 19 P **P 16 37 52.0 -0.1**

baz=230,SNR=9.5
I17K Unalakleet 79.27 20 IAmb IAmb 16 37 55.8
comp=Z,56nm,1.1s
I17K IAMs_20 IAMs_20 17 09 16.2
comp=Z,6µm,20.0s
I17K Unalakleet 79.27 20 P **P** **16 37 51.7 -0.6**
baz=231,SNR=7.4
K17K Iditarod 79.41 22 IAmb IAmb 16 37 55.8
comp=Z,103nm,1.1s
K17K Iditarod 79.41 22 P **P** **16 37 53.0 -0.1**
baz=234,SNR=20
SHLS Shalkode 79.52 316 *eP* **P** **16 37 51.1 -3.1**
SHLS Shalkode 79.52 316 *eP* **P** **16 37 51.2 -3.1**
J17K VABM Dome 79.54 21 IAmb IAmb 16 38 39.4
comp=Z,176nm,1.6s
J17K IAMs_20 IAMs_20 17 06 56.5
comp=Z,5µm,22.0s
J17K VABM Dome 79.54 21 P **P** **16 37 53.2 -0.5**
baz=233
O19K Port Alsworth 79.56 25 IAMs_20 IAMs_20 17 07 55.1
comp=Z,7µm,21.0s
O19K Port Alsworth 79.56 25 P **P** **16 37 53.0 -0.9**
baz=238
Q20K Shuyak Island 79.57 27 P **P** **16 37 53.4 -0.6**
baz=240
G16K Koyuk River 79.69 19 IAMs_20 IAMs_20 17 08 30.4
comp=Z,6µm,21.0s
G16K Koyuk River 79.69 19 P **P** **16 37 54.7 +0.1**
baz=229
L18K Granite Mounta 79.73 23 IAMs_20 IAMs_20 17 09 23.3
comp=Z,5µm,21.0s
L18K Granite Mounta 79.73 23 P **P** **16 37 54.7 -0.1**
baz=235,SNR=21
P19K Oil Pt 79.74 26 IAmb IAmb 16 38 00.8
comp=Z,66nm,0.8s
P19K Oil Pt 79.74 26 P **P** **16 37 54.6 -0.3**
baz=239
UZB Uzynbulak 79.82 316 *eP* **P** **16 37 54.2 -1.7**
UZB Uzynbulak 79.82 316 *eP* **P** **16 37 54.3 -1.7**
N19K Bonanza Creek 79.82 25 IAmb IAmb 16 38 29.1
comp=Z,83nm,1.4s
N19K Bonanza Creek 79.82 25 P **P** **16 37 54.8 -0.7**
baz=237
ILSW Iliamna Southw 79.95 26 IAmb IAmb 16 38 28.6
comp=Z,127nm,1.5s
ILSW IAMs_20 IAMs_20 17 07 57.4
comp=Z,5µm,22.0s
JMU Jammu 80.07 305 *eP* **P** **16 37 56.9 -0.4**
KPKS Kokpek 80.15 316 *eP* **P** **16 37 56.1 -1.5**
KPKS Kokpek 80.15 316 *eP* **P** **16 37 56.2 -1.5**
ZALV Zalesovo Beam 80.19 327 P **P** **16 37 55.5 -2.0**
comp=Z,14nm,0.5s,baz=106,slow=5.4,SNR=40
ZALV PKKPbc **PKKPbc** **16 56 41.6 -1.8**
comp=Z,7.3nm,1.0s,baz=298,slow=3.2,SNR=13
ZALV PKPPKP **P'P'df** **17 04 44.9 +0.9**
comp=Z,9.8nm,1.0s,baz=290,slow=4.3,SNR=17
comp=Z,14nm,0.5s
H17K Granite Mounta 80.19 20 IAMs_20 IAMs_20 17 07 49.4
comp=Z,6µm,22.0s
H17K Granite Mounta 80.19 20 P **P** **16 37 56.9 -0.4**
baz=232
O20K Slope Mountain 80.22 26 P **P** **16 37 57.2 -0.4**
baz=239
SATY Saty 80.22 315 *eP* **P** **16 37 56.4 -1.7**
SATY Saty 80.22 315 *eP* **P** **16 37 56.5 -1.7**
G17K Kiwalik Mounta 80.31 19 P **P** **16 37 58.3 +0.4**
baz=231
TTA Tatalina 80.39 22 P **P** **16 37 58.2 -0.3**
baz=236
L19K White Mountain 80.42 23 IAMs_20 IAMs_20 17 10 18.8
comp=Z,6µm,20.0s
J18K Innoko River 80.43 22 P **P** **16 37 58.8 +0.2**
baz=235,SNR=12
M19K Big River Lodg 80.45 24 IAMs_20 IAMs_20 17 09 27.8
comp=Z,4µm,21.0s
M19K Big River Lodg 80.45 24 P **P** **16 37 58.7 -0.1**
baz=237
CNPM China Poot 80.55 27 IAmb IAmb 16 38 01.1
comp=Z,198nm,1.3s
F17K Baldwin Pennin 80.72 18 IAMs_20 IAMs_20 17 09 53.5
comp=Z,6µm,21.0s
F17K Baldwin Pennin 80.72 18 P **P** **16 38 00.3 +0.2**
baz=230
C16K Lisburne Hills 80.76 16 IAmb IAmb 16 38 40.5
comp=Z,192nm,1.9s
C16K Lisburne Hills 80.76 16 P **P** **16 38 00.5 +0.3**
baz=226
TDK Taldyqorghan 80.82 317 *eP* **P** **16 37 59.6 -1.5**
TDK pmax pmax
comp=Z,67nm,1.7s
TDK Taldyqorghan 80.82 317 *eP* **P** **16 37 59.6 -1.5**
comp=Z,67nm,1.7s
H18K Honhosa River 80.85 20 IAMs_20 IAMs_20 17 10 35.9
comp=Z,5µm,20.0s
H18K Honhosa River 80.85 20 P **P** **16 38 00.7 -0.1**
baz=233
BRSE Bradley Lake S 80.87 26 P **P** **16 38 00.5 -0.6**
baz=241
M20K Styx River 80.94 24 IAMs_20 IAMs_20 17 08 53.6
comp=Z,6µm,21.0s
M20K Styx River 80.94 24 P **P** **16 38 00.5 -1.0**
baz=238
E17K Hotham Inlet 80.95 17 P **P** **16 38 00.6 -0.7**
baz=230
KSH Kashi 80.96 311 P **P** **16 38 01.9 -0.2**
KSH S **S** **16 48 07.8 +0.3**
KSH pmax pmax
comp=Z,22nm,1.4s
KSH LR LR
comp=Z,1µm,22.0s
KSH LR LR
comp=Z,2µm,24.7s
KSH LR LR
comp=Z,2µm,21.6s
L20K Farewell, AK 80.96 23 P **P** **16 38 00.7 -0.8**
baz=238,SNR=16
SPCR Spurr Chakacha 80.97 25 P **P** **16 38 00.9 -0.8**
baz=239
ARXS Arharly 80.97 316 *eP* **P** **16 38 02.5 +0.5**
D17K Noatak River 81.00 17 P **P** **16 38 01.5 0.0**
baz=228,SNR=25
GCSA Galena City Sc 81.12 21 P **P** **16 38 01.9 -0.3**
baz=235,SNR=7.1
J19K Poorman 81.14 22 P **P** **16 38 02.1 -0.2**
baz=236,SNR=12
CAPN Captain Cook N 81.20 25 P **P** **16 38 03.0 +0.3**
baz=240
G18K Tagagawik 81.20 19 IAMs_20 IAMs_20 17 08 31.0
comp=Z,6µm,22.0s
G18K Tagagawik 81.20 19 P **P** **16 38 02.9 +0.2**
baz=233,SNR=24
TNSS Tian-Shan 81.24 315 *eP* **P** **16 38 01.9 -1.9**
TNSS Tian-Shan 81.24 315 *eP* **P** **16 38 02.0 -1.9**
STLK Strandline Lak 81.28 25 IAMs_20 IAMs_20 17 09 11.5
comp=Z,4µm,21.0s
RDOG Red Dog Mine 81.28 16 IAMs_20 IAMs_20 17 11 03.2
comp=Z,4µm,20.0s
RDOG Red Dog Mine 81.28 16 P **P** **16 38 03.0 0.0**
baz=228,SNR=6.3
AAA Alma-Ata 81.31 315 *eP* **P** **16 38 02.2 -1.6**
AAA Alma-Ata 81.31 315 *eP* **P** **16 38 02.2 -1.6**
F18K Selawik 81.31 18 P **P** **16 38 02.8 -0.3**
baz=232,SNR=8.8
K20K Telida 81.36 22 P **P** **16 38 03.1 -0.5**
baz=237
SLKM Skilak Lake 81.47 26 IAmb IAmb 16 38 44.1
comp=Z,214nm,1.8s
C17K DeLong Mountai 81.49 16 P **P** **16 38 03.6 -0.5**
baz=228
ULHL Ulahol 81.51 314 P **P** **16 38 04.4 -0.7**
SNR=7.3
E18K Tukpahlearik C 81.54 18 IAMs_20 IAMs_20 17 10 59.9
comp=Z,5µm,20.0s
E18K Tukpahlearik C 81.54 18 P **P** **16 38 04.0 -0.4**
baz=231
SEW Seward 81.62 26 IAmb IAmb 16 38 06.5
comp=Z,74nm,1.2s
SEW Seward 81.62 26 P **P** **16 38 04.6 -0.3**
baz=242
NIL Nilore 81.64 305 P **P** **16 38 03.8 -1.9**
NIL IAmb IAmb 16 38 35.7
comp=Z,55nm,0.8s
NIL Nilore 81.64 305 P **P** **16 38 03.8 -1.9**
NIL pmax pmax
comp=Z,55nm,0.9s
SKT Skwentna 81.64 24 P **P** **16 38 04.4 -0.7**
baz=240

O22K Cooper Landing 81.68 26 IAmb IAmb 16 38 12.4
comp=Z,66nm,0.8s
O22K Cooper Landing 81.68 26 P **P** **16 38 04.7 -0.6**
baz=242
SUA Susitna One 81.71 25 IAMs_20 IAMs_20 17 08 32.0
comp=Z,4µm,21.0s
SUA Susitna One 81.71 25 P **P** **16 38 04.4 -1.2**
baz=241
H19K Roundabout Mou 81.72 20 IAMs_20 IAMs_20 17 11 12.9
comp=Z,4µm,20.0s
H19K Roundabout Mou 81.72 20 P **P** **16 38 04.7 -0.6**
baz=235
J20K Nowinta River 81.78 22 IAMs_20 IAMs_20 17 09 32.4
comp=Z,4µm,22.0s
J20K Nowinta River 81.78 22 P **P** **16 38 04.6 -1.2**
baz=237
BOOM Boomskoye usch 81.79 314 IAmb IAmb 16 38 10.3
comp=Z,126nm,1.8s
BOOM Boomskoye usch 81.79 314 P **P** **16 38 05.5 -1.0**
BOOM pmax pmax
comp=Z,27nm,0.7s
PPLA Purkeypile 81.85 23 IAmb IAmb 16 38 39.2
comp=Z,103nm,1.5s
PPLA Purkeypile 81.85 23 P **P** **16 38 05.5 -0.8**
baz=239
G19K Purcell Mounta 81.86 19 IAMs_20 IAMs_20 17 09 34.7
comp=Z,5µm,21.0s
G19K Purcell Mounta 81.86 19 P **P** **16 38 05.5 -0.7**
baz=234
RC01 Rabbit Creek A 81.96 25 IAmb IAmb 16 38 07.5
comp=Z,74nm,1.2s
RC01 Rabbit Creek A 81.96 25 P **P** **16 38 06.4 -0.4**
baz=242,SNR=6.3
I20K Naaghedeneel 82.00 21 IAmb IAmb 16 41 15.2
comp=Z,178nm,1.6s
I20K IAMs_20 IAMs_20 17 10 20.2
comp=Z,4µm,21.0s
I20K Naaghedeneel 82.00 21 P **P** **16 38 06.0 -0.8**
baz=237
F19K Shaleruckik Mo 82.05 19 IAMs_20 IAMs_20 17 10 13.8
comp=Z,6µm,20.0s
F19K Shaleruckik Mo 82.05 19 P **P** **16 38 06.0 -1.1**
baz=234
M22K Willow 82.12 25 IAMs_20 IAMs_20 17 09 17.9
comp=Z,4µm,20.0s
M22K Willow 82.12 25 P **P** **16 38 06.4 -1.1**
baz=241
C18K Utukok River 82.15 16 IAmb IAmb 16 38 47.9
comp=Z,117nm,1.6s
C18K IAMs_20 IAMs_20 17 10 40.1
comp=Z,5µm,20.0s
C18K Utukok River 82.15 16 P **P** **16 38 07.6 -0.1**
baz=230,SNR=13
TKM2 Tokmak 2 82.15 315 P **P** **16 38 07.1 -1.4**
SNR=17
CAST Castle Rocks 82.16 23 IAmb IAmb 16 38 08.9
comp=Z,72nm,1.2s
CAST IAMs_20 IAMs_20 17 12 40.6
comp=Z,4µm,20.0s
CAST Castle Rocks 82.16 23 P **P** **16 38 07.0 -0.8**
baz=239,SNR=29
H20K Anotleneega Mo 82.24 20 P **P** **16 38 08.0 -0.2**
baz=236,SNR=15
CHUM Lake Minchumin 82.31 22 P **P** **16 38 07.8 -0.7**
baz=239,SNR=60
CUT Chulitna 82.37 24 IAmb IAmb 16 38 41.0
comp=Z,186nm,1.5s
CUT IAMs_20 IAMs_20 17 09 58.5
comp=Z,6µm,21.0s
B18K Kokolik River 82.45 16 P **P** **16 38 08.8 -0.4**
baz=229
PMR Palmer 82.45 25 P **P** **16 38 06.7 -2.6**
PMR Palmer 82.45 25 P **P** **16 38 08.6 -0.7**
baz=242,SNR=5.6
PWL Port Wells 82.46 26 IAmb IAmb 16 38 26.4
comp=Z,66nm,0.9s
PWL IAMs_20 IAMs_20 17 08 30.8
comp=Z,4µm,22.0s
PWL Port Wells 82.46 26 P **P** **16 38 08.5 -0.9**
baz=243
P23K Montague Islan 82.49 27 P **P** **16 38 08.9 -0.6**
baz=244
KURK Kurchatov 82.52 323 P **P** **16 38 08.1 -1.8**
KURK Kurchatov 82.52 323 P **P** **16 38 08.1 -1.8**
KURK pmax pmax
comp=Z,45nm,1.2s
KURK pmax pmax
comp=Z,3µm,21.0s
KURBB Kurchatov Arra 82.54 323 P **P** **16 38 07.9 -2.1**
comp=Z,5.6nm,0.5s,baz=100,slow=5.7,SNR=40
KURBB PKKPbc **PKKPbc** **16 56 36.9 -0.9**
comp=Z,7.0nm,1.0s,baz=293,slow=2.9,SNR=22
KURBB PKPPKP **P'P'df** **17 04 38.9 -1.2**
comp=Z,9.2nm,1.2s,baz=291,slow=3.1,SNR=5.8
KURBB LR LR 17 14 06.4
comp=Z,2µm,20.5s,baz=97,slow=35
comp=Z,5.6nm,0.5s
KBK Karagaybulak 82.54 314 P **P** **16 38 07.0 -3.4**
SNR=12
E19K Redstone River 82.59 18 IAmb IAmb 16 38 12.3
comp=Z,77nm,1.3s
E19K IAMs_20 IAMs_20 17 11 01.7
comp=Z,6µm,20.0s
E19K Redstone River 82.59 18 P **P** **16 38 09.6 -0.3**
baz=234
GHO Glory Hole Cre 82.63 25 IAMs_20 IAMs_20 17 09 43.2
comp=Z,4µm,20.0s
KNK Knik Glacier 82.66 25 IAmb IAmb 16 38 44.4
comp=Z,133nm,1.6s
KNK IAMs_20 IAMs_20 17 09 47.1
comp=Z,5µm,21.0s
KNK Knik Glacier 82.66 25 P **P** **16 38 09.8 -0.6**
baz=243,SNR=5.7
KTH Kantishna Hill 82.67 23 IAmb IAmb 16 38 11.2
comp=Z,88nm,1.2s
KTH IAMs_20 IAMs_20 17 13 15.3
comp=Z,4µm,20.0s
Q23K Middleton Isla 82.72 28 P **P** **16 38 10.2 -0.5**
baz=245
CHMS Chumysh 82.77 315 P **P** **16 38 09.9 -1.6**
SNR=14
ARLS Aral 82.78 313 P **P** **16 38 10.7 -1.0**
ARLS pmax pmax
comp=Z,15nm,0.8s
FRU1 Bishkek 82.81 314 P **P** **16 38 11.3 -0.4**
FRU1 pmax pmax
comp=Z,17nm,0.9s
F20K Avaraart Lake 82.83 19 P **P** **16 38 11.2 0.0**
baz=235
AAK Ala-Archa 82.86 314 P **P** **16 38 10.4 -1.7**
AAK Ala-Archa 82.86 314 LR LR 17 14 44.3
comp=Z,2µm,21.3s,baz=102,slow=35
AAK Ala-Archa 82.86 314 P **P** **16 38 10.7 -1.4**
SNR=21
AAK Ala-Archa 82.86 314 *c iP* **P** **16 38 10.4 -1.7**
AAK pmax pmax
comp=Z,23nm,1.0s
TRF Thorofare Moun 82.87 23 IAMs_20 IAMs_20 17 13 42.6
comp=Z,4µm,20.0s
TRF Thorofare Moun 82.87 23 P **P** **16 38 10.9 -0.8**
baz=241,SNR=12
SML Sawmill 82.89 25 IAmb IAmb 16 38 13.1
comp=Z,154nm,1.3s
SML Sawmill 82.89 25 P **P** **16 38 11.2 -0.5**
baz=243,SNR=17
MAW Mawson 82.91 203 P **P** **16 38 10.4 -1.2**
comp=Z,59nm,1.0s,baz=85,slow=6.1,SNR=2.4
comp=Z,59nm,1.0s
BPAW Bear Paw Mtn. 82.92 23 P **P** **16 38 11.3 -0.5**
baz=240,SNR=19
D19K Kuna River 82.94 17 IAMs_20 IAMs_20 17 13 07.0
comp=Z,5µm,20.0s
D19K Kuna River 82.94 17 P **P** **16 38 11.8 0.0**
baz=233,SNR=20
SGDS Sogindy 82.98 315 *eP* **P** **16 38 10.9 -1.6**
SGDS pmax pmax
comp=Z,60nm,0.9s
SGDS Sogindy 82.98 315 *eP* **P** **16 38 11.0 -1.6**
comp=Z,60nm,0.9s
GLI Glacier Island 83.01 26 P **P** **16 38 11.8 -0.4**
baz=244
USP Ospenovka 83.02 315 P **P** **16 38 11.4 -1.4**
SNR=24
H21K Melozitna Rive 83.05 21 IAMs_20 IAMs_20 17 09 17.1
comp=Z,5µm,22.0s
H21K Melozitna Rive 83.05 21 P **P** **16 38 12.4 0.0**
baz=238,SNR=14
I21K Tanana 83.10 21 IAmb IAmb 16 38 21.0

comp=Z,69nm,1.2s
I21K IAMs_20 IAMs_20 17 10 43.5
comp=Z,4µm,21.0s
I21K Tanana 83.10 21 P **P** **16 38 12.5 -0.1**
baz=239,SNR=25
M23K Glacier View 83.14 25 P **P** **16 38 12.7 -0.2**
baz=243,SNR=5.1
A19K Wainwright 83.19 15 P **P** **16 38 12.7 -0.2**
baz=230
G21K Allakaket 83.27 20 IAMs_20 IAMs_20 17 12 20.8
comp=Z,5µm,20.0s
G21K Allakaket 83.27 20 P **P** **16 38 13.8 +0.3**
baz=238,SNR=19
AML Almayashu 83.31 314 P **P** **16 38 13.7 -1.0**
SNR=81
SCM Sheep Creek Mo 83.33 25 IAmb IAmb 16 38 15.7
comp=Z,100nm,1.2s
SCM IAMs_20 IAMs_20 17 09 01.8
comp=Z,5µm,22.0s
SCM Sheep Creek Mo 83.33 25 P **P** **16 38 13.3 -0.6**
baz=244,SNR=9.3
EKS2 Erkin-Say 83.38 314 P **P** **16 38 13.7 -1.0**
SNR=34
E20K Nigu River 83.38 18 P **P** **16 38 13.2 -0.9**
baz=235
RND Reindeer 83.42 24 IAmb IAmb 16 38 17.4
comp=Z,53nm,0.7s
RND IAMs_20 IAMs_20 17 11 33.0
comp=Z,5µm,20.0s
RND Reindeer 83.42 24 P **P** **16 38 12.0 -2.4**
EYAK Cordova Ski Ar 83.47 27 P **P** **16 38 13.6 -1.0**
baz=245
D20K Etivluk River 83.52 17 P **P** **16 38 14.2 -0.5**
baz=234,SNR=24
MCK McKinley 83.54 23 IAmb IAmb 16 38 16.2
comp=Z,116nm,1.0s
MCK McKinley 83.54 23 P **P** **16 38 13.1 -1.9**
baz=242,SNR=50
BWN Browne 83.54 23 IAMs_20 IAMs_20 17 11 55.9
comp=Z,3µm,19.0s
OHH Osh 83.58 312 P **P** **16 38 14.6 -1.2**
OHH pmax pmax
comp=Z,48nm,1.0s
F21K Alatna River 83.66 19 IAMs_20 IAMs_20 17 11 04.4
comp=Z,5µm,21.0s
F21K Alatna River 83.66 19 P **P** **16 38 14.3 -1.2**
baz=238
H22K Ishtalitna Cre 83.68 21 P **P** **16 38 14.6 -1.0**
baz=240,SNR=18
DIV Divide 83.70 26 IAmb IAmb 16 38 17.7
comp=Z,68nm,1.2s
KLU Klutina 83.79 26 IAmb IAmb 16 38 18.2
comp=Z,89nm,1.2s
KLU Klutina 83.79 26 P **P** **16 38 15.0 -1.3**
baz=245
KAIM Kayak Island 83.82 28 P **P** **16 38 15.2 -1.2**
baz=247
QSPA South Pole Qui 83.85 180 IAMs_20 IAMs_20 17 13 58.0
comp=Z,4µm,21.0s
QSPA South Pole Qui 83.85 180 P **P** **16 38 16.2 -0.5**
comp=Z,166nm,1.0s,baz=333,slow=1.0,SNR=359
QSPA PKKPbc **PKKPbc** **16 56 33.1 -2.6**
comp=Z,0.5nm,0.4s,baz=336,slow=2.5,SNR=9.0
QSPA LR LR 17 14 09.9
comp=Z,4µm,20.9s,baz=4.0,slow=34
comp=Z,166nm,1.0s
NEA2 Nenana 83.89 23 IAmb IAmb 16 38 17.4
comp=Z,78nm,1.2s
NEA2 IAMs_20 IAMs_20 17 13 14.5
comp=Z,4µm,20.0s
NEA2 Nenana 83.89 23 P **P** **16 38 15.9 -0.8**
baz=242,SNR=30
M24K Tolsona, Glenn 83.94 25 IAMs_20 IAMs_20 17 10 15.9
comp=Z,6µm,22.0s
M24K Tolsona, Glenn 83.94 25 P **P** **16 38 16.7 -0.4**
baz=245,SNR=8.9
I23K Minto, Yukon-K 84.05 22 IAmb IAmb 16 38 56.6
comp=Z,61nm,1.6s
I23K Minto, Yukon-K 84.05 22 P **P** **16 38 17.1 -0.3**
baz=242,SNR=8.5
B20K Meade River 84.12 16 P **P** **16 38 17.5 -0.2**
baz=234
BMRM Bremner River 84.15 27 IAmb IAmb 16 39 23.2
comp=Z,78nm,1.3s
BMRM Bremner River 84.15 27 P **P** **16 38 17.5 -0.7**
baz=246
E21K Killik River 84.17 18 IAMs_20 IAMs_20 17 12 14.7
comp=Z,4µm,20.0s
E21K Killik River 84.17 18 P **P** **16 38 17.5 -0.6**
baz=237
F22K John River 84.24 19 P **P** **16 38 17.9 -0.6**
baz=239
H23K Yukon River 84.30 21 IAMs_20 IAMs_20 17 12 03.3
comp=Z,4µm,20.0s
H23K Yukon River 84.30 21 P **P** **16 38 18.2 -0.6**
baz=241
C21K Knifeblade Rid 84.31 17 P **P** **16 38 18.3 -0.5**
baz=236,SNR=11
CCB Clear Creek Bu 84.40 23 IAmb IAmb 16 38 19.7
comp=Z,93nm,1.3s
CCB IAMs_20 IAMs_20 17 13 29.9
comp=Z,4µm,21.0s
N25K Chitina, Valde 84.41 26 IAmb IAmb 16 38 53.2
comp=Z,104nm,1.8s
BGLC Bering Glacier 84.42 28 P **P** **16 38 17.8 -1.6**
baz=248
ARK Arkit 84.48 313 P **P** **16 38 19.1 -1.3**
ARK pmax pmax
comp=Z,38nm,1.1s
COLA College 84.49 22 P **P** **16 38 19.1 -0.6**
COLA IAmb IAmb 16 38 20.1
comp=Z,84nm,1.1s
COLA College 84.49 22 IAMs_20 IAMs_20 17 13 41.1
comp=Z,4µm,20.0s
COLA College 84.49 22 P **P** **16 38 20.5 +0.8**
comp=Z,27nm,0.7s
COLA College 84.49 22 *d iP* **P** **16 38 18.2 -1.5**
COLA pmax pmax
comp=Z,91nm,1.2s
COLA College 84.49 22 P **P** **16 38 17.7 -1.9**
baz=243
HARP HAARP 84.50 25 P **P** **16 38 18.8 -1.1**
baz=246
G23K Bananza Creek 84.56 20 IAMs_20 IAMs_20 17 12 42.0
comp=Z,4µm,20.0s
G23K Bananza Creek 84.56 20 P **P** **16 38 19.2 -1.0**
baz=241,SNR=23
PAX Paxson 84.60 25 IAmb IAmb 16 38 50.9
comp=Z,58nm,1.6s
PAX Paxson 84.60 25 P **P** **16 38 19.7 -0.8**
baz=245,SNR=9.4
B21K Ikpikpuk River 84.62 17 IAMs_20 IAMs_20 17 13 14.4
comp=Z,5µm,20.0s
B21K Ikpikpuk River 84.62 17 P **P** **16 38 20.2 -0.1**
baz=236,SNR=18
HDA Harding Lake 84.63 23 IAmb IAmb 16 38 22.8
comp=Z,28nm,0.8s
HDA IAMs_20 IAMs_20 17 13 39.9
comp=Z,4µm,21.0s
HDA Harding Lake 84.63 23 P **P** **16 38 20.2 -0.2**
baz=244,SNR=18
E22K Anaktuvuk Pass 84.68 19 IAmb IAmb 16 38 22.9
comp=Z,65nm,1.3s
E22K Anaktuvuk Pass 84.68 19 P **P** **16 38 20.0 -0.7**
baz=239,SNR=24
GLB Gilahina Butte 84.69 26 IAmb IAmb 16 38 22.6
comp=Z,65nm,1.3s
POKR Poker Plat Res 84.75 22 IAMs_20 IAMs_20 17 13 49.3
comp=Z,4µm,20.0s
POKR Poker Plat Res 84.75 22 P **P** **16 38 19.9 -1.2**
baz=243,SNR=6.2
COLD Coldfoot 84.76 20 IAmb IAmb 16 38 23.4
comp=Z,64nm,1.3s
COLD Coldfoot 84.76 20 P **P** **16 38 20.3 -0.7**
baz=241,SNR=28
VRDI Verde Repeater 84.77 27 IAmb IAmb 16 38 54.8
comp=Z,116nm,1.5s
D22K Ayikyak River 84.80 18 IAMs_20 IAMs_20 17 13 36.3
comp=Z,4µm,20.0s
D22K Ayikyak River 84.80 18 P **P** **16 38 20.3 -0.9**
baz=238
IL31 84.81 23 IAmb IAmb 16 38 23.8
comp=Z,33nm,0.7s
ILAR Eielson Array 84.81 23 P **P** **16 38 19.6 -1.7**
comp=Z,27nm,0.6s,baz=251,slow=4.7,SNR=134
ILAR PKKPbc **PKKPbc** **16 56 30.9 -2.3**
comp=Z,1.0nm,0.6s,baz=3.7,slow=1.9,SNR=12
ILAR LR LR 17 13 12.2

comp=Z,2µm,20.3s,baz=249,slow=34
comp=Z,27nm,0.6s
K24K Donnelly Dome 84.83 24 P **P 16 38 20.8 -0.7**
baz=245
H24K Noodor Dome 84.92 22 IAMs_20 IAMs_20 17 12 11.4
comp=Z,4µm,20.0s
H24K Noodor Dome 84.92 22 P **P 16 38 20.8 -1.1**
baz=243,SNR=18
BTK Batken 84.94 311 IAmb IAmb 16 39 00.6
comp=Z,52nm,1.4s
BTK Batken 84.94 311 P **P 16 38 20.9 -1.8**
BTK pmax pmax
comp=Z,25nm,1.6s
TRKS Terek-Say 85.02 313 P **P 16 38 21.6 -1.6**
TRKS pmax pmax
comp=Z,22nm,1.2s
A21K Barrow 85.05 15 P **P 16 38 21.9 -0.4**
baz=234
MESA MESA 85.06 28 P **P 16 38 21.2 -1.7**
baz=249
KBU Kabul Universi 85.16 305 P P 16 38 18.3 -5.7
RIDG Independent Ri 85.18 24 IAmb IAmb 16 38 24.8
comp=Z,100nm,1.3s
RIDG Independent Ri 85.18 24 P **P 16 38 22.6 -0.6**
baz=246,SNR=28
DZA Taraz 85.18 314 *e*P **P 16 38 22.1 -1.6**
DZA pmax pmax
comp=Z,32nm,1.0s
DZA Taraz 85.18 314 *e*P **P 16 38 22.1 -1.6**
comp=Z,32nm,1.0s
KBL Kabul 85.23 305 P **P 16 38 22.0 -2.4**
KBL Kabul 85.23 305 P **P 16 38 22.0 -2.4**
KBL pmax pmax
comp=Z,24nm,1.3s
A22K Sinclair Lake 85.30 16 P **P 16 38 23.5 -0.1**
baz=236
MENT Mentasta 85.32 25 IAmb IAmb 16 39 25.5
comp=Z,54nm,1.3s
J25K Salcha River, 85.33 23 P **P 16 38 23.1 -1.0**
baz=245
E23K Chandalar 85.36 19 IAmb IAmb 16 38 26.5
comp=Z,72nm,1.3s
E23K IAMs_20 IAMs_20 17 11 37.0
comp=Z,4µm,21.0s
E23K Chandalar 85.36 19 P **P 16 38 23.3 -0.8**
baz=241
B22K Teshekpuk Lake 85.36 17 IAmb IAmb 16 39 01.4
comp=Z,51nm,1.3s
B22K IAMs_20 IAMs_20 17 11 24.0
comp=Z,4µm,22.0s
B22K Teshekpuk Lake 85.36 17 P **P 16 38 23.4 -0.6**
baz=237
M26K Nabesna, AK 85.42 26 P **P 16 38 23.9 -0.6**
baz=248
G24K Hadweenzic Riv 85.45 21 P **P 16 38 24.6 +0.1**
baz=243
DOT Dot Lake 85.46 24 IAmb IAmb 16 38 26.2
comp=Z,96nm,1.2s
D23K Nanushuk River 85.47 18 IAMs_20 IAMs_20 17 12 36.7
comp=Z,6µm,20.0s
D23K Nanushuk River 85.47 18 P **P 16 38 24.3 -0.2**
baz=240,SNR=70
L26K Log Cabin Wild 85.51 25 IAmb IAmb 16 38 26.8
comp=Z,55nm,1.4s
L26K IAMs_20 IAMs_20 17 11 25.4
comp=Z,6µm,21.0s
L26K Log Cabin Wild 85.51 25 P **P 16 38 24.3 -0.6**
baz=247,SNR=8.9
SCRK Sand Creek 85.62 24 IAmb IAmb 16 38 27.1
comp=Z,45nm,1.3s
SCRK IAMs_20 IAMs_20 17 12 20.3
comp=Z,5µm,21.0s
SCRK Sand Creek 85.62 24 P **P 16 38 24.9 -0.6**
baz=247,SNR=16
PRP Porcupine Dome 85.65 22 P **P 16 38 25.0 -0.7**
baz=245
TOLK Toolik Lake Re 85.66 19 IAmb IAmb 16 38 27.8
comp=Z,57nm,1.3s
TOLK Toolik Lake Re 85.66 19 P **P 16 38 25.1 -0.4**
baz=241,SNR=21
F24K Squaw Lake 85.68 20 IAMs_20 IAMs_20 17 11 24.6
comp=Z,6µm,22.0s
F24K Squaw Lake 85.68 20 P **P 16 38 25.3 -0.4**
baz=243
E24K Your Creek 85.74 20 IAMs_20 IAMs_20 17 10 32.0
comp=Z,4µm,22.0s
E24K Your Creek 85.74 20 P **P 16 38 25.9 -0.1**
baz=242
KK31 Karatay Array 85.82 314 IAmb IAmb 16 38 28.4
comp=Z,66nm,1.2s
KKAR Karatay Array 85.82 314 P **P 16 38 24.5 -2.4**
KKAR Karatay Array 85.82 314 IAmb IAmb 16 38 28.3
comp=Z,42nm,1.2s
KKAR Karatay Array 85.82 314 P **P 16 38 24.5 -2.4**
PINM Pinnacle 85.83 28 P **P 16 38 26.1 -0.6**
baz=250
H25L Birch Creek 85.86 22 P **P 16 38 26.3 -0.3**
baz=245,SNR=13
M27K Edge Creek, AK 85.89 26 IAMs_20 IAMs_20 17 11 31.4
comp=Z,4µm,22.0s
M27K Edge Creek, AK 85.89 26 P **P 16 38 26.5 -0.4**
baz=249,SNR=28
C23K Itkillik River 85.92 18 IAMs_20 IAMs_20 17 13 45.9
comp=Z,5µm,20.0s
C23K Itkillik River 85.92 18 P **P 16 38 27.1 +0.4**
baz=240
BRZS Berezniki 85.95 321 *e*P **P 16 38 25.8 -1.5**
BRZS Berezniki 85.95 321 *e*P **P 16 38 25.8 -1.5**
IUG luzhnay 85.96 313 *e*P **P 16 38 26.2 -1.5**
IUG pmax pmax
comp=Z,45nm,1.2s
IUG luzhnay 85.96 313 *e*P **P 16 38 26.2 -1.5**
comp=Z,45nm,1.2s
G25K Bearman Lake 85.97 21 P **P 16 38 26.8 -0.3**
baz=244
J26L Joseph Creek 86.00 24 IAMs_20 IAMs_20 17 13 24.2
comp=Z,5µm,20.0s
J26L Joseph Creek 86.00 24 P **P 16 38 26.6 -0.8**
baz=247
SIMJ Simiganj 86.04 309 P **P 16 38 25.5 -2.8**
SIMJ IAmb IAmb 16 38 41.4
comp=Z,34nm,0.9s
O28M Mount Upton 86.08 28 P **P 16 38 27.7 -0.5**
baz=250,SNR=6.4
PNL Peninsula 86.09 29 P **P 16 38 27.2 -0.6**
baz=251
D24K Happy Valley 86.14 18 P **P 16 38 27.4 -0.5**
baz=242
L27K Beaver Creek, 86.17 25 IAMs_20 IAMs_20 17 11 55.7
comp=Z,4µm,20.0s
L27K Beaver Creek, 86.17 25 P **P 16 38 27.8 -0.3**
baz=249
BCAR Beaver Creek A 86.19 25 P **P 16 38 26.8 -1.5**
FYU Fort Yukon 86.20 21 IAmb IAmb 16 38 30.3
comp=Z,106nm,1.4s
FYU IAMs_20 IAMs_20 17 12 50.5
comp=Z,4µm,21.0s
DZET Dzherino 86.20 310 P **P 16 38 26.9 -2.1**
DZET pmax pmax
comp=Z,25nm,1.3s
BRLS Boroldaу 86.28 314 *e*P **P 16 38 27.8 -1.4**
BRLS Boroldaу 86.28 314 *e*P **P 16 38 27.8 -1.4**
YUK3 Moose Creek 86.31 27 P **P 16 38 28.6 -0.5**
baz=250,SNR=16
BVCY Beaver Creek 86.35 26 P **P 16 38 28.6 -0.5**
baz=250,SNR=16
K27K Chicken 86.42 24 IAmb IAmb 16 38 32.0
comp=Z,100nm,1.2s
K27K IAMs_20 IAMs_20 17 12 45.6
comp=Z,5µm,21.0s
K27K Chicken 86.42 24 P **P 16 38 29.3 0.0**
baz=248
C24K Franklin Bluff 86.45 18 IAMs_20 IAMs_20 17 12 59.0
comp=Z,5µm,21.0s
C24K Franklin Bluff 86.45 18 P **P 16 38 29.0 -0.3**
baz=242
YUK8 Steele Glacier 86.45 27 P **P 16 38 29.0 -0.9**
baz=251,SNR=7.4
I26K Coal Creek Min 86.47 23 IAMs_20 IAMs_20 17 15 34.9
comp=Z,4µm,20.0s
I26K Coal Creek Min 86.47 23 P **P 16 38 29.5 -0.1**
baz=247
F25K Christian Rive 86.49 20 IAMs_20 IAMs_20 17 11 47.9
comp=Z,4µm,22.0s
F25K Christian Rive 86.49 20 P **P 16 38 29.0 -0.7**
baz=245
O29M Mount Kennedy 86.69 28 P **P 16 38 30.1 -0.8**
baz=252

E25K Arctic Village 86.74 20 IAmb IAmb 16 39 38.3
comp=Z,59nm,1.6s
E25K IAMs_20 IAMs_20 17 14 00.7
comp=Z,4µm,19.0s
E25K Arctic Village 86.74 20 P **P 16 38 30.5 -0.3**
baz=245,SNR=14
BMAR Burnt Mountain 86.79 21 P **P 16 38 30.0 -1.1**
G26K Porcupine Rive 86.88 21 P **P 16 38 31.5 0.0**
baz=247,SNR=35
YUK4 Talbot Arm 86.98 27 P **P 16 38 32.5 +0.1**
baz=252,SNR=18
YUK6 Outpost Mounta 86.99 28 P **P 16 38 31.8 -0.7**
baz=252
D25K Kavik River 87.00 19 IAMs_20 IAMs_20 17 13 23.1
comp=Z,5µm,21.0s
D25K Kavik River 87.00 19 P **P 16 38 31.8 -0.4**
baz=244
F26K Sheenjek River 87.05 21 IAMs_20 IAMs_20 17 12 05.0
comp=Z,5µm,22.0s
F26K Sheenjek River 87.05 21 P **P 16 38 33.1 +0.6**
baz=246
S31K Pelican 87.15 31 P **P 16 38 33.0 +0.1**
baz=254
I27K Kandik River 87.18 23 P **P 16 38 32.5 -0.6**
baz=249,SNR=44
HYT Haines Junctio 87.35 28 P **P 16 38 33.6 -0.6**
baz=253,SNR=23
SIT Sitka 87.37 32 P **P 16 38 33.9 -0.2**
baz=255
P30M Million Dollar 87.40 29 P **P 16 38 33.4 -0.8**
baz=253
M29M Somme Creek 87.41 26 P **P 16 38 34.3 -0.1**
baz=252
H27K Steamboat Moun 87.44 22 P **P 16 38 34.5 +0.1**
baz=249
PLBC Pleasant Camp 87.50 30 P **P 16 38 34.0 -0.7**
baz=254,SNR=5.9
DAWY Dawson 87.54 25 P **P 16 38 34.5 -0.4**
baz=251,SNR=55
G27K Doyon Strip 87.61 22 P **P 16 38 34.6 -0.5**
baz=249,SNR=19
C26K Camden Bay 87.71 18 P **P 16 38 35.1 -0.4**
baz=245
N30M Aishikik Lake 87.73 28 P **P 16 38 35.5 -0.4**
baz=253
L29M L29M 87.77 26 IAMs_20 IAMs_20 17 11 19.0
comp=Z,5µm,22.0s
L29M L29M 87.77 26 P **P 16 38 35.3 -0.7**
baz=252
I28M Miner Creek 87.78 23 IAMs_20 IAMs_20 17 12 36.4
comp=Z,5µm,22.0s
I28M Miner Creek 87.78 23 P **P 16 38 35.5 -0.6**
baz=250
S32K Killisnoo 87.87 32 P **P 16 38 36.5 0.0**
baz=255
C27K Jago River 87.98 19 IAmb IAmb 16 38 39.3
comp=Z,94nm,1.2s
C27K IAMs_20 IAMs_20 17 14 17.1
comp=Z,4µm,20.0s
C27K Jago River 87.98 19 P **P 16 38 37.0 +0.2**
baz=247
O30N Mendenhall 88.00 28 IAmb IAmb 16 38 39.5
comp=Z,90nm,1.3s
O30N Mendenhall 88.00 28 P **P 16 38 37.2 +0.1**
baz=254,SNR=17
SKAG Skagway 88.01 30 IAmb IAmb 16 38 39.5
comp=Z,105nm,1.5s
SKAG Skagway 88.01 30 P **P 16 38 36.9 -0.2**
baz=254
BESE Bessie Mountai 88.01 31 IAmb IAmb 16 38 39.6
comp=Z,71nm,1.2s
BVAR Borovoye Array 88.05 324 P **P 16 38 35.7 -1.8**
comp=Z,14nm,0.8s,baz=104,slow=6.1,SNR=34
BVAR PKKPbc **PKKPbc 16 56 23.7 -1.1**
comp=Z,1.4nm,0.7s,baz=302,slow=2.1,SNR=5.7
BVAR PKPPKP **P'P'df 17 04 30.1 +0.3**
comp=Z,2.9nm,1.0s,baz=318,slow=2.0,SNR=9.5
BVAR LR LR 17 19 31.6
comp=Z,2µm,19.8s,baz=89,slow=37
comp=Z,14nm,0.8s
R32K Eaglecrest 88.11 31 P **P 16 38 37.9 +0.3**
baz=255
BRVK Borovoye 88.12 324 P **P 16 38 35.5 -2.3**
BRVK Borovoye 88.12 324 *c i*P **P 16 38 34.9 -2.9**
BRVK pmax pmax
comp=Z,22nm,1.2s
E27K Coleen River 88.13 20 IAMs_20 IAMs_20 17 15 26.3
comp=Z,4µm,20.0s
E27K Coleen River 88.13 20 P **P 16 38 36.9 -0.7**
baz=249
J29N Klondike Camp 88.15 24 IAmb IAmb 16 38 40.4
comp=Z,93nm,1.2s
J29N Klondike Camp 88.15 24 P **P 16 38 37.5 -0.3**
baz=252,SNR=29
CRAG Craig 88.17 34 P **P 16 38 37.5 -0.4**
baz=256
M30M Minto, Yukon 88.19 26 IAmb IAmb 16 38 40.3
comp=Z,39nm,1.1s
M30M Minto, Yukon 88.19 26 P **P 16 38 38.1 +0.1**
baz=253,SNR=23
K29M Barlow Dome 88.25 25 IAMs_20 IAMs_20 17 13 34.8
comp=Z,5µm,19.0s
K29M Barlow Dome 88.25 25 P **P 16 38 38.6 +0.3**
baz=252
U33K Whale Pass 88.32 33 P **P 16 38 39.0 +0.4**
baz=256
I29M Ogilvie Camp, 88.40 24 IAmb IAmb 16 38 40.7
comp=Z,66nm,1.2s
I29M IAMs_20 IAMs_20 17 15 55.7
comp=Z,4µm,20.0s
I29M Ogilvie Camp, 88.40 24 P **P 16 38 38.5 -0.4**
baz=252
WHY Whitehorse 88.54 29 IAmb IAmb 16 38 41.3
comp=Z,75nm,1.2s
WHY Whitehorse 88.54 29 P **P 16 38 39.5 -0.3**
baz=255,SNR=8.1
H29M Whitestone 88.64 23 IAMs_20 IAMs_20 17 13 58.0
comp=Z,4µm,22.0s
H29M Whitestone 88.64 23 P **P 16 38 40.3 +0.3**
baz=252
D27M Malcolm River 88.73 20 P **P 16 38 40.8 +0.3**
baz=249
WRAK Wrangell Islan 88.81 33 P **P 16 38 40.4 -0.5**
baz=257
P32M Atlin 88.84 30 IAmb IAmb 16 38 43.3
comp=Z,38nm,1.2s
P32M Atlin 88.84 30 P **P 16 38 40.9 -0.2**
baz=256,SNR=5.6
MAYO Mayo, Yukon 88.88 26 IAmb IAmb 16 39 10.1
comp=Z,65nm,0.9s
MAYO Mayo, Yukon 88.88 26 P **P 16 38 41.3 +0.2**
baz=254
J30M Hart River 88.97 25 P **P 16 38 41.5 -0.2**
baz=254
V35K Ketchikan 88.97 34 P **P 16 38 41.6 -0.1**
baz=258
G29M Pine Creek 88.99 22 IAMs_20 IAMs_20 17 15 46.1
comp=Z,3µm,19.0s
G29M Pine Creek 88.99 22 P **P 16 38 41.3 -0.4**
baz=252
E28M Babbage River 89.00 20 IAMs_20 IAMs_20 17 14 58.3
comp=Z,5µm,22.0s
E28M Babbage River 89.00 20 P **P 16 38 41.4 -0.2**
baz=250
I30M Mount Dempster 89.13 24 P **P 16 38 42.4 -0.1**
baz=254
M31M Drury Creek, Y 89.17 27 IAmb IAmb 16 39 45.7
comp=Z,51nm,1.4s
M31M Drury Creek, Y 89.17 27 P **P 16 38 42.3 -0.3**
baz=255,SNR=8.1
Q32M Nakina River 89.41 31 P **P 16 38 43.3 -0.7**
baz=257
P33M Teslin, Yukon 89.42 29 P **P 16 38 43.8 0.0**
baz=257
E29M Blow River 89.50 21 IAMs_20 IAMs_20 17 16 25.6
comp=Z,3µm,20.0s
E29M Blow River 89.50 21 P **P 16 38 44.7 +0.7**
baz=252
D28M Stokes Point 89.50 20 P **P 16 38 44.5 +0.6**
baz=251
N32M Quiet Lake 89.52 28 IAmb IAmb 16 39 12.3
comp=Z,99nm,1.4s
N32M Quiet Lake 89.52 28 P **P 16 38 44.7 +0.5**
baz=256
FARO Faro, Yukon 89.65 27 IAmb IAmb 16 39 12.5
comp=Z,47nm,1.4s
FARO Faro, Yukon 89.65 27 P **P 16 38 45.4 +0.6**
baz=256,SNR=7.8

G30M tAoh Zraii Nji 89.69 22 IAMs_20 IAMs_20 17 14 52.6
comp=Z,5µm,20.0s
G30M tAoh Zraii Nji 89.69 22 P **P 16 38 45.4 +0.5**
baz=254
S34M Telegraph Cree 89.77 32 IAmb IAmb 16 39 16.5
comp=Z,43nm,1.4s
S34M Telegraph Cree 89.77 32 P **P 16 38 46.4 +0.9**
baz=258
F30M Barrier River 90.03 22 P **P 16 38 46.6 +0.1**
baz=254
T35M Bob Quinn 90.06 33 P **P 16 38 46.5 -0.3**
baz=259
H31M Peel River 90.10 24 IAMs_20 IAMs_20 17 14 41.6
comp=Z,4µm,21.0s
H31M Peel River 90.10 24 P **P 16 38 46.6 -0.3**
baz=255
R33M Jennings River 90.16 30 IAmb IAmb 16 39 45.8
comp=Z,49nm,1.4s
R33M Jennings River 90.16 30 P **P 16 38 47.8 +0.4**
baz=258,SNR=5.4
G31M Satah River 90.42 23 IAmb IAmb 16 38 52.3
comp=Z,33nm,0.8s
G31M IAMs_20 IAMs_20 17 15 22.9
comp=Z,4µm,21.0s
G31M Satah River 90.42 23 P **P 16 38 48.0 -0.2**
baz=255
BBB Bella Bella 90.43 38 LR LR 17 14 02.7
comp=Z,4µm,19.5s,baz=272,slow=32
DLBC Dease Lake 90.45 31 IAmb IAmb 16 39 15.7
comp=Z,53nm,1.6s
DLBC Dease Lake 90.45 31 LR LR 17 15 54.4
comp=Z,3µm,18.7s,baz=266,slow=33
DLBC Dease Lake 90.45 31 P **P 16 38 48.4 -0.3**
baz=259
MMPY Sheldon Lake, 90.68 27 IAmb IAmb 16 39 53.9
comp=Z,58nm,1.6s
MMPY Sheldon Lake, 90.68 27 P **P 16 38 49.4 -0.2**
baz=258
F31M Tsiigehtchic 90.75 22 IAmb IAmb 16 38 51.7
comp=Z,113nm,1.7s
F31M IAMs_20 IAMs_20 17 15 43.6
comp=Z,3µm,20.0s
F31M Tsiigehtchic 90.75 22 P **P 16 38 49.3 -0.4**
baz=256
RER Riviere de l'E 90.86 249 P **P 16 38 51.2 -0.2**
INK Inuvik 91.03 21 IAmb IAmb 16 38 52.2
comp=Z,39nm,1.1s
INK Inuvik 91.03 21 LR LR 17 15 14.1
comp=Z,2µm,21.4s,baz=236,slow=32
INK Inuvik 91.03 21 P **P 16 38 49.6 -1.5**
INK pmax pmax
comp=Z,31nm,1.6s
INK Inuvik 91.03 21 P **P 16 38 50.4 -0.7**
baz=256
SYO Syowa Base 91.17 200 ‖ *i*P **P 16 38 52.9 +1.2**
SYO Syowa Base 91.17 200 ‖ *ep*P pP 16 39 04.0 -1.7
WTLY Watson Lake, Y 91.37 30 IAmb IAmb 16 39 38.1
comp=Z,42nm,1.2s
WTLY Watson Lake, Y 91.37 30 P **P 16 38 52.4 -0.5**
baz=260
KBO Bosley Butte 91.67 48 IAMs_20 IAMs_20 17 11 50.1
comp=Z,5µm,21.0s
TGTN Hyland Airport 91.86 28 P **P 16 38 54.3 -0.9**
baz=261
KHMM Horse Mountain 91.88 49 IAMs_20 IAMs_20 17 14 38.9
comp=Z,3µm,18.0s
J01E Myrtle Point 91.99 47 IAMs_20 IAMs_20 17 12 00.6
comp=Z,5µm,20.0s
I02E Swisshome, OR 92.16 46 IAMs_20 IAMs_20 17 14 31.9
comp=Z,4µm,20.0s
I03D Drain, OR 92.47 46 IAMs_20 IAMs_20 17 11 31.3
comp=Z,6µm,22.0s
F03A Seaside 92.56 44 IAMs_20 IAMs_20 17 11 29.4
comp=Z,5µm,22.0s
WSAR Wadi Sarin 92.74 293 LR LR 17 27 33.7
comp=Z,278nm,18.1s,baz=125,slow=40
YBH Yreka Blue Hor 92.74 49 P **P 16 38 59.4 -0.3**
YBH IAMs_20 IAMs_20 17 12 45.5
comp=Z,6µm,22.0s
YBH Yreka Blue Hor 92.74 49 LR LR 17 13 07.9
comp=Z,5µm,22.0s,baz=262,slow=31
YBH Yreka Blue Hor 92.74 49 P **P 16 38 59.4 -0.3**
YBH pmax pmax
comp=Z,13nm,1.2s
YBH pmax pmax
comp=Z,6µm,22.0s
BUCK Buck Mountain 92.78 46 IAMs_20 IAMs_20 17 11 39.5
comp=Z,5µm,22.0s
TOAD Toad River Com 92.99 31 P **P 16 38 59.9 -0.5**
baz=263
H04D Lebanon 92.99 46 IAMs_20 IAMs_20 17 11 45.0
comp=Z,5µm,22.0s
I04A Tendick Farm, 93.16 46 IAMs_20 IAMs_20 17 12 24.4
comp=Z,4µm,21.0s
GNW Green Mountain 93.23 43 IAMs_20 IAMs_20 17 12 41.9
comp=Z,3µm,22.0s
J04A Umpqua Nationa 93.33 47 IAmb IAmb 16 39 06.2
comp=Z,45nm,1.4s
J04A IAMs_20 IAMs_20 17 12 32.9
comp=Z,5µm,22.0s
H04A Detroit Lake 93.40 46 IAMs_20 IAMs_20 17 11 45.8
comp=Z,5µm,22.0s
K04D Chiloquin, OR 93.53 48 IAMs_20 IAMs_20 17 13 12.4
comp=Z,5µm,22.0s
HATC Hat Creek Radi 93.59 50 IAMs_20 IAMs_20 17 25 27.2
comp=Z,3µm,18.0s
KOTAN Kotaneelee Air 93.73 30 P **P 16 39 03.3 -0.4**
baz=264
D05A Enumclaw 93.76 43 IAMs_20 IAMs_20 17 12 56.0
comp=Z,4µm,21.0s
AFDM Forest Hills D 93.81 51 IAMs_20 IAMs_20 17 13 36.2
comp=Z,3µm,20.0s
HOOD Mount Hood Mea 93.83 45 IAMs_20 IAMs_20 17 12 54.2
comp=Z,4µm,21.0s
LON Longmire 93.84 44 IAMs_20 IAMs_20 17 12 44.3
comp=Z,5µm,22.0s
J05D Fort Rock, OR 93.97 47 P **P 16 39 04.9 -0.5**
J05D IAmb IAmb 16 39 56.7
comp=Z,41nm,1.5s
I05D Terrebonne, OR 93.97 46 IAmb IAmb 16 39 38.1
comp=Z,29nm,1.4s
I05D IAMs_20 IAMs_20 17 12 30.0
comp=Z,4µm,21.0s
ABKAR Akbulak array 93.99 319 P **P 16 39 02.9 -2.3**
ABKAR Akbulak array 93.99 319 IAmb IAmb 16 39 05.1
comp=Z,23nm,1.4s
SVE Sverdlovsk 94.19 327 *e*P **P 16 39 05.0 -0.9**
CMB Columbia Colle 94.19 52 IAMs_20 IAMs_20 17 13 26.4
comp=Z,4µm,21.0s
WRGLY Wrigley 94.30 27 IAmb IAmb 16 40 00.1
comp=Z,28nm,1.4s
WRGLY Wrigley 94.30 27 P **P 16 39 05.9 -0.4**
baz=265
A36M Sachs Harbour 94.45 18 IAmb IAmb 16 39 07.8
comp=Z,34nm,1.2s
A36M Sachs Harbour 94.45 18 P **P 16 39 06.5 -0.3**
baz=264
C36M Paulatuk 94.59 21 IAmb IAmb 16 39 08.2
comp=Z,30nm,1.4s
C36M Paulatuk 94.59 21 P **P 16 39 07.5 0.0**
baz=265
ELIB Princess Elisa 94.60 195 *d*P **P 16 39 08.0 +0.2**
comp=Z,46nm,1.3s
LTY Liberty 94.66 43 IAMs_20 IAMs_20 17 13 24.9
comp=Z,4µm,22.0s
BCW Bitter Crk WRg 94.75 55 IAMs_20 IAMs_20 17 14 45.3
comp=Z,4µm,20.0s
MXC Moxie City 94.87 44 IAMs_20 IAMs_20 17 13 39.4
comp=Z,4µm,21.0s
PNTR Pine Nut 94.89 51 IAMs_20 IAMs_20 17 13 49.6
comp=Z,4µm,20.0s
WAKR Walker 94.97 52 IAMs_20 IAMs_20 17 13 19.0
comp=Z,4µm,22.0s
F07A Phinny Hill Vi 95.08 45 IAMs_20 IAMs_20 17 14 07.1
comp=Z,4µm,21.0s
PAHR Pah Rah Range 95.09 51 IAMs_20 IAMs_20 17 14 09.0
comp=Z,3µm,20.0s
E07A Sunnyside 95.17 44 IAMs_20 IAMs_20 17 13 05.5
comp=Z,5µm,21.0s
I07A Izee 95.27 46 IAMs_20 IAMs_20 17 13 43.4
comp=Z,5µm,20.0s
AKTO Aktyubinsk 95.31 320 PKKPbc PKKPbc 16 56 05.2 -0.9
comp=Z,7.2nm,1.0s,baz=315,slow=3.4,SNR=6.4
AKTO LR LR 17 22 11.9
comp=Z,3µm,20.8s,baz=58,slow=36
HAWA Hanford 95.39 44 IAMs_20 IAMs_20 17 13 09.1
comp=Z,5µm,21.0s
ARTI Arti 95.40 326 P **P 16 39 09.6 -1.9**

ARTI Arti 95.40 326 LR LR 17 22 12.0
comp=Z,2µm,21.5s,baz=92,slow=35
ARTI Arti 95.40 326*c i*P **P** **16 39 09.3 -2.2**
ARTI 16 42 59.5
ARTI S **SKSac** **16 49 40.4 -2.7**
ARTI SP **SP** **16 51 38.6 -2.3**
ARTI pmax pmax
comp=Z,18nm,1.5s
ISA Isabella, Lake 95.56 55 IAMs_20 IAMs_20 17 17 34.8
comp=Z,4µm,19.0s
B08A Colville Reser 95.62 42 IAMs_20 IAMs_20 17 23 13.2
comp=Z,3µm,19.0s
LHV Little Huntoon 95.69 52 IAMs_20 IAMs_20 17 14 05.0
comp=Z,4µm,20.0s
RYN Ryan 95.70 52 IAMs_20 IAMs_20 17 14 15.1
comp=Z,4µm,21.0s
PASC Pasadena Art C 95.71 56 IAMs_20 IAMs_20 17 13 43.8
comp=Z,4µm,21.0s
E08A Dider Farm, El 95.72 44 IAMs_20 IAMs_20 17 14 16.9
comp=Z,4µm,21.0s
G08A Pilot Rock 95.73 45 IAMs_20 IAMs_20 17 14 04.3
comp=Z,5µm,21.0s
WVOR Wild Horse Val 95.81 48 IAmb IAmb 16 40 22.4
comp=Z,37nm,1.9s
WVOR Wild Horse Val 95.81 48 P **P** **16 39 14.9 +1.0**
D08A Wollman Farm, 95.84 43 IAMs_20 IAMs_20 17 14 11.1
comp=Z,3µm,21.0s
NVAR Mina Array Bea 95.86 52 P **P** **16 39 13.5 -0.8**
NVAR Mina Array Bea 95.86 52 P **P** **16 39 13.7 -0.6**
comp=Z,4.2nm,0.8s,baz=253,slow=6.8,SNR=14
NVAR PKPPKP **P'P'df** **17 04 15.5 -1.3**
comp=Z,0.6nm,0.8s,baz=18,slow=2.8,SNR=3.8
NVAR LR LR 17 14 57.1
comp=Z,3µm,21.3s,baz=278,slow=31
comp=Z,4.2nm,0.8s
CCAC Calif City Air 95.90 55 IAMs_20 IAMs_20 17 13 05.9
comp=Z,5µm,22.0s
J08A Circle Bar Ran 95.98 47 IAMs_20 IAMs_20 17 14 20.2
comp=Z,5µm,22.0s
C09A Chrisman Ranch 96.31 43 IAMs_20 IAMs_20 17 14 38.4
comp=Z,3µm,20.0s
E09A Wood Farm, Sta 96.35 44 IAmb IAmb 16 40 17.3
comp=Z,50nm,1.9s
E09A IAMs_20 IAMs_20 17 14 01.6
comp=Z,4µm,20.0s
Q09A Carvers 96.75 52 IAMs_20 IAMs_20 17 14 50.1
comp=Z,4µm,21.0s
BMO Blue Mountains 96.88 46 IAMs_20 IAMs_20 17 14 49.8
comp=Z,3µm,20.0s
GSC Goldstone, Bar 96.90 55 IAMs_20 IAMs_20 17 16 14.3
comp=Z,3µm,19.0s
NEW Newport 97.10 42 IAMs_20 IAMs_20 17 17 57.2
comp=Z,3µm,18.0s
NEW Newport 97.10 42 LR LR 17 17 46.7
comp=Z,2µm,20.4s,baz=264,slow=32
PFO Pinyon Flats O 97.11 57 LR LR 17 14 35.0
comp=Z,5µm,21.7s,baz=280,slow=30
PFO Pinyon Flats O 97.11 57 P **P** **16 39 19.4 -0.6**
PFO pmax pmax
comp=Z,6.0nm,1.4s
WCT Wildcat Mounta 97.11 54 IAMs_20 IAMs_20 17 16 30.7
comp=Z,4µm,20.0s
TPNV Topopah Spring 97.42 54 IAMs_20 IAMs_20 17 16 31.8
comp=Z,4µm,20.0s
VTX Valle De La Tr 97.58 59 IAMs_20 IAMs_20 17 14 05.7
comp=Z,4µm,21.0s
PLID Pearl Lake 97.81 45 IAMs_20 IAMs_20 17 17 40.5
comp=Z,4µm,20.0s
S11A Rachel 97.84 53 IAMs_20 IAMs_20 17 16 26.0
comp=Z,4µm,21.0s
CPBX Cerro Prieto 98.03 58 IAMs_20 IAMs_20 17 14 32.5
comp=Z,5µm,20.0s
NVL N'lazarevskaya 98.15 193 *e*P **P** **16 39 22.3 -1.4**
NVL pmax pmax
comp=Z,21nm,1.2s
NVL MLR MLR
comp=Z,5µm,18.0s
FOMA Nahampoana Res 98.27 244 IAMs_20 IAMs_20 17 17 50.7
comp=Z,3µm,22.0s
SHPR Sheep Range 98.28 54 P **P** **16 39 24.3 -0.9**
ELK Elko 98.31 50 IAMs_20 IAMs_20 17 18 32.0
comp=Z,3µm,20.0s
ELK Elko 98.31 50 LR LR 17 16 34.0
comp=Z,3µm,21.5s,baz=280,slow=31
YKA Yellowknife Ar 98.34 28 P **P** **16 39 23.5 -1.1**
YKA Yellowknife Ar 98.34 28 P **P** **16 39 23.2 -1.5**
comp=Z,4.4nm,1.1s,baz=274,slow=4.6,SNR=23
YKA PKKPbc **PKKPbc** **16 55 55.3 -2.9**
comp=Z,4.1nm,0.8s,baz=99,slow=2.6,SNR=9.7
YKA LR LR 17 20 46.4
comp=Z,3µm,20.4s,baz=287,slow=34
comp=Z,4.4nm,1.1s
YKA Yellowknife Ar 98.34 28 *i* P **P** **16 39 24.0 -0.6**
YKA pmax pmax
comp=Z,2.0nm,0.8s
SFX San Felipe 98.37 60 IAMs_20 IAMs_20 17 15 53.5
comp=Z,3µm,20.0s
PRN Pahroc Range 98.39 53 IAMs_20 IAMs_20 17 21 45.5
comp=Z,4µm,18.0s
V12A Nelson 98.51 55 IAMs_20 IAMs_20 17 16 53.9
comp=Z,4µm,21.0s
BLYC Blythe 98.73 57 IAMs_20 IAMs_20 17 14 50.9
comp=Z,5µm,22.0s
SPR3 Spring Creek 3 98.98 52 IAMs_20 IAMs_20 17 16 33.0
comp=Z,4µm,21.0s
TROLL Troll, Antarti 99.03 190 ⇑P **Pdif** **16 39 27.9 +0.1**
comp=Z,1µm,0.8s
ABPO Ambohimpanom 99.09 250 P **Pdif** **16 39 28.4 -0.8**
ABPO Ambohimpanom 99.09 250 P **Pdif** **16 39 28.4 -0.8**
ABPO pmax pmax
comp=Z,71nm,1.5s
MSO Missoula 99.25 44 IAMs_20 IAMs_20 17 16 24.2
comp=Z,3µm,20.0s
W13A Hualapai Mount 99.28 56 IAMs_20 IAMs_20 17 15 23.2
comp=Z,3µm,22.0s
PSUT Pine Spring 99.35 52 IAMs_20 IAMs_20 17 17 27.8
comp=Z,4µm,21.0s
PIX Pinacate 99.57 59 IAMs_20 IAMs_20 17 15 26.3
comp=Z,3µm,20.0s
LCMT Little Creek M 99.83 54 IAMs_20 IAMs_20 17 20 14.5
comp=Z,4µm,20.0s
Y14A Wickenburg 100.00 57 IAMs_20 IAMs_20 17 15 41.4
comp=Z,5µm,22.0s
KNB Kanab 100.16 54 IAMs_20 IAMs_20 17 20 34.5
comp=Z,4µm,19.0s
HVU Hansel Valley 100.16 49 IAMs_20 IAMs_20 17 25 09.0
comp=Z,3µm,18.0s
SNAA Sanae 100.19 189 ⇑P **Pdif** **16 39 33.7 +0.8**
comp=Z,394nm,1.1s
SNAA Sanae 100.19 189 P **Pdif** **16 39 31.5 -1.4**
comp=Z,44nm,1.2s,baz=135,slow=4.9,SNR=15
SNAA Sanae 100.19 189*c i*P **Pdif** **16 39 32.6 -0.3**
SNAA pmax pmax
comp=Z,54nm,1.2s
DLMT Dillon 100.22 45 IAMs_20 IAMs_20 17 18 30.0
comp=Z,4µm,20.0s
PKCU Pink Cliffs 100.57 53 IAMs_20 IAMs_20 17 21 00.2
comp=Z,3µm,19.0s
U15A North Rim 100.59 54 IAMs_20 IAMs_20 17 19 50.8
comp=Z,3µm,20.0s
BOZ Bozeman (W) 100.89 45 IAMs_20 IAMs_20 17 17 07.7
comp=Z,4µm,20.0s
MPU Maple Canyon 101.06 51 IAMs_20 IAMs_20 17 20 10.0
comp=Z,3µm,20.0s
TCUT Toone Canyon 101.21 49 IAMs_20 IAMs_20 17 18 46.6
comp=Z,3µm,20.0s
YHB Horse Butte 101.23 46 IAMs_20 IAMs_20 17 19 54.9
comp=Z,3µm,20.0s
YHL Hebgen Lake 101.23 46 IAMs_20 IAMs_20 17 20 15.0
comp=Z,3µm,20.0s
X16A Lo Mia Camp, P 101.29 56 IAMs_20 IAMs_20 17 16 34.7
comp=Z,5µm,22.0s
WUAZ Wupatki 101.34 55 IAMs_20 IAMs_20 17 18 44.8
comp=Z,3µm,20.0s
YMR Madison River 101.40 46 IAMs_20 IAMs_20 17 18 19.3
comp=Z,3µm,20.0s
FXWY Fox Creek 101.40 47 IAMs_20 IAMs_20 17 17 22.5
comp=Z,5µm,22.0s
Q16A Castle Valley 101.44 52 IAMs_20 IAMs_20 17 18 04.2
comp=Z,4µm,21.0s
VNA3 Neumayer Olymp 101.50 187 ⇑P **Pdif** **16 39 38.5 -0.1**
comp=Z,14nm,0.8s
VNA2 Neumayer--Watz 101.51 188 ⇑P **Pdif** **16 39 39.5 +0.8**
comp=Z,11nm,0.7s,baz=161,slow=3.9
YNM Yellowstone No 101.58 46 IAMs_20 IAMs_20 17 20 16.2
comp=Z,4µm,19.0s
MOOW Moose Ponds 101.60 47 IAMs_20 IAMs_20 17 17 52.7
comp=Z,3µm,21.0s
YNR Norris Junctio 101.60 46 IAMs_20 IAMs_20 17 18 28.6
comp=Z,3µm,20.0s
HSIG 101.70 62 IAMs_20 IAMs_20 17 18 07.0
comp=Z,3µm,20.0s
LOHW Long Hollow 101.71 47 IAMs_20 IAMs_20 17 17 33.6
comp=Z,5µm,22.0s
SRU San Rafael Swe 101.94 51 IAMs_20 IAMs_20 17 17 57.4
comp=Z,3µm,22.0s
YMP Mirror Lake Pl 101.97 46 IAMs_20 IAMs_20 17 20 40.5
comp=Z,3µm,20.0s
YNE Yellowstone No 102.06 45 IAMs_20 IAMs_20 17 19 59.8
comp=Z,3µm,20.0s
P18A Preston Nutter 102.14 51 IAMs_20 IAMs_20 17 18 27.6
comp=Z,3µm,21.0s
PDAR Pinedale Array 102.52 48 P **Pdif** **16 39 43.0 -1.1**
comp=Z,1.6nm,0.9s,baz=265,slow=1.1,SNR=8.6
PDAR PKPPKP **P'P'df** **17 04 03.6 -0.2**
comp=Z,1.6nm,1.1s,baz=114,slow=1.8,SNR=6.3
X18A Snowflake 102.52 56 IAMs_20 IAMs_20 17 17 45.2
comp=Z,4µm,21.0s
MAK Makhachkala 102.57 313 *i* P **Pdif** **16 39 39.1 -4.8**
MAK *e* 16 43 54.6
MAK *e*PPP PPP 16 46 08.1
MAK *e* 16 50 14.8
MAK *e*PS **PS** **16 53 06.2 +0.6**
MAK pmax pmax
comp=Z,194nm,1.4s
RES Resolute Bay 102.61 14 IAMs_20 IAMs_20 17 24 18.5
comp=Z,3µm,21.0s
RES Resolute Bay 102.61 14 P **Pdif** **16 39 43.0 -0.4**
319A Douglas 103.14 59 IAMs_20 IAMs_20 17 17 18.9
comp=Z,4µm,22.0s
MVCO Mesa Verde 103.61 53 IAMs_20 IAMs_20 17 21 38.9
comp=Z,3µm,20.0s
LAO LASA Array 104.55 43 IAMs_20 IAMs_20 17 20 29.5
comp=Z,3µm,20.0s
K22A Casper 104.75 48 IAMs_20 IAMs_20 17 19 31.3
comp=Z,3µm,22.0s
KLMR Klimovskoe 104.77 331 *e*P **Pdif** **16 39 50.4 -2.9**
KLMR *e* 16 44 09.9
KLMR pmax pmax
comp=Z,20nm,1.5s
Y22D IRIS PASSCAL I 105.05 56 IAMs_20 IAMs_20 17 18 44.0
comp=Z,4µm,22.0s
APA Apatity 105.24 339 ⇓ *i* P **Pdif** **16 39 47.4 -7.8**
APA pmax pmax
comp=Z,7.0nm,1.0s
EPT El Paso 105.50 59 IAMs_20 IAMs_20 17 18 41.2
comp=Z,4µm,22.0s
DGMT Dagmar 105.67 41 IAMs_20 IAMs_20 17 30 40.0
comp=Z,3µm,19.0s
FFC Flin Flon 105.91 35 IAMs_20 IAMs_20 17 21 16.5
comp=Z,4µm,20.0s
Q24A Divide 106.13 51 IAMs_20 IAMs_20 17 21 41.2
comp=Z,4µm,21.0s
ARCES ARCESS Array B 106.99 342 Pdiff **Pdif** **16 40 02.8 -0.3**
comp=Z,3.6nm,0.8s,baz=74,slow=5.3,SNR=4.6
ARCES PKiKP **PKiKP** **16 44 12.7 +0.4**
comp=Z,3.8nm,0.9s,baz=103,slow=1.5,SNR=9.7
ARCES PKKPbc **PKKPbc** **16 55 29.5 -3.3**
comp=Z,1.0nm,0.4s,baz=228,slow=2.9,SNR=8.7
ARCES PKKP **PKKPdf** **16 55 44.1 -1.0**
comp=Z,3.1nm,0.8s,baz=336,slow=2.7,SNR=4.1
OBN Obninsk 107.75 326 IAMs_20 IAMs_20 17 29 12.4
comp=Z,4µm,21.0s
TXAR Lajitas Array 108.06 61 PKiKP **PKiKP** **16 44 16.4 +0.8**
comp=Z,2.3nm,1.0s,baz=253,slow=1.3,SNR=9.2
TXAR PKKPbc **PKKPbc** **16 55 27.9 -0.4**
comp=Z,5.1nm,1.0s,baz=109,slow=6.0,SNR=4.1
TXAR PKKP **PKKPab** **16 55 42.0 +0.6**
comp=Z,4.2nm,0.9s,baz=119,slow=7.7,SNR=5.5
OGNE Ogallala 108.28 49 IAMs_20 IAMs_20 17 26 18.9
comp=Z,3µm,19.0s
E28A Huff 108.33 43 IAMs_20 IAMs_20 17 22 59.5
comp=Z,4µm,20.0s
MSTX Muleshoe 108.49 56 IAMs_20 IAMs_20 17 20 54.2
comp=Z,4µm,22.0s
FCC Fort Churchill 108.95 29 IAMs_20 IAMs_20 17 23 59.5
comp=Z,4µm,20.0s
ZAIG Zacatecas 109.31 68 IAMs_20 IAMs_20 17 22 37.1
comp=Z,3µm,20.0s
K30B Basset 109.80 47 IAMs_20 IAMs_20 17 22 17.8
comp=Z,4µm,22.0s
SUSD Miller 109.94 45 IAMs_20 IAMs_20 17 22 44.3
comp=Z,2µm,21.0s
ULM Lac du Bonnet 110.61 38 PKiKP **PKiKP** **16 44 19.4 -0.3**
comp=Z,2.3nm,0.6s,baz=300,slow=6.2,SNR=3.6
ULM PKKPbc **PKKPbc** **16 55 19.4 -1.3**
comp=Z,5.2nm,1.0s,baz=51,slow=4.2,SNR=3.8
MOIG Morelia 110.65 71 IAMs_20 IAMs_20 17 21 02.1
comp=Z,4µm,22.0s
FINES FINESS Array B 110.66 334 PKiKP **PKiKP** **16 44 19.6 +0.2**
comp=Z,2.1nm,0.7s,baz=100,slow=3.4,SNR=4.7
FINES PKKPbc **PKKPbc** **16 55 19.1 -1.7**
comp=Z,5.6nm,1.1s,baz=288,slow=1.8,SNR=4.5
ELIS Ellis County 110.99 54 IAMs_20 IAMs_20 17 30 39.1
comp=Z,3µm,20.0s
BGNE Belgrade 111.10 48 IAMs_20 IAMs_20 17 23 02.4
comp=Z,3µm,22.0s
ABTX Abilene, Hawle 111.23 57 IAMs_20 IAMs_20 17 24 51.0
comp=Z,2µm,21.0s
NOKA Waynoka 111.30 53 IAMs_20 IAMs_20 17 22 21.1
comp=Z,3µm,22.0s
OK038 West end E0370 111.47 53 IAMs_20 IAMs_20 17 24 59.8
comp=Z,3µm,20.0s
WMOK Wichita Mounta 111.69 55 IAMs_20 IAMs_20 17 23 33.7
comp=Z,4µm,22.0s
ECSD EROS Data Cent 111.74 45 IAMs_20 IAMs_20 17 23 46.9
comp=Z,4µm,22.0s
CROK Carrier 112.07 53 IAMs_20 IAMs_20 17 23 44.7
comp=Z,4µm,22.0s
L34A Svendsen Farm, 112.29 47 IAMs_20 IAMs_20 17 31 04.8
comp=Z,3µm,19.0s
UNM Universidad Na 112.56 72 IAMs_20 IAMs_20 17 24 19.5
comp=Z,2µm,20.0s
BZK Bozkurt 112.59 313 IAMs_20 IAMs_20 17 37 30.8
comp=Z,3µm,21.0s
OK029 Liberty Lake 112.60 54 IAMs_20 IAMs_20 17 25 40.8
comp=Z,3µm,20.0s
KSU1 Kansas State U 112.69 50 IAMs_20 IAMs_20 17 31 22.8
comp=Z,3µm,19.0s
MNK Minsk 112.70 327 *i* P **Pdif** **16 40 25.8 -2.9**
MNK *i* 16 45 08.6
MNK *i* PPP PPP 16 47 31.3
MNK *i* 16 51 28.2
MNK *i* SS SS 17 00 48.4 -0.7
MNK *i* SSS SSS 17 05 00.6
MNK MLR MLR
comp=Z,6µm,24.0s
MNK MLR MLR
comp=N,4µm,22.0s
MNK MLR MLR
comp=E,3µm,22.0s
ILGA Ilgaz 113.00 312 IAMs_20 IAMs_20 17 36 28.6
comp=Z,2µm,22.0s
Z35A Perchaven, San 113.14 56 IAMs_20 IAMs_20 17 26 17.2
comp=Z,3µm,21.0s
T35A Sooner Cattle 113.17 53 IAMs_20 IAMs_20 17 25 51.6
comp=Z,3µm,20.0s
TLIG Tlapa 113.17 74 IAMs_20 IAMs_20 17 24 44.9
comp=Z,3µm,20.0s
W35A Tecumseh 113.17 54 IAMs_20 IAMs_20 17 26 36.0
comp=Z,4µm,21.0s
735A Kenedy 113.21 61 IAMs_20 IAMs_20 17 23 17.7
comp=Z,2µm,21.0s
KVTX Kingsville 113.26 63 IAMs_20 IAMs_20 17 23 17.3
comp=Z,4µm,22.0s
AKASG Malin Array Be 113.33 323 PKiKP **PKiKP** **16 44 24.1 -0.7**
comp=Z,0.4nm,0.3s,baz=62,slow=2.2,SNR=8.2
AKASG PKKPbc **PKKPbc** **16 55 09.7 -2.0**
comp=Z,3.1nm,0.6s,baz=265,slow=3.9,SNR=18
BRTR Keskin Array B 113.34 311 PKKPbc PKKPbc 16 55 10.2 -1.2
comp=Z,4.3nm,1.0s,baz=226,slow=4.6,SNR=7.9
KIEV Kiev 113.34 323 IAMs_20 IAMs_20 17 35 15.1
comp=Z,3µm,20.0s
SUMG Summit 113.46 2 P **Pdif** **16 40 22.7 -10**
I37A Lemond, Waseca 113.92 44 IAMs_20 IAMs_20 17 25 27.6
comp=Z,4µm,22.0s
EYMN Ely 114.05 40 IAMs_20 IAMs_20 17 27 40.3
comp=Z,3µm,20.0s
E38A The Farm, Brul 114.43 41 IAMs_20 IAMs_20 17 33 32.6
comp=Z,2µm,19.0s
SCIA State Center 114.60 47 IAMs_20 IAMs_20 17 23 17.8
comp=Z,3µm,22.0s
HKT Hockley 114.79 60 ⇑ *i* PKiKP **PKiKP** **16 44 29.5 +1.4**
N38A Joes South For 114.86 48 IAMs_20 IAMs_20 17 25 51.8
comp=Z,3µm,22.0s
U38A Gravette 114.94 53 IAMs_20 IAMs_20 17 27 06.5
comp=Z,4µm,21.0s
Z38A Mt. Pleasant 115.02 56 IAMs_20 IAMs_20 17 27 16.2
comp=Z,3µm,21.0s
HHAR Hobbs 115.32 53 IAMs_20 IAMs_20 17 27 28.6
comp=Z,3µm,21.0s
NATX Nacogdoches 115.53 58 IAMs_20 IAMs_20 17 35 24.9
comp=Z,2µm,19.0s
G40A Rib Lake 115.74 42 IAMs_20 IAMs_20 17 34 32.5
comp=Z,3µm,19.0s
BOSA Boshof 115.81 234 PKP **PKPdf** **16 44 30.3 -0.1**
comp=Z,7.3nm,0.9s,baz=178,slow=0.7,SNR=11
I40A Norwalk 115.89 44 IAMs_20 IAMs_20 17 26 40.5
comp=Z,3µm,21.0s
L40A Anamosa 115.99 46 IAMs_20 IAMs_20 17 28 35.5
comp=Z,3µm,20.0s
COWI Conover 116.18 41 IAMs_20 IAMs_20 17 27 58.8
comp=Z,3µm,21.0s
JFWS Jewell Farm 116.44 45 IAMs_20 IAMs_20 17 27 16.1
comp=Z,4µm,22.0s
WLAR White Oak Lake 116.49 55 IAMs_20 IAMs_20 17 32 30.9
comp=Z,3µm,19.0s
N41A Harden Midland 116.63 47 IAMs_20 IAMs_20 17 26 55.6
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 116.81 339 PKPdf **PKPdf** **16 44 30.6 -0.7**
comp=Z,1.1nm,0.7s,baz=39,slow=1.9
NB2 PKKP **PKKPbc** **16 54 58.0 -2.0**
comp=Z,21nm,1.2s,baz=230,slow=3.6
NOA NORSAR Array B 116.81 339 PKP **PKiKP** **16 44 31.4 +0.1**
comp=Z,2.2nm,1.0s,baz=47,slow=2.0,SNR=4.6
Z41A Richland Creek 116.82 56 IAMs_20 IAMs_20 17 26 08.8
comp=Z,3µm,22.0s
FCAR Ozark Folk Cen 116.84 53 IAMs_20 IAMs_20 17 28 53.9
comp=Z,3µm,20.0s
BURAR Bucovina Array 116.89 321 ⇑P **PKiKP** **16 44 34.6 +2.7**
LBTB Lobatse 116.90 238 **PKPdf** **16 44 32.6 0.0**
LBTB Lobatse 116.90 238 PKIKP **PKPdf** **16 44 32.6 0.0**
441A DeRidder 116.94 59 IAMs_20 IAMs_20 17 25 33.2
comp=Z,3µm,22.0s
CCM Cathedral Cave 117.03 50 **PKPdf** **16 44 31.5 -0.8**
CCM Cathedral Cave 117.03 50 PKIKP **PKPdf** **16 44 31.5 -0.8**
I42A Draeger Farm, 117.06 43 IAMs_20 IAMs_20 17 33 53.4
comp=Z,3µm,20.0s
L42A Oliver, Polo 117.12 46 IAMs_20 IAMs_20 17 28 36.3
comp=Z,3µm,21.0s
MLR Muntele Rosu 117.19 318 PKP **PKiKP** **16 44 32.8 +0.2**
comp=Z,2.8nm,0.7s,baz=314,slow=3.4,SNR=4.1
MLR Muntele Rosu 117.19 318 ⇓P **PKiKP** **16 44 33.6 +1.0**
LPHEP Lephephe 117.26 240 *i* P **PKiKP** **16 44 33.5 +0.2**
T42A Van Buren 117.39 51 IAMs_20 IAMs_20 17 28 35.3
comp=Z,3µm,20.0s
CCAR Cane Creek 117.54 55 IAMs_20 IAMs_20 17 31 40.6
comp=Z,3µm,20.0s
H43A Windswept, Lux 117.64 43 IAMs_20 IAMs_20 17 29 31.7
comp=Z,3µm,20.0s
SLM Saint Louis 117.64 49 IAMs_20 IAMs_20 17 30 16.7
comp=Z,3µm,21.0s
LSZ Lusaka 117.65 249 **PKPdf** **16 44 34.0 -0.3**
LSZ Lusaka 117.65 249 IAMs_20 IAMs_20 17 38 52.7
comp=Z,3µm,19.0s
LSZ Lusaka 117.65 249 PKIKP **PKPdf** **16 44 34.0 -0.3**
SFJD Kangerlussuaq 117.74 9 IAMs_20 IAMs_20 17 34 04.1
comp=Z,2µm,19.0s
VOIR 117.80 319 ⇑P **PKiKP** **16 44 35.9 +2.2**
HDIL Hopedale 117.81 47 IAMs_20 IAMs_20 17 30 21.9
comp=Z,3µm,22.0s
HBAR Harrisburg 118.08 53 IAMs_20 IAMs_20 17 30 10.7
comp=Z,2µm,20.0s
143A Socs Landing, 118.08 56 IAMs_20 IAMs_20 17 29 01.2
comp=Z,3µm,21.0s
ARR Arges 118.10 319 ⇑P **PKiKP** **16 44 36.1 +1.8**
KOLS Kolonicke sedl 118.16 323 *e*PKIKP **PKiKP** **16 44 35.9 +1.7**
KOLS Kolonicke sedl 118.16 323 *e*PKP **PKiKP** **16 44 35.9 +1.7**
KDWAN Kaudwane 118.28 239 *i* P **PKiKP** **16 44 35.8 +0.5**
L44A Lake County Fo 118.31 45 IAMs_20 IAMs_20 17 28 23.6
comp=Z,3µm,22.0s
MARR Marisel-Cluj 118.58 321 ⇓P **PKiKP** **16 44 35.3 0.0**
LOT Lotru 118.64 319 ⇑P **PKPdf** **16 44 33.7 -1.6**
I45A Fountain 118.82 43 IAMs_20 IAMs_20 17 29 59.1
comp=Z,2µm,20.0s
HALT Halls 119.03 52 IAMs_20 IAMs_20 17 29 22.9
comp=Z,3µm,20.0s
GZR Gura Zlata 119.30 319 ⇓P **PKiKP** **16 44 36.9 +0.3**
Y45A Yeager Farm, C 119.36 55 IAMs_20 IAMs_20 17 27 19.8
comp=Z,3µm,22.0s
SFIN Lafayette 119.46 47 IAMs_20 IAMs_20 17 37 32.5
comp=Z,2µm,18.0s
SURR Surduc 119.58 320 ⇑P **PKiKP** **16 44 37.3 +0.2**
SIRR Siria 119.66 321 ⇑P **PKPdf** **16 44 36.7 -0.4**
LANS Liptovska Anna 119.71 324 *e*PKIKP **PKiKP** **16 44 39.4 +2.1**
LANS Liptovska Anna 119.71 324 *e*PKP **PKiKP** **16 44 39.4 +2.1**
HERR Herculane 119.74 319 ⇓P **PKiKP** **16 44 37.8 +0.4**
BZS Buzias 119.96 320 ⇓P **PKiKP** **16 44 38.3 +0.5**
PSZ Piszkesteto 120.03 323 IAMs_20 IAMs_20 17 41 12.5
comp=Z,2µm,19.0s
PSZ Piszkesteto 120.03 323 ⇓P **PKiKP** **16 44 38.0 0.0**
146A Union 120.03 56 IAMs_20 IAMs_20 17 32 24.8
comp=Z,3µm,20.0s
J47A Sunmer 120.07 43 IAMs_20 IAMs_20 17 28 46.1
comp=Z,3µm,21.0s
OKC Ostrava-Krasne 120.14 326 AMS AMS 17 35 20.0
comp=Z,4µm,21.9s
WVT Waverly 120.16 52 **PKPdf** **16 44 37.7 -0.7**
WVT Waverly 120.16 52 PKIKP **PKPdf** **16 44 37.7 -0.7**
MDVR Moldovita 120.24 319 ⇑P **PKiKP** **16 44 38.8 +0.3**
BLO Bloomington 120.26 48 IAMs_20 IAMs_20 17 36 53.9
comp=Z,3µm,18.0s
STEB Steborice 120.30 326 *e*PKP **PKiKP** **16 44 38.8 +0.5**
N47A Urbana 120.31 46 IAMs_20 IAMs_20 17 36 33.7
comp=Z,3µm,18.0s
MORC Moravsky Berou 120.51 326 IAMs_20 IAMs_20 17 36 21.7
comp=Z,3µm,22.0s
MORC Moravsky Berou 120.51 326 *e*PKIKP **PKiKP** **16 44 39.0 +0.2**
MORC *e*PKP **PKKPab** **16 54 46.0 0.0**
MORC Moravsky Berou 120.51 326 ⇓P **PKiKP** **16 44 39.4 +0.6**
KGCAE Kacgae 120.58 239 ⇓ *i* P **PKiKP** **16 44 41.0 +1.1**
LR03 Panguipulli 120.60 144 IAMs_20 IAMs_20 17 27 59.0
comp=Z,2µm,20.0s
BOVS Bovan 120.70 318 ⇑P **PKiKP** **16 44 40.0 +0.7**
Z47A Carrollton 120.71 55 IAMs_20 IAMs_20 17 28 11.7
comp=Z,3µm,22.0s
WCI Wyandotte Cave 120.73 49 IAMs_20 IAMs_20 17 29 05.3
comp=Z,3µm,21.0s
KRLC Kraliky 120.78 326 AMS AMS 17 35 30.0
comp=Z,4µm,24.0s
OSTC Ostas 120.84 327 AMS AMS 17 37 40.0
comp=Z,3µm,22.7s
DPC Dobruska-Polom 120.89 327 *e*PKKP 16 54 44.4
DPC AMS AMS 17 35 50.0
comp=Z,3µm,26.4s
JAVC Velka Javorina 120.89 325 *e*PKIKP **PKiKP** **16 44 41.0 +1.4**
JAVC *e*PKKP **PKKPbc** **16 54 45.3 +0.4**
O48B Farmland 120.90 46 IAMs_20 IAMs_20 17 32 19.6
comp=Z,3µm,20.0s
PLCA Paso Flores 120.91 146 **PKiKP** **16 44 40.3 +0.3**
PLCA Paso Flores 120.91 146 PKP **PKPdf** **16 44 39.5 -0.4**
comp=Z,46nm,1.0s,baz=227,slow=3.1,SNR=41
PLCA Paso Flores 120.91 146 PKIKP **PKiKP** **16 44 40.3 +0.3**
PLCA Paso Flores 120.91 146 *e*P **PKiKP** **16 44 40.0 0.0**
CHVC Chvalec 120.91 327 AMS AMS 17 37 30.0
comp=Z,3µm,23.0s
UPC Upice 120.97 327 AMS AMS 17 37 40.0
comp=Z,3µm,20.1s
I49A Point Hope 121.13 42 IAMs_20 IAMs_20 17 36 05.0
comp=Z,3µm,20.0s
IDI Anoyia 121.16 308 PKP **PKiKP** **16 44 41.3 +0.7**
comp=Z,23nm,1.0s,baz=59,slow=5.9,SNR=2.8
AAM Ann Arbor 121.22 44 IAMs_20 IAMs_20 17 30 03.6
comp=Z,3µm,22.0s
VRAC Vranov 121.28 326 PKP **PKiKP** **16 44 40.5 +0.1**
comp=Z,2.5nm,0.7s,baz=203,slow=1.2,SNR=4.9
VRAC Vranov 121.28 326 *e*PKIKP **PKiKP** **16 44 40.4 +0.1**
VRAC *e*PKKP **PKKPab** **16 54 42.7 +0.1**
CLTN Cedars of Leba 121.33 51 IAMs_20 IAMs_20 17 32 36.6
comp=Z,3µm,20.0s
MODS Modra-Piesok 121.36 324 *e*PKIKP **PKiKP** **16 44 41.4 +0.9**
MODS Modra-Piesok 121.36 324 *e*PKP **PKiKP** **16 44 41.4 +0.9**
KRUC Moravsky 121.52 325 *e*PKIKP **PKiKP** **16 44 41.0 +0.2**
KRUC *e*PKKP **PKKPab** **16 54 41.8 +0.2**
MORH Mrgy, Hungar 121.57 322 ⇓P **PKiKP** **16 44 41.0 +0.1**
LRAL Lakeview Retre 121.62 55 IAMs_20 IAMs_20 17 31 49.8
comp=Z,3µm,21.0s
PVCC Panska Ves 121.74 328 AMS AMS 17 39 10.0
comp=Z,3µm,20.5s
PVCC Panska Ves 121.74 328 PKIKP **PKPdf** **16 44 40.9 -0.1**
K50A Casco 121.74 43 IAMs_20 IAMs_20 17 32 09.2

comp=Z,3μm,21.0s
BRG Berggiesshubel 121.87 328 *i* PKP **PKiKP 16 44 42.1 +0.7**
BRG Amp 16 44 43.6
comp=Z,12nm,1.0s
BRG Berggiesshubel 121.87 328 PP PP 16 46 21.0 +6.1
BRG Berggiesshubel 121.87 328 SP SP 16 56 13.0 +11
TREC Trest 121.90 326 *e*PKKP 16 54 41.7
TREC AMS AMS 17 36 30.0
comp=Z,5μm,23.0s
TREC Trest 121.90 326 PKIKP **PKPdf 16 44 41.3 -0.1**
GOPC GO Pecny, Ondr 121.95 327 AMS AMS 17 38 40.0
comp=Z,2μm,21.4s
RICC Richard 121.98 328 AMS AMS 17 39 20.0
comp=Z,3μm,21.5s
M50A Fremont 121.98 44 IAMs_20 IAMs_20 17 38 51.9
comp=Z,3μm,20.0s
BRAL Brewton 122.03 57 IAMs_20 IAMs_20 17 32 49.7
comp=Z,3μm,21.0s
PRU Pruhonice 122.05 327 AMS AMS 17 38 20.0
comp=Z,3μm,21.7s
PRA Prague 122.06 327 AMS AMS 17 39 40.0
comp=Z,2μm,20.0s
MTO3 Montecristo 122.10 77 IAMs_20 IAMs_20 17 27 48.6
comp=Z,3μm,22.0s
CLL Collm 122.11 329 *i* PKIKP **PKiKP 16 44 41.9 +0.1**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL MLR MLR
comp=Z,4μm,20.7s
KOOLE Kule 122.23 238 *i* P **PKiKP 16 44 43.8 +0.7**
RONA Rosalia, Austr 122.27 324 *i* PKP **PKiKP 16 44 42.5 +0.2**
comp=Z,13nm,1.3s
RONA *i* PKKP **PKKPbc 16 54 39.2 -0.4**
comp=Z,15nm,1.6s
HSKC Hora Svate Kat 122.29 328 *e*PKP **PKiKP 16 44 43.0 +0.7**
HSKC *e*PKKP **PKKPbc 16 54 44.2 +4.6**
HSKC AMS AMS 17 40 20.0
comp=Z,3μm,19.4s
FPAL Fort Paine 122.34 53 IAMs_20 IAMs_20 17 29 59.5
comp=Z,2μm,22.0s
CONA Conrad Observa 122.40 324 *i* PKP **PKPdf 16 44 42.1 -0.4**
comp=Z,6.3nm,1.0s
CONA *i* PKKP **PKKPab 16 54 38.5 +0.6**
comp=Z,16nm,1.4s
CONA *e*SKKP 16 58 18.7
comp=Z,5.9nm,1.3s
250A Grady 122.48 56 IAMs_20 IAMs_20 17 33 51.7
comp=Z,3μm,20.0s
VLDQ Val d'Or 122.52 35 IAMs_20 IAMs_20 17 30 05.1
comp=Z,3μm,21.0s
ZVC Zvikov 122.54 327 *e*PKP **PKiKP 16 44 43.3 +0.5**
ZVC AMS AMS 17 38 40.0
comp=Z,3μm,20.8s
PUK Puka 122.55 317 IAMs_20 IAMs_20 17 40 32.9
comp=Z,2μm,22.0s
N51A Ashland 122.64 45 IAMs_20 IAMs_20 17 31 48.2
comp=Z,3μm,22.0s
P51A Williamsport 122.69 47 IAMs_20 IAMs_20 17 36 33.8
comp=Z,2μm,21.0s
QNGWA Qangwa 122.70 242 *i* P **PKiKP 16 44 44.8 +0.7**
CKRC Cesky Krumlov 122.81 326 *e*PKKP 16 54 37.1
CKRC AMS AMS 17 36 50.0
comp=Z,4μm,23.5s
TIR Tirane 122.85 316 IAMs_20 IAMs_20 17 41 01.9
comp=Z,2μm,22.0s
ARSA Arzberg 122.94 324 *e*PKP **PKiKP 16 44 43.6 -0.1**
comp=Z,5.5nm,0.8s
ARSA *i* PKKP **PKKPbc 16 54 36.6 -0.4**
comp=Z,15nm,1.2s
ARSA *e*SKKP 16 58 19.6
comp=Z,12nm,1.7s
NKC Novy Kostel 123.02 328 AMS AMS 17 41 00.0
comp=Z,3μm,21.1s
KHC Kasperske Hory 123.04 327 *e*PKP **PiKiKP 16 44 43.9 +0.1**
KHC *e*PKKP **PKKPbc 16 54 37.2 +0.6**
KHC AMS AMS 17 39 20.0
comp=Z,4μm,23.7s
KHC Kasperske Hory 123.04 327 *e*PKIKP **PiKiKP 16 44 43.9 +0.1**
KHC MLR MLR
comp=Z,4μm,23.7s
M52A Chesterland 123.10 44 IAMs_20 IAMs_20 17 32 33.2
comp=Z,3μm,21.0s
GERES GERESS Array B 123.13 326 PKP **PKPdf 16 44 43.3 -0.6**
comp=Z,4.9nm,0.7s,baz=5.7,slow=4.0,SNR=12
GERES PKKPbc **PKKPbc 16 54 35.9 -0.5**
comp=Z,2.2nm,0.7s,baz=224,slow=4.1,SNR=9.6
GERES GERESS Array B 123.13 326 PKIKP **PKPdf 16 44 43.4 -0.5**
P52A Corning 123.30 46 IAMs_20 IAMs_20 17 39 44.9
comp=Z,3μm,20.0s
TZTN Tazewell 123.33 50 IAMs_20 IAMs_20 17 31 03.4
comp=Z,3μm,22.0s
MOA Molln 123.36 325 *i* PKKP 16 54 34.7
comp=Z,41nm,1.7s
Q52A Bidwell 123.45 47 IAMs_20 IAMs_20 17 38 45.2
comp=Z,2μm,18.0s
SOKA Soboth 123.53 324 *i* PKP **PKiKP 16 44 44.8 -0.1**
comp=Z,16nm,1.2s
SOKA *i* PKKP **PKKPab 16 54 33.4 +0.3**
comp=Z,18nm,1.3s
SOKA *e*SKKP 16 58 18.7
comp=Z,14nm,1.4s
SCHQ Schefferville 123.55 24 PKP **PKPdf 16 44 44.0 -0.4**
comp=Z,11nm,1.0s,baz=2.2,slow=4.0,SNR=8.7
O53A New Philadelph 123.71 45 IAMs_20 IAMs_20 17 31 50.7
comp=Z,3μm,20.0s
ERPA Erie 123.78 43 IAMs_20 IAMs_20 17 33 19.3
comp=Z,3μm,21.0s
BIOA Bad Ischl, Aus 123.80 325 *i* PKP **PKPdf 16 44 45.2 +0.1**
comp=Z,9.3nm,1.2s
BIOA *i* PKKP **PKKPab 16 54 32.5 +0.6**
comp=Z,12nm,1.1s
BIOA *i* SKKP 16 58 15.9
comp=Z,14nm,1.2s
ALLY Alegheny Colle 123.88 43 IAMs_20 IAMs_20 17 38 17.9
comp=Z,3μm,20.0s
P53A Whipple 123.88 46 IAMs_20 IAMs_20 17 31 12.4
comp=Z,3μm,21.0s
OBKA Obir 123.90 324 *i* PKP **PKiKP 16 44 45.7 0.0**
comp=Z,11nm,1.2s
OBKA *i* PKKP **PKKPbc 16 54 32.9 -0.3**
comp=Z,30nm,1.2s
OBKA *e*SKKP 16 58 15.4
comp=Z,27nm,2.0s
GRA1 Grafenberg Arr 123.98 328 IAMs_20 IAMs_20 17 39 55.4
comp=Z,3μm,20.0s
GRFO Grafenberg 123.98 328 IAMs_20 IAMs_20 17 39 54.5
comp=Z,3μm,20.0s
TGUH Tegucigalpa,Un 124.13 77 IAMs_20 IAMs_20 17 29 08.6
comp=Z,3μm,22.0s
KBA Koelnbreinsper 124.30 325 *i* PKP **PKPdf 16 44 45.8 -0.4**
comp=Z,17nm,1.2s
KBA *i* PKKP **PKKPbc 16 54 31.0 -0.7**
comp=Z,14nm,1.1s
KBA *e*SKKP 16 58 14.6
comp=Z,15nm,1.3s
O54A Avella 124.33 45 IAMs_20 IAMs_20 17 32 09.9
comp=Z,3μm,22.0s
MYKA Terra Mystica 124.37 324 *i* PKP **PKPdf 16 44 46.3 0.0**
comp=Z,9.9nm,1.2s
GOGA Godfrey 124.37 53 IAMs_20 IAMs_20 17 30 38.3
comp=Z,3μm,22.0s
LESA Schwarzleotal 124.49 325 *i* PKP **PKiKP 16 44 46.8 0.0**
comp=Z,18nm,1.4s
LESA *i* PKKP **PKKPbc 16 54 30.2 -0.7**
comp=Z,21nm,1.4s
LESA *e*SKKP 16 58 10.2
comp=Z,8.3nm,1.4s
PRED Cave del Predi 124.51 324 IAMs_20 IAMs_20 17 39 09.9
comp=Z,3μm,22.0s
WVNY West Valley, N 124.58 42 IAMs_20 IAMs_20 17 30 27.2
comp=Z,3μm,22.0s
HERN Volcan Telica 124.60 79 IAMs_20 IAMs_20 17 27 06.2
comp=Z,2μm,22.0s
U54A Nelsons Funny 124.65 49 IAMs_20 IAMs_20 17 37 58.2
comp=Z,3μm,19.0s
SABO M.te Sabotino 124.74 323 IAMs_20 IAMs_20 17 40 53.3
comp=Z,2μm,20.0s
MCWV Mont Chateau 124.91 45 IAMs_20 IAMs_20 17 34 21.5
comp=Z,3μm,19.0s
ABTA Abfaltersbach 124.96 325 *e*PKP **PKPdf 16 44 47.3 -0.1**
comp=Z,32nm,1.3s,SNR=6.7
ABTA *i* PKKP **PKKPbc 16 54 28.7 -0.3**
comp=Z,13nm,0.9s
ABTA *e*SKKP 16 58 08.5
comp=Z,13nm,1.2s
WIN Windhoek 125.00 237 PKIKP **PKPdf 16 44 47.9 -0.5**
WATA Walderalm 125.16 326 *e*PKP **PKiKP 16 44 48.1 -0.2**
comp=Z,22nm,1.0s,SNR=5.9
WATA *i* PKKP **PKKPbc 16 54 28.6 +0.3**
comp=Z,14nm,1.3s
WATA *e*SKKP 16 58 10.6
comp=Z,20nm,1.4s
WTTA Wattenberg 125.17 326 *e*PKP **PKiKP 16 44 48.4 +0.2**
comp=Z,39nm,1.2s,SNR=7.9
WTTA *i* PKKP **PKKPbc 16 54 27.9 -0.4**
comp=Z,21nm,1.1s
WTTA *e*SKKP 16 58 11.1
comp=Z,18nm,1.6s
SQTA Sankt Quirin 125.43 326 *i* PKP **PKiKP 16 44 48.9 +0.2**
comp=Z,22nm,1.1s,SNR=5.9
SQTA *e*SKKP 16 58 09.6
comp=Z,7.6nm,0.8s
BLA Blacksburg 125.45 48 IAMs_20 IAMs_20 17 36 45.2
comp=Z,3μm,20.0s
RETA Reutte 125.53 326 *i* PKP **PKiKP 16 44 49.0 +0.1**
comp=Z,12nm,1.0s
STU Stuttgart 125.60 328 IAMs_20 IAMs_20 17 38 28.1
comp=Z,3μm,22.0s
Q56A Snyder Ridge, 125.63 46 IAMs_20 IAMs_20 17 32 04.6
comp=Z,3μm,22.0s
BOAB BOACO BROADBA 125.74 79 IAMs_20 IAMs_20 17 30 01.4
comp=Z,3μm,22.0s
BOAB BOACO BROADBA 125.74 79 PKP **PKPdf 16 44 49.0 -0.7**
PEL Peldehue 125.75 139 PKIKP **PKPdf 16 44 49.0 -0.3**
U56A King 125.80 49 IAMs_20 IAMs_20 17 37 32.5
comp=Z,3μm,20.0s
FETA Feichten 125.81 326 *e*PKiKP **PKiKP 16 44 49.8 +0.3**
comp=Z,30nm,1.1s,SNR=5.6
SSPA Standing Stone 125.85 43 **PKiKP 16 44 49.6 0.0**
TSUM Tsumeb 125.96 241 **PKPdf 16 44 50.4 +0.2**
TSUM Tsumeb 125.96 241 IAMs_20 IAMs_20 17 35 58.5
comp=Z,2μm,21.0s
MEM Membach 126.00 332 *d*PKP **PKiKP 16 44 49.6 0.0**
LONY Lake Ozonia 126.04 38 IAMs_20 IAMs_20 17 33 41.4
comp=Z,3μm,19.0s
LDAQ Lac Daran 126.04 32 **PKPdf 16 44 49.4 0.0**
LDAQ IAMs_20 IAMs_20 17 34 12.7
comp=Z,3μm,20.0s
EKA Eskdalemuir Ar 126.12 341 PKP **PKiKP 16 44 49.9 +0.2**
comp=Z,0.7nm,0.3s,baz=19,slow=3.5,SNR=6.5
DAVA Damuels 126.13 327 *i* PKP **PKPdf 16 44 50.0 +0.2**
comp=Z,24nm,1.2s
P57A Homestead Farm 126.27 45 IAMs_20 IAMs_20 17 37 44.4
comp=Z,3μm,20.0s
FUORN Ofenpass-Fuorn 126.31 326 IAMs_20 IAMs_20 17 41 53.2
comp=Z,3μm,21.0s
BFO Black Forest 126.32 328 IAMs_20 IAMs_20 17 41 15.3
comp=Z,3μm,20.0s
DAVOX Davos/Dischmat 126.43 326 PKP **PKPdf 16 44 50.6 +0.2**
comp=Z,14nm,1.0s,baz=222,slow=1.9,SNR=13
BCLA Clavier 126.45 332 *d*PKP **PiKiKP 16 44 51.0 +0.5**
JTS Las Juntas de 126.47 82 **PKPdf 16 44 50.6 -0.5**
JTS Las Juntas de 126.47 82 IAMs_20 IAMs_20 17 32 56.8
comp=Z,2μm,20.0s
JTS Las Juntas de 126.47 82 PKIKP **PKPdf 16 44 50.6 -0.5**
N58A Sunbury 126.56 43 IAMs_20 IAMs_20 17 37 08.6
comp=Z,2μm,20.0s
WLF Walferdange 126.56 331 *d*PKP **PiKiKP 16 44 51.8 +1.0**
INTR Introdacqua 126.56 319 **PKPdf 16 44 50.4 -0.2**
FDMO Fiordimonte 126.58 321 IAMs_20 IAMs_20 17 42 01.9
comp=Z,2μm,22.0s
RCHB Rochefort 126.67 332 *d*PKP **PiKiKP 16 44 50.9 0.0**
BMRD Maredsous 126.79 332 *d*PKPdf **PiKiKP 16 44 51.0 -0.1**
BMRD *d*PKP **PKPdf 16 44 51.6 +0.9**
BMRD *dp*PKP **pPKPdf 16 45 01.9 -4.2**
KSPA Keystone Colle 126.85 41 IAMs_20 IAMs_20 17 36 59.1
comp=Z,3μm,20.0s
TUE Stuetta 126.91 326 **PKPdf 16 44 51.2 -0.1**
TUE IAMs_20 IAMs_20 17 42 60.0
comp=Z,3μm,19.0s
V58A Windy Hill, Pi 126.96 49 IAMs_20 IAMs_20 17 37 58.2
comp=Z,3μm,20.0s
DOU Dourbes 127.01 332 *d*PKP **PiKiKP 16 44 52.2 +0.6**
ICQ Pointe Anglais 127.06 29 **PiKiKP 16 44 51.5 -0.2**
NHSC New Hope 127.08 53 IAMs_20 IAMs_20 17 32 04.0
comp=Z,3μm,21.0s
MVL Millersville 127.19 43 IAMs_20 IAMs_20 17 39 47.5
comp=Z,2μm,20.0s
CSU Charleston Sou 127.21 53 IAMs_20 IAMs_20 17 32 07.3
comp=Z,3μm,21.0s
SOR Soroa 127.26 66 IAMs_20 IAMs_20 17 32 13.4
comp=Z,2μm,22.0s
CBN Corbin Frederi 127.27 46 IAMs_20 IAMs_20 17 38 37.0
comp=Z,3μm,21.0s
HDC Heredia 127.29 82 IAMs_20 IAMs_20 17 30 31.8
comp=Z,2μm,21.0s
HDC Heredia 127.29 82 *e*P **PiKiKP 16 44 53.4 0.0**
TRQA Tornquist 127.43 149 **PKPdf 16 44 52.3 -0.1**
TRQA Tornquist 127.43 149 PKIKP **PKPdf 16 44 52.3 -0.1**
TRQA Tornquist 127.43 149 *e*P **PiKiKP 16 44 53.3 +0.4**
DWPF Disney Wildern 127.51 59 IAMs_20 IAMs_20 17 39 00.3
comp=Z,2μm,20.0s
W59A Clinton 127.70 50 IAMs_20 IAMs_20 17 37 50.9
comp=Z,3μm,20.0s
WUPA West Chester U 127.73 43 IAMs_20 IAMs_20 17 40 58.7
comp=Z,2μm,19.0s
E62A Clayton Lake 127.80 33 IAMs_20 IAMs_20 17 36 41.1
comp=Z,3μm,21.0s
G62A West of Eustis 128.09 35 IAMs_20 IAMs_20 17 36 14.1
comp=Z,3μm,20.0s
CFA Coronel Fontan 128.32 139 PKP **PKPdf 16 44 54.5 +0.2**
comp=Z,52nm,0.9s,baz=245,slow=2.3,SNR=46
L61B Northampton 128.37 39 P **PKPdf 16 44 52.6 -1.3**
baz=303
P61A Hammonton 128.40 43 IAMs_20 IAMs_20 17 33 09.6
comp=Z,3μm,22.0s
061Z Ochoppi 128.51 62 IAMs_20 IAMs_20 17 34 44.1
comp=Z,3μm,22.0s
BRU2 Volcan 128.69 84 IAMs_20 IAMs_20 17 35 15.8
comp=Z,2μm,19.0s
V61A Roper 128.85 48 IAMs_20 IAMs_20 17 38 05.3
comp=Z,3μm,21.0s
G65A Princeton 129.75 33 IAMs_20 IAMs_20 17 37 39.9
comp=Z,3μm,22.0s
NNA Nana 130.97 112 PKIKP **PKPdf 16 44 58.9 -0.8**
BCIP Isla Barro Col 131.51 83 IAMs_20 IAMs_20 17 37 50.5
comp=Z,2μm,20.0s
OTAV Otavalo 132.27 95 PKIKP **PiKiKP 16 45 03.4 -0.4**
OTAV Otavalo 132.27 95 *e*P **PKPdf 16 45 02.4 -0.3**
KEST Kesra 132.72 314 PKP **PKPdf 16 45 02.5 -0.1**
comp=Z,10nm,0.9s,baz=18,slow=6.9,SNR=5.2
CHIV Chivirico 133.81 68 IAMs_20 IAMs_20 17 37 20.2
comp=Z,2μm,22.0s
GTBY Guantanamo Bay 135.02 68 IAMs_20 IAMs_20 17 37 09.3
comp=Z,2μm,22.0s
PLTB Pedras Altas 136.58 152 *e*P **PKPdf 16 45 09.1 -0.7**
ROSC El Rosal 136.85 89 PKP **PKPdf 16 45 12.0 +0.8**
comp=Z,21nm,0.6s,baz=105,slow=2.5,SNR=11
ROSC SKPbc **SKPbc 16 48 40.0 0.0**
comp=Z,23nm,0.6s,baz=275,slow=1.6,SNR=12
ROSC El Rosal 136.85 89 PKIKP **PKPdf 16 45 12.0 +0.8**
LPAZ La Paz 137.02 122 PKhKP PKPpre 16 45 01.3
comp=Z,17nm,1.0s,baz=292,slow=2.0,SNR=28
LPAZ PKP **PiKiKP 16 45 12.9 -0.7**
comp=Z,82nm,1.1s,baz=273,slow=3.3,SNR=38
LPAZ SKPbc **SKPbc 16 48 40.7 0.0**
comp=Z,30nm,1.1s,baz=279,slow=3.2,SNR=16
CPSB Cacapava Do Su 137.78 151 *e*P **PiKiKP 16 45 13.1 -0.9**
GUD Guadarrama 138.07 329 PKIKP **PKPdf 16 45 13.2 +0.8**
CART Cartagena 138.47 323 IAMs_20 IAMs_20 17 42 10.4
comp=Z,1μm,18.0s
ESDC Sonseca Array 138.68 328 **PKPdf 16 45 13.8 +0.3**
ESDC Sonseca Array 138.68 328 PKP **PKPdf 16 45 11.5 -2.0**
comp=Z,1.9nm,0.9s,baz=21,slow=2.7,SNR=8.0
ESDC SKPbc **SKPbc 16 48 42.8 -1.4**
comp=Z,2.7nm,0.9s,baz=16,slow=3.4,SNR=5.0
SDDR Presa de Saban 138.75 68 IAMs_20 IAMs_20 17 39 14.0
comp=Z,2μm,22.0s
CPUP Villa Florida 138.84 143 PKhKP PKPpre 16 45 03.2
comp=Z,5.0nm,0.7s,baz=245,slow=1.9,SNR=11
CPUP PKP **PKPdf 16 45 15.2 +1.1**
comp=Z,54nm,1.0s,baz=241,slow=1.6,SNR=31
CPUP SKPbc **SKPbc 16 48 45.1 +0.2**
comp=Z,16nm,1.0s,baz=300,slow=5.0,SNR=5.8
CPUP Villa Florida 138.84 143 *e*P **PiKiKP 16 45 15.3 -0.9**
PGAV Gavieira, Arco 139.00 334 *e*PKPdf **PiKiKP 16 45 16.2 -0.1**
PGAV *e*SKP 16 48 44.8
PGAV *e*LR LR 17 38 36.7
PGAV *i* AMs_20 17 50 38.7
comp=Z,3μm,20.0s
MVO Moncorvo 139.08 332 *e*PKPdf **PKPdf 16 45 15.2 +1.1**
MVO *e*SKP 16 48 44.5
MVO *e*LR LR 17 38 01.4
MVO *i* AMs_20 17 52 42.5
comp=Z,2μm,18.0s
POLO Lamas de Olo 139.26 333 *e*PKPdf **PiKiKP 16 45 17.3 +0.5**
POLO *e*SKP 16 48 47.1
PVIS Viseu 139.83 332 *e*PKPdf **PiKiKP 16 45 17.4 -0.6**
PVIS *e*SKP 16 48 50.9
MTE Manteigas 139.92 332 *e*PKPdf **PKPdf 16 45 15.2 -0.6**
MTE *e*SKP 16 48 47.2
MTE *e*LR LR 17 37 45.6
MTE *i* AMs_20 17 51 11.9
comp=Z,2μm,20.0s
PCBR Castelo Branco 140.33 331 *e*PKPdf **PiKiKP 16 45 18.1 -0.8**
PCBR *e*SKP 16 48 48.3
COI Coimbra 140.47 332 IAMs_20 IAMs_20 17 49 31.3
comp=Z,3μm,21.0s
SJPY San Joaquin 140.57 143 *e*P **PKPdf 16 45 17.6 +0.3**
PMRV Marv??o 140.61 331 *e*PKPdf **PiKiKP 16 45 19.1 -0.5**
PMRV *e*SKP 16 48 49.0
PMRV *e*LR LR 17 38 15.4
PMRV *i* AMs_20 17 48 19.6
comp=Z,1μm,22.0s
ITAB Concordia 141.03 149 *e*P **PiKiKP 16 45 19.6 -1.2**
PMTG Montargil 141.29 331 *e*PKPdf **PiKiKP 16 45 20.2 -0.7**
TER01 Tubaro-SC 141.36 154 *e*P **PKPdf 16 45 19.9 +1.3**
PBAR Barrancos 141.40 329 *e*PKPdf **PKPdf 16 45 16.6 -1.8**
PBAR *e*SKP 16 48 51.3
LIJA Lijar 141.47 326 PKP **PKPdf 16 45 13.1 -5.5**
LIS Lisbon 142.01 332 *e*PKPdf **PKPdf 16 45 20.3 +0.9**
LIS IAMs_20 IAMs_20 17 52 55.5
comp=Z,3μm,24.4s
LIS Lisbon 142.01 332 *e*PKIKP **PKPdf 16 45 20.3 +0.9**
MESJ Messejana 142.25 330 *e*PKPdf **PKPdf 16 45 20.8 +0.9**
MESJ *e*PP **PP 16 48 27.3 +1.6**
MESJ IAMs_20 IAMs_20 17 45 44.9
comp=Z,2μm,19.8s
MESJ Messejana 142.25 330 *e*PKIKP **PKPdf 16 45 20.8 +0.9**
MESJ *e*PP **PP 16 48 27.3 +1.6**
PCVE Castro Verde 142.32 330 *e*PKPdf **PiKiKP 16 45 23.8 +0.7**
PCVE *e*SKP 16 48 54.0
PVAQ Vaqueiros 142.33 329 *e*LR LR 17 39 04.7
PVAQ *i* AMs_20 17 51 01.2
comp=Z,2μm,20.0s
AGPR Aguadilla, PR 142.72 67 IAMs_20 IAMs_20 17 42 47.0
comp=Z,2μm,20.0s
PRSN Puerto Rico Se 142.75 68 IAMs_20 IAMs_20 17 41 04.9
comp=Z,2μm,22.0s
MORF Marmelete 142.88 330 *e*PKPdf **PKPdf 16 45 21.7 +0.6**
MORF IAMs_20 IAMs_20 17 51 05.4
comp=E,2μm,12.4s
MORF Marmelete 142.88 330 *e*PKIKP **PKPdf 16 45 21.7 +0.6**
SIV San Ignacio 142.98 127 PKhKP PKPpre 16 45 17.7
comp=E,44nm,0.9s,baz=238,slow=4.2,SNR=63
SIV SKPbc **SKiKP 16 48 57.2 0.0**
comp=E,21nm,0.8s,baz=273,slow=19,SNR=5.3
PFVI Vila Bisbo 143.10 330 IAMs_20 IAMs_20 17 56 27.2
comp=Z,2μm,20.0s
PTGB Pitanga 143.10 147 *e*P **PKPdf 16 45 21.6 -0.4**
OBIP Obispado Ponce 143.29 68 PKPpre 16 45 16.1
OBIP IAMs_20 IAMs_20 17 45 19.2
comp=Z,2μm,22.0s
IFR Ifrane 143.69 322 PKP PKPab 16 45 19.4 -0.2
SJG San Juan 143.69 68 IAMs_20 IAMs_20 17 43 30.9
comp=Z,2μm,21.0s
IGPR InterUniversit 143.76 68 IAMs_20 IAMs_20 17 43 40.9
comp=Z,2μm,21.0s
PDPR Patillas Dam, 143.83 68 IAMs_20 IAMs_20 17 43 43.6
comp=Z,2μm,21.0s
MDT Midelt 143.84 321 PKP PKPbc 16 45 20.9 +0.1
comp=Z,8.6nm,1.0s,baz=71,slow=4.4,SNR=15
MDT SKPbc **SKPbc 16 48 56.4 -1.3**
comp=Z,23nm,1.1s,baz=45,slow=3.0,SNR=8.8
PANT Pantanal (Braz 144.49 135 *e*P PKPbc 16 45 23.6 +0.6
LDASE Londrina, Braz 144.68 147 *e*P PKPbc 16 45 23.8 +0.2
PTLB Pontes e Lacer 144.82 128 *e*P PKPbc 16 45 24.2 +0.1
TEFE Tefe 145.06 105 *e*P **PKPbc 16 45 24.8 -0.2**
AVE Averroes 145.21 324 PKP **PKPdf 16 45 25.6 +0.4**
VILB Vilhena 145.33 123 IAMs_20 IAMs_20 17 59 57.5
comp=Z,2μm,21.0s
VILB Vilhena 145.33 123 *e*P **PKPdf 16 45 26.2 +0.2**
RPRD Ribas do Rio P 145.39 140 *e*P **PKPab 16 45 26.8 +0.7**
FRTB Fartura 145.54 149 *e*P **PKPab 16 45 26.8 +0.2**
SPB Sao Paulo 146.38 152 *e*P **PKPbc 16 45 28.8 0.0**
SABA Saba 146.49 67 IAMs_20 IAMs_20 17 43 21.0
comp=Z,2μm,22.0s
SMRT St. Maarten 146.52 66 IAMs_20 IAMs_20 17 44 57.7
comp=Z,2μm,21.0s
SEUS St. Eustatius 146.76 67 IAMs_20 IAMs_20 17 43 39.2
comp=Z,2μm,22.0s
TIO Tiouine 146.77 321 PKP **PKPdf 16 45 28.2 0.0**
TORD Torodi Ar. Bea 147.07 285 PKPbc **PKPdf 16 45 27.9 -1.0**
comp=Z,48nm,1.0s,baz=38,slow=3.8,SNR=22
TORD SKPbc **SKPbc 16 49 04.2 -1.2**
comp=Z,18nm,1.0s,baz=22,slow=3.4,SNR=5.7
VAO Valinhos 147.10 152 **PKPab 16 45 32.1 -0.4**
VAO Valinhos 147.10 152 *e*P **PKPdf 16 45 30.0 +1.1**
SALV Santo Antonio 147.17 132 *e*P **PKPbc 16 45 30.4 -0.9**
C2SB Chapadao do Su 147.20 139 *e*P **PKPbc 16 45 30.2 -1.1**
PARB Paraibuna 147.41 154 *e*P **PKPdf 16 45 30.4 +1.0**
ANWB Willy Bob 147.81 66 IAMs_20 IAMs_20 17 48 12.8
comp=Z,2μm,21.0s
BB19B Bebedouro 147.96 148 *e*P **PKPdf 16 45 31.6 +1.3**
ITRB Iturama 148.02 144 *e*P **PKPdf 16 45 31.8 +1.4**
CBE Ff, Capester 148.41 69 **PKPbc 16 45 34.1 -0.5**
CBE IAMs_20 IAMs_20 17 44 11.0
comp=Z,2μm,22.0s
ABD La Joyeuse, An 148.41 68 IAMs_20 IAMs_20 17 49 13.1
comp=Z,2μm,22.0s
TDBA Terre de Bas, 148.44 70 **PKPbc 16 45 34.3 -0.3**
TDBA IAMs_20 IAMs_20 17 45 39.8
comp=Z,2μm,21.0s
MAN01 Angra dos Reis 148.51 157 *e*P **PKPdf 16 45 32.4 +1.2**
MAGL Barre de l'ile 148.74 69 IAMs_20 IAMs_20 17 44 30.9
comp=Z,2μm,22.0s
GDSD La Dsirade Is 148.85 69 **PKPbc 16 45 35.7 0.0**
GDSD IAMs_20 IAMs_20 17 45 30.6
comp=Z,2μm,22.0s
PDRB Porto dos Gac 148.91 124 *e*P **PKPdf 16 45 32.8 +0.8**
MACA Manacapuru-AM 148.94 106 **PKPbc 16 45 36.0 0.0**
MACA Manacapuru-AM 148.94 106 *e*P **PKPdf 16 45 32.8 +0.8**
SVN Savane Anatole 149.11 71 IAMs_20 IAMs_20 17 57 57.1
comp=Z,1μm,20.0s
GRGR Grenville 149.15 77 IAMs_20 IAMs_20 17 56 57.5
comp=Z,2μm,20.0s
FDF Fort de France 149.15 72 IAMs_20 IAMs_20 17 52 56.2
comp=Z,2μm,22.0s
FDF Fort de France 149.15 72 PKIKP **PKPdf 16 45 33.1 +0.8**
BIM Bigot 149.28 72 **PKPbc 16 45 36.5 -0.4**
BIM IAMs_20 IAMs_20 17 50 12.5
comp=Z,2μm,21.0s
ACRG Accra 149.39 271 IAMs_20 IAMs_20 17 50 48.3
comp=Z,2μm,22.0s
ILAM Ilet Lapin Mar 149.41 71 IAMs_20 IAMs_20 17 49 26.7
comp=Z,1μm,21.0s
MPOM Morne Pois Mar 149.49 72 IAMs_20 IAMs_20 17 50 15.1
comp=Z,2μm,21.0s
DUB01 Friburgo-RJ 149.83 159 *e*P **PKPdf 16 45 34.4 +1.1**
ARAG Araguaiana, MT 150.07 137 *e*P **PKPdf 16 45 34.8 +1.1**
CLDB Colider 150.08 124 *e*P **PKPdf 16 45 35.0 +1.2**
BOAV Boa Vista 150.31 96 **PKPdf 16 45 33.9 -0.3**
BOAV Boa Vista 150.31 96 *e*P **PKPdf 16 45 34.4 +0.2**
PMOZ Porto Moniz, M 150.50 336 *e*LR LR 17 45 57.2
PMOZ *i* AMs_20 17 53 47.8
comp=Z,1μm,22.0s
IPMB Ipameri, GO 150.62 145 *e*P **PKPdf 16 45 35.2 +0.6**
PMNB Patos De Minas 151.14 148 *e*P **PKPdf 16 45 36.5 +1.1**
NPGB Novo Progresso 152.38 118 *e*P **PKPdf 16 45 38.1 +0.8**
BDFB Brasilia 152.57 142 PKP **PKPdf 16 45 37.9 +0.2**
comp=Z,83nm,1.0s,baz=223,slow=0.1,SNR=54
BDFB PKPbc **PiKiKP 16 45 45.1 +0.2**
comp=Z,146nm,0.6s,baz=242,slow=1.1,SNR=49
DIAM Diamantina, MG 152.69 153 *e*P **PKPdf 16 45 38.6 +0.7**
SNDB Serra Nova Dou 152.96 132 *e*P **PKPdf 16 45 39.0 +0.9**
RIB01 Linhares ES 153.08 160 *e*P **PKPdf 16 45 39.1 +0.9**
ITTB Itaituba 153.18 112 *e*P **PKPdf 16 45 39.3 +0.8**
SJMB Sao Joao De Ma 153.36 158 *e*P **PKPdf 16 45 39.2 +0.6**
BSFB Barra de Sao F 153.37 159 *e*P **PKPdf 16 45 37.9 -0.7**
DBIC Dimbokro 154.03 273 **PKPdf 16 45 39.2 -0.5**
DBIC Dimbokro 154.03 273 PKP **PKPdf 16 45 39.4 -0.3**
comp=Z,26nm,1.2s,baz=87,slow=0.9,SNR=13
DBIC PKPbc **PiKiKP 16 45 48.0 +0.2**
comp=Z,7.9nm,0.6s,baz=97,slow=0.8,SNR=9.2
DBIC Dimbokro 154.03 273 PKIKP **PKPdf 16 45 39.2 -0.5**
ABR01 Abrolhos, BA 154.88 162 *e*P **PKPdf 16 45 41.5 +0.7**
JANB Januaria 155.15 148 *e*P **PKPdf 16 45 41.7 +0.4**
MAL2 Monte Alegre, 155.46 109 IAMs_20 IAMs_20 18 07 14.3

comp=Z,2μm,20.0s
GUA01 **Guaratinga, BA** 155.81 159 *e*P PKPdf 16 45 42.7 +0.6
SDBA **SAO DESIDERIO** 156.97 143 *e*P PKPdf 16 45 44.5 +0.8
CMC01 **Camacan, BA** 157.04 158 *e*P PKPdf 16 45 44.5 +0.8
PRPB **Paraua pebas** 157.58 123 *e*P PKPdf 16 45 45.5 +1.0
SMTB **Santa Maria do** 157.74 132 *e*P PKPdf 16 45 45.7 +1.0
TMAB **Tom-Au,PA,Br** 160.94 116 *e*P PKPdf 16 45 49.6 +1.2
NBAN **Anadia - AL** 163.45 161 *e*P PKPdf 16 45 50.6 -0.3
NBCA **Caruaru-PE** 164.89 161 *e*P PKPdf 16 45 52.4 +0.2
NBPB **Pedra_Branca-C** 165.58 143 *e*P PKPdf 16 45 53.0 +0.2
RCBR **Riachuelo** 167.15 157 PKPdf 16 45 53.5 -0.6
RCBR PKPab 16 46 58.0 -0.2
RCBR **Riachuelo** 167.15 157 PKP2 PKPab 16 46 58.0 -0.2
RCBR **Riachuelo** 167.15 157 *e*P PKPdf 16 45 54.1 +0.1

NEIC ***11*** *16:31:39.6±1.5, 6°.35S±0°.09×149°.29E±0°.08, h35km±2km, mb5.2/26, Error ellipse: s-maj=16.0km s-min=14.0km az=184.0*
IDC ***11*** *16:31:43.8±3.8, 6°.35S×149°.16E, h86km±34km, mb3.9/4, mbtmp4.4/7, Error ellipse: s-maj=49.4km s-min=20.0km az=104.0*
ISC 11 16:31:41.5±0.6, 6°.21S±0°.06×149°.20E±0°.08, h60km, n38, σ1§22/39, mb5.0/13, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	3.57	56	Pn	**Pn**	16 32 33.8	-0.7
PMG	**Port Moresby**	3.76	212	P	**Pn**	16 32 37.9	+0.8
	79nn,0.3s,baz=45,slow=9.6,SNR=2.9						
PMG				S	**Sn**	16 33 20.5	+0.4
	315nm,0.4s,baz=77,slow=16,SNR=9.2						
MANU	**Manus Island**	4.52	336	Pn	**Pn**	16 32 46.4	-1.1
JAY	**Jayapura**	9.23	293	P	**Pn**	16 33 52.8	+0.8
	5.8nm,0.4s,baz=166,slow=6.1,SNR=4.6						
SAUI	**Saumlaki**	17.85	263	P	**P**	16 35 46.0	+0.2
WB0	**Warramunga Arr**	19.71	226	P	**P**	16 36 05.5	-0.7
WRAB	**Tennant Creek**	19.85	225	P	**P**	16 36 06.4	-1.4
WRAB				IAmb	IAmb	16 36 14.6	
	comp=Z,142nm,1.2s						
WB2	**Warramunga Arr**	19.86	225	P	**P**	16 36 06.3	-1.5
WRA	**Warramunga Arr**	19.87	225	P	**P**	16 36 06.7	-1.2
	comp=Z,24nm,0.6s,baz=52,slow=11,SNR=4.5						
KNRA	**Kununurra**	22.14	243	P	**P**	16 36 30.8	-1.5
ASAR	**Alice Springs**	22.75	219	P	**P**	16 36 37.8	-1.1
	comp=Z,4.3nm,0.6s,baz=47,slow=9.4,SNR=1.3						
	comp=Z,4.3nm,0.6s						
DZM	**Mont Dzumac**	22.94	135	P	**P**	16 36 41.6	+0.7
PINNC	**Pines Island,**	24.00	135	P	**P**	16 36 50.6	-0.1
ARMA	**Armidale**	24.19	175	P	**P**	16 36 51.0	-1.5
FITZ	**Fitzroy Crossi**	25.84	241	P	**P**	16 37 06.0	-1.5
	comp=Z,63nm,1.0s,baz=55,slow=8.9,SNR=1.2						
STKA	**Stephens Creek**	26.51	195	P	**P**	16 37 13.9	+0.5
LH	**Lord Howe Isla**	26.82	161	P	**P**	16 37 15.3	-0.9
MMRI	**Maumere**	26.84	263	P	**P**	16 37 13.3	-3.3
BBOO	**Buckleboo**	29.16	203	P	**P**	16 37 36.0	-1.1
TOO	**Toolangi**	31.40	186	P	**P**	16 37 56.8	0.0
TOO				IAmb	IAmb	16 38 55.1	
	comp=Z,61nm,1.7s						
KSRS	**Korea Array**	47.76	337	P	**P**	16 40 13.6	+0.9
	comp=Z,0.7nm,0.7s,baz=155,slow=8.8,SNR=1.1						
USA0B	**Ussuriysk Arra**	52.52	344	P	**P**	16 40 50.2	+1.7
USRK	**Ussuriysk Ar.**	52.52	344	P	**P**	16 40 50.4	+1.8
USRK	**Ussuriysk Ar.**	52.52	344	P	**P**	16 40 50.1	+1.5
	comp=Z,1.6nm,0.6s,baz=159,slow=9.5,SNR=7.0						
	comp=Z,1.6nm,0.6s						
PEA0B	**Petropavlovsk-**	59.53	6	P	**P**	16 41 39.5	+1.0
PETK	**Petropavlovsk-**	59.53	6	P	**P**	16 41 39.1	+0.6
	comp=Z,2.7nm,0.5s,baz=186,slow=6.8,SNR=20						
	comp=Z,2.7nm,0.5s						
CASY	**Casey**	65.65	196	P	**P**	16 42 18.1	-0.9
L18K	**Granite Mounta**	79.74	23	P	**P**	16 43 44.1	+1.4
L18K				IAmb	IAmb	16 44 53.0	
	comp=Z,37nm,1.7s						
L19K	**White Mountain**	80.43	23	P	**P**	16 43 47.7	+1.2
L19K				IAmb	IAmb	16 44 03.4	
	comp=Z,50nm,2.0s						
SML	**Sawmill**	82.90	25	P	**P**	16 43 59.9	+0.3
D19K	**Kuna River**	82.97	17	P	**P**	16 44 00.0	+0.3
ILAR	**Eielson Array**	84.82	23	P	**P**	16 44 08.2	-1.0
	comp=Z,1.0nm,0.6s,baz=245,slow=4.7,SNR=6.2						
	comp=Z,1.0nm,0.6s						
K27K	**Chicken**	86.43	24	P	**P**	16 44 18.4	+1.2
K27K				IAmb	IAmb	16 45 39.9	
	comp=Z,20nm,1.7s						
I28M	**Miner Creek**	87.79	23	P	**P**	16 44 24.5	+0.6
I28M				IAmb	IAmb	16 45 21.9	
	comp=Z,34nm,2.0s						
M30M	**Minto, Yukon**	88.19	26	P	**P**	16 44 27.0	+1.2
K29M	**Barlow Dome**	88.26	25	P	**P**	16 44 27.1	+0.9
K29M				IAmb	IAmb	16 44 27.8	
	comp=Z,25nm,1.9s						
J30M	**Hart River**	88.97	25	P	**P**	16 44 30.7	+1.2
J30M				IAmb	IAmb	16 44 55.4	
	comp=Z,17nm,1.6s						
SYO	**Syowa Base**	91.14	200⇓	*e*P	**P**	16 44 40.2	+0.8

BJI ***11*** *16:34:26.8, 0°.84N×98°.79E, h98km, mB5.3/30, mb5.3/83*
NEIC ***11*** *16:34:28.9±1.9, 1°.13N±0°.06×98°.78E±0°.05, h76km±4km, mb5.6/239, Mww5.3/17, Error ellipse: s-maj=8.5km s-min=6.4km az=201.0*
IDC ***11*** *16:34:28.6±0.3, 1°.12N×98°.90E, h80km±2km, mb5.1/52, mbtmp5.4/55, MS4.8/6, Error ellipse: s-maj=8.0km s-min=5.3km az=78.0*
MOS ***11*** *16:34:28.4±0.8, 1°.05N×98°.87E, h99km, mb5.6/112, Error ellipse: s-maj=9.0km s-min=4.6km az=105.8*
NEIC ***11*** *16:34:29.6, 1°.05N×98°.59E, h80km, Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^17 Nm; Mrr0.02; Mθθ-0.19; Mφφ0.16; Mrθ-0.16; Mθφ-0.61; Mφr-0.99; Fault plane solution: M0 1.19000×10^17 NP1:φs97.90000°, δ32.42000°, λ178.70000°. NP2:φs188.99000°, δ89.31000°, λ57.59000°. Principal axes: T 1.1788, Plg37.0000°, Azm71.0000°; N 0.0185, Plg32.0000°, Azm189.0000°; P -1.1973, Plg36.0000°, Azm307.0000°;*
DJA ***11*** *16:34:29.5±0.1, 1°N±1°×99°E±°, h81km±1km, M5.5/117, mB5.9/55, mb5.6/117, MLv5.9/19, Mw5.4/151, Mw(mB)5.5/55, MwMwp5.5/6, Mwp5.7/6*
NEIC ***11*** *16:34:29.6, 1°.15N×98°.79E, h80km*
GCMT ***11*** *16:34:30.9±0.2, 1°.31N±0°.01×98°.73E±0°.01, h90km±2km, MW5.4/111, Moment Tensor Solution. s44,c64; s111,c192; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr0.40±.05; Mθθ-0.66±.04; Mφφ0.25±.05; Mrθ-0.12±.03; Mθφ-0.72±.04; Mφr-1.17±.03; Best double couple: M0 1.48200×10^17 NP1:φs97.00000°, δ38.00000°, λ164.00000°. NP2:φs200.00000°, δ80.00000°, λ54.00000°. Principal axes: T 1.5780, Plg43.0000°, Azm75.0000°; N -0.1930, Plg36.0000°, Azm207.0000°; P -1.3850, Plg26.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 16:34:28.9±0.2, 1°.13N±0°.03×98°.82E±0°.03, h82km±1km, h82km; pP-P, n1127, σ1§31/1271, mb5.5/382, 73C-56D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	0.83	114	P	**Pn**	16 34 47.8	+1.7
MNSI				S	**Sn**	16 35 00.9	+1.9
GSI	**Gunungsitoli**	1.26	278		**Pn**	16 34 50.9	-0.3
GSI	**Gunungsitoli**	1.26	278	P	**Pn**	16 34 51.8	+0.6
GSI	**Gunungsitoli**	1.26	278	P	**Pn**	16 34 51.5	+0.3
PBSI	**Pulau Batu**	1.29	205	P	**Pn**	16 34 52.1	+0.4
PBSI				S	**Sn**	16 35 08.9	+0.1
RPSI	**Rantau Prapat**	1.56	4		**Pn**	16 34 56.5	+1.4
PSI	**Prapat**	1.66	4	P	**Pn**	16 34 56.5	-0.1
	4μm,0.8s,baz=180,slow=13,SNR=5.6						
PSI				S	**Sn**	16 35 15.3	-2.2
	1μm,0.5s,baz=280,slow=6.2,SNR=10						
PPI	**Padang Panjang**	2.23	135	P	**Pn**	16 35 06.1	+2.1
BKNI	**Bangkinang**	2.36	110	Pn	**Pn**	16 35 07.0	+1.3
BKNI	**Bangkinang**	2.36	110	P	**Pn**	16 35 07.5	+1.8
BKNI	**Bangkinang**	2.36	110	S	**Sn**	16 35 37.3	+3.5
BKNI	**Bangkinang**	2.36	110	P	**Pn**	16 35 07.2	+1.5
TSI	**Tuntungan**	2.37	354	P	**Pn**	16 35 07.8	+2.0
SISI	**Saibi**	2.45	174	P	**Pn**	16 35 06.8	-0.2
SNSI	**Sinabang, Aceh**	2.80	297	P	**Pn**	16 35 12.0	+0.4
MLSI	**Meulaboh, Aceh**	3.94	322	P	**Pn**	16 35 27.5	+0.4
LHMI	**Lhok Sumawe**	4.48	335	Pn	**Pn**	16 35 34.0	-0.4
LHMI	**Lhok Sumawe**	4.48	335	P	**Pn**	16 35 35.1	+0.6
LHMI	**Lhok Sumawe**	4.48	335	P	**Pn**	16 35 34.6	+0.1
KULM	**Kulim**	4.52	24	Pn	**Pn**	16 35 36.5	+1.5
KULM	**Kulim**	4.52	24	P	**Pn**	16 35 37.3	+2.3
MYKOM	**Kota Tinggi**	5.07	83	Pn	**Pn**	16 35 44.4	+1.8
BSI	**Banda Aceh**	5.58	321	P	**Pn**	16 35 48.8	-0.7
	790nm,0.5s						
KSI	**Kapahiang**	6.06	142	P	**Pn**	16 35 57.5	+1.4
	7.3nm18μm1μm,1.7s						
MNAI	**Manna**	6.84	143	Pn	**Pn**	16 36 06.9	+0.2
MNAI	**Manna**	6.84	143	P	**Pn**	16 36 06.7	0.0
	8.0nm18μm456nm,1.0s						
PMBI	**Palembang**	7.19	124		**Pn**	16 36 11.6	+0.2
PMBI	**Palembang**	7.19	124	P	**Pn**	16 36 15.1	+3.7
PMBI	**Palembang**	7.19	124	P	**Pn**	16 36 11.1	-0.3
	3.4nm9μm1μm,1.0s						
SRIT	**Nakonsritamara**	7.46	6	Pn	**Pn**	16 36 15.5	+0.4
CMBY	**CAMPBELL BAY**	7.61	320	*e*P	**Pn**	16 36 19.4	+2.2
CMBY				*e*S	**Sn**	16 37 38.3	-3.6
CMBY				IAML		16 37 43.2	
	comp=E,3μm,0.5s						
CMBY				IAML		16 37 43.5	
	comp=N,3μm,0.4s						
MDSI	**Maura Dua**	7.73	136	P	**Pn**	16 36 19.4	+0.6
	comp=N,1.4nmcomp=N,4μmcomp=N,216nm,0.9s						
LWLI	**Liwa**	8.04	139	P	**Pn**	16 36 23.2	0.0
	comp=N,12μmcomp=N,1μm,0.8s						
BLSI	**Bandar Lampung**	9.10	135	P	**Pn**	16 36 38.0	+0.4
	comp=N,3μmcomp=N,144nm,0.7s						
TPI	**Tanjungpandan**	9.64	114	P	**Pn**	16 36 48.3	+3.4
	comp=N,3μmcomp=N,292nm,1.2s						
SBJI	**Serang**	10.25	135	P	**Pn**	16 36 54.2	+0.9
	comp=N,6μmcomp=N,318nm,1.0s						
KSM	**Kuching**	11.49	88		**Pn**	16 37 10.3	+0.2
KSM	**Kuching**	11.49	88	P	**Pn**	16 37 14.1	+4.0
CNJI	**Cibinong**	11.79	135	P	**Pn**	16 37 10.4	-3.8
	comp=N,119nm,1.0s						
LEM	**Lembang**	11.81	132	P	**Pn**	16 37 14.2	-0.4
	comp=N,68nm,1.0s,baz=277,slow=7.5,SNR=3.4						
LEM				S	**Sn**	16 39 18.2	-6.6
	comp=N,59nm,0.9s,baz=150,slow=23,SNR=1.8						
LEM	**Lembang**	11.81	132	P	**Pn**	16 37 14.9	+0.3
	comp=N,219nm,1.2s						
PBA	**Port Blair**	12.07	330		Pn	16 37 13.1	-4.9
PBA	**Port Blair**	12.07	330	P	**Pn**	16 37 13.3	-4.7
PBA	**Port Blair**	12.07	330	*e*P	**Pn**	16 37 14.4	-3.6
PBA				IAmb	IAmb	16 37 51.0	
	comp=Z,316nm,1.4s						
PBA				*e*S	Sn	16 39 20.8	-10
BBJI	**Bungbulang**	12.27	134	P	**Pn**	16 37 23.1	+2.4
SKTI	**Sintang**	12.70	95	P	**Pn**	16 37 28.3	+1.8
CMJI	**Cimerak**	13.06	133	P	**Pn**	16 37 26.9	-4.4
	comp=Z,3μmcomp=Z,193nm,1.0s						
SRDT	**SRDT**	13.14	1	P	**Pn**	16 37 34.5	+2.2
DGPR	**DIGLIPUR**	13.32	334	*e*P	**Pn**	16 37 33.3	-1.4
DGPR				*e*S	Sn	16 39 50.4	-11
NAYO	**Nakonayok**	13.33	11	P	**Pn**	16 37 36.5	+1.6
COCO	**West Island**	13.38	188	P	**Pn**	16 37 36.7	+1.2
XMIS	**Christmas Isla**	13.39	150		Pn	16 37 29.4	-6.3
SBUM	**Sibu**	13.46	84		**Pn**	16 37 35.6	-1.0
SBUM	**Sibu**	13.46	84	P	**P**	16 37 40.5	-2.4
SMRI	**Semarang**	14.16	125	Pn	**Pn**	16 37 44.8	-1.0
SMRI	**Semarang**	14.16	125	P	**Pn**	16 37 47.1	+1.4
	comp=Z,168nm,0.9s						
YOGI	**Yogyakarta**	14.49	128	P	**Pn**	16 37 51.2	+1.2
	comp=Z,175nm,1.6s						
UGM	**Wanagama**	14.73	128	Pn	**Pn**	16 37 51.4	-1.7
UGM	**Wanagama**	14.73	128	P	**Pn**	16 37 50.2	-2.9
NGJI	**Ngawi**	15.18	124	P	**Pn**	16 37 59.5	+0.7
	comp=Z,4μmcomp=Z,156nm,1.3s						
PCJI	**Pacitan**	15.41	127	P	**Pn**	16 37 57.4	-4.5
UBPT	**Khong Chiam**	15.52	25		**Pn**	16 38 04.1	+1.0
UBPT	**Khong Chiam**	15.52	25	P	**P**	16 38 04.8	-1.0
GRJI	**Gresik**	15.80	121	P	**P**	16 38 08.9	-0.1
	comp=Z,14μmcomp=Z,6μmcomp=Z,521nm,1.2s						
KMMI	**Kalianget**	17.16	118	P	**P**	16 38 24.4	+0.4
	comp=Z,5μmcomp=Z,514nm,1.0s						
CM31	**Chiang Mai Arr**	17.22	0		**P**	16 38 24.7	0.0
CMAR	**Chiang Mai Arr**	17.22	0		**Pn**	16 38 23.9	-0.5
CMAR	**Chiang Mai Arr**	17.22	0	P	**P**	16 38 25.1	+0.5
	comp=Z,66nm,0.9s,baz=191,slow=11,SNR=64						
CMAR				PcP	**PcP**	16 43 01.7	-2.0
	comp=Z,3.7nm,0.9s,baz=209,slow=2.2,SNR=4.2						
CMAR				LR	LR	16 45 03.9	
	comp=Z,832nm,21.0s,baz=170,slow=37						
GMJI	**Gumukmas**	17.32	123	P	**P**	16 38 26.1	+0.4
NONG	**Nongkai**	17.36	14	P	**Pn**	16 38 26.0	0.0
CHTO	**Chiang Mai**	17.57	0		**P**	16 38 28.6	0.0
CHTO	**Chiang Mai**	17.57	0	P	**P**	16 38 28.6	0.0
ABJI	**Asem Bagus**	17.75	120	P	**Pn**	16 38 31.4	+0.6
	comp=Z,4μmcomp=Z,275nm,1.1s						
JAGI	**Jajag, Banyuwa**	18.01	122	P	**Pn**	16 38 34.2	+0.1
JAGI	**Jajag, Banyuwa**	18.01	122	P	**Pn**	16 38 36.9	+2.9
JAGI	**Jajag, Banyuwa**	18.01	122	P	**Pn**	16 38 35.7	+1.7
	comp=Z,135nm,1.0s						
KKM	**Kota Kinabalu**	18.03	74	Pn	**Pn**	16 38 35.4	+1.1
KKM	**Kota Kinabalu**	18.03	74	P	**Pn**	16 38 36.0	+1.7
BKB	**Balikpapan**	18.23	97	P	**Pn**	16 38 37.5	+0.9
BKB	**Balikpapan**	18.23	97	P	**Pn**	16 38 39.3	+2.7
BKB	**Balikpapan**	18.23	97	P	**Pn**	16 38 38.8	+2.2
SMKI	**Samarinda**	18.45	95	P	**Pn**	16 38 41.5	+2.1
	comp=Z,10μmcomp=Z,612nm,0.9s						
SRBI	**Singaraja**	18.73	120	P	**Pn**	16 38 43.0	+0.3
	comp=Z,5μmcomp=Z,496nm,1.0s						
PALK	**Pallekele**	19.06	289	Pn	**Pn**	16 38 46.4	-0.3
PALK	**Pallekele**	19.06	289	P	**Pn**	16 38 46.7	0.0
	comp=Z,79nm,0.8s,baz=108,slow=9.6,SNR=27						
PALK				S	S	16 42 03.8	-13
	comp=Z,34nm,0.4s,baz=186,slow=19,SNR=12						
PALK				LR	LR	16 45 19.7	
	comp=Z,1μm,20.6s,baz=104,slow=34						
PALK	**Pallekele**	19.06	289	P	**Pn**	16 38 47.6	+1.0
PALK	**Pallekele**	19.06	289	*d*P	**Pn**	16 38 47.3	+0.7
PALK				pmax	pmax		
	comp=Z,573nm,2.0s						
TWSI	**Taliwang, Sumb**	20.50	119	P	**P**	16 39 01.6	+1.1
	comp=Z,187nm,0.8s						
SLVN	**Son La**	20.69	14	P	**P**	16 39 01.7	-0.9
SLVN	**Son La**	20.69	14	P	**P**	16 39 02.3	-0.3
QIZ	**Qiongzhong**	20.82	31	P	**P**	16 39 05.0	+1.1
QIZ				pmax	pmax		
	comp=Z,43nm,1.2s						
QIZ				LR	LR		
	comp=Z,590nm,11.3s						
QIZ				LR	LR		
	comp=Z,2μm,21.2s						
QIZ				LR	LR		
	comp=Z,3μm,20.4s						
QIZ	**Qiongzhong**	20.82	31	P	**P**	16 39 05.2	+1.3
PCI	**Palu**	21.11	95	P	**P**	16 39 08.6	+1.4
	comp=Z,6μmcomp=Z,464nm,1.1s						
PLAI	**Plampang**	21.32	118	P	**P**	16 39 09.6	+0.2
PLAI	**Plampang**	21.32	118	P	**P**	16 39 08.8	-0.6
	comp=Z,252nm,0.9s						
TTSI	**Tana Toraja**	21.40	101	P	**P**	16 39 12.3	+2.1
	comp=Z,257nm,0.9s						
SPSI	**Sidrap Palu**	21.54	104	P	**P**	16 39 13.2	+1.5
	comp=Z,231nm,1.5s						
KAPI	**Kappang**	21.78	106	P	**P**	16 39 13.9	-0.4
KAPI				IAmb	IAmb	16 39 23.5	
	comp=Z,279nm,1.1s						
KAPI	**Kappang**	21.78	106	P	**P**	16 39 14.7	+0.4
	comp=Z,184nm,0.9s,baz=282,slow=10,SNR=17						
KAPI				ScP	**ScP**	16 46 40.3	-1.8
	comp=Z,19nm,1.1s,baz=280,slow=3.9,SNR=4.8						
	comp=Z,184nm,0.9s						
KAPI	**Kappang**	21.78	106	P	**P**	16 39 16.6	+2.2
KAPI	**Kappang**	21.78	106	P	**P**	16 39 16.4	+2.1
KAPI	**Kappang**	21.78	106	*ce*P	**P**	16 39 15.9	+1.6
KAPI				pmax	pmax		
	comp=Z,333nm,1.1s						
TOLI2	**Tolitoli**	21.96	90	P	**P**	16 39 17.1	+0.9
BKSI	**Bulukumba**	22.22	107	P	**P**	16 39 19.4	+0.4
	comp=Z,198nm,0.8s						
VIS	**Vishakhapatnam**	22.44	318	*e*P	**P**	16 39 21.7	+0.4
VIS				IAmb	IAmb	16 39 29.3	
	comp=Z,210nm,0.8s						
VIS				*e*S	**S**	16 43 20.5	-1.8
VIS				*e*S	Sn	16 43 23.0	-18
BRDH	**Bariadhala**	22.53	342	P	**P**	16 39 22.0	-0.1
	comp=Z,115nm,0.3s,baz=123,slow=2.7,SNR=12						
BRDH				LR	LR	16 51 26.1	
	comp=Z,951nm,18.7s,baz=142,slow=45						
	comp=Z,115nm,0.3s						
BSSI	**Bau Bau, Buton**	22.81	109	P	**P**	16 39 24.3	-0.9
	comp=Z,6μmcomp=Z,620nm,1.1s						
APSI	**Ampana**	22.92	95	P	**P**	16 39 27.8	+1.5
	comp=Z,8μmcomp=Z,850nm,1.1s						
TRD	**Trivandrum**	22.97	289	*e*P	**P**	16 39 28.6	+1.7
SALM	**Salem**	22.98	298	*e*P	**P**	16 39 29.1	+2.3
SALM				IAmb	IAmb	16 39 49.4	
	comp=Z,158nm,1.1s						
KOD	**Kodaikanal**	23.07	294	*e*P	**P**	16 39 29.8	+1.6
KOD				IAmb	IAmb	16 39 51.2	
	comp=Z,227nm,1.2s						
WBSI	**Waikabubak, Su**	23.11	118	P	**P**	16 39 27.8	-0.4
	comp=Z,351nm,1.0s						
MRSI	**Marisa**	23.13	91	P	**P**	16 39 28.8	+0.4
AZL	**Aizawl**	23.25	346	*e*P	**P**	16 39 29.4	-0.1
AZL				IAmb	IAmb	16 39 31.1	
	comp=Z,383nm,0.9s						
RAGD	**RAYAGADA**	23.47	321	*e*P	**P**	16 39 31.5	0.0
RAGD				IAmb	IAmb	16 39 33.0	
	comp=Z,258nm,1.0s						
TNCH	**TengChong**	23.76	359	⇓P	**P**	16 39 34.4	+0.2
TNCH				sS	sS	16 44 17.7	+1.8
TNCH				SS	**SnSn**	16 44 42.9	+12
TNCH				pmax	pmax		
	comp=Z,230nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,800nm,2.9s						
TNCH				LR	LR		
	comp=Z,640nm,22.5s						
TNCH				LR	LR		
	comp=Z,840nm,24.9s						
TNCH				LR	LR		
	comp=Z,2μm,24.9s						
IMP	**Imphal**	24.03	349	*e*P	**P**	16 39 35.9	-0.6
IMP				IAmb	IAmb	16 39 43.3	
	comp=Z,219nm,1.1s						
LUWI	**Luwuk**	24.05	95	P	**P**	16 39 37.8	+1.1
LUWI	**Luwuk**	24.05	95	P	**P**	16 39 37.4	+0.7
KMI	**Kunming**	24.15	9	⇓P	**P**	16 39 39.5	+1.7
KMI				pmax	pmax		
	comp=Z,48nm,0.8s						
BASI	**Baing, Sumba**	24.41	118	P	**P**	16 39 40.3	+0.3
	comp=Z,467nm,1.0s						
BBSI	**Bau Bau**	24.61	106	P	**P**	16 39 43.0	+1.1
	comp=Z,8μmcomp=Z,705nm,1.0s						
KOHI	**KOHIMA**	24.87	350	*e*P	**P**	16 39 43.3	-0.9
KOHI				IAmb	IAmb	16 39 47.1	
	comp=Z,473nm,1.1s						
KMSI	**Cibinong**	25.16	91	P	**P**	16 39 48.5	+1.6
SHL	**Shillong**	25.20	345	P	**P**	16 39 46.8	-0.5
SHL	**Shillong**	25.20	345	P	**P**	16 39 47.5	+0.2
	SNR=36						
SHL	**Shillong**	25.20	345	*e*P	**P**	16 39 47.1	-0.2
SHL				IAmb	IAmb	16 39 49.4	
	comp=Z,325nm,0.9s						
SHL				*e*S	**S**	16 44 02.6	-4.3
SHL	**Shillong**	25.20	345	P	**P**	16 39 46.8	-0.5
SHL				pmax	pmax		
	comp=Z,849nm,0.9s						
JHSG	**JHARSUGUGA**	25.21	325	*e*P	**P**	16 39 48.7	+1.5
JHSG				IAmb	IAmb	16 40 17.4	
	comp=Z,257nm,1.1s						
MMRI	**Maumere**	25.27	113	P	**P**	16 39 45.6	-2.3
MMRI	**Maumere**	25.27	113	P	**P**	16 39 49.8	+1.9
MMRI	**Maumere**	25.27	113	P	**P**	16 39 47.7	-0.2
	comp=Z,334nm,1.3s						
PZH	**PanZhiHua**	25.38	6	P	**P**	16 39 50.1	+1.2
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,210nm,6.0s						
HYB	**Hyderabad**	25.68	310	*e*P	**P**	16 39 52.0	+0.5
HYB				IVmB_BB		16 40 22.4	
	comp=Z,1μm,2.6s						
HKPS	**Hong Kong Po S**	25.77	34	P	**P**	16 39 52.2	-0.1
HKPS	**Hong Kong Po S**	25.77	34	P	**P**	16 39 53.7	+1.4
BOK	**Bokaro**	25.79	332	*e*P	**P**	16 39 54.0	+1.6
BOK				IAmb	IAmb	16 39 56.1	
	comp=Z,212nm,0.8s						
BOK				*e*S	**S**	16 44 16.1	+0.2
KAAM	**Kaadhehdhoo**	25.83	269	P	**P**	16 39 52.7	-0.2
KAAM				IAmb	IAmb	16 39 56.6	
	comp=Z,194nm,1.1s						
KAAM	**Kaadhehdhoo**	25.83	269	P	**P**	16 39 55.7	+2.8
	SNR=5.4						
HMDM	**Hanimaadhoo**	26.17	283	P	**P**	16 39 56.6	+0.6
HMDM				IAmb	IAmb	16 40 00.3	
	comp=Z,345nm,1.1s						
HMDM	**Hanimaadhoo**	26.17	283	P	**P**	16 39 59.6	+3.6
	SNR=7.0						
GYA	**Guiyang**	26.29	16	P	**P**	16 39 56.3	-0.7
GYA				pmax	pmax		
	comp=Z,15nm,0.8s						
MNGI	**Mangalore**	26.51	297	*e*

FAKI	**Fak Fak**	**33.66**	**97**	P	**P**	**16 41 01.5**	**-0.8**
	comp=Z,140nm,1.1s						
SONA	**Sohna**	**34.05**	**324**	*e*P	**P**	**16 41 05.2**	**-0.2**
SONA				IAmb	IAmb	16 41 34.2	
	comp=Z,95nm,0.9s						
XAN	**Xi'an**	**34.08**	**15**	⇑P	**P**	**16 41 04.6**	**-1.1**
XAN				sP	sP	16 41 40.5	+5.9
XAN				S	**S**	**16 46 22.4**	**-3.2**
XAN				pmax	pmax		
	comp=Z,51nm,0.7s						
XAN				LR	LR		
	comp=Z,3μm,19.9s						
XAN				LR	LR		
	comp=Z,3μm,23.4s						
XAN				LR	LR		
	comp=Z,5μm,21.3s						
XAN	**Xi'an**	**34.08**	**15**	P	**P**	**16 41 04.4**	**-1.3**
AYAN	**Aya Nagar**	**34.20**	**325**	*e*P	**P**	**16 41 07.0**	**+0.3**
MORW	**Morawa**	**34.25**	**153**	P	**P**	**16 41 08.5**	**+1.3**
MORW				IAmb	IAmb	16 41 10.1	
	comp=Z,113nm,0.9s						
MORW	**Morawa**	**34.25**	**153**	P	**P**	**16 41 08.2**	**+1.0**
	comp=Z,125nm,1.1s						
MORW	**Morawa**	**34.25**	**153**	P	**P**	**16 41 09.0**	**+1.8**
NDI	**New Delhi**	**34.30**	**325**	*e*P	**P**	**16 41 07.1**	**-0.5**
NDI				IAmb	IAmb	16 41 36.9	
	comp=Z,241nm,1.4s						
KUDL	**Kundal**	**34.32**	**323**	*e*P	**P**	**16 41 07.1**	**-0.7**
KUDL				IAmb	IAmb	16 41 35.4	
	comp=Z,63nm,1.0s						
MTN	**Manton Dam**	**34.94**	**114**	IAmb	IAmb	16 41 15.7	
	comp=Z,135nm,1.4s						
MTN	**Manton Dam**	**34.94**	**114**	P	**P**	**16 41 10.6**	**-2.7**
GOMU	**GeErMu**	**35.09**	**354**	P	**P**	**16 41 15.1**	**+0.3**
GOMU				pmax	pmax		
	comp=Z,46nm,1.3s						
GOMU				LR	LR		
	comp=Z,3μm,19.2s						
GOMU				LR	LR		
	comp=Z,4μm,19.6s						
GOMU				LR	LR		
	comp=Z,10μm,19.7s						
LZH	**Lanzhou**	**35.09**	**7**	*e*P	**P**	**16 41 14.8**	**+0.3**
LZH				pP	pP	16 41 34.7	+0.9
LZH				PcP	**PcP**	**16 43 46.4**	**+1.7**
LZH				ScS	ScS	16 51 26.1	-1.2
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				LR	LR		
	comp=Z,3μm,16.8s						
LZH				LR	LR		
	comp=Z,3μm,15.6s						
LZH				LR	LR		
	comp=Z,8μm,19.9s						
KMPI	**Kaimana, Papua**	**35.19**	**98**	P	**P**	**16 41 14.9**	**-0.6**
RKPI	**Ransiki, Papua**	**35.45**	**94**	P	**P**	**16 41 17.1**	**-0.7**
	comp=Z,162nm,1.4s						
LYN	**LuoYang**	**35.61**	**20**	P	**P**	**16 41 19.1**	**+0.3**
LYN				S	**S**	**16 46 49.3**	**+0.2**
LYN				ScP	**ScP**	**16 47 24.9**	**0.0**
LYN				pmax	pmax		
	comp=Z,110nm,0.9s						
BLDU	**Ballidu**	**35.87**	**153**	P	**P**	**16 41 22.2**	**+1.1**
	comp=Z,99nm,1.2s						
BLDU	**Ballidu**	**35.87**	**153**	P	**P**	**16 41 22.7**	**+1.6**
NJ2	**Nanjing**	**36.10**	**30**	⇑P	**P**	**16 41 23.9**	**+0.9**
NJ2				pP	**pP**	**16 41 41.1**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,28nm,0.7s						
KDU	**Kakadu**	**36.11**	**113**	P	**P**	**16 41 20.8**	**-2.5**
SMLA	**Simla**	**36.20**	**328**	*e*P	**P**	**16 41 23.9**	**0.0**
SMLA				IAmb	IAmb	16 41 43.7	
	comp=Z,198nm,1.2s						
SMLA				*e*S	**S**	**16 46 55.3**	**-2.9**
SSE	**Sheshan**	**36.56**	**33**	P	**P**	**16 41 27.6**	**+0.6**
SSE				pmax	pmax		
	comp=Z,39nm,0.9s						
MTKN	**Mount Kenneth**	**36.60**	**155**	P	**P**	**16 41 28.2**	**+1.0**
MUN	**Mundaring**	**36.82**	**155**	P	**P**	**16 41 31.0**	**+1.9**
MUN	**Mundaring**	**36.82**	**155**	P	**P**	**16 41 31.1**	**+1.9**
BHK	**Bhakra**	**36.83**	**327**	*e*P	**P**	**16 41 29.7**	**+0.4**
KLBR	**Kellerberrin**	**37.17**	**153**	P	**P**	**16 41 33.6**	**+1.4**
SRPI	**Serui, Papua**	**37.53**	**95**	P	**P**	**16 41 34.0**	**-1.5**
	comp=Z,37nm,0.5s						
DHRM	**DHARAMSHALA**	**37.54**	**328**	*e*P	**P**	**16 41 35.5**	**0.0**
DHRM				IAmb	IAmb	16 41 57.4	
	comp=Z,219nm,1.2s						
DHRM				*e*S	**S**	**16 47 16.2**	**-2.7**
NWAO	**Narrogin (SRO)**	**38.07**	**154**	P	**P**	**16 41 41.3**	**+1.6**
NWAO	**Narrogin (SRO)**	**38.07**	**154**	P	**P**	**16 41 41.6**	**+1.9**
NWAO	**Narrogin (SRO)**	**38.07**	**154**	P	**P**	**16 41 41.5**	**+1.8**
NWAO	**Narrogin (SRO)**	**38.07**	**154**	P	**P**	**16 41 41.3**	**+1.6**
NWAO				pmax	pmax		
	comp=Z,241nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.07**	**154**	P	**P**	**16 41 41.4**	**+1.6**
NWAO				pP	**pP**	**16 42 00.3**	**+1.1**
NWAO				sP	**sP**	**16 42 08.4**	**-0.2**
GTA	**Gaotai**	**38.11**	**1**	P	**P**	**16 41 41.1**	**+1.0**
GTA				PcP	**PcP**	**16 43 55.6**	**+1.9**
GTA				S	**S**	**16 47 26.4**	**-0.8**
GTA				ScP	**ScP**	**16 47 34.0**	**-0.2**
GTA				ScS	**ScS**	**16 51 41.4**	**-2.5**
GTA				pmax	pmax		
	comp=Z,32nm,1.0s						
GTA				LR	LR		
	comp=Z,940nm,20.7s						
GTA				LR	LR		
	comp=Z,2μm,21.1s						
GTA				LR	LR		
	comp=Z,2μm,21.8s						
JOW	**Kunigami**	**38.12**	**45**	P	**P**	**16 41 40.8**	**+0.5**
	comp=Z,7.6nm,0.3s,baz=205,slow=12,SNR=2.3						
	comp=Z,7.6nm,0.3s						
TIY	**Taiyuan**	**38.50**	**17**	P	**P**	**16 41 45.1**	**+1.7**
TIY				pmax	pmax		
	comp=Z,22nm,0.8s						
TIY				LR	LR		
	comp=Z,3μm,27.5s						
TIY				LR	LR		
	comp=Z,4μm,26.1s						
TIY				LR	LR		
	comp=Z,8μm,26.1s						
JMU	**Jammu**	**38.65**	**327**	*e*P	**P**	**16 41 45.6**	**+1.1**
JMU				IAmb	IAmb	16 42 06.5	
	comp=Z,199nm,1.1s						
TIA	**Tai'an**	**38.81**	**24**	P	**P**	**16 41 46.8**	**+0.9**
TIA				pmax	pmax		
	comp=Z,32nm,1.1s						
HNS	**HongShan**	**38.95**	**20**	⇑P	**P**	**16 41 48.2**	**+1.2**
HNS				ScP	**ScP**	**16 47 37.2**	**-0.1**
HNS				*e*S	**S**	**16 47 40.8**	**+1.1**
HNS				PcS	**PcS**	**16 47 44.1**	**-1.6**
HNS				ScS	**ScS**	**16 51 46.6**	**-1.9**
HNS				pmax	pmax		
	comp=Z,56nm,0.8s						
KMBL	**Kambalda**	**39.04**	**148**	P	**P**	**16 41 48.8**	**+0.9**
SMPI	**Sarmi**	**40.00**	**94**	P	**P**	**16 41 55.7**	**-0.5**
	comp=Z,135nm,1.6s						
NIL	**Nilore**	**40.26**	**326**	P	**P**	**16 41 57.7**	**-0.3**
NIL	**Nilore**	**40.26**	**326**	P	**P**	**16 41 57.7**	**-0.3**
NIL				pmax	pmax		
	comp=Z,257nm,1.0s						
NIL	**Nilore**	**40.26**	**326**	P	**P**	**16 41 58.1**	**+0.1**
NIL				pP	**pP**	**16 42 16.9**	**-0.7**
NIL				sP	**sP**	**16 42 25.9**	**-1.1**
BTO	**Baotou**	**40.59**	**13**	*e*P	**P**	**16 42 03.2**	**+2.5**
BTO				pP	**sP**	**16 42 26.1**	**-3.9**
BTO				sP	pP	16 42 37.4	+17
BTO				PP	**PnPn**	**16 43 42.9**	**+2.5**
BTO				S	**S**	**16 48 06.7**	**+2.4**
BTO				sS	sS	16 48 47.7	+10
BTO				SS	**SS**	**16 51 10.2**	**+2.8**
BTO				pmax	pmax		
	comp=Z,40nm,0.8s						
BTO				pmax	pmax		
	comp=Z,630nm,5.1s						
BTO				LR	LR		
	comp=Z,10μm,24.9s						
BTO				LR	LR		
	comp=Z,11μm,22.2s						
BTO				LR	LR		
	comp=Z,17μm,23.1s						
WB0	**Warramunga Arr**	**40.60**	**123**	IAmb	IAmb	16 42 00.1	
	comp=Z,119nm,0.9s						
WRA	**Warramunga Arr**	**40.63**	**123**	P	**P**	**16 41 59.3**	**-1.9**
	comp=Z,98nm,0.8s,baz=300,slow=9.2,SNR=38						
WRA				PcP	**PcP**	**16 44 01.1**	**-0.8**
	comp=Z,4.8nm,0.3s,baz=316,slow=2.7,SNR=10						
WRA				ScP	**ScP**	**16 47 43.4**	**-0.9**
	comp=Z,5.2nm,1.1s,baz=300,slow=3.7,SNR=5.1						
WRA				S	**S**	**16 47 57.4**	**-7.9**
	comp=Z,15nm,1.1s,baz=295,slow=17,SNR=9.2						
	comp=Z,98nm,0.8s						
WRA	**Warramunga Arr**	**40.63**	**123**	*i* P	**P**	**16 41 59.2**	**-2.1**
WRA				pmax	pmax		
	comp=Z,135nm,0.9s						
WRAB	**Tennant Creek**	**40.64**	**123**	P	**P**	**16 41 59.7**	**-1.6**
WRAB	**Tennant Creek**	**40.64**	**123**	*c i* P	**P**	**16 41 59.3**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,192nm,1.0s						
HHC	**Hu-ho-hao-te**	**41.19**	**15**	⇑*i* P	**P**	**16 42 08.2**	**+2.6**
HHC				pP	pP	16 42 26.4	+0.9
HHC				PP	**PnPn**	**16 43 47.8**	**+0.4**
HHC				pmax	pmax		
	comp=Z,26nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,5.5s						
HHC				LR	LR		
	comp=Z,3μm,21.9s						
HHC				LR	LR		
	comp=Z,4μm,23.5s						
HHC				LR	LR		
	comp=Z,7μm,21.1s						
GENI	**Genyem**	**41.50**	**95**	P	**P**	**16 42 09.1**	**+0.6**
GENI	**Genyem**	**41.50**	**95**	P	**P**	**16 42 06.9**	**-1.6**
	comp=Z,90nm,1.1s						
BJT	**Baijiatuau**	**41.80**	**20**	IAmb	IAmb	16 42 13.1	
	comp=Z,38nm,0.5s						
BJT	**Baijiatuau**	**41.80**	**20**	P	**P**	**16 42 11.4**	**+0.9**
BJT	**Baijiatuau**	**41.80**	**20**	P	**P**	**16 42 12.1**	**+1.5**
BJT				sP	**sP**	**16 42 39.1**	**-0.5**
BJI	**Beijing**	**41.83**	**20**	P	**P**	**16 42 11.6**	**+0.9**
BJI				S	**S**	**16 48 24.0**	**+1.6**
BJI				pmax	pmax		
	comp=Z,23nm,0.7s						
BJI				pmax	pmax		
	comp=Z,110nm,10.8s						
BJI				LR	LR		
	comp=Z,2μm,20.7s						
BJI				LR	LR		
	comp=Z,1μm,20.5s						
BJI				LR	LR		
	comp=Z,2μm,20.3s						
JAY	**Jayapura**	**42.03**	**95**	P	**P**	**16 42 10.9**	**-2.0**
	comp=Z,42nm,1.0s						
ASAR	**Alice Springs**	**42.07**	**128**	P	**P**	**16 42 11.3**	**-1.7**
	comp=Z,51nm,0.8s,baz=306,slow=7.9,SNR=71						
ASAR				PcP	**PcP**	**16 44 05.9**	**-0.7**
	comp=Z,14nm,0.9s,baz=308,slow=2.2,SNR=7.2						
ASAR				ScP	**ScP**	**16 47 49.4**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=307,slow=4.5,SNR=5.3						
ASAR				S	**S**	**16 48 18.6**	**-8.0**
	comp=Z,3.6nm,0.9s,baz=290,slow=16,SNR=5.3						
ASAR				ScS	**ScS**	**16 52 04.7**	**-3.3**
	comp=Z,3.1nm,1.1s,baz=300,slow=5.8,SNR=5.9						
	comp=Z,51nm,0.8s						
AS31	**Alice Springs**	**42.07**	**128**	P	**P**	**16 42 11.0**	**-2.0**
	comp=Z,18nm,0.7s						
AS01	**Alice Springs**	**42.10**	**128**	P	**P**	**16 42 12.5**	**-0.8**
FORT	**Forrest**	**42.19**	**141**	P	**P**	**16 42 14.0**	**+0.2**
FORT	**Forrest**	**42.19**	**141**	P	**P**	**16 42 14.6**	**+0.7**
DL2	**Dalian**	**43.00**	**26**	P	**P**	**16 42 21.6**	**+1.3**
DL2				pP	**pP**	**16 42 42.1**	**+2.0**
DL2				S	**S**	**16 48 41.7**	**+2.0**
DL2				pmax	pmax		
	comp=Z,390nm,0.8s						
DL2				pmax	pmax		
	comp=Z,1μm,5.9s						
DL2				LR	LR		
	comp=Z,910nm,16.4s						
DL2				LR	LR		
	comp=Z,1μm,15.9s						
DL2				LR	LR		
	comp=Z,1μm,16.5s						
KBL	**Kabul**	**43.33**	**323**	P	**P**	**16 42 23.3**	**0.0**
KBL	**Kabul**	**43.33**	**323**	P	**P**	**16 42 23.9**	**+0.6**
	SNR=6.6						
KBL	**Kabul**	**43.33**	**323**	P	**P**	**16 42 23.3**	**0.0**
KBL				pmax	pmax		
	comp=Z,53nm,1.0s						
KSH	**Kashi**	**43.52**	**334**	P	**P**	**16 42 22.8**	**-1.8**
KSH				pmax	pmax		
	comp=Z,32nm,1.0s						
KSH				LR	LR		
	comp=Z,660nm,17.5s						
KSH				LR	LR		
	comp=Z,760nm,21.3s						
KSH				LR	LR		
	comp=Z,660nm,20.6s						
NGCH	**Negor - Chabah**	**43.60**	**307**	P	**P**	**16 42 27.2**	**+1.9**
WMQ	**Urumqi**	**43.65**	**348**	*e*P	**P**	**16 42 26.6**	**+1.1**
WMQ				pP	pP	16 42 45.3	0.0
WMQ				PP	**PP**	**16 44 10.5**	**+1.9**
WMQ				S	**S**	**16 48 49.8**	**+0.6**
WMQ				ScS	**ScS**	**16 52 16.9**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,98nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,310nm,4.7s						
WMQ				LR	LR		
	comp=Z,2μm,15.1s						
WMQ				LR	LR		
	comp=Z,1μm,19.1s						
WMQ				LR	LR		
	comp=Z,2μm,22.1s						
WMQ	**Urumqi**	**43.65**	**348**	P	**P**	**16 42 26.6**	**+1.1**
WMQ				pP	**pP**	**16 42 46.4**	**+1.1**
WUS	**Wushi**	**43.65**	**338**	P	**P**	**16 42 26.5**	**+0.8**
WUS				pP	**pP**	**16 42 45.1**	**-0.3**
WUS				sP	**sP**	**16 42 53.9**	**-0.9**
JLN	**Jalan Bani Buh**	**43.66**	**302**	P	**P**	**16 42 27.1**	**+1.3**
	SNR=7.2						
MSEY	**Mahe Island**	**43.68**	**262**	P	**P**	**16 42 29.1**	**+2.8**
MSEY	**Mahe Island**	**43.68**	**262**	P	**P**	**16 42 28.2**	**+1.9**
MSEY	**Mahe Island**	**43.68**	**262**	P	**P**	**16 42 28.3**	**+2.1**
MSEY				pP	**pP**	**16 42 48.5**	**+2.5**
MSEY				sP	**sP**	**16 42 57.8**	**+2.4**
JNU	**Nakatsue**	**43.80**	**40**	P	**P**	**16 42 26.6**	**-0.3**
JNU	**Nakatsue**	**43.80**	**40**	P	**P**	**16 42 26.8**	**-0.1**
	comp=Z,86nm,0.9s,baz=211,slow=2.3,SNR=23						
	comp=Z,86nm,0.9s						
JNU	**Nakatsue**	**43.80**	**40**	P	**P**	**16 42 27.7**	**+0.8**
TJN	**Taejon**	**43.92**	**34**	P	**P**	**16 42 27.1**	**-0.5**
TJN	**Taejon**	**43.92**	**34**	P	**P**	**16 42 28.0**	**+0.3**
TJN	**Taejon**	**43.92**	**34**	*c i* P	**P**	**16 42 27.9**	**+0.3**
WBK	**Wadi Bani Khal**	**44.21**	**302**	P	**P**	**16 42 31.8**	**+1.5**
	SNR=8.1						
INCN	**Inchon**	**44.33**	**32**	P	**P**	**16 42 30.1**	**-0.9**
INCN	**Inchon**	**44.33**	**32**	P	**P**	**16 42 30.7**	**-0.3**
INCN	**Inchon**	**44.33**	**32**	P	**P**	**16 42 30.5**	**-0.5**
INCN	**Inchon**	**44.33**	**32**	P	**P**	**16 42 30.1**	**-0.9**
INCN				pmax	pmax		
	comp=Z,51nm,0.8s						
MHTO	**MHTO**	**44.47**	**299**	P	**P**	**16 42 32.8**	**+0.5**
	SNR=6.1						
DQM	**DQM**	**44.48**	**298**	P	**P**	**16 42 33.8**	**+1.4**
	SNR=5.3						
TARG	**Taragay, Kyrgy**	**44.64**	**338**	IAmb	IAmb	16 42 54.4	
	comp=Z,87nm,0.9s						
TARG	**Taragay, Kyrgy**	**44.64**	**338**	P	**P**	**16 42 35.3**	**+1.4**
TARG				pmax	pmax		
	comp=Z,96nm,0.8s						
WSAR	**Wadi Sarin**	**44.75**	**303**	P	**P**	**16 42 35.7**	**+1.2**
	comp=Z,51nm,1.2s,baz=140,slow=8.0,SNR=13						
	comp=Z,51nm,1.2s						
JMDO	**Jabal Madar**	**44.86**	**301**	P	**P**	**16 42 36.7**	**+1.3**
	SNR=7.4						
KSAR	**Wonju Array Be**	**44.98**	**33**	P	**P**	**16 42 35.1**	**-0.9**
KSAR	**Wonju Array Be**	**44.98**	**33**	P	**P**	**16 42 35.2**	**-0.9**
KSRS	**Korea Array**	**45.00**	**33**	P	**P**	**16 42 36.0**	**-0.3**
	comp=Z,98nm,0.7s,baz=224,slow=8.7,SNR=232						
KSRS				ScP	**ScP**	**16 48 01.2**	**-0.2**
	comp=Z,5.6nm,0.9s,baz=227,slow=5.3,SNR=8.2						
	comp=Z,98nm,0.7s						
SMDO	**Samad**	**45.17**	**302**	P	**P**	**16 42 39.3**	**+1.3**
	SNR=6.0						
KDJ	**Kajisay**	**45.22**	**337**	P	**P**	**16 42 39.6**	**+1.4**
KDJ				pmax	pmax		
	comp=Z,152nm,0.9s						
XLT	**XiLinHaoTe**	**45.27**	**18**	*e*P	**P**	**16 42 39.6**	**+1.1**
XLT				pP	pP	16 42 58.9	+0.5
XLT				PcP	**PcP**	**16 44 17.9**	**+0.8**
XLT				ScP	**ScP**	**16 48 01.9**	**-0.7**
XLT				PcS	**PcS**	**16 48 11.6**	**+0.6**
XLT				S	**S**	**16 49 15.4**	**+2.5**
XLT				pmax	pmax		
	comp=Z,29nm,0.8s						
XLT				LR	LR		
	comp=Z,3μm,19.0s						
XLT				LR	LR		
	comp=Z,6μm,19.2s						
SHLS	**Shalkode**	**45.28**	**340**	*e*P	**P**	**16 42 37.8**	**-0.8**
SHLS				pmax	pmax		
	comp=Z,47nm,0.8s						
SHLS	**Shalkode**	**45.28**	**340**	*e*P	**P**	**16 42 37.8**	**-0.8**
	comp=Z,47nm,0.8s						
BIDO	**Bidbid**	**45.28**	**303**	P	**P**	**16 42 40.6**	**+1.8**
	SNR=9.0						
QIS	**Mount Isa**	**45.37**	**121**	P	**P**	**16 42 38.4**	**-1.1**
PDGK	**Podgornoye**	**45.42**	**340**	P	**P**	**16 42 40.1**	**+0.4**
UZB	**Uzynbulak**	**45.42**	**340**	*e*P	**P**	**16 42 40.0**	**+0.3**
UZB				pmax	pmax		
	comp=Z,63nm,1.3s						
UZB	**Uzynbulak**	**45.42**	**340**	*e*P	**P**	**16 42 40.1**	**+0.3**
	comp=Z,63nm,1.3s						
DRK	**Karamyk**	**45.43**	**330**	P	**P**	**16 42 40.7**	**+0.6**
SATY	**Saty**	**45.57**	**339**	*e*P	**P**	**16 42 41.1**	**+0.3**
SATY				*e*S	**S**	**16 49 18.4**	**+1.3**
SATY				pmax	pmax		
	comp=Z,101nm,1.3s						
SATY	**Saty**	**45.57**	**339**	*e*P	**P**	**16 42 41.2**	**+0.3**
	comp=Z,101nm,1.3s						
SATY				*e*S	**S**	**16 49 18.5**	**+1.3**
OOD	**Oodnadatta**	**45.61**	**132**	P	**P**	**16 42 40.3**	**-1.0**
ULHL	**Ulahol**	**45.69**	**337**	P	**P**	**16 42 42.9**	**+0.9**
	SNR=23						
BSY	**Bisya**	**45.77**	**301**	P	**P**	**16 42 44.2**	**+1.5**
	SNR=13						
OHH	**Osh**	**45.77**	**332**	P	**P**	**16 42 43.7**	**+1.2**
OHH				pmax	pmax		
	comp=Z,102nm,1.3s						
KPKS	**Kokpek**	**45.82**	**340**	*e*P	**P**	**16 42 42.9**	**+0.1**
KPKS				pmax	pmax		
	comp=Z,64nm,1.3s						
KPKS	**Kokpek**	**45.82**	**340**	*e*P	**P**	**16 42 43.0**	**+0.1**
	comp=Z,64nm,1.3s						
HOQ	**Hoqain**	**46.00**	**302**	P	**P**	**16 42 45.9**	**+1.5**
	SNR=7.3						
BOOM	**Boomskoye usch**	**46.01**	**336**	IAmb	IAmb	16 42 46.5	
	comp=Z,149nm,1.4s						
BOOM	**Boomskoye usch**	**46.01**	**336**	P	**P**	**16 42 45.4**	**+1.0**
BOOM				pmax	pmax		
	comp=Z,91nm,1.3s						
TNSS	**Tian-Shan**	**46.08**	**338**	*e*P	**P**	**16 42 45.1**	**-0.2**
TNSS	**Tian-Shan**	**46.08**	**338**	*e*P	**P**	**16 42 45.1**	**-0.2**
DMTO	**DMTO**	**46.14**	**294**	P	**P**	**16 42 47.1**	**+1.5**
	SNR=8.3						
JMN	**Monobe**	**46.14**	**42**	P	**P**	**16 42 45.5**	**+0.1**
JMN				IAmb	IAmb	16 42 47.0	
	comp=Z,104nm,1.1s						
ARLS	**Aral**	**46.16**	**335**	P	**P**	**16 42 47.1**	**+1.5**
ARLS				pmax	pmax		
	comp=Z,200nm,1.1s						
AAA	**Alma-Ata**	**46.24**	**338**	*e*P	**P**	**16 42 46.4**	**+0.3**
AAA				pmax	pmax		
	comp=Z,60nm,0.7s						
AAA	**Alma-Ata**	**46.24**	**338**	*e*P	**P**	**16 42 46.4**	**+0.3**
	comp=Z,60nm,0.7s						
SNY	**Shenyang**	**46.25**	**26**	⇓P	**P**	**16 42 46.4**	**+0.4**
SNY				pmax	pmax		
	comp=Z,180nm,1.0s						
SIMJ	**Simiganj**	**46.26**	**327**	P	**P**	**16 42 45.6**	**-0.8**
SIMJ				IAmb	IAmb	16 42 47.2	
	comp=Z,117nm,0.9s						
SIMJ	**Simiganj**	**46.26**	**327**	P	**P**	**16 42 45.9**	**-0.5**
SIMJ				pP	**pP**	**16 43 05.6**	**-0.8**
SIMJ				PcP	**PcP**	**16 44 21.5**	**+0.8**
BTK	**Batken**	**46.36**	**330**	IAmb	IAmb	16 42 49.7	
	comp=Z,113nm,1.2s						
BTK	**Batken**	**46.36**	**330**	P	**P**	**16 42 48.5**	**+1.4**
BTK				pmax	pmax		
	comp=Z,82nm,1.2s						
UCH	**Uchtor**	**46.38**	**335**	P	**P**	**16 42 48.8**	**+1.1**
	SNR=14						
COEN	**Coen**	**46.42**	**110**	P	**P**	**16 42 46.1**	**-1.8**
COEN	**Coen**	**46.42**	**110**	P	**P**	**16 42 46.8**	**-1.1**
JASK	**Jask - Hormozg**	**46.47**	**305**	P	**P**	**16 42 50.2**	**+2.2**
	SNR=5.2						
DZET	**Dzherino**	**46.47**	**327**	P	**P**	**16 42 47.5**	**-0.5**
DZET				pmax	pmax		
	comp=Z,41nm,1.3s						
TKM2	**Tokmak 2**	**46.51**	**336**	P	**P**	**16 42 49.5**	**+1.1**
	SNR=51						
TKM2	**Tokmak 2**	**46.51**	**336**	P	**P**	**16 42 48.9**	**+0.5**
KBK	**Karagaybulak**	**46.55**	**336**	P	**P**	**16 42 50.3**	**+1.7**
	SNR=77						
ARQ	**Araqi**	**46.57**	**302**	P	**P**	**16 42 50.8**	**+1.8**
	SNR=5.9						
AML	**Almayashu**	**46.65**	**334**	P	**P**	**16 42 51.2**	**+1.5**
	SNR=37						
AAK	**Ala-Archa**	**46.73**	**335**	P	**P**	**16 42 51.8**	**+1.7**
AAK	**Ala-Archa**	**46.73**	**335**	P	**P**	**16 42 51.9**	**+1.9**
	SNR=15						
AAK	**Ala-Archa**	**46.73**	**335**	*d i* P	**P**	**16 42 51.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,183nm,2.5s						
AAK	**Ala-Archa**	**46.73**	**335**	*i* P	**P**	**16 42 51.0**	**+1.1**
	SNR=10						
RBK	**Rabkut**	**46.76**	**293**	P	**P**	**16 42 52.0**	**+1.5**
	SNR=18						
ARXS	**Arharly**	**46.78**	**339**	*e*P	**P**	**16 42 50.7**	**+0.4**
FRU1	**Bishkek**	**46.81**	**336**	IAmb	IAmb	16 42 53.2	
	comp=Z,142nm,1.3s						
FRU1	**Bishkek**	**46.81**	**336**	P	**P**	**16 42 52.1**	**+1.5**
FRU1				pmax	pmax		
	comp=Z,95nm,1.6s						
SOHO	**SOHO**	**46.87**	**303**	P	**P**	**16 42 51.9**	**+0.7**
SOHO	**SOHO**	**46.87**	**303**	*i* P	**P**	**16 42 51.9**	**+0.7**
	SNR=11						
CHMS	**Chumysh**	**46.92**	**336**	P	**P**	**16 42 52.2**	**+0.9**
	SNR=32						
SONM	**Songino Array**	**46.98**	**7**	P	**P**	**16 42 52.4**	**+0.5**
SONM				IAmb	IAmb	16 42 54.3	
	comp=Z,128nm,1.6s						
SONM	**Songino Array**	**46.98**	**7**	P	**P**	**16 42 53.2**	**+1.3**
	comp=Z,26nm,0.8s,baz=189,slow=9.3,SNR=46						
SONM				PcP	**PcP**	**16 44 23.4**	**+0.4**
	comp=Z,13nm,0.4s,baz=200,slow=4.0,SNR=17						
SONM				ScP	**ScP**	**16 48 09.5**	**-0.2**
	comp=Z,16nm,0.9s,baz=189,slow=3.3,SNR=18						
	comp=Z,26nm,0.8s						
EKS2	**Erkin-Say**	**47.05**	**335**	P	**P**	**16 42 54.0**	**+1.5**
	SNR=37						
ULN	**Ulaanbaatar**	**47.10**	**8**	P	**P**	**16 42 53.8**	**+1.1**
ULN	**Ulaanbaatar**	**47.10**	**8**	P	**P**	**16 42 54.3**	**+1.5**
ULN	**Ulaanbaatar**	**47.10**	**8**	*d i* P	**P**	**16 42 54.0**	**+1.2**
ULN				pmax	pm

ALNE Al Ain 47.50 302 P **P 16 42 57.5 +1.3**
SNR=15
ALNE Al Ain 47.50 302 *i* P **P 16 42 57.1 +1.0**
SNR=24
UMZA Um Al Zommool 47.51 300 P **P 16 42 57.1 +0.9**
MDH Madha 47.52 304 P **P 16 42 56.2 0.0**
MDH Madha 47.52 304 *i* P **P 16 42 55.8 -0.5**
SNR=7.9
HRA Herat 47.54 318 P **P 16 42 55.2 -1.4**
ABTO Aybut 47.56 293 P **P 16 42 58.0 +1.2**
SNR=13
RER Riviere de l'E 47.57 240 P **P 16 42 57.0 +0.1**
RER IAmb IAmb 16 43 00.3
comp=Z,62nm,1.0s
RER Riviere de l'E 47.57 240 P **P 16 42 58.6 +1.7**
RER pP **pP 16 43 19.8 +2.9**
RER PcP **PcP 16 44 27.2 +1.6**
MSFE Esma-Masafi 47.66 304 *i* P **P 16 42 58.3 +0.9**
SNR=10
MASF Masafi 47.66 304 P **P 16 42 58.8 +1.3**
SNR=6.4
ZSN Zaisan 47.71 347 *e*P **P 16 42 57.8 +0.5**
ZSN *e*S **S 16 49 49.3 +1.9**
ZSN pmax pmax
comp=Z,55nm,0.9s
ZSN Zaisan 47.71 347 *e*P **P 16 42 57.9 +0.5**
comp=Z,55nm,0.9s
ZSN *e*S **S 16 49 49.3 +1.9**
MK31 Makanchi Array 47.72 345 P **P 16 42 57.5 +0.1**
MK31 IAmb IAmb 16 42 59.2
comp=Z,117nm,1.1s
MK31 Makanchi Array 47.72 345 *d i*P **P 16 42 57.6 +0.1**
MKAR Makanchi Array 47.72 345 P **P 16 42 58.0 +0.5**
comp=Z,79nm,0.8s,baz=156,slow=8.7,SNR=148
MKAR pP **pP 16 43 17.0 -0.6**
comp=Z,63nm,0.9s,baz=155,slow=7.2,SNR=6.3
MKAR S **S 16 49 47.5 -0.1**
comp=Z,8.2nm,1.2s,baz=166,slow=15,SNR=5.2
MKAR PKP2bc 17 14 27.4
comp=Z,1.3nm,1.2s,baz=318,slow=1.6,SNR=3.6
comp=Z,79nm,0.8s
MAKZ Makanchi 47.81 344 P **P 16 42 58.9 +0.7**
MAKZ Makanchi 47.81 344 P **P 16 42 58.6 +0.4**
MAKZ pP **pP 16 43 17.7 -0.6**
MAKZ ScP **ScP 16 48 12.7 -0.4**
FAQ Al Faqa, Dubai 47.89 303 P **P 16 43 00.2 +1.0**
SNR=8.6
FAQ Al Faqa, Dubai 47.89 303 *i* P **P 16 43 00.2 +1.0**
SNR=7.0
NAZ Nazwa, Dubai 47.93 303 P **P 16 43 00.3 +0.9**
SNR=6.9
NAZ Nazwa, Dubai 47.93 303 *i* P **P 16 43 00.0 +0.6**
SNR=8.1
SHME Shamm 47.95 305 P **P 16 43 00.2 +0.6**
SHME Shamm 47.95 305 P **P 16 43 00.2 +0.6**
ASUD Al Ashush, Dub 48.07 303 P **P 16 43 02.3 +1.8**
SNR=17
ASUD Al Ashush, Dub 48.07 303 *i* P **P 16 43 01.7 +1.2**
SNR=34
DZA Taraz 48.31 333 *e*P **P 16 43 02.5 +0.4**
DZA pmax pmax
comp=Z,41nm,1.0s
DZA Taraz 48.31 333 *e*P **P 16 43 02.5 +0.4**
comp=Z,41nm,1.0s
AJN Ajban 48.33 302 P **P 16 43 03.6 +1.1**
IUG Iuzhnay 48.34 331 *e*P **P 16 43 02.5 +0.1**
IUG pmax pmax
comp=Z,69nm,1.2s
IUG Iuzhnay 48.34 331 *e*P **P 16 43 02.6 +0.1**
comp=Z,69nm,1.2s
MANU Manus Island 48.64 94 P **P 16 43 04.9 -0.2**
MANU IAmb IAmb 16 43 06.2
comp=Z,68nm,1.2s
CN2 Changchun 48.65 26 *e*P **P 16 43 03.9 -0.8**
CN2 PcP **PcP 16 44 28.3 -0.6**
CN2 pmax pmax
comp=Z,300nm,1.1s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,760nm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
MTSU Mount Surprise 48.67 115 P **P 16 43 05.0 -0.3**
BBOO Buckleboo 48.72 137 P **P 16 43 03.9 -1.5**
BBOO IAmb IAmb 16 43 32.8
comp=Z,81nm,1.1s
BBOO Buckleboo 48.72 137 P **P 16 43 04.6 -0.8**
KK31 Karatay Array 48.85 333 *i* P **P 16 43 06.1 -0.2**
KKAR Karatay Array 48.85 333 IAmb IAmb 16 43 07.9
comp=Z,105nm,1.4s
LCRK Leigh Creek 48.90 133 P **P 16 43 06.2 -0.6**
MZWR Madinat Zayed 48.98 301 P **P 16 43 08.6 +1.0**
MZR Muzera 49.07 300 P **P 16 43 09.5 +1.3**
SNR=11
MZR Muzera 49.07 300 *i* P **P 16 43 09.3 +1.1**
SNR=24
BRLS Borolday 49.11 332 *e*P **P 16 43 07.5 -0.7**
BRLS Borolday 49.11 332 *e*P **P 16 43 07.5 -0.7**
INU Inuyama 49.19 42 IAmb IAmb 16 44 17.1
comp=Z,110nm,1.9s
INKA Innaminka 49.44 129 P **P 16 43 10.6 -0.4**
JGF Kuroka 49.56 42 P **P 16 43 11.3 -0.5**
WHYH Whyalla 49.88 137 P **P 16 43 13.8 -0.4**
GHWR Ruwais 49.92 301 P **P 16 43 15.7 +1.0**
JRN Qarnain Island 50.28 302 P **P 16 43 17.9 +0.5**
PSTR Posyet 50.29 31⇑ *e*P **P 16 43 17.9 +0.7**
MOY Mondy 50.39 2 *e*P **P 16 43 19.0 +1.1**
MOY pmax pmax
comp=Z,48nm,3.3s
MSHR Mys Shultsa 50.42 31⇑ *e*P **P 16 43 19.6 +1.5**
MSHR pmax pmax
comp=Z,38nm,1.2s
MAJO Matsushiro 50.66 41 P **P 16 43 19.4 -0.8**
MAJO Matsushiro 50.66 41⇓ *i*P **P 16 43 19.3 -0.8**
MAJO pmax pmax
comp=Z,77nm,2.6s
MJAR Matsushiro Arr 50.66 41 P **P 16 43 19.6 -0.6**
comp=Z,21nm,1.0s,baz=218,slow=5.7,SNR=22
MJAR PcP **PcP 16 44 36.5 0.0**
comp=Z,13nm,1.0s,baz=231,slow=3.6,SNR=5.4
MJAR ScP **ScP 16 48 24.9 -0.6**
comp=Z,7.7nm,1.0s,baz=227,slow=4.6,SNR=7.5
comp=Z,21nm,1.0s
SLWR Sila 50.97 300 P **P 16 43 23.6 +1.0**
BNX BinXian 51.04 26⇑ P **P 16 43 22.8 +0.1**
BNX S **S 16 50 34.4 +0.5**
BNX sS **sS 16 51 13.4 +4.8**
BNX ScS **ScS 16 53 02.8 -2.7**
BNX pmax pmax
comp=Z,400nm,1.0s
HTT Hallett 51.04 136 P **P 16 43 22.8 -0.2**
IRK Irkutsk 51.14 4 *e*P **P 16 43 23.0 -0.4**
IRK *e*S **S 16 50 36.6 +1.4**
IRK pmax pmax
comp=Z,121nm,1.5s
MDJ Mudanjiang 51.16 28 IAmb IAmb 16 43 26.1
comp=Z,72nm,0.8s
MDJ Mudanjiang 51.16 28 P **P 16 43 24.0 +0.4**
MDJ S **S 16 50 39.4 +3.8**
MDJ pmax pmax
comp=Z,110nm,0.9s
MDJ LR LR
comp=Z,4μm,17.9s
MDJ LR LR
comp=Z,2μm,19.6s
MDJ LR LR
comp=Z,8μm,18.9s
MDJ Mudanjiang 51.16 28 P **P 16 43 24.4 +0.8**
MDJ Mudanjiang 51.16 28 P **P 16 43 24.2 +0.6**
MDJ sP **sP 16 43 53.5 +0.1**
VLA Vladivostok 51.18 31⇓ *i*P **P 16 43 24.6 +0.8**
VLA pmax pmax
comp=Z,92nm,1.3s
HIA Hailar 51.20 17 IAmb IAmb 16 43 25.7
comp=Z,72nm,0.9s
HIA Hailar 51.20 17 P **P 16 43 24.8 +0.8**
HIA Hailar 51.20 17*c i*P **P 16 43 24.5 +0.5**
HIA pmax pmax
comp=Z,84nm,0.9s
TV1H Townsville Har 51.25 116 P **P 16 43 26.2 +1.4**
TRNA Turayna 51.60 301 P **P 16 43 27.8 +0.5**
SNR=5.0
QLP Quilpie 51.70 126 P **P 16 43 28.0 0.0**
SMRA Abu-Samra 51.94 301 P **P 16 43 30.5 +0.7**
SNR=7.1
USA0B Ussuriysk Arra 52.01 30*c i*P **P 16 43 30.5 +0.5**
USRK Ussuriysk Ar. 52.01 30 P **P 16 43 30.2 +0.3**
USRK Ussuriysk Ar. 52.01 30 P **P 16 43 30.4 +0.4**
comp=Z,208nm,0.9s,baz=228,slow=5.2,SNR=274
USRK ScP **ScP 16 48 30.9 -0.2**
comp=Z,5.2nm,0.9s,baz=226,slow=3.0,SNR=5.2
comp=Z,208nm,0.9s
STKA Stephens Creek 52.12 133 P **P 16 43 30.0 -1.0**
comp=Z,36nm,0.8s,baz=312,slow=6.4,SNR=25
STKA S **S 16 50 44.5 -4.8**
comp=Z,3.1nm,0.8s,baz=78,slow=21,SNR=3.5
comp=Z,36nm,0.8s
STKA Stephens Creek 52.12 133 P **P 16 43 30.4 -0.6**
STKA Stephens Creek 52.12 133⇑ *i*P **P 16 43 30.3 -0.7**
SHMA Al-Shehemyia 52.20 302 P **P 16 43 32.4 +0.7**
SNR=6.1
CIT Chita 52.20 11 *e*P **P 16 43 32.6 +1.2**
CIT *e* 16 43 55.4
CIT *e* 16 44 03.8
CIT *e* 16 44 46.4
CIT pmax pmax
comp=Z,89nm,1.6s
OTUK Ortayu 52.21 338 P **P 16 43 31.3 -0.2**
KURBB Kurchatov Arra 52.23 344 P **P 16 43 31.9 +0.4**
comp=Z,72nm,0.8s,baz=175,slow=5.9,SNR=204
KURBB pP **pP 16 43 50.9 -1.0**
comp=Z,35nm,0.7s,baz=163,slow=7.2,SNR=7.0
KURBB PP **PP 16 45 33.3 +2.5**
comp=Z,12nm,1.0s,baz=158,slow=8.9,SNR=4.3
KURBB ScP **ScP 16 48 30.6 -1.3**
comp=Z,0.5nm,0.3s,baz=155,slow=5.0,SNR=4.3
KURBB S **S 16 50 48.9 -1.3**
comp=Z,2.9nm,1.0s,baz=161,slow=15,SNR=6.6
KURBB PKP2bc 17 14 16.4
comp=Z,0.6nm,0.9s,baz=329,slow=3.0,SNR=4.2
comp=Z,72nm,0.8s
KURK Kurchatov 52.29 344 P **P 16 43 32.9 +0.9**
KURK Kurchatov 52.29 344*d i*P **P 16 43 32.2 +0.2**
KURK pmax pmax
comp=Z,252nm,1.3s
KURK Kurchatov 52.29 344 P **P 16 43 32.2 +0.2**
KURK pP **pP 16 43 51.6 -0.7**
KURK sP **sP 16 43 59.8 -1.8**
SAKB Bahrain 52.60 302 P **P 16 43 35.4 +0.7**
BRZS Berezniki 53.53 339 *e*P **P 16 43 41.4 +0.3**
BRZS *e*S **S 16 51 09.9 +1.9**
BRZS Berezniki 53.53 339 *e*P **P 16 43 41.5 +0.3**
BRZS *e*S **S 16 51 09.9 +1.9**
ZALV Zalesovo Beam 53.90 350 P **P 16 43 43.6 -0.1**
ZALV Zalesovo Beam 53.90 350 P **P 16 43 44.1 +0.3**
comp=Z,98nm,0.6s,baz=174,slow=6.5,SNR=171
ZALV pP **pP 16 44 03.3 -0.8**
comp=Z,55nm,0.6s,baz=159,slow=7.2,SNR=5.7
ZALV S **S 16 51 12.9 +0.2**
comp=Z,12nm,1.0s,baz=162,slow=9.8,SNR=14
ZALV ScS **ScS 16 53 20.8 -4.4**
comp=Z,9.0nm,1.1s,baz=197,slow=4.6,SNR=6.9
comp=Z,98nm,0.6s
ZALV Zalesovo Beam 53.90 350 *i* P **P 16 43 44.0 +0.3**
ZALV pmax pmax
comp=Z,100nm,0.6s
ABPO Ambohimpanom 54.46 246 P **P 16 43 49.6 +1.0**
ABPO Ambohimpanom 54.46 246 P **P 16 43 49.6 +1.0**
ABPO pmax pmax
comp=Z,45nm,1.3s
ABPO Ambohimpanom 54.46 246 P **P 16 43 49.8 +1.2**
ABPO pP **pP 16 44 10.8 +1.7**
ABPO sP **sP 16 44 20.4 +2.1**
ABPO PcP **PcP 16 44 52.5 +1.1**
HEH HeiHe 54.65 22 *e*P **P 16 43 49.9 +0.6**
HEH S **S 16 51 24.4 +1.4**
HEH pmax pmax
comp=Z,160nm,1.0s
HEH pmax pmax
comp=Z,1μm,7.8s
CMSA Cobar Meteorol 55.01 130 P **P 16 43 51.8 -0.4**
KLR Kul'dur 55.60 26 P **P 16 43 57.2 +1.0**
comp=Z,351nm,0.8s,baz=241,slow=6.9,SNR=536
comp=Z,351nm,0.8s
KLR Kul'dur 55.60 26*c i*P **P 16 43 56.9 +0.7**
KLR pmax pmax
comp=Z,393nm,0.8s
VOI Vohitsoka 55.66 242 P **P 16 43 57.4 +0.2**
VOI Vohitsoka 55.66 242 P **P 16 43 58.9 +1.6**
RK1H Rockhampton Ha 55.81 119 P **P 16 43 57.5 -0.6**
KBD Kabd 56.07 305 P **P 16 44 00.3 +0.5**
RAYN Ar Rayn 56.22 298 P **P 16 44 00.5 -0.6**
RAYN IAmb IAmb 16 44 02.4
comp=Z,51nm,1.0s
RAYN Ar Rayn 56.22 298 P **P 16 44 01.6 +0.5**
RAYN Ar Rayn 56.22 298 P **P 16 44 01.3 +0.2**
RAYN Ar Rayn 56.22 298 *i* P **P 16 44 01.0 -0.1**
SNR=21
RAYN Ar Rayn 56.22 298 P **P 16 44 01.1 0.0**
RAYN pP **pP 16 44 20.7 -1.0**
ATD Arta Tunnel 56.48 283 IAmb IAmb 16 44 05.9
comp=Z,109nm,1.5s
BVA0 Borovoye Array 56.86 340 P **P 16 44 04.1 -0.9**
BVAR Borovoye Array 56.86 340 P **P 16 44 05.0 0.0**
comp=Z,52nm,0.7s,baz=139,slow=9.8,SNR=74
BVAR S **S 16 51 51.6 -0.7**
comp=Z,5.8nm,1.1s,baz=139,slow=12,SNR=7.3
BVAR PKP2bc 17 14 07.7
comp=Z,0.9nm,0.8s,baz=106,slow=2.2,SNR=4.3
comp=Z,52nm,0.7s
BRVK Borovoye 56.92 340 P **P 16 44 04.7 -0.8**
BRVK Borovoye 56.92 340 P **P 16 44 05.5 +0.1**
BRVK Borovoye 56.92 340*d i*P **P 16 44 05.1 -0.3**
BRVK pmax pmax
comp=Z,107nm,1.2s
BRVK Borovoye 56.92 340 P **P 16 44 05.2 -0.3**
EIDS Eidsvold 56.96 121 IAmb IAmb 16 44 11.7
comp=Z,57nm,0.9s
EIDS Eidsvold 56.96 121 P **P 16 44 05.7 -0.5**
GEXS Deakin Univers 57.29 138 P **P 16 44 09.9 +1.6**
ZEA Zeya 57.45 20 *e*P **P 16 44 10.4 +1.3**
ZEA *e* 16 44 39.0
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=Z,90nm,0.8s
ASAJ Asahikawa 57.76 36 P **P 16 44 11.8 +0.3**
comp=Z,20nm,0.7s,baz=227,slow=12,SNR=27
comp=Z,20nm,0.7s
JKA Kamikawa-asahi 57.76 36 IAmb IAmb 16 44 27.0
comp=Z,48nm,1.0s
BOD Bodaibo 57.80 10 *e*P **P 16 44 12.8 +1.3**
BOD pmax pmax
comp=Z,231nm,1.1s
YNG Young 58.28 132 P **P 16 44 15.0 -0.4**
AB31 Akbulak array 58.35 331 *i* P **P 16 44 14.8 -0.7**
ABKAR Akbulak array 58.35 331 P **P 16 44 14.3 -1.2**
ABKAR Akbulak array 58.35 331 IAmb IAmb 16 44 16.5
comp=Z,181nm,1.1s
TW1H Toowoomba 1 Ha 58.44 124 P **P 16 44 17.5 +0.8**
GRNR Gornyy 58.79 27⇑ *i*P **P 16 44 19.3 +0.7**
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,80nm,1.2s
GRNR MLR MLR
comp=Z,470nm,14.0s
CAN Canberra 59.18 133 IAmb IAmb 16 44 22.8
comp=Z,52nm,0.9s
CAN Canberra 59.18 133 P **P 16 44 21.6 -0.1**
CAN Canberra 59.18 133 P **P 16 44 21.7 0.0**
CAN pmax pmax
comp=Z,111nm,1.3s
CAN Canberra 59.18 133 P **P 16 44 21.4 -0.3**
CAN pP **pP 16 44 40.5 -2.0**
CAN sP **sP 16 44 49.1 -2.6**
CAN ScP **ScP 16 49 03.2 +0.3**
ARMA Armidale 59.19 127 IAmb IAmb 16 44 24.0
comp=Z,65nm,1.0s
ARMA Armidale 59.19 127 P **P 16 44 22.8 +0.9**
AUWSH Wavell State H 59.29 123 P **P 16 44 22.7 +0.3**
CNB Canberra Magne 59.45 133 P **P 16 44 23.6 +0.1**
YSS Yuzhno-Sakhali 59.50 33 P **P 16 44 23.7 +0.2**
YSS Yuzhno-Sakhali 59.50 33 P **P 16 44 23.9 +0.3**
YSS Yuzhno-Sakhali 59.50 33 *e*P **P 16 44 23.9 +0.3**
YSS pmax pmax
comp=Z,160nm,1.1s
AKTO Aktyubinsk 60.06 331 P **P 16 44 26.8 -0.6**
comp=Z,48nm,0.9s,baz=132,slow=5.1,SNR=44
AKTO S **S 16 52 31.2 -2.8**
comp=Z,3.8nm,1.1s,baz=309,slow=21,SNR=4.2
comp=Z,48nm,0.9s
AKTO Aktyubinsk 60.06 331 P **P 16 44 26.2 -1.2**
UGL Uglegorsk 60.42 31 *e*P **P 16 44 31.0 +1.2**
UGL *e*S **S 16 52 44.1 +5.5**
UGL pmax pmax
comp=Z,100nm,1.3s
KIBK Kibwezi 60.86 267 P **P 16 44 33.9 +0.3**
KIBK IAmb IAmb 16 44 57.0
comp=Z,44nm,1.0s
KIBK Kibwezi 60.86 267 P **P 16 44 35.2 +1.6**
SNR=6.1
TATA Tatamba Isabel 61.51 100 P **P 16 44 36.5 -1.3**
KMBO Kilima Mbogo 61.60 268 P **P 16 44 39.7 +0.9**
KMBO Kilima Mbogo 61.60 268 P **P 16 44 40.1 +1.3**
comp=Z,15nm,0.9s,baz=59,slow=8.8,SNR=26
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 61.60 268 P **P 16 44 40.7 +1.8**
KMBO Kilima Mbogo 61.60 268*de*P **P 16 44 37.8 -1.0**
KMBO Kilima Mbogo 61.60 268 *i* P **P 16 44 40.6 +1.8**
SNR=10
KMBO Kilima Mbogo 61.60 268 P **P 16 44 40.1 +1.3**
KMBO pP **pP 16 45 01.0 +1.3**
HNR Honiara 61.76 101 P **P 16 44 37.9 -1.7**
HNR Honiara 61.76 101 P **P 16 44 38.7 -0.8**
comp=Z,184nm,0.9s,baz=204,slow=5.9,SNR=7.1
comp=Z,184nm,0.9s
HNR Honiara 61.76 101 P **P 16 44 38.8 -0.7**
TYV Tymovskoe 61.82 30 *e*P **P 16 44 40.5 +1.2**
TYV pmax pmax
comp=Z,400nm,4.7s
TYV pmax pmax
comp=Z,56nm,1.2s
MAK Makhachkala 61.83 319*c i*P **P 16 44 38.5 -1.0**
MAK *e**PP **pP 16 44 59.7 -0.7**
MAK *e* 16 46 56.5
MAK *e*PPP PPP 16 48 23.6
MAK *e*S **S 16 52 56.2 -0.5**
MAK *e**SS **sS 16 53 29.8 -2.6**
MAK *e*SS **SS 16 57 00.7 +0.6**
MAK pmax pmax
comp=Z,187nm,1.4s
GNI Garni 62.47 316 P **P 16 44 44.1 +0.1**
GNI Garni 62.47 316 P **P 16 44 44.4 +0.4**
comp=Z,46nm,1.0s,baz=0.0,slow=0.0,SNR=18
comp=Z,46nm,1.0s
GNI Garni 62.47 316 P **P 16 44 44.9 +0.9**
GNI Garni 62.47 316*d i*P **P 16 44 44.2 +0.1**
GNI pmax pmax
comp=Z,139nm,1.4s
GNI Garni 62.47 316 P **P 16 44 44.6 +0.5**
GNI Garni 62.47 316 P **P 16 44 43.7 -0.4**
comp=Z,59nm,1.0s
GEVA Gevas 62.96 313 P **P 16 44 46.9 -0.4**
SVE Sverdlovsk 63.36 338*c i*P **P 16 44 49.6 +0.2**
SVE *e*S **S 16 53 12.6 -2.8**
SVE pmax pmax
comp=Z,202nm,1.3s
LODK Lodwar 63.44 273 P **P 16 44 53.1 +2.3**
SNR=14
TRLG Trialeti 63.48 317 P **P 16 44 51.1 +0.4**
GUDG Gudauri 63.61 318 P **P 16 44 52.7 +1.1**
GURO Guroymak-BITLI 63.80 313 IAmb IAmb 16 45 23.6
comp=Z,80nm,1.3s
KARS Kars 63.83 315 P **P 16 44 53.7 +0.7**
KARS pmax pmax
comp=Z,92nm,1.3s
ARTI Arti 63.93 336 P **P 16 44 52.3 -0.8**
ARTI IAmb IAmb 16 44 53.8
comp=Z,106nm,1.0s
ARTI Arti 63.93 336 P **P 16 44 52.7 -0.4**
comp=Z,68nm,0.8s,baz=138,slow=3.6,SNR=57
ARTI pP **pP 16 45 12.3 -1.9**
comp=Z,19nm,0.5s,baz=164,slow=3.1,SNR=4.4
comp=Z,68nm,0.8s
ARTI Arti 63.93 336*d i*P **P 16 44 52.5 -0.6**
ARTI *PP **pP 16 45 12.1 -2.0**
ARTI 16 45 29.1
ARTI 16 47 13.8
ARTI S **S 16 53 24.5 +2.0**
ARTI 16 54 38.1
ARTI SS **SS 16 57 34.1 +1.7**
ARTI pmax pmax
comp=Z,125nm,1.1s
ARTI Arti 63.93 336 P **P 16 44 52.6 -0.5**
ARTI pP **pP 16 45 12.5 -1.7**
ARTI sP **sP 16 45 21.2 -2.1**
MARD Mardin 64.29 311 P **P 16 44 55.9 -0.2**
MARD IAmb IAmb 16 44 57.4
comp=Z,88nm,0.9s
NCK Nalchik 64.63 319⇑ *i*P **P 16 44 58.5 +0.5**
NCK pmax pmax
comp=Z,72nm,1.2s
YAK Yakutsk 65.05 15 P **P 16 45 00.2 -0.1**
YAK Yakutsk 65.05 15 P **P 16 45 00.1 -0.2**
comp=Z,93nm,0.7s,baz=226,slow=2.4,SNR=55
YAK S **S 16 53 34.5 -1.5**
comp=Z,3.8nm,0.3s,baz=111,slow=22,SNR=8.6
comp=Z,93nm,0.7s
YAK Yakutsk 65.05 15 *e*P **P 16 45 00.2 -0.1**
YAK *e**PP **pP 16 45 24.1 +2.7**
YAK *e* 16 45 32.3
YAK *e* 16 47 23.3
YAK *e*PPP PPP 16 48 57.4
YAK *e*S **S 16 53 34.9 -1.1**
YAK *e* 16 54 46.1
YAK *e*SS **SS 16 57 48.9 -0.6**
YAK pmax pmax
comp=Z,101nm,0.9s
YAK pmax pmax
comp=N,72nm,1.0s
YAK pmax pmax
comp=E,82nm,1.6s
YAK pmax pmax
comp=Z,177nm,4.3s
YAK pmax pmax
comp=N,400nm,6.4s
YAK pmax pmax
comp=E,202nm,5.4s
YAK smax smax
comp=N,262nm,5.9s
YAK smax smax
comp=E,67nm,2.7s
YAK Yakutsk 65.05 15 P **P 16 45 00.3 0.0**
YAK pP **pP 16 45 20.1 -1.3**
YAK sP **sP 16 45 28.4 -2.0**
KBZ Khabaz 65.19 319 P **P 16 45 01.7 +0.1**
comp=E,44nm,0.9s,baz=106,slow=4.6,SNR=44
KBZ pP **pP 16 45 21.9 -0.8**
comp=E,60nm,1.0s,baz=117,slow=2.0,SNR=9.2
comp=E,44nm,0.9s
KBZ Khabaz 65.19 319*d i*P **P 16 45 01.3 -0.3**
KBZ pmax pmax
comp=Z,85nm,1.0s
SHA1 Shidzhatmaz 65.35 319*d i*P **P 16 45 03.0 0.0**
KVAR Kislovodsk Arr 65.42 319 P **P 16 45 04.2 +0.9**
comp=Z,12nm,1.0s,baz=98,slow=22,SNR=5.1
comp=Z,12nm,1.0s
KIV Kislovodsk 65.42 319 P **P 16 45 02.6 -0.7**
KIV Kislovodsk 65.42 319 P **P 16 45 03.7 +0.4**
KIV Kislovodsk 65.42 319⇑ P **P 16 45 03.6 +0.4**
KIV Kislovodsk 65.42 319 *e*P **P 16 45 02.6 -0.7**
KIV *e**PP **pP 16 45 23.4 -0.9**
KIV *e*S **S 16 53 41.9 +0.4**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV Kislovodsk 65.42 319 *i* P **P 16 45 03.3 +0.1**
SNR=7.1
KIV Kislovodsk 65.42 319 P **P 16 45 02.7 -0.5**
comp=Z,1μmcomp=Z,129nm,1.1s
KIV Kislovodsk 65.42 319 P **P 16 45 03.4 +0.1**
KIV pP **pP 16 45 24.2 -0.2**
KIV sP **sP 16 45 33.2 -0.2**
GOF Gofitskoye 65.65 320*ce*P **P 16 45 02.4 -2.1**
FKH Fakeheh 66.76 307 *e*P **P 16 45 13.0 +0.9**
VSLR Vesyoloye 67.00 317*ce*P **P 16 45 12.6 -0.7**
VSLR pmax pmax
comp=Z,165nm,1.4s
BEIL Beino 67.02 307 *e*P **P 16 45 14.6 +1.0**
RCY Rachaya 67.03 306 *e*P **P 16 45 14.9 +1.1**

SHBL **Chebaa** 67.07 306 *e*P **P** 16 45 14.9 +0.9
HWQ **Hawqa** 67.14 307 *e*P **P** 16 45 15.2 +0.7
MMAI **Mount Meron Ar** 67.26 305 P **P** 16 45 16.4 +1.3
comp=Z,31nm,0.9s,baz=95,slow=9.4,SNR=30
MMAI pP **pP** 16 45 37.0 +0.6
comp=Z,8.1nm,0.8s,baz=99,slow=8.7,SNR=3.3
comp=Z,31nm,0.9s
SOC **Sochi** 67.26 317 *e*P **P** 16 45 13.4 -1.5
SOC *e*S **S** 16 54 02.6 -1.0
SOC *e*SS **SS** 16 58 17.5 -7.2
SOC pmax pmax
comp=Z,77nm,0.9s
BHL **Bhannes** 67.28 306 *e*P **P** 16 45 15.6 +0.3
KOUNC **Koumac, New Ca** 67.53 113 P **P** 16 45 17.5 +0.5
CASY **Casey** 67.78 175 P **P** 16 45 19.4 +1.8
CASY IAmb IAmb 16 45 20.6
comp=Z,76nm,1.1s
CASY **Casey** 67.78 175 P **P** 16 45 19.4 +1.8
CASY pP **pP** 16 45 40.5 +1.6
CASY sP **sP** 16 45 48.5 +0.6
MBAR **Mbarara** 68.10 269 P **P** 16 45 21.2 +0.3
MBAR **Mbarara** 68.10 269 P **P** 16 45 22.8 +1.9
MBAR **Mbarara** 68.10 269*d* *i*P **P** 16 45 22.3 +1.4
MBAR pmax pmax
comp=Z,67nm,1.3s
MBAR **Mbarara** 68.10 269 P **P** 16 45 22.1 +1.2
MBAR pP **pP** 16 45 43.5 +1.4
MBAR sP **sP** 16 45 52.9 +1.8
SKR **Severo-Kuril's** 68.98 35*c* *i*P **P** 16 45 25.9 +0.5
KIRV **Kirov** 69.06 335 P **P** 16 45 25.6 -0.1
comp=Z,83nm,0.8s,baz=136,slow=5.1,SNR=42
KIRV pP **pP** 16 45 45.6 -1.4
comp=Z,50nm,0.7s,baz=112,slow=5.5,SNR=6.1
comp=Z,83nm,0.8s
KIRV **Kirov** 69.06 335*d* *i*P **P** 16 45 25.5 -0.2
VRH **Novokhopyorsk** 69.09 326 *e*P **P** 16 45 23.4 -2.7
VRH *e**PP **pP** 16 45 44.4 -3.0
VRH pmax pmax
comp=Z,100nm,1.0s
CSS **Mathiatis** 69.40 307 IAmb IAmb 16 45 29.9
comp=Z,115nm,1.2s
CSS **Mathiatis** 69.40 307 P **P** 16 45 28.3 -0.1
comp=Z,928nmcomp=Z,80nm,1.4s
SANVU **Saraoutou** 69.51 107 P **P** 16 45 29.1 -0.3
SANVU PcP **PcP** 16 45 52.6 +0.5
SANVU sP **sP** 16 45 59.4 -0.3
NOUC **Port Laguerre** 69.65 114 P **P** 16 45 29.6 -0.5
NOUC sP **sP** 16 45 58.4 -2.2
DZM **Mont Dzumac** 69.77 114 P **P** 16 45 31.2 +0.2
DZM IAmb IAmb 16 45 32.5
comp=Z,91nm,1.2s
DZM **Mont Dzumac** 69.77 114 P **P** 16 45 31.7 +0.6
DZM **Mont Dzumac** 69.77 114 P **P** 16 45 31.0 -0.1
ONTNC **Ouen Toro** 69.82 114 IAmb IAmb 16 45 32.5
comp=Z,69nm,0.9s
ONTNC **Ouen Toro** 69.82 114 P **P** 16 45 31.5 +0.3
KIRS **Kirsehir-Merke** 69.99 311 ⇑P **P** 16 45 32.2 +0.1
YATNC **Mamie plateau,** 70.18 114 P **P** 16 45 34.6 +1.2
OUENC **Ouen Island, N** 70.19 114 P **P** 16 45 34.3 +0.8
BR104 **Keskin Array S** 70.35 312 P **P** 16 45 33.4 -0.9
comp=Z,376nmcomp=Z,38nm,0.9s
BR131 **Keskin Array S** 70.36 312 IAmb IAmb 16 45 34.8
comp=Z,98nm,1.2s
BR131 **Keskin Array S** 70.36 312*d* *i*P **P** 16 45 33.4 -1.0
BRTR **Keskin Array B** 70.36 312 P **P** 16 45 33.4 -1.0
BRTR **Keskin Array B** 70.36 312 P **P** 16 45 33.6 -0.7
comp=Z,36nm,0.9s,baz=134,slow=6.7,SNR=47
BRTR pP **PcP** 16 45 54.7 -0.8
comp=Z,40nm,1.0s,baz=133,slow=5.9,SNR=10
comp=Z,36nm,0.9s
BR105 **Keskin Array S** 70.37 312 P **P** 16 45 33.7 -0.8
comp=Z,412nmcomp=Z,48nm,1.1s
BR106 **Keskin Array S** 70.38 312 P **P** 16 45 33.8 -0.7
comp=Z,382nmcomp=Z,41nm,0.9s
VORD **Divnogorie** 70.38 325 *e*P **P** 16 45 31.5 -2.5
VORD *e**PP **PcP** 16 45 52.1 -3.0
VORD pmax pmax
comp=Z,40nm,1.0s
VSR **Storozhevoye** 70.55 325 *e*P **P** 16 45 32.0 -3.1
VSR *e**PP **PcP** 16 45 52.0 -3.8
VSR pmax pmax
comp=Z,50nm,1.0s
MA2 **Magadan** 70.70 25 P **P** 16 45 36.0 +0.2
MA2 IAmb IAmb 16 45 37.6
comp=Z,115nm,1.3s
MA2 **Magadan** 70.70 25 P **P** 16 45 36.5 +0.7
comp=Z,30nm,0.7s,baz=233,slow=5.3,SNR=82
comp=Z,30nm,0.7s
MA2 **Magadan** 70.70 25 P **P** 16 45 36.4 +0.5
MA2 **Magadan** 70.70 25*c* *i*P **P** 16 45 36.2 +0.3
MA2 pmax pmax
comp=Z,98nm,1.4s
MA2 **Magadan** 70.70 25 P **P** 16 45 35.7 -0.2
comp=Z,88nm,1.7s
MA2 **Magadan** 70.70 25 P **P** 16 45 36.2 +0.3
MA2 pP **PcP** 16 45 56.7 +0.4
MA2 sP **sP** 16 46 05.4 -0.8
VORR **Voronezh** 70.72 325 *e*P **P** 16 45 35.1 -1.0
VORR pmax pmax
comp=Z,69nm,0.4s
PEA0B **Petropavlovsk-** 70.90 33*d* *i*P **P** 16 45 37.5 +0.3
PETK **Petropavlovsk-** 70.90 33 P **P** 16 45 36.7 -0.6
PETK **Petropavlovsk-** 70.90 33 P **P** 16 45 37.0 -0.3
comp=Z,23nm,0.8s,baz=214,slow=6.1,SNR=28
PETK pP **PcP** 16 45 57.5 +0.2
comp=Z,11nm,0.9s,baz=194,slow=12,SNR=4.1
comp=Z,23nm,0.8s
ANTO **Ankara** 71.03 312 P **P** 16 45 37.8 -0.5
ANTO IAmb IAmb 16 45 39.2
comp=Z,120nm,1.2s
ANTO **Ankara** 71.03 312 P **P** 16 45 38.2 -0.2
ANTO **Ankara** 71.03 312 P **P** 16 45 37.8 -0.5
ANTO pmax pmax
comp=Z,120nm,1.2s
ANTO **Ankara** 71.03 312 P **P** 16 45 37.4 -0.9
comp=Z,610nmcomp=Z,45nm,1.1s
ANTO **Ankara** 71.03 312 P **P** 16 45 37.6 -0.8
ANTO pP **pP** 16 45 59.2 -0.5
ANTO sP **sP** 16 46 07.1 -1.6
LPSR **Galich'ya Gora** 71.25 326 *e*P **P** 16 45 38.5 -0.8
LPSR pmax pmax
comp=Z,125nm,1.0s
PET **Petropavlovsk** 71.39 33 P **P** 16 45 39.8 -0.4
PET IAmb IAmb 16 45 41.3
comp=Z,108nm,0.9s
PET **Petropavlovsk** 71.39 33 P **P** 16 45 40.3 +0.2
PET **Petropavlovsk** 71.39 33 *e*P **P** 16 45 39.7 -0.4
PET pmax pmax
comp=Z,147nm,0.9s
PET **Petropavlovsk** 71.39 33 P **P** 16 45 39.4 -0.7
comp=Z,136nm,1.1s
PET **Petropavlovsk** 71.39 33 P **P** 16 45 39.8 -0.4
PET pP **pP** 16 46 00.7 -0.8
PET sP **sP** 16 46 09.6 -0.9
CIDE **Kastamonu/Cide** 71.44 314 ⇑P **P** 16 45 40.9 +0.2
SIM **Simferopol'** 71.51 317 *e*P **P** 16 45 41.3 +0.2
SIM *e*S **S** 16 54 52.3 -1.2
SIM pmax pmax
comp=Z,90nm,1.0s
LSZ **Lusaka** 71.65 254 P **P** 16 45 42.3 -0.3
LSZ IAmb IAmb 16 45 49.5
comp=Z,142nm,1.6s
LSZ **Lusaka** 71.65 254 P **P** 16 45 43.9 +1.3
LSZ **Lusaka** 71.65 254 P **P** 16 45 42.3 -0.3
LSZ pmax pmax
comp=Z,142nm,1.7s
ELL **Elmali** 72.51 308 P **P** 16 45 47.2 -0.2
ELL pmax pmax
comp=Z,124nm,1.3s
TIXI **Tiksi** 72.98 10 P **P** 16 45 49.1 -0.2
TIXI **Tiksi** 72.98 10⇓ *i*P **P** 16 45 49.3 0.0
TIXI pmax pmax
comp=Z,55nm,0.9s
SEY **Seymchan** 73.20 23 P **P** 16 45 51.2 +0.5
comp=Z,22nm,0.6s,baz=242,slow=6.3,SNR=111
SEY S **S** 16 55 10.1 -2.0
comp=Z,3.4nm,1.1s,baz=20,slow=22,SNR=15
comp=Z,22nm,0.6s
SEY **Seymchan** 73.20 23 *e*P **P** 16 45 47.9 -2.8
SEY pmax pmax
comp=Z,61nm,1.4s
MOS **Moscow** 73.23 329 *e*P **P** 16 45 48.3 -2.7
MOS *e**PP **PcP** 16 46 08.3 +1.2
MOS *e**SP **sP** 16 46 18.1 -3.3
MOS *e*S **S** 16 55 07.4 -5.3
MOS *e**SS **pS** 16 55 41.2 +2.5
MOS pmax pmax
comp=Z,300nm,1.5s
MOS pmax pmax
comp=Z,228nm,1.2s
OBN **Obninsk** 73.53 328 P **P** 16 45 52.4 -0.4
OBN **Obninsk** 73.53 328 P **P** 16 45 52.8 0.0
comp=Z,26nm,0.4s,baz=119,slow=6.4,SNR=15
OBN pP **pP** 16 46 13.0 -1.3
comp=Z,101nm,0.9s,baz=96,slow=1.1,SNR=5.2
comp=Z,26nm,0.4s
OBN **Obninsk** 73.53 328*d* *i*P **P** 16 45 52.2 -0.6
OBN *e* 16 46 12.1
OBN *e* 16 48 34.9
OBN *e*S **SKSac** 16 55 46.0 -5.9
OBN pmax pmax
comp=Z,165nm,1.3s
OBN **Obninsk** 73.53 328 P **P** 16 45 51.8 -1.0
comp=Z,2μmcomp=Z,171nm,1.5s
ARG **Arkhangelos** 73.81 307 IAmb IAmb 16 45 55.9
comp=Z,146nm,1.2s
NE56 **Odesa** 74.16 318 P **P** 16 45 55.2 -1.5
KARP **Karpathos** 74.46 307 *e*P **P** 16 45 58.5 -0.2
KARP **Karpathos** 74.46 307 P **P** 16 45 58.3 -0.4
comp=Z,3μmcomp=Z,229nm,1.1s
KLMR **Klimovskoe** 74.52 334 *e*P **P** 16 45 56.7 -1.7
KLMR *e**PP **pP** 16 46 17.3 -2.7
KLMR *e* 16 48 46.4
KLMR pmax pmax
comp=Z,118nm,1.5s
BAND **Balkesir-Ban** 74.64 312 ⇑P **P** 16 45 59.6 0.0
MANR **Mangalia** 75.03 315 ⇑P **P** 16 46 01.4 -0.4
EFOR **EFORIE** 75.06 315 ⇑P **P** 16 46 03.1 +1.1
TLCR 75.19 317 ⇓P **P** 16 46 01.8 -0.9
TLCR 75.19 317 P **P** 16 46 01.7 -0.9
TIRR **Tirgusor** 75.30 316 IAmb IAmb 16 46 25.2
comp=Z,74nm,1.0s
TIRR **Tirgusor** 75.30 316 ⇓P **P** 16 46 03.2 -0.2
TIRR **Tirgusor** 75.30 316 P **P** 16 46 03.1 -0.2
TIRR **Tirgusor** 75.30 316 P **P** 16 46 02.7 -0.6
comp=Z,76nm,1.0s
TPGR **Topolog** 75.39 316 ⇑P **P** 16 46 03.6 -0.3
MILM **Milestii Mici** 75.61 318⇓ *i*P **P** 16 46 04.0 -1.0
comp=Z,250nm,1.6s
MILM **Milestii Mici** 75.61 318⇑ *i*P pP 16 46 25.0 -1.6
comp=Z,230nm,1.2s
MILM **Milestii Mici** 75.61 318 ⇑P **P** 16 46 04.7 -0.3
MILM **Milestii Mici** 75.61 318*d* *i*P **P** 16 46 04.0 -1.0
MILM pmax pmax
comp=Z,250nm,1.6s
ICOR **Ion Corvin** 75.65 315 ⇑P **P** 16 46 05.8 +0.4
CFR **Carcaliu** 75.66 316 ⇑P **P** 16 46 05.5 +0.2
CFR **Carcaliu** 75.66 316 P **P** 16 46 05.5 +0.2
HARR **Harsova** 75.69 316 ⇑P **P** 16 46 05.8 +0.2
HARR **Harsova** 75.69 316 P **P** 16 46 05.7 +0.2
PRD **Provadia** 75.72 314 P **P** 16 46 06.1 +0.3
DCZ **Deep Cove** 75.77 138 P **P** 16 46 07.0 +1.0
VLDR **Vladesti** 75.84 317 ⇑P **P** 16 46 06.8 +0.4
EDRB **Edirne** 75.94 313 P **P** 16 46 06.8 -0.3
BOSA **Boshof** 76.15 240 P **P** 16 46 09.0 +0.3
comp=Z,21nm,1.0s,baz=95,slow=5.5,SNR=9.7
BOSA pP **pP** 16 46 28.7 -1.6
comp=Z,15nm,1.0s,baz=78,slow=5.0,SNR=3.7
comp=Z,21nm,1.0s
BOSA **Boshof** 76.15 240 P **P** 16 46 09.0 +0.3
SORM **Soroca** 76.20 319 ⇓P **P** 16 46 08.7 +0.3
SORM **Soroca** 76.20 319 P **P** 16 46 08.7 +0.3
SORM **Soroca** 76.20 319 P **P** 16 46 07.6 -0.8
comp=Z,2μmcomp=Z,195nm,1.0s
JMB **Yambol** 76.22 313 P **P** 16 46 08.9 +0.3
AK09 **Malin Array Si** 76.24 322 P **P** 16 46 07.8 -0.8
IDI **Anoyia** 76.25 306 IAmb IAmb 16 46 33.2
comp=Z,148nm,1.4s
IDI **Anoyia** 76.25 306 P **P** 16 46 08.6 -0.4
comp=Z,49nm,1.0s,baz=93,slow=7.2,SNR=6.4
comp=Z,49nm,1.0s
ALN **Alexandroupoli** 76.28 312 P **P** 16 46 08.3 -0.7
ALN **Alexandroupoli** 76.28 312 IAmb IAmb 16 46 30.9
comp=Z,96nm,1.2s
AKASG **Malin Array Be** 76.30 322 P **P** 16 46 08.0 -0.8
AKASG IAmb IAmb 16 46 30.2
comp=Z,92nm,1.0s
AKASG **Malin Array Be** 76.30 322 P **P** 16 46 08.1 -0.8
comp=Z,17nm,0.8s,baz=89,slow=4.9,SNR=43
AKASG pP **pP** 16 46 28.7 -1.8
comp=Z,52nm,0.9s,baz=90,slow=4.7,SNR=20
comp=Z,17nm,0.8s
AKBB **Malin Array Si** 76.30 322 IAmb IAmb 16 46 30.1
comp=Z,71nm,0.9s
AKBB **Malin Array Si** 76.30 322*d* *i*P **P** 16 46 07.8 -1.1
AKBB pmax pmax
comp=Z,63nm,1.1s
AKBB **Malin Array Si** 76.30 322 P **P** 16 46 07.9 -1.0
KIEV **Kiev** 76.31 322 P **P** 16 46 08.0 -0.9
KIEV IAmb IAmb 16 46 30.1
comp=Z,63nm,0.9s
KIEV **Kiev** 76.31 322 ⇑P **P** 16 46 08.6 -0.4
KIEV **Kiev** 76.31 322 P **P** 16 46 08.5 -0.4
KIEV **Kiev** 76.31 322 *i* P **P** 16 46 08.3 -0.7
SNR=12
KIEV **Kiev** 76.31 322 P **P** 16 46 07.6 -1.3
comp=Z,311nm,1.1s
KIEV pP **pP** 16 46 28.9 -1.6
comp=Z,311nm,1.1s
JCZ **Jackson Bay** 76.51 136 P **P** 16 46 11.0 +0.7
SOE **Somerset East** 76.57 236 P **P** 16 46 12.6 +1.7
RDO **Rodhopi** 76.70 312 P **P** 16 46 05.6 -5.8
VRI **Vrincioaia** 76.77 317 ⇑P **P** 16 46 12.7 +1.0
VRI **Vrincioaia** 76.77 317 P **P** 16 46 12.7 +1.0
VRI **Vrincioaia** 76.77 317 P **P** 16 46 11.6 -0.1
comp=Z,1μmcomp=Z,149nm,1.1s
VRI pP **pP** 16 46 33.2 -0.1
comp=Z,1μmcomp=Z,149nm,1.1s
SZH **Strazhitsa** 76.77 314 P **P** 16 46 11.9 +0.2
PLOR **Plostina** 76.82 317 ⇑P **P** 16 46 12.9 +0.8
PLOR **Plostina** 76.82 317 P **P** 16 46 12.8 +0.8
DIM **Dimitrovgrad** 76.83 313 P **P** 16 46 12.5 +0.4
KDZ **Kurdzhali** 76.93 312 P **P** 16 46 12.5 -0.2
MI30 **MI30,Zelenitsa** 76.95 322 P **P** 16 46 11.5 -1.1
comp=Z,112nm,1.0s
NDNU **Novodnistrovsk** 76.95 320 P **P** 16 46 12.0 -0.6
TESR **Tescani** 76.96 318 ⇑P **P** 16 46 13.0 +0.2
TESR **Tescani** 76.96 318 P **P** 16 46 13.2 +0.5
comp=Z,2μmcomp=Z,201nm,1.0s
LUBAR **Lubar, Ukraine** 77.02 321 P **P** 16 46 12.5 -0.4
MI29 **MI29, Kamyanyy** 77.08 322 P **P** 16 46 12.6 -0.7
comp=Z,674nm,1.2s
COVR **Voineasa-Covas** 77.13 317 ⇑P **P** 16 46 13.8 +0.1
MLR **Muntele Rosu** 77.23 316 P **P** 16 46 15.2 +0.7
comp=Z,78nm,1.0s,baz=111,slow=3.4,SNR=36
MLR pP **pP** 16 46 35.5 -0.5
comp=Z,105nm,1.0s,baz=106,slow=2.3,SNR=11
comp=Z,78nm,1.0s
MLR **Muntele Rosu** 77.23 316 ⇑P **P** 16 46 15.3 +0.9
MLR **Muntele Rosu** 77.23 316 P **P** 16 46 15.3 +0.9
MLR **Muntele Rosu** 77.23 316 P **P** 16 46 14.3 -0.1
comp=Z,2μmcomp=Z,142nm,1.1s
PVL **Pavlikeni** 77.32 314 P **P** 16 46 15.2 +0.4
DRBR **Darabani** 77.36 319 ⇑P **P** 16 46 14.8 -0.1
RZN **Rozhen** 77.39 312 P **P** 16 46 15.5 0.0
KAVA **Kavala** 77.44 312 P **P** 16 46 14.9 -0.6
PLD **Plovdiv** 77.46 313 P **P** 16 46 15.9 +0.3
KMPD **K-Podol'skiy** 77.53 320 P **P** 16 46 14.7 -1.1
DOPR **Dopca** 77.71 317 ⇑P **P** 16 46 17.0 0.0
MTUR **Matau** 77.79 316 ⇑P **P** 16 46 17.8 +0.2
MTUR **Matau** 77.79 316 P **P** 16 46 17.7 +0.2
KOKK **Kokkinochori,** 77.79 311 P **P** 16 46 16.7 -0.8
VOIR 77.84 316 ⇑P **P** 16 46 17.6 -0.2
VOIR 77.84 316 P **P** 16 46 17.5 -0.2
VOIR 77.84 316 P **P** 16 46 16.6 -1.2
comp=Z,19nm,0.9s
PAIG **Paliouri** 77.90 311 P **P** 16 46 16.9 -1.2
PGB **Panagyurishte** 77.94 313 P **P** 16 46 18.3 0.0
NVR **Nevrokopi** 77.98 312 P **P** 16 46 17.4 -1.2
RPZ **Rata Peaks** 78.01 135 P **P** 16 46 18.2 -0.4
RPZ IAmb IAmb 16 46 19.7
comp=Z,75nm,1.1s
INZ **Inchbonnie** 78.07 134 P **P** 16 46 18.5 -0.4
INZ IAmb IAmb 16 46 19.9
comp=Z,96nm,1.0s
MNK **Minsk** 78.09 326 *i* P **P** 16 46 18.2 -0.6
MNK *i* *PP **pP** 16 46 39.3 -1.2
MNK *i* 16 49 14.5
MNK *i* PPP PPP 16 51 03.8
MNK *i* S **S** 16 56 06.2 -0.2
MNK *i* *SS **sS** 16 56 43.9 +0.5
MNK *i* SS **SS** 17 01 11.0 +1.5
MNK *i* SSS SSS 17 04 35.7
MNK pmax pmax
comp=Z,100nm,1.0s
MNK pmax pmax
comp=E,20nm,0.9s
MNK pmax pmax
comp=N,104nm,1.2s
MNK MLR MLR
comp=E,2μm,22.0s
MNK MLR MLR
comp=N,513nm,20.0s
MNK MLR MLR
comp=Z,739nm,26.0s
MMB **Musomishta** 78.09 312 P **P** 16 46 18.6 -0.6
ARR **Arges** 78.11 316 ⇑P **P** 16 46 19.4 +0.2
BUR08 **Bucovina Ar. S** 78.17 318 IAmb IAmb 16 46 42.5
comp=Z,68nm,1.0s
PUL **Pulkovo** 78.33 331⇑ *e*P **P** 16 46 20.4 +0.4
PUL pmax pmax
comp=Z,96nm,0.9s
KSV **Kosov** 78.39 319 P **P** 16 46 18.8 -1.8
KSV **Kosov** 78.39 319 P **P** 16 46 18.8 -1.8
MPEP **Malo Peshtene** 78.39 314 P **P** 16 46 21.0 +0.2
TNR **Turnu Rosu** 78.42 316 ⇓P **P** 16 46 21.5 +0.7
TNR **Turnu Rosu** 78.42 316 P **P** 16 46 21.5 +0.7
QRZ **Quartz Range** 78.46 132 P **P** 16 46 21.8 +0.6
RNPP5 **Staryi Chortor** 78.48 322 P **P** 16 46 20.4 -0.6
RNPP9 **Sopachiv** 78.52 322 P **P** 16 46 20.9 -0.3
RNPP8 **Varash** 78.52 322 P **P** 16 46 20.6 -0.7
KKB **Krupnik** 78.60 312 P **P** 16 46 21.7 -0.3
VTS **Vitosha** 78.64 313 P **P** 16 46 22.4 0.0
GUR **Goura** 78.65 308 P **P** 16 46 20.9 -1.5
VALD **Valchedram** 78.67 314 P **P** 16 46 22.2 0.0
KNT **Kendrikon** 78.67 312 P **P** 16 46 20.6 -1.8
LOT **Lotru** 78.73 316 ⇑P **P** 16 46 22.6 -0.1
KLV **Kalavryta, Ach** 78.81 308 P **P** 16 46 21.8 -1.5
LIT **Litokhoron** 78.83 311 P **P** 16 46 21.9 -1.3
LIT **Litokhoron** 78.83 311 IAmb IAmb 16 46 23.3
comp=Z,103nm,1.1s
STNU **Starunia** 78.83 319 P **P** 16 46 22.6 -0.5
ITM **Ithomi** 78.88 308 P **P** 16 46 22.7 -0.9
ITM **Ithomi** 78.88 308 IAmb IAmb 16 46 24.1
comp=Z,109nm,1.2s
JOF **Joensuu** 78.90 334 *e*P **P** 16 46 23.1 -0.1
RAKU **Rahkiv** 78.92 319 P **P** 16 46 23.4 -0.2
THZ **Tophouse** 78.92 133 IAmb IAmb 16 46 24.5
comp=Z,100nm,0.9s
VAY **Valandovo** 78.94 312 *i* P **P** 16 46 23.4 -0.4
ANX **Ano Chora** 79.06 309 P **P** 16 46 23.4 -1.3
CJR **Cluj-Napoca** 79.06 317 ⇑P **P** 16 46 25.8 +1.3
CJR **Cluj-Napoca** 79.06 317 P **P** 16 46 25.7 +1.3
DRO **Drossia** 79.15 308 P **P** 16 46 24.8 -0.2
IIGN **Ignalina** 79.23 326 *e*P **P** 16 46 25.4 +0.3
BMR **Baia Mare** 79.30 318 ⇑P **P** 16 46 26.9 +1.2
BMR **Baia Mare** 79.30 318 P **P** 16 46 26.8 +1.2
LVV **L'vov** 79.35 321 P **P** 16 46 25.7 -0.2
LVV **L'vov** 79.35 321 P **P** 16 46 25.7 -0.2
MARR **Marisel-Cluj** 79.38 317 ⇓P **P** 16 46 27.1 +0.9
DEV **Deva** 79.40 316 P **P** 16 46 27.3 +1.1
DEV pmax pmax
comp=Z,202nm,1.1s
GZR **Gura Zlata** 79.41 316 ⇑P **P** 16 46 27.1 +0.7
GZR **Gura Zlata** 79.41 316 P **P** 16 46 27.1 +0.7
MEZ **Mezhgor'ye** 79.44 319 P **P** 16 46 26.9 +0.5
LVZ **Lovozero** 79.46 340 P **P** 16 46 25.8 -0.2
LVZ IAmb IAmb 16 46 27.7
comp=Z,219nm,2.0s
LVZ **Lovozero** 79.46 340⇑ *e*P **P** 16 46 25.9 -0.2
LVZ pmax pmax
comp=Z,64nm,1.3s
KHZ **Kahutara** 79.52 133 IAmb IAmb 16 46 27.6
comp=Z,68nm,1.0s
MESR **Meseseni** 79.58 318 ⇑P **P** 16 46 28.4 +1.3
HERR **Herculane** 79.58 315 ⇑P **P** 16 46 27.6 +0.4
KORU **Korolevo** 79.63 319 P **P** 16 46 26.2 -1.2
DRGR 79.68 317 ⇑P **P** 16 46 28.8 +0.9
DRGR 79.68 317 P **P** 16 46 28.7 +0.9
VSU **Vasula** 79.73 329*d* *i*P **P** 16 46 26.4 -1.3
VSU pmax pmax
comp=Z,77nm,1.1s
VSU **Vasula** 79.73 329 *e*P **P** 16 46 27.4 -0.3
BRIU **Brid** 79.73 319 P **P** 16 46 28.3 +0.4
TRSU **Trosnyk** 79.73 319 P **P** 16 46 28.9 +1.0
APA **Apatity** 79.76 339⇓ *i*P **P** 16 46 25.8 -1.9
APA *i* 16 46 38.8
BOVS **Bovan** 79.90 314 ⇑P **P** 16 46 29.0 0.0
SURR **Surduc** 79.92 316 ⇑P **P** 16 46 29.8 +0.7
BERU **Beregovo** 79.96 319 P **P** 16 46 29.0 -0.2
NYDR **Nydri-Lefkada** 80.03 309 P **P** 16 46 28.8 -0.9
MDVR **Moldovita** 80.06 315 ⇓P **P** 16 46 29.9 0.0
LKD2 **Lefkada island** 80.07 309 P **P** 16 46 29.3 -0.7
MSVF **Nonsavu** 80.09 108 P **P** 16 46 30.7 +0.1
MSVF **Nonsavu** 80.09 108 P **P** 16 46 31.4 +0.8
MSVF **Nonsavu** 80.09 108 P **P** 16 46 30.7 +0.1
MSVF pmax pmax
comp=Z,59nm,1.2s
KWP **Kalwaria Pacla** 80.16 320 *e*P **P** 16 46 30.7 +0.5
KWP **Kalwaria Pacla** 80.16 320 P **P** 16 46 29.9 -0.4
KWP pmax pmax
comp=Z,99nm,1.3s
KWP **Kalwaria Pacla** 80.16 320 P **P** 16 46 30.1 -0.2
comp=Z,99nm,1.3s
HOLU **Holmets** 80.18 319 P **P** 16 46 30.7 +0.3
OHR **Ohrid** 80.23 311 *i* P **P** 16 46 30.1 -0.8
BZS **Buzias** 80.25 316 ⇓P **P** 16 46 31.2 +0.3
BZS **Buzias** 80.25 316 P **P** 16 46 31.1 +0.3
SIRR **Siria** 80.31 317 ⇑P **P** 16 46 32.2 +1.0
KOLS **Kolonicke sedl** 80.32 319 *e*P **P** 16 46 32.3 +1.1
KOLS pmax pmax
comp=Z,71nm,1.0s
KOLS **Kolonicke sedl** 80.32 319 *e*P **P** 16 46 32.3 +1.1
KOLS *e*pP **pP** 16 46 53.7 +0.8
ARBE **Arbavere** 80.35 330 *e*P **P** 16 46 32.0 +0.9
IGT **Igoumenitsa** 80.40 310 P **P** 16 46 30.8 -1.0
SYO **Syowa Base** 80.44 198⇑ *i*P **P** 16 46 34.0 +2.7
SUR **Sutherland** 80.48 237 P **P** 16 46 34.0 +1.4
PABE **Paberze** 80.52 326 *e*P **P** 16 46 32.1 +0.1
TIM **Timisoara** 80.54 316 ⇑P **P** 16 46 33.3 +1.0
TIM **Timisoara** 80.54 316 P **P** 16 46 33.3 +1.0
PHP **Peshkopia** 80.57 312 P **P** 16 46 30.6 -2.1
VSVD **Vaisvydziai** 80.64 327 *e*P **P** 16 46 32.9 +0.3
BILL **Bilibino** 80.66 21 P **P** 16 46 32.4 -0.1
BILL **Bilibino** 80.66 21⇓ *e*P **P** 16 46 32.2 -0.3
BILL pmax pmax
comp=Z,7.0nm,0.9s
SUW **Suwalki** 80.67 325 *e*P **P** 16 46 32.5 -0.3
SUW **Suwalki** 80.67 325 *e*P **P** 16 46 33.3 +0.5
FINES **FINESS Array B** 80.81 332 P **P** 16 46 33.6 +0.2
FINES **FINESS Array B** 80.81 332 P **P** 16 46 33.1 -0.4
comp=Z,18nm,0.6s,baz=104,slow=5.5,SNR=49
FINES pP **pP** 16 46 54.3 -1.0
comp=Z,30nm,0.9s,baz=91,slow=7.6,SNR=8.5
comp=Z,18nm,0.6s
FINES **FINESS Array B** 80.81 332 *i* P **P** 16 46 33.7 +0.2
FINES pmax pmax
comp=Z,18nm,0.6s
MSF **Maaselka** 80.81 337 P **P** 16 46 33.7 +0.3
MSF pmax pmax
comp=Z,86nm,1.3s
KEK **Kerkira** 80.83 310 P **P** 16 46 34.7 +0.6
BEO **Beograd** 80.94 315 P **P** 16 46 35.5 +1.0
PUK **Puka** 81.02 312 IAmb IAmb 16 46 58.2
comp=Z,58nm,1.0s
SJES **Sjenica** 81.10 313 *e*P **P** 16 46 35.9 +0.3
IVA **Berane** 81.12 313⇑ *i*P **P** 16 46 35.0 -0.6
BKZ **Black Stump Fm** 81.16 130 IAmb IAmb 16 46 36.3
comp=Z,119nm,0.9s
BKZ **Black Stump Fm** 81.16 130 P **P** 16 46 35.4 -0.5
BFZ **Birch Farm** 81.21 131 P **P** 16 46 36.1 +0.1
MEF **Metsahovi** 81.32 331 *e*P **P** 16 46 36.1 0.0
KOME **Kolasin** 81.39 313⇑ *i*P **P** 16 46 36.4 -0.7
KECS **Kecovo** 81.42 319 *e*P **P** 16 46 37.5 +0.5
KECS pmax pmax
comp=Z,27nm,0.9s
KECS **Kecovo** 81.42 319 *e*P **P** 16 46 37.5 +0.5
KECS *e*pP **pP** 16 46 59.2 +0.4
FRGS **Fruska Gora** 81.45 315 *e*P **P** 16 46 36.9 -0.4
ULC **Ulcinj** 81.49 312⇑ *i*P **P** 16 46 36.1 -1.5

PDG	**Podgorica**	**81.53 313**	IAmb	IAmb	16 46 38.4	
	comp=Z,126nm,1.1s					
PDG	**Podgorica**	**81.53 313**	*e*P	**P**	**16 46 37.5**	**-0.1**
PDG	**Podgorica**	**81.53 313**	⇑P	**P**	**16 46 37.8**	**+0.1**
PDG	**Podgorica**	**81.53 313**	⇑*i*P	**P**	**16 46 37.6**	**-0.1**
PLE	**Pljevlja**	**81.53 314**	⇑*i*P	**P**	**16 46 38.5**	**+0.6**
KEF	**Keuruu**	**81.55 333**	*e*P	**P**	**16 46 37.6**	**+0.3**
DRME	**Dracevica, Mon**	**81.56 312**	*e*P	**P**	**16 46 36.9**	**-1.0**
DRME	**Dracevica, Mon**	**81.56 312**	⇑*i*P	**P**	**16 46 37.3**	**-0.6**
TEKS	**Tekeris**	**81.57 315**	*e*P	**P**	**16 46 37.4**	**-0.5**
RUDO	**Rudo**	**81.58 314**	*e*P	**P**	**16 46 36.7**	**-1.3**
BBLS	**Lazi&#263i**	**81.58 314**	*e*P	**P**	**16 46 38.1**	**0.0**
DGTI	**Dogotuki**	**81.60 107**	P	**P**	**16 46 39.6**	**+1.0**
NIE	**Niedzica**	**81.68 320**	*e*P	**P**	**16 46 39.0**	**+0.6**
NIE	**Niedzica**	**81.68 320**	P	**P**	**16 46 39.7**	**+1.3**
NIE			pmax	pmax		
	comp=Z,21nm,1.1s					
NIE	**Niedzica**	**81.68 320**	P	**P**	**16 46 38.9**	**+0.6**
	comp=Z,21nm,1.1s					
BEL	**Belsk**	**81.72 322**	*e*P	**P**	**16 46 38.8**	**+0.3**
PSZ	**Piszkesteto**	**81.74 318**	IAmb	IAmb	16 47 01.3	
	comp=Z,54nm,0.9s					
PSZ	**Piszkesteto**	**81.74 318**	P	**P**	**16 46 39.2**	**+0.4**
PSZ			pmax	pmax		
	comp=Z,70nm,1.2s					
PSZ	**Piszkesteto**	**81.74 318**	*e*P	**P**	**16 46 38.7**	**-0.1**
PBUR	**Paburge**	**81.75 326**	*e*P	**P**	**16 46 38.4**	**-0.1**
BUM	**Brajici-Budva**	**81.79 312**	⇑*i*P	**P**	**16 46 38.9**	**-0.3**
NKME	**Niksic**	**81.79 313**	⇑*i*P	**P**	**16 46 37.5**	**-1.6**
CEME	**Cevo**	**81.79 313**	⇑*i*P	**P**	**16 46 38.3**	**-0.9**
OUL	**Oulu**	**81.83 336**	P	**P**	**16 46 39.3**	**+0.5**
OUL			pmax	pmax		
	comp=Z,75nm,1.4s					
UPM	**Unac-Piva**	**81.87 313**	⇑*i*P	**P**	**16 46 39.5**	**-0.2**
HAPS	**Han Pijesak,BI**	**81.93 314**	*e*P	**P**	**16 46 39.5**	**-0.5**
VADS	**Vadso**	**82.05 341**	*e*P	**P**	**16 46 40.4**	**+0.6**
VADS			IAmb	IAmb	16 46 42.5	
	comp=Z,87nm,1.5s					
TSUM	**Tsumeb**	**82.09 251**		**P**	**16 46 41.3**	**0.0**
OJC	**Ojcow**	**82.11 320**	*e*P	**P**	**16 46 40.6**	**+0.1**
OJC	**Ojcow**	**82.11 320**	IAmb	IAmb	16 47 03.0	
	comp=Z,66nm,1.1s					
OJC	**Ojcow**	**82.11 320**	P	**P**	**16 46 40.9**	**+0.3**
OJC			pmax	pmax		
	comp=Z,56nm,1.1s					
OJC	**Ojcow**	**82.11 320**	P	**P**	**16 46 40.3**	**-0.3**
	comp=Z,56nm,1.0s					
OJC			pP	**pP**	**16 47 01.9**	**-0.5**
	comp=Z,56nm,1.0s					
BRY	**Bratogost**	**82.11 313**	*e*P	**P**	**16 46 40.1**	**-0.8**
BRY	**Bratogost**	**82.11 313**	⇑*i*P	**P**	**16 46 39.8**	**-1.1**
LANS	**Liptovska Anna**	**82.18 319**	*e*P	**P**	**16 46 41.8**	**+0.8**
LANS			pmax	pmax		
	comp=Z,13nm,1.2s					
LANS	**Liptovska Anna**	**82.18 319**	*e*P	**P**	**16 46 41.8**	**+0.8**
LANS			*e*pP	**pP**	**16 47 03.2**	**+0.3**
SGF	**Sodankyl**	**82.22 338**	P	**P**	**16 46 41.6**	**+0.8**
SGF			pmax	pmax		
	comp=Z,53nm,1.2s					
TREB	**Trebinje**	**82.23 313**	*e*P	**P**	**16 46 40.7**	**-0.7**
MORH	**Mrgy, Hungar**	**82.38 316**	⇓P	**P**	**16 46 42.4**	**+0.3**
MORH	**Mrgy, Hungar**	**82.38 316**	P	**P**	**16 46 41.6**	**-0.5**
	comp=Z,55nm,1.1s					
STON	**Ston**	**82.72 313**	*e*P	**P**	**16 46 42.6**	**-1.3**
VAF	**Ylistaro**	**82.73 334**	*e*P	**P**	**16 46 44.1**	**+0.6**
RAF	**Rauma**	**82.75 331**	*e*P	**P**	**16 46 43.6**	**-0.1**
WIN	**Windhoek**	**82.78 247**	P	**P**	**16 46 46.1**	**+1.2**
WIN			pmax	pmax		
	comp=Z,23nm,2.4s					
SRO	**Srobarova**	**82.78 318**	*e*P	**P**	**16 46 44.9**	**+0.8**
SRO			pmax	pmax		
	comp=Z,69nm,1.1s					
SRO	**Srobarova**	**82.78 318**	*e*P	**P**	**16 46 44.9**	**+0.8**
SRO			*e*pP	**pP**	**16 47 06.4**	**+0.4**
OKC	**Ostrava-Krasne**	**83.12 320**	*e*P	**P**	**16 46 46.3**	**+0.5**
OKC			*e*pP	**pP**	**16 47 07.9**	**+0.2**
OKC	**Ostrava-Krasne**	**83.12 320**	*e*P	**P**	**16 46 46.3**	**+0.5**
OKC			*e**PP	**pP**	**16 47 07.9**	**+0.2**
TIP	**Timpagrande**	**83.13 309**	IAmb	IAmb	16 46 48.2	
	comp=Z,70nm,1.2s					
TIP	**Timpagrande**	**83.13 309**	⇑P	**P**	**16 46 46.9**	**+0.7**
TIP	**Timpagrande**	**83.13 309**	P	**P**	**16 46 46.6**	**+0.4**
	comp=Z,40nm,1.1s					
ARA0	**ARCESS Array S**	**83.15 340**	*e*P	**P**	**16 46 46.0**	**+0.4**
ARA0			IAmb	IAmb	16 46 46.9	
	comp=Z,69nm,1.1s					
ARCES	**ARCESS Array B**	**83.15 340**	P	**P**	**16 46 46.1**	**+0.5**
	comp=Z,8.1nm,0.5s,baz=105,slow=4.1,SNR=47					
ARCES			pP	**pP**	**16 47 06.9**	**-0.6**
	comp=Z,36nm,1.0s,baz=103,slow=4.4,SNR=5.4					
ARCES			LR	LR	17 29 42.5	
	comp=Z,1000nm,20.9s,baz=66,slow=40					
	comp=Z,8.1nm,0.5s					
MPLH	**Magyarpolny**	**83.24 317**	P	**P**	**16 46 46.4**	**-0.1**
	comp=Z,390nm,1.1s					
MPLH			pP	**pP**	**16 47 08.3**	**-0.1**
	comp=Z,390nm,1.1s					
BLY	**Banja Luka**	**83.26 315**	*e*P	**P**	**16 46 46.7**	**0.0**
MAUC	**Maruska**	**83.27 319**	*e*P	**P**	**16 46 47.6**	**+0.9**
MAUC			*e*pP	**pP**	**16 47 08.8**	**+0.2**
MATE	**Matera**	**83.28 311**	*e*P	**P**	**16 46 45.2**	**-1.6**
JAVC	**Velka Javorina**	**83.32 319**	*e*P	**P**	**16 46 47.7**	**+0.7**
JAVC			*e*		16 47 09.5	
STEB	**Steborice**	**83.37 320**	*e*P	**P**	**16 46 47.6**	**+0.5**
SMOL	**Smolenice**	**83.45 319**	*e*P	**P**	**16 46 48.2**	**+0.6**
SMOL			pmax	pmax		
	comp=Z,11nm,1.3s					
A051A	**Mrakovica**	**83.48 315**	*e*P	**P**	**16 46 47.1**	**-0.8**
MORC	**Moravsky Berou**	**83.50 320**	IAmb	IAmb	16 47 10.7	
	comp=Z,58nm,1.0s					
MORC	**Moravsky Berou**	**83.50 320**	*e*P	**P**	**16 46 48.1**	**+0.2**
MORC			*e*		16 47 09.8	
MORC	**Moravsky Berou**	**83.50 320**	⇓P	**P**	**16 46 48.5**	**+0.6**
MORC	**Moravsky Berou**	**83.50 320**	P	**P**	**16 46 48.5**	**+0.6**
MODS	**Modra-Piesok**	**83.53 318**	*e*P	**P**	**16 46 48.7**	**+0.7**
MODS			pmax	pmax		
	comp=Z,109nm,1.3s					
MODS	**Modra-Piesok**	**83.53 318**	*e*P	**P**	**16 46 48.7**	**+0.7**
MODS			*e*pP	**pP**	**16 47 09.8**	**-0.1**
BEHE	**Becsehely**	**83.70 316**	IAmb	IAmb	16 47 13.1	
	comp=Z,102nm,1.0s					
A050A	**Klekovaca**	**83.70 314**	*e*P	**P**	**16 46 47.9**	**-1.1**
CEL	**Celeste**	**83.74 308**	IAmb	IAmb	16 46 51.5	
	comp=Z,111nm,1.1s					
CEL	**Celeste**	**83.74 308**	P	**P**	**16 46 50.0**	**+0.6**
	comp=Z,1µmcomp=Z,95nm,1.5s					
KTK1	**Kautokeino**	**83.80 339**	*e*P	**P**	**16 46 49.2**	**+0.3**
KTK1			IAmb	IAmb	16 46 50.3	
	comp=Z,133nm,1.6s					
SOP	**Sopron**	**83.95 318**	P	**P**	**16 46 50.5**	**+0.4**
SOP			pmax	pmax		
	comp=Z,34nm,0.9s					
KRLC	**Kraliky**	**84.02 320**	P	**P**	**16 46 51.3**	**+0.8**
KRLC			pmax	pmax		
	comp=Z,88nm,1.1s					
HAMF	**Hammerfest**	**84.03 341**	*e*P	**P**	**16 46 50.7**	**+0.7**
HAMF			IAmb	IAmb	16 46 54.4	
	comp=Z,175nm,1.7s					
GKP	**Gorka Klasztor**	**84.06 323**	*e*P	**P**	**16 46 50.8**	**+0.3**
GKP	**Gorka Klasztor**	**84.06 323**	*e*P	**P**	**16 46 51.1**	**+0.6**
KOGS	**Kog**	**84.06 316**	*i*P	**P**	**16 46 51.0**	**+0.3**
KOGS			*i*pP	**pP**	**16 47 12.0**	**-0.6**
VRAC	**Vranov**	**84.07 319**	P	**P**	**16 46 50.1**	**-0.6**
	comp=Z,7.6nm,1.0s,baz=84,slow=5.3,SNR=4.9					
VRAC			pP	**pP**	**16 47 11.9**	**-0.8**
	comp=Z,13nm,1.0s,baz=95,slow=6.0,SNR=4.8					
	comp=Z,7.6nm,1.0s					
VRAC	**Vranov**	**84.07 319**	*e*P	**P**	**16 46 50.9**	**+0.2**
VRAC			*e*		16 47 12.5	
RONA	**Rosalia, Austr**	**84.13 318**	*i*P	**P**	**16 46 51.6**	**+0.5**
	comp=Z,14nm,1.1s					
RONA			*i*pP	**pP**	**16 47 12.2**	**-0.8**
	comp=Z,26nm,1.1s					
KRUC	**Moravsky**	**84.18 319**	*e*P	**P**	**16 46 51.3**	**0.0**
KRUC			*e*		16 47 13.0	
KRUC	**Moravsky**	**84.18 319**	P	**P**	**16 46 51.5**	**+0.2**
KRUC			pmax	pmax		
	comp=Z,31nm,1.2s					
DPC	**Dobruska-Polom**	**84.34 320**	*e*P	**P**	**16 46 52.9**	**+0.8**
DPC			*e*pP	**pP**	**16 47 14.1**	**+0.1**
DPC	**Dobruska-Polom**	**84.34 320**	*e*P	**P**	**16 46 52.9**	**+0.8**
DPC	**Dobruska-Polom**	**84.34 320**	P	**P**	**16 46 52.9**	**+0.8**
	comp=Z,37nm,1.3s					
KSP	**Ksiaz**	**84.40 321**	*e*P	**P**	**16 46 52.9**	**+0.6**
KSP	**Ksiaz**	**84.40 321**	P	**P**	**16 46 53.7**	**+1.4**
KSP			pmax	pmax		
	comp=Z,56nm,1.1s					
KSP	**Ksiaz**	**84.40 321**	P	**P**	**16 46 52.6**	**+0.3**
	comp=Z,56nm,1.1s					
KSP			pP	**pP**	**16 47 14.2**	**-0.1**
	comp=Z,56nm,1.1s					
CONA	**Conrad Observa**	**84.44 318**	*i*P	**P**	**16 46 53.1**	**+0.4**
	comp=Z,27nm,1.2s					
CONA			*i*pP	**pP**	**16 47 13.7**	**-0.9**
	comp=Z,29nm,1.0s,SNR=6.0					
CHVC	**Chvalec**	**84.53 321**	*e*P	**P**	**16 46 53.6**	**+0.6**
CHVC			*e*pP	**pP**	**16 47 14.7**	**-0.3**
CHVC	**Chvalec**	**84.53 321**	*e*P	**P**	**16 46 53.6**	**+0.6**
CRES	**Cresnjevec Ost**	**84.56 316**	*e*P	**P**	**16 46 53.5**	**+0.2**
ARSA	**Arzberg**	**84.61 317**	*e*P	**P**	**16 46 54.4**	**+0.9**
	comp=Z,53nm,1.3s,SNR=9.3					
ARSA			*e*pP	**pP**	**16 47 15.5**	**0.0**
	comp=Z,57nm,1.1s,SNR=6.3					
ARSA	**Arzberg**	**84.61 317**	IAmb	IAmb	16 47 16.5	
	comp=Z,55nm,1.1s					
BOJS	**Bojanci**	**84.68 315**	*i*P	**P**	**16 46 54.1**	**+0.2**
BOJS			*i*pP	**pP**	**16 47 15.3**	**-0.5**
BOJS	**Bojanci**	**84.68 315**	*e*P	**P**	**16 46 54.0**	**+0.2**
TREC	**Trest**	**84.79 319**	P	**P**	**16 46 55.0**	**+0.6**
TREC			pmax	pmax		
	comp=Z,31nm,1.0s					
VAE	**Valguarnera**	**84.87 307**	P	**P**	**16 46 56.8**	**+1.7**
	comp=Z,23nm,0.7s,baz=54,slow=8.7,SNR=4.2					
	comp=Z,23nm,0.7s					
JETT	**Jettan, Norway**	**84.90 340**	*e*P	**P**	**16 46 54.8**	**+0.3**
JETT			IAmb	IAmb	16 46 55.9	
	comp=Z,243nm,1.9s					
SOKA	**Soboth**	**84.91 317**	*e*P	**P**	**16 46 56.1**	**+1.0**
	comp=Z,65nm,1.1s,SNR=13					
SOKA			*e*pP	**pP**	**16 47 16.8**	**-0.2**
	comp=Z,100nm,1.0s,SNR=11					
HOPEN	**Hopen**	**85.15 347**	*e*P	**P**	**16 46 55.3**	**-0.3**
HOPEN			IAmb	IAmb	16 46 56.9	
	comp=Z,29nm,0.9s					
BLEU	**Blekinge**	**85.17 326**	*i*P	**P**	**16 46 55.3**	**-0.7**
LJU	**Ljubljana**	**85.22 316**	*i*P	**P**	**16 46 57.3**	**+0.7**
LJU			*e*pP	**pP**	**16 47 18.3**	**-0.3**
OBKA	**Obir**	**85.23 316**	*i*P	**P**	**16 46 57.7**	**+0.9**
	comp=Z,45nm,1.3s,SNR=5.7					
OBKA			*i*pP	**pP**	**16 47 18.4**	**-0.3**
	comp=Z,45nm,1.0s					
OBKA	**Obir**	**85.23 316**	*e*P	**P**	**16 46 56.8**	**0.0**
CEY	**Cerknica**	**85.27 316**	*e*P	**P**	**16 46 56.5**	**-0.4**
VNDA	**Vanda**	**85.44 169**	P	**P**	**16 46 57.9**	**+0.9**
VNDA	**Vanda**	**85.44 169**	P	**P**	**16 46 57.3**	**+0.3**
	comp=Z,32nm,1.2s,baz=308,slow=5.3,SNR=12					
	comp=Z,32nm,1.2s					
VNDA	**Vanda**	**85.44 169**	P	**P**	**16 46 57.9**	**+0.9**
VNDA			pmax	pmax		
	comp=Z,51nm,1.3s					
PRU	**Pruhonice**	**85.45 320**	*e*P	**P**	**16 46 58.2**	**+0.6**
PRU			*e*pP	**pP**	**16 47 18.8**	**-0.8**
PRU	**Pruhonice**	**85.45 320**	*e*P	**P**	**16 46 58.2**	**+0.6**
INTR	**Introdacqua**	**85.46 312**	IAmb	IAmb	16 47 33.6	
	comp=Z,56nm,1.1s					
PVCC	**Panska Ves**	**85.47 320**	*e*P	**P**	**16 46 58.4**	**+0.7**
PVCC			*e*pP	**pP**	**16 47 19.9**	**+0.2**
PVCC	**Panska Ves**	**85.47 320**	*e*P	**P**	**16 46 58.4**	**+0.7**
MOA	**Molln**	**85.50 318**	*i*P	**P**	**16 46 58.4**	**+0.4**
	comp=Z,19nm,1.2s					
MOA			*e*pP	**pP**	**16 47 20.0**	**+0.1**
	comp=Z,20nm,1.0s					
CKRC	**Cesky Krumlov**	**85.53 319**	*e*P	**P**	**16 46 58.7**	**+0.6**
CKRC			*e*pP	**pP**	**16 47 19.9**	**-0.2**
CKRC	**Cesky Krumlov**	**85.53 319**	*e*P	**P**	**16 46 58.7**	**+0.6**
BSD	**Bornholm Skovb**	**85.58 325**	*e*P	**P**	**16 46 56.9**	**-1.2**
BSD	**Bornholm Skovb**	**85.58 325**	*i*P	**P**	**16 46 56.0**	**-2.1**
BSD			IAmb	IAmb	16 46 59.3	
	comp=Z,49nm,0.9s					
ZVC	**Zvikov**	**85.64 319**	*e*P	**P**	**16 46 59.3**	**+0.7**
AQU	**L'Aquila**	**85.85 312**	P	**P**	**16 47 00.8**	**+0.9**
AQU			pmax	pmax		
	comp=Z,107nm,1.1s					
AQU	**L'Aquila**	**85.85 312**	P	**P**	**16 46 59.7**	**-0.2**
	comp=Z,107nm,1.1s					
CAMP	**Campotosto**	**85.85 312**	IAmb	IAmb	16 47 01.2	
	comp=Z,108nm,1.4s					
MYKA	**Terra Mystica**	**85.86 316**	*e*P	**P**	**16 47 00.3**	**+0.5**
	comp=Z,31nm,1.7s					
MYKA			*i*pP	**pP**	**16 47 21.0**	**-0.9**
	comp=Z,32nm,1.0s					
BRG	**Berggiesshubel**	**85.89 321**	*i*P	**P**	**16 47 00.7**	**+1.0**
BRG			Amp		16 47 01.7	
	comp=Z,34nm,1.1s					
BRG	**Berggiesshubel**	**85.89 321**	P	P	16 47 10.2	+10
BRG			Amp		16 47 11.2	
	comp=Z,14nm,1.2s					
BRG			pP	pP	16 47 21.9	+0.2
BRG			Amp		16 47 22.9	
	comp=Z,48nm,1.1s					
BRG			sP	sP	16 47 29.9	-0.7
BRG			Amp		16 47 31.2	
	comp=Z,29nm,1.2s					
BRG			PP	**PP**	**16 50 18.8**	**-1.6**
BRG			Amp		16 50 21.1	
	comp=Z,18nm,1.6s					
BRG	**Berggiesshubel**	**85.89 321**	P	**P**	**16 47 00.3**	**+0.5**
BRG			pmax	pmax		
	comp=Z,43nm,1.2s					
PRED	**Cave del Predi**	**85.91 316**	IAmb	IAmb	16 47 22.6	
	comp=Z,92nm,1.0s					
BIOA	**Bad Ischl, Aus**	**85.92 318**	*i*P	**P**	**16 47 00.2**	**+0.2**
	comp=Z,16nm,0.9s					
BIOA			*e*pP	**pP**	**16 47 20.8**	**-1.3**
	comp=Z,41nm,1.1s					
GEC2	**GERESS Array S**	**85.93 319**	IAmb	IAmb	16 47 23.1	
	comp=Z,86nm,1.1s					
GEC2	**GERESS Array S**	**85.93 319**	P	**P**	**16 47 00.8**	**+0.6**
GEC2			pmax	pmax		
	comp=Z,67nm,1.2s					
GERES	**GERESS Array B**	**85.93 319**	P	**P**	**16 47 00.0**	**-0.2**
GERES	**GERESS Array B**	**85.93 319**	P	**P**	**16 47 00.9**	**+0.7**
	comp=Z,31nm,1.1s,baz=100,slow=5.5,SNR=23					
GERES			pP	**pP**	**16 47 22.1**	**-0.1**
	comp=Z,44nm,1.0s,baz=104,slow=5.6,SNR=13					
	comp=Z,31nm,1.1s					
KHC	**Kasperske Hory**	**86.03 319**	*e*P	**P**	**16 47 00.9**	**+0.3**
KHC			*e*pP	**pP**	**16 47 22.5**	**-0.1**
KHC	**Kasperske Hory**	**86.03 319**	*de*P	**P**	**16 47 00.8**	**+0.2**
KHC			pmax	pmax		
	comp=Z,32nm,0.9s					
KHC	**Kasperske Hory**	**86.03 319**	P	**P**	**16 47 00.6**	**0.0**
	comp=Z,21nm,1.0s					
RUE	**Ruedersdorf**	**86.08 322**	*e*P	**P**	**16 47 01.0**	**+0.4**
NRCA	**Norcia**	**86.08 313**	IAmb	IAmb	16 47 23.6	
	comp=Z,94nm,1.2s					
KBA	**Koelnbreinsper**	**86.09 317**	*i*P	**P**	**16 47 00.7**	**-0.3**
	comp=Z,17nm,1.0s					
KBA			*i*pP	**pP**	**16 47 21.9**	**-1.2**
	comp=Z,35nm,1.1s					
KBA	**Koelnbreinsper**	**86.09 317**	P	**P**	**16 47 00.4**	**-0.7**
KBA			pmax	pmax		
	comp=Z,39nm,1.1s					
DEL	**Delary**	**86.27 326**	*i*P	**P**	**16 47 00.4**	**-1.0**
LUNU	**Lund**	**86.45 326**	*i*P	**P**	**16 47 01.7**	**-0.7**
FAUS	**Fauske**	**86.47 337**	*e*P	**P**	**16 47 02.4**	**+0.1**
FAUS			IAmb	IAmb	16 47 02.7	
	comp=Z,32nm,1.0s					
WET	**Wettzell**	**86.49 319**	P	**P**	**16 47 03.4**	**+0.6**
WET			pmax	pmax		
	comp=Z,55nm,1.1s					
CLL	**Collm**	**86.50 321**	*i*P	**P**	**16 47 02.8**	**0.0**
CLL			pmax	pmax		
	comp=Z,28nm,1.1s					
CLL	**Collm**	**86.50 321**	P	**P**	**16 47 02.8**	**0.0**
	comp=Z,33nm,1.2s					
CLL	**Collm**	**86.50 321**	*i*P	**P**	**16 47 02.8**	**0.0**
	comp=Z,28nm,1.1s					
CLL			*i*pP	**pP**	**16 47 23.8**	**-1.0**
	comp=Z,44nm,1.2s					
SBA	**Scott Base**	**86.54 169**	P	**P**	**16 47 04.2**	**+1.9**
SBA			IAmb	IAmb	16 47 05.8	
	comp=Z,58nm,1.1s					
SBA	**Scott Base**	**86.54 169**	P	**P**	**16 47 04.3**	**+1.9**
SBA			pmax	pmax		
	comp=Z,58nm,1.1s					
STEI	**Steigen**	**86.54 338**	*e*P	**P**	**16 47 02.5**	**-0.1**
STEI			IAmb	IAmb	16 47 03.4	
	comp=Z,56nm,0.9s					
LESA	**Schwarzleotal**	**86.56 317**	*i*P	**P**	**16 47 03.1**	**-0.2**
	comp=Z,30nm,1.1s					
LESA			*e*pP	**pP**	**16 47 24.2**	**-1.1**
	comp=Z,36nm,1.1s,SNR=5.9					
ELIB	**Princess Elisa**	**86.58 198**	*d*P	**P**	**16 47 05.6**	**+2.7**
	comp=Z,12nm,1.1s					
ELIB			*d*pP	**pP**	**16 47 25.6**	**+0.6**
HFS	**Hagfors**	**86.59 330**	P	**P**	**16 47 03.4**	**+0.4**
	comp=Z,21nm,0.5s,baz=129,slow=4.2,SNR=76					
HFS			pP	**pP**	**16 47 24.7**	**-0.3**
	comp=Z,59nm,1.0s,baz=116,slow=5.1,SNR=8.4					
	comp=Z,21nm,0.5s					
ABTA	**Abfaltersbach**	**86.65 317**	*i*P	**P**	**16 47 03.6**	**-0.1**
	comp=Z,20nm,1.1s					
ABTA			*i*pP	**pP**	**16 47 24.4**	**-1.3**
	comp=Z,34nm,1.1s					
MOR8	**Moi Rana**	**86.69 336**	*e*P	**P**	**16 47 02.8**	**-0.6**
MOR8			IAmb	IAmb	16 47 04.3	
	comp=Z,24nm,0.9s					
BJUU	**Bjuv**	**86.72 326**	*i*P	**P**	**16 47 03.2**	**-0.5**
NKC	**Novy Kostel**	**86.81 320**	*e*pP	pP	16 47 26.5	+0.1
NKC	**Novy Kostel**	**86.81 320**	P	**P**	**16 47 05.6**	**+1.2**
NKC			pmax	pmax		
	comp=Z,30nm,1.2s					
FABU	**Falkenberg**	**86.93 327**	*i*P	**P**	**16 47 03.8**	**-0.9**
BORU	**Boraas**	**86.93 327**	*i*P	**P**	**16 47 04.1**	**-0.6**
LOF	**Lofoten**	**87.19 338**	*e*P	**P**	**16 47 05.8**	**0.0**
LOF			IAmb	IAmb	16 47 09.2	
	comp=Z,102nm,1.7s					
LEIR	**Leirfjorden**	**87.23 336**	*e*P	**P**	**16 47 06.1**	**+0.2**
LEIR			IAmb	IAmb	16 47 06.6	
	comp=Z,30nm,0.9s					
KONS	**Konsvik**	**87.25 336**	*e*P	**P**	**16 47 06.5**	**+0.5**
KONS			IAmb	IAmb	16 47 30.1	
	comp=Z,123nm,1.6s					
WTTA	**Wattenberg**	**87.26 317**	*i*P	**P**	**16 47 06.8**	**0.0**
	comp=Z,35nm,1.0s					
WTTA			*e*pP	**pP**	**16 47 27.9**	**-0.9**
	comp=Z,47nm,0.9s,SNR=6.6					
WTTA	**Wattenberg**	**87.26 317**	P	**P**	**16 47 06.5**	**-0.3**
WTTA			pmax	pmax		
	comp=Z,52nm,0.9s					
WATA	**Walderalm**	**87.30 317**	*i*P	**P**	**16 47 06.7**	**-0.3**
	comp=Z,37nm,1.3s,SNR=6.5					
WATA			*i*pP	**pP**	**16 47 27.5**	**-1.5**
	comp=Z,44nm,1.1s,SNR=5.4					
SPA0	**Spitsbergen Ar**	**87.35 348**	*e*P	**P**	**16 47 06.2**	**-0.3**
SPA0			IAmb	IAmb	16 47 09.8	
	comp=Z,78nm,1.1s					
SPITS	**Spitsbergen Ar**	**87.35 348**	P	**P**	**16 47 06.1**	**-0.3**
	comp=Z,49nm,0.9s,baz=104,slow=6.1,SNR=7.6					
MOX	**Moxa**	**87.36 320**	P	**P**	**16 47 07.7**	**+0.7**
MOX			pmax	pmax		
	comp=Z,32nm,1.3s					
ONAU	**Onsala**	**87.38 327**	*i*P	**P**	**16 47 05.8**	**-1.1**
SQTA	**Sankt Quirin**	**87.55 317**	*i*P	**P**	**16 47 08.2**	**+0.1**
	comp=Z,31nm,1.1s					
SQTA			*i*pP	**pP**	**16 47 29.0**	**-1.2**
	comp=Z,26nm,0.9s,SNR=4.8					
TJOU	**Tjoern**	**87.56 328**	*i*P	**P**	**16 47 07.2**	**-0.5**
GRA1	**Grafenberg Arr**	**87.59 320**	IAmb	IAmb	16 47 31.5	
	comp=Z,63nm,1.0s					
GRF	**Grafenberg Arr**	**87.59 320**	P	**P**	**16 47 09.1**	**+1.0**
GRF			pmax	pmax		
	comp=Z,73nm,1.1s					
GRFO	**Grafenberg**	**87.59 320**	P	**P**	**16 47 08.4**	**+0.3**
GRFO			IAmb	IAmb	16 47 31.4	
	comp=Z,63nm,1.0s					
GRFO	**Grafenberg**	**87.59 320**	P	**P**	**16 47 08.4**	**+0.3**
GRFO			pmax	pmax		
	comp=Z,63nm,1.0s					
NC405	**NORSAR Array S**	**87.61 331**	IAmb	IAmb	16 47 09.2	
	comp=Z,42nm,1.1s					
NSS	**Namsos**	**87.63 334**	*e*P	**P**	**16 47 08.2**	**+0.3**
NSS			IAmb	IAmb	16 47 09.2	
	comp=Z,32nm,1.2s					
NC602	**NORSAR Array S**	**87.69 331**	*e*P	**P**	**16 47 08.6**	**+0.3**
NC602			IAmb	IAmb	16 47 30.3	
	comp=Z,64nm,1.1s					
NORES	**NORESS Array B**	**87.69 331**	P	**P**	**16 47 08.6**	**+0.3**
NORES			pmax	pmax		
	comp=Z,7.0nm,1.0s					
NC303	**NORSAR Array S**	**87.78 331**	IAmb	IAmb	16 47 31.4	
	comp=Z,42nm,1.1s					
STRU	**Stroemstad**	**87.82 329**	*i*P	**P**	**16 47 08.4**	**-0.5**
NB2	**NORSAR Subarra**	**87.86 331**	P	**P**	**16 47 09.5**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=95,slow=4.4					
NB2	**NORSAR Subarra**	**87.86 331**	P	**P**	**16 47 09.5**	**+0.3**
	baz=95,slow=4.4					
NB2	**NORSAR Subarra**	**87.86 331**	P	**P**	**16 47 07.6**	**-1.6**
NOA	**NORSAR Array B**	**87.86 331**	P	**P**	**16 47 09.4**	**+0.3**
	comp=Z,15nm,1.0s,baz=94,slow=4.9,SNR=23					
NOA			pP	**pP**	**16 47 29.8**	**-1.5**
	comp=Z,16nm,0.9s,baz=93,slow=4.9,SNR=11					
	comp=Z,15nm,1.0s					
RETA	**Reutte**	**87.86 317**	*i*P	**P**	**16 47 09.9**	**+0.4**
	comp=Z,41nm,1.2s,SNR=5.2					
RETA			*i*pP	**pP**	**16 47 30.5**	**-1.1**
	comp=Z,50nm,1.0s					
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NVL pmax pmax
comp=Z,27nm,1.0s
NVL MLR MLR
comp=Z,2μm,17.0s
BUG Bochum--Univer 90.09 321 P **P 16 47 21.2 +1.4**
BUG pmax pmax
comp=Z,120nm,1.1s
BLS5 Blasjo 90.24 329 *eP* **P 16 47 20.0 -0.4**
ECH Echery 90.28 318 IAmb IAmb 16 47 44.2
comp=Z,37nm,0.9s
ECH Echery 90.28 318 P **P 16 47 21.7 +0.9**
ECH pmax pmax
comp=Z,258nm,1.0s
ISO Isola 90.49 314 P **P 16 47 23.0 +1.0**
BNI Bardonecchia 90.73 315 IAmb IAmb 16 47 49.3
comp=Z,36nm,0.9s
BNI Bardonecchia 90.73 315 P **P 16 47 23.5 +0.4**
BNI pmax pmax
comp=Z,43nm,1.0s
BTNL Ternell 90.85 320 *d*P **P 16 47 24.7 +1.3**
BTNL *d*pP **pP 16 47 44.6 -1.0**
WLF Walferdange 90.88 320 *d*P **P 16 47 24.1 +0.5**
comp=Z,48nm,1.1s
WLF Walferdange 90.88 320 P **P 16 47 24.8 +1.3**
WLF pmax pmax
comp=Z,85nm,1.2s
MEM Membach 90.92 320 *d*P **P 16 47 23.2 -0.5**
comp=Z,32nm,1.0s
MEM *d*pP **pP 16 47 44.5 -1.4**
QSPA South Pole Qui 91.07 180 P **P 16 47 25.2 +1.0**
comp=Z,16nm,1.0s,baz=310,slow=4.9,SNR=19
comp=Z,16nm,1.0s
BCLA Clavier 91.39 320 *d*P **P 16 47 26.9 +1.0**
BCLA *d*pP **pP 16 47 47.5 -0.5**
RCHB Rochefort 91.45 320 *d*P **P 16 47 26.6 +0.4**
comp=Z,17nm,1.1s
RCHB *d*pP **pP 16 47 47.9 -0.4**
BGES Gesves 91.53 320 *d*P **P 16 47 27.4 +0.9**
comp=Z,20nm,1.1s
BGES *d*pP **pP 16 47 47.6 -1.1**
BMRD Maredsous 91.73 320 *d*P **P 16 47 28.2 +0.8**
comp=Z,20nm,1.1s
BMRD *d*pP **pP 16 47 49.5 -0.1**
DOU Dourbes 91.86 320 *d*P **P 16 47 28.9 +0.8**
comp=Z,22nm,1.0s
DOU *d*pP **pP 16 47 50.2 -0.1**
DOU *d*PP **PP 16 51 08.5 +0.5**
SSB Saint Sauveur 92.22 315 P **P 16 47 30.9 +1.0**
SSB pmax pmax
comp=Z,52nm,1.0s
NOR Nord 92.52 352 P **P 16 47 30.9 +0.4**
NOR pmax pmax
comp=Z,8.0nm,1.0s
NOR Nord 92.52 352 *i* P **P 16 47 29.4 -1.1**
NOR IAmb IAmb 16 47 31.2
comp=Z,16nm,1.2s
LOR Lormes 92.55 317 P **P 16 47 32.2 +0.8**
LOR pmax pmax
comp=Z,87nm,1.0s
TAM Tamanrasset 92.61 293 IAmb IAmb 16 48 54.5
comp=Z,39nm,1.3s
TAM Tamanrasset 92.61 293 P **P 16 47 34.4 +2.1**
TAM pmax pmax
comp=Z,12nm,1.2s
L14K Kuka Creek 93.10 29 IAmb IAmb 16 47 56.8
comp=Z,29nm,1.0s
K15K Wolf Creek Mou 93.50 27 IAmb IAmb 16 47 37.4
comp=Z,34nm,1.2s
D19K Kuna River 93.73 21 IAmb IAmb 16 47 38.0
comp=Z,23nm,0.9s
H17K Granite Mounta 93.76 25 IAmb IAmb 16 47 59.4
comp=Z,17nm,0.8s
E19K Redstone River 94.29 22 IAmb IAmb 16 47 40.5
comp=Z,18nm,0.9s
J17K VABM Dome 94.41 26 IAmb IAmb 16 47 41.5
comp=Z,20nm,0.8s
L16K Owhat River 94.56 28 IAmb IAmb 16 47 42.1
comp=Z,28nm,1.1s
B21K Ikpikpuk River 94.68 20 IAmb IAmb 16 48 03.5
comp=Z,29nm,0.8s
SNAA Sanae 94.73 198 LR LR 17 24 29.5
comp=Z,5μm,21.0s,baz=142,slow=32
DAG Danmarks Havn 95.00 348 P **P 16 47 42.0 0.0**
DAG pmax pmax
comp=Z,14nm,1.2s
DAG Danmarks Havn 95.00 348 *i* P **P 16 47 40.0 -2.0**
DAG *i* P **P 16 47 40.0 -2.0**
DAG IAmb IAmb 16 47 42.6
comp=Z,15nm,1.1s
J18K Innoko River 95.43 26 IAmb IAmb 16 47 45.8
comp=Z,20nm,0.9s
D22K Ayikyak River 95.55 20 IAmb IAmb 16 48 15.5
comp=Z,25nm,1.3s
L18K Granite Mounta 95.73 27 IAmb IAmb 16 48 09.2
comp=Z,17nm,1.0s
TTA Tatalina 95.87 26 IAmb IAmb 16 47 48.0
comp=Z,18nm,1.1s
TTA Tatalina 95.87 26 P **P 16 47 47.1 +0.8**
EKA Eskdalemuir Ar 95.88 326 P **P 16 47 46.3 -0.1**
comp=Z,5.6nm,0.8s,baz=98,slow=6.0,SNR=5.6
EKA pP **pP 16 48 08.5 -0.1**
comp=Z,8.6nm,1.0s,baz=98,slow=6.0,SNR=3.6
comp=Z,5.6nm,0.8s
N17K Nushagak Hills 95.89 29 IAmb IAmb 16 47 48.4
comp=Z,18nm,0.9s
E22K Anaktuvuk Pass 96.09 21 IAmb IAmb 16 48 17.8
comp=Z,27nm,1.6s
J20K Nowinta River 96.35 25 IAmb IAmb 16 48 11.5
comp=Z,18nm,0.8s
DBG Daneborg 96.50 346 *i* P **P 16 47 49.2 +0.4**
DBG IAmb IAmb 16 47 52.0
comp=Z,5.8nm,0.9s
L19K White Mountain 96.58 27 IAmb IAmb 16 48 13.0
comp=Z,20nm,1.0s
TORD Torodi Ar. Bea 96.68 283 P **P 16 47 51.0 +0.1**
comp=Z,0.9nm,0.3s,baz=66,slow=3.3,SNR=0.5
comp=Z,0.9nm,0.3s
I21K Tanana 96.95 24 IAmb IAmb 16 48 16.1
comp=Z,26nm,1.1s
CAST Castle Rocks 97.45 25 IAmb IAmb 16 47 56.1
comp=Z,21nm,1.0s
BPAW Bear Paw Mtn. 97.70 25 IAmb IAmb 16 47 55.9
comp=Z,29nm,0.9s
H23K Yukon River 97.70 23 IAmb IAmb 16 48 25.6
comp=Z,20nm,1.3s
I23K Minto, Yukon-K 98.01 23 IAmb IAmb 16 51 45.3
comp=Z,61nm,2.0s
SKT Skwentna 98.14 27 IAmb IAmb 16 47 57.4
comp=Z,21nm,1.2s
TRF Thorofare Moun 98.21 25 IAmb IAmb 16 48 30.6
comp=Z,22nm,1.1s
H24K Noodor Dome 98.33 22 IAmb IAmb 16 48 45.1
comp=Z,25nm,1.5s
SUA Susitna One 98.65 27 IAmb IAmb 16 48 21.7
comp=Z,23nm,1.0s
MCK McKinley 98.68 25 IAmb IAmb 16 48 00.2
comp=Z,24nm,1.0s
EUNU Eureka 98.85 1 IAmb IAmb 16 48 01.3
comp=Z,44nm,1.9s
ESDC Sonseca Array 99.11 310 P **Pdif 16 48 01.7 +0.3**
comp=Z,2.0nm,1.1s,baz=49,slow=4.3,SNR=4.1
ESDC pP **pP 16 48 23.7 +0.1**
comp=Z,4.7nm,1.1s,baz=53,slow=4.8,SNR=4.9
comp=Z,2.0nm,1.1s
NEEM North Greenlan 99.79 354 *i* P **Pdif 16 48 06.5 +2.5**
NEEM IAmb IAmb 16 48 09.5
comp=Z,12nm,1.1s
MDT Midelt 100.66 304 PP **PP 16 52 15.9 -0.7**
comp=Z,8.0nm,1.1s,baz=87,slow=4.0,SNR=5.4
YKA Yellowknife Ar 111.72 16 PKiKP **PKiKP 16 52 53.4 -0.6**
comp=Z,0.6nm,0.8s,baz=301,slow=2.7,SNR=5.4
YKA PP **PP 16 53 38.3 +1.8**
comp=Z,11nm,1.1s,baz=322,slow=5.9,SNR=7.5
YKA PKKPbc **PKKPbc 17 03 47.3 -2.8**
comp=Z,0.6nm,0.8s,baz=147,slow=2.9,SNR=7.0
SCHQ Schefferville 122.99 350 PKP **PKPdf 16 53 15.6 -0.3**
comp=Z,5.0nm,0.8s,baz=33,slow=3.9,SNR=11
ULM Lac du Bonnet 127.29 12 PKP **PKPdf 16 53 24.0 -0.1**
comp=Z,9.1nm,0.7s,baz=335,slow=2.4,SNR=19
ULM pPKP **pPKPdf 16 53 46.6 -0.7**
comp=Z,7.5nm,0.8s,baz=331,slow=4.0,SNR=4.2
NVAR Mina Array Bea 127.88 37 PKP **PKiKP 16 53 27.0 +0.5**
comp=Z,5.3nm,0.9s,baz=260,slow=1.9,SNR=17
NVAR pPKP **pPKPdf 16 53 49.8 +0.8**
comp=Z,5.6nm,0.8s,baz=247,slow=2.3,SNR=9.4
NVAR PP **PP 16 55 30.6 +2.2**
comp=Z,3.1nm,0.9s,baz=304,slow=5.6,SNR=4.2
PDAR Pinedale Array 129.39 27 PKP **PKPdf 16 53 28.9 +0.1**
comp=Z,2.4nm,0.8s,baz=180,slow=0.1,SNR=14
PLCA Paso Flores 139.42 192 PKP **PKPdf 16 53 45.0 -2.3**
comp=Z,4.0nm,0.9s,baz=151,slow=6.5,SNR=5.7
PLCA SKPbc **SKPbc 16 57 15.1 -0.6**
comp=Z,10nm,1.1s,baz=162,slow=8.1,SNR=5.4
TXAR Lajitas Array 142.85 34 PKP **PKPdf 16 53 51.1 -2.8**
comp=Z,6.6nm,0.9s,baz=24,slow=0.7,SNR=15
TXAR pPKP **pPKPdf 16 54 16.6 -0.4**
comp=Z,5.1nm,0.8s,baz=203,slow=1.1,SNR=5.1
TXAR SKPbc **SKPbc 16 57 24.2 -0.6**
comp=Z,12nm,0.8s,baz=240,slow=1.6,SNR=16
TXAR PKKP **PKKPdf 17 03 09.8 +1.4**
comp=Z,0.2nm,0.4s,baz=159,slow=1.3,SNR=4.3
BDFB Brasilia 144.25 244 PKPdif PKPbc 16 53 54.9 -0.1
BDFB Brasilia 144.25 244 PKP PKPbc 16 53 55.0 0.0
comp=Z,17nm,0.8s,baz=110,slow=5.6,SNR=10
BDFB pPKP pPKPdif 16 54 19.9 +0.2
comp=Z,21nm,0.9s,baz=205,slow=4.1,SNR=3.8
FPAL Fort Paine 144.28 6 PKPdif **PKPab 16 53 53.7 -0.4**
DRIO Del Rio 144.39 30 PKPdif **PKPab 16 53 54.7 +0.1**
BIRD Birdtown, Kers 144.41 359 PKPbc 16 53 55.3 +0.5
ITRB Iturama 144.64 237 *e*P PKPbc 16 53 56.5 +0.4
Z47A Carrollton 145.24 10 **PKPbc 16 53 57.0 -0.5**
LRAL Lakeview Retre 145.58 9 PKPdif **PKPdf 16 53 58.0 -0.4**
BO01 Tunca 145.59 195 PKPdif **PKPdf 16 53 58.3 -0.1**
CPUP Villa Florida 146.02 220 PKPbc **PKPbc 16 54 00.4 +0.2**
comp=Z,18nm,0.9s,baz=94,slow=3.5,SNR=17
CPUP pPKP **pPKPdf 16 54 22.3 -0.1**
comp=Z,38nm,0.9s,baz=124,slow=4.0,SNR=8.0
CPUP Villa Florida 146.02 220 *e*P **PKPdf 16 54 00.3 +1.0**
SJPY San Joaquin 146.09 224 *e*P **PKPbc 16 54 00.5 0.0**
RPRD Ribas do Rio P 146.97 233 *e*P **PKPdf 16 54 01.9 +0.8**
CFA Coronel Fontan 147.31 201 PKPbc **PKPbc 16 54 03.0 -0.8**
comp=Z,22nm,0.8s,baz=158,slow=2.3,SNR=56
CFA pPKPbc **pPKPbc 16 54 26.6 -0.1**
comp=Z,23nm,1.0s,baz=194,slow=1.9,SNR=4.1
ARAG Araguaiana, MT 147.62 242 *e*P **PKPdf 16 54 02.8 +0.5**
PRPB Parauapebas 148.31 260 *e*P **PKPdf 16 54 04.0 +0.5**
SNDB Serra Nova Dou 148.46 249 *e*P **PKPdf 16 54 04.8 +1.2**
MURT Porto Murtinho 149.28 227 *e*P **PKPdf 16 54 05.9 +1.1**
BDQN Bodoquena, MS 149.36 230 *e*P **PKPdf 16 54 05.3 +0.3**
SALV Santo Antonio 150.90 238 *e*P **PKPdf 16 54 08.2 +0.7**
CLDB Colider 152.99 248 *e*P **PKPdf 16 54 11.9 +1.3**
SIV San Ignacio 155.28 232 PKP **PKPdf 16 54 14.7 +0.9**
comp=Z,1.4nm,0.8s,baz=305,slow=14,SNR=1.7
SIV PKPab **PKPab 16 54 39.5 +0.3**
comp=Z,5.5nm,0.9s,baz=145,slow=1.4,SNR=5.5
LPAZ La Paz 160.19 220 PKP **PKPdf 16 54 21.5 +0.8**
comp=Z,2.4nm,0.6s,baz=49,slow=6.0,SNR=4.2
LPAZ PKPab **PKPab 16 55 01.4 +0.3**
comp=Z,9.7nm,1.1s,baz=55,slow=3.3,SNR=4.3
LPAZ La Paz 160.19 220 *e*P **PKPdf 16 54 21.1 +0.5**

*SJA **11** 16:51:53.1±0.8,24°.21S×66°.99W,h197km±5km,ML3.3, MW3.5*
*GUC **11** 16:51:54.3±0.6,24°.14S×67°.07W,h172km±6km,ML3.7*
ISC 11 16:51:52.6±1.8,**24°.23S**±0°.04×**67°.00W**±0°.05,
h203km±15km,**n29**,σ1s**56**/42,**2C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.60**	**89**	↓*i*P	**Pn**	**16 52 21.1**	**0.0**
SALTA		**0.60**	**89**	*e*P	**Pn**	**16 52 21.1**	**0.0**
SALTA				*e*S	**S**	16 52 41.7	-1.4
SLA	**San Lorenzo**	**1.45**	**110**	*e*P	**Pn**	**16 52 27.0**	**+0.7**
SLA				*e*S	**S**	**16 52 51.7**	**-0.4**
SLA	**San Lorenzo**	**1.45**	**110**	*e*P	**Pn**	**16 52 27.2**	**+0.9**
SLA				*e*S	**S**	**16 52 52.1**	**-0.1**
AF01	**San Pedro de A**	**1.67**	**319**	*e*S	S	16 53 05.7	+10
AF01				IAML		16 53 12.2	
comp=Z,57nm,0.2s							
AZAP	**Zapla**	**1.77**	**90**	*e*P	**Pn**	**16 52 29.6**	**+0.2**
AZAP				*e*S	**S**	**16 52 57.0**	**-0.3**
FSA	**Cafayete**	**2.09**	**154**	*e*P	**Pn**	**16 52 33.3**	**+0.8**
ASTB	**Santa Barbara**	**2.34**	**84**	*e*P	Pn	16 52 43.9	+8.7
YJA	**Yavi**	**2.46**	**34**	*e*P	**Pn**	**16 52 37.6**	**+0.8**
YJA				*i* S	**S**	16 53 10.6	+0.1
YJA	**Yavi**	**2.46**	**34**	*e*P	**Pn**	**16 52 37.9**	**+1.1**
YJA				*e*S	**S**	16 53 10.9	+0.3
GO02	**Mina Guanaco**	**2.53**	**248**	↑*e*P	**Pn**	**16 52 38.3**	**+1.0**
GO02				*e*S	**S**	**16 53 12.2**	**+0.6**
GO02				IAML		16 53 13.8	
comp=E,127nm,0.1s							
PB06	**IPOC Station P**	**2.81**	**302**	*e*P	**Pn**	**16 52 41.0**	**+0.6**
PB06				*e*S	**S**	**16 53 15.7**	**-1.3**
PB06				IAML		16 53 17.9	
comp=E,246nm,0.3s							
PB06	**IPOC Station P**	**2.81**	**302**	*e*S	**S**	**16 53 16.5**	**-0.5**
PB06				IAML		16 53 21.4	
comp=Z,124nm,0.3s							
PB14	**IPOC Station P**	**3.13**	**262**	*e*P	**Pn**	**16 52 45.7**	**+1.5**
PB14	**IPOC Station P**	**3.13**	**262**	*e*P	**Pn**	**16 52 45.2**	**+1.0**
PB14				*e*S	**S**	**16 53 22.5**	**-1.4**
PB14				IAML		16 53 24.9	
comp=Z,31nm,0.3s							
PB09	**IPOC Station P**	**3.18**	**319**	*e*P	**Pn**	**16 52 45.8**	**+0.9**
PB09				*e*S	**S**	**16 53 24.3**	**-0.7**
PB09				IAML		16 53 26.4	
comp=E,58nm,0.3s							
PB09	**IPOC Station P**	**3.18**	**319**	*e*P	**Pn**	**16 52 46.0**	**+1.2**
PB09				*e*S	**S**	**16 53 26.1**	**+1.1**
PB09				IAML		16 53 27.0	
comp=Z,54nm,0.2s							
AC02	**Maricunga**	**3.23**	**216**	*i* P	**Pn**	**16 52 48.5**	**+2.9**
AC02	**Maricunga**	**3.23**	**216**	*e*P	**Pn**	**16 52 48.7**	**+3.1**
AC02				*e*S	**S**	**16 53 29.5**	**+3.1**
PB10	**IPOC Station P**	**3.33**	**282**	*e*P	**Pn**	**16 52 47.1**	**+0.7**
PB10				IAML		16 53 29.3	
comp=E,72nm,0.2s							
PB10	**IPOC Station P**	**3.33**	**282**	*e*P	**Pn**	**16 52 47.0**	**+0.7**
PB10				*e*S	**S**	**16 53 26.8**	**-1.0**
PB10				IAML		16 53 27.1	
comp=Z,42nm,0.4s							
PB03	**IPOC Station P**	**3.34**	**310**	*e*P	**Pn**	**16 52 47.0**	**+0.4**
PB03				IAML		16 53 27.8	
comp=E,207nm,0.2s							
PB03	**IPOC Station P**	**3.34**	**310**	*e*S	**S**	**16 53 26.5**	**-1.7**
PB03				IAML		16 53 29.0	
comp=Z,158nm,0.3s							
AC01	**Pan de Azucar**	**3.78**	**239**	*e*P	**Pn**	**16 52 51.7**	**0.0**
AC01	**Pan de Azucar**	**3.78**	**239**	*e*P	**Pn**	**16 52 51.8**	**0.0**
AC01				*e*S	**S**	**16 53 35.0**	**-2.7**
AC01				IAML		16 53 37.2	
comp=Z,23nm,0.9s							
PB01	**IPOC Station P**	**3.92**	**324**	*e*P	**Pn**	**16 52 53.3**	**-0.4**
VCA	**Vinchina**	**4.61**	**193**	*e*P	**Pn**	**16 53 00.2**	**-2.1**
VCA				*e*S	S	16 54 07.3	+10
VCA				IAML		16 54 12.9	
comp=Z,38nm,0.9s							
VCA				IAML		16 54 13.2	
comp=Z,21nm,0.7s							
PB11	**IPOC Station P**	**5.09**	**331**	*i* P	**Pn**	**16 53 07.3**	**-1.1**
ACLC	**CERRO LA CRUZ**	**5.17**	**180**	*e*P	**Pn**	**16 53 10.7**	**+1.2**
ACLC				*e*S	**S**	**16 54 04.6**	**-5.2**
ACLC				IAML		16 54 09.8	
comp=Z,18nm,1.1s							

*NEIC **11** 16:52:36.2±1.8,44°.08N±0°.07×104°.8W±0°.1,h0km±2km, ML3.5/12, Error ellipse: s-maj=15.1km s-min=10.4km az=118.0*
*IDC **11** 16:52:42.1±3.0,43°.32N×105°.40W,h0km,mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=65.7km s-min=11.2km az=154.0*
ISC 11 16:52:34.7±1.8,**43°.77N**±0°.10×**105°.39W**±0°.08,**h0**km,**n11**,
σ0s**79**/9,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PD31	**Pinedale Array**	**3.20**	**253**	Pn	**Pg**	**16 53 37.0**	**+0.9**
PDAR	**Pinedale Array**	**3.20**	**253**	Pn	**Pg**	**16 53 37.4**	**+1.3**
PDAR	**Pinedale Array**	**3.20**	**253**	Pn	**Pg**	**16 53 35.5**	**-0.6**
1.1nm,0.3s,baz=82,slow=16,SNR=6.5							
PDAR				Lg	Lg	16 54 18.7	
3.7nm,0.3s,baz=72,slow=33,SNR=3.0							
1.2nm,0.3s							
BRIGG	**Briggsdale**	**3.28**	**166**	Pn	**Pb**	**16 53 33.6**	**-0.2**
BRIGG				IAML		16 54 23.1	
comp=E,82nm,0.9s							

YNE	**Yellowstone No**	**3.54**	**292**		**Pg**	**16 53 42.6**	**+0.1**
YNE				IAML		16 54 49.5	
comp=N,37nm,0.9s							
OGNE	**Ogallala**	**3.76**	**137**	Pn	**Pb**	**16 53 41.7**	**-0.2**
OGNE				IAML		16 54 43.4	
comp=N,88nm,1.6s							
OGNE				IAML		16 54 46.3	
comp=N,102nm,2.1s							
YHH	**Holmes Hill**	**4.05**	**287**		**Pb**	**16 53 47.0**	**-0.1**
FXWY	**Fox Creek**	**4.09**	**270**	Pn	**Pb**	**16 53 47.1**	**-0.6**
O20A	**White River Ci**	**4.20**	**211**	Pn	**Pb**	**16 53 49.0**	**-0.6**
I10CA	**LAC DU BONNET**	**9.07**	**42**	I	I	17 46 30.0	
comp=N,0.2nm,1.3s,baz=224,slow=319,SNR=4.7							
ULM	**Lac du Bonnet**	**9.18**	**42**	Pn	Pn	16 54 58.3	+10
comp=N,0.2nm,0.3s,baz=233,slow=12,SNR=1.0							
ULM				Lg	Lg	16 57 35.1	
comp=N,0.1nm,0.3s,baz=140,slow=19,SNR=1.9							
comp=N,0.7nm,0.3s							

*AZER **11** 16:53:20.4,38°.36N×44°.73E,h10km,ml2.5*
*TEH **11** 16:53:21.2,38°.36N×44°.63E,h10km±962km*
*AFAD **11** 16:53:21.2,38°.37N×44°.71E,h7km±3km,ML2.3*
ISC 11 16:53:21.8±1.2,**38°.38N**±0°.03×**44°.70E**±0°.02,**h9**km±10km,
n24,σ1s**36**/40,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.62**	**297**	P	**Pg**	**16 53 33.1**	**-0.8**
OZAP				S	**Sg**	**16 53 42.6**	**+0.5**
ISHB	**Shabestar**	**0.73**	**97**	Pg	**Pb**	**16 53 35.5**	**-1.3**
YOVA	**Hakkari_Yksek**	**0.85**	**203**	P	**Pb**	**16 53 38.2**	**-0.7**
YOVA				S	**Sb**	**16 53 49.7**	**-0.8**
YOVA				*i* AML	AML	16 53 55.0	
comp=E,86nm,0.8s							
YOVA				*i* AML	AML	16 54 00.0	
comp=N,86nm,0.5s							
IMRD	**Marand**	**0.86**	**66**	Pg	**Pb**	**16 53 38.5**	**-0.5**
IMRD				Sg	**Sn**	**16 53 51.8**	**-1.2**
MAKU	**Maku**	**0.98**	**359**	Pg	**Pg**	**16 53 39.3**	**-1.3**
NAX	**Nakhchivan**	**1.01**	**38**	P	**Pn**	**16 53 41.5**	**-0.8**
NAX				S	**Sn**	**16 53 58.4**	**+1.7**
TVAN	**Van**	**1.03**	**279**	P	**Pn**	**16 53 41.8**	**-0.8**
TVAN				S	**Sn**	**16 53 56.4**	**-0.9**
TVAN				*i* AML	AML	16 54 06.0	
comp=N,84nm,0.4s							
TVAN				*i* AML	AML	16 54 12.0	
comp=E,76nm,1.1s							
VMUR	**Van-Muradiye**	**1.07**	**305**	P	**Pg**	**16 53 41.7**	**-0.8**
VMUR				S	**Sn**	**16 53 58.0**	**-0.4**
HAKT	**HAKKARI**	**1.13**	**224**	P	**Pb**	**16 53 43.0**	**-0.7**
HAKT				S	**Sn**	**16 54 00.9**	**+1.0**
HAKT				*i* AML	AML	16 54 03.0	
comp=N,60nm,0.7s							
HAKT				*i* AML	AML	16 54 15.0	
comp=E,64nm,0.9s							
HAKT	**HAKKARI**	**1.13**	**224**	P	**Pn**	**16 53 43.2**	**-0.9**
HAKT				S	**Sn**	**16 54 02.7**	**+2.8**
ITBZ	**Tabriz**	**1.15**	**97**	Pg	**Pn**	**16 53 43.7**	**-0.6**
ORD	**Ordubad**	**1.15**	**61**	P	**Pn**	**16 53 44.0**	**-0.2**
ORD				S	**Sn**	**16 54 01.6**	**+1.4**
SBZ	**Shahbuz**	**1.22**	**33**	P	**Pg**	**16 53 45.0**	**-0.2**
SBZ				S	**Sn**	**16 54 05.4**	**+3.5**
IAZR	**Azarshahr**	**1.23**	**124**	Pg	**Pg**	**16 53 45.7**	**+0.4**
GEVA	**Gevas**	**1.29**	**268**	P	**Pb**	**16 53 45.7**	**-0.7**
GEVA				S	**Sn**	**16 54 04.3**	**+0.5**
HYR	**Heyderabad**	**1.35**	**5**	P	**Pg**	**16 53 49.0**	**+1.3**
HYR				S	**Sg**	**16 54 07.7**	**+2.6**
PERV	**Siirt/Pervari-**	**1.75**	**257**	P	**Pg**	**16 53 56.1**	**+0.7**
PERV				S	**Sg**	**16 54 20.6**	**+2.4**
PERV				*i* AML	AML	16 54 30.0	
comp=E,51nm,0.6s							
GNI	**Garni**	**1.77**	**1**	Pg	**Pg**	**16 53 55.2**	**-0.6**
IHRS	**Heris**	**1.84**	**91**	Pn	**Pg**	**16 53 56.5**	**-0.6**
QRD	**Qoradiz**	**2.31**	**61**	S	**Sb**	**16 54 32.9**	**+0.4**
GDB	**GEDABAY**	**2.48**	**19**	P	**Pb**	**16 54 05.2**	**-1.5**
GDB				S	**Sb**	**16 54 37.3**	**-0.1**
GANJ	**Ganja**	**2.59**	**28**	S	**Sb**	**16 54 41.6**	**+1.1**
YRD	**Yardimli**	**2.82**	**78**	P	**Pb**	**16 54 09.9**	**-2.7**
YRD				S	**Sb**	**16 54 46.9**	**-0.4**
LRK	**Lerik**	**2.87**	**84**	P	**Pn**	**16 54 08.6**	**+0.8**
LRK				S	**Sb**	**16 54 47.2**	**-1.3**

*GII **11** 17:13:26.5±0.0,33°.231N±0°.001×35°.706E±0°.001,h0km, Mws1.8/3,confirmed*
*GRAL **11** 17:13:26.4±0.3,33°.20N×35°.72E,h6km±5km,MD2.7*
ISC 11 17:13:26.8±1.1,**33°.25N**±0°.02×**35°.73E**±0°.03,**h0**km,**n28**,
σ0s**81**/38,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI	**Neve Ativ**	**0.01**	**17**	P	**Pg**	**17 13 27.6**	**+0.5**
NATI	**Neve Ativ**	**0.01**	**17**	S	**Sg**	**17 13 28.4**	**+1.1**
GEM	**Giv'at Ha'Em**	**0.07**	**236**	P	**Pg**	**17 13 27.9**	**-0.3**
GEM	**Giv'at Ha'Em**	**0.07**	**236**	S	**Sg**	**17 13 28.9**	**-0.1**
GOSH	**HaGoshrim**	**0.10**	**252**	P	**Pg**	**17 13 28.6**	**0.0**
GOSH				S	**Sg**	**17 13 30.3**	**+0.4**
SHBL	**Chebaa**	**0.10**	**6**	*e*P	**Pg**	**17 13 29.2**	**+0.5**
SHBL				*e*S	**Sg**	**17 13 31.4**	**+1.3**
LVBS	**Lehavot Habash**	**0.13**	**213**	P	**Pg**	**17 13 29.2**	**-0.1**
LVBS				S	**Sg**	**17 13 31.1**	**+0.2**
MTLA	**Metula**	**0.13**	**283**	P	**Pg**	**17 13 29.4**	**+0.1**
MTLA				S	**Sg**	**17 13 31.4**	**+0.3**
KIRY	**Kiryat Shemona**	**0.14**	**253**	P	**Pg**	**17 13 29.5**	**-0.1**
KIRY				S	**Sg**	**17 13 31.8**	**+0.4**
MSAM	**Misgav Am**	**0.15**	**269**	P	**Pg**	**17 13 29.9**	**+0.1**
MSAM				S	**Sg**	**17 13 32.2**	**+0.4**
YFTH	**Yftach**	**0.19**	**231**	P	**Pg**	**17 13 30.8**	**+0.2**
YFTH				S	**Sg**	**17 13 34.2**	**+1.1**
KDZV	**Kedmat Zvi**	**0.22**	**188**	P	**Pg**	**17 13 31.4**	**+0.3**
KDZV				S	**Sg**	**17 13 35.4**	**+1.4**
RCY	**Rachaya**	**0.26**	**19**	*e*P	**Pg**	**17 13 32.1**	**+0.2**
RCY				*e*S	**Sg**	**17 13 36.3**	**+1.0**
KSHT	**Keshet**	**0.28**	**166**	P	**Pg**	**17 13 32.4**	**+0.3**
KSHT	**Keshet**	**0.28**	**166**	S	**Sb**	**17 13 37.4**	**-2.5**
QRWL	**Qaraoun**	**0.30**	**352**	*e*P	**Pg**	**17 13 32.8**	**+0.2**
MMA0B	**Mount Meron ar**	**0.36**	**230**	P	**Pg**	**17 13 34.1**	**+0.4**
MMA0B	**Mount Meron ar**	**0.36**	**230**	S	**Sg**	**17 13 39.6**	**+1.2**
DQRL	**Deir Qamar**	**0.47**	**344**	*e*P	**Pg**	**17 13 35.8**	**-0.2**
HNTI	**Hanita**	**0.50**	**251**	P	**Pg**	**17 13 37.4**	**+1.0**
HNTI	**Hanita**	**0.50**	**251**	S	**Sg**	**17 13 43.9**	**+1.1**
GOLA	**Golan Heights**	**0.54**	**187**	P	**Pg**	**17 13 37.9**	**+0.8**
GOLA				S	**Sb**	**17 13 47.0**	**-0.5**
BHL	**Bhannes**	**0.66**	**354**	*e*P	**Pg**	**17 13 39.1**	**-0.3**
MMLI	**Mount Malkishu**	**0.85**	**198**	P	**Pg**	**17 13 43.1**	**0.0**
MMLI	**Mount Malkishu**	**0.85**	**198**	S	**Sb**	**17 13 56.1**	**-0.3**
HMDT	**Nahal Hemdat**	**1.01**	**190**	P	**Pg**	**17 13 45.9**	**-0.3**
HMDT	**Nahal Hemdat**	**1.01**	**190**	S	**Sb**	**17 14 00.3**	**-0.7**
HWQ	**Hawqa**	**1.04**	**10**	*e*P	**Pg**	**17 13 45.3**	**-1.5**

*IDC **11** 17:14:18.5±1.2,33°.25S×177°.82W,h0km,mb4.0/3, mbtmp4.1/4,ML4.3/1, Error ellipse: s-maj=35.9km s-min=34.3km az=78.0*
*WEL **11** 17:14:22.4±0.9,33°S±6°×17°8W±1°4,h33km,mB4.8/7, ML4.9/14,MLv4.5/10,Mw(mB)4.0/7, Error ellipse: s-maj=19.6km s-min=4.0km az=110.6,confirmed*
ISC 11 17:14:22.9±1.2,**33°.38S**±0°.09×**177°.8W**±0°.2,**h34**km,**n29**,
σ1s**38**/45,**mb4.0/3**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.10**	**359**	P	**Pn**	**17 15 23.2**	**0.0**
GLKZ				S

RAGZ Rawiri 6.40 216 P **Pn 17 15 55.3 +0.5**
RAGZ S **Sn 17 17 06.5 -0.3**
RIGZ Rimuhau 6.41 213 P **Pn 17 15 54.5 -0.4**
RIGZ S **Sn 17 17 07.0 +0.1**
SNGZ Shannon Statio 6.66 215 P **Pn 17 15 58.4 0.0**
SNGZ S **Sn 17 17 13.0 -0.1**
KNZ Kokohu 6.71 212 P **Pn 17 15 58.1 -0.8**
KNZ S **Sn 17 17 13.9 -0.2**
RTZ Ruatahuna 6.71 217 P **Pn 17 15 59.7 +0.6**
MHGZ Mahia Peninsul 6.71 210 P **Pn 17 15 58.0 -1.1**
MHGZ S **Sn 17 17 15.2 +0.8**
MUGZ Murupara 6.72 219 P **Pn 17 15 59.8 +0.7**
MUGZ S **Sn 17 17 13.6 -0.8**
OUZ Omahuta 7.33 253 P Pn 17 16 13.3 +5.7
BKZ Black Stump Fm 7.38 217 P **Pn 17 16 06.7 -1.5**
BKZ S **Sn 17 17 29.8 -0.9**
TSZ Takapari Road 8.33 215 P **Pn 17 16 19.9 -1.3**
TSZ S **Sn 17 17 50.1 -4.0**
BFZ Birch Farm 8.69 211 P **Pn 17 16 23.6 -2.6**
BFZ S **Sn 17 17 58.4 -4.6**
RPZ Rata Peaks 13.49 217 Pn **Pn 17 17 31.1 -0.7**
1.4nm,0.3s,baz=232,slow=0.7,SNR=6.8
8.2nm,0.6s
ASAR Alice Springs 43.18 270 P **P 17 22 21.4 +0.7**
1.2nm,0.7s,baz=110,slow=7.5,SNR=21
1.2nm,0.7s
WRA Warramunga Arr 44.43 275 P **P 17 22 31.2 +0.4**
0.9nm,0.4s,baz=116,slow=7.7,SNR=15
0.9nm,0.4s
QSPA South Pole Qui 56.74 180 P **P 17 24 04.9 +1.8**
2.8nm,1.0s,baz=20,slow=4.9,SNR=7.2
2.8nm,1.0s
FINES FINESS Array B 147.97 338 PKPbc **PKiKP 17 34 04.2 -1.5**
2.2nm,0.6s,baz=50,slow=2.2,SNR=10
NB2 NORSAR Subarra151.71 351 PKP **PKiKP 17 34 13.7 +0.2**
comp=Z,1.9nm,0.7s,baz=16,slow=4.0
NOA NORSAR Array B 151.71 351 PKPbc **PKiKP 17 34 13.6 +0.2**
comp=Z,1.1nm,0.6s,baz=13,slow=4.0,SNR=5.9
HFS Hagfors 152.18 348 PKPbc **PKiKP 17 34 14.3 -0.1**
comp=Z,2.1nm,0.8s,baz=70,slow=1.7,SNR=2.3

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*KRSC **11** 17:21:01.3±1.1,56°.96N×163°.24E,h28km±13km,Ml4.1*
*IDC **11** 17:21:01.1±0.8,56°.95N×162°.85E,h0km,mb3.5/10,*
mbtmp3.5/12,ML4.1/1,Error ellipse: s-maj=21.5km
s-min=15.8km az=1.0
*MOS **11** 17:21:03.1±1.2,57°.01N×163°.01E,h25km,mb3.9/1,Error*
ellipse: s-maj=13.9km s-min=4.7km az=66.4
ISC 11 17:21:02.3±1.6,56°.97N±0°.06×162°.99E±0°.04,h9km±10km,
n77,σ1§53/88,mb3.6/10,2C-1D,Near east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.73**	**192**	PN	**Pg**	**17 21 16.0**	**-0.4**
KBG				S	**Sg**	**17 21 26.6**	**+0.7**
KBG	**Krutoberegovo**	**0.73**	**192**	*e*P	**Pg**	**17 21 16.1**	**-0.4**
KBG				*e*S	**Sg**	**17 21 26.6**	**+0.7**
KBTR	**Krutoberegovo**	**0.77**	**187**	PN	**Pg**	**17 21 16.8**	**-0.2**
KBTR				S	**Sg**	**17 21 27.2**	**+0.2**
KBTR	**Krutoberegovo**	**0.77**	**187**	*i* P	**Pg**	**17 21 16.9**	**-0.2**
KBTR				*e*S	**Sg**	**17 21 27.3**	**+0.2**
SMKR	**Semkarok**	**0.92**	**246**	PN	**Pb**	**17 21 20.4**	**0.0**
SMKR	**Semkarok**	**0.92**	**246**	*e*P	**Pb**	**17 21 20.5**	**0.0**
KLY	**Klyuchi**	**1.45**	**244**	PN	**Pn**	**17 21 26.6**	**-1.9**
KLY				S	**Sn**	**17 21 44.9**	**-2.7**
KLY	**Klyuchi**	**1.45**	**244**	*e*P	**Pn**	**17 21 26.7**	**-1.9**
KLY				*e*S	**Sn**	**17 21 44.9**	**-2.7**
CIRR	**Tsirk**	**1.51**	**236**	PN	**Pb**	**17 21 29.9**	**-0.5**
CIRR	**Tsirk**	**1.51**	**236**	*e*P	**Pb**	**17 21 29.9**	**-0.5**
KRSR	**Krestovskiy**	**1.54**	**242**	PN	**Pn**	**17 21 29.8**	**-0.1**
KRSR				S	**Sb**	**17 21 50.7**	**+0.2**
KRSR	**Krestovskiy**	**1.54**	**242**	*e*P	**Pn**	**17 21 29.8**	**-0.1**
KRSR				*e*S	**Sb**	**17 21 50.8**	**+0.2**
ZLN	**Zelenaya**	**1.54**	**233**	PN	**Pb**	**17 21 30.3**	**-0.7**
ZLN	**Zelenaya**	**1.54**	**233**	*e*P	**Pb**	**17 21 30.3**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.64**	**232**	PN	**Pb**	**17 21 31.8**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.64**	**232**	*e*P	**Pb**	**17 21 31.8**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.71**	**235**	PN	**Pb**	**17 21 32.9**	**-1.0**
BZWR	**Bezymyannyi-We**	**1.71**	**235**	*e*P	**Pb**	**17 21 32.9**	**-1.0**
KIRR	**Kirishev**	**1.79**	**236**	PN	**Pn**	**17 21 33.5**	**+0.1**
KIRR				S	**Sb**	**17 21 57.5**	**-0.2**
KIRR	**Kirishev**	**1.79**	**236**	*e*P	**Pn**	**17 21 33.6**	**+0.1**
KIRR				*e*S	**Sb**	**17 21 57.5**	**-0.2**
KPT	**Kopyto**	**1.83**	**238**	PN	**Pb**	**17 21 34.6**	**-1.4**
KPT				S	**Sb**	**17 21 58.7**	**-0.3**
KPT	**Kopyto**	**1.83**	**238**	*e*P	**Pb**	**17 21 34.6**	**-1.4**
KPT				*e*S	**Sb**	**17 21 58.7**	**-0.3**
SRDR	**Sredinnyy**	**1.92**	**251**	PN	**Pb**	**17 21 35.8**	**-1.6**
SRDR	**Sredinnyy**	**1.92**	**251**	*e*P	**Pb**	**17 21 35.9**	**-1.6**
KOZ	**Kozyrevsk**	**1.95**	**243**	PN	**Pb**	**17 21 36.5**	**-1.4**
KOZ				S	**Sb**	**17 22 03.2**	**+0.9**
KOZ	**Kozyrevsk**	**1.95**	**243**	*e*P	**Pb**	**17 21 36.5**	**-1.4**
KOZ				*e*S	**Sb**	**17 22 03.3**	**+0.9**
KMNR	**Kamenistaya**	**1.96**	**233**	PN	**Pb**	**17 21 36.8**	**-1.2**
KMNR	**Kamenistaya**	**1.96**	**233**	*e*P	**Pb**	**17 21 36.9**	**-1.2**
TUMD	**Tumrok D**	**2.29**	**220**	PN	**Pb**	**17 21 41.7**	**-2.0**
TUMD	**Tumrok D**	**2.29**	**220**	*e*P	**Pb**	**17 21 41.8**	**-2.0**
BKI	**Bering**	**2.44**	**135**	PN	**Pn**	**17 21 41.0**	**-1.1**
BKI				S	**Sn**	**17 22 09.3**	**-2.6**
BKI	**Bering**	**2.44**	**135**	*e*P	**Pn**	**17 21 41.1**	**-1.1**
BKI				*e*S	**Sn**	**17 22 09.3**	**-2.6**
MKZ	**Mys Kozlova**	**2.52**	**197**	PN	**Pn**	**17 21 43.9**	**+0.6**
MKZ	**Mys Kozlova**	**2.52**	**197**	*e*P	**Pn**	**17 21 43.9**	**+0.6**
ESO	**Esso**	**2.60**	**248**	PN	**Pn**	**17 21 46.1**	**+1.7**
ESO	**Esso**	**2.60**	**248**	*e*P	**Pn**	**17 21 46.2**	**+1.7**
TILK	**Tilichiki**	**3.86**	**24**	PN	**Pn**	**17 22 01.7**	**+0.1**
TILK	**Tilichiki**	**3.86**	**24**	*e*P	**Pn**	**17 22 01.7**	**+0.1**
NLC	**Nalytchevo**	**4.34**	**210**	*e*S	**Sn**	**17 23 00.8**	**+1.8**
GNL	**Ganaly**	**4.37**	**223**	PN	**Pn**	**17 22 10.8**	**+2.1**
GNL	**Ganaly**	**4.37**	**223**	*e*P	**Pn**	**17 22 10.9**	**+2.1**
KRX	**Arik**	**4.39**	**216**	PN	**Pn**	**17 22 10.6**	**+1.5**
KRX	**Arik**	**4.39**	**216**	*e*P	**Pn**	**17 22 10.6**	**+1.5**
AVH	**Avacha**	**4.44**	**215**	PN	**Pn**	**17 22 11.9**	**+2.1**
AVH	**Avacha**	**4.44**	**215**	*e*P	**Pn**	**17 22 11.9**	**+2.1**
KOK	**Koryaka**	**4.45**	**216**	PN	**Pn**	**17 22 13.2**	**+3.3**
KOK	**Koryaka**	**4.45**	**216**	*e*P	**Pn**	**17 22 13.2**	**+3.3**
UGLR	**Uglovaya**	**4.46**	**214**	PN	**Pn**	**17 22 12.5**	**+2.4**
UGLR	**Uglovaya**	**4.46**	**214**	*e*P	**Pn**	**17 22 12.5**	**+2.4**
DALK	**Dalny**	**4.64**	**213**	PN	**Pn**	**17 22 13.6**	**+1.2**
DALK	**Dalny**	**4.64**	**213**	*e*P	**Pn**	**17 22 13.6**	**+1.2**
PET	**Petropavlovsk**	**4.67**	**214**	*e*PN	**Pn**	**17 22 14.3**	**+1.4**
PET				pmax	pmax		
	comp=Z,12nm,0.7s						
PEA0B	**Petropavlovsk-**	**4.92**	**220⇓**	*e*PN	**Pn**	**17 22 18.9**	**+2.6**
PETK	**Petropavlovsk-**	**4.92**	**220**	Pn	**Pn**	**17 22 17.5**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=62,slow=17,SNR=29						
RUS	**Russkaya**	**5.23**	**212**	PN	**Pn**	**17 22 21.2**	**+0.7**
RUS	**Russkaya**	**5.23**	**212**	*e*P	**Pn**	**17 22 21.2**	**+0.7**
GRL	**Gorelyy**	**5.26**	**215**	PN	**Pn**	**17 22 24.8**	**+3.8**
GRL	**Gorelyy**	**5.26**	**215**	*e*P	**Pn**	**17 22 24.9**	**+3.8**
MA2	**Magadan**	**6.95**	**297**	Pn	**Pn**	**17 22 44.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=92,slow=12,SNR=5.8						
	comp=Z,0.5nm,0.3s						
TIXI	**Tiksi**	**20.41**	**329**	P	Pn	17 25 39.8	-1.3
	comp=Z,1.0nm,0.4s,baz=129,slow=9.8,SNR=10.0						
	comp=Z,1.0nm,0.4s						
TIXI	**Tiksi**	**20.41**	**329⇑**	*e*P	Pn	17 25 40.6	-0.6
ILAR	**Eielson Array**	**24.98**	**51**	P	**P**	**17 26 26.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=255,slow=6.9,SNR=8.8						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**24.98**	**51**	P	**P**	**17 26 27.0**	**+1.2**
H11N2	**WAKE ISLAND Hy 37.30**	**174**		T	T	18 07 13.9	
	baz=357,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy 37.31**	**174**		T	T	18 07 11.8	
	baz=357,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy 37.31**	**174**		T	T	18 07 16.3	
	baz=357,slow=76,SNR=25						
YKA	**Yellowknife Ar**	**39.23**	**47**	P	**P**	**17 28 31.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=298,slow=8.3,SNR=5.8						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**39.23**	**47**	*e*P	**P**	**17 28 32.6**	**+2.3**
KURK	**Kurchatov**	**47.15**	**300⇑**	*e*P	**P**	**17 29 32.6**	**-1.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KURBB	**Kurchatov Arra**	**47.26**	**300**	P	**P**	**17 29 34.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=52,slow=8.0,SNR=6.5						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**48.03**	**294**	P	**P**	**17 29 40.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=63,slow=6.6,SNR=2.3						
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array**	**54.27**	**65**	P	**P**	**17 30 28.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=296,slow=7.6,SNR=3.6						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**66.12**	**330**	P	**P**	**17 31 48.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=33,slow=6.7,SNR=1.9						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**67.67**	**70**	P	**P**	**17 32 01.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=317,slow=7.7,SNR=4.1						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**80.30**	**207**	P	**P**	**17 33 13.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=15,slow=5.2,SNR=2.1						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**83.98**	**207**	P	**P**	**17 33 32.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=13,slow=5.3,SNR=5.3						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**146.72**	**180**	PKPbc	**PKPbc**	**17 40 42.0**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=224,slow=1.2,SNR=16						

IDC 11 17:22:31.7±2.3,6°.66S×129°.68E,h0km,mb3.4/1,
mbtmp3.2/3,ML3.4/2,MS4.2/1,Error ellipse:
s-maj=149.9km s-min=32.1km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**162**	Pn	Pn	17 25 50.6	-0.3
	0.3nm,0.3s,baz=344,slow=13,SNR=16						
WRA				Sn	Sn	17 28 14.7	-12
	0.4nm,0.3s,baz=332,slow=22,SNR=8.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.39**	**167**	P	Pn	17 26 36.2	+0.3
	0.1nm,0.3s,baz=345,slow=8.9,SNR=9.0						
ASAR				S	Sn	17 29 37.1	-13
	0.3nm,0.5s,baz=332,slow=13,SNR=4.7						
	0.3nm,0.7s						
HNR	**Honiara**	**30.09**	**97**	LR	LR	17 41 13.6	
	comp=Z,371nm,18.1s,baz=56,slow=37						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	17 33 31.4	0.0
	0.2nm,0.4s,baz=111,slow=7.3,SNR=4.7						
	0.2nm,0.4s						

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*IDC **11** 17:41:23.3±1.6,2°.28N×90°.85E,h0km,mb3.9/6,*
mbtmp4.0/9,ML4.1/3,MS4.3/3,Error ellipse: s-maj=44.2km
s-min=20.4km az=48.0
ISC 11 17:41:28.0±1.3,2°.3N±0°.2×90°.9E±0°.1,h35km,n22,
σ1§06/10,mb4.0/6,MS4.6/3,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.04**	**86**	Pn	**Pn**	**17 43 21.2**	**-1.4**
	1.3nm,0.3s,baz=273,slow=14,SNR=5.0						
PSI				Sn	Sn	17 44 41.2	-11
	0.7nm,0.3s,baz=327,slow=22,SNR=0.9						
	5.3nm,0.3s						
PALK	**Pallekele**	**11.29**	**296**	Pn	**Pn**	**17 44 06.2**	**-0.9**
	3.1nm,0.3s,baz=114,slow=10,SNR=19						
PALK				Sn	Sn	17 46 00.6	-12
	6.5nm,0.3s,baz=86,slow=5.9,SNR=11						
	6.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**17.91**	**26**	P	**P**	**17 45 34.9**	**0.0**
	0.2nm,0.3s,baz=216,slow=12,SNR=6.5						
	0.3nm,0.3s						
H08S2	**Diego Garcia H**	**20.84**	**242**	T	T	18 07 39.4	
	baz=62,slow=75,SNR=107						
H08S3	**Diego Garcia H**	**20.84**	**242**	T	T	18 07 41.3	
	baz=62,slow=75,SNR=51						
H08S1	**Diego Carcia H**	**20.85**	**242**	T	T	18 07 42.6	
	baz=62,slow=75,SNR=150						
FITZ	**Fitzroy Crossi**	**39.77**	**122**	P	**P**	**17 48 57.4**	**-0.5**
	2.3nm,1.0s,baz=299,slow=10,SNR=1.5						
	2.3nm,1.0s						
H01W3	**Cape Leeuwin H**	**42.92**	**152**	T	T	18 35 04.3	
	baz=326,slow=76,SNR=5.4						
H01W2	**Cape Leeuwin H**	**42.94**	**152**	T	T	18 34 55.3	
	baz=326,slow=76,SNR=4.6						
H01W1	**Cape Leeuwin H**	**42.94**	**152**	T	T	18 34 58.4	
	baz=326,slow=76,SNR=6.2						
MKAR	**Makanchi Array**	**44.96**	**352**	P	**P**	**17 49 40.2**	**+0.4**
	0.8nm,0.5s,baz=170,slow=9.0,SNR=13						
	0.8nm,0.5s						
SONM	**Songino Array**	**47.32**	**14**	P	**P**	**17 49 59.5**	**+1.1**
	1.8nm,0.4s,baz=196,slow=8.9,SNR=19						
	1.8nm,0.4s						
WRA	**Warramunga Arr**	**48.01**	**119**	P	**P**	**17 50 05.9**	**+1.9**
	0.4nm,0.7s,baz=295,slow=7.7,SNR=4.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**49.15**	**124**	LR	LR	18 12 32.0	
	comp=Z,116nm,19.5s,baz=123,slow=38						
KURBB	**Kurchatov Arra**	**49.29**	**350**	P	**P**	**17 50 13.1**	**-0.3**
	0.8nm,0.5s,baz=173,slow=7.5,SNR=9.5						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**51.74**	**355**	P	**P**	**17 50 31.8**	**0.0**
	1.1nm,0.3s,baz=175,slow=7.0,SNR=8.6						
	1.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**59.30**	**211**	T	T	18 55 44.6	
	baz=48,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**59.30**	**211**	T	T	18 55 45.2	
	baz=48,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**59.31**	**211**	T	T	18 55 43.9	
	baz=48,slow=75,SNR=13						
HFS	**Hagfors**	**81.66**	**330**	LR	LR	18 34 49.0	
	comp=Z,324nm,18.8s,baz=210,slow=39						
SPITS	**Spitsbergen Ar**	**84.62**	**348**	LR	LR	18 39 41.0	
	comp=Z,212nm,18.5s,baz=194,slow=41						
TXAR	**Lajitas Array**	**145.61**	**23**	PKPbc	**PKPdf**	**18 01 03.7**	**+0.2**
	1.0nm,0.8s,baz=333,slow=2.6,SNR=5.5						

NNC 11 17:54:15.5±4.4,38°.43N×72°.21E,h0km,mb3.6,mpv3.3,
5C-2D,Error ellipse: s-maj=35.3km s-min=25.8km
az=169.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.55**	**22**	⇑P	Pn	17 55 25.5	-0.2
	6.1nm,0.5s						
AAK				⇑S	Sn	17 56 19.9	+0.4
	12nm,0.7s						
KK31	**Karatay Array**	**4.84**	**345**	⇑P	Pn	17 55 30.9	+1.2
	2.1nm,0.2s,baz=150,slow=10,SNR=78						
KK31				⇑S	Sn	17 56 27.9	+1.4
	6.9nm,0.4s,baz=182,slow=26,SNR=20						
TKM2	**Tokmak 2**	**5.17**	**29**	⇓P	Pn	17 55 34.8	+0.4
	0.4nm,0.3s						
TKM2				⇑S	Sn	17 56 36.4	+1.5
	2.3nm,0.8s						
AB31	**Akbulak array**	**13.96**	**325**	⇓P	Pn	17 57 30.0	-4.5
	0.2nm,0.3s,baz=131,slow=14,SNR=11						

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*NEIC **11** 18:01:04.7±1.1,6°.2S±0°.3×149°.1E±0°.3,h35km±2km,*
mb4.1/9,Error ellipse: s-maj=74.4km s-min=5.7km
az=137.0
*IDC **11** 18:01:09.5±3.9,6°.42S×149°.25E,h97km±37km,mb3.3/7,*
mbtmp3.8/9,Error ellipse: s-maj=72.3km s-min=26.9km
az=120.0
ISC 11 18:01:05.1±0.8,6°.3S±0°.1×149°.2E±0°.2,h53km,n21,
σ1§68/21,mb3.5/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.61**	**55**	Pn	**Pn**	**18 01 58.3**	**-0.4**
PMG	**Port Moresby**	**3.71**	**213**	P	Pn	18 02 02.4	+2.5
	24nm,0.4s,baz=41,slow=6.6,SNR=32						
PMG				S	**Sn**	**18 02 46.2**	**+3.8**
	92nm,0.6s,baz=224,slow=23,SNR=9.4						
COEN	**Coen**	**9.66**	**217**	Pn	**Pn**	**18 03 20.7**	**-0.9**
MTN	**Manton Dam**	**18.95**	**248**	P	**Pn**	**18 05 21.6**	**-1.6**
MTN				IAmb	IAmb	18 06 01.1	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**19.66**	**226**	P	**Pn**	**18 05 30.1**	**-1.5**
WB0				IAmb	IAmb	18 05 31.2	
	comp=Z,6.0nm,0.7s						
WR0	**Warramunga Arr**	**19.69**	**225**	P	**Pn**	**18 05 30.8**	**-1.1**
WRAB	**Tennant Creek**	**19.80**	**225**	P	**Pn**	**18 05 31.0**	**-2.3**
WRAB				IAmb	IAmb	18 05 32.6	
	comp=Z,8.5nm,0.6s						
WB2	**Warramunga Arr**	**19.81**	**225**	P	**Pn**	**18 05 31.8**	**-1.6**
WB2				IAmb	IAmb	18 05 32.8	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**19.82**	**225**	P	**Pn**	**18 05 30.8**	**-2.6**
WRA	**Warramunga Arr**	**19.82**	**225**	P	**Pn**	**18 05 32.1**	**-1.4**
	comp=Z,6.5nm,0.5s,baz=52,slow=11,SNR=52						
KNRA	**Kununurra**	**22.10**	**243**	P	**P**	**18 05 55.1**	**-1.0**
AS31	**Alice Springs**	**22.70**	**219**	P	**P**	**18 06 02.6**	**+0.1**
ASAR	**Alice Springs**	**22.70**	**219**	P	**P**	**18 06 03.0**	**+0.5**
ASAR	**Alice Springs**	**22.70**	**219**	P	**P**	**18 06 03.0**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=53,slow=9.5,SNR=51						
	comp=Z,1.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**25.80**	**241**	P	**P**	**18 06 31.1**	**-0.4**
FITZ				IAmb	IAmb	18 06 55.6	
	comp=Z,2.3nm,1.4s						
PETK	**Petropavlovsk-**	**59.59**	**6**	P	**P**	**18 11 04.8**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=156,slow=5.8,SNR=5.2						
	comp=Z,0.9nm,0.6s						
SONM	**Songino Array**	**65.70**	**330**	P	**P**	**18 11 46.6**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=126,slow=4.9,SNR=2.4						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**79.09**	**320**	P	**P**	**18 13 02.7**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=108,slow=5.5,SNR=1.9						
	comp=Z,0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**80.40**	**327**	P	**P**	**18 13 09.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=130,slow=5.8,SNR=2.5						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**84.88**	**23**	P	**P**	**18 13 33.4**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=253,slow=4.9,SNR=5.0						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**88.26**	**324**	P	**P**	**18 13 50.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=120,slow=8.5,SNR=2.2						
	comp=Z,0.1nm,0.3s						

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*NEIC **11** 18:03:38.3±1.6,43°.91N±0°.07×105°.3W±0°.1,h0km±1km,*
ML3.4/72,Error ellipse: s-maj=16.4km s-min=9.7km
az=54.0
*IDC **11** 18:03:42.3±1.5,43°.96N×105°.57W,h0km,mb3.6/1,*
mbtmp3.2/6,ML3.3/5,Error ellipse: s-maj=45.3km
s-min=8.5km az=146.0
ISC 11 18:03:40.6±1.0,43°.93N±0°.07×105°.13W±0°.07,h0km,n35,
σ1§95/29,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**2.86**	**345**		**Pb**	**18 04 30.6**	**-2.1**
LAO				IAML		18 05 18.1	
	163nm,0.7s						
LAO				IAML		18 05 30.8	
	161nm,0.8s						
BRIGG	**Briggsdale**	**3.40**	**170**	Pn	**Pn**	**18 04 33.7**	**-1.4**
BRIGG				IAML		18 05 29.0	
	comp=E,54nm,0.7s						
BRIGG				IAML		18 05 34.4	
	comp=N,75nm,1.1s						
PD31	**Pinedale Array**	**3.44**	**252**		**Pn**	**18 04 34.5**	**-1.2**
PDAR	**Pinedale Array**	**3.44**	**252**	Pn	**Pn**	**18 04 35.2**	**-0.5**
PDAR	**Pinedale Array**	**3.44**	**252**	Pn	**Pn**	**18 04 36.0**	**+0.3**
	comp=N,3.6nm,0.3s,baz=72,slow=15,SNR=61						
PDAR				Lg	Lg	18 05 19.9	
	comp=N,16nm,0.3s,baz=70,slow=33,SNR=11						
	comp=N,3.7nm,0.3s						
YNE	**Yellowstone No**	**3.66**	**289**		**Pn**	**18 04 39.1**	**+0.4**
YNE				IAML		18 05 38.2	
	comp=E,72nm,0.3s						
YNE				IAML		18 05 40.9	
	comp=N,56nm,0.3s						
YMP	**Mirror Lake Pl**	**3.70**	**284**		**Pn**	**18 04 38.8**	**-0.5**
YMP				IAML		18 05 40.6	
	comp=N,90nm,0.3s						
YMP				IAML		18 05 46.3	
	comp=E,79nm,0.4s						
OGNE	**Ogallala**	**3.76**	**141**	Pn	**Pn**	**18 04 40.1**	**+0.1**
LKWY	**Lake**	**3.84**	**281**		**Pn**	**18 04 39.3**	**-2.0**
LKWY				IAML		18 05 03.7	
	comp=E,61nm,0.5s						
H17A	**Grant Village**	**3.95**	**279**		**Pn**	**18 04 43.0**	**+0.3**
LOHW	**Long Hollow**	**3.98**	**267**		**Pn**	**18 04 43.5**	**+0.4**
YNR	**Norris Junctio**	**4.06**	**283**		**Pn**	**18 04 42.2**	**-2.0**
MOOW	**Moose Ponds**	**4.07**	**269**		**Pn**	**18 04 44.9**	**+0.6**
SNOW	**Snow King Moun**	**4.11**	**265**		Pn	18 04 39.7	-5.2
SNOW				IAML		18 06 02.9	
	comp=E,52nm,1.9s						
SNOW				IAML		18 06 03.0	
	comp=E,50nm,1.8s						
YFT	**Old Faithful**	**4.14**	**279**		**Pn**	**18 04 41.5**	**-3.8**
YHH	**Holmes Hill**	**4.19**	**284**	Pn	**Pn**	**18 04 41.6**	**-4.5**
K30B	**Basset**	**4.22**	**105**		**Pn**	**18 04 49.3**	**+3.1**
TPAW	**Teton Pass**	**4.25**	**266**		**Pn**	**18 04 43.9**	**-2.9**
TPAW				IAML		18 06 19.3	
	comp=E,37nm,1.9s						
YMR	**Madison River**	**4.25**	**282**		**Pn**	**18 04 45.0**	**-1.9**
YMR				IAML		18 06 18.7	
	comp=N,38nm,1.4s						
YMR				IAML		18 06 53.2	
	comp=E,27nm,2.9s						
FXWY	**Fox Creek**	**4.28**	**268**		**Pn**	**18 04 47.7**	**+0.4**
YHB	**Horse Butte**	**4.43**	**283**		Pn	18 04 42.7	-6.6
YHL	**Hebgen Lake**	**4.44**	**284**		**Pn**	**18 04 48.5**	**-1.0**
YHL

H03S3 Juan Fernandez 24.58 96 T T 18 35 36.3
baz=259,slow=75,SNR=56
H03N2 Juan Fernandez 24.63 95 T T 18 35 47.1
baz=267,slow=73,SNR=7.5
H03N3 Juan Fernandez 24.64 95 T T 18 35 46.8
baz=267,slow=73,SNR=9.2
H03N1 Juan Fernandez 24.65 95 T T 18 35 44.6
baz=267,slow=73,SNR=11
LL04 Puerto Octay 29.15 113 P **P** **18 11 01.9 -1.2**
LL04 IAmb IAmb 18 11 07.1
comp=Z,36nm,1.8s
AY01 Puyuhuapi 29.19 120 P **P** **18 11 04.0 +0.6**
LR03 Panguipulli 29.22 110 P **P** **18 11 03.9 +0.1**
LR05 Currie 29.46 112 P **P** **18 11 06.2 +0.4**
LR05 IAmb IAmb 18 11 07.4
comp=Z,26nm,1.4s
AY03 Cochrane 29.69 126 P **P** **18 11 08.1 +0.3**
COYC Coyhaique 29.74 122 P **P** **18 11 09.8 +1.5**
COYC IAmb IAmb 18 11 10.3
comp=Z,19nm,1.1s
PLCA Paso Flores 30.56 113 P **P** **18 11 16.5 +0.8**
PLCA Paso Flores 30.56 113 P **P** **18 11 16.5 +0.8**
comp=Z,9.4nm,0.9s,baz=266,slow=9.5,SNR=16
comp=Z,9.4nm,0.9s
BO04 La Punta 31.31 100 P **P** **18 11 21.3 -1.1**
BO04 IAmb IAmb 18 11 36.2
comp=Z,14nm,1.3s
LMEL Las Melosas 31.67 99 P **P** **18 11 25.6 -0.1**
LMEL IAmb IAmb 18 11 28.5
comp=Z,13nm,1.0s
MT08 Bocatoma Ro 31.91 99 P **P** **18 11 28.7 +0.9**
MT08 IAmb IAmb 18 11 31.4
comp=Z,15nm,1.2s
GO04 Tololo Observa 32.16 93 P **P** **18 11 30.4 +0.3**
GO04 IAmb IAmb 18 11 32.2
comp=Z,22nm,1.2s
ZON Zonda 33.49 96 P **P** **18 11 40.6 -0.9**
ZON IAmb IAmb 18 11 43.9
comp=Z,14nm,1.2s
CFA Coronel Fontan 33.84 96 P **P** **18 11 44.9 +0.4**
comp=Z,2.4nm,0.3s,baz=267,slow=9.2,SNR=11
CFA LR LR 18 21 58.4
comp=Z,587nm,21.7s,baz=334,slow=30
comp=Z,2.4nm,0.3s
AC02 Maricunga 34.71 88 P **P** **18 11 52.8 +0.2**
NNA Nana 36.73 60 LR LR 18 23 36.0
comp=Z,605nm,21.1s,baz=314,slow=30
TRQA Tornquist 37.42 109 P **P** **18 12 14.9 -0.3**
TRQA IAmb IAmb 18 12 18.5
comp=Z,19nm,1.2s
ATAH Atahualpa 39.15 52 LR LR 18 24 17.0
comp=Z,556nm,21.5s,baz=106,slow=30
PPT Papeete 40.19 285 LR LR 18 24 58.9
comp=Z,353nm,21.6s,baz=94,slow=30
LPAZ La Paz 40.62 74 P **P** **18 12 43.4 +0.5**
LPAZ La Paz 40.62 74 P **P** **18 12 43.4 +0.5**
comp=Z,2.3nm,0.7s,baz=257,slow=4.2,SNR=7.1
comp=Z,2.3nm,0.7s
COHC Cochancay 42.21 47 P **P** **18 12 54.4 -0.7**
CPUP Villa Florida 44.62 94 P **P** **18 13 13.8 -0.7**
CPUP Villa Florida 44.62 94 P **P** **18 13 13.7 -0.8**
comp=Z,2.8nm,0.8s,baz=250,slow=11,SNR=4.0
comp=Z,2.8nm,0.8s
PLTB Pedras Altas 45.67 102 P **P** **18 13 23.7 +0.9**
SIV San Ignacio 46.43 79 P **P** **18 13 28.9 -0.2**
comp=Z,2.2nm,0.6s,baz=233,slow=6.8,SNR=12
comp=Z,2.2nm,0.6s
RAR Rarotonga 46.63 273 LR LR 18 28 42.3
comp=Z,205nm,18.4s,baz=108,slow=30
PTLB Pontes e Lacer 48.29 79 P **P** **18 13 43.2 -0.3**
PTLB IAmb IAmb 18 13 44.7
comp=Z,12nm,1.5s
AQDB Aquidauana 48.54 87 P **P** **18 13 44.9 -0.5**
AQDB IAmb IAmb 18 13 46.0
comp=Z,13nm,1.2s
JTS Las Juntas de 50.13 31 LR LR 18 29 54.0
comp=Z,770nm,21.5s,baz=114,slow=30
ROSC El Rosal 50.98 46 P **P** **18 14 03.8 -0.6**
ROSC IAmb IAmb 18 14 13.8
comp=Z,13nm,1.0s
RUSC La Rusia 52.55 47 P **P** **18 14 16.1 -0.2**
RUSC IAmb IAmb 18 14 47.2
comp=Z,17nm,1.2s
BELA Belgrano 2 52.94 165 P **P** **18 14 18.9 +1.0**
BELA IAmb IAmb 18 14 20.4
comp=Z,23nm,1.4s
QSPA South Pole Qui 55.44 180 P **P** **18 14 36.8 +0.4**
comp=Z,7.4nm,1.1s,baz=94,slow=8.8,SNR=10.0
QSPA PcP **PcP** **18 15 36.4 -0.1**
comp=Z,2.6nm,0.7s,baz=117,slow=0.6,SNR=9.0
comp=Z,7.4nm,1.1s
BDFB Brasilia 57.27 87 P **P** **18 14 49.3 -0.8**
comp=Z,3.3nm,0.7s,baz=234,slow=17,SNR=3.6
BDFB LR LR 18 37 13.5
comp=Z,348nm,19.2s,baz=0.3,slow=34
comp=Z,3.3nm,0.7s
URZ Urewera 58.24 243 LR LR 18 33 57.2
comp=Z,294nm,20.4s,baz=184,slow=30
VNA3 Neumayer Olymp 60.30 158 ⇓P **P** **18 15 10.5 +0.2**
comp=Z,7.8nm,0.6s
VNA2 Neumayer--Watz 61.11 158 ⇓P **P** **18 15 14.7 -1.1**
comp=Z,9.3nm,0.8s,baz=252,slow=7.2
PCRV Puerto La Cruz 61.12 51 LR LR 18 37 58.0
comp=Z,298nm,19.5s,slow=32
SNAA Sanae 62.14 160 P **P** **18 15 23.4 +0.6**
SNAA Sanae 62.14 160 ⇓P **P** **18 15 23.2 +0.4**
comp=Z,89nm,1.0s
SNAA Sanae 62.14 160 P **P** **18 15 22.6 -0.1**
comp=Z,3.8nm,0.9s,baz=244,slow=3.8,SNR=4.0
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 63.93 5 P **P** **18 15 36.4 +1.3**
TXAR Lajitas Array 63.93 5 P **P** **18 15 35.9 +0.8**
comp=Z,1.1nm,0.8s,baz=188,slow=8.9,SNR=9.2
comp=Z,1.1nm,0.8s
HNDO Hondo 64.56 9 P **P** **18 15 40.4 +1.2**
HNDO IAmb IAmb 18 15 44.5
comp=Z,9.5nm,0.9s
SAND Sanderson 64.67 6 P **P** **18 15 40.7 +0.8**
SAND IAmb IAmb 18 15 44.3
comp=Z,5.0nm,0.7s
ALPN Alpine 64.97 5 P **P** **18 15 42.3 +0.4**
VHRN Van Horn 65.30 4 P **P** **18 15 44.5 +0.4**
VHRN IAmb IAmb 18 15 46.1
comp=Z,10nm,1.7s
JCT Junction City 65.43 8 P **P** **18 15 45.7 +0.9**
MDP Montagnes des 65.92 65 LR LR 18 41 30.9
comp=Z,477nm,18.5s,baz=222,slow=33
435B Jarrell 66.03 10 P **P** **18 15 48.8 +0.2**
BRDY Brady 66.33 9 P **P** **18 15 50.9 +0.3**
BRDY IAmb IAmb 18 18 08.3
comp=Z,5.7nm,0.8s
SGCY Sterling City 66.71 7 P **P** **18 15 53.5 +0.5**
TKX Tecate 67.39 353 P **P** **18 15 58.9 +1.5**
YUH Yuha Desert 67.40 353 P **P** **18 15 58.9 +1.6**
YUH IAmb IAmb 18 16 00.4
comp=Z,19nm,1.7s
FW13 Cleburne 67.59 10 P **P** **18 15 58.9 +0.3**
FW14 Alvarado 67.68 10 P **P** **18 15 59.2 +0.1**
SN05 Snyder 5 67.69 7 P **P** **18 15 58.2 -1.0**
SN05 IAmb IAmb 18 16 00.3
comp=Z,9.0nm,1.1s
PFO Pinyon Flats O 68.41 353 P **P** **18 16 05.3 +1.4**
comp=Z,2.5nm,0.8s,baz=167,slow=9.5,SNR=4.7
comp=Z,2.5nm,0.8s
ELIB Princess Elisa 68.44 166 *d*P **P** **18 16 04.7 +1.0**
comp=Z,3.5nm,1.4s
LENM Lemitar 68.59 2 P **P** **18 16 05.7 +0.7**
MSTX Muleshoe 68.60 5 P **P** **18 16 05.9 +0.9**
MSTX IAmb IAmb 18 16 06.5
comp=Z,9.9nm,1.2s
X18A Snowflake 68.94 359 P **P** **18 16 07.6 +0.4**
X18A IAmb IAmb 18 16 09.4
comp=Z,5.9nm,0.9s
GSC Goldstone, Bar 70.12 353 IAmb IAmb 18 16 17.6
comp=Z,16nm,1.5s
U15A North Rim 70.91 357 IAmb IAmb 18 16 22.1
comp=Z,15nm,1.6s
SHPR Sheep Range 71.16 354 P **P** **18 16 21.9 +1.2**
S22A 4UR Ranch, Cre 72.17 2 IAmb IAmb 18 16 29.7
comp=Z,14nm,1.7s
DSP Deep Springs 72.29 352 IAmb IAmb 18 16 30.8
comp=Z,19nm,1.4s
PSUT Pine Spring 73.09 356 IAmb IAmb 18 16 35.2
comp=Z,18nm,1.9s
NV11 Mina Array Sit 73.36 352 IAmb IAmb 18 16 37.2
comp=Z,16nm,1.3s
NVAR Mina Array Bea 73.37 352 P **P** **18 16 35.5 +1.5**
NVAR Mina Array Bea 73.37 352 P **P** **18 16 35.8 +1.8**
comp=Z,4.6nm,0.8s,baz=186,slow=7.4,SNR=24
comp=Z,4.6nm,0.8s
WAKR Walker 73.58 351 IAmb IAmb 18 16 39.0
comp=Z,28nm,1.8s
SPR3 Spring Creek 3 73.58 355 IAmb IAmb 18 16 37.5
comp=Z,13nm,1.5s
CCM Cathedral Cave 74.24 14 P **P** **18 16 39.5 +0.7**
CCM IAmb IAmb 18 16 50.5
comp=Z,11nm,1.1s
BSUT Blindstream Ca 74.96 358 IAmb IAmb 18 16 48.6
comp=Z,23nm,1.6s
RDMU Red Mountain 74.97 359 IAmb IAmb 18 16 45.5
comp=Z,12nm,1.2s
PDAR Pinedale Array 77.16 359 P **P** **18 16 55.8 +0.1**
comp=Z,2.1nm,0.9s,baz=163,slow=5.7,SNR=14
comp=Z,2.1nm,0.9s
YBH Yreka Blue Hor 77.21 349 P **P** **18 16 55.9 +0.1**
comp=Z,0.7nm,0.3s,baz=69,slow=9.7,SNR=2.8
comp=Z,0.7nm,0.3s
LOHW Long Hollow 78.03 359 IAmb IAmb 18 17 04.7
comp=Z,9.7nm,1.6s
HLID Hailey 78.13 356 IAmb IAmb 18 17 03.9
comp=Z,15nm,1.4s
PINE Pine Mountain 78.98 351 IAmb IAmb 18 17 11.2
comp=Z,7.8nm,0.8s
YMR Madison River 79.09 358 IAmb IAmb 18 17 15.9
comp=Z,24nm,1.9s
I07A Izee 79.09 352 IAmb IAmb 18 17 09.3
comp=Z,6.9nm,0.9s
ULM Lac du Bonnet 85.40 8 IAmb IAmb 18 17 40.8
comp=Z,13nm,1.4s
ULM Lac du Bonnet 85.40 8 P **P** **18 17 38.1 -0.8**
comp=Z,2.8nm,0.7s,baz=206,slow=5.3,SNR=5.8
comp=Z,2.8nm,0.7s
FFC Flin Flon 89.31 4 P **P** **18 17 57.4 -0.4**
ASAR Alice Springs 96.95 235 P **P** **18 18 33.5 -0.5**
comp=Z,0.3nm,0.7s,baz=145,slow=3.4,SNR=1.6
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 97.04 357 P **P** **18 18 32.9 -0.3**
comp=Z,0.3nm,0.7s,baz=173,slow=5.0,SNR=6.9
comp=Z,0.3nm,0.7s
H01W1 Cape Leeuwin H 99.96 215 T T 20 11 00.5
baz=144,slow=75,SNR=5.3
H01W2 Cape Leeuwin H 99.97 215 T T 20 11 05.4
baz=144,slow=75,SNR=7.9
H01W3 Cape Leeuwin H 99.98 215 T T 20 11 01.2
baz=144,slow=75,SNR=5.0
ESDC Sonseca Array 121.49 61 PKP **PKPdf** **18 23 54.7 -0.8**
comp=Z,0.4nm,0.6s,baz=258,slow=2.1,SNR=2.6
EKA Eskdalemuir Ar 126.28 43 PKP **PKPdf** **18 24 03.7 -0.4**
comp=Z,0.9nm,0.6s,baz=284,slow=4.6,SNR=1.8
CLL Collm 135.50 50 *e*PKPdf **PKPdf** **18 24 22.0 +0.3**
NJ2 Nanjing 140.51 280 *e*P **PKPdf** **18 24 32.5 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
HNS HongShan 145.06 287 ⇑PKPbc **PKPdf** **18 24 39.5 +0.1**
AKASG Malin Array Be 145.75 49 PKPbc **PKPdf** **18 24 38.9 -1.2**
comp=Z,1.7nm,0.5s,baz=277,slow=3.6,SNR=12
HHC Hu-ho-hao-te 147.84 293 *e*P **PKPdf** **18 24 40.6 -3.6**
BRTR Keskin Array B 149.75 69 PKPbc **PKPbc** **18 24 50.8 -1.2**
comp=Z,2.5nm,0.7s,baz=206,slow=2.4,SNR=12
MMAI Mount Meron Ar 150.23 83 PKPbc **PKPbc** **18 24 51.6 -1.7**
comp=Z,1.1nm,0.5s,baz=8.5,slow=1.7,SNR=6.8
CMAR Chiang Mai Arr 150.58 244 PKPbc **PKPbc** **18 24 55.0 +0.5**
comp=Z,3.4nm,1.0s,baz=171,slow=1.7,SNR=14
SONM Songino Array 150.86 307 PKPbc **PKPbc** **18 24 53.7 -0.8**
comp=Z,2.0nm,0.7s,baz=158,slow=2.5,SNR=7.1
PZH PanZhiHua 152.64 261 PKPbc **PKPdf** **18 24 52.0 -0.1**
ARTI Arti 156.63 18 PKP **PKPdf** **18 24 57.1 +0.5**
comp=Z,4.6nm,0.6s,baz=177,slow=22,SNR=3.1

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*IDC **11** 18:07:44.5±1.6,3°.45N×128°.27E,h0km,mb3.5/5,*
mbtmp3.5/5,Error ellipse: s-maj=99.2km s-min=22.3km
az=71.0
*DJA **11** 18:07:58.7±0.6,3°N±3°×12°8E±°,h107km±7km,M4.1/12,*
mB4.7/3,mb4.1/4,MLv4.0/12,Mw(mB)4.0/3
ISC 11 18:07:57.6±1.1,3°.15N±0°.10×127°.79E±0°.09,h100km,n12,
σ1°17/15,mb3.2/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.32**	**283**	P	**Pn**	**18 08 34.5**	**+0.2**
SGSI				S	**Sn**	**18 09 02.0**	**-0.5**
TNTI	**Ternate**	**2.40**	**190**	P	**Pn**	**18 08 37.6**	**+2.2**
KMSI	**Cibinong**	**4.58**	**236**	P	**Pn**	**18 09 05.6**	**+0.9**
KMSI				S	**Sn**	**18 09 56.7**	**-0.2**
SWI	**Sorong**	**5.29**	**139**	P	**Pn**	**18 09 15.3**	**+1.0**
0.1nm13nm,1.1s							
SANI	**Sanana**	**5.47**	**199**	P	**Pn**	**18 09 14.8**	**-2.0**
0.1nm881nm9.3nm,1.2s							
MRSI	**Marisa**	**6.42**	**246**	P	**Pn**	**18 09 30.9**	**+1.3**
0.2nm695nm41nm,0.5s							
LUWI	**Luwuk**	**6.52**	**230**	P	**Pn**	**18 09 30.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.22**	**186**	P	**P**	**18 12 36.2**	**+0.7**
2.9nm,1.0s,baz=154,slow=5.0,SNR=3.4							
2.9nm,1.0s							
WRA	**Warramunga Arr**	**23.83**	**165**	P	**P**	**18 13 00.3**	**-1.5**
0.4nm,0.4s,baz=344,slow=9.8,SNR=11							
0.4nm,0.4s							
ASAR	**Alice Springs**	**27.31**	**168**	P	**P**	**18 13 32.0**	**-1.2**
0.2nm,0.8s,baz=349,slow=9.9,SNR=1.5							
ASAR				PcP	**PcP**	**18 16 50.7**	**+0.2**
0.4nm,1.1s,baz=350,slow=2.4,SNR=1.6							
0.2nm,0.8s							
STKA	**Stephens Creek**	**37.23**	**160**	P	**P**	**18 14 59.4**	**-0.2**
0.9nm,0.4s,baz=350,slow=7.3,SNR=5.4							
0.9nm,0.4s							
MKAR	**Makanchi Array**	**58.63**	**325**	P	**P**	**18 17 44.6**	**+0.3**
0.1nm,0.4s,baz=117,slow=8.1,SNR=4.8							
0.1nm,0.4s							

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*MOS **11** 18:16:22.8±1.1,36°.28N×70°.01E,h130km,mb4.6/41,Error*
ellipse: s-maj=5.0km s-min=3.2km az=85.7
*IDC **11** 18:16:24.1±0.7,36°.17N×70°.00E,h137km±6km,mb4.0/27,*
mbtmp4.5/32,MS3.6/2,Error ellipse: s-maj=11.0km
s-min=9.5km az=6.0
*BJI **11** 18:16:24.5,36°.32N×70°.10E,h133km,mB4.8/7,mb4.6/43*
*NEIC **11** 18:16:24.6±2.2,36°.29N±0°.05×69°.88E±0°.07,h136km±6km,*
mb4.5/102,Error ellipse: s-maj=8.1km s-min=7.8km
az=99.0
*NNC **11** 18:16:26.9±2.1,36°.57N×69°.86E,h148km±27km,mb4.4,*
mpv5.2,Error ellipse: s-maj=17.0km s-min=14.4km
az=15.0
ISC 11 18:16:23.3±0.4,36°.17N±0°.03×70°.05E±0°.03,h125km±3km,
h125km;pP-P,n388,σ1°81/420,mb4.5/112,27C-25D,
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.83**	**207**	Pn	**Pn**	**18 16 57.0**	**+1.8**
KBL	**Kabul**	**1.83**	**207**	P	**Pn**	**18 16 57.4**	**+2.2**
KBL	**Kabul**	**1.83**	**207**	PN	**Pn**	**18 16 57.0**	**+1.8**
SIMJ	**Simiganj**	**2.62**	**342**	Pn	**Pn**	**18 17 04.4**	**-0.5**
DZET	**Dzherino**	**2.80**	**340**	PN	**Pn**	**18 17 06.6**	**-0.7**
GAR	**Garm**	**2.83**	**4**	Pn	**Pn**	**18 17 08.0**	**+0.3**
DRK	**Karamyk**	**3.58**	**22**		**Pn**	**18 17 18.9**	**+1.3**
DRK	**Karamyk**	**3.58**	**22**	PN	**Pn**	**18 17 18.9**	**+1.3**
NIL	**Nilore**	**3.64**	**133**		**Pn**	**18 17 21.7**	**+3.5**
NIL	**Nilore**	**3.64**	**133**	P	**Pn**	**18 17 21.7**	**+3.5**
NIL	**Nilore**	**3.64**	**133**	PN	**Pn**	**18 17 21.7**	**+3.5**
BTK	**Batken**	**3.92**	**9**		**Pn**	**18 17 23.0**	**+1.0**
BTK	**Batken**	**3.92**	**9**	PN	**Pn**	**18 17 23.0**	**+1.0**
JMU	**Jammu**	**5.29**	**129**	*e*P	**Pn**	**18 17 40.5**	**+0.3**
JMU				*e*S	**Sn**	**18 18 38.7**	**-1.2**
JMU				IAML		18 18 43.4	
comp=E,2μm,0.3s							
JMU				IAML		18 18 50.1	
comp=E,2μm,0.4s							
TRKS	**Terek-Say**	**5.42**	**9**	PN	**Pn**	**18 17 41.0**	**-1.0**
TRKS				pmax	pmax		
comp=Z,108nm,0.9s							
ARSB	**Arslanbob**	**5.63**	**23**	Pn	**Pn**	**18 17 44.1**	**-0.8**
ARSB	**Arslanbob**	**5.63**	**23**	PN	**Pn**	**18 17 44.1**	**-0.8**
KSH	**Kashi**	**5.75**	**53**	P	**Pn**	**18 17 44.4**	**-2.1**
KSH				S	**Sn**	**18 18 45.0**	**-6.4**
IUG	**Iuzhnay**	**5.96**	**360**	*e*PN	**Pn**	**18 17 49.2**	**-0.1**
IUG	**Iuzhnay**	**5.96**	**360**	*e*P	**Pn**	**18 17 49.2**	**-0.1**
CHM	**Chimkent**	**6.15**	**357**	*e*PN	**Pn**	**18 17 51.2**	**-0.5**
CHM	**Chimkent**	**6.15**	**357**	*e*P	**Pn**	**18 17 51.3**	**-0.5**
DHRM	**DHARAMSHALA**	**6.49**	**125**	*e*P	**Pn**	**18 17 58.6**	**+2.0**
DHRM				*e*S	**Sn**	**18 19 10.1**	**+0.6**
DHRM				IAML		18 19 12.4	
comp=N,1μm,0.3s							
DHRM				IAML		18 19 12.6	
comp=E,1μm,0.3s							
AML	**Almayashu**	**6.59**	**24**	P	**Pn**	**18 17 58.0**	**0.0**
SNR=263							
DZA	**Taraz**	**6.78**	**8**	*e*PN	**Pn**	**18 18 00.0**	**-0.3**
DZA				*e*S	**Sn**	**18 19 15.4**	**-0.7**
DZA	**Taraz**	**6.78**	**8**	*e*P	**Pn**	**18 18 00.1**	**-0.3**
DZA				*e*S	**Sn**	**18 19 15.4**	**-0.7**
BRLS	**Borolday**	**6.85**	**359**	*e*PN	**Pn**	**18 17 57.0**	**-4.2**
BRLS	**Borolday**	**6.85**	**359**	*e*P	**Pn**	**18 17 57.0**	**-4.2**
KK31	**Karatay Array**	**6.93**	**3**	Pn	**Pn**	**18 18 01.6**	**-0.7**
KK31	**Karatay Array**	**6.93**	**3**	⇓P	**Pn**	**18 18 01.4**	**-0.9**
comp=E,22nm,0.2s,baz=196,slow=18,SNR=846							
KK31				⇑S	**Sn**	**18 19 14.8**	**-4.9**
comp=E,41nm,0.3s,baz=197,slow=28,SNR=9.6							
KK31	**Karatay Array**	**6.93**	**3**	*i* PN	**Pn**	**18 18 01.3**	**-0.9**
KKAR	**Karatay Array**	**6.93**	**3**		**Pn**	**18 18 01.3**	**-1.0**
KKAR	**Karatay Array**	**6.93**	**3**	Pn	**Pn**	**18 18 01.3**	**-1.0**
KKAR	**Karatay Array**	**6.93**	**3**	PN	**Pn**	**18 18 01.3**	**-1.0**
UCH	**Uchtor**	**6.97**	**28**	P	**Pn**	**18 18 03.8**	**+0.6**
SNR=60							
EKS2	**Erkin-Say**	**7.09**	**23**	P	**Pn**	**18 18 04.8**	**+0.2**
SNR=162							
BHK	**Bhakra**	**7.11**	**130**	*e*P	**Pn**	**18 18 06.7**	**+1.9**
BHK				*e*S	**Sn**	**18 19 23.2**	**-1.0**
BHK				IAML		18 19 28.6	
comp=E,1μm,0.3s							
BHK				IAML		18 19 36.0	
comp=E,954nm,0.2s							
AAK	**Ala-Archa**	**7.31**	**27**	Pn	**Pn**	**18 18 07.5**	**0.0**
AAK	**Ala-Archa**	**7.31**	**27**	P	**Pn**	**18 18 07.6**	**+0.1**
comp=E,101nm,0.3s,baz=208,slow=8.0,SNR=224							
AAK				S	**Sn**	**18 19 29.2**	**+0.1**
comp=E,105nm,0.6s,baz=177,slow=23,SNR=11							
AAK	**Ala-Archa**	**7.31**	**27**	P	**Pn**	**18 18 08.2**	**+0.6**
AAK	**Ala-Archa**	**7.31**	**27**	P	**Pn**	**18 18 07.8**	**+0.3**
SNR=272							
AAK	**Ala-Archa**	**7.31**	**27**	⇓P	**Pn**	**18 18 07.9**	**+0.3**
comp=E,112nm,0.7s							
AAK				⇓S	**Sn**	**18 19 27.0**	**-2.1**
comp=E,474nm,1.1s							
KBK	**Karagaybulak**	**7.50**	**29**	P	**Pn**	**18 18 11.1**	**+1.0**
SNR=48							
FRU1	**Bishkek**	**7.51**	**27**		**Pn**	**18 18 10.3**	**+0.1**
FRU1	**Bishkek**	**7.51**	**27**	PN	**Pn**	**18 18 10.3**	**+0.1**
CHMS	**Chumysh**	**7.72**	**27**	P	**Pn**	**18 18 13.2**	**+0.3**
SNR=34							
ULHL	**Ulahol**	**7.73**	**37**	P	**Pn**	**18 18 15.6**	**+2.2**
SNR=9.6							
SMLA	**Simla**	**7.78**	**128**	*e*P	**Pn**	**18 18 15.2**	**+1.5**
SMLA				*e*S	**Sn**	**18 19 39.0**	**-1.2**
SMLA				IAML		18 19 41.1	
comp=E,719nm,0.3s							
SMLA				IAML		18 19 43.5	
comp=N,547nm,0.2s							
USP	**Ospenovka**	**7.87**	**24**	P	**Pn**	**18 18 14.5**	**-0.4**
SNR=63							
TKM2	**Tokmak 2**	**7.98**	**31**	P	**Pn**	**18 18 17.7**	**+1.1**
SNR=29							
TKM2	**Tokmak 2**	**7.98**	**31**	⇑P	**Pn**	**18 18 15.9**	**-0.7**
comp=N,176nm,0.9s							
TKM2				⇑S	**Sn**	**18 19 44.0**	**-1.4**
comp=N,137nm,1.0s							
TKM2	**Tokmak 2**	**7.98**	**31**	PN	**Pn**	**18 18 15.9**	**-0.7**
KDJ	**Kajisay**	**8.12**	**41**	Pn	**Pn**	**18 18 18.4**	**-0.2**
KDJ	**Kajisay**	**8.12**	**41**	PN	**Pn**	**18 18 18.4**	**-0.2**
TARG	**Taragay, Kyrgy**	**8.20**	**45**	Pn	**Pn**	**18 18 19.9**	**+0.1**
TARG	**Taragay, Kyrgy**	**8.20**	**45**	PN	**Pn**	**18 18 19.9**	**+0.1**
TNSS	**Tian-Shan**	**8.67**	**36**	*e*PN	**Pn**	**18 18 25.6**	**-0.5**
TNSS	**Tian-Shan**	**8.67**	**36**	*e*P	**Pn**	**18 18 25.7**	**-0.5**
WUS	**Wushi**	**8.75**	**52**	Pn	**Pn**	**18 18 27.7**	**+0.8**
AAA	**Alma-Ata**	**8.79**	**35**	*e*PN	**Pn**	**18 18 27.4**	**0.0**
AAA	**Alma-Ata**	**8.79**	**35**	*e*P	**Pn**	**18 18 27.4**	**0.0**
ANVS	**Anan'yevo**	**8.84**	**39**	PN	**Pn**	**18 18 31.2**	**+3.0**
ANVS				pmax	pmax		
comp=Z,30nm,0.7s							
DDI	**Dehra Dun**	**8.88**	**129**	*e*P	**Pn**	**18 18 30.5**	**+1.8**
DDI				*e*S	**Sn**	**18 20 02.8**	**-4.3**
DDI				IAML		18 20 14.1	
comp=E,692nm,0.3s							
DDI				IAML		18 20 16.9	
comp=N,837nm,0.3s							
JASL	**Jaisalmer**	**9.25**	**175**	*e*P	**Pn**	**18 18 33.2**	**-0.5**
JASL				*e*S	**Sn**	**18 20 13.8**	**-2.2**
JASL				IAML		18 20 14.3	
comp=E,523nm,0.3s							
JASL				IAML		18 20 26.8	
comp=E,347nm,0.2s							
SATY	**Saty**	**9.42**	**41**	*e*P	**Pn**	**18 18 35.8**	**-0.1**
SATY				*e*S	**Sn**	**18 20 19.5**	**-0.6**
SATY	**Saty**	**9.42**	**41**	*e*P	**Pn**	**18 18 35.9**	**-0.1**
SATY				*e*S	**Sn**	**18 20 19.5**	**-0.6**
BHGR	**Bahadurgarh**	**9.46**	**140**	*e*S	**Sn**	**18 20 16.5**	**-4.6**
NDI	**New Delhi**	**9.61**	**139**	*e*P	**Pn**	**18 18 39.5**	**+1.0**
NDI				*e*S	**Sn**	**18 20 19.7**	**-5.0**
NDI				IAML		18 20 22.9	
comp=E,208nm,0.4s							
NDI				IAML		18 20 27.6	
comp=E,291nm,0.4s							
KUDL	**Kundal**	**9.69**	**144**	*e*P	**Pn**	**18 18 39.4**	**-0.1**
KUDL				*e*S	**Sn**	**18 20 19.3**	**-7.2**
KUDL				IAML		18 20 25.5	
comp=E,289nm,0.3s							
KUDL				IAML		18 20 27.5	
comp=E,354nm,0.2s							
UZB	**Uzynbulak**	**9.81**	**42**	*e*P	**Pn**	**18 18 40.9**	**-0.3**
UZB	**Uzynbulak**	**9.81**	**42**	*e*P	**Pn**	**18 18 41.0**	**-0.3**
KPKS	**Kokpek**	**9.85**	**40**	*e*P	**Pn**	**18 18 41.0**	**-0.7**
KPKS	**Kokpek**	**9.85**	**40**	*e*P	**Pn**	**18 18 41.1**	**-0.7**
SONA	**Sohna**	**9.89**	**141**	*e*P	**Pn**	**18 18 43.3**	**+1.1**
SONA				*e*S	**Sn**	**18 20 26.8**	**-4.7**
SONA				IAML		18 20 31.5	
comp=E,392nm,0.3s							
SONA				IAML		18 20 31.8	
comp=N,281nm,0.2s							
ARXS	**Arharly**	**9.99**	**34**	*e*P	**Pn**	**18 18 42.4**	**-1.1**
SHLS	**Shalkode**	**10.06**	**43**	*e*P	**Pn**	**18 18 47.1**	**+2.6**
SHLS	**Shalkode**	**10.06**	**43**	*e*P	**Pn**	**18 18 47.1**	**+2.6**
PDGK	**Podgornoye**	**10.19**	**43**	P	**Pn**	**18 18 45.0**	**-1.2**
PTH	**Pithoragarh**	**10.80**	**125**	*e*P	**Pn**	**18 18 53.9**	**-0.7**
PTH				*e*S	**Sn**	**18 20 45.9**	**-7.8**
PTH				IAML		18 20 53.7	
comp=E,86nm,0.4s							
PTH				IAML		18 20 55.0	
comp=E,115nm,0.3s							
TDK	**Taldyqorghan**	**10.86**	**33**	*e*P	**Pn**	**18 18 54.6**	**-0.5**
TDK	**Taldyqorghan**	**10.86**	**33**	*e*P	**Pn**	**18 18 54.7**	**-0.5**
LGTI	**Lohaghat**	**10.88**	**125**	*e*P	**Pn**	**18 18 54.9**	**-0.7**
LGTI				*e*S	**Sn**	**18 20 49.6**	**-5.8**
LGTI				IAML		18 20 52.6	
comp=E,116nm,0.7s							
LGTI				IAML		18 21 03.8	
comp=E,166nm,0.9s							
OTUK	**Ortayu**	**12.18**	**7**	⇓P	**Pn**	**18 19 10.4**	**-2.2**
comp=E,130nm,0.8s							
OTUK	**Ortayu**	**12.18**	**7**	P	**Pn**	**18 19 10.4**	**-2.2**
BHUJ	**Bhuj**	**12.88**	**182**	*e*P	**Pn**	**18 19 20.9**	**-1.0**
BHUJ				IAmb	IAmb	18 19 22.3	
comp=Z,125nm,0.7s							
BHUJ				*e*S	Sn	18 21 35.1	-8.8
JHNI	**Jhansi**	**12.92**	**143**	*e*P	**Pn**	**18 19 21.9**	**-0.4**
JHNI				*e*S	**Sn**	**18

AB31 Akbulak array 15.02 334 *i* P **Pn** **18 19 45.4 -3.5**
ABKAR Akbulak array 15.02 334 **Pn** **18 19 45.8 -3.1**
ABKAR Akbulak array 15.02 334 **Pn** **18 19 45.3 -3.6**
WMQ Urumqi 15.51 55 *e*P **Pn** **18 19 56.0 +0.8**
WMQ S **Sn** **18 22 46.2 -0.9**
WMQ pmax pmax
comp=Z,33nm,1.1s
KURBB Kurchatov Arra 15.68 20 P **Pn** **18 19 55.2 -2.0**
comp=Z,10nm,0.6s,baz=211,slow=12,SNR=55
ZSN Zaisan 15.75 40 *e*P **Pn** **18 19 57.9 -0.1**
ZSN Zaisan 15.75 40 *e*P **Pn** **18 19 58.0 -0.1**
KURK Kurchatov 15.79 20 Pn **Pn** **18 19 55.6 -2.9**
KURK Kurchatov 15.79 20 *d i*P **Pn** **18 19 55.8 -2.7**
KURK pmax pmax
comp=Z,48nm,1.7s
WSAR Wadi Sarin 16.25 221 P **P** **18 20 05.6 +0.5**
comp=Z,6.4nm,1.0s,baz=78,slow=8.2,SNR=4.3
UOSS Minazif 16.34 231 P **P** **18 20 08.0 +1.9**
HATD Hatta, Dubai 16.47 230 P **P** **18 20 08.0 +0.5**
AKL Akola 16.58 157 *e*P **P** **18 20 10.9 +2.2**
AKL IAmb IAmb 18 20 25.9
comp=Z,55nm,1.0s
AKL *e*S **Sn** **18 23 05.7 -7.2**
WBK Wadi Bani Khal 16.59 218 P **P** **18 20 10.6 +1.7**
ASHO Ashiyiah 16.62 230 P **Pn** **18 20 08.8 -0.1**
AKTO Aktyubinsk 16.70 332 P **Pn** **18 20 08.4 -1.3**
comp=Z,45nm,0.8s,baz=139,slow=12,SNR=84
AKTO Aktyubinsk 16.70 332 ⇑P **Pn** **18 20 07.7 -2.0**
comp=Z,36nm,0.8s
SMDO Samad 16.70 222 P **P** **18 20 11.8 +1.6**
JLN Jalan Bani Buh 16.76 216 P **P** **18 20 13.4 +2.6**
BVA0 Borovoye Array 16.85 1 ⇓P **Pn** **18 20 09.3 -2.2**
comp=Z,36nm,0.9s,baz=176,slow=11,SNR=226
BVA0 Borovoye Array 16.85 1 *i* P **Pn** **18 20 09.1 -2.4**
BVAR Borovoye Array 16.85 1 P **Pn** **18 20 09.9 -1.5**
comp=Z,41nm,0.8s,baz=171,slow=12,SNR=127
BVAR Borovoye Array 16.85 1 P **Pn** **18 20 10.0 -1.5**
BRVK Borovoye 16.88 0 P **P** **18 20 09.8 -2.0**
BRVK IAmb IAmb 18 20 11.7
comp=Z,49nm,1.1s
BRVK Borovoye 16.88 0 P **P** **18 20 10.6 -1.2**
BRVK Borovoye 16.88 0 *d i*P **P** **18 20 10.2 -1.6**
BRVK pmax pmax
comp=Z,50nm,1.0s
LKRN Lenkeran, Azer 17.08 285 P **Pn** **18 20 16.2 +1.8**
ALNE Al Ain 17.27 230 P **Pn** **18 20 18.7 +2.0**
SNR=10
ARQ Araqi 17.34 226 P **P** **18 20 17.2 0.0**
BSY Bisya 17.42 223 P **Pn** **18 20 21.0 +2.3**
BOK Bokaro 18.42 128 IAmb IAmb 18 20 33.3
comp=Z,14nm,0.9s
BOK *e*P **Pn** **18 20 36.9 +6.4**
BOK *e*S **S** **18 23 46.5 -6.4**
MHTO MHTO 18.46 218 P **Pn** **18 20 30.8 -0.1**
SEKA Sheki 18.52 293 P **Pn** **18 20 32.0 +0.4**
MNGR Mingechevir, A 18.54 291 P **Pn** **18 20 33.2 +1.3**
UMZA Um Al Zommool 18.62 228 P **Pn** **18 20 32.6 -0.4**
MAK Makhachkala 18.63 298 *d i*P **P** **18 20 30.2 -0.8**
MAK *e*S **S** **18 23 57.2 +0.5**
MAK pmax pmax
comp=Z,162nm,1.7s
MAK MLR MLR
comp=Z,243nm,18.0s
LSA Lhasa 18.83 104 Pn **Pn** **18 20 37.6 +1.8**
LSA IAmb IAmb 18 20 39.1
comp=Z,23nm,1.0s
LSA Lhasa 18.83 104 P **Pn** **18 20 37.2 +1.4**
LSA S **S** **18 23 59.6 -2.2**
LSA Lhasa 18.83 104 P **Pn** **18 20 37.6 +1.8**
LSA pmax pmax
comp=Z,23nm,1.0s
GANJ Ganja 19.11 291 P **Pn** **18 20 39.5 +1.0**
GHWR Ruwais 19.18 235 P **P** **18 20 36.9 -0.3**
SHMA Al-Shehemyia 19.29 243 P **P** **18 20 38.7 +0.3**
MZR Muzera 19.46 232 P **P** **18 20 40.0 -0.2**
SAKB Bahrain 19.53 244 P **P** **18 20 41.0 +0.1**
NAX Nakhchivan 19.65 286 P **Pn** **18 20 45.8 +0.8**
TRNA Turayna 19.80 240 P **P** **18 20 42.3 -1.6**
SLWR Sila 19.90 238 P **P** **18 20 43.9 -1.1**
GOMU GeErMu 19.98 83 P **Pn** **18 20 48.9 -0.2**
GOMU pmax pmax
comp=Z,15nm,1.0s
SMRA Abu-Samra 20.07 241 P **P** **18 20 46.1 -0.7**
GNI Garni 20.27 289 P Pn 18 20 51.1 -1.2
GNI Garni 20.27 289 P Pn 18 20 50.8 -1.4
comp=Z,59nm,0.8s,baz=23,slow=2.8,SNR=35
GNI Garni 20.27 289 *c i*P Pn 18 20 51.3 -1.0
GNI pmax pmax
comp=Z,57nm,0.8s
ZAA0 Zalesovo Array 20.53 25 P **P** **18 20 51.8 +0.3**
ZALV Zalesovo Beam 20.53 25 P **P** **18 20 52.0 +0.4**
ZALV Zalesovo Beam 20.53 25 P **P** **18 20 52.2 +0.7**
comp=Z,97nm,0.7s,baz=220,slow=10,SNR=171
comp=Z,97nm,0.7s
ZALV Zalesovo Beam 20.53 25 *i* P **P** **18 20 52.2 +0.7**
ZALV pmax pmax
comp=Z,96nm,0.7s
RAGD RAYAGADA 20.58 141 *e*S **S** **18 24 36.4 +0.7**
SHL Shillong 21.47 113 P **P** **18 21 03.6 +1.5**
SHL Shillong 21.47 113 P **P** **18 21 03.9 +1.8**
SHL Shillong 21.47 113 P **P** **18 21 03.6 +1.5**
SHL pmax pmax
comp=Z,72nm,1.0s
NCK Nalchik 21.53 298⇑ *e*P **P** **18 21 05.3 +2.9**
NCK pmax pmax
comp=Z,38nm,0.8s
GEVA Gevas 21.57 284 P **P** **18 20 57.7 -5.3**
SVE Sverdlovsk 21.61 346 *e*P **P** **18 21 03.2 +0.1**
SVE *e*S **S** **18 24 56.5 +1.9**
SVE pmax pmax
comp=Z,40nm,0.9s
ARTI Arti 21.71 342 P **P** **18 21 02.2 -1.9**
ARTI Arti 21.71 342 P **P** **18 21 04.1 0.0**
comp=Z,66nm,0.9s,baz=158,slow=6.4,SNR=43
comp=Z,66nm,0.9s
ARTI Arti 21.71 342 *d i*P **P** **18 21 04.8 +0.7**
ARTI 18 21 27.7
ARTI S **S** **18 24 58.8 +2.5**
ARTI SS **SnSn** **18 25 29.5 -4.3**
ARTI pmax pmax
comp=Z,97nm,1.0s
KBZ Khabaz 22.07 298 P **P** **18 21 08.2 +0.2**
comp=Z,9.0nm,1.0s,baz=130,slow=6.3,SNR=14
comp=Z,9.0nm,1.0s
KBZ Khabaz 22.07 298 *d i*P **P** **18 21 08.5 +0.5**
KBZ pmax pmax
comp=Z,11nm,1.0s
SHA1 Shidzhatmaz 22.25 298⇓ *e*P **P** **18 21 11.0 +0.9**
KIV Kislovodsk 22.27 299 P **P** **18 21 06.3 -3.8**
KIV IAmb IAmb 18 21 16.0
comp=Z,13nm,0.7s
KIV Kislovodsk 22.27 299 P **P** **18 21 08.5 -1.6**
KIV Kislovodsk 22.27 299 *e*P **P** **18 21 10.2 +0.1**
KIV *e*S **S** **18 25 06.8 +0.4**
KIV pmax pmax
comp=Z,15nm,1.1s
DOK Doka 22.43 223 P **P** **18 21 12.2 +0.4**
DMTO DMTO 22.73 220 P **P** **18 21 14.9 +0.1**
WHFO Wadi Hawf 23.20 223 P **P** **18 21 20.0 +0.7**
SNR=14
RBK Rabkut 23.30 221 P **P** **18 21 21.2 +1.0**
GTA Gaotai 23.69 73 *e*P **P** **18 21 27.1 +3.4**
GTA pmax pmax
comp=Z,21nm,0.9s
ABTO Aybut 23.92 223 P **P** **18 21 28.0 +2.2**
SNR=19
ERBR Yeremizino-Bor 24.16 302 *e*P **P** **18 21 26.8 -0.9**
ERBR *e**PP **pP** **18 21 52.8 -1.0**
ERBR *e*S **S** **18 25 35.9 -0.8**
ERBR pmax pmax
comp=Z,22nm,1.0s
RAYN Ar Rayn 24.67 246 P **P** **18 21 31.9 -0.7**
RAYN IAmb IAmb 18 21 34.5
comp=Z,14nm,1.1s
RAYN Ar Rayn 24.67 246 P **P** **18 21 32.4 -0.1**
RAYN Ar Rayn 24.67 246 P **P** **18 21 32.4 -0.1**
VRH Novokhopyorsk 25.20 315 *e*P **P** **18 21 35.7 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.4s
ANN Anapa 26.12 299 *e*P **P** **18 21 45.6 +0.2**
ANN *e**PP **pP** **18 22 13.4 +1.0**
ANN *e*S **S** **18 26 08.2 +0.6**
ANN pmax pmax
comp=Z,73nm,1.1s

KIRV Kirov 26.21 335 *d i*P **P** **18 21 46.5 +0.5**
VORD Divnogorie 26.50 314 *e*P **P** **18 21 49.4 +0.6**
VORD *e**PP **pP** **18 22 17.3 +1.4**
VORD pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 26.67 314 *e*P **P** **18 21 50.9 +0.6**
VSR *e**PP **pP** **18 22 16.7 -0.7**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORR Voronezh 26.82 315 *e*P **P** **18 21 52.6 +0.9**
VORR *e**PP **pP** **18 22 19.7 +0.9**
VORR pmax pmax
comp=Z,40nm,0.4s
LZH Lanzhou 27.22 80 *e*P **P** **18 21 57.0 +1.4**
LZH pmax pmax
comp=Z,12nm,0.9s
LPSR Galich'ya Gora 27.36 317 *e*P **P** **18 21 56.8 +0.4**
LPSR *e**PP **pP** **18 22 23.7 +0.1**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
CD2 Chengdu 28.49 91 P **P** **18 22 07.1 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
PZH PanZhiHua 28.62 101 P **P** **18 22 10.0 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.9s
KIRS Kirsehir-Merke 28.64 287⇑P **P** **18 22 07.4 -0.8**
BR131 Keskin Array S 28.81 288⇓ *i*P **P** **18 22 10.0 +0.3**
BRTR Keskin Array B 28.81 288 P **P** **18 22 09.9 +0.3**
comp=Z,1.5nm,0.7s,baz=103,slow=8.1,SNR=12
BRTR pP **pP** **18 22 38.4 +1.3**
comp=Z,1.6nm,0.8s,baz=105,slow=7.9,SNR=3.6
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 28.81 288 *i* P **P** **18 22 10.1 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 29.15 55 P **P** **18 22 13.0 +0.4**
SONM Songino Array 29.15 55 P **P** **18 22 14.1 +1.5**
comp=Z,2.2nm,0.7s,baz=257,slow=9.8,SNR=22
comp=Z,2.2nm,0.7s
ANTO Ankara 29.44 289⇓P **P** **18 22 13.9 -1.3**
ANTO Ankara 29.44 289 P **P** **18 22 13.9 -1.3**
ULN Ulaanbaatar 29.59 55 P **P** **18 22 16.2 -0.3**
ULN Ulaanbaatar 29.59 55⇑ *e*P **P** **18 22 18.1 +1.6**
ULN pmax pmax
comp=Z,11nm,2.4s
OBN Obninsk 29.69 320 *c e*P **P** **18 22 18.3 +1.2**
OBN *e**PP **pP** **18 22 47.3 +2.8**
OBN *e* 18 23 21.5
OBN *e*SS **SnSn** **18 28 50.2 +2.8**
OBN pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 30.75 116 P **P** **18 22 27.6 +0.8**
CHTO Chiang Mai 30.75 116 P **P** **18 22 27.6 +0.8**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CM31 Chiang Mai Arr 30.98 117 IAmb IAmb 18 22 32.5
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 30.98 117 P **P** **18 22 29.9 +1.1**
CMAR Chiang Mai Arr 30.98 117 P **P** **18 22 30.4 +1.5**
comp=Z,5.5nm,0.8s,baz=294,slow=8.1,SNR=50
comp=Z,5.5nm,0.8s
CMAR Chiang Mai Arr 30.98 117 *i* P **P** **18 22 30.6 +1.7**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 31.39 331 *e*P **P** **18 22 27.7 -4.3**
KLMR pmax pmax
comp=Z,19nm,1.0s
XAN Xi'an 31.73 82⇓P **P** **18 22 37.0 +1.6**
XAN pmax pmax
comp=Z,20nm,0.9s
MILM Milestii Mici 32.34 302⇑P **P** **18 22 40.1 -0.4**
MILM Milestii Mici 32.34 302 P **P** **18 22 40.0 -0.4**
TPGR Topolog 32.52 298⇑P **P** **18 22 41.9 -0.2**
AKASG Malin Array Be 32.56 309 P **P** **18 22 42.0 -0.3**
comp=Z,1.8nm,0.6s,baz=84,slow=7.0,SNR=24
comp=Z,1.8nm,0.6s
AKASG Malin Array Be 32.56 309 P **P** **18 22 42.0 -0.3**
AKBB Malin Array Si 32.56 309 IAmb IAmb 18 22 43.9
comp=Z,6.3nm,0.8s
AKBB Malin Array Si 32.56 309⇑ *i*P **P** **18 22 43.3 +1.0**
AKBB pmax pmax
comp=Z,17nm,1.8s
KIEV Kiev 32.56 309 P **P** **18 22 40.7 -1.7**
KIEV IAmb IAmb 18 22 44.0
comp=Z,5.7nm,0.8s
KIEV Kiev 32.56 309⇑P **P** **18 22 41.2 -1.2**
KIEV Kiev 32.56 309 P **P** **18 22 41.2 -1.2**
HHC Hu-ho-hao-te 32.59 69 *e*P **P** **18 22 45.0 +2.1**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,83nm,4.0s
CFR Carcaliu 32.73 299⇓P **P** **18 22 42.8 -1.0**
CFR Carcaliu 32.73 299 P **P** **18 22 42.8 -1.0**
SORM Soroca 32.76 305⇓P **P** **18 22 43.9 -0.1**
SORM Soroca 32.76 305 P **P** **18 22 43.9 -0.1**
VLDR Vladesti 32.78 300⇓P **P** **18 22 44.0 -0.3**
SCTR Scanteiesti 32.84 300⇑P **P** **18 22 44.2 -0.6**
SLVN Son La 32.97 107 P **P** **18 22 49.0 +2.7**
BAND Balkesir-Ban 32.98 290⇑P **P** **18 22 46.1 0.0**
ENH Enshi 33.34 89 P **P** **18 22 51.4 +1.9**
PLOR Plostina 33.78 300⇑P **P** **18 22 53.5 +0.3**
PLOR Plostina 33.78 300 P **P** **18 22 53.4 +0.3**
SRDT SRDT 33.89 122 P **P** **18 22 56.5 +2.3**
MNK Minsk 34.20 316 *i* P **P** **18 22 55.9 -0.6**
comp=E,15nm,0.9s
MNK *i* P **P** **18 22 55.9 -0.6**
comp=N,14nm,1.0s
MNK *i* P **P** **18 22 55.9 -0.6**
comp=Z,9.0nm,0.8s,baz=105
MNK *i* pP **pP** **18 23 23.6 -0.6**
MNK *i* PP **PP** **18 24 14.2 -2.0**
MNK *i* S **S** **18 28 13.0 -0.5**
MNK *i* SS **SnSn** **18 30 37.1 +1.0**
MNK *i* LRM MLR 18 35 29.1
comp=Z,408nm,19.0s
MNK *i* LRM MLR 18 35 46.4
comp=N,250nm,19.9s
MNK *i* LRM MLR 18 39 01.4
comp=E,231nm,19.3s
MNK Minsk 34.20 316 *i* P **P** **18 22 55.8 -0.6**
MNK *i* *PP **pP** **18 23 23.6 -0.6**
MNK *i* 18 24 14.2
MNK *i* S **S** **18 28 13.0 -0.5**
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,14nm,1.0s
MNK MLR MLR
comp=Z,408nm,19.0s
MNK MLR MLR
comp=N,250nm,20.0s
MNK MLR MLR
comp=E,231nm,19.0s
MLR Muntele Rosu 34.27 300 IAmb IAmb 18 23 00.0
comp=Z,11nm,0.9s
MLR Muntele Rosu 34.27 300⇑P **P** **18 22 57.0 -0.5**
MLR Muntele Rosu 34.27 300 P **P** **18 22 56.9 -0.5**
NONG Nongkai 34.31 113 P **P** **18 22 59.2 +1.3**
LYN LuoYang 34.43 80 P **P** **18 23 02.3 +3.5**
LYN pmax pmax
comp=Z,23nm,1.1s
DOPR Dopca 34.66 300⇑P **P** **18 23 00.3 -0.4**
BURAR Bucovina Array 34.82 303 P **P** **18 23 01.5 -0.6**
VOIR 34.90 300⇑P **P** **18 23 03.4 +0.5**
VOIR 34.90 300 P **P** **18 23 03.3 +0.5**
NACGM Naroch 34.91 316 *e*P **P** **18 23 02.3 -0.4**
baz=105
ARR Arges 35.20 299⇑P **P** **18 23 04.9 -0.4**
BOD Bodaibo 36.08 39 *e*P **P** **18 23 13.5 +0.9**
BOD pmax pmax
comp=Z,22nm,1.4s
DRGR 36.52 302⇑P **P** **18 23 16.5 0.0**
DRGR 36.52 302 P **P** **18 23 16.5 0.0**
KOLS Kolonicke sedl 36.84 305 *e*P **P** **18 23 21.4 +2.2**
KOLS *e* 18 24 48.4
KOLS Kolonicke sedl 36.84 305 *e*P **P** **18 23 21.4 +2.2**
KOLS *e*PP **PnPn** **18 24 48.4 +1.3**
SURR Surduc 36.95 300⇓P **P** **18 23 20.5 +0.4**

WHN Wuhan 37.18 86⇓P **P** **18 23 24.3 +2.1**
BZS Buzias 37.31 300⇓P **P** **18 23 21.6 -1.6**
BZS Buzias 37.31 300 P **P** **18 23 21.6 -1.6**
FINES FINESS Array B 37.33 327 P **P** **18 23 23.2 +0.1**
comp=Z,4.0nm,0.6s,baz=102,slow=9.1,SNR=14
FINES pP **pP** **18 23 52.4 +1.2**
comp=Z,4.6nm,0.8s,baz=130,slow=8.0,SNR=2.6
comp=Z,4.0nm,0.6s
UBPT Khong Chiam 37.79 114 P **P** **18 23 27.9 +0.4**
UBPT IAmb IAmb 18 23 29.1
comp=Z,12nm,0.9s
UBPT Khong Chiam 37.79 114 P **P** **18 23 28.6 +1.1**
SRIT Nakonsritamara 38.44 128 P **P** **18 23 34.8 +1.9**
SRIT Nakonsritamara 38.44 128 P **P** **18 23 35.3 +2.4**
MODS Modra-Piesok 40.15 305 *e*P **P** **18 23 46.1 -0.8**
MODS Modra-Piesok 40.15 305 *e*P **P** **18 23 46.0 -0.8**
NJ2 Nanjing 40.28 81 *e*P **P** **18 23 50.7 +2.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
VRAC Vranov 40.57 306 *e*P **P** **18 23 52.8 +2.5**
ARCES ARCESS Array B 41.16 338 P **P** **18 23 54.7 -0.1**
comp=Z,2.7nm,0.5s,baz=114,slow=7.9,SNR=17
comp=Z,2.7nm,0.5s
KULM Kulim 41.64 130 P **P** **18 23 59.8 +0.4**
KULM IAmb IAmb 18 24 02.1
comp=Z,8.1nm,0.8s
GERES GERESS Array B 42.49 306 P **P** **18 24 05.6 -0.5**
comp=Z,0.8nm,0.7s,baz=75,slow=11,SNR=2.5
comp=Z,0.8nm,0.7s
KHC Kasperske Hory 42.55 306⇓ *e*P **P** **18 24 09.0 +2.5**
KHC pmax pmax
comp=Z,16nm,2.5s
PSI Prapat 42.59 135 P **P** **18 24 08.3 +1.1**
PSI Prapat 42.59 135 P **P** **18 24 07.7 +0.5**
PSI pmax pmax
comp=Z,14nm,0.7s
RPSI Rantau Prapat 42.67 135 P **P** **18 24 07.7 -0.1**
RPSI IAmb IAmb 18 24 09.6
comp=Z,14nm,0.7s
ZEA Zeya 42.85 47 *e*P **P** **18 24 11.4 +2.6**
ZEA *e* 18 24 41.4
HFS Hagfors 42.85 322 P **P** **18 24 07.9 -0.8**
comp=Z,10nm,0.6s,baz=99,slow=9.5,SNR=22
HFS pP **pP** **18 24 39.1 +1.8**
comp=Z,8.3nm,0.7s,baz=104,slow=11,SNR=4.7
comp=Z,10nm,0.6s
HEH HeiHe 43.05 52 *e*P **P** **18 24 11.7 +1.3**
HEH pmax pmax
comp=Z,13nm,0.7s
GSI Gunungsitoli 43.06 137 P **P** **18 24 13.0 +2.1**
GSI Gunungsitoli 43.06 137 P **P** **18 24 13.4 +2.5**
GSI Gunungsitoli 43.06 137 P **P** **18 24 13.4 +2.5**
NORES NORESS Array B 43.99 323 P **P** **18 24 18.1 +0.3**
NC303 NORSAR Array S 44.13 324 P **P** **18 24 17.2 -1.7**
NC303 IAmb IAmb 18 24 20.6
comp=Z,11nm,0.7s
NB201 NORSAR Array S 44.14 323 P **P** **18 24 18.0 -1.1**
NB201 IAmb IAmb 18 24 19.2
comp=Z,22nm,1.4s
NB2 NORSAR Subarra 44.18 323 P **P** **18 24 18.3 -1.1**
comp=Z,2.9nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.18 323 P **P** **18 24 16.8 -2.6**
NOA NORSAR Array B 44.18 323 P **P** **18 24 18.2 -1.2**
comp=Z,4.7nm,0.7s,baz=98,slow=8.0,SNR=22
NOA pP **pP** **18 24 49.5 +1.4**
comp=Z,3.0nm,0.8s,baz=98,slow=8.0,SNR=3.9
comp=Z,4.7nm,0.7s
NBO00 NORSAR Array S 44.39 323 P **P** **18 24 19.2 -1.9**
NBO00 IAmb IAmb 18 24 22.6
comp=Z,10nm,0.9s
NC204 NORSAR Array S 44.43 324 P **P** **18 24 20.0 -1.3**
MNSI Mandailing Nat 44.60 135 P **P** **18 24 25.2 +2.1**
YAK Yakutsk 44.67 35 P **P** **18 24 23.0 -0.2**
YAK Yakutsk 44.67 35 *e*P **P** **18 24 23.0 -0.2**
YAK *e**PP **pP** **18 24 53.5 +0.7**
YAK *e* 18 26 03.0
YAK *e* 18 26 09.2
YAK *e*PPP PPP 18 26 51.7
YAK *e*S **S** **18 30 50.1 +0.3**
YAK *e**SS **sS** **18 31 38.5 -2.2**
YAK *e* 18 34 06.1
YAK pmax pmax
comp=Z,19nm,0.7s
YAK pmax pmax
comp=N,3.0nm,1.6s
YAK pmax pmax
comp=E,8.0nm,1.7s
YAK pmax pmax
comp=Z,273nm,5.4s
YAK pmax pmax
comp=N,223nm,6.8s
YAK pmax pmax
comp=E,101nm,6.2s
YAK smax smax
comp=N,149nm,4.3s
YAK smax smax
comp=E,247nm,4.8s
YHNB Yeheng 45.26 90 P **P** **18 24 29.0 +0.6**
LODK Lodwar 45.66 233 P **P** **18 24 32.6 +1.0**
LODK Lodwar 45.66 233 P **P** **18 24 31.5 -0.1**
KSAR Wonju Array Be 45.68 70 P **P** **18 24 32.8 +1.2**
KSAR Wonju Array Be 45.68 70 P **P** **18 24 32.8 +1.2**
KSRS Korea Array 45.71 70 P **P** **18 24 29.9 -1.8**
comp=E,0.9nm,0.5s,baz=276,slow=6.7,SNR=5.0
comp=E,0.9nm,0.5s
KLR Kul'dur 45.95 53⇑ *i*P **P** **18 24 34.4 +0.9**
KLR pmax pmax
comp=Z,19nm,3.4s
MYKOM Kota Tinggi 46.35 130 IAmb IAmb 18 24 39.7
comp=Z,19nm,1.0s
MYKOM Kota Tinggi 46.35 130 P **P** **18 24 39.0 +2.1**
TIXI Tiksi 46.36 22 P **P** **18 24 36.9 +0.6**
TIXI IAmb IAmb 18 24 38.0
comp=Z,19nm,1.1s
TIXI Tiksi 46.36 22⇑ *e*P **P** **18 24 36.9 +0.6**
TIXI pmax pmax
comp=Z,16nm,0.9s
SENIN Lac Senin/Sane 47.12 303 P **P** **18 24 41.7 -1.2**
SENIN IAmb IAmb 18 25 09.8
comp=Z,21nm,1.1s
SPITS Spitsbergen Ar 47.64 347 P **P** **18 24 47.0 +0.8**
comp=Z,5.3nm,0.6s,baz=125,slow=10,SNR=10
comp=Z,5.3nm,0.6s
SPITS Spitsbergen Ar 47.64 347 P **P** **18 24 47.0 +0.8**
KMBO Kilima Mbogo 48.05 227 P **P** **18 24 50.6 +0.1**
comp=Z,2.4nm,0.7s,baz=34,slow=10,SNR=6.5
comp=Z,2.4nm,0.7s
KMBO Kilima Mbogo 48.05 227 *i* P **P** **18 24 51.5 +1.1**
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KEST Kesra 48.41 288 P **P** **18 24 52.3 -0.6**
comp=Z,6.9nm,0.9s,baz=55,slow=12,SNR=3.7
comp=Z,6.9nm,0.9s
SBUM Sibu 51.38 121 P **P** **18 25 17.5 +2.1**
MBAR Mbarara 51.70 234 P **P** **18 25 18.0 +0.1**
MBAR IAmb IAmb 18 25 19.1
comp=Z,5.4nm,0.7s
MBAR Mbarara 51.70 234 P **P** **18 25 18.3 +0.3**
MBAR Mbarara 51.70 234 P **P** **18 25 18.0 +0.1**
MBAR pmax pmax
comp=Z,5.0nm,0.7s
KKM Kota Kinabalu 51.77 114 P **P** **18 25 20.4 +2.0**
EKA Eskdalemuir Ar 51.99 316 P **P** **18 25 18.2 -1.2**
comp=Z,4.5nm,0.9s,baz=73,slow=7.2,SNR=4.2
comp=Z,4.5nm,0.9s
STKI Sintang 52.60 124 P **P** **18 25 27.2 +2.8**
MJAR Matsushiro Arr 53.78 68 P **P** **18 25 33.2 +0.3**
comp=Z,1.3nm,0.8s,baz=291,slow=10,SNR=2.1
comp=Z,1.3nm,0.8s
DAG Danmarks Havn 54.83 344 P **P** **18 25 40.3 +0.5**
DAG pmax pmax
comp=Z,10.0nm,2.3s
DAG Danmarks Havn 54.83 344 *i* P **P** **18 25 39.0 -0.8**
DAG IAmb IAmb 18 25 42.5
comp=Z,7.7nm,0.9s
MA2 Magadan 55.09 38⇑ *e*P **P** **18 25 42.2 +0.3**
MA2 pmax pmax
comp=Z,11nm,2.2s
SEY Seymchan 55.11 34⇓ *i*P **P** **18 25 43.4 +1.4**
SEY pmax pmax
comp=Z,9.0nm,1.2s
ESDC Sonseca Array 56.93 298 P **P** **18 25 54.1 -1.3**
comp=Z,1.4nm,0.8s,baz=57,slow=7.4,SNR=11
ESDC pP **pP** **18 26 26.8 +1.2**
comp=Z,0.8nm,0.7s,baz=60,slow=8.4,SNR=3.1
comp=Z,1.4nm,0.8s

TOLI2 Tolitoli 58.44 115 P **P** **18 26 06.3 +0.1**
TOLI2 IAmb IAmb 18 26 18.3
comp=Z,10nm,1.1s
BILL Bilibino 59.23 26 P **P** **18 26 10.1 -0.9**
BILL Bilibino 59.23 26 ⇓*i*P **P** **18 26 11.5 +0.6**
BILL pmax pmax
comp=Z,13nm,1.4s
SUMG Summit 61.12 341 P **P** **18 26 24.0 -0.2**
SUMG IAmb IAmb 18 26 28.1
comp=Z,6.1nm,0.9s
SUMG Summit 61.12 341 P **P** **18 26 24.0 -0.2**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 61.12 341 *i*P P 18 26 16.6 -7.6
NEEM North Greenlan 61.19 348 *i*P **P** **18 26 24.3 -0.2**
NEEM IAmb IAmb 18 26 28.5
comp=Z,8.8nm,0.9s
VOI Vohitsoka 61.81 205 P **P** **18 26 29.1 0.0**
LSZ Lusaka 64.68 225 P **P** **18 26 48.4 +0.3**
LSZ IAmb IAmb 18 26 49.2
comp=Z,6.2nm,0.8s
LSZ Lusaka 64.68 225 P **P** **18 26 48.4 +0.3**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
TORD Torodi Ar. Bea 64.94 268 P **P** **18 26 47.9 -1.9**
comp=Z,2.5nm,0.6s,baz=37,slow=7.4,SNR=3.6
comp=Z,2.5nm,0.6s
SOEI Soe 68.44 121 P **P** **18 27 10.8 -1.3**
B20K Meade River 68.73 16 IAmb IAmb 18 27 16.5
comp=Z,5.9nm,0.9s
C18K Utukok River 68.82 18 IAmb IAmb 18 27 14.6
comp=Z,5.5nm,0.9s
B21K Ikpikpuk River 69.58 15 IAmb IAmb 18 27 20.0
comp=Z,4.8nm,0.8s
C23K Itkillik River 70.22 14 IAmb IAmb 18 27 24.1
comp=Z,8.7nm,0.8s
TOLK Toolik Lake Re 71.43 14 P **P** **18 27 30.3 +0.7**
TOLK IAmb IAmb 18 27 31.1
comp=Z,9.3nm,0.8s
D25K Kavik River 71.45 13 IAmb IAmb 18 27 31.7
comp=Z,5.2nm,0.8s
A36M Sachs Harbour 71.60 5 IAmb IAmb 18 27 31.9
comp=Z,9.1nm,0.8s
C27K Jago River 71.65 12 IAmb IAmb 18 27 33.0
comp=Z,4.9nm,0.8s
COLD Coldfoot 72.49 15 IAmb IAmb 18 27 37.3
comp=Z,7.3nm,0.9s
E25K Arctic Village 72.64 13 P **P** **18 27 36.5 -0.3**
POGA Pongola 72.79 215 P **P** **18 27 37.9 -0.1**
BMAR Burnt Mountain 73.43 13 P **P** **18 27 42.6 +1.1**
DBIC Dimbokro 73.92 267 P **P** **18 27 43.3 -1.7**
DBIC IAmb IAmb 18 27 43.9
comp=Z,9.5nm,1.1s
DBIC Dimbokro 73.92 267 P **P** **18 27 43.0 -2.0**
comp=Z,4.8nm,0.9s,baz=46,slow=4.9,SNR=4.4
DBIC LR LR 19 03 12.8
comp=Z,121nm,18.3s,baz=208,slow=38
comp=Z,4.8nm,0.9s
DBIC Dimbokro 73.92 267 P **P** **18 27 43.3 -1.7**
DBIC pmax pmax
comp=Z,10.0nm,1.2s
C36M Paulatuk 74.27 5 P **P** **18 27 46.0 -0.2**
C36M IAmb IAmb 18 27 47.0
comp=Z,9.1nm,0.7s
INK Inuvik 74.35 9 P **P** **18 27 47.1 +0.5**
INK IAmb IAmb 18 27 48.2
comp=Z,8.0nm,0.8s
INK Inuvik 74.35 9 P **P** **18 27 47.1 +0.5**
INK pmax pmax
comp=Z,8.0nm,0.9s
G27K Doyon Strip 74.51 12 IAmb IAmb 18 27 49.7
comp=Z,5.5nm,0.8s
L16K Owhat River 74.54 22 P **P** **18 27 49.1 +1.2**
NEA2 Nenana 74.97 16 P **P** **18 27 49.4 -0.9**
NEA2 IAmb IAmb 18 27 51.3
comp=Z,8.0nm,0.8s
COLA College 75.00 16⇑*e*P **P** **18 27 50.2 -0.2**
COLA pmax pmax
comp=Z,7.0nm,0.6s
F31M Tsiigehtchic 75.14 9 IAmb IAmb 18 27 52.6
comp=Z,9.7nm,0.8s
G30M tAoh Zrail Nji 75.23 10 IAmb IAmb 18 27 53.7
comp=Z,6.8nm,0.9s
CAST Castle Rocks 75.23 18 IAmb IAmb 18 27 53.2
comp=Z,10nm,0.9s
WRH Wood River Hil 75.29 16 P **P** **18 27 52.1 0.0**
ILAR Eielson Array 75.30 15 P **P** **18 27 50.1 -2.1**
ILAR Eielson Array 75.30 15 P **P** **18 27 51.5 -0.7**
comp=Z,2.1nm,0.8s,baz=318,slow=4.8,SNR=25
comp=Z,2.1nm,0.8s
KTH Kantishna Hill 75.41 18 P **P** **18 27 51.4 -1.5**
KTH IAmb IAmb 18 28 04.1
comp=Z,10nm,1.2s
G31M Satah River 75.56 10 P **P** **18 27 53.4 -0.2**
G31M IAmb IAmb 18 27 54.8
comp=Z,6.6nm,0.8s
I26K Coal Creek Min 75.59 14 IAmb IAmb 18 27 54.9
comp=Z,8.0nm,1.1s
H29M Whitestone 75.60 11 IAmb IAmb 18 27 55.6
comp=Z,8.7nm,0.8s
PPLA Purkeypile 75.64 19 P **P** **18 27 53.3 -1.0**
PPLA IAmb IAmb 18 27 55.7
comp=Z,18nm,1.4s
TRF Thorofare Moun 75.65 17 **P** **18 27 52.9 -1.6**
KNRA Kununurra 75.70 122 P **P** **18 27 55.5 +0.4**
KNRA IAmb IAmb 18 27 56.3
comp=Z,8.5nm,0.8s
MCK McKinley 75.73 17 P **P** **18 27 54.1 -0.7**
MCK McKinley 75.73 17 P **P** **18 27 54.1 -0.7**
MCK pmax pmax
comp=Z,6.0nm,1.2s
RND Reindeer 76.03 17 P **P** **18 27 55.5 -1.0**
RND IAmb IAmb 18 28 19.5
comp=Z,10nm,1.2s
RND Reindeer 76.03 17 P **P** **18 27 55.5 -1.0**
RND pmax pmax
comp=Z,11nm,1.2s
I28M Miner Creek 76.05 12 IAmb IAmb 18 27 58.0
comp=Z,5.9nm,0.7s
J26L Joseph Creek 76.23 14 IAmb IAmb 18 27 58.6
comp=Z,6.7nm,0.8s
H31M Peel River 76.60 10 IAmb IAmb 18 28 00.6
comp=Z,6.2nm,0.8s
SCRK Sand Creek 76.61 15 P **P** **18 28 00.0 +0.2**
SCRK IAmb IAmb 18 28 01.0
comp=Z,6.1nm,0.9s
RIDG Independent Ri 76.64 15 P **P** **18 27 58.7 -1.2**
RIDG IAmb IAmb 18 28 17.4
comp=Z,9.1nm,1.2s
I30M Mount Dempster 76.84 11 IAmb IAmb 18 28 02.2
comp=Z,5.8nm,0.8s
BOSA Boshof 77.01 219 P **P** **18 28 00.3 -2.1**
comp=Z,3.9nm,0.9s,baz=33,slow=9.0,SNR=3.7
comp=Z,3.9nm,0.9s
PAX Paxson 77.18 16 P **P** **18 28 02.2 -0.8**
PAX Paxson 77.18 16 P **P** **18 28 02.2 -0.8**
PAX pmax pmax
comp=Z,5.0nm,0.7s
DAWY Dawson 77.41 13 P **P** **18 28 04.6 +0.4**
DAWY IAmb IAmb 18 28 40.0
comp=Z,11nm,1.5s
SML Sawmill 77.53 18 P **P** **18 28 04.5 -0.4**
SML Sawmill 77.53 18 P **P** **18 28 04.5 -0.4**
SML pmax pmax
comp=Z,22nm,1.1s
BCAR Beaver Creek A 77.87 14 P **P** **18 28 07.8 +1.0**
YKA Yellowknife Ar 81.60 2 P **P** **18 28 26.6 -0.2**
comp=Z,4.2nm,0.9s,baz=348,slow=5.0,SNR=56
YKA pP **pP** **18 29 00.1 +0.7**
comp=Z,0.9nm,0.8s,baz=347,slow=5.0,SNR=2.6
comp=Z,4.2nm,0.9s
YKA Yellowknife Ar 81.60 2 *i*P **P** **18 28 27.0 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 82.47 121 P **P** **18 28 31.1 -0.9**
comp=Z,6.6nm,0.7s,baz=323,slow=5.0,SNR=21
comp=Z,2.6nm,0.7s
WRAB Tennant Creek 82.47 121⇑*i*P **P** **18 28 30.9 -1.1**
ASAR Alice Springs 84.70 124 P **P** **18 28 42.5 -0.8**
comp=Z,2.6nm,0.8s,baz=308,slow=4.8,SNR=30
comp=Z,2.6nm,0.8s
ULM Lac du Bonnet 93.05 351 P **P** **18 29 21.4 -1.2**
comp=Z,1.7nm,0.8s,baz=352,slow=6.8,SNR=3.1
comp=Z,1.7nm,0.8s
QSPA South Pole Qui 125.97 180 PKP **PKPdf** **18 35 08.6 -0.9**
comp=Z,1.9nm,1.0s,baz=248,slow=0.8,SNR=6.7
PLCA Paso Flores 149.00 249 PKPbc **PKPbc** **18 35 55.3 -1.2**
comp=Z,3.7nm,0.9s,baz=110,slow=3.1,SNR=6.9

IDC 11 18:31:07.2±10.0, 15°27S×170°79W, h0km, mb3.5/3, mbtmp3.5/3, MS3.8/3, Error ellipse: s-maj=462.2km s-min=40.8km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**29.15**	**278**	LR	LR	18 47 09.8	
comp=Z,160nm,18.9s,baz=158,slow=33							
WRA	**Warramunga Arr**	**52.32**	**256**	P	P	18 40 20.8	-0.4
0.2nm,0.7s,baz=94,slow=7.6,SNR=1.6							
0.2nm,0.7s							
ASAR	**Alice Springs**	**52.54**	**252**	P	P	18 40 22.9	+0.1
0.5nm,0.5s,baz=89,slow=8.0,SNR=9.5							
0.5nm,0.5s							
TGY	**Tagaytay City**	**73.54**	**290**	LR	LR	19 08 31.9	
comp=Z,121nm,21.8s,baz=74,slow=30							
ILAR	**Eielson Array**	**81.86**	**10**	P	P	18 43 27.9	0.0
0.6nm,1.0s,baz=213,slow=6.5,SNR=3.4							
0.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**94.97**	**288**	LR	LR	19 24 02.5	
comp=Z,25nm,20.4s,baz=15,slow=33							

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*CRAAG **11** 18:31:58.9, 36°50N×5°12E, Ml2.8, Algerie 07km S Ait-Tizi*
*MDD **11** 18:32:00.4±0.8, 36°72N×5°31E, h0km, Mb4.3/22, M_mb3.7/18, Error ellipse: s-maj=7.1km s-min=5.5km az=32.0*
ISC 11 18:31:58.3±0.9, 36°70N±0°06×5°22E±0°04, h10km, n16, σ1§90/23, 7C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.52**	**163**	P	**Pg**	**18 32 08.0**	**-0.5**
CAZD	**Ain Tagrout**	**0.53**	**185**	P	**Pg**	**18 32 07.0**	**-1.6**
CTCHA	**Tamokra**	**0.53**	**239**	P	**Pg**	**18 32 08.1**	**-0.5**
CKHR	**Kef el Ahmar**	**0.72**	**161**	P	**Pg**	**18 32 11.9**	**-0.4**
CBHR	**Beni Haroun da**	**0.86**	**99**	P	**Pn**	**18 32 18.6**	**+2.1**
ATKJ	**Tikjda**	**0.92**	**254**	P	**Pb**	**18 32 16.5**	**+0.1**
CJSR	**Ain Djasser**	**1.03**	**145**	P	**Pb**	**18 32 18.2**	**0.0**
ATAF	**Djebel Tarf**	**1.12**	**223**	P	**Pb**	**18 32 19.3**	**-0.6**
ETOS	**Mallorca**	**3.60**	**329**	P	**Pn**	**18 32 55.9**	**+1.7**
ETOS				⇑*i*Vmb_V		18 32 57.6	
500nm,SNR=1.2							
ETOS				S	**Sn**	**18 33 35.9**	**-0.8**
VSL	**Villasalto**	**4.31**	**48**	P	**Pn**	**18 33 05.3**	**+1.4**
VSL				S	**Sn**	**18 33 52.4**	**-1.8**
EPOB	**Poblet**	**5.65**	**327**	P	**Pn**	**18 33 23.7**	**+1.3**
EPOB				⇑*i*Vmb_V		18 33 24.6	
125nm,SNR=0.8							
EPOB				S	**Sn**	**18 34 23.6**	**-3.9**
EMOS	**Mosqueruela**	**5.77**	**311**	P	**Pn**	**18 33 26.5**	**+2.4**
EMOS				⇑*i*Vmb_V		18 33 29.6	
202nm,SNR=1.5							
EMOS				S	**Sn**	**18 34 28.7**	**-1.7**
EMIR	**Miracle**	**5.94**	**332**	P	**Pn**	**18 33 28.8**	**+2.4**
EMIR				⇑*i*Vmb_V		18 33 30.0	
394nm,SNR=1.4							
EMIR				S	**Sn**	**18 34 33.5**	**-1.0**
EJON	**La Jonquera**	**6.01**	**343**	P	**Pn**	**18 33 28.7**	**+1.3**
EJON				⇑*i*Vmb_V		18 33 28.7	
87nm,SNR=0.4							
EJON				S	**Sn**	**18 34 34.7**	**-1.6**
EQES	**Quesada**	**6.70**	**282**	P	**Pn**	**18 33 40.0**	**+3.1**
EQES				⇑*i*Vmb_V		18 33 40.7	
59nm,SNR=0.8							
EALK	**Alkurruntz**	**8.31**	**324**	P	**Pn**	**18 34 01.6**	**+2.7**
EALK				⇑*i*Vmb_V		18 34 03.0	
199nm,SNR=0.8							
EALK				S	**Sn**	**18 35 31.3**	**-1.5**

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*NEIC **11** 18:36:41.2±2.5, 11°13N±0°07×126°3E±0°1, h10km±1km, mb4.6/60, Error ellipse: s-maj=18.1km s-min=11.6km az=77.0*
*IDC **11** 18:36:45.7±0.6, 11°11N×126°30E, h46km±5km, mb4.2/23, mbtmp4.4/24, MS3.5/4, Error ellipse: s-maj=18.5km s-min=9.6km az=72.0*
*DJA **11** 18:36:48.6±1.5, 11°N±6°×12°7E±°, h75km±14km, M5.2/17, mb4.8/17, mB5.9/6, Mw(mB)5.4/6*
ISC 11 18:36:47.3±0.6, 11°20N±0°05×126°29E±0°07, h60km±5km, n112, σ1§59/106, mb4.6/61, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.16**	**190**	Pn	Pn	18 37 43.4	-5.0
TGY	**Tagaytay City**	**5.97**	**299**	P	**Pn**	**18 38 13.4**	**+0.3**
236nm,0.3s,baz=98,slow=6.8,SNR=3.4							
TGY				LR	LR	18 41 14.9	
comp=Z,343nm,19.4s,baz=131,slow=45							
MYLDM	**Lahad Datu**	**9.76**	**233**	Pn	**Pn**	**18 39 04.3**	**-0.6**
TNTI	**Ternate**	**10.41**	**174**	Pn	Pn	18 39 06.6	-7.4
PCI	**Palu**	**13.63**	**208**	P	**Pn**	**18 40 00.3**	**+2.5**
32nm,1.1s							
SMKI	**Samarinda**	**14.67**	**219**	P	**Pn**	**18 40 14.3**	**+2.7**
MSAI	**Masohi**	**14.69**	**170**	P	**Pn**	**18 40 12.5**	**+0.7**
42nm,0.9s							
BKB	**Balikpapan**	**15.51**	**218**	P	**Pn**	**18 40 25.0**	**+2.6**
100nm,1.2s							
TTSI	**Tana Toraja**	**15.55**	**205**	P	P	18 40 39.3	+13
SPSI	**Sidrap Palu**	**16.40**	**204**	P	P	**18 40 42.3**	**+6.7**
SBUM	**Sibu**	**16.44**	**239**	P	**Pn**	**18 40 32.5**	**-1.7**
KAPI	**Kappang**	**17.37**	**202**	P	**Pn**	**18 40 45.6**	**-0.2**
4.0nm,0.3s,baz=42,slow=16,SNR=1.1							
KAPI				LR	LR	18 48 20.1	
comp=Z,156nm,20.3s,baz=354,slow=40							
QIZ	**Qiongzhong**	**17.67**	**298**	P	**P**	**18 40 46.4**	**-3.2**
QIZ				S	**Sn**	**18 44 07.3**	**+1.6**
QIZ				LR	LR		
comp=N,180nm,9.1s							
QIZ				LR	LR		
comp=E,220nm,13.1s							
QIZ				LR	LR		
comp=Z,250nm,14.4s							
SMPI	**Sarmi**	**18.01**	**136**	P	**Pn**	**18 40 55.8**	**+2.2**
STKI	**Sintang**	**18.41**	**234**	P	Pn	18 41 05.8	+7.4
KSM	**Kuching**	**18.57**	**240**	**P**	**P**	**18 40 59.2**	**-0.4**
MMRI	**Maumere**	**20.11**	**192**	Pn	**P**	**18 41 16.9**	**+0.5**
MMRI				IAmb	IAmb	18 41 22.4	
comp=Z,34nm,0.8s							
MMRI	**Maumere**	**20.11**	**192**	P	Pn	18 41 19.3	+0.6
comp=Z,52nm,1.0s							
SOEI	**Soe**	**20.91**	**186**	P	**P**	**18 41 23.9**	**-1.2**
SOEI				IAmb	IAmb	18 41 46.6	
comp=Z,29nm,0.8s							
SOEI	**Soe**	**20.91**	**186**	P	P	18 41 42.0	+17
CNSH	**ChangSha**	**21.03**	**325**	P	**P**	**18 41 27.4**	**+1.2**
CNSH				pmax	pmax		
comp=Z,15nm,0.9s							
NJ2	**Nanjing**	**21.86**	**343**	*e*P	**P**	**18 41 34.0**	**-1.0**
NJ2				pmax	pmax		
comp=Z,13nm,0.5s							
JAGI	**Jajag, Banyuwa**	**22.97**	**212**	P	**P**	**18 41 44.5**	**-2.5**
JAGI	**Jajag, Banyuwa**	**22.97**	**212**	P	**P**	**18 41 47.8**	**+0.8**
comp=Z,35nm,1.0s							
NGJI	**Ngawi**	**23.62**	**219**	P	P	18 42 00.3	+7.2
SLVN	**Son La**	**23.70**	**298**	P	**P**	**18 41 51.2**	**-2.8**
MYKOM	**Kota Tinggi**	**24.15**	**249**	P	**P**	**18 41 56.3**	**-1.7**
MYKOM				IAmb	IAmb	18 41 59.8	
comp=Z,19nm,1.3s							
MTN	**Manton Dam**	**24.37**	**168**	P	**P**	**18 41 58.7**	**-1.2**
MTN				IAmb	IAmb	18 42 22.1	
comp=Z,16nm,0.8s							
ENH	**Enshi**	**24.58**	**323**	P	**P**	**18 42 01.6**	**-0.2**
ENH				IAmb	IAmb	18 42 39.3	
comp=Z,27nm,1.4s							
LEM	**Lembang**	**25.81**	**227**	P	**P**	**18 42 13.9**	**+0.7**
comp=Z,15nm,0.6s,baz=43,slow=9.0,SNR=4.5							
comp=Z,15nm,0.6s							
KSRS	**Korea Array**	**26.18**	**3**	P	**P**	**18 42 17.7**	**+1.5**
comp=Z,0.9nm,0.6s,baz=182,slow=9.4,SNR=5.0							
KSRS				LR	LR	18 52 57.4	
comp=Z,129nm,20.2s,baz=220,slow=37							
comp=Z,0.9nm,0.6s							
SRIT	**Nakonsritamara**	**26.41**	**267**	P	**P**	**18 42 17.5**	**-1.1**
SRIT				IAmb	IAmb	18 42 21.8	
comp=Z,15nm,0.8s							
LYN	**LuoYang**	**26.44**	**334**	*e*P	**P**	**18 42 25.0**	**+6.4**
LYN				pmax	pmax		
comp=Z,15nm,0.8s							
KNRA	**Kununurra**	**26.82**	**175**	P	**P**	**18 42 23.0**	**+0.9**
KNRA				IAmb	IAmb	18 42 48.8	
comp=Z,18nm,1.1s							
CM31	**Chiang Mai Arr**	**27.38**	**289**	P	**P**	**18 42 26.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**27.38**	**289**	P	**P**	**18 42 25.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**27.38**	**289**	P	**P**	**18 42 26.3**	**-0.9**
comp=Z,2.2nm,0.7s,baz=99,slow=7.5,SNR=20							
comp=Z,2.2nm,0.7s							
MJAR	**Matsushiro Arr**	**27.43**	**21**	P	**P**	**18 42 27.6**	**+0.1**
comp=Z,1.5nm,0.8s,baz=200,slow=9.6,SNR=2.2							
comp=Z,1.5nm,0.8s							
CHTO	**Chiang Mai**	**27.45**	**289**	P	**P**	**18 42 25.4**	**-2.5**
PZH	**PanZhiHua**	**27.69**	**307**	P	**P**	**18 42 32.4**	**+2.3**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,70nm,4.5s							
XAN	**Xi'an**	**27.73**	**328**	⇓P	**P**	**18 42 30.6**	**+0.4**
XAN				pmax	pmax		
comp=Z,14nm,1.1s							
HNS	**HongShan**	**28.09**	**340**	⇑P	**P**	**18 42 34.0**	**+0.7**
HNS				pmax	pmax		
comp=Z,11nm,1.0s							
FITZ	**Fitzroy Crossi**	**29.12**	**181**	P	**P**	**18 42 42.1**	**-0.5**
WRAB	**Tennant Creek**	**31.94**	**166**	P	**P**	**18 43 05.0**	**-2.6**
WRAB				IAmb	IAmb	18 43 07.0	
comp=Z,8.0nm,1.2s							
WRA	**Warramunga Arr**	**31.95**	**166**	P	**P**	**18 43 05.4**	**-2.2**
WRA	**Warramunga Arr**	**31.95**	**166**	P	**P**	**18 43 04.9**	**-2.7**
comp=Z,2.3nm,0.6s,baz=343,slow=9.0,SNR=14							
WRA				pP	**pP**	**18 43 18.8**	**-1.3**
comp=Z,1.9nm,0.6s,baz=345,slow=9.4,SNR=4.7							
WRA				PcP	**PcP**	**18 45 57.1**	**+0.3**
comp=Z,1.5nm,0.9s,baz=352,slow=3.3,SNR=4.5							
WRA				LR	LR	18 59 29.6	
comp=Z,108nm,18.1s,baz=228,slow=43							
comp=Z,2.3nm,0.6s							
WB2	**Warramunga Arr**	**31.95**	**166**	P	**P**	**18 43 07.8**	**+0.2**
WR0	**Warramunga Arr**	**32.01**	**165**	P	**P**	**18 43 05.6**	**-2.6**
WR0				IAmb	IAmb	18 43 09.6	
comp=Z,10nm,1.2s							
HHC	**Hu-ho-hao-te**	**32.26**	**339**	*e*P	**P**	**18 43 12.0**	**+1.7**
HHC				pmax	pmax		
comp=Z,10.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,180nm,5.1s							
USRK	**Ussuriysk Ar.**	**33.25**	**7**	P	**P**	**18 43 17.6**	**-1.1**
USRK	**Ussuriysk Ar.**	**33.25**	**7**	P	**P**	**18 43 19.1**	**+0.4**
comp=Z,2.0nm,0.6s,baz=162,slow=5.0,SNR=4.7							
USRK				pP	**pP**	**18 43 32.3**	**+0.9**
comp=Z,3.5nm,0.7s,baz=194,slow=6.5,SNR=5.0							
comp=Z,2.0nm,0.6s							
AS31	**Alice Springs**	**35.44**	**168**	P	**P**	**18 43 36.7**	**-1.3**
ASAR	**Alice Springs**	**35.44**	**168**	P	**P**	**18 43 36.4**	**-1.6**
ASAR	**Alice Springs**	**35.44**	**168**	P	**P**	**18 43 36.6**	**-1.4**
comp=Z,3.3nm,0.8s,baz=354,slow=7.0,SNR=21							
ASAR				PcP	**PcP**	**18 46 06.1**	**-0.7**
comp=Z,2.5nm,1.1s,baz=8.8,slow=3.2,SNR=4.3							
comp=Z,3.3nm,0.8s							
SHL	**Shillong**	**35.51**	**299**	P	**P**	**18 43 37.0**	**-1.8**
GTA	**Gaotai**	**36.63**	**325**	P	**P**	**18 43 50.3**	**+2.1**
GTA				sP	pP	18 44 02.0	+0.2
GTA				PcP	**PcP**	**18 46 12.3**	**+2.1**
GTA				pmax	pmax		
comp=Z,21nm,0.9s							
HEH	**HeiHe**	**38.95**	**1**	*e*P	**P**	**18 44 08.3**	**+1.0**
HEH				pmax	pmax		
comp=Z,4.0nm,1.1s							
ULN	**Ulaanbaatar**	**39.96**	**340**	P	**P**	**18 44 17.0**	**+1.0**
SONM	**Songino Array**	**40.16**	**339**	P	**P**	**18 44 18.9**	**+1.2**
SONM	**Songino Array**	**40.16**	**339**	P	**P**	**18 44 18.5**	**+0.9**
comp=Z,2.2nm,0.5s,baz=157,slow=9.4,SNR=16							
SONM				pP	**pP**	**18 44 30.8**	**+0.5**
comp=Z,4.6nm,0.9s,baz=156,slow=9.1,SNR=9.6							
SONM				PcP	**PcP**	**18 46 21.3**	**+0.3**
comp=Z,0.6nm,0.7s,baz=130,slow=5.5,SNR=1.9							
comp=Z,2.2nm,0.5s							
MORW	**Morawa**	**41.24**	**194**	P	**P**	**18 44 26.2**	**-0.3**
BBOO	**Buckleboo**	**44.75**	**168**	P	**P**	**18 44 55.9**	**+1.0**
STKA	**Stephens Creek**	**45.27**	**162**	P	**P**	**18 44 58.2**	**-0.8**
STKA	**Stephens Creek**	**45.27**	**162**	P	**P**	**18 44 57.8**	**-1.3**
comp=Z,18nm,1.0s,baz=347,slow=7.1,SNR=16							
comp=Z,18nm,1.0s							
WMQ	**Urumqi**	**46.51**	**322**	*e*P	**P**	**18 45 10.5**	**+1.7**
WMQ				pmax	pmax		
comp=Z,14nm,0.7s							
PETK	**Petropavlovsk-**	**48.79**	**25**	P	**P**	**18 45 26.9**	**+0.7**
comp=Z,1.4nm,0.6s,baz=192,slow=3.2,SNR=7.1							
comp=Z,1.4nm,0.6s							
YAK	**Yakutsk**	**50.80**	**2**	P	**P**	**18 45 41.9**	**+0.6**
MK31	**Makanchi Array**	**51.30**	**322**	IAmb	IAmb	18 45 47.6	
comp=Z,9.6nm,0.7s							
MKAR	**Makanchi Array**	**51.30**	**322**	P	**P**	**18 45 46.2**	**+0.8**
MKAR	**Makanchi Array**	**51.30**	**322**	P	**P**	**18 45 46.3**	**+0.9**
comp=Z,10nm,0.6s,baz=116,slow=8.5,SNR=11							
MKAR				pP	**pP**	**18 45 58.0**	**-0.9**
comp=Z,6.9nm,0.8s,baz=116,slow=8.2,SNR=7.6							
MKAR				PcP	**PcP**	**18 46 59.8**	**+0.1**
comp=Z,3.3nm,1.0s,baz=123,slow=5.3,SNR=3.6							
comp=Z,10nm,0.6s							
DZM	**Mont Dzumac**	**51.43**	**130**	P	**P**	**18 45 46.2**	**-0.5**
comp=Z,7.7nm,0.6s,baz=301,slow=5.9,SNR=8.9							
comp=Z,7.7nm,0.6s							
MAKZ	**Makanchi**	**51.50**	**322**	P	**P**	**18 45 47.8**	**+0.9**
MAKZ				IAmb	IAmb	18 45 48.6	
comp=Z,7.7nm,0.7s							
KSH	**Kashi**	**52.63**	**311**	P	**P**	**18 45 57.9**	**+2.3**
KSH				sP	pP	18 46 07.0	-2.9
KSH				pmax	pmax		
comp=Z,2.0nm,1.0s							
KDJ	**Kajisay**	**52.64**	**315**		**P**	**18 45 54.2**	**-1.5**
NIL	**Nilore**	**53.23**	**304**	P	**P**	**18 45 59.2**	**-0.7**
ZAA0	**Zalesovo Array**	**53.83**	**331**	IAmb	IAmb	18 46 17.5	
comp=Z,8.9nm,0.9s							
ZALV	**Zalesovo Beam**	**53.83**	**331**	P	**P**	**18 46 03.6**	**-0.3**
ZALV	**Zalesovo Beam**	**53.83**	**331**	P	**P**	**18 46 04.1**	**+0.2**
comp=Z,4.8nm,0.7s,baz=120,slow=6.6,SNR=15							
ZALV				pP	**pP**	**18 46 16.8**	**-1.0**
comp=Z,6.8nm,0.7s,baz=113,slow=6.4,SNR=13							
comp=Z,4.8nm,0.7s							
KURK	**Kurchatov**	**55.32**	**325**	P	**P**	**18 46 15.8**	**+1.0**
KURBB	**Kurchatov Arra**	**55.32**	**325**	P	**P**	**18 46 15.4**	**+0.6**
comp=Z,11nm,0.5s,baz=126,slow=7.1,SNR=52							
KURBB				pP	**pP**	**18 46 28.2**	**-0.3**
comp=Z,9.7nm,0.7s,baz=120,slow=7.3,SNR=9.4							
comp=Z,11nm,0.5s							
ARSB	**Arslanbob**	**55.35**	**313**	IAmb	IAmb	18 46 16.5	
comp=Z,4.1nm,0.7s							
BTK	**Batken**	**56.59**	**311**	IAmb	IAmb	18 46 52.1	
comp=Z,9.1nm,1.1s							
KK31	**Karatay Array**	**57.62**	**314**	IAmb	IAmb	18 46 32.6	
comp=Z,8.7nm,0.9s							
KKAR	**Karatay Array**	**57.62**	**314**	P	**P**	**18 46 31.5**	**+0.2**
KKAR	**Karatay Array**	**57.62**	**314**	IAmb	IAmb	18 46 32.6	
comp=Z,5.6nm,0.9s							
SIMJ	**Simiganj**	**57.64**	**309**	P	**P**	**18 46 31.0**	**-0.7**
SIMJ				IAmb	IAmb	18 46 37.5	
comp=Z,6.9nm,1.1s							
TIXI	**Tiksi**	**60.43**	**1**	P	**P**	**18 46 49.6**	**-0.6**
TIXI				IAmb	IAmb	18 47 04.0	
comp=Z,5.2nm,1.1s							
BVAR	**Borovoye Array**	**60.92**	**325**	P	**P**	**18 46 54.6**	**+0.7**
comp=Z,5.2nm,0.7s,baz=128,slow=6.2,SNR=29							
BVAR				pP	**pP**	**18 47 07.2**	**-1.0**
comp=Z,10nm,0.8s,baz=90,slow=7.4,SNR=17							
comp=Z,5.2nm,0.7s							
BRVK	**Borovoye**	**60.99**	**325**	P	**P**	**18 46 54.8**	**+0.5**
**ABKAR

comp=Z,0.7nm,0.8s,baz=233,slow=5.4,SNR=8.4
comp=Z,0.7nm,0.8s
D25K **Kavik River** 78.66 21 IAmb IAmb 18 48 47.7
comp=Z,3.4nm,0.9s
D27M **Malcolm River** 80.59 21 IAmb IAmb 18 48 57.1
comp=Z,4.0nm,0.8s
I28M **Miner Creek** 81.47 25 IAmb IAmb 18 49 02.3
comp=Z,4.8nm,0.9s
ARCES **ARCESS Array B** 83.33 340 P **P** **18 49 07.7 +0.2**
comp=Z,8.1nm,0.9s,baz=72,slow=4.4,SNR=9.5
comp=Z,8.1nm,0.9s
BRTR **Keskin Array B** 84.96 309 P **P** **18 49 16.0 -0.5**
comp=Z,1.0nm,0.8s,baz=90,slow=4.9,SNR=5.3
comp=Z,1.0nm,0.8s
FARO **Faro, Yukon** 84.96 28 IAmb IAmb 18 49 20.3
comp=Z,5.4nm,1.0s
FINES **FINESS Array B** 85.09 332 P **P** **18 49 16.9 +0.4**
comp=Z,2.2nm,0.6s,baz=73,slow=2.6,SNR=16
comp=Z,2.2nm,0.6s
AKASG **Malin Array Be** 85.86 321 P **P** **18 49 19.9 -0.7**
comp=Z,2.0nm,0.6s,baz=64,slow=4.5,SNR=19
comp=Z,2.0nm,0.6s
AKBB **Malin Array Si** 85.86 321 P **P** **18 49 20.1 -0.5**
KIEV **Kiev** 85.87 321 P **P** **18 49 19.9 -0.7**
C36M **Paulatuk** 86.36 20 IAmb IAmb 18 49 25.9
comp=Z,4.4nm,0.9s
BUR08 **Bucovina Ar. S** 89.17 318 P **P** **18 49 36.8 +0.1**
BUR08 IAmb IAmb 18 49 39.3
comp=Z,1.7nm,0.7s
VNDA **Vanda** 90.84 173 P **P** **18 49 43.5 -0.2**
comp=Z,3.2nm,0.9s,baz=307,slow=8.5,SNR=5.6
comp=Z,3.2nm,0.9s
HFS **Hagfors** 91.24 332 P **P** **18 49 46.3 +0.4**
comp=Z,0.9nm,0.5s,baz=77,slow=9.6,SNR=5.8
comp=Z,0.9nm,0.5s
PLCA **Paso Flores** 147.05 156 PKPbc **PKPab** **18 56 24.5 -0.9**
comp=Z,2.7nm,1.0s,baz=243,slow=2.0,SNR=9.5

*NEIC **11** 18:37:18.8±1.8,31°.5S±0°.2×178°.32W±0°.04, h35km±2km, mb4.4/10, Error ellipse: s-maj=26.6km s-min=5.9km az=4.0*
*IDC **11** 18:37:19.1±1.2,31°.65S×177°.85W, h42km±8km, mb3.9/3, mbtmp4.0/4, ML2.9/1, MS3.5/1, Error ellipse: s-maj=27.9km s-min=22.2km az=100.0*
ISC 11 18:37:18.2±0.8,**31°.47S**±0°.10×**178°.2W**±0°.2,**h35**km,**n27**, σ1§**54**/**29**,**mb4.3/7**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.78**	**208**	P	**Pn**	**18 39 09.8**	**+0.9**
	0.2nm,0.3s,baz=32,slow=9.5,SNR=1.0						
URZ				S	**Sn**	**18 40 36.5**	**+0.8**
	9.4nm,0.7s,baz=289,slow=22,SNR=6.0						
	1.5nm,0.4s						
RTZ	**Ruatahuna**	**8.14**	**208**	Pn	Pn	18 39 07.9	-6.0
BKZ	**Black Stump Fm**	**8.80**	**208**	Pn	Pn	18 39 16.7	-6.3
BFZ	**Birch Farm**	**10.22**	**204**	Pn	**Pn**	**18 39 38.5**	**-3.8**
ODZ	**Otahua Downs**	**16.10**	**210**	Pn	**Pn**	**18 41 00.3**	**-1.5**
ODZ				IAmb	IAmb	18 41 15.7	
	comp=Z,40nm,1.5s						
DZM	**Mont Dzumac**	**16.56**	**301**	LR	LR	18 46 29.5	
	comp=Z,178nm,20.4s,baz=50,slow=32						
HNR	**Honiara**	**29.86**	**313**	P	**P**	**18 43 20.0**	**-2.5**
AS31	**Alice Springs**	**42.86**	**268**	P	**P**	**18 45 11.7**	**-1.6**
ASAR	**Alice Springs**	**42.86**	**268**	P	**P**	**18 45 10.6**	**-2.7**
ASAR	**Alice Springs**	**42.86**	**268**	P	**P**	**18 45 15.7**	**+2.4**
	comp=Z,1.3nm,0.6s,baz=106,slow=7.8,SNR=10						
ASAR				pP	**pwP**	**18 45 28.6**	**+2.5**
	comp=Z,1.8nm,0.6s,baz=102,slow=8.1,SNR=6.0						
	comp=Z,1.3nm,0.6s						
WR0	**Warramunga Arr**	**43.77**	**273**	P	**P**	**18 45 21.1**	**+0.5**
WR0				IAmb	IAmb	18 45 36.1	
	comp=Z,7.3nm,1.3s						
WB2	**Warramunga Arr**	**43.94**	**273**	P	**P**	**18 45 22.0**	**0.0**
WB2				IAmb	IAmb	18 45 37.4	
	comp=Z,4.8nm,0.6s						
WRAB	**Tennant Creek**	**43.94**	**273**	P	**P**	**18 45 21.5**	**-0.5**
WRAB				IAmb	IAmb	18 45 38.5	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**43.95**	**273**	P	**P**	**18 45 21.7**	**-0.4**
WRA	**Warramunga Arr**	**43.95**	**273**	P	**P**	**18 45 23.9**	**+1.8**
	comp=Z,3.3nm,0.7s,baz=111,slow=8.1,SNR=16						
WRA				pP	**pwP**	**18 45 37.3**	**+2.3**
	comp=Z,2.7nm,0.4s,baz=114,slow=7.6,SNR=10						
	comp=Z,3.3nm,0.7s						
WB0	**Warramunga Arr**	**43.98**	**274**	P	**P**	**18 45 22.1**	**-0.2**
WB0				IAmb	IAmb	18 45 51.8	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**18 47 12.2**	**+0.4**
QSPA				IAmb	IAmb	18 47 29.1	
	comp=Z,5.4nm,0.9s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**18 47 12.0**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=18,slow=1.9,SNR=3.8						
QSPA				pP	**pP**	**18 47 21.2**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=327,slow=3.0,SNR=3.2						
	comp=Z,2.2nm,0.9s						
PMSA	**Palmer Station**	**71.37**	**156**	P	**P**	**18 48 34.2**	**0.0**
MKAR	**Makanchi Array**	**118.30**	**310**	PKP	**PKPdf**	**18 56 01.7**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=99,slow=4.5,SNR=1.9						
KURBB	**Kurchatov Arra**	**121.68**	**313**	PKP	**PKPdf**	**18 56 08.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=114,slow=1.7,SNR=7.7						
BVAR	**Borovoye Array**	**127.03**	**315**	PKP	**PKiKP**	**18 56 19.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=108,slow=2.9,SNR=3.6						
FINES	**FINESS Array B**	**146.08**	**339**	PKPbc	**PKPdf**	**18 56 53.8**	**+1.0**
	comp=Z,2.7nm,0.5s,baz=37,slow=4.0,SNR=28						
NOA	**NORSAR Array B**	**149.78**	**351**	PKPbc	**PKPbc**	**18 57 02.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=2.8,slow=0.1,SNR=2.1						
HFS	**Hagfors**	**150.25**	**348**	PKP	**PKPdf**	**18 56 59.0**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=57,slow=5.3,SNR=2.8						
HFS				PKPbc	**PKPbc**	**18 57 04.3**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=46,slow=4.2,SNR=4.9						
MMAI	**Mount Meron Ar**	**151.58**	**282**	PKPbc	**PKiKP**	**18 57 10.8**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=74,slow=6.2,SNR=4.7						
AKASG	**Malin Array Be**	**152.02**	**321**	PKPbc	**PKPbc**	**18 57 09.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=62,slow=1.9,SNR=1.6						

*IDC **11** 18:38:00.3±1.3,25°.65N×141°.55E, h0km, mb3.8/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=54.5km s-min=21.5km az=107.0*
ISC 11 18:38:01.7±1.2,**25°.7N**±0°.1×**141°.5E**±0°.2,**h10**km,**n12**, σ0§**98**/**7**,**mb3.8**/**4**,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.54**	**25**	Pn	**Pn**	**18 38 28.1**	**-1.2**
JCJ	31nm,0.3s,baz=91,slow=21,SNR=5.6						
				Sn	**Sn**	**18 38 49.3**	**-0.1**
	11nm,0.3s,baz=285,slow=23,SNR=1.8						
KSRS	**Korea Array**	**16.42**	**19**	Pn	**P**	**18 41 54.9**	**-0.1**
	0.2nm,0.3s,baz=130,slow=10,SNR=2.1						
	0.7nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**24.19**	**99**	T	T	19 08 45.3	
	baz=287						
H11N2	**WAKE ISLAND Hy**	**24.19**	**99**	T	T	19 08 40.5	
	baz=287,slow=74						
H11N3	**WAKE ISLAND Hy**	**24.21**	**99**	T	T	19 08 40.7	
	baz=287,slow=74						
H11S3	**WAKE ISLAND Hy**	**24.43**	**102**	T	T	19 08 55.0	
	baz=291,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**24.43**	**102**	T	T	19 08 55.3	
	baz=291,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**24.45**	**102**	T	T	19 08 56.2	
	baz=291,slow=75,SNR=30						
WRA	**Warramunga Arr**	**45.88**	**189**	P	**P**	**18 46 23.8**	**-0.7**
	1.8nm,0.7s,baz=9.7,slow=8.5,SNR=5.9						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**59.26**	**28**	P	**P**	**18 48 04.0**	**+0.9**
	0.3nm,0.8s,baz=263,slow=6.5,SNR=2.8						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**73.68**	**28**	P	**P**	**18 49 36.4**	**+1.0**
	0.3nm,0.7s,baz=292,slow=6.2,SNR=3.9						
	3.3nm,0.7s						
FINES	**FINESS Array B**	**78.91**	**334**	P	**P**	**18 50 05.1**	**0.0**
	1.3nm,1.0s,baz=66,slow=5.0,SNR=1.7						
	3.3nm,1.0s						

*IDC **11** 18:55:24.2±6.8, 12°.24N×143°.73E, h41km±47km, mb3.6/9, mbtmp3.9/9, Error ellipse: s-maj=57.5km s-min=26.5km az=164.0*
ISC 11 18:55:21.9±1.8,**12°.2N**±0°.3×**143°.7E**±0°.2,**h25**km,**n13**, σ0§**88**/**11**,**mb4.0/9**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.80**	**38**	P	**Pn**	**18 55 51.5**	**+0.2**
	77nm,0.3s,baz=316,slow=14,SNR=15						
GUMO				S	**Sn**	**18 56 13.2**	**-0.2**
	495nm,0.5s,baz=360,slow=22,SNR=34						
H11N1	**WAKE ISLAND Hy**	**23.48**	**68**	T	T	19 25 04.7	
	baz=255,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**23.49**	**68**	T	T	19 25 04.2	
	baz=255,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**23.50**	**68**	T	T	19 25 11.4	
	baz=255,slow=75,SNR=9.0						
SONM	**Songino Array**	**47.27**	**326**	P	**P**	**19 03 54.5**	**+1.2**
	0.4nm,0.6s,baz=117,slow=5.2,SNR=2.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**61.75**	**317**	P	**P**	**19 05 38.9**	**+0.5**
	0.2nm,0.6s,baz=96,slow=4.6,SNR=4.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**64.99**	**320**	P	**P**	**19 05 59.2**	**-0.6**
	0.9nm,0.7s,baz=103,slow=6.6,SNR=9.2						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**70.32**	**25**	P	**P**	**19 06 32.2**	**-0.9**
	0.3nm,0.7s,baz=246,slow=5.9,SNR=6.7						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**70.35**	**322**	P	**P**	**19 06 33.3**	**-0.3**
	1.1nm,0.6s,baz=103,slow=7.8,SNR=7.7						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**84.62**	**27**	P	**P**	**19 07 53.5**	**+0.4**
	0.8nm,0.9s,baz=281,slow=5.7,SNR=8.1						
	0.8nm,0.9s						
ARCES	**ARCESS Array B**	**88.08**	**342**	P	**P**	**19 08 09.4**	**-0.7**
	1.7nm,0.7s,baz=32,slow=10.0,SNR=4.2						
	1.7nm,0.7s						
NVAR	**Mina Array Bea**	**88.67**	**51**	P	**P**	**19 08 14.6**	**+0.9**
	0.5nm,0.6s,baz=257,slow=3.4,SNR=3.5						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**19 08 27.0**	**-1.3**
	0.7nm,0.3s,baz=83,slow=4.5,SNR=11						
	0.7nm,0.3s						

*IDC **11** 18:57:18.6±3.5, 6°.33S×149°.17E, h92km±31km, mb3.5/6, mbtmp4.0/8, Error ellipse: s-maj=45.9km s-min=22.6km az=117.0*
ISC 11 18:57:15.3±1.2,**6°.2S**±0°.2×**149°.2E**±0°.3,**h60**km,**n8**,σ1§**09**/**9**, **mb3.8**/**6**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**212**	P	**Pn**	**18 58 12.2**	**+0.7**
	51nm,0.5s,baz=30,slow=12,SNR=43						
PMG				S	**Sn**	**18 58 55.8**	**+0.9**
	73nm,0.5s,baz=50,slow=18,SNR=9.7						
WRA	**Warramunga Arr**	**19.90**	**225**	P	**P**	**19 01 41.5**	**-0.7**
	8.8nm,0.6s,baz=51,slow=11,SNR=37						
ASAR	**Alice Springs**	**22.79**	**219**	P	**P**	**19 02 12.8**	**-0.4**
	1.9nm,0.6s,baz=52,slow=9.7,SNR=50						
	1.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.88**	**241**	P	**P**	**19 02 40.3**	**-1.4**
	2.2nm,0.5s,baz=59,slow=9.7,SNR=16						
	2.2nm,0.5s						
PETK	**Petropavlovsk-**	**59.50**	**6**	P	**P**	**19 07 13.7**	**+1.6**
	1.1nm,0.6s,baz=158,slow=5.7,SNR=5.9						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**79.05**	**320**	P	**P**	**19 09 13.1**	**-0.1**
	0.1nm,0.3s,baz=123,slow=5.3,SNR=1.7						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**83.79**	**180**	P	**P**	**19 09 37.5**	**-0.5**
	2.3nm,1.1s,baz=18,slow=3.2,SNR=2.8						
	2.3nm,1.1s						
ILAR	**Eielson Array**	**84.78**	**23**	P	**P**	**19 09 42.2**	**-0.7**
	0.3nm,0.6s,baz=248,slow=5.0,SNR=2.2						
	0.3nm,0.6s						

*MOS **11** 19:01:22.2±1.2, 6°.11S×149°.11E, h40km, mb5.0/25, Error ellipse: s-maj=10.5km s-min=6.9km az=103.9*
*NEIC **11** 19:01:23.2±2.0, 6°.05S±0°.09×149°.04E±0°.07, h35km±1km, mb5.0/88, Error ellipse: s-maj=14.9km s-min=12.2km az=192.0*
*GCMT **11** 19:01:26.2±0.3, 6°.27S±0°.02×149°.09E±0°.03, h43km±1km, MW5.0/77, Moment Tensor Solution. s43,c52; s77,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.42±.25; $M_{\theta\theta}$-3.71±.14; $M_{\phi\phi}$0.29±.17; $M_{r\theta}$-1.49±.13; $M_{\theta\phi}$1.21±.12; $M_{\phi r}$-0.07±.13; Best double couple: $M_0$4.02800×10^{16} NP1:ϕ_S115.00000°, δ35.00000°, λ104.00000°. NP2: ϕ_S278.00000°, δ56.00000°, λ80.00000°. Principal axes: T 3.7480, Plg77.0000°, Azm156.0000°; N 0.5600, Plg8.0000°, Azm283.0000°; P -4.3080, Plg10.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **11** 19:01:26.7±1.4, 6°.13S×148°.98E, h66km±11km, mb4.4/18, mbtmp4.7/20, MS4.0/36 Error ellipse: s-maj=15.6km s-min=7.4km az=108.0*
*DJA **11** 19:01:34.4±0.9, 7°.5±4°×14°.9E±°, h110km±7km, M4.9/36, mb5.1/36, mB5.4/10, Mw(mB)4.9/10*
ISC 11 19:01:24.7±0.4,**6°.13S**±0°.04×**149°.03E**±0°.05,**h51**km±3km, **h51**km:**pP-P**,**n344**,σ1§**41**/**311**,**mb4.9**/**114**,**MS4.1**/**36**, **7C-16D**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.67**	**58**	Pn	**Pn**	**19 02 20.1**	**+1.1**
PMG	**Port Moresby**	**3.75**	**210**	P	**Pn**	**19 02 21.7**	**+1.7**
	1μm,0.5s,baz=47,slow=6.3,SNR=429						
PMG				S	**Sn**	**19 03 05.7**	**+2.7**
	3μm,0.7s,baz=256,slow=22,SNR=15						
MANU	**Manus Island**	**4.38**	**338**		**Pn**	**19 02 29.0**	**+0.2**
MMPI	**Merauke**	**8.89**	**254**	P	**Pn**	**19 03 34.8**	**+4.2**
JAY	**Jayapura**	**9.04**	**293**	P	**Pn**	**19 03 35.5**	**+2.8**
	8.9nm,0.4s,baz=163,slow=10,SNR=21						
JAY				LR	LR	19 06 44.9	
	comp=Z,773nm,20.7s,baz=68,slow=35						
JAY	**Jayapura**	**9.04**	**293**	P	Pn	19 03 38.8	+6.0
GENI	**Genyem**	**9.51**	**291**	P	**Pn**	**19 03 40.4**	**+1.3**
GENI	**Genyem**	**9.51**	**291**	P	Pn	19 03 59.8	+21
COEN	**Coen**	**9.68**	**216**	Pn	**Pn**	**19 03 41.0**	**-0.4**
COEN	**Coen**	**9.68**	**216**	P	**Pn**	**19 03 41.7**	**+0.2**
	comp=Z,30nm,0.8s						
COEN	**Coen**	**9.68**	**216**	P	**Pn**	**19 03 41.6**	**+0.2**
TATA	**Tatamba Isabel**	**10.92**	**103**	P	**Pn**	**19 04 01.4**	**+3.0**
SMPI	**Sarmi**	**11.08**	**291**	P	Pn	19 04 09.0	+8.4
	comp=Z,43nm,1.2s						
HNR	**Honiara**	**11.30**	**108**	Pn	**Pn**	**19 04 02.0**	**-1.6**
HNR	**Honiara**	**11.30**	**108**	P	**Pn**	**19 04 05.3**	**+1.6**
	comp=Z,28nm,0.6s,baz=307,slow=10,SNR=4.3						
HNR				LR	LR	19 08 01.9	
	comp=Z,423nm,21.1s,baz=256,slow=35						
HNR	**Honiara**	**11.30**	**108**	P	**Pn**	**19 04 02.0**	**-1.6**
ALEG	**Aligegeo Malai**	**11.86**	**103**	P	**Pn**	**19 04 12.7**	**+1.5**
MTSU	**Mount Surprise**	**12.79**	**201**	P	**Pn**	**19 04 25.0**	**+1.0**
	comp=Z,35nm,0.6s						
MTSU	**Mount Surprise**	**12.79**	**201**	P	**Pn**	**19 04 25.6**	**+1.6**
TV1H	**Townsville Har**	**13.23**	**189**	P	**Pn**	**19 04 31.2**	**+1.2**
QIS	**Mount Isa**	**17.01**	**212**	P	**Pn**	**19 05 18.7**	**-0.5**
	comp=Z,64nm,0.8s						
QIS	**Mount Isa**	**17.01**	**212**	P	**Pn**	**19 05 18.9**	**-0.3**
FAKI	**Fak Fak**	**17.03**	**280**	P	**P**	**19 05 24.0**	**+3.3**
RK1H	**Rockhampton Ha**	**17.22**	**175**	P	**P**	**19 05 22.7**	**0.0**
LUES	**Luesalemba Tem**	**17.30**	**106**	P	**P**	**19 05 24.9**	**+1.3**
KDU	**Kakadu**	**17.58**	**247**	P	**Pn**	**19 05 25.2**	**-1.0**
KDU	**Kakadu**	**17.58**	**247**	P	**Pn**	**19 05 25.3**	**-1.0**
SWI	**Sorong**	**18.49**	**286**	P	**Pn**	**19 05 40.9**	**+3.5**
MTN	**Manton Dam**	**18.86**	**248**	P	**P**	**19 05 40.3**	**-0.6**
MTN	**Manton Dam**	**18.86**	**248**	P	**Pn**	**19 05 41.6**	**-0.3**
	comp=Z,48nm,0.9s						
MTN	**Manton Dam**	**18.86**	**248**	P	**Pn**	**19 05 41.7**	**-0.2**
DRS	**Darwin Rock St**	**18.95**	**249**	P	**Pn**	**19 05 42.9**	**0.0**
EIDS	**Eidsvold**	**19.23**	**174**	P	**P**	**19 05 45.1**	**+0.2**
EIDS	**Eidsvold**	**19.23**	**174**	P	**Pn**	**19 05 45.8**	**-0.4**
	comp=Z,49nm,1.0s						
EIDS	**Eidsvold**	**19.23**	**174**	P	**Pn**	**19 05 46.2**	**0.0**
WB0	**Warramunga Arr**	**19.66**	**225**	P	**P**	**19 05 50.0**	**+0.5**
WR0	**Warramunga Arr**	**19.68**	**224**	P	**P**	**19 05 49.8**	**0.0**
WRAB	**Tennant Creek**	**19.80**	**225**	P	**P**	**19 05 51.2**	**+0.1**
WRAB	**Tennant Creek**	**19.80**	**225**	*deP*	**P**	**19 05 51.7**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,292nm,0.8s						
WB2	**Warramunga Arr**	**19.80**	**225**	P	**P**	**19 05 51.5**	**+0.3**
WRA	**Warramunga Arr**	**19.81**	**225**	P	**P**	**19 05 52.0**	**+0.8**
	comp=Z,227nm,0.7s,baz=52,slow=11,SNR=188						
WRA				S	**S**	**19 09 30.4**	**-1.4**
	comp=Z,11nm,0.9s,baz=44,slow=21,SNR=15						
WRA				PcP	**PcP**	**19 10 08.1**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=42,slow=1.9,SNR=4.7						
WRA				ScP	**ScP**	**19 13 38.8**	**-1.1**
	comp=Z,3.7nm,1.0s,baz=43,slow=2.4,SNR=4.8						
WRA				LR	LR	19 14 01.3	
	comp=Z,669nm,19.8s,baz=12,slow=38						
WRA	**Warramunga Arr**	**19.81**	**225**	*i P*	**P**	**19 05 48.7**	**-2.5**
WRA				pmax	pmax		
	comp=Z,227nm,0.7s						
GUMO	**Guam**	**20.02**	**348**	LR	LR	19 13 48.7	
	comp=Z,242nm,18.2s,baz=121,slow=37						
KOUNC	**Koumac, New Ca**	**20.61**	**136**	P	**P**	**19 06 00.9**	**+1.1**
QLP	**Quilpie**	**20.85**	**192**	P	**P**	**19 06 03.1**	**+0.7**
	comp=Z,242nm,1.3s						
QLP	**Quilpie**	**20.85**	**192**	P	**P**	**19 06 03.0**	**+0.6**
AAI	**Ambon**	**20.90**	**276**	P	Pn	19 06 05.8	-0.3
	comp=Z,54nm,0.7s						
TW1H	**Toowoomba 1 Ha**	**21.48**	**173**	P	**P**	**19 06 10.8**	**+1.5**
AUWSH	**Wavell State H**	**21.50**	**170**	P	**P**	**19 06 09.9**	**+0.6**
DVP	**Devils Point**	**21.97**	**123**	P	**P**	**19 06 17.1**	**+2.6**
KNRA	**Kununurra**	**22.03**	**243**	P	**P**	**19 06 14.1**	**-1.1**
KNRA				IAmb	IAmb	19 06 18.2	
	comp=Z,107nm,1.1s						
KNRA	**Kununurra**	**22.03**	**243**	P	**P**	**19 06 14.3**	**-0.8**
GC1S	**Gold Coast 1 S**	**22.32**	**170**	P	**P**	**19 06 18.8**	**+0.6**
AS06	**Alice Springs**	**22.66**	**218**	P	**P**	**19 06 22.2**	**+0.3**
	comp=Z,82nm,0.6s						
AS01	**Alice Springs**	**22.68**	**218**	P	**P**	**19 06 22.3**	**+0.1**
AS19	**Alice Springs**	**22.70**	**218**	P	**P**	**19 06 22.6**	**+0.2**
	comp=Z,94nm,0.7s						
AS31	**Alice Springs**	**22.71**	**218**	P	**P**	**19 06 21.8**	**-0.6**
AS31				IAmb	IAmb	19 06 24.9	
	comp=Z,25nm,0.6s						
AS31	**Alice Springs**	**22.71**	**218**	P	**P**	**19 06 22.8**	**+0.3**
	comp=Z,35nm,0.6s						
ASAR	**Alice Springs**	**22.71**	**218**	P	**P**	**19 06 23.4**	**+0.9**
	comp=Z,49nm,0.6s,baz=50,slow=9.7,SNR=567						
ASAR				PcP	**PcP**	**19 10 13.9**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=64,slow=3.1,SNR=6.4						
ASAR				S	**S**	**19 10 28.0**	**+0.4**
	comp=Z,31nm,1.0s,baz=31,slow=23,SNR=18						
ASAR				ScP	**ScP**	**19 13 46.6**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=56,slow=2.6,SNR=4.3						
ASAR				LR	LR	19 15 49.4	
	comp=Z,827nm,19.6s,baz=3.5,slow=38						
	comp=Z,49nm,0.6s						
INKA	**Innaminka**	**22.89**	**199**	P	**P**	**19 06 24.7**	**+0.5**
DZM	**Mont Dzumac**	**23.12**	**135**	P	**P**	**19 06 26.2**	**-0.5**
DZM	**Mont Dzumac**	**23.12**	**135**	P	**P**	**19 06 26.7**	**0.0**
ONTNC	**Ouen Toro**	**23.28**	**135**	P	**P**	**19 06 27.6**	**-0.5**
ONTNC				IAmb	IAmb	19 06 41.4	
	comp=Z,43nm,0.9s						
ONTNC	**Ouen Toro**	**23.28**	**135**	P	**P**	**19 06 28.0**	**-0.1**
SANI	**Sanana**	**23.33**	**279**	P	**P**	**19 06 31.0**	**+2.2**
	comp=Z,29nm,0.8s						
YATNC	**Mamie plateau,**	**23.43**	**134**	P	**P**	**19 06 30.0**	**+0.5**
OUENC	**Ouen Island, N**	**23.62**	**135**	P	**P**	**19 06 31.1**	**-0.3**
MARNC	**Mare, Loyalty**	**23.90**	**132**	P	**P**	**19 06 34.3**	**+0.4**
ARMA	**Armidale**	**24.29**	**175**	P	**P**	**19 06 37.7**	**+0.2**
ARMA				IAmb	IAmb	19 06 40.0	
	comp=Z,57nm,0.8s						
ARMA	**Armidale**	**24.29**	**175**	P	**P**	**19 06 38.0**	**+0.4**
	comp=Z,73nm,0.9s						
ARMA	**Armidale**	**24.29**	**175**	P	**P**	**19 06 38.0**	**+0.4**
SOEI	**Soe**	**24.79**	**260**	P	**P**	**19 06 42.3**	**+0.1**
SOEI	**Soe**	**24.79**	**260**	P	**P**	**19 06 43.4**	**+1.1**
SOEI	**Soe**	**24.79**	**260**	P	**P**	**19 06 43.6**	**+1.3**
	comp=Z,2μcomp=Z,132nm,0.8s						
OOD	**Oodnadatta**	**25.00**	**209**	P	**P**	**19 06 44.5**	**+0.6**
CMSA	**Cobar Meteorol**	**25.47**	**187**	P	**P**	**19 06 48.2**	**0.0**
	comp=Z,74nm,1.0s						
CMSA	**Cobar Meteorol**	**25.47**	**187**	P	**P**	**19 06 48.2**	**0.0**
FITZ	**Fitzroy Crossi**	**25.74**	**240**	P	**P**	**19 06 50.8**	**+0.1**
FITZ				IAmb	IAmb	19 06 52.7	
	comp=Z,34nm,0.9s						
FITZ	**Fitzroy Crossi**	**25.74**	**240**	P	**P**	**19 06 51.2**	**+0.5**
	comp=Z,40nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.74**	**240**	LR	LR	19 18 24.2	
	comp=Z,579nm,19.1s,baz=111,slow=40						
FITZ	**Fitzroy Crossi**	**25.74**	**240**	P	**P**	**19 06 50.8**	**+0.1**
LCRK	**Leigh Creek**	**26.24**	**201**	P	**P**	**19 06 55.3**	**+0.1**
BBSI	**Bau Bau**	**26.33**	**270**	P	**P**	**19 06 58.6**	**+2.4**
	comp=Z,68nm,0.8s						
STKA	**Stephens Creek**	**26.55**	**194**	P	**P**	**19 06 57.2**	**-0.6**
STKA	**Stephens Creek**	**26.55**	**194**	P	**P**	**19 06 57.3**	**-0.6**
	comp=Z,196nm,1.0s						
STKA	**Stephens Creek**	**26.55**	**194**	P	**P**	**19 06 57.2**	**-0.6**
	comp=Z,23nm,0.8s,baz=3.5,slow=9.5,SNR=24						
STKA				LR	LR	19 18 14.4	
	comp=Z,793nm,19.8s,baz=5.7,slow=38						
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**26.55**	**194**	P	**P**	**19 06 57.8**	**-0.1**
STKA	**Stephens Creek**	**26.55**	**194**	*eP*	**P**	**19 06 57.3**	**-0.6**
MMRI	**Maumere**	**26.68**	**263**	P	**P**	**19 06 56.9**	**-2.4**
MMRI	**Maumere**	**26.68**	**263**	P	**P**	**19 06 57.5**	**-1.8**
MMRI	**Maumere**	**26.68**	**263**	P

comp=Z,127nm,1.0s
MEEK Meekatharra 35.43 231 P **P 19 08 16.6 +0.3**
KMBL Kambalda 35.73 222 P **P 19 08 18.5 -0.2**
comp=Z,71nm,1.3s
KMBL Kambalda 35.73 222 P **P 19 08 18.7 0.0**
MOO Moorlands 36.20 182 P **P 19 08 24.2 +1.6**
comp=Z,85nm,1.4s
MOO Moorlands 36.20 182 P **P 19 08 22.8 +0.2**
GIRL Giralia 37.35 240 P **P 19 08 33.5 +0.9**
comp=Z,238nm,1.5s
PCJI Pacitan 37.61 265 P P 19 08 45.7 +11
SBUM Sibu 37.73 282 P **P 19 08 36.4 +0.4**
JOW Kunigami 38.44 329 LR LR 19 21 25.7
comp=Z,363nm,21.0s,baz=208,slow=31
MORW Morawa 38.61 230 P **P 19 08 43.4 +0.2**
comp=Z,36nm,1.7s
MORW Morawa 38.61 230 P **P 19 08 43.9 +0.7**
KLBR Kellerberrin 38.69 225 P **P 19 08 43.5 -0.4**
comp=Z,166nm,0.7s
KLBR Kellerberrin 38.69 225 P **P 19 08 43.4 -0.4**
NWAO Narrogin (SRO) 39.81 224 LR LR 19 25 04.5
comp=Z,294nm,21.6s,baz=2.5,slow=36
NWAO Narrogin (SRO) 39.81 224 P **P 19 08 53.3 +0.1**
NWAO Narrogin (SRO) 39.81 224 P **P 19 08 53.2 +0.1**
NWAO Narrogin (SRO) 39.81 224 P **P 19 08 55.3 +2.1**
NWAO pmax pmax
comp=Z,20nm,1.4s
NWAO Narrogin (SRO) 39.81 224 P **P 19 08 53.1 -0.1**
MUN Mundaring 40.00 226 P **P 19 08 53.8 -0.9**
MUN Mundaring 40.00 226 P **P 19 08 54.8 0.0**
JHJ Hachijo jima 2 40.01 348 LR LR 19 22 03.4
comp=Z,499nm,21.3s,baz=140,slow=31
CMJI Cimerak 40.31 265 P **P 19 08 56.7 -0.8**
comp=Z,83nm,0.8s
URZ Urewera 40.88 146 LR LR 19 23 27.2
comp=Z,277nm,20.2s,baz=11,slow=32
RTZ Ruatahuna 41.06 146 P **P 19 09 02.7 -0.8**
RTZ IAmb IAmb 19 09 05.1
comp=Z,24nm,0.8s
BBJI Bungbulang 41.10 266 P **P 19 09 03.3 -0.9**
LEM Lembang 41.15 267 LR LR 19 30 08.9
comp=Z,153nm,19.6s,baz=134,slow=42
THZ Tophouse 41.36 153 P **P 19 09 04.2 -1.6**
CNJI Cibinong 41.62 266 P P 19 09 23.4 +15
BSWZ Blackbirch Sta 41.77 152 P **P 19 09 08.4 -0.8**
MRZ Mangatainoka R 41.80 149 P **P 19 09 08.4 -1.0**
MRZ IAmb IAmb 19 09 41.7
comp=Z,80nm,1.6s
RPZ Rata Peaks 42.15 156 LR LR 19 23 30.7
comp=Z,534nm,21.7s,baz=288,slow=31
JNU Nakatsue 42.67 337 P **P 19 09 16.9 +0.3**
JNU Nakatsue 42.67 337 P **P 19 09 17.0 +0.3**
comp=Z,23nm,0.8s,baz=145,slow=6.9,SNR=8.3
comp=Z,23nm,0.8s
JNU Nakatsue 42.67 337 P **P 19 09 17.0 +0.3**
INU Inuyama 42.78 345 P **P 19 09 18.5 +1.1**
INU Inuyama 42.78 345 P **P 19 09 19.9 +2.5**
INU pP **pP 19 09 30.0 -0.9**
MJAR Matsushiro Arr 43.64 347 P **P 19 09 23.8 -0.6**
comp=Z,8.7nm,0.9s,baz=164,slow=7.3,SNR=11
MJAR LR LR 19 24 36.7
comp=Z,372nm,21.6s,baz=131,slow=32
comp=Z,8.7nm,0.9s
MAJO Matsushiro 43.64 347 P **P 19 09 22.7 -1.7**
MAJO IAmb IAmb 19 09 36.8
comp=Z,20nm,0.9s
MAJO Matsushiro 43.64 347 P **P 19 09 23.9 -0.5**
MAJO Matsushiro 43.64 347⇑*e*P **P 19 09 23.6 -0.8**
MAJO pmax pmax
comp=Z,24nm,1.1s
MAJO Matsushiro 43.64 347 P **P 19 09 23.9 -0.5**
MJB9 Matsu-Tunnel 43.65 347 IAmb IAmb 19 09 37.8
comp=Z,18nm,0.9s
MDSI Maura Dua 44.68 270 P P 19 09 44.6 +12
QIZ Qiongzhong 45.99 304 P **P 19 09 41.5 -1.9**
QIZ PP **PP 19 11 32.9 +0.9**
QIZ S **S 19 16 24.9 -0.3**
QIZ sS **sS 19 16 44.1 -3.8**
QIZ pmax pmax
comp=Z,18nm,1.7s
QIZ LR LR
comp=N,150nm,14.4s
QIZ LR LR
comp=E,190nm,17.2s
QIZ LR LR
comp=Z,190nm,18.6s
KSRS Korea Array 47.62 337 P **P 19 09 56.0 +0.3**
comp=Z,4.3nm,0.8s,baz=153,slow=8.5,SNR=11
comp=Z,4.3nm,0.8s
KSAR Wonju Array Be 47.63 337 P **P 19 09 54.6 -1.2**
KSAR Wonju Array Be 47.63 337 P **P 19 09 54.6 -1.2**
NJ2 Nanjing 47.63 325 *e*P **P 19 09 57.8 +1.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
BKNI Bangkinang 48.33 276 P **P 19 10 01.7 0.0**
BKNI Bangkinang 48.33 276 P P 19 10 09.1 +7.4
PSI Prapat 50.81 279 LR LR 19 37 58.5
comp=Z,94nm,18.6s,baz=124,slow=43
NONG Nongkai 51.26 299 P **P 19 10 24.8 +0.9**
PSTR Posyet 51.30 343⇓*e*P **P 19 10 27.0 +3.3**
TIA Tai'an 51.66 327 P **P 19 10 28.0 +1.4**
TIA pmax pmax
comp=Z,13nm,0.8s
TIA LR LR
comp=Z,400nm,27.5s
TIA LR LR
comp=N,310nm,18.6s
RAR Rarotonga 51.72 112 LR LR 19 32 15.1
comp=N,76nm,18.1s,baz=190,slow=36
USA0B Ussuriysk Arra 52.40 345⇑*e*P **P 19 10 33.7 +1.8**
USRK Ussuriysk Ar. 52.40 345 P **P 19 10 33.8 +1.9**
comp=N,7.8nm,0.7s,baz=167,slow=5.2,SNR=9.4
comp=N,7.8nm,0.7s
YSS Yuzhno-Sakhali 53.14 355 *e*P **P 19 10 38.4 +1.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
MDJ Mudanjiang 53.45 343 P **P 19 10 43.0 +3.3**
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ Mudanjiang 53.45 343 P **P 19 10 41.6 +1.9**
HNS HongShan 53.85 326⇑P **P 19 10 44.4 +1.7**
HNS pP **pP 19 10 53.4 -3.1**
HNS *e*S **S 19 18 12.8 -1.4**
HNS pmax pmax
comp=Z,16nm,0.8s
HNS LR LR
comp=N,260nm,18.2s
HNS LR LR
comp=Z,320nm,17.3s
CN2 Changchun 54.08 339 *e*P P 19 10 49.2 +5.0
CN2 *e*pP sP 19 11 04.9 +0.9
BJT Baijiatuau 55.00 329 P **P 19 10 52.5 +1.4**
CMAR Chiang Mai Arr 55.09 297 P **P 19 10 50.8 -1.3**
comp=Z,0.5nm,0.3s,baz=120,slow=5.4,SNR=4.8
comp=Z,0.5nm,0.3s
BNX BinXian 55.13 342⇓P **P 19 10 53.9 +2.0**
BNX pmax pmax
comp=Z,9.0nm,0.8s
PZH PanZhiHua 56.13 308 P **P 19 11 00.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,5.3s
KLR Kul'dur 57.16 347 LR LR 19 33 41.9
comp=Z,170nm,20.6s,baz=67,slow=34
KLR Kul'dur 57.16 347*c i*P **P 19 11 08.4 +2.2**
KLR pmax pmax
comp=Z,24nm,1.4s
XLT XiLinHaoTe 58.00 332 *e*P **P 19 11 15.6 +3.2**
XLT sP sP 19 11 37.5 +5.3
XLT pmax pmax
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 58.02 327 *e*P **P 19 11 11.2 -1.4**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.1s
HEH HeiHe 59.20 344 *e*P **P 19 11 22.4 +1.9**
HEH pmax pmax
comp=Z,11nm,0.8s
HEH pmax pmax
comp=Z,310nm,5.0s
PEA0B Petropavlovsk- 59.47 6 P **P 19 11 21.7 -0.6**
PEA0B Petropavlovsk- 59.47 6⇓*e*P **P 19 11 23.1 +0.8**
PETK Petropavlovsk- 59.47 6 P **P 19 11 23.0 +0.7**
comp=Z,32nm,1.0s,baz=168,slow=7.6,SNR=23
PETK LR LR 19 32 58.7
comp=Z,130nm,21.5s,baz=167,slow=32
comp=Z,32nm,1.0s
PETK Petropavlovsk- 59.47 6 P **P 19 11 23.0 +0.7**
PET Petropavlovsk 59.49 7 *e*P **P 19 11 24.6 +2.2**
PET pmax pmax
comp=Z,19nm,0.7s
PET Petropavlovsk 59.49 7 P **P 19 11 24.8 +2.4**
PET pP **pP 19 11 34.8 -1.7**
DRV Dumont d'Urvil 60.76 184 P **P 19 11 32.3 +1.4**
DRV pmax pmax
comp=Z,145nm,0.9s
DRV Dumont d'Urvil 60.76 184 P **P 19 11 31.8 +0.9**
HIA Hailar 60.79 338 P **P 19 11 33.6 +2.1**
HIA Hailar 60.79 338 P **P 19 11 33.7 +2.2**
HIA pP **pP 19 11 43.8 -1.8**
SHEM Shemya Is, Ala 62.38 17 LR LR 19 34 08.3
comp=Z,124nm,21.0s,baz=158,slow=31
ZEA Zeya 62.40 346 *i*P **P 19 11 44.9 +2.7**
SHL Shillong 63.79 302 IAmb IAmb 19 12 30.9
comp=Z,14nm,1.2s
GTA Gaotai 64.14 319 *e*P **P 19 11 55.9 +1.7**
GTA pP pP 19 12 07.3 -1.1
GTA pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 65.21 330 P **P 19 12 00.5 -0.6**
ULN IAmb IAmb 19 12 14.6
comp=Z,12nm,1.2s
ULN Ulaanbaatar 65.21 330⇑*e*P **P 19 12 01.2 +0.2**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 65.21 330 P **P 19 12 04.0 +3.0**
ULN pP **pP 19 12 14.3 -0.9**
MA2 Magadan 65.51 1 P **P 19 12 03.3 +0.8**
MA2 IAmb IAmb 19 12 05.5
comp=Z,20nm,0.9s
MA2 Magadan 65.51 1 P **P 19 12 03.4 +0.8**
comp=Z,15nm,0.9s,baz=153,slow=6.1,SNR=54
MA2 LR LR 19 36 56.2
comp=Z,87nm,21.7s,baz=130,slow=32
comp=Z,15nm,0.9s
MA2 Magadan 65.51 1 P **P 19 12 03.2 +0.8**
MA2 Magadan 65.51 1⇓*e*P **P 19 12 03.3 +0.8**
MA2 pmax pmax
comp=Z,24nm,1.0s
MA2 Magadan 65.51 1 P **P 19 12 03.1 +0.6**
comp=Z,26nm,0.9s
MA2 Magadan 65.51 1 P **P 19 12 04.1 +1.6**
MA2 pP **pP 19 12 14.7 -2.1**
SONM Songino Array 65.51 330 P **P 19 12 01.6 -1.4**
SONM Songino Array 65.51 330 P **P 19 12 03.0 0.0**
comp=Z,3.9nm,0.8s,baz=134,slow=4.3,SNR=20
SONM LR LR 19 40 04.8
comp=Z,186nm,21.1s,baz=106,slow=35
comp=Z,3.9nm,0.8s
SONM Songino Array 65.51 330 P **P 19 12 01.6 -1.4**
SONM pmax pmax
comp=Z,7.0nm,1.1s
CASY Casey 65.68 196 P **P 19 12 03.0 -0.6**
CASY Casey 65.68 196 P **P 19 12 03.6 +0.1**
CASY pP **pP 19 12 14.7 -2.5**
LSA Lhasa 65.94 306 P **P 19 12 06.0 -0.5**
LSA pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 68.91 2⇓*i*P **P 19 12 26.2 +2.2**
SEY pmax pmax
comp=Z,14nm,1.0s
PALK Pallekele 69.45 280 LR LR 19 45 43.8
comp=Z,76nm,20.2s,baz=105,slow=38
YAK Yakutsk 69.59 350 LR LR 19 45 39.5
comp=Z,37nm,18.1s,baz=100,slow=38
YAK Yakutsk 69.59 350 *e*P **P 19 12 27.9 -0.2**
YAK pmax pmax
comp=Z,9.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.0s
CCD Concordia, Ant 70.48 187 P **P 19 12 34.3 +0.2**
CCD PcP **sP 19 12 55.5 +2.2**
MOY Mondy 70.66 331 *e*P **P 19 12 35.9 +0.7**
MOY pmax pmax
comp=Z,17nm,1.7s
VNDA Vanda 71.67 177 P **P 19 12 41.3 +0.5**
VNDA IAmb IAmb 19 12 55.5
comp=Z,9.1nm,0.8s
VNDA Vanda 71.67 177 P **P 19 12 41.2 +0.5**
comp=Z,6.2nm,0.6s,baz=336,slow=7.1,SNR=15
comp=Z,6.2nm,0.6s
VNDA Vanda 71.67 177 P **P 19 12 41.3 +0.5**
VNDA pmax pmax
comp=Z,9.0nm,0.8s
VNDA Vanda 71.67 177 P **P 19 12 41.5 +0.8**
VNDA pP **pP 19 12 52.9 -1.6**
VNDA sP **PcP 19 12 57.8 -1.8**
VNDA PcP **sP 19 13 02.5 +2.6**
HYB Hyderabad 73.40 290 *e*P **P 19 12 51.6 -0.6**
WMQ Urumqi 74.21 319 *e*P **P 19 12 54.8 -1.6**
WMQ pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 74.99 7 P **P 19 12 59.3 -1.0**
BILL IAmb IAmb 19 13 04.6
comp=Z,13nm,0.9s
BILL Bilibino 74.99 7*d i*P **P 19 13 02.9 +2.6**
BILL pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 78.75 354 P **P 19 13 21.9 +0.5**
TIXI Tiksi 78.75 354 LR LR 19 50 05.2
comp=Z,52nm,19.2s,baz=188,slow=37
TIXI Tiksi 78.75 354⇓*e*P **P 19 13 22.8 +1.4**
TIXI pmax pmax
comp=Z,12nm,2.7s
MK31 Makanchi Array 78.89 320 P **P 19 13 20.2 -2.6**
MK31 Makanchi Array 78.89 320*de*P **P 19 13 23.9 +1.1**
MKAR Makanchi Array 78.89 320 P **P 19 13 22.0 -0.7**
MKAR Makanchi Array 78.89 320 P **P 19 13 23.2 +0.5**
comp=Z,1.3nm,0.7s,baz=103,slow=7.1,SNR=16
MKAR PKKPbc **PKKPbc 19 32 16.9 -1.3**
comp=Z,0.4nm,0.9s,baz=291,slow=2.4,SNR=5.6
MKAR LR LR 19 46 40.5
comp=Z,93nm,21.9s,baz=31,slow=34
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 78.89 320 *i*P **P 19 13 23.6 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MAKZ Makanchi 79.09 320 P **P 19 13 21.4 -2.5**
MAKZ Makanchi 79.09 320 P **P 19 13 21.4 -2.5**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
K17K Iditarod 79.41 22 IAmb IAmb 19 13 30.2
comp=Z,19nm,1.0s
L18K Granite Mounta 79.73 23 IAmb IAmb 19 13 30.6
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 80.20 327 P **P 19 13 28.0 -1.7**
ZALV Zalesovo Beam 80.20 327 P **P 19 13 29.5 -0.2**
comp=Z,4.4nm,0.7s,baz=107,slow=5.5,SNR=18
ZALV LR LR 19 48 58.7
comp=Z,96nm,20.2s,baz=108,slow=36
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 80.20 327 *i*P **P 19 13 30.2 +0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
L19K White Mountain 80.42 23 IAmb IAmb 19 13 34.0
comp=Z,12nm,0.9s
KDJ Kajisay 80.82 314 P **P 19 13 34.0 +0.5**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KSH Kashi 80.97 311 P **P 19 13 36.0 +1.7**
KSH pmax pmax
comp=Z,3.0nm,0.8s
NIL Nilore 81.65 305 P **P 19 13 34.9 -3.0**
NIL IAmb IAmb 19 13 41.6
comp=Z,10nm,0.9s
NIL Nilore 81.65 305 P **P 19 13 34.9 -3.0**
NIL pmax pmax
comp=Z,10.0nm,0.9s
BOOM Boomskoye usch 81.80 314 P **P 19 13 40.6 +1.9**
BOOM pmax pmax
comp=Z,7.0nm,0.7s
CAST Castle Rocks 82.16 23 IAmb IAmb 19 13 42.4
comp=Z,12nm,0.9s
KURK Kurchatov 82.53 323 P **P 19 13 40.8 -1.3**
KURK Kurchatov 82.53 323*de*P **P 19 13 45.3 +3.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 82.55 323 P **P 19 13 41.1 -1.0**
comp=Z,1.0nm,0.7s,baz=112,slow=4.2,SNR=15
KURBB PKKPbc **PKKPbc 19 32 08.2 -1.8**
comp=Z,0.6nm,0.9s,baz=291,slow=2.2,SNR=5.2
KURBB LR LR 19 49 27.0
comp=Z,99nm,21.2s,baz=173,slow=35
comp=Z,1.0nm,0.7s
KTH Kantishna Hill 82.67 23 P **P 19 13 42.8 +0.1**
KTH IAmb IAmb 19 13 48.1
comp=Z,15nm,1.1s
TRF Thorofare Moun 82.87 23 IAmb IAmb 19 13 47.8
comp=Z,20nm,1.3s
AAK Ala-Archa 82.87 314 P **P 19 13 43.8 -0.5**
AAK Ala-Archa 82.87 314⇑*e*P **P 19 13 45.8 +1.5**
AAK pmax pmax
comp=Z,9.0nm,2.5s
I21K Tanana 83.10 21 IAmb IAmb 19 15 21.8
comp=Z,39nm,1.8s
RND Reindeer 83.42 24 IAmb IAmb 19 13 47.7
comp=Z,17nm,0.8s
RND Reindeer 83.42 24 P **P 19 13 46.1 -0.4**
ARSB Arslanbob 83.64 313 IAmb IAmb 19 15 10.3
comp=Z,15nm,1.5s
QSPA South Pole Qui 83.84 180 P **P 19 13 48.7 -0.1**
comp=Z,22nm,0.7s,baz=346,slow=0.8,SNR=115
QSPA LR LR 19 49 30.3
comp=Z,230nm,18.8s,baz=360,slow=34
comp=Z,22nm,0.7s
NEA2 Nenana 83.89 23 IAmb IAmb 19 13 50.4
comp=Z,12nm,1.0s
WRH Wood River Hil 84.21 23 IAmb IAmb 19 13 52.0
comp=Z,11nm,1.0s
CCB Clear Creek Bu 84.40 23 IAmb IAmb 19 13 52.8
comp=Z,9.9nm,1.0s
COLA College 84.49 22 P **P 19 13 52.7 +0.9**
COLA College 84.49 22⇓*i*P **P 19 13 51.4 -0.4**
COLA pmax pmax
comp=Z,16nm,0.9s
G23K Bananza Creek 84.56 20 IAmb IAmb 19 13 55.2
comp=Z,7.7nm,0.9s
IL31 84.81 23 IAmb IAmb 19 13 54.0
comp=Z,8.7nm,0.8s
ILAR Eielson Array 84.81 23 P **P 19 13 52.4 -1.1**
ILAR Eielson Array 84.81 23 P **P 19 13 52.2 -1.3**
comp=Z,7.0nm,0.8s,baz=250,slow=5.0,SNR=58
comp=Z,7.0nm,0.8s
ILAR Eielson Array 84.81 23 P **P 19 13 52.4 -1.1**
TRKS Terek-Say 85.03 313 P **P 19 13 54.6 -0.7**
TRKS pmax pmax
comp=Z,3.0nm,1.1s
MENT Mentasta 85.32 25 P **P 19 13 56.5 +0.4**
G24K Hadweenzic Riv 85.45 21 IAmb IAmb 19 14 00.0
comp=Z,12nm,1.2s
DOT Dot Lake 85.46 24 IAmb IAmb 19 13 58.8
comp=Z,10nm,0.9s
SCRK Sand Creek 85.62 24 IAmb IAmb 19 14 52.9
comp=Z,24nm,1.8s
KKAR Karatay Array 85.83 314 P **P 19 13 57.0 -2.1**
KKAR Karatay Array 85.83 314 P **P 19 13 57.0 -2.1**
C23K Itkillik River 85.92 18 IAmb IAmb 19 14 02.2
comp=Z,11nm,0.9s
SIMJ Simiganj 86.05 309 P **P 19 13 59.1 -1.3**
BCAR Beaver Creek A 86.19 25 P **P 19 13 59.4 -1.1**
DZET Dzherino 86.22 310 P **P 19 14 00.3 -0.9**
DZET pmax pmax
comp=Z,6.0nm,0.8s
HYT Haines Junctio 87.35 28 IAmb IAmb 19 14 09.7
comp=Z,10nm,0.9s
DAWY Dawson 87.54 25 IAmb IAmb 19 14 10.3
comp=Z,14nm,1.2s
L29M L29M 87.77 26 IAmb IAmb 19 14 11.0
comp=Z,8.6nm,0.8s
I28M Miner Creek 87.78 23 IAmb IAmb 19 14 10.6
comp=Z,5.3nm,0.8s
BVAR Borovoye Array 88.06 324 P **P 19 14 08.1 -1.5**
comp=Z,2.3nm,0.8s,baz=110,slow=5.4,SNR=9.9
BVAR LR LR 19 53 09.0
comp=Z,80nm,21.9s,baz=75,slow=35
comp=Z,2.3nm,0.8s
BRVK Borovoye 88.13 324⇓*e*P **P 19 14 10.1 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,3.6s
E27K Coleen River 88.13 20 IAmb IAmb 19 14 12.7
comp=Z,5.9nm,0.9s
J29N Klondike Camp, 88.15 24 IAmb IAmb 19 14 13.0
comp=Z,6.7nm,0.8s
I29M Ogilvie Camp, 88.40 24 IAmb IAmb 19 14 13.3
comp=Z,7.4nm,1.0s
SYO Syowa Base 91.17 200⇓*e*P **P 19 14 23.8 -0.1**
YBH Yreka Blue Hor 92.73 49 LR LR 19 48 49.3
comp=Z,139nm,20.7s,baz=320,slow=31
ELIB Princess Elisa 94.59 195 *d*P **P 19 14 39.5 -0.4**
comp=Z,6.7nm,0.9s
ARTI Arti 95.41 326 LR LR 19 57 32.0
comp=Z,59nm,21.6s,baz=98,slow=35
NVAR Mina Array Bea 95.85 52 LR LR 19 50 37.3
comp=Z,122nm,20.5s,baz=246,slow=31
BELA Belgrano 2 96.09 179 P **P 19 14 45.6 -0.8**
NEW Newport 97.09 42 LR LR 19 54 25.2
comp=Z,123nm,18.0s,baz=276,slow=33
PFO Pinyon Flats O 97.10 57 LR LR 19 51 28.8
comp=Z,155nm,19.8s,baz=268,slow=31
YKA Yellowknife Ar 98.34 28 P Pdif 19 14 57.4 +0.7
comp=Z,0.3nm,0.6s,baz=266,slow=5.1,SNR=7.6
YKA PKKPbc **PKKPbc 19 31 26.0 -4.3**
comp=Z,0.6nm,0.8s,baz=94,slow=2.8,SNR=10
comp=Z,0.3nm,0.6s
TROLL Troll, Antarti 99.03 190⇓P **Pdif 19 14 59.5 -0.4**
comp=Z,192nm,0.8s
AKASG Malin Array Be 113.34 323 PKKPbc PKKPbc 19 30 41.0 -2.7
comp=Z,0.7nm,0.5s,baz=260,slow=3.9,SNR=5.3
NOA NORSAR Array B 116.82 339 PKKPbc PKKPbc 19 30 28.2 -3.9
comp=Z,0.8nm,0.9s,baz=324,slow=3.9,SNR=3.5
KOLS Kolonicke sedl 118.17 323 *e*PKIKP **PKiKP 19 20 06.4 0.0**
KOLS Kolonicke sedl 118.17 323 *e*PKP **PKiKP 19 20 06.4 0.0**
LANS Liptovska Anna 119.72 324 *e*PKIKP **PKiKP 19 20 12.7 +3.3**
LANS Liptovska Anna 119.72 324 *e*PKP **PKiKP 19 20 12.7 +3.3**
PLCA Paso Flores 120.89 146 PKP **PKiKP 19 20 12.0 -0.1**
comp=Z,2.4nm,0.7s,baz=244,slow=6.7,SNR=11
CLL Collm 122.12 329 *e*PKIKP **PKiKP 19 20 16.0 +2.0**
CLL Collm 122.12 329 *e*PKPdf **PKiKP 19 20 16.0 +2.0**
BI02 San Fabin de 123.14 142 PKPdf **PKPdf 19 20 15.5 -0.9**
GERES GERESS Array B 123.14 326 PKP **PKiKP 19 20 16.1 -0.1**
comp=Z,0.5nm,0.5s,baz=46,slow=3.9,SNR=3.6
LPAZ La Paz 137.01 122 PKPdf **PKPdf 19 20 41.9 -2.0**
LPAZ La Paz 137.01 122 PKP **PKPdf 19 20 44.3 +0.5**
comp=Z,3.8nm,0.9s,baz=186,slow=9.2,SNR=6.4
LPAZ La Paz 137.01 122 PKIKP **PKPdf 19 20 41.9 -2.0**
RUSC La Rusia 138.12 88 PKPdf **PKPdf 19 20 39.9 -5.9**
CPUP Villa Florida 138.83 143 PKP **PKPdf 19 20 45.1 -1.1**
comp=Z,3.7nm,0.7s,baz=198,slow=3.2,SNR=6.3
AQDB Aquidauana 144.09 138 PKPdf **PKPab 19 20 53.0 -0.3**
VILB Vilhena 145.32 123 **PKPbc 19 20 57.1 -0.8**
BOAV Boa Vista 150.30 96 PKPdf **PKPdf 19 21 05.6 -0.7**
BDFB Brasilia 152.56 142 PKPdf **PKPdf 19 21 07.2 -2.6**
BDFB Brasilia 152.56 142 PKPbc **PKPbc 19 21 16.4 -0.4**
comp=Z,17nm,0.4s,baz=228,slow=2.0,SNR=22
BDFB PKPab **PKPab 19 21 27.4 +0.2**
comp=Z,15nm,0.7s,baz=225,slow=2.9,SNR=11
BDFB Brasilia 152.56 142 PKIKP **PKPdf 19 21 07.2 -2.6**
DBIC Dimbokro 154.04 273 PKPbc **PKiKP 19 21 20.7 +0.7**
comp=Z,2.9nm,0.7s,baz=62,slow=2.4,SNR=4.0

ECX ***11*** *19:07:21.5±0.3, 31°.93N×115°.82W, h1km±1km, MD2.3, ML2.5*
MEX ***11*** *19:07:23.4±1.0, 31°.97N×115°.82W, h21km±957km, MD3.6*
ISC 11 19:07:20.2±0.9, **31°.92N**±0°.02×**115°.84W**±0°.03, **h11**km±7km,
n21, σ**0°.39/36, 11C-2D, Baja California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ALAMX	**Rancho Alamar**	**0.15**	**51**	⇑*i*P		**Pg**		**19 07 23.9**	**+0.3**
ALAMX				*e*S		**Sg**		**19 07 25.9**	**-0.1**
ALAMX				IAML				19 07 26.2	
	comp=N,3μm,0.1s								
ALAMX				IAML				19 07 26.5	
	comp=E,2μm,0.1s								
SJX	**San Joaquin**	**0.18**	**213**	⇑*i*P		**Pg**		**19 07 24.2**	**+0.1**
SJX				*e*S		**Sg**		**19 07 26.5**	**-0.4**
SJX				IAML				19 07 26.6	
	comp=E,14μm,0.1s								
SJX				IAML				19 07 26.7	
	comp=N,12μm,0.1s								

RHX	Rio Hardy	0.52	65⇑	iP		Pg	19 07 30.7 +0.3
RHX				eS		Sg	19 07 37.1 -0.3
SV2X	San Vicente	0.67	210	eP		Pb	19 07 33.7 -0.1
RMX	La Rumorosa	0.71	344	eP		Pg	19 07 33.5 -0.5
RMX				eS		Sg	19 07 42.5 -0.9
YUH2	Yuha Desert	0.73	355⇑	eP		Pg	19 07 34.7 +0.3
YUH2				IAML			19 07 44.7
	comp=E,77nm,0.1s						
YUH2				IAML			19 07 45.1
	comp=N,91nm,0.1s						
MBIG	Mexicali	0.74	48	eP		Pn	19 07 36.3 -0.2
MBIG				eS		Sg	19 07 44.1 0.0
SGL	Mount Signal	0.74	8⇓	iP		Pb	19 07 35.5 +0.4
IKP	In-Ko-Pah, Jac	0.77	343⇑	eP		Pb	19 07 35.4 -0.2
PBX	Punta Banda	0.77	257⇑	eP		Pb	19 07 35.9 +0.3
PBX				eS		Sb	19 07 47.1 +1.0
CBX	Cerro Bola	0.80	300	eP		Pb	19 07 36.3 +0.2
CBX				eS		Sb	19 07 47.6 +0.6
CBX	Cerro Bola	0.80	300⇑	iP		Pb	19 07 36.4 +0.2
CBX				eS		Sb	19 07 47.6 +0.6
CBX				IAML			19 07 48.3
	comp=N,100nm,0.2s						
TJIG	Tijuana	0.87	306	eP		Pg	19 07 37.1 +0.1
TJIG				eS		Sg	19 07 48.7 +0.2
TJIG	Tijuana	0.87	306⇑	eP		Pg	19 07 37.1 +0.1
SPIG	San Pedro Mart	0.93	159	eP		Pg	19 07 38.1 +0.1
SPIG				eS		Sg	19 07 49.7 -0.5
BAR	Barrett	1.04	318⇓	eP		Pg	19 07 39.9 -0.2
BAR				eS		Sg	19 07 53.4 -0.3
BAR				IAML			19 07 55.4
	comp=N,55nm,0.2s						
OLP	Otay Lakes Par	1.15	307⇑	eP		Pg	19 07 41.9 -0.4
OLP				eS		Sg	19 07 57.1 -0.2
OLP				IAML			19 07 58.0
	comp=N,125nm,0.1s						
OLP				IAML			19 07 58.1
	comp=E,60nm,0.1s						
SFX	San Felipe	1.22	136	eP		Pb	19 07 43.0 -0.2
SFX				eS		Sg	19 07 58.9 -0.5
SFX	San Felipe	1.22	136⇑	iP		Pb	19 07 43.3 +0.1
SDRC	San Diego Road	1.24	312	eP		Pn	19 07 43.4 0.0
SDRC				eS		Sb	19 07 59.2 -0.3
SDRC				IAML			19 07 59.9
	comp=E,82nm,0.1s						
SDRC				IAML			19 08 00.1
	comp=N,72nm,0.2s						
EML	El Monte Cty P	1.29	319⇑	eP		Pn	19 07 44.0 -0.1
EML				eS		Sb	19 08 00.8 -0.2
EML				IAML			19 08 01.7
	comp=E,61nm,0.1s						
EML				IAML			19 08 01.8
	comp=N,63nm,0.1s						

*IDC **11** 19:08:41.8±2.7, 13°.81N×92°.42W, h0km, mb3.4/2, mbtmp3.2/4, ML3.6/2, MS3.5/2, Error ellipse: s-maj=45.5km s-min=24.9km az=176.0*
*GCG **11** 19:08:47.5±0.6, 13°.99N×92°.00W, h0km±77km, MD4.4, MW3.1*

ISC 11 19:08:44.4±1.9, **13°.6N**±0°.2×**92°.46W**±0°.07, **h32**km, **n11**, σ1§**42**/13, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	1.36	53	eP		19 09 04.8	
STG8	El Palmar, Qui	1.37	52	eP		19 09 05.2	
FG8	Yepocapa, Chim	1.96	70	eP		19 09 09.6	
APG	El Apazote	2.38	54	Pn	Pn	19 09 20.4	-1.1
	0.2nm,0.3s,baz=176,slow=11,SNR=18						
APG				Sn	Sn	19 09 50.0	+0.2
	0.8nm,0.3s,baz=174,slow=10,SNR=5.1						
APG	El Apazote	2.38	54	eP	Pn	19 09 20.6	-0.9
APG	El Apazote	2.38	54	eP		19 09 20.6	
CCIG	Comitan	2.68	7	i P	Pn	19 09 27.0	+1.4
CCIG				eP	Pn	19 09 27.0	+1.4
CCIG	Comitan	2.68	7	i P		19 09 27.0	
CCIG				eP		19 09 27.0	
CMIG	Matias Romero	4.18	326	Pn	Pn	19 09 44.8	-1.3
	1.0nm,0.3s,baz=146,slow=11,SNR=3.8						
CMIG				Sn	Sn	19 10 31.6	-2.3
	2.3nm,0.3s,baz=150,slow=16,SNR=4.1						
	1.3nm,0.3s						
TEIG	Tepich	7.71	31	Pn	Pn	19 10 32.9	-1.6
	baz=219,slow=20						
TEIG				Sn	Sn	19 11 60.0	-0.8
	baz=218,slow=20,SNR=1.5						
JTS	Las Juntas de	8.05	113	LR	LR	19 13 11.5	
	comp=Z,95nm,21.8s,baz=26,slow=33						
TXAR	Lajitas Array	18.79	328	P	Pn	19 13 02.1	+0.1
	0.1nm,0.3s,baz=136,slow=10.0,SNR=1.6						
	0.1nm,0.5s						
PDAR	Pinedale Array	32.60	336	P	P	19 15 15.3	+2.0
	0.3nm,0.7s,baz=222,slow=17,SNR=3.8						
	0.3nm,0.7s						
YKA	Yellowknife Ar	51.31	347	P	P	19 17 45.0	-0.3
	0.4nm,0.6s,baz=156,slow=7.7,SNR=7.2						
	0.4nm,0.6s						
ILAR	Eielson Array	63.03	337	LR	LR	19 49 31.5	
	comp=Z,106nm,18.3s,baz=214,slow=39						
CMAR	Chiang Mai Arr	146.22	340	PKPbc	PKPab	19 28 23.5	+0.3
	0.7nm,0.8s,baz=328,slow=3.6,SNR=6.6						

*NAO **11** 19:24:11.6±64.0, 73°.99N×8°.04E, ML3.3*
*BER **11** 19:24:17.5±1.9, 74°.23N×8°.33E, h10km, mb(Pn)3.6, ML3.3(NAO), Confirmed Earthquake*

ISC 11 19:24:00.4±1.8, **74°.5N**±0°.1×**6°.15E**±0°.06, **h10**km, **n15**, σ1§**46**/22, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	3.42	38	eP		19 25 07.9	+2.0
HSPB				eS		19 25 43.4	+0.9
HSPB				IAML		19 25 55.1	
	comp=Z,2.7nm,0.6s						
HSPB	Hornsund (broa	3.42	38	Pn	Pg	19 25 07.3	+1.4
BJO1	Bjornoya	3.45	84	eP	Pb	19 25 00.8	-0.6
BJO1				e		19 25 30.3	
BJO1				IAML		19 25 36.3	
	comp=Z,4.0nm,0.7s						
BRBA	Barentsburg A	4.06	24	eP	Pg	19 25 19.4	+1.3
BRBA				eS	Sb	19 26 01.6	+0.7
BRBA				IAML		19 26 04.2	
	comp=Z,11nm,0.4s						
BRBA	Barentsburg A	4.06	24	Pn	Pg	19 25 18.7	+0.6
BRBB	Barentsburg B	4.09	24	eP	Pg	19 25 19.6	+0.9
BRBB	Barentsburg B	4.09	24	Pn	Pg	19 25 19.4	+0.7
BRBB				Sn	Sb	19 26 04.6	+2.8
SPA0	Spitsbergen Ar	4.42	28	eP	Pg	19 25 23.6	-1.2
SPA0				eS	Sb	19 26 10.1	-1.1
SPA0				IAML		19 26 14.9	
	comp=Z,3.5nm,0.7s						
SPA0	Spitsbergen Ar	4.42	28	Pn	Pg	19 25 24.2	-0.7
	baz=193,slow=16						
KBS	Kingsbay	4.65	14	eP	Pg	19 25 28.3	-1.1
KBS				eS	Sb	19 26 18.8	+1.0
KBS				IAML		19 26 24.7	
	comp=Z,2.5nm,1.1s						
KBS	Kingsbay	4.65	14	Pn	Pg	19 25 28.2	-1.1
HOPEN	Hopen	5.14	58	eP	Pb	19 25 27.8	-2.3
HOPEN				eS	Sn	19 26 17.1	+0.7
HOPEN				IAML		19 26 26.8	
	comp=Z,3.2nm,0.9s						
HOPEN	Hopen	5.14	58	Pn	Pb	19 25 27.9	-2.2
HOPEN				Sn	Sn	19 26 17.1	+0.7
DAG	Danmarks Havn	6.54	302	eS	Sb	19 27 13.8	+1.6
DBG	Daneborg	7.08	281	eS	Sb	19 27 28.8	+1.2

*NEIC **11** 19:27:32.9±1.2, 56°.8S±0°.1×27°.3W±0°.2, h147km±6km, mb4.7/17, Error ellipse: s-maj=18.2km s-min=15.1km az=207.0*
*IDC **11** 19:27:38.0±4.2, 56°.78S×27°.33W, h201km±39km, mb3.9/8, mbtmp4.5/9, Error ellipse: s-maj=23.7km s-min=10.6km az=70.0*

ISC 11 19:27:32.9±0.5, **56°.74S**±0°.08×**27°.31W**±0°.09, **h150**km, **n42**, σ1§**60**/42, **mb4.5**/14, **5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.76	291	Pn	Pn	19 28 55.9	-0.4
VNA1	Neumayer--Stat	16.18	157	⇑P	Pn	19 31 13.2	+1.8
	comp=Z,14nm,0.7s						
VNA3	Neumayer Olymp	16.36	160	⇑P	Pn	19 31 14.3	+0.7
	comp=Z,35nm,1.1s						
VNA2	Neumayer--Watz	16.58	157	⇑P	P	19 31 17.3	+1.2
	comp=Z,36nm,0.5s,baz=311,slow=10						
SNAA	Sanae	18.14	155	P	P	19 31 33.7	+0.4
SNAA	Sanae	18.14	155	⇑P	P	19 31 33.9	+0.7
	comp=Z,2μm,0.5s						
SNAA	Sanae	18.14	155	P	P	19 31 33.6	+0.3
	comp=Z,48nm,0.4s,baz=310,slow=11,SNR=684						
SNAA				S	S	19 34 52.3	-0.6
	comp=Z,2.1nm,0.9s,baz=208,slow=20,SNR=1.8						
EFI	East Falkland	18.59	273	P	P	19 31 39.6	+1.4
EFI				IAmb	IAmb	19 31 59.4	
	comp=Z,115nm,1.4s						
TROLL	Troll, Antarti	19.66	153	⇑P	P	19 31 50.2	+0.4
	comp=Z,1μm,0.5s						
BELA	Belgrano 2	21.38	184	P	P	19 32 07.1	-0.9
BELA				IAmb	IAmb	19 32 09.8	
	comp=Z,22nm,1.0s						
MG02	Cerro Sombrero	24.22	262	P	P	19 32 34.5	-0.8
GO10	Punta Arenas	25.05	260	P	P	19 32 41.4	-1.4
PLTB	Pedras Altas	30.91	313	P	P	19 33 36.2	+1.0
PLTB				IAmb	IAmb	19 33 43.9	
	comp=Z,18nm,1.5s						
QSPA	South Pole Qui	33.51	180	P	P	19 33 58.0	+0.3
QSPA				IAmb	IAmb	19 33 59.0	
	comp=Z,7.2nm,0.7s						
QSPA	South Pole Qui	33.51	180	P	P	19 33 57.7	+0.1
	comp=Z,7.1nm,0.6s,baz=188,slow=3.3,SNR=45						
	comp=Z,7.1nm,0.6s						
CPUP	Villa Florida	37.22	312	P	P	19 34 29.8	+0.3
	comp=Z,1.0nm,0.3s,baz=160,slow=7.1,SNR=3.9						
	comp=Z,1.0nm,0.3s						
SUR	Sutherland	40.89	74	P	P	19 35 01.7	+1.4
SUR				IAmb	IAmb	19 35 07.8	
	comp=Z,53nm,1.4s						
SOE	Somerset East	43.18	79	P	P	19 35 18.2	-0.4
SOE				IAmb	IAmb	19 35 26.3	
	comp=Z,60nm,1.5s						
SBA	Scott Base	45.38	184	P	P	19 35 36.1	+0.6
SBA				IAmb	IAmb	19 35 58.8	
	comp=Z,20nm,1.4s						
VNDA	Vanda	45.88	183	P	P	19 35 39.8	+0.5
VNDA	Vanda	45.88	183	P	P	19 35 39.9	+0.5
	comp=Z,4.0nm,0.6s,baz=186,slow=6.9,SNR=12						
	comp=Z,4.0nm,0.6s						
SIV	San Ignacio	48.01	314	P	P	19 35 56.9	+0.3
	comp=Z,1.3nm,0.5s,baz=140,slow=10,SNR=6.1						
	comp=Z,1.3nm,0.5s						
LBTB	Lobatse	49.28	73	P	P	19 36 05.8	-0.6
LPAZ	La Paz	50.72	306	P	P	19 36 17.9	0.0
LPAZ	La Paz	50.72	306	P	P	19 36 18.0	+0.1
	comp=Z,1.3nm,0.4s,baz=166,slow=4.2,SNR=5.1						
	comp=Z,1.3nm,0.4s						
LSZ	Lusaka	58.69	69	P	P	19 37 14.6	-0.1
LSZ				IAmb	IAmb	19 37 15.4	
	comp=Z,4.2nm,0.8s						
DBIC	Dimbokro	65.83	25	P	P	19 38 02.2	+0.3
DBIC				IAmb	IAmb	19 38 06.0	
	comp=Z,8.6nm,1.1s						
DBIC	Dimbokro	65.83	25	P	P	19 38 02.0	+0.1
	comp=Z,1.5nm,0.3s,baz=181,slow=6.7,SNR=6.9						
	comp=Z,1.5nm,0.3s						
TORD	Torodi Ar. Bea	73.69	29	P	P	19 38 50.3	+0.3
TORD	Torodi Ar. Bea	73.69	29	P	P	19 38 50.2	+0.2
	comp=Z,4.0nm,0.7s,baz=205,slow=6.3,SNR=47						
	comp=Z,4.0nm,0.7s						
ASAR	Alice Springs	98.35	163	P	P	19 40 51.6	-1.8
	comp=Z,1.3nm,0.8s,baz=193,slow=4.6,SNR=11						
	comp=Z,1.3nm,0.8s						
WRA	Warramunga Arr	102.07	162	P	Pdif	19 41 07.1	-3.0
	comp=Z,1.0nm,1.1s,baz=193,slow=4.8,SNR=2.2						
CMAR	Chiang Mai Arr	124.88	111	PKP	PKPdf	19 46 13.7	-1.1
	comp=Z,1.0nm,0.8s,baz=229,slow=3.8,SNR=6.7						
FINES	FINESS Array B	125.03	28	PKP	PKPdf	19 46 12.2	-1.4
	comp=Z,4.6nm,1.0s,baz=230,slow=1.1,SNR=8.1						
ARCES	ARCESS Array B	131.61	22	PKP	PKPdf	19 46 24.4	-1.5
	comp=Z,5.5nm,1.1s,baz=220,slow=2.4,SNR=7.2						
BVAR	Borovoye Array	135.21	58	PKP	PKPdf	19 46 31.9	-1.4
	comp=Z,1.3nm,0.7s,baz=290,slow=4.2,SNR=4.6						
YKA	Yellowknife Ar	136.64	318	PKP	PKPdf	19 46 33.9	-1.7
	comp=Z,0.3nm,0.4s,baz=139,slow=2.0,SNR=9.9						
MKAR	Makanchi Array	137.17	72	PKP	PKPdf	19 46 33.7	-3.4
	comp=Z,0.2nm,0.5s,baz=223,slow=9.8,SNR=2.8						
KURBB	Kurchatov Arra	137.66	65	PKP	PKPdf	19 46 35.0	-2.8
	comp=Z,0.2nm,0.4s,baz=226,slow=2.4,SNR=2.5						
ZALV	Zalesovo Beam	142.73	65	PKhKP	PKPpre	19 46 41.9	
	comp=Z,0.5nm,0.4s,baz=234,slow=3.9,SNR=2.7						
ILAR	Eielson Array	150.52	311	PKPbc	PKPdf	19 47 04.0	+4.3
	comp=Z,3.4nm,0.9s,baz=130,slow=1.7,SNR=30						
SONM	Songino Array	150.83	88	PKPbc	PKPdf	19 47 05.6	+4.8
	comp=Z,5.3nm,0.6s,baz=221,slow=3.7,SNR=43						

JMA 11 19:48:30.2±0.6, **24°N**±1°×**12°4E**±°, **h13**km±2km, **MV1.3**/6, **NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.17	88	P	Pg	19 48 34.1	0.0
IRIF				eS	Sg	19 48 36.8	-0.1
HATJ	Hateruma jima	0.36	139	eS	Sg	19 48 42.3	0.0
JKRS	Kuro-shima	0.43	102	eS	Sg	19 48 45.0	+0.4
JIJ	Ishigaki jima	0.55	86	eP	Pg	19 48 40.5	-0.4
JIJ				eS	Sg	19 48 47.8	-0.3
JISG	Ishigakijimahi	0.74	70	eS	Sn	19 48 56.6	-0.8

TAP 11 19:49:03.5, **23°.83N**×**121°.97E**, **h34**km±1km, **ML1.5**, **D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.34	276	eP	Pb	19 49 11.5	-0.3
SHUL	Shoufeng	0.38	264	eP	Pn	19 49 13.2	+0.5
SHUL				eS	Sn	19 49 20.2	+1.7
TWD	Chiawan	0.42	306	i P	Pn	19 49 13.4	+0.1
TWD				i S	Sn	19 49 20.6	+0.8
EOS4	EOS4	0.43	48	P	Pn	19 49 14.2	+1.1
EOS4				S	Sn	19 49 20.6	+1.0
ETL	Fush Village	0.46	316	eS	Sn	19 49 20.8	+0.1
ETM	Tongmen	0.46	287	eP	Pb	19 49 13.4	0.0
ETM				eS	Sn	19 49 20.9	+0.2
NACB	Ninganchiao	0.48	315	P	Pn	19 49 14.3	+0.2
NACB				S	Sb	19 49 21.0	0.0
ESL	Shilin	0.49	268	i P	Pn	19 49 14.1	-0.1
ESL				i S	Sn	19 49 22.3	+0.7
EGFH	Guangfu	0.52	252	eS	Sn	19 49 23.5	+1.2
LXIB	Xiulin Townshi	0.54	291	eP	Pn	19 49 15.7	+0.8
LXIB				eS	Sn	19 49 23.9	+0.9
WARBT	Fenglin Townsh	0.55	258	eP	Pb	19 49 14.7	-0.2
WARBT				S	Sn	19 49 23.3	+0.4
HGSD	Ruisui	0.60	236	eP	Pn	19 49 15.5	-0.1
HGSD				eS	Sn	19 49 24.3	+0.1
OWD	Renai	0.74	280	eP	Pb	19 49 18.7	+0.6
OWD				eS	Sb	19 49 28.3	+0.3
YULB	Yu-li	0.76	235	eP	Pb	19 49 18.4	+0.1
YULB				eS	Sb	19 49 28.2	-0.1
EYUL	Yuli	0.77	231	eP	Pn	19 49 18.1	+0.2
EYUL				eS	Sb	19 49 28.8	+0.2
FUSS	Fushou	0.78	302	eP	Pb	19 49 18.7	-0.3
WUSB	Renai	0.80	282	eP	Pb	19 49 19.9	+0.8
WUSB				eS	Sb	19 49 31.2	+1.6
LATG	Datong	0.81	330	eP	Pn	19 49 18.5	-0.1
LATG				eS	Sb	19 49 29.9	-0.1
TDCB	Techi	0.85	300	eP	Pb	19 49 20.9	+0.9

*IDC **11** 20:02:03.1±1.1, 3°.83N×126°.42E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=92.2km s-min=16.2km az=70.0*
*DJA **11** 20:02:07.9±0.5, 4°N±7°×12°7E±°, h19km±6km, M4.1/10, mB4.9/1, mb4.2/5, MLv4.0/10, Mw(mB)4.2/1*

ISC 11 20:02:08.3±0.9, **4°.00N**±0°.08×**126°.91E**±0°.07, **h36**km, **n13**, σ1§**09**/17, **mb3.7**/8, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.41	257	P	Pn	20 02 31.3	-0.1
SGSI				S	Sn	20 02 49.4	+0.7
TNTI	Ternate	3.24	172	P	Pn	20 02 57.3	+0.7
TNTI				S	Sn	20 03 34.3	+0.3
MRSI	Marisa	6.07	235	P	Pn	20 03 37.3	+1.8
MRSI				S	Sn	20 04 43.8	0.0
SANI	Sanana	6.08	189	P	Pn	20 03 35.6	-0.1
SWI	Sorong	6.50	138	P	Pn	20 03 42.2	+0.7
SWI				S	Sn	20 04 55.3	+0.8
FITZ	Fitzroy Crossi	22.00	183	P	P	20 06 57.6	-1.8
	0.9nm,0.4s,baz=16,slow=12,SNR=9.5						
	0.9nm,0.4s						
WRA	Warramunga Arr	24.89	163	P	P	20 07 27.6	-0.4
	2.0nm,0.6s,baz=342,slow=11,SNR=24						
	2.0nm,0.6s						
ASAR	Alice Springs	28.34	166	P	P	20 07 58.1	-0.8
	0.2nm,0.3s,baz=346,slow=10,SNR=4.5						
	0.2nm,0.3s						
STKA	Stephens Creek	38.32	160	P	P	20 09 26.1	+0.5
	2.3nm,0.6s,baz=351,slow=9.1,SNR=3.8						
	2.3nm,0.6s						
SONM	Songino Array	47.09	341	P	P	20 10 38.8	+2.0
	0.2nm,0.7s,baz=150,slow=7.9,SNR=1.8						
	0.2nm,0.7s						
MKAR	Makanchi Array	57.43	325	P	P	20 11 52.7	-0.8
	0.3nm,0.5s,baz=117,slow=7.9,SNR=9.6						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	61.60	327	P	P	20 12 20.6	-1.5
	0.4nm,0.5s,baz=129,slow=6.0,SNR=6.5						
	0.4nm,0.5s						
BVAR	Borovoye Array	67.19	327	P	P	20 12 58.1	-0.5
	0.6nm,0.6s,baz=111,slow=3.2,SNR=2.8						
	0.6nm,0.6s						

*NEIC **11** 20:11:53.1±2.3, 14°.1N±0°.1×120°.9E±0°.2, h161km±4km, mb4.2/26, Error ellipse: s-maj=22.9km s-min=13.9km az=70.0*
*IDC **11** 20:12:00.0±0.4, 14°.00N×120°.84E, h233km±3km, mb3.5/17, mbtmp4.1/17, Error ellipse: s-maj=21.8km s-min=9.5km az=67.0*

ISC 11 20:12:00.8±0.5, **13°.91N**±0°.07×**120°.8E**±0°.1, **h250**km, **n53**, σ1§**31**/54, **mb3.9**/27, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.25	42	P	Pn	20 12 30.8	-2.4
	1μm,0.4s,baz=270,slow=1.6,SNR=27						
TGY				S	S	20 12 54.7	-4.0
	666nm,0.3s,baz=167,slow=23,SNR=9.1						
TPUB	Ta-pu	9.34	359	Pn	Pn	20 14 02.5	-8.5
YULB	Yu-li	9.44	3	Pn	Pn	20 14 02.5	-10
SSLB	Suanglung	9.82	1	Pn	Pn	20 14 09.9	-7.2
TOLI2	Tolitoli	12.72	180	P	Pn	20 14 52.7	-0.7
SBUM	Sibu	14.18	217	P	Pn	20 15 11.2	-0.1
UBPT	Khong Chiam	14.87	277		P	20 15 18.2	-1.1
SLVN	Son La	17.67	297	P	P	20 15 49.4	-0.6
FAKI	Fak Fak	20.23	145	P	P	20 16 15.9	-1.6
SRIT	Nakonsritamara	21.41	258	P	P	20 16 27.8	-1.7
SRIT				IAmb	IAmb	20 16 43.3	
	comp=Z,12nm,1.2s						
CM31	Chiang Mai Arr	21.43	285	P	P	20 16 27.9	-1.8
CM31				IAmb	IAmb	20 16 31.5	
	comp=Z,17nm,1.1s						
CMAR	Chiang Mai Arr	21.43	285	P	P	20 16 28.5	-1.2
CMAR	Chiang Mai Arr	21.43	285	P	P	20 16 30.4	+0.7
	comp=Z,7.5nm,0.9s,baz=96,slow=7.8,SNR=41						
	comp=Z,7.5nm,0.9s						
CHTO	Chiang Mai	21.49	286	P	P	20 16 29.5	-0.8
CHTO				IAmb	IAmb	20 16 31.3	
	comp=Z,7.4nm,1.1s						
MMRI	Maumere	22.45	176	P	P	20 16 38.5	-0.6
SOEI	Soe	23.77	171	P	P	20 16 49.4	-1.8
FITZ	Fitzroy Crossi	32.17	171	P	P	20 18 06.8	+1.3
FITZ				IAmb	IAmb	20 18 07.9	
	comp=Z,2.5nm,1.2s						
FITZ	Fitzroy Crossi	32.17	171	P	P	20 18 06.4	+0.9
	comp=Z,4.2nm,0.6s,baz=9.4,slow=6.6,SNR=30						
	comp=Z,4.2nm,0.6s						
COEN	Coen	35.49	140	P	P	20 18 35.6	+1.5
SONM	Songino Array	35.87	343	P	P	20 18 34.9	-2.3
SONM	Songino Array	35.87	343	P	P	20 18 37.3	+0.2
	comp=Z,0.6nm,0.6s,baz=163,slow=9.7,SNR=7.0						
SONM				PcP	PcP	20 20 59.4	+0.9
	comp=Z,0.2nm,0.7s,baz=236,slow=1.0,SNR=2.3						
	comp=Z,0.6nm,0.6s						
WB0	Warramunga Arr	36.06	158	P	P	20 18 39.9	+1.0
WB0				IAmb	IAmb	20 18 41.3	
	comp=Z,3.9nm,0.7s						
WRAB	Tennant Creek	36.19	158	P	P	20 18 41.1	+1.1
WRAB				IAmb	IAmb	20 18 42.7	
	comp=Z,9.5nm,1.1s						
WRA	Warramunga Arr	36.20	158	P	P	20 18 38.8	-1.2
WRA	Warramunga Arr	36.20	158	P	P	20 18 41.0	+0.9
	comp=Z,4.5nm,0.9s,baz=341,slow=9.0,SNR=45						
	comp=Z,4.5nm,0.9s						
WB2	Warramunga Arr	36.20	158	P	P	20 18 41.1	+1.0
WB2				IAmb	IAmb	20 18 42.2	
	comp=Z,7.2nm,0.9s						
AS31	Alice Springs	39.50	161	P	P	20 19 09.7	+2.1
ASAR	Alice Springs	39.50	161	P	P	20 19 09.5	+1.9
ASAR	Alice Springs	39.50	161	P	P	20 19 09.1	+1.5
	comp=Z,1.9nm,0.5s,baz=336,slow=7.1,SNR=46						
ASAR				PcP	PcP	20 21 11.1	+1.1
	comp=Z,0.8nm,0.8s,baz=339,slow=3.1,SNR=4.6						
	comp=Z,1.9nm,0.5s						
FORT	Forrest	44.99	171	P	P	20 19 53.1	+1.6
MK31	Makanchi Array	45.90	323	P	P	20 19 59.4	+0.8
MKAR	Makanchi Array	45.90	323	P	P	20 19 59.6	+1.1
MKAR	Makanchi Array	45.90	323	P	P	20 19 59.2	+0.7
	comp=Z,0.3nm,0.3s,baz=113,slow=8.1,SNR=8.3						
MKAR				PcP	PcP	20 21 31.6	+0.4
	comp=Z,0.3nm,0.7s,baz=96,slow=3.3,SNR=2.7						
	comp=Z,0.3nm,0.3s						
MAKZ	Makanchi	46.09	323	P	P	20 20 01.0	+0.9
BBOO	Buckleboo	48.71	163	P	P	20 20 19.6	-0.7
PETK	Petropavlovsk-	48.81	29	P	P	20 20 20.0	-0.8
	comp=Z,2.5nm,0.8s,baz=229,slow=7.2,SNR=3.0						
	comp=Z,2.5nm,0.8s						
ZALV	Zalesovo Beam	48.90	333	P	P	20 20 21.8	+0.3
	comp=Z,0.5nm,0.3s,baz=138,slow=8.9,SNR=3.3						
	comp=Z,

NEIC 11 20:12:46.2±2.3,58°.4N±0°.1×31°.7W±0°.2,h10km±1km, mb4.5/64,Error ellipse: s-maj=24.7km s-min=16.6km az=193.0

ISC 11 20:12:46.3±0.5,58°.35N±0°.08×31°.74W±0°.06,h10km,n118, σ1°35/91,mb4.5/51,MS3.6/26,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.11**	**33**	Pn	**Pn**	**20 14 45.7**	**+1.8**
	0.6nm,0.3s,baz=237,slow=9.2,SNR=1.1						
BORG				Sn	**Sn**	**20 16 15.0**	**-0.5**
	0.3nm,0.3s,baz=314,slow=22,SNR=3.6						
BORG				LR	LR	20 17 06.4	
	comp=Z,484nm,20.1s,baz=278,slow=32						
	12nm,0.8s						
SFJD	**Kangerlussuaq**	**12.21**	**323**	Pn	**Pn**	**20 15 41.2**	**+1.3**
	0.2nm,0.3s,baz=118,slow=11,SNR=3.7						
	4.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**15.87**	**89**	Pn	**Pn**	**20 16 29.4**	**0.0**
	baz=302,slow=15						
	11nm,1.1s						
FRB	**Frobisher Bay**	**18.42**	**303**	P	**Pn**	**20 17 01.0**	**-0.3**
	0.1nm,0.3s,baz=90,slow=10,SNR=4.8						
FRB				LR	LR	20 23 19.4	
	comp=Z,277nm,18.1s,baz=96,slow=34						
	5.0nm,0.9s						
SCHQ	**Schefferville**	**19.50**	**275**	P	**P**	**20 17 13.2**	**0.0**
	0.1nm,0.3s,baz=52,slow=7.8,SNR=6.7						
SCHQ				LR	LR	20 23 41.4	
	comp=Z,159nm,18.3s,baz=50,slow=34						
	2.8nm,0.7s						
NOA	**NORSAR Array B**	**21.55**	**65**	P	**P**	**20 17 36.2**	**+0.7**
	1.5nm,1.0s,baz=281,slow=9.2,SNR=4.0						
NOA				LR	LR	20 24 43.8	
	comp=Z,66nm,18.6s,baz=300,slow=33						
	1.5nm,1.0s						
NB201	**NORSAR Array S**	**21.59**	**64**	P	**P**	**20 17 33.3**	**-2.5**
NB201				IAmb	IAmb	20 17 39.2	
	comp=Z,38nm,1.4s						
PCAB	**Cabril**	**22.38**	**128**	*eP*	**P**	**20 17 47.0**	**+2.5**
PCAB				*i* Amb		20 17 60.0	
	comp=Z,62nm,1.6s						
ICQ	**Pointe Anglais**	**22.46**	**262**	P	**P**	**20 17 45.3**	**+0.1**
ICQ				IAmb	IAmb	20 18 00.1	
	comp=Z,16nm,1.3s						
CLF	**Chambon-Foret**	**22.60**	**102**		**P**	**20 17 46.1**	**-0.5**
POLO	**Lamas de Olo**	**22.75**	**128**	*eP*	**P**	**20 17 50.5**	**+2.0**
POLO				*i* Amb		20 17 51.9	
	comp=Z,15nm,1.7s						
PBRG	**Braganca**	**22.84**	**126**	*eP*	**P**	**20 17 51.5**	**+2.2**
PVRL	**Vila Real**	**22.87**	**128**	*eP*	**P**	**20 17 51.7**	**+2.0**
HFS	**Hagfors**	**22.96**	**66**	P	**P**	**20 17 50.4**	**0.0**
	comp=Z,4.6nm,0.9s,baz=282,slow=8.7,SNR=4.7						
	comp=Z,4.6nm,0.9s						
BATG	**Bathurst New B**	**23.25**	**257**	P	**P**	**20 17 54.7**	**+1.3**
BATG				IAmb	IAmb	20 17 60.0	
	comp=Z,21nm,1.0s						
MVO	**Moncorvo**	**23.25**	**127**	*eP*	**P**	**20 17 55.9**	**+2.3**
MVO				*i* Amb		20 17 56.7	
	comp=Z,47nm,1.3s						
PVIS	**Viseu**	**23.26**	**129**	*eP*	**P**	**20 17 55.5**	**+1.7**
PMTG	**Montargil**	**24.53**	**132**	*eP*	**P**	**20 18 10.0**	**+4.3**
PMRV	**Marv??o**	**24.56**	**130**	*eP*	**P**	**20 18 08.9**	**+2.9**
PMRV				*i* Amb		20 18 27.6	
	comp=Z,27nm,2.0s						
D62A	**Allapoint, All**	**24.91**	**259**	P	**P**	**20 18 08.5**	**-0.7**
PESTR	**Estremoz**	**24.96**	**131**	P	**P**	**20 18 07.6**	**-2.0**
PESTR	**Estremoz**	**24.96**	**131**	*eP*	**P**	**20 18 10.2**	**+0.6**
PESTR				*i* Amb		20 18 13.1	
	comp=Z,23nm,1.7s						
ECH	**Echery**	**25.02**	**97**	P	**P**	**20 18 07.3**	**-2.9**
ECH				IAmb	IAmb	20 18 12.1	
	comp=Z,15nm,1.3s						
PBEJ	**Beja**	**25.57**	**132**	*eP*	**P**	**20 18 15.9**	**+0.8**
PBEJ				*i* Amb		20 18 42.8	
	comp=Z,17nm,1.8s						
MESJ	**Messejana**	**25.60**	**133**	*eP*	**P**	**20 18 17.9**	**+2.5**
MESJ				*i* Amb		20 18 28.8	
	comp=Z,29nm,1.6s						
PAB	**San Pablo**	**25.73**	**125**	P	**P**	**20 18 15.6**	**-1.2**
PAB				IAmb	IAmb	20 18 20.6	
	comp=Z,12nm,1.4s						
ESBB	**Sonseca Array**	**25.79**	**124**	P	**P**	**20 18 16.3**	**-1.0**
ESDC	**Sonseca Array**	**25.79**	**124**		**P**	**20 18 16.1**	**-1.2**
ESDC	**Sonseca Array**	**25.79**	**124**	P	**P**	**20 18 17.9**	**+0.6**
	comp=Z,4.4nm,1.0s,baz=321,slow=8.5,SNR=16						
ESDC				LR	LR	20 26 29.3	
	comp=Z,109nm,19.0s,baz=5.5,slow=32						
	comp=Z,4.4nm,1.0s						
PCVE	**Castro Verde**	**25.85**	**133**	*eP*	**P**	**20 18 20.5**	**+2.8**
PCVE				*i* Amb		20 18 21.0	
	comp=Z,29nm,1.4s						
PBDV	**Barranco-do-Ve**	**26.23**	**133**	*eP*	**P**	**20 18 25.4**	**+4.3**
PBDV				*i* Amb		20 19 09.3	
	comp=Z,37nm,1.8s						
EUNU	**Eureka**	**27.16**	**342**	P	**P**	**20 18 29.8**	**+0.5**
DAVOX	**Davos/Dischmat**	**27.36**	**97**	LR	LR	20 27 43.2	
	comp=Z,132nm,20.6s,baz=261,slow=33						
FUORN	**Ofenpass-Fuorn**	**27.67**	**97**	P	**P**	**20 18 34.4**	**+0.1**
RES	**Resolute Bay**	**28.07**	**330**	P	**P**	**20 18 36.4**	**-0.9**
RES	**Resolute Bay**	**28.07**	**330**	LR	LR	20 28 08.6	
	comp=Z,80nm,20.8s,baz=128,slow=33						
GEC2	**GERESS Array S**	**28.08**	**90**	P	**P**	**20 18 35.2**	**-2.6**
GERES	**GERESS Array B**	**28.08**	**90**	LR	LR	20 29 10.9	
	comp=Z,82nm,19.1s,baz=306,slow=35						
FINES	**FINESS Array B**	**28.35**	**59**	P	**P**	**20 18 39.7**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=287,slow=14,SNR=2.0						
	comp=Z,2.5nm,1.0s						
VRAC	**Vranov**	**29.33**	**87**	LR	LR	20 29 05.7	
	comp=Z,98nm,18.8s,baz=331,slow=33						
MDT	**Midelt**	**31.41**	**133**	LR	LR	20 28 12.2	
	comp=Z,107nm,21.9s,baz=2.0,slow=30						
BURAR	**Bucovina Array**	**34.90**	**82**	P	**P**	**20 19 38.1**	**+0.5**
KIEV	**Kiev**	**35.06**	**75**	P	**P**	**20 19 37.9**	**-1.0**
KIEV				IAmb	IAmb	20 19 39.4	
	comp=Z,6.3nm,1.1s						
AKASG	**Malin Array Be**	**35.07**	**75**	P	**P**	**20 19 38.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=306,slow=8.5,SNR=11						
	comp=Z,1.2nm,0.6s						
KEST	**Kesra**	**35.18**	**112**	LR	LR	20 31 10.8	
	comp=Z,94nm,21.3s,baz=16,slow=31						
EYMN	**Ely**	**36.14**	**280**	P	**P**	**20 19 46.9**	**-1.3**
EPLO	**Experimental L**	**36.21**	**284**	P	**P**	**20 19 48.1**	**-0.7**
EPLO				IAmb	IAmb	20 19 53.6	
	comp=Z,9.3nm,0.9s						
MLR	**Muntele Rosu**	**36.66**	**85**	LR	LR	20 34 33.6	
	comp=Z,64nm,19.3s,baz=338,slow=36						
ULM	**Lac du Bonnet**	**36.95**	**286**	P	**P**	**20 19 54.2**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=85,slow=11,SNR=3.5						
ULM				LR	LR	20 33 10.3	
	comp=Z,168nm,19.8s,baz=288,slow=33						
	comp=Z,4.2nm,0.8s						
FFC	**Flin Flon**	**37.29**	**296**	P	**P**	**20 19 58.5**	**+0.5**
FNA	**Florina**	**37.52**	**94**		**P**	**20 19 58.5**	**-1.6**
YKA	**Yellowknife Ar**	**38.47**	**312**	P	**P**	**20 20 07.3**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=59,slow=8.9,SNR=19						
YKA				LR	LR	20 34 50.0	
	comp=Z,153nm,19.4s,baz=304,slow=34						
	comp=Z,2.8nm,0.7s						
TKL	**Tuckaleechee C**	**40.77**	**259**	LR	LR	20 36 18.5	
	comp=Z,134nm,18.5s,baz=331,slow=35						
INK	**Inuvik**	**41.52**	**327**	P	**P**	**20 20 32.3**	**-0.7**
INK				IAmb	IAmb	20 20 36.5	
	comp=Z,11nm,1.4s						
INK	**Inuvik**	**41.52**	**327**	LR	LR	20 36 08.8	
	comp=Z,145nm,20.3s,baz=252,slow=34						
F31M	**Tsiigehtchic**	**42.13**	**326**	P	**P**	**20 20 37.4**	**-0.7**
G31M	**Satah River**	**42.63**	**325**	P	**P**	**20 20 41.2**	**-0.9**
G31M				IAmb	IAmb	20 20 46.7	
	comp=Z,8.4nm,0.8s						
E29M	**Blow River**	**42.70**	**328**	P	**P**	**20 20 42.5**	**-0.3**
E28M	**Babbage River**	**43.01**	**329**	P	**P**	**20 20 45.3**	**+0.1**
G30M	**tAoh Zraii Nji**	**43.17**	**326**	P	**P**	**20 20 47.3**	**+0.8**
G30M				IAmb	IAmb	20 20 54.6	
	comp=Z,8.0nm,1.1s						
H31M	**Peel River**	**43.39**	**324**	P	**P**	**20 20 49.4**	**+1.0**
H31M				IAmb	IAmb	20 20 53.6	
	comp=Z,8.5nm,0.9s						
G29M	**Pine Creek**	**43.74**	**327**	P	**P**	**20 20 52.1**	**+1.0**
G29M				IAmb	IAmb	20 20 55.5	
	comp=Z,8.6nm,0.9s						
E27K	**Coleen River**	**43.85**	**330**	P	**P**	**20 20 51.8**	**-0.3**
E27K				IAmb	IAmb	20 20 57.5	
	comp=Z,7.1nm,0.9s						
H29M	**Whitestone**	**44.32**	**326**	IAmb	IAmb	20 21 00.6	
	comp=Z,12nm,1.1s						
TAM	**Tamanrasset**	**44.39**	**127**		**P**	**20 20 57.6**	**+0.6**
I30M	**Mount Dempster**	**44.41**	**324**	P	**P**	**20 20 55.5**	**-1.1**
BR131	**Keskin Array S**	**44.74**	**85**	P	**P**	**20 20 57.6**	**-2.0**
BRTR	**Keskin Array B**	**44.74**	**85**	P	**P**	**20 20 59.8**	**+0.1**
BRTR	**Keskin Array B**	**44.74**	**85**	P	**P**	**20 21 01.1**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=312,slow=7.3,SNR=8.0						
BRTR				LR	LR	20 39 49.9	
	comp=Z,64nm,20.8s,baz=317,slow=36						
	comp=Z,1.8nm,0.9s						
J30M	**Hart River**	**44.84**	**324**	IAmb	IAmb	20 21 06.3	
	comp=Z,6.8nm,1.0s						
G27K	**Doyon Strip**	**44.84**	**328**	P	**P**	**20 21 01.1**	**+1.1**
I29M	**Ogilvie Camp,**	**44.90**	**325**	P	**P**	**20 21 00.1**	**-0.4**
E25K	**Arctic Village**	**44.94**	**331**	P	**P**	**20 21 00.4**	**-0.3**
D24K	**Happy Valley**	**44.97**	**333**	P	**P**	**20 21 01.4**	**+0.5**
D24K				IAmb	IAmb	20 21 06.8	
	comp=Z,7.8nm,0.9s						
BMAR	**Burnt Mountain**	**45.19**	**330**	P	**P**	**20 21 03.6**	**+0.9**
I28M	**Miner Creek**	**45.32**	**326**	P	**P**	**20 21 03.8**	**-0.1**
I28M				IAmb	IAmb	20 21 09.3	
	comp=Z,9.1nm,1.1s						
D23K	**Nanushuk River**	**45.55**	**334**	P	**P**	**20 21 05.6**	**+0.1**
D23K				IAmb	IAmb	20 21 11.9	
	comp=Z,7.5nm,1.1s						
K29M	**Barlow Dome**	**45.73**	**323**	IAmb	IAmb	20 21 12.2	
	comp=Z,9.2nm,1.4s						
F24K	**Squaw Lake**	**45.98**	**331**	IAmb	IAmb	20 21 14.9	
	comp=Z,4.2nm,0.9s						
I26K	**Coal Creek Min**	**46.35**	**327**	IAmb	IAmb	20 21 18.8	
	comp=Z,11nm,1.4s						
E22K	**Anaktuvuk Pass**	**46.46**	**333**	P	**P**	**20 21 12.8**	**0.0**
E22K				IAmb	IAmb	20 21 27.8	
	comp=Z,7.1nm,1.4s						
G24K	**Hadweenzic Riv**	**46.49**	**330**	P	**P**	**20 21 13.5**	**+0.5**
G24K				IAmb	IAmb	20 21 19.5	
	comp=Z,5.4nm,1.0s						
KBZ	**Khabaz**	**46.65**	**74**	P	**P**	**20 21 14.7**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=354,slow=5.7,SNR=4.2						
	comp=Z,2.1nm,1.0s						
K27K	**Chicken**	**46.98**	**326**	P	**P**	**20 21 17.7**	**+0.8**
K27K				IAmb	IAmb	20 21 28.6	
	comp=Z,8.5nm,1.2s						
M29M	**Somme Creek**	**47.03**	**323**	P	**P**	**20 21 17.1**	**-0.3**
J25K	**Salcha River,**	**47.50**	**328**	IAmb	IAmb	20 21 27.1	
	comp=Z,7.5nm,1.2s						
IL31		**47.81**	**328**	IAmb	IAmb	20 21 29.4	
	comp=Z,7.1nm,1.1s						
ILAR	**Eielson Array**	**47.81**	**328**	P	**P**	**20 21 21.9**	**-1.3**
ILAR	**Eielson Array**	**47.81**	**328**	P	**P**	**20 21 23.6**	**+0.4**
	comp=Z,4.6nm,1.1s,baz=32,slow=4.8,SNR=13						
ILAR				PcP	**PcP**	**20 22 51.3**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=3.9,SNR=8.2						
ILAR				LR	LR	20 41 36.0	
	comp=Z,104nm,18.5s,baz=112,slow=36						
	comp=Z,4.6nm,1.1s						
NEW	**Newport**	**48.66**	**297**	LR	LR	20 43 05.7	
	comp=Z,223nm,18.3s,baz=296,slow=37						
PDAR	**Pinedale Array**	**48.94**	**287**	P	**P**	**20 21 31.6**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=63,slow=7.6,SNR=5.5						
PDAR				LR	LR	20 39 56.8	
	comp=Z,55nm,18.3s,baz=314,slow=33						
	comp=Z,1.4nm,0.8s						
GNI	**Garni**	**50.20**	**76**	LR	LR	20 44 01.0	
	comp=Z,34nm,19.2s,baz=125,slow=37						
PLID	**Pearl Lake**	**50.43**	**294**	P	**P**	**20 21 42.7**	**-1.2**
PLID				IAmb	IAmb	20 21 49.2	
	comp=Z,7.1nm,1.0s						
MMAI	**Mount Meron Ar**	**50.74**	**89**	LR	LR	20 46 05.9	
	comp=Z,31nm,19.0s,baz=304,slow=39						
TORD	**Torodi Ar. Bea**	**51.63**	**137**	P	**P**	**20 21 52.5**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=338,slow=7.8,SNR=2.8						
	comp=Z,2.4nm,0.7s						
ASF	**Jabal al Asfar**	**52.18**	**89**	LR	LR	20 46 44.5	
	comp=Z,41nm,18.5s,baz=155,slow=39						
BVAR	**Borovoye Array**	**52.40**	**48**	P	**P**	**20 21 58.6**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=320,slow=3.8,SNR=3.6						
	comp=Z,1.1nm,0.7s						
MVCO	**Mesa Verde**	**52.55**	**282**	P	**P**	**20 22 00.5**	**+0.7**
MVCO				IAmb	IAmb	20 22 09.4	
	comp=Z,6.8nm,1.1s						
J08A	**Circle Bar Ran**	**52.90**	**294**	IAmb	IAmb	20 22 07.3	
	comp=Z,5.1nm,0.7s						
ELK	**Elko**	**53.29**	**290**	LR	LR	20 44 18.4	
	comp=Z,92nm,18.5s,baz=326,slow=36						
PSUT	**Pine Spring**	**54.27**	**287**	P	**P**	**20 22 13.5**	**+1.0**
J05D	**Fort Rock, OR**	**54.28**	**296**	P	**P**	**20 22 13.5**	**+1.2**
J05D				IAmb	IAmb	20 22 18.4	
	comp=Z,6.0nm,0.9s						
DBIC	**Dimbokro**	**55.58**	**147**	P	**P**	**20 22 21.2**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=354,slow=2.3,SNR=4.3						
DBIC				LR	LR	20 44 18.0	
	comp=Z,80nm,18.2s,baz=350,slow=34						
	comp=Z,3.5nm,0.7s						
PAHR	**Pah Rah Range**	**56.12**	**292**	IAmb	IAmb	20 22 31.7	
	comp=Z,5.6nm,0.9s						
TXAR	**Lajitas Array**	**56.15**	**272**	P	**P**	**20 22 26.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=22,slow=6.1,SNR=1.9						
	comp=Z,0.7nm,0.7s						
YBH	**Yreka Blue Hor**	**56.17**	**296**	LR	LR	20 44 12.5	
	comp=Z,124nm,20.9s,baz=347,slow=34						
NVAR	**Mina Array Bea**	**56.58**	**290**	P	**P**	**20 22 28.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=56,slow=5.8,SNR=5.8						
NVAR				LR	LR	20 46 54.2	
	comp=Z,107nm,18.1s,baz=68,slow=36						
	comp=Z,0.6nm,0.7s						
KURK	**Kurchatov**	**57.37**	**45**	P	**P**	**20 22 34.7**	**+0.5**
KURK				IAmb	IAmb	20 22 39.0	
	comp=Z,5.6nm,1.3s						
KURBB	**Kurchatov Arra**	**57.41**	**45**	P	**P**	**20 22 34.5**	**0.0**
	comp=Z,1.1nm,0.9s,baz=322,slow=7.2,SNR=5.0						
	comp=Z,1.1nm,0.9s						
MK31	**Makanchi Array**	**61.98**	**45**	P	**P**	**20 23 05.6**	**-0.4**
MKAR	**Makanchi Array**	**61.98**	**45**	P	**P**	**20 23 05.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=338,slow=6.0,SNR=7.6						
	comp=Z,0.7nm,0.6s						
GAR	**Garm**	**63.47**	**58**	P	**P**	**20 23 16.9**	**+0.7**
H10S3	**ASCENSION HYDR**	**68.49**	**162**	T	T	21 37 56.5	
	baz=32						
H10S2	**ASCENSION HYDR**	**68.50**	**162**	T	T	21 38 10.8	
	baz=188						
SONM	**Songino Array**	**68.70**	**29**	P	**P**	**20 23 49.3**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=342,slow=7.6,SNR=5.0						
	comp=Z,0.4nm,0.8s						
KMBO	**Kilima Mbogo**	**80.07**	**109**	LR	LR	21 00 54.4	
	comp=Z,30nm,18.0s,baz=81,slow=36						
LSZ	**Lusaka**	**88.14**	**123**	LR	LR	21 06 26.0	
	comp=Z,76nm,18.7s,baz=328,slow=36						
ASAR	**Alice Springs**	**143.86**	**23**	PKP	PKPbc	20 32 18.6	-0.6
	comp=Z,0.4nm,0.8s,baz=7.8,slow=1.9,SNR=4.5						

NEIC 11 20:13:36.1±2.2,44°.99N±0°.05×107°.03W±0°.09,h0km±1km, ML3.0/54,Error ellipse: s-maj=11.2km s-min=8.0km az=255.0

IDC 11 20:13:39.0±1.5,45°.07N×106°.78W,h0km,mbtmp3.2/2, ML3.0/2,Error ellipse: s-maj=68.3km s-min=11.7km az=137.0

ISC 11 20:13:36.5±1.0,45°.05N±0°.05×106°.93W±0°.07,h0km,n32, σ1°46/32,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.71**	**17**		**Pg**	**20 14 09.7**	**+0.4**
LAO				IAML		20 14 43.8	
	208nm,1.0s						
LAO				IAML		20 14 45.5	
	136nm,1.2s						
YNE	**Yellowstone No**	**2.18**	**270**	Pn	**Pn**	**20 14 15.0**	**+0.8**
YNE				IAML		20 14 52.7	
	comp=E,58nm,0.4s						
YNE				IAML		20 14 54.3	
	comp=N,76nm,0.8s						
YMP	**Mirror Lake Pl**	**2.31**	**263**	Pn	**Pn**	**20 14 15.8**	**-0.3**
YMP				IAML		20 15 00.9	
	comp=E,118nm,0.8s						
YMP				IAML		20 15 08.7	
	comp=N,88nm,2.4s						
K22A	**Casper**	**2.42**	**173**	Pn	**Pn**	**20 14 16.9**	**-0.6**
K22A				IAML		20 15 00.7	
	comp=E,83nm,1.1s						
K22A				IAML		20 15 00.9	
	comp=N,88nm,0.5s						
LKWY	**Lake**	**2.52**	**260**	Pn	**Pn**	**20 14 20.2**	**+1.4**
LKWY				IAML		20 15 38.0	
	comp=N,44nm,2.7s						
LKWY				IAML		20 15 44.2	
	comp=N,53nm,2.0s						
H17A	**Grant Village**	**2.68**	**257**	Pn	**Pn**	**20 14 22.5**	**+1.4**
YNR	**Norris Junctio**	**2.68**	**264**		**Pn**	**20 14 20.9**	**-0.3**
YHH	**Holmes Hill**	**2.79**	**266**		**Pn**	**20 14 20.9**	**-1.9**
YFT	**Old Faithful**	**2.84**	**259**		**Pn**	**20 14 22.9**	**-0.5**
YMR	**Madison River**	**2.89**	**264**	Pn	**Pn**	**20 14 24.4**	**+0.4**
YMR				IAML		20 15 27.2	
	comp=N,56nm,1.1s						
YMR				IAML		20 15 51.0	
	comp=E,56nm,2.2s						
PD31	**Pinedale Array**	**2.97**	**221**		**Pn**	**20 14 27.4**	**+2.3**
PDAR	**Pinedale Array**	**2.97**	**221**		**Pb**	**20 14 29.9**	**-0.5**
PDAR	**Pinedale Array**	**2.97**	**221**	Pn	**Pb**	**20 14 31.4**	**+0.9**
	comp=E,2.1nm,0.3s,baz=53,slow=18,SNR=52						
PDAR				Sn	**Sg**	**20 15 10.5**	**-1.4**
	comp=E,1.9nm,0.3s,baz=44,slow=24,SNR=2.6						
	comp=E,1.7nm,0.3s						
LOHW	**Long Hollow**	**3.00**	**243**		**Pn**	**20 14 22.6**	**-2.9**
LOHW				IAML		20 15 45.7	
	comp=E,24nm,2.7s						
YHL	**Hebgen Lake**	**3.02**	**268**		**Pn**	**20 14 27.6**	**+1.7**
YHL				IAML		20 15 22.7	
	comp=E,32nm,2.2s						
YHL				IAML		20 15 27.6	
	comp=N,36nm,1.8s						
MOOW	**Moose Ponds**	**3.03**	**246**	Pn	**Pn**	**20 14 25.7**	**-0.2**
YHB	**Horse Butte**	**3.04**	**266**		**Pn**	**20 14 28.6**	**+2.6**
YHB				IAML		20 15 48.1	
	comp=N,27nm,2.0s						
SNOW	**Snow King Moun**	**3.17**	**241**	Pn	**Pn**	**20 14 28.5**	**+0.6**
SNOW				IAML		20 15 46.5	
	comp=N,40nm,2.2s						
SNOW				IAML		20 15 47.2	
	comp=N,36nm,2.4s						
QLMT	**Earthquake Lak**	**3.20**	**268**	Pn	**Pn**	**20 14 29.4**	**+1.2**
FXWY	**Fox Creek**	**3.26**	**246**		**Pn**	**20 14 30.5**	**+1.5**
BOZ	**Bozeman (W)**	**3.36**	**281**	Pn	**Pn**	**20 14 28.6**	**-1.8**
BOZ				IAML		20 15 31.4	
	comp=N,18nm,3.8s						
EGMT	**Eagleton**	**3.55**	**328**	Pn	**Pn**	**20 14 34.2**	**+1.2**
AHID	**Auburn Hatcher**	**3.78**	**234**	Pn	**Pn**	**20 14 36.0**	**-0.2**
AHID				IAML		20 15 45.2	
	comp=N,25nm,1.8s						
AHID				IAML		20 15 49.6	
	comp=N,18nm,2.8s						
DGMT	**Dagmar**	**3.90**	**28**	Pn	**Pn**	**20 14 36.1**	**-1.6**
DLMT	**Dillon**	**4.01**	**276**	Pn	**Pn**	**20 14 37.7**	**-1.6**
DLMT				IAML		20 16 20.3	
	comp=N,26nm,3.6s						
DLMT				IAML		20 16 28.5	
	comp=N,28nm,2.4s						
MCMT	**McKenzie Canyo**	**4.21**	**269**		**Pn**	**20 14 40.3**	**-1.8**
HWUT	**Hardware Ranch**	**4.82**	**226**	Pn	**Pn**	**20 14 50.0**	**-0.5**
HWUT				IAML		20 16 32.9	
	comp=N,15nm,3.5s						
RDMU	**Red Mountain**	**4.88**	**204**	Pn	**Pn**	**20 14 50.8**	**-0.5**
RDMU				IAML		20 16 46.7	
	comp=N,14nm,3.5s						
TCUT	**Toone Canyon**	**5.12**	**221**	Pn	**Pn**	**20 14 57.5**	**+2.9**
HVU	**Hansel Valley**	**5.37**	**234**	Pn	**Pn**	**20 14 58.3**	**+0.4**
HVU				IAML		20 17 21.6	
	comp=E,7.7nm,4.0s						
HVU				IAML		20 17 52.0	
	comp=N,7.5nm,4.9s						
I10CA	**LAC DU BONNET**	**8.98**	**51**	I	I	21 07 10.0	
	comp=N,0.1nm,1.3s,baz=239,slow=322,SNR=1.9						
ULM	**Lac du Bonnet**	**9.09**	**51**	Pn	**Pn**	**20 15 48.8**	**-0.1**
	comp=N,0.3nm,0.3s,baz=238,slow=13,SNR=2.5						
ULM				Lg	Lg	20 18 14.3	
	comp=N,0.1nm,0.3s,baz=143,slow=14,SNR=3.8						
	comp=N,0.7nm,0.3s						

IDC 11 20:22:52.0±1.9,3°.61S×128°.81E,h0km,mb3.7/3, mbtmp3.7/5,ML3.5/2,Error ellipse: s-maj=126.8km s-min=23.9km az=72.0

DJA 11 20:22:54.6±0.4,3°.S±4°×12°.9E±°,h11km±3km,M3.6/10, MLv3.6/10

ISC 11 20:22:55.0±0.8,3°.51S±0°.07×129°.17E±0°.05,h22km±6km, n13,σ0°89/16,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.29**	**304**	P	**Pb**	**20 23 01.6**	**0.0**
MSAI				S	**Sb**	**20 23 05.8**	**-0.3**
AAI	**Ambon**	**0.98**	**260**	P	**Pb**	**20 23 13.6**	**+0.2**
AAI				S	**Sb**	**20 23 27.7**	**+1.7**
BNDI	**Bandanaira**	**1.25**	**144**	P	**Pn**	**20 23 17.4**	**+0.3**
NLAI	**Namlea**	**2.08**	**277**	P	**Pb**	**20 23 30.9**	**-1.2**
FAKI	**Fak Fak**	**3.13**	**79**	P	**Pn**	**20 23 44.0**	**+0.9**
FAKI				S	**Sn**	**20 24 20.7**	**+0.8**
SWI	**Sorong**	**3.36**	**39**	P	**Pn**	**20 23 46.2**	**0.0**
SANI	**Sanana**	**3.49**	**294**	P	**Pn**	**20 23 48.5**	**+0.5**
KMPI	**Kaimana, Papua**	**4.53**	**92**	P	**Pn**	**20 24 02.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**14.90**	**193**	Pn	**Pn**	**20 26 23.7**	**-0.9**
	0.1nm,0.3s,baz=24,slow=13,SNR=1.8						
	1.5nm,0.9s						
WRA	**Warramunga Arr**

0.1nm,0.3s,baz=227,slow=19,SNR=1.3
KBZ Sn Sn 20 26 52.5 -7.3
0.1nm,0.3s,baz=246,slow=19,SNR=2.3
0.4nm,0.6s
BVAR Borovoye Array 17.70 39 P **Pn 20 27 52.3 +0.2**
baz=234,slow=9.1,SNR=5.3
BVAR S **Sn 20 31 00.8 -7.6**
0.9nm,0.6s,baz=232,slow=27,SNR=3.5
0.6nm,0.5s
AKASG Malin Array Be 18.86 310 P **P 20 28 02.8 -2.1**
0.5nm,0.3s,baz=115,slow=11,SNR=4.1
0.8nm,0.5s
KURBB Kurchatov Arra 21.05 52 P **P 20 28 31.6 +2.9**
0.6nm,0.7s,baz=252,slow=11,SNR=4.3
0.6nm,0.7s
MKAR Makanchi Array 22.71 64 P **P 20 28 50.4 +3.8**
0.1nm,0.7s,baz=254,slow=10,SNR=1.8
0.1nm,0.7s
FINES FINESS Array B 26.26 332 P **P 20 29 20.8 +1.6**
2.8nm,0.9s,baz=133,slow=9.3,SNR=1.5
2.8nm,0.9s

TXNET 11 20:51:10.4, 31°.6N±0°.6×104°.3W±0°.7, h5km±2km, ML2.1/6, Error ellipse: s-maj=1.0km s-min=0.9km az=59.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	20 51 17.2	-0.1
TPB11				S	Sg	20 51 22.0	+0.1
PECS	**Pecos**	**0.43**	**129**	P	Pg	20 51 18.8	+0.2
PECS				S	Sg	20 51 24.4	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	20 51 18.5	-1.4
TPB12				S	Sg	20 51 25.5	-0.9
TPB07	**Mentone**	**0.51**	**96**	S	Sg	20 51 27.2	+0.5
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	20 51 21.2	+0.1
TPB10				S	Sg	20 51 28.9	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	20 51 21.8	+0.4
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	20 51 33.5	+0.5
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	20 51 25.1	-0.7
TPB01				S	Sg	20 51 35.7	-0.5
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	20 51 26.4	-0.5
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	20 51 29.1	+0.3
MNTX				S	Sb	20 51 42.0	-0.6
HTMS	**Hat Mesa**	**0.99**	**32**	S	Sb	20 51 43.7	+0.3
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	20 51 30.4	-0.2
VHRN				S	Sb	20 51 45.0	-0.3
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	20 51 44.5	-0.3
ALPN	**Alpine**	**1.37**	**157**	P	Pn	20 51 34.9	-1.4
ALPN				S	Sg	20 51 52.3	-2.0
CPRX	**Cap Rock**	**1.43**	**13**	S	Pn	20 51 36.7	-0.4
ODSA	**Odessa**	**1.53**	**71**	P	Pn	20 51 38.1	-0.3
ODSA				S	Sn	20 51 58.0	-0.8
TMB04	**Seminole**	**1.79**	**56**	P	Pn	20 51 42.4	+0.3
TMB04				S	Sb	20 52 06.4	-0.2
TMB02	**Rankin**	**1.95**	**102**	P	Pn	20 51 45.2	+1.1
TMB02				S	Sb	20 52 10.2	-0.8
TMB05	**Klondike**	**2.26**	**64**	S	Sb	20 52 19.5	-0.5

IDC 11 20:54:22.9±2.9, 31°.74S×177°.87W, h0km, mb3.7/2, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=69.2km s-min=36.1km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.70**	**211**	Pn	Pn	20 56 14.9	-1.4
URZ				Sn	Sn	20 57 43.7	-0.5
ASAR	**Alice Springs**	**43.17**	**268**	P	P	21 02 25.9	+0.2
WRA	**Warramunga Arr**	**44.28**	**273**	P	P	21 02 34.6	0.0
FINES	**FINESS Array B**	**146.44**	**339**	PKPbc	PKPdf	21 14 04.3	+0.4

0.2nm,0.3s,baz=38,slow=17,SNR=1.7
1.2nm,0.3s,baz=214,slow=8.7,SNR=5.1
4.6nm,1.0s
0.3nm,0.4s,baz=105,slow=7.2,SNR=7.8
0.3nm,0.4s
0.7nm,0.3s,baz=111,slow=8.0,SNR=16
0.7nm,0.3s
1.0nm,0.4s,baz=46,slow=4.0,SNR=12

*WEL **11** 20:56:26.2±1.1, 32°.S±4°.×17°.7W±1°.6, h33km, M4.8/12, mB5.1/11, ML5.1/12, MLv5.3/12, Mw(mB)4.5/11, Error ellipse: s-maj=21.8km s-min=3.7km az=99.9, confirmed*
*IDC **11** 20:56:26.9±0.4, 31°.77S×178°.12W, h0km, mb4.5/17, mbtmp4.5/20, ML3.7/3, MS4.3/25, Error ellipse: s-maj=16.1km s-min=12.9km az=173.0*
*NEIC **11** 20:56:28.5±2.3, 32°.1S±0°.1×177°.9W±0°.1, h10km±1km, mb4.9/41, Error ellipse: s-maj=20.0km s-min=17.7km az=85.0*
*GCMT **11** 20:56:34.5±0.3, 31°.93S±0°.03×177°.67W±0°.02, h20km, MW5.0/93, Moment Tensor Solution. s50,c63; s93,c121; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.62±.19; $M_{\theta\theta}$-0.69±.12; $M_{\phi\phi}$-2.93±.12; $M_{r\theta}$1.51±.29; $M_{r\phi}$-0.69±.08; $M_{\theta\phi}$2.39±.23; Best double couple: M_0=4.39300×10^16 NP1:ϕ_s=189.00000°, δ26.00000°, λ75.00000°. NP2: ϕ_s=26.00000°, δ65.00000°, λ97.00000°. Principal axes: T 4.6850. Plg69.0000°, Azm310.0000°; N -0.5840, Plg6.0000°, Azm203.0000°; P -4.1000, Plg20.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 20:56:27.9±0.3, 31°.91S±0°.05×177°.94W±0°.06, h10km, n202, σ1$62/197, mb5.0/56, MS4.3/22, 6C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.64**	**0**	P	**Pn**	**20 57 08.4**	**-2.2**
GLKZ				S	**Sn**	**20 57 39.5**	**-3.1**
RIZ	**Raoul Island**	**2.66**	**0**	P	**Pn**	**20 57 08.9**	**-1.9**
RIZ				S	**Sn**	**20 57 40.1**	**-2.9**
MXZ	**Matakaoa Point**	**6.43**	**208**	Pn	**Pn**	**20 58 00.8**	**-1.9**
MXZ	**Matakaoa Point**	**6.43**	**208**	P	**Pn**	**20 58 00.6**	**-2.1**
MXZ				S	**Sn**	**20 59 12.6**	**-3.6**
WMGZ	**Waiomatatini S**	**6.62**	**206**	P	**Pn**	**20 58 05.5**	**+0.3**
WMGZ				S	**Sn**	**20 59 19.7**	**-1.0**
PKGZ	**Pakihiroa**	**6.79**	**208**	P	**Pn**	**20 58 05.1**	**-2.4**
PKGZ				S	**Sn**	**20 59 24.2**	**-0.7**
HAZ	**Te Kaha**	**6.81**	**210**	P	**Pn**	**20 58 09.2**	**+1.3**
HAZ				S	**Sn**	**20 59 25.2**	**-0.4**
PUZ	**Puketiti**	**6.90**	**206**	P	**Pn**	**20 58 06.9**	**-2.2**
PUZ				S	**Sn**	**20 59 25.0**	**-2.6**
RUGZ	**Raukumara Rang**	**7.03**	**210**	P	**Pn**	**20 58 09.6**	**-1.5**
CNGZ	**Carnagh Statio**	**7.28**	**205**	P	**Pn**	**20 58 11.5**	**-2.8**
MWZ	**Matawai**	**7.41**	**209**	P	**Pn**	**20 58 17.3**	**+1.1**
URZ	**Urewera**	**7.52**	**211**	Pn	**Pn**	**20 58 16.8**	**-0.8**
URZ				Sn	**Sn**	**20 59 39.8**	**-3.2**
URZ	**Urewera**	**7.52**	**211**	P	**Pn**	**20 58 16.2**	**-1.5**
WCZ	**Waipu Caves**	**7.57**	**236**	P	Pn	20 58 25.0	+6.7
RAGZ	**Rawiri**	**7.59**	**209**	P	**Pn**	**20 58 17.4**	**-1.3**
RIGZ	**Rimuhau**	**7.64**	**206**	P	**Pn**	**20 58 18.9**	**-0.4**
PRGZ	**Paritu Road**	**7.79**	**205**	P	**Pn**	**20 58 18.7**	**-2.6**
OUZ	**Omahuta**	**7.80**	**243**	P	Pn	20 58 27.5	+6.0
SNGZ	**Shannon Statio**	**7.87**	**208**	P	**Pn**	**20 58 21.5**	**-1.0**
RTZ	**Ruatahuna**	**7.88**	**210**		**Pn**	**20 58 20.3**	**-2.3**
TOZ	**Tahuroa Road**	**7.93**	**221**		**Pn**	**20 58 22.1**	**-1.1**
TOZ	**Tahuroa Road**	**7.93**	**221**	P	**Pn**	**20 58 25.0**	**+1.8**
BKZ	**Black Stump Fm**	**8.54**	**211**		**Pn**	**20 58 29.5**	**-2.2**
HIZ	**Hauiti**	**8.84**	**220**	Pn	**Pn**	**20 58 32.8**	**-2.9**
CTZ	**Chatham Island**	**11.85**	**175**	Pn	**Pn**	**20 59 13.8**	**-3.2**
MSVF	**Nonsavu**	**14.57**	**345**	Pn	**Pn**	**20 59 54.5**	**+0.1**
MSVF	**Nonsavu**	**14.57**	**345**	Pn	**Pn**	**20 59 54.6**	**+0.2**
MSVF				LR	LR	21 04 38.9	
RPZ	**Rata Peaks**	**14.63**	**213**	Pn	Pn	20 59 49.9	-5.1
RPZ				Sn	Sn	21 02 26.1	-11
ODZ	**Otahua Downs**	**15.85**	**211**	Pn	**Pn**	**21 00 07.1**	**-4.0**
ONTNC	**Ouen Toro**	**16.85**	**301**	P	**P**	**21 00 25.8**	**-0.3**
DZM	**Mont Dzumac**	**17.01**	**301**	Pn	**Pn**	**21 00 24.6**	**-1.4**
DZM	**Mont Dzumac**	**17.01**	**301**	Pn	**Pn**	**21 00 24.2**	**-1.8**
DZM				LR	LR	21 05 59.9	

2.8nm,0.3s,baz=64,slow=2.1,SNR=1.8
0.2

BRG Amp 21 17 04.8
comp=Z,7.3nm,0.8s
BRG Berggiesshubel 159.11 339 P **PKPab 21 17 09.5 +6.9**
BRG Amp 21 17 10.5
comp=Z,4.8nm,0.9s
PVCC Panska Ves 159.21 337 *e*PKPAB **PKPab 21 17 03.7 +0.6**
JAVC Velka Javorina 159.38 330 *e*PKP **PKPab 21 17 05.3 +1.3**
VRAC Vranov 159.48 332 *e*PKP **PKPab 21 17 04.7 +0.3**
KRUC Moravsky 159.75 332 *e*PKP **PKPab 21 17 05.3 -0.2**
SRO Srobarova 159.87 327 *e*PKP **PKPab 21 17 07.0 +0.9**
MODS Modra-Piesok 159.92 329 *e*PKP **PKPab 21 17 06.0 -0.3**
ZVC Zvikov 160.26 336 *e*PKPAB **PKPab 21 17 08.2 +0.5**
KHC Kasperske Hory 160.74 337 *e*PKPAB **PKPab 21 17 09.6 -0.3**
CKRC Cesky Krumlov 160.75 335 *e*PKPAB **PKPab 21 17 10.5 +0.6**
GERES GERESS Array B 160.94 336 PKPab **PKPab 21 17 10.2 -0.7**
comp=Z,1.6nm,0.8s,baz=79,slow=2.1,SNR=3.5
TORD Torodi Ar. Bea 161.32 179 PKPab **PKPab 21 17 08.8 -4.3**
TORD Torodi Ar. Bea 161.32 179 PKP **PKPdf 21 16 29.0 -0.5**
comp=Z,1.0nm,0.3s,baz=229,slow=2.0,SNR=1.7
TORD PKPab **pPKPab 21 17 14.1 -0.7**
comp=Z,4.9nm,0.9s,baz=176,slow=3.9,SNR=2.6
BMRD Maredsous 161.51 355 *d*PKPdf **PKPdf 21 16 26.9 -1.7**
BMRD *d*PKP **PKPab 21 17 11.3 -1.8**
ESDC Sonseca Array 170.84 31 PKPab **PKPab 21 17 53.3 -1.4**
comp=Z,0.8nm,1.1s,baz=320,slow=3.6,SNR=1.9

*SSNC **11** 20:56:37.4±4.4, 17°.85N×70°.87W, h106km±299km, MD3.9, ML3.5*
*OSPL **11** 20:56:40.9±2.2, 18°.89N×70°.30W, h101km±10km, ML3.2*
*SDD **11** 20:56:41.1±2.6, 18°.89N×70°.31W, h99km±9km, MD3.2, ML3.5, MW3.6*
ISC 11 20:56:37.3±1.3, 18°.91N±0°.04×70°.34W±0°.03, h116km±7km, n41, σ2°.24/64, 29C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABDR	**Alto Bandera**	**0.28**	**250**	⇑*e*Pg			**Pn**	**20 56 54.1**	**-0.1**
ABDR				⇑*e*Sg			**Sn**	**20 57 05.1**	**-1.7**
ABDR				IAML				20 57 07.2
	comp=N,2μm,0.1s							
DR08	**Loma La Naviza**	**0.31**	**80**	⇑*e*Pg			**Pn**	**20 56 53.4**	**-0.5**
DR08				⇑*e*Sg			**Sn**	**20 57 03.0**	**-3.4**
DR08				IAML				20 57 03.7
	comp=N,54μm,0.1s							
SFDR	**San Fco. de Ma**	**0.39**	**15**	⇑*e*Pg			**Pn**	**20 56 54.8**	**+0.6**
SFDR				⇑*e*Sg			**Sn**	**20 57 06.6**	**-0.3**
SFDR				IAML				20 57 07.5
	comp=N,4μm,0.1s							
BANI	**BANI**	**0.52**	**181**	⇑*e*Pg			**Pn**	**20 56 56.0**	**+0.9**
BANI				⇑*e*Sg			**Sn**	**20 57 08.4**	**0.0**
BANI				IAML				20 57 11.7
	comp=N,3μm,0.2s							
SDD	**Santo Domingo**	**0.61**	**138**	⇑*e*Pg			**Pn**	**20 56 55.5**	**0.0**
SDD				⇑*e*Sg			**Sn**	**20 57 06.3**	**-3.0**
SDD				IAML				20 57 12.2
	comp=N,84nm,0.1s							
SDD	**Santo Domingo**	**0.61**	**138**	*i* P			**Pn**	**20 56 55.5**	**0.0**
SDD				*e*S			**Sn**	**20 57 06.2**	**-3.0**
SC01	**Santiago de Io**	**0.63**	**325**	⇑*e*Pg			**Pn**	**20 56 57.2**	**+1.5**
SC01				⇑*e*Sg			**Sn**	**20 57 10.6**	**+1.0**
SC01				IAML				20 57 12.4
	comp=N,729nm,0.1s							
SC01	**Santiago de Io**	**0.63**	**325**	*i* P			**Pn**	**20 56 57.3**	**+1.5**
SC01				*e*S			**Sn**	**20 57 10.3**	**+0.6**
SC01				IAML				20 57 12.4
	comp=Z,592nm,0.5s							
NADR	**Nagua**	**0.64**	**46**	⇑*e*Pg			**Pn**	**20 56 56.6**	**+0.9**
NADR				⇓*e*Sg			**Sn**	**20 57 10.2**	**+0.5**
NADR				IAML				20 57 13.0
	comp=N,5μm,0.3s							
LONA1	**Toro Cenizo, N**	**0.65**	**44**	*i* P			Pn	20 56 42.5	-13
LONA1				*e*S			Sn	20 56 55.8	-14
LONA1				IAML				20 56 56.9
	comp=Z,1μm,0.5s							
CADR	**Cabrera**	**0.84**	**27**	⇑*e*Pg			**Pn**	**20 56 58.8**	**+1.3**
CADR				⇑*e*Sg			**Sn**	**20 57 11.5**	**-1.2**
CADR				IAML				20 57 20.2
	comp=N,1μm,0.6s							
SODR	**Sosua Marina B**	**0.87**	**345**	⇑*e*Pg			**Pn**	**20 56 59.6**	**+1.9**
SODR				IAML				20 57 26.1
	comp=N,652nm,1.5s							
SDDR	**Presa de Saban**	**0.90**	**275**	⇑*e*Pg			**Pn**	**20 56 59.6**	**+1.6**
SDDR				⇑*e*Sg			**Sn**	**20 57 14.6**	**+0.9**
SDDR				IAML				20 57 19.4
	comp=N,910nm,0.6s							
SDDR	**Presa de Saban**	**0.90**	**275**	*i* P			**Pn**	**20 56 59.7**	**+1.6**
SDDR				*e*S			**Sn**	**20 57 14.3**	**+0.7**
SDDR				IAML				20 57 18.7
	comp=Z,598nm,0.5s							
REDR	**Restauracion**	**1.02**	**285**	⇑*e*Pg			Pn	20 57 04.8	+5.5
REDR				⇑*e*Sg			**Sn**	**20 57 23.2**	**+7.3**
REDR				IAML				20 57 26.3
	comp=N,901nm,0.2s							
LOBA2	**Hotel Casa Bon**	**1.09**	**221**	⇓*e*Pg			**Pn**	**20 57 01.2**	**+1.3**
LOBA2				⇓*e*Sg			**Sn**	**20 57 17.5**	**+0.5**
LONE3	**El Aguacate, B**	**1.10**	**254**	*i* P			**Pn**	**20 57 01.6**	**+1.5**
LONE3				IAML				20 57 21.3
	comp=Z,62nm,1.2s							
SMDR	**Samana, DR**	**1.16**	**71**	⇑*e*Pg			**Pn**	**20 57 01.5**	**+0.9**
SMDR				IAML				20 57 22.0
	comp=N,315nm,0.6s							
PODR	**Polo**	**1.16**	**230**	⇑*e*Pg			**Pn**	**20 57 02.6**	**+1.7**
PODR				IAML				20 57 24.9
	comp=N,182nm,0.3s							
PODR	**Polo**	**1.16**	**230**	*i* P			**Pn**	**20 57 02.8**	**+1.9**
PODR				*e*S			**Sn**	**20 57 19.7**	**+1.1**
MIDR	**Miches**	**1.23**	**86**	⇑*e*Pg			**Pn**	**20 57 03.0**	**+1.7**
MIDR				⇑*e*Sg			**Sn**	**20 57 20.0**	**+0.4**
MIDR				IAML				20 57 25.7
	comp=N,162nm,0.2s							
MCDR	**Montecristi**	**1.58**	**308**	⇑*e*Pg			**Pn**	**20 57 05.8**	**+0.4**
MCDR				IAML				20 57 38.5
	comp=N,888nm,0.2s							
LOBH	**Bahia de las A**	**1.61**	**230**	*i* P			**Pn**	**20 57 08.6**	**+2.8**
LOBH				IAML				20 57 37.5
	comp=Z,107nm,1.3s							
SADR	**Isla Saona**	**1.65**	**115**	⇓*e*Pg			**Pn**	**20 57 06.7**	**+0.5**
SADR				⇑*e*Pg			**Pn**	**20 57 08.9**	**+2.7**
SADR				IAML				20 57 47.8
	comp=N,198nm,1.2s							
PAPH	**Port-au-Prince**	**1.89**	**259**	*i* P			**Pn**	**20 57 11.2**	**+1.9**
PAPH				IAML				20 57 41.0
	comp=Z,35nm,0.9s							
PCDR	**Punta Cana, DR**	**1.90**	**102**	⇑*e*Pg			**Pn**	**20 57 12.1**	**+2.8**
PCDR				IAML				20 57 57.1
	comp=N,166nm,0.6s							
PCDR	**Punta Cana, DR**	**1.90**	**102**	*i* P			**Pn**	**20 57 11.9**	**+2.6**
PCDR				IAML				20 57 48.0
	comp=Z,170nm,0.6s							
GRTK	**Grand Turk**	**2.69**	**344**	⇓*e*Pg			**Pn**	**20 57 21.2**	**+1.8**
GRTK				⇑*e*Sg			**Sn**	**20 57 51.4**	**-0.4**
GRTK				IAML				20 57 55.2
	comp=N,112nm,0.3s							
GRTK	**Grand Turk**	**2.69**	**344**	*i* P			**Pn**	**20 57 21.2**	**+1.8**
GRTK				*e*S			**Sn**	**20 57 51.0**	**-0.8**
GRTK				IAML				20 57 55.0
	comp=Z,44nm,1.1s							
AGPR	**Aguadilla, PR**	**3.10**	**98**	*i* P			**Pn**	**20 57 26.8**	**+2.1**
AGPR				IAML				20 58 18.3
	comp=Z,91nm,0.8s							
CRPR	**Cabo Rojo, PR**	**3.20**	**106**	*i* P			**Pn**	**20 57 26.8**	**+0.7**
CRPR				IAML				20 58 25.7
	comp=Z,60nm,0.8s							
AOPR	**Arecibo Observ**	**3.45**	**99**	*e*P			**Pn**	**20 57 33.9**	**+4.4**
AOPR				*e*S			**Sn**	**20 58 11.5**	**+1.7**
MASC	**Masc**	**3.88**	**290**	*i* P			**Pn**	**20 57 36.3**	**+1.2**
MASC				IAML				20 58 31.6
	comp=Z,29nm,0.7s							
SJG	**San Juan**	**4.06**	**101**	*e*P			**Pn**	**20 57 39.8**	**+2.3**
SJG				*e*S			**Sn**	**20 58 18.9**	**-5.4**
QMBU	**Quimbuelo**	**4.40**	**288**	*e*P			**Pn**	**20 57 43.0**	**+0.8**
QMBU				*e*S			**Sn**	**20 58 29.1**	**-3.6**
QMBU				*e*Sg			**Sn**	**20 58 32.4**	**-0.3**
QMBU				IAML				20 58 34.3
	comp=N,28nm,0.3s							
QMBU				IAML				20 58 34.3
	comp=E,22nm,0.1s							
GTBY	**Guantanamo Bay**	**4.61**	**283**	*e*P			**Pn**	**20 57 44.5**	**-0.5**
GTBY				*e*S			**Sn**	**20 58 34.3**	**-3.2**
MARVS	**Santiago de Cu**	**5.35**	**283**	*e*P			**Pn**	**20 57 51.7**	**-3.3**
PINC	**Pinares de May**	**5.37**	**288**	*e*P			**Pn**	**20 57 55.4**	**+0.3**
PINC				*e*S			**Sn**	**20 58 53.6**	**-2.2**
PINC				IAML				20 58 58.0
	comp=N,6.0nm,0.1s							
PINC				IAML				20 58 58.5
	comp=E,10.0nm,0.1s							
ANWB	**Willy Bob**	**8.22**	**97**	*e*P			**Pn**	**20 58 34.0**	**+0.1**
ANBD	**Bethesda, Anti**	**8.37**	**101**	*e*P			**Pn**	**20 58 37.4**	**+1.5**
ANBD	**Bethesda, Anti**	**8.37**	**101**	*e*S			**Sn**	**21 00 03.1**	**-5.7**

*IDC **11** 20:57:32.2±5.5, 36°.90N×71°.62E, h98km±45km, mb3.3/9, mbtmp3.7/15, Error ellipse: s-maj=39.1km s-min=19.8km az=31.0*
*NNC **11** 20:57:36.6±3.5, 37°.25N×71°.31E, h116km±66km, mb3.4, mpv4.1, Error ellipse: s-maj=33.6km s-min=25.8km az=145.0*
ISC 11 20:57:33.2±1.0, 37°.00N±0°.09×71°.5E±0°.1, h106km, n29, σ1°.30/33, mb3.5/9, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.41**	**18**	P			**Pn**	**20 58 52.7**	**+0.9**
	SNR=55								
UCH	**Uchtor**	**5.73**	**23**	P			**Sn**	**20 59 59.0**	**-1.8**
	SNR=13								
EKS2	**Erkin-Say**	**5.93**	**17**	P			**Pn**	**20 58 59.7**	**+1.1**
	SNR=19								
AAK	**Ala-Archa**	**6.10**	**22**	P			**Pn**	**20 59 02.0**	**+1.1**
	10nm,0.3s,baz=146,slow=5.5,SNR=83								
AAK				S			**Sn**	**21 00 08.6**	**-0.7**
	7.1nm,0.4s,baz=341,slow=22,SNR=13								
AAK	**Ala-Archa**	**6.10**	**22**	P			**Pn**	**20 59 02.0**	**+1.1**
	SNR=28								
AAK	**Ala-Archa**	**6.10**	**22**	⇓P			**Pn**	**20 59 02.1**	**+1.1**
	6.9nm,0.4s								
AAK				⇓S			**Sn**	**21 00 08.2**	**-1.1**
	19nm,0.6s								
KK31	**Karatay Array**	**6.14**	**354**	P			**Pn**	**20 59 01.7**	**+0.4**
	19nm,0.3s,baz=181,slow=13,SNR=199								
KK31				⇑S			**Sn**	**21 00 08.1**	**-2.0**
	7.6nm,0.3s,baz=178,slow=22,SNR=7.0								
KBK	**Karagaybulak**	**6.26**	**24**	P			**Pn**	**20 59 04.6**	**+1.5**
	SNR=7.8								
CHMS	**Chumysh**	**6.50**	**22**	P			**Pn**	**20 59 07.3**	**+1.0**
	SNR=13								
USP	**Ospenovka**	**6.68**	**20**	P			**Pn**	**20 59 09.2**	**+0.5**
	SNR=11								
TKM2	**Tokmak 2**	**6.71**	**27**	P			**Pn**	**20 59 10.3**	**+1.0**
	SNR=9.2								
TKM2	**Tokmak 2**	**6.71**	**27**	⇓P			**Pn**	**20 59 10.0**	**+0.7**
	4.4nm,0.7s								
TKM2				⇑S			**Sn**	**21 00 25.0**	**+0.6**
	8.3nm,0.7s								
MKAR	**Makanchi Array**	**12.67**	**36**	P			**Pn**	**21 00 29.4**	**-0.1**
	0.5nm,0.7s,baz=222,slow=13,SNR=7.4								
KURBB	**Kurchatov Arra**	**14.53**	**18**	P			**Pn**	**21 00 52.4**	**-1.1**
	0.2nm,0.4s,baz=206,slow=10,SNR=14								
AB31	**Akbulak array**	**14.83**	**329**	P			**Pn**	**21 00 54.8**	**-2.5**
	0.7nm,0.3s,baz=136,slow=13,SNR=51								
BVAR	**Borovoye Array**	**16.04**	**358**	P			**Pn**	**21 01 11.3**	**-1.1**
	0.6nm,0.3s,baz=170,slow=11,SNR=8.6								
AKTO	**Aktyubinsk**	**16.53**	**329**	P			**P**	**21 01 20.3**	**+1.0**
	2.2nm,0.6s,baz=148,slow=10,SNR=6.7								
AKTO	**Aktyubinsk**	**16.53**	**329**	⇓P			**P**	**21 01 20.1**	**+0.8**
	2.4nm,0.9s								
ZALV	**Zalesovo Beam**	**19.31**	**24**	P			**P**	**21 01 49.5**	**-0.1**
	2.0nm,0.3s,baz=214,slow=9.9,SNR=12								
ARTI	**Arti**	**21.29**	**340**	P			**P**	**21 02 13.7**	**+2.7**
	0.8nm,0.4s,baz=37,slow=5.6,SNR=2.3								
	0.8nm,0.4s								
SONM	**Songino Array**	**27.75**	**56**	P			**P**	**21 03 12.9**	**+1.1**
	0.7nm,0.9s,baz=252,slow=7.4,SNR=5.4								
	0.7nm,0.9s								
FINES	**FINESS Array B**	**37.27**	**326**	P			**P**	**21 04 34.8**	**+0.5**
	0.8nm,0.7s,baz=103,slow=8.0,SNR=0.9								
	0.8nm,0.7s								
ARCES	**ARCESS Array B**	**40.82**	**337**	P			**P**	**21 05 04.9**	**+1.1**
	1.4nm,0.8s,baz=121,slow=9.0,SNR=0.9								
	1.4nm,0.8s								
HFS	**Hagfors**	**42.90**	**322**	P			**P**	**21 05 22.1**	**+1.2**
	3.0nm,0.9s,baz=83,slow=12,SNR=2.1								
	3.0nm,0.9s								
NOA	**NORSAR Array B**	**44.20**	**323**	P			**P**	**21 05 31.7**	**+0.4**
	0.5nm,0.6s,baz=94,slow=7.9,SNR=1.8								
	0.5nm,0.6s								
YKA	**Yellowknife Ar**	**80.73**	**3**	P			**P**	**21 09 34.5**	**+0.3**
	0.2nm,0.5s,baz=351,slow=5.0,SNR=5.7								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**81.95**	**122**	P			**P**	**21 09 39.0**	**-2.3**
	0.5nm,0.9s,baz=317,slow=5.4,SNR=5.5								
	0.5nm,0.9s								
ASAR	**Alice Springs**	**84.25**	**125**	P			**P**	**21 09 51.5**	**-1.6**
	0.5nm,0.6s,baz=321,slow=5.6,SNR=4.0								
	0.5nm,0.6s								
QSPA	**South Pole Qui**	**126.80**	**180**	PKP			**PKiKP**	**21 16 24.9**	**+1.0**
	0.7nm,0.8s,baz=78,slow=2.7,SNR=1.6								

*AEIC **11** 20:58:24.5±1.0, 54°.06N±0°.06×163°.45W±0°.08, h42km±9km, Error ellipse: s-maj=9.5km s-min=5.1km az=145.0*
NEIC 11 20:58:24.7±0.9, 54°.0N±0°.1×163°.43W±0°.08, h43km±53km, ML2.6(AEIC), Error ellipse: s-maj=16.5km s-min=1.0km az=155.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**0.70**	**346**				Pn	20 58 37.7	-0.5
ISLZ							Sn	20 58 47.8	-0.2
SSLS	**Shishaldin Sou**	**0.75**	**334**				Pn	20 58 38.5	-0.4
SSLS							Sn	20 58 49.4	+0.2
WESE	**West Dahl East**	**0.80**	**303**				Pn	20 58 39.3	-0.3
WESE							Sn	20 58 50.6	+0.1
FALS	**False Pass**	**0.81**	**0**				Pn	20 58 39.4	-0.3
FALS							Sn	20 58 50.6	+0.1
ISNN	**Isanotski Nort**	**0.82**	**346**				Pn	20 58 40.1	+0.3
ISNN							Sn	20 58 52.2	+1.5
WECS	**Westdahl Cape**	**0.93**	**302**				Pn	20 58 41.0	-0.3
WECS							Sn	20 58 53.4	-0.1
WEBT	**Westdahl Beart**	**0.95**	**306**				Pn	20 58 41.1	-0.4
WEBT							Sn	20 58 53.5	-0.5
AKSA	**Akutan Strait**	**1.34**	**275**				Pn	20 58 47.0	+0.1
AHB	**Akutan Harbor**	**1.41**	**274**				Pn	20 58 48.0	+0.2
AHB							Sn	20 59 06.3	+1.1
HAG	**Hague Volcano**	**1.55**	**34**				Pn	20 58 50.5	+0.7
PS4A	**Pavlof South-4**	**1.59**	**34**				Pn	20 58 50.9	+0.6
PS1A	**Pavlof South-1**	**1.69**	**35**				Pn	20 58 52.5	+0.8
UNV	**Unalaska Valle**	**1.83**	**265**				Pn	20 58 53.3	-0.3
MSW	**Makushin Switc**	**1.99**	**268**				Pn	20 58 55.6	-0.1
MAPS	**Pakushin South**	**2.09**	**265**				Pn	20 58 57.4	+0.2
SDPT	**Sand Point**	**2.15**	**51**				Pn	20 58 58.5	+0.5
SDPT							Sn	20 59 23.5	0.0
CHGN	**Chignik**	**3.66**	**50**	Pn			Pn	20 59 16.9	-1.7

*IDC **11** 21:14:05.6±1.8, 4°.90S×153°.92E, h0km, mb3.6/7, mbtmp3.7/8, ML1.4/1, Error ellipse: s-maj=65.6km s-min=23.4km az=112.0*
ISC 11 21:14:13.6±1.3, 5°.0S±0°.2×153°.7E±0°.2, h56km, n11, σ0°.94/9, mb3.5/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.86**	**235**	Pn			**Pn**	**21 16 04.5**	**-0.9**
	0.3nm,0.3s,baz=41,slow=19,SNR=1.4								
PMG				Sn			**Sn**	**21 17 33.2**	**+0.2**
	1.3nm,0.3s,baz=206,slow=9.9,SNR=1.9								
	4.6nm,0.4s								
WRA	**Warramunga Arr**	**24.03**	**230**	P			**P**	**21 19 25.1**	**+1.4**
	0.6nm,0.6s,baz=55,slow=10,SNR=4.6								
	0.6nm,0.6s								
H11S3	**WAKE ISLAND Hy**	**26.59**	**28**	T			T	21 48 29.9	
	baz=211								
H11S2	**WAKE ISLAND Hy**	**26.59**	**28**	T			T	21 48 27.0	
	baz=211								
H11S1	**WAKE ISLAND Hy**	**26.61**	**28**	T			T	21 48 27.8	
	baz=211								
ASAR	**Alice Springs**	**26.66**	**224**	P			**P**	**21 19 47.8**	**+0.3**
	0.2nm,0.4s,baz=48,slow=9.5,SNR=4.1								
	0.2nm,0.4s								
STKA	**Stephens Creek**	**29.09**	**202**	P			**P**	**21 20 08.8**	**-0.1**
	3.2nm,0.8s,baz=0.0,slow=16,SNR=3.2								
	3.2nm,0.8s								
SONM	**Songino Array**	**66.95**	**327**	P			**P**	**21 24 59.9**	**-0.6**
	0.2nm,0.4s,baz=140,slow=4.9,SNR=2.3								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**81.05**	**319**	P			**P**	**21 26 24.0**	**+1.3**
	0.2nm,0.4s,baz=117,slow=4.9,SNR=4.3								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**81.97**	**22**	P			**P**	**21 26 26.9**	**-0.3**
	0.5nm,1.0s,baz=234,slow=6.2,SNR=1.9								
	0.5nm,1.0s								
BVAR	**Borovoye Array**	**89.92**	**323**	P			**P**	**21 27 06.2**	**-0.4**
	0.2nm,0.4s,baz=90,slow=2.9,SNR=2.5								
	0.2nm,0.4s								

*IDC **11** 21:23:52.4±1.4, 4°.39N×127°.66E, h0km, mb3.5/6, mbtmp3.5/6, MS4.0/1, Error ellipse: s-maj=82.5km s-min=20.0km az=66.0*
*DJA **11** 21:23:59.6±1.1, 4°N±14°×12°8E±°, h23km±22km, M4.2/12, mB5.0/3, mb4.1/7, MLv4.2/12, Mw(mB)4.3/3*
ISC 11 21:24:04.3±1.1, 4°.3N±0°.1×127°.6E±0°.1, h104km, n13, σ0°.94/13, mb3.2/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.09**	**254**	P			**Pn**	**21 24 37.5**	**-0.7**
SGSI				S			**Sn**	**21 25 03.6**	**-0.6**
TNTI	**Ternate**	**3.46**	**183**	P			**Pn**	**21 24 56.2**	**-0.2**
SANI	**Sanana**	**6.45**	**194**	P			**Pn**	**21 25 35.1**	**-1.7**
	0.1nm803nm17nm,1.0s								
MRSI	**Marisa**	**6.74**	**236**	P			**Pn**	**21 25 41.9**	**+1.2**
	0.1nm483nm22nm,1.1s								
LUWI	**Luwuk**	**7.10**	**222**	P			**Pn**	**21 25 45.6**	**-0.1**
NLAI	**Namlea**	**7.46**	**183**	P			**Pn**	**21 25 51.1**	**+0.6**
WRA	**Warramunga Arr**	**24.95**	**165**	P			**P**	**21 29 18.7**	**+0.5**
	0.9nm,0.8s,baz=343,slow=10,SNR=7.2								
	0.9nm,0.8s								
ASAR	**Alice Springs**	**28.43**	**168**	P			**P**	**21 29 49.9**	**+0.4**
	0.4nm,0.8s,baz=353,slow=7.7,SNR=4.0								
	0.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**31.32**	**299**	P			**P**	**21 30 15.8**	**+0.7**
	0.2nm,0.4s,baz=95,slow=9.1,SNR=1.3								
	0.2nm,0.4s								
PALK	**Pallekele**	**46.69**	**276**	LR			LR	21 54 10.1
	comp=Z,172nm,20.4s,baz=136,slow=39								
SONM	**Songino Array**	**47.07**	**341**	P			**P**	**21 32 24.6**	**-1.1**
	0.2nm,0.4s,baz=165,slow=6.0,SNR=2.2								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**57.60**	**325**	P			**P**	**21 33 43.2**	**-0.3**
	0.3nm,0.4s,baz=124,slow=7.9,SNR=8.7								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**61.74**	**327**	P			**P**	**21 34 12.8**	**+1.0**
	0.8nm,0.5s,baz=130,slow=6.4,SNR=12								
	0.8nm,0.5s								

*NNC **11** 21:26:07.6±4.4, 36°.88N×70°.55E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=42.9km s-min=28.7km az=142.0*
*IDC **11** 21:26:23.5±18.0, 36°.64N×71°.43E, h269km±153km, mb3.0/2, mbtmp3.8/6, Error ellipse: s-maj=184.2km s-min=77.6km az=171.0*
ISC 11 21:26:09.3±2.3, 36°.6N±0°.2×70°.8E±0°.1, h100km, n10, σ1°.67/12, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.48**	**358**	⇓P			**Pn**	**21 27 41.6**	**-0.4**
	1.5nm,0.2s,baz=174,slow=12,SNR=42								
KK31				⇓S			**Sn**	**21 28 53.2**	**-1.3**
	4.8nm,0.3s,baz=190,slow=18,SNR=14								
AAK	**Ala-Archa**	**6.66**	**24**	⇑P			**Pn**	**21 27 44.0**	**-0.7**
	2.3nm,0.5s								
AAK				⇓S			**Sn**	**21 29 01.1**	**+2.0**
	5.7nm,0.8s								
MKAR	**Makanchi Array**	**13.30**	**37**	P			**P**	**21 29 18.4**	**-1.6**
	0.6nm,0.7s,baz=213,slow=11,SNR=6.8								
AB31	**Akbulak array**	**14.90**	**331**	P			**Pn**	**21 29 33.2**	**-1.3**
	0.6nm,0.5s,baz=157,slow=12,SNR=29								
KURBB	**Kurchatov Arra**	**15.07**	**19**	P			**P**	**21 29 40.7**	**+1.1**
	0.9nm,0.2s,baz=210,slow=10,SNR=4.3								
BVAR	**Borovoye Array**	**16.41**	**359**	P			**P**	**21 29 57.3**	**+2.9**
	1.4nm,0.5s,baz=162,slow=10,SNR=6.4								
AKTO	**Aktyubinsk**	**16.59**	**330**	⇓P			**P**	**21 29 58.5**	**+2.1**
	1.9nm,0.8s								
ZALV	**Zalesovo Beam**	**19.88**	**25**	P			**P**	**21 30 32.3**	**-0.1**
	1.9nm,0.4s,baz=212,slow=11,SNR=9.3								
FINES	**FINESS Array B**	**37.29**	**326**	P			**P**	**21 33 11.3**	**+0.2**
	1.9nm,0.9s,baz=110,slow=7.2,SNR=4.0								
	1.9nm,0.9s								
NOA	**NORSAR Array B**	**44.18**	**323**	P			**P**	**21 34 08.4**	**+0.6**
	0.3nm,0.6s,baz=96,slow=8.4,SNR=2.0								
	0.3nm,0.6s								

*IDC **11** 21:30:04.6±0.6, 23°.10N×143°.78E, h0km, mb3.9/16, mbtmp3.9/17, ML2.7/1, MS3.9/3, Error ellipse: s-maj=26.6km s-min=16.1km az=78.0*
**ISC 11 21:

0.6nm,0.7s,baz=49,slow=4.4,SNR=2.2
0.6nm,0.7s
PLCA Paso Flores 146.16 129 PKPbc **PKPab 21 49 47.8 +0.8**
2.7nm,0.8s,baz=239,slow=1.5,SNR=6.7
LPAZ La Paz 149.12 83 PKPbc **PKPbc 21 49 56.1 +0.4**
0.6nm,0.3s,baz=307,slow=3.2,SNR=4.4

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*SDD **11** 21:37:35.3±1.0, 18°.58N×71°.63W, h60km±18km, MD2.7, ML1.9, MW2.6*
*OSPL **11** 21:37:38.8±1.4, 18°.59N×71°.56W, h19km±13km, ML1.3*
ISC 11 21:37:38.0±1.2**, 18°.59N**±0°.04×**71°.57W**±0°.04**, h19**km±3km**,**
n8, σ0§77/14**, 6C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.10**	**79**	*i* P	**Pg**	**21 37 42.3**	**+0.2**
LONE3				*e*S	**Sg**	**21 37 45.0**	**+0.2**
LONE3				IAML		21 37 45.2	
	comp=Z,64nm,0.1s						
NEDR	**Neiba UASD**	**0.17**	**126⇑**	*e*Pg	**Pg**	**21 37 43.4**	**+0.7**
NEDR				IAML		21 37 50.3	
	comp=N,64nm,0.1s						
JIDR	**Jimani**	**0.29**	**251⇑**	*e*Pg	**Pg**	**21 37 44.6**	**+0.2**
JIDR				IAML		21 37 50.5	
	comp=N,69nm,0.1s						
SDDR	**Presa de Saban**	**0.47**	**34⇑**	*e*Pg	**Pg**	**21 37 47.3**	**-0.5**
SDDR				⇑*e*Sg	**Sb**	**21 37 55.2**	**+0.7**
SDDR				IAML		21 38 04.8	
	comp=N,30nm,2.4s						
SDDR	**Presa de Saban**	**0.47**	**34**	*i* P	**Pg**	**21 37 47.5**	**-0.3**
SDDR				*e*S	**Sg**	**21 37 54.5**	**+0.2**
SDDR				IAML		21 38 00.7	
	comp=Z,15nm,3.6s						
PODR	**Polo**	**0.50**	**147⇑**	*e*Pg	**Pg**	**21 37 46.8**	**-1.4**
PODR				⇑*e*Sg	**Sb**	**21 37 56.1**	**+0.9**
PODR				IAML		21 38 22.6	
	comp=N,82nm,1.7s						
PODR	**Polo**	**0.50**	**147**	*i* P	**Pg**	**21 37 48.2**	**0.0**
PODR				*e*S	**Sb**	**21 37 55.9**	**+0.7**
PAPH	**Port-au-Prince**	**0.70**	**265**	*i* P	**Pb**	**21 37 50.8**	**-0.7**
PAPH				*e*S	**Sb**	**21 38 01.6**	**+0.8**
PAPH				IAML		21 38 03.5	
	comp=Z,25nm,0.3s						

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*IDC **11** 21:49:31.1±1.0, 45°.73N×143°.04E, h304km±36km, mb2.7/8, mbtmp3.4/9, Error ellipse: s-maj=82.4km s-min=16.7km az=177.0*
*JMA **11** 21:49:31.6±0.4, 45°.N±2°.×143°.E±°, h316km±3km, MV3.2/37, NE OFF HOKKAIDO*
*SKHL **11** 21:49:32.3±1.0, 45°.60N×143°.50E, h315km±2km, mb4.3/5, msha4.6/3*
ISC 11 21:49:30.7±0.7**, 45°.43N**±0°.06×**143°.15E**±0°.07**, h318**km±6km**,**
n32, σ1§41/43**, mb3.0**/8**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.62**	**221**	P	**Pn**	**21 50 12.2**	**+0.6**
JWK2	**Keihoku**	**0.89**	**263**	P	**Pn**	**21 50 13.2**	**+0.7**
JWK2				*e*S	**S**	**21 50 45.5**	**-0.3**
JRR	**Rishiri**	**1.33**	**258**	*e*P	**Pn**	**21 50 14.9**	**+0.3**
JRR				*e*S	**S**	**21 50 49.0**	**-0.7**
ASAJ	**Asahikawa**	**1.37**	**197**	P	**Pn**	**21 50 16.0**	**+1.1**
	23nm,0.3s,baz=342,slow=3.2,SNR=76						
ASAJ				S	**S**	**21 50 51.3**	**+1.1**
	2.8nm,0.3s,baz=64,slow=24,SNR=1.3						
ASAJ	**Asahikawa**	**1.37**	**197**	P	**Pn**	**21 50 16.2**	**+1.3**
JSS	**Shosan**	**1.38**	**222**	P	**Pn**	**21 50 16.0**	**+1.0**
JMP	**Maruseppu**	**1.43**	**174**	P	**Pn**	**21 50 16.5**	**+1.2**
YSS	**Yuzhno-Sakhali**	**1.55**	**350**	*e*P	**Pn**	**21 50 15.9**	**+0.1**
YSS				AMB	AMB	21 50 16.0	
	50nm,0.4s						
YSS				*e*S	**S**	**21 50 50.1**	**-1.8**
YSS				A	A	21 50 50.4	
	60nm,0.7s						
YSS				A	A	21 50 50.4	
	40nm,0.7s						
JTKR	**Abashiri--Toko**	**1.55**	**159**	*e*P	**Pn**	**21 50 17.6**	**+1.6**
JKK2	**Kamakawa 2**	**1.58**	**191**	*e*P	**Pn**	**21 50 17.7**	**+1.5**
JYG	**Yagishiri**	**1.58**	**231**	*e*P	**Pn**	**21 50 16.8**	**+0.6**
JHR	**Hokuryu**	**1.97**	**212**	*e*P	**Pn**	**21 50 20.0**	**+1.1**
JAR	**Ashorobuto**	**2.18**	**168**	P	**Pn**	**21 50 22.2**	**+1.7**
JAR				*e*S	**S**	**21 51 01.9**	**+1.6**
JAK	**Akkeshi**	**2.67**	**155**	*e*P	**Pn**	**21 50 26.3**	**+1.6**
JAK				*e*S	**S**	**21 51 07.1**	**-0.8**
AKK	**Akkeshi**	**2.70**	**153**	*e*P	**Pn**	**21 50 26.1**	**+1.1**
AKK				A	A	21 51 06.8	
	200nm,1.3s						
AKK				*e*S	**S**	**21 51 07.1**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.77**	**137**	*e*P	**Pn**	**21 50 24.9**	**-0.6**
NMR				AMB	AMB	21 50 25.0	
	80nm,0.6s						
NMR				*e*S	**S**	**21 51 07.2**	**-2.2**
NEM2	**Nemuro 2**	**2.78**	**137**	*e*S	**S**	**21 51 07.6**	**-1.9**
JCH	**Churui**	**2.82**	**177**	*e*P	**Pn**	**21 50 26.1**	**0.0**
JCH				*e*S	**S**	**21 51 07.3**	**-3.0**
JEW	**Eniwo**	**2.86**	**206**	*e*P	**Pn**	**21 50 28.0**	**+1.5**
SHO	**Shikotan**	**3.05**	**119**	*e*S	**S**	**21 51 12.0**	**-2.2**
JNBK	**Urakawa-nobuka**	**3.16**	**185**	*e*P	**Pn**	**21 50 30.7**	**+1.4**
JNBK				*e*S	**S**	**21 51 16.1**	**-0.1**
JOSM	**Okushiri--Mats**	**4.27**	**220**	*e*P	**Pn**	**21 50 41.0**	**+0.1**
JOT	**Ohata**	**4.32**	**201**	P	**Pn**	**21 50 41.6**	**+0.2**
JOT				*e*S	**S**	**21 51 34.4**	**-3.9**
USRK	**Ussuriysk Ar.**	**8.03**	**265**	P	**Pn**	**21 51 24.8**	**+0.1**
	1.4nm,0.5s,baz=74,slow=14,SNR=5.4						
SONM	**Songino Array**	**25.20**	**289**	P	**P**	**21 54 27.7**	**-0.6**
	0.7nm,0.7s,baz=82,slow=8.1,SNR=5.5						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**37.70**	**305**	P	**P**	**21 56 16.7**	**+0.5**
	0.2nm,0.3s,baz=57,slow=11,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**41.28**	**295**	P	**P**	**21 56 45.4**	**-0.2**
	0.2nm,0.6s,baz=81,slow=9.8,SNR=3.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**41.85**	**37**	P	**P**	**21 56 48.5**	**-1.5**
	0.2nm,0.6s,baz=274,slow=8.3,SNR=1.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.30**	**301**	P	**P**	**21 56 52.8**	**-0.9**
	0.2nm,0.4s,baz=71,slow=8.6,SNR=3.2						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**55.98**	**33**	P	**P**	**21 58 37.0**	**+0.7**
	0.4nm,0.6s,baz=304,slow=6.9,SNR=6.6						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**70.96**	**48**	P	**P**	**22 00 15.3**	**+1.0**
	0.2nm,0.6s,baz=309,slow=6.2,SNR=2.2						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**84.03**	**54**	P	**P**	**22 01 27.4**	**+1.2**
	0.2nm,0.5s,baz=318,slow=6.6,SNR=2.6						
	0.2nm,0.5s						

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*SJA **11** 22:10:30.4±0.7, 30°.08S×71°.47W, h20km±3km, ML3.6, MW3.7*
*GUC **11** 22:10:33.5±0.9, 30°.17S×71°.26W, h57km±3km, ML3.9*
*IDC **11** 22:10:36.4±4.9, 30°.09S×71°.21W, h86km±38km, mb3.6/2, mbtmp3.8/5, Error ellipse: s-maj=46.0km s-min=23.5km az=84.0*
ISC 11 22:10:32.9±0.9**, 30°.04S**±0°.03×**71°.53W**±0°.04**, h54**km±10km**,**
n63, σ1§80/74**, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.64**	**188⇓**	*i*P	**Pn**	**22 10 47.2**	**+1.2**
CO06				*e*S	**Sn**	**22 10 57.4**	**+1.9**
GO04	**Tololo Observa**	**0.65**	**102⇑**	*i*P	**Pn**	**22 10 45.9**	**-0.5**
GO04				*e*S	**Sn**	**22 10 54.6**	**-1.6**
CO03	**El Pedregal**	**1.08**	**138⇑**	*i*P	**Pn**	**22 10 50.6**	**-1.2**
CO03				*e*S	**Sn**	**22 11 03.0**	**-2.8**
CO03				IAML		22 11 03.9	
	comp=N,5μm,0.2s						
CO03	**El Pedregal**	**1.08**	**138**	*e*P	**Pn**	**22 10 50.4**	**-1.4**
CO03				*e*S	**Sn**	**22 11 03.4**	**-2.5**
CO03				IAML		22 11 04.2	
	comp=Z,2μm,0.3s						
CO01	**Juntas del Tor**	**1.25**	**87⇑**	*i*P	**Pn**	**22 10 53.8**	**-0.5**
CO01				IAML		22 11 08.7	
	comp=E,6μm,0.2s						
CO01	**Juntas del Tor**	**1.25**	**87**	*e*P	**Pn**	**22 10 53.5**	**-0.7**
CO01				*e*S	**Sn**	**22 11 08.6**	**-1.6**
CO01				IAML		22 11 08.8	
	comp=Z,6μm,0.1s						
CO01				*e*S		22 11 08.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.26**	**35**	*e*P	**Pn**	**22 10 55.3**	**+0.8**
LCO	**Las Campanas**	**1.26**	**35**	*e*P	**Pn**	**22 10 54.6**	**+0.2**
LCO				*e*S	**Sn**	**22 11 12.1**	**+1.6**
LCO				IAML		22 11 13.3	
	comp=Z,3μm,0.2s						
AC04	**Llanos de Chal**	**1.88**	**12**	*e*P	**Pn**	**22 11 04.4**	**+1.8**
AC04	**Llanos de Chal**	**1.88**	**12**	*e*P	**Pn**	**22 11 02.8**	**+0.2**
AC04				*e*S	**Sn**	**22 11 22.3**	**-2.8**
AC04				IAML		22 11 32.7	
	comp=Z,302nm,0.5s						
ACCO	**Cerro Coronel**	**2.20**	**105**	*e*P	**Pn**	**22 11 08.9**	**+1.6**
ACCO				*e*S	**Sn**	**22 11 36.1**	**+2.5**
DOCA	**Reserva Natura**	**2.30**	**114**	*e*P	**Pn**	**22 11 09.3**	**+0.6**
DOCA				*e*S	**Sn**	**22 11 38.2**	**+2.2**
DOCA				IAML		22 11 39.2	
	comp=Z,198nm,0.2s						
VA06	**Catapilco**	**2.52**	**175**	*e*P	**Pn**	**22 11 11.2**	**-0.1**
VA06				IAML		22 11 49.9	
	comp=N,1μm,0.5s						
RTLS	**Leoncito**	**2.60**	**133**	*e*P	**Pn**	**22 11 13.7**	**+1.0**
RTLS				*e*S	**Sn**	**22 11 45.5**	**+2.2**
RTLS				IAML		22 11 47.1	
	comp=Z,455nm,0.4s						
AGUA	**GUANDACOL**	**2.70**	**79**	*e*P	**Pn**	**22 11 16.0**	**+2.0**
AGUA				*e*S	**Sn**	**22 11 44.3**	**-1.2**
AGUA				IAML		22 11 52.1	
	comp=Z,410nm,0.5s						
VA03	**San Esteban**	**2.84**	**163**	*e*P	**Pn**	**22 11 16.2**	**+0.4**
VA03				IAML		22 11 53.2	
	comp=N,504nm,0.4s						
VA03	**San Esteban**	**2.84**	**163**	*e*P	**Pn**	**22 11 16.6**	**+0.8**
VA03				*e*S	**Sn**	**22 11 47.8**	**-1.1**
VA03				IAML		22 11 55.5	
	comp=Z,338nm,0.5s						
AC06	**Mina Casimiro**	**2.87**	**21**	*e*P	**Pn**	**22 11 17.1**	**+0.9**
AC06				IAML		22 12 01.1	
	comp=N,223nm,0.1s						
PEL	**Peldehue**	**3.17**	**167**	*e*P	**Pn**	**22 11 20.5**	**+0.1**
PEL				IAML		22 12 14.7	
	comp=N,229nm,0.3s						
VCA	**Vinchina**	**3.18**	**67**	*e*P	**Pn**	**22 11 22.8**	**+2.2**
VCA				*e*P		22 11 23.6	
VCA				*e*S	**Sn**	**22 12 01.2**	**+3.8**
VCA				IAML		22 12 01.9	
	comp=Z,488nm,0.3s						
MT02	**Curacav**	**3.22**	**174**	*e*P	**Pn**	**22 11 20.6**	**-0.3**
MT02				IAML		22 12 21.9	
	comp=E,188nm,0.1s						
MT02	**Curacav**	**3.22**	**174**	*e*P	**Pn**	**22 11 20.7**	**-0.3**
MT02				*e*S	Sn	22 11 41.3	-17
MT02				IAML		22 12 16.4	
	comp=Z,127nm,0.5s						
CFA	**Coronel Fontan**	**3.23**	**120**	P	**Pn**	**22 11 21.3**	**+0.1**
	comp=Z,8.9nm,0.3s,baz=298,slow=14,SNR=102						
CFA				S	**Sn**	**22 11 56.7**	**-1.8**
	comp=Z,58nm,0.3s,baz=220,slow=21,SNR=9.9						
CFA	**Coronel Fontan**	**3.23**	**120**	*e*P	**Pn**	**22 11 21.4**	**+0.3**
CFA				*e*S	**Sn**	**22 11 58.4**	**-0.1**
CFA				IAML		22 12 19.9	
	comp=Z,124nm,0.5s						
MT10	**Hacienda Santa**	**3.33**	**165**	*e*P	**Pn**	**22 11 22.9**	**+0.3**
MT10				IAML		22 12 15.7	
	comp=E,835nm,0.4s						
MT05	**Renca**	**3.41**	**169**	*e*P	**Pn**	**22 11 24.8**	**+1.3**
MT05				*e*P		22 11 25.3	
MT05				*e*S	**Sn**	**22 12 05.3**	**+2.5**
MT05				IAML		22 12 24.6	
	comp=Z,99nm,0.4s						
ASAL	**Salagasta**	**3.43**	**138**	*e*P	**Pn**	**22 11 25.3**	**+1.4**
ASAL				*e*S	Sn	22 12 09.6	+6.2
ASAL				IAML		22 12 29.9	
	comp=Z,81nm,0.5s						
FCH	**Farellones**	**3.44**	**162**	*e*P	**Pn**	**22 11 25.2**	**+0.9**
FCH				IAML		22 12 15.1	
	comp=E,150nm,0.4s						
MT14	**Cerro Calıın**	**3.45**	**166**	IAML		22 12 23.5	
	comp=E,478nm,0.6s						
MT03	**Universidad Ad**	**3.55**	**166**	*e*P	**Pn**	**22 11 26.2**	**+0.7**
MT03				IAML		22 12 21.6	
	comp=E,315nm,0.1s						
MT03	**Universidad Ad**	**3.55**	**166**	*e*P	**Pn**	**22 11 26.9**	**+1.4**
MT03				*e*S	**Sn**	**22 12 08.6**	**+2.3**
MT03				IAML		22 12 25.8	
	comp=Z,171nm,0.3s						
MT04	**Ro Olivares**	**3.56**	**161**	*e*P	**Pn**	**22 11 27.6**	**+1.8**
MT04				IAML		22 12 19.9	
	comp=E,129nm,0.4s						
MT04	**Ro Olivares**	**3.56**	**161**	*e*P	**Pn**	**22 11 22.3**	**-3.5**
MT04				*e*P		22 11 26.9	
MT04				*e*S	**Sn**	**22 12 10.0**	**+3.3**
MT04				IAML		22 12 18.3	
	comp=Z,124nm,0.9s						
ARCO	**CERRO ARCO**	**3.57**	**142**	*e*P	Pn	22 11 28.0	+2.1
ARCO				*e*S	Sn	22 12 23.8	+17
ARCO				IAML		22 12 35.7	
	comp=Z,117nm,0.8s						
AVFE	**Valle Fertil**	**3.58**	**101**	*e*P	**Pn**	**22 11 26.1**	**+0.2**
AVFE				*e*S	**Sn**	**22 12 05.3**	**-1.7**
AVFE				IAML		22 12 09.5	
	comp=Z,109nm,0.3s						
MT08	**Bocatoma Ro**	**3.63**	**160**	*e*P	**Pn**	**22 11 28.5**	**+1.8**
MT08				IAML		22 12 21.9	
	comp=N,143nm,0.6s						
MT08	**Bocatoma Ro**	**3.63**	**160**	*e*P	**Pn**	**22 11 28.9**	**+2.1**
MT08				IAML		22 12 26.2	
	comp=Z,66nm,0.5s						
MT15	**Las Vizcachas**	**3.65**	**166**	IAML		22 12 18.8	
	comp=E,358nm,0.6s						
AAGR	**Agrelo**	**3.81**	**143**	*e*P	Pn	22 11 31.5	+2.3
AAGR				IAML		22 12 43.9	
	comp=Z,90nm,1.2s						
MT01	**Popeta**	**3.82**	**176**	*e*S	**Sn**	**22 12 14.8**	**+2.0**
MT01				IAML		22 12 28.1	
	comp=Z,98nm,0.5s						
AC02	**Maricunga**	**3.83**	**34**	*e*P	**Pn**	**22 11 31.1**	**+1.2**
AC02				IAML		22 12 34.9	
	comp=Z,112nm,0.6s						
AC01	**Pan de Azucar**	**3.97**	**12**	*e*P	**Pn**	**22 11 30.3**	**-1.0**
AC01				IAML		22 12 42.9	
	comp=Z,46nm,0.9s						
ACLC	**CERRO LA CRUZ**	**4.03**	**82**	*e*P	**Pn**	**22 11 32.8**	**+0.6**
ACLC				IAML		22 12 46.9	
	comp=Z,65nm,0.3s						
H03N1	**Juan Fernandez**	**7.14**	**240**	P	**Pn**	**22 12 15.9**	**+1.5**
	baz=108,slow=18,SNR=49						
H03N1				S	**Sn**	**22 13 29.5**	**-4.5**
	baz=298,slow=10,SNR=10						
H03N1				T	T	22 19 42.7	
	baz=66,slow=72,SNR=160						
H03N2	**Juan Fernandez**	**7.15**	**240**	P	**Pn**	**22 12 17.0**	**+2.4**
	baz=108,slow=18,SNR=32						
H03N2				S	**Sn**	**22 13 29.6**	**-4.8**
	baz=298,slow=10,SNR=13						
H03N2				T	T	22 19 51.5	
	baz=66,slow=72,SNR=163						
H03N3	**Juan Fernandez**	**7.16**	**240**	P	**Pn**	**22 12 15.7**	**+1.0**
	baz=108,slow=18,SNR=44						
H03N3				S	Sn	22 13 29.3	-5.1
	baz=298,slow=10,SNR=14						
H03N3				T	T	22 19 50.3	
	baz=66,slow=72,SNR=140						
H03S3	**Juan Fernandez**	**7.32**	**237**	P	**Pn**	**22 12 18.3**	**+1.5**
	baz=350,slow=74,SNR=4.9						
H03S1	**Juan Fernandez**	**7.32**	**237**	P	**Pn**	**22 12 18.1**	**+1.2**
	baz=190,slow=74,SNR=3.8						
H03S2	**Juan Fernandez**	**7.33**	**237**	P	**Pn**	**22 12 18.0**	**+0.9**
	baz=58,slow=15,SNR=4.7						
LPAZ	**La Paz**	**14.04**	**14**	P	**Pn**	**22 13 52.0**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=202,slow=10,SNR=4.8						
SIV	**San Ignacio**	**16.96**	**37**	P	**Pn**	**22 14 26.8**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=211,slow=11,SNR=11						
BDFB	**Brasilia**	**25.91**	**62**	P	**P**	**22 15 58.2**	**-2.0**
	comp=Z,1.5nm,0.4s,baz=252,slow=9.6,SNR=3.4						
	comp=Z,1.5nm,0.4s						
QSPA	**South Pole Qui**	**60.18**	**180**	P	**P**	**22 20 34.6**	**-0.3**
	comp=Z,1.1nm,1.1s,baz=90,slow=3.0,SNR=1.3						
	comp=Z,1.1nm,1.1s						
H11S2	**WAKE ISLAND Hyl**	**26.17**	**272**	T	T	00 48 23.5	
	baz=114,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hyl**	**26.18**	**272**	T	T	00 48 22.8	
	baz=114,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hyl**	**26.19**	**272**	T	T	00 48 22.8	
	baz=114,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hyl**	**26.48**	**273**	T	T	00 49 06.6	
	baz=116						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hyl**	**26.50**	**273**	T	T	00 49 35.3	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**26.50**	**273**	T	T	00 49 19.2	
	baz=116						
BVAR	**Borovoye Array**	**144.03**	**39**	PKP	PKPbc	22 30 00.3	+0.3
	comp=Z,0.3nm,0.5s,baz=300,slow=4.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**149.61**	**39**	PKPbc	**PKPbc**	**22 30 14.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=302,slow=3.1,SNR=9.9						
ZALV	**Zalesovo Beam**	**150.61**	**29**	PKPbc	**PKPbc**	**22 30 16.9**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=293,slow=2.4,SNR=9.1						
MKAR	**Makanchi Array**	**153.71**	**43**	PKPbc	**PKPbc**	**22 30 24.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=273,slow=1.7,SNR=5.9						
MKAR				PKPab	**PKPab**	**22 30 38.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=298,slow=4.1,SNR=5.4						

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*IDC **11** 22:14:13.2±2.3, 9°.30S×120°.09E, h0km, mb3.2/1, mbtmp3.2/4, ML3.0/3, MS3.5/2, Error ellipse: s-maj=189.2km s-min=28.0km az=54.0*
*DJA **11** 22:14:14.4±0.4, 10°.S±5°.×11°.9E±°, h10km, M3.4/6, MLv3.4/6*
ISC 11 22:14:15.3±0.9**, 9°.81S**±0°.06×**119°.23E**±0°.05**, h33**km**, n12,**
σ1§84/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.23**	**45**	P	**Pb**	**22 14 20.0**	**-2.2**
WBSI				S	**Sn**	**22 14 24.2**	**-1.5**
BASI	**Baing, Sumba**	**1.39**	**107**	P	**Pb**	**22 14 40.8**	**0.0**
BASI				S	**Sb**	**22 15 00.5**	**+2.3**
PLAI	**Plampang**	**1.73**	**304**	P	**Pn**	**22 14 42.4**	**-0.6**
PLAI				S	**Sn**	**22 15 03.7**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.85**	**19**	P	**Pn**	**22 15 13.6**	**+1.4**
SRBI	**Singaraja**	**4.32**	**293**	P	**Pn**	**22 15 19.1**	**+0.5**
BKSI	**Bulukumba**	**4.54**	**11**	P	**Pn**	**22 15 22.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.33**	**144**	Pn	**Pn**	**22 16 41.2**	**0.0**
	baz=331,slow=13,SNR=1.6						
FITZ				Sn	**Sn**	**22 18 33.3**	**-2.6**
	0.2nm,0.3s,baz=177,slow=22,SNR=7.2						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**17.73**	**126**	P	**Pn**	**22 18 17.1**	**-2.7**
	0.1nm,0.3s,baz=300,slow=13,SNR=5.1						
	0.9nm,1.1s						
ASAR	**Alice Springs**	**19.66**	**136**	P	**Pn**	**22 18 42.1**	**-1.0**
	0.1nm,0.3s,baz=318,slow=10.0,SNR=4.3						
	0.3nm,0.5s						
PALK	**Pallekele**	**41.95**	**292**	LR	LR	22 41 07.1	
	comp=Z,49nm,19.2s,baz=147,slow=38						
JCJ	**Chichijima**	**42.91**	**31**	LR	LR	22 36 29.6	
	comp=Z,95nm,21.6s,baz=174,slow=32						
MKAR	**Makanchi Array**	**65.27**	**333**	P	**P**	**22 24 56.4**	**+2.6**
	0.2nm,0.6s,baz=125,slow=7.6,SNR=2.5						
	0.2nm,0.6s						

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*SJA **11** 22:14:15.6±1.6, 34°.36S×70°.55W, h100km, ML4.4, MW4.1*
*IDC **11** 22:14:16.3±0.6, 34°.32S×70°.49W, h112km±5km, mb3.9/10, mbtmp4.2/14, Error ellipse: s-maj=17.8km s-min=9.9km az=109.0*
*GUC **11** 22:14:16.0±0.8, 34°.34S×70°.58W, h108km±2km, ML4.4*
*NEIC **11** 22:14:16.1±1.6, 34°.34S±0°.04×70°.60W±0°.06, h105km±4km, mb4.6/43, Error ellipse: s-maj=7.1km s-min=5.6km az=115.0*
ISC 11 22:14:15.6±0.5**, 34°.34S**±0°.03×**70°.57W**±0°.03**, h109**km±4km**,**
n169, σ1§02/220**, mb4.6**/30**, 20C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO04	**La Punta**	**0.35**	**354**		**Pn**	**22 14 31.2**	**-0.3**
BO04				Sn	**Sn**	**22 14 43.1**	**-0.3**
BO04	**La Punta**	**0.35**	**354⇑**	*i*P	**Pn**	**22 14 31.3**	**-0.3**
BO04				*e*S	**Sn**	**22 14 43.1**	**-0.3**
BO04				IAML		22 14 44.4	
	comp=E,34μm,0.6s						
BO01	**Tunca**	**0.43**	**263**	Pn	**Pn**	**22 14 31.9**	**0.0**
BO01				Sn	**Sn**	**22 14 43.8**	**-0.3**
BO01	**Tunca**	**0.43**	**263⇑**	*i*P	**Pn**	**22 14 32.0**	**+0.2**
BO01				*e*S	**Sn**	**22 14 44.0**	**-0.1**
BO01				IAML		22 14 44.9	
	comp=E,68μm,0.3s						
BO01	**Tunca**	**0.43**	**263**	*e*P	**Pn**	**22 14 32.0**	**+0.2**
BO01				*e*S	**Sn**	**22 14 44.1**	**+0.1**
BO01				IAML		22 14 45.6	
	comp=Z,18μm,0.3s						
BO02	**Sierra Bellavi**	**0.48**	**201**	Pn	**Pn**	**22 14 32.4**	**+0.1**
BO02				Sn	**Sn**	**22 14 45.0**	**+0.2**
BO02	**Sierra Bellavi**	**0.48**	**201**	*e*P	**Pn**	**22 14 32.5**	**+0.2**
BO02				*e*S	**Sn**	**22 14 45.2**	**+0.4**
BO02				IAML		22 14 48.1	
	comp=E,69μm,0.2s						
BO02	**Sierra Bellavi**	**0.48**	**201**	*e*P	**Pn**	**22 14 32.5**	**+0.2**
BO02				*e*S	**Sn**	**22 14 45.6**	**+0.8**
BO02				IAML		22 14 48.8	
	comp=Z,32μm,0.7s						
LMEL	**Las Melosas**	**0.58**	**32**	Pn	**Pn**	**22 14 33.0**	**0.0**
LMEL				Sn	**Sn**	**22 14 45.7**	**-0.4**
LMEL	**Las Melosas**	**0.58**	**32⇓**	*e*P	**Pn**	**22 14 33.1**	**0.0**
LMEL				*e*S	**Sn**	**22 14 46.1**	**0.0**
LMEL				IAML		22 14 56.2	
	comp=N,8μm,0.3s						
LMEL	**Las Melosas**	**0.58**	**32**	*e*P	**Pn**	**22 14 33.0**	**0.0**
LMEL				IAML		22 14 50.8	
	comp=Z,4μm,0.7s						
MT13	**San Alfonso**	**0.64**	**21**	Pn	**Pn**	**22 14 33.9**	**+0.4**
MT13				Sn	**Sn**	**22 14 47.2**	**+0.3**

comp=N,6μm,0.5s
MT10 Hacienda Santa 1.07 1⇑ iP Pn 22 14 37.8 +0.2
MT10 eS Sn 22 14 54.5 +0.4
MT10 IAML 22 15 00.4
comp=E,10μm,0.3s
VA05 Santo Domingo 1.11 308 Pn **Pn 22 14 37.7 -0.1**
VA05 Santo Domingo 1.11 308 i P **Pn 22 14 37.9 +0.1**
VA05 eS **Sn 22 14 54.1 -0.4**
VA05 IAML 22 14 58.8
comp=E,13μm,0.3s
BO03 Pichilemu 1.16 262⇑ iP Pn 22 14 38.8 +0.4
BO03 eS **Sn 22 14 55.5 -0.1**
BO03 IAML 22 15 03.5
comp=N,4μm,0.5s
MT02 Curacav 1.18 336 Pn **Pn 22 14 38.6 0.0**
MT02 Curacav 1.18 336⇑ iP Pn 22 14 38.8 +0.2
MT02 eS **Sn 22 14 55.3 -0.7**
MT02 IAML 22 14 57.1
comp=E,4μm,0.5s
MT02 Curacav 1.18 336 eP **Pn 22 14 38.1 -0.5**
MT02 eS **Sn 22 14 56.4 +0.4**
MT02 IAML 22 15 00.5
comp=Z,2μm,0.4s
PEL Peldehue 1.20 355 Pn **Pn 22 14 39.2 +0.3**
PEL Peldehue 1.20 355⇑ iP Pn 22 14 39.2 +0.3
PEL i S **Sn 22 14 56.7 +0.1**
PEL IAML 22 14 58.1
comp=N,6μm,0.3s
GO05 Hualane 1.30 239⇑ iP Pn 22 14 40.1 +0.1
GO05 eS **Sn 22 14 58.2 -0.4**
GO05 IAML 22 15 00.0
comp=E,9μm,0.2s
ROCH El Roble 1.42 345⇑ iP Pn 22 14 41.6 0.0
ROCH eS **Sn 22 15 00.8 -0.4**
ROCH IAML 22 15 06.4
comp=N,3μm,0.4s
VA03 San Esteban 1.57 1 Pn **Pn 22 14 43.4 +0.1**
VA03 San Esteban 1.57 1⇑ iP Pn 22 14 43.7 +0.3
VA03 eS **Sn 22 15 05.1 +0.7**
VA03 IAML 22 15 08.3
comp=E,5μm,0.4s
VA03 San Esteban 1.57 1 eP **Pn 22 14 43.4 +0.1**
VA03 eS **Sn 22 15 06.0 +1.6**
VA03 IAML 22 15 08.3
comp=Z,2μm,0.2s
ML02 Panimavida 1.58 206 Pn **Pn 22 14 43.5 +0.3**
ML02 Panimavida 1.58 206 eP **Pn 22 14 43.3 +0.1**
ML02 eS **Sn 22 15 05.5 +1.2**
ML02 IAML 22 15 07.3
comp=Z,3μm,0.6s
EDS3 Malargue 1.72 146 eP **Pn 22 14 45.6 +0.5**
EDS3 eS Sn 22 14 52.0 -16
RFA San Rafael 1.79 104 eP **Pn 22 14 45.6 -0.2**
RFA eP 22 14 45.7
RFA eS **Sn 22 15 08.7 -0.3**
VA06 Catapilco 1.88 341 Pn **Pn 22 14 47.0 0.0**
VA06 Catapilco 1.88 341⇑ iP Pn 22 14 47.0 0.0
VA06 eS **Sn 22 15 08.1 -2.8**
VA06 IAML 22 15 13.1
comp=E,4μm,0.4s
AVIZ Vizcacheras 1.91 64 eP **Pn 22 14 48.5 +1.0**
AVIZ eS **Sn 22 15 05.7 -6.1**
AVIZ eS 22 15 10.2
AAGR Agrelo 1.92 50 eP **Pn 22 14 48.5 +0.9**
AAGR eS **Sn 22 15 12.4 +0.5**
ASAL Salagasta 2.27 40 eP **Pn 22 14 53.2 +1.1**
ASAL eS **Sn 22 15 22.1 +2.2**
BI02 San Fabin de 2.39 194 Pn **Pn 22 14 53.9 +0.3**
BI02 San Fabin de 2.39 194 eP **Pn 22 14 53.7 +0.2**
RTLS Leoncito 2.75 23 eP **Pn 22 15 00.3 +1.7**
RTLS eS **Sn 22 15 30.8 -0.8**
RTLS IAML 22 15 40.1
comp=Z,518nm,0.7s
ZON Zonda 3.21 30 Pn **Pn 22 15 04.7 +0.3**
ZON Zonda 3.21 30 eP **Pn 22 15 04.5 +0.1**
ZON eS Sn 22 15 32.7 -9.3
BI05 Punta Hualpn 3.21 221 Pn **Pn 22 15 03.2 -1.2**
BI05 Punta Hualpn 3.21 221 eP **Pn 22 15 02.8 -1.5**
BI05 IAML 22 15 42.1
comp=Z,2μm,0.3s
CFA Coronel Fontan 3.36 36 P **Pn 22 15 06.6 +0.2**
comp=Z,20nm,0.3s,baz=213,slow=9.7,SNR=8.1
CFA S **Sn 22 15 45.7 +0.1**
comp=Z,42nm,0.4s,baz=80,slow=22,SNR=10
CFA Coronel Fontan 3.36 36 eP **Pn 22 15 06.1 -0.3**
CFA eS **Sn 22 15 46.1 +0.5**
CO03 El Pedregal 3.50 358 Pn **Pn 22 15 08.4 +0.2**
CO03 El Pedregal 3.50 358 eP **Pn 22 15 08.3 +0.1**
DOCA Reserva Natura 3.61 21 eP **Pn 22 15 09.8 -0.3**
CO06 Fray Jorge 3.77 346 Pn **Pn 22 15 11.1 -0.7**
CO06 Fray Jorge 3.77 346 eP **Pn 22 15 11.2 -0.6**
ACCO Cerro Coronel 3.95 19 eS **Sn 22 16 03.3 +3.1**
GO04 Tololo Observa 4.16 357 Pn **Pn 22 15 16.4 -1.0**
GO04 Tololo Observa 4.16 357 eP **Pn 22 15 16.5 -0.8**
GO04 eS **Sn 22 16 04.6 -0.6**
GO04 IAML 22 16 07.2
comp=Z,398nm,0.2s
CO01 Juntas del Tor 4.37 5 Pn **Pn 22 15 20.4 +0.3**
AGUA GUANDACOL 5.15 21 eP **Pn 22 15 30.4 -0.2**
AGUA IAML 22 16 33.1
comp=Z,129nm,0.4s
LCO Las Campanas 5.32 359 Pn **Pn 22 15 30.7 -2.3**
LR04 Corral 5.98 202 Pn **Pn 22 15 39.2 -2.3**
LR05 Currie 5.99 191 Pn **Pn 22 15 39.9 -1.8**
PLCA Paso Flores 6.38 180 Pn **Pn 22 15 46.9 -0.2**
PLCA Paso Flores 6.38 180 P **Pn 22 15 47.3 +0.2**
comp=Z,3.7nm,0.4s,baz=2.2,slow=13,SNR=12
LL04 Puerto Octay 6.72 192 Pn **Pn 22 15 48.5 -3.0**
VA04 Juan Fernndez 6.90 273 Pn **Pn 22 15 54.0 -0.1**
VA04 Juan Fernndez 6.90 273 eP **Pn 22 15 54.6 +0.6**
H03S1 Juan Fernandez 6.94 272 P **Pn 22 15 54.6 +0.3**
baz=59,slow=15,SNR=11
H03S1 T T 22 22 06.0
baz=99,slow=75,SNR=118
H03S3 Juan Fernandez 6.94 272 P **Pn 22 15 55.4 +1.0**
baz=59,slow=15,SNR=16
H03S3 T T 22 22 05.6
baz=99,slow=75,SNR=39
H03S2 Juan Fernandez 6.95 272 P **Pn 22 15 54.9 +0.3**
baz=59,slow=15,SNR=24
H03S2 T T 22 22 05.2
baz=99,slow=75,SNR=63
AC06 Mina Casimiro 6.97 2 Pn **Pn 22 15 52.7 -2.4**
H03N1 Juan Fernandez 7.00 275 P **Pn 22 15 57.2 +2.0**
H03N3 Juan Fernandez 7.00 275 P **Pn 22 15 57.6 +2.3**
H03N2 Juan Fernandez 7.01 275 P **Pn 22 15 57.3 +1.9**
SNR=9.9
TRQA Tornquist 7.87 121 Pn **Pn 22 16 06.0 -1.3**
LL01 San Ignacio de 8.15 190 Pn **Pn 22 16 08.5 -2.5**
AC01 Pan de Azucar 8.17 360 Pn **Pn 22 16 07.4 -3.9**
GO02 Mina Guanaco 9.19 6 Pn **Pn 22 16 22.8 -2.7**
PB01 IPOC Station P 13.28 4 Pn **Pn 22 17 19.0 -1.0**
CPUP Villa Florida 13.94 59 P **Pn 22 17 28.8 +0.4**
comp=Z,2.2nm,0.7s,baz=356,slow=13,SNR=2.9
PB08 IPOC Station P 14.20 5 Pn **Pn 22 17 31.0 -1.1**
PB11 IPOC Station P 14.55 3 **P 22 17 39.6 -0.2**
PB12 IPOC Station P 15.67 1 Pn **Pn 22 17 49.8 -0.6**
PB12 IAmb IAmb 22 17 51.0
comp=Z,20nm,0.6s
ITAB Concordia 17.34 71 P **P 22 18 08.5 -2.0**
LPAZ La Paz 18.11 8 P **Pn 22 18 20.8 0.0**
LPAZ La Paz 18.11 8 Pn **Pn 22 18 20.9 0.0**
comp=Z,6.5nm,0.7s,baz=167,slow=10,SNR=26
AQDB Aquidauana 19.07 47 P **P 22 18 29.3 -0.2**
AQDB IAmb IAmb 22 18 30.6
comp=Z,11nm,0.6s
EFI East Falkland 19.54 156 P **P 22 18 33.1 -1.3**
SIV San Ignacio 20.17 27 P **P 22 18 41.2 -0.4**
comp=Z,3.7nm,0.8s,baz=202,slow=9.7,SNR=15
comp=Z,3.7nm,0.8s
BDFB Brasília 27.54 53 P **P 22 19 52.0 -0.4**
comp=Z,1.7nm,0.5s,baz=178,slow=8.6,SNR=3.7
comp=Z,1.7nm,0.5s
BOAV Boa Vista 37.75 17 P **P 22 21 20.4 -0.6**
BOAV IAmb IAmb 22 21 21.2
comp=Z,3.3nm,0.6s
RUSC La Rusia 40.09 356 P **P 22 21 41.2 +0.2**
RUSC IAmb IAmb 22 21 43.4
comp=Z,12nm,1.0s
BELA Belgrano 2 46.33 170 P **P 22 22 31.0 +0.9**
PRVC Isla de Provid 48.55 346 P **P 22 22 47.9 +0.1**
VNA3 Neumayer Olymp 48.58 158 ⇑P **P 22 22 49.1 +1.6**
comp=Z,11nm,0.5s
VNA2 Neumayer--Watz 49.22 157 ⇑P **P 22 22 52.6 +0.2**
comp=Z,10nm,0.5s,baz=286,slow=7.7
SNAA Sanae 50.81 158 P **P 22 23 03.9 -0.5**
SNAA IAmb IAmb 22 23 11.3
comp=Z,9.3nm,1.2s
SNAA Sanae 50.81 158 ⇑P **P 22 23 05.1 +0.6**
comp=Z,41nm,0.3s
SNAA Sanae 50.81 158 P **P 22 23 04.8 +0.3**
comp=Z,1.3nm,0.3s,baz=155,slow=4.2,SNR=67
comp=Z,1.3nm,0.3s
PDPR Patillas Dam, 52.25 5 P **P 22 23 14.9 -0.7**
CELP Cerrillos 52.26 5 P **P 22 23 14.7 -1.0**
TROLL Troll, Antarti 52.52 158 ⇑P **P 22 23 18.4 +1.2**
comp=Z,485nm,0.6s
QSPA South Pole Qui 55.90 180 P **P 22 23 42.6 +0.8**
comp=Z,1.5nm,0.7s,baz=336,slow=2.2,SNR=9.5
QSPA pP **pP 22 24 09.4 +0.7**
comp=Z,1.9nm,0.8s,baz=50,slow=2.5,SNR=3.9
comp=Z,1.5nm,0.7s
TEIG Tepich 56.82 340 P **P 22 23 49.2 +0.5**
SYO Syowa Base 65.10 158‖ eP **P 22 24 42.6 -1.5**
GOGA Godfrey 68.48 348 P **P 22 25 04.9 -1.0**
GOGA IAmb IAmb 22 25 06.5
comp=Z,5.3nm,0.8s
Z47A Carrollton 69.17 344 P **P 22 25 10.5 +0.4**
Z47A IAmb IAmb 22 25 11.7
comp=Z,8.9nm,0.7s
BG3 Lake Jocassee 69.94 349 P **P 22 25 14.9 0.0**
BG3 IAmb IAmb 22 25 16.2
comp=Z,6.1nm,0.9s
V58A Windy Hill, Pi 70.23 353 P **P 22 25 16.5 -0.1**
V58A IAmb IAmb 22 25 49.2
comp=Z,17nm,1.5s
SAND Sanderson 70.55 331 P **P 22 25 19.8 +1.0**
TXAR Lajitas Array 70.64 330 P **P 22 25 20.9 +1.5**
TXAR Lajitas Array 70.64 330 P **P 22 25 20.6 +1.2**
comp=Z,1.9nm,0.7s,baz=155,slow=8.9,SNR=8.5
TXAR pP **pP 22 25 47.2 +0.2**
comp=Z,0.6nm,0.7s,baz=149,slow=4.9,SNR=2.4
comp=Z,1.9nm,0.7s
SWET Sewanee 70.68 347 P **P 22 25 19.1 -0.3**
SWET IAmb IAmb 22 25 20.6
comp=Z,9.3nm,0.7s
OZNA Ozona 71.02 332 P **P 22 25 22.5 +0.9**
OZNA IAmb IAmb 22 25 23.4
comp=Z,6.0nm,0.6s
V48A Smith Brothers 71.36 346 P **P 22 25 24.0 +0.6**
V48A IAmb IAmb 22 25 24.7
comp=Z,11nm,0.8s
TZTN Tazewell 71.56 349 P **P 22 25 24.4 -0.2**
TZTN IAmb IAmb 22 25 34.5
comp=Z,12nm,1.2s
WVT Waverly 71.94 345 P **P 22 25 26.9 0.0**
R55A Marlinton 72.80 352 P **P 22 25 33.0 +1.0**
R55A IAmb IAmb 22 25 33.8
comp=Z,6.1nm,0.7s
APMT Aspermont 72.81 334 P **P 22 25 32.8 +0.6**
APMT IAmb IAmb 22 25 33.9
comp=Z,7.7nm,0.6s
PBMO Poplar Bluff 73.14 343 P **P 22 25 33.7 -0.4**
PBMO IAmb IAmb 22 25 34.7
comp=Z,7.2nm,0.6s
CCM Cathedral Cave 74.55 343 P **P 22 25 43.0 +0.8**
CCM IAmb IAmb 22 25 43.2
comp=Z,7.4nm,0.7s
R40A Maddies Statio 75.02 342 P **P 22 25 45.3 +0.4**
O48B Farmland 75.44 349 P **P 22 25 46.8 -0.6**
N49A Columbus Grove 75.94 349 P **P 22 25 49.2 -0.9**
N49A IAmb IAmb 22 25 50.8
comp=Z,8.8nm,0.8s
N47A Urbana 76.14 348 P **P 22 25 50.6 -0.7**
N47A IAmb IAmb 22 26 11.9
comp=Z,14nm,1.2s
P40A Paris 76.14 343 P **P 22 25 52.0 +0.6**
T25A Trinidad 77.78 333 P **P 22 26 02.3 +1.4**
T25A IAmb IAmb 22 26 03.7
comp=Z,6.9nm,0.8s
BOSA Boshof 78.83 117 P **P 22 26 07.4 +0.4**
comp=Z,3.8nm,0.6s,baz=244,slow=4.4,SNR=13
comp=Z,3.8nm,0.6s
PV13 Radium Mtn., P 80.40 330 P **P 22 26 16.1 +0.9**
D62A Allapoint, All 81.06 1 P **P 22 26 18.3 +0.2**
D62A IAmb IAmb 22 26 54.9
comp=Z,13nm,1.2s
E46A Sault Ste Mari 81.29 350 P **P 22 26 19.2 -0.1**
MTPU Mount Pierson 81.73 328 P **P 22 26 23.1 +0.8**
PSUT Pine Spring 82.88 327 P **P 22 26 29.4 +1.2**
TORD Torodi Ar. Bea 83.19 69 P **P 22 26 30.2 +0.3**
TORD Torodi Ar. Bea 83.19 69 P **P 22 26 29.9 -0.1**
comp=Z,0.8nm,0.5s,baz=231,slow=4.1,SNR=0.4
R11B Troy Canyon, C 83.52 326 P **P 22 26 33.1 +1.7**
PDAR Pinedale Array 84.62 332 P **P 22 26 37.9 +0.9**
PDAR Pinedale Array 84.62 332 P **P 22 26 37.6 +0.6**
comp=Z,1.3nm,0.7s,baz=156,slow=5.0,SNR=14
PDAR pP **pP 22 27 06.1 +0.8**
comp=Z,0.3nm,0.6s,baz=154,slow=3.4,SNR=1.8
comp=Z,1.3nm,0.7s
LHV Little Huntoon 84.82 324 P **P 22 26 40.0 +2.3**
NVAR Mina Array Bea 84.87 324 P **P 22 26 38.5 +0.2**
comp=Z,0.9nm,0.6s,baz=160,slow=3.1,SNR=5.1
comp=Z,0.9nm,0.6s
ULM Lac du Bonnet 87.15 344 P **P 22 26 48.9 0.0**
comp=Z,1.7nm,0.7s,baz=212,slow=4.3,SNR=5.1
comp=Z,1.7nm,0.7s
SCHQ Schefferville 88.87 2 P **P 22 26 57.1 +0.1**
comp=Z,1.4nm,0.8s,baz=58,slow=9.9,SNR=1.5
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 121.04 208 PKP **PKPdf 22 32 55.8 -0.1**
comp=Z,0.4nm,0.5s,baz=163,slow=1.7,SNR=7.3
SPITS Spitsbergen Ar 122.71 14 PKP **PKPdf 22 32 57.4 +0.1**
comp=Z,16nm,1.1s,baz=288,slow=1.4,SNR=7.0
ARCES ARCESS Array B 123.81 25 PKP **PKPdf 22 32 58.0 -1.7**
comp=Z,1.5nm,0.7s,baz=235,slow=3.2,SNR=3.6
H11S2 WAKE ISLAND Hyl 126.98 268 T T 00 52 39.8
baz=118
H11S1 WAKE ISLAND Hyl 126.99 268 T T 00 52 47.1
baz=118
H11S3 WAKE ISLAND Hyl 127.00 268 T T 00 52 49.9
baz=118
BRVK Borovoye 146.62 44 PKPbc **PKPbc 22 33 44.2 +0.3**
BVAR Borovoye Array 146.69 44 PKPbc **PKPbc 22 33 44.1 0.0**
comp=Z,3.6nm,0.7s,baz=291,slow=3.9,SNR=21
BVAR pPKPbc pPKPab 22 34 14.6 -0.6
comp=Z,1.2nm,0.7s,baz=311,slow=3.4,SNR=3.3
AAK Ala-Archa 151.59 63 PKPbc **PKiKP 22 33 57.4 0.0**
KURBB Kurchatov Arra 152.27 45 PKPbc **PKiKP 22 33 58.8 +0.4**
comp=Z,2.1nm,0.7s,baz=300,slow=2.9,SNR=22
KURBB pPKPbc **pPKPbc 22 34 27.8 -0.3**
comp=Z,0.5nm,0.6s,baz=299,slow=3.0,SNR=2.8
ZALV Zalesovo Beam 153.85 34 PKPbc **PKPbc 22 34 01.2 -0.2**
comp=Z,1.2nm,0.5s,baz=322,slow=3.4,SNR=6.7
ZALV PKPab **PKPab 22 34 14.7 -0.3**
comp=Z,0.8nm,0.5s,baz=303,slow=5.8,SNR=3.8
MKAR Makanchi Array 156.05 51 PKP **PKPdf 22 33 56.4 -0.4**
comp=Z,0.3nm,0.9s,baz=318,slow=1.9,SNR=2.0
MKAR PKPbc PKPbc 22 34 07.1
comp=Z,0.2nm,0.8s,baz=294,slow=1.4,SNR=2.1
MKAR PKPab **PKPab 22 34 23.2 -1.6**
comp=Z,0.2nm,0.7s,baz=295,slow=3.8,SNR=3.1
SONM Songino Array 166.33 9 PKPab **PKPab 22 35 09.4 -0.1**
comp=Z,0.5nm,0.9s,baz=336,slow=3.2,SNR=3.5

IDC **11** *22:44:45.0±6.1,31°.35S×178°.09W,h0km,mb3.5/2,*
mbtmp3.5/2,Error ellipse: s-maj=252.9km
s-min=57.3km az=157.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.99**	**268**	P	P	22 52 46.0	-0.3
	0.4nm,0.5s,baz=112,slow=7.8,SNR=6.2						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.06**	**273**	P	P	22 52 55.1	+0.2
	0.2nm,0.3s,baz=115,slow=8.3,SNR=5.4						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**146.00**	**339**	PKPbc	PKPdf	23 04 24.9	-0.2
	1.1nm,0.6s,baz=44,slow=4.4,SNR=7.4						

IDC **11** *22:49:51.2±2.2,5°.94S×130°.17E,h0km,mb3.7/1,*
mbtmp3.6/4,ML3.5/3,Error ellipse: s-maj=100.3km
s-min=27.2km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.87**	**200**	Pn	Pn	22 52 56.0	+0.4
	0.2nm,0.3s,baz=21,slow=11,SNR=10						
FITZ				Sn	Sn	22 55 08.9	-11
	0.5nm,0.3s,baz=223,slow=23,SNR=9.7						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**14.50**	**164**	Pn	Pn	22 53 16.9	-1.0
	0.3nm,0.3s,baz=346,slow=13,SNR=8.8						
WRA				Sn	Sn	22 55 44.4	-15
	0.5nm,0.3s,baz=334,slow=25,SNR=8.4						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.99**	**169**	P	Pn	22 54 03.1	+0.2
	0.1nm,0.3s,baz=355,slow=10,SNR=7.6						
ASAR				S	Sn	22 57 09.5	-15
	0.3nm,0.5s,baz=355,slow=27,SNR=5.3						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	23 00 48.8	0.0
	0.3nm,0.4s,baz=125,slow=7.6,SNR=13						
	0.3nm,0.4s						

IDC **11** *23:18:47.0±1.4,56°.28N×162°.45E,h0km,mb3.8/6,*
mbtmp3.7/7,ML2.4/1,Error ellipse: s-maj=37.9km
s-min=24.6km az=140.0
KRSC **11** *23:18:49.4±0.4,56°.05N×162°.64E,h56km±4km,Ml4.0*
ISC 11 23:18:52.1±0.9,56°.12N±0°.05×162°.57E±0°.04,h46km±7km,
n43,σ1°.06/47,mb3.8/6,Near east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.15**	**29**	eP	Pn	23 18 59.1	-0.5
KBG				eS	Sn	23 19 06.0	+1.0
KBTR	**Krutoberegovo**	**0.16**	**58**	eP	Pn	23 18 59.2	-0.5
ZLN	**Zelenaya**	**1.00**	**265**	i P	Pn	23 19 09.2	-0.6
CIRR	**Tsirk**	**1.02**	**270**	eP	Pn	23 19 09.4	-0.7
LGNR	**Loginova**	**1.06**	**269**	eP	Pn	23 19 09.9	-0.8
BZGR	**Bezymyannyi-Gr**	**1.07**	**261**	eP	Pn	23 19 09.9	-0.8
KLY	**Klyuchi**	**1.09**	**281**	eP	Pn	23 19 08.8	-2.1
KLY				eS	Sn	23 19 22.4	-2.4
KRSR	**Krestovskiy**	**1.13**	**276**	eP	Pn	23 19 10.5	-1.0
BZWR	**Bezymyannyi-We**	**1.18**	**263**	eP	Pn	23 19 11.5	-0.8
KIRR	**Kirishev**	**1.26**	**263**	eP	Pn	23 19 12.9	-0.6
KPT	**Kopyto**	**1.33**	**264**	eP	Pn	23 19 13.9	-0.4
KPT				eS	Sn	23 19 31.6	+0.8
KMNR	**Kamenistaya**	**1.36**	**255**	eP	Pn	23 19 14.9	+0.1
KOZ	**Kozyrevsk**	**1.52**	**269**	eP	Pn	23 19 17.1	+0.3
TUMD	**Tumrok D**	**1.54**	**234**	eP	Pn	23 19 16.5	-0.6
TUMD				eS	Sn	23 19 36.1	+0.2
SRDR	**Sredinnyy**	**1.61**	**278**	eP	Pn	23 19 18.4	+0.3
MKZ	**Mys Kozlova**	**1.64**	**197**	eP	Pn	23 19 17.4	-1.1
MKZ				eS	Sn	23 19 37.4	-0.9
BKI	**Bering**	**2.13**	**114**	eP	Pn	23 19 24.7	-0.5
BKI				eS	Sn	23 19 49.8	-0.6
ESO	**Esso**	**2.18**	**266**	eP	Pn	23 19 26.2	+0.3
SPN	**Mys Shipunski**	**3.38**	**207**	eP	Pn	23 19 41.1	-1.1
SPN				eS	Sn	23 20 19.6	-1.4
NLC	**Nalytchevo**	**3.50**	**214**	eP	Pn	23 19 44.0	0.0
SDLR	**Sedlovina**	**3.56**	**218**	eP	Pn	23 19 44.8	-0.2
KRX	**Arik**	**3.58**	**221**	eP	Pn	23 19 45.8	+0.6
KRER	**Koryakskii**	**3.59**	**220**	eP	Pn	23 19 46.1	+0.7
GNL	**Ganaly**	**3.62**	**230**	eP	Pn	23 19 45.5	-0.2
AVH	**Avacha**	**3.63**	**219**	eP	Pn	23 19 46.2	+0.5
KOK	**Koryaka**	**3.64**	**220**	eP	Pn	23 19 46.3	+0.3
UGLR	**Uglovaya**	**3.64**	**218**	eP	Pn	23 19 46.3	+0.2
DALK	**Dalny**	**3.81**	**217**	eP	Pn	23 19 48.2	-0.1
PET	**Petropavlovsk**	**3.85**	**218**	eP	Pn	23 19 48.9	+0.2
PETK	**Petropavlovsk-**	**4.14**	**225**	Pn	Pn	23 19 52.0	-0.7
	1.1nm,0.3s,baz=61,slow=17,SNR=39						
PETK				Sn	Sn	23 20 43.9	+4.0
	0.9nm,0.3s,baz=75,slow=23,SNR=4.1						
	3.4nm,0.5s						
KRMR	**Karymshinskiy**	**4.20**	**220**	eP	Pn	23 19 52.4	-1.0
RUS	**Russkaya**	**4.40**	**214**	eP	Pn	23 19 55.7	-0.5
GRL	**Gorelyy**	**4.44**	**218**	eP	Pn	23 19 58.2	+1.2
TILK	**Tilichiki**	**4.73**	**22**	eP	Pn	23 20 02.7	+2.0
ILAR	**Eielson Array**	**25.70**	**50**	P	P	23 24 17.6	+0.1
	0.5nm,0.9s,baz=266,slow=7.4,SNR=2.9						
	0.5nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**36.48**	**173**	T	T	00 04 47.0	
	baz=356,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**36.49**	**173**	T	T	00 04 48.9	
	baz=356,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**36.50**	**173**	T	T	00 04 48.4	
	baz=356,slow=76,SNR=19						
YKA	**Yellowknife Ar**	**39.98**	**46**	P	P	23 26 22.2	+0.6
	0.2nm,0.5s,baz=294,slow=8.4,SNR=3.4						
	0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.38**	**351**	P	P	23 26 57.4	+0.1
	5.4nm,0.8s,baz=33,slow=5.5,SNR=4.1						
	5.4nm,0.8s						
ARCES	**ARCESS Array B**	**50.85**	**342**	P	P	23 27 46.9	-0.6
	3.4nm,0.9s,baz=20,slow=11,SNR=1.5						
	3.4nm,0.9s						
FINES	**FINESS Array B**	**57.90**	**337**	P	P	23 28 38.8	0.0
	1.0nm,0.9s,baz=35,slow=5.3,SNR=0.6						
	1.0nm,0.9s						
TXAR	**Lajitas Array**	**68.18**	**70**	P	P	23 29 49.1	+1.6
	0.4nm,0.6s,baz=319,slow=6.9,SNR=4.1						
	0.4nm,0.6s						

IDC **11** *23:38:25.3±2.1,32°.05S×177°.84W,h0km,mb3.7/2,*
mbtmp3.6/3,ML2.8/1,Error ellipse: s-maj=62.9km
s-min=35.2km az=125.0
WEL **11** *23:38:29.0±1.1,32°.5±6°.×17°.8W±2°.1,h33km,M4.3/7,*
mB4.2/2,ML4.5/7,MLv4.3/7,Mw(mB)3.2/2,Error ellipse:
s-maj=27.8km s-min=3.6km az=104.5,confirmed
ISC 11 23:38:26.0±1.5,31°.97S±0°.07×177°.5W±0°.2,h18km,n18,
σ2°.13/27,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.72**	**352**	P	Pn	23 39 08.8	0.0
GLKZ				S	Sn	23 39 38.1	-3.2
RIZ	**Raoul Island**	**2.74**	**352**	S	Sn	23 39 39.3	-2.4
MXZ	**Matakaoa Point**	**6.56**	**211**	P	Pn	23 40 04.8	+3.3
MXZ				S	Sn	23 41 14.3	-1.5
WMGZ	**Waiomatatini S**	**6.73**	**209**	P	Pn	23 40 04.9	+1.0
WMGZ				S	Sn	23 41 18.8	-1.2
HAZ	**Te Kaha**	**6.95**	**213**	P	Pn	23 40 07.5	+0.6
HAZ				S	Sn	23 41 23.2	-2.3
RUGZ	**Raukumara Rang**	**7.17**	**212**	P	Pn	23 40 11.5	+1.4
RUGZ				S	Sn	23 41 29.2	-1.9
TWGZ	**Tauwhareparae**	**7.21**	**210**	P	Pn	23 40 12.2	+1.7
TWGZ				S	Sn	23 41 31.2	-0.9
CNGZ	**Carnagh Statio**	**7.38**	**207**	P	Pn	23 40 12.4	-0.5
CNGZ				S	Sn	23 41 34.5	-1.7
URZ	**Urewera**	**7.67**	**214**	Pn	Pn	23 40 15.1	-1.6
	0.1nm,0.3s,baz=33,slow=17,SNR=1.8						
URZ				Sn	Sn	23 41 40.5	-2.7
	2.0nm,0.3s,baz=301,slow=21,SNR=16						
	3.1nm,0.8s						
URZ	**Urewera**	**7.67**	**214**	P	Pn	23 40 18.8	+2.0
URZ				S	Sn	23 41 40.6	-2.5
MUGZ	**Murupara**	**8.00**	**214**	S	Sn	23 41 47.8	-3.6
OUZ	**Omahuta**	**8.10**	**244**	P	Pn	23 40 26.4	+3.7
RPCS	**Reporoa Colleg**	**8.18**	**216**	P	Pn	23 40 25.3	+1.5
ASAR	**Alice Springs**	**43.47**	**268**	P	P	23 46 28.1	-0.2
	0.3nm,0.5s,baz=103,slow=7.4,SNR=5.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.59**	**273**	P	P	23 46 36.8	-0.6
	0.7nm,0.4s,baz=115,slow=6.7,SNR=10						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc	PKPbc	23 58 07.1	+1.0
	3.1nm,0.9s,baz=46,slow=4.0,SNR=5.7						
MMAI	**Mount Meron Ar**	**152.28**	**281**	PKPbc	PKiKP	23 58 23.9	+2.6
	0.6nm,0.4s,baz=67,slow=4.8,SNR=2.0						
BRTR	**Keskin Array B**	**153.69**	**296**	PKPbc	PKiKP	23 58 25.3	+1.3
	0.3nm,0.6s,baz=56,slow=3.6,SNR=1.6						

IDC **12** *00:00:42.5±3.9,3°.19S×151°.74E,h0km,mb4.1/2,*
mbtmp4.1/2,Error ellipse: s-maj=156.6km s-min=50.9km
az=116.0
NEIC **12** *00:01:03.2±0.3,3°.5S±0°.1×152°.1E±0°.2,h195km±10km,*
mb4.3/15,Error ellipse: s-maj=25.6km s-min=19.3km
az=93.0
ISC 12 00:01:03.4±0.9,3°.6S±0°.1×152°.1E±0°.2,h200km,n22,
σ0°.64/22,mb4.3/11,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.60**	**172**	Pn	Pn	00 01 30.3	-0.7
COEN	**Coen**	**13.54**	**220**	P	P	00 04 10.0	-0.2
DZM	**Mont Dzumac**	**23.06**	**144**	P	P	00 05 51.5	0.0

```
DZM                                IAmb   IAmb    00 06 35.5
     comp=Z,20nm,1.4s
WB0  Warramunga Arr  23.59 226  P      P       00 05 56.3  0.0
WB0                                IAmb   IAmb    00 05 56.9
     comp=Z,6.0nm,0.8s
WR0  Warramunga Arr  23.61 225  P      P       00 05 56.4  0.0
WR0                                IAmb   IAmb    00 06 27.2
     comp=Z,3.9nm,0.8s
WR8  Warramunga Arr  23.64 225  P      P       00 05 56.7  0.0
WR8                                IAmb   IAmb    00 05 57.3
     comp=Z,11nm,1.2s
WRAB Tennant Creek   23.73 225  P      P       00 05 57.5  0.0
WRAB                               IAmb   IAmb    00 06 15.7
     comp=Z,6.3nm,0.9s
WB2  Warramunga Arr  23.73 225  P      P       00 05 57.5 -0.1
WB2                                IAmb   IAmb    00 05 58.0
     comp=Z,5.8nm,0.8s
WRA  Warramunga Arr  23.74 225  P      P       00 05 56.7 -0.9
WRA  Warramunga Arr  23.74 225  P      P       00 05 57.8 +0.1
     comp=Z,3.7nm,0.4s,baz=49,slow=9.2,SNR=70
     comp=Z,3.7nm,0.4s
AS31 Alice Springs   26.58 220  P      P       00 06 23.6 +0.3
AS31                               IAmb   IAmb    00 06 25.1
     comp=Z,2.1nm,0.2s
ASAR Alice Springs   26.59 220  P      P       00 06 23.0 -0.3
     comp=Z,0.5nm,0.3s,baz=44,slow=8.4,SNR=9.4
     comp=Z,0.5nm,0.3s
FITZ Fitzroy Crossi  29.63 239  P      P       00 06 50.2 -0.1
FITZ                               IAmb   IAmb    00 06 51.6
     comp=Z,3.2nm,1.5s
FORT Forrest         35.29 217  P      P       00 07 38.4 -0.9
MGBR Mount Gambier   35.57 196  P      P       00 07 42.6 +0.9
MBWA Marble Bar      35.97 238  P      P       00 07 45.1 -0.1
H17K Granite Mounta  76.81  19  P      P       00 12 32.1 -0.6
H17K                               IAmb   IAmb    00 13 08.7
     comp=Z,15nm,1.4s
MK31 Makanchi Array  78.95 319  P      P       00 12 45.6 +0.8
MKAR Makanchi Array  78.95 319  P      P       00 12 44.7 -0.2
MAKZ Makanchi        79.16 319  P      P       00 12 45.7 -0.3
HMDM Hanimaadhoo     79.42 278  P      P       00 12 48.0 -0.1
TORD Torodi Ar. Bea 149.24 290  PKPbc  PKiKP    00 20 32.3 +1.9
     comp=Z,0.5nm,0.5s,baz=77,slow=2.6,SNR=1.3
```

*LDG **12** 00:18:25.6±0.1, 43.°12N×0.°44W, h15km, Md2.6/2, Ml2.9/10, Error ellipse: s-maj=1.3km s-min=1.2km az=168.0*
*STR **12** 00:18:25.8±1.2, 43.°N±4.°×±.°, h5km, MLv2.6/3, Error ellipse: s-maj=0.0km s-min=0.0km az=87.1, preliminary*
*MDD **12** 00:18:26.5±0.3, 43.°10N×0.°43W, h0km, mb_Lg2.9/30, Error ellipse: s-maj=3.1km s-min=1.4km az=6.0*

ISC 12 00:18:25.0±0.9, **43.°15N**±0.°02×**0.°43W**±0.°02, **h17**km±11km, **n19**, σ1§**20**/33, **Pyrenees**

```
Code Station Name        Δ°   AZ°  Phase ID   Time        Res
                                  Op    ISC  h m s       ISC
ETSF Etsaut           0.27 200  ePg   Pg   00 18 30.8  -0.1
ETSF                            eSg   Sg   00 18 33.3  -1.6
URDF Urds             0.31 338  Pg    Pg   00 18 32.4  +0.8
URDF                            Sg    Sb   00 18 38.2  +1.2
CANF Canfranc         0.39 189  Pg    Pg   00 18 32.4  -0.7
CANF                            Sg    Sg   00 18 37.7  -0.8
IRAF Chalets d'Irat   0.46 256  Pg    Pg   00 18 34.7  +0.4
IRAF                            Sg    Sg   00 18 41.1  +0.6
EPF  Esparros         0.58 102  ePg   Pb   00 18 37.2  +0.5
EPF                             eSg   Sb   00 18 45.2  +0.5
SJPF Ste Jean         0.58 267  ePg   Pb   00 18 37.3  +0.6
SJPF                            eSg   Sg   00 18 44.1  -0.2
ECHI Chisagues Biel   0.67 136  Sg    Sg   00 18 46.5  -0.5
ECHI                            i Vmb_Lg   00 18 48.4
EORO Oroz-Betelu      0.69 249  Sg    Sg   00 18 47.3  -0.5
EORO                            i Vmb_Lg   00 18 50.3
ESAC San Caprasio     1.43 181  Pg    Pg   00 18 52.1  -0.4
ESAC                            Sg    Sg   00 19 10.3  -0.7
ESAC                            i Vmb_Lg   00 19 14.0
EMIR Miracle          1.90 130  Pg    Pb   00 19 00.6  +1.3
EMIR                            Sg    Sg   00 19 25.2  -1.0
EMIR                            i Vmb_Lg   00 19 26.8
MTLF Montolieu        1.95  83  ePg   Pg   00 19 03.1  +0.8
MTLF                            eSg   Sg   00 19 26.7  -0.9
     12nm,0.2s
LFF  La Frestale      1.98  25  ePg   Pb   00 19 02.8  +2.2
LFF                             eSg   Sg   00 19 29.0  +0.3
     27nm,0.2s
CAF  Calviac          2.53  45  ePg   Pg   00 19 13.0  -0.5
RJF  Les Rejaudoux    2.57  32  ePg   Pg   00 19 14.0  -0.3
RJF                             eSg   Sg   00 19 47.5  -0.1
     16nm,0.2s
LASF Ste Croix        3.25  72  ePg   Pg   00 19 26.2  -1.0
LASF                            eSg   Sg   00 20 07.8  -1.6
     3.6nm,0.2s
MFF  Saint Martin d   3.46   3  eSg   Sg   00 20 15.1  -0.9
     14nm,0.3s
VIVF Saint-Julien-l   4.06  63  ePg   Pg   00 19 42.7   0.0
VIVF                            eSg   Sg   00 20 33.9  -1.4
     2.3nm,0.2s
QUIF Quistinic        5.14 339  eSg   Sg   00 21 07.5  -2.4
     3.7nm,0.3s
SGMF Saint Gilles     5.32 344  ePg   Pg   00 20 03.9  -2.9
SGMF                            eSg   Sg   00 21 13.6  -2.0
     4.2nm,0.4s
```

UPP 12 00:21:53.0±0.0, **67.°85N**×**20.°21E**, **h0**km, **ML2.0**, **Unknown, Sweden**

```
Code Station Name        Δ°   AZ°  Phase ID   Time        Res
                                  Op    ISC  h m s       ISC
KUA  Kurravaara       0.12  24  P     Pg   00 21 55.6  +0.3
KUA                             S     Sg   00 21 57.3  +0.5
RATU Laukkuluspa      0.23 265  P     Pg   00 21 57.6  +0.2
KOVU Salmi            0.38 357  P     Pg   00 22 00.3  +0.1
KOVU                            S     Sg   00 22 05.6  +0.4
LANU Lannavaara       0.71  72  P     Pg   00 22 06.2  -0.3
LANU                            S     Sg   00 22 15.9  +0.3
DUNU Dundret          0.74 169  P     Pg   00 22 06.9  -0.2
DUNU                            S     Sg   00 22 17.1  +0.4
MASU Masugnsbyn       0.79 119  P     Pg   00 22 07.9  -0.2
KIF  Kilpisjarvi      1.19  10  eP    Pn   00 22 16.8   0.0
PAJU Pajala           1.39 125  P     Pg   00 22 18.5  -1.2
HEF  Hetta            1.41  65  eP    Pn   00 22 18.5  -1.4
ERTU Ertsjaerv        1.51 148  P     Pn   00 22 20.8  -0.5
```

*WEL **12** 00:28:10.8±0.7, 32.°S±18.°×17.°9W±5.°0, h12km, M4.2/6, mB4.5/4, ML4.6/7, MLv4.4/6, Mw(mB)3.7/4, Error ellipse: s-maj=69.5km s-min=4.2km az=109.5, confirmed*
*IDC **12** 00:28:10.5±2.3, 31.°86S×178.°05W, h0km, mb3.8/2, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=63.2km s-min=35.7km az=120.0*

ISC 12 00:28:10.6±1.8, **31.°7S**±0.°2×**178.°3W**±0.°5, **h10**km, **n19**, σ1§**45**/25, **Kermadec Islands region**

```
Code Station Name        Δ°   AZ°  Phase ID   Time        Res
                                  Op    ISC  h m s       ISC
GLKZ Green Lake       2.43   7  P     Pn   00 28 50.6  +0.2
GLKZ                            S     Sn   00 29 19.4  -0.8
MXZ  Matakaoa Point   6.51 205  P     Pn   00 29 46.2  -0.2
MXZ                             S     Sn   00 31 00.7   0.0
WMGZ Waiomatatini S   6.70 203  P     Pn   00 29 49.1  +0.1
WMGZ                            S     Sn   00 31 07.7  +2.2
PKGZ Pakihiroa        6.86 205  P     Pn   00 29 51.4  +0.1
PKGZ                            S     Sn   00 31 10.5  +1.0
HAZ  Te Kaha          6.88 207  P     Pn   00 29 50.6  -0.9
HAZ                             S     Sn   00 31 13.3  +3.6
PUZ  Puketiti         6.98 203  P     Pn   00 29 54.0  +1.0
PUZ                             S     Sn   00 31 12.8  +0.3
RUGZ Raukumara Rang   7.10 207  P     Pn   00 29 52.4  -2.2
RUGZ                            S     Sn   00 31 15.0  -0.4
TWGZ Tauwhareparae    7.17 204  P     Pn   00 29 55.3  -0.2
CNGZ Carnagh Statio   7.37 202  P     Pn   00 29 57.3  -1.0
TKGZ Te Karaka        7.45 204  S     Sn   00 31 22.8  -1.1
URZ  Urewera          7.58 209  Pn    Pn   00 30 00.5  -0.6
     0.7nm,0.3s,baz=110,slow=16,SNR=3.0
URZ                             Sn    Sn   00 31 27.2  +0.2
     2.1nm,0.3s,baz=323,slow=15,SNR=9.9
     1.7nm,0.2s
RIGZ Rimuhau          7.72 204  S     Sn   00 31 29.9  -0.7
PRGZ Paritu Road      7.88 202  S     Sn   00 31 31.5  -3.0
MUGZ Murupara         7.90 210  S     Sn   00 31 33.9  -1.1
MHGZ Mahia Peninsul   8.08 202  P     Pn   00 30 06.3  -1.7
ASAR Alice Springs   42.83 268  P     P    00 36 11.9  +2.9
     0.5nm,0.5s,baz=108,slow=7.6,SNR=6.1
     0.5nm,0.5s
WRA  Warramunga Arr  43.94 274  P     P    00 36 21.1  +3.1
     0.7nm,0.3s,baz=112,slow=8.0,SNR=8.9
     0.7nm,0.3s
FINES FINESS Array B 146.27 339  PKPbc PKPab 00 47 51.6 +0.2
     1.5nm,0.8s,baz=43,slow=3.6,SNR=7.0
MMAI Mount Meron Ar  151.59 282  PKPbc PKiKP 00 48 07.7 +1.9
     0.2nm,0.3s,baz=83,slow=6.8,SNR=5.7
```

*IDC **12** 00:35:35.4±0.7, 55.°73S×26.°91W, h0km, mb4.4/7, mbtmp4.3/8, ML4.0/1, MS3.6/10, Error ellipse: s-maj=31.4km s-min=18.1km az=63.0*
*NEIC **12** 00:35:41.8±1.5, 55.°7S±0.°1×27.°1W±0.°2, h34km±6km, mb4.8/47, Error ellipse: s-maj=16.2km s-min=12.5km az=202.0*

ISC 12 00:35:39.9±0.5, **55.°74S**±0.°08×**27.°08W**±0.°07, **h25**km, **n83**, σ1§**29**/76, **mb4.7**/28, **MS3.5**/10, **3C-1D**, **South Sandwich Islands region**

```
Code Station Name        Δ°   AZ°  Phase ID   Time        Res
                                  Op    ISC  h m s       ISC
HOPE Hope Point       5.61 281  Pn    Pn   00 37 02.2  +0.7
HOPE                            Sn    Sn   00 38 01.4  -3.8
ESPZ Base Esperanza  16.84 231                00 39 34.8  -0.8
ESPZ                            IAmb  IAmb   00 39 42.5
     comp=Z,146nm,1.5s
VNA3 Neumayer Olymp  17.26 161  ⇑P    P    00 39 42.1  +1.9
     comp=Z,1.8nm,0.3s
VNA2 Neumayer--Watz  17.45 158  ⇑P    P    00 39 43.1  +0.8
     comp=Z,2.6nm,0.5s,baz=310,slow=14
SNAA Sanae           19.00 156  P     Pn   00 39 59.9  -0.3
SNAA Sanae           19.00 156  ⇓P    Pn   00 40 01.7  +1.6
     comp=Z,51nm,0.4s
SNAA Sanae           19.00 156  P     P    00 39 58.5  -0.8
     comp=Z,0.4nm,0.3s,baz=316,slow=14,SNR=12
     comp=Z,1.9nm,0.5s
TROLL Troll, Antarti 20.50 154  ⇑P    Pn   00 40 19.7  +1.8
     comp=Z,106nm,0.5s
BELA Belgrano 2      22.39 184  P     P    00 40 34.9  -1.0
MG02 Cerro Sombrero  24.52 259  P     P    00 40 55.6  -1.3
MG03 Isla Dawson     24.79 256  P     P    00 40 58.5  -0.9
MG03                            IAmb  IAmb   00 41 14.5
     comp=Z,60nm,1.4s
MG05 Puerto Natales  26.81 260  P     P    00 41 16.6  -1.1
MG05                            IAmb  IAmb   00 41 31.2
     comp=Z,28nm,1.2s
TRQA Tornquist       29.26 292  P     P    00 41 40.2  +0.4
PLTB Pedras Altas    30.34 311  P     P    00 41 49.8  +0.5
PLTB                            IAmb  IAmb   00 41 50.9
     comp=Z,14nm,1.1s
PLCA Paso Flores     32.01 279  P     P    00 42 02.8  -1.2
PLCA Paso Flores     32.01 279  P     P    00 42 02.8  -1.2
     comp=Z,2.1nm,0.9s,baz=199,slow=4.9,SNR=4.0
PLCA                            LR    LR   00 55 04.0
     comp=Z,42nm,18.8s,baz=148,slow=36
     comp=Z,2.1nm,0.9s
LL07 Hotel Espejo d  32.27 274  P     P    00 42 08.3  +2.2
ITAB Concordia       33.74 317  P     P    00 42 19.7  +0.5
ITAB                            IAmb  IAmb   00 42 26.1
     comp=Z,20nm,1.3s
QSPA South Pole Qui  34.51 180  P     P    00 42 26.6  +1.0
QSPA South Pole Qui  34.51 180  P     P    00 42 25.5  -0.2
     comp=Z,2.9nm,0.6s,baz=199,slow=1.7,SNR=21
QSPA                            LR    LR   00 55 48.9
     comp=Z,78nm,18.7s,baz=332,slow=35
     comp=Z,2.9nm,0.6s
BO02 Sierra Bellavi  36.40 287  P     P    00 42 42.2  +0.1
BO02                            IAmb  IAmb   00 42 49.9
     comp=Z,12nm,1.4s
CPUP Villa Florida   36.66 311  P     P    00 42 44.5  +0.2
CPUP                            IAmb  IAmb   00 42 45.2
     comp=Z,14nm,1.2s
CPUP Villa Florida   36.66 311  P     P    00 42 43.9  -0.4
     comp=Z,4.5nm,0.7s,baz=147,slow=7.9,SNR=9.3
CPUP                            LR    LR   00 55 30.2
     comp=Z,59nm,20.7s,baz=204,slow=32
     comp=Z,4.5nm,0.7s
CPUP Villa Florida   36.66 311  P     P    00 42 44.4  +0.2
CPUP                            pP    sP   00 42 53.8  -0.2
MT09 Talagante       37.28 287  P     P    00 42 48.4  -1.2
MT09                            IAmb  IAmb   00 42 51.2
     comp=Z,20nm,1.4s
MT02 Curacav         37.75 288  P     P    00 42 52.8  -0.7
ZON  Zonda           37.77 292  P     P    00 42 53.9  +0.1
ZON                             IAmb  IAmb   00 42 54.3
     comp=Z,8.0nm,0.6s
VA03 San Esteban     37.82 289  P     P    00 42 55.0  +0.8
VA03                            IAmb  IAmb   00 42 57.1
     comp=Z,5.7nm,0.7s
CO03 El Pedregal     39.39 291  P     P    00 43 07.8  +0.4
CO01 Juntas del Tor  39.76 292  P     P    00 43 11.8  +1.1
GO04 Tololo Observa  39.97 291  P     P    00 43 13.3  +0.9
GO04                            IAmb  IAmb   00 43 29.6
     comp=Z,21nm,1.2s
SUR  Sutherland      40.50  75  P     P    00 43 14.5  -2.2
SUR  Sutherland      40.50  75  LR    LR   00 58 40.4
     comp=Z,92nm,18.1s,baz=205,slow=34
LCO  Las Campanas    40.84 292  P     P    00 43 19.8  +0.1
LCO                             IAmb  IAmb   00 43 30.9
     comp=Z,20nm,1.4s
LCO  Las Campanas    40.84 292  P     P    00 43 19.6  -0.1
LCO                             pP    sP   00 43 29.6  +0.2
AC04 Llanos de Chal  41.69 293  P     P    00 43 27.1  +0.8
AC04                            IAmb  IAmb   00 43 27.4
     comp=Z,19nm,0.8s
AC02 Maricunga       41.80 296  P     P    00 43 28.2  +0.5
AC02                            IAmb  IAmb   00 43 30.0
     comp=Z,18nm,1.1s
AC06 Mina Casimiro   42.00 294  P     P    00 43 28.7  -0.2
AC06                            IAmb  IAmb   00 43 30.3
     comp=Z,10nm,0.6s
AC01 Pan de Azucar   43.11 295  P     P    00 43 37.2  -0.7
AC01                            IAmb  IAmb   00 43 53.2
     comp=Z,17nm,1.0s
BDFB Brasilia        43.13 330  LR    LR   01 01 56.1
     comp=Z,63nm,18.1s,baz=123,slow=37
GO02 Mina Guanaco    43.41 297  P     P    00 43 40.8  +0.2
PB14 IPOC Station P  44.26 297  P     P    00 43 47.0  -0.6
PB10 IPOC Station P  45.26 297  P     P    00 43 55.2   0.0
PB10                            IAmb  IAmb   00 44 13.5
     comp=Z,18nm,1.1s
BOSA Boshof          45.83  76  P     P    00 43 58.8  -1.0
BOSA                            IAmb  IAmb   00 44 12.7
     comp=Z,17nm,1.5s
BOSA Boshof          45.83  76  LR    LR   00 59 51.1
     comp=Z,142nm,18.1s,baz=196,slow=32
PB09 IPOC Station P  46.05 300  P     P    00 44 02.9  +1.3
PB09                            IAmb  IAmb   00 44 11.1
     comp=Z,17nm,1.2s
PB01 IPOC Station P  46.81 300  P     P    00 44 07.7  +0.3
VNDA Vanda           46.88 183  P     P    00 44 09.0  +1.7
VNDA Vanda           46.88 183  P     P    00 44 07.2  -0.1
     comp=Z,3.7nm,0.6s,baz=187,slow=7.5,SNR=16
     comp=Z,3.7nm,0.6s
VNDA Vanda           46.88 183  P     P    00 44 08.0  +0.7
VNDA                            pP    sP   00 44 18.3  +1.2
PTLB Pontes e Lacer  47.12 316  P     P    00 44 10.1  +0.3
PTLB                            IAmb  IAmb   00 44 10.8
     comp=Z,12nm,0.9s
SIV  San Ignacio     47.41 313  LR    LR   01 02 53.6
     comp=Z,47nm,21.9s,baz=150,slow=34
PB08 IPOC Station P  47.41 301  P     P    00 44 13.2  +0.7
PB08                            IAmb  IAmb   00 44 28.4
     comp=Z,6.3nm,0.8s
H10S2 ASCENSION HYDR 47.69  17  T     T    01 35 41.1
     baz=189,slow=74,SNR=35
H10S3 ASCENSION HYDR 47.69  17  T     T    01 35 41.5
     baz=31,slow=74,SNR=44
CRZF Crozet Islands  47.88 114  P     P    00 44 15.9  +0.5
CCD  Concordia, Ant  47.97 170  P     P    00 44 15.2  -1.0
PB11 IPOC Station P  47.98 301  P     P    00 44 17.2  +0.6
H10N1 ASCENSION HYDR 48.80  17  T     T    01 37 04.4
     baz=189,slow=75,SNR=12
H10N3 ASCENSION HYDR 48.80  17  T     T    01 37 04.1
     baz=189,slow=75,SNR=40
H10N2 ASCENSION HYDR 48.82  17  T     T    01 37 08.3
     baz=189,slow=75,SNR=20
TSUM Tsumeb          49.48  61  LR    LR   01 01 10.9
     comp=Z,46nm,20.1s,baz=100,slow=31
LPAZ La Paz          50.25 305  P     P    00 44 35.1  +0.6
LPAZ                            IAmb  IAmb   00 44 36.4
     comp=Z,7.3nm,0.8s
LPAZ La Paz          50.25 305  P     P    00 44 35.5  +0.9
     comp=Z,4.5nm,0.6s,baz=152,slow=5.5,SNR=19
     comp=Z,4.5nm,0.6s
LPAZ La Paz          50.25 305  P     P    00 44 35.4  +0.8
LPAZ                            pP    sP   00 44 45.5  +1.1
LPAZ                            sP    pwP  00 44 50.5  +6.1
MAL2 Monte Alegre,   57.86 327  P     P    00 45 30.5  +1.1
MAL2                            IAmb  IAmb   00 45 30.9
     comp=Z,9.1nm,0.9s
LSZ  Lusaka          58.20  69  LR    LR   01 07 29.0
     comp=Z,66nm,20.4s,baz=201,slow=33
MACA Manacapuru-AM   58.97 320  P     P    00 45 36.1  -1.0
BOAV Boa Vista       64.07 322  P     P    00 46 11.1  -0.5
BOAV                            IAmb  IAmb   00 46 11.7
     comp=Z,7.2nm,0.7s
MDP  Montagnes des   64.20 331  LR    LR   01 12 29.5
     comp=Z,75nm,18.6s,baz=32,slow=34
TORD Torodi Ar. Bea  72.75  29  P     P    00 47 05.5  -0.3
TORD Torodi Ar. Bea  72.75  29  P     P    00 47 05.6  -0.1
     comp=Z,1.3nm,0.4s,baz=204,slow=6.0,SNR=4.6
     comp=Z,1.3nm,0.4s
SMRC Santa Marta, M  77.36 312  P     P    00 47 32.9  +0.5
GDHS Morne Mazeau,   77.47 326  P     P    00 47 33.7  +0.8
MLZ  Mavora Lakes    78.45 191  P     P    00 47 38.8  +0.6
MLZ                             IAmb  IAmb   00 47 42.0
     comp=Z,16nm,1.1s
ASAR Alice Springs   99.27 162  P     Pdif 00 49 16.9  -2.6
     comp=Z,0.3nm,0.6s,baz=180,slow=3.7,SNR=5.0
     comp=Z,0.3nm,0.6s
WRA  Warramunga Arr 102.98 162  P     Pdif 00 49 35.5  -0.6
     comp=Z,0.6nm,1.1s,baz=163,slow=5.9,SNR=3.0
BVAR Borovoye Array 134.56  57  PKP   PKiKP 00 54 55.3  -0.8
     comp=Z,1.9nm,0.7s,baz=220,slow=3.4,SNR=2.6
YKA  Yellowknife Ar 135.98 318  PKP   PKPdf 00 54 56.6  -0.4
     comp=Z,0.4nm,0.5s,baz=135,slow=2.0,SNR=7.4
MKAR Makanchi Array 136.73  71  PKP   PKPdf 00 54 59.1  +0.1
     comp=Z,0.2nm,0.6s,baz=202,slow=1.5,SNR=2.5
ZALV Zalesovo Beam  142.18  63  PKP   PKPdf 00 55 06.5  -2.1
     comp=Z,0.3nm,0.3s,baz=248,slow=2.9,SNR=3.7
ILAR Eielson Array  149.96 312  PKPbc PKPbc 00 55 25.3  -1.1
     comp=Z,3.8nm,0.7s,baz=132,slow=3.0,SNR=31
SONM Songino Array  150.64  86  PKPbc PKPbc 00 55 26.6  -2.1
     comp=Z,2.3nm,0.7s,baz=213,slow=3.3,SNR=17
```

*TIR **12** 00:56:20.1, 39.°46N×20.°03E, h0km±1km, Md3.2/4, Ml2.5/4*
*THE **12** 00:56:21.8, 39.°48N×20.°13E, h10km±1km, ML2.3/4, Error ellipse: s-maj=1.9km s-min=0.4km az=261.0*
*ATH **12** 00:56:21.4, 39.°45N×20.°17E, h6km±2km, ML2.4/7, Manual Solution by K.Orfanogiannaki First Location: 2019/03/12 00:57:25, This location: 2019/03/12 09:39:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km*

ISC 12 00:56:21.5±1.0, **39.°46N**±0.°02×**20.°12E**±0.°03, **h7**km±9km, **n33**, σ0§**78**/46, **2C-3D**, **Greece-Albania border region**

```
Code Station Name        Δ°   AZ°  Phase ID   Time        Res
                                  Op    ISC  h m s       ISC
IGT  Igoumenitsa      0.18  66  i/Pg  Pg   00 56 24.5  -0.7
IGT                             Sg    Sg   00 56 30.1  +2.3
IGT                             AMd        00 57 46.9
IGT  Igoumenitsa      0.18  66  P     Pg   00 56 24.4  -0.7
IGT                             S     Sg   00 56 27.3  -0.5
KEK  Kerkira          0.36 316  P     Pg   00 56 28.6  +0.1
KEK                             S     Sg   00 56 33.6  +0.4
     1µm,0.2s
KEK  Kerkira          0.36 316  P     Pg   00 56 29.1  +0.6
SRN  Sarande          0.43 348  ⇓ePg  Pg   00 56 29.5  -0.4
SRN                             Sg    Sb   00 56 37.2  -0.9
SRN                             AML   AML  00 56 37.8
     1.1nm,0.4s
SRN                             AMd        00 57 52.6
SRN  Sarande          0.43 348  P     Pg   00 56 29.6  -0.3
SRN                             S     Sg   00 56 36.0  +0.4
     415nm,0.5s
JAN  Janina           0.60  70  P     Pg   00 56 33.1   0.0
JAN                             S     Sg   00 56 41.4  +0.5
     415nm,0.3s
JAN  Janina           0.60  70  P     Pg   00 56 33.1   0.0
JAN                             S     Sg   00 56 40.4  -0.5
TSLK Tsoukalades, L   0.76 146  P     Pb   00 56 36.5  -0.5
TSLK                            S     Sb   00 56 47.7  +0.3
TSLK Tsoukalades, L   0.76 146  P     Pg   00 56 35.4  -0.6
LSK  Leskovik         0.78  28  ⇑ePn  Pg   00 56 35.9  -0.7
LSK                             Sn    Sb   00 56 49.4  +1.0
LSK                             AML   AML  00 57 02.5
     0.8nm,0.5s
LSK                             AMd        00 58 18.3
LSK  Leskovik         0.78  28  P     Pg   00 56 35.8  -0.8
LKD2 Lefkada island   0.79 148  ⇑ePg  Pg   00 56 36.9  +0.2
LKD2                            Sg    Sn   00 56 49.9  -1.1
LKD2                            AML   AML  00 56 55.0
     1.2nm,0.3s
LKD2                            AMd        00 57 53.9
LKD2 Lefkada island   0.79 148  P     Pg   00 56 36.8  +0.2
LKD2                            S     Sb   00 56 49.1  +0.7
     248nm,0.4s
LKD2 Lefkada island   0.79 148  P     Pg   00 56 36.5  -0.1
NYDR Nydri-Lefkada    0.87 149  P     Pg   00 56 38.0  -0.2
TETR Tetrakomo, Epi   0.90  97  P     Pg   00 56 38.3  -0.5
EVGI Lefkada island   0.93 153  P     Pg   00 56 39.3  -0.1
EVGI Lefkada island   0.93 153  P     Pg   00 56 39.0  -0.4
FSK  Fiskardo         1.05 161  P     Pg   00 56 41.6  -0.1
PENT Pentalofos       1.08  46  P     Pg   00 56 41.6  -0.6
PENT Pentalofos       1.08  46  P     Pg   00 56 41.9  -0.3
NEST Nestorio         1.19  36  Pn    Pg   00 56 43.8  -0.6
NEST                            Sn    Sn   00 57 03.7  +2.6
NEST                            AML   AML  00 57 13.6
     0.3nm,0.4s
NEST Nestorio         1.19  36  P     Pg   00 56 43.5  -0.9
NEST Nestorio         1.19  36  P     Pg   00 56 43.8  -0.6
DMLN Damoulianata-K   1.23 171  P     Pg   00 56 44.7  -0.5
VLS  Valsamata        1.33 164  P     Pn   00 56 46.1  -0.3
PVO  Paravola         1.38 127  P     Pb   00 56 47.5  -0.1
SCTE Santa Cesarea    1.41 296  ⇓ePn  Pn   00 56 46.5  -1.1
SCTE                            Sn    Sg   00 57 07.6  +0.7
THL  Klokotos Trika   1.47  85  P     Pb   00 56 48.7  -0.4
MAKR Makrakomi, Fth   1.62 105  P     Pn   00 56 51.0  +0.4
FNA  Florina          1.64  36  P     Pb   00 56 51.7  -0.4
ORTH Orthonies,Zaky   1.67 164  P     Pn   00 56 51.1   0.0
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*NEIC **12** 01:08:31.0±1.4, 18.°38N±0.°09×145.°5E±0.°2, h238km±8km, mb4.3/47, Error ellipse: s-maj=24.8km s-min=12.5km az=79.0*
*IDC **12** 01:08:38.3±3.8, 18.°63N×145.°33E, h311km±39km, mb3.4/18, mbtmp4.1/20, Error ellipse: s-maj=18.4km s-min=10.7km az=93.0*

ISC 12 01:08:31.8±0.6, **18.°46N**±0.°08×**145.°4E**±0.°1, **h250**km, **n73**, σ0§**94**/73, **mb4.1**/41, **Mariana Islands**

```
Code Station Name        Δ°   AZ°  Phase ID   Time        Res
                                  Op    ISC  h m s       ISC
JCJ  Chichijima       9.10 341  Pn    Pn   01 10 40.7  +1.7
JOW  Kunigami        17.88 301  P     Pn   01 12 24.9  -1.1
JOW  Kunigami        17.88 301  P     P    01 12 24.5  +1.4
     35nm,0.6s,baz=128,slow=12,SNR=11
JGF  Kuroka          18.51 339  P     P    01 12 30.4  +0.5
JGF                             IAmb  IAmb   01 12 32.5
     comp=Z,15nm,1.1s
MJAR Matsushiro Arr  19.10 342  P     P    01 12 37.1  +0.9
     comp=Z,4.8nm,0.5s,baz=138,slow=10.0,SNR=12
MAJO Matsushiro      19.10 342  P     P    01 12 37.6  +1.4
MAJO                            IAmb  IAmb   01 12 42.2
     comp=Z,21nm,1.3s
JMM  Marumori        19.75 349  P     P    01 12 43.6  +0.5
ERM  Erimo           23.56 356  P     P    01 13 20.4  +0.6
KSRS Korea Array     24.36 325  P     P    01 13 26.7  -0.5
     comp=Z,0.7nm,0.4s,baz=144,slow=10.0,SNR=2.1
     comp=Z,0.7nm,0.4s
JKA  Kamikawa-asahi  25.69 355  P     P    01 13 39.6  +0.5
COEN Coen            32.29 184  P     P    01 14 36.5  -1.2
COEN                            IAmb  IAmb   01 15 20.3
     comp=Z,8.4nm,1.3s
PEA0B Petropavlovsk- 35.88  13  P     P    01 15 08.6  +0.6
PEA0B                           IAmb  IAmb   01 15 39.2
     comp=Z,19nm,1.2s
PETK Petropavlovsk-  35.88  13  P     P    01 15 08.2  +0.2
PETK Petropavlovsk-  35.88  13  P     P    01 15 07.8  -0.2
     comp=Z,2.0nm,0.7s,baz=144,slow=5.5,SNR=3.5
     comp=Z,2.0nm,0.7s
WRA  Warramunga Arr  39.69 196  P     P    01 15 41.8  +1.6
     comp=Z,1.3nm,0.6s,baz=21,slow=8.7,SNR=14
     comp=Z,1.3nm,0.6s
```

FITZ	Fitzroy Crossi	41.21	209	P	P	01 15 54.8	+2.2
	comp=Z,0.9nm,0.4s,baz=26,slow=5.9,SNR=13						
	comp=Z,0.9nm,0.4s						
SONM	Songino Array	43.17	322	P	P	01 16 08.5	+0.3
SONM	Songino Array	43.17	322	P	P	01 16 08.0	-0.2
	comp=Z,0.8nm,0.6s,baz=142,slow=9.8,SNR=4.5						
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	43.36	195	P	P	01 16 11.8	+2.0
	comp=Z,0.4nm,0.4s,baz=13,slow=7.8,SNR=8.0						
	comp=Z,0.4nm,0.4s						
EIDS	Eidsvold	43.91	173	P	P	01 16 13.4	-0.8
CMAR	Chiang Mai Arr	43.99	278	P	P	01 16 15.4	+0.4
	comp=Z,0.7nm,0.3s,baz=77,slow=8.4,SNR=1.5						
	comp=Z,0.7nm,0.3s						
YAK	Yakutsk	44.91	350	P	P	01 16 20.9	-0.7
BILL	Bilibino	51.30	10	P	P	01 17 08.8	-1.3
BILL				IAmb	IAmb	01 17 11.3	
	comp=Z,9.7nm,1.2s						
M11K	Mekoryuk	54.10	27	P	P	01 17 31.4	+0.7
K13K	Kusilvak Mount	55.50	26	P	P	01 17 41.6	+0.9
O14K	Tigyukauivet M	55.85	30	P	P	01 17 43.9	+0.7
N15K	Kwethluk River	56.75	29	P	P	01 17 50.1	+0.4
K15K	Wolf Creek Mou	56.98	26	P	P	01 17 52.0	+0.9
K15K				IAmb	IAmb	01 18 27.9	
	comp=Z,17nm,1.2s						
F15K	North Star Dit	57.36	22	P	P	01 17 54.5	+0.7
F15K				IAmb	IAmb	01 18 36.9	
	comp=Z,12nm,1.3s						
M16K	Timber Creek	57.59	28	P	P	01 17 56.2	+0.7
L16K	Owhat River	57.62	28	P	P	01 17 56.1	+0.4
L16K				IAmb	IAmb	01 18 31.9	
	comp=Z,16nm,1.4s						
J16K	Anvik River	57.78	26	P	P	01 17 57.9	+1.1
J16K				IAmb	IAmb	01 18 38.2	
	comp=Z,19nm,1.4s						
ZALV	Zalesovo Beam	58.05	323	P	P	01 17 57.3	-1.4
	comp=Z,0.7nm,0.6s,baz=98,slow=6.1,SNR=4.2						
	comp=Z,0.7nm,0.6s						
N17K	Nushagak Hills	58.23	29	P	P	01 18 00.7	+0.8
N17K				IAmb	IAmb	01 18 06.9	
	comp=Z,21nm,1.4s						
MK31	Makanchi Array	58.44	314	P	P	01 18 01.8	+0.1
MKAR	Makanchi Array	58.44	314	P	P	01 18 01.9	+0.2
MKAR	Makanchi Array	58.44	314	P	P	01 18 01.1	-0.6
	comp=Z,0.3nm,0.4s,baz=88,slow=8.7,SNR=13						
	comp=Z,0.3nm,0.4s						
J17K	VABM Dome	58.46	26	P	P	01 18 01.9	+0.5
J17K				IAmb	IAmb	01 18 27.0	
	comp=Z,15nm,1.4s						
MAKZ	Makanchi	58.66	314	P	P	01 18 03.1	0.0
KURBB	Kurchatov Arra	61.32	318	P	P	01 18 19.9	-1.2
	comp=Z,1.2nm,0.4s,baz=93,slow=7.4,SNR=37						
	comp=Z,1.2nm,0.4s						
CAST	Castle Rocks	61.42	27	P	P	01 18 21.7	+0.1
CAST				IAmb	IAmb	01 18 22.8	
	comp=Z,5.7nm,0.8s						
D22K	Ayikyak River	62.91	21	P	P	01 18 31.4	+0.1
D22K				IAmb	IAmb	01 18 33.0	
	comp=Z,6.2nm,0.6s						
E22K	Anaktuvuk Pass	62.96	22	P	P	01 18 31.6	-0.1
E22K				IAmb	IAmb	01 18 33.3	
	comp=Z,3.6nm,0.8s						
C23K	Itkillik River	63.91	20	P	P	01 18 38.3	+0.5
C23K				IAmb	IAmb	01 18 39.5	
	comp=Z,5.0nm,0.8s						
ILAR	Eielson Array	63.97	26	P	P	01 18 37.0	-1.3
	comp=Z,1.5nm,0.7s,baz=253,slow=5.1,SNR=22						
	comp=Z,1.5nm,0.7s						
E24K	Your Creek	64.14	22	P	P	01 18 40.0	+0.6
D24K	Happy Valley	64.31	21	P	P	01 18 41.6	+1.1
D24K				IAmb	IAmb	01 18 42.2	
	comp=Z,4.7nm,0.7s						
D25K	Kavik River	65.20	21	P	P	01 18 47.1	+0.9
D25K				IAmb	IAmb	01 18 47.6	
	comp=Z,3.2nm,0.6s						
F26K	Sheenjek River	65.65	23	P	P	01 18 50.2	+1.1
F26K				IAmb	IAmb	01 19 05.8	
	comp=Z,4.4nm,1.4s						
BVAR	Borovoye Array	66.49	320	P	P	01 18 54.0	-0.7
	comp=Z,3.0nm,0.6s,baz=100,slow=7.5,SNR=12						
	comp=Z,3.0nm,0.6s						
C36M	Paulatuk	73.06	22	P	P	01 19 34.1	-0.2
C36M				IAmb	IAmb	01 19 37.6	
	comp=Z,9.3nm,1.5s						
YKAW3	Yellowknife Wh	78.30	28	P	P	01 20 04.4	+0.5
YKAW3				IAmb	IAmb	01 20 12.7	
	comp=Z,1.9nm,1.4s						
YKA	Yellowknife Ar	78.32	28	P	P	01 20 04.3	+0.2
	comp=Z,1.2nm,0.7s,baz=290,slow=5.8,SNR=17						
	comp=Z,1.2nm,0.7s						
LTY	Liberty	79.25	44	P	P	01 20 10.4	+0.8
LTY				IAmb	IAmb	01 20 15.5	
	comp=Z,7.7nm,1.2s						
SPITS	Spitsbergen Ar	79.36	351	P	P	01 20 09.6	+0.1
	comp=Z,13nm,1.1s,baz=110,slow=7.2,SNR=2.0						
	comp=Z,13nm,1.1s						
RES	Resolute Bay	79.71	14	P	P	01 20 11.7	+0.2
B08A	Colville Reser	79.82	42	P	P	01 20 12.6	0.0
CMB	Columbia Colle	82.04	53	P	P	01 20 25.2	+0.6
BMO	Blue Mountains	82.19	45	P	P	01 20 26.0	+0.7
PNTR	Pine Nut	82.32	51	P	P	01 20 26.9	+0.7
PNTR				IAmb	IAmb	01 20 28.3	
	comp=Z,2.8nm,0.8s						
WAKR	Walker	82.62	52	P	P	01 20 26.8	-0.9
WAKR				IAmb	IAmb	01 20 55.0	
	comp=Z,6.9nm,1.5s						
ARCES	ARCESS Array B	82.64	342	P	P	01 20 26.7	-0.2
	comp=Z,1.9nm,0.7s,baz=18,slow=6.6,SNR=1.5						
	comp=Z,1.9nm,0.7s						
RYN	Ryan	83.26	52	P	P	01 20 32.1	+1.1
RYN				IAmb	IAmb	01 20 43.9	
	comp=Z,5.2nm,1.5s						
NVAR	Mina Array Bea	83.49	52	P	P	01 20 32.5	+0.4
NVAR	Mina Array Bea	83.49	52	P	P	01 20 33.4	+1.2
	comp=Z,0.9nm,0.5s,baz=270,slow=5.8,SNR=14						
	comp=Z,0.9nm,0.5s						
MZP	Montezuma Peak	84.41	52	P	P	01 20 36.0	-0.8
TPNV	Topopah Spring	85.51	53	P	P	01 20 42.8	+0.5
TPNV				IAmb	IAmb	01 21 08.6	
	comp=Z,5.3nm,1.4s						
YHL	Hebgen Lake	86.28	44	P	P	01 20 46.7	+0.7
YHL				IAmb	IAmb	01 20 53.6	
	comp=Z,2.1nm,0.9s						
FINES	FINESS Array B	86.99	335	P	P	01 20 46.5	-2.2
	comp=Z,0.7nm,0.3s,baz=42,slow=4.5,SNR=10						
	comp=Z,0.7nm,0.3s						
PDAR	Pinedale Array	88.17	45	P	P	01 20 54.4	-0.6
PDAR	Pinedale Array	88.17	45	P	P	01 20 53.4	-1.6
	comp=Z,0.1nm,0.4s,baz=99,slow=0.5,SNR=4.0						
	comp=Z,0.1nm,0.4s						
PSZ	Piszkesteto	97.94	326	P	P	01 21 37.5	-2.1
ESPZ	Base Esperanza	132.54	167	PKPdf	PKiKP	01 27 17.5	+0.3

GCMT ***12*** *01:12:23.2±0.5,5˚.64S±0˚.04×110˚.42E±0˚.05,h560km±3km, MW5.2/53,Moment Tensor Solution. s53,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.54±.28; $M_{\theta\theta}$4.40±.46; $M_{\phi\phi}$0.13±.57; $M_{r\theta}$-2.38±.52; $M_{\theta\phi}$-2.71±.46; $M_{\phi r}$-4.64±.59; Best double couple: $M_0$7.02800×10^{16} NP1:ϕ_s326.00000°,δ54.00000°,λ-44.00000°. NP2: ϕ_s85.00000°,δ56.00000°,λ-135.00000°. Principal axes: T 5.7190, Plg1.0000°, Azm205.0000°; N 2.6170, Plg36.0000°, Azm114.0000°; P -8.3380, Plg54.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

DJA ***12*** *01:12:24.8±0.1,6˚S±2˚×11˚0E±˚,h561km±2km,M4.7/79, mb4.7/79,mB5.2/32,MLv4.9/34,Mw(mB)4.6/32, MwWwp4.8/2,Mwp5.2/2*

IDC ***12*** *01:12:24.1±0.5,5˚.57S×110˚.30E,h555km±5km,mb4.0/26, mbtmp4.8/30,Error ellipse: s-maj=10.5km s-min=6.8km az=56.0*

NEIC ***12*** *01:12:25.2±1.6,5˚.60S±0˚.09×110˚.3E±0˚.1,h569km±7km, mb4.8/62,Error ellipse: s-maj=15.2km s-min=12.9km az=54.0*

ISC 12 01:12:24.4±0.4,**5˚.66S**±0˚.04×**110˚.26E**±0˚.05,**h561**km±4km, **n383**,σt§**18**/426,**mb4.6**/84,**13C-11D,Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRI	Semarang	1.40	173	P	P	01 13 34.6	+1.7
SMRI	Semarang	1.40	173	P	P	01 13 34.8	+1.9
SMRI	Semarang	1.40	173	P	P	01 13 34.3	+1.4
TBJI	Tambak Boyo	1.96	126	P	P	01 13 36.6	+1.7
NGJI	Ngawi	2.08	145	P	P	01 13 37.7	+2.3
JCJI	Jatiwangi	2.14	247	P	P	01 13 37.1	+1.4
YOGI	Yogyakarta	2.15	179	P	P	01 13 36.0	+0.2
UGM	Wanagama	2.26	173	P	P	01 13 36.5	+0.1
UGM	Wanagama	2.26	173	P	P	01 13 36.6	+0.3
UGM	Wanagama	2.26	173	P	P	01 13 36.5	+0.1
GRJI	Gresik	2.54	120	P	P	01 13 39.2	+1.5
PCJI	Pacitan	2.68	160	P	P	01 13 38.4	-0.1
CMJI	Cimerak	2.77	220	P	P	01 13 38.1	-0.9
LEM	Lembang	2.87	246	P	P	01 13 41.2	+1.4
	207nm,0.6s,baz=35,slow=6.9,SNR=34						
LEM				S	S	01 14 40.2	-0.9
	256nm,0.8s,baz=296,slow=21,SNR=10						
LEM	Lembang	2.87	246	P	P	01 13 40.8	+1.0
BBJI	Bungbulang	3.15	235	P	P	01 13 41.4	0.0
CNJI	Cibinong	3.52	242	P	P	01 13 43.2	-0.4
TNG	Tangerang	3.63	262	P	P	01 13 46.0	+1.6
TNG				P	P	01 13 42.2	-2.2
TPI	Tanjungpandan	3.88	318	P	P	01 13 47.6	+1.4
SKJI	Sukabumi	3.92	250	P	P	01 13 46.9	+0.5
KMMI	Kalianget	3.94	111	P	P	01 13 48.0	+1.4
GMJI	Gumukmas	4.09	130	P	P	01 13 47.7	0.0
SBJI	Serang	4.13	263	P	P	01 13 48.8	+0.8
ABJI	Asem Bagus	4.49	119	P	P	01 13 52.3	+1.6
CGJI	Cibinong	4.64	258	P	P	01 13 51.7	-0.2
JAGI	Jajag, Banyuwa	4.77	126	P	P	01 13 52.3	-0.7
JAGI	Jajag, Banyuwa	4.77	126	P	P	01 13 52.7	-0.3
JAGI	Jajag, Banyuwa	4.77	126	P	P	01 13 52.7	-0.3
BLSI	Bandar Lampung	5.00	273	P	P	01 13 55.5	+0.6
PPBI	Pangkal Pinang	5.38	310	P	P	01 13 58.2	+0.1
KLI	Kotabumi	5.44	278	P	P	01 13 58.2	-0.4
SRBI	Singaraja	5.48	116	P	P	01 14 00.1	+1.2
DNP	Denpasar	5.76	122	P	P	01 14 01.6	+0.2
STKI	Sintang	5.81	12	P	P	01 14 03.9	+2.0
	1.4nm271nm,1.5s						
MDSI	Maura Dua	6.17	281	P	P	01 14 05.5	+0.4
LWLI	Liwa	6.21	276	P	P	01 14 05.7	+0.1
	1.7nm211nm,0.8s						
XMI	Christmas Isla	6.57	223	P	P	01 14 09.7	+0.9
XMIS	Christmas Isla	6.62	223	P	P	01 14 10.1	+0.9
XMIS	Christmas Isla	6.62	223	P	P	01 14 10.1	+0.9
KSM	Kuching	7.08	0	P	P	01 14 14.8	+1.1
TWSI	Taiwang, Sumb	7.25	115	P	P	01 14 14.5	-0.7
	5μm553nm,0.9s						
MNAI	Manna	7.39	280	P	P	01 14 16.8	+0.2
MNAI	Manna	7.39	280	P	P	01 14 16.7	+0.2
MNAI	Manna	7.39	280	P	P	01 14 17.8	+1.3
	1.7nm342nm,0.9s						
KSI	Kapahiang	7.89	284	P	P	01 14 20.0	-1.5
BKB	Balikpapan	7.93	57	P	P	01 14 24.6	+2.8
BKB	Balikpapan	7.93	57	P	P	01 14 26.0	+4.2
PLAI	Plampang	8.10	113	P	P	01 14 21.9	-1.5
	4μm433nm,0.8s						
SBUM	Sibu	8.29	14	P	P	01 14 27.3	+2.0
SBUM	Sibu	8.29	14	P	P	01 14 27.1	+1.8
SMKI	Samarinda	8.66	54	P	P	01 14 31.2	+2.2
	10μm520nm,1.1s						
KAPI	Kappang	9.47	87	P	P	01 14 37.7	+0.5
KAPI	Kappang	9.47	87	P	P	01 14 36.6	-0.6
	38nm,0.4s,baz=256,slow=8.0,SNR=19						
KAPI				S	S	01 16 24.1	-2.1
	14nm,0.3s,baz=130,slow=23,SNR=9.0						
SPSI	Sidrap Palu	9.62	80	P	P	01 14 39.1	+0.4
	67nm,0.9s						
MYKOM	Kota Tinggi	9.78	319	P	P	01 14 41.5	+1.2
BKSI	Bulukumba	9.82	89	P	P	01 14 40.8	+0.1
	61nm,1.5s						
WBSI	Waikabubak, Su	9.88	114	P	P	01 14 38.9	-2.4
TTSI	Tana Toraja	9.88	75	P	P	01 14 42.5	+1.2
	2μm100nm,1.2s						
BSSI	Bau Bau, Buton	10.19	93	P	P	01 14 44.2	-0.3
	2μm209nm,0.9s						
PCI	Palu	10.66	64	P	P	01 14 50.9	+1.6
BKNI	Bangkinang	10.96	303	P	P	01 14 53.2	+0.9
	72nm,0.9s						
BASI	Baing, Sumba	11.18	115	P	P	01 14 53.3	-1.3
	3μm279nm,0.9s						
MMRI	Maumere	12.25	105	P	P	01 15 06.7	+1.1
MMRI	Maumere	12.25	105	P	P	01 15 02.9	-2.7
	3μm72nm,0.7s						
APSI	Ampana	12.31	68	P	P	01 15 06.4	+0.2
	2μm125nm,1.0s						
TOLI2	Tolitoli	12.47	58	P	P	01 15 08.9	+1.0
TOLI2	Tolitoli	12.47	58	P	P	01 15 09.1	+1.2
KKM	Kota Kinabalu	13.05	27	P	P	01 15 13.8	-0.2
KKM	Kota Kinabalu	13.05	27	P	P	01 15 15.1	+1.1
MRSI	Marisa	13.16	63	P	P	01 15 13.9	-1.1
	71nm,1.0s						
PBSI	Pulau Batu	13.19	295	P	P	01 15 16.1	+0.8
	99nm,1.5s						
LUWI	Luwuk	13.30	70	P	P	01 15 16.7	+0.3
LUWI	Luwuk	13.30	70	P	P	01 15 16.6	+0.1
	3μm313nm,1.0s						
MYLDM	Lahad Datu	13.55	38	P	P	01 15 18.8	-0.2
MYLDM	Lahad Datu	13.55	38	P	P	01 15 21.7	+2.7
BATI	Baumata	14.02	110	P	P	01 15 24.7	+0.8
	2μm89nm,0.5s						
RPSI	Rantau Prapat	14.03	306	P	P	01 15 24.4	+0.4
RPSI				S	S	01 17 51.1	-0.5
PSI	Prapat	14.10	306	P	P	01 15 24.4	-0.4
	6.7nm,0.3s,baz=161,slow=9.9,SNR=7.9						
PSI				S	S	01 17 51.1	-1.9
	2.1nm,0.5s,baz=160,slow=23,SNR=1.6						
PSI				ScP	ScP	01 22 40.9	-0.6
	3.2nm,0.4s,baz=221,slow=5.0,SNR=5.0						
GSI	Gunungsitoli	14.43	298	P	P	01 15 29.4	+1.4
GSI	Gunungsitoli	14.43	298	P	P	01 15 28.0	0.0
SOEI	Soe	14.47	107	P	P	01 15 26.0	-2.5
SOEI	Soe	14.47	107	P	P	01 15 28.9	+0.4
SOEI	Soe	14.47	107	P	P	01 15 25.6	-2.9
	54nm,0.8s						
KULM	Kulim	14.50	318	P	P	01 15 29.1	+0.4
KULM	Kulim	14.50	318	P	P	01 15 29.2	+0.5
TSI	Tuntungan	14.80	308	P	P	01 15 33.3	+1.6
KMSI	Cibinong	15.04	66	P	P	01 15 32.3	-1.8
	192nm,0.8s						
SNSI	Sinabang, Aceh	16.06	300	P	P	01 15 44.4	+0.3
	115nm,1.1s						
SANI	Sanana	16.10	78	P	P	01 15 44.6	+0.1
	1μm127nm,1.1s						
NLAI	Namlea	16.96	83	P	P	01 15 52.0	-0.3
	4μm60nm,1.0s						
MLSI	Meulaboh, Aceh	16.99	305	P	P	01 15 53.5	+0.9
	95nm,0.6s						
LHMI	Lhok Sumawe	17.13	309	P	P	01 15 55.5	+1.6
LHMI	Lhok Sumawe	17.13	309	P	P	01 15 55.4	+1.5
LHMI	Lhok Sumawe	17.13	309	P	P	01 15 55.4	+1.5
GIRL	Giralia	17.32	168	P	P	01 15 57.3	+1.9
GIRL	Giralia	17.32	168	P	P	01 15 57.2	+1.8
SRIT	Nakonsritamara	17.70	323	P	P	01 16 00.3	+1.2
MBWA	Marble Bar	17.94	150	P	P	01 16 01.7	+0.5
MBWA	Marble Bar	17.94	150	P	P	01 16 02.0	+0.8
TNTI	Ternate	18.24	70	P	P	01 16 03.9	-0.1
TNTI	Ternate	18.24	70	P	P	01 16 05.2	+1.2
PSA00	Pilbara Seismi	18.35	150	P	P	01 16 05.7	+0.7
PSA00	Pilbara Seismi	18.35	150	P	P	01 16 04.5	-0.4
PSA00	Pilbara Seismi	18.35	150	P	P	01 16 05.6	+0.7
BSI	Banda Aceh	18.60	306	P	P	01 16 07.5	+0.2
	1μm74nm,1.2s						
FITZ	Fitzroy Crossi	19.46	131	P	P	01 16 15.8	+0.7
FITZ	Fitzroy Crossi	19.46	131	P	P	01 16 15.1	+0.1
	16nm,0.6s,baz=321,slow=6.3,SNR=34						
FITZ				S	S	01 19 23.5	+1.3
	15nm,0.8s,baz=290,slow=22,SNR=3.9						
FITZ	Fitzroy Crossi	19.46	131	P	P	01 16 15.8	+0.7
KNRA	Kununurra	20.71	120	P	P	01 16 25.2	-1.2
MTN	Manton Dam	21.79	111	P	P	01 16 37.1	+0.9
FAKI	Fak Fak	22.09	84	P	P	01 16 41.5	+2.6
MEEK	Meekatharra	22.34	160	P	P	01 16 42.3	+1.4
MORW	Morawa	23.92	167	P	P	01 16 56.2	+1.3
MORW	Morawa	23.92	167	P	P	01 16 56.4	+1.5
QIZ	Qiongzhong	24.53	359	P	P	01 17 06.1	+5.6
QIZ				pP	pP	01 18 27.3	-2.6
QIZ				sP	sP	01 19 34.3	+1.1
QIZ				S	S	01 20 46.0	+3.7
QIZ				pmax	pmax		
	comp=Z,25nm,2.0s						
BLDU	Ballidu	25.56	167	P	P	01 17 10.6	+1.2
WRKA	Warakurna	25.89	140	P	P	01 17 13.3	+0.8
CM31	Chiang Mai Arr	26.43	335	P	P	01 17 18.6	+1.4
CMAR	Chiang Mai Arr	26.43	335	P	P	01 17 17.4	+0.1
CMAR					PcP	01 20 24.8	+1.1
CMAR	Chiang Mai Arr	26.43	335	P	P	01 17 18.1	+0.8
	comp=Z,11nm,0.6s,baz=169,slow=8.1,SNR=82						
CMAR				PcP	PcP	01 20 24.3	+0.6
	comp=Z,1.3nm,0.3s,baz=197,slow=3.1,SNR=9.8						
CMAR				ScP	ScP	01 23 11.7	+0.8
	comp=Z,3.7nm,0.7s,baz=190,slow=3.0,SNR=20						
	comp=Z,11nm,0.6s						
KLBR	Kellerberrin	26.74	166	P	P	01 17 20.9	+1.1
CHTO	Chiang Mai	26.75	336	P	P	01 17 20.6	+0.6
CHTO					PcP	01 20 24.4	0.0
MUN	Mundaring	26.77	169	P	P	01 17 21.3	+1.2
WB0	Warramunga Arr	27.35	123	P	P	01 17 25.1	-0.2
WRA	Warramunga Arr	27.38	123	P	P	01 17 24.9	-0.7
WRA				ScP	ScP	01 23 12.1	-1.8
WRA	Warramunga Arr	27.38	123	P	P	01 17 25.9	+0.3
	comp=Z,4.3nm,0.6s,baz=302,slow=9.1,SNR=29						
WRA				S	S	01 21 23.4	-3.6
	comp=Z,4.1nm,0.5s,baz=295,slow=19,SNR=8.0						
WRA				ScP	ScP	01 23 13.7	-0.2
	comp=Z,9.3nm,1.0s,baz=304,slow=2.7,SNR=12						
	comp=Z,4.3nm,0.6s						
WB2	Warramunga Arr	27.39	123	P	P	01 17 25.0	-0.7
SLVN	Son La	27.54	347	P	P	01 17 27.8	+0.8
WR0	Warramunga Arr	27.56	123	P	P	01 17 27.2	0.0
KMBL	Kambalda	27.80	158	P	P	01 17 29.9	+0.8
NWAO	Narrogin (SRO)	27.90	167	P	P	01 17 30.1	+0.1
NWAO	Narrogin (SRO)	27.90	167	P	P	01 17 30.9	+1.0
NWAO	Narrogin (SRO)	27.90	167	P	P	01 17 31.1	+1.2
ASAR	Alice Springs	28.96	131	P	P	01 17 38.4	-1.0
ASAR					pP	01 19 06.5	-2.8
ASAR				PcP	PcP	01 20 29.6	-0.5
ASAR	Alice Springs	28.96	131	P	P	01 17 39.7	+0.3
	comp=Z,4.4nm,0.3s,baz=304,slow=8.2,SNR=60						
ASAR				PcP	PcP	01 20 30.4	+0.4
	comp=Z,3.6nm,0.8s,baz=318,slow=2.5,SNR=6.3						
ASAR				S	S	01 21 48.6	-2.8
	comp=Z,4.7nm,0.5s,baz=303,slow=15,SNR=11						
ASAR				ScP	ScP	01 23 19.0	+0.2
	comp=Z,12nm,0.9s,baz=311,slow=2.7,SNR=21						
	comp=Z,4.4nm,0.3s						
AS31	Alice Springs	28.96	131	P	P	01 17 39.4	0.0
AS01	Alice Springs	29.00	131	P	P	01 17 40.2	+0.5
FORT	Forrest	30.08	148	P	P	01 17 48.0	-0.8
FORT	Forrest	30.08	148	P	P	01 17 50.3	+1.5
SSLB	Suanglung	31.07	19	P	P	01 17 57.3	-0.1
SSLB				IAmb	IAmb	01 17 59.6	
	comp=Z,35nm,0.8s						
KMI	Kunming	31.46	347	⇓P	P	01 18 03.9	+2.9
KMI				S	S	01 22 29.8	-0.3
KMI				sS	SS	01 25 35.7	-4.0
KMI				pmax	pmax		
	comp=Z,27nm,0.8s						
QIS	Mount Isa	32.10	120	P	P	01 18 09.1	+2.7
GYA	Guiyang	32.11	354	P	P	01 18 08.5	+2.1
GYA				pmax	pmax		
	comp=Z,31nm,1.0s						
TNCH	TengChong	32.57	340	eP	P	01 18 11.8	+1.4
TNCH				pmax	pmax		
	comp=Z,300nm,2.0s						
OOD	Oodnadatta	32.69	135	P	P	01 18 12.1	+1.0
PZH	PanZhiHua	33.02	346	P	P	01 18 15.7	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,3.5s						
COEN	Coen	33.43	107	P	P	01 18 18.4	+0.8
SHL	Shillong	35.80	331	P	P	01 18 37.1	-0.3
SHL	Shillong	35.80	331	P	P	01 18 38.0	+0.6
LCRK	Leigh Creek	36.05	137	P	P	01 18 40.2	+1.0
BBOO	Buckleboo	36.16	142	P	P	01 18 39.8	-0.3
BBOO	Buckleboo	36.16	142	P	P	01 18 40.5	+0.4
WHN	Wuhan	36.21	6	⇑P	P	01 18 42.2	+1.8
WHN				pmax	pmax		
	comp=Z,54nm,0.8s						
CD2	Chengdu	36.89	351	P	P	01 18 47.1	+1.0
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
HTT	Hallett	38.38	140	P	P	01 18 59.4	+1.1
NJ2	Nanjing	38.38	12	eP	P	01 19 01.8	+3.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
STKA	Stephens Creek	39.23	136	P	P	01 19 05.5	+0.4
STKA	Stephens Creek	39.23	136	P	P	01 19 06.1	+1.0
	comp=Z,26nm,0.5s,baz=311,slow=8.1,SNR=85						
STKA				S	S	01 24 24.5	-1.4
	comp=Z,14nm,0.6s,baz=149,slow=15,SNR=24						
	comp=Z,26nm,0.5s						
STKA	Stephens Creek	39.23	136	P	P	01 19 06.1	+1.0
XAN	Xi'an	39.50	358	⇓P	P	01 19 07.8	+0.5
XAN				S	S	01 24 28.3	-1.4
XAN				pmax	pmax		
	comp=Z,71nm,1.1s						
XAN	Xi'an	39.50	358	P	P	01 19 07.8	+0.5
LSA	Lhasa	39.65	333	P	P	01 19 10.2	+1.1
LSA				pmax	pmax		
	comp=Z,34nm,0.9s						
LSA	Lhasa	39.65	333	P	P	01 19 10.9	+1.8
LSA	Lhasa	39.65	333	P	P	01 19 10.6	+1.5
LYN	LuoYang	40.04	3	P	P	01 19 12.2	+0.7
LYN				pmax	pmax		
	comp=Z,40nm,1.0s						
LZH	Lan

comp=Z,25nm,0.9s
USRK Ussuriysk Ar. 53.35 19 P **P 01 20 51.1 -0.5**
USRK Ussuriysk Ar. 53.35 19 P **P 01 20 50.9 -0.8**
comp=Z,2.9nm,0.4s,baz=222,slow=5.1,SNR=16
comp=Z,2.9nm,0.4s
ULN Ulaanbaatar 53.37 357 P **P 01 20 51.6 -0.3**
ULN Ulaanbaatar 53.37 357 P **P 01 20 52.2 +0.3**
SONM Songino Array 53.37 357 P **P 01 20 51.9 0.0**
SONM Songino Array 53.37 357 P **P 01 20 52.3 +0.4**
comp=Z,7.0nm,0.5s,baz=178,slow=7.9,SNR=53
SONM PcP **PcP 01 21 50.2 +0.1**
comp=Z,2.0nm,0.5s,baz=167,slow=4.6,SNR=7.6
SONM ScP **ScP 01 24 52.6 -1.7**
comp=Z,0.3nm,0.4s,baz=174,slow=3.3,SNR=4.0
comp=Z,7.0nm,0.5s
BNX BinXian 53.41 15 ⇓P **P 01 20 51.6 -0.4**
BNX pmax pmax
comp=Z,22nm,1.3s
WUS Wushi 54.60 331 P **P 01 21 01.2 +0.4**
KSH Kashi 54.97 328 P **P 01 21 02.5 -0.8**
KSH pmax pmax
comp=Z,13nm,1.2s
KBL Kabul 55.76 319 P **P 01 21 07.7 -1.3**
KBL IAmb IAmb 01 21 09.4
comp=Z,86nm,1.7s
KBL Kabul 55.76 319 P **P 01 21 08.1 -0.9**
SHLS Shalkode 56.02 333 *e*P **P 01 21 09.4 -1.1**
comp=Z,27nm,1.1s
UZB Uzynbulak 56.22 333 *e*P **P 01 21 11.9 0.0**
KDJ Kajisay 56.30 331 P **P 01 21 11.7 -0.8**
KDJ IAmb IAmb 01 21 14.6
comp=Z,27nm,1.0s
SATY Saty 56.43 332 *e*P **P 01 21 13.7 +0.3**
ULHL Ulahol 56.84 330 P **P 01 21 16.9 +0.6**
SNR=6.4
TNSS Tian-Shan 57.10 331 *e*P **P 01 21 18.1 -0.2**
BOOM Boomskoye usch 57.17 330 P **P 01 21 17.9 -0.6**
BOOM IAmb IAmb 01 21 20.1
comp=Z,51nm,1.6s
AAA Alma-Ata 57.24 331 *e*P **P 01 21 19.0 +0.2**
ZSN Zaisan 57.43 340 *e*P **P 01 21 20.4 +0.4**
HEH HeiHe 57.63 13 *e*P **P 01 21 21.0 -0.2**
HEH pmax pmax
comp=Z,47nm,1.1s
TKM2 Tokmak 2 57.66 330 P **P 01 21 22.2 +0.3**
SNR=28
DQM DQM 57.73 298 P **P 01 21 22.2 -0.2**
MHTO MHTO 57.73 299 P **P 01 21 21.7 -0.7**
GAR Garm 57.78 324 P **P 01 21 21.5 -1.1**
GAR IAmb IAmb 01 21 22.9
comp=Z,50nm,1.4s
KBK Karagaybulak 57.79 330 P **P 01 21 23.4 +0.7**
SNR=13
MK31 Makanchi Array 57.81 338 P **P 01 21 22.0 -0.5**
MKAR Makanchi Array 57.81 338 P **P 01 21 22.1 -0.4**
MKAR Makanchi Array 57.81 338 P **P 01 21 22.8 +0.2**
comp=Z,17nm,0.5s,baz=151,slow=7.6,SNR=412
comp=Z,17nm,0.5s
MAKZ Makanchi 57.94 337 P **P 01 21 22.2 -1.2**
MAKZ Makanchi 57.94 337 P **P 01 21 23.3 -0.1**
MAKZ PcP **PcP 01 22 07.6 -0.3**
TDK Taldygorghan 57.95 334 *e*P **P 01 21 23.6 +0.1**
comp=Z,74nm,1.2s
AAK Ala-Archa 58.01 329 P **P 01 21 24.0 -0.2**
AAK IAmb IAmb 01 21 26.1
comp=Z,47nm,1.5s
AAK Ala-Archa 58.01 329 *i* P **P 01 21 24.8 +0.6**
SNR=19
AAK Ala-Archa 58.01 329 P **P 01 21 24.6 +0.4**
AAK PcP **PcP 01 22 09.0 +0.5**
AML Almayashu 58.05 329 P **P 01 21 25.6 +0.9**
SNR=8.6
JMDO Jabal Madar 58.12 301 P **P 01 21 24.8 -0.4**
BTK Batken 58.19 325 P **P 01 21 24.4 -0.9**
SIMJ Simiganj 58.34 323 P **P 01 21 24.9 -1.6**
SIMJ Simiganj 58.34 323 P **P 01 21 24.6 -1.9**
SIMJ PcP **PcP 01 22 09.8 -0.1**
EKS2 Erkin-Say 58.39 329 P **P 01 21 27.3 +0.6**
SNR=29
SMDO Samad 58.43 301 P **P 01 21 27.0 -0.3**
USP Ospenovka 58.46 330 P **P 01 21 27.2 +0.2**
SNR=11
SGDS Sogindy 58.53 330 *e*P **P 01 21 27.7 +0.1**
BIDO Bidbid 58.54 302 P **P 01 21 27.8 -0.2**
BSY Bisya 59.03 301 P **P 01 21 30.5 -0.8**
HOQ Hoqain 59.26 302 P **P 01 21 31.9 -0.8**
DMTO DMTO 59.32 294 P **P 01 21 32.6 -0.6**
YSS Yuzhno-Sakhali 59.76 25 P **P 01 21 35.0 -0.5**
YSS IAmb IAmb 01 21 36.6
comp=Z,58nm,1.1s
ARQ Araqi 59.83 301 P **P 01 21 37.0 +0.4**
SNR=5.5
IUG Iuzhnay 60.03 326 *e*P **P 01 21 37.7 +0.1**
comp=Z,35nm,1.2s
SOHO SOHO 60.12 302 P **P 01 21 38.1 -0.4**
DOK Doka 60.34 295 P **P 01 21 39.4 -0.5**
SNR=7.6
CHM Chimkent 60.38 326 *e*P **P 01 21 40.3 +0.5**
KK31 Karatay Array 60.41 327 P **P 01 21 38.0 -2.0**
KKAR Karatay Array 60.41 327 P **P 01 21 39.2 -0.8**
KKAR Karatay Array 60.41 327 P **P 01 21 38.2 -1.9**
WHFO Wadi Hawf 60.45 294 P **P 01 21 39.9 -0.8**
CASY Casey 60.52 180 P **P 01 21 41.0 +0.7**
CASY PcP **PcP 01 22 18.2 +0.3**
UOSS Minazif 60.71 303 P **P 01 21 40.9 -1.4**
UOSS Minazif 60.71 303 P **P 01 21 42.2 -0.1**
ABTO Aybut 60.71 293 P **P 01 21 40.9 -1.7**
HATD Hatta, Dubai 60.72 302 P **P 01 21 41.4 -1.1**
HATD Hatta, Dubai 60.72 302 P **P 01 21 42.7 +0.2**
BRLS Borolday 60.73 327 *e*P **P 01 21 41.4 -0.7**
ASHO Ashiyiah 60.73 302 P **P 01 21 42.0 -0.6**
ASHO Ashiyiah 60.73 302 P **P 01 21 42.3 -0.2**
ALNE Al Ain 60.76 301 P **P 01 21 42.5 -0.1**
MDH Madha 60.76 303 P **P 01 21 41.5 -1.2**
UMZA Um Al Zommool 60.78 300 P **P 01 21 42.1 -0.6**
FAQ Al Faqa, Dubai 61.15 302 P **P 01 21 43.9 -1.3**
FAQ Al Faqa, Dubai 61.15 302 *i* P **P 01 21 45.2 0.0**
SNR=6.9
NAZ Nazwa, Dubai 61.18 302 P **P 01 21 45.8 +0.4**
ASUD Al Ashush, Dub 61.32 302 P **P 01 21 46.3 0.0**
SNR=6.7
ASUD Al Ashush, Dub 61.32 302 *i* P **P 01 21 46.8 +0.5**
SNR=6.7
AJN Ajban 61.59 302 P **P 01 21 47.2 -0.9**
MZR Muzera 62.33 300 P **P 01 21 52.8 -0.2**
MZR Muzera 62.33 300 *i* P **P 01 21 53.1 +0.2**
SNR=6.4
KURBB Kurchatov Arra 62.37 338 P **P 01 21 52.5 -0.1**
comp=Z,5.4nm,0.5s,baz=153,slow=6.0,SNR=83
KURBB PcP **PcP 01 22 26.1 +0.3**
comp=Z,2.1nm,0.5s,baz=143,slow=3.7,SNR=13
KURBB PP **PP 01 24 17.1 -2.4**
comp=Z,0.4nm,0.6s,baz=152,slow=8.3,SNR=4.5
comp=Z,5.4nm,0.5s
KURK Kurchatov 62.41 338 P **P 01 21 52.6 -0.2**
KURK IAmb IAmb 01 21 54.1
comp=Z,66nm,1.6s
KURK Kurchatov 62.41 338 P **P 01 21 52.7 -0.2**
KURK Kurchatov 62.41 338 P **P 01 21 52.5 -0.4**
KURK PcP **PcP 01 22 25.4 -0.5**
ZAA0 Zalesovo Array 63.11 343 P **P 01 21 56.7 -0.6**
ZAA0 IAmb IAmb 01 21 58.1
comp=Z,99nm,1.8s
ZALV Zalesovo Beam 63.11 343 P **P 01 21 56.7 -0.6**
ZALV Zalesovo Beam 63.11 343 P **P 01 21 56.8 -0.5**
comp=Z,13nm,0.6s,baz=158,slow=5.3,SNR=57
comp=Z,13nm,0.6s
GHWR Ruwais 63.18 300 P **P 01 21 58.0 -0.4**
JRN Qarnain Island 63.54 301 P **P 01 21 59.6 -1.0**
SLWR Sila 64.23 300 P **P 01 22 03.7 -1.4**
BRZS Berezniki 64.25 334 *e*P **P 01 22 04.8 +0.1**
DRV Dumont d'Urvil 64.28 167 P **P 01 22 04.9 +0.4**
TRNA Turayna 64.87 301 P **P 01 22 08.4 -0.6**
SMRA Abu-Samra 65.20 300 P **P 01 22 10.5 -0.7**
SAKB Bahrain 65.86 302 P **P 01 22 14.6 -0.6**
BVAR Borovoye Array 67.46 335 P **P 01 22 24.2 -0.3**
comp=Z,8.5nm,0.5s,baz=142,slow=8.7,SNR=40
BVAR PcP **PcP 01 22 46.6 -0.3**
comp=Z,2.8nm,0.8s,baz=145,slow=5.3,SNR=5.4
comp=Z,8.5nm,0.5s
BRVK Borovoye 67.53 335 P **P 01 22 24.5 -0.5**
BRVK IAmb IAmb 01 22 26.0
comp=Z,33nm,1.6s
BRVK Borovoye 67.53 335 P **P 01 22 24.8 -0.2**
BRVK PcP **PcP 01 22 48.0 +0.8**
YAK Yakutsk 69.14 10 P **P 01 22 34.1 -0.4**
KBD Kabd 69.30 304 P **P 01 22 34.7 -1.5**
RAYN Ar Rayn 69.47 298 P **P 01 22 36.6 -0.8**
RAYN IAmb IAmb 01 22 38.0
comp=Z,84nm,1.9s
RAYN Ar Rayn 69.47 298 P **P 01 22 36.7 -0.8**
RAYN Ar Rayn 69.47 298 *i* P **P 01 22 36.9 -0.5**
SNR=14
RAYN Ar Rayn 69.47 298 P **P 01 22 36.6 -0.8**
ABKAR Abkulak array 69.98 328 P **P 01 22 39.6 -0.2**
ABKAR Abkulak array 69.98 328 P **P 01 22 39.4 -0.4**
ABKAR IAmb IAmb 01 22 40.3
comp=Z,33nm,0.6s
PETK Petropavlovsk- 70.87 28 P **P 01 22 43.7 -1.3**
PETK Petropavlovsk- 70.87 28 P **P 01 22 44.3 -0.7**
comp=Z,14nm,0.9s,baz=155,slow=1.5,SNR=24
comp=Z,14nm,0.9s
KIBK Kibwezi 72.08 269 P **P 01 22 52.3 -0.6**
MA2 Magadan 72.49 20 P **P 01 22 53.2 -1.1**
MA2 IAmb IAmb 01 22 55.8
comp=Z,27nm,1.0s
KMBO Kilima Mbogo 72.98 271 P **P 01 22 57.7 -0.6**
KMBO Kilima Mbogo 72.98 271 P **P 01 22 59.1 +0.8**
comp=Z,1.5nm,0.6s,baz=76,slow=3.7,SNR=4.9
comp=Z,1.5nm,0.6s
ARTI Arti 74.91 333 P **P 01 23 07.2 -0.9**
ARTI IAmb IAmb 01 23 09.0
comp=Z,46nm,1.5s
GNI Garni 75.33 314 P **P 01 23 10.9 -0.1**
GNI IAmb IAmb 01 23 12.7
comp=Z,31nm,1.4s
GNI Garni 75.33 314 P **P 01 23 11.6 +0.6**
LODK Lodwar 75.34 275 P **P 01 23 10.9 -0.6**
GEVA Gevas 75.94 312 P **P 01 23 15.0 +0.6**
GEVA IAmb IAmb 01 23 15.8
comp=Z,47nm,1.5s
KARS Kars 76.69 314 P **P 01 23 17.5 -0.9**
VNDA Vanda 76.70 170 P **P 01 23 17.6 -0.1**
comp=Z,2.8nm,0.7s,baz=323,slow=5.1,SNR=7.6
comp=Z,2.8nm,0.7s
MARD Mardin 77.35 310 P **P 01 23 21.6 -0.5**
MARD IAmb IAmb 01 23 23.5
comp=Z,51nm,1.6s
KBZ Khabaz 77.86 317 P **P 01 23 25.1 +0.6**
comp=Z,13nm,1.0s,baz=92,slow=3.6,SNR=22
comp=Z,13nm,1.0s
SYO Syowa Base 77.88 200 ⇑*e*P **P 01 23 25.2 +1.1**
SYO Syowa Base 77.88 200 ⇑*e*PcP **PcP 01 23 30.4 -1.0**
KIV Kislovodsk 78.08 317 P **P 01 23 25.8 -0.1**
KIV IAmb IAmb 01 23 27.5
comp=Z,29nm,1.2s
KIV Kislovodsk 78.08 317 ⇓P **P 01 23 27.0 +1.1**
KIV Kislovodsk 78.08 317 *i* P **P 01 23 27.3 +1.4**
SNR=8.2
TIXI Tiksi 78.12 6 P **P 01 23 24.4 -0.9**
TIXI IAmb IAmb 01 23 25.5
comp=Z,31nm,1.1s
KOPT Kop Dagi 78.36 313 P **P 01 23 29.1 +1.4**
KOPT IAmb IAmb 01 23 30.1
comp=Z,87nm,1.7s
GHAJ Ghor Haditha 79.96 303 P **P 01 23 36.6 +0.7**
GAZ Gaziantep 80.04 309 P **P 01 23 37.2 +0.8**
GAZ IAmb IAmb 01 23 38.4
comp=Z,43nm,1.3s
MMAI Mount Meron Ar 80.48 305 P **P 01 23 39.5 +0.7**
comp=Z,5.8nm,0.5s,baz=96,slow=7.8,SNR=33
comp=Z,5.8nm,0.5s
LSZ Lusaka 80.90 255 P **P 01 23 41.7 +0.4**
TOKA Tokat 81.41 312 P **P 01 23 43.0 -0.3**
TOKA IAmb IAmb 01 23 45.5
comp=Z,47nm,1.2s
CSS Mathiatis 82.59 306 P **P 01 23 49.5 +0.2**
CSS IAmb IAmb 01 23 51.2
comp=Z,36nm,1.0s
CSS Mathiatis 82.59 306 P **P 01 23 49.6 +0.2**
comp=Z,43nm,1.2s
BOSA Boshof 82.94 242 P **P 01 23 51.2 -0.3**
comp=Z,3.2nm,0.7s,baz=120,slow=4.9,SNR=9.1
comp=Z,3.2nm,0.7s
KIRS Kirsehir-Merke 83.04 310 ⇓P **P 01 23 52.0 +0.4**
BR104 Keskin Array S 83.37 311 P **P 01 23 53.2 -0.2**
comp=Z,144nmcomp=Z,16nm,1.2s
BR131 Keskin Array S 83.38 311 P **P 01 23 53.1 -0.3**
BR131 IAmb IAmb 01 23 54.6
comp=Z,55nm,1.4s
BRTR Keskin Array B 83.38 311 P **P 01 23 52.9 -0.5**
BRTR Keskin Array B 83.38 311 P **P 01 23 53.2 -0.2**
comp=Z,14nm,1.1s,baz=131,slow=5.3,SNR=45
comp=Z,14nm,1.1s
BR106 Keskin Array S 83.40 311 P **P 01 23 53.0 -0.5**
comp=Z,143nmcomp=Z,15nm,1.2s
BZK Bozkurt 83.62 313 P **P 01 23 54.3 0.0**
ANTO Ankara 84.05 311 ⇑P **P 01 23 56.7 +0.1**
QSPA South Pole Qui 84.32 180 P **P 01 23 58.0 +0.6**
QSPA South Pole Qui 84.32 180 P **P 01 23 57.9 +0.4**
comp=Z,5.1nm,0.7s,baz=304,slow=0.4,SNR=27
comp=Z,5.1nm,0.7s
MDUB Mudurnu 85.37 311 P **P 01 24 01.8 -1.3**
OBN Obninsk 85.39 326 P **P 01 24 03.0 +0.4**
OBN Obninsk 85.39 326 ⇓P **P 01 24 02.4 -0.2**
OBN Obninsk 85.39 326 P **P 01 24 02.3 -0.3**
comp=Z,97nm,1.5s
ELL Elmali 85.66 307 P **P 01 24 04.5 -0.1**
BORA Eskisehir 85.81 311 P **P 01 24 05.1 -0.1**
BORA IAmb IAmb 01 24 06.4
comp=Z,76nm,1.7s
TPGR Topolog 88.19 315 ⇓P **P 01 24 19.5 +3.4**
MILM Milestii Mici 88.27 317 ⇑P **P 01 24 15.4 -1.1**
AK09 Malin Array Si 88.62 321 P **P 01 24 17.3 -0.7**
AKASG Malin Array Be 88.68 321 P **P 01 24 17.2 -1.0**
comp=Z,2.7nm,0.4s,baz=86,slow=4.7,SNR=56
AKASG PP **PP 01 27 50.1 -7.3**
comp=Z,0.1nm,0.2s,baz=99,slow=4.9,SNR=5.2
comp=Z,2.7nm,0.4s
AKBB Malin Array Si 88.68 321 P **P 01 24 17.7 -0.6**
AKBB IAmb IAmb 01 24 18.6
comp=Z,49nm,1.6s
AKBB Malin Array Si 88.68 321 P **P 01 24 17.3 -0.9**
KIEV Kiev 88.69 321 P **P 01 24 17.6 -0.7**
KIEV IAmb IAmb 01 24 18.6
comp=Z,44nm,1.6s
KIEV Kiev 88.69 321 ⇑P **P 01 24 17.2 -1.1**
KIEV Kiev 88.69 321 *i* P **P 01 24 18.0 -0.2**
SNR=7.9
SORM Soroca 88.79 318 ⇑P **P 01 24 18.1 -0.7**
LUBAR Lubar, Ukraine 89.47 320 P **P 01 24 20.3 -1.6**
VRI Vrincioaia 89.52 316 ⇑P **P 01 24 19.8 -2.5**
PLOR5 Plostina Array 89.56 316 P **P 01 24 22.4 -0.2**
PLOR Plostina 89.58 316 ⇓P **P 01 24 23.4 +0.8**
TESR Tescani 89.67 317 ⇑P **P 01 24 21.5 -1.5**
MLR Muntele Rosu 90.01 316 P **P 01 24 24.4 -0.3**
MLR IAmb IAmb 01 24 25.8
comp=Z,21nm,1.5s
MLR Muntele Rosu 90.01 316 ⇑P **P 01 24 24.9 +0.1**
VOIR 90.63 315 ⇑P **P 01 24 26.4 -1.1**
BURAR Bucovina Array 90.80 318 ⇑P **P 01 24 28.6 +0.3**
BUR08 Bucovina Ar. S 90.81 318 P **P 01 24 28.6 +0.2**
RNPP9 Sopachiv 90.87 321 P **P 01 24 27.9 -0.5**
LOT Lotru 91.53 315 ⇓P **P 01 24 31.1 -0.6**
MARR Marisel-Cluj 92.11 317 ⇑P **P 01 24 33.1 -1.2**
FINES FINESS Array B 92.14 331 P **P 01 24 34.0 0.0**
comp=Z,6.0nm,0.9s,baz=128,slow=7.3,SNR=17
FINES PKiKP **PKiKP 01 29 19.5 -0.3**
comp=Z,3.1nm,1.0s,baz=113,slow=3.6,SNR=3.5
comp=Z,6.0nm,0.9s
HERR Herculane 92.42 315 ⇓P P 01 24 41.7 +6.0
KOLS Kolonicke sedl 92.90 319 *e*P **P 01 24 38.9 +1.1**
ARCES ARCESS Array B 93.42 339 P **P 01 24 38.8 -0.9**
comp=Z,3.2nm,0.9s,baz=43,slow=5.5,SNR=4.9
comp=Z,3.2nm,0.9s
STHS Stebnicka Huta 93.61 319 *e*P **P 01 24 43.3 +2.2**
MODS Modra-Piesok 96.17 318 *e*PDIFF **P 01 24 54.1 +1.4**
G19K Purcell Mounta 96.21 24 P **P 01 24 53.0 +0.6**
G19K IAmb IAmb 01 24 54.4
comp=Z,11nm,1.2s
SPITS Spitsbergen Ar 96.30 348 P **P 01 24 51.8 -0.8**
comp=Z,3.8nm,0.5s,baz=83,slow=6.9,SNR=15
comp=Z,3.8nm,0.5s
B21K Ikpikpuk River 97.06 21 P **P 01 24 56.4 +0.3**
B21K IAmb IAmb 01 24 57.5
comp=Z,9.1nm,1.2s
HFS Hagfors 98.15 330 P Pdif 01 25 00.4 -0.8
comp=Z,3.0nm,0.8s,baz=79,slow=7.5,SNR=2.5
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 99.30 331 P **Pdif 01 25 05.1 -1.3**
comp=Z,1.7nm,0.9s,baz=74,slow=4.8,SNR=3.7
comp=Z,1.7nm,0.9s
TORD Torodi Ar. Bea 109.31 282 PKiKP **PKiKP 01 29 50.4 -1.7**
comp=Z,1.5nm,0.3s,baz=118,slow=0.2,SNR=4.5
ESDC Sonseca Array 112.17 311 PKiKP **PKiKP 01 29 57.2 +0.2**
comp=Z,0.3nm,0.3s,baz=37,slow=2.3,SNR=3.5
YKA Yellowknife Ar 114.47 21 PKiKP PKPdf 01 30 00.5 -0.1
comp=Z,1.8nm,0.9s,baz=291,slow=1.9,SNR=14
YKA SKP 01 32 42.6
comp=Z,1.1nm,0.8s,baz=305,slow=1.9,SNR=11
NVAR Mina Array Bea 125.30 46 PKP **PKiKP 01 30 22.7 -0.2**
comp=Z,2.8nm,0.8s,baz=243,slow=2.0,SNR=16
NVAR SKPbc SKiKP 01 32 45.2 -21
comp=Z,0.7nm,0.9s,baz=265,slow=4.8,SNR=4.5
PDAR Pinedale Array 128.99 37 PKP **PKPdf 01 30 29.4 0.0**
comp=Z,1.6nm,1.0s,baz=270,slow=1.3,SNR=7.8
PDAR SKPbc SKiKP 01 32 58.1 -15
comp=Z,3.9nm,1.0s,baz=294,slow=1.5,SNR=18
ULM Lac du Bonnet 130.44 22 PKP **PKPdf 01 30 31.4 -0.1**
comp=Z,3.8nm,0.9s,baz=296,slow=8.5,SNR=6.2
ULM SKPbc **SKPbc 01 33 02.7 -0.4**
comp=Z,12nm,0.7s,baz=324,slow=4.7,SNR=29
SCHQ Schefferville 130.91 358 PKP **PKPdf 01 30 31.7 -0.7**
comp=Z,1.2nm,0.4s,baz=42,slow=8.1,SNR=3.6
SCHQ SKPbc **SKPab 01 33 05.1 -0.4**
comp=Z,16nm,1.0s,baz=17,slow=4.5,SNR=13
PLCA Paso Flores 133.83 179 PKP **PKPdf 01 30 38.0 -0.4**
comp=Z,0.7nm,0.7s,baz=231,slow=6.5,SNR=1.2
PLCA SKPbc **SKPbc 01 33 16.4 +1.1**
comp=Z,2.9nm,0.9s,baz=129,slow=8.8,SNR=6.0
TXAR Lajitas Array 140.24 50 PKhKP PKPpre 01 30 44.9
comp=Z,1.1nm,0.8s,baz=312,slow=0.8,SNR=8.3
TXAR PKP **PKPdf 01 30 51.6 +1.1**
comp=Z,1.3nm,0.8s,baz=352,slow=1.2,SNR=6.3
TXAR SKPbc **SKPbc 01 33 34.9 +0.6**
comp=Z,4.8nm,0.8s,baz=265,slow=1.2,SNR=19
CPUP Villa Florida 146.00 200 PKPbc **PKPbc 01 31 03.1 +0.6**
comp=Z,3.0nm,0.4s,baz=163,slow=1.9,SNR=12
BDFB Brasilia 149.82 225 PKPbc **PKiKP 01 31 13.3 0.0**
comp=Z,13nm,1.0s,baz=173,slow=4.1,SNR=9.6
LPAZ La Paz 158.14 184 PKPab **PKPab 01 31 56.4 0.0**
comp=Z,0.7nm,0.5s,baz=180,slow=4.0,SNR=2.2

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*TAP **12** 01:12:51.1, 24°.33N×122°.99E, h61km, ML2.6, D*
*JMA **12** 01:12:51.6±0.1, 24°.N±2°.×123°.0E±0°.4, h59km±1km,*
MV2.3/12, NW OFF ISHIGAKIJIMA IS
ISC 12 01:12:52.0±1.3, 24°.29N±0°.05×122°.96E±0°.03, h58km±7km,
n50, σ1°.03/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.16**	**355**	P		**Pn**	**01 13 00.7**	**-0.3**
JYNG				S		**Sn**	**01 13 07.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.18**	**15**	*i* P		**Pn**	**01 13 00.7**	**-0.4**
YOJ				S		**Sn**	**01 13 07.4**	**-0.3**
YOJ	**Yonaguni jima**	**0.18**	**15**	P		**Pn**	**01 13 00.8**	**-0.3**
YOJ				S		**Sn**	**01 13 07.3**	**-0.3**
EOS3	**EOS3**	**0.59**	**270**	P		**Pn**	**01 13 05.3**	**+0.7**
EOS3				S		**Sn**	**01 13 15.3**	**+1.5**
EOS4	**EOS4**	**0.61**	**254**	*e*P		**Pn**	**01 13 05.3**	**+0.6**
EOS4				S		**Sn**	**01 13 15.1**	**+1.2**
EOS2	**EOS2**	**0.68**	**281**	P		**Pn**	**01 13 06.0**	**+0.3**
EOS2				S		**Sn**	**01 13 16.9**	**+1.2**
IRIF	**Iriomote-Funau**	**0.70**	**86**	P		**Pn**	**01 13 06.0**	**-0.1**
IRIF				S		**Sn**	**01 13 16.5**	**+0.1**
JKRS	**Kuro-shima**	**0.96**	**93**	*e*P		**Pn**	**01 13 09.6**	**+0.2**
JKRS				*e*S		**Sn**	**01 13 23.2**	**+1.0**
TWC	**Suao**	**1.06**	**288**	P		**Pn**	**01 13 10.2**	**-0.6**
TWC				S		**Sn**	**01 13 22.9**	**-1.8**
JIJ	**Ishigaki jima**	**1.08**	**86**	P		**Pn**	**01 13 10.7**	**-0.3**
JIJ				S		**Sn**	**01 13 24.8**	**-0.3**
EWUT	**Wuta**	**1.09**	**278**	P		**Pn**	**01 13 11.1**	**0.0**
EWUT				S		**Sn**	**01 13 24.4**	**-0.9**
ENA	**Nanau**	**1.12**	**277**	P		**Pn**	**01 13 11.8**	**+0.3**
ENA				*e*S		**Sn**	**01 13 26.3**	**+0.2**
TIPB	**Shuangxi**	**1.24**	**304**	*i* P		**Pn**	**01 13 13.0**	**-0.1**
TIPB				*i* S		**Sn**	**01 13 27.7**	**-1.2**
NACB	**Ninganchiao**	**1.25**	**265**	P		**Pn**	**01 13 12.8**	**-0.5**
NACB				S		**Sn**	**01 13 28.1**	**-1.1**
JISG	**Ishigakijimahi**	**1.27**	**76**	P		**Pn**	**01 13 13.1**	**-0.3**
JISG				S		**Sn**	**01 13 29.1**	**-0.4**
SXI1	**Grass Mountain**	**1.27**	**309**	*e*P		**Pn**	**01 13 13.6**	**0.0**
SXI1				S		**Sn**	**01 13 29.5**	**-0.3**
ENTT	**Nioudou**	**1.32**	**286**	*e*P		**Pn**	**01 13 14.9**	**+0.7**
ENTT				S		**Sn**	**01 13 31.1**	**+0.3**
LATG	**Datong**	**1.33**	**281**	*i* P		**Pn**	**01 13 14.9**	**+0.4**
LATG				*e*S		**Sn**	**01 13 31.4**	**+0.2**
FUSB	**Fushanzhiwuyua**	**1.34**	**291**	P		**Pn**	**01 13 14.6**	**+0.1**
FUSB				S		**Sn**	**01 13 30.8**	**-0.5**
ETLH	**Xiulin Townshi**	**1.35**	**267**	P		**Pn**	**01 13 14.2**	**-0.5**
ETLH				*e*S		**Sn**	**01 13 30.9**	**-0.8**
SHUL	**Shoufeng**	**1.37**	**249**	P		**Pn**	**01 13 14.4**	**-0.5**
SHUL				S		**Sn**	**01 13 31.4**	**-0.7**
ETM	**Tongmen**	**1.38**	**257**	P		**Pn**	**01 13 14.3**	**-0.7**
ETM				*e*S		**Sn**	**01 13 30.6**	**-1.7**
NWLT	**Wulai**	**1.41**	**290**	P		**Pn**	**01 13 15.6**	**+0.1**
NWLT				*e*S		**Sn**	**01 13 32.8**	**-0.4**
LXIB	**Xiulin Townshi**	**1.44**	**260**	P		**Pn**	**01 13 15.4**	**-0.6**
LXIB				S		**Sn**	**01 13 32.5**	**-1.5**
NNSB	**Datong**	**1.45**	**276**	P		**Pn**	**01 13 16.1**	**+0.1**
NNSB				S		**Sn**	**01 13 33.4**	**-0.7**
NNS	**Nan Shan**	**1.46**	**276**	*e*S		**Sn**	**01 13 33.8**	**-0.5**
YHNB	**Yeheng**	**1.49**	**285**	P		**Pn**	**01 13 17.2**	**+0.6**
YHNB				*e*S		**Sn**	**01 13 35.2**	**+0.1**
EGFH	**Guangfu**	**1.53**	**247**	*e*S		**Sn**	**01 13 35.1**	**-0.8**
WARBT	**Fenglin Townsh**	**1.55**	**249**	P		**Pn**	**01 13 16.3**	**-1.0**
WARBT				*e*S		**Sn**	**01 13 35.1**	**-1.3**
FUSS	**Fushou**	**1.57**	**269**	P		**Pn**	**01 13 18.2**	**+0.4**
FUSS				*e*S		**Sn**	**01 13 36.6**	**-0.6**
HGSD	**Ruisui**	**1.62**	**241**	P		**Pn**	**01 13 17.3**	**-0.8**
HGSD				*e*S		**Sn**	**01 13 36.0**	**-1.9**
JTJ	**Tarama**	**1.62**	**77**	*e*P		**Pn**	**01 13 18.6**	**+0.3**
TDCB	**Techi**	**1.65**	**269**	P		**Pn**	**01 13 18.9**	**+0.2**
TDCB				*e*S		**Sn**	**01 13 38.5**	**-0.4**
OWD	**Renai**	**1.67**	**259**	P		**Pn**	**01 13 18.7**	**-0.2**
OWD				*e*S		**Sn**	**01 13 37.9**	**-1.5**
EHY	**Hungye**	**1.69**	**243**	*e*P		**Pn**	**01 13 18.1**	**-1.1**
EHY				*e*S		**Sn**	**01 13 38.0**	**-1.8**
WUSB	**Renai**	**1.71**	**260**	*e*P		**Pn**	**01 13 20.1**	**+0.5**
WUSB				*e*S		**Sn**	**01 13 40.5**	**+0.1**
VWDT	**VWDT**	**1.75**	**253**	P		**Pn**	**01 13 20.2**	**+0.2**
VWDT				*e*S		**Sn**	**01 13 40.6**	**-0.6**
YULB	**Yu-li**	**1.77**	**240**	P		**Pn**	**01 13 19.7**	**-0.5**
YULB				*e*S		**Sn**	**01 13 39.9**	**-1.8**
TWF1	**Yuli**	**1.79**	**239**	P		**Pn**	**01 13 20.2**	**-0.3**
TWF1				*e*S		**Sn**	**01 13 41.4**	**-0.8**
WHP	**Taichung City**	**1.84**	**270**	*e*P		**Pn**	**01 13 22.7**	**+1.4**
WHP				*e*S		**Sn**	**01 13 43.0**	**-0.5**
FULB	**Fuli**	**1.88**	**235**	*e*P		**Pn**	**01 13 20.7**	**-1.1**
WCS	**Beigang Elemen**	**1.89**	**263**	*e*P		**Pn**	**01 13 22.1**	**+0.3**
SSLB	**Suanglung**	**1.90**	**255**	*e*P		**Pn**	**01 13 21.8**	**-0.3**
TYC	**Yuchr**	**1.96**	**259**	*e*P		**Pn**	**01 13 23.2**	**+0.4**
YUS	**Yu-Shan**	**2.00**	**247**	*e*P		**Pn**	**01 13 22.0**	**-1.9**
YUS				*e*S		**Sn**	**01 13 45.0**	**-3.1**
WHYT	**Xinyi Township**	**2.02**	**253**	P		**Pn**	**01 13 24.5**	**+0.9**
WHYT				*e*S		**Sn**	**01 13 48.6**	**+0.8**
TPUB	**Ta-pu**	**2.35**	**246**	*e*P		**Pn**	**01 13 29.6**	**+1.4**
TPUB				*e*S		**Sn**	**01 13 57.8**	**+1.9**
CHN4	**Tsaushan**	**2.36**	**247**	P		**Pn**	**01 13 30.0**	**+1.7**
CHN4				*e*S		**Sn**	**01 13 58.5**	**+2.4**
WTP	**Ta-pu**	**2.39**	**245**	*e*P		**Pn**	**01 13 30.6**	**+1.9**
WTP				*e*S		**Sn**	**01 13 59.3**	**+2.4**
CHN1	**Nanshi**	**2.49**	**244**	P		**Pn**	**01 13 31.6**	**+1.5**
CHN1				*e*S		**Sn**	**01 14 01.5**	**+2.2**

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*GRAL **12** 01:22:46.4±0.3, 33°.63N×35°.10E, h2km±87km, MD2.5*
*GII **12** 01:22:46.5±0.0, 33°.57N±0°.04×35°.16E±0°.01, h3km,*
Mws1.6, confirmed
ISC 12 01:22:45.7±1.7, 33°.64N±0°.06×35°.11E±0°.07, h12km, n21,
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	Rachaya	0.62	103	*eP*	Pg	01 22 57.7	-0.1
RCY				*eS*	Sg	01 23 06.1	+0.1
GEM	Giv'at Ha'Em	0.63	133	P	Pb	01 22 58.4	-0.2
GEM	Giv'at Ha'Em	0.63	133	S	Sb	01 23 06.9	-0.5
NATI	Neve Ativ	0.64	126	P	Pg	01 22 58.5	+0.3
NATI	Neve Ativ	0.64	126	S	Sg	01 23 07.0	+0.3
MMC7	Mount Meron ar	0.66	159	P	Pg	01 22 58.6	+0.1
MMA0B	Mount Meron ar	0.67	159	P	Pg	01 22 58.7	0.0
MMA0B	Mount Meron ar	0.67	159	S	Sg	01 23 07.9	+0.4
ZAHL	Zahle	0.68	71	*eP*	Pg	01 22 58.8	-0.1
KSHT	Keshet	0.88	138	P	Pb	01 23 03.1	+0.2
KSHT	Keshet	0.88	138	S	Sb	01 23 14.6	0.0
OFRI	`Ofer	1.02	186	P	Pb	01 23 05.2	-0.1
OFRI	`Ofer	1.02	186	S	Sg	01 23 18.9	+0.2
MMLI	Mount Malkishu	1.23	168	P	Pn	01 23 08.2	-0.5
MMLI	Mount Malkishu	1.23	168	S	Sg	01 23 25.2	-0.1
HMDT	Nahal Hemdat	1.43	166	P	Pn	01 23 11.7	+0.3
HMDT	Nahal Hemdat	1.43	166	S	Sb	01 23 30.7	+0.3

MOS ***12*** *01:27:04.1±1.1, 36°.34N×71°.09E, h111km, mb4.2/8, Error ellipse: s-maj=8.6km s-min=4.7km az=89.4*
IDC ***12*** *01:27:04.5±2.2, 36°.30N×71°.25E, h104km±20km, mb3.7/20, mbtmp4.1/25, MS3.8/2, Error ellipse: s-maj=14.1km s-min=10.3km az=34.0*
NEIC ***12*** *01:27:05.3±1.7, 36°.36N±0°.05×70°.86E±0°.07, h111km±9km, mb4.0/11, Error ellipse: s-maj=9.4km s-min=6.6km az=124.0*
NNC ***12*** *01:27:09.2±3.9, 36°.80N×70°.68E, h111km±38km, mb3.7, mpv4.4, Error ellipse: s-maj=29.8km s-min=21.1km az=5.0*
ISC 12 01:27:04.0±0.4,**36°.35N**±0°.04×**71°.00E**±0°.05,**h100**km,**n152,** σ2º**22**/168,**mb4.2**/33,**16C-13D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.41	222		Pn	01 27 43.3	+1.2
KBL	Kabul	2.41	222	PN	Pn	01 27 43.3	+1.2
GAR	Garm	2.70	349		Pn	01 27 47.2	+1.4
SIMJ	Simiganj	2.79	326		Pn	01 27 47.4	+0.4
NIL	Nilore	3.27	145	Pn	Pn	01 27 55.9	+2.5
NIL	Nilore	3.27	145	PN	Pn	01 27 55.9	+2.5
BTK	Batken	3.70	358	Pn	Pn	01 28 01.7	+2.5
BTK	Batken	3.70	358	PN	Pn	01 28 01.7	+2.5
SRNI	Srinagar	3.87	124	*eP*	Pn	01 28 03.2	+1.8
SRNI				*eS*	Sn	01 28 47.8	+1.9
SRNI				IAML		01 28 49.9	
	comp=N,158nm,0.2s						
SRNI				IAML		01 28 50.2	
	comp=E,143nm,0.3s						
JMU	Jammu	4.85	137	*eP*	Pn	01 28 15.7	+1.1
JMU				*eS*	Sn	01 29 07.9	-1.7
JMU				IAML		01 29 10.7	
	comp=E,505nm,0.4s						
JMU				IAML		01 29 19.5	
	comp=E,228nm,0.5s						
KSH	Kashi	5.04	50	Pn	Pn	01 28 15.5	-1.8
KSH				Sn	Sn	01 29 03.1	-11
KSH				smax	smax		
	comp=N,1μm,0.6s						
KSH				smax	smax		
	comp=E,670nm,0.6s						
ARSB	Arslanbob	5.20	17		Pn	01 28 20.6	+1.1
ARSB	Arslanbob	5.20	17	PN	Pn	01 28 20.6	+1.1
IUG	Iuzhnay	5.83	353	*e*PN	Pn	01 28 28.9	+0.8
DHRM	DHARAMSHALA	6.00	132	*eP*	Pn	01 28 31.3	+0.8
DHRM				*eS*	Sn	01 29 35.2	-2.6
DHRM				IAML		01 29 38.0	
	comp=E,225nm,0.3s						
DHRM				IAML		01 29 39.4	
	comp=N,194nm,0.3s						
AML	Almayashu	6.14	19	P	Pn	01 28 33.6	+1.2
	SNR=88						
UCH	Uchtor	6.47	24	P	Sn	01 29 47.9	-1.6
	SNR=11						
EKS2	Erkin-Say	6.66	18	P	Pn	01 28 40.5	+1.3
	SNR=33						
BHK	Bhakra	6.67	136	*eS*	Sn	01 29 51.2	-2.7
BHK				*ex*	x	01 29 59.8	
BRLS	Borolday	6.73	353	*e*PN	Pn	01 28 36.9	-3.2
KK31	Karatay Array	6.75	357	Pn	Pn	01 28 40.8	+0.3
KK31	Karatay Array	6.75	357	⇓P	Pn	01 28 40.7	+0.3
	comp=N,13nm,0.3s,baz=174,slow=12						
KK31				⇑S	Sn	01 29 52.6	-3.2
	comp=N,21nm,0.3s,baz=181,slow=23,SNR=7.4						
KK31	Karatay Array	6.75	357	PN	Pn	01 28 40.8	+0.3
KKAR	Karatay Array	6.75	357	Pn	Pn	01 28 40.8	+0.4
KKAR	Karatay Array	6.75	357	Pn	Pn	01 28 40.9	+0.4
KKAR	Karatay Array	6.75	357	PN	Pn	01 28 40.9	+0.5
AAK	Ala-Archa	6.83	22	P	Pn	01 28 42.9	+1.2
	comp=N,15nm,0.4s,baz=188,slow=4.9,SNR=98						
AAK				S	Sn	01 29 56.6	-1.3
	comp=N,24nm,0.4s,baz=343,slow=22,SNR=12						
AAK				LR	LR	01 31 52.8	
	comp=N,26nm,20.9s,baz=116,slow=42						
AAK	Ala-Archa	6.83	22	P	Pn	01 28 43.0	+1.4
	SNR=44						
AAK	Ala-Archa	6.83	22	⇑P	Pn	01 28 42.8	+1.2
	comp=N,8.3nm,0.3s						
AAK				⇓S	Sn	01 29 56.4	-1.6
	comp=N,75nm,0.6s						
AAK	Ala-Archa	6.83	22	*c iP*N	Pn	01 28 43.1	+1.4
AAK				pmax	pmax		
	comp=Z,19nm,0.8s						
KBK	Karagaybulak	6.99	25	P	Pn	01 28 45.8	+2.0
	SNR=6.8						
FRU1	Bishkek	7.03	22		Pn	01 28 45.9	+1.6
FRU1	Bishkek	7.03	22	PN	Pn	01 28 45.9	+1.6
BOOM	Boomskoye usch	7.22	30	Pn	Pn	01 28 48.5	+1.5
BOOM	Boomskoye usch	7.22	30	PN	Pn	01 28 48.5	+1.5
CHMS	Chumysh	7.24	22	P	Pn	01 28 49.0	+1.9
	SNR=21						
CHMS	Chumysh	7.24	22	⇓P	Pn	01 28 47.0	-0.1
	comp=Z,14nm,0.5s						
CHMS				⇑S	Sn	01 30 05.2	-2.5
	comp=Z,51nm,0.8s						
CHMS	Chumysh	7.24	22	PN	Pn	01 28 47.0	-0.1
SMLA	Simla	7.32	134	*eP*	Pn	01 28 47.7	-0.4
SMLA				*eS*	Sn	01 30 05.6	-4.0
SMLA				IAML		01 30 08.7	
	comp=E,284nm,0.5s						
SMLA				IAML		01 30 09.2	
	comp=N,285nm,0.6s						
USP	Ospenovka	7.41	20	P	Pn	01 28 50.6	+1.2
	SNR=14						
HRA	Herat	7.42	257		Pn	01 28 50.3	+0.6
TKM2	Tokmak 2	7.46	27	P	Pn	01 28 51.6	+1.4
	SNR=12						
TKM2	Tokmak 2	7.46	27	⇓P	Pn	01 28 51.2	+1.1
	comp=N,22nm,0.6s						
TKM2				⇓S	Sn	01 30 12.8	-0.3
	comp=N,41nm,0.8s						
TKM2	Tokmak 2	7.46	27	PN	Pn	01 28 51.2	+1.1
TARG	Taragay, Kyrgy	7.54	43		Pn	01 28 53.1	+1.6
TARG	Taragay, Kyrgy	7.54	43	PN	Pn	01 28 53.1	+1.6
WUS	Wushi	8.04	50	Pn	Pn	01 29 00.3	+2.3
DDI	Dehra Dun	8.42	134	*eS*	Sn	01 30 31.7	-5.0
BKNR	BIKANER	8.53	166	*eS*	Sn	01 30 32.7	-6.5
JOSI	Joshimath	9.19	127	*eP*	Pn	01 29 13.7	-0.1
JOSI				*eS*	Sn	01 30 47.9	-7.7
JOSI				IAML		01 30 54.3	
	comp=N,220nm,0.4s						
JOSI				IAML		01 30 56.9	
	comp=E,230nm,0.6s						
KPKS	Kokpek	9.23	37	*eP*	Pn	01 29 20.3	+6.1
NDI	New Delhi	9.27	144	*eP*	Pn	01 29 16.5	+1.8
NDI				*eS*	Sn	01 30 49.4	-7.9
NDI				IAML		01 30 54.3	
	comp=E,61nm,0.5s						
NDI				IAML		01 31 04.5	
	comp=E,60nm,0.4s						
NPLP	NPLP New Delhi	9.29	144	*eS*	Sn	01 30 50.7	-6.9
JASL	Jaisalmer	9.40	181	*eS*	Sn	01 30 51.9	-8.5
KUDL	Kundal	9.41	149	*eP*	Pn	01 29 15.2	-1.4
KUDL				*eS*	Sn	01 30 51.7	-8.9
KUDL				IAML		01 30 56.0	
	comp=E,114nm,0.4s						
KUDL				*ex*	x	01 31 01.5	
KUDL				IAML		01 31 08.9	
	comp=E,65nm,0.3s						
ARXS	Arharly	9.42	31	*eP*	Pn	01 29 18.8	+2.0
SONA	Sohna	9.58	146	*eS*	Sn	01 30 56.7	-8.0
SONA				IAML		01 31 02.4	
	comp=N,76nm,0.4s						
SONA				IAML		01 31 02.9	
	comp=E,122nm,0.3s						
LGTI	Lohaghat	10.38	129	*eP*	Pn	01 29 27.7	-2.1
LGTI				*eS*	Sn	01 31 13.6	-10
LGTI				IAML		01 31 18.5	
	comp=E,65nm,0.5s						
LGTI				IAML		01 31 30.1	
	comp=E,64nm,0.6s						
JHNI	Jhansi	12.63	147	*eP*	Pn	01 29 57.2	-2.8
JHNI				*eS*	Sn	01 32 07.4	-11
GUNA	GUNA	12.87	153	*eS*	Sn	01 32 12.5	-12
BHUJ	Bhuj	13.11	185	*eS*	Sn	01 32 20.8	-10
MAKZ	Makanchi	13.27	35	Pn	Pn	01 30 08.6	+0.3
MAKZ	Makanchi	13.27	35	⇑P	Pn	01 30 08.3	0.0
	comp=E,2.0nm,0.7s						
MAKZ	Makanchi	13.27	35	P	Pn	01 30 08.6	+0.3
MK31	Makanchi Array	13.41	35	Pn	Pn	01 30 11.2	+1.1
MK31	Makanchi Array	13.41	35	⇑P	Pn	01 30 14.5	+4.4
	comp=E,1.0nm,0.5s,baz=218,slow=14,SNR=21						
MK31	Makanchi Array	13.41	35	⇓*eP*	Pn	01 30 14.7	+4.6
MKAR	Makanchi Array	13.41	35	P	Pn	01 30 10.6	+0.5
	comp=E,0.8nm,0.5s,baz=204,slow=11,SNR=12						
MKAR	Makanchi Array	13.41	35	*ceP*	Pn	01 30 12.8	+2.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BHPL	Bhopal	14.20	155	*eP*	Pn	01 30 16.3	-4.3
BHPL				IAmb	IAmb	01 30 27.9	
	comp=Z,12nm,1.1s						
BHPL				*eS*	Sn	01 32 45.4	-12
ALBI	Allahabad	14.39	137	*eS*	Sn	01 32 49.0	-12
AB31	Akbulak array	15.21	331	⇓P	Pn	01 30 31.9	-1.3
	comp=Z,1.4nm,0.3s,baz=160,slow=11,SNR=179						
AB31				⇓S	Sn	01 33 11.0	-10
	comp=Z,18nm,0.6s,baz=158,slow=23,SNR=15						
AB31	Akbulak array	15.21	331	P	Pn	01 30 31.9	-1.3
AB31				S	Sn	01 33 11.0	-10
ABKAR	Akbulak array	15.21	331		Pn	01 30 31.4	-1.8
ABKAR				IAmb	IAmb	01 30 33.8	
	comp=Z,7.9nm,1.1s						
ABKAR	Akbulak array	15.21	331		Pn	01 30 31.2	-2.0
KURBB	Kurchatov Arra	15.26	18	P	Pn	01 30 33.3	-0.5
	comp=Z,0.4nm,0.5s,baz=207,slow=10,SNR=19						
KURBB				S	Sn	01 33 24.7	+2.5
	comp=Z,0.2nm,0.4s,baz=260,slow=22,SNR=1.8						
KURBB	Kurchatov Arra	15.26	18	⇑P	Pn	01 30 36.2	+2.4
	comp=Z,5.2nm,0.7s						
KURBB	Kurchatov Arra	15.26	18	P	Pn	01 30 36.2	+2.4
KURK	Kurchatov	15.37	19	Pn	Pn	01 30 35.9	+0.7
KURK				IAmb	IAmb	01 30 40.7	
	comp=Z,5.8nm,0.9s						
KURK	Kurchatov	15.37	19	⇑P	Pn	01 30 37.8	+2.7
	comp=Z,6.6nm,0.9s						
KURK	Kurchatov	15.37	19	P	Pn	01 30 37.8	+2.7
AKL	Akola	16.46	160	*eP*	Pn	01 30 47.6	-1.3
AKL				IAmb	IAmb	01 30 52.4	
	comp=Z,12nm,1.0s						
AKL				*eS*	Sn	01 33 36.9	-15
BVA0	Borovoye Array	16.68	359	⇑P	Pn	01 30 51.6	+0.2
	comp=Z,2.2nm,0.7s,baz=154,slow=12,SNR=21						
BVA0	Borovoye Array	16.68	359	P	Pn	01 30 51.6	+0.2
BVAR	Borovoye Array	16.68	359	P	Pn	01 30 51.1	-0.2
	comp=Z,1.7nm,0.3s,baz=160,slow=9.0,SNR=15						
BVAR				S	Sn	01 33 49.6	-6.7
	comp=Z,1.8nm,0.5s,baz=166,slow=23,SNR=5.1						
BRVK	Borovoye	16.71	358	P	Pn	01 30 51.3	-0.5
BRVK	Borovoye	16.71	358	⇑P	Pn	01 30 50.7	-1.0
	comp=Z,3.1nm,0.7s						
BRVK	Borovoye	16.71	358	⇓*eP*	P	01 30 53.6	+1.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	16.91	330	P	P	01 30 56.0	+1.4
	comp=Z,11nm,0.7s,baz=153,slow=7.6,SNR=19						
AKTO				S	Sn	01 33 53.4	-8.5
	comp=Z,5.6nm,0.6s,baz=147,slow=22,SNR=8.0						
AKTO	Aktyubinsk	16.91	330	⇑P	P	01 30 55.3	+0.6
	comp=Z,6.7nm,0.8s						
AKTO				⇑S	Sn	01 33 50.5	-11
	comp=Z,17nm,0.9s						
LSA	Lhasa	18.14	106	P	P	01 31 09.9	+1.1
LSA				IAmb	IAmb	01 31 33.4	
	comp=Z,11nm,1.0s						
LSA	Lhasa	18.14	106	P	P	01 31 09.9	+1.1
LSA				pmax	pmax		
	comp=Z,11nm,1.0s						
ZAA0	Zalesovo Array	20.05	24	P	P	01 31 28.8	-0.1
ZAA0				IAmb	IAmb	01 31 31.8	
	comp=Z,8.6nm,0.8s						
ZAA0	Zalesovo Array	20.05	24	⇑P	P	01 31 29.6	+0.7
	comp=Z,1.2nm,0.7s						
ZALV	Zalesovo Beam	20.05	24	P	P	01 31 29.3	+0.4
	comp=Z,5.3nm,0.4s,baz=223,slow=10,SNR=30						
	comp=Z,5.3nm,0.4s						
ZALV	Zalesovo Beam	20.05	24	*i P*	P	01 31 30.6	+1.7
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GNI	Garni	20.94	288	P	P	01 31 38.1	-0.7
GNI	Garni	20.94	288	P	Pn	01 31 42.2	-0.1
	comp=Z,34nm,0.9s,baz=55,slow=2.0,SNR=32						
GNI				S	Sn	01 35 33.3	-5.7
	comp=Z,1.2nm,0.7s,baz=228,slow=16,SNR=1.2						
	comp=Z,34nm,0.9s						
GNI	Garni	20.94	288	*d iP*	Pn	01 31 42.9	+0.6
GNI				pmax	pmax		
	comp=Z,44nm,1.0s						
ARTI	Arti	21.78	341	P	P	01 31 47.0	-0.4
ARTI				IAmb	IAmb	01 31 53.6	
	comp=Z,6.3nm,1.0s						
ARTI	Arti	21.78	341	P	P	01 31 49.2	+1.8
	comp=Z,2.4nm,0.4s,baz=178,slow=8.5,SNR=7.8						
ARTI				S	S	01 35 44.8	+2.5
	comp=Z,3.0nm,0.6s,baz=150,slow=16,SNR=4.8						
	comp=Z,2.4nm,0.4s						
ARTI	Arti	21.78	341	*c iP*	P	01 31 49.8	+2.4
ARTI						01 32 17.6	
ARTI				S	S	01 35 44.0	+1.8
ARTI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NCK	Nalchik	22.13	297	⇑*eP*	P	01 31 53.0	+1.7
NCK				pmax	pmax		
	comp=Z,14nm,0.6s						
KBZ	Khabaz	22.67	298	P	P	01 31 58.9	+2.1
	comp=Z,2.3nm,0.9s,baz=168,slow=4.4,SNR=5.8						
KBZ				S	Sn	01 36 08.2	-12
	comp=Z,3.5nm,0.7s,baz=130,slow=5.3,SNR=7.3						
	comp=Z,2.3nm,0.9s						
KBZ	Khabaz	22.67	298	⇓*eP*	P	01 31 57.1	+0.3
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SHA1	Shidzhatmaz	22.84	298	⇓*eP*	P	01 32 01.3	+2.4
KIV	Kislovodsk	22.86	298	*eP*	P	01 32 00.5	+1.7
KIV				*eS*	S	01 36 00.6	-0.1
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
RAYN	Ar Rayn	25.44	247	P	P	01 32 21.8	-0.8
RAYN	Ar Rayn	25.44	247	P	P	01 32 21.8	-0.8
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANN	Anapa	26.70	299	*eP*	P	01 32 37.4	+3.7
ANN				*e*PP	pP	01 32 58.9	+2.6
ANN				pmax	pmax		
	comp=Z,75nm,1.1s						
SONM	Songino Array	28.42	55	P	P	01 32 49.4	+0.2
	comp=Z,0.5nm,0.7s,baz=264,slow=13,SNR=2.4						
	comp=Z,0.5nm,0.7s						
MMAI	Mount Meron Ar	29.36	274	P	P	01 32 59.4	+1.8
	comp=Z,0.4nm,0.5s,baz=53,slow=13,SNR=1.8						
	comp=Z,0.4nm,0.5s						
BR131	Keskin Array S	29.48	288	P	P	01 32 58.0	-0.7
BR131				IAmb	IAmb	01 33 01.8	
	comp=Z,2.8nm,0.9s						
BR131	Keskin Array S	29.48	288	⇓*eP*	P	01 33 00.9	+2.3
BRTR	Keskin Array B	29.48	288	P	P	01 33 01.1	+2.5
	comp=Z,1.2nm,0.7s,baz=104,slow=8.9,SNR=12						
	comp=Z,1.2nm,0.7s						
CMAR	Chiang Mai Arr	30.38	118	P	P	01 33 05.7	-1.0
	comp=Z,0.8nm,0.3s,baz=301,slow=8.0,SNR=6.4						
	comp=Z,0.8nm,0.3s						
ELL	Elmali	32.83	283	P	P	01 33 27.9	-0.2
ELL	Elmali	32.83	283	P	P	01 33 27.9	-0.2
ELL				pmax	pmax		
	comp=Z,32nm,0.6s						
AKASG	Malin Array Be	33.04	309	P	P	01 33 30.4	+0.8
	comp=Z,0.3nm,0.3s,baz=81,slow=7.2,SNR=12						
	comp=Z,0.3nm,0.3s						
MNK	Minsk	34.60	315	*i* P	P	01 33 44.6	+1.5
	comp=E,13nm,1.0s						
MNK				*i* P	P	01 33 44.6	+1.5
	comp=N,5.0nm,0.9s						
MNK				*i* P	P	01 33 44.6	+1.5
	comp=Z,5.0nm,1.0s,baz=104						
MNK				*i* pP	pP	01 34 09.2	+2.5
MNK				*i* PP	PP	01 35 05.3	+2.1
MNK				*i* S	S	01 39 04.3	-0.6
MNK				*i* sS	sS	01 39 47.6	+1.2
MNK				*i* SS	SnSn	01 41 26.6	-0.6
MNK				*i* LQ	LQ	01 43 34.0	
MNK				*i* LR	LR	01 47 19.7	
MNK				*i* LRM	MLR	01 48 06.5	
	comp=N,348nm,17.7s						
MNK				*i* LRM	MLR	01 48 19.0	
	comp=Z,84nm,12.2s						
MNK				*i* LRM	MLR	01 48 27.6	
	comp=E,296nm,21.3s						
MNK	Minsk	34.60	315	*i* P	P	01 33 44.5	+1.5
MNK				*i* *PP	pP	01 34 09.1	+2.5
MNK				*i*		01 35 05.3	
MNK				*i* S	S	01 39 04.2	-0.6
MNK				*i* *SS	sS	01 39 47.6	+1.2
MNK				*i* SS	SnSn	01 41 26.6	-0.6
MNK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MNK				pmax	pmax		
	comp=E,13nm,1.0s						
MNK				pmax	pmax		
	comp=N,5.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,348nm,18.0s						
MNK				MLR	MLR		
	comp=Z,84nm,12.0s						
MNK				MLR	MLR		
	comp=E,296nm,21.0s						
IDI	Anoyia	37.13	282	LR	LR	01 51 39.6	
	comp=E,64nm,19.9s,baz=119,slow=40						
FINES	FINESS Array B	37.60	326	P	P	01 34 09.5	+1.0
	comp=E,2.0nm,0.3s,baz=118,slow=8.2,SNR=28						
	comp=E,2.0nm,0.3s						
FINES	FINESS Array B	37.60	326	*i* P	P	01 34 10.5	+2.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VADS	Vadso	40.45	339	*eP*	P	01 34 33.9	+1.8
VADS				IAmb	IAmb	01 34 36.1	
	comp=Z,194nm,2.0s						
ARA0	ARCESS Array S	41.28	338	*eP*	P	01 34 40.8	+1.8
ARA0				IAmb	IAmb	01 34 55.5	
	comp=Z,1μm,3.2s						
ARCES	ARCESS Array B	41.28	338	P	P	01 34 40.5	+1.6
	comp=Z,2.0nm,0.5s,baz=116,slow=7.7,SNR=18						
	comp=Z,2.0nm,0.5s						
KTK1	Kautokeino	41.75	336	*eP*	P	01 34 44.2	+1.4
KTK1				IAmb	IAmb	01 34 46.9	
	comp=Z,93nm,1.8s						
HAMF	Hammerfest	42.36	339	*eP*	P	01 34 49.6	+1.8
HAMF				IAmb	IAmb	01 34 59.5	
	comp=Z,189nm,1.9s						
HFS	Hagfors	43.18	322	P	P	01 34 56.1	+1.6
	comp=Z,4.0nm,0.5s,baz=98,slow=11,SNR=20						
	comp=Z,4.0nm,0.5s						
TRO	Tromso	43.40	336	*eP*	P	01 34 58.3	+2.2
TRO				IAmb	IAmb	01 35 01.2	
	comp=Z,139nm,1.7s						
FAUS	Fauske	43.93	333	*eP*	P	01 35 02.3	+1.9
FAUS				IAmb	IAmb	01 35 07.2	
	comp=Z,134nm,2.1s						
MOR8	Moi Rana	43.94	331	*eP*	P	01 35 01.4	+0.8
MOR8				IAmb	IAmb	01 35 02.0	
	comp=Z,7.1nm,0.6s						
STEI	Steigen	44.10	333	*eP*	P	01 35 03.5	+1.8
STEI				IAmb	IAmb	01 35 05.4	
	comp=Z,43nm,1.6s						
NC602	NORSAR Array S	44.31	323	*eP*	P	01 35 04.0	+0.5
NC602				IAmb	IAmb	01 35 05.6	
	comp=Z,348nm,3.1s						
LEIR	Leirfjorden	44.46	330	*eP*	P	01 35 05.1	+0.5
LEIR				IAmb	IAmb	01 35 07.3	
	comp=Z,7.4nm,0.9s						
NB2	NORSAR Subarra	44.50	323	P	P	01 35 06.0	+0.9
	comp=Z,4.8nm,0.7s,baz=98,slow=7.9						
NB2	NORSAR Subarra	44.50	323	P	P	01 35 06.0	+0.9
	baz=98,slow=7.9						
NOA	NORSAR Array B	44.50	323	P	P	01 35 06.1	+0.9
	comp=Z,1.7nm,0.5s,baz=104,slow=7.3,SNR=13						
	comp=Z,1.7nm,0.5s						
KONO	Kongsberg	45.20	321	*eP*	P	01 35 11.8	+1.2
SKAR	Skarslia	45.89	322	*eP*	P	01 35 18.1	+1.9
SKAR				IAmb	IAmb	01 35 19.5	
	comp=Z,1μm,4.3s						
SPITS	Spitsbergen Ar	47.63	347	P	P	01 35 30.2	+0.8
	comp=Z,11nm,1.0s,baz=148,slow=7.9,SNR=6.2						
	comp=Z,11nm,1.0s						
EKA	Eskdalemuir Ar	52.39	316	P	P	01 36 05.8	+0.1
	comp=Z,0.6nm,0.3s,baz=91,slow=5.0,SNR=3.5						
	comp=Z,0.6nm,0.3s						
INK	Inuvik	74.05	9	P	P	01 38 29.3	+0.9
INK				IAmb	IAmb	01 38 30.2	
	comp=Z,2.1nm,0.6s						
INK	Inuvik	74.05	9	P	P	01 38 29.3	+0.9
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	74.92	16	P	P	01 38 33.9	+0.4
	comp=Z,0.4nm,0.8s,baz=295,slow=4.5,SNR=4.7						
	comp=Z,0.4nm,0.8s						
BOSA	Boshof	77.64	220	P	P	01 38 49.2	-0.2
	comp=Z,4.5nm,1.1s,baz=329,slow=14,SNR=1.8						
	comp=Z,4.5nm,1.1s						
YKA	Yellowknife Ar	81.39	3	P	P	01 39 09.9	+0.7
	comp=Z,0.4nm,0.6s,baz=347,slow=5.4,SNR=13						
	comp=Z,0.4nm,0.6s						
YKA	Yellowknife Ar	81.39	3	P	P	01 39 10.0	+0.7
WRA	Warramunga Arr	81.91	122	P	P	01 39 11.3	-1.3
	comp=Z,0.9nm,0.5s,baz=324,slow=4.9,SNR=18						
	comp=Z,0.9nm,0.5s						
ASAR	Alice Springs	84.17	125	P	P	01 39 23.2	-1.0
	comp=Z,1.4nm,0.7s,baz=308,slow=

WRA	Warramunga Arr	43.47	260	P	P	01 46 08.4	-0.2
WRA	Warramunga Arr	43.47	260	P	P	01 46 08.4	-0.2
	comp=Z,0.9nm,0.5s,baz=94,slow=7.1,SNR=12						
WRA				PcP	PcP	01 47 42.4	+0.1
	comp=Z,0.6nm,0.8s,baz=93,slow=5.8,SNR=1.9						
	comp=Z,0.9nm,0.5s						
AS31	Alice Springs	43.65	254	P	P	01 46 10.2	+0.2
AS31				IAmb	IAmb	01 46 10.8	
	comp=Z,3.2nm,0.6s						
ASAR	Alice Springs	43.65	254	P	P	01 46 09.9	0.0
ASAR	Alice Springs	43.65	254	P	P	01 46 10.3	+0.4
	comp=Z,11nm,0.6s,baz=89,slow=8.2,SNR=159						
ASAR				PcP	PcP	01 47 43.8	+0.9
	comp=Z,0.7nm,0.6s,baz=98,slow=3.9,SNR=5.0						
ASAR				ScP	ScP	01 50 38.0	+1.7
	comp=Z,0.4nm,0.7s,baz=87,slow=4.1,SNR=4.3						
ASAR				S	S	01 51 56.6	+0.3
	comp=Z,0.8nm,1.0s,baz=86,slow=14,SNR=7.5						
	comp=Z,11nm,0.6s						
BYL	Byron's Ledge	44.17	34	P	P	01 46 14.2	+0.2
MLH	Mauna Loa	44.17	34	P	P	01 46 14.7	+0.5
KNHH	Kane Nui o Ham	44.20	34	P	P	01 46 14.5	+0.3
HMH	Humu'ula Sheep	44.21	34	P	P	01 46 14.1	-0.4
FORT	Forrest	48.93	245	P	P	01 46 49.4	-0.1
FORT				IAmb	IAmb	01 46 50.4	
	comp=Z,15nm,0.7s						
KNRA	Kununurra	49.32	265	P	P	01 46 52.9	+0.4
KNRA				IAmb	IAmb	01 47 17.0	
	comp=Z,12nm,1.4s						
FITZ	Fitzroy Crossi	51.86	261	P	P	01 47 11.4	+0.5
PSA00	Pilbara Seismi	56.76	256	P	P	01 47 45.0	-0.1
PSA00				IAmb	IAmb	01 48 08.8	
	comp=Z,49nm,1.5s						
MBWA	Marble Bar	56.93	256	P	P	01 47 45.7	-0.5
MBWA				IAmb	IAmb	01 48 22.8	
	comp=Z,34nm,1.3s						
MORW	Morawa	59.39	246	P	P	01 48 02.9	+0.3
MORW				IAmb	IAmb	01 48 04.6	
	comp=Z,14nm,1.1s						
VNDA	Vanda	60.32	185	P	P	01 48 07.9	0.0
VNDA	Vanda	60.32	185	P	P	01 48 08.9	+1.1
	comp=Z,1.1nm,0.7s,baz=55,slow=6.8,SNR=2.4						
	comp=Z,1.1nm,0.7s						
CASY	Casey	65.62	205	P	P	01 48 42.5	+0.7
CASY				IAmb	IAmb	01 48 43.5	
	comp=Z,11nm,1.0s						
JTM	Tenmabayashi	68.89	329	P	P	01 49 03.9	+1.8
QSPA	South Pole Qui	72.11	180	P	P	01 49 21.5	+0.7
QSPA				IAmb	IAmb	01 49 22.3	
	comp=Z,9.5nm,0.8s						
QSPA	South Pole Qui	72.11	180	P	P	01 49 21.6	+0.7
	comp=Z,7.2nm,0.6s,baz=300,slow=0.6,SNR=60						
	comp=Z,7.2nm,0.6s						
PETK	Petropavlovsk-	73.42	346	P	P	01 49 28.2	-0.1
	comp=Z,1.5nm,0.5s,baz=183,slow=6.4,SNR=2.5						
	comp=Z,1.5nm,0.5s						
O02D	Mt. Diablo Mer	78.34	41	P	P	01 49 56.5	+0.8
O02D				IAmb	IAmb	01 50 13.8	
	comp=Z,7.7nm,1.3s						
CMB	Columbia Colle	78.67	44	P	P	01 49 58.0	+0.6
YBH	Yreka Blue Hor	79.30	40	P	P	01 50 01.4	+0.7
YBH				IAmb	IAmb	01 50 10.1	
	comp=Z,5.5nm,1.3s						
N15K	Kwethluk River	79.43	10	P	P	01 50 01.8	+0.9
N15K				IAmb	IAmb	01 50 28.3	
	comp=Z,38nm,1.4s						
WAKR	Walker	79.55	44	P	P	01 50 03.3	+1.0
PNTR	Pine Nut	79.77	43	P	P	01 50 03.8	+0.4
PNTR				IAmb	IAmb	01 50 05.4	
	comp=Z,6.5nm,0.9s						
NVAR	Mina Array Bea	80.27	44	P	P	01 50 06.0	0.0
	comp=Z,1.6nm,0.7s,baz=227,slow=9.2,SNR=13						
	comp=Z,1.6nm,0.7s						
J05D	Fort Rock, OR	81.08	39	P	P	01 50 11.4	+1.4
J05D				IAmb	IAmb	01 50 12.1	
	comp=Z,7.7nm,0.8s						
PINE	Pine Mountain	81.55	39	P	P	01 50 13.7	+1.2
PINE				IAmb	IAmb	01 50 14.6	
	comp=Z,5.3nm,0.8s						
X16A	Lo Mia Camp, P	83.11	51	P	P	01 50 20.7	+0.2
HLID	Hailey	85.43	41	P	P	01 50 32.2	+0.6
HLID				IAmb	IAmb	01 50 33.6	
	comp=Z,2.3nm,0.8s						
ILAR	Eielson Array	86.19	13	P	P	01 50 33.6	-0.8
	comp=Z,0.8nm,0.8s,baz=237,slow=5.6,SNR=8.2						
	comp=Z,0.8nm,0.8s						
TXAR	Lajitas Array	87.01	58	P	P	01 50 39.4	+0.1
	comp=Z,1.3nm,0.9s,baz=190,slow=6.2,SNR=5.5						
	comp=Z,1.3nm,0.9s						
PDAR	Pinedale Array	88.19	44	P	P	01 50 45.3	+0.7
	comp=Z,0.6nm,0.7s,baz=209,slow=3.5,SNR=8.0						
	comp=Z,0.6nm,0.7s						
TROLL	Troll, Antarti	90.27	181	⇑P	P	01 50 53.9	+0.2
	comp=Z,350nm,0.7s						
SNAA	Sanae	90.59	179	P	P	01 50 55.2	+0.1
	comp=Z,0.9nm,0.4s,baz=205,slow=13,SNR=6.7						
	comp=Z,0.9nm,0.4s						
VNA3	Neumayer Olymp	90.78	177	⇑P	P	01 50 55.7	-0.2
	comp=Z,9.9nm,0.6s						
YKA	Yellowknife Ar	94.85	25	P	P	01 51 13.9	-0.5
	comp=Z,0.3nm,0.8s,baz=248,slow=3.8,SNR=4.0						
	comp=Z,0.3nm,0.8s						
LODK	Lodwar	142.80	251		PKPdf	01 57 21.9	-1.1
MMAI	Mount Meron Ar	145.17	302	PKPbc	PKPbc	01 57 28.4	+0.6
	comp=Z,0.6nm,0.5s,baz=61,slow=5.2,SNR=3.6						

IDC 12 02:27:37.5±2.1, 7°.23S×155°.09E, h0km, mb3.6/6, mbtmp3.5/6, Error ellipse: s-maj=80.3km s-min=27.9km az=127.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.76	236	P	P	02 32 51.3	-0.5
	1.1nm,0.8s,baz=58,slow=9.2,SNR=5.2						
	1.1nm,0.8s						
ASAR	Alice Springs	26.09	229	P	P	02 33 13.5	+0.4
	0.2nm,0.5s,baz=59,slow=8.9,SNR=2.2						
	0.2nm,0.5s						
SONM	Songino Array	69.59	327	P	P	02 38 48.9	+0.3
	0.3nm,0.6s,baz=124,slow=5.4,SNR=2.7						
	0.3nm,0.6s						
ILAR	Eielson Array	83.56	21	P	P	02 40 05.9	-1.2
	0.1nm,0.5s,baz=253,slow=4.8,SNR=1.5						
	0.1nm,0.5s						
MKAR	Makanchi Array	83.64	319	P	P	02 40 08.1	0.0
	0.6nm,0.8s,baz=118,slow=5.6,SNR=6.6						
	0.6nm,0.8s						
YKA	Yellowknife Ar	96.50	28	P	P	02 41 09.5	+0.9
	0.3nm,0.8s,baz=268,slow=4.8,SNR=4.8						
	0.3nm,0.8s						

NEIC 12 02:47:13.6±0.5, 18°.6N±0°.5×68°.5W±0°.1, h74km±6km, ML2.3/10, Md3.2/1(RSPR), Error ellipse: s-maj=66.1km s-min=3.1km az=191.0
SDD 12 02:47:13.0±2.0, 17°.94N×68°.36W, h12km±162km, MD2.4, ML2.0, MW1.9
RSPR 12 02:47:15.4, 18°.52N×68°.43W, h70km±2km

ISC 12 02:47:14.0±4.5, 18°.5N±0°.4×68°.5W±0°.2, h71km±23km, n19, σ0°64/21, 7C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.07	96		Pn	02 47 24.8	+0.5
PCDR					Sn	02 47 32.0	+0.2
PCDR	Punta Cana, DR	0.07	96	⇑ePg	Pn	02 47 22.8	-1.5
PCDR				⇑eSg	Sn	02 47 31.7	-0.2
PCDR				IAML		02 48 05.7	
	comp=N,178nm,2.7s						
PCDR	Punta Cana, DR	0.07	96	⇓eP	Pn	02 47 25.0	+0.7
PCDR	Punta Cana, DR	0.07	96	eS	Sn	02 47 32.5	+0.6
MIDR	Miches	0.72	309	⇓ePg	Pn	02 47 34.5	+5.2
MIDR				⇓eSg	Sn	02 47 51.1	+11
MIDR				IAML		02 48 28.1	
	comp=N,15nm,1.2s						
HATOM	Hato Mayor del	0.91	287	⇑ePg	Pn	02 47 37.7	+6.2
HATOM				⇑eSg	Sn	02 47 53.1	+8.6
HATOM				IAML		02 48 36.1	
	comp=N,24nm,3.9s						
CRPR	Cabo Rojo, PR	1.38	112		Pn	02 47 37.2	-0.2
CRPR					Sn	02 47 54.4	-0.7
CRPR	Cabo Rojo, PR	1.38	112	⇓eP	Pn	02 47 37.7	+0.3
CRPR	Cabo Rojo, PR	1.38	112	eS	Sn	02 47 54.9	-0.2
UUPR	Utuado, UPR, P	1.67	99		Pn	02 47 41.1	-0.1
UUPR				IAML		02 47 57.2	
	comp=E,32nm,2.5s						
UUPR				IAML		02 48 27.6	
	comp=N,25nm,2.0s						
UUPR	Utuado, UPR, P	1.67	99		Sn	02 48 01.7	-0.3
UUPR	Utuado, UPR, P	1.67	99	⇓eP	Pn	02 47 41.2	-0.1
UUPR	Utuado, UPR, P	1.67	99	eS	Sn	02 48 01.7	-0.3
OBIP	Obispado Ponce	1.82	105	Pn	Pn	02 47 43.5	+0.2
OBIP				IAML		02 48 26.4	
	comp=N,26nm,2.3s						
OBIP				IAML		02 48 59.0	
	comp=E,28nm,2.9s						
CELP	Cerrillos	1.84	104		Pn	02 47 43.2	-0.4
CELP				IAML		02 48 35.8	
	comp=N,24nm,2.6s						
CELP				IAML		02 48 52.8	
	comp=E,21nm,2.9s						
CELP	Cerrillos	1.84	104		Sn	02 48 06.5	+0.5
CELP	Cerrillos	1.84	104	⇓ePg	Pn	02 47 42.7	-0.8
CELP				⇓eSg	Sn	02 48 06.8	+0.8
CELP	Cerrillos	1.84	104	⇓eP	Pn	02 47 44.5	+0.9
CELP	Cerrillos	1.84	104	eS	Sn	02 48 06.5	+0.5

TAP 12 03:04:22.6, 24°.33N×122°.98E, h62km, ML3.5, D
JMA 12 03:04:22.9±0.1, 24°.N±2°.×123°.0E±0°.5, h63km±1km, MV3.1/18, NW OFF ISHIGAKIJIMA IS

ISC 12 03:04:23.4±1.2, 24°.26N±0°.03×122°.98E±0°.02, h58km±6km, n123, σ1°20/236, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.20	352	iP	Pn	03 04 32.3	-0.3
JYNG				eS	Sn	03 04 39.0	-0.2
YOJ	Yonaguni jima	0.21	9	S	Sn	03 04 39.4	0.0
YOJ	Yonaguni jima	0.21	9	P	Pn	03 04 32.3	-0.4
YOJ	Yonaguni jima	0.21	9	⇑iP	Pn	03 04 32.3	-0.4
YOJ				iS	Sn	03 04 39.1	-0.3
YOJ	Yonaguni jima	0.21	9	P	Pn	03 04 32.3	-0.4
YOJ				S	Sn	03 04 39.1	-0.3
EOS3	EOS3	0.60	273	iP	Pn	03 04 36.6	+0.5
EOS3				S	Sn	03 04 47.1	+1.5
EOS4	EOS4	0.61	258	iP	Pn	03 04 36.8	+0.7
EOS4				S	Sn	03 04 47.0	+1.5
IRIF	Iriomote-Funau	0.69	83	P	Pn	03 04 37.3	-0.1
IRIF				S	Sn	03 04 47.8	+0.2
EOS2	EOS2	0.70	284	iP	Pn	03 04 37.4	0.0
EOS2				S	Sn	03 04 48.4	+0.8
HATJ	Hateruma jima	0.78	104	P	Pn	03 04 39.2	+0.7
HATJ				eS	Sn	03 04 51.3	+1.6
JKRS	Kuro-shima	0.94	91	P	Pn	03 04 40.9	+0.3
JKRS				S	Sn	03 04 54.4	+1.1
JIJ	Ishigaki jima	1.07	84	P	Pn	03 04 41.9	-0.3
JIJ				S	Sn	03 04 55.9	-0.4
ESAO	Su ao	1.08	287	eP	Pn	03 04 41.8	-0.6
ESAO				iS	Sn	03 04 54.9	-1.6
TWC	Suao	1.09	289	iP	Pn	03 04 41.5	-1.0
TWC				iS	Sn	03 04 54.8	-1.9
EWUT	Wuta	1.11	280	eP	Pn	03 04 42.4	-0.4
EWUT				eS	Sn	03 04 56.7	-0.5
EGS		1.12	302	iP	Pn	03 04 42.1	-0.8
EGS				S	Sn	03 04 56.3	-1.1
EAHA	Aohua	1.13	274	iP	Pn	03 04 43.1	+0.1
EAHA				S	Sn	03 04 58.5	+0.7
ENA	Nanau	1.14	279	iP	Pn	03 04 43.1	-0.1
ENA				iS	Sn	03 04 57.5	-0.5
TWB1	Santiao Chiao	1.17	310	eP	Pn	03 04 42.8	-0.8
TWB1				S	Sn	03 04 56.8	-1.9
NDS	Dongshan	1.21	288	P	Pn	03 04 43.9	-0.2
NDS				iS	Sn	03 04 58.7	-0.9
ILA	Ilan	1.23	295	eP	Pn	03 04 44.3	-0.1
ILA				S	Sn	03 04 59.6	-0.5
ETL	Fush Village	1.24	266	iP	Pn	03 04 44.1	-0.4
ETL				eS	Sn	03 05 01.4	+1.1
JISG	Ishigakijimahi	1.26	75	P	Pn	03 04 44.3	-0.5
JISG				eS	Sn	03 05 00.1	-0.7
NACB	Ninganchiao	1.26	267	P	Pn	03 04 44.2	-0.6
NACB	Ninganchiao	1.26	267	iP	Pn	03 04 44.3	-0.6
NACB				S	Sn	03 05 02.3	+1.4
TIPB	Shuangxi	1.27	305	iP	Pn	03 04 44.1	-0.9
TIPB				iS	Sn	03 04 59.1	-2.0
TWD	Chiawan	1.27	262	iP	Pn	03 04 44.3	-0.7
TWD				eS	Sn	03 05 01.1	0.0
TWE	Neicheng	1.28	292	iP	Pn	03 04 44.5	-0.5
TWE				S	Sn	03 05 00.2	-1.0
HWA	Hwalien	1.28	258	eP	Pn	03 04 45.0	-0.1
HWA				eS	Sn	03 04 60.0	-1.4
SXI1	Grass Mountain	1.30	310	eP	Pn	03 04 44.8	-0.7
SXI1				eS	Sn	03 05 00.4	-1.6
TEYL	Yanliau Villag	1.32	253	iP	Pn	03 04 43.2	-2.3
TEYL				S	Sn	03 05 00.8	-1.4
ENTT	Nioudou	1.34	287	iP	Pn	03 04 46.1	+0.2
LATG	Datong	1.35	282	iP	Pn	03 04 46.1	0.0
LATG				eS	Sn	03 05 05.2	+2.0
NWF	Wu-fen Shan	1.36	307	iP	Pn	03 04 45.5	-0.7
NWF				S	Sn	03 05 02.3	-1.0
WFSB	Wu-fen Shan	1.36	307	iP	Pn	03 04 45.5	-0.6
WFSB				S	Sn	03 05 01.6	-1.5
FUSB	Fushanzhiwuyua	1.36	292	iP	Pn	03 04 45.8	-0.5
FUSB				S	Sn	03 05 02.2	-1.1
ETLH	Xiulin Townshi	1.36	268	iP	Pn	03 04 45.8	-0.5
ETLH				eS	Sn	03 05 05.7	+2.2
SHUL	Shoufeng	1.37	250	iP	Pn	03 04 46.0	-0.4
SHUL				iS	Sn	03 05 03.4	-0.1
ETM	Tongmen	1.39	258	iP	Pn	03 04 45.8	-0.7
ETM				S	Sn	03 05 02.6	-1.2
TEGC	Jichi Village	1.42	248	P	Pn	03 04 46.3	-0.7
TEGC				eS	Sn	03 05 05.1	+0.4
NWLT	Wulai	1.44	291	iP	Pn	03 04 46.9	-0.4
NWLT				iS	Sn	03 05 04.0	-1.2
LXIB	Xiulin Townshi	1.45	261	iP	Pn	03 04 46.8	-0.7
LXIB				eS	Sn	03 05 07.0	+1.5
NNSB	Datong	1.46	277	iP	Pn	03 04 47.4	-0.3
NNSB				eS	Sn	03 05 05.9	0.0
NNSH	Datong	1.46	277	iP	Pn	03 04 47.2	-0.4
NNSH				eS	Sn	03 05 07.3	+1.4
NNS	Nan Shan	1.47	278	iP	Pn	03 04 47.6	-0.2
NNS				eS	Sn	03 05 06.1	0.0
ESL	Shilin	1.48	253	iP	Pn	03 04 46.8	-0.9
ESL				S	Sn	03 05 05.7	-0.4
YHNB	Yeheng	1.52	286	P	Pn	03 04 48.6	+0.2
YHNB	Yeheng	1.52	286	iP	Pn	03 04 48.5	+0.2
YHNB				eS	Sn	03 05 06.7	-0.4
EGFH	Guangfu	1.53	248	iP	Pn	03 04 48.2	-0.3
EGFH				S	Sn	03 05 06.6	-0.8
NSK	Sanguang	1.53	286	iP	Pn	03 04 48.7	+0.1
NSK				iS	Sn	03 05 07.2	-0.3
WARBT	Fenglin Townsh	1.55	250	iP	Pn	03 04 47.9	-0.9
WARBT				S	Sn	03 05 07.1	-0.7
YM01	YM01	1.56	305	iP	Pn	03 04 48.3	-0.6
YM01				eS	Sn	03 05 06.8	-1.2
WHF	Hehuan Shan	1.57	266	iP	Pn	03 04 48.9	-0.5
WHF				eS	Sn	03 05 10.6	+1.8
YM08	YM08	1.57	307	P	Pn	03 04 47.7	-1.3
YM08				eS	Sn	03 05 07.3	-0.9
FUSS	Fushou	1.58	270	iP	Pn	03 04 49.4	0.0
FUSS				eS	Sn	03 05 09.4	+0.5
ZUZH	Zhuzihu	1.58	305	iP	Pn	03 04 48.3	-0.9
ZUZH				eS	Sn	03 05 08.5	-0.2
HGSD	Ruisui	1.61	242	iP	Pn	03 04 48.7	-0.9
HGSD				eS	Sn	03 05 08.5	-0.8
TWY	Chenhua	1.61	309	P	Pn	03 04 48.1	-1.4
TWY				S	Sn	03 05 08.2	-1.1
JTJ	Tarama	1.62	76	P	Pn	03 04 49.5	-0.1
JTJ				eS	Sn	03 05 09.1	-0.3
TWT	Tachien	1.64	270	iP	Pn	03 04 50.6	+0.5
TWT				S	Sn	03 05 12.0	+1.7
TWS1	Kuangyinshan	1.65	301	P	Pn	03 04 48.5	-1.6
TWS1				eS	Sn	03 05 08.5	-1.7
TDCB	Techi	1.66	270	iP	Pn	03 04 50.5	+0.1
TDCB				eS	Sn	03 05 11.1	+0.4
OWD	Renai	1.67	260	iP	Pn	03 04 50.1	-0.3
OWD				S	Sn	03 05 10.0	-1.0
EHYH	Wanrong	1.67	243	P	Pn	03 04 50.0	-0.4
EHYH				eS	Sn	03 05 10.0	-0.9
ECBN	Changbin	1.68	237	P	Pn	03 04 50.0	-0.4
ECBN				S	Sn	03 05 09.6	-1.3
EHY	Hungye	1.69	244	iP	Pn	03 04 50.0	-0.6
EHY				S	Sn	03 05 10.4	-0.8
WUSB	Renai	1.72	262	iP	Pn	03 04 51.0	-0.1
WUSB				S	Sn	03 05 11.7	-0.4
KSHI	Guanxi Townshi	1.72	288	iP	Pn	03 04 51.6	+0.6
KSHI				eS	Sn	03 05 12.7	+0.8
NFF	Wufeng Townshi	1.73	283	iP	Pn	03 04 51.8	+0.5
NFF				S	Sn	03 05 12.9	+0.6
VWDT	VWDT	1.75	254	iP	Pn	03 04 51.5	+0.1
VWDT				S	Sn	03 05 13.3	+0.7
YULB	Yu-li	1.76	241	P	Pn	03 04 51.4	-0.2
YULB	Yu-li	1.76	241	iP	Pn	03 04 51.3	-0.3
YULB				S	Sn	03 05 12.2	-0.7
EYUL	Yuli	1.77	240	iP	Pn	03 04 51.4	-0.2
EYUL				S	Sn	03 05 13.2	+0.2
TWF1	Yuli	1.78	240	iP	Pn	03 04 51.8	-0.1
TWF1				iS	Sn	03 05 13.5	0.0
CHKH	Chenggong	1.79	234	iP	Pn	03 04 51.1	-0.9
CHKH				S	Sn	03 05 12.0	-1.7
LIOB	Emei	1.83	283	iP	Pn	03 04 53.0	+0.5
LIOB				S	Sn	03 05 15.7	+1.1
NSTT	Nanjuang	1.84	282	iP	Pn	03 04 53.3	+0.7
NSTT				S	Sn	03 05 14.7	-0.1
WHP	Taichung City	1.85	271	iP	Pn	03 04 53.6	+0.7
WHP				S	Sn	03 05 17.2	+1.9
FULB	Fuli	1.87	236	iP	Pn	03 04 52.2	-0.8
FULB				S	Sn	03 05 15.8	+0.2
CHKT	Chengkung	1.87	232	iP	Pn	03 04 52.5	-0.6
CHKT				S	Sn	03 05 13.6	-2.0
WCS	Beigang Elemen	1.90	264	iP	Pn	03 04 53.9	+0.5
WCS				eS	Sn	03 05 16.2	0.0
SSLB	Suanglung	1.91	256	P	Pn	03 04 53.9	+0.3
SSLB	Suanglung	1.91	256	iP	Pn	03 04 53.6	0.0
SSLB				eS	Sn	03 05 16.2	-0.4
SMLT	Sun Moon Lake	1.93	259	⇑iP	Pn	03 04 53.4	-0.6
SMLT				eS	Sn	03 05 17.8	+0.5
EHD	Haiduan	1.96	236	iP	Pn	03 04 53.2	-1.1
EHD				eS	Sn	03 05 16.0	-1.8
TYC	Yuchr	1.97	260	⇑iP	Pn	03 04 54.9	+0.6
TYC				S	Sn	03 05 18.5	+0.6
ECS	Chishang	1.98	235	eP	Pn	03 04 55.7	+1.1
ECS				eS	Sn	03 05 19.9	+1.6
EDH	Donghe	2.00	231	iP	Pn	03 04 53.8	-1.0
EDH				iS	Sn	03 05 16.4	-2.2
YUS	Yu-Shan	2.00	248	iP	Pn	03 04 53.1	-2.2
YUS				iS	Sn	03 05 16.7	-2.8
NMLH	Miaoli	2.01	278	iP	Pn	03 04 55.7	+0.7
NMLH				eS	Sn	03 05 18.9	-0.1
TWQ1	Liyutan	2.01	273	iP	Pn	03 04 55.6	+0.6
TWQ1				S	Sn	03 05 20.3	+1.2
WHYT	Xinyi Township	2.02	254	iP	Pn	03 04 55.9	+0.7
WHYT				S	Sn	03 05 21.5	+2.2
JIRB	Irabujima	2.08	74	eP	Pn	03 04 55.9	0.0
ELDTW	Lidau	2.08	240	iP	Pn	03 04 55.6	-0.5
ELDTW				S	Sn	03 05 19.5	-1.5
LDUT	Ludao	2.10	222	iP	Pn	03 04 54.9	-1.2
LDUT				iS	Sn	03 05 19.4	-1.6
WJS	Zhushan	2.10	259	iP	Pn	03 04 57.8	+1.6
WJS				iS	Sn	03 05 23.6	+2.4
ALS	Alishan	2.12	250	iP	Pn	03 04 57.5	+0.7
ALS				S	Sn	03 05 23.2	+1.1
WNT	Mingjian	2.13	260	iP	Pn	03 04 58.2	+1.6
WNT				eS	Sn	03 05 24.5	+2.6
LONT	Longtian	2.16	232	iP	Pn	03 04 56.7	-0.3
LONT				S	Sn	03 05 21.7	-1.0
JIKM	Ikemajima	2.17	72	eP	Pn	03 04 57.3	+0.2
JIKM				eS	Sn	03 05 23.5	+0.6
JMJ2	Miyako jima3	2.20	77	eP	Pn	03 04 58.2	+0.7
JMJ2				eS	Sn	03 05 24.7	+1.2
WCHH	Zhanghua	2.21	266	P	Pn	03 04 58.7	+0.9
WCHH				eS	Sn	03 05 25.4	+1.4
TWGBT	Beinan	2.25	231	iP	Pn	03 04 57.9	-0.4
TWGBT				S	Sn	03 05 24.2	-0.8
TWG	Pinlang	2.26	231	iP	Pn	03 04 57.9	-0.5
TWG				S	Sn	03 05 24.0	-1.0
JOGS	Gusukube	2.27	77	eP	Pn	03 04 59.2	+0.7
STYH	Taoyuan	2.29	242	iP	Pn	03 04 59.3	+0.6
STYH				S	Sn	03 05 27.9	+2.1
WDLH	Douliu	2.30	256	iP	Pn	03 05 00.3	+1.4
WDLH				S	Sn	03 05 28.4	+2.4
WCKO	Fanlu	2.32	250	iP	Pn	03 04 59.9	+0.7
WCKO				iS	Sn	03 05 28.7	+2.2
TPUB	Ta-pu	2.35	247	P	Pn	03 05 01.4	+1.8
TPUB	Ta-pu	2.35	247	iP	Pn	03 05 01.2	+1.6
TPUB				S	Sn	03 05 29.5	+2.2
CHN4	Tsaushan	2.36	248	iP	Pn	03 05 01.3	+1.5
CHN4				S	Sn	03 05 30.9	+3.3
WTP	Ta-pu	2.38	246	iP	Pn	03 05 01.5	+1.3
WTP				iS	Sn	03 05 31.2	+2.9
WTK	Tuku	2.43	257	eP	Pn	03 05 34.4	+0.7
WTK				eS	Sn	03 05 30.9	+1.5
CHY	Chiayi	2.45	253	iP	Pn	03 05 02.4	+1.3
CHY				eS	Sn	03 05 32.9	+3.0
CHN1	Nanshi	2.48	245	iP	Pn	03 05 02.8	+1.4
CHN1				iS	Sn	03 05 33.6	+3.0
ECL	Taimali	2.48	229	P	Pn	03 05 00.7	-0.7
ECL				eS	Sn	03 05 28.7	-1.9
SGST	Jiashian	2.48	242	iP	Pn	03 05 02.5	+1.0
SGST				S	Sn	03 05 32.5	+1.8
SNST	Tainan City	2.49	246	iP	Pn	03 05 03.5	+1.9
SNST				S	Sn	03 05 33.8	+3.0
LAY	Lan-yu	2.57	211	eP	Pn	03 05 00.7	-1.9
LAY				S	Sn

12nm,0.3s
BSY Bisya 5.68 333 P **Pn 03 06 09.6 +1.5**
BSY S **Sn 03 07 13.0 -0.5**
WHFO Wadi Hawf 5.94 273 P **Pn 03 06 13.5 +1.9**
SNR=108
WHFO S **Sn 03 07 19.3 -0.5**
BIDO Bidbid 6.07 344 P **Pn 03 06 15.1 +1.7**
SNR=30
BIDO S **Sn 03 07 21.9 -1.0**
HOQ Hoqain 6.39 337 P **Pn 03 06 19.6 +1.9**
SNR=9.5
HOQ S Sn 03 07 28.5 -2.3
ABTO Aybut 6.40 268 P **Pn 03 06 20.1 +2.1**
SNR=100
ABTO S **Sn 03 07 30.7 -0.6**
ARQ Araqi 6.50 331 P **Pn 03 06 21.2 +1.9**
SNR=26
ARQ S **Sn 03 07 32.8 -0.8**
UMZA Um Al Zommool 6.76 319 P **Pn 03 06 24.7 +1.8**
UMZA S Sn 03 07 37.0 -3.0
SOHO SOHO 7.19 334 P **Pn 03 06 30.2 +1.4**
SOHO S **Sn 03 07 49.0 -1.5**
SOHO SOHO 7.19 334 *i* P **Pn 03 06 30.6 +1.8**
SNR=21
ALNE Al Ain 7.49 329 P **Pn 03 06 33.9 +1.1**
ALNE S **Sn 03 07 56.8 -1.0**
ALNE Al Ain 7.49 329 *i* P **Pn 03 06 34.6 +1.8**
SNR=8.4
ASHO Ashiyiah 7.88 333 P **Pn 03 06 41.1 +2.9**
SNR=11
ASHO P **Pn 03 06 41.1 +2.9**
SNR=11
ASHO S Sn 03 08 05.1 -2.4
ASHO S Sn 03 08 05.1 -2.4
ASHO Ashiyiah 7.88 333 *i* P **Pn 03 06 40.4 +2.2**
SNR=11
HATD Hatta, Dubai 7.97 334 P **Pn 03 06 42.3 +2.8**
HATD P **Pn 03 06 42.3 +2.8**
HATD S **Sn 03 08 08.2 -1.6**
HATD S **Sn 03 08 08.2 -1.6**
HATD Hatta, Dubai 7.97 334 *i* P **Pn 03 06 41.6 +2.1**
SNR=8.5
UOSS Minazif 8.05 335 Pn Pn 03 06 39.0 -1.5
UOSS Sn Sn 03 08 04.5 -7.1
UOSS Minazif 8.05 335 P **Pn 03 06 42.2 +1.7**
UOSS P **Pn 03 06 42.2 +1.7**
UOSS S Sn 03 08 09.1 -2.5
UOSS S Sn 03 08 09.1 -2.5
UOSS Minazif 8.05 335 P **Pn 03 06 42.7 +2.2**
MZR Muzera 8.09 312 P **Pn 03 06 43.4 +2.3**
MZR S Sn 03 08 09.9 -2.8
FAQ Al Faqa, Dubai 8.14 330 P **Pn 03 06 43.4 +1.5**
FAQ P **Pn 03 06 43.4 +1.5**
FAQ S Sn 03 08 11.1 -2.8
FAQ S Sn 03 08 11.1 -2.8
FAQ Al Faqa, Dubai 8.14 330 *i* P **Pn 03 06 43.5 +1.7**
SNR=7.7
ASUD Al Ashush, Dub 8.17 329 P **Pn 03 06 44.5 +2.3**
ASUD S **Sn 03 08 15.2 +0.6**
AJN Ajban 8.29 327 P **Pn 03 06 46.2 +2.3**
AJN S **Sn 03 08 15.8 -1.8**
NAZ Nazwa, Dubai 8.32 332 P **Pn 03 06 46.1 +1.8**
NAZ P **Pn 03 06 46.1 +1.8**
NAZ S **Sn 03 08 16.3 -2.0**
NAZ S **Sn 03 08 16.3 -2.0**
NAZ Nazwa, Dubai 8.32 332 P **Pn 03 06 45.9 +1.7**
MDH Madha 8.33 336 P **Pn 03 06 45.2 +0.9**
MSFE Esma-Masafi 8.44 336 P **Pn 03 06 48.0 +2.2**
BANOM Banah 8.89 338 P **Pn 03 06 55.1 +3.0**
BANOM Banah 8.89 338 P **Pn 03 06 55.2 +3.0**
SHME Shamm 9.07 337 P **Pn 03 06 56.0 +1.5**
SHME Shamm 9.07 337 P **Pn 03 06 57.9 +3.4**
JRN Qarnain Island 9.83 319 P **Pn 03 07 05.3 +0.3**
TRNA Turayna 10.79 312 P **Pn 03 07 19.3 +1.2**
SMRA Abu-Samra 11.07 311 P **Pn 03 07 23.3 +1.3**
RAYN Ar Rayn 14.76 296 Pn 03 08 10.2 -2.3
RAYN Ar Rayn 14.76 296 P Pn 03 08 10.7 -1.7
ATD Arta Tunnel 17.68 252 P **Pn 03 08 50.6 +0.5**
0.1nm,0.3s,baz=314,slow=8.3,SNR=4.1
ATD LR LR 03 14 02.4
comp=Z,22nm,18.9s,baz=114,slow=32
HYB Hyderabad 17.70 88 *eP* **Pn 03 08 49.0 -1.2**
HYB IVMs_BB IVMs_BB 03 13 11.4
comp=Z,264nm,4.7s
KBL Kabul 18.64 24 **P 03 09 01.2 -0.4**
NIL Nilore 19.86 34 P **P 03 09 15.0 +0.2**
SIMJ Simiganj 22.34 19 P **P 03 09 41.9 +0.3**
PALK Pallekele 22.68 115 P **P 03 09 49.0 +3.6**
PALK IAmb IAmb 03 09 56.6
comp=Z,21nm,1.0s
PALK Pallekele 22.68 115 LR LR 03 17 38.2
comp=Z,347nm,18.5s,baz=291,slow=35
GAR Garm 23.07 21 P **P 03 09 49.9 +0.6**
BTK Batken 24.19 21 P **P 03 10 00.8 +0.5**
ASF Jabal al Asfar 25.36 309 LR LR 03 21 54.6
comp=Z,453nm,18.2s,baz=252,slow=40
EIL Elat 25.80 302 LR LR 03 21 39.8
comp=Z,248nm,18.3s,baz=66,slow=39
KSH Kashi 25.81 29 P **P 03 10 10.9 -4.1**
KSH pmax pmax
comp=Z,24nm,1.2s
MARD Mardin 25.85 323 P **P 03 10 15.5 0.0**
MARD IAmb IAmb 03 10 40.9
comp=Z,17nm,0.6s
GHAJ Ghor Haditha 25.97 306 P **P 03 10 14.6 -1.8**
GHAJ IAmb IAmb 03 10 22.7
comp=Z,43nm,1.1s
GNI Garni 25.99 333 P **P 03 10 15.9 -0.8**
GNI IAmb IAmb 03 10 20.4
comp=Z,31nm,0.9s
GNI Garni 25.99 333 LR LR 03 22 29.7
comp=Z,285nm,19.1s,baz=146,slow=41
GNI Garni 25.99 333 P **P 03 10 19.0 +2.3**
GNI Garni 25.99 333 P **P 03 10 18.8 +2.1**
comp=Z,37nm,0.9s
GURO Guroymak-BITLI 26.05 327 P **P 03 10 16.1 -1.1**
ARSB Arslanbob 26.07 23 P **P 03 10 18.5 +1.1**
ARSB IAmb IAmb 03 10 35.3
comp=Z,16nm,1.0s
KK31 Karatay Array 26.87 17 P **P 03 10 25.1 +0.7**
KKAR Karatay Array 26.87 17 P **P 03 10 25.2 +0.8**
KKAR Karatay Array 26.87 17 P **P 03 10 24.9 +0.4**
KKAR IAmb IAmb 03 10 32.9
comp=Z,4.0nm,0.8s
MMAI Mount Meron Ar 26.87 309 P **P 03 10 27.1 +2.4**
comp=Z,9.0nm,0.8s,baz=107,slow=11,SNR=24
MMAI LR LR 03 22 53.4
comp=Z,442nm,18.4s,baz=118,slow=40
comp=Z,9.0nm,0.8s
KARS Kars 27.13 331 P **P 03 10 24.9 -2.0**
AAK Ala-Archa 27.77 23 P **P 03 10 32.7 0.0**
AAK IAmb IAmb 03 10 50.5
comp=Z,11nm,1.0s
AAK Ala-Archa 27.77 23 LR LR 03 24 19.5
comp=Z,130nm,18.3s,baz=222,slow=42
AAK Ala-Archa 27.77 23 *i* P **P 03 10 34.2 +1.6**
SNR=6.9
GAZ Gaziantep 27.91 319 P **P 03 10 34.9 +1.0**
GAZ IAmb IAmb 03 10 38.4
comp=Z,8.2nm,0.8s
LODK Lodwar 28.00 242 P **P 03 10 35.8 +0.9**
KMBO Kilima Mbogo 29.17 232 P **P 03 10 44.4 -1.2**
comp=Z,1.6nm,0.6s,baz=41,slow=12,SNR=6.0
KMBO LR LR 03 21 56.1
comp=Z,342nm,18.7s,baz=90,slow=36
comp=Z,1.6nm,0.6s
KIBK Kibwezi 29.39 230 P **P 03 10 47.0 -0.3**
KBZ Khabaz 29.72 335 P **P 03 10 51.3 +1.6**
comp=Z,4.6nm,0.8s,baz=147,slow=6.9,SNR=18
KBZ LR LR 03 23 12.0
comp=Z,64nm,20.0s,baz=138,slow=37
comp=Z,4.6nm,0.8s
KIV Kislovodsk 29.99 335 P **P 03 10 53.0 +0.7**
KIV IAmb IAmb 03 10 54.8
comp=Z,24nm,1.3s
KIV Kislovodsk 29.99 335 P **P 03 10 53.5 +1.2**
comp=Z,13nm,1.1s
BRDH Bariadhala 30.08 75 LR LR 03 23 59.2
comp=Z,252nm,20.1s,baz=259,slow=39
ABKAR Akbulak array 31.50 360 P **P 03 11 06.7 +1.3**
ABKAR IAmb IAmb 03 11 07.2
comp=Z,6.6nm,0.8s
ABKAR Akbulak array 31.50 360 P **P 03 11 05.9 +0.5**
BR104 Keskin Array S 31.67 319 P **P 03 11 08.6 +1.3**
comp=Z,146nmcomp=Z,16nm,0.7s
BR131 Keskin Array S 31.69 319 P **P 03 11 09.3 +1.8**
BR131 IAmb IAmb 03 11 10.2
comp=Z,14nm,0.6s
BRTR Keskin Array B 31.69 319 P **P 03 11 09.4 +2.0**
BRTR Keskin Array B 31.69 319 P **P 03 11 09.2 +1.8**
comp=Z,10nm,0.6s,baz=138,slow=11,SNR=103
BRTR PcP **PcP 03 13 57.4 -1.8**
comp=Z,1.0nm,0.7s,baz=145,slow=4.4,SNR=3.8
BRTR LR LR 03 26 35.8
comp=Z,110nm,18.1s,baz=133,slow=41
comp=Z,10nm,0.6s
BR105 Keskin Array S 31.70 319 P **P 03 11 08.8 +1.3**
comp=Z,162nmcomp=Z,18nm,0.7s
BR106 Keskin Array S 31.70 319 P **P 03 11 09.0 +1.4**
comp=Z,155nmcomp=Z,19nm,0.7s
ANTO Ankara 32.30 319 P **P 03 11 14.9 +2.2**
ANTO Ankara 32.30 319 P **P 03 11 14.6 +1.9**
comp=Z,14nm,0.7s
ELL Elmali 32.61 312 P **P 03 11 18.1 +2.5**
MDUB Mudurnu 33.65 318 P **P 03 11 25.7 +1.2**
BORA Eskisehir 33.80 317 P **P 03 11 25.7 -0.2**
BORA IAmb IAmb 03 11 28.9
comp=Z,39nm,1.9s
MAKZ Makanchi 34.25 27 P **P 03 11 30.3 +0.7**
MAKZ IAmb IAmb 03 11 46.0
comp=Z,9.5nm,0.9s
MK31 Makanchi Array 34.37 27 P **P 03 11 31.1 +0.4**
MKAR Makanchi Array 34.37 27 P **P 03 11 31.4 +0.8**
MKAR Makanchi Array 34.37 27 P **P 03 11 31.2 +0.5**
comp=Z,2.7nm,0.6s,baz=211,slow=8.9,SNR=40
MKAR LR LR 03 27 20.0
comp=Z,73nm,21.0s,baz=206,slow=39
comp=Z,2.7nm,0.6s
WMQ Urumqi 34.99 36 *eP* **P 03 11 39.4 +3.3**
WMQ LR LR
comp=Z,80nm,17.3s
IDI Anoyia 35.75 306 LR LR 03 28 58.6
comp=Z,115nm,21.5s,baz=102,slow=40
KURBB Kurchatov Arra 36.05 20 P **P 03 11 45.1 +0.1**
comp=Z,2.9nm,0.8s,baz=216,slow=8.3,SNR=22
comp=Z,2.9nm,0.8s
KURK Kurchatov 36.16 20 P **P 03 11 47.0 +1.0**
BVAR Borovoye Array 36.20 11 P **P 03 11 46.9 +0.6**
comp=Z,1.9nm,0.7s,baz=184,slow=5.7,SNR=11
BVAR LR LR 03 29 12.3
comp=Z,119nm,19.1s,baz=194,slow=40
comp=Z,1.9nm,0.7s
CMAR Chiang Mai Arr 36.98 83 P **P 03 11 52.5 -0.9**
comp=Z,5.1nm,0.8s,baz=277,slow=9.7,SNR=29
comp=Z,5.1nm,0.8s
PURM Purcari 38.03 326 P **P 03 12 02.4 +0.5**
comp=Z,22nm,0.9s
ARTI Arti 38.66 359 P **P 03 12 07.3 +0.3**
ARTI IAmb IAmb 03 12 08.7
comp=Z,14nm,1.3s
PZH PanZhiHua 39.52 70 P **P 03 12 19.1 +4.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.1s
MLR Muntele Rosu 39.63 322 P **P 03 12 15.8 +0.3**
MLR Muntele Rosu 39.63 322 LR LR 03 33 02.9
comp=Z,117nm,18.0s,baz=110,slow=43
TESR Tescani 39.80 324 P **P 03 12 17.8 +1.0**
comp=Z,17nm,1.8s
SORM Soroca 39.85 327 P **P 03 12 16.2 -0.9**
comp=Z,16nm,0.9s
VOIR 40.13 321 P **P 03 12 19.9 +0.2**
comp=Z,9.5nm,1.0s
FNA Florina 40.36 313 P **P 03 12 21.6 0.0**
FNA IAmb IAmb 03 13 50.4
comp=Z,40nm,1.4s
PSI Prapat 40.93 107 LR LR 03 28 15.9
comp=Z,244nm,18.8s,baz=319,slow=35
ZAA0 Zalesovo Array 40.98 22 P **P 03 12 26.5 +0.1**
ZALV Zalesovo Beam 40.98 22 P **P 03 12 26.1 -0.3**
comp=Z,5.1nm,0.8s,baz=224,slow=9.5,SNR=22
ZALV LR LR 03 31 36.9
comp=Z,124nm,19.7s,baz=242,slow=39
comp=Z,5.1nm,0.8s
AK09 Malin Array Si 40.99 330 P **P 03 12 26.3 -0.2**
AKASG Malin Array Be 41.08 330 P **P 03 12 27.3 0.0**
comp=Z,5.9nm,0.7s,baz=134,slow=7.2,SNR=32
AKASG LR LR 03 32 59.1
comp=Z,82nm,18.0s,baz=124,slow=41
comp=Z,5.9nm,0.7s
AKBB Malin Array Si 41.08 330 P **P 03 12 27.0 -0.2**
AKBB IAmb IAmb 03 12 28.3
comp=Z,18nm,0.8s
AKBB Malin Array Si 41.08 330 P **P 03 12 26.6 -0.6**
KIEV Kiev 41.08 330 P **P 03 12 27.6 +0.3**
KIEV IAmb IAmb 03 12 28.3
comp=Z,16nm,0.8s
KIEV Kiev 41.08 330 *i* P **P 03 12 27.5 +0.3**
SNR=9.5
BURAR Bucovina Array 41.23 324 P **P 03 12 28.5 -0.2**
BUR08 Bucovina Ar. S 41.26 324 P **P 03 12 28.9 0.0**
LUBAR Lubar, Ukraine 41.28 328 P **P 03 12 28.6 -0.3**
MI30 MI30,Zelenitsa 41.60 330 P **P 03 12 30.7 -0.8**
comp=Z,4μmcomp=Z,21nm,1.1s
RNPP5 Staryi Chortor 43.03 329 P **P 03 12 42.8 -0.4**
RNPP9 Sopachiv 43.14 329 P **P 03 12 43.7 -0.4**
KOLS Kolonicke sedl 43.60 324 *eP* **P 03 12 50.0 +2.1**
MATE Matera 43.63 311 *eP* **P 03 12 47.4 -0.7**
MNK Minsk 44.26 334 *i* P P 03 12 51.5 -1.6
comp=E,9.0nm,0.8s
MNK *i* P P 03 12 51.5 -1.6
comp=N,11nm,0.9s
MNK *i* P P 03 12 51.5 -1.6
comp=Z,19nm,0.7s,baz=133
MNK *i* PP **PcP 03 14 35.3 -2.1**
MNK *i* PPP PPP 03 15 11.5
MNK *i* S **S 03 19 27.3 +0.6**
MNK *i* SS **SS 03 22 45.0 +0.2**
MNK *i* SSS SSS 03 23 29.3
MNK *i* LQ LQ 03 28 37.4
MNK *i* LR LR 03 32 05.8
MNK *i* LRM MLR 03 33 02.3
comp=E,254nm,20.4s
MNK *i* LRM MLR 03 33 20.4
comp=N,311nm,20.2s
MNK *i* LRM MLR 03 33 28.1
comp=Z,74nm,17.9s
NACGM Naroch 45.01 333 *eP* **P 03 12 59.3 +0.3**
LANS Liptovska Anna 45.30 323 *eP* **P 03 13 02.9 +1.4**
LSZ Lusaka 45.34 226 LR LR 03 31 45.6
comp=Z,114nm,18.3s,baz=112,slow=36
SUW Suwalki 46.05 331 *eP* **P 03 13 07.0 -0.3**
JAVC Velka Javorina 46.20 322 *eP* **P 03 13 10.3 +1.6**
MODS Modra-Piesok 46.22 321 *eP* **P 03 13 09.4 +0.7**
DOBS Dobrina 46.41 318 *i* P **P 03 13 11.4 +1.1**
RONA Rosalia, Austr 46.52 320 *i* P **P 03 13 11.3 +0.2**
comp=Z,11nm,1.1s
PABE Paberze 46.62 333 *eP* **P 03 13 12.3 +0.6**
PDKS Podkum 46.68 317 *i* P **P 03 13 13.1 +0.6**
MORC Moravsky Berou 46.70 323 P **P 03 13 11.9 -0.6**
MORC IAmb IAmb 03 13 14.2
comp=Z,17nm,1.1s
MORC Moravsky Berou 46.70 323 *eP* **P 03 13 12.7 +0.2**
ARSA Arzberg 46.81 319 *i* P **P 03 13 14.3 +0.8**
comp=Z,4.1nm,0.6s
CONA Conrad Observa 46.88 320 *i* P **P 03 13 14.5 +0.5**
comp=Z,7.7nm,1.0s,SNR=4.1
SOKA Soboth 46.90 318 *eP* **P 03 13 14.9 +0.7**
comp=Z,7.7nm,1.0s,SNR=4.7
LJU Ljubljana 46.98 317 *i* P **P 03 13 15.8 +1.1**
VRAC Vranov 47.04 322 LR LR 03 38 43.2
comp=Z,50nm,19.7s,baz=158,slow=43
VRAC Vranov 47.04 322 *eP* **P 03 13 16.3 +1.2**
KRUC Moravsky 47.04 322 *eP* **P 03 13 15.9 +0.7**
CESX Cesi 47.17 312 P **P 03 13 15.8 -0.5**
JAVS Javornik 47.23 317 *i* P **P 03 13 16.9 +0.1**
VSU Vasula 47.49 337 *eP* **P 03 13 17.8 -0.6**
DPC Dobruska-Polom 47.66 323 *eP* **P 03 13 21.2 +1.2**
DPC Dobruska-Polom 47.66 323 P **P 03 13 19.9 -0.1**
comp=Z,11nm,1.5s
PRED Cave del Predi 47.75 317 P **P 03 13 21.1 +0.3**
MYKA Terra Mystica 47.77 318 *eP* **P 03 13 22.4 +1.5**
comp=Z,9.6nm,0.9s
OSTC Ostas 47.82 323 *eP* **P 03 13 22.4 +1.2**
MOA Molln 47.83 319 *i* P **P 03 13 22.0 +0.6**
comp=Z,12nm,1.1s
KSP Ksiaz 47.91 324 *eP* **P 03 13 22.6 +0.7**
KSP Ksiaz 47.91 324 P **P 03 13 21.6 -0.3**
comp=Z,15nm,1.1s
CHVC Chvalec 47.92 323 *eP* **P 03 13 22.8 +0.8**
BIOA Bad Ischl, Aus 48.16 319 *i* P **P 03 13 24.4 +0.5**
comp=Z,8.7nm,0.8s
CKRC Cesky Krumlov 48.19 321 *eP* **P 03 13 24.5 +0.4**
SONM Songino Array 48.24 41 P **P 03 13 24.8 +0.2**
comp=Z,0.5nm,0.5s,baz=224,slow=6.2,SNR=4.7
SONM LR LR 03 37 55.0
comp=Z,68nm,18.0s,baz=252,slow=41
comp=Z,0.5nm,0.5s
ARBE Arbavere 48.45 338 *eP* **P 03 13 26.3 +0.4**
ZVC Zvikov 48.51 321 *eP* **P 03 13 27.2 +0.6**
ABTA Abfaltersbach 48.53 317 *i* P **P 03 13 27.2 +0.3**
comp=Z,12nm,0.7s,SNR=10.0
GERES GERESS Array B 48.57 320 P **P 03 13 27.3 +0.2**
comp=Z,0.8nm,0.5s,baz=97,slow=8.3,SNR=4.7
GERES PcP **PcP 03 14 52.2 -0.7**
comp=Z,1.3nm,0.8s,baz=87,slow=5.7,SNR=3.7
GERES LR LR 03 41 10.6
comp=Z,61nm,18.7s,baz=80,slow=45
comp=Z,0.8nm,0.5s
LESA Schwarzleotal 48.67 318 *eP* **P 03 13 27.8 -0.1**
comp=Z,10nm,0.6s
KHC Kasperske Hory 48.76 321 *eP* **P 03 13 28.8 +0.3**
KHC Kasperske Hory 48.76 321 P **P 03 13 27.9 -0.6**
comp=Z,13nm,1.3s
CTI Castel Tesino 48.86 316 P **P 03 13 29.1 -0.3**
BRG Berggiesshubel 49.26 323 *eP* **P 03 13 33.1 +0.8**
BRG Amp 03 13 34.0
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 49.26 323 P P 03 13 37.6 +5.3
BRG Amp 03 13 38.5
comp=Z,5.4nm,1.1s
WTTA Wattenberg 49.28 318 *i* P **P 03 13 32.5 -0.2**
comp=Z,11nm,0.6s,SNR=8.3
WATA Walderalm 49.34 318 *i* P **P 03 13 32.6 -0.6**
comp=Z,9.7nm,0.8s
JOF Joensuu 49.37 343 *eP* **P 03 13 33.5 +0.6**
HSKC Hora Svate Kat 49.44 322 *eP* **P 03 13 34.2 +0.5**
SQTA Sankt Quirin 49.54 318 *eP* **P 03 13 34.2 -0.4**
comp=Z,12nm,0.6s,SNR=12
HHC Hu-ho-hao-te 49.74 51 *eP* **P 03 13 40.4 +4.1**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.4s
FETA Feichten 49.78 317 *eP* **P 03 13 35.9 -0.7**
comp=Z,7.1nm,0.8s
FIA1 FINESS Array S 49.85 339 P **P 03 13 37.0 +0.5**
FINES FINESS Array B 49.85 339 P **P 03 13 36.6 +0.1**
comp=Z,19nm,0.6s,baz=132,slow=8.7,SNR=117
comp=Z,19nm,0.6s
NKC Novy Kostel 49.87 322 *eP* **P 03 13 38.4 +1.5**
RETA Reutte 49.91 318 *i* P **P 03 13 36.7 -0.7**
comp=Z,5.4nm,0.6s,SNR=6.6
CLL Collm 49.98 323 P **P 03 13 37.7 0.0**
CLL Collm 49.98 323 P **P 03 13 38.3 +0.6**
comp=Z,37nm,1.1s
CLL Collm 49.98 323 *i* P **P 03 13 39.0 +1.3**
comp=Z,31nm,1.0s
DAVA Damuels 50.41 317 *eP* **P 03 13 40.8 -0.5**
comp=Z,16nm,0.6s
KEF Keuruu 50.77 340 *eP* **P 03 13 44.2 +0.7**
TAM Tamanrasset 51.14 285 P **P 03 13 48.2 +1.0**
TAM IAmb IAmb 03 13 48.7
comp=Z,7.1nm,0.8s
VAF Ylistaro 52.11 340 *eP* **P 03 13 53.9 +0.4**
TIA Tai'an 53.41 58 P P 03 14 11.9 +8.2
TIA pmax pmax
comp=Z,7.0nm,1.3s
SSB Saint Sauveur 53.46 314 P **P 03 14 03.9 0.0**
SSB IAmb IAmb 03 14 04.8
comp=Z,14nm,0.8s
HFS Hagfors 53.78 333 P **P 03 14 05.9 0.0**
comp=Z,12nm,1.0s,baz=139,slow=7.5,SNR=7.9
comp=Z,12nm,1.0s
NJ2 Nanjing 54.68 63 *eP* P 03 14 05.6 -7.4
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NB2 NORSAR Subarra 55.29 334 P **P 03 14 16.0 -1.0**
comp=Z,6.6nm,0.8s,baz=118,slow=7.4
NOA NORSAR Array B 55.29 334 P **P 03 14 16.5 -0.5**
comp=Z,4.8nm,0.8s,baz=117,slow=7.5,SNR=17
NOA LR LR 03 40 31.6
comp=Z,38nm,18.5s,baz=355,slow=39
comp=Z,4.8nm,0.8s
TSUM Tsumeb 55.49 231 LR LR 03 38 07.3
comp=Z,250nm,18.2s,baz=48,slow=36
ARCES ARCESS Array B 56.02 346 P **P 03 14 21.8 -0.3**
comp=Z,6.2nm,0.8s,baz=126,slow=6.2,SNR=12
ARCES PcP **PcP 03 15 18.8 -1.4**
comp=Z,1.6nm,0.8s,baz=191,slow=5.9,SNR=4.0
comp=Z,6.2nm,0.8s
TORD Torodi Ar. Bea 56.21 274 P **P 03 14 23.8 -0.5**
comp=Z,6.3nm,0.8s,baz=44,slow=8.2,SNR=16
comp=Z,6.3nm,0.8s
BOSA Boshof 56.98 217 LR LR 03 36 19.8
comp=Z,82nm,20.8s,baz=23,slow=33
ESBB Sonseca Array 59.01 306 P **P 03 14 43.4 -0.3**
ESDC Sonseca Array 59.01 306 P **P 03 14 43.1 -0.6**
ESDC IAmb IAmb 03 14 49.4
comp=Z,5.1nm,0.9s
ESDC Sonseca Array 59.01 306 P **P 03 14 43.3 -0.4**
comp=Z,12nm,0.7s,baz=82,slow=6.3,SNR=101
ESDC LR LR 03 44 47.0
comp=Z,58nm,18.1s,baz=320,slow=41
comp=Z,12nm,0.7s
PAB San Pablo 59.30 306 P **P 03 14 45.4 -0.3**
MDT Midelt 59.53 298 LR LR 03 43 51.3
comp=Z,124nm,18.7s,baz=99,slow=39
EKA Eskdalemuir Ar 60.42 324 P **P 03 14 51.8 -1.2**
comp=Z,5.0nm,1.0s,baz=95,slow=5.1,SNR=2.0
comp=Z,5.0nm,1.0s
PBRG Braganca 61.19 308 *eP* **P 03 14 58.6 0.0**
PBAR Barrancos 61.39 304 *eP* **P 03 14 59.2 -0.8**
MVO Moncorvo 61.39 308 *eP* **P 03 15 00.2 +0.2**
PMRV Marv??o 61.65 306 *eP* **P 03 15 01.1 -0.7**
PCBR Castelo Branco 61.72 306 *eP* **P 03 15 01.8 -0.4**
PCBR *i* Amb 03 15 12.3
comp=Z,26nm,1.7s
MTE Manteigas 61.77 307 *eP* **P 03 15 02.5 -0.1**
PVRL Vila Real 61.91 308 *eP* **P 03 15 03.8 +0.3**
PVRL *i* Amb 03 15 09.8
comp=Z,32nm,1.6s
POLO Lamas de Olo 61.97 308 *eP* **P 03 15 04.1 +0.2**
POLO *i* Amb 03 15 29.9
comp=Z,14nm,2.3s
PBEJ Beja 62.04 304 *eP* **P 03 15 04.0 -0.4**
PVIS Viseu 62.04 307 *eP* **P 03 15 04.5 +0.2**
KSRS Korea Array 62.10 57 LR LR 03 44 36.9
comp=Z,48nm,18.7s,baz=165,slow=39
EVO Evora 62.15 305 *eP* **P 03 15 04.9 -0.2**
EVO *i* Amb 03 15 31.6
comp=Z,17nm,1.7s
PCVE Castro Verde 62.19 304 *eP* **P 03 15 04.7 -0.7**
PMTG Montargil 62.30 305 *eP* **P 03 15 05.1 -1.0**
MESJ Messejana 62.33 304 *eP* **P 03 15 06.0 -0.3**
SUR Sutherland 62.33 217 LR LR 03 39 07.6
comp=Z,77nm,22.0s,baz=82,slow=33
COI Coimbra 62.44 307 *eP* **P 03 15 07.4 +0.4**
COI *i* Amb 03 15 14.0
comp=Z,63nm,1.7s
PTEO Sao Teotonio 62.73 304 *eP* **P 03 15 09.8 +0.8**
PTEO *i* Amb 03 15 13.5
comp=Z,56nm,1.5s
H04N1 CROZET ISLANDS 63.97 186 T T 04 24 34.2
baz=18,slow=74,SNR=7.6
H04N2 CROZET ISLANDS 63.97 186 T T 04 24 33.8
baz=18,slow=74,SNR=6.5
H04N3 CROZET ISLANDS 63.99 186 T T 04 24 31.2
baz=18,slow=74,SNR=8.0
DBIC Dimbokro 64.08 269 P **P 03 15 17.7 -0.5**
DBIC Dimbokro 64.08 269 P **P 03 15 17.0 -1.2**
comp=Z,8.8nm,0.7s,baz=71,slow=7.4,SNR=9.3
comp=Z,8.8nm,0.7s
JMIC Jan Mayen 66.44 341 LR LR 03 50 26.9
comp=Z,42nm,18.3s,baz=28,slow=41
DAG Danmarks Havn 70.31 346 *i* P **P 03 15 55.0 -1.8**
DAG IAmb IAmb 03 15 57.0
comp=Z,10nm,1.0s
DBG Daneborg 70.46 343 *i* P P 03 15 55.5 -2.1
DBG IAmb IAmb 03 15 59.4
comp=Z,6.1nm,0.9s
NOR Nord 70.68 351 *i* P P 03 15 56.7 -2.3
BBTS Babate 73.09 280 LR LR 03 50 09.0
comp=Z,74nm,18.5s,baz=322,slow=37
FITZ Fitzroy Crossi 73.69 115 P **P 03 16 14.7 -3.3**
comp=Z,1.3nm,0.9s,baz=286,slow=4.1,SNR=1.7

comp=Z,1.3nm,0.9s
SUMG Summit 75.78 342 P **P 03 16 30.1 +0.3**
SUMG Summit 75.78 342 *i* P **P 03 16 29.2 -0.5**
SUMG IAmb IAmb 03 16 31.8
comp=Z,19nm,1.0s
ICESG Greenland Ices 77.03 339 *i* P **P 03 16 35.3 -1.5**
ICESG IAmb IAmb 03 16 37.8
comp=Z,20nm,1.0s
NEEM North Greenlan 77.32 348 *i* P **P 03 16 36.8 -1.5**
NEEM IAmb IAmb 03 16 39.4
comp=Z,14nm,0.9s
KULLO Kullorsuaq 79.97 346 *i* P **P 03 16 51.3 -1.2**
KULLO IAmb IAmb 03 16 53.4
comp=Z,19nm,1.1s
UMMG Uummannaq 80.50 342 *i* P **P 03 16 55.1 -0.3**
UMMG IAmb IAmb 03 16 56.5
comp=Z,30nm,1.1s
UPNV Upernavik 80.61 344 *i* P **P 03 16 55.4 -0.6**
UPNV IAmb IAmb 03 16 57.4
comp=Z,19nm,1.1s
EUNU Eureka 80.84 354 P **P 03 16 57.4 +0.2**
EUNU IAmb IAmb 03 17 03.2
comp=Z,18nm,1.6s
WRA Warramunga Arr 81.97 114 P **P 03 17 00.7 -3.4**
comp=Z,0.7nm,0.7s,baz=307,slow=4.3,SNR=5.3
comp=Z,0.7nm,0.7s
B22K Teshekpuk Lake 89.16 11 P **P 03 17 41.3 +2.4**
B22K IAmb IAmb 03 17 43.3
comp=Z,4.9nm,0.6s
D25K Kavik River 91.22 9 P **P 03 17 49.5 +0.8**
D25K IAmb IAmb 03 17 49.9
comp=Z,5.9nm,0.9s
E25K Arctic Village 92.44 9 P **P 03 17 55.2 +0.9**
E25K IAmb IAmb 03 17 55.4
comp=Z,4.4nm,1.0s
E28M Babbage River 92.80 7 P **P 03 17 56.1 +0.1**
E28M IAmb IAmb 03 17 57.2
comp=Z,7.0nm,1.1s
F25K Christian Rive 92.91 10 P **P 03 17 58.0 +1.5**
INK Inuvik 93.69 5 IAmb IAmb 03 18 01.4
comp=Z,6.7nm,1.3s
INK P **P 03 18 01.8 +1.7**
F31M Tsiigehtchic 94.52 5 P **P 03 18 04.2 +0.3**
SCHQ Schefferville 94.85 332 P **P 03 18 04.7 -0.9**
comp=Z,3.4nm,0.8s,baz=70,slow=4.2,SNR=4.5
comp=Z,3.4nm,0.8s
ILAR Eielson Array 95.26 11 P **P 03 18 05.9 -1.4**
comp=Z,0.3nm,0.8s,baz=328,slow=5.0,SNR=2.8
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 99.98 357 P **Pdif 03 18 27.8 -0.8**
comp=Z,0.4nm,0.8s,baz=353,slow=4.9,SNR=9.9
PDAR Pinedale Array 119.09 351 PKP **PKPdf 03 23 31.1 -2.2**
comp=Z,0.6nm,0.6s,baz=70,slow=1.8,SNR=9.0
NVAR Mina Array Bea 124.17 358 PKP **PKPdf 03 23 42.3 -0.9**
comp=Z,2.1nm,0.8s,baz=14,slow=1.3,SNR=13
TXAR Lajitas Array 130.67 341 PKP **PKPdf 03 23 54.4 -1.2**
comp=Z,0.4nm,0.7s,baz=105,slow=1.4,SNR=3.7

*IDC **12** 03:11:48.7±1.3,2°.51S×139°.09E, h0km, mb3.2/3, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=28.6km s-min=22.7km az=4.0*
*DJA **12** 03:11:49.3±0.7,2°.S±11°×13°.9E±°, h10km, M3.8/5, mb4.4/1, MLv3.6/5*
ISC 12 03:11:51.2±0.9,2°.2S±0°.1×139°.01E±0°.05, h29km, n10, σ1§56/13, mb3.3/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.39**	**309**	P	**Pb**	**03 11 57.9**	**-2.0**
SMPI				S	**Sn**	**03 12 05.9**	**-1.4**
GENI	**Genyem**	**1.21**	**107**	P	**Pn**	**03 12 11.8**	**-0.4**
GENI				S	**Sb**	**03 12 29.2**	**+0.5**
JAY	**Jayapura**	**1.71**	**99**	Pn	**Pn**	**03 12 18.4**	**-0.8**
	5.7nm,0.3s,baz=237,slow=12,SNR=23						
JAY				Sn	**Sn**	**03 12 41.1**	**+0.9**
	8.9nm,0.3s,baz=106,slow=21,SNR=9.0						
JAY	**Jayapura**	**1.71**	**99**	P	**Pn**	**03 12 18.5**	**-0.7**
JAY				S	**Sn**	**03 12 41.8**	**+1.7**
BAKI	**Biak**	**3.08**	**290**	P	**Pn**	**03 12 39.0**	**+1.0**
FAKI	**Fak Fak**	**6.79**	**264**	P	**Pn**	**03 13 30.3**	**+1.3**
WRA	**Warramunga Arr**	**18.18**	**194**	P	**Pn**	**03 16 00.5**	**-1.3**
	0.1nm,0.3s,baz=18,slow=13,SNR=7.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.87**	**193**	P	**P**	**03 16 40.6**	**-1.3**
	0.1nm,0.6s,baz=21,slow=11,SNR=1.1						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**69.60**	**322**	P	**P**	**03 23 00.6**	**+2.7**
	0.2nm,0.8s,baz=114,slow=7.0,SNR=2.4						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**73.52**	**325**	P	P	03 23 25.6	+4.3
	0.4nm,0.3s,baz=100,slow=5.1,SNR=2.3						
	0.4nm,0.3s						

*BJI **12** 03:25:17.3, 17°.38S×177°.76W, h581km, mB5.0/18, mb5.0/56*
*MOS **12** 03:25:18.7±1.4, 17°.81S×178°.03W, h599km, mb5.0/25, Error ellipse: s-maj=8.6km s-min=8.0km az=99.6*
*NOU **12** 03:25:18.9, 17°.99S×177°.82W, h614km, mb5.3/107, Fiji Islands Region*
*NEIC **12** 03:25:18.8±1.4, 18°.0S±0°.1×177°.97W±0°.10, h593km±6km, mb4.8/297, Error ellipse: s-maj=15.1km s-min=13.4km az=156.0*
*IDC **12** 03:25:20.1±0.5, 17°.90S×177°.95W, h615km±5km, mb4.3/35, mbtmp5.2/38, Error ellipse: s-maj=9.4km s-min=7.9km az=165.0*
*GCMT **12** 03:25:23.8±0.4, 17°.67S±0°.04×178°.13W±0°.04, h629km±3km, MW5.3/68, Moment Tensor Solution. s68,c86; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr-0.14±.04; Mθθ0.03±.07; Mφφ0.11±.07; Mrθ-0.71±.05; Mθφ0.45±.06; Mφr-0.81±.05; Best double couple: M01.12200×10^17 NP1:φ229.00000°, δ9.00000°, λ-82.00000°. NP2:φ41.00000°, δ81.00000°, λ-91.00000°. Principal axes: T 1.3130, Plg36.0000°, Azm132.0000°; N -0.3820, Plg1.0000°, Azm41.0000°; P -0.9310, Plg54.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 12 03:25:19.1±0.4, 17°.99S±0°.05×177°.89W±0°.04, h611km±3km, h612km: pP-P, n1163, σ0§97/1073, mb4.9/284, 92C-59D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.91**	**254**	P	**P**	**03 26 32.0**	**+0.9**
LKBA	**Tubou, Lakemba**	**0.91**	**254**	S	**S**	**03 27 31.1**	**+1.3**
DGTI	**Dogotuki**	**2.82**	**306**	P	**P**	**03 26 38.4**	**+0.1**
DGTI	**Dogotuki**	**2.82**	**306**	S	**S**	**03 27 43.9**	**+1.3**
FUTU	**Fugatoga**	**3.67**	**357**	P	**P**	**03 26 41.5**	**-1.8**
FUTU	**Fugatoga**	**3.67**	**357**	P	**P**	**03 26 42.8**	**-0.5**
FUTU	**Fugatoga**	**3.67**	**357**	S	**S**	**03 27 52.2**	**+0.5**
MSVF	**Nonsavu**	**3.87**	**273**	P	**P**	**03 26 44.3**	**-0.3**
MSVF	**Nonsavu**	**3.87**	**273**	P	**P**	**03 26 45.8**	**+1.1**
	1μm,0.9s,baz=134,slow=4.6,SNR=605						
MSVF				S	**S**	**03 27 55.1**	**+0.8**
	277nm,1.1s,baz=62,slow=19,SNR=9.4						
MSVF	**Nonsavu**	**3.87**	**273**	P	**P**	**03 26 45.7**	**+1.1**
MSVF	**Nonsavu**	**3.87**	**273**	S	**S**	**03 27 55.6**	**+1.3**
MSVF	**Nonsavu**	**3.87**	**273**	*de*P	**S**	**03 26 44.6**	**0.0**
AFI	**Afiamalu**	**7.14**	**56**	P	**P**	**03 27 08.4**	**-2.6**
AFI	**Afiamalu**	**7.14**	**56**	P	**P**	**03 27 10.0**	**-1.1**
AFI	**Afiamalu**	**7.14**	**56**	S	**S**	**03 28 41.4**	**-1.2**
AFI	**Afiamalu**	**7.14**	**56**	P	**P**	**03 27 08.5**	**-2.6**
AFI	**Afiamalu**	**7.14**	**56**	P	**P**	**03 27 09.9**	**-1.1**
NIUE	**Niue**	**7.63**	**99**	P	**P**	**03 27 15.3**	**0.0**
NIUE	**Niue**	**7.63**	**99**	P	**P**	**03 27 16.2**	**+0.8**
	comp=Z,1μm,1.2s						
NIUE				S	S	03 29 02.9	+12
NIUE	**Niue**	**7.63**	**99**	P	**P**	**03 27 15.6**	**+0.2**
NIUE	**Niue**	**7.63**	**99**	P	**P**	**03 27 15.9**	**+0.6**
FUNA	**Funafuti**	**9.82**	**343**	P	**P**	**03 27 34.4**	**-2.0**
FUNA	**Funafuti**	**9.82**	**343**	P	**P**	**03 27 35.2**	**-1.2**
DVP	**Devils Point**	**13.26**	**269**	P	**P**	**03 28 11.6**	**+1.2**
MARNC	**Mare, Loyalty**	**13.70**	**253**	P	**P**	**03 28 14.0**	**-0.7**
PINNC	**Pines Island,**	**14.50**	**249**	P	**P**	**03 28 21.1**	**-1.2**
YATNC	**Mamie plateau,**	**14.86**	**252**	P	**P**	**03 28 25.2**	**-0.4**
OUENC	**Ouen Island, N**	**14.99**	**250**	P	**P**	**03 28 26.6**	**-0.2**
DZM	**Mont Dzumac**	**15.27**	**252**	P	**P**	**03 28 29.3**	**0.0**
DZM	**Mont Dzumac**	**15.27**	**252**	P	**P**	**03 28 29.6**	**+0.2**
	comp=Z,76nm,0.7s,baz=115,slow=21,SNR=84						
DZM	**Mont Dzumac**	**15.27**	**252**	P	**P**	**03 28 29.4**	**0.0**

ONTNC	**Ouen Toro**	**15.31**	**251**	P	**P**	**03 28 28.3**	**-1.4**
ONTNC	**Ouen Toro**	**15.31**	**251**	P	**P**	**03 28 30.4**	**+0.7**
KOUNC	**Koumac, New Ca**	**17.02**	**259**	P	**P**	**03 28 46.9**	**+1.6**
RAR	**Rarotonga**	**17.37**	**104**	P	**P**	**03 28 49.2**	**+0.7**
RAR	**Rarotonga**	**17.37**	**104**	P	**P**	**03 28 49.4**	**+1.0**
	comp=Z,101nm,0.9s,baz=258,slow=5.8,SNR=9.3						
OUZ	**Omahuta**	**18.76**	**202**	P	**P**	**03 29 01.6**	**+0.7**
GRZ	**Great Barrier**	**19.12**	**197**	P	**P**	**03 29 06.0**	**+1.9**
KUZ	**Kuaotunu**	**19.52**	**196**	P	**P**	**03 29 08.7**	**+1.0**
WIAZ	**Waiheke Island**	**19.72**	**197**	P	**P**	**03 29 11.7**	**+2.2**
MXZ	**Matakaoa Point**	**19.79**	**189**	P	**P**	**03 29 10.0**	**-0.2**
MXZ	**Matakaoa Point**	**19.79**	**189**	P	**P**	**03 29 08.6**	**-1.6**
MKAZ	**Moumakai**	**20.00**	**196**	P	**P**	**03 29 13.8**	**+1.7**
WMGZ	**Waiomatatini S**	**20.02**	**189**	P	**P**	**03 29 10.6**	**-1.7**
HAZ	**Te Kaha**	**20.06**	**190**	P	**P**	**03 29 10.1**	**-2.5**
RUGZ	**Raukumara Rang**	**20.28**	**190**	P	**P**	**03 29 14.2**	**-0.5**
PUZ	**Puketiti**	**20.29**	**189**	P	**P**	**03 29 15.3**	**+0.5**
TWGZ	**Tauwhareparae**	**20.44**	**189**	P	**P**	**03 29 16.7**	**+0.6**
TOZ	**Tahuroa Road**	**20.51**	**195**	P	**P**	**03 29 17.1**	**+0.4**
TOZ	**Tahuroa Road**	**20.51**	**195**	P	**P**	**03 29 18.3**	**+1.6**
KMRZ	**Kaimai**	**20.51**	**194**	P	**P**	**03 29 18.8**	**+2.0**
MWZ	**Matawai**	**20.66**	**190**	P	**P**	**03 29 18.1**	**0.0**
OMRZ	**Omania**	**20.66**	**193**	P	**P**	**03 29 18.5**	**+0.4**
URZ	**Urewera**	**20.66**	**191**	P	**P**	**03 29 15.7**	**-2.3**
	comp=Z,29nm,0.4s,baz=1.6,slow=1.7,SNR=52						
URZ				S	**S**	**03 32 24.7**	**-6.1**
	comp=Z,9.0nm,0.6s,baz=296,slow=22,SNR=6.1						
URZ	**Urewera**	**20.66**	**191**	P	**P**	**03 29 16.5**	**-1.6**
URZ	**Urewera**	**20.66**	**191**	P	**P**	**03 29 16.0**	**-2.1**
URZ				S	**S**	**03 32 24.7**	**-6.1**
CNGZ	**Carnagh Statio**	**20.70**	**189**	P	**P**	**03 29 18.7**	**+0.3**
TKGZ	**Te Karaka**	**20.71**	**189**	P	**P**	**03 29 19.2**	**+0.7**
RIGZ	**Rimuhau**	**20.99**	**190**	P	**P**	**03 29 21.9**	**+0.9**
RTZ	**Ruatahuna**	**21.04**	**191**	P	**P**	**03 29 19.9**	**-1.6**
RTZ	**Ruatahuna**	**21.04**	**191**	P	**P**	**03 29 19.9**	**-1.6**
MTHZ	**Maungataniwha**	**21.29**	**191**	P	**P**	**03 29 22.4**	**-1.3**
RAHZ	**Arahi**	**21.31**	**191**	P	**P**	**03 29 23.5**	**-0.4**
KNZ	**Kokohu**	**21.31**	**190**	P	**P**	**03 29 24.2**	**+0.3**
NMHZ	**Naumai**	**21.53**	**191**	P	**P**	**03 29 24.8**	**-1.1**
RITZ	**Rihia Road**	**21.61**	**193**	P	**P**	**03 29 26.2**	**-0.4**
BKZ	**Black Stump Fm**	**21.66**	**192**	P	**P**	**03 29 25.7**	**-1.3**
BKZ	**Black Stump Fm**	**21.66**	**192**	P	**P**	**03 29 25.9**	**-1.1**
BKZ	**Black Stump Fm**	**21.66**	**192**	P	**P**	**03 29 25.4**	**-1.6**
TMVZ	**Te Maari**	**21.78**	**194**	P	**P**	**03 29 26.5**	**-1.7**
ETVZ	**East Tongariro**	**21.80**	**193**	P	**P**	**03 29 27.5**	**-0.8**
TWVZ	**Taurewa**	**21.80**	**194**	P	**P**	**03 29 27.2**	**-1.1**
WTVZ	**West Tongariro**	**21.80**	**194**	P	**P**	**03 29 28.5**	**+0.1**
NNVZ	**North Ngauruho**	**21.81**	**194**	P	**P**	**03 29 28.1**	**-0.4**
OTVZ	**Oturere**	**21.83**	**194**	P	**P**	**03 29 27.2**	**-1.5**
SNVZ	**South Ngauruho**	**21.86**	**194**	P	**P**	**03 29 28.0**	**-1.0**
MCHZ	**McNeill Hill**	**21.89**	**191**	P	**P**	**03 29 27.5**	**-1.6**
KWHZ	**Kaweka Forest**	**21.92**	**192**	P	**P**	**03 29 28.0**	**-1.4**
TUVZ	**Tukino**	**21.93**	**194**	P	**P**	**03 29 28.3**	**-1.3**
TRVZ	**Turoa**	**21.99**	**194**	P	**P**	**03 29 29.2**	**-0.9**
WNVZ	**Wahianoa**	**22.00**	**194**	P	**P**	**03 29 28.6**	**-1.7**
MOVZ	**Moawhango**	**22.05**	**193**	P	**P**	**03 29 29.9**	**-0.6**
KRHZ	**Kereru**	**22.15**	**192**	P	**P**	**03 29 29.9**	**-1.5**
BFZ	**Birch Farm**	**23.17**	**191**	P	**P**	**03 29 40.1**	**-0.3**
MRZ	**Mangatainoka R**	**23.29**	**193**	P	**P**	**03 29 39.8**	**-1.7**
TATA	**Tatamba Isabel**	**23.70**	**291**	P	**P**	**03 29 45.7**	**+0.3**
MSWZ	**Moikau Station**	**24.08**	**193**	P	**P**	**03 29 47.9**	**-0.5**
SNZO	**South Karori**	**24.10**	**194**	P	**P**	**03 29 48.2**	**-0.3**
TCW	**Tory Channel**	**24.10**	**195**	P	**P**	**03 29 48.2**	**-0.4**
BHW	**Baring Head**	**24.15**	**193**	P	**P**	**03 29 48.5**	**-0.5**
QRZ	**Quartz Range**	**24.21**	**198**	P	**P**	**03 29 50.0**	**+0.5**
QRZ	**Quartz Range**	**24.21**	**198**	P	**P**	**03 29 49.9**	**+0.3**
QRZ	**Quartz Range**	**24.21**	**198**	P	**P**	**03 29 49.4**	**-0.1**
PLWZ	**Palliser**	**24.23**	**193**	P	**P**	**03 29 49.3**	**-0.5**
TKNZ	**Takaka Hill**	**24.28**	**197**	P	**P**	**03 29 49.8**	**-0.4**
TUWZ	**Tuamarina**	**24.39**	**195**	P	**P**	**03 29 50.2**	**-0.9**
MRNZ	**Matariki Terra**	**24.67**	**197**	P	**P**	**03 29 53.0**	**-0.7**
BSWZ	**Blackbirch Sta**	**24.68**	**195**	P	**P**	**03 29 53.4**	**-0.3**
THZ	**Tophouse**	**24.97**	**196**	P	**P**	**03 29 55.7**	**-0.7**
KHZ	**Kahutara**	**25.42**	**195**	P	**P**	**03 29 59.1**	**-1.1**
KHZ	**Kahutara**	**25.42**	**195**	P	**P**	**03 29 59.1**	**-1.1**
CTZ	**Chatham Island**	**25.69**	**178**	P	**P**	**03 30 02.8**	**+0.3**
MQZ	**McQueen's Vall**	**26.85**	**195**	P	**P**	**03 30 12.0**	**-0.7**
PPT	**Papeete**	**26.96**	**94**	P	**P**	**03 30 14.9**	**+0.9**
	comp=Z,101nm,0.6s,baz=89,slow=2.7,SNR=26						
	comp=Z,101nm,0.6s						
PPTF	**Pamatai, Papee**	**26.96**	**94**	P	**P**	**03 30 15.2**	**+1.0**
PPTF	**Pamatai, Papee**	**26.96**	**94**	P	**P**	**03 30 13.8**	**-0.4**
RPZ	**Rata Peaks**	**27.29**	**198**	P	**P**	**03 30 15.2**	**-1.4**
	comp=Z,21nm,0.5s,baz=28,slow=1.0,SNR=22						
RPZ	**Rata Peaks**	**27.29**	**198**	P	**P**	**03 30 16.6**	**0.0**
JCZ	**Jackson Bay**	**28.32**	**200**	P	**P**	**03 30 25.7**	**0.0**
ODZ	**Otahua Downs**	**28.63**	**197**	P	**P**	**03 30 27.7**	**-0.5**
TW1H	**Toowoomba 1 Ha**	**29.31**	**246**	P	**P**	**03 30 34.6**	**+0.2**
MLZ	**Mavora Lakes**	**29.69**	**200**	P	**P**	**03 30 37.8**	**+0.4**
MLZ				IAmb	IAmb	03 30 38.8	
	comp=Z,26nm,0.6s						
EIDS	**Eidsvold**	**29.70**	**250**	P	**P**	**03 30 37.5**	**-0.2**
EIDS	**Eidsvold**	**29.70**	**250**	P	**P**	**03 30 37.4**	**-0.4**
	comp=Z,176nm,0.8s						
EIDS	**Eidsvold**	**29.70**	**250**	P	**P**	**03 30 37.8**	**0.0**
RK1H	**Rockhampton Ha**	**30.02**	**254**	P	**P**	**03 30 40.4**	**-0.1**
ARMA	**Armidale**	**30.33**	**240**	P	**P**	**03 30 43.5**	**+0.4**
ARMA	**Armidale**	**30.33**	**240**	P	**P**	**03 30 44.1**	**+0.9**
	comp=Z,132nm,0.7s						
ARMA	**Armidale**	**30.33**	**240**	P	**P**	**03 30 44.1**	**+0.9**
MGCD	**Mangrove Creek**	**31.65**	**235**	P	**P**	**03 30 55.7**	**+1.4**
	comp=Z,130nm,0.9s						
MGCD	**Mangrove Creek**	**31.65**	**235**	P	**P**	**03 30 55.7**	**+1.4**
RIV	**Riverview**	**31.84**	**234**	P	**P**	**03 30 56.9**	**+1.1**
	comp=Z,102nm,0.9s						
RIV	**Riverview**	**31.84**	**234**	P	**P**	**03 30 57.2**	**+1.4**
RIV				pmax	pmax		
	comp=Z,102nm,0.9s						
CNB	**Canberra Magne**	**33.77**	**233**	P	**P**	**03 31 13.0**	**+0.9**
	comp=Z,434nm,0.6s						
CNB	**Canberra Magne**	**33.77**	**233**	P	**P**	**03 31 13.4**	**+1.3**
CAN	**Canberra**	**34.05**	**233**	P	**P**	**03 31 14.5**	**+0.1**
CAN	**Canberra**	**34.05**	**233**	P	**P**	**03 31 15.2**	**+0.8**
	comp=Z,212nm,1.0s						
CAN	**Canberra**	**34.05**	**233**	P	**P**	**03 31 15.4**	**+1.0**
CAN	**Canberra**	**34.05**	**233**	P	**P**	**03 31 14.5**	**+0.1**
CAN				pmax	pmax		
	comp=Z,146nm,0.6s						
CAN	**Canberra**	**34.05**	**233**	P	**P**	**03 31 15.2**	**+0.8**
MILA	**Mila**	**34.61**	**230**	P	**P**	**03 31 20.1**	**+1.1**
	comp=Z,18nm,1.4s						
PMG	**Port Moresby**	**34.96**	**279**	P	**P**	**03 31 23.1**	**+1.0**
CMSA	**Cobar Meteorol**	**35.54**	**241**	P	**P**	**03 31 27.1**	**+0.3**
	comp=Z,280nm,0.7s						
CMSA	**Cobar Meteorol**	**35.54**	**241**	P	**P**	**03 31 27.2**	**+0.4**
MTSU	**Mount Surprise**	**35.89**	**264**	P	**P**	**03 31 29.7**	**-0.1**
	comp=Z,87nm,0.6s						
QLP	**Quilpie**	**35.97**	**249**	P	**P**	**03 31 30.4**	**+0.1**
	comp=Z,687nm,0.5s						
QLP	**Quilpie**	**35.97**	**249**	P	**P**	**03 31 30.9**	**+0.5**
TOO	**Toolangi**	**37.50**	**231**	P	**P**	**03 31 42.7**	**-0.1**
TOO	**Toolangi**	**37.50**	**231**	P	**P**	**03 31 43.7**	**+0.9**
	comp=Z,54nm,1.0s						
TOO	**Toolangi**	**37.50**	**231**	P	**P**	**03 31 42.7**	**-0.1**
TOO				pmax	pmax		
	comp=Z,39nm,0.8s						
MANU	**Manus Island**	**37.59**	**291**	P	**P**	**03 31 43.8**	**+0.1**
COEN	**Coen**	**37.60**	**270**	P	**P**	**03 31 44.4**	**+0.5**
COEN	**Coen**	**37.60**	**270**	P	**P**	**03 31 44.3**	**+0.5**
	comp=Z,644nm,0.7s						
COEN	**Coen**	**37.60**	**270**	P	**P**	**03 31 44.5**	**+0.7**
TAOE	**Nuku Hiva Isla**	**37.75**	**81**	P	**P**	**03 31 46.6**	**+1.4**
TAOE	**Nuku Hiva Isla**	**37.75**	**81**	P	**P**	**03 31 44.3**	**-0.9**
TAOE	**Nuku Hiva Isla**	**37.75**	**81**	P	**P**	**03 31 46.6**	**+1.4**
MOO	**Moorlands**	**38.37**	**223**	P	**P**	**03 31 50.1**	**+0.5**
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**03 31 55.8**	**+0.6**
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**03 31 55.7**	**+0.6**
	comp=Z,915nm,1.0s						
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**03 31 55.9**	**+0.8**
	comp=Z,109nm,0.5s,baz=88,slow=9.5,SNR=279						
	comp=Z,109nm,0.5s						
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**03 31 55.9**	**+0.8**
STKA	**Stephens Creek**	**39.02**	**241**	*d* P	**P**	**03 31 56.2**	**+1.1**
INKA	**Innaminka**	**39.17**	**248**	P	**P**	**03 31 57.3**	**+1.0**
ARPS	**Mount Arapiles**	**40.00**	**234**	P	**P**	**03 32 03.0**	**+0.2**
	comp=Z,84nm,1.0s						
ARPS	**Mount Arapiles**	**40.00**	**234**	P	**P**	**03 32 03.4**	**+0.6**
QIS	**Mount Isa**	**40.12**	**259**	P	**P**	**03 32 03.4**	**-0.6**
	comp=Z,51nm,0.6s						
QIS	**Mount Isa**	**40.12**	**259**	P	**P**	**03 32 03.4**	**-0.6**
HTT	**Hallett**	**41.53**	**240**	P	**P**	**03 32 15.6**	**+0.6**
	comp=Z,147nm,1.2s						

HTT	**Hallett**	**41.53**	**240**	P	**P**	**03 32 15.5**	**+0.5**
MMPI	**Merauke**	**41.62**	**278**	P	**P**	**03 32 16.3**	**+0.4**
	comp=Z,422nm,0.8s						
LCRK	**Leigh Creek**	**41.66**	**244**	P	**P**	**03 32 15.7**	**-0.3**
TABU	**Tabubil**	**41.88**	**282**	P	**P**	**03 32 19.4**	**+1.4**
WHYH	**Whyalla**	**42.57**	**241**	P	**P**	**03 32 22.9**	**-0.2**
JAY	**Jayapura**	**43.40**	**286**	P	**P**	**03 32 30.6**	**+0.8**
	comp=Z,205nm,0.6s,baz=112,slow=3.5,SNR=104						
	comp=Z,205nm,0.6s						
JAY	**Jayapura**	**43.40**	**286**	P	**P**	**03 32 30.3**	**+0.5**
	comp=Z,3μmcomp=Z,308nm,0.9s						
OOD	**Oodnadatta**	**43.65**	**248**	P	**P**	**03 32 32.1**	**+0.6**
DHH	**Diamond Head**	**43.69**	**28**	P	**P**	**03 32 32.6**	**+0.8**
DHH	**Diamond Head**	**43.69**	**28**	P	**P**	**03 32 32.6**	**+0.8**
KIP	**Kipapa**	**43.74**	**27**	P	**P**	**03 32 32.5**	**+0.3**
BBOO	**Buckleboo**	**43.80**	**241**	P	**P**	**03 32 32.5**	**-0.1**
BBOO	**Buckleboo**	**43.80**	**241**	P	**P**	**03 32 32.5**	**-0.1**
	comp=Z,193nm,0.8s						
BBOO	**Buckleboo**	**43.80**	**241**	P	**P**	**03 32 32.6**	**-0.1**
GENI	**Genyem**	**43.86**	**286**	P	**P**	**03 32 33.1**	**-0.2**
GENI	**Genyem**	**43.86**	**286**	P	**P**	**03 32 34.2**	**+0.9**
	comp=Z,6μmcomp=Z,383nm,0.8s						
WR0	**Warramunga Arr**	**44.91**	**260**	P	**P**	**03 32 41.3**	**0.0**
WB0	**Warramunga Arr**	**45.07**	**260**	P	**P**	**03 32 42.1**	**-0.4**
WB2	**Warramunga Arr**	**45.09**	**260**	P	**P**	**03 32 42.3**	**-0.4**
WRAB	**Tennant Creek**	**45.09**	**260**	P	**P**	**03 32 42.3**	**-0.4**
WRAB	**Tennant Creek**	**45.09**	**260**	*d* P	**P**	**03 32 41.6**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,201nm,1.3s						
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**03 32 42.0**	**-0.7**
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**03 32 42.6**	**-0.2**
	comp=Z,117nm,0.6s,baz=95,slow=7.1,SNR=705						
WRA				PcP	**PcP**	**03 34 10.4**	**+0.4**
	comp=Z,5.3nm,0.4s,baz=99,slow=3.9,SNR=2.7						
WRA				ScP	**ScP**	**03 37 05.3**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=91,slow=4.1,SNR=5.7						
WRA				S	**S**	**03 38 35.1**	**-4.0**
	comp=Z,1.7nm,0.9s,baz=97,slow=15,SNR=3.9						
	comp=Z,117nm,0.6s						
AS06	**Alice Springs**	**45.18**	**254**	P	**P**	**03 32 43.4**	**0.0**
	comp=Z,468nm,0.7s						
AS19	**Alice Springs**	**45.19**	**254**	P	**P**	**03 32 43.2**	**-0.2**
	comp=Z,317nm,0.8s						
AS01	**Alice Springs**	**45.20**	**254**	P	**P**	**03 32 43.2**	**-0.3**
AS31	**Alice Springs**	**45.24**	**254**	P	**P**	**03 32 44.0**	**+0.1**
AS31	**Alice Springs**	**45.24**	**254**	P	**P**	**03 32 43.4**	**-0.4**
	comp=Z,96nm,1.0s						
ASAR	**Alice Springs**	**45.24**	**254**	P	**P**	**03 32 43.6**	**-0.2**
	comp=Z,218nm,0.6s,baz=90,slow=7.8,SNR=2130						
ASAR				PcP	**PcP**	**03 34 10.9**	**+0.4**
	comp=Z,16nm,0.5s,baz=101,slow=3.9,SNR=7.1						
ASAR				ScP	**ScP**	**03 37 07.5**	**+1.7**
	comp=Z,5.4nm,0.8s,baz=105,slow=4.0,SNR=8.3						
ASAR				S	**S**	**03 38 39.5**	**-1.5**
	comp=Z,5.4nm,0.7s,baz=89,slow=16,SNR=12						
ASAR				ScS	**ScS**	**03 41 31.8**	**-2.0**
	comp=Z,1.7nm,1.0s,baz=91,slow=4.9,SNR=4.3						
SMPI	**Sarmi**	**45.44**	**285**	P	**P**	**03 32 45.6**	**+0.2**
	comp=Z,5μmcomp=Z,219nm,0.7s						
KDU	**Kakadu**	**48.05**	**269**	P	**P**	**03 33 04.2**	**-0.7**
	comp=Z,227nm,0.6s						
KDU	**Kakadu**	**48.05**	**269**	P	**P**	**03 33 04.6**	**-0.3**
BAKI	**Biak**	**48.14**	**285**	P	**P**	**03 33 07.1**	**+1.5**
	comp=Z,3μmcomp=Z,313nm,0.7s						
GUMO	**Guam**	**48.31**	**308**	P	**P**	**03 33 07.1**	**+0.3**
	comp=Z,111nm,0.5s,baz=165,slow=12,SNR=6.0						
	comp=Z,111nm,0.5s						
GUMO	**Guam**	**48.31**	**308**	P	**P**	**03 33 07.

VNDA IAmb IAmb 03 34 33.6
comp=Z,58nm,1.6s
VNDA Vanda 60.41 185 P **P** **03 34 31.5 +1.2**
comp=Z,6.2nm,0.8s,baz=5.9,slow=6.4,SNR=12
comp=Z,6.2nm,0.8s
VNDA Vanda 60.41 185 P **P** **03 34 32.4 +2.1**
VNDA pmax pmax
comp=Z,58nm,1.6s
VNDA Vanda 60.41 185 P **P** **03 34 32.4 +2.1**
MUN Mundaring 60.53 243 P **P** **03 34 31.8 -0.1**
comp=Z,93nm,0.6s
MUN Mundaring 60.53 243 P **P** **03 34 32.2 +0.3**
LUWI Luwuk 60.60 279 P **P** **03 34 33.2 +0.6**
LUWI Luwuk 60.60 279 P **P** **03 34 33.1 +0.4**
comp=Z,2μmcomp=Z,169nm,1.0s
MORW Morawa 60.90 246 P **P** **03 34 32.8 -1.6**
comp=Z,48nm,0.9s
MORW Morawa 60.90 246 P **P** **03 34 34.1 -0.3**
DAV Davao City (W) 61.09 289 P **P** **03 34 36.8 +1.0**
BSSI Bau Bau, Buton 61.15 273 P **P** **03 34 36.1 -0.2**
comp=Z,73nm,1.5s
WBSI Waikabubak, Su 61.23 269 P **P** **03 34 36.9 +0.1**
comp=Z,128nm,0.7s
APSI Ampana 61.70 279 P **P** **03 34 41.4 +1.6**
comp=Z,2μmcomp=Z,126nm,1.2s
BKSI Bulukumba 61.75 274 P **P** **03 34 39.7 -0.4**
MRSI Marisa 61.91 280 P **P** **03 34 40.6 -0.5**
comp=Z,72nm,0.9s
KAPI Kappang 62.19 274 P **P** **03 34 43.1 +0.1**
comp=Z,20nm,0.5s,baz=123,slow=4.0,SNR=6.7
comp=Z,20nm,0.5s
KAPI Kappang 62.19 274 P **P** **03 34 43.1 +0.1**
KAPI Kappang 62.19 274 P **P** **03 34 43.0 0.0**
SPSI Sidrap Palu 62.49 275 P **P** **03 34 44.4 -0.5**
comp=Z,59nm,0.8s
TTSI Tana Toraja 62.73 276 P **P** **03 34 45.9 -0.6**
PLAI Plampang 62.99 269 P **P** **03 34 47.8 -0.3**
PLAI Plampang 62.99 269 P **P** **03 34 47.3 -0.8**
comp=Z,3μmcomp=Z,175nm,1.1s
TOLI2 Tolitoli 63.22 281 P **P** **03 34 49.5 0.0**
TOLI2 IAmb IAmb 03 34 50.4
comp=Z,47nm,0.8s
TOLI2 Tolitoli 63.22 281 P **P** **03 34 49.5 0.0**
GIRL Giralia 63.34 253 P **P** **03 34 51.2 +1.0**
PCI Palu 63.41 278 P **P** **03 34 52.4 +1.6**
comp=Z,3μmcomp=Z,166nm,1.5s
TWSI Taliwang, Sumb 63.86 269 P **P** **03 34 53.0 -0.7**
comp=Z,2μmcomp=Z,217nm,1.0s
CCD Concordia, Ant 64.91 194 P **P** **03 35 00.8 +1.1**
JHJ2 Mitsune 64.91 321 P **P** **03 35 00.6 +0.8**
SRBI Singaraja 65.63 269 P **P** **03 35 04.1 -0.6**
comp=Z,2μmcomp=Z,120nm,0.6s
JAGI Jajag, Banyuwa 66.53 268 P **P** **03 35 09.3 -1.0**
JAGI Jajag, Banyuwa 66.53 268 P **P** **03 35 09.8 -0.5**
JAGI Jajag, Banyuwa 66.53 268 P **P** **03 35 08.8 -1.5**
comp=Z,2μmcomp=Z,210nm,0.7s
ABJI Asem Bagus 66.64 269 P **P** **03 35 10.4 -0.6**
comp=Z,102nm,1.1s
KMMI Kalianget 67.10 270 P **P** **03 35 14.2 +0.4**
comp=Z,2μmcomp=Z,100nm,1.2s
GMJI Gumukmas 67.26 268 P **P** **03 35 13.3 -1.5**
comp=Z,99nm,0.7s
JMM Marumori 67.78 326 P **P** **03 35 18.1 +0.7**
JGF Kuroka 68.11 322 P **P** **03 35 19.1 -0.4**
JGF IAmb IAmb 03 35 20.3
comp=Z,58nm,1.4s
JGF Kuroka 68.11 322 P **P** **03 35 19.8 +0.3**
MJAR Matsushiro Arr 68.27 323 P **P** **03 35 20.1 -0.3**
comp=Z,20nm,0.5s,baz=162,slow=5.9,SNR=54
comp=Z,20nm,0.5s
MAJO Matsushiro 68.27 323 P **P** **03 35 20.7 +0.3**
MAJO IAmb IAmb 03 35 21.4
comp=Z,66nm,1.1s
MAJO Matsushiro 68.27 323 P **P** **03 35 20.9 +0.5**
MAJO Matsushiro 68.27 323 *d iP* **P** **03 35 20.2 -0.2**
MAJO pmax pmax
comp=Z,28nm,0.6s
MAJO Matsushiro 68.27 323 P **P** **03 35 20.1 -0.3**
JMN Monobe 68.98 318 P **P** **03 35 25.7 +0.9**
JMN IAmb IAmb 03 35 26.3
comp=Z,40nm,0.8s
JMN Monobe 68.98 318 P **P** **03 35 24.3 -0.5**
KKM Kota Kinabalu 69.24 284 P **P** **03 35 27.2 +0.3**
KKM IAmb IAmb 03 35 28.0
comp=Z,37nm,0.7s
JSD Sado 69.29 324 P **P** **03 35 27.8 +1.3**
NGJI Ngawi 69.40 269 P **P** **03 35 29.5 +1.8**
comp=Z,63nm,0.8s
PCJI Pacitan 69.44 268 P **P** **03 35 28.2 +0.3**
JTM Tenmabayashi 69.80 328 P **P** **03 35 29.0 -0.4**
ATKA Atka Island 69.97 2 P **P** **03 35 29.7 -0.4**
UGM Wanagama 70.14 268 P **P** **03 35 32.0 -0.2**
UGM Wanagama 70.14 268 P **P** **03 35 31.8 -0.3**
UGM Wanagama 70.14 268 P **P** **03 35 31.9 -0.2**
YOGI Yogyakarta 70.38 268 P **P** **03 35 33.4 -0.1**
comp=Z,137nm,0.7s
SMRI Semarang 70.46 269 P **P** **03 35 34.2 +0.3**
SMRI Semarang 70.46 269 P **P** **03 35 34.0 0.0**
comp=Z,87nm,0.7s
JNU Nakatsue 70.54 316 P **P** **03 35 34.0 0.0**
comp=Z,11nm,0.4s,baz=66,slow=3.1,SNR=14
comp=Z,11nm,0.4s
JNU Nakatsue 70.54 316 P **P** **03 35 34.1 0.0**
YOJ Yonaguni jima 71.40 304 P **P** **03 35 39.3 +0.1**
YOJ Yonaguni jima 71.40 304 P **P** **03 35 38.9 -0.3**
YOJ Yonaguni jima 71.40 304 P **P** **03 35 39.3 +0.1**
YOJ pmax pmax
comp=Z,226nm,1.2s
JKA Kamikawa-asahi 71.58 331 P **P** **03 35 40.8 +0.9**
ASAJ Asahikawa 71.58 331 P **P** **03 35 40.8 +1.0**
ASAJ pmax pmax
comp=Z,349nm,2.0s
STKI Sintang 71.62 276 P **P** **03 35 41.8 +1.0**
comp=Z,151nm,0.7s
SBUM Sibu 71.70 279 P **P** **03 35 41.7 +0.5**
SBUM IAmb IAmb 03 35 43.1
comp=Z,11nm,0.7s
QSPA South Pole Qui 72.07 180 P **P** **03 35 43.9 +1.4**
QSPA IAmb IAmb 03 35 44.7
comp=Z,31nm,0.7s
QSPA South Pole Qui 72.07 180 P **P** **03 35 44.2 +1.7**
comp=Z,26nm,0.6s,baz=318,slow=0.4,SNR=118
comp=Z,26nm,0.6s
TWG Pinlang 72.13 302 P **P** **03 35 42.5 -0.9**
UNV Unalaska Valle 72.21 7 P **P** **03 35 42.1 -1.1**
baz=192
YULB Yu-li 72.23 303 P **P** **03 35 43.1 -0.9**
YULB IAmb IAmb 03 35 44.1
comp=Z,31nm,0.6s
YULB Yu-li 72.23 303 P **P** **03 35 43.4 -0.6**
JTU Tsushima 72.37 316 P **P** **03 35 44.4 -0.2**
NACB Ninganchiao 72.37 303 P **P** **03 35 44.5 -0.3**
SSLB Suanglung 72.69 303 P **P** **03 35 45.9 -0.9**
SSLB Suanglung 72.69 303 P **P** **03 35 45.7 -1.0**
TPUB Ta-pu 72.72 302 P **P** **03 35 46.2 -0.7**
TPUB Ta-pu 72.72 302 P **P** **03 35 46.2 -0.7**
YHNB Yeheng 72.79 304 P **P** **03 35 47.6 +0.3**
TATO Taipei 72.85 304 P **P** **03 35 48.2 +0.7**
BBJI Bungbulang 72.99 268 P **P** **03 35 48.3 -0.4**
KSM Kuching 73.18 277 P **P** **03 35 50.2 +0.5**
LEM Lembang 73.21 268 P **P** **03 35 50.4 +0.4**
comp=Z,189nm,0.9s
CNJI Cibinong 73.53 268 P **P** **03 35 50.8 -0.9**
comp=Z,52nm,0.9s
PET Petropavlovsk 73.57 345 ⇓*iP* **P** **03 35 50.5 -0.5**
PET pmax pmax
comp=Z,26nm,1.0s
YSS Yuzhno-Sakhali 73.71 333 P **P** **03 35 52.5 +0.6**
YSS IAmb IAmb 03 35 54.0
comp=Z,34nm,0.9s
YSS Yuzhno-Sakhali 73.71 333 *eP* **P** **03 35 52.8 +0.9**
YSS pmax pmax
comp=Z,30nm,1.2s
PEA0B Petropavlovsk- 73.88 345 P **P** **03 35 53.4 +0.6**
PEA0B Petropavlovsk- 73.88 345 P **P** **03 35 53.4 +0.6**
PEA0B pmax pmax
comp=Z,89nm,1.1s
PETK Petropavlovsk- 73.88 345 P **P** **03 35 52.5 -0.3**
PETK Petropavlovsk- 73.88 345 P **P** **03 35 52.7 -0.1**
comp=Z,42nm,0.8s,baz=128,slow=7.4,SNR=54
PETK pP **pwP** **03 37 58.8 -1.2**
comp=Z,8.5nm,1.1s,baz=152,slow=6.7,SNR=3.8
comp=Z,42nm,0.8s
SKJI Sukabumi 74.16 268 P **P** **03 35 54.7 -0.6**
CHNA Chernabura Isl 74.19 11 P **P** **03 35 53.6 -0.9**
baz=198
TPI Tanjungpandan 74.37 272 P **P** **03 35 56.5 +0.1**
comp=Z,1μmcomp=Z,67nm,0.7s
SDPT Sand Point 74.53 10 P **P** **03 35 55.9 -0.4**
SDPT Sand Point 74.53 10 P **P** **03 35 55.7 -0.6**
baz=197
S12K Black Hills 74.62 9 P **P** **03 35 55.9 -0.9**
baz=196
P08K Saint George I 74.63 5 P **P** **03 35 55.7 -1.1**
baz=188
SBJI Serang 74.82 268 P **P** **03 35 58.0 -0.9**
comp=Z,177nm,0.5s
KSRS Korea Array 75.09 318 P **P** **03 36 01.0 +1.1**
comp=Z,5.7nm,0.7s,baz=141,slow=6.2,SNR=16
comp=Z,5.7nm,0.7s
KSRS Korea Array 75.09 318 P **P** **03 36 01.0 +1.1**
CGJI Cibinong 75.10 268 P **P** **03 35 59.4 -1.1**
KSAR Wonju Array Be 75.11 318 P **P** **03 36 00.6 +0.6**
KSAR Wonju Array Be 75.11 318 P **P** **03 36 00.6 +0.6**
SPIA Saint Paul Isl 75.15 4 P **P** **03 35 59.3 -0.4**
baz=188
S14K Fog Glacier 75.58 10 P **P** **03 36 01.2 -1.1**
baz=198
CHGN Chignik 75.80 11 P **P** **03 36 02.7 -0.6**
baz=199
CHIR Chirikof Islan 75.90 13 P **P** **03 36 03.2 -0.7**
baz=202
INCN Inchon 75.93 317 P **P** **03 36 06.7 +2.2**
MSHR Mys Shultsa 76.36 324 ⇓*eP* **P** **03 36 07.5 +0.8**
MSHR pmax pmax
comp=Z,54nm,0.9s
PSTR Posyet 76.60 324 ⇑*iP* **P** **03 36 09.3 +1.3**
KMRM Mail Ridge 76.76 40 P **P** **03 36 10.1 +1.0**
KMRM IAmb IAmb 03 36 12.4
comp=Z,42nm,0.9s
TYV Tymovskoe 76.81 336 *eP* **P** **03 36 09.4 +0.4**
TYV pmax pmax
comp=Z,39nm,1.1s
TYV pmax pmax
comp=Z,500nm,5.0s
SII Sitkinak Islan 76.89 13 P **P** **03 36 09.3 0.0**
baz=203
USRK Ussuriysk Ar. 76.96 325 P **P** **03 36 10.8 +0.8**
comp=Z,6.4nm,0.7s,baz=109,slow=3.9,SNR=14
comp=Z,6.4nm,0.7s
USA0B Ussuriysk Arra 76.96 325 *d iP* **P** **03 36 10.6 +0.6**
LWLI Liwa 77.12 269 P **P** **03 36 10.9 -0.8**
comp=Z,163nm,0.6s
R16K Pilot Point 77.15 11 P **P** **03 36 10.2 -0.4**
baz=200
MDSI Maura Dua 77.16 269 P **P** **03 36 09.9 -1.9**
comp=Z,728nmcomp=Z,62nm,0.9s
ELS Elsinore Mount 77.17 48 P **P** **03 36 12.3 +0.8**
O02D Mt. Diablo Mer 77.29 40 P **P** **03 36 13.9 +1.9**
ISA Isabella, Lake 77.52 46 P **P** **03 36 14.7 +1.4**
ISA Isabella, Lake 77.52 46 P **P** **03 36 14.7 +1.4**
ISA pmax pmax
comp=Z,15nm,0.9s
CMB Columbia Colle 77.56 43 P **P** **03 36 14.8 +1.3**
CMB Columbia Colle 77.56 43 P **P** **03 36 14.8 +1.3**
CMB pmax pmax
comp=Z,13nm,0.9s
OHAK Old Harbor 77.69 13 P **P** **03 36 13.9 +0.2**
baz=204
AFDM Forest Hills D 77.71 42 P **P** **03 36 15.4 +1.2**
YUH Yuha Desert 77.73 50 P **P** **03 36 15.5 +1.1**
R18K Karluk 77.76 13 P **P** **03 36 13.9 -0.1**
baz=203
PFO Pinyon Flats O 77.84 49 P **P** **03 36 16.6 +1.5**
comp=Z,3.6nm,0.8s,baz=288,slow=6.7,SNR=3.9
comp=Z,3.6nm,0.8s
O14K Tigyukauivet M 78.16 9 P **P** **03 36 16.4 +0.4**
baz=196
YBH Yreka Blue Hor 78.28 39 P **P** **03 36 18.4 +1.2**
YBH Yreka Blue Hor 78.28 39 P **P** **03 36 18.5 +1.2**
comp=Z,10nm,0.8s,baz=198,slow=6.4,SNR=30
comp=Z,10nm,0.8s
O15K Ungalikthiuk R 78.30 9 P **P** **03 36 16.8 0.0**
baz=198
KDAK Kodiak Island 78.36 14 P **P** **03 36 17.7 +0.6**
comp=Z,23nm,0.8s,baz=39,slow=5.8,SNR=9.0
comp=Z,23nm,0.8s
KDAK Kodiak Island 78.36 14 P **P** **03 36 16.9 -0.2**
baz=205
Q16K King Salmon 78.36 11 P **P** **03 36 16.8 -0.3**
baz=201
NJ2 Nanjing 78.37 309 ⇑*iP* **P** **03 36 19.2 +1.4**
NJ2 pmax pmax
comp=Z,19nm,0.7s
WAKR Walker 78.44 43 P **P** **03 36 19.6 +1.2**
WAKR IAmb IAmb 03 36 21.4
comp=Z,20nm,0.9s
P16K Nushagak River 78.46 10 P **P** **03 36 17.6 -0.1**
baz=199
HATC Hat Creek Radi 78.49 40 P **P** **03 36 19.4 +1.0**
HATC IAmb IAmb 03 36 21.3
comp=Z,26nm,1.0s
MDJ Mudanjiang 78.53 325 P **P** **03 36 18.7 +0.3**
MDJ pmax pmax
comp=Z,71nm,0.8s
Q18K Katmai Hardscr 78.65 12 P **P** **03 36 18.7 -0.2**
baz=202,SNR=8.5
PNTR Pine Nut 78.67 42 P **P** **03 36 20.9 +1.3**
PNTR IAmb IAmb 03 36 22.4
comp=Z,32nm,0.9s
M11K Mekoryuk 78.67 6 P **P** **03 36 19.4 +0.7**
baz=191
GLA Glamis 78.73 50 P **P** **03 36 20.2 +0.4**
GLA Glamis 78.73 50 P **P** **03 36 20.2 +0.4**
GLA pmax pmax
comp=Z,16nm,1.1s
N14K Kuskokwak Cree 78.75 8 P **P** **03 36 19.6 +0.5**
baz=196
DSP Deep Springs 78.78 45 P **P** **03 36 21.3 +1.4**
L04D Klamath Falls 78.81 39 P **P** **03 36 21.1 +0.9**
L04D IAmb IAmb 03 36 22.7
comp=Z,19nm,0.8s
P17K Kvichak River 78.89 11 P **P** **03 36 19.4 -0.6**
baz=201,SNR=6.4
LHV Little Huntoon 78.91 44 P **P** **03 36 21.9 +1.4**
LHV IAmb IAmb 03 36 23.8
comp=Z,18nm,1.0s
KSI Kapahiang 78.92 270 P **P** **03 36 20.2 -1.1**
O16K Kokwok River B 78.98 10 P **P** **03 36 19.4 -1.0**
baz=199
M13K Dall Lake 79.01 7 P **P** **03 36 20.3 -0.2**
baz=194
GWY Greenwater Val 79.03 46 P **P** **03 36 22.5 +1.0**
RYN Ryan 79.11 43 P **P** **03 36 22.7 +0.9**
NVAR Mina Array Bea 79.14 44 P **P** **03 36 23.0 +0.9**
NVAR Mina Array Bea 79.14 44 P **P** **03 36 23.3 +1.2**
comp=Z,3.6nm,0.7s,baz=224,slow=8.8,SNR=66
comp=Z,9.6nm,0.7s
PAHR Pah Rah Range 79.15 42 P **P** **03 36 23.0 +1.0**
Q20K Shuyak Island 79.16 13 P **P** **03 36 20.8 -0.6**
baz=205
Q19K Cape Douglas, 79.19 13 P **P** **03 36 21.5 -0.1**
baz=204
N15K Kwethluk River 79.21 9 P **P** **03 36 22.1 +0.4**
baz=197
GMN Gold Mountain 79.22 45 P **P** **03 36 23.9 +1.3**
NV11 Mina Array Sit 79.24 44 P **P** **03 36 23.4 +0.9**
P18K Big Mountain, 79.30 12 P **P** **03 36 21.9 -0.2**
P18K IAmb IAmb 03 36 23.0
comp=Z,56nm,0.8s
P18K Big Mountain, 79.30 12 P **P** **03 36 21.7 -0.4**
baz=202,SNR=8.6
O17K Koliganek Bris 79.32 11 P **P** **03 36 21.9 -0.2**
baz=200,SNR=5.2
GRNR Gornyy 79.33 332 ⇓*iP* **P** **03 36 23.1 +0.6**
GRNR pmax pmax
comp=Z,30nm,0.8s
MZP Montezuma Peak 79.35 45 P **P** **03 36 24.5 +1.2**
113A Mohawk Valley, 79.36 50 P **P** **03 36 24.7 +1.6**
WCT Wildcat Mounta 79.38 46 P **P** **03 36 24.9 +1.7**
MYKOM Kota Tinggi 79.39 275 P **P** **03 36 24.6 +0.9**
MYKOM IAmb IAmb 03 36 24.9
comp=Z,18nm,0.7s
M14K Bethel 79.51 8 P **P** **03 36 24.1 +0.9**
M14K IAmb IAmb 03 36 25.0
comp=Z,64nm,1.2s
M14K Bethel 79.51 8 P **P** **03 36 23.7 +0.6**
baz=196
J04A Umpqua Nationa 79.54 38 P **P** **03 36 25.5 +1.4**
M15K Kasigluk River 79.63 9 P **P** **03 36 24.0 +0.2**
baz=197
I04A Tendick Farm, 79.69 37 P **P** **03 36 25.8 +1.2**
N16K Nishlik Lake 79.70 9 P **P** **03 36 25.1 +0.8**
baz=199
TPNV Topopah Spring 79.72 46 P **P** **03 36 26.6 +1.5**
TPNV Topopah Spring 79.72 46 P **P** **03 36 26.6 +1.5**
TPNV pmax pmax
comp=Z,7.0nm,0.8s
O18K Koktuh Hills 79.73 11 P **P** **03 36 24.6 +0.2**
O18K Koktuh Hills 79.73 11 P **P** **03 36 24.7 +0.3**
baz=202,SNR=13
P19K Oil Pt 79.94 12 P **P** **03 36 25.9 +0.4**
baz=204
L14K Kuka Creek 79.99 7 P **P** **03 36 26.6 +1.0**
L14K IAmb IAmb 03 36 27.6
comp=Z,20nm,0.9s
L14K Kuka Creek 79.99 7 P **P** **03 36 26.1 +0.5**
baz=195
N17K Nushagak Hills 80.01 10 P **P** **03 36 25.9 +0.1**
baz=200
J05D Fort Rock, OR 80.08 38 P **P** **03 36 28.2 +1.5**
J05D IAmb IAmb 03 36 29.7
comp=Z,37nm,0.8s
M16K Timber Creek 80.19 9 P **P** **03 36 27.5 +0.7**
baz=198
O19K Port Alsworth 80.22 12 P **P** **03 36 26.7 -0.1**
baz=203
SHPR Sheep Range 80.24 47 P **P** **03 36 29.0 +1.2**
ILSW Iliamna Southw 80.26 12 IAmb IAmb 03 36 28.0
comp=Z,56nm,0.8s
HOM Homer 80.28 13 P **P** **03 36 27.0 -0.2**
baz=205
K13K Kusilvak Mount 80.34 6 P **P** **03 36 27.2 -0.3**
baz=193
H04A Detroit Lake 80.36 37 P **P** **03 36 28.9 +0.8**
H04A IAmb IAmb 03 36 29.7
comp=Z,16nm,0.7s
N18K Kilae Creek 80.38 11 P **P** **03 36 27.6 -0.2**
baz=201
CN2 Changchun 80.39 322 ⇑P **P** **03 36 29.3 +1.2**
CN2 *ep*P pP 03 38 36.8 +1.7
CN2 *eS* **S** **03 45 47.6 +2.6**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,400nm,6.0s
S11A Rachel 80.43 45 IAmb IAmb 03 36 31.1
comp=Z,15nm,0.9s
KLR Kul'dur 80.43 329 *d iP* **P** **03 36 29.1 +0.8**
KLR pmax pmax
comp=Z,20nm,1.3s
BNX BinXian 80.44 325 ⇓P **P** **03 36 28.2 -0.2**
BNX pmax pmax
comp=Z,57nm,0.9s
O20K Slope Mountain 80.45 13 P **P** **03 36 28.3 +0.1**
baz=204
L15K Ungalak Mounta 80.47 8 P **P** **03 36 27.9 -0.3**
baz=196
BRSE Bradley Lake S 80.55 14 P **P** **03 36 28.3 -0.3**
baz=206
PINE Pine Mountain 80.55 38 IAmb IAmb 03 36 32.3
comp=Z,32nm,0.9s
I05D Terrebonne, OR 80.64 37 IAmb IAmb 03 36 32.2
comp=Z,18nm,0.9s
N19K Bonanza Creek 80.76 11 IAmb IAmb 03 36 30.5
comp=Z,32nm,1.1s
N19K Bonanza Creek 80.76 11 P **P** **03 36 28.9 -0.9**
baz=203
L16K Owhat River 80.78 9 IAmb IAmb 03 36 31.9
comp=Z,43nm,1.0s
L16K Owhat River 80.78 9 P **P** **03 36 29.9 +0.2**
baz=198,SNR=9.5
PRN Pahroc Range 80.78 46 IAmb IAmb 03 36 33.7
comp=Z,16nm,0.8s
M17K Holitna River 80.79 10 P **P** **03 36 30.7 +0.9**
baz=200,SNR=15
WHN Wuhan 81.05 306 P **P** **03 36 32.9 +1.0**
WHN pmax pmax
comp=Z,66nm,0.9s
K15K Wolf Creek Mou 81.06 8 P **P** **03 36 32.1 +1.0**
baz=196
M18K Stony River 81.15 11 P **P** **03 36 32.1 +0.4**
baz=201
WVOR Wild Horse Val 81.15 40 IAmb IAmb 03 36 35.1
comp=Z,23nm,1.0s
SEW Seward 81.17 14 P **P** **03 36 32.0 +0.3**
baz=207
J14K Nanvaranak Lak 81.26 7 P **P** **03 36 32.6 +0.4**
baz=194
SLKM Skilak Lake 81.35 13 IAmb IAmb 03 36 33.8
comp=Z,41nm,0.8s
L17K Donlin 81.35 9 P **P** **03 36 33.8 +1.1**
baz=199
TUC Tucson 81.36 52 P **P** **03 36 35.4 +1.8**
TUC Tucson 81.36 52 P **P** **03 36 35.4 +1.8**
TUC pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 81.40 344 P **P** **03 36 32.4 -0.6**
comp=Z,14nm,0.6s,baz=146,slow=5.2,SNR=20
comp=Z,14nm,0.6s
MA2 Magadan 81.40 344 *ceP* **P** **03 36 32.3 -0.7**
MA2 pmax pmax
comp=Z,35nm,1.1s
O22K Cooper Landing 81.44 14 P **P** **03 36 33.1 0.0**
baz=207
SPCR Spurr Chakacha 81.56 12 P **P** **03 36 33.6 -0.3**
baz=205
I07A Izee 81.56 38 P **P** **03 36 35.5 +1.2**
I07A IAmb IAmb 03 36 37.1
comp=Z,23nm,0.8s
G06A Carlson Farm, 81.57 37 IAmb IAmb 03 36 36.6
comp=Z,20nm,1.1s
GAMB Gambell 81.64 3 P **P** **03 36 34.4 +0.3**
baz=186
TIA Tai'an 81.67 312 P **P** **03 36 35.6 +0.7**
TIA pmax pmax
comp=Z,17nm,0.9s
L18K Granite Mounta 81.69 10 P **P** **03 36 35.2 +0.8**
baz=200
M19K Big River Lodg 81.79 11 IAmb IAmb 03 36 35.5
comp=Z,13nm,0.8s
M19K Big River Lodg 81.79 11 P **P** **03 36 35.1 +0.2**
baz=203,SNR=5.6
COCO West Island 81.89 260 P **P** **03 36 35.6 -0.9**
K17K Iditarod 81.91 9 IAmb IAmb 03 36 38.4
comp=Z,37nm,1.3s
K17K Iditarod 81.91 9 P **P** **03 36 36.1 +0.6**
baz=199
STLK Strandline Lak 81.91 12 IAmb IAmb 03 36 35.8
comp=Z,21nm,0.8s
L19K White Mountain 81.96 11 P **P** **03 36 36.5 +0.7**
baz=202
PPI Padang Panjang 81.97 272 P **P** **03 36 36.7 -0.3**
RC01 Rabbit Creek A 81.98 13 IAmb IAmb 03 36 37.0
comp=Z,32nm,1.1s
RC01 Rabbit Creek A 81.98 13 P **P** **03 36 36.3 +0.4**
baz=207
D05A Enumclaw 81.98 35 IAmb IAmb 03 36 39.2
comp=Z,66nm,1.4s
M20K Styx River 82.00 12 P **P** **03 36 36.1 0.0**
baz=204
BELA Belgrano 2 82.02 173 IAmb IAmb 03 36 37.8
comp=Z,39nm,0.8s
319A Douglas 82.08 54 IAmb IAmb 03 36 41.1
comp=Z,24nm,0.9s
PWL Port Wells 82.09 14 IAmb IAmb 03 36 37.4
comp=Z,35nm,0.9s
PWL Port Wells 82.09 14 P **P** **03 36 36.2 -0.4**
baz=208,SNR=5.7
SUA Susitna One 82.10 13 IAmb IAmb 03 36 37.4
comp=Z,35nm,0.8s
SUA Susitna One 82.10 13 P **P** **03 36 36.7 0.0**
baz=206,SNR=8.3
J16K Anvik River 82.13 8 P **P** **03 36 37.0 +0.4**
baz=197
BBB Bella Bella 82.15 28 P **P** **03 36 37.0 0.0**
comp=Z,17nm,1.1s,baz=264,slow=9.2,SNR=1.4
comp=Z,17nm,1.1s
U15A North Rim 82.20 48 IAmb IAmb 03 36 41.3
comp=Z,24nm,0.8s
KAIM Kayak Island 82.26 16 P **P** **03 36 37.8 +0.5**
baz=212
ELK Elko 82.38 43 P **P** **03 36 39.9 +1.2**
CRAG Craig 82.39 24 P **P** **03 36 38.3 +0.3**
baz=223
GLI Glacier Island 82.40 15 P **P** **03 36 37.5 -0.6**
baz=210
SKT Skwentna 82.41 12 P **P** **03 36 37.8 -0.2**

baz=205
L20K Farewell, AK 82.41 11 P P 03 36 38.0 -0.1
baz=203
UBPT Khong Chiam 82.42 289 IAmb IAmb 03 36 41.0
comp=Z,46nm,1.4s
J17K VABM Dome 82.44 8 P P 03 36 38.4 +0.3
baz=198
EYAK Cordova Ski Ar 82.45 15 P P 03 36 39.4 +1.2
baz=211
TTA Tatalina 82.47 10 P P 03 36 39.0 +0.6
TTA IAmb IAmb 03 36 40.2
comp=Z,30nm,1.0s
TTA Tatalina 82.47 10 P P 03 36 39.2 +0.8
TTA Tatalina 82.47 10 P P 03 36 39.0 +0.6
TTA pmax pmax
comp=Z,30nm,1.0s
TTA Tatalina 82.47 10 P P 03 36 38.9 +0.6
baz=201,SNR=11
M22K Willow 82.49 13 P P 03 36 38.2 -0.2
baz=207,SNR=7.3
KNK Knik Glacier 82.56 14 IAmb IAmb 03 36 39.9
comp=Z,25nm,0.8s
KNK Knik Glacier 82.56 14 P P 03 36 39.1 +0.3
baz=208,SNR=6.0
MXC Moxie City 82.56 36 IAmb IAmb 03 36 41.6
comp=Z,18nm,1.2s
PMR Palmer 82.56 13 P P 03 36 38.7 -0.1
PMR Palmer 82.56 13 P P 03 36 38.7 -0.1
baz=208,SNR=6.9
G08A Pilot Rock 82.57 38 IAmb IAmb 03 36 41.9
comp=Z,35nm,1.4s
PKCU Pink Cliffs 82.68 47 IAmb IAmb 03 36 43.9
comp=Z,16nm,0.9s
I17K Unalakleet 82.70 8 P P 03 36 39.9 +0.5
baz=197
BGLC Bering Glacier 82.73 17 P P 03 36 39.9 +0.3
baz=213
DUN6 Lazy B Ranch 82.75 53 IAmb IAmb 03 36 43.8
comp=Z,53nm,1.3s
E07A Sunnyside 82.79 36 IAmb IAmb 03 36 42.9
comp=Z,19nm,0.9s
ANM Nome 82.85 5 P P 03 36 40.2 0.0
baz=192
J18K Innoko River 82.86 9 P P 03 36 40.8 +0.6
baz=200
U33K Whale Pass 82.87 23 P P 03 36 40.8 +0.4
baz=223
HAWA Hanford 82.88 36 IAmb IAmb 03 36 43.4
comp=Z,21nm,0.9s
V35K Ketchikan 82.88 25 P P 03 36 41.1 +0.6
baz=224
SML Sawmill 82.93 14 P P 03 36 40.9 +0.2
baz=208
DIV Divide 82.94 15 IAmb IAmb 03 36 42.0
comp=Z,42nm,0.9s
CUT Chulitna 83.05 13 P P 03 36 41.3 +0.1
baz=206,SNR=7.8
M23K Glacier View 83.06 14 P P 03 36 41.2 -0.1
baz=209
BMRM Bremner River 83.10 16 IAmb IAmb 03 36 42.9
comp=Z,40nm,1.0s
BMRM Bremner River 83.10 16 P P 03 36 42.0 +0.4
baz=212,SNR=5.7
PPLA Purkeypile 83.11 12 P P 03 36 42.2 +0.5
baz=205
S31K Pelican 83.15 21 P P 03 36 43.1 +1.4
baz=220
MESA MESA 83.15 17 P P 03 36 42.8 +0.7
baz=214
SCM Sheep Creek Mo 83.18 14 P P 03 36 42.4 +0.3
baz=209,SNR=7.7
K20K Telida 83.19 11 P P 03 36 42.4 +0.4
baz=203
E08A Dider Farm, El 83.20 37 IAmb IAmb 03 36 44.4
comp=Z,13nm,0.8s
KLU Klutina 83.22 15 IAmb IAmb 03 37 16.5
comp=Z,91nm,2.0s
KLU Klutina 83.22 15 P P 03 36 42.3 +0.1
baz=211
HEH HeiHe 83.24 328 eP P 03 36 42.6 +0.2
HEH pmax pmax
comp=Z,29nm,1.2s
H16K Elim 83.24 7 P P 03 36 42.9 +0.8
baz=195,SNR=5.4
WRAK Wrangell Islan 83.38 24 P P 03 36 43.9 +1.0
baz=223
G15K Niukluk 83.40 6 P P 03 36 43.2 +0.3
baz=193
MFID Camas Ranch 83.41 40 IAmb IAmb 03 36 46.3
comp=Z,17nm,1.1s
PNL Peninsula 83.48 19 P P 03 36 44.0 +0.6
baz=217
J19K Poorman 83.53 10 P P 03 36 44.1 +0.6
baz=201
KULM Kulim 83.53 278 P P 03 36 45.2 +0.4
KULM IAmb IAmb 03 36 46.7
comp=Z,80nm,1.6s
KULM Kulim 83.53 278 P P 03 36 44.6 -0.2
PINM Pinnacle 83.57 18 P P 03 36 44.4 +0.4
baz=216
D08A Wollman Farm, 83.60 36 IAmb IAmb 03 36 46.8
comp=Z,19nm,0.9s
CAST Castle Rocks 83.61 11 P P 03 36 42.8 -1.2
baz=205,SNR=31
VRDI Verde Repeater 83.62 16 IAmb IAmb 03 36 45.6
comp=Z,26nm,0.9s
TNA Tin City 83.64 4 IAmb IAmb 03 36 45.7
comp=Z,26nm,0.8s
TNA Tin City 83.64 4 P P 03 36 44.4 +0.4
baz=190
N25K Chitina, Valde 83.65 15 IAmb IAmb 03 36 45.7
comp=Z,38nm,0.8s
N25K Chitina, Valde 83.65 15 P P 03 36 44.6 +0.3
baz=212,SNR=13
F14K Arctic Creek 83.67 5 P P 03 36 45.0 +0.8
baz=191
M24K Tolsona, Glenn 83.69 14 P P 03 36 45.2 +0.7
baz=210,SNR=6.3
GLB Gilahina Butte 83.71 16 P P 03 36 45.0 +0.4
GLB IAmb IAmb 03 36 45.9
comp=Z,29nm,0.8s
E09A Wood Farm, Sta 83.73 37 IAmb IAmb 03 36 47.2
comp=Z,29nm,1.6s
H17K Granite Mounta 83.81 8 P P 03 36 45.2 +0.2
baz=197
HNS HongShan 83.94 312 ⇓P P 03 36 47.4 +1.2
HNS pmax pmax
comp=Z,27nm,1.3s
J20K Nowinta River 83.94 10 P P 03 36 46.3 +0.7
baz=203
KTH Kantishna Hill 83.95 12 IAmb IAmb 03 36 46.3
comp=Z,26nm,0.8s
G16K Koyuk River 83.96 6 P P 03 36 46.0 +0.4
baz=195
SEY Seymchan 83.97 347 P P 03 36 45.2 -0.5
comp=Z,28nm,0.6s,baz=143,slow=6.0,SNR=125
comp=Z,28nm,0.6s
SEY Seymchan 83.97 347⇓eP P 03 36 45.2 -0.5
SEY pmax pmax
comp=Z,55nm,1.1s
TRF Thorofare Moun 83.98 12 P P 03 36 45.5 -0.6
baz=206,SNR=27
CHUM Lake Minchumin 83.99 11 P P 03 36 45.2 -0.7
baz=204,SNR=10
GCSA Galena City Sc 84.04 9 P P 03 36 46.4 +0.4
baz=200,SNR=7.3
F15K North Star Dit 84.04 5 P P 03 36 46.4 +0.3
baz=193
B08A Colville Reser 84.12 35 IAmb IAmb 03 36 48.5
comp=Z,14nm,0.8s
O28M Mount Upton 84.14 18 P P 03 36 47.3 +0.3
baz=216
BJT Baijiatuau 84.18 315 P P 03 36 47.7 +0.3
BJI Beijing 84.19 315 P P 03 36 48.3 +0.9
BJI pmax pmax
comp=Z,10.0nm,1.1s
BJI pmax pmax
comp=Z,56nm,4.2s
HARP HAARP 84.19 15 P P 03 36 47.1 +0.2
baz=211,SNR=9.4
H18K Honhosa River 84.21 8 P P 03 36 46.9 0.0
baz=199
O29M Mount Kennedy 84.23 18 P P 03 36 47.3 0.0
baz=217
RND Reindeer 84.24 13 P P 03 36 46.8 -0.4
G17K Kiwalik Mounta 84.26 7 P P 03 36 47.4 +0.2
baz=197
LYN LuoYang 84.26 309 P P 03 36 49.3 +1.4
LYN pmax pmax
comp=Z,76nm,0.9s
LYN pmax pmax
comp=Z,410nm,5.4s
PLBC Pleasant Camp 84.26 20 P P 03 36 47.8 +0.5
baz=219,SNR=5.9
BPAW Bear Paw Mtn. 84.43 12 IAmb IAmb 03 36 49.9
comp=Z,9.3nm,0.8s
BPAW Bear Paw Mtn. 84.43 12 P P 03 36 48.0 -0.1
baz=206
I20K Naaghedeneel 84.46 10 P P 03 36 48.6 +0.5
baz=202
MCK McKinley 84.51 12 IAmb IAmb 03 36 49.3
comp=Z,54nm,1.2s
MCK McKinley 84.51 12 P P 03 36 48.1 -0.3
baz=208,SNR=18
P30M Million Dollar 84.59 19 P P 03 36 49.7 +0.8
baz=219,SNR=12
T35M Bob Quinn 84.59 24 P P 03 36 50.1 +1.1
baz=225
SKAG Skagway 84.60 20 P P 03 36 50.2 +1.3
baz=220
PAX Paxson 84.61 14 IAmb IAmb 03 36 49.8
comp=Z,16nm,0.9s
PAX Paxson 84.61 14 P P 03 36 49.5 +0.5
baz=211,SNR=8.4
YUK8 Steele Glacier 84.67 17 P P 03 36 50.2 +0.6
baz=216,SNR=13
M26K Nabesna, AK 84.72 16 P P 03 36 50.3 +0.8
baz=213
YUK6 Outpost Mounta 84.81 18 P P 03 36 51.3 +1.1
baz=218
H19K Roundabout Mou 84.84 9 P P 03 36 50.2 +0.2
baz=201
YUK3 Moose Creek 84.88 17 P P 03 36 51.1 +0.5
baz=216,SNR=20
G18K Tanacross 84.88 8 P P 03 36 50.9 +0.8
baz=198
S34M Telegraph Cree 84.92 23 IAmb IAmb 03 36 53.1
comp=Z,25nm,0.8s
S34M Telegraph Cree 84.92 23 P P 03 36 51.8 +1.2
baz=224,SNR=9.3
HYT Haines Junctio 84.97 19 IAmb IAmb 03 36 52.9
comp=Z,18nm,1.0s
HYT Haines Junctio 84.97 19 P P 03 36 51.9 +1.0
baz=218,SNR=9.0
M27K Edge Creek, AK 84.98 16 IAmb IAmb 03 36 52.8
comp=Z,42nm,1.0s
M27K Edge Creek, AK 84.98 16 P P 03 36 51.6 +0.7
baz=214,SNR=16
MENT Mentasta 85.00 15 IAmb IAmb 03 36 52.4
comp=Z,17nm,1.0s
H20K Anotleneega Mo 85.04 9 P P 03 36 51.7 +0.7
baz=202
YUK4 Talbot Arm 85.05 18 P P 03 36 52.8 +1.5
baz=217,SNR=5.9
TCUT Toone Canyon 85.08 44 IAmb IAmb 03 36 54.6
comp=Z,8.9nm,0.7s
F17K Baldwin Pennin 85.10 7 P P 03 36 52.3 +1.2
baz=196
L26K Log Cabin Wild 85.16 15 IAmb IAmb 03 36 53.2
comp=Z,26nm,1.2s
L26K Log Cabin Wild 85.16 15 P P 03 36 52.8 +1.1
baz=213
GSI Gunungsitoli 85.20 273 P P 03 36 54.4 +1.5
GSI Gunungsitoli 85.20 273 P P 03 36 53.1 +0.2
comp=Z,119nm,1.0s
I21K Tanana 85.23 11 IAmb IAmb 03 36 53.6
comp=Z,19nm,1.0s
I21K Tanana 85.23 11 P P 03 36 52.0 +0.2
baz=205,SNR=10
P32M Atlin 85.24 21 P P 03 36 52.9 +0.8
baz=222
NEA2 Nenana 85.25 12 P P 03 36 51.8 -0.2
baz=208,SNR=5.1
K24K Donnelly Dome 85.25 14 P P 03 36 52.3 +0.2
baz=211,SNR=12
Q32M Nakina River 85.27 22 P P 03 36 53.3 +0.9
baz=223
NEW Newport 85.29 36 P P 03 36 53.5 +0.9
comp=Z,5.5nm,0.8s,baz=207,slow=3.5,SNR=13
comp=Z,5.5nm,0.8s
BVCY Beaver Creek 85.29 16 P P 03 36 53.0 +0.7
baz=215,SNR=18
G19K Purcell Mounta 85.33 8 P P 03 36 52.6 +0.3
baz=200
WRH Wood River Hil 85.34 12 IAmb IAmb 03 36 53.9
comp=Z,42nm,1.0s
O30N Mendenhall 85.37 19 IAmb IAmb 03 36 54.7
comp=Z,19nm,0.8s
O30N Mendenhall 85.37 19 P P 03 36 53.5 +0.9
baz=220,SNR=8.1
PV10 Paradox Valley 85.41 47 IAmb IAmb 03 36 57.5
comp=Z,11nm,0.8s
RIDG Independent Ri 85.41 14 IAmb IAmb 03 36 54.1
comp=Z,27nm,1.0s
RIDG Independent Ri 85.41 14 P P 03 36 53.5 +0.7
baz=212,SNR=10
F18K Selawik 85.43 7 P P 03 36 52.6 -0.1
baz=198
PV23 Carpenter Ridg 85.46 47 IAmb IAmb 03 36 56.0
comp=Z,11nm,0.8s
ZEA Zeya 85.50 331 eP P 03 36 54.4 +1.0
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.1s
GYA Guiyang 85.50 300 P P 03 36 55.4 +1.2
GYA pmax pmax
comp=Z,31nm,1.0s
DOT Dot Lake 85.52 14 IAmb IAmb 03 36 54.6
comp=Z,23nm,0.9s
HDA Harding Lake 85.52 13 IAmb IAmb 03 36 54.1
comp=Z,23nm,0.9s
HDA Harding Lake 85.52 13 P P 03 36 52.8 -0.5
baz=210,SNR=14
H21K Melozitna Rive 85.53 10 P P 03 36 54.0 +0.7
baz=204
CCB Clear Creek Bu 85.55 13 IAmb IAmb 03 36 54.0
comp=Z,31nm,1.1s
L27K Beaver Creek, 85.58 16 P P 03 36 54.1 +0.5
baz=214
BCAR Beaver Creek A 85.59 16 P P 03 36 54.3 +0.6
N30M Aishikik Lake 85.60 18 P P 03 36 54.5 +0.7
baz=219
TX31 Lajitas Ar. Si 85.62 57 IAmb IAmb 03 36 58.1
comp=Z,20nm,0.9s
TXAR Lajitas Array 85.62 57 P P 03 36 56.4 +1.7
TXAR Lajitas Array 85.62 57 P P 03 36 56.9 +2.2
comp=Z,13nm,0.8s,baz=221,slow=5.9,SNR=90
TXAR pP pP 03 39 05.5 +1.4
comp=Z,1.2nm,1.1s,baz=205,slow=5.5,SNR=3.5
comp=Z,13nm,0.8s
WHY Whitehorse 85.66 20 IAmb IAmb 03 36 55.6
comp=Z,22nm,0.9s
WHY Whitehorse 85.66 20 P P 03 36 55.0 +0.9
baz=221,SNR=6.7
I23K Miro, Yukon-K 85.69 12 IAmb IAmb 03 36 54.7
comp=Z,27nm,1.4s
I23K Minto, Yukon-K 85.69 12 P P 03 36 53.5 -0.5
baz=207,SNR=8.9
DLBC Dease Lake 85.71 23 P P 03 36 54.5 +0.1
comp=Z,7.1nm,0.9s,baz=213,slow=5.8,SNR=13
comp=Z,7.1nm,0.9s
DLBC Dease Lake 85.71 23 P P 03 36 54.7 +0.3
baz=225
COLA College 85.74 12 P P 03 36 54.1 -0.2
COLA pmax pmax
comp=Z,26nm,1.0s
ANMO Albuquerque 85.76 51 P P 03 36 55.9 +0.5
ANMO Albuquerque 85.76 51 P P 03 36 55.6 +0.2
comp=Z,5.9nm,1.0s,baz=270,slow=3.0,SNR=16
comp=Z,5.9nm,1.0s
ANMO Albuquerque 85.76 51⇓iP P 03 36 56.8 +1.4
ANMO pmax pmax
comp=Z,4.0nm,1.0s
SCRK Sand Creek 85.81 14 IAmb IAmb 03 36 56.3
comp=Z,17nm,1.1s
SCRK Sand Creek 85.81 14 P P 03 36 55.0 +0.2
baz=212,SNR=8.8
IL31 85.85 13 IAmb IAmb 03 36 55.5
comp=Z,24nm,1.1s
ILAR Eielson Array 85.85 13 P P 03 36 54.4 -0.5
ILAR Eielson Array 85.85 13 P P 03 36 54.0 -0.8
comp=Z,9.0nm,0.7s,baz=222,slow=5.2,SNR=101
ILAR PP PP 03 40 21.6 -4.9
comp=Z,1.7nm,0.9s,baz=203,slow=6.2,SNR=4.4
comp=Z,9.0nm,0.7s
ILAR Eielson Array 85.85 13 P P 03 36 54.4 -0.5
F19K Shaleruckik Mo 85.89 8 IAmb IAmb 03 36 55.9
comp=Z,10nm,0.7s
F19K Shaleruckik Mo 85.89 8 P P 03 36 55.2 +0.3
baz=199
M29M Somme Creek 85.98 17 P P 03 36 56.3 +0.7
baz=217
H22K Ishtalitna Cre 85.99 11 P P 03 36 55.5 0.0
baz=205
P33M Teslin, Yukon 86.01 21 P P 03 36 56.3 +0.5
baz=223
J25K Salcha River, 86.04 13 P P 03 36 56.0 +0.2
baz=211
POKR Poker Plat Res 86.04 12 P P 03 36 55.1 -0.6
baz=209,SNR=6.4
R33M Jennings River 86.05 22 IAmb IAmb 03 36 59.1
comp=Z,14nm,1.0s
R33M Jennings River 86.05 22 P P 03 36 56.9 +0.8
baz=224
ALPN Alpine 86.06 56 IAmb IAmb 03 37 00.4
comp=Z,24nm,1.4s
E18K Tukpahlearik C 86.11 7 P P 03 36 56.2 +0.2
baz=197
D17K Noatak River 86.13 6 P P 03 36 56.7 +0.7
baz=194
XLT XiLinHaoTe 86.13 319 eP P 03 36 57.6 +0.8
XLT pmax pmax
comp=Z,37nm,1.1s
XLT pmax pmax
comp=Z,120nm,4.3s
G21K Allakaket 86.21 10 IAmb IAmb 03 36 57.7
comp=Z,15nm,0.8s
G21K Allakaket 86.21 10 P P 03 36 56.7 +0.3
baz=203
H23K Yukon River 86.26 11 P P 03 36 56.4 -0.3
baz=207
K27K Chicken 86.32 15 P P 03 36 58.3 +1.3
baz=214
MSO Missoula 86.34 38 IAmb IAmb 03 36 59.3
comp=Z,19nm,1.6s
J26L Joseph Creek 86.36 14 P P 03 36 58.2 +0.8
baz=213
F20K Avaraart Lake 86.37 9 IAmb IAmb 03 36 58.5
comp=Z,8.6nm,0.8s
F20K Avaraart Lake 86.37 9 P P 03 36 57.3 +0.1
baz=201,SNR=8.7
DLMT Dillon 86.40 40 IAmb IAmb 03 37 00.3
comp=Z,10nm,0.8s
RDOG Red Dog Mine 86.49 6 P P 03 36 57.7 -0.1
baz=194
C16K Lisburne Hills 86.50 5 P P 03 36 58.3 +0.5
baz=192
E19K Redstone River 86.55 8 P P 03 36 58.6 +0.5
baz=200
M30M Minto, Yukon 86.56 18 IAmb IAmb 03 36 59.9
comp=Z,27nm,0.9s
M30M Minto, Yukon 86.56 18 P P 03 36 58.8 +0.5
baz=219,SNR=16
BILL Bilibino 86.56 354 P P 03 36 58.2 +0.1
BILL IAmb IAmb 03 37 00.2
comp=Z,9.4nm,0.8s
BILL Bilibino 86.56 354d iP P 03 36 57.7 -0.4
BILL pmax pmax
comp=Z,13nm,0.9s
H24K Noodor Dome 86.59 12 P P 03 36 58.1 -0.3
baz=209
L29M L29M 86.60 17 P P 03 36 59.4 +1.0
baz=218
N32M Quiet Lake 86.61 20 P P 03 36 59.5 +0.9
baz=222
XAN Xi'an 86.70 307 ⇓P P 03 37 00.8 +1.2
XAN pmax pmax
comp=Z,85nm,1.1s
HIA Hailar 86.72 324d iP P 03 36 59.5 +0.2
HIA pmax pmax
comp=Z,26nm,1.7s
O20A White River Ci 86.75 46 IAmb IAmb 03 37 03.7
comp=Z,11nm,1.1s
PRP Porcupine Dome 86.79 13 P P 03 36 59.2 -0.2
baz=211,SNR=6.1
F21K Alatna River 86.86 9 P P 03 36 59.7 +0.1
baz=203
C17K DeLong Mountai 86.88 5 P P 03 36 60.0 +0.4
baz=194
G23K Bananza Creek 86.97 11 P P 03 37 00.6 +0.5
baz=207
YHB Horse Butte 86.97 41 IAmb IAmb 03 37 04.1
comp=Z,13nm,0.9s
M31M Drury Creek, Y 86.99 19 IAmb IAmb 03 37 01.5
comp=Z,9.2nm,1.0s
M31M Drury Creek, Y 86.99 19 P P 03 37 00.6 +0.4
baz=221,SNR=6.6
YHL Hebgen Lake 87.02 41 IAmb IAmb 03 37 04.6
comp=Z,18nm,0.9s
DAWY Dawson 87.03 16 IAmb IAmb 03 37 02.2
comp=Z,17nm,1.1s
DAWY Dawson 87.03 16 P P 03 37 01.2 +0.8
baz=216,SNR=9.1
YFT Old Faithful 87.05 41 IAmb IAmb 03 37 05.2
comp=Z,13nm,0.9s
PDAR Pinedale Array 87.07 43 P P 03 37 02.1 +0.7
PDAR Pinedale Array 87.07 43 P P 03 37 01.9 +0.6
comp=Z,6.1nm,0.8s,baz=219,slow=2.7,SNR=58
PDAR pP pP 03 39 12.4 +1.1
comp=Z,0.7nm,0.7s,baz=217,slow=3.6,SNR=3.9
comp=Z,6.1nm,0.8s
SAND Sanderson 87.10 57 IAmb IAmb 03 37 04.1
comp=Z,9.6nm,0.9s
I26K Coal Creek Min 87.13 14 P P 03 37 01.4 +0.6
baz=213
H17A Grant Village 87.18 41 IAmb IAmb 03 37 05.8
comp=Z,12nm,0.8s
MLSI Meulaboh, Aceh 87.23 275 P P 03 37 02.3 -0.2
comp=Z,79nm,0.8s
C18K Utukok River 87.24 6 P P 03 37 00.9 -0.4
baz=196
FARO Faro, Yukon 87.33 19 IAmb IAmb 03 37 03.8
comp=Z,41nm,2.0s
FARO Faro, Yukon 87.33 19 P P 03 37 02.1 +0.3
baz=222
WTLY Watson Lake, Y 87.34 22 P P 03 37 02.5 +0.6
baz=226
K29M Barlow Dome 87.35 17 P P 03 37 02.6 +0.5
baz=218
LKWY Lake 87.38 41 IAmb IAmb 03 37 06.8
comp=Z,10.0nm,0.9s
H25L Birch Creek 87.38 12 P P 03 37 00.8 -1.1
baz=210
COLD Coldfoot 87.40 10 IAmb IAmb 03 37 03.8
comp=Z,24nm,1.0s
COLD Coldfoot 87.40 10 P P 03 37 02.4 +0.4
baz=206
D19K Kuna River 87.43 7 P P 03 37 01.9 -0.2
baz=199
G24K Hadweenzic Riv 87.43 12 P P 03 37 02.4 +0.2
baz=209
E20K Nigu River 87.44 8 P P 03 37 02.6 +0.3
baz=201
ODSA Odessa 87.60 55 IAmb IAmb 03 37 07.4
comp=Z,23nm,1.4s
MAYO Mayo, Yukon 87.61 17 P P 03 37 04.3 +1.2
baz=220,SNR=6.8
J29N Klondike Camp 87.65 16 P P 03 37 04.7 +1.4
baz=218
HHC Hu-ho-hao-te 87.68 314 eP P 03 37 05.2 +1.1
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,120nm,6.1s
I27K Kandik River 87.74 14 P P 03 37 04.5 +0.7
baz=214
G25K Bearman Lake 87.75 12 P P 03 37 04.4 +0.7
baz=210
D20K Etivluk River 87.82 8 P P 03 37 04.9 +0.9
baz=200
TOAD Toad River Com 87.83 24 P P 03 37 05.2 +0.9
baz=229,SNR=12
YNE Yellowstone No 87.83 41 IAmb IAmb 03 37 08.0
comp=Z,11nm,0.9s
B18K Kokolik River 87.87 6 P P 03 37 04.7 +0.5
baz=195
COYC Coyhaique 87.92 137 P P 03 37 06.8 +1.7
E21K Killik River 87.92 9 IAmb IAmb 03 37 05.5
comp=Z,18nm,1.0s
E21K Killik River 87.92 9 P P 03 37 04.7 +0.2
baz=203,SNR=9.1
E22K Anaktuvuk Pass 87.96 9 IAmb IAmb 03 37 06.1
comp=Z,23nm,1.0s

E22K Anaktuvuk Pass 87.96 9 P **P 03 37 04.9 +0.2**
baz=205,SNR=24
AY01 Puyuhuapi 88.01 136 IAmb IAmb 03 37 08.6
comp=Z,14nm,1.0s
I28M Miner Creek 88.01 15 P **P 03 37 05.2 +0.1**
baz=216
F24K Squaw Lake 88.07 11 P **P 03 37 05.8 +0.5**
baz=208
MSTX Muleshoe 88.14 53 IAmb IAmb 03 37 08.4
comp=Z,11nm,0.7s
E23K Chandalar 88.25 10 P **P 03 37 06.7 +0.6**
baz=207
J30M Hart River 88.25 17 P **P 03 37 06.7 +0.5**
baz=219
OZNA Ozona 88.26 57 IAmb IAmb 03 37 09.3
comp=Z,10nm,0.8s
H27K Steamboat Moun 88.28 14 P **P 03 37 07.4 +1.2**
baz=214
MMPY Sheldon Lake, 88.28 20 P **P 03 37 07.6 +1.3**
baz=224,SNR=14
KMI Kunming 88.31 297 ⇓P **P 03 37 09.3 +1.8**
KMI pmax pmax
comp=Z,25nm,1.0s
G26K Porcupine Rive 88.39 13 P **P 03 37 07.9 +1.3**
baz=212
E24K Your Creek 88.46 11 P **P 03 37 07.9 +0.8**
baz=208
C21K Knifeblade Rid 88.47 8 P **P 03 37 07.6 +0.6**
baz=202
TGTN Hyland Airport 88.50 21 P **P 03 37 08.6 +1.2**
baz=227,SNR=8.9
D22K Ayikyak River 88.51 9 IAmb IAmb 03 37 08.9
comp=Z,23nm,0.9s
D22K Ayikyak River 88.51 9 P **P 03 37 07.7 +0.4**
baz=204
F25K Christian Rive 88.56 12 P **P 03 37 08.4 +0.8**
baz=211
BMAR Burnt Mountain 88.63 12 P **P 03 37 08.7 +0.8**
G27K Doyon Strip 88.73 14 P **P 03 37 09.2 +0.9**
baz=214
I30M Mount Dempster 88.74 16 P **P 03 37 08.7 +0.1**
baz=219
A19K Wainwright 88.75 6 P **P 03 37 08.6 +0.4**
baz=196
POST Post 88.78 55 IAmb IAmb 03 37 11.4
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 88.78 10 IAmb IAmb 03 37 09.9
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 88.78 10 P **P 03 37 09.1 +0.5**
baz=207,SNR=7.4
D23K Nanushuk River 88.89 10 P **P 03 37 10.0 +1.0**
baz=206
B21K Ikpikpuk River 88.93 8 P **P 03 37 09.3 +0.3**
baz=202
F26K Sheenjek River 88.95 12 P **P 03 37 10.3 +1.0**
baz=212
LL01 San Ignacio de 88.97 134 IAmb IAmb 03 37 12.9
comp=Z,15nm,1.1s
B20K Meade River 88.97 7 IAmb IAmb 03 37 11.4
comp=Z,21nm,1.1s
B20K Meade River 88.97 7 P **P 03 37 10.5 +1.2**
baz=200
H29M Whitestone 89.02 15 P **P 03 37 10.3 +0.6**
baz=217
K22A Casper 89.02 44 IAmb IAmb 03 37 12.7
comp=Z,32nm,1.6s
LL02 Futaleuf 89.03 135 P **P 03 37 12.4 +2.0**
E25K Arctic Village 89.03 12 IAmb IAmb 03 37 11.5
comp=Z,8.4nm,0.9s
E25K Arctic Village 89.03 12 P **P 03 37 10.4 +0.7**
baz=211
KOTAN Kotaneelee Air 89.12 24 P **P 03 37 11.2 +1.0**
baz=230
ELIB Princess Elisa 89.14 186 *d*P **P 03 37 10.8 +0.4**
ELIB comp=Z,19nm,0.8s *d*pP **pP 03 39 15.3 -6.1**
JCT Junction City 89.16 58 IAmb IAmb 03 37 13.1
comp=Z,8.4nm,0.8s
SN05 Snyder 5 89.19 55 IAmb IAmb 03 37 12.9
comp=Z,9.9nm,0.9s
D24K Happy Valley 89.36 10 P **P 03 37 11.8 +0.7**
baz=208
CMAR Chiang Mai Arr 89.38 290 P **P 03 37 13.3 +1.0**
CMAR Chiang Mai Arr 89.38 290 P **P 03 37 13.5 +1.1**
comp=Z,4.9nm,0.4s,baz=110,slow=2.9,SNR=53
CMAR pP **pP 03 39 24.9 +1.5**
comp=Z,1.1nm,0.3s,baz=78,slow=4.4,SNR=1.3
CMAR PP **PP 03 40 51.9 -3.4**
comp=Z,1.2nm,0.3s,baz=114,slow=7.9,SNR=6.3
comp=Z,4.9nm,0.4s
CMAR Chiang Mai Arr 89.38 290 *i* P **P 03 37 14.3 +1.9**
CMAR pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 89.49 290 P **P 03 37 13.8 +0.9**
CHTO Chiang Mai 89.49 290 P **P 03 37 14.7 +1.9**
CHTO Chiang Mai 89.49 290 P **P 03 37 13.8 +0.9**
CHTO pmax pmax
comp=Z,17nm,0.7s
PZH PanZhiHua 89.63 298 P **P 03 37 15.0 +1.5**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,60nm,4.9s
G29M Pine Creek 89.66 15 P **P 03 37 13.3 +0.7**
baz=218
C23K Itkillik River 89.69 9 P **P 03 37 13.5 +0.9**
baz=206
H31M Peel River 89.73 16 P **P 03 37 13.7 +0.7**
baz=221
B22K Teshekpuk Lake 89.75 8 P **P 03 37 13.7 +0.8**
baz=203
YAK Yakutsk 89.83 338 P **P 03 37 12.6 -0.8**
comp=Z,25nm,0.6s,baz=161,slow=0.2,SNR=4.5
comp=Z,25nm,0.6s
YAK Yakutsk 89.83 338⇓*e*P **P 03 37 12.7 -0.8**
YAK pmax pmax
comp=Z,22nm,0.7s
C24K Franklin Bluff 89.89 10 P **P 03 37 14.3 +0.8**
baz=208
E27K Coleen River 89.89 13 P **P 03 37 14.3 +0.7**
baz=214
D25K Kavik River 89.93 11 P **P 03 37 13.7 -0.1**
baz=210
APMT Aspermont 89.94 55 IAmb IAmb 03 37 16.5
comp=Z,9.4nm,0.7s
BRDY Brady 90.09 57 IAmb IAmb 03 37 17.9
comp=Z,5.5nm,0.9s
LR05 Currie 90.11 133 P **P 03 37 17.3 +1.9**
G30M tAoh Zraii Nji 90.15 15 P **P 03 37 15.3 +0.5**
baz=219
A22K Sinclair Lake 90.17 7 P **P 03 37 15.6 +0.8**
baz=202
TROLL Troll, Antarti 90.23 180⇑P **P 03 37 16.3 +0.8**
comp=Z,600nm,0.6s
SNAA Sanae 90.50 178 P **P 03 37 16.9 +0.3**
SNAA IAmb IAmb 03 37 18.0
comp=Z,24nm,1.4s
SNAA Sanae 90.50 178⇑P **P 03 37 16.9 +0.3**
comp=Z,133nm,0.6s
SNAA Sanae 90.50 178 P **P 03 37 17.2 +0.5**
comp=Z,5.3nm,0.6s,baz=227,slow=6.5,SNR=19
comp=Z,5.3nm,0.6s
G31M Satah River 90.60 16 P **P 03 37 17.0 +0.2**
baz=221,SNR=25
VNA3 Neumayer Olymp 90.63 176⇑P **P 03 37 18.0 +0.8**
comp=Z,35nm,0.7s
E28M Babbage River 90.67 13 P **P 03 37 17.7 +0.5**
baz=216
C27K Jago River 90.67 11 IAmb IAmb 03 37 19.6
comp=Z,9.1nm,0.8s
C27K Jago River 90.67 11 P **P 03 37 17.6 +0.4**
baz=212,SNR=9.3
C26K Camden Bay 90.70 11 P **P 03 37 18.4 +1.1**
baz=211,SNR=11
F30M Barrier River 90.75 15 P **P 03 37 18.2 +0.6**
baz=220
E29M Blow River 90.86 14 P **P 03 37 18.6 +0.5**
baz=218
D27M Malcolm River 90.89 12 P **P 03 37 18.9 +0.7**
baz=215
PLCA Paso Flores 90.92 133 IAmb IAmb 03 37 29.9
comp=Z,14nm,1.2s
PLCA Paso Flores 90.92 133 P **P 03 37 20.6 +1.4**
comp=Z,6.1nm,0.8s,baz=244,slow=5.3,SNR=18
comp=Z,6.1nm,0.8s
VNA2 Neumayer--Watz 91.07 177⇑P **P 03 37 20.5 +1.3**
comp=Z,27nm,0.7s,baz=198,slow=6.9
F31M Tsiigehtchic 91.13 16 P **P 03 37 19.4 +0.2**
baz=222,SNR=20
PLPT Palo Pinto 91.18 56 IAmb IAmb 03 37 22.6
comp=Z,13nm,0.7s
VNA1 Neumayer--Stat 91.30 177⇑P **P 03 37 21.8 +1.6**
comp=Z,31nm,0.9s
WRGLY Wrigley 91.32 22 P **P 03 37 20.7 +0.5**
baz=231
LZH Lanzhou 91.33 308 *e*P **P 03 37 22.6 +1.4**
LZH pmax pmax
comp=Z,35nm,1.1s
D28M Stokes Point 91.43 13 P **P 03 37 20.9 +0.3**
baz=217
FW03 Perrin-Whitt E 91.45 56 IAmb IAmb 03 37 23.9
comp=Z,10nm,0.9s
INK Inuvik 91.83 15 P **P 03 37 22.5 0.0**
comp=Z,14nm,0.8s,baz=233,slow=4.1,SNR=44
comp=Z,14nm,0.8s
INK Inuvik 91.83 15 P **P 03 37 22.3 -0.2**
baz=222,SNR=23
OK032 Salt Plains WL 92.65 52 IAmb IAmb 03 37 29.0
comp=Z,12nm,0.7s
PBA Port Blair 92.94 281 P **P 03 37 31.9 +3.1**
KAN09 Caldwell North 93.21 52 IAmb IAmb 03 37 32.2
comp=Z,15nm,1.1s
ULN Ulaanbaatar 93.54 319 P **P 03 37 31.4 +0.4**
ULN IAmb IAmb 03 37 32.3
comp=Z,9.6nm,0.9s
ULN Ulaanbaatar 93.54 319 P **P 03 37 31.7 +0.7**
ULN Ulaanbaatar 93.54 319*c i*P **P 03 37 31.6 +0.6**
ULN pmax pmax
comp=Z,19nm,1.5s
SONM Songino Array 93.93 319 P **P 03 37 33.7 +0.9**
SONM IAmb IAmb 03 37 33.9
comp=Z,6.2nm,1.1s
SONM Songino Array 93.93 319 P **P 03 37 33.1 +0.3**
comp=Z,2.3nm,0.8s,baz=131,slow=4.9,SNR=14
comp=Z,2.3nm,0.8s
SONM Songino Array 93.93 319 P **P 03 37 33.7 +0.9**
SONM pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 94.20 25 P **P 03 37 33.3 -0.1**
comp=Z,3.2nm,0.8s,baz=245,slow=4.7,SNR=49
YKA PP **PP 03 41 25.1 -6.3**
comp=Z,0.4nm,0.8s,baz=243,slow=7.6,SNR=4.8
comp=Z,3.2nm,0.8s
C36M Paulatuk 95.03 17 IAmb IAmb 03 37 38.4
comp=Z,7.4nm,0.8s
C36M Paulatuk 95.03 17 P **P 03 37 37.2 +0.1**
baz=231
GTA Gaotai 95.47 310 *e*P **P 03 37 41.0 +1.1**
GTA pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 96.36 345 P **P 03 37 42.6 -0.4**
TIXI IAmb IAmb 03 37 43.1
comp=Z,5.0nm,0.8s
TIXI Tiksi 96.36 345 P **P 03 37 42.2 -0.8**
comp=Z,4.2nm,0.7s,baz=131,slow=2.5,SNR=8.5
comp=Z,4.2nm,0.7s
TIXI Tiksi 96.36 345⇓*i*P **P 03 37 42.3 -0.7**
TIXI pmax pmax
comp=Z,9.0nm,1.4s
A36M Sachs Harbour 96.43 14 IAmb IAmb 03 37 45.2
comp=Z,9.3nm,0.9s
A36M Sachs Harbour 96.43 14 P **P 03 37 43.7 +0.4**
baz=230
CFA Coronel Fontan 96.49 126 P **P 03 37 45.8 +1.1**
comp=Z,1.5nm,0.7s,baz=265,slow=3.7,SNR=5.0
comp=Z,1.5nm,0.7s
SHL Shillong 97.77 294 P **P 03 37 52.3 +1.7**
LPAZ La Paz 102.91 112 P **Pdif 03 38 16.1 +1.9**
comp=Z,1.6nm,0.7s,baz=199,slow=4.7,SNR=5.0
KAAM Kaadhehdhoo 108.32 264 P **PKiKP 03 42 40.2 +0.2**
ZALV Zalesovo Beam 108.60 322 PKiKP **PKiKP 03 42 38.1 -1.2**
comp=Z,1.2nm,0.5s,baz=88,slow=0.5,SNR=6.5
ZALV PP **PP 03 43 14.0 -4.0**
comp=Z,0.5nm,0.4s,baz=114,slow=7.1,SNR=4.9
SIV San Ignacio 109.20 115 PP **PP 03 43 17.1 -5.7**
comp=Z,3.6nm,1.1s,baz=254,slow=10,SNR=6.3
MKAR Makanchi Array 109.54 314 Pdiff **Pdif 03 38 42.5 +0.2**
comp=Z,0.6nm,0.6s,baz=83,slow=6.2,SNR=7.7
MKAR PKiKP **PKiKP 03 42 40.5 -0.8**
comp=Z,1.5nm,0.4s,baz=188,slow=0.7,SNR=46
MKAR PP **PP 03 43 21.2 -3.7**
comp=Z,0.6nm,0.8s,baz=96,slow=8.9,SNR=4.9
MKAR PKKPbc **PKKPbc 03 53 48.4 -0.3**
comp=Z,1.4nm,0.8s,baz=277,slow=3.3,SNR=10
KURK Kurchatov 112.21 318 P **PKiKP 03 42 47.8 +1.5**
KURK Kurchatov 112.21 318 *i* PKIKP **PKiKP 03 42 45.3 -0.9**
KURBB Kurchatov Arra 112.27 318 Pdiff **Pdif 03 38 55.4 +1.2**
comp=Z,0.1nm,0.4s,baz=70,slow=4.7,SNR=1.3
KURBB PKiKP **PKiKP 03 42 45.3 -1.0**
comp=Z,2.2nm,0.7s,baz=92,slow=1.8,SNR=22
KURBB PP PP 03 43 33.5 -10
comp=Z,1.2nm,1.0s,baz=89,slow=6.9,SNR=5.4
KURBB SKP 03 45 25.9
comp=Z,1.1nm,0.7s,baz=103,slow=2.1,SNR=6.8
KURBB PKKPbc **PKKPbc 03 53 37.3 -2.7**
comp=Z,0.6nm,0.5s,baz=276,slow=4.0,SNR=7.6
AAK Ala-Archa 114.81 309 P PKPdf 03 42 50.8 -0.9
AAK Ala-Archa 114.81 309⇑*i*PKIKP PKPdf 03 42 50.7 -1.0
BVAR Borovoye Array 117.22 321 PKP **PKPdf 03 42 55.1 -0.6**
comp=Z,4.2nm,0.4s,baz=129,slow=1.2,SNR=29
BVAR SKP 03 45 35.0
comp=Z,2.0nm,0.8s,baz=96,slow=1.4,SNR=5.5
BRVK Borovoye 117.28 321 P **PKiKP 03 42 55.8 -0.1**
BRVK Borovoye 117.28 321*d i*PKIKP **PKPdf 03 42 55.3 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 117.75 310 PKPdf **PKPdf 03 42 56.8 -0.3**
KK31 Karatay Array 117.75 310 PKIKP **PKPdf 03 42 56.8 -0.3**
KKAR Karatay Array 117.75 310 PKPdf **PKPdf 03 42 56.2 -1.0**
KKAR Karatay Array 117.75 310 PKIKP **PKPdf 03 42 56.2 -1.0**
KBL Kabul 118.75 300 PKPdf **PKPdf 03 42 59.3 -0.3**
KBL Kabul 118.75 300 P **PKPdf 03 42 59.6 -0.1**
KBL Kabul 118.75 300 PKIKP **PKPdf 03 42 59.3 -0.3**
SIMJ Simiganj 118.90 305 **PKPdf 03 42 59.5 -0.2**
SPA0 Spitsbergen Ar 119.38 357 *e*PKPdf **PKiKP 03 42 59.3 -0.1**
SPITS Spitsbergen Ar 119.38 357 PKP **PKPdf 03 42 58.6 -0.7**
comp=Z,17nm,1.1s,baz=36,slow=3.1,SNR=8.6
BDFB Brasília 120.37 121 PKKPbc PKKPbc 03 53 11.5 -0.5
comp=Z,2.3nm,0.5s,baz=84,slow=1.7,SNR=5.8
MAL2 Monte Alegre, 121.14 104 PKPdf **PKiKP 03 43 05.0 +0.2**
ARTI Arti 123.30 326 PKPdf **PKPdf 03 43 07.4 0.0**
ARTI Arti 123.30 326 *i* PKIKP **PKPdf 03 43 07.2 -0.2**
ARTI 03 44 58.5
ARTI 03 49 22.1
ABKAR Akbulak array 124.32 318 PKPdf **PKiKP 03 43 09.7 -0.2**
NGCH Negor - Chabah 125.02 289 P **PKPdf 03 43 11.4 -0.2**
JLN Jalan Bani Buh 126.28 285 P **PKiKP 03 43 14.6 0.0**
ARA0 ARCESS Array S 126.48 350 *e*PKPdf **PKiKP 03 43 13.5 -0.1**
ARCES ARCESS Array B 126.48 350 PKP **PKiKP 03 43 13.5 -0.2**
comp=Z,2.2nm,0.3s,baz=88,slow=1.3,SNR=50
WBK Wadi Bani Khal 126.73 284 P **PKiKP 03 43 15.3 -0.2**
SUR Sutherland 126.81 200 P **PKPdf 03 43 11.8 -3.5**
KIRV Kirov 126.83 331*c i*PKIKP **PKiKP 03 43 14.5 -0.1**
JETT Jettan, Norway 127.22 352 *e*PKPdf **PKiKP 03 43 15.1 -0.1**
KTK1 Kautokeino 127.31 351 *e*PKPdf **PKPdf 03 43 14.8 +0.1**
MHTO MHTO 127.48 283 P **PKiKP 03 43 16.8 -0.2**
SMDO Samad 127.62 286 P **PKiKP 03 43 17.5 0.0**
BSY Bisya 128.38 285 P **PKPdf 03 43 18.3 +0.2**
BOSA Boshof 128.55 206 PKP **PKiKP 03 43 19.4 +0.2**
comp=Z,1.7nm,0.8s,baz=84,slow=2.7,SNR=4.4
BOSA SKPbc SKiKP 03 45 43.6 -15
comp=Z,2.8nm,1.0s,baz=140,slow=4.3,SNR=3.6
SOHO SOHO 129.10 287 P **PKiKP 03 43 19.9 -0.3**
STEI Steigen 129.38 354 *e*PKPdf **PKiKP 03 43 19.3 -0.1**
HATD Hatta, Dubai 129.51 288 P **PKPdf 03 43 20.5 +0.3**
ASHO Ashiyiah 129.57 287 P **PKiKP 03 43 21.0 -0.3**
DMTO DMTO 129.85 278 P **PKPdf 03 43 21.0 0.0**
FAUS Fauske 129.90 353 *e*PKPdf **PKiKP 03 43 20.1 -0.4**
NAZ Nazwa, Dubai 129.94 288 P **PKPdf 03 43 19.8 -1.2**
ASUD Al Ashush, Dub 130.23 287 P **PKiKP 03 43 22.0 -0.5**
DOK Doka 130.75 279 P **PKPdf 03 43 23.1 +0.4**
KONS Konsvik 130.98 354 *e*PKPdf **PKiKP 03 43 23.0 +0.3**
WHFO Wadi Hawf 130.99 278 P **PKiKP 03 43 24.5 +0.2**
STOK Stokkvaagen 131.15 354 *e*PKPdf **PKiKP 03 43 23.3 +0.3**
ABTO Aybut 131.35 278 P **PKPdf 03 43 24.4 +0.4**
LEIR Leirfjorden 131.36 354 *e*PKPdf **PKiKP 03 43 23.5 0.0**
MZR Muzera 131.81 285 P **PKiKP 03 43 25.8 0.0**
JRN Qarnain Island 132.49 288 P **PKiKP 03 43 27.2 +0.2**
NSS Namsos 133.02 354 *e*PKPdf **PKiKP 03 43 26.8 -0.1**
FINES FINESS Array B 133.40 344 PKhKP PKPpre 03 43 12.7
comp=Z,0.8nm,0.4s,baz=60,slow=3.4,SNR=8.1
FINES PKP **PKPdf 03 43 26.2 -0.2**
comp=Z,2.1nm,0.5s,baz=77,slow=2.2,SNR=10
FINES SKPbc **SKPbc 03 45 57.9 -0.6**
comp=Z,13nm,1.1s,baz=52,slow=3.1,SNR=9.1
OBN Obninsk 134.59 333⇑*i*PKIKP **PKiKP 03 43 30.2 -0.1**
OBN *e* 03 45 45.5
OBN *e*SS SS 04 03 17.0 +1.9
OBN pmax pmax
comp=Z,8.0nm,0.9s
AKN Aaknes 135.72 357 *e*PKPdf **PKiKP 03 43 32.0 -0.5**
NB2 NORSAR Subarra136.51 354 pPKP PP 03 46 10.9 -11
comp=Z,1.4nm,0.8s,baz=9.4,slow=2.9
NB2 PKP PKPpre 03 43 23.0
comp=Z,0.8nm,0.4s,baz=16,slow=3.2
NOA NORSAR Array B136.51 354 PKP **PKPdf 03 43 32.6 +0.3**
comp=Z,0.5nm,0.6s,baz=49,slow=1.8,SNR=6.1
NOA SKPbc **SKPbc 03 46 07.5 -0.8**
comp=Z,3.0nm,0.9s,baz=15,slow=4.4,SNR=5.6
NC602 NORSAR Array S 136.77 353 *e*PKPdf **PKPdf 03 43 30.8 -1.9**
NC602 *e* PKPpre 03 43 20.1
HFS Hagfors 137.09 352 PKhKP PKPpre 03 43 21.8
comp=Z,2.1nm,0.5s,baz=60,slow=4.1,SNR=12
HFS SKPbc **SKPbc 03 46 10.2 +0.3**
comp=Z,5.6nm,0.9s,baz=60,slow=8.8,SNR=4.5
SKAR Skarslia 137.13 356 *e*PKPdf **PKiKP 03 43 34.9 -0.6**
KBZ Khabaz 137.21 316 SKPbc **SKPbc 03 46 11.1 +0.3**
comp=Z,3.3nm,1.1s,baz=133,slow=5.2,SNR=3.8
STRU Stroemstad 138.47 353 *i* P PKPpre 03 43 26.2
MNK Minsk 138.52 337 *i* PKIKP **PKPdf 03 43 35.3 -0.8**
MNK *i* 03 46 34.3
MNK *i* PPP PPP 03 49 43.0
MNK *i* 03 49 49.3
MNK *i* SS SS 04 04 02.3 +1.4
MNK *i* SSS SSS 04 09 23.6
MNK pmax pmax
comp=Z,11nm,0.7s
MNK pmax pmax
comp=N,17nm,0.7s
MNK pmax pmax
comp=E,17nm,0.9s
TJOU Tjoern 139.40 352 *i* P PKPpre 03 43 28.9
HOMB Homborsund 139.50 355 *e*PKPdf PKPpre 03 43 30.3
HOMB Homborsund 139.50 355 *i* P PKPpre 03 43 30.0
BORU Boraas 139.63 351 *i* P PKPpre 03 43 29.3
ONAU Onsala 139.98 352 *i* P PKPpre 03 43 30.6
ANN Anapa 140.21 320 *i* PKIKP **PKPdf 03 43 37.5 -1.9**
ANN pmax pmax
comp=Z,106nm,1.2s
OVD Ostervraa, Den 140.27 353 *i* P PKPpre 03 43 33.8
BLEU Blekinge 140.37 348 *i* P PKPpre 03 43 31.9
KMBO Kilima Mbogo 140.54 245 PKhKP PKPpre 03 43 36.0
comp=Z,1.1nm,0.5s,baz=81,slow=5.7,SNR=4.4
KMBO SKPbc **SKPbc 03 46 21.2 0.0**
comp=Z,2.9nm,1.0s,baz=49,slow=3.9,SNR=3.9
DEL Delary 140.57 350 *i* P PKPpre 03 43 33.0
AKASG Malin Array Be 140.86 333 PKhKP PKPpre 03 43 34.5
comp=Z,1.9nm,0.3s,baz=45,slow=4.0,SNR=20
AKASG SKPbc **SKPbc 03 46 19.7 -0.8**
comp=Z,0.4nm,0.4s,baz=36,slow=4.7,SNR=6.3
AKBB Malin Array Si 140.86 333 PKP PKPpre 03 43 34.4
KIEV Kiev 140.87 333 PKPpre 03 43 34.5
KIEV Kiev 140.87 333 PKHKP PKPpre 03 43 34.5
BJUU Bjuv 141.09 350 *i* P PKPpre 03 43 35.0
MUD Monsted U'grnd 141.23 354 *i* P PKPpre 03 43 37.6
LUNU Lund 141.44 350 *i* P PKPpre 03 43 35.7
BSD Bornholm Skovb 141.67 348 *i* P PKPpre 03 43 37.4
RNPP9 Sopachiv 141.69 336 PKP PKPpre 03 43 37.6
LUBAR Lubar, Ukraine 142.07 333 PKP PKPpre 03 43 38.7
EKA Eskdalemuir Ar 142.50 5 PKhKP PKPpre 03 43 39.7
comp=Z,3.8nm,0.7s,baz=338,slow=3.2,SNR=5.1
SORM Soroca 143.10 330⇑P PKPbc 03 43 42.8 -0.2
SORM Soroca 143.10 330⇑PKIKP PKPbc 03 43 42.8 -0.1
BEL Belsk 143.14 341 *e*PKP PKPbc 03 43 43.2 +0.3
PURM Purcari 143.47 327⇓P **PKPdf 03 43 44.7 -0.5**
KMPD K-Podol'skiy 143.65 332 PKP PKPbc 03 43 43.1 -1.5
MILM Milestii Mici 143.74 329⇑P PKPbc 03 43 44.6 -0.3
MILM Milestii Mici 143.74 329⇑PKIKP PKPbc 03 43 44.6 -0.3
BZK Bozkurt 143.82 318 PKPab 03 43 45.5 +0.1
DRBR Darabani 143.85 332⇑P PKPbc 03 43 44.6 -0.6
KWP Kalwaria Pacla 144.34 337 *e*PKP **PKPab 03 43 47.0 -0.3**
LODK Lodwar 144.36 250 **PKPdf 03 43 47.5 -0.4**
LODK Lodwar 144.36 250 P **PKPab 03 43 48.6 +0.1**
BIR Birlad 144.78 329⇑P **PKPab 03 43 49.6 +0.6**
BIR Birlad 144.78 329⇑PKIKP **PKPab 03 43 49.6 +0.6**
VLDR Vladesti 144.84 328⇑P **PKiKP 03 43 50.8 -0.8**
OJC Ojcow 144.85 340 *e*PKP PKPbc 03 43 48.3 +0.1
TLCR 144.91 326⇓P **PKPab 03 43 49.1 -0.4**
TLCR 144.91 326⇓PKIKP **PKPab 03 43 49.1 -0.4**
BURAR Bucovina Array 144.91 332⇑P **PKPab 03 43 49.8 +0.1**
BURAR Bucovina Array 144.91 332⇑PKIKP **PKPab 03 43 49.8 +0.1**
SCTR Scanteiesti 145.00 328⇑P **PKPab 03 43 49.8 -0.1**
GHRR 145.03 329⇑P **PKPab 03 43 50.2 +0.2**
STHS Stebnicka Huta 145.05 338 *e*PKIKP **PKPbc 03 43 48.9 0.0**
STHS Stebnicka Huta 145.05 338 *e*PKP **PKPbc 03 43 48.9 0.0**
KOLS Kolonicke sedl 145.07 337 *e*PKIKP **PKPab 03 43 49.6 -0.5**
KOLS Kolonicke sedl 145.07 337 *e*PKP **PKPab 03 43 49.6 -0.5**
TESR Tescani 145.07 330⇓P **PKPab 03 43 49.6 -0.6**
NEGRR Negrea 145.16 328⇓P **PKPab 03 43 50.3 -0.3**
BRTR Keskin Array B 145.19 315 PKPdf **PKPdf 03 43 49.1 +0.5**
BRTR Keskin Array B 145.19 315 PKPbc **PKPbc 03 43 49.6 -0.1**
comp=Z,15nm,0.5s,baz=130,slow=4.5,SNR=98
BRTR SKPbc **SKPbc 03 46 30.0 -1.4**
comp=Z,3.3nm,0.9s,baz=141,slow=0.6,SNR=6.3
BRTR SKKPbc **SKKPbc 03 54 32.8 +0.3**
comp=Z,1.6nm,0.8s,baz=232,slow=3.8,SNR=9.2
CFR Carcaliu 145.27 327⇓P **PKPab 03 43 50.3 -0.7**
CFR Carcaliu 145.27 327⇓PKIKP **PKPab 03 43 50.3 -0.7**
KIRS Kirsehir-Merke 145.28 314⇑P **PKPbc 03 43 50.3 +0.3**
PANC Panciu 145.29 329⇓P **PKiKP 03 43 51.9 -0.7**
KSP Ksiaz 145.32 344 *e*PKP **PKPab 03 43 50.4 -0.6**
ONER Baraj Valea Uz 145.32 330⇑P **PKPbc 03 43 50.4 +0.6**
TPGR Topolog 145.34 326⇑P **PKPab 03 43 51.0 -0.3**
NIE Niedzica 145.38 339 *e*PKP **PKPab 03 43 50.8 -0.5**
FKH Fakeheh 145.41 305 *e*P **PKPbc 03 43 50.9 +0.4**
ODBI Odobesti 145.41 329⇓P **PKPab 03 43 51.4 -0.1**
BEIL Beino 145.49 305 *e*P **PKPbc 03 43 50.9 +0.3**
VRI Vrincioaia 145.50 329⇓P **PKPbc 03 43 50.8 +0.5**
VRI Vrincioaia 145.50 329⇓PKIKP **PKPbc 03 43 50.8 +0.5**
PLOR Plostina 145.55 329⇓P **PKPbc 03 43 50.7 +0.3**
PLOR Plostina 145.55 329⇓PKIKP **PKPbc 03 43 50.7 +0.3**
BMR Baia Mare 145.60 334⇑P **PKPbc 03 43 51.0 +0.5**
BMR Baia Mare 145.60 334⇑PKIKP **PKPbc 03 43 51.0 +0.5**
OSTC Ostas 145.60 344⇑*e*PKP **PKPab 03 43 51.9 -0.3**
OSTC Ostas 145.60 344 *e*PKP2 **PKPab 03 43 51.9 -0.3**
CHVC Chvalec 145.62 344⇑*e*PKP **PKPbc 03 43 51.1 +0.6**
CHVC Chvalec 145.62 344 *e*PKIKP **PKPbc 03 43 51.1 +0.6**
CLL Collm 145.65 348 *i* PKIKP **PKPbc 03 43 51.1 +0.6**
CLL pmax pmax
comp=Z,78nm,1.1s
CLL Collm 145.65 348 *i* PKPdf **PKPbc 03 43 50.5 0.0**
CLL *i* PKPbc **PKPbc 03 43 51.1 +0.6**
comp=Z,78nm,1.1s
CLL *e*SKPdf **SKPdf 03 46 27.0 +1.1**
ANTO Ankara 145.68 316 **PKPdf 03 43 50.1 +0.8**
ANTO Ankara 145.68 316 P **PKPbc 03 43 50.6 -0.5**
ANTO Ankara 145.68 316⇑P **PKPab 03 43 52.1 -0.9**
ANTO Ankara 145.68 316 PKIKP **PKPdf 03 43 50.1 +0.8**
ARCR ARCALIA 145.70 333⇑P **PKPab 03 43 51.7 -0.9**
UPC Upice 145.70 344⇑*e*PKP **PKPbc 03 43 51.3 +0.6**
UPC Upice 145.70 344 *e*PKIKP **PKPbc 03 43 51.3 +0.6**
OKC Ostrava-Krasne 145.71 341⇑*e*PKP **PKPbc 03 43 51.4 +0.7**
OKC Ostrava-Krasne 145.71 341 *e*PKIKP **PKPbc 03 43 51.4 +0.7**
HARR Harsova 145.71 327⇑P **PKPab 03 43 51.9 -0.8**
HARR Harsova 145.71 327⇑PKP2 **PKPab 03 43 51.9 -0.8**
HWQ Hawqa 145.76 305 *e*P **PKPbc 03 43 51.6 +0.1**
DPC Dobruska-Polom 145.76 344⇑*e*PKP **PKPbc 03 43 51.7 +0.8**
DPC Dobruska-Polom 145.76 344 *e*PKP2 **PKPbc 03 43 51.7 +0.8**
COVR Voineasa-Covas 145.77 330⇑P **PKPbc 03 43 51.2 +0.1**
OZUR 145.79 330⇑P **PKPbc 03 43 51.9 +0.8**
BRG Berggiesshubel 145.86 347 Amp 03 43 49.2
comp=Z,20nm,1.7s
BRG ⇓*e*PKPf **PKPdf 03 43 48.3 -0.9**
BRG ⇑PKP **PKPbc 03 43 51.6 +0.5**
BRG Amp 03 43 52.5
comp=Z,22nm,0.7s
BRG Berggiesshubel 145.86 347 P **PKiKP 03 43 58.8 +5.2**
BRG Amp 03 44 00.7
comp=Z,8.8nm,0.9s
LANS Liptovska Anna 145.89 340 *e*PKP2 **PKPab 03 43 52.8 -0.6**
LANS Liptovska Anna 145.89 340 *e*PKP **PKPab 03 43 52.8 -0.6**
KRLC Kraliky 145.89 343⇑*e*PKP **PKPbc 03 43 52.1 +0.8**
KRLC Kraliky 145.89 343 *e*PKP2 **PKPbc 03 43 52.1 +0.8**
MORC Moravsky Berou 145.94 342 *e*PKP **PKPbc 03 43 51.8 +0.4**
MORC Moravsky Berou 145.94 342⇓P **PKPbc 03 43 52.2 +0.8**

MORC	Moravsky Berou	145.94 342	⇓PKP2	PKPbc	03 43 52.2	+0.8
ZAHL	Zahle	145.95 304	*e*P	PKPbc	03 43 52.4	+0.3
NEHR	Nehoiu	146.03 329	⇑P	PKPbc	03 43 52.6	+0.8
PVCC	Panska Ves	146.04 346⇑	*e*PKP	PKPbc	03 43 52.6	+1.0
PVCC	Panska Ves	146.04 346	*e*PKP2	PKPbc	03 43 52.6	+1.0
RCY	Rachaya	146.10 304	*e*P	PKPbc	03 43 53.3	+0.7
BHL	Bhannes	146.11 304	*e*P	PKPbc	03 43 52.3	-0.2
ISR	Istrita	146.12 328	⇓P	PKPbc	03 43 52.8	+0.7
ISR	Istrita	146.12 328	⇓PKP2	PKPbc	03 43 52.8	+0.7
RICC	Richard	146.13 346⇑	*e*PKP	PKPbc	03 43 52.7	+0.8
MLR	Muntele Rosu	146.15 329	⇓P	PKPbc	03 43 52.6	+0.3
MLR	Muntele Rosu	146.15 329	⇓PKIKP	PKPbc	03 43 52.6	+0.3
HSKC	Hora Svate Kat	146.22 347⇑	*e*PKP	PKPbc	03 43 52.7	+0.8
DQRL	Deir Qamar	146.25 304	*e*P	PKPbc	03 43 53.3	+0.4
MESR	Meseseni	146.25 334	⇓P	PKPbc	03 43 53.0	+0.7
CBBR	Cluj-Babes-Bol	146.29 333	⇓P	PKPbc	03 43 53.0	+0.6
CJR	Cluj-Napoca	146.31 333	⇑P	PKPbc	03 43 53.2	+0.6
CJR	Cluj-Napoca	146.31 333	⇑PKP2	PKPbc	03 43 53.2	+0.6
MBAR	Mbarara	146.32 240	P	PKPdf	03 43 50.2	-1.1
PRA	Prague	146.50 346⇑	*e*PKP	PKPbc	03 43 53.7	+0.8
PRA	Prague	146.50 346	*e*PKP2	PKPbc	03 43 53.7	+0.8
MARR	Marisel-Cluj	146.55 333	⇑P	PKPbc	03 43 53.6	+0.4
PRU	Pruhonice	146.55 345⇑	*e*PKP	PKPbc	03 43 53.8	+0.8
PRU	Pruhonice	146.55 345	*e*PKP2	PKPbc	03 43 53.8	+0.8
GOPC	GO Pecny, Ondr	146.56 345⇑	*e*PKP	PKPbc	03 43 53.8	+0.7
GOPC	GO Pecny, Ondr	146.56 345	*e*PKP2	PKPbc	03 43 53.8	+0.7
MMAI	Mount Meron Ar	146.60 303	PKPbc	PKPbc	03 43 54.3	+0.5
	comp=Z,30nm,0.5s,baz=67,slow=6.4,SNR=178					
MMAI			pPKPbc	pPKPdf	03 46 14.4	+2.2
	comp=Z,4.6nm,0.8s,baz=70,slow=5.4,SNR=4.4					
MMAI			SKPbc	SKiKP	03 46 35.3	+0.4
	comp=Z,3.8nm,0.8s,baz=84,slow=7.7,SNR=4.7					
VOIR		146.62 330	⇑P	PKPbc	03 43 54.1	+0.6
VOIR		146.62 330	⇑PKP2	PKPbc	03 43 54.1	+0.6
VRAC	Vranov	146.63 343	*e*PKP	PKPbc	03 43 53.7	+0.5
VRAC	Vranov	146.63 343	⇑P	PKPbc	03 43 53.8	+0.5
VRAC	Vranov	146.63 343	⇑PKIKP	PKPbc	03 43 53.8	+0.5
JAVC	Velka Javorina	146.72 341	*e*PKP	PKiKP	03 43 54.8	-0.7
NKC	Novy Kostel	146.78 348⇑	*e*PKP	PKPbc	03 43 54.3	+0.6
NKC	Novy Kostel	146.78 348	*e*PKP2	PKPbc	03 43 54.3	+0.6
PSZ	Piszkesteto	146.79 338	⇑P	PKPbc	03 43 54.3	+0.4
PSZ	Piszkesteto	146.79 338	⇑PKP2	PKPbc	03 43 54.3	+0.4
ARR	Arges	146.87 330	⇑P	PKPbc	03 43 53.1	-1.0
KRUC	Moravsky	146.91 343	*e*PKP	PKPbc	03 43 54.0	0.0
TREC	Trest	146.95 344⇑	*e*PKP	PKPbc	03 43 54.7	+0.6
TREC	Trest	146.95 344	*e*PKP2	PKPbc	03 43 54.7	+0.6
SMOL	Smolenice	147.10 341	*e*PKP2	PKiKP	03 43 55.9	-0.4
ZVC	Zvikov	147.14 345⇑	*e*PKP	PKiKP	03 43 55.5	-0.8
ZVC			*e*PKPAB	PKPab	03 43 58.9	+0.6
BORA	Eskisehir	147.20 318	PKPdf	PKPdf	03 43 52.7	+0.8
UCC	Uccle	147.22 357	*d*PKP	PKPbc	03 43 55.1	+0.4
DEV	Deva	147.26 333	⇑P	PKPbc	03 43 55.3	+0.3
DEV	Deva	147.26 333	⇑PKIKP	PKPbc	03 43 55.3	+0.3
MODS	Modra-Piesok	147.27 341	*e*PKP2	PKiKP	03 43 55.9	-0.7
MODS	Modra-Piesok	147.27 341	*e*PKP	PKiKP	03 43 55.9	-0.7
MODS			*e*		03 44 00.4	
MEM	Membach	147.31 355	*d*PKP	PKPbc	03 43 55.3	+0.3
BTNL	Ternell	147.32 355	*d*PKP	PKPbc	03 43 55.3	+0.3
HUMR	Humele	147.32 329	⇑P	PKPbc	03 43 54.7	-0.5
BSTI	Sart Tilman	147.36 356	*d*PKP	PKPbc	03 43 55.6	+0.5
SRO	Srobarova	147.43 340	*e*PKP2	PKiKP	03 43 56.3	-0.6
SRO	Srobarova	147.43 340	*e*PKP	PKiKP	03 43 56.3	-0.6
SRO			*e*		03 44 00.7	
SIRR	Siria	147.48 334	⇑P	PKPbc	03 43 54.7	-0.9
BCLA	Clavier	147.54 356	*d*PKP	PKPab	03 43 59.7	-0.2
KHC	Kasperske Hory	147.57 346⇑	*e*PKP	PKPbc	03 43 56.3	+0.5
KHC	Kasperske Hory	147.57 346	*e*PKIKP	PKPbc	03 43 56.3	+0.5
BGES	Gesves	147.59 356	*d*PKPbc	PKPbc	03 43 55.8	+0.1
BGES			*d*PKP	PKPab	03 44 00.4	+0.3
CKRC	Cesky Krumlov	147.69 345⇑	*e*PKP	PKPbc	03 43 56.6	+0.5
CKRC	Cesky Krumlov	147.69 345	*e*PKIKP	PKPbc	03 43 56.6	+0.5
BMRD	Maredsous	147.69 357	*d*PKP	PKPbc	03 43 56.5	+0.5
BMRD			*d*PKPab	PKPab	03 44 00.4	-0.1
GZR	Gura Zlata	147.70 332	⇓P	PKPbc	03 43 55.9	-0.4
GZR	Gura Zlata	147.70 332	⇓PKIKP	PKPbc	03 43 55.9	-0.4
SURR	Surduc	147.70 333	⇑P	PKPbc	03 43 55.0	-1.1
RCHB	Rochefort	147.81 356	*d*PKP	PKPbc	03 43 56.4	+0.1
GERES	GERESS Array B	147.81 346		PKPbc	03 43 56.6	+0.1
GERES	GERESS Array B	147.81 346	PKPbc	PKPbc	03 43 56.8	+0.3
	comp=Z,16nm,0.5s,baz=32,slow=4.0,SNR=89					
GERES	GERESS Array B	147.81 346	PKIKP	PKPbc	03 43 56.6	+0.1
DOU	Dourbes	147.91 357	*d*PKP	PKPbc	03 43 56.5	0.0
DOU			*d*PKPab	PKPab	03 44 01.4	-0.1
BZS	Buzias	148.02 334	⇑P	PKPbc	03 43 56.8	-0.2
BZS	Buzias	148.02 334	⇑PKIKP	PKPbc	03 43 56.8	-0.2
CONA	Conrad Observa	148.09 342	*i* PKP	PKiKP	03 43 57.8	-0.6
	comp=Z,37nm,1.2s,SNR=13					
CONA			*e*PKP	PKPab	03 44 03.7	+1.4
	comp=Z,38nm,1.2s					
RONA	Rosalia, Austr	148.17 342	*i* PKP	PKiKP	03 43 58.0	-0.6
	comp=Z,32nm,1.2s,SNR=7.4					
RONA			*i* PKP	PKPab	03 44 04.0	+1.4
	comp=Z,22nm,1.0s					
WLF	Walferdange	148.23 355	*d*PKP	PKiKP	03 43 58.1	-0.4
HERR	Herculane	148.26 332	⇑P	PKPbc	03 43 57.0	-0.5
MOA	Molln	148.60 344	*i* PKP	PKiKP	03 43 59.2	-0.2
	comp=Z,20nm,1.3s					
MOA			*i* PKP	PKPab	03 44 04.6	+0.2
	comp=Z,31nm,1.4s					
MDVR	Moldovita	148.65 333	⇑P	PKPbc	03 43 58.7	0.0
MORH	Mrgy, Hungar	148.69 338	⇑P	PKiKP	03 43 59.4	-0.2
ARSA	Arzberg	148.80 342	*i* PKP	PKiKP	03 43 59.5	-0.3
	comp=Z,13nm,1.3s					
ARSA			*i* PKP	PKPab	03 44 06.1	+0.8
	comp=Z,7.8nm,0.7s					
BIOA	Bad Ischl, Aus	148.91 345	*i* PKP	PKiKP	03 43 59.6	-0.4
	comp=Z,9.7nm,0.8s					
BIOA			*i* PKP	PKPab	03 44 06.7	+1.0
	comp=Z,47nm,1.1s					
FRGS	Fruska Gora	149.14 335⇑	*i* P	PKPbc	03 43 59.8	0.0
BFO	Black Forest	149.31 352		PKiKP	03 44 00.7	-0.2
LESA	Schwarzleotal	149.39 346	*i* PKP	PKPbc	03 44 00.3	0.0
	comp=Z,9.1nm,0.4s,SNR=6.5					
LESA			*i* PKP	PKPab	03 44 08.4	+0.6
	comp=Z,34nm,1.2s					
SOKA	Soboth	149.46 342	*i* PKP	PKPbc	03 44 00.3	-0.2
	comp=Z,17nm,1.0s,SNR=5.1					
SOKA			*i* PKP	PKPab	03 44 08.6	+0.5
	comp=Z,10nm,0.7s					
BOVS	Bovan	149.55 331	⇑P	PKPbc	03 44 00.8	0.0
KBA	Koelnbreinsper	149.55 345	*i* PKP	PKPbc	03 44 00.4	-0.4
	comp=Z,14nm,0.5s,SNR=5.8					
KBA			*i* PKP	PKPab	03 44 08.8	+0.3
	comp=Z,27nm,0.9s					
WATA	Walderalm	149.71 347	*i* PKP	PKPbc	03 44 01.2	0.0
	comp=Z,12nm,0.5s,SNR=9.2					
RETA	Reutte	149.73 348	*i* PKP	PKPbc	03 44 01.3	+0.2
	comp=Z,5.5nm,0.5s					
RETA			*i* PKP	PKPab	03 44 09.6	+0.5
	comp=Z,12nm,1.0s					
OBKA	Obir	149.75 343	*i* PKP	PKPbc	03 44 00.9	-0.4
	comp=Z,9.7nm,1.0s					
OBKA			*i* PKP	PKPab	03 44 09.3	-0.1
	comp=Z,13nm,1.0s					
OBKA	Obir	149.75 343⇑	*i* P	PKPbc	03 44 01.1	-0.2
TEKS	Tekeris	149.75 335⇑	*i* P	PKPbc	03 44 01.1	-0.1
WTTA	Wattenberg	149.77 347	*i* PKP	PKPbc	03 44 01.6	+0.2
	comp=Z,34nm,0.6s,SNR=11					
MYKA	Terra Mystica	149.89 344	*i* PKP	PKPbc	03 44 01.1	-0.4
	comp=Z,17nm,0.5s,SNR=6.8					
MYKA			*i* PKP	PKPab	03 44 09.8	0.0
	comp=Z,7.2nm,0.5s					
SQTA	Sankt Quirin	149.90 348	*i* PKP	PKPbc	03 44 01.8	+0.2
	comp=Z,22nm,0.7s,SNR=6.1					
ABTA	Abfaltersbach	150.06 346	*i* PKP	PKPbc	03 44 01.6	-0.3
	comp=Z,30nm,0.6s,SNR=11					
DAVA	Damuels	150.09 349	*i* PKP	PKiKP	03 44 02.8	+0.2
	comp=Z,41nm,1.1s,SNR=6.0					
CRES	Cresnjevec Ost	150.10 341⇑	*i* P	PKPbc	03 44 02.0	0.0
LJU	Ljubljana	150.18 342	*i* PKPbc	PKPbc	03 44 02.4	+0.2
FETA	Feichten	150.19 348	*i* PKP	PKiKP	03 44 02.6	-0.3
	comp=Z,20nm,0.9s,SNR=5.5					
VISS	Visnje	150.31 342	*e*PKPbc	PKPbc	03 44 02.4	0.0
VISS			*i* PKPab	PKPab	03 44 11.5	-0.1
A051A	Mrakovica	150.35 339⇑	*i* P	PKPbc	03 44 02.7	0.0
BBLS	Lazi&#263i	150.37 334⇑	*i* P	PKiKP	03 44 03.0	-0.2
HAPS	Han Pijesak,BI	150.37 335⇑	*i* P	PKiKP	03 44 03.1	-0.2
VOJS	Vojsko	150.38 343	*i* PKPbc	PKPbc	03 44 02.2	-0.5
BOJS	Bojanci	150.46 341⇑	*i* P	PKiKP	03 44 03.0	-0.3
BLY	Banja Luka	150.48 338⇑	*i* P	PKiKP	03 44 03.9	+0.6
CEY	Cerknica	150.49 342⇑	*i* P	PKPbc	03 44 02.0	-0.9
GBRS	Gornja Briga	150.57 342	*i* PKPab	PKPab	03 44 12.8	+0.1
RUDO	Rudo	150.58 334⇑	*i* P	PKPbc	03 44 02.3	-0.9
SJES	Sjenica	150.62 333⇑	*i* P	PKiKP	03 44 03.7	-0.1
SKDS	Skadanscina	150.78 343⇑	*i* P	PKPbc	03 44 02.9	-0.7
VAY	Valandovo	150.87 327	*i* P	PKPbc	03 44 03.6	-0.3
CTI	Castel Tesino	150.92 346		PKiKP	03 44 04.7	+0.3
CTI	Castel Tesino	150.92 346	PKIKP	PKiKP	03 44 04.7	+0.3
A050A	Klekovaca	150.94 338⇑	*i* P	PKPbc	03 44 03.5	-0.6
TUE	Stuetta	150.97 350		PKiKP	03 44 04.8	+0.3
PDG	Podgorica	151.60 333⇑	*i* P	PKPbc	03 44 05.0	-0.5
TREB	Trebinje	151.75 334⇑	*i* P	PKPbc	03 44 04.2	-1.6
DRME	Dracevica, Mon	151.82 332	*e*P	PKPbc	03 44 05.8	-0.2
STON	Ston	151.88 335	*e*P	PKPbc	03 44 05.1	-1.0
OHR	Ohrid	151.92 329	*i* P	PKiKP	03 44 07.4	+0.9
PBRG	Braganca	155.08 16	*e*PKPab	PKPab	03 44 32.7	+0.7
PVRL	Vila Real	155.31 18	*e*PKPab	PKPab	03 44 34.5	+1.5
MVO	Moncorvo	155.60 17	*e*PKPab	PKPab	03 44 35.1	+0.8
PVIS	Viseu	155.76 19	*e*PKPab	PKPab	03 44 36.2	+1.2
PCAS	Castelo, Conde	156.17 20	*e*PKPab	PKPab	03 44 35.7	-1.0
PCBR	Castelo Branco	156.69 19	*e*PKPab	PKPab	03 44 39.5	+0.5
PMRV	Marv??o	157.10 19	*e*PKPab	PKPab	03 44 41.2	+0.4
PMTG	Montargil	157.15 21	*e*PKPab	PKPab	03 44 40.6	-0.4
PESTR	Estremoz	157.54 20	*e*PKPab	PKPab	03 44 43.2	+0.5
EVO	Evora	157.71 21	*e*PKPab	PKPab	03 44 43.9	+0.5
ESDC	Sonseca Array	157.76 12	PKPab	PKPab	03 44 43.2	-0.4
	comp=Z,4.7nm,0.9s,baz=342,slow=3.9,SNR=18					
KEST	Kesra	161.20 341	PKPab	PKPab	03 44 59.0	+0.1
	comp=Z,9.6nm,0.9s,baz=283,slow=0.4,SNR=6.1					
DBIC	Dimbokro	166.86 148	PKPab	PKPab	03 45 24.9	+0.6
	comp=Z,5.5nm,0.8s,baz=163,slow=5.4,SNR=5.6					
TORD	Torodi Ar. Bea	175.17 175		PKPdf	03 44 20.1	-0.6

*IDC **12** 03:40:04.6±0.8, 21°.76S×169°.76E, h0km, mb4.1/11, mbtmp4.0/13, ML4.2/2, MS3.6/5, Error ellipse: s-maj=27.5km s-min=19.1km az=149.0*
*NOU **12** 03:40:06.9, 21°.88S×169°.62E, h0km, ML3.3/10, Southeast of Loyalty Islands*
*NEIC **12** 03:40:10.2±1.4, 21°.8S±0°.1×169°.44E±0°.06, h10km±1km, mb4.4/18, Error ellipse: s-maj=25.4km s-min=4.1km az=159.0*

ISC 12 03:40:09.6±0.5, 21°.77S±0°.07×169°.61E±0°.06, h25km, n50, σ1$33/48, mb4.3/18, MS3.5/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.50	281	P	Pn	03 40 34.0	-0.9
MARNC	Mare, Loyalty	1.50	281	S	Sb	03 40 55.3	0.0
PINNC	Pines Island,	2.18	247	Pn	Pn	03 40 44.2	0.0
PINNC	Pines Island,	2.18	247	P	Pn	03 40 44.2	0.0
YATNC	Mamie plateau,	2.54	263	P	Pn	03 40 48.1	-1.2
OUENC	Ouen Island, N	2.65	255	P	Pn	03 40 50.8	0.0
DZM	Mont Dzumac	2.96	263	Pn	Pn	03 40 55.2	+0.2
	6.0nm,0.3s,baz=142,slow=5.5,SNR=98						
DZM				Sn	Sn	03 41 29.9	0.0
	9.4nm,0.3s,baz=86,slow=21,SNR=4.4						
	14nm,0.3s						
DZM	Mont Dzumac	2.96	263	P	Pn	03 40 55.3	+0.2
ONTNC	Ouen Toro	2.98	259	Pn	Pn	03 40 55.2	-0.1
ONTNC	Ouen Toro	2.98	259	P	Pn	03 40 55.3	0.0
DVP	Devils Point	4.24	341	P	Pn	03 41 14.9	+2.3
KOUNC	Koumac, New Ca	5.12	283	P	Pn	03 41 26.3	+1.6
MSVF	Nonsavu	8.90	65	Pn	Pn	03 42 21.2	+4.5
MSVF	Nonsavu	8.90	65	Pn	Pn	03 42 13.1	-3.7
	0.3nm,0.3s,baz=271,slow=8.6,SNR=7.9						
MSVF				LR	LR	03 44 53.9	
	comp=Z,482nm,18.2s,baz=202,slow=33						
	1.9nm,0.6s						
HNR	Honiara	15.38	321	LR	LR	03 48 46.0	
	comp=Z,87nm,21.9s,baz=266,slow=34						
RTZ	Ruatahuna	17.95	161		P	03 44 19.9	+1.9
BKZ	Black Stump Fm	18.32	163		Pn	03 44 24.3	+2.3
BKZ				IAmb	IAmb	03 44 25.3	
	comp=Z,19nm,1.1s						
TCW	Tory Channel	19.78	170	P	Pn	03 44 39.6	0.0
THZ	Tophouse	20.13	173	P	P	03 44 41.8	0.0
THZ				IAmb	IAmb	03 44 44.5	
	comp=Z,9.4nm,0.8s						
COEN	Coen	26.30	283	P	P	03 45 45.0	+1.5
COEN				IAmb	IAmb	03 45 45.6	
	comp=Z,5.1nm,1.1s						
STKA	Stephens Creek	26.89	242	P	P	03 45 49.5	+0.8
STKA				IAmb	IAmb	03 45 50.8	
	comp=Z,14nm,0.8s						
STKA	Stephens Creek	26.89	242	P	P	03 45 48.8	+0.2
	comp=Z,3.4nm,0.7s,baz=100,slow=12,SNR=6.7						
STKA				LR	LR	03 54 20.6	
	comp=Z,117nm,21.3s,baz=201,slow=32						
	comp=Z,3.4nm,0.7s						
RAR	Rarotonga	28.47	95	P	P	03 46 06.8	+4.0
BBOO	Buckleboo	31.66	242	P	P	03 46 31.1	+0.1
BBOO				IAmb	IAmb	03 46 32.3	
	comp=Z,18nm,1.1s						
WR8	Warramunga Arr	32.82	267	P	P	03 46 40.9	-0.5
AS31	Alice Springs	32.94	260	P	P	03 46 42.2	-0.2
ASAR	Alice Springs	32.94	260	P	P	03 46 42.5	+0.1
ASAR	Alice Springs	32.94	260	P	P	03 46 42.2	-0.2
	comp=Z,2.0nm,0.7s,baz=83,slow=9.1,SNR=27						
ASAR				LR	LR	03 59 47.4	
	comp=Z,83nm,18.5s,baz=150,slow=36						
	comp=Z,2.0nm,0.7s						
WB0	Warramunga Arr	32.95	267	P	P	03 46 41.6	-0.9
WB0				IAmb	IAmb	03 46 49.9	
	comp=Z,5.9nm,1.2s						
WRAB	Tennant Creek	32.96	267	P	P	03 46 41.6	-1.0
WRAB				IAmb	IAmb	03 46 45.1	
	comp=Z,3.7nm,1.2s						
WRA	Warramunga Arr	32.97	267	P	P	03 46 41.5	-1.1
	comp=Z,1.1nm,0.7s,baz=96,slow=8.0,SNR=10						
WRA				LR	LR	04 00 15.1	
	comp=Z,164nm,19.4s,baz=172,slow=37						
	comp=Z,1.1nm,0.7s						
FORT	Forrest	38.15	248	P	P	03 47 27.5	+0.5
FORT				IAmb	IAmb	03 47 30.8	
	comp=Z,11nm,0.9s						
KNRA	Kununurra	39.08	272	P	P	03 47 34.5	-0.4
KNRA				IAmb	IAmb	03 47 35.0	
	comp=Z,4.9nm,0.7s						
FITZ	Fitzroy Crossi	41.40	267	P	P	03 47 54.9	+0.7
NWAO	Narrogin (SRO)	47.41	245	P	P	03 48 42.7	+0.6
NWAO				IAmb	IAmb	03 48 51.0	
	comp=Z,7.9nm,1.1s						
MJAR	Matsushiro Arr	65.14	332	P	P	03 50 46.9	-1.5
	comp=Z,1.1nm,0.8s,baz=169,slow=8.7,SNR=4.1						
	comp=Z,1.1nm,0.8s						
QSPA	South Pole Qui	68.30	180	P	P	03 51 07.9	-0.6
	comp=Z,2.7nm,0.9s,baz=3.8,slow=7.2,SNR=5.2						
	comp=Z,2.7nm,0.9s						
KLR	Kul'dur	78.31	336	P	P	03 52 07.2	-0.1
	comp=Z,1.4nm,0.8s,baz=121,slow=5.5,SNR=5.1						
	comp=Z,1.4nm,0.8s						
AIS	Amsterdam Isla	78.54	234	P	P	03 52 09.7	+0.7
CMAR	Chiang Mai Arr	79.86	295	P	P	03 52 17.1	+0.6
	comp=Z,1.1nm,0.3s,baz=134,slow=3.7,SNR=5.1						
	comp=Z,1.1nm,0.3s						
GAMB	Gambell	86.51	8	P	P	03 52 52.2	+2.5
SNAA	Sanae	86.67	182	P	P	03 52 49.3	-1.5
	comp=Z,4.2nm,1.0s,baz=308,slow=8.0,SNR=3.2						
	comp=Z,4.2nm,1.0s						
SONM	Songino Array	89.44	323	P	P	03 53 04.3	-0.1
	comp=Z,0.4nm,0.7s,baz=123,slow=5.3,SNR=2.7						
	comp=Z,0.4nm,0.7s						
EYAK	Cordova Ski Ar	89.63	20	P	P	03 53 09.3	+4.6
NVAR	Mina Array Bea	90.21	48	P	P	03 53 07.0	-1.3
	comp=Z,0.8nm,0.8s,baz=231,slow=8.3,SNR=6.0						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	92.53	17	P	P	03 53 15.5	-2.7
	comp=Z,0.2nm,0.6s,baz=240,slow=5.2,SNR=5.1						
	comp=Z,0.2nm,0.6s						
ARCES	ARCESS Array B	127.59	345	PKP	PKPdf	03 59 10.1	-1.8
	comp=Z,6.2nm,1.1s,baz=8.5,slow=2.5,SNR=5.9						
EKA	Eskdalemuir Ar	146.04	353	PKPbc	PKPdf	03 59 45.6	-0.5
	comp=Z,6.4nm,0.7s,baz=1.6,slow=2.5,SNR=8.4						
KHC	Kasperske Hory	146.71	331	*e*PKP	PKPbc	03 59 49.0	-0.2
GERES	GERESS Array B	146.86	330	PKPbc	PKPbc	03 59 49.7	0.0
	comp=Z,2.5nm,0.7s,baz=28,slow=3.2,SNR=9.5						

*NIED **12** 03:53:38.8, 22°.93N×120°.54E, h3km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}=4.92; $M_{\theta\theta}$=1.92; $M_{\phi\phi}$=-3.00; $M_{r\theta}$=1.86; $M_{\theta\phi}$=0.03; $M_{\phi r}$=-5.05; Fault plane solution: M_0=6.66000×10^14^ NP1:ϕ_s=6.00000°, δ18.00000°, λ79.00000°. NP2:ϕ_s=197.00000°, δ72.00000°, λ94.00000°.*

*JMA **12** 03:53:38.8±0.1, 22°.9N±0°.5×120°.5E±0°.7, h3km±2km, MV4.3/18, TAIWAN REGION*
*ASIES **12** 03:53:39.4, 22°.91N×120°.62E, h12km, ML4.2, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^21^Nm; M_{rr}=0.80; $M_{\theta\theta}$=-0.07; $M_{\phi\phi}$=-0.72; $M_{r\theta}$=2.22; $M_{\theta\phi}$=-0.65; $M_{\phi r}$=-6.17; Fault plane solution: M_0=6.63572×10^21^ NP1:ϕ_s=50.65000°, δ6.62000°, λ159.31000°. NP2:ϕ_s=161.22000°, δ87.67000°, λ83.80000°. Principal axes: T Plg46.9870°, Azm64.7900°; N Plg6.1910°, Azm161.4670°; P Plg42.3450°, Azm257.1410°;*
*TAP **12** 03:53:39.4, 22°.91N×120°.62E, h12km, ML4.2, C*
*IDC **12** 03:53:57.0±7.0, 22°.94N×120°.54E, h206km±72km, mb3.2/7, mbtmp3.8/7, MS3.0/3, Error ellipse: s-maj=32.2km s-min=15.8km az=74.0*

ISC 12 03:53:39.1±0.8, 22°.92N±0°.01×120°.59E±0°.01, h19km±2km, n172, σ1$28/283, mb3.8/6, 25C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCST	Cishan	0.09	252⇑	*i* P	Pg	03 53 43.2	+0.5
SCST				*i* S	Sg	03 53 46.7	+1.5
SGST	Jiashian	0.17	359⇑	*i* P	Pg	03 53 43.7	0.0
SGST				*i* S	Sg	03 53 47.6	+0.8
TWM1	Shoushan	0.18	239⇑	*i* P	Pg	03 53 44.9	+1.1
TWM1				*e*S	Sg	03 53 49.9	+3.0
SGLT	Jiouru	0.21	205⇑	*i* P	Pg	03 53 45.5	+1.3
SGLT				*e*S	Sg	03 53 50.1	+2.4
TSMG	Majia	0.21	166⇑	*i* P	Pb	03 53 44.4	+0.4
TSMG				S	Sb	03 53 47.6	+0.4
SHHT	Tainan City	0.24	296⇓	*i* P	Pg	03 53 47.1	+2.3
SHHT				*e*S	Sg	03 53 52.8	+4.1
CHN3	Shinhua	0.26	308	⇓P	Pn	03 53 47.4	-0.6
CHN3				*e*S	Sn	03 53 53.9	+0.4
CHN1	Nanshi	0.28	348⇑	*i* P	Pg	03 53 46.8	+1.5
CHN1				*e*S	Sn	03 53 52.3	-1.7
SNJT	Kaohsiung City	0.28	235	*e*P	Pn	03 53 47.6	-0.7
SNJT				*e*S	Sn	03 53 54.4	+0.4
MASBT	Mashibuluo	0.30	172⇑	*i* P	Pg	03 53 45.9	+0.1
MASBT				*e*S	Sg	03 53 50.1	-0.1
STYH	Taoyuan	0.31	34⇓	*i* P	Pb	03 53 47.1	+1.0
STYH				S	Sb	03 53 52.5	+1.8
SNST	Tainan City	0.32	345	⇓P	Pb	03 53 47.6	+1.4
SNST				*e*S	Sn	03 53 53.6	-1.3
WTP	Ta-pu	0.33	4⇑	*i* P	Pb	03 53 47.5	+1.0
WTP				*e*S	Sb	03 53 53.7	+2.2
SSHA	Shanhua	0.35	309	*e*P	Pn	03 53 48.8	-0.4
SSHA				*e*S	Sn	03 53 55.9	+0.1
TAI1	Yung-k'ang	0.35	291	*e*P	Pn	03 53 48.5	-0.7
TPUB	Ta-pu	0.39	6	P	Pb	03 53 48.4	+0.9
TPUB	Ta-pu	0.39	6⇑	*i* P	Pb	03 53 48.3	+0.8
TPUB				S	Sb	03 53 54.7	+1.5
WSSB	Gushan	0.41	228	⇓P	Pn	03 53 49.4	-0.6
WSSB				*e*S	Sn	03 53 57.8	+0.7
SSPT	Xinbi	0.43	182	*e*P	Pb	03 53 48.8	+0.6
SSPT				*e*S	Sb	03 53 55.6	+1.3
CHN4	Tsaushan	0.43	1⇑	*i* P	Pb	03 53 49.1	+0.9
CHN4				*e*S	Sn

VWDT eS **Sg** **03 54 13.6 +2.5**
WTCT Ta-ch'eng 0.99 343 eP **Pg** **03 53 58.7 +0.4**
WTCT eS **Sg** **03 54 12.7 +1.4**
TWK1 Hengchun 0.99 168 eP **Pg** **03 53 58.4 +0.1**
TWK1 eS **Sg** **03 54 13.7 +2.4**
TWKBT Hengchun 0.99 168 ⇑P **Pn** **03 53 58.5 +0.4**
TWKBT eS **Sg** **03 54 13.3 +1.8**
WRL Guolierlin Hig 1.00 349 eS **Sg** **03 54 13.6 +1.8**
SMLT Sun Moon Lake 1.01 17 eP **Pb** **03 53 58.2 +0.2**
SMLT eS **Sg** **03 54 13.8 +1.9**
TYC Yuchr 1.01 14 eP **Pg** **03 53 59.2 +0.4**
TYC eS **Sg** **03 54 15.2 +3.0**
TSEB Hengchuen, Pin 1.05 164 eP **Pg** **03 54 00.1 +0.6**
TSEB eS **Sg** **03 54 14.6 +1.3**
EGFH Guangfu 1.08 46 eP **Pg** **03 54 00.0 0.0**
EGFH eS **Sg** **03 54 15.4 +1.2**
WARBT Fenglin Townsh 1.08 42 ⇑P **Pn** **03 54 00.1 +0.7**
WARBT eS **Sg** **03 54 14.9 +0.5**
VCHM Qimei 1.11 286 eP **Pn** **03 53 58.6 -1.1**
VCHM eS **Sb** **03 54 13.9 +0.2**
PHUB P'eng-hu 1.11 303 ⇓P **Pn** **03 53 59.0 -0.7**
PHUB eS **Sb** **03 54 13.5 -0.2**
PNG Penghu 1.15 305 eP **Pn** **03 53 59.6 -0.6**
PNG eS **Sb** **03 54 14.7 -0.3**
WCHH Zhanghua 1.16 359 eP **Pg** **03 54 01.6 +0.1**
WCHH eS **Sg** **03 54 17.8 +1.0**
OWD Renai 1.17 27 eP **Pb** **03 54 01.6 +0.8**
OWD eS **Sg** **03 54 18.2 +1.1**
WCS Beigang Elemen 1.18 15 eP **Pg** **03 54 01.9 0.0**
WCS eS **Sg** **03 54 18.3 +1.0**
WUSB Renai 1.18 24 eP **Pb** **03 54 01.6 +0.7**
WUSB eS **Sg** **03 54 18.7 +1.3**
TEGC Jichi Village 1.18 48 eP **Pg** **03 54 01.8 +0.8**
ESL Shilin 1.19 41 eP **Pg** **03 54 01.9 -0.1**
ESL eS **Sg** **03 54 18.2 +0.6**
TCU Taichung 1.23 4 eP **Pb** **03 54 02.4 +0.6**
TCU eS **Sg** **03 54 19.8 +0.8**
LAY Lan-yu 1.25 134 eP **Pn** **03 54 01.5 -0.1**
SHUL Shoufeng 1.25 46 eP **Pg** **03 54 03.6 +0.3**
SHUL eS **Sg** **03 54 21.3 +1.7**
LYUB Lan-yu 1.29 134 eP **Pn** **03 54 01.0 -1.2**
TEYL Yanliau Villag 1.33 44 eP **Pb** **03 54 03.5 +0.1**
TEYL eS **Sg** **03 54 22.4 +0.3**
ETM Tongmen 1.34 38 eP **Pg** **03 54 04.7 -0.3**
LXIB Xiulin Townshi 1.34 34 eP **Pb** **03 54 04.2 +0.5**
LXIB eS **Sg** **03 54 22.6 +0.1**
WHF Hehuan Shan 1.37 27 eP **Pg** **03 54 05.5 -0.2**
WHF eS **Sg** **03 54 25.8 +2.1**
WHP Taichung City 1.40 14 eP **Pb** **03 54 05.2 +0.5**
WHP eS **Sg** **03 54 24.7 +0.3**
HWA Hwalien 1.41 41 eP **Pb** **03 54 05.9 +1.1**
HWA eS **Sg** **03 54 25.5 +0.7**
WDJ Dajia District 1.43 2 eP **Pb** **03 54 05.9 +0.8**
WDJ eS **Sg** **03 54 26.0 +0.7**
TDCB Techi 1.43 21 eP **Pb** **03 54 05.5 +0.2**
TDCB eS **Sg** **03 54 24.9 -0.5**
TWQ1 Liyutan 1.44 7 eP **Pb** **03 54 05.9 +0.6**
TWQ1 eS **Sg** **03 54 25.5 -0.1**
TWT Tachien 1.44 22 eP **Pb** **03 54 05.8 +0.3**
TWT eS **Sg** **03 54 25.9 +0.2**
FUSS Fushou 1.46 24 eP **Pb** **03 54 06.0 +0.2**
FUSS eS **Sg** **03 54 27.4 +1.1**
TWD Chiawan 1.48 38 eP **Pb** **03 54 06.4 +0.3**
TWD eS **Sg** **03 54 27.0 -0.1**
NSY Sanyi 1.50 6 eP **Pb** **03 54 06.1 -0.3**
NSY eS **Sg** **03 54 27.1 -0.6**
ETLH Xiulin Townshi 1.53 32 eP **Pb** **03 54 07.6 +0.7**
ETLH eS **Sg** **03 54 28.9 +0.4**
NACB Ninganchiao 1.56 36 P **Pb** **03 54 07.9 +0.5**
NACB Ninganchiao 1.56 36 S **Sg** **03 54 29.4 0.0**
NACB Ninganchiao 1.56 36 eP **Pb** **03 54 07.2 -0.1**
NACB eS **Sb** **03 54 28.4 +1.7**
ETL Fush Village 1.56 37 eP **Pb** **03 54 08.2 +0.7**
ETL eS **Sg** **03 54 28.8 -0.7**
NMLH Miaoli 1.63 7 eP **Pb** **03 54 08.9 +0.4**
NMLH eS **Sg** **03 54 30.8 -0.8**
NNSB Datong 1.67 26 eP **Pb** **03 54 09.5 +0.1**
NNSB eS **Sb** **03 54 31.8 +1.6**
NNS Nan Shan 1.68 25 eP **Pb** **03 54 09.9 +0.4**
NNS eS **Sb** **03 54 32.1 +1.7**
NSTT Nanjuang 1.75 12 eP **Pb** **03 54 10.2 -0.5**
NSTT eS **Sb** **03 54 33.7 +1.5**
EAHA Aohua 1.76 37 eP **Pb** **03 54 11.1 +0.3**
EAHA eS **Sb** **03 54 33.6 +1.0**
LIOB Emei 1.77 13 eP **Pn** **03 54 10.0 +1.3**
NFF Wufeng Townshi 1.78 16 eP **Pb** **03 54 11.4 +0.3**
NFF eS **Sb** **03 54 35.0 +1.9**
LATG Datong 1.83 28 eP **Pb** **03 54 11.8 -0.2**
LATG eS **Sb** **03 54 36.7 +2.0**
ENA Nanau 1.84 35 eP **Pn** **03 54 11.1 +1.3**
EWUT Wuta 1.87 35 eP **Pb** **03 54 12.6 -0.2**
EWUT eS **Sb** **03 54 36.9 +1.0**
NSK Sanguang 1.89 22 eP **Pb** **03 54 13.4 +0.4**
YHNB Yeheng 1.89 22 eP **Pb** **03 54 12.4 -0.7**
KSHI Guanxi Townshi 1.93 16 eP **Pb** **03 54 13.5 -0.2**
KSHI eS **Sb** **03 54 37.6 +0.1**
ENTT Nioudou 1.94 27 eP **Pb** **03 54 14.1 +0.3**
EOS4 EOS4 1.99 53 eP **Pn** **03 54 13.3 +1.8**
NWLT Wulai 2.04 24 eP **Pb** **03 54 15.4 -0.1**
TWC Suao 2.04 34 eP **Pb** **03 54 15.1 -0.6**
FUSB Fushanzhiwuyua 2.05 26 eP **Pb** **03 54 15.0 -0.9**
TWE Neicheng 2.05 29 eP **Pb** **03 54 15.6 -0.2**
EOS3 EOS3 2.09 49 eP **Pb** **03 54 15.3 -1.1**
EOS2 EOS2 2.12 45 eP **Pb** **03 54 16.4 -0.5**
VWUC VWUC 2.31 333 eP **Pb** **03 54 16.1 -0.2**
TIPB Shuangxi 2.34 29 eP **Pb** **03 54 19.2 -1.5**
NWF Wu-fen Shan 2.41 27 eP **Pb** **03 54 21.1 -0.8**
WFSB Wu-fen Shan 2.41 27 eP **Pb** **03 54 21.0 -0.9**
YM08 YM08 2.44 22 eP **Pb** **03 54 21.7 -0.7**
TWB1 Santiao Chiao 2.45 31 eP **Pb** **03 54 22.0 -0.5**
SXI1 Grass Mountain 2.47 28 eP **Pb** **03 54 21.5 -1.4**
KNM Kinmen 2.48 308 eP **Pn** **03 54 20.1 +1.6**
PTMZ Houxiangcun 2.51 328 eP **Pn** **03 54 18.8 -0.1**
KNMB Chin-men Tao 2.54 308 eP **Pn** **03 54 19.3 0.0**
JYNG Yonaguni jima 2.65 54 eP **Pn** **03 54 23.4 +2.5**
JYNG S **Sb** **03 54 57.1 -1.0**
YOJ Yonaguni jima 2.70 55 eP **Pn** **03 54 24.0 +2.4**
YOJ Yonaguni jima 2.70 55 P **Pn** **03 54 24.0 +2.4**
YOJ eS **Sb** **03 54 57.2 -2.5**
ZPLA Ao Xicun 2.80 292 eP **Pn** **03 54 22.3 -0.5**
DSXP Dongshan 3.01 286 eP **Pn** **03 54 25.6 -0.2**
AXDP Jialang 3.11 310 eP **Pn** **03 54 27.1 0.0**
HATJ Hateruma jima 3.17 68 eP **Pn** **03 54 29.6 +1.6**
HATJ S **Sn** **03 55 08.0 +2.8**
IRIF Iriomote-Funau 3.21 63 P **Pn** **03 54 31.2 +2.7**
IRIF eS **Sb** **03 55 10.7 -3.6**
MATB Ma-tsu 3.27 350 eP **Pn** **03 54 29.8 +0.3**
JKRS Kuro-shima 3.40 67 P **Pn** **03 54 33.9 +2.6**
JKRS S **Sb** **03 55 16.4 -3.5**
JIJ Ishigaki jima 3.56 65 P **Pn** **03 54 34.9 +1.4**
JIJ eS **Sn** **03 55 18.0 +2.9**
JISG Ishigakijimahi 3.80 63 P **Pn** **03 54 38.0 +1.4**
JISG S **Sn** **03 55 22.4 +1.6**
JTJ Tarama 4.14 65 P **Pn** **03 54 43.6 +2.2**
JTJ S **Sn** **03 55 34.1 +4.7**
JIRB Irabujima 4.61 65 eP **Pn** **03 54 50.5 +2.7**
JMJ2 Miyako jima3 4.71 66 eP **Pn** **03 54 51.4 +2.2**
JMJ2 eS **Sn** **03 55 46.0 +2.7**
JOCS Gusukube 4.78 66 eP **Pn** **03 54 52.5 +2.3**
KSRS Korea Array 15.81 22 LR LR 04 04 00.6
comp=Z,35nm,18.7s,baz=165,slow=38
MJAR Matsushiro Arr 20.41 44 P Pn 03 58 18.6 +1.3
2.4nm,0.8s,baz=240,slow=14,SNR=5.2
2.4nm,0.8s
CMAR Chiang Mai Arr 20.72 262 LR LR 04 07 30.6
comp=Z,63nm,18.6s,baz=155,slow=39
KLR Kul'dur 27.71 16 LR LR 04 10 07.1
comp=Z,37nm,21.3s,baz=108,slow=35
MKAR Makanchi Array 38.88 317 P **P** **04 01 02.3 -1.1**
0.5nm,0.8s,baz=119,slow=10,SNR=4.1
0.5nm,0.8s
ZALV Zalesovo Beam 41.02 328 P **P** **04 01 18.6 -2.3**
0.4nm,0.4s,baz=115,slow=10,SNR=2.1
0.4nm,0.4s
WRA Warramunga Arr 44.66 161 P **P** **04 01 49.3 -1.6**
1.6nm,0.6s,baz=343,slow=8.5,SNR=10
1.6nm,0.6s
ASAR Alice Springs 48.08 164 P **P** **04 02 16.6 -1.1**
0.6nm,0.3s,baz=341,slow=7.4,SNR=18
0.6nm,0.3s
YKA Yellowknife Ar 84.35 23 P **P** **04 06 06.7 -3.1**
0.2nm,0.6s,baz=311,slow=5.3,SNR=5.7
0.2nm,0.6s
NVAR Mina Array Bea 97.73 43 P P 04 07 07.5 -6.0
0.2nm,0.3s,baz=312,slow=3.4,SNR=1.7
0.2nm,0.3s

WEL 12 04:26:46.4±1.0, 32°S±7°×17°9E±3°2, h350km, M4.1/12, mB4.6/12, ML4.5/10, MLv4.6/12, Mw(mB)3.8/12, Error ellipse: s-maj=41.7km s-min=8.3km az=93.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.89**	**182**	P	Pn	04 28 16.1	+0.3
MXZ				S	S	04 29 30.2	+1.8
HAZ	**Te Kaha**	**6.12**	**186**	P	Pn	04 28 19.0	+0.6
HAZ				S	S	04 29 34.2	+1.2
WMGZ	**Waiomatatini S**	**6.15**	**181**	P	Pn	04 28 18.5	-0.2
WMGZ				S	S	04 29 35.7	+2.0
PKGZ	**Pakihiroa**	**6.21**	**184**	P	Pn	04 28 18.4	-1.0
PKGZ				S	S	04 29 36.0	+1.0
RUGZ	**Raukumara Rang**	**6.33**	**186**	P	Pn	04 28 20.5	-0.5
RUGZ				S	S	04 29 38.2	+0.4
OPRZ	**Ohinepanea**	**6.39**	**195**	P	Pn	04 28 25.8	+4.3
PUZ	**Puketiti**	**6.40**	**182**	P	Pn	04 28 21.8	+0.1
PUZ				S	S	04 29 38.7	-0.5
TWGZ	**Tauwhareparae**	**6.52**	**184**	P	Pn	04 28 23.3	+0.1
TWGZ				S	S	04 29 43.8	+2.2
URZ	**Urewera**	**6.69**	**190**	P	Pn	04 28 24.8	-0.3
URZ				S	S	04 29 46.0	+0.8
MWZ	**Matawai**	**6.71**	**187**	P	Pn	04 28 26.1	+0.8
MWZ				S	S	04 29 47.2	+1.4
TARZ	**Mount Tarawera**	**6.78**	**194**	P	Pn	04 28 29.0	+2.9
TKGZ	**Te Karaka**	**6.79**	**185**	P	Pn	04 28 26.7	+0.5
TKGZ				S	S	04 29 47.4	+0.2
CNGZ	**Carnagh Statio**	**6.82**	**182**	P	Pn	04 28 25.9	-0.5
CNGZ				S	S	04 29 50.7	+2.9
RAGZ	**Rawiri**	**6.89**	**188**	P	Pn	04 28 27.2	-0.2
MUGZ	**Murupara**	**6.96**	**192**	P	Pn	04 28 25.2	-3.0
MUGZ				S	S	04 29 52.0	+1.0
RIGZ	**Rimuhau**	**7.06**	**185**	P	Pn	04 28 29.8	+0.4
RIGZ				S	S	04 29 52.6	-0.6
PRGZ	**Paritu Road**	**7.27**	**184**	P	Pn	04 28 32.6	+0.8
PRGZ				S	S	04 29 54.1	-3.5
MHGZ	**Mahia Peninsul**	**7.50**	**184**	S	S	04 30 01.2	-1.3
NGZ	**Ngauruhoe**	**7.88**	**197**	P	Pn	04 28 39.0	-0.1

*SJA **12** 04:37:23.0±2.0, 21°67S×67°27W, h200km, ML3.4, MW3.5*
*GUC **12** 04:37:25.7±0.7, 21°73S×67°58W, h225km±6km, ML3.7*
*SCB **12** 04:37:26.2±1.1, 21°64S×67°29W, h175km±11km, ML3.9/3, MW3.7, Error ellipse: s-maj=7.8km s-min=4.0km az=0.0*
*IDC **12** 04:37:30.4±6.2, 21°16S×66°85W, h243km±41km, mb3.2/3, mbtmp3.7/5, Error ellipse: s-maj=68.7km s-min=25.0km az=13.0*

ISC 12 04:37:23.6±0.8, 21°70S±0°04×67°28W±0°04, h203km±7km, n44, σ1s54/62, mb3.3/3, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.59**	**74**	Pg	**Pn**	**04 38 00.0**	**+1.1**
MOCB				Sg	**S**	**04 38 24.7**	**-1.1**
MOCB				IAML		04 38 26.4	
	1μm,0.5s						
YJA	**Yavi**	**1.71**	**107**	*e*P	**Pn**	**04 38 01.3**	**+1.3**
YJA	**Yavi**	**1.71**	**107**	*i* P	**Pn**	**04 38 01.4**	**+1.3**
YJA				*e*S	**S**	**04 38 26.2**	**-1.4**
YJA				IAML		04 38 29.5	
	comp=Z,37nm,0.3s						
YJA	**Yavi**	**1.71**	**107**	Pg	**Pn**	**04 38 01.2**	**+1.3**
PB09	**IPOC Station P**	**1.83**	**266**	*e*P	**Pn**	**04 38 01.8**	**+1.0**
PB09				*e*S	**S**	**04 38 30.1**	**+0.9**
PB09				IAML		04 38 34.1	
	comp=E,120nm,0.1s						
PB09	**IPOC Station P**	**1.83**	**266**	*i* P	**Pn**	**04 38 01.2**	**+0.4**
PB09				*e*S	**S**	**04 38 29.6**	**+0.4**
PB09				IAML		04 38 32.5	
	comp=Z,112nm,0.2s						
PB09	**IPOC Station P**	**1.83**	**266**	Pg	**Pn**	**04 38 01.9**	**+1.0**
PB01	**IPOC Station P**	**2.16**	**287**	*e*P	**Pn**	**04 38 04.8**	**+0.7**
PB01				*e*S	**S**	**04 38 34.4**	**-0.6**
PB01	**IPOC Station P**	**2.16**	**287**	*i* P	**Pn**	**04 38 04.2**	**+0.1**
PB01				*e*S	**S**	**04 38 35.3**	**+0.2**
PB01				IAML		04 38 35.9	
	comp=Z,277nm,0.1s						
PB01	**IPOC Station P**	**2.16**	**287**	Pg	**Pn**	**04 38 05.1**	**+1.0**
PB01				Sg	**S**	**04 38 34.4**	**-0.6**
PB01				IAML		04 38 36.2	
	comp=Z,391nm,0.2s						
PB03	**IPOC Station P**	**2.33**	**261**	*e*P	**Pn**	**04 38 06.3**	**+0.4**
PB03				*e*S	**S**	**04 38 37.0**	**-1.3**
PB03				IAML		04 38 38.9	
	comp=E,321nm,0.3s						
PB03	**IPOC Station P**	**2.33**	**261**	*i* P	**Pn**	**04 38 05.8**	**-0.2**
PB03				IAML		04 38 40.0	
	comp=Z,227nm,0.2s						
PB08	**IPOC Station P**	**2.34**	**311**	*e*P	**Pn**	**04 38 07.8**	**+1.4**
PB08				*e*S	**S**	**04 38 39.8**	**+0.8**
PB08				IAML		04 38 41.8	
	comp=N,290nm,0.1s						
PB08	**IPOC Station P**	**2.34**	**311**	*i* P	**Pn**	**04 38 07.2**	**+0.9**
PB08				IAML		04 38 43.6	
	comp=Z,45nm,0.1s						
PB08	**IPOC Station P**	**2.34**	**311**	Pg	**Pn**	**04 38 07.7**	**+1.4**
PB06	**IPOC Station P**	**2.35**	**244**	*e*P	**Pn**	**04 38 06.5**	**+0.3**
PB06				*e*S	**S**	**04 38 38.1**	**-0.8**
PB06				IAML		04 38 40.2	
	comp=E,244nm,0.2s						
PB06	**IPOC Station P**	**2.35**	**244**	*i* P	**Pn**	**04 38 06.0**	**-0.2**
PB06				IAML		04 38 43.5	
	comp=Z,95nm,0.1s						
TA01	**Diego Aracena**	**2.93**	**292**	*i* P	**Pn**	**04 38 12.4**	**-0.3**
TA01				*i* S	**S**	**04 38 48.0**	**-2.3**
TA01				IAML		04 38 50.2	
	comp=E,136nm,0.2s						
PB11	**IPOC Station P**	**2.94**	**310**	⇑*i* P	**Pn**	**04 38 13.2**	**+0.2**
PB11				*e*S	**S**	**04 38 50.1**	**-0.8**
PB11	**IPOC Station P**	**2.94**	**310**	*i* P	**Pn**	**04 38 12.5**	**-0.5**
PB11				IAML		04 38 53.5	
	comp=Z,100nm,0.2s						
PB11	**IPOC Station P**	**2.94**	**310**	Pg	**Pn**	**04 38 13.4**	**+0.4**
PB11				Sg	**S**	**04 38 50.0**	**-0.8**
PB11				IAML		04 38 50.9	
	comp=Z,229nm,0.2s						
TA02	**Huaiquique**	**3.02**	**297**	*i* P	**Pn**	**04 38 13.4**	**-0.3**
TA02				*i* S	**S**	**04 38 50.2**	**-1.9**
TA02	**Huaiquique**	**3.02**	**297**	*i* P	**Pn**	**04 38 13.3**	**-0.3**
TA02				IAML		04 38 57.0	
	comp=Z,212nm,0.1s						
SOEO	**Opoqueri**	**3.17**	**349**	Pg	**Pn**	**04 38 17.8**	**+1.8**
SLA	**San Lorenzo**	**3.43**	**152**	*e*S	**S**	**04 39 02.0**	**+0.8**
SLA				IAML		04 39 11.3	
	comp=Z,7.4nm,0.9s						
PB10	**IPOC Station P**	**3.53**	**239**	*e*P	**Pn**	**04 38 19.6**	**-0.1**
PB10				*e*S	**S**	**04 39 00.1**	**-3.0**
PB10	**IPOC Station P**	**3.53**	**239**	*i* P	**Pn**	**04 38 19.0**	**-0.7**
PB10				IAML		04 39 05.0	
	comp=Z,41nm,0.2s						
SOET	**ToroToro**	**3.82**	**21**	Pg	**Pn**	**04 38 25.1**	**+1.4**
AOEA	**Aiquile**	**3.99**	**29**	Pg	**Pn**	**04 38 26.6**	**+0.8**
GO02	**Mina Guanaco**	**4.05**	**211**	*i* P	**Pn**	**04 38 26.1**	**-0.4**
GO02				IAML		04 39 16.4	
	comp=Z,176nm,0.1s						
PB14	**IPOC Station P**	**4.10**	**224**	*i* P	**Pn**	**04 38 26.9**	**-0.1**
PB14				*i* S	**S**	**04 39 13.0**	**-3.3**
PB14	**IPOC Station P**	**4.10**	**224**	*i* P	**Pn**	**04 38 26.8**	**-0.2**
PB14				IAML		04 39 17.5	
	comp=Z,53nm,0.2s						
PB12	**IPOC Station P**	**4.20**	**316**	*e*P	**Pn**	**04 38 27.0**	**-1.1**
PB12	**IPOC Station P**	**4.20**	**316**	*i* P	**Pn**	**04 38 26.4**	**-1.7**
PB12				IAML		04 39 17.6	
	comp=Z,30nm,0.4s						
BBOD	**La Paz, Gloria**	**5.18**	**346**	Pg	**Pn**	**04 38 42.9**	**+1.8**
AC01	**Pan de Azucar**	**5.38**	**214**	*i* P	**Pn**	**04 38 41.1**	**-1.8**
AC01				IAML		04 39 43.6	
	comp=Z,48nm,0.4s						
AC02	**Maricunga**	**5.39**	**198**	*i* P	**Pn**	**04 38 43.4**	**-0.1**
AC02				IAML		04 39 49.3	
	comp=Z,16nm,0.1s						
LPAZ	**La Paz**	**5.44**	**351**	P	**Pn**	**04 38 46.2**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=158,slow=6.5,SNR=22						
LPAZ				S	**S**	**04 39 47.6**	**0.0**
	comp=Z,3.3nm,0.6s,baz=316,slow=12,SNR=7.3						
LPAZ	**La Paz**	**5.44**	**351**	Pg	**Pn**	**04 38 46.2**	**+1.8**
SIV	**San Ignacio**	**8.16**	**47**	P	**Pn**	**04 39 18.1**	**-1.1**
	comp=Z,6.2nm,0.5s,baz=239,slow=6.2,SNR=61						
SIV				S	**S**	**04 40 43.8**	**-7.4**
	comp=Z,1.5nm,0.3s,baz=135,slow=20,SNR=8.2						
PDAR	**Pinedale Array**	**75.05**	**329**	P	**P**	**04 48 45.1**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=140,slow=7.0,SNR=1.6						
	comp=Z,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**75.97**	**342**	P	**P**	**04 48 48.6**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=180,slow=5.1,SNR=3.2						
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**91.88**	**340**	P	**P**	**04 50 07.7**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=137,slow=4.7,SNR=5.2						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**144.88**	**37**	PKP	**PKPdf**	**04 56 36.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=299,slow=3.5,SNR=6.6						

DJA 12 04:50:13.4±0.7, 9°S±4°×11°8E±°, h25km±6km, M4.1/11, mb4.2/2, MLv4.0/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.78**	**317**	P	Pb	04 50 28.0	-0.3
PLAI				S	Sn	04 50 39.5	-0.1
WBSI	**Waikabubak, Su**	**1.09**	**103**	P	Pn	04 50 29.6	-3.6
TWSI	**Taliwang, Sumb**	**1.56**	**295**	P	Pn	04 50 39.5	0.0
TWSI				S	Sn	04 50 58.0	-0.9
BASI	**Baing, Sumba**	**2.38**	**110**	P	Pn	04 50 52.5	+1.7
SRBI	**Singaraja**	**3.33**	**293**	P	Pn	04 51 06.6	+2.7
SRBI				S	Sn	04 51 42.4	-0.3
BSSI	**Bau Bau, Buton**	**3.89**	**34**	P	Pn	04 51 12.2	+0.5
BSSI				S	Sn	04 51 56.3	-0.3
JAGI	**Jajag, Banyuwa**	**4.21**	**282**	P	Pn	04 51 15.9	-0.2
BKSI	**Bulukumba**	**4.43**	**24**	P	Pn	04 51 20.2	+1.1
GMJI	**Gumukmas**	**4.94**	**283**	P	Pn	04 51 25.9	-0.1
PCJI	**Pacitan**	**7.15**	**279**	P	Pn	04 51 56.1	-0.4
	17nm,1.0s						
UGM	**Wanagama**	**7.84**	**280**	P	Pn	04 52 06.2	+0.2

*JMA **12** 04:50:36.3±0.1, 36°9N±0°3×141°1E±0°7, h51km±1km, MV3.8/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **12** 04:50:36.3, 36°90N×141°06E, h51km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.48; $M_{\theta\theta}$0.81; $M_{\phi\phi}$-0.33; $M_{r\theta}$1.19; $M_{\theta\phi}$3.11; $M_{\phi r}$0.55; Fault plane solution: $M_0$3.38000×10^{14} NP1:ϕ_S4.00000°, δ72.00000°, λ174.00000°. NP2:ϕ_S96.00000°, δ84.00000°, λ18.00000°.*
*IDC **12** 04:50:38.9±3.5, 36°93N×141°07E, h89km±28km, mb3.2/6, mbtmp3.6/8, MS2.7/2 Error ellipse: s-maj=30.3km s-min=26.1km az=105.0*

ISC 12 04:50:35.3±1.4, 36°90N±0°07×141°2E±0°1, h48km±10km, n31, σ1s59/30, mb3.5/6, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**303**	⇓P	**Pn**	**04 50 45.3**	**+0.1**
ONAJ				⇓S	**Sn**	**04 50 51.8**	**-0.4**
JFK	**Kawauchi**	**0.54**	**331**	P	**Pn**	**04 50 47.3**	**+0.3**
JFK				S	**Sn**	**04 50 54.9**	**-0.4**
JFFD	**Fukushimafurud**	**0.55**	**291**	⇓*i* P	**Pn**	**04 50 47.0**	**0.0**
JFFD				⇓S	**Sn**	**04 50 54.2**	**-1.3**
JHO	**Hitachi**	**0.58**	**241**	*i* P	**Pn**	**04 50 47.3**	**-0.2**
JHO				S	**Sn**	**04 50 54.9**	**-1.3**
JOTO	**OTAMA OYAMA**	**0.96**	**314**	*i* P	**Pn**	**04 50 53.1**	**+0.6**
JMM	**Marumori**	**1.02**	**342**	P	**Pn**	**04 50 53.7**	**+0.4**
JMM	**Marumori**	**1.02**	**342**	S	**Sn**	**04 51 05.4**	**-1.2**
JMM	**Marumori**	**1.02**	**342**	P	**Pn**	**04 50 53.7**	**+0.4**
JMM				S	**Sn**	**04 51 06.6**	**0.0**
JAG	**Ashikaga**	**1.48**	**252**	⇓*i* P	**Pn**	**04 50 59.2**	**-0.3**
JKT	**Katashina**	**1.57**	**266**	⇓*i* P	**Pn**	**04 51 01.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.43**	**263**	P	**Pn**	**04 51 13.2**	**+0.6**
	17nm,0.3s,baz=84,slow=16,SNR=74						
MJAR				S	**Sn**	**04 51 43.8**	**+2.7**
	10nm,0.4s,baz=197,slow=23,SNR=6.9						
MJAR				LR	LR	04 52 35.4	
	comp=Z,58nm,20.5s,baz=108,slow=50						
MAJO	**Matsushiro**	**2.43**	**263**	P	**Pn**	**04 51 13.5**	**+0.9**
JGF	**Kuroka**	**3.36**	**249**	P	**Pn**	**04 51 27.3**	**+1.9**
JTM	**Tennabayashi**	**3.89**	**359**	P	**Pn**	**04 51 35.2**	**+2.7**
JHJ2	**Mitsune**	**3.94**	**197**	P	**Pn**	**04 51 34.9**	**+1.6**
ERM	**Erimo**	**5.33**	**16**	P	**Pn**	**04 51 54.0**	**+1.7**
JEM	**Erimo**	**5.33**	**16**	P	**Pn**	**04 51 54.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**10.11**	**319**	P	**Pn**	**04 53 01.6**	**+3.8**
	4.0nm,0.6s,baz=126,slow=15,SNR=4.7						
SEY	**Seymchan**	**26.96**	**11**	LR	LR	05 08 51.0	
	comp=Z,52nm,19.8s,baz=338,slow=40						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**04 56 18.4**	**-0.8**
	0.3nm,0.5s,baz=98,slow=9.8,SNR=2.3						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	05 26 17.4	
	baz=313,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.23**	**120**	T	T	05 26 03.9	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.24**	**120**	T	T	05 26 22.7	
	baz=313,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	05 27 17.8	
	baz=314,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	05 27 18.8	
	baz=314,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.94**	**122**	T	T	05 27 20.3	
	baz=314,slow=75,SNR=10						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**04 58 18.1**	**-2.5**
	0.5nm,0.5s,baz=64,slow=6.6,SNR=1.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**04 58 35.9**	**-2.4**
	0.4nm,0.8s,baz=87,slow=8.7,SNR=4.0						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**04 58 52.3**	**-1.0**
	0.4nm,0.6s,baz=83,slow=8.1,SNR=5.2						
	0.4nm,0.6

OXBJ	Oaxaca	1.54	281			Pn	05 01 09.0 -0.9
OXBJ						Sn	05 01 28.8 -2.1
OXBJ	Oaxaca	1.54	281	eP		Pn	05 01 09.0 -0.9
OXBJ				eS		Sn	05 01 28.8 -2.1
PANG	Puerto Angel	1.69	229			Pn	05 01 09.8 -1.8
PANG						Sn	05 01 31.8 -2.1
PANG	Puerto Angel	1.69	229	eP		Pn	05 01 09.8 -1.8
PANG				eS		Sn	05 01 31.8 -2.1
PMUV	Sontecomapan	1.75	1	eP		Pn	05 01 11.1 -1.3
PMUV				eS		Sn	05 01 29.7 -5.7
TGIG		1.94	90			Pn	05 01 15.2 +0.5
TGIG						Sn	05 01 38.3 -1.2
TGIG		1.94	90	eP		Pn	05 01 15.2 +0.5
TGIG				eS		Sn	05 01 38.3 -1.2
TGIG		1.94	90	eP		Pn	05 01 15.2 +0.5
TGIG					IAML		05 01 38.4
	comp=Z,517nm,0.5s						
TGIG				i S		Sn	05 01 38.4 -1.0
TGIG		1.94	90	eP			05 01 15.2
TGIG					IAML		05 01 38.4
	comp=Z,517nm,0.5s						
TGIG				i S			05 01 38.4
TGBT	Tuxtla Gutierr	1.97	90			Pn	05 01 15.9 +0.9
TGBT						Sn	05 01 38.8 -1.2
TGBT	Tuxtla Gutierr	1.97	90	eP		Pn	05 01 15.9 +0.9
TGBT				eS		Sn	05 01 38.8 -1.2
PEIG	Puerto Escondi	2.07	248			Pn	05 01 14.4 -1.9
PEIG						Sn	05 01 39.2 -3.2
PEIG	Puerto Escondi	2.07	248	eP		Pn	05 01 14.4 -1.9
PEIG				eS		Sn	05 01 39.2 -3.2
PCIG		2.14	120			Pn	05 01 18.7 +1.5
PCIG						Sn	05 01 44.6 +0.7
PCIG		2.14	120	eP		Pn	05 01 18.7 +1.5
PCIG				eS		Sn	05 01 44.6 +0.7
TOIG	Toxpalan	2.25	306			Pn	05 01 19.1 +0.4
TOIG						Sn	05 01 45.6 -1.0
TOIG	Toxpalan	2.25	306	eP		Pn	05 01 19.1 +0.4
TOIG				eS		Sn	05 01 45.6 -1.0
PNIG	Pinotepa	2.88	263			Pn	05 01 25.3 -1.6
PNIG						Sn	05 01 58.1 -3.1
PNIG	Pinotepa	2.88	263	eP		Pn	05 01 25.3 -1.6
PNIG				eS		Sn	05 01 58.1 -3.1
CCIG	Comitan	2.93	99			Pn	05 01 28.8 +1.1
CCIG	Comitan	2.93	99	eP		Pn	05 01 28.6 +1.0
CCIG				eS		Sn	05 01 58.8 -3.7
CCIG	Comitan	2.93	99	eP		Pn	05 01 28.7 +1.1
CCIG	Comitan	2.93	99	eP			05 01 28.7
JAUV	Jalcomulco	3.02	329	eP		Pn	05 01 27.1 -1.6
JAUV				eS		Sn	05 02 00.1 -4.3
FTIG	Fresnillo de T	3.06	292			Pn	05 01 30.4 +1.1
FTIG						Sn	05 01 59.6 -6.0
FTIG	Fresnillo de T	3.06	292	eP		Pn	05 01 30.4 +1.1
FTIG				eS		Sn	05 01 59.6 -6.0
LVIG	Laguna Verde	3.17	338	eP		Pn	05 01 28.5 -2.0
LVIG				eS		Sn	05 02 01.5 -6.3
TLIG	Tlapa	3.36	284	eP		Pn	05 01 34.0 +0.7
TLIG				eS		Sn	05 02 10.2 -2.4
HUEH	Huehuetenango	3.79	112	eP		Pn	05 01 40.7 +1.6
HUEH				eS		Sn	05 02 16.3 -6.9
CRIG	Cruz Grande	3.82	270			Pn	05 01 38.1 -1.2
CRIG						Sn	05 02 18.5 -4.9
CRIG	Cruz Grande	3.82	270	eP		Pn	05 01 38.1 -1.2
CRIG				eS		Sn	05 02 18.5 -4.9
PBCV	Popocatepetl	3.92	305	eP		Pn	05 01 42.8 +1.9
PBCV				eS		Sn	05 02 25.1 -1.2
PBPN	Popocatepetl	4.00	305	eP		Pn	05 01 44.4 +2.2
PBPN				eP			05 01 44.6
PBPN				eS		Sn	05 02 26.5 -2.1
PBPN				eS			05 02 27.9
PBXN	Popocatepetl	4.01	304	eP		Pn	05 01 44.6 +2.3
PBXN				eP			05 01 44.9
PBXN				eS		Sn	05 02 21.6 -7.1
PBXN				eS			05 02 26.8
CXUV	Coxquihui	4.09	326	eP		Pn	05 01 42.8 -0.2
CXUV				eS		Sn	05 02 27.9 -2.1
YAIG	Yautepec	4.27	300			Pn	05 01 47.5 +2.0
YAIG						Sn	05 02 31.0 -3.5
YAIG	Yautepec	4.27	300	eP		Pn	05 01 47.5 +2.0
YAIG				eS		Sn	05 02 31.0 -3.5
DAIG	Los Arroyos	4.32	274			Pn	05 01 45.1 -0.9
DAIG						Sn	05 02 30.2 -5.2
DAIG	Los Arroyos	4.32	274	eP		Pn	05 01 45.1 -0.9
DAIG				eS		Sn	05 02 30.2 -5.2
STG0	El Palmar, Qui	4.35	122	eP			05 01 44.4
SCIG	Sabancuy	4.35	59	eP		Pn	05 01 45.4 -1.0
SCIG				eS		Sn	05 02 31.1 -5.2
SCIG	Sabancuy	4.35	59	i P		Pn	05 01 45.7 -0.7
SCIG				i S		Sn	05 02 31.6 -4.6
SCIG					IAML		05 02 38.6
	comp=Z,103nm,0.2s						
SCIG	Sabancuy	4.35	59	i P			05 01 45.7
SCIG				i S			05 02 31.6
SCIG					IAML		05 02 38.6
	comp=Z,103nm,0.2s						
MPVM	San Francisco	4.39	304	eP		Pn	05 01 50.2 +3.0
MPVM				eS		Sn	05 02 37.2 -0.4
PLIG	Platanillo	4.45	292			Pn	05 01 49.4 +1.6
PLIG						Sn	05 02 34.9 -3.8
PLIG	Platanillo	4.45	292	eP		Pn	05 01 49.4 +1.6
PLIG				eS		Sn	05 02 34.9 -3.8
XCVM	Xochimilco	4.51	304	eS		Sn	05 02 39.1 -1.3
TLVM	San Miguel Top	4.51	303	eP		Pn	05 01 51.2 +2.3
TLVM				eS		Sn	05 02 40.5 -0.1
MZVM		4.56	302			Pn	05 01 51.6 +2.4
MZVM						Sn	05 02 41.9 +0.6
MZVM		4.56	302	eP		Pn	05 01 51.6 +2.4
MZVM				eS		Sn	05 02 41.9 +0.6
MAVM	Malinalco, Edo	4.67	298	eP		Pn	05 01 37.7 -13
MAVM				eS		Sn	05 02 26.1 -18
AOVM	Tlapan	4.68	303			Pn	05 01 54.0 +2.7
AOVM						Sn	05 02 35.8 -9.0
AOVM	Tlapan	4.68	303	eP		Pn	05 01 54.0 +2.7
AOVM				eS		Sn	05 02 35.8 -9.0
APG	El Apazote	4.84	111	i P		Pn	05 01 54.4 +1.2
APG				i S		Sn	05 02 46.4 -1.9
APG	El Apazote	4.84	111	i P			05 01 54.4
APG				i S			05 02 46.4
CAIG	El Cayaco	4.91	274			Pn	05 01 53.1 -0.8
CAIG						Sn	05 02 46.0 -3.7
CAIG	El Cayaco	4.91	274	eP		Pn	05 01 53.1 -0.8
CAIG				eS		Sn	05 02 46.0 -3.7
PETF	Flores	5.06	88			Pn	05 01 56.5 +0.6
PETF	Flores	5.06	88	eP		Pn	05 01 56.5 +0.6
PETF				eS		Sn	05 02 51.1 -2.2
PETF	Flores	5.06	88	eP		Pn	05 01 56.5 +0.6
	comp=Z,235nm,0.3s						
PETF				eS		Sn	05 02 51.1 -2.2
PETF					IAML		05 02 55.0
	comp=Z,235nm,0.3s						
PETF	Flores	5.06	88	eP			05 01 56.5
	comp=Z,235nm,0.3s						
PETF				eS			05 02 51.1
PETF					IAML		05 02 55.0
	comp=Z,235nm,0.3s						
DEIG	Demacu	5.08	314	eP		Pn	05 01 58.9 +2.4
DHIG	Demacu	5.08	314			Pn	05 01 58.9 +2.4
ARIG	Puente Sto Nin	5.18	287			Pn	05 01 59.4 +1.8
ARIG						Sn	05 02 53.5 -2.8
ARIG	Puente Sto Nin	5.18	287	eP		Pn	05 01 59.4 +1.8
ARIG				eS		Sn	05 02 53.5 -2.8
CTUV	Llano Grande	5.56	327	eP		Pn	05 01 59.5 -3.2
CTUV				eS		Sn	05 02 56.7 -8.8
MTO3	Montecristo	6.06	112			Pn	05 02 10.5 +0.8
MTO3	Montecristo	6.06	112	i P		Pn	05 02 11.3 +1.6
MTO3					IAML		05 03 21.3
	comp=Z,14nm,0.7s						
MTO3	Montecristo	6.06	112	i P			05 02 11.3
MTO3					IAML		05 03 21.3
	comp=Z,14nm,0.7s						
ZIIG	Zihuatanejo	6.09	279			Pn	05 02 10.6 +0.7
ZIIG						Sn	05 03 13.1 -5.3
ZIIG	Zihuatanejo	6.09	279	eP		Pn	05 02 10.6 +0.7
ZIIG				eS		Sn	05 03 13.1 -5.3
MOIG	Morelia	6.42	298	eP		Pn	05 02 17.2 +2.6
MOIG				eS		Sn	05 03 27.0 +0.3
TEIG	Tepich	7.36	61			Pn	05 02 25.8 -1.3
MMIG	Aquila	7.96	282			Pn	05 02 36.8 +1.5
MMIG						Sn	05 04 03.0 -0.8
MMIG	Aquila	7.96	282	eP		Pn	05 02 36.8 +1.5
MMIG				eS		Sn	05 04 03.0 -0.8
EZ5V		8.47	290			Pn	05 02 46.2 +3.7
EZ5V		8.47	290	eP		Pn	05 02 46.2 +3.7
EZ5V				eS		Sn	05 04 15.3 -1.2
MNGA	Volcan de Coli	8.49	290	eP		Pn	05 02 46.5 +3.9
MNGA				eS		Sn	05 04 17.7 +0.8
INCO	Volcan de Coli	8.49	290	eP		Pn	05 02 46.7 +3.9
INCO				eS		Sn	05 04 15.8 -1.3
SOMAC	Volcano de Col	8.51	290	eP		Pn	05 02 46.4 +3.3
SOMAC				eS		Sn	05 04 20.5 +2.8
CEGR	Campo Tres	8.68	289	eP		Pn	05 02 48.6 +3.4
CEGR				eS		Sn	05 04 19.6 -1.9
CDAR	Ciudad de Arme	8.71	286	eP		Pn	05 02 46.3 +1.0
CJM	Chamela	9.79	288	eP		Pn	05 03 04.0 +4.0
833A	Chaparral WMA,	12.14	342	Pn		Pn	05 03 33.1 +1.6
SOR	Soroa	12.89	60	Pn		Pn	05 03 41.4 0.0
HNDO	Hondo	13.24	344	Pn		Pn	05 03 47.7 +1.8
BRDY	Brady	14.86	347	P		P	05 04 11.1 +1.5
Z47A	Carrollton	17.55	20	P		P	05 04 41.6 +2.4
Z47A				IAmb	IAmb		05 04 47.5
	comp=Z,9.9nm,0.7s						
MIAR	Mount Ida	17.75	4	P		P	05 04 43.3 +2.0
OK052	Battle Ridge R	19.19	356	P		P	05 04 59.0 +1.8
FCAR	Ozark Folk Cen	19.22	7	IAmb	IAmb		05 04 59.8
	comp=Z,6.7nm,0.9s						
HHAR	Hobbs	19.45	3			P	05 05 01.7 +1.7
LCAR	Lake Charles	19.54	10	P		P	05 05 01.7 +0.8
LCAR				IAmb	IAmb		05 05 02.7
	comp=Z,5.0nm,0.8s						
OK048	Pawnee Station	19.62	356	IAmb	IAmb		05 05 03.9
	comp=Z,7.8nm,0.6s						
T35A	Sooner Cattle	20.09	357	P		P	05 05 08.5 +1.5
PBMO	Poplar Bluff	20.35	11	IAmb	IAmb		05 05 11.4
	comp=Z,6.5nm,0.9s						
T42A	Van Buren	20.49	9	P		P	05 05 12.8 +1.7
R40A	Maddies Statio	21.58	6	P		P	05 05 25.2 +2.4
R40A				IAmb	IAmb		05 05 25.9
	comp=Z,4.2nm,0.6s						
SSFO	Shawnee State	24.21	23	IAmb	IAmb		05 05 49.6
	comp=Z,9.3nm,0.8s						
O48B	Farmland	24.95	18	P		P	05 05 54.9 -0.1
O48B				IAmb	IAmb		05 05 57.0
	comp=Z,8.0nm,0.7s						

*GII **12** 05:03:20.6±0.0, 34°.64N±0°.03×25°.55E±0°.01, h14km, Mws3.8/2, confirmed*
*IDC **12** 05:03:24.1±3.2, 34°.42N×25°.37E, h27km±16km, mb3.6/10, mbtmp3.8/17, MLA.0/7, Error ellipse: s-maj=29.8km s-min=14.6km az=22.0*
*ISK **12** 05:03:25.5, 34°.50N×25°.29E, h80km, ML3.6/24*
*THE **12** 05:03:25.1, 34°.41N×25°.30E, h0km, ML3.6/3, Error ellipse: s-maj=1.8km s-min=0.6km az=173.0*
*ATH **12** 05:03:26.9, 34°.47N×25°.39E, h33km±5km, ML3.8/7, Manual Solution by A.Moschou First location: 2019/03/12 05:04:30, This location: 2019/03/12 05:35:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 4 km*
*AFAD **12** 05:03:30.0, 34°.41N×25°.82E, h35km, MW3.9*
*HLW **12** 05:03:36.3, 33°.54N×25°.86E, h24km±9km, Md4.3, Ml4.1*

ISC 12 05:03:23.4±1.4, 34°.28N±0°.05×25°.47E±0°.05, h26km±12km, n137, σ1°82/160, mb3.7/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	Timbaki Herakl	0.99	324	P	Pn	05 03 41.1	-0.5
TMBK				S	Sn	05 03 52.7	-2.0
ZKR	Zakros	1.04	36	Pg	Pn	05 03 45.0	+2.7
ZKR	Zakros	1.04	36	P	Pn	05 03 44.9	+2.7
ZKR				S	Sn	05 04 00.6	+4.6
	3μm,0.6s						
IACM	Heraklion	1.08	342	P	Pn	05 03 43.2	+0.4
IACM				S	Sn	05 03 56.7	-0.3
IACM	Heraklion	1.08	342	P	Pn	05 03 43.2	+0.4
IACM				S	Sn	05 03 55.5	-1.5
IDI	Anoyia	1.12	335	Pg	Pn	05 03 43.1	-0.4
IDI				Sg	Sn	05 03 56.9	-1.2
IDI	Anoyia	1.12	335	P	Pn	05 03 43.1	-0.4
IDI				S	Sn	05 03 57.8	-0.3
	3μm,0.4s						
IDI	Anoyia	1.12	335	Pg	Pn	05 03 42.1	-1.4
	123nm,0.3s,baz=160,slow=13,SNR=455						
IDI				Lg	Lg	05 03 55.4	
	218nm,0.3s,baz=241,slow=18,SNR=19						
IDI				LR	LR	05 04 24.9	
	comp=Z,268nm,21.6s,baz=146,slow=64						
IDI	Anoyia	1.12	335	P	Pn	05 03 43.2	-0.2
IDI				S	Sn	05 03 56.4	-1.7
GVD	Gavdhos	1.27	297	Pg	Pb	05 03 46.0	-0.7
GVD	Gavdhos	1.27	297	P	Pb	05 03 46.0	-0.7
GVD				S	Sb	05 04 02.1	-0.6
	4μm,0.5s						
GVD	Gavdhos	1.27	297	P	Pb	05 03 45.8	-0.9
GVD				S	Sn	05 04 01.0	-0.8
PRNS	Prines Rethymn	1.35	324	P	Pn	05 03 47.1	+0.5
PRNS	Prines Rethymn	1.35	324	P	Pn	05 03 47.0	+0.5
PRNS				S	Sn	05 04 02.3	-1.3
CHAN	Chania	1.71	317	P	Pn	05 03 52.5	+1.0
KNDR	Palaiochora Ch	1.76	304	Pn	Pn	05 03 52.6	+0.5
KNDR	Palaiochora Ch	1.76	304	P	Pb	05 03 54.5	-0.4
KARP	Karpathos	1.88	47	Pn	Pn	05 03 56.8	+2.9
KARP	Karpathos	1.88	47	P	Pn	05 03 57.5	+3.6
KARP	Karpathos	1.88	47	P	Pn	05 03 56.7	+2.9
THR6	Thira Island,	2.08	358	P	Pn	05 03 57.8	+1.2
SNT5	Nea Kammeni, S	2.12	358	P	Pn	05 03 57.7	+0.5
THR8	Santorini-Mono	2.13	0	P	Pn	05 03 57.5	+0.2
THR3	Thira Island,	2.13	358	P	Pn	05 03 58.6	+1.3
THR3	Thira Island,	2.13	358	P	Pn	05 03 57.4	+0.1
SAP3	Santorini-Thir	2.16	357	P	Pn	05 03 58.0	+0.3
THR2	Thira island,	2.17	359	P	Pn	05 03 58.3	+0.5
SLUM	Salum	2.78	185	P	Pb	05 04 10.2	-2.2
APE	Apeiranthos	2.79	1	Pn	Pn	05 04 06.5	+0.1
APE				Sn	Sn	05 04 36.7	-2.5
APE	Apeiranthos	2.79	1	P	Pn	05 03 57.9	-8.5
APE	Apeiranthos	2.79	1	P	Pn	05 04 06.2	-0.2
APE				S	Sn	05 04 37.1	-2.2
ARG	Arkhangelos	2.91	48	Pn	Pn	05 04 11.1	+3.1
ARG	Arkhangelos	2.91	48	P	Pn	05 04 11.2	+3.2
ARG	Arkhangelos	2.91	48	P	Pn	05 04 10.7	+2.7
ARG				S	Sn	05 04 43.3	+1.2
DAT	Datca	2.99	34	Pn	Pn	05 04 11.3	+2.1
BODT	Bodrum	3.16	28	Pn	Pn	05 04 13.3	+1.9
TURN	Turunc	3.37	41	Pn	Pn	05 04 16.5	+2.2
TURN	Turunc	3.37	41	P	Pn	05 04 16.7	+2.4
TURN				S	Sn	05 04 52.3	-1.1
MLSB	Milas	3.55	31	Pn	Pn	05 04 18.7	+1.9
SMG	Samos	3.60	17	P	Pn	05 04 18.0	+0.4
DALY	Dalyan (Mula)	3.63	45	Pn	Pn	05 04 20.7	+2.8
YER	Yerkesik	3.66	38	Pn	Pn	05 04 20.9	+2.6
IZZE	Mula-Seydike	3.75	54	P	Pn	05 04 21.8	+2.2
IZZE				S	Sn	05 05 00.9	-1.9
MET5	Makryloggos,Me	3.75	333	P	Pn	05 04 20.2	+0.6
MULA	Mugla, Merkez-	3.77	37	P	Pn	05 04 22.6	+2.7
FETY	Fethiye	3.77	50	Pn	Pn	05 04 22.3	+2.4
FETY	Fethiye	3.77	50	P	Pn	05 04 22.2	+2.4
SABU	Mula-Dalaman	3.82	47	P	Pn	05 04 22.8	+2.2
KSL	Kastellorizon	3.85	60	P	Pn	05 04 23.7	+2.7
KSL				S	Sn	05 05 07.0	+1.6
AKAS	Kas	3.91	59	Pn	Pn	05 04 24.3	+2.5
AKAS	Kas	3.91	59	P	Pn	05 04 23.9	+2.1
AKAS				S	Sn	05 05 04.8	-2.1
ATHU	Athens Univers	3.93	340	P	Pn	05 04 21.7	-0.4
DION	Dionisos Attik	4.00	342	P	Pn	05 04 22.4	-0.6
ITM	Ithomi	4.09	316	Pn	Pn	05 04 23.7	-0.6
ITM	Ithomi	4.09	316	P	Pn	05 04 23.6	-0.6
CAME	Cameli-Denizli	4.10	48	Pn	Pn	05 04 27.2	+2.7
DB3	El Dabaa	4.14	140	P	Pn	05 04 28.6	+3.7
AYDB	Zeytinkoy-Aydi	4.15	27	Pn	Pn	05 04 26.6	+1.4
DNZT	Denizli-Tavas-	4.16	43	P	Pn	05 04 27.4	+2.1
DNZT				S	Sn	05 05 12.3	-0.9
KNIK	Mula-Seydike	4.21	51	P	Pn	05 04 28.6	+2.5
KNIK				S	Sn	05 05 13.6	-0.9
CAEL	Denizli, Camel	4.23	47	P	Pn	05 04 29.1	+2.8
TAVA	DENIZLI_Tavas	4.24	40	P	Pn	05 04 29.2	+2.8
TAVA				S	Sn	05 05 14.9	-0.1
NAZL	Nazilli-Aydin	4.33	31	Pn	Pn	05 04 29.1	+1.5
ELL	Elmali	4.38	54	Pn	Pn	05 04 31.3	+3.0
DNIZ	Denizli-Tavas-	4.42	40	P	Pn	05 04 31.0	+2.1
GOLH	Golhisar	4.45	47	P	Pn	05 04 31.8	+2.6
GOLH				S	Sn	05 05 20.1	-0.2
APMY	Acipayam-Deniz	4.45	43	Pn	Pn	05 04 31.6	+2.3
AKUM	Antalya-Kumluc	4.48	61	P	Pn	05 04 32.1	+2.5
AKUM				S	Sn	05 05 19.2	-1.6
KYMI	Kymi, Euboea I	4.49	346	P	Pn	05 04 29.3	-0.4
ODEM	Odemis-Izmir	4.51	27	Pn	Pn	05 04 31.3	+1.2
KLV	Kalavryta, Ach	4.62	325	P	Pn	05 04 31.6	0.0
DRO	Drossia	4.77	321	P	Pn	05 04 34.2	+0.6
KORT	Korkueli	4.81	54	Pn	Pn	05 04 37.2	+2.9
KORT	Korkueli	4.81	54	P	Pn	05 04 38.4	+4.1
KORT				S	Sn	05 05 31.1	+1.8
KULA	Kula-Manisa	4.95	30	Pn	Pn	05 04 37.5	+1.4
SWA2		5.02	180	P	Pn	05 04 40.7	+3.7
CSS	Mathiatis	6.51	82	P	Pn	05 04 55.2	-2.4
CSS	Mathiatis	6.51	82	S	Sn	05 06 08.2	-2.8
RYAN	Fayoum	6.60	140	P	Pn	05 05 02.2	+3.5
HFRF	Wahat Farafira	7.51	160	P	Pn	05 05 14.5	+3.3
NBNS	Bani Suef	7.51	137	P	Pn	05 05 14.9	+3.6
TAMRE	El Minia	8.06	143	P	Pn	05 05 22.4	+3.6
KZIT	Kziot	8.24	112	P	Pn	05 05 21.3	0.0
SLTI	Sal'it	8.27	102	P	Pn	05 05 20.8	-0.8
SLTI	Sal'it	8.27	102	S	Sn	05 06 53.8	-0.3
MMA0B	Mount Meron ar	8.37	96	P	Pn	05 05 21.9	-1.3
MMA0B	Mount Meron ar	8.37	96	S	Sn	05 06 56.7	-0.2
MMAI	Mount Meron Ar	8.37	96	Pn	Pn	05 05 23.9	+0.7
	3.8nm,0.3s,baz=266,slow=11,SNR=11						
MMAI				Sn	Sn	05 06 55.7	-1.2
	16nm,0.3s,baz=265,slow=28,SNR=13						
	1.5nm,0.3s						
AMAZ	Amatzia	8.40	106	P	Pn	05 05 23.1	-0.3
AMAZ	Amatzia	8.40	106	S	Sn	05 06 58.0	+0.6
SALP	Salfit	8.44	102	P	Pn	05 05 23.3	-0.7
SALP	Salfit	8.44	102	S	Sn	05 06 58.4	-0.1
BRTR	Keskin Array B	8.50	48	Pn	Pn	05 05 26.2	+1.3
	0.2nm,0.3s,baz=227,slow=15,SNR=5.1						
BRTR				Sn	Sn	05 06 58.6	-1.4
	0.2nm,0.3s,baz=146,slow=20,SNR=4.2						
	0.7nm,0.5s						
MMLI	Mount Malkishu	8.52	100	P	Pn	05 05 23.9	-1.3
MMLI	Mount Malkishu	8.52	100	S	Sn	05 06 60.0	-0.5
GEM	Giv'at Ha'Em	8.55	94	P	Pn	05 05 24.4	-1.2
GEM	Giv'at Ha'Em	8.55	94	S	Sn	05 06 59.6	-1.6
NATI	Neve Ativ	8.61	94	P	Pn	05 05 24.4	-1.8
YTIR	Yattir	8.62	107	P	Pn	05 05 25.9	-0.7
YTIR	Yattir	8.62	107	S	Sn	05 07 03.7	+0.7
ASUT		8.62	141	P	Pn	05 05 30.3	+3.8
HMDT	Nahal Hemdat	8.66	101	P	Pn	05 05 25.9	-1.1
HMDT	Nahal Hemdat	8.66	101	S	Sn	05 07 03.4	-0.3
UJAP	Al Uja	8.70	103	P	Pn	05 05 27.3	-0.1
UJAP	Al Uja	8.70	103	S	Sn	05 07 04.9	+0.2
DSI	Dead Sea	8.75	105	P	Pn	05 05 28.1	-0.2
DSI	Dead Sea	8.75	105	S	Sn	05 07 06.3	+0.2
MSBI	Mazada	8.83	107	P	Pn	05 05 28.2	-1.1
MSBI	Mazada	8.83	107	S	Sn	05 07 08.7	+0.7
PRNI	Paran	8.96	113	P	Pn	05 05 31.5	+0.3
PRNI	Paran	8.96	113	S	Sn	05 07 13.3	+2.0
GHAJ	Ghor Haditha	9.00	106	P	Pn	05 05 30.3	-1.4
GHAJ	Ghor Haditha	9.00	106	S	Sn	05 07 13.6	+1.4
ZFRI	Zfri	9.00	112	P	Pn	05 05 31.3	-0.4
HRFI	Mount Harif	9.14	115	P	Pn	05 05 33.5	-0.2
HRFI	Mount Harif	9.14	115	S	Sn	05 07 17.9	+2.2
MBRI	Mt Berech	9.17	117	P	Pn	05 05 34.6	+0.4
EIL	Elat	9.27	117	Pn	Pn	05 05 37.8	+2.4
	1.9nm,0.3s,baz=294,slow=1.9,SNR=61						
EIL				Sn	Sn	05 07 15.3	-3.4
	3.3nm,0.3s,baz=114,slow=6.6,SNR=5.5						
	5.9nm,0.2s						
EIL	Elat	9.27	117	P	Pn	05 05 36.0	+0.7
EIL	Elat	9.27	117	S	Sn	05 07 20.8	+2.1
HDK1	Dakhla	9.34	158	P	Pn	05 05 39.9	+3.4
AKRG	Al Kharijah	9.77	152	P	Pn	05 05 45.6	+3.4
GTR	Jabal at Tayr	9.79	152	P	Pn	05 05 45.6	+3.2
ASF	Jabal al Asfar	9.80	99	Pn	Pn	05 05 43.8	+1.1
	0.4nm,0.3s,baz=309,slow=13,SNR=2.2						
ASF				Sn	Sn	05 07 30.5	-1.4
	1.6nm,0.3s,baz=73,slow=19,SNR=6.2						
	0.8nm,0.4s						
KBZ	Khabaz	16.48	50	Pn	Pn	05 07 14.9	+2.2
	0.2nm,0.3s,baz=241,slow=8.6,SNR=21						
	7.8nm,0.8s						
AKASG	Malin Array Be	16.64	8	Pn	Pn	05 07 14.4	-0.3
	4.7nm,0.3s,baz=201,slow=11,SNR=43						
	0.8nm,0.3s						
GERES	GERESS Array B	16.98	333	Pn	Pn	05 07 19.9	+0.7
	0.3nm,0.3s,baz=138,slow=12,SNR=4.3						
	0.9nm,0.5s						
ESDC	Sonseca Array	24.07	292	P	P	05 08 36.3	-0.4
	1.0nm,0.8s,baz=76,slow=9.2,SNR=7.5						
	1.0nm,0.8s						
FINES	FINESS Array B	27.19	1	P	P	05 09 01.9	-2.6
	0.5nm,0.4s,baz=177,slow=9

ISC 12 05:26:41.3±1.6, 14°54N±0°08×92°56W±0°04, h80km±14km, n20, σ2°11/36, Near coast of Chipas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.56**	**56**	*eP*	**Pn**	**05 26 55.5**	**-0.1**
SMCA				*eS*	**Sn**	**05 27 04.7**	**-1.5**
SMCA	**Catarina**	**0.56**	**56**	*eP*		05 26 55.5	
SMCA				*eS*		05 27 04.7	
RTAL	**Retalhuleu**	**0.83**	**91**	*eP*	**Pn**	**05 26 59.1**	**+0.7**
RTAL				*eS*	**Sn**	**05 27 11.4**	**+0.3**
SOKI	**Kika Raxquin**	**1.15**	**76**	*eP*	**Pn**	**05 27 03.9**	**+1.3**
SOKI	**Kika Raxquin**	**1.15**	**76**	*eP*		05 27 03.9	
STG8	**El Palmar, Qui**	**1.17**	**94**	*eP*		05 27 00.1	
STG8				*i* S		05 27 13.0	
HUEH	**Huehuetenango**	**1.28**	**53**	*eP*	**Pn**	**05 27 04.8**	**+0.8**
HUEH				*eS*	**Sn**	**05 27 21.9**	**+0.8**
HUEH	**Huehuetenango**	**1.28**	**53**	*eP*	**Pn**	**05 27 04.8**	**+0.8**
HUEH				*i* S	**Sn**	**05 27 22.3**	**+1.2**
HUEH	**Huehuetenango**	**1.28**	**53**	*eP*		05 27 04.8	
HUEH				*i* S		05 27 22.3	
PCIG		**1.32**	**331**	*eP*	**Pn**	**05 27 05.1**	**+0.8**
PCIG				*eS*	**Sn**	**05 27 21.2**	**-0.5**
CCIG	**Comitan**	**1.78**	**13**	*eP*	**Pn**	**05 27 11.6**	**+1.1**
CCIG				*eS*	**Sn**	**05 27 28.6**	**-3.9**
CCIG	**Comitan**	**1.78**	**13**	*eP*	**Pn**	**05 27 11.6**	**+1.1**
CCIG	**Comitan**	**1.78**	**13**	*eP*		05 27 11.6	
FG8	**Yepocapa, Chim**	**1.95**	**98**	*eP*		05 27 09.0	
FG8				*eS*		05 27 27.9	
APG	**El Apazote**	**2.08**	**77**	*i* P	**Pn**	**05 27 15.4**	**+1.0**
APG	**El Apazote**	**2.08**	**77**	*i* P		05 27 15.4	
CARR	**Arriaga**	**2.14**	**323**	*eP*	**Pn**	**05 27 17.2**	**+2.1**
CARR				*eS*	**Sn**	**05 27 42.4**	**+1.5**
TGIG		**2.29**	**346**	*eP*	**Pn**	**05 27 18.4**	**+1.2**
TGIG				*eS*	**Sn**	**05 27 42.2**	**-2.4**
NILT	**Santiago Nilte**	**2.83**	**316**	*eP*	**Pn**	**05 27 25.6**	**+1.2**
NILT				*eS*	**Sn**	**05 27 57.8**	**+0.3**
CMIG	**Matias Romero**	**3.38**	**319**	*eP*	**Pn**	**05 27 33.4**	**+1.5**
CMIG				*eS*	**Sn**	**05 28 10.0**	**-1.0**
PETF	**Flores**	**3.51**	**47**	*eP*	**Pn**	**05 27 33.5**	**-0.1**
PETF				*eS*	**Sn**	**05 28 11.2**	**-2.8**
HUIG	**Huatulco**	**3.64**	**290**	*eP*	**Pn**	**05 27 36.5**	**+1.1**
HUIG				*eS*	**Sn**	**05 28 13.5**	**-3.7**
NEUV	**Arroyo Zacate**	**4.44**	**316**	*eP*	**Pn**	**05 27 48.7**	**+2.5**
NEUV				*eS*	**Sn**	**05 28 35.3**	**-1.3**
PEIG	**Puerto Escondi**	**4.66**	**289**	*eP*	**Pn**	**05 27 50.6**	**+1.3**
PEIG				*eS*	**Sn**	**05 28 36.6**	**-5.6**
YOIG	**Yosondua**	**5.33**	**296**	*eP*	**Pn**	**05 28 02.2**	**+3.6**
YOIG				*eS*	**Sn**	**05 28 56.6**	**-2.3**
TOIG	**Toxpalan**	**5.59**	**310**	*eP*	**Pn**	**05 28 04.5**	**+2.5**
TOIG				*eS*	**Sn**	**05 29 04.6**	**-0.3**
TXIG	**Tlaxiaco**	**5.69**	**299**	*eS*	**Sn**	**05 29 04.9**	**-2.9**

*IDC **12** 05:30:18.6±1.4, 31°60S×178°05W, h0km, mb3.9/3, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=39.6km s-min=36.8km az=91.0*

ISC 12 05:30:26.3±1.4, 31°9S±0°1×178°4W±0°3, h50km, n8, σ1°71/9, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.39**	**209**	Pn	**Pn**	**05 32 11.3**	**-0.2**
URZ	0.6nm,0.3s,baz=48,slow=18,SNR=2.0			Sn	**Sn**	**05 33 33.0**	**-1.1**
	1.6nm,0.3s,baz=284,slow=10,SNR=9.1 1.8nm,0.3s						
ASAR	**Alice Springs**	**42.74**	**269**	P	**P**	**05 38 20.1**	**+1.2**
	0.4nm,0.4s,baz=108,slow=7.7,SNR=9.2 0.4nm,0.4s						
WRA	**Warramunga Arr**	**43.87**	**274**	P	**P**	**05 38 28.7**	**+0.8**
	0.7nm,0.3s,baz=112,slow=8.0,SNR=18 0.7nm,0.3s						
QSPA	**South Pole Qui**	**58.26**	**180**	P	**P**	**05 40 16.9**	**+1.4**
	3.1nm,1.2s,baz=20,slow=2.0,SNR=2.2 3.1nm,1.2s						
MKAR	**Makanchi Array**	**118.46**	**310**	PKP	**PKiKP**	**05 49 09.7**	**+1.6**
	0.2nm,0.7s,baz=130,slow=2.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**118.90**	**318**	PKP	**PKPdf**	**05 49 06.9**	**-1.7**
	0.3nm,0.3s,baz=132,slow=2.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**121.86**	**313**	PKP	**PKPdf**	**05 49 12.6**	**-1.7**
	0.4nm,0.3s,baz=134,slow=2.7,SNR=4.1						
FINES	**FINESS Array B**	**146.39**	**339**	PKPbc	**PKPab**	**05 49 59.9**	**-1.9**
	0.9nm,0.3s,baz=53,slow=4.1,SNR=7.5						

*IDC **12** 05:35:29.3±1.0, 1°52N×128°43E, h0km, mb3.9/7, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=65.7km s-min=17.0km az=74.0*
*NEIC **12** 05:35:32.0±0.5, 1°4N±0°1×128°19E±0°07, h10km±1km, mb4.2/9, Error ellipse: s-maj=17.9km s-min=12.2km az=9.0*

ISC 12 05:35:31.0±0.8, 1°45N±0°09×128°21E±0°10, h10km, n24, σ2°74/25, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.08**	**231**	Pn	**Pn**	**05 35 52.7**	**+0.5**
FAKI	**Fak Fak**	**5.93**	**137**	Pn	**Pn**	**05 36 59.6**	**+0.5**
FAKI				Sn	**Sn**	**05 38 07.2**	**+0.1**
LUWI	**Luwuk**	**5.97**	**246**	Pn	**Pn**	**05 37 00.3**	**+0.8**
MTN	**Manton Dam**	**14.50**	**169**	Pn	**Pn**	**05 38 55.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.59**	**187**	P	**P**	**05 39 59.5**	**0.0**
FITZ	**Fitzroy Crossi**	**19.59**	**187**	P	**P**	**05 40 00.0**	**+0.5**
	0.1nm,0.3s,baz=42,slow=5.1,SNR=5.4 1.8nm,0.7s						
COEN	**Coen**	**21.32**	**136**	P	**P**	**05 40 20.0**	**+1.7**
COEN				IAmb	IAmb	05 40 20.6	
	comp=Z,7.7nm,1.2s						
WB0	**Warramunga Arr**	**21.95**	**164**	P	**P**	**05 40 24.9**	**-0.1**
WB0				IAmb	IAmb	05 40 30.7	
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**22.09**	**164**	P	**P**	**05 40 26.4**	**-0.2**
WRA	**Warramunga Arr**	**22.10**	**165**	P	**P**	**05 40 24.8**	**-1.9**
WRA	**Warramunga Arr**	**22.10**	**165**	P	**P**	**05 40 26.6**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=345,slow=12,SNR=12 comp=Z,1.7nm,0.6s						
WR8	**Warramunga Arr**	**22.16**	**164**	P	**P**	**05 40 27.4**	**+0.1**
WR8				IAmb	IAmb	05 40 33.7	
	comp=Z,5.5nm,1.1s						
ASAR	**Alice Springs**	**25.58**	**168**	P	**P**	**05 41 00.2**	**-0.3**
ASAR	**Alice Springs**	**25.58**	**168**	P	**P**	**05 41 00.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=346,slow=11,SNR=14 comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**49.91**	**341**	P	**P**	**05 44 26.5**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=156,slow=9.0,SNR=6.3 comp=Z,0.9nm,0.6s						
MK31	**Makanchi Array**	**60.25**	**325**	P	**P**	**05 45 39.9**	**+0.3**
MK31				IAmb	IAmb	05 45 40.9	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**60.25**	**325**	P	**P**	**05 45 40.2**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=120,slow=8.4,SNR=40 comp=Z,2.2nm,0.5s						
MAKZ	**Makanchi**	**60.44**	**325**	P	**P**	**05 45 41.3**	**+0.3**
MAKZ				IAmb	IAmb	05 45 41.7	
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**63.27**	**333**	P	**P**	**05 45 59.3**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=133,slow=8.1,SNR=2.5 comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.44**	**327**	P	**P**	**05 46 07.5**	**0.0**
	comp=Z,3.8nm,0.5s,baz=126,slow=6.1,SNR=47 comp=Z,3.8nm,0.5s						
KURK	**Kurchatov**	**64.44**	**328**	P	**P**	**05 46 07.6**	**0.0**
E19K	**Redstone River**	**82.77**	**22**	P	**P**	**05 47 56.0**	**+1.0**
ILAR	**Eielson Array**	**86.51**	**25**	P	**P**	**05 48 12.8**	**-1.3**
	comp=Z,0.2nm,0.9s,baz=237,slow=5.1,SNR=5.5 comp=Z,0.2nm,0.9s						
BRG	**Berggiesshubel**	**103.93**	**323**	*eP*	**Pdif**	**05 49 21.8**	**-12**
BRG				Amp		05 49 23.1	
	comp=Z,8.7nm,1.4s						

RSNC 12 05:36:10.8±1.0, 2°S±7°×7°8W±°, h133km±7km, M2.7, mb3.8, ML2.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**0.71**	**348**	P	Pn	05 36 32.5	+0.4
PIAT				S	Sn	05 36 49.5	+1.3
PIAT	**Ana Tenorio**	**0.71**	**348**	P	Pn	05 36 32.5	+0.4
PIAT				S	Sn	05 36 49.5	+1.3
COHC	**Cochancay**	**1.37**	**236**	P	Pn	05 36 36.0	-1.7
COHC				S	Sn	05 36 56.4	-1.8
COHC	**Cochancay**	**1.37**	**236**	P	Pn	05 36 36.0	-1.7
COHC				S	Sn	05 36 56.4	-1.8
OTAV	**Otavalo**	**1.96**	**350**	P	Pn	05 36 44.8	-0.1
OTAV	**Otavalo**	**1.96**	**350**	P	Pn	05 36 44.8	-0.1
CUSE	**Cuicocha Este**	**2.01**	**352**	P	Pn	05 36 46.2	+0.6
CUSE	**Cuicocha Este**	**2.01**	**352**	P	Pn	05 36 46.2	+0.6
PAC1	**Pacto, Paraso**	**2.07**	**341**	P	Pn	05 36 45.7	-0.3
PAC1				S	Sn	05 37 12.7	-0.2
PAC1	**Pacto, Paraso**	**2.07**	**341**	P	Pn	05 36 45.7	-0.3
PAC1				S	Sn	05 37 12.7	-0.2
GCUF	**Volcan Galeras**	**3.00**	**15**	P	Pn	05 36 58.9	+0.8
GCUF	**Volcan Galeras**	**3.00**	**15**	P	Pn	05 36 58.9	+0.8
BBAC	**Balboa, Cauca**	**3.80**	**13**	P	Pn	05 37 08.1	-0.1
BBAC				S	Sn	05 37 46.9	-5.7
BBAC	**Balboa, Cauca**	**3.80**	**13**	P	Pn	05 37 08.1	-0.1
BBAC				S	Sn	05 37 46.9	-5.7
PTLC	**Puerto Leguiza**	**3.80**	**61**	P	Pn	05 37 07.1	-0.9
PTLC	**Puerto Leguiza**	**3.80**	**61**	P	Pn	05 37 07.1	-0.9
FLOC	**Florencia**	**4.08**	**37**	P	Pn	05 37 11.7	-0.1
FLOC				S	Sn	05 37 59.7	+0.6
FLOC	**Florencia**	**4.08**	**37**	P	Pn	05 37 11.7	-0.1
FLOC				S	Sn	05 37 59.7	+0.6
POPC	**Popayan, Colom**	**4.45**	**19**	P	Pn	05 37 16.1	-0.8
POPC				S	Sn	05 38 08.4	+0.2
POPC	**Popayan, Colom**	**4.45**	**19**	P	Pn	05 37 16.1	-0.8
POPC				S	Sn	05 38 08.4	+0.2
GR1C	**Gorgona, Isla**	**4.67**	**359**	P	Pn	05 37 18.5	-1.1
GR1C				S	Sn	05 38 10.1	-3.0
GR1C	**Gorgona, Isla**	**4.67**	**359**	P	Pn	05 37 18.5	-1.1
GR1C				S	Sn	05 38 10.1	-3.0
MACC	**Macarena, Meta**	**5.72**	**48**	P	Pn	05 37 34.4	+0.7
MACC	**Macarena, Meta**	**5.72**	**48**	P	Pn	05 37 34.4	+0.7
MALC	**Bahia Malaga**	**5.73**	**8**	P	Pn	05 37 33.3	-0.4
MALC				S	Sn	05 38 36.0	-2.5
MALC	**Bahia Malaga**	**5.73**	**8**	P	Pn	05 37 33.3	-0.4
MALC				S	Sn	05 38 36.0	-2.5

*IDC **12** 05:47:26.9±1.9, 29°79S×177°57W, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=48.3km s-min=39.4km az=65.0*

ISC 12 05:47:33.0±1.6, 30°0S±0°1×177°8W±0°3, h35km, n6, σ1°12/7, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.28**	**206**	Pn	**Pn**	**05 49 43.8**	**-0.4**
URZ	0.4nm,0.3s,baz=353,slow=8.1,SNR=3.2			Sn	**Sn**	**05 51 26.7**	**-0.6**
	0.7nm,0.3s,baz=337,slow=16,SNR=4.2 4.1nm,0.9s						
ASAR	**Alice Springs**	**43.30**	**266**	P	**P**	**05 55 32.5**	**+0.8**
	0.5nm,0.7s,baz=106,slow=6.8,SNR=4.5 0.5nm,0.7s						
WRA	**Warramunga Arr**	**44.26**	**272**	P	**P**	**05 55 39.9**	**+0.5**
	1.0nm,0.7s,baz=110,slow=8.0,SNR=6.4 1.0nm,0.7s						
QSPA	**South Pole Qui**	**60.13**	**180**	P	**P**	**05 57 37.9**	**+1.1**
	1.3nm,1.0s,baz=17,slow=6.8,SNR=2.6 1.3nm,1.0s						
FINES	**FINESS Array B**	**144.81**	**340**	PKP	**PKPab**	**06 07 03.1**	**-1.3**
	1.4nm,0.7s,baz=17,slow=2.0,SNR=3.5						
AKASG	**Malin Array Be**	**151.06**	**323**	PKPbc	**PKPbc**	**06 07 21.2**	**-0.7**
	0.6nm,0.5s,baz=64,slow=2.2,SNR=4.6						

*IDC **12** 06:14:53.6±1.1, 13°96N×120°58E, h90km±12km, mb3.4/9, mbtmp3.8/9, Error ellipse: s-maj=41.7km s-min=17.2km az=64.0*

ISC 12 06:14:54.3±0.9, 14°0N±0°2×120°7E±0°2, h100km, n10, σ0°69/12, mb3.8/9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.24**	**67**	P	**Pn**	**06 15 07.8**	**-1.0**
TGY	1μm,0.3s,baz=182,slow=1.0,SNR=19			S	**Sn**	**06 15 20.0**	**+0.5**
	3μm,0.3s,baz=104,slow=21,SNR=19						
CMAR	**Chiang Mai Arr**	**21.35**	**285**	P	**P**	**06 19 33.4**	**-0.4**
	1.9nm,0.3s,baz=101,slow=7.6,SNR=6.0 1.9nm,0.3s						
SONM	**Songino Array**	**35.77**	**343**	P	**P**	**06 21 44.5**	**+0.7**
	1.9nm,0.6s,baz=164,slow=10,SNR=17 1.9nm,0.6s						
WRA	**Warramunga Arr**	**36.30**	**158**	P	**P**	**06 21 47.8**	**-0.7**
	0.3nm,0.7s,baz=336,slow=8.8,SNR=1.6 0.3nm,0.7s						
ASAR	**Alice Springs**	**39.60**	**161**	P	**P**	**06 22 17.5**	**+1.3**
	0.3nm,0.6s,baz=343,slow=8.7,SNR=4.3 0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.79**	**323**	P	**P**	**06 23 06.0**	**0.0**
	0.4nm,0.5s,baz=132,slow=8.4,SNR=6.9						
MKAR				PcP	**PcP**	**06 24 42.2**	**+0.2**
	0.2nm,0.6s,baz=112,slow=4.4,SNR=2.1 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**48.79**	**333**	P	**P**	**06 23 28.6**	**-0.5**
	0.3nm,0.3s,baz=125,slow=5.3,SNR=2.1 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**49.94**	**326**	P	**P**	**06 23 37.9**	**0.0**
	0.4nm,0.4s,baz=131,slow=8.3,SNR=8.7 0.4nm,0.4s						
BVAR	**Borovoye Array**	**55.53**	**326**	P	**P**	**06 24 18.8**	**-0.2**
	0.9nm,0.4s,baz=109,slow=10,SNR=5.8 0.9nm,0.4s						
ARCES	**ARCESS Array B**	**78.80**	**339**	P	**P**	**06 26 45.9**	**+0.1**
	2.1nm,0.8s,baz=78,slow=5.8,SNR=1.5 2.1nm,0.8s						

*TIR **12** 06:41:41.4, 40°45N×19°88E, h2km±1km, Md2.9/3, Ml3.0/10*
*BEO **12** 06:41:41.5±0.8, 40°32N×19°58E, h0km, ML2.9/3*
*THE **12** 06:41:42.7, 40°46N×19°81E, h0km±1km, ML2.7/5, Error ellipse: s-maj=1.8km s-min=0.5km az=302.0*

ISC 12 06:41:42.5±1.1, 40°45N±0°02×19°83E±0°03, h4km±10km, n38, σ1°25/57, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.26**	**275**	*i* Pg	**Pg**	**06 41 47.2**	**-0.3**
VLO				Sg	**Sg**	**06 41 51.5**	**+0.6**
VLO				AML	AML	06 41 56.0	
	28nm,0.2s						
VLO				AMd		06 42 46.1	
SRN	**Sarande**	**0.58**	**167**	⇑ *e*Pg	**Pg**	**06 41 53.2**	**-0.5**
SRN				Sg	**Sb**	**06 42 03.3**	**-0.5**
SRN				AML	AML	06 42 03.4	
	1.0nm,0.5s						
SRN				AMd		06 42 56.3	
SRN	**Sarande**	**0.58**	**167**	P	**Pg**	**06 41 53.6**	**0.0**
SRN				S	**Sb**	**06 42 02.9**	**-0.9**
LSK	**Leskovik**	**0.66**	**117**	P	**Pb**	**06 41 55.7**	**-0.8**
KEK	**Kerkira**	**0.73**	**182**	P	**Pb**	**06 41 57.0**	**-0.8**
KBN	**Korca**	**0.75**	**76**	P	**Pg**	**06 41 57.0**	**+0.2**
KBN				S	**Sb**	**06 42 09.1**	**+0.5**
	528nm,0.6s						
TIR	**Tirane**	**0.90**	**1**	P	**Pn**	**06 42 00.9**	**-1.0**
TIR				S	**Sb**	**06 42 13.1**	**+0.1**
TIR				AML	AML	06 42 21.8	
	1.1nm,0.5s						
TIR	**Tirane**	**0.90**	**1**	P	**Pb**	**06 41 59.7**	**-0.9**
TIR	**Tirane**	**0.90**	**1**	*e*Pg	**Pn**	**06 42 00.9**	**-1.0**
TIR				*e*Sg	**Sn**	**06 42 16.3**	**+1.0**
OHR	**Ohrid**	**0.99**	**48**	*i* Pn	**Pb**	**06 42 01.8**	**-0.4**
OHR	**Ohrid**	**0.99**	**48**	*e*Pg	**Pb**	**06 42 01.5**	**-0.7**
OHR				*e*Sg	**Sn**	**06 42 20.3**	**+2.7**
IGT	**Igoumenitsa**	**0.99**	**157**	P	**Pb**	**06 42 01.6**	**-0.6**
IGT				S	**Sb**	**06 42 16.1**	**+0.5**
IGT				AML	AML	06 42 24.1	
	1.2nm,0.3s						
IGT	**Igoumenitsa**	**0.99**	**157**	P	**Pb**	**06 42 01.4**	**-0.8**
IGT				S	**Sn**	**06 42 16.7**	**-0.9**
	430nm,0.5s						
JAN	**Janina**	**1.11**	**135**	P	**Pn**	**06 42 04.3**	**-0.5**
JAN				S	**Sn**	**06 42 20.7**	**+0.1**
	718nm,0.5s						
SCTE	**Santa Cesarea**	**1.11**	**251**	P	**Pn**	**06 42 04.2**	**-0.6**
SCTE				S	**Sn**	**06 42 21.8**	**+1.3**
SCTE				AML	AML	06 42 22.4	
	3.1nm,0.3s						
FNA	**Florina**	**1.22**	**74**	P	**Pg**	**06 42 05.3**	**-0.5**
FNA				S	**Sn**	**06 42 23.3**	**0.0**
FNA				AML	AML	06 42 34.4	
	0.6nm,0.4s						
FNA	**Florina**	**1.22**	**74**	P	**Pb**	**06 42 05.7**	**-0.4**
FNA				S	**Sn**	**06 42 23.8**	**+0.5**
	330nm,0.6s						
KPRO	**Kipourio**	**1.27**	**112**	P	**Pn**	**06 42 07.0**	**0.0**
PUK	**Puka**	**1.59**	**2**	P	**Pg**	**06 42 12.9**	**-0.1**
PUK				S	**Sg**	**06 42 35.4**	**+1.8**
PUK				AML	AML	06 42 41.8	
	0.7nm,0.4s						
TSLK	**Tsoukalades, L**	**1.74**	**158**	P	**Pn**	**06 42 13.8**	**+0.4**
TSLK				S	**Sg**	**06 42 37.9**	**-0.5**
LKD2	**Lefkada island**	**1.77**	**159**	P	**Pb**	**06 42 15.4**	**-0.2**
LKD2				S	**Sg**	**06 42 41.6**	**+2.1**
LKD2				AML	AML	06 42 42.6	
	1.1nm,0.6s						
LKD2	**Lefkada island**	**1.77**	**159**	P	**Pn**	**06 42 14.2**	**+0.3**
DRME	**Dracevica, Mon**	**1.80**	**344**	P	**Pb**	**06 42 14.9**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.86**	**159**	P	**Pn**	**06 42 15.1**	**+0.1**
NYDR				S	**Sb**	**06 42 40.8**	**+0.3**
	138nm,0.6s						
BCI	**Bajram Curri**	**1.93**	**5**	P	**Pg**	**06 42 18.2**	**-1.2**
BCI				S	**Sg**	**06 42 45.8**	**+1.4**
BCI				AML	AML	06 42 58.7	
	0.9nm,0.7s						
EVGI	**Lefkada island**	**1.93**	**161**	P	**Pn**	**06 42 16.3**	**+0.2**
BUM	**Brajici-Budva**	**1.98**	**339**	P	**Pg**	**06 42 21.2**	**+0.8**
CEME	**Cevo**	**2.21**	**342**	P	**Pn**	**06 42 19.9**	**0.0**
VAY	**Valandovo**	**2.25**	**66**	*i* Pn	**Pg**	**06 42 25.2**	**-0.3**
NKME	**Niksic**	**2.41**	**344**	P	**Pg**	**06 42 30.5**	**+1.8**
KOME	**Kolasin**	**2.41**	**354**	P	**Pb**	**06 42 24.9**	**-1.5**
BEY	**Berane**	**2.42**	**1**	P	**Pb**	**06 42 25.9**	**-0.7**
BARS	**Barje**	**2.79**	**31**	*e*Pn	**Pb**	**06 42 30.6**	**-2.3**
SJES	**Sjenica**	**2.81**	**2**	*e*Pn	**Pb**	**06 42 31.4**	**-1.9**
SJES				*e*Sg	**Sg**	**06 43 14.9**	**+2.1**
PLE	**Pljevlja**	**2.90**	**354**	P	**Pb**	**06 42 31.6**	**-3.2**
SELS	**Selova**	**2.93**	**19**	*e*Pn	**Pb**	**06 42 32.7**	**-2.6**
GRUS	**Gruza**	**3.50**	**10**	*e*Pn	**Pn**	**06 42 38.4**	**+0.8**
ZAPS	**Zavoj**	**3.51**	**36**	*e*Pn	**Pb**	**06 42 41.7**	**-3.5**

*MDD **12** 06:45:12.3±0.8, 37°02N×5°31W, h0km±136km, mb_Lg1.7/4, Error ellipse: s-maj=5.8km s-min=4.5km az=16.0*
*SFS **12** 06:45:12.4, 37°01N×5°33W, h4km, ML2.4/4, MLv2.6/4*

ISC 12 06:45:11.6±1.2, 37°02N±0°03×5°32W±0°05, h4km±13km, n9, σ0°94/18, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.13**	**210**	Sg	**Sg**	**06 45 17.0**	**+1.0**
LIJA				Pg	**Pg**	**06 45 13.7**	**-0.5**
EJIF	**Jimena Fronter**	**0.58**	**192**	Pg	**Pg**	**06 45 22.5**	**-0.2**
EJIF				Sg	**Sg**	**06 45 29.9**	**-0.3**
EGOR	**Sierra Gorda,**	**0.97**	**84**	Pg	**Pg**	**06 45 30.5**	**+0.3**
EGOR				Sg	**Sg**	**06 45 43.9**	**+1.0**
EGOR				*i* Vmb_Lg		06 45 47.9	
EXCBR	**El Cabril**	**1.05**	**356**	Pg	**Pg**	**06 45 31.5**	**-0.3**
EXCBR				Sg	**Sg**	**06 45 44.7**	**-0.9**
ECAB	**El Cabril**	**1.06**	**356**	Pg	**Pg**	**06 45 32.2**	**+0.4**
ECAB				Sg	**Sg**	**06 45 46.4**	**+0.9**
ECAB	**El Cabril**	**1.06**	**356**	Pg	**Pg**	**06 45 32.0**	**+0.1**
ECAB				Sg	**Sg**	**06 45 47.3**	**+1.7**
ECAB				*i* Vmb_Lg		06 45 48.9	
EADA	**Adamuz**	**1.29**	**27**	Pn	**Pg**	**06 45 35.9**	**-0.4**
EADA				Sn	**Sg**	**06 45 53.6**	**+0.5**
EADA	**Adamuz**	**1.29**	**27**	Pg	**Pg**	**06 45 34.5**	**-1.8**
EADA				Sg	**Sg**	**06 45 52.7**	**-0.4**
EADA				*i* Vmb_Lg		06 45 55.5	
EMIN	**Mina Concepcio**	**1.31**	**305**	Pg	**Pn**	**06 45 36.1**	**-0.6**
EMIN				Sg	**Sn**	**06 45 55.5**	**+0.9**
EMIN				*i* Vmb_Lg		06 45 57.3	

*NNC **12** 07:12:48.3±1.7, 49°57N×81°63E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=24.3km s-min=6.5km az=53.0, Suspected Mining explosion.*
*IDC **12** 07:12:48.1±1.2, 49°70N×81°58E, h0km, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=18.4km s-min=8.0km az=56.0*

ISC 12 07:12:40.0±1.3, 49°96N±0°05×82°29E±0°07, h0km, n8, σ0°99/10, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.47**	**289**	⇑ Pn	**Pb**	**07 13 25.8**	**+0.6**
KURK	7.6nm,0.7s			⇑ Sn	**Sb**	**07 13 55.8**	**-0.3**
	11nm,0.7s						
KURBB	**Kurchatov Arra**	**2.50**	**287**	Pg	**Pg**	**07 13 27.1**	**-0.8**
KURBB	0.2nm,0.3s,baz=111,slow=18,SNR=38			Lg	Lg	07 13 56.5	
	0.3nm,0.3s,baz=112,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**2.50**	**287**	⇑ Pn	**Pb**	**07 13 26.8**	**+1.0**
	8.5nm,0.7s						
KURBB				⇓ Sn	**Sb**	**07 13 57.1**	**+0.1**
	20nm,0.6s						
MAKZ	**Makanchi**	**3.16**	**184**	⇓ Pg	**Pb**	**07 13 38.5**	**+1.4**
	0.8nm,0.6s						
MAKZ				⇓ Lg	Lg	07 14 17.8	
	2.8nm,0.7s						
MK31	**Makanchi Array**	**3.17**	**180**	⇑ Pg	**Pg**	**07 13 39.5**	**-1.2**
	0.6nm,0.5s,baz=353,slow=14,SNR=13						
MK31				⇑ Lg	Lg	07 14 18.7	
	6.3nm,0.8s,baz=348,slow=26,SNR=15						
MKAR	**Makanchi Array**	**3.17**	**180**	Pn	**Pb**	**07 13 37.8**	**+0.6**
	0.4nm,0.3s,baz=352,slow=15,SNR=16						
MKAR				Pg	**Pg

KURBB Lg Lg 07 15 25.1
0.2nm,0.3s,baz=199,slow=27,SNR=4.1
KURBB Kurchatov Arra 2.00 12 ⇓Pn **Pn 07 14 57.7 +0.8**
3.6nm,0.5s
KURBB ⇑Sn **Sb 07 15 25.1 +0.6**
6.6nm,0.5s
KURK Kurchatov 2.10 13 ⇑Pn **Pn 07 14 59.2 +0.9**
1.8nm,0.5s
KURK ⇑Sn **Sg 07 15 28.5 -0.8**
5.7nm,0.7s
MAKZ Makanchi 3.33 122 ⇓Pg **Pb 07 15 20.8 -0.9**
0.5nm,0.5s
MAKZ ⇓Lg Lg 07 16 08.2
1.7nm,0.7s
MK31 Makanchi Array 3.52 121 ⇓Pg **Pb 07 15 23.5 -1.5**
0.4nm,0.5s,baz=304,slow=11
MK31 ⇓Lg Lg 07 16 10.5
1.0nm,0.7s,baz=305,slow=26,SNR=6.2
MKAR Makanchi Array 3.52 121 Pn **Pn 07 15 19.1 +1.3**
0.3nm,0.5s,baz=306,slow=16,SNR=1.2
MKAR Lg Lg 07 16 10.9
0.4nm,0.3s,baz=304,slow=27,SNR=6.1
ZALV Zalesovo Beam 6.84 37 Pn **Pn 07 16 05.0 +1.7**
0.3nm,0.3s,baz=229,slow=11,SNR=1.1
0.5nm,0.5s
I46RU ZALESOVO INFRA 6.84 37 I I 07 58 00.0
baz=219,slow=314,SNR=1.6

*SNET **12** 07:14:48.5±0.9, 13°.71N×90°.11W, h82km±4km, ML2.9*
*GCG **12** 07:14:49.4±1.0, 13°.66N×90°.15W, h70km±12km, MD4.0*
*CATAC **12** 07:14:49.6±0.5, 14°N±4°×9°0W±°, h60km±4km, M3.0/17,*
MLv3.0/17, Error ellipse: s-maj=9.1km s-min=5.2km
az=32.9, confirmed
ISC 12 07:14:50.0±1.8, **13°.66N**±0°.08×**90°.09W**±0°.07, **h75**km±9km,
n94, σ0°67/101, **2C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.38**	**51**	*eP*	**Pn**	**07 15 01.8**	**-0.7**
NUBE				*eS*	**Sn**	**07 15 11.7**	**-0.1**
NUBE	**Las Nubes**	**0.38**	**51**	P	**Pn**	**07 15 01.9**	**-0.7**
NUBE	**Las Nubes**	**0.38**	**51**	P	**Pn**	**07 15 01.9**	**-0.7**
NUBE	**Las Nubes**	**0.38**	**51**	S	**Sn**	**07 15 12.5**	**+0.7**
NUBE	**Las Nubes**	**0.38**	**51**	*i* P	**Pn**	**07 15 01.9**	**-0.7**
NUBE	**Las Nubes**	**0.38**	**51**	*i* P		07 15 01.9	
LOAL	**Lomas de Alarc**	**0.45**	**42**	*eP*	**Pn**	**07 15 02.4**	**-0.5**
LOAL				*eS*	**Sn**	**07 15 12.7**	**+0.2**
LOAL	**Lomas de Alarc**	**0.45**	**42**	P	**Pn**	**07 15 02.5**	**-0.5**
LOAL	**Lomas de Alarc**	**0.45**	**42**	P	**Pn**	**07 15 02.5**	**-0.5**
LOAL	**Lomas de Alarc**	**0.45**	**42**	S	**Sn**	**07 15 13.4**	**+0.9**
SLOZ	**Alcaldia de Sa**	**0.46**	**39**	*eP*	**Pn**	**07 15 02.4**	**-0.7**
SLOZ				*eS*	**Sn**	**07 15 13.3**	**+0.6**
SLOZ	**Alcaldia de Sa**	**0.46**	**39**	P	**Pn**	**07 15 02.6**	**-0.5**
SLOZ	**Alcaldia de Sa**	**0.46**	**39**	P	**Pn**	**07 15 02.8**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.46**	**39**	S	**Sn**	**07 15 14.0**	**+1.3**
CEVE	**Cerro Verde**	**0.48**	**70**	*eP*	**Pn**	**07 15 02.8**	**-0.7**
CEVE				*eS*	**Sn**	**07 15 14.1**	**+0.8**
CEVE				IAML		07 15 16.7	
comp=Z,723nm,0.3s
CEVE Cerro Verde 0.48 70 P Pn 07 15 14.5 +11
CEVE Cerro Verde 0.48 70 P **Pn 07 15 03.3 -0.1**
SBLS San Blas 0.48 69 *eP* **Pn 07 15 02.9 -0.6**
SNJE San Jose 0.51 66 *eP* **Pn 07 15 02.8 -0.9**
SNJE *eS* **Sn 07 15 14.3 +0.6**
UNIC Universidad Ca 0.61 59 *eP* **Pn 07 15 03.6 -0.9**
UNIC *eS* **Sn 07 15 15.4 +0.3**
UNIC Universidad Ca 0.61 59 P **Pn 07 15 03.7 -0.8**
UNIC Universidad Ca 0.61 59 P **Pn 07 15 03.7 -0.9**
JAYA Jayaque - finc 0.62 91 *eP* **Pn 07 15 03.9 -0.7**
JAYA *eS* **Sn 07 15 16.0 +0.5**
JAYA Jayaque - finc 0.62 91 P **Pn 07 15 04.1 -0.6**
JAYA Jayaque - finc 0.62 91 P **Pn 07 15 04.0 -0.6**
JAYA Jayaque - finc 0.62 91 S **Sn 07 15 16.0 +0.5**
JAYA Jayaque - finc 0.62 91 *eP* **Pn 07 15 04.0 -0.7**
JAYA *eS* **Sn 07 15 16.1 +0.6**
JAYA Jayaque - finc 0.62 91 *eP* 07 15 04.0
JAYA *eS* 07 15 16.1
CEDA San Andres 0.69 78 *eP* **Pn 07 15 04.4 -0.8**
FG8 Yepocapa, Chim 0.75 322 *eP* 07 15 09.3
PMON Piamonte 0.75 86 *eP* **Pn 07 15 05.2 -0.7**
PMON *eS* **Sn 07 15 19.0 +1.1**
PMON Piamonte 0.75 86 P **Pn 07 15 05.3 -0.7**
PMON Piamonte 0.75 86 P **Pn 07 15 05.4 -0.7**
PMON Piamonte 0.75 86 S **Sn 07 15 18.4 +0.5**
LALI Alcalda de L 0.76 103 *eP* **Pn 07 15 05.6 -0.4**
LALI Alcalda de L 0.76 103 P Pn 07 15 18.7 +13
LALI Alcalda de L 0.76 103 P **Pn 07 15 06.1 0.0**
LALI Alcalda de L 0.76 103 S **Sn 07 15 18.6 +0.7**
LALI Alcalda de L 0.76 103 *i* P **Pn 07 15 05.7 -0.3**
LALI Alcalda de L 0.76 103 *i* P 07 15 05.7
ITCA Escuela Especi 0.79 89 *eP* **Pn 07 15 05.6 -0.8**
BOQS Boqueron 0.79 85 *eP* **Pn 07 15 06.7 +0.2**
QUEZ Alcaldia de Qu 0.81 78 *eP* **Pn 07 15 06.0 -0.6**
UEES Universidad Ev 0.82 86 *eP* **Pn 07 15 06.8 0.0**
UEES IAML 07 15 27.4
comp=Z,431nm,0.2s
UEES Universidad Ev 0.82 86 P **Pn 07 15 07.1 +0.3**
UEES Universidad Ev 0.82 86 P **Pn 07 15 06.9 0.0**
UEES Universidad Ev 0.82 86 S **Sn 07 15 19.4 +0.1**
UTEC Universidad Te 0.86 87 *eP* **Pn 07 15 06.7 -0.6**
UTEC IAML 07 15 25.3
comp=Z,201nm,0.1s
UTEC Universidad Te 0.86 87 P Pn 07 15 22.9 +16
UTEC Universidad Te 0.86 87 P **Pn 07 15 06.4 -0.8**
UTEC Universidad Te 0.86 87 S **Sn 07 15 20.1 +0.1**
UESS Universidad de 0.86 86 *eP* **Pn 07 15 06.7 -0.6**
PANCS Alcalda de 0.88 93 *eP* **Pn 07 15 06.4 -1.1**
PANCS Alcalda de 0.88 93 S **Sn 07 15 21.0 +0.6**
PANCS Alcalda de 0.88 93 P **Pn 07 15 06.8 -0.7**
PANCS Alcalda de 0.88 93 P **Pn 07 15 06.7 -0.8**
PANCS Alcalda de 0.88 93 S **Sn 07 15 21.1 +0.6**
LOMA Loma Larga 0.89 91 *eP* **Pn 07 15 07.5 -0.1**
LOMA Loma Larga 0.89 91 P **Pn 07 15 08.1 +0.4**
LOMA Loma Larga 0.89 91 P **Pn 07 15 08.0 +0.4**
LOMA Loma Larga 0.89 91 S **Sn 07 15 20.0 -0.7**
IGN Direccin Gen 0.89 87 *eP* **Pn 07 15 07.0 -0.6**
UDBS Universidad Do 0.91 87 *eP* **Pn 07 15 07.0 -0.7**
UDBS *eS* **Sn 07 15 22.1 +1.1**
LFRS El Faro 1.00 92 *eP* **Pn 07 15 08.2 -0.6**
LFRS *eS* **Sn 07 15 23.7 +0.8**
MTO3 Montecristo 1.01 44 *eP* **Pn 07 15 08.1 -1.1**
MTO3 Montecristo 1.01 44 P **Pn 07 15 08.6 -0.6**
MTO3 Montecristo 1.01 44 P **Pn 07 15 08.5 -0.8**
MTO3 Montecristo 1.01 44 S **Sn 07 15 23.4 -0.1**
ESSG Sabana Grande 1.02 315 *eP* **Pn 07 15 07.7 -1.5**
ESSG Sabana Grande 1.02 315 *eP* 07 15 07.7
PAVA Las Pavas 1.12 87 *eP* **Pn 07 15 09.7 -0.7**
PAVA Las Pavas 1.12 87 P **Pn 07 15 09.9 -0.5**
PAVA Las Pavas 1.12 87 P **Pn 07 15 09.8 -0.5**
ESQI Esquipulas 1.15 39 *eP* **Pn 07 15 10.1 -0.6**
ESQI Esquipulas 1.15 39 P Pn 07 15 07.3 -3.5
ESQI Esquipulas 1.15 39 P **Pn 07 15 10.6 -0.2**
ESQI Esquipulas 1.15 39 S **Sn 07 15 27.2 +0.9**
ESQI Esquipulas 1.15 39 S Sn 07 15 10.6 -16
COEG Centro de Oper 1.17 92 *eP* **Pn 07 15 10.4 -0.7**
COEG IAML 07 15 35.0
comp=Z,97nm,0.3s
COEG Centro de Oper 1.17 92 P **Pn 07 15 10.5 -0.5**
COEG Centro de Oper 1.17 92 P **Pn 07 15 10.6 -0.4**
LLGN La Laguna 1.21 66 *eP* **Pn 07 15 10.7 -0.9**
LLGN *eS* **Sn 07 15 28.1 +0.3**
UESV Universidad de 1.26 91 *eP* **Pn 07 15 11.4 -0.8**
UESV Universidad de 1.26 91 P **Pn 07 15 11.6 -0.6**
UESV Universidad de 1.26 91 P **Pn 07 15 11.6 -0.6**
SCLA Alcaldia de Sa 1.32 88 *eP* **Pn 07 15 12.2 -0.7**
SCLA Alcaldia de Sa 1.32 88 P **Pn 07 15 12.4 -0.5**
SCLA Alcaldia de Sa 1.32 88 P **Pn 07 15 12.4 -0.5**
APG El Apazote 1.38 345 ⇑*i*P **Pn 07 15 13.5 -0.4**
APG El Apazote 1.38 345 ⇑*i*P 07 15 13.5
STG0 El Palmar, Qui 1.44 302 *eP* 07 15 17.7
STG8 El Palmar, Qui 1.46 303 *eP* 07 15 19.4
PQSS Presa 15 de Se 1.48 91 P **Pn 07 15 14.6 -0.4**
PQSS Presa 15 de Se 1.48 91 P **Pn 07 15 14.6 -0.4**
PQSS Presa 15 de Se 1.48 91 S **Sn 07 15 34.7 +0.9**
ALJI Alcalda de J 1.51 103 *eP* **Pn 07 15 14.6 -0.7**
TECA Tecapa 1.55 96 *eP* **Pn 07 15 15.0 -1.0**
LCND La Caada 2.17 99 *eP* **Pn 07 15 23.3 -0.7**
LCND IAML 07 15 56.5
comp=Z,44nm,0.4s
LCND La Caada 2.17 99 P **Pn 07 15 23.5 -0.5**
LCND La Caada 2.17 99 P **Pn 07 15 23.6 -0.5**
CNCH Conchagua 2.22 100 *eP* **Pn 07 15 24.4 -0.6**
CCIG Comitan 3.27 323 *eP* **Pn 07 15 39.8 +0.6**
CCIG Comitan 3.27 323 *eP* 07 15 39.8

*NNC **12** 07:20:53.3±0.7, 49°.97N×78°.82E, h0km, mb3.1, mpv2.7,*
Error ellipse: s-maj=12.7km s-min=3.3km az=74.0,
Suspected Mining explosion.
*IDC **12** 07:20:54.4±1.0, 50°.02N×78°.79E, h0km, mbtmp2.4/2,*
ML1.9/2, Error ellipse: s-maj=13.2km s-min=6.3km
az=65.0
ISC 12 07:20:52.6±0.9, **49°.97N**±0°.04×**78°.61E**±0°.06, **h0**km, **n17,**
σ0°84/29, 12C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.61**	**355**	⇓P	**Pb**	**07 21 05.7**	**-0.5**
KUR07				⇑S	**Sb**	**07 21 15.5**	**+0.2**
KUR06	**Kurchatov Arra**	**0.63**	**355**	⇑P	**Pb**	**07 21 06.0**	**-0.5**
KUR06				⇑S	**Sb**	**07 21 15.9**	**0.0**
KUR14	**Kurchatov Arra**	**0.64**	**359**	⇑P	**Pb**	**07 21 06.1**	**-0.5**
KUR14				⇑S	**Sb**	**07 21 16.2**	**0.0**
KUR15	**Kurchatov Arra**	**0.65**	**358**	⇓P	**Pb**	**07 21 06.3**	**-0.5**
KUR15				⇑S	**Sb**	**07 21 16.8**	**+0.5**
KURBB	**Kurchatov Arra**	**0.65**	**356**	Pg	**Pb**	**07 21 06.4**	**-0.4**
0.9nm,0.3s,baz=166,slow=19,SNR=35
KURBB Lg Lg 07 21 15.7
1.1nm,0.3s,baz=161,slow=35,SNR=26
KURBB Kurchatov Arra 0.65 356 ⇑P **Pb 07 21 06.3 -0.6**
13nm,0.5s
KURBB ⇓S **Sb 07 21 16.6 +0.1**
44nm,0.8s
KUR16 Kurchatov Arra 0.66 354 ⇑P **Pb 07 21 06.8 -0.1**
KUR16 ⇑S **Sb 07 21 16.8 +0.2**
KUR17 Kurchatov Arra 0.67 352 ⇑P **Pb 07 21 07.0 -0.1**
KUR17 ⇓S **Sb 07 21 17.0 +0.2**
KUR05 Kurchatov Arra 0.67 356 ⇑P **Pb 07 21 06.6 -0.5**
KUR05 ⇓S **Sb 07 21 17.0 0.0**
KUR04 Kurchatov Arra 0.69 357 ⇓P **Pb 07 21 07.1 -0.4**
KUR04 ⇓S **Sb 07 21 17.7 +0.1**
KURK Kurchatov 0.74 1 ⇓P **Pb 07 21 07.9 -0.5**
5.5nm,0.5s
KURK ⇑S **Sb 07 21 18.2 -0.9**
33nm,1.0s
MAKZ Makanchi 3.88 143 ⇓Pg **Pg 07 22 05.8 -1.1**
2.7nm,0.8s
MAKZ ⇓Lg Lg 07 22 53.9
7.7nm,0.8s
MK31 Makanchi Array 4.02 141 Pg **Pg 07 22 07.2 -2.4**
1.5nm,0.8s,baz=331,slow=14,SNR=12
MK31 Lg Lg 07 22 59.5
6.2nm,0.7s,baz=335,slow=24,SNR=17
MKAR Makanchi Array 4.02 141 Pn **Pn 07 21 57.6 +2.2**
0.1nm,0.3s,baz=324,slow=11,SNR=6.0
MKAR Pg **Pb 07 22 04.0 -0.2**
0.2nm,0.3s,baz=329,slow=15,SNR=12
MKAR Sn **Sn 07 22 43.5 +0.4**
0.1nm,0.3s,baz=322,slow=13,SNR=2.4
MKAR Lg Lg 07 22 59.4
0.8nm,0.3s,baz=337,slow=24,SNR=17
0.1nm,0.3s
OTUK Ortayu 4.47 250 ⇓Pg **Pg 07 22 17.0 -1.1**
1.0nm,0.8s
OTUK ⇓Lg Lg 07 23 16.2
2.1nm,1.1s
I46RU ZALESOVO INFRA 5.53 42 I I 07 54 49.6
0.1nm,1.1s,baz=224,slow=323,SNR=4.9
ZALV Zalesovo Beam 5.53 42 Pn **Pn 07 22 17.4 +1.3**
0.2nm,0.3s,baz=228,slow=15,SNR=2.8
ZALV Sn **Sn 07 23 20.7 +0.4**
baz=242,slow=18,SNR=1.6
ZALV Lg Lg 07 23 46.8
0.2nm,0.3s,baz=225,slow=24,SNR=2.3
0.7nm,0.4s

*RSNC **12** 07:32:34.2±0.9, 2°S±4°×8°0W±°, h0km, M3.0, mb3.5, ML2.7*
*IGQ **12** 07:32:36.8±0.3, 2°S±2°×8°0W±°, h22km±1km, MLv3.5/26*
ISC 12 07:32:36.0±1.1, **2°36S**±0°.03×**79°99W**±0°.04, **h33**km±9km,
n84, σ1°49/109, **20C-35D, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYE3	**Ecuador-Guayaq**	**0.23**	**25**	⇓P	**Pn**	**07 32 43.3**	**+0.5**
GYE3				S	**Sb**	**07 32 50.3**	**+2.7**
AGUAY	**Guayaquil**	**0.31**	**8**	⇓P	**Pn**	**07 32 44.7**	**+0.5**
AGUAY				S	**Sn**	**07 32 51.9**	**+2.6**
MILO	**Milagro-Astudi**	**0.45**	**79**	⇑P	**Pn**	**07 32 46.5**	**+0.3**
MILO				S	**Sn**	**07 32 54.3**	**+1.3**
ISPG	**Isla Puna-Puer**	**0.63**	**196**	⇓P	**Pn**	**07 32 50.2**	**+1.5**
COHC	**Cochancay**	**0.74**	**98**	P	**Pb**	**07 32 48.9**	**-1.7**
COHC				S	**Sb**	**07 33 00.1**	**-0.5**
COHC	**Cochancay**	**0.74**	**98**	⇑P	**Pb**	**07 32 48.9**	**-1.7**
COHC				S	**Sb**	**07 33 00.2**	**-0.4**
COHC	**Cochancay**	**0.74**	**98**	P	**Pb**	**07 32 48.9**	**-1.7**
COHC				S	**Sb**	**07 33 00.1**	**-0.5**
SALI	**Salinas**	**1.01**	**280**	⇑P	**Pn**	**07 32 53.2**	**-0.7**
SALI				S	**Sn**	**07 33 07.2**	**+0.2**
ACUE	**Ecuador-Cuenca**	**1.17**	**118**	⇑P	**Pn**	**07 32 56.4**	**0.0**
JSCH	**Cashca Tororas**	**1.20**	**58**	⇑P	**Pn**	**07 32 55.3**	**-1.6**
JSCH				S	**Sn**	**07 33 08.6**	**-3.6**
AZOG	**Ecuador-Azogue**	**1.21**	**109**	⇓P	**Pn**	**07 32 57.8**	**+0.9**
AGRD	**Ecuador-Guaran**	**1.26**	**52**	⇑P	**Pn**	**07 32 56.1**	**-1.6**
AQUE	**Quevedo**	**1.40**	**21**	⇑P	**Pn**	**07 32 58.0**	**-1.2**
AQUE				S	**Sn**	**07 33 16.7**	**+0.1**
TAMH	**Tambohuasha Ch**	**1.46**	**56**	⇓P	**Pn**	**07 32 59.6**	**-0.9**
IGUA	**Igualata**	**1.61**	**57**	⇑P	**Pn**	**07 33 02.3**	**-0.4**
BOSC	**San Juan Bosco**	**1.69**	**118**	⇑P	**Pn**	**07 33 05.0**	**+1.6**
BMAS	**Trigal station**	**1.74**	**61**	⇑P	**Pn**	**07 33 03.1**	**-1.2**
BBIL	**Ulba Tungurahu**	**1.76**	**59**	⇑P	**Pn**	**07 33 05.4**	**+0.9**
BBIL				S	**Sn**	**07 33 26.7**	**+0.8**
BPAT	**Tungurahua Vol**	**1.78**	**61**	⇓P	**Pn**	**07 33 04.8**	**-0.1**
BPAT				S	**Sn**	**07 33 26.9**	**+0.3**
JUI6	**Juive**	**1.79**	**59**	⇑P	**Pn**	**07 33 05.3**	**+0.4**
POND	**Pondoa**	**1.80**	**59**	⇑P	**Pn**	**07 33 05.3**	**+0.1**
POND				S	**Sn**	**07 33 28.1**	**+1.0**
BULB	**Ulba Tungurahu**	**1.83**	**60**	⇓P	**Pn**	**07 33 06.1**	**+0.6**
GONZ	**Gonzanam**	**1.96**	**162**	S	**Sn**	**07 33 30.2**	**-0.7**
CAB1	**Cabo Pasado-Ma**	**2.01**	**347**	⇓P	**Pn**	**07 33 09.1**	**+1.4**
PIS1	**Pisayambo**	**2.06**	**51**	⇓P	**Pn**	**07 33 09.8**	**+1.0**
ILLI	**Illinizas Sur**	**2.07**	**38**	⇓P	**Pn**	**07 33 08.9**	**0.0**
SRAM	**San Ramn-Vol**	**2.14**	**42**	⇓P	**Pn**	**07 33 10.7**	**+0.8**
SRAM				S	**Sn**	**07 33 38.3**	**+2.7**
BRRN	**Barrancas-Volc**	**2.18**	**44**	⇓P	**Pn**	**07 33 11.4**	**+0.9**
PIAT	**Ana Tenorio**	**2.20**	**52**	P	**Pn**	**07 33 11.7**	**+1.1**
PIAT				S	**Sn**	**07 33 39.6**	**+2.7**
PIAT	**Ana Tenorio**	**2.20**	**52**	P	**Pn**	**07 33 11.7**	**+1.1**
PIAT				S	**Sn**	**07 33 39.6**	**+2.7**
SLOR	**San Lorenzo -**	**2.21**	**43**	⇓P	**Pn**	**07 33 12.0**	**+1.2**
VCES	**Cotopaxi**	**2.23**	**46**	P	**Pn**	**07 33 12.1**	**+1.0**
BMOR	**Cotopaxi Volca**	**2.23**	**43**	⇓P	**Pn**	**07 33 12.3**	**+1.1**
CAMI	**Rancho Maria**	**2.24**	**42**	⇓P	**Pn**	**07 33 12.9**	**+1.6**
BNAS	**Cotopaxi Volca**	**2.26**	**42**	⇓P	**Pn**	**07 33 13.8**	**+2.2**
SUCR	**Mariscal Sucre**	**2.27**	**41**	⇓P	**Pn**	**07 33 13.1**	**+1.4**
BREF	**Cotopaxi Volca**	**2.29**	**43**	⇓P	**Pn**	**07 33 13.8**	**+1.7**
BTAM	**Cotopaxi Volca**	**2.31**	**44**	⇓P	**Pn**	**07 33 13.6**	**+1.2**
BVC2	**Cotopaxi Volca**	**2.32**	**43**	⇓P	**Pn**	**07 33 13.7**	**+1.3**
VC1	**Cotopaxi 1**	**2.33**	**43**	P	**Pn**	**07 33 14.2**	**+1.6**
PITA	**Cotopaxi Volc**	**2.38**	**41**	P	**Pn**	**07 33 14.9**	**+1.8**
TOMA	**Boca Toma-Volc**	**2.42**	**40**	⇓P	**Pn**	**07 33 15.4**	**+1.7**
HPAL	**Hacienda Las P**	**2.52**	**32**	P	**Pn**	**07 33 15.3**	**+0.3**
GGPT	**Toaza - Volcan**	**2.53**	**33**	⇓P	**Pn**	**07 33 15.6**	**+0.5**
ANTM	**Antisana-La Mi**	**2.53**	**44**	⇓P	**Pn**	**07 33 17.2**	**+1.9**
ANTG	**Antisana-Guama**	**2.54**	**43**	⇑P	**Pn**	**07 33 16.8**	**+1.4**
JUA2	**San Juan 2**	**2.54**	**33**	⇑P	**Pn**	**07 33 16.2**	**+0.7**
ARDO	**Archidona, Ten**	**2.58**	**58**	⇓P	**Pn**	**07 33 16.3**	**+0.8**
GGPC	**Guagua Pichinc**	**2.58**	**33**	⇓P	**Pn**	**07 33 16.9**	**+0.8**
TERV	**Terraza Guagua**	**2.58**	**33**	⇓P	**Pn**	**07 33 16.7**	**+0.7**
PINO	**Pino**	**2.59**	**32**	P	**Pn**	**07 33 16.8**	**+0.5**
ZUMB	**Zumba**	**2.63**	**161**	⇓P	**Pn**	**07 33 17.3**	**+1.0**
ANTI	**Antisana**	**2.64**	**44**	P	**Pn**	**07 33 18.7**	**+1.8**
YANA	**Yana**	**2.64**	**33**	⇑P	**Pn**	**07 33 17.4**	**+0.5**
PULU	**Pululahua**	**2.80**	**32**	⇓P	**Pn**	**07 33 19.6**	**+0.7**
PAC1	**Pacto, Paraso**	**2.87**	**25**	P	**Pn**	**07 33 18.4**	**-1.3**
PAC1				S	**Sn**	**07 33 51.7**	**-1.6**
PAC1	**Pacto, Paraso**	**2.87**	**25**	P	**Pn**	**07 33 18.5**	**-1.3**
PAC1	**Pacto, Paraso**	**2.87**	**25**	P	**Pn**	**07 33 18.4**	**-1.3**
PAC1				S	**Sn**	**07 33 51.7**	**-1.6**
OTAV	**Otavalo**	**3.01**	**31**	P	**Pn**	**07 33 21.8**	**0.0**
OTAV				S	**Sn**	**07 33 57.7**	**+0.7**
OTAV	**Otavalo**	**3.01**	**31**	⇓P	**Pn**	**07 33 22.2**	**+0.3**
OTAV	**Otavalo**	**3.01**	**31**	P	**Pn**	**07 33 21.8**	**0.0**
OTAV				S	**Sn**	**07 33 57.7**	**+0.7**
CAYR	**Refugio Cayamb**	**3.08**	**40**	P	**Pn**	**07 33 23.9**	**+0.9**
CUSE	**Cuicocha Este**	**3.09**	**31**	P	**Pn**	**07 33 23.8**	**+0.9**
CUSE				S	**Sn**	**07 34 00.6**	**+1.6**
CUSE	**Cuicocha Este**	**3.09**	**31**	P	**Pn**	**07 33 23.9**	**+0.9**
CUSE	**Cuicocha Este**	**3.09**	**31**	P	**Pn**	**07 33 23.8**	**+0.9**
CUSE				S	**Sn**	**07 34 00.6**	**+1.6**
CUSW	**Cuicocha Oeste**	**3.10**	**32**	⇓P	**Pn**	**07 33 24.9**	**+1.8**
ANGU	**Angureal**	**3.11**	**40**	⇓P	**Pn**	**07 33 24.1**	**+0.7**
CUIC	**Cuicocha-Domo**	**3.11**	**32**	⇑P	**Pn**	**07 33 23.9**	**+0.7**
CAYA	**Cayambe**	**3.14**	**40**	⇑P	**Pn**	**07 33 25.3**	**+1.6**
COTA	**Cotacachi**	**3.15**	**32**	⇓P	**Pn**	**07 33 24.8**	**+0.9**
URCU	**Urcuqui**	**3.28**	**32**	⇓P	**Pn**	**07 33 26.5**	**+1.0**
YAHU	**Yahuarcocha**	**3.32**	**35**	⇓P	**Pn**	**07 33 27.0**	**+0.9**
LITE1	**Lita**	**3.53**	**28**	⇑P	**Pn**	**07 33 28.4**	**-0.4**
CHMA	**Chilma**	**3.74**	**31**	⇑P	**Pn**	**07 33 31.9**	**+0.2**
CHL1	**Volcn Chiles**	**3.74**	**33**	⇓P	**Pn**	**07 33 35.2**	**+3.2**
ECEN	**Cerro Negro**	**3.75**	**33**	P	**Pn**	**07 33 35.2**	**+3.0**
GCUF	**Volcan Galeras**	**4.44**	**37**	P	**Pn**	**07 33 45.8**	**+4.2**
GCUF	**Volcan Galeras**	**4.44**	**37**	P	**Pn**	**07 33 45.8**	**+4.2**
BBAC	**Balboa, Cauca**	**5.15**	**32**	P	**Pn**	**07 33 49.1**	**-2.0**
6.0nm,0.6s
BBAC S **Sn 07 34 51.8 +2.3**
6.0nm,0.6s
BBAC Balboa, Cauca 5.15 32 P **Pn 07 33 49.1 -2.0**
6.0nm,0.6s
BBAC S **Sn 07 34 51.8 +2.3**
6.0nm,0.6s
GR1C Gorgona, Isla 5.63 19 P **Pn 07 33 56.5 -1.0**
GR1C Gorgona, Isla 5.63 19 P **Pn 07 33 56.5 -1.0**
POPC Popayan, Colom 5.89 34 P **Pn 07 34 00.4 -0.9**
POPC S **Sn 07 35 08.0 +0.1**
POPC Popayan, Colom 5.89 34 P **Pn 07 34 00.4 -0.9**
POPC S **Sn 07 35 08.0 +0.1**

*IDC **12** 07:41:38.9±1.3, 30°.05S×177°.35W, h0km, mb4.1/4,*
mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=37.1km
s-min=29.0km az=121.0
*NEIC **12** 07:41:42.6±0.6, 30°.2S±0°.1×177°.5W±0°.2, h10km±2km,*
mb4.3/15, Error ellipse: s-maj=27.5km s-min=20.7km
az=101.0
ISC 12 07:41:42.2±1.1, **30°.2S**±0°.1×**177°.6W**±0°.2, **h10**km, **n29,**
σ1°21/30, mb4.2/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.20**	**207**	Pn	**Pn**	**07 43 54.3**	**-0.6**
0.3nm,0.3s,baz=347,slow=5.5,SNR=3.0
URZ Sn **Sn 07 45 40.0 +1.5**
2.8nm,0.3s,baz=319,slow=24,SNR=8.1
1.3nm,0.5s
RTZ Ruatahuna 9.56 207 Pn **Pn 07 43 59.5 -0.4**
BKZ Black Stump Fm 10.22 207 Pn **Pn 07 44 07.4 -1.7**
BFZ Birch Farm 11.64 204 Pn **Pn 07 44 27.9 -0.5**
MRZ Mangatainoka R 11.87 206 Pn **Pn 07 44 30.7 -0.8**
MQZ McQueen's Vall 15.60 207 Pn **Pn 07 45 20.2 -1.9**
MQZ IAmb IAmb 07 45 47.6
comp=Z,330nm,1.4s
EIDS Eidsvold 28.10 272 P **P 07 47 34.5 +0.1**
EIDS IAmb IAmb 07 47 47.2
comp=Z,4.9nm,1.0s
STKA Stephens Creek 34.90 257 P **P 07 48 33.9 -0.2**
STKA Stephens Creek 34.90 257 P **P 07 48 35.2 +1.1**
comp=Z,1.4nm,0.5s,baz=97,slow=11,SNR=5.3
comp=Z,1.4nm,0.5s
COEN Coen 39.57 285 P **P 07 49 13.7 -0.3**
COEN IAmb IAmb 07 49 15.5
comp=Z,12nm,1.4s
AS31 Alice Springs 43.50 266 P **P 07 49 45.8 -0.3**
ASAR Alice Springs 43.50 266 P **P 07 49 46.2 +0.1**
ASAR Alice Springs 43.50 266 P **P 07 49 45.7 -0.4**
comp=Z,1.2nm,0.5s,baz=104,slow=7.3,SNR=21
comp=Z,1.2nm,0.5s
WR0 Warramunga Arr 44.29 272 P **P 07 49 52.5 0.0**
WR0 IAmb IAmb 07 49 52.7
comp=Z,4.4nm,1.1s
WB2 Warramunga Arr 44.46 272 P **P 07 49 53.7 -0.1**
WB2 IAmb IAmb 07 49 56.0
comp=Z,3.8nm,0.9s
WRAB Tennant Creek 44.46 272 P **P 07 49 53.8 -0.1**
WRAB IAmb IAmb 07 49 56.0
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 44.47 272 P **P 07 49 53.7 -0.2**
WRA Warramunga Arr 44.47 272 P **P 07 49 53.1 -0.8**
comp=Z,3.1nm,0.7s,baz=110,slow=8.0,SNR=28
comp=Z,3.1nm,0.7s
WB0 Warramunga Arr 44.49 272 P **P 07 49 53.5 -0.5**
WB0 IAmb IAmb 07 49 54.9
comp=Z,3.2nm,0.8s
FORT Forrest 46.47 255 P **P 07 50 09.2 -0.4**
VNDA Vanda 48.37 186 P **P 07 50 22.9 -0.8**
VNDA IAmb IAmb 07 50 35.0
comp=Z,2.3nm,1.1s
FITZ Fitzroy Crossi 52.74 269 P **P 07 50 57.6 0.0**
CASY Casey 55.52 208 P **P 07 51 18.3 +1.1**
QSPA South Pole Qui 59.94 180 P **P 07 51 48.2 -0.3**
QSPA IAmb IAmb 07 51 59.2
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 59.94 180 P **P 07 51 48.1 -0.3**
comp=Z,1.5nm,1.0s,baz=90,slow=3.0,SNR=2.1
comp=Z,1.5nm,1.0s
FINES FINESS Array B 145.06 340 PKPbc **PKPbc 08 01 15.7 -2.9**
comp=Z,3.7nm,0.8s,baz=48,slow=4.1,SNR=7.9
HFS Hagfors 149.09 349 PKPbc **PKPdf 08 01 28.4 +2.5**
comp=Z,2.9nm,1.0s,baz=340,slow=2.1,SNR=1.6
AKASG Malin Array Be 151.34 323 PKPbc **PKPdf 08 01 32.8 +3.0**
comp=Z,0.2nm,0.3s,baz=56,slow=2.5,SNR=5.2
**MMAI Mount Meron Ar 151

CNRM	Centro Naciona	0.36	64	eP	Pn	08 02 38.8	-0.1
SCLA	Alcaldia de Sa	0.44	330	P	Pn	08 02 39.4	+0.1
SCLA	Alcaldia de Sa	0.44	330	P	Pn	08 02 39.2	-0.1
SCLA	Alcaldia de Sa	0.44	330	S	Sn	08 02 57.0	-0.3
PAVA	Las Pavas	0.58	313	eP	Pn	08 02 39.8	-0.1
PAVA				IAML		08 02 40.6	
	comp=Z,232nm,0.3s						
PAVA	Las Pavas	0.58	313	P	Pn	08 02 39.9	-0.1
PAVA	Las Pavas	0.58	313	S	Sn	08 02 57.8	-0.7
PAVA	Las Pavas	0.58	313	P	Pn	08 02 40.0	0.0
LCND	La Caada	0.59	91	eP	Pn	08 02 39.8	-0.1
LCND				IAML		08 03 09.9	
	comp=Z,108nm,0.2s						
LCND	La Caada	0.59	91	P	Pn	08 02 40.1	+0.2
LCND	La Caada	0.59	91	P	Pn	08 02 40.1	+0.2
LFRS	El Faro	0.63	299	eP	Pn	08 02 39.9	-0.3
CNCH	Conchagua	0.65	93	eP	Pn	08 02 40.2	-0.1
CNCH				IAML		08 03 08.1	
	comp=Z,254nm,0.2s						
CNCH	Conchagua	0.65	93	P	Pn	08 02 40.5	+0.2
CNCH	Conchagua	0.65	93	P	Pn	08 02 40.5	+0.2
LOMA	Loma Larga	0.73	297	eP	Pn	08 02 40.7	-0.1
LOMA				IAML		08 03 03.4	
	comp=Z,226nm,0.2s						
LOMA	Loma Larga	0.73	297	S	Sn	08 03 01.2	+1.3
LOMA	Loma Larga	0.73	297	P	Pn	08 02 40.9	0.0
LOMA	Loma Larga	0.73	297	P	Pn	08 02 40.7	-0.1
LOMA	Loma Larga	0.73	297	S	Sn	08 02 59.7	-0.2
UDBS	Universidad Do	0.75	302	P	Pn	08 02 27.7	-13
UEES	Universidad Ev	0.82	299	eP	Pn	08 02 41.0	-0.4
UEES				IAML		08 03 10.0	
	comp=Z,164nm,0.2s						
PMON	Piamonte	0.89	297	eP	Pn	08 02 41.0	-0.9
PMON				eS	Sn	08 03 01.4	-0.3
PMON	Piamonte	0.89	297	P	Pn	08 02 42.5	+0.7
LLGN	La Laguna	0.95	333	P	Pn	08 02 42.1	-0.2
LLGN	La Laguna	0.95	333	P	Pn	08 02 42.1	-0.2
JAYA	Jayaque - finc	0.98	290	eP	Pn	08 02 41.5	-1.1
JAYA				eS	Sn	08 03 02.0	-1.1
JAYA				IAML		08 03 04.5	
	comp=Z,493nm,0.2s						
JAYA	Jayaque - finc	0.98	290	S	Sn	08 03 02.3	-0.7
JAYA	Jayaque - finc	0.98	290	P	Pn	08 02 42.6	-0.1
JAYA	Jayaque - finc	0.98	290	S	Sn	08 03 02.5	-0.6
JAYA	Jayaque - finc	0.98	290	P	Pn	08 02 42.5	-0.1
JAYA	Jayaque - finc	0.98	290	eP	Pn	08 02 42.5	-0.1
JAYA				eS	Sn	08 03 02.2	-0.9
JAYA	Jayaque - finc	0.98	290	eP		08 02 42.5	
JAYA				eS		08 03 02.2	
MTO3	Montecristo	1.36	322	P	Pn	08 02 46.0	0.0
MTO3	Montecristo	1.36	322	P	Pn	08 02 45.7	-0.2
MTO3	Montecristo	1.36	322	*i* P	Pn	08 02 46.0	0.0
MTO3	Montecristo	1.36	322	*i* P		08 02 46.0	
NUBE	Las Nubes	1.38	295	P	Pn	08 02 46.2	+0.2
NUBE	Las Nubes	1.38	295	P	Pn	08 02 45.7	-0.2
NUBE	Las Nubes	1.38	295	S	Sn	08 03 09.4	+0.3
NUBE	Las Nubes	1.38	295	eP	Pn	08 02 46.1	+0.2
NUBE	Las Nubes	1.38	295	eP		08 02 46.1	
TGUH	Tegucigalpa,Un	1.40	58	P	Pn	08 02 46.1	-0.1
TGUH				S	Sn	08 03 08.2	-1.3
ESQI	Esquipulas	1.48	327	P	Pn	08 02 47.4	+0.4
ESQI	Esquipulas	1.48	327	P	Pn	08 02 47.3	+0.4
APG	El Apazote	2.54	312	*i* P	Pn	08 02 59.6	+0.9
APG	El Apazote	2.54	312	*i* P		08 02 59.6	

*SJA **12** 08:19:19.6±0.7,31°.19S×72°.13W,h8km±4km,ML4.0, MW3.7*
*IDC **12** 08:19:21.4±0.9,31°.24S×71°.91W,h0km,mb3.8/4, mbtmp3.7/7,ML3.7/3,MS3.2/2,Error ellipse: s-maj=40.2km s-min=22.4km az=88.0*
*GUC **12** 08:19:24.6±0.7,31°.24S×71°.85W,h32km±4km,ML3.8*
ISC 12 08:19:20.8±0.7,31°.20S±0°.02×72°.09W±0°.04,h10km,n73, σ2°07/112,mb4.0/4,1C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.66	37	⇓*i*P	Pn	08 19 36.1	0.0
CO06				*i* S	Sn	08 19 44.4	-2.2
CO06				IAML		08 19 47.8	
	comp=E,7μm,0.2s						
CO03	El Pedregal	1.26	74	⇓*i*P	Pn	08 19 43.8	-0.7
CO03				*i* S	Sb	08 19 58.0	-2.9
CO03				IAML		08 20 00.8	
	comp=E,6μm,0.3s						
CO03	El Pedregal	1.26	74	eP	Pn	08 19 43.8	-0.7
CO03				eS	Sb	08 19 58.3	-2.7
CO03				IAML		08 20 00.2	
	comp=Z,4μm,0.6s						
GO04	Tololo Observa	1.52	48	⇑*i*P	Pg	08 19 48.8	-1.0
GO04				*i* S	Sn	08 20 07.4	-0.7
GO04	Tololo Observa	1.52	48	eP	Pg	08 19 49.0	-0.9
GO04				eS	Sb	08 20 08.1	-0.4
VA06	Catapilco	1.52	154	eP	Pg	08 19 48.7	-1.1
VA06				*i* S	Sn	08 20 06.4	-1.4
VA06				IAML		08 20 12.5	
	comp=E,3μm,0.4s						
ROCH	El Roble	1.99	153	eP	Pb	08 19 55.7	-1.5
ROCH				*i* S	Sb	08 20 21.1	-1.1
ROCH				IAML		08 20 27.9	
	comp=N,1μm,0.3s						
ROC1	El Roble	1.99	153	eP	Pb	08 19 55.8	-1.5
ROC1				eS	Sg	08 20 24.8	-0.1
VA03	San Esteban	2.04	140	eP	Pb	08 19 56.5	-1.4
VA03				*i* S	Sn	08 20 20.7	0.0
VA03				IAML		08 20 25.1	
	comp=N,3μm,0.6s						
VA03	San Esteban	2.04	140	eP	Pb	08 19 56.6	-1.4
VA03				eS	Sb	08 20 22.6	-0.8
VA03				IAML		08 20 27.1	
	comp=Z,2μm,0.8s						
CO01	Juntas del Tor	2.11	55	eP	Pb	08 19 57.9	-1.4
CO01				*i* S	Sn	08 20 22.9	0.0
CO01				IAML		08 20 26.8	
	comp=N,1μm,0.3s						
CO01	Juntas del Tor	2.11	55	eP	Pb	08 19 58.1	-1.2
CO01				eS	Sb	08 20 24.7	-1.0
CO01				IAML		08 20 24.9	
	comp=Z,703nm,0.4s						
MT02	Curacav	2.21	159	eP	Pn	08 19 58.3	+0.8
MT02				*i* S	Sb	08 20 28.0	-0.2
MT02				IAML		08 20 39.6	
	comp=E,594nm,0.8s						
MT02	Curacav	2.21	159	eP	Pb	08 19 58.5	-2.3
MT02				eS	Sg	08 20 30.2	-1.5
MT02				IAML		08 20 31.7	
	comp=Z,524nm,0.8s						
PEL	Peldehue	2.28	149	eP	Pb	08 19 60.0	-2.0
PEL				*i* S	Sb	08 20 28.3	-1.9
PEL				IAML		08 20 30.9	
	comp=N,1μm,0.5s						
PEL	Peldehue	2.28	149	eP	Pb	08 20 00.2	-1.8
PEL				eS	Sb	08 20 30.3	+0.1
RTLS	Leoncito	2.46	105	eP	Pb	08 20 04.6	-0.7
RTLS				eS	Sb	08 20 35.5	-0.3
MT05	Renca	2.47	153	eP	Pb	08 20 03.0	-2.2
MT05				eS	Sb	08 20 35.2	-0.5
MT05				IAML		08 20 44.5	
	comp=Z,387nm,0.3s						
AROD	Rodeo	2.48	66	eP	Pb	08 20 04.8	-0.9
AROD				eS	Sb	08 20 35.2	-1.2
VA05	Santo Domingo	2.48	171	eP	Pn	08 20 02.3	+1.1
VA05				IAML		08 20 42.9	
	comp=E,914nm,0.5s						
LCO	Las Campanas	2.49	29	eP	Pb	08 20 03.1	-2.7
LCO				eS	Sn	08 20 30.3	-2.0
LCO				IAML		08 20 43.5	
	comp=Z,676nm,1.1s						
DOCA	Reserva Natura	2.60	85	eP	Pb	08 20 06.4	-1.2
DOCA				eS	Sb	08 20 39.5	-0.3
DOCA				IAML		08 20 42.1	
	comp=Z,821nm,0.8s						
MT03	Universidad Ad	2.65	150	eP	Pb	08 20 05.7	-2.7
MT03				eS	Sb	08 20 40.3	-0.7
MT03				IAML		08 20 51.8	
	comp=Z,668nm,1.1s						
ACCO	Cerro Coronel	2.67	78	eP	Pb	08 20 08.2	-0.8
ACCO				eS	Sb	08 20 43.7	+1.7
MT01	Popeta	2.75	165	eP	Pn	08 20 06.5	+1.6
MT01				eS	Sb	08 20 40.9	-3.0
MT01				IAML		08 20 51.1	
	comp=Z,311nm,0.7s						
MT04	Ro Olivares	2.75	143	eP	Pb	08 20 07.5	-2.7
MT04				eS	Sb	08 20 42.3	-1.8
MT04				IAML		08 20 49.6	
	comp=Z,333nm,1.0s						
ACDV	Cuesta del Vie	2.76	69	eP	Pn	08 20 03.6	-1.6
ACDV				eS	Sg	08 20 46.6	-2.8
ACDV				IAML		08 20 50.8	
	comp=Z,447nm,1.3s						
MT08	Bocatoma Ro	2.85	142	eP	Pb	08 20 09.6	-2.2
MT08				eS	Sb	08 20 43.8	-3.0
MT08				IAML		08 20 53.8	
	comp=Z,320nm,0.6s						
ZON	Zonda	2.94	98	eP	Pb	08 20 11.7	-1.6
ZON				eS	Sn	08 20 42.6	-0.4
ZON				IAML		08 20 57.9	
	comp=Z,343nm,1.2s						
MT13	San Alfonso	2.96	149	eP	Pb	08 20 10.2	-3.5
MT13				eS	Sb	08 20 51.8	+1.8
MT13				IAML		08 20 58.9	
	comp=Z,347nm,0.7s						
SJA	San Juan	3.04	97	eP	Pn	08 20 00.7	-8.3
SJA				eS	Sg	08 20 57.2	-1.2
BO04	La Punta	3.05	156	eP	Pn	08 20 10.9	+1.8
BO04				*i* S	Sn	08 20 44.6	-1.1
LMEL	Las Melosas	3.08	149	eP	Pb	08 20 12.0	-3.8
LMEL				eS	Sb	08 20 53.1	-0.5
ASAL	Salagasta	3.10	117	eP	Pb	08 20 14.1	-2.0
ASAL				eS	Sb	08 20 50.6	-3.3
RTLL	Cerro Villicun	3.10	93	eP	Pn	08 20 12.0	+2.1
RTLL				eS	Sb	08 20 51.7	-2.3
AC04	Llanos de Chal	3.12	17	eP	Pn	08 20 10.6	+0.6
AC04				eS	Sb	08 20 52.8	-1.5
AC04				IAML		08 21 07.0	
	comp=Z,340nm,0.9s						
ARCO	CERRO ARCO	3.15	122	eP	Pb	08 20 15.5	-1.3
ARCO				eS	Sn	08 20 51.4	+3.2
ARCO				IAML		08 21 05.3	
	comp=Z,404nm,0.6s						
BO03	Pichilemu	3.29	178	eP	Pn	08 20 13.0	+0.6
BO03				*i* S	Sn	08 20 47.8	-3.7
BO03				IAML		08 21 25.8	
	comp=N,96nm,0.4s						
BO01	Tunca	3.29	165	eP	Pn	08 20 13.6	+1.2
BO01				IAML		08 21 06.5	
	comp=E,238nm,0.8s						
BO01	Tunca	3.29	165	eP	Pn	08 20 14.4	+2.0
BO01				eS	Sb	08 20 55.0	-4.4
BO01				IAML		08 21 06.9	
	comp=Z,179nm,0.9s						
CFA	Coronel Fontan	3.32	98	eP	Pb	08 20 15.8	-4.0
CFA				eS	Sn	08 20 52.3	-0.1
AAGR	Agrelo	3.35	125	eP	Pn	08 20 12.5	-0.8
AAGR				eS	Sb	08 21 03.4	+2.3
AGUA	GUANDACOL	3.55	62	eP	Pb	08 20 20.5	-3.3
AGUA				eS	Sb	08 21 09.8	+2.8
AGUA				IAML		08 21 15.7	
	comp=Z,505nm,0.7s						
BO02	Sierra Bellavi	3.75	163	eP	Pn	08 20 20.4	+1.6
BO02				eS	Sn	08 21 04.6	+1.6
BO02				IAML		08 21 20.6	
	comp=Z,261nm,1.0s						
AVFE	Valle Fertil	4.02	83	eP	Pn	08 20 24.6	+2.1
AVFE				eS	Sn	08 21 09.9	+0.1
AVFE				IAML		08 21 26.7	
	comp=Z,382nm,0.8s						
VCA	Vinchina	4.17	55	eP	Pb	08 20 29.8	-4.6
VCA				eS	Sn	08 21 15.8	+2.2
VCA				IAML		08 21 32.9	
	comp=Z,577nm,0.5s						
ACHE	Chepes	4.65	91	eP	Pn	08 20 33.1	+1.9
ACHE				eS	Sn	08 21 26.0	+0.6
RFA	San Rafael	4.69	140	eP	Pn	08 20 34.3	+2.7
RFA				eS	Sb	08 21 43.6	+4.0
RFA				IAML		08 21 48.6	
	comp=Z,59nm,1.5s						
ACLC	CERRO LA CRUZ	4.79	70	eP	Pn	08 20 35.4	+2.3
ACLC				eS	Sn	08 21 26.2	-2.5
ACLC				IAML		08 21 41.4	
	comp=Z,180nm,0.5s						
APLL	PUNTA DE LOS L	4.86	82	eP	Pn	08 20 35.8	+1.8
APLL				eS	Sn	08 21 34.3	+4.0
AC02	Maricunga	5.07	32	eP	Pn	08 20 39.2	+2.0
AC02				eS	Sn	08 21 42.0	+5.9
AC02				IAML		08 22 01.9	
	comp=Z,111nm,1.4s						
AC01	Pan de Azucar	5.20	15	eP	Pn	08 20 38.9	+0.2
AC01				eS	Sb	08 21 54.4	-0.1
AC01				IAML		08 22 12.7	
	comp=Z,84nm,0.7s						
H03N1	Juan Fernandez	6.19	247	T	T	08 27 37.4	
	baz=76,slow=72						
H03N3	Juan Fernandez	6.20	247	T	T	08 27 39.6	
	baz=76,slow=72						
H03N2	Juan Fernandez	6.20	247	T	T	08 27 40.3	
	baz=76,slow=72						
PLCA	Paso Flores	9.59	173	Pn	Pn	08 21 40.2	+1.2
	comp=Z,0.1nm,0.3s,baz=329,slow=11,SNR=11						
	comp=Z,0.5nm,0.4s						
CPUP	Villa Florida	13.83	73	Pn	Pn	08 22 37.5	+0.7
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=4.4						
CPUP				Sn	Sn	08 25 11.0	+0.5
	comp=Z,0.1nm,0.3s,baz=256,slow=8.3,SNR=1.2						
CPUP				LR	LR	08 28 18.0	
	comp=Z,65nm,18.4s,baz=238,slow=39						
	comp=Z,1.2nm,0.8s						
LPAZ	La Paz	15.28	15	Pn	P	08 22 59.6	-2.6
	comp=Z,0.1nm,0.3s,baz=173,slow=8.0,SNR=7.5						
	comp=Z,1.8nm,0.7s						
BDFB	Brasilia	26.89	60	LR	LR	08 37 14.1	
	comp=Z,82nm,18.8s,baz=286,slow=40						
SNAA	Sanae	54.19	159	P	P	08 28 48.1	+2.0
	comp=Z,1.2nm,0.7s,baz=310,slow=17,SNR=1.5						
	comp=Z,1.2nm,0.7s						
QSPA	South Pole Qui	59.03	180	P	P	08 29 22.8	+2.2
	comp=Z,1.1nm,0.7s,baz=127,slow=10,SNR=5.8						
	comp=Z,1.1nm,0.7s						
TXAR	Lajitas Array	67.28	330	P	P	08 30 18.9	+3.2
	comp=Z,0.1nm,0.5s,baz=159,slow=7.5,SNR=4.6						
	comp=Z,0.1nm,0.5s						
SCHQ	Schefferville	85.80	3	P	P	08 32 03.9	+4.0
	comp=Z,1.6nm,1.0s,baz=233,slow=20,SNR=1.4						
	comp=Z,1.6nm,1.0s						
H11S2	WAKE ISLAND Hyl	25.72	271	T	T	10 57 12.6	
	baz=116,slow=75						
H11S1	WAKE ISLAND Hyl	25.73	271	T	T	10 57 13.1	
	baz=116,slow=75						
H11S3	WAKE ISLAND Hyl	25.73	271	T	T	10 57 13.6	
	baz=116,slow=75						
H11N3	WAKE ISLAND Hyl	26.06	273	T	T	10 57 37.2	
	baz=116,slow=74						
H11N1	WAKE ISLAND Hyl	26.07	273	T	T	10 57 41.2	
	baz=116						
H11N2	WAKE ISLAND Hyl	26.08	273	T	T	10 57 40.4	
	baz=116,slow=74						
BVAR	Borovoye Array	145.22	40	PKPbc	PKiKP	08 38 59.5	-2.6
	comp=Z,0.8nm,0.6s,baz=318,slow=1.9,SNR=3.8						
KURBB	Kurchatov Arra	150.81	40	PKPbc	PKiKP	08 39 14.5	+0.8
	comp=Z,0.8nm,0.6s,baz=296,slow=2.9,SNR=7.6						
ZALV	Zalesovo Beam	151.85	29	PKPbc	PKiKP	08 39 16.8	+1.1
	comp=Z,3.5nm,0.7s,baz=302,slow=3.5,SNR=15						
MKAR	Makanchi Array	154.88	44	PKPbc	PKiKP	08 39 22.6	+0.3
	comp=Z,0.5nm,0.8s,baz=333,slow=2.4,SNR=4.4						

*IDC **12** 08:23:40.3±1.0,7°.94N×127°.33E,h0km,mb3.7/7, mbtmp3.7/7,MS3.4/1,Error ellipse: s-maj=27.6km s-min=17.6km az=84.0*
ISC 12 08:23:45.0±1.0,7°.9N±0°.1×127°.3E±0°.1,h31km,n9,σ0°95/9, mb3.9/7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.87	245	Pn	Pn	08 24 15.5	+0.7
	48nm,0.3s,baz=32,slow=2.7,SNR=3.8						
DAV				Sn	Sb	08 24 41.0	-0.4
	97nm,0.3s,baz=98,slow=23,SNR=7.7						
DAV				LR	LR	08 25 04.9	
	comp=Z,351nm,20.5s,baz=350,slow=44						
FITZ	Fitzroy Crossi	25.86	184	P	P	08 29 15.0	+0.9
	1.4nm,0.7s,baz=356,slow=11,SNR=5.4						
	1.4nm,0.7s						
WRA	Warramunga Arr	28.51	166	P	P	08 29 38.8	+0.9
	0.3nm,0.8s,baz=344,slow=9.0,SNR=6.0						
	0.3nm,0.8s						
ASAR	Alice Springs	32.02	168	P	P	08 30 07.5	-1.3
	0.1nm,0.5s,baz=341,slow=8.8,SNR=7.7						
	0.1nm,0.5s						
SONM	Songino Array	43.59	340	LR	LR	08 51 50.5	
	comp=Z,49nm,19.1s,baz=236,slow=39						
PETK	Petropavlovsk-	51.41	23	P	P	08 32 47.1	+0.2
	0.9nm,0.5s,baz=160,slow=4.7,SNR=4.8						
	0.9nm,0.5s						
MKAR	Makanchi Array	54.52	323	P	P	08 33 09.1	-1.0
	0.9nm,0.7s,baz=120,slow=6.9,SNR=9.0						
	0.9nm,0.7s						
KURBB	Kurchatov Arra	58.59	326	P	P	08 33 38.8	-0.1
	0.9nm,0.7s,baz=124,slow=6.7,SNR=7.5						
	0.9nm,0.7s						
BVAR	Borovoye Array	64.19	326	P	P	08 34 17.2	+0.5
	1.1nm,0.7s,baz=110,slow=6.6,SNR=2.8						
	1.1nm,0.7s						

*IDC **12** 08:27:31.6±1.4,3°.94N×127°.04E,h0km,mb3.6/7, mbtmp3.7/7,MS3.6/1,Error ellipse: s-maj=109.6km s-min=17.5km az=69.0*
*DJA **12** 08:27:36.4±0.6,4°N±7°×12°7E±°,h10km,M4.0/6,mb4.1/3, MLv4.0/6*
ISC 12 08:27:37.0±1.2,3°.9N±0°.2×127°.0E±0°.2,h36km,n10, σ0°55/9,mb3.8/7,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.46	261	P	Pn	08 28 00.9	+0.1
FAKI	Fak Fak	8.59	142	P	Pn	08 29 39.2	+0.2
FITZ	Fitzroy Crossi	21.91	183	P	P	08 32 27.5	+0.3
	0.6nm,0.4s,baz=1.6,slow=11,SNR=2.1						
	0.6nm,0.4s						
PMG	Port Moresby	24.08	123	LR	LR	08 44 46.9	
	comp=Z,140nm,18.5s,baz=266,slow=43						
WRA	Warramunga Arr	24.79	163	P	P	08 32 55.3	-0.4
	2.0nm,0.7s,baz=342,slow=10,SNR=14						
	2.0nm,0.7s						
ASAR	Alice Springs	28.23	166	P	P	08 33 25.8	-1.0
	0.2nm,0.7s,baz=350,slow=9.0,SNR=7.7						
	0.2nm,0.7s						
STKA	Stephens Creek	38.21	160	P	P	08 34 54.0	+0.5
	3.2nm,1.0s,baz=351,slow=8.7,SNR=5.0						
	3.2nm,1.0s						
MKAR	Makanchi Array	57.55	325	P	P	08 37 22.8	-0.2
	0.3nm,0.3s,baz=114,slow=8.2,SNR=7.4						
	0.3nm,0.3s						
ZALV	Zalesovo Beam	60.54	333	P	P	08 37 43.3	-0.2
	0.4nm,0.4s,baz=132,slow=8.0,SNR=2.0						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	61.72	327	P	P	08 37 52.1	+0.5
	0.3nm,0.4s,baz=122,slow=7.6,SNR=4.2						
	0.3nm,0.4s						

ROM 12 08:31:23.5±0.0,42°.770N±0°.002×13°.245E±0°.004, h11km,ML2.2/47,6C,Error ellipse: s-maj=0.3km s-min=0.1km az=77.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRA	Matera	0.11	97	P	Pg	08 31 26.8	+0.4
MTRA				S	Sg	08 31 28.9	+0.4
MTRA				AML	AML		
	comp=E,3150μm,0.2s						
MTRA				AML	AML		
	comp=N,3755μm,0.8s						
MTRA				AML	AML		
	comp=E,3150μm,0.2s						
MTRA				AML	AML		
	comp=N,3650μm,0.8s						
MTRA				AML	AML		
	comp=N,3750μm,0.8s						
MTRA				AML	AML		
	comp=E,3125μm,0.2s						
MTRA				AML	AML		
	comp=N,3524μm,0.2s						
NRCA	Norcia	0.12	304	P	Pg	08 31 27.0	+0.5
NRCA				S	Sg	08 31 29.2	+0.6
NRCA				AML	AML		
	comp=N,3820μm,0.1s						
NRCA				AML	AML		
	comp=E,4905μm,0.2s						
NRCA				AML	AML		
	comp=N,3535μm,0.1s						
NRCA				AML	AML		
	comp=E,5235μm,0.2s						
NRCA				AML	AML		
	comp=E,4910μm,0.2s						
MMO1	Montemonaco	0.14	25	P	Pg	08 31 27.3	+0.4
MMO1				S	Sg	08 31 29.8	+0.5
MC2	Monte Cornacci	0.15	344	⇑P	Pg	08 31 27.5	+0.5
MC2				S	Sg	08 31 30.4	+0.8
SMA1	SAN MARTINO	0.15	154	P	Pg	08 31 27.7	+0.6
SMA1				S	Sg	08 31 30.3	+0.7
SMA1				AML	AML		
	comp=E,3580μm,0.2s						
SMA1				AML	AML		
	comp=N,2930μm,0.2s						
LNSS	Leonessa	0.23	222	P	Pg	08 31 28.9	+0.6
LNSS				S	Sg	08 31 32.8	+1.3
LNSS				AML	AML		
	comp=E,514μm,0.4s						
LNSS				AML	AML		
	comp=N,1110μm,0.3s						
LNSS				AML	AML		
	comp=E,469μm,0.3s						
LNSS				AML	AML		
	comp=N,1076μm,0.3s						
LNSS				AML	AML		
	comp=E,469μm,1.7s						
FEMA	Monte Fema	0.24	323	P	Pg	08 31 29.0	+0.5
FEMA				S	Sg	08 31 33.0	+1.0
RM33	Pellescritta (	0.26	185	⇑P	Pg	08 31 29.5	+0.6
RM33				S	Sb	08 31 33.8	-1.1
RM33				AML	AML		
	comp=N,510μm,0.3s						
RM33				AML	AML		
	comp=E,710μm,0.4s						
RM33				AML	AML		
	comp=N,469μm,0.3s						
RM33				AML	AML		
	comp=N,510μm,0.3s						
RM33				AML	AML		
	comp=E,762μm,0.4s						
CAMP	Campotosto	0.26	153	⇑P	Pg	08 31 29.3	+0.4
CAMP				S	Sg	08 31 33.4	+0.8
CAMP				AML	AML		
	comp=N,1285μm,0.3s						
CAMP				AML	AML		
	comp=E,1445μm,0.2s						
GAVE	Gavelli	0.27	253	P	Pg	08 31 29.7	+0.7
GAVE				S	Sb	08 31 34.0	-1.1
GAVE				AML	AML		
	comp=E,454μm,0.3s						
GAVE				AML	AML		
	comp=N,280μm,1.0s						
GAVE				AML	AML		
	comp=E,454μm,0.3s						
GAVE				AML	AML		
	comp=N,660μm,1.0s						
GAVE				AML	AML		
	comp=E,506μm,1.0s						
GAVE				AML	AML		
	comp=N,659μm,1.0s						
GAVE				AML	AML		
	comp=E,506μm,1.0s						
GAVE				AML	AML		
	comp=E,479μm,0.3s						
GAVE				AML	AML		
	comp=E,454μm,0.3s						
GAVE				AML	AML		
	comp=N,221μm,0.3s						
MF5	Montefalcone A	0.27	36	⇑P	Pg	08 31 29.8	+0.7
MF5				S	Sb	08 31 34.5	-0.6
MF5				AML	AML

comp=N,1056μm,0.3s
GUMA Gualdo di Mace 0.30 13 P Pg 08 31 30.3 +0.7
GUMA S Sb 08 31 35.5 -0.5
GUMA AML AML
comp=N,1955μm,1.5s
GUMA AML AML
comp=N,1955μm,0.5s
GUMA AML AML
comp=E,3630μm,0.3s
GUMA AML AML
comp=E,3471μm,0.2s
GUMA AML AML
comp=N,1771μm,0.2s
TERO Teramo 0.30 119 P Pg 08 31 29.9 +0.2
TERO S Sg 08 31 34.7 +1.0
TERO AML AML
comp=E,546μm,0.6s
TERO AML AML
comp=N,551μm,1.1s
TERO AML AML
comp=N,551μm,0.9s
TERO AML AML
comp=E,254μm,0.1s
TERO AML AML
comp=N,277μm,0.1s
TERO AML AML
comp=N,487μm,0.1s
TERO AML AML
comp=E,483μm,0.1s
CSP1 Cessapalombo 0.32 355 ⇑P Pg 08 31 30.3 +0.3
CSP1 S Sg 08 31 35.4 +1.0
CSP1 AML AML
comp=E,778μm,0.4s
CSP1 AML AML
comp=N,824μm,1.1s
CSP1 AML AML
comp=E,778μm,0.4s
CSP1 AML AML
comp=E,778μm,1.6s
CSP1 AML AML
comp=N,826μm,1.1s
CSP1 AML AML
comp=E,778μm,0.4s
CSP1 AML AML
comp=N,703μm,0.3s
CESI CESI - Serrava 0.34 313 P Pg 08 31 30.8 +0.4
CESI S Sb 08 31 36.2 -1.0
CESI AML AML
comp=N,1024μm,0.5s
CESI AML AML
comp=E,716μm,0.2s
OFFI Offida 0.36 63 P Pb 08 31 31.8 -0.2
OFFI S Sb 08 31 38.6 +0.9
OFFI AML AML
comp=E,514μm,1.2s
OFFI AML AML
comp=N,2375μm,0.7s
PF6 Pievefavera 0.38 354 P Pg 08 31 31.0 -0.1
MML1 Montelago di S 0.40 330 P Pg 08 31 31.7 +0.3
MDAR Monte D'Aria 0.43 350 P Pg 08 31 32.2 +0.2
SEF1 Sefro 0.44 330 P Pg 08 31 32.3 +0.2
MOMA Monte Martano 0.50 274 P Pg 08 31 33.7 +0.5
MOMA AML AML
comp=E,135μm,1.3s
MOMA AML AML
comp=N,153μm,0.6s
MOMA AML AML
comp=E,126μm,0.2s
ASSB Assisi San Ben 0.51 303 P Pg 08 31 33.7 +0.2
ASSB AML AML
comp=N,135μm,0.2s
ASSB AML AML
comp=E,117μm,0.2s
FIAM Fiamignano 0.51 191 P Pg 08 31 33.5 0.0
FIAM S Sb 08 31 41.5 -0.5
FIAM AML AML
comp=N,100μm,0.2s
FIAM AML AML
comp=E,58μm,0.3s
SNTG Esanatoglia 0.53 335 P Pg 08 31 34.0 0.0
SNTG AML AML
comp=E,145μm,0.8s
SNTG AML AML
comp=N,145μm,0.5s
SNTG AML AML
comp=E,145μm,0.8s
SNTG AML AML
comp=N,145μm,1.5s
SNTG AML AML
comp=N,132μm,0.3s
SNTG AML AML
comp=E,118μm,0.2s
EL6 Elcito 0.57 349 P Pg 08 31 34.6 0.0
EL6 AML AML
comp=E,302μm,1.3s
EL6 AML AML
comp=N,295μm,1.4s
EL6 AML AML
comp=N,296μm,1.4s
EL6 AML AML
comp=N,287μm,0.5s
ATCC AVT- Casa Cast 0.61 313 P Pg 08 31 35.4 +0.1
PTRJ Pietraroja 1.70 145 AML AML
comp=N,5865μm,1.6s
PTRJ AML AML
comp=E,1295μm,1.6s
PTRJ AML AML
comp=N,1316μm,1.6s
PTRJ AML AML
comp=E,160μm,1.1s
FIR Firenze 1.77 305 AML AML
comp=E,510μm,1.5s
FIR AML AML
comp=N,502μm,1.2s

ROM 12 08:31:53.3±0.0, 42°.772N±0°.002×13°.247E±0°.005, h11km, ML1.4/15, 1C, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRA	**Matera**	**0.11**	**98**	P	Pg	08 31 56.6	+0.4
MTRA				S	Sg	08 31 58.7	+0.4
MTRA				AML	AML		
	comp=E,362μm,0.2s						
MTRA				AML	AML		
	comp=E,331μm,0.2s						
MTRA				AML	AML		
	comp=N,221μm,0.2s						
MTRA				AML	AML		
	comp=N,225μm,0.2s						
NRCA	**Norcia**	**0.12**	**302**	P	Pg	08 31 56.7	+0.4
NRCA				S	Sg	08 31 59.0	+0.6
NRCA				AML	AML		
	comp=N,488μm,0.1s						
NRCA				AML	AML		
	comp=E,779μm,0.1s						
NRCA				AML	AML		
	comp=E,714μm,0.1s						
NRCA				AML	AML		
	comp=N,518μm,0.1s						
MMO1	**Montemonaco**	**0.14**	**25**	P	Pg	08 31 57.0	+0.4
MMO1				S	Sg	08 31 59.7	+0.6
MC2	**Monte Cornacci**	**0.15**	**343**	P	Pg	08 31 57.3	+0.5
MC2				S	Sg	08 32 00.2	+0.9
SMA1	**SAN MARTINO**	**0.15**	**155**	P	Pg	08 31 57.4	+0.5
SMA1				S	Sg	08 32 00.2	+0.8
LNSS	**Leonessa**	**0.23**	**222**	P	Pg	08 31 58.7	+0.7
FEMA	**Monte Fema**	**0.24**	**323**	P	Pg	08 31 58.8	+0.5
FEMA				S	Sg	08 32 02.8	+1.1
CAMP	**Campotosto**	**0.26**	**153**	P	Pg	08 31 59.1	+0.3
CAMP				S	Sg	08 32 03.4	+1.0
RM33	**Pellescritta (**	**0.26**	**185**	P	Pg	08 31 59.2	+0.4
RM33				S	Sb	08 32 03.8	-0.9
RM33				AML	AML		
	comp=N,94μm,0.2s						
RM33				AML	AML		
	comp=N,99μm,0.2s						
RM33				AML	AML		
	comp=E,54μm,0.1s						
MF5	**Montefalcone A**	**0.27**	**36**	P	Pb	08 31 59.5	-0.6
MF5				S	Sb	08 32 04.5	-0.3
MTCL	**Monte Cavallo**	**0.29**	**321**	P	Pg	08 31 59.5	+0.3
MTCL				S	Sg	08 32 04.1	+1.0
TERO	**Teramo**	**0.30**	**119**	P	Pg	08 31 59.8	+0.4
TERO				S	Sb	08 32 04.7	-1.1
TERO				AML	AML		
	comp=E,86μm,0.1s						
TERO				AML	AML		
	comp=E,28μm,0.1s						
TERO				AML	AML		
	comp=N,117μm,0.1s						
TERO				AML	AML		
	comp=N,43μm,0.1s						
CSP1 Cessapalombo 0.32 354				⇑P	Pg	08 32 00.1	+0.3
CESI CESI - Serrava 0.34 313				P	Pg	08 32 00.5	+0.3
CESI				S	Sb	08 32 06.0	-1.0
PF6 Pievefavera 0.38 354				P	Pg	08 32 00.7	-0.2
PF6				S	Sg	08 32 06.6	+0.7
MML1 Montelago di S 0.40 329				P	Pg	08 32 01.4	+0.2
MML1				S	Sb	08 32 07.7	-0.8

*THE **12** 08:32:02.1, 37°.39N×20°.67E, h0km±1km, ML3.6/7, Error ellipse: s-maj=1.8km s-min=0.5km az=219.0*
*ATH **12** 08:32:02.3, 37°.40N×20°.64E, h7km±3km, ML3.6/13, Manual Solution by A.Moschou First location: 2019/03/12 08:33:00, This location: 2019/03/12 11:24:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*

ISC 12 08:32:02.9±1.6, 37°.43N±0°.06×20°.73E±0°.05, h17km±7km, n37, σ0°.79/63, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.29**	**17**	P	**Pg**	**08 32 09.2**	**-0.1**
LTHK				S	**Sg**	**08 32 14.2**	**+0.5**
LTHK	**Lithakia**	**0.29**	**17**	P	**Pg**	**08 32 09.3**	**-0.1**
LTHK				S	**Sg**	**08 32 13.6**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.65**	**3**	P	**Pb**	**08 32 15.3**	**-0.5**
RTZL				S	**Sb**	**08 32 25.2**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.69**	**350**	P	**Pb**	**08 32 16.2**	**-0.4**
PSDA				S	**Sb**	**08 32 26.2**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.69**	**350**	P	**Pb**	**08 32 16.1**	**-0.4**
PSDA				S	**Sb**	**08 32 26.2**	**+0.3**
VLS	**Valsamata**	**0.76**	**352**	P	**Pb**	**08 32 16.9**	**-0.8**
VLS				S	**Sb**	**08 32 28.5**	**+0.8**
	5μm,0.2s						
VLS	**Valsamata**	**0.76**	**352**	P	**Pb**	**08 32 17.1**	**-0.5**
VLS				S	**Sb**	**08 32 27.7**	**0.0**
AMT	**Artemida-Makis**	**0.79**	**82**	P	**Pn**	**08 32 18.6**	**-0.6**
AMT				S	**Sn**	**08 32 30.0**	**-0.6**
SMHA	**Samh**	**0.82**	**355**	P	**Pb**	**08 32 17.9**	**-0.8**
SMHA				S	**Sb**	**08 32 29.9**	**+0.3**
DMLN	**Damoulianata-K**	**0.86**	**341**	P	**Pb**	**08 32 18.9**	**-0.5**
DMLN				S	**Sg**	**08 32 32.0**	**+1.0**
	5μm,0.2s						
DMLN	**Damoulianata-K**	**0.86**	**341**	P	**Pb**	**08 32 19.0**	**-0.4**
DMLN				S	**Sb**	**08 32 30.7**	**+0.1**
RLS	**Riolos of Patr**	**0.86**	**43**	P	**Pb**	**08 32 19.1**	**-0.2**
RLS				S	**Sn**	**08 32 32.5**	**+0.1**
RLS	**Riolos of Patr**	**0.86**	**43**	P	**Pb**	**08 32 19.2**	**-0.2**
RLS				S	**Sn**	**08 32 32.3**	**0.0**
DRO	**Drossia**	**0.94**	**56**	P	**Pg**	**08 32 20.7**	**-0.5**
DRO				S	**Sn**	**08 32 35.9**	**+1.5**
	2μm,0.3s						
DRO	**Drossia**	**0.94**	**56**	P	**Pg**	**08 32 21.0**	**-0.2**
DRO				S	**Sn**	**08 32 35.7**	**+1.3**
ITM	**Ithomi**	**0.98**	**104**	P	**Pg**	**08 32 21.9**	**-0.2**
ITM				S	**Sn**	**08 32 36.4**	**+0.9**
ITM	**Ithomi**	**0.98**	**104**	P	**Pg**	**08 32 22.5**	**+0.4**
ITM				S	**Sn**	**08 32 36.7**	**+1.1**
FSK	**Fiskardo**	**1.04**	**353**	P	**Pn**	**08 32 21.9**	**-0.8**
FSK				S	**Sg**	**08 32 38.0**	**+1.3**
	3μm,0.2s						
FSK	**Fiskardo**	**1.04**	**353**	P	**Pb**	**08 32 22.1**	**-0.3**
FSK				S	**Sb**	**08 32 36.7**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.26**	**354**	P	**Pb**	**08 32 25.9**	**-0.3**
DRAG				S	**Sg**	**08 32 45.4**	**+1.6**
KLV	**Kalavryta, Ach**	**1.28**	**61**	P	**Pg**	**08 32 26.7**	**-1.0**
KLV	**Kalavryta, Ach**	**1.28**	**61**	P	**Pg**	**08 32 27.0**	**-0.7**
PVO	**Paravola**	**1.34**	**28**	P	**Pg**	**08 32 28.3**	**-0.5**
PVO				S	**Sg**	**08 32 47.3**	**+0.9**
LKD2	**Lefkada island**	**1.36**	**358**	P	**Pb**	**08 32 27.6**	**-0.4**
LKD2				S	**Sg**	**08 32 48.0**	**+1.1**
	2μm,0.7s						
LKD2	**Lefkada island**	**1.36**	**358**	P	**Pb**	**08 32 27.7**	**-0.2**
LKD2				S	**Sb**	**08 32 46.0**	**+0.9**
ALIK	**Aliki, Aigiali**	**1.37**	**52**	P	**Pg**	**08 32 28.9**	**-0.5**
GUR	**Goura**	**1.38**	**68**	P	**Pb**	**08 32 28.0**	**-0.3**
GUR	**Goura**	**1.38**	**68**	P	**Pg**	**08 32 28.4**	**-1.1**
TSLK	**Tsoukalades, L**	**1.40**	**358**	P	**Pb**	**08 32 28.4**	**-0.2**
TSLK				S	**Sg**	**08 32 49.0**	**+0.9**
	2μm,0.5s						
ANX	**Ano Chora**	**1.50**	**39**	P	**Pb**	**08 32 30.1**	**-0.2**
ANX				S	**Sg**	**08 32 52.2**	**+0.9**
	1μm,0.5s						
ANX	**Ano Chora**	**1.50**	**39**	P	**Pb**	**08 32 30.6**	**+0.3**
ANX				S	**Sg**	**08 32 51.7**	**+0.4**
LTK	**Loutraki**	**1.87**	**71**	P	**Pb**	**08 32 36.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.93**	**34**	P	**Pb**	**08 32 36.4**	**-1.3**
AXAR	**Agios Charalam**	**2.02**	**48**	P	**Pb**	**08 32 38.5**	**-0.7**
IGT	**Igoumenitsa**	**2.12**	**352**	P	**Pb**	**08 32 39.3**	**-1.7**
VIL2	**Platees**	**2.16**	**68**	P	**Pb**	**08 32 40.7**	**-0.8**
THL	**Klokotos Trika**	**2.36**	**25**	P	**Pb**	**08 32 43.0**	**-2.0**

*ATH **12** 08:38:53.9, 37°.93N×21°.84E, h12km±1km, ML3.5/29, Manual Solution by A.Moschou First location: 2019/03/12 08:39:07, This location: 2019/03/12 12:35:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **12** 08:38:54.1, 37°.90N×21°.83E, h7km, ML3.3/10, Error ellipse: s-maj=0.9km s-min=0.4km az=324.0*
*NEIC **12** 08:38:55.4±1.5, 37°.82N±0°.03×21°.73E±0°.08, h26km±3km, mb4.4/18, Error ellipse: s-maj=9.0km s-min=4.1km az=86.0*
*IDC **12** 08:38:58.1±2.1, 37°.94N×21°.80E, h46km±26km, mb3.6/13, mbtmp3.9/15, ML3.9/1, MS3.4/2, Error ellipse: s-maj=19.3km s-min=15.8km az=36.0*

ISC 12 08:38:53.6±0.8, 37°.93N±0°.02×21°.84E±0°.01, h13km±5km, n123, σ0°.89/169, mb4.2/22, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.11**	**284**	P	**Pg**	**08 38 56.8**	**0.0**
DRO				S	**Sg**	**08 38 58.6**	**-0.4**
	63μm,0.1s						
DRO	**Drossia**	**0.11**	**284**	P	**Pg**	**08 38 57.0**	**+0.2**
DRO				S	**Sg**	**08 38 59.0**	**0.0**
KLV	**Kalavryta, Ach**	**0.27**	**64**	P	**Pb**	**08 38 59.5**	**-0.9**
KLV				S	**Sb**	**08 39 03.8**	**-1.1**
	10μm,0.3s						
KLV	**Kalavryta, Ach**	**0.27**	**64**	P	**Pb**	**08 38 59.8**	**-0.6**
KLV				S	**Sb**	**08 39 03.8**	**-1.1**
PATG	**Patra B**	**0.33**	**344**	P	**Pb**	**08 39 01.4**	**+0.1**
PATG				S	**Sb**	**08 39 05.8**	**-0.6**
RLS	**Riolos of Patr**	**0.33**	**294**	P	**Pg**	**08 39 00.2**	**-0.1**
RLS				S	**Sb**	**08 39 05.4**	**-1.0**
	11μm,0.2s						
RLS	**Riolos of Patr**	**0.33**	**294**	P	**Pg**	**08 39 00.3**	**0.0**
RLS				S	**Sb**	**08 39 05.2**	**-1.2**
PATC	**Patra C**	**0.35**	**349**	P	**Pb**	**08 39 01.4**	**-0.3**
PATC				S	**Sb**	**08 39 06.6**	**-0.5**
UPR	**University Cam**	**0.36**	**353**	P	**Pb**	**08 39 01.6**	**-0.3**
ALIK	**Aliki, Aigiali**	**0.40**	**32**	P	**Pb**	**08 39 02.0**	**-0.5**
GUR	**Goura**	**0.40**	**88**	P	**Pb**	**08 39 01.7**	**-0.8**
GUR				S	**Sb**	**08 39 08.1**	**-0.4**
GUR	**Goura**	**0.40**	**88**	P	**Pb**	**08 39 01.8**	**-0.8**
GUR				S	**Sb**	**08 39 08.2**	**-0.4**
AMT	**Artemida-Makis**	**0.41**	**195**	P	**Pb**	**08 39 01.9**	**-0.8**
AMT				S	**Sb**	**08 39 07.7**	**-1.1**
YRMI	**Loutra Irminis**	**0.43**	**294**	P	**Pg**	**08 39 01.9**	**-0.3**
YRMI				S	**Sg**	**08 39 08.2**	**+0.4**
AXS	**Araxos**	**0.46**	**306**	P	**Pb**	**08 39 03.2**	**-0.3**
AXS				S	**Sb**	**08 39 09.3**	**-1.0**
ZARO	**Zacharo**	**0.47**	**199**	P	**Pb**	**08 39 03.3**	**-0.3**
ZARO				S	**Sb**	**08 39 09.8**	**-0.7**
EFP	**Efpalio**	**0.50**	**6**	P	**Pb**	**08 39 03.8**	**-0.5**
EFP				S	**Sb**	**08 39 11.7**	**+0.1**
	5μm,0.3s						
SERG	**Sergoula**	**0.51**	**19**	P	**Pg**	**08 39 03.9**	**+0.1**
SERG				S	**Sb**	**08 39 11.9**	**-0.1**
KALE	**Kalithea**	**0.52**	**27**	P	**Pb**	**08 39 04.0**	**-0.7**
KALE				S	**Sb**	**08 39 12.9**	**+0.8**
	10μm,0.2s						
KALE	**Kalithea**	**0.52**	**27**	P	**Pb**	**08 39 04.0**	**-0.7**
KALE				S	**Sb**	**08 39 12.3**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**0.56**	**267**	P	**Pb**	**08 39 05.5**	**+0.2**
CLEM				S	**Sb**	**08 39 12.5**	**-0.8**
ANX	**Ano Chora**	**0.67**	**5**	P	**Pb**	**08 39 06.8**	**-0.5**
ANX	**Ano Chora**	**0.67**	**5**	P	**Pb**	**08 39 06.7**	**-0.5**
ANX				S	**Sb**	**08 39 16.6**	**+0.1**
VLX	**Vlachokerasia**	**0.70**	**142**	P	**Pg**	**08 39 06.9**	**-0.3**
VLX				S	**Sb**	**08 39 17.5**	**+0.2**
PVO	**Paravola**	**0.73**	**340**	P	**Pb**	**08 39 08.4**	**+0.1**
PVO				S	**Sb**	**08 39 19.7**	**+1.5**
ITM	**Ithomi**	**0.75**	**175**	P	**Pg**	**08 39 07.8**	**-0.3**
ITM				S	**Sb**	**08 39 18.3**	**-0.4**
	3μm,0.3s						
ITM	**Ithomi**	**0.75**	**175**	Pn	**Pg**	**08 39 07.8**	**-0.3**
ITM				Sn	**Sb**	**08 39 18.7**	**+0.1**
ITM	**Ithomi**	**0.75**	**175**	P	**Pb**	**08 39 08.2**	**-0.4**
ITM				S	**Sb**	**08 39 18.9**	**+0.2**
DLFA	**Delphi**	**0.75**	**43**	P	**Pg**	**08 39 08.0**	**-0.3**
DLFA				S	**Sb**	**08 39 18.8**	**-0.1**
LTHK	**Lithakia**	**0.83**	**255**	P	**Pb**	**08 39 09.7**	**-0.1**
LTHK	**Lithakia**	**0.83**	**255**	P	**Pb**	**08 39 10.2**	**+0.3**
LTHK				S	**Sb**	**08 39 21.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.86**	**280**	P	**Pb**	**08 39 10.4**	**0.0**
RTZL				S	**Sb**	**08 39 22.6**	**+0.8**
LTK	**Loutraki**	**0.89**	**83**	P	**Pg**	**08 39 10.6**	**-0.3**
LTK				S	**Sb**	**08 39 23.6**	**+0.7**
EVR	**Evrytania**	**0.99**	**358**	P	**Pn**	**08 39 13.5**	**+0.2**
EVR				S	**Sn**	**08 39 28.0**	**+0.8**
	2μm,0.5s						
EVR	**Evrytania**	**0.99**	**358**	P	**Pn**	**08 39 13.8**	**+0.5**
EVR				S	**Sn**	**08 39 27.3**	**+0.1**
SMHA	**Samh**	**1.00**	**289**	P	**Pg**	**08 39 11.9**	**-1.0**
SMHA				S	**Sn**	**08 39 27.4**	**+0.2**
PSDA	**Pessada-Kefalo**	**1.01**	**281**	P	**Pg**	**08 39 12.4**	**-0.8**
PSDA				S	**Sn**	**08 39 27.8**	**+0.2**
PSDA	**Pessada-Kefalo**	**1.01**	**281**	P	**Pn**	**08 39 13.7**	**+0.2**
PSDA				S	**Sb**	**08 39 26.1**	**-0.1**
VLS	**Valsamata**	**1.02**	**285**	P	**Pb**	**08 39 13.0**	**-0.2**
VLS	**Valsamata**	**1.02**	**285**	P	**Pg**	**08 39 12.8**	**-0.5**
VLS				S	**Sb**	**08 39 26.5**	**0.0**
AXAR	**Agios Charalam**	**1.06**	**37**	P	**Pg**	**08 39 13.4**	**-0.6**
AXAR				S	**Sb**	**08 39 28.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.11**	**12**	P	**Pb**	**08 39 14.8**	**+0.1**
MAKR				S	**Sn**	**08 39 32.5**	**+2.4**
MAKR	**Makrakomi, Fth**	**1.11**	**12**	P	**Pn**	**08 39 15.0**	**+0.1**
MAKR				S	**Sn**	**08 39 30.2**	**+0.2**
FSK	**Fiskardo**	**1.14**	**298**	P	**Pg**	**08 39 14.9**	**-0.7**
FSK				S	**Sn**	**08 39 32.9**	**+2.1**
	1μm,0.2s						
FSK	**Fiskardo**	**1.14**	**298**	P	**Pg**	**08 39 14.8**	**-0.8**
FSK				S	**Sn**	**08 39 30.8**	**0.0**
VIL2	**Platees**	**1.16**	**75**	P	**Pn**	**08 39 16.7**	**+1.1**
VIL2				S	**Sn**	**08 39 32.0**	**+0.7**
LKR	**Lokris**	**1.16**	**51**	P	**Pn**	**08 39 15.8**	**+0.2**
LKR	**Lokris**	**1.16**	**51**	P	**Pg**	**08 39 15.5**	**-0.5**
LKR				S	**Sn**	**08 39 31.6**	**+0.3**
KRND	**KRANIDI**	**1.17**	**117**	P	**Pn**	**08 39 15.8**	**+0.1**
KRND				S	**Sn**	**08 39 33.0**	**+1.5**
	1μm,0.5s						
KRND	**KRANIDI**	**1.17**	**117**	P	**Pn**	**08 39 16.1**	**+0.4**
KRND				S	**Sn**	**08 39 32.3**	**+0.8**
VILL	**Villia**	**1.18**	**78**	P	**Pn**	**08 39 16.4**	**+0.5**
VILL				S	**Sn**	**08 39 34.1**	**+2.2**
	1μm,0.9s						
DMLN	**Damoulianata-K**	**1.20**	**285**	P	**Pn**	**08 39 16.2**	**+0.1**
DMLN	**Damoulianata-K**	**1.20**	**285**	P	**Pn**	**08 39 17.2**	**+1.0**
LKD2	**Lefkada island**	**1.27**	**313**	P	**Pn**	**08 39 17.2**	**+0.1**
LKD2	**Lefkada island**	**1.27**	**313**	P	**Pb**	**08 39 17.4**	**0.0**
LKD2				S	**Sn**	**08 39 34.5**	**+0.5**
MET4	**Agioi Theodoro**	**1.27**	**103**	P	**Pg**	**08 39 17.8**	**-0.3**
TSLK	**Tsoukalades, L**	**1.29**	**314**	P	**Pg**	**08 39 17.9**	**-0.6**
TSLK	**Tsoukalades, L**	**1.29**	**314**	P	**Pg**	**08 39 18.9**	**+0.3**
ATH	**Athens Observa**	**1.48**	**88**	P	**Pb**	**08 39 21.1**	**0.0**
VLI	**Veliai**	**1.49**	**144**	P	**Pb**	**08 39 20.9**	**-0.2**
VLI	**Veliai**	**1.49**	**144**	P	**Pg**	**08 39 21.3**	**-0.9**
ATHU	**Athens Univers**	**1.54**	**88**	P	**Pg**	**08 39 22.4**	**-0.8**
PTL	**Penteli**	**1.60**	**85**	P	**Pn**	**08 39 22.0**	**+0.3**
THL	**Klokotos Trika**	**1.64**	**5**	P	**Pb**	**08 39 23.7**	**0.0**
DION	**Dionisos Attik**	**1.66**	**84**	P	**Pn**	**08 39 22.9**	**+0.5**
DION	**Dionisos Attik**	**1.66**	**84**	P	**Pn**	**08 39 23.0**	**+0.6**
KYMI	**Kymi, Euboea I**	**1.91**	**68**	P	**Pn**	**08 39 26.5**	**+0.6**
LIT	**Litokhoron**	**2.23**	**13**		**Pb**	**08 39 32.3**	**-1.5**
LIT				Sn	**Sb**	**08 40 00.3**	**-0.9**
KEK	**Kerkira**	**2.39**	**319**	Pn	**Pn**	**08 39 32.2**	**-0.3**
KBN	**Korca**	**2.81**	**343**	Pn	**Pn**	**08 39 39.2**	**+0.8**
FNA	**Florina**	**2.88**	**353**	Pn	**Pn**	**08 39 40.3**	**+1.1**
OHR	**Ohrid**	**3.28**	**346**	*i* Pn	**Pg**	**08 39 56.1**	**-0.5**
SCTE	**Santa Cesarea**	**3.39**	**310**	Pn	**Pn**	**08 39 47.3**	**+1.0**
VAY	**Valandovo**	**3.44**	**9**	*i* Pn	**Pb**	**08 39 53.1**	**-1.3**
IDI	**Anoyia**	**3.60**	**136**		**Pn**	**08 39 49.7**	**+0.5**
IDI	**Anoyia**	**3.60**	**136**	P	**Pn**	**08 39 51.5**	**+2.4**
	12nm,0.4s,baz=300,slow=14,SNR=5.2						
IDI				S	**Sn**	**08 40 34.0**	**+2.4**
	13nm,0.5s,baz=58,slow=17,SNR=2.2						
TIR	**Tirane**	**3.74**	**337**	Pn	**Pn**	**08 39 51.1**	**+0.1**
TIP	**Timpagrande**	**4.18**	**289**	Pn	**Pn**	**08 39 56.9**	**-0.2**
RDO	**Rodhopi**	**4.30**	**40**	Pn	**Pn**	**08 40 00.9**	**+2.2**
PUK	**Puka**	**4.38**	**341**	Pn	**Pn**	**08 40 00.5**	**+0.6**
KARP	**Karpathos**	**4.89**	**117**	Pn	**Pn**	**08 40 06.9**	**+0.1**
PDG	**Podgorica**	**4.92**	**337**	Pn	**Pn**	**08 40 08.8**	**+1.6**
CUC	**Castrocucco**	**5.13**	**296**	Pn	**Pn**	**08 40 09.5**	**-0.7**
SGRT	**San Giovanni R**	**6.05**	**311**	Pn	**Pn**	**08 40 24.2**	**+1.3**
DUGI	**Dugi Otok**	**7.94**	**322**	Sg	**Sg**	**08 43 03.0**	**-5.3**
MLR	**Muntele Rosu**	**8.15**	**21**	P	**Pn**	**08 40 54.5**	**+2.7**
	0.5nm,0.3s,baz=160,slow=15,SNR=4.6						
	2.0nm,0.7s						
NRCA	**Norcia**	**8.27**	**309**	Pn	**Pn**	**08 40 54.3**	**+1.0**
AKASG	**Malin Array Be**	**13.81**	**20**	LR	LR	08 48 08.7	
	comp=Z,118nm,19.7s,baz=270,slow=40						
ESDC	**Sonseca Array**	**20.17**	**283**	P	**P**	**08 43 27.6**	**-0.2**
	0.8nm,0.6s,baz=85,slow=11,SNR=5.1						
	0.8nm,0.6s						
HFS	**Hagfors**	**22.82**	**349**	P	**P**	**08 43 56.4**	**+0.3**
	2.4nm,0.5s,baz=159,slow=13,SNR=4.9						
	2.4nm,0.5s						
FINES	**FINESS Array B**	**23.69**	**5**	P	**P**	**08 44 04.7**	**0.0**
	2.8nm,0.9s,baz=182,slow=12,SNR=3.5						
	2.8nm,0.9s						
NC405	**NORSAR Array S**	**24.06**	**348**	P	**P**	**08 44 07.7**	**-0.7**
NB201	**NORSAR Array S**	**24.08**	**347**	P	**P**	**08 44 09.2**	**+0.7**
NB201				IAmb	IAmb	08 44 46.1	
	comp=Z,16nm,1.1s						
NOA	**NORSAR Array B**	**24.08**	**347**	P	**P**	**08 44 09.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=157,slow=9.0,SNR=4.1						
	comp=Z,0.3nm,0.6s						
NBO00	**NORSAR Array S**	**24.15**	**347**	P	**P**	**08 44 09.2**	**0.0**
NBO00				IAmb	IAmb	08 44 16.1	
	comp=Z,15nm,1.1s						
NC303	**NORSAR Array S**	**24.23**	**348**	P	**P**	**08 44 10.5**	**+0.7**
NC303				IAmb	IAmb	08 44 30.0	
	comp=Z,32nm,1.5s						
EKA	**Eskdalemuir Ar**	**24.24**	**324**	P	**P**	**08 44 10.3**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=122,slow=9.9,SNR=3.5						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**29.53**	**55**	P	**P**	**08 44 57.4**	**-0.2**
ARTI	**Arti**	**30.45**	**41**	P	**P**	**08 45 05.7**	**0.0**
TORD	**Torodi Ar. Bea**	**30.51**	**221**	P	**P**	**08 45 06.8**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=24,slow=9.8,SNR=1.1						
	comp=Z,2.4nm,0.3s						
ARCES	**ARCESS Array B**	**31.73**	**2**	P	**P**	**08 45 16.5**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=198,slow=10,SNR=1.7						
	comp=Z,2.8nm,0.9s						
BVAR	**Borovoye Array**	**36.48**	**50**	P	**P**	**08 45 57.5**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=266,slow=7.3,SNR=7.9						
	comp=Z,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**41.54**	**53**	P	**P**	**08 46 41.0**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=281,slow=8.7,SNR=17						
	comp=Z,2.2nm,0.6s						
KURK	**Kurchatov**	**41.59**	**53**	P	**P**	**08 46 41.9**	**+0.9**

SCHQ **Schefferville** 59.35 318 P **P** 08 48 54.3 -0.9
SCHQ **Schefferville** 59.35 318 P **P** 08 48 55.9 +0.7
comp=Z,1.1nm,0.7s,baz=45,slow=7.1,SNR=1.1
comp=Z,1.1nm,0.7s
TIXI **Tiksi** 59.52 21 LR LR 09 18 45.8
comp=Z,46nm,19.0s,baz=187,slow=40
INK **Inuvik** 72.48 351 P **P** 08 50 20.1 +0.7
INK IAmb IAmb 08 50 25.5
comp=Z,4.1nm,1.4s
E29M **Blow River** 72.92 352 P **P** 08 50 23.1 +1.0
E29M IAmb IAmb 08 50 58.5
comp=Z,3.3nm,1.4s
D23K **Nanushuk River** 73.28 357 P **P** 08 50 23.8 -0.3
D23K IAmb IAmb 08 51 06.5
comp=Z,5.5nm,1.4s
F31M **Tsiigehtchic** 73.33 350 P **P** 08 50 25.3 +0.8
F31M IAmb IAmb 08 50 51.7
comp=Z,4.8nm,1.4s
G31M **Satah River** 73.89 350 P **P** 08 50 28.2 +0.4
D19K **Kuna River** 73.90 360 P **P** 08 50 27.8 -0.1
D19K IAmb IAmb 08 50 45.6
comp=Z,6.0nm,1.4s
YKA **Yellowknife Ar** 73.98 341 P **P** 08 50 27.5 -0.9
comp=Z,0.1nm,0.5s,baz=29,slow=5.2,SNR=2.5
comp=Z,0.1nm,0.5s
H29M **Whitestone** 75.06 352 P **P** 08 50 34.7 0.0
I30M **Mount Dempster** 75.78 351 P **P** 08 50 37.9 -1.0
I30M IAmb IAmb 08 50 40.4
comp=Z,1.9nm,1.1s
I28M **Miner Creek** 75.98 352 P **P** 08 50 40.5 +0.5
J30M **Hart River** 76.39 350 P **P** 08 50 42.6 +0.2
J30M IAmb IAmb 08 51 08.7
comp=Z,5.9nm,1.5s

ASRS 12 09:05:05.0±2.0, 53°.63N×88°.01E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 12 09:05:15.0±1.1, 53°.64N×91°.17E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*ASRS **12** 09:05:59.0±1.3, 54°.63N×83°.65E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 12 09:06:00.8±2.3, 54°.61N×83°.72E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=19.5km s-min=11.1km az=166.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.93	135	I	I	09 11 29.3	
	baz=317,slow=335,SNR=2.7						
ZALV	Zalesovo Beam	0.93	135	Pg	Pg	09 06 18.2	-0.3
	1.4nm,0.3s,baz=319,slow=15,SNR=7.7						
ZALV				Lg	Lg	09 06 31.6	
	3.2nm,0.3s,baz=316,slow=28,SNR=3.7						
KURBB	Kurchatov Arra	5.09	220	Pn	Pn	09 07 18.3	+0.1
	0.1nm,0.3s,baz=42,slow=14,SNR=4.2						
KURBB				Sn	Sn	09 08 15.8	-1.9
	baz=34,slow=20,SNR=2.0						
	0.3nm,0.4s						
MKAR	Makanchi Array	7.88	187	Pn	Pn	09 07 57.5	+0.9
	0.1nm,0.3s,baz=3.8,slow=8.7,SNR=2.5						
MKAR				Lg	Lg	09 10 12.3	
	0.1nm,0.3s,baz=3.4,slow=24,SNR=2.0						
	0.3nm,0.6s						

*ASRS **12** 09:14:56.0±1.2, 53°.57N×86°.82E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 12 09:14:57.3±2.6, 53°.68N×87°.01E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=23.8km s-min=14.0km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.33	283	I	I	09 21 33.9	
	0.1nm,1.2s,baz=96,slow=317,SNR=4.1						
ZALV	Zalesovo Beam	1.33	282	Pg	Pg	09 15 21.3	-1.4
	1.1nm,0.3s,baz=102,slow=17,SNR=13						
ZALV				Lg	Lg	09 15 40.5	
	1.5nm,0.3s,baz=104,slow=28,SNR=8.3						
KURBB	Kurchatov Arra	6.05	243	Pn	Pn	09 16 28.7	+0.8
	baz=59,slow=13,SNR=3.4						
KURBB				Lg	Lg	09 18 07.8	
	baz=61,slow=34,SNR=4.2						
	0.5nm,0.8s						
MKAR	Makanchi Array	7.53	206	Pn	Pn	09 16 50.0	+1.7
	0.1nm,0.3s,baz=27,slow=14,SNR=6.4						
MKAR				Sn	Sn	09 18 13.3	-1.0
	baz=28,slow=28,SNR=2.6						
	0.2nm,0.4s						

*IDC **12** 09:43:33.3±1.0, 14°.59N×146°.27E, h0km, mb3.7/11, mbtmp3.7/11, Error ellipse: s-maj=27.5km s-min=17.0km az=119.0*
ISC 12 09:43:40.3±0.9, 14°.6N±0°.1×146°.1E±0°.2, h50km, n19, σ1°.35/14, mb3.8/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.59	230	Pn	Pn	09 44 06.0	-0.1
	84nm,0.3s,baz=45,slow=7.1,SNR=48						
GUMO				Sn	Sn	09 44 25.4	0.0
	322nm,0.3s,baz=100,slow=23,SNR=30						
H11S3	WAKE ISLAND Hy 20.09	76		T	T	10 09 36.3	
	baz=263,slow=74,SNR=5.3						
H11S1	WAKE ISLAND Hy 20.10	76		T	T	10 09 35.3	
	baz=263,slow=74,SNR=4.0						
H11S2	WAKE ISLAND Hy 20.10	76		T	T	10 09 34.3	
	baz=263,slow=74,SNR=3.9						
H11N1	WAKE ISLAND Hy 20.48	73		T	T	10 09 56.3	
	baz=262						
H11N2	WAKE ISLAND Hy 20.49	73		T	T	10 09 43.8	
	baz=262						
H11N3	WAKE ISLAND Hy 20.50	73		T	T	10 09 49.2	
	baz=262						
MJAR	Matsushiro Arr	22.94	343	P	P	09 48 36.8	-3.4
	1.3nm,0.9s,baz=175,slow=10.0,SNR=1.6						
WRA	Warramunga Arr	36.25	199	P	P	09 50 37.9	-1.0
	0.4nm,0.8s,baz=22,slow=9.3,SNR=3.0						
	0.4nm,0.8s						
ASAR	Alice Springs	39.89	198	P	P	09 51 08.6	-0.9
	0.2nm,0.5s,baz=21,slow=8.9,SNR=5.7						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	45.29	282	P	P	09 51 54.4	+0.9
	0.6nm,0.3s,baz=119,slow=9.5,SNR=1.4						
	0.6nm,0.3s						
SONM	Songino Array	46.60	324	P	P	09 52 04.0	+0.5
	0.2nm,0.3s,baz=142,slow=7.6,SNR=1.7						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	61.50	324	P	P	09 53 53.0	+1.2
	0.5nm,0.3s,baz=112,slow=8.1,SNR=2.9						
	0.5nm,0.3s						
MKAR	Makanchi Array	61.60	315	P	P	09 53 53.7	+1.0
	0.5nm,0.4s,baz=92,slow=8.6,SNR=15						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	64.62	319	P	P	09 54 13.3	+0.7
	0.8nm,0.4s,baz=100,slow=7.0,SNR=11						
	0.8nm,0.4s						
ILAR	Eielson Array	67.12	25	P	P	09 54 27.8	-0.7
	0.4nm,0.5s,baz=259,slow=6.0,SNR=7.7						
	0.4nm,0.5s						
BVAR	Borovoye Array	69.87	321	P	P	09 54 46.3	+0.5
	0.6nm,0.3s,baz=95,slow=8.6,SNR=5.3						
	0.6nm,0.3s						
YKA	Yellowknife Ar	81.39	28	P	P	09 55 51.7	+0.2
	0.2nm,0.7s,baz=288,slow=5.6,SNR=4.1						
	0.2nm,0.7s						
NVAR	Mina Array Bea	85.33	52	P	P	09 56 13.9	+1.3
	0.5nm,0.6s,baz=283,slow=5.2,SNR=2.0						
	0.5nm,0.6s						

*UPA **12** 09:47:02.7±9.6, 11°.77N×86°.33W, h0km±999km*
*UCR **12** 09:47:08.4±1.1, 10°.33N×86°.27W, h15km±4km, MW5.3*
*NEIC **12** 09:47:11.6±2.4, 10°.65N±0°.06×85°.98W±0°.06, h18km±3km, mb4.8/378, Mwr4.6/12, Error ellipse: s-maj=11.0km s-min=6.1km az=222.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.55; Mθθ=0.10; Mφφ=0.65; Mrθ=0.51; Mrφ=-0.78; Mθφ=0.31; Fault plane solution: Mo1.16000×10^16 NP1:φs112.21000°, δ60.80000°, λ-145.42000°. NP2:φs3.63000°, δ60.30000°, λ-34.16000°. Principal axes: T 1.1425, Plg0.0000°, Azm238.0000°; N 0.0289, Plg46.0000°, Azm147.0000°; P -1.1714, Plg44.0000°, Azm328.0000°;*
*NEIC **12** 09:47:11.2, 10°.71N×85°.98W, h10km*
*CATAC **12** 09:47:11.3±0.7, 10°.N±2°.×8°.6W±°, h20km±6km, M4.8/43, MLv4.8/43, Error ellipse: s-maj=6.0km s-min=3.3km az=33.2, confirmed*
*GCMT **12** 09:47:12.6±0.6, 10°.29N±0°.04×86°.47W±0°.04, h23km±1km, MW4.9/69, Moment Tensor Solution. s32,c37; s69,c85; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.34±.17; Mθθ=-1.21±.09; Mφφ=-1.12±.10; Mrθ=1.12±.12; Mφθ=0.63±.05; Mφr=-1.19±.16; Best double couple: Mo=2.63600×10^16 NP1:φs312.00000°, δ26.00000°, λ87.00000°. NP2: φs135.00000°, δ64.00000°, λ91.00000°. Principal axes: T 2.9080, Plg71.0000°, Azm48.0000°; N -0.5350, Plg1.0000°, Azm315.0000°; P -2.3640, Plg19.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **12** 09:47:14.2±1.3, 10°.77N×85°.91W, h52km±11km, mb4.0/16, mbtmp4.3/19, MS4.0/40 Error ellipse: s-maj=20.9km s-min=8.9km az=48.0*
*SNET **12** 09:47:18.5±1.0, 10°.97N×86°.47W, h18km±776km, ML4.8*
*GCG **12** 09:47:51.4±0.6, 12°.63N×88°.21W, h13km, MD4.9*
ISC 12 09:47:11.4±0.9, 10°.57N±0°.03×86°.08W±0°.03, h27km±6km, n620, σ1°.49/519, mb4.8/186, MS3.9/39, 48C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	Hacienda Flor	0.53	81	⇑eP	Pn	09 47 24.2	+1.1
ALIBA	Liberia Airpor	0.53	87	↓eP	Pn	09 47 23.7	+0.6
ALIBA				eS	Sn	09 47 35.6	+4.4
SACU	Santa Cruz	0.58	122	⇑eP	Pb	09 47 21.9	-1.1
SACU				eS	Sb	09 47 31.1	+0.3
ERIA	Liberia	0.64	84	⇑eP	Pn	09 47 25.5	+0.9
LCRUZ	La Cruz	0.68	41	⇑eP	Pn	09 47 27.8	+2.6
LCRUZ				eS	Sn	09 47 42.3	+7.4
VRLE	La Escondida,	0.74	73	⇑eP	Pn	09 47 26.6	+0.5
GPS2	Hotel Rincn d	0.74	76	eP	Pn	09 47 26.8	+0.7
PLVR	Palo Verde	0.75	107	eP	Pb	09 47 25.0	-1.0
NICO	Nicoya	0.76	124	⇑eP	Pb	09 47 24.0	-2.0
VORI	VORI	0.77	71	⇑iP	Pn	09 47 27.2	+0.6
BAGA	Bagaces	0.81	93	⇑eP	Pn	09 47 28.3	+1.4
CARN	Rivas	0.83	42	⇑P	Pn	09 47 29.3	+2.1
CARN	Rivas	0.83	42	P	Pn	09 47 29.7	+2.5
CARN				S	Sn	09 47 43.8	+5.3
CARN	Rivas	0.83	42	P	Pn	09 47 29.3	+2.1
COLC	Colonia	0.87	83	⇑eP	Pn	09 47 28.4	+0.5
INDI	Punta indio, G	0.90	141	P	Pn	09 47 25.4	-2.8
INDI	Punta indio, G	0.90	141	P	Pn	09 47 25.1	-3.1
HORNC	Hornillas	0.90	81	⇑P	Pn	09 47 29.0	+0.6
CUI	Cuipilapa	0.91	84	⇑eP	Pn	09 47 29.0	+0.6
ARIN	Rivas	0.92	15	⇑P	Pn	09 47 30.3	+1.9
ARIN	Rivas	0.92	15	S	Sn	09 47 45.4	+4.7
ARIN	Rivas	0.92	15	P	Pn	09 47 30.4	+1.9
ARIN	Rivas	0.92	15	P	Pn	09 47 30.4	+1.9
CNAS	Canas	0.98	98	⇑eP	Pb	09 47 29.7	-0.1
NYURE	Nandayure	0.99	125	⇑eP	Pn	09 47 28.2	-1.3
JAPN	AI SSO del Vol	1.03	23	↓P	Pb	09 47 32.8	+2.2
JAPN	AI SSO del Vol	1.03	23	P	Pb	09 47 32.9	+2.2
JAPN	AI SSO del Vol	1.03	23	S	Sb	09 47 35.8	-8.0
JAPN	AI SSO del Vol	1.03	23	P	Pb	09 47 32.8	+2.2
CONN	Concepcion	1.09	24	⇑P	Pb	09 47 30.5	-1.1
CONN	Concepcion	1.09	24	P	Pb	09 47 30.4	-1.1
CONN	Concepcion	1.09	24	P	Pb	09 47 30.6	-1.1
TENO	El Achiote	1.10	83	⇑eP	Pb	09 47 31.2	-0.5
JUNT	Juntas	1.14	104	⇑eP	Pn	09 47 31.1	-0.5
JTS	Las Juntas de	1.15	104	P	Pn	09 47 31.2	-0.4
	610nm,0.3s,baz=271,slow=6.4,SNR=422						
JTS				S	Sb	09 47 47.3	+0.2
	2μm,0.5s,baz=306,slow=18,SNR=7.1						
JTS	Las Juntas de	1.15	104	⇑eP	Pn	09 47 31.1	-0.6
VERA	Finca Concepci	1.23	76	⇑eP	Pb	09 47 34.2	+0.3
ARE1	Arenal 1	1.35	94	⇑eP	Pb	09 47 35.6	-0.4
VARE2	V. Arenal	1.35	94	⇑eP	Pb	09 47 35.5	-0.5
CEDE	Laguna Cedeo	1.36	93	⇑eP	Pb	09 47 35.8	-0.4
NANN	Nandasmo	1.36	358	⇑P	Pb	09 47 37.4	+1.1
NANN	Nandasmo	1.36	358	P	Pb	09 47 37.3	+1.1
NANN	Nandasmo	1.36	358	P	Pb	09 47 37.4	+1.1
CBL1	Cabuya	1.38	135	eP	Pn	09 47 32.7	-2.1
SABN	Sabanita	1.38	357	⇑P	Pn	09 47 35.8	+0.9
SABN	Sabanita	1.38	357	P	Pb	09 47 36.1	-0.5
SABN	Sabanita	1.38	357	P	Pb	09 47 35.8	+0.9
VACR	Volcan Arenal	1.39	94	⇑eP	Pb	09 47 36.0	-0.7
FORC	Fortuna	1.39	94	eP	Pb	09 47 36.2	-0.5
MASN	Masaya	1.41	357	P	Pb	09 47 37.6	+0.5
MASN	Masaya	1.41	357	P	Pb	09 47 44.4	+7.2
TUNA	La Fortuna	1.42	94	⇑eP	Pb	09 47 36.4	-0.8
LCHIL	Los Chiles	1.42	71	⇑eP	Pb	09 47 36.7	-0.6
MAS3	AI N del Volca	1.45	356	⇑P	Pb	09 47 37.3	-0.5
MAS3	AI N del Volca	1.45	356	P	Pb	09 47 37.6	-0.2
MAS3	AI N del Volca	1.45	356	P	Pb	09 47 37.5	-0.2
SOCE	Pocosol	1.45	97		Pb	09 47 36.6	-1.2
SOCE	Pocosol	1.45	97	P	Pb	09 47 36.9	-0.9
SOCE	Pocosol	1.45	97	P	Pb	09 47 36.9	-0.9
SOCE	Pocosol	1.45	97	⇑eP	Pb	09 47 36.5	-1.2
ARZA	Esparza	1.51	112	eP	Pn	09 47 35.8	-0.8
MAFN	Magfor	1.53	354	P	Pn	09 47 37.5	+0.6
MAFN	Magfor	1.53	354	P	Pn	09 47 35.2	-1.7
UNAN	Cigeo UNAN	1.55	353	P	Pn	09 47 38.6	+1.5
UNAN	Cigeo UNAN	1.55	353	P	Pb	09 47 39.0	-0.4
ENAN	Enatrel Managu	1.55	354	P	Pb	09 47 39.2	-0.2
ENAN	Enatrel Managu	1.55	354	P	Pb	09 47 39.8	+0.4
USIM	UNAN	1.55	353	Pn	Pn	09 47 36.1	-1.1
AERN	Aeropuerto Man	1.57	357	P	Pb	09 47 39.4	-0.4
AERN	Aeropuerto Man	1.57	357	P	Pb	09 47 39.7	0.0
TISN	Laguna Tiscapa	1.58	353	P	Pb	09 47 39.5	-0.4
TISN	Laguna Tiscapa	1.58	353	P	Pb	09 47 39.4	-0.5
MGAN	Managua	1.58	354	Pn	Pn	09 47 39.0	+1.5
MGAN	Managua	1.58	354	⇑P	Pb	09 47 39.3	-0.7
MGAN	Managua	1.58	354	P	Pb	09 47 39.8	-0.1
MGAN	Managua	1.58	354	P	Pb	09 47 39.6	-0.3
MGAN	Managua	1.58	354	⇑eP	Pn	09 47 39.1	+1.5
R4DEC	Barrio San Lui	1.58	354	⇑P	Pb	09 47 39.2	-0.7
R4DEC	Barrio San Lui	1.58	354	P	Pb	09 47 39.3	-0.7
R4DEC	Barrio San Lui	1.58	354	P	Pb	09 47 39.6	-0.3
APQ2	Apoyeque	1.64	352	⇑P	Pn	09 47 39.9	+1.5
APQ2	Apoyeque	1.64	352	P	Pb	09 47 40.1	-0.8
APQ2	Apoyeque	1.64	352	P	Pn	09 47 40.0	+1.5
ACON	Acoyapa	1.65	33	P	Pb	09 47 40.6	-0.6
ACON	Acoyapa	1.65	33	⇑P	Pb	09 47 40.8	-0.3
ACON	Acoyapa	1.65	33	P	Pb	09 47 40.9	-0.3
ACON	Acoyapa	1.65	33	P	Pb	09 47 40.7	-0.6
ACON	Acoyapa	1.65	33	⇑eP	Pb	09 47 40.6	-0.6
COVE	Coope Vega, Sa	1.66	85	P	Pb	09 47 41.1	-0.2
COVE	Coope Vega, Sa	1.66	85	P	Pb	09 47 39.6	-1.7
ZARE	Zarcero	1.71	103	eP	Pn	09 47 40.4	+0.8
BITO	Garabito Jaco	1.72	123	eP	Pn	09 47 39.1	-0.4
SBEN	San Benito	1.73	1	P	Pb	09 47 41.6	-0.9
SBEN	San Benito	1.73	1	P	Pb	09 47 43.1	+0.6
SARCI	Sarchi	1.77	105	eP	Pn	09 47 41.0	+0.6
ITAL	Pital	1.79	94	eP	Pn	09 47 41.1	+0.6
TCS1	Tacares	1.83	106	⇑eP	Pn	09 47 41.6	+0.4
MOMN	Momotombo	1.88	346	⇑P	Pn	09 47 43.0	+1.2
MOMN	Momotombo	1.88	346	P	Pn	09 47 43.3	+1.5
MOMN	Momotombo	1.88	346	P	Pn	09 47 43.1	+1.3
LEVN	Ruinas Leon Vi	1.90	344	⇑P	Pn	09 47 42.9	+1.0
LEVN	Ruinas Leon Vi	1.90	344	P	Pn	09 47 44.0	+2.0
LEVN	Ruinas Leon Vi	1.90	344	P	Pn	09 47 43.8	+1.9
BOAB	BOACO BROADBAN	.92	12	Pn	Pb	09 47 43.9	-1.7
BOAB	BOACO BROADBAN	.92	12	P	Pb	09 47 44.0	-1.7
BOAB	BOACO BROADBAN	.92	12	P	Pb	09 47 44.2	-1.5
VBV1	V. Barva	2.00	103	⇑eP	Pn	09 47 44.2	+0.5
CNGA	AI SSO del Vol	2.01	343	P	Pn	09 47 44.9	+1.3
CNGN	Cerro Negro	2.01	343		Pn	09 47 44.1	+0.5
CNGN	Cerro Negro	2.01	343	⇑P	Pn	09 47 44.7	+1.0
CNGN	Cerro Negro	2.01	343	P	Pn	09 47 45.0	+1.3
CNGN	Cerro Negro	2.01	343	P	Pn	09 47 44.9	+1.3
CNGN	Cerro Negro	2.01	343	⇑eP	Pn	09 47 44.6	+1.0
HDC	Heredia	2.02	106		Pn	09 47 44.5	+0.8
HDC	Heredia	2.02	106	eP	Pn	09 47 44.4	+0.7
HDC	Heredia	2.02	106	eP	Pn	09 47 44.0	+0.2
DOMI	Santo Domingo	2.04	106	eP	Pn	09 47 44.5	+0.3
PICV	PH. Pirrs	2.08	116	eP	Pn	09 47 43.8	-0.8
LUPE	Guadalupe	2.09	107	eP	Pn	09 47 45.2	+0.4
AMPA	Desamparados	2.10	108	eP	Pn	09 47 45.2	+0.3
PLRN	Geotermica Pol	2.11	342	⇑P	Pn	09 47 45.0	+0.1
PLRN	Geotermica Pol	2.11	342	P	Pn	09 47 45.2	+0.2
PLRN	Geotermica Pol	2.11	342	P	Pn	09 47 45.2	+0.2
TEL3	Telica 3	2.13	340	P	Pn	09 47 45.7	+0.5
TEL3	Telica 3	2.13	340	P	Pn	09 47 45.6	+0.5
QUEN	AI S del Volca	2.15	340	P	Pn	09 47 46.9	+1.4
QUEN	AI S del Volca	2.15	340	P	Pb	09 47 49.3	-0.3
HERN	Volcan Telica	2.16	340		Pn	09 47 46.7	+1.1
HERN	Volcan Telica	2.16	340	P	Pb	09 47 49.7	-0.1
CVIMO	Finca Echandi	2.17	104	eP	Pn	09 47 46.7	+0.7
POLN	AI Sur del Vol	2.19	341	⇑P	Pn	09 47 46.7	+0.7
POLN	AI Sur del Vol	2.19	341	P	Pn	09 47 46.7	+0.7
POLN	AI Sur del Vol	2.19	341	P	Pn	09 47 46.8	+0.8
LCR2	La Lucha 2	2.20	112	eP	Pn	09 47 45.7	-0.7
VICA	Volcano Irazu	2.28	105	eP	Pn	09 47 48.2	+0.6
REPA	Paraso	2.30	108	eP	Pn	09 47 48.5	+0.8
TRT2	Tortugero	2.31	90	P	Pn	09 47 48.7	+1.1
TRT2	Tortugero	2.31	90	S	Sb	09 48 19.6	-0.9
TRT2	Tortugero	2.31	90	P	Pn	09 47 48.3	+0.7
CVTG	V. Turrialba,	2.31	100	eP	Pn	09 47 48.6	+0.9
RAFA	San Farael, Vo	2.32	105	eP	Pn	09 47 48.7	+0.6
CRIN	San Cristobal	2.32	336		Pn	09 47 48.9	+1.0
CRIN	San Cristobal	2.32	336	⇓P	Pn	09 47 49.6	+1.8
CRIN	San Cristobal	2.32	336	P	Pn	09 47 49.6	+1.8
CRIN	San Cristobal	2.32	336	P	Pn	09 47 49.7	+1.8
CRIN	San Cristobal	2.32	336	eP	Pn	09 47 48.6	+0.7
VTLA	Turrialba Volc	2.34	104	eP	Pn	09 47 49.1	+0.8
CVTG	Turrialba Volc	2.35	104	eP	Pn	09 47 49.3	+0.8
ESPN	Las Esperanzas	2.38	47		Pn	09 47 49.0	+0.4
ESPN	Las Esperanzas	2.38	47	P	Pb	09 47 50.9	-2.7
ESPN	Las Esperanzas	2.38	47	P	Pb	09 47 51.0	-2.6
ESPN	Las Esperanzas	2.38	47	⇑eP	Pb	09 47 50.6	-3.0
LIMN	Finca el Limon	2.50	354	P	Pn	09 47 51.9	+1.6
LIMN	Finca el Limon	2.50	354	P	Pn	09 47 51.9	+1.6
BLUN	Bluefields	2.68	58	⇑P	Pb	09 47 54.6	-4.1
BLUN	Bluefields	2.68	58	P	Pb	09 47 54.4	-4.3
BLUN	Bluefields	2.68	58	P	Pb	09 47 54.8	-3.9
POTN	Potosi Cosigui	2.79	330	P	Pn	09 47 55.8	+1.6
POTN				S	Sn	09 48 28.4	+1.4
POTN	Potosi Cosigui	2.79	330	P	Pn	09 47 55.4	+1.1
CSGN	Cosiguina Volc	2.80	329	⇑P	Pn	09 47 55.2	+0.7
CSGN	Cosiguina Volc	2.80	329	P	Pn	09 47 55.5	+1.1
CSGN	Cosiguina Volc	2.80	329	P	Pn	09 47 55.3	+0.9
OCHAL	Ojochal	2.81	121	P	Pn	09 47 57.2	+2.6
OCHAL	Ojochal	2.81	121	P	Pn	09 47 56.4	+1.8
RCPN	Sur Rio San Ju	2.94	360	P	Pn	09 47 58.5	+2.1
RCPN	Sur Rio San Ju	2.94	360	P	Pn	09 47 59.2	+2.8
RCVN	Varillal2	3.00	358	P	Pn	09 47 59.6	+2.3
RCVN	Varillal2	3.00	358	P	Pn	09 47 59.8	+2.5
CHOHN	Orocuina	3.08	340	P	Pn	09 48 00.2	+1.9
CNCH	Conchagua	3.19	328	eP	Pn	09 48 00.3	+0.4
CNCH				eS	Sn	09 48 33.6	-3.6
CNCH				IAML		09 48 43.5	
	comp=Z,3μm,0.4s						
CNCH	Conchagua	3.19	328	P	Pn	09 48 00.9	+1.0
CNCH	Conchagua	3.19	328	S	Sn	09 48 38.0	+0.9
CNCH	Conchagua	3.19	328	P	Pn	09 48 01.2	+1.3
LCND	La Caada	3.25	327	eP	Pn	09 48 01.1	+0.6
LCND	La Caada	3.25	327	P	Pn	09 48 01.3	+0.7
LCND	La Caada	3.25	327	P	Pn	09 48 01.5	+0.9
BLLM	Bellamira	3.55	324	eP	Pn	09 48 06.1	+1.3
VSM	San Miguel	3.56	323	eP	Pn	09 48 06.4	+1.3
LCY	Lacayo	3.57	323	eP	Pn	09 48 06.2	+1.1
RANC	El Ranchito	3.57	323	eP	Pn	09 48 06.0	+0.8
RANC	El Ranchito	3.57	323	P	Pn	09 48 06.6	+1.4
RANC	El Ranchito	3.57	323	P	Pn	09 48 06.8	+1.6
PACA	Pacayal	3.62	323	eP	Pn	09 48 07.2	+1.4
PACA				IAML		09 48 50.0	
	comp=Z,4μm,0.4s						
PACA	Pacayal	3.62	323	P	Pn	09 48 07.8	+1.9
PACA	Pacayal	3.62	323	P	Pn	09 48 07.6	+1.8
TGUH	Tegucigalpa,Un	3.66	342	Pn	Pn	09 48 08.2	+1.9
TGUH	Tegucigalpa,Un	3.66	342	⇑P	Pn	09 48 08.2	+1.9
TGUH	Tegucigalpa,Un	3.66	342	P	Pn	09 48 08.1	+1.9
TGUH	Tegucigalpa,Un	3.66	342	P	Pn	09 48 08.6	+2.3
ALJI	Alcalda de J	3.67	319	P	Pn	09 48 06.8	+0.5
ALJI	Alcalda de J	3.67	319	P	Pn	09 48 07.0	+0.7
CDITO	Canoas	3.73	122	P	Pn	09 48 08.8	+1.6
CDITO	Canoas	3.73	122	P	Pn	09 48 08.9	+1.6
TECA	Tecapa	3.75	321	eP	Pn	09 48 08.0	+0.4
BRU2	Volcan	3.78	117		Pn	09 48 08.8	+0.8
BRU2	Volcan	3.78	117	P	Pn	09 48 09.8	+1.8
BRU2	Volcan	3.78	117	P	Pn	09 48 10.0	+1.9
BC3P	Paso Ancho	3.84	117	eP	Pn	09 48 13.2	+4.3
BC3P				iS	Sb	09 49 06.5	+1.7

comp=Z,4.3nm,0.9s,baz=24,slow=4.1,SNR=2.2
ATAH LR LR 09 57 55.7
comp=Z,900nm,19.8s,baz=333,slow=33
ZAIG Zacatecas 19.89 310 P P 09 51 43.0 +1.9
UUPR Utuado, UPR, P 20.24 66 P P 09 51 44.8 +0.2
OBIP Obispado Ponce 20.27 66 P P 09 51 44.8 -0.2
BRAL Brewton 20.52 358 P P 09 51 46.5 -1.1
SJG San Juan 20.70 67 P Pn 09 51 50.6 -1.5
comp=Z,6.3nm,0.3s,baz=302,slow=1.4,SNR=4.1
346A Big Creek Wild 20.95 352 P P 09 51 51.3 -1.0
346A IAmb IAmb 09 52 01.3
comp=Z,37nm,0.9s
PCRV Puerto La Cruz 21.10 89 P P 09 51 54.4 +0.4
comp=Z,18nm,0.6s,baz=198,slow=5.0,SNR=16
comp=Z,18nm,0.6s
735A Kenedy 21.25 331 P P 09 51 56.4 +0.9
250A Grady 21.31 360 P 09 51 57.1 +1.1
250A IAmb IAmb 09 52 09.4
comp=Z,85nm,1.3s
HKT Hockley 21.32 336 P P 09 51 57.3 +1.2
833A Chaparral WMA, 21.63 327 P P 09 51 59.3 -0.3
TBTG Tabatinga, AM 21.78 132 *eP* **P 09 52 03.8 +2.5**
VBMS Vicksburg 21.93 350 P P 09 52 02.4 -0.4
LRAL Lakeview Retre 22.38 358 IAmb IAmb 09 52 11.2
comp=Z,42nm,0.8s
CZSB Cruzeiro do Su 22.53 143 P P 09 52 10.3 +0.9
CZSB IAmb IAmb 09 52 18.6
comp=Z,22nm,0.9s
HNDO Hondo 22.54 329 IAmb IAmb 09 52 24.2
comp=Z,20nm,0.8s
143A Socs Landing, 22.57 348 IAmb IAmb 09 52 12.8
comp=Z,36nm,0.9s
435B Jarrell 22.78 334 P P 09 52 11.4 -0.4
GOGA Godfrey 22.86 6 P P 09 52 12.9 +0.2
GOGA IAmb IAmb 09 52 23.7
comp=Z,27nm,1.0s
237A Washetta, Mont 23.15 339 P P 09 52 16.3 +0.7
DRIO Del Rio 23.16 326 IAmb IAmb 09 52 25.4
comp=Z,33nm,0.8s
JCT Junction City 23.57 329 IAmb IAmb 09 52 38.8
comp=Z,20nm,0.7s
WHTX Lake Whitney, 23.77 335 P P 09 52 21.6 -0.1
HODGE Hodges 23.81 8 P P 09 52 22.2 +0.1
HODGE IAmb IAmb 09 52 23.6
comp=Z,32nm,0.7s
FPAL Fort Paine 23.87 1 P P 09 52 22.2 -0.4
FW13 Cleburne 24.08 336 P P 09 52 24.9 +0.3
FW13 IAmb IAmb 09 52 27.2
comp=Z,31nm,0.7s
PAULI Pauline 24.46 9 P P 09 52 28.6 +0.6
PAULI IAmb IAmb 09 52 29.7
comp=Z,34nm,0.8s
BIRD Birdtown, Kers 24.51 11 IAmb IAmb 09 52 30.5
comp=Z,31nm,1.2s
FW07 Weatherford 24.53 336 P P 09 52 29.5 +0.7
FW07 IAmb IAmb 09 52 30.8
comp=Z,28nm,0.7s
X40A Basin Creek Fa 24.60 347 IAmb IAmb 09 52 30.7
comp=Z,16nm,0.9s
OZNA Ozona 24.61 328 IAmb IAmb 09 52 40.9
comp=Z,17nm,0.8s
HPIG 24.62 314 P P 09 52 29.4 -0.4
KMSC Kings Mountain 24.84 9 IAmb IAmb 09 52 33.1
comp=Z,29nm,0.8s
TX31 Lajitas Ar. Si 24.87 321 P P 09 52 32.7 +0.7
TX31 IAmb IAmb 09 52 43.4
comp=Z,29nm,0.8s
TXAR Lajitas Array 24.87 321 P P 09 52 32.6 +0.6
TXAR Lajitas Array 24.87 321 P P 09 52 32.9 +0.9
comp=Z,13nm,0.7s,baz=140,slow=9.5,SNR=134
TXAR PcP **PcP 09 56 08.4 +0.7**
comp=Z,3.3nm,0.8s,baz=140,slow=4.8,SNR=10
TXAR ScP **ScP 09 59 41.4 -3.6**
comp=Z,0.1nm,0.6s,baz=133,slow=4.3,SNR=2.6
TXAR LR LR 10 03 56.7
comp=Z,105nm,19.7s,baz=116,slow=40
comp=Z,13nm,0.7s
FW03 Perrin-Whitt E 24.94 336 P P 09 52 32.4 -0.1
FW03 IAmb IAmb 09 52 40.8
comp=Z,35nm,0.9s
TKL Tuckaleechee C 25.07 4 IAmb IAmb 09 52 45.5
comp=Z,22nm,0.8s
TKL Tuckaleechee C 25.07 4 LR LR 10 02 39.5
comp=Z,316nm,19.5s,baz=234,slow=37
V48A Smith Brothers 25.07 359 IAmb IAmb 09 52 34.2
comp=Z,26nm,0.8s
W57A Gilead 25.10 12 IAmb IAmb 09 52 44.8
comp=Z,17nm,0.9s
V53A Saluda 25.17 6 IAmb IAmb 09 52 38.9
comp=Z,25nm,0.8s
HBAR Harrisburg 25.22 351 P P 09 52 34.3 -0.6
SGCY Sterling City 25.39 329 P P 09 52 36.7 0.0
SGCY IAmb IAmb 09 52 37.8
comp=Z,15nm,0.7s
SGCY **PcP 09 56 10.3 +1.5**
CLTN Cedars of Leba 25.41 360 P P 09 52 36.3 -0.3
WVT Waverly 25.50 357 P P 09 52 36.2 -1.3
WVT IAmb IAmb 09 52 37.3
comp=Z,14nm,0.9s
TEFE Tefe 25.52 122 *eP* **P 09 52 38.6 +0.7**
V55A Taylorsville 25.56 9 IAmb IAmb 09 52 41.7
comp=Z,25nm,1.2s
FCAR Ozark Folk Cen 25.80 349 P P 09 52 39.7 -0.5
FCAR IAmb IAmb 09 52 48.3
comp=Z,34nm,0.9s
LCAR Lake Charles 25.80 351 P P 09 52 39.0 -1.2
LCAR IAmb IAmb 09 52 48.4
comp=Z,34nm,1.0s
V58A Windy Hill, Pi 25.90 13 IAmb IAmb 09 52 42.3
comp=Z,48nm,1.3s
TZTN Tazewell 25.96 5 IAmb IAmb 09 52 50.7
comp=Z,16nm,0.8s
SN05 Snyder 5 26.05 331 IAmb IAmb 09 52 54.3
comp=Z,47nm,1.5s
APMT Aspermont 26.07 332 P P 09 52 42.8 +0.1
APMT IAmb IAmb 09 52 54.3
comp=Z,39nm,1.0s
U54A Nelsons Funny 26.13 8 IAmb IAmb 09 52 53.7
comp=Z,28nm,0.8s
U56A King 26.18 10 IAmb IAmb 09 52 45.3
comp=Z,15nm,0.8s
SLBS Sierra La Lagu 26.21 303 P P 09 52 44.4 +0.1
X34A Smith Ranch, M 26.22 338 IAmb IAmb 09 52 54.4
comp=Z,32nm,0.9s
W35A Tecumseh 26.38 340 P P 09 52 44.5 -0.9
W35A IAmb IAmb 09 53 12.4
comp=Z,29nm,1.1s
PBMO Poplar Bluff 26.39 352 IAmb IAmb 09 52 53.8
comp=Z,19nm,0.9s
T45A Paducah 26.44 355 P P 09 52 45.6 -0.4
POST Post 26.51 330 IAmb IAmb 09 52 58.4
comp=Z,30nm,0.9s
HHAR Hobbs 26.57 346 IAmb IAmb 09 52 47.4
comp=Z,14nm,0.8s
BOAV Boa Vista 26.64 106 P P 09 52 48.8 +0.7
BOAV Boa Vista 26.64 106 *eP* **P 09 52 46.3 -1.8**
FNO Franklin 26.65 339 IAmb IAmb 09 52 52.1
comp=Z,32nm,0.8s
LPIG La Paz 26.70 303 LR LR 10 04 05.4
comp=Z,215nm,21.9s,baz=150,slow=38
DKNS Dickens 26.72 332 IAmb IAmb 09 52 58.5
comp=Z,21nm,0.7s
T42A Van Buren 26.73 351 P P 09 52 47.4 -1.2
T42A IAmb IAmb 09 52 48.6
comp=Z,21nm,0.8s
CGM3 Cape Girardeau 26.81 354 P P 09 52 48.3 -1.0
CGM3 IAmb IAmb 09 52 49.3
comp=Z,50nm,1.5s
U38A Gravette 26.83 345 IAmb IAmb 09 52 49.6
comp=Z,22nm,0.9s
DEOK Depew 26.88 341 P P 09 52 49.2 -0.8
DEOK IAmb IAmb 09 53 00.3
comp=Z,17nm,0.8s
BLA Blacksburg 27.02 10 P P 09 52 51.9 +0.7
MGMO Mountain Grove 27.05 349 IAmb IAmb 09 52 52.1
comp=Z,14nm,0.8s
OK031 S. Brethren Rd 27.09 341 IAmb IAmb 09 52 52.0
comp=Z,23nm,0.7s
OK052 Battle Ridge R 27.12 341 P P 09 52 50.9 -1.3
OK052 IAmb IAmb 09 52 52.2
comp=Z,25nm,0.7s
CLNB Carlsbad 27.13 325 P P 09 52 53.9 +1.5
OK029 Liberty Lake 27.16 339 P P 09 52 51.6 -0.9
OK029 IAmb IAmb 09 53 14.6
comp=Z,30nm,1.2s
S44A Carbondale 27.16 354 P P 09 52 51.4 -1.1
S44A IAmb IAmb 09 52 52.6
comp=Z,35nm,0.9s
SIUC Southern Illin 27.18 355 P P 09 52 51.7 -0.9
CLN7 Carlsbad 7 27.20 326 P P 09 52 53.6 +0.6
QUOK Quay 27.25 341 P P 09 52 52.6 -0.7
USIN University of 27.32 357 P P 09 52 52.8 -1.1
USIN IAmb IAmb 09 53 01.9
comp=Z,40nm,1.1s
RCRC Randolf Colleg 27.44 12 P P 09 52 53.9 -1.1
WCI Wyandotte Cave 27.55 360 P P 09 52 55.6 -0.4
OK048 Pawnee Station 27.55 341 P P 09 52 55.7 -0.3
OK048 IAmb IAmb 09 53 07.9
comp=Z,14nm,0.8s
FVM French Village 27.58 353 P P 09 52 56.4 +0.2
OK051 E0350 and S346 27.60 341 IAmb IAmb 09 53 34.4
comp=Z,19nm,0.9s
R49A Shelbyville 27.62 2 P P 09 52 55.7 -0.9
R49A IAmb IAmb 09 52 56.8
comp=Z,21nm,0.8s
SMWD Samnorwood 27.62 334 IAmb IAmb 09 53 07.6
comp=Z,23nm,0.8s
CCM Cathedral Cave 27.76 351 P P 09 52 56.7 -1.2
CCM IAmb IAmb 09 52 57.5
comp=Z,28nm,1.1s
CCM **PcP 09 56 14.5 +0.5**
S57A Dark Hollow, R 27.83 12 P P 09 52 58.8 +0.4
MSTX Muleshoe 27.86 329 P P 09 52 58.4 -0.5
MSTX PcP **PcP 09 56 15.7 +1.1**
T35A Sooner Cattle 27.87 342 P P 09 52 58.2 -0.7
T35A IAmb IAmb 09 53 35.9
comp=Z,13nm,0.9s
OLIL Olney 28.11 357 IAmb IAmb 09 53 01.1
comp=Z,30nm,0.9s
R55A Marlinton 28.11 10 P P 09 53 01.9 +0.8
R55A IAmb IAmb 09 53 09.2
comp=Z,16nm,0.8s
SSFO Shawnee State 28.13 5 IAmb IAmb 09 53 02.4
comp=Z,20nm,0.9s
OK032 Salt Plains WL 28.33 339 IAmb IAmb 09 53 09.0
comp=Z,18nm,1.1s
BLO Bloomington 28.49 359 IAmb IAmb 09 53 04.3
comp=Z,23nm,0.8s
MACA Manacapuru-AM 28.73 117 P P 09 53 07.5 +0.8
MACA Manacapuru-AM 28.73 117 *eP* **P 09 53 07.2 +0.5**
P49A Miami Univ. Ec 28.87 2 P P 09 53 06.5 -1.3
P49A IAmb IAmb 09 53 07.5
comp=Z,19nm,0.8s
P51A Williamsport 28.92 5 P P 09 53 06.9 -1.3
P51A IAmb IAmb 09 53 08.6
comp=Z,21nm,0.8s
P46A Rosedale 28.95 358 P P 09 53 07.1 -1.3
Q56A Snyder Ridge, 29.02 11 IAmb IAmb 09 53 10.9
comp=Z,21nm,0.8s
P53A Whipple 29.10 7 P P 09 53 09.5 -0.2
P52A Corning 29.16 6 P P 09 53 10.3 0.0
P40A Paris 29.33 351 P P 09 53 10.8 -1.0
P40A **PcP 09 56 18.1 +0.1**
O48B Farmland 29.58 1 P P 09 53 13.0 -1.0
O52A Adamsville 29.67 7 P P 09 53 14.8 -0.1
ACSO Alum Creek Sta 29.67 5 P P 09 53 14.3 -0.5
P57A Homestead Farm 29.68 13 IAmb IAmb 09 53 16.2
comp=Z,34nm,1.2s
P38A Dawn 29.69 348 IAmb IAmb 09 53 14.6
comp=Z,14nm,0.6s
319A Douglas 29.84 317 P P 09 53 18.3 +1.7
319A IAmb IAmb 09 53 26.0
comp=Z,13nm,1.0s
RTBA Rita Blanca 29.84 332 P P 09 53 16.6 0.0
RTBA IAmb IAmb 09 53 23.5
comp=Z,9.2nm,0.8s
RTBA PcP **PcP 09 56 20.7 +1.2**
HDIL Hopedale 30.00 355 P P 09 53 16.1 -1.7
BNM Barren Site 30.07 324 P P 09 53 20.4 +1.7
N49A Columbus Grove 30.28 3 P P 09 53 19.6 -0.6
N41A Harden Midland 30.32 353 P P 09 53 19.1 -1.4
N41A IAmb IAmb 09 53 19.6
comp=Z,14nm,0.9s
N53A Lisbon 30.47 8 IAmb IAmb 09 53 22.4
comp=Z,21nm,0.8s
ANMO Albuquerque 30.56 326 P P 09 53 24.4 +1.4
ANMO Albuquerque 30.56 326 P P 09 53 24.0 +1.0
ANMO IAmb IAmb 09 53 32.4
comp=Z,7.7nm,0.8s
SSPA Standing Stone 30.81 12 P P 09 53 24.9 0.0
SSPA IAmb IAmb 09 53 26.0
comp=Z,17nm,0.7s
M50A Fremont 30.83 4 IAmb IAmb 09 53 25.0
comp=Z,25nm,1.0s
T25A Trinidad 31.19 331 IAmb IAmb 09 53 41.8
comp=Z,17nm,1.3s
N58A Sunbury 31.27 14 IAmb IAmb 09 53 30.1
comp=Z,14nm,0.7s
TUC Tucson 31.42 317 P P 09 53 31.9 +1.4
M57A Sunshine Farm, 31.65 13 P P 09 53 32.4 +0.1
LPAZ La Paz 32.06 146 P P 09 53 36.5 -0.3
comp=Z,1.0nm,0.8s,baz=350,slow=11,SNR=3.8
LPAZ LR LR 10 07 14.6
comp=Z,319nm,19.6s,baz=318,slow=37
comp=Z,1.0nm,0.8s
LPAZ La Paz 32.06 146 *eP* P 09 53 42.3 +5.5
SDCO Great Sand Dun 32.20 330 P P 09 53 37.8 +0.3
SDCO IAmb IAmb 09 53 39.5
comp=Z,9.3nm,0.8s
X18A Snowflake 32.31 321 IAmb IAmb 09 53 50.9
comp=Z,7.8nm,0.9s
JFWS Jewell Farm 32.43 354 P P 09 53 37.9 -1.2
BINY Binghamton 32.73 14 P P 09 53 42.1 +0.4
X16A Lo Mia Camp, P 33.17 320 IAmb IAmb 09 53 50.1
comp=Z,7.2nm,0.7s
I42A Draeger Farm, 33.29 356 P P 09 53 46.0 -0.6
I42A IAmb IAmb 09 53 56.8
comp=Z,16nm,0.9s
MVCO Mesa Verde 33.34 326 P P 09 53 47.4 -0.1
MVCO IAmb IAmb 09 53 49.3
comp=Z,8.7nm,0.9s
MVCO PcP **PcP 09 56 30.3 +1.2**
OGNE Ogallala 33.37 338 P P 09 53 47.4 -0.1
OGNE IAmb IAmb 09 53 49.5
comp=Z,18nm,1.1s
MDP Montagnes des 33.55 97 LR LR 10 08 36.5
comp=Z,230nm,18.7s,baz=285,slow=38
Y14A Wickenburg 33.89 318 P P 09 53 53.5 +1.4
K30B Basset 34.10 342 P P 09 53 53.1 -0.7
PV15 Paradox Valley 34.17 328 P P 09 53 55.6 +0.9
PV15 IAmb IAmb 09 54 09.2
comp=Z,7.5nm,0.9s
PV15 PcP **PcP 09 56 32.6 +1.2**
PV13 Radium Mtn., P 34.21 327 P P 09 53 56.0 +1.0
PV13 IAmb IAmb 09 54 05.8
comp=Z,9.4nm,0.8s
ECSD EROS Data Cent 34.28 346 P P 09 53 53.3 -2.0
ECSD IAmb IAmb 09 54 00.5
comp=Z,24nm,1.3s
ECSD **PcP 09 56 31.4 +0.1**
PV11 David Mesa, Pa 34.34 327 IAmb IAmb 09 53 57.9
comp=Z,14nm,0.7s
PV23 Carpenter Ridg 34.53 327 P P 09 53 58.5 +0.7
PV23 IAmb IAmb 09 54 00.7
comp=Z,15nm,0.8s
SADO Sadowa 34.60 9 P P 09 53 56.9 -1.1
SADO IAmb IAmb 09 53 58.8
comp=Z,18nm,0.9s
SADO Sadowa 34.60 9 LR LR 10 08 35.1
comp=Z,415nm,18.3s,baz=240,slow=37
VILB Vilhena 34.73 132 P P 09 54 00.2 +0.7
VILB IAmb IAmb 09 54 05.8
comp=Z,12nm,0.7s
VILB Vilhena 34.73 132 *eP* **P 09 54 01.8 +2.2**
G40A Rib Lake 34.76 355 IAmb IAmb 09 54 05.7
comp=Z,29nm,1.5s
W13A Hualapai Mount 35.17 318 P P 09 54 05.5 +2.2
W13A IAmb IAmb 09 54 06.8
comp=Z,13nm,0.9s
W13A PcP **PcP 09 56 36.2 +1.9**
NPGB Novo Progresso 35.24 118 *eP* **P 09 54 03.1 -0.8**
LONY Lake Ozonia 35.35 14 P P 09 54 04.0 -0.5
O20A White River Ci 35.40 330 P P 09 54 05.0 -0.2
O20A IAmb IAmb 09 54 16.4
comp=Z,13nm,0.9s
O20A PcP **PcP 09 56 35.6 +0.8**
COWI Conover 35.51 356 P P 09 54 03.9 -1.9
COWI IAmb IAmb 09 54 04.8
comp=Z,11nm,0.8s
PKCU Pink Cliffs 35.68 323 IAmb IAmb 09 54 17.9
comp=Z,14nm,1.0s
SRU San Rafael Swe 35.82 327 IAmb IAmb 09 54 17.4
comp=Z,12nm,0.9s
MTPU Mount Pierson 36.00 324 P P 09 54 11.9 +1.3
Q16A Castle Valley 36.03 326 P P 09 54 11.3 +0.7
P18A Preston Nutter 36.04 328 P P 09 54 11.6 +0.8
PFO Pinyon Flats O 36.07 314 LR LR 10 08 51.4
comp=Z,75nm,18.6s,baz=168,slow=36
V12A Nelson 36.17 318 IAmb IAmb 09 54 15.0
comp=Z,9.0nm,0.9s
SIV San Ignacio 36.18 136 P P 09 54 11.7 -0.3
comp=Z,1.6nm,0.6s,baz=302,slow=10.0,SNR=10
SIV PcP **PcP 09 56 38.3 +0.9**
comp=Z,0.7nm,0.6s,baz=301,slow=8.0,SNR=3.6
SIV LR LR 10 09 40.6
comp=Z,259nm,18.5s,baz=302,slow=37
comp=Z,1.6nm,0.6s
E38A The Farm, Brul 36.22 354 IAmb IAmb 09 54 18.5
comp=Z,11nm,0.7s
TCRU Three Creeks R 36.54 324 IAmb IAmb 09 54 26.5
comp=Z,9.6nm,0.9s
PDRB Porto dos Gac 36.56 126 *eP* **P 09 54 14.7 -0.4**
K22A Casper 36.61 334 P P 09 54 15.4 -0.1
CLDB Colider 36.88 124 *eP* **P 09 54 19.2 +1.2**
BSUT Blindstream Ca 36.98 328 P P 09 54 18.7 -0.2
BSUT PcP **PcP 09 56 41.1 +1.3**
MPU Maple Canyon 37.06 327 P P 09 54 19.3 -0.1
MPU **PcP 09 56 40.5 +0.7**
PTLB Pontes e Lacer 37.16 134 P P 09 54 20.4 +0.2
PTLB IAmb IAmb 09 54 26.5
comp=Z,17nm,1.5s
PTLB Pontes e Lacer 37.16 134 *eP* **P 09 54 23.0 +2.8**
EYMN Ely 37.53 354 P P 09 54 21.6 -1.5
PASC Pasadena Art C 37.59 314 P P 09 54 24.7 +1.0
PASC IAmb IAmb 09 54 36.2
comp=Z,28nm,1.4s
GWY Greenwater Val 37.64 318 P P 09 54 25.6 +1.3
TPNV Topopah Spring 37.81 319 IAmb IAmb 09 54 29.5
comp=Z,19nm,1.0s
DUG Dugway, Tooele 37.83 326 P P 09 54 26.2 +0.3
DUG PcP **PcP 09 56 43.2 +1.0**
S11A Rachel 37.91 320 IAmb IAmb 09 54 30.0
comp=Z,20nm,1.0s
E28A Huff 37.98 344 IAmb IAmb 09 54 26.5
comp=Z,18nm,0.9s
CCAC Calif City Air 37.98 315 IAmb IAmb 09 54 31.0
comp=Z,11nm,0.7s
PD31 Pinedale Array 38.06 332 P P 09 54 27.0 -0.8
PDAR Pinedale Array 38.06 332 P P 09 54 27.1 -0.8
comp=Z,3.2nm,0.7s,baz=128,slow=9.8,SNR=39
PDAR PcP **PcP 09 56 41.9 -0.9**
comp=Z,1.3nm,0.7s,baz=145,slow=5.0,SNR=6.3
PDAR LR LR 10 12 09.2
comp=Z,174nm,19.5s,baz=132,slow=39
comp=Z,3.2nm,0.7s
HWUT Hardware Ranch 38.17 329 P P 09 54 28.9 +0.1
HWUT IAmb IAmb 09 54 30.1
comp=Z,13nm,0.7s
HWUT PcP **PcP 09 56 44.1 +0.9**
R11B Troy Canyon, C 38.24 321 P P 09 54 30.0 +0.6
AGMN Agassiz Nation 38.50 350 IAmb IAmb 09 54 31.1
comp=Z,16nm,0.8s
HVU Hansel Valley 38.92 328 P P 09 54 35.1 0.0
HVU **PcP 09 56 46.3 +0.8**
MZP Montezuma Peak 38.98 319 P P 09 54 37.7 +1.9
SNOW Snow King Moun 39.15 331 IAmb IAmb 09 54 45.2
comp=Z,13nm,0.8s
DSP Deep Springs 39.17 318 P P 09 54 39.6 +2.7
TPAW Teton Pass 39.27 331 P P 09 54 37.5 -0.5
FXWY Fox Creek 39.41 331 P P 09 54 39.8 +0.5
FXWY **PcP 09 56 48.3 +1.1**
Q09A Carvers 39.52 321 IAmb IAmb 09 54 43.8
comp=Z,26nm,0.7s
ELK Elko 39.57 324 P P 09 54 41.0 +0.4
ELK PcP **PcP 09 56 48.9 +1.2**
ELK Elko 39.57 324 LR LR 10 14 58.8
comp=Z,144nm,18.3s,baz=154,slow=42
LMN Caledonia Moun 39.59 23 P P 09 54 40.0 -0.3
LMN IAmb IAmb 09 54 40.9
comp=Z,26nm,1.0s
PRPB Parauapebas 39.76 113 *eP* **P 09 54 41.5 -0.7**
LAO LASA Array 39.86 338 IAmb IAmb 09 54 51.1
comp=Z,18nm,1.0s
YFT Old Faithful 39.95 332 IAmb IAmb 09 54 54.8
comp=Z,16nm,1.0s
SALV Santo Antonio 39.96 131 *eP* **P 09 54 46.4 +2.6**
NVAR Mina Array Bea 39.99 319 P P 09 54 44.5 +0.4
NVAR **PcP 09 56 50.2 +1.2**
NVAR Mina Array Bea 39.99 319 P P 09 54 45.8 +1.7
comp=Z,18nm,0.7s,baz=132,slow=7.5,SNR=153
NVAR PcP **PcP 09 56 50.1 +1.0**
comp=Z,6.8nm,0.8s,baz=132,slow=4.3,SNR=15
NVAR LR LR 10 13 03.2
comp=Z,331nm,18.4s,baz=176,slow=39
LHV Little Huntoon 40.02 319 P P 09 54 46.4 +2.4
LHV IAmb IAmb 09 54 48.0
comp=Z,24nm,0.8s
RYN Ryan 40.25 319 IAmb IAmb 09 54 49.4
comp=Z,15nm,0.8s
ULM Lac du Bonnet 40.38 350 P P 09 54 43.7 -3.2
comp=Z,11nm,0.9s,baz=165,slow=8.1,SNR=21
ULM PcP **PcP 09 56 48.7 -1.0**
comp=Z,3.5nm,0.6s,baz=183,slow=4.3,SNR=4.7
ULM LR LR 10 14 02.8
comp=Z,105nm,18.3s,baz=158,slow=40
comp=Z,11nm,0.9s
DGMT Dagmar 40.72 342 IAmb IAmb 09 54 50.3
comp=Z,29nm,0.8s
WAKR Walker 40.77 319 IAmb IAmb 09 54 54.0
comp=Z,24nm,1.0s
CMB Columbia Colle 41.13 317 P P 09 54 55.6 +2.2
SNDB Serra Nova Dou 41.18 122 *eP* **P 09 54 53.9 -0.1**
PNTR Pine Nut 41.20 319 P P 09 54 56.6 +2.5
PNTR IAmb IAmb 09 54 57.2
comp=Z,20nm,0.9s
ICQ Pointe Anglais 41.86 18 P P 09 54 58.1 -0.9
ICQ IAmb IAmb 09 54 58.4
comp=Z,12nm,0.7s
BDQN Bodoquena, MS 42.22 137 *eP* **P 09 55 04.8 +2.5**
MURT Porto Murtinho 42.51 139 *eP* **P 09 55 08.3 +3.6**
WVOR Wild Horse Val 42.60 324 IAmb IAmb 09 55 07.6
comp=Z,15nm,0.8s
PLID Pearl Lake 42.92 329 P P 09 55 07.2 -0.9
AQDB Aquidauana 42.95 136 P P 09 55 09.1 +0.8
AQDB Aquidauana 42.95 136 *eP* **P 09 55 11.7 +3.4**
J08A Circle Bar Ran 43.09 325 P P 09 55 09.6 +0.2
HATC Hat Creek Radi 43.36 320 IAmb IAmb 09 55 13.8
comp=Z,29nm,1.1s
BMO Blue Mountains 43.44 328 P P 09 55 11.2 -0.9
O02D Mt. Diablo Mer 43.86 319 P P 09 55 15.2 -0.3
O02D IAmb IAmb 09 55 16.6
comp=Z,10nm,0.9s
H03N2 Juan Fernandez 44.29 171 T T 10 42 21.6
baz=350,slow=76,SNR=12
H03N1 Juan Fernandez 44.29 171 T T 10 42 22.7
baz=350,slow=76,SNR=8.3
H03N3 Juan Fernandez 44.30 171 T T 10 42 21.5
baz=350,slow=76,SNR=12
K04D Chiloquin, OR 44.56 322 P P 09 55 21.3 +0.1
L04D Klamath Falls 44.67 321 P P 09 55 22.2 +0.2
PINE Pine Mountain 44.77 324 P P 09 55 23.3 +0.4
PINE IAmb IAmb 09 55 25.0
comp=Z,15nm,0.8s
E09A Wood Farm, Sta 44.99 329 IAmb IAmb 09 55 24.8
comp=Z,12nm,1.2s
ZON Zonda 45.07 159 IAmb IAmb 09 55 32.5
comp=Z,19nm,1.3s
CFA Coronel Fontan 45.28 158 P P 09 55 29.1 +2.3
comp=Z,0.9nm,0.4s,baz=256,slow=12,SNR=2.4
comp=Z,0.9nm,0.4s
HAWA Hanford 45.63 328 IAmb IAmb 09 55 30.6
comp=Z,10nm,0.8s
NEW Newport 45.70 331 LR LR 10 17 30.5
comp=Z,131nm,19.9s,baz=174,slow=40
FFC Flin Flon 45.81 347 P P 09 55 29.7 -1.0
BDFB Brasilia 45.82 124 P P 09 55 31.8 +0.3
BDFB IAmb IAmb 09 55 38.9
comp=Z,14nm,1.2s
BDFB Brasilia 45.82 124 P P 09 55 31.7 +0.3
comp=Z,5.4nm,0.8s,baz=291,slow=11,SNR=6.7
BDFB LR LR 10 15 03.7
comp=Z,128nm,21.3s,baz=305,slow=36
comp=Z,5.4nm,0.8s
KBO Bosley Butte 45.86 320 P P 09 55 32.3 +0.9
SJPY San Joaquin 45.87 141 *eP* **P 09 55 35.4 +3.8**
H04A Detroit Lake 46.02 324 P P 09 55 33.6 +1.0

HOOD Mount Hood Mea 46.10 325 P P 09 55 34.6 +1.3
CPUP Villa Florida 46.11 143 P P 09 55 33.0 -0.4
comp=Z,2.8nm,1.0s,baz=312,slow=10.0,SNR=3.5
CPUP LR LR 10 15 21.8
comp=Z,133nm,19.2s,baz=322,slow=37
comp=Z,2.8nm,1.0s
MXC Moxie City 46.15 327 P P 09 55 34.4 +0.9
SCHQ Schefferville 46.71 15 P P 09 55 35.8 -2.0
SCHQ Schefferville 46.71 15 P P 09 55 35.5 -2.3
comp=Z,12nm,0.7s,baz=218,slow=6.5,SNR=23
SCHQ LR LR 10 15 56.8
comp=Z,198nm,18.3s,baz=200,slow=37
comp=Z,12nm,0.7s
SDBA SAO DESIDERIO 46.84 118 eP P 09 55 38.3 -1.1
IPMB Ipameri, GO 46.94 127 eP P 09 55 42.5 +2.3
FCC Fort Churchill 48.48 354 IAmb IAmb 09 55 58.9
comp=Z,9.0nm,1.2s
JANB Januaria 48.59 121 eP P 09 55 52.6 -0.4
BI02 San Fabin de 49.00 164 P P 09 55 58.3 +2.5
BI02 IAmb IAmb 09 56 01.4
comp=Z,13nm,1.3s
LLLB Lilloоet 49.57 331 P P 09 56 00.6 +0.6
LLLB IAmb IAmb 09 56 11.8
comp=Z,11nm,0.8s
ITAB Concordia 49.96 139 P P 09 56 03.5 +0.3
ITAB IAmb IAmb 09 56 09.8
comp=Z,18nm,1.0s
ITAB Concordia 49.96 139 eP P 09 56 07.7 +4.4
DIAM Diamantina, MG 50.74 124 eP P 09 56 09.9 +0.4
LR05 Currie 52.20 166 P P 09 56 21.2 +1.5
LR05 IAmb IAmb 09 56 31.9
comp=Z,24nm,1.2s
PLTB Pedras Altas 52.33 145 eP P 09 56 26.4 +5.4
RCBR Riachuelo 52.55 106 LR LR 10 20 45.6
comp=Z,95nm,18.2s,baz=306,slow=38
TER01 Tubaro-SC 52.79 138 eP P 09 56 29.2 +4.8
CMC01 Camacan, BA 52.83 118 eP P 09 56 24.4 -0.5
SJMB Sao Joao De Ma 52.98 123 eP P 09 56 26.4 +0.4
PLCA Paso Flores 53.02 165 P P 09 56 27.8 +1.7
PLCA IAmb IAmb 09 56 35.4
comp=Z,12nm,1.2s
PLCA Paso Flores 53.02 165 P P 09 56 25.5 -0.5
comp=Z,2.9nm,0.8s,baz=333,slow=7.1,SNR=6.1
PLCA LR LR 10 14 46.2
comp=Z,42nm,18.2s,baz=357,slow=31
comp=Z,2.9nm,0.8s
GUA01 Guaratinga, BA 53.13 120 eP P 09 56 26.5 -0.6
BSFB Barra de Sao F 53.32 123 eP P 09 56 28.3 -0.2
NBAN Anadia - AL 53.47 110 eP P 09 56 28.8 -0.9
RIB01 Linhares ES 53.93 123 eP P 09 56 32.1 -0.9
ALF01 Guarapari-ES 54.31 125 eP P 09 56 36.6 +0.9
FRB Frobisher Bay 54.54 9 LR LR 10 20 28.1
comp=Z,366nm,18.8s,baz=189,slow=37
YKA Yellowknife Ar 55.77 344 P P 09 56 43.6 -2.0
comp=Z,2.8nm,0.8s,baz=143,slow=7.2,SNR=40
YKA PcP PcP 09 57 44.2 -0.3
comp=Z,0.7nm,0.7s,baz=144,slow=3.5,SNR=5.9
YKA LR LR 10 23 55.2
comp=Z,127nm,18.9s,baz=39,slow=40
comp=Z,2.8nm,0.8s
DLBC Dease Lake 58.17 335 IAmb IAmb 09 57 10.9
comp=Z,20nm,1.4s
SFJD Kangerlussuaq 61.16 15 LR LR 10 23 49.2
comp=Z,310nm,19.5s,baz=224,slow=36
M30M Minto, Yukon 63.27 336 IAmb IAmb 09 57 44.5
comp=Z,15nm,1.5s
M29M Somme Creek 63.87 336 P P 09 57 41.5 0.0
M29M IAmb IAmb 09 57 50.6
comp=Z,8.0nm,0.9s
I30M Mount Dempster 64.54 339 P P 09 57 44.9 -0.9
I30M IAmb IAmb 09 57 54.5
comp=Z,9.3nm,1.0s
G31M Satah River 64.80 341 IAmb IAmb 09 57 55.8
comp=Z,11nm,1.1s
I29M Ogilvie Camp, 65.30 339 IAmb IAmb 09 57 58.6
comp=Z,6.0nm,1.1s
INK Inuvik 65.39 342 IAmb IAmb 09 57 51.5
comp=Z,6.8nm,1.0s
BCAR Beaver Creek A 65.51 336 P P 09 57 51.8 -0.3
L27K Beaver Creek, 65.53 336 IAmb IAmb 09 58 01.8
comp=Z,9.8nm,1.1s
G29M Pine Creek 66.02 340 IAmb IAmb 09 58 04.7
comp=Z,16nm,1.3s
DOT Dot Lake 66.69 336 IAmb IAmb 09 58 08.8
comp=Z,13nm,1.3s
J26L Joseph Creek 66.86 337 IAmb IAmb 09 58 09.7
comp=Z,12nm,1.2s
RIDG Independent Ri 67.05 336 P P 09 58 01.3 -0.6
RIDG IAmb IAmb 09 58 11.5
comp=Z,12nm,1.1s
I26K Coal Creek Min 67.05 337 P P 09 58 01.3 -0.6
I26K IAmb IAmb 09 58 10.1
comp=Z,16nm,1.4s
J25K Salcha River, 67.61 336 IAmb IAmb 09 58 05.9
comp=Z,12nm,1.3s
BBTS Babate 67.77 78 LR LR 10 24 21.9
comp=Z,91nm,19.0s,baz=168,slow=33
HDA Harding Lake 68.16 336 IAmb IAmb 09 58 17.9
comp=Z,12nm,0.9s
D27M Malcolm River 68.17 342 IAmb IAmb 09 58 16.1
comp=Z,13nm,1.4s
IL31 68.27 336 IAmb IAmb 09 58 17.4
comp=Z,14nm,1.2s
ILAR Eielson Array 68.27 336 P P 09 58 09.0 -0.6
ILAR Eielson Array 68.27 336 P P 09 58 08.1 -1.5
comp=Z,2.9nm,0.9s,baz=108,slow=4.6,SNR=25
ILAR PP PP 10 00 35.5 -4.8
comp=Z,0.6nm,0.8s,baz=120,slow=5.6,SNR=4.5
ILAR LR LR 10 34 01.0
comp=Z,178nm,18.3s,baz=134,slow=41
comp=Z,2.9nm,0.9s
RND Reindeer 68.58 335 P P 09 58 11.7 0.0
PPT Papeete 68.66 246 LR LR 10 20 09.6
comp=Z,57nm,18.9s,baz=2.5,slow=29
KDAK Kodiak Island 68.66 328 LR LR 10 29 56.9
comp=Z,152nm,18.4s,baz=317,slow=37
F25K Christian Rive 68.95 339 P P 09 58 13.4 -0.4
F25K IAmb IAmb 09 58 14.0
comp=Z,5.7nm,1.1s
H24K Noodor Dome 69.06 337 IAmb IAmb 09 58 23.5
comp=Z,12nm,1.2s
NEA2 Nenana 69.08 336 IAmb IAmb 09 58 14.4
comp=Z,8.3nm,1.0s
C27K Jago River 69.20 342 IAmb IAmb 09 58 21.5
comp=Z,6.9nm,1.3s
TRF Thorofare Moun 69.20 334 IAmb IAmb 09 58 24.3
comp=Z,14nm,1.1s
I23K Minto, Yukon-K 69.39 336 P P 09 58 16.1 -0.4
I23K IAmb IAmb 09 58 16.8
comp=Z,15nm,1.2s
KTH Kantishna Hill 69.51 334 IAmb IAmb 09 58 17.2
comp=Z,9.2nm,1.0s
BPAW Bear Paw Mtn. 69.71 335 P P 09 58 17.7 -0.8
BPAW IAmb IAmb 09 58 18.4
comp=Z,12nm,0.9s
D25K Kavik River 69.92 341 P P 09 58 19.4 -0.3
D25K IAmb IAmb 09 58 19.8
comp=Z,7.8nm,0.9s
G23K Bananza Creek 70.19 338 P P 09 58 21.4 0.0
G23K IAmb IAmb 09 58 22.1
comp=Z,9.5nm,1.1s
COLD Coldfoot 70.43 338 P P 09 58 22.8 -0.1
COLD IAmb IAmb 09 58 33.2
comp=Z,9.2nm,1.1s
I21K Tanana 70.45 336 IAmb IAmb 09 58 31.5
comp=Z,13nm,1.2s
E23K Chandalar 70.52 339 IAmb IAmb 09 58 24.2
comp=Z,7.8nm,1.1s
C24K Franklin Bluff 70.83 341 IAmb IAmb 09 58 31.5
comp=Z,20nm,1.5s
D23K Nanushuk River 71.20 340 IAmb IAmb 09 58 37.5
comp=Z,5.8nm,1.1s
E22K Anaktuvuk Pass 71.32 339 P P 09 58 28.0 -0.3
G21K Allakaket 71.44 337 P P 09 58 28.9 -0.2
G21K IAmb IAmb 09 58 29.6
comp=Z,10nm,0.8s
C23K Itkillik River 71.49 341 P P 09 58 28.8 -0.5
C23K IAmb IAmb 09 58 29.6
comp=Z,7.5nm,1.1s
F21K Alatna River 71.64 338 IAmb IAmb 09 58 31.0
comp=Z,8.7nm,0.9s
H19K Roundabout Mou 72.35 336 IAmb IAmb 09 58 34.5
comp=Z,8.7nm,0.9s
B22K Teshekpuk Lake 72.56 341 IAmb IAmb 09 58 35.1
comp=Z,11nm,1.2s
G19K Purcell Mounta 72.75 336 P P 09 58 36.4 -0.5
G19K IAmb IAmb 09 58 45.9
comp=Z,8.2nm,1.1s
G18K Tagagawik 73.32 336 P P 09 58 40.1 -0.1
D19K Kuna River 73.67 339 IAmb IAmb 09 58 42.9
comp=Z,6.6nm,0.9s
C18K Utukok River 74.81 338 P P 09 58 48.3 -0.7
C18K IAmb IAmb 09 58 58.2
comp=Z,10nm,1.2s
JMIC Jan Mayen 76.03 19 LR LR 10 32 21.0
comp=Z,60nm,20.5s,baz=248,slow=36
C16K Lisburne Hills 76.27 338 P P 09 58 56.6 -0.6
C16K IAmb IAmb 09 58 57.7
comp=Z,10nm,0.9s
MDT Midelt 77.23 59 LR LR 10 30 32.2
comp=Z,198nm,18.7s,baz=314,slow=34
ESDC Sonseca Array 77.30 52 P P 09 59 01.5 -2.2
comp=Z,1.8nm,0.8s,baz=283,slow=5.6,SNR=12
ESDC LR LR 10 28 28.4
comp=Z,122nm,20.8s,baz=282,slow=32
comp=Z,1.8nm,0.8s
EKA Eskdalemuir Ar 77.37 36 P P 09 59 02.1 -1.6
comp=Z,0.5nm,0.4s,baz=279,slow=5.8,SNR=3.5
comp=Z,0.5nm,0.4s
SPITS Spitsbergen Ar 82.27 12 LR LR 10 37 56.6
comp=Z,81nm,19.4s,baz=222,slow=37
NOA NORSAR Array B 84.36 29 LR LR 10 33 09.4
comp=Z,49nm,21.0s,baz=275,slow=33
TORD Torodi Ar. Bea 85.51 78 P P 09 59 45.7 -1.9
comp=Z,0.7nm,0.3s,baz=292,slow=6.3,SNR=2.1
comp=Z,0.7nm,0.3s
HFS Hagfors 85.75 30 LR LR 10 36 32.5
comp=Z,62nm,19.8s,baz=283,slow=35
DAVOX Davos/Dischmat 86.44 43 LR LR 10 31 27.7
comp=Z,50nm,19.9s,baz=263,slow=31
BILL Bilibino 86.75 339 P P 09 59 52.3 -0.4
BILL IAmb IAmb 10 00 02.2
comp=Z,6.7nm,1.1s
ARCES ARCESS Array B 87.52 19 LR LR 10 41 16.7
comp=Z,30nm,19.4s,baz=316,slow=37
GERES GERESS Array B 88.49 41 LR LR 10 33 23.6
comp=Z,73nm,20.6s,baz=253,slow=31
TIXI Tiksi 94.73 350 LR LR 10 45 13.9
comp=Z,55nm,21.9s,baz=9.5,slow=37
PETK Petropavlovsk- 96.69 327 LR LR 10 46 23.0
comp=Z,40nm,20.0s,baz=138,slow=37
MA2 Magadan 96.71 335 LR LR 10 48 08.3
comp=Z,42nm,21.8s,baz=64,slow=38
AKASG Malin Array Be 97.28 35 LR LR 10 44 19.3
comp=Z,98nm,18.1s,baz=270,slow=35
MLR Muntele Rosu 97.46 41 LR LR 10 39 50.0
comp=Z,52nm,20.5s,baz=314,slow=32
H11N3 WAKE ISLAND Hyl 102.11 293 T T 11 55 02.7
baz=67
H11N2 WAKE ISLAND Hyl 102.12 293 T T 11 55 10.6
baz=67
H11N1 WAKE ISLAND Hyl 102.13 293 T T 11 55 06.6
baz=67
H11S1 WAKE ISLAND Hyl 102.63 292 T T 11 55 39.6
baz=77
H11S2 WAKE ISLAND Hyl 102.63 292 T T 11 55 42.9
baz=77
H11S3 WAKE ISLAND Hyl 102.65 292 T T 11 55 44.6
baz=77
ELIB Princess Elisa 105.97 162 dPKiKP PKiKP 10 05 38.9 +6.5
ZALV Zalesovo Beam 115.27 6 PKP PKiKP 10 05 49.3 -1.1
comp=Z,1.0nm,0.5s,baz=287,slow=3.3,SNR=4.8
MJAR Matsushiro Arr 117.31 321 PKP PKPdf 10 05 53.6 -1.2
comp=Z,1.0nm,0.5s,baz=48,slow=0.8,SNR=3.0
KURBB Kurchatov Arra 117.61 11 PKP PKPdf 10 05 54.1 -0.9
comp=Z,1.2nm,0.6s,baz=335,slow=2.1,SNR=9.3
SONM Songino Array 120.81 350 PKP PKPdf 10 06 00.5 -0.9
comp=Z,1.3nm,0.8s,baz=77,slow=3.1,SNR=5.7
MKAR Makanchi Array 121.96 9 PKP PKPdf 10 06 01.9 -1.6
comp=Z,0.8nm,0.6s,baz=325,slow=2.0,SNR=7.9
KSRS Korea Array 122.57 328 PKP PKPdf 10 06 04.6 -0.3
comp=Z,3.2nm,0.6s,baz=353,slow=1.4,SNR=9.7
HHC Hu-ho-hao-te 126.31 343 eP PKPdf 10 06 09.6 -2.5
GTA Gaotai 129.98 354 eP PKPdf 10 06 19.3 +0.1
GTA pP pPKPdf 10 06 25.5 -2.7
GTA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 131.22 237 PKP PKPdf 10 06 20.0 -1.5
comp=Z,1.1nm,0.6s,baz=34,slow=3.6,SNR=5.1
NJ2 Nanjing 131.37 332 eP PKPdf 10 06 23.1 +1.3
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
ENH Enshi 136.72 340 PKPdf PKPdf 10 06 32.5 +0.5
ASAR Alice Springs 139.77 246 PKPdf PKPdf 10 06 37.9 +0.1
ASAR Alice Springs 139.77 246 PKhKP PKPpre 10 06 28.2
comp=Z,0.4nm,0.7s,baz=115,slow=3.8,SNR=6.8
ASAR PKP PKPdf 10 06 34.9 -2.8
comp=Z,0.8nm,0.6s,baz=107,slow=2.5,SNR=6.7
WRAB Tennant Creek 139.99 252 PKPdf PKPdf 10 06 38.1 -0.1
WRA Warramunga Arr 139.99 252 PKPdf PKPdf 10 06 37.8 -0.4
WRA Warramunga Arr 139.99 252 PKhKP PKPpre 10 06 27.5
comp=Z,0.3nm,0.6s,baz=94,slow=2.0,SNR=1.9
WRA PKP PKPdf 10 06 36.6 -1.6
comp=Z,1.4nm,0.7s,baz=95,slow=2.6,SNR=14
PZH PanZhiHua 142.38 348 PKP PKPdf 10 06 43.4 +0.9
SHL Shillong 144.03 3 PKPdf PKPbc 10 06 44.3 +0.9
KNRA Kununurra 145.71 258 PKPdf PKPdf 10 06 49.5 +1.2
SLVN Son La 146.81 343 PKPdf PKPbc 10 06 52.4 +0.4
CMAR Chiang Mai Arr 150.74 350 PKPbc PKPbc 10 07 02.4 +0.3
CMAR Chiang Mai Arr 150.74 350 PKP PKPdf 10 06 56.7 +0.1
comp=Z,5.1nm,0.7s,baz=306,slow=2.1,SNR=20
CMAR PKPbc PKPbc 10 07 01.9 -0.2
comp=Z,5.7nm,0.7s,baz=322,slow=3.2,SNR=12

*NNC **12** 10:03:51.5±3.6, 38°.87N×70°.65E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=27.6km s-min=21.2km az=40.0*
ISC 12 10:03:52.0±4.3, 39°.5N±0°.2×71°.3E±0°.1, h10km, n8, σ1§27/10, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.19	34	P	Pg	10 04 54.1	+0.9
SNR=26							
KK31	Karatay Array	3.65	351	⇑Pn	Pb	10 04 57.0	+0.3
1.0nm,0.2s,baz=179,slow=10,SNR=47							
KK31				⇑Sn	Sg	10 05 49.0	-0.3
3.0nm,0.5s,baz=189,slow=28,SNR=4.5							
KK31				⇓Lg	Lg	10 06 02.8	
11nm,0.6s,baz=183,slow=30,SNR=5.8							
EKS2	Erkin-Say	3.67	30	P	Pg	10 05 02.6	+0.3
SNR=8.7							
AAK	Ala-Archa	3.95	36	P	Pg	10 05 05.7	-2.0
SNR=9.7							
KBK	Karagaybulak	4.18	40	P	Pg	10 05 10.2	-1.9
SNR=6.9							
CHMS	Chumysh	4.35	35	⇑Pn	Pb	10 05 09.6	+1.0
4.0nm,0.5s							
CHMS				⇑Sn	Sg	10 06 11.7	0.0
7.7nm,0.8s							
TKM2	Tokmak 2	4.70	42	P	Pb	10 05 15.7	+1.0
SNR=7.1							
TKM2	Tokmak 2	4.70	42	⇑Pn	Pb	10 05 15.3	+0.6
2.2nm,0.3s							
TKM2				⇑Lg	Lg	10 06 42.7	
3.9nm,0.6s							

*NNC **12** 10:21:27.6±4.6, 37°.59N×71°.63E, h181km±63km, mb2.9, mpv4.0, Error ellipse: s-maj=41.6km s-min=27.7km az=18.0*
ISC 12 10:21:26.0±3.3, 37°.5N±0°.2×71°.5E±0°.1, h109km, n13, σ1§89/19, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.94	20	P	Pn	10 22 39.1	+0.8
SNR=96							
UCH	Uchtor	5.28	25	P	Pn	10 22 43.9	+0.9
SNR=8.9							
EKS2	Erkin-Say	5.46	18	P	Pn	10 22 46.7	+1.6
SNR=9.8							
AAK	Ala-Archa	5.64	23	P	Pn	10 22 48.5	+0.9
SNR=39							
AAK	Ala-Archa	5.64	23	⇓P	Pn	10 22 47.7	+0.2
14nm,0.5s							
AAK				⇑S	Sn	10 23 50.9	-0.2
26nm,1.1s							
KK31	Karatay Array	5.65	353	P	Pn	10 22 50.2	+2.6
7.7nm,0.5s,baz=176,slow=14,SNR=55							
KK31				⇑S	Sn	10 23 54.7	+3.5
57nm,0.7s,baz=174,slow=23,SNR=26							
KBK	Karagaybulak	5.81	26	P	Pn	10 22 50.5	+0.7
SNR=6.9							
CHMS	Chumysh	6.04	24	P	Pn	10 22 53.1	+0.1
SNR=8.3							
CHMS	Chumysh	6.04	24	⇓P	Pn	10 22 53.0	+0.1
18nm,0.8s							
CHMS				⇓S	Sn	10 24 00.7	0.0
8.2nm,0.8s							
TKM2	Tokmak 2	6.27	29	P	Pn	10 22 56.1	-0.1
SNR=7.7							
TKM2	Tokmak 2	6.27	29	⇓P	Pn	10 22 55.0	-1.2
10nm,0.8s							
TKM2				⇑S	Sn	10 24 08.0	+1.4
3.4nm,0.6s							
AB31	Akbulak array	14.42	328	⇓P	Pn	10 24 44.7	0.0
0.3nm,0.4s,baz=163,slow=11,SNR=7.9							
AB31				⇑S	Sn	10 27 19.0	-4.6
2.3nm,0.7s,baz=148,slow=21,SNR=6.9							
AKTO	Aktyubinsk	16.12	328	⇑P	Pn	10 25 06.5	+0.3
0.7nm,0.6s							
AKTO				⇓S	Sn	10 28 02.0	-2.8
1.5nm,0.9s							

*AFAD **12** 10:41:50.1, 38°.41N×44°.92E, h7km±4km, ML2.5*
*TEH **12** 10:41:52.8, 38°.40N×44°.65E, h9km*
*AZER **12** 10:41:53.1, 38°.35N×44°.68E, h5km, ml2.8*
ISC 12 10:41:52.7±1.2, 38°.38N±0°.03×44°.70E±0°.02, h3km±11km, n24, σ1§14/41, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.62	297	P	Pg	10 42 04.4	-0.3
OZAP				S	Sb	10 42 14.5	-1.2
OZAP				i AML	AML	10 42 17.0	
comp=E,151nm,0.5s							
OZAP				i AML	AML	10 42 20.0	
comp=N,177nm,0.9s							
ISHB	Shabestar	0.72	97	Pg	Pg	10 42 06.9	+0.3
IMRD	Marand	0.85	67	Pg	Pb	10 42 09.8	-0.4
YOVA	Hakkari_Yksek	0.86	203	P	Pg	10 42 09.6	+0.4
YOVA				S	Sb	10 42 23.1	+0.8
YOVA				i AML	AML	10 42 27.0	
comp=N,128nm,0.7s							
YOVA				i AML	AML	10 42 27.0	
comp=E,126nm,1.0s							
MAKU	Maku	0.97	359	Pg	Pg	10 42 10.8	-0.6
NAX	Nakhchivan	1.01	38	P	Pb	10 42 13.0	+0.1
NAX				S	Sb	10 42 26.6	+0.1
TVAN	Van	1.03	279	P	Pg	10 42 12.0	-0.5
TVAN				S	Sn	10 42 31.6	+2.2
TVAN				i AML	AML	10 42 34.0	
comp=N,139nm,0.6s							
TVAN				i AML	AML	10 42 40.0	
comp=E,94nm,0.5s							
VMUR	Van-Muradiye	1.07	305	P	Pg	10 42 12.9	-0.4
VMUR				S	Sn	10 42 30.9	+0.5
VMUR				i AML	AML	10 42 41.0	
comp=N,62nm,1.1s							
VMUR				i AML	AML	10 42 44.0	
comp=E,91nm,0.5s							
HAKT	HAKKARI	1.14	224	P	Pg	10 42 14.4	-0.2
HAKT				S	Sn	10 42 32.4	+0.4
HAKT				i AML	AML	10 42 39.0	
comp=N,103nm,0.5s							
HAKT				i AML	AML	10 42 43.0	
comp=E,102nm,1.0s							
HAKT	HAKKARI	1.14	224	P	Pg	10 42 14.2	-0.4
HAKT				S	Sg	10 42 29.2	-0.1
ITBZ	Tabriz	1.15	97	Pg	Pg	10 42 14.5	-0.2
ORD	Ordubad	1.15	61	P	Pb	10 42 15.4	+0.1
ORD				S	Sn	10 42 32.3	+0.2
SBZ	Shahbuz	1.21	33	P	Pn	10 42 16.4	-0.4
SBZ				S	Sn	10 42 34.7	+0.9
IAZR	Azarshahr	1.23	124	Pg	Pn	10 42 17.1	0.0
GEVA	Gevas	1.29	268	P	Pn	10 42 15.7	-2.2
GEVA				S	Sn	10 42 36.3	+0.5
HYR	Heyderabad	1.34	5	P	Pg	10 42 19.1	+0.6
HYR				S	Sn	10 42 38.7	+1.8
IGDI	IGDIR	1.56	342	P	Pg	10 42 22.1	-0.6
IGDI				S	Sg	10 42 43.2	+0.2
DORK	Agr/Tutak/Do	1.81	304	P	Pb	10 42 25.8	-0.8
DORK				S	Sg	10 42 53.9	+3.1
KOTA	Agri, Merkez-K	1.84	321	P	Pb	10 42 26.8	-0.3
KOTA				S	Sg	10 42 53.1	+1.3
IHRS	Heris	1.84	91	Pn	Pg	10 42 28.4	+0.4
SRTM	Siirt_Merkez	2.23	261	P	Pg	10 42 34.6	-0.8
SRTM				S	Sg	10 43 07.3	+3.1
GDB	GEDABAY	2.48	19	P	Pb	10 42 37.0	-1.0
QZX	Qazax, Azerbai	2.73	11	P	Pg	10 42 45.5	+0.5
QZX				S	Sg	10 43 20.7	+0.4
YRD	Yardimli	2.82	78	P	Pb	10 42 42.6	-1.2
YRD				S	Sg	10 43 21.6	-1.8

*IDC **12** 10:56:00.7±0.9, 6°.12S×149°.49E, h0km, mb4.0/8, mbtmp4.0/9, ML2.8/1, MS3.1/2, Error ellipse: s-maj=47.1km s-min=17.5km az=110.0*
*NEIC **12** 10:56:09.0±1.1, 6°.07S±0°.09×148°.88E±0°.10, h36km±6km, mb4.4/20, Error ellipse: s-maj=17.0km s-min=9.2km az=134.0*
ISC 12 10:56:09.7±0.5, 6°.15S±0°.08×148°.98E±0°.09, h60km, n48, σ1§41/53, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	Kimbe	1.47	65	P	Pn	10 56 31.8	-2.2
PMG	Port Moresby	3.70	209	Pn	Pn	10 57 04.3	-0.1
PMG				Sn	Sn	10 57 47.0	+0.3
PMG	Port Moresby	3.70	209	Pn	Pn	10 57 05.2	+0.9
49nm,0.3s,baz=40,slow=5.8,SNR=97							
PMG				Sn	Sn	10 57 48.9	+2.2
70nm,0.3s,baz=84,slow=19,SNR=11							
135nm,0.3s							
RABL	Rabaul	3.73	59	Pn	Pn	10 57 04.5	-0.3
COEN	Coen	9.63	216		Pn	10 58 24.9	-0.7
COEN				Sn	Sn	11 00 05.0	-7.4
HNR	Honiara	11.35	107	Pn	Pn	10 58 50.0	+0.8
MTSU	Mount Surprise	12.74	200	P	Pn	10 59 08.9	+0.7
QIS	Mount Isa	16.96	212	P	Pn	11 00 02.7	-0.4
MTN	Manton Dam	18.80	248	P	P	11 00 25.0	+0.5
EIDS	Eidsvold	19.21	174	P	P	11 00 29.4	+0.5
WB0	Warramunga Arr	19.60	225	P	P	11 00 33.9	+0.8
WB0				IAmb	IAmb	11 00 34.5	
comp=Z,23nm,0.7s							
WR0	Warramunga Arr	19.62	224	P	P	11 00 34.1	+0.6
WR0				IAmb	IAmb	11 00 34.8	
comp=Z,22nm,1.1s							
WR8	Warramunga Arr	19.65	224	P	P	11 00 34.5	+0.8
WR8				IAmb	IAmb	11 00 34.9	
comp=Z,23nm,0.6s							
WB2	Warramunga Arr	19.74	225	P	P	11 00 34.9	+0.2
WRA	Warramunga Arr	19.75	225	P	P	11 00 34.8	-0.1
WRA	Warramunga Arr	19.75	225	P	P	11 00 35.3	+0.4
comp=Z,28nm,0.6s,baz=50,slow=11,SNR=38							
WRA				PcP	PcP	11 04 51.0	-0.5
comp=Z,0.7nm,0.6s,baz=45,slow=2.4,SNR=3.3							
GUMO	Guam	20.03	348	LR	LR	11 07 27.7	
comp=Z,37nm,19.6s,baz=148,slow=34							
QLP	Quilpie	20.81	192	P	P	11 00 48.1	+1.9
KNRA	Kununurra	21.97	243	P	P	11 00 58.6	-0.1
KNRA				IAmb	IAmb	11 01 01.6	
comp=Z,6.3nm,0.6s							
AS01	Alice Springs	22.63	218	P	P	11 01 06.2	+0.4
AS31	Alice Springs	22.66	218	P	P	11 01 06.1	0.0
AS31				IAmb	IAmb	11 01 25.1	
comp=Z,5.0nm,0.5s							
ASAR	Alice Springs	22.66	218	P	P	11 01 06.4	+0.2
comp=Z,6.8nm,0.5s,baz=54,slow=9.6,SNR=241							
ASAR				PcP	PcP	11 04 57.4	+0.4
comp=Z,0.3nm,0.7s,baz=83,slow=1.8,SNR=2.3							
ASAR				LR	LR	11 09 29.7	
comp=Z,76nm,19.1s,baz=70,slow=35							
comp=Z,6.8nm,0.5s							
INKA	Innaminka	22.85	199	P	P	11 01 09.2	+1.2
OOD	Oodnadatta	24.95	209	P	P	11 01 28.2	+0.7
FITZ	Fitzroy Crossi	25.68	240	P	P	11 01 34.9	+0.7
FITZ	Fitzroy Crossi	25.68	240	P	P	11 01 34.2	-0.1
STKA	Stephens Creek	26.50	194	P	P	11 01 43.1	+1.4
STKA	Stephens Creek	26.50	194	P	P	11 01 42.2	+0.6
comp=Z,3.6nm,0.7s,baz=9.0,slow=9.5,SNR=6.1							
comp=Z,3.6nm,0.7s							
FORT	Forrest	31.39	216	P	P	11 02 25.6	+0.6
MORW	Morawa	38.55	230	P	P	11 03 27.1	+0.3

PEA0B	Petropavlovsk-	59.50	6	P	P	11 06 07.3	+0.8
PETK	Petropavlovsk-	59.50	6	P	P	11 06 05.6	-0.9
	comp=Z,2.0nm,0.6s,baz=150,slow=6.2,SNR=6.0						
	comp=Z,2.0nm,0.6s						
SONM	Songino Array	65.51	330	P	P	11 06 47.2	+0.4
	comp=Z,0.3nm,0.5s,baz=130,slow=5.7,SNR=1.6						
	comp=Z,0.3nm,0.5s						
MKAR	Makanchi Array	78.87	320	P	P	11 08 08.8	+2.2
	comp=Z,0.1nm,0.5s,baz=108,slow=8.9,SNR=1.9						
	comp=Z,0.1nm,0.5s						
E19K	Redstone River	82.63	18	P	P	11 08 26.6	+0.4
E19K				IAmb	IAmb	11 08 58.4	
	comp=Z,5.7nm,1.4s						
QSPA	South Pole Qui	83.81	180	P	P	11 08 33.0	+0.5
QSPA	South Pole Qui	83.81	180	P	P	11 08 32.4	-0.1
	comp=Z,1.5nm,0.9s,baz=306,slow=2.6,SNR=5.6						
	comp=Z,1.5nm,0.9s						
ILAR	Eielson Array	84.86	23	P	P	11 08 34.9	-2.7
	comp=Z,0.9nm,0.7s,baz=251,slow=5.0,SNR=12						
	comp=Z,0.9nm,0.7s						
D23K	Nanushuk River	85.51	18	P	P	11 08 41.7	+0.9
D23K				IAmb	IAmb	11 08 43.9	
	comp=Z,1.8nm,0.9s						
F24K	Squaw Lake	85.73	20	P	P	11 08 42.2	+0.3
F24K				IAmb	IAmb	11 08 42.6	
	comp=Z,1.3nm,0.8s						
DAWY	Dawson	87.59	25	P	P	11 08 51.1	0.0
DAWY				IAmb	IAmb	11 09 32.4	
	comp=Z,4.5nm,1.3s						
I28M	Miner Creek	87.83	23	P	P	11 08 52.3	0.0
I28M				IAmb	IAmb	11 09 16.7	
	comp=Z,6.5nm,1.5s						
YKA	Yellowknife Ar	98.39	28	P	P	11 09 38.8	-2.0
	comp=Z,0.1nm,0.5s,baz=268,slow=3.9,SNR=1.7						
	comp=Z,0.1nm,0.5s						
PTLB	Pontes e Lacer	144.84	128		PKPab	11 15 40.1	+0.1
AVE	Averroes	145.21	324	PKPbc	PKPbc	11 15 40.3	-0.6
VILB	Vilhena	145.35	123		PKPbc	11 15 41.5	-0.3
TORD	Torodi Ar. Bea	147.03	285	PKPbc	PKPbc	11 15 46.7	-0.1
	comp=Z,1.0nm,0.3s,baz=57,slow=2.8,SNR=1.3						
BOAV	Boa Vista	150.35	96	PKPdf	PKPdf	11 15 49.4	-0.8
BOAV				PKPab	PKPab	11 16 01.6	-0.3

*MDD **12** 11:12:05.0±0.7,34°.93N×4°.22W,h18km±4km,Mb3.9/4,*
Error ellipse: s-maj=6.6km s-min=4.5km az=111.0
*CNRM **12** 11:12:06.2,34°.96N×4°.26W,h30km,ML2.6*
*SFS **12** 11:12:06.8,34°.98N×4°.25W,h26km,ML2.7/6,ML2.7/8,*
MLv2.6/8

ISC 12 11:12:06.1±1.0,34°.93N±0°.02×4°.21W±0°.03,h27km±9km,
n40,σ1s14/56,4C,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	Pen de Vlez	0.26	343	Pg	Pb	11 12 11.9	-0.9
PALE	Palemas	0.36	38	P	Pb	11 12 14.0	-0.3
PALE				P	Pb	11 12 14.1	-0.3
PALE	Palemas	0.36	38	S	Sb	11 12 20.4	+0.5
AKLM	AKL	0.51	146	P	Pb	11 12 14.4	-2.2
AKLM	AKL	0.51	146	S	Sb	11 12 24.5	+0.8
CHEFC	Chefchaouen	0.94	281	P	Pb	11 12 22.2	-1.8
CHEFC	Chefchaouen	0.94	281	S	Sn	11 12 37.5	+1.1
GOG	Mont Gurugu	1.04	73	P	Pn	11 12 24.8	-0.2
GOG	Mont Gurugu	1.04	73	S	Sn	11 12 39.4	+0.8
EMLI	Melilla	1.10	70	Pn	Pn	11 12 25.9	+0.3
EMLI				Sn	Sn	11 12 37.8	-2.1
WMELI	Melilla	1.10	69	Pn	Pn	11 12 26.3	+0.6
WMELI				Sn	Sn	11 12 39.7	-0.4
SMIR	Smir Dam	1.22	308	P	Pn	11 12 25.8	-1.5
SMIR	Smir Dam	1.22	308	S	Sb	11 12 44.1	+0.3
LCRM	LCR	1.35	204	P	Pn	11 12 29.2	-0.1
LCRM	LCR	1.35	204	S	Sb	11 12 49.5	+1.7
EALB	Alboran	1.39	43	Pn	Pn	11 12 29.0	-0.8
EALB				Sn	Sn	11 12 47.1	-0.2
EALB	Alboran	1.39	43	P	Pn	11 12 29.5	-0.2
EALB				⇑iVmb_V		11 12 37.4	
	800nm,SNR=2.6						
EALB				S	Sn	11 12 46.9	-0.3
JBK	JBK	1.48	113	P	Pn	11 12 31.2	+0.1
JBK	JBK	1.48	113	S	Sn	11 12 49.9	+0.3
TAF	Taforalt	1.48	94	P	Pn	11 12 32.6	+1.6
TAF	Taforalt	1.48	94	S	Sb	11 12 51.9	+0.4
CHAS	Isla Isabel II	1.48	80	Sn	Sn	11 12 49.8	+0.4
CHAS				Pn	Pn	11 12 31.0	0.0
IFR	Ifrane	1.60	209	Pn	Pn	11 12 32.3	-0.4
IFR				Sn	Sn	11 12 52.2	-0.4
EMAL	Malaga-Limoner	1.84	354	Sn	Sn	11 12 55.9	-2.4
EMAL				Pn	Pn	11 12 35.7	-0.2
ELGU	Los Guajares,	1.99	14	Pn	Pn	11 12 37.3	-0.8
ELGU				Sn	Sn	11 12 59.4	-2.8
ELGU	Los Guajares,	1.99	14	P	Pn	11 12 38.1	0.0
ELGU				⇑iVmb_V		11 12 47.3	
	292nm,SNR=3.8						
ELGU				S	Sn	11 13 02.0	-0.1
MD31	MD31	2.11	193	P	Pn	11 12 40.3	+0.7
MD31	MD31	2.11	193	S	Sn	11 13 06.5	+1.5
MDT	Midelt	2.13	189	P	Pn	11 12 40.1	+0.1
MDT	Midelt	2.13	189	S	Sn	11 13 05.8	+0.1
EBER	Berja	2.24	28	P	Pn	11 12 42.5	+0.9
EBER				⇑iVmb_V		11 12 51.5	
	403nm,SNR=2.8						
EBER				S	Sn	11 13 08.8	+0.3
EADA	Adamuz	3.25	355	P	Pn	11 12 57.8	+2.5
EADA				S	Sn	11 13 35.1	+2.0
ECAB	El Cabril	3.29	343	P	Pn	11 12 56.5	+0.6
ECAB				⇑iVmb_V		11 13 00.3	
	77nm,SNR=1.1						
ECAB				S	Sn	11 13 34.2	+0.1
PBDV	Barranco-do-Ve	3.80	309	eP	Pn	11 13 02.8	-0.1
PBDV				eS	Sn	11 13 46.3	-0.3
PBDV				IAML		11 13 52.3	
PBDV				IAML		11 13 55.8	
PBDV				IAML		11 13 56.9	
PBAR	Barrancos	3.96	326	eP	Pn	11 13 07.2	+2.1
PBAR				eS	Sn	11 13 50.2	-0.4
PBAR				IAML		11 13 55.9	
PBAR				IAML		11 13 56.9	
PBAR				IAML		11 14 02.5	
PCVE	Castro Verde	4.11	312	eP	Pn	11 13 08.4	+1.3
PCVE				eS	Sn	11 13 54.0	-0.2
PCVE				IAML		11 13 57.0	
PCVE				IAML		11 14 00.1	
PCVE				IAML		11 14 06.7	
MORF	Marmelete	4.31	305	eP	Pn	11 13 11.1	+1.2
MESJ	Messejana	4.35	313	eP	Pn	11 13 11.7	+1.2
PMRV	Marv??o	5.16	331	eP	Pn	11 13 23.5	+1.9
PMTG	Montargil	5.24	323	eS	Sn	11 14 21.6	-0.5

ISC 12 11:16:54.4±1.1,50°.19N±0°.06×18°.96E±0°.03,h0km,n6,
σ0s30/12,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.54	86	ePg	Pg	11 17 04.4	-0.3
OJC				eSg	Sg	11 17 11.8	+0.1
MORC	Moravsky Berou	1.01	246	ePG	Pg	11 17 13.8	+0.1
MORC				eSG	Sg	11 17 26.6	-0.1
LANS	Liptovska Anna	1.09	162	ePG	Pb	11 17 16.2	+0.1
LANS				eSG	Sb	11 17 31.3	+0.4
LANS				eLg	Lg	11 17 34.6	
NIE	Niedzica	1.16	131	ePg	Pb	11 17 17.6	+0.2
NIE				eSg	Sn	11 17 34.2	-0.3
VRAC	Vranov	1.77	241	ePN	Pb	11 17 27.5	-0.3
VRAC				eSG	Sb	11 17 50.2	-0.3
KSP	Ksiaz	1.83	292	ePg	Pb	11 17 28.7	0.0
KSP				eSg	Sb	11 17 52.6	+0.5

*IDC **12** 11:18:19.1±2.5,28°.68N×140°.68E,h76km±31km,mb3.2/8,*
mbtmp3.6/10,MS3.8/1,Error ellipse: s-maj=57.8km
s-min=14.4km az=69.0

ISC 12 11:18:17.2±0.8,28°.5N±0°.1×140°.3E±0°.2,h50km,n15,
σ1s19/12,mb3.5/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.19	130	P	Pn	11 18 50.9	-0.3
	135nm,0.4s,baz=284,slow=17,SNR=9.7						
JCJ				S	Sn	11 19 17.0	0.0
	120nm,0.3s,baz=289,slow=23,SNR=6.5						
MJAR	Matsushiro Arr	8.20	348	P	Pn	11 20 15.2	+1.6
	0.9nm,0.5s,baz=159,slow=11,SNR=6.9						

KLR	Kul'dur	21.70	345	P	P	11 23 04.2	+0.4
	0.5nm,0.4s,baz=149,slow=15,SNR=2.6						
	0.5nm,0.4s						
H11N2	WAKE ISLAND Hy	25.76	104	T	T	11 49 19.3	
	baz=294						
H11N1	WAKE ISLAND Hy	25.76	104	T	T	11 49 22.8	
	baz=294						
H11N3	WAKE ISLAND Hy	25.77	104	T	T	11 49 28.1	
	baz=294						
MKAR	Makanchi Array	48.29	309	P	P	11 26 52.5	-0.9
	0.1nm,0.5s,baz=92,slow=8.7,SNR=1.8						
	0.1nm,0.5s						
WRA	Warramunga Arr	48.52	187	P	P	11 26 56.8	+1.4
	0.3nm,0.4s,baz=6.6,slow=7.4,SNR=5.1						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	50.86	314	P	P	11 27 12.5	-0.4
	0.2nm,0.4s,baz=94,slow=10.0,SNR=5.1						
	0.2nm,0.4s						
ASAR	Alice Springs	52.24	187	P	P	11 27 24.4	+0.9
	0.2nm,0.8s,baz=8.1,slow=6.8,SNR=0.8						
ASAR				LR	LR	11 47 40.9	
	comp=Z,87nm,19.5s,baz=127,slow=34						
	0.2nm,0.8s						
HEF	Hetta	72.83	340	eP	P	11 29 39.3	-0.9
KIF	Kilpisjarvi	73.33	341	eP	P	11 29 34.9	-8.3
FINES	FINESS Array B	75.94	333	P	P	11 29 57.4	-1.0
	1.4nm,0.7s,baz=66,slow=4.8,SNR=8.1						
	1.4nm,0.7s						
HFS	Hagfors	81.46	336	P	P	11 30 27.4	-1.4
	1.8nm,0.7s,baz=80,slow=10,SNR=2.2						
	1.8nm,0.7s						
NOA	NORSAR Array B	81.67	338	P	P	11 30 28.5	-1.5
	0.4nm,0.6s,baz=2.6,slow=11,SNR=2.9						
	0.4nm,0.6s						

*NOU **12** 11:37:18.2,36°.98S×177°.14E,h2km,MLv3.8/13,Off E.*
Coast of N. Island, N.Z.
*WEL **12** 11:37:18.5±0.8,37°.5S±5°×17°.7E±°,h8km±4km,M3.7/42,*
ML3.9/41,MLv3.7/42,Error ellipse: s-maj=6.8km
s-min=3.1km az=28.7,confirmed

ISC 12 11:37:17.8±1.3,36°.93S±0°.05×177°.15E±0°.03,h6km±12km,
n134,σ0s99/137,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	White Island S	0.59	178	P	Pb	11 37 31.2	+0.8
WSRZ				S	Sb	11 37 39.6	+0.6
WIZ	White Island	0.60	177	P	Pb	11 37 31.2	+0.6
WIZ				S	Sb	11 37 39.1	-0.2
MYRZ	Mayor Island	0.81	244	P	Pb	11 37 34.9	+0.7
WHRZ	Whale Island	0.94	189	P	Pb	11 37 37.3	+0.9
HAZ	Te Kaha	0.96	149	P	Pg	11 37 36.4	+0.1
OPRZ	Ohinepanea	1.03	207	P	Pg	11 37 37.8	+0.3
TGRZ	Tauranga	1.07	221	P	Pg	11 37 38.7	+0.4
RUGZ	Raukumara Rang	1.11	158	P	Pg	11 37 39.2	+0.1
MXZ	Matakaoa Point	1.12	125	P	Pg	11 37 39.0	-0.2
MXZ	Matakaoa Point	1.12	125	S	Sg	11 37 53.6	0.0
MXZ	Matakaoa Point	1.12	125	P	Pg	11 37 38.8	-0.3
MXZ				S	Sg	11 37 52.5	-1.2
MARZ	Manawahe	1.12	200	P	Pg	11 37 39.4	+0.1
KUZ	Kuaotunu	1.16	279	P	Pg	11 37 39.7	-0.4
KUZ	Kuaotunu	1.16	279	S	Sg	11 37 55.9	+0.7
KUZ	Kuaotunu	1.16	279	P	Pg	11 37 39.8	-0.3
KUZ				S	Sg	11 37 54.2	-1.0
PKGZ	Pakihiroa	1.19	142	P	Pg	11 37 40.3	-0.4
KARZ	Kaharoa	1.31	213	P	Pn	11 37 42.4	-0.2
MKRZ	Makatiti	1.32	204	P	Pb	11 37 43.7	+0.7
URZ	Urewera	1.33	181	P	Pn	11 37 42.3	-0.5
URZ	Urewera	1.33	181	P	Pn	11 37 42.4	-0.5
OMRZ	Omania	1.33	208	P	Pn	11 37 43.4	+0.5
KMRZ	Kaimai	1.33	226	P	Pn	11 37 42.5	-0.3
WMGZ	Waiomatatini S	1.34	132	P	Pb	11 37 43.8	+0.6
WMGZ				S	Sg	11 38 01.1	+0.2
TARZ	Mount Tarawera	1.40	201	P	Pn	11 37 44.1	+0.2
TWGZ	Tauwhareparae	1.41	152	P	Pb	11 37 45.0	+0.6
MWZ	Matawai	1.43	168	P	Pn	11 37 43.7	-0.6
PUZ	Puketiti	1.44	143	P	Pg	11 37 45.7	+0.4
UTU	Utuhina	1.46	211	P	Pn	11 37 45.2	+0.6
HLRZ	Highlands Stat	1.47	206	P	Pn	11 37 45.1	+0.3
RRRZ	Republican Roa	1.50	200	P	Pn	11 37 45.6	+0.4
GRZ	Great Barrier	1.52	296	P	Pn	11 37 45.3	-0.2
TOZ	Tahuroa Road	1.54	238	P	Pn	11 37 45.8	+0.1
HSRZ	Hossack Road	1.56	207	P	Pn	11 37 46.6	+0.6
MUGZ	Murupara	1.57	191	P	Pn	11 37 45.8	-0.4
RAGZ	Rawiri	1.58	173	P	Pn	11 37 46.5	+0.2
MKAZ	Moumakai	1.60	263	P	Pn	11 37 46.6	0.0
TKGZ	Te Karaka	1.60	160	P	Pn	11 37 47.6	+1.0
HRRZ	Handcock Road	1.61	205	P	Pn	11 37 47.6	+0.8
WIAZ	Waiheke Island	1.63	274	P	Pn	11 37 47.1	+0.2
GRRZ	Galatos Road	1.64	210	P	Pn	11 37 47.7	+0.5
PRRZ	Plateau Road	1.68	201	P	Pn	11 37 48.1	+0.4
RTZ	Ruatahuna	1.69	185	P	Pn	11 37 47.9	0.0
ALRZ	Allen Road	1.75	201	P	Pn	11 37 48.7	+0.1
CNGZ	Carnagh Statio	1.76	152	P	Pb	11 37 50.9	+0.4
ETAZ	East Tamaki Re	1.78	269	P	Pn	11 37 49.7	+0.7
MBAZ	Motutapu North	1.82	274	P	Pn	11 37 50.0	+0.5
MBAZ				S	Sn	11 38 11.2	-1.7
KBAZ	Karaka Road Bo	1.82	264	P	Pb	11 37 51.7	+0.2
RIGZ	Rimuhau	1.84	165	P	Pb	11 37 51.7	-0.1
SNGZ	Shannon Statio	1.85	176	P	Pn	11 37 50.9	+0.8
KUTZ	Kaahu Road	1.88	214	P	Pn	11 37 50.8	+0.4
ABAZ	Army Bay	1.89	279	P	Pn	11 37 51.1	+0.5
TLZ	Tolley Road	1.90	222	P	Pn	11 37 50.8	+0.1
EPAZ	Eden Park BICE	1.93	271	P	Pn	11 37 52.4	+1.3
MTHZ	Maungataniwha	1.94	187	P	Pn	11 37 51.5	+0.3
HBAZ	Herne Bay Bore	1.94	272	P	Pn	11 37 52.5	+1.3
RAHZ	Arahi	1.98	182	P	Pn	11 37 52.4	+0.5
AWAZ	Awhitu Peninsu	2.02	265	P	Pn	11 37 53.2	+1.0
WTAZ	Waiatarua	2.07	269	P	Pn	11 37 54.0	+1.0
PRGZ	Paritu Road	2.07	164	P	Pb	11 37 55.4	-0.3
RVAZ	Riverhead Bore	2.07	274	P	Pn	11 37 54.1	+1.1
WATZ	Wairara	2.10	212	P	Pg	11 37 58.8	+0.7
KNZ	Kokohu	2.13	169	P	Pn	11 37 55.1	+1.3
WHHZ	Waihua	2.15	178	P	Pn	11 37 55.6	+1.5
NMHZ	Naumai	2.18	187	P	Pn	11 37 55.8	+1.1
RATZ	Rangitukua	2.22	209	P	Pg	11 37 60.0	-0.4
RITZ	Rihia Road	2.29	206	P	Pb	11 37 59.5	+0.1
BKZ	Black Stump Fm	2.29	193	P	Pn	11 37 56.6	+0.5
BKZ	Black Stump Fm	2.29	193	P	Pn	11 37 56.5	+0.3
MHGZ	Mahia Peninsul	2.30	165	P	Pn	11 37 57.4	+1.2
ARHZ	Aropaoanui	2.33	183	P	Pn	11 37 58.4	+1.8
KATZ	Kakaramea	2.34	209	P	Pg	11 38 02.0	-0.7
HIZ	Hauiti	2.41	228	P	Pn	11 37 58.4	+0.7
HIZ	Hauiti	2.41	228	P	Pn	11 37 58.5	+0.8
NTVZ	North Tongarir	2.46	208	P	Pb	11 38 02.6	+0.2
TMVZ	Te Maari	2.46	207	P	Pb	11 38 02.1	-0.4
KRVZ	Karewarewa	2.47	208	P	Pb	11 38 03.0	+0.4
WCZ	Waipu Caves	2.47	293	P	Pn	11 37 59.0	+0.5
ETVZ	East Tongariro	2.48	207	P	Pb	11 38 02.3	-0.5
WTVZ	West Tongariro	2.51	209	P	Pn	11 38 01.1	+1.9
NNVZ	North Ngauruho	2.51	208	P	Pb	11 38 03.6	+0.3
OTVZ	Oturere	2.52	207	P	Pb	11 38 03.6	+0.1
TWVZ	Taurewa	2.53	212	P	Pg	11 38 06.6	+0.3
MCHZ	McNeill Hill	2.54	188	P	Pn	11 38 01.6	+2.2
SNVZ	South Ngauruho	2.55	207	P	Pb	11 38 03.3	-0.7
KWHZ	Kaweka Forest	2.56	193	P	Pn	11 38 01.8	+2.0
NGZ	Ngauruhoe	2.56	208	P	Pb	11 38 04.3	+0.2
COVZ	Chateau Observ	2.60	209	P	Pb	11 38 04.6	-0.2
FWVZ	Far West T-bar	2.64	208	P	Pb	11 38 06.3	+0.7
MAVZ	Matarangi	2.65	208	P	Pb	11 38 06.4	+0.6
WHVZ	Whangaehu Hut	2.65	207	P	Pb	11 38 05.5	-0.3
TRVZ	Turoa	2.68	208	P	Pb	11 38 07.0	+0.7
WNVZ	Wahianoa	2.69	207	P	Pb	11 38 06.4	0.0
MOVZ	Moawhango	2.71	204	P	Pn	11 38 04.4	+2.5
KRHZ	Kereru	2.78	193	P	Pn	11 38 04.8	+2.1
KAHZ	Kahuranaki	2.87	184	P	Pn	11 38 05.3	+1.3
VRZ	Vera Road	2.90	220	P	Pn	11 38 05.6	+1.3
PNHZ	Pukenui	3.07	194	P	Pn	11 38 08.2	+1.4
PXZ	Pawanui	3.10	184	P	Pn	11 38 07.5	+0.3
WPHZ	Waipukurau	3.18	190	P	Pn	11 38 08.9	+0.6
TSZ	Takapari Road	3.26	196	P	Pn	11 38 11.0	+1.6
WAZ	Wanganui	3.30	210	P	Pb	11 38 14.0	-2.6
LREZ	Lake Rotokare	3.33	220	P	Pn	11 38 12.8	+2.5
OUZ	Omahuta	3.35	300	P	Pn	11 38 11.6	+1.0
OUZ	Omahuta	3.35	300	P	Pn	11 38 11.6	+1.0
PRHZ	Porangahau	3.36	187	P	Pn	11 38 11.6	+0.9
NEZ	North Egmont	3.36	225	P	Pn	11 38 13.5	+2.7
DVHZ	Dannevirke	3.45	193	P	Pn	11 38 12.3	+0.3
POWZ	Post Office Ro	3.62	197	P	Pb	11 38 18.9	-3.3
PRWZ	Pori Road	3.74	194	P	Pn	11 38 18.8	+2.9

BFZ	Birch Farm	3.81	190	P	Pn	11 38 16.5	-0.5
BFZ	Birch Farm	3.81	190	P	Pn	11 38 16.5	-0.5
MRZ	Mangatainoka R	3.92	198	P	Pn	11 38 18.7	+0.2
HOWZ	Holdsworth Sta	4.16	197	P	Pn	11 38 22.3	+0.5
OGWZ	Otaki Gorge	4.18	201	P	Pn	11 38 22.5	+0.5
TMWZ	Te Maipa	4.29	193	P	Pn	11 38 23.0	-0.5
MTW	Mount Morrison	4.41	196	P	Pn	11 38 25.3	+0.1
CAW	Cannon Point	4.48	201	P	Pn	11 38 26.4	+0.3
TRWZ	Traveller	4.61	194	P	Pn	11 38 27.7	-0.2
DUWZ	D'Urville Isla	4.62	212	P	Pn	11 38 33.5	+5.5
PAWZ	Paruwai Farm	4.64	196	P	Pn	11 38 27.8	-0.6
MSWZ	Moikau Station	4.72	198	P	Pn	11 38 29.4	0.0
SNZO	South Karori	4.77	203	P	Pn	11 38 29.7	-0.4
BHW	Baring Head	4.81	201	P	Pn	11 38 30.6	0.0
TCW	Tory Channel	4.83	207	P	Pn	11 38 36.2	+5.7
TKNZ	Takaka Hill	5.24	217	P	Pn	11 38 41.6	+5.0
MRNZ	Matariki Terra	5.62	216	P	Pn	11 38 44.9	+3.1
THZ	Tophouse	5.84	213	P	Pn	11 38 45.9	+1.0
KHZ	Kahutara	6.15	206	P	Pn	11 38 48.3	-0.7
KHZ	Kahutara	6.15	206	P	Pn	11 38 48.6	-0.4
LTZ	Lake Taylor	6.95	211	P	Pn	11 39 01.0	+0.9
OXZ	Oxford	7.49	210	P	Pn	11 39 08.4	+0.9
CTZ	Chatham Island	8.29	147	P	Pn	11 39 19.5	+1.0
CTZ	Chatham Island	8.29	147	P	Pn	11 39 19.8	+1.3
ODZ	Otahua Downs	9.48	209	P	Pn	11 39 34.9	+0.2

*NNC **12** 11:45:37.9±2.8,39°.52N×75°.06E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=20.4km s-min=17.6km az=133.0
*SOME **12** 11:45:41.6,39°.82N×74°.68E,h5km*
*KRNET **12** 11:45:45.1±0.1,39°.48N×74°.83E,h16km,mb2.6*

ISC 12 11:45:42.3±2.3,39°.43N±0°.08×74°.97E±0°.05,h3km±14km,
n18,σ2s26/29,12C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.27	298	⇑eP	Pg	11 46 07.6	+0.9
SFK				⇑eS	Sg	11 46 23.2	-0.1
SALK	Salom-Alik	1.70	329	⇑eP	Pb	11 46 14.9	+0.6
SALK				⇑eS	Sg	11 46 36.7	-0.3
OHH	Osh	2.01	304	⇑eP	Pb	11 46 20.0	+0.5
OHH				⇑eS	Sg	11 46 45.9	-0.9
ARSB	Arslanbob	2.43	322	⇑eP	Pb	11 46 26.5	-0.2
ARSB				⇑eS	Sb	11 46 56.8	-0.4
DRK	Karamyk	2.46	272	⇓eP	Pb	11 46 26.9	-0.4
DRK				⇓eS	Sb	11 46 57.2	-0.8
ARLS	Aral	2.48	349	⇑eP	Pb	11 46 27.6	0.0
ARLS				⇑eS	Sb	11 46 59.0	+0.3
BOOM	Boomskoye usch	3.15	13	⇓eP	Pb	11 46 38.2	-0.8
BOOM				⇓eS	Sb	11 47 16.1	-1.8
KDJ	Kajisay	3.18	31	⇑eP	Pb	11 46 38.6	-0.9
KDJ				⇑eS	Sb	11 47 18.0	-0.8
BTK	Batken	3.26	282	⇓eP	Pb	11 46 37.8	-3.1
BTK				⇓eS	Sb	11 47 16.9	-4.2
MRKS	Merke	3.57	339	Pg	Pn	11 46 41.9	+3.3
	1.9nm,0.1s						
MRKS				Lg	Lg	11 47 29.2	
	2.7nm,0.5s						
MRKS	Merke	3.57	339	eP	Pn	11 46 39.4	+0.7
	0.8nm,0.2s						
MRKS				eS	Sn	11 47 21.1	-0.3
	2.7nm,0.4s						
KST	Kastek	3.69	11	Pg	Pn	11 46 43.8	+3.4
	1.9nm,0.4s						
KST				Lg	Lg	11 47 32.6	
	8.5nm,0.6s						
KST	Kastek	3.69	11	eP	Pn	11 46 44.0	+3.6
	1.8nm,0.3s						
KST				eS	Sb	11 47 28.9	-4.5
	8.5nm,0.6s						
DGS	Degeres	3.86	9	Pg	Pn	11 46 45.6	+2.9
	3.9nm,0.3s						
DGS				Lg	Lg	11 47 35.5	
	4.6nm,0.4s						
MTBS	Maitube	3.86	16	Pg	Pn	11 46 47.5	+4.8
	2.3nm,0.3s						
MTBS				Lg	Lg	11 47 39.3	
	3.4nm,0.3s						
TNSS	Tian-Shan	3.90	22	Pg	Pn	11 46 46.1	+2.6
	0.3nm,0.1s						
TNSS				Lg	Lg	11 47 37.0	
	1.9nm,0.4s						
TNSS	Tian-Shan	3.90	22	eP	Pb	11 46 49.5	-2.5
	0.3nm,0.0s						
TNSS				eS	Sb	11 47 38.5	-1.3
	1.8nm,0.4s						
KRBS	Karabastau	4.30	7	Pg	Pb	11 46 55.0	-

IKLH	**Kolahrood**	**5.08**	**98**	Pn	**Pn**	**12 06 36.1**	**+0.3**
IVRN	**Varamin**	**5.13**	**79**	Pn	**Pn**	**12 06 36.0**	**-0.5**
IBRJ	**Brojen**	**5.29**	**114**	Pn	**Pn**	**12 06 39.9**	**+1.1**
KRSH	**Karshahi**	**5.45**	**91**	Pn	**Pn**	**12 06 41.0**	**+0.1**
ISFB	**Sefidab**	**5.52**	**87**	Pn	**Pn**	**12 06 41.5**	**-0.2**
IZEF	**Zefreh**	**5.79**	**101**	Pn	**Pn**	**12 06 45.6**	**0.0**
GNI	**Garni**	**5.97**	**354**	Pn	**Pn**	**12 06 46.8**	**-1.2**
KLNJ	**Kolanjah**	**5.99**	**121**	Pn	**Pn**	**12 06 49.2**	**+0.7**
KARS	**Kars**	**6.71**	**343**	Pn	**Pn**	**12 06 57.7**	**-0.5**
KOPT	**Kop Dagi**	**7.08**	**326**	Pn	**Pn**	**12 07 02.7**	**-0.7**
TPRV	**Parvadeh(Tabas**	**9.34**	**94**	Pn	**Pn**	**12 07 35.4**	**+1.2**
KBZ	**Khabaz**	**9.73**	**348**	Pn	**Pn**	**12 07 41.0**	**+1.5**
	comp=E,0.1nm,0.3s,baz=257,slow=13,SNR=2.6						
	comp=E,1.5nm,0.9s						
AB31	**Akbulak array**	**18.42**	**31**	P	**Pn**	**12 09 34.9**	**+0.1**
ABKAR	**Akbulak array**	**18.42**	**31**	P	**Pn**	**12 09 34.6**	**-0.2**
AKTO	**Aktyubinsk**	**18.60**	**26**	P	**P**	**12 09 35.8**	**-1.0**
	comp=E,0.1nm,0.3s,baz=214,slow=6.9,SNR=1.5						
	comp=E,1.8nm,0.5s						
LIT	**Litokhoron**	**19.30**	**294**	P	**P**	**12 09 42.4**	**-2.1**
LIT				IAmb	IAmb	12 09 59.3	
	comp=Z,29nm,1.2s						
BURAR	**Bucovina Array**	**20.32**	**317**	P	**P**	**12 09 55.9**	**+0.1**
AKBB	**Malin Array Si**	**20.35**	**329**	P	**P**	**12 09 55.0**	**-0.9**
AKBB				IAmb	IAmb	12 09 55.8	
	comp=Z,12nm,1.5s						
GAR	**Garm**	**20.40**	**69**	P	**P**	**12 09 57.2**	**+0.4**
KK31	**Karatay Array**	**21.34**	**58**	P	**P**	**12 10 07.8**	**+1.1**
KKAR	**Karatay Array**	**21.34**	**58**	P	**P**	**12 10 07.1**	**+0.4**
ARTI	**Arti**	**23.86**	**18**	P	**P**	**12 10 32.6**	**-0.2**
ARTI				IAmb	IAmb	12 10 47.0	
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**25.79**	**36**	P	**P**	**12 10 51.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=241,slow=7.7,SNR=1.6						
	comp=Z,0.3nm,0.3s						
GERES	**GERESS Array B**	**27.75**	**311**	P	**P**	**12 11 10.7**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=92,slow=8.9,SNR=2.8						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**29.03**	**46**	P	**P**	**12 11 19.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=251,slow=8.8,SNR=2.2						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**29.99**	**341**	P	**P**	**12 11 28.6**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=138,slow=9.1,SNR=1.9						
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**30.34**	**54**	P	**P**	**12 11 31.2**	**0.0**
	comp=Z,0.4nm,0.8s,baz=258,slow=9.3,SNR=3.6						
	comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**33.21**	**331**	P	**P**	**12 11 57.4**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=134,slow=8.3,SNR=1.0						
	comp=Z,0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**33.82**	**42**	P	**P**	**12 12 02.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=258,slow=10,SNR=1.8						
	comp=Z,0.5nm,0.3s						
NC405	**NORSAR Array S**	**34.58**	**332**	P	**P**	**12 12 05.9**	**-2.2**
NC405				IAmb	IAmb	12 12 22.5	
	comp=Z,21nm,1.2s						
KONO	**Kongsberg**	**34.65**	**328**	P	**P**	**12 12 07.5**	**-1.2**
NAO01	**NORSAR Array S**	**34.76**	**331**	P	**P**	**12 12 08.5**	**-1.2**
ARCES	**ARCESS Array B**	**37.10**	**348**	P	**P**	**12 12 30.4**	**+0.8**
	comp=Z,5.6nm,1.2s,baz=353,slow=8.8,SNR=4.2						
	comp=Z,5.6nm,1.2s						
SPB2	**Spitsbergen Ar**	**45.83**	**352**	P	**P**	**12 13 41.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**49.79**	**94**	P	**P**	**12 14 13.0**	**+0.4**
	comp=Z,0.8nm,0.2s,baz=306,slow=8.6,SNR=2.5						
	comp=Z,0.8nm,0.2s						
BOSA	**Boshof**	**65.37**	**200**	P	**P**	**12 16 02.2**	**0.0**
TOLK	**Toolik Lake Re**	**76.84**	**6**	P	**P**	**12 17 09.8**	**-1.4**
TOLK				IAmb	IAmb	12 17 33.3	
	comp=Z,1.4nm,1.0s						
E22K	**Anaktuvuk Pass**	**77.14**	**7**	P	**P**	**12 17 12.4**	**-0.5**
E19K	**Redstone River**	**77.19**	**9**	P	**P**	**12 17 13.4**	**+0.3**
E19K				IAmb	IAmb	12 17 40.4	
	comp=Z,4.2nm,1.4s						
E25K	**Arctic Village**	**77.64**	**4**	P	**P**	**12 17 15.8**	**+0.1**
E25K				IAmb	IAmb	12 17 37.8	
	comp=Z,5.1nm,1.5s						
E27K	**Coleen River**	**77.78**	**3**	P	**P**	**12 17 17.6**	**+1.1**
E27K				IAmb	IAmb	12 17 42.5	
	comp=Z,2.4nm,1.2s						
G30M	**tAoh Zraii Nji**	**79.12**	**1**	P	**P**	**12 17 24.3**	**+0.4**
G30M				IAmb	IAmb	12 17 36.0	
	comp=Z,7.5nm,1.4s						
YKA	**Yellowknife Ar**	**82.32**	**351**	P	**P**	**12 17 41.9**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=292,slow=7.5,SNR=3.8						
	comp=Z,0.1nm,0.4s						
N15K	**Kwethluk River**	**83.62**	**13**	P	**P**	**12 17 49.3**	**+1.5**

*MOS **12** 12:06:04.6±1.3,34°.28N×45°.54E,h13km,mb4.5/25,Error ellipse: s-maj=6.6km s-min=4.4km az=105.1*
*IDC **12** 12:06:04.4±0.6,34°.20N×45°.64E,h0km,mb4.1/22, mbtmp4.1/32,ML4.0/10,MS3.6/9,Error ellipse: s-maj=12.0km s-min=9.6km az=151.0*
*NEIC **12** 12:06:05.2±1.4,34°.04N±0°.03×45°.43E±0°.07,h10km±1km, mb4.5/93,Error ellipse: s-maj=10.3km s-min=3.0km az=243.0*
*AFAD **12** 12:06:06.6,34°.06N×45°.36E,h7km±4km,MW4.3*
*THR **12** 12:06:06.3±0.0,34°.22N×45°.58E,h7km±2km,ML4.8*
*TEH **12** 12:06:06.0,34°.24N×45°.58E,h8km±38km*
*OMAN **12** 12:06:14.8±0.1,33°.69N×46°.18E,h10km,mb4.8/35, ms3.4/4,Error ellipse: s-maj=1.6km s-min=1.5km az=322.0*
*GII **12** 12:06:43.4±0.0,34°.15N×45°.50E,h10km,confirmed*
ISC 12 12:06:05.1±0.3,34°.09N±0°.03×45°.55E±0°.03,h10km,n439, σ2s**00**/440,**mb4.5**/101,**MS3.6**/**7**,**14C-15D**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.30**	**85**	Pg	**Pg**	**12 06 12.1**	**+1.0**
KGS1	**Ghasr-e-Shirin**	**0.42**	**4**	Pg	**Pg**	**12 06 11.8**	**-1.5**
ILBA	**Ilam Banvizeh**	**0.71**	**130**	Pg	**Pn**	**12 06 21.6**	**+0.3**
ILBA	**Ilam Banvizeh**	**0.71**	**130**	*e*Pg	**Pn**	**12 06 21.9**	**+0.6**
ILBA				*e*Sg	**Sn**	**12 06 33.0**	**+0.6**
ILBA				IAML		12 06 47.3	
	comp=Z,10μm,1.0s						
IGHG	**Ghaleghazi**	**0.88**	**74**	Pg	**Pg**	**12 06 22.5**	**+0.5**
IDHR	**Dehrash**	**0.92**	**48**	Pg	**Pg**	**12 06 21.2**	**-1.6**
SNGE	**Sanandaj**	**1.79**	**55**	*e*Pn	**Pn**	**12 06 37.8**	**+1.6**
SNGE				*e*Sg	**Sn**	**12 07 01.6**	**+2.5**
SNGE				IAML		12 07 03.6	
	comp=Z,12μm,1.0s						
SNQR	**Sonqor, Kerman**	**1.88**	**65**	Pg	**Pn**	**12 06 39.7**	**+2.2**
IKFM	**Kafar-mosalman**	**1.99**	**106**	Pn	**Pb**	**12 06 43.2**	**+1.9**
SDS1	**Sardasht. Az.**	**2.06**	**358**	Pn	**Pn**	**12 06 41.0**	**+1.1**
SRSL	**SARDASHT**	**2.12**	**357**	*e*Pn	**Pn**	**12 06 41.9**	**+1.1**
SRSL				*e*Sg	**Sb**	**12 07 10.4**	**+0.2**
SRSL				IAML		12 07 16.4	
	comp=Z,7μm,1.0s						
NSR4	**Al Neser**	**2.60**	**168**	Pn	**Pb**	**12 06 52.6**	**+0.9**
MAHB	**Mahabad**	**2.67**	**3**	Pn	**Pn**	**12 06 49.9**	**+1.6**
IHSH	**Hashtrud**	**3.50**	**23**	Pn	**Pn**	**12 07 01.0**	**+1.2**
ZNJK	**Zanjan**	**3.63**	**44**	*e*Pn	**Pn**	**12 07 03.7**	**+2.1**
ZNJK				IAML		12 08 08.3	
	comp=Z,530nm,1.0s						
YOVA	**Hakkari_Yksek**	**3.64**	**344**	P	**Pn**	**12 07 00.8**	**-0.9**
HAKT	**HAKKARI**	**3.77**	**337**	P	**Pn**	**12 07 04.6**	**+1.1**
IRAZ	**Razeghan**	**3.83**	**69**	Pn	**Pn**	**12 07 06.6**	**+2.2**
ISRB	**Sarab**	**4.10**	**24**	Pn	**Pn**	**12 07 08.5**	**+0.5**
ITBZ	**Tabriz**	**4.16**	**6**	Pn	**Pn**	**12 07 10.3**	**+1.5**
SIRN	**Sirnak**	**4.25**	**324**	P	**Pn**	**12 07 10.1**	**+0.1**
IHRS	**Heris**	**4.39**	**15**	Pn	**Pn**	**12 07 13.1**	**+1.2**
PERV	**Siirt/Pervari-**	**4.56**	**328**	P	**Pn**	**12 07 15.0**	**+0.8**
PERV				S	**Sn**	**12 08 07.9**	**+0.6**
IMRD	**Marand**	**4.62**	**1**	Pn	**Pn**	**12 07 16.2**	**+1.2**
GEVA	**Gevas**	**4.67**	**335**	Pn	**Pn**	**12 07 17.2**	**+1.3**
GEVA	**Gevas**	**4.67**	**335**	P	**Pn**	**12 07 17.1**	**+1.3**
GEVA				S	**Sn**	**12 08 12.8**	**+2.6**
MIDY	**Mardin/Midyat-**	**4.73**	**316**	P	**Pn**	**12 07 17.4**	**+0.9**
OZAP	**Van, Ozalp-Mer**	**4.73**	**345**	P	**Pn**	**12 07 18.8**	**+2.1**
TVAN	**Van**	**4.76**	**339**	P	**Pn**	**12 07 19.3**	**+2.3**
SRTM	**Siirt_Merkez**	**4.88**	**324**	P	**Pn**	**12 07 19.9**	**+1.3**
MARD	**Mardin**	**5.04**	**311**	Pn	**Pn**	**12 07 21.3**	**+0.4**
MARD	**Mardin**	**5.04**	**311**	P	**Pn**	**12 07 21.0**	**+0.1**
GRMI	**Germi**	**5.07**	**21**	Pn	**Pn**	**12 07 22.3**	**+1.0**
IKLH	**Kolahrood**	**5.08**	**97**	Pn	**Pn**	**12 07 24.7**	**+3.2**
BLIS	**Bitlis-Merkez**	**5.13**	**328**	P	**Pn**	**12 07 22.6**	**+0.5**
BTMN	**Batman**	**5.14**	**319**	P	**Pn**	**12 07 24.0**	**+1.8**
VMUR	**Van-Muradiye**	**5.14**	**343**	P	**Pn**	**12 07 24.5**	**+2.2**
IVRN	**Varamin**	**5.17**	**78**	Pn	**Pn**	**12 07 25.1**	**+2.4**
KBD	**Kabd**	**5.23**	**159**	P	**Pn**	**12 07 27.2**	**+3.9**
KBD				S	**Sn**	**12 08 19.1**	**-4.5**
ADCV	**BITLIS_Adilcev**	**5.23**	**335**	P	**Pn**	**12 07 24.8**	**+1.3**
GURO	**Guroymak-BITLI**	**5.28**	**328**	Pn	**Pn**	**12 07 24.1**	**-0.1**
MAKU	**Maku**	**5.30**	**353**	Pn	**Pn**	**12 07 25.5**	**+1.1**
KRSH	**Karshahi**	**5.47**	**89**	Pn	**Pn**	**12 07 29.3**	**+2.5**
MUSM	**Mu-Merkez**	**5.66**	**326**	P	**Pn**	**12 07 29.4**	**+0.1**
MUSM				S	**Sn**	**12 08 32.4**	**-2.0**
DORK	**Agr/Tutak/Do**	**5.74**	**338**	P	**Pn**	**12 07 31.1**	**+0.6**
IZEF	**Zefreh**	**5.79**	**100**	Pn	**Pn**	**12 07 33.7**	**+2.5**
DIYA	**Diyarbakir**	**5.83**	**313**	P	Pb	12 07 40.1	-6.8
HANI	**Diyarbakir_Han**	**6.00**	**318**	P	**Pn**	**12 07 36.0**	**+2.0**
KOTA	**Agri, Merkez-K**	**6.00**	**342**	P	**Pn**	**12 07 36.0**	**+1.8**
SLHN	**Bingol, Solhan**	**6.07**	**324**	P	**Pn**	**12 07 35.4**	**+0.4**
GNI	**Garni**	**6.08**	**354**	Pn	**Pn**	**12 07 37.5**	**+2.3**
GNI	**Garni**	**6.08**	**354**	Pn	**Pn**	**12 07 37.3**	**+2.1**
	comp=Z,2.7nm,0.3s,baz=180,slow=11,SNR=4.8						
GNI				Lg	Lg	12 09 15.3	
	baz=246,slow=20						
GNI				LR	LR	12 09 24.4	
	comp=Z,158nm,21.0s,baz=172,slow=33						
	comp=Z,18nm,0.6s						
GNI	**Garni**	**6.08**	**354**	*e*P	**Pn**	**12 07 31.8**	**-3.4**
GNI	**Garni**	**6.08**	**354**	Pn	**Pn**	**12 07 38.3**	**+3.0**
GNI	**Garni**	**6.08**	**354**	P	**Pn**	**12 07 37.4**	**+2.2**
	comp=Z,0.7nmcomp=Z,1μmcomp=Z,105nm,0.7s						
SANL	**SANLIURFA_Merk**	**6.17**	**302**	P	**Pn**	**12 07 37.3**	**+1.1**
SURC	**SANLIURFA_SURC**	**6.31**	**298**	P	**Pn**	**12 07 38.4**	**+0.2**
KOVA	**Elazig, Kovanc**	**6.53**	**317**	P	**Pn**	**12 07 40.6**	**-0.7**
NARI	**Adyaman-Kaht**	**6.68**	**306**	P	**Pb**	**12 08 01.6**	**+0.2**
KARS	**Kars**	**6.82**	**344**	Pn	**Pn**	**12 07 43.9**	**-1.4**
KARS	**Kars**	**6.82**	**344**	P	**Pn**	**12 07 43.9**	**-1.4**
ELZG	**Elazig**	**6.89**	**312**	P	**Pn**	**12 07 47.4**	**+1.1**
TNCL	**Tunceli-Merkez**	**6.96**	**318**	P	**Pn**	**12 07 45.2**	**-2.0**
AZEY	**Adyaman-Merk**	**6.99**	**304**	P	**Pb**	**12 08 06.5**	**-0.1**
KOPT	**Kop Dagi**	**7.17**	**327**	Pn	**Pn**	**12 07 50.5**	**+0.4**
GAZ	**Gaziantep**	**7.46**	**297**	Pn	**Pn**	**12 07 52.9**	**-1.1**
ASF	**Jabal al Asfar**	**7.51**	**258**	Pn	**Pn**	**12 07 56.6**	**+1.9**
	comp=Z,2.2nm,0.3s,baz=125,slow=12,SNR=9.0						
ASF				Sn	**Sn**	**12 09 25.6**	**+5.6**
	comp=Z,2.2nm,0.3s,baz=351,slow=6.8,SNR=1.2						
ASF				Lg	Lg	12 10 07.2	
	comp=Z,6.7nm,0.3s,baz=37,slow=20,SNR=8.6						
ASF				LR	LR	12 12 00.6	
	comp=Z,373nm,18.9s,baz=101,slow=47						
	comp=Z,10.0nm,0.5s						
DAGI	**Agillar**	**7.55**	**339**	P	**Pn**	**12 07 57.5**	**+2.2**
KEMA	**Kemaliye**	**7.67**	**314**	P	**Pn**	**12 07 52.6**	**-4.4**
KAMA	**Osmaniye**	**7.87**	**296**	P	**Pn**	**12 08 00.5**	**+0.9**
KSHT	**Keshet**	**8.21**	**265**	P	**Pg**	**12 08 42.2**	**0.0**
KSHT	**Keshet**	**8.21**	**265**	S	Sg	12 10 14.4	-14
NATI	**Neve Ativ**	**8.22**	**267**	P	**Pg**	**12 08 42.2**	**-0.3**
NATI	**Neve Ativ**	**8.22**	**267**	S	Sg	12 10 15.2	-14
GEM	**Giv'at Ha'Em**	**8.29**	**267**	P	**Pg**	**12 08 43.4**	**-0.4**
MMA0B	**Mount Meron ar**	**8.54**	**266**	P	**Pg**	**12 08 46.9**	**-1.7**
MMA0B	**Mount Meron ar**	**8.54**	**266**	S		12 10 22.3	
MMAI	**Mount Meron Ar**	**8.54**	**266**	Pn	**Pn**	**12 08 11.3**	**+2.5**
	comp=Z,4.5nm,0.3s,baz=56,slow=13,SNR=11						
MMAI				Lg	Lg	12 10 37.1	
	comp=Z,9.6nm,0.3s,baz=79,slow=41,SNR=3.9						
	comp=Z,4.7nm,0.4s						
HMDT	**Nahal Hemdat**	**8.60**	**260**	P	**Pg**	**12 08 47.7**	**-2.1**
HMDT	**Nahal Hemdat**	**8.60**	**260**	S		12 10 24.4	
MMLI	**Mount Malkishu**	**8.64**	**262**	P	**Pg**	**12 08 48.6**	**-1.9**
HNTI	**Hanita**	**8.72**	**266**	P	**Pg**	**12 08 49.6**	**-2.4**
BLGI	**Bet Lehem HaGe**	**8.77**	**264**	P	**Pg**	**12 08 49.7**	**-3.2**
BLGI	**Bet Lehem HaGe**	**8.77**	**264**	S	Sg	12 10 28.6	-18
GHAJ	**Ghor Haditha**	**8.86**	**254**	Pn	**Pn**	**12 08 11.2**	**-1.9**
DSI	**Dead Sea**	**8.92**	**256**	P	**Pg**	**12 08 51.8**	**-4.0**
SALP	**Salfit**	**8.93**	**260**	P	**Pg**	**12 08 52.8**	**-3.2**
OFRI	**`Ofer**	**8.96**	**264**	P	**Pg**	**12 08 53.5**	**-3.2**
OFRI	**`Ofer**	**8.96**	**264**	S	Sg	12 10 33.6	-19
MAK	**Makhachkala**	**8.99**	**9**	*e*P	Pn	12 08 06.5	-8.4
MAK				pmax	pmax		
	comp=Z,109nm,1.0s						
MAK				MLR	MLR		
	comp=Z,767nm,16.0s						
SLTI	**Sal'it**	**9.00**	**261**	P		12 08 53.7	
SLTI	**Sal'it**	**9.00**	**261**	S		12 10 34.6	
MSBI	**Mazada**	**9.03**	**255**	P		12 08 53.6	
MSBI	**Mazada**	**9.03**	**255**	S		12 10 34.4	
SAKB	**Bahrain**	**9.16**	**151**	P	**Pn**	**12 08 19.3**	**+2.0**
SAKB				S	**Sn**	**12 09 57.4**	**-3.2**
YTIR	**Yattir**	**9.20**	**256**	P	Pn	12 08 56.6	+39
YTIR	**Yattir**	**9.20**	**256**	S	Sn	12 10 39.8	+38
AMAZ	**Amatzia**	**9.31**	**257**	P	Pn	12 08 57.7	+38
SHMA	**Al-Shehemyia**	**9.45**	**149**	P	**Pn**	**12 08 22.8**	**+1.6**
ZFRI	**Zfri**	**9.46**	**251**	P	Pn	12 08 60.0	+39
PRNI	**Paran**	**9.68**	**250**	P	Pn	12 09 02.6	+38
HRFI	**Mount Harif**	**9.79**	**248**	P	Pn	12 09 04.3	+38
HRFI	**Mount Harif**	**9.79**	**248**	S	Sn	12 10 54.4	+38
KBZ	**Khabaz**	**9.84**	**349**	Pn	**Pn**	**12 08 30.2**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=8.6,SNR=19						
KBZ				LR	LR	12 12 29.7	
	comp=Z,312nm,21.9s,baz=150,slow=40						
	comp=Z,13nm,0.9s						
KBZ	**Khabaz**	**9.84**	**349**	*e*P	**Pn**	**12 08 25.7**	**-0.9**
KZIT	**Kziot**	**9.94**	**254**	P	Pn	12 09 06.4	+38
MBRI	**Mt Berech**	**10.00**	**248**	P	Pn	12 09 06.8	+38
MBRI	**Mt Berech**	**10.00**	**248**	S	Sn	12 10 59.0	+38
EIL	**Elat**	**10.03**	**247**	Pn	**Pn**	**12 08 31.2**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=55,slow=19,SNR=6.8						
EIL				Lg	Lg	12 11 28.9	
	comp=Z,1.9nm,0.3s,baz=21,slow=22,SNR=1.5						
EIL				LR	LR	12 13 40.9	
	comp=Z,280nm,18.5s,baz=64,slow=45						
	comp=Z,3.3nm,0.4s						
EIL	**Elat**	**10.03**	**247**	P	Pn	12 09 07.0	+38
EIL	**Elat**	**10.03**	**247**	S	Sn	12 10 59.8	+38
KVAR	**Kislovodsk Arr**	**10.10**	**348**	Pn	**Pn**	**12 08 34.0**	**+3.8**
	baz=78,slow=22						
	comp=Z,6.1nm,0.6s						
KIV	**Kislovodsk**	**10.10**	**348**	Pn	**Pn**	**12 08 30.4**	**+0.2**
KIV	**Kislovodsk**	**10.10**	**348**	*e*P	**Pn**	**12 08 30.3**	**+0.1**
KIV				pmax	pmax		
	comp=Z,41nm,1.0s						
KIV				MLR	MLR		
	comp=Z,145nm,12.0s						
KIV	**Kislovodsk**	**10.10**	**348**	P	**Pn**	**12 08 33.8**	**+3.6**
CSS	**Mathiatis**	**10.12**	**278**	Pn	**Pn**	**12 08 30.2**	**-0.3**
SMRA	**Abu-Samra**	**10.38**	**152**	P	**Pn**	**12 08 36.0**	**+1.9**
	SNR=10						
SMRA				S	**Sn**	**12 10 26.8**	**-3.7**
SOC	**Sochi**	**10.51**	**336**	*e*P	**Pn**	**12 08 31.6**	**-4.2**
SOC				*e*		12 10 28.0	
SOC				MLR	MLR		
	comp=Z,404nm,14.0s						
RAYN	**Ar Rayn**	**10.53**	**180**	Pn	**Pn**	**12 08 35.0**	**-1.1**
RAYN	**Ar Rayn**	**10.53**	**180**	P	**Pn**	**12 08 36.5**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TRNA	**Turayna**	**10.54**	**151**	P	**Pn**	**12 08 38.0**	**+1.8**
	SNR=8.3						
TRNA				S	**Sn**	**12 10 30.7**	**-3.8**
BR131	**Keskin Array S**	**11.07**	**304**	*e*P	**Pn**	**12 08 44.3**	**+0.7**
BRTR	**Keskin Array B**	**11.07**	**304**	Pn	**Pn**	**12 08 46.0**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=118,slow=8.9,SNR=3.7						
BRTR				Lg	Lg	12 11 54.8	
	comp=Z,0.2nm,0.3s,baz=124,slow=28,SNR=1.0						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**11.07**	**304**	P	**Pn**	**12 08 46.0**	**+2.4**
JRN	**Qarnain Island**	**11.11**	**143**	P	**Pn**	**12 08 45.3**	**+1.4**
SLWR	**Sila**	**11.33**	**150**	P	**Pn**	**12 08 48.1**	**+1.0**
SLWR				S	**Sn**	**12 10 50.1**	**-3.7**
GHWR	**Ruwais**	**11.95**	**146**	P	**Pn**	**12 08 57.6**	**+2.1**
GHWR				S	**Sn**	**12 11 05.0**	**-3.8**
SHME	**Shamm**	**12.17**	**128**	P	**Pn**	**12 08 59.3**	**+0.8**
	SNR=6.1						
SHME	**Shamm**	**12.17**	**128**	*i* Pn	**Pn**	**12 08 57.9**	**-0.6**
	SNR=9.8						
BANOM	**Banah**	**12.36**	**128**	P	**Pn**	**12 09 01.8**	**+0.6**
BANOM				S	**Sn**	**12 11 13.0**	**-6.0**
BANOM	**Banah**	**12.36**	**128**	*i* Pn	**Pn**	**12 09 00.7**	**-0.5**
	SNR=22						
AJN	**Ajban**	**12.56**	**137**	P	**Pn**	**12 09 05.1**	**+1.3**
	SNR=6.1						
AJN				S	**Sn**	**12 11 19.9**	**-3.9**
AJN	**Ajban**	**12.56**	**137**	*i* Pn	**Pn**	**12 09 04.4**	**+0.6**
	SNR=6.1						
MZWR	**Madinat Zayed**	**12.61**	**143**	P	**Pn**	**12 09 05.7**	**+1.2**
MZWR				S	**Sn**	**12 11 22.4**	**-2.5**
NAZ	**Nazwa, Dubai**	**12.63**	**133**	P	**Pn**	**12 09 06.0**	**+1.2**
	SNR=19						
NAZ				S	**Sn**	**12 11 20.7**	**-4.9**
NAZ	**Nazwa, Dubai**	**12.63**	**133**	*i* Pn	**Pn**	**12 09 05.1**	**+0.3**
	SNR=19						
MASF	**Masafi**	**12.66**	**131**	P	**Pn**	**12 09 06.0**	**+0.8**
	SNR=23						
MASF				S	**Sn**	**12 11 20.0**	**-6.3**
MSFE	**Esma-Masafi**	**12.67**	**131**	*i* Pn	**Pn**	**12 09 05.0**	**-0.4**
	SNR=23						
ASUD	**Al Ashush, Dub**	**12.70**	**135**	P	**Pn**	**12 09 07.5**	**+1.7**
	SNR=6.5						
ASUD				S	**Sn**	**12 11 23.6**	**-3.8**
ASUD	**Al Ashush, Dub**	**12.70**	**135**	*i* Pn	**Pn**	**12 09 06.6**	**+0.8**
	SNR=6.5						
FAQ	**Al Faqa, Dubai**	**12.77**	**134**	P	**Pn**	**12 09 07.7**	**+1.0**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**12.77**	**134**	*i* Pn	**Pn**	**12 09 06.7**	**0.0**
	SNR=10						
MDH	**Madha**	**12.80**	**130**	P	**Pn**	**12 09 07.1**	**0.0**
	SNR=12						
MDH				S	**Sn**	**12 11 23.8**	**-5.9**
MDH	**Madha**	**12.80**	**130**	*i* Pn	**Pn**	**12 09 06.5**	**-0.6**
	SNR=12						
UOSS	**Minazif**	**12.99**	**132**	Pn	**Pn**	**12 09 10.7**	**+0.9**
UOSS	**Minazif**	**12.99**	**132**	P	**Pn**	**12 09 10.0**	**+0.2**
UOSS				S	**Sn**	**12 11 26.9**	**-7.5**
UOSS	**Minazif**	**12.99**	**132**	*i* Pn	**Pn**	**12 09 09.2**	**-0.6**
	SNR=12						
HATD	**Hatta, Dubai**	**13.04**	**132**	S	**Sn**	**12 11 29.2**	**-6.3**
HATD	**Hatta, Dubai**	**13.04**	**132**	*i* Pn	**Pn**	**12 09 10.0**	**-0.4**
	SNR=13						
MZR	**Muzera**	**13.05**	**146**	P	**Pn**	**12 09 11.6**	**+1.0**
	SNR=14						
MZR				S	**Sn**	**12 11 29.7**	**-6.2**
MZR	**Muzera**	**13.05**	**146**	*i* Pn	**Pn**	**12 09 10.5**	**-0.1**
	SNR=14						
ASHO	**Ashiyiah**	**13.10**	**133**	P	**Pn**	**12 09 11.7**	**+0.5**
	SNR=12						
ASHO				S	**Sn**	**12 11 30.8**	**-6.2**
ASHO	**Ashiyiah**	**13.10**	**133**	*i* Pn	**Pn**	**12 09 10.6**	**-0.6**
	SNR=12						
ALNE	**Al Ain**	**13.39**	**136**	P	**Pn**	**12 09 15.8**	**+0.6**
	SNR=20						
ALNE				S	**Sn**	**12 11 38.7**	**-5.4**
ALNE	**Al Ain**	**13.39**	**136**	*i* Pn	**Pn**	**12 09 15.4**	**+0.2**
	SNR=20						
JASK	**Jask - Hormozg**	**13.45**	**124**	S	**Sn**	**12 11 43.3**	**-2.2**
SOHO	**SOHO**	**13.79**	**133**	P	**Pn**	**12 09 20.3**	**-0.3**
SOHO				S	**Sn**	**12 11 50.8**	**-3.2**
SOHO	**SOHO**	**13.79**	**133**	Pn	**Pn**	**12 09 20.2**	**-0.5**
UMZA	**Um Al Zommool**	**14.13**	**141**	P	**Pn**	**12 09 25.3**	**0.0**
ARQ	**Araqi**	**14.39**	**135**	P	**Pn**	**12 09 28.7**	**-0.2**
	SNR=6.3						
ARQ				S	**Sn**	**12 12 02.3**	**-6.3**
HOQ	**Hoqain**	**14.68**	**132**	P	**Pn**	**12 09 32.3**	**-0.5**

comp=Z,12nm,0.5s
KIEV Kiev 20.44 329 P **P** 12 10 41.9 -0.6
KIEV pmax pmax
comp=Z,13nm,0.5s
KIEV Kiev 20.44 329 P **P** 12 10 42.0 -0.5
comp=Z,73nm,2.4s
AK13 Malin Array Si 20.45 329 P **P** 12 10 41.0 -1.5
AK11 Malin Array Si 20.45 329 P **P** 12 10 41.1 -1.4
AK03 Malin Array Si 20.46 329 P **P** 12 10 41.2 -1.5
GAR Garm 20.46 69 P **P** 12 10 42.2 -0.8
GAR IAmb IAmb 12 10 52.6
comp=Z,34nm,0.9s
AK16 Malin Array Si 20.47 329 P **P** 12 10 41.3 -1.5
AK18 Malin Array Si 20.52 329 P **P** 12 10 41.8 -1.5
LUBAR Lubar, Ukraine 20.54 326 P **P** 12 10 42.9 -0.6
GZR Gura Zlata 20.76 310 ⇓P Pn 12 10 48.5 0.0
GZR Gura Zlata 20.76 310 ⇓P Pn 12 10 48.5 0.0
HERR Herculane 20.79 308 ⇓P Pn 12 10 50.3 +1.6
KSV Kosov 20.88 319 P **P** 12 10 46.5 -0.7
KSV Kosov 20.88 319 P **P** 12 10 46.5 -0.7
MI30 MI30,Zelenitsa 20.92 328 P **P** 12 10 45.8 -1.9
comp=Z,41nm,0.7s
BTK Batken 20.99 66 P **P** 12 10 48.2 -0.4
BTK Batken 20.99 66 P **P** 12 10 48.2 -0.4
BTK pmax pmax
comp=Z,10.0nm,0.8s
MARR Marisel-Cluj 21.13 313 ⇑P **P** 12 10 52.2 +2.1
MDVR Moldovita 21.21 307 ⇓P **P** 12 10 53.0 +2.1
MI28 Mi28,Pidlybu 21.29 328 P **P** 12 10 50.1 -1.5
KK31 Karatay Array 21.42 58 P **P** 12 10 55.6 +2.4
KK31 Karatay Array 21.42 58 P **P** 12 10 55.6 +2.4
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 21.42 58 P **P** 12 10 55.4 +2.3
KKAR Karatay Array 21.42 58 P **P** 12 10 55.4 +2.3
KKAR pmax pmax
comp=Z,8.0nm,0.8s
DRGR 21.43 313 ⇑P **P** 12 10 56.1 +2.8
DRGR 21.43 313 ⇑P **P** 12 10 56.1 +2.8
TIR Tirane 21.52 297 P **P** 12 10 53.8 -0.5
TIR Tirane 21.52 297 P **P** 12 10 53.8 -0.5
TIR pmax pmax
comp=Z,56nm,1.0s
BZS Buzias 21.60 309 ⇓P **P** 12 10 59.0 +4.0
BZS Buzias 21.60 309 ⇓P **P** 12 10 59.0 +4.0
DRK Karamyk 21.66 68 P **P** 12 10 59.6 +3.5
DRK Karamyk 21.66 68 P **P** 12 10 59.6 +3.5
DRK pmax pmax
comp=Z,10.0nm,0.8s
MEZ Mezhgor'ye 21.84 318 P **P** 12 11 00.1 +2.5
OBN Obninsk 21.94 346 *e*P **P** 12 10 56.1 -2.4
OBN *e* 12 11 16.1
OBN *e*SS Sn 12 15 26.0 +15
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,220nm,17.0s
ARK Arkit 22.14 62 P **P** 12 11 04.7 +3.6
RNPP5 Staryi Chortor 22.30 326 P **P** 12 11 02.0 -0.5
MOS Moscow 22.34 348 *e*P **P** 12 11 08.9 +6.1
MOS *e* 12 11 33.7
MOS pmax pmax
comp=Z,45nm,0.8s
RNPP8 Varash 22.39 326 P **P** 12 11 02.6 -0.8
RNPP9 Sopachiv 22.42 326 P **P** 12 11 03.0 -0.8
HOLU Holmets 22.48 317 P **P** 12 11 04.5 0.0
KOLS Kolonicke sedl 22.76 318 *e*P P 12 11 14.6 +7.2
KOLS Kolonicke sedl 22.76 318 *e*PN P 12 11 14.6 +7.2
ARSB Arslanbob 22.81 64 P **P** 12 11 10.4 +2.2
ARSB IAmb IAmb 12 11 24.1
comp=Z,12nm,1.0s
ARSB Arslanbob 22.81 64 P **P** 12 11 10.4 +2.2
ARSB pmax pmax
comp=Z,12nm,1.0s
NIL Nilore 22.98 83 P **P** 12 11 10.6 +0.7
NIL IAmb IAmb 12 11 17.1
comp=Z,12nm,0.8s
NIL Nilore 22.98 83 P **P** 12 11 10.6 +0.7
NIL pmax pmax
comp=Z,12nm,0.9s
STHS Stebnicka Huta 23.59 318 *e*P P 12 11 23.7 +7.8
STHS Stebnicka Huta 23.59 318 *e*PN P 12 11 23.7 +7.8
MORH Mrgy, Hungar 23.75 309 P **P** 12 11 18.8 +1.4
MNK Minsk 23.88 334 *i* P **P** 12 11 16.1 -2.5
comp=E,22nm,0.8s
MNK *i* P **P** 12 11 16.1 -2.5
comp=N,17nm,0.8s
MNK *i* P **P** 12 11 16.1 -2.5
comp=Z,27nm,0.9s,baz=141
MNK *i* PP **PnPn** 12 11 43.3 -3.3
MNK *i* PPP PPP 12 11 51.2
MNK *i* S **S** 12 15 32.0 -2.5
MNK *i* SS **SnSn** 12 16 10.8 -2.9
MNK *i* SSS SSS 12 16 24.2
MNK *i* LR LR 12 18 17.6
MNK *i* LRM MLR 12 19 40.8
comp=Z,261nm,15.7s
MNK *i* LRM MLR 12 19 42.7
comp=N,1μm,19.3s
MNK *i* LRM MLR 12 19 44.6
comp=E,2μm,20.3s
MNK Minsk 23.88 334 *i* P **P** 12 11 16.0 -2.5
MNK *i* PPP PPP 12 11 51.2
MNK *i* S **S** 12 15 32.0 -2.5
MNK *i* SS **SnSn** 12 16 10.7 -2.9
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=N,17nm,0.8s
MNK MLR MLR
comp=Z,261nm,16.0s
MNK MLR MLR
comp=N,1μm,19.0s
MNK MLR MLR
comp=E,2μm,20.0s
ARLS Aral 23.89 63 P **P** 12 11 23.4 +4.4
ARLS pmax pmax
comp=Z,7.0nm,1.5s
ARTI Arti 23.98 18 P **P** 12 11 19.6 0.0
ARTI IAmb IAmb 12 11 31.6
comp=Z,14nm,0.8s
ARTI Arti 23.98 18 *d i*P **P** 12 11 25.4 +5.9
ARTI 12 11 56.1
ARTI SS S 12 16 30.7 +55
ARTI pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 24.15 61 P **P** 12 11 22.5 +0.9
AAK Ala-Archa 24.15 61 LR LR 12 22 57.7
comp=Z,112nm,19.7s,baz=268,slow=42
AAK Ala-Archa 24.15 61 ⇓*i*P **P** 12 11 21.0 -0.5
AAK pmax pmax
comp=Z,1.0nm,0.6s
CEL Celeste 24.25 288 P **P** 12 11 22.4 +0.1
LANS Liptovska Anna 24.47 316 *e*P **P** 12 11 30.5 +6.3
LANS Liptovska Anna 24.47 316 *e*PN **P** 12 11 30.5 +6.3
NACGM Naroch 24.60 333 *e*P **P** 12 11 25.4 +0.2
baz=142
KIRV Kirov 24.64 5 LR LR 12 23 43.0
comp=Z,148nm,20.8s,baz=188,slow=43
KIRV Kirov 24.64 5 *ce*P **P** 12 11 24.8 -0.7
SVE Sverdlovsk 24.97 20 *e*P P 12 11 36.2 +7.7
SVE pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 25.18 62 P **P** 12 11 32.7 +1.9
BOOM Boomskoye usch 25.18 62 P **P** 12 11 32.7 +1.9
BOOM pmax pmax
comp=Z,6.0nm,0.8s
SUW Suwalki 25.40 328 P **P** 12 11 31.8 -0.7
SUW Suwalki 25.40 328 P **P** 12 11 31.8 -0.7
SUW pmax pmax
comp=Z,54nm,0.9s
VAE Valguarnera 25.43 287 LR LR 12 23 29.8
comp=Z,250nm,18.2s,baz=74,slow=41
RONA Rosalia, Austr 25.78 311 *i* P **P** 12 11 37.4 +1.4
comp=Z,14nm,0.9s
BRVK Borovoye 25.87 35 P **P** 12 11 37.1 +0.4
BRVK Borovoye 25.87 35 ⇑*i*P **P** 12 11 36.1 -0.6
BRVK pmax pmax
comp=Z,8.0nm,1.7s
MORC Moravsky Berou 25.87 316 P **P** 12 11 35.1 -1.8
MORC IAmb IAmb 12 11 43.8
comp=Z,7.5nm,0.8s
MORC Moravsky Berou 25.87 316 *e*P **P** 12 11 39.2 +2.3
MORC Moravsky Berou 25.87 316 P **P** 12 11 35.1 -1.8
MORC pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 25.90 36 P **P** 12 11 37.8 +0.8
comp=Z,2.0nm,0.4s,baz=239,slow=7.0,SNR=8.7
comp=Z,2.0nm,0.4s
KDJ Kajisay 26.04 63 P **P** 12 11 38.6 0.0
KDJ IAmb IAmb 12 11 46.9
comp=Z,11nm,1.2s
KDJ Kajisay 26.04 63 P **P** 12 11 38.6 0.0
KDJ pmax pmax
comp=Z,11nm,1.2s
PABE Paberze 26.12 332 P **P** 12 11 40.0 +1.0
CONA Conrad Observa 26.14 311 *i* P **P** 12 11 41.7 +2.3
comp=Z,6.9nm,0.9s
VRAC Vranov 26.23 314 *e*P **P** 12 11 41.0 +1.0
KRUC Moravsky 26.24 314 *e*P **P** 12 11 43.1 +2.9
KRUC Moravsky 26.24 314 P **P** 12 11 41.1 +0.9
KRUC pmax pmax
comp=Z,16nm,1.6s
TARG Taragay, Kyrgy 26.45 64 P **P** 12 11 42.9 +0.3
TARG Taragay, Kyrgy 26.45 64 P **P** 12 11 42.9 +0.3
TARG pmax pmax
comp=Z,5.0nm,0.9s
DPC Dobruska-Polom 26.83 316 P **P** 12 11 46.0 +0.5
DPC Dobruska-Polom 26.83 316 P **P** 12 11 46.0 +0.5
comp=Z,5.9nm,0.9s
KLMR Klimovskoe 27.06 354 *e*P **P** 12 11 44.3 -3.1
KLMR pmax pmax
comp=Z,25nm,1.3s
MOA Molln 27.12 310 *i* P **P** 12 11 49.2 +1.1
comp=Z,12nm,1.0s
VSU Vasula 27.44 338 *e*P **P** 12 11 51.7 +0.9
VSU pmax pmax
comp=Z,22nm,1.1s
BIOA Bad Ischl, Aus 27.47 309 *e*P **P** 12 11 52.4 +1.1
comp=Z,5.3nm,0.6s
KBA Koelnbreinsper 27.48 308 *e*P **P** 12 11 52.5 +0.9
comp=Z,7.9nm,1.0s
KBA Koelnbreinsper 27.48 308 P **P** 12 11 51.4 -0.2
GERES GERESS Array B 27.81 312 P **P** 12 11 54.9 +0.5
comp=Z,0.7nm,0.5s,baz=96,slow=9.1,SNR=2.4
comp=Z,0.7nm,0.5s
KURBB Kurchatov Arra 29.13 45 P **P** 12 12 06.5 +0.5
comp=Z,2.1nm,0.7s,baz=253,slow=9.1,SNR=14
KURBB PcP **PcP** 12 15 13.7 +0.2
comp=Z,0.3nm,0.7s,baz=248,slow=3.1,SNR=2.3
comp=Z,2.1nm,0.7s
KURK Kurchatov 29.21 45 **P** 12 12 07.7 +1.0
KURK IAmb IAmb 12 12 12.5
comp=Z,10nm,1.4s
KURK Kurchatov 29.21 45 ⇑*i*P **P** 12 12 07.6 +0.8
KURK pmax pmax
comp=Z,2.0nm,0.8s
FIA1 FINESS Array S 30.09 341 P **P** 12 12 13.1 -1.3
FINES FINESS Array B 30.09 341 P **P** 12 12 13.6 -0.8
comp=Z,1.5nm,0.5s,baz=148,slow=11,SNR=7.2
FINES PcP **PcP** 12 15 17.4 +1.7
comp=Z,1.9nm,0.9s,baz=78,slow=4.6,SNR=1.3
comp=Z,1.5nm,0.5s
MAKZ Makanchi 30.21 54 P **P** 12 12 15.1 -0.6
MAKZ Makanchi 30.21 54 P **P** 12 12 15.1 -0.6
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 30.42 54 P **P** 12 12 16.4 -1.2
MK31 Makanchi Array 30.42 54 ⇑*i*P **P** 12 12 18.0 +0.5
MKAR Makanchi Array 30.42 54 P **P** 12 12 18.7 +1.1
MKAR Makanchi Array 30.42 54 P **P** 12 12 17.9 +0.3
comp=Z,1.6nm,0.8s,baz=250,slow=8.9,SNR=9.4
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 30.42 54 P **P** 12 12 18.7 +1.1
BNI Bardonecchia 31.62 302 P **P** 12 12 32.0 +3.7
BNI pmax pmax
comp=Z,56nm,0.8s
OUL Oulu 33.23 345 P **P** 12 12 40.7 -1.2
OUL pmax pmax
comp=Z,23nm,0.8s
HFS Hagfors 33.30 331 P **P** 12 12 42.4 -0.3
comp=Z,4.3nm,0.6s,baz=127,slow=9.5,SNR=9.1
comp=Z,4.3nm,0.6s
ZAA0 Zalesovo Array 33.92 42 P **P** 12 12 48.1 +0.1
ZALV Zalesovo Beam 33.92 42 **P** 12 12 47.7 -0.4
ZALV Zalesovo Beam 33.92 42 P **P** 12 12 48.0 -0.1
comp=Z,2.2nm,0.6s,baz=257,slow=7.5,SNR=7.5
ZALV LR LR 12 29 49.9
comp=Z,93nm,19.0s,baz=252,slow=42
comp=Z,2.2nm,0.6s
NB2 NORSAR Subarra 34.83 331 P P 12 13 01.0 +5.1
NOA NORSAR Array B 34.83 331 P **P** 12 12 57.1 +1.2
comp=Z,1.5nm,0.7s,baz=125,slow=8.7,SNR=4.8
comp=Z,1.5nm,0.7s
TAM Tamanrasset 36.74 263 P P 12 13 17.6 +4.7
MOR8 Moi Rana 37.02 340 *e*P **P** 12 13 15.2 +0.6
MOR8 IAmb IAmb 12 13 17.1
comp=Z,17nm,1.1s
KTK1 Kautokeino 37.15 347 IAmb IAmb 12 13 15.2
comp=Z,46nm,1.4s
KTK1 *e*P **P** 12 13 15.3 -0.4
KEV Kevo 37.17 349 P **P** 12 13 15.4 -0.4
KEV Kevo 37.17 349 P **P** 12 13 15.4 -0.4
KEV pmax pmax
comp=Z,61nm,1.4s
VADS Vadso 37.17 351 *e*P **P** 12 13 15.6 -0.2
VADS IAmb IAmb 12 13 18.0
comp=Z,25nm,0.9s
ARA0 ARCESS Array S 37.21 348 *e*P **P** 12 13 15.8 -0.3
ARA0 IAmb IAmb 12 13 20.0
comp=Z,42nm,1.2s
ARCES ARCESS Array B 37.21 348 P **P** 12 13 15.5 -0.6
comp=Z,5.6nm,0.8s,baz=161,slow=7.7,SNR=13
comp=Z,5.6nm,0.8s
SUE Sulen 37.53 329 *e*P **P** 12 13 18.5 -0.4
KONS Konsvik 37.63 339 *e*P **P** 12 13 19.5 -0.2
KONS IAmb IAmb 12 13 20.8
comp=Z,88nm,1.6s
STEI Steigen 38.07 342 *e*P **P** 12 13 23.4 0.0
STEI IAmb IAmb 12 13 27.0
comp=Z,6.5nm,0.8s
JETT Jettan, Norway 38.16 346 *e*P **P** 12 13 24.0 -0.3
JETT IAmb IAmb 12 13 25.6
comp=Z,48nm,1.3s
TRO Tromso 38.52 345 *e*P **P** 12 13 26.8 -0.4
TRO IAmb IAmb 12 13 31.4
comp=Z,220nm,1.8s
EKA Eskdalemuir Ar 39.58 318 P **P** 12 13 37.3 +1.1
comp=Z,1.9nm,0.6s,baz=99,slow=8.9,SNR=7.8
comp=Z,1.9nm,0.6s
ESDC Sonseca Array 39.59 293 P **P** 12 13 36.9 +0.2
comp=Z,0.8nm,0.8s,baz=67,slow=8.8,SNR=7.3
comp=Z,0.8nm,0.8s
PALK Pallekele 41.98 121 LR LR 12 32 08.4
comp=Z,124nm,18.7s,baz=336,slow=37
GTA Gaotai 43.26 67 *e*P **P** 12 14 10.7 +3.9
GTA pmax pmax
comp=Z,5.0nm,1.2s
HOPEN Hopen 43.55 353 *e*P **P** 12 14 09.1 +0.6
SPB2 Spitsbergen Ar 45.94 352 P **P** 12 14 27.8 +0.2
SPA0 Spitsbergen Ar 45.95 352 *e*P **P** 12 14 27.7 +0.1
SPITS Spitsbergen Ar 45.95 352 P **P** 12 14 27.8 +0.1
comp=Z,3.2nm,0.4s,baz=146,slow=11,SNR=21
comp=Z,3.2nm,0.4s
SONM Songino Array 46.79 54 P **P** 12 14 35.0 +0.2
comp=Z,0.3nm,0.5s,baz=263,slow=8.7,SNR=3.0
comp=Z,0.3nm,0.5s
KBS Kingsbay 47.08 352 P **P** 12 14 36.8 +0.3
KBS Kingsbay 47.08 352 P **P** 12 14 36.8 +0.3
KBS pmax pmax
comp=Z,34nm,1.2s
CHTO Chiang Mai 49.64 94 P **P** 12 14 56.3 -0.7
CHTO IAmb IAmb 12 15 02.7
comp=Z,6.2nm,0.9s
CHTO Chiang Mai 49.64 94 P **P** 12 14 56.3 -0.7
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CM31 Chiang Mai Arr 49.81 94 P **P** 12 14 57.8 -0.6
CM31 IAmb IAmb 12 15 04.5
comp=Z,5.6nm,0.7s
CMAR Chiang Mai Arr 49.81 94 P **P** 12 14 58.0 -0.3
comp=Z,2.5nm,0.7s,baz=292,slow=8.3,SNR=15
comp=Z,2.5nm,0.7s
XAN Xi'an 51.70 71 ⇑P **P** 12 15 12.2 -0.3
XAN pmax pmax
comp=Z,9.0nm,1.0s
DBIC Dimbokro 53.86 251 P **P** 12 15 30.1 +1.4
comp=Z,2.0nm,0.6s,baz=53,slow=5.1,SNR=1.5
comp=Z,2.0nm,0.6s
TIXI Tiksi 55.96 22 P **P** 12 15 43.4 +0.4
TIXI IAmb IAmb 12 15 50.5
comp=Z,3.3nm,0.5s
TIXI Tiksi 55.96 22 P **P** 12 15 43.4 +0.4
TIXI pmax pmax
comp=Z,3.0nm,0.5s
WHN Wuhan 57.24 73 P **P** 12 15 55.7 +2.9
EUNU Eureka 63.07 352 P **P** 12 16 32.1 0.0
KSRS Korea Array 64.82 61 P **P** 12 16 43.5 -0.7
comp=Z,1.2nm,0.6s,baz=283,slow=5.9,SNR=4.2
comp=Z,1.2nm,0.6s
USRK Ussuriysk Ar. 64.87 52 P **P** 12 16 43.1 -1.2
comp=Z,1.7nm,0.7s,baz=295,slow=6.8,SNR=2.6
comp=Z,1.7nm,0.7s
BOSA Boshof 65.26 200 P **P** 12 16 44.8 -2.3
BOSA Boshof 65.26 200 P **P** 12 16 50.8 +3.7
comp=Z,2.4nm,0.6s,baz=14,slow=7.0,SNR=6.0
comp=Z,2.4nm,0.6s
SEY Seymchan 67.28 28 *e*P **P** 12 16 59.3 -0.2
SEY pmax pmax
comp=Z,6.0nm,0.6s
MA2 Magadan 68.32 32 *ce*P **P** 12 17 06.3 +0.1
MA2 pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 69.06 20 P **P** 12 17 11.2 +0.7
BILL IAmb IAmb 12 17 18.8
comp=Z,3.5nm,0.8s
YSS Yuzhno-Sakhali 70.42 46 *e*P **P** 12 17 18.6 -0.7
SCHQ Schefferville 74.21 326 P **P** 12 17 40.2 -1.7
SCHQ IAmb IAmb 12 18 17.8
comp=Z,7.4nm,1.2s
SCHQ Schefferville 74.21 326 P **P** 12 17 41.3 -0.6
comp=Z,1.2nm,0.7s,baz=23,slow=6.7,SNR=4.1
comp=Z,1.2nm,0.7s
B21K Ikpikpuk River 75.54 7 P **P** 12 17 50.3 +1.0
B21K IAmb IAmb 12 17 54.7
comp=Z,10nm,1.4s
C23K Itkillik River 75.71 6 P **P** 12 17 51.5 +1.2
C23K IAmb IAmb 12 17 55.5
comp=Z,7.6nm,1.4s
C24K Franklin Bluff 75.97 5 P **P** 12 17 53.0 +1.2
C24K IAmb IAmb 12 17 53.4
comp=Z,9.7nm,1.3s
C27K Jago River 76.37 3 P **P** 12 17 55.1 +1.0
C27K IAmb IAmb 12 17 55.8
comp=Z,2.5nm,0.6s
D22K Ayikyak River 76.45 7 P **P** 12 17 55.1 +0.5
D22K IAmb IAmb 12 17 55.8
comp=Z,6.9nm,1.2s
D24K Happy Valley 76.52 5 P **P** 12 17 55.9 +1.1
D25K Kavik River 76.52 4 P **P** 12 17 55.7 +0.8
D25K IAmb IAmb 12 18 02.1
comp=Z,3.4nm,0.7s
D23K Nanushuk River 76.55 6 P **P** 12 17 55.9 +0.8
D23K IAmb IAmb 12 18 02.5
comp=Z,3.1nm,0.9s
C36M Paulatuk 76.58 356 P **P** 12 17 55.0 -0.3
D27M Malcolm River 76.86 2 P **P** 12 17 57.7 +0.7
D27M IAmb IAmb 12 18 04.3
comp=Z,2.7nm,0.7s
E18K Tukpahlearik C 76.88 10 P **P** 12 17 56.7 -0.3
E18K IAmb IAmb 12 18 09.7
comp=Z,3.1nm,0.8s
TOLK Toolik Lake Re 76.96 6 P **P** 12 17 58.4 +0.9
TOLK IAmb IAmb 12 17 59.0
comp=Z,5.4nm,0.6s
E22K Anaktuvuk Pass 77.26 7 P **P** 12 17 59.2 +0.1
E22K IAmb IAmb 12 18 00.1
comp=Z,3.4nm,0.6s
E23K Chandalar 77.53 6 P **P** 12 18 01.4 +0.7
E23K IAmb IAmb 12 18 08.3
comp=Z,2.4nm,0.6s
E28M Babbage River 77.55 2 P **P** 12 18 01.5 +0.8
E28M IAmb IAmb 12 18 07.9
comp=Z,2.9nm,0.7s
E24K Your Creek 77.60 5 P **P** 12 18 01.4 +0.3
E24K IAmb IAmb 12 18 37.0
comp=Z,5.5nm,1.5s
F17K Baldwin Pennin 77.69 11 P **P** 12 18 01.5 0.0
F17K IAmb IAmb 12 18 24.1
comp=Z,8.3nm,1.2s
E25K Arctic Village 77.76 4 P **P** 12 18 02.8 +0.8
E25K IAmb IAmb 12 18 09.0
comp=Z,3.5nm,0.8s
E29M Blow River 77.80 1 P **P** 12 18 02.6 +0.5
F26K Sheenjek River 78.27 4 P **P** 12 18 05.9 +1.1
F26K IAmb IAmb 12 18 09.3
comp=Z,6.0nm,1.4s
F25K Christian Rive 78.28 4 P **P** 12 18 05.8 +0.9
BMAR Burnt Mountain 78.50 4 P **P** 12 18 07.4 +1.3
G29M Pine Creek 79.28 1 P **P** 12 18 10.9 +0.5
G29M IAmb IAmb 12 18 17.5
comp=Z,4.9nm,0.8s
H23K Yukon River 79.72 6 P **P** 12 18 14.3 +1.5
H23K IAmb IAmb 12 18 33.9
comp=Z,4.4nm,1.1s
H24K Noodor Dome 79.85 6 P **P** 12 18 13.9 +0.5
H31M Peel River 80.43 360 P **P** 12 18 16.4 -0.2
H31M IAmb IAmb 12 18 31.9
comp=Z,10nm,1.4s
I28M Miner Creek 80.69 2 P **P** 12 18 18.2 +0.1
I28M IAmb IAmb 12 18 19.1
comp=Z,4.5nm,1.1s
J20K Nowinta River 80.83 9 P **P** 12 18 19.1 +0.4
ILAR Eielson Array 80.98 5 P **P** 12 18 20.0 +0.5
ILAR Eielson Array 80.98 5 P **P** 12 18 19.7 +0.2
comp=Z,0.8nm,0.8s,baz=323,slow=3.9,SNR=8.0
comp=Z,0.8nm,0.8s
ILAR Eielson Array 80.98 5 P **P** 12 18 20.0 +0.5
CCB Clear Creek Bu 81.03 6 P **P** 12 18 19.7 0.0
J18K Innoko River 81.17 10 P **P** 12 18 21.3 +0.7
J18K IAmb IAmb 12 18 42.0
comp=Z,9.0nm,1.4s
J25K Salcha River, 81.25 5 P **P** 12 18 21.6 +0.6
J26L Joseph Creek 81.47 4 P **P** 12 18 21.9 -0.4
K20K Telida 81.63 9 P **P** 12 18 24.1 +1.1
K20K IAmb IAmb 12 18 48.4
comp=Z,9.3nm,1.3s
KTH Kantishna Hill 81.81 7 P **P** 12 18 24.4 +0.4
K27K Chicken 82.03 3 P **P** 12 18 24.6 -0.5
K27K IAmb IAmb 12 18 49.7
comp=Z,7.9nm,1.4s
DAWY Dawson 82.10 2 P **P** 12 18 25.2 -0.3
RIDG Independent Ri 82.15 5 P **P** 12 18 25.4 -0.4
RIDG IAmb IAmb 12 18 45.8
comp=Z,6.7nm,1.3s
PPLA Purkeypile 82.31 8 P **P** 12 18 27.0 +0.3
K29M Barlow Dome 82.37 1 P **P** 12 18 27.7 +0.7
K29M IAmb IAmb 12 18 37.4
comp=Z,3.6nm,1.1s
YKA Yellowknife Ar 82.43 351 P **P** 12 18 26.9 -0.3
comp=Z,0.2nm,0.6s,baz=22,slow=4.6,SNR=6.8
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 82.43 351 *i* P **P** 12 18 27.2 0.0
BCAR Beaver Creek A 83.00 3 P **P** 12 18 30.9 +0.6
L27K Beaver Creek, 83.00 3 P **P** 12 18 30.4 +0.1
L27K IAmb IAmb 12 18 50.3
comp=Z,5.7nm,1.5s
MENT Mentasta 83.02 4 P **P** 12 18 30.7 +0.4
MENT IAmb IAmb 12 18 57.1
comp=Z,5.5nm,1.1s
M17K Holitna River 83.02 11 P **P** 12 18 31.1 +0.8
SKT Skwentna 83.27 8 P **P** 12 18 31.6 0.0
SKT IAmb IAmb 12 18 37.7
comp=Z,4.6nm,0.8s
M24K Tolsona, Glenn 83.67 6 P **P** 12 18 34.5 +0.8
SML Sawmill 83.78 7 P **P** 12 18 34.7 +0.4
SCM Sheep Creek Mo 83.84 6 P **P** 12 18 35.4 +0.8
SCM Sheep Creek Mo 83.84 6 P **P** 12 18 35.4 +0.8
SCM pmax pmax
comp=Z,14nm,1.3s
KNK Knik Glacier 84.15 7 P **P** 12 18 37.0 +0.9
KLU Klutina 84.30 6 P **P** 12 18 38.0 +1.1
SLKM Skilak Lake 84.86 8 P **P** 12 18 40.2 +0.5
WRA Warramunga Arr 99.94 107 *i* P **Pdif** 12 19 49.2 -1.3
ASAR Alice Springs 101.58 111 P **Pdif** 12 19 57.9 +0.1
comp=Z,0.1nm,0.2s,baz=308,slow=4.5,SNR=4.4
QSPA South Pole Qui 123.92 180 PKP **PKiKP** 12 25 03.5 +0.7
comp=Z,1.2nm,1.0s,baz=225,slow=1.7,SNR=3.1

NEIC ***12*** *12:21:46.0±1.9, 3°.11S±0°.07×146°.62E±0°.08, h10km±2km, mb4.1/10, Error ellipse: s-maj=17.6km s-min=7.0km*

az=130.0
*IDC **12** 12:21:47.1±1.3,3°.27S×146°.38E,h0km,mb3.9/9, mbtmp3.9/11,ML2.3/2,MS3.5/5,Error ellipse: s-maj=37.2km s-min=19.4km az=100.0*
ISC 12 12:21:47.2±0.8,3°.28S±0°.09×146°.5E±0°.1,h10km,n28, σ1§75/26,mb4.1/11,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.50**	**35**	Pn	**Pn**	**12 22 09.9**	**-4.4**
JAY	**Jayapura**	**5.84**	**277**	Pn	**Pn**	**12 23 13.0**	**-0.9**
	0.5nm,0.3s,baz=124,slow=18,SNR=2.3						
JAY				LR	LR	12 25 24.1	
	comp=Z,303nm,18.4s,baz=70,slow=38						
	14nm,0.9s						
PMG	**Port Moresby**	**6.12**	**174**	Pn	**Pn**	**12 23 18.4**	**+0.5**
PMG	**Port Moresby**	**6.12**	**174**	Pn	**Pn**	**12 23 19.5**	**+1.7**
	1.3nm,0.3s,baz=344,slow=15,SNR=6.8						
PMG				LR	LR	12 26 01.4	
	comp=Z,512nm,19.0s,baz=357,slow=41						
	16nm,0.8s						
COEN	**Coen**	**11.11**	**197**	Pn	**Pn**	**12 24 25.6**	**-0.7**
HNR	**Honiara**	**14.69**	**115**	LR	LR	12 30 05.5	
	comp=Z,127nm,20.4s,baz=308,slow=34						
GUMO	**Guam**	**16.83**	**355**	LR	LR	12 30 20.3	
	comp=Z,192nm,20.9s,baz=174,slow=30						
WB0	**Warramunga Arr**	**20.21**	**215**	P	**P**	**12 26 22.8**	**+0.4**
WB0				IAmb	IAmb	12 26 29.7	
	comp=Z,7.2nm,1.1s						
WR8	**Warramunga Arr**	**20.30**	**214**	P	**P**	**12 26 24.3**	**+0.9**
WR8				IAmb	IAmb	12 26 31.2	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**20.37**	**215**	P	**P**	**12 26 25.2**	**+1.0**
WB2				IAmb	IAmb	12 26 25.9	
	comp=Z,6.6nm,0.9s						
WRA	**Warramunga Arr**	**20.38**	**215**	P	**P**	**12 26 25.4**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=37,slow=11,SNR=19						
WRA				LR	LR	12 33 22.9	
	comp=Z,140nm,21.8s,baz=158,slow=34						
	comp=Z,3.2nm,0.8s						
KNRA	**Kununurra**	**21.37**	**234**	P	**P**	**12 26 35.5**	**+0.5**
KNRA				IAmb	IAmb	12 26 41.4	
	comp=Z,8.6nm,0.8s						
AS31	**Alice Springs**	**23.64**	**210**	P	**P**	**12 27 00.3**	**+1.4**
ASAR	**Alice Springs**	**23.65**	**210**	P	**P**	**12 26 59.6**	**+0.6**
ASAR	**Alice Springs**	**23.65**	**210**	P	**P**	**12 26 59.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=39,slow=8.6,SNR=32						
	comp=Z,1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.19**	**233**	P	**P**	**12 27 13.2**	**0.0**
FITZ	**Fitzroy Crossi**	**25.19**	**233**	P	**P**	**12 27 13.1**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=40,slow=6.6,SNR=7.4						
	comp=Z,4.5nm,0.9s						
TOLI2	**Tolitoli**	**26.07**	**279**	P	**P**	**12 27 21.4**	**+0.1**
TOLI2				IAmb	IAmb	12 27 49.0	
	comp=Z,7.4nm,0.9s						
STKA	**Stephens Creek**	**28.82**	**189**	P	**P**	**12 27 42.9**	**-2.8**
CMAR	**Chiang Mai Arr**	**51.56**	**297**	P	**P**	**12 30 55.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=115,slow=4.4,SNR=6.6						
	comp=Z,0.7nm,0.3s						
SONM	**Songino Array**	**61.80**	**330**	P	**P**	**12 32 07.2**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=131,slow=6.1,SNR=3.6						
	comp=Z,0.8nm,0.8s						
MK31	**Makanchi Array**	**75.10**	**320**	P	**P**	**12 33 27.4**	**-2.2**
MK31				IAmb	IAmb	12 33 34.3	
	comp=Z,2.3nm,1.2s						
MKAR	**Makanchi Array**	**75.10**	**320**	P	**P**	**12 33 27.0**	**-2.6**
MKAR	**Makanchi Array**	**75.10**	**320**	P	**P**	**12 33 29.7**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=100,slow=6.7,SNR=7.0						
	comp=Z,1.9nm,1.1s						
MAKZ	**Makanchi**	**75.30**	**320**	P	**P**	**12 33 28.0**	**-2.7**
KURBB	**Kurchatov Arra**	**78.77**	**323**	P	**P**	**12 33 52.6**	**+2.5**
	comp=Z,0.7nm,1.0s,baz=104,slow=5.0,SNR=2.5						
	comp=Z,0.7nm,1.0s						
ILAR	**Eielson Array**	**83.19**	**23**	P	**P**	**12 34 14.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=255,slow=5.7,SNR=5.5						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.29**	**324**	P	**P**	**12 34 21.2**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=104,slow=6.1,SNR=5.1						
	comp=Z,1.4nm,0.8s						

IDC 12 12:24:49.8±2.4,3°.35S×146°.56E,h0km,mb3.5/6, mbtmp3.6/7,ML1.3/1,Error ellipse: s-maj=76.0km s-min=23.3km az=95.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.05**	**174**	Pn	Pn	12 26 22.4	+1.8
	0.4nm,0.3s,baz=0.0,slow=20,SNR=2.0						
	10nm,0.9s						
WRA	**Warramunga Arr**	**20.35**	**215**	P	P	12 29 27.7	-0.3
	2.2nm,1.0s,baz=38,slow=11,SNR=6.0						
	2.2nm,1.0s						
ASAR	**Alice Springs**	**23.62**	**210**	P	P	12 30 02.3	-0.4
	0.3nm,0.7s,baz=43,slow=8.3,SNR=4.4						
	0.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.20**	**233**	P	P	12 30 17.2	0.0
	1.2nm,0.6s,baz=72,slow=6.1,SNR=3.9						
	1.2nm,0.6s						
SONM	**Songino Array**	**61.89**	**330**	P	P	12 35 13.1	+1.9
	0.2nm,0.4s,baz=129,slow=6.1,SNR=2.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**75.19**	**320**	P	P	12 36 33.7	-0.5
	0.3nm,0.9s,baz=116,slow=6.6,SNR=2.2						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**84.38**	**324**	P	P	12 37 22.6	-1.3
	0.6nm,0.6s,baz=116,slow=3.4,SNR=3.8						
	0.6nm,0.6s						

*HEL **12** 12:30:23.8±0.1,63°.99N×28°.07E,h0km,ML2.1,Suspected explosion*
*IDC **12** 12:30:24.1±1.4,63°.87N×28°.45E,h0km,mbtmp3.0/4, ML2.3/4,Error ellipse: s-maj=19.2km s-min=7.5km az=104.0*
*UPP **12** 12:30:25.3±2.3,63°.89N×27°.77E,h0km,ML2.2*
ISC 12 12:30:23.1±0.7,63°.93N±0°.03×28°.07E±0°.03,h0km,n46, σ1§24/75,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.56**	**192**	PG	**Pb**	**12 30 34.9**	**-0.8**
	baz=9.0						
NIF				SG	**Sb**	**12 30 42.5**	**-1.7**
RMF	**Romuvaara**	**0.87**	**70**	PG	**Pg**	**12 30 39.5**	**-0.2**
	baz=257						
RMF				MSG		12 30 50.0	
	comp=Z,49nm,0.2s						
RMF				SG	**Sg**	**12 30 50.1**	**-0.8**
OUL	**Oulu**	**1.49**	**322**	PN	**Pn**	**12 30 50.8**	**-0.3**
OUL				SN	**Sn**	**12 31 10.1**	**-1.1**
SUF	**Sumiainen**	**1.50**	**216**	PG	**Pb**	**12 30 52.0**	**+0.3**
SUF				MSG		12 31 10.2	
	comp=Z,10nm,0.2s						
SUF				SN	**Sn**	**12 31 13.0**	**+1.7**
OUF	**Merijarvi**	**1.53**	**288**	PN	**Pn**	**12 30 51.5**	**0.0**
OUF				MSG		12 31 09.2	
	comp=Z,22nm,0.2s						
OUF				SN	**Sn**	**12 31 11.7**	**-0.4**
OBF4	**Vikkela, Lumij**	**1.56**	**306**	PN	**Pn**	**12 30 52.1**	**0.0**
OBF4				MSG		12 31 09.7	
	comp=Z,12nm,0.2s						
KU1	**Kurvinen**	**1.76**	**21**	PN	**Pn**	**12 30 54.7**	**-0.1**
KU1				SN	**Sn**	**12 31 17.6**	**-0.2**
OBF0	**Syolatti, Pyha**	**1.77**	**290**	PG	**Pn**	**12 30 55.9**	**+1.0**
OBF0				MSG		12 31 16.1	
	comp=Z,15nm,0.2s						
OBF0				SN	**Sn**	**12 31 19.3**	**+1.2**
JOF	**Joensuu**	**1.78**	**124**	*e*P	**Pg**	**12 30 56.5**	**-0.6**
JOF	**Joensuu**	**1.78**	**124**	PG	**Pb**	**12 30 56.1**	**-0.4**
	baz=305						
JOF				SG	**Sg**	**12 31 19.3**	**-0.8**
KU2	**Taivalkoski**	**1.78**	**2**	PG	**Pn**	**12 30 55.0**	**-0.1**
KAF	**Kangasniemi**	**2.00**	**205**	PG	**Pb**	**12 31 00.4**	**+0.2**
	baz=20						
KAF				MSG		12 31 24.7	
	comp=Z,14nm,0.2s						
KAF				SG	**Sg**	**12 31 27.4**	**+0.3**
MSF	**Maaselka**	**2.03**	**11**	PG	**Pn**	**12 30 59.1**	**+0.6**
	baz=191						
MSF				SG	**Sn**	**12 31 25.1**	**+0.6**
RANF	**Ranua**	**2.16**	**346**	PG	**Pn**	**12 31 01.6**	**+1.4**
	baz=167						
RANF				SG	**Sn**	**12 31 29.1**	**+1.4**
KU6	**Riekki**	**2.24**	**19**	PG	**Pn**	**12 31 02.8**	**+1.4**
	baz=203						
KU6				MSG		12 31 28.6	
	comp=Z,8.6nm,0.2s						
KU6				SG	**Sn**	**12 31 30.9**	**+1.2**
KEF	**Keuruu**	**2.30**	**221**	*e*P	**Pb**	**12 31 05.3**	**0.0**
KEF	**Keuruu**	**2.30**	**221**	PG	**Pb**	**12 31 05.2**	**-0.1**
KEF				MSG		12 31 33.0	
	comp=Z,13nm,0.2s						
KEF				SG	**Sg**	**12 31 35.7**	**-1.0**
OLKF	**Oulanka, Finla**	**2.46**	**13**	PG	**Pn**	**12 31 06.2**	**+1.8**
OLKF				MSG		12 31 34.8	
	comp=Z,8.2nm,0.2s						
OLKF				SG	**Sn**	**12 31 37.7**	**+2.5**
RUF	**Ruokolahti**	**2.55**	**170**	PB	**Pb**	**12 31 09.2**	**-0.5**
RUF				MSG		12 31 40.8	
	comp=Z,9.1nm,0.2s						
RUF				SG	**Sg**	**12 31 43.2**	**-1.7**
VAF	**Ylistaro**	**2.58**	**252**	*e*P	**Pb**	**12 31 09.4**	**-0.8**
VAF	**Ylistaro**	**2.58**	**252**	PG	**Pb**	**12 31 09.3**	**-0.9**
VAF				MSG		12 31 40.5	
	comp=Z,7.6nm,0.2s						
VAF				SG	**Sb**	**12 31 43.4**	**+1.0**
FIA0	**FINESS Array S**	**2.66**	**201**	PB	**Pb**	**12 31 10.8**	**-0.8**
	baz=23						
FIA0				MSG		12 31 43.9	
	comp=Z,5.6nm,0.2s						
FIA0				SB	**Sb**	**12 31 45.6**	**+0.8**
FINES	**FINESS Array B**	**2.66**	**201**	Pn	**Pb**	**12 31 10.8**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=21,slow=15,SNR=46						
FINES				Lg	Lg	12 31 46.1	
	comp=Z,2.3nm,0.3s,baz=23,slow=26,SNR=24						
	comp=Z,2.4nm,0.3s						
TOF	**Tornio**	**2.68**	**325**	PB	**Pn**	**12 31 08.4**	**+1.0**
	baz=140						
TOF				SB	**Sn**	**12 31 40.6**	**+0.2**
TOF				MSG		12 31 41.3	
	comp=Z,5.4nm,0.2s						
KALU	**Kalix**	**2.79**	**316**	P	**Pn**	**12 31 10.2**	**+1.3**
KALU				S	**Sn**	**12 31 44.0**	**+0.9**
KALU	**Kalix**	**2.79**	**316**	PB	**Pn**	**12 31 10.1**	**+1.3**
KALU				SB	**Sn**	**12 31 44.4**	**+1.2**
RNF	**Rovaniemi**	**2.82**	**343**	PB	**Pn**	**12 31 10.8**	**+1.4**
RNF				SB	**Sn**	**12 31 44.6**	**+0.6**
BURU	**Burvik**	**2.99**	**286**	P	**Pn**	**12 31 12.4**	**+0.8**
SJUU	**Sjulsmark**	**3.19**	**303**	P	**Pn**	**12 31 15.4**	**+1.0**
SJUU				S	**Sn**	**12 31 53.1**	**-0.1**
ODEU	**Stanfors**	**3.25**	**282**	P	**Pn**	**12 31 15.7**	**+0.4**
VJF	**Virojoki**	**3.42**	**184**	SB	**Sb**	**12 32 07.4**	**+1.0**
KPF	**Kankaanpaa**	**3.46**	**235**	PB	**Pn**	**12 31 21.7**	**+3.5**
PVF	**Pernaja**	**3.56**	**198**	PB	**Pb**	**12 31 25.2**	**-1.6**
ERTU	**Ertsjaerv**	**3.61**	**319**	P	**Pn**	**12 31 21.8**	**+1.6**
ERTU				S	**Sn**	**12 32 03.7**	**+0.3**
ERTU	**Ertsjaerv**	**3.61**	**319**	PN	**Pn**	**12 31 21.5**	**+1.3**
	baz=136						
KLF	**Kolari**	**3.73**	**335**	PN	**Pn**	**12 31 23.0**	**+1.3**
KLF				SN	**Sn**	**12 32 05.6**	**-0.7**
PAJU	**Pajala**	**3.73**	**329**	PN	**Pn**	**12 31 23.1**	**+1.3**
PAJU				SN	**Sn**	**12 32 05.8**	**-0.5**
SVAU	**Svanoeiden**	**3.76**	**282**	P	**Pn**	**12 31 22.7**	**+0.5**
LILU	**Lilltraesk**	**3.79**	**295**	P	**Pn**	**12 31 23.4**	**+0.8**
VRF	**Varrio**	**3.88**	**9**	PB	**Pn**	**12 31 26.6**	**+2.7**
HUSU	**Husum**	**3.99**	**265**	P	**Pn**	**12 31 25.4**	**0.0**
LVZ	**Lovozero**	**4.80**	**31**	PN	**Pn**	**12 31 37.5**	**+0.9**
LVZ				SN	**Sn**	**12 32 32.1**	**-0.8**
LANU	**Lannavaara**	**4.82**	**332**	PN	**Pn**	**12 31 38.2**	**+1.4**
ARCES	**ARCESS Array B**	**5.72**	**351**	Pn	**Pn**	**12 31 50.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=167,slow=15,SNR=27						
ARCES				Sn	**Sn**	**12 32 52.2**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=169,slow=24,SNR=6.9						
ARCES				Lg	Lg	12 33 19.2	
	comp=Z,0.4nm,0.3s,baz=162,slow=33,SNR=5.8						
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	**7.75**	**247**	Pn	**Pn**	**12 32 18.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=5.0						
HFS				Sn	**Sn**	**12 33 44.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=59,slow=28,SNR=1.2						
	comp=Z,1.2nm,0.7s						
NOA	**NORSAR Array B**	**8.32**	**257**	Pn	**Pn**	**12 32 26.6**	**+1.8**
	baz=59,slow=12,SNR=2.2						
NOA				Sn	**Sn**	**12 33 56.3**	**-3.1**
	baz=62,slow=19,SNR=1.4						
	comp=Z,0.5nm,0.7s						

*IDC **12** 12:38:27.7±0.9,3°.22S×146°.58E,h0km,mb4.2/18, mbtmp4.2/20,ML3.0/2,MS4.3/52,Error ellipse: s-maj=25.1km s-min=10.3km az=109.0*
*NEIC **12** 12:38:28.8±1.9,3°.07S±0°.04×146°.75E±0°.06,h10km±1km, mb4.9/48,Error ellipse: s-maj=12.1km s-min=3.2km az=116.0*
*GCMT **12** 12:38:31.8±0.1,3°.12S±0°.01×146°.47E±0°.01,h19km, MW5.1/139,Moment Tensor Solution. s60,c80; s139,c226; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.14; $M_{\theta\theta}$3.47±.13; $M_{\phi\phi}$-2.98±.12; $M_{r\theta}$1.05±.24; $M_{\theta\phi}$5.38±.11; $M_{\phi r}$0.17±.24; Best double couple: $M_0$6.35500×10^{16} NP1:ϕ_s15.00000°,δ82.00000°, λ177.00000°. NP2:ϕ_s106.00000°,δ87.00000°,λ8.00000°. Principal axes: T 6.6570, Plg8.0000°, Azm331.0000°; N -0.6060, Plg81.0000°, Azm125.0000°; P -6.0520, Plg4.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **12** 12:38:38.0±1.0,3°.5±.5°×146°.6E±°,h48km±8km,M4.9/24, mb4.8/24,mB5.4/9,MLv5.0/2,Mw(mB)4.8/9,MwMwp7.0/1, Mwp6.8/1*
ISC 12 12:38:29.1±0.4,3°.18S±0°.05×146°.78E±0°.06,h10km,n138, σ1§66/113,mb4.8/57,MS4.4/60,2C-2D,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.27**	**27**	Pn	**Pb**	**12 38 51.2**	**-2.0**
RABL	**Rabaul**	**5.46**	**101**	Pn	**Pn**	**12 39 50.2**	**-0.4**
JAY	**Jayapura**	**6.11**	**276**	Pn	**Pn**	**12 39 57.7**	**-1.8**
	0.8nm,0.3s,baz=104,slow=17,SNR=9.8						
JAY				Sn	**Sn**	**12 41 08.1**	**-1.4**
	baz=294,slow=7.5						
JAY				LR	LR	12 41 57.5	
	comp=Z,5μm,18.6s,baz=88,slow=36						
	65nm,1.1s						
JAY	**Jayapura**	**6.11**	**276**	P	**Pn**	**12 39 57.4**	**-2.1**
	0.5nm1μm122nm,1.4s						
PMG	**Port Moresby**	**6.19**	**177**	Pn	**Pn**	**12 40 02.1**	**+1.5**
	13nm,0.3s,baz=40,slow=6.8,SNR=44						
PMG				Sn	**Sn**	**12 41 14.0**	**+2.4**
	baz=12,slow=19						
	110nm,0.7s						
GENI	**Genyem**	**6.63**	**275**	P	**Pn**	**12 40 09.2**	**+2.5**
	1.6nm279nm,1.5s						
BAKI	**Biak**	**10.85**	**280**	P	**Pn**	**12 41 02.8**	**-1.8**
	2μm159nm,1.4s						
COEN	**Coen**	**11.28**	**198**	Pn	**Pn**	**12 41 11.5**	**+1.0**
HNR	**Honiara**	**14.48**	**116**	LR	LR	12 47 36.5	
	comp=Z,2μm,18.2s,baz=283,slow=38						
SWI	**Sorong**	**15.68**	**278**	P	**Pn**	**12 42 10.8**	**+0.5**
	34nm,1.4s						
GUMO	**Guam**	**16.77**	**354**	LR	LR	12 47 54.8	
	comp=Z,1μm,19.0s,baz=177,slow=34						
MTN	**Manton Dam**	**18.21**	**237**	P	**Pn**	**12 42 40.2**	**-2.1**
WB0	**Warramunga Arr**	**20.45**	**215**	P	**P**	**12 43 05.9**	**-1.0**
WR0	**Warramunga Arr**	**20.51**	**215**	P	**P**	**12 43 06.3**	**-1.3**
WR8	**Warramunga Arr**	**20.53**	**215**	P	**P**	**12 43 06.4**	**-1.4**
WRAB	**Tennant Creek**	**20.60**	**215**	P	**P**	**12 43 08.4**	**-0.2**
WRAB				IAmb	IAmb	12 43 15.7	
	comp=Z,136nm,1.8s						
WB2	**Warramunga Arr**	**20.61**	**215**	P	**P**	**12 43 07.2**	**-1.4**
WB2				IAmb	IAmb	12 43 16.0	
	comp=Z,118nm,1.8s						
WRA	**Warramunga Arr**	**20.61**	**215**	P	**P**	**12 43 07.3**	**-1.4**
WRA	**Warramunga Arr**	**20.61**	**215**	P	**P**	**12 43 07.2**	**-1.6**
	comp=Z,6.4nm,0.7s,baz=37,slow=12,SNR=37						
WRA				S	**S**	**12 46 59.2**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=37,slow=19,SNR=1.3						
WRA				LR	LR	12 51 45.4	
	comp=Z,2μm,18.2s,baz=37,slow=39						
	comp=Z,6.4nm,0.7s						
SANI	**Sanana**	**20.80**	**273**	P	**P**	**12 43 09.4**	**-1.4**
	comp=Z,839nmcomp=Z,33nm,1.2s						
KNRA	**Kununurra**	**21.65**	**234**	P	**P**	**12 43 17.2**	**-2.7**
KNRA				IAmb	IAmb	12 43 23.9	
	comp=Z,49nm,0.8s						
EIDS	**Eidsvold**	**22.44**	**170**	P	**P**	**12 43 28.3**	**0.0**
EIDS				IAmb	IAmb	12 43 35.6	
	comp=Z,39nm,1.1s						
KMSI	**Cibinong**	**23.10**	**279**	P	**P**	**12 43 37.0**	**+1.7**
SOEI	**Soe**	**23.29**	**253**	P	**P**	**12 43 36.0**	**-1.5**
SOEI	**Soe**	**23.29**	**253**	P	**P**	**12 43 37.7**	**+0.2**
	comp=Z,2μmcomp=Z,96nm,1.2s						
AS31	**Alice Springs**	**23.87**	**210**	P	**P**	**12 43 42.0**	**-1.0**
ASAR	**Alice Springs**	**23.87**	**210**	P	**P**	**12 43 41.7**	**-1.2**
ASAR	**Alice Springs**	**23.87**	**210**	P	**P**	**12 43 41.9**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=41,slow=8.2,SNR=52						
ASAR				S	**S**	**12 47 59.7**	**+0.5**
	comp=Z,0.7nm,1.1s,baz=35,slow=15,SNR=2.3						
ASAR				LR	LR	12 53 15.3	
	comp=Z,858nm,20.2s,baz=38,slow=37						
	comp=Z,4.2nm,0.7s						
LUWI	**Luwuk**	**24.09**	**275**	P	**P**	**12 43 43.6**	**-1.5**
LUWI	**Luwuk**	**24.09**	**275**	P	**P**	**12 43 42.6**	**-2.5**
	comp=Z,2μmcomp=Z,119nm,1.5s						
MRSI	**Marisa**	**25.10**	**278**	P	**P**	**12 43 52.5**	**-1.8**
	comp=Z,2μmcomp=Z,30nm,1.0s						
APSI	**Ampana**	**25.22**	**275**	P	**P**	**12 43 56.6**	**+1.2**
	comp=Z,72nm,1.5s						
FITZ	**Fitzroy Crossi**	**25.47**	**233**	P	**P**	**12 43 55.3**	**-2.3**
FITZ	**Fitzroy Crossi**	**25.47**	**233**	P	**P**	**12 43 55.1**	**-2.5**
	comp=Z,14nm,0.8s,baz=43,slow=8.9,SNR=16						
FITZ				LR	LR	12 54 42.5	
	comp=Z,2μm,18.7s,baz=57,slow=38						
	comp=Z,14nm,0.8s						
TOLI2	**Tolitoli**	**26.34**	**279**	P	**P**	**12 44 02.2**	**-3.4**
TOLI2				IAmb	IAmb	12 44 24.5	
	comp=Z,33nm,1.2s						
DZM	**Mont Dzumac**	**26.77**	**136**	P	**P**	**12 44 08.6**	**-0.9**
DZM				IAmb	IAmb	12 44 15.2	
	comp=Z,17nm,0.8s						
DZM	**Mont Dzumac**	**26.77**	**136**	LR	LR	12 53 27.3	
	comp=Z,2μm,19.7s,baz=311,slow=34						
TTSI	**Tana Toraja**	**26.93**	**270**	P	**P**	**12 44 15.7**	**+4.9**
BASI	**Baing, Sumba**	**26.93**	**254**	P	**P**	**12 44 12.0**	**+1.1**
KAPI	**Kappang**	**27.02**	**265**	P	**P**	**12 44 10.2**	**-1.6**
KAPI				IAmb	IAmb	12 44 22.9	
	comp=Z,34nm,1.4s						
KAPI	**Kappang**	**27.02**	**265**	P	**P**	**12 44 09.8**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=55,slow=3.3,SNR=3.5						
KAPI				LR	LR	12 55 29.8	
	comp=Z,284nm,21.2s,baz=75,slow=38						
	comp=Z,1.7nm,0.3s						
ARMA	**Armidale**	**27.47**	**171**	P	**P**	**12 44 15.7**	**0.0**
STKA	**Stephens Creek**	**28.96**	**189**	P	**P**	**12 44 27.8**	**-1.0**
STKA				IAmb	IAmb	12 44 41.6	
	comp=Z,24nm,0.9s						
STKA	**Stephens Creek**	**28.96**	**189**	P	**P**	**12 44 33.2**	**+4.4**
	comp=Z,3.8nm,0.8s,baz=3.7,slow=13,SNR=5.4						
STKA				LR	LR	12 56 43.8	
	comp=Z,873nm,19.4s,baz=5.2,slow=38						
TGY	**Tagaytay City**	**30.85**	**304**	LR	LR	12 57 33.3	
	comp=Z,194nm,19.0s,baz=126,slow=37						
FORT	**Forrest**	**32.65**	**211**	P	**P**	**12 45 01.0**	**-0.4**
MSVF	**Nonsavu**	**33.89**	**117**	LR	LR	12 57 25.3	
	comp=Z,292nm,21.5s,baz=293,slow=33						
JOW	**Kunigami**	**34.79**	**330**	LR	LR	12 56 22.1	
	comp=Z,832nm,21.6s,baz=124,slow=31						
SBUM	**Sibu**	**35.00**	**279**	P	**P**	**12 45 21.2**	**-0.9**
JHJ	**Hachijo jima 2**	**36.71**	**350**	LR	LR	12 58 37.8	
	comp=Z,497nm,18.6s,baz=342,slow=33						
JNU	**Nakatsue**	**39.12**	**339**	LR	LR	13 00 33.6	
	comp=Z,356nm,20.1s,baz=167,slow=34						
MJAR	**Matsushiro Arr**	**40.32**	**349**	P	**P**	**12 46 08.2**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=171,slow=9.1,SNR=4.2						
MJAR				LR	LR	13 01 10.7	
	comp=Z,317nm,19.9s,baz=149,slow=34						
	comp=Z,2.1nm,0.7s						
NWAO	**Narrogin (SRO)**	**40.50**	**220**	LR	LR	13 03 19.0	
	comp=Z,942nm,19.6s,baz=36,slow=37						
SSE	**Sheshan**	**41.92**	**326**	P	**P**	**12 46 20.2**	**+0.2**
SSE				S	**S**	**12 52 40.2**	**+1.8**
SSE				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SSE				LR	LR		
	comp=N,240nm,26.1s						
SSE				LR	LR		
	comp=E,300nm,25.1s						
QIZ	**Qiongzhong**	**42.52**	**303**	P	**P**	**12 46 24.6**	**-0.5**
QIZ				S	**S**	**12 52 49.1**	**+1.4**
QIZ				sS	**sS**	**12 52 54.6**	**+2.7**
QIZ				SS	**SS**	**12 55 57.4**	**0.0**
QIZ				LR	LR		
	comp=N,250nm,13.7s						
QIZ				LR	LR		
	comp=E,360nm,19.2s						
QIZ				LR	LR		
	comp=Z,470nm,21.3s						
NJ2	**Nanjing**	**43.95**	**325**	*e*P	**P**	**12 46 36.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				LR	LR		
	comp=N,490nm,13.7s						
NJ2				LR	LR		
	comp=E,470nm,15.2s						
NJ2				LR	LR		
	comp=Z,770nm,20.8s						
KSRS	**Korea Array**	**44.07**	**338**	P	**P**	**12 46 36.8**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=151,slow=9.8,SNR=5.6						
KSRS				LR	LR	13 03 32.2	
	comp=Z,512nm,19.6s,baz=155,slow=34						
	comp=Z,1.6nm,0.9s						
URZ	**Urewera**	**44.56**	**145**	LR	LR	13 04 35.3	
	comp=Z,481nm,18.8s,baz=36,slow=35						
ASAJ	**Asahikawa**	**47.24**	**356**	P	**P**	**12 47 04.4**	**+2.1**
	comp=Z,7.1nm,0.8s,baz=193,slow=11,SNR=5.7						
ASAJ

XAN LR LR
comp=Z,690nm,19.2s
BNX BinXian 51.66 343 ⇑P **P 12 47 35.5 -0.6**
BNX pmax pmax
comp=Z,20nm,1.2s
CM31 Chiang Mai Arr 51.77 296 P **P 12 47 35.8 -1.7**
CM31 IAmb IAmb 12 47 42.9
comp=Z,9.7nm,0.9s
CMAR Chiang Mai Arr 51.77 296 P **P 12 47 36.6 -0.8**
comp=Z,2.5nm,0.8s,baz=118,slow=6.1,SNR=15
CMAR LR LR 13 10 51.4
comp=Z,83nm,18.1s,baz=110,slow=38
comp=Z,2.5nm,0.8s
CHTO Chiang Mai 51.89 297 P **P 12 47 37.0 -1.3**
PZH PanZhiHua 52.57 307 P **P 12 47 44.7 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
KLR Kul'dur 53.81 348 P **P 12 47 52.6 +0.7**
comp=Z,7.3nm,1.2s,baz=145,slow=5.7,SNR=6.5
KLR LR LR 13 08 49.0
comp=Z,76nm,21.7s,baz=163,slow=34
comp=Z,7.3nm,1.2s
HHC Hu-ho-hao-te 54.35 327 *eP* **P 12 47 57.9 +1.7**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,150nm,5.6s
HHC LR LR
comp=N,280nm,15.1s
HHC LR LR
comp=E,320nm,15.3s
HHC LR LR
comp=Z,510nm,20.2s
XLT XiLinHaoTe 54.38 333 *eP* P 12 48 00.4 +4.1
XLT pmax pmax
comp=Z,9.0nm,1.3s
XLT pmax pmax
comp=Z,150nm,4.7s
XLT LR LR
comp=N,37nm,15.7s
XLT LR LR
comp=E,260nm,17.2s
XLT LR LR
comp=Z,490nm,19.0s
RAR Rarotonga 54.92 114 LR LR 13 08 38.6
comp=Z,92nm,20.4s,baz=224,slow=33
HEH HeiHe 55.78 345 *eP* **P 12 48 09.4 +3.2**
HEH pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 55.96 318 *eP* P 12 48 14.5 +6.5
LZH sP pwP 12 48 20.5 +10
LZH sS sS 12 56 11.5 +11
LZH pmax pmax
comp=Z,33nm,1.0s
LZH LR LR
comp=N,370nm,15.5s
LZH LR LR
comp=E,550nm,17.5s
LZH LR LR
comp=Z,650nm,19.6s
PETK Petropavlovsk- 56.84 8 P **P 12 48 13.8 +0.1**
PETK Petropavlovsk- 56.84 8 P **P 12 48 15.2 +1.5**
comp=Z,3.8nm,0.8s,baz=167,slow=5.5,SNR=6.3
PETK LR LR 13 11 16.1
comp=Z,142nm,19.4s,baz=187,slow=35
comp=Z,3.8nm,0.8s
BRDH Bariadhala 59.61 299 LR LR 13 16 12.5
comp=Z,58nm,18.0s,baz=96,slow=38
SHEM Shemya Is, Ala 60.28 19 LR LR 13 10 25.3
comp=Z,195nm,21.1s,baz=281,slow=32
GTA Gaotai 60.47 319 *eP* P 12 48 44.4 +5.0
GTA pP pwP 12 48 48.2 +6.0
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=N,210nm,15.6s
GTA LR LR
comp=E,170nm,17.1s
GTA LR LR
comp=Z,190nm,16.7s
ULN Ulaanbaatar 61.56 331 P **P 12 48 44.9 -1.8**
ULN IAmb IAmb 12 48 53.1
comp=Z,14nm,1.2s
SONM Songino Array 61.86 330 P **P 12 48 47.6 -1.1**
SONM IAmb IAmb 12 48 55.0
comp=Z,9.3nm,1.2s
SONM Songino Array 61.86 330 P **P 12 48 48.3 -0.4**
comp=Z,0.9nm,0.7s,baz=146,slow=4.6,SNR=14
SONM LR LR 13 14 41.9
comp=Z,472nm,20.5s,baz=126,slow=35
comp=Z,0.9nm,0.7s
MA2 Magadan 62.65 2 P **P 12 48 52.9 -0.7**
MA2 IAmb IAmb 12 48 58.9
comp=Z,6.4nm,0.9s
MA2 Magadan 62.65 2 LR LR 13 12 08.3
comp=Z,143nm,21.7s,baz=188,slow=32
PPT Papeete 63.93 108 LR LR 13 13 35.7
comp=Z,111nm,18.9s,baz=270,slow=33
SEY Seymchan 66.08 3 LR LR 13 13 54.9
comp=Z,164nm,21.0s,baz=159,slow=32
YAK Yakutsk 66.34 351 LR LR 13 18 04.5
comp=Z,141nm,18.1s,baz=142,slow=36
WMQ Urumqi 70.54 319 *eP* **P 12 49 45.6 +1.1**
WMQ pP pwP 12 49 49.4 +2.2
WMQ pmax pmax
comp=Z,17nm,1.5s
BILL Bilibino 72.37 8 P **P 12 49 54.7 -0.2**
VNDA Vanda 74.72 177 LR LR 13 20 22.1
comp=Z,146nm,18.7s,baz=354,slow=34
MK31 Makanchi Array 75.21 320 P **P 12 50 11.8 -0.2**
MK31 IAmb IAmb 12 50 18.0
comp=Z,16nm,1.4s
MKAR Makanchi Array 75.21 320 P **P 12 50 11.2 -0.9**
MKAR Makanchi Array 75.21 320 P **P 12 50 11.5 -0.5**
comp=Z,1.8nm,1.0s,baz=106,slow=7.7,SNR=6.6
MKAR LR LR 13 22 41.5
comp=Z,197nm,20.2s,baz=86,slow=35
comp=Z,1.8nm,1.0s
MAKZ Makanchi 75.41 320 P **P 12 50 13.1 -0.2**
TIXI Tiksi 75.61 354 LR LR 13 23 37.6
comp=Z,37nm,21.9s,baz=184,slow=36
ZALV Zalesovo Beam 76.53 328 P **P 12 50 18.9 -0.5**
comp=Z,1.4nm,0.7s,baz=101,slow=7.7,SNR=7.0
ZALV LR LR 13 22 50.6
comp=Z,223nm,21.8s,baz=118,slow=35
comp=Z,1.4nm,0.7s
TARG Taragay, Kyrgy 76.61 314 P **P 12 50 18.3 -2.4**
OHAK Old Harbor 76.95 29 P **P 12 50 20.7 -0.9**
KDJ Kajisay 77.17 314 P **P 12 50 21.1 -2.4**
KDJ IAmb IAmb 12 50 29.1
comp=Z,13nm,1.2s
NIL Nilore 78.13 305 P **P 12 50 27.3 -1.6**
NIL IAmb IAmb 12 50 33.7
comp=Z,15nm,1.1s
BOOM Boomskoye usch 78.16 314 P **P 12 50 27.5 -1.5**
BOOM IAmb IAmb 12 50 34.5
comp=Z,9.1nm,1.0s
KURK Kurchatov 78.84 323 P **P 12 50 32.1 -0.3**
KURBB Kurchatov Arra 78.87 323 P **P 12 50 31.5 -1.0**
comp=Z,1.1nm,1.0s,baz=107,slow=4.4,SNR=12
KURBB LR LR 13 24 13.3
comp=Z,243nm,21.9s,baz=162,slow=35
comp=Z,1.1nm,1.0s
AAK Ala-Archa 79.23 314 P **P 12 50 34.6 -0.3**
AAK Ala-Archa 79.23 314 LR LR 13 24 59.4
comp=Z,321nm,21.9s,baz=98,slow=35
ARSB Arslanbob 80.01 313 P **P 12 50 38.2 -1.0**
ARSB IAmb IAmb 12 50 44.7
comp=Z,20nm,1.4s
D19K Kuna River 80.83 18 P **P 12 50 42.5 -0.3**
D19K IAmb IAmb 12 50 49.6
comp=Z,13nm,1.3s
MCK McKinley 81.76 24 P **P 12 50 46.2 -1.7**
NEA2 Nenana 82.06 23 P **P 12 50 48.2 -1.2**
NEA2 IAmb IAmb 12 50 56.4
comp=Z,22nm,1.7s
KKAR Karatay Array 82.19 314 P **P 12 50 49.4 -1.2**
CCB Clear Creek Bu 82.58 23 P **P 12 50 51.1 -1.0**
CCB IAmb IAmb 12 51 01.1
comp=Z,12nm,1.4s
E22K Anaktuvuk Pass 82.65 19 P **P 12 50 50.9 -1.6**
E22K IAmb IAmb 12 50 59.5
comp=Z,15nm,1.4s
IL31 83.00 23 P **P 12 50 53.0 -1.2**
IL31 IAmb IAmb 12 51 34.9
comp=Z,12nm,1.5s
ILAR Eielson Array 83.00 23 P **P 12 50 53.9 -0.4**
ILAR Eielson Array 83.00 23 P **P 12 50 53.6 -0.7**
comp=Z,1.3nm,0.9s,baz=255,slow=5.1,SNR=11
ILAR LR LR 13 25 45.3
comp=Z,106nm,18.8s,baz=240,slow=34
comp=Z,1.3nm,0.9s
DOT Dot Lake 83.73 25 P **P 12 50 56.9 -1.2**
DOT IAmb IAmb 12 51 04.5
comp=Z,14nm,1.4s
BVAR Borovoye Array 84.38 324 P **P 12 51 00.8 -0.8**
comp=Z,2.1nm,0.8s,baz=107,slow=5.1,SNR=20
BVAR LR LR 13 27 57.7
comp=Z,104nm,21.2s,baz=82,slow=35
comp=Z,2.1nm,0.8s
BRVK Borovoye 84.45 324 P **P 12 51 00.5 -1.5**
MAW Mawson 84.75 202 LR LR 13 28 48.5
comp=Z,212nm,18.3s,baz=94,slow=36
DAWY Dawson 85.83 25 P **P 12 51 06.9 -1.8**
QSPA South Pole Qui 86.76 180 LR LR 13 30 41.8
comp=Z,198nm,18.2s,baz=358,slow=36
J30M Hart River 87.25 25 P **P 12 51 14.2 -1.6**
J30M IAmb IAmb 12 51 23.0
comp=Z,12nm,1.4s
DLBC Dease Lake 89.12 31 LR LR 13 23 44.1
comp=Z,191nm,19.9s,baz=270,slow=30
INK Inuvik 89.13 21 LR LR 13 26 09.2
comp=Z,160nm,21.6s,baz=242,slow=32
BBB Bella Bella 89.48 38 LR LR 13 24 28.9
comp=Z,201nm,19.6s,baz=244,slow=31
AKTO Aktyubinsk 91.64 320 LR LR 13 31 56.2
comp=Z,232nm,21.2s,baz=198,slow=35
ARTI Arti 91.74 326 LR LR 13 32 15.5
comp=Z,166nm,21.9s,baz=86,slow=35
YBH Yreka Blue Hor 92.48 49 LR LR 13 24 50.1
comp=Z,301nm,21.7s,baz=274,slow=30
SYO Syowa Base 93.14 200‖ *eP* **P 12 51 44.2 +1.1**
NVAR Mina Array Bea 95.81 52 LR LR 13 26 08.3
comp=Z,240nm,21.8s,baz=244,slow=30
KIRV Kirov 96.55 328 LR LR 13 36 10.8
comp=Z,547nm,20.5s,baz=86,slow=36
YKA Yellowknife Ar 96.79 28 P **P 12 52 01.2 +1.3**
comp=Z,0.3nm,0.8s,baz=270,slow=4.8,SNR=4.5
YKA LR LR 13 29 27.7
comp=Z,80nm,21.4s,baz=333,slow=32
comp=Z,0.3nm,0.8s
ELK Elko 98.11 49 LR LR 13 31 18.9
comp=Z,138nm,18.8s,baz=264,slow=32

SOME ***12*** *12:45:43.1,42°.25N×82°.45E,h5km*
NNC ***12*** *12:45:46.6±2.8,42°.26N×82°.61E,h0km,mb2.9,mpv2.5,*
Error ellipse: s-maj=22.6km s-min=12.1km az=152.0
ISC 12 12:45:50.0±3.5,**42°.4N**±0°.2×**82°.5E**±0°.1,**h10**km,**n5**,σ1§**58**/8,
5C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 1.5nm,0.4s	**2.38**	**293**	⇑Pn	**Pn**	**12 46 29.1**	**-0.1**
PDGK	34nm,1.2s			⇑Sn	**Sb**	**12 47 01.9**	**-0.5**
UZB	**Uzynbulak** 1.5nm,0.1s	**2.65**	**287**	*eP*	**Pn**	**12 46 33.5**	**+0.6**
UZB	4.1nm,0.2s			*eS*	**Sb**	**12 47 09.8**	**-0.4**
DJR	**Jarkent** 0.4nm,0.1s	**2.73**	**315**	*eP*	**Pn**	**12 46 35.8**	**+1.7**
DJR	3.6nm,0.3s			*eS*	**Sb**	**12 47 13.7**	**+1.0**
MK31	**Makanchi Array** 0.3nm,0.5s,baz=174,slow=16,SNR=4.5	**4.37**	**358**	⇓Pg	**Pb**	**12 47 08.2**	**+1.3**
MK31	5.0nm,0.8s,baz=177,slow=27,SNR=8.7			⇑Lg	Lg	12 48 10.0	
MAKZ	**Makanchi** 0.4nm,0.6s	**4.40**	**355**	⇑Pg	**Pg**	**12 47 11.8**	**-2.5**
MAKZ	4.0nm,0.8s			⇑Lg	Lg	12 48 11.8	

VAO ***12*** *12:51:06.7±0.4,14°.91S×72°.39W,h71km,mb4.7*
NEIC ***12*** *12:51:07.7±1.9,14°.94S±0°.08×72°.46W±0°.10,h87km±9km,*
mb4.5/33,Error ellipse: s-maj=16.0km s-min=8.5km
az=53.0
RSNC ***12*** *12:51:07.0±3.3,15°.S±10°×7°.3W±1°.0,h71km,M4.7,mB5.3,*
mb4.6,Mw(mB)4.5
IDC ***12*** *12:51:08.8±1.7,14°.93S×72°.57W,h98km±16km,mb3.7/7,*
mbtmp4.2/13,Error ellipse: s-maj=23.4km s-min=11.8km
az=57.0
ISC 12 12:51:09.0±0.4,**14°.93S**±0°.05×**72°.45W**±0°.06,**h114**km,
n125,σ2§**17**/128,**mb4.4**/15,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**3.89**	**133**	Pn	**Pn**	**12 52 04.7**	**-2.8**
AP01	**Chacalluta**	**3.98**	**150**		**Pn**	**12 52 07.3**	**-0.8**
AP01				Sn	**Sn**	**12 52 52.0**	**-1.8**
PB12	**IPOC Station P**	**4.19**	**151**	Pn	**Pn**	**12 52 09.5**	**-1.5**
PB12				Sn	**Sn**	**12 52 55.9**	**-3.3**
LPAZ	**La Paz**	**4.38**	**109**	Pn	**Pn**	**12 52 16.1**	**+2.1**
LPAZ				Sn	**Sn**	**12 53 02.8**	**-1.6**
LPAZ	**La Paz** 66nm,0.4s,baz=291,slow=9.4,SNR=273	**4.38**	**109**	P	**Pn**	**12 52 16.3**	**+2.3**
LPAZ	47nm,0.8s,baz=300,slow=14,SNR=1.6			S	**Sn**	**12 53 00.6**	**-3.9**
NNA	**Nana**	**5.18**	**304**	Pn	**Pn**	**12 52 23.0**	**-1.3**
NNA				Sn	**Sn**	**12 53 18.7**	**-4.3**
NNA	**Nana** 178nm,0.3s,baz=128,slow=11,SNR=58	**5.18**	**304**	P	**Pn**	**12 52 23.2**	**-1.1**
NNA	329nm,0.5s,baz=294,slow=1.7,SNR=15			S	**Sn**	**12 53 20.1**	**-2.9**
PB11	**IPOC Station P**	**5.50**	**151**		**Pn**	**12 52 26.4**	**-2.4**
TA02	**Huaiquique**	**5.75**	**158**		**Pn**	**12 52 29.7**	**-2.3**
TA01	**Diego Aracena**	**6.01**	**159**	Pn	**Pn**	**12 52 32.4**	**-3.1**
PB08	**IPOC Station P**	**6.06**	**149**		**Pn**	**12 52 34.7**	**-1.9**
PB01	**IPOC Station P**	**6.70**	**156**		**Pn**	**12 52 41.8**	**-3.1**
CZSB	**Cruzeiro do Su**	**7.16**	**358**		**Pn**	**12 52 48.6**	**-2.5**
CZSB	**Cruzeiro do Su**	**7.16**	**358**	*eP*	**Pn**	**12 52 48.0**	**-3.1**
CZSB	**Cruzeiro do Su**	**7.16**	**358**	P	**Pn**	**12 52 48.7**	**-2.5**
PB09	**IPOC Station P**	**7.48**	**156**		**Pn**	**12 52 53.3**	**-2.3**
PB10	**IPOC Station P**	**8.72**	**168**		**Pn**	**12 53 08.2**	**-4.1**
ATAH	**Atahualpa** 1.8nm,0.4s,baz=174,slow=21,SNR=5.4	**9.70**	**322**	P	**Pn**	**12 53 25.6**	**-0.2**
ATAH	22nm,0.6s,baz=126,slow=19,SNR=5.7			S	**Sn**	**12 55 09.4**	**-3.7**
PB14	**IPOC Station P**	**9.84**	**169**	Pn	**Pn**	**12 53 23.1**	**-4.5**
GO02	**Mina Guanaco**	**10.53**	**166**	Pn	**Pn**	**12 53 33.5**	**-3.5**
TBTG	**Tabatinga, AM**	**10.96**	**13**	*eP*	**Pn**	**12 53 38.6**	**-4.1**
SIV	**San Ignacio** 11nm,0.4s,baz=277,slow=12,SNR=82	**11.02**	**97**	P	**Pn**	**12 53 42.0**	**-1.4**
AC01	**Pan de Azucar**	**11.30**	**171**	Pn	Pn	12 53 41.9	-5.1
VILB	**Vilhena**	**12.05**	**82**	Pn	**Pn**	**12 53 57.6**	**+0.5**
VILB	**Vilhena**	**12.05**	**82**	*eP*	**Pn**	**12 53 53.8**	**-3.4**
AC02	**Maricunga**	**12.25**	**166**	Pn	**Pn**	**12 53 56.8**	**-3.2**
AC06	**Mina Casimiro**	**12.52**	**171**		**Pn**	**12 53 59.0**	**-4.2**
PTLB	**Pontes e Lacer**	**12.86**	**94**		**Pn**	**12 54 06.2**	**-1.5**
PTLB	**Pontes e Lacer**	**12.86**	**94**	*eP*	**Pn**	**12 54 06.2**	**-1.5**
AC04	**Llanos de Chal**	**13.27**	**175**	Pn	**Pn**	**12 54 08.5**	**-4.4**
TEFE	**Tefe**	**13.71**	**35**	*eP*	**Pn**	**12 54 18.6**	**-0.2**
COHC	**Cochancay**	**14.09**	**331**		Pn	12 54 18.0	-5.5
LCO	**Las Campanas**	**14.11**	**174**		**Pn**	**12 54 21.5**	**-2.5**
CO01	**Juntas del Tor**	**15.13**	**172**	Pn	**Pn**	**12 54 33.6**	**-3.4**
CO01				IAmb	IAmb	12 54 43.0	
GO04	**Tololo Observa** 2,31nm,0.8s	**15.25**	**175**		**Pn**	**12 54 35.1**	**-3.3**
GO04				IAmb	IAmb	12 54 42.8	
MURT	**Porto Murtinho** 2,34nm,1.2s	**15.60**	**118**	*eP*	**Pn**	**12 54 41.7**	**-0.8**
PDRB	**Porto dos Gac**	**15.65**	**80**	*eP*	**Pn**	**12 54 41.6**	**-1.8**
CO03	**El Pedregal**	**15.92**	**174**		**Pn**	**12 54 42.4**	**-4.3**
CO03				IAmb	IAmb	12 54 50.2	
BDQN	**Bodoquena, MS**	**15.93**	**112**	*eP*	**Pn**	**12 54 44.7**	**-2.1**
SALV	**Santo Antonio**	**16.19**	**96**	*eP*	**Pn**	**12 54 49.3**	**-0.7**
OTAV	**Otavalo**	**16.20**	**338**	Pn	**Pn**	**12 54 45.5**	**-5.0**
OTAV	**Otavalo**	**16.20**	**338**	*eP*	**Pn**	**12 54 49.9**	**-0.6**
MACA	**Manacapuru-AM**	**16.47**	**46**		**Pn**	**12 54 51.4**	**-2.0**
MACA				IAmb	IAmb	12 54 55.3	
MACA	**Manacapuru-AM** 2,24nm,0.6s	**16.47**	**46**	*eP*	**P**	**12 54 54.1**	**0.0**
FLOC	**Florencia**	**16.71**	**349**		**Pn**	**12 54 52.7**	**-3.7**
FLOC				IAmb	IAmb	12 55 21.1	
CLDB	**Colider** 2,17nm,0.7s	**16.73**	**78**	*eP*	**Pn**	**12 54 56.2**	**-0.4**
AQDB	**Aquidauana**	**16.88**	**111**		**Pn**	**12 54 57.2**	**-1.2**
AQDB	**Aquidauana**	**16.88**	**111**	*eP*	**Pn**	**12 54 57.5**	**-0.9**
MACC	**Macarena, Meta** 2,19nm,0.8s	**17.02**	**355**	P	**P**	**12 55 00.6**	**+0.4**
CFA	**Coronel Fontan** 2,8.7nm,0.8s,baz=336,slow=12,SNR=20	**17.04**	**168**	P	**P**	**12 55 00.3**	**-0.1**
CPUP	**Villa Florida**	**18.12**	**131**	P	**P**	**12 55 10.9**	**-1.2**
CPUP	**Villa Florida**	**18.12**	**131**	P	**P**	**12 55 12.6**	**+0.5**
CPUP	**Villa Florida** 2,6.4nm,0.7s,baz=310,slow=11,SNR=16	**18.12**	**131**	*eP*	**P**	**12 55 11.9**	**-0.2**
MT02	**Curacav**	**18.29**	**176**	P	**P**	**12 55 10.6**	**-3.4**
SJPY	**San Joaquin**	**18.32**	**126**	*eP*	**Pn**	**12 55 15.6**	**-0.2**
NPGB	**Novo Progresso**	**18.51**	**67**	*eP*	**P**	**12 55 16.5**	**-0.1**
RPRD	**Ribas do Rio P**	**18.69**	**110**	*eP*	**Pn**	**12 55 19.5**	**-0.7**
MT01	**Popeta**	**18.88**	**177**	P	**P**	**12 55 17.9**	**-2.6**
MT01				IAmb	IAmb	12 55 23.9	
ORTC	**Ortega, Tolima** 2,1μmcomp=Z,116nm,1.2s	**18.92**	**351**	P	**Pn**	**12 55 25.2**	**+2.3**
ORTC	**Ortega, Tolima**	**18.92**	**351**	S	**P**	**12 55 25.7**	**+4.6**
LMEL	**Las Melosas**	**18.95**	**174**	P	**P**	**12 55 18.3**	**-3.0**
LMEL				IAmb	IAmb	12 55 24.9	
BO04	**La Punta** 2,26nm,0.8s	**19.05**	**175**	P	**P**	**12 55 18.1**	**-4.3**
C2SB	**Chapadao do Su**	**19.15**	**104**	*eP*	**Pn**	**12 55 25.0**	**-0.6**
BO01	**Tunca**	**19.42**	**177**	P	**P**	**12 55 22.1**	**-4.1**
BO01				IAmb	IAmb	12 55 30.2	
ROSC	**El Rosal** 2,29nm,1.5s	**19.73**	**354**	P	**Pn**	**12 55 31.5**	**-1.3**
BO02	**Sierra Bellavi**	**19.84**	**176**	P	**P**	**12 55 29.4**	**-1.5**
ARAG	**Araguaiana, MT**	**19.92**	**95**	*eP*	**P**	**12 55 31.2**	**-0.7**
GUY2C	**Guyana, Caldas** 2,789nmcomp=Z,66nm,1.0s	**20.23**	**352**	P	Pn	12 55 40.4	+1.7
RUSC	**La Rusia**	**20.70**	**358**	P	**P**	**12 55 40.7**	**0.0**
ML02	**Panimavida**	**20.77**	**178**	P	**P**	**12 55 41.6**	**+0.8**
SNDB	**Serra Nova Dou**	**20.78**	**84**	*eP*	**P**	**12 55 41.0**	**-0.2**
BOAV	**Boa Vista**	**20.88**	**35**	P	Pn	12 55 44.5	-1.2
BOAV	**Boa Vista**	**20.88**	**35**	*eP*	**P**	**12 55 43.6**	**+1.4**
PTGB	**Pitanga**	**21.48**	**120**	*eP*	**P**	**12 55 48.3**	**-0.4**
ITRB	**Iturama**	**21.61**	**106**	*eP*	**P**	**12 55 49.4**	**-0.7**
BI02	**San Fabin de**	**21.67**	**177**	P	**P**	**12 55 51.0**	**+0.4**
LDASE	**Londrina, Braz**	**21.82**	**116**	*eP*	**P**	**12 55 52.1**	**-0.1**
ITAB	**Concordia**	**22.53**	**126**	P	**P**	**12 56 00.8**	**+1.4**
ITAB				IAmb	IAmb	12 56 06.3	
ITAB	**Concordia** 2,17nm,0.7s	**22.53**	**126**	*eP*	**P**	**12 56 00.7**	**+1.2**
FRTB	**Fartura**	**23.16**	**115**	*eP*	**P**	**12 56 07.3**	**+1.6**
CPSB	**Cacapava Do Su**	**23.29**	**135**	*eP*	**P**	**12 56 09.5**	**+2.8**
BB19B	**Bebedouro**	**23.54**	**109**	*eP*	**P**	**12 56 10.1**	**+0.9**
BDFB	**Brasilia** 2,2.9nm,0.5s,baz=274,slow=8.7,SNR=4.8	**23.58**	**95**	P	**P**	**12 56 08.3**	**-1.4**
PRPB	**Parauapebas**	**23.87**	**71**	*eP*	**P**	**12 56 11.8**	**-0.4**
PLTB	**Pedras Altas**	**24.02**	**137**	P	**P**	**12 56 13.9**	**+0.6**
PLTB				IAmb	IAmb	12 56 19.8	
PLTB	**Pedras Altas** 2,11nm,0.7s	**24.02**	**137**	*eP*	**P**	**12 56 14.7**	**+1.3**
SMTB	**Santa Maria do**	**25.05**	**79**	*eP*	**P**	**12 56 25.5**	**+2.6**
MAJ01	**Sao Joao Batis**	**25.08**	**123**	*eP*	**P**	**12 56 25.8**	**+2.8**
SPB	**Sao Paulo**	**25.11**	**114**	*eP*	**P**	**12 56 24.4**	**+1.1**
PMNB	**Patos De Minas**	**25.16**	**102**	*eP*	**P**	**12 56 25.0**	**+1.1**
LR05	**Currie**	**25.21**	**179**	P	**P**	**12 56 25.2**	**+1.2**
TER01	**Tubaro-SC**	**25.48**	**126**	*eP*	**P**	**12 56 28.6**	**+2.0**
PLCA	**Paso Flores**	**25.76**	**177**	P	**P**	**12 56 30.5**	**+1.4**
PLCA				IAmb	IAmb	12 56 34.4	
PLCA	**Paso Flores** 2,16nm,1.1s	**25.76**	**177**	P	**P**	**12 56 30.2**	**+1.1**
PLCA	**Paso Flores** 2,10nm,1.0s,baz=357,slow=10,SNR=16	**25.76**	**177**	*eP*	**P**	**12 56 30.8**	**+1.7**
PARB	**Paraibuna** 2,10nm,1.0s	**26.66**	**112**	*eP*	**P**	**12 56 38.4**	**+1.0**
LL01	**San Ignacio de**	**27.35**	**180**	P	**P**	**12 56 43.7**	**+0.5**
LL01				IAmb	IAmb	12 56 44.5	
LL02	**Futaleuf** 2,11nm,0.7s	**28.17**	**179**	P	**P**	**12 56 51.1**	**+0.6**
LL02				IAmb	IAmb	12 56 52.3	
AY01	**Puyuhuapi** 2,11nm,1.1s	**29.40**	**180**	P	**P**	**12 57 01.8**	**+0.4**
AY01				IAmb	IAmb	12 57 02.8	
COYC	**Coyhaique** 2,14nm,0.8s	**30.55**	**179**	P	**P**	**12 57 12.5**	**+0.9**
GUA01	**Guaratinga, BA**	**31.44**	**97**	*eP*	**P**	**12 57 21.3**	**+1.5**
AY03	**Cochrane**	**32.23**	**180**	P	**P**	**12 57 27.8**	**+1.5**
NBAN	**Anadia - AL**	**35.70**	**86**	*eP*	**P**	**12 57 59.3**	**+2.5**
TXAR	**Lajitas Array** 2,0.9nm,0.7s,baz=136,slow=6.3,SNR=6.2	**53.34**	**326**	pP	pP	13 00 45.7	+0.4
BELA	**Belgrano 2**	**65.69**	**172**	P	**P**	**13 01 43.0**	**+2.2**
PDAR	**Pinedale Array** 2,0.2nm,0.8s,baz=140,slow=7.5,SNR=1.2	**66.77**	**331**	P	**P**	**13 01 49.8**	**+1.4**
ULM	**Lac du Bonnet** 2,0.8nm,0.6s,baz=215,slow=9.5,SNR=2.0	**68.09**	**344**	P	**P**	**13 01 57.7**	**+1.5**
SNAA	**Sanae** 2,0.8nm,0.6s	**69.55**	**162**	P	**P**	**13 02 07.2**	**+2.1**
SNAA				IAmb	IAmb	13 02 31.2	
SNAA	**Sanae** 2,8.7nm,1.3s	**69.55**	**162**	P	**P**	**13 02 07.1**	**+1.9**
DBIC	**Dimbokro** 2,2.4nm,0.5s,baz=291,slow=7.6,SNR=16	**70.34**	**77**	P	**P**	**13 02 10.7**	**-0.2**
DBIC	**Dimbokro** 2,2.4nm,0.5s	**70.34**	**77**	P	**P**	**13 02 10.1**	**-0.8**
QSPA	**South Pole Qui** 2,2.4nm,0.5s,baz=236,slow=5.4,SNR=5.5	**75.22**	**180**	P	**P**	**13 02 41.4**	**+2.4**
QSPA				IAmb	IAmb	13 02 41.9	
QSPA	**South Pole Qui** 2,4.1nm,0.7s	**75.22**	**180**	P	**P**	**13 02 41.4**	**+2.4**
TORD	**Torodi Ar. Bea** 2,3.4nm,0.6s,baz=119,slow=3.4,SNR=38	**78.50**	**73**	P	**P**	**13 02 58.6**	**+0.4**
ESDC	**Sonseca Array** 2,3.4nm,0.6s	**83.64**	**46**	P	**P**	**13 03 26.5**	**+1.5**
YKA	**Yellowknife Ar** 2,2.0nm,0.8s,baz=247,slow=4.9,SNR=9.4	**83.92**	**342**	P	**P**	**13 03 27.4**	**+1.7**
YKA	2,2.0nm,0.8s			pP	**pP**	**13 03 56.0**	**-0.6**
ASAR	**Alice Springs** 2,0.5nm,1.0s,baz=138,slow=5.0,SNR=5.7	**133.79**	**214**	PKP	**PKiKP**	**13 10 14.4**	**-0.2**
ASAR	2,1.0nm,0.7s,baz=139,slow=5.3,SNR=9.6			pPKP	**pPKPdf**	**13 10 46.0**	**+0.2**
WRA	**Warramunga Arr** 2,0.5nm,1.0s,baz=123,slow=1.8,SNR=8.8	**136.47**	**218**	PKP	**PKiKP**	**13 10 20.0**	**-0.1**
ZALV	**Zalesovo Beam** 2,0.4nm,0.7s,baz=341,slow=9.7,SNR=4.3	**137.18**	**20**	PKP	**PKiKP**	**13 10 20.9**	**+0.4**
KURBB	**Kurchatov Arra** 2,0.7nm,0.7s,baz=145,slow=1.8,SNR=5.8	**137.28**	**20**	PKP	**PKiKP**	**13 10 20.9**	**0.0**
MKAR	**Makanchi Array** 2,0.5nm,0.5s,baz=264,slow=2.6,SNR=2.2	**141.88**	**28**	PKhKP	PKPpre	13 10 25.2	
SONM	**Songino Array** 2,0.1nm,0.6s,baz=305,slow=3.3,SNR=1.5	**147.18**	**1**	PKPbc	**PKPbc**	**13 10 39.7**	**+0.6**
HHC	**Hu-ho-hao-te** 2,0.4nm,0.9s,baz=306,slow=3.4,SNR=2.0	**153.94**	**353**	*eP*	**PKPdf**	**13 10 46.2**	**-1.2**
NJ2	**Nanjing** 2,0.5nm,0.6s,baz=343,slow=2.2,SNR=2.4	**160.08**	**331**	*eP*	**PKPdf**	**13 10 56.9**	**+1.6**
NJ2	2,11nm,0.6s			pmax	pmax		
PZH	**PanZhiHua**	**167.27**	**24**	PKP	**PKPdf**	**13 11 04.4**	**+2.1**

RSNC 12 12:53:48.1±0.0,**7°N**±1°×**7°3W**±°,**h148**km±2km,**M2.1,ML1.9,**
MLv2.4,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**176**	P	Pn	12 54 07.9	-0.7
BARC				S	Sn	12 54 23.2	-0.9
BRJC	**Barrancabermej**	**0.56**	**284**	P	Pn	12 54 09.7	+0.2
BRJC				S	Sn	12 54 27.0	+1.2
PAMC	**Pamplona, Colo**	**0.70**	**45**	P	Pn	12 54 10.9	-0.1
PAMC				S	Sn	12 54 27.8	-0.6
RUSC	**La Rusia**	**0.95**	**173**	P	Pn	12 54 12.0	-0.9
RUSC				S	Sn	12 54 30.6	-1.1
PTBC	**PUERTO BERRIO,**	**1.28**	**257**	P	Pn	12 54 14.7	-0.6
PTBC				S	Sn	12 54 35.7	-0.4
TAMC	**Tame, Arauca**	**1.46**	**106**	P	Pn	12 54 16.2	-0.9
TAMC				S	Sn	12 54 39.3	0.0
SPBC	**San Pablo de B**	**1.46**	**216**	P	Pn	12 54 16.9	-0.4
SPBC				S	Sn	12 54 39.1	-0.5
ZARC	**Zaragoza, Cauc**	**1.77**	**292**	P	Pn	12 54 20.0	-0.5
ZARC				S	Sn	12 54 45.4	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	Prado	3.53	208	P	Pn	12 54 41.6	-0.7
PRAC				S	Sn	12 55 23.9	-0.4
ORTC	Ortega, Tolima	3.55	215	P	Pn	12 54 42.4	-0.2
URMC	La Uribe, Meta	3.76	198	P	Pn	12 54 44.9	-0.4
URMC				S	Sn	12 55 30.1	+0.5

DJA ***12*** *13:00:07.1±0.5,3°N±4°×9°9E±°, h157km±5km, M3.7/10, MLv3.7/10*
IDC ***12*** *13:00:07.2±0.9,2°63N×99°08E, h156km±13km, mb2.9/5, mbtmp3.4/6, MS3.0/1, Error ellipse: s-maj=87.4km s-min=18.3km az=60.0*
ISC 12 13:00:07.0±0.8, 2°64N±0°07×99°1E±0°1, h150km, n15, σ1º09/16, mb3.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.24	313	P	Pn	13 00 29.4	+1.9
	60nm,0.3s,baz=152,slow=2.5,SNR=85						
PSI				S	Sn	13 00 45.5	+2.3
	61nm,0.6s,baz=199,slow=22,SNR=36						
MNSI	Mandailing Nat	1.89	165	P	Pn	13 00 41.8	+0.8
MNSI				S	Sn	13 01 08.3	+1.2
GSI	Gunungsitoli	2.02	229	P	Pn	13 00 43.0	+0.6
SNSI	Sinabang, Aceh	2.78	265	P	Pn	13 00 52.4	+0.8
PBSI	Pulau Batu	2.80	197	P	Pn	13 00 52.1	+0.2
MLSI	Meulaboh, Aceh	3.14	301	P	Pn	13 00 56.5	+0.3
SISI	Saibi	3.94	180	P	Pn	13 01 06.3	-0.3
BSI	Banda Aceh	4.74	307	P	Pn	13 01 16.9	-0.1
CMAR	Chiang Mai Arr	15.72	359	P	P	13 03 41.8	+0.5
	1.1nm,0.8s,baz=187,slow=10,SNR=9.0						
TGY	Tagaytay City	24.39	61	LR	LR	13 16 37.1	
	comp=Z,35nm,19.1s,baz=190,slow=40						
WRA	Warramunga Arr	41.23	125	P	P	13 07 36.6	-1.0
	0.2nm,0.4s,baz=299,slow=8.0,SNR=4.7						
	0.2nm,0.4s						
ASAR	Alice Springs	42.79	130	P	P	13 07 50.0	-0.3
	0.1nm,0.6s,baz=314,slow=7.8,SNR=4.4						
	0.1nm,0.6s						
SONM	Songino Array	45.46	7	P	P	13 08 10.8	-0.4
	0.4nm,0.4s,baz=188,slow=8.7,SNR=4.4						
	0.4nm,0.4s						
MKAR	Makanchi Array	46.35	344	P	P	13 08 17.0	-1.0
	0.3nm,0.4s,baz=155,slow=8.6,SNR=5.4						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	50.88	343	P	P	13 08 51.5	-1.0
	0.2nm,0.5s,baz=160,slow=7.6,SNR=2.9						
	0.2nm,0.5s						

IDC ***12*** *13:08:53.7±0.6, 17°74N×66°12W, h0km, mb4.3/22, mbtmp4.3/24, ML3.8/2, MS3.7/13, Error ellipse: s-maj=15.2km s-min=9.5km az=79.0*
NEIC ***12*** *13:08:55.6±1.4, 17°83N±0°03×66°20W±0°02, h10km±1km, mb4.7/52, ML4.8/41, ML4.6/15(RSPR), Error ellipse: s-maj=5.0km s-min=2.9km az=347.0*
RSPR ***12*** *13:08:57.2, 17°93N×66°18W, h14km±1km, MD4.3/15*
OSPL ***12*** *13:09:00.6±3.3, 18°05N×66°26W, h0km±31km, ML4.4*
ISC 12 13:08:55.3±0.9, 17°81N±0°04×66°20W±0°02, h12km±5km, n216, σ1º14/194, mb4.7/68, MS3.7/10, 5C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	InterUniversit	0.18	31	Pg	Pb	13 09 00.4	-0.3
IGPR	InterUniversit	0.18	31⇑	eP	Pb	13 09 00.3	-0.3
IGPR	InterUniversit	0.18	31	eS	Sg	13 09 02.7	+0.6
SJG	San Juan	0.30	10		Pg	13 09 01.6	0.0
SJG				IAML		13 09 05.2	
	94μm,0.4s						
SJG				IAML		13 09 05.2	
	103μm,0.5s						
SJG	San Juan	0.30	10	Pg	Pg	13 09 01.3	-0.3
	3μm,0.3s,baz=40,slow=4.5,SNR=1876						
SJG	San Juan	0.30	10	eP	Pg	13 09 01.4	-0.1
SJG	San Juan	0.30	10	e	Pn	13 09 04.5	-1.1
CELP	Cerrillos	0.45	307		Pb	13 09 05.1	0.0
CELP	Cerrillos	0.45	307		Sb	13 09 10.9	-0.9
CELP	Cerrillos	0.45	307	⇑iP	Pb	13 09 05.3	+0.1
CELP	Cerrillos	0.45	307	eS	Sb	13 09 10.9	-0.9
OBIP	Obispado Ponce	0.45	301		Pg	13 09 04.4	+0.2
OBIP	Obispado Ponce	0.45	301		Sg	13 09 10.4	+0.3
OBIP	Obispado Ponce	0.45	301	⇑iP	Pg	13 09 04.4	+0.2
OBIP	Obispado Ponce	0.45	301	eS	Sg	13 09 10.4	+0.3
HUMP	Col San Antoni	0.47	45		Pg	13 09 04.3	-0.3
HUMP				IAML		13 09 09.8	
	comp=N,102μm,0.3s						
HUMP	Col San Antoni	0.47	45		Sg	13 09 09.4	-1.5
HUMP	Col San Antoni	0.47	45	⇓eP	Pg	13 09 04.3	-0.3
HUMP	Col San Antoni	0.47	45	eS	Sg	13 09 09.4	-1.5
GCPR	Guaynabo City	0.51	13		Pg	13 09 04.6	-0.8
GCPR				IAML		13 09 10.2	
	comp=N,57μm,0.5s						
GCPR				IAML		13 09 10.3	
	comp=E,92μm,0.8s						
GCPR	Guaynabo City	0.51	13	⇓eP	Pg	13 09 04.6	-0.8
GCPR	Guaynabo City	0.51	13	eS	Sg	13 09 08.8	-3.3
ECPR	Experimental S	0.53	343	⇑iP	Pg	13 09 05.3	-0.4
ECPR	Experimental S	0.53	343	eS	Sg	13 09 11.2	-1.5
UUPR	Utuado, UPR, P	0.66	312		Pg	13 09 08.1	0.0
UUPR	Utuado, UPR, P	0.66	312		Sg	13 09 16.7	-0.2
UUPR	Utuado, UPR, P	0.66	312	⇑iP	Pg	13 09 08.3	+0.1
UUPR	Utuado, UPR, P	0.66	312	eS	Sg	13 09 16.7	-0.2
GBPR	Guanica, Bosqu	0.67	284		Pn	13 09 10.0	-0.6
GBPR					Sn	13 09 20.7	-0.3
GBPR	Guanica, Bosqu	0.67	284	⇓eP	Pn	13 09 10.0	-0.6
GBPR	Guanica, Bosqu	0.67	284	eS	Sn	13 09 20.7	-0.3
EMPR	Esperanza - Ma	0.73	335		Pg	13 09 08.9	-0.6
EMPR				IAML		13 09 21.1	
	comp=N,56μm,0.6s						
EMPR	Esperanza - Ma	0.73	335		Sg	13 09 17.8	-1.4
EMPR	Esperanza - Ma	0.73	335	⇑iP	Pg	13 09 09.1	-0.5
EMPR	Esperanza - Ma	0.73	335	eS	Sg	13 09 17.8	-1.4
AOPR	Arecibo Observ	0.75	316		Pg	13 09 09.4	-0.4
AOPR				IAML		13 09 19.2	
	comp=E,60μm,0.6s						
AOPR				IAML		13 09 25.4	
	comp=N,35μm,0.3s						
AOPR	Arecibo Observ	0.75	316		Sg	13 09 18.9	-0.7
AOPR	Arecibo Observ	0.75	316	eP	Pg	13 09 09.2	-0.7
AOPR				eS	Sg	13 09 18.6	-1.1
AOPR	Arecibo Observ	0.75	316	⇑iP	Pg	13 09 09.6	-0.3
MLPR	Magueyes Islan	0.82	281	⇑iP	Pn	13 09 12.5	-0.2
MLPR	Magueyes Islan	0.82	281	eS	Sb	13 09 23.5	+1.0
CRPR	Cabo Rojo, PR	0.89	283		Pn	13 09 13.2	-0.4
CRPR	Cabo Rojo, PR	0.89	283		Sn	13 09 26.6	+0.2
CRPR	Cabo Rojo, PR	0.89	283	⇑iP	Pn	13 09 13.5	-0.1
CRPR	Cabo Rojo, PR	0.89	283	eS	Sn	13 09 26.6	+0.2
CRPR	Cabo Rojo, PR	0.89	283	iP	Pn	13 09 13.5	-0.1
CRPR				eS	Sn	13 09 25.9	-0.5
CRPR				IAML		13 09 29.8	
	comp=Z,16μm,0.9s						
LSP	Las Mesas	0.92	294		Pb	13 09 13.5	+0.3
LSP	Las Mesas	0.92	294	⇓eP	Pb	13 09 13.5	+0.3
PRSN	Puerto Rico Se	0.98	295		Pg	13 09 14.1	-0.2
PRSN				IAML		13 09 30.9	
	comp=N,25μm,0.4s						
PRSN				IAML		13 09 39.9	
	comp=E,22μm,0.3s						
PRSN	Puerto Rico Se	0.98	295	⇑eP	Pg	13 09 14.2	-0.2
AGPR	Aguadilla, PR	1.08	307		Pb	13 09 15.4	-0.6
AGPR				IAML		13 09 36.7	
	comp=N,18μm,0.5s						
AGPR				IAML		13 09 39.0	
	comp=E,14μm,0.7s						
AGPR	Aguadilla, PR	1.08	307		Sb	13 09 29.6	-0.6
AGPR	Aguadilla, PR	1.08	307	⇑iP	Pb	13 09 15.6	-0.5
AGPR	Aguadilla, PR	1.08	307	eS	Sb	13 09 29.6	-0.6
AGPR	Aguadilla, PR	1.08	307	iP	Pb	13 09 15.6	-0.5
AGPR				eS	Sb	13 09 29.5	-0.6
AGPR				IAML		13 09 38.2	
	comp=Z,9μm,0.5s						
IDE	Isla Desecheo	1.34	296		Pn	13 09 20.0	+0.1
IDE	Isla Desecheo	1.34	296	⇓eP	Pn	13 09 20.0	+0.1
PCDR	Punta Cana, DR	2.19	289		Sb	13 10 03.6	+1.6
PCDR	Punta Cana, DR	2.19	289	iP	Pb	13 09 34.7	-0.1
PCDR				IAML		13 10 10.1	
	comp=Z,4μm,0.9s						
HIDR	Higuey Centro	2.51	288	⇑eP	Pb	13 09 38.6	-1.8
SABA	Saba	2.83	93	Pn	Pn	13 09 41.3	+0.9
SABA				IAML		13 10 56.8	
	comp=N,4μm,0.7s						
SABA	Saba	2.83	93		Sn	13 10 14.6	+0.2
SABA	Saba	2.83	93	⇑eP	Pn	13 09 41.5	+1.1
SABA	Saba	2.83	93	eS	Sn	13 10 14.6	+0.2
SMRT	St. Maarten	2.99	85	Pn	Pn	13 09 42.6	0.0
SMRT				IAML		13 10 29.5	
	comp=N,3μm,0.5s						
SMRT				IAML		13 10 30.2	
	comp=E,3μm,0.5s						
SMRT	St. Maarten	2.99	85		Sn	13 10 17.3	-1.1
SMRT	St. Maarten	2.99	85	⇑eP	Pn	13 09 42.8	+0.2
SMRT	St. Maarten	2.99	85	eS	Sn	13 10 17.3	-1.1
SEUS	St. Eustatius	3.09	95		Pn	13 09 44.7	+0.7
SEUS				IAML		13 10 37.1	
	comp=N,2μm,0.8s						
SEUS				IAML		13 10 50.6	
	comp=E,2μm,0.8s						
SKI	Saint Kitts	3.34	98	eP	Pn	13 09 47.9	+0.4
SKOC	St. Kitts, UWI	3.35	98	eP	Pn	13 09 48.2	+0.7
SDD	Santo Domingo	3.59	281	iP	Pb	13 09 56.3	-2.5
MBFL	Flemmings, Mon	3.96	105	eP	Pn	13 09 56.1	+0.2
MBWH		3.98	105	eP	Pn	13 09 56.1	-0.1
BANI	BANI	3.99	279		Pn	13 09 57.1	+0.6
ANWB	Willy Bob	4.21	91	Pn	Pn	13 09 59.7	+0.3
ANWB				IAML		13 11 25.8	
	comp=E,996nm,1.2s						
ANWB	Willy Bob	4.21	91	eP	Pn	13 09 60.0	+0.5
ANWB	Willy Bob	4.21	91	eS	Sn	13 10 50.1	+1.5
ANBD	Bethesda, Anti	4.30	99	eP	Pn	13 10 01.2	+0.6
ANBD	Bethesda, Anti	4.30	99	eS	Sn	13 10 48.8	-2.0
GDHS	Morne Mazeau,	4.51	109	IAML		13 11 00.9	
	comp=N,1μm,0.5s						
ABD	La Joyeuse, An	4.70	106	IAML		13 11 41.6	
	comp=N,499nm,1.2s						
ABD	La Joyeuse, An	4.70	106	⇑iP	Pn	13 10 07.0	+0.9
CBE	Ff, Capester	4.73	111		Pn	13 10 06.0	-0.5
CBE	Ff, Capester	4.73	111	⇓eP	Pn	13 10 07.2	+0.7
TBG	Guadaloupe-3	4.78	113	eP	Pn	13 10 06.6	-0.6
PODR	Polo	4.85	275	iP	Pn	13 10 11.2	+2.9
SDDR	Presa de Saban	4.97	284	eP	Pb	13 10 16.0	-6.3
SDDR	Presa de Saban	4.97	284	iP	Pn	13 10 15.6	+5.7
SDDR				IAML		13 11 26.7	
	comp=Z,790nm,0.9s						
LONE3	El Aguacate, B	5.06	280	iP	Pn	13 10 15.1	+3.9
LONE3				IAML		13 11 30.6	
	comp=Z,278nm,1.0s						
MAGL	Barre de l'ile	5.06	111	IAML		13 12 05.7	
	comp=E,358nm,1.0s						
GDSD	La Dsirade Is	5.13	106	Pn	Pn	13 10 12.1	-0.1
DSLB	Salisbury	5.16	117	eP	Pn	13 10 12.6	+0.2
LOBH	Bahia de las A	5.18	271	iP	Pn	13 10 15.5	+2.8
LOBH				IAML		13 11 35.2	
	comp=Z,231nm,0.7s						
MDN	Morne-Daniel	5.24	118	eP	Pn	13 10 13.6	+0.1
SVN	Savane Anatole	5.66	121		Pn	13 10 19.2	-0.2
SVN	Savane Anatole	5.66	121	eP	Pn	13 10 18.0	-1.4
FDF	Fort de France	5.74	121		Pn	13 10 20.1	-0.3
BIM	Bigot	5.92	123	eP	Pn	13 10 22.9	-0.1
GRTK	Grand Turk	5.93	309	Pn	Pn	13 10 23.1	+0.1
GRTK	Grand Turk	5.93	309	iP	Pn	13 10 23.5	+0.5
GRTK				IAML		13 11 47.4	
	comp=Z,85nm,0.7s						
MPOM	Morne Pois Mar	6.13	122		Pn	13 10 26.0	+0.2
SLBI	Saint Lucia, B	6.28	126	eP	Pn	13 10 26.6	-1.3
SLW	Petit Monier	6.31	126	eP	Pn	13 10 28.3	0.0
SLB	Belfond	6.35	128	eP	Pn	13 10 29.1	+0.1
SLAC	Saint Lucia, A	6.42	127	eP	Pn	13 10 29.6	-0.2
SVB	Belmont	6.57	133	eP	Pn	13 10 31.5	-0.3
SVT	Saint Vincent	6.64	133	eP	Pn	13 10 32.2	-0.6
GCMP	Grenada, Carri	7.02	138	eP	Pn	13 10 34.3	-3.7
GRGR	Grenville	7.15	141	eP	Pn	13 10 31.2	-8.7
PCRV	Puerto La Cruz	7.74	168	Pn	Pn	13 10 49.6	+1.7
	comp=Z,2.5nm,0.3s,baz=8.1,slow=2.5,SNR=10						
PCRV				Sn	Sn	13 12 09.5	-6.1
	comp=Z,4.0nm,0.3s,baz=58,slow=20,SNR=8.6						
PCRV				LR	LR	13 13 51.9	
	comp=Z,360nm,18.6s,slow=39						
TOSP	Speyside	8.48	139	e	Pn	13 10 59.5	+1.4
RUSC	La Rusia	13.62	210		Pn	13 12 08.2	-0.8
ROSC	El Rosal	15.14	213	Pn	Pn	13 12 30.6	+1.0
	comp=Z,2.7nm,0.3s,baz=73,slow=20,SNR=3.8						
ROSC				Sn	Sn	13 15 14.4	-3.1
	comp=Z,1.5nm,0.3s,baz=356,slow=24,SNR=1.5						
ROSC				LR	LR	13 19 01.3	
	comp=Z,396nm,18.6s,baz=329,slow=40						
	comp=Z,8.3nm,0.3s						
BOAV	Boa Vista	16.30	159	Pn	Pn	13 12 44.3	0.0
MDP	Montagnes des	18.32	132	LR	LR	13 21 20.1	
	comp=Z,94nm,19.1s,baz=266,slow=41						
JTS	Las Juntas de	19.65	250	P	Pn	13 13 26.8	+1.2
	comp=Z,1.2nm,0.3s,baz=343,slow=7.6,SNR=5.9						
	comp=Z,4.6nm,0.4s						
HODGE	Hodges	21.76	322	P	P	13 13 47.3	+0.4
HODGE				IAmb	IAmb	13 13 59.5	
	comp=Z,20nm,0.9s						
PETF	Flores	22.60	271	P	P	13 13 53.9	-2.2
PETF				IAmb	IAmb	13 13 55.6	
	comp=Z,17nm,0.9s						
V53A	Saluda	23.10	324	P	P	13 14 01.4	+0.1
TKL	Tuckaleechee C	23.64	322	LR	LR	13 24 56.0	
	comp=Z,106nm,18.0s,baz=136,slow=40						
LRAL	Lakeview Retre	24.07	313	P	P	13 14 11.8	+1.1
LRAL				IAmb	IAmb	13 14 21.1	
	comp=Z,14nm,0.9s						
P51A	Williamsport	26.09	329	IAmb	IAmb	13 14 37.3	
	comp=Z,20nm,1.0s						
N53A	Lisbon	26.16	334	P	P	13 14 29.2	-0.4
N53A				IAmb	IAmb	13 14 37.8	
	comp=Z,18nm,0.9s						
CZSB	Cruzeiro do Su	26.18	195	P	P	13 14 30.8	+0.8
WVT	Waverly	26.44	318	P	P	13 14 32.9	+0.8
ATAH	Atahualpa	27.55	207	LR	LR	13 27 49.6	
	comp=Z,267nm,18.1s,baz=36,slow=41						
SADO	Sadowa	28.99	341	LR	LR	13 27 41.8	
	comp=Z,111nm,18.1s,baz=8.0,slow=39						
CCM	Cathedral Cave	29.78	318	P	P	13 15 01.9	-0.1
CCM				IAmb	IAmb	13 15 04.0	
	comp=Z,9.7nm,0.8s						
MGMO	Mountain Grove	29.94	315	IAmb	IAmb	13 15 10.1	
	comp=Z,8.8nm,0.8s						
LPAZ	La Paz	33.94	183	P	P	13 15 40.0	+0.6
	comp=Z,2.2nm,0.8s,baz=33,slow=3.2,SNR=6.0						
LPAZ				LR	LR	13 31 26.9	
	comp=Z,67nm,18.5s,baz=324,slow=40						
	comp=Z,2.2nm,0.8s						
SIV	San Ignacio	33.97	171	LR	LR	13 29 39.0	
	comp=Z,115nm,20.9s,baz=354,slow=37						
TXAR	Lajitas Array	36.06	296	P	P	13 15 58.1	+1.0
	comp=Z,1.3nm,0.6s,baz=108,slow=9.8,SNR=15						
TXAR				PcP	PcP	13 18 24.5	+1.2
	comp=Z,0.3nm,0.6s,baz=97,slow=4.1,SNR=2.0						
TXAR				LR	LR	13 35 53.8	
	comp=Z,109nm,18.4s,baz=252,slow=45						
	comp=Z,1.3nm,0.6s						
SCHQ	Schefferville	36.96	359	P	P	13 16 04.8	+0.6
	comp=Z,7.4nm,0.8s,baz=187,slow=7.0,SNR=12						
	comp=Z,7.4nm,0.8s						
BDFB	Brasilia	37.77	151	P	P	13 16 11.8	+0.1
	comp=Z,2.9nm,0.6s,baz=323,slow=8.7,SNR=3.9						
BDFB				LR	LR	13 32 14.8	
	comp=Z,103nm,18.9s,baz=320,slow=37						
	comp=Z,2.9nm,0.6s						
PB01	IPOC Station P	38.75	185	P	P	13 16 19.8	0.0
PB01				IAmb	IAmb	13 16 20.8	
	comp=Z,14nm,0.9s						
ULM	Lac du Bonnet	40.14	330	P	P	13 16 30.8	-0.3
ULM	Lac du Bonnet	40.14	330	P	P	13 16 30.9	-0.3
	comp=Z,3.4nm,0.7s,baz=118,slow=7.7,SNR=8.1						
	comp=Z,3.4nm,0.7s						
PDAR	Pinedale Array	44.29	314	P	P	13 17 06.3	+1.0
	comp=Z,0.5nm,0.5s,baz=107,slow=8.3,SNR=7.5						
PDAR				PcP	PcP	13 18 49.9	+0.2
	comp=Z,0.5nm,0.5s,baz=75,slow=4.1,SNR=4.3						
	comp=Z,0.5nm,0.5s						
CPUP	Villa Florida	44.72	169	P	P	13 17 07.4	-1.1
	comp=Z,1.7nm,0.6s,baz=355,slow=9.0,SNR=5.1						
	comp=Z,1.7nm,0.6s						
LOHW	Long Hollow	45.31	314	P	P	13 17 13.3	-0.2
FCC	Fort Churchill	45.71	340	P	P	13 17 16.4	+0.4
FCC				IAmb	IAmb	13 17 17.1	
	comp=Z,9.3nm,0.8s						
FFC	Flin Flon	45.90	332	P	P	13 17 17.1	-0.6
BGU	Big Grassy Mou	46.19	310	P	P	13 17 20.6	+0.2
BGU				IAmb	IAmb	13 17 29.7	
	comp=Z,9.8nm,1.3s						
PLID	Pearl Lake	49.44	315	P	P	13 17 46.1	+0.5
NVAR	Mina Array Bea	49.62	306	P	P	13 17 47.5	+0.4
	comp=Z,0.8nm,0.7s,baz=102,slow=7.1,SNR=7.2						
	comp=Z,0.8nm,0.7s						
J08A	Circle Bar Ran	50.72	312	IAmb	IAmb	13 18 04.3	
	comp=Z,11nm,1.2s						
ANGG	Ammassalik, Gr	51.40	15	iP	P	13 18 02.0	+2.3
ILULI	Ilulissat	52.24	7	iP	P	13 18 06.4	+0.4
ILULI				IAmb	IAmb	13 18 07.6	
	comp=Z,16nm,0.8s						
ICESG	Greenland Ices	53.87	11	iP	P	13 18 17.3	-1.1
ICESG				IAmb	IAmb	13 18 20.4	
	comp=Z,17nm,1.2s						
NUUG	Nuugaatsiaq	54.28	5	iP	P	13 18 22.1	+1.2
NUUG				IAmb	IAmb	13 18 23.6	
	comp=Z,20nm,1.4s						
YKA	Yellowknife Ar	55.74	335	P	P	13 18 31.2	-0.5
	comp=Z,3.1nm,0.7s,baz=115,slow=7.3,SNR=40						
	comp=Z,3.1nm,0.7s						
SUMG	Summit	57.05	10	P	P	13 18 41.0	-0.4
SUMG	Summit	57.05	10	iP	P	13 18 41.0	-0.4
SUMG				IAmb	IAmb	13 18 44.1	
	comp=Z,12nm,0.9s						
ESDC	Sonseca Array	57.60	54	P	P	13 18 45.7	+0.2
	comp=Z,5.4nm,0.8s,baz=268,slow=7.1,SNR=32						
	comp=Z,5.4nm,0.8s						
PLCA	Paso Flores	58.38	184	P	P	13 18 53.6	+3.0
	comp=Z,2.0nm,1.0s,baz=9.4,slow=8.0,SNR=3.5						
BBB	Bella Bella	58.95	321	LR	LR	13 47 05.0	
	comp=Z,206nm,18.1s,baz=201,slow=39						
NEEM	North Greenlan	60.15	4	iP	P	13 19 02.6	-0.2
EKA	Eskdalemuir Ar	60.25	36	P	P	13 19 03.3	-0.1
	comp=Z,4.1nm,0.7s,baz=280,slow=5.0,SNR=5.7						
	comp=Z,4.1nm,0.7s						
DBIC	Dimbokro	60.74	92	P	P	13 19 06.4	-1.0
	comp=Z,2.0nm,0.5s,baz=269,slow=5.7,SNR=5.0						
	comp=Z,2.0nm,0.5s						
DBG	Daneborg	61.79	13	iP	P	13 19 12.6	-1.0
DBG				IAmb	IAmb	13 19 15.6	
	comp=Z,3.8nm,1.0s						
DAG	Danmarks Havn	63.65	11	iP	P	13 19 25.1	-0.9
DAG				IAmb	IAmb	13 19 27.9	
	comp=Z,7.9nm,1.2s						
A36M	Sachs Harbour	63.81	343	P	P	13 19 26.3	-0.7
INK	Inuvik	65.24	338	P	P	13 19 36.6	+0.1
INK				IAmb	IAmb	13 19 37.1	
	comp=Z,4.9nm,0.8s						
TORD	Torodi Ar. Bea	65.30	83	P	P	13 19 36.8	-1.0
TORD	Torodi Ar. Bea	65.30	83	P	P	13 19 37.1	-0.7
	comp=Z,1.6nm,0.4s,baz=290,slow=8.1,SNR=1.8						
	comp=Z,1.6nm,0.4s						
E29M	Blow River	66.85	338	IAmb	IAmb	13 19 54.4	
	comp=Z,4.5nm,0.9s						
E28M	Babbage River	67.48	338	IAmb	IAmb	13 19 51.1	
	comp=Z,3.2nm,0.8s						
DAVA	Damuels	67.75	46	epP	P	13 19 54.5	+1.3
	comp=Z,12nm,0.8s						
FUORN	Ofenpass-Fuorn	68.04	46	P	P	13 19 54.9	-0.2
KEST	Kesra	68.27	58	P	P	13 19 57.1	+0.5
	comp=Z,4.9nm,0.6s,baz=240,slow=10,SNR=2.2						
	comp=Z,4.9nm,0.6s						
RETA	Reutte	68.34	45	eP	P	13 19 57.9	+1.1
	comp=Z,7.0nm,0.7s						
FETA	Feichten	68.34	46	iP	P	13 19 57.9	+1.0
	comp=Z,8.0nm,0.6s						
NB2	NORSAR Subarra	68.50	31	P	P	13 19 58.7	+1.3
	comp=Z,11nm,1.0s,baz=268,slow=6.2						
NOA	NORSAR Array B	68.50	31	P	P	13 19 58.0	+0.6
	comp=Z,4.1nm,0.8s,baz=267,slow=6.3,SNR=11						
	comp=Z,4.1nm,0.8s						
I26K	Coal Creek Min	68.52	334	IAmb	IAmb	13 20 05.8	
	comp=Z,5.3nm,0.8s						
SQTA	Sankt Quirin	68.66	46	iP	P	13 19 59.9	+1.1
	comp=Z,9.9nm,0.6s						
WATA	Walderalm	68.90	45	iP	P	13 20 01.5	+1.1
	comp=Z,4.5nm,0.6s						
WTTA	Wattenberg	68.94	46	iP	P	13 20 01.1	+0.4
	comp=Z,10.0nm,1.2s						
C27K	Jago River	69.09	339	IAmb	IAmb	13 20 02.2	
	comp=Z,3.5nm,0.8s						
PRP	Porcupine Dome	69.52	334	P	P	13 20 04.2	+0.4
PRP				IAmb	IAmb	13 20 11.8	
	comp=Z,4.1nm,0.7s						
ABTA	Abfaltersbach	69.58	46	eP	P	13 20 05.1	+0.5
	comp=Z,3.1nm,0.8s						
CLL	Collm	69.60	41	eP	P	13 20 06.0	+1.6
LESA	Schwarzleotal	69.64	45	eP	P	13 20 05.5	+0.6
	comp=Z,4.5nm,0.8s						
E25K	Arctic Village	69.65	337	IAmb	IAmb	13 20 05.8	
	comp=Z,3.0nm,0.8s						
F25K	Christian Rive	69.65	336	IAmb	IAmb	13 20 06.6	
	comp=Z,4.5nm,0.8s						
HFS	Hagfors	69.71	32	P	P	13 20 05.7	+0.8
	comp=Z,3.1nm,0.8s,baz=250,slow=7.5,SNR=2.4						

comp=Z,531nm,18.3s,baz=334,slow=39
8.8nm,0.7s
HNR Honiara 15.11 115 LR LR 13 30 33.0
comp=Z,141nm,20.0s,baz=288,slow=32
GUMO Guam 16.68 356 LR LR 13 30 40.4
comp=Z,70nm,21.1s,baz=166,slow=30
WRA Warramunga Arr 20.25 214 P **P 13 27 07.0 -0.1**
3.4nm,0.9s,baz=36,slow=12,SNR=14
WRA LR LR 13 34 19.8
comp=Z,171nm,19.3s,baz=113,slow=35
3.4nm,0.9s
ASAR Alice Springs 23.55 209 P **P 13 27 41.7 -0.3**
1.1nm,0.7s,baz=39,slow=8.5,SNR=26
ASAR LR LR 13 35 39.4
comp=Z,149nm,21.8s,baz=140,slow=34
1.1nm,0.7s
FITZ Fitzroy Crossi 24.94 232 P **P 13 27 54.8 -0.1**
5.0nm,1.1s,baz=58,slow=9.5,SNR=3.5
5.0nm,1.1s
KAPI Kappang 26.34 265 LR LR 13 41 25.1
comp=Z,93nm,18.2s,baz=142,slow=43
STKA Stephens Creek 28.88 188 P **P 13 28 31.8 +1.6**
2.0nm,0.9s,baz=4.4,slow=13,SNR=1.6
2.0nm,0.9s
JOW Kunigami 34.43 331 LR LR 13 40 43.1
comp=Z,76nm,19.9s,baz=22,slow=32
JNU Nakatsue 38.85 339 LR LR 13 44 37.7
comp=Z,39nm,18.4s,baz=148,slow=34
KSRS Korea Array 43.79 339 LR LR 13 47 31.2
comp=Z,24nm,19.8s,baz=175,slow=34
URZ Urewera 44.98 145 LR LR 13 49 10.5
comp=Z,81nm,18.9s,baz=344,slow=36
CMAR Chiang Mai Arr 51.15 297 LR LR 13 56 13.2
comp=Z,18nm,18.3s,baz=95,slow=40
PALK Pallekele 66.07 279 LR LR 14 03 08.2
comp=Z,55nm,18.5s,baz=114,slow=37
MKAR Makanchi Array 74.75 320 P **P 13 34 10.8 -0.3**
0.4nm,0.9s,baz=101,slow=7.5,SNR=3.6
0.4nm,0.9s
AAK Ala-Archa 78.72 314 LR LR 14 09 35.9
comp=Z,69nm,20.0s,baz=322,slow=36
ILAR Eielson Array 83.25 23 P **P 13 34 57.9 +0.6**
0.1nm,0.8s,baz=245,slow=5.5,SNR=1.2
0.1nm,0.8s

*JMA **12** 14:27:28.0±0.1,24°.63N±0°.2×12°2E±°, h33km±1km, MV3.8/16, TAIWAN REGION*
*ASIES **12** 14:27:28.5,24°.63N×121°.69E, h8km, ML3.9, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=1.16; $M_{\theta\theta}$0.33; $M_{\phi\phi}$0.98; $M_{r\theta}$0.65; $M_{r\phi}$0.84; $M_{\theta\phi}$0.38; Fault plane solution: $M_0$1.57572×10^{21} NP1:ϕ_s17.88000°, δ33.73000°, λ-116.14000°. NP2:ϕ_s228.43000°, δ60.10000°, λ-73.61000°. Principal axes: T Plg13.6270°, Azm306.5760°; N Plg14.1600°, Azm40.0830°; P Plg70.1450°, Azm174.4070°;*
*TAP **12** 14:27:28.5,24°.63N×121°.69E, h8km, ML3.9, B*
ISC 12 14:27:28.6±0.8,24°.63N±0°.01×121°.70E±0°.01,h12km±4km, n159,σ0°.9°78/252,48C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.01**	**54**	⇓*i*P	**Pg**	**14 27 30.4**	**-0.2**
NDS				*i* S	**Sg**	**14 27 31.5**	**-0.6**
TWE	**Neicheng**	**0.10**	**342**	⇓*i*P	**Pg**	**14 27 31.2**	**-0.2**
TWE				*i* S	**Sg**	**14 27 33.0**	**-0.5**
ENTT	**Nioudou**	**0.12**	**277**	⇑*i*P	**Pg**	**14 27 31.6**	**-0.1**
ENTT				*i* S	**Sg**	**14 27 33.3**	**-0.7**
TWC	**Suao**	**0.13**	**97**	⇑*i*P	**Pg**	**14 27 32.0**	**+0.2**
TWC				*i* S	**Sg**	**14 27 35.4**	**+1.2**
ESAO	**Su ao**	**0.14**	**111**	⇑*i*P	**Pg**	**14 27 31.8**	**-0.1**
ESAO				*e*S	**Sg**	**14 27 35.4**	**+1.2**
ILA	**Ilan**	**0.15**	**17**	⇓*i*P	**Pg**	**14 27 32.3**	**+0.2**
ILA				*i* S	**Sg**	**14 27 35.0**	**+0.5**
FUSB	**Fushanzhiwuyua**	**0.17**	**322**	⇑*i*P	**Pg**	**14 27 32.5**	**+0.1**
FUSB				*i* S	**Sg**	**14 27 34.8**	**-0.4**
LATG	**Datong**	**0.18**	**241**	⇑*i*P	**Pg**	**14 27 32.8**	**+0.1**
LATG				*i* S	**Sg**	**14 27 35.6**	**0.0**
EWUT	**Wuta**	**0.19**	**159**	⇑P	**Pg**	**14 27 32.9**	**+0.1**
EWUT				*e*S	**Sg**	**14 27 35.9**	**+0.2**
ENA	**Nanau**	**0.20**	**170**	⇑*i*P	**Pg**	**14 27 33.2**	**+0.3**
ENA				*e*S	**Sg**	**14 27 36.4**	**+0.6**
NWLT	**Wulai**	**0.24**	**310**	⇑*i*P	**Pg**	**14 27 33.7**	**+0.1**
NWLT				S	**Sg**	**14 27 36.6**	**-0.3**
NTC	**Toucheng**	**0.26**	**27**	*e*P	**Pg**	**14 27 34.1**	**+0.2**
NTC				S	**Sb**	**14 27 38.8**	**-0.8**
EAHA	**Aohua**	**0.30**	**173**	⇑*i*P	**Pg**	**14 27 34.8**	**+0.2**
EAHA				*e*S	**Sg**	**14 27 39.2**	**+0.5**
YHNB	**Yeheng**	**0.30**	**279**	P	**Pg**	**14 27 34.9**	**+0.1**
YHNB	**Yeheng**	**0.30**	**279**	S	**Sg**	**14 27 38.6**	**-0.3**
YHNB	**Yeheng**	**0.30**	**279**	⇑*i*P	**Pg**	**14 27 34.9**	**+0.1**
YHNB				S	**Sg**	**14 27 38.5**	**-0.4**
EHP	**Heping Village**	**0.32**	**174**	*e*P	**Pb**	**14 27 35.6**	**-0.6**
EHP				*e*S	**Sg**	**14 27 39.8**	**+0.5**
NSK	**Sanguang**	**0.32**	**279**	⇑*i*P	**Pg**	**14 27 35.1**	**0.0**
NSK				S	**Sg**	**14 27 39.0**	**-0.4**
NNSB	**Datong**	**0.35**	**236**	⇑*i*P	**Pg**	**14 27 35.5**	**-0.2**
NNSB				*e*S	**Sg**	**14 27 39.5**	**-0.9**
NNS	**Nan Shan**	**0.35**	**239**	⇑*i*P	**Pg**	**14 27 35.5**	**-0.2**
NNS				*e*S	**Sg**	**14 27 40.7**	**+0.3**
TIPB	**Shuangxi**	**0.36**	**18**	⇑*i*P	**Pg**	**14 27 36.0**	**+0.1**
TIPB				S	**Sg**	**14 27 40.7**	**-0.1**
TATO	**Taipei**	**0.40**	**331**	P	**Pg**	**14 27 36.9**	**+0.3**
TATO	**Taipei**	**0.40**	**331**	P	**Pn**	**14 27 42.3**	**+2.0**
NHY	**Taipei**	**0.43**	**344**	⇑*e*P	**Pb**	**14 27 37.8**	**-0.4**
NHY				S	**Sb**	**14 27 44.0**	**-0.7**
NWF	**Wu-fen Shan**	**0.45**	**9**	⇑*i*P	**Pg**	**14 27 37.9**	**+0.4**
NWF				*i* S	**Sg**	**14 27 43.7**	**+0.1**
TAP	**Taipei**	**0.45**	**337**	⇑*i*P	**Pb**	**14 27 38.2**	**-0.3**
TAP				*i* S	**Sb**	**14 27 44.3**	**-0.9**
WFSB	**Wu-fen Shan**	**0.45**	**9**	⇑*i*P	**Pb**	**14 27 38.0**	**-0.6**
WFSB				S	**Sg**	**14 27 43.6**	**+0.1**
NACB	**Ninganchiao**	**0.46**	**192**	P	**Pg**	**14 27 37.6**	**-0.1**
NACB	**Ninganchiao**	**0.46**	**192**	⇑*i*P	**Pg**	**14 27 37.6**	**-0.1**
NACB				S	**Sg**	**14 27 44.1**	**+0.4**
ETLH	**Xiulin Townshi**	**0.46**	**206**	⇑*i*P	**Pg**	**14 27 37.7**	**0.0**
ETLH				S	**Sg**	**14 27 43.6**	**-0.3**
TWB1	**Santiao Chiao**	**0.46**	**34**	⇑P	**Pg**	**14 27 37.6**	**-0.1**
TWB1				*i* S	**Sg**	**14 27 43.5**	**-0.4**
ETL	**Fush Village**	**0.47**	**189**	*e*P	**Pg**	**14 27 37.9**	**+0.1**
ETL				*e*S	**Sg**	**14 27 44.3**	**+0.2**
SXI1	**Grass Mountain**	**0.49**	**19**	⇑*i*P	**Pg**	**14 27 38.6**	**+0.3**
SXI1				*e*S	**Sg**	**14 27 44.4**	**-0.5**
KSHI	**Guanxi Townshi**	**0.50**	**288**	⇑*i*P	**Pb**	**14 27 39.5**	**0.0**
KSHI				*e*S	**Sb**	**14 27 45.8**	**-1.0**
EOS2	**EOS2**	**0.52**	**113**	⇑*e*P	**Pb**	**14 27 39.6**	**-0.1**
NFF	**Wufeng Townshi**	**0.53**	**271**	⇑*i*P	**Pb**	**14 27 39.3**	**-0.7**
NFF				*e*S	**Sg**	**14 27 45.9**	**-0.2**
YM01	**YM01**	**0.53**	**347**	⇑*i*P	**Pb**	**14 27 39.8**	**-0.2**
YM01				*e*S	**Sg**	**14 27 46.1**	**-0.1**
TWS1	**Kuangyinshan**	**0.54**	**331**	⇑*i*P	**Pg**	**14 27 39.4**	**+0.2**
TWS1				*i* S	**Sg**	**14 27 46.7**	**+0.3**
TWD	**Chiawan**	**0.55**	**190**	⇑*i*P	**Pg**	**14 27 39.3**	**-0.1**
TWD				S	**Sg**	**14 27 47.2**	**+0.6**
ZUZH	**Zhuzihu**	**0.55**	**345**	⇑*i*P	**Pb**	**14 27 40.1**	**-0.2**
ZUZH				*e*S	**Sg**	**14 27 47.1**	**+0.3**
FUSS	**Fushou**	**0.56**	**228**	⇑*i*P	**Pg**	**14 27 39.4**	**-0.2**
FUSS				*e*S	**Sg**	**14 27 47.3**	**+0.2**
YM08	**YM08**	**0.57**	**350**	⇑*i*P	**Pb**	**14 27 40.1**	**-0.5**
YM08				*e*S	**Sb**	**14 27 48.4**	**-0.3**
NCUH	**Zhongli**	**0.58**	**306**	⇑*i*P	**Pb**	**14 27 41.4**	**+0.7**
NCUH				*i* S	**Sb**	**14 27 50.0**	**+1.0**
ANP	**Anpu**	**0.58**	**344**	⇑*i*P	**Pb**	**14 27 40.5**	**-0.4**
TDCB	**Techi**	**0.62**	**233**	⇑*i*P	**Pg**	**14 27 40.3**	**-0.3**
TDCB				*e*S	**Sb**	**14 27 49.6**	**-0.6**
WHF	**Hehuan Shan**	**0.62**	**220**	⇓*i*P	**Pg**	**14 27 40.5**	**-0.3**
WHF				S	**Sb**	**14 27 49.8**	**-0.8**
LIOB	**Emei**	**0.62**	**272**	⇑*i*P	**Pb**	**14 27 41.5**	**0.0**
NSTT	**Nanjuang**	**0.64**	**271**	⇑*i*P	**Pb**	**14 27 41.6**	**-0.2**
NSTT				*e*S	**Sb**	**14 27 49.7**	**-0.9**
HWA	**Hwalien**	**0.65**	**188**	*e*P	**Pb**	**14 27 41.9**	**0.0**
HWA				*i* S	**Sb**	**14 27 51.0**	**0.0**
EOS3	**EOS3**	**0.65**	**121**	⇑*i*P	**Pb**	**14 27 42.1**	**+0.2**
TWY	**Chenhua**	**0.66**	**352**	P	**Pg**	**14 27 40.9**	**-0.4**
LXIB	**Xiulin Townshi**	**0.66**	**204**	⇑*i*P	**Pg**	**14 27 41.1**	**-0.3**
LXIB				*e*S	**Sb**	**14 27 50.8**	**-0.5**
SBCB	**Hsinchu**	**0.67**	**285**	⇑*e*P	**Pn**	**14 27 43.3**	**-0.8**
SBCB				*e*S	**Sb**	**14 27 52.5**	**+0.9**
ETM	**Tongmen**	**0.68**	**196**	*e*P	**Pg**	**14 27 41.7**	**-0.2**
ETM				*e*S	**Sg**	**14 27 50.9**	**0.0**
HSN	**Hsinchu**	**0.69**	**285**	⇑P	**Pb**	**14 27 43.0**	**+0.4**
HSN				*e*S	**Sb**	**14 27 52.4**	**+0.3**
EOS4	**EOS4**	**0.75**	**132**	*e*P	**Pb**	**14 27 43.5**	**0.0**
TEYL	**Yanliau Villag**	**0.76**	**187**	*e*P	**Pg**	**14 27 41.1**	**-2.1**
WHP	**Taichung City**	**0.77**	**244**	⇑*i*P	**Pb**	**14 27 43.7**	**-0.3**
WHP				*e*S	**Sg**	**14 27 52.8**	**-0.9**
OWD	**Renai**	**0.82**	**216**	P	**Pg**	**14 27 43.9**	**-0.7**
OWD				S	**Sb**	**14 27 55.8**	**-0.3**
WUSB	**Renai**	**0.82**	**220**	⇑*i*P	**Pg**	**14 27 44.0**	**-0.6**
WUSB				*e*S	**Sb**	**14 27 55.9**	**-0.3**
NMLH	**Miaoli**	**0.83**	**264**	*e*P	**Pn**	**14 27 46.1**	**-0.2**
SHUL	**Shoufeng**	**0.84**	**189**	*e*P	**Pb**	**14 27 45.5**	**+0.3**
SHUL				*e*S	**Sb**	**14 27 56.8**	**+0.2**
ESL	**Shilin**	**0.84**	**197**	⇑P	**Pg**	**14 27 44.5**	**-0.4**
ESL				*e*S	**Sg**	**14 27 56.0**	**0.0**
TWQ1	**Liyutan**	**0.89**	**252**	⇑*i*P	**Pb**	**14 27 46.6**	**+0.5**
TWQ1				*e*S	**Sb**	**14 27 57.7**	**-0.2**
WCS	**Beigang Elemen**	**0.92**	**232**	⇑P	**Pg**	**14 27 46.0**	**-0.3**
TEGC	**Jichi Village**	**0.92**	**189**	*e*P	**Pn**	**14 27 48.0**	**+0.5**
WARBT	**Fenglin Townsh**	**0.95**	**198**	⇑*i*P	**Pg**	**14 27 46.3**	**-0.6**
WARBT				*e*S	**Sg**	**14 27 58.7**	**-0.6**
EGFH	**Guangfu**	**0.98**	**195**	*e*P	**Pg**	**14 27 47.2**	**-0.3**
EGFH				*e*S	**Sg**	**14 27 59.9**	**-0.5**
WDJ	**Dajia District**	**1.01**	**254**	*e*P	**Pn**	**14 27 49.6**	**+1.1**
WDJ				*e*S	**Sn**	**14 28 02.6**	**-0.1**
VWDT	**VWDT**	**1.01**	**211**	⇑*i*P	**Pg**	**14 27 47.4**	**-0.6**
VWDT				*e*S	**Sg**	**14 28 00.6**	**-0.5**
SMLT	**Sun Moon Lake**	**1.04**	**225**	*e*P	**Pg**	**14 27 47.4**	**-1.3**
SMLT				*e*S	**Sg**	**14 28 00.9**	**-1.3**
TCU	**Taichung**	**1.05**	**243**	*e*P	**Pn**	**14 27 51.2**	**+2.0**
TCU				*e*S	**Sn**	**14 28 04.0**	**+0.2**
TYC	**Yuchr**	**1.05**	**227**	⇓P	**Pg**	**14 27 48.5**	**-0.4**
PCYT	**Pengchaiyu**	**1.05**	**18**	⇑P	**Pg**	**14 27 48.7**	**-0.2**
PCYT				*e*S	**Sb**	**14 28 03.1**	**+0.5**
SSLB	**Suanglung**	**1.08**	**219**	P	**Pg**	**14 27 48.9**	**-0.5**
SSLB	**Suanglung**	**1.08**	**219**	*e*P	**Pg**	**14 27 48.4**	**-1.0**
SSLB				*e*S	**Sg**	**14 28 02.8**	**-0.6**
JYNG	**Yonagunijimaku**	**1.15**	**98**	*i* P	**Pg**	**14 27 50.3**	**-0.4**
JYNG				S	**Sg**	**14 28 05.5**	**0.0**
HGSD	**Ruisui**	**1.16**	**193**	*e*P	**Pn**	**14 27 50.8**	**+0.2**
EHY	**Hungye**	**1.17**	**197**	*e*P	**Pg**	**14 27 50.4**	**-0.6**
EHY				*e*S	**Sg**	**14 28 05.0**	**-1.2**
EHYH	**Wanrong**	**1.17**	**196**	*e*P	**Pb**	**14 27 50.6**	**-0.2**
EHYH				*e*S	**Sn**	**14 28 06.8**	**0.0**
WCHH	**Zhanghua**	**1.18**	**243**	P	**Pn**	**14 27 52.8**	**+1.9**
WCHH				*e*S	**Sn**	**14 28 08.7**	**+1.8**
WNT	**Mingjian**	**1.19**	**232**	*e*P	**Pn**	**14 27 52.6**	**+1.5**
WNT				S	**Sn**	**14 28 09.8**	**+2.5**
WJS	**Zhushan**	**1.20**	**228**	*e*P	**Pn**	**14 27 52.9**	**+1.7**
WJS				*e*S	**Sn**	**14 28 09.4**	**+2.0**
YOJ	**Yonaguni jima**	**1.20**	**97**	P	**Pb**	**14 27 51.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.20**	**97**	P	**Pb**	**14 27 51.2**	**-0.1**
YOJ				*e*S	**Sb**	**14 28 07.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.20**	**97**	P	**Pb**	**14 27 51.0**	**-0.4**
YOJ				S	**Sb**	**14 28 07.1**	**+0.2**
WHYT	**Xinyi Township**	**1.21**	**220**	*e*P	**Pn**	**14 27 51.6**	**+0.2**
YULB	**Yu-li**	**1.28**	**197**	P	**Pn**	**14 27 52.6**	**+0.2**
YULB	**Yu-li**	**1.28**	**197**	*e*P	**Pn**	**14 27 52.3**	**-0.1**
YULB				*e*S	**Sb**	**14 28 09.3**	**+0.2**
EYUL	**Yuli**	**1.32**	**195**	*e*P	**Pn**	**14 27 52.9**	**0.0**
TWF1	**Yuli**	**1.32**	**196**	*e*P	**Pn**	**14 27 53.3**	**+0.4**
TWF1				*e*S	**Sb**	**14 28 10.3**	**0.0**
YUS	**Yu-Shan**	**1.32**	**211**	*e*P	**Pn**	**14 27 51.5**	**-1.9**
YUS				*e*S	**Sn**	**14 28 11.6**	**+0.4**
ECBN	**Changbin**	**1.32**	**190**	*e*P	**Pn**	**14 27 52.4**	**-0.5**
ALS	**Alishan**	**1.38**	**217**	*e*P	**Pg**	**14 27 54.8**	**-0.4**
ALS				*e*S	**Sb**	**14 28 12.3**	**+0.1**
CHN5	**Tsauling**	**1.39**	**223**	*e*P	**Pg**	**14 27 56.0**	**+0.8**
CHN5				*i* S	**Sg**	**14 28 15.3**	**+2.0**
WDL	**Douliou City**	**1.40**	**230**	*e*P	**Pg**	**14 27 55.8**	**+0.4**
WGK	**Gukeng**	**1.40**	**228**	*e*P	**Pg**	**14 27 55.8**	**+0.3**
WGK				*e*S	**Sg**	**14 28 15.6**	**+1.9**
WDLH	**Douliu**	**1.41**	**229**	*e*P	**Pg**	**14 27 56.5**	**+0.7**
WDLH				*e*S	**Sg**	**14 28 16.4**	**+2.2**
CHKH	**Chenggong**	**1.45**	**191**	*e*P	**Pn**	**14 27 54.8**	**0.0**
FULB	**Fuli**	**1.47**	**195**	*e*P	**Pb**	**14 27 56.1**	**+0.2**
WTK	**Tuku**	**1.52**	**232**	*e*P	**Pg**	**14 27 57.4**	**-0.4**
WTK				*e*S	**Sg**	**14 28 19.2**	**+1.6**
EHD	**Haiduan**	**1.54**	**197**	P	**Pb**	**14 27 56.7**	**-0.4**
EHD				*e*S	**Sb**	**14 28 17.1**	**+0.5**
CHKT	**Chengkung**	**1.55**	**192**	*e*P	**Pn**	**14 27 56.5**	**+0.4**
WCKO	**Fanlu**	**1.55**	**221**	*e*P	**Pg**	**14 27 58.4**	**+0.1**
WCKO				*i* S	**Sg**	**14 28 20.1**	**+1.6**
ELDTW	**Lidau**	**1.56**	**204**	*e*P	**Pb**	**14 27 57.2**	**-0.4**
ELDTW				*e*S	**Sn**	**14 28 16.9**	**+0.3**
ECS	**Chishang**	**1.58**	**196**	*e*P	**Pg**	**14 27 58.8**	**-0.3**
CHY	**Chiayi**	**1.62**	**226**	*e*P	**Pg**	**14 27 59.5**	**-0.2**
CHN4	**Tsaushan**	**1.62**	**219**	*e*P	**Pg**	**14 28 00.1**	**+0.3**
CHN4				*e*S	**Sg**	**14 28 21.7**	**+0.9**
TPUB	**Ta-pu**	**1.64**	**217**	P	**Pg**	**14 27 59.9**	**-0.3**
TPUB	**Ta-pu**	**1.64**	**217**	*e*P	**Pg**	**14 27 59.7**	**-0.5**
TPUB				*e*S	**Sg**	**14 28 21.0**	**-0.5**
WSF	**Szhu**	**1.67**	**234**	*e*P	**Pb**	**14 27 59.6**	**+0.2**
WSF				S	**Sg**	**14 28 22.5**	**+0.1**
STYH	**Taoyuan**	**1.68**	**211**	*e*P	**Pg**	**14 28 00.3**	**-0.5**
STYH				*e*S	**Sg**	**14 28 23.3**	**+0.7**
EDH	**Donghe**	**1.69**	**193**	*e*P	**Pb**	**14 27 59.1**	**-0.5**
WTP	**Ta-pu**	**1.70**	**216**	*i* P	**Pg**	**14 28 01.0**	**-0.1**
WTP				*e*S	**Sg**	**14 28 24.2**	**+1.0**
WSL	**Shuilin Townsh**	**1.74**	**231**	*e*P	**Pb**	**14 28 00.4**	**-0.1**
WSL				*e*S	**Sg**	**14 28 24.7**	**+0.2**
SNST	**Tainan City**	**1.78**	**218**	*e*P	**Pg**	**14 28 02.5**	**-0.3**
LONT	**Longtian**	**1.79**	**197**	*e*P	**Pn**	**14 27 58.7**	**-0.7**
CHN1	**Nanshi**	**1.79**	**217**	*e*P	**Pg**	**14 28 02.8**	**-0.2**
CHN1				S	**Sg**	**14 28 26.9**	**+0.7**
ICHU	**Yijhu**	**1.81**	**226**	*e*P	**Pg**	**14 28 02.5**	**-0.8**
ICHU				S	**Sg**	**14 28 26.3**	**-0.6**
SGST	**Jiashian**	**1.85**	**214**	*e*P	**Pb**	**14 28 01.9**	**-0.4**
SGST				*i* S	**Sg**	**14 28 28.8**	**+0.8**
IRIF	**Iriomote-Funau**	**1.87**	**98**	P	**Pn**	**14 28 00.1**	**-0.4**
IRIF				*e*S	**Sn**	**14 28 23.9**	**-0.2**
TWG	**Pinlang**	**1.89**	**198**	*e*P	**Pn**	**14 28 00.2**	**-0.5**
TWGBT	**Beinan**	**1.89**	**198**	P	**Pb**	**14 28 03.2**	**+0.2**
TWGBT	**Beinan**	**1.89**	**198**	*e*P	**Pn**	**14 28 00.1**	**-0.6**
LDUT	**Ludao**	**1.95**	**186**	*e*P	**Pn**	**14 28 01.1**	**-0.6**
CHN3	**Shinhua**	**1.97**	**219**	*e*P	**Pb**	**14 28 05.3**	**+0.9**
SHHT	**Tainan City**	**2.02**	**218**	*e*P	**Pg**	**14 28 06.5**	**-0.9**
SCST	**Cishan**	**2.06**	**213**	*e*P	**Pb**	**14 28 06.7**	**+0.8**
VWUC	**VWUC**	**2.08**	**281**	*e*P	**Pn**	**14 28 02.8**	**-0.5**
TSCK	**Chigu Township**	**2.09**	**225**	*e*P	**Pb**	**14 28 06.9**	**+0.5**
TSCK				*e*S	**Sg**	**14 28 35.1**	**-0.6**
ECL	**Taimali**	**2.13**	**199**	*e*P	**Pn**	**14 28 04.8**	**+0.7**
JKRS	**Kuro-shima**	**2.14**	**100**	P	**Pn**	**14 28 04.8**	**+0.6**
JKRS				*e*S	**Sn**	**14 28 30.2**	**-0.5**
TSMG	**Majia**	**2.14**	**207**	*e*P	**Pb**	**14 28 06.5**	**-0.9**
TSMG				*e*S	**Sg**	**14 28 35.9**	**-1.6**
TWM1	**Shoushan**	**2.14**	**213**	*e*P	**Pb**	**14 28 06.7**	**-0.8**
MATB	**Ma-tsu**	**2.20**	**314**	*e*P	**Pn**	**14 28 03.8**	**-1.2**
PNG	**Penghu**	**2.23**	**242**	*e*P	**Pn**	**14 28 05.7**	**+0.3**
MASBT	**Mashibuluo**	**2.23**	**206**	*e*P	**Pb**	**14 28 07.4**	**-1.5**
JIJ	**Ishigaki jima**	**2.24**	**96**	P	**Pn**	**14 28 05.7**	**+0.1**
JIJ				*e*S	**Sn**	**14 28 31.4**	**-1.8**
PHUB	**P'eng-hu**	**2.24**	**241**	*e*P	**Pn**	**14 28 05.9**	**+0.3**
WDGT	**Dungji**	**2.31**	**234**	*e*P	**Pn**	**14 28 07.6**	**+1.0**
WDGT				*e*S	**Sb**	**14 28 37.2**	**-1.5**
JISG	**Ishigakijimahi**	**2.38**	**90**	P	**Pn**	**14 28 07.4**	**0.0**
PTMZ	**Houxiangcun**	**2.38**	**281**	*e*P	**Pn**	**14 28 06.7**	**-0.8**
TAWH	**Dawu Township**	**2.39**	**198**	*e*P	**Pn**	**14 28 09.7**	**+2.0**
SCZT	**Fangliau**	**2.45**	**204**	*e*P	**Pb**	**14 28 11.8**	**-0.9**
VCHM	**Qimei**	**2.51**	**236**	*e*P	**Pn**	**14 28 10.9**	**+1.6**
SLIU	**Shizi**	**2.54**	**199**	*e*P	**Pb**	**14 28 12.4**	**-1.7**
LAY	**Lan-yu**	**2.58**	**183**	*e*P	**Pn**	**14 28 09.8**	**-0.5**
LYUB	**Lan-yu**	**2.61**	**182**	*e*P	**Pn**	**14 28 09.1**	**-1.6**
XPSS	**Dashiqiu**	**2.67**	**330**	*e*P	**Pn**	**14 28 10.0**	**-1.5**
JTJ	**Tarama**	**2.73**	**89**	*e*P	**Pn**	**14 28 13.4**	**+1.1**
TWKBT	**Hengchun**	**2.79**	**197**	*e*P	**Pn**	**14 28 13.3**	**+0.1**
KNM	**Kinmen**	**2.98**	**267**	*e*P	**Pn**	**14 28 17.3**	**+1.5**
KNMB	**Chin-men Tao**	**3.02**	**268**	*e*P	**Pn**	**14 28 15.8**	**-0.6**
JIRB	**Irabujima**	**3.16**	**86**	*e*P	**Pn**	**14 28 19.5**	**+1.2**
JIKM	**Ikemajima**	**3.24**	**84**	*e*P	**Pn**	**14 28 20.9**	**+1.6**
JMJ	**Miyako jima 2**	**3.27**	**86**	P	**Pn**	**14 28 22.2**	**+2.4**
JMJ2	**Miyako jima3**	**3.30**	**87**	*e*P	**Pn**	**14 28 21.6**	**+1.5**
AXDP	**Jialang**	**3.40**	**275**	*e*P	**Pn**	**14 28 21.2**	**-0.4**
ZPLA	**Ao Xicun**	**3.67**	**260**	*e*P	**Pn**	**14 28 25.1**	**-0.1**

*IDC **12** 15:00:29.0±3.3,57°.21N×158°.26W, h104km±30km, mb3.1/3, mbtmp3.5/6, Error ellipse: s-maj=34.2km s-min=22.8km az=13.0*

*NEIC **12** 15:00:29.9±0.8,56°.85N±0°.04×158°.09W±0°.09, h135km±6km, Error ellipse: s-maj=7.5km s-min=4.9km az=106.0*
*AEIC **12** 15:00:31.4±0.9,56°.87N±0°.04×158°.13W±0°.09, h125km±6km, ML3.2, ML3.1/66(NEIC), Error ellipse: s-maj=7.9km s-min=5.0km az=130.0*
ISC 12 15:00:30.1±0.9,56°.86N±0°.05×158°.08W±0°.04, h134km±7km,n138,σ1°.03/139,mb3.2/3,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAC	**Aniakchak**	**0.09**	**292**		**Pn**	**15 00 47.8**	**-0.5**
ANPB	**Aniakchak Plen**	**0.12**	**242**		**Pn**	**15 00 47.9**	**-0.4**
CHGN	**Chignik**	**0.59**	**198**		**Pn**	**15 00 49.9**	**-0.2**
CHGN				Sn	**Sn**	**15 01 04.3**	**-0.9**
R16K	**Pilot Point**	**0.76**	**21**	Pn	**Pn**	**15 00 50.9**	**-0.3**
R16K				IAML		15 01 07.7	
	comp=N,436nm,0.5s						
R16K	**Pilot Point**	**0.76**	**21**		**Sn**	**15 01 07.5**	**+0.2**
VNHG	**Veniaminof 1**	**0.88**	**224**		**Pn**	**15 00 52.4**	**0.0**
VNSG	**Veniaminof 6**	**0.93**	**217**		**Pn**	**15 00 52.4**	**-0.3**
VNSG					**Sn**	**15 01 08.9**	**-1.0**
VNFG	**Fog Glacier, M**	**1.00**	**235**		**Pn**	**15 00 53.3**	**-0.1**
VNFG					**Sn**	**15 01 11.3**	**+0.2**
PLBL	**Peulik Blue Cr**	**1.08**	**39**		**Pn**	**15 00 54.3**	**+0.2**
VNKR	**Veniaminof 5**	**1.10**	**221**		**Pn**	**15 00 54.1**	**-0.1**
PLK1	**Peulik 1**	**1.23**	**40**		**Pn**	**15 00 55.8**	**+0.2**
PLK1					**Sn**	**15 01 14.9**	**0.0**
CHIR	**Chirikof Islan**	**1.72**	**126**	Pn	**Pn**	**15 01 00.2**	**-0.7**
CHIR				IAML		15 01 25.3	
	comp=E,207nm,0.6s						
CHIR				IAML		15 01 25.7	
	comp=N,133nm,0.7s						
CHIR	**Chirikof Islan**	**1.72**	**126**		**Sn**	**15 01 24.5**	**+0.1**
CHIR	**Chirikof Islan**	**1.72**	**126**	P	**Pn**	**15 01 00.3**	**-0.6**
CHIR	**Chirikof Islan**	**1.72**	**126**	S	**Sn**	**15 01 24.5**	**+0.1**
ANCK	**Angle Creek**	**1.94**	**45**		**Pn**	**15 01 03.9**	**+0.4**
ANCK					**Sn**	**15 01 28.8**	**-0.3**
Q16K	**King Salmon**	**1.97**	**22**		**Pn**	**15 01 04.2**	**+0.3**
ACHA	**Angle Creek He**	**2.01**	**47**		**Pn**	**15 01 04.9**	**+0.5**
SDPT	**Sand Point**	**2.02**	**223**		**Pn**	**15 01 04.2**	**-0.3**
SDPT				IAML		15 01 30.8	
	comp=E,180nm,0.8s						
SDPT	**Sand Point**	**2.02**	**223**	P	**Pn**	**15 01 04.1**	**-0.4**
SDPT	**Sand Point**	**2.02**	**223**	S	**Sn**	**15 01 29.4**	**-1.5**
R18K	**Karluk**	**2.10**	**69**

AKBBA	Akutan Broad B	5.25	241		Pn	15 01 47.1	+0.6
LVA	Lava Point	5.27	242	Pn	Pn	15 01 46.7	-0.1
AKMO	Akutan Morgan	5.30	242		Pn	15 01 47.5	+0.3
SLKM	Skilak Lake	5.49	45	Pn	Pn	15 01 49.5	-0.3
SEW	Seward	5.57	51	Pn	Pn	15 01 50.5	-0.3
L19K	White Mountain	5.58	16		Pn	15 01 50.9	-0.1
M20K	Styx River	5.63	25		Pn	15 01 52.6	+1.0
O22K	Cooper Landing	5.67	47	Pn	Pn	15 01 51.8	-0.3
UNV	Unalaska Valle	5.68	241		Pn	15 01 51.4	-0.8
MSW	Makushin Switc	5.77	243		Pn	15 01 53.0	-0.6
MGOD	Makushin Gods	5.88	242		Pn	15 01 54.6	-0.4
MAPS	Pakushin South	5.91	243		Pn	15 01 54.8	-0.5
SUA	Susitna One	5.96	36		Pn	15 01 55.6	-0.4
RC01	Rabbit Creek A	6.05	42		Pn	15 01 56.2	-1.0
K13K	Kusilvak Mount	6.09	329		Pn	15 01 57.1	-0.7
SKT	Skwentna	6.12	30		Pn	15 01 58.3	+0.2
PWL	Port Wells	6.45	48		Pn	15 02 01.1	-1.4
PMR	Palmer	6.60	40	P	Pn	15 02 02.7	-1.8
KNK	Knik Glacier	6.73	43		Pn	15 02 04.3	-2.0
PPLA	Purkeypile	6.74	24		Pn	15 02 07.7	+1.2
GHO	Glory Hole Cre	6.79	40		Pn	15 02 05.1	-2.1
GLI	Glacier Island	6.97	50		Pn	15 02 07.5	-2.1
HIN	Hinchinbrook I	7.00	55		Pn	15 02 09.2	-0.8
SML	Sawmill	7.03	41		Pn	15 02 08.1	-2.2
M23K	Glacier View	7.24	43		Pn	15 02 10.8	-2.4
EYAK	Cordova Ski Ar	7.41	55		Pn	15 02 14.4	-1.0
EYAK	Cordova Ski Ar	7.41	55	P	Pn	15 02 14.3	-1.0
DIV	Divide	7.66	51		Pn	15 02 17.8	-1.1
TRF	Thorofare Moun	7.66	27		Pn	15 02 17.7	-1.3
KLU	Klutina	7.78	48		Pn	15 02 19.1	-1.4
KAIM	Kayak Island	7.80	61		Pn	15 02 20.8	0.0
RAGM	Ragged Mountai	7.83	58		Pn	15 02 20.8	-0.4
GOAT	Goat Mountain	7.88	56		Pn	15 02 21.2	-0.6
HMT	Hamilton	8.01	58		Pn	15 02 23.1	-0.5
RND	Reindeer	8.01	31		Pn	15 02 21.5	-2.0
M24K	Tolsona, Glenn	8.02	44		Pn	15 02 22.1	-1.5
BMRM	Bremner River	8.09	54		Pn	15 02 23.5	-1.1
NICHA	Nichawak Mount	8.12	60		Pn	15 02 24.5	-0.4
BERG	Berg Lake	8.29	59		Pn	15 02 26.6	-0.6
N25K	Chitina, Valde	8.38	50		Pn	15 02 27.6	-1.0
HARP	HAARP	8.57	44		Pn	15 02 29.7	-1.4
SNH	Sunshine Point	8.64	61		Pn	15 02 32.0	0.0
GLB	Gilahina Butte	8.64	52		Pn	15 02 31.1	-1.0
I21K	Tanana	8.85	17		Pn	15 02 35.0	+0.3
BARK	Barkley Ridge	8.87	60		Pn	15 02 35.1	0.0
H21K	Melozitna Rive	9.18	14		Pn	15 02 39.6	+0.4
K24K	Donnelly Dome	9.24	36		Pn	15 02 38.9	-1.1
CCB	Clear Creek Bu	9.28	28		Pn	15 02 37.1	-3.3
I23K	Minto, Yukon-K	9.32	23		Pn	15 02 38.4	-2.6
HDA	Harding Lake	9.32	31		Pn	15 02 37.9	-3.2
RKAV	Rock Avalanche	9.39	62		Pn	15 02 42.5	+0.3
ILAR	Eielson Array	9.62	30	P	Pn	15 02 41.2	-3.8
	comp=N,0.7nm,0.3s,baz=218,slow=14,SNR=24						
ILAR				S	Sn	15 04 21.8	-9.4
	comp=N,1.3nm,0.9s,baz=217,slow=22,SNR=8.3						
PNL	Peninsula	10.23	66	P	Pn	15 02 54.0	+0.7
INK	Inuvik	15.95	34	P	Pn	15 04 05.6	-1.0
	comp=N,1.0nm,0.3s,baz=230,slow=14,SNR=8.0						
YKA	Yellowknife Ar	22.30	57	P	P	15 05 17.2	+1.0
	comp=N,0.7nm,0.7s,baz=279,slow=11,SNR=9.3						
	comp=N,0.7nm,0.7s						
PETK	Petropavlovsk-	25.31	280	P	P	15 05 43.4	-0.6
	comp=N,0.9nm,0.7s,baz=64,slow=12,SNR=1.0						
	comp=N,0.9nm,0.7s						
TXAR	Lajitas Array	46.66	102	P	P	15 08 47.5	+2.4
	comp=N,0.3nm,0.6s,baz=311,slow=10.0,SNR=4.2						
	comp=N,0.3nm,0.6s						

FUNV ***12*** *15:10:22.5, 10°.79N×62°.10W, h99km, MW3.8*
TRN ***12*** *15:10:24.5, 10°.84N×62°.24W, h89km, MD3.3, North of the Paria peninsula.*

ISC 12 15:10:22.2±1.7, 10°.80N±0°.06×62°.31W±0°.06, h104km±19km, n18, σ1°36/31, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	Kent House, Po	0.78	99	eP	Pn	15 10 41.2	+0.5
PSKH				eS	Sn	15 10 53.5	-1.2
TRN	Trinidad (W)	0.90	100	eP	Pn	15 10 42.9	+1.0
TRN				eS	Sn	15 10 55.2	-1.5
TBH	Brigand Hill	1.26	104	eP	Pn	15 10 47.8	+2.0
GRFF	Grenada Fort F	1.36	24	eP	Pn	15 10 47.5	+0.5
GRFF				eS	Sn	15 11 04.3	-1.5
GRGR	Grenville	1.47	26	eP	Pn	15 10 48.5	+0.1
GRGR				eS	Sn	15 11 07.2	-1.0
GRW	Mount Saint Ca	1.49	25	eP	Pn	15 10 49.1	+0.4
GRW				eS	Sn	15 11 09.1	+0.3
GRSS	Sisters	1.64	25	eP	Pn	15 10 51.3	+0.9
GRSS				eS	Sn	15 11 11.8	0.0
TOSP	Speyside	1.81	74	eP	Pn	15 10 53.0	+0.5
TOSP				eS	Sn	15 11 14.4	-1.3
GCMP	Grenada, Carri	1.88	27	eP	Pn	15 10 53.7	+0.2
GCMP				eS	Sn	15 11 16.8	-0.5
PCRV	Puerto La Cruz	2.37	255	eP	Pn	15 11 01.6	+1.8
PCRV				eS	Sn	15 11 29.6	+1.0
SVB	Belmont	2.66	23	eP	Pn	15 11 05.9	+2.2
SVB				eS	Sn	15 11 35.4	-0.1
SLBI	Saint Lucia, B	3.46	22	eS	Sn	15 11 52.4	-1.9
TACV	Tcata	4.69	262	eP	Pn	15 11 31.7	+0.9
TACV				eS	Sn	15 12 24.1	-0.1
BENV	Beln	5.27	261	eP	Pn	15 11 39.9	+1.1
BENV				eS	Sn	15 12 37.8	-0.5
CACV	CAICARA DEL OR	5.27	233	eP	Pn	15 11 34.4	-4.3
CACV				eS	Sn	15 12 27.1	-11
BAUV	El Baul	5.94	252	eP	Pn	15 11 48.2	+0.5
BAUV				eS	Sn	15 12 51.7	-2.8
MAPV	Macapo	6.13	261	eP	Pn	15 11 50.5	+0.2
MAPV				eS	Sn	15 12 55.9	-3.2
JACV	Jacura	6.41	273	eP	Pn	15 11 55.1	+0.9

IDC ***12*** *15:12:03.6±0.9, 9°.64S×120°.84E, h0km, mb3.8/7, mbtmp3.8/10, ML3.8/3, Error ellipse: s-maj=78.3km s-min=17.0km az=61.0*
NEIC ***12*** *15:12:06.1±1.3, 9°.68S±0°.07×120°.88E±0°.07, h10km±1km, mb4.0/12, Error ellipse: s-maj=12.0km s-min=10.6km az=317.0*
DJA ***12*** *15:12:07.7±0.5, 10°S±5°×12°1E±°, h29km±6km, M4.3/11, mb4.4/4, MLv4.2/11*

ISC 12 15:12:08.7±0.6, 9°.75S±0°.05×120°.88E±0°.05, h35km, n54, σ1°40/58, mb3.8/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.55	212	P	Pn	15 12 19.3	-0.8
BASI				S	Sn	15 12 26.8	-1.3
WBSI	Waikabubak, Su	1.47	274	P	Pn	15 12 32.0	-0.7
WBSI				S	Sn	15 12 51.0	+0.2
MMRI	Maumere	1.74	51		Pn	15 12 35.9	-0.6
MMRI				Sn	Sn	15 12 56.0	-1.4
MMRI	Maumere	1.74	51	P	Pn	15 12 36.3	-0.1
MMRI	Maumere	1.74	51	P	Pn	15 12 36.1	-0.3
PLAI	Plampang	3.19	286	P	Pn	15 12 55.9	-0.5
PLAI	Plampang	3.19	286	P	Pn	15 12 56.0	-0.5
SOEI	Soe	3.34	90	Pn	Pn	15 12 57.9	-0.7
BSSI	Bau Bau, Buton	3.60	354	P	Pn	15 13 02.9	+0.8
TWSI	Taliwang, Sumb	4.07	284	P	Pn	15 13 08.9	+0.4
BKSI	Bulukumba	4.46	350	P	Pn	15 13 14.9	+1.0
KAPI	Kappang	4.84	347	Sn	Sn	15 14 12.4	-1.5
	7.5nm,0.3s,baz=175,slow=15,SNR=1.7						
JAGI	Jajag, Banyuwa	6.76	280		Pn	15 13 44.7	-0.8
JAGI	Jajag, Banyuwa	6.76	280	P	Pn	15 13 45.6	+0.1
JAGI	Jajag, Banyuwa	6.76	280	P	Pn	15 13 45.2	-0.3
	0.2nm35nm,0.9s						
GMJI	Gumukmas	7.49	281	P	Pn	15 13 54.5	-1.0
	0.1nm19nm,0.9s						
LUWI	Luwuk	8.85	12	Pn	Pn	15 14 12.8	-1.5
FITZ	Fitzroy Crossi	9.50	151		Pn	15 14 22.7	-0.3
FITZ	Fitzroy Crossi	9.50	151	Pn	Pn	15 14 23.3	+0.2
	1.0nm,0.3s,baz=336,slow=10.0,SNR=31						
FITZ				Sn	Sn	15 16 02.5	-6.2
	0.5nm,0.3s,baz=221,slow=14,SNR=6.6						
	2.6nm,0.4s						
FITZ	Fitzroy Crossi	9.50	151	P	Pn	15 14 23.2	+0.2
KNRA	Kununurra	9.69	128		Pn	15 14 25.7	+0.1
PCJI	Pacitan	9.71	278	P	Pn	15 14 25.1	-0.8
DRS	Darwin Rock St	10.19	106	P	Pn	15 14 34.3	+1.7
MTN	Manton Dam	10.52	108		Pn	15 14 37.0	0.0
MTN	Manton Dam	10.52	108	P	Pn	15 14 38.0	+1.0
KDU	Kakadu	11.74	105	P	Pn	15 14 54.1	+0.3
GIRL	Giralia	14.31	206	Pn	Pn	15 15 26.4	-2.5
GIRL	Giralia	14.31	206	P	Pn	15 15 28.3	-0.6
WB0	Warramunga Arr	16.42	129	Pn	Pn	15 15 54.8	-1.8
WB0				IAmb	IAmb	15 16 01.9	
	comp=Z,4.5nm,0.8s						
WRA	Warramunga Arr	16.48	129	Pn	Pn	15 15 56.2	-1.2
	comp=Z,0.3nm,0.3s,baz=303,slow=12,SNR=15						
WRA				Sn	Sn	15 18 47.5	-12
	comp=Z,0.2nm,0.3s,baz=305,slow=24,SNR=7.7						
	comp=Z,1.4nm,0.6s						
WRAB	Tennant Creek	16.48	129	Pn	Pn	15 15 54.9	-2.5
WRAB				IAmb	IAmb	15 16 25.0	
	comp=Z,8.5nm,1.2s						
WB2	Warramunga Arr	16.49	129	Pn	Pn	15 15 55.3	-2.1
WR0	Warramunga Arr	16.64	129	Pn	Pn	15 15 56.8	-2.7
WR0				IAmb	IAmb	15 16 04.6	
	comp=Z,3.8nm,0.7s						
WRKA	Warakurna	16.76	156	P	Pn	15 16 01.3	+0.4
AS31	Alice Springs	18.61	140	P	Pn	15 16 24.5	+0.7
ASAR	Alice Springs	18.61	140	P	Pn	15 16 24.6	+0.9
	comp=Z,0.4nm,0.3s,baz=317,slow=12,SNR=45						
ASAR				S	Sn	15 19 41.0	-10
	comp=Z,1.3nm,0.7s,baz=316,slow=21,SNR=7.5						
	comp=Z,2.6nm,0.7s						
AS01	Alice Springs	18.64	140	P	Pn	15 16 25.9	+1.8
MORW	Morawa	19.75	193	P	Pn	15 16 37.2	0.0
MORW				IAmb	IAmb	15 16 49.8	
	comp=Z,15nm,1.1s						
MORW	Morawa	19.75	193	P	Pn	15 16 37.9	+0.6
QIS	Mount Isa	21.00	123	P	P	15 16 51.0	+1.6
COEN	Coen	22.21	103	P	P	15 17 03.3	+0.9
COEN				IAmb	IAmb	15 17 15.6	
	comp=Z,2.8nm,0.7s						
COEN	Coen	22.21	103	P	P	15 17 04.2	+1.8
BBOO	Buckleboo	26.89	151	P	P	15 17 47.3	+0.8
BBOO				IAmb	IAmb	15 17 50.5	
	comp=Z,26nm,1.3s						
STKA	Stephens Creek	29.21	142	P	P	15 18 08.9	+1.7
STKA	Stephens Creek	29.21	142	P	P	15 18 08.5	+1.3
	comp=Z,3.7nm,0.6s,baz=305,slow=11,SNR=6.0						
	comp=Z,3.7nm,0.6s						
BKZ	Black Stump Fm	57.41	130	P	P	15 21 54.7	+0.6
SONM	Songino Array	58.75	349	P	P	15 22 02.9	-0.4
	comp=Z,0.2nm,0.4s,baz=157,slow=5.7,SNR=2.4						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	65.97	332	P	P	15 22 51.2	-0.3
	comp=Z,0.6nm,0.7s,baz=142,slow=7.0,SNR=9.8						
	comp=Z,0.6nm,0.7s						
PEA0B	Petropavlovsk-	70.03	23	P	P	15 23 17.2	+0.4
ZALV	Zalesovo Beam	70.41	338	P	P	15 23 18.4	-0.7
	comp=Z,0.4nm,0.4s,baz=148,slow=6.0,SNR=2.3						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	70.47	333	P	P	15 23 19.3	-0.2
	comp=Z,0.2nm,0.4s,baz=145,slow=5.5,SNR=1.9						
	comp=Z,0.2nm,0.4s						
BVAR	Borovoye Array	75.83	331	P	P	15 23 50.9	-0.3
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.7						
	comp=Z,0.3nm,0.5s						
QSPA	South Pole Qui	80.25	180	P	P	15 24 16.8	+1.1
QSPA	South Pole Qui	80.25	180	P	P	15 24 16.7	+1.0
	comp=Z,0.7nm,0.6s,baz=328,slow=1.0,SNR=5.8						
	comp=Z,0.7nm,0.6s						

IDC ***12*** *15:18:37.2±0.8, 3°.11S×118°.77E, h0km, mb3.8/9, mbtmp3.8/11, ML3.6/2, MS3.3/2, Error ellipse: s-maj=96.0km s-min=10.8km az=61.0*
NEIC ***12*** *15:18:39.1±0.7, 3°.01S±0°.06×119°.0E±0°.1, h10km±2km, mb4.0/10, Error ellipse: s-maj=23.9km s-min=10.9km az=266.0*
DJA ***12*** *15:18:40.7±0.4, 3°S±2°×11°9E±°, h14km±3km, M4.2/13, mb4.1/4, MLv4.2/13*

ISC 12 15:18:38.8±0.7, 3°.00S±0°.04×119°.05E±0°.08, h10km, n38, σ0°86/41, mb4.0/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.77	93	P	Pg	15 18 52.9	-0.8
SPSI	Sidrap Palu	1.20	143	P	Pb	15 19 00.7	-0.9
SPSI				S	Sn	15 19 18.4	+0.4
KAPI	Kappang	2.12	161	Pn	Pn	15 19 14.5	+0.2
KAPI	Kappang	2.12	161	Pn	Pn	15 19 14.7	+0.4
	26nm,0.3s,baz=327,slow=12,SNR=32						
KAPI				Lg	Lg	15 19 42.9	
	21nm,0.3s,baz=117,slow=4.7,SNR=9.9						
	102nm,0.5s						
PCI	Palu	2.23	21	P	Pn	15 19 16.5	+0.7
PCI				S	Sn	15 19 44.8	+1.4
BKSI	Bulukumba	2.54	155	P	Pn	15 19 22.0	+1.9
BKSI				S	Sn	15 19 51.6	+0.4
APSI	Ampana	3.33	51	P	Pn	15 19 32.7	+1.8
BSSI	Bau Bau, Buton	3.44	155	P	Pn	15 19 34.4	+2.0
LUWI	Luwuk	4.20	62		Pn	15 19 43.6	+0.6
LUWI	Luwuk	4.20	62	P	Pn	15 19 42.7	-0.2
BBSI	Bau Bau	4.29	125	P	Pn	15 19 45.1	+0.8
TOLI2	Tolitoli	4.44	23		Pn	15 19 46.1	-0.1
MRSI	Marisa	4.51	40	P	Pn	15 19 46.8	-0.3
PLAI	Plampang	5.92	192	P	Pn	15 20 07.3	+0.6
	0.1nm10nm,0.7s						
TWSI	Taliwang, Sumb	6.09	201	P	Pn	15 20 09.4	+0.4
	0.1nm11nm,0.8s						
WBSI	Waikabubak, Su	6.61	177	P	Pn	15 20 16.6	+0.5
FITZ	Fitzroy Crossi	16.34	157	Pn	Pn	15 22 26.6	-1.8
FITZ	Fitzroy Crossi	16.34	157	Pn	Pn	15 22 28.4	0.0
	0.1nm,0.3s,baz=348,slow=14,SNR=3.3						
	1.2nm,0.8s						
WB0	Warramunga Arr	22.41	139	P	P	15 23 37.8	0.0
WB0				IAmb	IAmb	15 23 44.0	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	22.50	140	P	P	15 23 39.1	+0.3
	comp=Z,1.8nm,0.7s,baz=313,slow=12,SNR=10						
	comp=Z,1.8nm,0.7s						
WB2	Warramunga Arr	22.51	140	P	P	15 23 38.7	-0.2
WB2				IAmb	IAmb	15 23 52.4	
	comp=Z,4.0nm,0.9s						
WR0	Warramunga Arr	22.65	139	P	P	15 23 40.2	-0.1
WR0				IAmb	IAmb	15 23 43.0	
	comp=Z,4.5nm,0.8s						
AS31	Alice Springs	25.07	146	P	P	15 24 03.4	-0.3
ASAR	Alice Springs	25.07	146	P	P	15 24 03.5	-0.2
ASAR	Alice Springs	25.07	146	P	P	15 24 05.3	+1.6
	comp=Z,1.6nm,0.7s,baz=316,slow=7.9,SNR=22						
ASAR				LR	LR	15 34 01.1	
	comp=Z,95nm,22.0s,baz=124,slow=37						
	comp=Z,1.6nm,0.7s						
COEN	Coen	26.20	116	P	P	15 24 13.8	-0.2
COEN				IAmb	IAmb	15 24 52.5	
	comp=Z,6.9nm,1.4s						
CMAR	Chiang Mai Arr	29.10	318	P	P	15 24 39.0	-0.9
	comp=Z,0.3nm,0.7s,baz=131,slow=8.1,SNR=1.8						
CMAR				LR	LR	15 38 20.8	
	comp=Z,50nm,18.0s,baz=145,slow=41						
	comp=Z,0.3nm,0.7s						
STKA	Stephens Creek	35.71	146	P	P	15 25 38.7	+1.0
STKA	Stephens Creek	35.71	146	P	P	15 25 38.4	+0.7
	comp=Z,2.1nm,0.5s,baz=311,slow=9.2,SNR=5.7						
	comp=Z,2.1nm,0.5s						
SONM	Songino Array	51.83	349	P	P	15 27 48.0	+0.8
SONM				IAmb	IAmb	15 27 48.8	
	comp=Z,1.2nm,0.6s						
SONM	Songino Array	51.83	349	P	P	15 27 47.4	+0.3
	comp=Z,1.5nm,0.6s,baz=166,slow=8.6,SNR=13						
	comp=Z,1.5nm,0.6s						
MK31	Makanchi Array	59.21	331	P	P	15 28 39.5	-0.7
MK31				IAmb	IAmb	15 28 50.1	
	comp=Z,1.2nm,0.8s						
MKAR	Makanchi Array	59.21	331	P	P	15 28 39.4	-0.8
MKAR	Makanchi Array	59.21	331	P	P	15 28 40.0	-0.2
	comp=Z,1.3nm,0.6s,baz=138,slow=7.4,SNR=19						
	comp=Z,1.3nm,0.6s						
ZALV	Zalesovo Beam	63.51	338	P	P	15 29 08.5	-0.6
	comp=Z,1.0nm,0.6s,baz=155,slow=4.8,SNR=5.5						
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	63.67	333	P	P	15 29 09.7	-0.5
	comp=Z,0.5nm,0.6s,baz=142,slow=6.1,SNR=9.0						
	comp=Z,0.5nm,0.6s						
KURK	Kurchatov	63.70	333	P	P	15 29 10.4	0.0
BVAR	Borovoye Array	69.08	331	P	P	15 29 45.0	+0.1
	comp=Z,0.3nm,0.5s,baz=124,slow=7.2,SNR=2.3						
	comp=Z,0.3nm,0.5s						

HEL 12 15:25:25.8±0.2, 60°.52N×27°.06E, h0km, ML0.8, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.24	84	PG	Pg	15 25 30.6	+0.1
VJF				SG	Sg	15 25 33.6	0.0
PVF	Pernaja	0.59	273	PG	Pg	15 25 37.2	0.0
PVF				MSG		15 25 44.7	
	comp=Z,0.8nm,0.2s						
FIA0	FINESS Array S	1.05	333	PG	Pg	15 25 44.5	-1.4
	baz=157						
FIA0				MSG		15 25 58.0	
	comp=Z,0.5nm,0.2s						
FIA0				SB	Sg	15 25 58.3	-1.1
ARBE	Arbavere	1.21	207	SG	Sg	15 26 00.7	-4.0
RUF	Ruokolahti	1.29	44	MSG		15 26 05.0	
	comp=Z,0.6nm,0.2s						
RUF				SN	Sn	15 26 08.8	-0.3
MEF	Metsahovi	1.36	258	PN	Pg	15 25 51.6	-0.2
MEF				MSG		15 26 06.8	
	comp=Z,1.4nm,0.2s						
KAF	Kangasniemi	1.64	347	PG	Pn	15 25 55.4	-0.5
KAF				MSG		15 26 14.8	
	comp=Z,0.4nm,0.2s						
KEF	Keuruu	1.97	328	PG	Pn	15 26 01.1	+0.8
KEF				MSG		15 26 24.1	
	comp=Z,0.5nm,0.2s						
MTSE	Matsula	2.45	224	SB	Sb	15 26 39.4	-1.9
KPF	Kankaanpaa	2.76	301	SB	Sn	15 26 45.4	+0.3

EST 12 15:25:46.7±0.1, 59°.35N×26°.86E, h0km, ML1.1 (HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBE	Arbavere	0.46	282	eP	Pg	15 25 54.6	-0.9
ARBE				eS	Sg	15 26 00.1	-1.3
EE03	Tooma soojaam,	0.56	213	eP	Pg	15 25 56.8	-0.7
EE03				eS	Sg	15 26 04.2	-0.6
VSU	Vasula	0.89	184	PG	Pg	15 26 02.5	-1.2
VSU	Vasula	0.89	184	eP	Pg	15 26 02.4	-1.3
VSU				eS	Sg	15 26 13.1	-2.1
EE08	Sarghaua, Vand	1.09	231	eP	Pg	15 26 06.4	-1.1
EE02	Kiisa, Saku	1.12	263	eS	Sg	15 26 21.3	-1.4
VJF	Virojoki	1.25	16	ePB	Pg	15 26 09.2	-1.3
VJF				eSB	Sg	15 26 25.6	-1.1
VJF				MSG		15 26 26.3	
	comp=Z,1.6nm,0.1s						
PVF	Pernaja	1.30	338	eP	Pg	15 26 09.6	-2.0
PVF				eSN	Sn	15 26 30.6	+0.3
MEF	Metsahovi	1.52	306	ePG	Pn	15 26 14.3	-0.8
MEF				eS	Sg	15 26 33.4	-2.2
MEF				MSG		15 26 38.0	
	comp=Z,1.7nm,0.1s						
NUR	Nurmijarvi	1.61	317	eP	Pn	15 26 15.3	-1.1
NUR				eSG	Sn	15 26 36.3	-1.6
NUR				MSG		15 26 38.0	
	comp=Z,1.1nm,0.1s						
MTSE	Matsula	1.70	249	ePG	Pn	15 26 17.2	-0.4
MTSE				eSG	Sn	15 26 38.8	-1.1
EE06	Soera, Palade,	2.10	261	ePG	Pn	15 26 24.1	+1.1
EE06				eSG	Sb	15 26 51.7	-0.5
FIA0	FINESS Array S	2.14	350	ePB	Pn	15 26 24.3	+0.7
FIA0				eSB	Sn	15 26 51.8	+1.0
FIA0				MSG		15 26 53.0	
	comp=Z,0.5nm,0.1s						
FIA1	FINESS Array S	2.14	350	ePG	Pn	15 26 24.9	+1.2
FIA1				eSG	Sn	15 26 52.0	+1.1
FIA1				MSG		15 26 54.7	
	comp=Z,0.5nm,0.1s						
RUF	Ruokolahti	2.33	26	eP	Pn	15 26 26.4	+0.2
RUF				eS	Sn	15 26 54.0	-1.5
RAF	Rauma	3.05	306	MSG		15 27 16.3	

UPP ***12*** *15:33:41.9±2.0, 62°.23N×24°.66E, h0km, ML1.8*
IDC ***12*** *15:33:41.6±0.8, 62°.15N×24°.72E, h0km, mbtmp3.2/3, ML1.9/3, Error ellipse: s-maj=9.9km s-min=5.5km az=40.0*
HEL ***12*** *15:33:42.3±0.0, 62°.17N×24°.80E, h0km, ML1.7, Explosion*

ISC 12 15:33:40.4±0.7, 62°.16N±0°.03×24°.70E±0°.02, h0km, n32, σ0°86/53, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	Keuruu	0.08	82	eP	Pg	15 33 42.4	+0.5
KEF	Keuruu	0.08	82	eP	Pg	15 33 42.5	+0.5
KEF				eS	Sg	15 33 43.2	+0.2
KAF	Kangasniemi	0.76	93	eP	Pg	15 33 54.9	0.0
KAF				eS	Sg	15 34 04.2	-0.4
SUF	Sumiainen	0.88	49	eP	Pg	15 33 57.2	0.0
SUF				eS	Sg	15 34 08.8	+0.1
FIA0	FINESS Array S	0.97	137	eP	Pg	15 33 59.1	+0.2
FIA0				eS	Sg	15 34 12.0	+0.5
FINES	FINESS Array B	0.97	137	Pg	Pg	15 33 58.9	0.0
	0.4nm,0.3s,baz=320,slow=17,SNR=31						
FINES				Lg	Lg	15 34 12.2	
	0.4nm,0.3s,baz=320,slow=14,SNR=8.9						
KPF	Kankaanpaa	1.28	257	eP	Pg	15 34 05.2	+0.3
KPF				eS	Sb	15 34 22.5	+0.2
VAF	Ylistaro	1.29	314	eP	Pn	15 34 06.1	+0.5
VAF	Ylistaro	1.29	314	eP	Pn

comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 7.42 2 Pn Pn 15 35 30.0 +0.3
comp=Z,0.1nm,0.3s,baz=179,slow=13,SNR=16
ARCES Sn **Sn 15 36 51.5 -3.0**
comp=Z,0.1nm,0.3s,baz=181,slow=22,SNR=1.6
comp=Z,2.7nm,0.8s

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*FUNV **12** 15:35:06.3, 9.07N×72.58W, h42km, MW3.3*
RSNC 12 15:35:07.9±0.0, 7.7N±7.2W±*, h29km±8km, M1.8, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.56**	**203**	P	Pb	15 35 18.4	-0.9
TAMC				S	Sb	15 35 27.2	+0.2
CAPV	**Capacho**	**1.17**	**321**	*e*P	Pn	15 35 26.0	-2.6
CAPV				*e*S	Sn	15 35 42.3	-1.3
PAMC	**Pamplona, Colo**	**1.19**	**289**	P	Pn	15 35 26.3	-2.7
PAMC				S	Sn	15 35 39.5	-4.9
SOCV	**Socops**	**1.50**	**28**	*e*P	Pb	15 35 36.0	+0.8
SOCV				*e*S	Sb	15 35 56.9	+3.0
BARC	**Barichara**	**1.64**	**258**	P	Pn	15 35 34.5	-0.5
BARC				S	Sn	15 35 55.0	-0.3
RUSC	**La Rusia**	**1.83**	**235**	P	Pn	15 35 37.7	-0.2
RUSC				S	Sn	15 35 59.7	-0.7
PTBC	**PUERTO BERRIO,**	**2.90**	**262**	P	Pn	15 35 52.4	+0.3
PTBC				S	Sn	15 36 26.6	+0.6
BAUV	**El Baul**	**4.02**	**60**	*e*P	Pn	15 36 10.7	+3.2
BAUV				*e*S	Sn	15 36 57.1	+3.4

IDC 12 15:47:34.0±265.0, 54.51N×43.26E, h0km, Error ellipse: s-maj=116.9km s-min=89.1km az=143.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.08**	**305**	I	I	16 13 17.4	
	baz=120,slow=336						
I31KZ	**AKTYUBINSK INF**	**9.90**	**108**	I	I	16 46 30.0	
	baz=300,slow=314,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**24.05**	**74**	I	I	18 14 50.0	
	baz=290,slow=325,SNR=1.8						
I34MN	**SONGINO INFRAS**	**38.96**	**73**	I	I	19 45 40.0	
	baz=303,slow=331,SNR=0.4						

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*NEIC **12** 15:52:41.8±1.2, 66.26N±0.04×157.2W±0.1, h10km±2km, Error ellipse: s-maj=7.0km s-min=6.6km az=263.0*
AEIC 12 15:52:41.7±1.0, 66.27N±0.04×157.20W±0.10, h8km±7km, ML3.2, ML3.6/2(NEIC), Error ellipse: s-maj=5.7km s-min=5.6km az=145.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.13**	**159**	IAML		15 52 47.1	
	comp=N,18μm,0.3s						
G19K	**Purcell Mounta**	**0.13**	**159**	Pg	Pg	15 52 44.6	+0.1
G19K	**Purcell Mounta**	**0.13**	**159**	IAML		15 52 47.3	
	comp=E,19μm,0.2s						
F19K	**Shaleruckik Mo**	**0.61**	**338**		Pg	15 52 52.7	-0.8
G18K	**Tagagawik**	**0.70**	**238**	Pg	Pg	15 52 55.1	-0.1
H19K	**Roundabout Mou**	**0.80**	**157**	Pg	Pg	15 52 56.8	-0.3
F20K	**Avaraart Lake**	**0.98**	**36**		Pg	15 52 59.6	-0.9
F18K	**Selawik**	**1.04**	**290**		Pg	15 53 00.9	-0.7
E19K	**Redstone River**	**1.20**	**359**		Pb	15 53 03.6	-1.0
H18K	**Honhosa River**	**1.22**	**204**		Pb	15 53 04.0	-0.9
H20K	**Anotleneega Mo**	**1.23**	**128**		Pb	15 53 04.1	-1.0
GCSA	**Galena City Sc**	**1.53**	**175**		Pn	15 53 09.7	+0.5
F17K	**Baldwin Pennin**	**1.64**	**278**		Pn	15 53 10.5	-0.2
H17K	**Granite Mounta**	**1.75**	**221**		Pn	15 53 11.9	-0.3
F21K	**Alatna River**	**1.76**	**55**		Pn	15 53 12.4	0.0
E18K	**Tukpahlearik C**	**1.78**	**312**		Pn	15 53 12.8	+0.3
I20K	**Naaghedeneel**	**1.86**	**141**	Pn	Pn	15 53 14.0	+0.3
H21K	**Melozitna Rive**	**1.90**	**107**		Pn	15 53 14.0	-0.3
E17K	**Hotham Inlet**	**2.02**	**296**		Pn	15 53 15.9	+0.1
E20K	**Nigu River**	**2.04**	**11**		Pn	15 53 17.2	+1.0
D19K	**Kuna River**	**2.27**	**351**		Pn	15 53 19.7	+0.3
G16K	**Koyuk River**	**2.29**	**250**		Pn	15 53 18.9	-0.8
F22K	**John River**	**2.34**	**56**		Pn	15 53 20.6	+0.2
J19K	**Poorman**	**2.38**	**163**		Pn	15 53 21.1	+0.3
H22K	**Ishtalitna Cre**	**2.40**	**96**		Pn	15 53 21.2	-0.1
J20K	**Nowinta River**	**2.46**	**147**		Pn	15 53 22.2	+0.2
E21K	**Killik River**	**2.52**	**28**		Pn	15 53 23.3	+0.5
J18K	**Innoko River**	**2.82**	**176**		Pn	15 53 27.1	+0.1
G23K	**Bananza Creek**	**2.91**	**78**	Pn	Pn	15 53 28.5	+0.2
J17K	**VABM Dome**	**2.99**	**196**		Pn	15 53 29.6	+0.4
C21K	**Knifeblade Rid**	**3.05**	**17**		Pn	15 53 30.1	0.0
D22K	**Ayikyak River**	**3.15**	**31**		Pn	15 53 32.1	+0.7
C17K	**DeLong Mountai**	**3.20**	**317**		Pn	15 53 32.6	+0.4
K20K	**Telida**	**3.21**	**154**		Pn	15 53 33.1	+0.8
J16K	**Anvik River**	**3.33**	**207**	Pn	Pn	15 53 34.7	+0.8
E23K	**Chandalar**	**3.46**	**55**		Pn	15 53 35.8	0.0
K17K	**Iditarod**	**3.60**	**188**		Pn	15 53 37.4	-0.2
D23K	**Nanushuk River**	**3.68**	**40**		Pn	15 53 39.6	+0.8
C16K	**Lisburne Hills**	**3.75**	**306**	Pn	Pn	15 53 39.0	-0.6
B20K	**Meade River**	**3.76**	**0**		Pn	15 53 40.2	+0.4
H24K	**Noodor Dome**	**3.83**	**92**		Pn	15 53 41.0	+0.2
F24K	**Squaw Lake**	**3.88**	**67**		Pn	15 53 41.5	0.0
L17K	**Donlin**	**4.18**	**187**		Pn	15 53 45.8	+0.3
B22K	**Teshekpuk Lake**	**4.33**	**17**		Pn	15 53 48.8	+1.2
M20K	**Styx River**	**4.75**	**156**		Pn	15 53 55.1	+1.6
A22K	**Sinclair Lake**	**4.83**	**9**		Pn	15 53 54.3	-0.2
M14K	**Bethel**	**5.93**	**203**		Pn	15 54 10.8	+1.2
TIA	**Tai'an**	**55.77**	**283**	P	P	16 02 19.9	+1.3
PZH	**PanZhiHua**	**70.35**	**291**	P	P	16 03 56.0	+0.3

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*NEIC **12** 15:52:51.6, 66.31N×157.00W, h12km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.28; $M_{\theta\theta}$=0.83; $M_{\phi\phi}$=-0.56; $M_{r\theta}$=0.01; $M_{\phi r}$=-0.76; $M_{\theta r}$=-0.01; Fault plane solution: M_0=3.82000×10^{15} NP1: ϕ_s=174.76000°, δ=89.80000°, λ=0.14000°. NP2: ϕ_s=84.76000°, δ=89.86000°, λ=179.80000°. Principal axes: T 3.9591, Plg=0.0000°, Azm=40.0000°; N -0.2781, Plg=90.0000°, Azm=130.0000°; P -3.6810, Plg=0.0000°, Azm=130.0000°;*
*NEIC **12** 15:52:51.6, 66.31N×157.27W, h12km*
*AEIC **12** 15:52:51.6±1.5, 66.28N±0.02×157.21W±0.06, h8km±1km, ML4.5, mb4.3/12(NEIC), ML4.6/134(NEIC), Mwr4.3/75(NEIC), Mww4.3/39(NEIC), Error ellipse: s-maj=4.0km s-min=2.8km az=135.0*
*NEIC **12** 15:52:51.6, 66.31N×157.27W, h12km*
*NEIC **12** 15:52:51.6±1.4, 66.28N±0.02×157.27W±0.06, h7km, Error ellipse: s-maj=3.9km s-min=2.6km az=119.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.37; $M_{\theta\theta}$=0.62; $M_{\phi\phi}$=-0.99; $M_{r\theta}$=0.30; $M_{\phi\phi}$=-2.75; $M_{\phi r}$=-0.72; Fault plane solution: M_0=2.99000×10^{15} NP1: ϕ_s=81.13000°, δ=74.39000°, λ=173.87000°. NP2: ϕ_s=172.79000°, δ=84.09000°, λ=15.69000°. Principal axes: T 2.8651, Plg=15.0000°, Azm=38.0000°; N 0.2320, Plg=73.0000°, Azm=193.0000°; P -3.0971, Plg=7.0000°, Azm=306.0000°;*
*IDC **12** 15:52:52.7±0.5, 66.50N×157.54W, h0km, mb4.0/24, mbtmp4.0/28, ML4.0/5, MS3.6/20 Error ellipse: s-maj=15.8km s-min=9.2km az=28.0*
ISC 12 15:52:51.1±1.2, 66.30N±0.03×157.21W±0.03, h2km±8km, n239, σ1§22/206, mb4.2/33, MS3.7/17, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.16**	**162**	Pg	**Pg**	**15 52 54.7**	**+0.4**
G19K				IAML		15 52 57.3	
	comp=N,215μm,0.7s						
F19K	**Shaleruckik Mo**	**0.58**	**337**		**Pg**	**15 53 02.9**	**+0.5**
F19K					**Sb**	**15 53 11.7**	**-1.1**
G18K	**Tagagawik**	**0.71**	**236**	Pg	**Pg**	**15 53 05.0**	**+0.1**
G18K				IAML		15 53 17.9	
	comp=N,22μm,0.8s						
G18K				IAML		15 53 18.0	
	comp=E,15μm,0.8s						
G18K	**Tagagawik**	**0.71**	**236**		**Sg**	**15 53 15.1**	**+1.0**
F20K	**Avaraart Lake**	**0.96**	**37**		**Pg**	**15 53 09.4**	**0.0**
F20K					**Sb**	**15 53 23.7**	**+0.2**
F20K	**Avaraart Lake**	**0.96**	**37**	IAML		15 53 26.1	
	comp=E,25μm,0.7s						
F20K				IAML		15 53 26.3	
	comp=N,21μm,0.4s						
F18K	**Selawik**	**1.03**	**288**		**Pg**	**15 53 11.0**	**+0.1**
F18K					**Sb**	**15 53 25.9**	**+0.4**
E19K	**Redstone River**	**1.17**	**360**		**Pg**	**15 53 13.7**	**+0.2**
E19K	**Redstone River**	**1.17**	**360**	IAML		15 53 31.8	
	comp=E,16μm,0.6s						
E19K				IAML		15 53 35.1	
	comp=N,12μm,0.8s						
H18K	**Honhosa River**	**1.24**	**203**		**Pg**	**15 53 14.3**	**-0.7**
H18K					**Sg**	**15 53 30.5**	**-0.5**
H18K	**Honhosa River**	**1.24**	**203**	IAML		15 53 33.5	
	comp=E,12μm,0.8s						
G21K	**Allakaket**	**1.51**	**80**	Pn	**Pn**	**15 53 18.4**	**-0.7**
G21K	**Allakaket**	**1.51**	**80**		**Sn**	**15 53 38.5**	**-0.7**
GCSA	**Galena City Sc**	**1.56**	**175**		**Pn**	**15 53 19.5**	**-0.3**
GCSA					**Sn**	**15 53 39.6**	**-1.0**
F17K	**Baldwin Pennin**	**1.64**	**277**		**Pn**	**15 53 20.5**	**-0.4**
F17K	**Baldwin Pennin**	**1.64**	**277**	IAML		15 53 48.4	
	comp=N,8μm,1.0s						
F17K				IAML		15 53 49.6	
	comp=E,6μm,0.7s						
F21K	**Alatna River**	**1.75**	**56**		**Pn**	**15 53 22.4**	**-0.1**
F21K	**Alatna River**	**1.75**	**56**	IAML		15 53 49.8	
	comp=E,7μm,0.9s						
F21K				IAML		15 53 51.1	
	comp=N,5μm,0.8s						
E18K	**Tukpahlearik C**	**1.75**	**312**		**Pn**	**15 53 23.0**	**+0.4**
H17K	**Granite Mounta**	**1.77**	**221**		**Pn**	**15 53 22.2**	**-0.5**
H17K	**Granite Mounta**	**1.77**	**221**	IAML		15 53 48.0	
	comp=E,6μm,0.9s						
H17K				IAML		15 53 48.3	
	comp=N,5μm,0.5s						
H21K	**Melozitna Rive**	**1.91**	**108**		**Pn**	**15 53 25.6**	**+0.9**
H21K	**Melozitna Rive**	**1.91**	**108**	IAML		15 53 53.9	
	comp=N,4μm,1.0s						
H21K				IAML		15 53 54.5	
	comp=E,7μm,0.5s						
E17K	**Hotham Inlet**	**2.00**	**295**		**Pn**	**15 53 25.9**	**+0.1**
E20K	**Nigu River**	**2.01**	**11**		**Pb**	**15 53 27.5**	**-0.9**
G16K	**Koyuk River**	**2.30**	**249**		**Pn**	**15 53 29.2**	**-0.8**
G16K	**Koyuk River**	**2.30**	**249**	IAML		15 54 06.7	
	comp=N,5μm,0.9s						
G16K				IAML		15 54 09.5	
	comp=E,3μm,0.6s						
F22K	**John River**	**2.33**	**56**		**Pn**	**15 53 30.6**	**+0.2**
J19K	**Poorman**	**2.41**	**163**		**Pn**	**15 53 31.5**	**0.0**
J19K	**Poorman**	**2.41**	**163**	IAML		15 54 07.5	
	comp=E,3μm,1.1s						
H22K	**Ishtalitna Cre**	**2.41**	**97**		**Pn**	**15 53 32.8**	**+1.2**
D20K	**Etivluk River**	**2.44**	**5**		**Pn**	**15 53 33.0**	**+1.1**
E21K	**Killik River**	**2.49**	**29**		**Pn**	**15 53 33.2**	**+0.6**
E21K	**Killik River**	**2.49**	**29**	IAML		15 54 16.7	
	comp=N,2μm,0.8s						
E21K				IAML		15 54 17.9	
	comp=E,2μm,1.2s						
H16K	**Elim**	**2.68**	**234**		**Pn**	**15 53 33.7**	**-1.5**
D17K	**Noatak River**	**2.70**	**304**		**Pn**	**15 53 35.8**	**+0.3**
E22K	**Anaktuvuk Pass**	**2.79**	**46**	Pn	**Pn**	**15 53 38.0**	**+1.2**
C18K	**Utukok River**	**2.82**	**329**		**Pn**	**15 53 35.8**	**-1.4**
I17K	**Unalakleet**	**2.83**	**213**	Pn	**Pn**	**15 53 37.2**	**-0.1**
RDOG	**Red Dog Mine**	**2.84**	**311**		**Pn**	**15 53 38.3**	**+0.9**
J18K	**Innoko River**	**2.85**	**176**		**Pn**	**15 53 36.3**	**-1.3**
J18K				IAML		15 54 27.7	
	comp=N,1μm,0.8s						
J18K				IAML		15 54 31.6	
	comp=E,1μm,1.1s						
COLD	**Coldfoot**	**2.93**	**68**	Pn	**Pn**	**15 53 38.0**	**-0.7**
C21K	**Knifeblade Rid**	**3.02**	**17**		**Pn**	**15 53 40.1**	**+0.3**
G15K	**Niukluk**	**3.12**	**248**		**Pn**	**15 53 40.2**	**-1.0**
D22K	**Ayikyak River**	**3.12**	**32**		**Pn**	**15 53 42.2**	**+0.9**
D22K	**Ayikyak River**	**3.12**	**32**	IAML		15 54 44.9	
	comp=N,2μm,1.1s						
D22K				IAML		15 54 48.9	
	comp=E,2μm,0.9s						
H23K	**Yukon River**	**3.16**	**95**	Pn	**Pn**	**15 53 42.1**	**+0.2**
C17K	**DeLong Mountai**	**3.18**	**316**		**Pn**	**15 53 42.5**	**+0.3**
CHUM	**Lake Minchumin**	**3.19**	**137**		**Pn**	**15 53 41.8**	**-0.4**
K20K	**Telida**	**3.24**	**154**		**Pn**	**15 53 42.4**	**-0.6**
TTA	**Tatalina**	**3.42**	**171**	Pn	**Pn**	**15 53 45.5**	**+0.1**
BPAW	**Bear Paw Mtn.**	**3.42**	**127**	Pn	**Pn**	**15 53 46.0**	**+0.5**
BPAW				IAML		15 54 43.0	
	comp=N,938nm,0.7s						
I23K	**Minto, Yukon-K**	**3.44**	**106**	Pn	**Pn**	**15 53 46.0**	**+0.3**
E23K	**Chandalar**	**3.45**	**56**		**Pn**	**15 53 46.4**	**+0.6**
E23K	**Chandalar**	**3.45**	**56**	IAML		15 54 51.0	
	comp=E,2μm,0.8s						
B21K	**Ikpikpuk River**	**3.48**	**15**		**Pn**	**15 53 45.6**	**-0.5**
B21K	**Ikpikpuk River**	**3.48**	**15**	IAML		15 54 48.1	
	comp=E,2μm,1.0s						
B21K				IAML		15 54 53.5	
	comp=N,2μm,0.9s						
B18K	**Kokolik River**	**3.54**	**333**		**Pn**	**15 53 47.5**	**+0.5**
CAST	**Castle Rocks**	**3.62**	**141**	Pn	**Pn**	**15 53 48.7**	**+0.5**
K17K	**Iditarod**	**3.63**	**188**		**Pn**	**15 53 47.5**	**-0.7**
K17K				IAML		15 55 02.0	
	comp=N,1μm,1.1s						
K17K				IAML		15 55 03.0	
	comp=E,1μm,1.0s						
D23K	**Nanushuk River**	**3.66**	**40**		**Pn**	**15 53 49.5**	**+0.8**
D23K	**Nanushuk River**	**3.66**	**40**	IAML		15 54 54.3	
	comp=N,1μm,1.0s						
D23K				IAML		15 55 05.7	
	comp=E,1μm,1.2s						
C16K	**Lisburne Hills**	**3.73**	**306**		**Pn**	**15 53 50.2**	**+0.6**
C16K	**Lisburne Hills**	**3.73**	**306**	IAML		15 54 57.5	
	comp=E,703nm,0.9s						
C16K				IAML		15 54 57.6	
	comp=N,725nm,1.1s						
B20K	**Meade River**	**3.73**	**0**		**Pn**	**15 53 50.2**	**+0.6**
B20K	**Meade River**	**3.73**	**0**	IAML		15 54 58.3	
	comp=N,1μm,0.8s						
NEA2	**Nenana**	**3.80**	**113**	Pn	**Pn**	**15 53 50.6**	**-0.1**
NEA2				IAML		15 55 00.6	
	comp=E,673nm,1.1s						
H24K	**Noodor Dome**	**3.83**	**93**		**Pn**	**15 53 50.7**	**-0.4**
H24K	**Noodor Dome**	**3.83**	**93**	IAML		15 54 59.1	
	comp=E,1μm,0.7s						
F14K	**Arctic Creek**	**3.83**	**262**		**Pn**	**15 53 50.3**	**-0.8**
E24K	**Your Creek**	**3.84**	**58**		**Pn**	**15 53 51.4**	**+0.2**
E24K	**Your Creek**	**3.84**	**58**	IAML		15 55 00.8	
	comp=E,1μm,0.8s						
E24K				IAML		15 55 03.8	
	comp=N,1μm,1.0s						
KTH	**Kantishna Hill**	**3.84**	**133**	Pn	**Pn**	**15 53 51.6**	**+0.4**
KTH				IAML		15 55 00.4	
	comp=N,981nm,1.1s						
KTH				IAML		15 55 00.7	
	comp=E,716nm,1.0s						
F24K	**Squaw Lake**	**3.87**	**67**		**Pn**	**15 53 50.9**	**-0.8**
BWN	**Browne**	**3.89**	**120**	Pn	**Pn**	**15 53 52.5**	**+0.6**
BWN				IAML		15 55 28.2	
	comp=N,1μm,0.9s						
G24K	**Hadweenzic Riv**	**3.92**	**80**		**Pn**	**15 53 51.3**	**-1.0**
PPLA	**Purkeypile**	**4.04**	**145**	Pn	**Pn**	**15 53 54.5**	**+0.4**
L20K	**Farewell, AK**	**4.10**	**158**		**Pn**	**15 53 55.2**	**+0.5**
L18K	**Granite Mounta**	**4.10**	**177**		**Pn**	**15 53 54.8**	**+0.1**
L18K	**Granite Mounta**	**4.10**	**177**	IAML		15 55 18.1	
	comp=N,518nm,1.1s						
TRF	**Thorofare Moun**	**4.11**	**131**	Pn	**Pn**	**15 53 55.4**	**+0.4**
TRF				IAML		15 55 08.9	
	comp=E,709nm,0.9s						
TRF				IAML		15 55 13.8	
	comp=N,788nm,1.2s						
COLA	**College**	**4.14**	**106**	Pn	**Pn**	**15 53 55.2**	**0.0**
A19K	**Wainwright**	**4.18**	**342**		**Pn**	**15 53 56.4**	**+0.6**
L17K	**Donlin**	**4.21**	**187**		**Pn**	**15 53 55.9**	**-0.2**
POKR	**Poker Plat Res**	**4.21**	**102**	Pn	**Pn**	**15 53 56.3**	**+0.1**
WRH	**Wood River Hil**	**4.23**	**111**	Pn	**Pn**	**15 53 56.0**	**-0.5**
WRH				IAML		15 55 06.6	
	comp=E,609nm,0.8s						
WRH				IAML		15 55 08.4	
	comp=N,640nm,0.9s						
CCB	**Clear Creek Bu**	**4.25**	**109**	Pn	**Pn**	**15 53 56.4**	**-0.4**
CCB				IAML		15 55 07.9	
	comp=N,638nm,0.9s						
CCB				IAML		15 55 09.6	
	comp=E,529nm,0.7s						
L19K	**White Mountain**	**4.26**	**165**		**Pn**	**15 53 57.3**	**+0.4**
L19K	**White Mountain**	**4.26**	**165**	IAML		15 54 48.1	
	comp=E,654nm,0.8s						
D24K	**Happy Valley**	**4.29**	**44**		**Pn**	**15 53 57.9**	**+0.6**
D24K	**Happy Valley**	**4.29**	**44**	IAML		15 55 19.8	
	comp=E,932nm,1.2s						
B22K	**Teshekpuk Lake**	**4.30**	**17**		**Pn**	**15 53 56.4**	**-1.0**
B22K	**Teshekpuk Lake**	**4.30**	**17**	IAML		15 55 13.9	
	comp=N,813nm,1.0s						
B22K				IAML		15 55 32.0	
	comp=E,828nm,1.0s						
C23K	**Itkillik River**	**4.33**	**32**		**Pn**	**15 53 57.8**	**-0.1**
C23K	**Itkillik River**	**4.33**	**32**	IAML		15 55 23.3	
	comp=N,759nm,1.0s						
C23K				IAML		15 55 24.5	
	comp=E,649nm,1.0s						
MCK	**McKinley**	**4.35**	**122**	Pn	**Pn**	**15 53 58.1**	**-0.1**
K15K	**Wolf Creek Mou**	**4.44**	**207**		**Pn**	**15 53 59.4**	**0.0**
G25K	**Bearman Lake**	**4.47**	**79**		**Pn**	**15 53 58.9**	**-0.8**
J14K	**Nanvaranak Lak**	**4.49**	**221**		**Pn**	**15 53 59.6**	**-0.5**
J14K				IAML		15 55 26.7	
	comp=N,662nm,1.1s						
J14K				IAML		15 55 28.3	
	comp=E,746nm,1.2s						
IL31		**4.56**	**105**	Pn	**Pn**	**15 54 00.8**	**-0.2**
ILAR	**Eielson Array**	**4.56**	**105**	Pn	**Pn**	**15 54 00.2**	**-0.8**
ILAR	**Eielson Array**	**4.56**	**105**	Pn	**Pn**	**15 54 00.8**	**-0.1**
	comp=E,26nm,0.3s,baz=292,slow=14,SNR=125						
ILAR				Sn	**Sn**	**15 54 51.8**	**-2.7**
	comp=E,12nm,0.3s,baz=201,slow=13,SNR=6.0						
ILAR				Lg	Lg	15 55 12.5	
	comp=E,64nm,0.3s,baz=301,slow=30,SNR=12						
M19K	**Big River Lodg**	**4.58**	**163**	Pn	**Pn**	**15 54 01.1**	**-0.2**
M19K				IAML		15 55 22.2	
	comp=E,571nm,1.0s						
M19K				IAML		15 55 27.5	
	comp=N,478nm,1.1s						
RND	**Reindeer**	**4.59**	**125**	Pn	**Pn**	**15 54 01.9**	**+0.3**
H25L	**Birch Creek**	**4.60**	**85**		**Pn**	**15 54 01.6**	**+0.1**
C24K	**Franklin Bluff**	**4.69**	**39**		**Pn**	**15 54 02.4**	**-0.4**
HDA	**Harding Lake**	**4.69**	**109**	IAML		15 55 19.9	
	comp=N,650nm,0.8s						
HDA				IAML		15 55 27.5	
	comp=E,410nm,0.7s						
L16K	**Owhat River**	**4.71**	**193**	Pn	**Pn**	**15 54 02.1**	**-1.0**
F25K	**Christian Rive**	**4.73**	**69**		**Pn**	**15 54 03.2**	**-0.2**
F25K	**Christian Rive**	**4.73**	**69**	IAML		15 55 24.6	
	comp=N,615nm,0.8s						
M20K	**Styx River**	**4.78**	**156**		**Pn**	**15 54 05.1**	**+1.0**
M20K	**Styx River**	**4.78**	**156**	IAML		15 55 02.0	
	comp=E,375nm,0.9s						
A22K	**Sinclair Lake**	**4.80**	**9**		**Pn**	**15 54 04.1**	**-0.2**
FYU	**Fort Yukon**	**4.81**	**81**	Pn	**Pn**	**15 54 03.9**	**-0.7**
PRP	**Porcupine Dome**	**4.85**	**94**	Pn	**Pn**	**15 54 04.8**	**-0.3**
M18K	**Stony River**	**4.86**	**172**		**Pn**	**15 54 05.3**	**+0.1**
E25K	**Arctic Village**	**4.88**	**63**	IAML		15 55 33.5	
	comp=N,646nm,0.8s						
M17K	**Holitna River**	**4.92**	**181**		**Pn**	**15 54 06.0**	**+0.1**
CUT	**Chulitna**	**4.93**	**139**		**Pn**	**15 54 07.1**	**+1.0**
SKT	**Skwentna**	**4.99**	**148**		**Pn**	**15 54 08.1**	**+1.0**
SKT	**Skwentna**	**4.99**	**148**	IAML		15 55 36.6	
	comp=E,344nm,1.1s						
D25K	**Kavik River**	**5.10**	**49**		**Pn**	**15 54 08.4**	**-0.2**
D25K	**Kavik River**	**5.10**	**49**	IAML		15 55 40.9	
	comp=E,339nm,1.1s						
D25K				IAML		15 55 58.7	
	comp=N,502nm,1.1s						
J25K	**Salcha River,**	**5.22**	**103**		**Pn**	**15 54 09.4**	**-0.7**
J25K	**Salcha River,**	**5.22**	**103**	IAML		15 55 35.2	
	comp=E,382nm,1.0s						
F26K	**Sheenjek River**	**5.31**	**69**		**Pn**	**15 54 10.6**	**-0.8**
F26K	**Sheenjek River**	**5.31**	**69**	IAML		15 56 04.0	
	comp=E,474nm,1.1s						
M16K	**Timber Creek**	**5.35**	**189**		**Pn**	**15 54 11.0**	**-0.9**
M16K	**Timber Creek**	**5.35**	**189**	IAML		15 55 48.5	
	comp=N,216nm,0.9s						
K24K	**Donnelly Dome**	**5.45**	**112**		**Pn**	**15 54 12.9**	**-0.3**
K13K	**Kusilvak Mount**	**5.46**	**220**		**Pn**	**15 54 12.3**	**-1.1**
L14K	**Kuka Creek**	**5.53**	**209**		**Pn**	**15 54 14.4**	**+0.1**
N19K	**Bonanza Creek**	**5.64**	**166**		**Pn**	**15 54 16.0**	**+0.1**
N18K	**Kilae Creek**	**5.67**	**173**		**Pn**	**15 54 16.7**	**+0.4**
N17K	**Nushagak Hills**	**5.79**	**180**		**Pn**	**15 54 18.3**	**+0.4**
GHO	**Glory Hole Cre**	**5.81**	**137**		**Pn**	**15 54 19.1**	**+0.7**
M15K	**Kasigluk River**	**5.83**	**197**		**Pn**	**15 54 18.1**	**-0.4**
I26K	**Coal Creek Min**	**5.86**	**93**		**Pn**	**15 54 18.5**	**-0.4**
N16K	**Nishlik Lake**	**5.89**	**188**		**Pn**	**15 54 18.9**	**-0.4**
J26L	**Joseph Creek**	**5.97**	**101**		**Pn**	**15 54 20.7**	**+0.2**
DFR	**Drift River**	**6.07**	**158**		**Pn**	**15 54 22.5**	**+0.6**
C27K	**Jago River**	**6.07**	**51**		**Pn**	**15 54 22.7**	**+0.9**
DOT	**Dot Lake**	**6.18**	**109**		**Pn**	**15 54 22.5**	**-0.8**
SCM	**Sheep Creek Mo**	**6.23**	**131**		**Pn**	**15 54 24.1**	**+0.1**
KNK	**Knik Glacier**	**6.24**	**138**		**Pn**	**15 54 24.6**	**+0.5**
N15K	**Kwethluk River**	**6.29**	**193**		**Pn**	**15 54 24.1**	**-0.7**
E27K	**Coleen River**	**6.34**	**66**		**Pn**	**15 54 24.5**	**-1.0**
M24K	**Tolsona, Glenn**	**6.39**	**126**		**Pn**	**15 54 27.4**	**+1.2**
I27K	**Kandik River**	**6.41**	**89**		**Pn**	**15 54 25.7**	**-0.8**
HARP	**HAARP**	**6.53**	**121**		**Pn**	**15 54 29.2**	**+1.1**
O20K	**Slope Mountain**	**6.57**	**160**		**Pn**	**15 54 29.8**	**+1.1**
ILSW	**Iliamna Southw**	**6.60**	**162**		**Pn**	**15 54

SEY	**Seymchan**	**21.38 285**	P	**P**	**15 57 39.9**	**+0.4**
	comp=N,3.9nm,0.7s,baz=91,slow=8.2,SNR=23					
	comp=N,3.9nm,0.7s					
MA2	**Magadan**	**23.95 279**	P	**P**	**15 58 05.8**	**-0.4**
	comp=N,8.1nm,1.0s,baz=54,slow=10,SNR=11					
MA2			LR	LR	16 06 45.1	
	comp=N,82nm,19.9s,baz=61,slow=35					
	comp=N,8.1nm,1.0s					
TIXI	**Tiksi**	**25.45 315**	P	**P**	**15 58 19.6**	**-0.1**
TIXI			IAmb	IAmb	15 58 26.7	
	comp=Z,3.5nm,0.6s					
TIXI	**Tiksi**	**25.45 315**	P	**P**	**15 58 19.6**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=71,slow=7.7,SNR=11					
TIXI			LR	LR	16 11 02.4	
	comp=Z,100nm,18.6s,baz=119,slow=43					
	comp=Z,2.5nm,0.4s					
PETK	**Petropavlovsk-**	**25.61 261**	P	**P**	**15 58 21.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=54,slow=13,SNR=4.4					
PETK			LR	LR	16 08 59.6	
	comp=Z,57nm,20.3s,baz=48,slow=38					
	comp=Z,1.7nm,0.7s					
NEW	**Newport**	**27.48 111**	LR	LR	16 10 55.4	
	comp=Z,178nm,18.1s,baz=58,slow=39					
FCC	**Fort Churchill**	**28.85 74**	P	**P**	**15 58 51.3**	**+0.9**
FCC			IAmb	IAmb	15 59 01.5	
	comp=Z,7.7nm,1.3s					
DBO	**Dodson Butte**	**29.72 124**	P	**P**	**15 58 57.3**	**-1.1**
YAK	**Yakutsk**	**30.46 297**	LR	LR	16 12 37.5	
	comp=Z,83nm,18.0s,baz=60,slow=39					
ULM	**Lac du Bonnet**	**34.33 87**	P	**P**	**15 59 40.6**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=328,slow=6.3,SNR=4.2					
	comp=Z,2.1nm,0.8s					
FRB	**Frobisher Bay**	**34.57 52**	LR	LR	16 15 10.6	
	comp=Z,146nm,19.4s,baz=53,slow=39					
ELK	**Elko**	**34.61 117**	LR	LR	16 13 41.7	
	comp=Z,166nm,21.3s,baz=354,slow=36					
PDAR	**Pinedale Array**	**34.98 108**	P	**P**	**15 59 47.3**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=339,slow=7.9,SNR=5.4					
	comp=Z,0.4nm,0.6s					
NVAR	**Mina Array Bea**	**35.59 122**	P	**P**	**15 59 53.1**	**+3.2**
	comp=Z,1.8nm,0.7s,baz=310,slow=6.4,SNR=9.7					
	comp=Z,1.8nm,0.7s					
SFJD	**Kangerlussuaq**	**37.28 38**	LR	LR	16 19 53.7	
	comp=Z,125nm,18.1s,baz=64,slow=44					
U15A	**North Rim**	**39.50 116**	P	**P**	**16 00 22.0**	**-1.1**
SCHQ	**Schefferville**	**41.88 60**	P	**P**	**16 00 45.0**	**+2.8**
	comp=Z,1.7nm,0.6s,baz=326,slow=9.9,SNR=4.8					
	comp=Z,1.7nm,0.6s					
USRK	**Ussuriysk Ar.**	**43.02 275**	LR	LR	16 21 41.0	
	comp=Z,59nm,18.2s,baz=28,slow=40					
TXAR	**Lajitas Array**	**49.04 112**	P	**P**	**16 01 42.0**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=319,slow=4.8,SNR=7.8					
TXAR			LR	LR	16 23 43.9	
	comp=Z,78nm,18.7s,baz=338,slow=38					
	comp=Z,0.9nm,0.7s					
SONM	**Songino Array**	**49.80 299**	P	**P**	**16 01 45.9**	**+1.0**
	comp=Z,2.9nm,1.0s,baz=30,slow=6.5,SNR=14					
	comp=Z,2.9nm,1.0s					
KSRS	**Korea Array**	**50.37 274**	LR	LR	16 23 40.2	
	comp=Z,33nm,18.4s,baz=100,slow=37					
ZALV	**Zalesovo Beam**	**51.27 318**	P	**P**	**16 01 55.1**	**-0.7**
ZALV	**Zalesovo Beam**	**51.27 318**	P	**P**	**16 01 55.3**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=26,slow=8.2,SNR=11					
	comp=Z,2.0nm,0.6s					
FINES	**FINESS Array B**	**52.54 358**	P	**P**	**16 02 05.2**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=22,slow=7.0,SNR=2.6					
	comp=Z,3.2nm,1.0s					
HFS	**Hagfors**	**53.70 6**	P	**P**	**16 02 14.9**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=12,slow=7.4,SNR=1.6					
	comp=Z,3.1nm,0.9s					
HHC	**Hu-ho-hao-te**	**53.89 290** *eP*	P	**P**	**16 02 13.3**	**-2.2**
HHC			pmax	pmax		
	comp=Z,12nm,0.6s					
HHC			pmax	pmax		
	comp=Z,170nm,5.6s					
ARTI	**Arti**	**54.74 337**	P	**P**	**16 02 21.3**	**0.0**
	comp=Z,2.0nm,0.4s,baz=47,slow=5.7,SNR=4.0					
	comp=Z,2.0nm,0.4s					
BRVK	**Borovoye**	**55.64 327**	P	**P**	**16 02 28.0**	**+0.1**
BRVK			IAmb	IAmb	16 02 36.2	
	comp=Z,3.7nm,0.8s					
BVAR	**Borovoye Array**	**55.65 327**	P	**P**	**16 02 28.0**	**0.0**
	comp=Z,2.1nm,0.6s,baz=31,slow=7.1,SNR=12					
BVAR			LR	LR	16 29 24.1	
	comp=Z,117nm,18.8s,baz=330,slow=40					
	comp=Z,2.1nm,0.6s					
TIA	**Tai'an**	**55.76 283**	P	**P**	**16 02 27.1**	**-1.9**
TIA			pmax	pmax		
	comp=Z,7.0nm,0.4s					
TIA			pmax	pmax		
	comp=Z,5.0nm,0.3s					
KURK	**Kurchatov**	**55.83 321**	P	**P**	**16 02 28.6**	**-0.7**
KURK			IAmb	IAmb	16 02 35.2	
	comp=Z,3.5nm,0.8s					
KURBB	**Kurchatov Arra**	**55.94 321**	P	**P**	**16 02 29.8**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=26,slow=6.5,SNR=9.2					
	comp=Z,1.6nm,0.8s					
EKA	**Eskdalemuir Ar**	**57.12 17**	P	**P**	**16 02 39.2**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=345,slow=6.4,SNR=7.0					
	comp=Z,3.2nm,0.7s					
MK31	**Makanchi Array**	**58.43 316**	P	**P**	**16 02 46.8**	**-1.0**
MK31			IAmb	IAmb	16 02 57.8	
	comp=Z,1.4nm,0.8s					
MKAR	**Makanchi Array**	**58.43 316**	P	**P**	**16 02 47.0**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=35,slow=5.4,SNR=10					
	comp=Z,1.2nm,0.8s					
MAKZ	**Makanchi**	**58.50 316**	P	**P**	**16 02 48.2**	**-0.1**
NJ2	**Nanjing**	**58.72 279** *eP*		**P**	**16 02 47.9**	**-2.0**
NJ2			pmax	pmax		
	comp=Z,6.0nm,0.5s					
ABKAR	**Akbulak array**	**61.33 333**	P	**P**	**16 03 06.2**	**-1.4**
ABKAR			IAmb	IAmb	16 03 11.1	
	comp=Z,2.9nm,0.8s					
AKASG	**Malin Array Be**	**63.23 355**	P	**P**	**16 03 20.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=5.1,slow=6.3,SNR=4.2					
	comp=Z,0.7nm,0.5s					
GERES	**GERESS Array B**	**64.98 7**	P	**P**	**16 03 32.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=5.2,slow=12,SNR=1.7					
	comp=Z,0.5nm,0.6s					
KBZ	**Khabaz**	**69.22 345**	P	**P**	**16 04 00.0**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=314,slow=5.0,SNR=3.1					
	comp=Z,1.3nm,0.8s					
PZH	**PanZhiHua**	**70.33 291**	P	**P**	**16 04 05.2**	**-0.9**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,100nm,4.8s					
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,100nm,5.0s					
ESDC	**Sonseca Array**	**72.36 21**	P	**P**	**16 04 20.8**	**+2.6**
	comp=Z,1.2nm,0.7s,baz=351,slow=5.9,SNR=7.9					
	comp=Z,1.2nm,0.7s					
CMAR	**Chiang Mai Arr**	**78.70 290**	P	**P**	**16 04 55.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=5.1,slow=6.6,SNR=7.2					
CMAR			LR	LR	16 41 56.4	
	comp=Z,46nm,18.4s,baz=165,slow=38					
	comp=Z,0.7nm,0.7s					
MMAI	**Mount Meron Ar**	**80.53 349**	LR	LR	16 47 47.8	
	comp=Z,70nm,18.8s,baz=338,slow=41					
MDP	**Montagnes des**	**91.17 75**	LR	LR	16 44 53.9	
	comp=Z,33nm,20.7s,baz=297,slow=34					

NEIC **12** *15:53:34.2±1.6, 7.70N±0.08×127.08E±0.09, h35km±1km, mb4.3/13, Error ellipse: s-maj=15.8km s-min=11.7km az=127.0*
IDC **12** *15:53:39.7±2.0, 7.70N×126.67E, h100km±19km, mb3.6/13, mbtmp3.9/13, MS3.4/2, Error ellipse: s-maj=30.5km s-min=13.7km az=72.0*
ISC 12 15:53:34.3±0.5, 7.70N±0.07×127.04E±0.08, h52km, n34, σ1§30/34, mb4.1/19, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.58**	**247**	Pn	**Pn**	**15 54 00.7**	**+0.7**
DAV	**Davao City (W)**	**1.58**	**247**	P	**Pn**	**15 54 02.3**	**+2.4**
	213nm,0.3s,baz=74,slow=4.2,SNR=14						
DAV				S	**Sn**	**15 54 20.6**	**+1.3**
	488nm,0.7s,baz=259,slow=11,SNR=5.1						
TNTI	**Ternate**	**6.88**	**177**	Pn	**Pn**	**15 55 12.3**	**-0.5**
TGY	**Tagaytay City**	**8.74**	**317**	LR	LR	15 59 36.9	
	comp=Z,164nm,18.2s,baz=144,slow=42						
LUWI	**Luwuk**	**9.67**	**206**	Pn	**Pn**	**15 55 50.8**	**-0.1**
FAKI	**Fak Fak**	**11.75**	**154**	Pn	**Pn**	**15 56 18.8**	**-0.6**
SBUM	**Sibu**	**15.65**	**251**	P	**P**	**15 57 14.6**	**-0.4**
MTN	**Manton Dam**	**20.80**	**169**	P	**P**	**15 58 12.2**	**+0.7**
MTN				IAmb	IAmb	15 58 20.5	
	comp=Z,22nm,1.5s						
SMRI	**Semarang**	**22.10**	**229**	P	**P**	**15 58 24.1**	**-1.4**
KNRA	**Kununurra**	**23.28**	**176**	P	**P**	**15 58 38.3**	**+0.6**
KNRA				IAmb	IAmb	15 59 02.2	
	comp=Z,9.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.67**	**183**	P	**P**	**15 59 01.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**25.67**	**183**	P	**P**	**15 59 01.2**	**+1.7**
	comp=Z,2.5nm,0.6s,baz=18,slow=11,SNR=8.0						
	comp=Z,2.5nm,0.6s						
COEN	**Coen**	**26.82**	**143**	P	**P**	**15 59 11.8**	**+1.8**
COEN				IAmb	IAmb	15 59 17.4	
	comp=Z,4.9nm,0.9s						
WB0	**Warramunga Arr**	**28.23**	**165**	P	**P**	**15 59 23.3**	**+0.7**
WB0				IAmb	IAmb	15 59 39.4	
	comp=Z,3.4nm,0.8s						
WRAB	**Tennant Creek**	**28.38**	**165**	P	**P**	**15 59 24.2**	**+0.2**
WRAB				IAmb	IAmb	15 59 56.9	
	comp=Z,3.7nm,1.0s						
WRA	**Warramunga Arr**	**28.39**	**165**	P	**P**	**15 59 25.9**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=349,slow=9.2,SNR=9.2						
	comp=Z,0.5nm,0.8s						
PSI	**Prapat**	**28.41**	**262**	LR	LR	16 13 29.8	
	comp=Z,102nm,20.4s,baz=146,slow=42						
CMAR	**Chiang Mai Arr**	**29.34**	**294**	P	**P**	**15 59 30.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=2.0						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**31.88**	**168**	P	**P**	**15 59 55.5**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=342,slow=7.1,SNR=9.0						
ASAR				PcP	**PcP**	**16 02 44.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=353,slow=3.1,SNR=2.0						
	comp=Z,0.2nm,0.7s						
MORW	**Morawa**	**38.06**	**196**	P	**P**	**16 00 46.9**	**-1.0**
FORT	**Forrest**	**38.27**	**179**	P	**P**	**16 00 49.2**	**-0.5**
FORT				IAmb	IAmb	16 01 10.8	
	comp=Z,19nm,0.9s						
HEH	**HeiHe**	**42.42**	**0**	*eP*	**P**	**16 01 25.2**	**+1.4**
MKAR	**Makanchi Array**	**54.53**	**324**	P	**P**	**16 02 56.2**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=118,slow=7.9,SNR=14						
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**57.24**	**332**	P	**P**	**16 03 15.6**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=134,slow=6.2,SNR=2.0						
	comp=Z,0.9nm,0.7s						
SEY	**Seymchan**	**58.13**	**13**	P	**P**	**16 03 24.6**	**+2.2**
	comp=Z,2.5nm,0.8s,baz=231,slow=6.7,SNR=8.8						
	comp=Z,2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**58.62**	**326**	P	**P**	**16 03 23.3**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=124,slow=6.7,SNR=12						
	comp=Z,1.4nm,0.7s						
JOHN	**Johnston Islan**	**62.43**	**75**	P	**P**	**16 03 53.3**	**+0.7**
TIXI	**Tiksi**	**63.90**	**1**	P	**P**	**16 04 00.4**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=220,slow=2.2,SNR=4.8						
	comp=Z,1.7nm,0.4s						
BVAR	**Borovoye Array**	**64.21**	**326**	P	**P**	**16 04 02.7**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=116,slow=6.8,SNR=4.6						
	comp=Z,1.4nm,0.6s						
BRVK	**Borovoye**	**64.28**	**326**	P	**P**	**16 04 02.9**	**-1.3**
BRVK				IAmb	IAmb	16 04 04.5	
	comp=Z,2.1nm,0.8s						
O14K	**Tigyukauivet M**	**74.09**	**30**	P	**P**	**16 05 04.0**	**-0.8**
KDAK	**Kodiak Island**	**78.40**	**33**	P	**P**	**16 05 30.3**	**+1.0**
	comp=Z,5.7nm,0.8s,baz=239,slow=5.9,SNR=1.8						
	comp=Z,5.7nm,0.8s						
ILAR	**Eielson Array**	**81.42**	**26**	P	**P**	**16 05 46.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=235,slow=5.2,SNR=6.6						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**95.78**	**24**	P	**P**	**16 06 53.5**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=286,slow=4.5,SNR=2.7						
	comp=Z,0.2nm,0.8s						

HEL 12 15:57:42.2±0.3, 67.77N×20.21E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**66**	PG	Pg	15 57 55.6	-0.6
LANU				SG	Sg	15 58 04.9	-0.8
KIF	**Kilpisjarvi**	**1.27**	**10**	PG	Pg	15 58 05.5	-0.9
KIF				MSG		15 58 21.6	
	comp=Z,1.8nm,0.2s						
KIF				SG	Sg	15 58 22.1	-0.7
PAJU	**Pajala**	**1.35**	**122**	PN	Pg	15 58 07.3	-0.6
	baz=303						
PAJU				SN	Sb	15 58 25.8	-0.2
ERTU	**Ertsjaerv**	**1.44**	**147**	PN	Pn	15 58 09.4	-0.1
ERTU				SN	Sn	15 58 29.9	+0.8
HEF	**Hetta**	**1.45**	**62**	PG	Pn	15 58 08.3	-1.3
HEF				MSG		15 58 25.8	
	comp=Z,0.9nm,0.2s						
HEF				SG	Sg	15 58 27.3	-1.3
KLF	**Kolari**	**1.54**	**109**	PN	Pn	15 58 10.7	-0.1
KLF				MSG		15 58 28.3	
	comp=Z,0.8nm,0.2s						
KLF				SN	Sg	15 58 31.8	+0.2
KTK1	**Kautokeino**	**1.68**	**40**	PG	Pn	15 58 12.4	-0.4
KTK1				SN	Sb	15 58 35.4	-0.3
KALU	**Kalix**	**2.28**	**145**	PG	Pb	15 58 23.4	-0.8
TOF	**Tornio**	**2.34**	**134**	MSG		15 58 51.6	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sb	15 58 54.9	+0.3
RNF	**Rovaniemi**	**2.54**	**114**	PG	Pb	15 58 26.8	-1.9
RNF				SG	Sb	15 59 01.2	+0.9
ARA0	**ARCESS Array S**	**2.63**	**45**	SB	Sn	15 59 00.7	+2.2
KU2	**Taivalkoski**	**3.79**	**119**	PG	Pb	15 58 49.9	0.0

IDC **12** *15:58:12.6±1.5, 3.25S×127.79E, h0km, mb3.4/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=133.7km s-min=24.9km az=67.0*
DJA **12** *15:58:15.2±0.7, 3.3S±3.3×12.9E±.4, h12km±6km, M3.5/12, MLv3.5/12*
ISC 12 15:58:13.4±0.9, 2.60S±0.07×129.36E±0.05, h10km, n12, σ1§60/14, mb3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.86**	**210**	P	**Pg**	**15 58 30.5**	**+0.5**
AAI	**Ambon**	**1.59**	**227**	P	**Pn**	**15 58 42.8**	**+1.2**
BNDI	**Bandanaira**	**1.99**	**164**	P	**Pn**	**15 58 48.9**	**+1.8**
NLAI	**Namlea**	**2.35**	**254**	P	**Pn**	**15 58 53.6**	**+1.6**
NLAI				S	**Sn**	**15 59 22.4**	**+1.5**
SWI	**Sorong**	**2.56**	**48**	P	**Pn**	**15 58 57.4**	**+2.4**
FAKI	**Fak Fak**	**2.90**	**96**	P	**Pn**	**15 59 00.3**	**+0.6**
SANI	**Sanana**	**3.41**	**279**	P	**Pn**	**15 59 07.3**	**+0.6**
KMPI	**Kaimana, Papua**	**4.46**	**104**	P	**Pn**	**15 59 22.6**	**+1.4**
WRA	**Warramunga Arr**	**17.91**	**165**	P	**Pn**	**16 02 21.3**	**-1.5**
	0.2nm,0.3s,baz=338,slow=13,SNR=7.8						
WRA				S	Sn	16 05 27.1	-16
	0.4nm,1.0s,baz=332,slow=22,SNR=1.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**21.40**	**169**	P	**P**	**16 03 00.0**	**-1.5**
	1.4nm,0.4s,baz=349,slow=9.9,SNR=14						
ASAR				PcP	**PcP**	**16 07 05.6**	**+0.2**
	0.2nm,0.6s,baz=349,slow=2.3,SNR=4.8						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**64.23**	**326**	P	**P**	**16 08 46.4**	**-2.3**
	0.2nm,0.8s,baz=114,slow=6.5,SNR=1.7						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**68.46**	**328**	P	**P**	**16 09 15.3**	**-0.3**
	0.2nm,0.6s,baz=124,slow=5.7,SNR=2.4						
	0.2nm,0.6s						

TEH **12** *16:04:07.8, 27.44N×56.54E, h11km±9km*
OMAN **12** *16:04:10.2±0.1, 27.46N×56.60E, h11km±2km, ml2.9/12, Error ellipse: s-maj=3.5km s-min=1.0km az=338.0*
DSN **12** *16:04:10.4±2.1, 27.45N×55.60E, h15km, ML2.7/4, Error ellipse: s-maj=49.0km s-min=13.8km az=59.0*
ISC 12 16:04:08.4±1.0, 27.46N±0.04×56.53E±0.04, h7km±5km, n35, σ1§80/49, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.01**	**144**	Pg	**Pg**	**16 04 09.8**	**+0.1**
IBND				Sg	**Sg**	**16 04 11.7**	**+1.2**
GENO	**Geno**	**0.33**	**260**	Pg	**Pg**	**16 04 14.8**	**-0.1**
BNDS	**Bandar-Abbas**	**0.33**	**260**	Pg	**Pg**	**16 04 14.6**	**-0.2**
KHNJ	**Kahnooj**	**1.15**	**65**	Pg	**Pb**	**16 04 29.4**	**-1.2**
SHME	**Shamm**	**1.45**	**194**	P	**Pg**	**16 04 36.5**	**+0.4**
	SNR=18						
SHME				S	**Sg**	**16 04 56.9**	**+2.1**
SHME	**Shamm**	**1.45**	**194**	P	**Pg**	**16 04 35.8**	**-0.3**
SHME				S	**Sg**	**16 04 56.3**	**+1.5**
JASK	**Jask - Hormozg**	**1.98**	**143**	Pn	**Pb**	**16 04 43.0**	**-1.7**
JASK	**Jask - Hormozg**	**1.98**	**143**	P	**Pb**	**16 04 44.3**	**-0.5**
MASF	**Masafi**	**2.10**	**189**	P	**Pb**	**16 04 45.9**	**-1.0**
MASF				S	**Sg**	**16 05 14.8**	**-1.2**
MSFE	**Esma-Masafi**	**2.12**	**189**	P	**Pb**	**16 04 45.2**	**-1.9**
MDH	**Madha**	**2.16**	**186**	P	**Pb**	**16 04 47.1**	**-0.7**
MDH				S	**Sb**	**16 05 14.7**	**-0.1**
KBAM	**BAM**	**2.38**	**45**	Pn	**Pb**	**16 04 49.3**	**-2.3**
UOSS	**Minazif**	**2.52**	**187**	P	**Pb**	**16 04 53.0**	**-1.0**
UOSS	**Minazif**	**2.52**	**187**	P	**Pb**	**16 04 52.8**	**-1.2**
CHMN	**Cheshme madani**	**2.55**	**20**	Pn	**Pn**	**16 04 51.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.58**	**198**	P	**Pn**	**16 04 49.5**	**-1.1**
HATD	**Hatta, Dubai**	**2.65**	**188**	P	**Pb**	**16 04 54.4**	**-1.7**
HATD	**Hatta, Dubai**	**2.65**	**188**	P	**Pb**	**16 04 53.1**	**-3.0**
ASHO	**Ashiyiah**	**2.79**	**189**	P	**Pb**	**16 04 55.2**	**-3.4**
	SNR=9.4						
KHGB	**Koh Gabri**	**2.91**	**359**	Pn	**Pn**	**16 04 56.1**	**+0.8**
ALNE	**Al Ain**	**3.46**	**192**	P	**Pn**	**16 05 02.7**	**0.0**
ALNE				S	**Sb**	**16 05 47.2**	**-5.0**
HOQ	**Hoqain**	**3.92**	**170**	P	**Pn**	**16 05 10.7**	**+1.7**
HOQ				S	**Sn**	**16 05 56.9**	**+1.5**
ARQ	**Araqi**	**4.10**	**180**	P	**Pn**	**16 05 13.1**	**+1.6**
	SNR=9.2						
ARQ				S	**Sn**	**16 06 03.5**	**+3.7**
BIDO	**Bidbid**	**4.17**	**159**	P	**Pn**	**16 05 13.9**	**+1.4**
MZWR	**Madinat Zayed**	**4.39**	**214**	P	**Pn**	**16 05 17.2**	**+1.8**
MZWR				S	**Sn**	**16 06 10.5**	**+3.6**
SMDO	**Samad**	**4.59**	**162**	P	**Pn**	**16 05 18.4**	**+0.1**
SMDO				S	**Sn**	**16 06 13.9**	**+2.0**
NGCH	**Negor - Chabah**	**4.63**	**116**	P	**Pn**	**16 05 19.4**	**+0.7**
NGCH				S	**Sn**	**16 06 14.6**	**+1.9**
BSY	**Bisya**	**4.73**	**173**	P	**Pn**	**16 05 22.0**	**+1.8**
UMZA	**Um Al Zommool**	**4.88**	**195**	P	**Pn**	**16 05 23.2**	**+1.0**
UMZA				S	**Sn**	**16 06 22.0**	**+2.9**
WBK	**Wadi Bani Khal**	**5.31**	**155**	P	**Pn**	**16 05 28.6**	**+0.4**
WBK				S	**Sn**	**16 06 29.0**	**-0.5**
JLN	**Jalan Bani Buh**	**5.89**	**153**	P	**Pn**	**16 05 35.8**	**-0.4**
JLN				S	**Sn**	**16 06 45.6**	**+1.6**
MHTO	**MHTO**	**6.57**	**168**	P	**Pn**	**16 05 46.1**	**+0.6**
DMTO	**DMTO**	**9.80**	**189**	P	**Pn**	**16 06 29.0**	**-0.8**
WHFO	**Wadi Hawf**	**9.83**	**196**	P	**Pn**	**16 06 30.6**	**+0.3**
ABTO	**Aybut**	**10.49**	**197**	P	**Pn**	**16 06 37.7**	**-1.6**

NEIC **12** *16:24:35.7±1.2, 3.80N±0.05×123.03E±0.1, h535km±11km, mb4.3/25, Error ellipse: s-maj=16.7km s-min=4.1km az=115.0*
IDC **12** *16:24:37.2±1.8, 3.72N×122.97E, h558km±21km, mb2.9/8, mbtmp3.9/8, Error ellipse: s-maj=130.5km s-min=9.7km az=65.0*
ISC 12 16:24:35.7±0.5, 3.80N±0.07×123.03E±0.10, h550km, n43, σ1§15/48, mb4.0/18, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.49**	**220**	P	**P**	**16 25 53.0**	**-1.0**
DAV	**Davao City (W)**	**4.12**	**38**	P	**P**	**16 25 57.0**	**-1.5**
LUWI	**Luwuk**	**4.81**	**183**	P	**P**	**16 26 02.2**	**-1.8**
TNTI	**Ternate**	**5.28**	**125**	P	**P**	**16 26 05.9**	**-2.0**
KKM	**Kota Kinabalu**	**7.14**	**288**	P	**P**	**16 26 23.8**	**-1.4**
SBUM	**Sibu**	**10.88**	**263**	P	**P**	**16 27 02.4**	**-0.3**
SOEI	**Soe**	**13.52**	**175**	P	**P**	**16 27 29.7**	**-0.5**
DLV	**Lat**	**16.51**	**300**	P	**P**	**16 28 01.0**	**+0.7**
DLV				IAmb	IAmb	16 28 39.3	
	comp=Z,16nm,1.2s						
MTN	**Manton Dam**	**18.39**	**154**	P	**P**	**16 28 18.0**	**+0.7**
MTN				IAmb	IAmb	16 28 24.4	
	comp=Z,5.3nm,0.7s						
TWG	**Pinlang**	**19.00**	**354**	P	**P**	**16 28 23.8**	**+1.1**
MYKOM	**Kota Tinggi**	**19.26**	**265**	P	**P**	**16 28 24.8**	**-0.4**
MYKOM				IAmb	IAmb	16 28 33.2	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**20.17**	**164**	P	**P**	**16 28 34.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**21.91**	**173**	P	**P**	**16 28 47.7**	**-1.3**
RPSI	**Rantau Prapat**	**24.09**	**268**	P	**P**	**16 29 07.7**	**-0.9**
RPSI				IAmb	IAmb	16 29 09.4	
	comp=Z,7.8nm,1.1s						
MBWA	**Marble Bar**	**25.01**	**187**	P	**P**	**16 29 15.6**	**-1.0**
MBWA				IAmb	IAmb	16 29 34.1	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**25.95**	**155**	P	**P**	**16 29 25.1**	**+0.2**
WB0				IAmb	IAmb	16 29 25.9	
	comp=Z,6.1nm,1.1s						
WRAB	**Tennant Creek**	**26.08**	**155**	P	**P**	**16 29 26.3**	**+0.3**
WRAB				IAmb	IAmb	16 29 26.8	
	comp=Z,5.5nm,0.3s						
WRA	**Warramunga Arr**	**26.08**	**155**	P	**P**	**16 29 26.1**	**0.0**
	comp=Z,1.5nm,0.4s,baz=335,slow=9.6,SNR=80						
WRA				PcP	**PcP**	**16 32 36.2**	**+0.9**
	comp=Z,0.3nm,1.1s,baz=344,slow=2.1,SNR=1.5						
WRA				ScP	**ScP**	**16 35 22.6**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=342,slow=3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.12**	**159**	Pg	**Pg**	**16 31 20.2**	**-0.1**
G19K	comp=N,25μm,0.3s			IAML		16 31 22.7	
F19K	**Shaleruckik Mo**	**0.63**	**339**		**Pg**	**16 31 29.4**	**-0.4**
F19K					**Sg**	**16 31 38.2**	**+0.3**
F19K	**Shaleruckik Mo**	**0.63**	**339**	IAML		16 31 43.6	
F19K	comp=E,4μm,0.4s			IAML		16 31 43.6	
G18K	**Tagagawik**	**0.70**	**240**		**Pg**	**16 31 30.8**	**-0.2**
G18K	comp=N,3μm,0.8s			IAML		16 31 43.7	
H19K	**Roundabout Mou**	**0.79**	**157**		**Pg**	**16 31 32.5**	**-0.2**
H19K					**Sg**	**16 31 43.4**	**+0.4**
H19K	**Roundabout Mou**	**0.79**	**157**	IAML		16 31 47.9	
F20K	**Avaraart Lake**	**0.99**	**35**		**Pg**	**16 31 35.8**	**-0.9**
F20K					**Sg**	**16 31 49.3**	**-0.2**
F18K	**Selawik**	**1.05**	**291**		**Pg**	**16 31 37.1**	**-0.7**
F18K					**Sn**	**16 31 53.6**	**+0.1**
H18K	**Honhosa River**	**1.21**	**204**		**Pb**	**16 31 39.7**	**-1.1**
H18K					**Sg**	**16 31 56.6**	**+0.2**
H18K	**Honhosa River**	**1.21**	**204**	IAML		16 31 59.5	
H18K	comp=E,871nm,1.1s			IAML		16 32 00.4	
E19K	**Redstone River**	**1.21**	**359**		**Sb**	**16 31 55.7**	**-1.0**
E19K	**Redstone River**	**1.21**	**359**		**Pn**	**16 31 40.1**	**-0.8**
G21K	**Allakaket**	**1.51**	**78**		**Pn**	**16 31 44.6**	**-0.4**
G21K					**Sb**	**16 32 05.2**	**0.0**
GCSA	**Galena City Sc**	**1.52**	**175**		**Pn**	**16 31 44.2**	**-0.8**
GCSA					**Sb**	**16 32 05.2**	**-0.2**
F17K	**Baldwin Pennin**	**1.65**	**279**		**Pn**	**16 31 46.7**	**-0.2**
F17K	**Baldwin Pennin**	**1.65**	**279**	IAML		16 32 13.8	
F17K	comp=E,1μm,0.8s			IAML		16 32 14.7	
H17K	**Granite Mounta**	**1.74**	**222**		**Pn**	**16 31 47.9**	**-0.3**
H17K	**Granite Mounta**	**1.74**	**222**	IAML		16 32 13.6	
H17K	comp=E,735nm,0.8s			IAML		16 32 14.3	
F21K	**Alatna River**	**1.77**	**55**		**Pn**	**16 31 48.4**	**-0.2**
F21K	**Alatna River**	**1.77**	**55**	IAML		16 32 18.2	
F21K	comp=E,893nm,0.8s			IAML		16 32 19.8	
E18K	**Tukpahlearik C**	**1.79**	**313**		**Pn**	**16 31 49.3**	**+0.5**
E18K	**Tukpahlearik C**	**1.79**	**313**	IAML		16 32 15.2	
E18K	comp=E,742nm,0.6s			IAML		16 32 15.2	
I20K	**Naaghedeneel**	**1.85**	**141**		**Pn**	**16 31 50.0**	**+0.4**
I20K	**Naaghedeneel**	**1.85**	**141**	IAML		16 32 27.3	
I20K	comp=N,901nm,1.1s			IAML		16 32 45.7	
H21K	**Melozitna Rive**	**1.89**	**106**		**Pn**	**16 31 49.8**	**-0.5**
H21K	**Melozitna Rive**	**1.89**	**106**	IAML		16 32 19.8	
E17K	**Hotham Inlet**	**2.03**	**296**		**Pn**	**16 31 52.0**	**-0.1**
E20K	**Nigu River**	**2.05**	**10**		**Pn**	**16 31 53.8**	**+1.2**
D19K	**Kuna River**	**2.28**	**351**		**Pn**	**16 31 56.6**	**+0.9**
D19K	**Kuna River**	**2.28**	**351**	IAML		16 32 31.3	
D19K	comp=E,554nm,0.6s			IAML		16 32 33.0	
G16K	**Koyuk River**	**2.29**	**250**		**Pn**	**16 31 54.8**	**-1.0**
G16K	**Koyuk River**	**2.29**	**250**	IAML		16 32 33.6	
G16K	comp=N,452nm,0.8s			IAML		16 32 36.3	
F22K	**John River**	**2.35**	**55**		**Pn**	**16 31 56.7**	**+0.1**
J19K	**Poorman**	**2.36**	**163**		**Pn**	**16 31 57.1**	**+0.3**
J19K	**Poorman**	**2.36**	**163**	IAML		16 32 32.8	
H22K	**Ishtalitna Cre**	**2.40**	**96**		**Pn**	**16 31 57.0**	**-0.2**
I21K	**Tanana**	**2.41**	**114**		**Pn**	**16 31 57.2**	**-0.2**
I21K	**Tanana**	**2.41**	**114**	IAML		16 32 40.0	
I21K	comp=E,330nm,0.9s			IAML		16 32 40.1	
J20K	**Nowinta River**	**2.45**	**147**	Pn	**Pn**	**16 31 58.0**	**+0.1**
J20K				IAML		16 32 41.0	
D20K	**Etivluk River**	**2.48**	**5**		**Pn**	**16 31 59.3**	**+0.9**
E21K	**Killik River**	**2.53**	**28**		**Pn**	**16 31 59.6**	**+0.5**
E21K	**Killik River**	**2.53**	**28**	IAML		16 32 42.9	
E21K	comp=N,302nm,0.8s			IAML		16 32 46.2	
H16K	**Elim**	**2.66**	**235**		**Pn**	**16 31 59.6**	**-1.2**
D17K	**Noatak River**	**2.73**	**305**		**Pn**	**16 32 02.0**	**+0.2**
I17K	**Unalakleet**	**2.80**	**214**	Pn	**Pn**	**16 32 03.2**	**+0.5**
I17K				IAML		16 32 52.5	
J18K	**Innoko River**	**2.81**	**176**		**Pn**	**16 32 02.7**	**-0.1**
E22K	**Anaktuvuk Pass**	**2.82**	**45**		**Pn**	**16 32 03.7**	**+0.6**
E22K				IAML		16 32 51.3	
E22K	comp=E,158nm,0.9s			IAML		16 32 54.9	
C18K	**Utukok River**	**2.86**	**329**		**Pn**	**16 32 03.9**	**+0.2**
C18K	**Utukok River**	**2.86**	**329**	IAML		16 32 54.4	
RDOG	**Red Dog Mine**	**2.87**	**312**	Pn	**Pn**	**16 32 04.4**	**+0.7**
G23K	**Bananza Creek**	**2.91**	**78**		**Pn**	**16 32 03.9**	**-0.4**
COLD	**Coldfoot**	**2.94**	**67**	Pn	**Pn**	**16 32 04.4**	**-0.3**
C21K	**Knifeblade Rid**	**3.06**	**16**		**Pn**	**16 32 06.6**	**+0.3**
G15K	**Niukluk**	**3.11**	**249**		**Pn**	**16 32 06.5**	**-0.5**
CHUM	**Lake Minchumin**	**3.15**	**137**		**Pn**	**16 32 08.0**	**+0.5**
H23K	**Yukon River**	**3.15**	**94**		**Pn**	**16 32 07.8**	**+0.2**
H23K	**Yukon River**	**3.15**	**94**	IAML		16 33 00.8	
D22K	**Ayikyak River**	**3.15**	**31**		**Pn**	**16 32 08.5**	**+0.8**
D22K	**Ayikyak River**	**3.15**	**31**	IAML		16 33 08.3	
K20K	**Telida**	**3.20**	**154**		**Pn**	**16 32 08.5**	**+0.3**
C17K	**DeLong Mountai**	**3.22**	**317**		**Pn**	**16 32 09.0**	**+0.5**
TTA	**Tatalina**	**3.37**	**171**	Pn	**Pn**	**16 32 11.2**	**+0.5**
BPAW	**Bear Paw Mtn.**	**3.39**	**127**	Pn	**Pn**	**16 32 11.2**	**+0.3**
BPAW				IAML		16 33 08.7	
I23K	**Minto, Yukon-K**	**3.42**	**105**		**Pn**	**16 32 11.2**	**-0.1**
I23K				IAML		16 33 10.2	
I23K	comp=E,159nm,1.0s			IAML		16 33 11.8	
E23K	**Chandalar**	**3.47**	**55**		**Pn**	**16 32 12.4**	**+0.4**
E23K	**Chandalar**	**3.47**	**55**	IAML		16 33 18.9	
B21K	**Ikpikpuk River**	**3.52**	**15**		**Pn**	**16 32 12.2**	**-0.4**
B18K	**Kokolik River**	**3.58**	**333**		**Pn**	**16 32 14.1**	**+0.6**
K17K	**Iditarod**	**3.58**	**188**		**Pn**	**16 32 13.3**	**-0.2**
K17K	**Iditarod**	**3.58**	**188**	IAML		16 33 25.1	
K17K	comp=N,90nm,1.2s			IAML		16 33 25.6	
CAST	**Castle Rocks**	**3.58**	**140**	Pn	**Pn**	**16 32 14.2**	**+0.6**
D23K	**Nanushuk River**	**3.69**	**39**		**Pn**	**16 32 15.8**	**+0.8**
D23K	**Nanushuk River**	**3.69**	**39**	IAML		16 33 22.8	
C16K	**Lisburne Hills**	**3.76**	**306**		**Pn**	**16 32 16.1**	**+0.2**
C16K				IAML		16 33 21.4	
C16K	comp=E,78nm,1.1s			IAML		16 33 24.1	
B20K	**Meade River**	**3.77**	**0**		**Pn**	**16 32 16.5**	**+0.4**
NEA2	**Nenana**	**3.78**	**112**		**Pn**	**16 32 16.4**	**+0.2**
TOLK	**Toolik Lake Re**	**3.79**	**47**		**Pn**	**16 32 16.8**	**+0.4**
KTH	**Kantishna Hill**	**3.80**	**133**		**Pn**	**16 32 17.0**	**+0.4**
KTH				IAML		16 33 27.6	
ANM	**Nome**	**3.82**	**247**	Pn	**Pn**	**16 32 17.7**	**+1.0**
ANM				IAML		16 33 24.6	
ANM	comp=E,67nm,0.6s			IAML		16 33 27.5	
E24K	**Your Creek**	**3.85**	**58**		**Pn**	**16 32 17.4**	**+0.2**
E24K	**Your Creek**	**3.85**	**58**	IAML		16 33 26.0	
E24K	comp=N,123nm,0.9s			IAML		16 33 28.9	
BWN	**Browne**	**3.87**	**119**		**Pn**	**16 32 18.1**	**+0.7**
BWN				IAML		16 33 47.8	
PPLA	**Purkeypile**	**4.00**	**145**		**Pn**	**16 32 20.1**	**+0.7**
L20K	**Farewell, AK**	**4.05**	**158**		**Pn**	**16 32 21.2**	**+1.3**
L18K	**Granite Mounta**	**4.05**	**177**		**Pn**	**16 32 21.0**	**+1.0**
L18K	**Granite Mounta**	**4.05**	**177**	IAML		16 33 29.2	
L18K	comp=N,57nm,0.9s			IAML		16 33 43.3	
TRF	**Thorofare Moun**	**4.07**	**130**	Pn	**Pn**	**16 32 21.2**	**+0.9**
POKR	**Poker Plat Res**	**4.19**	**101**		**Pn**	**16 32 22.3**	**+0.4**
POKR	**Poker Plat Res**	**4.19**	**101**	IAML		16 33 33.0	
L19K	**White Mountain**	**4.21**	**165**		**Pn**	**16 32 23.1**	**+0.9**
L19K	**White Mountain**	**4.21**	**165**	IAML		16 33 45.3	
A19K	**Wainwright**	**4.23**	**342**		**Pn**	**16 32 22.8**	**+0.6**
CCB	**Clear Creek Bu**	**4.23**	**108**	IAML		16 33 34.7	
CCB	comp=N,57nm,0.8s			IAML		16 33 38.0	
D24K	**Happy Valley**	**4.32**	**44**		**Pn**	**16 32 24.1**	**+0.6**
MCK	**McKinley**	**4.32**	**122**		**Pn**	**16 32 23.9**	**+0.2**
B22K	**Teshekpuk Lake**	**4.34**	**17**		**Pn**	**16 32 22.9**	**-1.0**
B22K	**Teshekpuk Lake**	**4.34**	**17**	IAML		16 34 04.7	
C23K	**Itkillik River**	**4.36**	**31**		**Pn**	**16 32 24.1**	**-0.1**
J14K	**Nanvaranak Lak**	**4.46**	**221**		**Pn**	**16 32 26.1**	**+0.5**
J14K	**Nanvaranak Lak**	**4.46**	**221**	IAML		16 33 44.4	
J14K	comp=E,90nm,0.9s			IAML		16 33 52.5	
M19K	**Big River Lodg**	**4.54**	**163**		**Pn**	**16 32 27.4**	**+0.9**
M19K	**Big River Lodg**	**4.54**	**163**	IAML		16 33 47.7	
ILAR	**Eielson Array**	**4.54**	**104**	Pn	**Pn**	**16 32 26.7**	**+0.1**
ILAR	comp=E,1.9nm,0.3s,baz=291,slow=14,SNR=101			Sn	**Sn**	**16 33 17.7**	**-1.8**
ILAR	comp=E,2.8nm,0.3s,baz=289,slow=23,SNR=8.9			Lg	Lg	16 33 38.1	
ILAR	comp=E,1.6nm,0.3s,baz=301,slow=32,SNR=4.2			LR	LR	16 34 26.5	
RND	**Reindeer**	**4.56**	**125**		**Pn**	**16 32 27.4**	**+0.4**
L16K	**Owhat River**	**4.67**	**193**		**Pn**	**16 32 28.7**	**+0.3**
HDA	**Harding Lake**	**4.67**	**109**	IAML		16 33 53.0	
C24K	**Franklin Bluff**	**4.72**	**39**		**Pn**	**16 32 28.9**	**-0.2**
C24K	**Franklin Bluff**	**4.72**	**39**	IAML		16 33 52.4	
C24K	comp=E,77nm,1.0s			IAML		16 34 00.8	
M20K	**Styx River**	**4.73**	**156**		**Pn**	**16 32 30.8**	**+1.4**
M20K	**Styx River**	**4.73**	**156**	IAML		16 33 27.0	
F25K	**Christian Rive**	**4.74**	**68**	IAML		16 33 55.9	
M18K	**Stony River**	**4.82**	**172**		**Pn**	**16 32 31.3**	**+0.9**
PRP	**Porcupine Dome**	**4.84**	**93**	IAML		16 33 53.3	
PRP	comp=E,61nm,1.0s			IAML		16 33 56.4	
A22K	**Sinclair Lake**	**4.84**	**9**		**Pn**	**16 32 30.7**	**-0.1**
E25K	**Arctic Village**	**4.90**	**62**		**Pn**	**16 32 31.0**	**-0.5**
SKT	**Skwentna**	**4.95**	**147**	IAML		16 34 02.6	
L15K	**Ungalak Mounta**	**4.97**	**204**		**Pn**	**16 32 32.9**	**+0.5**
A21K	**Barrow**	**5.10**	**2**		**Pn**	**16 32 33.7**	**-0.6**
D25K	**Kavik River**	**5.13**	**48**	IAML		16 34 04.1	
J25K	**Salcha River,**	**5.20**	**103**		**Pn**	**16 32 35.5**	**-0.3**
J25K	**Salcha River,**	**5.20**	**103**	IAML		16 34 08.1	
J25K	comp=N,45nm,1.2s			IAML		16 34 09.3	
N19K	**Bonanza Creek**	**5.59**	**166**		**Pn**	**16 32 41.8**	**+0.7**
N18K	**Kilae Creek**	**5.62**	**173**		**Pn**	**16 32 42.4**	**+0.8**
N17K	**Nushagak Hills**	**5.75**	**180**		**Pn**	**16 32 43.7**	**+0.5**
C26K	**Camden Bay**	**5.88**	**46**		**Pn**	**16 32 45.6**	**+0.6**
O18K	**Koktuh Hills**	**6.49**	**171**		**Pn**	**16 32 53.8**	**+0.4**
INK	**Inuvik**	**9.36**	**67**	Pn	**Pn**	**16 33 34.9**	**+2.2**
INK	comp=E,0.1nm,0.3s,baz=270,slow=9.1,SNR=3.3			Sn	**Sn**	**16 35 14.8**	**-3.1**
INK	comp=E,0.1nm,0.3s,baz=83,slow=15,SNR=3.1			Lg	Lg	16 36 17.7	
YKA	baz=7.9,slow=4.3 comp=E,0.5nm,0.5s **Yellowknife Ar**	**18.52**	**82**	P	**Pn**	**16 35 36.2**	**+2.0**
MKAR	baz=291,slow=10,SNR=4.1 comp=E,0.5nm,1.0s **Makanchi Array**	**58.46**	**316**	P	**P**	**16 41 16.0**	**+2.3**
	comp=E,0.2nm,0.6s,baz=28,slow=6.5,SNR=2.2 comp=E,0.2nm,0.6s						

IDC 12 16:33:01.6±46.0, 19°.39S×179°.21W, h550km±408km, mb2.1/2, mbtmp3.1/2, Error ellipse: s-maj=388.5km s-min=178.5km az=119.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.63**	**261**	P	P	16 40 18.1	+0.1
	0.2nm,0.9s,baz=97,slow=7.6,SNR=5.8 0.2nm,0.9s						
ASAR	**Alice Springs**	**43.67**	**256**	P	P	16 40 18.1	-0.3
	0.2nm,0.9s,baz=82,slow=8.0,SNR=4.1						
ASAR				PcP	PcP	16 41 52.8	-0.6
	0.3nm,0.7s,baz=106,slow=3.9,SNR=5.2 0.2nm,0.9s						
HFS	**Hagfors**	**138.26**	**350**	PKP	PKPdf	16 51 22.2	-1.8
	1.4nm,0.7s,baz=6.5,slow=7.7,SNR=1.4						
AKASG	**Malin Array Be**	**141.49**	**331**	PKP	PKiKP	16 51 32.0	-1.2
	0.3nm,0.3s,baz=44,slow=3.7,SNR=6.2						

*IDC **12** 16:34:54.8±1.0, 12°.83S×45°.32E, h0km, mb3.6/4, mbtmp3.7/6, ML4.4/3, Error ellipse: s-maj=28.9km s-min=26.8km az=56.0*

*NEIC **12** 16:34:57.5±1.9, 12°.87S±0°.08×45°.4E±0°.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=19.3km s-min=13.6km az=95.0*

ISC 12 16:34:56.1±0.6, 12°.94S±0°.05×45°.44E±0°.07, h10km, n36, σ2§18/43, mb4.4/10, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.40**	**97**	P	**Pn**	**16 36 03.4**	**+0.4**
SBV				S	**Sn**	**16 36 49.0**	**-5.3**
OPO	**Ambohidratompo**	**5.85**	**163**	Pn	**Pn**	**16 36 25.3**	**+2.3**
	3.6nm,0.3s,baz=336,slow=12,SNR=280						
OPO				Sn	**Sn**	**16 37 26.6**	**-3.7**
	4.4nm,0.3s,baz=304,slow=19,SNR=15						
OPO	**Ambohidratompo**	**5.85**	**163**	P	**Pn**	**16 36 25.3**	**+2.3**
OPO				S	**Sn**	**16 37 26.7**	**-3.7**
FIRM	**Firavahana**	**5.90**	**167**	P	**Pn**	**16 36 26.1**	**+2.3**
FIRM				S	**Sn**	**16 37 28.2**	**-3.3**
ATG	**Ambohiby**	**5.95**	**173**	P	**Pn**	**16 36 26.3**	**+1.9**
ATG				S	**Sn**	**16 37 28.2**	**-4.7**
ABPO	**Ambohimpanom**	**6.29**	**164**	Pn	**Pn**	**16 36 30.7**	**+1.6**
ABPO	**Ambohimpanom**	**6.29**	**164**	P	**Pn**	**16 36 30.9**	**+1.9**
MDSM	**Mandiavato**	**6.30**	**166**	P	**Pn**	**16 36 31.8**	**+2.5**
AVY	**Angavokely**	**6.36**	**160**	P	**Pn**	**16 36 31.6**	**+1.6**
DGRM	**Ambatolahisoa**	**6.36**	**172**	P	**Pn**	**16 36 32.2**	**+2.1**
DGRM				S	**Sn**	**16 37 38.5**	**-4.3**
ABM	**Ambohimiarambe**	**7.05**	**165**	P	**Pn**	**16 36 41.6**	**+2.0**
VOI	**Vohitsoka**	**9.01**	**172**	Pn	**Pn**	**16 37 08.2**	**+1.7**
RER	**Riviere de l'E**	**12.80**	**131**	Pn	**Pn**	**16 37 58.9**	**+0.6**
KIBK	**Kibwezi**	**12.82**	**325**	Pn	**Pn**	**16 37 56.7**	**-1.9**
KMBO	**Kilima Mbogo**	**14.26**	**325**	Pn	**Pn**	**16 38 14.8**	**-3.6**
	0.3nm,0.3s,baz=113,slow=13,SNR=1.8						
KMBO				Sn	**Sn**	**16 40 56.1**	**-0.9**
	0.4nm,0.3s,baz=40,slow=20,SNR=2.5 0.7nm,0.3s						
LSZ	**Lusaka**	**16.89**	**260**		**P**	**16 38 54.0**	**-1.0**
LSZ	**Lusaka**	**16.89**	**260**	Pn	**Pn**	**16 38 52.4**	**-0.5**
	0.3nm,0.3s,baz=96,slow=10,SNR=9.2 2.0nm,0.4s						
LBTB	**Lobatse**	**22.24**	**234**	P	**P**	**16 39 53.8**	**+0.5**
LBTB				IAmb	IAmb	16 40 01.7	
	comp=Z,17nm,1.4s						
BOSA	**Boshof**	**24.42**	**227**	P	**P**	**16 40 15.5**	**+0.3**
BOSA				IAmb	IAmb	16 40 59.7	
	comp=Z,9.8nm,1.3s						
BOSA	**Boshof**	**24.42**	**227**	P	**P**	**16 40 15.4**	**+0.3**
	comp=Z,3.9nm,1.1s,baz=48,slow=9.2,SNR=5.1 comp=Z,3.9nm,1.1s						
ABKAR	**Akbulak array**	**63.23**	**11**	P	**P**	**16 45 25.8**	**+1.2**
ABKAR				IAmb	IAmb	16 45 27.8	
	comp=Z,5.5nm,1.4s						
UGM	**Wanagama**	**64.07**	**93**	P	**P**	**16 45 31.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**67.50**	**94**	P	**P**	**16 45 54.3**	**+1.3**
MKAR	**Makanchi Array**	**68.02**	**26**	P	**P**	**16 45 56.4**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=200,slow=5.5,SNR=3.6 comp=Z,0.2nm,0.8s						
PSA00	**Pilbara Seismi**	**71.02**	**109**	P	**P**	**16 46 14.7**	**0.0**
PSA00				IAmb	IAmb	16 46 56.3	
	comp=Z,9.8nm,1.5s						
SOEI	**Soe**	**77.08**	**97**	P	**P**	**16 46 51.1**	**+0.7**
SONM	**Songino Array**	**81.11**	**37**	P	**P**	**16 47 11.9**	**+0.1**
ASAR	**Alice Springs**	**83.53**	**113**	P	**P**	**16 47 25.9**	**+1.0**
ASAR	**Alice Springs**	**83.53**	**113**	P	**P**	**16 47 26.2**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=267,slow=4.6,SNR=11 comp=Z,0.3nm,0.5s						
AS31	**Alice Springs**	**83.53**	**113**	P	**P**	**16 47 26.3**	**+1.3**
WRA	**Warramunga Arr**	**84.67**	**109**	P	**P**	**16 47 30.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=263,slow=3.0,SNR=2.8 comp=Z,0.4nm,0.8s						
WB2	**Warramunga Arr**	**84.68**	**109**	P	**P**	**16 47 32.2**	**+1.4**
WB2				IAmb	IAmb	16 47 38.8	
	comp=Z,4.9nm,1.4s						
WRAB	**Tennant Creek**	**84.68**	**109**	P	**P**	**16 47 32.6**	**+1.8**
WRAB				IAmb	IAmb	16 47 34.0	
	comp=Z,3.8nm,1.1s						
WB0	**Warramunga Arr**	**84.75**	**109**	P	**P**	**16 47 32.7**	**+1.5**
WB0				IAmb	IAmb	16 47 40.8	
	comp=Z,4.8nm,1.2s						
PDAR	**Pinedale Array**	**143.24**	**329**	PKP	**PKPdf**	**16 54 32.3**	**+1.1**
	comp=Z,0.6nm,1.1s,baz=9.1,slow=2.4,SNR=2.0						
TXAR	**Lajitas Array**	**147.03**	**305**	PKPbc	**PKPdf**	**16 54 38.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=30,slow=4.5,SNR=4.8						

IDC 12 16:45:05.2±1.2, 47°.48N×92°.95W, h0km, mbtmp3.2/4, ML1.0/1, Error ellipse: s-maj=17.5km s-min=10.8km az=53.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.38**	**326**	Pn	Pn	16 45 58.3	-0.9
	0.2nm,0.3s,baz=149,slow=10,SNR=2.1						
ULM				Pg	Pb	16 46 06.3	+0.4
	1.3nm,0.3s,baz=146,slow=16,SNR=12						
ULM				Lg	Lg	16 46 48.2	
	3.3nm,0.3s,baz=71,slow=21,SNR=18						
I10CA	**LAC DU BONNET**	**3.40**	**324**	I	I	17 10 00.0	
	baz=138,slow=329,SNR=8.0						
SADO	**Sadowa**	**9.96**	**101**	Pn	Pn	16 47 26.4	-3.2
	1.3nm,0.3s,baz=309,slow=10,SNR=1.5						
SADO				Sn	Sn	16 49 09.8	-12
	0.2nm,0.3s,baz=146,slow=15,SNR=1.1						
PDAR	**Pinedale Array**	**12.63**	**254**	Pn	Pn	16 48 03.5	-2.9
	0.5nm,0.5s,baz=68,slow=9.3,SNR=9.2						
PDAR				Lg	Lg	16 51 33.2	
	0.1nm,0.3s,baz=60,slow=34,SNR=1.6						
YKA	**Yellowknife Ar**	**19.36**	**329**	P	P	16 49 30.1	-1.9
	0.5nm,0.8s,baz=132,slow=12,SNR=7.9						
TXAR	**Lajitas Array**	**19.93**	**208**	P	P	16 49 39.3	+0.7
	0.1nm,0.5s,baz=8.4,slow=11,SNR=2.0						

IDC 12 16:52:23.2±2.1, 3°.92S×151°.65E, h0km, mb3.5/6, mbtmp3.6/6, MS3.2/3, Error ellipse: s-maj=67.7km s-min=27.3km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.05**	**219**	LR	LR	16 56 13.0	
	comp=Z,39nm,20.6s,baz=268,slow=33						
HNR	**Honiara**	**9.89**	**124**	LR	LR	16 58 03.8	
	comp=Z,141nm,18.0s,baz=192,slow=34						
WRA	**Warramunga Arr**	**23.21**	**225**	P	P	16 57 32.4	+0.3
	1.4nm,1.0s,baz=49,slow=9.9,SNR=7.7 1.4nm,1.0s						
ASAR	**Alice Springs**	**26.06**	**220**	P	P	16 57 58.2	-0.4
	0.4nm,1.0s,baz=50,slow=8.7,SNR=5.4 0.4nm,1.0s						
JHJ	**Hachijo jima 2**	**38.51**	**344**	LR	LR	17 15 11.5	
	comp=Z,155nm,19.8s,baz=46,slow=36						
CMAR	**Chiang Mai Arr**	**56.47**	**295**	P	P	17 02 09.2	+1.7
	0.3nm,0.4s,baz=106,slow=8.4,SNR=2.2 0.3nm,0.4s						
MKAR	**Makanchi Array**	**78.91**	**319**	P	P	17 04 28.2	-0.5
	0.2nm,0.8s,baz=101,slow=5.1,SNR=2.2 0.2nm,0.8s						
ILAR	**Eielson Array**	**81.78**	**22**	P	P	17 04 44.2	+0.5
	0.4nm,0.8s,baz=254,slow=5.5,SNR=3.0 0.4nm,0.8s						
BVAR	**Borovoye Array**	**87.85**	**323**	P	P	17 05 13.3	-1.3
	0.8nm,0.7s,baz=108,slow=4.7,SNR=5.8 0.8nm,0.7s						

*NEIC **12** 17:00:44.7±2.5, 2°.3S±0°.1×138°.12E±0°.07, h47km±9km, mb4.2/23, Error ellipse: s-maj=14.8km s-min=10.5km az=174.0*

*DJA **12** 17:00:45.3±0.3, 2°.S±4°×13°.8E±°, h56km±4km, M4.6/20, mb4.6/20, mB5.1/2, MLv4.6/12, Mw(mB)4.4/2*

*IDC **12** 17:00:46.4±3.6, 2°.39S×138°.21E, h60km±40km, mb3.7/9, mbtmp4.0/12, ML3.9/3, MS3.0/5, Error ellipse: s-maj=28.1km s-min=16.5km az=105.0*

ISC 12 17:00:44.0±0.5, 2°.35S±0°.06×138°.08E±0°.04, h35km, n76, σ1§61/77, mb4.2/18, MS2.9/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.72**	**60**	P	**Pn**	**17 00 58.4**	**+0.7**
SMPI				S	**Sn**	**17 01 08.9**	**+1.3**
SRPI	**Serui, Papua**	**1.90**	**284**	P	**Pn**	**17 01 14.7**	**+0.8**
SRPI				S	**Sn**	**17 01 37.0**	**+0.3**
GENI	**Genyem**	**2.10**	**97**	P	**Pn**	**17 01 19.4**	**+2.7**
GENI	**Genyem**	**2.10**	**97**	P	**Pn**	**17 01 19.2**	**+2.5**
BAKI	**Biak**	**2.28**	**300**	P	**Pn**	**17 01 21.6**	**+2.4**
JAY	**Jayapura**	**2.63**	**94**	P	**Pn**	**17 01 25.5**	**+1.5**
	8.3nm,0.3s,baz=236,slow=11,SNR=56						
JAY				S	**Sn**	**17 01 54.3**	**-0.4**
	68nm,0.5s,baz=158,slow=20,SNR=4.1						
JAY				LR	LR	17 02 37.0	
	comp=Z,130nm,19.6s,baz=282,slow=44 43nm,0.5s						
JAY	**Jayapura**	**2.63**	**94**	P	**Pn**	**17 01 25.7**	**+1.7**
RKPI	**Ransiki, Papua**	**3.99**	**282**	P	**Pn**	**17 01 44.4**	**+1.7**
KMPI	**Kaimana, Papua**	**4.56**	**253**	P	**Pn**	**17 01 54.3**	**+3.7**
FAKI	**Fak Fak**	**5.85**	**264**	Pn	**Pn**	**17 02 10.4**	**+2.1**
FAKI				Sn	**Sn**	**17 03 12.5**	**-1.8**
FAKI	**Fak Fak**	**5.85**	**264**	P	**Pn**	**17 02 10.1**	**+1.7**
FAKI	**Fak Fak**	**5.85**	**264**	P	**Pn**	**17 02 10.4**	**+2.1**
	0.5nm2um106nm,0.5s						
MMPI	**Merauke**	**6.50**	**159**	P	**Pn**	**17 02 21.3**	**+4.1**
SWI	**Sorong**	**6.98**	**282**	P	**Pn**	**17 02 26.1**	**+2.3**
BNDI	**Bandanaira**	**8.44**	**255**	P	**Pn**	**17 02 46.2**	**+2.3**
SAUI	**Saumlaki**	**8.77**	**230**	Pn	**Pn**	**17 02 50.4**	**+1.9**
MSAI	**Masohi**	**9.20

MMRI	**Maumere**	**16.96**	**248**	P	**Pn**	**17 04 39.3 +0.6**
MMRI				IAmb	IAmb	17 04 59.1
comp=Z,16nm,0.8s						
GUMO	**Guam**	**17.21**	**23**	LR	LR	17 09 25.7
comp=Z,72nm,21.9s,baz=164,slow=30						
WB0	**Warramunga Arr**	**17.68**	**192**	P	**Pn**	**17 04 46.9 -0.8**
WR0	**Warramunga Arr**	**17.84**	**191**	P	**Pn**	**17 04 48.7 -0.9**
WR0				IAmb	IAmb	17 05 13.9
comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**17.85**	**192**	P	**Pn**	**17 04 49.4 -0.4**
WB2	**Warramunga Arr**	**17.86**	**192**	P	**Pn**	**17 04 48.4 -1.5**
WB2				IAmb	IAmb	17 05 07.1
comp=Z,8.3nm,0.6s						
WRA	**Warramunga Arr**	**17.86**	**192**	P	**Pn**	**17 04 50.1 +0.2**
comp=Z,0.7nm,0.3s,baz=4.4,slow=12,SNR=37						
WRA				S	Sn	17 07 54.5 -14
comp=Z,2.5nm,0.7s,baz=8.7,slow=22,SNR=5.9						
comp=Z,4.2nm,0.7s						
QIS	**Mount Isa**	**18.16**	**175**	P	**P**	**17 04 54.2 +0.6**
FITZ	**Fitzroy Crossi**	**19.85**	**217**		**P**	**17 05 12.2 +0.1**
FITZ	**Fitzroy Crossi**	**19.85**	**217**	P	**P**	**17 05 12.9 +0.8**
comp=Z,0.2nm,0.3s,baz=32,slow=16,SNR=6.5						
FITZ				S	S	17 08 41.8 -12
comp=Z,7.9nm,0.6s,baz=180,slow=16,SNR=7.7						
comp=Z,2.5nm,0.8s						
AS31	**Alice Springs**	**21.57**	**190**	P	**P**	**17 05 31.3 +0.6**
ASAR	**Alice Springs**	**21.57**	**190**	P	**P**	**17 05 31.1 +0.3**
ASAR	**Alice Springs**	**21.57**	**190**	P	**P**	**17 05 31.3 +0.6**
comp=Z,3.7nm,0.4s,baz=8.7,slow=10,SNR=160						
ASAR				S	**S**	**17 09 25.3 -2.9**
comp=Z,2.3nm,0.9s,baz=13,slow=18,SNR=8.5						
comp=Z,3.7nm,0.4s						
MBWA	**Marble Bar**	**25.87**	**222**	P	**P**	**17 06 11.7 -0.9**
PSA00	**Pilbara Seismi**	**26.08**	**221**	P	**P**	**17 06 13.7 -0.8**
PSA00				IAmb	IAmb	17 06 20.9
comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**26.08**	**221**	P	**P**	**17 06 13.7 -0.8**
PSA00				IAmb	IAmb	17 06 16.6
comp=Z,4.4nm,1.0s						
JCJ	**Chichijima**	**29.54**	**7**	LR	LR	17 17 05.4
comp=Z,14nm,18.6s,baz=162,slow=33						
STKA	**Stephens Creek**	**29.56**	**174**	P	**P**	**17 06 44.2 -1.3**
STKA	**Stephens Creek**	**29.56**	**174**	P	**P**	**17 06 44.6 -0.9**
comp=Z,1.6nm,0.5s,baz=356,slow=9.6,SNR=3.2						
comp=Z,1.6nm,0.5s						
MORW	**Morawa**	**33.85**	**216**	P	**P**	**17 07 24.3 +0.9**
GSI	**Gununguitoli**	**40.66**	**275**	P	**P**	**17 08 21.1 -0.2**
KSRS	**Korea Array**	**40.71**	**348**	LR	LR	17 22 33.7
comp=Z,17nm,21.1s,baz=145,slow=32						
CMAR	**Chiang Mai Arr**	**43.71**	**300**	P	**P**	**17 08 47.0 +0.9**
comp=Z,0.3nm,0.4s,baz=116,slow=8.9,SNR=1.5						
comp=Z,0.3nm,0.4s						
PZH	**PanZhiHua**	**45.32**	**312**	P	**P**	**17 09 00.2 +1.2**
PZH				pmax	pmax	
comp=Z,20nm,0.5s						
PZH				pmax	pmax	
comp=Z,100nm,4.8s						
ASAJ	**Asahikawa**	**46.43**	**4**	LR	LR	17 28 06.7
comp=Z,64nm,18.5s,baz=122,slow=35						
USRK	**Ussuriysk Ar.**	**46.66**	**354**	P	**P**	**17 09 07.0 -2.1**
HHC	**Hu-ho-hao-te**	**49.33**	**333**	*eP*	**P**	**17 09 32.0 +2.0**
HHC				pmax	pmax	
comp=Z,19nm,0.5s						
HHC				pmax	pmax	
comp=Z,170nm,4.4s						
SONM	**Songino Array**	**57.13**	**335**	P	**P**	**17 10 27.9 +0.6**
comp=Z,0.3nm,0.4s,baz=147,slow=7.9,SNR=2.5						
comp=Z,0.3nm,0.4s						
WMQ	**Urumqi**	**64.34**	**322**	*eP*	**P**	**17 11 17.2 +0.8**
WMQ				pmax	pmax	
comp=Z,19nm,0.6s						
CASY	**Casey**	**66.70**	**192**	P	**P**	**17 11 30.9 -0.2**
MK31	**Makanchi Array**	**69.12**	**323**	P	**P**	**17 11 46.0 -0.8**
MKAR	**Makanchi Array**	**69.12**	**323**	P	**P**	**17 11 46.2 -0.5**
MKAR	**Makanchi Array**	**69.12**	**323**	P	**P**	**17 11 47.2 +0.4**
comp=Z,1.3nm,0.6s,baz=113,slow=7.7,SNR=24						
comp=Z,1.3nm,0.6s						
MAKZ	**Makanchi**	**69.32**	**322**	P	**P**	**17 11 47.8 -0.2**
MAKZ				IAmb	IAmb	17 11 49.3
comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**71.31**	**330**	P	**P**	**17 11 59.7 -0.2**
comp=Z,0.3nm,0.4s,baz=97,slow=4.6,SNR=2.5						
comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**73.07**	**325**	P	**P**	**17 12 10.9 +0.4**
comp=Z,1.0nm,0.8s,baz=118,slow=5.4,SNR=9.0						
comp=Z,1.0nm,0.8s						
KK31	**Karatay Array**	**75.43**	**316**	P	**P**	**17 12 21.4 -3.2**
KK31				IAmb	IAmb	17 12 37.2
comp=Z,3.5nm,1.5s						
KKAR	**Karatay Array**	**75.43**	**316**	P	**P**	**17 12 21.5 -3.1**
KKAR	**Karatay Array**	**75.43**	**316**	P	**P**	**17 12 21.4 -3.2**
KKAR				IAmb	IAmb	17 12 37.2
comp=Z,2.3nm,1.5s						
BVAR	**Borovoye Array**	**78.66**	**325**	P	**P**	**17 12 42.5 +0.1**
comp=Z,1.8nm,0.5s,baz=112,slow=7.3,SNR=16						
comp=Z,1.8nm,0.5s						
BRVK	**Borovoye**	**78.73**	**325**	P	**P**	**17 12 42.6 -0.2**
BRVK				IAmb	IAmb	17 12 44.2
comp=Z,2.2nm,0.7s						
ABKAR	**Akbulak array**	**84.04**	**320**	P	**P**	**17 13 10.8 -0.3**
ABKAR				IAmb	IAmb	17 13 12.0
comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**87.59**	**180**	P	**P**	**17 13 28.4 0.0**
comp=Z,0.8nm,0.7s,baz=238,slow=1.2,SNR=5.5						
comp=Z,0.8nm,0.7s						

TAP 12 17:01:36.8, 24°.62N×121°.87E, h70km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.02**	**253**	P	Pn	17 01 47.6	+0.7
TWC				*e*S	Sn	17 01 55.1	+0.8
NDS	**Dongshan**	**0.14**	**278**	*e*P	Pn	17 01 47.9	+0.7
NDS				*e*S	Sn	17 01 56.2	+1.4
EWUT	**Wuta**	**0.19**	**206**	*e*P	Pn	17 01 47.8	+0.4
EWUT				*e*S	Sn	17 01 55.9	+0.8
TWE	**Neicheng**	**0.21**	**300**	*i* P	Pn	17 01 48.5	+1.0
TWE				*i* S	Sn	17 01 57.0	+1.7
ENA	**Nanau**	**0.22**	**212**	*i* P	Pn	17 01 48.2	+0.6
ENA				S	Sn	17 01 56.6	+1.2
ENTT	**Nioudou**	**0.28**	**275**	P	Pn	17 01 48.6	+0.8
ENTT				*e*S	Sn	17 01 57.2	+1.2
FUSB	**Fushanzhiwuyua**	**0.29**	**299**	P	Pn	17 01 48.7	+0.6
FUSB				*i* S	Sn	17 01 57.1	+0.8
LATG	**Datong**	**0.32**	**256**	P	Pn	17 01 49.0	+0.7
LATG				S	Sn	17 01 58.1	+1.4
TIPB	**Shuangxi**	**0.36**	**354**	*i* P	Pn	17 01 48.8	+0.3
TIPB				*i* S	Sn	17 01 57.1	+0.1
NWLT	**Wulai**	**0.37**	**296**	*e*P	Pn	17 01 49.2	+0.7
NWLT				S	Sn	17 01 57.8	+0.6
EOS2	**EOS2**	**0.38**	**121**	*e*P	Pn	17 01 48.1	-0.4
TWB1	**Santiao Chiao**	**0.41**	**15**	*e*P	Pn	17 01 48.8	-0.1
TWB1				*e*S	Sn	17 01 56.9	-0.7
YHNB	**Yeheng**	**0.45**	**277**	*e*P	Pn	17 01 49.8	+0.5
YHNB				*e*S	Sn	17 01 58.4	-0.1
NSK	**Sanguang**	**0.47**	**278**	*e*P	Pn	17 01 50.0	+0.5
NSK				*e*S	Sn	17 01 59.6	+0.9
NNSB	**Datong**	**0.48**	**247**	*e*P	Pn	17 01 50.0	+0.3
NNSB				*e*S	Sn	17 01 60.0	+1.0
NNS	**Nan Shan**	**0.48**	**249**	*e*P	Pn	17 01 50.3	+0.6
NNS				*e*S	Sn	17 02 00.4	+1.3
ETLH	**Xiulin Townshi**	**0.54**	**221**	*e*P	Pn	17 01 50.4	+0.2
ETLH				*e*S	Sn	17 02 00.5	+0.6
YM01	**YM01**	**0.59**	**333**	*e*P	Pn	17 01 50.9	+0.2
YM01				*e*S	Sn	17 02 01.1	+0.3
ZUZH	**Zhuzihu**	**0.62**	**332**	*e*P	Pn	17 01 51.0	+0.1
ZUZH				*e*S	Sn	17 02 01.8	+0.5
FUSS	**Fushou**	**0.68**	**237**	*e*P	Pn	17 01 52.8	+1.1
FUSS				*e*S	Sn	17 02 03.8	+1.1
TDCB	**Techi**	**0.74**	**241**	*e*P	Pn	17 01 53.8	+1.5
TDCB				*i* S	Sn	17 02 05.3	+1.4
LIOB	**Emei**	**0.78**	**272**	*e*P	Pn	17 01 53.3	+0.7
LIOB				*e*S	Sn	17 02 04.9	+0.5
WHP	**Taichung City**	**0.91**	**248**	*e*P	Pn	17 01 55.7	+1.4
OWD	**Renai**	**0.91**	**224**	*e*P	Pn	17 01 54.9	+0.6
OWD				*e*S	Sn	17 02 07.9	+0.5
WUSB	**Renai**	**0.93**	**228**	*e*P	Pn	17 01 55.4	+0.8
WUSB				*e*S	Sn	17 02 08.4	+0.7
VWDT	**VWDT**	**1.08**	**218**	*e*P	Pn	17 01 57.0	+0.6
VWDT				*e*S	Sn	17 02 12.3	+1.3

JMA 12 17:02:33.1±0.1, 24°.3N±0°.3×123°.8E±0°.3, h13km±1km, MV1.2/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**323**	*i* P	Pg	17 02 36.1	-0.1
IRIF				*e*S	Sg	17 02 38.7	+0.4
JKRS	**Kuro-shima**	**0.19**	**94**	*i* P	Pg	17 02 37.6	+0.2
JKRS				*e*S	Sb	17 02 41.2	-0.8
HATJ	**Hateruma jima**	**0.19**	**179**	P	Pg	17 02 37.4	-0.1
HATJ				*e*S	Sg	17 02 40.2	-0.2
JIJ	**Ishigaki jima**	**0.33**	**70**	P	Pg	17 02 39.7	-0.2
JIJ				*e*S	Sg	17 02 44.4	-0.1
JISG	**Ishigakijimahi**	**0.57**	**54**	P	Pg	17 02 44.3	-0.1
JISG				*e*S	Sb	17 02 52.6	-0.4
YOJ	**Yonaguni jima**	**0.75**	**286**	*e*P	Pg	17 02 47.7	0.0
JYNG	**Yonagunijimaku**	**0.81**	**285**	*e*P	Pg	17 02 48.8	0.0
JYNG				*e*S	Sb	17 02 59.6	-0.1
JTJ	**Tarama**	**0.91**	**64**	*e*P	Pg	17 02 50.3	-0.4
JTJ				*e*S	Sb	17 03 03.1	+0.4

*WEL **12** 17:15:01.8±0.3, 38°.S±2°.×17°.7E±°, h5km, M3.4/18, ML3.7/18, MLv3.4/18, Error ellipse: s-maj=3.3km s-min=2.8km az=107.0, confirmed*
*NOU **12** 17:15:01.0, 38°.21S×176°.56E, h1km, MLv3.5/10, North Island, New Zealand*
ISC 12 17:15:02.0±0.9, 38°.18S±0°.02×176°.58E±0°.02, h16km±6km, n123, σ0°.83/128, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.08**	**224**	P	**Pg**	**17 15 04.6**	**-0.8**
MKRZ	**Makatiti**	**0.09**	**295**	P	**Pg**	**17 15 05.1**	**-0.4**
EDRZ	**Edgecumbe**	**0.15**	**61**	P	**Pg**	**17 15 05.0**	**-1.1**
RRRZ	**Republican Roa**	**0.17**	**197**	P	**Pg**	**17 15 05.7**	**-0.6**
OMRZ	**Omania**	**0.18**	**294**	P	**Pg**	**17 15 06.4**	**-0.1**
HLRZ	**Highlands Stat**	**0.19**	**247**	P	**Pg**	**17 15 06.8**	**+0.1**
MARZ	**Manawahe**	**0.21**	**22**	P	**Pg**	**17 15 06.1**	**-0.8**
LIRZ	**Lichensteins R**	**0.23**	**319**	P	**Pg**	**17 15 07.2**	**-0.1**
LIRZ				S	**Sg**	**17 15 11.3**	**+0.5**
HSRZ	**Hossack Road**	**0.29**	**243**	P	**Pb**	**17 15 08.6**	**-0.3**
UTU	**Utuhina**	**0.30**	**270**	P	**Pb**	**17 15 09.0**	**0.0**
KARZ	**Kaharoa**	**0.30**	**301**	P	**Pb**	**17 15 08.8**	**-0.3**
HRRZ	**Handcock Road**	**0.31**	**227**	P	**Pb**	**17 15 08.8**	**-0.5**
HRRZ				S	**Sb**	**17 15 13.8**	**-0.3**
NGRZ	**Ngongotaha**	**0.32**	**284**	P	**Pb**	**17 15 09.2**	**-0.1**
OPRZ	**Ohinepanea**	**0.33**	**357**	P	**Pg**	**17 15 08.5**	**-0.5**
OPRZ				S	**Sg**	**17 15 13.3**	**-0.4**
MUGZ	**Murupara**	**0.34**	**153**	P	**Pg**	**17 15 08.4**	**-0.6**
PRRZ	**Plateau Road**	**0.35**	**204**	P	**Pb**	**17 15 09.1**	**-0.8**
PRRZ				S	**Sb**	**17 15 14.5**	**-0.8**
GRRZ	**Galatos Road**	**0.40**	**245**	P	**Pb**	**17 15 10.9**	**+0.1**
ALRZ	**Allen Road**	**0.42**	**205**	P	**Pb**	**17 15 10.6**	**-0.5**
ALRZ				S	**Sb**	**17 15 17.4**	**0.0**
URZ	**Urewera**	**0.43**	**101**	P	**Pg**	**17 15 09.9**	**-0.8**
URZ	**Urewera**	**0.43**	**101**	P	**Pn**	**17 15 14.6**	**+1.1**
URZ	**Urewera**	**0.43**	**101**	P	**Pg**	**17 15 10.0**	**-0.7**
URZ				S	**Sg**	**17 15 16.1**	**-0.5**
WHRZ	**Whale Island**	**0.45**	**45**	P	**Pg**	**17 15 11.0**	**-0.1**
WPRZ	**Whakapapatarin**	**0.47**	**224**	P	**Pb**	**17 15 11.9**	**-0.1**
TGRZ	**Tauranga**	**0.51**	**331**	P	**Pg**	**17 15 12.3**	**+0.1**
RTZ	**Ruatahuna**	**0.54**	**144**	P	**Pb**	**17 15 12.5**	**-0.7**
KMRZ	**Kaimai**	**0.60**	**303**	P	**Pb**	**17 15 14.2**	**0.0**
MRHZ	**Matea Rd**	**0.67**	**191**	P	**Pb**	**17 15 14.8**	**-0.5**
KUTZ	**Kaahu Road**	**0.67**	**242**	P	**Pb**	**17 15 16.2**	**+0.9**
WHTZ	**Whakaora**	**0.69**	**225**	P	**Pb**	**17 15 16.6**	**+0.9**
MTHZ	**Maungataniwha**	**0.70**	**163**	P	**Pb**	**17 15 15.6**	**-0.4**
RAGZ	**Rawiri**	**0.73**	**116**	P	**Pb**	**17 15 16.2**	**-0.2**
MWZ	**Matawai**	**0.77**	**102**	P	**Pg**	**17 15 16.4**	**-0.5**
HATZ	**Hinemaiaia**	**0.81**	**208**	P	**Pb**	**17 15 18.0**	**+0.3**
WIZ	**White Island**	**0.81**	**37**	P	**Pg**	**17 15 17.4**	**-0.4**
WSRZ	**White Island S**	**0.81**	**36**	P	**Pg**	**17 15 17.8**	**0.0**
TLZ	**Tolley Road**	**0.83**	**259**	P	**Pg**	**17 15 17.9**	**-0.3**
RAHZ	**Arahi**	**0.84**	**152**	P	**Pb**	**17 15 18.5**	**+0.3**
WATZ	**Wairara**	**0.85**	**231**	P	**Pb**	**17 15 18.7**	**+0.3**
SNGZ	**Shannon Statio**	**0.85**	**135**	P	**Pb**	**17 15 18.7**	**+0.3**
RUGZ	**Raukumara Rang**	**0.90**	**77**	P	**Pg**	**17 15 18.6**	**-0.8**
RATZ	**Rangitukua**	**0.93**	**222**	P	**Pb**	**17 15 20.3**	**+0.4**
MYRZ	**Mayor Island**	**0.94**	**343**	P	**Pg**	**17 15 19.3**	**-0.8**
NMHZ	**Naumai**	**0.94**	**169**	P	**Pb**	**17 15 20.7**	**+0.7**
TOZ	**Tahuroa Road**	**0.96**	**297**	P	**Pg**	**17 15 19.5**	**-1.1**
RITZ	**Rihia Road**	**0.97**	**215**	P	**Pb**	**17 15 21.2**	**+0.6**
BKZ	**Black Stump Fm**	**0.99**	**184**	P	**Pb**	**17 15 20.6**	**-0.2**
BKZ	**Black Stump Fm**	**0.99**	**184**	P	**Pb**	**17 15 20.7**	**-0.2**
TKGZ	**Te Karaka**	**1.03**	**105**	P	**Pn**	**17 15 22.6**	**+0.7**
WHHZ	**Waihua**	**1.03**	**150**	P	**Pn**	**17 15 22.7**	**+0.8**
HAZ	**Te Kaha**	**1.04**	**67**	P	**Pg**	**17 15 20.8**	**-1.4**
KATZ	**Kakaramea**	**1.05**	**221**	P	**Pn**	**17 15 22.9**	**+0.6**
RIGZ	**Rimuhau**	**1.07**	**120**	P	**Pn**	**17 15 23.7**	**+1.2**
TWGZ	**Tauwhareparae**	**1.11**	**90**	P	**Pn**	**17 15 23.7**	**+0.8**
ARHZ	**Aropaoanui**	**1.13**	**163**	P	**Pn**	**17 15 24.3**	**+1.1**
NTVZ	**North Tongarir**	**1.16**	**217**	P	**Pb**	**17 15 24.2**	**+0.5**
TMVZ	**Te Maari**	**1.16**	**216**	P	**Pg**	**17 15 23.8**	**-0.7**
ETVZ	**East Tongariro**	**1.17**	**215**	P	**Pb**	**17 15 24.1**	**+0.1**
KRVZ	**Karewarewa**	**1.17**	**218**	P	**Pb**	**17 15 24.4**	**+0.5**
KNZ	**Kokohu**	**1.20**	**135**	P	**Pn**	**17 15 25.6**	**+1.4**
WTVZ	**West Tongariro**	**1.21**	**219**	P	**Pb**	**17 15 25.0**	**+0.3**
NNVZ	**North Ngauruho**	**1.21**	**218**	P	**Pb**	**17 15 25.0**	**+0.3**
OTVZ	**Oturere**	**1.21**	**216**	P	**Pg**	**17 15 23.8**	**-1.7**
PKGZ	**Pakihiroa**	**1.23**	**76**	P	**Pg**	**17 15 23.8**	**-1.9**
SNVZ	**South Ngauruho**	**1.24**	**216**	P	**Pb**	**17 15 25.6**	**+0.4**
KWHZ	**Kaweka Forest**	**1.25**	**185**	P	**Pg**	**17 15 25.1**	**-1.0**
NGZ	**Ngauruhoe**	**1.25**	**217**	P	**Pb**	**17 15 25.8**	**+0.4**
TWVZ	**Taurewa**	**1.26**	**225**	P	**Pg**	**17 15 25.1**	**-1.3**
PRGZ	**Paritu Road**	**1.27**	**126**	P	**Pn**	**17 15 26.4**	**+1.3**
MCHZ	**McNeill Hill**	**1.27**	**176**	P	**Pn**	**17 15 26.8**	**+1.7**
COVZ	**Chateau Observ**	**1.30**	**218**	P	**Pn**	**17 15 27.6**	**+1.9**
TUVZ	**Tukino**	**1.30**	**213**	P	**Pn**	**17 15 26.7**	**+1.0**
CNGZ	**Carnagh Statio**	**1.32**	**104**	P	**Pb**	**17 15 27.9**	**+1.5**
PUZ	**Puketiti**	**1.33**	**86**	P	**Pb**	**17 15 27.7**	**+1.1**
FWVZ	**Far West T-bar**	**1.34**	**216**	P	**Pg**	**17 15 27.0**	**-0.9**
WHVZ	**Whangaehu Hut**	**1.34**	**215**	P	**Pb**	**17 15 27.3**	**+0.3**
MAVZ	**Matarangi**	**1.35**	**216**	P	**Pn**	**17 15 27.2**	**+0.8**
TRVZ	**Turoa**	**1.38**	**215**	P	**Pn**	**17 15 27.7**	**+0.8**
WNVZ	**Wahianoa**	**1.38**	**213**	P	**Pn**	**17 15 27.5**	**+0.8**
MOVZ	**Moawhango**	**1.38**	**207**	P	**Pn**	**17 15 26.8**	**0.0**
HIZ	**Hauiti**	**1.39**	**256**	P	**Pn**	**17 15 26.5**	**-0.3**
HIZ	**Hauiti**	**1.39**	**256**	P	**Pn**	**17 15 26.5**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.43**	**133**	P	**Pg**	**17 15 29.4**	**-0.1**
PKVZ	**Pokaka**	**1.47**	**221**	P	**Pg**	**17 15 31.0**	**+0.7**
KRHZ	**Kereru**	**1.47**	**186**	P	**Pb**	**17 15 29.1**	**0.0**
WMGZ	**Waiomatatini S**	**1.50**	**77**	P	**Pn**	**17 15 29.1**	**+0.9**
MXZ	**Matakaoa Point**	**1.50**	**66**	P	**Pn**	**17 15 29.2**	**+0.9**
MXZ	**Matakaoa Point**	**1.50**	**66**	P	**Pn**	**17 15 28.8**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.53**	**165**	P	**Pg**	**17 15 31.1**	**-0.3**
MKAZ	**Moumakai**	**1.55**	**313**	P	**Pn**	**17 15 30.2**	**+1.2**
KUZ	**Kuaotunu**	**1.58**	**334**	P	**Pn**	**17 15 30.3**	**+0.9**
KUZ	**Kuaotunu**	**1.58**	**334**	P	**Pn**	**17 15 29.9**	**+0.5**
KAHZ	**Kahuranaki**	**1.63**	**172**	P	**Pb**	**17 15 31.9**	**+0.1**
VRZ	**Vera Road**	**1.71**	**236**	P	**Pg**	**17 15 34.6**	**-0.2**
PNHZ	**Pukenui**	**1.76**	**189**	P	**Pb**	**17 15 33.5**	**-0.5**
ETAZ	**East Tamaki Re**	**1.79**	**313**	P	**Pg**	**17 15 35.8**	**-0.6**
WIAZ	**Waiheke Island**	**1.80**	**320**	P	**Pn**	**17 15 31.4**	**-0.9**
PXZ	**Pawanui**	**1.86**	**173**	P	**Pn**	**17 15 34.2**	**+0.9**
WPHZ	**Waipukurau**	**1.89**	**183**	P	**Pg**	**17 15 37.0**	**-1.3**
AWAZ	**Awhitu Peninsu**	**1.90**	**305**	P	**Pn**	**17 15 35.5**	**+1.8**
TSZ	**Takapari Road**	**1.94**	**194**	P	**Pn**	**17 15 35.8**	**+1.4**
MBAZ	**Motutapu North**	**1.94**	**316**	P	**Pn**	**17 15 34.3**	**0.0**
WTAZ	**Waiatarua**	**2.02**	**307**	P	**Pg**	**17 15 40.1**	**-0.6**
PRHZ	**Porangahau**	**2.08**	**179**	P	**Pn**	**17 15 37.0**	**+0.7**
ABAZ	**Army Bay**	**2.10**	**318**	P	**Pn**	**17 15 37.8**	**+1.3**
GRZ	**Great Barrier**	**2.12**	**335**	P	**Pn**	**17 15 37.3**	**+0.4**
DVHZ	**Dannevirke**	**2.14**	**188**	P	**Pb**	**17 15 40.7**	**+0.2**
ANWZ	**Angora Road**	**2.28**	**182**	P	**Pb**	**17 15 43.9**	**+1.1**
KHEZ	**Kahui Hut**	**2.29**	**240**	P	**Pn**	**17 15 39.4**	**+0.2**
KHEZ	**Kahui Hut**	**2.29**	**240**	P	**Pg**	**17 15 45.5**	**-0.5**
POWZ	**Post Office Ro**	**2.30**	**196**	P	**Pg**	**17 15 45.3**	**-0.8**
BFZ	**Birch Farm**	**2.51**	**186**	P	**Pn**	**17 15 41.5**	**-0.7**
BFZ	**Birch Farm**	**2.51**	**186**	P	**Pn**	**17 15 42.3**	**0.0**
MRZ	**Mangatainoka R**	**2.60**	**197**	P	**Pn**	**17 15 43.7**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.84**	**196**	P	**Pg**	**17 15 54.5**	**-1.9**
OGWZ	**Otaki Gorge**	**2.85**	**202**	P	**Pn**	**17 15 48.2**	**+1.3**
WCZ	**Waipu Caves**	**2.86**	**321**	P	**Pn**	**17 15 46.5**	**-0.5**
CAW	**Cannon Point**	**3.15**	**201**	P	**Pb**	**17 15 58.6**	**+1.0**
TCW	**Tory Channel**	**3.51**	**210**	P	**Pn**	**17 15 57.5**	**+1.6**
OUZ	**Omahuta**	**3.80**	**320**	P	**Pn**	**17 16 00.0**	**+0.1**
OUZ	**Omahuta**	**3.80**	**320**	P	**Pn**	**17 15 59.9**	**0.0**
QRZ	**Quartz Range**	**4.10**	**229**	P	**Pn**	**17 16 03.7**	**-0.3**
MRNZ	**Matariki Terra**	**4.36**	**221**	P	**Pn**	**17 16 09.8**	**+2.2**
THZ	**Tophouse**	**4.56**	**217**	P	Pn	17 16 16.0	+5.6

*WEL **12** 17:21:24.2, 38°.19S×176°.60E, h4km, ML3.7, Mw3.9, Moment Tensor Solution. s12 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.83; $M_{\theta\theta}$4.80; $M_{\phi\phi}$-0.96; $M_{r\theta}$-6.55; $M_{\theta\phi}$0.32; $M_{\phi r}$-2.49; Fault plane solution: $M_0$8.26000×10^{14} NP1: ϕ_s71.00000°, δ75.00000°, λ-101.00000°. NP2: ϕ_s287.00000°, δ18.00000°, λ-56.00000°. Principal axes: T 8.5580, Plg29.0000°, Azm169.0000°; N -7.9670, Plg10.0000°, Azm73.0000°; P -0.5910, Plg59.0000°, Azm327.0000°; Stations used: RTZ MWZ WIZ BKZ TOZ HAZ PUZ HIZ MXZ MKAZ KUZ VRZ OBLIQUE FAULTING*
WEL 12 17:20:36.8±0.3, 38°S±2°×17°7E±°, h5km, M2.7/39, ML3.3/20, MLv2.7/39 Error ellipse: s-maj=3.2km s-min=3.0km az=86.2, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.10**	**234**	P	Pg	17 20 39.5	+0.6
MKRZ	**Makatiti**	**0.12**	**289**	P	Pg	17 20 40.0	+0.8
RRRZ	**Republican Roa**	**0.18**	**204**	P	Pg	17 20 40.5	+0.2
MARZ	**Manawahe**	**0.20**	**15**	P	Pg	17 20 41.1	+0.5
OMRZ	**Omania**	**0.20**	**290**	P	Pg	17 20 41.2	+0.5
HLRZ	**Highlands Stat**	**0.22**	**249**	P	Pg	17 20 41.6	+0.6
LIRZ	**Lichensteins R**	**0.25**	**314**	P	Pg	17 20 42.2	+0.6
HSRZ	**Hossack Road**	**0.32**	**245**	P	Pg	17 20 43.5	+0.6
MUGZ	**Murupara**	**0.33**	**157**	P	Pg	17 20 43.4	+0.2
KARZ	**Kaharoa**	**0.33**	**298**	P	Pg	17 20 43.8	+0.7
UTU	**Utuhina**	**0.33**	**270**	P	Pg	17 20 43.9	+0.8
HRRZ	**Handcock Road**	**0.33**	**230**	P	Pg	17 20 43.6	+0.3
HRRZ				S	Sg	17 20 48.2	+0.6
OPRZ	**Ohinepanea**	**0.33**	**353**	P	Pg	17 20 43.4	+0.2
OPRZ				S	Sg	17 20 48.2	+0.6
NGRZ	**Ngongotaha**	**0.34**	**282**	P	Pg	17 20 44.2	+0.8
PRRZ	**Plateau Road**	**0.36**	**208**	P	Pg	17 20 44.0	+0.1
PRRZ				S	Sg	17 20 49.5	+0.9
URZ	**Urewera**	**0.40**	**102**	P	Pg	17 20 45.0	+0.4
URZ				S	Sg	17 20 51.1	+1.2
ALRZ	**Allen Road**	**0.44**	**208**	P	Pg	17 20 45.5	+0.2
ALRZ				S	Sg	17 20 52.2	+1.2
WPRZ	**Whakapapatarin**	**0.49**	**226**	P	Pg	17 20 46.7	+0.5
TGRZ	**Tauranga**	**0.53**	**328**	P	Pg	17 20

MAVZ	**Matarangi**	**1.35 217**	P	Pn	17 21 49.1	-0.8
KRHZ	**Kereru**	**1.46 187**	P	Pn	17 21 51.5	+0.2

DJA 12 17:34:25.7±0.3, 1°S±3°×12°2E±°, h10km, M3.6/11, mb3.7/2, MLv3.5/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.57 121**		P	Pg	17 34 36.8	0.0
LUWI				S	Sb	17 34 45.2	-0.8
APSI	**Ampana**	**0.65 256**		P	Pg	17 34 37.8	-0.5
MRSI	**Marisa**	**1.27 344**		P	Pn	17 34 45.5	-4.0
KMSI	**Cibinong**	**2.15 52**		P	Pb	17 35 03.5	-1.3
PCI	**Palu**	**2.45 266**		P	Pn	17 35 06.1	+0.3
TTSI	**Tana Toraja**	**3.35 227**		P	Pn	17 35 18.1	-0.1
SANI	**Sanana**	**3.92 109**		P	Pn	17 35 24.6	-1.5
SPSI	**Sidrap Palu**	**4.06 218**		P	Pn	17 35 28.4	+0.5
BKSI	**Bulukumba**	**5.03 205**		P	Pn	17 35 42.1	+0.9
	0.0nm8.7nm,1.8s						

*IDC **12** 17:35:00.2±5.5, 36°.90N×56°.51E, h0km, mb3.1/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=96.4km s-min=20.2km az=7.0*
*TEH **12** 17:35:03.3, 37°.32N×56°.92E, h7km±111km*
ISC 12 17:35:03.6±0.7, 37°.35N±0°.05×56°.95E±0°.03, h10km, n39, σ2s67/40, 1C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.75 294**		Pg	**Pb**	**17 35 18.6**	**-0.3**
ISFR	**Sfrayin**	**0.89 109**		Pg	**Pn**	**17 35 22.4**	**-0.1**
SBZV	**Sabzevar**	**1.10 151**		Pg	**Pn**	**17 35 25.0**	**-0.3**
IMND	**Minoodasht**	**1.24 266**		Pg	**Pg**	**17 35 27.2**	**-0.2**
IEMG	**Emamgholi**	**1.35 87**		Pg	**Pg**	**17 35 30.5**	**+0.8**
IAKL	**Akhelmad**	**1.63 117**		Pg	**Pg**	**17 35 35.3**	**+0.5**
IPAY	**Payeh**	**1.87 118**		Pn	**Pg**	**17 35 38.7**	**-0.8**
IMOG	**Moghan**	**2.28 122**		Pn	**Pg**	**17 35 45.3**	**+0.2**
TAPT	**Tabas- Tapeh t**	**2.47 176**		Pn	**Pb**	**17 35 46.5**	**-1.7**
IGLO	**Ghaloghah**	**2.64 252**		Pn	**Pb**	**17 35 48.8**	**-2.4**
IKIA	**Kiasar**	**2.86 247**		Pn	**Pb**	**17 35 52.6**	**-2.4**
JRKH	**Jarkhoshk**	**3.09 117**		Pn	**Pb**	**17 35 56.0**	**-2.8**
IANJ	**Anjilo**	**3.09 233**		Pn	**Pb**	**17 35 55.0**	**-3.9**
TNSJ	**Nastanj**	**3.39 185**		Pn	**Pn**	**17 35 58.6**	**+1.8**
TBJM	**Torbat-e-JAM**	**3.43 126**		Pn	**Pb**	**17 36 01.1**	**-3.5**
IALA	**Alasht**	**3.56 250**		Pn	**Pn**	**17 36 01.9**	**+2.7**
TKDS	**Koohdasht(Taba**	**3.73 178**		Pn	**Pn**	**17 36 04.1**	**+2.7**
ILAS	**Lasjerd**	**3.78 240**		Pn	**Pn**	**17 36 04.4**	**+2.3**
IPRN	**Peran**	**3.87 255**		Pn	**Pn**	**17 36 06.1**	**+2.8**
AFRZ	**Afriz**	**4.26 156**		Pn	**Pn**	**17 36 11.5**	**+2.7**
TPRV	**Parvadeh(Tabas**	**4.32 183**		Pn	**Pn**	**17 36 11.5**	**+2.0**
IDMV	**Damavand**	**4.34 247**		Pn	**Pn**	**17 36 12.9**	**+2.9**
MZPU	**Pul - Mazandar**	**4.41 260**		Pn	**Pn**	**17 36 13.9**	**+3.1**
SHRT	**Shahrakht**	**4.59 143**		Pn	**Pn**	**17 36 15.9**	**+2.7**
ITEG	**Tejag**	**4.68 161**		Pn	**Pn**	**17 36 17.6**	**+3.0**
KLST	**Kelardasht - M**	**4.79 262**		Pn	**Pn**	**17 36 18.5**	**+2.3**
IVRN	**Varamin**	**4.84 242**		Pn	**Pn**	**17 36 18.7**	**+2.2**
ISFB	**Sefidab**	**4.86 233**		Pn	**Pn**	**17 36 19.2**	**+2.3**
ANAR	**Anarak**	**4.92 213**		Pn	**Pn**	**17 36 20.2**	**+2.5**
KRSH	**Karshahi**	**5.17 231**		Pn	**Pn**	**17 36 23.9**	**+2.6**
IDAH	**Dahanechah**	**5.19 152**		Pn	**Pn**	**17 36 24.2**	**+2.6**
IGZV	**Ghazvin**	**5.49 262**		Pn	**Pn**	**17 36 28.8**	**+3.2**
AB31	**Akbulak array**	**12.09 9**	⇓Pn		**Pn**	**17 37 57.3**	**+1.4**
	1.3nm,0.7s,baz=206,slow=14,SNR=11						
AB31			⇓Sn		**Sn**	**17 40 04.1**	**-6.6**
	1.7nm,0.7s,baz=199,slow=24,SNR=5.3						
KBZ	**Khabaz**	**12.44 305**	Pn		**Pn**	**17 37 58.9**	**-1.7**
	0.2nm,0.3s,baz=215,slow=9.1,SNR=5.5						
KBZ			Sn		**Sn**	**17 40 16.0**	**-3.2**
	0.1nm,0.3s,baz=292,slow=16,SNR=1.9						
	1.0nm,0.5s						
AKTO	**Aktyubinsk**	**13.10 3**	⇓Pn		**Pn**	**17 38 10.8**	**+1.1**
	1.9nm,0.8s						
AKTO			⇑Sn		Sn	17 40 25.2	-10
	4.7nm,1.2s						
BVAR	**Borovoye Array**	**18.26 27**	P		**P**	**17 39 20.6**	**+3.5**
	0.1nm,0.3s,baz=207,slow=9.8,SNR=16						
	2.9nm,0.6s						
KURBB	**Kurchatov Arra**	**20.32 42**	P		Pn	17 39 44.3	+2.5
	0.4nm,0.8s,baz=244,slow=12,SNR=4.6						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**20.96 55**	P		**P**	**17 39 50.9**	**+4.1**
	1.1nm,0.6s,baz=244,slow=11,SNR=13						
	1.1nm,0.6s						
AKASG	**Malin Array Be**	**23.82 313**	P		**P**	**17 40 15.6**	**-1.0**
	0.1nm,0.2s,baz=99,slow=8.3,SNR=1.0						
	0.1nm,0.2s						

WEL 12 17:39:36.4±1.3, 39°S±6°×17°6E±1°2, h149km±13km, M2.1/8, ML2.0/7, MLv2.1/8, Error ellipse: s-maj=17.0km s-min=6.5km az=70.0, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.28 173**		P	Pn	17 39 57.6	+0.8
TLZ	**Tolley Road**	**0.30 329**		P	Pn	17 39 57.6	+0.7
TMVZ	**Te Maari**	**0.53 182**		P	Pn	17 39 58.6	+0.7
TMVZ	**Te Maari**	**0.53 182**		P	Pn	17 39 59.2	+1.2
WTVZ	**West Tongariro**	**0.54 192**		P	Pn	17 39 59.0	+1.0
NGZ	**Ngauruhoe**	**0.60 190**		P	Pn	17 39 59.4	+1.1
WNVZ	**Wahianoa**	**0.75 188**		P	Pn	17 40 00.3	+1.0
MOVZ	**Moawhango**	**0.82 179**		P	Pn	17 40 00.4	+0.7
BKZ	**Black Stump Fm**	**0.83 135**		P	Pn	17 40 00.2	+0.5
BKZ				S	Sn	17 40 18.6	+1.0
BKZ	**Black Stump Fm**	**0.83 135**		P	Pn	17 40 00.2	+0.5
TOZ	**Tahuroa Road**	**0.87 348**		P	Pn	17 40 00.8	+0.8
VRZ	**Vera Road**	**0.93 234**		P	Pn	17 40 00.6	+0.2
KWHZ	**Kaweka Forest**	**1.00 147**		P	Pn	17 40 01.9	+0.8
KRHZ	**Kereru**	**1.17 155**		P	Pn	17 40 03.3	+0.7
PNHZ	**Pukenui**	**1.38 165**		P	Pn	17 40 05.0	+0.4
PNHZ				S	Sn	17 40 26.9	+0.7
TSZ	**Takapari Road**	**1.48 173**		P	Pn	17 40 06.1	+0.4
TSZ				S	Sn	17 40 29.2	+1.0
KAHZ	**Kahuranaki**	**1.50 144**		P	Pn	17 40 06.6	+0.7
MKAZ	**Moumakai**	**1.55 343**		P	Pn	17 40 05.5	-0.9
KNZ	**Kokohu**	**1.58 107**		P	Pn	17 40 07.3	+0.6
PXZ	**Pawanui**	**1.69 149**		P	Pn	17 40 07.8	-0.1
PXZ				S	Sn	17 40 32.4	+0.3
PXZ	**Pawanui**	**1.69 149**		P	Pn	17 40 07.9	0.0
DVHZ	**Dannevirke**	**1.74 169**		P	Pn	17 40 08.3	-0.3
DVHZ				S	Sn	17 40 32.6	-0.6
PRHZ	**Porangahau**	**1.82 158**		P	Pn	17 40 09.4	+0.1
PRHZ				S	Sn	17 40 34.6	-0.1
MRZ	**Mangatainoka R**	**2.08 183**		P	Pn	17 40 11.3	-1.0
MRZ				S	Sn	17 40 40.1	+0.1
BFZ	**Birch Farm**	**2.13 169**		P	Pn	17 40 12.3	-0.6
OGWZ	**Otaki Gorge**	**2.27 191**		P	Pn	17 40 13.9	-0.7
OGWZ				S	Sn	17 40 42.7	-1.4
HOWZ	**Holdsworth Sta**	**2.31 184**		P	Pn	17 40 14.1	-1.1
HOWZ				S	Sn	17 40 44.0	-1.1
CAW	**Cannon Point**	**2.57 191**		P	Pn	17 40 17.0	-1.3
MTW	**Mount Morrison**	**2.58 184**		P	Pn	17 40 16.7	-1.7
MTW				S	Sn	17 40 48.3	-2.5
TRWZ	**Traveller**	**2.81 181**		P	Pn	17 40 19.8	-1.5
TCW	**Tory Channel**	**2.85 203**		P	Pn	17 40 20.2	-1.6
TCW				S	Sn	17 40 55.5	-1.4
MSWZ	**Moikau Station**	**2.85 187**		P	Pn	17 40 19.9	-1.9
PLWZ	**Palliser**	**3.00 187**		P	Pn	17 40 21.5	-2.2
TUWZ	**Tuamarina**	**3.15 205**		P	Pn	17 40 23.7	-1.9
KHZ	**Kahutara**	**4.17 203**		P	Pn	17 40 36.3	-2.5
GVZ	**Greta Valley S**	**4.83 204**		P	Pn	17 40 44.3	-3.2

WEL 12 17:39:42.4±0.4, 38°S±3°×17°7E±°, h5km, M2.0/11, ML2.2/12, MLv2.0/11, Error ellipse: s-maj=3.5km s-min=3.5km az=161.3, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.10 235**		P	Pg	17 39 45.3	+0.6
MKRZ	**Makatiti**	**0.12 289**		P	Pg	17 39 46.6	+1.7
MKRZ				S	Sg	17 39 47.8	+1.2
RRRZ	**Republican Roa**	**0.18 205**		P	Pg	17 39 46.2	+0.2
MARZ	**Manawahe**	**0.20 15**		P	Pg	17 39 46.7	+0.3
OMRZ	**Omania**	**0.20 291**		P	Pg	17 39 47.5	+1.1
HLRZ	**Highlands Stat**	**0.22 250**		P	Pg	17 39 47.1	+0.4
HLRZ				S	Sg	17 39 51.1	+1.5
MUGZ	**Murupara**	**0.32 157**		P	Pg	17 39 49.1	+0.4
HRRZ	**Handcock Road**	**0.33 230**		P	Pg	17 39 49.2	+0.3
HRRZ				S	Sg	17 39 54.1	+0.8

OPRZ	**Ohinepanea**	**0.34 352**		P	Pg	17 39 49.2	+0.2
OPRZ				S	Sg	17 39 53.9	+0.6
PRRZ	**Plateau Road**	**0.36 208**		P	Pg	17 39 49.6	+0.1
PRRZ				S	Sg	17 39 55.1	+0.9
URZ	**Urewera**	**0.40 102**		P	Pg	17 39 50.9	+0.7
URZ				S	Sg	17 39 56.9	+1.5
RTZ	**Ruatahuna**	**0.53 146**		P	Pg	17 39 53.2	+0.7
MRHZ	**Matea Rd**	**0.67 193**		P	Pg	17 39 55.3	0.0
MTHZ	**Maungataniwha**	**0.70 165**		P	Pg	17 39 56.2	+0.4
NMHZ	**Naumai**	**0.93 171**		P	Pg	17 39 60.0	-0.3

*IDC **12** 18:02:03.8±1.1, 67°.13N×21°.33E, h0km, mbtmp3.0/4, ML1.9/4, Error ellipse: s-maj=19.0km s-min=7.7km az=107.0*
*UPP **12** 18:02:03.3±0.1, 67°.07N×20°.94E, h0km, ML1.8, Unknown*
*HEL **12** 18:02:04.4±0.3, 67°.10N×21°.03E, h0km, ML1.9, Explosion*
ISC 12 18:02:03.5±0.8, 67°.10N±0°.02×21°.00E±0°.03, h0km, n45, σ0s98/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17 276**		P	**Pg**	**18 02 06.5**	**-0.2**
DUNU				S	**Sg**	**18 02 08.8**	**-0.1**
MASU	**Masugnsbyn**	**0.52 47**		P	**Pg**	**18 02 14.1**	**+0.6**
MASU				S	**Sg**	**18 02 21.8**	**+1.5**
ERTU	**Ertsjaerv**	**0.72 139**		P	**Pg**	**18 02 16.8**	**-0.5**
ERTU				S	**Sg**	**18 02 26.7**	**0.0**
ERTU	**Ertsjaerv**	**0.72 139**		PG	**Pg**	**18 02 16.6**	**-0.7**
ERTU				SG	**Sg**	**18 02 27.6**	**+0.9**
PAJU	**Pajala**	**0.83 95**		P	**Pg**	**18 02 19.3**	**-0.1**
PAJU				S	**Sg**	**18 02 31.0**	**+0.9**
PAJU	**Pajala**	**0.83 95**		PG	**Pg**	**18 02 19.2**	**-0.2**
PAJU				SB	**Sg**	**18 02 29.8**	**-0.3**
KUA	**Kurravaara**	**0.89 344**		P	**Pg**	**18 02 20.2**	**-0.3**
KUA				S	**Sb**	**18 02 32.8**	**-1.5**
RATU	**Laukkuluspa**	**0.91 324**		P	**Pg**	**18 02 20.2**	**-0.6**
RATU				S	**Sg**	**18 02 33.0**	**+0.5**
LANU	**Lannavaara**	**1.02 21**		P	**Pg**	**18 02 22.8**	**-0.2**
LANU	**Lannavaara**	**1.02 21**		PG	**Pg**	**18 02 22.7**	**-0.3**
LANU				SN	**Sn**	**18 02 39.7**	**-0.4**
KLF	**Kolari**	**1.16 82**		PG	**Pg**	**18 02 25.3**	**-0.4**
	baz=264						
KLF				SG	**Sg**	**18 02 37.4**	**-3.4**
KLF				MSG		18 02 39.4	
	comp=Z,10nm,0.2s						
KOVU	**Salmi**	**1.17 344**		P	**Pg**	**18 02 25.3**	**-0.6**
KALU	**Kalix**	**1.57 142**		P	**Pn**	**18 02 32.0**	**-0.5**
KALU	**Kalix**	**1.57 142**		PG	**Pn**	**18 02 31.8**	**-0.6**
	baz=320						
KALU				SN	**Sg**	**18 02 54.8**	**+1.1**
HEF	**Hetta**	**1.66 36**		eP	**Pn**	**18 02 33.8**	**+0.1**
HEF	**Hetta**	**1.66 36**		PG	**Pn**	**18 02 34.0**	**+0.2**
	baz=218						
HEF				MSG		18 02 53.9	
	comp=Z,13nm,0.2s						
HEF				SN	**Sg**	**18 02 56.4**	**-0.2**
TOF	**Tornio**	**1.68 126**		PN	**Pn**	**18 02 33.9**	**-0.1**
TOF				MSG		18 02 54.4	
	comp=Z,7.1nm,0.2s						
KIF	**Kilpisjarvi**	**1.91 358**		eP	**Pb**	**18 02 38.9**	**-0.3**
KIF	**Kilpisjarvi**	**1.91 358**		PG	**Pb**	**18 02 39.1**	**0.0**
KIF				MSG		18 03 02.5	
	comp=Z,27nm,0.2s						
KIF				SG	**Sg**	**18 03 05.8**	**+1.0**
RNF	**Rovaniemi**	**2.04 102**		PG	**Pn**	**18 02 39.9**	**+0.9**
KTK1	**Kautokeino**	**2.09 23**		PG	**Pb**	**18 02 41.7**	**-0.5**
KTK1				SG	**Sg**	**18 03 09.8**	**-0.8**
BURU	**Burvik**	**2.54 176**		PB	**Pn**	**18 02 46.2**	**+0.4**
	baz=359						
RANF	**Ranua**	**2.56 113**		PB	**Pn**	**18 02 46.7**	**+0.5**
	baz=297						
RANF				SG	**Sb**	**18 03 22.6**	**+0.5**
TRO	**Tromso**	**2.65 344**		SG	**Sb**	**18 03 25.8**	**+1.0**
OUL	**Oulu**	**2.84 133**		PB	**Pn**	**18 02 51.4**	**+1.4**
OUL				SG	**Sb**	**18 03 30.3**	**0.0**
OBF4	**Vikkela, Lumij**	**2.85 142**		PB	**Pn**	**18 02 50.8**	**+0.7**
OBF4				MSG		18 03 27.8	
	comp=Z,2.4nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.94 152**		PB	**Pn**	**18 02 52.2**	**+0.9**
OBF0				MSG		18 03 30.4	
	comp=Z,3.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.96 32**		PN	**Pn**	**18 02 52.8**	**+1.1**
	baz=215						
ARA0				SB	**Sb**	**18 03 33.1**	**-0.6**
ARCES	**ARCESS Array B**	**2.96 32**		Pn	**Pn**	**18 02 52.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=25						
ARCES				Lg	Lg	18 03 32.5	
	comp=Z,0.5nm,0.3s,baz=213,slow=24,SNR=13						
	comp=Z,2.7nm,0.8s						
RAJF	**Raja-Jooseppi**	**3.10 60**		PB	**Pn**	**18 02 56.0**	**+2.4**
OUF	**Merijarvi**	**3.15 149**		PB	**Pn**	**18 02 55.9**	**+1.6**
OUF				MSG		18 03 36.6	
	comp=Z,1.7nm,0.2s						
KU2	**Taivalkoski**	**3.23 112**		PN	**Pn**	**18 02 56.0**	**+0.7**
VRF	**Varrio**	**3.38 75**		PN	**Pn**	**18 02 58.7**	**+1.2**
OLKF	**Oulanka, Finla**	**3.43 99**		PN	**Pn**	**18 02 59.3**	**+1.2**
MSF	**Maaselka**	**3.43 107**		PN	**Pn**	**18 02 59.6**	**+1.4**
MSF				SG	**Sg**	**18 03 51.4**	**-2.2**
KEV	**Kevo**	**3.46 37**		PN	**Pn**	**18 02 59.3**	**+0.7**
KEV				SN	**Sn**	**18 03 41.1**	**+0.9**
KU6	**Riekki**	**3.71 103**		PN	**Pn**	**18 03 02.9**	**+0.9**
KU1	**Kurvinen**	**3.78 110**		PN	**Pn**	**18 03 04.1**	**+1.2**
HUSU	**Husum**	**3.85 192**		PN	**Pn**	**18 03 04.9**	**+1.0**
VAF	**Ylistaro**	**4.14 169**		PN	**Pn**	**18 03 08.6**	**+0.8**
	baz=347						
RMF	**Romuvaara**	**4.69 124**		PN	**Pn**	**18 03 16.8**	**+1.4**
NIF	**Nilsia**	**4.70 139**		PN	**Pn**	**18 03 16.7**	**+1.2**
	baz=329						
FINES	**FINESS Array B**	**6.09 156**		Pn	**Pn**	**18 03 34.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=341,slow=11,SNR=5.6						
FINES				Sn	**Sn**	**18 04 45.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=173,slow=21,SNR=1.4						
FINES				Lg	Lg	18 05 14.5	
	comp=Z,0.2nm,0.3s,baz=337,slow=32,SNR=1.6						
	comp=Z,3.0nm,1.1s						
NOA	**NORSAR Array B**	**7.44 220**		Pn	**Pn**	**18 03 53.2**	**0.0**
	baz=65,slow=17,SNR=1.3						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**7.71 208**		Pn	**Pn**	**18 03 55.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=1.4						
	comp=Z,2.0nm,0.9s						

*VAO **12** 18:06:28.3±0.5, 14°.46S×72°.65W, h85km, mb4.8*
*NEIC **12** 18:06:30.7±1.9, 14°.56S±0°.08×72°.39W±0°.09, h84km±3km, mb4.5/20, Error ellipse: s-maj=14.6km s-min=7.3km az=49.0*
*IDC **12** 18:06:33.2±0.6, 14°.34S×72°.26W, h95km±5km, mb4.0/8, mbtmp4.4/14, Error ellipse: s-maj=19.9km s-min=10.3km az=40.0*
ISC 12 18:06:31.3±0.4, 14°.52S±0°.04×72°.38W±0°.05, h100km, n102, σ2s10/117, mb4.3/12, 2C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**4.13 138**			Pn	18 07 36.9	+4.1
AP01	**Chacalluta**	**4.30 153**			**Pn**	**18 07 32.4**	**-2.1**
AP01				Sn	**Sn**	**18 08 23.1**	**-0.5**
LPAZ	**La Paz**	**4.46 114**		Pn	**Pn**	**18 07 38.6**	**+1.3**
LPAZ	**La Paz**	**4.46 114**		P	**Pn**	**18 07 39.9**	**+2.6**
	54nm,0.4s,baz=297,slow=8.7,SNR=265						
LPAZ				S	**Sn**	**18 08 31.1**	**+2.7**
	50nm,0.8s,baz=217,slow=24,SNR=22						
LPAZ	**La Paz**	**4.46 114**		eS	**Sn**	**18 08 30.9**	**+2.5**
PB12	**IPOC Station P**	**4.52 154**			**Pn**	**18 07 37.6**	**0.0**
PB12				Sn	**Sn**	**18 08 28.7**	**-0.4**
NNA	**Nana**	**5.02 300**			**Pn**	**18 07 44.5**	**+0.1**
NNA				Sn	**Sn**	**18 08 40.0**	**-1.2**
NNA	**Nana**	**5.02 300**		P	**Pn**	**18 07 45.2**	**+0.8**
	141nm,0.3s,baz=114,slow=12,SNR=23						
NNA				S	**Sn**	**18 08 39.9**	**-1.4**
	112nm,0.4s,baz=55,slow=17,SNR=6.7						
PB11	**IPOC Station P**	**5.83 154**		Pn	**Pn**	**18 07 54.2**	**-1.2**
PB11				Sn	**Sn**	**18 08 56.9**	**-4.1**
TA02	**Huaiquique**	**6.11 160**			**Pn**	**18 07 57.2**	**-1.9**
TA02				Sn	**Sn**	**18 09 02.8**	**-4.8**
TA01	**Diego Aracena**	**6.37 161**			**Pn**	**18 08 00.8**	**-1.8**
TA01				Sn	**Sn**	**18 09 09.1**	**-4.8**
PB08	**IPOC Station P**	**6.38 152**		Sn	**Pn**	**18 08 02.3**	**-0.8**
PB08				Sn	**Sn**	**18 09 11.7**	**-3.1**
CZSB	**Cruzeiro do Su**	**6.76 357**			**Pn**	**18 08 05.7**	**-2.2**
CZSB				Sn	**Sn**	**18 09 17.8**	**-5.6**
CZSB	**Cruzeiro do Su**	**6.76 357**		eP	**Pn**	**18 08 04.3**	**-3.6**
PB01	**IPOC Station P**	**7.05 157**			**Pn**	**18 08 10.4**	**-1.5**
PB01				Sn	**Sn**	**18 09 24.7**	**-5.9**
PB09	**IPOC Station P**	**7.83 158**			**Pn**	**18 08 21.4**	**-1.2**
PB09				Sn	**Sn**	**18 09 43.8**	**-5.9**
PB10	**IPOC Station P**	**9.11 169**		Pn	**Pn**	**18 08 37.0**	**-3.0**
PB10				Sn	Sn	18 10 10.8	-10
ATAH	**Atahualpa**	**9.42 321**		P	**Pn**	**18 08 44.0**	**-0.5**
	7.9nm,0.7s,baz=203,slow=1.0,SNR=7.2						
ATAH				S	**Sn**	**18 10 28.9**	**0.0**
	8.2nm,0.6s,baz=6.1,slow=19,SNR=1.6						
PB14	**IPOC Station P**	**10.22 170**		Pn	**Pn**	**18 08 51.6**	**-3.8**
TBTG	**Tabatinga, AM**	**10.55 14**			Pn	18 08 54.7	-4.9
TBTG	**Tabatinga, AM**	**10.55 14**		eP	**Pn**	**18 08 55.8**	**-3.8**
GO02	**Mina Guanaco**	**10.91 167**		Pn	**Pn**	**18 09 00.7**	**-3.9**
SIV	**San Ignacio**	**11.01 99**		P	**Pn**	**18 09 04.8**	**-1.0**
	4.3nm,0.4s,baz=289,slow=15,SNR=26						
SIV				S	Sn	18 10 58.1	-9.0
	8.2nm,0.8s,baz=341,slow=4.9,SNR=4.6						
AC01	**Pan de Azucar**	**11.69 172**		Pn	**Pn**	**18 09 11.7**	**-3.2**
VILB	**Vilhena**	**11.94 84**			**Pn**	**18 09 14.3**	**-4.0**
AC02	**Maricunga**	**12.62 167**		Pn	**Pn**	**18 09 25.9**	**-1.8**
PTLB	**Pontes e Lacer**	**12.83 96**		Pn	**Pn**	**18 09 27.4**	**-2.6**
PTLB	**Pontes e Lacer**	**12.83 96**		eP	**Pn**	**18 09 31.5**	**+1.5**
TEFE	**Tefe**	**13.35 36**		eP	**Pn**	**18 09 35.2**	**-1.6**
COHC	**Cochancay**	**13.77 330**		Pn	**Pn**	**18 09 38.4**	**-3.9**
PDRB	**Porto dos Gac**	**15.52 81**		eP	**P**	**18 10 06.9**	**-0.1**
BDQN	**Bodoquena, MS**	**16.03 114**		eP	**P**	**18 10 11.2**	**-1.3**
MACA	**Manacapuru-AM**	**16.14 47**		Pn	**Pn**	**18 10 10.7**	**-1.7**
MACA	**Manacapuru-AM**	**16.14 47**		eP	**Pn**	**18 10 12.6**	**+0.1**
SALV	**Santo Antonio**	**16.16 97**		eP	**P**	**18 10 13.3**	**-0.7**
FLOC	**Florencia**	**16.32 348**		P	**Pn**	**18 10 13.0**	**-1.7**
FLOC				IAmb	IAmb	18 10 18.9	
	comp=Z,18nm,1.1s						
AQDB	**Aquidauana**	**16.97 113**			**P**	**18 10 22.4**	**-0.5**
AQDB				IAmb	IAmb	18 10 25.5	
	comp=Z,58nm,1.1s						
AQDB	**Aquidauana**	**16.97 113**		eP	**P**	**18 10 23.4**	**+0.5**
CFA	**Coronel Fontan**	**17.42 168**		P	**Pn**	**18 10 30.3**	**+2.2**
	comp=Z,1.2nm,0.4s,baz=348,slow=13,SNR=4.9						
NPGB	**Novo Progresso**	**18.29 68**		eP	**P**	**18 10 37.6**	**+0.1**
CPUP	**Villa Florida**	**18.34 132**			**Pn**	**18 10 38.0**	**-1.1**
CPUP				IAmb	IAmb	18 10 40.5	
	comp=Z,30nm,0.9s						
CPUP	**Villa Florida**	**18.34 132**		P	**Pn**	**18 10 39.4**	**+0.3**
	comp=Z,26nm,0.8s,baz=310,slow=11,SNR=38						
CPUP	**Villa Florida**	**18.34 132**		eP	**Pn**	**18 10 38.9**	**-0.2**
SJPY	**San Joaquin**	**18.51 127**		eP	**Pn**	**18 10 41.6**	**+0.5**
RPRD	**Ribas do Rio P**	**18.77 111**		eP	**Pn**	**18 10 44.1**	**-0.2**
C2SB	**Chapadao do Su**	**19.19 105**		eP	**Pn**	**18 10 49.1**	**-0.2**
LMEL	**Las Melosas**	**19.34 175**		P	**Pn**	**18 10 49.3**	**-1.8**
ARAG	**Araguaiana, MT**	**19.89 96**		eP	**Pn**	**18 10 56.6**	**-0.9**
RUSC	**La Rusia**	**20.29 358**		P	**P**	**18 10 59.5**	**-0.3**
BOAV	**Boa Vista**	**20.51 36**		P	**P**	**18 11 02.1**	**+0.5**
BOAV				IAmb	IAmb	18 11 04.3	
	comp=Z,24nm,0.8s						
BOAV	**Boa Vista**	**20.51 36**		eP	**P**	**18 11 01.7**	**+0.2**
SNDB	**Serra Nova Dou**	**20.68 85**		eP	Pn	18 11 04.7	-2.0
PTGB	**Pitanga**	**21.63 121**		eP	**P**	**18 11 14.1**	**+0.4**
ITRB	**Iturama**	**21.66 107**		eP	**P**	**18 11 13.8**	**-0.2**
MAL2	**Monte Alegre,**	**21.85 57**		P	**P**	**18 11 16.4**	**+0.5**
LDASE	**Londrina, Braz**	**21.94 117**		eP	**P**	**18 11 16.3**	**-0.6**
BI02	**San Fabin de**	**22.07 178**		P	**P**	**18 11 18.5**	**+0.3**
ITAB	**Concordia**	**22.72 127**		P	**P**

Error ellipse: s-maj=12.2km s-min=5.6km az=84.0
ISC 12 18:15:31.2±1.1,29°.13N±0°.05×53°.91E±0°.05,h10km,n41, σ1§42/54,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	Jahrom	0.69	205	Pg	Pg	18 15 44.6	0.0
QIR1	Qir	1.00	230	Pg	Pb	18 15 49.8	-0.9
SHI	Shiraz	1.32	293	Pg	Pn	18 15 53.0	-3.0
KAZ2	Kazeron-Fars-I	2.02	284	Pn	Pn	18 16 05.3	-0.2
AHBU	AHRAM	2.31	264	Pn	Pn	18 16 09.1	-0.2
IMEH	Mehriz	2.33	15	Pn	Pn	18 16 10.7	+0.9
DSBU	Dashti - Bushe	2.45	252	Pn	Pn	18 16 11.5	+0.1
NGRK	Negar Kerman	2.51	78	Pn	Pb	18 16 14.8	-1.9
KHGB	Koh Gabri	2.55	60	Pn	Pb	18 16 15.2	-2.1
KRBR	Kerman	2.62	70	Pn	Pb	18 16 16.7	-1.8
KLNJ	Kolanjah	2.75	313	Pn	Pn	18 16 14.8	-0.9
ISAD	Sadrabad	2.78	356	Pn	Pn	18 16 16.3	+0.2
IRAM	Ramesheh	2.98	334	Pn	Pn	18 16 18.9	+0.2
KRM1	Kerman Provinc	3.22	64	Pn	Pn	18 16 24.4	+2.3
CHMN	Cheshme madani	3.25	76	Pn	Pn	18 16 25.1	+2.6
KHNJ	Kahnooj	3.54	109	Pn	Pn	18 16 29.9	+3.7
KBAM	BAM	3.97	89	Pn	Pn	18 16 35.0	+2.7
ZNGN	Zangian	3.98	319	Pn	Pn	18 16 32.3	-0.3
ANAR	Anarak	4.05	358	Pn	Pn	18 16 34.3	+1.0
MASF	Masafi SNR=7.0	4.25	151	P	Pn	18 16 37.5	+1.5
MASF				S	Sn	18 17 26.0	+0.3
MDH	Madha	4.37	150	P	Pn	18 16 38.6	+0.9
MDH				S	Sn	18 17 28.8	+0.1
NAZ	Nazwa, Dubai	4.41	159	P	Pn	18 16 40.0	+1.7
NAZ				S	Sn	18 17 31.4	+1.7
TPRV	Parvadeh(Tabas	4.55	31	Pn	Pn	18 16 41.5	+1.2
IKLH	Kolahrood	4.63	335	Pn	Pn	18 16 42.0	+0.5
UOSS	Minazif	4.64	153	P	Pn	18 16 42.0	+0.6
UOSS				S	Sn	18 17 35.7	+0.3
ASUD	Al Ashush, Dub SNR=9.9	4.66	164	P	Pn	18 16 43.2	+1.5
ASUD				S	Sn	18 17 38.0	+2.1
HATD	Hatta, Dubai	4.72	155	P	Pn	18 16 43.4	+0.8
HATD				S	Sn	18 17 39.7	+2.2
JASK	Jask - Hormozg	4.79	132	P	Pn	18 16 43.8	+0.4
ASHO	Ashiyiah SNR=12	4.83	156	P	Pn	18 16 44.9	+0.9
ASHO				S	Sn	18 17 40.3	+0.3
ALNE	Al Ain	5.32	162	P	Pn	18 16 51.5	+0.8
ALNE				S	Sn	18 17 54.5	+2.4
MZWR	Madinat Zayed	5.35	180	P	Pn	18 16 51.8	+0.6
SOHO	SOHO	5.50	154	P	Pn	18 16 52.1	-1.1
SOHO				S	Sn	18 17 57.5	+0.9
ARQ	Araqi SNR=8.8	6.23	157	P	Pn	18 17 03.3	+0.1
ARQ				S	Sn	18 18 15.2	+0.6
HOQ	Hoqain	6.31	150	P	Pn	18 17 04.4	0.0
HOQ				S	Sn	18 18 14.4	-2.2
UMZA	Um Al Zommool	6.49	170	P	Pn	18 17 06.9	+0.1
BSY	Bisya	7.01	154	P	Pn	18 17 15.2	+1.2
BSY				S	Sn	18 18 33.7	-0.2
SMDO	Samad	7.10	147	P	Pn	18 17 16.4	+1.2
SMDO				S	Sn	18 18 33.2	-2.9
JMDO	Jabal Madar	7.72	150	P	Pn	18 17 25.0	+1.2
JMDO				S	Sn	18 18 49.9	-1.4
WBK	Wadi Bani Khal	7.93	144	P	Pn	18 17 26.5	-0.2
JLN	Jalan Bani Buh	8.54	143	P	Pn	18 17 34.4	-0.6
MHTO	MHTO	8.90	155	P	Pn	18 17 39.0	-0.9

*IDC **12** 18:16:30.5±8.1,22°.38S×178°.40W,h0km,mb4.1/4, mbtmp4.1/4,Error ellipse: s-maj=204.7km s-min=44.7km az=32.0*
*NEIC **12** 18:17:30.3±1.7,23°.5S±0°.3×179°.6W±0°.2,h533km±31km, mb4.4/11,Error ellipse: s-maj=45.9km s-min=19.7km az=215.0*
ISC 12 18:17:31.4±1.7,23°.4S±0°.1×179°.8W±0°.2,h550km,n18, σ1§20/18,mb4.1/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.00	340		P	18 19 09.6	-0.7
TCW	Tory Channel	18.42	194	P	P	18 21 13.2	+0.3
QRZ	Quartz Range	18.52	199	P	P	18 21 13.8	+0.1
EIDS	Eidsvold	26.57	260	P	P	18 22 26.9	+0.9
EIDS	comp=Z,8.6nm,1.1s			IAmb	IAmb	18 22 55.5	
MCQ	Macquarie Isla	34.87	202	P	P	18 23 33.4	-3.3
STKA	Stephens Creek	35.07	247	P	P	18 23 39.5	+0.7
STKA	Stephens Creek comp=Z,2.2nm,0.8s,baz=72,slow=6.4,SNR=3.3 comp=Z,2.2nm,0.8s	35.07	247	P	P	18 23 39.1	+0.4
AS31	Alice Springs	42.29	260	P	P	18 24 37.5	+0.1
ASAR	Alice Springs	42.30	260	P	P	18 24 37.2	-0.1
ASAR	Alice Springs comp=Z,1.1nm,0.5s,baz=95,slow=7.4,SNR=43 comp=Z,1.1nm,0.5s	42.30	260	P	P	18 24 38.0	+0.6
WRAB	Tennant Creek	42.62	266	P	P	18 24 39.5	-0.3
WRA	Warramunga Arr	42.62	266	P	P	18 24 39.8	-0.1
WRA	Warramunga Arr comp=Z,1.4nm,0.4s,baz=103,slow=7.8,SNR=79 comp=Z,1.4nm,0.4s	42.62	266	P	P	18 24 39.9	0.0
FORT	Forrest	46.65	249	P	P	18 25 10.6	-0.1
FORT	comp=Z,32nm,1.2s			IAmb	IAmb	18 25 48.9	
MTN	Manton Dam	47.60	274	P	P	18 25 17.9	-0.2
MTN	comp=Z,17nm,1.3s			IAmb	IAmb	18 25 19.1	
KNRA	Kununurra	48.87	269	P	P	18 25 28.3	+0.8
KNRA	comp=Z,27nm,1.4s			IAmb	IAmb	18 25 40.4	
QSPA	South Pole Qui	66.66	180	P	P	18 27 29.3	+1.7
QSPA	comp=Z,13nm,1.5s			IAmb	IAmb	18 27 32.8	
QSPA	South Pole Qui comp=Z,1.6nm,0.9s,baz=18,slow=3.2,SNR=2.5 comp=Z,1.6nm,0.9s	66.66	180	P	P	18 27 29.6	+2.1

IDC 12 18:18:45.3±2.3,2°.21S×127°.45E,h0km,mb3.0/2, mbtmp3.1/3,ML2.9/1,Error ellipse: s-maj=173.7km s-min=28.8km az=66.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr baz=338,slow=11,SNR=3.3 0.6nm,0.8s	18.87	160	P	Pn	18 23 07.6	-0.1
ASAR	Alice Springs 0.2nm,0.4s,baz=345,slow=12,SNR=6.7 0.2nm,0.4s	22.23	164	P	P	18 23 43.2	-0.6
MKAR	Makanchi Array 0.2nm,0.6s,baz=124,slow=7.3,SNR=1.9 0.2nm,0.6s	62.85	327	P	P	18 29 13.4	+0.2

*IDC **12** 18:20:04.1±3.5,11°.06S×163°.05E,h59km±28km,mb3.3/5, mbtmp3.7/7,ML3.4/2,Error ellipse: s-maj=32.4km s-min=20.7km az=55.0*
ISC 12 18:20:03.2±1.1,11°.05±0°.1×163°.1E±0°.1,h50km,n13, σ0§82/9,mb3.4/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara 11nm,0.3s,baz=172,slow=15,SNR=9.4	3.49	297	P	Pn	18 20 55.4	+0.3
HNR	334nm,0.6s,baz=90,slow=11,SNR=9.6 61nm,0.5s			S	Sn	18 21 35.8	+0.6
DZM	Mont Dzumac 0.1nm,0.3s,baz=3.7,slow=17,SNR=1.8 3.0nm,0.8s	11.43	164	P	Pn	18 22 44.8	+0.8
WRA	Warramunga Arr 0.3nm,0.6s,baz=76,slow=8.6,SNR=2.6 0.3nm,0.6s	29.06	249	P	P	18 25 58.6	-0.6
H11S2	WAKE ISLAND Hy baz=188,slow=76,SNR=14	29.55	7	T	T	18 56 54.9	
H11S3	WAKE ISLAND Hy baz=188,slow=76,SNR=12	29.55	7	T	T	18 56 57.6	
H11S1	WAKE ISLAND Hy baz=188,slow=76,SNR=9.4	29.57	7	T	T	18 56 58.9	
ASAR	Alice Springs 0.4nm,0.6s,baz=65,slow=10.0,SNR=8.9	30.50	242	P	P	18 26 10.6	-1.3
ASAR	0.5nm,1.1s,baz=79,slow=2.0,SNR=2.4 0.4nm,0.6s		PcP		PcP	18 29 10.1	-0.1
H11N1	WAKE ISLAND Hy baz=188,slow=76,SNR=5.2	30.78	7	T	T	18 58 28.2	
H11N3	WAKE ISLAND Hy baz=188,slow=76,SNR=6.6	30.79	7	T	T	18 58 29.6	
H11N2	WAKE ISLAND Hy baz=188,slow=76,SNR=6.2	30.80	7	T	T	18 58 43.0	
SONM	Songino Array 0.2nm,0.5s,baz=126,slow=3.7,SNR=2.0 0.2nm,0.5s	77.14	325	P	P	18 31 52.4	+0.7
ILAR	Eielson Array 0.2nm,0.6s,baz=213,slow=6.5,SNR=4.6 0.2nm,0.6s	84.34	19	P	P	18 32 29.2	-0.4
MKAR	Makanchi Array 0.4nm,0.6s,baz=100,slow=6.2,SNR=6.2 0.4nm,0.6s	91.75	317	P	P	18 33 05.1	-0.5

*NEIC **12** 18:31:56.7±1.9,38°.24N±0°.05×142°.34E±0°.09,h36km±3km, mb4.3/17,Error ellipse: s-maj=11.3km s-min=6.8km az=117.0*
*IDC **12** 18:31:57.4±2.5,38°.34N×142°.35E,h42km±24km,mb3.5/12, mbtmp3.8/15,ML3.5/3,MS2.9/2,Error ellipse: s-maj=24.5km s-min=14.5km az=104.0*
*NIED **12** 18:31:58.1,38°.37N×142°.18E,h42km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.00; $M_{\theta\theta}$0.89; $M_{\phi\phi}$0.11; $M_{r\theta}$4.33; $M_{\theta\phi}$0.60; $M_{\phi r}$=2.50; Fault plane solution: $M_0$5.08000×10^{14} NP1:ϕ_s53.00000°, δ8.00000°,λ-155.00000°. NP2:ϕ_s298.00000°,δ86.00000°, λ-82.00000°.*
*JMA **12** 18:31:58.1±0.1,38°.4N±0°.3×142°.2E±0°.6,h42km±1km, MV4.2/40,E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 12 18:31:57.2±1.0,38°.34N±0°.04×142°.27E±0°.09,h39km±11km, n67,σ1§46/76,mb4.1/20,7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.64	268	*i* P	Pn	18 32 09.6	-0.1
JIKH				S	Sn	18 32 17.7	-0.9
JIO	Ouri	0.73	279	*i* P	Pn	18 32 11.0	0.0
JIO				S	Sn	18 32 20.1	-0.9
JKMT	Kesennumamotoy	0.78	307	⇓*i* P	Pn	18 32 11.8	0.0
JKMT				⇓S	Sn	18 32 21.5	-0.8
OFUJ	Ofunato	0.88	328	⇓*i* P	Pn	18 32 13.2	+0.2
OFUJ				⇓S	Sn	18 32 23.9	-0.7
JMK	Ichinoseki	1.03	307	⇓*i* P	Pn	18 32 15.2	+0.2
JMK				⇓S	Sn	18 32 28.2	0.0
JMM	Marumori	1.26	248		Pn	18 32 18.0	-0.2
JMM				Sn	Sn	18 32 33.0	-0.9
JMM	Marumori	1.26	248	*i* P	Pn	18 32 18.1	-0.2
JMM				S	Sn	18 32 33.6	-0.4
JOU	Okura	1.27	272	*i* P	Pn	18 32 18.8	+0.5
JOU				S	Sn	18 32 34.1	-0.1
JOM	Ohasama	1.37	326	⇓*i* P	Pn	18 32 20.5	+0.8
JFK	Kawauchi	1.47	229	*i* P	Pn	18 32 21.2	0.0
JFK				S	Sn	18 32 38.2	-1.0
JYK	Kaneyama	1.61	292	*i* P	Pn	18 32 23.8	+0.8
JYK				S	Sn	18 32 43.1	+0.6
JRG	Rokugo	1.66	310	*i* P	Pn	18 32 24.6	+0.9
JOTO	OTAMA OYAMA	1.72	244	*i* P	Pn	18 32 25.4	+0.8
JOTO				S	Sn	18 32 45.8	+0.5
JYS	Shirataka	1.74	267	P	Pn	18 32 25.7	+0.8
JTM	Tenmabayashi	2.62	340	Pn	Pn	18 32 37.8	+0.9
JTM				Sn	Sn	18 33 09.2	+1.8
JSD	Sado	3.18	266	Pn	Pn	18 32 45.4	+0.8
MJAR	Matsushiro Arr 0.8nm,0.3s,baz=58,slow=22,SNR=36	3.70	242	P	Pn	18 32 52.7	+0.9
MJAR	7.0nm,0.5s,baz=225,slow=17,SNR=4.8			S	Sn	18 33 40.7	+6.6
MJAR	comp=Z,157nm,19.6s,baz=44,slow=42 3.5nm,0.3s			LR	LR	18 34 33.5	
MAJO	Matsushiro	3.70	242		Pn	18 32 54.1	+2.3
MJB9	Matsu-Tunnel	3.70	242		Pn	18 32 55.1	+3.3
ERM	Erimo	3.73	10	Pn	Pn	18 32 52.6	+0.4
ERM				Sn	Sn	18 33 37.1	+2.2
JGF	Kuroka	4.79	237		Pn	18 33 09.3	+2.4
JSG	Sagara	4.92	223	Pn	Pn	18 33 07.4	-1.2
INU	Inuyama	5.16	236		Pn	18 33 12.8	+0.9
JHJ2	Mitsune	5.58	202	Pn	Pn	18 33 16.6	-1.1
JHJ	Hachijo jima 2 18nm,0.3s,baz=162,slow=23,SNR=7.1	5.59	202	P	Pn	18 33 17.1	-0.6
JHJ	160nm,0.8s,baz=69,slow=16,SNR=2.0 100nm,0.7s			S	Sn	18 34 16.1	-4.6
ASAJ	Asahikawa 1.2nm,0.3s,baz=219,slow=14,SNR=33	5.78	2	P	Pn	18 33 20.7	+0.4
ASAJ	4.0nm,0.6s,baz=154,slow=25,SNR=1.2 3.1nm,0.3s			S	Sn	18 34 20.1	-5.2
JKA	Kamikawa-asahi	5.78	2	Pn	Pn	18 33 20.9	+0.6
JMN	Monobe	8.21	238	Pn	Pn	18 33 55.1	+1.4
KLR	Kul'dur comp=Z,61nm,19.9s,baz=309,slow=40	13.26	329	LR	LR	18 40 56.3	
MA2	Magadan	21.94	12	P	P	18 36 47.2	+0.2
MA2	Magadan 2.3nm,0.6s,baz=186,slow=8.3,SNR=10.0 2.3nm,0.6s	21.94	12	P	P	18 36 47.5	+0.4
YAK	Yakutsk	24.96	346	P	P	18 37 16.7	+0.1
YAK	comp=Z,3.6nm,0.5s			IAmb	IAmb	18 37 19.3	
H11N2	WAKE ISLAND Hy baz=316,slow=75,SNR=169	28.27	124	T	T	19 08 21.8	
H11N1	WAKE ISLAND Hy baz=316,slow=75,SNR=230	28.28	124	T	T	19 08 06.8	
H11N3	WAKE ISLAND Hy baz=316,slow=75,SNR=210	28.29	124	T	T	19 08 13.7	
H11S1	WAKE ISLAND Hy baz=318,slow=76,SNR=77	29.03	126	T	T	19 09 05.7	
H11S3	WAKE ISLAND Hy baz=318,slow=76,SNR=82	29.04	126	T	T	19 09 05.3	
H11S2	WAKE ISLAND Hy baz=318,slow=76,SNR=58	29.05	126	T	T	19 09 05.9	
ATKA	Atka Island	33.09	51	P	P	18 38 28.9	-0.1
ZALV	Zalesovo Beam	41.55	311	P	P	18 39 40.7	+0.1
ZALV	Zalesovo Beam comp=Z,0.5nm,0.4s,baz=79,slow=7.5,SNR=2.4 comp=Z,0.5nm,0.4s	41.55	311	P	P	18 39 41.2	+0.6
N15K	Kwethluk River	41.80	39	P	P	18 39 41.5	-1.1
N15K	comp=Z,11nm,0.9s			IAmb	IAmb	18 39 42.2	
J16K	Anvik River	41.93	35	P	P	18 39 44.1	+0.5
CMAR	Chiang Mai Arr comp=Z,0.3nm,0.7s,baz=58,slow=7.2,SNR=2.2 comp=Z,0.3nm,0.7s	42.49	255	P	P	18 39 48.5	-0.2
C18K	Utukok River	42.81	27	P	P	18 39 51.3	+0.5
C18K	comp=Z,8.7nm,1.5s			IAmb	IAmb	18 40 18.9	
MKAR	Makanchi Array	44.02	301	P	P	18 40 02.2	+1.4
MKAR	Makanchi Array comp=Z,0.4nm,0.8s,baz=82,slow=8.7,SNR=3.8 comp=Z,0.4nm,0.8s	44.02	301	P	P	18 40 01.8	+1.0
I20K	Naaghedeneel	44.78	33	P	P	18 40 05.9	-0.6
KURK	Kurchatov	45.68	307	P	P	18 40 13.8	-0.1
KURBB	Kurchatov Arra comp=Z,0.4nm,0.4s,baz=81,slow=7.8,SNR=12 comp=Z,0.4nm,0.4s	45.75	307	P	P	18 40 14.3	-0.1
B22K	Teshekpuk Lake	45.84	25	P	P	18 40 14.0	-0.9
B22K	comp=Z,3.3nm,1.2s			IAmb	IAmb	18 40 30.7	
SUA	Susitna One	46.41	38	P	P	18 40 19.3	-0.3
ILAR	Eielson Array comp=Z,0.4nm,0.7s,baz=272,slow=8.1,SNR=5.0 comp=Z,0.4nm,0.7s	48.03	33	P	P	18 40 31.7	-0.4
D25K	Kavik River	48.18	27	P	P	18 40 34.0	+0.8
D25K	comp=Z,3.2nm,1.4s			IAmb	IAmb	18 40 44.8	
C27K	Jago River	49.12	26	P	P	18 40 42.6	+2.2
C27K	comp=Z,2.2nm,1.1s			IAmb	IAmb	18 40 51.7	
I28M	Miner Creek	50.90	32	P	P	18 40 53.8	-0.2
I28M	comp=Z,7.6nm,1.5s			IAmb	IAmb	18 40 54.7	
I30M	Mount Dempster	52.41	32	P	P	18 41 05.4	+0.1
ARTI	Arti	55.95	318	P	P	18 41 30.7	-0.3
WRAB	Tennant Creek	58.44	189	P	P	18 41 48.5	-0.4
WRAB	comp=Z,2.6nm,0.9s			IAmb	IAmb	18 41 50.1	
WRA	Warramunga Arr	58.45	189	P	P	18 41 48.9	-0.2
WRA	Warramunga Arr comp=Z,1.2nm,0.5s,baz=7.4,slow=7.2,SNR=11 comp=Z,1.2nm,0.5s	58.45	189	P	P	18 41 49.0	-0.1
ASAR	Alice Springs	62.17	189	P	P	18 42 13.9	-0.6
ASAR	Alice Springs comp=Z,0.9nm,0.7s,baz=7.2,slow=5.0,SNR=9.8 comp=Z,0.9nm,0.7s	62.17	189	P	P	18 42 14.9	+0.4
YKA	Yellowknife Ar comp=Z,0.2nm,0.6s,baz=278,slow=9.0,SNR=2.3 comp=Z,0.2nm,0.6s	62.34	31	P	P	18 42 14.3	-0.9
ARCES	ARCESS Array B comp=Z,7.3nm,1.2s,baz=41,slow=6.6,SNR=3.6 comp=Z,7.3nm,1.2s	63.02	339	P	P	18 42 19.9	+0.2
FINES	FINESS Array B comp=Z,1.7nm,0.7s,baz=46,slow=11,SNR=3.9 comp=Z,1.7nm,0.7s	67.98	332	P	P	18 42 51.2	-0.6
ULM	Lac du Bonnet comp=Z,0.8nm,0.4s,baz=121,slow=8.3,SNR=2.1 comp=Z,0.8nm,0.4s	78.04	34	P	P	18 43 51.4	-0.1

IDC 12 18:37:06.8±1.9,11°.23S×124°.31E,h0km,mb3.3/1, mbtmp3.5/4,ML3.7/3,Error ellipse: s-maj=89.0km s-min=26.4km az=65.0,South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.9nm,0.3s,baz=359,slow=11,SNR=2.2	6.95	170	Pn	Pn	18 38 51.8	+1.9
FITZ	3.2nm,0.3s,baz=128,slow=21,SNR=11 2.5nm,0.3s			Sn	Sn	18 40 10.0	+0.3
WRA	Warramunga Arr 0.4nm,0.3s,baz=308,slow=15,SNR=26	12.97	133	Pn	Pn	18 40 11.6	-0.9
WRA	0.7nm,0.3s,baz=299,slow=17,SNR=10 0.2nm,0.3s			Sn	Sn	18 42 32.4	-5.3
ASAR	Alice Springs 0.3nm,0.3s,baz=317,slow=12,SNR=23	15.37	145	Pn	Pn	18 40 44.4	-0.9
ASAR	0.2nm,0.3s,baz=315,slow=23,SNR=7.2 0.5nm,0.4s			Sn	Sn	18 43 32.4	-4.0
MKAR	Makanchi Array 0.2nm,0.7s,baz=134,slow=7.0,SNR=2.5 0.2nm,0.7s	68.89	330	P	P	18 48 13.5	0.0

IDC 12 19:22:15.6±2.1,0°.34N×126°.23E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=170.7km s-min=27.9km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.6nm,0.4s,baz=337,slow=11,SNR=16 0.6nm,0.4s	21.66	159	P	P	19 27 07.2	-0.9
ASAR	Alice Springs 0.6nm,0.3s,baz=345,slow=11,SNR=24 0.6nm,0.3s	25.00	163	P	P	19 27 42.0	+0.6
MKAR	Makanchi Array 0.1nm,0.5s,baz=127,slow=7.2,SNR=2.1 0.1nm,0.5s	60.07	327	P	P	19 32 24.5	-0.1

*WEL **12** 19:23:53.7±0.7,37°S±4°×17°9E±°,h12km,M3.5/16, ML3.7/21,MLv3.5/16,Error ellipse: s-maj=7.7km s-min=5.4km az=113.4,confirmed*
*NOU **12** 19:23:59.4,37°.37S×178°.44E,h23km,MLv3.3/6,Off E. Coast of N. Island, N.Z.*
ISC 12 19:23:53.4±2.8,37°.24S±0°.09×179°.0E±0°.1,h12km±14km, n33,σ0§71/44,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.61	238	P	Pb	19 24 06.4	+0.4
MXZ	Matakaoa Point	0.61	238	P	Pb	19 24 06.1	+0.1
MXZ				S	Sb	19 24 14.1	-0.5
WMGZ	Waiomatatini S	0.72	217	P	Pn	19 24 09.5	0.0
WMGZ				S	Sn	19 24 20.8	+0.3
PKGZ	Pakihiroa	0.94	228	P	Pn	19 24 12.6	+0.1
PKGZ				S	Sb	19 24 25.6	+1.6
PUZ	Puketiti	1.00	214	P	Pb	19 24 13.1	+0.4
PUZ				S	Sb	19 24 27.1	+1.2
HAZ	Te Kaha	1.07	241	P	Pn	19 24 14.9	+0.7
HAZ				S	Sn	19 24 29.0	0.0
TWGZ	Tauwhareparae	1.22	219	P	Pb	19 24 16.2	-0.1
TWGZ				S	Sb	19 24 33.1	+1.0
RUGZ	Raukumara Rang	1.25	234	P	Pg	19 24 17.2	-0.2
RUGZ				S	Sb	19 24 33.7	+0.6
CNGZ	Carnagh Statio	1.38	205	P	Pn	19 24 18.6	+0.2
WIZ	White Island	1.44	258	P	Pb	19 24 19.7	-0.4
TKGZ	Te Karaka	1.49	216	P	Pn	19 24 19.6	-0.3
TKGZ				S	Sn	19 24 38.5	-0.8
MWZ	Matawai	1.57	226	P	Pn	19 24 21.1	-0.2
MWZ				S	Sn	19 24 40.3	-1.4
URZ	Urewera	1.79	235	P	Pn	19 24 24.4	+0.3
URZ	Urewera	1.79	235	P	Pn	19 24 24.4	+0.3
URZ				S	Sn	19 24 46.2	-0.5
KNZ	Kokohu	2.05	209	P	Pn	19 24 26.3	-1.3
RTZ	Ruatahuna	2.08	228	P	Pn	19 24 28.3	+0.1
RTZ				S	Sn	19 24 54.5	+0.3
KUZ	Kuaotunu	2.64	280	P	Pn	19 24 35.0	-0.8
KUZ	Kuaotunu	2.64	280	P	Pn	19 24 34.9	-1.0
BKZ	Black Stump Fm	2.73	225	P	Pn	19 24 36.5	-0.7
BKZ	Black Stump Fm	2.73	225	P	Pn	19 24 36.4	-0.8
TOZ	Tahuroa Road	2.79	259	P	Pn	19 24 37.9	-0.1
GRZ	Great Barrier	2.98	288	P	Pn	19 24 41.1	+0.6
TMVZ	Te Maari	3.18	233	P	Pn	19 24 42.8	-0.6
ETVZ	East Tongariro	3.18	233	P	Pn	19 24 42.9	-0.5
NTVZ	North Tongarir	3.19	233	P	Pn	19 24 43.0	-0.4
KRVZ	Karewarewa	3.21	234	P	Pn	19 24 43.3	-0.4
OTVZ	Oturere	3.23	233	P	Pn	19 24 43.6	-0.5
NGZ	Ngauruhoe	3.28	233	P	Pn	19 24 44.3	-0.5
WCZ	Waipu Caves	3.94	288	P	Pn	19 24 53.2	-0.4
OUZ	Omahuta	4.78	293	P	Pn	19 25 06.1	+0.8
OUZ	Omahuta	4.78	293	P	Pn	19 25 05.8	+0.5
QRZ	Quartz Range 56nm,2.3s	6.15	232	P	Pn	19 25 22.6	-1.5
CTZ	Chatham Island	7.31	154	P	Pn	19 25 40.7	+0.7

*IDC **12** 19:27:24.0±0.8,5°.92S×108°.08E,h317km±20km,mb2.8/8, mbtmp3.5/8,Error ellipse: s-maj=87.6km s-min=14.6km az=51.0*
ISC 12 19:27:23.5±0.8,5°.7S±0°.1×108°.4E±0°.2,h300km,n9, σ0§86/11,mb3.0/8,Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang 44nm,0.6s,baz=40,slow=11,SNR=13	1.39	214	P	Pn	19 28 05.8	-0.4
LEM	11nm,0.5s,baz=264,slow=22,SNR=1.1			S	S	19 28 41.0	+1.0
CMAR	Chiang Mai Arr 0.4nm,0.6s,baz=173,slow=7.7,SNR=5.4 0.4nm,0.6s	25.73	339	P	P	19 32 27.8	+0.5
WRA	Warramunga Arr 0.2nm,0.3s,baz=303,slow=7.5,SNR=6.4 0.2nm,0.3s	28.92	122	P	P	19 32 55.8	+0.1
ASAR	Alice Springs 0.2nm,0.4s,baz=302,slow=8.1,SNR=6.3	30.37	129	P	P	19 33 08.7	+0.3
ASAR	0.1nm,0.5s,baz=312,slow=2.7,SNR=1.5 0.2nm,0.4s			PcP	PcP	19 35 59.3	-1.0
SONM	Songino Array 0.3nm,0.5s,baz=180,slow=7.7,SNR=2.6 0.3nm,0.5s	53.31	358	P	P	19 36 13.4	+1.1
MKAR	Makanchi Array 0.4nm,0.5s,baz=148,slow=7.6,SNR=10 0.4nm,0.5s	57.14	339	P	P	19 36 38.8	-0.6
KURBB	Kurchatov Arra 0.2nm,0.5s,baz=150,slow=5.6,SNR=2.8 0.2nm,0

s-min=11.1km az=51.0

ISC 12 19:43:09.8±0.6, 16°09N±0°03×95°22W±0°02, h49km±8km, n110, σ2°13/160, mb4.4/6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.74**	**50**	*eP*	**Pn**	**19 43 25.1**	**+1.0**
NILT				*eS*	**Sn**	**19 43 35.9**	**+1.4**
HUIG	**Huatulco**	**0.92**	**250**		**Pn**	**19 43 27.2**	**+0.8**
HUIG					**Sn**	**19 43 39.6**	**+1.1**
HUIG	**Huatulco**	**0.92**	**250**	*eP*	**Pn**	**19 43 27.2**	**+0.8**
HUIG				*eS*	**Sn**	**19 43 39.6**	**+1.1**
HUIG	**Huatulco**	**0.92**	**250**	*eP*	**Pn**	**19 43 26.8**	**+0.3**
HUIG				*eS*	**Sn**	**19 43 39.5**	**+0.9**
HUIG	**Huatulco**	**0.92**	**250**	*eP*		19 43 26.8	
HUIG				*eS*		19 43 39.5	
CMIG	**Matias Romero**	**1.04**	**18**	P	**Pn**	**19 43 29.6**	**+1.4**
	324nm,0.3s,baz=195,slow=14,SNR=1766						
CMIG				S	**Sn**	**19 43 43.1**	**+1.4**
	547nm,0.4s,baz=166,slow=19,SNR=15						
CMIG	**Matias Romero**	**1.04**	**18**	*eP*	**Pn**	**19 43 29.6**	**+1.4**
CMIG				*i* S	**Sn**	**19 43 43.1**	**+1.4**
CARR	**Arriaga**	**1.26**	**83**	*eP*	**Pn**	**19 43 30.9**	**-0.1**
CARR				*eS*	**Sn**	**19 43 46.1**	**-0.8**
PANG	**Puerto Angel**	**1.28**	**251**		**Pn**	**19 43 31.5**	**+0.2**
PANG					**Sn**	**19 43 47.5**	**+0.1**
PANG	**Puerto Angel**	**1.28**	**251**	*eP*	**Pn**	**19 43 31.5**	**+0.2**
PANG				*eS*	**Sn**	**19 43 47.5**	**+0.1**
UXUV	**UXUV**	**1.59**	**40**	*eP*	**Pn**	**19 43 37.1**	**+1.5**
UXUV				*eS*	**Sn**	**19 43 55.6**	**+0.5**
NEUV	**Arroyo Zacate**	**1.71**	**341**	*eP*	**Pn**	**19 43 39.1**	**+1.9**
NEUV				*eS*	**Sn**	**19 43 59.5**	**+1.6**
OXLC	**Oaxaca**	**1.73**	**304**	*eP*	**Pn**	**19 43 40.2**	**+2.6**
OXLC				*eS*	**Sn**	**19 43 56.4**	**-2.2**
OXBJ	**Oaxaca**	**1.74**	**304**		**Pn**	**19 43 40.0**	**+2.2**
OXBJ					**Sn**	**19 43 55.6**	**-3.4**
OXBJ	**Oaxaca**	**1.74**	**304**	*i* P	**Pn**	**19 43 40.0**	**+2.2**
OXBJ				*eS*	**Sn**	**19 43 55.6**	**-3.4**
OXIG	**Oaxaca**	**1.75**	**304**		**Pn**	**19 43 41.3**	**+3.3**
OXIG					**Sn**	**19 44 02.4**	**+3.1**
VHO	**Vista Hermosa**	**1.75**	**304**	*i* P	**Pn**	**19 43 41.3**	**+3.3**
VHO				*eS*	**Sn**	**19 44 02.4**	**+3.1**
PEIG	**Puerto Escondi**	**1.86**	**267**		**Pn**	**19 43 40.1**	**+0.8**
PEIG					**Sn**	**19 44 00.0**	**-1.6**
PEIG	**Puerto Escondi**	**1.86**	**267**	*i* P	**Pn**	**19 43 40.1**	**+0.8**
PEIG				*eS*	**Sn**	**19 44 00.0**	**-1.6**
PCIG		**1.96**	**101**		**Pn**	**19 43 41.1**	**+0.5**
PCIG					**Sn**	**19 44 03.5**	**-0.5**
PCIG		**1.96**	**101**	*eP*	**Pn**	**19 43 41.1**	**+0.5**
PCIG				*eS*	**Sn**	**19 44 03.5**	**-0.5**
TUIG	**Tuzandepetl**	**2.08**	**21**	*eP*	**Pn**	**19 43 43.8**	**+1.6**
TUIG				*i* S	**Sn**	**19 44 09.3**	**+2.4**
TGIG		**2.12**	**71**		**Pn**	**19 43 44.4**	**+1.4**
TGIG					**Sn**	**19 44 08.9**	**+0.8**
TGIG		**2.12**	**71**	*eP*	**Pn**	**19 43 44.4**	**+1.4**
TGIG				*i* S	**Sn**	**19 44 08.9**	**+0.8**
TGIG		**2.12**	**71**	*eP*	**Pn**	**19 43 44.2**	**+1.3**
TGIG				*eS*	**Sn**	**19 44 09.2**	**+1.1**
TGIG		**2.12**	**71**	*eP*		19 43 44.2	
TGIG				*eS*		19 44 09.2	
TGBT	**Tuxtla Gutierr**	**2.15**	**71**		**Pn**	**19 43 45.4**	**+2.2**
TGBT					**Sn**	**19 44 07.7**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.15**	**71**	*eP*	**Pn**	**19 43 45.4**	**+2.2**
TGBT				*eS*	**Sn**	**19 44 07.7**	**-1.0**
YOIG	**Yosondua**	**2.36**	**289**		**Pn**	**19 43 49.1**	**+2.7**
YOIG					**Sn**	**19 44 11.2**	**-3.2**
YOIG	**Yosondua**	**2.36**	**289**	*eP*	**Pn**	**19 43 49.1**	**+2.7**
YOIG				*i* S	**Sn**	**19 44 11.2**	**-3.2**
PMUV	**Sontecomapan**	**2.44**	**2**	*eP*	Pn	19 43 45.6	-1.7
PMUV				*i* S	**Sn**	**19 44 14.6**	**-1.4**
TOIG	**Toxpalan**	**2.67**	**319**		**Pn**	**19 43 54.8**	**+4.3**
TOIG					**Sn**	**19 44 22.5**	**+0.9**
TOIG	**Toxpalan**	**2.67**	**319**	*eP*	**Pn**	**19 43 54.8**	**+4.3**
TOIG				*i* S	**Sn**	**19 44 22.5**	**+0.9**
TXIG	**Tlaxiaco**	**2.71**	**296**		**Pn**	**19 43 54.6**	**+3.4**
TXIG					**Sn**	**19 44 20.8**	**-2.1**
TXIG	**Tlaxiaco**	**2.71**	**296**	*eP*	**Pn**	**19 43 54.6**	**+3.4**
TXIG				*eS*	**Sn**	**19 44 20.8**	**-2.1**
PNIG	**Pinotepa**	**2.81**	**277**		**Pn**	**19 43 53.9**	**+1.5**
PNIG					**Sn**	**19 44 22.2**	**-2.9**
PNIG	**Pinotepa**	**2.81**	**277**	*i* P	**Pn**	**19 43 53.9**	**+1.5**
PNIG				*i* S	**Sn**	**19 44 22.2**	**-2.9**
CCIG	**Comitan**	**2.96**	**86**		**Pn**	**19 43 54.0**	**-0.6**
CCIG	**Comitan**	**2.96**	**86**	*eP*	**Pn**	**19 43 55.0**	**+0.4**
CCIG				*i* S	**Sn**	**19 44 25.2**	**-3.8**
CCIG	**Comitan**	**2.96**	**86**	*eP*	**Pn**	**19 43 55.2**	**+0.6**
CCIG				*eS*	**Sn**	**19 44 32.6**	**+3.6**
CCIG	**Comitan**	**2.96**	**86**	*eP*		19 43 55.2	
CCIG				*eS*		19 44 32.6	
HLIG	**Huajuapan de L**	**3.02**	**305**		**Pn**	**19 43 59.3**	**+3.9**
HLIG					**Sn**	**19 44 30.0**	**-0.5**
HLIG	**Huajuapan de L**	**3.02**	**305**	*eP*	**Pn**	**19 43 59.3**	**+3.9**
HLIG				*i* S	**Sn**	**19 44 30.0**	**-0.5**
TPIG	**Tehuac#an**	**3.09**	**319**		**Pn**	**19 44 00.7**	**+4.3**
TPIG					**Sn**	**19 44 32.8**	**+0.5**
TPIG	**Tehuac#an**	**3.09**	**319**	*eP*	**Pn**	**19 44 00.7**	**+4.3**
TPIG				*eS*	**Sn**	**19 44 32.8**	**+0.5**
FTIG	**Fresnillo de T**	**3.33**	**303**		**Pn**	**19 44 03.5**	**+4.0**
FTIG					**Sn**	**19 44 39.6**	**+1.8**
FTIG	**Fresnillo de T**	**3.33**	**303**	*eP*	**Pn**	**19 44 03.5**	**+4.0**
FTIG				*eS*	**Sn**	**19 44 39.6**	**+1.8**
MGIG	**Malinaltepec**	**3.47**	**290**		**Pn**	**19 44 04.8**	**+3.3**
MGIG					**Sn**	**19 44 42.0**	**+0.6**
MGIG	**Malinaltepec**	**3.47**	**290**	*eP*	**Pn**	**19 44 04.8**	**+3.3**
MGIG				*eS*	**Sn**	**19 44 42.0**	**+0.6**
TLIG	**Tlapa**	**3.53**	**295**		**Pn**	**19 44 05.2**	**+2.9**
TLIG	**Tlapa**	**3.53**	**295**	*eP*	**Pn**	**19 44 06.0**	**+3.7**
TLIG				*eS*	**Sn**	**19 44 42.3**	**-0.5**
POHV	**Veracruz**	**3.56**	**327**		Pn	19 44 08.6	+5.5
POHV	**Veracruz**	**3.56**	**327**	*eP*	Pn	19 44 08.6	+5.5
JAUV	**Jalcomulco**	**3.59**	**335**	*eP*	**Pn**	**19 44 03.1**	**0.0**
JAUV				*eS*	**Sn**	**19 44 42.9**	**-1.4**
HUEH	**Huehuetenango**	**3.66**	**102**		**Pn**	**19 44 02.2**	**-1.9**
RTAL	**Retalhuleu**	**3.74**	**114**	Pn	**Pn**	**19 44 04.2**	**-0.8**
LVIG	**Laguna Verde**	**3.79**	**343**	*eP*	**Pn**	**19 44 06.3**	**+0.6**
LVIG				*eS*	**Sn**	**19 44 45.7**	**-3.4**
CRIG	**Cruz Grande**	**3.81**	**280**		**Pn**	**19 44 07.8**	**+1.7**
CRIG					**Sn**	**19 44 46.8**	**-2.9**
CRIG	**Cruz Grande**	**3.81**	**280**	*eP*	**Pn**	**19 44 07.8**	**+1.7**
CRIG				*eS*	**Sn**	**19 44 46.8**	**-2.9**
STG8	**El Palmar, Qui**	**4.07**	**113**	*eP*		19 44 06.8	
STG8				*eS*		19 44 47.9	
STG8				*eS*		19 44 59.9	
STG0	**El Palmar, Qui**	**4.09**	**113**	*eP*		19 44 06.4	
STG0				*eS*		19 44 49.4	
PBCV	**Popocatepetl**	**4.30**	**313**	*eP*	Pn	19 44 18.5	+5.5
PBCV				*i* S	**Sn**	**19 45 01.0**	**-1.1**
PBXN	**Popocatepetl**	**4.38**	**312**	*eP*	Pn	19 44 18.8	+4.5
PBXN				*eP*		19 44 19.7	
PBXN				*i* S	**Sn**	**19 45 00.5**	**-3.9**
PBXN				*eS*		19 45 04.0	
PBPN	**Popocatepetl**	**4.38**	**313**	*eP*	Pn	19 44 19.5	+5.1
PBPN				*eP*	Pn	19 44 19.5	+5.1
PBPN				*i* S	**Sn**	**19 45 02.8**	**-1.7**
PBPN				*eS*		19 45 03.4	
PPM	**Popocatepetl**	**4.40**	**313**	*eP*	Pn	19 44 20.4	+5.9
PPM				*i* S	**Sn**	**19 45 02.9**	**-1.9**
PPIG	**Popocatepetl**	**4.40**	**313**		Pn	19 44 20.4	+5.9
PPIG					**Sn**	**19 45 02.9**	**-1.9**
CXUV	**Coxquihui**	**4.65**	**331**	*eP*	**Pn**	**19 44 18.4**	**+0.8**
CXUV				*eS*	**Sn**	**19 45 09.4**	**-0.8**
APG	**El Apazote**	**4.71**	**103**	P	**Pn**	**19 44 20.2**	**+1.7**
	0.5nm,0.3s,baz=192,slow=12,SNR=19						
APG				S	**Sn**	**19 45 12.2**	**+0.3**
	3.2nm,0.3s,baz=80,slow=18,SNR=6.5 1.3nm,0.3s						
APG	**El Apazote**	**4.71**	**103**	*eP*	**Pn**	**19 44 20.2**	**+1.7**
APG				*eS*	**Sn**	**19 45 11.7**	**-0.3**
APG	**El Apazote**	**4.71**	**103**	*eP*		19 44 20.2	
APG				*eS*		19 45 11.7	
SCIG	**Sabancuy**	**4.79**	**53**	*eP*	**Pn**	**19 44 19.1**	**-0.4**
SCIG				*eS*	**Sn**	**19 45 08.1**	**-5.7**
MAVM	**Malinalco, Edo**	**4.98**	**306**	*e*	Pn	19 44 12.1	-10
MAVM				*e*		19 45 00.1	
AOVM	**Tlapan**	**5.03**	**310**		Pn	19 44 28.6	+5.4
AOVM					**Sn**	**19 45 18.9**	**-1.4**
AOVM	**Tlapan**	**5.03**	**310**	*eP*	Pn	19 44 28.6	+5.4
AOVM				*eS*	**Sn**	**19 45 18.9**	**-1.4**
PETF	**Flores**	**5.20**	**80**		**Pn**	**19 44 25.4**	**+0.3**
ESQI	**Esquipulas**	**5.87**	**104**	Pn	**Pn**	**19 44 34.2**	**-0.2**
MTO3	**Montecristo**	**5.90**	**106**		**Pn**	**19 44 34.4**	**-0.4**
MOIG	**Morelia**	**6.71**	**303**	Pn	**Pn**	**19 44 46.8**	**+0.7**
TEIG	**Tepich**	**7.77**	**57**		**Pn**	**19 44 59.1**	**-1.3**
TEIG	**Tepich**	**7.77**	**57**	P	**Pn**	**19 45 01.0**	**+0.6**
	baz=252,slow=20						
TEIG				S	**Sn**	**19 46 21.5**	**-5.6**
ACON	**Acoyapa**	**10.57**	**112**	Pn	Pn	19 45 34.3	-4.4
JTS	**Las Juntas de**	**11.53**	**119**	P	**Pn**	**19 45 55.2**	**+3.2**
	8.3nm,0.3s,baz=348,slow=20,SNR=5.5						
435B	**Jarrell**	**14.79**	**352**	Pn	**Pn**	**19 46 35.2**	**-0.8**
JCT	**Junction City**	**14.93**	**344**		**Pn**	**19 46 37.3**	**-0.5**
TXAR	**Lajitas Array**	**15.30**	**331**	P	**Pn**	**19 46 45.1**	**+2.3**
TXAR	**Lajitas Array**	**15.30**	**331**	P	**Pn**	**19 46 47.6**	**+4.8**
	0.2nm,0.3s,baz=147,slow=13,SNR=8.3 0.9nm,0.6s						
BRDY	**Brady**	**15.52**	**348**		**Pn**	**19 46 47.2**	**+1.7**
OZNA	**Ozona**	**15.72**	**341**	P	**Pn**	**19 46 49.8**	**+1.6**
ALPN	**Alpine**	**16.18**	**333**	P	**Pn**	**19 46 55.5**	**+1.5**
FW13	**Cleburne**	**16.32**	**353**	P	**Pn**	**19 46 57.2**	**+1.6**
FW13				IAmb	IAmb	19 47 01.9	
	comp=Z,20nm,0.7s						
PLPT	**Palo Pinto**	**16.89**	**351**	P	**Pn**	**19 47 03.6**	**+0.8**
FW06	**Azle**	**16.94**	**353**		**Pn**	**19 47 03.9**	**+0.4**
FW06				IAmb	IAmb	19 47 08.1	
	comp=Z,19nm,0.7s						
FW03	**Perrin-Whitt E**	**17.07**	**352**		**Pn**	**19 47 05.4**	**+0.3**
FW03				IAmb	IAmb	19 47 10.0	
	comp=Z,25nm,0.7s						
APMT	**Aspermont**	**17.73**	**346**	P	**Pn**	**19 47 11.6**	**-1.6**
POST	**Post**	**17.83**	**343**	P	**Pn**	**19 47 14.8**	**+0.2**
LOOK	**Love County**	**17.91**	**355**	P	**P**	**19 47 15.2**	**-0.3**
X34A	**Smith Ranch, M**	**18.58**	**353**		**P**	**19 47 24.0**	**+1.1**
X34A				IAmb	IAmb	19 47 33.3	
	comp=Z,30nm,0.7s						
W35A	**Tecumseh**	**19.04**	**356**	P	**P**	**19 47 27.5**	**-0.4**
W35A				IAmb	IAmb	19 47 32.9	
	comp=Z,9.6nm,0.6s						
FNO	**Franklin**	**19.19**	**355**	P	**P**	**19 47 30.3**	**+0.7**
FNO				IAmb	IAmb	19 47 38.9	
	comp=Z,20nm,0.7s						
SMWD	**Samnorwood**	**19.46**	**348**		**P**	**19 47 33.2**	**+0.6**
SMWD				IAmb	IAmb	19 47 37.4	
	comp=Z,17nm,0.7s						
DEOK	**Depew**	**19.71**	**357**		**P**	**19 47 34.9**	**-0.3**
DEOK				IAmb	IAmb	19 47 36.6	
	comp=Z,15nm,0.8s						
OK052	**Battle Ridge R**	**19.87**	**356**	P	**P**	**19 47 37.0**	**0.0**
QUOK	**Quay**	**20.05**	**356**		**P**	**19 47 38.5**	**-0.3**
OK048	**Pawnee Station**	**20.30**	**356**	P	**P**	**19 47 41.8**	**+0.2**
OK048				IAmb	IAmb	19 47 42.9	
	comp=Z,17nm,0.7s						
CROK	**Carrier**	**20.48**	**354**	P	**P**	**19 47 43.7**	**+0.1**
CROK				IAmb	IAmb	19 47 48.8	
	comp=Z,19nm,0.7s						
BLOK	**Blackwell**	**20.66**	**355**	P	**P**	**19 47 45.7**	**+0.1**
BLOK				IAmb	IAmb	19 47 50.2	
	comp=Z,26nm,0.7s						
T35A	**Sooner Cattle**	**20.78**	**357**	P	**P**	**19 47 46.7**	**0.0**
T35A				IAmb	IAmb	19 47 51.2	
	comp=Z,14nm,0.5s						
SDCO	**Great Sand Dun**	**23.41**	**339**	P	**P**	**19 48 13.2**	**-1.5**
NVAR	**Mina Array Bea**	**30.11**	**322**	P	**P**	**19 49 19.3**	**+4.2**
	comp=Z,0.8nm,0.8s,baz=126,slow=6.4,SNR=2.9 comp=Z,0.8nm,0.8s						
E38A	**The Farm, Brul**	**30.58**	**5**	P	**P**	**19 49 17.4**	**-1.5**
E38A				IAmb	IAmb	19 49 19.2	
	comp=Z,8.0nm,0.8s						
AGMN	**Agassiz Nation**	**32.12**	**359**	P	**P**	**19 49 30.6**	**-1.8**
AGMN				IAmb	IAmb	19 49 33.1	
	comp=Z,5.7nm,0.8s						
FFC	**Flin Flon**	**38.91**	**354**	P	**P**	**19 50 29.2**	**-1.4**
FFC				IAmb	IAmb	19 50 32.5	
	comp=Z,7.2nm,1.3s						
YKA	**Yellowknife Ar**	**48.32**	**348**	P	**P**	**19 51 47.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=155,slow=7.6,SNR=7.5 comp=Z,0.6nm,0.8s						
P19K	**Oil Pt**	**60.27**	**330**	P	**P**	**19 53 11.4**	**-1.8**
BMAR	**Burnt Mountain**	**60.28**	**340**	P	**P**	**19 53 12.1**	**-1.0**
ARCES	**ARCESS Array B**	**85.12**	**18**	P	**P**	**19 55 44.8**	**+4.4**
	comp=Z,2.5nm,0.9s,baz=296,slow=5.7,SNR=3.7 comp=Z,2.5nm,0.9s						

*IDC **12** 19:46:27.7±1.8, 35°31S×179°43W, h0km, mb4.4/2, mbtmp4.3/3, ML3.9/1, MS3.5/1, Error ellipse: s-maj=58.9km s-min=31.7km az=139.0*

*NOU **12** 19:46:30.7, 35°52S×179°04W, h89km, MLv4.1/8, East of North Island, N.Z.*

*NEIC **12** 19:46:30.1±1.1, 35°5S±0°1×179°6W±0°1, h10km±2km, mb4.4/1, Error ellipse: s-maj=19.2km s-min=14.0km az=145.0*

*WEL **12** 19:46:31.6±0.9, 36°S±6°×17°9W±°, h12km, M4.2/17, ML4.5/19, MLv4.2/17, Error ellipse: s-maj=11.1km s-min=6.8km az=117.0, confirmed*

ISC 12 19:46:33.2±0.8, 35°49S±0°07×179°38W±0°09, h41km, n83, σ1°92/100, mb4.4/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.78**	**221**	Pn	**Pn**	**19 47 15.0**	**-0.3**
MXZ				Sn	**Sn**	**19 47 47.4**	**-0.1**
MXZ	**Matakaoa Point**	**2.78**	**221**	P	**Pn**	**19 47 15.3**	**+0.1**
MXZ	**Matakaoa Point**	**2.78**	**221**	S	**Sn**	**19 47 50.5**	**+2.9**
MXZ	**Matakaoa Point**	**2.78**	**221**	P	**Pn**	**19 47 15.6**	**+0.4**
MXZ				S	**Sn**	**19 47 50.1**	**+2.5**
WMGZ	**Waiomatatini S**	**2.92**	**217**	P	**Pn**	**19 47 18.4**	**+1.2**
PKGZ	**Pakihiroa**	**3.13**	**220**	P	**Pn**	**19 47 21.3**	**+1.3**
PKGZ				S	**Sn**	**19 47 60.0**	**+3.9**
PUZ	**Puketiti**	**3.20**	**216**	P	**Pn**	**19 47 21.9**	**+1.0**
PUZ				S	**Sn**	**19 48 00.4**	**+2.6**
HAZ	**Te Kaha**	**3.21**	**225**	P	**Pn**	**19 47 22.0**	**+0.9**
TWGZ	**Tauwhareparae**	**3.42**	**218**	P	**Pn**	**19 47 24.8**	**+0.9**
TWGZ				S	**Sn**	**19 48 06.8**	**+3.6**
RUGZ	**Raukumara Rang**	**3.42**	**223**	P	**Pn**	**19 47 25.2**	**+1.1**
RUGZ				S	**Sn**	**19 48 07.3**	**+3.9**
CNGZ	**Carnagh Statio**	**3.56**	**212**	P	**Pn**	**19 47 27.1**	**+1.2**
CNGZ				S	**Sn**	**19 48 11.2**	**+4.5**
TKGZ	**Te Karaka**	**3.69**	**216**	P	**Pn**	**19 47 29.5**	**+1.9**
TKGZ				S	**Sn**	**19 48 12.7**	**+2.9**
WHRZ	**Whale Island**	**3.76**	**230**	P	**Pn**	**19 47 31.1**	**+2.4**
MWZ	**Matawai**	**3.77**	**220**	P	**Pn**	**19 47 29.4**	**+0.6**
MWZ				S	**Sn**	**19 48 14.9**	**+3.0**
RIGZ	**Rimuhau**	**3.94**	**215**	P	**Pn**	**19 47 32.7**	**+1.6**
URZ	**Urewera**	**3.94**	**225**	Pn	**Pn**	**19 47 31.4**	**+0.2**
	8.5nm,0.3s,baz=331,slow=2.1,SNR=56						
URZ				Sn	**Sn**	**19 48 18.2**	**+2.1**
	18nm,0.3s,baz=326,slow=5.2,SNR=11 18nm,0.3s						
URZ	**Urewera**	**3.94**	**225**	P	**Pn**	**19 47 31.4**	**+0.2**
URZ	**Urewera**	**3.94**	**225**	S	**Sn**	**19 48 19.3**	**+3.2**
URZ	**Urewera**	**3.94**	**225**	P	**Pn**	**19 47 31.6**	**+0.4**
URZ				S	**Sn**	**19 48 19.8**	**+3.6**
RAGZ	**Rawiri**	**3.95**	**220**	P	**Pn**	**19 47 32.5**	**+1.2**
RAGZ				S	**Sn**	**19 48 18.4**	**+2.0**
MYRZ	**Mayor Island**	**3.96**	**242**	P	**Pn**	**19 47 33.1**	**+1.6**
PRGZ	**Paritu Road**	**4.06**	**212**	P	**Pn**	**19 47 33.1**	**+0.3**
PRGZ				S	**Sn**	**19 48 22.1**	**+3.0**
KUZ	**Kuaotunu**	**4.16**	**251**	P	**Pn**	**19 47 35.0**	**+0.9**
SNGZ	**Shannon Statio**	**4.20**	**218**	P	**Pn**	**19 47 36.5**	**+1.8**
SNGZ				S	**Sn**	**19 48 24.7**	**+2.1**
KNZ	**Kokohu**	**4.24**	**213**	P	**Pn**	**19 47 35.2**	**0.0**
MHGZ	**Mahia Peninsul**	**4.25**	**210**	P	**Pn**	**19 47 35.6**	**+0.3**
GRZ	**Great Barrier**	**4.26**	**258**	P	**Pn**	**19 47 36.3**	**+0.8**
RTZ	**Ruatahuna**	**4.27**	**222**		**Pn**	**19 47 32.7**	**-3.0**
RTZ				Sn	**Sn**	**19 48 20.6**	**-3.6**
RTZ	**Ruatahuna**	**4.27**	**222**	P	**Pn**	**19 47 36.4**	**+0.7**
MUGZ	**Murupara**	**4.29**	**225**	P	**Pn**	**19 47 35.7**	**-0.2**
MUGZ				S	**Sn**	**19 48 25.6**	**+0.9**
MTHZ	**Maungataniwha**	**4.51**	**221**	P	**Pn**	**19 47 39.4**	**+0.4**
TOZ	**Tahuroa Road**	**4.69**	**240**		**Pn**	**19 47 37.1**	**-4.2**
MKAZ	**Moumakai**	**4.70**	**248**	P	**Pn**	**19 47 43.0**	**+1.5**
BKZ	**Black Stump Fm**	**4.93**	**221**		**Pn**	**19 47 43.5**	**-1.2**
BKZ				Sn	**Sn**	**19 48 39.5**	**-0.9**
BKZ	**Black Stump Fm**	**4.93**	**221**	P	**Pn**	**19 47 44.6**	**-0.1**
BKZ	**Black Stump Fm**	**4.93**	**221**	S	**Sn**	**19 48 42.1**	**+1.6**
WCZ	**Waipu Caves**	**5.13**	**263**	P	**Pn**	**19 47 49.0**	**+1.5**
RATZ	**Rangitukua**	**5.13**	**228**	P	**Pn**	**19 47 49.1**	**+1.6**
RITZ	**Rihia Road**	**5.15**	**226**	P	**Pn**	**19 47 48.9**	**+1.1**
KAHZ	**Kahuranaki**	**5.22**	**214**	P	**Pn**	**19 47 47.2**	**-1.6**
KATZ	**Kakaramea**	**5.25**	**227**	P	**Pn**	**19 47 51.5**	**+2.3**
TMVZ	**Te Maari**	**5.33**	**226**	P	**Pn**	**19 47 50.8**	**+0.4**
NTVZ	**North Tongarir**	**5.34**	**226**	P	**Pn**	**19 47 50.6**	**+0.1**
ETVZ	**East Tongariro**	**5.34**	**226**	P	**Pn**	**19 47 50.6**	**+0.1**
KRHZ	**Kereru**	**5.34**	**218**	P	**Pn**	**19 47 50.2**	**-0.2**
KRVZ	**Karewarewa**	**5.36**	**226**	P	**Pn**	**19 47 51.4**	**+0.7**
OTVZ	**Oturere**	**5.39**	**226**	P	**Pn**	**19 47 51.5**	**+0.3**
NNVZ	**North Ngauruho**	**5.40**	**226**	P	**Pn**	**19 47 51.9**	**+0.7**
WTVZ	**West Tongariro**	**5.40**	**226**	P	**Pn**	**19 47 52.1**	**+0.8**
SNVZ	**South Ngauruho**	**5.42**	**226**	P	**Pn**	**19 47 51.8**	**+0.3**
PXZ	**Pawanui**	**5.42**	**212**	P	**Pn**	**19 47 52.5**	**+1.0**
OUZ	**Omahuta**	**5.75**	**271**	P	**Pn**	**19 47 57.2**	**+1.2**
OUZ	**Omahuta**	**5.75**	**271**	P	**Pn**	**19 47 57.2**	**+1.2**
BFZ	**Birch Farm**	**6.22**	**212**		**Pn**	**19 48 00.2**	**-2.3**
BFZ				Sn	**Sn**	**19 49 07.9**	**-4.4**
BFZ	**Birch Farm**	**6.22**	**212**	P	**Pn**	**19 48 02.6**	**+0.1**
MRZ	**Mangatainoka R**	**6.51**	**216**	Pn	**Pn**	**19 48 03.6**	**-2.8**
BHW	**Baring Head**	**7.43**	**216**	Pn	**Pn**	**19 48 16.3**	**-2.7**
TUWZ	**Tuamarina**	**7.91**	**219**	Pn	**Pn**	**19 48 22.5**	**-3.1**
CMWZ	**Cape Campbell**	**8.01**	**217**	Pn	**Pn**	**19 48 25.6**	**-1.4**
CTZ	**Chatham Island**	**8.50**	**166**		**Pn**	**19 48 32.9**	**-0.7**
CTZ	**Chatham Island**	**8.50**	**166**	P	**Pn**	**19 48 34.1**	**+0.4**
THZ	**Tophouse**	**8.70**	**222**	Pn	**Pn**	**19 48 33.6**	**-2.8**
LTZ	**Lake Taylor**	**9.74**	**219**	Pn	**Pn**	**19 48 47.9**	**-2.9**
MQZ	**McQueen's Vall**	**10.24**	**214**	Pn	**Pn**	**19 48 54.6**	**-3.0**
DZM	**Mont Dzumac**	**18.23**	**313**	LR	LR	19 56 49.5	
	comp=Z,160nm,19.4s,baz=242,slow=34						
COEN	**Coen**	**39.87**	**293**	P	**P**	**19 54 01.9**	**-1.2**
COEN				IAmb	IAmb	19 54 06.5	
	comp=Z,8.7nm,1.4s						
RABL	**Rabaul**	**40.76**	**313**	P	**P**	**19 54 09.7**	**-0.7**
AS31	**Alice Springs**	**41.96**	**273**	P	**P**	**19 54 19.7**	**-0.6**
ASAR	**Alice Springs**	**41.96**	**273**	P	**P**	**19 54 19.6**	**-0.7**
ASAR	**Alice Springs**	**41.96**	**273**	P	**P**	**19 54 19.9**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=115,slow=7.7,SNR=60 comp=Z,3.5nm,0.7s						
XMAS	**Kiritimati**	**42.61**	**33**	P	**P**	**19 54 29.4**	**+3.9**
WB2	**Warramunga Arr**	**43.40**	**278**	P	**P**	**19 54 31.2**	**-0.7**
WB2				IAmb	IAmb	19 54 32.2	
	comp=Z,9.6nm,1.1s						
WRAB	**Tennant Creek**	**43.40**	**278**	P	**P**	**19 54 30.8**	**-1.1**
WRAB				IAmb	IAmb	19 54 32.5	
	comp=Z,5.8nm,0.6s						
WRA	**Warramunga Arr**	**43.41**	**278**	P	**P**	**19 54 31.6**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=119,slow=7.6,SNR=36 comp=Z,5.2nm,0.7s						
WB0	**Warramunga Arr**	**43.45**	**279**	P	**P**	**19 54 31.7**	**-0.7**
WB0				IAmb	IAmb	19 54 32.9	
	comp=Z,5.3nm,0.8s						
KNRA	**Kununurra**	**50.16**	**279**	P	**P**	**19 55 24.8**	**0.0**
FITZ	**Fitzroy Crossi**	**51.40**	**275**	P	**P**	**19 55 33.1**	**-1.1**
NWAO	**Narrogin (SRO)**	**51.68**	**253**	P	**P**	**19 55 34.1**	**-2.0**
S22A	**4UR Ranch, Cre**	**99.11**	**50**	P	**Pdif**	**20 00 12.6**	**+2.4**
MKAR	**Makanchi Array**	**120.08**	**308**	PKP	**PKPdf**	**20 05 18.5**	**-0.6**
	comp=Z,0

NEIC ***12*** *20:19:15.1±1.7,25°.03N±0°.06×121°.87E±0°.04, h137km,3km,mb4.6/149,Error ellipse: s-maj=9.4km s-min=5.3km az=161.0*

IDC ***12*** *20:19:15.3±0.6,25°.06N×121°.99E,h143km±5km,mb4.0/25, mbtmp4.5/28,MS3.2/4,Error ellipse: s-maj=10.8km s-min=8.3km az=70.0*

ASIES ***12*** *20:19:15.4,25°.02N×121°.86E,h138km,ML5.4,Mw4.6, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}2.01; $M_{\theta\theta}$-0.88; $M_{\phi\phi}$-1.13; $M_{r\theta}$4.60; $M_{\theta\phi}$0.19; $M_{\phi r}$-7.56; Fault plane solution: $M_0$9.02603×10^{22} NP1: ϕ_s330.26000°,δ5.19000°,λ91.54000°. NP2:ϕ_s148.71000°, δ84.81000°,λ89.86000°. Principal axes: T Plg50.1880°, Azm58.5590°; N Plg0.1390°, Azm148.7260°; P Plg39.8120°, Azm238.8420°;*

MOS ***12*** *20:19:15.0±1.0,25°.02N×121°.89E,h138km,mb4.7/34 Error ellipse: s-maj=7.2km s-min=4.8km az=94.6*

TAP ***12*** *20:19:15.4,25°.02N×121°.86E,h138km,ML5.4,B*

NIED ***12*** *20:19:15.6,24°.93N×121°.81E,h133km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.21; $M_{\theta\theta}$1.87; $M_{\phi\phi}$-2.08; $M_{r\theta}$3.06; $M_{\theta\phi}$1.43; $M_{\phi r}$-4.12; Fault plane solution: $M_0$5.50000×10^{15} NP1:ϕ_s34.00000°, δ20.00000°,λ168.00000°. NP2:ϕ_s136.00000°,δ86.00000°, λ70.00000°.*

BJI ***12*** *20:19:16.0,25°.02N×121°.80E,h131km,mB4.9/19, mb4.5/61*

ISC 12 20:19:15.3±0.4,25°.01N±0°.03×121°.85E±0°.03,h144km±3km, h144km:pP-P,n716,σ1°10/847,mb4.5/125,120C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi**	**0.05**	**205**	⇓P	**Pn**	**20 19 34.0**	**-0.7**
TIPB				*i* S	**Sn**	**20 19 47.4**	**-1.9**
NWF	**Wu-fen Shan**	**0.08**	**313**	*i* P	**Pn**	**20 19 34.2**	**-0.6**
NWF				*eS*	**Sn**	**20 19 49.0**	**-0.5**
WFSB	**Wu-fen Shan**	**0.08**	**313**	⇓P	**Pn**	**20 19 34.2**	**-0.4**
WFSB				S	**Sn**	**20 19 47.3**	**-2.0**
SXI1	**Grass Mountain**	**0.08**	**18**	⇓*i*P	**Pn**	**20 19 33.9**	**-0.8**
SXI1				*eS*	**Sn**	**20 19 47.4**	**-2.1**
TWB1	**Santiao Chiao**	**0.13**	**93**	⇓*i*P	**Pn**	**20 19 34.2**	**-0.4**
TWB1				*i* S	**Sn**	**20 19 47.8**	**-1.5**
NTC	**Toucheng**	**0.16**	**186**	*eP*	**Pn**	**20 19 34.5**	**-0.2**
NTC				*eS*	**Sn**	**20 19 48.0**	**-1.4**
NHY	**Taipei**	**0.25**	**276**	*eP*	**Pn**	**20 19 34.6**	**-0.3**
NHY				S	**Sn**	**20 19 48.6**	**-1.2**
ILA	**Ilan**	**0.26**	**200**	*i* P	**Pn**	**20 19 34.9**	**-0.1**
ILA				S	**Sn**	**20 19 49.3**	**-0.5**
YM01	**YM01**	**0.28**	**298**	⇑P	**Pn**	**20 19 34.5**	**-0.6**
YM01				S	**Sn**	**20 19 48.3**	**-1.8**
YM08	**YM08**	**0.29**	**307**	⇑*i*P	**Pn**	**20 19 34.4**	**-0.7**
YM08				*eS*	**Sn**	**20 19 49.4**	**-0.7**
TAP	**Taipei**	**0.31**	**275**	⇑*i*P	**Pn**	**20 19 34.6**	**-0.5**
TAP				*i* S	**Sn**	**20 19 48.8**	**-1.3**
ZUZH	**Zhuzihu**	**0.31**	**298**	⇑P	**Pn**	**20 19 34.6**	**-0.6**
ZUZH				*eS*	**Sn**	**20 19 48.3**	**-2.0**
TATO	**Taipei**	**0.33**	**263**		**Pn**	**20 19 34.3**	**-0.9**
TATO				Sn	**Sn**	**20 19 48.0**	**-2.2**
TATO	**Taipei**	**0.33**	**263**	P	**Pn**	**20 19 34.6**	**-0.5**
TATO	**Taipei**	**0.33**	**263**	S	**Sn**	**20 19 48.8**	**-1.4**
TWE	**Neicheng**	**0.34**	**209**	⇑*i*P	**Pn**	**20 19 34.9**	**-0.3**
TWE				*i* S	**Sn**	**20 19 49.6**	**-0.7**
ANP	**Anpu**	**0.34**	**300**	⇑*i*P	**Pn**	**20 19 34.5**	**-0.8**
ANP				*eS*	**Sn**	**20 19 48.8**	**-1.7**
TWY	**Chenhua**	**0.34**	**319**	*i* P	**Pn**	**20 19 33.8**	**-1.4**
TWY				*i* S	**Sn**	**20 19 48.3**	**-2.0**
FUSB	**Fushanzhiwuyua**	**0.35**	**223**	⇑*i*P	**Pn**	**20 19 34.7**	**-0.7**
FUSB				*i* S	**Sn**	**20 19 49.2**	**-1.4**
NTST	**Danshui**	**0.39**	**293**	⇑P	**Pn**	**20 19 35.1**	**-0.3**
NTST				*eS*	**Sn**	**20 19 49.6**	**-1.0**
NWLT	**Wulai**	**0.39**	**233**	⇑*i*P	**Pn**	**20 19 34.6**	**-0.8**
NWLT				*eS*	**Sn**	**20 19 48.5**	**-2.3**
NDS	**Dongshan**	**0.40**	**197**	⇑*i*P	**Pn**	**20 19 35.3**	**-0.2**
NDS				*eS*	**Sn**	**20 19 50.7**	**-0.1**
TWS1	**Kuangyinshan**	**0.40**	**283**	⇑*i*P	**Pn**	**20 19 34.2**	**-1.2**
TWS1				*eS*	**Sn**	**20 19 48.9**	**-1.7**
TWC	**Suao**	**0.40**	**180**	⇓P	**Pn**	**20 19 35.2**	**-0.3**
TWC				*eS*	**Sn**	**20 19 49.5**	**-1.2**
ESAO	**Su ao**	**0.44**	**180**	⇑P	**Pn**	**20 19 35.6**	**0.0**
ESAO				S	**Sn**	**20 19 50.1**	**-0.9**
ENTT	**Nioudou**	**0.45**	**214**	⇑*i*P	**Pn**	**20 19 35.3**	**-0.5**
ENTT				S	**Sn**	**20 19 49.9**	**-1.3**
YHNB	**Yeheng**	**0.55**	**231**		**Pn**	**20 19 34.6**	**-1.7**
YHNB				Sn	**Sn**	**20 19 49.5**	**-2.7**
YHNB	**Yeheng**	**0.55**	**231**	P	**Pn**	**20 19 35.4**	**-0.8**
YHNB	**Yeheng**	**0.55**	**231**	S	**Sn**	**20 19 50.2**	**-2.0**
YHNB	**Yeheng**	**0.55**	**231**	⇑*i*P	**Pn**	**20 19 35.5**	**-0.8**
YHNB				*eS*	**Sn**	**20 19 49.8**	**-2.4**
NSK	**Sanguang**	**0.56**	**233**	⇑*i*P	**Pn**	**20 19 35.5**	**-0.8**
NSK				S	**Sn**	**20 19 49.9**	**-2.3**
LATG	**Datong**	**0.56**	**211**	⇑*i*P	**Pn**	**20 19 36.1**	**-0.3**
LATG				*eS*	**Sn**	**20 19 50.9**	**-1.5**
EWUT	**Wuta**	**0.57**	**186**	⇑*eP*	**Pn**	**20 19 36.1**	**-0.2**
EWUT				*i* S	**Sn**	**20 19 52.0**	**-0.3**
ENA	**Nanau**	**0.59**	**189**	*eP*	**Pn**	**20 19 36.0**	**-0.5**
ENA				*i* S	**Sn**	**20 19 52.6**	**+0.1**
NCUH	**Zhongli**	**0.60**	**266**	⇑*i*P	**Pn**	**20 19 36.2**	**-0.3**
NCUH				*i* S	**Sn**	**20 19 51.4**	**-1.2**
PCYT	**Pengchaiyu**	**0.65**	**18**	⇓*i*P	**Pn**	**20 19 36.6**	**-0.1**
PCYT				*eS*	**Sn**	**20 19 52.1**	**-1.0**
KSHI	**Guanxi Townshi**	**0.65**	**249**	⇑*i*P	**Pn**	**20 19 36.6**	**-0.2**
KSHI				S	**Sn**	**20 19 52.5**	**-0.6**
EOS2	**EOS2**	**0.69**	**149**	*eP*	**Pn**	**20 19 37.5**	**+0.6**
EAHA	**Aohua**	**0.69**	**188**	*eP*	**Pn**	**20 19 36.8**	**-0.2**
EAHA				S	**Sn**	**20 19 53.7**	**+0.1**
EHP	**Heping Village**	**0.71**	**188**	*eP*	**Pn**	**20 19 37.2**	**0.0**
EHP				S	**Sn**	**20 19 54.5**	**+0.7**
NNS	**Nan Shan**	**0.72**	**217**	⇑*i*P	**Pn**	**20 19 37.0**	**-0.4**
NNS				*i* S	**Sn**	**20 19 53.0**	**-1.1**
NNSB	**Datong**	**0.72**	**216**	⇑*i*P	**Pn**	**20 19 37.1**	**-0.4**
NNSB				*i* S	**Sn**	**20 19 52.9**	**-1.3**
NFF	**Wufeng Townshi**	**0.76**	**240**	⇑*i*P	**Pn**	**20 19 37.0**	**-0.6**
NFF				*i* S	**Sn**	**20 19 52.6**	**-2.0**
SBCB	**Hsinchu**	**0.81**	**254**	⇑*i*P	**Pn**	**20 19 37.8**	**-0.1**
SBCB				*eS*	**Sn**	**20 19 53.1**	**-2.0**
HSN	**Hsinchu**	**0.82**	**255**	⇑*i*P	**Pn**	**20 19 37.5**	**-0.5**
HSN				S	**Sn**	**20 19 53.0**	**-2.2**
LIOB	**Emei**	**0.84**	**244**	⇑*i*P	**Pn**	**20 19 37.8**	**-0.3**
LIOB				S	**Sn**	**20 19 54.0**	**-1.5**
EOS3	**EOS3**	**0.84**	**149**	*eP*	**Pn**	**20 19 38.7**	**+0.7**
NSTT	**Nanjuang**	**0.86**	**244**	⇑*i*P	**Pn**	**20 19 37.9**	**-0.4**
NSTT				*i* S	**Sn**	**20 19 54.4**	**-1.4**
NACB	**Ninganchiao**	**0.87**	**195**		**Pn**	**20 19 36.9**	**-1.5**
NACB				Sn	**Sn**	**20 19 53.9**	**-2.0**
NACB	**Ninganchiao**	**0.87**	**195**	P	**Pn**	**20 19 37.3**	**-1.1**
NACB	**Ninganchiao**	**0.87**	**195**	S	**Sn**	**20 19 54.2**	**-1.7**
NACB	**Ninganchiao**	**0.87**	**195**	⇑*i*P	**Pn**	**20 19 37.2**	**-1.1**
NACB				S	**Sn**	**20 19 54.3**	**-1.7**
ETLH	**Xiulin Townshi**	**0.87**	**203**	⇑*i*P	**Pn**	**20 19 37.9**	**-0.7**
ETLH				*eS*	**Sn**	**20 19 55.4**	**-0.7**
ETL	**Fush Village**	**0.88**	**194**	*eP*	**Pn**	**20 19 37.5**	**-1.0**
ETL				*eS*	**Sn**	**20 19 54.8**	**-1.3**
FUSS	**Fushou**	**0.94**	**216**	⇑*i*P	**Pn**	**20 19 39.4**	**+0.2**
FUSS				*i* S	**Sn**	**20 19 56.9**	**-0.5**
TWD	**Chiawan**	**0.96**	**194**	⇑*i*P	**Pn**	**20 19 38.0**	**-1.2**
TWD				*eS*	**Sn**	**20 19 55.6**	**-1.7**
TDCB	**Techi**	**0.98**	**220**	⇑*i*P	**Pn**	**20 19 39.5**	**0.0**
TDCB				S	**Sn**	**20 19 56.4**	**-1.5**
EOS4	**EOS4**	**0.99**	**154**	*eP*	**Pn**	**20 19 38.8**	**-0.2**
EOS4				*i* S	**Sn**	**20 19 56.6**	**-0.4**
WHF	**Hehuan Shan**	**1.01**	**212**	⇓*i*P	**Pn**	**20 19 40.2**	**+0.1**
WHF				S	**Sn**	**20 19 58.5**	**-0.5**
HWA	**Hwalien**	**1.06**	**192**	⇑*i*P	**Pn**	**20 19 39.4**	**-0.6**
HWA				*eS*	**Sn**	**20 19 58.7**	**0.0**
LXIB	**Xiulin Townshi**	**1.06**	**202**	⇑*i*P	**Pn**	**20 19 39.3**	**-0.9**
LXIB				S	**Sn**	**20 19 59.0**	**-0.3**
NMLH	**Miaoli**	**1.07**	**244**	⇑P	**Pn**	**20 19 40.1**	**0.0**
NMLH				*i* S	**Sn**	**20 19 58.1**	**-0.8**
ETM	**Tongmen**	**1.09**	**197**	⇑*i*P	**Pn**	**20 19 39.1**	**-1.2**
ETM				*eS*	**Sn**	**20 19 57.5**	**-1.9**
WHP	**Taichung City**	**1.10**	**228**	⇑*i*P	**Pn**	**20 19 40.4**	**0.0**
WHP				*i* S	**Sn**	**20 19 58.6**	**-1.0**
JYNG	**Yonagunijimaku**	**1.15**	**119**	*i* P	**Pn**	**20 19 40.5**	**-0.3**
JYNG				*eS*	**Sn**	**20 19 58.7**	**-1.5**
JYNG	**Yonagunijimaku**	**1.15**	**119**	A	A	20 19 40.5	
	comp=N,15nm,1.6s,comp=E,16nm,3.4s						
NSY	**Sanyi**	**1.15**	**239**	⇑*i*P	**Pn**	**20 19 40.2**	**-0.7**
NSY				*i* S	**Sn**	**20 19 59.2**	**-1.2**
TEYL	**Yanliau Villag**	**1.16**	**191**	⇑*eP*	**Pn**	**20 19 38.1**	**-2.8**
TEYL				*eS*	**Sn**	**20 19 58.6**	**-1.9**
TWQ1	**Liyutan**	**1.18**	**236**	⇑*i*P	**Pn**	**20 19 41.0**	**-0.2**
TWQ1				*eS*	**Sn**	**20 19 59.2**	**-1.6**
YOJ	**Yonaguni jima**	**1.19**	**117**		**Pn**	**20 19 40.9**	**-0.3**
YOJ				Sn	**Sn**	**20 19 59.3**	**-1.6**
YOJ	**Yonaguni jima**	**1.19**	**117**	P	**Pn**	**20 19 41.1**	**-0.1**
YOJ	**Yonaguni jima**	**1.19**	**117**	S	**Sn**	**20 19 59.5**	**-1.5**
YOJ	**Yonaguni jima**	**1.19**	**117**	P	**Pn**	**20 19 41.1**	**-0.1**
YOJ	**Yonaguni jima**	**1.19**	**117**	⇓*i*P	**Pn**	**20 19 40.9**	**-0.3**
YOJ				S	**Sn**	**20 19 59.7**	**-1.3**
YOJ	**Yonaguni jima**	**1.19**	**117**	P	**Pn**	**20 19 41.0**	**-0.3**
YOJ				S	**Sn**	**20 19 59.6**	**-1.3**
YOJ	**Yonaguni jima**	**1.19**	**117**	A	A	20 19 41.0	
	comp=N,13nm,1.6s,comp=E,13nm,3.4s						
WUSB	**Renai**	**1.22**	**213**	⇑*i*P	**Pn**	**20 19 41.8**	**+0.2**
WUSB				*eS*	**Sn**	**20 20 00.8**	**-0.9**
OWD	**Renai**	**1.22**	**210**	⇑*i*P	**Pn**	**20 19 41.8**	**+0.1**
OWD				*i* S	**Sn**	**20 20 01.4**	**-0.4**
SHUL	**Shoufeng**	**1.25**	**192**	⇑P	**Pn**	**20 19 41.4**	**-0.5**
SHUL				*i* S	**Sn**	**20 20 02.0**	**0.0**
ESL	**Shilin**	**1.25**	**198**	⇑*i*P	**Pn**	**20 19 40.4**	**-1.5**
ESL				S	**Sn**	**20 19 59.9**	**-2.2**
WCS	**Beigang Elemen**	**1.28**	**222**	⇑*i*P	**Pn**	**20 19 42.2**	**+0.1**
WCS				*i* S	**Sn**	**20 20 01.5**	**-1.0**
WDJ	**Dajia District**	**1.28**	**239**	⇑P	**Pn**	**20 19 42.3**	**+0.1**
WDJ				*eS*	**Sn**	**20 20 02.0**	**-0.5**
TEGC	**Jichi Village**	**1.33**	**192**	*eP*	**Pn**	**20 19 42.2**	**-0.4**
TEGC				*eS*	**Sn**	**20 20 03.4**	**0.0**
WARBT	**Fenglin Townsh**	**1.36**	**198**	⇑*i*P	**Pn**	**20 19 41.3**	**-1.6**
WARBT				*eS*	**Sn**	**20 20 01.3**	**-2.7**
EGFH	**Guangfu**	**1.39**	**196**	*eP*	**Pn**	**20 19 41.8**	**-1.5**
EGFH				*i* S	**Sn**	**20 20 02.4**	**-2.3**
VWDT	**VWDT**	**1.41**	**207**	⇑*i*P	**Pn**	**20 19 44.1**	**+0.6**
VWDT				*eS*	**Sn**	**20 20 04.7**	**-0.2**
SMLT	**Sun Moon Lake**	**1.42**	**218**	⇑*i*P	**Pn**	**20 19 42.6**	**-1.0**
SMLT				*i* S	**Sn**	**20 20 03.8**	**-1.5**
TYC	**Yuchr**	**1.43**	**219**	⇑*i*P	**Pn**	**20 19 43.6**	**0.0**
TYC				*eS*	**Sn**	**20 20 04.1**	**-1.1**
SSLB	**Suanglung**	**1.47**	**214**		**Pn**	**20 19 43.9**	**-0.2**
SSLB				Sn	**Sn**	**20 20 04.6**	**-1.5**
SSLB	**Suanglung**	**1.47**	**214**	P	**Pn**	**20 19 43.9**	**-0.2**
SSLB	**Suanglung**	**1.47**	**214**	⇑*i*P	**Pn**	**20 19 44.1**	**0.0**
SSLB				S	**Sn**	**20 20 04.9**	**-1.2**
WCHH	**Zhanghua**	**1.50**	**232**	⇑*i*P	**Pn**	**20 19 44.3**	**-0.1**
WCHH				*eS*	**Sn**	**20 20 04.7**	**-1.8**
WNT	**Mingjian**	**1.55**	**223**	⇑*i*P	**Pn**	**20 19 45.0**	**+0.1**
WNT				*eS*	**Sn**	**20 20 07.0**	**-0.6**
HGSD	**Ruisui**	**1.56**	**194**	⇑P	**Pn**	**20 19 44.5**	**-0.6**
HGSD				*eS*	**Sn**	**20 20 06.9**	**-0.9**
WJS	**Zhushan**	**1.56**	**221**	⇑*i*P	**Pn**	**20 19 45.2**	**+0.1**
WJS				*eS*	**Sn**	**20 20 07.6**	**-0.3**
EHY	**Hungye**	**1.58**	**198**	⇑*eP*	**Pn**	**20 19 43.7**	**-1.6**
EHY				*eS*	**Sn**	**20 20 05.6**	**-2.5**
EHYH	**Wanrong**	**1.58**	**197**	*eP*	**Pn**	**20 19 44.1**	**-1.1**
EHYH				*eS*	**Sn**	**20 20 05.5**	**-2.8**
WHYT	**Xinyi Township**	**1.59**	**215**	⇑*i*P	**Pn**	**20 19 45.6**	**+0.1**
WHYT				S	**Sn**	**20 20 07.9**	**-0.6**
YULB	**Yu-li**	**1.69**	**197**		**Pn**	**20 19 44.9**	**-1.7**
YULB	**Yu-li**	**1.69**	**197**	P	**Pn**	**20 19 45.1**	**-1.4**
YULB	**Yu-li**	**1.69**	**197**	⇑*i*P	**Pn**	**20 19 45.1**	**-1.4**
YULB				*eS*	**Sn**	**20 20 07.9**	**-2.5**
YUS	**Yu-Shan**	**1.72**	**208**	⇑*eP*	**Pn**	**20 19 45.4**	**-2.0**
EYUL	**Yuli**	**1.73**	**196**	*eP*	**Pn**	**20 19 45.9**	**-1.1**
EYUL				*eS*	**Sn**	**20 20 08.7**	**-2.5**
ECBN	**Changbin**	**1.73**	**192**	⇑*eP*	**Pn**	**20 19 46.8**	**-0.1**
ECBN				*eS*	**Sn**	**20 20 10.1**	**-1.0**
TWF1	**Yuli**	**1.73**	**197**	⇑*eP*	**Pn**	**20 19 45.6**	**-1.4**
TWF1				*eS*	**Sn**	**20 20 09.3**	**-1.8**
WDL	**Douliou City**	**1.76**	**223**	⇑P	**Pn**	**20 19 47.4**	**+0.1**
WDL				*eS*	**Sn**	**20 20 11.8**	**+0.1**
WGK	**Gukeng**	**1.77**	**222**	⇑*i*P	**Pn**	**20 19 47.5**	**+0.1**
WGK				*eS*	**Sn**	**20 20 11.1**	**-0.8**
CHN5	**Tsauling**	**1.77**	**217**	⇑*i*P	**Pn**	**20 19 47.4**	**-0.1**
CHN5				*eS*	**Sn**	**20 20 11.3**	**-0.8**
ALS	**Alishan**	**1.77**	**213**	⇑*i*P	**Pn**	**20 19 47.8**	**+0.1**
ALS				S	**Sn**	**20 20 12.0**	**-0.5**
WDLH	**Douliu**	**1.78**	**222**	⇑*i*P	**Pn**	**20 19 47.6**	**+0.1**
WDLH				*eS*	**Sn**	**20 20 12.0**	**-0.1**
WTCT	**Ta-ch'eng**	**1.83**	**232**	⇑*i*P	**Pn**	**20 19 47.9**	**-0.2**
WTCT				*i* S	**Sn**	**20 20 12.3**	**-0.8**
IRIF	**Iriomote-Funau**	**1.84**	**111**	P	**Pn**	**20 19 47.8**	**-0.4**
IRIF				S	**Sn**	**20 20 12.1**	**-1.3**
IRIF	**Iriomote-Funau**	**1.84**	**111**	A	A	20 19 47.8	
	comp=N,9.0nm,1.9s,comp=E,4.0nm,1.9s						
CHKH	**Chenggong**	**1.86**	**193**	⇑*eP*	**Pn**	**20 19 48.0**	**-0.4**
CHKH				S	**Sn**	**20 20 13.6**	**-0.2**
WTK	**Tuku**	**1.87**	**226**	⇑P	**Pn**	**20 19 48.6**	**0.0**
WTK				S	**Sn**	**20 20 13.9**	**-0.1**
FULB	**Fuli**	**1.88**	**196**	⇑P	**Pn**	**20 19 48.1**	**-0.5**
FULB				*i* S	**Sn**	**20 20 14.3**	**+0.1**
CHN2	**Minshiung**	**1.94**	**221**	⇑*i*P	**Pn**	**20 19 49.6**	**+0.3**
CHN2				*i* S	**Sn**	**20 20 15.6**	**+0.3**
WCKO	**Fanlu**	**1.94**	**216**	⇑*i*P	**Pn**	**20 19 49.5**	**+0.2**
WCKO				*i* S	**Sn**	**20 20 15.1**	**-0.3**
EHD	**Haiduan**	**1.95**	**198**	*eP*	**Pn**	**20 19 47.9**	**-1.6**
CHKT	**Chengkung**	**1.96**	**193**	⇑*i*P	**Pn**	**20 19 49.0**	**-0.5**
CHKT				*i* S	**Sn**	**20 20 14.9**	**-0.9**
ELDTW	**Lidau**	**1.97**	**203**	⇑*i*P	**Pn**	**20 19 49.7**	**-0.2**
ELDTW				*i* S	**Sn**	**20 20 16.6**	**+0.3**
CHY	**Chiayi**	**1.99**	**221**	⇑*eP*	**Pn**	**20 19 49.9**	**0.0**
CHY				*eS*	**Sn**	**20 20 15.6**	**-0.9**
ECS	**Chishang**	**2.00**	**197**	*eP*	**Pn**	**20 19 49.3**	**-0.7**
CHN4	**Tsaushan**	**2.01**	**215**	⇑*i*P	**Pn**	**20 19 50.3**	**+0.1**
CHN4				*i* S	**Sn**	**20 20 16.9**	**-0.1**
WSF	**Szhu**	**2.02**	**228**	⇑P	**Pn**	**20 19 50.1**	**-0.2**
WSF				*i* S	**Sn**	**20 20 16.4**	**-0.6**
HATJ	**Hateruma jima**	**2.02**	**118**	P	**Pn**	**20 19 50.3**	**0.0**
HATJ				S	**Sn**	**20 20 16.5**	**-0.6**
HATJ	**Hateruma jima**	**2.02**	**118**	A	A	20 19 50.3	
	comp=N,9.0nm,2.5s,comp=E,8.0nm,2.1s						
TPUB	**Ta-pu**	**2.04**	**213**	Pn	**Pn**	**20 19 50.3**	**-0.2**
TPUB				Sn	**Sn**	**20 20 15.9**	**-1.6**
TPUB	**Ta-pu**	**2.04**	**213**	P	**Pn**	**20 19 50.3**	**-0.2**
TPUB	**Ta-pu**	**2.04**	**213**	⇑*i*P	**Pn**	**20 19 50.4**	**-0.2**
TPUB				*eS*	**Sn**	**20 20 15.9**	**-1.6**
MATB	**Ma-tsu**	**2.06**	**304**	⇑*i*P	**Pn**	**20 19 50.1**	**-0.6**
STYH	**Taoyuan**	**2.08**	**208**	⇑*eP*	**Pn**	**20 19 51.2**	**+0.2**
STYH				*i* S	**Sn**	**20 20 17.8**	**-0.6**
WTP	**Ta-pu**	**2.09**	**213**	⇑P	**Pn**	**20 19 51.0**	**-0.2**
WTP				*i* S	**Sn**	**20 20 17.6**	**-1.1**
EDH	**Donghe**	**2.09**	**194**	⇑*eP*	**Pn**	**20 19 50.6**	**-0.6**
EDH				*eS*	**Sn**	**20 20 17.2**	**-1.4**
WSL	**Shuilin Townsh**	**2.10**	**225**	⇑*i*P	**Pn**	**20 19 51.0**	**-0.1**
WSL				*eS*	**Sn**	**20 20 18.6**	**-0.1**
JKRS	**Kuro-shima**	**2.11**	**111**	P	**Pn**	**20 19 51.4**	**+0.1**
JKRS				S	**Sn**	**20 20 18.0**	**-1.1**
JKRS	**Kuro-shima**	**2.11**	**111**	A	A	20 19 51.4	
	comp=N,7.0nm,3.4s,comp=E,7.0nm,2.3s						
SNST	**Tainan City**	**2.17**	**215**	⇑*i*P	**Pn**	**20 19 52.0**	**-0.1**
SNST				*i* S	**Sn**	**20 19 19.6**	**-0.7**
VWUC	**VWUC**	**2.18**	**270**	⇑*i*P	**Pn**	**20 19 51.5**	**-0.6**
ICHU	**Yijhu**	**2.18**	**221**	⇑P	**Pn**	**20 19 52.1**	**-0.1**
ICHU				S	**Sn**	**20 19 19.8**	**-0.8**
CHN1	**Nanshi**	**2.18**	**214**	⇑*i*P	**Pn**	**20 19 52.1**	**-0.1**
CHN1				*i* S	**Sn**	**20 19 19.6**	**-1.0**
JIJ	**Ishigaki jima**	**2.19**	**107**	P	**Pn**	**20 19 51.9**	**-0.3**
JIJ				S	**Sn**	**20 19 18.8**	**-1.8**
LONT	**Longtian**	**2.20**	**198**	*eP*	**Pn**	**20 19 51.8**	**-0.7**
LONT				S	**Sn**	**20 19 19.6**	**-1.4**
CHN8	**Yiju**	**2.23**	**222**	⇑*i*P	**Pn**	**20 19 52.7**	**-0.1**
CHN8				*i* S	**Sn**	**20 20 21.9**	**+0.2**
SGST	**Jiashian**	**2.24**	**211**	⇑*i*P	**Pn**	**20 19 52.1**	**-0.9**
SGST				*i* S	**Sn**	**20 20 20.1**	**-1.9**
JISG	**Ishigakijimahi**	**2.28**	**100**	P	**Pn**	**20 19 53.1**	**-0.2**
JISG				*eS*	**Sn**	**20 20 21.5**	**-1.1**
JISG	**Ishigakijimahi**	**2.28**	**100**	A	A	20 19 53.1	
	comp=N,6.0nm,0.5s,comp=E,8.0nm,0.5s						
TWG	**Pinlang**	**2.30**	**198**	Pn	**Pn**	**20 19 52.1**	**-1.5**
TWGBT	**Beinan**	**2.30**	**198**	P	**Pn**	**20 19 52.6**	**-1.0**
TWGBT	**Beinan**	**2.30**	**198**	⇑*i*P	**Pn**	**20 19 52.3**	**-1.3**
TWGBT				S	**Sn**	**20 20 21.7**	**-1.4**
TTN	**Taitung**	**2.34**	**196**	*eP*	**Pn**	**20 19 54.2**	**+0.1**
SSHA	**Shanhua**	**2.35**	**218**	*eP*	**Pn**	**20 19 54.4**	**+0.1**
SSHA				*i* S	**Sn**	**20 20 24.8**	**+0.5**
LDUT	**Ludao**	**2.36**	**189**	P	**Pn**	**20 19 53.6**	**-0.8**
LDUT				S	**Sn**	**20 20 22.9**	**-1.5**
CHN3	**Shinhua**	**2.36**	**215**	⇑*i*P	**Pn**	**20 19 55.1**	**+0.7**
CHN3				*eS*	**Sn**	**20 20 23.7**	**-0.7**
SCLT	**Jiali**	**2.37**	**220**	⇑*i*P	**Pn**	**20 19 54.7**	**+0.1**
SCLT				*i* S	**Sn**	**20 20 24.7**	**0.0**
SHHT	**Tainan City**	**2.41**	**215**	⇑*i*P	**Pn**	**20 19 55.7**	**+0.7**
SHHT				*eS*	**Sn**	**20 20 25.5**	**0.0**
XPSS	**Dashiqiu**	**2.42**	**322**	⇑*eP*	**Pn**	**20 19 54.6**	**-0.5**
SCST	**Cishan**	**2.45**	**211**	⇑P	**Pn**	**20 19 56.1**	**+0.6**
SCST				*i* S	**Sn**	**20 20 26.4**	**-0.1**
TSCK	**Chigu Township**	**2.46**	**221**	*eP*	**Pn**	**20 19 55.6**	**0.0**
TSCK				*eS*	**Sn**	**20 20 25.3**	**-1.3**
TAI1	**Yung-k'ang**	**2.46**	**217**	*eP*	**Pn**	**20 19 56.0**	**+0.4**
TAI1				*i* S	**Sn**	**20 20 27.2**	**+0.6**
PTMZ	**Houxiangcun**	**2.47**	**271**	⇑*i*P	**Pn**	**20 19 55.3**	**-0.5**
PNG	**Penghu**	**2.54**	**236**	⇑*i*P	**Pn**	**20 19 56.1**	**-0.4**
PNG				*i* S	**Sn**	**20 20 26.4**	**-2.0**
ECL	**Taimali**	**2.54**	**199**	*eP*	**Pn**	**20 19 55.7**	**-1.0**
ECL				*i* S	**Sn**	**20 20 27.8**	**-0.7**
TWM1	**Shoushan**	**2.54**	**211**	⇑*i*P	**Pn**	**20 19 57.8**	**+1.1**
TWM1				*eS*	**Sn**	**20 20 29.1**	**+0.6**
TSMG	**Majia**	**2.55**	**206**	⇑P	**Pn**	**20 19 57.0**	**+0.2**
TSMG				*i* S	**Sn**	**20 20 27.9**	**-0.7**
PHUB	**P'eng-hu**	**2.56**	**235**	⇑*i*P	**Pn**	**20 19 56.3**	**-0.5**
SGLT	**Jiouru**	**2.59**	**209**	*eP*	**Pn**	**20 19 58.6**	**+1.3**
SGLT				S	**Sn**	**20 20 31.0**	**+1.3**
JTJ	**Tarama**	**2.62**	**98**	P	**Pn**	**20 19 58.1**	**+0.5**
JTJ				S	**Sn**	**20 20 29.1**	**-1.1**
JTJ	**Tarama**	**2.62**	**98**	A	A	20 19 58.1	
	comp=N,4.0nm,2.8s,comp=E,4.0nm,1.5s						
MASBT

comp=Z,22nm,0.8s
JHJ Hachijo jima 2 17.62 59 P **Pn 20 23 14.0 +2.1**
comp=Z,169nm,0.8s,baz=236,slow=15,SNR=28
JHJ2 Mitsune 17.64 59 P **Pn 20 23 12.3 +0.1**
HHC Hu-ho-hao-te 17.97 334 *e*P **Pn 20 23 17.9 +1.7**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.8s
MAJO Matsushiro 18.13 47 P **P 20 23 16.2 -0.1**
MAJO Matsushiro 18.13 47 *i*P **P 20 23 16.2 -0.1**
MAJO pmax pmax
comp=Z,9.0nm,0.7s
MJB9 Matsu-Tunnel 18.13 47 P **P 20 23 17.2 +0.9**
MJAR Matsushiro Arr 18.13 47 P **P 20 23 16.0 -0.4**
comp=Z,6.3nm,0.7s,baz=234,slow=8.5,SNR=20
MJAR Matsushiro Arr 18.13 47 P **P 20 23 16.0 -0.4**
DLV Lat 18.13 227 **Pn 20 23 18.7 +0.4**
DLV IAmb IAmb 20 23 21.8
comp=Z,33nm,0.8s
DLV Lat 18.13 227 P **Pn 20 23 20.3 +2.0**
PZH PanZhiHua 18.17 279 P **Pn 20 23 19.4 +0.7**
PZH pmax pmax
comp=Z,250nm,4.8s
NONG Nongkai 18.71 252 P **Pn 20 23 25.2 +0.3**
CN2 Changchun 18.97 8 ⇓P **P 20 23 26.5 +1.1**
CN2 *e*S **S 20 26 49.7 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
LZH Lanzhou 19.00 310 *e*P **Pn 20 23 28.3 0.0**
LZH pmax pmax
comp=Z,28nm,1.1s
JSD Sado 19.05 43 P **P 20 23 26.0 -0.4**
PSTR Posyet 19.08 21 *d i*P **Pn 20 23 28.5 -0.5**
MSHR Mys Shultsa 19.13 21 *c i*P **Pn 20 23 28.8 -0.8**
MSHR pmax pmax
comp=Z,55nm,0.7s
XLT XiLinHaoTe 19.42 347 *e*P **P 20 23 30.9 +0.5**
XLT pmax pmax
comp=Z,21nm,1.1s
XLT pmax pmax
comp=Z,110nm,4.6s
KKM Kota Kinabalu 19.62 197 P **P 20 23 32.8 0.0**
KKM IAmb IAmb 20 23 34.9
comp=Z,56nm,1.4s
KKM Kota Kinabalu 19.62 197 P **P 20 23 34.3 +1.5**
VLA Vladivostok 19.85 22 *i* P **P 20 23 36.8 +1.8**
VLA pmax pmax
comp=Z,37nm,0.9s
MYLDM Lahad Datu 19.98 190 P **P 20 23 37.7 +1.1**
MYLDM Lahad Datu 19.98 190 P **Pn 20 23 39.3 -0.5**
MDJ Mudanjiang 20.55 16 P **P 20 23 42.7 +0.3**
MDJ IAmb IAmb 20 23 46.9
comp=Z,44nm,1.3s
MDJ Mudanjiang 20.55 16 P **P 20 23 43.0 +0.6**
MDJ pmax pmax
comp=Z,27nm,0.9s
MDJ Mudanjiang 20.55 16 P **P 20 23 43.6 +1.2**
JMM Marumori 20.58 47 P **P 20 23 40.5 -2.2**
JMM IAmb IAmb 20 23 41.3
comp=Z,19nm,0.6s
USA0B Ussuriysk Arra 20.85 21 P **P 20 23 46.0 +0.4**
USA0B IAmb IAmb 20 23 49.1
comp=Z,20nm,0.8s
USA0B Ussuriysk Arra 20.85 21 *i*P **P 20 23 47.9 +2.3**
USRK Ussuriysk Ar. 20.85 21 P **P 20 23 46.1 +0.5**
comp=Z,16nm,0.6s,baz=211,slow=8.1,SNR=44
comp=Z,16nm,0.6s
TNCH TengChong 21.14 275 ⇓P **P 20 23 50.9 +1.8**
TNCH sP sP 20 24 33.7 +0.8
TNCH S **S 20 27 31.7 -4.6**
TNCH pmax pmax
comp=Z,26nm,1.1s
TNCH pmax pmax
comp=Z,200nm,5.1s
BNX BinXian 21.16 11 ⇓P **P 20 23 49.6 +0.7**
BNX pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 22.11 258 P **P 20 23 59.9 +0.6**
CHTO IAmb IAmb 20 24 01.6
comp=Z,23nm,0.7s
CHTO Chiang Mai 22.11 258 P **P 20 23 59.9 +0.6**
CHTO pmax pmax
comp=Z,23nm,0.7s
CM31 Chiang Mai Arr 22.24 257 P **P 20 24 01.0 +0.5**
CM31 IAmb IAmb 20 24 02.6
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 22.24 257 P **P 20 24 01.3 +0.8**
CMAR Chiang Mai Arr 22.24 257 P **P 20 24 01.9 +1.5**
comp=Z,9.3nm,0.7s,baz=60,slow=7.9,SNR=91
CMAR pP **pP 20 24 29.1 +2.4**
comp=Z,6.6nm,0.9s,baz=59,slow=7.1,SNR=5.6
CMAR ScP **ScP 20 31 16.4 +0.9**
comp=Z,0.4nm,0.3s,baz=66,slow=2.9,SNR=4.5
comp=Z,9.3nm,0.7s
CMAR Chiang Mai Arr 22.24 257 P **P 20 24 01.3 +0.8**
JTM Tenmabayashi 22.46 41 P **P 20 23 59.2 -3.2**
JTM IAmb IAmb 20 24 37.5
comp=Z,39nm,1.2s
GTA Gaotai 23.44 313 *e*P **P 20 24 13.9 +2.1**
GTA pP pP 20 24 44.3 +4.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
TOLI2 Tolitoli 23.79 183 P **P 20 24 14.0 -0.8**
TOLI2 IAmb IAmb 20 24 15.9
comp=Z,30nm,1.3s
TOLI2 Tolitoli 23.79 183 P **P 20 24 15.2 +0.3**
HIA Hailar 24.27 357 P **P 20 24 18.6 -0.3**
HIA IAmb IAmb 20 24 21.6
comp=Z,11nm,0.7s
HIA Hailar 24.27 357 P **P 20 24 20.6 +1.6**
HIA Hailar 24.27 357 P **P 20 24 18.6 -0.3**
HIA pmax pmax
comp=Z,11nm,0.7s
SBUM Sibu 24.28 204 P **P 20 24 19.6 +0.3**
SBUM IAmb IAmb 20 24 21.0
comp=Z,15nm,0.7s
SBUM Sibu 24.28 204 P **P 20 24 19.8 +0.4**
MRSI Marisa 24.39 180 P **P 20 24 21.8 +1.4**
ERM Erimo 24.45 41 P **P 20 24 18.2 -2.5**
ERM IAmb IAmb 20 25 00.4
comp=Z,37nm,1.0s
ERM Erimo 24.45 41 P **P 20 24 18.2 -2.5**
ERM pmax pmax
comp=Z,37nm,1.0s
KLR Kul'dur 25.38 15 *c i*P **P 20 24 29.5 +0.4**
KLR pmax pmax
comp=Z,28nm,0.8s
ASAJ Asahikawa 25.47 36 P **P 20 24 30.1 +0.2**
ASAJ pmax pmax
comp=Z,12nm,0.9s
JKA Kamikawa-asahi 25.47 36 P **P 20 24 30.1 +0.2**
JKA IAmb IAmb 20 24 34.2
comp=Z,12nm,0.9s
HEH HeiHe 25.56 8 *e*P **P 20 24 30.4 -0.3**
HEH pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 25.64 337 P **P 20 24 31.1 -0.4**
ULN Ulaanbaatar 25.64 337 *c i*P **P 20 24 32.4 +0.8**
ULN pmax pmax
comp=Z,12nm,1.0s
GOMU GeErMu 25.72 302 P **P 20 24 33.8 +1.1**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 25.85 336 P **P 20 24 33.2 -0.3**
SONM Songino Array 25.85 336 P **P 20 24 33.9 +0.4**
comp=Z,5.2nm,0.7s,baz=153,slow=10,SNR=33
SONM ScP **ScP 20 31 25.2 +0.1**
comp=Z,1.3nm,1.0s,baz=155,slow=3.2,SNR=6.2
comp=Z,5.2nm,0.7s
KSM Kuching 25.92 207 P **P 20 24 33.3 -0.9**
KSM Kuching 25.92 207 P **P 20 24 35.5 +1.3**
BKB Balikpapan 26.56 191 P **P 20 24 40.1 +0.2**
SRIT Nakonsritamara 26.76 236 P **P 20 24 42.8 +1.0**
SRIT IAmb IAmb 20 24 44.9
comp=Z,9.4nm,0.8s
SHL Shillong 27.07 278 P **P 20 24 44.4 -0.3**
SHL IAmb IAmb 20 25 19.4
comp=Z,14nm,0.8s
SHL Shillong 27.07 278 P **P 20 24 44.4 -0.3**
SHL pmax pmax
comp=Z,14nm,0.8s
YSS Yuzhno-Sakhali 27.51 32 P **P 20 24 47.8 -0.3**

YSS Yuzhno-Sakhali 27.51 32 P **P 20 24 51.5 +3.4**
YSS Yuzhno-Sakhali 27.51 32 *e*P **P 20 24 48.0 -0.1**
YSS *e* 20 25 21.1
YSS *e* 20 25 46.3
YSS pmax pmax
comp=Z,30nm,0.7s
LSA Lhasa 27.62 287 P **P 20 24 50.0 +0.1**
LSA Lhasa 27.62 287 P **P 20 24 51.3 +1.4**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 27.62 287 P **P 20 24 50.0 +0.1**
LSA pmax pmax
comp=Z,6.0nm,0.6s
KULM Kulim 28.25 230 P **P 20 24 55.7 +0.6**
KULM IAmb IAmb 20 24 57.9
comp=Z,19nm,1.3s
MYKOM Kota Tinggi 28.89 220 P **P 20 25 00.9 +0.1**
MYKOM IAmb IAmb 20 25 03.0
comp=Z,12nm,0.9s
ZEA Zeya 28.97 7 *e*P **P 20 25 01.8 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
FAKI Fak Fak 29.55 159 P **P 20 25 06.6 0.0**
KAPI Kappang 29.92 184 LR LR 20 37 24.3
comp=Z,68nm,19.8s,baz=106,slow=36
PSI Prapat 31.23 229 P **P 20 25 22.1 +0.5**
PSI pmax pmax
comp=Z,11nm,0.9s
RPSI Rantau Prapat 31.31 228 P **P 20 25 22.1 0.0**
RPSI IAmb IAmb 20 25 26.6
comp=Z,11nm,0.9s
GSI Gunungsitoli 33.24 229 P **P 20 25 39.1 +0.1**
GSI IAmb IAmb 20 25 42.7
comp=Z,7.1nm,0.6s
WMQ Urumqi 33.53 313 *e*P **P 20 25 42.9 +1.6**
WMQ pmax pmax
comp=Z,18nm,0.8s
WMQ LR LR
comp=Z,140nm,16.1s
UGM Wanagama 34.54 200 P **P 20 25 49.8 -0.3**
SOEI Soe 34.64 176 P **P 20 25 48.9 -2.2**
MANU Manus Island 36.55 134 P **P 20 26 05.8 -1.5**
YAK Yakutsk 37.38 6 P **P 20 26 12.7 -1.1**
YAK IAmb IAmb 20 26 14.0
comp=Z,16nm,0.8s
YAK Yakutsk 37.38 6 LR LR 20 44 15.4
comp=Z,45nm,21.3s,baz=313,slow=40
YAK Yakutsk 37.38 6 *e*P **P 20 26 13.0 -0.8**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
MK31 Makanchi Array 38.17 315 P **P 20 26 20.5 -0.3**
MK31 Makanchi Array 38.17 315 *c i*P **P 20 26 21.5 +0.8**
MKAR Makanchi Array 38.17 315 P **P 20 26 21.0 +0.2**
MKAR Makanchi Array 38.17 315 P **P 20 26 21.5 +0.8**
comp=E,2.0nm,0.5s,baz=100,slow=9.5,SNR=41
MKAR pP **pP 20 26 52.0 -0.2**
comp=E,2.8nm,0.8s,baz=109,slow=10,SNR=5.4
MKAR ScP **ScP 20 32 07.6 +0.8**
comp=E,0.3nm,0.6s,baz=98,slow=3.1,SNR=2.6
comp=E,2.0nm,0.5s
MAKZ Makanchi 38.38 315 P **P 20 26 22.7 +0.2**
MAKZ Makanchi 38.38 315 P **P 20 26 22.7 +0.2**
MTN Manton Dam 38.70 165 P **P 20 26 24.2 -1.1**
PEA0B Petropavlovsk- 38.84 34 P **P 20 26 27.6 +1.4**
PEA0B Petropavlovsk- 38.84 34 P **P 20 26 27.6 +1.4**
PEA0B pmax pmax
comp=Z,82nm,1.5s
PETK Petropavlovsk- 38.84 34 P **P 20 26 25.0 -1.2**
PETK Petropavlovsk- 38.84 34 P **P 20 26 25.8 -0.4**
comp=Z,2.8nm,0.8s,baz=260,slow=8.1,SNR=5.6
PETK LR LR 20 42 32.0
comp=Z,18nm,21.1s,baz=283,slow=36
comp=Z,2.8nm,0.8s
PET Petropavlovsk 39.29 35 P **P 20 26 29.1 -0.8**
ZAA0 Zalesovo Array 39.88 326 P **P 20 26 33.8 -1.0**
ZALV Zalesovo Beam 39.88 326 P **P 20 26 33.7 -1.1**
ZALV Zalesovo Beam 39.88 326 P **P 20 26 34.6 -0.2**
comp=Z,3.4nm,0.4s,baz=119,slow=8.4,SNR=21
ZALV pP **pP 20 27 06.5 +0.1**
comp=Z,2.6nm,0.7s,baz=109,slow=7.6,SNR=3.0
comp=Z,3.4nm,0.4s
MA2 Magadan 39.99 23 P **P 20 26 34.8 -0.8**
MA2 IAmb IAmb 20 26 36.6
comp=Z,11nm,1.1s
MA2 Magadan 39.99 23 P **P 20 26 38.0 +2.4**
MA2 Magadan 39.99 23 ⇑*i*P **P 20 26 35.5 -0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 39.99 23 P **P 20 26 35.6 -0.1**
comp=Z,9.5nm,0.8s
MA2 pP **pP 20 27 07.4 +0.2**
comp=Z,9.5nm,0.8s
KDJ Kajisay 40.45 306 P **P 20 26 38.5 -1.3**
KDJ Kajisay 40.45 306 P **P 20 26 38.5 -1.3**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
KSH Kashi 40.96 302 P **P 20 26 48.1 +4.0**
KNRA Kununurra 41.00 170 P **P 20 26 43.1 -1.2**
KNRA IAmb IAmb 20 26 45.2
comp=Z,24nm,1.0s
BOOM Boomskoye usch 41.41 307 P **P 20 26 47.9 +0.1**
BOOM Boomskoye usch 41.41 307 P **P 20 26 47.9 +0.1**
KURK Kurchatov 41.85 319 P **P 20 26 51.3 +0.4**
KURK Kurchatov 41.85 319 ⇑*i*P **P 20 26 50.1 -0.8**
KURBB Kurchatov Arra 41.87 319 P **P 20 26 51.3 +0.2**
comp=Z,1.6nm,0.6s,baz=114,slow=9.4,SNR=11
comp=Z,1.6nm,0.6s
AAK Ala-Archa 42.49 307 P **P 20 26 57.4 +0.9**
AAK Ala-Archa 42.49 307 ⇑*i*P **P 20 26 57.7 +1.2**
NIL Nilore 42.91 293 P **P 20 26 59.9 +0.1**
NIL Nilore 42.91 293 P **P 20 26 59.9 +0.1**
NIL pmax pmax
comp=Z,6.0nm,0.9s
SEY Seymchan 42.99 20 *e*P **P 20 26 59.7 -0.3**
SEY pmax pmax
comp=Z,6.0nm,1.1s
FITZ Fitzroy Crossi 43.01 175 P **P 20 26 59.3 -1.3**
FITZ Fitzroy Crossi 43.01 175 P **P 20 27 00.1 -0.5**
comp=Z,10nm,0.6s,baz=4.4,slow=7.6,SNR=66
comp=Z,10nm,0.6s
FITZ Fitzroy Crossi 43.01 175 P **P 20 27 00.1 -0.5**
PALK Pallekele 43.06 253 P **P 20 27 00.5 -0.7**
PALK IAmb IAmb 20 27 10.4
comp=Z,16nm,1.3s
PALK Pallekele 43.06 253 P **P 20 27 00.5 -0.7**
PALK pmax pmax
comp=Z,16nm,1.3s
COEN Coen 43.97 149 P **P 20 27 08.7 +0.3**
COEN IAmb IAmb 20 27 10.4
comp=Z,8.5nm,0.7s
COEN Coen 43.97 149 P **P 20 27 09.6 +1.2**
DRK Karamyk 44.17 302 P **P 20 27 10.7 +0.5**
DRK Karamyk 44.17 302 P **P 20 27 10.7 +0.5**
COCO West Island 44.30 216 P **P 20 27 11.0 0.0**
COCO West Island 44.30 216 P **P 20 27 11.0 0.0**
COCO pmax pmax
comp=Z,274nm,1.3s
BTK Batken 44.97 302 P **P 20 27 16.3 +0.1**
BTK Batken 44.97 302 P **P 20 27 16.3 +0.1**
BTK pmax pmax
comp=Z,2.0nm,0.6s
KK31 Karatay Array 45.45 307 P **P 20 27 19.6 -0.3**
KK31 Karatay Array 45.45 307 P **P 20 27 19.6 -0.3**
KKAR Karatay Array 45.45 307 P **P 20 27 20.3 +0.3**
KKAR Karatay Array 45.45 307 IAmb IAmb 20 27 22.2
comp=Z,1.1nm,0.8s
KKAR Karatay Array 45.45 307 P **P 20 27 20.3 +0.3**
WB0 Warramunga Arr 46.16 164 P **P 20 27 25.5 -0.1**
WB0 IAmb IAmb 20 27 26.0
comp=Z,7.9nm,0.7s
WRAB Tennant Creek 46.30 164 P **P 20 27 26.4 -0.3**
WRAB IAmb IAmb 20 27 27.7
comp=Z,8.4nm,0.7s
WRAB Tennant Creek 46.30 164 *d i*P **P 20 27 26.7 0.0**
WRAB pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 46.31 164 P **P 20 27 26.6 -0.2**
WRA Warramunga Arr 46.31 164 P **P 20 27 26.8 0.0**
comp=Z,8.2nm,0.6s,baz=346,slow=8.8,SNR=69

WRA S **S 20 34 02.5 -0.6**
comp=Z,1.0nm,0.9s,baz=346,slow=14,SNR=5.0
comp=Z,8.2nm,0.6s
WB2 Warramunga Arr 46.31 164 P **P 20 27 26.4 -0.5**
WB2 IAmb IAmb 20 27 27.8
comp=Z,12nm,0.7s
PSA00 Pilbara Seismi 46.35 183 P **P 20 27 26.2 -0.9**
PSA00 IAmb IAmb 20 27 27.0
comp=Z,12nm,0.8s
PSA00 Pilbara Seismi 46.35 183 P **P 20 27 26.2 -0.9**
PSA00 Pilbara Seismi 46.35 183 P **P 20 27 26.7 -0.3**
KBL Kabul 46.36 295 P **P 20 27 27.0 -0.4**
KBL Kabul 46.36 295 P **P 20 27 27.0 -0.4**
KBL pmax pmax
comp=Z,7.0nm,0.8s
WR0 Warramunga Arr 46.38 163 P **P 20 27 26.4 -0.9**
WR0 IAmb IAmb 20 27 31.5
comp=Z,11nm,0.6s
DZET Dzherino 46.46 301 P **P 20 27 29.2 +1.2**
DZET pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 46.84 3 P **P 20 27 29.2 -1.0**
TIXI IAmb IAmb 20 27 30.7
comp=Z,33nm,1.3s
TIXI Tiksi 46.84 3 ⇑*i*P **P 20 27 29.5 -0.7**
TIXI pmax pmax
comp=Z,28nm,1.3s
BVAR Borovoye Array 47.42 320 P **P 20 27 35.5 +0.5**
comp=Z,3.5nm,0.5s,baz=103,slow=8.3,SNR=16
comp=Z,3.5nm,0.5s
BRVK Borovoye 47.49 320 P **P 20 27 35.4 -0.2**
BRVK Borovoye 47.49 320 *i*P **P 20 27 36.0 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
GIRL Giralia 47.95 189 P **P 20 27 39.0 -0.4**
MTSU Mount Surprise 48.15 151 P **P 20 27 43.1 +2.0**
QIS Mount Isa 48.48 158 P **P 20 27 44.5 +1.0**
AS31 Alice Springs 49.78 165 P **P 20 27 52.6 -0.8**
ASAR Alice Springs 49.78 165 P **P 20 27 53.4 -0.1**
ASAR Alice Springs 49.78 165 P **P 20 27 54.1 +0.7**
comp=Z,4.0nm,0.7s,baz=341,slow=6.0,SNR=40
ASAR ScP **ScP 20 32 54.2 -0.1**
comp=Z,1.1nm,0.7s,baz=341,slow=4.1,SNR=8.8
comp=Z,4.0nm,0.7s
BILL Bilibino 50.70 20 P **P 20 27 59.3 -0.5**
BILL IAmb IAmb 20 28 02.6
comp=Z,8.6nm,1.1s
BILL Bilibino 50.70 20 *c i*P **P 20 27 59.9 +0.1**
BILL pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 53.30 314 P **P 20 28 19.3 0.0**
ABKAR Akbulak array 53.30 314 P **P 20 28 19.6 +0.3**
ARTI Arti 54.91 323 *c i*P **P 20 28 30.6 -0.2**
ARTI 20 29 33.7
ARTI S **S 20 36 01.7 +0.7**
ARTI SS **SS 20 39 43.4 -2.8**
ARTI pmax pmax
comp=Z,27nm,3.2s
KLBR Kellerberrin 56.42 184 P **P 20 28 41.7 -0.2**
GAMB Gambell 57.47 29 P **P 20 28 50.0 +1.2**
baz=261
P08K Saint George I 57.77 38 P **P 20 28 52.3 +1.3**
baz=267
NWAO Narrogin (SRO) 57.79 185 P **P 20 28 51.2 -0.1**
NWAO Narrogin (SRO) 57.79 185 P **P 20 28 51.3 -0.1**
NWAO pmax pmax
comp=Z,25nm,0.9s
TNA Tin City 59.33 27 P **P 20 29 02.8 +1.1**
baz=263
STKA Stephens Creek 59.64 161 P **P 20 29 04.5 +0.2**
comp=Z,1.5nm,0.5s,baz=348,slow=9.6,SNR=6.0
comp=Z,1.5nm,0.5s
KIRV Kirov 59.89 325 ⇑*i*P **P 20 29 05.7 0.0**
F14K Arctic Creek 59.98 27 P **P 20 29 07.6 +1.4**
baz=265
ANM Nome 60.31 28 P **P 20 29 09.3 +0.8**
baz=266
K13K Kusilvak Mount 60.50 31 P **P 20 29 11.0 +1.2**
baz=268
C16K Lisburne Hills 60.65 24 P **P 20 29 11.1 +0.4**
baz=264
F15K North Star Dit 60.70 27 P **P 20 29 11.5 +0.4**
baz=266
G15K Niukluk 60.91 28 P **P 20 29 13.0 +0.4**
baz=267
J14K Nanvaranak Lak 61.04 30 P **P 20 29 13.2 -0.1**
baz=269
M13K Dall Lake 61.11 33 P **P 20 29 14.7 +0.7**
baz=270
L14K Kuka Creek 61.44 32 P **P 20 29 17.0 +0.9**
baz=270
D17K Noatak River 61.45 25 P **P 20 29 17.0 +0.9**
baz=266,SNR=14
C17K DeLong Mountai 61.47 24 P **P 20 29 17.1 +0.8**
baz=266
RDOG Red Dog Mine 61.54 24 P **P 20 29 17.7 +0.9**
baz=266
H16K Elim 61.67 28 P **P 20 29 18.9 +1.3**
baz=269
M14K Bethel 61.79 33 P **P 20 29 19.6 +1.1**
baz=271
E17K Hotham Inlet 61.91 26 P **P 20 29 19.9 +0.7**
baz=268
K15K Wolf Creek Mou 61.97 31 P **P 20 29 20.9 +1.2**
baz=271
B18K Kokolik River 62.02 23 P **P 20 29 21.2 +1.3**
baz=267,SNR=13
F17K Baldwin Pennin 62.12 26 P **P 20 29 21.7 +1.2**
baz=269
C18K Utukok River 62.21 24 IAmb IAmb 20 29 23.5
comp=Z,5.8nm,0.7s
C18K Utukok River 62.21 24 P **P 20 29 21.5 +0.3**
baz=268
A19K Wainwright 62.33 22 P **P 20 29 23.1 +1.3**
baz=267,SNR=7.0
G17K Kiwalik Mounta 62.35 27 P **P 20 29 23.0 +0.8**
baz=270
E18K Tukpahlearik C 62.39 25 IAmb IAmb 20 29 25.0
comp=Z,7.6nm,0.7s
E18K Tukpahlearik C 62.39 25 P **P 20 29 23.3 +0.9**
baz=269
M15K Kasigluk River 62.42 33 P **P 20 29 23.7 +1.0**
baz=272
H17K Granite Mounta 62.66 28 P **P 20 29 25.3 +1.1**
baz=271
N15K Kwethluk River 62.74 33 P **P 20 29 25.9 +1.0**
baz=273
F18K Selawik 62.76 26 P **P 20 29 25.6 +0.8**
baz=270,SNR=6.9
J17K VABM Dome 63.07 30 P **P 20 29 27.5 +0.5**
J17K VABM Dome 63.07 30 P **P 20 29 28.4 +1.4**
baz=272
G18K Tagagawik 63.17 27 P **P 20 29 28.1 +0.5**
baz=271
M16K Timber Creek 63.25 32 P **P 20 29 29.0 +0.8**
baz=274
H18K Honhosa River 63.31 28 P **P 20 29 29.4 +0.8**
baz=272
D19K Kuna River 63.34 24 P **P 20 29 29.5 +0.8**
baz=271
N16K Nishlik Lake 63.38 33 P **P 20 29 30.2 +1.1**
baz=274
CHNA Chernabura Isl 63.44 39 P **P 20 29 30.4 +0.8**
baz=276
K17K Iditarod 63.46 30 P **P 20 29 30.7 +1.2**
baz=273
L17K Donlin 63.49 31 P **P 20 29 30.9 +1.1**
baz=274
F19K Shaleruckik Mo 63.50 26 P **P 20 29 29.9 +0.2**
baz=272
B20K Meade River 63.66 22 P **P 20 29 31.8 +1.1**
baz=271
E19K Redstone River 63.69 25 P **P 20 29 32.0 +1.0**
baz=272
G19K Purcell Mounta 63.80 27 P **P 20 29 32.7 +1.0**
baz=273
A21K Barrow 63.83 21 P **P 20 29 32.8 +1.0**
baz=271
D20K Etivluk River 63.88 24 P **P 20 29 33.6 +1.3**
baz=272
M17K Holitna River 63.96 32 P **P 20 29 33.9 +1.1**
baz=275
E20K Nigu River 64.06 24 P **P 20 29 34.6 +1.1**
baz=272
H19K Roundabout Mou 64.10 27 P **P 20 29 34.5 +0.9**
H19K Roundabout Mou 64.10 27 P **P 20 29 34.6 +1.0**
baz=274

J18K	Innoko River	64.13	30	P	P	20 29 34.7	+0.8
	baz=274						
N17K	Nushagak Hills	64.16	33	P	P	20 29 35.2	+1.1
	baz=275						
L18K	Granite Mounta	64.24	31	P	P	20 29 35.8	+1.1
	baz=275						
R16K	Pilot Point	64.26	36	P	P	20 29 35.9	+1.1
	baz=276						
O17K	Koliganek Bris	64.27	34	P	P	20 29 36.0	+1.1
	baz=276						
F20K	Avaraart Lake	64.30	26	P	P	20 29 35.7	+0.8
	baz=274,SNR=5.5						
A22K	Sinclair Lake	64.37	21	P	P	20 29 36.3	+1.0
	baz=272						
TTA	Tatalina	64.49	30	P	P	20 29 37.0	+0.7
TTA				IAmb	IAmb	20 29 38.0	
	comp=Z,6.4nm,0.6s						
TTA	Tatalina	64.49	30	P	P	20 29 37.9	+1.5
TTA	Tatalina	64.49	30	P	P	20 29 37.1	+0.7
TTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TTA	Tatalina	64.49	30	P	P	20 29 37.6	+1.2
	baz=275,SNR=5.4						
C21K	Knifeblade Rid	64.52	23	P	P	20 29 37.5	+1.1
	baz=273						
B21K	Ikpikpuk River	64.56	23	P	P	20 29 37.6	+1.1
	baz=273						
J19K	Poorman	64.57	29	P	P	20 29 37.9	+1.2
	baz=275						
P17K	Kvichak River	64.67	34	P	P	20 29 38.4	+1.0
	baz=277						
M18K	Stony River	64.72	32	P	P	20 29 39.0	+1.2
	baz=276						
H20K	Anotleneega Mo	64.75	27	P	P	20 29 39.2	+1.3
	baz=275						
KLMR	Klimovskoe	64.79	328	*e*P	P	20 29 36.8	-1.4
KLMR				pmax	pmax		
	comp=Z,13nm,0.8s						
VRH	Novokhopyorsk	64.86	317	*e*P	P	20 29 37.3	-1.6
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
E21K	Killik River	64.87	24	P	P	20 29 39.6	+0.9
	baz=274						
B22K	Teshekpuk Lake	64.92	22	P	P	20 29 40.1	+1.2
	baz=274						
I20K	Naaghedeneel	64.99	28	P	P	20 29 40.5	+1.1
	baz=276						
L19K	White Mountain	65.10	31	P	P	20 29 41.2	+1.0
	baz=277						
F21K	Alatna River	65.16	25	P	P	20 29 41.6	+1.0
	baz=275						
J20K	Nowinta River	65.19	29	IAmb	IAmb	20 29 42.7	
	comp=Z,8.0nm,0.7s						
J20K	Nowinta River	65.19	29	P	P	20 29 42.3	+1.5
	baz=276						
O18K	Koktuh Hills	65.21	33	P	P	20 29 42.1	+1.1
	baz=277						
G21K	Allakaket	65.22	26	IAmb	IAmb	20 29 42.9	
	comp=Z,11nm,0.8s						
G21K	Allakaket	65.22	26	P	P	20 29 42.2	+1.3
	baz=276						
D22K	Ayikyak River	65.30	23	P	P	20 29 42.9	+1.4
	baz=275						
K20K	Telida	65.32	30	P	P	20 29 43.0	+1.3
	baz=277						
M19K	Big River Lodg	65.35	31	P	P	20 29 43.1	+1.2
	baz=277						
KBZ	Khabaz	65.44	309	P	P	20 29 43.4	+0.7
	comp=Z,2.4nm,0.8s,baz=74,slow=6.7,SNR=6.6						
	comp=Z,2.4nm,0.8s						
N19K	Bonanza Creek	65.44	32	P	P	20 29 43.8	+1.2
	baz=278						
Q18K	Katmai Hardscr	65.47	35	P	P	20 29 42.3	-0.6
	baz=278						
L20K	Farewell, AK	65.52	31	P	P	20 29 44.3	+1.3
	baz=277						
KIV	Kislovodsk	65.54	309	*e*P	P	20 29 44.4	+0.9
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H21K	Melozitna Rive	65.59	27	P	P	20 29 44.9	+1.5
	baz=277						
F22K	John River	65.63	25	P	P	20 29 44.7	+1.1
	baz=276						
E22K	Anaktuvuk Pass	65.69	24	P	P	20 29 44.7	+0.7
E22K	Anaktuvuk Pass	65.69	24	P	P	20 29 45.2	+1.2
	baz=276,SNR=22						
C23K	Itkillik River	65.92	22	P	P	20 29 46.5	+1.1
	baz=277						
M20K	Styx River	65.94	31	P	P	20 29 46.7	+1.0
	baz=278						
I21K	Tanana	66.00	27	P	P	20 29 47.4	+1.5
	baz=278						
D23K	Nanushuk River	66.01	23	P	P	20 29 47.5	+1.5
	baz=277						
CHUM	Lake Minchumin	66.03	29	P	P	20 29 47.0	+0.8
	baz=278,SNR=5.1						
Q19K	Cape Douglas,	66.14	34	P	P	20 29 48.1	+1.1
	baz=279						
H22K	Ishtalitna Cre	66.15	27	P	P	20 29 48.2	+1.3
	baz=278,SNR=22						
CAST	Castle Rocks	66.20	29	IAmb	IAmb	20 29 49.2	
	comp=Z,7.9nm,0.8s						
CAST	Castle Rocks	66.20	29	P	P	20 29 48.5	+1.2
	baz=278,SNR=7.0						
PPLA	Purkeypile	66.23	30	P	P	20 29 48.3	+0.6
	baz=278						
LPSR	Galich'ya Gora	66.33	319	*e*P	P	20 29 46.0	-2.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORR	Voronezh	66.33	318	*e*P	P	20 29 45.9	-2.4
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLD	Coldfoot	66.42	25	P	P	20 29 49.8	+1.1
	baz=278						
VSR	Storozhevoye	66.44	317	*e*P	P	20 29 47.1	-1.9
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TOLK	Toolik Lake Re	66.45	24	P	P	20 29 50.0	+1.1
	baz=278,SNR=16						
SPCR	Spurr Chakacha	66.48	32	P	P	20 29 50.0	+0.8
	baz=279						
E23K	Chandalar	66.52	24	P	P	20 29 50.2	+0.9
E23K	Chandalar	66.52	24	P	P	20 29 50.7	+1.3
	baz=279,SNR=13						
G23K	Bananza Creek	66.57	26	IAmb	IAmb	20 29 51.6	
	comp=Z,8.8nm,0.8s						
G23K	Bananza Creek	66.57	26	P	P	20 29 51.0	+1.3
	baz=279						
BPAW	Bear Paw Mtn.	66.58	29	P	P	20 29 49.9	+0.1
BPAW				IAmb	IAmb	20 29 51.5	
	comp=Z,6.8nm,0.7s						
BPAW	Bear Paw Mtn.	66.58	29	P	P	20 29 50.8	+1.1
	baz=279,SNR=5.8						
C24K	Franklin Bluff	66.60	22	P	P	20 29 50.5	+0.8
	baz=279						
STLK	Strandline Lak	66.61	31	IAmb	IAmb	20 29 51.2	
	comp=Z,5.1nm,0.7s						
D24K	Happy Valley	66.64	23	P	P	20 29 51.0	+1.0
	baz=279						
SKT	Skwentna	66.68	31	P	P	20 29 50.5	+0.2
	baz=280						
KTH	Kantishna Hill	66.69	29	IAmb	IAmb	20 29 51.6	
	comp=Z,8.6nm,1.0s						
KDAK	Kodiak Island	66.88	36	P	P	20 29 52.0	+0.4
	baz=280						
H23K	Yukon River	66.90	27	P	P	20 29 53.4	+1.7
	baz=280						
E24K	Your Creek	66.94	24	P	P	20 29 53.1	+1.2
	baz=280						
TRF	Thorofare Moun	66.99	29	IAmb	IAmb	20 29 55.6	
	comp=Z,6.8nm,0.7s						
TRF	Thorofare Moun	66.99	29	P	P	20 29 53.2	+0.6
	baz=280						
CAPN	Captain Cook N	67.06	32	P	P	20 29 53.4	+0.6
	baz=280						
I23K	Minto, Yukon-K	67.09	27	P	P	20 29 53.6	+0.8
I23K				IAmb	IAmb	20 29 56.9	
	comp=Z,4.2nm,0.7s						
I23K	Minto, Yukon-K	67.09	27	P	P	20 29 53.7	+0.8
	baz=280						
SUA	Susitna One	67.13	31	P	P	20 29 54.1	+0.7
	baz=280,SNR=8.7						
CUT	Chulitna	67.19	30	P	P	20 29 53.6	+0.1
	baz=280						
OBN	Obninsk	67.23	322⇑	*e*P	P	20 29 53.6	-0.3
OBN				*e*		20 32 26.0	
OBN				pmax	pmax		
	comp=Z,11nm,0.6s						
F24K	Squaw Lake	67.26	25	P	P	20 29 55.1	+1.1
	baz=280						
NEA2	Nenana	67.32	28	P	P	20 29 55.1	+0.7
	baz=280,SNR=14						
D25K	Kavik River	67.47	23	P	P	20 29 56.2	+0.9
	baz=281						
MCK	McKinley	67.54	29	P	P	20 29 56.4	+0.7
	baz=281						
G24K	Hadweenzic Riv	67.57	25	P	P	20 29 57.2	+1.2
	baz=281						
H24K	Noodor Dome	67.58	26	P	P	20 29 57.4	+1.4
	baz=281						
WRH	Wood River Hil	67.76	28	P	P	20 29 57.5	+0.5
WRH				IAmb	IAmb	20 29 59.4	
	comp=Z,6.9nm,0.9s						
C26K	Camden Bay	67.86	22	P	P	20 29 59.2	+1.6
	baz=282						
PMR	Palmer	67.87	31	P	P	20 29 58.5	+0.7
	baz=282						
POKR	Poker Plat Res	67.90	27	IAmb	IAmb	20 29 59.9	
	comp=Z,13nm,0.8s						
POKR	Poker Plat Res	67.90	27	P	P	20 29 59.2	+1.2
	baz=282,SNR=8.3						
E25K	Arctic Village	68.00	24	P	P	20 29 59.6	+0.9
E25K	Arctic Village	68.00	24	P	P	20 30 00.1	+1.5
	baz=282,SNR=5.9						
SEW	Seward	68.02	33	P	P	20 29 58.5	-0.3
	baz=282						
F25K	Christian Rive	68.09	24	P	P	20 30 00.7	+1.5
	baz=282						
G25K	Bearman Lake	68.09	25	P	P	20 30 00.6	+1.5
	baz=282						
SML	Sawmill	68.20	31	IAmb	IAmb	20 30 03.5	
	comp=Z,11nm,0.8s						
SML	Sawmill	68.20	31	P	P	20 30 00.6	+0.6
	baz=282						
ILAR	Eielson Array	68.20	27	P	P	20 29 58.9	-1.0
	comp=Z,2.6nm,0.6s,baz=271,slow=6.6,SNR=28						
	comp=Z,2.6nm,0.6s						
KNK	Knik Glacier	68.22	31	P	P	20 30 00.3	+0.2
	baz=282						
HDA	Harding Lake	68.25	28	IAmb	IAmb	20 30 01.4	
	comp=Z,7.6nm,0.9s						
HDA	Harding Lake	68.25	28	P	P	20 30 00.3	+0.1
	baz=282						
H25L	Birch Creek	68.31	26	P	P	20 30 01.8	+1.3
	baz=283						
C27K	Jago River	68.33	22	IAmb	IAmb	20 30 02.7	
	comp=Z,12nm,0.8s						
C27K	Jago River	68.33	22	P	P	20 30 01.3	+0.7
	baz=283,SNR=14						
PWL	Port Wells	68.40	32	P	P	20 30 00.9	-0.3
PWL				IAmb	IAmb	20 30 02.2	
	comp=Z,12nm,0.7s						
PWL	Port Wells	68.40	32	P	P	20 30 01.1	-0.1
	baz=283						
M23K	Glacier View	68.48	31	P	P	20 30 01.9	+0.2
	baz=283						
MARD	Mardin	68.52	302	P	P	20 30 03.2	+0.7
MARD				IAmb	IAmb	20 30 04.8	
	comp=Z,10nm,0.6s						
BMAR	Burnt Mountain	68.53	24	P	P	20 30 03.5	+1.6
PRP	Porcupine Dome	68.60	27	P	P	20 30 02.9	+0.4
	baz=283						
F26K	Sheenjek River	68.62	24	P	P	20 30 03.8	+1.3
	baz=284						
SCM	Sheep Creek Mo	68.66	31	P	P	20 30 03.0	+0.2
	baz=283						
RAYN	Ar Rayn	68.69	287	P	P	20 30 04.1	+0.4
RAYN	Ar Rayn	68.69	287	P	P	20 30 04.1	+0.4
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SPITS	Spitsbergen Ar	68.80	348	P	P	20 30 03.4	0.0
	comp=Z,5.9nm,0.5s,baz=44,slow=6.1,SNR=22						
	comp=Z,5.9nm,0.5s						
J25K	Salcha River,	68.87	27	P	P	20 30 03.4	-0.7
	baz=284						
K24K	Donnelly Dome	68.89	28	P	P	20 30 04.5	+0.3
	baz=284,SNR=8.4						
G26K	Porcupine Rive	68.94	25	P	P	20 30 05.7	+1.3
	baz=284,SNR=17						
ARCES	ARCESS Array B	69.00	338	P	P	20 30 04.6	-0.1
	comp=Z,2.1nm,0.5s,baz=60,slow=7.2,SNR=17						
	comp=Z,2.1nm,0.5s						
P23K	Montague Islan	69.05	33	P	P	20 30 06.1	+0.9
	baz=284						
M24K	Tolsona, Glenn	69.12	30	P	P	20 30 06.3	+0.6
	baz=284						
PAX	Paxson	69.23	29	P	P	20 30 06.7	+0.4
	baz=284						
RIDG	Independent Ri	69.31	28	IAmb	IAmb	20 30 07.6	
	comp=Z,10nm,1.1s						
RIDG	Independent Ri	69.31	28	P	P	20 30 07.5	+0.7
	baz=284,SNR=5.3						
D27M	Malcolm River	69.36	22	IAmb	IAmb	20 30 09.0	
	comp=Z,7.5nm,0.6s						
D27M	Malcolm River	69.36	22	P	P	20 30 08.0	+0.9
	baz=286,SNR=14						
KLU	Klutina	69.39	31	P	P	20 30 07.4	0.0
	baz=284						
E27K	Coleen River	69.43	23	P	P	20 30 07.8	+0.3
E27K				IAmb	IAmb	20 30 09.4	
	comp=Z,5.8nm,0.8s						
E27K	Coleen River	69.43	23	P	P	20 30 08.3	+0.8
	baz=286,SNR=7.5						
HARP	HAARP	69.51	30	P	P	20 30 08.6	+0.6
	baz=285						
I26K	Coal Creek Min	69.61	27	P	P	20 30 08.6	+0.1
	baz=285						
SCRK	Sand Creek	69.62	28	P	P	20 30 08.6	-0.2
	baz=285						
J26L	Joseph Creek	69.66	27	P	P	20 30 08.6	-0.4
	baz=285						
DOT	Dot Lake	69.67	28	IAmb	IAmb	20 30 09.8	
	comp=Z,6.7nm,0.9s						
Q23K	Middleton Isla	69.71	33	P	P	20 30 07.6	-1.6
	baz=285						
EYAK	Cordova Ski Ar	69.71	32	P	P	20 30 09.7	+0.5
	baz=285						
G27K	Doyon Strip	69.79	25	IAmb	IAmb	20 30 11.8	
	comp=Z,11nm,1.3s						
G27K	Don Strip	69.79	25	P	P	20 30 11.0	+1.3
	baz=286,SNR=6.6						
N25K	Chitina, Valde	69.97	31	P	P	20 30 11.7	+0.7
	baz=286						
H27K	Steamboat Moun	70.00	25	P	P	20 30 11.9	+0.9
	baz=286,SNR=8.0						
MENT	Mentasta	70.01	29	IAmb	IAmb	20 30 13.3	
	comp=Z,10nm,1.0s						
MENT	Mentasta	70.01	29	P	P	20 30 13.7	+2.6
E28M	Babbage River	70.04	23	P	P	20 30 12.2	+1.0
	baz=287						
D28M	Stokes Point	70.10	22	P	P	20 30 12.4	+1.0
	baz=288						
BMRM	Bremner River	70.14	31	P	P	20 30 11.7	-0.3
	baz=286						
I27K	Kandik River	70.15	26	P	P	20 30 13.2	+1.2
	baz=287,SNR=12						
GLB	Gilahina Butte	70.38	31	IAmb	IAmb	20 30 17.9	
	comp=Z,8.5nm,0.8s						
K27K	Chicken	70.41	28	P	P	20 30 14.3	+0.9
	baz=287						
M26K	Nabesna, AK	70.48	29	P	P	20 30 14.4	+0.4
	baz=286						
KAIM	Kayak Island	70.52	32	P	P	20 30 15.7	+1.5
	baz=286						
E29M	Blow River	70.69	23	P	P	20 30 15.4	+0.3
	baz=289						
L27K	Beaver Creek,	70.80	29	P	P	20 30 16.8	+0.9
	baz=287						
BCAR	Beaver Creek A	70.82	29	P	P	20 30 16.9	+0.8
I28M	Miner Creek	70.86	26	P	P	20 30 17.1	+0.8
	baz=288						
M27K	Edge Creek, AK	70.99	29	IAmb	IAmb	20 30 19.2	
	comp=Z,7.8nm,1.0s						
M27K	Edge Creek, AK	70.99	29	P	P	20 30 18.2	+1.0
	baz=288						
FINES	FINESS Array B	71.04	330	P	P	20 30 17.6	+0.3
	comp=Z,9.3nm,0.5s,baz=60,slow=6.2,SNR=91						
	comp=Z,9.3nm,0.5s						
G29M	Pine Creek	71.13	24	P	P	20 30 18.5	+0.7
	baz=289						
H29M	Whitestone	71.22	25	P	P	20 30 18.9	+0.5
	baz=289						
BVCY	Beaver Creek	71.42	29	P	P	20 30 19.9	+0.2
	baz=288						
DAWY	Dawson	71.52	27	IAmb	IAmb	20 30 21.6	
	comp=Z,12nm,0.9s						
DAWY	Dawson	71.52	27	P	P	20 30 20.8	+0.5
	baz=289,SNR=8.9						
I29M	Ogilvie Camp,	71.53	26	P	P	20 30 20.6	+0.4
	baz=290						
NOR	Nord	71.58	354	*i* P	P	20 30 19.1	-1.2
NOR				IAmb	IAmb	20 30 22.9	
	comp=Z,7.3nm,1.1s						
VSU	Vasula	71.62	327⇓	*i* P	P	20 30 20.5	-0.3
VSU				pmax	pmax		
	comp=Z,18nm,0.6s						
F30M	Barrier River	71.70	23	P	P	20 30 22.1	+0.9
	baz=291						
G30M	tAoh Zraii Nji	71.77	24	IAmb	IAmb	20 30 22.4	
	comp=Z,8.0nm,0.8s						
G30M	tAoh Zraii Nji	71.77	24	P	P	20 30 21.7	0.0
	baz=291,SNR=7.9						
YUK3	Moose Creek	71.81	30	P	P	20 30 23.1	+0.9
	baz=289						
J29N	Klondike Camp	71.88	27	P	P	20 30 23.5	+1.1
	baz=290,SNR=5.5						
INK	Inuvik	72.23	22	P	P	20 30 24.2	-0.1
INK	Inuvik	72.23	22	P	P	20 30 24.5	+0.2
	baz=293,SNR=9.2						
MNK	Minsk	72.24	322	*i* P	P	20 30 25.5	+0.9
MNK				*i*		20 30 42.6	
MNK				*i* *PP	pP	20 30 59.8	+0.1
MNK				*i*		20 33 07.6	
MNK				*i* PPP	PPP	20 34 52.2	
MNK				*i* S	S	20 39 37.4	+1.8
MNK				*i*		20 40 18.5	
MNK				*i* SS	SS	20 44 19.0	+3.4
MNK				pmax	pmax		
	comp=Z,14nm,0.8s						
MNK				pmax	pmax		
	comp=E,16nm,1.0s						
MNK				pmax	pmax		
	comp=N,8.0nm,1.0s						
I30M	Mount Dempster	72.34	26	P	P	20 30 25.4	+0.2
	baz=291						
K29M	Barlow Dome	72.38	27	P	P	20 30 25.8	+0.4
K29M	Barlow Dome	72.38	27	P	P	20 30 25.9	+0.4
	baz=291						
L29M	L29M	72.38	28	P	P	20 30 26.7	+1.3
	baz=290						
M29M	Somme Creek	72.47	29	P	P	20 30 27.5	+1.6
	baz=290						
F31M	Tsiigehtchic	72.49	23	P	P	20 30 25.6	-0.2
	baz=293						
J30M	Hart River	72.60	26	P	P	20 30 27.3	+0.5
	baz=292						
AK09	Malin Array Si	72.64	318	P	P	20 30 27.1	0.0
AK03	Malin Array Si	72.65	318	P	P	20 30 26.9	-0.2
AKASG	Malin Array Be	72.65	318	P	P	20 30 26.9	-0.2
	comp=N,2.7nm,0.5s,baz=61,slow=6.7,SNR=16						
	comp=N,2.7nm,0.5s						
AKASG	Malin Array Be	72.65	318	*i* P	P	20 30 27.0	-0.2
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	Malin Array Si	72.65	318	*ce*P	P	20 30 27.0	-0.2
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKBB	Malin Array Si	72.65	318	P	P	20 30 26.9	-0.2
AK08	Malin Array Si	72.66	318	P	P	20 30 26.9	-0.2
AK01	Malin Array Si	72.66	318	P	P	20 30 27.0	-0.2
KIEV	Kiev	72.67	318	P	P	20 30 27.0	-0.2
KIEV	Kiev	72.67	318	P	P	20 30 27.0	-0.2
	comp=Z,50nm,1.3s						
AK02	Malin Array Si	72.68	318	P	P	20 30 27.0	-0.3
AK12	Malin Array Si	72.71	318	P	P	20 30 27.2	-0.3
AK15	Malin Array Si	72.72	318	P	P	20 30 27.3	-0.2
AK22	Malin Array Si	72.73	318	P	P	20 30 27.3	-0.3
YUK4	Talbot Arm	72.77	30	P	P	20 30 28.5	+0.6
	baz=291						
H31M	Peel River	72.91	25	IAmb	IAmb	20 30 29.2	
	comp=Z,7.3nm,0.8s						
H31M	Peel River	72.91	25	P	P	20 30 28.3	-0.1
	baz=293						
PNL	Peninsula	73.01	32	P	P	20 30 30.6	+1.5
	baz=290						
YUK6	Outpost Mounta	73.04	30	P	P	20 30 30.6	+1.0
	baz=291						
M30M	Minto, Yukon	73.14	28	IAmb	IAmb	20 30 32.0	
	comp=Z,14nm,1.1s						
M30M	Minto, Yukon	73.14	28	P	P	20 30 31.3	+1.4
	baz=292,SNR=7.1						
A36M	Sachs Harbour	73.16	17	P	P	20 30 29.8	+0.2
	baz=299						
BRTR	Keskin Array B	73.17	306	P	P	20 30 31.4	+0.8
	comp=Z,2.0nm,0.8s,baz=99,slow=7.4,SNR=5.5						
	comp=Z,2.0nm,0.8s						
BRTR	Keskin Array B	73.17	306	*i* P	P	20 30 31.7	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BR104	Keskin Array S	73.17	306	P	P	20 30 31.9	+1.3
	comp=Z,4.1nm,1.0s						
BR106	Keskin Array S	73.18	306	P	P	20 30 32.0	+1.3
N30M	Aishikik Lake	73.43	29	P	P	20 30 33.3	+1.7
	baz=292						
HYT	Haines Junctio	73.47	30	P	P	20 30 32.6	+0.6
	baz=292						
MI28	Mi28,Pidlybu	73.51	319	P	P	20 30 32.5	+0.3
LUBAR	Lubar, Ukraine	73.80	318	P	P	20 30 33.9	0.0
P30M	Million Dollar	73.99	31	P	P	20 30 35.0	+0.1
	baz=292						
N31M	Braeburn, Yuko	74.00	29	P	P	20 30 36.0	+1.1
	baz=293						
O30N	Mendenhall	74.14	30	P	P	20 30 36.3	+0.6
	baz=293						
M31M	Drury Creek, Y	74.32	28	P	P	20 30 36.9	+0.2
	baz=294						
RNPP9	Sopachiv	74.40	320	P	P	20 30 37.9	+0.6
PLBC	Pleasant Camp	74.52	31	P	P	20 30 38.3	+0.4
	baz=293						
WHY	Whitehorse	74.73	30	P	P	20 30 39.7	+0.5
	baz=294						
FARO	Faro, Yukon	74.75	28	IAmb	IAmb	20 30 42.7	
	comp=Z,8.5nm,1.0s						
FARO	Faro, Yukon	74.75	28	P	P	20 30 39.9	+0.6
	baz=295						
C36M	Paulatuk	74.82	20	P	P	20 30 39.1	-0.3
	baz=301						
CSS	Mathiatis	74.98	302	P	P	20 30 40.5	-0.5
CSS				IAmb	IAmb	20 30 42.6	
	comp=Z,8.1nm,0.7s						
N32M	Quiet Lake	75.33	29	P	P	20 30 43.1	+0.6
	baz=295						
MMPY	Sheldon Lake,	75.46	27	P	P	20 30 43.9	+0.6
	baz=296						
DAG	Danmarks Havn	75.64	351	P	P	20 30 44.0	0.0
DAG				pmax	pmax		
	comp=Z,10.0nm,2.6s						
DAG	Danmarks Havn	75.64	351	*i* P	P	20 30 43.0	-1.0
DAG				IAmb	IAmb	20 30 44.5	
	comp=Z,5.0nm,0.9s						
P32M	Atlin	75.70	31	P	P	20 30 45.6	+0.9
	baz=295						
P33M	Teslin, Yukon	75.85	30	P	P	20 30 46.0	+0.4
	baz=296						
R33M	Jennings River	77.05	30	P	P	20 30 53.2	+0.8
	baz=297						
HFS	Hagfors	77.14	331	P	P	20 30 53.0	+0.3
	comp=Z,1.3nm,0.5s,baz=116,slow=6.8,SNR=6.0						
	comp=Z,1.3nm,0.5s						
TGTN	Hyland Airport	77.22	28	P	P	20 30 53.6	+0.3
	baz=299						
S34M	Telegraph Cree	77.65	31	P	P	20 30 56.2	+0.6
	baz=297						
WTLY	Watson Lake, Y	77.68	29	P	P	20 30 56.1	+0.3
	baz=299						
NEEM	North Greenlan	77.68	358	*i* P	P	20 30 55.7	-0.1
NEEM				IAmb	IAmb	20 30 57.8	
	comp=Z,9.3nm,0.8s						
NB2	NORSAR Subarra	77.78	332	P	P	20 30 56.1	-0.2
	comp=Z,2.9nm,0.9s,baz=54,slow=6.2						
NOA	NORSAR Array B	77.78	332	P	P	20 30 56.1	-0.2
	comp=Z,1.3nm,0.7s,baz=58,slow=5.8,SNR=2.7						
NOA				pP	pP	20 31 32.0	+0.1
	comp=Z,1.5nm,0.7s,baz=58,slow=5.7,SNR=3.2						
	comp=Z,1.3nm,0.7s						
DBG	Daneborg	77.89	350	*i* P	P	20 30 55.6	-1.0
DBG				IAmb	IAmb	20 30 56.9	
	com

YKA	**Yellowknife Ar**	**81.97**	**23**	P	**P**	**20 31 18.4**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=311,slow=5.2,SNR=45						
YKA				pP	**pP**	**20 31 54.4**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=313,slow=5.0,SNR=5.9						
	comp=Z,2.5nm,0.7s						
YKA	**Yellowknife Ar**	**81.97**	**23**	*i* P	**P**	**20 31 18.6**	**-0.2**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
UPNV	**Upernavik**	**82.45**	**359**	*i* P	**P**	**20 31 20.3**	**-0.8**
UPNV				IAmb	IAmb	20 31 21.6	
	comp=Z,3.7nm,0.6s						
GERES	**GERESS Array B**	**82.59**	**321**	P	**P**	**20 31 23.3**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=82,slow=8.0,SNR=1.4						
	comp=Z,0.5nm,0.4s						
NUUG	**Nuugaatsiaq**	**83.65**	**358**	*i* P	**P**	**20 31 25.3**	**-1.9**
KMBO	**Kilima Mbogo**	**85.57**	**267**	P	**P**	**20 31 39.5**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=53,slow=12,SNR=4.2						
KMBO				pP	**pP**	**20 32 15.4**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=58,slow=5.1,SNR=4.1						
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**85.57**	**267**	*i* P	**P**	**20 31 39.2**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
B08A	**Colville Reser**	**88.76**	**36**	IAmb	IAmb	20 31 55.5	
	comp=Z,6.4nm,0.9s						
MXC	**Moxie City**	**89.31**	**38**	IAmb	IAmb	20 31 58.2	
	comp=Z,6.7nm,0.7s						
FFC	**Flin Flon**	**92.13**	**24**	P	**P**	**20 32 07.5**	**-0.8**
FFC				IAmb	IAmb	20 32 14.2	
	comp=Z,5.8nm,1.4s						
FFC	**Flin Flon**	**92.13**	**24**	P	**P**	**20 32 07.5**	**-0.8**
FFC				pmax	pmax		
	comp=Z,6.0nm,1.4s						
NVAR	**Mina Array Bea**	**95.42**	**43**	P	**P**	**20 32 24.7**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=304,slow=5.7,SNR=5.8						
	comp=Z,0.8nm,0.7s						
L61B	**Northampton**	**111.55**	**12**	P	**PKiKP**	**20 37 33.2**	**+0.4**
	baz=346						

IDC 12 20:20:31.1±1.9, 16°61S×178°44W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=170.3km s-min=33.7km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.24**	**240**	P	P	20 28 01.6	+0.1
	2.5nm,0.7s,baz=75,slow=9.3,SNR=5.3						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**44.85**	**258**	P	P	20 28 47.5	0.0
	0.7nm,0.5s,baz=93,slow=8.0,SNR=5.0						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**45.13**	**253**	P	P	20 28 49.4	-0.4
	7.7nm,0.6s,baz=88,slow=8.2,SNR=53						
	7.7nm,0.6s						
TXAR	**Lajitas Array**	**85.33**	**58**	P	P	20 33 10.6	0.0
	0.4nm,0.8s,baz=204,slow=5.4,SNR=3.0						
	0.4nm,0.8s						

HVO 12 20:34:54.2±0.8, 19°05N±0°05×155°41W±0°02, h38km±3km, Error ellipse: s-maj=7.3km s-min=1.7km az=157.0

NEIC 12 20:34:53.1±0.5, 19°10N±0°03×155°43W±0°02, h42km±3km, ML2.6/40, ML2.4/27(HVO), Error ellipse: s-maj=5.1km s-min=2.8km az=160.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.12**	**266**		Sn	20 35 04.6	-0.1
HPO	**Honuapo**	**0.12**	**266**		Pn	20 35 00.0	+0.1
HTC	**Hot Caves**	**0.14**	**13**		Pn	20 35 00.7	+0.4
KHU	**Kahuku**	**0.23**	**311**		Pn	20 35 01.2	+0.1
KHU					Sn	20 35 06.3	-0.3
KHU	**Kahuku**	**0.23**	**311**	IAML		20 35 06.5	
	comp=E,609nm,0.3s						
KHU				IAML		20 35 06.6	
	comp=N,772nm,0.4s						
HLP	**Hilina Pali**	**0.23**	**31**		Pn	20 35 01.3	+0.4
HLP	**Hilina Pali**	**0.23**	**31**		Sn	20 35 06.4	+0.1
HLP				IAML		20 35 07.0	
	comp=N,665nm,0.4s						
HLP				IAML		20 35 08.3	
	comp=E,544nm,0.3s						
SDHHI	**Sand Hill**	**0.32**	**24**		Pn	20 35 02.0	+0.1
SDHHI					Sn	20 35 07.8	-0.2
RIM	**Rim**	**0.33**	**27**		Pn	20 35 02.1	+0.1
RIM					Sn	20 35 08.2	0.0
WRMHI	**West Rim**	**0.33**	**22**		Pn	20 35 02.0	0.0
WRMHI					Sn	20 35 08.1	-0.1
KKO	**Keanakako'i**	**0.34**	**28**		Pn	20 35 02.2	+0.1
KKO					Sn	20 35 07.9	-0.5
PUH	**Pauahi**	**0.34**	**37**		Pn	20 35 02.0	-0.1
PUH					Sn	20 35 07.7	-0.7
UWE	**Uwekahuna**	**0.35**	**22**		Pn	20 35 02.2	0.0
UWE	**Uwekahuna**	**0.35**	**22**	Sn	Sn	20 35 08.0	-0.6
UWE				IAML		20 35 13.5	
	comp=N,420nm,1.2s						
UWE				IAML		20 35 14.0	
	comp=E,667nm,2.7s						
OBL	**Observatory Le**	**0.35**	**24**		Pn	20 35 02.2	0.0
OBL					Sn	20 35 08.5	0.0
BYL	**Byron's Ledge**	**0.35**	**28**		Pn	20 35 02.2	0.0
BYL					Sn	20 35 08.4	-0.2
BYL	**Byron's Ledge**	**0.35**	**28**	IAML		20 35 08.5	
	comp=E,293nm,0.2s						
BYL				IAML		20 35 08.5	
	comp=N,391nm,0.3s						
UWB	**Uwekahuna Bluf**	**0.36**	**24**		Pn	20 35 02.2	-0.1
UWB					Sn	20 35 08.2	-0.5
HATHI	**Halema'uma'u T**	**0.36**	**27**		Pn	20 35 02.3	0.0
HATHI	**Halema'uma'u T**	**0.36**	**27**	IAML		20 35 08.9	
	comp=E,392nm,0.4s						
HATHI				IAML		20 35 10.3	
	comp=N,381nm,0.2s						
SBLHI	**Steaming Bluff**	**0.36**	**25**		Pn	20 35 02.3	-0.1
SBLHI					Sn	20 35 08.5	-0.3
KNHH	**Kane Nui o Ham**	**0.38**	**42**		Pn	20 35 02.4	-0.1
RSD	**Rainshed**	**0.39**	**22**		Sn	20 35 08.9	-0.5
RSD	**Rainshed**	**0.39**	**22**		Pn	20 35 02.5	-0.2
MLH	**Mauna Loa**	**0.40**	**6**		Pn	20 35 03.1	+0.3
MLH	**Mauna Loa**	**0.40**	**6**		Sn	20 35 09.8	+0.1
MLH				IAML		20 35 10.0	
	comp=E,534nm,0.2s						
MLH				IAML		20 35 10.3	
	comp=N,487nm,0.2s						
STCH	**Steam Cracks**	**0.41**	**45**		Sn	20 35 09.1	-0.5
STCH	**Steam Cracks**	**0.41**	**45**		Pn	20 35 02.7	-0.1
STCH				IAML		20 35 09.3	
	comp=N,337nm,1.4s						
STCH				IAML		20 35 09.5	
	comp=E,366nm,0.4s						
MWH	**Mokuaweoweo**	**0.42**	**338**		Pn	20 35 03.3	0.0
MWH				IAML		20 35 08.0	
	comp=E,296nm,1.9s						
MWH	**Mokuaweoweo**	**0.42**	**338**		Sn	20 35 10.1	-0.4
JCUZ	**Jacuzzi**	**0.42**	**48**		Sn	20 35 09.2	-0.8
NPOC	**North of Pu'u**	**0.42**	**46**		Pn	20 35 02.9	-0.1
NPOC					Sn	20 35 09.3	-0.7
MLOA	**Mauna Loa Obse**	**0.46**	**343**		Pn	20 35 03.9	+0.1
MLOA	**Mauna Loa Obse**	**0.46**	**343**		Sn	20 35 10.7	-0.5
MLOA	**Mauna Loa Obse**	**0.46**	**343**	IAML		20 35 07.5	
	comp=N,21nm,4.3s						
MLOA				IAML		20 35 07.7	
	comp=E,18nm,4.7s						
ALEP	**Alea Permanent**	**0.48**	**336**		Pn	20 35 04.0	-0.1
ALEP					Sn	20 35 11.1	-0.7
HMH	**Humu'ula Sheep**	**0.51**	**355**		Pn	20 35 04.7	+0.4
HMH				Sn	Sn	20 35 12.2	+0.1
HMH				IAML		20 35 12.8	
	comp=E,320nm,0.2s						
JOKA	**Jonika Flow**	**0.53**	**50**		Pn	20 35 04.0	-0.2
JOKA				Sn	Sn	20 35 11.2	-0.9
JOKA				IAML		20 35 12.7	
	comp=N,378nm,1.6s						
POHA	**Pohakuloa**	**0.66**	**352**		Sn	20 35 14.8	-0.9
POHA	**Pohakuloa**	**0.66**	**352**	Pn	Pn	20 35 06.5	+0.2
POHA				IAML		20 35 11.1	
	comp=N,140nm,2.4s						
POHA				IAML		20 35 17.3	
	comp=N,166nm,3.8s						
HUH	**Hualalai**	**0.70**	**327**		Sn	20 35 16.8	+0.2
HUH	**Hualalai**	**0.70**	**327**	Pn	Pn	20 35 07.0	+0.2
HUH				IAML		20 35 15.5	
	comp=E,246nm,2.0s						
HUH				IAML		20 35 22.6	
	comp=N,237nm,0.7s						
MHA	**Mahukona**	**1.17**	**338**	Pn	Pn	20 35 11.3	-1.7

IDC 12 20:40:55.7±0.9, 25°73N×127°87E, h0km, mb3.8/11, mbtmp3.8/11, MS3.0/1, Error ellipse: s-maj=29.1km s-min=16.5km az=87.0

NIED 12 20:40:56.9, 25°50N×128°01E, h38km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14 Nm; Mrr3.44; Mθθ-2.71; Mφφ-0.74; Mrθ1.18; Mrφ-7.29; Mθφ3.33; Fault plane solution: M0 8.28000×10^14 NP1: φs272.00000°, δs57.00000°, λs165.00000°. NP2: φs10.00000°, δs77.00000°, λs34.00000°.

JMA 12 20:40:56.9±0.2, 25°5N±0°7×128°0E±0°5, h38km±1km, MV3.9/12, NEAR OKINAWAJIMA ISLAND

ISC 12 20:40:57.5±2.0, 25°62N±0°06×128°04E±0°05, h16km±12km, n32, σ1s15/35, mb3.8/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.57**	**336**	*i* P	**Pb**	**20 41 09.9**	**+0.8**
JJT3				*e*S	**Sn**	**20 41 19.2**	**-0.8**
JJT3	**Tamagusuku3**	**0.57**	**336**	A	A	20 41 09.9	
	comp=N,9.0nm,0.8s,comp=E,17nm,0.9s						
JNTH	**Nagotoyoohara**	**0.90**	**359**	*i* P	**Pg**	**20 41 14.9**	**0.0**
JAGN	**Aguni-jima**	**1.20**	**324**	*i* P	**Pn**	**20 41 19.3**	**-0.3**
JAGN				*e*S	**Sb**	**20 41 34.9**	**-0.3**
JOW	**Kunigami**	**1.23**	**10**	Pn	**Pn**	**20 41 19.8**	**-0.2**
	comp=E,124nm,0.3s,baz=163,slow=18,SNR=511						
JOW				Sn	**Sb**	**20 41 35.1**	**-0.8**
	comp=E,170nm,0.3s,baz=114,slow=25,SNR=7.9						
JOW	**Kunigami**	**1.23**	**10**	P	**Pb**	**20 41 20.1**	**-0.2**
JOW	**Kunigami**	**1.23**	**10**	*i* P	**Pb**	**20 41 20.1**	**-0.2**
JKE	**Kume jima 2**	**1.33**	**302**	*i* P	**Pn**	**20 41 20.4**	**-1.0**
JIH	**Iheya**	**1.41**	**357**	P	**Pn**	**20 41 22.7**	**+0.2**
JYRO	**Yoronjima**	**1.45**	**15**	*i* P	**Pn**	**20 41 22.9**	**0.0**
JOKE	**Okinoerabujima**	**1.80**	**15**	P	**Pn**	**20 41 27.8**	**0.0**
JMJ	**Miyako jima 2**	**2.62**	**253**	P	**Pn**	**20 41 39.0**	**-0.1**
JMZ	**Minamidaito 2**	**2.88**	**85**	P	**Pn**	**20 41 42.6**	**0.0**
JMZ	**Minamidaito 2**	**2.88**	**85**	P	**Pn**	**20 41 42.6**	**0.0**
JMZ				*e*S	**Sn**	**20 42 15.0**	**-2.0**
JKDJ	**Kitadaitoujima**	**2.95**	**83**	P	**Pn**	**20 41 43.9**	**+0.2**
JKDJ				*e*S	**Sn**	**20 42 16.8**	**-2.1**
NACB	**Ninganchiao**	**6.03**	**258**	P	**Pn**	**20 42 24.2**	**-1.8**
YULB	**Yu-li**	**6.53**	**252**	P	**Pn**	**20 42 30.2**	**-2.7**
SSLB	**Suanglung**	**6.70**	**256**	P	**Pn**	**20 42 33.4**	**-1.9**
JMN	**Monobe**	**9.54**	**31**	P	**Pn**	**20 43 14.8**	**+0.6**
	comp=E,40nm,1.9s						
KSRS	**Korea Array**	**11.80**	**360**	LR	LR	20 48 45.1	
	comp=E,68nm,20.3s,baz=230,slow=40						
SONM	**Songino Array**	**27.98**	**328**	P	**P**	**20 46 49.3**	**+1.8**
	comp=E,1.4nm,0.7s,baz=143,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**41.82**	**312**	P	**P**	**20 48 45.2**	**-1.2**
	comp=E,0.4nm,0.4s,baz=91,slow=9.5,SNR=21						
	comp=E,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**42.63**	**323**	P	**P**	**20 48 51.5**	**-1.4**
	comp=E,0.6nm,0.4s,baz=106,slow=8.9,SNR=3.6						
	comp=E,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**45.18**	**317**	P	**P**	**20 49 12.3**	**-1.2**
	comp=E,0.6nm,0.4s,baz=106,slow=8.9,SNR=8.1						
	comp=E,0.6nm,0.4s						
WRA	**Warramunga Arr**	**45.70**	**172**	P	**P**	**20 49 19.1**	**+1.2**
	comp=E,1.0nm,0.7s,baz=353,slow=8.4,SNR=5.6						
	comp=E,1.0nm,0.7s						
ASAR	**Alice Springs**	**49.32**	**173**	P	**P**	**20 49 47.8**	**+1.8**
	comp=E,0.6nm,0.6s,baz=1.0,slow=14,SNR=8.6						
	comp=E,0.6nm,0.6s						
BVAR	**Bovoye Array**	**50.62**	**319**	P	**P**	**20 49 55.3**	**-0.2**
	comp=E,1.2nm,0.4s,baz=88,slow=9.9,SNR=19						
	comp=E,1.2nm,0.4s						
FINES	**FINESS Array B**	**73.31**	**331**	P	**P**	**20 52 28.2**	**+0.2**
	comp=E,1.1nm,0.4s,baz=63,slow=5.7,SNR=11						
	comp=E,1.1nm,0.4s						
AKASG	**Malin Array Be**	**75.88**	**320**	P	**P**	**20 52 42.5**	**-0.6**
	comp=E,0.3nm,0.4s,baz=60,slow=6.5,SNR=2.6						
	comp=E,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**79.15**	**25**	P	**P**	**20 53 01.9**	**+0.7**
	comp=E,0.1nm,0.6s,baz=297,slow=5.5,SNR=1.8						
	comp=E,0.1nm,0.6s						
NOA	**NORSAR Array B**	**79.78**	**334**	P	**P**	**20 53 04.9**	**+0.2**
	comp=E,0.5nm,0.7s,baz=56,slow=5.3,SNR=1.7						
	comp=E,0.5nm,0.7s						
GERES	**GERESS Array B**	**85.58**	**323**	P	**P**	**20 53 36.3**	**+1.2**
	comp=E,0.6nm,0.5s,baz=76,slow=8.2,SNR=2.4						
	comp=E,0.6nm,0.5s						

IDC 12 20:47:21.0±2.1, 14°18S×72°11W, h118km±20km, mb3.8/2, mbtmp4.0/6, Error ellipse: s-maj=47.0km s-min=17.7km az=27.0

ISC 12 20:47:19.6±0.9, 14°1S±0°2×72°1W±0°1, h100km, n6, σ1s90/8, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.43**	**120**	P	**Pn**	**20 48 26.1**	**+0.9**
	4.2nm,0.3s,baz=288,slow=7.7,SNR=14						
LPAZ				S	**Sn**	**20 49 17.8**	**+1.7**
	9.3nm,0.7s,baz=209,slow=25,SNR=33						
NNA	**Nana**	**5.05**	**294**	P	**Pn**	**20 48 35.5**	**+2.4**
	14nm,0.4s,baz=122,slow=13,SNR=4.8						
NNA				S	**Sn**	**20 49 28.3**	**-2.0**
	15nm,0.4s,baz=138,slow=16,SNR=4.1						
SIV	**San Ignacio**	**10.85**	**101**	P	**Pn**	**20 49 51.3**	**-0.7**
	2.0nm,0.5s,baz=281,slow=11,SNR=8.5						
CPUP	**Villa Florida**	**18.45**	**134**	P	**P**	**20 51 25.6**	**-1.9**
	1.6nm,0.4s,baz=317,slow=12,SNR=6.7						
QSPA	**South Pole Qui**	**76.05**	**180**	P	**P**	**20 58 55.2**	**-0.9**
	0.5nm,0.5s,baz=122,slow=7.7,SNR=1.8						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.96**	**73**	P	**P**	**20 59 07.3**	**-0.2**
	1.7nm,0.3s,baz=251,slow=4.2,SNR=1.3						
	1.7nm,0.3s						

IDC 12 21:26:58.5±0.6, 3°31N×147°05E, h0km, mb4.3/15, mbtmp4.3/16, ML4.5/1, MS3.1/3, Error ellipse: s-maj=25.8km s-min=14.2km az=91.0

NEIC 12 21:27:00.9±0.9, 3°26N±0°09×146°90E±0°03, h10km±1km, mb4.5/31, Error ellipse: s-maj=15.6km s-min=5.2km az=8.0

ISC 12 21:27:03.7±0.5, 3°22N±0°07×146°97E±0°09, h35km, n58, σ0s89/51, mb4.3/30, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.24**	**176**	Pn	**Pn**	**21 28 18.9**	**-0.7**
JAY	**Jayapura**	**8.47**	**228**	Pn	**Pn**	**21 29 02.3**	**-1.7**
	5.3nm,0.3s,baz=60,slow=8.1,SNR=22						
JAY				Sn	**Sn**	**21 30 36.4**	**-2.1**
	1.0nm,0.3s,baz=240,slow=20,SNR=1.4						
	12nm,0.3s						
PATS	**Pohnpei**	**11.85**	**72**	Pn	**Pn**	**21 29 47.6**	**-2.8**
HNR	**Honiara**	**18.03**	**134**	LR	LR	21 36 15.6	
	comp=Z,52nm,20.5s,baz=302,slow=31						
WB0	**Warramunga Arr**	**25.98**	**208**	P	**P**	**21 32 33.2**	**-0.1**
WB0				IAmb	IAmb	21 32 36.0	
	comp=Z,11nm,1.3s						
KNRA	**Kununurra**	**26.02**	**223**	P	**P**	**21 32 33.1**	**-0.7**
KNRA				IAmb	IAmb	21 33 04.4	
	comp=Z,23nm,1.4s						
WRA	**Warramunga Arr**	**26.15**	**208**	P	**P**	**21 32 34.0**	**-0.9**
WRA	**Warramunga Arr**	**26.15**	**208**	P	**P**	**21 32 35.3**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=33,slow=10,SNR=17						
WRA				PcP	**PcP**	**21 36 02.9**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=18,slow=2.1,SNR=4.6						
	comp=Z,4.0nm,0.7s						
TGY	**Tagaytay City**	**27.88**	**294**	LR	LR	21 42 12.2	
	comp=Z,61nm,21.8s,baz=302,slow=33						
EIDS	**Eidsvold**	**28.70**	**172**	P	**P**	**21 32 58.3**	**+0.6**
EIDS				IAmb	IAmb	21 33 08.1	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**29.60**	**205**	P	**P**	**21 33 05.6**	**-0.2**
ASAR	**Alice Springs**	**29.60**	**205**	P	**P**	**21 33 05.8**	**0.0**
ASAR	**Alice Springs**	**29.60**	**205**	P	**P**	**21 33 06.6**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=32,slow=7.3,SNR=49						
ASAR				PcP	**PcP**	**21 36 11.2**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=28,slow=2.5,SNR=9.6						
	comp=Z,2.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.85**	**224**	P	**P**	**21 33 07.2**	**-0.8**
YHNB	**Yeheng**	**32.61**	**313**	P	**P**	**21 33 31.8**	**-0.5**
STKA	**Stephens Creek**	**35.28**	**188**	P	**P**	**21 33 55.6**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=353,slow=10,SNR=8.7						
	comp=Z,2.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**42.90**	**344**	P	**P**	**21 34 59.8**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=129,slow=8.3,SNR=3.3						
	comp=Z,3.0nm,0.7s						
MORW	**Morawa**	**43.72**	**221**	P	**P**	**21 35 06.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**49.36**	**292**	P	**P**	**21 35 50.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**49.36**	**292**	P	**P**	**21 35 51.3**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=109,slow=5.8,SNR=8.6						
CMAR				LR	LR	21 53 47.5	
	comp=Z,14nm,21.7s,baz=305,slow=33						
	comp=Z,1.0nm,0.3s						
ULN	**Ulaanbaatar**	**56.16**	**329**	P	**P**	**21 36 40.0**	**-0.1**
SONM	**Songino Array**	**56.48**	**328**	P	**P**	**21 36 42.8**	**+0.3**
SONM	**Songino Array**	**56.48**	**328**	P	**P**	**21 36 42.7**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=139,slow=7.3,SNR=10						
SONM				PcP	**PcP**	**21 37 39.1**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=129,slow=3.9,SNR=2.7						
	comp=Z,1.3nm,0.8s						
L14K	**Kuka Creek**	**69.14**	**23**	P	**P**	**21 38 06.7**	**+0.5**
K15K	**Wolf Creek Mou**	**70.13**	**23**	P	**P**	**21 38 13.1**	**+0.7**
MK31	**Makanchi Array**	**70.49**	**319**	P	**P**	**21 38 15.0**	**+0.1**
MKAR	**Makanchi Array**	**70.49**	**319**	P	**P**	**21 38 14.8**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=101,slow=6.6,SNR=17						
	comp=Z,2.7nm,0.9s						
MAKZ	**Makanchi**	**70.70**	**319**	P	**P**	**21 38 15.9**	**-0.4**
MAKZ				IAmb	IAmb	21 38 17.2	
	comp=Z,4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**71.30**	**327**	P	**P**	**21 38 18.6**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=94,slow=8.9,SNR=5.2						
	comp=Z,1.3nm,0.7s						
H17K	**Granite Mounta**	**72.19**	**21**	P	**P**	**21 38 25.6**	**+0.8**
TTA	**Tatalina**	**72.64**	**24**	P	**P**	**21 38 28.2**	**+0.5**
CNPM	**China Poot**	**73.23**	**28**	P	**P**	**21 38 31.7**	**+0.6**
BOOM	**Boomskoye usch**	**73.88**	**313**	P	**P**	**21 38 35.1**	**-0.4**
BOOM				IAmb	IAmb	21 38 38.2	
	comp=Z,2.8nm,1.0s						
KURK	**Kurchatov**	**73.91**	**322**	P	**P**	**21 38 34.4**	**-0.8**
KURK				IAmb	IAmb	21 38 35.8	
	comp=Z,4.5nm,0.8s						
KURBB	**Kurchatov Arra**	**73.94**	**322**	P	**P**	**21 38 35.1**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=110,slow=5.3,SNR=9.8						
	comp=Z,2.4nm,0.6s						
E19K	**Redstone River**	**74.46**	**19**	IAmb	IAmb	21 38 40.9	
	comp=Z,3.3nm,0.8s						
WRH	**Wood River Hil**	**76.49**	**24**	IAmb	IAmb	21 38 50.6	
	comp=Z,5.3nm,1.0s						
D22K	**Ayikyak River**	**76.64**	**19**	IAmb	IAmb	21 38 52.8	
	comp=Z,3.9nm,0.9s						
COLD	**Coldfoot**	**76.77**	**21**	IAmb	IAmb	21 38 55.2	
	comp=Z,4.3nm,1.1s						
ILAR	**Eielson Array**	**77.08**	**24**	P	**P**	**21 38 52.2**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=249,slow=5.9,SNR=16						
	comp=Z,1.7nm,0.7s						
E23K	**Chandalar**	**77.31**	**20**	IAmb	IAmb	21 38 56.6	
	comp=Z,5.2nm,1.1s						
F24K	**Squaw Lake**	**77.70**	**21**	IAmb	IAmb	21 38 58.9	
	comp=Z,3.1nm,0.9s						
KK31	**Karatay Array**	**77.92**	**313**	P	**P**	**21 38 58.2**	**-0.1**
KK31				IAmb	IAmb	21 38 59.5	
	comp=Z,3.5nm,1.1s						
KKAR	**Karatay Array**	**77.92**	**313**	P	**P**	**21 38 58.4**	**+0.1**
BVAR	**Borovoye Array**	**79.37**	**323**	P	**P**	**21 39 06.0**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=113,slow=7.3,SNR=12						
	comp=Z,3.8nm,0.8s						
DAWY	**Dawson**	**79.99**	**25**	IAmb	IAmb	21 39 12.9	
	comp=Z,4.3nm,1.2s						
E28M	**Babbage River**	**81.02**	**21**	IAmb	IAmb	21 39 16.8	
	comp=Z,4.3nm,0.8s						
VNDA	**Vanda**	**81.06**	**177**	P	**P**	**21 39 16.1**	**+1.4**
VNDA				IAmb	IAmb	21 39 16.9	
	comp=Z,3.2nm,0.8s						
VNDA	**Vanda**	**81.06**	**177**	P	**P**	**21 39 16.0**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=328,slow=7.3,SNR=6.4						
	comp=Z,2.4nm,0.8s						
YKA	**Yellowknife Ar**	**91.06**	**27**	P	**P**	**21 40 04.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=280,slow=5.2,SNR=9.4						
	comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**91.72**	**52**	P	**P**	**21 40 07.1**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=326,slow=4.6,SNR=2.3						
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**93.13**	**180**	P	**P**	**21 40 15.2**	**+1.2**
QSPA	**South Pole Qui**	**93.13**	**180**	P	**P**	**21 40 15.2**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=345,slow=3.6,SNR=12						
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**143.13**	**113**	PKP	PKPbc	21 46 34.3	+1.5
	comp=Z,3.0nm,0.6s,baz=281,slow=2.7,SNR=13						
PLTB	**Pedras Altas**	**145.63**	**148**		**PKPbc**	**21 46 39.9**	**+0.5**
SIV	**San Ignacio**	**149.63**	**117**	PKPbc	**PKPbc**	**21 46 51.1**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=207,slow=4.3,SNR=4.7						
DBIC	**Dimbokro**	**150.21**	**289**	PKPbc	**PKPbc**	**21 46 51.8**	**-0.4**
DBIC	**Dimbokro**	**150.21**	**289**	PKPbc	**PKPbc**	**21 46 52.5**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=92,slow=2.2,SNR=8.0						

*MDD 12 21:32:32.0±1.1, 38°02N×17°88W, h13km±13km, Mb4.5/16, M_mb4.0/17, Error

PCVE	**Castro Verde**	**7.56**	**89**	*e*S	**Sn**	**21 35 46.7**	**-0.6**
PCVE				*i* AML	AML	21 35 48.7	
PCVE				*i* AML	AML	21 35 49.4	
PCVE				*i* AML	AML	21 35 51.9	
PBEJ	**Beja**	**7.67**	**86**	*e*S	**Sn**	**21 35 48.9**	**-1.1**
PBEJ				*i* AML	AML	21 35 50.8	
PBEJ				*i* AML	AML	21 35 51.0	
PBEJ				*i* AML	AML	21 35 53.5	
PBDV	**Barranco-do-Ve**	**7.69**	**92**	*e*S	**Sn**	**21 35 50.7**	**+0.1**
PBDV				*i* AML	AML	21 35 54.5	
PBDV				*i* AML	AML	21 35 54.8	
PBDV				*i* AML	AML	21 35 55.6	
PVAQ	**Vaqueiros**	**7.84**	**91**	*e*S	**Sn**	**21 35 54.2**	**+0.1**
PVAQ				*i* AML	AML	21 35 54.7	
PVAQ				*i* AML	AML	21 35 57.9	
PVAQ				*i* AML	AML	21 35 58.1	
PESTR	**Estremoz**	**7.90**	**80**	*e*S	**Sn**	**21 35 53.1**	**-2.5**
PESTR				*i* AML	AML	21 35 59.8	
PESTR				*i* AML	AML	21 36 03.6	
PESTR				*i* AML	AML	21 36 05.7	
PVIS	**Viseu**	**8.01**	**67**	*e*P	**Pn**	**21 34 30.3**	**+2.6**
PVIS				*e*S	Sn	21 35 53.8	-4.6
EGRO	**El Granado**	**8.01**	**90**	Pn	Pn	21 34 19.6	-8.1
EGRO				⇑*i*Vmb_V		21 34 21.8	
	131nm,SNR=0.9						
EGRO				Sn	**Sn**	**21 35 56.5**	**-1.9**
EZAM	**Zamans**	**8.01**	**55**	Pn	**Pn**	**21 34 30.6**	**+2.9**
EZAM				⇑*i*Vmb_V		21 34 31.3	
	289nm,SNR=1.3						
EZAM				Sn	Sn	21 35 51.1	-7.4
PCBR	**Castelo Branco**	**8.11**	**73**	*e*P	**Pn**	**21 34 31.0**	**+2.0**
PCBR				*e*S	**Sn**	**21 35 58.5**	**-2.2**
PCBR				*i* AML	AML	21 36 00.8	
PCBR				*i* AML	AML	21 36 02.5	
PCBR				*i* AML	AML	21 36 04.1	
PMRV	**Marv??o**	**8.11**	**76**	*e*P	**Pn**	**21 34 31.1**	**+2.0**
PMRV				*e*S	**Sn**	**21 35 57.9**	**-2.9**
PMRV				*i* AML	AML	21 36 01.4	
PMRV				*i* AML	AML	21 36 02.1	
PMRV				*i* AML	AML	21 36 02.1	
MTE	**Manteigas**	**8.18**	**69**	*e*S	**Sn**	**21 35 59.1**	**-3.4**
MTE				*i* AML	AML	21 36 03.2	
MTE				*i* AML	AML	21 36 04.5	
MTE				*i* AML	AML	21 36 04.7	
PGAV	**Gavieira, Arco**	**8.21**	**58**	*e*S	Sn	21 35 57.4	-6.0
PGAV				*i* AML	AML	21 35 59.4	
PGAV				*i* AML	AML	21 36 00.5	
PGAV				*i* AML	AML	21 36 00.8	
EMAZ	**Mazaricos**	**8.26**	**50**	⇑*i*Vmb_V		21 34 33.5	
	490nm,SNR=1.3						
EMAZ				Sn	Sn	21 35 55.9	-8.5
PCAB	**Cabril**	**8.27**	**60**	*e*S	Sn	21 35 58.6	-6.0
POLO	**Lamas de Olo**	**8.30**	**62**	*e*S	Sn	21 36 00.6	-5.0
POLO				*i* AML	AML	21 36 04.4	
POLO				*i* AML	AML	21 36 04.6	
POLO				*i* AML	AML	21 36 05.5	
ELOB	**Lobios**	**8.31**	**59**	Pn	**Pn**	**21 34 33.5**	**+1.6**
ELOB				⇑*i*Vmb_V		21 34 34.8	
	140nm,SNR=0.7						
ELOB				Sn	Sn	21 36 00.0	-5.7
PVRL	**Vila Real**	**8.32**	**63**	*e*S	Sn	21 36 00.7	-5.2
PVRL				*i* AML	AML	21 36 04.4	
PVRL				*i* AML	AML	21 36 06.4	
PVRL				*i* AML	AML	21 36 07.7	
PBAR	**Barrancos**	**8.32**	**85**	*e*S	Sn	21 36 03.3	-2.7
PBAR				*i* AML	AML	21 36 06.9	
PBAR				*i* AML	AML	21 36 09.8	
PBAR				*i* AML	AML	21 36 19.2	
EBAD	**Badajoz**	**8.35**	**81**	Pn	**Pn**	**21 34 35.0**	**+2.7**
EBAD				⇑*i*Vmb_V		21 34 36.7	
	120nm,SNR=1.0						
EBAD				Sn	Sn	21 36 03.3	-3.3
EMIN	**Mina Concepcio**	**8.63**	**88**	⇑*i*Vmb_V		21 34 39.9	
	113nm,SNR=1.6						
EMIN				Sn	Sn	21 36 10.2	-3.5
EAGO	**Agolada(Pontev**	**8.73**	**53**	Pn	**Pn**	**21 34 38.4**	**+0.8**
EAGO				⇑*i*Vmb_V		21 34 38.5	
	250nm,SNR=0.9						
EAGO				Sn	Sn	21 36 07.9	-8.1
MVO	**Moncorvo**	**8.77**	**65**	*e*S	Sn	21 36 11.9	-5.1
MVO				*i* AML	AML	21 36 17.6	
MVO				*i* AML	AML	21 36 20.1	
MVO				*i* AML	AML	21 36 23.4	
PBRG	**Braganca**	**9.19**	**62**	*e*S	Sn	21 36 21.1	-6.3
PBRG				*i* AML	AML	21 36 24.4	
PBRG				*i* AML	AML	21 36 31.2	
EPLA	**Plasencia**	**9.21**	**73**	Pn	**Pn**	**21 34 45.7**	**+1.6**
EPLA				⇑*i*Vmb_V		21 34 50.5	
	127nm,SNR=1.2						
EPLA				Sn	**Sn**	**21 36 25.7**	**-2.0**
CMIR	**El Paso, La Pa**	**9.21**	**182**	Pn	**Pn**	**21 34 44.5**	**+0.3**
CMIR				⇑*i*Vmb_V		21 34 47.0	
	200nm,SNR=1.0						
CMIR				Sn	Sn	21 36 14.7	-13
TBT	**Taburiente**	**9.22**	**182**	Pn	**Pn**	**21 34 44.6**	**+0.2**
TBT				⇑*i*Vmb_V		21 34 46.2	
	277nm,SNR=1.1						
TBT				Sn	Sn	21 36 14.2	-14
CENR	**El Paso, La Pa**	**9.28**	**181**	Sn	**Sn**	**21 36 25.5**	**-4.2**
CVIE	**Villa de Mazo,**	**9.31**	**181**	Sn	Sn	21 36 19.7	-11
ESPR	**Espera**	**9.39**	**93**	⇑*i*Vmb_V		21 34 50.2	
	75nm,SNR=1.0						
ESPR				Sn	**Sn**	**21 36 31.2**	**-1.0**
EJUZ	**Juzbado, Salam**	**9.57**	**67**	Sn	**Sn**	**21 36 33.4**	**-3.3**
EPON	**Pontenova**	**9.59**	**52**	⇑*i*Vmb_V		21 34 54.0	
	445nm,SNR=1.2						
EPON				Sn	Sn	21 36 27.5	-10
ECAB	**El Cabril**	**9.60**	**85**	Pn	**Pn**	**21 34 52.5**	**+3.0**
ECAB				⇑*i*Vmb_V		21 34 55.5	
	76nm,SNR=1.0						
ECAB				Sn	Sn	21 36 34.2	-3.3
CNOR	**Icod de los Vi**	**9.62**	**175**	Pn	**Pn**	**21 34 50.3**	**+0.4**
CCAN	**Las Canadas**	**9.71**	**175**	Pn	**Pn**	**21 34 51.1**	**-0.2**
CCAN				⇑*i*Vmb_V		21 34 53.9	
	194nm,SNR=0.6						
EGOM	**La Gomera**	**9.74**	**178**	⇑*i*Vmb_V		21 34 52.8	
	362nm,SNR=1.1						
EGOM				Sn	Sn	21 36 33.8	-7.2
PAB	**San Pablo**	**10.46**	**77**	⇑*i*Vmb_V		21 35 07.0	
	63nm,SNR=0.9						
PAB				Sn	Sn	21 36 54.4	-4.4

GII ***12*** *21:34:27.4±0.0,33°.373N±0°.005×35°.863E±0°.001, h5km, Mws2.1, confirmed*
GRAL ***12*** *21:34:28.4±0.4,33°.37N×35°.87E, h1km±4km, MD2.8*
JSO ***12*** *21:34:30,33°.24N×35°.77E, h5km, ML2.1/21*

ISC 12 21:34:27.0±0.9,33°.40N±0°.02×35°.88E±0°.04, h14km±5km, n60, σ0s41/78, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.10**	**340**	*e*P	**Pg**	**21 34 30.7**	**+0.3**
RCY				*e*S	**Sg**	**21 34 32.5**	**-0.2**
SHBL	**Chebaa**	**0.12**	**245**	*e*P	**Pg**	**21 34 30.4**	**-0.2**
NATI	**Neve Ativ**	**0.18**	**221**	P	**Pg**	**21 34 31.2**	**-0.1**
NATI	**Neve Ativ**	**0.18**	**221**	P	**Pg**	**21 34 31.2**	**-0.1**
NATI				S	**Sg**	**21 34 34.0**	**-0.2**
QRWL	**Qaraoun**	**0.22**	**312**	*e*P	**Pb**	**21 34 32.5**	**-0.4**
QRWL				*e*S	**Sg**	**21 34 35.8**	**+0.4**
GEM	**Giv'at Ha'Em**	**0.26**	**224**	P	**Pg**	**21 34 32.6**	**0.0**
GEM	**Giv'at Ha'Em**	**0.26**	**224**	S	**Sg**	**21 34 36.8**	**+0.4**
GEM	**Giv'at Ha'Em**	**0.26**	**224**	P	**Pg**	**21 34 32.6**	**0.0**
GOSH	**HaGoshrim**	**0.28**	**230**	P	**Pg**	**21 34 33.0**	**+0.1**
GOSH				S	**Sg**	**21 34 37.6**	**+0.6**
MTLA	**Metula**	**0.28**	**244**	P	**Pg**	**21 34 32.9**	**-0.1**
MTLA				S	**Sg**	**21 34 37.8**	**+0.8**
MSAM	**Misgav Am**	**0.32**	**241**	P	**Pg**	**21 34 33.8**	**+0.1**
LVBS	**Lehavot Habash**	**0.32**	**216**	P	**Pg**	**21 34 33.7**	**0.0**
LVBS				S	**Sg**	**21 34 38.6**	**+0.4**
KIRY	**Kiryat Shemona**	**0.32**	**233**	P	**Pg**	**21 34 33.9**	**+0.2**
KIRY				S	**Sg**	**21 34 38.6**	**+0.4**
YFTH	**Yftach**	**0.39**	**225**	P	**Pg**	**21 34 35.0**	**+0.1**
YFTH				S	**Sg**	**21 34 40.7**	**+0.5**
DQRL	**Deir Qamar**	**0.40**	**320**	*e*P	**Pb**	**21 34 35.9**	**-0.1**
DQRL				*e*S	**Sb**	**21 34 41.5**	**-0.5**
KDZV	**Kedmat Zvi**	**0.40**	**203**	P	**Pg**	**21 34 35.6**	**+0.5**
KDZV				S	**Sg**	**21 34 41.1**	**+0.5**
KSHT	**Keshet**	**0.42**	**188**	P	**Pg**	**21 34 35.8**	**+0.3**
KSHT	**Keshet**	**0.42**	**188**	S	**Sg**	**21 34 42.1**	**+0.8**
ZAHL	**Zahle**	**0.46**	**1**	*e*P	**Pb**	**21 34 37.3**	**+0.3**
HDNS	**Had-Ness**	**0.51**	**203**	P	**Pb**	**21 34 37.6**	**-0.1**
HDNS				S	**Sb**	**21 34 45.3**	**+0.2**
RSPN	**Rosh Pina**	**0.51**	**213**	P	**Pg**	**21 34 37.3**	**+0.2**
RSPN				S	**Sb**	**21 34 45.1**	**0.0**
BHL	**Bhannes**	**0.54**	**340**	*e*P	**Pb**	**21 34 38.2**	**-0.1**
MMC1	**Mount Meron ar**	**0.54**	**227**	P	**Pg**	**21 34 37.8**	**0.0**
MMB1	**Mount Meron ar**	**0.55**	**226**	P	**Pg**	**21 34 37.9**	**0.0**
AMID	**Amiad**	**0.55**	**211**	P	**Pb**	**21 34 38.6**	**+0.1**
AMID				S	**Sb**	**21 34 46.5**	**+0.3**
MMA0B	**Mount Meron ar**	**0.55**	**226**	P	**Pg**	**21 34 38.0**	**+0.1**
MMA0B	**Mount Meron ar**	**0.55**	**226**	S	**Sg**	**21 34 46.1**	**+0.7**
MMC7	**Mount Meron ar**	**0.56**	**227**	P	**Pg**	**21 34 37.9**	**-0.1**
KNHM	**Kefar Nahum**	**0.57**	**206**	P	**Pg**	**21 34 38.6**	**+0.3**
KNHM				S	**Sg**	**21 34 46.5**	**+0.6**
ZRT	**Zar'it**	**0.58**	**239**	P	**Pg**	**21 34 38.6**	**+0.2**
ZRT				S	**Sb**	**21 34 47.6**	**+0.6**
HNTI	**Hanita**	**0.67**	**242**	P	**Pb**	**21 34 40.2**	**-0.2**
HNTI	**Hanita**	**0.67**	**242**	P	**Pb**	**21 34 40.3**	**-0.2**
SHMJ	**Saham**	**0.68**	**188**	P	**Pg**	**21 34 40.6**	**+0.3**
GOLA	**Golan Heights**	**0.71**	**196**	P	**Pg**	**21 34 41.2**	**+0.3**
GOLA				S	**Sg**	**21 34 51.3**	**+1.0**
AFK	**Afek**	**0.84**	**228**	P	**Pb**	**21 34 43.2**	**-0.2**
AFK				S	**Sg**	**21 34 55.1**	**+0.6**
HWQ	**Hawqa**	**0.88**	**4**	*e*P	**Pn**	**21 34 44.7**	**-0.4**
BLGI	**Bet Lehem HaGe**	**0.88**	**221**	P	**Pb**	**21 34 43.6**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.88**	**221**	S	**Sg**	**21 34 56.1**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.88**	**221**	P	**Pb**	**21 34 43.8**	**-0.3**
FKH	**Fakeheh**	**0.95**	**28**	*e*P	**Pn**	**21 34 46.1**	**0.0**
BTOR	**Bet Oren**	**0.99**	**228**	P	**Pn**	**21 34 46.2**	**-0.3**
BTOR				S	**Sg**	**21 34 59.7**	**+0.5**
MMLI	**Mount Malkishu**	**1.03**	**202**	P	**Pn**	**21 34 46.9**	**-0.2**
MMLI	**Mount Malkishu**	**1.03**	**202**	S	**Sn**	**21 35 01.1**	**-0.3**
MMLI	**Mount Malkishu**	**1.03**	**202**	P	**Pn**	**21 34 47.0**	**-0.2**
OFRI	**`Ofer**	**1.08**	**224**	P	**Pb**	**21 34 47.4**	**-0.2**
OFRI	**`Ofer**	**1.08**	**224**	S	**Sg**	**21 35 02.6**	**+0.6**
OFRI	**`Ofer**	**1.08**	**224**	P	**Pb**	**21 34 47.3**	**-0.2**
QRNJ	**Al-Qirein**	**1.09**	**194**	P	**Pb**	**21 34 47.6**	**-0.1**
BEIL	**Beino**	**1.17**	**13**	*e*P	**Pg**	**21 34 49.9**	**+0.3**
HMDT	**Nahal Hemdat**	**1.18**	**195**	P	**Pb**	**21 34 49.2**	**0.0**
HMDT	**Nahal Hemdat**	**1.18**	**195**	S	**Sg**	**21 35 05.8**	**+0.6**
HMDT	**Nahal Hemdat**	**1.18**	**195**	P	**Pb**	**21 34 49.2**	**0.0**
HSUJ	**Al Zarqa**	**1.32**	**168**	P	**Pb**	**21 34 51.6**	**0.0**
SLTI	**Sal'it**	**1.35**	**212**	P	**Pg**	**21 34 53.0**	**-0.1**
SLTI	**Sal'it**	**1.35**	**212**	S	**Sg**	**21 35 10.9**	**+0.2**
SLTI	**Sal'it**	**1.35**	**212**	P	**Pg**	**21 34 52.7**	**-0.4**
SALP	**Salfit**	**1.45**	**204**	P	**Pb**	**21 34 53.6**	**-0.2**
ASF	**Jabal al Asfar**	**1.50**	**145**	P	**Pg**	**21 34 55.2**	**-0.6**
DSI	**Dead Sea**	**1.87**	**193**	P	**Pb**	**21 35 00.0**	**-1.0**
MSBI	**Mazada**	**2.13**	**192**	P	**Pb**	**21 35 04.3**	**-1.0**

SJA ***12*** *22:16:27.8±1.1,23°.46S×69°.04W, h90km, ML3.6, MW3.7*
GUC ***12*** *22:16:29.4±0.8,23°.47S×69°.07W, h82km±4km, ML3.5*

ISC 12 22:16:29.1±1.5,23°.43S±0°.03×69°.08W±0°.05, h96km±14km, n22, σ0s97/34, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.86**	**328**	*i* P	**Pn**	**22 16 47.9**	**-0.1**
PB06				*e*S	**Sn**	**22 17 01.7**	**-0.3**
PB06				IAML		22 17 02.5	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**0.86**	**328**	*e*P	**Pn**	**22 16 47.9**	**-0.1**
PB06				IAML		22 17 04.3	
	comp=Z,796nm,0.1s						
AF01	**San Pedro de A**	**0.95**	**60**	*e*P	**Pn**	**22 16 49.1**	**-0.1**
AF01				*e*S	**Sn**	**22 17 03.7**	**-0.4**
AF01	**San Pedro de A**	**0.95**	**60**	*e*P	**Pn**	**22 16 48.7**	**-0.4**
AF01				IAML		22 17 21.1	
	comp=Z,1μm,0.5s						
PB10	**IPOC Station P**	**1.36**	**266**	*e*P	**Pn**	**22 16 53.7**	**+0.2**
PB10				*e*S	**Sn**	**22 17 11.6**	**-0.3**
PB10				IAML		22 17 16.9	
	comp=E,756nm,0.4s						
PB10	**IPOC Station P**	**1.36**	**266**	*e*P	**Pn**	**22 16 53.2**	**-0.2**
PB10				*e*S	**Sn**	**22 17 14.8**	**+2.9**
PB10				IAML		22 17 16.7	
	comp=Z,712nm,0.5s						
PB03	**IPOC Station P**	**1.51**	**335**	⇑*i*P	**Pn**	**22 16 56.1**	**+0.5**
PB03				*e*S	**Sn**	**22 17 13.2**	**-2.4**
PB03				IAML		22 17 16.7	
	comp=N,869nm,0.4s						
PB03	**IPOC Station P**	**1.51**	**335**	*e*P	**Pn**	**22 16 56.0**	**+0.5**
PB03				IAML		22 17 22.4	
	comp=Z,664nm,0.4s						
PB09	**IPOC Station P**	**1.64**	**355**	*e*P	**Pn**	**22 16 58.4**	**+1.3**
PB09				*e*S	**Sn**	**22 17 18.3**	**0.0**
PB09				IAML		22 17 23.2	
	comp=N,426nm,0.4s						
PB09	**IPOC Station P**	**1.64**	**355**	*e*P	**Pn**	**22 16 57.9**	**+0.8**
PB09				IAML		22 17 26.0	
	comp=Z,448nm,0.5s						
PB14	**IPOC Station P**	**1.70**	**225**	*e*P	**Pn**	**22 16 58.1**	**+0.1**
PB14				*e*S	**Sn**	**22 17 19.7**	**-0.2**
PB14				IAML		22 17 26.3	
	comp=N,344nm,0.3s						
PB14	**IPOC Station P**	**1.70**	**225**	*e*P	**Pn**	**22 16 57.5**	**-0.5**
PB14				*e*S	**Sn**	**22 17 20.3**	**+0.4**
PB14				IAML		22 17 27.8	
	comp=Z,446nm,0.2s						
GO02	**Mina Guanaco**	**1.78**	**195**	*e*P	**Pn**	**22 16 59.3**	**+0.2**
GO02				*e*S	**Sn**	**22 17 22.1**	**+0.2**
GO02				IAML		22 17 28.9	
	comp=N,695nm,0.1s						
GO02	**Mina Guanaco**	**1.78**	**195**	*e*P	**Pn**	**22 16 58.8**	**-0.4**
GO02				*e*S	**Sn**	**22 17 23.3**	**+1.4**
GO02				IAML		22 17 27.6	
	comp=Z,365nm,0.3s						
PB01	**IPOC Station P**	**2.41**	**351**	*e*P	**Pn**	**22 17 07.7**	**+0.6**
PB01				*e*S	**Sn**	**22 17 36.0**	**-0.1**
PB01				IAML		22 17 41.4	
	comp=E,492nm,0.4s						
PB01	**IPOC Station P**	**2.41**	**351**	*e*P	**Pn**	**22 17 07.2**	**+0.1**
PB01				*e*S	Sn	22 17 25.3	-11
PB01				IAML		22 17 46.1	
	comp=Z,224nm,0.3s						
SALTA		**2.62**	**108**	*e*P	**Pn**	**22 17 11.5**	**+1.2**
AC01	**Pan de Azucar**	**3.04**	**207**	*e*P	**Pn**	**22 17 14.5**	**-0.8**
AC01				*e*S	Sn	22 18 00.0	+9.1
AC01				IAML		22 18 00.3	
	comp=Z,125nm,0.3s						
PB08	**IPOC Station P**	**3.28**	**359**	*e*P	**Pn**	**22 17 19.1**	**+0.2**
PB08				*e*S	Sn	22 18 08.8	+12
PB08				IAML		22 18 28.1	
	comp=Z,57nm,0.4s						
AC02	**Maricunga**	**3.39**	**181**	*e*P	**Pn**	**22 17 20.9**	**+0.4**
AC02				*e*S	**Sn**	**22 17 57.8**	**-2.2**
AC02				IAML		22 18 37.5	
	comp=Z,302nm,0.8s						
PB11	**IPOC Station P**	**3.69**	**351**	*e*P	**Pn**	**22 17 24.0**	**-0.4**
PB11				*e*S	**Sn**	**22 18 06.8**	**-0.2**
PB11				IAML		22 18 20.4	
	comp=Z,106nm,0.5s						
PB12	**IPOC Station P**	**4.94**	**346**	*e*P	Pn	22 17 23.9	-17
PB12				*e*S	Sn	22 18 55.0	+18
PB12				IAML		22 19 01.4	
	comp=Z,58nm,0.9s						

MDD ***12*** *22:20:05.0±1.0,36°.68N×11°.26W, h31km±18km, Mb4.0/6, M_mb3.3/6, Error ellipse: s-maj=11.8km s-min=5.0km az=88.0*
IGIL ***12*** *22:20:08.9,36°.66N×11°.08W, h32km, ML1.9*
INMG ***12*** *22:20:09.2±1.5,36°.65N×11°.08W, h32km±14km, ML1.9, Error ellipse: s-maj=13.3km s-min=5.0km az=84.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*
CNRM ***12*** *22:20:15.4,35°.87N×10°.71W, h18km*

ISC 12 22:20:05.3±2.0,36°.62N±0°.04×11°.1W±0°.1, h35km, n50, σ1s98/70, 6C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.91**	**74**	*e*P	**Pn**	**22 20 36.9**	**+1.5**
PFVI				*e*S	**Sn**	**22 20 58.7**	**+0.4**
PFVI				*i* AML	AML	22 20 59.2	
PFVI				*i* AML	AML	22 20 59.9	
PFVI				*i* AML	AML	22 21 04.4	
PFVI	**Vila Bisbo**	**1.91**	**74**	Pn	**Pn**	**22 20 36.7**	**+1.3**
PFVI				Sn	**Sn**	**22 20 58.5**	**+0.2**
MORF	**Marmelete**	**2.10**	**70**	*e*S	**Sn**	**22 21 02.7**	**-0.2**
MORF				IAML		22 21 05.4	
	comp=N,9.4nm,0.3s						
MORF	**Marmelete**	**2.10**	**70**	*e*S	**Sn**	**22 21 03.5**	**+0.6**
MORF				*i* AML	AML	22 21 04.0	
MORF				*i* AML	AML	22 21 04.3	
MORF				*i* AML	AML	22 21 05.5	
PTEO	**Sao Teotonio**	**2.13**	**64**	*e*P	**Pn**	**22 20 41.3**	**+2.9**
PTEO				*e*S	**Sn**	**22 21 04.0**	**+0.3**
PTEO				*i* AML	AML	22 21 05.2	
MESJ	**Messejana**	**2.62**	**61**	*e*P	**Pn**	**22 20 47.1**	**+1.9**
MESJ				*e*S	**Sn**	**22 21 14.9**	**-0.8**
MESJ				IAML		22 21 16.6	
	comp=N,3.7nm,0.3s						
MESJ	**Messejana**	**2.62**	**61**	*e*P	**Pn**	**22 20 47.4**	**+2.2**
MESJ				*e*S	**Sn**	**22 21 15.6**	**-0.1**
MESJ				*i* AML	AML	22 21 20.6	
MESJ				*i* AML	AML	22 21 20.6	
MESJ				*i* AML	AML	22 21 22.0	
PBDV	**Barranco-do-Ve**	**2.63**	**75**	*e*P	**Pn**	**22 20 47.4**	**+2.1**
PBDV				*e*S	**Sn**	**22 21 17.1**	**+0.9**
PBDV				*i* AML	AML	22 21 21.5	
PBDV				*i* AML	AML	22 21 25.6	
PCVE	**Castro Verde**	**2.67**	**67**	*e*P	**Pn**	**22 20 47.5**	**+1.7**
PCVE				*e*S	**Sn**	**22 21 16.2**	**-0.7**
PCVE				*i* AML	AML	22 21 19.3	
PCVE				*i* AML	AML	22 21 19.9	
PCVE	**Castro Verde**	**2.67**	**67**	Pn	**Pn**	**22 20 47.2**	**+1.4**
PCVE				Sn	**Sn**	**22 21 15.4**	**-1.5**
PMAFR	**Mafra**	**2.75**	**31**	*e*P	**Pn**	**22 20 49.1**	**+2.2**
PMAFR				*e*S	**Sn**	**22 21 18.4**	**-0.6**
PMAFR	**Mafra**	**2.75**	**31**	Sn	**Sn**	**22 21 17.8**	**-1.2**
PVAQ	**Vaqueiros**	**2.84**	**73**	*e*P	**Pn**	**22 20 50.3**	**+2.1**
PVAQ				*i* AML	AML	22 21 28.0	
PVAQ	**Vaqueiros**	**2.84**	**73**	Pn	**Pn**	**22 20 49.9**	**+1.7**
PBEJ	**Beja**	**2.95**	**61**	*e*S	**Sn**	**22 21 23.0**	**-1.0**
PBEJ				*i* AML	AML	22 21 25.5	
PBEJ				*i* AML	AML	22 21 26.2	
EGRO	**El Granado**	**3.05**	**71**	P	Pn	22 20 49.5	-1.6
EGRO				⇑*i*Vmb_V		22 20 52.8	
	comp=N,251nm,SNR=1.7						
EGRO				S	**Sn**	**22 21 25.5**	**-0.9**
EVO	**Evora**	**3.12**	**51**	*e*P	**Pn**	**22 20 54.0**	**+2.0**
EVO				*e*S	**Sn**	**22 21 27.3**	**-0.9**
EVO				*i* AML	AML	22 21 28.8	
EVO				*i* AML	AML	22 21 29.6	
EVO				*i* AML	AML	22 21 29.7	
EVO	**Evora**	**3.12**	**51**	Pn	**Pn**	**22 20 53.8**	**+1.7**
EVO				Sn	**Sn**	**22 21 26.9**	**-1.3**
PMTG	**Montargil**	**3.36**	**42**	*e*S	**Sn**	**22 21 33.0**	**-0.8**
PMTG				*i* AML	AML	22 21 34.1	
PMTG				*i* AML	AML	22 21 36.2	
PMTG				*i* AML	AML	22 21 36.3	
PESTR	**Estremoz**	**3.59**	**50**	*e*S	**Sn**	**22 21 38.9**	**-0.8**
PESTR				*i* AML	AML	22 21 41.9	
PBAR	**Barrancos**	**3.61**	**63**	*e*P	**Pn**	**22 21 00.7**	**+2.0**
PBAR				*e*S	**Sn**	**22 21 38.9**	**-1.1**
PBAR				*i* AML	AML	22 21 39.8	
PBAR				*i* AML	AML	22 21 42.0	
PBAR				*i* AML	AML	22 21 42.3	
PBAR	**Barrancos**	**3.61**	**63**	Pn	**Pn**	**22 21 00.4**	**+1.7**
EMIN	**Mina Concepcio**	**3.74**	**71**	Sn	**Sn**	**22 21 42.5**	**-0.8**
EMIN	**Mina Concepcio**	**3.74**	**71**	P	**Pn**	**22 21 01.4**	**+1.0**
EMIN				⇑*i*Vmb_V		22 21 03.6	
	comp=N,134nm,SNR=1.7						
EMIN				S	**Sn**	**22 21 42.2**	**-1.1**
EBAD	**Badajoz**	**3.90**	**56**	Pn	**Pn**	**22 21 04.0**	**+1.3**
EBAD				Sn	**Sn**	**22 21 45.7**	**-1.5**
EBAD	**Badajoz**	**3.90**	**56**	P	**Pn**	**22 21 02.6**	**-0.2**
EBAD				⇑*i*Vmb_V		22 21 08.1	
	comp=N,135nm,SNR=1.7						
EBAD				S	**Sn**	**22 21 45.5**	**-1.7**
PMRV	**Marv??o**	**4.07**	**45**	*e*P	**Pn**	**22 21 06.3**	**+1.2**
PMRV				*e*S	**Sn**	**22 21 49.7**	**-1.8**
PMRV				*i* AML	AML	22 21 51.2	
PMRV				*i* AML	AML	22 21 51.7	
ESPR	**Espera**	**4.24**	**85**	Pn	**Pn**	**22 21 09.1**	**+1.7**
ESPR				Sn	**Sn**	**22 21 56.1**	**+0.5**
ESPR	**Espera**	**4.24**	**85**	S	**Sn**	**22 21 55.9**	**+0.2**
ECAB	**El Cabril**	**4.78**	**71**	Pn	**Pn**	**22 21 16.1**	**+1.3**
ECAB				Sn	**Sn**	**22 22 05.8**	**-3.2**
ECAB	**El Cabril**	**4.78**	**71**	P	**Pn**	**22 21 15.4**	**+0.6**
ECAB				⇑*i*Vmb_V		22 21 22.6	
	comp=N,104nm,SNR=1.6						
ECAB				S	**Sn**	**22 22 06.6**	**-2.3**
PVIS	**Viseu**	**4.81**	**31**	*e*S	**Sn**	**22 22 08.1**	**-1.7**
EADA	**Adamuz**	**5.44**	**72**	Pn	**Pn**	**

comp=Z,10.0nm,0.4s
VRAC Vranov 2.20 173 *e*Pn **Pn 22 56 35.5 +0.1**
baz=354
VRAC *e*Sg **Sg 22 57 08.8 +0.6**
comp=Z,4.8nm,0.3s,baz=354
VRAC Vranov 2.20 173 *e*PN **Pn 22 56 35.6 +0.1**
VRAC *e*SG **Sg 22 57 08.9 +0.7**
KRUC Moravsky 2.43 176 *e*Pn **Pn 22 56 38.9 +0.2**
baz=358
KRUC *e*Sg **Sg 22 57 16.0 +0.3**
comp=Z,4.0nm,0.5s,baz=358
OJC Ojcow 2.63 117 *e*Pg **Pg 22 56 47.4 -0.6**
OJC *e*Sg **Sg 22 57 22.3 +0.1**
KHC Kasperske Hory 2.88 216 *e*PN **Pn 22 56 44.9 0.0**
KHC *e*PG **Pb 22 56 50.5 +0.5**
KHC *e*SN **Sn 22 57 19.1 -1.1**
KHC *e*SG **Sg 22 57 29.8 -0.4**
comp=Z,5.3nm,0.3s
CKRC Cesky Krumlov 2.92 205 *e*SG **Sg 22 57 30.6 -0.9**
comp=Z,6.6nm,0.4s
LANS Liptovska Anna 3.15 137 *e*PG **Pg 22 56 58.0 -0.1**
LANS *e*SG **Sg 22 57 40.5 +1.5**
LANS *e*LG **Lg** 22 57 44.8
CONA Conrad Observa 3.57 183 *e*Pn **Pn 22 56 54.2 -0.1**
comp=Z,0.3nm,0.3s
MOA Molln 3.84 199 *e*Pn **Pn 22 56 58.3 +0.2**
comp=Z,0.5nm,0.2s

*NEIC **12** 23:07:48.8±2.1,36°.20S±0°.09×99°.8W±0°.2,h10km±1km, mb4.6/18,Error ellipse: s-maj=29.6km s-min=13.4km az=286.0*
*IDC **12** 23:07:48.2±1.3,36°.19S×99°.81W,h0km,mb4.0/5, mbtmp4.0/5,MS4.1/30,Error ellipse: s-maj=37.4km s-min=29.0km az=68.0*
*GCMT **12** 23:07:49.8±0.2,36°.29S±0°.01×99°.83W±0°.01,h19km±1km, MW5.1/132,Moment Tensor Solution. s43,c52; s132,c193; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.14±.14; Mθθ=0.37±.12; Mφφ=1.51±.12; Mrθ=0.42±.25; Mφφ=-4.97±.11; Mφr=0.25±.23; Best double couple: M=5.07700×10^16 NP1:φs=185.00000°,δ85.00000°, λ1.00000°. NP2:φs=95.00000°,δ89.00000°,λ175.00000°. Principal axes: T 5.6600, Plg4.0000°, Azm50.0000°; N -1.1630, Plg85.0000°, Azm267.0000°; P -4.4940, Plg3.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 23:07:48.8±1.0,36°.2S±0°.1×99°.8W±0°.1,h10km,n58, σ1º08/25,mb4.5/13,MS4.2/30,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**17.32**	**87**	T	T	23 29 48.6	
	baz=248,slow=72,SNR=20						
H03N3	**Juan Fernandez**	**17.32**	**87**	T	T	23 29 54.5	
	baz=248,slow=72,SNR=21						
H03N1	**Juan Fernandez**	**17.34**	**87**	T	T	23 29 48.6	
	baz=248,slow=72,SNR=39						
LL06	**Loncomilla**	**21.07**	**115**	P	**P**	**23 12 34.2**	**+1.0**
LL05	**Los Muermos**	**21.09**	**112**	P	**P**	**23 12 33.8**	**+0.4**
LL05				IAmb	IAmb	23 12 35.9	
	comp=Z,30nm,1.0s						
GO07	**Milladeo Hill,**	**21.19**	**117**	P	**P**	**23 12 33.2**	**-1.2**
LL02	**Futaleuf**	**22.51**	**117**	P	**P**	**23 12 47.8**	**-0.8**
LL02				IAmb	IAmb	23 13 01.6	
	comp=Z,25nm,1.4s						
COYC	**Coyhaique**	**22.82**	**123**	P	**P**	**23 12 51.6**	**-0.3**
COYC				IAmb	IAmb	23 12 55.0	
	comp=Z,20nm,1.3s						
PLCA	**Paso Flores**	**23.26**	**110**	P	**P**	**23 12 57.7**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=267,slow=14,SNR=3.3						
PLCA				LR	LR	23 18 38.7	
	comp=Z,180nm,18.9s,baz=274,slow=28						
	comp=Z,1.9nm,0.7s						
BO02	**Sierra Bellavi**	**23.60**	**95**	P	**P**	**23 13 01.1**	**+1.2**
BO02				IAmb	IAmb	23 13 05.4	
	comp=Z,30nm,1.5s						
LMEL	**Las Melosas**	**24.28**	**93**	P	**P**	**23 13 06.0**	**-0.4**
LMEL				IAmb	IAmb	23 13 17.8	
	comp=Z,13nm,0.8s						
MT08	**Bocatoma Ro**	**24.53**	**92**	P	**P**	**23 13 08.0**	**-0.9**
MT08				IAmb	IAmb	23 13 11.8	
	comp=Z,11nm,0.9s						
ZON	**Zonda**	**26.16**	**89**	P	**P**	**23 13 23.4**	**0.0**
TRQA	**Tornquist**	**30.04**	**105**	P	**P**	**23 14 00.3**	**+2.3**
NNA	**Nana**	**31.76**	**46**	LR	LR	23 24 07.0	
	comp=Z,350nm,18.7s,baz=210,slow=31						
LPAZ	**La Paz**	**34.38**	**63**	P	**P**	**23 14 37.2**	**+0.3**
LPAZ				IAmb	IAmb	23 14 40.1	
	comp=Z,9.2nm,1.2s						
LPAZ	**La Paz**	**34.38**	**63**	P	**P**	**23 14 38.1**	**+1.2**
	comp=Z,4.9nm,1.1s,baz=216,slow=7.9,SNR=9.6						
LPAZ				LR	LR	23 25 15.5	
	comp=Z,302nm,20.2s,baz=218,slow=30						
	comp=Z,4.9nm,1.1s						
ATAH	**Atahualpa**	**34.91**	**39**	LR	LR	23 25 23.6	
	comp=Z,624nm,20.6s,baz=225,slow=30						
PMSA	**Palmer Station**	**35.63**	**155**	LR	LR	23 25 01.3	
	comp=Z,581nm,20.7s,baz=320,slow=29						
CPUP	**Villa Florida**	**37.33**	**87**	LR	LR	23 27 53.5	
	comp=Z,149nm,18.0s,baz=250,slow=32						
CZSB	**Cruzeiro do Su**	**37.59**	**48**	P	**P**	**23 15 03.5**	**-0.2**
COHC	**Cochancay**	**38.56**	**34**	P	**P**	**23 15 10.5**	**-1.3**
SIV	**San Ignacio**	**39.80**	**70**	LR	LR	23 29 47.4	
	comp=Z,269nm,20.6s,baz=284,slow=33						
AQDB	**Aquidauana**	**41.46**	**80**	P	**P**	**23 15 34.9**	**-1.1**
AQDB				IAmb	IAmb	23 15 39.8	
	comp=Z,7.2nm,0.7s						
ROSC	**El Rosal**	**47.27**	**36**	LR	LR	23 32 49.3	
	comp=Z,383nm,19.7s,baz=214,slow=32						
JTS	**Las Juntas de**	**48.31**	**20**	LR	LR	23 32 11.7	
	comp=Z,343nm,18.8s,baz=111,slow=30						
BDFB	**Brasilia**	**50.20**	**80**	LR	LR	23 36 18.7	
	comp=Z,343nm,18.5s,baz=251,slow=34						
CMIG	**Matias Romero**	**53.20**	**6**	LR	LR	23 33 54.9	
	comp=Z,200nm,19.7s,baz=176,slow=30						
RAR	**Rarotonga**	**53.94**	**269**	LR	LR	23 32 22.6	
	comp=Z,39nm,19.6s,baz=122,slow=27						
QSPA	**South Pole Qui**	**54.01**	**180**	P	**P**	**23 17 12.6**	**-0.4**
QSPA				IAmb	IAmb	23 17 19.9	
	comp=Z,8.2nm,1.3s						
QSPA	**South Pole Qui**	**54.01**	**180**	P	**P**	**23 17 13.9**	**+1.0**
	comp=Z,3.1nm,1.0s,baz=120,slow=5.7,SNR=5.2						
	comp=Z,3.1nm,1.0s						
VNDA	**Vanda**	**56.75**	**195**	LR	LR	23 36 01.5	
	comp=Z,161nm,20.3s,baz=104,slow=30						
PCRV	**Puerto La Cruz**	**56.77**	**43**	LR	LR	23 40 25.4	
	comp=Z,717nm,18.0s,slow=34						
SNAA	**Sanae**	**58.19**	**158**	LR	LR	23 38 14.3	
	comp=Z,254nm,20.5s,slow=31						
MDP	**Montagnes des**	**60.24**	**57**	LR	LR	23 41 33.8	
	comp=Z,447nm,18.9s,baz=220,slow=34						
SJG	**San Juan**	**62.68**	**36**	LR	LR	23 43 29.6	
	comp=Z,118nm,20.4s,baz=188,slow=34						
URZ	**Urewera**	**63.97**	**240**	LR	LR	23 38 47.2	
	comp=Z,97nm,21.0s,baz=238,slow=29						
TX31	**Lajitas Ar. Si**	**65.30**	**356**	P	**P**	**23 18 32.1**	**+1.1**
RCBR	**Riachuelo**	**65.55**	**79**	LR	LR	23 44 21.6	
	comp=Z,37nm,19.4s,baz=242,slow=33						
PFO	**Pinyon Flats O**	**71.19**	**345**	LR	LR	23 44 48.0	
	comp=Z,107nm,20.8s,baz=122,slow=31						
TKL	**Tuckaleechee C**	**73.03**	**14**	LR	LR	23 48 20.0	
	comp=Z,120nm,18.7s,baz=155,slow=33						
MSVF	**Nonsavu**	**73.58**	**260**	LR	LR	23 43 03.8	
	comp=Z,112nm,20.2s,baz=103,slow=29						
NVAR	**Mina Array Bea**	**76.22**	**345**	P	**P**	**23 19 39.0**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=171,slow=7.0,SNR=4.7						
NVAR				LR	LR	23 46 45.1	
	comp=Z,92nm,19.3s,baz=192,slow=31						
	comp=Z,1.2nm,0.8s						
PD31	**Pinedale Array**	**79.10**	**353**	P	**P**	**23 19 52.8**	**-0.7**
PDAR	**Pinedale Array**	**79.10**	**353**	P	**P**	**23 19 53.6**	**+0.1**
PDAR	**Pinedale Array**	**79.10**	**353**	P	**P**	**23 19 53.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=138,slow=6.7,SNR=6.5						
	comp=Z,0.6nm,0.7s						
DZM	**Mont Dzumac**	**80.21**	**250**	LR	LR	23 47 06.9	
	comp=Z,124nm,20.5s,baz=76,slow=29						
YBH	**Yreka Blue Hor**	**80.36**	**343**	LR	LR	23 48 38.3	
	comp=Z,68nm,18.6s,baz=82,slow=30						
HLID	**Hailey**	**80.50**	**349**	P	**P**	**23 20 00.2**	**-0.7**
HLID				IAmb	IAmb	23 20 33.7	
	comp=Z,8.8nm,1.4s						
SADO	**Sadowa**	**82.73**	**15**	LR	LR	23 53 56.1	
	comp=Z,191nm,18.9s,baz=78,slow=34						
HNR	**Honiara**	**92.69**	**256**	LR	LR	23 53 53.2	
	comp=Z,68nm,22.0s,baz=94,slow=30						
BBTS	**Babate**	**93.19**	**74**	LR	LR	23 58 37.9	
	comp=Z,83nm,18.8s,baz=166,slow=33						
SCHQ	**Schefferville**	**94.98**	**18**	LR	LR	23 58 38.1	
	comp=Z,177nm,19.2s,baz=196,slow=32						
DBIC	**Dimbokro**	**97.84**	**87**	LR	LR	00 00 53.4	
	comp=Z,106nm,21.3s,baz=248,slow=32						
H01W1	**Cape Leeuwin H**	**102.52**	**208**	T	T	01 16 52.7	
	baz=151,slow=76,SNR=5.5						
H01W2	**Cape Leeuwin H**	**102.53**	**208**	T	T	01 16 53.0	
	baz=151,slow=76,SNR=5.6						
H01W3	**Cape Leeuwin H**	**102.54**	**208**	T	T	01 16 57.0	
	baz=151,slow=76,SNR=4.1						
CMAR	**Chiang Mai Arr**	**155.82**	**228**	PKPab	**PKPab**	**23 28 08.4**	**-1.7**

*IDC **12** 23:20:43.7±0.6,6°.13S×150°.92E,h0km,mb4.4/15, mbtmp4.4/16,ML2.1/1,MS3.5/9,Error ellipse: s-maj=27.3km s-min=14.8km az=101.0*
*NEIC **12** 23:20:50.1±2.6,6°.28S±0°.09×150°.80E±0°.09,h41km±6km, mb4.6/38,Error ellipse: s-maj=13.8km s-min=12.0km az=124.0*

ISC 12 23:20:50.2±0.5,6°.20S±0°.07×150°.79E±0°.09,h43km,n84, σ1º65/80,mb4.5/31,MS3.5/7,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.42**	**34**	Pn	**Pn**	**23 21 28.0**	**+0.7**
PMG	**Port Moresby**	**4.81**	**228**	Pn	**Pn**	**23 22 00.8**	**+0.8**
	5.7nm,0.3s,baz=14,slow=6.7,SNR=13						
PMG				Sn	**Sn**	**23 22 54.1**	**-0.5**
	29nm,0.3s,baz=173,slow=17,SNR=8.0						
PMG				LR	LR	23 23 51.8	
	comp=Z,312nm,19.1s,baz=33,slow=38						
	84nm,0.7s						
MANU	**Manus Island**	**5.36**	**320**	Pn	Pn	23 22 13.6	+5.8
TATA	**Tatamba Isabel**	**9.20**	**104**	P	Pn	23 23 11.4	+11
HNR	**Honiara**	**9.62**	**110**	LR	LR	23 26 16.8	
	comp=Z,245nm,20.3s,baz=305,slow=35						
ALEG	**Aligegeo Malai**	**10.14**	**105**	P	Pn	23 23 22.7	+9.4
COEN	**Coen**	**10.75**	**224**	Pn	**Pn**	**23 23 20.0**	**-1.7**
MTSU	**Mount Surprise**	**13.44**	**207**	P	**Pn**	**23 23 58.3**	**-0.1**
QIS	**Mount Isa**	**17.93**	**216**	P	**P**	**23 24 56.6**	**-0.1**
EIDS	**Eidsvold**	**19.06**	**179**	P	**P**	**23 25 07.5**	**-1.5**
KDU	**Kakadu**	**19.18**	**249**	P	**Pn**	**23 25 17.4**	**+5.8**
MTN	**Manton Dam**	**20.47**	**250**	P	**P**	**23 25 22.9**	**-1.6**
MTN				IAmb	IAmb	23 25 49.0	
	comp=Z,24nm,1.1s						
GUMO	**Guam**	**20.52**	**343**	LR	LR	23 33 44.9	
	comp=Z,85nm,18.4s,baz=120,slow=38						
WB0	**Warramunga Arr**	**20.88**	**228**	P	**P**	**23 25 28.7**	**-0.2**
WB0				IAmb	IAmb	23 25 33.5	
	comp=Z,26nm,0.8s						
WR0	**Warramunga Arr**	**20.89**	**228**	P	**P**	**23 25 28.5**	**-0.5**
WR0				IAmb	IAmb	23 25 34.1	
	comp=Z,21nm,0.9s						
WRAB	**Tennant Creek**	**21.01**	**228**	P	**P**	**23 25 30.3**	**0.0**
WRAB				IAmb	IAmb	23 25 36.5	
	comp=Z,24nm,0.7s						
WB2	**Warramunga Arr**	**21.02**	**228**	P	**P**	**23 25 30.3**	**-0.1**
WB2				IAmb	IAmb	23 25 34.9	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**21.03**	**228**	P	**P**	**23 25 29.2**	**-1.3**
WRA	**Warramunga Arr**	**21.03**	**228**	P	**P**	**23 25 30.4**	**0.0**
	comp=Z,21nm,0.7s,baz=50,slow=10,SNR=56						
WRA				S	**S**	**23 29 18.7**	**-3.7**
	comp=Z,1.2nm,0.9s,baz=53,slow=20,SNR=5.1						
WRA				ScP	**ScP**	**23 33 16.4**	**+6.4**
	comp=Z,0.8nm,0.7s,baz=53,slow=2.5,SNR=4.8						
WRA				LR	LR	23 33 19.9	
	comp=Z,91nm,19.0s,baz=9.5,slow=36						
	comp=Z,21nm,0.7s						
QLP	**Quilpie**	**21.21**	**196**	P	**P**	**23 25 31.8**	**-0.6**
DZM	**Mont Dzumac**	**21.86**	**138**	P	**P**	**23 25 38.7**	**-0.8**
DZM				IAmb	IAmb	23 25 52.3	
	comp=Z,9.4nm,0.7s						
DZM	**Mont Dzumac**	**21.86**	**138**	LR	LR	23 32 32.7	
	comp=Z,195nm,18.2s,baz=300,slow=32						
INKA	**Innaminka**	**23.45**	**203**	P	**P**	**23 25 55.9**	**+0.1**
KNRA	**Kununurra**	**23.57**	**245**	P	**P**	**23 25 56.5**	**-0.6**
KNRA				IAmb	IAmb	23 26 21.2	
	comp=Z,18nm,0.8s						
AS31	**Alice Springs**	**23.78**	**221**	P	**P**	**23 25 57.5**	**-1.6**
ASAR	**Alice Springs**	**23.78**	**221**	P	**P**	**23 25 59.1**	**+0.1**
	comp=Z,14nm,0.6s,baz=61,slow=8.1,SNR=70						
ASAR				S	**S**	**23 30 15.9**	**+4.1**
	comp=Z,2.0nm,1.0s,baz=47,slow=16,SNR=6.7						
ASAR				ScP	**ScP**	**23 33 24.1**	**+7.0**
	comp=Z,0.6nm,0.7s,baz=48,slow=2.2,SNR=4.6						
	comp=Z,14nm,0.6s						
OOD	**Oodnadatta**	**25.82**	**212**	P	**P**	**23 26 18.7**	**+1.1**
STKA	**Stephens Creek**	**26.95**	**197**	P	**P**	**23 26 27.2**	**-0.6**
STKA	**Stephens Creek**	**26.95**	**197**	P	**P**	**23 26 27.5**	**-0.3**
	comp=Z,12nm,0.8s,baz=340,slow=7.9,SNR=22						
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.24**	**242**	P	**P**	**23 26 30.2**	**-0.3**
JCJ	**Chichijima**	**34.13**	**346**	LR	LR	23 39 24.1	
	comp=Z,89nm,21.9s,baz=162,slow=33						
JAGI	**Jajag, Banyuwa**	**36.40**	**264**	P	**P**	**23 27 48.3**	**-2.6**
JNU	**Nakatsue**	**43.44**	**335**	LR	LR	23 44 49.8	
	comp=Z,68nm,21.0s,baz=44,slow=33						
CTZ	**Chatham Island**	**47.07**	**148**	P	**P**	**23 29 18.3**	**+0.6**
KSRS	**Korea Array**	**48.39**	**336**	P	**P**	**23 29 29.2**	**+1.3**
	comp=Z,4.8nm,0.8s,baz=158,slow=8.3,SNR=9.1						
KSRS				LR	LR	23 47 39.3	
	comp=Z,35nm,20.9s,baz=120,slow=33						
	comp=Z,4.8nm,0.8s						
PETK	**Petropavlovsk-**	**59.37**	**5**	P	**P**	**23 30 47.0**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=198,slow=7.2,SNR=2.0						
	comp=Z,3.9nm,0.9s						
SONM	**Songino Array**	**66.46**	**329**	P	**P**	**23 31 35.7**	**+0.3**
SONM	**Songino Array**	**66.46**	**329**	P	**P**	**23 31 35.6**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=148,slow=5.4,SNR=9.9						
	comp=Z,1.4nm,0.6s						
VNDA	**Vanda**	**71.52**	**177**	P	**P**	**23 32 06.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=344,slow=5.5,SNR=3.8						
	comp=Z,1.2nm,0.8s						
O14K	**Tigyukauivet M**	**75.52**	**23**	P	**P**	**23 32 29.4**	**-0.5**
L14K	**Kuka Creek**	**76.36**	**21**	P	**P**	**23 32 35.1**	**+0.5**
M16K	**Timber Creek**	**77.53**	**23**	P	**P**	**23 32 42.0**	**+0.7**
M17K	**Holitna River**	**78.35**	**23**	P	**P**	**23 32 47.2**	**+1.4**
M17K				IAmb	IAmb	23 32 49.9	
	comp=Z,6.6nm,0.9s						
L18K	**Granite Mounta**	**79.12**	**22**	P	**P**	**23 32 50.6**	**+0.6**
MKAR	**Makanchi Array**	**80.07**	**320**	P	**P**	**23 32 55.6**	**0.0**
	comp=Z,1.6nm,0.8s,baz=107,slow=5.7,SNR=13						
	comp=Z,1.6nm,0.8s						
MAKZ	**Makanchi**	**80.28**	**319**	P	**P**	**23 32 56.8**	**+0.1**
G18K	**Tagagawik**	**80.70**	**19**	P	**P**	**23 32 58.0**	**-0.5**
G18K				IAmb	IAmb	23 33 00.7	
	comp=Z,8.0nm,1.2s						
ZALV	**Zalesovo Beam**	**81.21**	**327**	P	**P**	**23 33 00.1**	**-1.4**
ZALV	**Zalesovo Beam**	**81.21**	**327**	P	**P**	**23 33 00.3**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=116,slow=5.6,SNR=9.1						
	comp=Z,2.0nm,0.7s						
F19K	**Shaleruckik Mo**	**81.57**	**18**	P	**P**	**23 33 02.6**	**-0.4**
E19K	**Redstone River**	**82.12**	**18**	P	**P**	**23 33 05.9**	**0.0**
E19K				IAmb	IAmb	23 33 08.5	
	comp=Z,3.3nm,0.7s						
F20K	**Avaraart Lake**	**82.34**	**19**	P	**P**	**23 33 06.1**	**-0.9**
H21K	**Melozitna Rive**	**82.51**	**20**	P	**P**	**23 33 08.1**	**+0.1**
NEA2	**Nenana**	**83.30**	**22**	P	**P**	**23 33 10.9**	**-1.2**
NEA2				IAmb	IAmb	23 33 13.4	
	comp=Z,4.3nm,0.9s						
KURK	**Kurchatov**	**83.64**	**322**	P	**P**	**23 33 13.2**	**-1.0**
KURK				IAmb	IAmb	23 33 14.5	
	comp=Z,5.2nm,1.0s						
KURBB	**Kurchatov Arra**	**83.67**	**322**	P	**P**	**23 33 13.9**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=113,slow=4.1,SNR=22						
	comp=Z,1.9nm,0.8s						
H23K	**Yukon River**	**83.74**	**21**	P	**P**	**23 33 14.0**	**-0.4**
H23K				IAmb	IAmb	23 33 49.2	
	comp=Z,6.3nm,1.4s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**23 33 14.4**	**-0.4**
QSPA				IAmb	IAmb	23 33 25.4	
	comp=Z,5.9nm,1.1s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**23 33 15.5**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=18,slow=3.2,SNR=18						
	comp=Z,2.6nm,0.7s						
G23K	**Bananza Creek**	**84.03**	**20**	P	**P**	**23 33 16.0**	**+0.1**
G23K				IAmb	IAmb	23 33 18.5	
	comp=Z,4.8nm,1.1s						
IL31		**84.20**	**22**	P	**P**	**23 33 15.0**	**-1.7**
IL31				IAmb	IAmb	23 33 21.2	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**84.20**	**22**	P	**P**	**23 33 15.4**	**-1.3**
ILAR	**Eielson Array**	**84.20**	**22**	P	**P**	**23 33 15.2**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=246,slow=5.0,SNR=35						
	comp=Z,2.7nm,0.7s						
H24K	**Noodor Dome**	**84.34**	**21**	P	**P**	**23 33 16.3**	**-1.2**
H24K				IAmb	IAmb	23 33 45.9	
	comp=Z,7.4nm,1.5s						
J25K	**Salcha River,**	**84.71**	**23**	P	**P**	**23 33 18.4**	**-1.0**
G24K	**Hadweenzic Riv**	**84.90**	**21**	P	**P**	**23 33 20.1**	**-0.2**
G24K				IAmb	IAmb	23 33 30.6	
	comp=Z,6.3nm,1.2s						
HYT	**Haines Junctio**	**86.59**	**28**	P	**P**	**23 33 30.0**	**+1.1**
KK31	**Karatay Array**	**87.14**	**314**	P	**P**	**23 33 30.6**	**-1.3**
KK31				IAmb	IAmb	23 33 32.4	
	comp=Z,2.8nm,0.9s						
KKAR	**Karatay Array**	**87.14**	**314**	P	**P**	**23 33 30.7**	**-1.2**
E27K	**Coleen River**	**87.59**	**20**	P	**P**	**23 33 32.7**	**-0.8**
E27K				IAmb	IAmb	23 33 35.9	
	comp=Z,2.9nm,0.7s						
WHY	**Whitehorse**	**87.77**	**28**	P	**P**	**23 33 34.8**	**+0.1**
BVAR	**Borovoye Array**	**89.16**	**323**	P	**P**	**23 33 39.9**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=116,slow=3.4,SNR=7.9						
	comp=Z,1.4nm,0.7s						
YBH	**Yreka Blue Hor**	**91.47**	**48**	LR	LR	00 10 14.3	
	comp=Z,66nm,18.1s,baz=9.5,slow=32						
SYO	**Syowa Base**	**91.69**	**200**	*e*PcP	**PcP**	**23 33 53.9**	**+0.4**
NVAR	**Mina Array Bea**	**94.52**	**52**	P	**P**	**23 34 05.7**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=265,slow=4.5,SNR=4.2						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**97.59**	**28**	P	**P**	**23 34 19.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=270,slow=4.9,SNR=17						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**101.26**	**48**	P	**Pdif**	**23 34 37.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=241,slow=3.1,SNR=5.4						
AKASG	**Malin Array Be**	**114.44**	**323**	PKP	**PKiKP**	**23 39 25.5**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=66,slow=1.2,SNR=1.5						
BURAR	**Bucovina Array**	**118.06**	**321**	PKPdf	**PKiKP**	**23 39 33.4**	**+0.7**
GERES	**GERESS Array B**	**124.17**	**327**	PKPdf	**PKiKP**	**23 39 44.8**	**+0.1**
GERES	**GERESS Array B**	**124.17**	**327**	PKP	**PKiKP**	**23 39 44.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=45,slow=2.5,SNR=4.4						
BOAV	**Boa Vista**	**148.55**	**96**	PKPbc	**PKPbc**	**23 40 33.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**148.79**	**285**	PKPbc	**PKPbc**	**23 40 34.6**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=72,slow=2.7,SNR=3.1						
BDFB	**Brasilia**	**151.40**	**140**	PKPbc	**PKPbc**	**23 40 40.6**	**0.0**
	comp=Z,2.1nm,0.7s,baz=205,slow=3.5,SNR=6.3						

IDC 12 23:37:38.2±1.9,44°.73S×37°.97E,h0km,mb3.8/3, mbtmp3.8/3,MS3.7/1,Error ellipse: s-maj=61.7km s-min=47.6km az=164.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**30.60**	**320**	LR	LR	23 56 30.4	
	comp=Z,128nm,19.7s,baz=186,slow=37						
QSPA	**South Pole Qui**	**45.48**	**180**	P	P	23 45 58.8	-0.1
	1.3nm,0.7s,baz=232,slow=4.4,SNR=7.2						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**77.74**	**111**	P	P	23 49 37.0	-0.1
	0.6nm,0.7s,baz=219,slow=5.0,SNR=5.8						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**80.59**	**109**	P	P	23 49 53.1	+0.3
	0.7nm,1.0s,baz=221,slow=4.9,SNR=3.5						
	0.7nm,1.0s						
TXAR	**Lajitas Array**	**146.09**	**256**	PKPbc	PKPdf	23 57 19.3	0.0
	1.5nm,0.7s,baz=137,slow=3.3,SNR=11						

IDC 12 23:38:04.9±2.0,44°.67S×37°.73E,h0km,mb3.9/3, mbtmp3.9/3,MS3.6/1,Error ellipse: s-maj=69.5km s-min=49.9km az=170.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**27.20**	**20**	LR	LR	23 51 57.1	
	comp=Z,114nm,20.3s,baz=326,slow=31						
QSPA	**South Pole Qui**	**45.55**	**180**	P	P	23 46 26.0	-0.1
	1.6nm,0.7s,baz=240,slow=5.3,SNR=2.9						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**77.92**	**111**	P	P	23 50 05.1	+0.2
	0.6nm,0.6s,baz=223,slow=5.9,SNR=4.7						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**80.78**	**109**	P	P	23 50 20.4	-0.1
	1.0nm,0.9s,baz=219,slow=4.2,SNR=4.6						
	1.0nm,0.9s						
TXAR	**Lajitas Array**	**145.93**	**257**	PKPbc	PKPdf	23 57 45.6	-0.1
	2.5nm,0.9s,baz=142,slow=5.9,SNR=7.0						

DJA 12 23:39:13.2±1.0,2°.S±2°×12°.8E±°,h23km±10km,M4.3/10, mb5.0/2,MLv3.9/10,MwMwp5.0/1,Mwp5.3/1,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.22**	**147**	P	Pb	23 39 35.3	-0.3
MSAI				S	Sb

UDBS	Universidad Do	0.58	19	P	Pn	23 40 35.2	-0.1
UDBS	Universidad Do	0.58	19	S	Sn	23 40 44.9	+0.8
PIC2	El Picacho	0.58	8	eP	Pn	23 40 35.7	+0.1
LFU	La Fuente	0.62	21	eP	Pn	23 40 36.0	+0.2
CEDA	San Andres	0.64	356	S	Sn	23 40 45.8	+0.4
COEG	Centro de Oper	0.64	45	eP	Pn	23 40 35.5	-0.5
COEG				IAML		23 40 47.4	
	comp=Z,505nm,0.2s						
COEG	Centro de Oper	0.64	45	P	Pn	23 40 35.6	-0.5
COEG	Centro de Oper	0.64	45	S	Sn	23 40 45.2	-0.3
TECO	Alcaldia de Te	0.66	56	eP	Pn	23 40 35.5	-0.8
TECO	Alcaldia de Te	0.66	56	P	Pn	23 40 35.5	-0.8
TECO	Alcaldia de Te	0.66	56	S	Sn	23 40 45.8	-0.1
SNVI	San Vicente	0.66	48	eP	Pn	23 40 35.7	-0.7
PAVA	Las Pavas	0.68	36	eP	Pn	23 40 36.3	-0.2
PAVA	Las Pavas	0.68	36	P	Pn	23 40 36.4	-0.2
PAVA	Las Pavas	0.68	36	S	Sn	23 40 46.8	+0.4
PAVA	Las Pavas	0.68	36	P	Pn	23 40 36.5	-0.2
CEVE	Cerro Verde	0.71	338	eP	Pn	23 40 37.8	+0.6
CEVE				IAML		23 40 52.2	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	0.71	338	S	Sn	23 40 47.6	+0.1
CEVE	Cerro Verde	0.71	338	P	Pn	23 40 37.6	+0.4
UESV	Universidad de	0.72	49	S	Sn	23 40 47.2	0.0
UESV	Universidad de	0.72	49	P	Pn	23 40 36.5	-0.5
SBLS	San Blas	0.72	338	eP	Pn	23 40 37.7	+0.4
ALJI	Alcalda de J	0.77	78	S	Sn	23 40 48.8	+0.4
ALJI	Alcalda de J	0.77	78	P	Pn	23 40 37.9	+0.2
RTR	El Retiro	0.79	338	eP	Pn	23 40 38.5	+0.4
SCLA	Alcaldia de Sa	0.80	48	eP	Pn	23 40 38.0	-0.2
SCLA	Alcaldia de Sa	0.80	48	P	Pn	23 40 38.1	-0.2
SCLA	Alcaldia de Sa	0.80	48	S	Sn	23 40 49.9	+0.6
SCLA	Alcaldia de Sa	0.80	48	P	Pn	23 40 38.2	0.0
UNIC	Universidad Ca	0.84	346	P	Pn	23 40 38.4	-0.3
UNIC	Universidad Ca	0.84	346	S	Sn	23 40 50.2	+0.2
NUBE	Las Nubes	0.85	330	eP	Pn	23 40 38.7	-0.2
NUBE	Las Nubes	0.85	330	P	Pn	23 40 38.7	-0.2
NUBE	Las Nubes	0.85	330	S	Sn	23 40 50.7	+0.3
NUBE	Las Nubes	0.85	330	P	Pn	23 40 38.7	-0.2
NUBE	Las Nubes	0.85	330	i P	Pn	23 40 38.7	-0.2
NUBE				i S	Sn	23 40 50.7	+0.3
NUBE	Las Nubes	0.85	330	i P		23 40 38.7	
NUBE				i S		23 40 50.7	
TECA	Tecapa	0.88	68	eP	Pn	23 40 38.8	-0.6
PQSS	Presa 15 de Se	0.89	59	eP	Pn	23 40 38.9	-0.4
PQSS	Presa 15 de Se	0.89	59	P	Pn	23 40 38.9	-0.4
PQSS	Presa 15 de Se	0.89	59	S	Sn	23 40 51.4	+0.2
FAME	Alcaldia de Sa	0.94	316	S	Sn	23 40 52.0	-0.4
SLOZ	Alcaldia de Sa	0.96	334	P	Pn	23 40 40.2	-0.1
SLOZ	Alcaldia de Sa	0.96	334	S	Sn	23 40 52.9	0.0
PACA	Pacayal	1.04	73	eP	Pn	23 40 41.8	+0.4
PACA	Pacayal	1.04	73	P	Pn	23 40 41.9	+0.4
PACA	Pacayal	1.04	73	S	Sn	23 40 54.8	-0.2
PACA	Pacayal	1.04	73	P	Pn	23 40 42.0	+0.6
LCY	Lacayo	1.05	76	eP	Pn	23 40 41.6	+0.1
RANC	El Ranchito	1.06	75	P	Pn	23 40 41.9	+0.2
RANC	El Ranchito	1.06	75	S	Sn	23 40 56.5	+0.9
LLGN	La Laguna	1.07	21	P	Pn	23 40 41.2	-0.6
LLGN	La Laguna	1.07	21	S	Sn	23 40 56.5	+0.9
BLLM	Bellamira	1.11	75	eP	Pn	23 40 42.2	-0.2
MTO3	Montecristo	1.23	359	eP	Pn	23 40 43.6	-0.4
MTO3	Montecristo	1.23	359	P	Pn	23 40 43.7	-0.4
MTO3	Montecristo	1.23	359	P	Pn	23 40 43.3	-0.8
MTO3	Montecristo	1.23	359	S	Sn	23 40 59.7	0.0
MTO3	Montecristo	1.23	359	i P	Pn	23 40 43.7	-0.4
MTO3	Montecristo	1.23	359	i P		23 40 43.7	
CAHU	Cacacuatique	1.26	61	eP	Pn	23 40 43.9	-0.5
CNCH	Conchagua	1.48	85	eP	Pn	23 40 46.9	-0.4
CNCH	Conchagua	1.48	85	S	Sn	23 41 05.5	0.0
CNCH	Conchagua	1.48	85	P	Pn	23 40 47.1	-0.2

DJA 12 23:44:12.0±0.5, 7°S±3°×10°4E±°, h10km, M4.1/9, mb4.5/2, MLv3.9/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	1.76	5	P	Pn	23 44 42.5	-0.2
LWLI				S	Sn	23 45 05.1	-0.1
CGJI	Cibinong	1.80	85	P	Pn	23 44 43.0	-0.1
BLSI	Bandar Lampung	1.95	44	P	Pb	23 44 46.6	-1.0
BLSI				S	Sn	23 45 08.9	-0.8
MDSI	Maura Dua	2.30	7	P	Pn	23 44 49.7	-0.3
MDSI				S	Sn	23 45 19.8	+1.5
MNAI	Manna	2.58	339	P	Pn	23 44 53.9	+0.1
CNJI	Cibinong	3.26	99	P	Pn	23 45 02.7	-0.5
UGM	Wanagama	6.67	100	P	Pn	23 45 51.2	+1.0
	54nm,1.5s						
PCJI	Pacitan	7.36	101	P	Pn	23 46 00.7	+1.1

NEIC 12 23:45:05.5±0.7, 35°.740N±0°.008×97°.57W±0°.01, h5km±1km, mb_Lg2.4/27, ML2.6/48, Error ellipse: s-maj=2.5km s-min=1.5km az=63.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.11	58	Pg	Pg	23 45 08.4	+0.7
OK029				Sg	Sg	23 45 10.4	+1.1
OK029				IAML		23 45 10.6	
	3μm,0.1s						
OK029				IAML		23 45 10.6	
	4μm,0.3s						
ADOK	Arcadia Dam	0.18	119	Pg	Pg	23 45 09.1	+0.1
ADOK				Sg	Sg	23 45 12.6	+1.1
OK009	Oakdale Elemen	0.20	143	Pg	Pg	23 45 09.8	+0.5
OKCSW	OKLAHOMA CITY	0.35	163	Pg	Pg	23 45 12.6	+0.4
OKCSW				Sg	Sg	23 45 18.1	+1.2
FNO	Franklin	0.50	164	Pg	Pg	23 45 15.4	+0.3
FNO				Sg	Sg	23 45 22.7	+1.1
FNO				IAML		23 45 25.4	
	comp=E,288nm,0.4s						
OK031	S. Brethren Rd	0.63	70	Pg	Pg	23 45 17.7	+0.2
OK031				Sg	Sg	23 45 26.5	+0.8
OK052	Battle Ridge R	0.67	68	Pg	Pg	23 45 18.6	+0.3
OK052				Sg	Sg	23 45 27.4	+0.4
OK052				IAML		23 45 28.2	
	comp=E,221nm,0.3s						
W35A	Tecumseh	0.81	136	Pg	Pg	23 45 20.9	-0.2
W35A				Sg	Sg	23 45 32.1	+0.4
W35A				IAML		23 45 34.8	
	comp=E,211nm,0.5s						
W35A				IAML		23 45 36.9	
	comp=N,175nm,0.5s						
QUOK	Quay	0.82	58	Pg	Pg	23 45 21.3	+0.1
QUOK				Sg	Sg	23 45 31.3	-0.6
QUOK				IAML		23 45 36.9	
	comp=N,181nm,0.2s						
QUOK				IAML		23 45 41.5	
	comp=E,150nm,0.2s						
CROK	Carrier	0.83	336	Pg	Pg	23 45 21.4	-0.1
OK048	Pawnee Station	0.84	37	Pg	Pg	23 45 21.6	-0.1
OK048				IAML		23 45 35.1	
	comp=E,149nm,0.1s						
CSTR	Hydro, Custer	0.92	264	Pg	Pg	23 45 23.2	+0.1
OK051	E0350 and S346	0.97	38	Pg	Pg	23 45 23.7	-0.3
OK051				IAML		23 45 39.6	
	comp=E,298nm,0.2s						
OK051				IAML		23 45 39.9	
	comp=E,268nm,0.2s						
GC02	Grant County #	1.14	348	Pg	Pg	23 45 26.8	-0.4
X34A	Smith Ranch, M	1.16	191	Pg	Pg	23 45 27.4	-0.2
X34A				IAML		23 45 45.5	
	comp=N,168nm,0.3s						
X34A				IAML		23 45 45.5	
	comp=E,146nm,0.2s						
OK032	Salt Plains WL	1.18	334	Pg	Pg	23 45 27.8	-0.4
OK038	West end E0370	1.20	308	Pg	Pg	23 45 27.9	-0.6
KAN14	Manchester OK	1.26	345		Pg	23 45 29.2	-0.4
KAN13	South Haven SW	1.27	3		Pg	23 45 29.7	-0.2
KAN17	Caldwell West	1.31	353		Pn	23 45 30.1	-0.4
KAN05	Bluff City Nor	1.39	350		Pn	23 45 31.0	-0.5
WMOK	Wichita Mounta	1.41	225		Pn	23 45 31.4	-0.5
WMOK	Wichita Mounta	1.41	225	Pn	Pn	23 45 31.7	-0.1
KAN01	Argonia South	1.42	354		Pb	23 45 32.2	-0.2
NOKA	Waynoka	1.42	309		Pn	23 45 31.4	-0.6
T35A	Sooner Cattle	1.45	36		Pn	23 45 31.8	-0.6
TUL3	Leonard	1.45	83		Pn	23 45 31.8	-0.6
KAN08	Anthony NE Sta	1.52	348	IAmb_Lg		23 45 54.1	
	comp=Z,15nm,0.8s						
ELIS	Ellis County	1.54	283		Pn	23 45 33.5	-0.1
KAN12	Harper NE Stat	1.59	348		Pn	23 45 33.8	-0.6
LOOK	Love County	1.77	170	Pn	Pn	23 45 36.6	-0.2
WTFS	Witchita Falls	2.10	201	Pn	Pn	23 45 40.5	-0.8
WTFS				IAmb_Lg		23 46 16.4	
	comp=Z,15nm,0.8s						
SMWD	Samnorwood	2.28	255	Pn	Pn	23 45 43.2	-0.5
SMWD				IAmb_Lg		23 46 16.8	
	comp=Z,11nm,0.8s						
KSU1	Kansas State U	3.44	13	IAmb_Lg		23 46 59.1	
	comp=Z,13nm,1.2s						
MIAR	Mount Ida	3.48	109	Pn	Pn	23 45 58.4	-1.9
CBKS	Cedar Bluff	3.52	331	IAmb_Lg		23 47 00.9	
	comp=Z,16nm,0.8s						
SN07	Snyder 07	3.81	227	Pn	Pn	23 46 03.7	-1.2
X40A	Basin Creek Fa	4.08	106	IAmb_Lg		23 47 20.6	
	comp=Z,13nm,0.8s						
WLAR	White Oak Lake	4.20	118	IAmb_Lg		23 47 27.6	
	comp=Z,6.3nm,0.8s						
POST	Post	4.21	232	IAmb_Lg		23 47 27.8	
	comp=Z,8.8nm,0.7s						
FCAR	Ozark Folk Cen	4.42	86	IAmb_Lg		23 47 38.2	
	comp=Z,5.2nm,0.9s						
BRDY	Brady	4.60	195	Pn	Pn	23 46 16.6	+0.9
T42A	Van Buren	5.38	74	IAmb_Lg		23 48 03.7	
	comp=Z,4.1nm,0.8s						
JCT	Junction City	5.57	200	IAmb_Lg		23 48 17.2	
	comp=Z,7.9nm,0.8s						
PBMO	Poplar Bluff	5.86	78	IAmb_Lg		23 48 15.7	
	comp=Z,7.6nm,0.7s						
HNDO	Hondo	6.36	194	IAmb_Lg		23 48 37.6	
	comp=Z,5.7nm,0.8s						
SDCO	Great Sand Dun	6.68	290	Pn	Pn	23 46 45.2	+0.7
DRIO	Del Rio	6.80	203	IAmb_Lg		23 48 41.4	
	comp=Z,3.0nm,0.7s						

IDC 12 23:46:56.0±13.0, 2°.56S×101°.51E, h140km±117km, mb3.3/8, mbtmp3.8/8, MS3.8/1, Error ellipse: s-maj=117.7km s-min=15.6km az=56.0
DJA 12 23:47:00.6±0.6, 2°S±8°×10°2E±1°0, h159km±6km, M4.2/9, mB5.1/2, mb4.5/3, MLv4.0/9, Mw(mB)4.4/2
ISC 12 23:47:00.1±0.8, 2°.1S±0°.1×102°.2E±0°.1, h150km, n20, σ1§19/18, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.62	167	P	Pn	23 47 30.9	-0.2
MNAI	Manna	2.40	162	P	Pn	23 47 40.8	+0.8
MNAI				S	Sn	23 48 11.9	+1.1
PPI	Padang Panjang	2.42	311	P	Pn	23 47 41.0	+0.8
PPI				S	Sn	23 48 12.6	+1.4
MDSI	Maura Dua	3.10	141	P	Pn	23 47 50.9	+2.1
SISI	Saibi	3.21	283	P	Pn	23 47 50.7	+0.5
PBSI	Pulau Batu	4.41	297	P	Pn	23 48 05.8	0.0
GSI	Gunungsitoli	5.72	306	P	Pn	23 48 23.4	+0.3
SNSI	Sinabang, Aceh	7.38	307	P	Pn	23 48 44.9	-0.3
	0.2nm23nm,0.9s						
CMAR	Chiang Mai Arr	20.64	351	P	P	23 51 28.9	+0.8
	0.7nm,0.4s,baz=168,slow=8.9,SNR=5.4						
	0.7nm,0.4s						
FITZ	Fitzroy Crossi	27.96	126	LR	LR	00 06 36.3	
	comp=Z,177nm,18.8s,baz=146,slow=42						
H08S2	Diego Garcia H	30.12	258	T	T	00 23 18.3	
	baz=87						
H08S3	Diego Garcia H	30.13	258	T	T	00 23 13.0	
	baz=87						
H08S1	Diego Carcia H	30.14	258	T	T	00 23 21.2	
	baz=87						
WRA	Warramunga Arr	36.06	122	P	P	23 53 46.2	-1.3
	0.3nm,0.4s,baz=299,slow=12,SNR=5.6						
	0.3nm,0.4s						
ASAR	Alice Springs	37.44	128	P	P	23 53 58.8	-0.4
	0.9nm,0.4s,baz=306,slow=8.1,SNR=10.0						
	0.9nm,0.4s						
SONM	Songino Array	49.83	4	P	P	23 55 38.9	+1.0
	0.8nm,0.5s,baz=183,slow=7.7,SNR=8.7						
	0.8nm,0.5s						
MKAR	Makanchi Array	51.72	343	P	P	23 55 50.8	-1.1
	0.9nm,0.6s,baz=146,slow=8.3,SNR=15						
	0.9nm,0.6s						
KURBB	Kurchatov Arra	56.26	342	P	P	23 56 23.4	-1.4
	0.7nm,0.7s,baz=159,slow=6.5,SNR=6.3						
	0.7nm,0.7s						
ZALV	Zalesovo Beam	57.66	348	P	P	23 56 33.6	-0.9
	0.7nm,0.5s,baz=159,slow=7.0,SNR=4.2						
	0.7nm,0.5s						
BVAR	Borovoye Array	61.03	339	P	P	23 56 55.6	-2.1
	0.7nm,0.6s,baz=142,slow=7.2,SNR=3.1						
	0.7nm,0.6s						

IDC 12 23:56:00.2±0.9, 7°.34N×127°.17E, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/2, Error ellipse: s-maj=22.2km s-min=20.1km az=75.0
NEIC 12 23:56:08.9±1.2, 7°.1N±0°.1×126°.89E±0°.08, h56km±9km, mb4.2/18, Error ellipse: s-maj=17.3km s-min=7.6km az=216.0
ISC 12 23:56:08.4±0.7, 7°.11N±0°.10×126°.99E±0°.09, h60km, n33, σ1§42/33, mb4.1/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.40	268		Pn	23 56 30.8	-1.0
DAV	Davao City (W)	1.40	268	Pn	Pn	23 56 30.9	-0.9
	122nm,0.3s,baz=82,slow=14,SNR=12						
DAV				Sn	Sn	23 56 51.0	+1.6
	176nm,0.3s,baz=85,slow=22,SNR=12						
TOLI2	Tolitoli	8.59	226	Pn	Pn	23 58 08.2	-2.1
SBUM	Sibu	15.43	253	P	P	23 59 47.7	+1.8
MTN	Manton Dam	20.25	168	P	P	00 00 38.3	-0.6
MTN				IAmb	IAmb	00 00 47.5	
	comp=Z,11nm,1.1s						
KNRA	Kununurra	22.71	176	P	P	00 01 05.2	-0.2
KNRA				IAmb	IAmb	00 01 12.4	
	comp=Z,17nm,1.1s						
FITZ	Fitzroy Crossi	25.09	183	P	P	00 01 27.7	+0.1
WB0	Warramunga Arr	27.69	165	P	P	00 01 50.5	-0.6
WB0				IAmb	IAmb	00 02 31.9	
	comp=Z,7.5nm,1.4s						
WRA	Warramunga Arr	27.84	165	P	P	00 01 52.2	-0.2
WRA	Warramunga Arr	27.84	165	P	P	00 01 53.1	+0.7
	comp=Z,0.3nm,0.5s,baz=343,slow=11,SNR=9.4						
	comp=Z,0.3nm,0.5s						
MJAR	Matsushiro Arr	31.03	18	LR	LR	00 12 48.4	
	comp=Z,52nm,21.7s,baz=134,slow=33						
ASAR	Alice Springs	31.33	168	P	P	00 02 23.7	+0.4
	comp=Z,0.3nm,0.4s,baz=350,slow=7.6,SNR=4.8						
ASAR				PcP	PcP	00 05 16.9	+0.5
	comp=Z,0.5nm,0.5s,baz=346,slow=2.6,SNR=6.3						
	comp=Z,0.3nm,0.4s						
FORT	Forrest	37.69	178	P	P	00 03 18.9	+0.8
PALK	Pallekele	45.91	273	LR	LR	00 24 36.2	
	comp=Z,90nm,20.0s,baz=155,slow=37						
PETK	Petropavlovsk-	52.23	23	P	P	00 05 14.4	+1.1
PETK	Petropavlovsk-	52.23	23	P	P	00 05 10.1	-3.2
	comp=Z,8.8nm,1.1s,baz=227,slow=5.7,SNR=3.9						
	comp=Z,8.8nm,1.1s						
MK31	Makanchi Array	54.97	324	P	P	00 05 32.0	-1.5
MK31				IAmb	IAmb	00 05 33.5	
	comp=Z,1.4nm,1.0s						
MKAR	Makanchi Array	54.97	324	P	P	00 05 31.9	-1.6
MKAR	Makanchi Array	54.97	324	P	P	00 05 32.6	-0.9
	comp=Z,0.9nm,0.7s,baz=122,slow=8.2,SNR=12						
	comp=Z,0.9nm,0.7s						
MAKZ	Makanchi	55.16	324	P	P	00 05 33.7	-1.2
KURBB	Kurchatov Arra	59.07	326	P	P	00 06 00.6	-1.8
	comp=Z,0.6nm,0.7s,baz=128,slow=6.2,SNR=6.4						
	comp=Z,0.6nm,0.7s						
KKAR	Karatay Array	60.98	316	P	P	00 06 14.5	-1.2
M16K	Timber Creek	76.10	29	P	P	00 07 50.8	+1.3
D19K	Kuna River	77.90	21	P	P	00 08 00.7	+1.2
D19K				IAmb	IAmb	00 08 30.3	
	comp=Z,3.7nm,1.4s						
B21K	Ikpikpuk River	79.33	20	P	P	00 08 08.9	+1.5
B21K				IAmb	IAmb	00 08 09.7	
	comp=Z,1.8nm,0.8s						
D23K	Nanushuk River	80.65	21	P	P	00 08 15.6	+1.1
D23K				IAmb	IAmb	00 08 30.7	
	comp=Z,3.5nm,1.2s						
I23K	Minto, Yukon-K	80.92	25	P	P	00 08 17.9	+1.9
I23K				IAmb	IAmb	00 08 48.4	
	comp=Z,8.2nm,1.5s						
ILAR	Eielson Array	81.96	26	P	P	00 08 20.6	-0.9
	comp=Z,0.4nm,0.6s,baz=250,slow=5.9,SNR=3.8						
	comp=Z,0.4nm,0.6s						
RIDG	Independent Ri	82.86	27	P	P	00 08 27.2	+0.9
J26L	Joseph Creek	83.39	26	P	P	00 08 30.1	+1.0
J26L				IAmb	IAmb	00 08 52.6	
	comp=Z,7.1nm,1.4s						
K27K	Chicken	84.07	26	P	P	00 08 35.0	+2.5
I28M	Miner Creek	84.86	25	P	P	00 08 38.4	+1.8
I28M				IAmb	IAmb	00 08 39.5	
	comp=Z,2.8nm,0.7s						
YKA	Yellowknife Ar	96.33	24	P	P	00 09 31.1	+0.7
	comp=Z,0.2nm,0.7s,baz=298,slow=5.5,SNR=4.4						
	comp=Z,0.2nm,0.7s						

SDD 13 00:10:17.9±2.4, 18°.62N×70°.39W, h109km±21km, MD3.0, ML2.5, MW3.0
OSPL 13 00:10:17.2±1.4, 18°.91N×70°.22W, h101km±48km, ML2.0
ISC 13 00:10:18.8±2.3, 18°.8N±0°.1×70°.36W±0°.05, h95km±16km, n9, σ0§97/16, 9C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABDR	Alto Bandera	0.25	268	⇑ePg	Pn	00 10 32.9	-0.1
ABDR				⇑eSg	Sn	00 10 45.5	+1.9
ABDR				IAML		00 10 46.3	
	comp=N,61nm,0.2s						
DR08	Loma La Naviza	0.35	66	⇑ePg	Pn	00 10 32.4	-0.8
DR08				⇑eSg	Sn	00 10 44.0	+0.2
DR08				IAML		00 10 46.5	
	comp=N,2μm,0.1s						
BANI	BANI	0.43	180	⇑ePg	Pn	00 10 32.2	-1.5
BANI				IAML		00 10 48.5	
	comp=N,88nm,0.3s						
SDDR	Presa de Saban	0.89	281	⇑ePg	Pn	00 10 37.6	-0.2
SDDR				⇑eSg	Sn	00 10 51.8	-0.2
SDDR				IAML		00 10 56.9	
	comp=N,20nm,1.4s						
SDDR	Presa de Saban	0.89	281	i P	Pn	00 10 37.6	-0.2
SDDR				eS	Sn	00 10 51.5	-0.5
SDDR				IAML		00 10 52.0	
	comp=Z,15nm,1.4s						
LONE3	El Aguacate, B	1.06	258	i P	Pn	00 10 39.1	-0.6
LONE3				eS	Sn	00 10 54.9	-0.5
LONE3				IAML		00 10 57.2	
	comp=Z,8.2nm,2.8s						
PODR	Polo	1.09	233	i P	Pn	00 10 39.9	-0.2
PODR				eS	Sn	00 10 57.6	+1.5
LODU1	El Espartillar	1.15	246	i P	Pn	00 10 40.7	+0.1
LODU1				IAML		00 10 59.3	
	comp=Z,63nm,2.3s						
MIDR	Miches	1.25	82	⇑ePg	Pn	00 10 41.5	-0.3
MIDR				⇑eSg	Sn	00 11 00.2	+1.1
MIDR				IAML		00 11 45.0	
	comp=N,22nm,2.3s						

GII 13 00:13:45.6±0.0, 35°.054N±0°.004×34°.076E±0°.001, h10km, Mws2.3, confirmed
NIC 13 00:13:46.2, 35°.20N×33°.89E, h52km±1km, Ml2.1/8
ATH 13 00:13:47.6, 35°.10N×33°.81E, h42km±16km, ML2.0/6, Manual Solution by M.Charalampakis First location: 2019/03/13 00:14:49, This location: 2019/03/13 05:32:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 30 km; Longitude uncertainty: 78 km
GRAL 13 00:13:47.0±0.6, 35°.08N×33°.96E, h34km±132km, MD3.1
AFAD 13 00:13:47.0, 35°.35N×33°.72E, h38km±6km, ML2.0
ISK 13 00:13:47.7, 35°.36N×33°.69E, h18km, ML2.3/19
ISC 13 00:13:45.8±1.2, 35°.18N±0°.03×33°.97E±0°.03, h55km±6km, n94, σ0§84/114, 4C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAR1C	Paralimni Civi	0.14	179	P	Pn	00 13 54.7	+0.3
PAR1C				S	Sn	00 14 01.6	+1.0
PARAL	Paralimni	0.19	163	P	Pn	00 13 55.1	+0.5
PARAL				S	Sn	00 14 01.9	+1.0
PARAL				AML	AML	00 14 02.3	
	1.1nm,0.4s						
PARAL				AML	AML	00 14 08.4	
	0.5nm,0.7s						
MVOU	Mavrovouni	0.32	240	⇑iP	Pn	00 13 55.1	-0.5
MVOU				S	Sn	00 14 02.2	-0.4
MVOU				AML	AML	00 14 02.6	
	0.2nm,0.3s						
MVOU				AML	AML	00 14 02.6	
	0.4nm,0.2s						
MVOU	Mavrovouni	0.32	240	P	Pn	00 13 55.0	-0.5
MVOU				S	Sn	00 14 00.7	-1.9
EREN	Erenkoy	0.39	24	Pg	Pn	00 13 57.2	+0.9
EREN	Erenkoy	0.39	24	P	Pn	00 13 57.1	+0.9
EREN				i AML	AML	00 14 07.0	
	comp=E,271nm,0.8s						
EREN				i AML	AML	00 14 10.0	
	comp=N,167nm,0.7s						
AKIN	Akıncılar- Kıb	0.45	249	Pg	Pn	00 13 56.1	-0.7
ATHAL	Athalassa	0.47	266	iP	Pn	00 13 57.0	-0.1
ATHAL				S	Sn	00 14 05.1	-0.1
ATHAL				AML	AML	00 14 07.1	
	0.7nm,0.5s						
ATHAL				AML	AML	00 14 08.5	
	0.5nm,0.4s						
CSS	Mathiatis	0.57	248	Pg	Pn	00 13 57.6	-0.6
CSS				Sg	Sn	00 14 05.8	-1.4
CSS	Mathiatis	0.57	248	P	Pn	00 13 57.6	-0.6
CSS				S	Sn	00 14 06.8	-0.4
CSS	Mathiatis	0.57	248	⇑iP	Pn	00 13 57.6	-0.6
CSS				S	Sn	00 14 06.8	-0.4
CSS				AML	AML	00 14 07.9	
	0.2nm,0.5s						
CSS				AML	AML	00 14 08.2	
	0.2nm,0.4s						
CSS	Mathiatis	0.57	248	P	Pn	00 13 57.5	-0.6
CSS	Mathiatis	0.57	248	P	Pn	00 13 57.3	-0.9
ASGA	Asgata	0.71	237	P	Pn	00 14 00.2	+0.3
ASGA				S	Sn	00 14 10.9	+0.7
ASGA				AML	AML	00 14 12.1	
	0.2nm,0.8s						
ASGA				AML	AML	00 14 14.2	
	0.1nm,0.4s						
ASGA	Asgata	0.71	237	P	Pn	00 13 59.7	-0.3
AKDN	Akdeniz

TEVE	**Tevekalti-Mers**	**1.33 341**	Pn	**Pn**	**00 14 08.9**	**+0.7**
AKMS	**Akamas**	**1.35 264**	P	**Pn**	**00 14 08.9**	**+0.5**
AKMS			S	**Sn**	**00 14 26.0**	**+0.7**
AKMS			AML	AML	00 14 30.4	
	0.1nm,0.6s					
AKMS	**Akamas**	**1.35 264**	P	**Pn**	**00 14 08.5**	**+0.1**
GAZI	**Gazipasa**	**1.71 309**	Pn	**Pn**	**00 14 13.4**	**+0.1**
GAZI	**Gazipasa**	**1.71 309**	P	**Pn**	**00 14 13.0**	**-0.3**
GAZI			*i* AML	AML	00 14 34.0	
	comp=N,40nm,0.4s					
GAZI			*i* AML	AML	00 14 56.0	
	comp=E,29nm,1.1s					
HWQ	**Hawqa**	**1.86 118**	*e*P	**Pn**	**00 14 15.8**	**+0.4**
HWQ			*e*S	**Sn**	**00 14 36.0**	**-1.7**
BHL	**Bhannes**	**1.88 132**	*e*P	**Pn**	**00 14 14.9**	**-0.8**
BEIL	**Beino**	**1.93 109**	*e*P	**Pn**	**00 14 16.2**	**0.0**
BEIL			*e*S	**Sn**	**00 14 38.1**	**-1.2**
DQRL	**Deir Qamar**	**1.97 138**	*e*P	**Pn**	**00 14 16.4**	**-0.5**
ZAHL	**Zahle**	**2.06 129**	*e*P	**Pn**	**00 14 17.8**	**-0.3**
HDMB	**Hadim**	**2.15 326**	Pn	**Pn**	**00 14 19.9**	**+0.4**
KKBE	**Karaman, Kazim**	**2.20 338**	P	**Pn**	**00 14 21.9**	**+1.8**
KERG	**Konya-Eregli**	**2.24 3**	P	**Pn**	**00 14 22.3**	**+1.7**
RCY	**Rachaya**	**2.28 137**	*e*P	**Pn**	**00 14 20.8**	**-0.4**
RCY			*e*S	**Sn**	**00 14 45.7**	**-2.4**
SHBL	**Chebaa**	**2.34 141**	*e*P	**Pn**	**00 14 21.5**	**-0.5**
RHAN	**Hatay/Reyhanl**	**2.40 62**	P	**Pn**	**00 14 20.9**	**-1.8**
NATI	**Neve Ativ**	**2.40 142**	P	**Pn**	**00 14 23.0**	**+0.3**
NATI	**Neve Ativ**	**2.40 142**	S	**Sn**	**00 14 50.6**	**-0.3**
NATI	**Neve Ativ**	**2.40 142**	P	**Pn**	**00 14 23.1**	**+0.4**
GEM	**Giv'at Ha'Em**	**2.41 144**	P	**Pn**	**00 14 23.0**	**+0.2**
GEM	**Giv'at Ha'Em**	**2.41 144**	S	**Sn**	**00 14 50.1**	**-1.0**
GEM	**Giv'at Ha'Em**	**2.41 144**	P	**Pn**	**00 14 23.0**	**+0.2**
MMC1	**Mount Meron ar**	**2.45 151**	P	**Pn**	**00 14 23.1**	**-0.3**
MMC7	**Mount Meron ar**	**2.45 151**	P	**Pn**	**00 14 23.0**	**-0.4**
MMA0B	**Mount Meron ar**	**2.46 151**	P	**Pn**	**00 14 23.1**	**-0.5**
MMA0B	**Mount Meron ar**	**2.46 151**	S	**Sn**	**00 14 52.0**	**-0.4**
MMB1	**Mount Meron ar**	**2.46 151**	P	**Pn**	**00 14 23.2**	**-0.4**
HASA	**Hatay-Hassa-Ha**	**2.58 52**	P	**Pn**	**00 14 24.9**	**-0.2**
KEPZ	**Antalya-Kepez**	**2.58 313**	P	**Pn**	**00 14 26.4**	**+1.2**
KEPZ			*i* AML	AML	00 14 55.0	
	comp=E,22nm,1.3s					
KEPZ			*i* AML	AML	00 14 59.0	
	comp=N,13nm,0.7s					
BLGI	**Bet Lehem HaGe**	**2.64 157**	P	**Pn**	**00 14 25.7**	**-0.2**
KSHT	**Keshet**	**2.67 145**	P	**Pn**	**00 14 27.1**	**+0.7**
KSHT	**Keshet**	**2.67 145**	S	**Sn**	**00 14 57.9**	**+0.3**
OFRI	**`Ofer**	**2.68 161**	P	**Pn**	**00 14 26.9**	**+0.3**
OFRI	**`Ofer**	**2.68 161**	S	**Sn**	**00 14 57.6**	**-0.3**
OFRI	**`Ofer**	**2.68 161**	P	**Pn**	**00 14 27.6**	**+1.0**
SHMJ	**Saham**	**2.86 148**	P	**Pn**	**00 14 28.7**	**-0.3**
MMLI	**Mount Malkishu**	**2.98 156**	P	**Pn**	**00 14 31.4**	**+0.7**
MMLI	**Mount Malkishu**	**2.98 156**	S	**Sn**	**00 15 05.6**	**+0.3**
MMLI	**Mount Malkishu**	**2.98 156**	P	**Pn**	**00 14 30.4**	**-0.3**
SLTI	**Sal'it**	**3.06 163**	P	**Pn**	**00 14 31.9**	**+0.2**
QRNJ	**Al-Qirein**	**3.13 154**	P	**Pn**	**00 14 32.4**	**-0.2**
HMDT	**Nahal Hemdat**	**3.19 156**	P	**Pn**	**00 14 34.3**	**+0.8**
HMDT	**Nahal Hemdat**	**3.19 156**	S	**Sn**	**00 15 11.0**	**+0.7**
HMDT	**Nahal Hemdat**	**3.19 156**	P	**Pn**	**00 14 33.5**	**0.0**
SALP	**Salfit**	**3.26 161**	P	**Pn**	**00 14 34.8**	**+0.3**
AMAZ	**Amatzia**	**3.72 167**	P	**Pn**	**00 14 41.3**	**+0.5**
AMAZ	**Amatzia**	**3.72 167**	S	**Sn**	**00 15 23.4**	**+0.1**
AMAZ	**Amatzia**	**3.72 167**	P	**Pn**	**00 14 41.3**	**+0.5**
DSI	**Dead Sea**	**3.78 161**	P	**Pn**	**00 14 42.4**	**+0.7**
DSI	**Dead Sea**	**3.78 161**	P	**Pn**	**00 14 42.1**	**+0.5**
YTIR	**Yattir**	**3.92 166**	P	**Pn**	**00 14 44.7**	**+1.1**
LISJ	**El Lisan**	**4.12 162**	P	**Pn**	**00 14 46.9**	**+0.7**
KZIT	**Kziot**	**4.27 175**	P	**Pn**	**00 14 49.4**	**+1.1**
KZIT	**Kziot**	**4.27 175**	P	**Pn**	**00 14 49.9**	**+1.6**
PRNI	**Paran**	**4.89 169**	P	**Pn**	**00 14 58.0**	**+1.2**
HRFI	**Mount Harif**	**5.20 170**	P	**Pn**	**00 15 01.6**	**+0.5**

MEX ***13*** *00:44:37.0±0.5, 14°.16N×92°.46W, h64km±24km, MD4.0*
GCG ***13*** *00:44:38.8±0.6, 14°.63N×92°.14W, h70km±4km, MD4.1*
ISC 13 00:44:34.6±2.0, 14°.2N±0°.1×92°.44W±0°.04, h27km±15km, n13, σ1§91/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.75**	**28**	*e*P	**Pn**	**00 44 49.6**	**+0.2**
SMCA				*i* S	**Sb**	**00 44 58.2**	**-0.8**
SMCA	**Catarina**	**0.75**	**28**	*e*P		00 44 49.6	
SMCA				*i* S		00 44 58.2	
RTAL	**Retalhuleu**	**0.80**	**66**	*e*P	**Pb**	**00 44 51.1**	**+1.2**
RTAL				*e*S	**Sn**	**00 45 03.0**	**+2.0**
STG8	**El Palmar, Qui**	**1.09**	**76**	*i* P		00 44 52.7	
STG8				*i* S		00 45 04.2	
STG0	**El Palmar, Qui**	**1.09**	**78**	*i* P		00 44 52.8	
STG0				*i* S		00 45 04.1	
SOKI	**Kika Raxquin**	**1.18**	**58**	*e*P	**Pn**	**00 44 55.9**	**+0.2**
SOKI	**Kika Raxquin**	**1.18**	**58**	*e*P		00 44 55.9	
HUEH	**Huehuetenango**	**1.44**	**39**	*e*P	**Pn**	**00 45 00.0**	**+0.9**
HUEH				*e*S	**Sn**	**00 45 14.9**	**-2.4**
PCIG		**1.68**	**334**	*e*P	**Pn**	**00 45 03.3**	**+1.1**
PCIG				*e*S	**Sn**	**00 45 22.8**	**0.0**
APG	**El Apazote**	**2.08**	**67**	*e*P	**Pn**	**00 45 06.7**	**-1.2**
APG	**El Apazote**	**2.08**	**67**	*e*P		00 45 06.7	
CCIG	**Comitan**	**2.10**	**8**	*e*P	**Pn**	**00 45 08.0**	**-0.1**
CCIG				*e*S	**Sn**	**00 45 32.5**	**-0.9**
CARR	**Arriaga**	**2.48**	**325**	*e*P	**Pn**	**00 45 15.8**	**+2.5**
CARR				*e*S	**Sn**	**00 45 44.8**	**+2.1**
TGIG		**2.65**	**346**	*e*P	**Pn**	**00 45 16.6**	**+1.0**
NILT	**Santiago Nilte**	**3.15**	**319**	*e*P	**Pb**	**00 45 28.0**	**-2.0**
NILT				*e*S	**Sn**	**00 46 00.1**	**+0.8**
UXUV	**UXUV**	**3.51**	**332**	*e*P	**Pn**	**00 45 28.7**	**+1.3**
UXUV				*e*S	**Sn**	**00 46 07.4**	**-0.7**
CMIG	**Matias Romero**	**3.72**	**321**	*e*P	**Pn**	**00 45 32.9**	**+2.6**
CMIG				*e*S	**Sn**	**00 46 14.1**	**+0.9**
HUIG	**Huatulco**	**3.87**	**294**	*e*P	**Pn**	**00 45 33.7**	**+1.3**
HUIG				*e*S	**Sn**	**00 46 11.9**	**-5.1**

IGIL ***13*** *01:03:58.7, 37°.01N×5°.30W, h1km*
SFS ***13*** *01:03:59.2, 36°.99N×5°.25W, h8km, ML2.5/10, ML2.4/13, MLv2.4/13*
INMG ***13*** *01:03:59.9±2.0, 36°.97N×5°.28W, h14km±5km, ML2.1, Error ellipse: s-maj=3.0km s-min=2.7km az=5.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
MDD ***13*** *01:03:59.0±0.3, 37°.01N×5°.30W, h1km±3km, mb_Lg2.4/14, Error ellipse: s-maj=2.7km s-min=1.8km az=172.0*
CNRM ***13*** *01:04:00.1, 36°.72N×5°.38W, h3km, ML1.2*
ISC 13 01:03:57.9±0.8, 36°.94N±0°.02×5°.29W±0°.02, h15km±5km, n60, σ1§29/316, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.10**	**249**	Pg	**Pb**	**01 04 01.5**	**+0.2**
LIJA				Sg	**Sg**	**01 04 04.3**	**+0.8**
EXMOR	**Moron de la Fr**	**0.22**	**325**	Sg	**Sg**	**01 04 04.2**	**-2.1**
ESPR	**Espera**	**0.46**	**261**	Pg	**Pn**	**01 04 09.3**	**-0.6**
ESPR				Sg	**Sn**	**01 04 16.9**	**-0.8**
ESPR	**Espera**	**0.46**	**261**	⇑Pg	**Pn**	**01 04 09.3**	**-0.6**
ESPR				Sg	**Sb**	**01 04 15.3**	**+1.1**
ESPR				*i* Vmb_Lg		01 04 26.0	
EJIF	**Jimena Fronter**	**0.51**	**196**	Pg	**Pb**	**01 04 09.3**	**+0.8**
EJIF				Sg	**Sn**	**01 04 18.1**	**-0.9**
EMAL	**Malaga-Limoner**	**0.72**	**104**	Pg	**Pb**	**01 04 10.3**	**-1.8**
EMAL				Sg	**Sb**	**01 04 20.7**	**-0.9**
EGOR	**Sierra Gorda,**	**0.96**	**79**	Pg	**Pn**	**01 04 17.1**	**+0.1**
EGOR				Sg	**Sn**	**01 04 30.2**	**-0.3**
EGOR	**Sierra Gorda,**	**0.96**	**79**	Pg	**Pn**	**01 04 17.5**	**+0.5**
EGOR				Sg	**Sn**	**01 04 31.8**	**+1.4**
EGOR				*i* Vmb_Lg		01 04 34.6	
EXCBR	**El Cabril**	**1.14**	**355**	Pg	**Pb**	**01 04 19.4**	**+0.2**
EXCBR				Sg	**Sg**	**01 04 34.5**	**-0.3**
ECAB	**El Cabril**	**1.14**	**355**	Pg	**Pn**	**01 04 18.6**	**-0.7**
ECAB				Sg	**Sb**	**01 04 33.9**	**0.0**
ECAB	**El Cabril**	**1.14**	**355**	Pg	**Pb**	**01 04 19.2**	**-0.1**
ECAB				Sg	**Sb**	**01 04 33.7**	**-0.2**
ECAB				*i* Vmb_Lg		01 04 36.0	
SMIR	**Smir Dam**	**1.26**	**183**	P	**Pn**	**01 04 20.7**	**-0.2**
SMIR		

MDT				S	Sn	01 05 50.5	+1.3
MDT				S	Sn	01 05 50.5	+1.3
PVIS	Viseu	4.28	332	eSn	Sn	01 05 51.2	-1.0
MVO	Moncorvo	4.43	343	eSn	Sn	01 05 54.2	-1.7
MVO				eSg	Sg	01 06 16.4	-3.7
MVO				i AML	AML	01 06 18.6	
MVO				i AML	AML	01 06 22.1	
MVO				i AML	AML	01 06 29.8	
ETOR	Torete	4.62	32	Pn	Pn	01 05 06.9	-0.3
ETOR				Sn	Sn	01 05 58.0	-2.7
ETOR				Sg	Sg	01 06 23.3	-3.0
ETOR				i Vmb_Lg		01 06 30.9	

*CATAC **13** 01:30:17.3±0.4, 15°N±2°×8°7W±°, h1km, M3.8/15, MLv3.8/15, Error ellipse: s-maj=5.7km s-min=3.0km az=25.1, confirmed*
*GCG **13** 01:30:18.0±3.5, 15°37N×86°50W, h50km±999km, MD4.2*
ISC 13 01:30:15.5±1.4, 14°88N±0°06×86°61W±0°05, h10km, n50, σ1§48/53, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUSH	Yuscaran	0.95	194	S	Sb	01 30 46.0	-0.9
YUSH	Yuscaran	0.95	194	P	Pg	01 30 33.8	-0.1
TGUH	Tegucigalpa,Un	1.04	218	P	Pg	01 30 35.9	+0.2
TGUH				S	Sg	01 30 47.7	-1.6
TGUH	Tegucigalpa,Un	1.04	218	P	Pg	01 30 34.0	-1.6
RCVN	Varilla|2	1.35	163	S	Sg	01 30 58.7	-0.4
RCVN	Varilla|2	1.35	163	P	Pn	01 30 40.6	0.0
RCVN	Varilla|2	1.35	163	P	Pn	01 30 40.7	0.0
RCFN	Al S de San Ju	1.40	164	P	Pn	01 30 41.6	+0.3
RCFN				S	Sg	01 31 00.3	-0.3
RCFN	Al S de San Ju	1.40	164	P	Pn	01 30 41.6	+0.3
RCPN	Sur Rio San Ju	1.44	160	P	Pn	01 30 42.3	+0.5
RCPN	Sur Rio San Ju	1.44	160	S	Sb	01 31 00.7	-0.2
RCPN	Sur Rio San Ju	1.44	160	P	Pn	01 30 42.3	+0.5
CHOHN	Orocuina	1.49	201	S	Sn	01 31 00.9	-1.3
CHOHN	Orocuina	1.49	201	P	Pn	01 30 43.3	+0.7
NISHN	Nisperales Com	1.52	306	i P	Pn	01 30 40.0	-2.9
NISHN				i S	Sn	01 31 00.6	-2.2
NISHN	Nisperales Com	1.52	306	i P		01 30 40.0	
NISHN				i S		01 31 00.6	
LIMN	Finca el Limon	1.82	173	P	Pn	01 30 48.6	+1.5
LIMN	Finca el Limon	1.82	173	P	Pn	01 30 47.2	+0.1
CNCH	Conchagua	1.99	217	P	Pn	01 30 50.0	+0.6
CNCH	Conchagua	1.99	217	P	Pn	01 30 50.0	+0.6
CNCH	Conchagua	1.99	217	S	Sb	01 31 16.1	-0.8
CSGN	Cosiguina Volc	2.11	206	P	Pn	01 30 52.4	+1.4
CSGN				S	Sb	01 31 19.6	-0.7
RANC	El Ranchito	2.18	229	S	Sb	01 31 21.6	-0.7
RANC	El Ranchito	2.18	229	P	Pn	01 30 53.4	+1.4
PACA	Pacayal	2.18	230	P	Pn	01 30 53.4	+1.4
PACA	Pacayal	2.18	230	S	Sb	01 31 21.3	-1.0
SCLA	Alcaldia de Sa	2.37	241	S	Sb	01 31 26.3	-1.3
SCLA	Alcaldia de Sa	2.37	241	P	Pn	01 30 55.7	+1.2
CNGN	Cerro Negro	2.37	182	P	Pn	01 30 56.4	+1.8
CNGN	Cerro Negro	2.37	182	S	Sn	01 31 24.6	+0.9
CNGN	Cerro Negro	2.37	182	P	Pb	01 30 57.4	-1.0
CNGA	Al SSO del Vol	2.38	182	P	Pb	01 30 59.4	+0.9
COEG	Centro de Oper	2.54	241	S	Sn	01 31 29.7	+1.8
COEG	Centro de Oper	2.54	241	P	Pn	01 30 58.5	+1.6
PAVA	Las Pavas	2.54	243	P	Pn	01 30 58.4	+1.5
PAVA	Las Pavas	2.54	243	S	Sb	01 31 31.0	-1.7
BOAB	BOACO BROADBAN	2.59	159	P	Pn	01 30 59.1	+1.6
BOAB	BOACO BROADBAN	2.59	159	S	Sb	01 31 31.9	-2.0
BOAB	BOACO BROADBAN	2.59	159	P	Pn	01 30 58.2	+0.7
ESQI	Esquipulas	2.67	263	P	Pb	01 31 03.0	-0.4
ESQI	Esquipulas	2.67	263	S	Sb	01 31 34.7	-1.6
ESQI	Esquipulas	2.67	263	P	Pn	01 31 01.2	+2.5
MTO3	Montecristo	2.71	260	P	Pn	01 31 01.4	+2.0
MTO3	Montecristo	2.71	260	S	Sn	01 31 34.2	+1.8
MTO3	Montecristo	2.71	260	P	Pn	01 31 01.3	+2.0
ACON	Acoyapa	3.21	154	P	Pn	01 31 07.7	+1.6
ACON	Acoyapa	3.21	154	S	Sn	01 31 47.5	+3.0
NUBE	Las Nubes	3.23	253	P	Pn	01 31 09.7	+3.3
NUBE	Las Nubes	3.23	253	S	Sn	01 31 47.8	+2.8
NUBE	Las Nubes	3.23	253	P	Pn	01 31 08.8	+2.4
APG	El Apazote	3.73	272	eP	Pb	01 31 20.2	-1.5
APG	El Apazote	3.73	272	eP		01 31 20.2	

*IDC **13** 01:50:41.8±0.7, 0°11N×119°89E, h0km, mb4.0/14, mbtmp4.0/16, ML4.0/2, Error ellipse: s-maj=27.6km s-min=13.3km az=68.0*
*DJA **13** 01:50:46.2±0.2, 0°N±2°×12°0E±°, h10km, M5.0/19, mB5.4/8, mb4.8/16, MLv5.2/19, Mw(mB)4.8/8, MwMwp4.6/1, Mwp5.0/1*
*NEIC **13** 01:50:48.3±1.8, 0°11N±0°06×119°75E±0°05, h35km±1km, mb4.3/29, Error ellipse: s-maj=10.8km s-min=7.2km az=157.0*
ISC 13 01:50:47.2±0.5, 0°02N±0°05×119°68E±0°06, h35km, n83, σ1§22/83, mb4.3/32, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.93	171	P	Pn	01 51 03.3	-0.5
PCI				S	Sn	01 51 15.1	-0.8
TOLI2	Tolitoli	1.55	45		Pn	01 51 11.8	-0.5
APSI	Ampana	2.17	115	P	Pn	01 51 22.2	+1.3
MRSI	Marisa	2.30	78	P	Pn	01 51 23.8	+1.1
SMKI	Samarinda	2.52	260	P	Pn	01 51 26.9	+1.2
TTSI	Tana Toraja	3.04	177	P	Pn	01 51 34.6	+1.7
BKB	Balikpapan	3.06	246	Pn	Pn	01 51 33.4	+0.2
BKB	Balikpapan	3.06	246	P	Pn	01 51 33.1	-0.1
LUWI	Luwuk	3.26	109	Pn	Pn	01 51 37.2	+1.3
LUWI	Luwuk	3.26	109	P	Pn	01 51 37.7	+1.8
SPSI	Sidrap Palu	3.95	179	P	Pn	01 51 46.8	+1.4
KMSI	Cibinong	4.33	83	P	Pn	01 51 53.3	+2.7
KDI	Kendari	4.92	143	P	Pn	01 51 59.9	+1.2
KAPI	Kappang	5.00	179	Pn	Pn	01 52 03.2	+3.5
KAPI	Kappang 9.4nm,0.3s,baz=325,slow=2.7,SNR=14 8.5nm,0.3s	5.00	179	Pn	Pn	01 52 01.0	+1.3
MYLDM	Lahad Datu	5.26	347	Pn	Pn	01 52 04.5	+1.1
BSSI	Bau Bau, Buton 0.6nm61nm,0.9s	6.17	173	P	Pn	01 52 17.5	+1.6
BBSI	Bau Bau 1.1nm2μm110nm,1.1s	6.18	152	P	Pn	01 52 17.4	+1.3
SANI	Sanana 0.4nm2μm122nm,1.2s	6.63	108	P	Pn	01 52 22.1	-0.1
SGSI	Sangihe	6.88	58	P	Pn	01 52 28.5	+2.7
SBUM	Sibu	7.84	288	Pn	Pn	01 52 39.5	+0.6
NLAI	Namlea 2μm2μm57nm,0.7s	8.09	114	P	Pn	01 52 44.1	+1.9
PLAI	Plampang	8.99	192	P	Pn	01 52 55.8	+1.2
KMMI	Kalianget 58nm,1.5s	9.04	219	P	Pn	01 52 57.1	+1.7
SWI	Sorong 43nm,1.2s	11.61	94	P	Pn	01 53 32.3	+1.8
YOGI	Yogyakarta 109nm,1.5s	12.17	230	P	Pn	01 53 40.2	+1.9
FAKI	Fak Fak	12.89	103	Pn	Pn	01 53 46.4	-1.8
LEM	Lembang 21nm,1.0s	13.82	240	P	Pn	01 54 02.6	+1.6
MDSI	Maura Dua	16.12	254	P	P	01 54 33.3	-1.0
MTN	Manton Dam	17.09	139		P	01 54 44.9	-0.1
FITZ	Fitzroy Crossi	18.93	162	P	Pn	01 55 06.4	+0.3
FITZ	Fitzroy Crossi 0.3nm,0.3s,baz=5.8,slow=7.5,SNR=8.8 2.9nm,0.9s	18.93	162	P	P	01 55 05.0	-0.3
PSI	Prapat 3.2nm,0.5s,baz=89,slow=11,SNR=6.6 3.2nm,0.5s	20.94	278	P	Pn	01 55 29.2	-0.8
GSI	Gunungsitoli	22.14	273	P	P	01 55 40.7	+0.5
GSI	comp=Z,15nm,0.8s			IAmb	IAmb	01 55 56.8	
WB0	Warramunga Arr	24.38	145	P	P	01 56 01.6	-0.8
WRAB	Tennant Creek	24.48	145	P	P	01 56 03.0	-0.3
WRAB	comp=Z,4.4nm,0.8s			IAmb	IAmb	01 56 16.8	
WRA	Warramunga Arr	24.48	145	P	P	01 56 02.2	-1.2
WRA	Warramunga Arr comp=Z,1.2nm,0.8s,baz=336,slow=9.3,SNR=15 comp=Z,1.2nm,0.8s	24.48	145	P	P	01 56 01.8	-1.6
WB2	Warramunga Arr	24.49	145	P	P	01 56 03.0	-0.4
WB2	comp=Z,14nm,1.4s			IAmb	IAmb	01 56 22.0	
WR0	Warramunga Arr	24.61	145	P	P	01 56 03.6	-0.9
WR0	comp=Z,11nm,1.5s			IAmb	IAmb	01 56 13.0	
ASAR	Alice Springs comp=Z,0.3nm,0.4s,baz=320,slow=8.2,SNR=4.7 comp=Z,0.3nm,0.4s	27.29	151	P	P	01 56 27.5	-1.2
CMAR	Chiang Mai Arr	27.41	313	P	P	01 56 30.6	+0.8
CMAR	Chiang Mai Arr comp=Z,0.9nm,0.6s,baz=131,slow=7.3,SNR=4.4 comp=Z,0.9nm,0.6s	27.41	313	P	P	01 56 28.8	-1.0
JMN	Monobe	36.09	20	P	P	01 57 45.3	-0.6
STKA	Stephens Creek	37.89	149	P	P	01 58 01.2	0.0
STKA	Stephens Creek comp=Z,1.2nm,0.6s,baz=315,slow=8.2,SNR=3.8 comp=Z,1.2nm,0.6s	37.89	149	P	P	01 58 01.0	-0.2
KSRS	Korea Array comp=Z,2.7nm,0.8s,baz=197,slow=8.9,SNR=5.1 comp=Z,2.7nm,0.8s	38.02	11	P	P	01 58 01.9	-0.3
HHC	Hu-ho-hao-te	41.31	351	eP	P	01 58 32.8	+3.2
HHC	comp=Z,11nm,0.7s			pmax	pmax		
HHC	comp=Z,180nm,5.8s			pmax	pmax		
XLT	XiLinHaoTe	43.81	356	eP	P	01 58 50.7	+0.8
XLT				pP	sP	01 59 01.9	-2.3
XLT	comp=Z,9.0nm,0.7s			pmax	pmax		
XLT	comp=Z,170nm,7.1s			pmax	pmax		
JTM	Tenmabayashi	44.99	23	P	P	01 58 59.2	-0.1
USRK	Ussuriysk Ar.	45.34	12	P	P	01 58 58.7	-3.2
BNX	comp=Z,1.2nm,0.5s,baz=195,slow=8.2,SNR=6.2 comp=Z,1.2nm,0.5s BinXian	46.04	8	⇓P	P	01 59 09.0	+1.6
BNX	comp=Z,5.0nm,0.7s			pmax	pmax		
ULN	Ulaanbaatar	48.91	349	P	P	01 59 30.3	+0.4
ULN	comp=Z,2.7nm,0.7s			IAmb	IAmb	01 59 31.5	
SONM	Songino Array	49.01	348	P	P	01 59 30.0	-0.7
SONM	Songino Array comp=Z,1.3nm,0.7s,baz=170,slow=7.8,SNR=5.9 comp=Z,1.3nm,0.7s	49.01	348	P	P	01 59 29.8	-0.9
HEH	HeiHe	50.48	6	eP	P	01 59 41.8	+0.1
HEH	comp=Z,13nm,0.7s			pmax	pmax		
KDJ	Kajisay	56.73	323	P	P	02 00 28.3	+0.4
KDJ	comp=Z,3.3nm,1.1s			IAmb	IAmb	02 00 44.3	
MK31	Makanchi Array	56.90	330	P	P	02 00 29.5	+0.7
MK31	comp=Z,2.0nm,0.9s			IAmb	IAmb	02 00 31.1	
MKAR	Makanchi Array	56.90	330	P	P	02 00 29.2	+0.4
MKAR	Makanchi Array comp=Z,2.3nm,0.7s,baz=130,slow=8.4,SNR=25 comp=Z,2.3nm,0.7s	56.90	330	P	P	02 00 28.7	-0.1
MAKZ	Makanchi	57.07	330	P	P	02 00 30.6	+0.6
MAKZ	comp=Z,1.4nm,0.8s			IAmb	IAmb	02 00 32.0	
BOOM	Boomskoye usch	57.69	323	P	P	02 00 36.4	+1.7
BOOM	comp=Z,1.4nm,0.7s			IAmb	IAmb	02 00 53.9	
KBL	Kabul	58.42	311	P	P	02 00 40.1	+0.2
DRK	Karamyk	58.72	318	P	P	02 00 43.4	+1.3
DRK	comp=Z,4.8nm,0.8s			IAmb	IAmb	02 00 55.3	
GAR	Garm	59.50	317	P	P	02 00 47.9	+0.7
GAR	comp=Z,4.6nm,0.9s			IAmb	IAmb	02 01 02.6	
ZAA0	Zalesovo Array	60.97	337	P	P	02 00 56.2	-0.7
ZAA0	comp=Z,3.0nm,0.7s			IAmb	IAmb	02 00 57.7	
ZALV	Zalesovo Beam	60.97	337	P	P	02 00 56.6	-0.2
ZALV	Zalesovo Beam comp=Z,2.7nm,0.6s,baz=127,slow=6.4,SNR=13 comp=Z,2.7nm,0.6s	60.97	337	P	P	02 00 56.4	-0.4
KURBB	Kurchatov Arra comp=Z,1.9nm,0.7s,baz=135,slow=6.5,SNR=21 comp=Z,1.9nm,0.7s	61.33	331	P	P	02 00 59.8	+0.5
KURK	Kurchatov	61.35	332	P	P	02 00 59.3	-0.1
KK31	Karatay Array	61.38	321	P	P	02 00 59.9	+0.1
KKAR	Karatay Array	61.38	321	P	P	02 01 00.1	+0.2
PETK	Petropavlovsk- comp=Z,2.2nm,0.8s,baz=210,slow=8.1,SNR=2.0 comp=Z,2.2nm,0.8s	61.63	25	P	P	02 01 00.5	-0.8
MA2	Magadan	64.15	17	P	P	02 01 17.4	-0.5
BVAR	Borovoye Array comp=Z,0.7nm,0.5s,baz=114,slow=9.0,SNR=5.2 comp=Z,0.7nm,0.5s	66.79	330	P	P	02 01 35.3	+0.2
SEY	Seymchan comp=Z,1.9nm,0.5s,baz=208,slow=5.4,SNR=12 comp=Z,1.9nm,0.5s	67.34	16	P	P	02 01 38.3	-0.2
ABKAR	Akbulak array	70.71	323	P	P	02 01 58.5	-1.2
ABKAR	comp=Z,1.9nm,0.8s			IAmb	IAmb	02 02 15.6	
ARTI	Arti	74.50	330	P	P	02 02 22.6	+0.5
ARTI	comp=Z,6.0nm,1.2s			IAmb	IAmb	02 02 35.2	
BMAR	Burnt Mountain	92.20	23	P	P	02 03 52.7	-0.4
C27K	Jago River	92.29	20	P	P	02 03 53.3	-0.2
C27K	comp=Z,1.9nm,1.2s			IAmb	IAmb	02 04 02.1	
MT02	Curacav	145.40	164	PKPdf	PKPbc	02 10 21.3	-0.7
CO03	El Pedregal	147.80	163	PKPbc	PKPbc	02 10 28.4	-0.9
LCO	Las Campanas	149.51	162	PKPbc	PKPbc	02 10 32.9	-1.1

*IDC **13** 01:51:11.0±0.5, 0°01N×119°87E, h0km, mb4.5/20, mbtmp4.5/22, ML4.1/2, MS3.7/4, Error ellipse: s-maj=21.0km s-min=10.5km az=75.0*
*MOS **13** 01:51:16.0±1.0, 0°13N×119°77E, h41km, mb5.0/40, Error ellipse: s-maj=11.7km s-min=5.3km az=112.1*
*DJA **13** 01:51:16.1±0.3, 0°S±2°×12°0E±°, h10km, M5.1/13, mB5.4/5, mb5.2/6, MLv5.2/13, Mw(mB)4.8/5, MwMwp4.6/1, Mwp5.0/1*
*GCMT **13** 01:51:17.8±0.4, 0°12N±0°02×119°67E±0°02, h22km±2km, MW4.9/89, Moment Tensor Solution. s18,c20; s89,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.76±.16; $M_{\theta\theta}$1.32±.10; $M_{\phi\phi}$-2.09±.14; $M_{r\theta}$0.64±.17; $M_{\theta\phi}$-1.24±.09; $M_{\phi r}$-0.83±.20; Best double couple: $M_0$2.42500×10^{16} NP1:ϕ_s60.00000°, δ60.00000°, λ164.00000°. NP2: ϕ_s158.00000°, δ76.00000°, λ31.00000°. Principal axes: T 2.2480, Plg31.0000°, Azm22.0000°; N 0.3480, Plg57.0000°, Azm180.0000°; P -2.6020, Plg10.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **13** 01:51:18.2, 0°02S×119°95E, h67km, mB5.1/16, mb4.9/52, Ms4.5/9, Ms7 4.2/10*
*NEIC **13** 01:51:18.8±2.4, 0°22N±0°05×119°78E±0°05, h35km±1km, mb5.0/41, Error ellipse: s-maj=9.0km s-min=7.4km az=218.0*
ISC 13 01:51:18.0±0.4, 0°06N±0°04×119°69E±0°05, h43km±3km, h43km:pP-P, n231, σ1§50/247, mb4.8/86, MS3.8/6, 9C-12D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.97	171	P	Pn	01 51 32.8	-2.5
PCI				S	Sn	01 51 45.4	-2.5
TOLI2	Tolitoli	1.51	46	Pn	Pn	01 51 41.2	-1.4
APSI	Ampana	2.19	116	P	Pn	01 51 54.0	+2.1
MRSI	Marisa	2.29	80	P	Pn	01 51 54.7	+1.4
SMKI	Samarinda	2.53	258	P	Pn	01 51 55.8	-0.8
BKB	Balikpapan	3.09	245	Pn	Pn	01 52 03.4	-0.8
BKB	Balikpapan	3.09	245	P	Pn	01 52 02.9	-1.3
TTSI	Tana Toraja	3.09	178	P	Pn	01 52 05.1	+0.8
LUWI	Luwuk	3.27	110	Pn	Pn	01 52 09.4	+2.6
LUWI	Luwuk	3.27	110	P	Pn	01 52 08.1	+1.3
SPSI	Sidrap Palu	4.00	179	P	Pn	01 52 16.2	-0.6
KMSI	Cibinong	4.32	83	P	Pn	01 52 23.6	+2.4
KDI	Kendari	4.95	144	P	Pn	01 52 30.2	+0.3
KAPI	Kappang	5.04	179	Pn	Pn	01 52 35.5	+4.4
KAPI	Kappang 9.2nm,0.3s,baz=23,slow=11,SNR=5.0	5.04	179	Pn	Pn	01 52 29.0	-2.1
KAPI	baz=122,slow=22			Sn	Sn	01 53 30.1	+1.9
KAPI	4.7nm,0.3s,baz=345,slow=20,SNR=3.5 37nm,0.5s			Lg	Lg	01 53 49.4	
KAPI	Kappang	5.04	179	i P	Pn	01 52 32.0	+0.8
MYLDM	Lahad Datu	5.22	347	Pn	Pn	01 52 34.5	+1.0
SANI	Sanana 0.5nm110nm,0.7s	6.64	108	P	Pn	01 52 54.5	+1.4
KKM	Kota Kinabalu	6.88	330	Pn	Pn	01 52 58.2	+1.8
SBUM	Sibu	7.83	288	Pn	Pn	01 53 10.7	+1.3
NLAI	Namlea 2μm2μm200nm,0.7s	8.10	114	P	Pn	01 53 13.5	+0.4
DAV	Davao City (W) comp=Z,659nm,21.8s,baz=265,slow=40	9.11	40	LR	LR	01 57 07.8	
KSM	Kuching	9.48	279	Pn	Pn	01 53 33.6	+1.5
SOEI	Soe	10.77	155	Pn	Pn	01 53 52.9	+3.1
TPI	Tanjungpandan	12.35	257	P	Pn	01 54 11.6	+0.2
LEM	Lembang comp=Z,501nm,21.1s,baz=78,slow=38	13.85	240	LR	LR	02 00 07.2	
MTN	Manton Dam	17.12	139		P	01 55 16.8	+1.2
FITZ	Fitzroy Crossi	18.97	162	P	Pn	01 55 37.1	+0.3
FITZ	Fitzroy Crossi 0.4nm,0.3s,baz=354,slow=7.0,SNR=9.6 6.3nm,0.7s	18.97	162	P	P	01 55 34.8	-1.1
UBPT	Khong Chiam	20.64	318	P	P	01 55 55.2	+1.1
RPSI	Rantau Prapat	20.92	277	P	P	01 55 57.2	+0.1
PSI	Prapat 28nm,1.4s,baz=75,slow=10,SNR=7.5 28nm,1.4s	20.93	278	P	P	01 55 57.2	-0.2
QIZ	Qiongzhong	21.18	333	P	P	01 56 01.3	+1.4
QIZ				S	S	01 59 54.0	+0.8
QIZ	comp=Z,230nm,11.0s			pmax	pmax		
QIZ	comp=N,250nm,11.5s			LR	LR		
QIZ	comp=E,180nm,8.8s			LR	LR		
QIZ	comp=Z,220nm,18.7s			LR	LR		
SRIT	Nakonsritamara	21.73	293	P	P	01 56 06.6	+0.8
SRIT	comp=Z,70nm,1.2s			IAmb	IAmb	01 56 25.5	
GSI	Gunungsitoli	22.14	273	P	P	01 56 12.8	+2.5
GSI	comp=Z,94nm,1.0s			IAmb	IAmb	01 56 26.7	
GIRL	Giralia	23.19	193	P	P	01 56 25.5	+4.4
WRAB	Tennant Creek	24.52	145	P	P	01 56 32.5	-1.1
WRAB	Tennant Creek	24.52	145	⇓iP	P	01 56 33.7	+0.1
WRA	Warramunga Arr	24.52	145	P	P	01 56 33.8	+0.2
WRA	Warramunga Arr comp=Z,3.7nm,0.7s,baz=335,slow=9.4,SNR=14 comp=Z,3.7nm,0.7s	24.52	145	P	P	01 56 31.2	-2.4
WRA	Warramunga Arr	24.52	145	P	P	01 56 33.8	+0.2
WB2	Warramunga Arr	24.53	145	P	P	01 56 33.5	-0.2
WB2	comp=Z,32nm,1.2s			IAmb	IAmb	01 56 42.2	
WR0	Warramunga Arr	24.65	145	P	P	01 56 35.6	+0.8
WR0	comp=Z,74nm,1.8s			IAmb	IAmb	01 56 45.2	
ASAR	Alice Springs comp=Z,1.7nm,0.7s,baz=328,slow=9.2,SNR=9.1	27.33	151	P	P	01 56 56.6	-2.4
ASAR	comp=Z,0.5nm,0.5s,baz=339,slow=2.4,SNR=4.1 comp=Z,1.7nm,0.7s			PcP	PcP	02 00 18.5	+0.7
CMAR	Chiang Mai Arr comp=Z,1.8nm,0.3s,baz=140,slow=7.4,SNR=15 comp=Z,1.8nm,0.3s	27.38	313	P	P	01 57 00.8	+1.4
CMAR	Chiang Mai Arr	27.38	313	ceP	P	01 57 01.2	+1.7
CMAR	comp=Z,4.0nm,0.8s			pmax	pmax		
GUMO	Guam comp=Z,56nm,19.0s,baz=268,slow=38	28.33	61	LR	LR	02 09 10.1	
PZH	PanZhiHua	31.46	328	P	P	01 57 39.1	+3.4
PZH	comp=Z,10.0nm,0.7s			pmax	pmax		
PZH	comp=Z,100nm,4.7s			pmax	pmax		
NJ2	Nanjing	31.82	359	eP	P	01 57 41.6	+2.9
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
CD2	Chengdu	34.20	335	P	P	01 58 00.1	+0.5
CD2	comp=Z,40nm,0.9s			pmax	pmax		
LYN	LuoYang	34.97	350	P	P	01 58 07.6	+1.5
LYN	comp=Z,30nm,0.8s			pmax	pmax		
XAN	Xi'an	35.27	344	⇓P	P	01 58 09.1	+0.3
XAN	comp=Z,14nm,1.2s			pmax	pmax		
XAN	comp=Z,290nm,17.2s			LR	LR		
XAN	comp=Z,440nm,22.0s			LR	LR		
XAN	comp=Z,470nm,11.0s			LR	LR		
JMN	Monobe	36.04	20	P	P	01 58 15.1	-0.3
TIA	Tai'an	36.04	356	P	P	01 58 15.9	+0.6
TIA	comp=Z,12nm,0.9s			pmax	pmax		
TIA	comp=Z,220nm,4.5s			pmax	pmax		
HNS	HongShan	37.43	353	⇓P	P	01 58 28.1	+1.0
HNS	comp=Z,9.0nm,1.3s			pmax	pmax		
HNS	comp=Z,310nm,18.2s			LR	LR		
HNS	comp=Z,280nm,17.1s			LR	LR		
HNS	comp=Z,420nm,19.4s			LR	LR		
STKA	Stephens Creek	37.93	149	P	P	01 58 32.5	+1.1
STKA	Stephens Creek comp=Z,5.0nm,0.7s,baz=337,slow=7.0,SNR=7.7 comp=Z,5.0nm,0.7s	37.93	149	P	P	01 58 29.8	-1.6
STKA	Stephens Creek	37.93	149	P	P	01 58 32.5	+1.1
STKA	comp=Z,55nm,1.1s			pmax	pmax		
KSAR	Wonju Array Be	37.96	11	P	P	01 58 33.0	+1.5
KSAR	Wonju Array Be	37.96	11	P	P	01 58 33.0	+1.5
KSRS	Korea Array comp=Z,8.1nm,0.8s,baz=196,slow=7.4,SNR=12 comp=Z,8.1nm,0.8s	37.98	11	P	P	01 58 31.1	-0.6
LZH	Lanzhou	38.75	339	eP	P	01 58 39.8	+1.4
LZH				pP	sP	01 58 53.6	-1.3
LZH	comp=Z,24nm,1.0s			pmax	pmax		
BJT	Baijiatuau	39.90	356	P	P	01 58 49.1	+1.4
BJT	comp=Z,19nm,0.7s			IAmb	IAmb	01 58 49.6	
BJT	Baijiatuau	39.90	356	P	P	01 58 49.1	+1.4
BJT	comp=Z,19nm,0.7s			pmax	pmax		
BJT	Baijiatuau	39.90	356	P	P	01 58 48.8	+1.1
BJI	Beijing	39.92	356	P	P	01 58 48.8	+1.0
BJI	comp=Z,14nm,0.7s			pmax	pmax		
BJI	comp=Z,55nm,6.9s			pmax	pmax		
BJI	comp=Z,110nm,13.4s			LR	LR		
BJI	comp=Z,100nm,14.8s			LR	LR		
BJI	comp=Z,87nm,18.0s			LR	LR		
MAJO	Matsushiro	40.16	23	P	P	01 58 46.6	-3.4
MJAR	Matsushiro Arr comp=Z,11nm,0.9s,baz=192,slow=8.2,SNR=9.0 comp=Z,11nm,0.9s	40.16	23	P	P	01 58 47.7	-2.3
HHC	Hu-ho-hao-te	41.26	351	eP	P	01 59 02.6	+3.5
HHC	comp=Z,9.0nm,0.6s			pmax	pmax		
HHC	comp=Z,160nm,5.7s			pmax	pmax		
BTO	Baotou	41.30	349	eP	P	01 59 01.5	+2.1
BTO				pP	pwP	01 59 13.9	+0.9
BTO				PP	PnPn	02 00 41.5	+1.2
BTO	comp=Z,29nm,1.5s			pmax	pmax		
BTO	comp=Z,280nm,5.5s			pmax	pmax		
JMM	Marumori	42.35	25	P	P	01 59 07.3	-0.7
GTA	Gaotai	43.17	337	eP	P	01 59 16.5	+1.7
GTA	comp=Z,20nm,1.1s			pmax	pmax		
XLT	XiLinHaoTe	43.76	356	eP	P

USRK Ussuriysk Ar. 45.29 12 P **P** **01 59 30.9 -0.6**
comp=Z,3.6nm,0.5s,baz=193,slow=7.5,SNR=12
comp=Z,3.6nm,0.5s
BNX BinXian 45.99 8 ⇑P **P** **01 59 37.3 +0.4**
BNX pmax pmax
comp=Z,9.0nm,0.5s
ASAJ Asahikawa 48.38 22 P **P** **01 59 54.5 -1.1**
ASAJ pmax pmax
comp=Z,34nm,1.4s
JKA Kamikawa-asahi 48.38 22 P **P** **01 59 54.5 -1.1**
JKA IAmb IAmb 02 00 16.1
comp=Z,34nm,1.4s
ULN Ulaanbaatar 48.86 349 P **P** **02 00 01.0 +1.6**
ULN IAmb IAmb 02 00 01.4
comp=Z,11nm,0.9s
ULN Ulaanbaatar 48.86 349*c iP* **P** **02 00 00.4 +0.9**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 48.86 349 P **P** **02 00 00.3 +0.9**
SONM Songino Array 48.97 348 P **P** **02 00 00.6 +0.4**
SONM Songino Array 48.97 348 P **P** **02 00 00.3 +0.1**
comp=Z,4.1nm,0.8s,baz=166,slow=9.2,SNR=12
SONM PcP **PcP** **02 01 22.1 -1.8**
comp=Z,1.6nm,0.8s,baz=155,slow=18,SNR=2.4
SONM ScP **ScP** **02 05 18.8 +3.2**
comp=Z,0.4nm,0.4s,baz=112,slow=6.5,SNR=1.7
comp=Z,4.1nm,0.8s
SONM Songino Array 48.97 348 P **P** **02 00 00.6 +0.4**
SONM pmax pmax
comp=Z,4.0nm,0.9s
HIA Hailar 49.01 0 P **P** **01 59 59.3 -1.1**
SANVU Saraoutou 49.38 110 P **P** **02 00 02.9 -0.9**
SANVU pP **pP** **02 00 14.5 -1.5**
KLR Kul'dur 50.07 10*ceP* **P** **02 00 07.9 -0.5**
KLR pmax pmax
comp=Z,13nm,1.8s
HEH HeiHe 50.44 6 *eP* **P** **02 00 11.0 -0.2**
HEH pmax pmax
comp=Z,54nm,0.7s
DZM Mont Dzumac 50.57 119 *eS* **S** **02 07 21.9 -2.7**
comp=Z,72nm,30.6s
DZM *e*SS **SS** **02 11 02.8 +3.4**
comp=Z,138nm,25.5s
DZM *e*LR LR 02 14 45.2
comp=Z,116nm,25.0s
YSS Yuzhno-Sakhali 50.87 20 *eP* **P** **02 00 13.9 -0.6**
YSS pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 52.05 347 *eP* **P** **02 00 23.1 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 52.07 331 *eP* **P** **02 00 25.6 +1.9**
WMQ S **S** **02 07 39.8 -4.8**
WMQ pmax pmax
comp=Z,22nm,0.7s
MOY Mondy 53.79 346 *eP* **P** **02 00 36.5 +0.3**
MOY pmax pmax
comp=Z,19nm,2.1s
ZEA Zeya 53.86 6 *eP* **P** **02 00 36.8 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
KSH Kashi 55.96 320 P **P** **02 00 54.3 +2.1**
KSH pmax pmax
comp=Z,10.0nm,0.8s
SHLS Shalkode 55.98 325 *eP* **P** **02 00 51.1 -1.2**
SHLS pmax pmax
comp=Z,8.0nm,1.0s
SHLS Shalkode 55.98 325 *eP* **P** **02 00 51.2 -1.2**
comp=Z,7.9nm,1.0s
ZSN Zaisan 56.08 332 *eP* **P** **02 00 53.5 +0.7**
ZSN pmax pmax
comp=Z,9.0nm,0.9s
ZSN Zaisan 56.08 332 *eP* **P** **02 00 53.6 +0.7**
comp=Z,8.7nm,0.9s
UZB Uzynbulak 56.23 325 *eP* **P** **02 00 54.6 +0.6**
UZB Uzynbulak 56.23 325 *eP* **P** **02 00 54.6 +0.6**
SATY Saty 56.53 325 *eP* **P** **02 00 56.7 +0.5**
SATY pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 56.53 325 *eP* **P** **02 00 56.7 +0.5**
comp=Z,7.1nm,0.8s
KPKS Kokpek 56.62 325 *eP* **P** **02 00 57.2 +0.4**
KPKS Kokpek 56.62 325 *eP* **P** **02 00 57.2 +0.4**
KDJ Kajisay 56.70 323 P **P** **02 00 58.7 +1.2**
KDJ IAmb IAmb 02 01 11.3
comp=Z,6.6nm,0.8s
KDJ Kajisay 56.70 323 P **P** **02 00 58.7 +1.2**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 56.86 330 P **P** **02 00 59.3 +0.9**
MK31 IAmb IAmb 02 01 00.6
comp=Z,8.6nm,0.9s
MK31 Makanchi Array 56.86 330*d iP* **P** **02 00 59.7 +1.3**
MKAR Makanchi Array 56.86 330 P **P** **02 00 59.2 +0.9**
comp=Z,9.6nm,0.8s,baz=134,slow=7.8,SNR=27
MKAR PcP **PcP** **02 01 53.8 +0.2**
comp=Z,4.7nm,0.8s,baz=134,slow=5.2,SNR=4.2
comp=Z,9.6nm,0.8s
MKAR Makanchi Array 56.86 330*ceP* **P** **02 00 59.5 +1.1**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 57.03 330 P **P** **02 01 00.2 +0.7**
MAKZ IAmb IAmb 02 01 01.6
comp=Z,7.9nm,0.9s
MAKZ Makanchi 57.03 330 P **P** **02 01 00.2 +0.7**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 57.03 330 P **P** **02 01 00.5 +0.9**
MAKZ pP **pP** **02 01 12.2 +0.4**
TNSS Tian-Shan 57.37 324 *eP* **P** **02 01 02.7 +0.3**
TNSS Tian-Shan 57.37 324 *eP* **P** **02 01 02.8 +0.3**
AAA Alma-Ata 57.49 324 *eP* **P** **02 01 03.6 +0.7**
AAA pmax pmax
comp=Z,23nm,1.1s
AAA Alma-Ata 57.49 324 *eP* **P** **02 01 03.6 +0.7**
comp=Z,23nm,1.1s
BOOM Boomskoye usch 57.65 323 P **P** **02 01 05.4 +1.2**
BOOM Boomskoye usch 57.65 323 P **P** **02 01 05.4 +1.2**
TDK Taldyqorghan 57.73 326 *eP* **P** **02 01 05.1 +0.6**
TDK pmax pmax
comp=Z,5.0nm,0.5s
TDK Taldyqorghan 57.73 326 *eP* **P** **02 01 05.2 +0.6**
comp=Z,5.2nm,0.5s
BOD Bodaibo 57.76 356 *eP* **P** **02 01 05.1 +0.7**
BOD pmax pmax
comp=Z,27nm,1.5s
KUU Kurty 58.23 324 *eP* **P** **02 01 08.6 +0.6**
KUU pmax pmax
comp=Z,9.0nm,0.9s
KUU Kurty 58.23 324 *eP* **P** **02 01 08.7 +0.6**
comp=Z,8.8nm,0.9s
KBL Kabul 58.39 311 P **P** **02 01 10.9 +1.3**
KBL IAmb IAmb 02 01 18.7
comp=Z,11nm,0.9s
KBL Kabul 58.39 311 P **P** **02 01 10.9 +1.3**
KBL pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa 58.62 322 P **P** **02 01 12.5 +1.6**
AAK Ala-Archa 58.62 322*d iP* **P** **02 01 13.0 +2.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 58.62 322 P **P** **02 01 12.8 +1.9**
AAK pP **pP** **02 01 23.7 +0.9**
AAK PcP **PcP** **02 02 01.3 +0.6**
DRK Karamyk 58.69 318 P **P** **02 01 12.6 +0.9**
DRK IAmb IAmb 02 01 25.4
comp=Z,12nm,0.9s
DRK Karamyk 58.69 318 P **P** **02 01 12.6 +0.9**
DRK pmax pmax
comp=Z,12nm,0.9s
ARSB Arslanbob 58.85 320 P **P** **02 01 14.3 +1.7**
ARSB Arslanbob 58.85 320 P **P** **02 01 14.3 +1.7**
BTK Batken 59.63 318 P **P** **02 01 21.6 +3.7**
BTK IAmb IAmb 02 01 33.8
comp=Z,17nm,1.2s
BTK Batken 59.63 318 P **P** **02 01 21.6 +3.7**
BTK pmax pmax
comp=Z,17nm,1.3s
SIMJ Simiganj 60.21 316 P **P** **02 01 23.3 +1.3**
SIMJ IAmb IAmb 02 01 37.1
comp=Z,15nm,1.1s
BTLS Baital 60.23 324 *eP* **P** **02 01 22.3 +0.5**
BTLS Baital 60.23 324 *eP* **P** **02 01 22.4 +0.5**
DZA Taraz 60.72 321 *eP* **P** **02 01 25.9 +0.7**
DZA Taraz 60.72 321 *eP* **P** **02 01 25.9 +0.7**

ZAA0 Zalesovo Array 60.93 337 P **P** **02 01 26.9 +0.5**
ZAA0 IAmb IAmb 02 01 27.6
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 60.93 337 P **P** **02 01 26.0 -0.3**
ZALV Zalesovo Beam 60.93 337 P **P** **02 01 26.4 0.0**
comp=Z,13nm,0.7s,baz=129,slow=6.1,SNR=29
comp=Z,13nm,0.7s
IUG Iuzhnay 61.17 320 *eP* **P** **02 01 28.7 +0.3**
IUG pmax pmax
comp=Z,11nm,1.0s
IUG Iuzhnay 61.17 320 *eP* **P** **02 01 28.8 +0.3**
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 61.29 331 P **P** **02 01 29.5 +0.6**
comp=Z,8.6nm,0.9s,baz=142,slow=6.4,SNR=22
comp=Z,8.6nm,0.9s
KURK Kurchatov 61.30 332 P **P** **02 01 29.8 +0.9**
KURK Kurchatov 61.30 332*d iP* **P** **02 01 30.2 +1.2**
KURK pmax pmax
comp=Z,25nm,0.9s
KURK Kurchatov 61.30 332 P **P** **02 01 29.9 +0.9**
KK31 Karatay Array 61.34 321 P **P** **02 01 29.7 +0.2**
KK31 IAmb IAmb 02 01 44.7
comp=Z,8.5nm,1.1s
KK31 Karatay Array 61.34 321 P **P** **02 01 29.7 +0.2**
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 61.34 321 P **P** **02 01 29.6 +0.1**
KKAR Karatay Array 61.34 321 P **P** **02 01 29.6 +0.1**
KKAR pmax pmax
comp=Z,5.0nm,1.1s
PETK Petropavlovsk- 61.58 25 P **P** **02 01 30.4 -0.5**
PETK Petropavlovsk- 61.58 25 P **P** **02 01 30.1 -0.8**
comp=Z,9.7nm,0.7s,baz=211,slow=7.0,SNR=9.3
comp=Z,9.7nm,0.7s
PETK Petropavlovsk- 61.58 25 P **P** **02 01 30.4 -0.5**
BRLS Borolday 61.73 320 *eP* **P** **02 01 32.5 +0.4**
BRLS Borolday 61.73 320 *eP* **P** **02 01 32.6 +0.4**
YAK Yakutsk 62.27 5 P **P** **02 01 34.4 -0.9**
YAK Yakutsk 62.27 5 *eP* **P** **02 01 34.8 -0.5**
YAK *e**PP **pP** **02 01 45.6 -2.0**
YAK *e* 02 02 15.9
YAK *e* 02 03 51.3
YAK *e*PPP PPP 02 05 18.3
YAK *e*S **S** **02 09 57.3 -0.7**
YAK *e**SS **sS** **02 10 15.7 -2.1**
YAK *e* 02 11 22.9
YAK *e*SS **SS** **02 13 58.1 -3.9**
YAK *e*SSS SSS 02 16 40.6
YAK pmax pmax
comp=Z,33nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,2.1s
YAK pmax pmax
comp=Z,356nm,6.9s
YAK pmax pmax
comp=N,247nm,8.2s
YAK pmax pmax
comp=E,216nm,7.1s
YAK smax smax
comp=E,177nm,6.9s
YAK smax smax
comp=N,166nm,8.9s
BRZS Berezniki 63.83 328 *eP* **P** **02 01 46.3 +0.4**
BRZS Berezniki 63.83 328 *eP* **P** **02 01 46.4 +0.4**
MA2 Magadan 64.10 17 P **P** **02 01 47.6 +0.2**
MA2 Magadan 64.10 17*ceP* **P** **02 01 48.0 +0.6**
MA2 pmax pmax
comp=Z,33nm,0.9s
MA2 Magadan 64.10 17 P **P** **02 01 47.2 -0.2**
comp=Z,43nm,0.8s
MA2 Magadan 64.10 17 P **P** **02 01 47.9 +0.4**
CASY Casey 66.52 184 P P 02 02 09.8 +6.8
BVAR Borovoye Array 66.75 330 P **P** **02 02 05.0 +0.3**
comp=Z,7.2nm,0.9s,baz=134,slow=8.5,SNR=15
comp=Z,7.2nm,0.9s
BVAR Borovoye Array 66.75 330 P **P** **02 02 05.0 +0.3**
BRVK Borovoye 66.82 330 P **P** **02 02 05.3 +0.2**
BRVK IAmb IAmb 02 02 18.5
comp=Z,11nm,0.9s
BRVK Borovoye 66.82 330⇓*iP* **P** **02 02 06.0 +0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 66.82 330 P **P** **02 02 05.8 +0.7**
BRVK pP **pP** **02 02 17.1 -0.4**
SEY Seymchan 67.30 16 P **P** **02 02 08.0 0.0**
comp=Z,7.9nm,0.6s,baz=214,slow=5.6,SNR=22
SEY LR LR 02 34 38.7
comp=Z,64nm,18.6s,baz=310,slow=39
comp=Z,7.9nm,0.6s
SEY Seymchan 67.30 16*d iP* **P** **02 02 08.5 +0.5**
SEY pmax pmax
comp=Z,11nm,1.0s
ABKAR Akbulak array 70.67 323 P **P** **02 02 29.2 -0.1**
TIXI Tiksi 71.72 3 P **P** **02 02 33.6 -1.5**
TIXI IAmb IAmb 02 02 34.7
comp=Z,8.6nm,0.8s
TIXI Tiksi 71.72 3⇓*iP* **P** **02 02 34.0 -1.1**
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 71.72 3 P **P** **02 02 34.0 -1.1**
TIXI pP **pP** **02 02 45.7 -2.0**
ABPO Ambohimpanom 73.46 250 *i* P **P** **02 02 46.9 +0.2**
SVE Sverdlovsk 73.52 331 *eP* **P** **02 02 47.4 +1.3**
SVE pmax pmax
comp=Z,22nm,1.0s
ARTI Arti 74.46 330 P **P** **02 02 51.5 -0.1**
ARTI IAmb IAmb 02 03 01.2
comp=Z,21nm,1.4s
ARTI Arti 74.46 330*d iP* **P** **02 02 49.7 -1.9**
ARTI 02 05 32.7
ARTI S **S** **02 12 23.1 -0.1**
ARTI SS **SS** **02 17 03.9 -6.5**
ARTI pmax pmax
comp=Z,16nm,1.6s
BILL Bilibino 74.96 16*ceP* **P** **02 02 53.4 -0.9**
BILL pmax pmax
comp=Z,10.0nm,1.5s
RAYN Ar Rayn 75.49 294 P **P** **02 02 59.2 +0.9**
KIRV Kirov 79.76 330⇓*iP* **P** **02 03 21.1 -0.2**
GURO Guroymak-BITLI 80.31 309 P **P** **02 03 25.8 +0.8**
KBZ Khabaz 80.42 314 *i* P **P** **02 03 23.6 -1.6**
KBZ pmax pmax
comp=Z,4.0nm,1.4s
KIV Kislovodsk 80.61 314 *eP* **P** **02 03 24.7 -1.7**
KIV pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 80.78 171 P **P** **02 03 24.6 -1.9**
comp=Z,1.4nm,1.0s,baz=18,slow=5.7,SNR=1.7
comp=Z,1.4nm,1.0s
VRH Novokhopyorsk 82.41 322 *eP* **P** **02 03 33.5 -2.1**
VRH pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 82.44 269 P **P** **02 03 37.1 +0.2**
comp=Z,0.6nm,0.6s,baz=117,slow=16,SNR=1.6
comp=Z,0.6nm,0.6s
VORD Divnogorie 83.89 321 *eP* **P** **02 03 42.7 -0.5**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 84.01 321 *eP* **P** **02 03 42.1 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 84.04 322 *eP* **P** **02 03 41.1 -2.9**
VORR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 84.33 323 *eP* **P** **02 03 44.0 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 85.15 331 *eP* P 02 03 43.7 -5.7
KLMR pmax pmax
comp=Z,23nm,1.3s
MMAI Mount Meron Ar 85.17 303 P **P** **02 03 51.7 +1.5**
comp=Z,1.8nm,0.9s,baz=120,slow=8.5,SNR=2.3
comp=Z,1.8nm,0.9s
MOS Moscow 85.47 326 *eP* **P** **02 03 47.8 -3.3**
OBN Obninsk 86.00 325⇓*iP* **P** **02 03 53.5 -0.2**
OBN pmax pmax
comp=Z,12nm,0.7s
SYO Syowa Base 86.51 201⇑*i*PcP **PcP** **02 04 01.5 +3.2**
SYO Syowa Base 86.51 201⇑*e*PP PP 02 07 20.4 +2.6
CAST Castle Rocks 89.15 27 P **P** **02 04 07.9 -0.9**
QSPA South Pole Qui 90.00 180 P **P** **02 04 11.6 -1.2**
comp=Z,0.8nm,0.3s,baz=262,slow=3.1,SNR=3.8
comp=Z,0.8nm,0.3s

AKASG Malin Array Be 90.25 321 P **P** **02 04 12.8 -1.2**
comp=Z,0.5nm,0.5s,baz=79,slow=4.1,SNR=5.4
comp=Z,0.5nm,0.5s
PPT2 Papeete2 90.72 107 *e*LR LR 02 33 24.0
comp=Z,114nm,26.5s
E25K Arctic Village 91.72 22 P **P** **02 04 21.5 +0.9**
E25K IAmb IAmb 02 04 45.7
comp=Z,17nm,1.8s
BMAR Burnt Mountain 92.15 23 P **P** **02 04 23.9 +1.2**
BURAR Bucovina Array 92.98 318 P **P** **02 04 26.9 -0.1**
BURAR Bucovina Array 92.98 318 P **P** **02 04 26.9 -0.1**
BCAR Beaver Creek A 93.81 27 P **P** **02 04 29.6 -0.8**
TAOE Nuku Hiva Isla 100.05 99 *e*LR LR 02 37 33.7
comp=Z,203nm,29.8s
PDAR Pinedale Array 118.68 39 PKP **PKPdf** **02 10 00.3 -1.7**
comp=Z,0.2nm,0.6s,baz=0.0,slow=4.6,SNR=2.2
O20A White River Ci 120.86 42 PKPdf **PKPdf** **02 10 05.3 -1.0**
TXAR Lajitas Array 129.37 51 PKP **PKPdf** **02 10 21.9 -0.8**
comp=Z,0.1nm,0.5s,baz=210,slow=7.2,SNR=3.5
WVT Waverly 135.83 32 PKPdf **PKPdf** **02 10 34.2 -0.4**
WVT Waverly 135.83 32 PKIKP **PKPdf** **02 10 34.2 -0.4**
MT01 Popeta 144.84 164 **PKPab** **02 10 48.5 -1.4**
BO04 La Punta 144.90 165 **PKPab** **02 10 48.7 -1.4**
MT13 San Alfonso 145.21 165 **PKPbc** **02 10 50.7 -0.6**
VA03 San Esteban 146.07 164 PKPdf **PKPdf** **02 10 52.4 -0.8**
CFA Coronel Fontan 147.74 167 PKPbc **PKPdf** **02 10 56.9 +0.9**
comp=Z,2.6nm,0.8s,baz=241,slow=3.3,SNR=6.5
CO03 El Pedregal 147.85 163 PKPdf **PKPdf** **02 10 57.3 +1.1**
GO04 Tololo Observa 148.44 162 PKPdf **PKPdf** **02 10 56.4 -1.0**
CPUP Villa Florida 153.73 186 PKPbc **PKPbc** **02 11 10.4 -2.7**
comp=Z,0.7nm,0.6s,baz=153,slow=6.8,SNR=2.0
LPAZ La Paz 162.13 155 PKP **PKPdf** **02 11 15.6 -0.9**
comp=Z,1.2nm,0.9s,baz=229,slow=9.3,SNR=3.7
LPAZ PKPab **PKPab** **02 12 06.3 +3.3**
comp=Z,1.5nm,0.9s,baz=181,slow=5.3,SNR=3.6
SIV San Ignacio 164.16 177 PKPab **PKPab** **02 12 14.2 +3.1**
comp=Z,1.7nm,0.9s,baz=162,slow=5.0,SNR=7.4
ROSC El Rosal 165.18 71 PKPab **PKPab** **02 12 17.7 +1.1**
comp=Z,8.0nm,0.3s,baz=110,slow=17,SNR=2.2

SJA ***13*** *02:11:00.7±0.7, 28°.54S×70°.64W, h97km, ML3.8, MW3.7*
NEIC ***13*** *02:11:01.3±2.3, 28°.58S±0°.05×70°.5W±0°.1, h106km±6km, mb4.3/3, Error ellipse: s-maj=15.0km s-min=6.4km az=97.0*
GUC ***13*** *02:11:02.1±0.6, 28°.62S×70°.43W, h90km±4km, ML4.0*
ISC 13 02:11:01.3±0.9, 28°.55S±0°.03×70°.60W±0°.04, h105km±7km, n79, σ1°39/111, mb4.3/3, 3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.47**	**191**		**Pn**	**02 11 17.6**	**-0.1**
LCO				Sn	**Sn**	**02 11 29.1**	**-0.8**
LCO	**Las Campanas**	**0.47**	**191**	*eP*	**Pn**	**02 11 17.4**	**-0.3**
LCO				*i* S	**Sn**	**02 11 29.2**	**-0.8**
LCO	**Las Campanas**	**0.47**	**191**	*eP*	**Pn**	**02 11 17.3**	**-0.3**
LCO				*e*S	**Sn**	**02 11 29.8**	**-0.2**
AC04	**Llanos de Chal**	**0.54**	**309**	Pn	**Pn**	**02 11 19.3**	**+1.5**
AC04				Sn	**Sn**	**02 11 31.5**	**+1.2**
AC04	**Llanos de Chal**	**0.54**	**309**⇓*iP*		**Pn**	**02 11 19.3**	**+1.5**
AC04				*i* S	**Sn**	**02 11 31.9**	**+1.6**
AC04				IAML		02 11 32.4	
	comp=E,21μm,0.1s						
AC04	**Llanos de Chal**	**0.54**	**309**	*eP*	**Pn**	**02 11 19.1**	**+1.3**
AC04				*e*S	**Sn**	**02 11 32.1**	**+1.8**
AC04				IAML		02 11 32.4	
	comp=Z,3μm,0.1s						
AC06	**Mina Casimiro**	**1.20**	**10**		**Pn**	**02 11 25.0**	**+0.7**
AC06				Sn	**Sn**	**02 11 41.8**	**0.0**
AC06	**Mina Casimiro**	**1.20**	**10**	*eP*	**Pn**	**02 11 25.2**	**+0.9**
AC06				*e*S	**Sn**	**02 11 42.5**	**+0.7**
AC06				IAML		02 11 43.1	
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**1.49**	**163**	Pn	**Pn**	**02 11 27.6**	**-0.2**
CO01	**Juntas del Tor**	**1.49**	**163**	*eP*	**Pn**	**02 11 27.7**	**-0.2**
CO01				*i* S	**Sn**	**02 11 46.7**	**-1.4**
CO01	**Juntas del Tor**	**1.49**	**163**	*eP*	**Pn**	**02 11 27.8**	**-0.2**
CO01				*e*S	**Sn**	**02 11 47.0**	**-1.1**
CO01				IAML		02 11 47.2	
	comp=Z,749nm,0.3s						
GO04	**Tololo Observa**	**1.63**	**186**	Pn	**Pn**	**02 11 29.6**	**0.0**
GO04	**Tololo Observa**	**1.63**	**186**	*eP*	**Pn**	**02 11 29.7**	**+0.1**
GO04				*i* S	**Sn**	**02 11 50.7**	**-0.4**
GO04				IAML		02 11 54.5	
	comp=N,4μm,0.5s						
GO04	**Tololo Observa**	**1.63**	**186**	*eP*	**Pn**	**02 11 29.8**	**+0.1**
GO04				*e*S	**Sn**	**02 11 50.0**	**-1.2**
AROD	**Rodeo**	**1.89**	**149**	*eP*	**Pn**	**02 11 33.8**	**+0.9**
AROD				*e*S	**Sn**	**02 11 58.2**	**+1.2**
ACDV	**Cuesta del Vie**	**2.07**	**142**	*eP*	**Pn**	**02 11 36.4**	**+1.3**
ACDV				*e*S	**Sn**	**02 11 56.9**	**-4.0**
ACDV				IAML		02 12 06.0	
	comp=Z,256nm,0.5s						
AGUA	**GUANDACOL**	**2.07**	**117**	*eP*	**Pn**	**02 11 36.4**	**+1.4**
AGUA				*e*S	**Sn**	**02 12 01.8**	**+1.0**
AGUA				IAML		02 12 03.7	
	comp=Z,1μm,0.3s						
VCA	**Vinchina**	**2.11**	**96**	*eP*	**Pn**	**02 11 36.8**	**+1.2**
VCA				*e*S	**Sn**	**02 12 03.0**	**+1.2**
VCA				IAML		02 12 04.6	
	comp=Z,691nm,0.5s						
AC02	**Maricunga**	**2.14**	**38**	Pn	**Pn**	**02 11 37.0**	**+0.7**
AC02	**Maricunga**	**2.14**	**38**	*i* P	**Pn**	**02 11 37.3**	**+0.9**
AC02				*i* S	**Sn**	**02 12 02.9**	**-0.2**
AC02				IAML		02 12 04.2	
	comp=E,909nm,0.2s						
AC02	**Maricunga**	**2.14**	**38**	*eP*	**Pn**	**02 11 37.1**	**+0.7**
AC02				*e*S	**Sn**	**02 12 00.6**	**-2.5**
AC02				IAML		02 12 06.3	
	comp=Z,401nm,0.2s						
CO03	**El Pedregal**	**2.29**	**182**	Pn	**Pn**	**02 11 38.1**	**+0.3**
CO03	**El Pedregal**	**2.29**	**182**⇓*iP*		**Pn**	**02 11 38.1**	**+0.3**
CO03				*i* S	**Sn**	**02 12 05.2**	**-0.6**
CO03				IAML		02 12 06.5	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**2.29**	**182**	*eP*	**Pn**	**02 11 38.2**	**+0.3**
CO03				*e*S	**Sn**	**02 12 05.8**	**+0.1**
CO03				IAML		02 12 08.2	
	comp=Z,579nm,0.3s						
CO06	**Fray Jorge**	**2.30**	**203**	Pn	**Pn**	**02 11 37.7**	**-0.2**
CO06	**Fray Jorge**	**2.30**	**203**	*eP*	**Pn**	**02 11 37.8**	**-0.2**
CO06				IAML		02 12 08.2	
	comp=N,358nm,0.3s						
AC01	**Pan de Azucar**	**2.39**	**360**	Pn	**Pn**	**02 11 39.7**	**+0.6**
AC01	**Pan de Azucar**	**2.39**	**360**⇓*iP*		**Pn**	**02 11 39.8**	**+0.7**
AC01				*i* S	**Sn**	**02 12 07.8**	**-0.3**
AC01	**Pan de Azucar**	**2.39**	**360**	*eP*	**Pn**	**02 11 39.7**	**+0.6**
AC01				*e*S	**Sn**	**02 12 06.8**	**-1.3**
AC01				IAML		02 12 23.5	
	comp=Z,198nm,0.3s						
ACCO	**Cerro Coronel**	**2.43**	**147**	*eP*	**Pn**	**02 11 42.1**	**+2.1**
ACCO				*e*S	**Sn**	**02 12 11.3**	**+1.8**
DOCA	**Reserva Natura**	**2.73**	**152**	*eP*	**Pn**	**02 11 45.4**	**+1.5**
DOCA				*e*S	**Sn**	**02 12 17.9**	**+1.2**
DOCA				IAML		02 12 19.1	
	comp=Z,964nm,0.5s						
ACLC	**CERRO LA CRUZ**	**3.31**	**106**	*eP*	**Pn**	**02 11 51.3**	**-0.1**
ACLC				*e*S	**Sn**	**02 12 28.5**	**-1.7**
ACLC				IAML		02 12 30.6	
	comp=Z,110nm,0.3s						
RTLL	**Cerro Villicun**	**3.33**	**147**	*eP*	**Pn**	**02 11 52.6**	**+1.1**
RTLL				*e*S	**Sn**	**02 12 29.8**	**-0.6**
ZON	**Zonda**	**3.42**	**151**	Pn	**Pn**	**02 11 52.9**	**+0.1**
ZON	**Zonda**	**3.42**	**151**	*eP*	**Pn**	**02 11 53.5**	**+0.7**
ZON				*e*S	**Sn**	**02 12 31.9**	**-0.7**
ZON				IAML		02 12 39.9	
	comp=Z,106nm,0.7s						
RTLS	**Leoncito**	**3.43**	**161**	*eP*	**Pn**	**02 11 54.8**	**+1.6**
RTLS				*e*S	**Sn**	**02 12 35.6**	**+2.4**
RTLS				IAML		02 12 39.7	
	comp=Z,249nm,0.3s						
AVFE	**Valle Fertil**	**3.45**	**128**	*eP*	**Pn**	**02 11 53.3**	**+0.1**
AVFE				*e*S	Sn	02 12 16.1	-17
AVFE				IAML		02 12 32.4	
	comp=Z,339nm,0.4s						
SJA	**San Juan**	**3.46**	**150**	*eP*	**Pn**	**02 11 55.0**	**+1.8**
SJA				*e*S	**Sn**	**02 12 36.5**	**+3.1**
GO02	**Mina Guanaco**	**3.49**	**15**	Pn	**Pn**	**02 11 54.0**	**+0.1**
GO02	**Mina Guanaco**	**3.49**	**15**	*eP*	**Pn**	**02 11 54.4**	**+0.4**
GO02				*e*S	Sn	02 12 21.6	-13
PB14	**IPOC Station P**	**3.91**	**3**	Pn	**Pn**	**02 11 58.7**	**-0.9**
PB14	**IPOC Station P**	**3.91**	**3**	*eP*	**Pn**	**02 11 59.3**	**-0.4**
PB14				IAML		02 13 08.2	

comp=Z,98nm,0.6s
APLL PUNTA DE LOS L 4.00 118 *e*P **Pn 02 12 00.2 -0.3**
APLL *e*S Sn 02 12 30.1 -16
VA06 Catapilco 4.05 188 Pn **Pn 02 12 00.2 -0.9**
VA03 San Esteban 4.20 179 Pn **Pn 02 12 03.5 +0.2**
VA03 San Esteban 4.20 179 *e*P **Pn 02 12 03.6 +0.3**
VA03 San Esteban 4.20 179 *e*P **Pn 02 12 03.7 +0.3**
VA03 *e*S **Sn 02 12 54.1 +2.6**
VA03 IAML 02 12 56.6
comp=Z,114nm,0.6s
CYA Choya 4.22 90 *e*P **Pn 02 12 03.2 -0.3**
CYA *e*S **Sn 02 12 50.9 -1.0**
ACHE Chepes 4.29 128 *e*P **Pn 02 12 04.9 +0.3**
ACHE *e*S Sn 02 12 40.0 -14
ASAL Salagasta 4.31 160 *e*P **Pn 02 12 05.9 +1.2**
ASAL *e*S **Sn 02 12 55.4 +1.5**
ARCO CERRO ARCO 4.51 162 *e*P **Pn 02 12 09.0 +1.4**
ARCO *e*S Sn 02 12 48.4 -11
ARCO IAML 02 13 06.4
comp=Z,57nm,0.5s
VA01 Torpederas 4.55 191 Pn **Pn 02 12 05.9 -2.0**
PEL Peldehue 4.58 181 Pn **Pn 02 12 07.8 -0.6**
MT02 Curacav 4.72 186 Pn **Pn 02 12 08.8 -1.4**
AAGR Agrelo 4.77 162 *e*P **Pn 02 12 13.3 +2.3**
FCH Farellones 4.77 177 *e*P **Pn 02 12 11.8 +0.6**
MT05 Renca 4.83 181 Pn **Pn 02 12 10.2 -1.6**
MT05 Renca 4.83 181 *e*P **Pn 02 12 11.6 -0.2**
MT05 IAML 02 13 22.8
comp=Z,50nm,0.3s
MT04 Ro Olivares 4.86 175 *e*P **Pn 02 12 13.1 +0.8**
MT04 Ro Olivares 4.86 175 *e*S **Sn 02 13 10.2 +2.7**
MT04 IAML 02 13 20.5
comp=Z,29nm,0.3s
MT16 CCHEN 4.87 179 Pn **Pn 02 12 12.4 +0.2**
MT03 Universidad Ad 4.93 179 Pn **Pn 02 12 12.9 -0.3**
VA05 Santo Domingo 5.17 189 Pn **Pn 02 12 13.9 -2.4**
MT13 San Alfonso 5.19 177 Pn **Pn 02 12 16.0 -0.6**
MT09 Talagante 5.22 184 Pn **Pn 02 12 15.6 -1.6**
LMEL Las Melosas 5.29 176 Pn **Pn 02 12 18.6 +0.4**
MT01 Popeta 5.33 186 Pn **Pn 02 12 16.4 -2.1**
BO04 La Punta 5.42 180 Pn **Pn 02 12 17.6 -2.3**
BO01 Tunca 5.84 184 Pn **Pn 02 12 23.6 -1.8**
BO02 Sierra Bellavi 6.23 181 Pn **Pn 02 12 28.4 -2.4**
PB09 IPOC Station P 6.83 11 Pn **Pn 02 12 37.4 -1.6**
ML02 Panimavida 7.23 185 Pn **Pn 02 12 41.4 -2.8**
PB01 IPOC Station P 7.54 8 Pn **Pn 02 12 45.8 -2.8**
BI02 San Fabin de 8.11 184 Pn **Pn 02 12 53.7 -2.6**
TRQA Tornquist 11.90 145 Pn **Pn 02 13 44.5 -3.0**
PLCA Paso Flores 12.16 180 Pn **Pn 02 13 50.7 -0.2**
MG05 Puerto Natales 23.15 183 P **P 02 16 00.4 +2.1**
MG05 IAmb IAmb 02 16 02.1
comp=Z,7.3nm,1.1s
MG03 Isla Dawson 25.28 180 P **P 02 16 19.2 +1.6**
MG03 IAmb IAmb 02 16 23.8
comp=Z,14nm,1.1s
SNAA Sanae 56.20 159 P **P 02 20 29.7 -0.3**
SNAA IAmb IAmb 02 20 30.5
comp=Z,3.5nm,1.0s

SOME ***13*** *02:16:31.8,39°.37N×74°.80E, h0km*
KRNET ***13*** *02:16:36.4±0.1,39°.20N×73°.92E, h12km, mb2.8*
NNC ***13*** *02:16:40.2±2.0,39°.42N×74°.38E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=16.9km s-min=10.1km az=156.0*
ISC 13 02:16:32.2±2.0,39°.20N±0°.06×74°.20E±0°.04, h9km±12km, n26,σ1§87/42, 14C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.97**	**326**	⇑*i*P	**Pn**	**02 16 53.2**	**+1.0**
SFK				⇑*i*S	**Sn**	**02 17 05.8**	**-0.5**
SALK	**Salom-Alik**	**1.70**	**350**	⇑*e*P	**Pg**	**02 17 08.3**	**+3.5**
SALK				⇑*i*S	**Sg**	**02 17 31.0**	**+4.0**
OHH	**Osh**	**1.71**	**321**	⇑*e*P	**Pg**	**02 17 06.5**	**+1.5**
OHH				⇑*e*S	**Sg**	**02 17 27.9**	**+0.7**
DRK	**Karamyk**	**1.88**	**279**	⇓*e*P	**Pg**	**02 17 07.6**	**-0.7**
DRK				⇓*e*S	**Sb**	**02 17 30.7**	**+0.1**
ARLS	**Aral**	**2.66**	**2**	⇓*e*P	**Pg**	**02 17 23.0**	**-0.1**
ARLS				⇓*i*S	**Sg**	**02 17 56.9**	**-0.6**
BTK	**Batken**	**2.75**	**289**	⇓*e*P	**Pb**	**02 17 21.4**	**-0.1**
BTK				⇓*e*S	**Sb**	**02 17 53.8**	**-1.6**
ARK	**Arkit**	**3.10**	**327**	⇓*e*P	**Pb**	**02 17 27.2**	**-0.4**
ARK				⇓*e*S	**Sb**	**02 18 04.1**	**-1.5**
TRKS	**Terek-Say**	**3.30**	**316**	⇓*e*P	**Pb**	**02 17 29.0**	**-1.9**
TRKS				⇓*e*S	**Sn**	**02 18 06.5**	**+3.0**
AAK	**Ala-Archa**	**3.44**	**4**	⇑Pn	**Pb**	**02 17 33.2**	**-0.1**
	5.3nm,0.8s						
AAK				⇑Lg	Lg	02 18 23.1	
	16nm,1.0s						
MNAS	**Manas**	**3.52**	**339**	⇓*e*P	**Pb**	**02 17 34.1**	**-0.7**
MNAS				⇓*e*S	**Sb**	**02 18 15.9**	**-1.8**
BOOM	**Boomskoye usch**	**3.54**	**21**	⇑*e*P	**Pb**	**02 17 36.2**	**+1.2**
BOOM				⇑*e*S	**Sb**	**02 18 20.0**	**+1.9**
MRKS	**Merke**	**3.62**	**349**	*e*P	**Pg**	**02 17 39.0**	**-2.4**
	2.8nm,0.4s						
MRKS				*e*S	**Sg**	**02 18 26.1**	**-2.1**
	5.1nm,0.5s						
KDJ	**Kajisay**	**3.70**	**37**	⇓*e*P	**Pb**	**02 17 39.0**	**+1.2**
KDJ				⇓*e*S	**Sb**	**02 18 25.2**	**+2.5**
TKM2	**Tokmak 2**	**3.86**	**15**	⇑Pn	**Pb**	**02 17 38.5**	**-2.0**
	1.8nm,0.5s						
TKM2				⇑Lg	Lg	02 18 30.8	
	5.5nm,0.8s						
KST	**Kastek**	**4.06**	**19**	Pg	**Pg**	**02 17 49.7**	**-0.2**
KST				Lg	Lg	02 18 44.0	
KST	**Kastek**	**4.06**	**19**	*e*P	**Pb**	**02 17 43.0**	**-0.8**
	1.7nm,0.4s						
KST				*e*S	**Sb**	**02 18 32.6**	**-0.5**
	7.0nm,0.6s						
DGS	**Degeres**	**4.21**	**16**	Pg	**Pg**	**02 17 51.6**	**-1.1**
	4.9nm,0.5s						
DGS				Lg	Lg	02 18 47.2	
	5.4nm,0.8s						
MTBS	**Maitube**	**4.27**	**22**	Pg	**Pg**	**02 17 52.3**	**-1.6**
	4.1nm,0.4s						
MTBS				Lg	Lg	02 18 48.9	
	3.7nm,0.5s						
IUG	**Iuzhnay**	**4.33**	**314**	Pg	**Pg**	**02 17 58.2**	**+3.2**
	10nm,0.4s						
IUG				Lg	Lg	02 18 59.2	
	8.1nm,0.6s						
TNSS	**Tian-Shan**	**4.36**	**28**	*e*P	**Pb**	**02 17 47.4**	**-1.6**
	0.5nm,0.1s						
TNSS				*e*S	**Sb**	**02 18 40.7**	**-1.2**
	1.9nm,0.5s						
KOTS	**Kotyrbulak**	**4.59**	**28**	Pg	**Pg**	**02 17 58.6**	**-1.4**
	5.6nm,0.9s						
KOTS				Lg	Lg	02 19 00.2	
	13nm,0.4s						
KOTS	**Kotyrbulak**	**4.59**	**28**	*e*P	**Pb**	**02 17 51.6**	**-1.3**
	2.0nm,0.3s						
KOTS				*e*S	**Sb**	**02 18 47.4**	**-0.9**
	8.6nm,0.3s						
KK31	**Karatay Array**	**4.79**	**326**	⇑Pn	**Pb**	**02 17 52.1**	**-4.1**
	0.3nm,0.2s,baz=134,slow=12,SNR=8.6						
KK31				⇑Lg	Lg	02 19 08.7	
	0.9nm,0.4s						
KTBS	**Karatobe**	**4.88**	**22**	Pg	**Pg**	**02 18 03.1**	**-2.4**
	3.0nm,0.7s						
KTBS				Lg	Lg	02 19 07.8	
	4.2nm,0.7s						
BRLS	**Borolday**	**5.05**	**321**	Pg	**Pg**	**02 18 07.3**	**-1.6**
	1.1nm,0.3s						
BRLS				Lg	Lg	02 19 15.7	
	1.6nm,0.5s						
BRLS	**Borolday**	**5.05**	**321**	*e*P	**Pg**	**02 18 07.6**	**-1.2**
	0.3nm,0.1s						
BRLS				*e*S	**Sg**	**02 19 15.3**	**+1.1**
	0.9nm,0.4s						

SNET ***13*** *02:19:04.9±0.8, 12°.75N×87°.27W, h150km±9km, ML3.7*
UCR ***13*** *02:19:04.8±1.0, 13°.13N×87°.11W, h151km±9km, MW3.9*
IDC ***13*** *02:19:04.6±1.2, 12°.88N×87°.14W, h151km±25km, mb3.3/5, mbtmp3.7/7, MS3.7/2, Error ellipse: s-maj=51.8km s-min=14.1km az=38.0*
GCG ***13*** *02:19:05.8±1.6, 12°.46N×87°.67W, h172km±42km, MD4.7*
CATAC ***13*** *02:19:08.9±0.3, 13°N×4°×8°7W±°, h111km±2km, M3.6/37, MLv3.6/37, Error ellipse: s-maj=8.9km s-min=2.0km az=24.3, confirmed*
ISC 13 02:19:05.3±0.9, 12°.84N±0°.06×87°.28W±0°.04, h144km±5km, n146,σ1§43/157, mb3.5/5, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.26**	**121**	S	**Sn**	**02 19 39.5**	**-0.6**
CRIN	**San Cristobal**	**0.26**	**121**	P	**Pn**	**02 19 26.6**	**+1.5**
CRIN	**San Cristobal**	**0.26**	**121**	P	**Pn**	**02 19 26.5**	**+1.5**
CRIN	**San Cristobal**	**0.26**	**121**	⇑*i*P	**Pn**	**02 19 26.4**	**+1.3**
CRIN				*e*S	**Sn**	**02 19 43.1**	**+3.1**
POTN	**Potosi Cosigui**	**0.27**	**307**	P	**Pn**	**02 19 26.4**	**+1.4**
POTN				S	**Sn**	**02 19 38.5**	**-1.5**
POTN	**Potosi Cosigui**	**0.27**	**307**	P	**Pn**	**02 19 26.2**	**+1.2**
CSGN	**Cosiguina Volc**	**0.30**	**297**	P	**Pn**	**02 19 26.1**	**+0.9**
CSGN				S	**Sn**	**02 19 38.8**	**-1.5**
CSGN	**Cosiguina Volc**	**0.30**	**297**	P	**Pn**	**02 19 26.1**	**+0.9**
CSGN	**Cosiguina Volc**	**0.30**	**297**	⇑*e*P	**Pn**	**02 19 26.1**	**+0.9**
QUEN	**Al S del Volca**	**0.48**	**120**	P	**Pn**	**02 19 26.2**	**+0.3**
HERN	**Volcan Telica**	**0.49**	**117**	P	**Pn**	**02 19 27.1**	**+1.1**
HERN	**Volcan Telica**	**0.49**	**117**	P	**Pn**	**02 19 27.1**	**+1.1**
POLN	**Al Sur del Vol**	**0.49**	**112**	P	**Pn**	**02 19 27.3**	**+1.4**
POLN				S	**Sn**	**02 19 40.8**	**-0.8**
POLN	**Al Sur del Vol**	**0.49**	**112**	P	**Pn**	**02 19 27.2**	**+1.3**
TELN	**Telica**	**0.50**	**118**	P	**Pn**	**02 19 27.3**	**+1.2**
TELN	**Telica**	**0.50**	**118**	P	**Pn**	**02 19 27.2**	**+1.2**
TEL3	**Telica 3**	**0.50**	**122**	P	**Pn**	**02 19 27.2**	**+1.3**
PLRN	**Geotermica Pol**	**0.56**	**117**	P	**Pn**	**02 19 26.9**	**+0.7**
PLRN				S	**Sn**	**02 19 42.3**	**+0.2**
PLRN	**Geotermica Pol**	**0.56**	**117**	P	**Pn**	**02 19 26.9**	**+0.7**
CNGA	**Al SSO del Vol**	**0.66**	**121**	P	**Pn**	**02 19 28.2**	**+1.2**
CNGA				S	**Sn**	**02 19 42.7**	**-0.6**
CNGA	**Al SSO del Vol**	**0.66**	**121**	P	**Pn**	**02 19 28.1**	**+1.2**
CNGN	**Cerro Negro**	**0.66**	**120**	P	**Pn**	**02 19 28.1**	**+1.2**
CNGN	**Cerro Negro**	**0.66**	**120**	S	**Sn**	**02 19 43.0**	**-0.3**
CNGN	**Cerro Negro**	**0.66**	**120**	P	**Pn**	**02 19 27.9**	**+1.0**
CNCH	**Conchagua**	**0.69**	**309**	*e*P	**Pn**	**02 19 28.2**	**+0.9**
CNCH				*e*S	**Sn**	**02 19 46.6**	**+2.7**
CNCH	**Conchagua**	**0.69**	**309**	S	**Sn**	**02 19 43.3**	**-0.6**
CNCH	**Conchagua**	**0.69**	**309**	P	**Pn**	**02 19 28.4**	**+1.1**
CNCH	**Conchagua**	**0.69**	**309**	P	**Pn**	**02 19 28.3**	**+1.1**
LCND	**La Caada**	**0.76**	**308**	*e*P	**Pn**	**02 19 28.4**	**+0.9**
LCND				IAML		02 19 54.2	
	comp=Z,734nm,0.3s						
LCND	**La Caada**	**0.76**	**308**	S	**Sn**	**02 19 43.8**	**-0.7**
LCND	**La Caada**	**0.76**	**308**	P	**Pn**	**02 19 28.6**	**+1.0**
LCND	**La Caada**	**0.76**	**308**	P	**Pn**	**02 19 28.6**	**+1.0**
LEVN	**Ruinas Leon Vi**	**0.78**	**124**	P	**Pn**	**02 19 28.8**	**+1.1**
LEVN				S	**Sn**	**02 19 44.1**	**-0.6**
LEVN	**Ruinas Leon Vi**	**0.78**	**124**	P	**Pn**	**02 19 28.8**	**+1.1**
MOMN	**Momotombo**	**0.84**	**120**	P	**Pn**	**02 19 29.3**	**+1.0**
MOMN				S	**Sn**	**02 19 45.0**	**-0.7**
MOMN	**Momotombo**	**0.84**	**120**	P	**Pn**	**02 19 29.2**	**+1.0**
LIMN	**Finca el Limon**	**0.92**	**76**	P	**Pn**	**02 19 30.3**	**+1.4**
LIMN	**Finca el Limon**	**0.92**	**76**	P	**Pn**	**02 19 30.5**	**+1.6**
BLLM	**Bellamira**	**1.11**	**303**	*e*P	**Pn**	**02 19 31.8**	**+1.2**
LCY	**Lacayo**	**1.15**	**301**	*e*P	**Pn**	**02 19 32.1**	**+1.2**
RANC	**El Ranchito**	**1.15**	**301**	*e*P	**Pn**	**02 19 32.1**	**+1.1**
RANC	**El Ranchito**	**1.15**	**301**	P	**Pn**	**02 19 32.3**	**+1.3**
RANC	**El Ranchito**	**1.15**	**301**	S	**Sn**	**02 19 49.2**	**-1.3**
RANC	**El Ranchito**	**1.15**	**301**	P	**Pn**	**02 19 32.3**	**+1.3**
PACA	**Pacayal**	**1.19**	**302**	*e*P	**Pn**	**02 19 33.4**	**+1.9**
PACA	**Pacayal**	**1.19**	**302**	S	**Sn**	**02 19 50.4**	**-0.9**
PACA	**Pacayal**	**1.19**	**302**	P	**Pn**	**02 19 33.0**	**+1.6**
PACA	**Pacayal**	**1.19**	**302**	P	**Pn**	**02 19 33.1**	**+1.6**
TISN	**Laguna Tiscapa**	**1.21**	**125**	P	**Pn**	**02 19 33.1**	**+1.7**
TISN	**Laguna Tiscapa**	**1.21**	**125**	P	**Pn**	**02 19 31.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.21**	**0**	P	**Pn**	**02 19 33.5**	**+1.9**
MGAN	**Managua**	**1.22**	**124**	*e*P	**Pn**	**02 19 32.6**	**+1.1**
UNAN	**Cigeo UNAN**	**1.22**	**126**	P	**Pn**	**02 19 32.8**	**+1.2**
UNAN				S	**Sn**	**02 19 50.4**	**-1.1**
UNAN	**Cigeo UNAN**	**1.22**	**126**	P	**Pn**	**02 19 32.7**	**+1.2**
RCFN	**Al S de San Ju**	**1.25**	**56**	P	**Pn**	**02 19 33.5**	**+1.6**
RCFN	**Al S de San Ju**	**1.25**	**56**	P	**Pn**	**02 19 33.6**	**+1.6**
RCVN	**Varillal2**	**1.29**	**55**	P	**Pn**	**02 19 34.1**	**+1.6**
RCVN	**Varillal2**	**1.29**	**55**	P	**Pn**	**02 19 34.0**	**+1.6**
CAHU	**Cacacuatique**	**1.30**	**316**	*e*P	**Pn**	**02 19 34.0**	**+1.5**
RCPN	**Sur Rio San Ju**	**1.34**	**59**	P	**Pn**	**02 19 34.9**	**+2.0**
RCPN	**Sur Rio San Ju**	**1.34**	**59**	P	**Pn**	**02 19 34.5**	**+1.6**
ALJI	**Alcalda de J**	**1.35**	**291**	S	**Sn**	**02 19 53.6**	**-0.2**
ALJI	**Alcalda de J**	**1.35**	**291**	P	**Pn**	**02 19 34.2**	**+1.4**
NANN	**Nandasmo**	**1.44**	**128**	P	**Pn**	**02 19 36.1**	**+2.3**
NANN	**Nandasmo**	**1.44**	**128**	S	**Sn**	**02 19 55.5**	**-0.1**
NANN	**Nandasmo**	**1.44**	**128**	P	**Pn**	**02 19 36.1**	**+2.3**
PQSS	**Presa 15 de Se**	**1.47**	**302**	P	**Pn**	**02 19 35.8**	**+1.7**
PQSS	**Presa 15 de Se**	**1.47**	**302**	S	**Sn**	**02 19 56.2**	**+0.1**
TECO	**Alcaldia de Te**	**1.62**	**296**	*e*P	**Pn**	**02 19 36.5**	**+0.8**
TECO	**Alcaldia de Te**	**1.62**	**296**	S	**Sn**	**02 19 59.4**	**+0.4**
TECO	**Alcaldia de Te**	**1.62**	**296**	P	**Pn**	**02 19 37.5**	**+1.8**
BOAB	**BOACO BROADBAN**	**1.62**	**104**	P	**Pn**	**02 19 37.2**	**+1.5**
BOAB	**BOACO BROADBAN**	**1.62**	**104**	S	**Sn**	**02 19 59.4**	**+0.4**
BOAB	**BOACO BROADBAN**	**1.62**	**104**	P	**Pn**	**02 19 37.3**	**+1.5**
SCLA	**Alcaldia de Sa**	**1.65**	**302**	*e*P	**Pn**	**02 19 37.5**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.65**	**302**	S	**Sn**	**02 20 00.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.65**	**302**	P	**Pn**	**02 19 37.6**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.65**	**302**	P	**Pn**	**02 19 37.4**	**+1.2**
UESV	**Universidad de**	**1.67**	**299**	P	**Pn**	**02 19 37.3**	**+1.0**
UESV	**Universidad de**	**1.67**	**299**	S	**Sn**	**02 20 00.0**	**+0.1**
COEG	**Centro de Oper**	**1.74**	**297**	*e*P	**Pn**	**02 19 38.8**	**+1.6**
COEG				IAML		02 20 09.3	
	comp=Z,462nm,0.2s						
COEG	**Centro de Oper**	**1.74**	**297**	S	**Sn**	**02 20 01.7**	**+0.2**
COEG	**Centro de Oper**	**1.74**	**297**	P	**Pn**	**02 19 39.0**	**+1.9**
PAVA	**Las Pavas**	**1.83**	**299**	P	**Pn**	**02 19 39.6**	**+1.4**
PAVA	**Las Pavas**	**1.83**	**299**	S	**Sn**	**02 20 04.1**	**+0.6**
LFRS	**El Faro**	**1.90**	**294**	*e*P	**Pn**	**02 19 40.0**	**+0.9**
PANCS	**Alcalda de**	**2.00**	**293**	S	**Sn**	**02 20 07.1**	**+0.2**
PANCS	**Alcalda de**	**2.00**	**293**	P	**Pn**	**02 19 42.2**	**+2.0**
LOMA	**Loma Larga**	**2.01**	**294**	*e*P	**Pn**	**02 19 41.4**	**+1.1**
LOMA	**Loma Larga**	**2.01**	**294**	P	**Pn**	**02 19 41.8**	**+1.5**
LOMA	**Loma Larga**	**2.01**	**294**	S	**Sn**	**02 20 07.2**	**+0.1**
UDBS	**Universidad Do**	**2.02**	**296**	S	**Sn**	**02 20 07.2**	**-0.2**
UDBS	**Universidad Do**	**2.02**	**296**	P	**Pn**	**02 19 42.9**	**+2.5**
LLGN	**La Laguna**	**2.09**	**309**	S	**Sn**	**02 20 09.4**	**+0.7**
LLGN	**La Laguna**	**2.09**	**309**	P	**Pn**	**02 19 42.7**	**+1.5**
LALI	**Alcalda de L**	**2.09**	**288**	P	**Pn**	**02 19 43.3**	**+2.1**
LALI	**Alcalda de L**	**2.09**	**288**	S	**Sn**	**02 20 08.8**	**+0.2**
UEES	**Universidad Ev**	**2.10**	**295**	P	**Pn**	**02 19 42.9**	**+1.6**
UEES	**Universidad Ev**	**2.10**	**295**	S	**Sn**	**02 20 09.6**	**+0.6**
ITCA	**Escuela Especi**	**2.12**	**293**	P	**Pn**	**02 19 43.7**	**+2.1**
ITCA	**Escuela Especi**	**2.12**	**293**	S	**Sn**	**02 20 08.9**	**-0.4**
PMON	**Piamonte**	**2.16**	**294**	P	**Pn**	**02 19 43.2**	**+1.1**
PMON	**Piamonte**	**2.16**	**294**	S	**Sn**	**02 20 10.1**	**-0.3**
PMON	**Piamonte**	**2.16**	**294**	P	**Pn**	**02 19 43.2**	**+1.1**
ACON	**Acoyapa**	**2.23**	**113**	P	**Pn**	**02 19 44.0**	**+1.1**
ACON	**Acoyapa**	**2.23**	**113**	*e*P	**Pn**	**02 19 43.7**	**+0.8**
JAYA	**Jayaque - finc**	**2.26**	**291**	S	**Sn**	**02 20 12.5**	**-0.1**
JAYA	**Jayaque - finc**	**2.26**	**291**	P	**Pn**	**02 19 44.8**	**+1.4**
JAYA	**Jayaque - finc**	**2.26**	**291**	*i* S	**Sn**	**02 20 13.1**	**+0.5**
JAYA	**Jayaque - finc**	**2.26**	**291**	*i* S		02 20 13.1	
CEDA	**San Andres**	**2.27**	**295**	P	**Pn**	**02 19 45.3**	**+1.9**
CEDA	**San Andres**	**2.27**	**295**	S	**Sn**	**02 20 13.2**	**+0.6**
LCRUZ	**La Cruz**	**2.38**	**137**	*e*P	**Pn**	**02 19 46.5**	**+1.8**
LCRUZ				*e*S	**Sn**	**02 20 15.4**	**+0.4**
CEVE	**Cerro Verde**	**2.48**	**294**	*e*P	**Pn**	**02 19 48.0**	**+1.9**
CEVE	**Cerro Verde**	**2.48**	**294**	S	**Sn**	**02 20 18.4**	**+0.8**
CEVE	**Cerro Verde**	**2.48**	**294**	P	**Pn**	**02 19 47.3**	**+1.1**
CEVE	**Cerro Verde**	**2.48**	**294**	P	**Pn**	**02 19 48.1**	**+1.9**
MTO3	**Montecristo**	**2.55**	**308**	P	**Pn**	**02 19 48.1**	**+1.1**
MTO3	**Montecristo**	**2.55**	**308**	S	**Sn**	**02 20 19.2**	**+0.2**
MTO3	**Montecristo**	**2.55**	**308**	P	**Pn**	**02 19 48.3**	**+1.3**
NUBE	**Las Nubes**	**2.65**	**294**	S	**Sn**	**02 20 22.2**	**+1.0**
NUBE	**Las Nubes**	**2.65**	**294**	P	**Pn**	**02 19 50.6**	**+2.4**
NUBE	**Las Nubes**	**2.65**	**294**	P	**Pn**	**02 19 49.1**	**+0.9**
NUBE	**Las Nubes**	**2.65**	**294**	*i* P	**Pn**	**02 19 49.0**	**+0.8**
NUBE				*i* S	**Sn**	**02 20 24.3**	**+3.1**
NUBE	**Las Nubes**	**2.65**	**294**	*i* P		02 19 49.0	
NUBE				*i* S		02 20 24.3	
SLOZ	**Alcaldia de Sa**	**2.71**	**296**	P	**Pn**	**02 19 50.4**	**+1.7**
SLOZ	**Alcaldia de Sa**	**2.71**	**296**	S	**Sn**	**02 20 23.8**	**+1.5**
ALIBA	**Liberia Airpor**	**2.80**	**142**	*e*P	**Pn**	**02 19 51.9**	**+1.9**
NICO	**Nicoya**	**3.23**	**146**	⇑*i*P	**Pn**	**02 19 56.3**	**+0.8**
JTS	**Las Juntas de**	**3.41**	**138**	P	**Pn**	**02 19 58.2**	**+0.4**
	comp=Z,11nm,0.3s,baz=326,slow=13,SNR=15						
JTS				S	**Sn**	**02 20 36.7**	**-1.6**
	comp=Z,52nm,0.3s,baz=276,slow=19,SNR=15						
JTS	**Las Juntas de**	**3.41**	**138**	*e*P	**Pn**	**02 19 58.3**	**+0.6**
INDI	**Punta indio, G**	**3.43**	**149**	P	**Pn**	**02 19 58.7**	**+0.7**
APG	**El Apazote**	**3.77**	**305**	P	**Pn**	**02 20 03.1**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=128,slow=9.1,SNR=7.6						
APG				S	**Sn**	**02 20 43.0**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=92,slow=16,SNR=2.3						
APG	**El Apazote**	**3.77**	**305**	*i* P	**Pn**	**02 20 04.2**	**+1.6**
APG	**El Apazote**	**3.77**	**305**	*i* P		02 20 04.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**4.25**	**292**	*i* P		02 20 14.1	
STG0				*i* S		02 21 06.4	
STG8	**El Palmar, Qui**	**4.27**	**293**	*i* P		02 20 15.0	
STG8				*e*S		02 21 06.5	
PICV	**PH. Pirrs**	**4.40**	**136**	*e*P	**Pn**	**02 20 14.3**	**+3.5**
ABE2	**San Pablo**	**4.44**	**134**	*e*P	**Pn**	**02 20 15.9**	**+4.4**
LCR2	**La Lucha 2**	**4.45**	**133**	*e*P	**Pn**	**02 20 14.4**	**+2.8**
EDPE	**Pejibaye, P**	**5.16**	**135**	*e*P	**Pn**	**02 20 23.3**	**+2.4**
DRK0	**Durika**	**5.32**	**131**	*e*P	**Pn**	**02 20 24.3**	**+1.2**
CMIG	**Matias Romero**	**8.48**	**301**	P	**Pn**	**02 21 05.6**	**+0.5**
	comp=Z,0.7nm,0.2s,baz=160,slow=13,SNR=5.4						
CMIG				S	Sn	02 22 32.3	-7.1
	comp=Z,1.5nm,0.3s,baz=124,slow=18,SNR=5.1						
ATAH	**Atahualpa**	**21.72**	**156**	LR	LR	02 31 53.9	
	comp=Z,63nm,19.2s,baz=45,slow=35						
TXAR	**Lajitas Array**	**22.39**	**320**	P	**P**	**02 23 51.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=142,slow=9.5,SNR=12						
	comp=Z,1.1nm,0.5s						
PDAR	**Pinedale Array**	**35.51**	**331**	P	**P**	**02 25 47.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=132,slow=10,SNR=5.2						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**37.52**	**318**	P	**P**	**02 26 04.6**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=135,slow=5.1,SNR=2.4						
	comp=Z,0.5nm,0.3s						
SCHQ	**Schefferville**	**44.86**	**17**	P	P	02 27 03.3	-1.9
	comp=Z,2.1nm,0.5s,baz=213,slow=8.5,SNR=7.0						
	comp=Z,2.1nm,0.5s						
YKA	**Yellowknife Ar**	**53.28**	**345**	P	P	02 28 06.5	-2.5
	comp=Z,0.2nm,0.6s,baz=145,slow=7.8,SNR=6.3						
YKA				LR	LR	02 52 08.0	
	comp=Z,190nm,18.6s,baz=322,slow=37						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**139.53**	**254**	PKP	**PKPdf**	**02 38 15.7**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=88,slow=2.5,SNR=13						
ASAR	**Alice Springs**	**139.56**	**249**	PKP	**PKPdf**	**02 38 15.9**	**-0.8**

MDD ***13*** *02:41:37.7±0.1, 37°.00N×5°.29W, h0km, mb_Lg4.0/76, Error ellipse: s-maj=1.1km s-min=1.0km az=150.0*
IGIL ***13*** *02:41:38.1, 37°.00N×5°.29W, h0km, ML3.7*
INMG ***13*** *02:41:38.8±1.7, 36°.96N×5°.28W, h13km±2km, ML3.7, Error ellipse: s-maj=1.7km s-min=1.6km az=80.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
SFS ***13*** *02:41:38.4, 36°.97N×5°.25W, h6km, ML4.0/28, ML4.0/38, MLv3.9/38*
LDG ***13*** *02:41:39.3±0.1, 36°.99N×5°.25W, h10km, Ml3.9/13*
CNRM ***13*** *02:41:41.8, 36°.74N×5°.33W, h79km, ML3.5*
ISC 13 02:41:36.9±0.9, 36°.96N±0°.01×5°.26W±0°.01, h19km±2km, n170,σ1§80/342, 1C-13D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.13**	**245**	Pg	**Pg**	**02 41 41.2**	**0.0**
LIJA				Sg	**Sg**	**02 41 43.3

EALB				Sn	Sb	02 42 37.7	-1.2
EALB	**Alboran**	**2.06**	**119**	Pn	Pn	02 42 11.7	+1.1
EALB				Sn	Sb	02 42 39.9	+0.9
PBDV	**Barranco-do-Ve**	**2.16**	**278**	‖ iPn	Pn	02 42 13.1	+1.1
PBDV				eSn	Sn	02 42 38.7	+0.6
PBDV				i AML	AML	02 42 51.0	
PBDV				i AML	AML	02 42 52.1	
PBDV				i AML	AML	02 42 53.7	
PSIM	**Granatula de C**	**2.20**	**32**	Pn	Pn	02 42 14.0	+1.5
PSIM				Pg	Pb	02 42 17.0	+0.8
PSIM				Sn	Sn	02 42 39.4	+0.1
PSIM				Sg	Sb	02 42 46.0	+2.9
EBAD	**Badajoz**	**2.27**	**323**	Pn	Pn	02 42 14.4	+1.0
EBAD				Pg	Pb	02 42 18.0	+0.7
EBAD				Sn	Sn	02 42 41.8	+0.9
EBAD				Sg	Sb	02 42 47.1	+2.2
EBAD				i Vmb_Lg		02 42 51.8	
PCVE	**Castro Verde**	**2.32**	**288**	‖ iPn	Pn	02 42 15.2	+1.1
PCVE				eSn	Sn	02 42 44.2	+2.1
PCVE				eSg	Sg	02 42 50.3	-1.2
PCVE				i AML	AML	02 42 58.8	
PCVE				i AML	AML	02 43 00.9	
PCVE				i AML	AML	02 43 01.2	
PBEJ	**Beja**	**2.33**	**298**	‖ iPn	Pn	02 42 15.3	+1.0
PBEJ				i AML	AML	02 43 00.9	
ENIJ	**Nijar**	**2.44**	**89**	Pn	Pn	02 42 17.9	+2.1
ENIJ	**Nijar**	**2.44**	**89**	Pn	Pn	02 42 18.0	+2.1
ENIJ				Sn	Sb	02 42 49.7	-0.2
ENIJ				i Vmb_Lg		02 43 05.7	
WMELI	**Melilla**	**2.48**	**131**	Sn	Sb	02 42 49.1	-2.0
WMELI				Pn	Pn	02 42 18.7	+2.3
EMEL	**Melilla**	**2.49**	**131**	Pn	Pb	02 42 18.9	-2.2
EMEL				Sn	Sb	02 42 51.1	-0.3
EMEL				i Vmb_Lg		02 43 03.5	
EMLI	**Melilla**	**2.50**	**131**	Pn	Pn	02 42 18.9	+2.3
MESJ	**Messejana**	**2.52**	**291**	eP	Pn	02 42 18.0	+1.2
MESJ	**Messejana**	**2.52**	**291**	‖ iPn	Pn	02 42 18.0	+1.2
MESJ				eSn	Sn	02 42 49.5	+2.5
MESJ				i AML	AML	02 43 07.4	
MESJ				i AML	AML	02 43 08.4	
MESJ				i AML	AML	02 43 10.3	
GOG	**Mont Gurugu**	**2.52**	**133**	P	Pn	02 42 19.3	+2.3
GOG	**Mont Gurugu**	**2.52**	**133**	S	Sn	02 42 48.5	+1.3
PESTR	**Estremoz**	**2.65**	**317**	ePn	Pn	02 42 19.9	+1.2
PESTR				eSn	Sn	02 42 51.0	+0.6
PESTR				eSg	Sg	02 43 00.6	-1.5
PESTR				i AML	AML	02 43 05.8	
PESTR				i AML	AML	02 43 08.7	
PESTR				i AML	AML	02 43 11.4	
PESTR	**Estremoz**	**2.65**	**317**	Pn	Pn	02 42 20.0	+1.3
PAB	**San Pablo**	**2.68**	**15**	Pn	Pn	02 42 21.3	+2.2
PAB				Pg	Pb	02 42 26.0	+1.7
PAB				Sn	Sn	02 42 52.1	+1.0
PAB				Sg	Sb	02 42 59.6	+2.8
PAB				i Vmb_Lg		02 43 06.0	
EVO	**Evora**	**2.69**	**306**	‖ iPn	Pn	02 42 20.4	+1.2
EVO				ePg	Pg	02 42 28.4	-0.1
EVO				eSn	Sn	02 42 52.7	+1.4
EVO				i AML	AML	02 43 09.8	
EVO				i AML	AML	02 43 09.8	
EVO				i AML	AML	02 43 13.9	
EVO	**Evora**	**2.69**	**306**	Pn	Pn	02 42 20.4	+1.2
EVO				Sn	Sn	02 42 54.1	+2.8
AKLM	**AKL**	**2.70**	**155**	P	Pn	02 42 20.0	+0.6
AKLM	**AKL**	**2.70**	**155**	S	Sn	02 42 46.9	-4.7
MORF	**Marmelete**	**2.74**	**278**	eP	Pn	02 42 20.8	+0.9
MORF				eS	Sn	02 42 52.3	-0.1
MORF				IAML		02 43 08.1	
comp=N,331nm,0.4s							
MORF	**Marmelete**	**2.74**	**278**	ePn	Pn	02 42 20.8	+0.9
MORF				eSn	Sn	02 42 52.5	0.0
MORF				eSg	Sg	02 43 05.0	+0.1
MORF				i AML	AML	02 43 08.3	
MORF				i AML	AML	02 43 11.1	
MORF				i AML	AML	02 43 12.8	
PTEO	**Sao Teotonio**	**2.83**	**283**	‖ iPn	Pn	02 42 22.4	+1.3
PTEO				eSn	Sn	02 42 54.8	+0.2
PTEO				i AML	AML	02 43 19.0	
PTEO				i AML	AML	02 43 22.4	
PTEO				i AML	AML	02 43 23.6	
PFVI	**Vila Bisbo**	**2.86**	**274**	ePn	Pn	02 42 22.4	+0.8
PFVI				eSn	Sn	02 42 56.1	+0.6
PFVI				eSg	Sg	02 43 09.9	+1.0
PFVI				i AML	AML	02 43 14.0	
PFVI				i AML	AML	02 43 17.0	
PFVI				i AML	AML	02 43 18.8	
ESDC	**Sonseca Array**	**2.89**	**20**	Pn	Pn	02 42 23.9	+1.8
ESDC				Pg	Pb	02 42 29.0	+1.1
ESDC				Sn	Sn	02 42 57.0	+0.7
ESDC				Sg	Sb	02 43 06.4	+3.4
ESDC				i Vmb_Lg		02 43 12.3	
ESBB	**Sonseca Array**	**2.89**	**20**	Pn	Pn	02 42 23.8	+1.7
ESBB				Pg	Pb	02 42 29.4	+1.4
ESBB				Sn	Sn	02 42 58.6	+2.2
ESBB				Sg	Sb	02 43 06.5	+3.5
CHAS	**Isla Isabel II**	**2.90**	**127**	Pn	Pn	02 42 23.1	+1.0
CHAS				Sn	Sn	02 42 58.0	+1.7
TLOR	**Lorca, Murcia**	**2.93**	**75**	Pn	Pn	02 42 24.7	+2.3
TLOR	**Lorca, Murcia**	**2.93**	**75**	Pn	Pn	02 42 24.1	+1.6
TLOR				Pg	Pg	02 42 31.4	-1.6
TLOR				Sn	Sn	02 42 59.5	+2.4
TLOR				Sg	Sg	02 43 08.3	-2.7
EZAR	**Zarzadilla de**	**2.98**	**71**	Pn	Pn	02 42 25.0	+1.8
EZAR				Pg	Pb	02 42 31.6	+2.2
EZAR				Sn	Sn	02 43 01.5	+3.0
EZAR				Sg	Sg	02 43 14.0	+1.4
EZAR				i Vmb_Lg		02 43 35.1	
PMRV	**Marv??o**	**2.98**	**326**	ePn	Pn	02 42 24.4	+1.1
PMRV				eSn	Sn	02 42 59.2	+0.7
PMRV				eSg	Sg	02 43 10.7	-2.1
PMRV				i AML	AML	02 43 15.9	
PMRV				i AML	AML	02 43 16.1	
PMRV				i AML	AML	02 43 23.7	
EXBUL	**Bullas, Murcia**	**3.06**	**68**	Pn	Pn	02 42 25.9	+1.7
EXBUL				Pg	Pb	02 42 31.3	+0.5
EXBUL				Sn	Sn	02 43 03.6	+3.2
EXBUL				Sg	Sb	02 43 11.9	+4.2
TAF	**Taforalt**	**3.15**	**132**	P	Pn	02 42 27.7	+2.1
TAF				P	Pb	02 42 28.2	-4.2
TAF	**Taforalt**	**3.15**	**132**	S	Sn	02 43 04.5	+1.8
PMTG	**Montargil**	**3.15**	**313**	ePn	Pn	02 42 26.6	+1.0
PMTG				eSn	Sn	02 43 04.7	+2.1
PMTG				eSg	Sg	02 43 18.5	+0.4
PMTG				i AML	AML	02 43 26.8	
PMTG				i AML	AML	02 43 27.5	
PMTG				i AML	AML	02 43 30.5	
EPLA	**Plasencia**	**3.16**	**348**	Pn	Pn	02 42 26.8	+1.0
EPLA				Pg	Pb	02 42 33.0	+0.4
EPLA				Sn	Sn	02 43 02.4	-0.6
EPLA				Sg	Sb	02 43 14.3	+3.6
EPLA				i Vmb_Lg		02 43 20.6	
LCRM	**LCR**	**3.29**	**174**	P	Pn	02 42 28.8	+1.2
LCRM	**LCR**	**3.29**	**174**	S	Sn	02 43 07.9	+1.7
EMUR	**La Murta**	**3.31**	**73**	Pn	Pn	02 42 29.0	+1.2
EMUR	**La Murta**	**3.31**	**73**	Pn	Pn	02 42 29.2	+1.4
EMUR				Pg	Pb	02 42 36.7	+1.5
EMUR				Sn	Sn	02 43 09.0	+2.6
EMUR				i Vmb_Lg		02 43 36.4	
PCBR	**Castelo Branco**	**3.36**	**329**	ePn	Pn	02 42 29.7	+1.2
PCBR				eSn	Sn	02 43 07.5	-0.3
PCBR				eSg	Sg	02 43 23.4	-1.5
PCBR				i AML	AML	02 43 32.2	
PCBR				i AML	AML	02 43 33.9	
PCBR				i AML	AML	02 43 39.6	
JBK	**JBK**	**3.42**	**139**	P	Pn	02 42 31.4	+2.0
JBK				P	Pn	02 42 31.4	+2.0
JBK	**JBK**	**3.42**	**139**	S	Sn	02 43 09.3	-0.2
IFR	**Ifrane**	**3.44**	**178**	Pn	Pn	02 42 30.3	+0.6
IFR				Sn	Sn	02 43 09.9	-0.1
CART	**Cartagena**	**3.45**	**78**	Pn	Pn	02 42 30.1	+0.5
CART				Sn	Sn	02 43 09.5	-0.5
ZHG	**ZHG**	**3.69**	**198**	P	Pn	02 42 33.8	+0.8
ZHG	**ZHG**	**3.69**	**198**	S	Sn	02 43 17.5	+1.5
UCM	**Universidad Co**	**3.69**	**25**	Pn	Pn	02 42 35.4	+2.4
UCM				Sn	Sn	02 43 18.1	+2.1
PMAFR	**Mafra**	**3.75**	**303**	ePn	Pn	02 42 35.3	+1.5
PMAFR				eSn	Sn	02 43 18.3	+0.8
PMAFR				i AML	AML	02 43 54.4	
PMAFR				i AML	AML	02 43 55.1	
PMAFR				i AML	AML	02 43 57.2	
PMAFR	**Mafra**	**3.75**	**303**	Sn	Sn	02 43 19.5	+2.0
PMAFR				Pn	Pn	02 42 35.3	+1.5
GUD	**Guadarrama**	**3.77**	**13**	Pn	Pn	02 42 36.3	+2.1
GUD				Sn	Sn	02 43 16.7	-1.5
GUD				Sg	Sb	02 43 30.9	+2.4
PSBE	**So Bento**	**3.78**	**314**	ePn	Pn	02 42 36.0	+1.8
PSBE				i AML	AML	02 43 46.0	
MTE	**Manteigas**	**3.87**	**333**	ePn	Pn	02 42 37.7	+2.2
MTE				eSn	Sn	02 43 20.8	+0.3
MTE				eSg	Sg	02 43 39.7	-1.6
MTE				i AML	AML	02 43 46.3	
MTE				i AML	AML	02 43 49.7	
MTE				i AML	AML	02 43 59.0	
EVIV	**Cofrentes, Val**	**3.99**	**54**	Pn	Pn	02 42 37.7	+0.6
EVIV				Pg	Pb	02 42 48.1	+1.4
EVIV				Sn	Sn	02 43 24.5	+1.0
EVIV				Sg	Sg	02 43 42.7	-2.4
EVIV				i Vmb_Lg		02 43 55.6	
PCAS	**Casmilo, Conde**	**4.00**	**321**	ePn	Pn	02 42 39.3	+2.1
PCAS				eSn	Sn	02 43 24.1	+0.5
PCAS				eSg	Sg	02 43 45.0	-0.3
PCAS				i AML	AML	02 43 52.5	
PCAS				i AML	AML	02 43 52.9	
PCAS				i AML	AML	02 43 57.3	
AVE	**Averroes**	**4.06**	**206**	Pn	Pn	02 42 38.9	+0.8
AVE				Sn	Sn	02 43 24.0	-1.1
AVE	**Averroes**	**4.06**	**206**	S	Sn	02 43 23.6	-1.6
MD31	**MD31**	**4.11**	**174**	P	Pn	02 42 39.9	+1.1
MD31	**MD31**	**4.11**	**174**	S	Sn	02 43 24.7	-1.6
EJUZ	**Juzbado, Salam**	**4.15**	**353**	Pn	Pn	02 42 40.3	+1.0
EJUZ				Sn	Sn	02 43 26.8	-0.5
EJUZ				Sg	Sb	02 43 43.9	+4.8
MDT	**Midelt**	**4.17**	**172**	P	Pn	02 42 40.9	+1.2
MDT	**Midelt**	**4.17**	**172**	S	Sn	02 43 26.5	-1.5
ECHE	**Chera**	**4.27**	**51**	Pn	Pn	02 42 42.0	+1.0
ECHE	**Chera**	**4.27**	**51**	Pn	Pn	02 42 42.2	+1.2
ECHE				Pg	Pb	02 42 54.8	+3.3
ECHE				Sn	Sn	02 43 29.4	-1.0
ECHE				Sg	Sb	02 43 48.6	+5.9
ECHE				i Vmb_Lg		02 44 04.6	
PVIS	**Viseu**	**4.28**	**332**	ePn	Pn	02 42 43.0	+1.9
PVIS				eSn	Sn	02 43 30.4	-0.1
PVIS				eSg	Sg	02 43 52.6	-1.6
EBEN2	**Beniarda presa**	**4.36**	**65**	Pn	Pn	02 42 43.4	+1.2
EBEN2				Pg	Pb	02 42 55.0	+2.0
EBEN2				Sn	Sn	02 43 34.7	+2.2
EBEN2				Sg	Sg	02 43 52.9	-4.0
EBEN2				i Vmb_Lg		02 44 09.8	
MVO	**Moncorvo**	**4.42**	**342**	ePn	Pn	02 42 44.3	+1.3
MVO				eSn	Sn	02 43 34.2	+0.3
MVO				eSg	Sg	02 43 57.6	-1.1
MVO				i AML	AML	02 44 02.5	
MVO				i AML	AML	02 44 05.0	
MVO				i AML	AML	02 44 09.6	
ATANC	**Embalse El Ata**	**4.54**	**24**	Pn	Pn	02 42 45.8	+1.1
ATANC				Sn	Sn	02 43 38.1	+1.2
ATANC				Sg	Sg	02 44 00.5	-2.0
ETOR	**Torete**	**4.59**	**32**	Pn	Pn	02 42 47.0	+1.6
ETOR				Pg	Pb	02 42 58.0	+1.1
ETOR				Sn	Sn	02 43 38.8	+0.6
ETOR				Sg	Sg	02 44 00.9	-3.3
ETOR				i Vmb_Lg		02 44 22.8	
PVRL	**Vila Real**	**4.71**	**337**	ePn	Pn	02 42 48.4	+1.3
PVRL				eSn	Sn	02 43 40.2	-1.0
PVRL				eSg	Sg	02 44 05.8	-2.4
PVRL				i AML	AML	02 44 11.0	
PVRL				i AML	AML	02 44 11.2	
PVRL				i AML	AML	02 44 13.9	
E0901	**Celadas (Terue**	**4.77**	**41**	Pn	Pn	02 42 50.1	+2.2
E0901				Sn	Sn	02 43 43.8	+1.1
POLO	**Lamas de Olo**	**4.83**	**337**	ePn	Pn	02 42 50.0	+1.4
POLO				eSn	Sn	02 43 43.9	-0.2
POLO				eSg	Sg	02 44 10.0	-1.8
POLO				i AML	AML	02 44 13.7	
POLO				i AML	AML	02 44 18.1	
POLO				i AML	AML	02 44 19.3	
PBRG	**Braganca**	**4.97**	**347**	ePn	Pn	02 42 51.9	+1.3
PBRG				eSn	Sn	02 43 46.5	-1.1
PBRG				eSg	Sg	02 44 14.3	-2.2
PBRG				i AML	AML	02 44 17.9	
PBRG				i AML	AML	02 44 19.8	
PBRG				i AML	AML	02 44 26.4	
EMOS	**Mosqueruela**	**5.05**	**46**	Pn	Pn	02 42 53.7	+1.8
EMOS				Pg	Pb	02 43 08.5	+3.6
EMOS				Sn	Sn	02 43 50.1	+0.3
EMOS				Sg	Sg	02 44 17.4	-1.7
EMOS				i Vmb_Lg		02 44 21.5	
PCAB	**Cabril**	**5.21**	**336**	ePn	Pn	02 42 55.4	+1.6
PCAB				eSn	Sn	02 43 52.5	-0.8
PCAB				eSg	Sg	02 44 22.5	-1.4
PCAB				i AML	AML	02 44 28.1	
PCAB				i AML	AML	02 44 28.3	
PCAB				i AML	AML	02 44 28.7	
ELOB	**Lobios**	**5.36**	**337**	Pn	Pn	02 42 56.6	+0.6
ELOB				Sn	Sn	02 43 55.8	-1.4
ELOB				Sg	Sg	02 44 26.4	-2.5
ELOB				i Vmb_Lg		02 44 33.7	
PGAV	**Gavieira, Arco**	**5.51**	**336**	ePn	Pn	02 42 59.6	+1.5
PGAV				eSn	Sn	02 44 00.2	-0.8
PGAV				eSg	Sg	02 44 32.3	-1.5
PGAV				i AML	AML	02 44 45.7	
PGAV				i AML	AML	02 44 49.1	
PGAV				i AML	AML	02 44 51.3	
EZAM	**Zamans**	**5.82**	**334**	Pn	Pn	02 43 03.2	+1.0
EZAM				Sn	Sn	02 43 59.7	-8.8
EZAM				Sg	Sg	02 44 40.7	-3.0
EZAM				i Vmb_Lg		02 44 51.8	
ESAC	**San Caprasio**	**6.03**	**36**	Pn	Pn	02 43 07.7	+2.5
ESAC				Sn	Sn	02 44 14.9	+1.3
ESAC				Sg	Sg	02 44 45.3	-5.1
OUZM	**OUZ**	**6.17**	**192**	P	Pn	02 43 08.7	+1.6
OUZM	**OUZ**	**6.17**	**192**	S	Sn	02 44 17.5	+0.3
TZRR	**Tazzarine**	**6.17**	**183**	P	Pn	02 43 08.3	+1.2
EAGO	**Agolada(Pontev**	**6.23**	**340**	Pn	Pn	02 43 08.7	+0.9
EAGO				Sn	Sn	02 44 17.0	-1.5
EAGO				Sg	Sg	02 44 48.9	-7.7
EAGO				i Vmb_Lg		02 44 57.2	
TIO	**Tiouine**	**6.25**	**196**	Pn	Pn	02 43 08.9	+0.7
TIO				Sn	Sn	02 44 16.3	-2.9
TIO	**Tiouine**	**6.25**	**196**	P	Pn	02 43 08.9	+0.7
TIO	**Tiouine**	**6.25**	**196**	S	Sn	02 44 16.9	-2.3
EAH	**EAH**	**6.40**	**215**	P	Pn	02 43 11.0	+0.8
EAH	**EAH**	**6.40**	**215**	S	Sn	02 44 21.4	-1.3
ELAN	**Lanestosa**	**6.42**	**12**	Pn	Pn	02 43 11.4	+1.0
ELAN				Sn	Sn	02 44 20.6	-2.5
ELAN				Sg	Sg	02 44 56.8	-5.9
ELAN				i Vmb_Lg		02 45 28.0	
EPON	**Pontenova**	**6.52**	**348**	Pn	Pn	02 43 12.9	+1.1
EPON				Pg	Pb	02 43 29.3	-0.4
EPON				Sn	Sn	02 44 22.3	-3.4
EPON				Sg	Sg	02 45 02.3	-3.7
EPON				i Vmb_Lg		02 45 18.9	
EPOB	**Poblet**	**6.59**	**46**	Pn	Pn	02 43 14.1	+1.2
EPOB				Sn	Sn	02 44 26.6	-0.9
EPOB				i Vmb_Lg		02 45 18.2	
EMAZ	**Mazaricos**	**6.63**	**336**	Pn	Pn	02 43 14.4	+1.1
EMAZ				Sn	Sn	02 44 26.4	-1.9
EMAZ				Sg	Sg	02 45 05.8	-3.7
EMAZ				i Vmb_Lg		02 45 21.0	
EORO	**Oroz-Betelu**	**6.65**	**26**	Pn	Pn	02 43 16.0	+2.3
EORO				i Vmb_Lg		02 45 17.9	
ZGR	**Zagora**	**6.83**	**183**	P	Pn	02 43 17.4	+1.1
SJPF	**Ste Jean**	**6.88**	**25**	ePn	Pn	02 43 18.2	+1.5
SJPF				eSn	Sn	02 44 31.7	-2.8
comp=N,16nm,0.5s							
SJPF				eSg	Sg	02 45 11.2	-6.3
comp=N,40nm,0.7s							
EALK	**Alkurruntz**	**6.88**	**24**	Pn	Pn	02 43 18.0	+1.2
EALK				Sn	Sn	02 44 32.2	-2.3
EALK				i Vmb_Lg		02 45 29.3	
TTIG	**Tnine Tigouga,**	**6.93**	**203**	P	Pn	02 43 15.9	-1.7
ETOS	**Mallorca**	**6.93**	**64**	Pn	Pn	02 43 17.6	+0.1
ETOS	**Mallorca**	**6.93**	**64**	Pn	Pn	02 43 18.5	+1.0
ETOS				Sn	Sn	02 44 33.5	-2.4
ETOS				i Vmb_Lg		02 45 36.3	
ETSF	**Etsaut**	**6.94**	**30**	ePn	Pn	02 43 19.6	+1.9
ETSF				eSn	Sn	02 44 33.6	-2.5
comp=N,22nm,0.5s							
ECHI	**Chisagues Biel**	**7.07**	**35**	Pn	Pn	02 43 20.5	+1.0
ECHI				Sn	Sn	02 44 38.1	-1.4
EPF	**Esparros**	**7.43**	**34**	ePn	Pn	02 43 25.7	+1.4
EPF				eSn	Sn	02 44 44.3	-3.7
comp=N,24nm,0.5s							
EPF				eSg	Sg	02 45 30.3	-4.8
comp=N,24nm,0.6s							
MTLF	**Montolieu**	**8.56**	**40**	ePn	Pn	02 43 41.7	+1.9
MTLF				eSn	Sn	02 45 13.7	-2.1
MTLF				eSg		02 46 06.7	
comp=N,3.1nm,0.4s							
LFF	**La Frestale**	**9.17**	**28**	ePn	Pn	02 43 49.5	+1.4
LFF	**La Frestale**	**9.17**	**28**	eP	Pn	02 43 54.8	+6.7
CAF	**Calviac**	**9.69**	**33**	ePn	Pn	02 43 55.4	+0.1
CAF				eSn	Sn	02 45 39.9	-3.7
comp=N,7.0nm,0.7s							
RJF	**Les Rejaudoux**	**9.77**	**29**	ePn	Pn	02 43 57.9	+1.5
RJF				eSn	Sn	02 45 41.5	-4.1
LASF	**Ste Croix**	**9.93**	**41**	ePn	Pn	02 43 58.8	+0.3
MFF	**Saint Martin d**	**10.36**	**20**	ePn	Pn	02 44 04.4	0.0
MFF				eSn	Sn	02 45 53.9	-6.0
QUIF	**Quistinic**	**11.05**	**7**	ePn	Pn	02 44 14.7	+0.8
QUIF				eSn	Sn	02 46 10.8	-6.2
comp=N,4.8nm,0.2s							
BGF	**Bois d'Agland**	**11.33**	**30**	ePn	Pn	02 44 18.0	+0.3
SGMF	**Saint Gilles**	**11.46**	**9**	ePn	Pn	02 44 19.8	+0.3
SGMF				eSn	Sn	02 46 18.6	-8.3
comp=N,4.0nm,0.6s							
ROSF	**Rostrenen**	**11.46**	**7**	ePn	Pn	02 44 20.4	+0.9
ROSF	**Rostrenen**	**11.46**	**7**	eP	Pn	02 44 26.5	+7.0
ROSF				eSn	Sn	02 46 19.1	-7.8
comp=N,6.2nm,0.4s							
SMF	**Signal de Mont**	**11.81**	**32**	ePn	Pn	02 44 24.3	0.0
SSF	**Saint Saulge**	**12.00**	**30**	ePn	Pn	02 44 27.0	+0.1
LOR	**Lormes**	**12.31**	**30**	ePn	Pn	02 44 31.3	+0.1

AEIC ***13*** *02:42:25.2±1.5, 69°.52N±0°.04×144°.47W±0°.05, h13km±4km, ML4.3, mb4.5/40(NEIC), ML4.3/82(NEIC), Mwr4.1/44(NEIC), Error ellipse: s-maj=5.7km s-min=2.4km az=180.0*

IDC ***13*** *02:42:25.9±0.8, 69°.69N×144°.39W, h0km, mb4.0/13, mbtmp4.1/17, ML4.1/4, MS3.5/6, Error ellipse: s-maj=19.3km s-min=11.6km az=55.0*

NEIC ***13*** *02:42:26.7±1.4, 69°.56N±0°.04×144°.47W±0°.08, h10km±1km, Error ellipse: s-maj=6.8km s-min=4.7km az=11.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}0.16; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-0.10; $M_{r\theta}$0.01; $M_{\theta\phi}$-1.47; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.51000×10^15^ NP1:ϕ_s89.44000°, δ77.44000°, λ177.58000°. NP2:ϕ_s179.97000°, δ87.64000°, λ12.57000°. Principal axes: T 1.4368, Plg11.0000°, Azm45.0000°; N 0.1457, Plg77.0000°, Azm190.0000°; P -1.5825, Plg7.0000°, Azm314.0000°;*

NEIC ***13*** *02:42:26.6, 69°.53N×144°.50W, h4km*

ISC 13 02:42:26.9±0.4, 69°.53N±0°.03×144°.42W±0°.03, h14km, n200, σ1§30/201, mb4.4/31, MS3.5/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
C27K	**Jago River**	**0.27**	**68**		**Pg**	**02 42 31.9**	**-0.6**
C27K					**Sg**	**02 42 35.6**	**-0.8**
C27K				IAML		02 42 37.6	
comp=N,60μm,0.7s							
C27K				IAML		02 42 37.7	
comp=E,34μm,0.3s							
C26K	**Camden Bay**	**0.43**	**337**	Pg	**Pb**	**02 42 34.6**	**-1.6**
C26K				Sg	**Sb**	**02 42 40.8**	**-1.7**
C26K				IAML		02 42 42.5	
comp=E,20μm,0.5s							
D25K	**Kavik River**	**0.72**	**254**	Pg	**Pg**	**02 42 38.5**	**-2.5**
D25K				Sg	**Sg**	**02 42 48.0**	**-2.5**
D27M	**Malcolm River**	**1.26**	**102**		**Pn**	**02 42 49.0**	**-1.1**
D27M	**Malcolm River**	**1.26**	**102**		**Sn**	**02 43 06.7**	**-0.1**
D27M	**Malcolm River**	**1.26**	**102**	IAML		02 43 09.9	
comp=N,5μm,0.6s							
D27M				IAML		02 43 13.8	
comp=E,3μm,0.6s							
E25K	**Arctic Village**	**1.48**	**197**	Pn	**Pn**	**02 42 52.4**	**-0.7**
E25K					**Sb**	**02 43 12.9**	**+0.3**
E25K				IAML		02 43 15.9	
comp=N,4μm,0.9s							
C24K	**Franklin Bluff**	**1.51**	**279**	Pn	**Pb**	**02 42 53.6**	**-1.0**
C24K				IAML		02 43 19.4	
comp=N,4μm,1.4s							
C24K				IAML		02 43 20.4	
comp=E,5μm,1.0s							
C24K	**Franklin Bluff**	**1.51**	**279**		**Sg**	**02 43 15.5**	**0.0**
D24K	**Happy Valley**	**1.61**	**258**		**Sg**	**02 43 18.6**	**0.0**
E27K	**Coleen River**	**1.69**	**141**	Pn	**Pn**	**02 42 56.7**	**+0.6**
E27K				IAML		02 43 25.2	
comp=N,3μm,0.8s							
F26K	**Sheenjek River**	**1.85**	**177**	Pn	**Pb**	**02 42 59.2**	**-1.2**
F26K				IAML		02 43 29.9	
comp=N,4μm,0.6s							
E28M	**Babbage River**	**1.99**	**116**	Pn	**Pb**	**02 43 01.7**	**-1.1**
E28M				IAML		02 43 33.8	
comp=N,2μm,0.4s							
F25K	**Christian Rive**	**2.00**	**194**	Pn	**Pn**	**02 43 00.8**	**+0.6**
F25K				IAML		02 43 32.6	
comp=N,3μm,0.8s							
F25K				IAML		02 43 33.5	
comp=E,2μm,1.0s							
TOLK	**Toolik Lake Re**	**2.05**	**247**	Pn	**Pn**	**02 43 00.9**	**-0.1**
TOLK				IAML		02 43 37.5	
comp=E,3μm,0.8s							
TOLK				IAML		02 43 40.4	
comp=N,2μm,0.9s							
E24K	**Your Creek**	**2.08**	**227**	Pn	**Pn**	**02 43 02.0**	**+0.6**
BMAR	**Burnt Mountain**	**2.11**

comp=E,9.1nm,0.3s
H23K Yukon River 4.20 210 Pn Pn 02 43 30.7 +0.2
H23K IAML 02 44 49.6
comp=N,331nm,0.8s
H23K IAML 02 44 51.4
comp=E,385nm,0.9s
D20K Etivluk River 4.44 265 Pn 02 43 34.5 +0.8
B20K Meade River 4.45 282 Pn Pn 02 43 33.9 +0.1
F31M Tsiigehtchic 4.46 113 Pn Pn 02 43 34.3 +0.4
F31M IAML 02 45 01.1
comp=N,233nm,1.5s
F31M IAML 02 45 04.3
comp=E,283nm,0.9s
A21K Barrow 4.48 299 Pn 02 43 34.6 +0.4
POKR Poker Plat Res 4.58 196 Pn Pn 02 43 36.3 +0.6
POKR IAML 02 45 01.1
comp=N,258nm,1.2s
POKR IAML 02 45 04.8
comp=E,274nm,1.2s
I23K Minto, Yukon-K 4.80 206 Pn Pn 02 43 38.7 +0.1
I23K IAML 02 45 18.3
comp=E,262nm,1.6s
I29M Ogilvie Camp, 4.80 148 Pn Pn 02 43 39.2 +0.5
I29M IAML 02 44 37.1
comp=N,254nm,0.4s
I29M IAML 02 44 37.6
comp=E,227nm,0.6s
COLA College 4.86 198 Pn Pn 02 43 39.1 -0.4
IL31 4.88 193 Pn Pn 02 43 40.4 +0.8
ILAR Eielson Array 4.88 193 Pn Pn 02 43 39.9 +0.2
ILAR Eielson Array 4.88 193 Pn Pn 02 43 40.3 +0.6
comp=E,6.1nm,0.3s,baz=4.4,slow=12,SNR=228
ILAR Sn Sn **02 44 37.9 +2.0**
comp=E,16nm,0.3s,baz=23,slow=16,SNR=7.5
ILAR Lg Lg 02 44 59.8
comp=E,27nm,0.3s,baz=10,slow=31,SNR=5.0
comp=E,25nm,0.7s
F20K Avaraart Lake 4.88 245 Pn Pn 02 43 40.1 +0.4
F20K IAML 02 45 07.5
comp=N,222nm,0.9s
D19K Kuna River 5.03 265 Pn Pn 02 43 42.5 +0.6
D19K IAML 02 45 33.2
comp=N,272nm,1.6s
HDA Harding Lake 5.24 192 Pn Pn 02 43 45.7 +1.0
HDA IAML 02 45 20.8
comp=E,239nm,1.0s
I21K Tanana 5.25 217 Pn Pn 02 43 44.8 -0.1
NEA2 Nenana 5.28 202 Pn Pn 02 43 45.1 -0.1
WRH Wood River Hil 5.28 198 Pn Pn 02 43 45.2 0.0
WRH IAML 02 45 19.7
comp=N,160nm,1.2s
WRH IAML 02 45 25.6
comp=E,174nm,0.9s
SCRK Sand Creek 5.58 178 Pn Pn 02 43 50.7 +1.2
J29N Klondike Camp 5.65 152 Pn Pn 02 43 51.2 +0.9
BWN Browne 5.74 203 Pn Pn 02 43 51.2 -0.3
K24K Donnelly Dome 5.78 186 Pn 02 43 52.5 +0.4
RIDG Independent Ri 5.82 182 Pn Pn 02 43 53.9 +1.2
J30M Hart River 5.89 144 Pn Pn 02 43 54.6 +0.8
DOT Dot Lake 5.91 178 Pn Pn 02 43 55.0 +1.1
H19K Roundabout Mou 6.11 235 Pn Pn 02 43 56.5 0.0
I20K Naaghedeneel 6.15 224 Pn Pn 02 43 57.7 +0.5
K29M Barlow Dome 6.33 151 Pn Pn 02 44 00.7 +1.0
RND Reindeer 6.40 198 Pn Pn 02 44 01.3 +0.6
F18K Selawik 6.41 250 Pn 02 44 00.6 -0.2
G18K Tagagawik 6.52 243 Pn Pn 02 44 02.1 -0.2
KTH Kantishna Hill 6.54 206 Pn Pn 02 44 02.3 -0.3
L26K Log Cabin Wild 6.55 176 Pn Pn 02 44 03.3 +0.6
BCAR Beaver Creek A 6.58 169 Pn Pn 02 44 04.4 +1.3
A36M Sachs Harbour 6.78 60 Pn Pn 02 44 05.1 -0.8
CAST Castle Rocks 6.85 210 Pn Pn 02 44 06.9 0.0
RDOG Red Dog Mine 6.86 266 Pn Pn 02 44 06.3 -0.6
L29M L29M 6.92 156 Pn Pn 02 44 09.4 +1.6
J19K Poorman 7.10 224 Pn Pn 02 44 09.7 -0.4
C36M Paulatuk 7.16 82 Pn Pn 02 44 09.1 -1.9
M26K Nabesna, AK 7.18 175 Pn Pn 02 44 12.2 +0.8
M27K Edge Creek, AK 7.28 171 Pn Pn 02 44 14.6 +1.8
BVCY Beaver Creek 7.29 167 Pn 02 44 13.3 +0.5
K20K Telida 7.29 217 Pn Pn 02 44 12.5 -0.4
PPLA Purkeypile 7.36 209 Pn Pn 02 44 14.5 +0.6
M24K Tolsona, Glenn 7.49 186 Pn Pn 02 44 18.6 +3.0
M29M Somme Creek 7.51 158 Pn Pn 02 44 17.2 +1.2
WACK Wrangell Chich 7.58 180 Pn 02 44 17.5 +0.6
M30M Minto, Yukon 7.63 152 Pn Pn 02 44 18.0 +0.5
J18K Innoko River 7.81 225 Pn Pn 02 44 18.8 -1.1
SCM Sheep Creek Mo 7.82 190 Pn 02 44 22.1 +1.9
M23K Glacier View 7.89 192 Pn 02 44 22.9 +1.9
YUK2 White River 7.91 168 Pn 02 44 22.7 +1.2
SML Sawmill 7.92 194 Pn Pn 02 44 23.8 +2.3
YUK3 Moose Creek 7.96 166 Pn 02 44 23.5 +1.4
GHO Glory Hole Cre 8.01 196 Pn Pn 02 44 24.6 +1.9
KLU Klutina 8.10 185 Pn 02 44 24.4 +0.4
TTA Tatalina 8.10 221 Pn Pn 02 44 23.6 -0.3
SKT Skwentna 8.12 204 Pn Pn 02 44 25.4 +1.2
PMR Palmer 8.20 196 Pn Pn 02 44 26.7 +1.4
DIV Divide 8.46 184 Pn Pn 02 44 30.6 +1.8
M20K Styx River 8.46 209 Pn Pn 02 44 29.4 +0.4
YUK8 Steele Glacier 8.50 165 Pn 02 44 31.0 +1.3
I17K Unalakleet 8.56 236 Pn Pn 02 44 30.9 +0.8
STLK Strandline Lak 8.62 204 Pn Pn 02 44 30.9 -0.2
M19K Big River Lodg 8.67 213 Pn Pn 02 44 32.0 +0.2
MMPY Sheldon Lake, 8.73 136 Pn Pn 02 44 33.0 +0.3
N31M Braeburn, Yuko 8.82 152 Pn Pn 02 44 35.4 +1.5
YUK5 Granite Creek 8.86 159 Pn 02 44 35.6 +1.1
L18K Granite Mounta 8.87 220 Pn Pn 02 44 34.0 -0.5
YUK6 Outpost Mounta 8.98 161 Pn 02 44 37.7 +1.5
CKL Chakachamna La 8.99 205 Pn 02 44 37.2 +1.1
HYT Haines Junctio 9.20 158 Pn Pn 02 44 40.8 +1.7
O30N Mendenhall 9.45 154 Pn Pn 02 44 43.9 +1.3
ANM Nome 9.54 249 Pn Pn 02 44 43.8 +0.2
O29M Mount Kennedy 9.59 162 Pn Pn 02 44 46.5 +2.2
N32M Quiet Lake 9.63 145 Pn Pn 02 44 44.8 -0.1
WHY Whitehorse 9.75 151 Pn Pn 02 44 47.2 +0.5
M17K Holitna River 9.76 220 Pn Pn 02 44 46.6 -0.1
TNA Tin City 9.79 257 Pn Pn 02 44 46.6 -0.4
O19K Port Alsworth 10.25 209 Pn Pn 02 44 54.4 +1.0
J14K Nanvaranak Lak 10.26 238 Pn Pn 02 44 53.6 +0.2
WRGLY Wrigley 10.47 117 Pn Pn 02 44 56.2 -0.1
N17K Nushagak Hills 10.49 217 Pn Pn 02 44 55.7 -1.0
P33M Teslin, Yukon 10.55 147 Pn Pn 02 44 57.2 -0.3
K13K Kusilvak Mount 11.22 237 Pn Pn 02 45 06.4 -0.3
R33M Jennings River 11.67 144 Pn Pn 02 45 12.9 0.0
BESE Bessie Mountai 11.74 155 Pn Pn 02 45 15.3 +1.5
Q32M Nakina River 11.82 148 Pn Pn 02 45 15.9 +1.0
KDAK Kodiak Island 12.32 201 LR LR 02 50 09.8
comp=E,84nm,20.4s,baz=229,slow=37
DLBC Dease Lake 12.75 144 Pn Pn 02 45 27.9 +0.4
DLBC Dease Lake 12.75 144 Pn Pn 02 45 27.6 0.0
comp=E,1.4nm,0.3s,baz=5.7,slow=8.8,SNR=15
DLBC Sn **Sn 02 47 40.4 -8.6**
comp=E,0.1nm,0.3s,baz=338,slow=21,SNR=1.3
DLBC Lg Lg 02 49 10.7
baz=225,slow=18
comp=E,3.4nm,0.4s
S34M Telegraph Cree 13.01 147 Pn Pn 02 45 32.7 +1.6
YKA Yellowknife Ar 13.88 106 Pn Pn 02 45 39.4 -3.5
comp=E,1.7nm,0.3s,baz=313,slow=13,SNR=39
YKA Sn Sn 02 48 01.5 -15
comp=E,1.6nm,0.3s,baz=313,slow=24,SNR=8.0
comp=E,3.2nm,0.5s
T35M Bob Quinn 14.05 147 Pn Pn 02 45 44.3 -1.0
RES Resolute Bay 15.61 49 Pn Pn 02 46 02.6 -3.4
RES IAmb IAmb 02 46 07.8
comp=Z,15nm,0.4s
RES Resolute Bay 15.61 49 Pn Pn 02 46 01.6 -4.4
comp=Z,2.1nm,0.3s,baz=262,slow=12,SNR=44
RES Sn Sn 02 48 46.4 -12
comp=Z,1.9nm,0.3s,baz=341,slow=22,SNR=7.8
EUNU Eureka 17.40 30 P P 02 46 31.4 +1.3
BILL Bilibino 17.52 289 P 02 46 30.2 -1.2
FCC Fort Churchill 23.66 92 P P 02 47 36.9 -0.5
FCC IAmb IAmb 02 47 49.2
comp=Z,8.0nm,0.8s
FFC Flin Flon 24.07 106 P P 02 47 42.2 +0.9
B08A Colville Reser 24.50 137 P P 02 47 46.9 +1.5
SHEM Shemya Is, Ala 25.40 250 LR LR 02 59 32.7
comp=Z,44nm,18.3s,baz=354,slow=40
EGMT Eagleton 27.37 124 P P 02 48 12.8 +1.4
BPMT Black Pine Rid 27.78 130 P P 02 48 16.5 +1.2
MA2 Magadan 28.12 282 LR LR 02 59 12.7
comp=Z,54nm,19.4s,baz=58,slow=36
FRB Frobisher Bay 28.77 64 LR LR 03 01 34.7
comp=Z,125nm,20.3s,baz=316,slow=40

SPITS Spitsbergen Ar 32.06 7 P P 02 48 52.7 +0.1
comp=Z,4.0nm,0.8s,baz=21,slow=5.4,SNR=12
comp=Z,4.0nm,0.8s
PD31 Pinedale Array 32.23 128 P P 02 48 55.6 +0.9
PD31 IAmb IAmb 02 49 02.1
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 32.23 128 P P 02 48 56.4 +1.8
PDAR Pinedale Array 32.23 128 P P 02 48 57.0 +2.4
comp=Z,1.6nm,0.6s,baz=1.5,slow=5.3,SNR=15
comp=Z,1.6nm,0.6s
HWUT Hardware Ranch 32.77 131 P P 02 49 00.8 +1.5
HWUT IAmb IAmb 02 49 07.2
comp=Z,3.3nm,0.7s
EYMN Ely 33.33 103 P P 02 49 04.7 +0.8
EYMN IAmb IAmb 02 49 10.8
comp=Z,7.5nm,1.4s
WAKR Walker 33.84 143 P P 02 49 09.8 +1.1
WAKR IAmb IAmb 02 49 26.2
comp=Z,13nm,1.5s
NVAR Mina Array Bea 34.16 142 P P 02 49 14.2 +2.8
comp=Z,1.0nm,0.5s,baz=347,slow=6.1,SNR=4.4
comp=Z,1.0nm,0.5s
DSP Deep Springs 35.25 142 P P 02 49 22.6 +2.1
DSP IAmb IAmb 02 49 24.8
comp=Z,12nm,1.4s
SCHQ Schefferville 36.17 73 P P 02 49 28.0 -0.4
SCHQ IAmb IAmb 02 49 29.6
comp=Z,6.4nm,1.0s
SCHQ Schefferville 36.17 73 P P 02 49 28.7 +0.3
comp=Z,3.3nm,0.8s,baz=292,slow=7.6,SNR=6.2
comp=Z,3.3nm,0.8s
SDCO Great Sand Dun 38.04 126 P P 02 49 45.6 +0.9
ARCES ARCESS Array B 41.02 5 P P 02 50 08.3 -0.6
comp=Z,2.8nm,0.8s,baz=9.8,slow=6.7,SNR=5.9
comp=Z,2.8nm,0.8s
F64A Sherman 43.22 82 P P 02 50 28.0 +1.0
F64A IAmb IAmb 02 51 01.2
comp=Z,15nm,1.3s
HTMS Hat Mesa 43.50 127 P P 02 50 31.3 +1.6
CLNB Carlsbad 43.63 127 P P 02 50 30.8 +0.2
DRLN Deer Lake 43.98 70 P P 02 50 33.9 +0.8
LCAR Lake Charles 44.01 111 P P 02 50 33.8 +0.2
SSFO Shawnee State 44.33 101 P P 02 50 35.9 -0.2
SSFO IAmb IAmb 02 51 15.6
comp=Z,8.9nm,1.1s
SSPA Standing Stone 44.45 95 P P 02 50 37.4 +0.4
SSPA IAmb IAmb 02 50 44.4
comp=Z,18nm,1.5s
WVT Waverly 45.06 107 P P 02 50 41.9 0.0
WVT IAmb IAmb 02 50 48.7
comp=Z,4.7nm,0.7s
ALPN Alpine 45.48 128 P P 02 50 46.0 +0.5
ALPN IAmb IAmb 02 50 52.5
comp=Z,7.1nm,1.1s
TZTN Tazewell 46.14 103 P P 02 50 51.2 +0.7
SWET Sewanee 46.53 106 P P 02 50 53.9 +0.3
SWET IAmb IAmb 02 50 59.2
comp=Z,4.0nm,0.8s
Y45A Yeager Farm, C 46.56 110 P P 02 50 54.9 +1.1
JTM Tenmabayashi 47.12 273 P P 02 50 56.9 -1.2
Y49A Blount Mountai 47.61 107 P P 02 51 01.9 -0.1
Y49A IAmb IAmb 02 51 08.8
comp=Z,5.2nm,0.7s
Y52A Lilburn 48.40 105 P P 02 51 08.9 +0.9
Y52A IAmb IAmb 02 51 19.9
comp=Z,7.0nm,1.1s
346A Big Creek Wild 48.86 112 P P 02 51 12.6 +1.0
FINES FINESS Array B 49.14 6 P P 02 51 13.2 -0.2
FINES FINESS Array B 49.14 6 P P 02 51 13.6 +0.2
comp=Z,1.2nm,0.5s,baz=2.9,slow=8.3,SNR=14
comp=Z,1.2nm,0.5s
HFS Hagfors 49.68 14 P P 02 51 17.6 +0.1
comp=Z,4.5nm,0.8s,baz=336,slow=6.5,SNR=7.2
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 51.74 325 P P 02 51 33.8 +0.7
ZALV Zalesovo Beam 51.74 325 P P 02 51 32.6 -0.5
comp=Z,0.4nm,0.4s,baz=29,slow=5.8,SNR=3.7
comp=Z,0.4nm,0.4s
PABE Paberze 54.99 8 P P 02 51 58.0 +1.1
BVAR Borovoye Array 55.14 335 P P 02 51 58.4 +0.2
comp=Z,0.5nm,0.6s,baz=7.6,slow=4.4,SNR=3.0
comp=Z,0.5nm,0.6s
KURK Kurchatov 56.01 328 P P 02 52 05.1 +0.7
KURBB Kurchatov Arra 56.11 328 P P 02 52 05.8 +0.7
comp=Z,1.1nm,0.6s,baz=16,slow=7.0,SNR=7.7
comp=Z,1.1nm,0.6s
HHC Hu-ho-hao-te 56.96 299 *eP* **P 02 52 13.0 +1.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,150nm,5.0s
MK31 Makanchi Array 59.04 324 P P 02 52 26.7 +0.9
MKAR Makanchi Array 59.04 324 P P 02 52 25.6 -0.2
MKAR Makanchi Array 59.04 324 P P 02 52 24.5 -1.3
comp=Z,0.4nm,0.5s,baz=40,slow=5.7,SNR=9.3
comp=Z,0.4nm,0.5s
MAKZ Makanchi 59.09 325 P P 02 52 26.2 +0.1
MAKZ IAmb IAmb 02 52 51.9
comp=Z,3.0nm,1.2s
AKASG Malin Array Be 59.99 5 P P 02 52 32.8 +0.5
comp=Z,1.5nm,0.5s,baz=359,slow=7.2,SNR=8.8
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 60.19 342 P P 02 52 34.4 +0.7
WMQ Urumqi 60.69 319 *eP* **P 02 52 41.0 +3.7**
WMQ sP sP 02 52 51.6 +7.9
WMQ PcP **PcP 02 53 24.5 +3.2**
WMQ pmax pmax
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 62.90 8 P P 02 52 52.1 0.0
BUR08 IAmb IAmb 02 53 10.6
comp=Z,5.2nm,1.5s
BURAR Bucovina Array 62.92 8 P P 02 52 52.7 +0.4
BOOM Boomskoye usch 64.42 328 P P 02 53 02.7 +0.4
BOOM IAmb IAmb 02 53 08.1
comp=Z,2.8nm,0.6s
KKAR Karatay Array 64.78 332 P P 02 53 05.1 +0.6
ESDC Sonseca Array 67.30 32 P P 02 53 21.6 +0.9
comp=Z,0.8nm,0.7s,baz=347,slow=6.2,SNR=4.1
comp=Z,0.8nm,0.7s
BZK Bozkurt 68.82 1 P P 02 53 31.9 +1.7
RAFF Raffo Rosso 72.42 18 P P 02 53 52.2 0.0
TGY Tagaytay City 78.52 279 LR LR 03 31 28.6
comp=Z,72nm,19.9s,baz=327,slow=38
MDP Montagnes des 85.88 87 LR LR 03 34 48.8
comp=Z,38nm,18.4s,baz=138,slow=37

NEIC ***13*** *02:53:23.5±2.0, 19°.7S±0°.1×177°.8W±0°.1, h563km±7km, mb4.3/38, Error ellipse: s-maj=20.1km s-min=14.8km az=120.0*
IDC ***13*** *02:53:24.0±1.4, 19°.82S×177°.78W, h575km±14km, mb3.4/10, mbtmp4.3/13, Error ellipse: s-maj=18.4km s-min=15.2km az=109.0*
ISC 13 02:53:22.2±0.5, 19.84S±0°.08×177.67W±0°.08, h550km, n68, σ1§53/70, mb4.2/29, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.56**	**297**	**P**	**P**	**02 54 50.2**	**+1.6**
MSVF	**Nonsavu**	**4.56**	**297**	**P**	**P**	**02 54 50.5**	**+1.9**
	205nm,0.6s,baz=153,slow=7.5,SNR=228						
MSVF				S	**S**	**02 56 03.9**	**+4.9**
	14nm,0.7s,baz=84,slow=19,SNR=0.8						
FUTU	**Fugatoga**	**5.51**	**355**	**P**	**P**	**02 54 57.4**	**+0.8**
NIUE	**Niue**	**7.35**	**85**	**P**	**P**	**02 55 16.0**	**+2.4**
AFI	**Afiamalu**	**8.16**	**45**	**P**	**P**	**02 55 21.0**	**-0.7**
DZM	**Mont Dzumac**	**15.01**	**259**	**P**	**P**	**02 56 31.5**	**-0.4**
	2.3nm,0.7s,baz=85,slow=19,SNR=1.9						
TOZ	**Tahuroa Road**	**18.80**	**197**	**P**	**P**	**02 57 10.0**	**+2.8**
URZ	**Urewera**	**18.91**	**193**	**P**	**P**	**02 57 06.9**	**-1.3**
	7.0nm,0.3s,baz=50,slow=2.0,SNR=24						
URZ				S	**S**	**03 00 06.1**	**-5.7**
	13nm,0.8s,baz=299,slow=19,SNR=4.4						
TKNZ	**Takaka Hill**	**22.59**	**199**	**P**	**P**	**02 57 42.0**	**+0.5**
GVZ	**Greta Valley S**	**24.36**	**197**	**P**	**P**	**02 57 57.4**	**+0.3**
WHZ	**Wether Hill Ro**	**28.56**	**201**	**P**	**P**	**02 58 35.9**	**+1.8**
COEN	**Coen**	**37.85**	**273**	**P**	**P**	**02 59 52.0**	**-0.7**
COEN				IAmb	IAmb	02 59 53.2	
	comp=Z,4.4nm,0.8s						
STKA	**Stephens Creek**	**38.36**	**243**	**P**	**P**	**02 59 56.7**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=74,slow=15,SNR=4.4						
	comp=Z,3.4nm,0.9s						
BBOO	**Buckleboo**	**43.12**	**243**	**P**	**P**	**03 00 33.9**	**-0.7**
BBOO				IAmb	IAmb	03 00 55.3	
	comp=Z,15nm,1.2s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMH	**Humu'ula Sheep**	**44.82**	**30**	**P**	**P**	**03 00 48.0**	**-0.1**
AS31	**Alice Springs**	**44.97**	**256**	**P**	**P**	**03 00 48.4**	**-0.7**
ASAR	**Alice Springs**	**44.97**	**256**	**P**	**P**	**03 00 48.2**	**-0.8**
ASAR	**Alice Springs**	**44.97**	**256**	**P**	**P**	**03 00 48.0**	**-1.1**
	comp=Z,5.4nm,0.7s,baz=87,slow=8.7,SNR=60						
ASAR				PcP	**PcP**	**03 02 17.9**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=107,slow=3.6,SNR=9.4						
	comp=Z,5.4nm,0.7s						
WB0	**Warramunga Arr**	**44.98**	**262**	**P**	**P**	**03 00 47.6**	**-1.4**
WB2	**Warramunga Arr**	**44.99**	**261**	**P**	**P**	**03 00 47.8**	**-1.4**
WB2				IAmb	IAmb	03 00 48.7	
	comp=Z,8.5nm,1.2s						
WRA	**Warramunga Arr**	**45.00**	**261**	**P**	**P**	**03 00 47.8**	**-1.4**
WRA	**Warramunga Arr**	**45.00**	**261**	**P**	**P**	**03 00 47.9**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=97,slow=7.4,SNR=44						
WRA				PcP	**PcP**	**03 02 18.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=96,slow=3.5,SNR=4.9						
	comp=Z,1.1nm,0.3s						
FORT	**Forrest**	**49.84**	**246**	**P**	**P**	**03 01 24.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**53.42**	**262**	**P**	**P**	**03 01 50.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.42**	**262**	**P**	**P**	**03 01 50.3**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=68,slow=3.4,SNR=9.3						
	comp=Z,1.8nm,0.6s						
PSA00	**Pilbara Seismi**	**58.12**	**256**	**P**	**P**	**03 02 22.4**	**-1.5**
PSA00				IAmb	IAmb	03 02 24.3	
	comp=Z,20nm,1.1s						
VNDA	**Vanda**	**58.59**	**185**	**P**	**P**	**03 02 28.7**	**+2.6**
VNDA	**Vanda**	**58.59**	**185**	**P**	**P**	**03 02 25.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=357,slow=7.3,SNR=7.4						
	comp=Z,1.3nm,0.6s						
MORW	**Morawa**	**60.37**	**247**	**P**	**P**	**03 02 37.6**	**-1.1**
MORW				IAmb	IAmb	03 03 06.3	
	comp=Z,20nm,1.4s						
GIRL	**Giralia**	**63.03**	**254**	**P**	**P**	**03 02 56.6**	**+0.5**
CASY	**Casey**	**64.69**	**205**	**P**	**P**	**03 03 06.9**	**+0.9**
CASY				IAmb	IAmb	03 03 07.9	
	comp=Z,5.5nm,0.9s						
QSPA	**South Pole Qui**	**70.23**	**180**	**P**	**P**	**03 03 41.0**	**+1.1**
QSPA				IAmb	IAmb	03 03 42.8	
	comp=Z,13nm,0.8s						
QSPA	**South Pole Qui**	**70.23**	**180**	**P**	**P**	**03 03 40.4**	**+0.4**
	comp=Z,12nm,0.8s,baz=5.9,slow=0.9,SNR=33						
	comp=Z,12nm,0.8s						
ADK	**Adak**	**71.42**	**1**	**P**	**P**	**03 03 45.2**	**-1.6**
PETK	**Petropavlovsk-**	**75.71**	**345**	**P**	**P**	**03 04 10.2**	**-1.1**
YBH	**Yreka Blue Hor**	**79.58**	**39**	**P**	**P**	**03 04 33.5**	**+0.9**
BELA	**Belgrano 2**	**80.17**	**173**	**P**	**P**	**03 04 35.3**	**+0.2**
BELA				IAmb	IAmb	03 04 36.7	
	comp=Z,7.5nm,0.9s						
NVAR	**Mina Array Bea**	**80.33**	**43**	**P**	**P**	**03 04 37.9**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=194,slow=5.4,SNR=3.6						
	comp=Z,0.9nm,0.6s						
O16K	**Kokwok River B**	**80.75**	**10**	**P**	**P**	**03 04 36.3**	**-1.8**
O16K				IAmb	IAmb	03 05 03.7	
	comp=Z,18nm,1.2s						
J05D	**Fort Rock, OR**	**81.39**	**38**	**P**	**P**	**03 04 42.7**	**+0.7**
J05D				IAmb	IAmb	03 04 44.5	
	comp=Z,9.6nm,1.1s						
PINE	**Pine Mountain**	**81.87**	**38**	**P**	**P**	**03 04 45.4**	**+0.9**
PINE				IAmb	IAmb	03 05 24.5	
	comp=Z,7.0nm,1.2s						
M16K	**Timber Creek**	**81.98**	**9**	**P**	**P**	**03 04 44.0**	**-0.3**
M16K				IAmb	IAmb	03 05 13.2	
	comp=Z,22nm,1.4s						
M17K	**Holitna River**	**82.57**	**10**	**P**	**P**	**03 04 47.3**	**0.0**
M17K				IAmb	IAmb	03 04 53.5	
	comp=Z,13nm,1.2s						
K15K	**Wolf Creek Mou**	**82.85**	**8**	**P**	**P**	**03 04 48.4**	**-0.3**
K15K				IAmb	IAmb	03 05 11.6	
	comp=Z,25nm,1.5s						
I07A	**Izee**	**82.88**	**38**	**P**	**P**	**03 04 50.2**	**+0.7**
U15A	**North Rim**	**83.29**	**48**	**P**	**P**	**03 04 52.0**	**0.0**
L18K	**Granite Mounta**	**83.46**	**10**	**P**	**P**	**03 04 51.7**	**-0.1**
L18K				IAmb	IAmb	03 04 54.8	
	comp=Z,9.2nm,1.3s						
M19K	**Big River Lodg**	**83.55**	**11**	**P**	**P**	**03 04 50.8**	**-1.5**
M19K				IAmb	IAmb	03 04 51.5	
	comp=Z,9.2nm,1.2s						
L19K	**White Mountain**	**83.73**	**11**	**P**	**P**	**03 04 52.1**	**-1.1**
L19K				IAmb	IAmb	03 05 14.9	
	comp=Z,9.0nm,1.3s						
J16K	**Anvik River**	**83.92**	**8**	**P**	**P**	**03 04 54.0**	**0.0**
J16K				IAmb	IAmb	03 05 31.2	
	comp=Z,12nm,1.4s						
TTA	**Tatalina**	**84.24**	**10**	**P**	**P**	**03 04 55.1**	**-0.6**
PMR	**Palmer**	**84.30**	**13**	**P**	**P**	**03 04 54.0**	**-2.0**
PMR				IAmb	IAmb	03 05 12.6	
	comp=Z,12nm,1.4s						
GHO	**Glory Hole Cre**	**84.51**	**13**	**P**	**P**	**03 04 56.3**	**-0.8**
BMRM	**Bremner River**	**84.81**	**16**	**P**	**P**	**03 04 57.0**	**-1.5**
BMRM				IAmb	IAmb	03 04 58.5	
	comp=Z,5.9nm,0.8s						
SCM	**Sheep Creek Mo**	**84.92**	**14**	**P**	**P**	**03 04 58.0**	**-1.0**
ILAR	**Eielson Array**	**87.60**	**13**	**P**	**P**	**03 05 10.1**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=224,slow=5.8,SNR=23						
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**88.27**	**43**	**P**	**P**	**03 05 15.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=191,slow=2.8,SNR=7.8						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**90.19**	**289**	**P**	**P**	**03 05 25.3**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=134,slow=3.3,SNR=6.0						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**110.97**	**314**	**PKiKP**	**PKiKP**	**03 10 51.6**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=76,slow=0.9,SNR=7.7						
ABKAR	**Akbulak array**	**125.82**	**317**	**PKPdf**	**PKPdf**	**03 11 20.5**	**-1.1**
BOSA	**Boshof**	**126.98**	**205**	**PKP**	**PKPdf**	**03 11 24.9**	**+0.2**
	comp=Z,4.1nm,1.1s,baz=113,slow=5.8,SNR=3.8						
LODK	**Lodwar**	**143.88**	**247**	**PKPdf**	**PKPbc**	03 11 54.7	-0.8
EKA	**Eskdalemuir Ar**	**144.32**	**5**	**PKP**	**PKPbc**	03 11 54.0	-1.4
	comp=Z,0.6nm,0.4s,baz=335,slow=3.6,SNR=1.8						
BRTR	**Keskin Array B**	**146.62**	**313**	**PKPbc**	**PKPdf**	**03 12 00.9**	**+0.7**
BUR08	**Bucovina Ar. S**	**146.62**	**331**	**PKPdf**	**PKPdf**	**03 11 57.4**	**-2.6**
MMAI	**Mount Meron Ar**	**147.75**	**301**	**PKPbc**	**PKPdf**	**03 12 03.9**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=79,slow=4.3,SNR=5.9						
BORA	**Eskisehir**	**148.68**	**316**	**PKPbc**	**PKPbc**	**03 12 06.9**	**-1.1**
GERES	**GERESS Array B**	**149.64**	**345**	**PKPbc**	**PKPdf**	**03 12 06.8**	**+2.1**
	comp=Z,2.2nm,0.9s,baz=108,slow=4.3,SNR=4.3						

IDC ***13*** *03:01:46.4±0.7, 4°.95S×133°.86E, h0km, mb4.2/11, mbtmp4.3/15, ML4.4/4, MS3.4/5, Error ellipse: s-maj=30.6km s-min=15.5km az=76.0*
NEIC ***13*** *03:01:49.2±1.2, 4°.89S±0°.03×133°.89E±0°.08, h10km±1km, mb4.8/38, Error ellipse: s-maj=14.0km s-min=4.3km az=76.0*
DJA ***13*** *03:01:52.0±0.3, 5°S±3°×13°4E±°, h75km±9km, M4.7/13, mB5.3/4, mb4.7/6, MLv4.6/13, Mw(mB)4.8/4*
ISC 13 03:01:51.2±0.5, 4°.90S±0°.05×133°.96E±0°.06, h28km, n107, σ1§43/106, mb4.7/34, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.25**	**348**	**P**	**Pn**	**03 02 13.1**	**+0.2**
KMPI				S	**Sn**	**03 02 28.1**	**-0.7**
FAKI	**Fak Fak**	**2.60**	**319**		**Pn**	**03 02 31.2**	**-0.2**
FAKI				Sn	**Sn**	**03 03 00.3**	**-1.9**
FAKI	**Fak Fak**	**2.60**	**319**	**P**	**Pn**	**03 02 31.3**	**-0.2**
FAKI	**Fak Fak**	**2.60**	**319**	**P**	**Pn**	**03 02 31.2**	**-0.2**
FAKI				S	**Sn**	**03 03 00.2**	**-1.9**
SAUI	**Saumlaki**	**4.05**	**221**	Pn	**Pn**	**03 02 51.

20nm,0.8s
SOEI Soe 10.75 243 Pn **Pn 03 04 22.3 -1.3**
SOEI Soe 10.75 243 P **Pn 03 04 24.4 +0.8**
SOEI Soe 10.75 243 P **Pn 03 04 24.6 +1.0**
KNRA Kununurra 11.87 205 Pn **Pn 03 04 37.7 -1.0**
COEN Coen 12.79 135 Pn **Pn 03 04 49.5 -1.8**
COEN Coen 12.79 135 P **Pn 03 04 50.1 -1.2**
PMG Port Moresby 13.84 110 LR LR 03 12 25.4
comp=Z,181nm,18.5s,baz=250,slow=46
KAPI Kappang 14.15 269 LR LR 03 10 46.7
comp=Z,135nm,19.7s,baz=98,slow=38
WB0 Warramunga Arr 14.79 178 Pn **Pn 03 05 14.8 -3.8**
WRAB Tennant Creek 14.95 179 Pn **Pn 03 05 18.0 -2.8**
WRA Warramunga Arr 14.96 179 Pn 03 05 17.0 -3.9
WRA Warramunga Arr 14.96 179 Pn **Pn 03 05 17.1 -3.8**
1.0nm,0.3s,baz=354,slow=13,SNR=25
WRA Sn Sn 03 07 56.2 -10
0.9nm,0.3s,baz=358,slow=23,SNR=3.8
WRA Lg Lg 03 09 44.8
0.3nm,0.3s,baz=353,slow=27,SNR=5.0
1.5nm,0.3s
WB2 Warramunga Arr 14.96 179 **Pn 03 05 17.7 -3.2**
WR0 Warramunga Arr 14.98 178 **Pn 03 05 19.0 -2.2**
FITZ Fitzroy Crossi 15.44 211 Pn **Pn 03 05 23.4 -3.7**
FITZ Fitzroy Crossi 15.44 211 Pn **Pn 03 05 23.5 -3.7**
3.3nm,0.3s,baz=27,slow=11,SNR=63
FITZ Sn Sn 03 08 03.5 -14
2.5nm,0.3s,baz=180,slow=18,SNR=7.3
8.7nm,0.3s
QIS Mount Isa 16.51 161 P **Pn 03 05 42.3 +1.4**
MTSU Mount Surprise 16.60 143 P **Pn 03 05 43.7 +1.5**
AS01 Alice Springs 18.66 180 P **P 03 06 07.7 +0.6**
AS31 Alice Springs 18.66 180 P **P 03 06 06.0 -1.1**
ASAR Alice Springs 18.66 180 P **P 03 06 05.5 -1.7**
1.7nm,0.3s,baz=4.7,slow=11,SNR=50
ASAR S Sn 03 09 22.0 -14
0.6nm,0.5s,baz=82,slow=20,SNR=2.7
ASAR Lg Lg 03 11 33.1
baz=176,slow=40
14nm,0.8s
WRKA Warakurna 20.75 195 P **P 03 06 31.7 +1.7**
OOD Oodnadatta 22.83 176 P **P 03 06 53.5 +1.3**
INKA Innaminka 23.62 165 P **P 03 07 02.3 +2.2**
QLP Quilpie 23.70 157 P **P 03 07 02.9 +2.1**
LCRK Leigh Creek 25.73 172 P **P 03 07 21.4 +2.0**
HNR Honiara 26.17 101 LR LR 03 18 54.4
comp=Z,57nm,18.4s,baz=19,slow=39
FORT Forrest 26.34 192 P **P 03 07 23.6 -1.3**
STKA Stephens Creek 27.78 166 P **P 03 07 35.6 -2.2**
1.7nm,0.9s,baz=304,slow=15,SNR=2.1
1.7nm,0.9s
CMAR Chiang Mai Arr 41.59 305 P **P 03 09 37.4 +0.3**
1.3nm,0.3s,baz=132,slow=8.6,SNR=5.8
1.3nm,0.3s
KSRS Korea Array 42.51 353 P **P 03 09 43.6 -0.6**
2.8nm,0.8s,baz=172,slow=9.9,SNR=6.1
2.8nm,0.8s
USRK Ussuriysk Ar. 48.90 358 P **P 03 10 34.8 +0.2**
2.2nm,0.8s,baz=177,slow=9.5,SNR=5.2
2.2nm,0.8s
MDJ Mudanjiang 49.44 356 P **P 03 10 39.2 +0.5**
LZH Lanzhou 49.58 328 *e*P P 03 10 33.6 -6.6
LZH pP pP 03 10 41.1 -6.9
LZH pmax pmax
comp=Z,37nm,1.1s
HHC Hu-ho-hao-te 49.94 338 *e*P **P 03 10 44.7 +1.9**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.0s
BNX BinXian 50.75 354 ⇑P **P 03 10 49.7 +1.1**
BNX pmax pmax
comp=Z,19nm,0.9s
URZ Urewera 51.35 136 LR LR 03 32 42.2
comp=Z,87nm,18.6s,baz=322,slow=36
GTA Gaotai 54.18 328 *e*P **P 03 11 16.8 +2.4**
GTA pP sP 03 11 25.5 +0.6
GTA pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 57.83 338 P **P 03 11 39.2 -1.1**
comp=Z,0.5nm,0.7s,baz=175,slow=6.8,SNR=1.8
comp=Z,0.5nm,0.7s
MK31 Makanchi Array 68.72 325 P **P 03 12 52.5 +0.1**
MK31 IAmb IAmb 03 12 54.8
comp=Z,4.4nm,0.8s
MKAR Makanchi Array 68.72 325 P **P 03 12 53.1 +0.7**
MKAR Makanchi Array 68.72 325 P **P 03 12 51.2 -1.3**
comp=Z,6.3nm,0.7s,baz=117,slow=8.1,SNR=54
comp=Z,6.3nm,0.7s
MAKZ Makanchi 68.90 325 P **P 03 12 53.4 -0.2**
MAKZ IAmb IAmb 03 12 55.9
comp=Z,7.2nm,0.8s
ZALV Zalesovo Beam 71.52 332 P **P 03 13 09.4 0.0**
comp=Z,1.9nm,0.7s,baz=116,slow=3.4,SNR=6.6
comp=Z,1.9nm,0.7s
KURK Kurchatov 72.85 327 P **P 03 13 17.4 -0.1**
KURBB Kurchatov Arra 72.86 327 P **P 03 13 16.9 -0.5**
comp=Z,3.0nm,0.8s,baz=123,slow=5.0,SNR=23
comp=Z,3.0nm,0.8s
KK31 Karatay Array 74.42 317 P **P 03 13 26.2 -0.7**
KKAR Karatay Array 74.42 317 P **P 03 13 26.4 -0.5**
KKAR Karatay Array 74.42 317 P **P 03 13 26.5 -0.5**
TIXI Tiksi 76.47 358 P **P 03 13 38.4 +0.4**
TIXI IAmb IAmb 03 13 40.3
comp=Z,6.9nm,1.0s
BVAR Borovoye Array 78.44 326 P **P 03 13 48.8 -0.7**
comp=Z,4.4nm,0.9s,baz=101,slow=7.7,SNR=8.8
comp=Z,4.4nm,0.9s
AB31 Akbulak array 83.35 321 P **P 03 14 15.7 0.0**
ABKAR Akbulak array 83.35 321 P **P 03 14 16.2 +0.5**
ABKAR Akbulak array 83.35 321 P **P 03 14 15.8 +0.1**
ABKAR IAmb IAmb 03 14 16.7
comp=Z,1.2nm,0.8s
M16K Timber Creek 83.40 27 P **P 03 14 16.1 +0.4**
J16K Anvik River 83.59 24 P **P 03 14 18.6 +1.9**
J16K IAmb IAmb 03 14 21.0
comp=Z,12nm,1.2s
M17K Holitna River 84.23 27 P **P 03 14 21.8 +1.9**
H17K Granite Mounta 84.55 23 P **P 03 14 22.6 +1.1**
H17K IAmb IAmb 03 14 24.4
comp=Z,4.5nm,0.9s
L18K Granite Mounta 84.85 26 P **P 03 14 24.0 +1.0**
L18K IAmb IAmb 03 14 56.3
comp=Z,13nm,1.5s
QSPA South Pole Qui 85.07 180 P **P 03 14 24.7 +0.4**
QSPA IAmb IAmb 03 14 25.8
comp=Z,3.9nm,0.8s
QSPA South Pole Qui 85.07 180 P **P 03 14 24.2 -0.1**
comp=Z,3.2nm,0.7s,baz=290,slow=0.9,SNR=15
comp=Z,3.2nm,0.7s
J18K Innoko River 85.28 25 P **P 03 14 25.5 +0.3**
J18K IAmb IAmb 03 14 28.1
comp=Z,5.3nm,1.1s
KDAK Kodiak Island 85.39 31 P **P 03 14 26.7 +0.9**
TTA Tatalina 85.39 26 P **P 03 14 26.7 +0.9**
TTA IAmb IAmb 03 15 04.5
comp=Z,11nm,1.5s
G18K Tagagawik 85.41 22 P **P 03 14 26.8 +1.0**
G18K IAmb IAmb 03 14 28.2
comp=Z,4.4nm,1.2s
L19K White Mountain 85.65 26 P **P 03 14 28.5 +1.4**
L19K IAmb IAmb 03 14 29.9
comp=Z,9.4nm,1.1s
J19K Poorman 85.92 25 P **P 03 14 29.8 +1.4**
J19K IAmb IAmb 03 14 31.2
comp=Z,3.6nm,0.9s
H19K Roundabout Mou 86.12 23 P **P 03 14 30.6 +1.3**
H19K IAmb IAmb 03 14 31.9
comp=Z,3.8nm,0.8s
K20K Telida 86.37 25 P **P 03 14 32.1 +1.5**
K20K IAmb IAmb 03 14 33.4
comp=Z,7.8nm,1.0s
E19K Redstone River 86.52 21 P **P 03 14 32.3 +1.0**
J20K Nowinta River 86.59 25 P **P 03 14 33.6 +2.0**
J20K IAmb IAmb 03 14 34.5
comp=Z,5.7nm,0.8s
D19K Kuna River 86.60 20 P **P 03 14 32.1 +0.4**
PPLA Purkeypile 87.04 26 P **P 03 14 34.7 +0.6**
PPLA IAmb IAmb 03 15 14.2
comp=Z,12nm,1.4s
CAST Castle Rocks 87.24 26 P **P 03 14 35.6 +0.8**
CAST IAmb IAmb 03 14 37.0
comp=Z,8.5nm,1.4s
SUA Susitna One 87.30 28 P **P 03 14 35.0 -0.3**
RC01 Rabbit Creek A 87.68 28 P **P 03 14 37.4 +0.4**
KNK Knik Glacier 88.35 28 P **P 03 14 40.3 +0.1**
SML Sawmill 88.50 28 P **P 03 14 41.1 +0.2**
RND Reindeer 88.64 26 P **P 03 14 42.0 +0.4**
RND IAmb IAmb 03 14 43.2
comp=Z,6.4nm,1.0s
I23K Minto, Yukon-K 88.84 24 P **P 03 14 43.7 +1.3**
I23K IAmb IAmb 03 14 48.4
comp=Z,6.3nm,1.5s
ILAR Eielson Array 89.78 25 P **P 03 14 46.2 -0.6**
comp=Z,0.9nm,1.0s,baz=254,slow=4.9,SNR=5.4
comp=Z,0.9nm,1.0s
J26L Joseph Creek 91.14 25 P **P 03 14 53.3 0.0**
J26L IAmb IAmb 03 15 33.0
comp=Z,5.7nm,1.4s
BMAR Burnt Mountain 91.21 22 P **P 03 14 54.6 +1.0**
BCAR Beaver Creek A 91.72 27 P **P 03 14 57.2 +1.2**
CPUP Villa Florida 147.09 161 PKPbc **PKPbc 03 21 33.0 +0.7**
comp=Z,2.8nm,0.8s,baz=198,slow=3.2,SNR=5.9
LPAZ La Paz 149.66 134 PKPbc **PKPbc 03 21 40.0 -0.2**
comp=Z,1.7nm,0.8s,baz=253,slow=2.5,SNR=6.4

GCG 13 03:04:05.5±0.3, 14°.04N×91°.32W, h82km±98km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.39**	**357**	*i* P		03 04 22.2	
STG8	**El Palmar, Qui**	**0.41**	**356**	*i* P		03 04 22.8	
STG8				*e*S		03 04 36.3	

IDC 13 03:06:04.2±1.0, 70°.78N×6°.47W, h0km, mb3.2/5, mbtmp3.5/9, ML3.3/4, MS3.6/5, Error ellipse: s-maj=33.4km s-min=13.6km az=23.0
BER 13 03:06:09.7±2.7, 70°.98N×6°.44W, h10km, mb(Pn)4.0, ML3.3, Confirmed Earthquake
DNK 13 03:06:09.6±3.1, 70°.89N×6°.66W, h33km±19km, ML1.3
REY 13 03:06:11.7, 70°.95N×8°.42W, h10km
ISC 13 03:06:07.7±1.6, 71°.02N±0°.05×6°.17W±0°.05, h28km±13km, n48, σ2°38/62, mb3.3/5, MS3.6/3, 5C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.70**	**268**	⇑*i*P	**Pn**	**03 06 20.8**	**-0.8**
JNE				*e*S	**Sb**	**03 06 29.6**	**-0.9**
JNE				IAML		03 06 30.6	
comp=Z,2μm,0.4s							
JNW	**Jan Mayen West**	**0.74**	**272**	⇑*i*P	**Pn**	**03 06 21.3**	**-0.9**
JNW				*e*S	**Sb**	**03 06 30.4**	**-1.3**
JNW				IAML		03 06 32.7	
comp=Z,2μm,0.3s							
JMIC	**Jan Mayen**	**0.77**	**268**	⇑*i*P	**Pn**	**03 06 21.6**	**-0.9**
JMIC				*e*S	**Sb**	**03 06 31.1**	**-1.4**
JMIC				IAML		03 06 32.3	
comp=Z,1μm,0.6s							
JMIC	**Jan Mayen**	**0.77**	**268**	Pn	Pn	03 06 21.1	-1.4
comp=Z,466nm,0.3s,baz=69,slow=4.5,SNR=226							
JMIC				Sn	**Sb**	**03 06 30.5**	**-2.0**
comp=Z,338nm,0.3s,baz=132,slow=23,SNR=42							
JMIC	**Jan Mayen**	**0.77**	**268**	⇑*i*P	**Pn**	**03 06 21.5**	**-1.1**
JMIC				*i* S	**Sb**	**03 06 31.2**	**-1.3**
JMI	**Jan Mayen**	**0.85**	**265**	⇑*i*P	**Pn**	**03 06 23.2**	**-0.4**
JMI				*e*S	**Sn**	**03 06 34.1**	**-1.0**
JMI				IAML		03 06 37.1	
comp=Z,1μm,0.2s							
SCO	**Scoresbysund**	**5.25**	**272**	*i* P	Pn	03 07 20.8	-3.2
DBG	**Daneborg**	**5.33**	**315**	*e*P	**Pn**	**03 07 25.8**	**+0.6**
DBG				*e*S	**Sn**	**03 08 20.4**	**-5.2**
DBG	**Daneborg**	**5.33**	**315**	*i* P	**Pn**	**03 07 25.8**	**+0.6**
DBG				*i* S	**Sn**	**03 08 21.9**	**-3.7**
DBG				IAML		03 08 24.3	
comp=Z,1.4nm,0.3s							
ILEI	**Leirhofn**	**5.96**	**224**	P	**Pn**	**03 07 33.8**	**0.0**
ILEI				S	**Sn**	**03 08 38.8**	**-2.2**
IGIL	**Gilhagi**	**6.21**	**222**	P	**Pn**	**03 07 38.0**	**+0.7**
IDIM	**Dimmadalss**	**6.43**	**223**	P	**Pn**	**03 07 41.2**	**+0.9**
IDIM				S	**Sn**	**03 08 52.5**	**-0.2**
IGHA	**Grjothals**	**6.47**	**222**	P	**Pn**	**03 07 41.9**	**+1.0**
IGHA				S	**Sn**	**03 08 51.9**	**-1.8**
IGRS	**Grimsstaoir**	**6.54**	**219**	P	**Pn**	**03 07 42.8**	**+1.0**
IGRS				S	**Sn**	**03 08 56.3**	**+1.0**
IMEL	**Melhnausar**	**6.71**	**220**	P	**Pn**	**03 07 44.5**	**+0.4**
DAG	**Danmarks Havn**	**6.72**	**335**	*e*P	**Pn**	**03 07 44.7**	**+0.4**
DAG				*e*S	**Sn**	**03 08 55.5**	**-4.2**
DAG	**Danmarks Havn**	**6.72**	**335**	*i* P	**Pn**	**03 07 45.0**	**+0.8**
DAG				*i* P	**Pn**	**03 07 45.0**	**+0.8**
DAG				*i* S	**Sn**	**03 08 55.4**	**-4.2**
DAG				IAML		03 08 58.6	
comp=Z,1.0nm,0.2s							
LOF	**Lofoten**	**7.46**	**103**	*e*P	**Pn**	**03 07 55.8**	**+1.4**
LOF				*e*S	**Sn**	**03 09 12.7**	**-5.2**
LOF				IAML		03 09 22.4	
comp=Z,4.7nm,1.2s							
STEI	**Steigen**	**8.11**	**102**	*e*P	**Pn**	**03 08 05.0**	**+1.7**
STEI				*e*S	**Sn**	**03 09 29.9**	**-3.9**
STEI				IAML		03 09 32.4	
comp=Z,3.5nm,0.6s							
BJO1	**Bjornoya**	**8.20**	**53**	*e*P	**Pn**	**03 08 07.8**	**+3.4**
KONS	**Konsvik**	**8.31**	**114**	*e*P	**Pn**	**03 08 06.6**	**+0.5**
KONS				*e*S	**Sn**	**03 09 33.3**	**-5.5**
KONS				IAML		03 09 37.6	
comp=Z,6.3nm,0.5s							
STOK	**Stokkvaagen**	**8.39**	**115**	*e*P	**Pn**	**03 08 07.9**	**+0.7**
STOK				*e*S	**Sn**	**03 09 36.0**	**-4.8**
STOK				IAML		03 09 36.9	
comp=Z,6.6nm,0.6s							
HSPB	**Hornsund (broa**	**8.41**	**35**	*e*P	**Pn**	**03 08 10.7**	**+3.3**
FAUS	**Fauske**	**8.43**	**105**	*e*P	**Pn**	**03 08 08.5**	**+0.8**
TRO	**Tromso**	**8.55**	**87**	*e*P	**Pn**	**03 08 09.0**	**-0.3**
TRO				*e*S	Sn	03 09 38.1	-6.5
LEIR	**Leirfjorden**	**8.57**	**116**	*e*P	**Pn**	**03 08 10.3**	**+0.7**
BRBB	**Barentsburg B**	**8.87**	**28**	*e*P	**Pn**	**03 08 17.0**	**+3.4**
MOR8	**Moi Rana**	**8.93**	**113**	*e*P	**Pn**	**03 08 15.9**	**+1.3**
MOR8				*e*S	**Sn**	**03 09 49.7**	**-4.3**
MOR8				IAML		03 09 55.7	
comp=Z,4.8nm,0.6s							
JETT	**Jettan, Norway**	**9.06**	**87**	*e*P	**Pn**	**03 08 17.0**	**+0.6**
JETT				*e*S	Sn	03 09 50.2	-7.0
JETT				IAML		03 09 59.9	
comp=Z,3.6nm,0.5s							
KBS	**Kingsbay**	**9.16**	**22**	*e*P	**Pn**	**03 08 19.4**	**+1.7**
SPA0	**Spitsbergen Ar**	**9.26**	**29**	*e*P	**Pn**	**03 08 22.1**	**+3.0**
SPITS	**Spitsbergen Ar**	**9.26**	**29**	Pn	**Pn**	**03 08 23.2**	**+4.1**
baz=215,slow=14							
comp=Z,2.8nm,0.5s							
SUMG	**Summit**	**10.14**	**294**	*i* P	**Pn**	**03 08 31.1**	**-0.3**
HOPEN	**Hopen**	**10.18**	**43**	*e*P	**Pn**	**03 08 35.4**	**+3.8**
KTK1	**Kautokeino**	**10.20**	**87**	*e*P	**Pn**	**03 08 33.8**	**+1.8**
KTK1				IAML		03 08 42.8	
comp=Z,2.1nm,0.6s							
ARCES	**ARCESS Array B**	**10.73**	**83**	Pn	**Pn**	**03 08 40.1**	**+1.0**
comp=Z,0.1nm,0.3s,baz=300,slow=12,SNR=9.2							
comp=Z,3.3nm,1.0s							
NOR	**Nord**	**10.89**	**352**	*e*P	**Pn**	**03 08 42.9**	**+1.6**
NOA	**NORSAR Array B**	**12.19**	**136**	LR	LR	03 13 04.4	
comp=Z,90nm,18.8s,baz=275,slow=35							
HFS	**Hagfors**	**13.57**	**134**	Pn	**Pn**	**03 09 17.7**	**-0.2**
comp=Z,0.3nm,0.3s,baz=330,slow=11,SNR=11							
HFS				LR	LR	03 13 17.3	
comp=Z,319nm,19.0s,baz=280,slow=32							
comp=Z,1.3nm,0.5s							
FINES	**FINESS Array B**	**15.91**	**111**	Pn	**Pn**	**03 09 49.9**	**+0.7**
comp=Z,0.3nm,0.3s,baz=316,slow=11,SNR=9.0							
comp=Z,0.6nm,0.3s							
FRB	**Frobisher Bay**	**23.96**	**284**	LR	LR	03 19 19.3	
comp=Z,135nm,20.8s,baz=105,slow=33							
AKASG	**Malin Array Be**	**25.99**	**123**	P	**P**	**03 11 37.1**	**-0.4**
comp=Z,0.3nm,0.3s,baz=337,slow=9.6,SNR=3.1							
comp=Z,0.3nm,0.3s							
SCHQ	**Schefferville**	**30.29**	**270**	LR	LR	03 23 39.2	
comp=Z,132nm,18.6s,baz=38,slow=35							
YKA	**Yellowknife Ar**	**37.92**	**314**	P	**P**	**03 13 21.4**	**-0.4**
comp=Z,0.1nm,0.7s,baz=26,slow=7.7,SNR=2.0							
comp=Z,0.1nm,0.7s							
GNI	**Garni**	**40.09**	**113**	LR	LR	03 31 54.1	
comp=Z,104nm,19.1s,baz=343,slow=39							
ILAR	**Eielson Array**	**41.82**	**336**	P	**P**	**03 13 57.1**	**+2.9**
comp=Z,0.3nm,1.0s,baz=45,slow=6.4,SNR=1.8							
comp=Z,0.3nm,1.0s							
MMAI	**Mount Meron Ar**	**44.10**	**127**	P	**P**	**03 14 13.1**	**0.0**
comp=Z,0.2nm,0.3s,baz=338,slow=11,SNR=3.8							
comp=Z,0.2nm,0.3s							
PDAR	**Pinedale Array**	**54.30**	**298**	P	**P**	**03 15 33.5**	**+2.4**
comp=Z,0.2nm,0.7s,baz=21,slow=4.0,SNR=1.8							
comp=Z,0.2nm,0.7s							

THE 13 03:12:27.5, 34°.71N×24°.27E, h12km±10km, ML3.6/1, Error ellipse: s-maj=11.4km s-min=0.6km az=280.0
ATH 13 03:12:27.9, 34°.72N×24°.23E, h12km±3km, ML2.9/3, Manual Solution by M.Charalampakis First location: 2019/03/13 03:13:59, This location: 2019/03/13 11:43:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 7 km
ISC 13 03:12:27.3±1.3, 34°.8N±0°.1×24°.34E±0°.05, h17km, n11, σ0°99/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.21**	**270**	P	**Pg**	**03 12 31.9**	**-0.4**
GVD				S	**Sg**	**03 12 35.4**	**-0.2**
23μm,0.3s							
GVD	**Gavdhos**	**0.21**	**270**	P	**Pg**	**03 12 31.8**	**-0.4**
GVD				S	**Sg**	**03 12 34.8**	**-0.8**
TMBK	**Timbaki Herakl**	**0.42**	**56**	P	**Pn**	**03 12 39.5**	**+0.9**
PRNS	**Prines Rethymn**	**0.54**	**14**	P	**Pn**	**03 12 39.9**	**-0.3**
PRNS	**Prines Rethymn**	**0.54**	**14**	P	**Pn**	**03 12 40.0**	**-0.3**
PRNS				S	**Sn**	**03 12 50.3**	**+1.3**
IDI	**Anoyia**	**0.64**	**45**	P	**Pn**	**03 12 42.2**	**+0.5**
IDI	**Anoyia**	**0.64**	**45**	P	**Pn**	**03 12 42.5**	**+0.9**
CHAN	**Chania**	**0.72**	**340**	P	**Pn**	**03 12 44.6**	**+1.9**
VLI	**Veliai**	**2.19**	**329**	P	**Pb**	**03 13 06.5**	**-0.1**
KARP	**Karpathos**	**2.42**	**72**	P	**Pb**	**03 13 10.2**	**-0.1**
APE	**Apeiranthos**	**2.43**	**23**	P	**Pb**	**03 13 09.0**	**-1.6**

IDC 13 03:17:37.3±6.7, 3°.73N×123°.52E, h642km±115km, mb2.6/7, mbtmp3.7/7, Error ellipse: s-maj=95.5km s-min=18.2km az=55.0
ISC 13 03:17:38.2±1.1, 3°.7N±0°.3×123°.5E±0°.4, h650km, n7, σ1°19/7, mb3.4/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.83**	**156**	P	**P**	**03 22 20.3**	**-1.2**
0.4nm,0.3s,baz=336,slow=9.6,SNR=19							
0.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**28.13**	**303**	P	**P**	**03 22 41.8**	**+0.3**
1.7nm,0.4s,baz=116,slow=9.6,SNR=1.7							
1.7nm,0.4s							
ASAR	**Alice Springs**	**29.07**	**160**	P	**P**	**03 22 48.7**	**-0.8**
0.3nm,0.3s,baz=340,slow=6.8,SNR=7.2							
0.3nm,0.3s							
STKA	**Stephens Creek**	**39.38**	**155**	P	**P**	**03 24 16.1**	**+1.3**
1.7nm,0.8s,baz=315,slow=12,SNR=3.2							
1.7nm,0.8s							
SONM	**Songino Array**	**46.33**	**344**	P	**P**	**03 25 08.9**	**+0.5**
0.4nm,0.6s,baz=157,slow=7.8,SNR=2.5							
0.4nm,0.6s							
MKAR	**Makanchi Array**	**55.74**	**327**	P	**P**	**03 26 15.6**	**-0.3**
0.3nm,0.3s,baz=122,slow=7.2,SNR=8.8							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**60.02**	**329**	P	**P**	**03 26 43.3**	**-1.1**
0.2nm,0.4s,baz=126,slow=7.4,SNR=2.5							
0.2nm,0.4s							

TAP 13 03:32:43.6, 25°.01N×121°.85E, h137km, ML3.6, B
JMA 13 03:32:44.1±0.2, 24°.9N±0°.9×121°.8E±0°.5, h132km±1km, MV2.8/12, TAIWAN REGION
ISC 13 03:32:43.0±1.5, 25°.04N±0°.04×121°.83E±0°.03, h140km±7km, n101, σ0°72/176, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WFSB	**Wu-fen Shan**	**0.06**	**310**	P	**Pn**	**03 33 02.1**	**+0.2**
WFSB				*e*S	**Sn**	**03 33 17.2**	**+1.0**
TIPB	**Shuangxi**	**0.06**	**181**	P	**Pn**	**03 33 02.0**	**0.0**
SXI1	**Grass Mountain**	**0.07**	**37**	P	**Pn**	**03 33 01.8**	**-0.3**
SXI1				*e*S	**Sn**	**03 33 17.4**	**+0.9**
TWB1	**Santiao Chiao**	**0.15**	**100**	P	**Pn**	**03 33 02.2**	**+0.2**
TWB1				*e*S	**Sn**	**03 33 15.7**	**-0.7**
EGS		**0.21**	**153**	*e*P	**Pn**	**03 33 02.6**	**+0.4**
NHY	**Taipei**	**0.23**	**271**	*e*P	**Pn**	**03 33 02.8**	**+0.6**
YM01	**YM01**	**0.26**	**295**	P	**Pn**	**03 33 02.5**	**+0.2**
YM08	**YM08**	**0.26**	**305**	*e*P	**Pn**	**03 33 03.1**	**+0.8**
ILA	**Ilan**	**0.28**	**195**	*e*P	**Pn**	**03 33 03.2**	**+0.9**
NHDH	**Xindian Distri**	**0.28**	**255**	*e*P	**Pn**	**03 33 03.2**	**+0.9**
NHDH				*e*S	**Sn**	**03 33 16.8**	**-0.1**
ZDH	**Zhuzihu**	**0.28**	**296**	*e*P	**Pn**	**03 33 02.8**	**+0.4**
TWY	**Chenhua**	**0.32**	**319**	*e*P	**Pn**	**03 33 01.8**	**-0.7**
TWY				*e*S	**Sn**	**03 33 16.4**	**-0.8**
ANP	**Anpu**	**0.32**	**298**	*e*P	**Pn**	**03 33 02.9**	**+0.3**
TWE	**Neicheng**	**0.34**	**205**	P	**Pn**	**03 33 03.0**	**+0.5**
TWE				*e*S	**Sn**	**03 33 17.1**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.35**	**218**	P	**Pn**	**03 33 02.7**	**0.0**
FUSB				S	**Sn**	**03 33 17.1**	**-0.4**
NTST	**Danshui**	**0.37**	**291**	*e*P	**Pn**	**03 33 03.2**	**+0.6**
TWS1	**Kuangyinshan**	**0.38**	**280**	*e*P	**Pn**	**03 33 02.3**	**-0.4**
TWS1				*e*S	**Sn**	**03 33 17.1**	**-0.5**
NWLT	**Wulai**	**0.39**	**229**	P	**Pn**	**03 33 02.7**	**-0.1**
NWLT				S	**Sn**	**03 33 16.8**	**-0.9**
NDS	**Dongshan**	**0.41**	**194**	*e*P	**Pn**	**03 33 03.9**	**+1.1**
NDS				*e*S	**Sn**	**03 33 19.2**	**+1.3**
TWC	**Suao**	**0.42**	**177**	*e*P	**Pn**	**03 33 02.8**	**-0.2**
TWC				*e*S	**Sn**	**03 33 17.7**	**-0.3**
ESAO	**Su ao**	**0.46**	**178**	*e*P	**Pn**	**03 33 03.7**	**+0.6**
ESAO				*e*S	**Sn**	**03 33 18.2**	**-0.1**
ENTT	**Nioudou**	**0.46**	**211**	P	**Pn**	**03 33 03.4**	**+0.3**
ENTT				S	**Sn**	**03 33 17.7**	**-0.6**
YHNB	**Yeheng**	**0.55**	**229**	P	**Pn**	**03 33 03.5**	**-0.1**
YHNB				S	**Sn**	**03 33 17.7**	**-1.5**
NSK	**Sanguang**	**0.56**	**230**	P	**Pn**	**03 33 03.7**	**0.0**
NSK				S	**Sn**	**03 33 17.9**	**-1.4**
LATG	**Datong**	**0.57**	**209**	P	**Pn**	**03 33 04.3**	**+0.5**
LATG				S	**Sn**	**03 33 19.4**	**-0.2**
NCU	**National Centr**	**0.58**	**264**	P	**Pn**	**03 33 04.0**	**+0.3**
NCU				*e*S	**Sn**	**03 33 19.0**	**-0.4**
NCUH	**Zhongli**	**0.59**	**264**	P	**Pn**	**03 33 04.3**	**+0.6**
NCUH				*e*S	**Sn**	**03 33 19.6**	**+0.2**
EWUT	**Wuta**	**0.59**	**184**	*e*P	**Pn**	**03 33 04.6**	**+0.8**
EWUT				*e*S	**Sn**	**03 33 20.3**	**+0.8**
ENA	**Nanau**	**0.61**	**187**	*e*P	**Pn**	**03 33 04.5**	**+0.6**
PCYT	**Pengchaiyu**	**0.63**	**20**	P	**Pn**	**03 33 04.7**	**+0.7**
KSHI	**Guanxi Townshi**	**0.65**	**247**	P	**Pn**	**03 33 04.6**	**+0.5**
EAHA	**Aohua**	**0.71**	**186**	*e*P	**Pn**	**03 33 05.3**	**+0.8**
EOS2	**EOS2**	**0.72**	**149**	P	**Pn**	**03 33 05.4**	**+0.9**
EOS2				S	**Sn**	**03 33 21.3**	**+0.6**
NNS	**Nan Shan**	**0.72**	**215**	P	**Pn**	**03 33 05.1**	**+0.3**
NNS				*e*S	**Sn**	**03 33 21.7**	**+0.4**
NNSB	**Datong**	**0.73**	**214**	P	**Pn**	**03 33 05.2**	**+0.3**
NNSB				*e*S	**Sn**	**03 33 21.4**	**0.0**
NFF	**Wufeng Townshi**	**0.76**	**238**	P	**Pn**	**03 33 05.1**	**+0.1**
NFF				S	**Sn**	**03 33 20.7**	**-0.9**
SBCB	**Hsinchu**	**0.80**	**253**	*e*P	**Pn**	**03 33 05.7**	**+0.5**
HSN	**Hsinchu**	**0.81**	**254**	*e*P	**Pn**	**03 33 04.7**	**-0.5**
LIOB	**Emei**	**0.83**	**242**	P	**Pn**	**03 33 06

ETM			eS	Sn	03 33 25.2	-1.6
NSY	**Sanyi**	**1.15 238**	P	**Pn**	03 33 08.3	0.0
NSY			S	**Sn**	03 33 27.1	-0.4
JYNG	**Yonagunijimaku**	**1.17 120**	P	**Pn**	03 33 08.6	+0.2
JYNG			eS	**Sn**	03 33 27.2	-0.6
TWQ1	**Liyutan**	**1.18 235**	P	**Pn**	03 33 08.9	+0.3
TWQ1			S	**Sn**	03 33 27.8	-0.2
TEYL	**Yanliau Villag**	**1.18 190**	eP	**Pn**	03 33 07.4	-1.2
TEYL			eS	**Sn**	03 33 27.2	-0.8
YOJ	**Yonaguni jima**	**1.22 118**	P	**Pn**	03 33 08.9	0.0
YOJ			S	**Sn**	03 33 27.8	-0.8
YOJ	**Yonaguni jima**	**1.22 118**	eP	**Pn**	03 33 09.1	+0.2
YOJ			eS	**Sn**	03 33 27.6	-1.0
WUSB	**Renai**	**1.22 212**	P	**Pn**	03 33 10.2	+1.0
WUSB			S	**Sn**	03 33 29.6	+0.6
OWD	**Renai**	**1.23 209**	P	**Pn**	03 33 10.2	+0.9
OWD			eS	**Sn**	03 33 29.0	-0.1
SHUL	**Shoufeng**	**1.27 191**	eP	**Pn**	03 33 09.3	-0.1
SHUL			S	**Sn**	03 33 30.0	+0.4
ESL	**Shilin**	**1.27 197**	P	**Pn**	03 33 08.7	-0.7
ESL			eS	**Sn**	03 33 28.1	-1.5
WCS	**Beigang Elemen**	**1.28 221**	P	**Pn**	03 33 10.2	+0.6
WCS			S	**Sn**	03 33 29.3	-0.5
TEGC	**Jichi Village**	**1.35 191**	eP	**Pn**	03 33 11.3	+1.1
TEGC			eS	**Sn**	03 33 31.5	+0.5
TCU	**Taichung**	**1.37 230**	eP	**Pn**	03 33 11.0	+0.5
WARBT	**Fenglin Townsh**	**1.37 197**	P	**Pn**	03 33 09.7	-0.8
WARBT			S	**Sn**	03 33 29.6	-2.0
EGFH	**Guangfu**	**1.41 195**	eP	**Pn**	03 33 11.5	+0.6
EGFH			eS	**Sn**	03 33 30.1	-2.0
VWDT	**VWDT**	**1.42 206**	P	**Pn**	03 33 12.1	+1.1
VWDT			eS	**Sn**	03 33 33.6	+1.2
SMLT	**Sun Moon Lake**	**1.43 217**	P	**Pn**	03 33 10.8	-0.4
SMLT			eS	**Sn**	03 33 31.6	-1.1
TYC	**Yuchr**	**1.43 218**	P	**Pn**	03 33 11.6	+0.5
TYC			S	**Sn**	03 33 32.7	+0.1
SSLB	**Suanglung**	**1.48 213**	P	**Pn**	03 33 12.0	+0.4
SSLB			S	**Sn**	03 33 33.0	-0.5
WNT	**Mingjian**	**1.55 222**	eP	**Pn**	03 33 12.2	-0.3
HGSD	**Ruisui**	**1.58 194**	P	**Pn**	03 33 13.1	+0.4
HGSD			eS	**Sn**	03 33 36.3	+0.8
EHY	**Hungye**	**1.59 197**	eP	**Pn**	03 33 12.2	-0.7
EHY			eS	**Sn**	03 33 33.9	-1.8
WHYT	**Xinyi Township**	**1.60 214**	P	**Pn**	03 33 13.6	+0.6
WHYT			S	**Sn**	03 33 36.0	0.0
YULB	**Yu-li**	**1.71 197**	eP	**Pn**	03 33 13.5	-0.7
YUS	**Yu-Shan**	**1.73 208**	eP	**Pn**	03 33 14.1	-0.9
YUS			eS	**Sn**	03 33 37.5	-1.9
EYUL	**Yuli**	**1.74 196**	eP	**Pn**	03 33 15.1	+0.5
TWF1	**Yuli**	**1.74 196**	eP	**Pn**	03 33 14.9	+0.3
CHN5	**Tsauling**	**1.77 216**	eP	**Pn**	03 33 15.7	+0.7
CHN5			eS	**Sn**	03 33 39.6	+0.1
ALS	**Alishan**	**1.78 212**	eP	**Pn**	03 33 15.9	+0.6
ALS			eS	**Sn**	03 33 40.0	0.0
IRIF	**Iriomote-Funau**	**1.87 112**	eP	**Pn**	03 33 16.1	+0.1
IRIF			eS	**Sn**	03 33 40.2	-1.0
WTK	**Tuku**	**1.88 225**	eP	**Pn**	03 33 15.3	-0.8
WTK			eS	**Sn**	03 33 41.2	-0.2
CHKH	**Chenggong**	**1.88 192**	eP	**Pn**	03 33 16.0	-0.2
CHKH			eS	**Sn**	03 33 41.5	0.0
FULB	**Fuli**	**1.89 195**	eP	**Pn**	03 33 17.1	+0.7
FULB			eS	**Sn**	03 33 43.1	+1.2
WCKO	**Fanlu**	**1.94 215**	eP	**Pn**	03 33 18.2	+1.3
WCKO			eS	**Sn**	03 33 43.2	+0.3
ELDTW	**Lidau**	**1.98 202**	eP	**Pn**	03 33 18.2	+0.7
ELDTW			eS	**Sn**	03 33 44.5	+0.6
CHN4	**Tsaushan**	**2.02 214**	eP	**Pn**	03 33 18.7	+0.9
CHN4			eS	**Sn**	03 33 45.0	+0.4
MATB	**Ma-tsu**	**2.03 304**	eP	**Pn**	03 33 18.2	+0.3
MATB			eS	**Sn**	03 33 43.5	-1.2
TPUB	**Ta-pu**	**2.04 213**	eP	**Pn**	03 33 19.0	+0.9
WSL	**Shuilin Townsh**	**2.10 224**	eP	**Pn**	03 33 19.3	+0.6
WSL			eS	**Sn**	03 33 45.6	-0.5
EDH	**Donghe**	**2.11 193**	eP	**Pn**	03 33 19.1	+0.2
TWK	**Hsinying**	**2.14 215**	eP	**Pn**	03 33 19.6	+0.3
TWK			eS	**Sn**	03 33 47.8	+0.6
CHN1	**Nanshi**	**2.19 213**	eP	**Pn**	03 33 20.4	+0.5
CHN1			eS	**Sn**	03 33 48.0	-0.2
JIJ	**Ishigaki jima**	**2.21 107**	P	**Pn**	03 33 20.2	+0.2
JIJ			S	**Sn**	03 33 47.5	-1.0
LONT	**Longtian**	**2.21 197**	eP	**Pn**	03 33 20.2	0.0
SGST	**Jiashian**	**2.25 211**	eP	**Pn**	03 33 20.4	-0.3
SGST			eS	**Sn**	03 33 48.3	-1.2
JISG	**Ishigakijimahi**	**2.30 101**	eP	**Pn**	03 33 21.6	+0.5
JISG			eS	**Sn**	03 33 50.1	-0.4
TWGBT	**Beinan**	**2.31 197**	eP	**Pn**	03 33 22.4	+1.0
JTJ	**Tarama**	**2.64 98**	eP	**Pn**	03 33 26.5	+1.1
JTJ			eS	**Sn**	03 33 57.9	-0.2

IDC 13 03:36:26.2±9.1, 3°.30S×146°.10E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=305.1km s-min=35.4km az=97.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.13 214**		P	P	03 41 02.2	+0.2
	1.5nm,0.9s,baz=37,slow=12,SNR=7.4 1.5nm,0.9s						
ASAR	**Alice Springs**	**23.43 209**		P	P	03 41 37.1	-0.1
	0.6nm,0.6s,baz=39,slow=9.0,SNR=7.7 0.6nm,0.6s						
MKAR	**Makanchi Array**	**74.86 320**		P	P	03 48 08.8	0.0
	0.3nm,0.8s,baz=116,slow=6.6,SNR=2.7 0.3nm,0.8s						

IDC 13 04:03:57.1±2.1, 2°.00N×127°.35E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=189.6km s-min=22.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86 163**		P	P	04 09 02.4	0.0
	0.5nm,0.4s,baz=342,slow=10,SNR=9.1 0.5nm,0.4s						
ASAR	**Alice Springs**	**26.30 166**		P	P	04 09 34.3	-0.4
	0.2nm,0.5s,baz=348,slow=8.7,SNR=2.2 0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.32 326**		P	P	04 14 01.2	+0.2
	0.7nm,0.4s,baz=119,slow=8.1,SNR=16 0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**63.52 328**		P	P	04 14 29.1	-0.2
	0.7nm,0.2s,baz=130,slow=6.1,SNR=1.6						

*NEIC **13** 04:12:37.7±1.5, 5°.74S±0°.04×152°.4E±0°.1, h10km±1km, mb4.7/36, Error ellipse: s-maj=18.6km s-min=6.8km az=87.0*
*IDC **13** 04:12:45.7±2.2, 5°.47S×151°.63E, h66km±19km, mb4.0/18, mbtmp4.3/19, MS3.6/8, Error ellipse: s-maj=17.4km s-min=10.1km az=119.0*

ISC 13 04:12:42.9±0.5, 5°.73S±0°.05×152°.08E±0°.08, h45km, n89, σ18°89/80, mb4.5/36, MS3.6/8, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.53**	**3**	Pn	**Pn**	**04 13 06.1**	**-1.7**
RABL				Sn	**Sn**	04 13 26.2	-0.3
BULU	**Kimbe**	**1.76 276**		P	Pn	04 13 17.5	+6.5
MANU	**Manus Island**	**5.96 308**		Pn	**Pn**	**04 14 10.1**	**+1.5**
PMG	**Port Moresby**	**6.09 233**		P	**Pn**	**04 14 11.9**	**+1.4**
	103nm,0.8s,baz=32,slow=10,SNR=19						
PMG				S	**Sn**	**04 15 15.6**	**-3.4**
	69nm,0.4s,baz=331,slow=21,SNR=6.5						
TATA	**Tatamba Isabel**	**8.11 109**		P	Pn	04 14 43.0	+4.8
HNR	**Honiara**	**8.63 116**		LR	LR	04 17 48.6	
	comp=Z,163nm,21.2s,baz=244,slow=33						
NGOA	**Tingoa Renbel**	**9.79 127**		P	Pn	04 15 07.5	+6.3
JAY	**Jayapura**	**11.78 285**		LR	LR	04 20 29.5	
	comp=Z,285nm,18.5s,baz=92,slow=41						
COEN	**Coen**	**11.99 226**		Pn	**Pn**	**04 15 30.9**	**-0.4**
MTSU	**Mount Surprise**	**14.48 211**		P	**P**	**04 16 09.9**	**-1.1**
QIS	**Mount Isa**	**19.08 218**		P	**Pn**	**04 17 03.5**	**+0.5**
EIDS	**Eidsvold**	**19.56 183**			**P**	**04 17 06.4**	**-0.6**
EIDS	**Eidsvold**	**19.56 183**		P	**Pn**	**04 17 10.1**	**+1.5**
KDU	**Kakadu**	**20.54 249**		P	**P**	**04 17 18.3**	**+0.5**
DZM	**Mont Dzumac**	**21.38 141**		P	**P**	**04 17 23.1**	**-3.8**
DZM	**Mont Dzumac**	**21.38 141**		P	**P**	**04 17 32.1**	**+5.2**
	3.7nm,0.6s,baz=292,slow=11,SNR=7.8						
DZM				LR	LR	04 25 15.3	
	comp=Z,198nm,19.5s,baz=320,slow=34						
	3.7nm,0.6s						
MTN	**Manton Dam**	**21.83 250**		P	**P**	**04 17 31.8**	**0.0**
MTN				IAmb	IAmb	04 17 33.0	
	comp=Z,20nm,1.1s						
QLP	**Quilpie**	**22.05 199**		P	**P**	**04 17 36.1**	**+2.1**
WB0	**Warramunga Arr**	**22.15 229**		P	**P**	**04 17 35.0**	**-0.2**
WB0				IAmb	IAmb	04 17 50.0	
	comp=Z,27nm,1.4s						
WR0	**Warramunga Arr**	**22.16 229**		P	**P**	**04 17 35.8**	**+0.6**
WR8	**Warramunga Arr**	**22.18 229**		P	**P**	**04 17 35.4**	**-0.1**
WRAB	**Tennant Creek**	**22.28 229**		P	**P**	**04 17 37.2**	**+0.7**
WB2	**Warramunga Arr**	**22.29 229**		P	**P**	**04 17 35.6**	**-1.0**
WB2				IAmb	IAmb	04 17 59.8	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**22.30 229**		P	**P**	**04 17 36.5**	**-0.2**
WRA	**Warramunga Arr**	**22.30 229**		P	**P**	**04 17 35.1**	**-1.6**
	comp=Z,8.5nm,0.8s,baz=52,slow=10,SNR=35						
WRA				S	**S**	**04 21 36.9**	**-2.5**
	comp=Z,3.8nm,1.2s,baz=54,slow=18,SNR=6.5						
WRA				LR	LR	04 25 41.2	
	comp=Z,130nm,21.1s,baz=118,slow=35 comp=Z,8.5nm,0.8s						
INKA	**Innaminka**	**24.40 205**		P	**P**	**04 17 59.1**	**+1.9**
KNRA	**Kununurra**	**24.92 245**		P	**P**	**04 18 03.1**	**+1.0**
AS01	**Alice Springs**	**24.95 223**		P	**P**	**04 18 03.9**	**+1.5**
AS31	**Alice Springs**	**24.98 223**		P	**P**	**04 18 03.6**	**+1.0**
ASAR	**Alice Springs**	**24.99 223**		P	**P**	**04 18 03.4**	**+0.7**
	comp=Z,13nm,0.7s,baz=56,slow=9.1,SNR=126						
ASAR				PcP	**PcP**	**04 21 37.4**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=65,slow=3.0,SNR=1.6						
ASAR				S	**S**	**04 22 21.4**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=326,slow=30,SNR=2.2						
ASAR				LR	LR	04 27 28.3	
	comp=Z,132nm,20.2s,baz=75,slow=36 comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**27.81 199**		P	**P**	**04 18 25.4**	**-2.5**
STKA				IAmb	IAmb	04 18 35.5	
	comp=Z,23nm,0.9s						
STKA	**Stephens Creek**	**27.81 199**		P	**P**	**04 18 31.2**	**+3.2**
	comp=Z,3.1nm,0.8s,baz=37,slow=11,SNR=3.9 comp=Z,3.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.59 242**		P	**P**	**04 18 33.3**	**-1.8**
KAPI	**Kappang**	**32.19 270**		LR	LR	04 34 50.2	
	comp=Z,76nm,18.3s,baz=165,slow=42						
FORT	**Forrest**	**33.62 219**		P	**P**	**04 19 18.5**	**-0.8**
FORT				IAmb	IAmb	04 19 44.2	
	comp=Z,18nm,0.9s						
URZ	**Urewera**	**39.57 148**		LR	LR	04 33 59.8	
	comp=Z,117nm,18.6s,baz=349,slow=32						
MORW	**Morawa**	**41.21 231**		P	**P**	**04 20 25.4**	**+1.8**
MORW				IAmb	IAmb	04 20 52.4	
	comp=Z,15nm,1.2s						
NWAO	**Narrogin (SRO)**	**42.23 226**		LR	LR	04 38 16.9	
	comp=Z,128nm,18.4s,baz=112,slow=36						
MAJO	**Matsushiro**	**44.01 344**		P	**P**	**04 20 46.6**	**+0.5**
MAJO				IAmb	IAmb	04 21 13.0	
	comp=Z,31nm,1.4s						
KLR	**Kul'dur**	**57.53 344**		P	**P**	**04 22 27.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=137,slow=4.5,SNR=3.6 comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.62 296**		P	**P**	**04 22 27.1**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=112,slow=5.9,SNR=4.7 comp=Z,1.1nm,0.3s						
PZH	**PanZhiHua**	**58.32 306**		P	**P**	**04 22 37.8**	**+3.9**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
PEA0B	**Petropavlovsk-**	**58.80**	**4**	P	**P**	**04 22 35.3**	**-1.3**
PETK	**Petropavlovsk-**	**58.80**	**4**	P	**P**	**04 22 36.7**	**+0.2**
	comp=Z,6.6nm,1.1s,baz=184,slow=7.1,SNR=2.5 comp=Z,6.6nm,1.1s						
HHC	**Hu-ho-hao-te**	**59.38 325**		eP	**P**	**04 22 44.8**	**+3.9**
HHC				sP	pP	04 22 53.3	-0.4
HHC				S	**S**	**04 30 50.8**	**+4.1**
HHC				sS	pS	04 31 00.6	-1.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,51nm,5.0s						
HHC				LR	LR		
	comp=N,460nm,16.0s						
HHC				LR	LR		
	comp=E,390nm,16.0s						
HHC				LR	LR		
	comp=Z,690nm,16.0s						
SONM	**Songino Array**	**66.72 328**		P	**P**	**04 23 28.1**	**-1.4**
SONM				IAmb	IAmb	04 23 29.3	
	comp=Z,2.5nm,0.7s						
SONM	**Songino Array**	**66.72 328**		P	**P**	**04 23 27.7**	**-1.9**
	comp=Z,2.7nm,0.6s,baz=146,slow=5.1,SNR=18 comp=Z,2.7nm,0.6s						
UNV	**Unalaska Valle**	**68.76**	**25**	P	**P**	**04 23 40.1**	**-1.9**
VNDA	**Vanda**	**71.94 178**		P	**P**	**04 24 04.9**	**+3.7**
	comp=Z,1.5nm,0.8s,baz=205,slow=10.0,SNR=3.6 comp=Z,1.5nm,0.8s						
M14K	**Bethel**	**75.32**	**21**	P	**P**	**04 24 21.3**	**+0.1**
WMQ	**Urumqi**	**75.93 318**		eP	**P**	**04 24 27.8**	**+2.6**
WMQ				LR	LR		
	comp=Z,270nm,12.3s						
K15K	**Wolf Creek Mou**	**76.52**	**20**	P	**P**	**04 24 26.1**	**-1.9**
M16K	**Timber Creek**	**76.61**	**22**	P	**P**	**04 24 27.3**	**-1.3**
M16K				IAmb	IAmb	04 24 33.2	
	comp=Z,17nm,1.2s						
OHAK	**Old Harbor**	**76.69**	**27**	P	**P**	**04 24 27.6**	**-1.5**
Q19K	**Cape Douglas,**	**77.49**	**26**	P	**P**	**04 24 32.3**	**-1.4**
J16K	**Anvik River**	**77.50**	**20**	P	**P**	**04 24 32.3**	**-1.2**
J16K				IAmb	IAmb	04 24 46.0	
	comp=Z,17nm,1.4s						
J17K	**VABM Dome**	**78.09**	**20**	P	**P**	**04 24 36.0**	**-0.8**
J17K				IAmb	IAmb	04 25 00.1	
	comp=Z,11nm,1.2s						
L18K	**Granite Mounta**	**78.21**	**22**	P	**P**	**04 24 35.4**	**-2.1**
L18K				IAmb	IAmb	04 25 07.9	
	comp=Z,9.7nm,1.4s						
H17K	**Granite Mounta**	**78.82**	**19**	P	**P**	**04 24 40.9**	**+0.1**
H17K				IAmb	IAmb	04 25 16.0	
	comp=Z,8.1nm,1.4s						
CNPM	**China Poot**	**78.86**	**26**	P	**P**	**04 24 40.4**	**-0.8**
L19K	**White Mountain**	**78.87**	**22**	P	**P**	**04 24 39.8**	**-1.4**
L19K				IAmb	IAmb	04 24 42.0	
	comp=Z,17nm,1.5s						
M19K	**Big River Lodg**	**78.89**	**23**	P	**P**	**04 24 40.6**	**-0.6**
M19K				IAmb	IAmb	04 25 14.4	
	comp=Z,13nm,1.4s						
TTA	**Tatalina**	**78.89**	**22**	P	**P**	**04 24 40.4**	**-0.9**
TTA				IAmb	IAmb	04 24 49.0	
	comp=Z,9.1nm,1.4s						
J18K	**Innoko River**	**78.96**	**21**	P	**P**	**04 24 41.4**	**-0.3**
J18K				IAmb	IAmb	04 24 54.0	
	comp=Z,5.3nm,1.1s						
J19K	**Poorman**	**79.67**	**21**	P	**P**	**04 24 45.1**	**-0.4**
SLKM	**Skilak Lake**	**79.81**	**25**	P	**P**	**04 24 45.3**	**-1.0**
SUA	**Susitna One**	**80.09**	**24**	P	**P**	**04 24 46.5**	**-1.5**
SUA				IAmb	IAmb	04 24 51.7	
	comp=Z,24nm,1.4s						
MKAR	**Makanchi Array**	**80.55 319**		P	**P**	**04 24 48.4**	**-2.3**
	comp=Z,2.1nm,0.9s,baz=101,slow=6.6,SNR=13 comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**81.52 327**		P	**P**	**04 24 52.6**	**-3.0**
	comp=Z,1.4nm,0.4s,baz=108,slow=6.5,SNR=7.0 comp=Z,1.4nm,0.4s						
ILAR	**Eielson Array**	**83.28**	**22**	P	**P**	**04 25 03.0**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=248,slow=5.2,SNR=19 comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**84.08 322**		P	**P**	**04 25 05.5**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=111,slow=4.6,SNR=6.5 comp=Z,0.7nm,0.3s						
QSPA	**South Pole Qui**	**84.24 180**		P	**P**	**04 25 11.6**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=351,slow=2.6,SNR=6.9 comp=Z,1.3nm,0.8s						
AAK	**Ala-Archa**	**84.78 314**		P	**P**	**04 25 11.1**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=165,slow=6.0,SNR=5.3 comp=Z,2.4nm,0.7s						
BVAR	**Borovoye Array**	**89.55 323**		P	**P**	**04 25 32.6**	**-2.9**
	comp=Z,4.0nm,0.9s,baz=104,slow=6.3,SNR=12 comp=Z,4.0nm,0.9s						
SYO	**Syowa Base**	**92.56 199**		‖ esP	P	04 25 54.4	+5.2
NVAR	**Mina Array Bea**	**93.22**	**52**	P	**P**	**04 25 54.5**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=261,slow=5.0,SNR=6.2 comp=Z,1.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	**P**	**04 26 07.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=271,slow=4.7,SNR=6.8 comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**100.00**	**48**	P	**Pdif**	**04 26 23.9**	**0.0**
	comp=Z,0.9nm,0.8s,baz=253,slow=2.6,SNR=7.6						
AKASG	**Malin Array Be**	**114.82 324**		PKP	**PKiKP**	**04 31 16.9**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=80,slow=1.1,SNR=4.7						
H03S2	**Juan Fernandez**	**117.79 133**		T	T	06 41 51.6	
	baz=250,slow=75,SNR=62						
H03S1	**Juan Fernandez**	**117.81 133**		T	T	06 41 54.3	
	baz=250,slow=75,SNR=62						
H03S3	**Juan Fernandez**	**117.81 133**		T	T	06 41 53.0	
	baz=250,slow=75,SNR=64						
H03N3	**Juan Fernandez**	**117.98 133**		T	T	06 41 55.8	
	baz=258,slow=72,SNR=26						
H03N2	**Juan Fernandez**	**117.98 133**		T	T	06 41 54.7	
	baz=258,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**118.00 133**		T	T	06 41 53.1	
	baz=258,slow=72,SNR=46						
GERES	**GERESS Array B**	**124.46 328**		PKP	**PKPdf**	**04 31 36.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=131,slow=4.1,SNR=4.9						
LPAZ	**La Paz**	**134.60 119**		PKP	**PKiKP**	**04 31 59.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=144,slow=3.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.89 286**		PKPbc	**PKPbc**	**04 32 27.8**	**-1.5**
	comp=Z,8.4nm,0.7s,baz=126,slow=2.0,SNR=6.7						
BDFB	**Brasilia**	**150.90 137**		PKPbc	**PKiKP**	**04 32 32.4**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=143,slow=4.0,SNR=7.2						

KRSC 13 04:22:47.9±2.6, 49°.21N×155°.58E, h213km±23km, Ml4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.51**	**13**	eS	S	04 23 48.8	-1.1
PAU	**Pauzhetka**	**2.39**	**19**	eP	Pn	04 23 31.2	-0.2
PAU				eS	S	04 24 05.8	+0.7
GRL	**Gorelyy**	**3.70**	**24**	eP	Pn	04 23 48.7	+2.2
GRL				eS	S	04 24 34.9	+2.6
RUS	**Russkaya**	**3.72**	**29**	eP	Pn	04 23 48.4	+1.7
RUS				eS	S	04 24 33.3	+0.7
APC	**Apacha**	**3.85**	**14**	eP	Pn	04 23 47.8	-0.4
KRMR	**Karymshinskiy**	**3.96**	**23**	eP	Pn	04 23 50.9	+1.3
DALK	**Dalny**	**4.32**	**26**	eP	Pn	04 23 55.2	+1.3
DALK				eS	S	04 24 45.8	+0.1
UGLR	**Uglovaya**	**4.49**	**26**	eP	Pn	04 23 58.8	+2.6
UGLR				eS	S	04 24 50.9	+1.0
KOK	**Koryaka**	**4.51**	**24**	eP	Pn	04 23 59.2	+2.7
AVH	**Avacha**	**4.52**	**25**	eP	Pn	04 23 59.4	+2.8
AVH				eS	S	04 24 52.1	+1.7
KRER	**Koryakskii**	**4.55**	**25**	eP	Pn	04 23 59.6	+2.5
KRER				eS	S	04 24 52.2	+0.7
SDLR	**Sedlovina**	**4.57**	**26**	eP	Pn	04 23 59.5	+2.3
SDLR				eS	S	04 24 52.9	+1.2
KRX	**Arik**	**4.58**	**24**	eP	Pn	04 23 59.7	+2.4
NLC	**Nalytchevo**	**4.62**	**29**	eP	Pn	04 23 58.8	+1.1
GNL	**Ganaly**	**4.72**	**17**	eP	Pn	04 23 59.3	+0.2
SPN	**Mys Shipunski**	**4.79**	**34**	eP	Pn	04 24 02.3	+2.5
SPN				eS	S	04 24 58.2	+1.7
MKZ	**Mys Kozlova**	**6.57**	**33**	eP	Pn	04 24 23.8	+1.3
MKZ				eS	S	04 25 35.2	-2.3
ESO	**Esso**	**6.99**	**15**	eP	Pn	04 24 30.3	+2.4
KMNR	**Kamenistaya**	**7.14**	**22**	eP	Pn	04 24 32.5	+2.6
KBTR	**Krutoberegovo**	**8.27**	**29**	eP	Pn	04 24 45.2	+0.8
KBTR				eS	S	04 26 11.0	-6.6
KBG	**Krutoberegovo**	**8.27**	**29**	eP	Pn	04 24 45.9	+1.5
KBG				eS	S	04 26 15.0	-2.6
BKI	**Bering**	**8.75**	**43**	eP	Pn	04 24 54.6	+3.9
BKI				eS	S	04 26 25.4	-3.7
OSSR	**Ossora**	**10.96**	**21**	eP	P	04 25 23.3	-1.5

*IDC **13** 04:27:49.9±0.8, 12°.81S×45°.44E, h0km, mb4.1/10, mbtmp4.1/12, ML4.5/3, MS3.3/7, Error ellipse: s-maj=25.0km s-min=21.1km az=76.0*
*NEIC **13** 04:27:51.6±1.7, 12°.75S±0°.08×45°.4E±0°.1, h10km±1km, mb5.1/12, Error ellipse: s-maj=23.3km s-min=13.7km az=258.0*

ISC 13 04:27:50.9±0.5, 12°.83S±0°.05×45°.44E±0°.06, h10km, n48, σ2°.02/51, mb4.3/16, MS3.4/4, 1C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.41**	**99**	P	**Pn**	**04 28 58.5**	**+0.6**
SBV				S	**Sn**	**04 29 44.2**	**-5.3**
OPO	**Ambohidratompo**	**5.95 164**		Pn	**Pn**	**04 29 20.7**	**+1.5**
	4.7nm,0.3s,baz=337,slow=12,SNR=374						
OPO				Sn	**Sn**	**04 30 23.4**	**-4.2**
	23nm,0.3s,baz=254,slow=19,SNR=38						
OPO				LR	LR	04 31 14.9	
	comp=Z,115nm,19.3s,baz=162,slow=34						
OPO	**Ambohidratompo**	**5.95 164**		P	**Pn**	**04 29 20.9**	**+1.7**
OPO				S	**Sn**	**04 30 23.5**	**-4.1**
FIRM	**Firavahana**	**6.00 167**		P	**Pn**	**04 29 21.7**	**+1.8**
ATG	**Ambohiby**	**6.05 173**		P	**Pn**	**04 29 22.1**	**+1.4**
ABPO	**Ambohimpanom**	**6.39 165**			**Pn**	**04 29 26.3**	**+1.1**
MDSM	**Mandiavato**	**6.40 166**		P	**Pn**	**04 29 27.1**	**+1.6**
MDSM				S	**Sn**	**04 30 33.3**	**-5.5**
AVY	**Angavokely**	**6.45 160**		P	**Pn**	**04 29 27.2**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,9.4nm,1.1s						
DSB	**Dublin**	**79.28**	**331**	P	**P**	**04 39 55.6**	**-0.8**
KNRA	**Kununurra**	**80.30**	**104**	P	**P**	**04 40 01.2**	**-1.6**
KNRA				IAmb	IAmb	04 40 17.8	
	comp=Z,56nm,1.8s						
VNDA	**Vanda**	**83.05**	**169**	P	**P**	**04 40 18.3**	**+2.1**
VNDA				IAmb	IAmb	04 42 48.4	
	comp=Z,28nm,1.9s						
ASAR	**Alice Springs**	**83.57**	**113**	P	**P**	**04 40 20.5**	**+0.5**
	comp=Z,1.3nm,1.1s,baz=260,slow=5.5,SNR=4.4						
	comp=Z,1.3nm,1.1s						
WRA	**Warramunga Arr**	**84.70**	**109**	P	**P**	**04 40 24.6**	**-1.2**
WRA	**Warramunga Arr**	**84.70**	**109**	P	**P**	**04 40 26.7**	**+0.9**
	comp=Z,1.2nm,1.0s,baz=261,slow=3.8,SNR=4.8						
	comp=Z,1.2nm,1.0s						
COEN	**Coen**	**94.28**	**105**	P	**P**	**04 41 11.0**	**-0.3**
COEN				IAmb	IAmb	04 41 20.3	
	comp=Z,8.8nm,1.1s						

*IDC **13** 04:28:11.7±1.3, 18.°14S×178.°16W, h539km±11km, mb3.3/10, mbtmp4.2/11, Error ellipse: s-maj=20.2km s-min=14.7km az=109.0*

*NEIC **13** 04:28:11.2±1.4, 17.°9S±0.°1×178.°1W±0.°1, h534km±9km, mb4.4/44, Error ellipse: s-maj=19.2km s-min=13.4km az=158.0*

ISC 13 04:28:12.3±0.5,**17.°91S**±0.°09×**178.°3W**±0.°1,**h550**km,**n87,** σ1**90/90**,**mb4.4**/30,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.52**	**272**	P	**P**	**04 29 29.9**	**-1.0**
MSVF	**Nonsavu**	**3.52**	**272**	P	**P**	**04 29 30.0**	**-0.9**
	88nm,0.7s,baz=123,slow=6.9,SNR=70						
MSVF				S	**S**	**04 30 35.1**	**+0.2**
	9.2nm,0.9s,baz=322,slow=23,SNR=7.8						
FUTU	**Fugatoga**	**3.58**	**2**	P	**P**	**04 29 27.8**	**-3.5**
FUNA	**Funafuti**	**9.65**	**345**	P	**P**	**04 30 25.8**	**-1.0**
DZM	**Mont Dzumac**	**14.97**	**251**	P	**P**	**04 31 21.9**	**+0.2**
DZM				IAmb	IAmb	04 31 33.1	
	comp=Z,15nm,1.4s						
DZM	**Mont Dzumac**	**14.97**	**251**	P	**P**	**04 31 23.8**	**+2.2**
	comp=Z,3.2nm,0.4s,baz=127,slow=14,SNR=8.8						
ONTNC	**Ouen Toro**	**15.01**	**251**	P	**P**	**04 31 23.2**	**+1.3**
ONTNC				IAmb	IAmb	04 32 05.8	
	comp=Z,17nm,1.0s						
URZ	**Urewera**	**20.68**	**190**	P	**P**	**04 32 10.6**	**-3.8**
	comp=Z,2.2nm,0.3s,baz=358,slow=2.9,SNR=8.5						
	comp=Z,2.2nm,0.3s						
QRZ	**Quartz Range**	**24.18**	**197**	P	**P**	**04 32 47.0**	**+1.4**
TKNZ	**Takaka Hill**	**24.26**	**196**	P	**P**	**04 32 45.6**	**-0.8**
NNZ	**Nelson**	**24.32**	**195**	P	**P**	**04 32 46.5**	**-0.4**
EIDS	**Eidsvold**	**29.41**	**250**	P	**P**	**04 33 31.4**	**-0.3**
EIDS				IAmb	IAmb	04 33 32.0	
	comp=Z,7.9nm,0.7s						
MLZ	**Mavora Lakes**	**29.65**	**200**	P	**P**	**04 33 33.0**	**-0.6**
ARMA	**Armidale**	**30.07**	**240**	P	**P**	**04 33 37.8**	**+0.3**
CAN	**Canberra**	**33.82**	**233**	P	**P**	**04 34 09.5**	**+0.2**
CAN				IAmb	IAmb	04 34 40.8	
	comp=Z,25nm,1.5s						
COEN	**Coen**	**37.25**	**270**	P	**P**	**04 34 38.2**	**+0.2**
COEN				IAmb	IAmb	04 34 39.2	
	comp=Z,9.3nm,0.8s						
TOO	**Toolangi**	**37.28**	**231**	P	**P**	**04 34 38.3**	**+0.3**
TOO				IAmb	IAmb	04 34 39.0	
	comp=Z,4.2nm,0.7s						
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**04 34 50.2**	**+0.2**
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**04 34 50.4**	**+0.4**
	comp=Z,9.6nm,0.5s,baz=85,slow=10.0,SNR=22						
	comp=Z,9.6nm,0.5s						
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**04 35 28.0**	**+0.1**
WR0	**Warramunga Arr**	**44.59**	**260**	P	**P**	**04 35 35.2**	**-1.0**
WR8	**Warramunga Arr**	**44.62**	**260**	P	**P**	**04 35 35.7**	**-0.8**
WB0	**Warramunga Arr**	**44.74**	**260**	P	**P**	**04 35 36.7**	**-0.7**
WB2	**Warramunga Arr**	**44.77**	**260**	P	**P**	**04 35 36.8**	**-0.8**
WB2				IAmb	IAmb	04 35 37.6	
	comp=Z,9.0nm,0.5s						
WRAB	**Tennant Creek**	**44.77**	**260**	P	**P**	**04 35 36.5**	**-1.0**
WRAB				IAmb	IAmb	04 35 37.6	
	comp=Z,7.3nm,0.5s						
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**04 35 36.6**	**-1.0**
WRA				PcP	**PcP**	**04 37 08.0**	**+0.1**
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**04 35 36.9**	**-0.7**
	comp=Z,5.4nm,0.5s,baz=97,slow=6.8,SNR=125						
WRA				PcP	**PcP**	**04 37 08.3**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=92,slow=3.4,SNR=5.6						
	comp=Z,5.4nm,0.5s						
AS31	**Alice Springs**	**44.93**	**254**	P	**P**	**04 35 38.6**	**-0.2**
AS31				IAmb	IAmb	04 35 39.7	
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**44.93**	**254**	P	**P**	**04 35 38.8**	**-0.1**
	comp=Z,45nm,0.6s,baz=87,slow=8.4,SNR=503						
ASAR				PcP	**PcP**	**04 37 08.8**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=95,slow=3.4,SNR=5.1						
MTN	**Manton Dam**	**48.95**	**268**	P	**P**	**04 36 08.8**	**-0.3**
MTN				IAmb	IAmb	04 36 09.4	
	comp=Z,8.3nm,0.8s						
FORT	**Forrest**	**50.14**	**245**	P	**P**	**04 36 17.2**	**-0.4**
KNRA	**Kununurra**	**50.63**	**264**	P	**P**	**04 36 21.7**	**+0.3**
KNRA				IAmb	IAmb	04 36 22.1	
	comp=Z,12nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	**P**	**04 36 39.9**	**+0.2**
SOEI	**Soe**	**56.22**	**270**	P	**P**	**04 37 02.9**	**+1.7**
SOEI				IAmb	IAmb	04 37 12.8	
	comp=Z,21nm,0.9s						
PSA00	**Pilbara Seismi**	**58.05**	**255**	P	**P**	**04 37 13.2**	**-0.3**
PSA00				IAmb	IAmb	04 37 22.8	
	comp=Z,28nm,1.4s						
MBWA	**Marble Bar**	**58.22**	**256**	P	**P**	**04 37 14.2**	**-0.4**
MBWA				IAmb	IAmb	04 37 15.4	
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**59.34**	**242**	P	**P**	**04 37 22.9**	**+0.9**
NWAO				IAmb	IAmb	04 37 50.7	
	comp=Z,23nm,1.3s						
SBA	**Scott Base**	**60.43**	**184**	P	**P**	**04 37 30.3**	**+1.9**
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**04 37 29.6**	**+1.0**
MORW	**Morawa**	**60.62**	**246**	P	**P**	**04 37 30.4**	**-0.1**
MORW				IAmb	IAmb	04 37 58.7	
	comp=Z,24nm,1.4s						
GIRL	**Giralia**	**63.03**	**253**	P	**P**	**04 37 47.4**	**+1.1**
MJAR	**Matsushiro Arr**	**67.99**	**323**	P	**P**	**04 38 17.5**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=166,slow=5.4,SNR=4.0						
	comp=Z,2.2nm,0.5s						
UGM	**Wanagama**	**69.79**	**268**	P	**P**	**04 38 28.5**	**+0.1**
UGM				IAmb	IAmb	04 38 29.2	
	comp=Z,127nm,1.5s						
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**04 38 41.6**	**+0.3**
QSPA	**South Pole Qui**	**72.15**	**180**	P	**P**	**04 38 41.5**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=338,slow=0.8,SNR=12						
	comp=Z,1.3nm,0.5s						
USRK	**Ussuriysk Ar.**	**76.70**	**326**	P	**P**	**04 39 09.9**	**+2.8**
	comp=Z,1.7nm,0.6s,baz=132,slow=4.3,SNR=2.1						
	comp=Z,1.7nm,0.6s						
CNPM	**China Poot**	**80.25**	**14**	P	**P**	**04 39 25.5**	**-0.2**
N18K	**Kilae Creek**	**80.36**	**11**	P	**P**	**04 39 26.3**	**0.0**
K15K	**Wolf Creek Mou**	**81.02**	**8**	P	**P**	**04 39 30.6**	**+1.0**
K15K				IAmb	IAmb	04 40 07.3	
	comp=Z,16nm,1.4s						
L18K	**Granite Mounta**	**81.67**	**10**	P	**P**	**04 39 34.2**	**+1.3**
L18K				IAmb	IAmb	04 39 42.4	
	comp=Z,15nm,1.5s						
K17K	**Iditarod**	**81.88**	**9**	P	**P**	**04 39 35.3**	**+1.3**
K17K				IAmb	IAmb	04 40 02.0	
	comp=Z,9.1nm,1.2s						
SUA	**Susitna One**	**82.10**	**13**	P	**P**	**04 39 35.9**	**+0.6**
SUA				IAmb	IAmb	04 39 56.0	
	comp=Z,25nm,1.4s						
TTA	**Tatalina**	**82.45**	**10**	P	**P**	**04 39 37.7**	**+0.7**
GHO	**Glory Hole Cre**	**82.77**	**14**	P	**P**	**04 39 38.9**	**+0.3**
GHO				IAmb	IAmb	04 40 13.7	
	comp=Z,19nm,1.4s						
J18K	**Innoko River**	**82.83**	**10**	P	**P**	**04 39 38.6**	**-0.2**
K20K	**Telida**	**83.18**	**11**	P	**P**	**04 39 40.7**	**+0.2**
SCM	**Sheep Creek Mo**	**83.19**	**14**	P	**P**	**04 39 40.8**	**+0.1**
SCM				IAmb	IAmb	04 40 23.2	
	comp=Z,23nm,1.4s						
ILAR	**Eielson Array**	**85.85**	**13**	P	**P**	**04 39 53.3**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=220,slow=5.6,SNR=12						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.87**	**58**	P	**P**	**04 39 56.1**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=267,slow=5.0,SNR=2.8						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**04 40 01.7**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=194,slow=5.4,SNR=3.8						
	comp=Z,0.3nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**89.14**	**290**		**P**	**04 40 07.6**	**-2.4**
YKA	**Yellowknife Ar**	**94.27**	**25**	P	**P**	**04 40 33.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=250,slow=3.7,SNR=4.0						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**109.24**	**314**	PKiKP	**PKiKP**	**04 45 39.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=198,slow=0.6,SNR=7.4						
BVAR	**Borovoye Array**	**116.94**	**321**	PKP	**PKiKP**	**04 45 54.8**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=360,slow=0.4,SNR=8.5						
ARCES	**ARCESS Array B**	**126.34**	**350**	PKP	**PKiKP**	**04 46 12.5**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=90,slow=1.2,SNR=6.4						
FINES	**FINESS Array B**	**133.23**	**344**	PKP	**PKPdf**	**04 46 24.6**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=172,slow=1.0,SNR=1.8						
HFS	**Hagfors**	**136.95**	**351**	PKhKP	PKPpre	04 46 26.3	
	comp=Z,6.9nm,1.1s,baz=91,slow=6.5,SNR=5.3						
AKASG	**Malin Array Be**	**140.63**	**332**	PKhKP	PKPpre	04 46 33.4	
	comp=Z,0.4nm,0.3s,baz=44,slow=3.8,SNR=4.2						
AKASG				PKP	**PKiKP**	**04 46 41.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=48,slow=3.0,SNR=6.2						
BRTR	**Keskin Array B**	**144.88**	**315**	PKPbc	**PKPab**	**04 46 49.0**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=103,slow=3.7,SNR=14						
OSTC	**Ostas**	**145.43**	**344**	*e*PKP	**PKiKP**	**04 46 51.0**	**-1.1**
STEB	**Steborice**	**145.55**	**342**	*e*PKP	**PKPab**	**04 46 50.4**	**-0.5**
DPC	**Dobruska-Polom**	**145.59**	**343**	*e*PKP	**PKiKP**	**04 46 51.4**	**-1.1**
MMAI	**Mount Meron Ar**	**146.26**	**303**	PKPbc	**PKiKP**	**04 46 53.3**	**-1.1**
	comp=Z,3.2nm,0.5s,baz=58,slow=6.2,SNR=9.5						
ZVC	**Zvikov**	**146.98**	**345**	*e*PKP	**PKPab**	**04 46 55.1**	**-1.5**
KHC	**Kasperske Hory**	**147.41**	**346**	*e*PKP	**PKiKP**	**04 46 56.0**	**-0.2**
CKRC	**Cesky Krumlov**	**147.52**	**344**	*e*PKP	**PKiKP**	**04 46 56.3**	**-0.1**
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKiKP**	**04 46 56.5**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=35,slow=3.6,SNR=9.1						
CONA	**Conrad Observa**	**147.91**	**342**	*i* PKiKP	**PKiKP**	**04 46 57.4**	**+0.1**
	comp=Z,2.4nm,0.6s						
RONA	**Rosalia, Austr**	**147.98**	**341**	*i* PKiKP	**PKiKP**	**04 46 57.4**	**0.0**
	comp=Z,1.5nm,0.5s						
BIOA	**Bad Ischl, Aus**	**148.74**	**344**	*i* PKiKP	**PKiKP**	**04 46 58.6**	**-0.4**
	comp=Z,1.2nm,0.3s						
LESA	**Schwarzleotal**	**149.22**	**345**	*i* PKiKP	**PKiKP**	**04 47 00.2**	**+0.1**
	comp=Z,1.0nm,0.3s						
KBA	**Koelnbreinsper**	**149.38**	**344**	*i* PKiKP	**PKiKP**	**04 47 00.2**	**-0.3**
	comp=Z,2.3nm,0.5s						
WTTA	**Wattenberg**	**149.61**	**347**	*i* PKiKP	**PKiKP**	**04 47 01.1**	**+0.1**
	comp=Z,6.4nm,0.6s						
MYKA	**Terra Mystica**	**149.71**	**344**	*i* PKiKP	**PKiKP**	**04 47 00.8**	**-0.3**
	comp=Z,3.2nm,0.5s						
SQTA	**Sankt Quirin**	**149.75**	**347**	*i* PKiKP	**PKiKP**	**04 47 01.4**	**+0.2**
	comp=Z,2.5nm,0.4s						
ABTA	**Abfaltersbach**	**149.89**	**345**	*i* PKP	**PKiKP**	**04 47 01.1**	**-0.4**
	comp=Z,3.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**175.27**	**179**	PKP	**PKPdf**	**04 47 18.8**	**-1.4**
	comp=Z,9.7nm,1.0s,baz=267,slow=1.0,SNR=3.1						

*BJI **13** 04:32:34.7, 23.°61N×121.°62E, h28km, mB4.9/23, mb4.3/51, ML4.7/11, Ms4.5/52, Ms7 4.4/54*

*ASIES **13** 04:32:35.0, 23.°60N×121.°59E, h36km, ML5.4, Mw4.9, Moment Tensor Solution. Moment tensor: Scale 10^{23}Nm; M_{rr}1.44; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.20; $M_{\theta\phi}$-1.01; $M_{\phi r}$1.97; Fault plane solution: $M_0$2.58006×10^{23} NP1: ϕ_s238.66000°, δ28.40000°, λ139.80000°. NP2:ϕ_s5.28000°, δ72.12000°, λ67.56000°. Principal axes: T Plg57.0440°, Azm245.5390°; N Plg21.3020°, Azm12.5110°; P Plg23.8870°, Azm112.4550°;*

*TAP **13** 04:32:35.0, 23.°60N×121.°59E, h36km, ML5.4, C*

*NIED **13** 04:32:34.6, 23.°59N×121.°58E, h41km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.54; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.52; $M_{r\theta}$1.29; $M_{\theta\phi}$-1.16; $M_{\phi r}$1.78; Fault plane solution: $M_0$2.42000×10^{16} NP1: ϕ_s233.00000°, δ13.00000°, λ108.00000°. NP2: ϕ_s35.00000°, δ78.00000°, λ86.00000°.*

*JMA **13** 04:32:34.6±0.2, 23.°6N±0.°8×12.°2E±.°, h41km±3km, MD4.8/19, MW4.9/19, TAIWAN REGION*

*NEIC **13** 04:32:35.4±1.3, 23.°59N±0.°04×121.°58E±0.°04, h31km±4km, mb4.8/114, Mwr4.7/26, Error ellipse: s-maj=6.2km s-min=4.2km az=129.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.58; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.06; $M_{\theta\phi}$-0.96; $M_{\phi r}$1.10; Fault plane solution: $M_0$1.55000×10^{16} NP1:ϕ_s263.69000°, δ38.66000°, λ157.26000°. NP2:ϕ_s11.81000°, δ76.03000°, λ53.58000°. Principal axes: T 1.5109, Plg46.0000°, Azm244.0000°; N 0.0775, Plg35.0000°, Azm22.0000°; P -1.5884, Plg22.0000°, Azm129.0000°;*

*IDC **13** 04:32:35.7±3.0, 23.°57N×121.°72E, h44km±28km, mb4.0/24, mbtmp4.3/26, ML4.3/2, MS4.0/12 Error ellipse: s-maj=18.0km s-min=12.8km az=68.0*

*GCMT **13** 04:32:35.4±0.5, 23.°49N±0.°03×121.°61E±0.°03, h41km±1km, MW4.9/61, Moment Tensor Solution. s27,c30; s61,c73; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.23±.23; $M_{\theta\theta}$-2.12±.18; $M_{\phi\phi}$-0.10±.16; $M_{r\theta}$-0.35±.12; $M_{\theta\phi}$-1.83±.09; $M_{\phi r}$1.15±.12; Best double couple: $M_0$3.07800×10^{16} NP1:ϕ_s267.00000°, δ50.00000°, λ132.00000°. NP2: ϕ_s33.00000°, δ55.00000°, λ52.00000°. Principal axes: T 2.9390, Plg59.0000°, Azm244.0000°; N 0.2810, Plg31.0000°, Azm57.0000°; P -3.2170, Plg3.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 04:32:35.3, 23.°59N×121.°58E, h30km*

ISC 13 04:32:36.3±0.5,**23.°58N**±0.°02×**121.°63E**±0.°02,**h42**km±3km, **n377,**σ1**9**62/474,**mb4.7**/89,**MS4.0**/14,**40C-55D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.16**	**327**	⇑P	**Pn**	**04 32 41.6**	**-1.9**
TEGC				*e*S	**Sn**	**04 32 46.9**	**-1.5**
EGFH	**Guangfu**	**0.21**	**296**	⇑*e*P	**Pn**	**04 32 41.5**	**-2.3**
HGSD	**Ruisui**	**0.21**	**246**	⇑*i*P	**Pn**	**04 32 42.1**	**-1.8**
HGSD				*e*S	**Sn**	**04 32 48.3**	**-0.8**
SHUL	**Shoufeng**	**0.22**	**343**	⇑P	**Pn**	**04 32 42.1**	**-1.8**
SHUL				*e*S	**Sn**	**04 32 48.1**	**-1.2**
WARBT	**Fenglin Townsh**	**0.27**	**302**	⇓*i*P	**Pn**	**04 32 41.8**	**-2.6**
WARBT				S	**Sn**	**04 32 46.5**	**-3.6**
EHYH	**Wanrong**	**0.28**	**253**	⇓*i*P	**Pn**	**04 32 42.2**	**-2.2**
EHYH				S	**Sn**	**04 32 47.4**	**-2.8**
TEYL	**Yanliau Villag**	**0.29**	**354**	⇑*e*P	**Pn**	**04 32 41.4**	**-3.2**
TEYL				S	**Sn**	**04 32 48.3**	**-2.2**
EHY	**Hungye**	**0.29**	**256**	⇓*i*P	**Pn**	**04 32 42.2**	**-2.4**
EHY				*e*S	**Sn**	**04 32 47.3**	**-3.2**
ESL	**Shilin**	**0.30**	**322**	⇓*i*P	**Pn**	**04 32 42.2**	**-2.5**
ESL				S	**Sn**	**04 32 47.3**	**-3.3**
ECBN	**Changbin**	**0.31**	**213**	*e*P	**Pn**	**04 32 43.4**	**-1.4**
ECBN				*e*S	**Sn**	**04 32 49.3**	**-1.4**
YULB	**Yu-li**	**0.36**	**239**		**Pn**	**04 32 43.2**	**-2.2**
YULB				Sg	**Sn**	**04 32 48.7**	**-3.0**
YULB	**Yu-li**	**0.36**	**239**	P	**Pn**	**04 32 43.1**	**-2.2**
YULB	**Yu-li**	**0.36**	**239**	⇓*i*P	**Pn**	**04 32 43.2**	**-2.2**
YULB				*i* S	**Sn**	**04 32 48.8**	**-2.9**
EYUL	**Yuli**	**0.37**	**232**	*e*P	**Pn**	**04 32 43.6**	**-1.8**
EYUL				*e*S	**Sn**	**04 32 50.1**	**-1.8**
TWF1	**Yuli**	**0.38**	**234**	⇓*i*P	**Pn**	**04 32 43.5**	**-2.1**
TWF1				S	**Sn**	**04 32 49.6**	**-2.5**
HWA	**Hwalien**	**0.40**	**356**	⇑*i*P	**Pn**	**04 32 44.3**	**-1.6**
HWA				*e*S	**Sn**	**04 32 52.7**	**+0.2**
ETM	**Tongmen**	**0.41**	**342**	⇓*i*P	**Pn**	**04 32 43.7**	**-2.3**
ETM				*e*S	**Sn**	**04 32 49.8**	**-2.9**
CHKH	**Chenggong**	**0.44**	**210**	*e*P	**Pn**	**04 32 45.1**	**-1.2**
CHKH				S	**Sn**	**04 32 52.8**	**-0.6**
VWDT	**VWDT**	**0.48**	**292**	⇓*i*P	**Pn**	**04 32 45.0**	**-1.9**
VWDT				*e*S	**Sn**	**04 32 51.8**	**-2.6**
LXIB	**Xiulin Townshi**	**0.49**	**336**	⇓*i*P	**Pn**	**04 32 44.5**	**-2.5**
LXIB				*e*S	**Sn**	**04 32 52.1**	**-2.6**
FULB	**Fuli**	**0.49**	**220**	⇑*e*P	**Pn**	**04 32 45.7**	**-1.2**
TWD	**Chiawan**	**0.50**	**356**	⇓*i*P	**Pn**	**04 32 45.3**	**-1.8**
TWD				*e*S	**Sn**	**04 32 53.1**	**-1.7**
CHKT	**Chengkung**	**0.53**	**207**	⇓P	**Pn**	**04 32 45.8**	**-1.7**
CHKT				*e*S	**Sn**	**04 32 55.2**	**-0.3**
OWD	**Renai**	**0.56**	**312**	⇓P	**Pn**	**04 32 45.8**	**-2.2**
EHD	**Haiduan**	**0.58**	**223**	⇑*i*P	**Pn**	**04 32 45.0**	**-3.1**
EHD				*e*S	**Sn**	**04 32 53.3**	**-3.3**
ETL	**Fush Village**	**0.58**	**359**	*e*P	**Pn**	**04 32 46.2**	**-2.0**
ETL				*e*S	**Sn**	**04 32 55.0**	**-1.7**
NACB	**Ninganchiao**	**0.60**	**357**		**Pn**	**04 32 46.2**	**-2.2**
NACB				Sg	**Sn**	**04 32 54.8**	**-2.2**
NACB	**Ninganchiao**	**0.60**	**357**	P	**Pn**	**04 32 46.6**	**-1.8**
NACB	**Ninganchiao**	**0.60**	**357**	⇓*i*P	**Pn**	**04 32 46.1**	**-2.2**
NACB				*e*S	**Sn**	**04 32 54.6**	**-2.4**
ECS	**Chishang**	**0.61**	**219**	⇑*i*P	**Pn**	**04 32 46.8**	**-1.8**
WUSB	**Renai**	**0.63**	**311**	⇓*i*P	**Pn**	**04 32 47.0**	**-1.9**
WUSB				*e*S	**Sn**	**04 32 55.4**	**-2.5**
YUS	**Yu-Shan**	**0.63**	**262**	⇓*e*P	**Pn**	**04 32 45.2**	**-4.1**
ETLH	**Xiulin Townshi**	**0.64**	**348**	⇓*i*P	**Pn**	**04 32 46.7**	**-2.4**
ETLH				*e*S	**Sn**	**04 32 56.2**	**-2.1**
SSLB	**Suanglung**	**0.66**	**289**		**Pn**	**04 32 47.1**	**-2.1**
SSLB				Sg	**Sn**	**04 32 55.5**	**-3.0**
SSLB	**Suanglung**	**0.66**	**289**	P	**Pn**	**04 32 47.6**	**-1.6**
SSLB	**Suanglung**	**0.66**	**289**	⇓*i*P	**Pn**	**04 32 47.1**	**-2.1**
SSLB				S	**Sn**	**04 32 55.8**	**-2.7**
WHF	**Hehuan Shan**	**0.66**	**329**	⇓*i*P	**Pn**	**04 32 47.2**	**-2.4**
WHF				*e*S	**Sn**	**04 32 56.8**	**-2.3**
EDH	**Donghe**	**0.67**	**207**	⇓P	**Pn**	**04 32 47.8**	**-1.6**
EDH				S	**Sn**	**04 32 58.6**	**-0.1**
ELDTW	**Lidau**	**0.68**	**236**	⇑*i*P	**Pn**	**04 32 47.5**	**-2.2**
ELDTW				*i* S	**Sn**	**04 32 56.8**	**-2.4**
WHYT	**Xinyi Township**	**0.72**	**280**	⇓*i*P	**Pn**	**04 32 48.8**	**-1.4**
WHYT				*e*S	**Sn**	**04 32 58.8**	**-1.3**
EHP	**Heping Village**	**0.74**	**8**	⇑*e*P	**Pn**	**04 32 49.2**	**-1.1**
EHP				*e*S	**Sn**	**04 32 59.3**	**-1.1**
SMLT	**Sun Moon Lake**	**0.74**	**295**	⇓*i*P	**Pn**	**04 32 47.7**	**-2.7**
SMLT				S	**Sn**	**04 32 57.9**	**-2.7**
EAHA	**Aohua**	**0.76**	**7**	⇓*e*P	**Pn**	**04 32 49.0**	**-1.6**
EAHA				*e*S	**Sn**	**04 32 59.4**	**-1.4**
ALS	**Alishan**	**0.76**	**265**	⇓*i*P	**Pn**	**04 32 49.6**	**-1.2**
ALS				*i* S	**Sn**	**04 33 00.0**	**-1.3**
TYC	**Yuchr**	**0.78**	**295**	⇓*i*P	**Pn**	**04 32 49.3**	**-1.5**
TYC				S	**Sn**	**04 33 00.0**	**-1.4**
TDCB	**Techi**	**0.80**	**327**	⇓*i*P	**Pn**	**04 32 49.9**	**-1.4**
TDCB				*e*S	**Sn**	**04 32 59.7**	**-2.5**
LONT	**Longtian**	**0.81**	**215**	⇑⇑*i*P	**Pn**	**04 32 49.0**	**-2.2**
LONT				*e*S	**Sn**	**04 33 01.6**	**-0.5**
WCS	**Beigang Elemen**	**0.82**	**306**	⇓*i*P	**Pn**	**04 32 50.0**	**-1.4**
WCS				*e*S	**Sn**	**04 33 00.6**	**-1.6**
EOS4	**EOS4**	**0.83**	**49**	⇑⇑P	**Pn**	**04 32 50.3**	**-0.9**
ENA	**Nanau**	**0.85**	**7**	⇑⇑*i*P	**Pn**	**04 32 50.4**	**-1.5**
ENA				*e*S	**Sn**	**04 33 02.0**	**-1.2**
WJS	**Zhushan**	**0.86**	**287**	*e*P	**Pn**	**04 32 51.4**	**-0.6**
WJS				*e*S	**Sn**	**04 33 03.3**	**-0.1**
CHN5	**Tsauling**	**0.88**	**272**	⇓*i*P	**Pn**	**04 32 51.5**	**-0.7**
CHN5				*e*S	**Sn**	**04 33 02.8**	**-1.0**
EWUT	**Wuta**	**0.88**	**9**	⇓⇓P	**Pn**	**04 32 50.7**	**-1.4**
EWUT				*e*S	**Sn**	**04 33 02.2**	**-1.5**
NNSB	**Datong**	**0.88**	**345**	⇓*i*P	**Pn**	**04 32 50.5**	**-1.8**
NNSB				*e*S	**Sn**	**04 33 01.8**	**-2.2**
STYH	**Taoyuan**	**0.89**	**243**	⇑⇑*i*P	**Pn**	**04 32 51.1**	**-1.1**
STYH				*i* S	**Sn**	**04 33 03.0**	**-0.9**
NNS	**Nan Shan**	**0.89**	**345**	⇓⇓*i*P	**Pn**	**04 32 50.7**	**-1.8**
NNS				*e*S	**Sn**	**04 33 02.1**	**-2.2**
TWGBT	**Beinan**	**0.91**	**214**

SBCB eS Sn 04 33 16.9 +1.6
SGLT Jiouru 1.35 231 eP Pn 04 33 00.3 +1.7
SGLT eS Sn 04 33 18.5 +3.2
HSN Hsinchu 1.36 334 P Pn 04 32 59.2 +0.4
HSN S Sn 04 33 17.2 +1.5
SCLT Jiali 1.38 253 eP Pn 04 32 59.0 0.0
SCLT i S Sn 04 33 17.4 +1.3
TAW Tawu 1.39 209⇓iP Pn 04 32 57.0 -2.1
TAI1 Yung-k'ang 1.40 248 eP Pn 04 32 59.9 +0.7
TAI1 eS Sn 04 33 19.0 +2.5
TATO Taipei 1.40 355 Pn 04 32 58.9 -0.5
TATO Taipei 1.40 355 P Pn 04 32 59.2 -0.1
TIPB Shuangxi 1.40 7 eP Pn 04 32 59.0 -0.4
TIPB eS Sn 04 33 16.6 -0.1
TAWH Dawu Township 1.41 209⇑eP Pn 04 32 55.8 -3.7
NCUH Zhongli 1.45 344 eP Pn 04 33 00.2 +0.3
NCUH eS Sn 04 33 18.7 +1.0
SNJT Kaohsiung City 1.45 236 eP Pn 04 33 00.7 +0.7
SNJT eS Sn 04 33 21.2 +3.4
NHY Taipei 1.46 358 eP Pn 04 32 59.7 -0.4
TAP Taipei 1.46 356 eP Pn 04 33 00.1 -0.1
TAP eS Sn 04 33 16.9 -1.2
TWB1 Santiao Chiao 1.46 13 P Pn 04 33 00.5 +0.3
TWB1 eS Sn 04 33 19.0 +0.8
SSPT Xinbi 1.46 222 eP Pn 04 33 01.4 +1.2
SSPT eS Sn 04 33 20.6 +2.5
JYNG Yonagunijimaku 1.48 54 P Pn 04 33 00.2 -0.3
JYNG eS Sn 04 33 19.0 +0.3
JYNG Yonagunijimaku 1.48 54 A A 04 33 00.2
comp=N,31nm,1.8s,comp=E,24nm,1.3s
TSCK Chigu Township 1.48 254 iP Pn 04 33 00.3 -0.1
TSCK eS Sn 04 33 20.4 +1.7
NWF Wu-fen Shan 1.50 5 eP Pn 04 33 00.6 -0.2
NWF eS Sn 04 33 20.9 +1.8
WFSB Wu-fen Shan 1.50 5 eP Pn 04 33 00.5 -0.2
WFSB eS Sn 04 33 19.5 +0.6
SCZT Fangliau 1.52 218 P Pn 04 33 00.2 -0.8
SCZT eS Sn 04 33 20.5 +1.0
SXI1 Grass Mountain 1.53 8 ⇓P Pn 04 33 00.9 -0.2
SXI1 eS Sn 04 33 20.7 +0.9
TWS1 Kuangyinshan 1.53 353 eP Pn 04 32 60.0 -1.2
TWS1 eS Sn 04 33 20.6 +0.7
LAY Lan-yu 1.53 183 ⇓P Pn 04 32 58.9 -2.2
LAY eS Sn 04 33 17.3 -2.5
YOJ Yonaguni jima 1.54 55 Pn 04 33 01.0 -0.2
YOJ Yonaguni jima 1.54 55 P Pn 04 33 01.4 +0.2
YOJ Yonaguni jima 1.54 55⇑iP Pn 04 33 01.0 -0.2
YOJ eS Sn 04 33 20.2 +0.2
YOJ Yonaguni jima 1.54 55 P Pn 04 33 01.0 -0.2
YOJ eS Sn 04 33 20.0 0.0
YOJ Yonaguni jima 1.54 55 A A 04 33 01.0
comp=N,24nm,2.3s,comp=E,27nm,3.2s
YM01 YM01 1.56 358 eP Pn 04 33 00.6 -1.1
LYUB Lan-yu 1.57 182⇓iP Pn 04 32 58.6 -3.0
LYUB eS Sn 04 33 17.1 -3.6
WSSB Gushan 1.57 234 ⇑P Pn 04 33 02.5 +0.8
WSSB eS Sn 04 33 23.8 +3.0
ZUZH Zhuzihu 1.58 357 eP Pn 04 33 01.1 -0.8
ZUZH eS Sn 04 33 20.4 -0.8
NTST Danshui 1.59 354 eP Pn 04 33 01.8 -0.2
NTST eS Sn 04 33 22.3 +1.0
YM08 YM08 1.60 359 eP Pn 04 33 01.0 -1.2
YM08 eS Sn 04 33 21.2 -0.5
ANP Anpu 1.61 356 eP Pn 04 33 01.2 -1.1
ANP eS Sn 04 33 21.2 -0.6
WLCH Liuqiu 1.68 224 eP Pn 04 33 04.6 +1.4
TWY Chenhua 1.69 359 eP Pn 04 33 01.8 -1.5
TWY eS Sn 04 33 22.8 -1.0
TWP Hsiaoliuchiu 1.69 224 eP Pn 04 33 05.8 +2.4
SMST Manzhou Townsh 1.71 206 eP Pn 04 33 03.4 -0.3
SMST eS Sn 04 33 24.8 +0.5
HEN Hengchun 1.77 208 eP Pn 04 33 04.9 +0.5
HEN eS Sn 04 33 26.2 +0.6
TWK1 Hengchun 1.79 205 eP Pn 04 33 04.5 -0.2
TWK1 eS Sn 04 33 26.2 -0.1
TWKBT Hengchun 1.79 205 eP Pn 04 33 03.9 -0.9
TWKBT eS Sn 04 33 24.9 -1.5
TSEB Hengchuen, Pin 1.80 202 eP Pn 04 33 04.6 -0.2
TSEB eS Sn 04 33 25.8 -0.6
WDGT Dungji 1.84 261⇑iP Pn 04 33 04.3 -1.0
WDGT S Sn 04 33 25.6 -1.8
PHUB P'eng-hu 1.89 269 P Pn 04 33 05.3 -0.8
PHUB S Sn 04 33 26.9 -1.8
PNG Penghu 1.91 270⇑iP Pn 04 33 05.3 -1.0
PNG eS Sn 04 33 27.9 -1.1
HATJ Hateruma jima 2.05 76 eP Pn 04 33 08.1 -0.1
HATJ eS Sn 04 33 31.8 -0.7
HATJ Hateruma jima 2.05 76 A A 04 33 08.1
comp=N,16nm,2.1s,comp=E,20nm,1.1s
VCHM Qimei 2.06 260 P Pn 04 33 07.2 -1.1
VCHM S Sn 04 33 30.2 -2.6
IRIF Iriomote-Funau 2.06 68 P Pn 04 33 08.3 -0.1
IRIF Iriomote-Funau 2.06 68 A A 04 33 08.3
comp=N,34nm,1.6s,comp=E,25nm,1.4s
PCYT Pengchaiyu 2.08 11 eP Pn 04 33 08.6 -0.1
JKRS Kuro-shima 2.27 73 eP Pn 04 33 11.2 -0.1
JKRS eS Sn 04 33 38.7 +0.6
JKRS Kuro-shima 2.27 73 A A 04 33 11.2
comp=N,19nm,2.2s,comp=E,18nm,2.1s
JIJ Ishigaki jima 2.43 71 P Pn 04 33 12.9 -0.5
JIJ eS Sn 04 33 41.0 -0.8
JIJ Ishigaki jima 2.43 71 A A 04 33 12.9
comp=N,6.0nm,2.6s,comp=E,7.0nm,1.2s
VWUC VWUC 2.44 306⇓eP Pn 04 33 11.8 -1.8
JISG Ishigakijimahi 2.65 67 eP Pn 04 33 15.8 -0.7
JISG eS Sn 04 33 46.1 -1.2
JISG Ishigakijimahi 2.65 67 A A 04 33 15.8
comp=N,17nm,0.4s,comp=E,10.0nm,0.4s
PTMZ Houxiangcun 2.72 303 eP Pn 04 33 16.2 -1.2
MATB Ma-tsu 2.99 329 eP Pn 04 33 19.3 -1.8
JTJ Tarama 3.00 69 eP Pn 04 33 20.8 -0.5
JTJ eS Sn 04 33 55.2 -0.8
JTJ Tarama 3.00 69 A A 04 33 20.8
comp=N,10.0nm,3.6s,comp=E,8.0nm,2.5s
KNM Kinmen 3.04 287 eP Pn 04 33 22.1 +0.2
QZH Quanzhou 3.09 297⇓iPn Pn 04 33 21.0 -1.5
QZH Sn Sn 04 33 55.0 -3.3
QZH smax smax
comp=E,3μm,0.7s
QZH smax smax
comp=E,4μm,0.6s
QZH LR LR
comp=E,8μm,17.8s
KNMB Chin-men Tao 3.10 287 Pn Pn 04 33 21.1 -1.5
KNMB Chin-men Tao 3.10 287 eP Pn 04 33 21.0 -1.6
JIRB Irabujima 3.46 68 eP Pn 04 33 27.0 -0.7
JIRB eS Sn 04 34 06.3 -1.1
JIKM Ikemajima 3.56 67 eP Pn 04 33 29.2 +0.2
JIKM eS Sn 04 34 09.1 -0.8
JMJ Miyako jima 2 3.56 69 P Pn 04 33 29.8 +0.8
JMJ2 Miyako jima3 3.57 70 eP Pn 04 33 29.1 0.0
JMJ2 eS Sn 04 34 10.0 -0.1
ZPLA Ao Xicun 3.58 276 eP Pn 04 33 27.8 -1.4
XPSS Dashiqiu 3.59 339 eP Pn 04 33 27.4 -1.9
AXDP Jialang 3.59 292 eP Pn 04 33 28.2 -1.3
JOGS Gusukube 3.64 70 eP Pn 04 33 30.1 +0.3
JOGS eS Sn 04 34 11.6 -0.3
DSXP Dongshan 3.86 273 eP Pn 04 33 31.5 -1.6
SXFK Yanhouchang 4.58 309 eP Pn 04 33 41.4 -1.7
JOW Kunigami 6.83 60 Pn 04 34 11.8 -2.1
JOW Kunigami 6.83 60 P Pn 04 34 12.0 -2.0
comp=E,28nm,0.3s,baz=163,slow=9.4,SNR=49
JOW S Sn 04 35 25.2 -5.2
comp=E,35nm,0.2s,baz=136,slow=27,SNR=1.4
comp=E,58nm,0.3s
JOW Kunigami 6.83 60 P Pn 04 34 12.3 -1.7
HKPS Hong Kong Po S 7.03 261 Pn Pn 04 34 16.0 -0.6
HKPS Hong Kong Po S 7.03 261 P Pn 04 34 16.7 +0.1
SSE Sheshan 7.50 357 Pn Pn 04 34 22.6 -0.5
SSE Sn Sn 04 35 48.9 +2.1
SSE smax smax
comp=E,61nm,1.1s
SSE smax smax
comp=E,84nm,1.1s
SSE LR LR
comp=E,360nm,21.3s
SSE LR LR
comp=E,1μm,21.1s
GZH Guangzhou 7.63 268 Pn Pn 04 34 20.1 -4.8
GZH Sn Sn 04 35 42.3 -7.9
GZH smax smax
comp=E,850nm,1.0s
GZH smax smax
comp=E,680nm,1.0s
NJ2 Nanjing 8.79 344 eP Pn 04 34 40.0 -0.8
NJ2 S Sn 04 36 16.3 -2.3
NJ2 pmax pmax
comp=E,33nm,0.5s
NJ2 smax smax
comp=E,130nm,1.2s
NJ2 smax smax
comp=E,190nm,2.0s
NJ2 LR LR
comp=E,1μm,4.1s
NJ2 LR LR
comp=E,1μm,6.6s
NJ2 LR LR
comp=E,1μm,14.2s
CNSH ChangSha 9.08 302 P Pn 04 34 43.0 -1.7
CNSH pmax pmax
comp=E,10.0nm,0.5s
CNSH smax smax
comp=E,700nm,1.0s
CNSH smax smax
comp=E,920nm,1.2s
TGY Tagaytay City 9.45 184 P Pn 04 34 54.7 +4.8
comp=E,167nm,0.4s,baz=20,slow=15,SNR=1.1
TGY LR LR 04 38 55.0
comp=E,696nm,20.0s,baz=150,slow=40
WHN Wuhan 9.50 318 P Pn 04 34 48.8 -1.7
WHN LR LR
comp=E,6μm,14.4s
GULI GuiLin 10.41 282 P Pn 04 35 06.8 +3.8
GULI LR LR
comp=E,1μm,14.6s
GULI LR LR
comp=E,2μm,16.8s
GULI LR LR
comp=E,2μm,17.4s
QIZ Qiongzhong 11.88 250 Pn Pn 04 35 21.2 -2.0
QIZ Qiongzhong 11.88 250 P Pn 04 35 23.4 +0.2
QIZ S Sn 04 37 36.4 +1.9
QIZ pmax pmax
comp=E,15nm,1.0s
QIZ pmax pmax
comp=E,130nm,4.4s
QIZ LR LR
comp=E,930nm,8.9s
QIZ LR LR
comp=E,580nm,12.7s
QIZ LR LR
comp=E,880nm,18.5s
JNU Nakatsue 12.51 38 LR LR 04 41 12.2
comp=E,360nm,20.5s,baz=206,slow=41
LYN LuoYang 13.55 326 P Pn 04 35 48.1 +2.2
LYN S Sn 04 38 19.1 +4.1
LYN pmax pmax
comp=E,12nm,0.7s
LYN pmax pmax
comp=E,190nm,7.6s
LYN LR LR
comp=E,2μm,14.1s
LYN LR LR
comp=E,1μm,13.1s
LYN LR LR
comp=E,3μm,15.5s
GYA Guiyang 13.87 285 P Pn 04 35 50.8 +0.4
GYA S Sn 04 38 23.8 +0.6
GYA LR LR
comp=E,2μm,19.7s
KSAR Wonju Array Be 14.83 20 Pn Pn 04 36 02.5 -0.6
KSRS Korea Array 14.85 20 P Pn 04 36 05.4 +2.0
comp=E,6.9nm,0.5s,baz=195,slow=13,SNR=14
KSRS LR LR 04 42 47.0
comp=E,348nm,18.7s,baz=205,slow=41
KS19 Wonju Array Si 14.88 20 Pn Pn 04 36 02.4 -1.4
HNS HongShan 15.01 338⇑P Pn 04 36 07.3 +1.8
HNS SS S 04 39 04.8 -1.8
HNS pmax pmax
comp=E,5.0nm,0.8s
HNS LR LR
comp=E,1μm,13.7s
HNS LR LR
comp=E,990nm,13.9s
HNS LR LR
comp=E,1μm,12.9s
XAN Xi'an 15.24 316⇓P Pn 04 36 09.0 +0.4
XAN pmax pmax
comp=E,12nm,1.0s
XAN LR LR
comp=E,1μm,11.0s
XAN LR LR
comp=E,2μm,13.7s
XAN LR LR
comp=E,3μm,15.1s
SLVN Son La 16.54 266 Pn 04 36 25.5 +0.1
KMI Kunming 17.29 279⇓P P 04 36 39.5 +3.6
KMI S Sn 04 39 46.9 +0.6
KMI pmax pmax
comp=E,7.0nm,0.8s
KMI LR LR
comp=E,410nm,12.1s
KMI LR LR
comp=E,1μm,16.3s
KMI LR LR
comp=E,1μm,17.8s
KKM Kota Kinabalu 18.19 198 P 04 36 45.7 -0.1
PZH PanZhiHua 18.26 283 P Pn 04 36 46.8 +0.2
PZH pmax pmax
comp=E,10.0nm,0.7s
PZH pmax pmax
comp=E,100nm,5.5s
MYLDM Lahad Datu 18.54 190 P 04 36 49.5 0.0
MYLDM IAmb IAmb 04 37 23.9
comp=Z,133nm,1.5s
JCJ Chichijima 18.90 75 LR LR 04 44 15.3
comp=Z,228nm,18.4s,baz=202,slow=37
HHC Hu-ho-hao-te 19.19 336 eP Pn 04 36 58.6 +0.8
HHC pP pP 04 37 06.8 -0.3
HHC sP sP 04 37 11.8 -0.8
HHC S Sn 04 40 31.8 -0.1
HHC sS sS 04 40 43.3 -4.4
HHC SS SnSn 04 40 52.3 +5.8
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.1s
HHC LR LR
comp=Z,450nm,14.1s
HHC LR LR
comp=Z,390nm,13.4s
HHC LR LR
comp=Z,770nm,12.6s
MJAR Matsushiro Arr 19.27 44 P P 04 36 56.9 -0.5
comp=Z,0.1nm,0.3s,baz=247,slow=8.0,SNR=4.2
comp=Z,1.6nm,0.3s
BTO Baotou 19.59 333 eP Pn 04 37 08.3 +5.8
BTO pP sP 04 37 14.6 -2.3
BTO sP pP 04 37 18.4 +6.9
BTO pmax pmax
comp=Z,22nm,0.9s
BTO pmax pmax
comp=Z,420nm,4.3s
BTO LR LR
comp=Z,2μm,13.4s
BTO LR LR
comp=Z,3μm,20.7s
BTO LR LR
comp=Z,2μm,15.1s
LZH Lanzhou 19.80 313 eP Pn 04 37 05.8 +0.7
LZH sP pP 04 37 16.0 +2.1
LZH SS SnSn 04 41 06.3 +4.8
LZH pmax pmax
comp=Z,32nm,1.2s
LZH LR LR
comp=Z,990nm,14.8s
LZH LR LR
comp=Z,1μm,18.6s
LZH LR LR
comp=Z,2μm,16.1s
CN2 Changchun 20.42 8 P Pn 04 37 12.3 +0.2
CN2 S S 04 40 55.9 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,11.0s
XLT XiLinHaoTe 20.78 349 eP Pn 04 37 15.1 -1.4
XLT pP pP 04 37 21.3 -2.9
XLT sP sP 04 37 24.9 -4.6
XLT PP PnPn 04 37 38.6 +5.5
XLT sS Sn 04 41 12.8 +2.7
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,210nm,5.1s
XLT LR LR
comp=Z,770nm,20.0s
XLT LR LR
comp=Z,430nm,15.3s
TNCH TengChong 21.11 279 eP P 04 37 18.3 +0.6
TNCH pP pP 04 37 28.4 -0.1
TNCH S S 04 41 05.5 -5.0
TNCH pmax pmax
comp=Z,230nm,3.6s
TNCH LR LR
comp=Z,510nm,15.4s
TNCH LR LR
comp=Z,730nm,12.0s
TNCH LR LR
comp=Z,1μm,17.5s
CHTO Chiang Mai 21.67 262 P P 04 37 23.1 -0.4
CM31 Chiang Mai Arr 21.77 261 P P 04 37 24.7 +0.1
CMAR Chiang Mai Arr 21.77 261 P P 04 37 24.2 -0.4
CMAR Chiang Mai Arr 21.77 261 P P 04 37 25.3 +0.7
comp=Z,9.2nm,1.0s,baz=61,slow=8.3,SNR=29
CMAR LR LR 04 46 43.4
comp=Z,552nm,18.5s,baz=75,slow=39
comp=Z,9.2nm,1.0s
MDJ Mudanjiang 21.98 15 P P 04 37 27.5 +1.0
MDJ pmax pmax
comp=Z,14nm,1.9s
USRK Ussuriysk Ar. 22.26 20 P P 04 37 28.9 -0.7
comp=Z,2.0nm,0.5s,baz=205,slow=8.4,SNR=8.4
comp=Z,2.0nm,0.5s
TOLI2 Tolitoli 22.35 182 P P 04 37 30.7 0.0
SBUM Sibu 22.89 205 P P 04 37 35.4 -1.1
MRSI Marisa 22.96 179 P P 04 37 39.6 +2.4
comp=Z,40nm,1.4s
TNTI Ternate 23.34 165 P P 04 37 42.5 +1.5
comp=Z,4μmcomp=Z,47nm,0.8s
GUMO Guam 24.13 110 LR LR 04 45 20.7
comp=Z,328nm,21.9s,baz=326,slow=32
GTA Gaotai 24.30 316 eP P 04 37 51.0 +1.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,450nm,14.3s
GTA LR LR
comp=Z,660nm,16.7s
GTA LR LR
comp=Z,1μm,15.9s
APSI Ampana 24.34 180 P P 04 37 52.2 +1.9
comp=Z,35nm,0.8s
LUWI Luwuk 24.50 177 P P 04 37 51.5 -0.2
LUWI Luwuk 24.50 177 P P 04 37 53.8 +2.1
comp=Z,97nm,1.1s
KSM Kuching 24.56 208 P P 04 37 50.8 -1.5
GOMU GeErMu 26.34 305 P P 04 38 07.8 -1.0
GOMU S S 04 42 36.5 -2.8
GOMU pmax pmax
comp=Z,5.0nm,1.2s
GOMU LR LR
comp=Z,730nm,17.8s
GOMU LR LR
comp=Z,1μm,17.1s
GOMU LR LR
comp=Z,2μm,17.3s
ULN Ulaanbaatar 26.88 338 P P 04 38 12.0 -1.3
HEH HeiHe 27.01 8 eP P 04 38 15.6 +1.4
SONM Songino Array 27.09 337 P P 04 38 14.1 -1.0
SONM Songino Array 27.09 337 P P 04 38 14.2 -0.8
comp=Z,1.4nm,0.5s,baz=153,slow=10.0,SNR=7.7
SONM PcP PcP 04 41 34.0 -1.3
comp=Z,0.4nm,0.5s,baz=146,slow=2.9,SNR=1.9
SONM LR LR 04 50 15.2
comp=Z,577nm,18.2s,baz=148,slow=39
comp=Z,1.4nm,0.5s
SHL Shillong 27.10 280 P P 04 38 14.1 -1.5
SHL IAmb IAmb 04 38 36.0
comp=Z,26nm,1.3s
KULM Kulim 27.19 231 P P 04 38 14.9 -1.2
KULM IAmb IAmb 04 38 17.8
comp=Z,24nm,1.3s
BRDH Bariadhala 27.57 274 LR LR 04 49 53.2
comp=Z,339nm,18.4s,baz=114,slow=38
MYKOM Kota Tinggi 27.68 221 P P 04 38 18.6 -1.9
MYKOM IAmb IAmb 04 38 24.5
comp=Z,19nm,1.1s
KAPI Kappang 28.48 184 LR LR 04 50 11.0
comp=Z,201nm,21.5s,baz=359,slow=37
TPI Tanjungpandan 29.50 209 P P 04 38 36.7 0.0
comp=Z,42nm,1.2s
PSI Prapat 30.15 230 LR LR 04 49 56.9
comp=Z,309nm,21.6s,baz=68,slow=34
RPSI Rantau Prapat 30.23 230 P P 04 38 42.3 -0.8
RPSI IAmb IAmb 04 38 44.1
comp=Z,28nm,1.5s
GSI Gunungsitoli 32.16 230 P P 04 38 59.1 -1.1
MDSI Maura Dua 32.68 214 P P 04 39 04.7 0.0
comp=Z,32nm,1.3s
WMQ Urumqi 34.37 314 eP P 04 39 20.6 +1.3
WMQ LR LR
comp=Z,280nm,14.3s
MK31 Makanchi Array 39.06 316 P P 04 39 59.2 +0.1
MKAR Makanchi Array 39.06 316 P P 04 39 58.5 -0.6
MKAR Makanchi Array 39.06 316 P P 04 39 59.1 0.0
comp=Z,4.7nm,0.6s,baz=104,slow=11,SNR=42
MKAR PcP PcP 04 42 06.9 -1.6
comp=Z,0.5nm,0.5s,baz=80,slow=3.2,SNR=1.5
comp=Z,4.7nm,0.6s
MAKZ Makanchi 39.26 316 P P 04 40 00.8 -0.1
ZAA0 Zalesovo Array 40.98 327 P P 04 40 13.8 -1.0
ZALV Zalesovo Beam 40.98 327 P P 04 40 14.1 -0.8
ZALV Zalesovo Beam 40.98 327 P P 04 40 13.5 -1.3
comp=Z,2.5nm,0.5s,baz=121,slow=8.2,SNR=12
ZALV PcP PcP 04 42 12.9 -1.5
comp=Z,0.8nm,0.6s,baz=87,slow=5.9,SNR=1.3
comp=Z,2.5nm,0.5s
KDJ Kajisay 41.15 308 P P 04 40 16.4 -0.3
H11N1 WAKE ISLAND Hy 42.11 86 T T 05 25 25.8
baz=281,slow=74
H11N2 WAKE ISLAND Hy 42.12 86 T T 05 25 26.2
baz=281,slow=74
BOOM Boomskoye usch 42.12 308 P P 04 40 24.2 -0.5
H11N3 WAKE ISLAND Hy 42.13 86 T T 05 25 27.1
baz=281,slow=74
H11S3 WAKE ISLAND Hy 42.23 88 T T 05 25 37.3
baz=284,slow=74
H11S1 WAKE ISLAND Hy 42.23 88 T T 05 25 38.8
baz=284,slow=74
H11S2 WAKE ISLAND Hy 42.24 88 T T 05 25 39.1
baz=284,slow=74
PALK Pallekele 42.46 254 LR LR 04 59 57.7
comp=Z,104nm,18.8s,baz=52,slow=39
KURK Kurchatov 42.82 320 P P 04 40 29.2 -0.7
KURBB Kurchatov Arra 42.84 320 P P 04 40 29.4 -0.7
comp=Z,2.4nm,0.5s,baz=108,slow=9.9,SNR=18
comp=Z,2.4nm,0.5s
COEN Coen 42.84 148 P P 04 40 30.3 -0.2
WRA Warramunga Arr 44.99 163 P P 04 40 46.3 -1.4
comp=Z,3.7nm,0.7s,baz=344,slow=8.8,SNR=22
comp=Z,3.7nm,0.7s
WB2 Warramunga Arr 45.00 163 P P 04 40 46.3 -1.4
WB2 IAmb IAmb 04 41 06.8
comp=Z,11nm,1.1s
WR0 Warramunga Arr 45.06 163 P P 04 40 46.7 -1.6
GAR Garm 45.88 302 P P 04 40 54.4 -0.4
KK31 Karatay Array 46.16 308 P P 04 40 56.2 -0.6
KKAR Karatay Array 46.16 308 P P 04 40 56.3 -0.5
KKAR Karatay Array 46.16 308 P P 04 40 56.7 -0.1
KKAR IAmb IAmb 04 40 58.8
comp=Z,5.5nm,1.1s
KBL Kabul 46.80 296 P P 04 41 01.5 -0.7
TIXI Tiksi 48.28 3 P P 04 41 12.0 -0.8
TIXI IAmb IAmb 04 41 22.9
comp=Z,20nm,1.4s
BVAR Borovoye Array 48.40 321 P P 04 41 14.2 +0.2

comp=Z,1.9nm,0.5s,baz=103,slow=8.7,SNR=10
BVAR PcP **PcP** **04 42 39.0 -1.0**
comp=Z,1.0nm,0.5s,baz=90,slow=3.0,SNR=1.5
comp=Z,1.9nm,0.5s
AS31 Alice Springs 48.45 165 P **P** **04 41 13.4 -1.3**
ASAR Alice Springs 48.45 165 P **P** **04 41 13.8 -1.0**
comp=Z,0.9nm,0.3s,baz=347,slow=6.9,SNR=12
comp=Z,0.9nm,0.3s
BRVK Borovoye 48.47 321 P **P** **04 41 14.2 -0.4**
ABKAR Abkulak array 54.16 315 P **P** **04 41 57.1 -0.2**
ABKAR Abkulak array 54.16 315 P **P** **04 41 57.3 +0.1**
ABKAR IAmb IAmb 04 42 19.1
comp=Z,7.2nm,0.9s
ABKAR PcP **PcP** **04 42 59.6 -1.8**
STKA Stephens Creek 58.35 160 P **P** **04 42 26.3 -1.0**
comp=Z,4.0nm,0.8s,baz=336,slow=6.8,SNR=9.5
comp=Z,4.0nm,0.8s
UOSS Minazif 59.12 286 P **P** **04 42 31.8 -1.2**
DZM Mont Dzumac 62.92 133 *e*LR LR 05 01 45.8
comp=Z,301nm,23.6s
C18K Utukok River 63.60 23 P **P** **04 43 02.3 -0.2**
E18K Tukpahlearik C 63.77 25 P **P** **04 43 04.5 +0.9**
E18K IAmb IAmb 04 43 06.3
comp=Z,5.9nm,0.7s
H17K Granite Mounta 64.02 28 P **P** **04 43 06.0 +0.7**
H17K IAmb IAmb 04 43 18.2
comp=Z,11nm,1.1s
J17K VABM Dome 64.41 29 P **P** **04 43 08.6 +0.8**
G18K Tagagawik 64.54 27 P **P** **04 43 09.3 +0.6**
G18K IAmb IAmb 04 43 24.6
comp=Z,12nm,1.3s
D19K Kuna River 64.72 24 P **P** **04 43 10.3 +0.5**
B20K Meade River 65.06 22 P **P** **04 43 12.1 +0.2**
B20K IAmb IAmb 04 43 33.1
comp=Z,6.6nm,0.8s
E19K Redstone River 65.07 25 P **P** **04 43 13.0 +0.9**
G19K Purcell Mounta 65.17 26 P **P** **04 43 13.7 +0.9**
G19K IAmb IAmb 04 43 26.2
comp=Z,15nm,1.4s
F20K Avaraart Lake 65.67 25 IAmb IAmb 04 43 40.5
comp=Z,8.1nm,1.2s
TTA Tatalina 65.83 30 P **P** **04 43 17.8 +0.6**
TTA IAmb IAmb 04 43 20.5
comp=Z,12nm,1.4s
KBZ Khabaz 66.18 309 P **P** **04 43 19.9 +0.3**
comp=Z,2.8nm,0.9s,baz=176,slow=12,SNR=5.4
comp=Z,2.8nm,0.9s
E21K Killik River 66.25 24 IAmb IAmb 04 43 32.5
comp=Z,8.6nm,0.8s
L19K White Mountain 66.43 31 P **P** **04 43 22.2 +1.2**
F21K Alatna River 66.54 25 IAmb IAmb 04 43 26.9
comp=Z,12nm,1.4s
J20K Nowinta River 66.55 28 IAmb IAmb 04 43 35.5
comp=Z,11nm,1.2s
G21K Allakaket 66.59 26 IAmb IAmb 04 43 35.7
comp=Z,9.2nm,0.9s
C23K Itkillik River 67.33 22 IAmb IAmb 04 43 39.6
comp=Z,11nm,1.2s
TOLK Toolik Lake Re 67.84 23 IAmb IAmb 04 43 57.8
comp=Z,11nm,1.2s
E23K Chandalar 67.91 24 IAmb IAmb 04 43 43.5
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 67.93 28 P **P** **04 43 31.1 +0.6**
G23K Bananza Creek 67.95 25 IAmb IAmb 04 43 43.8
comp=Z,9.5nm,1.1s
C24K Franklin Bluff 68.00 22 IAmb IAmb 04 43 43.4
comp=Z,8.4nm,0.8s
SKT Skwentna 68.01 31 P **P** **04 43 31.8 +0.8**
SKT IAmb IAmb 04 43 43.3
comp=Z,11nm,1.1s
D24K Happy Valley 68.04 23 IAmb IAmb 04 43 43.8
comp=Z,8.7nm,0.8s
E24K Your Creek 68.33 24 IAmb IAmb 04 43 45.9
comp=Z,8.5nm,1.1s
F24K Squaw Lake 68.64 24 IAmb IAmb 04 43 48.0
comp=Z,7.8nm,0.9s
NEA2 Nenana 68.68 28 P **P** **04 43 35.9 +0.8**
D25K Kavik River 68.87 22 IAmb IAmb 04 43 49.0
comp=Z,8.7nm,1.0s
RAYN Ar Rayn 68.92 287 P **P** **04 43 36.2 -1.2**
RAYN IAmb IAmb 04 43 37.8
comp=Z,12nm,1.4s
H24K Noodor Dome 68.95 26 IAmb IAmb 04 44 10.0
comp=Z,12nm,1.2s
G24K Hadweenzic Riv 68.95 25 IAmb IAmb 04 43 50.6
comp=Z,9.2nm,1.1s
E25K Arctic Village 69.39 24 IAmb IAmb 04 43 52.7
comp=Z,9.2nm,1.4s
F25K Christian Rive 69.48 24 IAmb IAmb 04 43 53.5
comp=Z,8.4nm,1.1s
ILAR Eielson Array 69.56 27 P **P** **04 43 40.1 -0.5**
comp=Z,0.8nm,0.5s,baz=271,slow=4.9,SNR=29
comp=Z,0.8nm,0.5s
C27K Jago River 69.73 22 IAmb IAmb 04 43 54.5
comp=Z,9.8nm,1.1s
BMAR Burnt Mountain 69.91 24 P **P** **04 43 43.3 +0.5**
F26K Sheenjek River 70.01 24 IAmb IAmb 04 43 56.7
comp=Z,9.5nm,1.2s
SPITS Spitsbergen Ar 70.16 348 P **P** **04 43 43.1 -0.9**
comp=Z,11nm,1.1s,baz=50,slow=9.5,SNR=1.6
comp=Z,11nm,1.1s
ARCES ARCESS Array B 70.25 338 P **P** **04 43 44.3 -0.5**
comp=Z,2.5nm,0.8s,baz=59,slow=4.4,SNR=5.8
comp=Z,2.5nm,0.8s
D27M Malcolm River 70.77 22 IAmb IAmb 04 44 00.8
comp=Z,15nm,1.4s
E27K Coleen River 70.83 23 P **P** **04 43 48.6 +0.4**
E27K IAmb IAmb 04 44 02.0
comp=Z,8.0nm,1.3s
SCRK Sand Creek 70.97 28 IAmb IAmb 04 44 10.9
comp=Z,7.5nm,1.1s
I26K Coal Creek Min 70.98 26 IAmb IAmb 04 44 16.6
comp=Z,12nm,1.3s
E28M Babbage River 71.44 22 IAmb IAmb 04 44 12.4
comp=Z,14nm,1.5s
K27K Chicken 71.77 27 IAmb IAmb 04 44 07.2
comp=Z,8.0nm,1.1s
M26K Nabesna, AK 71.82 29 IAmb IAmb 04 44 07.8
comp=Z,9.8nm,0.9s
L27K Beaver Creek, 72.15 28 IAmb IAmb 04 44 09.9
comp=Z,7.7nm,0.9s
BCAR Beaver Creek A 72.17 28 P **P** **04 43 56.8 +0.3**
FINES FINESS Array B 72.17 330 P **P** **04 43 56.0 -0.4**
comp=Z,1.2nm,0.4s,baz=52,slow=5.3,SNR=17
comp=Z,1.2nm,0.4s
G29M Pine Creek 72.51 24 IAmb IAmb 04 44 11.1
comp=Z,11nm,1.1s
DAWY Dawson 72.89 27 IAmb IAmb 04 44 13.2
comp=Z,10nm,1.3s
G30M tAoh Zraii Nji 73.16 24 IAmb IAmb 04 44 14.0
comp=Z,13nm,1.1s
J29N Klondike Camp 73.25 26 IAmb IAmb 04 44 06.7
comp=Z,8.2nm,0.7s
AKASG Malin Array Be 73.59 319 P **P** **04 44 03.8 -1.3**
comp=Z,0.4nm,0.4s,baz=68,slow=5.9,SNR=5.4
comp=Z,0.4nm,0.4s
INK Inuvik 73.63 22 IAmb IAmb 04 44 16.8
comp=Z,8.6nm,1.1s
INK Inuvik 73.63 22 LR LR 05 19 32.7
comp=Z,156nm,18.6s,baz=272,slow=38
I30M Mount Dempster 73.72 25 IAmb IAmb 04 44 25.8
comp=Z,9.8nm,1.2s
L29M L29M 73.74 28 IAmb IAmb 04 44 26.9
comp=Z,12nm,1.1s
M29M Somme Creek 73.82 28 IAmb IAmb 04 44 19.9
comp=Z,11nm,1.2s
BRTR Keskin Array B 73.86 307 P **P** **04 44 06.8 -0.3**
comp=Z,1.5nm,0.4s,baz=127,slow=3.6,SNR=9.6
comp=Z,1.5nm,0.4s
F31M Tsiigehtchic 73.89 23 IAmb IAmb 04 44 18.1
comp=Z,10nm,1.0s
M30M Minto, Yukon 74.50 28 IAmb IAmb 04 44 35.5
comp=Z,11nm,1.1s
FARO Faro, Yukon 76.11 28 IAmb IAmb 04 44 32.1
comp=Z,16nm,1.4s
C36M Paulatuk 76.24 19 IAmb IAmb 04 44 31.1
comp=Z,12nm,1.2s
P33M Teslin, Yukon 77.19 30 P **P** **04 44 25.8 +0.2**
P33M IAmb IAmb 04 44 38.0
comp=Z,16nm,1.4s
HFS Hagfors 78.29 331 P **P** **04 44 31.6 -0.1**
comp=Z,2.5nm,0.4s,baz=106,slow=5.3,SNR=16
comp=Z,2.5nm,0.4s
NB2 NORSAR Subarra 78.95 332 P **P** **04 44 34.2 -1.1**
comp=Z,1.4nm,0.5s,baz=55,slow=6.2
NOA NORSAR Array B 78.95 332 P **P** **04 44 34.4 -0.9**
comp=Z,0.9nm,0.5s,baz=83,slow=5.4,SNR=10
comp=Z,0.9nm,0.5s
RES Resolute Bay 79.19 9 P **P** **04 44 36.1 -0.2**
comp=Z,0.5nm,0.6s,baz=301,slow=10,SNR=4.1
comp=Z,0.5nm,0.6s
CLL Collm 82.78 323 *e*P **P** **04 44 56.0 +0.1**
YKA Yellowknife Ar 83.37 23 P **P** **04 44 57.5 -1.1**
comp=Z,0.9nm,0.5s,baz=312,slow=5.3,SNR=14
comp=Z,0.9nm,0.5s
GERES GERESS Array B 83.57 321 P **P** **04 44 60.0 -0.2**
comp=Z,1.6nm,0.5s,baz=95,slow=4.6,SNR=5.0
comp=Z,1.6nm,0.5s
KMBO Kilima Mbogo 85.29 267 P **P** **04 45 09.9 +0.2**
comp=Z,0.9nm,0.3s,baz=9.4,slow=3.5,SNR=3.3
comp=Z,0.9nm,0.3s
SFJD Kangerlussuaq 89.52 357 P **P** **04 45 29.2 +0.5**
comp=Z,5.5nm,0.8s,baz=320,slow=7.9,SNR=2.2
comp=Z,5.5nm,0.8s
PPT2 Papeete2 95.80 107 *e*LR LR 05 16 56.2
comp=Z,159nm,24.5s
PPT2 *e*LR LR 05 17 00.3
comp=Z,176nm,24.0s
RKT Rikitea 110.55 107 *e*LR LR 05 23 44.2
comp=Z,1μm,32.2s

MOS ***13*** *04:45:02.2±1.2,36°.80N×142°.32E,h31km,mb4.4/15,Error ellipse: s-maj=8.1km s-min=5.4km az=103.9*
NIED ***13*** *04:45:03.3,36°.72N×142°.25E,h34km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.69; Mθθ-0.93; Mφφ-2.76; Mrθ0.73; Mθφ-1.36; Mφr1.18; Fault plane solution: M₀3.85000×10¹⁵ NP1: φs207.00000°,δ34.00000°,λ88.00000°. NP2:φs29.00000°, δ56.00000°,λ91.00000°.*
JMA ***13*** *04:45:03.3±0.3,36°.7N±0°.7×14°.2E±°,h34km,MD4.7/30, MV4.2/30,E OFF FUKUSHIMA PREF*
NEIC ***13*** *04:45:06.9±1.4,36°.84N±0°.06×142°.2E±0°.1,h30km±4km, mb4.5/32,Error ellipse: s-maj=12.1km s-min=9.2km az=103.0*
IDC ***13*** *04:45:06.5±1.9,36°.57N×142°.24E,h42km±18km,mb3.8/19, mbtmp4.1/27,ML3.6/7,MS4.1/3,Error ellipse: s-maj=14.6km s-min=11.8km az=84.0*
ISC 13 04:45:06.0±0.5,36.78N±0°.05×142.27E±0°.05,h35km,n160, σ1**58**/163,**mb4.4**/55,**MS4.6**/5,**12C-3D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.22**	**286**	*e*P	**Pn**	**04 45 24.4**	**-2.2**
JFK	**Kawauchi**	**1.26**	**298**	*e*P	**Pn**	**04 45 25.1**	**-2.1**
JHO	**Hitachi**	**1.38**	**263**	*e*P	**Pn**	**04 45 26.4**	**-2.3**
JHO				*e*S	**Sn**	**04 45 43.4**	**-2.3**
JFFD	**Fukushimafurud**	**1.40**	**283**	*e*P	**Pn**	**04 45 27.9**	**-1.2**
JHYU	**Hitachinakayam**	**1.43**	**252**	*e*P	**Pn**	**04 45 27.5**	**-1.8**
JMM	**Marumori**	**1.60**	**313**		**Pn**	**04 45 30.5**	**-1.3**
JMM	**Marumori**	**1.60**	**313**	P	**Pn**	**04 45 31.0**	**-0.7**
JMM	**Marumori**	**1.60**	**313**	*e*P	**Pn**	**04 45 30.4**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.73**	**297**	*e*P	**Pn**	**04 45 32.8**	**-0.8**
JIO	**Ouri**	**1.82**	**337**	P	**Pn**	**04 45 34.4**	**-0.4**
JSB	**Shiboa**	**1.89**	**276**	A	A	04 45 34.3	
	comp=N,13nm,1.1s,comp=E,13nm,1.8s						
JOU	**Okura**	**2.03**	**322**	A	A	04 45 37.0	
	comp=N,11nm,0.6s,comp=E,10.0nm,1.5s						
JYAR	**Yonezawaarcadi**	**2.04**	**304**	A	A	04 45 36.8	
	comp=N,10.0nm,1.3s,comp=E,11nm,1.2s						
JOFO	**Osakifurukawao**	**2.11**	**330**	A	A	04 45 38.2	
	comp=N,21nm,4.4s,comp=E,18nm,1.7s						
JAG	**Ashikaga**	**2.29**	**262**	*e*P	**Pn**	**04 45 39.9**	**-1.4**
JMK	**Ichinoseki**	**2.32**	**339**	*e*P	**Pn**	**04 45 41.4**	**-0.2**
BSO1	**Boso 1**	**2.37**	**207**	*e*P	**Pn**	**04 45 40.0**	**-1.9**
JYK	**Kaneyama**	**2.61**	**325**	*e*P	**Pn**	**04 45 45.7**	**0.0**
MJA0	**Matsu Arr-Jizo**	**3.24**	**267**	*e*P	**Pn**	**04 45 54.9**	**+0.5**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.27**	**267**	P	**Pn**	**04 45 54.9**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=106,slow=10,SNR=96						
MJAR				S	**Sn**	**04 46 32.6**	**+0.1**
	comp=Z,54nm,0.7s,baz=254,slow=10,SNR=4.1						
MJAR				LR	LR	04 47 25.6	
	comp=Z,888nm,18.6s,baz=172,slow=43						
	comp=Z,52nm,0.5s						
MAJO	**Matsushiro**	**3.27**	**267**		**Pn**	**04 45 54.8**	**-0.1**
MAJO	**Matsushiro**	**3.27**	**267**	P	**Pn**	**04 45 55.3**	**+0.5**
MAJO	**Matsushiro**	**3.27**	**267**	*c i*P	**Pn**	**04 45 55.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.28**	**267**		**Pn**	**04 45 56.0**	**+1.1**
JSD	**Sado**	**3.43**	**293**		**Pn**	**04 45 56.9**	**0.0**
JTM	**Tennmabayashi**	**4.11**	**347**		**Pn**	**04 46 06.2**	**-0.1**
JGF	**Kuroka**	**4.14**	**255**	Pn	**Pn**	**04 46 07.2**	**+0.4**
JGF	**Kuroka**	**4.14**	**255**	P	**Pn**	**04 46 07.9**	**+1.1**
JHJ2	**Mitsune**	**4.18**	**210**	Pn	**Pn**	**04 46 05.5**	**-1.7**
JHJ2	**Mitsune**	**4.18**	**210**	P	**Pn**	**04 46 06.7**	**-0.5**
JHJ	**Hachijo jima 2**	**4.19**	**210**	P	**Pn**	**04 46 05.9**	**-1.4**
	comp=Z,39nm,0.3s,baz=281,slow=16,SNR=6.3						
JHJ				S	**Sn**	**04 46 49.1**	**-5.9**
	comp=Z,195nm,0.4s,baz=236,slow=22,SNR=5.9						
	comp=Z,98nm,0.3s						
INU	**Inuyama**	**4.49**	**253**	Pn	**Pn**	**04 46 11.4**	**-0.1**
INU	**Inuyama**	**4.49**	**253**	P	**Pn**	**04 46 13.4**	**+1.9**
ERM	**Erimo**	**5.27**	**7**		**Pn**	**04 46 21.6**	**-0.6**
ERM	**Erimo**	**5.27**	**7**	*i* P	**Pn**	**04 46 21.6**	**-0.6**
NMR	**Nemuro--Hokkai**	**7.09**	**21**	*e*P	**Pn**	**04 46 44.8**	**-2.4**
NMR				*e*S	**Sn**	**04 48 01.2**	**-5.3**
ASAJ	**Asahikawa**	**7.33**	**2**	P	**Pn**	**04 46 49.5**	**-0.9**
	comp=Z,17nm,0.4s,baz=219,slow=10,SNR=19						
ASAJ				S	**Sn**	**04 48 12.2**	**-0.2**
	comp=Z,12nm,0.4s,baz=322,slow=33,SNR=7.1						
ASAJ	**Asahikawa**	**7.33**	**2**	P	**Pn**	**04 46 49.7**	**-0.8**
JKA	**Kamikawa-asahi**	**7.33**	**2**		**Pn**	**04 46 49.7**	**-0.8**
JMN	**Monobe**	**7.51**	**249**	Pn	**Pn**	**04 46 52.6**	**-0.4**
JMN	**Monobe**	**7.51**	**249**	P	**Pn**	**04 46 55.0**	**+2.0**
RUSJ	**Misakicho**	**7.66**	**16**	*e*P	**Pn**	**04 46 52.9**	**-2.0**
RUSJ				*e*S	**Sn**	**04 48 17.8**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**7.74**	**20**	P	**Pn**	**04 46 54.0**	**-2.1**
YUK				*e*S	**Sn**	**04 48 18.2**	**-4.3**
YUK				pmax	pmax		
	comp=Z,193nm,0.4s						
KUR	**Kuril'sk**	**9.44**	**25**	P	**Pn**	**04 47 16.9**	**-2.5**
KUR				*e*S	**Sn**	**04 48 57.8**	**-6.4**
JCJ	**Chichijima**	**9.66**	**180**	P	Pn	04 47 18.1	-4.4
	comp=Z,35nm,0.3s,baz=280,slow=19,SNR=1.4						
JCJ				S	Sn	04 48 52.2	-18
	comp=Z,62nm,0.5s,baz=295,slow=21,SNR=1.5						
JNU	**Nakatsue**	**10.04**	**252**	P	**Pn**	**04 47 28.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=260,slow=6.1,SNR=2.0						
	comp=Z,6.4nm,0.6s						
YSS	**Yuzhno-Sakhali**	**10.17**	**2**	Pn	**Pn**	**04 47 29.2**	**-0.2**
YSS	**Yuzhno-Sakhali**	**10.17**	**2**	*e*P	**Pn**	**04 47 29.5**	**+0.1**
YSS				*e*S	**Sn**	**04 49 18.7**	**-3.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
MSHR	**Mys Shultsa**	**10.33**	**307**	*i* P	**Pn**	**04 47 30.8**	**-0.8**
USA0B	**Ussuriysk Array**	**10.77**	**317**	*e*P	**Pn**	**04 47 38.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.77**	**317**	P	**Pn**	**04 47 40.0**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=123,slow=12,SNR=7.5						
	comp=Z,1.2nm,0.5s						
KSRS	**Korea Array**	**11.48**	**278**	P	**Pn**	**04 47 48.5**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=90,slow=15,SNR=5.1						
	comp=Z,2.4nm,0.8s						
TJN	**Taejon**	**11.99**	**273**	*i* P	**Pn**	**04 47 53.9**	**-0.5**
MDJ	**Mudanjiang**	**12.39**	**313**	P	Pn	04 48 04.0	+4.2
MDJ				pmax	pmax		
	comp=Z,13nm,1.8s						
KLR	**Kul'dur**	**14.61**	**332**	P	**P**	**04 48 33.2**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=150,slow=10,SNR=7.9						
	comp=Z,1.5nm,0.5s						
KLR	**Kul'dur**	**14.61**	**332**	*e*P	**Pn**	**04 48 30.8**	**+0.8**
KLR				pmax	pmax		
	comp=Z,9.0nm,2.0s						
OKH	**Okha**	**16.77**	**1**	*de*P	Pn	04 48 48.4	-10
OKH				MLR	MLR		
	comp=N,800nm,7.0s						
OKH				MLR	MLR		
	comp=Z,800nm,10.0s						
OKH				MLR	MLR		
	comp=E,500nm,15.0s						
PETK	**Petropavlovsk-**	**19.57**	**29**	P	**Pn**	**04 49 32.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=219,slow=6.7,SNR=4.6						
	comp=E,3.8nm,0.8s						
NJ2	**Nanjing**	**19.87**	**263**	*e*P	**P**	**04 49 34.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZEA	**Zeya**	**19.91**	**333**	*e*P	**P**	**04 49 34.4**	**0.0**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HIA	**Hailar**	**20.57**	**314**	*e*P	**P**	**04 49 40.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XLT	**XiLinHaoTe**	**21.14**	**298**	*e*P	**P**	**04 49 45.6**	**-2.2**
XLT				pP	pP	04 49 55.1	-1.3
XLT				sP	sP	04 49 59.9	-0.6
XLT				PP	**PnPn**	**04 50 09.3**	**+1.8**
XLT				pmax	pmax		
	comp=Z,17nm,0.6s						
XLT				pmax	pmax		
	comp=Z,150nm,4.3s						
HNS	**HongShan**	**21.97**	**280**	⇑P	**P**	**04 49 53.8**	**-2.9**
HNS				pmax	pmax		
	comp=Z,20nm,0.7s						
MA2	**Magadan**	**23.46**	**11**	P	**P**	**04 50 12.7**	**+0.6**
MA2	**Magadan**	**23.46**	**11**	*d i*P	**P**	**04 50 12.9**	**+0.9**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.20**	**289**	*e*P	**P**	**04 50 20.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,4.5s						
LYN	**LuoYang**	**24.27**	**274**	P	**P**	**04 50 20.4**	**+0.5**
LYN				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK	**Yakutsk**	**26.47**	**347**	*i* P	**P**	**04 50 40.3**	**+0.8**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s						
SEY	**Seymchan**	**26.91**	**10**	⇓*i*P	**P**	**04 50 45.7**	**+2.3**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN	**Xi'an**	**27.24**	**274**	⇑P	**P**	**04 50 47.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.43**	**122**	T	T	05 19 28.4	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**27.44**	**122**	T	T	05 19 28.7	
	baz=314,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.45**	**122**	T	T	05 19 30.4	
	baz=314,slow=75,SNR=23						
ULN	**Ulaanbaatar**	**28.06**	**304**	P	**P**	**04 50 54.2**	**+0.1**
ULN	**Ulaanbaatar**	**28.06**	**304**	*c i*P	**P**	**04 50 54.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**28.15**	**124**	T	T	05 20 34.0	
	baz=316,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.15**	**124**	T	T	05 20 46.2	
	baz=316,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.16**	**124**	T	T	05 20 46.3	
	baz=316,slow=76,SNR=11						
SONM	**Songino Array**	**28.49**	**304**	P	**P**	**04 50 58.0**	**0.0**
SONM				IAmb	IAmb	04 50 59.6	
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**28.49**	**304**	P	**P**	**04 50 58.6**	**+0.7**
	comp=Z,7.2nm,0.7s,baz=105,slow=8.7,SNR=37						
	comp=Z,7.2nm,0.7s						
GYA	**Guiyang**	**31.86**	**261**	P	**P**	**04 51 28.8**	**+0.9**
GYA				PP	**PnPn**	**04 52 31.3**	**-1.8**
GYA				pmax	pmax		
	comp=Z,29nm,0.7s						
GTA	**Gaotai**	**33.29**	**288**	*e*P	**P**	**04 51 41.0**	**+0.6**
GTA				sP	sP	04 51 56.8	+2.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				LR	LR		
	comp=N,980nm,17.1s						
GTA				LR	LR		
	comp=E,550nm,17.1s						
GTA				LR	LR		
	comp=Z,1μm,21.9s						
BILL	**Bilibino**	**34.08**	**16**	⇑*i*P	**P**	**04 51 48.0**	**+1.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s						
TIXI	**Tiksi**	**35.62**	**353**	⇑*i*P	**P**	**04 52 00.2**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PZH	**PanZhiHua**	**35.76**	**265**	P	**P**	**04 52 02.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
GOMU	**GeErMu**	**37.85**	**284**	P	**P**	**04 52 19.9**	**+0.1**
GOMU				pP	pP	04 52 22.8	-6.4
GOMU				sP	pwP	04 52 26.3	-6.2
GOMU				S	**S**	**04 58 02.4**	**-6.5**
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GOMU				LR	LR		
	comp=N,1μm,12.8s						
GOMU				LR	LR		
	comp=E,750nm,12.5s						
GOMU				LR	LR		
	comp=Z,990nm,12.9s						
WMQ	**Urumqi**	**41.56**	**297**	*e*P	**P**	**04 52 52.4**	**+2.2**
WMQ				LR	LR		
	comp=N,2μm,23.9s						
WMQ				LR	LR		
	comp=Z,370nm,22.1s						
CMAR	**Chiang Mai Arr**	**42.10**	**256**	P	**P**	**04 52 54.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=49,slow=8.5,SNR=1.3						
	comp=Z,0.7nm,0.3s						
ZAA0	**Zalesovo Array**	**42.59**	**313**	P	**P**	**04 52 59.1**	**+0.8**
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**04 52 59.2**	**+0.8**
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**04 52 58.5**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=84,slow=6.1,SNR=10						
ZALV				PcP	**PcP**	**04 54 50.3**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=33,slow=3.5,SNR=2.8						
	comp=Z,3.2nm,0.9s						
ZALV	**Zalesovo Beam**	**42.59**	**313**	*e*P	**P**	**04 52 58.4**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**44.83**	**302**	P	**P**	**04 53 16.8**	**+0.3**
MK31	**Makanchi Array**	**44.83**	**302**	*c i*P	**P**	**04 53 16.3**	**-0.3**
MKAR	**Makanchi Array**	**44.83**	**302**	P	**P**	**04 53 16.8**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=87,slow=9.8,SNR=32						
MKAR				PcP	**PcP**	**04 54 57.7**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=68,slow=4.4,SNR=2.0						
	comp=Z,3.0nm,0.7s						
MAKZ	**Makanchi**	**45.04**	**303**	P	**P**	**04 53 18.6**	**+0.4**
MAKZ				IAmb	IAmb	04 53 21.8	
	comp=Z,3.9nm,0.8s						
MAKZ	**Makanchi**	**45.04**	**303**	P	**P**	**04 53 18.6**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**46.63**	**308**	P	**P**	**04 53 30.6**	**0.0**
KURK	**Kurchatov**	**46.63**	**308**	*c i*P	**P**	**04 53 30.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.70**	**308**	P	**P**	**04 53 31.3**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=82,slow=7.8,SNR=28						
	comp=Z,4.4nm,0.6s						
B21K	**Ikpikpuk River**	**46.72**	**25**	P	**P**	**04 53 33.1**	**+2.1**
B21K				IAmb	IAmb	04 53 34.0	
	comp=Z,3.4nm,0.7s						
E22K	**Anaktuvuk Pass**	**47.51**	**28**	P	**P**	**04 53 38.9**	**+1.6**
C23K	**Itkillik River**	**48.13**	**25**	P	**P**	**04 53 43.8**	**+1.8**
C23K				IAmb	IAmb	04 53 44.9	
	comp=Z,4.7nm,0.7s						
WUS	**Wushi**	**48.26**	**296**	P	**P**	**04 53 44.0**	**+0.4**
E23K	**Chandalar**	**48.32**	**28**	P	**P**	**04 53 45.7**	**+2.1**
E23K				IAmb	IAmb	04 53 46.7	
	comp=Z,4.7nm,0.9s						
D24K	**Happy Valley**	**48.69**	**26**	P	**P**	**04 53 47.6**	**+1.3**
D24K				IAmb	IAmb	04 53 49.1	
	comp=Z,4.2nm,0.8s						
IL31		**49.34**	**32**	P	**P**	**04 53 51.6**	**+0.2**
IL31				IAmb	IAmb	04 53 53.2	
	comp=Z,3.8nm,0.8

comp=Z,1.2nm,0.6s
BRVK Borovoye 51.30 313 *i* P **P 04 54 06.9 +0.5**
BRVK *i* *PP **pP 04 54 17.2 +1.1**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
PSI Prapat 52.26 240 P **P 04 54 13.9 -0.2**
comp=Z,3.0nm,0.4s,baz=59,slow=8.8,SNR=2.0
comp=Z,3.0nm,0.4s
E29M Blow River 52.68 27 P **P 04 54 19.2 +2.8**
E29M lAmb lAmb 04 54 32.7
comp=Z,9.3nm,1.5s
KKAR Karatay Array 53.84 301 P **P 04 54 25.2 -0.2**
KKAR Karatay Array 53.84 301 P **P 04 54 25.2 -0.2**
GAR Garm 55.43 296 P **P 04 54 37.5 +0.4**
GAR lAmb lAmb 04 54 53.9
comp=Z,6.2nm,0.7s
SIMJ Simiganj 56.50 296 P **P 04 54 45.1 +0.3**
WR8 Warramunga Arr 56.91 189 P **P 04 54 46.0 -1.5**
WR8 lAmb lAmb 04 54 56.7
comp=Z,3.4nm,0.5s
WB2 Warramunga Arr 56.91 189 P **P 04 54 48.8 +1.3**
WB2 lAmb lAmb 04 55 14.6
comp=Z,3.8nm,0.8s
WRA Warramunga Arr 56.91 189 P **P 04 54 46.1 -1.5**
comp=Z,1.0nm,0.7s,baz=6.5,slow=7.1,SNR=6.2
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 56.91 189 *e*P **P 04 54 46.9 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ARTI Arti 57.11 319 P **P 04 54 48.5 -0.1**
ARTI lAmb lAmb 04 54 59.7
comp=Z,6.5nm,0.7s
ARTI Arti 57.11 319*c* *i*P **P 04 54 49.1 +0.5**
ARTI S **S 05 02 42.2 +1.2**
ARTI SS **SS 05 06 27.3 -2.2**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
AB31 Akbulak array 58.62 310 P **P 04 54 59.7 +0.4**
AB31 lAmb lAmb 04 55 00.3
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 58.62 310 P **P 04 54 59.2 -0.2**
ABKAR Akbulak array 58.62 310 P **P 04 54 59.3 -0.1**
ABKAR lAmb lAmb 04 55 00.3
comp=Z,3.6nm,0.8s
ASAR Alice Springs 60.64 189 P **P 04 55 12.4 -1.0**
comp=Z,0.5nm,0.4s,baz=9.0,slow=7.3,SNR=8.6
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 63.68 30 P **P 04 55 34.3 +0.9**
comp=Z,0.3nm,0.6s,baz=302,slow=6.5,SNR=8.4
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 63.68 30 *e*P **P 04 55 34.9 +1.5**
OBN Obninsk 68.71 324⇑ *i*P **P 04 56 06.0 +0.3**
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 69.35 333 P **P 04 56 09.6 0.0**
comp=Z,2.0nm,0.8s,baz=132,slow=8.0,SNR=4.9
comp=Z,2.0nm,0.8s
FINES FINESS Array B 69.35 333 *e*P **P 04 56 11.7 +2.1**
FINES pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 71.58 311 P **P 04 56 24.6 +1.1**
comp=Z,3.4nm,0.9s,baz=36,slow=5.5,SNR=6.6
comp=Z,3.4nm,0.9s
KBZ Khabaz 71.58 311 *e*P **P 04 56 24.0 +0.5**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 71.59 311 *e*P **P 04 56 24.7 +1.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
NVAR Mina Array Bea 74.59 53 P **P 04 56 42.8 +1.1**
comp=Z,0.2nm,0.2s,baz=357,slow=5.7,SNR=1.1
comp=Z,0.2nm,0.2s
HFS Hagfors 74.60 336 P **P 04 56 41.2 +0.1**
comp=Z,1.3nm,0.8s,baz=39,slow=9.3,SNR=1.1
comp=Z,1.3nm,0.8s
NOA NORSAR Array B 74.68 338 P **P 04 56 41.9 +0.3**
comp=Z,0.6nm,0.7s,baz=40,slow=2.8,SNR=1.4
comp=Z,0.6nm,0.7s
AKASG Malin Array Be 74.91 323 P **P 04 56 43.4 +0.4**
comp=Z,2.1nm,0.6s,baz=48,slow=5.8,SNR=21
comp=Z,2.1nm,0.6s
PDAR Pinedale Array 77.35 46 P **P 04 56 58.6 +1.2**
comp=Z,0.5nm,0.6s,baz=293,slow=0.1,SNR=6.7
comp=Z,0.5nm,0.6s
BUR08 Bucovina Ar. S 78.92 322 P **P 04 57 07.0 +1.1**
PV10 Paradox Valley 80.42 49 P **P 04 57 16.0 +1.6**
PV10 lAmb lAmb 04 57 27.5
comp=Z,8.0nm,0.8s
ASF Jabal al Asfar 82.22 304 LR LR 05 36 37.0
comp=Z,103nm,19.7s,baz=62,slow=38
GERES GERESS Array B 83.28 329 P **P 04 57 29.2 +0.2**
comp=Z,0.7nm,0.5s,baz=9.7,slow=4.4,SNR=3.1
comp=Z,0.7nm,0.5s
NRCA Norcia 88.22 325 P **P 04 57 54.6 +0.9**
BATG Bathurst New B 92.55 19 P **P 04 58 14.7 +1.1**
KEST Kesra 95.64 323 LR LR 05 46 17.7
comp=Z,176nm,18.6s,baz=293,slow=38
W50A Signal Mountai 95.82 37 P **P 04 58 28.6 -0.3**
146A Union 95.93 41 P **P 04 58 20.8 -1.4**
MAW Mawson 119.61 206 PKPdf **PKiKP 05 03 53.6 +2.6**
MAW Mawson 119.61 206 PKIKP **PKiKP 05 03 53.6 +2.6**
SMRC Santa Marta, M 121.24 43 PKPdf **PKPdf 05 03 56.7 +0.9**
SACV Santiago Islan 126.83 343 PKPdf **PKPdf 05 04 06.2 -0.3**
ASCN Ascension 144.27 318 PKPdf **PKPdf 05 04 39.2 +0.4**
PB18 Visviri 146.12 64 PKPdf **PKPdf 05 04 42.9 +0.4**
LPAZ La Paz 146.22 61 *e*PKP2 **PKPdf 05 04 43.2 +0.4**
LPAZ pmax pmax
comp=Z,1.0nm,0.6s

SFS ***13*** *04:45:31.9, 37.°04N×5.°31W, h2km, ML2.4/11, ML2.5/13, MLv2.5/13*
INMG ***13*** *04:45:31.5±1.6, 36.°99N×5.°32W, h6km±3km, ML2.0, Error ellipse: s-maj=2.7km s-min=2.3km az=164.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
IGIL ***13*** *04:45:31.7, 37.°04N×5.°32W, h3km*
MDD ***13*** *04:45:31.4±0.3, 37.°04N×5.°32W, h3km±2km, mb_Lg2.3/16, Error ellipse: s-maj=2.5km s-min=1.7km az=178.0*
ISC 13 04:45:30.6±1.0**, 37.°05N**±0.°03×**5.°31W**±0.°02**, h8**km±9km**, n45,** σ0**62/83, 1D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.16**	**209**	Sg	**Sg**	**04 45 36.8**	**+0.6**
LIJA				Pg	**Pg**	**04 45 33.9**	**0.0**
ESPR	**Espera**	**0.47**	**248**	Pg	**Pb**	**04 45 41.1**	**-0.1**
ESPR				Sg	**Sb**	**04 45 47.7**	**-0.6**
ESPR	**Espera**	**0.47**	**248**	Pg	**Pb**	**04 45 41.6**	**+0.5**
ESPR				Sg	**Sg**	**04 45 46.7**	**+0.7**
ESPR				*i* Vmb_Lg		04 45 57.6	
EJIF	**Jimena Fronter**	**0.61**	**192**	Pg	**Pg**	**04 45 41.4**	**-0.9**
EJIF				Sg	**Sg**	**04 45 50.6**	**+0.3**
EMAL	**Malaga-Limoner**	**0.76**	**112**	Pg	**Pg**	**04 45 44.3**	**-0.9**
EGOR	**Sierra Gorda,**	**0.96**	**86**	Pg	**Pb**	**04 45 49.4**	**-0.2**
EGOR	**Sierra Gorda,**	**0.96**	**86**	Pg	**Pb**	**04 45 49.9**	**+0.4**
EGOR				Sg	**Sb**	**04 46 03.2**	**+0.7**
EGOR				*i* Vmb_Lg		04 46 09.3	
EXCBR	**El Cabril**	**1.03**	**355**	Pg	**Pb**	**04 45 50.8**	**+0.1**
EXCBR				Sg	**Sn**	**04 46 06.1**	**+0.1**
ECAB	**El Cabril**	**1.03**	**355**	Pg	**Pn**	**04 45 51.1**	**-0.3**
ECAB				Sg	**Sn**	**04 46 06.4**	**+0.3**
ECAB	**El Cabril**	**1.03**	**355**	Pg	**Pn**	**04 45 51.3**	**-0.1**
ECAB				Sg	**Sn**	**04 46 06.6**	**+0.5**
ECAB				*i* Vmb_Lg		04 46 09.0	
EADA	**Adamuz**	**1.26**	**27**	Pn	**Pn**	**04 45 54.7**	**+0.1**
EADA				Sn	**Sn**	**04 46 11.7**	**0.0**
EADA	**Adamuz**	**1.26**	**27**	Pg	**Pn**	**04 45 54.7**	**+0.1**
EADA				Sg	**Sn**	**04 46 12.0**	**+0.3**
EADA				*i* Vmb_Lg		04 46 14.7	
EMIN	**Mina Concepcio**	**1.30**	**304**	Pn	**Pn**	**04 45 54.9**	**-0.2**
EMIN				Sn	**Sn**	**04 46 12.9**	**+0.2**
EMIN	**Mina Concepcio**	**1.30**	**304**	Pg	**Pn**	**04 45 55.0**	**-0.2**
EMIN				Sg	**Sn**	**04 46 13.6**	**+0.9**
EMIN				*i* Vmb_Lg		04 46 16.9	
ELGU	**Los Guajares,**	**1.36**	**97**	Pn	**Pg**	**04 45 56.4**	**-0.2**
ELGU				Sn	**Sn**	**04 46 16.2**	**+2.0**
ELGU	**Los Guajares,**	**1.36**	**97**	Pg	**Pn**	**04 45 55.9**	**0.0**
ELGU				Sg	**Sn**	**04 46 15.0**	**+0.8**
ELGU				*i* Vmb_Lg		04 46 20.8	
EQTA	**Presa de Quent**	**1.50**	**83**	Pn	**Pb**	**04 45 58.6**	**-0.2**
EQUE	**Quentar**	**1.50**	**83**	Pn	**Pb**	**04 45 58.5**	**-0.2**
EQUE				Sn	**Sg**	**04 46 18.5**	**-0.3**
EQUE				*i* Vmb_Lg		04 46 22.3	
E0803	**Jimena (Jaen)**	**1.66**	**61**	Pn	**Pn**	**04 45 59.7**	**-0.3**
E0803				Sn	**Sb**	**04 46 22.6**	**+0.1**
PBAR	**Barrancos**	**1.78**	**310**	*e*Pn	**Pn**	**04 46 01.6**	**-0.1**
PBAR				*e*Sn	**Sb**	**04 46 25.6**	**-0.3**
PBAR				*i* AML	AML	04 46 38.4	
PBAR				*i* AML	AML	04 46 38.4	
PBAR				*i* AML	AML	04 46 41.6	
PBAR	**Barrancos**	**1.78**	**310**	Pn	**Pn**	**04 46 01.5**	**-0.1**
EGRO	**El Granado**	**1.80**	**286**	Pn	**Pb**	**04 46 03.0**	**-0.8**
EGRO				Sn	**Sb**	**04 46 26.8**	**+0.2**
EGRO	**El Granado**	**1.80**	**286**	Pn	**Pn**	**04 46 01.7**	**-0.3**
EGRO				Sn	**Sn**	**04 46 23.9**	**-1.1**
EGRO				Sg	**Sb**	**04 46 27.3**	**+0.8**
EGRO				*i* Vmb_Lg		04 46 32.8	
EQES	**Quesada**	**1.93**	**66**	Pn	**Pn**	**04 46 03.8**	**-0.1**
EQES				Pg	**Pb**	**04 46 06.2**	**0.0**
EQES				Sn	**Sn**	**04 46 29.2**	**+0.7**
EQES				*i* Vmb_Lg		04 46 35.8	
EBER	**Berja**	**1.94**	**94**	Pn	**Pb**	**04 46 05.8**	**-0.6**
PVAQ	**Vaqueiros**	**1.96**	**281**⇓	*e*Pn	**Pn**	**04 46 03.7**	**-0.4**
PVAQ				*i* AML	AML	04 46 36.8	
PVAQ	**Vaqueiros**	**1.96**	**281**	Pn	**Pn**	**04 46 03.5**	**-0.6**
PBDV	**Barranco-do-Ve**	**2.11**	**276**	*e*Pn	**Pn**	**04 46 05.9**	**-0.2**
PBDV				*e*Sn	**Sn**	**04 46 31.5**	**-1.0**
PBDV				*i* AML	AML	04 46 42.0	
PBDV				*i* AML	AML	04 46 45.8	
PBDV				*i* AML	AML	04 46 46.6	
PSIM	**Granatula de C**	**2.15**	**34**	Pn	**Pn**	**04 46 07.1**	**+0.2**
PSIM				Pg	**Pb**	**04 46 10.1**	**+0.3**
PSIM				Sn	**Sn**	**04 46 32.9**	**-0.9**
EBAD	**Badajoz**	**2.17**	**322**	Pn	**Pn**	**04 46 06.9**	**-0.1**
EBAD				Sn	**Sn**	**04 46 35.1**	**+0.8**
EBAD	**Badajoz**	**2.17**	**322**	Pn	**Pn**	**04 46 07.0**	**-0.1**
EBAD				Sn	**Sn**	**04 46 34.2**	**-0.1**
EBAD				Sg	**Sg**	**04 46 40.6**	**+0.2**
EBAD				*i* Vmb_Lg		04 46 44.0	
PCVE	**Castro Verde**	**2.25**	**286**	*e*Pn	**Pn**	**04 46 07.9**	**-0.2**
PCVE				*e*Sg	**Sg**	**04 46 43.3**	**+0.3**
PCVE				*i* AML	AML	04 46 47.3	
PCVE	**Castro Verde**	**2.25**	**286**	P	**Pn**	**04 46 07.7**	**-0.5**
MESJ	**Messejana**	**2.45**	**290**	*e*P	**Pn**	**04 46 10.6**	**-0.2**
MESJ	**Messejana**	**2.45**	**290**	*e*Pn	**Pn**	**04 46 10.9**	**0.0**
MESJ				*e*Sg	**Sg**	**04 46 50.3**	**+1.0**
MESJ				*i* AML	AML	04 46 56.5	
MESJ				*i* AML	AML	04 46 58.0	
MESJ				*i* AML	AML	04 46 59.7	
PESTR	**Estremoz**	**2.56**	**316**	*e*Pn	**Pn**	**04 46 13.2**	**+0.8**
PESTR				*e*Sn	**Sn**	**04 46 44.2**	**+0.4**
EVO	**Evora**	**2.61**	**305**	*e*Pn	**Pn**	**04 46 14.0**	**+1.0**
EVO				*e*Sn	**Sn**	**04 46 44.5**	**-0.4**
EVO				*i* AML	AML	04 46 59.6	
EVO				*i* AML	AML	04 47 01.3	
EVO				*i* AML	AML	04 47 07.3	
PAB	**San Pablo**	**2.61**	**17**	Pn	**Pn**	**04 46 14.0**	**+0.9**
PAB				Sn	**Sn**	**04 46 45.0**	**0.0**
PAB				Sg	**Sg**	**04 46 53.0**	**-1.3**
PAB				*i* Vmb_Lg		04 46 60.0	
PTEO	**Sao Teotonio**	**2.77**	**281**	*e*Pn	**Pn**	**04 46 15.3**	**0.0**
PTEO				*e*Sn	**Sn**	**04 46 49.4**	**+0.5**
PTEO				*i* AML	AML	04 47 05.2	
PFVI	**Vila Bisbo**	**2.81**	**273**	*e*Sn	**Sn**	**04 46 49.4**	**-0.6**
ESBB	**Sonseca Array**	**2.83**	**22**	Sn	**Sn**	**04 46 48.8**	**-1.7**
PMRV	**Marv??o**	**2.89**	**326**	*e*Pn	**Pn**	**04 46 18.3**	**+1.4**
PMRV				*e*Sn	**Sn**	**04 46 52.7**	**+0.8**
PMRV				*i* AML	AML	04 47 08.4	
PMRV				*i* AML	AML	04 47 08.4	
PMRV				*i* AML	AML	04 47 08.7	
PMTG	**Montargil**	**3.06**	**312**	*e*Pn	**Pn**	**04 46 19.8**	**+0.6**
PMTG				*e*Sn	**Sn**	**04 46 56.7**	**+0.5**
PMTG				*i* AML	AML	04 47 20.7	
PMTG				*i* AML	AML	04 47 24.5	
PMTG				*i* AML	AML	04 47 24.6	
PCBR	**Castelo Branco**	**3.27**	**329**	*e*Sn	**Sn**	**04 47 01.9**	**+0.7**
GUD	**Guadarrama**	**3.70**	**14**	Pn	**Pn**	**04 46 28.7**	**+0.5**
GUD				Sn	**Sn**	**04 47 11.8**	**-0.3**

MOS ***13*** *04:48:47.2±0.9, 33.°84N×134.°84E, h36km, mb5.4/48, MS4.6/10, Error ellipse: s-maj=6.4km s-min=3.7km az=116.6*
JMA ***13*** *04:48:48.8±0.1, 33.°8N±0.°2×134.°9E±0.°1, h43km, MD5.3/34, MW5.2/34, S PART OF KII CHANNEL*
JMA Felt IV J1 at S PART OF KII CHANNEL .
NIED ***13*** *04:48:48.8, 33.°80N×134.°91E, h43km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}0.54; $M_{\theta\theta}$-7.31; $M_{\phi\phi}$6.77; $M_{r\theta}$-0.36; $M_{\theta\phi}$-1.70; $M_{\phi r}$-2.14; Fault plane solution: $M_0$7.57000×10^16^ NP1: ϕ_s127.00000°, δ75.00000°, λ171.00000°. NP2: ϕ_s219.00000°, δ82.00000°, λ15.00000°.*
BJI ***13*** *04:48:48.6, 33.°74N×134.°87E, h50km, mB5.3/37, mb4.8/82, Ms4.8/87, Ms7 4.6/85*
NEIC ***13*** *04:48:49.3±1.4, 33.°81N±0.°06×134.°86E±0.°02, h37km±4km, mb5.1/302, Mwr5.2/18, Mww5.2/27, Error ellipse: s-maj=8.5km s-min=1.4km az=166.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}1.62; $M_{\theta\theta}$-8.58; $M_{\phi\phi}$6.97; $M_{r\theta}$1.66; $M_{\theta\phi}$-2.45; $M_{\phi r}$-1.88; Fault plane solution: $M_0$8.64000×10^16^ NP1: ϕ_s124.74000°, δ82.33000°, λ161.51000°. NP2: ϕ_s217.30000°, δ71.69000°, λ8.09000°. Principal axes: T 8.0473, Plg18.0000°, Azm80.0000°; N 1.0858, Plg70.0000°, Azm283.0000°; P -9.1331, Plg7.0000°, Azm172.0000°;*
NEIC ***13*** *04:48:49.2, 33.°71N×135.°00E, h40km, Moment Tensor Solution. Duration: 29±1 Moment tensor: Scale 10^16^Nm; M_{rr}-1.15; $M_{\theta\theta}$-6.94; $M_{\phi\phi}$8.09; $M_{r\theta}$-1.14; $M_{\theta\phi}$-3.54; $M_{\phi r}$-2.96; Fault plane solution: $M_0$8.88000×10^16^ NP1: ϕ_s122.05000°, δ69.31000°, λ-179.47000°. NP2: ϕ_s31.86000°, δ89.51000°, λ-20.69000°. Principal axes: T 9.5486, Plg14.0000°, Azm79.0000°; N -1.3453, Plg69.0000°, Azm211.0000°; P -8.2033, Plg15.0000°, Azm345.0000°;*
IDC ***13*** *04:48:49.5±1.2, 33.°82N×134.°82E, h41km±11km, mb4.5/32, mbtmp4.8/41, ML4.5/9, MS4.3/52 Error ellipse: s-maj=9.0km s-min=8.1km az=154.0*
NEIC ***13*** *04:48:49.4, 33.°81N×134.°87E, h34km*
NEIC ***13*** *04:48:49.2, 33.°81N×134.°87E, h40km*
GCMT ***13*** *04:48:50.3±0.1, 33.°74N±0.°01×134.°82E±0.°01, h38km±1km, MW5.3/134, Moment Tensor Solution. s84, c114; s134, c228; Duration: 19±1 Moment tensor: Scale 10^17^ Nm; M_{rr}-0.06±.02; $M_{\theta\theta}$-0.95±.02; $M_{\phi\phi}$1.00±.02; $M_{r\theta}$-0.22±.02; $M_{\theta\phi}$-0.25±.02; $M_{\phi r}$-0.22±.02; Best double couple: $M_0$1.05200×10^17^ NP1: ϕ_s128.00000°, δ73.00000°, λ-177.00000°. NP2: ϕ_s37.00000°, δ87.00000°, λ-17.00000°. Principal axes: T 1.0660, Plg10.0000°, Azm84.0000°; N -0.0300, Plg73.0000°, Azm208.0000°; P -1.0380, Plg14.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 04:48:49.4±0.3**, 33.°78N**±0.°03×**134.°89E**±0.°03**, h40**km±2km**, h40**km**: pP-P, n985,** σ1**25/816, mb5.1/281, MS4.5/67, 29C-47D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.37**	**272**	*i* P	**Pn**	**04 48 58.2**	**-0.1**
JAI				*e*S	**Sn**	**04 49 04.7**	**0.0**
JAI	**Aioi**	**0.37**	**272**	A	A	04 48 58.2	
	comp=N,144nm,0.5s,comp=E,308nm,1.0s						
JWM	**Minabe**	**0.39**	**80**	*i* P	**Pn**	**04 48 57.9**	**-0.7**
JWM				*e*S	**Sn**	**04 49 04.5**	**-0.7**
JWM	**Minabe**	**0.39**	**80**	A	A	04 48 57.9	
	comp=N,947nm,0.4s,comp=E,918nm,1.5s						
JTNC	**Tanabenakahech**	**0.60**	**86**	*i* P	**Pn**	**04 49 00.7**	**-0.8**
JTNC				S	**Sn**	**04 49 09.4**	**-0.7**
JTNC	**Tanabenakahech**	**0.60**	**86**	A	A	04 49 00.7	
	comp=N,2μm,0.8s,comp=E,1μm,0.8s						
JMAF	**Mimaanabuki**	**0.67**	**293**	A	A	04 49 02.0	
	comp=N,351nm,2.3s,comp=E,94nm,2.4s						
JAWN	**Awajishima-nag**	**0.70**	**1**⇓	*i* P	**Pn**	**04 49 02.1**	**-0.7**
JAWN				⇓S	**Sn**	**04 49 11.8**	**-0.6**
JAWN	**Awajishima-nag**	**0.70**	**1**	A	A	04 49 02.1	
	comp=N,131nm,1.1s,comp=E,244nm,1.7s						
JWY	**Kouya**	**0.73**	**53**	*i* P	**Pn**	**04 49 02.3**	**-0.9**
JWY				S	**Sn**	**04 49 12.0**	**-1.3**
JWY	**Kouya**	**0.73**	**53**	A	A	04 49 02.3	
	comp=N,368nm,2.3s,comp=E,448nm,0.9s						
MRT2	**Murotomisaki 2**	**0.74**	**238**	A	A	04 49 03.2	
	comp=N,226nm,2.7s,comp=E,154nm,1.4s						
JWKM	**Wakayamakushim**	**0.80**	**114**	A	A	04 49 03.5	
	comp=N,571nm,1.4s,comp=E,504nm,1.5s						
JMN	**Monobe**	**0.84**	**267**		**Pn**	**04 49 04.2**	**-0.6**
JMN				Sn	**Sn**	**04 49 15.3**	**-0.7**
JMN	**Monobe**	**0.84**	**267**	P	**Pn**	**04 49 04.3**	**-0.5**
JMN	**Monobe**	**0.84**	**267**	S	**Sn**	**04 49 15.8**	**-0.3**
JMN	**Monobe**	**0.84**	**267**	*i* P	**Pn**	**04 49 04.5**	**-0.4**
JMN				S	**Sn**	**04 49 16.0**	**-0.1**
JMN	**Monobe**	**0.84**	**267**	A	A	04 49 04.5	
	comp=N,104nm,2.0s,comp=E,137nm,1.5s						
JMMH	**Miemihama**	**0.94**	**87**	A	A	04 49 05.6	
	comp=N,175nm,1.4s,comp=E,143nm,2.5s						
JNTK	**Naratenkawa**	**0.96**	**59**	A	A	04 49 05.7	
	comp=N,258nm,2.0s,comp=E,184nm,1.3s						
JJS	**Sakaide**	**0.99**	**307**	*i* P	**Pn**	**04 49 06.1**	**-0.7**
JJS				S	**Sn**	**04 49 18.8**	**-0.8**
JJS	**Sakaide**	**0.99**	**307**	A	A	04 49 06.1	
	comp=N,227nm,2.3s,comp=E,217nm,0.8s						
JMIK	**Miki**	**1.03**	**7**	A	A	04 49 06.8	
	comp=N,103nm,6.1s,comp=E,163nm,2.4s						
JHE	**Heguri**	**1.09**	**37**⇓	*i* P	**Pn**	**04 49 07.1**	**-1.1**
JHE				⇓S	**Sn**	**04 49 20.8**	**-1.2**
JHE	**Heguri**	**1.09**	**37**	A	A	04 49 07.1	
	comp=N,180nm,3.6s,comp=E,96nm,4.5s						
JKHR	**Kochiharuno**	**1.19**	**257**	A	A	04 49 09.8	
	comp=N,79nm,2.6s,comp=E,111nm,0.7s						
JKS	**Kasai**	**1.20**	**358**⇓	*i* P	**Pn**	**04 49 08.7**	**-0.9**
JKS				⇓S	**Sn**	**04 49 23.6**	**-1.1**
JKS	**Kasai**	**1.20**	**358**	A	A	04 49 08.7	
	comp=N,56nm,5.6s,comp=E,36nm,1.6s						
JKN2	**Miekihoku**	**1.23**	**68**	A	A	04 49 09.7	
	comp=N,58nm,2.1s,comp=E,65nm,1.5s						
JAD	**Aida**	**1.30**	**333**	A	A	04 49 11.0	
	comp=N,36nm,2.7s,comp=E,73nm,2.9s						
JET	**Tanbara**	**1.54**	**270**	A	A	04 49 14.7	
	comp=N,33nm,1.4s,comp=E,41nm,2.8s						
JWT	**Wachi**	**1.55**	**16**	A	A	04 49 14.4	
	comp=N,26nm,1.4s,comp=E,53nm,6.0s						
TSUJ	**Tsu 2**	**1.57**	**53**	A	A	04 49 14.5	
	comp=N,257nm,1.1s,comp=E,153nm,0.8s						
TTO1	**TONANKAI O.B.S**	**1.59**	**95**	A	A	04 49 14.9	
	comp=N,357nm,1.3s,comp=E,400nm,3.1s						
JKU	**Kubokawa**	**1.60**	**253**	A	A	04 49 15.7	
	comp=N,54nm,2.5s,comp=E,35nm,2.1s						
JIE	**Ise**	**1.62**	**68**	A	A	04 49 15.3	
	comp=N,128nm,2.6s,comp=E,97nm,0.6s						
JJG	**Jouge**	**1.68**	**301**	A	A	04 49 16.6	
	comp=N,51nm,2.1s,comp=E,35nm,1.5s						
TTO2	**TONANKAI O.B.S**	**1.78**	**91**	A	A	04 49 17.7	
	comp=N,198nm,3.2s,comp=E,204nm,1.6s						
JKSM	**Kasumi**	**1.81**	**354**	A	A	04 49 18.2	
	comp=N,26nm,2.0s,comp=E,47nm,2.3s						
JKR	**Kurayoshi**	**1.82**	**331**	A	A	04 49 18.5	
	comp=N,54nm,3.4s,comp=E,66nm,3.2s						
JEG	**Eigenji**	**1.83**	**42**	A	A	04 49 18.3	
	comp=N,91nm,1.5s,comp=E,94nm,0.5s						
JKY	**Yasaka**	**1.85**	**5**	A	A	04 49 18.7	
	comp=N,45nm,1.3s,comp=E,51nm,1.6s						
JHS	**Saijyo**	**1.90**	**310**	A	A	04 49 19.8	
	comp=N,43nm,2.5s,comp=E,34nm,3.3s						
JFM	**Mihama**	**1.96**	**27**	A	A	04 49 20.2	
	comp=N,103nm,0.6s,comp=E,94nm,1.4s						
JTO	**Tosashimizu**	**1.98**	**243**	A	A	04 49 21.1	
	comp=N,28nm,5.7s,comp=E,34nm,3.5s						
UWA2	**Uwa jima 2**	**1.99**	**254**	A	A	04 49 21.1	
	comp=N,41nm,3.9s,comp=E,14nm,1.8s						
JNA	**Nagahama**	**2.02**	**264**	A	A	04 49 21.8	
	comp=N,23nm,5.1s,comp=E,16nm,2.9s						
JAA	**Atsumi**	**2.05**	**65**	A	A	04 49 21.5	
	comp=N,98nm,2.6s,comp=E,55nm,0.9s						
TTO3	**TONANKAI O.B.S**	**2.09**	**87**	A	A	04 49 22.1	
	comp=N,142nm,2.3s,comp=E,241nm,2.0s						
JICN	**Ichinomiyachia**	**2.21**	**46**	A	A	04 49 23.8	
	comp=N,388nm,2.0s,comp=E,261nm,1.6s						
JHT	**Toyohira**	**2.23**	**294**	A	A	04 49 24.5	
	comp=N,47nm,3.5s,comp=E,34nm,3.4s						
JNM	**Ikuma**	**2.30**	**319**	A	A	04 49 25.4	
	comp=N,72nm,1.6s,comp=E,85nm,3.4s						
INU	**Inuyama**	**2.35**	**48**	Pn	**Pn**	**04 49 25.6**	**+0.2**
INU				Sn	**Sn**	**04 49 51.2**	**-1.9**
INU	**Inuyama**	**2.35**	**48**	P	**Pn**	**04 49 26.0**	**+0.6**
INU	**Inuyama**	**2.35**	**48**	S	**Sn**	**04 49 53.3**	**+0.3**
JGT2	**ShimaneMisato**	**2.35**	**304**	A	A	04 49 26.2	
	comp=N,35nm,3.6s,comp=E,37nm,3.2s						
JYTA	**Yamagatataniai**	**2.36**	**40**	A	A	04 49 25.9	
	comp=N,66nm,4.0s,comp=E,65nm,2.8s						
JISK	**Izumosakaura**	**2.40**	**316**	A	A	04 49 26.9	
	comp=N,64nm,1.9s,comp=E,59nm,0.8s						
JSSY	**Shinshiroyabe**	**2.44**	**62**	A	A	04 49 27.1	
	comp=N,78nm,1.9s,comp=E,35nm,1.0s						
JAO	**Obara**	**2.45**	**52**	A	A	04 49 27.2	
	comp=N,133nm,1.5s,comp=E,78nm,1.6s						
JKD	**Kudamatsu**	**2.52**	**277**	A	A	04 49 28.9	
	comp=N,24nm,3.1s,comp=E,16nm,2.3s						
JHIK	**Hikimi**	**2.57**	**288**	A	A	04 49 29.4	
	comp=N,37nm,2.2s,comp=E,22nm,4.7s						
HMMJ	**Hamamatsu 2**	**2.58**	**65**	A	A	04 49 29.0	
	comp=N,58nm,2.9s,comp=E,24nm,1.7s						
JSKE	**Saikikamae**	**2.69**	**249**	A	A	04 49 31.3	
	comp=N,21nm,4.6s,comp=E,9.0nm,9.0s						
JUS	**Usuki**	**2.72**	**256**	A	A	04 49 31.7	
	comp=N,20nm,5.8s,comp=E,16nm,1.4s						
JGF	**Kuroka**	**2.72**	**48**	Pn	**Pn**	**04 49 30.1**	**-0.6**
JGF				Sn	**Sn**	**04 50 00.6**	**-1.8**
JGF	**Kuroka**	**2.72**	**48**	P	**Pn**	**04 49 30.6**	**0.0**
JGF	**Kuroka**	**2.72**	**48**	S	**Sn**	**04 50 02.7**	**+0.3**
JGF	**Kuroka**	**2.72**	**48**	A	A	04 49 31.1	
	comp=N,49nm,1.5s,comp=E,43nm,1.7s						
JKKS	**Kakegawashinom**	**2.74**	**68

comp=N,28nm,4.0s,comp=E,19nm,4.1s
JTA Tamana 3.74 259 A A 04 49 46.1
comp=N,14nm,2.5s,comp=E,8.0nm,2.0s
JOD2 Odawara 2 3.77 66 A A 04 49 45.8
comp=N,19nm,3.0s,comp=E,19nm,3.6s
JNAR Kushima--Naru 3.79 235 A A 04 49 46.9
comp=N,11nm,1.7s,comp=E,13nm,0.4s
MAJO Matsushiro 3.87 44 Pn **Pn 04 49 46.6 +0.3**
MAJO Matsushiro 3.87 44 P **Pn 04 49 46.5 +0.2**
MAJO Matsushiro 3.87 44 *c iP* **Pn 04 49 46.8 +0.5**
MJAR Matsushiro Arr 3.87 44 P **Pn 04 49 47.3 +0.9**
comp=E,23nm,0.3s,baz=247,slow=14,SNR=138
MJAR S **Sn 04 50 31.1 +0.6**
comp=E,556nm,0.6s,baz=157,slow=32,SNR=4.4
comp=E,207nm,0.5s
MJB9 Matsu-Tunnel 3.87 44 Pn **Pn 04 49 47.7 +1.4**
JZO Okuchi 3.96 247 A A 04 49 49.3
comp=N,10.0nm,4.5s,comp=E,12nm,5.3s
JRY Ryogami san 3.98 55 A A 04 49 48.8
comp=N,29nm,3.1s,comp=E,17nm,4.2s
JSGW Sagamiharawaka 3.99 62 A A 04 49 49.0
comp=N,24nm,1.7s,comp=E,15nm,3.6s
JGK Kuni 4.14 47 A A 04 49 51.0
comp=N,22nm,3.5s,comp=E,28nm,4.8s
JHJ Hachijo jima 2 4.14 98 P **Pn 04 49 50.0 -0.1**
comp=E,152nm,0.3s,baz=211,slow=11,SNR=32
JHJ S **Sn 04 50 34.2 -3.1**
comp=E,2μm,0.8s,baz=66,slow=16,SNR=4.1
JHJ LR LR 04 51 26.4
comp=E,4μm,20.6s,baz=148,slow=37
comp=E,2μm,0.6s
JHJ2 Mitsune 4.17 98 Pn **Pn 04 49 49.6 -0.8**
JHJ2 Mitsune 4.17 98 P **Pn 04 49 50.0 -0.5**
JJN Nakama 4.25 38 A A 04 49 52.7
comp=N,38nm,3.4s,comp=E,33nm,2.9s
JHG Hegura jima 4.38 22 A A 04 49 54.5
comp=N,14nm,1.6s,comp=E,19nm,5.2s
TOK Tokyo 4.43 63 A A 04 49 55.2
comp=N,79nm,3.0s,comp=E,49nm,2.7s
JAG Ashikaga 4.58 54 A A 04 49 57.2
comp=N,17nm,8.5s,comp=E,10.0nm,4.1s
JTU Tsushima 4.61 281 P **Pn 04 49 55.6 -0.9**
JTU Tsushima 4.61 281 A A 04 49 58.3
comp=N,7.0nm,3.4s,comp=E,7.0nm,2.8s
JSD Sado 5.05 32 Pn **Pn 04 50 03.0 +0.5**
JSD Sado 5.05 32 P **Pn 04 50 04.2 +1.7**
JMM Marumori 6.29 48 Pn **Pn 04 50 20.7 +1.1**
JMM Marumori 6.29 48 P **Pn 04 50 21.2 +1.6**
TJN Taejon 6.69 295 Pn **Pn 04 50 24.5 -0.6**
TJN Taejon 6.69 295 P **Pn 04 50 24.4 -0.6**
TJN Taejon 6.69 295 *c iP* **Pn 04 50 24.7 -0.4**
KSRS Korea Array 6.75 305 P **Pn 04 50 26.1 +0.2**
comp=E,4.5nm,0.3s,baz=121,slow=14,SNR=26
KSRS S **Sn 04 51 38.8 -2.7**
comp=E,209nm,0.8s,baz=122,slow=24,SNR=14
KSRS LR LR 04 53 07.2
comp=E,3μm,21.6s,baz=125,slow=38
comp=E,21nm,0.6s
KSAR Wonju Array Be 6.77 305 **Pn 04 50 25.2 -1.0**
KSAR Wonju Array Be 6.77 305 P **Pn 04 50 25.2 -1.0**
KS19 Wonju Array Si 6.82 305 **Pn 04 50 25.6 -1.2**
INCN Inchon 7.67 301 Pn **Pn 04 50 38.8 +0.3**
INCN Inchon 7.67 301 P **Pn 04 50 38.8 +0.3**
JTM Tenmabayashi 8.55 33 **Pn 04 50 50.3 -0.2**
JTM Tenmabayashi 8.55 33 P **Pn 04 50 52.0 +1.5**
JMZ Minamidaito 2 8.55 203 **Pn 04 50 50.6 0.0**
JOW Kunigami 8.98 221 P **Pn 04 50 55.9 -0.6**
comp=E,6.8nm,0.3s,baz=110,slow=24,SNR=12
JOW S **Sn 04 52 30.9 -5.5**
comp=E,157nm,0.8s,baz=231,slow=28,SNR=9.3
comp=E,17nm,0.3s
JOW Kunigami 8.98 221 P **Pn 04 50 56.1 -0.4**
JCJ Chichijima 9.16 135 Pn **Pn 04 50 59.5 +0.5**
JCJ Chichijima 9.16 135 P **Pn 04 51 00.3 +1.3**
comp=E,18nm,0.3s,baz=294,slow=22,SNR=4.0
JCJ S Sn 04 52 30.9 -10
comp=E,156nm,0.6s,baz=293,slow=24,SNR=6.7
JCJ LR LR 04 54 01.7
comp=E,1μm,19.6s,baz=336,slow=34
comp=E,78nm,0.5s
JCJ Chichijima 9.16 135 P **Pn 04 50 57.5 -1.5**
MSHR Mys Shultsa 9.26 343 ⇑*iP* **Pn 04 50 59.8 -0.5**
ERM Erimo 10.49 36 Pn **Pn 04 51 17.9 +0.8**
ERM Erimo 10.49 36 *eP* **Pn 04 51 16.6 -0.5**
ERM pmax pmax
comp=Z,83nm,1.3s
JEM Erimo 10.49 36 P **Pn 04 51 18.6 +1.5**
USRK Ussuriysk Ar. 10.64 349 Pn **Pn 04 51 18.4 -0.8**
USRK Ussuriysk Ar. 10.64 349 P **Pn 04 51 20.0 +0.8**
comp=Z,2.1nm,0.3s,baz=162,slow=12,SNR=71
USRK LR LR 04 55 12.5
comp=Z,3μm,19.3s,baz=164,slow=36
comp=Z,82nm,0.8s
USA0B Ussuriysk Arra 10.64 349 **Pn 04 51 17.9 -1.2**
USA0B Ussuriysk Arra 10.64 349 *i* P **Pn 04 51 19.7 +0.5**
TEY Ternei 11.32 6 *eP* Pn 04 51 33.0 +4.6
MDJ Mudanjiang 11.57 341 Pn **Pn 04 51 32.3 +0.5**
MDJ Mudanjiang 11.57 341 P Pn 04 51 36.3 +4.4
MDJ sP 04 51 49.8
MDJ S **Sn 04 53 40.6 +0.9**
MDJ LR LR
comp=Z,1μm,10.7s
MDJ LR LR
comp=Z,1μm,11.0s
MDJ LR LR
comp=Z,1μm,13.7s
DL2 Dalian 11.85 299 P Pn 04 51 40.6 +4.9
DL2 pmax pmax
comp=Z,32nm,0.8s
DL2 pmax pmax
comp=Z,250nm,6.2s
DL2 LR LR
comp=Z,9μm,18.8s
DL2 LR LR
comp=Z,4μm,15.1s
DL2 LR LR
comp=Z,3μm,16.5s
SSE Sheshan 11.88 261 P **Pn 04 51 36.4 +0.2**
SSE S **Sn 04 53 47.8 +0.3**
SSE pmax pmax
comp=Z,65nm,1.1s
SSE pmax pmax
comp=Z,250nm,4.7s
SSE LR LR
comp=Z,1μm,16.1s
SSE LR LR
comp=Z,1μm,16.8s
ASAJ Asahikawa 11.93 28 P **Pn 04 51 36.5 -0.2**
comp=Z,2.3nm,0.3s,baz=226,slow=9.1,SNR=7.5
ASAJ LR LR 04 56 33.2
comp=Z,2μm,19.1s,baz=156,slow=39
comp=Z,18nm,0.6s
JKA Kamikawa-asahi 11.93 28 Pn **Pn 04 51 36.2 -0.5**
CN2 Changchun 12.41 326 P **Pn 04 51 46.8 +3.4**
CN2 S **Sn 04 54 05.3 +5.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,3μm,20.1s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,2μm,18.1s
BNX BinXian 13.25 337 ⇓P **Pn 04 51 57.1 +2.3**
BNX pP **P 04 52 05.8 +2.0**
BNX S **Sn 04 54 25.9 +5.2**
BNX pmax pmax
comp=Z,100nm,1.0s
BNX LR LR
comp=Z,1μm,17.8s
BNX LR LR
comp=Z,800nm,15.0s
BNX LR LR
comp=Z,1μm,17.3s
NJ2 Nanjing 13.59 267 ⇓P **Pn 04 52 00.6 +1.1**
NJ2 pmax pmax
comp=Z,36nm,1.0s
NJ2 pmax pmax
comp=Z,900nm,8.7s
NJ2 LR LR
comp=Z,1μm,12.4s
NJ2 LR LR
comp=Z,2μm,12.2s
NJ2 LR LR
comp=Z,3μm,20.0s
YSS Yuzhno-Sakhali 14.45 22 Pn **Pn 04 52 08.1 -2.9**
YSS Yuzhno-Sakhali 14.45 22 *eP* **Pn 04 52 08.4 -2.6**
YSS *eS* **Sn 04 54 46.5 -3.3**
YSS pmax pmax
comp=Z,400nm,3.8s
YSS pmax pmax
comp=Z,80nm,1.3s
YSS MLR MLR
comp=Z,1μm,13.0s
YSS MLR MLR
comp=N,700nm,14.0s
YSS MLR MLR
comp=E,900nm,14.0s
TIA Tai'an 14.77 284 P **Pn 04 52 16.5 +1.1**
TIA PP **PnPn 04 52 30.3 +6.8**
TIA pmax pmax
comp=E,46nm,1.0s
TIA pmax pmax
comp=E,690nm,2.6s
TIA LR LR
comp=E,1μm,8.0s
TIA LR LR
comp=E,3μm,13.6s
TIA LR LR
comp=E,4μm,14.7s
KLR Kul'dur 15.61 352 P **P 04 52 27.8 -2.3**
comp=E,3.7nm,0.3s,baz=157,slow=9.8,SNR=49
KLR LR LR 04 58 28.5
comp=E,2μm,18.2s,baz=164,slow=37
comp=E,65nm,0.9s
KLR Kul'dur 15.61 352 *eP* **Pn 04 52 25.4 -1.0**
KLR pmax pmax
comp=Z,140nm,1.4s
UGL Uglegorsk 16.19 17 *eP* **P 04 52 42.0 +5.6**
UGL *eS* **S 04 55 37.7 -6.2**
UGL pmax pmax
comp=Z,150nm,1.5s
BJT Baijiatuau 16.21 298 Pn **Pn 04 52 33.6 -0.4**
BJT Baijiatuau 16.21 298 P **Pn 04 52 33.7 -0.4**
BJT pmax pmax
comp=Z,24nm,0.8s
BJI Beijing 16.21 298 P **P 04 52 35.4 -1.3**
BJI pmax pmax
comp=Z,14nm,1.3s
BJI pmax pmax
comp=Z,56nm,3.6s
BJI LR LR
comp=Z,2μm,18.7s
BJI LR LR
comp=Z,660nm,14.9s
BJI LR LR
comp=Z,980nm,17.4s
QZH Quanzhou 16.70 242 P **Pn 04 52 40.0 -0.4**
QZH S **Sn 04 55 47.3 +2.4**
QZH LR LR
comp=Z,2μm,18.2s
QZH LR LR
comp=Z,2μm,16.5s
QZH LR LR
comp=Z,2μm,17.6s
HNS HongShan 16.81 288 ⇑P **P 04 52 41.9 -1.5**
HNS pP **pP 04 52 55.0 +1.7**
HNS sP **sP 04 52 58.0 -0.5**
HNS S **Sn 04 55 49.8 +2.5**
HNS pmax pmax
comp=Z,82nm,1.0s
HNS LR LR
comp=Z,2μm,13.9s
HNS LR LR
comp=Z,2μm,13.5s
HNS LR LR
comp=Z,3μm,14.5s
GRNR Gornyy 17.01 3 ⇑*iP* **Pn 04 52 41.8 -2.4**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR MLR MLR
comp=E,500nm,16.0s
GRNR MLR MLR
comp=Z,760nm,15.0s
HEH HeiHe 17.36 344 *eP* **P 04 52 49.0 -0.4**
HEH sP **sP 04 53 02.5 -1.8**
HEH pmax pmax
comp=Z,330nm,0.9s
HEH pmax pmax
comp=Z,2μm,6.6s
HEH LR LR
comp=Z,1μm,14.8s
HEH LR LR
comp=Z,1μm,13.5s
HEH LR LR
comp=Z,2μm,14.5s
WHN Wuhan 17.69 265 P **P 04 52 53.5 +0.3**
WHN pP **pP 04 53 01.0 -2.1**
WHN pmax pmax
comp=Z,560nm,1.4s
WHN pmax pmax
comp=Z,1μm,7.1s
WHN LR LR
comp=Z,4μm,13.4s
WHN LR LR
comp=Z,3μm,12.3s
WHN LR LR
comp=Z,6μm,14.7s
XLT XiLinHaoTe 17.76 310 ⇓*iP* **P 04 52 54.6 +0.6**
XLT pP pP 04 53 01.9 -2.0
XLT sP sP 04 53 05.8 -3.2
XLT PP **PnPn 04 53 08.5 +3.8**
XLT pmax pmax
comp=Z,60nm,1.0s
XLT pmax pmax
comp=Z,320nm,3.8s
XLT LR LR
comp=Z,210nm,25.5s
XLT LR LR
comp=Z,870nm,13.6s
XLT LR LR
comp=Z,1μm,22.1s
TYV Tymovskoe 17.99 16 *eP* **P 04 52 56.9 +0.5**
TYV *eS* **Sn 04 56 14.5 -1.2**
TYV pmax pmax
comp=Z,400nm,2.7s
TYV pmax pmax
comp=Z,43nm,0.9s
TYV smax smax
comp=N,800nm,6.0s
TYV smax smax
comp=E,1μm,6.0s
LYN LuoYang 18.57 279 P **Pn 04 53 04.3 +0.9**
LYN sP sP 04 53 16.9 -1.1
LYN S **Sn 04 56 26.4 -3.6**
LYN sS S 04 56 38.3 +5.7
LYN pmax pmax
comp=E,250nm,1.5s
LYN pmax pmax
comp=E,2μm,4.9s
LYN LR LR
comp=E,2μm,16.2s
LYN LR LR
comp=E,2μm,13.1s
LYN LR LR
comp=E,2μm,14.1s
TIY Taiyuan 18.64 289 *eP* **Pn 04 53 06.5 +2.2**
TIY pP **pP 04 53 15.3 +1.7**
TIY sP **sP 04 53 18.5 -0.3**
TIY PP **PnPn 04 53 20.6 +3.9**
TIY sS **sS 04 56 47.0 -2.7**
TIY SS **SnSn 04 56 57.0 +11**
TIY pmax pmax
comp=E,39nm,0.8s
TIY pmax pmax
comp=E,400nm,4.1s
TIY LR LR
comp=E,1μm,16.0s
TIY LR LR
comp=E,1μm,16.0s
TIY LR LR
comp=E,2μm,15.4s
HIA Hailar 19.12 328 P **Pn 04 53 10.8 +0.8**
HHC Hu-ho-hao-te 19.82 298 *eP* **Pn 04 53 18.1 -0.3**
HHC sP sP 04 53 30.3 -1.3
HHC S **S 04 56 56.9 -0.8**
HHC sS sS 04 57 07.0 -6.5
HHC SS **SnSn 04 57 19.0 +4.3**
HHC pmax pmax
comp=E,47nm,0.8s
HHC pmax pmax
comp=E,260nm,3.5s
HHC LR LR
comp=E,1μm,13.8s
HHC LR LR
comp=E,2μm,13.0s
HHC LR LR
comp=E,2μm,14.5s
ZEA Zeya 20.67 347 *eP* **P 04 53 24.3 -1.4**
ZEA pmax pmax
comp=N,60nm,1.7s
ZEA pmax pmax
comp=E,30nm,1.2s
ZEA pmax pmax
comp=Z,130nm,1.2s
ZEA MLR MLR
comp=N,900nm,13.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
BTO Baotou 20.91 296 *eP* Pn 04 53 30.8 -0.4
BTO pP pP 04 53 39.8 +1.3
BTO sP sP 04 53 44.1 +0.6
BTO PP **PnPn 04 53 54.1 +6.3**
BTO sS sS 04 57 32.8 -2.6
BTO pmax pmax
comp=Z,120nm,0.9s
BTO pmax pmax
comp=Z,670nm,5.8s
BTO LR LR
comp=Z,11μm,19.8s
BTO LR LR
comp=Z,4μm,21.8s
BTO LR LR
comp=Z,3μm,22.2s
XAN Xi'an 21.54 278 ⇓P **P 04 53 35.5 +0.3**
XAN sP sP 04 53 48.5 -2.0
XAN SS **SnSn 04 58 02.1 +5.2**
XAN pmax pmax
comp=Z,36nm,1.4s
XAN LR LR
comp=Z,2μm,19.9s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,1μm,12.4s
GZH Guangzhou 21.70 246 P **P 04 53 31.3 -5.6**
GZH sP **pP 04 53 45.8 -1.1**
GZH SS Sn 04 57 51.3 +5.9
GZH pmax pmax
comp=Z,79nm,1.1s
GZH LR LR
comp=Z,2μm,16.9s
GZH LR LR
comp=Z,1μm,9.6s
GZH LR LR
comp=Z,2μm,12.6s
GUMO Guam 22.05 153 P **P 04 53 42.2 +1.5**
comp=Z,53nm,0.2s,baz=80,slow=12,SNR=3.7
GUMO LR LR 05 00 55.3
comp=Z,378nm,19.5s,baz=18,slow=33
comp=Z,53nm,0.2s
GULI GuiLin 22.91 255 P **P 04 53 50.4 +0.5**
GULI pmax pmax
comp=Z,50nm,1.3s
GULI LR LR
comp=Z,1μm,15.5s
GULI LR LR
comp=Z,650nm,14.5s
GULI LR LR
comp=Z,1μm,13.8s
TGY Tagaytay City 23.33 216 P **P 04 53 58.6 +4.5**
comp=Z,94nm,0.3s,baz=138,slow=21,SNR=4.4
CIT Chita 23.86 326 *eP* **P 04 53 57.4 -1.5**
CIT *e* 04 54 07.2
CIT *e* 04 54 34.0
CIT *e* 04 54 48.0
CIT *e* 04 58 16.8
CIT *eS* Sn 04 58 33.8 -2.9
CIT *e* 04 59 15.0
CIT pmax pmax
comp=Z,383nm,1.9s
ULN Ulaanbaatar 25.16 312 P **P 04 54 09.7 -1.2**
ULN IAmb IAmb 04 54 26.6
comp=Z,34nm,0.9s
ULN Ulaanbaatar 25.16 312 *d iP* **P 04 54 10.8 -0.2**
ULN pmax pmax
comp=Z,30nm,0.8s
PEA0B Petropavlovsk- 25.25 33 P **P 04 54 12.1 +0.6**
PEA0B IAmb IAmb 04 54 27.5
comp=Z,68nm,1.2s
PEA0B Petropavlovsk- 25.25 33 ⇑*iP* **P 04 54 12.5 +1.0**
PETK Petropavlovsk- 25.25 33 P **P 04 54 10.6 -0.9**
PETK Petropavlovsk- 25.25 33 P **P 04 54 12.4 +0.9**
comp=Z,25nm,0.9s,baz=228,slow=8.4,SNR=4.2
PETK LR LR 05 04 55.8
comp=Z,680nm,21.1s,baz=212,slow=38
comp=Z,25nm,0.9s
GYA Guiyang 25.43 261 ⇓P **P 04 54 14.8 +1.3**
GYA pP pP 04 54 26.3 +1.9
GYA S **S 04 58 31.8 -6.1**
GYA pmax pmax
comp=Z,92nm,1.3s
GYA pmax pmax
comp=Z,400nm,5.5s
GYA LR LR
comp=Z,650nm,17.2s
GYA LR LR
comp=Z,2μm,12.5s
GYA LR LR
comp=Z,2μm,14.7s
LZH Lanzhou 25.50 284 *eP* **P 04 54 14.5 +0.3**
LZH pP pP 04 54 26.0 +0.9
LZH S **S 04 58 37.0 -2.0**
LZH sS sS 04 58 56.4 -0.8
LZH pmax pmax
comp=Z,30nm,1.1s
LZH LR LR
comp=Z,2μm,17.9s
LZH LR LR
comp=Z,2μm,17.5s
LZH LR LR
comp=Z,2μm,18.2s
SONM Songino Array 25.56 312 P **P 04 54 14.4 -0.1**
SONM Songino Array 25.56 312 P **P 04 54 14.3 -0.1**
comp=Z,21nm,0.8s,baz=123,slow=9.6,SNR=56
SONM LR LR 05 05 06.6
comp=Z,686nm,19.8s,baz=115,slow=38
comp=Z,21nm,0.8s
SONM Songino Array 25.56 312 P **P 04 54 14.4 -0.1**
SONM pmax pmax
comp=Z,28nm,0.9s
PET Petropavlovsk 25.64 34 *eP* P 04 54 21.1 +6.1
PET *eS* **S 04 58 41.2 +0.8**
PET pmax pmax
comp=Z,47nm,1.0s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 25.64 34 P **P 04 54 16.2 +1.2**
comp=Z,60nm,1.1s
CD2 Chengdu 26.41 272 P **P 04 54 22.4 +0.1**
CD2 pP pP 04 54 31.8 -1.4
CD2 sP sP 04 54 35.5 -2.6
CD2 S **S 04 58 54.1 +1.0**
CD2 sS sS 04 59 09.0 -2.4
CD2 LR LR
comp=Z,2μm,18.7s
CD2 LR LR
comp=Z,2μm,16.9s
QIZ Qiongzhong 26.72 243 P **P 04 54 25.3 +0.2**
QIZ sP **sP 04 54 41.6 +0.8**
QIZ sS **sS 04 59 17.3 +1.0**
QIZ LR LR
comp=Z,540nm,18.7s
QIZ LR LR
comp=Z,570nm,18.7s
QIZ LR LR
comp=Z,700nm,15.2s
MA2 Magadan 27.86 17 P **P 04 54 34.0 -0.8**
MA2 IAmb IAmb 04 54 35.4
comp=Z,40nm,1.0s
MA2 Magadan 27.86 17 LR LR 05 05 51.7
comp=Z,543nm,20.5s,baz=192,slow=37
MA2 Magadan 27.86 17 *d iP* **P 04 54 34.1 -0.8**
MA2 pmax pmax
comp=Z,36nm,0.9s
MA2 Magadan 27.86 17 P **P 04 54 34.1 -0.8**

comp=Z,42nm,1.1s
DAV Davao City (W) 27.95 200 LR LR 05 06 26.4
comp=Z,354nm,18.6s,baz=346,slow=38
ZAK Zakamensk 28.45 315 *e*P **P** **04 54 38.6 -1.8**
ZAK pmax pmax
comp=Z,14nm,1.4s
YAK Yakutsk 28.46 355 P **P** **04 54 38.8 -1.4**
YAK Yakutsk 28.46 355 LR LR 05 06 01.2
comp=Z,1µm,19.7s,baz=154,slow=36
YAK Yakutsk 28.46 355 *d i*P **P** **04 54 38.6 -1.6**
YAK *e* 04 55 28.8
YAK *e* 04 57 50.5
YAK *e*S **S** **04 59 26.7 +2.0**
YAK *e*SS **SnSn** **05 00 44.4 -1.1**
YAK pmax pmax
comp=Z,80nm,0.9s
YAK pmax pmax
comp=N,70nm,1.5s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,421nm,7.3s
YAK pmax pmax
comp=N,402nm,8.6s
YAK pmax pmax
comp=E,532nm,13.8s
YAK smax smax
comp=E,350nm,5.7s
YAK smax smax
comp=N,280nm,4.6s
YAK MLR MLR
comp=E,217nm,17.0s
GTA Gaotai 28.60 292 *e*P **P** **04 54 41.6 -0.3**
GTA pP pP 04 54 51.8 -1.1
GTA pmax pmax
comp=E,10.0nm,0.7s
GTA LR LR
comp=E,980nm,16.3s
GTA LR LR
comp=E,550nm,20.3s
GTA LR LR
comp=E,1µm,21.9s
IRK Irkutsk 28.70 319 *e*P **P** **04 54 42.6 +0.1**
IRK pmax pmax
comp=Z,59nm,0.6s
KMI Kunming 29.20 261 ⇓P **P** **04 54 48.0 +0.5**
KMI pP pP 04 54 57.8 -0.7
KMI pmax pmax
comp=Z,28nm,1.5s
KMI LR LR
comp=Z,1µm,15.6s
KMI LR LR
comp=Z,890nm,19.5s
KMI LR LR
comp=Z,2µm,15.5s
PZH PanZhiHua 29.48 265 P **P** **04 54 51.5 +1.7**
PZH S **S** **04 59 43.5 +1.8**
PZH pmax pmax
comp=Z,30nm,1.7s
PZH pmax pmax
comp=Z,210nm,6.8s
PZH LR LR
comp=Z,570nm,18.8s
PZH LR LR
comp=Z,730nm,16.1s
PZH LR LR
comp=Z,1µm,18.0s
SLVN Son La 30.02 254 P **P** **04 54 55.6 +1.0**
SLVN IAmb IAmb 04 55 08.8
comp=Z,90nm,2.0s
MOY Mondy 30.28 316 *e*P **P** **04 54 55.8 -0.9**
MOY pmax pmax
comp=Z,18nm,1.7s
SEY Seymchan 31.18 15 *c e*P **P** **04 55 03.9 -0.4**
SEY pmax pmax
comp=Z,20nm,1.0s
H11N2 WAKE ISLAND Hy 31.67 108 T T 05 27 52.6
baz=303,slow=74,SNR=13
H11N1 WAKE ISLAND Hy 31.68 108 T T 05 27 52.9
baz=303,slow=74,SNR=12
H11N3 WAKE ISLAND Hy 31.69 108 T T 05 27 53.9
baz=303,slow=74,SNR=16
H11S3 WAKE ISLAND Hy 32.19 110 T T 05 28 31.5
baz=304,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 32.19 110 T T 05 28 38.1
baz=304,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 32.21 110 T T 05 28 33.3
baz=304,slow=75,SNR=19
TNCH TengChong 32.73 264 *e*P **P** **04 55 19.9 +1.3**
TNCH pP pP 04 55 29.0 -0.6
TNCH S **S** **05 00 32.6 -0.1**
TNCH pmax pmax
comp=Z,250nm,5.8s
TNCH LR LR
comp=Z,570nm,17.5s
TNCH LR LR
comp=Z,570nm,20.0s
TNCH LR LR
comp=Z,1µm,22.0s
GOMU GeErMu 32.76 286 P **P** **04 55 19.3 +0.3**
GOMU S **S** **05 00 29.4 -4.0**
GOMU pmax pmax
comp=Z,27nm,0.9s
GOMU LR LR
comp=Z,2µm,18.7s
GOMU LR LR
comp=Z,1µm,18.5s
GOMU LR LR
comp=Z,2µm,18.5s
TNTI Ternate 33.59 194 P **P** **04 55 25.6 -0.3**
TNTI Ternate 33.59 194 P **P** **04 55 25.7 -0.1**
SHEM Shemya Is, Ala 33.71 44 LR LR 05 08 07.8
comp=Z,183nm,22.0s,baz=248,slow=34
MRSI Marisa 35.29 203 P **P** **04 55 41.0 +0.4**
CHTO Chiang Mai 35.30 254 P **P** **04 55 41.6 +0.9**
CHTO Chiang Mai 35.30 254 P **P** **04 55 41.6 +0.9**
CHTO pmax pmax
comp=Z,45nm,1.1s
CMAR Chiang Mai Arr 35.49 254 P **P** **04 55 41.7 -0.7**
CMAR Chiang Mai Arr 35.49 254 P **P** **04 55 42.9 +0.5**
comp=Z,4.4nm,0.8s,baz=53,slow=8.0,SNR=28
CMAR PcP **PcP** **04 58 10.5 -0.8**
comp=Z,1.1nm,0.4s,baz=69,slow=3.7,SNR=1.8
comp=Z,4.4nm,0.8s
FAKI Fak Fak 36.59 184 P **P** **04 55 51.3 -0.4**
FAKI Fak Fak 36.59 184 P **P** **04 55 51.3 -0.4**
FAKI Fak Fak 36.59 184 P **P** **04 55 51.6 -0.1**
APSI Ampana 36.69 203 P **P** **04 55 52.5 0.0**
comp=Z,44nm,1.2s
MSAI Masohi 37.36 190 P **P** **04 55 59.5 +1.3**
comp=Z,4µmcomp=Z,90nm,1.3s
WMQ Urumqi 37.67 300 *e*P **P** **04 56 02.1 +1.3**
WMQ pP pP 04 56 12.3 +0.4
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ LR LR
comp=Z,3µm,24.5s
WMQ LR LR
comp=Z,490nm,22.1s
SBUM Sibu 37.69 219 P **P** **04 56 00.6 -0.5**
TIXI Tiksi 38.06 357 P **P** **04 56 02.4 -1.2**
TIXI Tiksi 38.06 357 LR LR 05 12 26.8
comp=Z,1µm,19.1s,baz=187,slow=37
TIXI Tiksi 38.06 357 ⇓*i*P **P** **04 56 02.4 -1.2**
TIXI Tiksi 38.06 357 P **P** **04 56 02.4 -1.2**
BILL Bilibino 38.71 18 P **P** **04 56 09.4 +0.3**
BILL Bilibino 38.71 18 *d i*P **P** **04 56 08.8 -0.3**
BILL pmax pmax
comp=Z,40nm,0.9s
BILL Bilibino 38.71 18 P **P** **04 56 09.1 0.0**
BRDH Bariadhala 39.42 265 P **P** **04 56 14.3 -1.3**
comp=Z,78nm,0.3s,baz=60,slow=20,SNR=1.2
BRDH LR LR 05 15 26.6
comp=Z,1µm,18.1s,baz=56,slow=41
ZSN Zaisan 39.68 305 *e*P **P** **04 56 16.9 -0.6**
ZSN Zaisan 39.68 305 *e*P **P** **04 56 17.0 -0.6**
ZALV Zalesovo Beam 40.32 316 P **P** **04 56 22.5 -0.2**
ZALV Zalesovo Beam 40.32 316 P **P** **04 56 22.1 -0.6**
comp=Z,2.7nm,0.5s,baz=100,slow=8.0,SNR=13
ZALV PcP **PcP** **04 58 25.1 -0.4**
comp=Z,1.5nm,0.6s,baz=124,slow=3.0,SNR=2.4
ZALV LR LR 05 13 26.0
comp=Z,556nm,19.7s,baz=97,slow=37
comp=Z,2.7nm,0.5s
ZALV Zalesovo Beam 40.32 316 P **P** **04 56 22.5 -0.2**
SRIT Nakonsritamara 41.02 241 P **P** **04 56 30.7 +1.9**

SRIT IAmb IAmb 04 56 42.3
comp=Z,38nm,1.0s
KAPI Kappang 41.16 203 P **P** **04 56 28.6 -1.3**
KAPI Kappang 41.16 203 LR LR 05 15 05.9
comp=Z,60nm,19.4s,baz=9.5,slow=38
KAPI Kappang 41.16 203 P **P** **04 56 28.6 -1.3**
KAPI pmax pmax
comp=Z,16nm,0.8s
BKSI Bulukumba 41.33 203 P **P** **04 56 30.5 -0.8**
MK31 Makanchi Array 41.44 304 *i* P **P** **04 56 32.1 +0.1**
MKAR Makanchi Array 41.44 304 P **P** **04 56 31.0 -1.0**
MKAR Makanchi Array 41.44 304 P **P** **04 56 32.1 +0.1**
comp=Z,16nm,0.7s,baz=92,slow=10.0,SNR=89
comp=Z,16nm,0.7s
MAKZ Makanchi 41.65 304 P **P** **04 56 33.7 -0.1**
MAKZ IAmb IAmb 04 56 35.0
comp=Z,22nm,0.8s
MAKZ Makanchi 41.65 304 P **P** **04 56 34.1 +0.3**
MAKZ Makanchi 41.65 304 P **P** **04 56 34.0 +0.3**
MAKZ pP **pP** **04 56 45.5 +0.5**
MAKZ sP **sP** **04 56 50.5 +0.7**
SPIA Saint Paul Isl 43.51 40 P **P** **04 56 48.9 +0.3**
baz=262
PDGK Podgornoye 43.65 300 P **P** **04 56 49.9 -0.3**
SHLS Shalkode 43.69 299 *e*P **P** **04 56 47.1 -3.4**
SHLS Shalkode 43.69 299 *e*P **P** **04 56 47.2 -3.4**
P08K Saint George I 43.81 41 P **P** **04 56 51.7 +0.6**
baz=263
KURK Kurchatov 43.84 310 P **P** **04 56 50.5 -0.9**
KURK IAmb IAmb 04 57 03.6
comp=Z,53nm,1.1s
KURK Kurchatov 43.84 310 *d i*P **P** **04 56 51.2 -0.2**
KURK pmax pmax
comp=Z,52nm,1.2s
KURK Kurchatov 43.84 310 P **P** **04 56 51.1 -0.3**
KURK pP **pP** **04 57 02.4 -0.4**
KURBB Kurchatov Arra 43.90 310 P **P** **04 56 51.5 -0.4**
comp=Z,17nm,0.8s,baz=97,slow=7.4,SNR=49
KURBB LR LR 05 15 46.3
comp=Z,768nm,21.2s,baz=35,slow=37
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 43.90 310 P **P** **04 56 50.5 -1.4**
UZB Uzynbulak 44.01 299 *e*P **P** **04 56 52.2 -0.9**
UZB Uzynbulak 44.01 299 *e*P **P** **04 56 52.2 -0.9**
TDK Taldyqorghan 44.25 302 *e*P **P** **04 56 54.0 -0.8**
TDK Taldyqorghan 44.25 302 *e*P **P** **04 56 54.1 -0.8**
SOEI Soe 44.46 195 P **P** **04 56 54.9 -1.9**
SOEI Soe 44.46 195 P **P** **04 56 58.7 +1.9**
comp=Z,74nm,1.0s
SATY Saty 44.47 299 *e*P **P** **04 56 56.2 -0.6**
SATY Saty 44.47 299 *e*P **P** **04 56 56.2 -0.6**
PMG Port Moresby 44.51 163 LR LR 05 14 18.5
comp=Z,269nm,18.4s,baz=329,slow=34
ARXS Arharly 44.75 301 *e*P **P** **04 56 58.8 -0.1**
UNV Unalaska Valle 45.34 45 P **P** **04 57 04.2 +0.9**
baz=268
PLAI Plampang 45.39 204 P **P** **04 57 02.8 -1.3**
CHKK Chushkaly 45.39 301 *e*P **P** **04 57 03.1 -0.8**
CHKK Chushkaly 45.39 301 *e*P **P** **04 57 03.2 -0.8**
KDJ Kajisay 45.51 298 IAmb IAmb 04 57 17.6
comp=Z,27nm,1.1s
KDJ Kajisay 45.51 298 P **P** **04 57 05.3 +0.2**
AAA Alma-Ata 45.53 300 *e*P **P** **04 57 04.7 -0.4**
AAA pmax pmax
comp=Z,18nm,0.7s
AAA Alma-Ata 45.53 300 *e*P **P** **04 57 04.7 -0.4**
comp=Z,18nm,0.7s
TNSS Tian-Shan 45.53 299 *e*P **P** **04 57 04.8 -0.7**
TNSS Tian-Shan 45.53 299 *e*P **P** **04 57 04.9 -0.7**
PSI Prapat 45.56 235 P **P** **04 57 06.1 +0.4**
comp=Z,2.2nm,0.6s,baz=0.9,slow=4.7,SNR=6.3
comp=Z,2.2nm,0.6s
TWSI Taliwang, Sumb 45.62 205 P **P** **04 57 04.7 -1.2**
comp=Z,37nm,0.8s
RPSI Rantau Prapat 45.64 235 P **P** **04 57 06.1 0.0**
M11K Mekoryuk 46.05 36 P **P** **04 57 08.8 0.0**
baz=262
KDU Kakadu 46.27 183 P **P** **04 57 09.3 -1.6**
comp=Z,15nm,1.8s
TNA Tin City 46.28 29 P **P** **04 57 09.8 -0.8**
TNA IAmb IAmb 04 57 25.1
comp=Z,34nm,1.3s
TNA Tin City 46.28 29 P **P** **04 57 11.0 +0.4**
baz=256
BOOM Boomskoye usch 46.35 299 IAmb IAmb 04 57 46.0
comp=Z,20nm,1.2s
MTN Manton Dam 46.50 185 IAmb IAmb 04 57 12.5
comp=Z,31nm,0.9s
MTN Manton Dam 46.50 185 P **P** **04 57 11.3 -1.5**
comp=Z,45nm,1.0s
MTN Manton Dam 46.50 185 P **P** **04 57 11.8 -1.0**
TKM2 Tokmak 2 46.53 300 P **P** **04 57 14.0 +0.8**
MNSI Mandailing Nat 46.59 233 P **P** **04 57 15.4 +1.8**
comp=Z,3µmcomp=Z,37nm,0.5s
KSH Kashi 46.89 295 P P 04 57 20.3 +4.4
KSH pP sP 04 57 31.1 -1.0
KSH pmax pmax
comp=Z,15nm,1.2s
KSH LR LR
comp=Z,1µm,17.5s
KSH LR LR
comp=Z,650nm,14.4s
KSH LR LR
comp=Z,860nm,17.2s
F14K Arctic Creek 46.91 29 P **P** **04 57 16.4 +0.8**
baz=257
K13K Kusilvak Mount 47.01 34 P **P** **04 57 17.2 +0.9**
baz=262
ANM Nome 47.12 31 P **P** **04 57 17.9 +0.7**
baz=259
FALS False Pass 47.16 44 P **P** **04 57 18.0 +0.4**
baz=270
BTLS Baital 47.31 303 *e*P **P** **04 57 18.3 -0.7**
BTLS Baital 47.31 303 *e*P **P** **04 57 18.3 -0.7**
AAK Ala-Archa 47.38 299 P **P** **04 57 18.5 -1.2**
AAK IAmb IAmb 04 57 32.3
comp=Z,29nm,1.4s
AAK Ala-Archa 47.38 299 *d i*P **P** **04 57 19.9 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 47.38 299 P **P** **04 57 19.9 +0.2**
AAK pP **pP** **04 57 31.1 -0.1**
AAK sP **sP** **04 57 35.5 -0.3**
M13K Dall Lake 47.46 36 P **P** **04 57 20.2 +0.4**
baz=265
GSI Gunungsitoli 47.57 235 P **P** **04 57 20.6 -0.6**
J14K Nanvaranak Lak 47.63 33 P **P** **04 57 21.8 +0.7**
baz=262
BRZS Berezniki 47.67 309 *e*P **P** **04 57 20.9 -0.8**
BRZS pmax pmax
comp=Z,13nm,0.8s
BRZS Berezniki 47.67 309 *e*P **P** **04 57 21.0 -0.8**
comp=Z,13nm,0.8s
G15K Niukluk 47.76 30 P **P** **04 57 23.1 +0.9**
baz=260
L14K Kuka Creek 47.87 35 P **P** **04 57 23.8 +0.8**
baz=265
S12K Black Hills 47.94 43 P **P** **04 57 23.5 -0.1**
baz=270
C16K Lisburne Hills 47.95 26 IAmb IAmb 04 57 37.3
comp=Z,27nm,1.1s
C16K Lisburne Hills 47.95 26 P **P** **04 57 24.1 +0.6**
baz=256
LEM Lembang 47.95 218 P **P** **04 57 26.2 +1.8**
comp=Z,108nm,1.1s
OTUK Ortayu 48.07 307 P **P** **04 57 24.5 -0.3**
COEN Coen 48.12 169 P **P** **04 57 24.4 -1.0**
COEN IAmb IAmb 04 57 26.6
comp=Z,20nm,1.0s
COEN Coen 48.12 169 P **P** **04 57 25.4 -0.1**
comp=Z,24nm,1.0s
COEN Coen 48.12 169 P **P** **04 57 25.5 +0.1**
TATA Tatamba Isabel 48.15 146 P **P** **04 57 26.5 +0.8**
M14K Bethel 48.17 36 P **P** **04 57 26.3 +0.9**
baz=266
N14K Kuskokwak Cree 48.26 37 P **P** **04 57 26.2 +0.2**
baz=267
H16K Elim 48.47 31 P **P** **04 57 27.5 -0.1**
baz=262
L15K Ungalak Mounta 48.48 35 P **P** **04 57 27.8 +0.1**
baz=265
K15K Wolf Creek Mou 48.51 34 P **P** **04 57 28.3 +0.3**
baz=265
D17K Noatak River 48.65 27 P **P** **04 57 29.2 +0.2**
baz=258
C17K DeLong Mountai 48.77 26 P **P** **04 57 30.4 +0.4**

baz=258
RDOG Red Dog Mine 48.78 26 P **P** **04 57 29.9 -0.1**
baz=258
M15K Kasigluk River 48.79 36 P **P** **04 57 30.8 +0.7**
baz=267
SDPT Sand Point 48.84 43 P **P** **04 57 30.3 -0.3**
baz=272
BVA0 Borovoye Array 48.88 314 P **P** **04 57 29.5 -1.4**
BVAR Borovoye Array 48.88 314 P **P** **04 57 30.6 -0.3**
comp=Z,26nm,0.6s,baz=102,slow=9.0,SNR=98
BVAR LR LR 05 19 21.0
comp=Z,484nm,19.1s,baz=78,slow=38
comp=Z,26nm,0.6s
BRVK Borovoye 48.94 314 P **P** **04 57 30.6 -0.8**
BRVK Borovoye 48.94 314 *d i*P **P** **04 57 31.2 -0.2**
BRVK pmax pmax
comp=Z,22nm,0.8s
BRVK Borovoye 48.94 314 P **P** **04 57 31.1 -0.3**
BRVK pP **pP** **04 57 42.9 +0.1**
E17K Hotham Inlet 49.01 28 P **P** **04 57 32.5 +0.7**
baz=260
J16K Anvik River 49.02 33 P **P** **04 57 32.2 +0.3**
baz=265
I17K Unalakleet 49.04 32 P **P** **04 57 32.6 +0.6**
baz=264
N15K Kwethluk River 49.06 37 P **P** **04 57 32.5 +0.3**
baz=268
HNR Honiara 49.13 146 LR LR 05 16 19.2
comp=Z,227nm,21.8s,baz=324,slow=34
O15K Ungalikthiuk R 49.17 38 P **P** **04 57 33.7 +0.6**
baz=269
G17K Kiwalik Mounta 49.25 30 P **P** **04 57 33.9 +0.3**
baz=263
S14K Fog Glacier 49.34 42 P **P** **04 57 33.5 -1.0**
baz=272
CHNA Chernabura Isl 49.38 44 P **P** **04 57 34.7 +0.1**
baz=273
B18K Kokolik River 49.45 25 P **P** **04 57 35.2 +0.1**
baz=258
H17K Granite Mounta 49.49 31 P **P** **04 57 36.1 +0.7**
baz=264
C18K Utukok River 49.52 26 P **P** **04 57 35.9 +0.1**
baz=260
KNRA Kununurra 49.53 188 P **P** **04 57 35.2 -0.9**
comp=Z,41nm,0.9s
E18K Tukpahlearik C 49.54 27 IAmb IAmb 04 57 50.0
comp=Z,13nm,0.8s
E18K Tukpahlearik C 49.54 27 P **P** **04 57 36.2 +0.5**
baz=261
DZA Taraz 49.62 300 *e*P **P** **04 57 36.4 -0.4**
DZA Taraz 49.62 300 *e*P **P** **04 57 36.4 -0.4**
J17K VABM Dome 49.72 33 IAmb IAmb 04 57 58.8
comp=Z,44nm,1.4s
J17K VABM Dome 49.72 33 P **P** **04 57 37.9 +0.7**
baz=266
N16K Nishlik Lake 49.73 36 P **P** **04 57 37.7 +0.4**
baz=269
F18K Selawik 49.79 28 P **P** **04 57 38.1 +0.5**
baz=263,SNR=8.4
A19K Wainwright 49.87 24 P **P** **04 57 38.8 +0.6**
baz=258
CHGN Chignik 49.97 42 P **P** **04 57 39.6 +0.4**
baz=273
L17K Donlin 50.01 34 P **P** **04 57 40.0 +0.6**
baz=268
K17K Iditarod 50.03 34 IAmb IAmb 04 58 16.1
comp=Z,24nm,1.1s
K17K Iditarod 50.03 34 P **P** **04 57 40.1 +0.5**
baz=267
O16K Kokwok River B 50.06 38 P **P** **04 57 40.4 +0.5**
baz=270
G18K Tagagawik 50.11 29 IAmb IAmb 04 58 00.4
comp=Z,23nm,1.2s
G18K Tagagawik 50.11 29 P **P** **04 57 40.8 +0.6**
baz=264
KK31 Karatay Array 50.16 301 *i* P **P** **04 57 41.2 +0.3**
KKAR Karatay Array 50.16 301 P **P** **04 57 40.6 -0.3**
KKAR Karatay Array 50.16 301 IAmb IAmb 04 57 53.2
comp=Z,31nm,1.2s
KKAR Karatay Array 50.16 301 P **P** **04 57 40.6 -0.3**
H18K Honhosa River 50.16 30 IAmb IAmb 04 57 55.6
comp=Z,38nm,1.6s
H18K Honhosa River 50.16 30 P **P** **04 57 40.9 +0.3**
baz=265
R16K Pilot Point 50.38 40 P **P** **04 57 42.9 +0.7**
baz=272
M17K Holitna River 50.40 35 P **P** **04 57 42.1 -0.3**
baz=269
N17K Nushagak Hills 50.52 36 P **P** **04 57 43.0 -0.3**
baz=270
NIL Nilore 50.56 288 P **P** **04 57 44.0 -0.1**
NIL Nilore 50.56 288 P **P** **04 57 44.0 -0.1**
NIL pmax pmax
comp=Z,55nm,1.4s
O17K Koliganek Bris 50.57 37 P **P** **04 57 43.8 +0.2**
baz=271
D19K Kuna River 50.62 26 IAmb IAmb 04 57 48.0
comp=Z,24nm,0.9s
D19K Kuna River 50.62 26 P **P** **04 57 44.1 +0.2**
baz=263
BTK Batken 50.63 297 P **P** **04 57 44.9 +0.3**
BRLS Boroldoy 50.66 301 *e*P **P** **04 57 45.4 +0.7**
BRLS Boroldoy 50.66 301 *e*P **P** **04 57 45.4 +0.7**
IUG Iuzhnay 50.72 300 *e*P **P** **04 57 44.6 -0.6**
IUG pmax pmax
comp=Z,9.0nm,0.6s
IUG Iuzhnay 50.72 300 *e*P **P** **04 57 44.6 -0.6**
comp=Z,9.1nm,0.6s
L18K Granite Mounta 50.77 34 IAmb IAmb 04 58 09.8
comp=Z,25nm,1.2s
L18K Granite Mounta 50.77 34 P **P** **04 57 45.2 0.0**
baz=269
GCSA Galena City Sc 50.77 31 P **P** **04 57 45.5 +0.5**
baz=267
G19K Purcell Mounta 50.77 29 P **P** **04 57 45.8 +0.6**
baz=266,SNR=5.0
J18K Innoko River 50.78 33 P **P** **04 57 45.9 +0.6**
baz=268
Q16K King Salmon 50.82 39 P **P** **04 57 46.1 +0.5**
baz=272
E19K Redstone River 50.83 27 IAmb IAmb 04 58 00.6
comp=Z,16nm,0.8s
E19K Redstone River 50.83 27 P **P** **04 57 46.2 +0.6**
baz=264
P17K Kvichak River 50.92 38 P **P** **04 57 47.3 +1.1**
baz=272
H19K Roundabout Mou 50.99 30 P **P** **04 57 47.5 +0.8**
baz=267
TTA Tatalina 51.09 33 P **P** **04 57 48.2 +0.5**
TTA Tatalina 51.09 33 P **P** **04 57 48.2 +0.5**
TTA pmax pmax
comp=Z,14nm,1.2s
TTA Tatalina 51.09 33 P **P** **04 57 48.2 +0.5**
baz=269
B20K Meade River 51.15 24 IAmb IAmb 04 58 16.1
comp=Z,25nm,0.9s
B20K Meade River 51.15 24 P **P** **04 57 48.1 +0.2**
baz=262
N18K Kilae Creek 51.15 36 P **P** **04 57 47.9 -0.2**
baz=271
M18K Stony River 51.17 35 P **P** **04 57 48.0 -0.2**
baz=271
D20K Etivluk River 51.19 26 P **P** **04 57 48.3 0.0**
baz=264
J19K Poorman 51.28 32 P **P** **04 57 49.6 +0.6**
baz=269,SNR=6.8
E20K Nigu River 51.30 26 P **P** **04 57 48.9 -0.2**
baz=265
F20K Avaraart Lake 51.38 28 P **P** **04 57 49.9 +0.2**
baz=266
A21K Barrow 51.51 23 P **P** **04 57 50.8 +0.3**
baz=262
O18K Koktuh Hills 51.52 37 P **P** **04 57 51.9 +1.0**
baz=272
P18K Big Mountain, 51.53 38 P **P** **04 57 51.2 +0.3**
baz=273
CHIR Chirikof Islan 51.56 42 P **P** **04 57 52.2 +1.0**
baz=275
L19K White Mountain 51.63 34 IAmb IAmb 04 59 39.8
comp=Z,53nm,1.9s
L19K White Mountain 51.63 34 P **P** **04 57 52.0 +0.3**
baz=271
H20K Anotleneega Mo 51.64 30 P **P** **04 57 52.6 +0.9**
baz=268
I20K Naaghedeneel 51.80 31 P **P** **04 57 53.8 +1.0**
baz=269
M19K Big River Lodg 51.85 35 P **P** **04 57 54.4 +1.1**
baz=272

C21K	**Knifeblade Rid**	51.89	25	P	P	04 57 53.8 +0.3
	baz=265					
J20K	**Nowinta River**	51.94	32	P	P	04 57 54.2 +0.4
	baz=270,SNR=8.7					
O19K	**Port Alsworth**	51.95	37	P	P	04 57 53.9 -0.1
	baz=273					
K20K	**Telida**	51.97	33	IAmb	IAmb	04 58 13.0
	comp=Z,15nm,0.8s					
K20K	**Telida**	51.97	33	P	P	04 57 54.4 +0.2
	baz=271,SNR=7.5					
B21K	**Ikpikpuk River**	51.99	25	IAmb	IAmb	04 57 56.0
	comp=Z,25nm,0.8s					
B21K	**Ikpikpuk River**	51.99	25	P	P	04 57 54.4 +0.2
	baz=265					
A22K	**Sinclair Lake**	52.00	23	P	P	04 57 54.3 +0.1
	baz=264					
L20K	**Farewell, AK**	52.08	34	P	P	04 57 55.2 +0.2
	baz=272					
E21K	**Killik River**	52.13	26	IAmb	IAmb	04 58 09.6
	comp=Z,34nm,1.4s					
E21K	**Killik River**	52.13	26	P	P	04 57 55.3 0.0
	baz=267,SNR=12					
G21K	**Allakaket**	52.23	29	P	P	04 57 56.1 0.0
	baz=269					
F21K	**Alatna River**	52.27	28	P	P	04 57 56.4 +0.1
	baz=268					
FITZ	**Fitzroy Crossi**	52.34	191	P	P	04 57 56.3 -1.0
SIMJ	**Simiganj**	52.36	296	P	P	04 57 56.8 -0.8
SIMJ				IAmb	IAmb	04 58 09.7
	comp=Z,22nm,0.9s					
Q19K	**Cape Douglas,**	52.37	38	P	P	04 57 57.3 +0.1
	baz=274					
MTSU	**Mount Surprise**	52.40	169	P	P	04 57 56.0 -1.8
	comp=Z,6.3nm,0.9s					
M20K	**Styx River**	52.45	35	IAmb	IAmb	04 58 43.4
	comp=Z,62nm,1.9s					
M20K	**Styx River**	52.45	35	P	P	04 57 58.0 +0.2
	baz=273					
B22K	**Teshekpuk Lake**	52.46	24	IAmb	IAmb	04 57 59.1
	comp=Z,26nm,0.9s					
B22K	**Teshekpuk Lake**	52.46	24	P	P	04 57 57.8 +0.2
	baz=266					
H21K	**Melozitna Rive**	52.51	30	P	P	04 57 58.2 +0.1
	baz=270					
D22K	**Ayikyak River**	52.63	26	P	P	04 57 59.3 +0.4
	baz=268,SNR=31					
OHAK	**Old Harbor**	52.72	41	P	P	04 57 59.3 -0.4
	baz=276					
HYB	**Hyderabad**	52.74	267	*e*P	P	04 58 00.5 -0.1
HYB				*ep*P	pP	04 58 11.2 -0.8
HYB				*es*P	sP	04 58 15.9 -0.8
HYB				*e*PcP	PcP	04 59 09.2 -0.6
HYB				*e*S	S	05 05 24.7 -1.4
CHUM	**Lake Minchumin**	52.75	32	P	P	04 58 00.1 +0.3
	baz=272,SNR=5.0					
PPLA	**Purkeypile**	52.84	33	P	P	04 58 01.2 +0.4
	baz=273					
I21K	**Tanana**	52.86	30	P	P	04 58 01.2 +0.5
	baz=271,SNR=6.0					
CAST	**Castle Rocks**	52.87	33	P	P	04 58 01.2 +0.4
	baz=272,SNR=6.1					
E22K	**Anaktuvuk Pass**	52.93	27	IAmb	IAmb	04 58 16.0
	comp=Z,42nm,1.4s					
E22K	**Anaktuvuk Pass**	52.93	27	P	P	04 58 01.7 +0.5
	baz=269,SNR=13					
SPCR	**Spurr Chakacha**	52.93	35	P	P	04 58 01.7 +0.4
	baz=274					
KDAK	**Kodiak Island**	53.03	40	P	P	04 58 02.0 -0.1
KDAK	**Kodiak Island**	53.03	40	LR	LR	05 20 56.4
	comp=Z,128nm,21.9s,baz=91,slow=36					
KDAK	**Kodiak Island**	53.03	40	P	P	04 58 02.0 -0.1
KDAK				pmax	pmax	
	comp=Z,193nm,1.8s					
KDAK	**Kodiak Island**	53.03	40	P	P	04 58 02.2 +0.1
	baz=276					
KDAK	**Kodiak Island**	53.03	40	P	P	04 58 02.0 -0.1
KDAK				pP	pP	04 58 14.0 +0.4
KDAK				sP	sP	04 58 18.9 +0.6
Q20K	**Shuyak Island**	53.05	39	P	P	04 58 02.8 +0.6
	baz=276					
H22K	**Ishtalitna Cre**	53.10	30	P	P	04 58 02.9 +0.4
	baz=271					
SKT	**Skwentna**	53.20	34	P	P	04 58 04.1 +0.8
	baz=274					
BPAW	**Bear Paw Mtn.**	53.32	32	IAmb	IAmb	04 58 19.9
	comp=Z,29nm,1.6s					
BPAW	**Bear Paw Mtn.**	53.32	32	P	P	04 58 04.8 +0.7
	baz=273					
D23K	**Nanushuk River**	53.35	26	IAmb	IAmb	04 58 34.7
	comp=Z,15nm,1.0s					
D23K	**Nanushuk River**	53.35	26	P	P	04 58 04.8 +0.5
	baz=269,SNR=12					
KTH	**Kantishna Hill**	53.38	32	IAmb	IAmb	04 58 06.8
	comp=Z,23nm,1.1s					
C23K	**Itkillik River**	53.39	25	IAmb	IAmb	04 58 06.9
	comp=Z,26nm,1.1s					
C23K	**Itkillik River**	53.39	25	P	P	04 58 04.5 0.0
	baz=269,SNR=15					
WRAB	**Tennant Creek**	53.42	181	P	P	04 58 04.7 -0.6
WRAB				IAmb	IAmb	04 58 05.7
	comp=Z,29nm,0.9s					
WRAB	**Tennant Creek**	53.42	181⇑	*i*P	P	04 58 04.5 -0.8
WRAB				pmax	pmax	
	comp=Z,29nm,0.9s					
WRA	**Warramunga Arr**	53.43	181	P	P	04 58 04.9 -0.4
WRA	**Warramunga Arr**	53.43	181	P	P	04 58 04.7 -0.6
	comp=Z,29nm,0.9s,baz=357,slow=7.8,SNR=61					
	comp=Z,29nm,0.9s					
WRA	**Warramunga Arr**	53.43	181	P	P	04 58 04.9 -0.4
WRA				pmax	pmax	
	comp=Z,3.0nm,0.9s					
COLD	**Coldfoot**	53.54	28	P	P	04 58 05.4 -0.3
COLD	**Coldfoot**	53.54	28	P	P	04 58 06.0 +0.4
	baz=271					
KBL	**Kabul**	53.58	291	P	P	04 58 05.2 -1.5
KBL	**Kabul**	53.58	291	P	P	04 58 05.2 -1.5
KBL				pmax	pmax	
	comp=Z,12nm,0.9s					
SUA	**Susitna One**	53.61	35	P	P	04 58 06.0 -0.4
SUA				IAmb	IAmb	04 58 08.3
	comp=Z,21nm,0.8s					
SUA	**Susitna One**	53.61	35	P	P	04 58 06.2 -0.2
	baz=275					
G23K	**Bananza Creek**	53.62	29	P	P	04 58 06.4 +0.1
	baz=272,SNR=8.1					
TRF	**Thorofare Moun**	53.67	33	P	P	04 58 06.9 0.0
	baz=274					
E23K	**Chandalar**	53.75	27	IAmb	IAmb	04 58 09.9
	comp=Z,24nm,1.0s					
E23K	**Chandalar**	53.75	27	P	P	04 58 07.7 +0.4
	baz=271,SNR=24					
CUT	**Chulitna**	53.76	34	P	P	04 58 08.0 +0.7
	baz=275					
TOLK	**Toolik Lake Re**	53.76	26	IAmb	IAmb	04 58 27.7
	comp=Z,29nm,1.4s					
TOLK	**Toolik Lake Re**	53.76	26	P	P	04 58 07.8 +0.5
	baz=271,SNR=10					
BRSE	**Bradley Lake S**	53.78	37	P	P	04 58 08.3 +0.7
	baz=276					
H23K	**Yukon River**	53.85	30	IAmb	IAmb	04 58 24.2
	comp=Z,30nm,1.1s					
H23K	**Yukon River**	53.85	30	P	P	04 58 08.6 +0.5
	baz=273					
M22K	**Willow**	53.88	35	IAmb	IAmb	04 58 26.4
	comp=Z,31nm,0.9s					
M22K	**Willow**	53.88	35	P	P	04 58 08.8 +0.6
	baz=275					
I23K	**Minto, Yukon-K**	53.97	30	IAmb	IAmb	04 58 35.4
	comp=Z,20nm,1.4s					
I23K	**Minto, Yukon-K**	53.97	30	P	P	04 58 09.4 +0.6
	baz=274					
D24K	**Happy Valley**	54.02	25	P	P	04 58 09.6 +0.5
	baz=271					
C24K	**Franklin Bluff**	54.06	25	P	P	04 58 09.6 +0.2
	baz=271					
SVE	**Sverdlovsk**	54.09	319	*ce*P	P	04 58 09.6 -0.2
SVE				pmax	pmax	
	comp=Z,59nm,0.9s					
NEA2	**Nenana**	54.13	31	IAmb	IAmb	04 58 12.1
	comp=Z,21nm,0.8s					
NEA2	**Nenana**	54.13	31	P	P	04 58 10.2 +0.2
	baz=274,SNR=16					
RC01	**Rabbit Creek A**	54.13	35	P	P	04 58 10.9 +0.8
	baz=276					
E24K	**Your Creek**	54.17	27	IAmb	IAmb	04 58 25.4
	comp=Z,24nm,1.2s					
E24K	**Your Creek**	54.17	27	P	P	04 58 10.6 +0.3
	baz=272,SNR=19					
QIS	**Mount Isa**	54.22	175	P	P	04 58 10.4 -0.8
	comp=Z,32nm,1.0s					
QIS	**Mount Isa**	54.22	175	P	P	04 58 10.7 -0.4
MCK	**McKinley**	54.25	32	IAmb	IAmb	04 58 25.1
	comp=Z,43nm,1.6s					
MCK	**McKinley**	54.25	32	P	P	04 58 10.9 -0.1
	baz=275,SNR=5.8					
RND	**Reindeer**	54.32	33	IAmb	IAmb	04 58 12.6
	comp=Z,27nm,0.9s					
PMR	**Palmer**	54.37	35	IAmb	IAmb	04 58 12.7
	comp=Z,16nm,1.0s					
PMR	**Palmer**	54.37	35	P	P	04 58 12.0 +0.3
PMR	**Palmer**	54.37	35	P	P	04 58 11.6 -0.1
	baz=276					
SEW	**Seward**	54.38	37	P	P	04 58 11.7 -0.2
	baz=277					
F24K	**Squaw Lake**	54.43	27	P	P	04 58 12.4 +0.2
	baz=273,SNR=6.9					
GHO	**Glory Hole Cre**	54.45	35	IAmb	IAmb	04 58 27.7
	comp=Z,21nm,0.9s					
H24K	**Noodor Dome**	54.54	30	IAmb	IAmb	04 58 37.8
	comp=Z,13nm,1.0s					
H24K	**Noodor Dome**	54.54	30	P	P	04 58 13.2 +0.2
	baz=274,SNR=8.9					
WRH	**Wood River Hil**	54.56	31	IAmb	IAmb	04 58 38.5
	comp=Z,15nm,1.0s					
G24K	**Hadweenzic Riv**	54.64	28	IAmb	IAmb	04 58 38.9
	comp=Z,23nm,1.2s					
G24K	**Hadweenzic Riv**	54.64	28	P	P	04 58 13.9 +0.2
	baz=274,SNR=8.5					
KNK	**Knik Glacier**	54.71	35	P	P	04 58 13.7 -0.6
	baz=277,SNR=6.5					
SML	**Sawmill**	54.72	34	IAmb	IAmb	04 58 15.8
	comp=Z,24nm,1.0s					
SML	**Sawmill**	54.72	34	P	P	04 58 14.0 -0.4
	baz=277,SNR=6.1					
POKR	**Poker Plat Res**	54.78	30	P	P	04 58 15.1 +0.3
	baz=275,SNR=8.2					
PWL	**Port Wells**	54.84	36	P	P	04 58 15.3 0.0
	baz=277					
D25K	**Kavik River**	54.89	25	P	P	04 58 15.3 -0.2
	baz=273					
M23K	**Glacier View**	55.01	34	P	P	04 58 16.2 -0.2
	baz=277					
ILAR	**Eielson Array**	55.05	31	P	P	04 58 15.8 -0.9
ILAR	**Eielson Array**	55.05	31	P	P	04 58 16.4 -0.3
	comp=Z,4.3nm,0.6s,baz=263,slow=5.7,SNR=48					
ILAR				LR	LR	05 24 04.5
	comp=Z,176nm,18.0s,baz=268,slow=38					
	comp=Z,4.3nm,0.6s					
HDA	**Harding Lake**	55.06	31	IAmb	IAmb	04 58 17.6
	comp=Z,21nm,0.9s					
HDA	**Harding Lake**	55.06	31	P	P	04 58 16.4 -0.4
	baz=276,SNR=17					
G25K	**Bearman Lake**	55.18	28	P	P	04 58 18.0 +0.5
	baz=275					
SCM	**Sheep Creek Mo**	55.19	34	IAmb	IAmb	04 58 19.4
	comp=Z,27nm,1.0s					
SCM	**Sheep Creek Mo**	55.19	34	P	P	04 58 17.9 +0.1
	baz=278					
E25K	**Arctic Village**	55.26	27	IAmb	IAmb	04 58 21.0
	comp=Z,17nm,1.1s					
E25K	**Arctic Village**	55.26	27	P	P	04 58 18.5 +0.3
	baz=275,SNR=15					
F25K	**Christian Rive**	55.28	27	IAmb	IAmb	04 58 20.8
	comp=Z,10nm,0.8s					
F25K	**Christian Rive**	55.28	27	P	P	04 58 19.0 +0.6
	baz=275					
H25L	**Birch Creek**	55.34	29	P	P	04 58 19.5 +0.8
	baz=276					
C26K	**Camden Bay**	55.36	24	P	P	04 58 19.4 +0.6
	baz=274,SNR=20					
ARTI	**Arti**	55.38	319	P	P	04 58 18.5 -0.7
ARTI	**Arti**	55.38	319	LR	LR	05 21 43.1
	comp=Z,412nm,20.6s,baz=78,slow=36					
ARTI	**Arti**	55.38	319	*d i*P	P	04 58 18.5 -0.7
ARTI						04 59 15.9
ARTI				S	S	05 06 03.7 +3.0
ARTI				SS	SS	05 09 43.9 -1.2
ARTI				pmax	pmax	
	comp=Z,45nm,1.2s					
ARTI	**Arti**	55.38	319	P	P	04 58 18.5 -0.7
ARTI				pP	pP	04 58 29.9 -0.9
PRP	**Porcupine Dome**	55.54	30	P	P	04 58 20.7 +0.4
	baz=277,SNR=6.8					
FYU	**Fort Yukon**	55.54	29	IAmb	IAmb	04 58 45.8
	comp=Z,25nm,1.1s					
K24K	**Donnelly Dome**	55.64	32	P	P	04 58 21.5 +0.5
	baz=278					
M24K	**Tolsona, Glenn**	55.69	34	P	P	04 58 22.1 +0.7
	baz=278					
BMAR	**Burnt Mountain**	55.70	27	P	P	04 58 23.3 +1.9
J25K	**Salcha River,**	55.71	31	P	P	04 58 22.0 +0.5
	baz=277					
C27K	**Jago River**	55.80	25	IAmb	IAmb	04 58 23.9
	comp=Z,16nm,0.8s					
C27K	**Jago River**	55.80	25	P	P	04 58 22.5 +0.4
	baz=275					
F26K	**Sheenjek River**	55.84	27	IAmb	IAmb	04 58 38.1
	comp=Z,31nm,1.1s					
F26K	**Sheenjek River**	55.84	27	P	P	04 58 22.3 -0.1
	baz=276,SNR=33					
PAX	**Paxson**	55.89	33	P	P	04 58 22.9 +0.1
	baz=278					
KLU	**Klutina**	55.90	35	P	P	04 58 22.3 -0.6
KLU				IAmb	IAmb	04 59 05.1
	comp=Z,17nm,1.1s					
KLU	**Klutina**	55.90	35	P	P	04 58 23.3 +0.3
	baz=279,SNR=5.6					
AB31	**Akbulak array**	55.96	310	*i* P	P	04 58 23.3 -0.1
ABKAR	**Akbulak array**	55.96	310	P	P	04 58 23.5 +0.1
ABKAR	**Akbulak array**	55.96	310	IAmb	IAmb	04 58 24.2
	comp=Z,32nm,0.8s					
DIV	**Divide**	56.03	35	IAmb	IAmb	04 58 25.6
	comp=Z,31nm,1.3s					
Q23K	**Middleton Isla**	56.03	37	P	P	04 58 23.9 +0.1
	baz=280					
RIDG	**Independent Ri**	56.06	32	IAmb	IAmb	04 59 05.4
	comp=Z,50nm,1.8s					
RIDG	**Independent Ri**	56.06	32	P	P	04 58 24.2 +0.2
	baz=278					
G26K	**Porcupine Rive**	56.07	28	P	P	04 58 24.4 +0.5
	baz=277,SNR=11					
HARP	**HAARP**	56.12	34	P	P	04 58 24.4 -0.1
	baz=279					
SCRK	**Sand Creek**	56.40	32	IAmb	IAmb	04 58 27.7
	comp=Z,21nm,0.9s					
SCRK	**Sand Creek**	56.40	32	P	P	04 58 26.3 -0.2
	baz=279,SNR=16					
DOT	**Dot Lake**	56.42	32	IAmb	IAmb	04 58 27.6
	comp=Z,11nm,0.8s					
J26L	**Joseph Creek**	56.50	31	P	P	04 58 26.9 -0.3
	baz=279,SNR=7.6					
N25K	**Chitina, Valde**	56.51	34	P	P	04 58 26.9 -0.4
	baz=280					
I26K	**Coal Creek Min**	56.55	30	IAmb	IAmb	04 58 40.1
	comp=Z,24nm,1.6s					
I26K	**Coal Creek Min**	56.55	30	P	P	04 58 28.0 +0.6
	baz=279					
BMRM	**Bremner River**	56.62	35	P	P	04 58 28.5 +0.4
	baz=280,SNR=6.5					
MENT	**Mentasta**	56.69	33	IAmb	IAmb	04 58 30.6
	comp=Z,22nm,0.7s					
E27K	**Coleen River**	56.73	26	IAmb	IAmb	04 58 43.5
	comp=Z,16nm,1.1s					
E27K	**Coleen River**	56.73	26	P	P	04 58 28.4 -0.3
	baz=278,SNR=16					
D27M	**Malcolm River**	56.81	25	IAmb	IAmb	04 58 31.1
	comp=Z,14nm,0.7s					
D27M	**Malcolm River**	56.81	25	P	P	04 58 30.3 +1.0
	baz=278					
L26K	**Log Cabin Wild**	56.84	33	IAmb	IAmb	04 58 31.6
	comp=Z,22nm,0.8s					
L26K	**Log Cabin Wild**	56.84	33	P	P	04 58 30.8 +1.2
	baz=280,SNR=16					
AKTO	**Aktyubinsk**	56.88	312	LR	LR	05 23 03.5
	comp=Z,365nm,20.8s,baz=114,slow=36					
AKTO	**Aktyubinsk**	56.88	312	P	P	04 58 29.5 -0.5
GLB	**Gilahina Butte**	56.91	35	IAmb	IAmb	04 58 32.1
	comp=Z,16nm,1.0s					
G27K	**Doyon Strip**	56.92	28	P	P	04 58 31.5 +1.4
	baz=279,SNR=7.7					
H27K	**Steamboat Moun**	57.06	29	P	P	04 58 32.5 +1.4
	baz=280,SNR=7.3					
AS15	**Alice Springs**	57.11	181	P	P	04 58 31.2 -0.6
	comp=Z,13nm,1.0s					
M26K	**Nabesna, AK**	57.11	33	IAmb	IAmb	04 58 33.6
	comp=Z,27nm,0.8s					
M26K	**Nabesna, AK**	57.11	33	P	P	04 58 32.6 +1.1
	baz=281,SNR=22					
VRDI	**Verde Repeater**	57.12	35	IAmb	IAmb	04 58 33.6
	comp=Z,23nm,0.9s					
I27K	**Kandik River**	57.13	29	P	P	04 58 32.6 +1.0
	baz=280,SNR=9.1					
AS01	**Alice Springs**	57.14	181	P	P	04 58 32.5 +0.5
ASAR	**Alice Springs**	57.14	181	P	P	04 58 32.1 +0.1
ASAR	**Alice Springs**	57.14	181	P	P	04 58 31.6 -0.4
	comp=Z,10nm,0.9s,baz=8.0,slow=6.8,SNR=61					
ASAR				LR	LR	05 20 22.0
	comp=Z,141nm,21.6s,baz=10,slow=33					
	comp=Z,10nm,0.9s					
ASAR	**Alice Springs**	57.14	181	P	P	04 58 32.1 +0.1
K27K	**Chicken**	57.22	31	IAmb	IAmb	04 58 34.2
	comp=Z,17nm,1.0s					
K27K	**Chicken**	57.22	31	P	P	04 58 32.9 +0.7
	baz=281					
E28M	**Babbage River**	57.42	26	P	P	04 58 34.2 +0.6
	baz=280,SNR=14					
L27K	**Beaver Creek,**	57.51	32	IAmb	IAmb	04 58 36.6
	comp=Z,18nm,0.9s					
L27K	**Beaver Creek,**	57.51	32	P	P	04 58 35.1 +0.8
	baz=281,SNR=19					
BCAR	**Beaver Creek A**	57.53	32	P	P	04 58 35.5 +1.1
D28M	**Stokes Point**	57.58	25	P	P	04 58 35.2 +0.6
	baz=280,SNR=7.6					
M27K	**Edge Creek, AK**	57.63	33	P	P	04 58 35.6 +0.3
	baz=282					
SANVU	**Saraoutou**	57.84	142	P	P	04 58 36.8 -0.2
SANVU				pP	pP	04 58 48.7 +0.2
I28M	**Miner Creek**	57.85	29	IAmb	IAmb	04 58 55.5
	comp=Z,25nm,0.9s					
I28M	**Miner Creek**	57.85	29	P	P	04 58 37.3 +0.6
	baz=282					
E29M	**Blow River**	58.06	26	IAmb	IAmb	04 58 40.6
	comp=Z,25nm,1.2s					
E29M	**Blow River**	58.06	26	P	P	04 58 38.6 +0.6
	baz=281					
MESA	**MESA**	58.06	36	P	P	04 58 39.4 +1.0
	baz=283					
BVCY	**Beaver Creek**	58.08	33	P	P	04 58 38.7 +0.3
	baz=283,SNR=9.3					
G29M	**Pine Creek**	58.31	28	P	P	04 58 41.1 +1.3
	baz=282,SNR=13					
H29M	**Whitestone**	58.32	28	IAmb	IAmb	04 58 54.7
	comp=Z,14nm,0.9s					
H29M	**Whitestone**	58.32	28	P	P	04 58 40.6 +0.7
	baz=282,SNR=7.0					
DAWY	**Dawson**	58.37	31	P	P	04 58 41.0 +0.7
	baz=283					
YUK3	**Moose Creek**	58.41	34	P	P	04 58 41.5 +0.7
	baz=283,SNR=8.6					
I29M	**Ogilvie Camp,**	58.54	29	IAmb	IAmb	04 59 02.7
	comp=Z,12nm,0.9s					
I29M	**Ogilvie Camp,**	58.54	29	P	P	04 58 42.5 +1.1
	baz=283,SNR=8.3					
O28M	**Mount Upton**	58.77	35	P	P	04 58 44.2 +0.7
	baz=284					
J29N	**Klondike Camp**	58.78	30	IAmb	IAmb	04 58 58.4
	comp=Z,20nm,1.1s					
J29N	**Klondike Camp**	58.78	30	P	P	04 58 44.5 +1.3
	baz=284,SNR=8.9					
WRKA	**Warakurna**	58.83	187	P	P	04 58 43.0 -0.9
	comp=Z,18nm,1.0s					
YUK8	**Steele Glacier**	58.85	34	P	P	04 58 44.5 +0.5
	baz=284,SNR=5.7					
PINM	**Pinnacle**	58.91	36	P	P	04 58 44.8 +0.6
	baz=284					
EPYK	**Eagle Plains**	58.94	28	P	P	04 58 44.8 +0.6
	baz=284					
G30M	**tAoh Zraii Nji**	58.99	27	P	P	04 58 45.1 +0.5
	baz=284,SNR=26					
F30M	**Barrier River**	59.00	27	P	P	04 58 45.1 +0.5
	baz=284					
L29M	**L29M**	59.14	32	P	P	04 58 46.6 +0.9
	baz=284,SNR=16					
M29M	**Somme Creek**	59.16	33	P	P	04 58 46.4 +0.5
	baz=284,SNR=19					
K29M	**Barlow Dome**	59.23	31	IAmb	IAmb	04 58 48.1
	comp=Z,11nm,0.8s					
K29M	**Barlow Dome**	59.23	31	P	P	04 58 46.6 +0.2
	baz=284					
YUK4	**Talbot Arm**	59.36	34	P	P	04 58 48.1 +0.7
	baz=285,SNR=9.9					
I30M	**Mount Dempster**	59.36	29	P	P	04 58 47.9 +0.7
	baz=285,SNR=29					
PNL	**Peninsula**	59.44	36	P	P	04 58 49.1 +1.4
PNL	**Peninsula**	59.44	36	P	P	04 58 48.2 +0.4
	baz=285					
J30M	**Hart River**	59.54	30	P	P	04 58 48.9 +0.3
	baz=285,SNR=9.1					
YUK6	**Outpost Mounta**	59.59	34	P	P	04 58 49.9 +0.9
	baz=286,SNR=12					
KIRV	**Kirov**	59.61	323	LR	LR	05 27 40.4
	comp=Z,521nm,18.7s,baz=74,slow=39					
KIRV	**Kirov**	59.61	323	*d i*P	P	04 58 48.3 -0.6
INK	**Inuvik**	59.65	26	IAmb	IAmb	04 59 02.9
	comp=Z,15nm,1.1s					
INK	**Inuvik**	59.65	26	P	P	04 58 49.2 +0.2
INK	**Inuvik**	59.65	26	P	P	04 58 49.6 +0.6
	baz=285,SNR=10					
O29M	**Mount Kennedy**	59.66	35	P	P	04 58 50.5 +1.1
	baz=286,SNR=9.3					
F31M	**Tsiigehtchic**	59.80	27	IAmb	IAmb	04 59 03.8
	comp=Z,33nm,1.4s					
F31M	**Tsiigehtchic**	59.80	27	P	P	04 58 50.9 +0.8
	baz=286,SNR=8.5					
M30M	**Minto, Yukon**	59.87	32	IAmb	IAmb	04 58 53.1
	comp=Z,11nm,0.7s					
M30M	**Minto, Yukon**	59.87	32	P	P	04 58 51.8 +1.1
	baz=286,SNR=9.9					
MAYO	**Mayo, Yukon**	59.99	31	IAmb	IAmb	04 59 23.9
	comp=Z,18nm,0.8s					
MAYO	**Mayo, Yukon**	59.99	31	P	P	04 58 52.7 +1.2
	baz=286					
H31M	**Peel River**	60.02	28	P	P	04 58 51.9 +0.2
	baz=286,SNR=18					
HYT	**Haines Junctio**	60.03	34	P	P	04 58 53.5 +1.5
HYT	**Haines Junctio**	60.03	34	P	P	04 58 53.2 +1.2
	baz=286,SNR=14					
N30M	**Aishikik Lake**	60.05	34	IAmb	IAmb	05 00 19.9
	comp=Z,30nm,1.8s					
N30M	**Aishikik Lake**	60.05	34	P	P	04 58 52.4 +0.4
	baz=286					
P30M	**Million Dollar**	60.49	35	P	P	04 58 56.4 +1.4
	baz=287					
N31M	**Braeburn, Yuko**	60.64	33	P	P	04 58 57.4 +1.4
	baz=287,SNR=8.6					
O30N	**Mendenhall**	60.71	34	IAmb	IAmb	04 58 58.7
	comp=Z,26nm,1.4s					
O30N	**Mendenhall**	60.71	34	P	P	04 58 57.3 +0.9
	baz=287					
EIDS	**Eidsvold**	60.81	163	P	P	04 58 58.3 +0.9
EIDS				IAmb	IAmb	04 59 00.2
	comp=Z,12nm,1.0s					
PLBC	**Pleasant Camp**	60.98	36	P	P	04 58 58.9 +0.7
	baz=288,SNR=8.5					
M31M	**Drury Creek, Y**	61.05	32	IAmb	IAmb	04 59 00.8
	comp=Z,12nm,0.9s					
M31M	**Drury Creek, Y**	61.05	32	P	P	04 58 59.9 +1.1
	baz=288,SNR=7.4					
A36M	**Sachs Harbour**	61.21	20	P	P	04 58 60.0 +0.4
	baz=291,SNR=27					
OOD	**Oodnadatta**	61.25	179	P	P	04 59 00.5 +0.2
WHY	**Whitehorse**	61.31	34	P	P	04 59 01.5 +0.9
WHY	**Whitehorse**	61.31	34	P	P	04 59 01.

baz=293,SNR=56
SPITS Spitsbergen Ar 62.64 348 P **P 04 59 09.2 0.0**
comp=Z,9.6nm,0.7s,baz=70,slow=10,SNR=8.6
SPITS LR LR 05 27 28.0
comp=Z,739nm,20.7s,baz=23,slow=37
comp=Z,9.6nm,0.7s
Q32M Nakina River 63.13 35 P **P 04 59 13.4 +0.4**
baz=291
DZM Mont Dzumac 63.16 147 P **P 04 59 13.4 +0.1**
DZM Mont Dzumac 63.16 147 *e*P **P 04 59 14.3 +1.0**
comp=Z,46nm,1.2s
DZM Mont Dzumac 63.16 147 *e*LR LR 05 18 04.5
comp=Z,702nm,22.9s
DZM Mont Dzumac 63.16 147 P **P 04 59 14.2 +0.8**
comp=Z,7.9nm,0.7s,baz=265,slow=11,SNR=12
comp=Z,7.9nm,0.7s
DZM Mont Dzumac 63.16 147 P **P 04 59 14.5 +1.1**
DZM Mont Dzumac 63.16 147 P **P 04 59 14.3 +1.0**
DZM pP **pP 04 59 25.7 +0.8**
APA Apatity 63.42 335⇓*i*P **P 04 59 15.9 +1.4**
APA pmax pmax
comp=Z,7.0nm,1.0s
R33M Jennings River 63.59 35 P **P 04 59 16.4 +0.5**
baz=292
KLMR Klimovskoe 63.61 327 *e*P **P 04 59 12.7 -3.1**
KLMR pmax pmax
comp=Z,41nm,1.5s
ALE Alert 63.63 2 P **P 04 59 15.7 0.0**
ALE pP **pP 04 59 28.0 +0.6**
ALE sP **sP 04 59 32.2 +0.2**
U33K Whale Pass 63.75 39 P **P 04 59 17.7 +1.0**
baz=292
NOR Nord 63.91 356 *i*P **P 04 59 15.7 -1.8**
NOR IAmb IAmb 04 59 17.3
comp=Z,5.1nm,0.8s
LCRK Leigh Creek 63.96 177 P **P 04 59 19.1 +0.7**
S34M Telegraph Cree 64.08 36 P **P 04 59 19.5 +0.6**
baz=293
WTLY Watson Lake, Y 64.33 34 IAmb IAmb 04 59 25.6
comp=Z,14nm,1.1s
WTLY Watson Lake, Y 64.33 34 P **P 04 59 21.1 +0.5**
baz=293
DLBC Dease Lake 64.41 36 P **P 04 59 22.1 +0.9**
baz=293
FORT Forrest 64.54 187 P **P 04 59 22.1 -0.1**
FORT Forrest 64.54 187 P **P 04 59 23.0 +0.8**
KEV Kevo 64.54 338 P **P 04 59 21.6 -0.2**
T35M Bob Quinn 64.88 37 P **P 04 59 25.3 +1.1**
baz=294,SNR=5.1
ARCES ARCESS Array B 65.11 339 P **P 04 59 24.9 -0.6**
comp=Z,6.5nm,0.7s,baz=64,slow=5.8,SNR=16
ARCES LR LR 05 32 16.0
comp=Z,507nm,18.3s,baz=64,slow=40
comp=Z,6.5nm,0.7s
WRGLY Wrigley 65.34 29 IAmb IAmb 04 59 28.9
comp=Z,13nm,0.8s
WRGLY Wrigley 65.34 29 P **P 04 59 28.0 +0.9**
baz=296
STKA Stephens Creek 65.61 174 P **P 04 59 28.9 -0.2**
STKA Stephens Creek 65.61 174 P **P 04 59 28.9 -0.2**
comp=Z,58nm,0.9s
STKA Stephens Creek 65.61 174 P **P 04 59 29.2 +0.1**
comp=Z,4.8nm,0.8s,baz=341,slow=7.2,SNR=8.7
comp=Z,4.8nm,0.8s
STKA Stephens Creek 65.61 174⇑*i*P **P 04 59 29.1 0.0**
MSVF Nonsavu 65.70 134 P **P 04 59 29.4 -0.7**
MSVF Nonsavu 65.70 134 P **P 04 59 32.1 +2.0**
comp=Z,19nm,0.8s,baz=297,slow=8.5,SNR=11
MSVF LR LR 05 26 49.9
comp=Z,59nm,18.4s,baz=250,slow=35
comp=Z,19nm,0.8s
CMSA Cobar Meteorol 65.77 170 P **P 04 59 30.8 +0.7**
comp=Z,17nm,1.2s
CMSA Cobar Meteorol 65.77 170 P **P 04 59 32.0 +1.9**
MAK Makhachkala 66.19 307 *e*P **P 04 59 33.2 +0.3**
MAK *e* 05 02 01.1
MAK *e*PPP PPP 05 03 38.0
MAK *e*S **S 05 08 20.6 +1.7**
MAK *e*SS **SS 05 12 37.4 +2.7**
MAK pmax pmax
comp=Z,602nm,1.6s
MAK MLR MLR
comp=Z,1μm,20.0s
BBOO Buckleboo 66.25 179 P **P 04 59 33.3 +0.1**
VRH Novokhopyorsk 66.34 317 *e*P **P 04 59 32.5 -1.2**
VRH pmax pmax
comp=Z,42nm,0.6s
KOTAN Kotaneelee Air 66.47 32 P **P 04 59 34.9 +0.4**
baz=297
TOAD Toad River Com 66.51 34 P **P 04 59 35.6 +0.9**
baz=297
MOS Moscow 66.62 322 *e*P **P 04 59 34.1 -1.3**
MOS *e* 04 59 47.6
MOS *e* 05 00 01.8
MOS pmax pmax
comp=Z,48nm,0.7s
MOS MLR MLR
comp=Z,700nm,18.0s
HTT Hallett 66.97 176 P **P 04 59 38.9 +1.1**
RES Resolute Bay 67.00 13 IAmb IAmb 04 59 57.1
comp=Z,9.6nm,0.8s
RES Resolute Bay 67.00 13 LR LR 05 32 05.1
comp=Z,61nm,18.1s,baz=3.0,slow=39
LPSR Galich'ya Gora 67.31 319 *e*P **P 04 59 38.2 -1.6**
LPSR pmax pmax
comp=Z,59nm,0.8s
OBN Obninsk 67.44 322 LR LR 05 31 57.2
comp=Z,511nm,18.3s,baz=36,slow=38
OBN Obninsk 67.44 322⇑*i*P **P 04 59 38.2 -2.4**
OBN *i* 04 59 51.3
OBN *i* 05 00 03.0
OBN *i* 05 02 17.7
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,532nm,16.0s
VORR Voronezh 67.56 318 *e*P **P 04 59 40.7 -0.8**
VORR pmax pmax
comp=Z,41nm,1.1s
VSR Storozhevoye 67.79 317 *e*P **P 04 59 40.8 -2.1**
VSR pmax pmax
comp=Z,40nm,0.6s
VORD Divnogorie 67.83 317 *e*P **P 04 59 40.5 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.9s
BBB Bella Bella 68.06 41 LR LR 05 27 25.0
comp=Z,73nm,21.7s,baz=314,slow=34
DAG Danmarks Havn 68.48 354 P **P 04 59 46.1 -0.8**
DAG pmax pmax
comp=Z,28nm,1.1s
DAG Danmarks Havn 68.48 354 *i*P **P 04 59 46.0 -0.8**
DAG IAmb IAmb 04 59 47.1
comp=Z,19nm,0.9s
KBZ Khabaz 68.89 309 P **P 04 59 50.2 +0.4**
comp=Z,16nm,0.9s,baz=89,slow=4.1,SNR=28
comp=Z,16nm,0.9s
KBZ Khabaz 68.89 309⇓*e*P **P 04 59 49.7 -0.2**
KBZ pmax pmax
comp=Z,26nm,0.9s
KIV Kislovodsk 68.92 309 P **P 04 59 50.0 -0.3**
KIV Kislovodsk 68.92 309⇓P **P 04 59 49.9 -0.3**
KIV Kislovodsk 68.92 309 *e*P **P 04 59 50.2 -0.1**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,294nm,17.0s
KIV Kislovodsk 68.92 309 P **P 04 59 50.1 -0.2**
comp=Z,31nm,1.2s
KIV Kislovodsk 68.92 309 P **P 04 59 50.7 +0.4**
NEEM North Greenlan 68.97 1 *i*P **P 04 59 48.8 -1.5**
NEEM IAmb IAmb 04 59 50.7
comp=Z,22nm,0.6s
SHA1 Shidzhatmaz 69.04 309*d i*P **P 04 59 51.1 -0.1**
FINES FINESS Array B 69.13 331 P **P 04 59 50.7 -0.4**
FINES FINESS Array B 69.13 331 P **P 04 59 50.2 -0.9**
comp=Z,6.2nm,0.5s,baz=62,slow=6.0,SNR=35
FINES LR LR 05 31 43.1
comp=Z,359nm,19.0s,baz=72,slow=37
comp=Z,6.2nm,0.5s
FINES FINESS Array B 69.13 331 P **P 04 59 50.7 -0.4**
YKA Yellowknife Ar 69.22 28 P **P 04 59 52.3 +0.6**
YKA Yellowknife Ar 69.22 28 P **P 04 59 51.5 -0.2**
comp=Z,4.2nm,0.9s,baz=297,slow=6.4,SNR=52
YKA LR LR 05 32 16.5
comp=Z,140nm,19.0s,baz=285,slow=38
comp=Z,4.2nm,0.9s

YKA Yellowknife Ar 69.22 28 P **P 04 59 52.3 +0.6**
GNI Garni 69.28 305 P **P 04 59 51.9 -0.7**
GNI Garni 69.28 305*d i*P **P 04 59 53.4 +0.7**
GNI pmax pmax
comp=Z,5.0nm,0.4s
GNI Garni 69.28 305 P **P 04 59 53.1 +0.4**
comp=Z,35nm,1.2s
ERBR Yeremizino-Bor 69.51 312 *e*P **P 04 59 54.0 +0.2**
ERBR *e*S **S 05 09 04.6 +6.1**
ERBR pmax pmax
comp=Z,45nm,1.2s
VSU Vasula 70.46 328*d i*P **P 04 59 57.6 -1.7**
VSU pmax pmax
comp=Z,55nm,1.6s
SOC Sochi 71.00 310 *e*P **P 05 00 00.8 -2.1**
SOC *e* 05 02 35.1
SOC *e*S **S 05 09 18.3 +2.3**
SOC *e*SS **SS 05 13 46.3 -2.5**
SOC pmax pmax
comp=Z,10.0nm,0.5s
SOC MLR MLR
comp=Z,445nm,20.0s
GEVA Gevas 71.29 304 IAmb IAmb 05 00 18.0
comp=Z,30nm,1.1s
KULLO Kullorsuaq 71.61 3 *i*P **P 05 00 05.6 -0.5**
KULLO IAmb IAmb 05 00 06.7
comp=Z,12nm,0.8s
ANN Anapa 71.84 312 *e*P **P 05 00 07.0 -0.9**
ANN pmax pmax
comp=Z,57nm,1.0s
GURO Guroymak-BITLI 71.88 305 IAmb IAmb 05 00 10.1
comp=Z,13nm,0.8s
MNK Minsk 72.09 324 *i*P **P 05 00 08.5 -0.8**
MNK *i* 05 00 26.6
MNK *i*S **S 05 09 31.5 +3.3**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,17nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK MLR MLR
comp=N,644nm,18.0s
MNK MLR MLR
comp=Z,686nm,18.0s
MNK MLR MLR
comp=E,388nm,16.0s
LLLB Lilloet 72.23 41 IAmb IAmb 05 00 11.8
comp=Z,15nm,1.0s
JMIC Jan Mayen 72.32 348 LR LR 05 32 00.8
comp=Z,216nm,19.8s,baz=12,slow=36
PABE Paberze 73.38 326 IAmb IAmb 05 00 17.4
comp=Z,28nm,0.8s
UPNV Upernavik 73.45 3 *i*P **P 05 00 16.1 -0.9**
UPNV IAmb IAmb 05 00 17.3
comp=Z,9.0nm,0.8s
AK03 Malin Array Si 73.48 320 P **P 05 00 16.6 -1.0**
AKASG Malin Array Be 73.49 320 P **P 05 00 16.9 -0.8**
AKASG Malin Array Be 73.49 320 P **P 05 00 16.7 -1.0**
comp=Z,8.6nm,0.5s,baz=54,slow=6.2,SNR=77
AKASG LR LR 05 33 20.3
comp=Z,393nm,18.6s,baz=54,slow=36
comp=Z,8.6nm,0.5s
AKASG Malin Array Be 73.49 320 P **P 05 00 16.9 -0.8**
AKASG pmax pmax
comp=Z,21nm,1.6s
AKBB Malin Array Si 73.49 320 IAmb IAmb 05 00 17.6
comp=Z,19nm,0.6s
AKBB Malin Array Si 73.49 320*d i*P **P 05 00 16.7 -1.0**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 73.49 320 P **P 05 00 16.4 -1.3**
AK01 Malin Array Si 73.50 320 P **P 05 00 17.0 -0.7**
KIEV Kiev 73.51 320 P **P 05 00 16.8 -0.9**
KIEV IAmb IAmb 05 00 17.6
comp=Z,17nm,0.6s
KIEV Kiev 73.51 320⇓P **P 05 00 17.0 -0.8**
KIEV Kiev 73.51 320 P **P 05 00 16.9 -0.8**
KIEV Kiev 73.51 320 P **P 05 00 16.3 -1.4**
comp=Z,131nm,0.7s
AK09 Malin Array Si 73.51 320 P **P 05 00 16.5 -1.3**
AK04 Malin Array Si 73.51 320 P **P 05 00 16.8 -1.0**
AK23 Malin Array Si 73.51 320 P **P 05 00 17.1 -0.7**
SIM Simferopol' 73.79 313 *e*P **P 05 00 18.4 -1.1**
SIM pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 73.83 358 IAmb IAmb 05 00 36.7
comp=Z,35nm,1.1s
SUMG Summit 73.83 358 P **P 05 00 20.5 +0.7**
SUMG pmax pmax
comp=Z,42nm,1.9s
SUMG Summit 73.83 358 *i*P **P 05 00 19.0 -0.8**
SUMG IAmb IAmb 05 00 21.6
comp=Z,31nm,1.1s
MI28 Mi28,Pidlybu 74.19 321 P **P 05 00 20.7 -1.0**
SUW Suwalki 74.64 325 IAmb IAmb 05 00 24.9
comp=Z,31nm,0.9s
SCO Scoresbysund 74.70 352 *i*P **P 05 00 23.2 -1.1**
SCO IAmb IAmb 05 00 26.4
comp=Z,47nm,1.6s
LUBAR Lubar, Ukraine 74.71 320 P **P 05 00 23.7 -1.1**
HFS Hagfors 74.74 334 P **P 05 00 24.1 -0.7**
comp=Z,9.0nm,0.5s,baz=71,slow=5.3,SNR=40
comp=Z,9.0nm,0.5s
NE56 Odesa 74.77 316 P **P 05 00 22.4 -2.8**
BAL3X Bal3x, Balta 74.81 318 P **P 05 00 23.6 -1.8**
RNPP5 Staryi Chortor 74.94 322 P **P 05 00 25.6 -0.5**
NB2 NORSAR Subarra 75.01 335 P **P 05 00 25.9 -0.4**
comp=Z,2.7nm,0.6s,baz=46,slow=5.9
NB2 NORSAR Subarra 75.01 335 P **P 05 00 25.5 -0.9**
NOA NORSAR Array B 75.01 335 P **P 05 00 25.9 -0.4**
comp=Z,7.0nm,0.8s,baz=46,slow=5.7,SNR=18
comp=Z,7.0nm,0.8s
SORM Soroca 75.40 318⇓P **P 05 00 27.9 -0.9**
SORM Soroca 75.40 318 P **P 05 00 27.9 -0.9**
SORM Soroca 75.40 318 P **P 05 00 27.4 -1.4**
comp=Z,30nm,0.9s
PURM Purcari 75.44 316⇓P **P 05 00 28.7 -0.4**
PURM Purcari 75.44 316 P **P 05 00 28.3 -0.7**
NDNU Novodnistrovsk 75.68 319 P **P 05 00 29.9 -0.5**
C09A Chrisman Ranch 75.75 42 IAmb IAmb 05 00 32.3
comp=Z,14nm,0.9s
MILM Milestii Mici 75.83 317⇑P **P 05 00 30.5 -0.8**
MILM Milestii Mici 75.83 317 P **P 05 00 30.4 -0.8**
F07A Phinny Hill Vi 75.89 44 IAmb IAmb 05 00 33.5
comp=Z,14nm,0.9s
NEW Newport 76.12 41 LR LR 05 37 01.7
comp=Z,63nm,18.0s,baz=318,slow=38
E09A Wood Farm, Sta 76.56 43 IAmb IAmb 05 00 37.2
comp=Z,22nm,1.1s
J05D Fort Rock, OR 76.57 47 IAmb IAmb 05 00 37.8
comp=Z,25nm,1.0s
G08A Pilot Rock 76.79 44 P **P 05 00 36.8 -0.1**
G08A IAmb IAmb 05 00 53.3
comp=Z,12nm,0.8s
TLCR 76.81 316⇓P **P 05 00 36.7 -0.2**
TLCR 76.81 316 P **P 05 00 36.6 -0.2**
RAYN Ar Rayn 76.83 290 P **P 05 00 37.0 -0.5**
RAYN IAmb IAmb 05 00 49.7
comp=Z,18nm,1.2s
RAYN Ar Rayn 76.83 290 P **P 05 00 37.4 0.0**
VLDR Vladesti 76.86 317⇑P **P 05 00 37.7 +0.6**
BR131 Keskin Array S 76.88 309 P **P 05 00 37.1 -0.4**
BR131 IAmb IAmb 05 00 38.4
comp=Z,15nm,0.8s
BR131 Keskin Array S 76.88 309*c i*P **P 05 00 37.7 +0.1**
BRTR Keskin Array B 76.88 309 P **P 05 00 37.6 0.0**
comp=Z,12nm,0.8s,baz=95,slow=5.3,SNR=23
comp=Z,12nm,0.8s
BR106 Keskin Array S 76.89 309 P **P 05 00 38.1 +0.5**
comp=Z,108nmcomp=Z,15nm,1.0s
BR105 Keskin Array S 76.90 309 P **P 05 00 37.6 -0.1**
comp=Z,133nmcomp=Z,19nm,1.0s
VARL Varlezi 76.96 317⇑P **P 05 00 38.2 +0.5**
SCTR Scanteiesti 77.00 316⇑P **P 05 00 38.4 +0.4**
KIRS Kirsehir-Merke 77.02 308⇑P **P 05 00 38.0 -0.3**
STNU Starunia 77.15 320 P **P 05 00 38.4 -0.3**
I07A Izee 77.16 45 IAmb IAmb 05 03 20.1
comp=Z,9.3nm,0.4s
CFR Carcaliu 77.21 316⇑P **P 05 00 38.8 -0.3**
CFR Carcaliu 77.21 316 P **P 05 00 38.7 -0.3**
ILULI Ilulissat 77.22 2 *i*P **P 05 00 38.2 -0.5**
ILULI IAmb IAmb 05 00 39.5
comp=Z,12nm,0.9s
TPGR Topolog 77.23 316⇑P **P 05 00 38.9 -0.3**

TESR Tescani 77.28 318⇑P **P 05 00 39.3 -0.2**
ANTO Ankara 77.35 310 P **P 05 00 40.0 -0.1**
ANTO IAmb IAmb 05 00 41.0
comp=Z,15nm,0.7s
ANTO Ankara 77.35 310⇓P **P 05 00 40.3 +0.2**
ANTO Ankara 77.35 310 P **P 05 00 40.3 +0.2**
ICESG Greenland Ices 77.35 358 *i*P **P 05 00 39.9 0.0**
PANC Panciu 77.37 317⇓P **P 05 00 40.9 +0.9**
BURAR Bucovina Array 77.42 319⇑P **P 05 00 40.5 +0.1**
BURAR Bucovina Array 77.42 319 P **P 05 00 40.5 +0.1**
ODBI Odobesti 77.49 317 P **P 05 00 42.1 +1.4**
comp=Z,27nm,0.9s
KWP Kalwaria Pacla 77.53 322 P **P 05 00 40.7 -0.1**
KWP Kalwaria Pacla 77.53 322 P **P 05 00 40.7 -0.1**
comp=Z,36nm,1.1s
HARR Harsova 77.61 316⇓P **P 05 00 40.9 -0.5**
HARR Harsova 77.61 316 P **P 05 00 40.8 -0.5**
VRI Vrincioaia 77.61 317⇑P **P 05 00 41.9 +0.5**
VRI Vrincioaia 77.61 317 P **P 05 00 42.7 +1.3**
VRI Vrincioaia 77.61 317 P **P 05 00 41.6 +0.2**
comp=Z,31nm,1.1s
TLBR Topalu 77.62 316⇓P **P 05 00 41.9 +0.4**
PLOR Plostina 77.67 317⇑P **P 05 00 41.1 -0.6**
PLOR Plostina 77.67 317 P **P 05 00 41.1 -0.6**
PLOR3 Plostina Array 77.67 317 P **P 05 00 41.0 -0.7**
comp=Z,18nm,1.2s
BISRR Bisoca 77.81 317 P **P 05 00 43.6 +1.0**
OZUR 78.01 318⇑P **P 05 00 43.4 -0.2**
KOLS Kolonicke sedl 78.18 322 *e*P **P 05 00 44.6 +0.1**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 78.18 322 *e*P **P 05 00 44.6 +0.1**
J08A Circle Bar Ran 78.19 46 IAmb IAmb 05 00 46.7
comp=Z,18nm,1.0s
MUKU Mukachevo 78.26 321 P **P 05 00 45.3 +0.4**
MLR Muntele Rosu 78.28 317 P **P 05 00 44.2 -1.0**
MLR IAmb IAmb 05 01 01.6
comp=Z,26nm,1.4s
MLR Muntele Rosu 78.28 317 LR LR 05 37 30.0
comp=Z,560nm,21.9s,baz=46,slow=37
MLR Muntele Rosu 78.28 317⇓P **P 05 00 45.3 0.0**
MLR Muntele Rosu 78.28 317 P **P 05 00 45.2 0.0**
MLR Muntele Rosu 78.28 317 P **P 05 00 45.5 +0.3**
comp=Z,9.5nm,1.3s
DOPR Dopca 78.31 318⇓P **P 05 00 46.2 +0.9**
STHS Stebnicka Huta 78.41 322 *e*P **P 05 00 45.2 -0.5**
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS Stebnicka Huta 78.41 322 *e*P **P 05 00 45.2 -0.5**
GOET G??ttrup 78.58 333 *i*P **P 05 00 46.8 +0.4**
GOET IAmb IAmb 05 00 47.6
comp=Z,69nm,0.9s
OJC Ojcow 78.62 324 P **P 05 00 47.1 +0.2**
OJC Ojcow 78.62 324 P **P 05 00 47.1 +0.2**
comp=Z,19nm,1.0s
VOIR 78.81 318⇑P **P 05 00 48.1 0.0**
VOIR 78.81 318 P **P 05 00 48.1 0.0**
VOIR 78.81 318 P **P 05 00 47.7 -0.4**
comp=Z,8.5nm,1.2s
BORA Eskisehir 78.83 311 P **P 05 00 47.7 -0.6**
BORA IAmb IAmb 05 01 05.1
comp=Z,16nm,0.9s
NIE Niedzica 78.88 323 P **P 05 00 49.0 +0.6**
NIE Niedzica 78.88 323 P **P 05 00 49.0 +0.6**
comp=Z,7.1nm,1.2s
ARR Arges 79.09 318⇓P **P 05 00 50.5 +0.9**
MARR Marisel-Cluj 79.13 319⇑P **P 05 00 49.1 -0.7**
FFC Flin Flon 79.24 30 P **P 05 00 50.1 -0.1**
FFC Flin Flon 79.24 30 P **P 05 00 50.1 -0.1**
FFC pmax pmax
comp=Z,11nm,0.9s
MMAI Mount Meron Ar 79.35 303 P **P 05 00 51.6 +0.4**
comp=Z,1.8nm,0.6s,baz=49,slow=10,SNR=5.0
comp=Z,1.8nm,0.6s
SFJD Kangerlussuaq 79.45 2 LR LR 05 37 48.5
comp=Z,165nm,18.8s,baz=350,slow=37
SFJD Kangerlussuaq 79.45 2 *i*P **P 05 00 51.7 +0.6**
SFJD IAmb IAmb 05 00 53.6
comp=Z,15nm,1.0s
LANS Liptovska Anna 79.47 323 *e*P **P 05 00 53.4 +1.8**
LANS pmax pmax
comp=Z,6.0nm,1.6s
LANS Liptovska Anna 79.47 323 *e*P **P 05 00 53.4 +1.8**
LOT Lotru 79.52 318⇓P **P 05 00 51.8 -0.3**
STEB Steborice 79.80 324 *e*P **P 05 00 53.5 +0.2**
KSP Ksiaz 79.91 326 P P 05 00 58.2 +4.3
MORC Moravsky Berou 80.02 324 *e*P **P 05 00 54.6 0.0**
CMB Columbia Colle 80.07 51 IAmb IAmb 05 00 56.5
comp=Z,29nm,1.8s
GZR Gura Zlata 80.11 318⇑P **P 05 00 55.4 +0.2**
GZR Gura Zlata 80.11 318 P **P 05 00 55.3 +0.2**
MAUC Maruska 80.15 324 *e*P **P 05 00 56.1 +0.8**
EGMT Eagleton 80.17 38 IAmb IAmb 05 01 13.9
comp=Z,17nm,0.9s
SURR Surduc 80.24 319⇓P **P 05 00 56.1 +0.3**
DLMT Dillon 80.35 41 IAmb IAmb 05 01 29.7
comp=Z,26nm,1.1s
HLID Hailey 80.44 44 P **P 05 00 56.9 -0.2**
BZS Buzias 80.60 319⇑P **P 05 00 57.5 -0.2**
BZS Buzias 80.60 319 P **P 05 00 57.5 -0.2**
HERR Herculane 80.63 318⇓P **P 05 00 57.2 -0.7**
VRAC Vranov 80.79 324 *e*P **P 05 00 58.4 -0.3**
FRB Frobisher Bay 81.03 10 LR LR 05 41 23.3
comp=Z,178nm,18.0s,baz=319,slow=39
KRUC Moravsky 81.05 324 *e*P **P 05 00 59.8 -0.3**
MDVR Moldovita 81.08 318⇓P **P 05 01 00.2 -0.2**
CLL Collm 81.10 327 P **P 05 00 59.8 -0.5**
CLL IAmb IAmb 05 01 01.0
comp=Z,22nm,1.1s
CLL Collm 81.10 327 *i*P **P 05 01 00.0 -0.3**
CLL *i* *PP **pP 05 01 10.8 -1.6**
CLL pmax pmax
comp=Z,21nm,1.0s
CLL Collm 81.10 327 P **P 05 01 00.0 -0.3**
comp=Z,22nm,1.1s
CLL Collm 81.10 327 *i*P **P 05 01 00.0 -0.3**
comp=Z,21nm,1.0s
CLL *i*pP **pP 05 01 10.8 -1.6**
CLL *es*P **sP 05 01 15.0 -1.9**
NVAR Mina Array Bea 81.17 50 P **P 05 01 01.1 -0.1**
NVAR Mina Array Bea 81.17 50 P **P 05 01 01.6 +0.4**
comp=Z,4.8nm,0.9s,baz=294,slow=5.7,SNR=12
comp=Z,4.8nm,0.9s
TREC Trest 81.33 325 *e*P **P 05 01 02.3 +0.7**
HSKC Hora Svate Kat 81.40 327 *e*P **P 05 01 02.6 +0.7**
URZ Urewera 81.70 148 LR LR 05 33 01.3
comp=Z,118nm,20.4s,baz=46,slow=32
ZVC Zvikov 81.85 325 *e*P **P 05 01 04.9 +0.6**
RONA Rosalia, Austr 82.02 323 *e*P **P 05 01 05.3 0.0**
comp=Z,5.5nm,0.8s
LKWY Lake 82.06 41 IAmb IAmb 05 01 34.3
comp=Z,17nm,1.1s
H17A Grant Village 82.07 41 IAmb IAmb 05 01 27.8
comp=Z,15nm,1.0s
CONA Conrad Observa 82.08 324 *e*P **P 05 01 05.9 +0.3**
comp=Z,3.8nm,0.8s
CKRC Cesky Krumlov 82.22 325 *e*P **P 05 01 06.3 0.0**
KHC Kasperske Hory 82.36 326 *e*P **P 05 01 07.3 +0.3**
KHC Kasperske Hory 82.36 326*d i*P **P 05 01 06.8 -0.2**
KHC pmax pmax
comp=Z,15nm,0.8s
GERES GERESS Array B 82.50 325 P **P 05 01 07.8 0.0**
comp=Z,2.0nm,0.6s,baz=25,slow=6.6,SNR=5.2
comp=Z,2.0nm,0.6s
ARSA Arzberg 82.71 323 *e*P **P 05 01 08.7 -0.2**
comp=Z,3.9nm,0.7s
RAR Rarotonga 82.81 121 LR LR 05 38 10.0
comp=Z,123nm,18.1s,baz=256,slow=36
SPR3 Spring Creek 3 83.30 47 IAmb IAmb 05 01 14.6
comp=Z,31nm,2.0s
HWUT Hardware Ranch 83.30 44 IAmb IAmb 05 01 32.5
comp=Z,18nm,1.1s
BIOA Bad Ischl, Aus 83.33 324 *e*P **P 05 01 12.1 0.0**
comp=Z,6.0nm,0.8s
SOKA Soboth 83.35 323 *e*P **P 05 01 12.4 +0.1**
comp=Z,8.8nm,0.6s
TPNV Topopah Spring 83.36 50 IAmb IAmb 05 01 13.5
comp=Z,11nm,0.8s
GWY Greenwater Val 83.56 51 IAmb IAmb 05 01 35.9
comp=Z,15nm,1.0s
PDAR Pinedale Array 83.69 42 P **P 05 01 14.0 -0.3**
PDAR Pinedale Array 83.69 42 P **P 05 01 14.2 0.0**
comp=Z,2.5nm,0.8s,baz=297,slow=1.4,SNR=24
comp=Z,2.5nm,0.8s
OBKA Obir 83.70 323 *e*P **P 05 01 13.8 -0.3**

comp=Z,3.8nm,0.7s
PSUT Pine Spring 83.88 47 IAmb IAmb 05 01 16.7
comp=Z,8.5nm,0.8s
KBA Koelnbreinsper 83.90 324 *e*P **P 05 01 15.7 +0.5**
comp=Z,4.9nm,0.9s
LESA Schwarzleotal 83.98 325 *e*P **P 05 01 15.6 +0.1**
comp=Z,10.0nm,0.7s
MYKA Terra Mystica 84.07 324 *e*P **P 05 01 14.7 -1.2**
comp=Z,5.5nm,1.1s
EKA Eskdalemuir Ar 84.25 337 P **P 05 01 15.9 -0.6**
comp=Z,2.0nm,0.6s,baz=34,slow=5.3,SNR=6.3
comp=Z,2.0nm,0.6s
MPU Maple Canyon 84.28 45 IAmb IAmb 05 01 18.9
comp=Z,10nm,1.0s
ABTA Abfaltersbach 84.54 324 *e*P **P 05 01 17.5 -0.8**
comp=Z,5.6nm,0.9s
WATA Walderalm 84.57 325 *e*P **P 05 01 17.8 -0.8**
comp=Z,3.3nm,0.6s
WTTA Wattenberg 84.59 325 *e*P **P 05 01 17.6 -1.1**
comp=Z,6.4nm,0.8s
SQTA Sankt Quirin 84.83 325 *e*P **P 05 01 17.9 -2.0**
comp=Z,3.1nm,0.7s
RETA Reutte 84.85 326 *e*P **P 05 01 19.5 -0.4**
comp=Z,18nm,1.1s,SNR=5.4
V12A Nelson 85.00 50 IAmb IAmb 05 01 43.5
comp=Z,13nm,1.2s
ULM Lac du Bonnet 85.06 30 P **P 05 01 19.9 -0.8**
ULM IAmb IAmb 05 01 35.7
comp=Z,12nm,0.9s
ULM Lac du Bonnet 85.06 30 P **P 05 01 20.4 -0.3**
comp=Z,4.0nm,0.8s,baz=317,slow=5.1,SNR=5.4
comp=Z,4.0nm,0.8s
RDMU Red Mountain 85.12 44 IAmb IAmb 05 01 46.4
comp=Z,17nm,1.1s
FETA Feichten 85.20 325 *e*P **P 05 01 20.2 -1.5**
comp=Z,12nm,1.2s,SNR=6.5
MTPU Mount Pierson 85.21 47 IAmb IAmb 05 01 24.5
comp=Z,11nm,0.9s
PFO Pinyon Flats O 85.26 53 LR LR 05 34 11.5
comp=Z,200nm,20.2s,baz=254,slow=32
Q16A Castle Valley 85.26 46 IAmb IAmb 05 01 47.5
comp=Z,34nm,1.7s
P18A Preston Nutter 85.35 45 IAmb IAmb 05 01 47.4
comp=Z,17nm,1.0s
BFO Black Forest 85.35 327 P **P 05 01 22.3 0.0**
BFO Black Forest 85.35 327 P **P 05 01 22.3 0.0**
BFO pmax pmax
comp=Z,44nm,1.4s
DAVA Damuels 85.41 326 *e*P **P 05 01 21.3 -1.5**
comp=Z,14nm,0.8s
KNB Kanab 85.47 48 IAmb IAmb 05 01 25.3
comp=Z,12nm,0.9s
PKCU Pink Cliffs 85.51 47 IAmb IAmb 05 01 25.4
comp=Z,14nm,1.1s
SRU San Rafael Swe 85.52 45 IAmb IAmb 05 01 26.1
comp=Z,11nm,0.9s
ECH Echery 85.95 328 IAmb IAmb 05 01 26.1
comp=Z,12nm,1.0s
ECH Echery 85.95 328 P **P 05 01 26.7 +1.4**
ECH pmax pmax
comp=Z,89nm,2.2s
O20A White River Ci 86.17 43 IAmb IAmb 05 01 51.1
comp=Z,13nm,1.1s
U15A North Rim 86.17 48 IAmb IAmb 05 01 49.1
comp=Z,9.0nm,1.0s
TUE Stuetta 86.25 326 P **P 05 01 26.3 -0.7**
TUE Stuetta 86.25 326 P **P 05 01 27.1 +0.1**
PV11 David Mesa, Pa 87.03 45 IAmb IAmb 05 01 56.0
comp=Z,13nm,0.9s
PV13 Radium Mtn., P 87.15 45 IAmb IAmb 05 01 53.5
comp=Z,11nm,1.0s
PPT2 Papeete2 88.15 112 *e*LR LR 05 29 42.3
comp=Z,169nm,27.0s
PPT2 *e*LR LR 05 29 45.2
comp=Z,136nm,25.8s
F33A 5 Mile Ranch, 88.23 33 IAmb IAmb 05 01 54.7
comp=Z,19nm,1.4s
ECSD EROS Data Cent 89.69 35 IAmb IAmb 05 02 04.7
comp=Z,8.3nm,1.1s
E38A The Farm, Brul 89.70 30 IAmb IAmb 05 02 00.8
comp=Z,12nm,1.0s
SCHQ Schefferville 89.78 12 P **P 05 01 46.9 +3.4**
comp=Z,2.4nm,0.9s,baz=284,slow=4.2,SNR=2.7
SCHQ LR LR 05 44 49.9
comp=Z,123nm,19.4s,baz=14,slow=37
TAOE Nuku Hiva Isla 90.71 100 *e*LR LR 05 30 50.2
comp=Z,340nm,26.6s
ANMO Albuquerque 90.71 46 P **P 05 01 48.3 -0.1**
ANMO Albuquerque 90.71 46 LR LR 05 40 49.4
comp=Z,76nm,20.5s,baz=140,slow=34
ANMO Albuquerque 90.71 46 P **P 05 01 48.3 -0.1**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
VHRN Van Horn 94.46 48 IAmb IAmb 05 02 07.3
comp=Z,10nm,1.3s
LPIG La Paz 95.42 56 LR LR 05 37 00.4
comp=Z,65nm,21.1s,baz=312,slow=30
SADO Sadowa 95.92 24 LR LR 05 50 34.6
comp=Z,74nm,18.6s,baz=44,slow=39
TXAR Lajitas Array 96.29 49 P **P 05 02 14.3 +0.3**
comp=Z,1.6nm,0.9s,baz=307,slow=4.6,SNR=6.9
TXAR LR LR 05 40 58.4
comp=Z,68nm,19.5s,baz=328,slow=32
comp=Z,1.6nm,0.9s
KMBO Kilima Mbogo 96.98 273 LR LR 05 50 24.0
comp=Z,55nm,18.7s,baz=88,slow=38
ESDC Sonseca Array 97.59 329 P **P 05 02 18.1 -1.6**
comp=Z,0.6nm,0.9s,baz=345,slow=9.3,SNR=2.0
ESDC LR LR 05 50 00.4
comp=Z,317nm,18.1s,baz=36,slow=38
comp=Z,0.6nm,0.9s
RKT Rikitea 102.59 109 *e*LR LR 05 36 03.5
comp=Z,2μm,39.0s
SYO Syowa Base 122.96 205⇓*e*Pdiff **Pdif 05 04 11.0 -0.5**
SYO Syowa Base 122.96 205⇑*ep*Pdiff pPdif 05 04 23.6 -0.1
SYO Syowa Base 122.96 205⇓*es*Pdiff sPdif 05 04 31.2 +3.0
QSPA South Pole Qui 123.53 180 PKP **PKiKP 05 07 41.0 -0.7**
comp=Z,3.1nm,1.0s,baz=224,slow=1.8,SNR=5.8
SNAA Sanae 136.06 198 PKP **PKiKP 05 08 05.3 -1.5**
NNA Nana 143.84 61 PKPdf PKPbc 05 08 18.0 -0.6
NNA Nana 143.84 61 PKiKP PKPbc 05 08 18.0 -0.6
MACA Manacapuru-AM 146.24 29 PKPdf **PKPdf 05 08 24.4 -0.7**
LPAZ La Paz 152.93 56 PKiKP **PKiKP 05 08 42.7 -1.1**
LPAZ La Paz 152.93 56 PKP **PKPdf 05 08 36.7 +0.3**
comp=Z,1.9nm,1.2s,baz=340,slow=6.2,SNR=3.8
LPAZ PKPbc **PKiKP 05 08 43.3 -0.5**
comp=Z,1.0nm,0.7s,baz=270,slow=1.2,SNR=4.0
MG04 Isla Riesco 153.16 143 **PKPab 05 08 54.8 +0.8**
PB11 IPOC Station P 154.10 64 PKPab **PKPab 05 08 58.6 -0.5**
PLCA Paso Flores 158.64 116 PKPab **PKPab 05 09 17.1 -1.0**
PLCA Paso Flores 158.64 116 PKPab **PKPab 05 09 18.7 +0.6**
comp=Z,7.7nm,0.9s,baz=244,slow=5.5,SNR=12
BDFB Brasilia 161.75 9 PKP **PKPdf 05 08 46.0 -0.7**
comp=Z,1.0nm,0.7s,baz=75,slow=22,SNR=1.6

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*SDD **13** 04:54:35.2±2.0, 19.°17N×69.°82W, h12km±17km, MD2.2, ML2.0, MW2.5*
*OSPL **13** 04:54:37.0±1.6, 19.°17N×69.°74W, h14km±15km, ML2.3*
ISC 13 04:54:33.2±0.9, 19.°16N±0.°05×69.°76W±0.°03, h12km±9km, n12, σ1§85/20, 12C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.21**	**336**	⇑*e*Pg	**Pg**	**04 54 39.1**	**+1.4**
NADR				⇑*e*Sg	**Sg**	**04 54 43.2**	**+2.4**
NADR				IAML		04 54 44.2	
	comp=N,923nm,0.2s						
LONA1	**Toro Cenizo, N**	**0.24**	**336**	*i* P	Pg	04 54 31.0	-7.2
LONA1				*e*S	**Sg**	**04 54 35.4**	**-6.2**
LONA1				IAML		04 54 35.9	
	comp=Z,2μm,1.7s						
DR08	**Loma La Naviza**	**0.31**	**231**	⇑*e*Pg	**Pg**	**04 54 39.5**	**-0.1**
DR08				⇑*e*Sg	**Sg**	**04 54 44.9**	**+1.0**
DR08				IAML		04 54 47.4	
	comp=N,2μm,0.1s						
HATOM	**Hato Mayor del**	**0.52**	**136**	⇑*e*Pg	**Pn**	**04 54 45.9**	**-0.6**
HATOM				⇓*e*Sg	**Sn**	**04 54 54.3**	**-1.0**
HATOM				IAML		04 54 56.8	
	comp=N,30nm,1.4s						
SMDR	**Samana, DR**	**0.56**	**77**	⇑*e*Pg	**Pb**	**04 54 44.9**	**-0.1**
SMDR				⇑*e*Sg	**Sb**	**04 54 54.5**	**+1.6**
SMDR				IAML		04 55 11.3	
	comp=N,38nm,1.1s						
MIDR	**Miches**	**0.70**	**105**	⇓*e*Pg	**Pn**	**04 54 48.9**	**0.0**
MIDR				⇑*e*Sg	**Sb**	**04 54 58.2**	**+1.2**
MIDR				IAML		04 55 36.0	
	comp=N,15nm,1.6s						
SDD	**Santo Domingo**	**0.71**	**191**	*e*S	**Sn**	**04 54 59.5**	**-0.6**
BANI	**BANI**	**0.95**	**216**	⇑*e*Pg	**Pb**	**04 54 51.7**	**0.0**
BANI				⇑*e*Sg	**Sb**	**04 55 05.0**	**+0.7**
BANI				IAML		04 55 07.0	
	comp=N,113nm,0.1s						
SDDR	**Presa de Saban**	**1.45**	**263**	⇑*e*Pg	**Pn**	**04 55 00.1**	**+0.7**
SDDR				⇑*e*Sg	**Sb**	**04 55 19.4**	**+0.7**
SDDR				IAML		04 55 22.0	
	comp=N,19nm,2.5s						
SDDR	**Presa de Saban**	**1.45**	**263**	*i* P	**Pg**	**04 55 00.9**	**-0.2**
SDDR				IAML		04 55 23.7	
	comp=Z,13nm,3.4s						
PCDR	**Punta Cana, DR**	**1.46**	**116**	*i* P	**Pg**	**04 55 01.4**	**+0.1**
PCDR				IAML		04 55 30.0	
	comp=Z,73nm,2.2s						
LONE3	**El Aguacate, B**	**1.70**	**251**	*i* P	**Pb**	**04 55 04.2**	**-0.3**
LONE3				*e*S	**Sb**	**04 55 26.3**	**+0.5**
LONE3				IAML		04 55 35.3	
	comp=Z,17nm,2.4s						

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*NEIC **13** 04:58:38.0±1.3, 18.°39S±0.°10×172.°1W±0.°1, h10km±1km, mb4.6/19, Error ellipse: s-maj=19.3km s-min=13.8km az=49.0*
*IDC **13** 04:58:40.2±4.1, 17.°97S×172.°83W, h0km, mb4.1/4, mbtmp4.0/5, ML3.8/1, MS3.2/2, Error ellipse: s-maj=170.9km s-min=34.0km az=140.0*
ISC 13 04:58:38.1±0.7, 18.°44S±0.°09×172.°14W±0.°09, h10km, n38, σ1§10/28, mb4.5/15, 1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.19**	**107**	Pn	**Pn**	**04 59 13.5**	**-1.1**
AFI	**Afiamalu**	**4.51**	**5**	Pn	**Pn**	**04 59 45.6**	**-1.0**
MSVF	**Nonsavu**	**9.35**	**273**	LR	LR	05 02 54.6	
	comp=Z,126nm,21.2s,baz=56,slow=29						
DZM	**Mont Dzumac**	**20.41**	**256**	P	**P**	**05 03 15.6**	**0.0**
DZM	**Mont Dzumac**	**20.41**	**256**	P	**P**	**05 03 15.3**	**-0.3**
	0.3nm,0.3s,baz=81,slow=19,SNR=2.1 3.2nm,0.7s						
PPT2	**Papeete2**	**21.48**	**91**	*e*LR	LR	05 08 25.2	
	79nm,26.0s						
PPT2				*e*LR	LR	05 08 29.9	
	127nm,28.8s						
TBI	**Tubuai**	**21.74**	**107**	*e*LR	LR	05 08 38.6	
	504nm,24.5s						
BKZ	**Black Stump Fm**	**22.89**	**203**	P	**P**	**05 03 42.1**	**+0.1**
BKZ				IAmb	IAmb	05 03 47.7	
	comp=Z,16nm,1.4s						
KHZ	**Kahutara**	**26.82**	**204**	P	**P**	**05 04 18.9**	**+0.3**
KHZ				IAmb	IAmb	05 04 49.4	
	comp=Z,25nm,1.2s						
ARMA	**Armidale**	**34.93**	**243**	P	**P**	**05 05 29.3**	**-1.1**
ARMA				IAmb	IAmb	05 05 56.5	
	comp=Z,18nm,1.2s						
TOO	**Toolangi**	**41.57**	**234**	P	**P**	**05 06 27.2**	**+1.0**
H11S2	**WAKE ISLAND Hy**	**42.17**	**329**	T	T	05 51 41.2	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**42.18**	**329**	T	T	05 51 41.3	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**42.19**	**329**	T	T	05 51 41.4	
	baz=147,slow=74						
COEN	**Coen**	**43.06**	**269**	P	**P**	**05 06 38.8**	**+0.2**
COEN				IAmb	IAmb	05 06 54.9	
	comp=Z,9.8nm,1.5s						
H11N3	**WAKE ISLAND Hy**	**43.13**	**330**	T	T	05 52 49.6	
	baz=151,slow=76						
H11N1	**WAKE ISLAND Hy**	**43.13**	**330**	T	T	05 52 51.4	
	baz=151,slow=76						
H11N2	**WAKE ISLAND Hy**	**43.15**	**330**	T	T	05 52 52.4	
	baz=151,slow=76						
STKA	**Stephens Creek**	**43.65**	**243**	P	**P**	**05 06 43.8**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=85,slow=9.0,SNR=5.8						
	comp=Z,2.6nm,0.6s						
BBOO	**Buckleboo**	**48.40**	**242**	P	**P**	**05 07 20.5**	**-0.1**
WR0	**Warramunga Arr**	**50.20**	**259**	P	**P**	**05 07 34.0**	**-0.5**
WR0				IAmb	IAmb	05 08 17.4	
	comp=Z,6.9nm,1.4s						
WR8	**Warramunga Arr**	**50.24**	**259**	P	**P**	**05 07 34.3**	**-0.5**
WR8				IAmb	IAmb	05 07 37.9	
	comp=Z,8.0nm,1.2s						
WB0	**Warramunga Arr**	**50.36**	**259**	P	**P**	**05 07 34.9**	**-0.9**
WB0				IAmb	IAmb	05 07 35.6	
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**50.38**	**259**	P	**P**	**05 07 35.3**	**-0.6**
WB2				IAmb	IAmb	05 07 37.8	
	comp=Z,8.0nm,1.1s						
WRAB	**Tennant Creek**	**50.38**	**259**	P	**P**	**05 07 35.1**	**-0.8**
WRAB				IAmb	IAmb	05 08 03.4	
	comp=Z,8.0nm,1.0s						
AS31	**Alice Springs**	**50.38**	**254**	P	**P**	**05 07 34.7**	**-1.2**
ASAR	**Alice Springs**	**50.38**	**254**	P	**P**	**05 07 34.8**	**-1.2**
ASAR	**Alice Springs**	**50.38**	**254**	P	**P**	**05 07 35.6**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=86,slow=8.5,SNR=31						
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**50.39**	**259**	P	**P**	**05 07 35.2**	**-0.8**
WRA	**Warramunga Arr**	**50.39**	**259**	P	**P**	**05 07 34.6**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=98,slow=7.2,SNR=18						
	comp=Z,1.2nm,0.4s						
FORT	**Forrest**	**55.18**	**245**	P	**P**	**05 08 10.3**	**-0.9**
NWAO	**Narrogin (SRO)**	**64.22**	**242**	P	**P**	**05 09 13.6**	**+0.1**
QSPA	**South Pole Qui**	**71.63**	**180**	P	**P**	**05 10 01.2**	**+1.4**
QSPA				IAmb	IAmb	05 10 02.7	
	comp=Z,8.0nm,1.4s						
MJAR	**Matsushiro Arr**	**72.02**	**320**	LR	LR	05 40 01.7	
	comp=Z,23nm,18.3s,baz=312,slow=35						
G08A	**Pilot Rock**	**79.69**	**35**	P	**P**	**05 10 48.0**	**+1.9**
G08A				IAmb	IAmb	05 10 53.0	
	comp=Z,6.4nm,0.7s						
ODSA	**Odessa**	**83.42**	**53**	P	**P**	**05 11 03.8**	**-2.4**
ILAR	**Eielson Array**	**85.18**	**11**	P	**P**	**05 11 16.5**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=225,slow=6.1,SNR=4.8						
	comp=Z,0.2nm,0.7s						
SYO	**Syowa Base**	**89.87**	**191**	⇓*e*P	**P**	**05 11 36.6**	**-0.3**

IDC 13 05:03:07.4±3.2, 5.°80N×126.°64E, h189km±19km, mb3.0/4, mbtmp3.5/4, Error ellipse: s-maj=194.8km s-min=17.7km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.64**	**320**	P	Pn	05 03 41.4	-0.1
	372nm,0.4s,baz=122,slow=19,SNR=9.3						
WRA	**Warramunga Arr**	**26.68**	**164**	P	P	05 08 29.0	-0.1
	1.0nm,0.9s,baz=342,slow=9.4,SNR=7.2 1.0nm,0.9s						
ASAR	**Alice Springs**	**30.13**	**167**	P	P	05 08 59.8	+0.1
	0.9nm,0.6s,baz=344,slow=8.8,SNR=9.8 0.9nm,0.6s						
MKAR	**Makanchi Array**	**55.82**	**325**	P	P	05 12 25.2	+0.1
	0.1nm,0.3s,baz=123,slow=6.6,SNR=2.5 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**59.96**	**327**	P	P	05 12 53.6	-0.2
	0.3nm,0.6s,baz=121,slow=6.6,SNR=2.0 0.3nm,0.6s						

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*NEIC **13** 05:51:21.6±1.5, 61.°29N±0.°03×150.°07W±0.°06, h43km±4km, Error ellipse: s-maj=5.1km s-min=4.1km az=154.0*
AEIC 13 05:51:22.0±1.4, 61.°29N±0.°03×150.°10W±0.°04, h43km±5km, ML2.7, ML2.9/120(NEIC), Error ellipse: s-maj=5.5km s-min=2.0km az=150.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.16**	**201**		Pn	05 51 29.6	+0.3
RC01	**Rabbit Creek A**	**0.27**	**138**		Pn	05 51 29.5	-0.7
RC01	**Rabbit Creek A**	**0.27**	**138**		Sn	05 51 36.1	+0.1
SUA	**Susitna One**	**0.35**	**300**		Sn	05 51 37.7	-0.1
SUA	**Susitna One**	**0.35**	**300**		Pn	05 51 30.3	-1.0
SUA				IAML		05 51 38.2	
	comp=N,231nm,0.6s						
SUA				IAML		05 51 38.4	
	comp=E,558nm,0.4s						
M22K	**Willow**	**0.47**	**359**		Pn	05 51 31.1	-1.3
M22K					Sn	05 51 39.2	-0.5
M22K	**Willow**	**0.47**	**359**	IAML		05 51 40.0	
	comp=E,1μm,0.6s						
M22K				IAML		05 51 42.7	
	comp=N,883nm,0.6s						
PMR	**Palmer**	**0.56**	**57**		Pn	05 51 32.4	-1.2
PMR				IAML		05 51 41.8	
	comp=E,570nm,0.2s						
PMR				IAML		05 51 41.8	
	comp=N,954nm,0.2s						
PMR	**Palmer**	**0.56**	**57**		Sn	05 51 41.1	-0.7
CAPN	**Captain Cook N**	**0.73**	**225**	Pn	Pn	05 51 36.4	+0.5
GHO	**Glory Hole Cre**	**0.74**	**49**		Pn	05 51 35.1	-1.1
GHO				IAML		05 51 48.4	
	comp=N,772nm,0.3s						
GHO	**Glory Hole Cre**	**0.74**	**49**		Sn	05 51 45.9	-0.5
SLKM	**Skilak Lake**	**0.79**	**184**		Pn	05 51 35.7	-1.0
SLKM				IAML		05 51 49.1	
	comp=N,309nm,0.2s						
SLKM				IAML		05 51 49.2	
	comp=E,611nm,0.2s						
KNK	**Knik Glacier**	**0.80**	**80**		Pn	05 51 36.0	-0.9
KNK				IAML		05 51 50.9	
	comp=N,572nm,0.3s						
KNK				IAML		05 51 52.4	
	comp=E,486nm,0.3s						
O22K	**Cooper Landing**	**0.83**	**167**		Pn	05 51 36.4	-0.9
STLK	**Strandline Lak**	**0.86**	**285**		Pn	05 51 37.1	-0.6
STLK				IAML		05 51 50.1	
	comp=E,639nm,0.3s						
SPCG	**Spurr Capps Gl**	**0.93**	**271**		Pn	05 51 37.8	-0.9
PWL	**Port Wells**	**0.96**	**116**	Pn	Pn	05 51 38.8	-0.3
PWL	**Port Wells**	**0.96**	**116**		Sn	05 51 52.1	+0.5
SKT	**Skwentna**	**0.97**	**316**		Pn	05 51 38.3	-1.0
SKT				IAML		05 51 53.7	
	comp=N,318nm,0.3s						
SKT				IAML		05 51 55.5	
	comp=E,240nm,0.5s						
SML	**Sawmill**	**0.99**	**58**		Pn	05 51 38.7	-0.8
SML				IAML		05 51 54.5	
	comp=N,315nm,0.4s						
SML				IAML		05 51 55.5	
	comp=E,274nm,0.4s						
SPCR	**Spurr Chakacha**	**1.02**	**266**		Pn	05 51 38.9	-1.0
SPBG	**Spurr Blockage**	**1.09**	**269**		Pn	05 51 40.1	-0.9
CUT	**Chulitna**	**1.12**	**356**		Pn	05 51 40.7	-0.6
CUT				IAML		05 51 57.3	
	comp=N,458nm,0.5s						
CUT				IAML		05 52 01.3	
	comp=E,385nm,0.8s						
CUT	**Chulitna**	**1.12**	**356**		Sn	05 51 55.7	+0.2
SEW	**Seward**	**1.23**	**165**		Pn	05 51 41.7	-1.0
RDT	**Redoubt**	**1.33**	**238**		Sn	05 52 01.3	+0.5
SCM	**Sheep Creek Mo**	**1.44**	**66**		Pn	05 51 45.5	-0.2
SCM				IAML		05 52 06.5	
	comp=N,305nm,0.7s						
RDJH	**Redoubt Jeurge**	**1.49**	**243**		Sn	05 52 04.9	+0.1
GLI	**Glacier Island**	**1.52**	**104**		Pn	05 51 45.8	-0.8
RDWB	**Redoubt West**	**1.56**	**240**		Pn	05 51 46.7	-0.7
NCT	**North Crescent**	**1.56**	**243**		Sn	05 52 06.7	+0.2
M20K	**Styx River**	**1.56**	**294**		Pn	05 51 47.5	+0.1
BRLK	**Bradley Lake**	**1.58**	**195**	Pn	Pn	05 51 47.1	-0.4
BRLK				IAML		05 52 10.0	
	comp=E,188nm,0.5s						
BRLK				IAML		05 52 11.4	
	comp=N,148nm,0.4s						
O20K	**Slope Mountain**	**1.73**	**227**		Sn	05 52 11.0	+0.4
HOM	**Homer**	**1.81**	**206**	Pn	Pn	05 51 50.8	+0.2
CNPM	**China Poot**	**1.86**	**198**		Pn	05 51 50.7	-0.6
CNPM	**China Poot**	**1.86**	**198**	IAML		05 52 17.7	
	comp=N,144nm,0.5s						
CNPM				IAML		05 52 18.8	
	comp=E,125nm,0.4s						
P23K	**Montague Islan**	**1.86**	**133**		Pn	05 51 49.8	-1.5
PPLA	**Purkeypile**	**1.89**	**330**		Pn	05 51 52.2	+0.3
ILS	**Iliamna Low So**	**1.98**	**229**		Pn	05 51 52.9	-0.2
ILSW	**Iliamna Southw**	**1.99**	**230**		Pn	05 51 53.3	+0.1
KLU	**Klutina**	**2.02**	**82**		Pn	05 51 53.3	-0.3
KLU				IAML		05 52 25.9	
	comp=N,131nm,0.4s						
KLU				IAML		05 52 26.0	
	comp=E,74nm,0.4s						
KLU	**Klutina**	**2.02**	**82**		Sn	05 52 18.1	+0.3
M24K	**Tolsona, Glenn**	**2.04**	**65**		Pn	05 51 54.7	+0.8
M24K				IAML		05 52 29.2	
	comp=N,94nm,0.9s						
DIV	**Divide**	**2.10**	**92**		Pn	05 51 54.1	-0.7
M19K	**Big River Lodg**	**2.14**	**289**		Pn	05 51 54.8	-0.4
M19K					Sn	05 52 21.6	+1.1
M19K	**Big River Lodg**	**2.14**	**289**	IAML		05 52 36.6	
	comp=N,40nm,0.8s						
L20K	**Farewell, AK**	**2.15**	**305**		Pn	05 51 55.0	-0.3
TRF	**Thorofare Moun**	**2.17**	**358**		Pn	05 51 56.4	+0.6
TRF				IAML		05 52 39.9	
	comp=N,53nm,0.7s						
N19K	**Bonanza Creek**	**2.18**	**259**		Pn	05 51 55.7	-0.2
N19K					Sn	05 52 23.0	+1.3
RND	**Reindeer**	**2.20**	**15**		Pn	05 51 56.5	+0.3
RND				IAML		05 52 29.5	
	comp=N,39nm,0.4s						
RND				IAML		05 52 36.0	
	comp=E,42nm,0.5s						
EYAK	**Cordova Ski Ar**	**2.25**	**107**		Pn	05 51 55.8	-0.9
P19K	**Oil Pt**	**2.26**	**225**		Pn	05 51 57.4	+0.6
P19K					Sn	05 52 23.7	+0.2
P19K	**Oil Pt**	**2.26**	**225**	IAML		05 52 29.1	
	comp=N,123nm,0.6s						
KTH	**Kantishna Hill**	**2.30**	**351**		Pn	05 51 57.7	+0.2
KTH	**Kantishna Hill**	**2.30**	**351**	IAML		05 52 30.7	
	comp=E,40nm,0.5s						
CAST	**Castle Rocks**	**2.33**	**337**		Pn	05 51 57.9	+0.1
O19K	**Port Alsworth**	**2.34**	**244**		Pn	05 51 57.6	-0.3
O19K				IAML		05 52 40.6	
	comp=E,95nm,0.4s						
L19K	**White Mountain**	**2.43**	**294**		Pn	05 51 58.9	-0.4
MCK	**McKinley**	**2.51**	**12**		Pn	05 52 01.6	+1.3
HARP	**HAARP**	**2.60**	**62**		Pn	05 52 02.2	+0.7
N25K	**Chitina, Valde**	**2.66**	**81**		Pn	05 52 01.4	-1.0
N25K	**Chitina, Valde**	**2.66**	**81**	IAML		05 52 45.4	
	comp=E,35nm,0.5s						
N25K				IAML		05 52 46.4	
	comp=N,46nm,0.5s						
BMRM	**Bremner River**	**2.69**	**95**		Pn	05 52 01.6	-1.1
GOAT	**Goat Mountain**	**2.72**	**103**		Pn	05 52 01.9	-1.3
PAX	**Paxson**	**2.75**	**50**		Pn	05 52 03.5	-0.2
M18K	**Stony River**	**2.76**	**277**		Pn	05 52 03.2	-0.5
K20K	**Telida**	**2.78**	**320**		Pn	05 52 03.5	-0.5
CHUM	**Lake Minchumin**	**2.80**	**340**		Pn	05 52 04.5	+0.3
WACK	**Wrangell Chich**	**2.84**	**73**		Pn	05 52 04.7	-0.4
BPAW	**Bear Paw Mtn.**	**2.85**	**352**		Pn	05 52 05.1	+0.2
N18K	**Kilae Creek**	**2.88**	**260**		Pn	05 52 04.8	-0.6
O18K	**Koktuh Hills**	**2.90**	**242**		Pn	05 52 05.0	-0.7
O18K	**Koktuh Hills**	**2.90**	**242**	IAML		05 52 56.2	
	comp=N,31nm,0.9s						
O18K				IAML		05 52 58.8	
	comp=E,21nm,1.5s						
SYI	**Shuyak Island**	**2.92**	**204**		Pn	05 52 05.7	-0.2
SYI	**Shuyak Island**	**2.92**	**204**	IAML		05 52 51.1	
	comp=N,40nm,1.5s						
SYI				IAML		05 52 51.2	
	comp=E,39nm,1.5s						
Q19K	**Cape Douglas,**	**2.96**	**218**		Pn	05 52 06.8	+0.3
GLB	**Gilahina Butte**	**3.04**	**84**		Pn	05 52 07.7	+0.2
GLB				IAML		05 52 56.8	
	comp=N,36nm,0.6s						
GLB				IAML		05 53 06.0	
	comp=E,20nm,0.7s						
P18K	**Big Mountain,**	**3.18**	**235**		Pn	05 52 09.0	-0.5
NICHA	**Nichawak Mount**	**3.19**	**107**		Pn	05 52 07.8	-1.8
VRDI	**Verde Repeater**	**3.21**	**88**		Pn	05 52 11.2	+1.1
VRDI				IA

	comp=E,17nm,1.4s							
KDAK				IAML		05 53 16.8		
	comp=E,15nm,0.8s							
IL31		**3.79**	**21**		Pn	05 52 16.8		-0.9
ILAR	**Eielson Array**	**3.79**	**21**	Pn	Pn	05 52 19.5		+1.7
P17K	**Kvichak River**	**3.79**	**239**		Pn	05 52 16.8		-1.1
I23K	**Minto, Yukon-K**	**3.89**	**5**		Pn	05 52 19.1		-0.1
I23K				IAML		05 53 33.9		
	comp=N,9.8nm,1.4s							
SCRK	**Sand Creek**	**3.91**	**44**		Pn	05 52 20.1		+0.6
SCRK				IAML		05 53 22.1		
	comp=E,14nm,1.1s							
SCRK				IAML		05 53 22.3		
	comp=N,14nm,1.0s							
J25K	**Salcha River,**	**3.97**	**31**	IAML		05 53 13.4		
	comp=N,10nm,0.8s							
J25K				IAML		05 53 16.5		
	comp=E,14nm,0.6s							
I21K	**Tanana**	**4.00**	**349**		Pn	05 52 20.2		-0.4
POKR	**Poker Plat Res**	**4.03**	**16**	Pn	Pn	05 52 20.8		-0.3
I20K	**Naaghedeneel**	**4.04**	**332**	Pn	Pn	05 52 20.9		-0.3
J26L	**Joseph Creek**	**4.40**	**40**	IAML		05 53 24.1		
	comp=E,15nm,0.5s							
J26L				IAML		05 53 25.5		
	comp=N,14nm,0.7s							
J17K	**VABM Dome**	**4.69**	**301**	Pn	Pn	05 52 29.8		-0.2
J17K				IAML		05 53 22.3		
	comp=E,6.1nm,1.3s							
PRP	**Porcupine Dome**	**4.71**	**24**		Pn	05 52 32.2		+1.5
PRP				IAML		05 53 32.9		
	comp=E,6.3nm,1.4s							
PRP				IAML		05 53 35.8		
	comp=N,8.4nm,1.3s							
DAWY	**Dawson**	**5.66**	**56**	Pn	Pn	05 52 43.9		+0.4
G18K	**Tagagawik**	**5.99**	**324**	Pn	Pn	05 52 48.2		+0.2
BMAR	**Burnt Mountain**	**6.61**	**19**	Pn	Pn	05 52 57.4		+0.9

*ASRS **13** 06:01:28.0±2.1,53.°71N×91.°04E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **13** 06:01:39.0±3.4,53.°35N×90.°45E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=26.4km s-min=20.7km az=75.0, Suspected Mining explosion.*

ISC 13 06:01:35.4±4.3,53.°7N±0.°2×90.°4E±0.°2, h0km, n5, σ0.°81/9, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.33**	**276**	⇓Pn	**Pb**	**06 02 34.2**	**-1.0**
	2.6nm,0.7s						
ZAA0				⇓Lg	Lg	06 03 28.4	
	14nm,1.1s						
KURK	**Kurchatov**	**7.85**	**252**	⇑Pn	**Pn**	**06 03 31.2**	**+0.4**
	4.8nm,0.7s						
KURK				⇑Sn	**Sn**	**06 05 00.8**	**+0.6**
	7.6nm,0.7s						
KURK				⇑Lg	Lg	06 05 47.8	
	46nm,1.3s						
KURBB	**Kurchatov Arra**	**7.94**	**252**	⇓Pn	**Pn**	**06 03 33.3**	**+1.3**
	5.8nm,0.6s						
KURBB				⇓Sn	**Sn**	**06 05 02.6**	**0.0**
	22nm,0.8s						
KURBB				⇑Lg	Lg	06 05 50.5	
	36nm,0.9s						
MK31	**Makanchi Array**	**8.68**	**220**	⇑Pn	**Pn**	**06 03 42.5**	**+0.3**
	0.9nm,0.5s,baz=36,slow=12						
MK31				⇓Sn	**Sn**	**06 05 20.0**	**-0.6**
	1.5nm,0.7s						
MK31				⇑Lg	Lg	06 06 09.2	
	5.2nm,0.8s,baz=39,slow=30						
MAKZ	**Makanchi**	**8.79**	**221**	⇑Pn	**Pn**	**06 03 44.1**	**+0.5**
	1.2nm,0.7s						
MAKZ				⇑Sn	**Sn**	**06 05 23.2**	**-0.1**
	3.3nm,0.9s						
MAKZ				⇓Lg	Lg	06 06 10.3	
	7.5nm,1.2s						

IDC 13 06:13:35.9±12.0, 20.°52S×175.°24W, h0km, mb4.0/3, mbtmp3.9/3, Error ellipse: s-maj=393.2km s-min=72.3km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.03**	**256**	P	P	06 22 08.8	-0.7
	0.8nm,0.6s,baz=103,slow=7.7,SNR=7.7						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**47.16**	**261**	P	P	06 22 10.9	+0.4
	0.7nm,0.5s,baz=96,slow=8.0,SNR=22						
	0.7nm,0.5s						
SONM	**Songino Array**	**97.48**	**318**	P	P	06 27 11.6	-0.2
	0.2nm,0.3s,baz=114,slow=5.5,SNR=2.2						
	0.2nm,0.3s						

*NEIC **13** 06:14:28.9±1.3, 7.°73N±0.°08×126.°6E±0.°1, h82km±5km, mb4.4/16, Error ellipse: s-maj=18.4km s-min=11.3km az=86.0*
*IDC **13** 06:14:28.1±2.2, 7.°92N×126.°81E, h73km±19km, mb3.9/14, mbtmp4.2/15, MS3.4/8, Error ellipse: s-maj=22.0km s-min=13.4km az=72.0*

ISC 13 06:14:30.0±0.5, 7.°68N±0.°07×126.°66E±0.°09, h100km, n52, σ1.°52/46, mb4.3/23, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.23**	**241**	Pn	**Pn**	**06 14 51.3**	**-1.7**
DAV	**Davao City (W)**	**1.23**	**241**	P	**Pn**	**06 14 51.8**	**-1.2**
	410nm,0.4s,baz=84,slow=2.9,SNR=16						
DAV				S	**Sn**	**06 15 12.1**	**+1.7**
	505nm,0.4s,baz=248,slow=23,SNR=8.4						
DAV				LR	LR	06 15 41.7	
	comp=Z,2μm,19.8s,baz=360,slow=50						
DAV	**Davao City (W)**	**1.23**	**241**	P	**Pn**	**06 14 52.0**	**-1.0**
TNTI	**Ternate**	**6.89**	**174**	Pn	**Pn**	**06 16 06.5**	**-2.1**
TGY	**Tagaytay City**	**8.50**	**319**	LR	LR	06 20 09.7	
	comp=Z,326nm,21.4s,baz=240,slow=40						
KAPI	**Kappang**	**14.37**	**209**	P	**P**	**06 17 51.0**	**-1.8**
	10nm,0.3s,baz=61,slow=13,SNR=3.8						
JAY	**Jayapura**	**17.29**	**125**	LR	LR	06 25 26.7	
	comp=Z,163nm,18.1s,baz=332,slow=38						
GUMO	**Guam**	**18.83**	**70**	P	**P**	**06 18 41.4**	**-0.7**
	82nm,0.4s,baz=314,slow=19,SNR=2.1						
JOW	**Kunigami**	**19.11**	**4**	P	**Pn**	**06 18 46.2**	**-0.8**
	33nm,0.8s,baz=198,slow=6.4,SNR=4.5						
MTN	**Manton Dam**	**20.87**	**168**	P	**P**	**06 19 02.8**	**-1.4**
KNRA	**Kununurra**	**23.30**	**175**	P	**P**	**06 19 28.7**	**-0.6**
KNRA				IAmb	IAmb	06 19 40.6	
	comp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.63**	**182**	P	**P**	**06 19 52.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**25.63**	**182**	P	**P**	**06 19 52.1**	**+1.7**
	comp=Z,2.4nm,0.5s,baz=357,slow=5.7,SNR=14						
	comp=Z,2.4nm,0.5s						
PMG	**Port Moresby**	**26.55**	**129**	LR	LR	06 33 00.2	
	comp=Z,46nm,18.3s,baz=43,slow=42						
COEN	**Coen**	**27.03**	**143**	P	**P**	**06 20 03.0**	**-0.1**
PSI	**Prapat**	**28.03**	**262**	LR	LR	06 35 06.4	
	comp=Z,76nm,19.6s,baz=197,slow=44						
WB0	**Warramunga Arr**	**28.32**	**164**	P	**P**	**06 20 14.9**	**+0.4**
WB0				IAmb	IAmb	06 20 50.7	
	comp=Z,5.7nm,0.8s						
WRAB	**Tennant Creek**	**28.46**	**165**	P	**P**	**06 20 17.3**	**+1.5**
WRA	**Warramunga Arr**	**28.47**	**165**	P	**P**	**06 20 17.6**	**+1.7**
WRA	**Warramunga Arr**	**28.47**	**165**	P	**P**	**06 20 19.6**	**+3.8**
	comp=Z,2.5nm,1.0s,baz=347,slow=9.4,SNR=7.0						
WRA				ScP	**ScP**	**06 27 04.4**	**+6.4**
	comp=Z,0.8nm,0.9s,baz=350,slow=2.5,SNR=2.8						
	comp=Z,2.5nm,1.0s						
WR8	**Warramunga Arr**	**28.52**	**164**	P	**P**	**06 20 16.6**	**+0.2**
WR8				IAmb	IAmb	06 20 56.9	
	comp=Z,9.3nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.00**	**294**	P	**P**	**06 20 21.0**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=112,slow=9.5,SNR=4.3						
CMAR				LR	LR	06 32 44.1	
	comp=Z,35nm,18.5s,baz=135,slow=38						
	comp=Z,0.9nm,0.3s						
KSRS	**Korea Array**	**29.66**	**2**	LR	LR	06 32 51.3	
	comp=Z,45nm,19.4s,baz=180,slow=38						
ASAR	**Alice Springs**	**31.95**	**167**	P	**P**	**06 20 47.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=344,slow=7.4,SNR=7.5						
ASAR				PcP	**PcP**	**06 23 35.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=339,slow=2.3,SNR=1.7						
ASAR				LR	LR	06 35 13.1	
	comp=Z,44nm,21.2s,baz=300,slow=39						
	comp=Z,0.4nm,0.5s						

FORT	**Forrest**	**38.26**	**178**	P	**P**	**06 21 40.1**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**40.77**	**69**	T	T	07 06 08.4	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**40.78**	**69**	T	T	07 06 07.9	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.79**	**69**	T	T	07 06 11.7	
	baz=265						
BBOO	**Buckleboo**	**41.24**	**168**	P	**P**	**06 22 06.1**	**+0.8**
SONM	**Songino Array**	**43.57**	**340**	P	**P**	**06 22 23.0**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=156,slow=11,SNR=2.9						
SONM				PcP	**PcP**	**06 24 10.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=172,slow=3.3,SNR=2.8						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**54.32**	**324**	P	**P**	**06 23 46.1**	**-0.1**
MK31				IAmb	IAmb	06 23 47.9	
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**54.32**	**324**	P	**P**	**06 23 46.5**	**+0.3**
MKAR	**Makanchi Array**	**54.32**	**324**	P	**P**	**06 23 46.9**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=124,slow=8.2,SNR=47						
	comp=Z,3.5nm,0.7s						
MAKZ	**Makanchi**	**54.51**	**324**	P	**P**	**06 23 47.6**	**0.0**
MAKZ				IAmb	IAmb	06 23 48.8	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**57.08**	**332**	P	**P**	**06 24 04.2**	**-1.5**
ZALV	**Zalesovo Beam**	**57.08**	**332**	P	**P**	**06 24 05.2**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=104,slow=5.9,SNR=9.9						
	comp=Z,2.7nm,0.8s						
AAK	**Ala-Archa**	**57.44**	**316**	LR	LR	06 50 42.7	
	comp=Z,142nm,18.2s,baz=30,slow=38						
KURK	**Kurchatov**	**58.41**	**326**	P	**P**	**06 24 14.7**	**-0.4**
KURBB	**Kurchatov Arra**	**58.42**	**326**	P	**P**	**06 24 15.2**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=124,slow=6.3,SNR=35						
	comp=Z,3.4nm,0.8s						
KK31	**Karatay Array**	**60.35**	**316**	P	**P**	**06 24 28.0**	**-0.7**
KK31				IAmb	IAmb	06 24 40.8	
	comp=Z,4.6nm,1.5s						
KKAR	**Karatay Array**	**60.35**	**316**	P	**P**	**06 24 28.3**	**-0.4**
TIXI	**Tiksi**	**63.92**	**1**	P	**P**	**06 24 52.0**	**+0.1**
TIXI				IAmb	IAmb	06 25 04.0	
	comp=Z,7.2nm,1.1s						
BVAR	**Borovoye Array**	**64.01**	**326**	P	**P**	**06 24 53.5**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=120,slow=8.0,SNR=9.9						
	comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**69.08**	**320**	P	**P**	**06 25 25.0**	**-0.3**
ILAR	**Eielson Array**	**81.60**	**26**	P	**P**	**06 26 36.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=235,slow=5.3,SNR=7.6						
	comp=Z,0.5nm,0.7s						
I28M	**Miner Creek**	**84.50**	**25**	P	**P**	**06 26 52.7**	**+1.0**
I28M				IAmb	IAmb	06 27 10.1	
	comp=Z,6.9nm,1.1s						
G29M	**Pine Creek**	**85.08**	**23**	P	**P**	**06 26 55.9**	**+1.4**
SPITS	**Spitsbergen Ar**	**86.62**	**349**	P	**P**	**06 27 01.6**	**-0.3**
	comp=Z,15nm,1.1s,baz=40,slow=12,SNR=2.0						
	comp=Z,15nm,1.1s						
ARCES	**ARCESS Array B**	**86.74**	**340**	P	**P**	**06 27 02.9**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=68,slow=5.8,SNR=9.6						
	comp=Z,2.8nm,0.9s						
VNDA	**Vanda**	**87.33**	**173**	P	**P**	06 27 10.3	+5.2
	comp=Z,1.6nm,0.8s,baz=339,slow=2.0,SNR=4.4						
FINES	**FINESS Array B**	**88.34**	**332**	P	**P**	**06 27 10.0**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=101,slow=4.1,SNR=6.4						
	comp=Z,1.2nm,0.7s						
YKA	**Yellowknife Ar**	**95.95**	**24**	P	**P**	**06 27 45.4**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=302,slow=4.9,SNR=5.2						
	comp=Z,0.2nm,0.7s						

IDC 13 06:22:10.1±4.3, 17.°34S×178.°94W, h575km±19km, mb3.2/3, mbtmp4.2/4, Error ellipse: s-maj=118.0km s-min=76.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.90**	**262**	P	P	06 23 26.5	-0.1
	37nm,0.6s,baz=99,slow=3.3,SNR=40						
STKA	**Stephens Creek**	**38.47**	**240**	P	P	06 28 43.7	-0.2
	1.9nm,0.5s,baz=86,slow=9.3,SNR=4.9						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**44.24**	**259**	P	P	06 29 29.3	-0.3
	0.6nm,0.5s,baz=93,slow=6.8,SNR=14						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**44.46**	**254**	P	P	06 29 31.3	0.0
	5.7nm,0.4s,baz=89,slow=8.1,SNR=170						
ASAR				PcP	PcP	06 31 01.8	-0.4
	0.3nm,0.4s,baz=107,slow=4.0,SNR=3.3						
	5.7nm,0.4s						

*SDD **13** 06:33:59.3±1.2, 17.°13N×68.°12W, h40km±116km, MD2.8, ML2.2, MW2.8*
*OSPL **13** 06:33:59.6±0.8, 17.°14N×68.°05W, h36km±30km, ML2.5*
*RSPR **13** 06:34:00.9, 17.°28N×68.°13W, h31km±21km, MD3.0/6*
*NEIC **13** 06:34:00.7±1.3, 17.°35N±0.°08×68.°13W±0.°03, h35km±2km, ML2.2/16, Md3.0/6(RSPR), Error ellipse: s-maj=13.9km s-min=5.6km az=357.0*

ISC 13 06:33:57.9±2.1, 17.°2N±0.°1×68.°10W±0.°03, h25km±17km, n40, σ0.°75/47, 7C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**1.17**	**327**	*e*Pg	**Pn**	**06 34 19.1**	**+0.4**
SADR				⇓*e*Pg		06 34 19.1	
SADR				⇑*e*Sg	**Sn**	**06 34 33.2**	**-0.6**
SADR				IAML		06 34 33.3	
	comp=E,66nm,0.2s						
SADR				⇓*e*Sg		06 34 33.3	
SADR				IAML		06 34 39.7	
	comp=N,98nm,1.8s						
CRPR	**Cabo Rojo, PR**	**1.23**	**50**		**Pn**	**06 34 19.8**	**+0.3**
CRPR					**Sn**	**06 34 35.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.23**	**50**	IAML		06 34 43.2	
	comp=E,35nm,2.9s						
CRPR	**Cabo Rojo, PR**	**1.23**	**50**	*e*Pg	**Pn**	**06 34 19.7**	**+0.2**
CRPR				*e*Sg	**Sn**	**06 34 35.4**	**+0.1**
CRPR				IAML		06 34 35.7	
	comp=E,22nm,0.5s						
CRPR				IAML		06 34 35.8	
	comp=N,18nm,0.1s						
CRPR				IAML		06 34 49.0	
	comp=N,33nm,2.6s						
CRPR	**Cabo Rojo, PR**	**1.23**	**50**	⇑*e*P	**Pn**	**06 34 19.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.23**	**50**	*e*S	**Sn**	**06 34 35.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.23**	**50**	*i* P	**Pn**	**06 34 19.8**	**+0.3**
CRPR				*e*S	**Sn**	**06 34 34.1**	**-1.2**
CRPR				IAML		06 34 40.2	
	comp=Z,41nm,1.9s						
MLPR	**Magueyes Islan**	**1.26**	**53**	*e*Pg	**Pn**	**06 34 20.2**	**+0.3**
MLPR				*e*Sg	**Sn**	**06 34 36.1**	**+0.1**
MLPR				IAML		06 34 52.9	
	comp=N,8.5nm,2.0s						
MLPR	**Magueyes Islan**	**1.26**	**53**	⇓*e*P	**Pn**	**06 34 20.2**	**+0.3**
MLPR	**Magueyes Islan**	**1.26**	**53**	*e*S	**Sn**	**06 34 35.7**	**-0.3**
PCDR	**Punta Cana, DR**	**1.32**	**348**		**Pb**	**06 34 22.3**	**+0.2**
PCDR	**Punta Cana, DR**	**1.32**	**348**		**Sn**	**06 34 35.5**	**-2.1**
PCDR	**Punta Cana, DR**	**1.32**	**348**	IAML		06 34 34.5	
	comp=E,91nm,1.9s						
PCDR	**Punta Cana, DR**	**1.32**	**348**	IAML		06 34 39.0	
	comp=N,144nm,2.0s						
PCDR	**Punta Cana, DR**	**1.32**	**348**	*e*Pg	**Pb**	**06 34 22.3**	**+0.2**
PCDR				IAML		06 34 43.5	
	comp=N,118nm,2.0s						
PCDR	**Punta Cana, DR**	**1.32**	**348**	⇑*e*P	**Pb**	**06 34 22.3**	**+0.2**
PCDR	**Punta Cana, DR**	**1.32**	**348**	*e*S	**Sn**	**06 34 35.5**	**-2.1**
PCDR	**Punta Cana, DR**	**1.32**	**348**	*i* P	**Pb**	**06 34 22.3**	**+0.2**
PCDR				*e*S	**Sn**	**06 34 37.9**	**+0.3**
PCDR				IAML		06 34 43.5	
	comp=N,119nm,2.0s						
LSP	**Las Mesas**	**1.36**	**45**		**Pn**	**06 34 22.0**	**+0.6**
LSP					**Sn**	**06 34 38.1**	**-0.6**
LSP	**Las Mesas**	**1.36**	**45**	⇑*e*P	**Pn**	**06 34 22.0**	**+0.6**
LSP	**Las Mesas**	**1.36**	**45**	*e*S	**Sn**	**06 34 38.1**	**-0.6**
AGPR	**Aguadilla, PR**	**1.56**	**37**	*e*Sg	**Sn**	**06 34 44.3**	**+0.7**
AGPR				IAML		06 34 44.9	
	comp=N,78nm,2.4s						
AGPR				IAML		06 34 46.4	
	comp=E,28nm,0.3s						
OBIP	**Obispado Ponce**	**1.65**	**60**	Pn	**Pn**	**06 34 25.7**	**+0.4**
OBIP				IAML		06 34 56.7	
	comp=N,18nm,2.4s						
CELP	**Cerrillos**	**1.69**	**59**		**Pn**	**06 34 26.4**	**+0.6**
CELP					**Sn**	**06 34 46.2**	**-0.3**
CELP	**Cerrillos**	**1.69**	**59**	*e*Pg	**Pn**	**06 34 26.3**	**+0.5**
CELP				*e*Sg	**Sn**	**06 34 46.5**	**-0.1**
CELP				IAML		06 34 47.0	
	comp=N,9.1nm,0.3s						
CELP				IAML		06 34 47.3	
	comp=E,8.9nm,0.1s						
CELP				IAML		06 34 53.7	
	comp=N,14nm,3.0s						
CELP	**Cerrillos**	**1.69**	**59**	⇑*e*P	**Pn**	**06 34 26.4**	**+0.6**
CELP	**Cerrillos**	**1.69**	**59**	*e*S	**Sn**	**06 34 46.2**	**-0.3**
AOPR	**Arecibo Observ**	**1.71**	**48**		**Pn**	**06 34 27.0**	**+0.8**
AOPR					**Sn**	**06 34 47.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.71**	**48**	IAML		06 34 49.4	
	comp=E,40nm,0.4s						
AOPR				IAML		06 34 49.6	
	comp=N,39nm,0.7s						
AOPR	**Arecibo Observ**	**1.71**	**48**	*e*Pg	**Pn**	**06 34 26.3**	**+0.2**
AOPR				IAML		06 34 49.3	
	comp=E,38nm,0.5s						
AOPR				IAML		06 34 49.5	
	comp=N,28nm,0.4s						
AOPR				IAML		06 34 49.7	
	comp=N,28nm,0.3s						
AOPR	**Arecibo Observ**	**1.71**	**48**	⇑*e*P	**Pn**	**06 34 27.0**	**+0.8**
AOPR	**Arecibo Observ**	**1.71**	**48**	*e*S	**Sn**	**06 34 47.4**	**+0.2**
MIDR	**Miches**	**1.98**	**333**	*e*Pg	**Pn**	**06 34 31.0**	**+1.1**
MIDR				IAML		06 34 55.1	
	comp=E,19nm,0.4s						
ECPR	**Experimental S**	**1.99**	**56**	*e*S	**Sn**	**06 34 54.2**	**+0.1**
GCPR	**Guaynabo City**	**2.21**	**60**	Pn	**Pb**	**06 34 35.8**	**-1.4**
GCPR				IAML		06 34 51.9	
	comp=N,16nm,2.5s						
GCPR				IAML		06 35 52.7	
	comp=E,16nm,2.5s						
HUMP	**Col San Antoni**	**2.34**	**66**	Pn	**Pn**	**06 34 35.9**	**+1.2**
HUMP				IAML		06 35 16.6	
	comp=N,14nm,2.4s						
HUMP				IAML		06 35 39.8	
	comp=E,12nm,3.1s						
LOBH	**Bahia de las A**	**3.44**	**281**	*i* P	**Pn**	**06 34 50.1**	**+0.3**
LOBH				IAML		06 35 35.3	
	comp=Z,65nm,4.2s						
LONE3	**El Aguacate, B**	**3.48**	**294**	*i* P	**Pn**	**06 34 51.5**	**+0.9**
LONE3				IAML		06 35 39.2	
	comp=Z,9.0nm,2.1s						
SDDR	**Presa de Saban**	**3.50**	**301**	Pn	**Pn**	**06 34 51.4**	**+0.5**
SDDR	**Presa de Saban**	**3.50**	**301**	*i* P	**Pn**	**06 34 51.8**	**+0.9**
SDDR				*e*S	**Sn**	**06 35 30.7**	**-0.9**
SDDR				IAML		06 35 34.4	
	comp=Z,9.7nm,1.9s						

WEL 13 06:37:19.1±1.1, 35.°S±8.°×18.°0W±1.°4, h12km, M3.6/9, ML3.9/12, MLv3.6/9, Error ellipse: s-maj=19.1km s-min=8.0km az=113.5, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.96**	**210**	P	Pn	06 38 05.9	-0.1
MXZ				S	Sn	06 38 42.4	+1.0
WMGZ	**Waiomatatini S**	**3.14**	**206**	P	Pn	06 38 09.3	+0.9
PKGZ	**Pakihiroa**	**3.31**	**210**	P	Pn	06 38 10.8	0.0
PKGZ				S	Sn	06 38 51.9	+1.8
HAZ	**Te Kaha**	**3.35**	**214**	P	Pn	06 38 12.2	+0.9
PUZ	**Puketiti**	**3.42**	**206**	P	Pn	06 38 13.4	+1.1
RUGZ	**Raukumara Rang**	**3.57**	**214**	P	Pn	06 38 15.1	+0.6
RUGZ				S	Sn	06 38 58.6	+2.0
TWGZ	**Tauwhareparae**	**3.62**	**209**	P	Pn	06 38 15.4	+0.3
TWGZ				S	Sn	06 39 00.0	+2.3
CNGZ	**Carnagh Statio**	**3.81**	**204**	P	Pn	06 38 18.0	+0.4
MWZ	**Matawai**	**3.94**	**212**	P	Pn	06 38 18.8	-0.6
MWZ				S	Sn	06 39 07.2	+1.6
URZ	**Urewera**	**4.07**	**216**	P	Pn	06 38 21.3	+0.1
URZ				S	Sn	06 39 09.6	+0.8
RAGZ	**Rawiri**	**4.12**	**212**	P	Pn	06 38 21.7	-0.3
RAGZ				S	Sn	06 39 10.3	+0.1
PRGZ	**Paritu Road**	**4.31**	**205**	P	Pn	06 38 23.4	-1.2
PRGZ				S	Sn	06 39 15.1	+0.2
MUGZ	**Murupara**	**4.41**	**217**	P	Pn	06 38 25.4	-0.5
MUGZ				S	Sn	06 39 17.4	+0.2
KNZ	**Kokohu**	**4.48**	**206**	P	Pn	06 38 25.5	-1.3
KNZ				S	Sn	06 39 17.9	-0.9
BKZ	**Black Stump Fm**	**5.08**	**214**	P	Pn	06 38 34.5	-0.7
BKZ				S	Sn	06 39 33.8	-0.1
OUZ	**Omahuta**	**5.40**	**266**	P	Pn	06 38 39.2	-0.2

BER 13 06:49:42.1±1.2, 74.°91N×9.°57E, h2km±13km, mb(Pn)3.7, Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.53**	**95**	*e*P	Pn	06 50 22.8	-1.3
BJO1				*e*S	Sn	06 50 51.2	-4.2
BJO1				IAML		06 50 53.2	
	comp=Z,3.9nm,0.8s						
HSPB	**Hornsund (broa**	**2.56**	**32**	*e*P	Pn	06 50 22.1	-2.3
HSPB				*e*S	Sn	06 50 52.2	-3.9
HSPB				IAML		06 50 55.4	
	comp=Z,3.2nm,0.8s						
BRBB	**Barentsburg B**	**3.38**	**17**	*e*P	Pn	06 50 33.5	-2.3
BRBB				*e*S	Sn	06 51 13.1	-3.3
SPA0	**Spitsbergen Ar**	**3.65**	**23**	*e*P	Pn	06 50 38.0	-1.4
SPA0				*e*S	Sn	06 51 18.9	-4.1
SPA0				IAML		06 51 27.7	
	comp=Z,2.0nm,0.8s						
KBS	**Kingsbay**	**4.08**	**6**	*e*P	Pn	06 50 43.1	-2.2
KBS				*e*S	Sn	06 51 28.3	-5.2
KBS				IAML		06 51 29.4	
	comp=Z,5.4nm,0.8s						
HOPEN	**Hopen**	**4.15**	**60**	*e*P	Pn	06 50 44.6	-1.6
HOPEN				*e*S	Sn	06 51 30.9	-4.3
HOPEN				IAML		06 51 34.6	
	comp=Z,3.7nm,0.9s						
JNE

ISC 13 07:03:28.5±0.4, 18°.83S±0°.07×177°.61W±0°.07, h650km, n153, σ1°82/161, mb4.4/25, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	1.28 297		P	P	07 04 42.1	-3.2
LKBA	Tubou, Lakemba	1.28 297		S	S	07 05 42.6	-5.0
DGTI	Dogotuki	3.57 314		P	P	07 04 51.5	-3.6
DGTI	Dogotuki	3.57 314		S	S	07 06 01.9	-3.6
MSVF	Nonsavu	4.26 284		P	P	07 04 56.5	-3.0
MSVF	Nonsavu	4.26 284		P	P	07 04 56.7	-2.8
	98nm,0.8s,baz=133,slow=7.3,SNR=76						
MSVF				S	S	07 06 11.7	-2.0
	11nm,1.0s,baz=142,slow=22,SNR=1.2						
MSVF	Nonsavu	4.26 284		P	P	07 04 57.2	-2.3
MSVF	Nonsavu	4.26 284		S	S	07 06 11.0	-2.7
FUTU	Fugatoga	4.52 354		P	P	07 04 56.8	-4.5
NIUE	Niue	7.28 93		P	P	07 05 20.8	-2.5
NIUE	Niue	7.28 93		P	P	07 05 21.4	-1.8
AFI	Afiamalu	7.43 50		P	P	07 05 21.2	-3.5
GLKZ	Green Lake	10.39 181		P	P	07 05 49.3	-2.6
FUNA	Funafuti	10.70 343		P	P	07 05 50.6	-4.6
DVP	Devils Point	13.53 272		P	P	07 06 21.7	+0.3
PINNC	Pines Island,	14.48 252		P	P	07 06 29.7	-0.3
YATNC	Mamie plateau,	14.88 255		P	P	07 06 34.1	+0.4
DZM	Mont Dzumac	15.29 255		P	P	07 06 38.5	+1.0
	3.0nm,0.4s,baz=89,slow=16,SNR=3.6						
DZM	Mont Dzumac	15.29 255		P	P	07 06 38.2	+0.7
OUZ	Omahuta	18.09 204		P	P	07 07 05.3	+2.5
OUZ	Omahuta	18.09 204		P	P	07 07 06.0	+3.3
GRZ	Great Barrier	18.40 198		P	P	07 07 07.9	+2.3
WCZ	Waipu Caves	18.46 201		P	P	07 07 09.6	+3.4
MXZ	Matakaoa Point	19.00 190		P	P	07 07 10.0	-1.0
MXZ	Matakaoa Point	19.00 190		P	P	07 07 10.8	-0.1
WMGZ	Waiomatatini S	19.24 190		P	P	07 07 13.4	+0.3
MKAZ	Moumakai	19.28 198		P	P	07 07 16.0	+2.5
HAZ	Te Kaha	19.28 191		P	P	07 07 13.1	-0.4
HAZ				S	S	07 10 06.5	-8.5
RUGZ	Raukumara Rang	19.51 191		P	P	07 07 16.2	+0.5
TWGZ	Tauwhareparae	19.66 190		P	P	07 07 17.5	+0.6
TOZ	Tahuroa Road	19.77 196		P	P	07 07 19.4	+1.5
TOZ				IAmb	IAmb	07 07 20.9	
	comp=Z,24nm,0.8s						
TOZ	Tahuroa Road	19.77 196		P	P	07 07 20.2	+2.3
MWZ	Matawai	19.89 191		P	P	07 07 17.9	-1.1
MWZ				S	S	07 10 18.3	-6.5
URZ	Urewera	19.90 192		P	P	07 07 16.9	-2.1
	comp=Z,24nm,0.5s,baz=343,slow=3.1,SNR=52						
URZ				S	S	07 10 20.4	-4.3
	comp=Z,3.4nm,0.9s,baz=342,slow=14,SNR=1.5						
URZ	Urewera	19.90 192		P	P	07 07 19.0	0.0
URZ	Urewera	19.90 192		P	P	07 07 19.1	0.0
URZ				S	S	07 10 18.1	-6.6
MUGZ	Murupara	20.18 193		P	P	07 07 21.4	-0.2
RIGZ	Rimuhau	20.21 191		P	P	07 07 22.4	+0.5
SNGZ	Shannon Statio	20.36 191		P	P	07 07 23.9	+0.7
RAHZ	Arahi	20.54 192		P	P	07 07 25.3	+0.5
BKZ	Black Stump Fm	20.90 193		P	P	07 07 26.8	-1.3
BKZ				IAmb	IAmb	07 07 28.9	
	comp=Z,12nm,1.1s						
BKZ	Black Stump Fm	20.90 193		P	P	07 07 28.5	+0.4
BKZ	Black Stump Fm	20.90 193		P	P	07 07 26.8	-1.3
VRZ	Vera Road	21.28 197		P	P	07 07 33.7	+2.4
TSZ	Takapari Road	21.87 193		P	P	07 07 37.6	+0.9
BFZ	Birch Farm	22.41 192		P	P	07 07 41.4	0.0
BFZ	Birch Farm	22.41 192		P	P	07 07 41.9	+0.5
SNZO	South Karori	23.35 195		P	P	07 07 49.8	+0.1
TCW	Tory Channel	23.36 196		P	P	07 07 49.5	-0.3
QRZ	Quartz Range	23.50 199		P	P	07 07 52.5	+1.5
TATA	Tatamba Isabel	24.25 292		P	P	07 07 57.0	-1.0
KHZ	Kahutara	24.68 196		P	P	07 08 01.2	-0.2
KHZ	Kahutara	24.68 196		P	P	07 08 01.9	+0.5
CTZ	Chatham Island	24.85 178		P	P	07 08 04.2	+1.4
RPZ	Rata Peaks	26.58 199		P	P	07 08 20.1	+2.1
PPT	Papeete	26.65 92		P	P	07 08 20.0	+1.0
	comp=Z,20nm,0.8s,baz=255,slow=20,SNR=1.5						
	comp=Z,20nm,0.8s						
JCZ	Jackson Bay	27.64 201		P	P	07 08 27.9	+0.6
ODZ	Otahua Downs	27.91 198		P	P	07 08 29.8	+0.2
MLZ	Mavora Lakes	29.00 201		P	P	07 08 39.8	+0.8
MLZ				IAmb	IAmb	07 08 41.9	
	comp=Z,27nm,0.8s						
WHZ	Wether Hill Ro	29.52 201		P	P	07 08 44.4	+1.0
ARMA	Armidale	30.15 242		P	P	07 08 50.5	+1.4
ARMA				IAmb	IAmb	07 09 22.7	
	comp=Z,19nm,1.4s						
ARMA	Armidale	30.15 242		P	P	07 08 49.7	+0.5
CNB	Canberra Magne	33.48 234		P	P	07 09 19.1	+2.0
CAN	Canberra	33.76 234		P	P	07 09 20.9	+1.5
CAN	Canberra	33.76 234		P	P	07 09 20.0	+0.6
CMSA	Cobar Meteorol	35.37 242		P	P	07 09 34.0	+1.3
QLP	Quilpie	35.93 251		P	P	07 09 37.4	+0.1
MTSU	Mount Surprise	36.07 265		P	P	07 09 39.0	+0.4
TOO	Toolangi	37.19 232		P	P	07 09 48.9	+1.4
COEN	Coen	37.88 271		P	P	07 09 54.2	+0.9
COEN	Coen	37.88 271		P	P	07 09 54.0	+0.7
STKA	Stephens Creek	38.86 242		P	P	07 10 02.0	+1.1
STKA				IAmb	IAmb	07 10 03.0	
	comp=Z,27nm,1.1s						
STKA	Stephens Creek	38.86 242		P	P	07 10 01.9	+0.9
	comp=Z,1.6nm,0.3s,baz=63,slow=10,SNR=5.7						
	comp=Z,1.6nm,0.3s						
STKA	Stephens Creek	38.86 242		P	P	07 10 02.8	+1.8
QIS	Mount Isa	40.23 260		P	P	07 10 12.7	+0.6
HTT	Hallett	41.34 241		P	P	07 10 21.6	+0.9
LCRK	Leigh Creek	41.55 245		P	P	07 10 23.2	+1.0
TABU	Tabubil	42.33 283		P	P	07 10 29.5	+0.9
OOD	Oodnadatta	43.59 249		P	P	07 10 39.8	+1.7
BBOO	Buckleboo	43.63 242		P	P	07 10 39.3	+0.9
BBOO				IAmb	IAmb	07 11 09.7	
	comp=Z,28nm,1.4s						
BBOO	Buckleboo	43.63 242		P	P	07 10 39.3	+0.9
WR0	Warramunga Arr	45.03 260		P	P	07 10 49.3	+0.2
WR0				IAmb	IAmb	07 10 50.2	
	comp=Z,7.8nm,0.5s						
WR8	Warramunga Arr	45.06 260		P	P	07 10 49.7	+0.2
WR8				IAmb	IAmb	07 10 50.4	
	comp=Z,7.0nm,0.7s						
WB0	Warramunga Arr	45.19 261		P	P	07 10 50.4	0.0
WB2	Warramunga Arr	45.20 260		P	P	07 10 50.6	+0.1
WB2				IAmb	IAmb	07 10 51.2	
	comp=Z,19nm,0.9s						
WRAB	Tennant Creek	45.21 260		P	P	07 10 50.6	+0.1
WRAB				IAmb	IAmb	07 10 51.1	
	comp=Z,18nm,1.0s						
WRA	Warramunga Arr	45.22 260		P	P	07 10 50.7	+0.1
WRA	Warramunga Arr	45.22 260		P	P	07 10 50.5	-0.2
	comp=Z,15nm,0.6s,baz=98,slow=6.4,SNR=189						
WRA				PcP	PcP	07 12 17.3	+1.0
	comp=Z,1.2nm,0.4s,baz=94,slow=3.2,SNR=4.8						
WRA				S	S	07 16 43.6	-2.0
	comp=Z,1.4nm,0.9s,baz=94,slow=14,SNR=5.0						
	comp=Z,15nm,0.6s						
AS01	Alice Springs	45.23 255		P	P	07 10 51.3	+0.5
AS31	Alice Springs	45.28 255		P	P	07 10 51.3	+0.3
ASAR	Alice Springs	45.28 255		P	P	07 10 51.5	+0.5
	comp=Z,14nm,0.7s,baz=87,slow=8.1,SNR=200						
ASAR				PcP	PcP	07 12 17.6	+1.2
	comp=Z,2.5nm,0.6s,baz=93,slow=3.4,SNR=9.3						
ASAR				S	S	07 16 45.5	-1.0
	comp=Z,3.2nm,0.7s,baz=94,slow=15,SNR=26						
	comp=Z,14nm,0.7s						
MTN	Manton Dam	49.53 269			P	07 11 22.6	-0.2
MTN				IAmb	IAmb	07 11 23.4	
	comp=Z,14nm,0.7s						
WRKA	Warakurna	50.29 253		P	P	07 11 28.8	+0.7
FORT	Forrest	50.30 245		P	P	07 11 28.5	+0.4
FORT				IAmb	IAmb	07 11 50.1	
	comp=Z,32nm,1.4s						
FORT	Forrest	50.30 245		P	P	07 11 28.7	+0.6
SAUI	Saumlaki	50.69 275		P	P	07 11 32.2	+1.1
KNRA	Kununurra	51.15 265		P	P	07 11 34.0	-0.4
KNRA				IAmb	IAmb	07 11 35.4	
	comp=Z,18nm,0.8s						
FAKI	Fak Fak	51.50 282		P	P	07 11 37.9	+0.9
FITZ	Fitzroy Crossi	53.63 261		P	P	07 11 52.5	+0.6
FITZ	Fitzroy Crossi	53.63 261		P	P	07 11 52.5	+0.6
SANI	Sanana	57.64 280		P	P	07 12 20.0	+0.4
PSA00	Pilbara Seismi	58.41 256		P	P	07 12 24.8	+0.1
PSA00	Pilbara Seismi	58.41 256		P	P	07 12 26.4	+1.7
MBWA	Marble Bar	58.59 256		P	P	07 12 26.2	+0.4
MBWA				IAmb	IAmb	07 12 27.6	
	comp=Z,22nm,1.3s						
MBWA	Marble Bar	58.59 256		P	P	07 12 26.9	+1.1
MEEK	Meekatharra	58.82 250		P	P	07 12 28.0	+0.6
VNDA	Vanda	59.60 185		P	P	07 12 34.4	+2.9
VNDA	Vanda	59.60 185		P	P	07 12 34.1	+2.6
	comp=Z,0.9nm,0.5s,baz=356,slow=8.1,SNR=9.1						
	comp=Z,0.9nm,0.5s						
BLDU	Ballidu	60.08 245		P	P	07 12 36.9	+1.4
MJAR	Matsushiro Arr	69.09 323		P	P	07 13 31.3	-0.4
	comp=Z,4.2nm,0.6s,baz=158,slow=5.5,SNR=7.4						
	comp=Z,4.2nm,0.6s						
UGM	Wanagama	70.37 268		P	P	07 13 40.5	+0.6
QSPA	South Pole Qui	71.23 180		P	P	07 13 46.7	+2.7
QSPA	South Pole Qui	71.23 180		P	P	07 13 46.4	+2.4
	comp=Z,4.2nm,0.6s,baz=44,slow=1.8,SNR=38						
	comp=Z,4.2nm,0.6s						
PETK	Petropavlovsk-	74.76 345		P	P	07 14 03.4	-0.6
	comp=Z,3.0nm,0.6s,baz=119,slow=7.5,SNR=4.9						
	comp=Z,3.0nm,0.6s						
USRK	Ussuriysk Ar.	77.80 325		P	P	07 14 22.3	+1.6
	comp=Z,2.4nm,0.7s,baz=155,slow=4.1,SNR=4.1						
	comp=Z,2.4nm,0.7s						
TXAR	Lajitas Array	85.85 57		P	P	07 15 04.4	+2.5
	comp=Z,1.2nm,0.7s,baz=221,slow=8.5,SNR=7.7						
	comp=Z,1.2nm,0.7s						
IL31		86.61 13		P	P	07 15 04.6	+0.2
ILAR	Eielson Array	86.61 13		P	P	07 15 04.9	+0.4
ILAR	Eielson Array	86.61 13		P	P	07 15 04.0	-0.5
	comp=Z,0.8nm,0.5s,baz=224,slow=5.0,SNR=26						
	comp=Z,0.8nm,0.5s						
PDAR	Pinedale Array	87.50 43		P	P	07 15 10.6	+1.1
	comp=Z,0.6nm,0.8s,baz=223,slow=3.1,SNR=5.0						
	comp=Z,0.6nm,0.8s						
SYO	Syowa Base	88.43 193	⇑	*e*pP	pP	07 17 26.0	-4.3
CMAR	Chiang Mai Arr	89.90 289		P	P	07 15 22.5	+1.6
	comp=Z,2.2nm,0.3s,baz=113,slow=3.0,SNR=14						
	comp=Z,2.2nm,0.3s						
YKA	Yellowknife Ar	94.85 25		P	P	07 15 42.8	+0.4
	comp=Z,0.3nm,0.8s,baz=238,slow=5.1,SNR=4.3						
	comp=Z,0.3nm,0.8s						
MKAR	Makanchi Array	110.31 314		PKiKP	PKiKP	07 20 48.4	-0.1
	comp=Z,0.7nm,0.4s,baz=92,slow=2.3,SNR=20						
KURBB	Kurchatov Arra	113.07 318		PKiKP	PKiKP	07 20 53.1	-0.4
	comp=Z,0.8nm,0.7s,baz=92,slow=2.1,SNR=6.9						
BVAR	Borovoye Array	118.03 321		PKP	PKiKP	07 21 03.0	-0.1
	comp=Z,2.0nm,0.4s,baz=78,slow=3.4,SNR=7.8						
SPITS	Spitsbergen Ar	120.23 357		PKP	PKiKP	07 21 06.7	0.0
	comp=Z,11nm,1.1s,baz=61,slow=10,SNR=5.4						
ARCES	ARCESS Array B	127.35 350		PKP	PKiKP	07 21 21.1	0.0
	comp=Z,1.3nm,0.4s,baz=3.9,slow=0.3,SNR=23						
FINES	FINESS Array B	134.27 344		PKP	PKiKP	07 21 33.9	-1.3
	comp=Z,1.4nm,0.5s,baz=46,slow=4.0,SNR=8.4						
HFS	Hagfors	137.95 352		PKhKP	PKPpre	07 21 30.7	
	comp=Z,1.7nm,0.6s,baz=68,slow=5.3,SNR=6.4						
AKASG	Malin Array Be	141.72 332		PKhKP	PKPpre	07 21 43.4	
	comp=Z,1.7nm,0.4s,baz=42,slow=4.2,SNR=13						
EKA	Eskdalemuir Ar	143.31 5		PKP	PKPdf	07 21 49.2	-1.1
	comp=Z,2.4nm,0.5s,baz=353,slow=2.8,SNR=9.2						
BRTR	Keskin Array B	145.96 314		PKPbc	PKPbc	07 21 57.8	+0.1
	comp=Z,3.2nm,0.7s,baz=157,slow=4.1,SNR=7.4						
DPC	Dobruska-Polom	146.64 344		*e*PKP	PKPab	07 22 00.8	-1.5
MMAI	Mount Meron Ar	147.27 302		PKPbc	PKiKP	07 22 03.0	+0.1
	comp=Z,4.8nm,0.5s,baz=67,slow=4.8,SNR=9.3						
ZVC	Zvikov	148.02 345		*e*PKP	PKPbc	07 22 02.0	-0.6
KHC	Kasperske Hory	148.45 346		*e*PKP	PKiKP	07 22 04.9	+0.1
CKRC	Cesky Krumlov	148.57 345		*e*PKP	PKiKP	07 22 05.4	+0.4
GERES	GERESS Array B	148.69 346		PKPbc	PKiKP	07 22 05.2	-0.1
	comp=Z,2.9nm,0.8s,baz=60,slow=3.2,SNR=8.1						
RONA	Rosalia, Austr	149.04 342		*i* PKP	PKiKP	07 22 06.9	+0.9
	comp=Z,1.8nm,0.2s						
LESA	Schwarzleotal	150.26 346		*i* PKP	PKiKP	07 22 08.7	+0.1
	comp=Z,3.5nm,0.4s						
SOKA	Soboth	150.34 342		*i* PKP	PKiKP	07 22 08.6	-0.2
	comp=Z,1.7nm,0.4s						
KBA	Koelnbreinsper	150.43 345		*i* PKP	PKiKP	07 22 08.9	-0.2
	comp=Z,5.0nm,0.5s						
WATA	Walderalm	150.59 347		*e*PKP	PKiKP	07 22 09.6	+0.3
	comp=Z,7.7nm,0.5s						
OBKA	Obir	150.63 343		*i* PKP	PKiKP	07 22 09.2	-0.2
	comp=Z,2.6nm,0.6s						
WTTA	Wattenberg	150.64 347		*i* PKP	PKiKP	07 22 10.1	+0.5
	comp=Z,7.5nm,0.5s						
MYKA	Terra Mystica	150.76 344		*i* PKP	PKiKP	07 22 09.3	-0.3
	comp=Z,6.1nm,0.4s						
SQTA	Sankt Quirin	150.77 348		*i* PKP	PKiKP	07 22 09.9	+0.2
	comp=Z,4.4nm,0.4s						
ABTA	Abfaltersbach	150.94 346		*i* PKP	PKiKP	07 22 10.2	+0.2
	comp=Z,16nm,0.5s						
PRED	Cave del Predi	150.96 344		PKPdf	PKPdf	07 22 04.5	+1.3
PRED				PKPbc	PKiKP	07 22 10.0	-0.1
PRED					PKPab	07 22 20.5	+0.2
DAVA	Damuels	150.96 349		*i* PKP	PKiKP	07 22 11.5	+1.4
	comp=Z,2.8nm,0.3s						
FETA	Feichten	151.06 348		*i* PKP	PKiKP	07 22 11.3	+0.9
	comp=Z,4.1nm,0.5s						
FUORN	Ofenpass-Fuorn	151.53 349			PKiKP	07 22 12.5	+1.1

ISK 13 07:05:24.9, 39°.62N×26°.44E, h7km, ML3.6/41
ATH 13 07:05:25.6, 39°.62N×26°.41E, h8km±3km, ML3.4/11,
Manual Solution by M.Charalampakis First location:
2019/03/13 07:06:37, This location: 2020/10/02 09:06:46
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 2 km
AFAD 13 07:05:25.4, 39°.61N×26°.44E, h8km±1km, MW3.7
SOF 13 07:05:27.1, 39°.81N±0°.03×26°.33E±0°.02, h10km±5km,
MD3.6/8
THE 13 07:05:27.0, 39°.57N×26°.37E, h20km±14km, ML3.5/8, Error
ellipse: s-maj=16.7km s-min=0.6km az=150.0
BEO 13 07:05:27.8±0.6, 39°.76N×26°.32E, h0km, ML3.5/6

ISC 13 07:05:24.8±0.9, 39°.58N±0°.01×26°.46E±0°.01, h11km±6km, n176, σ1°82/243, 11C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYC	CANAKKALE_Bayr	0.18	22	P	Pg	07 05 29.0	+0.3
BAYC				S	Sg	07 05 31.1	-0.3
EZNE	Ezine-Canakkal	0.19	338	Pg	Pg	07 05 28.9	-0.1
EZNE				Sg	Sg	07 05 31.4	-0.4
KOCA	Canakkale, Ayv	0.26	253	P	Pb	07 05 31.1	-0.4
KOCA				S	Sb	07 05 34.9	-1.1
GPNR	Gulpinar-Canak	0.28	245	Pg	Pb	07 05 31.4	-0.5
AYVA	Ayvalik	0.32	146	P	Pb	07 05 32.5	-0.1
AYVA				S	Sb	07 05 38.4	+0.6
PRK	Paraskevi	0.36	204	P	Pb	07 05 33.3	0.0
PRK				S	Sb	07 05 39.2	+0.3
	7μm,0.5s						
PRK	Paraskevi	0.36	204	P	Pb	07 05 33.2	0.0
PRK				S	Sb	07 05 39.5	+0.6
BOZC	Bozcaada	0.41	310	Pg	Pg	07 05 33.2	+0.3
BOZC				Sg	Sg	07 05 38.5	+0.1
BOZC	Bozcaada	0.41	310	P	Pg	07 05 33.0	+0.1
BOZC				P	Pg	07 05 33.0	+0.1
BOZC				S	Sg	07 05 38.2	-0.2
BOZC				S	Sg	07 05 38.4	+0.1
BUHA	Balikesir, Bur	0.48	99	P	Pb	07 05 35.5	+0.2
BUHA				S	Sb	07 05 42.4	0.0
CNKL	anakkale-Mer	0.49	353	P	Pg	07 05 34.5	+0.1
CNKL				P	Pb	07 05 34.7	-0.8
CNKL				S	Sg	07 05 40.4	-0.6
CNKL				S	Sb	07 05 40.7	-2.0
ECEA	Canakkale, Ece	0.52	335	P	Pb	07 05 35.4	-0.5
ECEA				S	Sg	07 05 42.0	+0.3
COMU	Canakkale	0.52	1	Pg	Pb	07 05 35.4	-0.6
COMU				Sg	Sg	07 05 41.7	-0.2
SIGR	SIGRI	0.59	232	Pg	Pb	07 05 37.0	-0.2
SIGR				Sg	Sb	07 05 45.4	-0.2
SIGR	SIGRI	0.59	232	P	Pb	07 05 37.1	-0.2
SIGR				S	Sb	07 05 45.6	0.0
	5μm,0.5s						
SIGR	SIGRI	0.59	232	P	Pb	07 05 37.0	-0.2
SIGR				S	Sb	07 05 45.9	+0.3
DKL	Dikili	0.61	146	Pg	Pn	07 05 38.3	-1.1
DKL				Sg	Sb	07 05 47.2	+1.1
DKL	Dikili	0.61	146	P	Pn	07 05 38.6	-0.8
DKL				S	Sn	07 05 47.3	-1.9
CANM	Can-anakkale	0.63	46	Pg	Pb	07 05 37.0	-0.8
CANM				Sg	Sg	07 05 45.4	+0.1
IZMD	zmir-Dikili-	0.69	148	P	Pn	07 05 40.1	-0.5
IZMD				P	Pn	07 05 40.2	-0.5
IZMD				S	Sn	07 05 50.0	-1.5
IZMD				S	Sb	07 05 50.3	+1.7
YENI	Yenice-Canakka	0.70	59	Pg	Pb	07 05 38.9	-0.1
YENI				Sg	Sb	07 05 48.5	-0.2
GOAD	anakkale-G¶	0.72	324	P	Pg	07 05 38.5	-0.3
GOAD				S	Sg	07 05 47.5	-0.8
GADA	Gvkgeada	0.75	325	Pg	Pg	07 05 39.1	-0.2
GADA				Sg	Sg	07 05 49.3	+0.2
ZEDA	zmir-Bergama	0.78	142	P	Pn	07 05 41.4	-0.3
ZEDA				S	Sn	07 05 52.4	-0.9
GELI	Tayfur-Gelibol	0.82	1	Pg	Pg	07 05 40.7	+0.1
GELI				Sg	Sg	07 05 51.4	0.0
LPK	Lapseki	0.83	16	Pg	Pb	07 05 40.8	-0.4
LPK				Sg	Sg	07 05 51.6	0.0
FOCM	Foa	0.89	166	Pg	Pn	07 05 43.2	0.0
BALY	Balya	0.91	79	P	Pn	07 05 43.7	+0.1
BALY				S	Sb	07 05 55.2	+0.4
KARB	zmir-Karabur	0.91	182	P	Pn	07 05 43.9	+0.3
KARB				S	Sn	07 05 56.7	0.0
STEP	BALIKESIR_Sava	0.99	101	P	Pn	07 05 45.1	+0.4
STEP				S	Sn	07 05 59.4	+0.6
KRBG	Karabiga-Canak	1.04	38	Pg	Pb	07 05 44.5	-0.3
KRBG				Sg	Sb	07 05 59.4	+1.0
GONE	Gonen-Balikesi	1.05	63	Pg	Pn	07 05 45.4	-0.1
ENZZ	Sultanice-Enez	1.06	347	Pg	Pg	07 05 44.8	-0.4
EAG2	Marmaro, Chios	1.07	195	P	Pn	07 05 46.0	+0.3
EAG2				S	Sn	07 06 01.0	+0.5
ERIK	Erikli-Kesan	1.09	2	Pg	Pg	07 05 45.3	-0.5
CAVK	Edirne/Enez-Ca	1.14	349	P	Pg	07 05 46.0	-0.6
CAVK				S	Sg	07 06 00.9	-0.5
CAVK	Edirne/Enez-Ca	1.14	349	⇓P	Pb	07 05 46.8	+0.3
CAVK				⇑S	Sg	07 06 01.3	-0.2
EFSA	Agios Efstrati	1.14	269	P	Pn	07 05 47.0	+0.3
SMTH	Samothraki Isl	1.14	322	P	Pg	07 05 46.3	-0.5
SMTH				S	Sg	07 06 01.0	-0.7
	8μm,0.3s						
SMTH	Samothraki Isl	1.14	322	P	Pg	07 05 46.3	-0.5
BKES	Balkesir-Mer	1.14	82	P	Pn	07 05 47.8	+1.0
BKES				S	Sn	07 06 03.6	+1.1
ENEZ	Enez	1.18	349	Pn	Pg	07 05 47.2	-0.3
ENEZ	Enez	1.18	349	P	Pg	07 05 47.3	-0.3
ENEZ				S	Sg	07 06 02.2	-0.7
	6μm,0.4s						
URLA	Izmir	1.22	175	P	Pn	07 05 48.4	+0.6
URLA				S	Sn	07 06 06.3	+1.9
RKY	Sarkoy-Tekirda	1.24	26	Pn	Pb	07 05 48.2	0.0
SART	Tekirdag	1.24	26	P	Pg	07 05 47.8	-0.9
SART				S	Sb	07 06 04.6	+0.3
CESE	eme	1.25	186	Pn	Pn	07 05 49.2	+1.0
AKHS	Akhisar	1.26	123	P	Pn	07 05 49.8	+1.4
AKHS				S	Sn	07 06 06.7	+1.3
AKS	Akhisar	1.26	123	Pn	Pn	07 05 49.7	+1.3
BLCB	Balcova	1.27	159	Pn	Pn	07 05 49.8	+1.3
SUSR	Susurluk-Balik	1.31	72	Pn	Pb	07 05 50.3	+0.9
EDC	Edincik	1.32	54	Pn	Pg	07 05 49.9	-0.3
ZEYE	Izmir, Urla-Ze	1.34	179	P	Pg	07 05 50.1	-0.4
ZEYE				S	Sn	07 06 10.7	+3.6
ALEX	Alexandroupoli	1.35	342	P	Pb	07 05 50.3	+0.3
ALN	Alexandroupoli	1.36	347	Pn	Pn	07 05 50.2	+0.5
ALN	Alexandroupoli	1.36	347	P	Pn	07 05 49.9	+0.2
ALN				S	Sb	07 06 07.5	-0.1
	3μm,0.3s						
GOMA	Golmarmara-Man	1.43	127	Pn	Pg	07 05 52.1	-0.1
BAND	Balkesir-Ban	1.48	58	P	Pg	07 05 52.8	-0.4
BAND	Balkesir-Ban	1.48	58	⇑P	Pg	07 05 52.6	-0.6
BAND				⇓S	Sg	07 06 12.5	+0.1
GORD	Gordes-Manisa	1.49	116	Pn	Pg	07 05 53.3	-0.1
GMLD	Gumuldur	1.54	167	Pn	Pg	07 05 53.7	-0.7
UKOP	Uzunkopru-Edir	1.56	5	Pn	Pb	07 05 53.8	+0.2
DURS	Dursunbey	1.56	88	P	Pg	07 05 55.2	+0.5
DGB	zmir	1.56	168	P	Pb	07 05 53.0	-0.7
DGB				S	Sg	07 06 14.9	0.0
KCTX	Karacabey (Bur	1.61	64	Pn	Pn	07 05 53.7	+0.5
TKR	Tekirdag	1.63	30	Pn	Pb	07 05 54.3	-0.6
DST	Dursunbey	1.67	88	Pn	Pg	07 05 55.5	-1.3
THAS	Thassos island	1.69	308	P	Pn	07 05 53.9	-0.3
THAS				S	Sn	07 06 14.2	-1.6
	678nm,0.2s						
THAS	Thassos island	1.69	308	P	Pn	07 05 54.0	-0.3
RDO	Rodhopi	1.72	336	Pn	P

NEF	NEVSHA	3.73	9	eP		Pn	07 06 24.2	+1.8
NEF				eS		Sn	07 07 06.0	-0.4
VTS	Vitosha	3.89 322		eP		Pn	07 06 26.1	+1.4
VTS				S		Sn	07 07 09.5	-1.0
VTS	Vitosha	3.89 322		eP		Pn	07 06 26.2	+1.5
VTS				eSn		Sn	07 07 09.2	-1.3
VTS				eSg		Sb	07 07 24.6	+3.8
TETR	Tetrakomo, Epi	4.02 268		P		Pn	07 06 27.9	+1.5
DRO	Drossia	4.05 248		P		Pn	07 06 28.2	+1.5
KARP	Karpathos	4.06 172		P		Pn	07 06 28.6	+1.7
FNA	Florina	4.08 289		ePn		Pn	07 06 28.0	+0.9
FNA	Florina	4.08 289		P		Pn	07 06 28.8	+1.6
PENT	Pentalofos	4.14 280		P		Pn	07 06 29.8	+1.7
BOSS	Bosilegrad	4.19 315		ePn		Pn	07 06 30.8	+2.1
BOSS				eSn		Sn	07 07 16.4	-1.2
NEST	Nestorio	4.24 283		P		Pn	07 06 31.2	+1.8
ZAPS	Zavoj	4.68 323		ePn		Pn	07 06 37.3	+1.9
IGT	Igoumenitsa	4.74 271		ePn		Pn	07 06 39.8	+3.6
BARS	Barje	4.77 314		ePn		Pn	07 06 38.1	+1.5
BARS				eSn		Sn	07 07 30.5	-1.4
BLKB	Belogradchik	4.94 326		ePn		Pn	07 06 40.2	+1.2
ZAGS	Zajecar	5.28 325		ePn		Pn	07 06 44.4	+0.7
BOVS	Bovan	5.40 320		⇓P		Pn	07 06 46.7	+1.4
BOVS	Bovan	5.40 320		ePn		Pn	07 06 46.6	+1.4
SELS	Selova	5.42 314		ePn		Pn	07 06 45.8	+0.2
BORS2	Bor- Borsko je	5.60 325		ePn		Pn	07 06 47.2	-0.8
GOCS	Kraljevo Serbi	5.78 315		ePn		Pn	07 06 51.6	+1.0
MLR	Muntele Rosu	5.92 356		⇑P		Pn	07 06 53.5	+1.0
ARR	Arges	5.94 347		⇑P		Pn	07 06 53.7	+0.9
VOIR		5.95 350		⇑P		Pn	07 06 54.2	+1.3
KUBS	Kucevo	6.00 325		ePn		Pn	07 06 53.2	-0.4
GRUS	Gruza	6.08 317		ePn		Pn	07 06 55.7	+1.1
HERR	Herculane	6.09 332		⇓P		Pn	07 06 54.9	+0.2
LOT	Lotru	6.20 342		⇓P		Pn	07 06 57.0	+0.7
MDVR	Moldovita	6.28 327		⇑P		Pn	07 06 58.4	+0.9
VRI	Vrincioaia	6.29 2		⇑P		Pn	07 06 58.7	+1.2
GZR	Gura Zlata	6.42 336		⇑P		Pn	07 07 00.0	+0.7
DOPR	Dopca	6.43 353		⇑P		Pn	07 07 01.0	+1.5
VRSS	Vrsac	6.72 327		ePn		Pn	07 07 04.1	+0.7
SURR	Surduc	6.95 334		⇑P		Pn	07 07 08.1	+1.6
BZS	Buzias	7.01 331		⇓P		Pn	07 07 08.1	+0.7
MARR	Marisel-Cluj	7.50 342		⇑P		Pn	07 07 15.7	+1.5
BURAR	Bucovina Array	8.09 354		⇓P		Pn	07 07 24.5	+2.3

*NOU **13** 08:04:39.7, 21°.77S×169°.11E, h0km, MLv4.1/9, Southeast of Loyalty Islands*
*IDC **13** 08:04:39.8±1.0, 21°.75S×169°.06E, h0km, mb4.0/7, mbtmp4.0/8, ML3.5/1, MS3.4/2, Error ellipse: s-maj=32.0km s-min=24.8km az=152.0*
*NEIC **13** 08:04:42.2±2.3, 21°.6S±0°.1×168°.86E±0°.06, h10km±1km, mb4.3/10, Error ellipse: s-maj=25.1km s-min=9.0km az=351.0*

ISC 13 08:04:41.6±0.8, 21°.72S±0°.10×168°.93E±0°.09, h10km, n34, σ1§15/33, mb4.3/10, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.87	286	P	Pn	08 04 59.8	-0.2
MARNC	Mare, Loyalty	0.87	286	S	Sn	08 05 13.7	+1.0
PINNC	Pines Island,	1.64	237		Pn	08 05 10.7	+0.2
PINNC	Pines Island,	1.64	237	P	Pn	08 05 10.8	+0.2
YATNC	Mamie plateau,	1.93	259	P	Pn	08 05 15.2	+0.7
OUENC	Ouen Island, N	2.06	250	P	Pn	08 05 17.7	+1.3
DZM	Mont Dzumac	2.34	261		Pn	08 05 20.7	+0.4
DZM	Mont Dzumac	2.34	261	Pn	Pn	08 05 21.2	+0.9
	12nm,0.3s,baz=64,slow=18,SNR=78						
DZM				Sn	Sn	08 05 48.5	-0.6
	62nm,0.3s,baz=60,slow=16,SNR=10						
	84nm,0.5s						
DZM	Mont Dzumac	2.34	261	P	Pn	08 05 21.3	+1.0
ONTNC	Ouen Toro	2.37	255		Pn	08 05 20.5	-0.1
ONTNC	Ouen Toro	2.37	255	P	Pn	08 05 21.5	+0.8
KOUNC	Koumac, New Ca	4.49	284	P	Pn	08 05 52.3	+2.5
ARMA	Armidale	17.78	237		Pn	08 08 49.6	+0.2
ARMA				IAmb	IAmb	08 09 27.0	
	comp=Z,31nm,1.5s						
RTZ	Ruatahuna	18.21	159	P	P	08 08 56.5	+1.7
RTZ				IAmb	IAmb	08 08 57.3	
	comp=Z,22nm,0.8s						
BKZ	Black Stump Fm	18.56	161	P	P	08 09 00.3	+1.6
BKZ				IAmb	IAmb	08 09 02.5	
	comp=Z,15nm,1.0s						
COEN	Coen	25.68	283	P	P	08 10 09.8	-2.3
STKA	Stephens Creek	26.35	242	P	P	08 10 16.5	-1.6
STKA	Stephens Creek	26.35	242	P	P	08 10 20.3	+2.3
	comp=Z,1.2nm,0.8s,baz=106,slow=14,SNR=2.9						
	comp=Z,1.2nm,0.8s						
WR8	Warramunga Arr	32.19	267	P	P	08 11 07.8	-2.3
WR8				IAmb	IAmb	08 11 18.2	
	comp=Z,6.6nm,1.4s						
WB0	Warramunga Arr	32.32	267	P	P	08 11 10.9	-0.3
WB0				IAmb	IAmb	08 11 24.0	
	comp=Z,7.1nm,1.4s						
ASAR	Alice Springs	32.33	260	P	P	08 11 11.1	-0.2
ASAR	Alice Springs	32.33	260	P	P	08 11 11.3	+0.1
	comp=Z,0.5nm,0.6s,baz=89,slow=8.8,SNR=11						
	comp=Z,0.5nm,0.6s						
WRAB	Tennant Creek	32.33	267	P	P	08 11 06.0	-5.4
WRAB				IAmb	IAmb	08 11 06.3	
	comp=Z,7.3nm,1.4s						
WRA	Warramunga Arr	32.34	267	P	P	08 11 10.2	-1.3
WRA	Warramunga Arr	32.34	267	P	P	08 11 10.9	-0.5
	comp=Z,0.8nm,0.8s,baz=99,slow=8.1,SNR=4.5						
	comp=Z,0.8nm,0.8s						
JAY	Jayapura	33.43	301	LR	LR	08 23 41.2	
	comp=Z,77nm,18.9s,baz=349,slow=34						
FITZ	Fitzroy Crossi	40.77	267	P	P	08 12 23.1	-0.2
QSPA	South Pole Qui	68.35	180	P	P	08 15 43.0	-0.1
QSPA	South Pole Qui	68.35	180	P	P	08 15 42.4	-0.7
	comp=Z,3.0nm,0.8s,baz=13,slow=0.2,SNR=11						
	comp=Z,3.0nm,0.8s						
USRK	Ussurisyk Ar.	73.80	333	P	P	08 16 16.2	0.0
	comp=Z,4.4nm,1.0s,baz=167,slow=8.9,SNR=2.3						
USRK				LR	LR	08 49 18.6	
	comp=Z,20nm,19.2s,baz=355,slow=36						
	comp=Z,4.4nm,1.0s						
SONM	Songino Array	89.02	323	P	P	08 17 37.4	+0.5
	comp=Z,0.6nm,0.7s,baz=140,slow=7.0,SNR=4.9						
	comp=Z,0.6nm,0.7s						
NVAR	Mina Array Bea	90.65	49	P	P	08 17 44.4	-0.5
	comp=Z,1.1nm,0.6s,baz=236,slow=5.4,SNR=4.7						
	comp=Z,1.1nm,0.6s						
EKA	Eskdalemuir Ar	145.91	352	PKPbc	PKPdf	08 24 20.1	-0.4
	comp=Z,0.6nm,0.4s,baz=13,slow=2.6,SNR=1.7						
GERES	GERESS Array B	146.51	330	PKPbc	PKPbc	08 24 23.2	0.0
	comp=Z,1.9nm,0.7s,baz=47,slow=5.9,SNR=3.1						

*IDC **13** 08:11:20.5±1.9, 34°.71S×179°.94W, h0km, mb4.1/3, mbtmp4.1/4, ML3.9/1, MS3.7/3, Error ellipse: s-maj=47.6km s-min=32.1km az=59.0*
*WEL **13** 08:11:25.4±1.1, 35°.5±6°.×18°.0W±1°.1, h5km, M4.2/1, ML4.2/8, MLv4.2/1, Error ellipse: s-maj=15.1km s-min=7.0km az=99.1, confirmed*

ISC 13 08:11:23.4±1.5, 35°.04S±0°.08×179°.8W±0°.1, h10km, n70, σ1§71/74, mb4.0/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.95	211	P	Pn	08 12 11.6	+1.3
MXZ				S	Sn	08 12 47.5	+1.6
MXZ				T	T	08 14 56.1	
WMGZ	Waiomatatini S	3.13	207	P	Pn	08 12 14.8	+2.0
WMGZ				S	Sn	08 12 51.5	+1.2
PKGZ	Pakihiroa	3.31	211	P	Pn	08 12 16.6	+1.4
PKGZ				S	Sn	08 12 55.9	+1.3
HAZ	Te Kaha	3.35	215	P	Pn	08 12 16.9	+1.1
HAZ				S	Sb	08 12 59.8	-3.7
PUZ	Puketiti	3.41	207	P	Pn	08 12 18.3	+1.6
PUZ				S	Sn	08 12 58.7	+1.5
WIZ	White Island	3.48	224	P	Pn	08 12 18.4	+0.7
RUGZ	Raukumara Rang	3.56	214	P	Pn	08 12 20.2	+1.3
RUGZ				S	Sn	08 13 02.4	+1.3
TWGZ	Tauwhareparae	3.61	209	P	Pn	08 12 20.9	+1.5
TWGZ				S	Sn	08 13 03.3	+1.1
CNGZ	Carnagh Statio	3.80	204	P	Pn	08 12 23.2	+1.2
CNGZ				S	Sn	08 13 09.7	+3.0
TKGZ	Te Karaka	3.89	208	P	Pn	08 12 24.8	+1.6
TKGZ				S	Sn	08 13 09.9	+0.9
MWZ	Matawai	3.93	212	P	Pn	08 12 24.9	+1.0
MWZ				S	Sn	08 13 11.1	+0.9
GRZ	Great Barrier	4.05	251	P	Pn	08 12 27.7	+2.2
OPRZ	Ohinepanea	4.07	225	P	Pn	08 12 27.3	+1.7
URZ	Urewera	4.07	217	Pn	Pn	08 12 26.5	+0.9
	7.0nm,0.3s,baz=357,slow=2.9,SNR=54						
URZ				Sn	Sn	08 13 10.6	-2.8
	13nm,0.3s,baz=162,slow=19,SNR=10						
	41nm,0.6s						
URZ	Urewera	4.07	217	P	Pn	08 12 26.8	+1.1
URZ				S	Sn	08 13 13.3	0.0
MANZ	Manawahe	4.09	223	P	Pn	08 12 29.1	+3.0
RAGZ	Rawiri	4.12	212	P	Pn	08 12 27.9	+1.5
RAGZ				S	Sn	08 13 15.3	+0.6
RIGZ	Rimuhau	4.16	207	P	Pn	08 12 27.3	+0.3
TGRZ	Tauranga	4.17	229	P	Pn	08 12 28.5	+1.5
PRGZ	Paritu Road	4.30	205	P	Pn	08 12 29.3	+0.4
OMRZ	Omania	4.35	224	P	Pn	08 12 31.4	+1.8
TARZ	Mount Tarawera	4.37	222	P	Pn	08 12 32.9	+3.0
SNGZ	Shannon Statio	4.39	211	P	Pn	08 12 31.7	+1.6
MUGZ	Murupara	4.41	218	P	Pn	08 12 31.4	+1.0
RTZ	Ruatahuna	4.41	215	P	Pn	08 12 32.2	+1.7
RRRZ	Republican Roa	4.44	221	P	Pn	08 12 32.6	+1.8
HLRZ	Highlands Stat	4.46	223	P	Pn	08 12 33.7	+2.5
KNZ	Kokohu	4.47	206	P	Pn	08 12 31.0	-0.2
MHGZ	Mahia Peninsul	4.50	203	P	Pn	08 12 31.7	+0.1
MKAZ	Moumakai	4.58	242	P	Pn	08 12 34.7	+2.0
RAHZ	Arahi	4.61	212	P	Pn	08 12 34.5	+1.3
MTHZ	Maungataniwha	4.67	214	P	Pn	08 12 35.2	+1.2
WHHZ	Waihua	4.68	210	P	Pn	08 12 35.9	+1.8
ALRZ	Allen Road	4.69	220	P	Pn	08 12 36.0	+1.7
MRHZ	Matea Rd	4.86	218	P	Pn	08 12 38.5	+1.9
WCZ	Waipu Caves	4.87	258	P	Pn	08 12 38.5	+1.9
NMHZ	Naumai	4.88	213	P	Pn	08 12 38.4	+1.4
ARHZ	Aropaoanui	4.94	210	P	Pn	08 12 38.4	+0.8
TLZ	Tolley Road	4.99	227	P	Pn	08 12 40.6	+2.2
BKZ	Black Stump Fm	5.08	215	P	Pn	08 12 39.9	+0.2
MCHZ	McNeill Hill	5.22	211	P	Pn	08 12 42.1	+0.7
RATZ	Rangitukua	5.22	222	P	Pn	08 12 44.4	+2.8
RITZ	Rihia Road	5.25	220	P	Pn	08 12 44.3	+2.3
KWHZ	Kaweka Forest	5.32	213	P	Pn	08 12 44.1	+1.2
OUZ	Omahuta	5.42	266	P	Pn	08 12 44.7	+0.4
TMVZ	Te Maari	5.44	220	P	Pn	08 12 45.0	+0.4
KAHZ	Kahuranaki	5.44	208	P	Pn	08 12 43.2	-1.3
ETVZ	East Tongariro	5.45	220	P	Pn	08 12 46.3	+1.6
KRVZ	Karewarewa	5.45	221	P	Pn	08 12 44.8	0.0
OTVZ	Oturere	5.49	220	P	Pn	08 12 45.9	+0.5
HIZ	Hauiti	5.52	230	P	Pn	08 12 48.2	+2.5
KRHZ	Kereru	5.52	212	P	Pn	08 12 46.7	+1.0
MOVZ	Moawhango	5.63	218	P	Pn	08 12 49.2	+2.1
WNVZ	Wahianoa	5.65	219	P	Pn	08 12 50.9	+3.3
PXZ	Pawanui	5.65	207	P	Pn	08 12 47.6	+0.2
PNHZ	Pukenui	5.82	212	P	Pn	08 12 48.8	-1.0
ANWZ	Angora Road	6.17	208	P	Pn	08 12 56.3	+1.8
NEZ	North Egmont	6.46	227	P	Pn	08 13 03.8	+5.3
DZM	Mont Dzumac	17.67	313	LR	LR	08 20 46.2	
	comp=Z,138nm,19.8s,baz=192,slow=33						
ASAR	Alice Springs	41.59	273	P	P	08 19 09.2	-2.5
	0.6nm,0.3s,baz=118,slow=8.3,SNR=27						
ASAR				LR	LR	08 35 30.9	
	comp=Z,91nm,19.1s,baz=121,slow=35						
	0.6nm,0.3s						
WRA	Warramunga Arr	43.00	278	P	P	08 19 20.4	-2.8
	2.1nm,0.7s,baz=121,slow=7.8,SNR=8.8						
	2.1nm,0.7s						
QSPA	South Pole Qui	55.09	180	P	P	08 20 56.4	+1.0
	2.4nm,0.8s,baz=45,slow=9.5,SNR=9.4						
	2.4nm,0.8s						
H03S2	Juan Fernandez	79.16	124	T	T	09 51 31.0	
	baz=232						
H03S1	Juan Fernandez	79.17	124	T	T	09 51 35.0	
	baz=232						
H03S3	Juan Fernandez	79.18	124	T	T	09 51 28.4	
	baz=232						
H03N3	Juan Fernandez	79.38	123	T	T	09 51 43.0	
	baz=237,slow=72,SNR=9.0						
H03N2	Juan Fernandez	79.39	123	T	T	09 51 45.7	
	baz=237,slow=72,SNR=6.6						
H03N1	Juan Fernandez	79.40	123	T	T	09 51 50.6	
	baz=237,slow=72,SNR=8.8						
JTS	Las Juntas de	99.76	84	LR	LR	09 03 26.2	
	comp=Z,49nm,18.0s,baz=45,slow=31						
FINES	FINESS Array B	148.87	336	PKPbc	PKPdf	08 31 07.7	+1.2
	1.4nm,0.7s,baz=56,slow=3.5,SNR=6.1						

*HLW **13** 08:12:51.9, 28°.38N×33°.17E, h7km±1km, Md2.4, Ml2.2*
*SGS **13** 08:12:52.4, 28°.27N×33°.11E, h7km, Ml2.1*
*GII **13** 08:12:53.4±0.0, 28°.277N±0°.004×32°.886E±0°.002, h30km, Mws2.6, confirmed*

ISC 13 08:12:53.7±1.1, 28°.33N±0°.05×33°.16E±0°.04, h15km, n30, σ1§72/34, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRB	Gharib	0.34	260	P	Pg	08 12 59.0	-1.7
HRDS	Abu Rudays	0.40	17	P	Pg	08 12 59.0	-2.9
HKAT	Jabal Katrina	0.76	75	P	Pg	08 13 06.3	-2.2
HKAT				S	Sg	08 13 16.5	-2.1
TR1	Tor 1	0.77	114	P	Pg	08 13 06.9	-1.7
HHRG	Al Ghardaqah	1.16	162	P	Pg	08 13 16.7	+0.6
RSHS		1.44	91	S	Sn	08 13 38.7	+0.7
RSHS				P	Pn	08 13 18.8	-0.5
TAYS	Tayyib Ism	1.52	81	S	Sn	08 13 40.9	+0.9
TAYS	Tayyib Ism	1.52	81	P	Pn	08 13 20.1	-0.3
ASUT		1.69	237	⇑P	Pg	08 13 23.9	-2.3
HAQS	Haql	1.70	65	S	Sn	08 13 45.9	+1.4
HAQS	Haql	1.70	65	P	Pn	08 13 23.0	0.0
JMOS	Jabal al Moall	1.90	63	S	Sn	08 13 50.7	+1.4
JMOS				P	Pn	08 13 25.8	+0.2
HQLS		1.93	59	S	Sn	08 13 51.4	+1.4
HQLS		1.93	59	P	Pn	08 13 26.1	0.0
EIL	Elat	2.06	49	P	Pn	08 13 28.3	+0.4
EIL	Elat	2.06	49	S	Sn	08 13 56.1	+2.8
EIL	Elat	2.06	49	P	Pn	08 13 28.2	+0.4
EIL				S	Sn	08 13 55.6	+2.4
MBRI	Mt Berech	2.12	46	P	Pn	08 13 30.5	+1.8
MBRI	Mt Berech	2.12	46	S	Sn	08 13 57.6	+2.8
MBRI	Mt Berech	2.12	46	P	Pn	08 13 29.7	+1.0
AQBJ	Aqaba	2.16	49	P	Pn	08 13 29.6	+0.4
KRMI	Paran Flat	2.25	37	P	Pn	08 13 31.3	+0.9
KRMI	Paran Flat	2.25	37	S	Sn	08 14 00.3	+2.4
KRMI	Paran Flat	2.25	37	P	Pn	08 13 32.4	+2.0
HRFI	Mount Harif	2.36	43	P	Pn	08 13 33.3	+1.3
HRFI	Mount Harif	2.36	43	S	Sn	08 14 03.7	+2.9
HRFI	Mount Harif	2.36	43	P	Pn	08 13 33.3	+1.3
PRNI	Paran	2.58	38	P	Pn	08 13 36.5	+1.5
DSI	Dead Sea	3.76	30	P	Pn	08 13 52.5	+1.3
DSI	Dead Sea	3.76	30	S	Sn	08 14 36.8	+1.6

*IDC **13** 08:22:12.7±4.0, 44°.02N×127°.80W, h0km, mb3.3/3, mbtmp3.3/7, ML3.3/4, MS3.4/7, Error ellipse: s-maj=61.4km s-min=24.2km az=65.0*
*NEIC **13** 08:22:13.8±1.4, 43°.7N±0°.1×127°.9W±0°.2, h10km±2km, ML3.3/40, Error ellipse: s-maj=23.5km s-min=17.1km az=246.0*

ISC 13 08:22:12.2±2.6, 43°.88N±0°.10×128°.1W±0°.2, h10km, n39, σ1§36/28, MS3.3/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	Swisshome, OR	3.10	84	Pn	Pn	08 23 01.3	+0.1
I02E				IAML		08 23 35.1	
	comp=E,84nm,2.2s						
I02E				IAML		08 24 42.1	
	comp=N,70nm,3.8s						
J01E	Myrtle Point	3.14	102	Pn	Pn	08 23 00.1	-1.6
J01E				IAML		08 23 57.0	
	comp=E,77nm,2.2s						
K02D	Willamette Mer	3.47	108	Pn	Pn	08 23 04.5	-1.9
I03D	Drain, OR	3.47	91		Pn	08 23 05.8	-0.4
COR	Corvallis	3.55	77	Pn	Pn	08 23 05.6	-1.7
COR				IAML		08 24 13.7	
	comp=E,68nm,3.5s						
COR				IAML		08 24 49.6	
	comp=E,76nm,2.8s						
DBO	Dodson Butte	3.64	100		Pn	08 23 07.7	-0.9
BUCK	Buck Mountain	3.73	83	Pn	Pn	08 23 08.9	-0.9
BUCK				IAML		08 23 44.4	
	comp=N,66nm,4.5s						
BUCK				IAML		08 25 09.0	
	comp=E,58nm,4.4s						
G03D	McMinnville, O	3.73	67	Pn	Pn	08 23 08.6	-1.2
G03D				IAML		08 24 00.8	
	comp=N,65nm,2.6s						
G03D				IAML		08 24 07.2	
	comp=E,70nm,2.4s						
L02F	Cave Junction	3.78	116	Pn	Pn	08 23 09.0	-1.5
H04A	Detroit Lake	4.35	77	Pn	Pn	08 23 17.7	-0.6
H04A				IAML		08 24 25.0	
	comp=E,32nm,4.7s						
J04A	Umpqua Nationa	4.43	96	Pn	Pn	08 23 19.4	-0.1
YBH	Yreka Blue Hor	4.53	116	Pn	Pn	08 23 19.9	-1.0
	comp=E,0.4nm,0.3s,baz=299,slow=14,SNR=10						
YBH				Sn	Sn	08 24 12.0	-1.7
	baz=184,slow=19,SNR=1.8						
	comp=E,1.3nm,0.4s						
L04D	Klamath Falls	4.58	109	Pn	Pn	08 23 21.8	+0.1
L04D				IAML		08 24 03.8	
	comp=N,31nm,4.8s						
NLWA	Neilton Lookou	4.62	39	Pn		08 23 28.4	+6.4
NLWA				IAML		08 26 24.7	
	comp=N,31nm,4.2s						
HOOD	Mount Hood Mea	4.85	70		Pn	08 23 25.4	+0.1
I05D	Terrebonne, OR	4.92	82		Pn	08 23 25.5	-0.7
J05D	Fort Rock, OR	5.05	94	Pn	Pn	08 23 27.4	-0.7
J05D				IAML		08 25 41.0	
	comp=E,30nm,4.2s						
J05D				IAML		08 26 31.4	
	comp=N,26nm,4.9s						
PINE	Pine Mountain	5.21	88	Pn	Pn	08 23 30.4	+0.1
LON	Longmire	5.31	55		Pn	08 23 31.3	-0.2
LON				IAML		08 25 26.8	
	comp=N,12nm,4.8s						
LON				IAML		08 26 35.3	
	comp=E,14nm,4.5s						
D05A	Enumclaw	5.44	50		Pn	08 23 33.7	+0.4
MXC	Moxie City	6.16	61		Pn	08 23 42.6	-0.6
I07A	Izee	6.23	85	Pn	Pn	08 23 44.8	+0.5
NVAR	Mina Array Bea	9.20	123	Pn	Pn	08 24 27.3	+2.2
	comp=E,0.6nm,0.3s,baz=308,slow=11,SNR=2.7						
	comp=E,0.7nm,0.6s						
ELK	Elko	10.05	104	LR	LR	08 28 44.0	
	comp=E,192nm,21.9s,baz=286,slow=40						
PDAR	Pinedale Array	13.58	88	Pn	Pn	08 25 27.9	+2.9
	baz=281,slow=12,SNR=3.7						
PDAR				LR	LR	08 30 48.1	
	comp=E,143nm,18.6s,baz=268,slow=39						
	comp=E,0.6nm,1.0s						
ANMO	Albuquerque	18.93	111	Pn	P	08 26 35.6	+2.1
	baz=304,slow=18,SNR=4.6						
ANMO				LR	LR	08 33 17.4	
	comp=E,96nm,21.9s,baz=120,slow=35						
	comp=E,0.6nm,0.7s						
YKA	Yellowknife Ar	20.25	18	P	P	08 26 45.1	-2.2
	comp=E,1.1nm,0.8s,baz=208,slow=11,SNR=4.5						
	comp=E,1.1nm,0.8s						
KDAK	Kodiak Island	20.63	321	LR	LR	08 32 40.0	
	comp=E,110nm,19.5s,baz=337,slow=30						
ULM	Lac du Bonnet	22.76	62	P	P	08 27 14.9	+0.5
	comp=E,1.1nm,0.5s,baz=281,slow=8.3,SNR=6.8						
	comp=E,1.1nm,0.5s						
ILAR	Eielson Array	23.43	340	LR	LR	08 34 55.0	
	comp=E,60nm,19.2s,baz=68,slow=33						
TXAR	Lajitas Array	24.30	119	P	P	08 27 31.5	+1.6
	comp=E,0.6nm,0.7s,baz=299,slow=8.7,SNR=6.4						
	comp=E,0.6nm,0.7s						
SADO	Sadowa	34.64	71	LR	LR	08 43 10.0	
	comp=E,130nm,18.4s,baz=157,slow=37						
SHEM	Shemya Is, Ala	38.48	304	LR	LR	08 44 04.6	
	comp=E,51nm,19.2s,baz=86,slow=34						
H11N3	WAKE ISLAND Hy	58.66	268	T	T	09 35 16.0	
	baz=50,slow=75,SNR=57						
H11N2	WAKE ISLAND Hy	58.66	268	T	T	09 35 14.2	
	baz=50,slow=75,SNR=47						
H11N1	WAKE ISLAND Hy	58.68	268	T	T	09 35 12.3	
	baz=50,slow=75,SNR=37						
H11S1	WAKE ISLAND Hy	59.59	267	T	T	09 36 21.7	
	baz=50,slow=75,SNR=9.5						
H11S2	WAKE ISLAND Hy	59.60	267	T	T	09 36 23.7	
	baz=50,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	59.61	267	T	T	09 36 30.0	
	baz=50,slow=75,SNR=9.2						

*IDC **13** 08:36:05.4±0.9, 33°.73S×77°.71E, h0km, mb4.1/11, mbtmp4.1/11, MS3.6/4, Error ellipse: s-maj=35.7km s-min=25.6km az=64.0*

ISC 13 08:36:06.7±1.0, 33°.8S±0°.2×77°.6E±0°.2, h10km, n25, σ1§01/13, mb4.0/11, MS3.7/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	23.24	230	T	T	09 05 20.5	
	baz=68,slow=74						
H04N1	CROZET ISLANDS	23.25	230	T	T	09 05 25.1	
	baz=68,slow=74						
H04N3	CROZET ISLANDS	23.26	230	T	T	09 05 19.5	
	baz=68,slow=74						
H04S1	CROZET ISLANDS	23.44	229	T	T	09 05 35.2	
	baz=65,slow=76						
H04S3	CROZET ISLANDS	23.46	229	T	T	09 05 38.1	
	baz=65,slow=76						
H04S2	CROZET ISLANDS	23.46	228	T	T	09 05 43.8	
	baz=65,slow=76						
H01W2	Cape Leeuwin H	30.06	103	T	T	09

QIR1	Qir	0.94 226	Pg	Pg	08 37 49.9	-0.9
SHI	Shiraz	1.24 294	Pg	Pb	08 37 55.8	-0.5
LMD1	Lamerd	1.88 198	Pn	Pb	08 38 06.1	-1.0
KAZ2	Kazeron-Fars-I	1.93 285	Pn	Pn	08 38 06.4	+0.7
AHBU	AHRAM	2.22 264	Pn	Pn	08 38 09.2	-0.3
IMEH	Mehriz	2.35 17	Pn	Pn	08 38 13.0	+1.3
DSBU	Dashti - Bushe	2.37 252	Pn	Pn	08 38 12.2	+0.5
NGRK	Negar Kerman	2.60 78	Pn	Pn	08 38 16.0	+0.9
KHGB	Koh Gabri	2.63 61	Pn	Pn	08 38 16.3	+0.8
BNDS	Bandar-Abbas	2.71 129	Pn	Pn	08 38 17.3	+0.9
GENO	Geno	2.71 129	Pn	Pn	08 38 17.2	+0.8
ISAD	Sadrabad	2.77 358	Pn	Pn	08 38 18.5	+1.0
IBAF	Bafgh	2.88 31	Pn	Pn	08 38 19.6	+0.8
IRAM	Ramesheh	2.94 336	Pn	Pn	08 38 20.3	+0.7
ZRDN	Zarand Kerman	2.99 52	Pn	Pn	08 38 20.7	+0.4
CHMN	Cheshme madani	3.33 77	Pn	Pn	08 38 26.5	+1.3
KHNJ	Kahnooj	3.63 108	Pn	Pn	08 38 30.3	+1.4
SHME	Shamm	3.70 145	P	Pn	08 38 32.1	+2.2
SHME			S	Sn	08 39 17.0	+3.4
SHME	Shamm	3.70 145	P	Pn	08 38 29.0	-1.0
ZNGN	Zangian	3.92 320	Pn	Pn	08 38 33.4	+0.2
IZEF	Zefreh	3.96 342	Pn	Pn	08 38 34.0	+0.3
ANAR	Anarak	4.04 359	Pn	Pn	08 38 35.2	+0.4
KBAM	BAM	4.06 89	Pn	Pn	08 38 36.3	+1.3
SHMA	Al-Shehemyia SNR=14	4.13 218	P	Pn	08 38 38.0	+2.2
SHMA			S	Sn	08 39 26.0	+1.9
SAKB	Bahrain	4.28 224	P	Pn	08 38 40.6	+2.7
SAKB			S	Sn	08 39 30.9	+3.0
MASF	Masafi SNR=26	4.29 150	P	Pn	08 38 39.8	+1.7
MSFE	Esma-Masafi SNR=26	4.30 150	*i* P	Pn	08 38 39.4	+1.2
MDH	Madha SNR=15	4.42 149	P	Pn	08 38 40.8	+1.0
MDH			S	Sn	08 39 33.1	+1.9
MDH	Madha SNR=15	4.42 149	*i* P	Pn	08 38 40.2	+0.5
NAZ	Nazwa, Dubai SNR=13	4.45 158	P	Pn	08 38 42.1	+1.9
NAZ	Nazwa, Dubai SNR=13	4.45 158	*i* P	Pn	08 38 41.9	+1.7
TPRV	Parvadeh(Tabas	4.60 32	Pn	Pn	08 38 42.7	+0.4
FAQ	Al Faqa, Dubai SNR=6.9	4.65 160	P	Pn	08 38 45.0	+2.0
FAQ			S	Sn	08 39 38.9	+1.8
FAQ	Al Faqa, Dubai SNR=6.9	4.65 160	*i* P	Pn	08 38 44.4	+1.4
AJN	Ajban SNR=8.5	4.67 167	P	Pn	08 38 45.6	+2.3
AJN			S	Sn	08 39 39.6	+2.1
AJN	Ajban SNR=8.5	4.67 167	*i* P	Pn	08 38 45.4	+2.1
UOSS	Minazif	4.69 152	Pn	Pn	08 38 43.8	+0.3
UOSS	Minazif	4.69 152	P	Pn	08 38 44.5	+1.0
UOSS			S	Sn	08 39 39.2	+1.3
UOSS	Minazif SNR=10	4.69 152	*i* P	Pn	08 38 44.1	+0.6
ASUD	Al Ashush, Dub SNR=12	4.69 163	P	Pn	08 38 46.0	+2.4
ASUD	Al Ashush, Dub SNR=12	4.69 163	*i* P	Pn	08 38 45.7	+2.1
HATD	Hatta, Dubai SNR=18	4.76 154	P	Pn	08 38 46.0	+1.4
HATD			S	Sn	08 39 40.7	+0.8
HATD	Hatta, Dubai SNR=18	4.76 154	*i* P	Pn	08 38 45.5	+0.9
JASK	Jask - Hormozg	4.85 131	P	Pn	08 38 45.8	0.0
ASHO	Ashiyiah SNR=22	4.87 155	P	Pn	08 38 47.2	+1.2
ASHO			S	Sn	08 39 43.7	+1.3
ASHO	Ashiyiah SNR=40	4.87 155	*i* P	Pn	08 38 46.9	+0.9
TRNA	Turayna SNR=20	4.96 208	P	Pn	08 38 48.5	+1.4
TRNA			S	Sn	08 39 45.4	+0.8
SMRA	Abu-Samra	5.12 212	P	Pn	08 38 51.2	+1.8
SMRA			S	Sn	08 39 50.0	+1.4
GHWR	Ruwais SNR=7.1	5.22 189	P	Pn	08 38 51.8	+1.1
ALNE	Al Ain SNR=5.6	5.35 161	P	Pn	08 38 53.8	+1.3
ALNE			S	Sn	08 39 55.4	+1.1
ALNE	Al Ain SNR=5.5	5.35 161	*i* P	Pn	08 38 53.4	+0.8
KBD	Kabd	5.35 272	P	Pn	08 38 53.1	+0.5
KBD			S	Sn	08 39 53.9	-0.4
MZWR	Madinat Zayed	5.35 179	P	Pn	08 38 53.7	+1.1
ISFB	Sefidab	5.37 346	Pn	Pn	08 38 52.9	-0.1
SLWR	Sila	5.39 201	P	Pn	08 38 53.9	+0.8
SLWR			S	Sn	08 39 55.1	-0.1
SOHO	SOHO	5.54 153	P	Pn	08 38 55.4	+0.1
SOHO			S	Sn	08 39 58.1	-1.0
SOHO	SOHO SNR=6.4	5.54 153	*i* P	Pn	08 38 54.6	-0.7
MZR	Muzera	6.11 183	P	Pn	08 39 03.8	+0.7
ARQ	Araqi SNR=13	6.26 157	P	Pn	08 39 05.7	+0.5
ARQ			S	Sn	08 40 16.4	-0.5
HOQ	Hoqain SNR=5.5	6.36 150	P	Pn	08 39 06.7	+0.2
TAPT	Tabas- Tapeh t	6.40 26	Pn	Pn	08 39 08.5	+1.3
UMZA	Um Al Zommool	6.51 169	P	Pn	08 39 09.3	+0.8
BIDO	Bidbid	6.80 144	P	Pn	08 39 12.3	-0.2
BIDO			S	Sn	08 40 29.4	-0.6
BSY	Bisya	7.05 154	P	Pn	08 39 16.2	+0.1
BSY			S	Sn	08 40 36.0	-0.4
SMDO	Samad SNR=6.2	7.15 147	P	Pn	08 39 17.8	+0.4
NGCH	Negor - Chabah SNR=7.4	7.53 118	P	Pn	08 39 21.9	-0.6
JMDO	Jabal Madar	7.77 149	P	Pn	08 39 25.5	-0.3
WBK	Wadi Bani Khal SNR=18	7.99 143	P	Pn	08 39 28.3	-0.6
JLN	Jalan Bani Buh SNR=18	8.59 143	P	Pn	08 39 36.2	-1.0
MHTO	MHTO SNR=5.3	8.94 154	P	Pn	08 39 41.6	-0.4
RAYN	Ar Rayn	9.31 235	P	Pn	08 39 46.2	-0.8
RAYN	Ar Rayn	9.31 235	P	Pn	08 39 45.8	-1.2
DQM	DQM	9.77 159	P	Pn	08 39 52.3	-1.1
DOK	Doka SNR=9.4	10.47 178	P	Pn	08 40 01.5	-1.4
WHFO	Wadi Hawf SNR=18	11.16 180	P	Pn	08 40 11.1	-1.3
DMTO	DMTO	11.41 175	P	Pn	08 40 13.9	-1.9
ABTO	Aybut	11.73 182	P	Pn	08 40 18.1	-2.2

*NEIC **13** 08:44:15.7±1.8, 22°.29S±0°.07×175°.5W±0°.1, h1km±5km, mb4.6/18, Error ellipse: s-maj=19.4km s-min=5.2km az=117.0*
*IDC **13** 08:44:15.9±1.2, 22°.37S×175°.64W, h0km, mb4.0/4, mbtmp4.0/5, ML4.1/1, MS3.1/2, Error ellipse: s-maj=40.3km s-min=34.0km az=125.0*

ISC 13 08:44:18.9±0.5, 22°.30S±0°.07×175°.35W±0°.08, h33km, n49, σ1§52/41, mb4.4/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.01	59	Pn	Pn	08 45 47.3	+1.8
NIUE				Sn	Sn	08 46 45.1	-8.1
RAO	Raoul Island	7.29	198	Sn	Sn	08 47 22.4	-2.5
RAO	Raoul Island	7.29	198	Pn	Pn	08 46 03.4	+0.2
MSVF	Nonsavu	7.69	305	Pn	Pn	08 46 16.7	+7.9
MSVF	Nonsavu 5.0nm,0.3s,baz=121,slow=19,SNR=35	7.69	305	Pn	Pn	08 46 19.0	+10
MSVF				LR	LR	08 47 59.3	
	comp=Z,56nm,19.0s,baz=149,slow=30						
AFI	Afiamalu	9.01	23	Pn	Pn	08 46 27.6	+0.8
AFI				Sn	Sn	08 48 03.3	-4.0
RAR	Rarotonga	14.51	89	Pn	Pn	08 47 40.5	-1.6
RAR	Rarotonga 2.0nm,0.3s,baz=28,slow=2.8,SNR=3.0	14.51	89	Pn	Pn	08 47 40.9	-1.2
RAR				Sn	Sn	08 50 05.4	-16
	0.8nm,0.3s,baz=274,slow=21,SNR=1.7						
PINNC	Pines Island,	15.91	266		P	08 48 02.3	-1.4
PINNC				IAmb	IAmb	08 48 15.4	
	comp=Z,57nm,1.2s						
DZM	Mont Dzumac	16.87	267		P	08 48 13.9	-0.6
DZM	Mont Dzumac comp=Z,89nm,25.4s	16.87	267	*e*LR	LR	08 52 01.6	
DZM	Mont Dzumac comp=Z,0.3nm,0.3s,baz=110,slow=16,SNR=6.2	16.87	267	Pn	P	08 48 18.1	+3.6
URZ	Urewera comp=Z,0.7nm,0.3s,baz=70,slow=14,SNR=2.2	17.17	200	P	Pn	08 48 15.8	-0.5
URZ				S	Sn	08 51 07.2	-19
	comp=Z,4.9nm,0.7s,baz=270,slow=20,SNR=2.5 comp=Z,2.6nm,0.4s						
CTZ	Chatham Island	21.40	183	P	P	08 49 02.9	-0.8
CTZ				IAmb	IAmb	08 49 13.8	
	comp=Z,30nm,0.9s						
KHZ	Kahutara	22.10	202	P	P	08 49 08.3	-3.0
KHZ				IAmb	IAmb	08 49 12.8	
	comp=Z,36nm,1.4s						
LTZ	Lake Taylor	22.88	204		P	08 49 19.2	-0.5
LTZ				IAmb	IAmb	08 49 38.7	
	comp=Z,50nm,1.4s						
PPT2	Papeete2 comp=Z,110nm,26.5s	24.66	84	*e*LR	LR	08 55 30.1	
PPT	Papeete comp=Z,86nm,18.8s,baz=295,slow=36	24.67	84	LR	LR	08 59 14.3	
WHZ	Wether Hill Ro	27.18	206	P	P	08 50 00.1	+0.7
CAN	Canberra	33.64	239	P	P	08 50 56.0	-0.6
TOO	Toolangi	36.90	237	P	P	08 51 24.2	-0.4
TOO				IAmb	IAmb	08 51 57.9	
	comp=Z,4.3nm,1.3s						
TAU	Tasmania Unive	37.16	228	P	P	08 51 25.7	-1.0
STKA	Stephens Creek	39.28	247	P	P	08 51 45.0	+0.2
STKA				IAmb	IAmb	08 51 55.7	
	comp=Z,29nm,1.3s						
STKA	Stephens Creek comp=Z,0.7nm,0.4s,baz=83,slow=9.3,SNR=5.1 comp=Z,0.7nm,0.4s	39.28	247	P	P	08 51 45.0	+0.2
COEN	Coen	40.18	275	P	P	08 51 52.8	+0.4
AS31	Alice Springs	46.54	258		P	08 52 43.7	-0.1
ASAR	Alice Springs	46.54	258	P	P	08 52 43.8	+0.1
ASAR				PcP	PcP	08 54 18.7	+1.0
ASAR	Alice Springs comp=Z,1.4nm,0.7s,baz=95,slow=8.0,SNR=19	46.54	258	P	P	08 52 42.9	-0.8
ASAR				PcP	PcP	08 54 19.3	+1.5
	comp=Z,0.4nm,0.5s,baz=105,slow=3.8,SNR=5.0 comp=Z,1.4nm,0.7s						
WB0	Warramunga Arr	46.81	263	P	P	08 52 45.3	-0.5
WB0				IAmb	IAmb	08 52 49.4	
	comp=Z,7.4nm,1.4s						
WRA	Warramunga Arr	46.82	263	P	P	08 52 45.9	-0.1
WRA	Warramunga Arr comp=Z,1.2nm,0.6s,baz=102,slow=8.1,SNR=6.7 comp=Z,1.2nm,0.6s	46.82	263	P	P	08 52 45.0	-0.9
FORT	Forrest	50.88	248	P	P	08 53 16.0	-0.9
MTN	Manton Dam	51.66	271	P	P	08 53 20.6	-2.4
MTN				IAmb	IAmb	08 53 21.2	
	comp=Z,13nm,1.2s						
CASY	Casey	63.41	206	P	P	08 54 45.5	+0.6
QSPA	South Pole Qui	67.78	180	P	P	08 55 16.0	+2.7
QSPA	South Pole Qui comp=Z,2.3nm,0.9s,baz=50,slow=1.1,SNR=4.6 comp=Z,2.3nm,0.9s	67.78	180	P	P	08 55 14.8	+1.5
H03S2	Juan Fernandez	82.94	124	T	T	10 28 18.5	
	baz=246,slow=74,SNR=74						
H03S1	Juan Fernandez baz=246,slow=74,SNR=68	82.95	124	T	T	10 28 28.2	
H03S3	Juan Fernandez baz=246,slow=74,SNR=51	82.96	124	T	T	10 28 26.9	
H03N2	Juan Fernandez baz=238,slow=72,SNR=59	83.08	123	T	T	10 28 25.4	
H03N3	Juan Fernandez baz=238,slow=72,SNR=39	83.08	123	T	T	10 28 35.4	
H03N1	Juan Fernandez baz=238,slow=72,SNR=62	83.10	123	T	T	10 28 34.3	
MKAR	Makanchi Array	114.23	313	PKP	PKiKP	09 02 56.1	+1.1
	comp=Z,0.3nm,0.6s,baz=90,slow=1.4,SNR=3.1						
KURBB	Kurchatov Arra	117.04	317	PKP	PKiKP	09 03 01.2	+1.0
	comp=Z,0.4nm,0.6s,baz=108,slow=2.1,SNR=3.4						
AKASG	Malin Array Be	145.77	332	PKPbc	PKPab	09 03 56.2	+1.4
	comp=Z,1.8nm,0.6s,baz=42,slow=4.0,SNR=17						
AKBB	Malin Array Si	145.77	332	PKPdf	PKPdf	09 03 53.6	-0.3
KIEV	Kiev	145.78	332	PKPdf	PKPdf	09 03 53.7	-0.2
BRTR	Keskin Array B	149.88	312	PKPbc	PKiKP	09 04 07.7	+0.6
	comp=Z,1.3nm,0.5s,baz=114,slow=3.6,SNR=2.9						
MMAI	Mount Meron Ar	150.84	298	PKPbc	PKiKP	09 04 11.0	+1.9
	comp=Z,2.2nm,0.6s,baz=101,slow=7.5,SNR=2.2						

*ISN **13** 08:53:32.3±0.4, 34°.74N×45°.49E, h7km±10km, ML2.8*
*TEH **13** 08:53:32.8, 34°.75N×45°.48E, h10km±49km*

ISC 13 08:53:32.6±1.4, 34°.77N±0°.05×45°.51E±0°.04, h6km±12km, n12, σ1§10/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.27	165	Pg	Pg	08 53 38.3	+0.3
KGS1				Sg	Sg	08 53 42.8	+1.3
IDHR	Dehrash	0.73	95	Pg	Pg	08 53 47.6	+1.0
IDHR				Sg	Sb	08 53 58.8	+0.6
GLG1	Gilan-e-Gharb	0.73	153	Pg	Pg	08 53 46.4	-0.3
IGHG	Ghaleghazi	0.98	116	Pg	Pg	08 53 51.6	+0.2
IKRK	Kirkuk	1.14	304	*e*Pg	Pb	08 53 54.5	-0.3
IKRK				*e*Sg	Sn	08 54 10.5	-0.7
IKRK				AML	AML	08 54 18.0	
	comp=N,302nm,0.7s						
IKRK				AML	AML	08 54 18.2	
	comp=E,228nm,0.9s						
ILBA	Ilam Banvizeh	1.28	153	Pg	Pg	08 53 57.2	0.0
IBDR	Badra	1.69	168	*e*Pn	Pb	08 54 03.5	-0.7
IBDR				*e*Sn	Sg	08 54 26.5	-0.5
IBDR				AML	AML	08 54 30.0	
	comp=E,133nm,0.4s						
IBDR				AML	AML	08 54 37.2	
	comp=N,102nm,0.5s						
SNQR	Sonqor, Kerman	1.75	87	Pg	Pg	08 54 06.3	+0.1
BHD	Baghdad	1.76	212	*e*Pn	Pb	08 54 04.4	-1.0
BHD				*e*Sn	Sg	08 54 28.0	-1.3
IKFM	Kafar-mosalman	2.31	122	Pn	Pb	08 54 13.2	-1.4
BDRS	Dareh Seyedi	2.91	105	Pn	Pb	08 54 22.7	-2.3
RAFI	Al-Rafai	3.08	170	*e*Pn	Pn	08 54 23.0	+1.2
RAFI				*e*Sn	Sn	08 55 00.0	+1.0

DJA 13 09:21:37.9±0.3, 9°S±3°×107°E±°, h10km, M4.2/15, mb5.1/2, MLv3.8/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	1.18	360	P	Pb	09 21 59.3	-1.2
CNJI				S	Sb	09 22 15.4	-0.4
CMJI	Cimerak	1.49	61	P	Pn	09 22 04.0	-0.7
SKJI	Sukabumi	1.59	339	P	Pn	09 22 06.2	+0.1
LEM	Lembang	1.73	16	P	Pn	09 22 08.3	+0.1
CGJI	Cibinong	2.35	323	P	Pn	09 22 17.0	+0.4
CGJI				S	Sn	09 22 46.6	+1.0
TNG	Tangerang	2.36	348	P	Pn	09 22 17.2	+0.4
SBJI	Serang	2.56	337	P	Pn	09 22 20.5	+1.0
UGM	Wanagama	3.41	80	P	Pn	09 22 31.7	+0.5
PCJI	Pacitan	4.02	86	P	Pn	09 22 40.4	+0.9
MNAI	Manna	5.84	314	P	Pn	09 23 04.8	+0.2
GMJI	Gumukmas	6.25	88	P	Pn	09 23 10.0	-0.3

HEL 13 09:46:20.8±0.3, 67°.80N×20°.03E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara baz=254	0.78	71	PG	Pg	09 46 35.0	-0.8
LANU				SG	Sg	09 46 44.7	-1.3
KIF	Kilpisjarvi	1.24	13	PN	Pn	09 46 45.8	+0.5
KIF				MSG		09 46 59.4	
	comp=Z,2.9nm,0.2s						
KIF				SN	Sn	09 47 02.8	0.0
PAJU	Pajala	1.42	122	PG	Pn	09 46 46.5	-1.4
PAJU				SG	Sg	09 47 05.2	-1.2
HEF	Hetta	1.49	64	PG	Pn	09 46 47.8	-1.1
HEF				MSG		09 47 05.6	
	comp=Z,1.2nm,0.2s						
HEF				SG	Sb	09 47 08.8	-0.1
ERTU	Ertsjaerv	1.51	145	SN	Sb	09 47 09.3	0.0
KLF	Kolari	1.62	109	PG	Pn	09 46 49.8	-0.8
KLF				MSG		09 47 09.3	
	comp=Z,0.6nm,0.2s						
KLF				SG	Sn	09 47 11.6	-0.4
KTK1	Kautokeino	1.70	43	PG	Pn	09 46 51.3	-0.4
KTK1				SG	Sg	09 47 15.3	-0.1
TOF	Tornio	2.42	134	PG	Pb	09 47 03.4	-1.7
TOF				MSG		09 47 32.3	
	comp=Z,0.5nm,0.2s						
TOF				SG	Sb	09 47 35.2	-0.2
RNF	Rovaniemi	2.62	114	PG	Pn	09 47 06.0	+1.7
RNF				SG	Sb	09 47 40.4	-0.8
ARA0	ARCESS Array S	2.65	46	PB	Pn	09 47 05.9	+1.1
ARA0				SB	Sb	09 47 40.1	-2.1
RAJF	Raja-Jooseppi	3.17	74	SB	Sb	09 47 56.2	-0.9

*IDC **13** 10:10:03.5±2.2, 64°.74N×31°.29E, h0km, mbtmp3.4/5, ML2.3/5, Error ellipse: s-maj=29.8km s-min=9.5km az=105.0*
*HEL **13** 10:10:03.6±0.2, 64°.78N×30°.72E, h0km, ML2.1, Suspected explosion*
*KOLA **13** 10:10:05.6, 64°.80N×30°.94E, h0km, ML2.4, Error ellipse: s-maj=18.4km s-min=13.0km az=150.0, Kostomuksha, Karelia*

ISC 13 10:10:03.7±0.9, 64°.82N±0°.02×30°.66E±0°.05, h0km, n47, σ1§84/70, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara baz=33	0.68	208	PG	Pg	10 10 15.8	-1.0
RMF				MSG		10 10 24.6	
	comp=Z,31nm,0.2s						
KU1	Kurvinen baz=145	0.88	329	PG	Pg	10 10 20.2	-0.4
KU6	Riekki baz=168	1.25	345	PG	Pg	10 10 27.0	-0.7
KU6				MSG		10 10 42.8	
	comp=Z,17nm,0.2s						
KU6				SG	Sg	10 10 43.8	-0.1
MSF	Maaselka baz=152	1.29	329	PN	Pg	10 10 28.2	-0.2
MSF				SN	Sb	10 10 46.4	+0.5
KU2	Taivalkoski	1.36	312	PG	Pg	10 10 28.7	-1.0
OLKF	Oulanka, Finla	1.59	341	PG	Pn	10 10 33.2	0.0
OLKF				MSG		10 10 52.6	
	comp=Z,15nm,0.2s						
OLKF				SN	Sg	10 10 55.8	+0.9
NIF	Nilsia baz=40	1.90	222	PG	Pn	10 10 37.6	+0.2
JOF	Joensuu	1.93	171	PG	Pn	10 10 37.3	-0.5
RANF	Ranua baz=123	2.01	308	PG	Pn	10 10 40.2	+1.3
RANF				SG	Sb	10 11 07.2	+0.5
OUL	Oulu	2.04	280	PG	Pn	10 10 40.4	+1.1
OUL				SG	Sb	10 11 07.5	-0.1
KVDA	Kovda	2.09	25	P	Pn	10 10 40.6	+0.7
KVDA				S	Sn	10 11 06.4	-0.2
OBF4	Vikkela, Lumij baz=85	2.38	272	PG	Pn	10 10 45.4	+1.5
OBF4				MSG		10 11 14.6	
	comp=Z,12nm,0.2s						
OBF4				SG	Sb	10 11 18.2	+1.1
OUF	Merijarvi	2.60	263	PB	Pn	10 10 48.9	+2.0
OUF				MSG		10 11 20.8	
	comp=Z,12nm,0.2s						
OUF				SG	Sb	10 11 23.7	+0.3
RNF	Rovaniemi	2.63	315	PB	Pn	10 10 48.7	+1.4
RNF				SG	Sb	10 11 25.6	+1.2
OBF0	Syolatti, Pyha	2.78	266	PB	Pn	10 10 51.1	+1.7
OBF0				MSG		10 11 26.3	
	comp=Z,10.0nm,0.2s						
OBF0				SG	Sb	10 11 30.4	+1.7
SUF	Sumiainen baz=38	2.91	226	PB	Pn	10 10 53.4	+2.2
SUF				MSG		10 11 28.9	
	comp=Z,5.6nm,0.2s						
TOF	Tornio	2.93	298	PB	Pn	10 10 54.1	+2.6
TOF				MSG		10 11 30.9	
	comp=Z,4.6nm,0.2s						
TOF				SB	Sb	10 11 33.0	0.0
APA0	Apatity Array	2.95	18	P	Pn	10 10 53.0	+1.2
APA0				S	Sn	10 11 28.8	+0.9
VRF	Varrio	2.97	352	PB	Pn	10 10 53.8	+1.8
VRF				MSG		10 11 32.2	
	comp=Z,5.4nm,0.2s						
VRF				SG	Sb	10 11 36.2	+2.0
APA	Apatity	2.98	21	P	Pn	10 10 54.1	+2.0
KALU	Kalix	3.23	292	PB	Pn	10 10 58.0	+2.4
KALU				SG	Sb	10 11 45.0	+3.2
KAF	Kangasniemi baz=37	3.35	218	PB	Pn	10 10 59.6	+2.4
KAF				SG	Sb	10 11 44.2	-0.9
LVZ	Lovozero	3.48	26	PN	Pn	10 11 00.6	+1.5
RUF	Ruokolahti baz=10.0	3.50	194	PB	Pn	10 11 00.5	+1.2
KLF	Kolari baz=129	3.65	315	PN	Pn	10 11 02.6	+1.2
KEF	Keuruu	3.72	227	PB	Pn	10 11 04.7	+2.4
RAJF	Raja-Jooseppi	3.79	347	PN	Pn	10 11 04.5	+1.2
PAJU	Pajala baz=125	3.80	309	PN	Pn	10 11 05.4	+2.0
PAJU				SG	Sb	10 12 02.0	+3.9
ERTU	Ertsjaerv	3.91	300	PN	Pn	10 11 06.8	+1.8
VAF	Ylistaro	3.95	247	PN	Pn	10 11 07.5	+2.0
FIA0	FINESS Array S	3.98	214	PN	Pn	10 11 05.8	0.0
FIA0				SG	Sb	10 12 08.0	+4.9
FINES	FINESS Array B comp=Z,0.1nm,0.3s,baz=35,slow=13,SNR=7.6	3.98	214	Pn	Pn	10 11 05.9	0.0
FINES				Sn	Sn	10 11 53.8	+0.7
	comp=Z,0.4nm,0.3s,baz=40,slow=20,SNR=5.6						
FINES				Lg	Lg	10 12 05.5	
	comp=Z,0.4nm,0.3s,baz=32,slow=26,SNR=5.3 comp=Z,0.5nm,0.4s						
BURU	Burvik	3.99	271	PN	Pn	10 11 06.7	+0.6
VJF	Virojoki	4.53	200	SG	Sb	10 12 23.4	+4.4
HEF	Hetta	4.55	325	*e*P	Pn	10 11 15.7	+1.9
HEF	Hetta baz=137	4.55	325	PN	Pn	10 11 15.0	+1.2
HEF				SG	Sb	10 12 24.7	+4.9
TERR	Teriberka	4.73	20	P	Pn	10 11 15.9	-0.3
TERR				S	Sn	10 12 11.1	-0.6
ARA0	ARCESS Array S	5.14	339	*e*P	Pn	10 11 22.4	+0.5
ARCES	ARCESS Array B comp=Z,0.4nm,0.3s,baz=155,slow=14,SNR=92	5.14	339	Pn	Pn	10 11 21.9	0.0
ARCES				Sn	Sn	10 12 20.4	-1.4
	comp=Z,0.3nm,0.3s,baz=156,slow=25,SNR=10						
ARCES				Lg	Lg	10 12 41.4	
	comp=Z,0.5nm,0.3s,baz=147,slow=35,SNR=10 comp=Z,1.0nm,0.2s						
ARCES	ARCESS Array B	5.14	339	P	Pn	10 11 21.8	-0.1
ARCES				S	Sn	10 12 20.8	-1.0
VADS	Vadso	5.35	355	P	Pn	10 11 25.7	+1.1
VADS				S	Sn	10 12 25.8	-1.1
FAUS	Fauske	6.75	299	P	Pn	10 11 45.9	+2.1
FAUS				S	Sn	10 13 01.3	0.0
I43RU	DUBNA INFRASON	8.73	155	I	I	11 00 50.0	
	baz=345,slow=328,SNR=4.1						
HFS	Hagfors comp=Z,0.1nm,0.3s,baz=56,slow=13,SNR=1.8	9.14	247	Pn	Pn	10 12 15.6	-1.1
HFS				Sn	Sn	10 13 55.7	-4.3
	comp=Z,0.2nm,0.3s,baz=52,slow=28,SNR=1.3						
HFS				Lg	Lg	10 14 47.9	
	comp=Z,0.2nm,0.3s,baz=53,slow=27,SNR=2.2 comp=Z,2.6nm,0.9s						
NOA	NORSAR Array B baz=55,slow=14,SNR=3.8	9.62	256

18nm,0.8s
WRA Warramunga Arr 21.41 227 P **P 10 25 43.0 +0.5**
3.1nm,0.6s,baz=52,slow=10,SNR=22
3.1nm,0.6s
ASAR Alice Springs 24.19 221 P **P 10 26 11.5 +0.4**
2.1nm,0.4s,baz=57,slow=8.8,SNR=53
2.1nm,0.4s
STKA Stephens Creek 27.39 197 P **P 10 26 38.7 -1.3**
0.8nm,0.5s,baz=11,slow=12,SNR=3.8
0.8nm,0.5s
FITZ Fitzroy Crossi 27.56 241 P **P 10 26 41.8 +0.2**
2.3nm,0.4s,baz=63,slow=9.4,SNR=16
2.3nm,0.4s
ILAR Eielson Array 83.77 22 P **P 10 33 22.6 -0.8**
0.2nm,0.8s,baz=248,slow=5.0,SNR=5.0
0.2nm,0.8s
QSPA South Pole Qui 84.18 180 P **P 10 33 26.3 +0.6**
1.6nm,0.9s,baz=17,slow=0.8,SNR=5.8
1.6nm,0.9s

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*SFS **13** 10:41:16.9, 36.52N×5.72W, h31km, ML2.4/6, MLv2.5/6*
*MDD **13** 10:41:17.9±0.8, 36.58N×5.69W, h29km±5km, mb_Lg2.1/5, Error ellipse: s-maj=6.1km s-min=5.4km az=18.0*
ISC 13 10:41:16.4±1.1, 36.57N±0.05×5.71W±0.04, h31km±7km, n16, σ0.88/34, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJ	**Aljibe**	**0.06**	**129**	Pg	**Pb**	**10 41 21.9**	**+0.3**
ALJ				Sg	**Sb**	**10 41 25.1**	**-0.1**
EJIF	**Jimena Fronter**	**0.23**	**121**	Pg	**Pn**	**10 41 24.7**	**+1.0**
EJIF				Sg	**Sb**	**10 41 26.7**	**-0.8**
ESPR	**Espera**	**0.32**	**339**	Sg	**Sn**	**10 41 31.2**	**+0.6**
ESPR				Pg	**Pn**	**10 41 25.3**	**+0.3**
ESPR	**Espera**	**0.32**	**339**	Pg	**Pn**	**10 41 25.6**	**+0.7**
ESPR				Sg	**Sb**	**10 41 29.9**	**+0.4**
ESPR				*i* Vmb_Lg		10 41 32.3	
LIJA	**Lijar**	**0.42**	**36**	Pg	**Pn**	**10 41 26.0**	**-0.3**
LIJA				Sg	**Sn**	**10 41 32.5**	**-0.6**
EMIN	**Mina Concepcio**	**1.42**	**328**	Sn	**Sn**	**10 41 58.1**	**+0.3**
EMIN	**Mina Concepcio**	**1.42**	**328**	Pn	**Pn**	**10 41 40.0**	**-0.1**
EMIN				Pg	**Pb**	**10 41 43.3**	**+1.0**
EMIN				Sg	**Sb**	**10 42 00.4**	**+0.4**
EMIN				*i* Vmb_Lg		10 42 02.1	
ECAB	**El Cabril**	**1.52**	**9**	Pn	**Pb**	**10 41 42.6**	**-1.4**
ECAB				Sn	**Sn**	**10 41 59.8**	**-0.4**
ECAB	**El Cabril**	**1.52**	**9**	Pn	**Pn**	**10 41 40.7**	**-0.8**
ECAB				Pg	**Pb**	**10 41 44.4**	**+0.4**
ECAB				Sn	**Sn**	**10 42 00.2**	**0.0**
ECAB				Sg	**Sb**	**10 42 03.4**	**+0.5**
ECAB				*i* Vmb_Lg		10 42 04.0	
EGRO	**El Granado**	**1.71**	**305**	Pn	**Pn**	**10 41 44.3**	**+0.1**
EGRO				Sn	**Sn**	**10 42 02.9**	**-2.1**
EGRO	**El Granado**	**1.71**	**305**	Pn	**Pn**	**10 41 44.2**	**+0.1**
EGRO				Sn	**Sn**	**10 42 02.9**	**-2.1**
EGRO				*i* Vmb_Lg		10 42 08.8	
EGRO				Sg	**Sb**	**10 42 08.9**	**+0.5**
PVAQ	**Vaqueiros**	**1.81**	**298**	*e*Pn	**Pb**	**10 41 48.1**	**-0.7**
EADA	**Adamuz**	**1.83**	**29**	Pg	**Pb**	**10 41 50.4**	**+1.1**
EADA				Sg	**Sb**	**10 42 11.4**	**-0.4**
EADA				*i* Vmb_Lg		10 42 16.0	
PBDV	**Barranco-do-Ve**	**1.90**	**291**	*e*Pn	**Pn**	**10 41 47.4**	**+0.6**
PBDV				*e*Sn	**Sn**	**10 42 09.2**	**-0.5**
PBAR	**Barrancos**	**1.92**	**327**	*e*Sn	**Sn**	**10 42 08.9**	**-1.2**
PBAR				*e*Sg	**Sb**	**10 42 15.6**	**+1.3**
PBAR				IAML		10 42 19.3	
PBAR				IAML		10 42 20.9	
PCVE	**Castro Verde**	**2.14**	**300**	*e*Pn	**Pn**	**10 41 50.8**	**+0.7**
PCVE				*e*Sn	**Sn**	**10 42 14.9**	**-0.7**

IDC 13 10:51:07.9±10.0, 12.4S×166.63E, h181km±117km, mb3.2/4, mbtmp3.8/5, Error ellipse: s-maj=101.4km s-min=26.3km az=151.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.88**	**181**	P	Pn	10 53 26.0	0.0
	1.7nm,0.3s,baz=9.0,slow=19,SNR=12						
STKA	**Stephens Creek**	**30.28**	**226**	P	P	10 57 01.8	-0.3
	0.8nm,0.5s,baz=61,slow=10,SNR=3.3						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**31.95**	**252**	P	P	10 57 16.9	0.0
	0.4nm,0.5s,baz=82,slow=9.4,SNR=5.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**33.10**	**245**	P	P	10 57 27.1	+0.1
	0.6nm,0.7s,baz=71,slow=9.4,SNR=11						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**84.27**	**18**	P	P	11 03 18.9	0.0
	0.8nm,0.6s,baz=226,slow=5.3,SNR=22						
	0.8nm,0.6s						

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*BJI **13** 10:55:12.0, 19.40N×155.20W, h8km, mB5.6/22, mb5.3/61, Ms5.0/10, Ms7 4.7/12*
*IDC **13** 10:55:12.4±0.7, 19.34N×155.26W, h0km, mb4.9/24, mbtmp4.8/24, MS4.0/54, Error ellipse: s-maj=23.4km s-min=14.3km az=166.0*
*RSNC **13** 10:55:13.3±0.0, 19.1N±1.5×5W±.5, h6km±2km, M1.2, ML1.1*
*NEIC **13** 10:55:13.4, 19.33N×155.20W, h12km*
*HVO **13** 10:55:13.4±1.4, 19.33N±0.03×155.20W±0.02, h7km±3km, ML5.5/36, mb5.3/309(NEIC), ML5.4/46(NEIC), Ms_20 4.6/19(NEIC), Mww4.9/7(NEIC), Error ellipse: s-maj=5.1km s-min=2.1km az=147.0*
*NEIC **13** 10:55:13.4, 19.63N×155.00W, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27; $M_{\theta\theta}$-1.61; $M_{\phi\phi}$-0.65; $M_{r\theta}$1.35; $M_{\phi\theta}$-0.59; $M_{\phi r}$0.25; Fault plane solution: $M_0$2.49000×10^{16} NP1: ϕ_s239.74000°, δ28.90000°, λ79.24000°. NP2:ϕ_s71.98000°, δ61.66000°, λ95.88000°. Principal axes: T 2.6897, Plg73.0000°, Azm356.0000°; N -0.4055, Plg5.0000°, Azm249.0000°; P -2.2841, Plg16.0000°, Azm158.0000°;*
*NEIC **13** 10:55:14.0±2.2, 19.43N±0.02×155.28W±0.01, h10km±3km Error ellipse: s-maj=3.1km s-min=0.5km az=150.0*
*GCMT **13** 10:55:16.4±0.3, 19.41N±0.02×154.94W±0.03, h12km, MW5.0/97, Moment Tensor Solution. s26,c27; s97,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.39±.08; $M_{\theta\theta}$-1.85±.07; $M_{\phi\phi}$-0.53±.07; $M_{r\theta}$0.98±.24; $M_{\phi\theta}$-0.94±.06; $M_{\phi r}$3.20±.30; Best double couple: $M_0$4.03100×10^{16} NP1:ϕ_s257.00000°, δ24.00000°, λ136.00000°. NP2: ϕ_s29.00000°, δ74.00000°, λ73.00000°. Principal axes: T 4.4610, Plg58.0000°, Azm276.0000°; N -0.8600, Plg17.0000°, Azm34.0000°; P -3.6000, Plg27.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 10:55:14.5±0.5, 19.39N±0.03×155.24W±0.02, h12km±2km, n730, σ1.9/684, mb5.3/196, MS4.2/70, 3C-2D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako'i**	**0.03**	**292**		**Pg**	**10 55 16.1**	**-0.7**
PUH	**Pauahi**	**0.03**	**121**		**Pg**	**10 55 15.3**	**-1.5**
BYL	**Byron's Ledge**	**0.03**	**323**		**Pg**	**10 55 16.2**	**-0.7**
BYL				IAML		10 55 19.0	
	comp=E,1124μm,0.9s						
BYL				IAML		10 55 19.4	
	comp=N,1137μm,0.9s						
RIM	**Rim**	**0.03**	**282**		**Pg**	**10 55 16.2**	**-0.7**
HATHI	**Halema'uma'u T**	**0.04**	**332**		**Pg**	**10 55 16.3**	**-0.6**
HATHI				IAML		10 55 18.9	
	comp=E,967μm,1.3s						
HATHI				IAML		10 55 18.9	
	comp=N,830μm,0.8s						
SBLHI	**Steaming Bluff**	**0.05**	**327**		**Pg**	**10 55 16.4**	**-0.6**
SBLHI					**Sg**	**10 55 18.4**	**-0.3**
OBL	**Observatory Le**	**0.05**	**306**		**Pg**	**10 55 16.5**	**-0.5**
SDHHI	**Sand Hill**	**0.05**	**271**		**Pg**	**10 55 16.1**	**-0.8**
SDHHI					**Sg**	**10 55 18.3**	**-0.4**
UWB	**Uwekahuna Bluf**	**0.05**	**316**		**Pg**	**10 55 16.4**	**-0.5**
UWB					**Sg**	**10 55 18.6**	**-0.1**
UWE	**Uwekahuna**	**0.06**	**304**		**Pg**	**10 55 16.8**	**-0.3**
UWE				IAML		10 55 19.9	
	comp=N,1588μm,1.0s						
UWE				IAML		10 55 20.4	
	comp=E,1634μm,0.9s						
WRMHI	**West Rim**	**0.06**	**288**		**Pg**	**10 55 16.5**	**-0.6**
WRMHI					**Sg**	**10 55 19.0**	**+0.1**
KNHH	**Kane Nui o Ham**	**0.07**	**98**		**Pg**	**10 55 15.5**	**-1.6**
RSD	**Rainshed**	**0.08**	**335**		**Pg**	**10 55 19.5**	**+2.2**
STCH	**Steam Cracks**	**0.11**	**92**		**Pg**	**10 55 16.0**	**-1.5**
STCH				IAML		10 55 18.8	
	comp=N,1127μm,0.7s						
HLP	**Hilina Pali**	**0.11**	**214**		**Pg**	**10 55 16.4**	**-1.1**
NPOC	**North of Pu'u**	**0.12**	**88**		**Pg**	**10 55 16.3**	**-1.5**
NPOC					**Sg**	**10 55 18.5**	**-1.6**
JCUZ	**Jacuzzi**	**0.13**	**92**		**Pg**	**10 55 18.6**	**+0.7**
MLH	**Mauna Loa**	**0.17**	**308**		**Pg**	**10 55 18.4**	**-0.1**
MLH				IAML		10 55 23.1	
	comp=E,345μm,1.2s						
MLH				IAML		10 55 26.7	
	comp=N,445μm,0.7s						
HTC	**Hot Caves**	**0.21**	**224**		**Pg**	**10 55 18.2**	**-0.8**
JOKA	**Jonika Flow**	**0.23**	**79**		**Pg**	**10 55 17.9**	**-1.5**
HMH	**Humu'ula Sheep**	**0.31**	**313**		**Pg**	**10 55 20.8**	**-0.2**
HMH				IAML		10 55 28.1	
	comp=N,491μm,0.5s						
HMH				IAML		10 55 29.2	
	comp=E,282μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.35**	**295**		**Sg**	**10 55 27.2**	**+0.7**
MLOA	**Mauna Loa Obse**	**0.35**	**295**		**Pg**	**10 55 21.4**	**-0.3**
MLOA	**Mauna Loa Obse**	**0.35**	**295**	IAML		10 55 24.1	
	comp=N,2μm,0.8s						
MLOA				IAML		10 55 24.1	
	comp=E,1μm,1.0s						
MWH	**Mokuaweoweo**	**0.35**	**286**		**Pg**	**10 55 21.2**	**-0.5**
MWH				IAML		10 55 28.1	
	comp=E,474μm,0.9s						
MWH				IAML		10 55 35.0	
	comp=N,628μm,1.0s						
KHU	**Kahuku**	**0.38**	**248**		**Pg**	**10 55 21.3**	**-0.9**
KHU					**Sg**	**10 55 27.1**	**-0.2**
KHU				IAML		10 55 27.9	
	comp=N,427μm,0.8s						
ALEP	**Alea Permanent**	**0.41**	**292**		**Pg**	**10 55 22.2**	**-0.6**
ALEP					**Sg**	**10 55 28.8**	**+0.5**
HPO	**Honuapo**	**0.42**	**225**		**Pg**	**10 55 22.2**	**-0.6**
POHA	**Pohakuloa**	**0.46**	**323**		**Pg**	**10 55 23.1**	**-0.5**
POHA	**Pohakuloa**	**0.46**	**323**		**Sg**	**10 55 30.8**	**+1.0**
POHA				IAML		10 55 31.6	
	comp=N,1355μm,0.6s						
POHA				IAML		10 55 32.0	
	comp=N,1306μm,0.6s						
HUH	**Hualalai**	**0.63**	**298**		**Pg**	**10 55 26.4**	**-0.5**
CPH	**Captain Cook**	**0.65**	**279**		**Pg**	**10 55 25.1**	**-2.0**
I59US	**HAWAII INFRASO**	**0.65**	**288**	Pg	**Pg**	**10 55 26.0**	**-1.1**
	baz=118,slow=27						
I59US				Lg	Lg	10 55 35.5	
HPAH	**Hawaii Prepara**	**0.77**	**326**		**Pg**	**10 55 27.5**	**-1.9**
HPAH				IAML		10 55 43.3	
	comp=N,201μm,0.6s						
HPAH				IAML		10 55 47.7	
	comp=E,175μm,0.8s						
KKH	**Kailua Kona**	**0.78**	**290**		**Pg**	**10 55 27.3**	**-2.3**
MHA	**Mahukona**	**1.01**	**322**		**Pg**	**10 55 31.1**	**-2.8**
HLK	**Haleakala**	**1.66**	**325**		Pn	10 55 39.8	-3.8
KHLH	**Kahului Airpor**	**1.87**	**324**		**Pn**	**10 55 43.4**	**-2.9**
WMR	**Waimanalo Ridg**	**2.99**	**310**		Pn	10 55 57.3	-4.4
WMR					**Sn**	**10 56 30.7**	**-6.8**
DHH	**Diamond Head**	**3.04**	**308**		Pn	10 55 58.4	-4.0
HON	**Honolulu**	**3.23**	**307**		Pn	10 56 00.8	-4.2
KIP	**Kipapa**	**3.29**	**308**		Pn	10 56 01.9	-4.0
KIP	**Kipapa**	**3.29**	**308**	IAML		10 56 41.8	
	comp=E,8μm,0.8s						
KIP				IAML		10 56 41.8	
	comp=E,7μm,0.8s						
OPA	**Opana**	**3.46**	**312**		Pn	10 56 03.8	-4.3
OPA					**Sn**	**10 56 44.1**	**-5.0**
KEKH	**Kekaha**	**4.92**	**302**		Pn	10 56 23.3	-4.9
KEKH					Sn	10 57 14.3	-11
TAOE	**Nuku Hiva Isla**	**31.76**	**151**	*e*LR	LR	11 09 56.0	
	comp=E,1μm,24.2s						
PMPB	**Monarch Peak**	**34.54**	**54**	P	**P**	**11 02 01.6**	**-1.4**
PMOR	**Pomariorio Ree**	**34.93**	**168**	*e*P	**P**	**11 02 04.5**	**-1.8**
	comp=E,112nm,1.4s						
VAH	**Vaihoa**	**35.21**	**167**	*e*P	**P**	**11 02 07.5**	**-1.3**
	comp=E,66nm,1.4s						
K02D	**Willamette Mer**	**35.33**	**42**	P	**P**	**11 02 09.1**	**-0.6**
J01E	**Myrtle Point**	**35.41**	**41**	P	**P**	**11 02 09.4**	**-0.9**
AFDM	**Forest Hills D**	**35.42**	**49**	P	**P**	**11 02 09.4**	**-1.1**
YBH	**Yreka Blue Hor**	**35.46**	**44**	P	**P**	**11 02 09.8**	**-1.1**
YBH	**Yreka Blue Hor**	**35.46**	**44**	LR	LR	11 11 36.5	
	comp=E,114nm,20.8s,baz=252,slow=28						
CMB	**Columbia Colle**	**35.50**	**51**	P	**P**	**11 02 10.1**	**-1.0**
H11N3	**WAKE ISLAND Hy**	**35.62**	**277**	T	T	11 39 18.0	
	baz=84,slow=75,SNR=3438						
H11N2	**WAKE ISLAND Hy**	**35.63**	**277**	T	T	11 39 18.0	
	baz=84,slow=75,SNR=2706						
H11N1	**WAKE ISLAND Hy**	**35.64**	**277**	T	T	11 39 18.0	
	baz=84,slow=75,SNR=1878						
DBO	**Dodson Butte**	**35.81**	**42**	P	**P**	**11 02 11.8**	**-2.1**
HATC	**Hat Creek Radi**	**35.87**	**46**	P	**P**	**11 02 12.6**	**-1.8**
H11S2	**WAKE ISLAND Hy**	**35.96**	**275**	T	T	11 39 41.0	
	baz=83,slow=75,SNR=776						
H11S1	**WAKE ISLAND Hy**	**35.96**	**275**	T	T	11 39 41.2	
	baz=83,slow=75,SNR=207						
H11S3	**WAKE ISLAND Hy**	**35.97**	**275**	T	T	11 39 42.3	
	baz=83,slow=75,SNR=359						
SDPT	**Sand Point**	**36.12**	**355**	P	**P**	**11 02 17.6**	**+1.4**
	baz=172						
ISA	**Isabella, Lake**	**36.16**	**56**	P	**P**	**11 02 16.4**	**-0.6**
ISA				IAmb	IAmb	11 02 25.3	
	comp=Z,50nm,1.4s						
CHIR	**Chirikof Islan**	**36.38**	**360**	P	**P**	**11 02 19.6**	**+1.2**
	baz=179						
S12K	**Black Hills**	**36.62**	**354**	P	**P**	**11 02 22.0**	**+1.5**
	baz=169						
CHGN	**Chignik**	**36.93**	**357**	P	**P**	**11 02 24.5**	**+1.4**
	baz=175						
S14K	**Fog Glacier**	**36.98**	**356**	P	**P**	**11 02 25.1**	**+1.5**
	baz=173						
SII	**Sitkinak Islan**	**37.12**	**1**	P	**P**	**11 02 26.3**	**+1.6**
	baz=182						
PPT	**Papeete**	**37.15**	**171**	LR	LR	11 13 19.3	
	comp=Z,601nm,21.2s,baz=328,slow=29						
PPT2	**Papeete2**	**37.17**	**171**	*e*Pn	**P**	**11 02 22.8**	**-2.8**
	comp=Z,105nm,1.5s						
PPT2				*e*LR	LR	11 12 16.8	
	comp=Z,1μm,26.2s						
PPT2				*e*LR	LR	11 12 25.0	
	comp=Z,1μm,24.8s						
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**11 02 23.4**	**-2.3**
NVAR	**Mina Array Bea**	**37.17**	**51**	P	**P**	**11 02 26.9**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=240,slow=11,SNR=8.4						
	comp=Z,2.9nm,0.8s						
PFO	**Pinyon Flats O**	**37.26**	**60**	LR	LR	11 13 19.5	
	comp=Z,146nm,18.9s,baz=239,slow=29						
NV11	**Mina Array Sit**	**37.28**	**51**	P	**P**	**11 02 24.4**	**-2.1**
OHAK	**Old Harbor**	**37.81**	**2**	P	**P**	**11 02 32.2**	**+1.7**
	baz=183						
H02S1	**DAWSON INLET T**	**38.07**	**22**	T	T	11 42 36.0	
	SNR=411						
R18K	**Karluk**	**38.13**	**1**	P	**P**	**11 02 34.6**	**+1.4**
	baz=181						
TPNV	**Topopah Spring**	**38.25**	**55**	P	**P**	**11 02 33.5**	**-1.3**
KDAK	**Kodiak Island**	**38.39**	**2**	LR	LR	11 14 49.5	
	comp=Z,369nm,20.3s,baz=38,slow=31						
KDAK	**Kodiak Island**	**38.39**	**2**	P	**P**	**11 02 36.7**	**+1.3**
	baz=184						
GLA	**Glamis**	**38.49**	**61**	P	**P**	**11 02 35.9**	**-0.8**
LON	**Longmire**	**38.62**	**37**	P	**P**	**11 02 37.1**	**-0.5**
SHPR	**Sheep Range**	**38.98**	**56**	P	**P**	**11 02 40.0**	**-0.9**
BBB	**Bella Bella**	**38.99**	**27**	LR	LR	11 13 55.7	
	comp=Z,348nm,20.1s,baz=220,slow=29						
Q18K	**Katmai Hardscr**	**39.21**	**0**	P	**P**	**11 02 43.3**	**+0.9**
	baz=180,SNR=9.3						
Q20K	**Shuyak Island**	**39.23**	**2**	P	**P**	**11 02 43.3**	**+0.9**
	baz=184						
Q16K	**King Salmon**	**39.25**	**359**	P	**P**	**11 02 43.8**	**+1.2**
	baz=178						
SPIA	**Saint Paul Isl**	**39.34**	**347**	P	**P**	**11 02 44.4**	**+1.0**
	baz=157						
CRAG	**Craig**	**39.71**	**20**	P	**P**	**11 02 47.1**	**+0.6**
	baz=214						
HAWA	**Hanford**	**39.76**	**39**	P	**P**	**11 02 45.8**	**-1.3**
P17K	**Kvichak River**	**39.77**	**359**	P	**P**	**11 02 48.2**	**+1.3**
	baz=178						
O15K	**Ungalikthiuk R**	**39.88**	**356**	P	**P**	**11 02 49.0**	**+1.2**
	baz=173						
P18K	**Big Mountain,**	**39.95**	**0**	P	**P**	**11 02 49.4**	**+0.8**
	baz=180						
O14K	**Tigyukauivet M**	**40.05**	**355**	P	**P**	**11 02 50.3**	**+1.0**
	baz=171						
V35K	**Ketchikan**	**40.09**	**21**	P	**P**	**11 02 50.7**	**+1.0**
	baz=216						
E08A	**Dider Farm, El**	**40.09**	**39**	P	**P**	**11 02 48.9**	**-1.0**
O16K	**Kokwok River B**	**40.21**	**358**	P	**P**	**11 02 50.0**	**-0.6**
O16K	**Kokwok River B**	**40.21**	**358**	P	**P**	**11 02 51.5**	**+0.9**
	baz=176						
O17K	**Koliganek Bris**	**40.36**	**359**	P	**P**	**11 02 52.9**	**+1.0**
	baz=177						
O18K	**Koktuh Hills**	**40.42**	**0**	P	**P**	**11 02 54.1**	**+1.7**
	baz=180,SNR=6.7						
SIT	**Sitka**	**40.42**	**17**	P	**P**	**11 02 53.6**	**+1.2**
	baz=210						
BRSE	**Bradley Lake S**	**40.44**	**4**	P	**P**	**11 02 53.8**	**+1.2**
	baz=186						
Q23K	**Middleton Isla**	**40.51**	**7**	P	**P**	**11 02 54.4**	**+1.4**
	baz=193						
RAR	**Rarotonga**	**40.59**	**187**	LR	LR	11 15 43.0	
	comp=Z,335nm,19.1s,baz=26,slow=30						
E09A	**Wood Farm, Sta**	**40.66**	**40**	P	**P**	**11 02 53.8**	**-0.7**
O20K	**Slope Mountain**	**40.69**	**2**	P	**P**	**11 02 55.8**	**+1.2**
	baz=184						
WRAK	**Wrangell Islan**	**40.75**	**19**	P	**P**	**11 02 56.2**	**+1.2**
	baz=214						
N14K	**Kuskokwak Cree**	**40.75**	**355**	P	**P**	**11 02 56.2**	**+1.1**
	baz=171,SNR=6.9						
O19K	**Port Alsworth**	**40.77**	**1**	P	**P**	**11 02 56.3**	**+1.2**
	baz=181						
SEW	**Seward**	**40.88**	**4**	P	**P**	**11 02 55.1**	**-1.0**
SEW				IAmb	IAmb	11 03 10.3	
	comp=Z,79nm,1.5s						
SEW	**Seward**	**40.88**	**4**	P	**P**	**11 02 57.4**	**+1.3**
	baz=188						
SHEM	**Shemya Is, Ala**	**40.91**	**332**	LR	LR	11 15 50.7	
	comp=Z,367nm,21.4s,baz=127,slow=30						
S32K	**Killisnoo**	**40.98**	**17**	P	**P**	**11 02 58.5**	**+1.5**
	baz=210						
N17K	**Nushagak Hills**	**41.12**	**359**	P	**P**	**11 02 57.9**	**-0.2**
N17K				IAmb	IAmb	11 03 03.3	
	comp=Z,59nm,1.2s						
N17K	**Nushagak Hills**	**41.12**	**359**	P	**P**	**11 02 59.4**	**+1.3**
	baz=177,SNR=7.6						
N16K	**Nishlik Lake**	**41.12**	**357**	P	**P**	**11 02 59.5**	**+1.4**
	baz=175						
KAIM	**Kayak Island**	**41.23**	**8**	P	**P**	**11 03 00.4**	**+1.4**
	baz=196						
N18K	**Kilae Creek**	**41.25**	**360**	P	**P**	**11 03 00.5**	**+1.3**
	baz=179,SNR=12						
PLID	**Pearl Lake**	**41.34**	**43**	P	**P**	**11 02 59.2**	**-1.2**
N19K	**Bonanza Creek**	**41.38**	**1**	P	**P**	**11 03 01.7**	**+1.3**
N19K	**Bonanza Creek**	**41.38**	**1**	P	**P**	**11 03 01.6**	**+1.2**
	baz=181,SNR=30						
M13K	**Dall Lake**	**41.39**	**354**	P	**P**	**11 03 01.6**	**+1.3**
	baz=168						
M15K	**Kasigluk River**	**41.44**	**356**	P	**P**	**11 03 02.3**	**+1.5**
	baz=172						
M14K	**Bethel**	**41.59**	**355**	P	**P**	**11 03 01.5**	**-0.5**
M14K	**Bethel**	**41.59**	**355**	P	**P**	**11 03 03.2**	**+1.2**
	baz=170,SNR=8.0						
EYAK	**Cordova Ski Ar**	**41.67**	**7**	P	**P**	**11 03 04.2**	**+1.6**
	baz=193,SNR=6.4						
M16K	**Timber Creek**	**41.67**	**357**	P	**P**	**11 03 03.9**	**+1.2**
	baz=175,SNR=6.1						
PWL	**Port Wells**	**41.72**	**5**	P	**P**	**11 03 03.1**	**0.0**
PWL				IAmb	IAmb	11 03 05.4	
	comp=Z,76nm,1.0s						
PWL	**Port Wells**	**41.72**	**5**	P	**P**	**11 03 04.4**	**+1.3**
	baz=190,SNR=8.9						
TUC	**Tucson**	**41.75**	**63**	P	**P**	**11 03 02.6**	**-1.2**
WUAZ	**Wupatki**	**41.75**	**58**	P	**P**	**11 03 02.0**	**-1.9**
HLID	**Hailey**	**41.77**	**46**	P	**P**	**11 03 03.7**	**-0.2**
H06S1	**SOCORRO T**	**41.77**	**83**	T	T	11 47 33.5	
	SNR=17						
SPU	**Mount Spurr**	**41.81**	**2**	P	**P**	**11 03 03.1**	**-0.8**
PNL	**Peninsula**	**41.82**	**12**	P	**P**	**11 03 05.5**	**+1.6**
	baz=203						
SPCR	**Spurr Chakacha**	**41.82**	**2**	P	**P**	**11 03 05.0**	**+1.0**
	baz=184,SNR=6.2						
RC01	**Rabbit Creek A**	**41.84**	**4**	P	**P**	**11 03 05.4**	**+1.3**
	baz=188,SNR=6.5						
MESA	**MESA**	**41.84**	**10**	P	**P**	**11 03 05.6**	**+1.3**
	baz=199						
GLI	**Glacier Island**	**41.85**	**6**	P	**P**	**11 03 05.2**	**+1.0**
	baz=192						
LPIG	**La Paz**	**41.87**	**75**	LR	LR	11 16 25.7	
	comp=Z,208nm,18.4s,baz=273,slow=30						
T35M	**Bob Quinn**	**41.88**	**20**	P	**P**	**11 03 05.6**	**+1.2**
	baz=217						
M17K	**Holitna River**	**42.00**	**358**	P	**P**	**11 03 07.2**	**+1.9**
M17K				IAmb	IAmb	11 03 12.4	
	comp=Z,62nm,1.1s						
M17K	**Holitna River**	**42.00**	**358**	P	**P**	**11 03 06.8**	**+1.4**
	baz=177						
PINM	**Pinnacle**	**42.06**	**11**	P	**P**	**11 03 07.9**	**+2.0**
	baz=201						
M18K	**Stony River**	**42.06**	**360**	P	**P**	**11 03 07.5**	**+1.6**
	baz=179,SNR=19						
NEW	**Newport**	**42.12**	**38**	P	**P**	**11 03 07.6**	**+1.0**
NEW	**Newport**	**42.12**	**38**	LR	LR	11 18 32.6	
	comp=Z,165nm,19.8s,baz=236,slow=33						
STLK	**Strandline Lak**	**42.14**	**2**	P	**P**	**11 03 07.3**	**+0.8**
SUA	**Susitna One**	**42.15**	**3**	P	**P**	**11 03 08.3**	**+1.6**
SUA				IAmb	IAmb	11 03 13.3	
	comp=Z,76nm,1.1s						
SUA	**Susitna One**	**42.15**	**3**	P	**P**	**11 03 08.1**	**+1.4**
	baz=186,SNR=14						
BMRM	**Bremner River**	**42.22**	**8**	P	**P**	**11 03 08.2**	**+1.0**
	baz=195						
L14K	**Kuka Creek**	**42.24**	**355**	P	**P**	**11 03 08.2**	**+1.0**
L14K				IAmb	IAmb	11 03 09.1	
	comp=Z,76nm,1.4s						
L14K	**Kuka Creek**	**42.24**	**355**	P	**P**	**11 03 08.3**	**+1.0**
	baz=170						

baz=180,SNR=23
L17K Donlin 42.76 358 P P 11 03 12.7 +1.2
baz=176
SCM Sheep Creek Mo 42.77 6 P P 11 03 13.0 +1.3
SCM IAmb IAmb 11 03 13.7
comp=Z,54nm,0.9s
SCM Sheep Creek Mo 42.77 6 P P 11 03 12.7 +1.0
baz=191,SNR=12
GLB Gilahina Butte 42.78 8 IAMs_20 IAMs_20 11 15 24.0
comp=Z,632nm,20.0s
L18K Granite Mounta 42.80 359 P P 11 03 12.9 +1.1
L18K Granite Mounta 42.80 359 P P 11 03 13.0 +1.1
baz=178,SNR=12
N25K Chitina, Valde 42.84 7 P P 11 03 13.3 +1.1
baz=195,SNR=7.5
TBI Tubuai 42.85 172 *e*LR LR 11 14 52.4
TBI comp=Z,4μm,27.8s *e*LR LR 11 14 56.1
comp=Z,1μm,27.5s
Q32M Nakina River 42.90 17 P P 11 03 14.7 +1.8
baz=213,SNR=5.1
K13K Kusilvak Mount 43.01 353 P P 11 03 14.9 +1.4
baz=167
P32M Atlin 43.04 16 P P 11 03 15.2 +1.3
baz=210
L20K Farewell, AK 43.06 1 P P 11 03 14.8 +0.8
baz=182
HWUT Hardware Ranch 43.09 49 P P 11 03 16.1 +1.3
K15K Wolf Creek Mou 43.09 356 P P 11 03 15.4 +1.3
baz=171
CUT Chulitna 43.12 3 P P 11 03 15.5 +1.2
baz=187,SNR=15
DLBC Dease Lake 43.12 19 LR LR 11 16 37.0
comp=Z,379nm,21.1s,baz=230,slow=30
DLBC Dease Lake 43.12 19 P P 11 03 15.2 +0.6
baz=216,SNR=6.1
M24K Tolsona, Glenn 43.15 6 P P 11 03 16.1 +1.3
baz=192,SNR=6.2
YUK6 Outpost Mounta 43.20 12 P P 11 03 17.4 +2.0
baz=204,SNR=9.1
YUK8 Steele Glacier 43.25 11 P P 11 03 17.5 +1.7
baz=202,SNR=7.9
HYT Haines Junctio 43.26 13 P P 11 03 17.5 +1.7
baz=205,SNR=10
MCMT McKenzie Canyo 43.28 44 P P 11 03 17.7 +1.3
K17K Iditarod 43.34 358 P P 11 03 17.6 +1.4
K17K Iditarod 43.34 358 P P 11 03 17.4 +1.2
baz=176
BSUT Blindstream Ca 43.37 51 P P 11 03 18.6 +1.4
MSO Missoula 43.38 41 P P 11 03 17.7 +0.8
TTA Tatalina 43.51 359 P P 11 03 17.3 -0.4
TTA Tatalina 43.51 359 P P 11 03 18.2 +0.5
baz=179,SNR=16
O30N Mendenhall 43.52 14 P P 11 03 19.8 +2.1
baz=207,SNR=8.0
YUK4 Talbot Arm 43.52 12 P P 11 03 21.0 +3.1
baz=203,SNR=7.5
P18A Preston Nutter 43.52 52 P P 11 03 17.6 -0.8
PPLA Purkeypile 43.52 2 P P 11 03 17.0 -0.9
PPLA IAmb IAmb 11 03 19.0
comp=Z,95nm,1.3s
PPLA Purkeypile 43.52 2 P P 11 03 18.1 +0.3
baz=184,SNR=9.9
BPMT Black Pine Rid 43.53 42 P P 11 03 19.0 +0.7
HARP HAARP 43.54 7 P P 11 03 19.0 +1.2
baz=194
YUK3 Moose Creek 43.59 10 P P 11 03 20.1 +1.6
baz=200,SNR=20
R33M Jennings River 43.63 18 P P 11 03 21.1 +2.4
baz=214,SNR=7.9
WHY Whitehorse 43.69 14 P P 11 03 20.9 +1.7
baz=208
J14K Nanvaranak Lak 43.70 354 P P 11 03 20.0 +1.0
J14K IAmb IAmb 11 03 21.1
comp=Z,55nm,1.4s
J14K Nanvaranak Lak 43.70 354 P P 11 03 19.7 +0.7
baz=169
AHID Auburn Hatcher 43.77 48 P P 11 03 21.4 +1.2
M26K Nabesna, AK 43.81 8 P P 11 03 21.1 +1.0
M26K IAmb IAmb 11 03 22.5
comp=Z,66nm,0.9s
M26K Nabesna, AK 43.81 8 P P 11 03 21.2 +1.2
baz=197,SNR=39
P33M Teslin, Yukon 43.81 16 P P 11 03 21.8 +1.7
baz=211
LRM Limekiln Ridge 43.92 43 P P 11 03 22.7 +1.3
M27K Edge Creek, AK 43.92 9 P P 11 03 22.6 +1.5
M27K IAmb IAmb 11 03 23.9
comp=Z,69nm,1.1s
M27K Edge Creek, AK 43.92 9 P P 11 03 22.5 +1.4
baz=198
N30M Aishikik Lake 43.93 12 P P 11 03 23.1 +2.1
baz=205,SNR=12
K20K Telida 43.94 1 P P 11 03 20.9 -0.2
K20K Telida 43.94 1 P P 11 03 20.9 -0.2
baz=182
J16K Anvik River 44.02 357 P P 11 03 23.3 +1.7
J16K IAmb IAmb 11 03 27.7
comp=Z,69nm,1.2s
J16K Anvik River 44.02 357 P P 11 03 23.1 +1.5
baz=173,SNR=12
CAST Castle Rocks 44.05 2 P P 11 03 21.2 -0.7
CAST Castle Rocks 44.05 2 P P 11 03 21.8 -0.1
baz=184,SNR=13
J17K VABM Dome 44.05 358 P P 11 03 23.6 +1.7
J17K IAmb IAmb 11 03 27.1
comp=Z,59nm,1.3s
J17K VABM Dome 44.05 358 P P 11 03 22.9 +1.0
baz=175
J18K Innoko River 44.05 359 P P 11 03 22.5 +0.5
J18K IAmb IAmb 11 03 27.7
comp=Z,52nm,1.1s
J18K Innoko River 44.05 359 P P 11 03 22.6 +0.7
baz=178,SNR=29
PAX Paxson 44.06 6 P P 11 03 22.8 +0.7
PAX Paxson 44.06 6 P P 11 03 23.1 +0.9
baz=193,SNR=52
OVMT Ovando 44.06 41 P P 11 03 23.1 +0.7
FXWY Fox Creek 44.10 47 P P 11 03 23.9 +1.0
FXWY IAmb IAmb 11 03 29.5
comp=Z,49nm,1.5s
TPAW Teton Pass 44.10 47 P P 11 03 23.3 +0.3
TPAW IAmb IAmb 11 03 25.3
comp=Z,63nm,1.3s
BVCY Beaver Creek 44.13 10 P P 11 03 24.1 +1.4
baz=200,SNR=18
PV10 Paradox Valley 44.15 55 P P 11 03 24.2 +0.8
PV10 IAmb IAmb 11 03 25.8
comp=Z,44nm,1.2s
TRF Thorofare Moun 44.16 3 P P 11 03 22.7 -0.3
TRF IAmb IAmb 11 03 35.4
comp=Z,68nm,1.0s
TRF Thorofare Moun 44.16 3 P P 11 03 23.7 +0.8
baz=187,SNR=17
PV23 Carpenter Ridg 44.19 54 P P 11 03 24.9 +1.1
RND Reindeer 44.20 4 P P 11 03 24.0 +0.8
RND IAmb IAmb 11 03 25.3
comp=Z,65nm,1.0s
N31M Braeburn, Yuko 44.23 13 P P 11 03 25.3 +2.0
baz=207,SNR=12
KTH Kantishna Hill 44.23 3 P P 11 03 23.3 -0.1
PV13 Radium Mtn., P 44.27 55 P P 11 03 25.4 +1.0
L26K Log Cabin Wild 44.36 8 P P 11 03 26.0 +1.5
baz=196,SNR=24
LOHW Long Hollow 44.38 47 P P 11 03 26.4 +1.2
LYMT Lyon Mountain 44.47 42 P P 11 03 26.7 +0.8
CHUM Lake Minchumin 44.51 2 P P 11 03 27.1 +1.5
baz=184
MCK McKinley 44.52 4 P P 11 03 26.8 +1.1
MCK IAmb IAmb 11 03 27.7
comp=Z,69nm,1.1s
MCK McKinley 44.52 4 P P 11 03 26.4 +0.7
baz=188,SNR=28
N32M Quiet Lake 44.55 15 P P 11 03 25.7 -0.3
N32M IAmb IAmb 11 03 29.3
comp=Z,52nm,1.2s
N32M Quiet Lake 44.55 15 P P 11 03 27.6 +1.5
baz=210
M29M Somme Creek 44.56 11 P P 11 03 28.2 +2.0
baz=203,SNR=26
J19K Poorman 44.57 360 P P 11 03 26.2 +0.2
J19K IAmb IAmb 11 03 28.2
comp=Z,99nm,1.5s
J19K Poorman 44.57 360 P P 11 03 26.9 +0.8
baz=179,SNR=18
L27K Beaver Creek, 44.60 9 P P 11 03 27.4 +1.0
L27K IAmb IAmb 11 03 28.9
comp=Z,26nm,0.8s
L27K Beaver Creek, 44.60 9 P P 11 03 27.6 +1.2
baz=198,SNR=28
BCAR Beaver Creek A 44.61 9 P P 11 03 27.5 +1.0
I17K Unalakleet 44.62 357 P P 11 03 28.0 +1.6
baz=173
HRY Holter Researc 44.66 42 P P 11 03 28.1 +0.9
J20K Nowinta River 44.76 1 P P 11 03 27.0 -0.6
J20K Nowinta River 44.76 1 P P 11 03 29.0 +1.4
baz=181
BPAW Bear Paw Mtn. 44.77 3 P P 11 03 27.2 -0.5
BPAW IAmb IAmb 11 03 28.7
comp=Z,49nm,1.0s
BPAW Bear Paw Mtn. 44.77 3 P P 11 03 27.5 -0.2
baz=186,SNR=24
K24K Donnelly Dome 44.85 6 P P 11 03 29.4 +1.1
baz=193,SNR=17
WTLY Watson Lake, Y 44.85 18 P P 11 03 30.2 +1.7
baz=216,SNR=9.3
PD31 Pinedale Array 44.85 48 P P 11 03 29.6 +0.6
PDAR Pinedale Array 44.85 48 P P 11 03 28.2 -0.7
PDAR Pinedale Array 44.85 48 P P 11 03 29.5 +0.6
comp=Z,12nm,1.1s,baz=251,slow=4.5,SNR=40
PDAR LR LR 11 18 38.3
comp=Z,51nm,18.7s,baz=309,slow=31
comp=Z,12nm,1.1s
DOT Dot Lake 44.88 7 P P 11 03 28.5 -0.1
RIDG Independent Ri 44.88 7 P P 11 03 28.8 +0.1
RIDG IAmb IAmb 11 03 30.4
comp=Z,30nm,1.0s
RIDG Independent Ri 44.88 7 P P 11 03 29.2 +0.6
baz=194,SNR=15
BWN Browne 44.92 4 P P 11 03 28.8 -0.1
M30M Minto, Yukon 45.00 12 P P 11 03 30.6 +1.0
M30M IAmb IAmb 11 03 35.7
comp=Z,50nm,1.1s
M30M Minto, Yukon 45.00 12 P P 11 03 31.2 +1.6
baz=205,SNR=27
TOAD Toad River Com 45.02 22 P P 11 03 31.0 +1.2
baz=222
O20A White River Ci 45.13 52 P P 11 03 32.4 +1.2
M31M Drury Creek, Y 45.17 14 P P 11 03 32.5 +1.6
baz=208,SNR=13
SCRK Sand Creek 45.21 7 P P 11 03 32.1 +0.8
baz=195,SNR=24
L29M L29M 45.24 11 P P 11 03 32.6 +1.1
baz=203,SNR=12
MSVF Nonsavu 45.27 217 LR LR 11 20 01.9
comp=Z,147nm,18.6s,baz=26,slow=33
WRH Wood River Hil 45.31 4 P P 11 03 32.5 +0.6
HDA Harding Lake 45.34 5 P P 11 03 32.7 +0.5
HDA Harding Lake 45.34 5 P P 11 03 32.8 +0.6
baz=191,SNR=20
GCSA Galena City Sc 45.34 359 P P 11 03 33.7 +1.6
baz=178,SNR=64
NEA2 Nenana 45.37 4 P P 11 03 32.2 -0.2
NEA2 Nenana 45.37 4 P P 11 03 32.6 +0.2
baz=188,SNR=27
I20K Naaghedeneel 45.38 0 P P 11 03 33.5 +1.1
baz=181
FARO Faro, Yukon 45.43 14 P P 11 03 34.5 +1.5
baz=210,SNR=22
H16K Elim 45.46 356 P P 11 03 34.4 +1.3
baz=171,SNR=6.7
K27K Chicken 45.49 8 P P 11 03 34.8 +1.4
K27K IAmb IAmb 11 03 37.1
comp=Z,32nm,1.0s
K27K Chicken 45.49 8 P P 11 03 34.8 +1.4
baz=198
CCB Clear Creek Bu 45.50 4 P P 11 03 33.8 +0.4
H17K Granite Mounta 45.63 357 P P 11 03 34.6 +0.1
H17K IAmb IAmb 11 03 39.6
comp=Z,35nm,1.1s
H17K Granite Mounta 45.63 357 P P 11 03 35.8 +1.4
baz=174,SNR=8.4
ANMO Albuquerque 45.64 60 P P 11 03 33.4 -1.9
ANMO Albuquerque 45.64 60 LR LR 11 20 27.3
comp=Z,76nm,20.1s,baz=72,slow=33
ANM Nome 45.66 354 IAMs_20 IAMs_20 11 20 55.4
comp=Z,490nm,18.0s
ANM Nome 45.66 354 P P 11 03 36.2 +1.5
baz=167,SNR=9.0
J25K Salcha River, 45.68 6 P P 11 03 35.6 +0.7
J25K Salcha River, 45.68 6 P P 11 03 35.7 +0.7
baz=193,SNR=37
IL31 45.70 5 P P 11 03 35.2 +0.2
IL31 IAmb IAmb 11 03 39.7
comp=Z,59nm,1.1s
ILAR Eielson Array 45.70 5 P P 11 03 35.0 0.0
comp=Z,20nm,0.8s,baz=195,slow=7.4,SNR=162
ILAR PcP **PcP 11 05 12.8 0.0**
comp=Z,4.3nm,0.9s,baz=202,slow=5.3,SNR=2.1
ILAR LR LR 11 19 53.1
comp=Z,224nm,20.3s,baz=202,slow=32
comp=Z,20nm,0.8s
COLA College 45.73 4 P P 11 03 35.6 +0.4
COLA IAmb IAmb 11 03 40.0
comp=Z,33nm,0.9s
COLA College 45.73 4 P P 11 03 35.6 +0.4
baz=190
S22A 4UR Ranch, Cre 45.74 56 P P 11 03 37.7 +1.5
GAMB Gambell 45.75 350 P P 11 03 36.5 +1.1
baz=158,SNR=11
J26L Joseph Creek 45.76 7 P P 11 03 36.5 +0.9
J26L IAmb IAmb 11 03 38.0
comp=Z,37nm,0.9s
J26L Joseph Creek 45.76 7 P P 11 03 36.7 +1.1
baz=195,SNR=40
H18K Honhosa River 45.78 358 P P 11 03 36.8 +1.1
H18K IAmb IAmb 11 03 40.9
comp=Z,46nm,1.1s
H18K Honhosa River 45.78 358 P P 11 03 37.1 +1.4
baz=176
I21K Tanana 45.82 2 P P 11 03 35.3 -0.6
I21K IAmb IAmb 11 03 36.4
comp=Z,36nm,1.2s
I21K IAMs_20 IAMs_20 11 19 36.5
comp=Z,548nm,20.0s
I21K Tanana 45.82 2 P P 11 03 35.0 -0.9
baz=184,SNR=8.1
I23K Minto, Yukon-K 45.90 3 P P 11 03 36.8 +0.2
I23K IAmb IAmb 11 03 40.6
comp=Z,35nm,0.9s
I23K Minto, Yukon-K 45.90 3 P P 11 03 36.9 +0.3
baz=188,SNR=20
DAWY Dawson 45.92 10 P P 11 03 38.0 +1.2
DAWY IAmb IAmb 11 03 39.1
comp=Z,39nm,1.0s
DAWY Dawson 45.92 10 P P 11 03 37.9 +1.0
baz=201,SNR=45
G15K Niukluk 45.95 355 P P 11 03 38.0 +1.0
baz=168
POKR Poker Plat Res 46.00 5 P P 11 03 38.0 +0.7
POKR IAmb IAmb 11 03 56.6
comp=Z,46nm,1.2s
POKR Poker Plat Res 46.00 5 P P 11 03 37.7 +0.3
baz=190,SNR=12
K29M Barlow Dome 46.02 11 P P 11 03 38.8 +1.1
K29M IAmb IAmb 11 03 40.3
comp=Z,41nm,1.4s
K29M Barlow Dome 46.02 11 P P 11 03 38.6 +0.8
baz=203
H20K Anotleneega Mo 46.08 0 P P 11 03 38.9 +0.8
baz=180,SNR=32
MAYO Mayo, Yukon 46.10 12 P P 11 03 39.7 +1.5
baz=206
H19K Roundabout Mou 46.12 359 P P 11 03 39.7 +1.4
H19K Roundabout Mou 46.12 359 P P 11 03 39.8 +1.4
baz=178
G16K Koyuk River 46.22 356 P P 11 03 40.2 +1.1
G16K IAmb IAmb 11 03 44.4
comp=Z,46nm,1.4s
G16K Koyuk River 46.22 356 P P 11 03 40.1 +1.0
baz=171
H21K Melozitna Rive 46.27 1 P P 11 03 39.2 -0.3
H21K Melozitna Rive 46.27 1 P P 11 03 39.9 +0.4
baz=183,SNR=8.1
KOTAN Kotaneelee Air 46.38 21 P P 11 03 41.7 +1.3
baz=222,SNR=8.0
EGMT Eagleton 46.46 41 P P 11 03 42.0 +0.6
J29N Klondike Camp 46.47 10 P P 11 03 42.0 +0.9
baz=202
G18K Tagagawik 46.54 358 P P 11 03 43.0 +1.3
G18K IAmb IAmb 11 03 43.8
comp=Z,31nm,1.1s
G18K Tagagawik 46.54 358 P P 11 03 42.7 +1.1
baz=176
H22K Ishtalitna Cre 46.55 2 P P 11 03 41.3 -0.4
baz=185,SNR=14
PRP Porcupine Dome 46.55 6 P P 11 03 42.4 +0.6
PRP Porcupine Dome 46.55 6 P P 11 03 42.5 +0.6
baz=193,SNR=36
H23K Yukon River 46.56 3 P P 11 03 42.2 +0.4
baz=187
I26K Coal Creek Min 46.59 7 P P 11 03 43.1 +1.1
I26K Coal Creek Min 46.59 7 P P 11 03 43.0 +1.1
baz=196
H24K Noodor Dome 46.68 4 P P 11 03 43.0 +0.3
H24K Noodor Dome 46.68 4 P P 11 03 43.1 +0.3
baz=190,SNR=31
F15K North Star Dit 46.71 355 P P 11 03 44.1 +1.2
F15K North Star Dit 46.71 355 P P 11 03 43.5 +0.6
baz=168
G19K Purcell Mounta 46.75 359 P P 11 03 42.5 -0.8
G19K Purcell Mounta 46.75 359 P P 11 03 44.6 +1.3
baz=178,SNR=26
SDCO Great Sand Dun 46.78 56 P P 11 03 45.4 +1.0
SDCO IAmb IAmb 11 03 47.1
comp=Z,38nm,1.4s
TNA Tin City 46.90 353 P P 11 03 45.8 +1.4
TNA IAmb IAmb 11 03 46.1
comp=Z,38nm,1.4s
TNA Tin City 46.90 353 P P 11 03 45.2 +0.8
baz=164
J30M Hart River 46.91 11 P P 11 03 45.8 +1.0
J30M IAmb IAmb 11 03 50.4
comp=Z,41nm,1.2s
J30M Hart River 46.91 11 P P 11 03 45.7 +1.0
baz=205,SNR=23
K22A Casper 46.98 49 P P 11 03 46.2 +0.5
K22A IAmb IAmb 11 03 47.0
comp=Z,50nm,1.4s
ISCO Idaho Springs 47.04 53 P P 11 03 47.5 +1.2
I27K Kandik River 47.06 8 P P 11 03 46.5 +0.8
baz=198,SNR=36
G21K Allakaket 47.12 1 P P 11 03 46.9 +0.8
G21K IAmb IAmb 11 03 48.2
comp=Z,22nm,1.2s
G21K Allakaket 47.12 1 P P 11 03 46.8 +0.6
baz=182
I28M Miner Creek 47.14 9 P P 11 03 46.5 0.0
I28M IAmb IAmb 11 03 48.3
comp=Z,21nm,0.9s
I28M Miner Creek 47.14 9 P P 11 03 47.4 +0.9
baz=200
F17K Baldwin Pennin 47.20 357 P P 11 03 48.2 +1.5
baz=172
H25L Birch Creek 47.26 5 P P 11 03 48.3 +1.1
baz=192,SNR=49
F18K Selawik 47.28 358 P P 11 03 48.5 +1.2
baz=174,SNR=24
I29M Ogilvie Camp, 47.30 10 P P 11 03 48.2 +0.6
I29M IAmb IAmb 11 03 52.1
comp=Z,30nm,1.1s
I29M Ogilvie Camp, 47.30 10 P P 11 03 48.4 +0.8
baz=202,SNR=19
G23K Bananza Creek 47.42 3 P P 11 03 48.1 -0.5
G23K IAmb IAmb 11 03 53.1
comp=Z,42nm,1.2s
G23K Bananza Creek 47.42 3 P P 11 03 48.5 -0.1
baz=187,SNR=19
F19K Shaleruckik Mo 47.45 359 P P 11 03 50.1 +1.4
baz=177
I30M Mount Dempster 47.49 11 P P 11 03 49.9 +0.7
I30M Mount Dempster 47.49 11 P P 11 03 50.0 +0.7
baz=204,SNR=41
T25A Trinidad 47.56 57 P P 11 03 51.5 +1.2
T25A IAmb IAmb 11 03 55.7
comp=Z,25nm,1.2s
G24K Hadweenzic Riv 47.56 4 P P 11 03 49.4 -0.1
G24K Hadweenzic Riv 47.56 4 P P 11 03 49.5 -0.1
baz=190,SNR=34
FYU Fort Yukon 47.60 5 P P 11 03 50.7 +0.8
F20K Avaraart Lake 47.64 360 P P 11 03 51.6 +1.4
F20K IAmb IAmb 11 03 56.5
comp=Z,34nm,1.2s
F20K Avaraart Lake 47.64 360 P P 11 03 51.9 +1.7
baz=179
H27K Steamboat Moun 47.67 7 P P 11 03 51.6 +1.1
baz=198,SNR=49
TXAR Lajitas Array 47.69 68 P P 11 03 49.5 -1.8
TXAR Lajitas Array 47.69 68 P P 11 03 52.6 +1.3
comp=Z,18nm,1.1s,baz=253,slow=7.7,SNR=49
TXAR LR LR 11 21 55.8
comp=Z,84nm,18.2s,baz=296,slow=34
comp=Z,18nm,1.1s
ALPN Alpine 47.72 66 P P 11 03 52.3 +0.7
G25K Bearman Lake 47.73 5 P P 11 03 51.1 +0.3
baz=192,SNR=13
F21K Alatna River 47.83 1 P P 11 03 52.8 +1.1
F21K Alatna River 47.83 1 P P 11 03 52.6 +0.9
baz=182
E17K Hotham Inlet 47.86 357 P P 11 03 52.9 +1.0
baz=172
COLD Coldfoot 47.93 3 P P 11 03 52.7 +0.3
COLD Coldfoot 47.93 3 P P 11 03 52.7 +0.3
baz=186,SNR=20
E19K Redstone River 48.07 359 P P 11 03 54.9 +1.4
E19K Redstone River 48.07 359 P P 11 03 55.0 +1.4
baz=177
H29M Whitestone 48.09 9 P P 11 03 53.9 +0.2
H29M Whitestone 48.09 9 P P 11 03 54.7 +1.0
baz=202,SNR=48
G26K Porcupine Rive 48.12 6 P P 11 03 54.6 +0.7
baz=194,SNR=40
E18K Tukpahlearik C 48.14 357 P P 11 03 55.2 +1.1
E18K Tukpahlearik C 48.14 357 P P 11 03 55.4 +1.3
baz=173
F22K John River 48.14 2 P P 11 03 55.5 +1.4
baz=184
G27K Doyon Strip 48.21 7 P P 11 03 54.9 +0.2
G27K Doyon Strip 48.21 7 P P 11 03 55.6 +0.9
baz=197,SNR=17
F24K Squaw Lake 48.34 4 P P 11 03 55.4 -0.3
F24K IAmb IAmb 11 04 18.3
comp=Z,25nm,1.2s
F24K Squaw Lake 48.34 4 P P 11 03 55.6 -0.1
baz=189,SNR=9.7
H31M Peel River 48.38 11 P P 11 03 55.4 -0.6
H31M IAmb IAmb 11 04 00.6
comp=Z,42nm,1.1s
H31M Peel River 48.38 11 P P 11 03 56.1 +0.1
baz=207,SNR=23
EPYK Eagle Plains 48.49 10 P P 11 03 57.3 +0.5
EPYK Eagle Plains 48.49 10 P P 11 03 57.3 +0.5
baz=204,SNR=21
BMAR Burnt Mountain 48.51 5 P P 11 03 57.6 +0.6
D17K Noatak River 48.55 356 P P 11 03 58.3 +1.1
baz=170,SNR=13
F25K Christian Rive 48.58 5 P P 11 03 58.0 +0.5
F25K Christian Rive 48.58 5 P P 11 03 58.2 +0.6
baz=192
E22K Anaktuvuk Pass 48.78 2 P P 11 03 58.7 -0.3
E22K IAMs_20 IAMs_20 11 20 15.8
comp=Z,522nm,19.0s
E22K Anaktuvuk Pass 48.78 2 P P 11 04 00.2 +1.1
baz=184,SNR=86
E23K Chandalar 48.79 3 P P 11 03 59.7 +0.6
E23K IAmb IAmb 11 04 09.1
comp=Z,27nm,1.2s
E23K Chandalar 48.79 3 P P 11 03 59.8 +0.6
baz=187,SNR=17
G29M Pine Creek 48.79 9 P P 11 03 59.5 +0.4
G29M Pine Creek 48.79 9 P P 11 03 59.6 +0.6
baz=202,SNR=39
F26K Sheenjek River 48.81 6 P P 11 04 00.5 +1.3
baz=194,SNR=28
E20K Nigu River 48.86 360 P P 11 04 01.0 +1.4
baz=179
E24K Your Creek 48.86 3 P P 11 04 00.1 +0.5
E24K IAmb IAmb 11 04 04.8
comp=Z,29nm,1.1s
E24K Your Creek 48.86 3 P P 11 04 00.6 +0.9
baz=188
WRGLY Wrigley 48.88 18 P P 11 04 00.9 +1.1
baz=221,SNR=10.0
RDOG Red Dog Mine 48.89 356 P P 11 04 01.2 +1.4
baz=170,SNR=9.8
E21K Killik River 49.05 1 P P 11 04 02.0 +0.9
E21K Killik River 49.05 1 P P 11 04 02.0 +0.9
baz=182
E25K Arctic Village 49.10 5 P P 11 04 02.3 +0.8

E25K IAmb IAmb 11 04 06.9
comp=Z,40nm,1.1s
E25K Arctic Village 49.10 5 P P 11 04 02.3 +0.8
baz=192,SNR=35
D19K Kuna River 49.13 359 P P 11 04 02.8 +1.1
D19K Kuna River 49.13 359 P P 11 04 02.9 +1.2
baz=176
G30M tAoh Zraii Nji 49.13 10 P P 11 04 02.0 +0.2
G30M tAoh Zraii Nji 49.13 10 P P 11 04 01.9 +0.2
baz=204
C16K Lisburne Hills 49.29 355 P P 11 04 04.1 +1.3
C16K IAmb IAmb 11 04 08.9
comp=Z,64nm,1.2s
C16K Lisburne Hills 49.29 355 P P 11 04 04.3 +1.5
baz=167
D20K Etivluk River 49.32 359 P P 11 04 04.1 +0.9
baz=178
C17K DeLong Mountai 49.33 356 P P 11 04 04.6 +1.4
baz=170
TOLK Toolik Lake Re 49.37 3 P P 11 04 04.8 +1.2
TOLK IAmb IAmb 11 04 05.9
comp=Z,40nm,1.4s
TOLK Toolik Lake Re 49.37 3 P P 11 04 04.3 +0.8
baz=187,SNR=13
PEA0B Petropavlovsk- 49.38 324 P P 11 04 05.4 +1.5
PETK Petropavlovsk- 49.38 324 P P 11 04 03.4 -0.5
PETK Petropavlovsk- 49.38 324 P P 11 04 04.3 +0.4
comp=Z,23nm,0.9s,baz=110,slow=13,SNR=15
PETK LR LR 11 22 10.8
comp=Z,198nm,20.4s,baz=117,slow=33
comp=Z,23nm,0.9s
C18K Utukok River 49.39 357 P P 11 04 04.6 +0.9
C18K Utukok River 49.39 357 P P 11 04 04.6 +0.9
baz=173
D22K Ayikyak River 49.51 1 P P 11 04 05.9 +1.3
D22K Ayikyak River 49.51 1 P P 11 04 06.1 +1.6
baz=183,SNR=30
E27K Coleen River 49.54 7 P P 11 04 05.7 +0.9
E27K IAmb IAmb 11 04 10.3
comp=Z,43nm,1.1s
E27K Coleen River 49.54 7 P P 11 04 05.9 +1.0
baz=197,SNR=41
D23K Nanushuk River 49.65 2 P P 11 04 07.0 +1.3
D23K Nanushuk River 49.65 2 P P 11 04 07.1 +1.5
baz=186,SNR=48
C21K Knifeblade Rid 49.76 0 P P 11 04 07.6 +1.1
baz=180
F30M Barrier River 49.77 10 P P 11 04 06.9 +0.3
baz=204
D24K Happy Valley 49.91 3 P P 11 04 08.8 +1.2
D24K Happy Valley 49.91 3 P P 11 04 08.8 +1.2
baz=188
OGNE Ogallala 49.93 52 P P 11 04 08.3 -0.1
OGNE IAmb IAmb 11 04 10.6
comp=Z,34nm,1.1s
F31M Tsiigehtchic 49.96 11 P P 11 04 07.7 -0.3
F31M Tsiigehtchic 49.96 11 P P 11 04 08.2 +0.3
baz=207,SNR=55
DKNS Dickens 50.11 62 P P 11 04 11.1 +1.3
DGMT Dagmar 50.11 42 P P 11 04 10.7 +1.1
B18K Kokolik River 50.13 357 P P 11 04 10.7 +1.4
baz=172
E28M Babbage River 50.18 7 P P 11 04 10.4 +0.8
E28M IAmb IAmb 11 04 15.0
comp=Z,48nm,1.1s
E28M IAMs_20 IAMs_20 11 21 42.6
comp=Z,443nm,18.0s
E28M Babbage River 50.18 7 P P 11 04 10.6 +0.9
baz=199,SNR=46
E29M Blow River 50.19 8 P P 11 04 10.0 +0.3
E29M IAmb IAmb 11 04 14.8
comp=Z,46nm,1.1s
E29M Blow River 50.19 8 P P 11 04 10.1 +0.3
baz=201
D25K Kavik River 50.23 4 P P 11 04 10.7 +0.6
D25K Kavik River 50.23 4 P P 11 04 10.8 +0.7
baz=191
B21K Ikpikpuk River 50.23 0 P P 11 04 10.8 +0.9
B21K IAmb IAmb 11 04 12.0
comp=Z,23nm,0.9s
B21K Ikpikpuk River 50.23 0 P P 11 04 10.9 +0.9
baz=181,SNR=19
C24K Franklin Bluff 50.48 3 P P 11 04 13.2 +1.3
C24K Franklin Bluff 50.48 3 P P 11 04 13.3 +1.4
baz=188
C23K Itkillik River 50.52 2 P P 11 04 13.3 +1.1
C23K Itkillik River 50.52 2 P P 11 04 13.5 +1.3
baz=186,SNR=48
D27M Malcolm River 50.62 7 P P 11 04 14.3 +1.2
baz=198
B20K Meade River 50.63 359 P P 11 04 14.2 +1.2
B20K Meade River 50.63 359 P P 11 04 14.6 +1.6
baz=178
C27K Jago River 50.73 5 P P 11 04 14.9 +1.1
C27K IAmb IAmb 11 04 16.2
comp=Z,49nm,1.1s
C27K Jago River 50.73 5 P P 11 04 15.0 +1.2
baz=194,SNR=33
APMT Aspermont 50.77 62 P P 11 04 15.8 +1.0
INK Inuvik 50.77 10 P P 11 04 13.9 -0.2
INK Inuvik 50.77 10 LR LR 11 22 47.9
comp=Z,321nm,19.5s,baz=234,slow=33
INK Inuvik 50.77 10 P P 11 04 14.1 0.0
baz=207,SNR=58
C26K Camden Bay 50.92 5 P P 11 04 16.4 +1.3
baz=192,SNR=52
A19K Wainwright 50.94 357 P P 11 04 16.7 +1.4
baz=173
D28M Stokes Point 50.96 7 P P 11 04 16.2 +0.7
baz=200,SNR=8.9
B22K Teshekpuk Lake 50.96 1 P P 11 04 16.5 +1.0
B22K Teshekpuk Lake 50.96 1 P P 11 04 16.6 +1.0
baz=182,SNR=20
JCT Junction City 51.03 66 P P 11 04 17.0 +0.2
YKA Yellowknife Ar 51.33 23 P P 11 04 18.5 +0.1
comp=Z,8.8nm,0.9s,baz=234,slow=7.9,SNR=128
YKA LR LR 11 22 15.7
comp=Z,133nm,20.9s,baz=182,slow=32
comp=Z,8.8nm,0.9s
A22K Sinclair Lake 51.62 0 P P 11 04 21.8 +1.4
baz=180
BRDY Brady 51.71 65 P P 11 04 22.1 +0.3
WMOK Wichita Mounta 51.92 61 P P 11 04 23.3 -0.1
A21K Barrow 51.94 359 P P 11 04 23.6 +0.8
baz=178
K30B Basset 51.98 51 P P 11 04 24.6 +0.9
WTFS Witchita Falls 52.16 62 P P 11 04 26.2 +1.1
WTFS IAmb IAmb 11 04 30.4
comp=Z,55nm,1.3s
PLPT Palo Pinto 52.28 63 P P 11 04 27.0 +1.0
HNR Honiara 52.62 241 LR LR 11 25 52.9
comp=Z,87nm,18.0s,baz=52,slow=35
SUSD Miller 52.73 48 P P 11 04 29.7 +0.5
SUSD IAmb IAmb 11 04 30.3
comp=Z,42nm,0.8s
BGNE Belgrade 52.90 52 P P 11 04 31.4 +0.9
FW06 Azle 52.92 63 P P 11 04 31.8 +1.0
FW06 IAmb IAmb 11 04 36.0
comp=Z,36nm,0.8s
WHTX Lake Whitney, 53.02 64 P P 11 04 32.7 +1.2
WHTX IAmb IAmb 11 04 36.9
comp=Z,26nm,1.0s
OK029 Liberty Lake 53.04 59 P P 11 04 32.6 +1.0
OK029 IAmb IAmb 11 04 36.8
comp=Z,72nm,1.4s
FFC Flin Flon 53.39 35 P P 11 04 32.6 -1.2
OK048 Pawnee Station 53.47 59 S 11 12 07.2 -0.2
C36M Paulatuk 53.48 13 P P 11 04 33.6 -0.6
C36M IAmb IAmb 11 04 38.1
comp=Z,28nm,0.9s
C36M Paulatuk 53.48 13 P P 11 04 33.6 -0.6
baz=217,SNR=28
W35A Tecumseh 53.50 60 P P 11 04 35.9 +0.9
OK052 Battle Ridge R 53.58 59 P P 11 04 36.5 +1.0
OK052 IAmb IAmb 11 04 40.8
comp=Z,37nm,1.0s
T35A Sooner Cattle 53.84 58 P P 11 04 38.4 +0.9
T35A IAmb IAmb 11 04 42.7
comp=Z,29nm,1.1s
KSU1 Kansas State U 53.87 55 P P 11 04 38.5 +0.9
KSU1 IAmb IAmb 11 04 43.2
comp=Z,24nm,0.8s
BILL Bilibino 54.29 343 P P 11 04 40.9 +0.7
ECSD EROS Data Cent 54.30 50 P P 11 04 39.7 -1.1
ECSD IAmb IAmb 11 04 44.6
comp=Z,30nm,1.1s

TUL3 Leonard 54.39 59 P P 11 04 42.9 +1.4
A36M Sachs Harbour 55.39 11 P P 11 04 47.6 -0.5
A36M IAmb IAmb 11 04 49.4
comp=Z,45nm,0.9s
A36M Sachs Harbour 55.39 11 P P 11 04 48.0 -0.1
baz=215,SNR=59
AGMN Agassiz Nation 55.48 44 P P 11 04 48.4 -0.8
AGMN IAmb IAmb 11 04 53.6
comp=Z,48nm,1.4s
MA2 Magadan 55.49 330 P P 11 04 48.5 -0.6
MA2 IAmb IAmb 11 04 51.4
comp=Z,50nm,1.4s
MA2 Magadan 55.49 330 P P 11 04 49.7 +0.6
comp=Z,24nm,1.0s
U38A Gravette 55.54 59 P P 11 04 50.1 +0.3
U38A IAmb IAmb 11 04 54.9
comp=Z,34nm,1.3s
ULM Lac du Bonnet 55.82 42 P P 11 04 50.6 -1.0
ULM IAmb IAmb 11 04 55.2
comp=Z,34nm,1.1s
ULM Lac du Bonnet 55.82 42 P P 11 04 50.4 -1.1
comp=Z,27nm,1.1s,baz=267,slow=8.1,SNR=27
ULM LR LR 11 27 08.7
comp=Z,117nm,18.1s,baz=240,slow=34
comp=Z,27nm,1.1s
HHAR Hobbs 55.90 59 P P 11 04 51.1 -1.3
MIAR Mount Ida 56.21 61 P P 11 04 53.6 -1.0
MIAR IAmb IAmb 11 04 59.0
comp=Z,36nm,1.4s
P38A Dawn 56.28 55 P P 11 04 55.4 +0.4
P38A IAmb IAmb 11 04 59.3
comp=Z,22nm,0.9s
S39A Bolivar 56.40 57 P P 11 04 56.3 +0.3
S39A IAmb IAmb 11 05 00.7
comp=Z,33nm,1.4s
N38A Joes South For 56.55 53 P P 11 04 57.8 +0.8
N38A IAmb IAmb 11 05 01.1
comp=Z,37nm,1.0s
SCIA State Center 56.62 52 P P 11 04 56.6 -0.8
I37A Lemond, Waseca 56.64 50 P P 11 04 57.4 -0.2
ASAJ Asahikawa 56.88 310 LR LR 11 23 49.6
comp=Z,269nm,21.9s,baz=141,slow=30
CMIG Matias Romero 57.12 82 LR LR 11 26 00.8
comp=Z,77nm,18.1s,baz=290,slow=32
SPMN Marine on St. 57.17 48 P P 11 05 01.5 +0.2
SPMN IAmb IAmb 11 05 05.4
comp=Z,33nm,1.1s
R40A Maddies Statio 57.24 56 P P 11 05 02.0 +0.1
MGMO Mountain Grove 57.24 58 P P 11 05 02.1 +0.1
FCAR Ozark Folk Cen 57.37 59 P P 11 05 02.9 0.0
FCAR IAmb IAmb 11 05 07.3
comp=Z,46nm,1.5s
P40A Paris 57.42 55 P P 11 05 03.1 0.0
P40A IAmb IAmb 11 05 07.9
comp=Z,32nm,1.2s
GUMO Guam 57.48 274 LR LR 11 24 45.8
comp=Z,99nm,21.8s,baz=79,slow=31
JCJ Chichijima 57.51 290 LR LR 11 25 19.7
comp=Z,81nm,19.4s,baz=78,slow=31
CCM Cathedral Cave 58.04 57 P P 11 05 07.5 0.0
L40A Anamosa 58.12 52 P P 11 05 09.1 +1.1
L40A IAmb IAmb 11 05 12.7
comp=Z,31nm,1.3s
LCAR Lake Charles 58.15 59 P P 11 05 08.4 +0.1
LCAR IAmb IAmb 11 05 13.1
comp=Z,36nm,1.5s
E38A The Farm, Brul 58.16 47 P P 11 05 07.4 -0.8
E38A IAmb IAmb 11 05 11.6
comp=Z,45nm,1.2s
T42A Van Buren 58.18 58 P P 11 05 08.4 -0.1
T42A IAmb IAmb 11 05 09.1
comp=Z,33nm,1.4s
EYMN Ely 58.33 45 P P 11 05 08.4 -1.0
N41A Harden Midland 58.36 54 P P 11 05 10.1 +0.4
N41A IAmb IAmb 11 05 13.6
comp=Z,23nm,0.9s
I40A Norwalk 58.64 50 P P 11 05 11.4 -0.2
I40A IAmb IAmb 11 05 14.9
comp=Z,42nm,1.5s
FVM French Village 58.69 57 P P 11 05 11.9 -0.2
FVM IAmb IAmb 11 05 15.6
comp=Z,40nm,1.4s
PBMO Poplar Bluff 58.72 58 P P 11 05 12.0 -0.2
PBMO IAmb IAmb 11 05 16.9
comp=Z,27nm,1.3s
FCC Fort Churchill 58.74 32 P P 11 05 11.0 -1.0
JFWS Jewell Farm 58.87 51 P P 11 05 13.2 0.0
JFWS IAmb IAmb 11 05 16.7
comp=Z,42nm,1.1s
G40A Rib Lake 59.01 48 P P 11 05 13.1 -1.0
L42A Oliver, Polo 59.27 52 P P 11 05 16.8 +0.7
L42A IAmb IAmb 11 05 19.7
comp=Z,42nm,1.2s
CGM3 Cape Girardeau 59.32 58 P P 11 05 16.3 -0.1
CGM3 IAmb IAmb 11 05 21.0
comp=Z,33nm,1.3s
P43A Skaggs, Pawnee 59.38 55 P P 11 05 17.4 +0.6
HDIL Hopedale 59.55 54 P P 11 05 18.1 +0.2
SIUC Southern Illin 59.65 57 P P 11 05 19.0 +0.3
SIUC IAmb IAmb 11 05 22.4
comp=Z,34nm,1.2s
COWI Conover 59.80 47 P P 11 05 19.2 -0.5
COWI IAmb IAmb 11 05 23.1
comp=Z,30nm,1.1s
MJAR Matsushiro Arr 60.12 302 P P 11 05 22.8 +0.7
comp=Z,31nm,1.1s,baz=94,slow=4.6,SNR=15
comp=Z,31nm,1.1s
MAJO Matsushiro 60.12 302 P P 11 05 23.5 +1.5
MAJO IAmb IAmb 11 05 27.1
comp=Z,34nm,1.0s
OLIL Olney 60.50 56 P P 11 05 24.9 +0.4
L44A Lake County Fo 60.58 52 P P 11 05 24.3 -0.7
baz=270
HQIL Hanson Quary C 60.63 52 IAMs_20 IAMs_20 11 24 22.8
comp=Z,895nm,20.0s
WVT Waverly 60.84 59 P P 11 05 26.7 -0.2
P46A Rosedale 61.16 55 P P 11 05 29.8 +0.7
P46A IAmb IAmb 11 05 33.2
comp=Z,32nm,1.2s
SFIN Lafayette 61.22 54 P P 11 05 30.4 +1.0
T47A Sharon Grove 61.37 58 P P 11 05 31.1 +0.7
T47A IAmb IAmb 11 05 31.6
comp=Z,38nm,1.4s
X48A Hartselle 61.60 61 P P 11 05 32.9 +0.8
V48A Smith Brothers 61.68 59 P P 11 05 33.0 +0.4
V48A IAmb IAmb 11 05 37.2
comp=Z,43nm,1.5s
APG El Apazote 61.73 83 LR LR 11 27 29.7
comp=Z,8.2nm,19.4s,baz=117,slow=31
LRAL Lakeview Retre 61.77 62 P P 11 05 33.8 +0.5
WCI Wyandotte Cave 61.94 56 P P 11 05 35.1 +0.7
CLTN Cedars of Leba 62.05 59 P P 11 05 35.6 +0.5
Y49A Blount Mountai 62.18 61 P P 11 05 34.8 -1.2
Y49A IAmb IAmb 11 05 39.5
comp=Z,29nm,1.5s
N47A Urbana 62.27 53 P P 11 05 36.6 +0.1
N47A IAmb IAmb 11 05 40.1
comp=Z,24nm,1.0s
SWET Sewanee 62.45 60 P P 11 05 36.2 -1.6
SWET IAmb IAmb 11 05 42.4
comp=Z,38nm,1.4s
P48A Milroy 62.55 55 P P 11 05 38.7 +0.3
P48A IAmb IAmb 11 05 39.7
comp=Z,26nm,1.4s
O48B Farmland 62.71 54 P P 11 05 39.5 0.0
FPAL Fort Paine 62.77 60 P P 11 05 40.5 +0.5
MTO3 Montecristo 62.91 83 P P 11 05 42.4 +1.0
URZ Urewera 62.95 204 LR LR 11 30 39.6
comp=Z,159nm,18.9s,baz=110,slow=34
P49A Miami Univ. Ec 63.09 55 P P 11 05 42.0 0.0
P49A IAmb IAmb 11 05 46.8
comp=Z,44nm,1.4s
E46A Sault Ste Mari 63.15 47 P P 11 05 42.0 -0.3
RTZ Ruatahuna 63.31 204 P P 11 05 44.2 +0.9
RTZ IAmb IAmb 11 05 47.8
comp=Z,22nm,1.0s
N49A Columbus Grove 63.42 53 P P 11 05 44.5 +0.4
N49A IAmb IAmb 11 05 47.2
comp=Z,22nm,1.3s
R50A Paris 63.48 56 P P 11 05 45.0 +0.4
RES Resolute Bay 63.75 15 P P 11 05 45.2 -0.5
RES IAmb IAmb 11 05 49.9
comp=Z,12nm,0.8s
RES Resolute Bay 63.75 15 LR LR 11 29 47.4
comp=Z,268nm,20.6s,baz=199,slow=32

Y52A Lilburn 64.12 61 P P 11 05 49.3 +0.4
Y52A IAmb IAmb 11 05 52.5
comp=Z,17nm,1.2s
TKL Tuckaleechee C 64.16 59 P P 11 05 49.2 0.0
TKL Tuckaleechee C 64.16 59 LR LR 11 31 25.8
comp=Z,82nm,18.9s,baz=328,slow=34
Q51A Peebles 64.19 55 P P 11 05 49.5 +0.3
Q51A IAmb IAmb 11 05 52.8
comp=Z,15nm,1.0s
SSFO Shawnee State 64.33 56 P P 11 05 50.5 +0.3
P51A Williamsport 64.37 55 P P 11 05 50.9 +0.5
P51A IAmb IAmb 11 05 57.4
comp=Z,13nm,0.9s
ACSO Alum Creek Sta 64.37 54 P P 11 05 50.8 +0.4
ACSO IAmb IAmb 11 05 54.7
comp=Z,28nm,1.1s
USRK Ussuriysk Ar. 64.51 310 P P 11 05 51.2 0.0
comp=Z,14nm,1.1s,baz=70,slow=5.7,SNR=8.1
USRK LR LR 11 29 03.7
comp=Z,163nm,20.9s,baz=92,slow=32
comp=Z,14nm,1.1s
GOGA Godfrey 64.67 62 P P 11 05 52.7 +0.2
N51A Ashland 64.78 53 P P 11 05 54.4 +1.2
N51A IAmb IAmb 11 06 00.2
comp=Z,46nm,1.5s
BG3 Lake Jocassee 64.92 60 P P 11 05 54.4 +0.3
BG3 IAmb IAmb 11 05 54.6
comp=Z,16nm,0.9s
Q52A Bidwell 65.03 55 P P 11 05 55.0 +0.2
Q52A IAmb IAmb 11 05 55.2
comp=Z,15nm,0.9s
HODGE Hodges 65.56 60 P P 11 05 58.5 +0.2
O53A New Philadelph 65.72 54 P P 11 05 59.8 +0.5
O53A IAmb IAmb 11 05 60.0
comp=Z,21nm,1.1s
YAK Yakutsk 66.07 330 P P 11 06 00.6 -0.4
YAK Yakutsk 66.07 330 LR LR 11 30 49.2
comp=Z,194nm,21.7s,baz=89,slow=32
ILON Igloolik, Nuna 66.17 22 P P 11 06 01.0 -0.5
MDJ Mudanjiang 66.20 311 P P 11 06 03.2 +1.0
MDJ Mudanjiang 66.20 311 P P 11 06 03.0 +0.8
MDJ pmax pmax
comp=Z,40nm,1.2s
MDJ pmax pmax
comp=Z,470nm,5.0s
O54A Avella 66.36 54 P P 11 06 03.6 +0.3
O54A IAmb IAmb 11 06 04.2
comp=Z,22nm,0.9s
JSC Jenkinsville 66.38 60 P P 11 06 03.9 +0.4
JSC IAmb IAmb 11 06 21.9
comp=Z,22nm,1.2s
JNU Nakatsue 66.46 298 LR LR 11 33 57.9
comp=Z,107nm,18.4s,baz=102,slow=35
ERPA Erie 66.47 52 P P 11 06 02.7 -1.3
ERPA IAmb IAmb 11 06 07.6
comp=Z,29nm,1.1s
JAY Jayapura 66.53 258 LR LR 11 28 43.0
comp=Z,123nm,21.6s,baz=344,slow=30
BLA Blacksburg 66.67 57 P P 11 06 05.8 +0.4
BLA IAmb IAmb 11 06 09.2
comp=Z,16nm,0.9s
SADO Sadowa 66.85 49 P P 11 06 05.4 -1.0
SADO IAmb IAmb 11 06 09.4
comp=Z,26nm,1.1s
BOAB BOACO BROADBAN 66.89 84 P P 11 06 08.3 +1.2
TIXI Tiksi 67.30 341 P P 11 06 09.2 +0.5
TIXI IAmb IAmb 11 06 14.4
comp=Z,40nm,1.4s
TIXI Tiksi 67.30 341 LR LR 11 34 49.2
comp=Z,110nm,19.6s,baz=186,slow=35
HEH HeiHe 67.31 317 *e*P **P 11 06 08.0 -1.2**
Q56A Snyder Ridge, 67.41 55 P P 11 06 10.6 +0.5
Q56A IAmb IAmb 11 06 20.9
comp=Z,35nm,1.4s
WVNY West Valley, N 67.46 51 P P 11 06 10.0 -0.3
WVNY IAmb IAmb 11 06 14.0
comp=Z,34nm,1.1s
BNX BinXian 67.65 312 ⇑P **P 11 06 11.4 0.0**
BNX pmax pmax
comp=Z,19nm,1.0s
VLDQ Val d'Or 67.74 45 P P 11 06 09.4 -2.5
VLDQ IAmb IAmb 11 06 14.0
comp=Z,20nm,1.1s
DELO Deloro Mine 67.96 49 P P 11 06 14.2 +0.8
DELO IAmb IAmb 11 06 16.1
comp=Z,42nm,1.5s
JTS Las Juntas de 68.17 86 LR LR 11 28 38.4
comp=Z,111nm,21.0s,baz=144,slow=29
KSRS Korea Array 68.23 303 P P 11 06 16.1 +0.9
comp=Z,7.3nm,1.0s,baz=77,slow=8.2,SNR=11
KSRS LR LR 11 34 21.4
comp=Z,80nm,19.0s,baz=75,slow=34
comp=Z,7.3nm,1.0s
KSAR Wonju Array Be 68.26 303 P P 11 06 16.3 +0.9
L56A Greenwood 68.26 51 P P 11 06 15.5 +0.1
L56A IAmb IAmb 11 06 19.1
comp=Z,32nm,1.2s
CN2 Changchun 69.24 310 P P 11 06 20.8 -0.6
CN2 S S **11 15 30.5 +3.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,100nm,13.0s
BINY Binghamton 69.41 51 P P 11 06 22.7 +0.1
BINY IAmb IAmb 11 06 22.8
comp=Z,20nm,0.9s
MVL Millersville 69.45 54 P P 11 06 23.3 +0.5
MVL IAmb IAmb 11 06 26.8
comp=Z,15nm,1.0s
KSPA Keystone Colle 69.67 52 P P 11 06 24.0 -0.1
KSPA IAmb IAmb 11 06 27.9
comp=Z,21nm,1.0s
JOW Kunigami 69.80 292 P P 11 06 24.1 -1.1
comp=Z,14nm,0.7s,baz=75,slow=9.8,SNR=4.3
JOW LR LR 11 32 30.0
comp=Z,95nm,20.6s,baz=60,slow=32
comp=Z,14nm,0.7s
TRQ Mont Tremblant 69.91 47 P P 11 06 26.1 +0.5
TRQ IAmb IAmb 11 06 28.8
comp=Z,34nm,1.5s
FRNY Flat Rock 70.77 48 P P 11 06 30.3 -0.5
FRNY IAmb IAmb 11 06 34.3
comp=Z,25nm,1.1s
ARMA Armidale 71.15 227 P P 11 06 37.4 +4.0
comp=Z,30nm,1.4s
FRB Frobisher Bay 71.35 28 LR LR 11 35 43.6
comp=Z,69nm,18.2s,baz=336,slow=34
L61B Northampton 71.80 51 P P 11 06 36.6 -0.5
baz=280
HNH Hanover 71.87 49 IAMs_20 IAMs_20 11 36 15.3
comp=Z,522nm,18.0s
LDAQ Lac Daran 71.90 45 P P 11 06 37.9 +0.2
LDAQ IAmb IAmb 11 06 41.5
comp=Z,19nm,1.0s
DL2 Dalian 72.87 306 P P 11 06 44.3 +0.8
DL2 S S **11 16 05.8 -4.0**
DL2 pmax pmax
comp=Z,54nm,1.2s
DL2 pmax pmax
comp=Z,340nm,5.0s
DL2 LR LR
comp=Z,350nm,13.6s
DL2 LR LR
comp=Z,170nm,12.7s
DL2 LR LR
comp=Z,630nm,19.0s
E62A Clayton Lake 73.28 46 P P 11 06 46.2 +0.3
SCHQ Schefferville 73.48 37 P P 11 06 45.5 -1.4
comp=Z,2.9nm,0.9s,baz=272,slow=5.1,SNR=5.6
SCHQ LR LR 11 36 12.7
comp=Z,132nm,19.5s,baz=42,slow=34
comp=Z,2.9nm,0.9s
D62A Allapoint, All 73.52 45 P P 11 06 47.2 +0.1
D62A IAmb IAmb 11 06 50.7
comp=Z,41nm,1.4s
KULLO Kullorsuaq 73.58 16 *i* P **P 11 06 45.6 -1.4**
NEEM North Greenlan 74.25 13 *i* P **P 11 06 50.9 -0.5**
UPNV Upernavik 74.30 18 *i* P **P 11 06 50.0 -1.3**
QLP Quilpie 74.39 234 P P 11 06 55.4 +2.8
comp=Z,42nm,1.4s

BATG	Bathurst New B	75.47	45	P		P	11 06 58.7 +0.2
NUUG	Nuugaatsiaq	75.52	19	*i* P		P	11 06 58.7 +0.3
XLT	XiLinHaoTe	75.89	312	*e*P		P	11 07 01.3 +0.1
XLT				pP		pP	11 07 05.1 -0.3
XLT				PcP		PcP	11 07 18.3 +4.7
XLT				pmax		pmax	
	comp=Z,27nm,1.1s						
CMSA	Cobar Meteorol	75.96	229	P		P	11 07 04.4 +2.9
	comp=Z,20nm,1.5s						
UMMG	Ummannaq	76.12	20	*i* P		P	11 07 01.6 -0.2
NJ2	Nanjing	76.61	299	*e*P		P	11 07 06.0 +0.7
NJ2				pmax		pmax	
	comp=Z,14nm,0.5s						
BJI	Beijing	76.74	308	P		P	11 07 06.0 +0.1
BJI				pmax		pmax	
	comp=Z,14nm,1.1s						
BJI				pmax		pmax	
	comp=Z,82nm,4.0s						
BJT	Baijiatuau	76.75	308	P		P	11 07 05.2 -0.7
TIA	Tai'an	76.96	304	P		P	11 07 07.3 0.0
TIA				pP		pP	11 07 10.8 -0.7
TIA				PcP		PcP	11 07 16.9 -1.4
TIA				pmax		pmax	
	comp=Z,53nm,0.8s						
TIA				pmax		pmax	
	comp=Z,440nm,3.9s						
NOR	Nord	77.15	6	*i* P		P	11 07 06.8 -0.7
SFJD	Kangerlussuaq	77.89	23	P		P	11 07 12.3 +0.5
SFJD				IAmb		IAmb	11 07 16.4
	comp=Z,33nm,1.1s						
SFJD	Kangerlussuaq	77.89	23	LR		LR	11 39 34.0
	comp=Z,135nm,18.3s,baz=313,slow=34						
SFJD	Kangerlussuaq	77.89	23	*i* P		P	11 07 11.4 -0.4
NUUK	Nuuk	78.46	26	*i* P		P	11 07 16.5 +1.5
HNS	HongShan	78.53	306	⇑P		P	11 07 16.3 +0.4
HNS				pmax		pmax	
	comp=Z,29nm,1.3s						
STKA	Stephens Creek	79.10	231	P		P	11 07 19.9 +0.9
STKA	Stephens Creek	79.10	231	P		P	11 07 19.4 +0.4
STKA	Stephens Creek	79.10	231	P		P	11 07 18.5 -0.6
	comp=Z,7.4nm,0.8s,baz=42,slow=6.2,SNR=13						
	comp=Z,7.4nm,0.8s						
SUMG	Summit	79.25	16	P		P	11 07 19.8 +0.1
SUMG	Summit	79.25	16	*i* P		P	11 07 19.0 -0.8
ROSC	El Rosal	79.86	88	P		P	11 07 24.7 +0.6
	comp=Z,6.8nm,0.3s,baz=337,slow=5.3,SNR=7.3						
ROSC				LR		LR	11 35 15.8
	comp=Z,77nm,20.0s,baz=290,slow=30						
	comp=Z,6.8nm,0.3s						
HHC	Hu-ho-hao-te	79.92	310	*e*P		P	11 07 23.6 0.0
HHC				pmax		pmax	
	comp=Z,23nm,0.6s						
HHC				pmax		pmax	
	comp=Z,200nm,4.7s						
ATAH	Atahualpa	80.07	101	LR		LR	11 34 50.3
	comp=Z,75nm,19.8s,baz=292,slow=30						
DAG	Danmarks Havn	80.61	9	*i* P		P	11 07 25.0 -1.5
RUSC	La Rusia	80.69	87	P		P	11 07 30.0 +1.3
RUSC				IAmb		IAmb	11 07 33.1
	comp=Z,37nm,1.3s						
ICESG	Greenland Ices	80.70	19	*i* P		P	11 07 26.5 -1.0
WHN	Wuhan	80.73	299	P		P	11 07 28.9 +0.8
WHN				pP		pP	11 07 32.3 -0.1
WHN				pmax		pmax	
	comp=Z,54nm,0.9s						
ULN	Ulaanbaatar	80.87	317	P		P	11 07 28.9 +0.3
LYN	LuoYang	81.07	303	P		P	11 07 30.3 +0.5
LYN				pmax		pmax	
	comp=Z,66nm,0.8s						
LYN				pmax		pmax	
	comp=Z,420nm,6.1s						
BTO	Baotou	81.11	310	*e*P		P	11 07 30.8 +0.8
BTO				pP		pP	11 07 35.6 +1.3
BTO				sP		PcP	11 07 37.9 +1.5
BTO				pmax		pmax	
	comp=Z,53nm,1.0s						
BTO				pmax		pmax	
	comp=Z,400nm,5.7s						
ASAR	Alice Springs	81.25	241	P		P	11 07 30.6 -0.3
	comp=Z,11nm,1.0s,baz=63,slow=5.9,SNR=14						
	comp=Z,11nm,1.0s						
SONM	Songino Array	81.30	318	P		P	11 07 30.7 -0.2
SONM				IAmb		IAmb	11 07 36.2
	comp=Z,44nm,1.2s						
SONM	Songino Array	81.30	318	P		P	11 07 31.4 +0.5
	comp=Z,15nm,0.9s,baz=96,slow=4.6,SNR=60						
	comp=Z,15nm,0.9s						
ARPS	Mount Arapiles	81.47	226	P		P	11 07 35.8 +4.1
	comp=Z,22nm,1.4s						
DBG	Daneborg	82.19	11	*i* P		P	11 07 35.6 +0.6
SPITS	Spitsbergen Ar	82.51	2	LR		LR	11 38 40.2
	comp=Z,118nm,20.8s,baz=244,slow=32						
NNA	Nana	83.24	105	LR		LR	11 35 43.0
	comp=Z,77nm,20.6s,baz=280,slow=29						
XAN	Xi'an	84.02	304	⇑P		P	11 07 45.1 -0.2
XAN				pmax		pmax	
	comp=Z,35nm,1.3s						
SCO	Scoresbysund	84.65	14	P		P	11 07 48.5 +0.9
SCO				IAmb		IAmb	11 07 53.0
	comp=Z,32nm,1.3s						
ENH	Enshi	84.81	300	P		P	11 07 47.1 -2.2
JMIC	Jan Mayen	86.96	10	LR		LR	11 49 03.3
	comp=Z,80nm,18.1s,baz=76,slow=37						
LZH	Lanzhou	87.21	307	*e*P		P	11 08 01.8 +0.5
LZH				pP		pP	11 08 05.6 0.0
LZH				pmax		pmax	
	comp=Z,31nm,1.1s						
LZH				LR		LR	
	comp=Z,310nm,15.0s						
LZH				LR		LR	
	comp=Z,310nm,16.5s						
LZH				LR		LR	
	comp=Z,320nm,15.5s						
QIZ	Qiongzhong	88.26	289	P		P	11 08 07.0 +0.6
QIZ				S		S	11 18 52.6 +1.1
QIZ				SS		SS	11 24 38.3 -2.2
QIZ				pmax		pmax	
	comp=Z,220nm,5.3s						
QIZ				LR		LR	
	comp=Z,140nm,15.7s						
QIZ				LR		LR	
	comp=Z,130nm,17.7s						
QIZ				LR		LR	
	comp=Z,240nm,17.9s						
GYA	Guiyang	88.45	297	P		P	11 08 07.6 +0.3
GYA				pmax		pmax	
	comp=Z,26nm,0.8s						
GTA	Gaotai	88.85	312	P		P	11 08 09.6 +0.6
GTA				pP		pP	11 08 13.4 +0.1
GTA				pmax		pmax	
	comp=Z,23nm,1.0s						
BORG	Borgarnes	89.01	18	LR		LR	11 43 56.6
	comp=Z,114nm,19.6s,baz=34,slow=33						
H03N2	Juan Fernandez	89.67	126	T		T	12 47 14.0
	baz=298,slow=76,SNR=677						
H03N3	Juan Fernandez	89.68	126	T		T	12 47 15.0
	baz=298,slow=76,SNR=1145						
H03N1	Juan Fernandez	89.68	126	T		T	12 47 15.3
	baz=298,slow=76,SNR=1122						
ZAA0	Zalesovo Array	90.70	329	P		P	11 08 17.9 +0.7
ZALV	Zalesovo Beam	90.70	329	P		P	11 08 17.8 +0.6
ZALV	Zalesovo Beam	90.70	329	P		P	11 08 17.6 +0.5
	comp=Z,22nm,1.1s,baz=48,slow=4.4,SNR=25						
	comp=Z,22nm,1.1s						
ARCES	ARCESS Array B	91.32	360	P		P	11 08 18.6 -1.2
	comp=Z,10nm,1.0s,baz=350,slow=6.5,SNR=4.1						
ARCES				LR		LR	11 50 36.0
	comp=Z,118nm,19.8s,baz=250,slow=36						
	comp=Z,10nm,1.0s						
KMI	Kunming	92.23	297	⇓P		P	11 08 25.8 +0.7
KMI				pmax		pmax	
	comp=Z,24nm,1.1s						
KMI				pmax		pmax	
	comp=Z,130nm,5.3s						
KMI				LR		LR	
	comp=Z,120nm,13.9s						
KMI				LR		LR	
	comp=Z,170nm,17.1s						
KMI				LR		LR	
	comp=Z,140nm,19.3s						
PB11	IPOC Station P	92.44	110	P		P	11 08 25.9 0.0
PB11				IAmb		IAmb	11 08 27.1
	comp=Z,9.8nm,0.6s						
PZH	PanZhiHua	92.52	299	P		P	11 08 26.1 -0.2
PZH				pmax		pmax	
	comp=Z,10.0nm,0.7s						
PZH				pmax		pmax	
	comp=Z,110nm,4.9s						
LPAZ	La Paz	92.65	106	P		P	11 08 27.4 -0.2
	comp=Z,1.5nm,0.7s,baz=230,slow=5.6,SNR=6.2						
LPAZ				LR		LR	11 45 11.7
	comp=Z,28nm,18.3s,baz=242,slow=32						
	comp=Z,1.5nm,0.7s						
SLVN	Son La	92.66	294	P		P	11 08 28.2 +1.2
GOMU	GeErMu	93.81	310	P		P	11 08 33.3 +0.9
GOMU				pP		pP	11 08 36.5 -0.2
GOMU				sP		sP	11 08 41.1 +2.9
GOMU				pmax		pmax	
	comp=Z,30nm,1.1s						
ZSN	Zaisan	94.41	324	*e*P		P	11 08 34.4 -0.1
	comp=Z,6.2nm,0.8s						
WMQ	Urumqi	94.77	320	*e*P		P	11 08 36.8 +0.5
KURBB	Kurchatov Arra	95.80	329	P		P	11 08 40.3 -0.4
	comp=Z,0.6nm,0.7s,baz=40,slow=4.0,SNR=4.7						
KURBB				LR		LR	11 49 46.9
	comp=Z,119nm,21.8s,baz=166,slow=34						
	comp=Z,0.6nm,0.7s						
MK31	Makanchi Array	96.22	324	P		P	11 08 40.7 -2.0
MKAR	Makanchi Array	96.22	324	P		P	11 08 41.1 -1.7
MKAR	Makanchi Array	96.22	324	P		P	11 08 43.1 +0.4
	comp=Z,3.2nm,0.9s,baz=56,slow=5.1,SNR=11						
MKAR				LR		LR	11 49 19.0
	comp=Z,86nm,21.8s,baz=13,slow=34						
	comp=Z,3.2nm,0.9s						
BVAR	Borovoye Array	97.80	334	P		P	11 08 49.2 -0.5
	comp=Z,2.7nm,0.7s,baz=64,slow=3.4,SNR=5.6						
BVAR				PP		PP	11 12 49.1 +2.0
	comp=Z,2.8nm,1.0s,baz=65,slow=7.0,SNR=4.1						
	comp=Z,2.7nm,0.7s						
CMAR	Chiang Mai Arr	98.07	293	P		P	11 08 52.4 +0.8
	comp=Z,0.5nm,0.3s,baz=52,slow=7.8,SNR=5.5						
CMAR				LR		LR	11 52 40.7
	comp=Z,44nm,19.1s,baz=65,slow=35						
	comp=Z,0.5nm,0.3s						
PLCA	Paso Flores	98.52	130	LR		LR	11 42 25.3
	comp=Z,96nm,21.5s,baz=272,slow=29						
NOA	NORSAR Array B	99.11	7	LR		LR	11 53 56.9
	comp=Z,63nm,19.2s,baz=345,slow=36						
ARTI	Arti	99.38	342	LR		LR	11 55 00.6
	comp=Z,98nm,20.8s,baz=10,slow=36						
FINES	FINESS Array B	99.44	359	P		Pdif	11 08 55.5 -1.4
	comp=Z,2.0nm,0.8s,baz=354,slow=4.2,SNR=4.0						
	comp=Z,2.0nm,0.8s						
KIRV	Kirov	99.69	347	LR		LR	11 57 22.7
	comp=Z,139nm,19.0s,baz=337,slow=37						
VNDA	Vanda	99.89	189	LR		LR	11 47 46.1
	comp=Z,134nm,18.3s,baz=7.0,slow=32						
SHLS	Shalkode	100.03	323	*e*P		Pdif	11 08 58.7 -1.4
KPKS	Kokpek	100.28	323	*e*P		Pdif	11 09 00.8 -0.3
UZB	Uzynbulak	100.29	323	*e*P		Pdif	11 09 00.9 -0.3
SATY	Saty	100.70	323	*e*P		Pdif	11 09 02.6 -0.4
AAA	Alma-Ata	101.44	324	*e*P		Pdif	11 09 06.0 -0.3
KULM	Kulim	101.47	280	IAMs_20		IAMs_20	11 58 51.4
	comp=Z,157nm,18.0s						
TNSS	Tian-Shan	101.53	324	*e*P		Pdif	11 09 06.4 -0.8
BTLS	Baital	101.76	327	*e*P		Pdif	11 09 07.2 -0.4
SGDS	Sogindy	102.53	325	*e*P		Pdif	11 09 10.7 -0.4
BRLS	Borolday	105.33	327	*e*Pdif		Pdif	11 09 24.0 +0.5
IUG	Iuzhnay	105.87	327	*e*Pdif		Pdif	11 09 25.6 -0.5
MMAI	Mount Meron Ar	126.91	349	PKP		PKPdf	11 14 17.6 -1.3
	comp=Z,0.3nm,0.3s,baz=6.6,slow=6.2,SNR=3.9						
SYO	Syowa Base	129.54	187	⇓*e*Pdif		Pdif	11 11 08.0 -2.4

NIED ***13*** *10:59:50.0, 23°.98N×122°.66E, h30km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.49; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$0.08; $M_{r\theta}$0.75; $M_{\theta\phi}$0.00; $M_{\phi r}$0.48; Fault plane solution: $M_0$1.04000×10^{15} NP1: ϕ_s293.00000°, δ21.00000°, λ137.00000°. NP2: ϕ_s63.00000°, δ76.00000°, λ74.00000°.*

JMA ***13*** *10:59:50.0±0.2, 24°.0N±0°.8×122°.7E±0°.7, h30km, MD3.9/16, MV3.8/16, NW OFF ISHIGAKIJIMA IS*

IDC ***13*** *11:00:12.7±17.0, 24°.87N×122°.49E, h202km±120km, mb3.4/7, mbtmp3.9/8, MS3.3/4, Error ellipse: s-maj=145.4km s-min=34.6km az=179.0*

ISC 13 10:59:50.0±0.8, 23°.96N±0°.05×122°.69E±0°.03, h35km, n46, σ1^{s}59/44, mb3.7/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.54	25	P	Pn	11 00 00.8	-0.5
JYNG				*e*S	Sn	11 00 07.9	-1.2
JYNG	Yonagunijimaku	0.54	25	A	A	11 00 00.8	
	comp=N,15nm,0.5s,comp=E,11nm,0.5s						
YOJ	Yonaguni jima	0.58	30	P	Pn	11 00 01.3	-0.5
YOJ	Yonaguni jima	0.58	30	P	Pn	11 00 01.6	-0.2
YOJ	Yonaguni jima	0.58	30	*e*P	Pn	11 00 01.5	-0.2
YOJ				*e*S	Sn	11 00 09.3	-0.8
YOJ	Yonaguni jima	0.58	30	A	A	11 00 01.5	
	comp=N,8.0nm,1.5s,comp=E,10.0nm,0.9s						
IRIF	Iriomote-Funau	1.02	68	P	Pn	11 00 08.4	+0.6
IRIF				S	Sn	11 00 23.5	+2.6
IRIF	Iriomote-Funau	1.02	68	A	A	11 00 08.4	
	comp=N,10.0nm,1.2s,comp=E,5.0nm,1.2s						
HATJ	Hateruma jima	1.02	84	P	Pn	11 00 09.0	+1.2
HATJ	Hateruma jima	1.02	84	A	A	11 00 09.0	
	comp=N,5.0nm,2.7s,comp=E,5.0nm,1.2s						
NACB	Ninganchiao	1.03	282	P	Pn	11 00 07.5	-0.4
JKRS	Kuro-shima	1.24	77	P	Pn	11 00 12.2	+1.4
JKRS				*e*S	Sn	11 00 29.0	+2.7
JKRS	Kuro-shima	1.24	77	A	A	11 00 12.2	
	comp=N,7.0nm,3.6s,comp=E,6.0nm,4.3s						
JIJ	Ishigaki jima	1.39	73	P	Pn	11 00 13.7	+0.8
YHNB	Yeheng	1.40	301	P	Pn	11 00 13.9	+0.9
YHNB	Yeheng	1.40	301	S	Sn	11 00 34.3	+4.0
YHNB	Yeheng	1.40	301	P	Pn	11 00 13.6	+0.6
YULB	Yu-li	1.40	247	P	Pn	11 00 13.2	+0.2
YULB	Yu-li	1.40	247	S	Sn	11 00 30.1	-0.1
YULB	Yu-li	1.40	247	P	Pn	11 00 12.6	-0.4
TATO	Taipei	1.49	313	P	Pn	11 00 16.2	+1.9
TATO	Taipei	1.49	313	S	Sn	11 00 37.8	+5.2
TATO	Taipei	1.49	313	P	Pn	11 00 16.0	+1.7
SSLB	Suanglung	1.60	264	P	Pn	11 00 16.1	+0.3
SSLB	Suanglung	1.60	264	P	Pn	11 00 15.8	0.0
JISG	Ishigakijimahi	1.60	67	P	Pn	11 00 16.6	+0.8
TWGBT	Beinan	1.86	233	P	Pn	11 00 19.0	-0.5
TWGBT	Beinan	1.86	233	P	Pn	11 00 18.9	-0.5
JTJ	Tarama	1.96	69	*e*P	Pn	11 00 21.8	+1.2
TPUB	Ta-pu	2.00	251	P	Pn	11 00 23.0	+1.6
TPUB	Ta-pu	2.00	251	S	Sn	11 00 47.7	+2.5
TPUB	Ta-pu	2.00	251	P	Pn	11 00 22.9	+1.6
JMJ	Miyako jima 2	2.52	70	P	Pn	11 00 30.8	+2.4
JMJ2	Miyako jima3	2.53	71	*e*P	Pn	11 00 31.0	+2.5
JOW	Kunigami	5.80	59	P	Pn	11 01 14.3	+0.7
JNU	Nakatsue	11.62	36	LR	LR	11 07 02.5	
	comp=E,79nm,18.4s,baz=178,slow=37						
KSRS	Korea Array	14.18	17	P		P	11 03 14.6	-0.7
	comp=E,2.0nm,0.6s,baz=195,slow=11,SNR=10						
KSRS				LR		LR	11 09 18.5
	comp=E,59nm,18.6s,baz=190,slow=41						
SONM	Songino Array	27.13	336	P		P	11 05 28.8	-1.1
	comp=E,0.8nm,0.5s,baz=152,slow=9.5,SNR=5.7						
SONM				LR		LR	11 17 27.0
	comp=E,96nm,19.2s,baz=340,slow=39						
	comp=E,0.8nm,0.5s						
MKAR	Makanchi Array	39.46	316	P		P	11 07 16.8	-0.1
	comp=E,0.8nm,0.6s,baz=102,slow=9.2,SNR=6.9						
	comp=E,0.8nm,0.6s						
ZALV	Zalesovo Beam	41.19	327	P		P	11 07 30.0	-1.0
	comp=E,0.8nm,0.3s,baz=120,slow=8.2,SNR=3.6						
	comp=E,0.8nm,0.3s						
KURBB	Kurchatov Arra	43.17	320	P		P	11 07 46.8	-0.4
	comp=E,0.5nm,0.5s,baz=120,slow=7.9,SNR=8.1						
KURBB				PcP		PcP	11 09 35.8	-0.5
	comp=E,0.3nm,0.6s,baz=95,slow=3.0,SNR=1.2						
	comp=E,0.5nm,0.5s						
BVAR	Borovoye Array	48.72	321	PcP		PcP	11 09 55.5	-0.2
	comp=E,1.0nm,0.4s,baz=105,slow=3.3,SNR=2.3						
STKA	Stephens Creek	58.39	161	LR		LR	11 35 46.0
	comp=E,50nm,20.3s,baz=118,slow=36						
ARCES	ARCESS Array B	70.26	338	P		P	11 10 58.3	-1.0
	comp=E,5.6nm,1.2s,baz=67,slow=3.7,SNR=1.6						
	comp=E,5.6nm,1.2s						
FINES	FINESS Array B	72.33	330	P		P	11 11 11.1	-0.8
	comp=E,0.6nm,0.5s,baz=85,slow=2.3,SNR=5.0						
	comp=E,0.6nm,0.5s						
YKA	Yellowknife Ar	82.64	23	P		P	11 12 09.1	-0.4
	comp=E,0.4nm,0.7s,baz=313,slow=4.9,SNR=8.2						
	comp=E,0.4nm,0.7s						

IDC ***13*** *11:01:50.5±0.6, 7°.37S×129°.68E, h0km, mb4.2/10, mbtmp4.3/14, ML4.8/3, MS3.9/6, Error ellipse: s-maj=35.5km s-min=15.6km az=68.0*

NEIC ***13*** *11:02:01.6±2.2, 7°.62S±0°.02×129°.38E±0°.06, h94km±8km, mb4.3/23, Error ellipse: s-maj=9.2km s-min=2.0km az=107.0*

DJA ***13*** *11:02:03.8±0.3, 8°.S±2°×13°.0E±°, h105km±12km, M4.8/17, mB5.2/5, mb5.0/10, MLv4.8/17, Mw(mB)4.6/5*

ISC 13 11:02:02.4±0.4, 7°.63S±0°.05×129°.47E±0°.05, h100km, n92, σ2^{s}07/89, mb4.2/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.85	101		Pn	11 02 34.4	+1.3
SAUI				Sn	Sn	11 02 56.8	+0.4
SAUI	Saumlaki	1.85	101	P	Pn	11 02 34.2	+1.2
SAUI	Saumlaki	1.85	101	P	Pn	11 02 34.5	+1.5
SAUI				S	Sn	11 02 57.7	+1.3
BNDI	Bandanaira	3.12	8	P	Pn	11 02 50.9	+1.1
BNDI				S	Sn	11 03 26.8	+0.4
AAI	Ambon	4.12	342	P	Pn	11 03 04.8	+1.5
MSAI	Masohi	4.29	353	P	Pn	11 03 07.7	+2.1
NLAI	Namlea	4.96	332	P	Pn	11 03 16.9	+2.3
DRS	Darwin Rock St	4.97	164	P	Pn	11 03 16.7	+1.9
MTN	Manton Dam	5.43	163		Pn	11 03 22.1	+1.2
MTN	Manton Dam	5.43	163	P	Pn	11 03 22.2	+1.2
FAKI	Fak Fak	5.44	31	Pn	Pn	11 03 19.6	-1.5
FAKI	Fak Fak	5.44	31	P	Pn	11 03 19.9	-1.3
SOEI	Soe	5.55	247	Pn	Pn	11 03 24.6	+1.8
SOEI				Sn	Sn	11 04 23.2	-2.2
SOEI	Soe	5.55	247	P	Pn	11 03 24.9	+2.1
SOEI	Soe	5.55	247	P	Pn	11 03 24.4	+1.6
	0.9nm2μm145nm,0.8s						
KMPI	Kaimana, Papua	5.78	47	P	Pn	11 03 24.9	-0.8
	230nm,0.5s						
KDU	Kakadu	5.83	150	P	Pn	11 03 25.9	-0.5
SANI	Sanana	6.54	328	P	Pn	11 03 39.0	+2.9
SWI	Sorong	6.96	15	P	Pn	11 03 41.6	-0.2
	0.5nm2μm73nm,0.5s						
BBSI	Bau Bau	7.18	287	P	Pn	11 03 47.4	+2.7
	0.9nm184nm,0.9s						
MMRI	Maumere	7.23	262	Pn	Pn	11 03 40.5	-4.9
MMRI	Maumere	7.23	262	P	Pn	11 03 47.8	+2.4
	0.3nm80nm,0.9s						
KNRA	Kununurra	8.02	185	Pn	Pn	11 03 55.5	-0.7
BASI	Baing, Sumba	9.15	253	P	Pn	11 04 13.8	+2.2
BAKI	Biak	9.21	46	P	Pn	11 04 13.3	+0.9
	98nm,0.8s						
FITZ	Fitzroy Crossi	11.05	199	Pn	Pn	11 04 34.8	-2.6
FITZ	Fitzroy Crossi	11.05	199	Pn	Pn	11 04 35.2	-2.1
	7.8nm,0.3s,baz=34,slow=11,SNR=126						
FITZ				Sn	Sn	11 06 27.3	-12
	9.6nm,0.3s,baz=271,slow=23,SNR=7.3						
	20nm,0.3s						
FITZ	Fitzroy Crossi	11.05	199	P	Pn	11 04 37.0	-0.4
TABU	Tabubil	11.91	79	P	Pn	11 04 49.3	+0.2
WB0	Warramunga Arr	12.97	159	Pn	Pn	11 04 59.7	-3.3
WRAB	Tennant Creek	13.11	159		Pn	11 05 01.6	-3.2
WRA	Warramunga Arr	13.12	159	Pn	Pn	11 04 60.0	-4.9
WRA	Warramunga Arr	13.12	159	Pn	Pn	11 05 00.9	-4.0
	5.3nm,0.3s,baz=324,slow=14,SNR=92						
WRA				Sn	Sn	11 07 18.9	-10
	6.8nm,0.3s,baz=342,slow=21,SNR=12						
WRA				LR	LR	11 11 01.8	
	comp=Z,121nm,20.7s,baz=288,slow=42						
	18nm,0.8s						
WB2	Warramunga Arr	13.12	159	Pn	Pn	11 05 01.8	-3.2
WR0	Warramunga Arr	13.20	159		Pn	11 05 02.7	-3.4
COEN	Coen	14.86	116	Pn	Pn	11 05 23.6	-3.8
COEN	Coen	14.86	116	P	P	11 05 30.1	-0.6
MBWA	Marble Bar	16.41	214		Pn	11 05 46.5	-0.4
MBWA				IAmb	IAmb	11 05 50.9	
	comp=Z,21nm,0.8s						
AS31	Alice Springs	16.50	166	Pn	Pn	11 05 45.8	-2.2
ASAR	Alice Springs	16.50	166	Pn	Pn	11 05 46.2	-1.8
	comp=Z,2.6nm,0.3s,baz=338,slow=8.9,SNR=88						
ASAR				Sn	Sn	11 08 40.5	-11
	comp=Z,1.6nm,0.3s,baz=347,slow=28,SNR=6.2						
	comp=Z,6.1nm,0.5s						
AS01	Alice Springs	16.51	165	P	Pn	11 05 49.5	+1.4
PSA00	Pilbara Seismi	16.68	213		Pn	11 05 47.7	-2.5
PSA00				IAmb	IAmb	11 05 54.6	
	comp=Z,21nm,1.2s						
PSA00	Pilbara Seismi	16.68	213	P	Pn	11 05 52.3	+2.1
MYLDM	Lahad Datu	16.79	319	P	P	11 05 56.3	+4.3
PMG	Port Moresby	17.59	97	P	P	11 05 56.0	-4.8
	comp=Z,9.6nm,1.0s,baz=24,slow=16,SNR=1.7						
MTSU	Mount Surprise	17.83	127	P	Pn	11 06 06.2	+2.0
KKM	Kota Kinabalu	18.96	315	P	P	11 06 12.8	-3.2
KKM				IAmb	IAmb	11 06 23.3	
	comp=Z,19nm,1.0s						
SBUM	Sibu	19.91	300	P	P	11 06 23.5	-2.8
SBUM	Sibu	19.91	300	P	Pn	11 06 30.4	+1.6
OOD	Oodnadatta	20.90	164	P	Pn	11 06 39.8	-0.4
KSM	Kuching	21.14	295	P	P	11 06 34.9	-4.6
KSM				IAmb	IAmb	11 06 45.2	
	comp=Z,15nm,0.9s						
KSM	Kuching	21.14	295	P	P	11 06 44.6	+5.0
INKA	Innaminka	22.67	153	P	P	11 06 59.8	+4.3
FORT	Forrest	23.06	183	P	P	11 06 58.6	-0.7
LCRK	Leigh Creek	24.13	161	P	P	11 07 13.1	+4.0
MORW	Morawa	24.79	209	P	P	11 07 12.3	-2.8
MORW				IAmb	IAmb	11 07 38.4	
	comp=Z,22nm,1.2s						
STKA	Stephens Creek	26.64	157	LR	LR	11 19 44.3	
	comp=Z,118nm,20.0s,baz=233,slow=40						
HTT	Hallett	27.12	162	P	P	11 07 37.5

AKTO LR LR 11 55 26.8
comp=Z,191nm,20.6s,baz=1.5,slow=38
comp=Z,1.7nm,0.8s
ACHA Angle Creek He 88.74 31 P **P 11 14 44.8 +0.1**
J18K Innoko River 89.65 26 P **P 11 14 48.6 -0.2**
J18K IAmb IAmb 11 14 50.1
comp=Z,2.3nm,0.7s
TTA Tatalina 89.79 26 P **P 11 14 49.6 0.0**
GNI Garni 90.86 310 LR LR 12 06 05.6
comp=Z,50nm,18.1s,baz=16,slow=42
KBZ Khabaz 92.75 314 LR LR 12 03 10.0
comp=Z,117nm,19.6s,baz=356,slow=40
ILAR Eielson Array 94.14 25 P **P 11 15 08.4 -1.1**
comp=Z,1.0nm,0.7s,baz=261,slow=4.6,SNR=19
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 117.71 45 PKP **PKiKP 11 20 38.9 +1.3**
comp=Z,0.3nm,0.8s,baz=286,slow=4.0,SNR=4.7
TXAR Lajitas Array 125.70 59 PKP **PKPdf 11 20 54.6 +1.5**
comp=Z,0.3nm,0.7s,baz=334,slow=2.2,SNR=2.1
CPUP Villa Florida 145.60 169 PKPbc **PKPab 11 21 32.2 +1.8**
comp=Z,1.7nm,0.5s,baz=238,slow=4.6,SNR=3.3
LPAZ La Paz 150.53 144 PKPbc **PKiKP 11 21 46.2 +1.1**
comp=Z,1.3nm,0.4s,baz=278,slow=1.2,SNR=5.8

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*SOME **13** 11:09:14.4, 39°.33N×71°.02E, h0km*
*KRNET **13** 11:09:18.4±0.1, 39°.02N×70°.79E, h17km, mb3.2*
*NNC **13** 11:09:23.1±5.6, 39°.08N×70°.72E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=41.3km s-min=29.2km az=21.0
ISC 13 11:09:18.4±1.4, 39°.05N±0°.07×70°.79E±0°.04, h3km±12km, n16, σ2s38/31, 17C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.38**	**262**	⇓*iP*	**Pg**	**11 09 26.0**	**+0.3**
GAR				⇓*iS*	**Sg**	**11 09 31.1**	**+0.5**
DRK	**Karamyk**	**0.89**	**61**	⇑*iP*	**Pg**	**11 09 35.7**	**+0.2**
DRK				⇑*iS*	**Sg**	**11 09 47.8**	**+0.7**
BTK	**Batken**	**1.00**	**1**	⇑*iP*	**Pg**	**11 09 37.8**	**+0.1**
BTK				⇑*iS*	**Sb**	**11 09 51.7**	**-0.6**
OHH	**Osh**	**2.12**	**46**	⇑*eP*	**Pn**	**11 09 55.7**	**+0.8**
OHH				⇑*eS*	**Sb**	**11 10 23.3**	**-1.2**
SFK	**Sufi-Kurgan**	**2.31**	**65**	⇑*eP*	**Pn**	**11 09 58.8**	**+1.2**
SFK				⇑*eS*	**Sn**	**11 10 27.5**	**+0.9**
TRKS	**Terek-Say**	**2.49**	**6**	⇓*eP*	**Pn**	**11 10 00.3**	**+0.3**
TRKS				⇓*eS*	**Sn**	**11 10 30.9**	**-0.1**
ARK	**Arkit**	**2.88**	**18**	⇑*eP*	**Pn**	**11 10 06.7**	**+1.3**
ARK				⇑*eS*	**Sn**	**11 10 42.2**	**+1.5**
SALK	**Salom-Alik**	**2.96**	**51**	⇑*eP*	**Pn**	**11 10 07.4**	**+0.9**
SALK				⇑*eS*	**Sn**	**11 10 43.4**	**+0.8**
MNAS	**Manas**	**3.67**	**20**	⇑*eP*	**Pn**	**11 10 17.7**	**+1.5**
MNAS				⇑*eS*	**Sn**	**11 11 01.1**	**+1.0**
ARLS	**Aral**	**3.89**	**43**	⇓*eP*	**Pn**	**11 10 20.7**	**+1.4**
ARLS				⇓*eS*	**Sn**	**11 11 05.6**	**+0.1**
BRLS	**Boroldaу**	**4.04**	**350**	*eP*	**Pn**	**11 10 22.5**	**+1.3**
	1.2nm,0.2s						
BRLS				*eS*	**Sn**	**11 11 11.6**	**+2.5**
	7.7nm,0.4s						
KK31	**Karatay Array**	**4.05**	**357**	⇑Pn	**Pn**	**11 10 25.2**	**+3.8**
	4.5nm,0.6s,baz=180,slow=14,SNR=30						
KK31				⇓Sn	**Sb**	**11 11 15.6**	**-4.3**
	1.8nm,0.3s,baz=186,slow=23,SNR=4.4						
KK31				⇑Lg	Lg	11 11 27.2	
	2.1nm,0.3s,baz=180,slow=28,SNR=4.6						
MRKS	**Merke**	**4.12**	**26**	*eP*	**Pn**	**11 10 26.2**	**+3.7**
	2.3nm,0.4s						
MRKS				*eS*	**Sb**	**11 11 18.1**	**-3.9**
	9.1nm,0.5s						
AAK	**Ala-Archa**	**4.55**	**37**	⇓Pn	Pn	11 10 33.3	+5.0
	2.2nm,0.4s						
AAK				⇓Pg	**Pg**	**11 10 49.8**	**+4.2**
	2.9nm,0.5s						
AAK				⇓Sn	**Sb**	**11 11 30.3**	**-4.0**
	8.8nm,0.6s						
TKM2	**Tokmak 2**	**5.30**	**42**	⇓Pn	Pn	11 10 43.7	+4.9
	2.9nm,0.7s						
TKM2				⇓Sn	**Sn**	**11 11 44.3**	**+3.8**
	4.4nm,0.9s						
TKM2				⇑Lg	Lg	11 12 09.1	
	4.1nm,0.8s						
KST	**Kastek**	**5.58**	**43**	*eP*	**Pb**	**11 10 52.4**	**-4.2**
	1.5nm,0.2s						
KST				*eS*	**Sb**	**11 12 02.8**	**-1.2**
	2.1nm,0.2s						

SJA 13 11:17:04.1±0.8, 34°.46S×69°.39W, h121km±3km, ML3.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.35**	**167**	*eP*	Pn	11 17 21.6	-0.2
RTLS				*eS*	Sn	11 17 34.3	-0.9
DOCA	**Reserva Natura**	**0.57**	**27**	*eP*	Pn	11 17 23.1	-0.1
DOCA				*eS*	Sn	11 17 37.2	-0.1
DOCA				IAML		11 17 37.5	
	comp=Z,1μm,0.2s						
ZON	**Zonda**	**0.61**	**98**	*eP*	Pn	11 17 23.4	+0.5
ZON				IAML		11 17 38.4	
	comp=Z,692nm,0.2s						
ZON				*eS*	Sn	11 17 38.5	+1.3
SJA	**San Juan**	**0.71**	**96**	*eP*	Pn	11 17 24.4	+0.7
SJA				*eS*	Sn	11 17 38.6	+0.1
SJA				IAML		11 17 41.0	
	comp=Z,693nm,0.3s						
RTLL	**Cerro Villicun**	**0.79**	**81**	*eP*	Pn	11 17 20.1	-4.2
ACCO	**Cerro Coronel**	**0.91**	**18**	*eP*	Pn	11 17 27.0	+1.2
ACCO				*eS*	Sn	11 17 44.0	+1.8
CFA	**Coronel Fontan**	**0.99**	**99**	*eP*	Pn	11 17 26.8	+0.6
CFA				*eS*	Sn	11 17 35.6	-7.3
ASAL	**Salagasta**	**1.22**	**158**	*eP*	Pn	11 17 29.6	+1.0
ASAL				*eS*	Sn	11 17 47.4	+0.1
CO03	**El Pedregal**	**1.27**	**299**	*eP*	Pn	11 17 29.9	+0.8
CO03				*eS*	Sn	11 17 49.2	+1.0
CO03				IAML		11 17 53.3	
	comp=Z,395nm,0.7s						
AROD	**Rodeo**	**1.29**	**357**	*eP*	Pn	11 17 30.9	+1.3
AROD				*eS*	Sn	11 17 50.5	+1.6
ACDV	**Cuesta del Vie**	**1.30**	**10**	*eP*	Pn	11 17 30.4	+0.8
ACDV				*eS*	Sn	11 17 50.8	+1.9
ACDV				IAML		11 17 54.1	
	comp=Z,261nm,0.4s						
ARCO	**CERRO ARCO**	**1.43**	**164**	*eP*	Pn	11 17 32.0	+1.0
ARCO				*eS*	Sn	11 17 52.3	+0.8
ARCO				IAML		11 17 54.0	
	comp=Z,1μm,0.3s						
CO01	**Juntas del Tor**	**1.60**	**337**	*eP*	Pn	11 17 35.0	+2.0
CO01				*eS*	Sn	11 17 58.0	+3.0
CO01				IAML		11 17 59.4	
	comp=Z,196nm,0.7s						
VA03	**San Esteban**	**1.63**	**217**	*eP*	Pn	11 17 34.0	+0.7
VA03				*eS*	Sn	11 17 56.5	+1.0
VA03				IAML		11 17 58.1	
	comp=Z,265nm,0.6s						
AAGR	**Agrelo**	**1.69**	**164**	*eP*	Pn	11 17 34.9	+1.0
AAGR				*eS*	Sn	11 17 57.6	+0.9
GO04	**Tololo Observa**	**1.77**	**316**	*eP*	Pn	11 17 35.3	+0.3
GO04				*eS*	Sn	11 17 59.2	+0.7
AVFE	**Valle Fertil**	**1.84**	**65**	*eP*	Pn	11 17 36.8	+1.0
AVFE				*eS*	Sn	11 18 01.1	+1.2
AVFE				IAML		11 18 03.2	
	comp=Z,175nm,0.4s						
PEL	**Peldehue**	**2.01**	**213**	*eP*	Pn	11 17 38.2	+0.5
PEL				*eS*	Sn	11 18 04.1	+0.6
MT04	**Ro Olivares**	**2.04**	**198**	*eP*	Pn	11 17 40.1	+1.7
MT04				*eS*	Sn	11 18 09.6	+5.0
MT04				IAML		11 18 14.3	
	comp=Z,104nm,0.3s						
ROC1	**El Roble**	**2.05**	**222**	*eP*	Pn	11 17 38.1	-0.4
ROC1				*eS*	Sn	11 18 03.8	-0.9
MT08	**Bocatoma Ro**	**2.05**	**195**	*eP*	Pn	11 17 40.0	+1.5
MT08				*eS*	Sn	11 18 07.2	+2.5
MT08				IAML		11 18 15.1	
	comp=Z,63nm,0.3s						
AGUA	**GUANDACOL**	**2.11**	**22**	*eP*	Pn	11 17 41.1	+1.9
AGUA				IAML		11 18 10.6	
	comp=Z,166nm,0.3s						
AVIZ	**Vizcacheras**	**2.14**	**160**	*eP*	Pn	11 17 40.8	+1.3
AVIZ				*eS*	Sn	11 18 08.2	+1.7
MT03	**Universidad Ad**	**2.24**	**205**	*eP*	Pn	11 17 41.8	+1.1
MT03				*eS*	Sn	11 18 10.6	+1.8
MT03				IAML		11 18 11.9	
	comp=Z,305nm,0.2s						
MT05	**Renca**	**2.24**	**210**	*eP*	Pn	11 17 41.4	+0.7
MT05				*eS*	Sn	11 18 10.8	+2.1
MT05				IAML		11 18 12.6	
	comp=Z,187nm,0.4s						
MT02	**Curacav**	**2.33**	**219**	*eP*	Pn	11 17 41.3	-0.4
MT02				*eS*	Sn	11 18 10.7	+0.1
MT02				IAML		11 18 11.4	
	comp=Z,92nm,0.2s						
ACHE	**Chepes**	**2.35**	**83**	*eP*	Pn	11 17 43.3	+1.1
ACHE				*eS*	Sn	11 18 12.3	+0.9
MT13	**San Alfonso**	**2.40**	**198**	*eP*	Pn	11 17 44.1	+1.3
MT13				*eS*	Sn	11 18 15.4	+2.9
MT13				IAML		11 18 22.7	
	comp=Z,68nm,0.2s						
VA01	**Torpederas**	**2.47**	**230**	*eP*	Pn	11 17 42.4	-1.1
VA01				IAML		11 18 20.0	
	comp=Z,55nm,0.2s						
LMEL	**Las Melosas**	**2.48**	**196**	*eP*	Pn	11 17 45.1	+1.3
LMEL				*eS*	Sn	11 18 19.4	+5.1
APLL	**PUNTA DE LOS L**	**2.68**	**67**	*eP*	Pn	11 17 47.1	+0.9
APLL				*eS*	Sn	11 18 19.7	+1.0
LCO	**Las Campanas**	**2.69**	**335**	*eP*	Pn	11 17 37.9	-8.7
LCO				*eS*	Sn	11 18 19.8	+0.4
MT01	**Popeta**	**2.87**	**213**	*eP*	Pn	11 17 47.8	-0.9
MT01				*eS*	Sn	11 18 21.9	-1.1
MT01				IAML		11 18 23.1	
	comp=Z,52nm,0.1s						
VCA	**Vinchina**	**2.90**	**21**	*eP*	Pn	11 17 50.8	+1.5
VCA				*eS*	Sn	11 18 27.6	+3.5
VCA				IAML		11 18 32.7	
	comp=Z,149nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.92**	**47**	*eP*	Pn	11 17 50.5	+0.9
ACLC				*eS*	Sn	11 18 26.9	+2.3
ACLC				IAML		11 18 55.4	
	comp=Z,53nm,0.6s						
BO01	**Tunca**	**3.25**	**206**	*eP*	Pn	11 17 52.8	-0.9
BO01				*eS*	Sn	11 18 31.7	-0.4
BO01				IAML		11 18 32.9	
	comp=Z,50nm,0.5s						
RFA	**San Rafael**	**3.39**	**167**	*eP*	Pn	11 17 55.7	0.0
RFA				*eS*	Sn	11 18 35.2	-0.3
RFA				IAML		11 18 37.8	
	comp=Z,30nm,0.5s						
BO02	**Sierra Bellavi**	**3.52**	**199**	*eP*	Pn	11 17 57.4	0.0
BO02				IAML		11 18 41.4	
	comp=Z,79nm,0.1s						
BO02				*eS*	Sn	11 18 41.4	+2.8
TCA	**Tanti**	**4.10**	**90**	*eP*	Pn	11 18 05.6	+0.5
TCA				*eS*	Sn	11 18 51.8	-0.6
TCA				IAML		11 19 28.4	
	comp=Z,35nm,1.0s						

IDC 13 11:17:17.2±3.8, 19°.13N×121°.28E, h0km, mb3.3/4, mbtmp3.3/4, MS3.7/1, Error ellipse: s-maj=357.0km s-min=24.3km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**37.24**	**173**	LR	LR	11 42 13.9	
	comp=Z,123nm,20.5s,baz=61,slow=40						
WRA	**Warramunga Arr**	**40.88**	**161**	P	P	11 25 00.4	-0.8
	0.2nm,0.5s,baz=341,slow=8.4,SNR=1.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**42.14**	**320**	P	P	11 25 11.3	0.0
	0.2nm,0.6s,baz=106,slow=9.5,SNR=2.0						
	0.2nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**42.89**	**83**	T	T	12 11 00.3	
	baz=285						
H11S1	**WAKE ISLAND Hy**	**42.90**	**83**	T	T	12 11 00.3	
	baz=285						
H11S2	**WAKE ISLAND Hy**	**42.91**	**83**	T	T	12 11 05.3	
	baz=285						
H11N1	**WAKE ISLAND Hy**	**42.92**	**81**	T	T	12 10 54.2	
	baz=278,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**42.92**	**81**	T	T	12 10 54.7	
	baz=278,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**42.94**	**81**	T	T	12 10 55.7	
	baz=278,slow=75,SNR=6.7						
ASAR	**Alice Springs**	**44.28**	**163**	P	P	11 25 29.2	+0.4
	0.1nm,0.4s,baz=345,slow=8.4,SNR=4.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**46.11**	**323**	P	P	11 25 42.9	-0.2
	0.5nm,0.6s,baz=114,slow=8.0,SNR=4.1						
	0.5nm,0.6s						

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*SFS **13** 11:25:56.3, 34°.97N×4°.49W, h0km, ML2.8/8, ML2.4/10, MLv2.3/10*
*CNRM **13** 11:25:58.3, 34°.97N×4°.52W, h31km, ML2.9*
*MDD **13** 11:25:58.7±0.5, 34°.91N×4°.32W, h0km, mb_Lg2.7/7, Error ellipse: s-maj=4.6km s-min=4.5km az=151.0*
ISC 13 11:25:55.4±1.2, 34°.99N±0°.02×4°.54W±0°.02, h8km±10km, n52, σ1s75/65, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.54**	**65**	P	**Pb**	**11 26 08.0**	**+0.9**
PALE	**Palemas**	**0.54**	**65**	S	**Sn**	**11 26 18.0**	**-0.6**
CHEFC	**Chefchaouen**	**0.67**	**280**	P	**Pn**	**11 26 11.9**	**+0.7**
CHEFC	**Chefchaouen**	**0.67**	**280**	S	**Sn**	**11 26 22.2**	**+0.2**
AKLM	**AKL**	**0.73**	**131**	P	**Pg**	**11 26 10.0**	**+0.5**
AKLM	**AKL**	**0.73**	**131**	S	**Sg**	**11 26 19.3**	**+0.4**
SMIR	**Smir Dam**	**0.98**	**315**	P	**Pn**	**11 26 16.2**	**+0.8**
SMIR	**Smir Dam**	**0.98**	**315**	S	**Sn**	**11 26 30.8**	**+1.4**
CEU	**Ceuta**	**1.14**	**323**	Pg	**Pg**	**11 26 17.0**	**-0.3**
ECEU	**Ceuta**	**1.14**	**323**	Pg	**Pn**	**11 26 17.8**	**+0.2**
ECEU				Sg	**Sb**	**11 26 32.6**	**+0.3**
ECEU	**Ceuta**	**1.14**	**323**	Pn	**Pn**	**11 26 22.3**	**+4.7**
ECEU				*i* Vmb_Lg		11 26 46.1	
GOG	**Mont Gurugu**	**1.28**	**79**	P	**Pn**	**11 26 19.9**	**+0.3**
GOG	**Mont Gurugu**	**1.28**	**79**	S	**Sg**	**11 26 36.7**	**0.0**
LCRM	**LCR**	**1.33**	**192**	P	**Pg**	**11 26 21.5**	**+0.7**
LCRM	**LCR**	**1.33**	**192**	S	**Sn**	**11 26 40.4**	**+2.2**
WMELI	**Melilla**	**1.34**	**75**	Pg	**Pn**	**11 26 19.8**	**-0.5**
WMELI				Sg	**Sb**	**11 26 36.4**	**-1.6**
IFR	**Ifrane**	**1.55**	**199**	Pn	**Pn**	**11 26 24.0**	**+0.6**
IFR				Sn	**Sn**	**11 26 43.0**	**-0.7**
EALB	**Alboran**	**1.55**	**52**	Pg	**Pn**	**11 26 23.3**	**+0.1**
EALB	**Alboran**	**1.55**	**52**	Sn	**Sn**	**11 26 42.9**	**-0.6**
EJIF	**Jimena Fronter**	**1.65**	**333**	Pn	**Pg**	**11 26 29.8**	**+2.8**
CHAS	**Isla Isabel II**	**1.74**	**83**	Pn	**Pb**	**11 26 27.3**	**-0.2**
JBK	**JBK**	**1.75**	**111**	P	**Pn**	**11 26 25.8**	**-0.3**
JBK	**JBK**	**1.75**	**111**	S	**Sn**	**11 26 45.9**	**-2.7**
TAF	**Taforalt**	**1.75**	**95**	P	**Pn**	**11 26 26.6**	**+0.5**
TAF	**Taforalt**	**1.75**	**95**	S	**Sn**	**11 26 48.4**	**-0.2**
EMAL	**Malaga-Limoner**	**1.77**	**3**	Sn	**Sn**	**11 26 48.3**	**-0.7**
EMAL				Pn	**Pb**	**11 26 27.9**	**-0.2**
ELGU	**Los Guajares,**	**2.02**	**21**	Pn	**Pn**	**11 26 30.4**	**+0.7**
ELGU				Sn	**Sn**	**11 26 56.4**	**+1.2**
ELGU	**Los Guajares,**	**2.02**	**21**	Pn	**Pb**	**11 26 31.5**	**-0.8**
ELGU				Sn	**Sb**	**11 26 57.4**	**-0.2**
ELGU				*i* Vmb_Lg		11 27 06.5	
MD31	**MD31**	**2.12**	**185**	P	**Pn**	**11 26 32.0**	**+0.8**
MD31	**MD31**	**2.12**	**185**	S	**Sn**	**11 26 57.8**	**0.0**
EGOR	**Sierra Gorda,**	**2.15**	**9**	Pn	**Pb**	**11 26 33.9**	**-0.7**
EGOR	**Sierra Gorda,**	**2.15**	**9**	Pn	**Pb**	**11 26 34.4**	**-0.2**
EGOR				Sn	**Sg**	**11 27 03.4**	**-1.0**
MDT	**Midelt**	**2.17**	**182**	P	**Pn**	**11 26 32.9**	**+1.1**
MDT	**Midelt**	**2.17**	**182**	S	**Sn**	**11 26 59.5**	**+0.6**
ZHG	**ZHG**	**2.33**	**229**	P	**Pn**	**11 26 36.0**	**+2.0**
ZHG	**ZHG**	**2.33**	**229**	S	**Sb**	**11 27 06.8**	**+0.3**
EBER	**Berja**	**2.33**	**35**	Pn	**Pn**	**11 26 36.0**	**+1.9**
EQTA	**Presa de Quent**	**2.38**	**21**	Pn	**Pn**	**11 26 36.4**	**+1.6**
EQES	**Quesada**	**3.05**	**22**	Pn	**Pb**	**11 26 49.0**	**-0.9**
EQES				Sn	**Sn**	**11 27 23.7**	**+3.1**
EQES				*i* Vmb_Lg		11 27 24.1	
ECAB	**El Cabril**	**3.16**	**347**	Pn	**Pb**	**11 26 49.9**	**-2.0**
ECAB				Sn	**Sb**	**11 27 27.2**	**-3.3**
ECAB				*i* Vmb_Lg		11 28 16.1	
EADA	**Adamuz**	**3.17**	**359**	Pn	**Pn**	**11 26 48.8**	**+3.2**
EADA				Sn	**Sb**	**11 27 29.3**	**-1.6**
EADA				*i* Vmb_Lg		11 29 09.2	
EMIN	**Mina Concepcio**	**3.27**	**329**	Pn	**Pb**	**11 26 51.4**	**-2.2**
EMIN				*i* Vmb_Lg		11 26 57.4	
EMIN				Sn	**Sb**	**11 27 31.9**	**-1.6**
EGRO	**El Granado**	**3.48**	**318**	Pn	**Pb**	**11 26 53.7**	**-3.5**
EGRO				*i* Vmb_Lg		11 27 00.5	
EGRO				Sn	**Sb**	**11 27 37.8**	**-1.9**
PBDV	**Barranco-do-Ve**	**3.55**	**310**	*eP*	**Pb**	**11 26 55.9**	**-2.6**
PBAR	**Barrancos**	**3.77**	**328**	*eP*	**Pb**	**11 27 00.0**	**-2.0**
PBAR				*eS*	**Sn**	**11 27 39.7**	**+1.5**
PBAR				IAML		11 27 50.3	
PCVE	**Castro Verde**	**3.87**	**314**	*eP*	**Pb**	**11 27 00.7**	**-3.1**
PFVI	**Vila Bisbo**	**4.08**	**303**	*eP*	**Pb**	**11 27 05.1**	**-2.4**
MESJ	**Messejana**	**4.12**	**315**	*eP*	**Pb**	**11 27 03.8**	**-4.3**
OUZM	**OUZ**	**4.48**	**205**	P	**Pn**	**11 27 05.4**	**+1.8**
OUZM	**OUZ**	**4.48**	**205**	S	**Sn**	**11 27 57.8**	**+1.9**
OUK	**Oukaimeden**	**4.69**	**217**	P	**Pn**	**11 27 08.1**	**+1.3**
OUK	**Oukaimeden**	**4.69**	**217**	S	**Sn**	**11 28 01.9**	**+0.4**

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*IDC **13** 11:30:13.4±1.0, 18°.28S×177°.90W, h635km±10km, mb3.3/14, mbtmp4.3/16, Error ellipse: s-maj=17.1km s-min=11.8km az=147.0*
*NEIC **13** 11:30:13.1±0.3, 18°.0S±0°.1×177°.7W±0°.2, h642km±17km, mb4.2/18, Error ellipse: s-maj=26.9km s-min=13.4km az=119.0*
ISC 13 11:30:14.2±0.5, 18°.1S±0°.1×177°.92W±0°.09, h650km, n48, σ1s12/51, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.77**	**357**	P	**P**	**11 31 39.4**	**-2.6**
MSVF	**Nonsavu**	**3.85**	**275**	P	**P**	**11 31 41.1**	**-1.5**
	136nm,0.7s,baz=137,slow=4.3,SNR=112						
MSVF				S	**S**	**11 32 52.4**	**-2.1**
	5.6nm,0.7s,baz=152,slow=22,SNR=6.1						
AFI	**Afiamalu**	**7.22**	**56**	P	**P**	**11 32 04.8**	**-3.8**
DZM	**Mont Dzumac**	**15.21**	**252**	P	**P**	**11 33 21.8**	**-0.7**
	2.6nm,0.7s,baz=328,slow=22,SNR=1.8						
URZ	**Urewera**	**20.56**	**191**	P	**P**	**11 34 07.2**	**-3.4**
	2.4nm,0.5s,baz=335,slow=3.2,SNR=6.5						
	2.4nm,0.5s						
EIDS	**Eidsvold**	**29.64**	**250**	P	**P**	**11 35 30.6**	**+0.2**
EIDS				IAmb	IAmb	11 35 39.4	
	comp=Z,11nm,1.3s						
ARMA	**Armidale**	**30.25**	**240**	P	**P**	**11 35 36.6**	**+0.9**
CAN	**Canberra**	**33.96**	**233**	P	**P**	**11 36 07.2**	**+0.4**
TOO	**Toolangi**	**37.42**	**231**	P	**P**	**11 36 35.4**	**+0.5**
TOO				IAmb	IAmb	11 36 44.6	
	comp=Z,3.5nm,1.2s						
STKA	**Stephens Creek**	**38.95**	**241**	P	**P**	**11 36 47.6**	**+0.3**
STKA	**Stephens Creek**	**38.95**	**241**	P	**P**	**11 36 47.4**	**0.0**
	comp=Z,1.9nm,0.3s,baz=93,slow=9.3,SNR=7.1						
	comp=Z,1.9nm,0.3s						
MCQ	**Macquarie Isla**	**40.45**	**201**	P	**P**	**11 36 59.4**	**+0.6**
BBOO	**Buckleboo**	**43.73**	**241**	P	**P**	**11 37 25.1**	**+0.4**
BBOO				IAmb	IAmb	11 37 25.4	
	comp=Z,9.8nm,0.9s						
WR0	**Warramunga Arr**	**44.87**	**260**	P	**P**	**11 37 33.9**	**+0.3**
WB0	**Warramunga Arr**	**45.02**	**260**		**P**	**11 37 34.9**	**0.0**
WB0				IAmb	IAmb	11 37 35.3	
	comp=Z,5.0nm,0.4s						
WB2	**Warramunga Arr**	**45.05**	**260**		**P**	**11 37 35.1**	**+0.1**
WB2				IAmb	IAmb	11 37 36.1	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**45.05**	**260**	P	**P**	**11 37 34.9**	**-0.1**
WRAB				IAmb	IAmb	11 37 35.4	
	comp=Z,4.5nm,0.6s						
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**11 37 35.1**	**0.0**
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**11 37 35.1**	**0.0**
	comp=Z,3.1nm,0.4s,baz=97,slow=7.5,SNR=132						
WRA				PcP	**PcP**	**11 39 01.9**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=93,slow=3.7,SNR=5.1						
	comp=Z,3.1nm,0.4s						
AS31	**Alice Springs**	**45.19**	**254**	P	**P**	**11 37 36.4**	**+0.3**
ASAR	**Alice Springs**	**45.19**	**254**	P	**P**	**11 37 36.0**	**-0.1**
ASAR	**Alice Springs**	**45.19**	**254**	P	**P**	**11 37 36.3**	**+0.2**
	comp=Z,8.8nm,0.6s,baz=92,slow=7.6,SNR=234						
ASAR				PcP	**PcP**	**11 39 02.5**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=103,slow=4.0,SNR=12						
ASAR				S	**S**	**11 43 31.1**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=90,slow=15,SNR=8.6						
	comp=Z,8.8nm,0.6s						
FORT	**Forrest**	**50.35**	**245**	P	**P**	**11 38 13.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.46**	**261**	P	**P**	**11 38 36.5**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=70,slow=5.4,SNR=12						
	comp=Z,1.3nm,0.4s						
PSA00	**Pilbara Seismi**	**58.31**	**255**	P	**P**	**11 39 09.6**	**-0.1**
MBWA	**Marble Bar**	**58.48**	**256**	P	**P**	**11 39 11.1**	**+0.3**
MBWA				IAmb	IAmb	11 39 27.8	
	comp=Z,24nm,1.4s						
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	**11 40 34.4**	**+0.5**
QSPA				IAmb	IAmb	11 40 35.4	
	comp=Z,7.8nm,0.9s						
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	**11 40 33.8**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=23,slow=1.1,SNR=46						
	comp=Z,4.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**11 41 15.6**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=215,slow=7.7,SNR=4.2						
	comp=Z,0.8nm,0.5s						
BELA	**Belgrano 2**	**81.92**	**173**	P	**P**	**11 41 27.3**	**0.0**
BELA				IAmb	IAmb	11 41 27.6	
	comp=Z,3.7nm,0.7s						
SEY	**Seymchan**	**84.06**	**347**	P	**P**	**11 41 38.3**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=178,slow=4.8,SNR=4.4						
	comp=

SANI Sanana 4.40 122 P **Pn 11 37 13.7 -0.5**
SPSI Sidrap Palu 4.90 210 P **Pn 11 37 22.7 +1.9**
SMKI Samarinda 5.09 262 P **Pn 11 37 24.8 +1.5**
TNTI Ternate 5.14 85 Pn **Pn 11 37 24.9 +1.0**
TNTI Ternate 5.14 85 P **Pn 11 37 24.9 +1.0**
TNTI Ternate 5.14 85 S **Sn 11 38 23.1 +0.5**
TNTI Ternate 5.14 85 P **Pn 11 37 25.0 +1.1**
0.4nm1μm121nm,0.8s
KAPI Kappang 5.83 205 P **Pn 11 37 35.4 +2.3**
22nm,0.5s,baz=16,slow=5.1,SNR=8.0
BKSI Bulukumba 5.97 201 P **Pn 11 37 37.4 +2.4**
NLAI Namlea 5.98 126 P **Pn 11 37 37.1 +1.9**
45nm,0.8s
MYLDM Lahad Datu 6.13 322 **Pn 11 37 36.0 -1.1**
MYLDM Lahad Datu 6.13 322 P Pn 11 37 42.7 +5.6
KKM Kota Kinabalu 8.30 314 Pn **Pn 11 38 04.2 -2.0**
KKM Kota Kinabalu 8.30 314 P **Pn 11 38 10.2 +4.0**
SWI Sorong 9.08 97 P **Pn 11 38 17.8 +1.3**
SBUM Sibu 10.25 282 Pn **Pn 11 38 30.9 -1.1**
FAKI Fak Fak 10.49 108 Pn **Pn 11 38 34.8 -0.5**
FAKI Fak Fak 10.49 108 P **Pn 11 38 35.3 +0.1**
DRS Darwin Rock St 15.28 146 P **Pn 11 39 37.9 +1.3**
MTN Manton Dam 15.75 146 P **Pn 11 39 43.3 +0.9**
MTN Manton Dam 15.75 146 P **Pn 11 39 43.8 +1.4**
KDU Kakadu 16.41 142 P **P 11 39 50.4 -0.1**
KNRA Kununurra 17.12 158 P **P 11 39 59.2 +0.8**
KNRA IAmb IAmb 11 40 01.4
comp=Z,31nm,0.9s
FITZ Fitzroy Crossi 18.58 170 P **P 11 40 14.7 +0.4**
FITZ IAmb IAmb 11 40 15.3
comp=Z,9.7nm,0.6s
FITZ Fitzroy Crossi 18.58 170 P **P 11 40 14.5 +0.2**
comp=Z,46nm,0.5s,baz=3.8,slow=7.9,SNR=213
MBWA Marble Bar 21.46 186 P **P 11 40 44.7 -0.7**
MBWA IAmb IAmb 11 40 45.5
comp=Z,12nm,0.5s
MBWA Marble Bar 21.46 186 P **P 11 40 45.0 -0.3**
PSA00 Pilbara Seismi 21.86 186 P **P 11 40 48.5 -1.0**
PSA00 IAmb IAmb 11 40 49.4
comp=Z,38nm,1.3s
PSA00 Pilbara Seismi 21.86 186 P **P 11 40 48.5 -1.0**
KULM Kulim 22.13 283 P **P 11 40 50.8 -1.6**
TPUB Ta-pu 22.92 356 P **P 11 41 01.5 +1.7**
WB0 Warramunga Arr 23.22 150 P **P 11 41 01.7 -0.9**
WRAB Tennant Creek 23.34 150 P **P 11 41 02.9 -0.8**
WRAB IAmb IAmb 11 41 04.2
comp=Z,19nm,0.8s
WRA Warramunga Arr 23.34 150 P **P 11 41 02.2 -1.5**
WRA Warramunga Arr 23.34 150 P **P 11 41 02.4 -1.3**
comp=Z,14nm,0.6s,baz=328,slow=10,SNR=122
WRA PcP **PcP 11 44 44.6 -1.8**
comp=Z,0.4nm,0.4s,baz=317,slow=2.9,SNR=3.1
comp=Z,14nm,0.6s
WB2 Warramunga Arr 23.35 150 P **P 11 41 02.8 -0.9**
WB2 IAmb IAmb 11 41 04.2
comp=Z,21nm,0.8s
WR0 Warramunga Arr 23.46 150 P **P 11 41 03.7 -1.0**
GIRL Giralia 24.10 198 P **P 11 41 10.1 -0.4**
GIRL Giralia 24.10 198 P **P 11 41 10.3 -0.2**
COEN Coen 25.10 125 P **P 11 41 20.3 +0.6**
COEN Coen 25.10 125 P **P 11 41 20.6 +0.9**
WRKA Warakurna 25.85 167 P **P 11 41 25.9 -0.5**
AS31 Alice Springs 26.37 155 P **P 11 41 30.6 -0.5**
AS31 IAmb IAmb 11 41 31.7
comp=Z,3.2nm,0.5s
ASAR Alice Springs 26.37 155 P **P 11 41 30.5 -0.6**
ASAR Alice Springs 26.37 155 P **P 11 41 30.3 -0.8**
comp=Z,5.3nm,0.6s,baz=344,slow=14,SNR=144
ASAR PcP **PcP 11 44 51.6 -1.5**
comp=Z,1.1nm,0.3s,baz=335,slow=2.7,SNR=8.7
ASAR ScP **ScP 11 48 14.6 -4.6**
comp=Z,0.5nm,0.5s,baz=338,slow=2.6,SNR=12
comp=Z,5.3nm,0.6s
AS01 Alice Springs 26.39 155 P **P 11 41 30.8 -0.5**
QIS Mount Isa 26.79 142 P **P 11 41 34.4 -0.5**
MEEK Meekatharra 27.00 187 P **P 11 41 35.6 -1.1**
CMAR Chiang Mai Arr 29.15 310 P **P 11 41 55.7 -0.2**
comp=Z,0.7nm,0.3s,baz=119,slow=9.5,SNR=1.2
CMAR ScP **ScP 11 48 24.1 -3.7**
comp=Z,0.2nm,0.3s,baz=114,slow=3.9,SNR=4.5
comp=Z,0.7nm,0.3s
MORW Morawa 29.79 191 P **P 11 42 00.5 -0.9**
MORW IAmb IAmb 11 42 01.1
comp=Z,13nm,0.9s
OOD Oodnadatta 30.76 156 P **P 11 42 09.4 -0.6**
BLDU Ballidu 31.19 189 P **P 11 42 12.3 -1.4**
FORT Forrest 31.39 170 P **P 11 42 15.0 -0.5**
FORT Forrest 31.39 170 P **P 11 42 14.5 -0.9**
KMBL Kambalda 31.49 181 P **P 11 42 15.4 -0.9**
NJ2 Nanjing 31.75 355 *eP* **P 11 42 19.5 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 32.70 324 P **P 11 42 28.8 +1.7**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
INKA Innaminka 33.05 149 P **P 11 42 30.3 +0.3**
NWAO Narrogin (SRO) 33.38 188 P **P 11 42 32.4 -0.4**
QLP Quilpie 34.10 143 P **P 11 42 39.5 +0.4**
LCRK Leigh Creek 34.14 155 P **P 11 42 39.0 -0.4**
BBOO Buckleboo 35.41 160 P **P 11 42 49.7 -0.6**
BBOO IAmb IAmb 11 42 50.6
comp=Z,8.6nm,0.7s
BBOO Buckleboo 35.41 160 P **P 11 42 49.3 -1.0**
RK1H Rockhampton Ha 36.16 133 P **P 11 42 57.8 +1.0**
STKA Stephens Creek 36.87 152 P **P 11 43 02.5 -0.1**
STKA Stephens Creek 36.87 152 P **P 11 43 02.4 -0.2**
comp=Z,12nm,0.4s,baz=321,slow=8.1,SNR=38
comp=Z,12nm,0.4s
STKA Stephens Creek 36.87 152 P **P 11 43 02.5 -0.1**
HTT Hallett 37.03 157 P **P 11 43 04.1 0.0**
CMSA Cobar Meteorol 38.67 147 P **P 11 43 18.1 +0.3**
ARPS Mount Arapiles 41.11 156 P **P 11 43 38.1 +0.2**
ARMA Armidale 41.40 140 P **P 11 43 41.5 +1.0**
ARMA IAmb IAmb 11 43 41.9
comp=Z,6.9nm,0.8s
HHC Hu-ho-hao-te 41.52 348 *eP* **P 11 43 42.6 +1.3**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.1s
CAN Canberra 43.34 148 P **P 11 43 56.4 +0.4**
CAN IAmb IAmb 11 43 57.5
comp=Z,12nm,0.5s
CAN Canberra 43.34 148 P **P 11 43 56.9 +0.9**
TOO Toolangi 43.37 153 P **P 11 43 56.7 +0.5**
CNB Canberra Magne 43.53 147 P **P 11 43 58.7 +1.1**
XLT XiLinHaoTe 43.76 354 *eP* **P 11 44 02.9 +3.6**
XLT sP sP 11 45 02.6 +13
XLT pmax pmax
comp=Z,9.0nm,0.8s
ERM Erimo 45.61 22 P **P 11 44 11.8 -2.0**
ERM IAmb IAmb 11 44 39.4
comp=Z,29nm,1.3s
SONM Songino Array 49.32 346 P **P 11 44 42.1 -0.5**
comp=Z,1.1nm,0.8s,baz=167,slow=10,SNR=5.2
SONM pP **pP 11 45 18.4 +1.7**
comp=Z,0.7nm,0.7s,baz=170,slow=8.1,SNR=3.3
comp=Z,1.1nm,0.8s
MK31 Makanchi Array 57.97 329 P **P 11 45 45.5 +0.1**
MKAR Makanchi Array 57.97 329 P **P 11 45 45.0 -0.5**
MKAR Makanchi Array 57.97 329 P **P 11 45 45.1 -0.3**
comp=Z,1.1nm,0.3s,baz=128,slow=8.4,SNR=12
MKAR pP **pP 11 46 22.8 +1.9**
comp=Z,0.7nm,0.6s,baz=123,slow=9.0,SNR=3.6
comp=Z,1.1nm,0.3s
MAKZ Makanchi 58.15 328 P **P 11 45 46.7 +0.1**
KURBB Kurchatov Arra 62.34 330 P **P 11 46 14.2 -0.9**
comp=Z,0.8nm,0.8s,baz=171,slow=1.1,SNR=8.5
KURBB pP **pP 11 46 52.1 +1.1**
comp=Z,1.2nm,0.9s,baz=123,slow=6.1,SNR=5.1
comp=Z,0.8nm,0.8s
KURK Kurchatov 62.35 330 P **P 11 46 14.1 -1.0**
KURK IAmb IAmb 11 46 16.1
comp=Z,2.1nm,0.6s
BKZ Black Stump Fm 63.19 135 P **P 11 46 20.4 -0.6**
BKZ IAmb IAmb 11 46 28.0
comp=Z,9.9nm,1.5s
VNDA Vanda 80.64 172 P **P 11 48 03.4 -0.8**
VNDA Vanda 80.64 172 P **P 11 48 03.2 -1.0**
comp=Z,0.7nm,0.5s,baz=333,slow=4.5,SNR=2.1
comp=Z,0.7nm,0.5s
QSPA South Pole Qui 90.22 180 P **P 11 48 50.5 -1.5**
comp=Z,1.2nm,0.9s,baz=324,slow=1.9,SNR=5.3
comp=Z,1.2nm,0.9s

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*NEIC **13** 11:45:34.5±0.8, 10°.7S±0°.1×166°.6E±0°.1, h41km±8km, mb4.7/41, Error ellipse: s-maj=15.8km s-min=14.5km az=205.0*
*IDC **13** 11:45:34.3±3.6, 10°.95S×166°.74E, h55km±32km, mb3.8/14, mbtmp4.1/16, ML4.2/2, MS3.9/25, Error ellipse: s-maj=22.8km s-min=18.7km az=97.0*
ISC 13 11:45:34.4±0.5, 10°.86S±0°.07×166°.68E±0°.10, h50km, n87, σ0°.85/58, mb4.6/33, MS4.0/22, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.78**	**282**	Pn	**Pn**	**11 47 09.5**	**-1.7**
HNR	**Honiara**	**6.78**	**282**	P	**Pn**	**11 47 13.2**	**+1.9**
8.3nm,0.3s,baz=184,slow=18,SNR=4.5							
HNR				LR	LR	11 49 57.5	
comp=Z,2μm,19.3s,baz=116,slow=38							
128nm,0.9s							
DZM	**Mont Dzumac**	**11.15**	**181**	Pn	**Pn**	**11 48 11.7**	**+0.5**
DZM	**Mont Dzumac**	**11.15**	**181**	P	**Pn**	**11 48 09.7**	**-1.5**
0.8nm,0.3s,baz=232,slow=18,SNR=7.9							
DZM				S	**Sn**	**11 50 12.6**	**-1.9**
4.2nm,1.0s,baz=129,slow=17,SNR=1.7							
3.0nm,0.6s							
ONTNC	**Ouen Toro**	**11.38**	**181**	Pn	**Pn**	**11 48 16.0**	**+1.7**
PINNC	**Pines Island,**	**11.71**	**176**	Pn	**Pn**	**11 48 20.4**	**+1.6**
MSVF	**Nonsavu**	**12.96**	**123**	LR	LR	11 52 27.1	
comp=Z,390nm,20.4s,baz=305,slow=32							
PMG	**Port Moresby**	**19.27**	**273**	LR	LR	11 57 24.5	
comp=Z,649nm,18.6s,baz=110,slow=37							
EIDS	**Eidsvold**	**20.65**	**224**	P	Pn	11 50 12.3	-0.4
EIDS				IAmb	IAmb	11 50 19.1	
comp=Z,25nm,0.8s							
ARMA	**Armidale**	**23.96**	**214**	P	**P**	**11 50 45.8**	**+1.5**
ARMA				IAmb	IAmb	11 50 53.5	
comp=Z,24nm,1.3s							
H11S2	**WAKE ISLAND Hy**	**29.17**	**0**	T	T	12 22 06.4	
baz=181,slow=76,SNR=22							
H11S3	**WAKE ISLAND Hy**	**29.17**	**0**	T	T	12 22 06.8	
baz=181,slow=76,SNR=22							
CAN	**Canberra**	**29.17**	**211**	P	**P**	**11 51 32.5**	**+1.4**
CAN				IAmb	IAmb	11 51 54.4	
comp=Z,24nm,1.2s							
H11S1	**WAKE ISLAND Hy**	**29.19**	**0**	T	T	12 22 07.8	
baz=181,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hy**	**30.39**	**0**	T	T	12 23 37.9	
baz=182,slow=76,SNR=7.7							
H11N3	**WAKE ISLAND Hy**	**30.39**	**0**	T	T	12 23 37.8	
baz=182,slow=76,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**30.40**	**0**	T	T	12 23 35.7	
baz=182,slow=76,SNR=6.8							
STKA	**Stephens Creek**	**31.20**	**224**	P	**P**	**11 51 48.4**	**-0.7**
STKA	**Stephens Creek**	**31.20**	**224**	P	**P**	**11 51 47.9**	**-1.2**
comp=Z,1.2nm,0.7s,baz=25,slow=8.9,SNR=9.8							
STKA				LR	LR	12 03 46.4	
comp=Z,304nm,19.2s,baz=34,slow=35							
comp=Z,1.2nm,0.7s							
WR0	**Warramunga Arr**	**32.22**	**250**	P	**P**	**11 51 58.5**	**+0.3**
WB0	**Warramunga Arr**	**32.32**	**250**	P	**P**	**11 51 59.2**	**+0.2**
WRAB	**Tennant Creek**	**32.39**	**250**	P	**P**	**11 51 59.9**	**+0.3**
WB2	**Warramunga Arr**	**32.39**	**250**	P	**P**	**11 51 59.7**	**+0.1**
WB2				IAmb	IAmb	11 52 09.8	
comp=Z,7.3nm,0.8s							
WRA	**Warramunga Arr**	**32.40**	**250**	P	**P**	**11 51 59.6**	**-0.1**
comp=Z,2.7nm,0.7s,baz=83,slow=9.1,SNR=16							
WRA				LR	LR	12 05 06.7	
comp=Z,288nm,18.4s,baz=78,slow=36							
comp=Z,2.7nm,0.7s							
TOO	**Toolangi**	**32.70**	**212**	P	**P**	**11 52 03.3**	**+1.1**
AS31	**Alice Springs**	**33.69**	**243**	P	**P**	**11 52 10.6**	**-0.4**
ASAR	**Alice Springs**	**33.69**	**243**	P	**P**	**11 52 10.2**	**-0.8**
ASAR	**Alice Springs**	**33.69**	**243**	P	**P**	**11 52 10.5**	**-0.5**
comp=Z,0.9nm,0.7s,baz=69,slow=9.5,SNR=24							
ASAR				PcP	**PcP**	**11 54 49.7**	**-0.4**
comp=Z,1.1nm,0.9s,baz=96,slow=3.0,SNR=6.3							
ASAR				LR	LR	12 05 10.7	
comp=Z,258nm,19.1s,baz=74,slow=35							
comp=Z,0.9nm,0.7s							
RAR	**Rarotonga**	**33.78**	**112**	P	**P**	**11 52 12.1**	**+0.4**
RAR	**Rarotonga**	**33.78**	**112**	LR	LR	12 02 45.3	
comp=Z,87nm,21.5s,baz=265,slow=31							
BBOO	**Buckleboo**	**35.62**	**227**	P	**P**	**11 52 28.3**	**+0.8**
KNRA	**Kununurra**	**37.17**	**258**	P	**P**	**11 52 41.6**	**+0.7**
KNRA				IAmb	IAmb	11 52 51.5	
comp=Z,14nm,1.1s							
FITZ	**Fitzroy Crossi**	**40.31**	**255**	P	**P**	**11 53 07.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**40.31**	**255**	LR	LR	12 08 46.7	
comp=Z,271nm,20.7s,baz=84,slow=34							
FORT	**Forrest**	**40.89**	**235**	P	**P**	**11 53 12.1**	**+0.2**
FORT				IAmb	IAmb	11 53 16.7	
comp=Z,23nm,1.1s							
PPT	**Papeete**	**42.85**	**104**	LR	LR	12 09 06.1	
comp=Z,100nm,19.3s,baz=304,slow=33							
MBWA	**Marble Bar**	**46.12**	**251**	P	**P**	**11 53 53.9**	**-0.2**
KAPI	**Kappang**	**46.79**	**273**	LR	LR	12 14 33.6	
comp=Z,81nm,18.1s,baz=117,slow=37							
NWAO	**Narrogin (SRO)**	**50.32**	**236**	P	**P**	**11 54 26.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**50.32**	**236**	LR	LR	12 15 50.9	
comp=Z,397nm,18.6s,baz=100,slow=36							
ASAJ	**Asahikawa**	**58.93**	**340**	LR	LR	12 19 11.1	
comp=Z,30nm,19.3s,baz=316,slow=34							
VNDA	**Vanda**	**66.69**	**181**	P	**P**	**11 56 19.2**	**-0.4**
comp=Z,1.7nm,1.1s,baz=332,slow=7.3,SNR=2.8							
comp=Z,1.7nm,1.1s							
KLR	**Kul'dur**	**67.26**	**336**	P	**P**	**11 56 23.7**	**+0.1**
comp=Z,1.0nm,0.6s,baz=140,slow=7.9,SNR=3.8							
comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**72.88**	**293**	P	**P**	**11 56 59.0**	**+0.2**
comp=Z,0.5nm,0.5s,baz=115,slow=4.5,SNR=8.3							
CMAR				LR	LR	12 30 13.4	
comp=Z,13nm,18.7s,baz=135,slow=37							
comp=Z,0.5nm,0.5s							
BILL	**Bilibino**	**78.70**	**360**		**P**	**11 57 31.0**	**+0.1**
BILL				IAmb	IAmb	11 57 39.8	
comp=Z,11nm,1.3s							
L19K	**White Mountain**	**78.73**	**17**	P	**P**	**11 57 31.8**	**+0.6**
L19K				IAmb	IAmb	11 57 33.1	
comp=Z,7.8nm,0.9s							
SONM	**Songino Array**	**79.06**	**323**	P	**P**	**11 57 32.2**	**-1.3**
comp=Z,0.9nm,0.8s,baz=131,slow=6.5,SNR=6.3							
comp=Z,0.9nm,0.8s							
QSPA	**South Pole Qui**	**79.14**	**180**	P	**P**	**11 57 33.8**	**+0.1**
QSPA	**South Pole Qui**	**79.14**	**180**	P	**P**	**11 57 32.2**	**-1.4**
comp=Z,2.1nm,1.0s,baz=282,slow=12,SNR=3.0							
comp=Z,2.1nm,1.0s							
BRDH	**Bariadhala**	**80.64**	**295**	LR	LR	12 35 55.8	
comp=Z,60nm,18.1s,baz=159,slow=37							
E19K	**Redstone River**	**82.34**	**13**	P	**P**	**11 57 50.0**	**-0.4**
WRH	**Wood River Hil**	**82.47**	**18**	P	**P**	**11 57 51.0**	**-0.1**
WRH				IAmb	IAmb	11 57 55.4	
comp=Z,12nm,1.4s							
C18K	**Utukok River**	**82.51**	**11**	P	**P**	**11 57 51.9**	**+0.5**
C18K				IAmb	IAmb	11 58 02.1	
comp=Z,6.7nm,1.3s							
HDA	**Harding Lake**	**82.78**	**18**	P	**P**	**11 57 52.9**	**+0.1**
HDA				IAmb	IAmb	11 57 53.8	
comp=Z,8.3nm,0.8s							
IL31		**83.05**	**18**	P	**P**	**11 57 54.6**	**+0.5**
IL31				IAmb	IAmb	11 57 55.2	
comp=Z,4.9nm,0.9s							
ILAR	**Eielson Array**	**83.05**	**18**	P	**P**	**11 57 53.8**	**-0.4**
comp=Z,3.1nm,0.8s,baz=228,slow=6.0,SNR=24							
comp=Z,3.1nm,0.8s							
YBH	**Yreka Blue Hor**	**83.12**	**45**	LR	LR	12 31 43.7	
comp=Z,61nm,18.9s,baz=330,slow=33							
J25K	**Salcha River,**	**83.42**	**19**	P	**P**	**11 57 56.6**	**+0.5**
J25K				IAmb	IAmb	11 57 57.3	
comp=Z,7.2nm,0.8s							
SCRK	**Sand Creek**	**83.44**	**20**	P	**P**	**11 57 57.1**	**+0.8**
BBB	**Bella Bella**	**83.92**	**34**	LR	LR	12 35 24.3	
comp=Z,88nm,18.3s,baz=220,slow=36							
K27K	**Chicken**	**84.11**	**20**	P	**P**	**11 58 00.7**	**+1.0**
K27K				IAmb	IAmb	11 58 17.4	
comp=Z,9.8nm,1.4s							
I26K	**Coal Creek Min**	**84.58**	**19**	P	**P**	**11 58 02.7**	**+0.7**
NVAR	**Mina Array Bea**	**85.21**	**50**	P	**P**	**11 58 05.8**	**-0.2**
comp=Z,2.1nm,0.8s,baz=228,slow=8.1,SNR=7.3							
NVAR				LR	LR	12 27 47.8	
comp=Z,77nm,21.6s,baz=251,slow=30							
comp=Z,2.1nm,0.8s							
PFO	**Pinyon Flats O**	**85.23**	**55**	LR	LR	12 28 13.1	
comp=Z,78nm,19.5s,baz=244,slow=30							
BMAR	**Burnt Mountain**	**85.57**	**17**	P	**P**	**11 58 07.6**	**+0.6**
E25K	**Arctic Village**	**85.76**	**16**	IAmb	IAmb	11 58 10.4	
comp=Z,9.7nm,1.4s							
TIXI	**Tiksi**	**86.09**	**349**	P	**P**	**11 58 09.6**	**+0.3**
E27K	**Coleen River**	**86.92**	**17**	IAmb	IAmb	11 58 16.2	
comp=Z,6.8nm,1.1s							
PALK	**Pallekele**	**87.43**	**278**	LR	LR	12 39 57.0	
comp=Z,42nm,20.3s,baz=84,slow=37							
D27M	**Malcolm River**	**87.77**	**16**	IAmb	IAmb	11 58 20.4	
comp=Z,4.5nm,0.9s							
G30M	**tAoh Zraii Nji**	**87.84**	**19**	IAmb	IAmb	11 58 19.2	
comp=Z,5.8nm,1.1s							
LPIG	**La Paz**	**88.10**	**65**	LR	LR	12 29 34.5	
comp=Z,37nm,21.0s,baz=326,slow=30							
ELK	**Elko**	**88.15**	**48**	LR	LR	12 34 21.9	
comp=Z,48nm,18.3s,baz=314,slow=33							
NEW	**Newport**	**89.01**	**40**	LR	LR	12 32 07.8	
comp=Z,48nm,18.4s,baz=352,slow=31							
U15A	**North Rim**	**89.27**	**53**	P	**P**	**11 58 25.7**	**-0.1**
BOZ	**Bozeman (W)**	**91.93**	**44**	IAmb	IAmb	11 58 48.1	
comp=Z,5.3nm,1.4s							
SYO	**Syowa Base**	**92.22**	**197⇑**	*eP*	**P**	**11 58 39.2**	**+0.7**
PDAR	**Pinedale Array**	**92.76**	**47**	P	**P**	**11 58 41.5**	**-0.3**
comp=Z,0.5nm,0.9s,baz=242,slow=3.2,SNR=3.7							
PDAR				LR	LR	12 38 15.0	
comp=Z,52nm,18.4s,baz=3.0,slow=34							
comp=Z,0.5nm,0.9s							
ANMO	**Albuquerque**	**93.59**	**55**	LR	LR	12 40 26.8	
comp=Z,40nm,18.1s,baz=84,slow=35							
A36M	**Sachs Harbour**	**93.66**	**17**	IAmb	IAmb	11 58 50.0	
comp=Z,3.4nm,0.9s							
ZALV	**Zalesovo Beam**	**93.94**	**324**	P	**P**	**11 58 47.0**	**+0.3**
comp=Z,0.6nm,0.6s,baz=101,slow=3.0,SNR=3.7							
comp=Z,0.6nm,0.6s							
MK31	**Makanchi Array**	**94.02**	**317**	P	**P**	**11 58 47.2**	**0.0**
MKAR	**Makanchi Array**	**94.02**	**317**	P	**P**	**11 58 47.8**	**+0.6**
comp=Z,0.9nm,0.7s,baz=96,slow=6.3,SNR=9.4							
comp=Z,0.9nm,0.7s							
YKA	**Yellowknife Ar**	**94.40**	**27**	P	**P**	**11 58 47.1**	**-1.4**
comp=Z,0.4nm,0.8s,baz=259,slow=5.0,SNR=6.8							
comp=Z,0.4nm,0.8s							
TXAR	**Lajitas Array**	**94.94**	**61**	LR	LR	12 34 07.5	
comp=Z,36nm,18.8s,baz=288,slow=31							
KEST	**Kesra**	**147.82**	**324**	PKPbc	**PKPdf**	**12 05 11.6**	**+0.1**
comp=Z,3.6nm,0.7s,baz=0.0,slow=4.0,SNR=3.6							
ESDC	**Sonseca Array**	**150.12**	**345**	PKPbc	**PKPbc**	**12 05 20.2**	**+0.1**
comp=Z,1.3nm,0.9s,baz=37,slow=3.7,SNR=4.7							

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*IDC **13** 11:53:18.9±1.0, 30°.53S×71°.82W, h0km, mb4.1/4, mbtmp3.8/9, ML3.8/5, MS3.3/3, Error ellipse: s-maj=26.0km s-min=22.1km az=95.0*
*SJA **13** 11:53:19.2±0.8, 30°.54S×71°.98W, h11km, ML4.0, MW3.7*
*NEIC **13** 11:53:24.4±1.2, 30°.58S±0°.03×71°.86W±0°.06, h35km±2km, mb4.2/7, Error ellipse: s-maj=9.9km s-min=3.1km az=63.0*
*GUC **13** 11:53:25.5±0.9, 30°.62S×71°.46W, h39km±2km, ML4.3*
ISC 13 11:53:24.7±0.7, 30°.56S±0°.03×71°.76W±0°.05, h41km±6km, n97, σ2°.26/119, mb4.2/7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.16**	**136**		**Pn**	**11 53 32.7**	**+0.8**
CO06					**Sn**	**11 53 37.8**	**+1.0**
CO06	**Fray Jorge**	**0.16**	**136⇑**	*iP*	**Pn**	**11 53 32.9**	**+1.0**
CO06				*i S*	**Sn**	**11 53 38.0**	**+1.2**
CO06				IAML		11 53 38.3	
comp=N,71μm,0.1s							
GO04	**Tololo Observa**	**0.92**	**65**		**Pn**	**11 53 41.4**	**+0.1**
GO04				Sn	**Sn**	**11 53 52.8**	**-0.7**
GO04	**Tololo Observa**	**0.92**	**65⇓**	*iP*	**Pn**	**11 53 41.1**	**-0.3**
GO04				*i S*	**Sn**	**11 53 51.8**	**-1.8**
GO04				IAML		11 53 54.2	
comp=E,42μm,0.4s							
GO04	**Tololo Observa**	**0.92**	**65**	*eP*	**Pn**	**11 53 40.4**	**-1.0**
GO04				IAML		11 53 59.8	
comp=Z,9μm,0.3s							
CO03	**El Pedregal**	**0.96**	**107**		**Pn**	**11 53 40.5**	**-1.4**
CO03	**El Pedregal**	**0.96**	**107⇓**	*iP*	**Pn**	**11 53 40.3**	**-1.6**
CO03				*i S*	**Sn**	**11 53 51.1**	**-3.3**
CO03				IAML		11 53 51.6	
comp=E,32μm,0.3s							
CO03	**El Pedregal**	**0.96**	**107**	*eP*	**Pn**	**11 53 40.3**	**-1.6**
CO03				IAML		11 53 58.9	
comp=Z,2μm,0.3s							
CO01	**Juntas del Tor**	**1.56**	**68**		**Pn**	**11 53 50.7**	**+0.6**
CO01	**Juntas del Tor**	**1.56**	**68⇓**	*iP*	**Pn**	**11 53 50.5**	**+0.4**
CO01				*eS*	**Sn**	**11 54 09.0**	**-0.3**
CO01				IAML		11 54 10.3	
comp=N,4μm,0.3s							
CO01	**Juntas del Tor**	**1.56**	**68**	*eP*	**Pn**	**11 53 50.0**	**-0.2**
CO01				*eS*	**Sn**	**11 54 06.9**	**-2.3**
CO01				IAML		11 54 10.1	
comp=Z,3μm,0.2s							
LCO	**Las Campanas**	**1.80**	**31**	Pn	**Pn**	**11 53 55.2**	**+1.8**
LCO	**Las Campanas**	**1.80**	**31**	*eP*	**Pn**	**11 53 55.1**	**+1.6**
LCO				*eS*	**Sn**	**11 54 17.3**	**+2.1**
LCO				IAML		11 54 21.7	
comp=Z,9μm,0.3s							
LCO	**Las Campanas**	**1.80**	**31**	*eP*	**Pn**	**11 53 54.4**	**+0.9**
LCO				*eS*	**Sn**	**11 54 19.3**	**+4.1**
LCO				IAML		11 54 23.1	
comp=Z,3μm,0.4s							
AROD	**Rodeo**	**2.02**	**79**	*eP*	**Pn**	**11 53 58.5**	**+1.9**
AROD				*eS*	**Sn**	**11 54 16.9**	**-3.8**
VA06	**Catapilco**	**2.03**	**169**	Pn	**Pn**	**11 53 55.8**	**-0.7**
VA06	**Catapilco**	**2.03**	**169⇑**	*iP*	**Pn**	**11 53 56.0**	**-0.4**
VA06				*i S*	**Sn**	**11 54 23.2**	**+2.6**
VA06				IAML		11 54 30.4	
comp=N,3μm,0.5s							
ACDV	**Cuesta del Vie**	**2.32**	**81**	*eP*	**Pn**	**11 54 02.7**	**+2.1**
ACDV				*eS*	**Sn**	**11 54 32.0**	**+4.1**
ACDV				IAML		11 54 40.2	
comp=Z,505nm,0.5s							
ACCO	**Cerro Coronel**	**2.33**	**91**	*eP*	**Pn**	**11 54 03.3**	**+2.5**
ACCO				*eS*	**Sn**	**11 54 34.5**	**+6.2**
AC04	**Llanos de Chal**	**2.42**	**15**	Pn	**Pn**	**11 54 03.6**	**+1.7**
AC04	**Llanos de Chal**	**2.42**	**15**	*eP*	**Pn**	**11 54 03.5**	**+1.7**
AC04				*eS*	**Sn**	**11 54 35.9**	**+5.7**
AC04				IAML		11 54 50.0	
comp=N,1μm,0.2s							
AC04	**Llanos de Chal**	**2.42**	**15**	*eP*	**Pn**	**11 54 02.9**	**+1.0**
AC04				*eS*	**Sn**	**11 54

MT03	**Universidad Ad**	**3.11 160**			**Pn**	**11 54 11.5**	**+0.1**
MT03	**Universidad Ad**	**3.11 160**		*e*P	**Pn**	**11 54 11.4**	**+0.1**
MT03				*e*S	**Sn**	**11 54 51.9**	**+4.5**
MT03				*e*S		11 54 54.4	
MT03				IAML		11 55 01.0	
	comp=Z,645nm,0.5s						
MT04	**Ro Olivares**	**3.15 154**		*e*P	**Pn**	**11 54 13.0**	**+0.9**
MT04				*e*S	**Sn**	**11 54 55.3**	**+6.7**
MT04				IAML		11 55 03.2	
	comp=Z,278nm,0.6s						
CFA	**Coronel Fontan**	**3.20 110**	Pn		**Pn**	**11 54 13.3**	**+0.8**
	comp=Z,31nm,0.3s,baz=289,slow=13,SNR=146						
CFA			Sn		**Sn**	**11 54 50.2**	**+0.8**
	comp=Z,24nm,0.3s,baz=326,slow=8.2,SNR=3.6						
	comp=Z,76nm,0.3s						
ASAL	**Salagasta**	**3.21 130**		*e*P	**Pn**	**11 54 14.9**	**+2.1**
ASAL				*e*S	**Sn**	**11 54 56.1**	**+6.2**
ASAL				IAML		11 55 00.7	
	comp=Z,276nm,1.4s						
MT08	**Bocatoma Ro**	**3.23 153**		*e*P	**Pn**	**11 54 14.8**	**+1.6**
MT08				*e*S	**Sn**	**11 54 55.4**	**+4.8**
MT08				IAML		11 55 04.6	
	comp=Z,357nm,0.7s						
MT09	**Talagante**	**3.27 169**			**Pn**	**11 54 13.6**	**0.0**
MT01	**Popeta**	**3.32 173**			**Pn**	**11 54 13.6**	**-0.6**
MT01	**Popeta**	**3.32 173**		*e*P	**Pn**	**11 54 13.9**	**-0.3**
MT01				*e*S	**Sn**	**11 54 55.9**	**+3.5**
MT01				IAML		11 55 06.5	
	comp=Z,314nm,0.2s						
MT13	**San Alfonso**	**3.41 159**			**Pn**	**11 54 15.9**	**+0.4**
MT13	**San Alfonso**	**3.41 159**		*e*P	**Pn**	**11 54 15.8**	**+0.3**
MT13				*e*S	**Sn**	**11 54 54.4**	**-0.4**
MT13				*e*S		11 55 00.7	
MT13				IAML		11 55 05.1	
	comp=Z,313nm,0.8s						
AC06	**Mina Casimiro**	**3.42 21**	Pn		**Pn**	**11 54 16.9**	**+1.3**
LMEL	**Las Melosas**	**3.53 158**			**Pn**	**11 54 17.2**	**0.0**
LMEL	**Las Melosas**	**3.53 158**		*e*P	**Pn**	**11 54 17.5**	**+0.3**
LMEL				*e*S	**Sn**	**11 55 02.9**	**+5.0**
LMEL				IAML		11 55 14.5	
	comp=Z,244nm,0.5s						
BO04	**La Punta**	**3.56 164**			**Pn**	**11 54 17.2**	**-0.2**
BO01	**Tunca**	**3.86 172**	Pn		**Pn**	**11 54 21.1**	**-0.6**
BO01	**Tunca**	**3.86 172**		*e*P	**Pn**	**11 54 21.0**	**-0.6**
BO01				*e*S	**Sn**	**11 55 10.4**	**+4.7**
BO01				IAML		11 55 25.4	
	comp=Z,128nm,0.5s						
BO02	**Sierra Bellavi**	**4.30 169**	Pn		**Pn**	**11 54 27.5**	**-0.2**
BO02	**Sierra Bellavi**	**4.30 169**		*e*P	**Pn**	**11 54 27.4**	**-0.2**
BO02				*e*S	**Sn**	**11 55 22.4**	**+5.8**
BO02				IAML		11 55 36.9	
	comp=Z,194nm,0.2s						
AC02	**Maricunga**	**4.37 33**	Pn		**Pn**	**11 54 29.5**	**+0.4**
AC02	**Maricunga**	**4.37 33**		*e*P	**Pn**	**11 54 30.9**	**+1.8**
AC02				IAML		11 55 43.7	
	comp=Z,167nm,0.3s						
AC01	**Pan de Azucar**	**4.51 13**	Pn		**Pn**	**11 54 30.7**	**+0.1**
AC01	**Pan de Azucar**	**4.51 13**		*e*P	**Pn**	**11 54 30.4**	**-0.2**
AC01				*e*S	Sn	11 55 33.9	+12
AC01				IAML		11 55 48.0	
	comp=Z,124nm,0.7s						
ML02	**Panimavida**	**5.20 177**			**Pn**	**11 54 38.7**	**-1.2**
BI02	**San Fabin de**	**6.10 176**			**Pn**	**11 54 51.8**	**-0.6**
BI05	**Punta Hualpn**	**6.29 191**	Pn		**Pn**	**11 54 52.8**	**-2.1**
H03N1	**Juan Fernandez**	**6.72 243**	T		T	12 01 59.3	
	baz=72,slow=72,SNR=1911						
H03N2	**Juan Fernandez**	**6.73 243**	T		T	12 02 00.8	
	baz=72,slow=72,SNR=1501						
H03N3	**Juan Fernandez**	**6.73 243**	T		T	12 02 01.9	
	baz=72,slow=72,SNR=1212						
LR04	**Corral**	**9.40 188**	Pn		**Pn**	**11 55 35.9**	**-1.6**
PLCA	**Paso Flores**	**10.20 175**	Pn		**Pn**	**11 55 47.6**	**-0.9**
PLCA	**Paso Flores**	**10.20 175**	Pn		**Pn**	**11 55 47.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=336,slow=13,SNR=8.8						
PLCA			LR		LR	11 59 52.0	
	comp=Z,100nm,20.8s,baz=194,slow=38						
	comp=Z,0.8nm,0.5s						
TRQA	**Tornquist**	**11.01 135**			**Pn**	**11 55 59.3**	**-0.4**
CPUP	**Villa Florida**	**13.38 75**	Pn		**Pn**	**11 56 32.2**	**+0.2**
CPUP	**Villa Florida**	**13.38 75**	Pn		**Pn**	**11 56 30.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=1.5						
	comp=Z,0.6nm,0.4s						
LPAZ	**La Paz**	**14.59 14**	Pn		**Pn**	**11 56 48.6**	**-0.5**
LPAZ	**La Paz**	**14.59 14**	Pn		**Pn**	**11 56 45.9**	**-3.2**
	baz=197,slow=12,SNR=1.7						
	comp=Z,0.4nm,0.4s						
PLTB	**Pedras Altas**	**15.59 99**	Pn		**Pn**	**11 57 00.2**	**-1.4**
SIV	**San Ignacio**	**17.50 36**	P		**Pn**	**11 57 23.2**	**-2.5**
	baz=209,slow=14,SNR=4.2						
	comp=Z,0.3nm,0.4s						
MG03	**Isla Dawson**	**23.29 178**	P		**P**	**11 58 29.5**	**+0.9**
MG03			IAmb		IAmb	11 58 49.4	
	comp=Z,17nm,1.1s						
BDFB	**Brasilia**	**26.33 61**	P		**P**	**11 58 57.9**	**+0.9**
BDFB			IAmb		IAmb	11 58 58.4	
	comp=Z,3.9nm,0.7s						
BDFB	**Brasilia**	**26.33 61**	P		**P**	**11 58 57.5**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=213,slow=9.8,SNR=4.8						
BDFB			LR		LR	12 10 16.0	
	comp=Z,66nm,18.3s,baz=161,slow=39						
	comp=Z,3.1nm,0.5s						
OTAV	**Otavalo**	**31.28 347**	P		**P**	**11 59 40.5**	**-0.9**
OTAV			IAmb		IAmb	11 59 40.7	
	comp=Z,2.5nm,0.5s						
BOAV	**Boa Vista**	**34.48 20**	P		**P**	**12 00 08.7**	**-0.1**
BOAV			IAmb		IAmb	12 00 29.8	
	comp=Z,2.5nm,0.9s						
MDP	**Montagnes des**	**39.90 31**	LR		LR	12 17 50.6	
	comp=Z,54nm,19.1s,baz=275,slow=37						
BELA	**Belgrano 2**	**50.22 170**	P		**P**	**12 02 15.1**	**-0.9**
SNAA	**Sanae**	**54.69 159**	P		**P**	**12 02 48.1**	**-1.1**
QSPA	**South Pole Qui**	**59.67 180**	P		**P**	**12 03 24.4**	**-0.2**
QSPA			IAmb		IAmb	12 03 40.0	
	comp=Z,3.1nm,1.4s						
QSPA	**South Pole Qui**	**59.67 180**	P		**P**	**12 03 24.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=256,slow=0.6,SNR=15						
	comp=Z,1.1nm,0.5s						
TXAR	**Lajitas Array**	**66.87 330**	P		**P**	**12 04 13.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=153,slow=5.5,SNR=3.8						
	comp=Z,0.3nm,0.6s						
DBIC	**Dimbokro**	**73.88 72**	P		**P**	**12 04 55.6**	**0.0**
	comp=Z,3.0nm,0.9s,baz=248,slow=6.2,SNR=4.9						
	comp=Z,3.0nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**25.99 271**	T		T	14 31 10.3	
	baz=116,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hyl**	**26.00 271**	T		T	14 31 11.6	
	baz=116,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hyl**	**26.00 271**	T		T	14 31 11.5	
	baz=116,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hyl**	**26.31 273**	T		T	14 31 41.3	
	baz=112,slow=74						
H11N1	**WAKE ISLAND Hyl**	**26.33 273**	T		T	14 31 40.1	
	baz=112						
H11N2	**WAKE ISLAND Hyl**	**26.33 273**	T		T	14 31 41.3	
	baz=112,slow=74						
KURBB	**Kurchatov Arra**	**150.14 39**	PKPbc		**PKPbc**	**12 13 10.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=308,slow=3.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**151.16 29**	PKPbc		**PKiKP**	**12 13 13.4**	**0.0**
	comp=Z,1.4nm,0.5s,baz=321,slow=1.9,SNR=7.1						

*IDC **13** 11:56:22.7±0.7, 30°.49N×142°.00E, h0km, mb3.8/16, mbtmp3.9/18, ML3.4/2, MS2.8/2, Error ellipse: s-maj=21.0km s-min=15.6km az=75.0*
*NEIC **13** 11:56:24.1±0.9, 30°.58N±0°.04×142°.3E±0°.1, h10km±1km, mb4.4/19, Error ellipse: s-maj=22.0km s-min=4.2km az=73.0*
*JMA **13** 11:56:31.4±0.7, 31°.N±3°×14°.2E±°, h104km, MV3.4/13, NEAR TORISHIMA IS*
ISC 13 11:56:26.0±0.6, 30°.52N±0°.07×142°.10E±0°.10, h23km, n54, σ1§15/55, mb4.1/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.23 324**		Pn	**Pn**	**11 57 14.4**	**-0.9**
JHJ2	**Mitsune**	**3.23 324**		*e*P	**Pn**	**11 57 17.5**	**+2.2**
JHJ	**Hachijo jima 2**	**3.25 323**		Pn	**Pn**	**11 57 13.6**	**-2.0**
	11nm,0.3s,baz=43,slow=16,SNR=1.2						
JHJ				Sn	**Sn**	**11 57 50.5**	**-3.1**
	17nm,0.3s,baz=226,slow=22,SNR=2.3						
	68nm,0.6s						
JCJ	**Chichijima**	**3.42 179**		Pn	**Pn**	**11 57 16.2**	**-1.7**
BSO1	**Boso 1**	**4.22 347**		*e*P	**Pn**	**11 57 30.4**	**+2.0**
JOD2	**Odawara 2**	**5.36 333**		P	**Pn**	**11 57 46.6**	**+2.0**
JRY	**Ryogami san**	**6.10 335**		P	**Pn**	**11 57 55.8**	**+1.0**
JGF	**Kuroka**	**6.44 323**		Pn	**Pn**	**11 58 01.2**	**+1.7**
MJAR	**Matsushiro Arr**	**6.82 333**		Pn	**Pn**	**11 58 04.8**	**+0.1**
	0.6nm,0.3s,baz=162,slow=11,SNR=30						
MJAR				Sn	**Sn**	**11 59 22.6**	**+0.9**
	0.1nm,0.3s,baz=242,slow=13,SNR=1.6						
	3.9nm,0.4s						
MAJO	**Matsushiro**	**6.82 333**			**Pn**	**11 58 06.0**	**+1.3**
MJB9	**Matsu-Tunnel**	**6.83 333**			**Pn**	**11 58 06.4**	**+1.6**
JMM	**Marumori**	**7.40 352**			**Pn**	**11 58 12.0**	**-0.6**
JNU	**Nakatsue**	**9.89 288**		LR	LR	12 01 53.1	
	comp=Z,79nm,20.4s,baz=52,slow=34						
ERM	**Erimo**	**11.50 4**		Pn	**Pn**	**11 59 07.0**	**-1.7**
JKA	**Kamikawa-asahi**	**13.57 2**		Pn	**Pn**	**11 59 35.4**	**-1.7**
ASAJ	**Asahikawa**	**13.57 2**		Pn	**Pn**	**11 59 34.6**	**-2.5**
	0.3nm,0.3s,baz=337,slow=33,SNR=5.7						
KSRS	**Korea Array**	**13.63 304**		LR	LR	12 04 14.7	
	comp=Z,32nm,21.0s,baz=135,slow=35						
YULB	**Yu-li**	**19.84 254**		P	**P**	**12 00 56.4**	**+1.0**
YULB				IAmb	IAmb	12 01 22.0	
	comp=Z,45nm,1.4s						
SSLB	**Suanglung**	**19.96 255**		P	**P**	**12 00 58.1**	**+1.4**
KLR	**Kul'dur**	**20.27 340**		P	**P**	**12 00 59.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=139,slow=6.1,SNR=4.0						
	comp=Z,0.8nm,0.5s						
ULN	**Ulaanbaatar**	**31.86 313**		P	**P**	**12 02 49.3**	**-0.2**
ULN				IAmb	IAmb	12 03 16.2	
	comp=Z,4.2nm,1.1s						
SONM	**Songino Array**	**32.27 313**		P	**P**	**12 02 52.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=113,slow=8.1,SNR=4.6						
	comp=Z,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**40.84 263**		P	**P**	**12 04 04.1**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=66,slow=9.7,SNR=4.0						
	comp=Z,0.4nm,0.3s						
MTN	**Manton Dam**	**44.39 195**		P	**P**	**12 04 34.5**	**-0.4**
MTN				IAmb	IAmb	12 05 00.0	
	comp=Z,7.8nm,0.9s						
ZALV	**Zalesovo Beam**	**46.90 317**		P	**P**	**12 04 54.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=92,slow=9.0,SNR=2.5						
	comp=Z,0.4nm,0.3s						
KNRA	**Kununurra**	**47.70 197**		P	**P**	**12 05 01.9**	**+1.0**
MK31	**Makanchi Array**	**48.29 307**		P	**P**	**12 05 06.0**	**+0.6**
MKAR	**Makanchi Array**	**48.29 307**		P	**P**	**12 05 06.0**	**+0.6**
MKAR	**Makanchi Array**	**48.29 307**		P	**P**	**12 05 06.0**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=86,slow=9.2,SNR=5.8						
	comp=Z,1.2nm,0.7s						
MAKZ	**Makanchi**	**48.51 307**		P	**P**	**12 05 07.1**	**+0.1**
MAKZ				IAmb	IAmb	12 05 10.6	
	comp=Z,6.0nm,1.5s						
KURBB	**Kurchatov Arra**	**50.63 312**		P	**P**	**12 05 23.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=92,slow=9.5,SNR=12						
	comp=Z,0.7nm,0.5s						
WR0	**Warramunga Arr**	**50.72 189**		P	**P**	**12 05 24.1**	**+0.1**
WR0				IAmb	IAmb	12 05 27.8	
	comp=Z,4.7nm,1.1s						
WRAB	**Tennant Creek**	**50.72 189**		P	**P**	**12 05 23.9**	**-0.2**
WRAB				IAmb	IAmb	12 05 25.7	
	comp=Z,4.0nm,0.9s						
WB2	**Warramunga Arr**	**50.73 189**		P	**P**	**12 05 23.9**	**-0.2**
WB2				IAmb	IAmb	12 05 27.2	
	comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**50.73 189**		P	**P**	**12 05 23.6**	**-0.6**
WRA	**Warramunga Arr**	**50.73 189**		P	**P**	**12 05 23.7**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=6.1,slow=7.6,SNR=22						
	comp=Z,2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.87 200**		P	**P**	**12 05 25.7**	**+0.5**
G21K	**Allakaket**	**52.23 27**		P	**P**	**12 05 34.0**	**-0.9**
G21K				IAmb	IAmb	12 05 47.4	
	comp=Z,5.7nm,1.5s						
BOOM	**Boomskoye usch**	**53.27 302**		P	**P**	**12 05 43.5**	**+0.4**
BOOM				IAmb	IAmb	12 05 47.0	
	comp=Z,7.6nm,1.5s						
AS31	**Alice Springs**	**54.45 189**		P	**P**	**12 05 51.7**	**0.0**
ASAR	**Alice Springs**	**54.45 189**		P	**P**	**12 05 51.6**	**-0.1**
ASAR	**Alice Springs**	**54.45 189**		P	**P**	**12 05 51.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=9.6,slow=6.1,SNR=24						
ASAR				PcP	**PcP**	**12 06 56.4**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=14,slow=5.2,SNR=4.2						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**54.77 30**		P	**P**	**12 05 54.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=249,slow=6.0,SNR=6.0						
	comp=Z,0.6nm,0.8s						
BVAR	**Borovoye Array**	**55.51 316**		P	**P**	**12 05 59.3**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=108,slow=4.8,SNR=4.1						
	comp=Z,0.7nm,0.4s						
KK31	**Karatay Array**	**57.06 304**		P	**P**	**12 06 10.7**	**+0.3**
KK31				IAmb	IAmb	12 06 12.2	
	comp=Z,2.9nm,0.8s						
KKAR	**Karatay Array**	**57.06 304**		P	**P**	**12 06 10.5**	**+0.1**
GAR	**Garm**	**58.20 299**		P	**P**	**12 06 18.2**	**-0.4**
ABKAR	**Akbulak array**	**62.68 313**		P	**P**	**12 06 48.5**	**-0.4**
ABKAR				IAmb	IAmb	12 06 54.4	
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar**	**69.18 29**		P	**P**	**12 07 31.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=292,slow=6.3,SNR=6.6						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**74.85 333**		P	**P**	**12 08 04.4**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=25,slow=10,SNR=5.1						
	comp=Z,2.4nm,0.9s						
KBZ	**Khabaz**	**75.64 312**		P	**P**	**12 08 09.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=151,slow=5.2,SNR=4.6						
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**78.47 52**		P	**P**	**12 08 25.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=301,slow=6.1,SNR=3.6						
	comp=Z,0.6nm,0.6s						
PDAR	**Pinedale Array**	**81.84 45**		P	**P**	**12 08 44.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=305,slow=7.4,SNR=3.5						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**93.61 53**		P	**P**	**12 09 42.2**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=311,slow=4.5,SNR=3.7						
	comp=Z,0.6nm,0.9s						

*TAP **13** 11:57:55.6, 24°.80N×121°.94E, h99km, ML3.7, C*
*JMA **13** 11:57:56.3±0.2, 24°.8N±0°.7×122°.0E±0°.5, h92km±2km, MV3.0/16, TAIWAN REGION*
ISC 13 11:57:55.0±1.2, 24°.82N±0°.03×121°.94E±0°.02, h104km±5km, n162, σ0§91/309, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.02 353**		*i* P	**Pn**	**11 58 09.5**	**+0.1**
EGS				*e*S	**Sn**	**11 58 19.3**	**-0.7**
NTC	**Toucheng**	**0.10 288**		*e*P	**Pn**	**11 58 09.4**	**0.0**
TIPB	**Shuangxi**	**0.18 326**		P	**Pn**	**11 58 09.7**	**0.0**
TIPB				S	**Sn**	**11 58 19.6**	**-0.9**
ILA	**Ilan**	**0.18 251**		*e*P	**Pn**	**11 58 10.0**	**+0.4**
ILA				*i* S	**Sn**	**11 58 20.4**	**-0.1**
TWB1	**Santiao Chiao**	**0.19 15**		*i* P	**Pn**	**11 58 09.7**	**0.0**
TWB1				*i* S	**Sn**	**11 58 19.6**	**-0.9**
TWC	**Suao**	**0.23 200**		*i* P	**Pn**	**11 58 09.9**	**+0.2**
TWC				S	**Sn**	**11 58 20.2**	**-0.5**
ESAO	**Su ao**	**0.26 199**		P	**Pn**	**11 58 09.9**	**0.0**
ESAO				*i* S	**Sn**	**11 58 20.7**	**-0.2**
TWE	**Neicheng**	**0.26 247**		P	**Pn**	**11 58 10.3**	**+0.5**
TWE				*i* S	**Sn**	**11 58 21.2**	**+0.2**
NDS	**Dongshan**	**0.28 227**		*e*P	**Pn**	**11 58 10.8**	**+0.8**
NDS				*e*S	**Sn**	**11 58 21.5**	**+0.4**
SXI1	**Grass Mountain**	**0.28 349**		*i* P	**Pn**	**11 58 09.9**	**-0.2**
SXI1				*i* S	**Sn**	**11 58 21.2**	**-0.1**
NWF	**Wu-fen Shan**	**0.28 330**		*e*P	**Pn**	**11 58 10.1**	**0.0**
NWF				S	**Sn**	**11 58 19.9**	**-1.5**
WFSB	**Wu-fen Shan**	**0.28 330**		*e*P	**Pn**	**11 58 10.3**	**+0.3**
WFSB				S	**Sn**	**11 58 20.6**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.32 259**		P	**Pn**	**11 58 10.8**	**+0.5**
FUSB				S	**Sn**	**11 58 21.6**	**-0.1**
TWA	**Mucha**	**0.35 296**		*i* P	**Pn**	**11 58 10.7**	**+0.3**
TWA				*i* S	**Sn**	**11 58 21.3**	**-0.5**
TNOU	**National Taiwa**	**0.36 336**		*e*P	Pn	11 58 05.3	-4.8
TNOU				*e*S	**Sn**	**11 58 16.3**	**-5.5**
ENTT	**Nioudou**	**0.38 242**		*i* P	**Pn**	**11 58 11.2**	**+0.7**
ENTT				S	**Sn**	**11 58 22.6**	**+0.6**
NHY	**Taipei**	**0.40 303**		*e*P	**Pn**	**11 58 11.1**	**+0.6**
NHY				S	**Sn**	**11 58 22.5**	**+0.4**
NWLT	**Wulai**	**0.40 263**		*i* P	**Pn**	**11 58 10.9**	**+0.3**
NWLT				*i* S	**Sn**	**11 58 21.6**	**-0.6**
EWUT	**Wuta**	**0.40 201**		P	**Pn**	**11 58 11.1**	**+0.5**
EWUT				*i* S	**Sn**	**11 58 22.5**	**+0.3**
ENA	**Nanau**	**0.43 204**		*i* P	**Pn**	**11 58 11.2**	**+0.5**
ENA				S	**Sn**	**11 58 23.2**	**+0.7**
TATO	**Taipei**	**0.43 291**		P	**Pn**	**11 58 10.8**	**+0.1**
TATO	**Taipei**	**0.43 291**		S	**Sn**	**11 58 22.2**	**-0.3**
TATO	**Taipei**	**0.43 291**		*i* P	**Pn**	**11 58 11.0**	**+0.3**
TATO				S	**Sn**	**11 58 21.9**	**-0.7**
TAP	**Taipei**	**0.45 299**		*e*P	**Pn**	**11 58 11.3**	**+0.5**
TAP				*i* S	**Sn**	**11 58 23.2**	**+0.5**
YM01	**YM01**	**0.46 314**		*i* P	**Pn**	**11 58 11.3**	**+0.3**
YM01				*e*S	**Sn**	**11 58 22.4**	**-0.6**
LATG	**Datong**	**0.47 232**		*i* P	**Pn**	**11 58 11.8**	**+0.7**
LATG				*e*S	**Sn**	**11 58 23.1**	**-0.1**
YM08	**YM08**	**0.48 319**		*i* P	**Pn**	**11 58 11.1**	**-0.1**
YM08				*e*S	**Sn**	**11 58 21.9**	**-1.3**
EOS2	**EOS2**	**0.48 146**		*e*P	**Pn**	**11 58 11.5**	**+0.5**
EOS2				*e*S	**Sn**	**11 58 23.8**	**+0.9**
ZUZH	**Zhuzihu**	**0.49 314**		*e*P	**Pn**	**11 58 11.0**	**-0.2**
ZUZH				*i* S	**Sn**	**11 58 23.3**	**0.0**
ANP	**Anpu**	**0.52 314**		*i* P	**Pn**	**11 58 11.9**	**+0.5**
ANP				S	**Sn**	**11 58 23.8**	**0.0**
EAHA	**Aohua**	**0.52 200**		*e*P	**Pn**	**11 58 11.6**	**+0.2**
EAHA				*e*S	**Sn**	**11 58 24.4**	**+0.8**
YHNB	**Yeheng**	**0.53 253**		P	**Pn**	**11 58 11.4**	**-0.1**
YHNB	**Yeheng**	**0.53 253**		S	**Sn**	**11 58 23.3**	**-0.6**
YHNB	**Yeheng**	**0.53 253**		*i* P	**Pn**	**11 58 11.7**	**+0.2**
YHNB				*i* S	**Sn**	**11 58 23.1**	**-0.7**
TWY	**Chenhua**	**0.54 326**		*i* P	**Pn**	**11 58 11.1**	**-0.4**
TWY				*i* S	**Sn**	**11 58 22.8**	**-1.1**
NSK	**Sanguang**	**0.55 254**		*i* P	**Pn**	**11 58 11.7**	**+0.1**
NSK				*i* S	**Sn**	**11 58 22.7**	**-1.3**
TWS1	**Kuangyinshan**	**0.55 301**		*i* P	**Pn**	**11 58 11.2**	**-0.3**
TWS1				S	**Sn**	**11 58 23.2**	**-0.7**
NTST	**Danshui**	**0.56 308**		*e*P	**Pn**	**11 58 12.4**	**+0.8**
NTST				S	**Sn**	**11 58 24.6**	**+0.6**
EOS3	**EOS3**	**0.64 147**		*e*P	**Pn**	**11 58 13.1**	**+1.0**
EOS3				*e*S	**Sn**	**11 58 26.1**	**+1.2**
NNS	**Nan Shan**	**0.64 233**		*i* P	**Pn**	**11 58 12.9**	**+0.5**
NNS				*i* S	**Sn**	**11 58 24.9**	**-0.5**
NNSB	**Datong**	**0.64 232**		*i* P	**Pn**	**11 58 12.9**	**+0.5**
NNSB				*i* S	**Sn**	**11 58 25.6**	**+0.1**
NNSH	**Datong**	**0.64 232**		*i* P	**Pn**	**11 58 12.9**	**+0.5**
NNSH				*i* S	**Sn**	**11 58 25.3**	**-0.1**
KSHI	**Guanxi Townshi**	**0.69 266**		P	**Pn**	**11 58 13.4**	**+0.7**
KSHI				S	**Sn**	**11 58 26.6**	**+0.7**
NCU	**National Centr**	**0.69 282**		*i* P	**Pn**	**11 58 12.9**	**+0.2**
NCU				*i* S	**Sn**	**11 58 26.3**	**+0.3**
NCUH	**Zhongli**	**0.70 282**		P	**Pn**	**11 58 13.4**	**+0.6**
NCUH				S	**Sn**	**11 58 26.3**	**+0.2**
NACB	**Ninganchiao**	**0.72 206**		P	**Pn**	**11 58 12.7**	**-0.3**
NACB	**Ninganchiao**	**0.72 206**		P	**Pn**	**11 58 12.7**	**-0.3**
NACB				*e*S	**Sn**	**11 58 25.7**	**-0.7**
ETL	**Fush Village**	**0.72 203**		*e*P	**Pn**	**11 58 12.8**	**-0.2**
ETL				S	**Sn**	**11 58 26.7**	**+0.2**
ETLH	**Xiulin Townshi**	**0.74 214**		*e*P	**Pn**	**11 58 13.5**	**+0.3**
ETLH				S	**Sn**	**11 58 26.7**	**-0.2**
NFF	**Wufeng Townshi**	**0.77 256**		*i* P	**Pn**	**11 58 13.7**	**+0.2**
NFF				*i* S	**Sn**	**11 58 26.7**	**-0.6**
EOS4	**EOS4**	**0.78 153**		P	**Pn**	**11 58 13.4**	**+0.2**
EOS4				*e*S	**Sn**	**11 58 26.4**	**-0.3**
TWD	**Chiawan**	**0.80 203**		P	**Pn**	**11 58 13.4**	**-0.3**
TWD				*e*S	**Sn**	**11 58 27.0**	**-0.8**
PCYT	**Pengchaiyu**	**0.81 9**		*e*P	**Pn**	**11 58 14.5**	**+0.6**
PCYT				*e*S	**Sn**	**11 58 29.4**	**+1.4**
FUSS	**Fushou**	**0.85 228**		P	**Pn**	**11 58 15.4**	**+0.9**
FUSS				*e*S	**Sn**	**11 58 29.8**	**+0.7**
LIOB	**Emei**	**0.85 258**		*i* P	**Pn**	**11 58 14.8**	**+0.5**
LIOB				*i* S	**Sn**	**11 58 27.9**	**-0.8**
SBCB	**Hsinchu**	**0.86 268**		*i* P	**Pn**	**11 58 14.8**	**+0.5**
SBCB				*e*S	**Sn**	**11 58 29.3**	**+0.4**
NSTT	**Nanjuang**	**0.87 257**		*i* P	**Pn**	**11 58 14.8**	**+0.

WDLH			*e*S		Sn	11 58 46.3	+0.3
IRIF	Iriomote-Funau	1.71 106	*e*S		Sn	11 58 46.1	+0.1
FULB	Fuli	1.72 200	P		Pn	11 58 24.7	+0.4
FULB			*e*S		Sn	11 58 46.2	-0.3
WTCT	Ta-ch'eng	1.79 238	*e*P		Pn	11 58 25.4	+0.4
WTCT			*e*S		Sn	11 58 47.8	0.0
CHKT	Chengkung	1.79 197	P		Pn	11 58 25.0	-0.1
CHKT			*e*S		Sn	11 58 46.7	-1.3
EHD	Haiduan	1.79 202	*i* P		Pn	11 58 23.7	-1.5
EHD			S		Sn	11 58 46.4	-1.8
WTK	Tuku	1.81 232	P		Pn	11 58 26.0	+0.7
WTK			*i* S		Sn	11 58 48.6	+0.2
ELDTW	Lidau	1.83 207	*i* P		Pn	11 58 26.0	+0.3
ELDTW			S		Sn	11 58 48.4	-0.7
WCKO	Fanlu	1.84 222	*e*P		Pn	11 58 27.2	+1.5
WCKO			*i* S		Sn	11 58 50.5	+1.4
ECS	Chishang	1.84 201	P		Pn	11 58 26.5	+0.7
ECS			*e*S		Sn	11 58 50.2	+1.1
HATJ	Hateruma jima	1.87 114	*e*P		Pn	11 58 27.0	+1.0
CHY	Chiayi	1.91 227	*e*P		Pn	11 58 27.6	+1.0
CHY			*i* S		Sn	11 58 51.4	+0.7
CHN4	Tsaushan	1.91 220	*i* P		Pn	11 58 27.6	+0.9
CHN4			*i* S		Sn	11 58 52.4	+1.7
TPUB	Ta-pu	1.93 218	P		Pn	11 58 27.9	+1.1
TPUB	Ta-pu	1.93 218	*i* P		Pn	11 58 28.0	+1.1
TPUB			S		Sn	11 58 52.1	+0.9
EDH	Donghe	1.93 198	*i* P		Pn	11 58 26.2	-0.7
EDH			S		Sn	11 58 49.6	-1.5
STYH	Taoyuan	1.96 213	*e*P		Pn	11 58 28.8	+1.6
STYH			*e*S		Sn	11 58 53.4	+1.6
STYT	Tauyuan	1.97 213	*i* P		Pn	11 58 27.6	+0.1
STYT			S		Sn	11 58 52.7	+0.5
JKRS	Kuro-shima	1.98 107	P		Pn	11 58 28.6	+0.9
JKRS			*e*S		Sn	11 58 52.3	+0.1
WTP	Ta-pu	1.98 218	*i* P		Pn	11 58 28.8	+1.2
WTP			*e*S		Sn	11 58 53.5	+1.1
WSL	Shuilin Townsh	2.03 231	*i* P		Pn	11 58 28.9	+0.8
WSL			S		Sn	11 58 52.9	-0.4
TWK	Hsinying	2.04 221	*i* P		Pn	11 58 29.1	+0.8
TWK			*i* S		Sn	11 58 54.0	+0.3
LONT	Longtian	2.05 201	*i* P		Pn	11 58 27.8	-0.6
LONT			*e*S		Sn	11 58 52.9	-0.9
JIJ	Ishigaki jima	2.06 102	*e*P		Pn	11 58 28.9	+0.4
JIJ			*e*S		Sn	11 58 53.1	-1.0
SNST	Tainan City	2.07 220	*i* P		Pn	11 58 29.6	+1.0
SNST			S		Sn	11 58 54.9	+0.5
CHN1	Nanshi	2.08 219	*i* P		Pn	11 58 29.4	+0.6
CHN1			*i* S		Sn	11 58 54.9	+0.3
ICHU	Yijhu	2.10 226	*i* P		Pn	11 58 30.3	+1.2
ICHU			*i* S		Sn	11 58 55.3	+0.3
SGST	Jiashian	2.13 216	*i* P		Pn	11 58 29.9	+0.4
SGST			*i* S		Sn	11 58 56.1	+0.3
TWG	Pinlang	2.15 202	*i* P		Pn	11 58 29.1	-0.6
TWG			*e*S		Sn	11 58 54.7	-1.4
TWGBT	Beinan	2.15 202	P		Pn	11 58 29.0	-0.7
TWGBT	Beinan	2.15 202	*i* P		Pn	11 58 28.9	-0.7
TWGBT			S		Sn	11 58 54.8	-1.3
CHN8	Yiju	2.15 227	*i* P		Pn	11 58 30.4	+0.6
CHN8			*i* S		Sn	11 58 57.0	+0.7
JISG	Ishigakijimahi	2.17 96	P		Pn	11 58 30.5	+0.5
JISG			S		Sn	11 58 57.0	+0.3
LDUT	Ludao	2.18 191	*i* P		Pn	11 58 29.4	-0.7
LDUT			*e*S		Sn	11 58 53.9	-3.0
MATB	Ma-tsu	2.23 307	*i* P		Pn	11 58 30.8	+0.1
MATB			*e*S		Sn	11 58 57.8	-0.3
VWUC	VWUC	2.26 275	*i* P		Pn	11 58 31.2	+0.1
VWUC			S		Sn	11 58 57.1	-1.7
SCLT	Jiali	2.29 224	*e*P		Pn	11 58 33.4	+2.0
SCLT			*e*S		Sn	11 59 00.4	+1.0
SCST	Cishan	2.34 215	*e*P		Pn	11 58 34.0	+1.8
SCST			*e*S		Sn	11 59 01.7	+1.1
ECL	Taimali	2.39 202	*i* P		Pn	11 58 32.4	-0.4
ECL			*i* S		Sn	11 58 60.0	-1.8
TSMG	Majia	2.42 210	*i* P		Pn	11 58 34.6	+1.4
TSMG			*i* S		Sn	11 59 03.4	+1.0
MASBT	Mashibuluo	2.50 209	*i* P		Pn	11 58 35.3	+1.0
MASBT			*i* S		Sn	11 59 05.0	+0.5
PNG	Penghu	2.51 241	*i* P		Pn	11 58 34.0	-0.4
PNG			*i* S		Sn	11 59 03.0	-1.5
PHUB	P'eng-hu	2.52 239	*e*P		Pn	11 58 34.4	-0.1
PHUB			*e*S		Sn	11 59 03.1	-1.8
JTJ	Tarama	2.52 94	*e*P		Pn	11 58 35.6	+1.1
JTJ			*e*S		Sn	11 59 05.3	+0.5
PTMZ	Houxiangcun	2.56 275	*i* P		Pn	11 58 35.4	+0.3
PTMZ			S		Sn	11 59 04.2	-1.6
WDGT	Dungji	2.60 234	*i* P		Pn	11 58 35.6	0.0
WDGT			*i* S		Sn	11 59 04.5	-2.2
XPSS	Dashiqiu	2.62 324	*i* P		Pn	11 58 36.0	+0.2
XPSS			*e*S		Sn	11 59 07.7	+0.6
TAWH	Dawu Township	2.65 201	*i* P		Pn	11 58 37.7	+1.4
TAWH			S		Sn	11 59 06.9	-1.1
SCZT	Fangliau	2.72 207	*i* P		Pn	11 58 38.5	+1.3
SCZT			*e*S		Sn	11 59 09.4	-0.2
LAY	Lan-yu	2.79 187	*i* P		Pn	11 58 37.5	-0.6
LAY			*i* S		Sn	11 59 09.1	-2.3
SLIU	Shizi	2.80 202	*i* P		Pn	11 58 37.8	-0.4
SLIU			*e*S		Sn	11 59 12.3	+0.9
VCHM	Qimei	2.80 235	*i* P		Pn	11 58 38.3	+0.1
VCHM			*i* S		Sn	11 59 09.9	-1.5
LYUB	Lan-yu	2.83 187	*i* P		Pn	11 58 37.4	-1.2
LYUB			*e*S		Sn	11 59 09.6	-2.5
JMJ2	Miyako jima3	3.08 91	*e*P		Pn	11 58 43.3	+1.3
KNMB	Chin-men Tao	3.25 264	P		Pn	11 58 44.1	-0.1
KNMB			*e*S		Sn	11 59 22.3	+0.2
AXDP	Jialang	3.60 272	*e*P		Pn	11 58 49.4	+0.5
AXDP			*i* S		Sn	11 59 28.8	-1.8

HEL 13 11:58:41.9±0.2, 61°53N×30°16E, h0km, ML1.3,
Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.59	260	PG	Pg	11 58 52.4	-0.8
RUF				SG	Sg	11 58 59.7	-1.1
RUF				MSG		11 59 00.8	
	comp=Z,2.6nm,0.2s						
JOF	Joensuu	1.49	21	PG	Pn	11 59 08.4	-1.5
JOF				SG	Sg	11 59 28.5	-1.3
VJF	Virojoki	1.61	233	PN	Pn	11 59 11.5	-0.1
VJF				MSG		11 59 30.1	
	comp=Z,2.1nm,0.2s						
VJF				SN	Sn	11 59 32.7	-0.3
KAF	Kangasniemi	1.92	289	PG	Pn	11 59 16.7	+0.9
KAF				MSG		11 59 38.9	
	comp=Z,1.1nm,0.2s						
KAF				SG	Sn	11 59 40.9	+0.3
FIA0	FINESS Array S	1.96	269	PG	Pn	11 59 16.5	+0.2
	baz=85						
FIA0				MSG		11 59 40.2	
	comp=Z,2.4nm,0.2s						
FIA0				SG	Sb	11 59 42.7	-0.7
NIF	Nilsia	2.16	331	PB	Pn	11 59 19.6	+0.5
NIF				SB	Sb	11 59 48.0	-1.2
SUF	Sumiainen	2.23	304	PG	Pb	11 59 22.3	-0.7
SUF				MSG		11 59 48.0	
	comp=Z,1.5nm,0.2s						
SUF				SG	Sb	11 59 50.4	-0.7
PVF	Pernaja	2.31	247	PG	Pn	11 59 22.3	+1.1
PVF				MSG		11 59 50.3	
	comp=Z,0.9nm,0.2s						
KEF	Keuruu	2.59	287	PB	Pn	11 59 26.6	+1.6
	baz=103						
KEF				MSG		11 59 58.3	
	comp=Z,1.1nm,0.2s						
KEF				SB	Sb	12 00 00.1	-1.3
RMF	Romuvaara	2.70	358	PB	Pn	11 59 28.1	+1.6
RMF				MSG		12 00 01.4	
	comp=Z,1.1nm,0.2s						
RMF				SB	Sb	12 00 02.6	-2.1
OUF	Merijarvi	3.77	321	PN	Pn	11 59 39.7	-1.6

*ISK **13** 11:59:31.2, 38°72N×39°99E, h5km, ML3.3.2/24*
*AFAD **13** 11:59:31.9, 38°74N×39°98E, h14km±1km, MW3.5*
ISC 13 11:59:32.3±0.9, 38°71N±0°02×39°99E±0°01, h15km±6km,
n65, σ1§16/111, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVA	Elazig, Kovanc	0.14	267	P	Pg	11 59 36.1	-0.1
KOVA				S	Sg	11 59 39.5	+0.8
HANI	Diyarbakir_Han	0.44	133	P	Pb	11 59 41.4	-0.4
HANI				S	Sb	11 59 48.3	+0.1
PTK	Pertek	0.50	291	Pg	Pg	11 59 41.2	-1.2
PTK				Sg	Sb	11 59 48.7	-1.6
TNCL	Tunceli-Merkez	0.53	319	P	Pg	11 59 41.7	-1.3
TNCL				S	Sb	11 59 49.4	-1.7
BNGB	Bingl	0.60	62	Pg	Pb	11 59 43.8	-0.9
BNGB				Sg	Sb	11 59 52.6	-0.5
DIYA	Diyarbakir	0.79	173	P	Pn	11 59 48.6	-0.6
DIYA				S	Sn	12 00 01.4	+0.7
ELZG	Elazig	0.82	255	P	Pg	11 59 46.7	-1.6
ELZG				S	Sn	12 00 01.6	+0.1
SLHN	Bingol, Solhan	0.84	73	P	Pg	11 59 47.7	-1.0
SLHN				S	Sn	12 00 01.7	-0.3
YEDI	Yedisu-Bingol	0.84	30	Pg	Pg	11 59 47.2	-1.5
YEDI				Sg	Sb	11 59 59.5	-0.5
KARO	Karliova-Bingo	1.02	54	Pg	Pg	11 59 50.8	-1.2
KARO				Sg	Sn	12 00 05.7	-0.7
EUZM	Uzumlu	1.02	347	P	Pg	11 59 50.7	-1.4
EUZM				S	Sn	12 00 06.1	-0.3
SVAN	Silvan-Diyarba	1.10	120	Pn	Pn	11 59 53.2	-0.1
SVAN				Sn	Sn	12 00 08.8	+0.5
SVAN	Silvan-Diyarba	1.10	120	P	Pn	11 59 53.3	-0.1
SVAN				S	Sn	12 00 09.1	+0.8
ECAT	Cat-ERZURUM	1.17	40	P	Pb	11 59 53.6	-0.9
ECAT				S	Sn	12 00 11.9	+1.5
MUSM	Mu-Merkez	1.19	89	P	Pb	11 59 54.2	-0.4
MUSM				S	Sn	12 00 12.4	+1.8
VRTB	Varto-Mus	1.23	68	Pn	Pg	11 59 55.4	-0.6
NARI	Adyaman-Kaht	1.27	230	P	Pg	11 59 56.3	-0.6
NARI				S	Sn	12 00 15.4	+2.8
KEMA	Kemaliye	1.29	296	P	Pn	11 59 54.7	-1.3
KEMA				S	Sn	12 00 13.8	+0.7
BTMN	Batman	1.30	129	P	Pg	11 59 56.8	-0.6
BTMN				S	Sg	12 00 15.1	+0.9
MAZI	Mazidag	1.30	164	Pn	Pn	11 59 56.2	+0.1
KOPT	Kop Dagi	1.36	17	P	Pg	11 59 57.4	-1.2
KOPT				S	Sg	12 00 19.1	+2.8
ETEKE	Tekederesi - E	1.40	39	P	Pn	11 59 57.0	-0.7
ETEKE				S	Sg	12 00 19.4	+1.9
HANM	anlurfa/Hi	1.43	218	P	Pb	11 59 58.5	-0.3
HANM				S	Sg	12 00 17.4	-1.0
EJDE	Erzurum, Palan	1.51	42	P	Pg	12 00 01.1	-0.4
EJDE				S	Sg	12 00 22.7	+1.5
EMRE	Erzurum,Aziziy	1.52	30	P	Pg	12 00 00.2	-1.4
EMRE				S	Sg	12 00 23.7	+2.3
MARD	Mardin	1.53	156	P	Pb	11 59 60.0	-0.5
MARD				S	Sg	12 00 21.2	-0.4
KELT	Kelkit	1.54	339	P	Pb	12 00 00.1	-0.7
KELT				S	Sg	12 00 21.9	-0.3
URFA	Urfa	1.57	216	Pn	Pn	12 00 00.3	+0.5
HEKM	Malatya_Hekimh	1.60	277	P	Pb	12 00 00.6	-1.2
HEKM				S	Sg	12 00 25.1	+1.3
GURO	Guroymak-BITLI	1.60	95	Pn	Pb	12 00 01.0	-0.8
AZEY	Adyaman-Merk	1.64	237	P	Pb	12 00 01.8	-0.6
AZEY				S	Sg	12 00 27.0	+1.8
AKCD	Akcadag	1.68	256	P	Pb	12 00 02.0	-1.0
AKCD				S	Sg	12 00 28.0	+1.6
SRTM	Siirt_Merkez	1.68	115	P	Pb	12 00 02.2	-0.8
SRTM				S	Sg	12 00 26.1	-0.3
BAYT	Aydıntepe-Bayb	1.68	4	Pn	Pb	12 00 02.2	-1.0
BLIS	Bitlis-Merkez	1.69	99	P	Pb	12 00 02.7	-0.5
BLIS				S	Sg	12 00 27.3	+0.5
MIDY	Mardin/Midyat-	1.71	139	P	Pb	12 00 03.0	-0.6
MIDY				S	Sg	12 00 26.8	-0.7
SANL	SANLIURFA_Merk	1.73	208	P	Pn	12 00 01.9	0.0
SANL				S	Sg	12 00 28.1	+0.1
KRIK	Erzurum-spir	1.78	24	P	Pb	12 00 04.0	-0.8
KRIK				S	Sg	12 00 31.6	+2.0
ATAB	Bozova	1.83	228	P	Pn	12 00 03.4	+0.1
ATAB				S	Sg	12 00 31.3	+0.1
ALUC	Giresun/Alucra	1.88	330	P	Pb	12 00 05.5	-1.1
ALUC				S	Sg	12 00 32.9	-0.1
KOPR	Koprukoy-ERZUR	1.93	48	Pn	Pn	12 00 05.6	+0.8
DARE	Darende-Malaty	1.97	267	Pn	Pb	12 00 06.3	-1.7
AKCA	Adyaman/G¶l	2.03	244	P	Pn	12 00 07.2	+1.1
AKCA				S	Sg	12 00 40.1	+2.3
SUSE	Susehri	2.04	318	P	Pg	12 00 09.9	-1.5
SUSE				S	Sg	12 00 37.3	-0.6
MLAZ	Malazgirt-MUS	2.04	77	Pn	Pn	12 00 07.4	+1.1
CUKAN	kangal_SIVAS	2.06	288	P	Pb	12 00 08.7	-0.8
CUKAN				S	Sb	12 00 34.4	-0.6
CUZAR	Zara_SIVAS	2.09	305	P	Pb	12 00 10.1	+0.1
CUZAR				S	Sg	12 00 40.6	+1.1
IZDR	Rize	2.12	12	P	Pb	12 00 09.7	-1.0
IZDR				S	Sg	12 00 40.0	-0.4
CUGUR	Gurin_SVAS	2.13	271	P	Pg	12 00 12.3	-0.9
CUGUR				S	Sg	12 00 43.8	+3.0
SURC	SANLIURFA_SURC	2.13	211	P	Pn	12 00 07.6	+0.1
SURC				S	Sg	12 00 41.8	+0.9
PERV	Siirt/Pervari-	2.15	110	P	Pb	12 00 10.4	-0.6
PERV				S	Sg	12 00 40.0	-1.4
EATA	Eleskirt	2.25	59	P	Pb	12 00 13.5	+0.6
EATA				S	Sg	12 00 47.4	+2.6
KTUT	Trabzon	2.28	356	Pn	Pn	12 00 10.7	+1.2
GZT	Gaziantep	2.35	236	P	Pn	12 00 10.9	+0.3
GZT				S	Sg	12 00 48.9	+1.1
NZIP	Nizip/Gaziante	2.48	228	P	Pg	12 00 19.6	-0.2
NZIP				S	Sg	12 00 52.4	+0.4
AGRB	Hanur-Agry	2.49	69	Pn	Pn	12 00 13.7	+1.2
SENK	Senkaya-Erzuru	2.59	44	Pn	Pn	12 00 15.1	+1.1
SVSK	Karacayir	2.62	298	Pn	Pn	12 00 15.4	+1.3
GAZ	Gaziantep	2.68	236	Pn	Pn	12 00 16.5	+1.4
KMRS	Kahramanmaras	2.72	245	Pn	Pn	12 00 16.8	+1.2
SARI	SarD1z-Kayseri	2.82	265	Pn	Pn	12 00 18.3	+1.2
BCA	Borcka	3.00	24	Pn	Pn	12 00 20.8	+1.4
BNN	Bunyan	3.24	274	Pn	Pn	12 00 24.3	+1.4
KOZT	Kozan	3.51	251	Pn	Pn	12 00 28.1	+1.7
YOZ	Yozgat	3.75	286	Pn	Pn	12 00 31.4	+1.6

*THR **13** 12:06:39.2±0.0, 29°53N×56°67E, h25km±8km, ML4.0*
*TEH **13** 12:06:41.4, 29°52N×56°54E, h90km*
*IDC **13** 12:06:41.9±1.0, 29°35N×56°64E, h114km±8km, mb3.6/14, mbtmp4.0/17, MS3.8/2, Error ellipse: s-maj=19.1km s-min=13.0km az=86.0*
*OMAN **13** 12:06:44.7±1.3, 29°21N×56°39E, h28km, mb4.2/21, ml4.5/12, Error ellipse: s-maj=11.3km s-min=8.5km az=9.0*
*DSN **13** 12:06:45.1±1.8, 29°26N×56°32E, h28km, ML4.2/16, Error ellipse: s-maj=22.2km s-min=12.9km az=58.0*
ISC 13 12:06:41.6±0.6, 29°48N±0°04×56°53E±0°04, h108km±6km,
n118, σ1§30/138, mb3.9/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	0.24	46	Pg	Pn	12 06 55.9	-1.6
KRBR	Kerman	0.54	21	Pg	Pn	12 06 57.5	-1.4
KHGB	Koh Gabri	0.90	357	Pg	Pn	12 07 00.3	-1.6
CHMN	Cheshme madani	0.96	66	Pg	Pn	12 07 01.3	-1.3
KRM1	Kerman Provinc	1.21	32	Pg	Pn	12 07 03.5	-1.7
ZRDN	Zarand Kerman	1.49	0	Pg	Pn	12 07 07.2	-1.2
KBAM	BAM	1.71	101	Pg	Pn	12 07 10.8	-0.2
KHNJ	Kahnooj	1.84	146	Pn	Pn	12 07 12.9	+0.4
IBND	Bandar-abas	2.02	180	Pn	Pn	12 07 15.7	+0.9
BNDS	Bandar-Abbas	2.09	189	Pn	Pn	12 07 17.2	+1.3
BNDS	Bandar-Abbas	2.09	189	*e*PnA		12 07 16.8	
BNDS				*e*Sg	Sn	12 07 43.2	+1.1
BNDS				IAML		12 07 44.2	
	comp=Z,2μm,1.0s						
GENO	Geno	2.09	189	Pn	Pn	12 07 17.0	+1.1
IBAF	Bafgh	2.27	339	Pn	Pn	12 07 17.4	-0.7
IMEH	Mehriz	2.53	320	Pn	Pn	12 07 21.5	-0.1
JHRM	Jahrom	2.76	250	Pn	Pn	12 07 25.4	+0.9
QIR1	Qir	3.21	253	Pn	Pn	12 07 31.8	+1.3
GHIR	Ghir-Karzin	3.33	250	*e*PnA		12 07 33.8	
GHIR				IAML		12 08 16.5	
	comp=Z,200nm,1.0s						
BSRN	Basiran	3.34	41	*e*PnA		12 07 30.1	
BSRN				IAML		12 07 43.3	
	comp=Z,89nm,1.0s						
SHME	Shamm	3.43	186	P	Pn	12 07 33.9	+0.6
	SNR=126						
SHME	Shamm	3.43	186	*i* P	Pn	12 07 33.8	+0.5
	SNR=22						
SHME				S	Sn	12 08 11.6	-1.6
ISAD	Sadrabad	3.45	315	Pn	Pn	12 07 34.9	+1.0
SHI	Shiraz	3.51	274	Pn	Pn	12 07 34.9	+0.4
TPRV	Parvadeh(Tabas	3.54	2	Pn	Pn	12 07 34.5	-0.4
NHDN	Nehbandan	3.59	57	Pn	Pn	12 07 34.6	-0.9
IKOO	Kooshah	3.63	35	Pn	Pn	12 07 34.9	-1.3
LMD1	Lamerd	3.65	235	Pn	Pn	12 07 37.8	+1.5
LMD1	Lamerd	3.65	235	*e*PnA		12 07 38.3	
JASK	Jask - Hormozg	3.78	161	Pn	Pn	12 07 39.1	+1.0
JASK	Jask - Hormozg	3.78	161	P	Pn	12 07 38.9	+0.9
	SNR=99						
ITEG	Tejag	3.90	29	Pn	Pn	12 07 38.7	-1.1
UMQ	Umm Al-Quwin	4.01	191	P	Pn	12 07 43.6	+2.6
	SNR=17						
UMQ				S	Sn	12 08 27.7	+0.5
UMQ	Umm Al-Quwin	4.01	191	*i* P	Pn	12 07 43.3	+2.2
	SNR=17						
MASF	Masafi	4.10	185	P	Pn	12 07 44.2	+1.8
	SNR=47						
MASF				S	Sn	12 08 29.3	-0.1
MSFE	Esma-Masafi	4.11	185	*i* P	Pn	12 07 43.7	+1.2
	SNR=47						
TKDS	Koohdasht(Taba	4.16	7	Pn	Pn	12 07 42.5	-0.6
MDH	Madha	4.17	183	P	Pn	12 07 44.0	+0.8
	SNR=22						
MDH	Madha	4.17	183	*i* P	Pn	12 07 43.6	+0.4
	SNR=22						
TABS	Tabas	4.19	7	*e*PnA		12 07 43.1	
TABS				IAML		12 09 28.9	
	comp=Z,75nm,1.0s						
KAZ2	Kazeron-Fars-I	4.25	273	Pn	Pn	12 07 45.2	+0.9
IRAM	Ramesheh	4.27	304	Pn	Pn	12 07 45.2	+0.5
ANAR	Anarak	4.41	328	Pn	Pn	12 07 47.0	+0.4
TNSJ	Nastanj	4.47	1	Pn	Pn	12 07 47.0	-0.4
UOSS	Minazif	4.52	184	P	Pn	12 07 49.1	+1.1
UOSS				S	Sn	12 08 38.1	-1.5
UOSS	Minazif	4.52	184	*i* P	Pn	12 07 48.6	+0.6
	SNR=23						
NAZ	Nazwa, Dubai	4.54	190	P	Pn	12 07 50.1	+1.9
	SNR=26						
NAZ				S	Sn	12 08 39.6	-0.3
NAZ	Nazwa, Dubai	4.54	190	*i* P	Pn	12 07 50.0	+1.8
	SNR=39						
KLNJ	Kolanjah	4.54	291	Pn	Pn	12 07 49.4	+0.9
KLNJ	Kolanjah	4.54	291	*e*Pn	Pn	12 07 50.1	+1.6
IMON	Monand	4.57	35	Pn	Pn	12 07 49.1	+0.2
AHBU	AHRAM	4.62	264	Pn	Pn	12 07 49.9	+0.6
DSBU	Dashti - Bushe	4.75	258	Pn	Pn	12 07 51.5	+0.4
FAQ	Al Faqa, Dubai	4.79	190	P	Pn	12 07 53.0	+1.5
	SNR=36						
FAQ				S	Sn	12 08 44.8	-1.1
FAQ	Al Faqa, Dubai	4.79	190	*i* P	Pn	12 07 52.7	+1.2
	SNR=13						
ASHO	Ashiyiah	4.79	185	P	Pn	12 07 53.3	+1.6
	SNR=132						
ASHO				S	Sn	12 08 45.8	-0.3
ASHO	Ashiyiah	4.79	185	*i* P	Pn	12 07 52.8	+1.1
	SNR=58						
ASUD	Al Ashush, Dub	4.95	193	P	Pn	12 07 55.8	+2.1
	SNR=119						
ASUD				S	Sn	12 08 50.3	+0.4
ASUD	Al Ashush, Dub	4.95	193	*i* P	Pn	12 07 55.5	+1.8
	SNR=119						
AJN	Ajban	5.08	196	P	Pn	12 07 57.0	+1.5
	SNR=31						
AJN				S	Sn	12 08 52.1	-1.0
AJN	Ajban	5.08	196	*i* P	Pn	12 07 56.8	+1.2
	SNR=7.5						
IBRJ	Brojen	5.15	299	Pn	Pn	12 07 57.7	+1.1
SHRT	Shahrakht	5.25	37	*e*PnA		12 07 57.4	
SHRT				IAML		12 07 58.3	
	comp=Z,54nm,1.0s						
SOHO	SOHO	5.32	180	P	Pn	12 07 58.2	-0.6
SOHO	SOHO	5.32	180	*i* P	Pn	12 07 57.7	-1.0
	SNR=9.4						
TAPT	Tabas- Tapeh t	5.42	5	Pn	Pn	12 08 00.0	-0.2
ALNE	Al Ain	5.44	188	S	Sn	12 09 00.3	-1.6
ALNE	Al Ain	5.44	188	*i* P	Pn	12 08 01.2	+0.8
	SNR=6.8						
JRN	Qarnain Island	5.58	217	P	Pn	12 08 02.9	+0.6
	SNR=33						
JRN				S	Sn	12 09 03.5	-1.6
HOQ	Hoqain	5.91	173	P	Pn	12 08 06.0	-0.8
	SNR=25						
ISFB	Sefidab	6.08	324	Pn	Pn	12 08 09.7	+0.7
BIDO	Bidbid	6.10	166	P	Pn	12 08 09.2	-0.1
ARQ	Araqi	6.11	180	P	Pn	12 08 10.6	+1.0
	SNR=90						
ARQ				S	Sn	12 09 17.5	-0.7
SHMA	Al-Shehemyia	6.11	235	P	Pn	12 08 10.3	+0.8
	SNR=29						
SHMA				S	Sn	12 09 16.6	-1.5
	SNR=29						
MZWR	Madinat Zayed	6.17	203	P	Pn	12 08 10.8	+0.6
MZWR				S	Sn	12 09 16.5	-2.9
SAKB	Bahrain	6.35	238	P	Pn	12 08 13.7	+1.0
SAKB				S	Sn	12 09 22.2	-1.7
GHWR	Ruwais	6.39	212	P	Pn	12 08 13.4	+0.2
GHWR				S	Sn	12 09 21.7	-3.1
WSAR	Wadi Sarin	6.49	163	P	Pn	12 08 14.8	+0.1
	comp=Z,12nm,0.3s,baz=5.4,slow=6.2,SNR=67						
WSAR				S	Sn	12 09 22.8	-4.5
	comp=Z,46nm,0.3s,baz=258,slow=22,SNR=32						
SHRO	Shahrood	6.51	356	*e*PnA		12 08 15.5

GTA pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 37.77 337 P P 12 13 47.7 +0.9
comp=Z,2.2nm,0.8s,baz=137,slow=7.9,SNR=2.1
comp=Z,2.2nm,0.8s
DAVOX Davos/Dischmat 39.92 309 LR LR 12 34 13.6
comp=Z,180nm,18.7s,baz=258,slow=41
SONM Songino Array 42.23 50 P P 12 14 23.3 -0.8
comp=Z,0.8nm,0.8s,baz=266,slow=7.6,SNR=5.5
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 43.86 345 P **P 12 14 37.4 +0.7**
comp=Z,2.2nm,1.0s,baz=144,slow=7.8,SNR=1.3
comp=Z,2.2nm,1.0s
TORD Torodi Ar. Bea 53.14 264 P P 12 15 48.8 +0.2
comp=Z,2.2nm,0.4s,baz=64,slow=6.8,SNR=1.4
comp=Z,2.2nm,0.4s
SCHQ Schefferville 83.00 331 P P 12 18 54.5 -0.2
comp=Z,1.0nm,0.7s,baz=66,slow=5.7,SNR=3.7
comp=Z,1.0nm,0.7s
ILAR Eielson Array 84.30 10 P **P 12 19 00.3 -0.7**
comp=Z,0.3nm,0.6s,baz=331,slow=5.5,SNR=7.4
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 88.08 356 P **P 12 19 20.1 +0.5**
comp=Z,0.7nm,0.6s,baz=359,slow=4.9,SNR=22
YKA pP **pP 12 19 49.4 +0.9**
comp=Z,0.5nm,1.0s,baz=360,slow=4.8,SNR=3.2
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 89.58 113 P P 12 19 26.4 -0.9
comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=2.5
comp=Z,0.3nm,0.6s
ASAR Alice Springs 91.18 117 P **P 12 19 34.3 -0.5**
comp=Z,0.3nm,0.4s,baz=304,slow=4.7,SNR=8.8
comp=Z,0.3nm,0.4s

NNC 13 12:09:37.8±4.7, 36°94N×71°15E, h0km, mb4.2, mpv3.9, 4C-3D, Error ellipse: s-maj=37.8km s-min=34.3km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.17 356**		P	Pn	12 11 11.9	+1.7
	10.0nm,0.3s,baz=183,slow=13,SNR=185						
KK31				⇓S	Sn	12 12 24.2	+2.7
	7.5nm,0.5s,baz=179,slow=19,SNR=5.6						
AAK	**Ala-Archa**	**6.24**	**23**	⇑P	Pn	12 11 12.1	+0.8
	3.3nm,0.3s						
AAK				⇑S	Sn	12 12 24.6	+1.2
	6.9nm,0.6s						
CHMS	**Chumysh**	**6.65**	**23**	⇓P	Pn	12 11 16.6	-0.2
	1.6nm,0.2s						
CHMS				⇑S	Sn	12 12 32.9	-0.4
	4.2nm,0.5s						
TKM2	**Tokmak 2**	**6.88**	**28**	⇑P	Pn	12 11 19.5	-0.6
	3.0nm,0.5s						
AB31	**Akbulak array**	**14.76**	**330**	P	Pn	12 13 04.6	-3.1
	0.9nm,0.3s,baz=136,slow=15,SNR=34						
AB31				⇓S	Sn	12 15 48.9	-3.0
	1.8nm,0.8s,baz=150,slow=24,SNR=4.1						

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*IDC **13** 12:23:21.8±2.7, 53°52N×63°29E, h0km, mb3.4/1, mbtmp3.3/2, ML3.1/1, MS3.3/2, Error ellipse: s-maj=134.0km s-min=24.8km az=29.0*
*NNC **13** 12:23:23.9±3.6, 52°66N×63°41E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=65.8km s-min=11.6km az=150.0, Suspected Mining explosion.*
ISC 13 12:23:16.5±1.2, 52°8N±0°1×63°73E±0°07, h0km, n10, σ2°61/8, 3C-7D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**3.98**	**83**	⇓Pn	**Pg**	**12 24 32.3**	**-0.4**
	1.9nm,0.8s						
BRVK				⇓Lg	Lg	12 25 36.0	
	6.1nm,0.9s						
BVA0	**Borovoye Array**	**4.04**	**84**	⇑Pn	**Pb**	**12 24 29.0**	**+0.5**
	2.3nm,0.7s,baz=102,slow=39,SNR=7.3						
BVA0				⇓Sn	**Sb**	**12 25 19.8**	**+1.9**
	2.0nm,0.7s,baz=64,slow=33,SNR=4.0						
BVA0				⇓Lg	Lg	12 25 38.3	
	7.0nm,1.1s,baz=290,slow=24,SNR=4.1						
AB31	**Akbulak array**	**4.25**	**216**	⇓Pn	**Pb**	**12 24 29.2**	**-2.9**
	1.6nm,0.8s,baz=26,slow=12,SNR=9.7						
AB31				⇓Sn	**Sn**	**12 25 15.9**	**+3.2**
	0.5nm,0.3s,baz=67,slow=23,SNR=3.0						
AB31				⇑Lg	Lg	12 25 34.0	
	1.0nm,0.3s,baz=42,slow=25,SNR=4.4						
AKTO	**Aktyubinsk**	**4.26**	**239**	⇓Pg	**Pb**	**12 24 34.6**	**+2.4**
	3.6nm,1.5s						
AKTO				⇑Lg	Lg	12 25 30.0	
	6.5nm,1.2s						
I31KZ	**AKTYUBINSK INF**	**4.26**	**239**	I	I	12 53 30.0	
	baz=49,slow=330,SNR=0.8						
KIRV	**Kirov**	**9.95**	**311**	LR	LR	12 29 12.9	
	comp=Z,148nm,19.2s,baz=307,slow=38						
I46RU	**ZALESOVO INFRA**	**12.65**	**76**	I	I	13 38 40.0	
	baz=278,slow=313,SNR=1.1						
MKAR	**Makanchi Array**	**13.39**	**109**	Pn	**P**	**12 26 36.6**	**-0.8**
	0.1nm,0.3s,baz=289,slow=12,SNR=4.7						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**21.92**	**308**	P	**P**	**12 28 08.7**	**-2.3**
	1.1nm,0.6s,baz=96,slow=11,SNR=4.3						
	1.1nm,0.6s						
ASF	**Jabal al Asfar**	**28.27**	**234**	LR	LR	12 43 30.9	
	comp=Z,80nm,18.2s,baz=86,slow=42						

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*NNC **13** 12:29:09.0±4.0, 42°26N×82°31E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=34.1km s-min=16.4km az=159.0*
*SOME **13** 12:29:09.2, 42°58N×82°40E, h0km*
ISC 13 12:29:10.2±2.9, 42°2N±0°2×82°15E±0°09, h10km, n7, σ1°34/11, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.19**	**296**	*e*P	**Pn**	**12 29 46.0**	**-0.8**
	4.2nm,0.1s						
SHLS				*e*S	**Sn**	**12 30 12.6**	**-1.6**
	364nm,0.2s						
PDGK	**Podgornoye**	**2.25**	**300**	⇑Pg	**Pb**	**12 29 51.1**	**0.0**
	7.1nm,0.8s						
PDGK				⇑Lg	Lg	12 30 24.8	
	64nm,1.1s						
UZB	**Uzynbulak**	**2.49**	**293**	*e*P	**Pg**	**12 29 57.2**	**-0.7**
	4.1nm,0.1s						
UZB				*e*S	**Sg**	**12 30 32.0**	**+1.8**
	17nm,0.4s						
DJR	**Jarkent**	**2.73**	**322**	*e*P	**Pb**	**12 29 57.8**	**-1.4**
	0.8nm,0.1s						
DJR				*e*S	**Sb**	**12 30 33.0**	**+0.4**
	7.3nm,0.6s						
KPKS	**Kokpek**	**2.84**	**297**	*e*P	**Pb**	**12 30 03.1**	**+2.1**
	3.7nm,0.1s						
KPKS				*e*S	**Sg**	**12 30 42.0**	**+0.6**
	10nm,0.2s						
MK31	**Makanchi Array**	**4.57**	**1**	⇑Pn	**Pn**	**12 30 20.2**	**+0.7**
	0.3nm,0.5s,baz=301,slow=20,SNR=10						
MK31				⇑Pg	**Pb**	**12 30 30.9**	**+0.3**
	0.4nm,0.5s,baz=177,slow=16,SNR=5.8						
MK31				⇑Lg	Lg	12 31 31.4	
	9.7nm,0.8s,baz=176,slow=29,SNR=11						
MAKZ	**Makanchi**	**4.59**	**358**	⇑Lg	Lg	12 31 33.6	
	9.4nm,0.9s						

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*IDC **13** 12:53:08.2±3.5, 37°60N×78°91E, h0km, mb3.7/3, mbtmp3.5/6, ML2.9/3, Error ellipse: s-maj=69.4km s-min=41.9km az=119.0*
ISC 13 12:53:10.5±2.9, 37°7N±0°2×78°7E±0°3, h10km, n6, σ0°35/7, mb3.7/3, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**9.47**	**15**	Pn	**Pn**	**12 55 26.5**	**-0.5**
	0.6nm,0.3s,baz=198,slow=14,SNR=40						
MKAR				Sn	**Sn**	**12 57 13.7**	**+0.2**
	0.2nm,0.3s,baz=196,slow=20,SNR=3.6						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**12.93**	**359**	Pn	**Pn**	**12 56 14.4**	**+0.2**
	baz=183,slow=14,SNR=1.8						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**16.39**	**342**	Pn	**Pn**	**12 57 00.4**	**-0.1**
	baz=153,slow=9.7,SNR=3.7						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**40.07**	**324**	P	**P**	**13 00 45.4**	**-0.2**
	1.4nm,0.8s,baz=107,slow=9.7,SNR=3.3						
	1.4nm,0.8s						
ARCES	**ARCESS Array B**	**42.52**	**335**	P	**P**	**13 01 05.9**	**+0.1**
	2.4nm,0.8s,baz=108,slow=8.8,SNR=4.3						
	2.4nm,0.8s						
YKA	**Yellowknife Ar**	**79.58**	**6**	P	**P**	**13 05 17.7**	**+0.3**
	0.2nm,0.8s,baz=338,slow=5.4,SNR=4.1						
	0.2nm,0.8s						

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*NOU **13** 13:04:50.9, 34°03S×179°70E, h292km, mb4.6/19, South of Kermadec Islands*
*WEL **13** 13:04:50.9±0.8, 34°S±4°×18°0W±°, h207km±17km, M4.4/24, mB4.9/16, MLv5.0/24, Mw(mB)4.2/16, Error ellipse: s-maj=11.2km s-min=4.4km az=109.9, confirmed*
*NEIC **13** 13:04:50.5±1.3, 33°65S±0°09×179°4E±0°1, h265km±8km, mb4.3/13, Error ellipse: s-maj=18.7km s-min=10.1km az=123.0*
*IDC **13** 13:04:52.1±1.7, 33°56S×179°27E, h280km±15km, mb3.9/6, mbtmp4.7/9, Error ellipse: s-maj=17.1km s-min=12.6km az=36.0*
ISC 13 13:04:48.9±0.5, 33°75S±0°04×179°51E±0°07, h250km, n110, σ2°31/123, mb4.4/12, 5C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.93 194**			**Pn**	**13 05 54.9**	**+3.1**
MXZ	**Matakaoa Point**	**3.93 194**		P	**Pn**	**13 05 54.0**	**+2.2**
MXZ	**Matakaoa Point**	**3.93 194**		P	**Pn**	**13 05 54.3**	**+2.5**
MXZ				S	**S**	**13 06 43.7**	**+1.9**
WMGZ	**Waiomatatini S**	**4.16 192**		P	**Pn**	**13 05 57.1**	**+2.6**
GRZ	**Great Barrier**	**4.16 232**		P	**Pn**	**13 05 58.5**	**+4.0**
HAZ	**Te Kaha**	**4.24 199**		P	**Pn**	**13 05 56.9**	**+1.5**
HAZ				S	**S**	**13 06 50.4**	**+2.1**
PKGZ	**Pakihiroa**	**4.27 195**		P	**Pn**	**13 05 58.1**	**+2.2**
KUZ	**Kuaotunu**	**4.31 225**		P	**Pn**	**13 06 00.2**	**+3.9**
KUZ	**Kuaotunu**	**4.31 225**		P	**Pn**	**13 06 00.7**	**+4.4**
PUZ	**Puketiti**	**4.43 193**		P	**Pn**	**13 05 59.5**	**+1.8**
PUZ				S	**S**	**13 06 52.8**	**+0.2**
RUGZ	**Raukumara Rang**	**4.46 199**		P	**Pn**	**13 05 59.6**	**+1.3**
TWGZ	**Tauwhareparae**	**4.59 195**		P	**Pn**	**13 06 01.6**	**+1.9**
TWGZ				S	**S**	**13 06 58.9**	**+2.7**
WIAZ	**Waiheke Island**	**4.70 228**		P	**Pn**	**13 06 04.8**	**+3.9**
ABAZ	**Army Bay**	**4.77 232**		P	**Pn**	**13 06 06.0**	**+4.1**
WCZ	**Waipu Caves**	**4.78 241**		P	**Pn**	**13 06 05.9**	**+4.0**
MBAZ	**Motutapu North**	**4.83 230**		P	Pn	13 06 07.3	+4.8
CNGZ	**Carnagh Statio**	**4.84 192**		S	S	13 06 55.0	-6.5
TKGZ	**Te Karaka**	**4.87 196**		P	**Pn**	**13 06 04.4**	**+1.4**
TKGZ				S	**S**	**13 07 00.4**	**-1.8**
MKAZ	**Moumakai**	**4.88 225**		P	Pn	13 06 07.8	+4.6
URZ	**Urewera**	**4.90 203**		P	**Pn**	**13 06 07.0**	**+3.6**
	210nm,0.3s,baz=354,slow=3.8,SNR=167						
URZ				S	**S**	**13 07 03.5**	**+0.7**
	514nm,0.4s,baz=251,slow=21,SNR=22						
URZ	**Urewera**	**4.90 203**		P	**Pn**	**13 06 04.3**	**+0.9**
ETAZ	**East Tamaki Re**	**4.92 228**		P	Pn	13 06 08.2	+4.5
GLKZ	**Green Lake**	**4.98 27**		P	**Pn**	**13 06 05.5**	**+1.0**
GLKZ				S	**S**	**13 07 00.1**	**-4.6**
HBAZ	**Herne Bay Bore**	**4.99 230**		P	**Pn**	**13 06 07.7**	**+3.3**
EPAZ	**Eden Park BICE**	**4.99 230**		P	Pn	13 06 09.5	+5.0
RAGZ	**Rawiri**	**5.03 199**		P	**Pn**	**13 06 06.3**	**+1.3**
RAGZ				S	**S**	**13 07 07.3**	**+1.4**
RVAZ	**Riverhead Bore**	**5.04 232**		P	**Pn**	**13 06 08.9**	**+3.9**
KBAZ	**Karaka Road Bo**	**5.04 227**		P	**Pn**	**13 06 09.5**	**+4.4**
OUZ	**Omahuta**	**5.10 252**		P	**Pn**	**13 06 09.0**	**+3.1**
OUZ	**Omahuta**	**5.10 252**		P	**Pn**	**13 06 09.2**	**+3.4**
WTAZ	**Waiatarua**	**5.14 230**		P	**Pn**	**13 06 10.1**	**+3.8**
TOZ	**Tahuroa Road**	**5.14 218**		**Pn**	**Pn**	**13 06 10.1**	**+3.8**
RIGZ	**Rimuhau**	**5.14 195**		P	**Pn**	**13 06 07.3**	**+0.8**
RIGZ				S	**S**	**13 07 08.2**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.17 229**		P	**Pn**	**13 06 10.1**	**+3.4**
MUGZ	**Murupara**	**5.21 204**		P	**Pn**	**13 06 07.8**	**+0.5**
MUGZ				S	**S**	**13 07 05.8**	**-4.0**
RTZ	**Ruatahuna**	**5.27 202**		Pn	**Pn**	**13 06 08.6**	**+0.6**
SNGZ	**Shannon Statio**	**5.32 199**		P	**Pn**	**13 06 09.4**	**+0.8**
SNGZ				S	**S**	**13 07 12.7**	**+0.5**
PRGZ	**Paritu Road**	**5.33 194**		P	**Pn**	**13 06 09.3**	**+0.6**
PRGZ				S	**S**	**13 07 10.2**	**-2.1**
KNZ	**Kokohu**	**5.47 195**		P	**Pn**	**13 06 10.6**	**+0.3**
KNZ				S	**S**	**13 07 09.8**	**-5.6**
MHGZ	**Mahia Peninsul**	**5.55 193**		P	**Pn**	**13 06 12.1**	**+0.8**
MHGZ				S	S	13 07 11.3	-5.9
ARHZ	**Aropaoanui**	**5.86 199**		P	**Pn**	**13 06 15.6**	**+0.3**
ARHZ				S	**S**	**13 07 23.0**	**-1.3**
BKZ	**Black Stump Fm**	**5.93 203**			**Pn**	**13 06 16.2**	**+0.1**
BKZ	**Black Stump Fm**	**5.93 203**		P	**Pn**	**13 06 16.1**	**0.0**
HIZ	**Hauiti**	**6.07 217**		**Pn**	**Pn**	**13 06 20.4**	**+2.6**
HIZ	**Hauiti**	**6.07 217**		P	**Pn**	**13 06 20.9**	**+3.1**
PXZ	**Pawanui**	**6.62 198**		P	**Pn**	**13 06 23.6**	**-1.1**
PXZ				S	**S**	**13 07 36.8**	**-4.6**
WAZ	**Wanganui**	**7.01 210**		P	**Pn**	**13 06 28.8**	**-0.8**
WAZ				S	**S**	**13 07 44.4**	**-6.0**
KHEZ	**Kahui Hut**	**7.08 217**		P	**Pn**	**13 06 34.1**	**+3.5**
BFZ	**Birch Farm**	**7.39 200**			**Pn**	**13 06 33.6**	**-0.8**
BFZ	**Birch Farm**	**7.39 200**		P	**Pn**	**13 06 33.9**	**-0.5**
MRZ	**Mangatainoka R**	**7.58 203**			**Pn**	**13 06 34.6**	**-2.2**
MSWZ	**Moikau Station**	**8.37 203**			Pn	13 06 43.9	-2.8
SNZO	**South Karori**	**8.46 205**		Pn	**Pn**	**13 06 45.3**	**-2.5**
SNZO	**South Karori**	**8.46 205**		P	Pn	13 06 44.7	-3.1
BHW	**Baring Head**	**8.49 204**			Pn	13 06 44.2	-4.0
PLWZ	**Palliser**	**8.50 202**			**Pn**	**13 06 46.5**	**-2.0**
TCW	**Tory Channel**	**8.53 208**			**Pn**	**13 06 46.8**	**-2.0**
TUWZ	**Tuamarina**	**8.85 208**		Pn	**Pn**	**13 06 50.5**	**-2.3**
TKNZ	**Takaka Hill**	**8.94 214**			**Pn**	**13 06 52.4**	**-1.7**
QRZ	**Quartz Range**	**8.99 216**		P	**Pn**	**13 06 52.5**	**-2.1**
BSWZ	**Blackbirch Sta**	**9.12 208**			**Pn**	**13 06 54.2**	**-2.0**
MRNZ	**Matariki Terra**	**9.33 213**			**Pn**	**13 06 57.9**	**-1.0**
KHZ	**Kahutara**	**9.85 207**		P	Pn	13 07 02.5	-2.9
LTZ	**Lake Taylor**	**10.66 210**		Pn	**Pn**	**13 07 14.1**	**-1.6**
RPZ	**Rata Peaks**	**11.94 211**		P	Pn	13 07 28.7	-2.8
	22nm,0.4s,baz=238,slow=2.6,SNR=37						
RPZ				S	S	13 09 32.7	-12
	19nm,0.3s,baz=313,slow=21,SNR=21						
RPZ	**Rata Peaks**	**11.94 211**		P	**Pn**	**13 07 29.7**	**-1.9**
ODZ	**Otahua Downs**	**13.19 209**		P	**Pn**	**13 07 45.7**	**-1.3**
JCZ	**Jackson Bay**	**13.26 216**		P	**Pn**	**13 07 46.2**	**-1.7**
SYZ	**Scrubby Hill**	**15.02 209**		P	**P**	**13 08 07.4**	**-1.3**
PINNC	**Pines Island,**	**15.36 313**		P	**Pn**	**13 08 15.7**	**+2.3**
MSVF	**Nonsavu**	**16.00 355**		P	**P**	**13 08 20.9**	**+1.0**
MSVF	**Nonsavu**	**16.00 355**		P	**P**	**13 08 20.3**	**+0.4**
	25nm,0.7s,baz=200,slow=5.9,SNR=26						
MSVF	**Nonsavu**	**16.00 355**		P	**Pn**	**13 08 23.2**	**+2.0**
DZM	**Mont Dzumac**	**16.37 312**		P	**P**	**13 08 24.7**	**+0.7**
DZM				IAmb	IAmb	13 08 36.4	
	comp=Z,17nm,1.3s						
DZM	**Mont Dzumac**	**16.37 312**		P	**P**	**13 08 23.2**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=135,slow=19,SNR=7.2						
DZM	**Mont Dzumac**	**16.37 312**		P	**Pn**	**13 08 26.2**	**+0.6**
DGTI	**Dogotuki**	**17.38**	**1**	P	**Pn**	**13 08 37.3**	**+0.1**
EIDS	**Eidsvold**	**26.04 281**		P	**P**	**13 09 58.4**	**-1.1**
EIDS				IAmb	IAmb	13 10 10.5	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**40.96 272**		P	**P**	**13 12 06.1**	**-1.6**
ASAR	**Alice Springs**	**40.96 272**		P	**P**	**13 12 06.0**	**-1.7**
ASAR	**Alice Springs**	**40.96 272**		P	**P**	**13 12 06.8**	**-0.8**
	comp=Z,5.1nm,0.6s,baz=111,slow=7.5,SNR=105						
ASAR				S	**S**	**13 17 55.9**	**-4.7**
	comp=Z,0.8nm,0.8s,baz=112,slow=14,SNR=9.2						
	comp=Z,5.1nm,0.6s						
WRAB	**Tennant Creek**	**42.26 277**		P	**P**	**13 12 16.7**	**-1.4**
WRA	**Warramunga Arr**	**42.26 277**		P	**P**	**13 12 16.6**	**-1.5**
WRA	**Warramunga Arr**	**42.26 277**		P	**P**	**13 12 16.9**	**-1.2**
	comp=Z,3.3nm,0.4s,baz=118,slow=7.6,SNR=84						
WRA				ScP	**ScP**	**13 17 28.9**	**-4.6**
	comp=Z,0.2nm,0.6s,baz=118,slow=3.2,SNR=1.4						
WRA				S	**S**	**13 18 15.2**	**-4.5**
	comp=Z,0.2nm,0.6s,baz=120,slow=14,SNR=1.5						
	comp=Z,3.3nm,0.4s						
KNRA	**Kununurra**	**48.98 279**		P	**P**	**13 13 09.4**	**-1.2**
KNRA				IAmb	IAmb	13 13 42.9	
	comp=Z,25nm,1.5s						
QSPA	**South Pole Qui**	**56.37 180**		P	**P**	**13 14 06.2**	**+2.2**
QSPA				IAmb	IAmb	13 14 07.6	
	comp=Z,9.5nm,0.8s						
QSPA				PcP	**PcP**	**13 14 58.9**	**+0.9**
QSPA	**South Pole Qui**	**56.37 180**		P	**P**	**13 14 06.4**	**+2.4**
	comp=Z,6.4nm,0.6s,baz=224,slow=2.1,SNR=71						
QSPA				PcP	**PcP**	**13 14 58.9**	**+0.9**
	comp=Z,2.0nm,1.0s,baz=198,slow=3.2,SNR=1.8						
	comp=Z,6.4nm,0.6s						
BELA	**Belgrano 2**	**66.75 173**		P	**P**	**13 15 13.8**	**+1.0**
BELA				IAmb	IAmb	13 15 15.2	
	comp=Z,5.2nm,0.8s						
BELA				PcP	**PcP**	**13 15 39.7**	**0.0**
TROLL	**Troll, Antarti**	**74.51 181**		⇑P	**P**	**13 16 00.6**	**+0.9**
	comp=Z,101nm,0.4s						
SNAA	**Sanae**	**74.86 179**		P	**P**	**13 16 02.4**	**+0.7**
SNAA				IAmb	IAmb	13 16 42.7	
	comp=Z,9.2nm,1.2s						
SNAA	**Sanae**	**74.86 179**		⇑P	**P**	**13 16 02.6**	**+1.0**
	comp=Z,50nm,0.3s						
SNAA	**Sanae**	**74.86 179**		P	**P**	**13 16 02.7**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=329,slow=3.1,SNR=30						
	comp=Z,1.7nm,0.3s						
VNA3	**Neumayer Olymp**	**75.10 177**		⇑P	**P**	**13 16 04.1**	**+1.1**
	comp=Z,11nm,0.6s						
VNA2	**Neumayer--Watz**	**75.51 178**		⇑P	**P**	**13 16 06.6**	**+1.3**
	comp=Z,13nm,0.5s,baz=189,slow=5.0						
VNA1	**Neumayer--Stat**	**75.75 177**		⇑P	**P**	**13 16 08.1**	**+1.5**
	comp=Z,8.7nm,0.8s						
PLCA	**Paso Flores**	**81.75 134**		P	**P**	**13 16 42.5**	**+2.6**
PLCA				IAmb	IAmb	13 16 43.7	
	comp=Z,9.2nm,1.5s						
PLCA	**Paso Flores**	**81.75 134**		P	**P**	**13 16 41.9**	**+2.0**
	comp=Z,1.8nm,0.7s,baz=237,slow=5.4,SNR=5.0						
	comp=Z,1.8nm,0.7s						
PEA0B	**Petropavlovsk-**	**88.56 347**		P	**P**	**13 17 12.3**	**-0.5**
PETK	**Petropavlovsk-**	**88.56 347**		P	**P**	**13 17 11.9**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=119,slow=7.0,SNR=10						
	comp=Z,4.3nm,0.8s						
CBX	**Cerro Bola**	**89.02**	**49**	P	**P**	**13 17 15.3**	**-0.4**
ILAR	**Eielson Array**	**101.67**	**14**	PKiKP	**PKiKP**	**13 22 33.8**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=243,slow=2.0,SNR=2.3						
YKA	**Yellowknife Ar**	**109.37**	**27**	PKiKP	**PKiKP**	**13 22 47.9**	**-0.6**
	comp=Z,0.1nm,0.7s,baz=230,slow=1.6,SNR=4.7						
MKAR	**Makanchi Array**	**118.28 309**		PKP	**PKPdf**	**13 23 04.2**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=117,slow=2.3,SNR=5.1						
MKAR				PKKPbc	**PKKPbc**	**13 33 27.0**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=312,slow=1.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**121.83 313**		PKP	**PKPdf**	**13 23 10.9**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=113,slow=2.0,SNR=11						
BVAR	**Borovoye Array**	**127.27 314**		PKP	**PKPdf**	**13 23 22.2**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=107,slow=2.1,SNR=5.8						
ARCES	**ARCESS Array B**	**141.36 346**		PKhKP	PKPpre	13 23 43.0	
	comp=Z,1.3nm,0.8s,baz=36,slow=1.1,SNR=6.2						
ARCES				PKP	**PKPdf**	**13 23 47.9**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=59,slow=1.4,SNR=5.1						
FINES	**FINESS Array B**	**147.46 336**		PKPbc	**PKPdf**	**13 23 59.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=56,slow=3.9,SNR=10						
HFS	**Hagfors**	**152.01 345**		PKPbc	**PKPbc**	**13 24 12.6**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=34,slow=2.2,SNR=2.0						
DBIC	**Dimbokro**	**152.75 170**		PKPbc	**PKPbc**	**13 24 16.9**	**+0.3**
	comp=Z,3.6nm,0.3s,baz=140,slow=1.4,SNR=14						
TORD	**Torodi Ar. Bea**	**159.40 186**		PKPab	**PKPab**	**13 24 56.3**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=180,slow=4.6,SNR=2.9						

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*JMA **13** 13:23:33.1±0.3, 37°6N±1°0×136°0E±0°9, h335km±2km, MV3.0/27, SEA OF JAPAN*
*IDC **13** 13:23:33.5±1.0, 37°59N×135°87E, h322km±14km, mb3.0/8, mbtmp3.8/13, Error ellipse: s-maj=22.3km s-min=13.7km az=60.0*
ISC 13 13:23:32.9±0.7, 37°75N±0°07×135°94E±0°07, h300km, n25, σ1°92/29, mb3.2/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.50**	**168**	*e*P	**Pn**	**13 24 19.1**	**+2.9**
JSD	**Sado**	**1.86**	**80**	P	**Pn**	**13 24 22.0**	**+3.5**
MAT	**Matsushiro**	**2.18**	**123**	P	**Pn**	**13 24 23.5**	**+2.4**
MJAR	**Matsushiro Arr**	**2.18**	**123**	P	**Pn**	**13 24 23.7**	**+2.5**
	22nm,0.7s,baz=291,slow=6.7,SNR=40						
JYTA	**Yamagatataniai**	**2.25**	**163**	*e*P	**Pn**	**13 24 23.6**	**+1.8**
JYTA				S	**S**	**13 25 02.6**	**+1.9**
JWT	**Wachi**	**2.50**	**190**	P	**Pn**	**13 24 25.6**	**+1.6**
JWT				*e*S	**S**	**13 25 05.7**	**+1.0**
JOI	**OKI**	**2.60**	**237**	P	**Pn**	**13 24 27.4**	**+2.5**
JRY	**Ryogami san**	**2.94**	**125**	*e*P	**Pn**	**13 24 29.8**	**+1.7**
JYN	**Shimob**	**3.07**	**136**	P	**Pn**	**13 24 30.7**	**+1.2**
JAG	**Ashikaga**	**3.11**	**114**	P	**Pn**	**13 24 31.1**	**+1.4**
JIE	**Ise**	**3.41**	**169**	*e*P	**Pn**	**13 24 34.2**	**+1.4**
JOD2	**Odawara 2**	**3.55**	**133**	*e*P	**Pn**	**13 24 35.4**	**+1.0**
JHS	**Saijyo**	**3.56**	**221**	P	**Pn**	**13 24 36.1**	**+1.6**
JHJ	**Hachijo jima 2**	**5.58**	**145**	P	**Pn**	**13 24 57.7**	**+0.3**
	136nm,0.8s,baz=76,slow=20,SNR=1.6						
JHJ				S	**S**	**13 26 06.5**	**+1.2**
	86nm,0.7s,baz=235,sl

*BJI **13** 13:44:00.8, 23.01N×93.99E, h58km, mB4.7/5, mb4.3/27, ML3.9/5, Ms4.2/1, Ms7 4.0/1*
*NDI **13** 13:44:04.5±2.8, 23.05N×93.93E, h70km, ML4.1, MW4.0, mb4.5(NEIC)*
*NEIC **13** 13:44:04.3±1.4, 23.02N±0.06×93.94E±0.06, h80km±6km, mb4.5/48, Error ellipse: s-maj=9.1km s-min=8.5km az=216.0*
*IDC **13** 13:44:05.0±1.4, 22.94N×93.89E, h94km±13km, mb4.0/25, mbtmp4.3/27, MS3.4/4, Error ellipse: s-maj=14.6km s-min=9.3km az=44.0*
ISC 13 13:44:01.4±0.4, 22.98N±0.04×93.84E±0.04, h58km, n133, σ2°08/149, mb4.5/56, MS3.4/4, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**1.30**	**306**	*eP*	**Pn**	**13 44 27.5**	**+4.0**
AZL				*eS*	**Sn**	**13 44 44.1**	**+4.1**
AZL				IAML		13 44 47.3	
	comp=N,1μm,0.2s						
IMP	**Imphal**	**1.84**	**3**	*eP*	**Pn**	**13 44 34.4**	**+3.6**
IMP				*eS*	**Sn**	**13 44 55.1**	**+2.0**
IMP				IAML		13 44 56.5	
	comp=N,510nm,0.2s						
IMP				IAML		13 44 56.8	
	comp=E,185nm,0.2s						
BRDH	**Bariadhala**	**2.05**	**262**	P	**Pn**	**13 44 38.0**	**+4.4**
	comp=E,288nm,0.4s,baz=58,slow=23,SNR=8.9						
BRDH				S	**Sn**	**13 45 04.5**	**+6.5**
	comp=E,1μm,0.3s,baz=242,slow=22,SNR=19						
AGT	**Agartala**	**2.54**	**291**	*eS*	**Sn**	**13 45 14.9**	**+4.8**
KOHI	**KOHIMA**	**2.74**	**5**	*eP*	**Pn**	**13 44 45.7**	**+2.6**
KOHI				*eS*	**Sn**	**13 45 15.3**	**+0.2**
KOHI				IAML		13 45 17.8	
	comp=E,1μm,0.5s						
KOHI				IAML		13 45 19.8	
	comp=N,2μm,0.4s						
SHL	**Shillong**	**3.13**	**326**	Pn	**Pn**	**13 44 51.3**	**+2.8**
SHL	**Shillong**	**3.13**	**326**	*eP*	**Pn**	**13 44 51.7**	**+3.2**
SHL				*eS*	**Sn**	**13 45 24.3**	**-0.5**
SHL				IAML		13 45 25.5	
	comp=E,2μm,0.1s						
GUWA	**GUWAHATI**	**3.75**	**329**	*eP*	**Pn**	**13 44 58.9**	**+2.1**
GUWA				*eS*	**Sn**	**13 45 37.3**	**-2.4**
GUWA				IAML		13 45 39.4	
	comp=E,873nm,0.1s						
GUWA				IAML		13 45 46.9	
	comp=E,1μm,0.1s						
ZIRO	**ZIRO**	**4.53**	**0**	*eP*	**Pn**	**13 45 08.4**	**+0.9**
ZIRO				*eS*	**Sn**	**13 45 56.5**	**-2.5**
ZIRO				IAML		13 46 02.4	
	comp=N,987nm,0.4s						
ZIRO				IAML		13 46 02.6	
	comp=E,944nm,0.6s						
LKP	**Lekhapani**	**4.70**	**22**	*eP*	**Pn**	**13 45 11.4**	**+1.6**
TNCH	**TengChong**	**4.74**	**64**	P	**Pn**	**13 45 12.8**	**+2.3**
TNCH				S	**Sn**	**13 46 07.1**	**+2.9**
TNCH				smax	smax		
	comp=E,130nm,0.9s						
TNCH				smax	smax		
	comp=E,99nm,1.2s						
TAWA	**Tawang**	**4.93**	**339**	*eP*	**Pn**	**13 45 15.9**	**+2.6**
TAWA				*eS*	**Sn**	**13 46 06.6**	**-2.6**
TAWA				IAML		13 46 10.4	
	comp=N,809nm,0.1s						
TAWA				IAML		13 46 11.2	
	comp=E,689nm,0.2s						
CHTO	**Chiang Mai**	**6.32**	**130**	Pn	**Pn**	**13 45 33.7**	**+1.7**
GTK	**Tadong**	**6.42**	**313**	*eP*	**Pn**	**13 45 36.3**	**+2.8**
GTK				*eS*	**Sn**	**13 46 44.5**	**-0.9**
GTK				IAML		13 46 48.6	
	comp=E,206nm,0.2s						
GTK				IAML		13 46 55.0	
	comp=E,142nm,0.2s						
CM31	**Chiang Mai Arr**	**6.56**	**132**		**Pn**	**13 45 38.2**	**+2.8**
CMAR	**Chiang Mai Arr**	**6.56**	**132**	Pn	**Pn**	**13 45 38.3**	**+3.0**
CMAR	**Chiang Mai Arr**	**6.56**	**132**	P	Pn	13 45 38.9	+3.5
	comp=E,6.1nm,0.6s,baz=313,slow=14,SNR=33						
LSA	**Lhasa**	**7.11**	**341**	Pn	**Pn**	**13 45 45.8**	**+2.5**
LSA	**Lhasa**	**7.11**	**341**	P	**Pn**	**13 45 46.5**	**+3.2**
LSA				smax	smax		
	comp=E,110nm,0.6s						
BOK	**Bokaro**	**7.36**	**278**	*eP*	**Pn**	**13 45 49.1**	**+2.9**
BOK				*eS*	**Sn**	**13 47 06.2**	**-2.1**
BOK				IAML		13 47 11.3	
	comp=E,140nm,1.0s						
BOK				IAML		13 47 11.3	
	comp=N,169nm,0.8s						
JHSG	**JHARSUGUGA**	**9.40**	**265**	*eP*	**Pn**	**13 46 15.9**	**+1.7**
JHSG				*eS*	**Sn**	**13 47 53.6**	**-4.8**
JHSG				IAML		13 47 57.2	
	comp=E,148nm,0.3s						
JHSG				IAML		13 47 59.8	
	comp=N,139nm,0.2s						
RAGD	**RAYAGADA**	**10.38**	**251**	*eP*	**Pn**	**13 46 32.0**	**+4.3**
RAGD				*eS*	**Sn**	**13 48 16.8**	**-5.7**
RAGD				IAML		13 48 22.9	
	comp=N,28nm,0.7s						
RAGD				IAML		13 48 24.0	
	comp=E,21nm,0.6s						
PBA	**Port Blair**	**11.31**	**186**		**Pn**	**13 46 42.3**	**+2.0**
GOMU	**GeErMu**	**13.20**	**3**	P	**Pn**	**13 47 04.6**	**-1.8**
GOMU				pmax	pmax		
	comp=E,21nm,0.8s						
BHPL	**Bhopal**	**15.11**	**274**	*eP*	**P**	**13 47 35.9**	**+0.4**
BHPL				*eS*	**Sn**	**13 50 09.8**	**-8.0**
HYB	**Hyderabad**	**15.38**	**252**	*eP*	**Pn**	**13 47 34.4**	**-0.5**
HYB				*e*		13 50 14.0	
HYB				*eS*	**Sn**	**13 50 25.9**	**+1.5**
LZH	**Lanzhou**	**15.68**	**31**	*eP*	**Pn**	**13 47 39.3**	**+0.5**
LZH				pP	pP	13 47 50.4	-4.0
LZH				pmax	pmax		
	comp=E,18nm,1.3s						
SMLA	**Simla**	**16.91**	**302**	*eP*	**P**	**13 47 56.8**	**+1.5**
SMLA				*eS*	Sn	13 50 50.8	-11
GTA	**Gaotai**	**17.15**	**16**	*eP*	**Pn**	**13 47 57.3**	**+0.1**
GTA				pP	pP	13 48 06.5	-4.3
GTA				sP	sP	13 48 13.3	-5.0
GTA				pmax	pmax		
	comp=E,7.0nm,0.8s						
XAN	**Xi'an**	**17.21**	**47**	⇑P	**Pn**	**13 47 57.1**	**-0.8**
XAN				pmax	pmax		
	comp=E,9.0nm,0.7s						
PALK	**Pallekele**	**20.09**	**221**	S	**S**	**13 52 04.5**	**-8.7**
	comp=E,2.8nm,0.4s,baz=137,slow=22,SNR=4.7						
PALK				LR	LR	13 59 03.9	
	comp=E,69nm,18.2s,baz=41,slow=45						
PSI	**Prapat**	**20.66**	**165**	P	Pn	13 48 38.1	-1.3
	comp=E,3.5nm,0.4s,baz=354,slow=12,SNR=6.1						
	comp=E,3.5nm,0.4s						
RPSI	**Rantau Prapat**	**20.76**	**166**	P	**P**	**13 48 36.7**	**-0.9**
NIL	**Nilore**	**20.98**	**305**	P	**P**	**13 48 40.3**	**+0.4**
NIL				IAmb	IAmb	13 49 01.1	
	comp=Z,24nm,1.1s						
WMQ	**Urumqi**	**21.40**	**348**	*eP*	**P**	**13 48 49.8**	**+5.5**
WMQ				pmax	pmax		
	comp=Z,27nm,1.3s						
WUS	**Wushi**	**21.93**	**329**	P	**P**	**13 48 50.8**	**+0.6**
WUS				IAmb	IAmb	13 49 00.1	
	comp=Z,16nm,0.7s						
BTO	**Baotou**	**22.25**	**34**	*eP*	**P**	**13 48 56.8**	**+3.3**
BTO				pmax	pmax		
	comp=Z,44nm,0.7s						
BTO				pmax	pmax		
	comp=Z,230nm,9.7s						
KSH	**Kashi**	**22.41**	**321**	P	**P**	**13 48 57.9**	**+2.6**
KSH				pmax	pmax		
	comp=Z,11nm,1.0s						
KNMB	**Chin-men Tao**	**22.52**	**81**	P	**P**	**13 48 57.1**	**+0.7**
KNMB				IAmb	IAmb	13 49 00.5	
	comp=Z,44nm,1.0s						
TARG	**Taragay, Kyrgy**	**23.02**	**328**	P	**P**	**13 49 03.1**	**+1.1**
KDJ	**Kajisay**	**23.62**	**328**	P	**P**	**13 49 09.6**	**+2.2**
KBL	**Kabul**	**24.54**	**304**	P	**P**	**13 49 17.0**	**+1.2**
KBL				IAmb	IAmb	13 49 19.7	
	comp=Z,14nm,1.1s						
DRK	**Karamyk**	**24.91**	**316**	P	**P**	**13 49 20.3**	**+0.9**
DRK				IAmb	IAmb	13 49 21.8	
	comp=Z,14nm,0.5s						
ARSB	**Arslanbob**	**25.31**	**321**	P	**P**	**13 49 22.8**	**-0.1**
AAK	**Ala-Archa**	**25.36**	**325**	P	**P**	**13 49 24.1**	**+0.8**
MK31	**Makanchi Array**	**25.52**	**341**	P	**P**	**13 49 25.3**	**+0.8**
MK31				IAmb	IAmb	13 49 34.6	
	comp=Z,10nm,0.9s						
MKAR	**Makanchi Array**	**25.52**	**341**	P	**P**	**13 49 25.1**	**+0.6**
MKAR	**Makanchi Array**	**25.52**	**341**	P	**P**	**13 49 26.0**	**+1.5**
	comp=Z,9.4nm,0.6s,baz=152,slow=9.6,SNR=124						
MKAR				PcP	**PcP**	**13 52 53.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=156,slow=2.8,SNR=2.9						
	comp=Z,9.4nm,0.6s						
GAR	**Garm**	**25.61**	**314**	P	**P**	**13 49 26.7**	**+1.1**
GAR				IAmb	IAmb	13 49 27.9	
	comp=Z,26nm,0.8s						
MAKZ	**Makanchi**	**25.63**	**341**	P	**P**	**13 49 26.2**	**+0.8**
BTK	**Batken**	**25.86**	**317**	P	**P**	**13 49 28.9**	**+1.1**
SIMJ	**Simiganj**	**26.32**	**312**	P	**P**	**13 49 32.7**	**+0.7**
SIMJ				IAmb	IAmb	13 49 33.9	
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	**26.76**	**19**	P	**P**	**13 49 36.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=197,slow=9.4,SNR=20						
SONM				ScP	**ScP**	**13 56 28.3**	**-4.5**
	comp=Z,0.7nm,0.8s,baz=203,slow=3.1,SNR=3.8						
	comp=Z,2.4nm,0.7s						
ULN	**Ulaanbaatar**	**26.98**	**20**	P	**P**	**13 49 37.6**	**-0.2**
XLT	**XiLinHaoTe**	**27.76**	**36**	*eP*	P	13 49 36.0	-8.8
XLT				pP	pP	13 49 54.3	-4.9
XLT				PP	**PnPn**	**13 50 32.3**	**-1.1**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,180nm,4.7s						
KURBB	**Kurchatov Arra**	**30.07**	**340**	P	**P**	**13 50 06.0**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=154,slow=8.3,SNR=24						
KURBB				PcP	**PcP**	**13 53 05.0**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=148,slow=3.0,SNR=10						
KURBB				LR	LR	14 05 50.9	
	comp=Z,83nm,19.6s,baz=169,slow=43						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**30.12**	**341**	P	**P**	**13 50 05.8**	**+0.3**
ZALV	**Zalesovo Beam**	**31.67**	**350**	P	**P**	**13 50 19.9**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=182,slow=8.9,SNR=5.5						
	comp=Z,1.3nm,0.4s						
KSRS	**Korea Array**	**32.59**	**56**	P	**P**	**13 50 26.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=252,slow=10,SNR=1.9						
	comp=Z,0.8nm,0.5s						
JNU	**Nakatsue**	**34.06**	**64**	LR	LR	14 04 17.0	
	comp=Z,62nm,18.7s,baz=354,slow=36						
BVAR	**Borovoye Array**	**34.91**	**335**	P	**P**	**13 50 47.9**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=139,slow=9.3,SNR=7.9						
	comp=Z,1.7nm,0.7s						
ABKAR	**Akbulak array**	**37.40**	**323**	P	**P**	**13 51 09.8**	**+1.1**
KLR	**Kul'dur**	**39.66**	**39**	LR	LR	14 08 01.7	
	comp=Z,52nm,18.9s,baz=348,slow=36						
MJAR	**Matsushiro Arr**	**40.47**	**60**	P	**P**	**13 51 35.1**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=272,slow=9.6,SNR=4.6						
	comp=Z,2.5nm,0.8s						
ARTI	**Arti**	**42.26**	**331**	P	**P**	**13 51 49.2**	**+0.4**
ARTI				IAmb	IAmb	13 51 50.5	
	comp=Z,6.9nm,1.1s						
RAYN	**Ar Rayn**	**44.25**	**281**	P	**P**	**13 52 06.6**	**+1.1**
GURO	**Guroymak-BITLI**	**46.55**	**302**	P	**P**	**13 52 25.2**	**+1.6**
GURO				IAmb	IAmb	13 52 26.8	
	comp=Z,3.4nm,0.8s						
KIV	**Kislovodsk**	**46.69**	**309**	P	**P**	**13 52 24.8**	**+0.3**
KIV				IAmb	IAmb	13 52 27.7	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**51.42**	**135**	P	**P**	**13 52 59.5**	**-1.3**
MMAI	**Mount Meron Ar**	**51.99**	**295**	P	**P**	**13 53 05.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=86,slow=7.9,SNR=1.9						
	comp=Z,0.5nm,0.3s						
BZK	**Bozkurt**	**52.85**	**306**	P	**P**	**13 53 11.8**	**+0.6**
BRTR	**Keskin Array B**	**53.11**	**303**	P	**P**	**13 53 13.7**	**+0.3**
BRTR	**Keskin Array B**	**53.11**	**303**	P	**P**	**13 53 14.1**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=105,slow=9.1,SNR=3.5						
	comp=Z,1.2nm,0.5s						
ANTO	**Ankara**	**53.76**	**303**	P	**P**	**13 53 17.8**	**-0.2**
	comp=Z,16nm,0.9s						
AK09	**Malin Array Si**	**56.53**	**316**	P	**P**	**13 53 37.7**	**0.0**
AK08	**Malin Array Si**	**56.55**	**316**	P	**P**	**13 53 37.9**	**0.0**
AK10	**Malin Array Si**	**56.55**	**316**	P	**P**	**13 53 37.9**	**0.0**
AKASG	**Malin Array Be**	**56.58**	**316**	P	**P**	**13 53 37.9**	**-0.2**
	comp=Z,2.7nm,0.3s,baz=85,slow=6.2,SNR=32						
	comp=Z,2.7nm,0.3s						
AKBB	**Malin Array Si**	**56.58**	**316**	P	**P**	**13 53 37.1**	**-0.9**
AKBB	**Malin Array Si**	**56.58**	**316**	P	**P**	**13 53 37.9**	**-0.1**
KIEV	**Kiev**	**56.59**	**316**	P	**P**	**13 53 37.7**	**-0.4**
KIEV	**Kiev**	**56.59**	**316**	P	**P**	**13 53 37.8**	**-0.4**
	comp=Z,48nm,0.8s						
SORM	**Soroca**	**57.02**	**313**	P	**P**	**13 53 41.3**	**+0.1**
	comp=Z,10nm,1.0s						
LUBAR	**Lubar, Ukraine**	**57.47**	**316**	P	**P**	**13 53 43.8**	**-0.6**
MI28	**Mi28,Pidlybu**	**57.58**	**317**	P	**P**	**13 53 45.1**	**0.0**
WB0	**Warramunga Arr**	**58.06**	**134**	P	**P**	**13 53 47.5**	**-1.4**
WRA	**Warramunga Arr**	**58.15**	**134**	P	**P**	**13 53 47.5**	**-2.0**
WRA	**Warramunga Arr**	**58.15**	**134**	P	**P**	**13 53 48.8**	**-0.8**
	comp=Z,5.6nm,0.6s,baz=322,slow=7.4,SNR=75						
WRA				PcP	**PcP**	**13 54 39.0**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=331,slow=3.9,SNR=7.9						
	comp=Z,5.6nm,0.6s						
PLOR5	**Plostina Array**	**58.17**	**311**	P	**P**	**13 53 50.9**	**+1.5**
	comp=Z,29nm,1.2s						
PLOR3	**Plostina Array**	**58.18**	**311**	P	**P**	**13 53 51.1**	**+1.6**
	comp=Z,23nm,1.2s						
WR0	**Warramunga Arr**	**58.30**	**134**	P	**P**	**13 53 49.4**	**-1.1**
WR0				IAmb	IAmb	13 53 50.9	
	comp=Z,5.0nm,0.7s						
KARP	**Karpathos**	**58.52**	**299**	P	**P**	**13 53 52.5**	**+0.4**
KARP	**Karpathos**	**58.52**	**299**	P	**P**	**13 53 52.8**	**+0.7**
	comp=Z,117nm,1.4s						
MLR	**Muntele Rosu**	**58.68**	**310**	P	**P**	**13 53 54.4**	**+1.3**
MLR	**Muntele Rosu**	**58.68**	**310**	P	**P**	**13 53 54.4**	**+1.3**
	comp=Z,9.2nm,0.7s,baz=142,slow=4.3,SNR=10						
	comp=Z,9.2nm,0.7s						
MLR	**Muntele Rosu**	**58.68**	**310**	P	**P**	**13 53 54.7**	**+1.6**
	comp=Z,19nm,1.1s						
RNPP9	**Sopachiv**	**58.72**	**317**	P	**P**	**13 53 53.4**	**+0.4**
BURAR	**Bucovina Array**	**59.13**	**313**	P	**P**	**13 53 56.1**	**0.0**
BUR08	**Bucovina Ar. S**	**59.14**	**313**	P	**P**	**13 53 56.3**	**+0.1**
FINES	**FINESS Array B**	**59.47**	**329**	P	**P**	**13 53 57.9**	**-0.2**
FINES	**FINESS Array B**	**59.47**	**329**	P	**P**	**13 53 58.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=86,slow=5.9,SNR=8.6						
	comp=Z,0.8nm,0.5s						
AS31	**Alice Springs**	**60.54**	**137**	P	**P**	**13 54 05.4**	**-0.6**
AS31				IAmb	IAmb	13 54 06.3	
	comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**60.54**	**137**	P	**P**	**13 54 05.3**	**-0.7**
ASAR	**Alice Springs**	**60.54**	**137**	P	**P**	**13 54 05.7**	**-0.3**
	comp=Z,8.8nm,0.5s,baz=319,slow=6.8,SNR=420						
ASAR				PcP	**PcP**	**13 54 49.0**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=320,slow=3.7,SNR=7.5						
	comp=Z,8.8nm,0.5s						
ARCES	**ARCESS Array B**	**61.12**	**338**	P	**P**	**13 54 09.5**	**+0.3**
ARCES	**ARCESS Array B**	**61.12**	**338**	P	**P**	**13 54 09.6**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=110,slow=7.6,SNR=21						
	comp=Z,1.6nm,0.4s						
SPITS	**Spitsbergen Ar**	**65.10**	**347**	P	**P**	**13 54 34.9**	**-0.6**
	comp=Z,12nm,1.1s,baz=108,slow=8.0,SNR=7.8						
	comp=Z,12nm,1.1s						
HFS	**Hagfors**	**65.48**	**327**	P	**P**	**13 54 38.3**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=104,slow=4.9,SNR=3.0						
	comp=Z,2.7nm,0.5s						
NC602	**NORSAR Array S**	**66.50**	**328**	P	**P**	**13 54 44.3**	**-0.4**
NB2	**NORSAR Subarra**	**66.63**	**328**	P	**P**	**13 54 45.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**66.63**	**328**	P	**P**	**13 54 45.0**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=85,slow=6.4,SNR=5.9						
	comp=Z,1.2nm,0.6s						
GERES	**GERESS Array B**	**66.69**	**315**	P	**P**	**13 54 46.8**	**+0.4**
GERES	**GERESS Array B**	**66.69**	**315**	P	**P**	**13 54 47.0**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=60,slow=7.9,SNR=4.6						
	comp=Z,1.6nm,0.4s						
NC204	**NORSAR Array S**	**66.83**	**329**	P	**P**	**13 54 46.7**	**-0.2**
NC204				IAmb	IAmb	13 54 49.3	
	comp=Z,10.0nm,1.2s						
STKA	**Stephens Creek**	**71.15**	**138**	P	**P**	**13 55 13.2**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=326,slow=6.9,SNR=7.2						
	comp=Z,1.8nm,0.6s						
LSZ	**Lusaka**	**74.63**	**246**	P	**P**	**13 55 35.8**	**+0.6**
LSZ				IAmb	IAmb	13 55 36.8	
	comp=Z,8.7nm,0.8s						
B20K	**Meade River**	**74.85**	**20**	P	**P**	**13 55 35.4**	**0.0**
B20K				IAmb	IAmb	13 55 47.4	
	comp=Z,7.9nm,1.4s						
EKA	**Eskdalemuir Ar**	**75.26**	**324**	P	**P**	**13 55 36.6**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=74,slow=6.5,SNR=3.7						
	comp=Z,1.5nm,0.6s						
B22K	**Teshekpuk Lake**	**75.83**	**19**	P	**P**	**13 55 40.3**	**-0.6**
B22K				IAmb	IAmb	13 56 03.5	
	comp=Z,6.5nm,0.6s						
E21K	**Killik River**	**76.58**	**21**	P	**P**	**13 55 44.8**	**-0.5**
E21K				IAmb	IAmb	13 55 46.0	
	comp=Z,4.6nm,0.8s						
C23K	**Itkillik River**	**76.92**	**19**	P	**P**	**13 55 47.3**	**+0.2**
C23K				IAmb	IAmb	13 55 48.1	
	comp=Z,5.3nm,0.7s						
EUNU	**Eureka**	**77.17**	**0**	P	**P**	**13 55 48.9**	**+0.3**
EUNU				IAmb	IAmb	13 55 49.8	
	comp=Z,4.5nm,0.8s						
D23K	**Nanushuk River**	**77.36**	**20**	P	**P**	**13 55 49.8**	**+0.1**
D23K				IAmb	IAmb	13 55 51.1	
	comp=Z,6.2nm,0.9s						
D25K	**Kavik River**	**78.45**	**18**	P	**P**	**13 55 55.3**	**-0.5**
D25K				IAmb	IAmb	13 55 57.0	
	comp=Z,7.9nm,1.4s						
E24K	**Your Creek**	**78.52**	**20**	P	**P**	**13 55 56.2**	**0.0**
E24K				IAmb	IAmb	13 55 57.0	
	comp=Z,3.7nm,0.7s						
BMAR	**Burnt Mountain**	**80.11**	**20**	P	**P**	**13 56 05.3**	**+0.4**
ILAR	**Eielson Array**	**80.93**	**22**	P	**P**	**13 56 07.8**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=279,slow=5.3,SNR=20						
	comp=Z,0.7nm,0.6s						
ESDC	**Sonseca Array**	**81.36**	**309**	P	**P**	**13 56 12.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=73,slow=5.5,SNR=4.2						
	comp=Z,1.1nm,0.8s						
LBTB	**Lobatse**	**81.57**	**238**	P	**P**	**13 56 13.7**	**+0.4**
BOSA	**Boshof**	**83.64**	**235**	P	**P**	**13 56 24.0**	**0.0**
YKA	**Yellowknife Ar**	**91.86**	**13**	P	**P**	**13 57 02.0**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=328,slow=4.4,SNR=9.8						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**125.32**	**19**	PKP	**PKPdf**	**14 02 55.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=115,slow=0.3,SNR=7.4						
CPUP	**Villa Florida**	**153.61**	**257**	PKPbc	**PKPbc**	**14 03 52.2**	**-1.9**
	comp=Z,2.5nm,0.6s,baz=124,slow=5.2,SNR=7.3						

*IDC **13** 14:14:35.2±3.6, 3.93S×142.04E, h149km±37km, mb3.3/4, mbtmp3.9/5, Error ellipse: s-maj=61.7km s-min=19.1km az=104.0*
ISC 13 14:14:35.3±1.4, 3.9S±0.1×142.1E±0.2, h150km, n6, σ1°28/7, mb3.6/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.94**	**316**	P	**Pn**	**14 15 09.4**	**-0.3**
	5.5nm,0.4s,baz=147,slow=12,SNR=8.4						
JAY				S	**Sn**	**14 15 36.6**	**+0.4**
	21nm,0.5s,baz=93,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**17.61**	**205**	P	**P**	**14 18 28.9**	**-1.6**
	4.9nm,0.7s,baz=27,slow=11,SNR=36						
ASAR	**Alice Springs**	**21.15**	**201**	P	**P**	**14 19 07.5**	**-1.1**
	0.8nm,0.5s,baz=29,slow=12,SNR=24						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.36**	**228**	P	**P**	**14 19 11.7**	**+0.6**
	2.0nm,0.6s,baz=35,slow=15,SNR=7.5						
	2.0nm,0.6s						
STKA	**Stephens Creek**	**27.81**	**181**	P	**P**	**14 20 12.0**	**+1.5**
	1.8nm,0.9s,baz=5.2,slow=16,SNR=3.3						
	1.8nm,0.9s						
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**14 26 56.2**	**-0.1**
	0.6nm,0.7s,baz=263,slow=4.2,SNR=7.4						
	0.6nm,0.7s						

IDC 13 14:17:56.7±2.2, 31.24S×178.19W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=62.1km s-min=36.9km az=44.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.91**	**268**	P	P	14 25 56.9	-0.4
	0.3nm,0.6s,baz=110,slow=8.1,SNR=7.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.98**	**273**	P	P	14 26 06.1	+0.1
	0.5nm,0.5s,baz=112,slow=8.0,SNR=10						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**58.88**	**180**	P	P	14 27 56.7	-0.4
	1.3nm,0.9s,baz=352,slow=7.1,SNR=6.5						
	1.3nm,0.9s						
FINES	**FINESS Array B**	**145.87**	**339**	PKPbc	PKPdf	14 37 36.9	+0.3
	0.7nm,0.5s,baz=49,slow=3.1,SNR=4.7						

*IDC **13** 14:41:23.4±0.9, 8.27S×118.00E, h0km, mb3.7/6, mbtmp3.8/8, ML3.6/2, MS3.0/1, Error ellipse: s-maj=34.7km s-min=17.3km az=69.0*
*DJA **13** 14:41:24.7±0.3, 8.3S±3×11.8E±, h10km, M3.9/13, MLv3.9/13*
ISC 13 14:41:24.8±0.7, 8.22S±0.05×117.94E±0.04, h10km, n22, σ0°93/24, mb3.7/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.63**	**195**	P	**Pg**	**14 41 36.7**	**-0.3**
PLAI				Sg	**Sg**	**14 41 45.5**	**+0.2**
TWSI	**Taliwang, Sumb**	**1.17**	**244**	P	**Pb**	**14 41 46.0**	**-1.1**
WBSI	**Waikabubak, Su**	**2.01**	**135**	P	**Pn**	**14 41 59.1**	**+0.2**
WBSI				S	**Sb**	**14 42 25.4**	**-1.3**
SRBI	**Singaraja**	**2.71**	**273**	P	**Pn**	**14 42 08.5**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.26**	**51**	P	**Pn**	**14 42 14

MTN	**Manton Dam**	**6.26**	**125**	Pn	**Pn**	**14 44 18.1**	**-0.2**
WBSI	**Waikabubak, Su**	**6.40**	**266**	P	**Pn**	**14 44 20.5**	**+0.2**
	0.2nm62nm,0.9s						
KNRA	**Kununurra**	**6.95**	**156**		**Pn**	**14 44 28.4**	**+0.6**
SANI	**Sanana**	**7.19**	**1**	P	**Pn**	**14 44 35.5**	**+4.5**
KDU	**Kakadu**	**7.31**	**118**	P	**Pn**	**14 44 33.8**	**+1.1**
KAPI	**Kappang**	**7.41**	**305**	LR	LR	14 47 33.7	
	comp=Z,337nm,18.2s,baz=122,slow=41						
LUWI	**Luwuk**	**8.75**	**339**	P	Pn	14 44 57.6	+5.1
	35nm,0.9s						
FITZ	**Fitzroy Crossi**	**8.77**	**181**	Pn	**Pn**	**14 44 52.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**8.77**	**181**	Pn	**Pn**	**14 44 53.0**	**+0.3**
	2.6nm,0.3s,baz=12,slow=10,SNR=122						
FITZ				Sn	**Sn**	**14 46 26.0**	**-5.6**
	11nm,0.3s,baz=183,slow=19,SNR=8.6						
FITZ				LR	LR	14 48 59.1	
	comp=Z,103nm,19.8s,baz=318,slow=42						
	8.8nm,0.3s						
FAKI	**Fak Fak**	**8.95**	**45**	Pn	**Pn**	**14 44 55.0**	**-0.3**
FAKI	**Fak Fak**	**8.95**	**45**	P	**Pn**	**14 44 56.4**	**+1.1**
FAKI	**Fak Fak**	**8.95**	**45**	P	**Pn**	**14 44 58.5**	**+3.2**
TOLI2	**Tolitoli**	**11.50**	**334**	Pn	Pn	14 45 28.1	-2.1
MBWA	**Marble Bar**	**13.21**	**206**	Pn	**Pn**	**14 45 52.6**	**-0.9**
MBWA	**Marble Bar**	**13.21**	**206**	P	**Pn**	**14 45 56.8**	**+3.3**
WRA	**Warramunga Arr**	**13.39**	**143**	Pn	**Pn**	**14 45 52.7**	**-3.3**
	2.8nm,0.3s,baz=311,slow=14,SNR=102						
WRA				Sn	Sn	14 48 15.1	-10
	4.6nm,0.3s,baz=314,slow=24,SNR=8.3						
WRA				LR	LR	14 52 27.5	
	comp=Z,80nm,19.9s,baz=294,slow=42						
PSA00	**Pilbara Seismi**	**13.52**	**205**	Pn	**Pn**	**14 45 57.3**	**-0.6**
PSA00	**Pilbara Seismi**	**13.52**	**205**	P	**Pn**	**14 46 00.3**	**+2.4**
AS31	**Alice Springs**	**16.23**	**153**	Pn	**Pn**	**14 46 33.5**	**-0.7**
ASAR	**Alice Springs**	**16.24**	**153**	Pn	**Pn**	**14 46 32.6**	**-1.5**
ASAR	**Alice Springs**	**16.24**	**153**	Pn	**Pn**	**14 46 33.3**	**-0.9**
	1.6nm,0.3s,baz=331,slow=12,SNR=21						
ASAR				Sn	Sn	14 49 19.1	-15
	0.3nm,0.3s,baz=330,slow=24,SNR=4.7						
ASAR				LR	LR	14 54 20.6	
	comp=Z,100nm,19.8s,baz=322,slow=42						
QIS	**Mount Isa**	**17.36**	**132**	P	**Pn**	**14 46 49.3**	**+1.0**
COEN	**Coen**	**17.57**	**107**		**Pn**	**14 46 49.1**	**-1.9**
MEEK	**Meekatharra**	**18.58**	**201**	P	**Pn**	**14 47 07.6**	**+4.2**
MTSU	**Mount Surprise**	**19.95**	**118**	P	**Pn**	**14 47 22.1**	**+2.2**
PMG	**Port Moresby**	**21.01**	**92**	LR	LR	14 57 07.3	
	comp=Z,81nm,19.5s,baz=256,slow=40						
FORT	**Forrest**	**21.48**	**175**	P	**P**	**14 47 33.9**	**-0.8**
FORT				IAmb	IAmb	14 48 17.7	
	comp=Z,39nm,1.3s						
FORT	**Forrest**	**21.48**	**175**	P	**P**	**14 47 38.8**	**+4.1**
MORW	**Morawa**	**21.74**	**204**	P	**P**	**14 47 35.8**	**-1.7**
MORW				IAmb	IAmb	14 47 49.3	
	comp=Z,21nm,1.1s						
BLDU	**Balldu**	**22.88**	**201**	P	**P**	**14 47 54.1**	**+4.4**
INKA	**Innaminka**	**23.11**	**145**	P	**P**	**14 47 55.2**	**+3.2**
LCRK	**Leigh Creek**	**24.00**	**153**	P	**P**	**14 48 04.5**	**+3.7**
QLP	**Quilpie**	**24.46**	**137**	P	**P**	**14 48 08.3**	**+3.2**
NWAO	**Narrogin (SRO)**	**24.85**	**197**	LR	LR	14 57 56.0	
	comp=Z,74nm,20.1s,baz=10,slow=37						
BBOO	**Buckleboo**	**25.24**	**160**	P	**P**	**14 48 11.9**	**-0.2**
BBOO				IAmb	IAmb	14 48 40.1	
	comp=Z,40nm,1.5s						
STKA	**Stephens Creek**	**26.80**	**149**	P	**P**	**14 48 28.1**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=315,slow=5.8,SNR=3.8						
STKA				LR	LR	15 01 27.8	
	comp=Z,105nm,18.1s,baz=207,slow=42						
	comp=Z,1.0nm,0.6s						
QIZ	**Qiongzhong**	**32.27**	**331**	P	P	14 49 12.4	-2.5
QIZ				IAmb	IAmb	14 49 51.9	
	comp=Z,23nm,1.3s						
TPUB	**Ta-pu**	**32.79**	**351**	P	P	14 49 15.7	-3.7
CMAR	**Chiang Mai Arr**	**38.29**	**316**	P	P	14 50 03.4	-3.3
	comp=Z,0.7nm,0.3s,baz=132,slow=9.3,SNR=2.1						
CMAR				LR	LR	15 08 59.4	
	comp=Z,29nm,18.9s,baz=180,slow=42						
	comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**46.53**	**2**	P	**P**	**14 51 12.0**	**-1.5**
	comp=Z,5.1nm,0.9s,baz=180,slow=8.7,SNR=16						
	comp=Z,5.1nm,0.9s						
MSVF	**Nonsavu**	**51.29**	**105**	LR	LR	15 12 49.7	
	comp=Z,68nm,19.1s,baz=126,slow=35						
USRK	**Ussuriysk Ar.**	**53.52**	**5**	P	**P**	**14 52 05.5**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=189,slow=7.5,SNR=8.5						
	comp=Z,1.9nm,0.6s						
XLT	**XiLinHaoTe**	**53.67**	**351**	*eP*	**P**	**14 52 10.8**	**+3.0**
XLT				pP	pwP	14 52 16.4	+5.6
XLT				PcP	**PcP**	**14 53 16.1**	**+2.0**
XLT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,120nm,5.1s						
JKA	**Kamikawa-asahi**	**55.27**	**15**	P	**P**	**14 52 18.1**	**-1.2**
SONM	**Songino Array**	**59.43**	**345**	P	**P**	**14 52 46.6**	**-2.2**
	comp=Z,0.8nm,0.4s,baz=156,slow=7.1,SNR=5.0						
	comp=Z,0.8nm,0.4s						
PEA0B	**Petropavlovsk-**	**67.81**	**20**	P	**P**	**14 53 42.3**	**-1.6**
PETK	**Petropavlovsk-**	**67.81**	**20**	P	**P**	**14 53 42.6**	**-1.2**
PETK	**Petropavlovsk-**	**67.81**	**20**	P	**P**	**14 53 42.8**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=177,slow=3.5,SNR=7.2						
	comp=Z,3.3nm,0.8s						
MK31	**Makanchi Array**	**67.98**	**329**	P	P	14 53 42.4	-2.8
MK31				IAmb	IAmb	14 53 45.0	
	comp=Z,2.2nm,1.3s						
MKAR	**Makanchi Array**	**67.98**	**329**	P	P	14 53 41.8	-3.4
MKAR	**Makanchi Array**	**67.98**	**329**	P	P	14 53 42.8	-2.4
	comp=Z,1.1nm,0.6s,baz=128,slow=7.7,SNR=18						
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**68.15**	**329**	P	P	14 53 43.4	-2.8
BOOM	**Boomskoye usch**	**68.77**	**323**	P	P	14 53 47.3	-3.1
BOOM				IAmb	IAmb	14 54 23.6	
	comp=Z,2.3nm,1.0s						
ARSB	**Arslanbob**	**69.93**	**320**	P	**P**	**14 53 55.1**	**-2.4**
ARSB				IAmb	IAmb	14 53 56.0	
	comp=Z,3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.90**	**336**	P	P	14 54 05.6	-3.4
ZALV	**Zalesovo Beam**	**71.90**	**336**	P	P	14 54 06.0	-3.0
	comp=Z,0.7nm,0.5s,baz=150,slow=4.5,SNR=3.9						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.39**	**331**	P	**P**	**14 54 09.6**	**-2.4**
	comp=Z,2.6nm,0.2s,baz=137,slow=5.0,SNR=8.7						
	comp=Z,2.6nm,0.2s						
BVAR	**Borovoye Array**	**77.87**	**329**	P	**P**	**14 54 41.4**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=123,slow=6.0,SNR=5.4						
	comp=Z,0.6nm,0.5s						
SYO	**Syowa Base**	**80.06**	**201**	‖*eP*	**P**	**14 54 54.0**	**-1.4**
SYO	**Syowa Base**	**80.06**	**201**	‖*ep*P	pP	14 54 58.0	-0.3
QSPA	**South Pole Qui**	**80.71**	**180**	P	**P**	**14 54 59.9**	**+0.7**
QSPA				IAmb	IAmb	14 55 15.7	
	comp=Z,6.8nm,1.4s						
QSPA	**South Pole Qui**	**80.71**	**180**	P	**P**	**14 54 60.0**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=248,slow=2.0,SNR=6.3						
	comp=Z,1.2nm,0.9s						
ABKAR	**Akbulak array**	**81.79**	**323**	P	P	14 55 01.2	-3.7
ILAR	**Eielson Array**	**97.15**	**26**	P	Pdif	14 56 21.1	+2.8
	comp=Z,0.3nm,0.9s,baz=265,slow=5.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**125.19**	**280**	PKP	**PKPdf**	**15 01 48.2**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=100,slow=2.5,SNR=7.9						

*GCG **13** 15:14:12.8±0.8, 13°.67N×91°.11W, h30km±5km, MD3.8, ML2.2*

*SNET **13** 15:14:15.4±1.2, 13°.77N×90°.91W, h23km±6km, ML2.8*

ISC 13 15:14:12.1±2.6, 13°.7N±0°.1×91°.01W±0°.10, h6km±12km, n12, σ0s70/21, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.77**	**335**	*i P*		15 14 33.4	
STG8	**El Palmar, Qui**	**0.79**	**335**	*eP*		15 14 33.4	
SOKI	**Kika Raxquin**	**1.16**	**341**	*eP*	**Pn**	**15 14 34.5**	**-0.6**
SOKI	**Kika Raxquin**	**1.16**	**341**	*eP*		15 14 34.5	
NUBE	**Las Nubes**	**1.21**	**81**	*eP*	**Pn**	**15 14 35.6**	**+0.1**
NUBE				*eS*	**Sg**	**15 14 50.1**	**-0.8**
NUBE				IAML		15 14 53.2	
	comp=Z,184nm,0.4s						
NUBE	**Las Nubes**	**1.21**	**81**	*eP*	**Pn**	**15 14 35.7**	**+0.1**
NUBE	**Las Nubes**	**1.21**	**81**	*eP*		15 14 35.7	
RTR	**El Retiro**	**1.33**	**82**	*eP*	**Pg**	**15 14 38.2**	**+0.5**
RTR				*eS*	**Sn**	**15 14 55.7**	**+0.1**
CEVE	**Cerro Verde**	**1.35**	**85**	*eP*	**Pg**	**15 14 38.2**	**+0.2**
CEVE				*eS*	**Sn**	**15 14 56.2**	**+0.2**
CEVE				IAML		15 15 00.8	
	comp=Z,550nm,0.3s						
SBLS	**San Blas**	**1.35**	**85**	*eP*	**Pg**	**15 14 37.9**	**-0.1**
SBLS				*eS*	**Sn**	**15 14 55.5**	**-0.5**
SNJE	**San Jose**	**1.37**	**84**	*eP*	**Pg**	**15 14 38.3**	**-0.1**
SNJE				*eP*	**Pb**	**15 14 39.7**	**+1.4**
APG	**El Apazote**	**1.38**	**22**	*i P*	**Pg**	**15 14 38.1**	**-0.4**
APG				*i S*	**Sn**	**15 14 58.0**	**+1.3**
APG	**El Apazote**	**1.38**	**22**	*i P*		15 14 38.1	
APG				*i S*		15 14 58.0	
JAYA	**Jayaque - finc**	**1.52**	**92**	*eP*	**Pn**	**15 14 39.8**	**-0.1**
JAYA				*eS*	**Sn**	**15 14 59.1**	**-0.9**
JAYA				IAML		15 15 00.2	
	comp=Z,321nm,0.2s						
JAYA	**Jayaque - finc**	**1.52**	**92**	*eP*	**Pn**	**15 14 39.0**	**-0.9**
JAYA				*i S*	**Sn**	**15 14 59.6**	**-0.5**
JAYA	**Jayaque - finc**	**1.52**	**92**	*eP*		15 14 39.0	
JAYA				*i S*		15 14 59.6	
MTO3	**Montecristo**	**1.73**	**67**	*eP*	**Pn**	**15 14 42.6**	**-0.3**
MTO3				*eS*	**Sb**	**15 15 05.9**	**-0.7**
MTO3				IAML		15 15 09.4	
	comp=Z,17nm,0.2s						
MTO3	**Montecristo**	**1.73**	**67**	*eP*	**Pn**	**15 14 42.6**	**-0.3**
MTO3				IAML		15 15 09.3	
	comp=Z,19nm,0.2s						
MTO3	**Montecristo**	**1.73**	**67**	*eP*		15 14 42.6	
MTO3				IAML		15 15 09.3	
	comp=Z,19nm,0.2s						

RSNC 13 15:26:28.6±0.0, 7°N±2°×7°3W±°, h152km±3km, M2.0, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**185**	P	Pn	15 26 49.4	-0.2
BARC				S	Sn	15 27 05.0	-0.6
BARC	**Barichara**	**0.26**	**185**	P	Pn	15 26 49.5	-0.1
BARC				S	Sn	15 27 04.8	-0.8
BRJC	**Barrancabermej**	**0.59**	**282**	P	Pn	15 26 51.0	+0.3
BRJC				S	Sn	15 27 06.9	-0.5
BRJC	**Barrancabermej**	**0.59**	**282**	P	Pn	15 26 51.0	+0.3
BRJC				S	Sn	15 27 07.1	-0.3
PAMC	**Pamplona, Colo**	**0.67**	**43**	P	Pn	15 26 50.9	-0.8
PAMC				S	Sn	15 27 09.3	0.0
RUSC	**La Rusia**	**0.95**	**175**	P	Pn	15 26 52.6	-1.2
RUSC				S	Sn	15 27 12.1	-0.9
RUSC	**La Rusia**	**0.95**	**175**	P	Pn	15 26 52.6	-1.2
RUSC				S	Sn	15 27 08.7	-4.3
PTBC	**PUERTO BERRIO,**	**1.32**	**257**	P	Pn	15 26 56.2	-0.4
PTBC				S	Sn	15 27 17.8	-0.1
OCAC	**Ocana**	**1.39**	**353**	P	Pn	15 26 57.0	-0.4
OCAC				S	Sn	15 27 18.0	-1.4
SPBC	**San Pablo de B**	**1.50**	**217**	P	Pn	15 26 57.5	-0.9
SPBC				S	Sn	15 27 21.4	+0.2
ZARC	**Zaragoza, Cauc**	**1.80**	**291**	P	Pn	15 27 01.1	-0.5
ZARC				S	Sn	15 27 26.7	-0.2
NORC	**Norcasia**	**2.13**	**233**	P	Pn	15 27 04.0	-1.4
NORC				S	Sn	15 27 33.6	-0.1
CHIC	**Chingaza**	**2.28**	**194**	P	Pn	15 27 08.9	+1.3
CHIC				S	Sn	15 27 37.4	-0.2
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	15 27 07.7	-1.8
HELC				S	Sn	15 27 43.8	+2.9
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	15 27 00.4	-9.1
HELC				S	Sn	15 27 22.0	-19
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	15 27 09.6	-3.5
GUY2C				S	Sn	15 27 50.9	+3.6
DBBC	**Dabeiba**	**3.03**	**273**	P	Pn	15 27 16.4	-0.1
DBBC				S	Sn	15 27 52.0	-1.6

*ASIES **13** 15:45:44.3, 22°.58N×120°.80E, h7km, ML3.6, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.22; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$0.43; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.14; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.21401×10^{21} NP1: ϕ_s278.11000°, δ81.10000°, λ-179.65000°. NP2: ϕ_s188.05000°, δ89.65000°, λ-8.90000°. Principal axes: T Plg6.0350°, Azm233.4290°; N Plg81.0930°, Azm5.8490°; P Plg6.5270°, Azm142.7360°;*

*TAP **13** 15:45:44.3, 22°.58N×120°.80E, h7km, ML3.6, C*

ISC 13 15:45:44.7±0.8, 22°.57N±0°.02×120°.81E±0°.02, h11km±6km, n118, σ0s86/172, 7C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.13**	**79**	⇑*iP*	**Pg**	**15 45 48.0**	**+0.2**
ECL				*i S*	**Sg**	**15 45 50.1**	**+0.1**
MASBT	**Mashibuluo**	**0.17**	**283**	‖*iP*	**Pg**	**15 45 48.1**	**-0.4**
MASBT				*i S*	**Sg**	**15 45 50.3**	**-0.8**
TSMG	**Majia**	**0.20**	**310**	‖*iP*	**Pg**	**15 45 48.7**	**-0.4**
TSMG				*i S*	**Sg**	**15 45 51.4**	**-0.6**
TAW	**Tawu**	**0.23**	**160**	‖*iP*	**Pg**	**15 45 49.6**	**+0.2**
TAW				S	**Sg**	**15 45 53.0**	**+0.4**
TAWH	**Dawu Township**	**0.24**	**163**	*i P*	**Pg**	**15 45 49.7**	**0.0**
TAWH				*i S*	**Sg**	**15 45 53.3**	**+0.2**
SSPT	**Xinbi**	**0.24**	**249**	⇑*iP*	**Pg**	**15 45 50.1**	**+0.3**
SSPT				*eS*	**Sg**	**15 45 54.4**	**+1.3**
SCZT	**Fangliau**	**0.27**	**222**	⇑*iP*	**Pg**	**15 45 49.9**	**-0.3**
SCZT				S	**Sg**	**15 45 53.6**	**-0.3**
SGLT	**Jiouru**	**0.34**	**297**	‖*eP*	**Pb**	**15 45 52.2**	**-0.5**
SGLT				*eS*	**Sb**	**15 45 57.9**	**-0.3**
TWG	**Pinlang**	**0.34**	**44**	⇑*iP*	**Pg**	**15 45 51.7**	**+0.1**
TWG				*eS*	**Sg**	**15 45 56.0**	**-0.2**
TWGBT	**Beinan**	**0.35**	**45**	⇑*iP*	**Pg**	**15 45 51.7**	**+0.1**
TWGBT				S	**Sg**	**15 45 56.0**	**-0.4**
SLIU	**Shizi**	**0.35**	**182**	‖*iP*	**Pg**	**15 45 51.6**	**-0.2**
SLIU				*eS*	**Sg**	**15 45 56.5**	**0.0**
TTN	**Taitung**	**0.36**	**59**	⇑*iP*	**Pb**	**15 45 53.0**	**-0.2**
TTN				*eS*	**Sb**	**15 45 58.8**	**0.0**
SCST	**Cishan**	**0.43**	**317**	‖*iP*	**Pb**	**15 45 54.2**	**-0.2**
SCST				*eS*	**Sb**	**15 46 01.2**	**+0.3**
TWM1	**Shoushan**	**0.44**	**305**	‖*iP*	**Pb**	**15 45 54.7**	**+0.1**
LONT	**Longtian**	**0.44**	**41**	⇑*iP*	**Pg**	**15 45 53.6**	**+0.2**
LONT				*eS*	**Sg**	**15 45 59.6**	**+0.3**
WLCH	**Liuqiu**	**0.46**	**241**	*eP*	**Pn**	**15 45 56.7**	**-0.6**
SNJT	**Kaohsiung City**	**0.48**	**292**	*eP*	**Pb**	**15 45 56.0**	**+0.9**
WSSB	**Gushan**	**0.52**	**278**	*eP*	**Pn**	**15 45 57.0**	**-1.1**
SMST	**Manzhou Townsh**	**0.55**	**178**	*eP*	**Pg**	**15 45 55.1**	**-0.3**
SGST	**Jiashian**	**0.55**	**337**	‖*iP*	**Pg**	**15 45 55.0**	**-0.4**
SGST				*eS*	**Sg**	**15 46 02.8**	**+0.1**
HEN	**Hengchun**	**0.57**	**187**	*eP*	**Pb**	**15 45 56.9**	**+0.2**
STYH	**Taoyuan**	**0.60**	**357**	*eP*	**Pg**	**15 45 56.3**	**-0.1**
STYH				*eS*	**Sb**	**15 46 05.0**	**-0.7**
EDH	**Donghe**	**0.60**	**49**	*eP*	**Pb**	**15 45 56.9**	**-0.5**
EDH				*eS*	**Sb**	**15 46 05.9**	**0.0**
LDUT	**Ludao**	**0.61**	**80**	*eP*	**Pg**	**15 45 56.7**	**0.0**
LDUT				*eS*	**Sb**	**15 46 06.2**	**+0.1**
SHHT	**Tainan City**	**0.62**	**316**	*eP*	**Pn**	**15 45 59.5**	**0.0**
SHHT				*eS*	**Sn**	**15 46 11.5**	**+2.0**
TWK1	**Hengchun**	**0.63**	**181**	*eP*	**Pb**	**15 45 57.2**	**-0.5**
TWKBT	**Hengchun**	**0.63**	**180**	*eP*	**Pb**	**15 45 56.8**	**-0.1**
ECS	**Chishang**	**0.64**	**36**	*eP*	**Pg**	**15 45 57.3**	**+0.1**
ELDTW	**Lidau**	**0.64**	**17**	*eP*	**Pg**	**15 45 56.7**	**-0.5**
ELDTW				*eS*	**Sg**	**15 46 05.8**	**+0.1**
CHN3	**Shinhua**	**0.65**	**321**	*eP*	**Pn**	**15 45 60.0**	**0.0**
CHN3				*eS*	**Sn**	**15 46 11.6**	**+1.4**
CHN1	**Nanshi**	**0.67**	**337**	*eP*	**Pb**	**15 45 58.6**	**+0.2**
CHN1				*eS*	**Sn**	**15 46 10.3**	**-0.4**
TSEB	**Hengchuen, Pin**	**0.67**	**173**	*eP*	**Pb**	**15 45 58.4**	**-0.2**
EHD	**Haiduan**	**0.68**	**32**	*eP*	**Pg**	**15 45 56.6**	**-1.3**
WTP	**Ta-pu**	**0.70**	**345**	P	**Pb**	**15 45 58.7**	**-0.3**
WTP				*eS*	**Sn**	**15 46 10.6**	**-0.8**
SNST	**Tainan City**	**0.71**	**336**	*eP*	**Pn**	**15 45 59.8**	**-1.0**
SNST				*i S*	**Sn**	**15 46 11.6**	**-0.1**
CHKT	**Chengkung**	**0.73**	**44**	*i P*	**Pb**	**15 45 59.0**	**-0.5**
CHKT				*i S*	**Sb**	**15 46 09.8**	**+0.3**
SSHA	**Shanhua**	**0.74**	**319**	*eP*	**Pb**	**15 45 59.8**	**+0.1**
SSHA				*eS*	**Sn**	**15 46 13.9**	**+1.4**
TPUB	**Ta-pu**	**0.74**	**347**	P	**Pb**	**15 46 00.1**	**+0.3**
TPUB	**Ta-pu**	**0.74**	**347**	P	**Pb**	**15 45 59.8**	**0.0**
TPUB				*eS*	**Sn**	**15 46 11.8**	**-0.8**
TWK	**Hsinying**	**0.75**	**337**	‖*iP*	**Pn**	**15 46 00.6**	**-0.8**
TWK				*eS*	**Sn**	**15 46 12.6**	**-0.3**
FULB	**Fuli**	**0.77**	**35**	*eP*	**Pb**	**15 45 59.8**	**-0.3**
FULB				*eS*	**Sb**	**15 46 11.2**	**+0.6**
CHN4	**Tsaushan**	**0.80**	**345**	‖*iP*	**Pb**	**15 46 01.2**	**+0.5**
CHN4				*eS*	**Sn**	**15 46 15.0**	**+1.0**
CHKH	**Chenggong**	**0.82**	**41**	*eP*	**Pg**	**15 45 59.8**	**-0.7**
CHKH				*eS*	**Sb**	**15 46 13.0**	**+1.0**
SCLT	**Jiali**	**0.83**	**317**	*eP*	**Pn**	**15 46 02.7**	**+0.3**
SCLT				*eS*	**Sn**	**15 46 15.9**	**+1.3**
LAY	**Lan-yu**	**0.86**	**128**	*eP*	**Pg**	**15 46 01.3**	**-0.1**
TSCK	**Chigu Township**	**0.88**	**311**	*eP*	**Pn**	**15 46 03.6**	**+0.5**
TSCK				*eS*	**Sn**	**15 46 16.9**	**+0.9**
WCKO	**Fanlu**	**0.88**	**347**	P	**Pn**	**15 46 03.0**	**-0.2**
WCKO				S	**Sn**	**15 46 17.1**	**+1.0**
TWF1	**Yuli**	**0.90**	**30**	*eP*	**Pg**	**15 46 01.1**	**-0.9**
TWF1				*eS*	**Sg**	**15 46 13.0**	**-0.7**
EYUL	**Yuli**	**0.90**	**31**	*eP*	**Pg**	**15 46 01.9**	**-0.2**
LYUB	**Lan-yu**	**0.91**	**128**	*eP*	**Pg**	**15 45 59.8**	**-2.5**
YUS	**Yu-Shan**	**0.92**	**8**	*eP*	**Pg**	**15 45 59.9**	**-2.7**
ICHU	**Yijhu**	**0.93**	**328**	*eP*	**Pn**	**15 46 04.1**	**+0.3**
ICHU				*eS*	**Sn**	**15 46 17.9**	**+0.8**
YULB	**Yu-li**	**0.93**	**29**	P	**Pg**	**15 46 01.8**	**-0.9**
YULB	**Yu-li**	**0.93**	**29**	*eP*	**Pg**	**15 46 01.4**	**-1.3**
ALS	**Alishan**	**0.93**	**360**	*eP*	**Pb**	**15 46 03.5**	**+0.3**
ALS				*eS*	**Sn**	**15 46 18.5**	**+0.8**
ECBN	**Changbin**	**0.95**	**38**	*eP*	**Pg**	**15 46 02.8**	**-0.1**
CHN8	**Yiju**	**0.95**	**324**	*eP*	**Pn**	**15 46 03.8**	**-0.2**
CHN8				*eS*	**Sn**	**15 46 19.1**	**+1.5**
CHY	**Chiayi**	**0.99**	**339**	*i P*	**Pn**	**15 46 05.2**	**+0.6**
CHY				*eS*	**Sn**	**15 46 19.5**	**+0.9**
CHN2	**Minshiung**	**1.00**	**342**	*eP*	**Pn**	**15 46 05.2**	**+0.4**
CHN2				*eS*	**Sn**	**15 46 20.9**	**+1.9**
CHN5	**Tsauling**	**1.03**	**353**	*eP*	**Pn**	**15 46 05.3**	**+0.1**
CHN5				*eS*	**Sn**	**15 46 21.5**	**+1.8**
EHYH	**Wanrong**	**1.04**	**28**	*eP*	**Pg**	**15 46 03.7**	**-1.1**
EHY	**Hungye**	**1.04**	**27**	*eP*	**Pg**	**15 46 04.2**	**-0.5**
HGSD	**Ruisui**	**1.07**	**31**	*eP*	**Pg**	**15 46 04.7**	**-0.7**
WSL	**Shuilin Townsh**	**1.09**	**330**	*eP*	**Pn**	**15 46 06.1**	**+0.1**
WSL				S	**Sn**	**15 46 22.3**	**+1.2**
WHYT	**Xinyi Township**	**1.12**	**2**	*eP*	**Pn**	**15 46 06.9**	**+0.4**
WHYT				*eS*	**Sn**	**15 46 23.6**	**+1.7**
WGK	**Gukeng**	**1.13**	**348**	*eP*	**Pn**	**15 46 07.0**	**+0.5**
WGK				*eS*	**Sn**	**15 46 23.5**	**+1.3**
WDLH	**Douliu**	**1.14**	**347**	*eP*	**Pn**	**15 46 07.8**	**+1.1**
WTK	**Tuku**	**1.18**	**341**	*eP*	**Pn**	**15 46 07.0**	**+0.3**
WTK				*eS*	**Sn**	**15 46 25.1**	**+1.8**
WSF	**Szhu**	**1.19**	**333**	*eP*	**Pn**	**15 46 07.7**	**+0.3**
WSF				*eS*	**Sn**	**15 46 24.6**	**+0.9**
VWDT	**VWDT**	**1.21**	**14**	*eP*	**Pn**	**15 46 07.7**	**0.0**
SSLB	**Suanglung**	**1.22**	**6**	P	**Pn**	**15 46 08.6**	**+0.8**
SSLB	**Suanglung**	**1.22**	**6**	*eP*	**Pg**	**15 46 07.5**	**-0.7**
SSLB				*eS*	**Sn**	**15 46 26.5**	**+2.2**
EGFH	**Guangfu**	**1.23**	**27**	*eP*	**Pb**	**15 46 07.8**	**-0.3**
WJS	**Zhushan**	**1.25**	**356**	*eP*	**Pg**	**15 46 09.8**	**+1.1**
WJS				*eS*	**Sn**	**15 46 27.1**	**+2.1**
WARBT	**Fenglin Townsh**	**1.26**	**25**	*eP*	**Pn**	**15 46 07.7**	**-0.6**
WDGT	**Dungji**	**1.27**	**303**	*eP*	**Pn**	**15 46 08.0**	**-0.4**
WNT	**Mingjian**	**1.30**	**355**	*eP*	**Pg**	**15 46 09.2**	**-0.6**
SMLT	**Sun Moon Lake**	**1.31**	**3**	*eP*	**Pg**	**15 46 09.6**	**-0.3**
SMLT				*eS*	**Sn**	**15 46 28.5**	**+1.9**
TYC	**Yuchr**	**1.33**	**2**	*eP*	**Pg**	**15 46 11.0**	**+0.8**
TYC				*eS*	**Sn**	**15 46 28.3**	**+1.4**
ESL	**Shilin**	**1.36**	**25**	*

baz=145,slow=76,SNR=27
H01W3 Cape Leeuwin H 68.74 239 T T 17 29 41.5
baz=145,slow=76,SNR=20
ATAH Atahualpa 69.40 70 LR LR 16 37 27.3
comp=Z,50nm,20.0s,baz=170,slow=30
WRA Warramunga Arr 70.58 263 P **P** **16 13 52.6 -0.6**
comp=Z,0.4nm,0.8s,baz=142,slow=6.4,SNR=1.8
comp=Z,0.4nm,0.8s
BDFB Brasilia 78.67 101 LR LR 16 46 10.5
comp=Z,63nm,19.1s,baz=141,slow=33
SUR Sutherland 89.55 165 LR LR 16 52 10.9
comp=Z,17nm,20.3s,baz=154,slow=33
KAPI Kappang 90.80 260 LR LR 16 55 23.3
comp=Z,55nm,18.2s,baz=259,slow=35
PCRV Puerto La Cruz 91.21 73 LR LR 16 50 45.2
comp=Z,57nm,18.9s,slow=32
BOSA Boshof 93.83 168 LR LR 16 50 37.4
comp=Z,56nm,20.5s,baz=164,slow=31
LBTB Lobatse 97.43 168 LR LR 16 58 28.7
comp=Z,45nm,18.4s,baz=164,slow=34
H10N3 ASCENSION HYDR 102.04 126 T T 18 10 29.4
baz=206,slow=75,SNR=6.0
H10N1 ASCENSION HYDR 102.04 126 T T 18 10 31.8
baz=206,slow=75,SNR=8.6
H10N2 ASCENSION HYDR 102.05 126 T T 18 10 39.8
baz=206,slow=75,SNR=7.5
MKAR Makanchi Array 151.82 267 PKPbc **PKPbc** **16 22 31.9 0.0**
comp=Z,0.6nm,0.8s,baz=138,slow=2.4,SNR=5.1

IDC 13 16:24:45.1±2.0, 2.73S×127.08E, h0km, mb3.5/2, mbtmp3.7/4, ML3.6/2, MS3.4/1, Error ellipse: s-maj=114.5km s-min=26.4km az=69.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.34**	**185**	Pn	Pn	16 28 24.9	+1.8
	0.3nm,0.3s,baz=8.1,slow=11,SNR=12						
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**18.52**	**158**	P	P	16 29 03.2	-0.1
	0.1nm,0.3s,baz=335,slow=11,SNR=6.2						
	1.5nm,0.7s						
PMG	**Port Moresby**	**21.03**	**109**	LR	LR	16 38 56.6	
	comp=Z,104nm,18.1s,baz=130,slow=40						
ASAR	**Alice Springs**	**21.84**	**163**	P	P	16 29 38.5	-0.9
	3.0nm,0.6s,baz=343,slow=11,SNR=74						
	3.0nm,0.6s						
MKAR	**Makanchi Array**	**63.08**	**327**	P	P	16 35 14.7	+0.3
	0.3nm,0.7s,baz=134,slow=7.3,SNR=3.7						
	0.3nm,0.7s						

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*VIE **13** 16:46:08.9, 51.77N×16.79E, h0km, ML2.6/1, Suspected Mining induced.*
*IPEC **13** 16:46:14.5±0.2, 51.60N×16.14E, h1km, ML2.2/5, Error ellipse: s-maj=3.1km s-min=1.5km az=71.0*
*IDC **13** 16:46:15.0±1.3, 51.62N×16.01E, h0km, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=19.9km s-min=10.6km az=124.0*
*PRU **13** 16:46:18.1, 51.47N×16.09E, h0km*
ISC 13 16:46:12.9±1.0, 51.68N±0.04×16.17E±0.03, h0km, n34, σ1.9±21/62, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.84**	**175**	*e*Pg	**Pg**	**16 46 29.4**	**+0.5**
KSP				*e*Sg	**Sg**	**16 46 39.3**	**-0.5**
CHVC	**Chvalec**	**1.09**	**184**	*e*PG	**Pg**	**16 46 34.4**	**+0.6**
OSTC	**Ostas**	**1.12**	**178**	*e*PG	**Pg**	**16 46 34.9**	**+0.5**
OSTC				*e*SG	**Sg**	**16 46 47.9**	**-1.0**
	comp=Z,39nm,0.3s						
UPC	**Upice**	**1.17**	**185**	*e*PG	**Pg**	**16 46 35.6**	**+0.2**
UPC				*e*SG	**Sg**	**16 46 49.5**	**-1.1**
DPC	**Dobruska-Polom**	**1.33**	**176**	*e*PG	**Pg**	**16 46 38.2**	**-0.2**
DPC				*e*SG	**Sg**	**16 46 54.1**	**-1.5**
	comp=Z,21nm,0.4s						
PIVO	**Bartosovice**	**1.51**	**171**	*e*Pn	**Pn**	**16 46 41.4**	**+0.2**
	baz=350						
PIVO				*e*Sg	**Sg**	**16 46 59.5**	**-1.9**
	47nm,0.3s,baz=350						
PVCC	**Panska Ves**	**1.53**	**222**	*e*PG	**Pb**	**16 46 42.3**	**+0.2**
PVCC				*e*SG	**Sg**	**16 47 00.8**	**-1.1**
	comp=Z,93nm,0.3s						
BRG	**Berggiesshubel**	**1.61**	**241**	Pg	**Pn**	**16 46 43.6**	**+1.1**
BRG				Sg	**Sn**	**16 47 04.1**	**0.0**
BRG				Amp		16 47 05.4	
	comp=Z,45nm,0.4s						
KRLC	**Kraliky**	**1.65**	**166**	*e*PG	**Pb**	**16 46 44.2**	**0.0**
KRLC				*e*SG	**Sn**	**16 47 04.1**	**-1.0**
	comp=Z,30nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.97**	**207**	*e*PG	**Pb**	**16 46 49.3**	**-0.3**
PRU	**Pruhonice**	**1.98**	**212**	*e*PG	**Pb**	**16 46 50.2**	**+0.4**
PRU				*e*SG	**Sn**	**16 47 13.6**	**+0.5**
	comp=Z,17nm,0.5s						
CLL	**Collm**	**2.01**	**261**	*i* Pn	**Pn**	**16 46 48.3**	**+0.2**
	comp=Z,8.0nm,0.5s						
CLL				*e*Pg	**Pb**	**16 46 51.0**	**+0.7**
CLL				*i* x	x	16 46 55.1	
CLL				*e*x	x	16 47 06.0	
CLL				*e*Sg	**Sb**	**16 47 17.0**	**+1.1**
	comp=Z,13nm,0.5s						
CLL				*i* x	x	16 47 23.3	
STEB	**Steborice**	**2.02**	**149**	*e*PG	**Pb**	**16 46 51.2**	**+0.7**
STEB				*e*SG	**Sg**	**16 47 17.4**	**-0.3**
MORC	**Moravsky Berou**	**2.09**	**155**	*e*Pn	**Pn**	**16 46 49.6**	**+0.4**
	baz=334						
MORC				*e*Sg	**Sb**	**16 47 18.1**	**-0.2**
	comp=Z,19nm,0.6s,baz=334						
OKC	**Ostrava-Krasne**	**2.23**	**145**	*e*PG	**Pg**	**16 46 55.5**	**-0.1**
OKC				*e*SG	**Sb**	**16 47 23.0**	**+0.9**
VRAC	**Vranov**	**2.39**	**173**	Pn	**Pn**	**16 46 54.6**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=332,slow=15,SNR=6.3						
VRAC				Lg	Lg	16 47 28.3	
	comp=Z,2.2nm,0.3s,baz=84,slow=20,SNR=5.6						
	comp=Z,3.0nm,0.3s						
VRAC	**Vranov**	**2.39**	**173**	*e*Pn	**Pn**	**16 46 53.6**	**+0.4**
	baz=353						
VRAC				*e*Sg	**Sb**	**16 47 26.7**	**0.0**
	comp=Z,6.9nm,0.3s,baz=353						
TREC	**Trest**	**2.42**	**191**	*e*SG	**Sb**	**16 47 28.2**	**+0.4**
MAUC	**Maruska**	**2.54**	**155**	*e*PG	**Pg**	**16 47 01.4**	**-0.2**
KRUC	**Moravsky**	**2.62**	**177**	*e*Pn	**Pn**	**16 46 57.0**	**+0.5**
	baz=356						
KRUC				*e*Sg	**Sb**	**16 47 34.1**	**+0.7**
	comp=Z,8.2nm,0.4s,baz=356						
OJC	**Ojcow**	**2.72**	**121**	*e*Pg	**Pg**	**16 47 05.7**	**+0.7**
OJC				*e*Sg	**Sg**	**16 47 40.4**	**+0.2**
KHC	**Kasperske Hory**	**3.04**	**214**	*e*PN	**Pn**	**16 47 03.0**	**+0.8**
KHC				*e*PG	**Pb**	**16 47 08.7**	**+0.8**
KHC				*e*SG	**Sb**	**16 47 47.7**	**+2.2**
	comp=Z,7.9nm,0.6s						
CKRC	**Cesky Krumlov**	**3.10**	**203**	*e*PN	**Pn**	**16 47 03.8**	**+0.8**
CKRC				*e*PG	**Pb**	**16 47 09.2**	**+0.4**
CKRC				*e*SG	**Sb**	**16 47 48.7**	**+1.5**
GERES	**GERESS Array B**	**3.25**	**210**	Pn	**Pn**	**16 47 06.2**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=29,slow=14,SNR=6.9						
GERES				Pg	**Pb**	**16 47 12.2**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=27,slow=18,SNR=12						
GERES				Lg	Lg	16 47 52.9	
	comp=Z,1.8nm,0.3s,baz=31,slow=27,SNR=7.4						
	comp=Z,1.0nm,0.3s						
LANS	**Liptovska Anna**	**3.29**	**139**	*e*PG	**Pg**	**16 47 16.1**	**+0.1**
LANS				*e*SG	**Sg**	**16 47 57.9**	**-0.7**
MODS	**Modra-Piesok**	**3.38**	**167**	*e*PG	**Pg**	**16 47 17.7**	**0.0**
MODS				*e*SG	**Sg**	**16 48 01.5**	**0.0**
NIE	**Niedzica**	**3.47**	**129**	*e*Pg	**Pg**	**16 47 21.1**	**+1.7**
NIE				*e*Sg	**Sg**	**16 48 05.9**	**+1.5**
CONA	**Conrad Observa**	**3.76**	**183**	Pn	**Pn**	**16 47 09.2**	**-3.0**
	comp=Z,1.6nm,0.3s						
CONA				*e*Pg	**Pg**	**16 47 23.9**	**-1.0**
	comp=Z,2.0nm,0.3s						
CONA				*i* Sg	**Sg**	**16 48 11.4**	**-2.1**
	comp=Z,6.7nm,0.5s						
RONA	**Rosalia, Austr**	**3.98**	**179**	*e*Sg	**Sg**	**16 48 18.2**	**-2.6**
	comp=Z,4.4nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.31**	**203**	Sg	**Sg**	**16 48 32.6**	**+1.3**
	comp=Z,7.1nm,0.4s						
ARSA	**Arzberg**	**4.45**	**186**	*e*Pn	**Pn**	**16 47 25.4**	**+3.8**
	comp=Z,1.0nm,0.3s						
ARSA				*e*Sg	**Sg**	**16 48 37.5**	**+1.7**
	comp=Z,7.5nm,0.6s						
LESA	**Schwarzleotal**	**4.82**	**209**	Sg	**Sg**	**16 48 45.9**	**-1.9**
	comp=Z,4.5nm,0.7s						
AKASG	**Malin Array Be**	**8.26**	**92**	Pn	**Pn**	**16 48 14.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=282,slow=12,SNR=2.6						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**11.20**	**25**	Pn	**Pn**	**16 48 51.4**	**-2.7**
	baz=213,slow=12,SNR=2.0						
	comp=Z,3.9nm,1.1s						

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*NEIC **13** 16:46:42.3±1.0, 18.8S±0.1×177.7W±0.2, h551km±16km, mb4.1/17, Error ellipse: s-maj=25.0km s-min=16.8km az=72.0*
*IDC **13** 16:46:44.0±4.7, 18.62S×177.76W, h573km±34km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=141.0km s-min=39.4km az=27.0*
ISC 13 16:46:42.2±0.9, 18.8S±0.2×177.6W±0.1, h550km, n26, σ1.9±08/26, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.24**	**284**	P	**P**	**16 48 08.0**	**+1.9**
MSVF	**Nonsavu**	**4.24**	**284**	P	**P**	**16 48 08.1**	**+2.1**
	4.3nm,0.4s,baz=132,slow=14,SNR=18						
AFI	**Afiamalu**	**7.42**	**50**	P	**P**	**16 48 34.0**	**-0.4**
MLZ	**Mavora Lakes**	**29.04**	**201**	P	**P**	**16 51 58.6**	**+0.4**
WHZ	**Wether Hill Ro**	**29.56**	**201**	P	**P**	**16 52 02.3**	**-0.3**
ARMA	**Armidale**	**30.16**	**242**	P	**P**	**16 52 08.7**	**+0.5**
ARMA				IAmb	IAmb	16 52 45.6	
	comp=Z,16nm,1.3s						
TOO	**Toolangi**	**37.21**	**232**	P	**P**	**16 53 06.1**	**-1.1**
TOO				IAmb	IAmb	16 53 10.7	
	comp=Z,7.5nm,1.4s						
COEN	**Coen**	**37.86**	**271**	P	**P**	**16 53 12.3**	**-0.5**
COEN				IAmb	IAmb	16 53 38.6	
	comp=Z,8.1nm,1.2s						
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**16 53 20.2**	**-0.6**
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**16 53 21.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=76,slow=12,SNR=4.1						
	comp=Z,0.9nm,0.3s						
BBOO	**Buckleboo**	**43.64**	**242**	P	**P**	**16 53 57.9**	**-0.6**
BBOO				IAmb	IAmb	16 54 07.5	
	comp=Z,15nm,1.3s						
WR0	**Warramunga Arr**	**45.02**	**260**	P	**P**	**16 54 07.8**	**-1.6**
WB0	**Warramunga Arr**	**45.18**	**261**	P	**P**	**16 54 09.6**	**-1.1**
WB0				IAmb	IAmb	16 54 16.1	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**45.20**	**260**	P	**P**	**16 54 09.6**	**-1.2**
WB2				IAmb	IAmb	16 54 10.3	
	comp=Z,2.8nm,0.5s						
WRAB	**Tennant Creek**	**45.20**	**260**	P	**P**	**16 54 09.6**	**-1.1**
WRAB				IAmb	IAmb	16 54 10.1	
	comp=Z,2.2nm,0.5s						
WRA	**Warramunga Arr**	**45.21**	**260**	P	**P**	**16 54 09.6**	**-1.2**
WRA	**Warramunga Arr**	**45.21**	**260**	P	**P**	**16 54 10.0**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=98,slow=6.9,SNR=27						
	comp=Z,1.8nm,0.4s						
AS31	**Alice Springs**	**45.28**	**255**	P	**P**	**16 54 10.4**	**-0.9**
ASAR	**Alice Springs**	**45.28**	**255**	P	**P**	**16 54 09.7**	**-1.6**
ASAR	**Alice Springs**	**45.28**	**255**	P	**P**	**16 54 10.7**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=93,slow=7.6,SNR=94						
	comp=Z,2.1nm,0.4s						
MTN	**Manton Dam**	**49.52**	**269**	P	**P**	**16 54 42.1**	**-1.1**
KNRA	**Kununurra**	**51.15**	**265**	P	**P**	**16 54 54.5**	**-0.6**
KNRA				IAmb	IAmb	16 55 37.5	
	comp=Z,12nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.62**	**261**	P	**P**	**16 55 12.4**	**-0.4**
QSPA	**South Pole Qui**	**71.28**	**180**	P	**P**	**16 57 07.0**	**+0.9**
QSPA				IAmb	IAmb	16 57 49.0	
	comp=Z,5.0nm,1.3s						
QSPA	**South Pole Qui**	**71.28**	**180**	P	**P**	**16 57 07.0**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=124,slow=3.6,SNR=2.0						
	comp=Z,1.1nm,0.8s						
ARG	**Arkhangelos**	**151.44**	**313**	PKPbc	**PKPbc**	**17 05 34.2**	**-0.3**

UCR 13 16:52:26.6±1.1, 9.54N×84.36W, h45km±3km, MW3.7, 16C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICV	**PH. Pirrs**	**0.18**	**61**	*e*P	Pn	16 52 45.5	+11
PISJ	**San Jernim**	**0.25**	**68**	*i*P	Pn	16 52 49.1	+14
ACOS	**Acosta**	**0.32**	**36**	*e*P	Pn	16 52 35.4	-0.3
ACOS				*e*S	Sn	16 52 41.9	-0.1
ABE2	**San Pablo**	**0.34**	**61**	*e*P	Pn	16 52 35.6	-0.4
ABE2				*e*S	Sn	16 52 42.7	+0.2
RAZU	**San Marcos de**	**0.35**	**70**	*i*P	Pn	16 52 35.6	-0.4
LCR2	**La Lucha 2**	**0.40**	**60**	*i*P	Pn	16 52 36.1	-0.5
LCR2				*e*S	Sn	16 52 43.3	-0.3
SANTA	**Santa Ana**	**0.43**	**23**	*i*P	Pn	16 52 36.4	-0.4
SANTA				*e*S	Sn	16 52 44.2	+0.2
AMPA	**Desamparados**	**0.46**	**39**	*e*P	Pn	16 52 36.8	-0.5
BELE	**Belen**	**0.47**	**21**	*e*P	Pn	16 52 36.9	-0.4
BELE				*e*S	Sn	16 52 44.8	0.0
CENT	**San Jose**	**0.47**	**35**	*e*P	Pn	16 52 37.3	-0.1
CENT				*e*S	Sn	16 52 45.4	+0.3
LUJA	**Lujan**	**0.48**	**36**	*i*P	Pn	16 52 38.4	+0.9
LUJA				*e*S	Sn	16 52 46.5	+1.4
LUPE	**Guadalupe**	**0.50**	**36**	*e*P	Pn	16 52 36.7	-1.0
TRIO	**Tres Rios**	**0.51**	**44**	*e*P	Pn	16 52 37.4	-0.4
DOMI	**Santo Domingo**	**0.51**	**31**	*e*P	Pn	16 52 38.0	+0.1
DOMI				*e*S	Sn	16 52 46.5	+0.6
HDC	**Heredia**	**0.52**	**27**	*i*P	Pn	16 52 37.9	-0.1
HDC				*e*S	Sn	16 52 46.4	+0.4
TAGO	**Cartago**	**0.54**	**52**	*e*P	Pn	16 52 37.9	-0.3
SARCI	**Sarchi**	**0.55**	**1**	*i*P	Pn	16 52 38.4	+0.1
CORON	**Coronado**	**0.55**	**39**	*e*P	Pn	16 52 38.6	+0.2
CORON				*e*S	Sn	16 52 48.1	+1.2
NARAN	**Naranjo de Ala**	**0.56**	**358**	*i*P	Pn	16 52 38.5	+0.1
NARAN				*e*S	Sn	16 52 47.9	+1.1
RAMO	**San Ramon**	**0.56**	**349**	*i*P	Pn	16 52 39.2	+0.8
REPA	**Paraso**	**0.56**	**59**	*i*P	Pn	16 52 38.1	-0.4
VBV1	**V. Barva**	**0.62**	**24**	*i*P	Pn	16 52 39.3	-0.2
CVIMO	**Finca Echandi**	**0.63**	**40**	*e*P	Pn	16 52 39.5	0.0
ZARE	**Zarcero**	**0.64**	**357**	*e*P	Pn	16 52 40.1	+0.4
PCAYA	**Pacayas**	**0.66**	**55**	*i*P	Pn	16 52 39.9	+0.1
PCAYA				*e*S	Sn	16 52 49.6	+0.4
VICA	**Volcano Irazu**	**0.67**	**49**	*e*P	Pn	16 52 40.0	-0.2
RAFA	**San Farael, Vo**	**0.68**	**52**	*e*P	Pn	16 52 40.0	-0.2
VINA	**Juan Vinas**	**0.70**	**59**	*e*P	Pn	16 52 40.2	-0.1
VTLA	**Turrialba Volc**	**0.73**	**51**	*e*P	Pn	16 52 40.9	0.0
CVTQ	**Turrialba Volc**	**0.74**	**51**	*e*P	Pn	16 52 41.4	+0.4
VTR0	**Volcan Turrial**	**0.76**	**51**	*e*P	Pn	16 52 41.7	+0.4
CVTV	**Tajo**	**0.76**	**52**	*e*P	Pn	16 52 41.3	+0.1
CVTR	**Volcan Turrial**	**0.76**	**51**	*e*P	Pn	16 52 41.7	+0.3
CVTR				*e*S	Sn	16 52 53.5	+1.5
VTCV	**VTCV, Calle Va**	**0.76**	**54**	*e*P	Pn	16 52 41.4	+0.2
CVTG	**V. Turrialba,**	**0.83**	**43**	*e*P	Pn	16 52 42.3	+0.2
SOCE	**Pocosol**	**0.88**	**343**	*i*P	Pn	16 52 43.1	+0.5
JTS	**Las Juntas de**	**0.95**	**322**	*i*P	Pn	16 52 43.6	0.0
JTS				*e*S	Sn	16 52 56.0	-0.1
VACR	**Volcan Arenal**	**0.98**	**341**	*i*P	Pn	16 52 44.8	+0.8
ARE1	**Arenal 1**	**0.98**	**339**	*i*P	Pn	16 52 45.0	+0.9
NYURE	**Nandayure**	**0.99**	**297**	*i*P	Pn	16 52 44.6	+0.5
CEDE	**Laguna Cedeo**	**1.00**	**340**	*i*P	Pn	16 52 45.4	+1.0
CEDE				*e*S	Sn	16 52 59.8	+2.4
BURE	**Buenos Aires**	**1.07**	**110**	*i*P	Pn	16 52 45.6	+0.5
DRK0	**Durika**	**1.13**	**104**	*i*P	Pn	16 52 45.3	-0.9
DRK0				*e*S	Sn	16 53 00.0	-0.6
FIMO	**Fila Mora**	**1.13**	**119**	*i*P	Pn	16 52 46.6	+0.5
NICO	**Nicoya**	**1.23**	**299**	*e*P	Pn	16 52 47.0	-0.3
EDP2	**Potrero Grande**	**1.27**	**114**	*e*P	Pn	16 52 48.7	+0.7
CUI	**Cuipilapa**	**1.37**	**324**	*e*P	Pn	16 52 49.9	+0.5
HORNC	**Hornillas**	**1.42**	**325**	*e*P	Pn	16 52 49.9	-0.2
VRLE	**La Escondida,**	**1.59**	**321**	*e*P	Pn	16 52 52.6	+0.2
ACON	**Acoyapa**	**2.54**	**342**	*i*P	Pn	16 53 05.8	+0.3

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*IDC **13** 17:02:30.9±1.9, 24.81N×109.38W, h0km, mb3.2/1, mbtmp3.2/4, ML3.7/2, MS3.0/1, Error ellipse: s-maj=39.7km s-min=16.0km az=136.0*
*MEX **13** 17:02:35.0±0.3, 25.10N×109.53W, h7km±6km, MD3.9*
ISC 13 17:02:31.5±1.3, 25.14N±0.05×109.75W±0.04, h3km±11km, n18, σ2.9±18/19, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.79**	**54**	*e*P	**Pg**	**17 02 46.8**	**+0.2**
TSIG				*e*S	**Sg**	**17 02 55.9**	**-0.8**
TSIG	**Topolobambo**	**0.79**	**54**	*i*P	**Pg**	**17 02 46.8**	**+0.2**
TSIG				*e*S	**Sg**	**17 02 56.0**	**-0.8**
TSIG				IAML		17 02 56.8	
	comp=E,3μm,0.3s						
TSIG				IAML		17 02 57.0	
	comp=N,2μm,0.3s						
EVAR0	**San Evaristo**	**0.91**	**255**	*i*P	**Pg**	**17 02 49.6**	**+0.7**
EVAR0				*e*S	**Sg**	**17 03 01.3**	**+0.7**
EVAR0				IAML		17 03 02.2	
	comp=E,680nm,0.6s						
LPIG	**La Paz**	**1.16**	**206**	Pn	**Pg**	**17 02 53.2**	**-0.4**
	comp=E,14nm,0.3s,baz=43,slow=7.4,SNR=8.9						
LPIG	**La Paz**	**1.16**	**206**	*e*P	**Pg**	**17 02 53.2**	**-0.4**
UAGRB	**Rancho Ultima**	**1.43**	**287**	*e*P	Pn	17 02 57.0	-1.2
UAGRB				*e*S	**Sg**	**17 03 14.4**	**-3.0**
SLBS	**Sierra La Lagu**	**1.46**	**187**	*e*P	**Pn**	**17 02 58.1**	**-0.7**
SLBS	**Sierra La Lagu**	**1.46**	**187**	*e*P	Pn	17 02 57.3	-1.4
NE77	**Loreto B.C.S**	**1.70**	**301**	*e*P	Pn	17 03 00.6	-1.3
NE77				*e*S	**Sn**	**17 03 20.5**	**-3.7**
CSIG	**Choix**	**2.09**	**36**	*e*P	**Pn**	**17 03 06.2**	**-1.1**
CSIG				*i* S	**Sn**	**17 03 33.0**	**-0.8**
SSIG	**Sanalona**	**2.39**	**97**	*e*P	Pn	17 03 08.5	-2.9
GUYB	**Guaymas**	**2.92**	**340**	*e*P	**Pn**	**17 03 18.0**	**-0.8**
NOVRB	**El Novillo Son**	**3.78**	**1**	*e*P	**Pn**	**17 03 29.8**	**-0.9**
TXAR	**Lajitas Array**	**6.83**	**51**	Pn	**Pn**	**17 04 12.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=226,slow=13,SNR=12						
TXAR				Sn	**Sn**	**17 05 27.3**	**-3.7**
	comp=E,1.0nm,0.3s,baz=227,slow=21,SNR=2.0						
TXAR				Lg	Lg	17 06 06.2	
	comp=E,0.9nm,0.3s,baz=232,slow=28,SNR=6.5						
	comp=E,0.4nm,0.3s						
NVAR	**Mina Array Bea**	**15.10**	**333**	Pn	**P**	**17 06 15.7**	**+4.4**
	comp=E,0.7nm,0.6s,baz=144,slow=11,SNR=1.5						
PDAR	**Pinedale Array**	**17.58**	**0**	P	**Pn**	**17 06 40.7**	**+3.0**
	baz=186,slow=5.3,SNR=4.5						
	comp=E,0.7nm,1.0s						
YKA	**Yellowknife Ar**	**37.48**	**356**	P	P	17 09 50.2	+4.2
	comp=E,0.3nm,0.8s,baz=182,slow=7.1,SNR=2.3						
	comp=E,0.3nm,0.8s						
SJG	**San Juan**	**40.99**	**91**	LR	LR	17 27 28.1	
	comp=E,19nm,19.7s,baz=224,slow=37						

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*IDC **13** 17:03:45.7±2.5, 22.79N×12.10W, h0km, mb3.8/3, mbtmp3.8/4, ML3.8/1, MS3.5/2, Error ellipse: s-maj=83.9km s-min=40.1km az=83.0*
ISC 13 17:03:47.9±3.7, 22.8N±0.4×11.8W±0.6, h10km, n9, σ0.9±44/6, mb3.9/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.05**	**125**	Pn	**Pn**	**17 07 33.8**	**-0.2**
	0.4nm,0.3s,baz=310,slow=13,SNR=1.4						
	1.3nm,0.3s						
I48TN	**KESRA INFRASON**	**22.47**	**50**	I	I	19 24 30.0	
	baz=241,slow=314,SNR=1.8						
HFS	**Hagfors**	**41.36**	**19**	P	**P**	**17 11 33.4**	**-0.5**
	1.1nm,0.4s,baz=210,slow=9.2,SNR=1.5						
	1.1nm,0.4s						
MDP	**Montagnes des**	**43.14**	**252**	LR	LR	17 24 31.5	
	comp=Z,22nm,21.6s,baz=216,slow=29						
FINES	**FINESS Array B**	**46.53**	**24**	P	**P**	**17 12 15.4**	**0.0**
	0.9nm,0.6s,baz=232,slow=6.8,SNR=1.3						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**67.50**	**40**	LR	LR	17 47 46.2	
	comp=Z,104nm,18.7s,baz=304,slow=39						
MKAR	**Makanchi Array**	**76.43**	**45**	P	**P**	**17 15 38.4**	**+0.5**
	0.2nm,0.5s,baz=292,slow=6.2,SNR=5.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**148.41**	**91**	PKPbc	**PKPbc**	**17 23 35.5**	**0.0**
	0.5nm,0.9s,baz=297,slow=2.2,SNR=2.2						
ASAR	**Alice Springs**	**148.55**	**98**	PKPbc	**PKPbc**	**17 23 35.7**	**-0.1**
	0.3nm,0.7s,baz=281,slow=1.8,SNR=8.1						

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*BKK **13** 17:04:39.0±0.2, 19.N±1.×10.0E±., h2km, M4.3/31, mb4.8/1, Mjma4.2/31, ML4.3/20, MLv4.2/30*
*IDC **13** 17:04:39.6±1.1, 19.21N×99.57E, h0km, mb3.6/6, mbtmp3.6/6, MS3.3/4, Error ellipse: s-maj=15.5km s-min=10.1km az=109.0*
ISC 13 17:04:40.2±0.8, 19.16N±0.07×99.70E±0.06, h10km, n29, σ1.9±79/27, mb3.5/6, MS3.2/4, Thailand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMP	**Lampang**	**0.64**	**186**	P	**Pg**	**17 04 52.1**	**-0.4**
CM09	**Chiang Mai Arr**	**0.98**	**224**	P	**Pg**	**17 04 57.3**	**-1.7**
CM31	**Chiang Mai Arr**	**1.00**	**226**	P	**Pg**	**17 04 57.8**	**-1.7**
CM31				S	**Sg**	**17 05 11.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**1.00**	**226**	Pg	**Pg**	**17 04 57.8**	**-1.7**
	120nm,0.3s,baz=32,slow=16,SNR=1246						
CMAR				Lg	Lg	17 05 11.9	
	383nm,0.3s,baz=50,slow=33,SNR=12						
CMAR				LR	LR	17 05 24.0	
	comp=Z,692nm,19.1s,baz=40,slow=46						
NANT	**Nan**	**1.01**	**111**	P	**Pn**	**17 05 01.6**	**+1.2**
CM02	**Chiang Mai Arr**	**1.01**	**225**	P	**Pg**	**17 04 58.0**	**-1.7**
CM01	**Chiang Mai Arr**	**1.02**	**224**	P	**Pg**	**17 04 58.4**	**-1.4**

RIGZ	**Rimuhau**	**6.54**	**206**	P	**Pn**	**17 30 10.5 -0.1**
RIGZ				S	**Sn**	**17 31 21.5 -2.6**
PRGZ	**Paritu Road**	**6.69**	**204**	S	**Sn**	**17 31 24.5 -3.4**
MUGZ	**Murupara**	**6.75**	**212**	P	**Pn**	**17 30 14.8 +1.3**
SNGZ	**Shannon Statio**	**6.77**	**208**	P	**Pn**	**17 30 13.9 +0.2**
SNGZ				S	**Sn**	**17 31 30.7 +1.1**
KNZ	**Kokohu**	**6.86**	**205**	S	**Sn**	**17 31 29.0 -2.7**
MTHZ	**Maungataniwha**	**7.03**	**210**	P	**Pn**	**17 30 19.2 +1.9**
MTHZ				S	**Sn**	**17 31 36.0 -0.2**
BKZ	**Black Stump Fm**	**7.44**	**211**	P	**Pn**	**17 30 23.1 +0.1**
BKZ				S	**Sn**	**17 31 45.6 -0.7**
PXZ	**Pawanui**	**8.04**	**206**	P	**Pn**	**17 30 32.0 +0.9**
PXZ				S	**Sn**	**17 31 55.6 -5.3**
INKA	**Innaminka**	**35.29**	**267**	P	**P**	**17 35 27.3 -1.3**
LCRK	**Leigh Creek**	**36.63**	**262**	P	**P**	**17 35 38.6 -1.5**

*NEIC **13** 17:58:12.1±1.9, 3°.58N±0°.06×123°.2E±0°.2, h514km±14km, mb4.2/12, Error ellipse: s-maj=30.6km s-min=5.4km az=78.0*
*IDC **13** 17:58:12.3±6.5, 3°.92N×123°.86E, h533km±81km, mb2.9/5, mbtmp3.9/5, Error ellipse: s-maj=248.4km s-min=18.2km az=62.0*
ISC 13 17:58:10.5±1.1, **3°.8N**±0°.2×**123°.5E**±0°.2, **h500**km, **n22,** σ1°**35**/23, **mb3.8**/8, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.75**	**226**	P	**P**	**17 59 27.2**	**+0.2**
LUWI	**Luwuk**	**4.81**	**188**	P	**P**	**17 59 36.5**	**+0.7**
TNTI	**Ternate**	**4.89**	**127**	P	**P**	**17 59 38.5**	**+2.0**
MYLDM	**Lahad Datu**	**5.15**	**286**	P	**P**	**17 59 41.6**	**+2.7**
MTN	**Manton Dam**	**18.16**	**155**	P	**P**	**18 01 51.7**	**-0.7**
MTN				IAmb	IAmb	18 02 01.9	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**20.00**	**165**	P	**P**	**18 02 08.3**	**-0.9**
KNRA				IAmb	IAmb	18 02 29.0	
	comp=Z,7.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.81**	**174**	P	**P**	**18 02 23.2**	**-2.4**
WB0	**Warramunga Arr**	**25.72**	**156**	P	**P**	**18 03 00.1**	**-0.4**
WB0				IAmb	IAmb	18 03 05.0	
	comp=Z,4.9nm,1.2s						
WRAB	**Tennant Creek**	**25.85**	**156**	P	**P**	**18 03 01.3**	**-0.3**
WRAB				IAmb	IAmb	18 03 14.3	
	comp=Z,9.9nm,1.5s						
WRA	**Warramunga Arr**	**25.85**	**156**	P	**P**	**18 03 00.2**	**-1.4**
WRA	**Warramunga Arr**	**25.85**	**156**	P	**P**	**18 03 01.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=337,slow=9.4,SNR=29						
	comp=Z,1.2nm,0.5s						
AS31	**Alice Springs**	**29.09**	**160**	P	**P**	**18 03 29.6**	**-0.5**
ASAR	**Alice Springs**	**29.09**	**160**	P	**P**	**18 03 29.8**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=338,slow=7.4,SNR=38						
ASAR				PcP	**PcP**	**18 06 20.4**	**-2.2**
	comp=Z,0.3nm,1.1s,baz=327,slow=2.7,SNR=1.3						
	comp=Z,0.6nm,0.5s						
FORT	**Forrest**	**34.61**	**173**	P	**P**	**18 04 15.2**	**-2.0**
NWAO	**Narrogin (SRO)**	**36.95**	**189**	P	**P**	**18 04 37.1**	**+0.6**
BBOO	**Buckleboo**	**38.27**	**163**	P	**P**	**18 04 46.5**	**-0.9**
STKA	**Stephens Creek**	**39.40**	**155**	P	**P**	**18 04 57.4**	**+0.8**
STKA				IAmb	IAmb	18 04 57.6	
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**39.40**	**155**	P	**P**	**18 04 57.5**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=327,slow=8.6,SNR=3.4						
	comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**55.72**	**327**	P	**P**	**18 06 58.6**	**-0.5**
MKAR	**Makanchi Array**	**55.72**	**327**	P	**P**	**18 06 58.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=125,slow=7.9,SNR=11						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**60.00**	**329**	P	**P**	**18 07 27.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=129,slow=7.3,SNR=4.8						
	comp=Z,0.3nm,0.3s						
BKZ	**Black Stump Fm**	**64.80**	**137**	P	**P**	**18 08 01.3**	**+1.7**
BKZ				IAmb	IAmb	18 08 43.0	
	comp=Z,15nm,1.3s						

IDC 13 17:59:27.8±268.0, **54°.38N**×**43°.27E**, **h0**km, **Error ellipse: s-maj=118.1km s-min=92.1km az=148.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.16**	**307**	I	I	18 27 00.0	
	baz=125,slow=336,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**9.86**	**108**	I	I	19 01 40.0	
	0.1nm,0.5s,baz=300,slow=321,SNR=2.3						
I46RU	**ZALESOVO INFRA**	**24.08**	**74**	I	I	20 25 20.0	
	baz=292,slow=315,SNR=1.5						
I34MN	**SONGINO INFRAS**	**39.00**	**73**	I	I	21 55 10.0	
	baz=309,slow=325,SNR=0.8						

*IDC **13** 18:00:35.9±1.4, 54°.67N×161°.23W, h0km, mb4.0/13, mbtmp4.0/16, ML3.5/3, MS3.1/2, Error ellipse: s-maj=32.2km s-min=14.9km az=152.0*
*AEIC **13** 18:00:40.4±1.7, 54°.52N±0°.05×160°.88W±0°.06, h27km±6km, Error ellipse: s-maj=7.4km s-min=4.3km az=153.0*
*NEIC **13** 18:00:41.8±1.8, 54°.58N±0°.06×160°.91W±0°.07, h37km±11km, mb3.8/13, ML3.9/26, ML3.7(AEIC), Error ellipse: s-maj=9.4km s-min=5.7km az=161.0*
ISC 13 18:00:41.5±1.1, **54°.62N**±0°.07×**160°.85W**±0°.04, **h43**km±11km, **n121,** σ1°**44**/112, **mb4.1**/13, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.76**	**74**		**Pn**	**18 00 54.3**	**-1.4**
CHNA	**Chernabura Isl**	**0.76**	**73**	P	**Pn**	**18 00 54.5**	**-1.3**
CHNA	**Chernabura Isl**	**0.76**	**73**	S	**Sn**	**18 01 03.9**	**-2.2**
SDPT	**Sand Point**	**0.76**	**16**		**Sn**	**18 01 07.0**	**+0.9**
SDPT	**Sand Point**	**0.76**	**16**	Pn	**Pn**	**18 00 55.7**	**-0.1**
SDPT				IAML		18 01 07.5	
	comp=N,5μm,0.7s						
SDPT				IAML		18 01 07.7	
	comp=E,7μm,0.4s						
SDPT	**Sand Point**	**0.76**	**16**	P	**Pn**	**18 00 55.6**	**-0.1**
SDPT	**Sand Point**	**0.76**	**16**	S	**Sn**	**18 01 07.6**	**+1.5**
HAG	**Hague Volcano**	**0.93**	**319**		**Pn**	**18 00 57.7**	**-0.4**
HAG					**Sn**	**18 01 10.3**	**+0.1**
PS4A	**Pavlof South-4**	**0.93**	**322**		**Pn**	**18 00 57.6**	**-0.5**
PS4A					**Sn**	**18 01 11.1**	**+0.8**
PVV	**Pavlof Volcano**	**0.93**	**325**		**Pn**	**18 00 57.7**	**-0.4**
PVV					**Sn**	**18 01 10.7**	**+0.4**
PS1A	**Pavlof South-1**	**0.95**	**328**		**Pn**	**18 00 58.1**	**-0.3**
PS1A					**Sn**	**18 01 11.3**	**+0.4**
S12K	**Black Hills**	**1.29**	**328**		**Pn**	**18 01 03.5**	**+0.4**
S12K					**Sn**	**18 01 20.5**	**+1.4**
S12K				IAML		18 01 31.9	
	comp=E,3μm,0.5s						
FALS	**False Pass**	**1.51**	**280**	Pn	**Pn**	**18 01 05.0**	**-1.0**
FALS	**False Pass**	**1.51**	**280**	P	**Pn**	**18 01 05.3**	**-0.7**
ISLZ	**Isanotski Laza**	**1.67**	**275**		**Pn**	**18 01 07.5**	**-0.8**
ISLZ					**Sn**	**18 01 29.3**	**+0.9**
ISNN	**Isanotski Nort**	**1.71**	**278**		**Pn**	**18 01 09.2**	**+0.3**
VNFG	**Fog Glacier, M**	**1.82**	**23**		**Pn**	**18 01 13.1**	**+2.6**
CHGN	**Chignik**	**2.18**	**38**	Pn	**Pn**	**18 01 17.0**	**+1.8**
CHGN				IAML		18 01 50.7	
	comp=E,998nm,0.6s						
CHGN				IAML		18 01 53.2	
	comp=N,542nm,0.4s						
WESE	**West Dahl East**	**2.18**	**268**		**Pn**	**18 01 15.7**	**+0.4**
WEBT	**Westdahl Beart**	**2.27**	**271**		**Pn**	**18 01 16.8**	**+0.3**
AKSA	**Akutan Strait**	**2.88**	**262**		**Pn**	**18 01 25.4**	**+0.5**
AKBBA	**Akutan Broad B**	**3.02**	**262**		**Pn**	**18 01 27.8**	**+1.0**
LVA	**Lava Point**	**3.07**	**263**	Pn	**Pn**	**18 01 26.3**	**-1.1**
LVA				IAML		18 02 17.7	
	comp=E,325nm,0.9s						
CHIR	**Chirikof Islan**	**3.23**	**66**		**Pn**	**18 01 30.5**	**+0.9**
CHIR	**Chirikof Islan**	**3.23**	**66**	IAML		18 02 00.7	
	comp=N,211nm,2.8s						
CHIR				IAML		18 02 24.2	
	comp=E,246nm,1.8s						
CHIR	**Chirikof Islan**	**3.23**	**66**	P	**Pn**	**18 01 30.3**	**+0.7**
UNV	**Unalaska Valle**	**3.41**	**259**		**Pn**	**18 01 31.2**	**-0.9**
R16K	**Pilot Point**	**3.48**	**30**		**Pn**	**18 01 34.7**	**+1.8**
MGOD	**Makushin Gods**	**3.63**	**259**		**Pn**	**18 01 35.1**	**-0.1**
MAPS	**Pakushin South**	**3.67**	**260**		**Pn**	**18 01 34.8**	**-0.8**
PLBL	**Peulik Blue Cr**	**3.82**	**34**		**Pn**	**18 01 40.3**	**+2.6**
SII	**Sitkinak Islan**	**4.25**	**60**		**Pn**	**18 01 44.5**	**+0.9**
SII	**Sitkinak Islan**	**4.25**	**60**	IAML		18 02 20.4	
	comp=E,189nm,2.6s						
SII				IAML		18 03 12.3	
	comp=N,233nm,1.2s						
SII	**Sitkinak Islan**	**4.25**	**60**	P	**Pn**	**18 01 44.2**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**4.42**	**257**		**Pn**	**18 01 46.2**	**+0.2**
O14K	**Tigyukauivet M**	**4.65**	**357**		**Pn**	**18 01 50.2**	**+1.1**
O14K	**Tigyukauivet M**	**4.65**	**357**	IAML		18 03 21.1	
	comp=E,64nm,0.8s						
O14K				IAML		18 04 58.9	
	comp=N,75nm,2.8s						
ANCK	**Angle Creek**	**4.66**	**37**		**Pn**	**18 01 51.5**	**+2.3**
P16K	**Nushagak River**	**4.69**	**18**		**Pn**	**18 01 51.5**	**+1.9**
ACHA	**Angle Creek He**	**4.73**	**38**		**Pn**	**18 01 53.4**	**+3.2**
OHAK	**Old Harbor**	**4.99**	**55**	Pn	**Pn**	**18 01 53.7**	**0.0**
OHAK				IAML		18 03 11.9	
	comp=E,81nm,3.4s						
OHAK				IAML		18 03 22.5	
	comp=N,59nm,2.4s						
OHAK	**Old Harbor**	**4.99**	**55**	P	**Pn**	**18 01 54.2**	**+0.5**
	comp=N,67nm,2.4s						
O16K	**Kokwok River B**	**5.21**	**16**		**Pn**	**18 02 00.1**	**+3.4**
N14K	**Kuskokwak Cree**	**5.34**	**355**		**Pn**	**18 01 59.7**	**+1.3**
N15K	**Kwethluk River**	**5.58**	**4**		**Pn**	**18 02 03.4**	**+1.5**
KDAK	**Kodiak Island**	**5.59**	**52**	Pn	**Pn**	**18 02 03.0**	**+1.0**
KDAK	**Kodiak Island**	**5.59**	**52**	Pn	**Pn**	**18 02 02.3**	**+0.3**
	comp=N,0.7nm,0.3s,baz=262,slow=2.6,SNR=14						
KDAK				Sn	**Sn**	**18 03 05.1**	**+0.1**
	comp=N,2.7nm,0.3s,baz=191,slow=22,SNR=7.0						
KDAK				LR	LR	18 03 50.3	
	comp=N,67nm,21.0s,baz=72,slow=34						
	comp=N,4.1nm,0.3s						
P18K	**Big Mountain,**	**5.68**	**30**	Pn	**Pn**	**18 02 03.1**	**-0.2**
Q19K	**Cape Douglas,**	**5.86**	**40**	Pn	**Pn**	**18 02 07.4**	**+1.8**
SPIA	**Saint Paul Isl**	**5.88**	**300**	Pn	**Pn**	**18 02 06.2**	**+0.3**
M13K	**Dall Lake**	**5.96**	**348**		**Pn**	**18 02 08.8**	**+1.7**
N16K	**Nishlik Lake**	**5.97**	**10**		**Pn**	**18 02 09.2**	**+1.9**
O18K	**Koktuh Hills**	**6.07**	**28**		**Pn**	**18 02 11.4**	**+2.8**
M14K	**Bethel**	**6.18**	**355**		**Pn**	**18 02 10.7**	**+0.7**
N17K	**Nushagak Hills**	**6.24**	**17**		**Pn**	**18 02 12.4**	**+1.5**
M11K	**Mekoryuk**	**6.46**	**336**	Pn	**Pn**	**18 02 14.8**	**+1.0**
M16K	**Timber Creek**	**6.50**	**8**		**Pn**	**18 02 15.7**	**+1.3**
N18K	**Kilae Creek**	**6.63**	**22**	Pn	**Pn**	**18 02 17.6**	**+1.3**
L14K	**Kuka Creek**	**6.81**	**353**		**Pn**	**18 02 19.5**	**+0.9**
M17K	**Holitna River**	**7.04**	**14**		**Pn**	**18 02 23.2**	**+1.4**
N19K	**Bonanza Creek**	**7.08**	**26**		**Pn**	**18 02 24.5**	**+2.0**
L16K	**Owhat River**	**7.15**	**5**	Pn	**Pn**	**18 02 24.1**	**+0.8**
BRLK	**Bradley Lake**	**7.47**	**42**	Pn	**Pn**	**18 02 27.3**	**-0.5**
K15K	**Wolf Creek Mou**	**7.70**	**358**		**Pn**	**18 02 32.0**	**+1.0**
L18K	**Granite Mounta**	**7.92**	**14**	Pn	**Pn**	**18 02 35.2**	**+1.3**
L19K	**White Mountain**	**8.21**	**20**		**Pn**	**18 02 39.4**	**+1.5**
K17K	**Iditarod**	**8.23**	**8**	Pn	**Pn**	**18 02 39.1**	**+1.0**
J14K	**Nanvaranak Lak**	**8.27**	**351**		**Pn**	**18 02 39.5**	**+0.8**
ATKA	**Atka Island**	**8.34**	**259**	P	**Pn**	**18 02 40.6**	**+1.0**
J16K	**Anvik River**	**8.69**	**1**		**Pn**	**18 02 44.8**	**+0.4**
SUA	**Susitna One**	**8.69**	**34**	Pn	**Pn**	**18 02 45.9**	**+1.2**
TTA	**Tatalina**	**8.70**	**15**	Pn	**Pn**	**18 02 45.3**	**+0.6**
TTA	**Tatalina**	**8.70**	**15**	P	**Pn**	**18 02 46.4**	**+1.7**
J17K	**VABM Dome**	**8.85**	**5**	Pn	**Pn**	**18 02 46.6**	**-0.1**
PWL	**Port Wells**	**9.15**	**42**	Pn	**Pn**	**18 02 51.1**	**+0.4**
KNK	**Knik Glacier**	**9.45**	**39**	Pn	**Pn**	**18 02 55.6**	**+0.7**
HIN	**Hinchinbrook I**	**9.63**	**47**	Pn	**Pn**	**18 02 57.7**	**+0.3**
ANM	**Nome**	**10.23**	**349**	Pn	**Pn**	**18 03 06.9**	**+1.3**
KLU	**Klutina**	**10.46**	**43**	Pn	**Pn**	**18 03 09.4**	**+0.6**
G16K	**Koyuk River**	**10.83**	**357**	Pn	**Pn**	**18 03 14.7**	**+1.0**
N25K	**Chitina, Valde**	**11.06**	**44**	Pn	**Pn**	**18 03 17.2**	**+0.3**
F15K	**North Star Dit**	**11.28**	**352**		**Pn**	**18 03 21.4**	**+1.5**
M26K	**Nabesna, AK**	**12.12**	**43**	Pn	**Pn**	**18 03 32.4**	**+1.0**
ILAR	**Eielson Array**	**12.34**	**29**	Pn	Pn	18 03 30.3	-4.1
	comp=N,0.1nm,0.3s,baz=222,slow=13,SNR=6.3						
ILAR				Sn	**Sn**	**18 05 43.2**	**-7.1**
	comp=N,0.1nm,0.3s,baz=325,slow=33,SNR=1.4						
	comp=N,0.1nm,0.3s						
O29M	**Mount Kennedy**	**13.23**	**56**	Pn	**Pn**	**18 03 48.3**	**+1.7**
C18K	**Utukok River**	**14.08**	**359**		**Pn**	**18 03 59.0**	**+1.0**
DAWY	**Dawson**	**14.39**	**40**		**P**	**18 04 11.2**	**+2.9**
E24K	**Your Creek**	**14.69**	**18**		**Pn**	**18 04 06.0**	**-0.2**
I28M	**Miner Creek**	**14.97**	**35**	IAmb	IAmb	18 04 50.9	
	comp=Z,9.1nm,1.5s						
BMAR	**Burnt Mountain**	**14.99**	**25**	Pn	**Pn**	**18 04 09.4**	**-0.8**
K29M	**Barlow Dome**	**15.00**	**43**	IAmb	IAmb	18 04 21.2	
	comp=Z,6.1nm,1.1s						
TOLK	**Toolik Lake Re**	**15.01**	**16**		**Pn**	**18 04 10.7**	**+0.3**
J29N	**Klondike Camp**	**15.03**	**40**	P	**P**	**18 04 17.9**	**+2.5**
J30M	**Hart River**	**15.80**	**41**	P	**P**	**18 04 25.2**	**+1.2**
J30M				IAmb	IAmb	18 04 49.3	
	comp=Z,5.1nm,0.8s						
H29M	**Whitestone**	**15.94**	**34**	IAmb	IAmb	18 04 37.6	
	comp=Z,9.4nm,1.4s						
I30M	**Mount Dempster**	**16.09**	**39**	P	**P**	**18 04 29.3**	**+2.0**
G29M	**Pine Creek**	**16.47**	**33**	IAmb	IAmb	18 04 46.4	
	comp=Z,4.4nm,0.6s						
H31M	**Peel River**	**17.12**	**39**	IAmb	IAmb	18 05 00.3	
	comp=Z,8.5nm,1.1s						
F31M	**Tsiigehtchic**	**18.15**	**34**	IAmb	IAmb	18 04 57.1	
	comp=Z,4.5nm,0.6s						
INK	**Inuvik**	**18.69**	**32**	P	**P**	**18 04 54.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=203,slow=7.8,SNR=8.4						
	comp=Z,1.7nm,0.5s						
PETK	**Petropavlovsk-**	**24.24**	**284**	P	**P**	**18 05 52.5**	**-1.6**
	comp=Z,4.7nm,0.5s,baz=81,slow=14,SNR=56						
	comp=Z,4.7nm,0.5s						
NVAR	**Mina Array Bea**	**32.85**	**102**	P	**P**	**18 07 13.9**	**+2.7**
	comp=Z,0.8nm,0.7s,baz=322,slow=9.9,SNR=1.9						
	comp=Z,0.8nm,0.7s						
KLR	**Kul'dur**	**40.46**	**291**	LR	LR	18 25 31.7	
	comp=Z,56nm,18.1s,baz=318,slow=37						
H11N2	**WAKE ISLAND Hy**	**42.58**	**228**	T	T	18 53 24.2	
	baz=27,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**42.59**	**228**	T	T	18 53 23.8	
	baz=27,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**42.60**	**228**	T	T	18 53 32.5	
	baz=27,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**43.75**	**227**	T	T	18 55 07.1	
	baz=26,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**43.77**	**227**	T	T	18 55 02.7	
	baz=26,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**43.77**	**227**	T	T	18 55 07.6	
	baz=26,slow=75,SNR=16						
KSRS	**Korea Array**	**50.09**	**281**	P	**P**	**18 09 32.0**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=51,slow=7.1,SNR=5.0						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**54.39**	**304**	P	**P**	**18 10 03.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=34,slow=5.6,SNR=4.5						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**56.06**	**357**	P	**P**	**18 10 14.7**	**-0.8**
	comp=Z,6.9nm,1.3s,baz=11,slow=7.1,SNR=5.2						
	comp=Z,6.9nm,1.3s						
KURBB	**Kurchatov Arra**	**64.00**	**322**	P	**P**	**18 11 09.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=27,slow=6.3,SNR=2.3						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**64.15**	**356**	P	**P**	**18 11 10.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=29,slow=4.4,SNR=12						
	comp=Z,1.1nm,0.5s						
NB2	**NORSAR Subarra**	**64.51**	**4**	P	**P**	**18 11 13.4**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=358,slow=6.5						
NOA	**NORSAR Array B**	**64.51**	**4**	P	**P**	**18 11 13.1**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=355,slow=6.6,SNR=4.7						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**64.64**	**329**	P	**P**	**18 11 14.3**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=43,slow=5.7,SNR=14						
	comp=Z,1.5nm,0.5s						
HFS	**Hagfors**	**65.51**	**3**	P	**P**	**18 11 19.6**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=27,slow=5.0,SNR=14						
	comp=Z,2.1nm,0.4s						
MKAR	**Makanchi Array**	**65.76**	**318**	P	**P**	**18 11 20.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=45,slow=5.7,SNR=18						
	comp=Z,0.9nm,0.5s						
AKASG	**Malin Array Be**	**74.71**	**353**	P	**P**	**18 12 15.7**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=10,slow=6.0,SNR=6.8						
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**80.90**	**289**	P	**P**	**18 12 50.5**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=18,slow=5.4,SNR=9.4						
	comp=Z,1.0nm,0.8s						

*IDC **13** 18:02:58.2±0.8, 7°.94N×127°.25E, h0km, mb3.8/11, mbtmp3.8/11, MS2.9/3, Error ellipse: s-maj=24.0km s-min=16.4km az=82.0*
*NEIC **13** 18:03:04.2±1.1, 7°.92N±0°.04×127°.1E±0°.1, h35km±1km, mb4.2/15, Error ellipse: s-maj=18.4km s-min=6.8km az=88.0*
ISC 13 18:03:04.7±0.6, **7°.92N**±0°.07×**127°.15E**±0°.09, **h46**km, **n36,** σ1°**25**/36, **mb4.1**/19, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.77**	**242**	Pn	**Pn**	**18 03 31.6**	**-1.4**
DAV	**Davao City (W)**	**1.77**	**242**	Pn	**Pn**	**18 03 32.6**	**-0.3**
	102nm,0.3s,baz=59,slow=3.2,SNR=16						
DAV				Sn	**Sn**	**18 03 58.3**	**+4.1**
	117nm,0.3s,baz=110,slow=24,SNR=15						
DAV				LR	LR	18 04 22.0	
	comp=Z,619nm,20.6s,baz=17,slow=45						
TNTI	**Ternate**	**7.10**	**178**	Pn	**Pn**	**18 04 45.7**	**-0.4**
TOLI2	**Tolitoli**	**9.27**	**224**	Pn	**Pn**	**18 05 14.4**	**-1.5**
SBUM	**Sibu**	**15.83**	**251**	P	**Pn**	**18 06 44.1**	**-0.5**
JOW	**Kunigami**	**18.84**	**3**	LR	LR	18 15 03.1	
	comp=Z,45nm,18.5s,baz=350,slow=38						
MTN	**Manton Dam**	**21.00**	**169**	P	**P**	**18 07 45.9**	**+1.4**
MTN				IAmb	IAmb	18 08 01.9	
	comp=Z,9.7nm,1.1s						
KNRA	**Kununurra**	**23.50**	**176**	P	**P**	**18 08 11.5**	**+0.9**
KNRA				IAmb	IAmb	18 08 22.5	
	comp=Z,6.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.89**	**183**	P	**P**	**18 08 32.2**	**-0.3**
WB0	**Warramunga Arr**	**28.42**	**166**	P	**P**	**18 08 53.9**	**-1.3**
WB0				IAmb	IAmb	18 09 00.6	
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Arr**	**28.57**	**166**	P	**P**	**18 08 55.6**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=344,slow=9.3,SNR=6.9						
WRA				LR	LR	18 23 42.5	
	comp=Z,26nm,19.3s,baz=24,slow=44						
	comp=Z,0.6nm,1.0s						
WR8	**Warramunga Arr**	**28.62**	**165**	P	**P**	**18 08 56.5**	**-0.5**
WR8				IAmb	IAmb	18 09 39.6	
	comp=Z,3.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.35**	**294**	P	**P**	**18 09 03.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=117,slow=9.2,SNR=4.6						
	comp=Z,0.2nm,0.3s						
KSRS	**Korea Array**	**29.41**	**1**	LR	LR	18 22 39.1	
	comp=Z,11nm,18.4s,baz=340,slow=40						
AS31	**Alice Springs**	**32.07**	**168**	P	**P**	**18 09 26.8**	**-0.7**
ASAR	**Alice Springs**	**32.08**	**168**	P	**P**	**18 09 27.2**	**-0.3**
ASAR	**Alice Springs**	**32.08**	**168**	P	**P**	**18 09 26.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=342,slow=7.2,SNR=18						
ASAR				PcP	**PcP**	**18 12 16.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=353,slow=2.0,SNR=5.2						
	comp=Z,0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**36.39**	**6**	P	**P**	**18 10 04.0**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=194,slow=9.4,SNR=2.9						
	comp=Z,1.6nm,0.7s						
BBOO	**Buckleboo**	**41.38**	**169**	P	**P**	**18 10 46.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**41.70**	**193**	P	**P**	**18 10 47.9**	**-1.2**
SONM	**Songino Array**	**43.52**	**340**	P	**P**	**18 11 02.7**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=122,slow=5.4,SNR=1.2						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**54.42**	**323**	P	**P**	**18 12 27.5**	**+0.2**
MK31				IAmb	IAmb	18 12 28.6	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**54.42**	**323**	P	**P**	**18 12 27.1**	**-0.3**
MKAR	**Makanchi Array**	**54.42**	**323**	P	**P**	**18 12 27.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=125,slow=8.2,SNR=18						
	comp=Z,1.7nm,0.7s						
MA2	**Magadan**	**54.57**	**14**	P	**P**	**18 12 31.2**	**+3.1**
MA2				IAmb	IAmb	18 12 33.3	
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**54.61**	**323**	P	**P**	**18 12 27.5**	**-1.2**
MAKZ				IAmb	IAmb	18 12 29.9	
	comp=Z,1.8nm,0.8s						
NIL	**Nilore**	**55.78**	**305**	P	**P**	**18 12 36.9**	**-0.6**
ZALV	**Zalesovo Beam**	**57.10**	**332**	P	**P**	**18 12 45.8**	**-0.5**
ZALV	**Zalesovo Beam**	**57.10**	**332**	P	**P**	**18 12 45.5**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=132,slow=6.6,SNR=5.1						
	comp=Z,1.0nm,0.6s

1.7nm,0.6s,baz=104,slow=11,SNR=5.4
STKA LR LR 19 03 48.6
comp=Z,240nm,18.3s,baz=39,slow=34
1.7nm,0.6s
PMG Port Moresby 39.15 297 LR LR 19 04 32.9
comp=Z,98nm,21.9s,baz=120,slow=31
ASAR Alice Springs 43.01 268 P **P 18 52 20.1 +1.8**
5.1nm,0.7s,baz=107,slow=7.3,SNR=35
ASAR ScP **ScP 18 58 01.6 +4.9**
0.3nm,0.6s,baz=106,slow=3.9,SNR=2.7
ASAR LR LR 19 08 15.8
comp=Z,76nm,19.3s,baz=126,slow=33
5.1nm,0.7s
WRA Warramunga Arr 44.12 274 P **P 18 52 28.9 +1.6**
5.6nm,0.4s,baz=112,slow=8.0,SNR=52
WRA ScP **ScP 18 58 05.0 +3.8**
0.2nm,0.4s,baz=110,slow=3.8,SNR=4.9
WRA LR LR 19 09 51.1
comp=Z,186nm,19.1s,baz=192,slow=35
5.6nm,0.4s
FITZ Fitzroy Crossi 52.32 271 LR LR 19 15 00.7
comp=Z,259nm,19.4s,baz=114,slow=35
GUMO Guam 57.40 316 LR LR 19 15 11.0
comp=Z,44nm,20.1s,baz=92,slow=32
QSPA South Pole Qui 58.37 180 P P 18 54 17.7 +4.1
1.9nm,0.7s,baz=90,slow=1.0,SNR=10
QSPA LR LR 19 17 16.0
comp=Z,116nm,18.9s,baz=350,slow=34
1.9nm,0.7s
KAPI Kappang 63.80 281 LR LR 19 22 38.4
comp=Z,113nm,18.4s,baz=114,slow=36
PMSA Palmer Station 71.06 156 LR LR 19 20 17.2
comp=Z,43nm,19.0s,baz=182,slow=30
TROLL Troll, Antarti 76.53 180 ⇓P **P 18 56 10.6 +2.3**
comp=Z,173nm,0.9s
SNAA Sanae 76.81 178 ⇓P P 18 56 13.9 +4.0
SNAA ⇑x x 19 15 44.7
comp=Z,45nm,1.2s
VNA3 Neumayer Olymp 76.97 176 ⇓P **P 18 56 12.6 +1.9**
comp=Z,2.5nm,0.6s
VNA3 ⇑x x 19 15 47.4
comp=Z,2.3nm,0.7s
H03S2 Juan Fernandez 79.77 123 T T 20 25 24.5
baz=238
H03S1 Juan Fernandez 79.78 123 T T 20 25 33.8
baz=238
H03S3 Juan Fernandez 79.78 123 T T 20 25 39.7
baz=238
H03N3 Juan Fernandez 79.97 123 T T 20 25 36.6
baz=240,slow=74
H03N2 Juan Fernandez 79.97 123 T T 20 25 43.1
baz=240
H03N1 Juan Fernandez 79.98 123 T T 20 25 37.8
baz=240,slow=74
LPIG La Paz 85.29 58 LR LR 19 28 56.6
comp=Z,45nm,18.1s,baz=46,slow=31
KSRS Korea Array 85.34 320 LR LR 19 31 43.8
comp=Z,16nm,19.5s,baz=180,slow=33
PFO Pinyon Flats O 87.15 47 LR LR 19 35 14.4
comp=Z,62nm,18.4s,baz=16,slow=35
YBH Yreka Blue Hor 89.12 38 LR LR 19 32 30.3
comp=Z,43nm,18.6s,baz=281,slow=32
KLR Kul'dur 92.17 330 LR LR 19 34 29.0
comp=Z,33nm,19.8s,baz=334,slow=33
ELK Elko 92.56 43 LR LR 19 33 00.7
comp=Z,57nm,19.2s,baz=141,slow=32
CMIG Matias Romero 93.22 72 LR LR 19 32 04.2
comp=Z,27nm,18.4s,baz=5.5,slow=31
XLT XiLinHaoTe 96.31 318 *e*P P 18 57 50.0 +3.1
XLT pP sP 18 57 56.8 -3.2
XLT pmax pmax
comp=Z,3.0nm,0.9s
XLT pmax pmax
comp=Z,120nm,4.5s
DLBC Dease Lake 98.38 23 LR LR 19 32 00.8
comp=Z,27nm,21.3s,baz=73,slow=29
MKAR Makanchi Array 118.59 310 PKP **PKiKP 19 03 06.5 +0.6**
comp=Z,0.4nm,0.8s,baz=81,slow=2.1,SNR=4.9
KURBB Kurchatov Arra 121.97 313 PKP **PKiKP 19 03 12.8 +0.4**
comp=Z,1.0nm,0.6s,baz=107,slow=2.0,SNR=11
BVAR Borovoye Array 127.33 315 PKP **PKiKP 19 03 24.1 +1.1**
comp=Z,0.8nm,0.4s,baz=118,slow=1.6,SNR=6.5
ARCES ARCESS Array B 139.89 347 PKP **PKiKP 19 03 48.1 +0.1**
comp=Z,3.1nm,0.9s,baz=39,slow=1.8,SNR=3.7
KBZ Khabaz 145.80 302 PKPbc **PKiKP 19 03 59.7 -1.1**
comp=Z,1.9nm,0.8s,baz=191,slow=5.2,SNR=4.4
FINES FINESS Array B 146.39 339 PKPbc **PKiKP 19 03 59.2 -2.2**
comp=Z,2.8nm,0.4s,baz=42,slow=2.6,SNR=36
NB2 NORSAR Subarra150.07 351 PKP **PKPab 19 04 10.6 -3.6**
comp=Z,1.1nm,0.7s,baz=21,slow=4.0
NOA NORSAR Array B 150.07 351 PKPbc **PKiKP 19 04 08.3 -0.9**
comp=Z,1.1nm,0.8s,baz=15,slow=4.1,SNR=4.3
HFS Hagfors 150.55 348 PKPbc **PKiKP 19 04 11.0 +0.9**
comp=Z,1.3nm,0.6s,baz=129,slow=3.9,SNR=8.0
MMAI Mount Meron Ar 151.78 282 PKPbc **PKiKP 19 04 15.6 +2.0**
comp=Z,1.9nm,0.4s,baz=129,slow=2.0,SNR=6.7
AKASG Malin Array Be 152.33 321 PKPbc **PKiKP 19 04 15.2 +1.2**
comp=Z,2.9nm,0.8s,baz=54,slow=2.7,SNR=11
AK07 Malin Array Si 152.42 321 PKP **PKPbc 19 04 11.7 -2.3**
BRTR Keskin Array B 153.17 296 PKPbc **PKiKP 19 04 16.3 -0.1**
comp=Z,1.2nm,0.5s,baz=117,slow=1.6,SNR=3.3
CLL Collm 158.82 341 *e*PKPab **PKPab 19 04 54.0 +2.4**

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*NEIC **13** 18:46:14.8±0.8,34°.29N±0°.02×118°.41W±0°.02,h12km±5km,*
Error ellipse: s-maj=2.9km s-min=2.6km az=78.0
PAS 13 18:46:15.4±0.9,34°.28N±0°.02×118°.42W±0°.03,h7km±4km,
ML2.8/156,**ML2.5**/29(NEIC),**Error ellipse: s-maj=3.5km**
s-min=1.8km az=57.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DECC	**Green Verdugo**	**0.08**	**110**		Pg	18 46 17.5	+0.1
HLLC	**North Hollywoo**	**0.12**	**154**		Pg	18 46 18.1	+0.1
HLLC					Sg	18 46 20.3	+0.6
PDE	**Pardee, Santa**	**0.21**	**320**		Pg	18 46 20.3	+0.7
PASC	**Pasadena Art C**	**0.22**	**119**	IAML		18 46 25.4	
	comp=E,801nm,0.3s						
CBCC	**Caltech Broad**	**0.28**	**120**		Sg	18 46 25.6	+0.9
GSA	**Caltech--GSA**	**0.28**	**120**		Pg	18 46 21.0	0.0
GSA					Sg	18 46 25.3	+0.6
LCGC	**La Cienega, Cu**	**0.28**	**173**		Sb	18 46 27.0	-0.7
CRPC	**Caltech Rob'n**	**0.28**	**120**		Pg	18 46 21.0	0.0
CRPC					Sg	18 46 25.8	+1.0
CACC	**Caltech Cellar**	**0.29**	**120**		Pg	18 46 21.0	-0.1
CACC					Sg	18 46 25.6	+0.8
BHPC	**Baldwin Hills**	**0.29**	**170**		Pg	18 46 21.7	+0.5
BHPC					Sb	18 46 27.3	-0.7
AGOC	**Agoura**	**0.32**	**245**		Sg	18 46 25.9	+0.1
GVRC	**Garvey Reservo**	**0.34**	**133**		Pg	18 46 22.1	+0.1
GVRC					Sg	18 46 27.7	+1.2
LEOC	**Leona Valley**	**0.36**	**15**		Sg	18 46 27.4	0.0
LRRC	**Littlerock Res**	**0.41**	**53**		Pg	18 46 23.2	-0.2
ALPC	**Antelope**	**0.42**	**14**		Sg	18 46 29.1	0.0
RHC	**Rose Hills Cem**	**0.44**	**129**		Pg	18 46 23.9	-0.1
RHC					Sg	18 46 30.8	+1.1
RPV	**Rancho Palos V**	**0.54**	**179**		Pg	18 46 25.5	-0.3
PSRC	**Puddingstone R**	**0.54**	**110**		Sg	18 46 33.6	+0.6
FMP	**Fort Macarthur**	**0.58**	**169**		Pg	18 46 26.1	-0.5
FMP					Sg	18 46 34.1	+0.1
TPO	**Tropico Hills**	**0.62**	**15**		Pg	18 46 26.9	-0.5
TPO					Sg	18 46 35.2	-0.2
BFSC	**Mount Baldy Ra**	**0.63**	**94**		Pg	18 46 27.1	-0.6
BFSC					Sg	18 46 35.7	-0.2
SBB	**Saddle Back Bu**	**0.64**	**50**		Pg	18 46 27.1	-0.6
SBB					Sg	18 46 35.6	-0.5
THC	**Tehachapi Micr**	**0.66**	**342**		Pg	18 46 27.8	-0.3
THC					Sg	18 46 37.5	+0.7
EDW2	**Edwards Air Fo**	**0.69**	**30**		Pg	18 46 28.1	-0.7
EDW2					Sg	18 46 37.3	-0.7
SS2	**San Sevaine**	**0.77**	**95**		Pg	18 46 29.7	-0.4
TJR	**Tejon Ranch**	**0.79**	**340**		Pg	18 46 30.1	-0.6
TJR					Sg	18 46 41.5	+0.6
MPI	**Mount Pinos, F**	**0.80**	**312**		Pg	18 46 30.8	0.0
MPI					Sb	18 46 42.9	0.0
FON	**Fontana**	**0.83**	**102**		Pg	18 46 30.9	-0.6
CIAC	**Catalina I. Ai**	**0.88**	**180**		Pg	18 46 31.9	-0.4
CSP	**Cedar Springs**	**0.88**	**89**		Sg	18 46 43.7	-0.1
ARVC	**Arvin**	**0.91**	**338**		Pg	18 46 32.5	-0.4
ARVC					Sg	18 46 45.1	+0.4
HYS	**Haystack Butte**	**0.91**	**50**		Pg	18 46 32.1	-0.9
HYS					Sg	18 46 44.8	-0.1
RVR	**Riverside**	**0.91**	**108**		Pg	18 46 31.7	-1.2
RVR					Sg	18 46 44.2	-0.6
CCAC	**Calif City Air**	**0.93**	**21**		Pg	18 46 32.2	-1.2
CCAC				IAML		18 46 49.6	
	comp=N,151nm,0.5s						
CCAC				IAML		18 46 52.5	
	comp=E,108nm,0.6s						
ELS	**Elsinore Mount**	**1.04**	**127**		Pg	18 46 33.9	-1.5
ELS				IAML		18 46 50.6	
	comp=E,94nm,0.2s						
ELS				IAML		18 46 51.3	
	comp=N,105nm,0.4s						
BCW	**Bitter Crk WRg**	**1.05**	**309**		Pg	18 46 34.8	-0.8
BCW				IAML		18 46 58.7	
	comp=E,145nm,0.5s						
ISA	**Isabella, Lake**	**1.38**	**358**		Pn	18 46 39.9	-1.2
GSC	**Goldstone, Bar**	**1.68**	**52**		Pn	18 46 44.8	-0.4
GSC				IAML		18 47 14.0	
	comp=N,69nm,0.6s						
PFO	**Pinyon Flats O**	**1.76**	**112**		Pn	18 46 45.6	-0.9
PFO				IAML		18 47 15.1	
	comp=N,25nm,0.4s						
EFD	**Emergency Oper**	**2.16**	**299**		Pb	18 46 54.5	-0.4
GWY	**Greenwater Val**	**2.38**	**37**		Pn	18 46 54.4	-0.6
GWY				IAML		18 47 39.5	
	comp=N,20nm,0.5s						
GWY				IAML		18 48 02.8	
	comp=E,18nm,3.9s						
CBX	**Cerro Bola**	**2.45**	**143**	Pn	Pn	18 46 54.0	-1.9
DREC	**Desert Rsrch C**	**2.89**	**120**		Pb	18 47 05.6	-1.6
WCT	**Wildcat Mounta**	**2.90**	**30**		Pn	18 47 01.7	-0.4
WCT				IAML		18 47 37.6	
	comp=E,14nm,4.6s						
WCT				IAML		18 47 38.3	
	comp=N,11nm,5.0s						
TPNV	**Topopah Spring**	**3.20**	**33**		Pb	18 47 13.9	+1.3
TPNV				IAML		18 48 13.8	
	comp=N,9.9nm,3.8s						
TPNV				IAML		18 48 59.7	
	comp=N,15nm,4.7s						
SHPR	**Sheep Range**	**3.47**	**49**		Pn	18 47 09.3	-0.6
W13A	**Hualapai Mount**	**3.83**	**76**	Pn	Pn	18 47 13.9	-1.0
W13A				IAML		18 48 26.4	
	comp=E,8.7nm,3.6s						

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*SOF **13** 18:56:42.5,41°.11N±0°.01×23°.36E,h11km±1km,MD2.8/6*
*ATH **13** 18:56:43.4,41°.13N×23°.32E,h10km±1km,ML2.3/7,*
Manual Solution by A.Agalos First location: 2019/03/13
18:57:22, This location: 2019/03/13 19:30:10 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 0 km;
Longitude uncertainty: 0 km
*SKO **13** 18:56:44.0,41°.15N×23°.34E,h0km,ML2.2*
*BEO **13** 18:56:44.0±0.4,41°.13N×23°.33E,h4km±3km,ML2.2/10*
ISC 13 18:56:43.7±0.9,41°.13N±0°.02×23°.34E±0°.02,h8km±8km,
n54,σ0s54/94,3C-2D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.19**	**93**	⇓*i*Pg	**Pg**	**18 56 47.3**	**-0.3**
SRS				*i* Sg	**Sg**	**18 56 50.6**	**+0.2**
SRS	**Serrai**	**0.19**	**93**	*e*Pg	**Pg**	**18 56 47.4**	**-0.3**
SRS				*e*Sg	**Sg**	**18 56 50.1**	**-0.2**
SRS	**Serrai**	**0.19**	**93**	P	**Pg**	**18 56 47.4**	**-0.3**
SRS				S	**Sg**	**18 56 50.4**	**+0.1**
NGRA	**Nigrita**	**0.25**	**151**	P	**Pg**	**18 56 48.9**	**+0.2**
NGRA				S	**Sg**	**18 56 53.1**	**+1.0**
SOH	**Sokhos**	**0.31**	**178**	P	**Pg**	**18 56 49.9**	**+0.1**
SOH				S	**Sg**	**18 56 54.0**	**+0.2**
KNT	**Kendrikon**	**0.33**	**276**	⇓*i*Pg	**Pg**	**18 56 49.8**	**-0.4**
KNT				*i* Sg	**Sg**	**18 56 54.5**	**-0.2**
KNT	**Kendrikon**	**0.33**	**276**	P	**Pg**	**18 56 49.8**	**-0.4**
KNT				S	**Sg**	**18 56 54.2**	**-0.5**
NVR	**Nevrokopi**	**0.45**	**61**	P	**Pg**	**18 56 52.8**	**+0.3**
NVR				S	**Sg**	**18 56 59.2**	**+0.7**
MMB	**Musomishta**	**0.52**	**37**	*i* Pg	**Pg**	**18 56 53.2**	**-0.6**
MMB				Sg	**Sg**	**18 56 59.6**	**-1.0**
MMB	**Musomishta**	**0.52**	**37**	⇑*i*Pg	**Pg**	**18 56 53.1**	**-0.6**
MMB				*i* Sg	**Sg**	**18 57 00.8**	**+0.2**
HORT	**Hortiatis**	**0.56**	**199**	P	**Pg**	**18 56 54.4**	**-0.1**
HORT				S	**Sg**	**18 57 02.0**	**+0.1**
THE	**Thessaloniki**	**0.57**	**210**	⇑*i*Pg	**Pg**	**18 56 54.6**	**-0.1**
THE				*i* Sg	**Sg**	**18 57 02.3**	**+0.1**
THE	**Thessaloniki**	**0.57**	**210**	P	**Pg**	**18 56 54.6**	**-0.1**
THE				S	**Sg**	**18 57 02.1**	**-0.1**
KOKK	**Kokkinochori,**	**0.59**	**122**	P	**Pg**	**18 56 54.8**	**-0.3**
KOKK				S	**Sg**	**18 57 03.2**	**+0.4**
VAY	**Valandovo**	**0.61**	**289**	*i* Pg	**Pg**	**18 56 55.0**	**-0.4**
VAY				*i* Sg	**Sg**	**18 57 03.7**	**+0.3**
VAY				*e*Lg	Lg	18 57 03.9	
	comp=N,73nm,0.4s						
VAY				*e*Lg	Lg	18 57 05.2	
	comp=E,60nm,0.3s						
VAY	**Valandovo**	**0.61**	**289**	*e*Pg	**Pg**	**18 56 55.1**	**-0.4**
VAY				*e*Sg	**Sb**	**18 57 04.8**	**-0.5**
GRG	**Griva**	**0.73**	**257**	*i* Pg	**Pg**	**18 56 57.4**	**-0.4**
GRG				*i* Sg	**Sg**	**18 57 07.8**	**+0.6**
GRG	**Griva**	**0.73**	**257**	P	**Pg**	**18 56 57.8**	**+0.1**
GRG				S	**Sg**	**18 57 07.4**	**+0.2**
KKB	**Krupnik**	**0.73**	**348**	Pg	**Pg**	**18 56 57.5**	**-0.2**
KKB				Sg	**Sg**	**18 57 07.7**	**+0.4**
KKB	**Krupnik**	**0.73**	**348**	*i* Pg	**Pg**	**18 56 57.0**	**-0.7**
KKB				*i* Sg	**Sg**	**18 57 07.8**	**+0.6**
PLG	**Polygyros**	**0.76**	**174**	P	**Pg**	**18 56 57.7**	**-0.6**
PLG				S	**Sg**	**18 57 08.5**	**+0.3**
KVLA	**Kavala**	**0.82**	**103**	P	**Pg**	**18 56 59.6**	**+0.2**
KAVA	**Kavala**	**0.90**	**98**	P	**Pg**	**18 57 00.8**	**-0.2**
OUR	**Ouranopolis**	**0.93**	**148**	P	**Pg**	**18 57 01.4**	**-0.2**
OUR				S	**Sg**	**18 57 14.4**	**+0.7**
THAS	**Thassos island**	**1.17**	**116**	P	**Pb**	**18 57 05.8**	**-0.4**
THAS				S	**Sb**	**18 57 21.2**	**-0.3**
RZN	**Rozhen**	**1.20**	**61**	P	**Pb**	**18 57 05.6**	**-1.1**
RZN				Sg	**Sg**	**18 57 22.2**	**0.0**
LIT	**Litokhoron**	**1.21**	**212**	⇑*i*Pg	**Pn**	**18 57 06.6**	**-0.3**
LIT	**Litokhoron**	**1.21**	**212**	P	**Pn**	**18 57 06.0**	**-0.9**
PLNA	**Plana**	**1.35**	**3**	Sg	**Sg**	**18 57 28.2**	**+1.1**
PLNA				P	**Pn**	**18 57 09.0**	**+0.1**
KZN	**Kozani**	**1.45**	**236**	P	**Pn**	**18 57 09.8**	**-0.4**
PLD	**Plovdiv**	**1.47**	**46**	P	**Pn**	**18 57 09.8**	**-0.6**
PLD				Sg	**Sg**	**18 57 31.2**	**+0.3**
PLD	**Plovdiv**	**1.47**	**46**	*i* Pn	**Pn**	**18 57 10.9**	**+0.5**
PLD				*i* Sn	**Sb**	**18 57 30.4**	**+0.5**
PLD	**Plovdiv**	**1.47**	**46**	*e*Pg	**Pn**	**18 57 10.9**	**+0.5**
PLD				*e*Sg	**Sb**	**18 57 30.5**	**+0.5**
VTS	**Vitosha**	**1.49**	**357**	P	**Pn**	**18 57 10.9**	**0.0**
VTS				S	**Sb**	**18 57 30.8**	**-0.1**
VTS	**Vitosha**	**1.49**	**357**	*e*Pg	**Pn**	**18 57 11.1**	**+0.2**
VTS				*e*Sg	**Sb**	**18 57 30.7**	**-0.1**
BOSS	**Bosilegrad**	**1.51**	**335**	*e*Pg	**Pn**	**18 57 11.2**	**+0.2**
BOSS				*e*Sg	**Sb**	**18 57 31.5**	**+0.2**
PGB	**Panagyurishte**	**1.52**	**24**	P	**Pn**	**18 57 11.1**	**-0.1**
PGB				Sg	**Sg**	**18 57 32.9**	**+0.4**
FNA	**Florina**	**1.52**	**258**	*i* Pn	**Pn**	**18 57 11.3**	**0.0**
FNA				*i* Sn	**Sg**	**18 57 33.1**	**+0.4**
FNA	**Florina**	**1.52**	**258**	*e*Pg	**Pn**	**18 57 11.3**	**0.0**
FNA				*e*Sg	**Sb**	**18 57 32.4**	**+0.7**
FNA	**Florina**	**1.52**	**258**	P	**Pn**	**18 57 11.0**	**-0.3**
TYRN	**Tyrnavos**	**1.65**	**211**	P	**Pn**	**18 57 12.5**	**-0.4**
TYRN				S	**Sn**	**18 57 34.3**	**0.0**
RDO	**Rodhopi**	**1.66**	**89**	P	**Pn**	**18 57 12.4**	**-0.6**
SMTH	**Samothraki Isl**	**1.79**	**111**	P	**Pn**	**18 57 14.7**	**-0.2**
NEO	**Neokhori**	**1.82**	**183**	P	**Pn**	**18 57 14.8**	**-0.6**
THL	**Klokotos Trika**	**1.86**	**213**	P	**Pn**	**18 57 15.3**	**-0.5**
NEST	**Nestorio**	**1.88**	**248**	P	**Pn**	**18 57 15.6**	**-0.6**
BARS	**Barje**	**2.03**	**327**	*i* Pn	**Pn**	**18 57 19.4**	**+1.1**
BARS				*i* Sn	**Sb**	**18 57 47.6**	**+1.3**
BARS	**Barje**	**2.03**	**327**	*e*Pg	**Pn**	**18 57 19.3**	**+1.1**
BARS				*e*Sg	**Sg**	**18 57 48.0**	**-1.0**
ZAPS	**Zavoj**	**2.21**	**347**	*e*Pn	**Pn**	**18 57 20.9**	**+0.3**
ZAPS				*e*Sg	**Sg**	**18 57 53.8**	**-0.8**
MPEP	**Malo Peshtene**	**2.25**	**8**	P	**Pb**	**18 57 25.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.31**	**204**	P	**Pn**	**18 57 22.0**	**0.0**
TETR	**Tetrakomo, Epi**	**2.38**	**222**	P	**Pn**	**18 57 23.1**	**0.0**
SELS	**Selova**	**2.66**	**322**	*e*Pg	**Pb**	**18 57 32.5**	**+0.9**
SELS				*e*Sg	**Sg**	**18 58 08.3**	**-0.9**
ZAGS	**Zajecar**	**2.80**	**343**	*e*Pn	**Pn**	**18 57 28.5**	**-0.3**
ZAGS				*e*Sg	**Sg**	**18 58 12.5**	**-1.2**

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*WEL **13** 19:03:51.9±1.0,32°.5N±5°.×17°.7W±1°.4,h33km,mB4.8/6,*
ML5.1/12,MLv4.9/11,Mw(mB)4.0/6,Error ellipse:
s-maj=19.3km s-min=4.1km az=103.6,confirmed
*IDC **13** 19:03:52.6±1.2,31°.70S×177°.90W,h0km,mb4.2/4,*
mbtmp4.3/5,ML4.7/1,MS3.3/4,Error ellipse: s-maj=42.1km
s-min=24.7km az=131.0
ISC 13 19:03:52.8±1.0,31°.91S±0°.07×177°.5W±0°.2,h18km,n43,
σ1s73/49,mb4.3/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**351**	P	**Pn**	**19 04 33.5**	**-1.4**
GLKZ				S	**Sn**	**19 05 02.5**	**-4.2**
RAO	**Raoul Island**	**2.68**	**351**	Pn	**Pn**	**19 04 34.5**	**-0.4**
	181nm,0.3s,baz=85,slow=10.0,SNR=18						
RAO				Sn	**Sn**	**19 05 03.4**	**-3.5**
	138nm,0.3s,baz=102,slow=20,SNR=2.3						
	505nm,0.2s						
MXZ	**Matakaoa Point**	**6.64**	**211**	P	**Pn**	**19 05 29.1**	**-0.3**
MXZ				S	**Sn**	**19 06 43.4**	**-1.2**
WMGZ	**Waiomatatini S**	**6.81**	**209**	P	**Pn**	**19 05 31.6**	**-0.2**
WMGZ				S	**Sn**	**19 06 49.9**	**+1.2**
PKGZ	**Pakihiroa**	**6.99**	**210**	P	**Pn**	**19 05 33.5**	**-0.8**
PKGZ				S	**Sn**	**19 06 51.3**	**-2.0**
HAZ	**Te Kaha**	**7.03**	**213**	P	**Pn**	**19 05 34.9**	**+0.1**
HAZ				S	**Sn**	**19 06 55.5**	**+1.3**
PUZ	**Puketiti**	**7.09**	**209**	P	**Pn**	**19 05 34.9**	**-0.7**
PUZ				S	**Sn**	**19 06 54.0**	**-1.7**
RUGZ	**Raukumara Rang**	**7.25**	**212**	P	**Pn**	**19 05 37.1**	**-0.8**
RUGZ				S	**Sn**	**19 06 58.9**	**-0.9**
TWGZ	**Tauwhareparae**	**7.29**	**210**	P	**Pn**	**19 05 37.4**	**-1.0**
TWGZ				S	**Sn**	**19 07 00.2**	**-0.6**
CNGZ	**Carnagh Statio**	**7.46**	**207**	P	**Pn**	**19 05 39.7**	**-1.0**
CNGZ				S	**Sn**	**19 07 05.9**	**+1.0**
TKGZ	**Te Karaka**	**7.57**	**209**	P	**Pn**	**19 05 37.9**	**-4.3**
TKGZ				S	**Sn**	**19 07 05.8**	**-1.7**
MWZ	**Matawai**	**7.62**	**211**	P	**Pn**	**19 05 42.6**	**-0.3**
MWZ				S	**Sn**	**19 07 07.8**	**-1.0**
URZ	**Urewera**	**7.75**	**214**	Pn	**Pn**	**19 05 42.8**	**-1.9**
	1.5nm,0.3s,baz=356,slow=4.9,SNR=13						
URZ				Sn	**Sn**	**19 07 09.9**	**-2.0**
	5.5nm,0.3s,baz=340,slow=4.5,SNR=11						
URZ	**Urewera**	**7.75**	**214**	P	**Pn**	**19 05 41.4**	**-3.3**
URZ				S	**Sn**	**19 07 09.4**	**-2.5**
RAGZ	**Rawiri**	**7.80**	**211**	P	Pn	19 05 39.5	-6.0
RAGZ				S	**Sn**	**19 07 11.6**	**-1.7**
RIGZ	**Rimuhau**	**7.83**	**209**	P	**Pn**	**19 05 45.4**	**-0.4**
RIGZ				S	**Sn**	**19 07 13.2**	**-0.9**
WCZ	**Waipu Caves**	**7.92**	**237**	P	Pn	19 05 52.5	+5.5
PRGZ	**Paritu Road**	**7.97**	**207**	P	**Pn**	**19 05 47.3**	**-0.4**
PRGZ				S	**Sn**	**19 07 16.0**	**-1.4**
SNGZ	**Shannon Statio**	**8.07**	**210**	P	**Pn**	**19 05 50.9**	**+1.7**
SNGZ				S	**Sn**	**19 07 19.2**	**-0.7**
OUZ	**Omahuta**	**8.17**	**244**	P	**Pn**	**19 05 53.8**	**+3.3**
MSVF	**Nonsavu**	**14.69**	**343**	LR	LR	19 11 49.1	
	comp=Z,106nm,20.4s,baz=173,slow=33						
DZM	**Mont Dzumac**	**17.36**	**300**	LR	LR	19 13 10.1	
	comp=Z,108nm,18.2s,baz=58,slow=33						
RAR	**Rarotonga**	**19.04**	**60**	LR	LR	19 15 33.0	
	comp=Z,38nm,19.4s,baz=150,slow=36						
STKA	**Stephens Creek**	**34.63**	**259**	P	**P**	**19 10 41.0**	**0.0**
	1.1nm,0.6s,baz=91,slow=10.0,SNR=4.4						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**43.52**	**268**	P	**P**	**19 11 54.6**	**-0.9**
	1.3nm,0.3s,baz=107,slow=7.2,SNR=40						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**44.64**	**273**	P	**P**	**19 12 03.6**	**-1.0**
	2.3nm,0.4s,baz=112,slow=8.0,SNR=35						
	2.3nm,0.4s						
H03S2	**Juan Fernandez**	**79.25**	**123**	T	T	20 45 12.9	
	baz=238						
H03S1	**Juan Fernandez**	**79.26**	**123**	T	T	20 45 05.7	
	baz=238						
H03S3	**Juan Fernandez**	**79.26**	**123**	T	T	20 45 05.9	
	baz=238						
H03N3	**Juan Fernandez**	**79.44**	**123**	T	T	20 45 11.7	
	baz=240,slow=72,SNR=4.4						
H03N2	**Juan Fernandez**	**79.44**	**123**	T	T	20 45 18.2	
	baz=240,slow=72,SNR=4.8						
H03N1	**Juan Fernandez**	**79.46**	**123**	T	T	20 45 12.3	
	baz=240,slow=72,SNR=9.2						
PETK	**Petropavlovsk-**	**87.38**	**345**	P	**P**	**19 16 39.9**	**+1.6**
	2.9nm,1.0s,baz=156,slow=5.7,SNR=1.3						
	2.9nm,1.0s						
NNA	**Nana**	**92.56**	**106**	LR	LR	19 51 23.1	
	comp=Z,29nm,20.4s,baz=355,slow=31						
MKAR	**Makanchi Array**	**119.09**	**309**	PKP	**PKiKP**	**19 22 41.5**	**+1.2**
	0.3nm,0.6s,baz=95,slow=1.4,SNR=6.7						
KURBB	**Kurchatov Arra**	**122.46**	**313**	PKP	**PKiKP**	**19 22 47.5**	**+0.7**
	0.5nm,0.4s,baz=115,slow=2.0,SNR=8.2						
BVAR	**Borovoye Array**	**127.81**	**315**	PKP	**PKiKP**	**19 22 58.6**	**+1.3**
	0.9nm,0.4s,baz=157,slow=3.2,SNR=11						
FINES	**FINESS Array B**	**146.72**	**340**	PKPbc	**PKiKP**	**19 23 34.3**	**-1.2**
	2.4nm,0.3s,baz=55,slow=3.3,SNR=35						
NB2	**NORSAR Subarra150.31**	**351**	PKP	**PKiKP**	**19 23 44.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=13,slow=4.3						
NOA	**NORSAR Array B 150.31**	**351**	PKPbc	**PKiKP**	**19 23 43.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=16,slow=4.2,SNR=3.4						
HFS	**Hagfors**	**150.81**	**349**	PKPbc	**PKiKP**	**19 23 44.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=92,slow=9.1,SNR=5.7						
MMAI	**Mount Meron Ar**	**152.32**	**281**	PKPbc	**PKiKP**	**19 23 50.8**	**+2.6**
	comp=Z,6.1nm,0.5s,baz=89,slow=6.8,SNR=15						
AKASG	**Malin Array Be**	**152.78**	**

ZEDA	**zmir-Bergama**	**0.89**	**78**	P	**Pb**	**19 13 52.2**	**0.0**
ZEDA				S	**Sb**	**19 14 03.3**	**-0.4**
ZEDA				*i* AML	AML	19 14 05.0	
	comp=N,889nm,0.4s						
BLCB	**Balcova**	**0.93**	**115**	Pg	**Pb**	**19 13 53.0**	**+0.1**
EZNE	**Ezine-Canakkal**	**1.02**	**18**	Pg	**Pb**	**19 13 53.9**	**-0.5**
DGB	**zmir**	**1.02**	**135**	P	**Pn**	**19 13 54.7**	**-0.1**
DGB				S	**Sb**	**19 14 07.5**	**-0.1**
DGB				*i* AML	AML	19 14 10.0	
	comp=N,771nm,0.5s						
DGB				*i* AML	AML	19 14 10.0	
	comp=E,582nm,0.3s						
GMLD	**Gumuldur**	**1.03**	**133**	Pg	**Pb**	**19 13 54.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.06**	**25**	P	**Pb**	**19 13 54.7**	**-0.4**
BAYC				S	**Sb**	**19 14 08.6**	**-0.2**
BAYC				*i* AML	AML	19 14 12.0	
	comp=E,586nm,0.2s						
BOZC	**Bozcaada**	**1.06**	**4**	Pg	**Pb**	**19 13 54.8**	**-0.4**
BOZC	**Bozcaada**	**1.06**	**4**	P	**Pb**	**19 13 54.7**	**-0.4**
BOZC				S	**Sg**	**19 14 09.0**	**-0.6**
BOZC				*i* AML	AML	19 14 12.0	
	comp=N,752nm,0.3s						
BOZC				*i* AML	AML	19 14 12.0	
	comp=E,647nm,0.2s						
EFSA	**Agios Efstrati**	**1.07**	**315**	P	**Pg**	**19 13 55.6**	**-0.3**
EFSA				S	**Sn**	**19 14 09.5**	**-0.5**
SKY	**Skiros Island**	**1.11**	**275**	P	**Pg**	**19 13 56.9**	**+0.3**
SKY				S	**Sg**	**19 14 11.5**	**+0.4**
	622nm,0.3s						
SKY	**Skiros Island**	**1.11**	**275**	P	**Pn**	**19 13 56.2**	**+0.2**
BUHA	**Balikesir, Bur**	**1.12**	**50**	S	**Sb**	**19 14 09.7**	**-0.9**
ECEA	**Canakkale, Ece**	**1.27**	**7**	P	**Pn**	**19 13 57.8**	**-0.4**
ECEA				S	**Sb**	**19 14 14.1**	**-0.7**
ECEA				*i* AML	AML	19 14 21.0	
	comp=N,965nm,0.5s						
ECEA				*i* AML	AML	19 14 23.0	
	comp=E,872nm,0.4s						
CNKL	**anakkale-Mer**	**1.32**	**14**	P	**Pn**	**19 13 58.8**	**-0.2**
CNKL				S	**Sn**	**19 14 15.8**	**-0.5**
CNKL				*i* AML	AML	19 14 20.0	
	comp=E,632nm,0.4s						
CNKL				*i* AML	AML	19 14 25.0	
	comp=N,613nm,0.5s						
COMU	**Canakkale**	**1.37**	**17**	Pn	**Pn**	**19 13 59.3**	**-0.4**
GOAD	**anakkale-G¶**	**1.38**	**358**	P	**Pn**	**19 13 59.0**	**-0.7**
GOAD				*i* AML	AML	19 14 22.0	
	comp=E,762nm,0.4s						
GOAD				*i* AML	AML	19 14 24.0	
	comp=N,551nm,0.4s						
TNSA	**Tinos**	**1.39**	**207**	P	**Pn**	**19 13 59.1**	**-0.7**
GADA	**Gvkgeada**	**1.41**	**358**	Pn	**Pn**	**19 13 59.8**	**-0.3**
KARY	**Karystos**	**1.41**	**239**	P	**Pn**	**19 13 59.8**	**-0.4**
KARY	**Karystos**	**1.41**	**239**	P	**Pn**	**19 13 59.8**	**-0.4**
AKS	**Akhisar**	**1.45**	**86**	Pn	**Pn**	**19 14 00.5**	**-0.2**
AKHS	**Akhisar**	**1.45**	**86**	P	**Pn**	**19 14 00.9**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.47**	**265**	P	**Pn**	**19 14 01.2**	**+0.3**
KYMI				S	**Sn**	**19 14 19.1**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.47**	**265**	P	**Pn**	**19 14 00.9**	**0.0**
GCAM	**G?zelcaml?**	**1.47**	**137**	Pn	**Pn**	**19 14 01.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.47**	**137**	P	**Pg**	**19 14 03.5**	**+0.1**
GCAM				S	**Sg**	**19 14 21.9**	**-0.7**
GCAM				*i* AML	AML	19 14 24.0	
	comp=N,460nm,0.4s						
STEP	**BALIKESIR_Sava**	**1.49**	**66**	P	**Pn**	**19 14 01.4**	**+0.1**
STEP				S	**Sn**	**19 14 19.4**	**-1.0**
STEP				*i* AML	AML	19 14 27.0	
	comp=N,383nm,0.7s						
STEP				*i* AML	AML	19 14 28.0	
	comp=E,448nm,0.4s						
CANM	**Can-anakkale**	**1.49**	**34**	Pn	**Pn**	**19 14 01.0**	**-0.2**
YENI	**Yenice-Canakka**	**1.52**	**40**	Pn	**Pn**	**19 14 01.6**	**-0.1**
GOMA	**Golmarmara-Man**	**1.53**	**92**	Pn	**Pn**	**19 14 01.7**	**0.0**
BALY	**Balya**	**1.60**	**53**	P	**Pn**	**19 14 03.2**	**+0.4**
BALY				*i* AML	AML	19 14 32.0	
	comp=N,349nm,0.4s						
DDIM	**Aydin, Didim**	**1.66**	**142**	P	**Pb**	**19 14 06.1**	**+0.7**
DDIM				S	**Sb**	**19 14 26.4**	**+0.4**
DDIM				*i* AML	AML	19 14 32.0	
	comp=E,280nm,0.8s						
GELI	**Tayfur-Gelibol**	**1.66**	**14**	Pn	**Pn**	**19 14 03.4**	**-0.2**
IZMR	**zmir-demi**	**1.69**	**112**	P	**Pn**	**19 14 04.1**	**+0.2**
LPK	**Lapseki**	**1.70**	**21**	Pn	**Pn**	**19 14 04.1**	**-0.1**
SMTH	**Samothraki Isl**	**1.72**	**349**	P	**Pn**	**19 14 04.1**	**-0.3**
SMTH				S	**Sb**	**19 14 28.5**	**+0.7**
	188nm,0.5s						
SMTH	**Samothraki Isl**	**1.72**	**349**	P	**Pn**	**19 14 04.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**118**	Pn	**Pn**	**19 14 04.9**	**+0.3**
ODEM	**Odemis-Izmir**	**1.73**	**106**	Pn	**Pn**	**19 14 04.4**	**-0.2**
GORD	**Gordes-Manisa**	**1.73**	**85**	Pn	**Pn**	**19 14 04.5**	**-0.1**
DION	**Dionisos Attik**	**1.74**	**247**	P	**Pn**	**19 14 04.4**	**-0.3**
APE	**Apeiranthos**	**1.74**	**191**	Pn	**Pn**	**19 14 04.3**	**-0.5**
APE	**Apeiranthos**	**1.74**	**191**	P	**Pn**	**19 14 04.0**	**-0.8**
APE				S	**Sn**	**19 14 25.0**	**-1.7**
	185nm,0.4s						
APE	**Apeiranthos**	**1.74**	**191**	⇑P	**Pn**	**19 14 05.2**	**+0.4**
APE				⇑S	**Sb**	**19 14 28.4**	**0.0**
APE	**Apeiranthos**	**1.74**	**191**	P	**Pn**	**19 14 04.0**	**-0.8**
BKES	**Balkesir-Mer**	**1.80**	**57**	P	**Pn**	**19 14 05.3**	**-0.2**
PTL	**Penteli**	**1.80**	**247**	P	**Pn**	**19 14 05.1**	**-0.5**
GONE	**Gonen-Balikesi**	**1.84**	**46**	Pn	**Pn**	**19 14 06.2**	**+0.2**
AYDN	**Tasoluk**	**1.88**	**126**	P	**Pn**	**19 14 06.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.91**	**32**	Pn	**Pn**	**19 14 06.9**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.91**	**5**	⇑P	**Pb**	**19 14 09.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.93**	**12**	Pn	**Pn**	**19 14 07.3**	**0.0**
VLY	**Voula,Athens**	**1.94**	**242**	P	**Pn**	**19 14 07.2**	**-0.3**
ENEZ	**Enez**	**1.96**	**4**	Pn	**Pn**	**19 14 07.5**	**-0.2**
ENEZ	**Enez**	**1.96**	**4**	P	**Pn**	**19 14 08.1**	**+0.4**
ENEZ				S	**Sb**	**19 14 34.9**	**+0.3**
	500nm,0.4s						
KIRA	**zmir-Kiraz**	**2.00**	**106**	P	**Pn**	**19 14 08.5**	**+0.2**
NAZL	**Nazilli-Aydin**	**2.00**	**113**	Pn	**Pn**	**19 14 08.4**	**+0.1**
BODT	**Bodrum**	**2.02**	**148**	Pn	**Pn**	**19 14 08.4**	**-0.1**
SUSR	**Susurluk-Balik**	**2.02**	**54**	Pn	**Pn**	**19 14 08.9**	**+0.3**
MANT	**Manisa**	**2.05**	**97**	P	**Pn**	**19 14 09.3**	**+0.2**
THAS	**Thassos island**	**2.06**	**333**	P	**Pn**	**19 14 09.2**	**+0.1**
MLSB	**Milas**	**2.06**	**135**	Pn	**Pn**	**19 14 09.3**	**+0.2**
BDRM	**Kayabasi**	**2.08**	**145**	P	**Pn**	**19 14 08.7**	**-0.5**
PAIG	**Paliouri**	**2.11**	**304**	Pn	**Pn**	**19 14 09.9**	**+0.2**
ALN	**Alexandroupoli**	**2.11**	**2**	Pn	**Pn**	**19 14 09.6**	**-0.2**
ALN	**Alexandroupoli**	**2.11**	**2**	P	**Pn**	**19 14 09.6**	**-0.2**
DURS	**Dursunbey**	**2.12**	**66**	P	**Pn**	**19 14 10.0**	**+0.1**
ESEN	**Aydn-Nazilli**	**2.12**	**117**	P	**Pn**	**19 14 10.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.12**	**26**	Pn	**Pn**	**19 14 09.9**	**-0.1**
KULA	**Kula-Manisa**	**2.13**	**96**	Pn	**Pn**	**19 14 10.5**	**+0.4**
EDC	**Edincik**	**2.15**	**43**	Pn	**Pn**	**19 14 10.3**	**+0.1**
DEMI	**Demirci**	**2.16**	**82**	P	**Pn**	**19 14 11.0**	**+0.4**
DEMI				S	**Sn**	**19 14 36.9**	**-0.1**
OUR	**Ouranopolis**	**2.18**	**316**	Pn	**Pn**	**19 14 10.8**	**+0.1**
OUR	**Ouranopolis**	**2.18**	**316**	P	**Pn**	**19 14 10.9**	**+0.2**
VIL2	**Platees**	**2.19**	**256**	P	**Pn**	**19 14 10.2**	**-0.6**
NEO	**Neokhori**	**2.20**	**285**	P	**Pn**	**19 14 10.7**	**-0.3**
DST	**Dursunbey**	**2.22**	**67**	Pn	**Pn**	**19 14 11.5**	**+0.2**
BAND	**Balkesir-Ban**	**2.28**	**46**	⇑P	**Pb**	**19 14 15.3**	**-0.6**
BAND				⇑S	**Sb**	**19 14 45.4**	**+1.5**
KCRT	**Karacabey (Bur**	**2.37**	**51**	Pn	**Pn**	**19 14 13.6**	**+0.2**
SIMA	**Simav-Kutahya**	**2.37**	**82**	Pn	**Pn**	**19 14 13.7**	**+0.2**
RDO	**Rodhopi**	**2.38**	**352**	Pn	**Pn**	**19 14 13.7**	**+0.2**
RDO	**Rodhopi**	**2.38**	**352**	P	**Pn**	**19 14 13.8**	**+0.2**
RDO	**Rodhopi**	**2.38**	**352**	P	**Pn**	**19 14 13.8**	**+0.2**
UKOP	**Uzunkopru-Edir**	**2.40**	**12**	Pn	**Pn**	**19 14 13.9**	**+0.2**
MHLO	**Agia Marina, M**	**2.43**	**211**	P	**Pn**	**19 14 13.9**	**-0.2**
LTK	**Loutraki**	**2.47**	**253**	P	**Pn**	**19 14 14.4**	**-0.3**
KAVA	**Kavala**	**2.48**	**334**	P	**Pn**	**19 14 15.0**	**+0.2**
PLG	**Polygyros**	**2.51**	**310**	P	**Pn**	**19 14 15.1**	**-0.2**
TKR	**Tekirdag**	**2.52**	**28**	Pn	**Pn**	**19 14 15.6**	**+0.3**
KOKK	**Kokkinochori,**	**2.54**	**324**	P	**Pn**	**19 14 15.8**	**+0.2**
SHAP	**Saphane-Kutahy**	**2.55**	**84**	Pn	**Pn**	**19 14 16.5**	**+0.6**
AXAR	**Agios Charalam**	**2.58**	**271**	P	**Pn**	**19 14 17.0**	**+0.8**
ORLT	**Orhaneli**	**2.60**	**60**	Pn	**Pn**	**19 14 16.5**	**0.0**
KRND	**KRANIDI**	**2.62**	**239**	P	**Pn**	**19 14 16.8**	**0.0**
CRLT	**Corlu**	**2.71**	**30**	Pn	**Pn**	**19 14 18.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.76**	**54**	Pn	**Pn**	**19 14 19.3**	**+0.7**
HORT	**Hortiatis**	**2.86**	**310**	Pn	**Pn**	**19 14 20.3**	**+0.2**
HORT	**Hortiatis**	**2.86**	**310**	P	**Pn**	**19 14 20.1**	**0.0**
KDZ	**Kurdzhali**	**2.89**	**351**	Pn	**Pn**	**19 14 21.5**	**+1.1**
GUR	**Goura**	**2.97**	**255**	P	**Pn**	**19 14 21.8**	**+0.2**
TYRN	**Tyrnavos**	**3.04**	**289**	P	**Pn**	**19 14 22.9**	**+0.3**
KLV	**Kalavryta, Ach**	**3.08**	**257**	P	**Pn**	**19 14 23.3**	**0.0**
VLI	**Veliai**	**3.16**	**230**	P	**Pn**	**19 14 23.9**	**-0.3**
ANX	**Ano Chora**	**3.17**	**268**	P	**Pn**	**19 14 24.8**	**+0.4**
KNT	**Kendrikon**	**3.35**	**316**	P	**Pn**	**19 14 27.1**	**+0.3**
RAZG	**Razgrad**	**4.80**	**5**	⇑P	**Pn**	**19 14 49.9**	**+3.2**
ICOR	**Ion Corvin**	**5.51**	**14**	⇑P	**Pn**	**19 14 59.7**	**+3.3**
VOIR		**6.69**	**354**	⇓P	**Pn**	**19 15 15.0**	**+2.3**
MLR	**Muntele Rosu**	**6.71**	**360**	⇑P	**Pn**	**19 15 15.6**	**+2.6**
BISRR	**Bisoca**	**6.79**	**4**	⇑P	**Pn**	**19 15 15.9**	**+1.9**
LOT	**Lotru**	**6.86**	**347**	⇑P	**Pn**	**19 15 18.1**	**+2.9**
PLOR	**Plostina**	**7.08**	**4**	⇑P	**Pn**	**19 15 20.6**	**+2.5**
VRI	**Vrincioaia**	**7.10**	**4**	⇓P	**Pn**	**19 15 19.9**	**+1.6**
TESR	**Tescani**	**7.74**	**4**	⇑P	**Pn**	**19 15 28.8**	**+1.6**
SIRR	**Siria**	**8.13**	**338**	⇓P	**Pn**	**19 15 33.6**	**+1.2**
MARR	**Marisel-Cluj**	**8.16**	**346**	⇑P	**Pn**	**19 15 35.4**	**+2.4**

*NEIC **13** 19:17:28.9±0.3, 35°.956N±0°.010×97°.256W±0°.006, h11km±7km, mb_Lg2.7/10, ML2.4/34, ML2.7/17, Error ellipse: s-maj=1.5km s-min=0.6km az=201.0*

NEIC 13 19:17:29.0±0.5, 35°.962N±0°.007×97°.24W±0°.01, h7km±5km, Error ellipse: s-maj=1.3km s-min=1.0km az=96.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.24**	**226**		Pg	19 17 34.0	+0.3
OK029					Sg	19 17 37.4	+0.5
OK029				IAML		19 17 37.8	
	532nm,0.2s						
OK031	**S. Brethren Rd**	**0.33**	**91**		Pg	19 17 35.9	+0.4
OK031				IAML		19 17 40.4	
	598nm,0.9s						
OK031					Sg	19 17 40.8	+1.0
OK052	**Battle Ridge R**	**0.36**	**85**		Pg	19 17 36.4	+0.4
OK052					Sg	19 17 41.6	+0.8
OK052				IAML		19 17 42.5	
	434nm,0.2s						
QUOK	**Quay**	**0.48**	**64**		Pg	19 17 38.7	+0.3
QUOK					Sg	19 17 45.6	+0.9
QUOK				IAML		19 17 51.7	
	comp=E,213nm,0.2s						
OK048	**Pawnee Station**	**0.52**	**28**		Pg	19 17 39.3	+0.3
OK048					Sg	19 17 46.2	+0.5
OK048				IAML		19 17 46.5	
	comp=E,334nm,0.4s						
OK048				IAML		19 17 46.5	
	comp=E,182nm,0.3s						
DEOK	**Depew**	**0.62**	**101**		Pg	19 17 41.1	+0.2
DEOK					Sg	19 17 49.7	+0.8
DEOK				IAML		19 17 50.2	
	comp=E,212nm,0.1s						
DEOK				IAML		19 17 50.4	
	comp=N,259nm,0.1s						
OK051	**E0350 and S346**	**0.64**	**31**		Pg	19 17 41.5	+0.3
OK051					Sg	19 17 50.0	+0.4
OK051				IAML		19 17 56.6	
	comp=N,227nm,0.2s						
FNO	**Franklin**	**0.71**	**190**		Pg	19 17 42.6	-0.2
FNO					Sg	19 17 52.8	+0.8
CROK	**Carrier**	**0.81**	**312**		Pg	19 17 44.8	+0.2
CROK					Sg	19 17 55.5	+0.5
CROK				IAML		19 18 01.9	
	comp=E,173nm,0.3s						
W35A	**Tecumseh**	**0.86**	**159**		Pg	19 17 45.4	-0.1
W35A					Sg	19 17 57.3	+0.5
WMOK	**Wichita Mounta**	**1.75**	**226**		Pn	19 17 59.4	-0.4
FW14	**Alvarado**	**3.55**	**179**		Pn	19 18 24.9	+0.4
X40A	**Basin Creek Fa**	**3.90**	**111**	IAmb_Lg		19 19 37.6	
	comp=Z,10nm,1.0s						
SN07	**Snyder 07**	**4.16**	**227**	IAmb_Lg		19 19 37.8	
	comp=Z,38nm,0.7s						
BRDY	**Brady**	**4.89**	**198**	IAmb_Lg		19 20 05.1	
	comp=Z,6.4nm,0.8s						
OGNE	**Ogallala**	**6.23**	**324**	IAmb_Lg		19 20 53.2	
	comp=Z,17nm,1.0s						
833A	**Chaparral WMA,**	**7.83**	**194**	IAmb_Lg		19 21 39.7	
	comp=Z,4.1nm,0.7s						

*NEIC **13** 19:17:59.4±0.6, 35°.958N±0°.010×97°.24W±0°.01, h10km±7km, mb_Lg2.6/15, ML2.5/28, ML2.9/17, Error ellipse: s-maj=1.5km s-min=1.4km az=135.0*

NEIC 13 19:17:59.3±0.4, 35°.961N±0°.006×97°.248W±0°.009, h7km±5km, Error ellipse: s-maj=1.2km s-min=0.7km az=53.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**226**		Pg	19 18 04.3	+0.4
OK029					Sg	19 18 07.8	+0.7
OK029				IAML		19 18 08.0	
	886nm,0.2s						
OK031	**S. Brethren Rd**	**0.33**	**91**		Pg	19 18 06.1	+0.3
OK031					Sg	19 18 11.1	+0.9
OK052	**Battle Ridge R**	**0.36**	**85**		Pg	19 18 06.7	+0.3
OK052					Sg	19 18 12.0	+0.8
OK052				IAML		19 18 12.8	
	492nm,0.2s						
QUOK	**Quay**	**0.48**	**64**		Pg	19 18 09.0	+0.3
QUOK					Sg	19 18 15.8	+0.8
QUOK				IAML		19 18 21.9	
	comp=E,329nm,0.2s						
OK048	**Pawnee Station**	**0.52**	**28**		Pg	19 18 09.6	+0.3
OK048				IAML		19 18 16.8	
	comp=E,523nm,0.4s						
OK048				IAML		19 18 16.8	
	comp=E,272nm,0.3s						
DEOK	**Depew**	**0.62**	**101**		Pg	19 18 11.5	+0.2
DEOK					Sg	19 18 20.0	+0.6
DEOK				IAML		19 18 20.5	
	comp=E,300nm,0.1s						
DEOK				IAML		19 18 20.7	
	comp=N,383nm,0.1s						
FNO	**Franklin**	**0.71**	**190**		Pg	19 18 13.0	0.0
CROK	**Carrier**	**0.81**	**313**		Pg	19 18 15.2	+0.4
W35A	**Tecumseh**	**0.86**	**159**		Pg	19 18 16.1	+0.2
KAN17	**Caldwell West**	**1.16**	**339**	IAmb_Lg		19 18 36.5	
	comp=Z,59nm,1.0s						
U38A	**Gravette**	**2.36**	**78**		Pn	19 18 38.4	-0.1
KSU1	**Kansas State U**	**3.17**	**9**	IAmb_Lg		19 19 46.5	
	comp=Z,13nm,0.9s						
MIAR	**Mount Ida**	**3.32**	**114**	Pn	Pn	19 18 51.0	-0.6
APMT	**Aspermont**	**3.54**	**223**	IAmb_Lg		19 19 49.3	
	comp=Z,9.2nm,0.9s						
X40A	**Basin Creek Fa**	**3.90**	**111**	IAmb_Lg		19 20 07.8	
	comp=Z,14nm,0.9s						
SN07	**Snyder 07**	**4.15**	**227**	IAmb_Lg		19 20 11.5	
	comp=Z,56nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.16**	**89**	IAmb_Lg		19 20 09.9	
	comp=Z,7.5nm,0.7s						
P38A	**Dawn**	**4.69**	**38**	IAmb_Lg		19 20 30.4	
	comp=Z,9.8nm,1.1s						
N35A	**Tabor**	**5.05**	**14**	IAmb_Lg		19 20 50.9	
	comp=Z,11nm,0.9s						
N38A	**Joes South For**	**5.76**	**32**	IAmb_Lg		19 21 16.0	
	comp=Z,24nm,1.0s						

DJA 13 19:18:06.5±0.5, 4°N±8°×12°7E±°, h24km±7km, M3.8/7, mb4.0/6, MLv3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.37**	**264**	P	Pn	19 18 29.6	-0.5
SGSI				S	Sn	19 18 47.6	+0.1
SANI	**Sanana**	**5.92**	**189**	P	Pn	19 19 32.2	-0.5
	0.1nm22nm,1.8s						
MRSI	**Marisa**	**5.97**	**236**	P	Pn	19 19 34.8	+1.4
	0.1nm12nm,1.1s						
BBSI	**Bau Bau**	**10.22**	**205**	P	Pn	19 20 32.2	+0.4

*DJA **13** 19:20:47.5±0.6, 2°S±5°×13°9E±°, h15km±3km, M4.0/7, mb4.4/1, MLv3.7/7*
*IDC **13** 19:20:54.4±2.7, 3°.31S×139°.21E, h0km, mb3.4/2, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=56.5km s-min=12.0km az=138.0*

ISC 13 19:20:46.7±1.0, 2°.35S±0°.07×138°.47E±0°.04, h10km, n11, σ2§76/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.43**	**34**	P	Pg	19 20 54.2	-0.9
SMPI				S	**Sg**	**19 20 58.6**	**-2.1**
GENI	**Genyem**	**1.71**	**98**	P	**Pn**	**19 21 18.1**	**+1.5**
GENI				S	**Sn**	**19 21 41.2**	**+2.6**
JAY	**Jayapura**	**2.24**	**94**	Pg	**Pn**	**19 21 24.6**	**+0.7**
	9.5nm,0.3s,baz=241,slow=11,SNR=38						
JAY				Lg	Lg	19 21 48.9	
	12nm,0.3s,baz=122,slow=22,SNR=8.6						
JAY	**Jayapura**	**2.24**	**94**	P	**Pn**	**19 21 24.1**	**+0.2**
JAY				S	**Sn**	**19 21 51.2**	**-0.4**
SRPI	**Serui, Papua**	**2.28**	**282**	P	**Pn**	**19 21 26.1**	**+1.7**
SRPI				S	**Sn**	**19 21 54.2**	**+1.6**
BAKI	**Biak**	**2.63**	**296**	P	**Pn**	**19 21 29.6**	**+0.4**
BAKI				S	**Sn**	**19 21 59.4**	**-1.8**
FAKI	**Fak Fak**	**6.24**	**265**	P	**Pn**	**19 22 20.7**	**+1.7**
WRA	**Warramunga Arr**	**17.95**	**193**	P	**Pn**	**19 24 57.2**	**+0.6**
	0.3nm,0.3s,baz=16,slow=12,SNR=12						
WRA				S	**Sn**	**19 28 09.6**	**-7.3**
	0.4nm,0.7s,baz=18,slow=23,SNR=2.5						
	0.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.09**	**218**	P	Pn	19 25 27.3	+4.9
	0.1nm,0.3s,baz=43,slow=12,SNR=6.2						
	1.9nm,0.9s						
ASAR	**Alice Springs**	**21.65**	**191**	P	**P**	**19 25 39.5**	**+2.0**
	0.5nm,0.5s,baz=20,slow=9.8,SNR=16						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**29.52**	**175**	P	P	19 26 50.1	-1.3
	0.4nm,0.5s,baz=343,slow=14,SNR=3.2						
	0.4nm,0.5s						

*NNC **13** 19:55:10.3±9.7, 41°.65N×84°.34E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=64.4km s-min=22.6km az=140.0*
*SOME **13** 19:55:14.1, 40°.47N×82°.42E, h0km*

ISC 13 19:55:04.4±4.1, 41°.5N±0°.2×84°.6E±0°.1, h10km, n7, σ3§29/14, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.71**	**303**	*e*P	**Pg**	**19 56 17.3**	**+1.9**
	1.0nm,0.1s						
KTMS				*e*S	**Sg**	**19 57 02.7**	**-0.7**
	10nm,0.2s						
SHLS	**Shalkode**	**4.16**	**295**	*e*P	**Pb**	**19 56 16.1**	**-1.6**
	4.8nm,0.2s						
SHLS				*e*S	**Sn**	**19 57 01.0**	**+4.2**
	17nm,0.6s						
PDGK	**Podgornoye**	**4.21**	**298**	⇓Pg	**Pb**	**19 56 19.4**	**+0.9**
	2.2nm,0.6s						
PDGK				⇓Sn	**Sn**	**19 57 01.6**	**+3.6**
	3.5nm,0.6s						
PDGK				⇓Lg	Lg	19 57 16.3	
	5.4nm,0.6s						
KPKS	**Kokpek**	**4.80**	**296**	*e*P	**Pb**	**19 56 30.3**	**+1.6**
	3.7nm,0.4s						
KPKS				*e*S	**Sb**	**19 57 25.2**	**-1.4**
	10nm,0.5s						
MK31	**Makanchi Array**	**5.56**	**343**	Pg	**Pg**	**19 56 48.8**	**-2.1**
	0.2nm,0.3s,baz=168,slow=13,SNR=17						
MK31				⇑Sn	**Sn**	**19 57 36.2**	**+5.0**
	0.6nm,0.4s						
MK31				⇑Lg	Lg	19 57 57.2	
	5.9nm,0.8s,baz=165,slow=26,SNR=5.2						
MAKZ	**Makanchi**	**5.65**	**341**	⇑Pg	**Pg**	**19 56 51.8**	**-0.7**
	2.1nm,1.1s						
MAKZ				⇓Sn	**Sn**	**19 57 34.8**	**+1.6**
	0.7nm,0.5s						
MAKZ				⇑Lg	Lg	19 57 59.6	
	1.3nm,0.5s						
KOTS	**Kotyrbulak**	**5.82**	**290**	*e*P	**Pb**	**19 56 44.4**	**-1.7**
	1.3nm,0.2s						
KOTS				*e*S	**Sb**	**19 57 49.4**	**-6.4**
	6.3nm,0.3s						

*NOU **13** 20:06:37.9, 21°.88S×169°.08E, h0km, MLv4.2/16, Southeast of Loyalty Islands*
*IDC **13** 20:06:39.2±2.3, 21°.23S×168°.67E, h0km, mb4.0/4, mbtmp4.0/6, ML4.3/2, MS3.3/4, Error ellipse: s-maj=87.5km s-min=27.1km az=155.0*

ISC 13 20:06:39.1±1.1, 21°.91S±0°.09×169°.06E±0°.06, h10km, n23, σ1§31/22, mb4.0/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.05**	**294**	P	**Pg**	**20 06 58.5**	**-0.8**
MARNC	**Mare, Loyalty**	**1.05**	**294**	S	**Sg**	**20 07 13.9**	**+1.0**
PINNC	**Pines Island,**	**1.65**	**245**	P	**Pn**	**20 07 08.0**	**-0.1**
PINNC	**Pines Island,**	**1.65**	**245**	S	**Sn**	**20 07 30.8**	**+1.4**
YATNC	**Mamie plateau,**	**2.02**	**265**	P	**Pn**	**20 07 12.7**	**-0.5**
YATNC	**Mamie plateau,**	**2.02**	**265**	S	**Sn**	**20 07 39.6**	**+1.0**
OUENC	**Ouen Island, N**	**2.12**	**256**	P	**Pn**	**20 07 14.8**	**+0.2**
OUENC	**Ouen Island, N**	**2.12**	**256**	S	**Sn**	**20 07 43.3**	**+2.3**
DZM	**Mont Dzumac**	**2.44**	**266**	Pn	**Pn**	**20 07 18.9**	**-0.1**
	13nm,0

SOEO	Opoqueri	2.40 352	Pg	Pn	20 17 51.3	+1.7
TA01	Diego Aracena	2.51 278	*e*P	Pn	20 17 49.8	-0.5
PB06	IPOC Station P	2.58 227	*e*P	Pn	20 17 51.0	-0.3
PB06			IAML		20 18 24.6	
	comp=E,120nm,0.2s					
SALTA		3.44 162	*e*P	Pn	20 18 02.7	+0.6
AOEA	Aiquile	3.50 39	Pg	Pn	20 18 03.9	+1.1
PB12	IPOC Station P	3.52 311	⇑*i*P	Pn	20 18 01.6	-1.1
PB18	Visviri	3.82 331	*e*P	Pn	20 18 09.4	+2.5
BBOD	La Paz, Gloria	4.41 347	Pg	Pn	20 18 16.2	+1.7
LPAZ	La Paz	4.67 353	P	Pn	20 18 19.9	+1.9
	comp=E,14nm,0.4s,baz=166,slow=6.3,SNR=78					
LPAZ			S	Sn	20 19 14.1	+1.1
	comp=E,2.8nm,0.5s,baz=315,slow=11,SNR=1.4					
LPAZ	La Paz	4.67 353	Pg	Pn	20 18 19.6	+1.6
SIV	San Ignacio	7.87 52	P	Pn	20 18 57.4	-2.0
	comp=E,4.6nm,0.3s,baz=252,slow=11,SNR=30					
SIV			S	Sn	20 20 22.5	-5.1
	comp=E,0.9nm,0.6s,baz=306,slow=22,SNR=3.5					
CPUP	Villa Florida	10.77 122	P	Pn	20 19 38.4	+1.1
	comp=E,1.2nm,0.6s,baz=278,slow=7.6,SNR=3.8					
YKA	Yellowknife Ar	91.11 340	P	P	20 29 52.0	+0.2
	comp=E,0.3nm,0.6s,baz=134,slow=4.6,SNR=6.4					
	comp=E,0.3nm,0.6s					
MKAR	Makanchi Array	144.43 36	PKP	PKPab	20 36 21.6	-0.1
	comp=E,0.4nm,0.4s,baz=312,slow=3.8,SNR=9.6					

NIED ***13*** *20:35:46.7, 38°.42N×135°.37E, h403km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.88; Mθθ0.45; Mφφ-1.33; Mrθ-0.91; Mθφ-0.38; Mφr-1.59; Fault plane solution: M0 2.18000×10¹⁵ NP1: φs344.00000°, δ21.00000°, λ46.00000°. NP2: φs210.00000°, δ75.00000°, λ105.00000°.*
MOS ***13*** *20:35:46.2±0.8, 38°.55N×135°.17E, h385km, mb4.2/11 Error ellipse: s-maj=9.8km s-min=6.2km az=113.0*
JMA ***13*** *20:35:46.7±0.2, 38°N±1°×13°5E±°, h403km±2km, MV4.0/40, SEA OF JAPAN*
NEIC ***13*** *20:35:47.4±1.9, 38°.44N±0°.04×135°.16E±0°.09, h378km±8km, mb4.0/54, Error ellipse: s-maj=11.8km s-min=2.3km az=118.0*
IDC ***13*** *20:35:48.0±0.8, 38°.50N×135°.13E, h386km±9km, mb3.5/23, mbtmp4.2/29, Error ellipse: s-maj=10.0km s-min=8.1km az=86.0*

ISC 13 20:35:48.1±0.4, 38°.48N±0°.05×135°.32E±0°.05, h400km, n156, σ1°89/154, mb4.0/60, 4C-14D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	Hakui	1.94	143	*e*P	Pn	20 36 42.9	-0.8
JSD	Sado	2.36	100		Pn	20 36 45.3	-1.1
JSD	Sado	2.36	100	P	Pn	20 36 45.5	-0.9
JSD	Sado	2.36	100	P	Pn	20 36 45.3	-1.1
JTT	Ttatey	2.46	139	*e*P	Pn	20 36 45.4	-1.8
JKY	Yasaka	2.85	183	*e*P	Pn	20 36 48.3	-1.9
JKY				*e*S	S	20 37 36.8	-3.5
MJB9	Matsu-Tunnel	3.00	129		Pn	20 36 50.8	-0.5
MAJO	Matsushiro	3.00	129		Pn	20 36 49.7	-1.7
MAJO	Matsushiro	3.00	129	P	Pn	20 36 50.0	-1.4
MAJO	Matsushiro	3.00	129	*d*P	Pn	20 36 49.9	-1.4
MJAR	Matsushiro Arr	3.01	129	P	Pn	20 36 50.4	-1.0
	115nm,0.7s,baz=311,slow=10.0,SNR=251						
JWT	Wachi	3.19	179	P	Pn	20 36 51.7	-1.3
JWT				*e*S	S	20 37 41.7	-3.7
JGF	Kuroka	3.31	150		Pn	20 36 52.4	-1.6
JGF	Kuroka	3.31	150	P	Pn	20 36 52.8	-1.2
INU	Inuyama	3.41	156		Pn	20 36 52.5	-2.3
INU	Inuyama	3.41	156	P	Pn	20 36 53.4	-1.4
JEG	Eigenji	3.45	165	P	Pn	20 36 53.4	-1.8
JIE	Ise	4.23	164	P	Pn	20 37 01.6	-0.9
JKN2	Miekihoku	4.30	169	P	Pn	20 37 01.8	-1.4
JKN2				*e*S	S	20 37 59.5	-4.5
JMM	Marumori	4.36	96		Pn	20 37 02.1	-1.5
JMM	Marumori	4.36	96	P	Pn	20 37 02.9	-0.7
JOD2	Odawara 2	4.41	136	P	Pn	20 37 02.5	-1.7
JFK	Kawauchi	4.53	102	P	Pn	20 37 03.7	-1.7
JFK				*e*S	S	20 38 03.9	-4.3
JHO	Hitachi	4.57	112	P	Pn	20 37 03.5	-2.3
JMK	Ichinoseki	4.64	82	P	Pn	20 37 05.5	-0.9
JTM	Tenmabayashi	5.00	61	Pn	Pn	20 37 09.9	-0.1
MSHR	Mys Shultsa	5.18	324	⇓*e*P	Pn	20 37 07.8	-4.0
VLA	Vladivostok	5.32	332	*de*P	Pn	20 37 07.1	-6.1
PSTR	Posyet	5.40	322	⇓*e*P	Pn	20 37 09.7	-4.4
KSRS	Korea Array	5.93	262	P	Pn	20 37 18.8	-1.1
	24nm,0.5s,baz=76,slow=12,SNR=100						
KSAR	Wonju Array Be	5.96	262		Pn	20 37 17.9	-2.4
KSAR	Wonju Array Be	5.96	262	P	Pn	20 37 17.9	-2.4
KS19	Wonju Array Si	5.96	263		Pn	20 37 19.1	-1.2
JTO	Tosashimizu	5.97	201	*e*P	Pn	20 37 19.5	-1.0
JTU	Tsushima	6.19	232	*e*P	Pn	20 37 21.2	-1.6
USRK	Ussuriysk Ar.	6.24	337	P	Pn	20 37 22.5	-0.6
	6.6nm,0.6s,baz=147,slow=9.5,SNR=16						
USRK				S	S	20 38 31.1	-10
	3.7nm,0.5s,baz=144,slow=5.2,SNR=6.3						
USA0B	Ussuriysk Arra	6.24	337	Pn	Pn	20 37 21.8	-1.3
USA0B	Ussuriysk Arra	6.24	337	⇑*e*P	Pn	20 37 21.6	-1.5
JNU	Nakatsue	6.45	215		Pn	20 37 24.6	-1.1
JNU	Nakatsue	6.45	215	P	Pn	20 37 24.4	-1.3
	17nm,0.5s,baz=56,slow=3.0,SNR=28						
JHJ	Hachijo jima 2	6.46	145	P	Pn	20 37 22.7	-3.1
	57nm,0.3s,baz=327,slow=14,SNR=9.7						
JHJ				S	S	20 38 41.2	-4.3
	225nm,0.8s,baz=86,slow=23,SNR=2.3						
ERM	Erimo	6.96	57	Pn	Pn	20 37 30.0	-1.2
ERM	Erimo	6.96	57	⇑*i*P	Pn	20 37 30.2	-0.9
MDJ	Mudanjiang	7.48	327		Pn	20 37 35.8	-1.2
ASAJ	Asahikawa	7.86	42	P	Pn	20 37 40.2	-1.1
	11nm,0.3s,baz=231,slow=11,SNR=12						
ASAJ				S	S	20 39 07.3	-6.6
	7.8nm,0.4s,baz=277,slow=32,SNR=12						
JKA	Kamikawa-asahi	7.86	42		Pn	20 37 40.0	-1.2
NMR	Nemuro--Hokkai	9.27	55	*e*P	P	20 37 56.1	-1.3
NMR				*e*S	S	20 39 35.7	-8.0
BNX	BinXian	9.33	324	⇓P	P	20 37 56.9	-1.2
BNX				pmax	pmax		
	comp=Z,50nm,0.8s						
YUK	Yuzh-Kuril'sk	9.68	52	P	Pn	20 38 04.8	+2.6
YSS	Yuzhno-Sakhali	10.08	30	*e*P	P	20 38 05.2	-1.1
YSS				*e*S	S	20 39 52.9	-7.4
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=E,10.0nm,0.7s						
DL2	Dalian	10.71	277	P	Pn	20 38 13.9	-0.3
DL2				pmax	pmax		
	comp=Z,100nm,0.6s						
KLR	Kul'dur	11.05	348	P	P	20 38 16.6	-0.5
	comp=Z,6.0nm,0.4s,baz=180,slow=9.4,SNR=30						
KLR				S	S	20 40 12.4	-7.6
	comp=Z,1.2nm,0.7s,baz=221,slow=21,SNR=0.9						
KLR	Kul'dur	11.05	348	*de*P	P	20 38 16.7	-0.3
KLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
JCJ	Chichijima	12.73	151	P	P	20 38 35.0	-0.9
HEH	HeiHe	13.05	337	*e*P	P	20 38 37.3	-1.7
HEH				pmax	pmax		
	comp=Z,14nm,0.9s						
TIA	Tai'an	14.65	267	P	P	20 38 55.4	-1.3
TIA				pmax	pmax		
	comp=Z,42nm,0.7s						
XLT	XiLinHaoTe	15.45	297	⇓*i*P	P	20 39 04.5	-0.9
XLT				PcP	PcP	20 43 50.3	+8.3
XLT				pmax	pmax		
	comp=Z,58nm,0.8s						
XLT				pmax	pmax		
	comp=Z,99nm,4.4s						
HIA	Hailar	15.54	319		P	20 39 05.5	-0.6
HIA	Hailar	15.54	319	P	P	20 39 05.5	-0.6
HIA				pmax	pmax		
	comp=Z,19nm,1.3s						
ZEA	Zeya	16.23	343	*e*P	P	20 39 12.9	-0.6
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
HNS	HongShan	16.30	273	⇓P	P	20 39 12.4	-2.0
HNS				pmax	pmax		
	comp=Z,31nm,0.9s						
PETK	Petropavlovsk-	21.26	39	P	P	20 40 04.3	+0.5
	comp=Z,2.5nm,0.9s,baz=235,slow=7.4,SNR=5.6						
	comp=Z,2.5nm,0.9s						
XAN	Xi'an	21.71	266	⇑P	P	20 40 07.0	-1.1
XAN				pmax	pmax		
	comp=Z,23nm,1.2s						
ULN	Ulaanbaatar	22.54	304	*de*P	P	20 40 15.1	-0.5
ULN				pmax	pmax		
	comp=Z,18nm,1.7s						
ENH	Enshi	22.78	257	P	P	20 40 16.3	-1.5
SONM	Songino Array	22.96	303	P	P	20 40 18.9	-0.5
SONM				IAmb	IAmb	20 40 20.0	
	comp=Z,9.3nm,1.2s						
SONM	Songino Array	22.96	303	P	P	20 40 19.2	-0.2
	comp=Z,3.9nm,0.4s,baz=110,slow=9.3,SNR=44						
	comp=Z,3.9nm,0.4s						
YAK	Yakutsk	23.83	353	P	P	20 40 28.7	+1.9
YAK	Yakutsk	23.83	353	*e*P	P	20 40 28.1	+1.3
YAK				pmax	pmax		
	comp=Z,16nm,1.2s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.4s						
ZAK	Zakamensk	25.58	308	*e*P	P	20 40 41.7	-1.0
GTA	Gaotai	27.52	283	*e*P	P	20 40 59.6	-0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	Biiibino	34.17	20	⇑*e*P	P	20 41 57.4	+0.2
BILL				pmax	pmax		
	comp=Z,12nm,3.8s						
CHTO	Chiang Mai	37.13	249	P	P	20 42 22.5	-0.2
CHTO				IAmb	IAmb	20 42 25.8	
	comp=Z,4.3nm,0.7s						
CHTO	Chiang Mai	37.13	249	P	P	20 42 22.5	-0.2
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAA0	Zalesovo Array	37.35	311	P	P	20 42 22.9	-1.1
ZAA0				IAmb	IAmb	20 42 25.6	
	comp=Z,2.7nm,0.5s						
ZALV	Zalesovo Beam	37.35	311	P	P	20 42 23.1	-1.0
ZALV	Zalesovo Beam	37.35	311	P	P	20 42 23.8	-0.2
	comp=Z,1.8nm,0.3s,baz=102,slow=7.4,SNR=14						
ZALV				ScP	ScP	20 47 41.7	+0.3
	comp=Z,1.1nm,0.6s,baz=57,slow=2.0,SNR=4.4						
	comp=Z,1.8nm,0.3s						
ZALV	Zalesovo Beam	37.35	311	*i* P	P	20 42 23.7	-0.3
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	Chiang Mai Arr	37.36	248	P	P	20 42 25.1	+0.6
	comp=Z,1.8nm,0.7s,baz=46,slow=7.6,SNR=21						
	comp=Z,1.8nm,0.7s						
MK31	Makanchi Array	39.23	300	P	P	20 42 39.0	-0.7
MK31	Makanchi Array	39.23	300	*de*P	P	20 42 38.9	-0.7
MKAR	Makanchi Array	39.23	300	P	P	20 42 38.7	-0.9
MKAR	Makanchi Array	39.23	300	P	P	20 42 39.0	-0.6
	comp=Z,1.4nm,0.5s,baz=85,slow=9.8,SNR=30						
MKAR				ScP	ScP	20 47 48.3	-0.5
	comp=Z,0.5nm,0.7s,baz=79,slow=6.3,SNR=4.3						
	comp=Z,1.4nm,0.5s						
MAKZ	Makanchi	39.44	300	P	P	20 42 40.7	-0.7
MAKZ	Makanchi	39.44	300	P	P	20 42 40.7	-0.7
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KURK	Kurchatov	41.21	306	P	P	20 42 54.9	-0.7
KURK	Kurchatov	41.21	306	*de*P	P	20 42 54.7	-0.8
KURK				pmax	pmax		
	comp=Z,16nm,1.3s						
KURBB	Kurchatov Arra	41.27	306	P	P	20 42 55.5	-0.5
	comp=Z,7.3nm,0.6s,baz=83,slow=8.0,SNR=69						
KURBB				ScP	ScP	20 47 57.6	+0.9
	comp=Z,0.2nm,0.6s,baz=89,slow=4.1,SNR=4.6						
	comp=Z,7.3nm,0.6s						
WUS	Wushi	42.53	292	IAmb	IAmb	20 43 07.7	
	comp=Z,14nm,1.1s						
F15K	North Star Dit	43.42	31	P	P	20 43 15.8	+2.9
F15K				IAmb	IAmb	20 43 16.4	
	comp=Z,4.7nm,0.6s						
C16K	Lisburne Hills	43.60	28	P	P	20 43 16.2	+1.9
RDOG	Red Dog Mine	44.46	28	P	P	20 43 23.2	+2.2
RDOG				IAmb	IAmb	20 43 24.2	
	comp=Z,3.8nm,0.5s						
C18K	Utukok River	45.18	28	IAmb	IAmb	20 43 29.8	
	comp=Z,4.3nm,0.8s						
E18K	Tukpahlearik C	45.24	29	IAmb	IAmb	20 43 31.3	
	comp=Z,5.2nm,1.1s						
KSH	Kashi	45.39	291	P	P	20 43 32.8	+4.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	45.53	295	P	P	20 43 29.8	-0.1
AAK	Ala-Archa	45.53	295	*de*P	P	20 43 29.8	-0.1
J17K	VABM Dome	45.63	35	P	P	20 43 33.5	+3.3
J17K				IAmb	IAmb	20 43 57.4	
	comp=Z,6.4nm,1.3s						
BVAR	Borovoye Array	45.99	310	P	P	20 43 32.9	-0.2
	comp=Z,1.3nm,0.3s,baz=91,slow=6.7,SNR=14						
	comp=Z,1.3nm,0.3s						
BRVK	Borovoye	46.05	311	P	P	20 43 33.1	-0.4
BRVK	Borovoye	46.05	311	*de*P	P	20 43 33.1	-0.4
D19K	Kuna River	46.28	28	IAmb	IAmb	20 43 38.5	
	comp=Z,3.2nm,0.7s						
H19K	Roundabout Mou	46.80	32	IAmb	IAmb	20 43 42.9	
	comp=Z,8.5nm,0.7s						
ARSB	Arslanbob	46.99	294	IAmb	IAmb	20 43 42.6	
	comp=Z,4.2nm,0.6s						
KKAR	Karatay Array	48.19	297	P	P	20 43 49.5	-0.5
KKAR	Karatay Array	48.19	297	IAmb	IAmb	20 43 50.9	
	comp=Z,2.5nm,1.0s						
KKAR	Karatay Array	48.19	297	P	P	20 43 49.5	-0.5
D22K	Ayikyak River	48.28	28	IAmb	IAmb	20 43 53.7	
	comp=Z,4.7nm,0.5s						
DRK	Karamyk	48.45	292	IAmb	IAmb	20 43 55.2	
	comp=Z,4.1nm,0.6s						
NIL	Nilore	49.57	285	P	P	20 44 00.7	+0.2
NIL	Nilore	49.57	285	P	P	20 44 00.7	+0.2
NIL				pmax	pmax		
	comp=Z,11nm,0.7s						
H23K	Yukon River	49.64	31	IAmb	IAmb	20 44 04.9	
	comp=Z,6.9nm,0.9s						
GAR	Garm	49.70	292	IAmb	IAmb	20 44 02.5	
	comp=Z,18nm,1.3s						
SIMJ	Simiganj	50.77	292	P	P	20 44 09.2	-0.3
SIMJ				IAmb	IAmb	20 44 10.5	
	comp=Z,9.5nm,0.9s						
SVE	Sverdlovsk	50.83	317	*e*P	P	20 44 10.1	+0.7
SVE				pmax	pmax		
	comp=Z,14nm,0.7s						
ILAR	Eielson Array	50.88	33	P	P	20 44 11.6	+1.9
	comp=Z,1.2nm,0.6s,baz=266,slow=5.7,SNR=23						
	comp=Z,1.2nm,0.6s						
ARTI	Arti	52.14	317	P	P	20 44 18.5	-0.5
ARTI	Arti	52.14	317	*d*P	P	20 44 19.1	+0.1
ARTI				S	S	20 51 15.7	+4.0
ARTI				SS	SKiKP	20 54 57.6	+1.3
ARTI				pmax	pmax		
	comp=Z,16nm,0.7s						
SCRK	Sand Creek	52.26	33	P	P	20 44 22.0	+2.1
SCRK				IAmb	IAmb	20 44 22.8	
	comp=Z,5.1nm,0.7s						
KBL	Kabul	52.38	287	P	P	20 44 19.4	-1.9
KBL				IAmb	IAmb	20 44 21.8	
	comp=Z,6.1nm,1.1s						
KBL	Kabul	52.38	287	P	P	20 44 19.4	-1.9
KBL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ABKAR	Akbulak array	53.27	308	P	P	20 44 26.7	-0.6
I28M	Miner Creek	53.63	31	IAmb	IAmb	20 44 33.6	
	comp=Z,5.6nm,0.7s						
EPYK	Eagle Plains	54.67	30	P	P	20 44 39.5	+2.5
G30M	tAoh Zrail Nji	54.69	29	IAmb	IAmb	20 44 41.0	
	comp=Z,6.0nm,0.8s						
A36M	Sachs Harbour	56.71	22	IAmb	IAmb	20 44 54.6	
	comp=Z,7.0nm,1.1s						
FITZ	Fitzroy Crossi	57.01	191	P	P	20 44 55.0	+1.1
	comp=Z,1.1nm,0.3s,baz=16,slow=7.4,SNR=17						
	comp=Z,1.1nm,0.3s						
HRA	Herat	57.49	290	IAmb	IAmb	20 44 59.1	
	comp=Z,3.9nm,0.8s						
WB0	Warramunga Arr	57.94	181	P	P	20 45 00.8	+0.5
WB0				IAmb	IAmb	20 45 01.8	
	comp=Z,8.6nm,1.2s						
WB2	Warramunga Arr	58.12	181	P	P	20 45 02.1	+0.5
WB2				IAmb	IAmb	20 45 03.0	
	comp=Z,4.4nm,0.8s						
WRA	Warramunga Arr	58.12	181	P	P	20 45 02.1	+0.6
WRA	Warramunga Arr	58.12	181	P	P	20 45 02.2	+0.6
	comp=Z,2.7nm,0.5s,baz=356,slow=7.6,SNR=40						
WRA				PcP	PcP	20 45 50.2	+2.1
	comp=Z,0.7nm,0.5s,baz=357,slow=4.7,SNR=5.8						
	comp=Z,2.7nm,0.5s						
ARCES	ARCESS Array B	60.89 338	P	P	20 45 20.5	+0.9
	comp=Z,2.2nm,0.8s,baz=55,slow=7.2,SNR=13						
	comp=Z,2.2nm,0.8s						
ASAR	Alice Springs	61.83 181	P	P	20 45 27.4	+1.0
	comp=Z,2.0nm,0.7s,baz=353,slow=5.3,SNR=24						
ASAR			PcP	PcP	20 46 05.3	+2.3
	comp=Z,0.2nm,0.4s,baz=334,slow=3.4,SNR=4.4						
	comp=Z,2.0nm,0.7s						
OBN	Obninsk	63.98 321	*e*P	P	20 45 40.0	0.0
OBN			pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	Yellowknife Ar	64.93 29	P	P	20 45 48.0	+2.0
	comp=Z,0.6nm,0.5s,baz=308,slow=6.6,SNR=12						
	comp=Z,0.6nm,0.5s						
YKA	Yellowknife Ar	64.93 29	P	P	20 45 48.0	+2.0
FINES	FINESS Array B	65.22 330	P	P	20 45 48.5	+0.7
	comp=Z,5.1nm,0.7s,baz=74,slow=5.8,SNR=33						
	comp=Z,5.1nm,0.7s						
KBZ	Khabaz	66.24 308	P	P	20 45 54.9	+0.4
	comp=Z,2.1nm,0.8s,baz=334,slow=4.1,SNR=3.6						
	comp=Z,2.1nm,0.8s						
KIV	Kislovodsk	66.26 308	*e*P	P	20 45 54.2	-0.6
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s						
GURO	Guroymak-BITLI	69.55 303	P	P	20 46 16.1	+0.9
GURO			IAmb	IAmb	20 46 17.9	
	comp=Z,5.2nm,1.1s						
AKASG	Malin Array Be	70.13 319	P	P	20 46 18.8	+0.5
	comp=Z,0.7nm,0.3s,baz=50,slow=6.6,SNR=16						
	comp=Z,0.7nm,0.3s						
STKA	Stephens Creek	70.24 174	P	P	20 46 20.6	+1.5
	comp=Z,1.0nm,0.3s,baz=37,slow=5.1,SNR=3.9						
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	70.70 333	P	P	20 46 22.0	+0.5
	comp=Z,1.9nm,0.5s,baz=87,slow=5.0,SNR=15						
	comp=Z,1.9nm,0.5s						
HFS	Hagfors	70.70 333	P	P	20 46 22.0	+0.5
NB2	NORSAR Subarra	70.90 335	P	P	20 46 23.6	+0.8
	comp=Z,1.1nm,0.7s,baz=41,slow=6.5						
NB2	NORSAR Subarra	70.90 335	P	P	20 46 22.9	+0.1
NOA	NORSAR Array B	70.90 335	P	P	20 46 23.2	+0.4
	comp=Z,1.0nm,0.7s,baz=56,slow=8.1,SNR=6.8						
	comp=Z,1.0nm,0.7s						
NORES	NORESS Array B	71.01 334	P	P	20 46 23.9	+0.5
NVAR	Mina Array Bea	77.89 50	P	P	20 47 06.3	+3.1
	comp=Z,1.1nm,0.6s,baz=280,slow=6.4,SNR=4.8						
	comp=Z,1.1nm,0.6s						
PD31	Pinedale Array	79.99 43	P	P	20 47 15.7	+1.3
PD31			IAmb	IAmb	20 47 17.8	
	comp=Z,2.4nm,0.9s						
PDAR	Pinedale Array	79.99 43	P	P	20 47 16.6	+2.2
	comp=Z,1.4nm,0.8s,baz=299,slow=2.3,SNR=13						
	comp=Z,1.4nm,0.8s						
ULM	Lac du Bonnet	80.83 30	P	P	20 47 19.7	+1.3
	comp=Z,2.2nm,0.6s,baz=326,slow=7.3,SNR=5.2						
	comp=Z,2.2nm,0.6s						
PV10	Paradox Valley	83.33 46	P	P	20 47 34.8	+3.0
TXAR	Lajitas Array	92.93 49	P	P	20 48 19.4	+2.2
	comp=Z,0.8nm,0.6s,baz=307,slow=3.6,SNR=4.6						
	comp=Z,0.8nm,0.6s						
LPAZ	La Paz	149.80 49	PKPbc	PKiKP	20 54 53.4	-0.1
	comp=Z,1.6nm,0.8s,baz=288,slow=8.3,SNR=3.6						

SNET ***13*** *20:48:34.8±0.9, 13°.72N×86°.61W, h21km±306km, ML3.1*
CATAC ***13*** *20:48:35.4±0.3, 12°N±3°×8°7W±°, h37km±3km, Error ellipse: s-maj=6.8km s-min=2.7km az=35.2, confirmed*

ISC 13 20:48:35.3±1.4, 12°.18N±0°.06×87°.09W±0°.04, h65km±8km, n116, σ0°49/145, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUEN	AI S del Volca	0.47	30	P	Pn	20 48 47.6	+0.2
QUEN				S	Sn	20 48 56.1	-0.1
QUEN	AI S del Volca	0.47	30	P	Pn	20 48 46.6	-0.8
QUEN				S	Sn	20 48 56.4	+0.3
QUEN	AI S del Volca	0.47	30	P	Pn	20 48 43.9	-3.5
ROCN	Rota Cerro Neg	0.47	45	P	Pn	20 48 46.3	-1.0
ROCN				S	Sn	20 48 56.3	+0.1
TELN	Telica	0.49	31	P	Pn	20 48 47.3	-0.3
TELN				S	Sn	20 48 57.2	+0.6
TELN	Telica	0.49	31	P	Pn	20 48 47.4	-0.1
TELN				S	Sn	20 48 56.6	0.0
TELN	Telica	0.49	31	P	Pn	20 48 47.5	-0.1
CNGA	AI SSO del Vol	0.49	51	P	Pn	20 48 47.4	-0.2
CNGA				S	Sn	20 48 57.2	+0.7
CNGA	AI SSO del Vol	0.49	51	P	Pn	20 48 47.3	-0.2
CNGA				S	Sn	20 48 56.8	+0.3
CNGA	AI SSO del Vol	0.49	51	P	Pn	20 48 47.4	-0.2
HERN	Volcan Telica	0.49	31	S	Sn	20 48 57.0	+0.3
HERN	Volcan Telica	0.49	31	P	Pn	20 48 47.4	-0.3
HERN	Volcan Telica	0.49	31	P	Pn	20 48 47.3	-0.3
HERN	Volcan Telica	0.49	31	S	Sn	20 48 56.9	+0.3
HERN	Volcan Telica	0.49	31	P	Pn	20 48 47.3	-0.3
CNGN	Cerro Negro	0.49	50	S	Sn	20 48 57.1	+0.5
CNGN	Cerro Negro	0.49	50	P	Pn	20 48 47.4	-0.3
CNGN	Cerro Negro	0.49	50	P	Pn	20 48 47.3	-0.3
CNGN	Cerro Negro	0.49	50	S	Sn	20 48 56.7	+0.1
CNGN	Cerro Negro	0.49	50	P	Pn	20 48 47.4	-0.3
PLRN	Geotermica Pol	0.51	38	P	Pn	20 48 47.5	-0.3
PLRN				S	Sn	20 48 57.1	+0.4
PLRN	Geotermica Pol	0.51	38	P	Pn	20 48 47.4	-0.3
PLRN				S	Sn	20 48 57.1	+0.4
PLRN	Geotermica Pol	0.51	38	P	Pn	20 48 47.4	-0.3
LEVN	Ruinas Leon Vi	0.51	65

MAS3	**Al N del Volca**	**0.91 100**	P	**Pn**	**20 48 51.9**	**-0.4**
MAS3			S	**Sn**	**20 49 04.9**	**0.0**
MAS3	**Al N del Volca**	**0.91 100**	P	**Pn**	**20 48 51.9**	**-0.4**
POTN	**Potosi Cosigui**	**0.91 333**	P	**Pn**	**20 48 52.7**	**+0.4**
POTN			S	**Sn**	**20 49 05.2**	**+0.2**
POTN	**Potosi Cosigui**	**0.91 333**	P	**Pn**	**20 48 52.5**	**+0.1**
POTN			S	**Sn**	**20 49 05.0**	**0.0**
POTN	**Potosi Cosigui**	**0.91 333**	P	**Sn**	**20 49 05.0**	**0.0**
CSGN	**Cosiguina Volc**	**0.91 330**	P	**Pn**	**20 48 52.4**	**-0.1**
CSGN			S	**Sn**	**20 49 05.3**	**+0.1**
CSGN	**Cosiguina Volc**	**0.91 330**	P	**Pn**	**20 48 52.4**	**-0.1**
CSGN			S	**Sn**	**20 49 05.3**	**+0.1**
CSGN	**Cosiguina Volc**	**0.91 330**	P	**Pn**	**20 48 52.5**	**-0.1**
SABN	**Sabanita**	**0.93 104**	P	**Sn**	**20 49 06.8**	**+1.2**
NANN	**Nandasmo**	**0.97 104**	S	**Sn**	**20 49 06.4**	**-0.2**
NANN	**Nandasmo**	**0.97 104**	P	**Pn**	**20 48 53.8**	**+0.6**
NANN	**Nandasmo**	**0.97 104**	P	**Pn**	**20 48 53.8**	**+0.6**
NANN	**Nandasmo**	**0.97 104**	S	**Sn**	**20 49 06.8**	**+0.2**
NANN	**Nandasmo**	**0.97 104**	P	**Pn**	**20 48 53.8**	**+0.6**
LIMN	**Finca el Limon**	**1.12 39**	P	**Pn**	**20 48 54.7**	**-0.4**
LIMN	**Finca el Limon**	**1.12 39**	P	**Pn**	**20 48 54.8**	**-0.4**
LIMN	**Finca el Limon**	**1.12 39**	P	**Pn**	**20 48 54.8**	**-0.4**
CNCH	**Conchagua**	**1.31 326**	*eP*	**Pn**	**20 48 57.2**	**-0.5**
CNCH			*eS*	**Sn**	**20 49 13.5**	**-0.9**
CNCH	**Conchagua**	**1.31 326**	P	**Pn**	**20 48 57.4**	**-0.3**
CNCH	**Conchagua**	**1.31 326**	S	**Sn**	**20 49 14.7**	**+0.3**
CNCH	**Conchagua**	**1.31 326**	P	**Pn**	**20 48 57.3**	**-0.3**
CNCH	**Conchagua**	**1.31 326**	S	**Sn**	**20 49 14.4**	**0.0**
CNCH	**Conchagua**	**1.31 326**	P	**Pn**	**20 48 57.4**	**-0.3**
LCND	**La Caada**	**1.36 325**	*eP*	**Pn**	**20 48 57.5**	**-0.9**
BOAB	**BOACO BROADBAN**	**.41 79**	S	**Sn**	**20 49 16.3**	**-0.4**
BOAB	**BOACO BROADBAN**	**.41 79**	P	**Pn**	**20 48 58.2**	**-0.7**
BOAB	**BOACO BROADBAN**	**.41 79**	P	**Pn**	**20 48 58.2**	**-0.7**
BOAB	**BOACO BROADBAN**	**.41 79**	S	**Sn**	**20 49 16.5**	**-0.2**
BOAB	**BOACO BROADBAN**	**.41 79**	P	**Pn**	**20 48 58.3**	**-0.7**
RCON	**San Juan de Ri**	**1.58 35**	P	**Pn**	**20 49 01.4**	**+0.2**
RCON	**San Juan de Ri**	**1.58 35**	P	**Pn**	**20 49 01.5**	**+0.2**
RCON	**San Juan de Ri**	**1.58 35**	P	**Pn**	**20 49 01.5**	**+0.2**
RCVN	**Varillal2**	**1.64 32**	P	**Pn**	**20 49 02.3**	**+0.1**
RCVN	**Varillal2**	**1.64 32**	S	**Sn**	**20 49 22.6**	**+0.2**
RCVN	**Varillal2**	**1.64 32**	P	**Pn**	**20 49 02.2**	**+0.1**
RCVN	**Varillal2**	**1.64 32**	S	**Sn**	**20 49 22.6**	**+0.2**
RCVN	**Varillal2**	**1.64 32**	P	**Pn**	**20 49 02.4**	**+0.1**
RCPN	**Sur Rio San Ju**	**1.65 36**	P	**Pn**	**20 49 02.5**	**+0.3**
RCPN	**Sur Rio San Ju**	**1.65 36**	P	**Pn**	**20 49 02.5**	**+0.3**
RANC	**El Ranchito**	**1.71 317**	*eP*	**Pn**	**20 49 03.0**	**0.0**
PACA	**Pacayal**	**1.76 317**	*eP*	**Pn**	**20 49 03.5**	**-0.2**
PACA			*eS*	**Sn**	**20 49 25.4**	**+0.3**
PACA	**Pacayal**	**1.76 317**	P	**Pn**	**20 49 04.3**	**+0.5**
PACA	**Pacayal**	**1.76 317**	P	**Pn**	**20 49 04.2**	**+0.5**
PACA	**Pacayal**	**1.76 317**	P	**Pn**	**20 49 04.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.20 313**	*eP*	**Pn**	**20 49 09.2**	**-0.3**
NUBE	**Las Nubes**	**3.13 303**	*eP*	**Pn**	**20 49 21.2**	**-1.2**
NUBE			*eS*	**Sn**	**20 49 59.7**	**+1.0**

IDC ***13*** *21:07:18.9±0.6, 23°.02N×121°.53E, h0km, mb4.1/21, mbtmp4.2/23, ML3.8/2, MS3.6/23, Error ellipse: s-maj=18.0km s-min=13.6km az=61.0*

NEIC ***13*** *21:07:22.9±1.4, 23°.07N±0°.05×121°.39E±0°.05, h17km±3km, mb4.6/57, Error ellipse: s-maj=7.6km s-min=5.0km az=140.0*

TAP ***13*** *21:07:22.7, 23°.06N×121°.35E, h18km, ML4.8, C*

NIED ***13*** *21:07:22.8, 23°.05N×121°.36E, h20km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr=1.50; Mθθ=2.35; Mφφ=3.85; Mrθ=0.42; Mθφ=3.33; Mφr=2.30; Fault plane solution: M0=4.97000×10^15^ NP1:φs=70.00000°, δ=67.00000°, λ=1.00000°. NP2:φs=340.00000°, δ=89.00000°, λ=157.00000°.*

JMA ***13*** *21:07:22.8±0.1, 23°.1N±0°.6×12°.1E±°, h20km±3km, MD4.4/19, MV4.6/19, TAIWAN REGION*

ASIES ***13*** *21:07:22.7, 23°.06N×121°.35E, h18km, ML4.8, Mw4.4, Moment Tensor Solution. Moment tensor: Scale 10^22^Nm; Mrr=2.76; Mθθ=1.28; Mφφ=-1.20; Mrθ=0.67; Mθφ=-2.09; Mφr=-3.08; Fault plane solution: M0=4.43256×10^22^ NP1:φs=64.07000°, δ=35.10000°, λ=152.97000°. NP2:φs=176.72000°, δ=74.85000°, λ=57.95000°. Principal axes: T Plg=49.7560°, Azm=51.2200°; N Plg=30.8100°, Azm=186.0170°; P Plg=23.1880°, Azm=290.8170°;*

BJI ***13*** *21:07:23.0, 23°.03N×121°.43E, h14km, mB4.8/18, mb4.3/53, ML4.3/8, Ms4.3/38, Ms7.4.2/36*

ISC 13 21:07:22.7±0.5, 23°.04N±0°.01×121°.40E±0°.02, h18km±2km, n365, σ1=37/460, mb4.5/57, MS3.7/25, 26C-30D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.07 331**		⇑*iP*	**Pg**	**21 07 26.2**	**+0.1**
CHKT				S	**Sg**	**21 07 28.6**	**+0.1**
EDH	**Donghe**	**0.11 233**		⇑*iP*	**Pg**	**21 07 26.5**	**0.0**
EDH				S	**Sg**	**21 07 29.4**	**+0.3**
CHKH	**Chenggong**	**0.15 358**		⇓*iP*	**Pg**	**21 07 27.3**	**+0.3**
CHKH				*i* S	**Sg**	**21 07 30.6**	**+0.7**
ECS	**Chishang**	**0.18 288**		⇑*iP*	**Pg**	**21 07 27.4**	**+0.1**
ECS				*i* S	**Sg**	**21 07 31.5**	**+1.0**
FULB	**Fuli**	**0.19 328**		⇓*iP*	**Pg**	**21 07 27.2**	**-0.3**
FULB				S	**Sg**	**21 07 31.0**	**+0.3**
EHD	**Haiduan**	**0.21 301**		⇓*iP*	**Pb**	**21 07 26.9**	**-0.7**
EHD				S	**Sg**	**21 07 30.8**	**-0.5**
ECBN	**Changbin**	**0.28 10**		P	**Pb**	**21 07 29.5**	**+0.3**
ECBN				S	**Sb**	**21 07 34.4**	**+1.0**
LONT	**Longtian**	**0.28 242**		⇑*iP*	**Pb**	**21 07 29.1**	**-0.1**
LONT				*i* S	**Sb**	**21 07 34.1**	**+0.6**
EYUL	**Yuli**	**0.32 346**		⇓*iP*	**Pb**	**21 07 29.9**	**+0.1**
EYUL				S	**Sb**	**21 07 35.4**	**+0.8**
TWF1	**Yuli**	**0.33 343**		⇓*iP*	**Pb**	**21 07 29.7**	**-0.3**
TWF1				*i* S	**Sb**	**21 07 34.8**	**-0.1**
YULB	**Yu-li**	**0.36 345**			**Pg**	**21 07 29.6**	**-0.8**
YULB				Sg	**Sg**	**21 07 34.8**	**-0.8**
YULB	**Yu-li**	**0.36 345**		P	**Pb**	**21 07 30.2**	**-0.5**
YULB	**Yu-li**	**0.36 345**		S	**Sb**	**21 07 35.7**	**-0.4**
YULB	**Yu-li**	**0.36 345**		⇓*iP*	**Pb**	**21 07 30.1**	**-0.5**
YULB				S	**Sg**	**21 07 35.0**	**-0.5**
TTN	**Taitung**	**0.37 219**		⇑*iP*	**Pb**	**21 07 30.5**	**-0.2**
TTN				S	**Sb**	**21 07 37.1**	**+0.9**
TWGBT	**Beinan**	**0.37 233**		P	**Pb**	**21 07 30.5**	**-0.3**
TWGBT	**Beinan**	**0.37 233**		S	**Sb**	**21 07 35.7**	**-0.5**
TWGBT	**Beinan**	**0.37 233**		⇑*iP*	**Pg**	**21 07 30.1**	**-0.3**
TWGBT				S	**Sb**	**21 07 35.3**	**-0.9**
LDUT	**Ludao**	**0.37 170**		⇓*iP*	**Pg**	**21 07 30.8**	**+0.3**
LDUT				*i* S	**Sb**	**21 07 37.3**	**+1.1**
TWG	**Pinlang**	**0.37 234**		Pg	**Pg**	**21 07 30.0**	**-0.4**
TWG				Sg	**Sg**	**21 07 35.4**	**-0.5**
TWG	**Pinlang**	**0.37 234**		⇑*iP*	**Pg**	**21 07 30.1**	**-0.4**
TWG				S	**Sg**	**21 07 35.3**	**-0.5**
ELDTW	**Lidau**	**0.38 293**		⇓*iP*	**Pg**	**21 07 29.8**	**-1.0**
ELDTW				*i* S	**Sg**	**21 07 34.6**	**-1.6**
HGSD	**Ruisui**	**0.45 3**		⇑*iP*	**Pb**	**21 07 31.9**	**-0.3**
HGSD				*eS*	**Sn**	**21 07 40.9**	**-0.9**
EHYH	**Wanrong**	**0.45 354**		P	**Pb**	**21 07 31.8**	**-0.4**
EHYH				S	**Sb**	**21 07 39.0**	**+0.4**
EHY	**Hungye**	**0.47 351**		⇓*iP*	**Pg**	**21 07 31.8**	**-0.4**
EHY				S	**Sb**	**21 07 39.2**	**+0.1**
STYH	**Taoyuan**	**0.59 283**		⇓*iP*	**Pg**	**21 07 33.5**	**-1.0**
STYH				S	**Sb**	**21 07 41.2**	**-1.2**
ECL	**Taimali**	**0.60 223**		⇑*iP*	**Pg**	**21 07 33.2**	**-1.4**
ECL				*eS*	**Sg**	**21 07 40.9**	**-1.9**
STYT	**Tauyuan**	**0.60 282**		P	**Pg**	**21 07 32.7**	**-2.0**
STYT				*eS*	**Sg**	**21 07 40.5**	**-2.4**
YUS	**Yu-Shan**	**0.61 317**		⇓*iP*	**Pg**	**21 07 31.9**	**-3.1**
YUS				*i* S	**Sg**	**21 07 39.7**	**-3.6**
EGFH	**Guangfu**	**0.63 2**		*eP*	**Pn**	**21 07 36.0**	**-0.7**
WARBT	**Fenglin Townsh**	**0.68 359**		P	**Pb**	**21 07 34.8**	**-1.2**
TEGC	**Jichi Village**	**0.68 11**		P	**Pg**	**21 07 36.1**	**0.0**
TEGC				*eS*	**Sn**	**21 07 47.0**	**-0.4**
ALS	**Alishan**	**0.72 311**		⇓*iP*	**Pb**	**21 07 36.4**	**-0.5**
ALS				S	**Sb**	**21 07 46.1**	**-0.4**
VWDT	**VWDT**	**0.75 342**		⇓*iP*	**Pb**	**21 07 36.7**	**-0.4**
VWDT				S	**Sb**	**21 07 46.0**	**-1.1**
WTP	**Ta-pu**	**0.75 286**		⇓*iP*	**Pg**	**21 07 36.8**	**-0.6**
WTP				S	**Sn**	**21 07 48.1**	**-1.3**
SGST	**Jiashian**	**0.75 273**		⇑*iP*	**Pb**	**21 07 36.1**	**-1.2**
SGST				S	**Sb**	**21 07 45.8**	**-1.4**
TPUB	**Ta-pu**	**0.76 290**		Pg	**Pg**	**21 07 36.9**	**-0.6**
TPUB				Sg	**Sg**	**21 07 46.8**	**-0.8**
TPUB	**Ta-pu**	**0.76 290**		P	**Pg**	**21 07 37.1**	**-0.4**
TPUB	**Ta-pu**	**0.76 290**		S	**Sn**	**21 07 47.6**	**-1.8**
TPUB	**Ta-pu**	**0.76 290**		⇓*iP*	**Pg**	**21 07 36.9**	**-0.6**
TPUB				S	**Sg**	**21 07 46.7**	**-0.8**
SHUL	**Shoufeng**	**0.76 11**		P	**Pg**	**21 07 37.6**	**0.0**
SHUL				S	**Sn**	**21 07 49.4**	**0.0**
ESL	**Shilin**	**0.77 2**		P	**Pb**	**21 07 36.3**	**-1.3**
TSMG	**Majia**	**0.77 245**		P	**Pb**	**21 07 36.4**	**-1.2**
TSMG				S	**Sb**	**21 07 45.0**	**-2.7**
CHN4	**Tsaushan**	**0.81 293**		⇓*iP*	**Pg**	**21 07 37.9**	**-0.5**
CHN4				S	**Sn**	**21 07 49.5**	**-1.2**
CHN1	**Nanshi**	**0.82 280**		⇓*iP*	**Pn**	**21 07 38.3**	**-1.0**
CHN1				*i* S	**Sn**	**21 07 49.3**	**-1.6**
TAW	**Tawu**	**0.82 215**		*eP*	**Pb**	**21 07 37.0**	**-1.5**
WHYT	**Xinyi Township**	**0.82 322**		P	**Pg**	**21 07 38.2**	**-0.6**
WHYT				S	**Sg**	**21 07 48.8**	**-1.0**
MASBT	**Mashibuluo**	**0.83 239**		⇑*iP*	**Pb**	**21 07 37.4**	**-1.2**
MASBT				S	**Sb**	**21 07 46.5**	**-2.8**
WCKO	**Fanlu**	**0.83 299**		⇓P	**Pg**	**21 07 38.5**	**-0.5**
WCKO				S	**Sn**	**21 07 50.3**	**-1.1**
TAWH	**Dawu Township**	**0.84 214**		*eP*	**Pb**	**21 07 36.0**	**-2.8**
TEYL	**Yanliau Villag**	**0.84 12**		P	**Pb**	**21 07 37.4**	**-1.4**
TEYL				S	**Sg**	**21 07 50.5**	**+0.1**
SSLB	**Suanglung**	**0.85 331**			**Pb**	**21 07 38.1**	**-0.8**
SSLB				Sg	**Sb**	**21 07 48.3**	**-1.7**
SSLB	**Suanglung**	**0.85 331**		P	**Pb**	**21 07 38.5**	**-0.4**
SSLB	**Suanglung**	**0.85 331**		S	**Sg**	**21 07 49.5**	**-1.1**
SSLB	**Suanglung**	**0.85 331**		⇓*iP*	**Pb**	**21 07 38.2**	**-0.8**
SSLB				S	**Sb**	**21 07 48.9**	**-1.1**
SCST	**Cishan**	**0.85 260**		P	**Pn**	**21 07 39.0**	**-0.7**
SCST				S	**Sn**	**21 07 50.9**	**-0.8**
SNST	**Tainan City**	**0.85 282**		⇓*iP*	**Pn**	**21 07 39.0**	**-0.7**
SNST				S	**Sn**	**21 07 50.7**	**-1.0**
CHN5	**Tsauling**	**0.86 310**		⇓*iP*	**Pn**	**21 07 39.2**	**-0.8**
CHN5				*i* S	**Sn**	**21 07 50.7**	**-1.5**
TWK	**Hsinying**	**0.87 285**		⇓*iP*	**Pg**	**21 07 38.0**	**-0.7**
TWK				S	**Sn**	**21 07 52.6**	**+0.3**
SGLT	**Jiouru**	**0.90 250**		P	**Pn**	**21 07 39.8**	**-0.5**
SGLT				*eS*	**Sn**	**21 07 53.1**	**+0.3**
ETM	**Tongmen**	**0.93 5**		*eP*	**Pb**	**21 07 38.8**	**-1.4**
TWM1	**Shoushan**	**0.93 257**		⇑*iP*	**Pn**	**21 07 41.0**	**+0.2**
TWM1				*eS*	**Sn**	**21 07 55.9**	**+2.3**
OWD	**Renai**	**0.93 347**		P	**Pb**	**21 07 39.5**	**-0.9**
OWD				*eS*	**Sb**	**21 07 50.8**	**-1.7**
SSPT	**Xinbi**	**0.95 234**		*eP*	**Pg**	**21 07 40.5**	**-0.7**
HWA	**Hwalien**	**0.95 11**		*eP*	**Pb**	**21 07 40.4**	**-0.2**
CHN3	**Shinhua**	**0.95 272**		⇓*iP*	**Pn**	**21 07 42.0**	**+0.9**
CHN3				*i* S	**Sn**	**21 07 56.5**	**+2.2**
SMLT	**Sun Moon Lake**	**0.96 331**		P	**Pb**	**21 07 39.2**	**-1.6**
SMLT				S	**Sb**	**21 07 51.1**	**-2.0**
SHHT	**Tainan City**	**0.97 269**		P	**Pn**	**21 07 42.5**	**+1.2**
SHHT				*eS*	**Sn**	**21 07 56.3**	**+1.6**
LXIB	**Xiulin Townshi**	**0.98 1**		P	**Pb**	**21 07 39.6**	**-1.6**
LXIB				*eS*	**Sb**	**21 07 52.5**	**-1.3**
SCZT	**Fangliau**	**0.98 227**		⇑*iP*	**Pb**	**21 07 40.0**	**-1.1**
CHN2	**Minshiung**	**0.98 300**		⇓*iP*	**Pn**	**21 07 41.8**	**+0.3**
CHN2				*eS*	**Sn**	**21 07 56.7**	**+1.7**
WUSB	**Renai**	**0.98 345**		*eP*	**Pb**	**21 07 40.7**	**-0.6**
WUSB				*eS*	**Sb**	**21 07 52.3**	**-1.7**
SLIU	**Shizi**	**0.99 214**		P	**Pb**	**21 07 39.8**	**-1.5**
TYC	**Yuchr**	**0.99 330**		*eP**	**Pb**	**21 07 41.0**	**-0.4**
TYC				*eS*	**Sn**	**21 07 55.3**	**+0.1**
WJS	**Zhushan**	**0.99 322**		*eP*	**Pg**	**21 07 42.0**	**0.0**
WJS				*eS*	**Sn**	**21 07 55.6**	**+0.3**
WGK	**Gukeng**	**1.00 310**		⇓*iP*	**Pg**	**21 07 42.2**	**0.0**
WGK				*i* S	**Sn**	**21 07 56.8**	**+1.3**
LAY	**Lan-yu**	**1.01 172**		*eP*	**Pb**	**21 07 39.9**	**-1.7**
CHY	**Chiayi**	**1.01 297**		*eP*	**Pg**	**21 07 41.8**	**-0.4**
WDLH	**Douliu**	**1.02 309**		P	**Pg**	**21 07 42.5**	**0.0**
WDLH				*eS*	**Sn**	**21 07 56.9**	**+0.9**
SSHA	**Shanhua**	**1.03 276**		*eP*	**Pg**	**21 07 43.1**	**+0.4**
SSHA				*eS*	**Sn**	**21 07 58.5**	**+2.4**
WDL	**Douliou City**	**1.04 310**		*eP*	**Pg**	**21 07 43.1**	**+0.2**
WDL				*eS*	**Sn**	**21 07 57.8**	**+1.4**
LYUB	**Lan-yu**	**1.05 171**		*eP*	**Pb**	**21 07 39.6**	**-2.7**
TWD	**Chiawan**	**1.05 10**		*eP*	**Pb**	**21 07 41.0**	**-1.3**
WNT	**Mingjian**	**1.06 322**		*eP*	**Pg**	**21 07 43.0**	**-0.3**
WNT				*eS*	**Sn**	**21 07 57.9**	**+0.9**
ICHU	**Yijhu**	**1.08 287**		P	**Pg**	**21 07 43.3**	**-0.3**
ICHU				S	**Sn**	**21 07 58.9**	**+1.5**
TAI1	**Yung-k'ang**	**1.08 270**		*eP*	**Pg**	**21 07 43.9**	**+0.3**
TAI1				*eS*	**Sg**	**21 07 60.0**	**+2.2**
WCS	**Beigang Elemen**	**1.11 336**		*eP*	**Pg**	**21 07 43.6**	**-0.6**
WCS				*eS*	**Sg**	**21 07 58.0**	**-0.7**
WHF	**Hehuan Shan**	**1.11 354**		*eP*	**Pb**	**21 07 42.7**	**-0.8**
WHF				*eS*	**Sb**	**21 07 57.2**	**-0.6**
SCLT	**Jiali**	**1.12 277**		P	**Pg**	**21 07 43.9**	**-0.5**
SCLT				S	**Sg**	**21 08 00.2**	**+1.2**
WSSB	**Gushan**	**1.12 250**		*eP*	**Pg**	**21 07 45.0**	**+0.5**
WSSB				*eS*	**Sg**	**21 08 03.7**	**+4.5**
WTK	**Tuku**	**1.13 305**		*eP*	**Pg**	**21 07 44.0**	**-0.7**
WTK				*eS*	**Sg**	**21 07 59.6**	**+0.2**
ETL	**Fush Village**	**1.13 10**		*eP*	**Pn**	**21 07 43.0**	**-0.7**
CHN8	**Yiju**	**1.14 286**		⇓P	**Pg**	**21 07 44.0**	**-0.7**
CHN8				S	**Sg**	**21 08 00.2**	**+0.5**
NACB	**Ninganchiao**	**1.14 9**			**Pn**	**21 07 41.8**	**-2.0**
NACB				Sg	**Sb**	**21 07 57.2**	**-1.2**
NACB	**Ninganchiao**	**1.14 9**		P	**Pn**	**21 07 42.3**	**-1.5**
NACB	**Ninganchiao**	**1.14 9**		S	**Sn**	**21 07 59.0**	**0.0**
NACB	**Ninganchiao**	**1.14 9**		*eP*	**Pn**	**21 07 41.8**	**-2.0**
ETLH	**Xiulin Townsh**	**1.16 4**		*eP*	**Pn**	**21 07 42.3**	**-1.9**
WLCH	**Liuqiu**	**1.17 234**		*eP*	**Pg**	**21 07 47.4**	**+2.1**
WSL	**Shuilin Townsh**	**1.18 294**		P	**Pg**	**21 07 44.8**	**-0.7**
WSL				S	**Sg**	**21 08 01.3**	**+0.3**
TWP	**Hsiaoliuchiu**	**1.18 234**		P	**Pg**	**21 07 48.2**	**+2.6**
HEN	**Hengchun**	**1.20 211**		*eP*	**Pg**	**21 07 46.0**	**+0.1**
FUSS	**Fushou**	**1.21 353**		*eP*	**Pn**	**21 07 44.5**	**-0.4**
TSCK	**Chigu Township**	**1.22 275**		*eP*	**Pg**	**21 07 45.2**	**-1.0**
TSCK				*eS*	**Sg**	**21 08 02.1**	**0.0**
TWKBT	**Hengchun**	**1.22 207**		*eP*	**Pn**	**21 07 44.4**	**-0.5**
TWK1	**Hengchun**	**1.22 207**		*eP*	**Pn**	**21 07 44.0**	**-0.8**
TSEB	**Hengchuen, Pin**	**1.23 202**		*eP*	**Pg**	**21 07 46.6**	**+0.2**
TDCB	**Techi**	**1.23 350**		*eP*	**Pn**	**21 07 44.8**	**-0.3**
WSF	**Szhu**	**1.24 299**		⇓*iP*	**Pg**	**21 07 45.2**	**-1.4**
WSF				*i* S	**Sg**	**21 08 02.3**	**-0.5**
TCU	**Taichung**	**1.29 329**		*eP*	**Pg**	**21 07 47.3**	**-0.3**
TCU				*eS*	**Sg**	**21 08 05.3**	**+0.8**
WCHH	**Zhanghua**	**1.29 323**		P	**Pg**	**21 07 47.4**	**-0.3**
WCHH				S	**Sg**	**21 08 03.9**	**-0.7**
WHP	**Taichung City**	**1.30 341**		P	**Pg**	**21 07 47.4**	**-0.5**
WHP				S	**Sg**	**21 08 06.1**	**+1.2**
WTCT	**Ta-ch'eng**	**1.31 309**		*eP*	**Pg**	**21 07 47.8**	**-0.3**
WTCT				*eS*	**Sg**	**21 08 04.3**	**-1.0**
EAHA	**Aohua**	**1.32 14**		*eP*	**Pn**	**21 07 45.9**	**-0.3**
EOS4	**EOS4**	**1.37 38**		*eP*	**Pn**	**21 07 46.0**	**-0.5**
NNSB	**Datong**	**1.38 359**		*eP*	**Pn**	**21 07 47.0**	**-0.2**
ENA	**Nanau**	**1.42 13**		P	**Pn**	**21 07 46.5**	**-1.0**
EWUT	**Wuta**	**1.44 14**		*eP*	**Pn**	**21 07 47.7**	**-0.1**
WDJ	**Dajia District**	**1.48 332**		*eP*	**Pg**	**21 07 50.4**	**-0.7**
WDJ				*eS*	**Sg**	**21 08 10.7**	**+0.2**
NSY	**Sanyi**	**1.49 337**		P	**Pb**	**21 07 49.7**	**-0.1**
NSY				S	**Sg**	**21 08 09.7**	**-1.2**
LATG	**Datong**	**1.49 4**		*eP*	**Pn**	**21 07 47.9**	**-0.8**
EOS3	**EOS3**	**1.50 34**		*eP*	**Pn**	**21 07 48.2**	**-0.3**
EOS2	**EOS2**	**1.57 29**		*eP*	**Pn**	**21 07 49.8**	**+0.3**
ESAO	**Su ao**	**1.58 15**		*eP*	**Pn**	**21 07 49.5**	**-0.3**
NMLH	**Miaoli**	**1.59 340**		*eP*	**Pg**	**21 07 52.0**	**-1.4**
NMLH				*eS*	**Sg**	**21 08 13.1**	**-1.0**
ENTT	**Nioudou**	**1.60 5**		*eP*	**Pn**	**21 07 49.8**	**-0.3**
NFF	**Wufeng Townshi**	**1.60 351**		*eP*	**Pb**	**21 07 52.0**	**+0.2**
NDS	**Dongshan**	**1.61 10**		*eP*	**Pb**	**21 07 51.3**	**-0.6**
TWC	**Suao**	**1.61 15**		*eP*	**Pn**	**21 07 50.4**	**+0.2**
WDGT	**Dungji**	**1.62 278**		P	**Pn**	**21 07 50.0**	**-0.3**
WDGT				S	**Sn**	**21 08 10.1**	**-0.6**
YHNB	**Yeheng**	**1.62 359**			**Pn**	**21 07 50.6**	**+0.2**
YHNB	**Yeheng**	**1.62 359**		P	**Pn**	**21 07 51.0**	**+0.6**
YHNB	**Yeheng**	**1.62 359**		*eP*	**Pn**	**21 07 50.9**	**+0.4**
NSTT	**Nanjuang**	**1.62 347**		*eP*	**Pb**	**21 07 52.4**	**+0.3**
NSTT				*eS*	**Sb**	**21 08 12.6**	**+0.2**
NSK	**Sanguang**	**1.63 359**		*eP*	**Pn**	**21 07 50.6**	**+0.1**
LIOB	**Emei**	**1.64 348**		*eP*	**Pb**	**21 07 52.2**	**-0.2**
TWE	**Neicheng**	**1.69 8**		*eP*	**Pn**	**21 07 51.0**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.72 6**		*eP*	**Pn**	**21 07 51.6**	**-0.2**
NWLT	**Wulai**	**1.73 3**		*eP*	**Pn**	**21 07 52.2**	**+0.3**
KSHI	**Guanxi Townshi**	**1.74 353**		*eP*	**Pb**	**21 07 54.3**	**+0.2**
PHUB	**P'eng-hu**	**1.75 286**		*eP*	**Pn**	**21 07 51.2**	**-0.8**
PNG	**Penghu**	**1.78 288**		*eP*	**Pn**	**21 07 52.7**	**+0.2**
SBCB	**Hsinchu**	**1.79 348**		*eP*	**Pb**	**21 07 54.5**	**-0.4**
HSN	**Hsinchu**	**1.80 347**		*eP*	**Pb**	**21 07 54.9**	**-0.2**
VCHM	**Qimei**	**1.82 276**		*eP*	**Pn**	**21 07 52.7**	**-0.4**
TATO	**Taipei**	**1.93 2**			**Pn**	**21 07 55.0**	**+0.4**
TATO				Sn	**Sn**	**21 08 19.1**	**+0.7**
TATO	**Taipei**	**1.93 2**		P	**Pn**	**21 07 54.9**	**+0.4**
TATO	**Taipei**	**1.93 2**		S	**Sb**	**21 08 19.7**	**-1.3**
NCUH	**Zhongli**	**1.93 354**		*eP*	**Pn**	**21 07 55.7**	**+1.1**
TIPB	**Shuangxi**	**1.96 11**		*eP*	**Pb**	**21 07 56.5**	**-1.4**
TAP	**Taipei**	**1.99 3**		*eP*	**Pb**	**21 07 57.5**	**-0.9**
JYNG	**Yonagunijimaku**	**1.99 45**		*i P*	**Pn**	**21 07 55.5**	**0.0**
JYNG				S	**Sn**	**21 08 19.2**	**-0.7**
JYNG	**Yonagunijimaku**	**1.99 45**		A	A	21 07 55.5	
	comp=N,12nm,0.9s,comp=E,7.0nm,1.0s						
TWB1	**Santiao Chiao**	**2.03 15**		*eP*	**Pn**	**21 07 56.3**	**+0.3**
YOJ	**Yonaguni jima**	**2.04 46**			**Pn**	**21 07 56.2**	**+0.1**
YOJ	**Yonaguni jima**	**2.04 46**		P	**Pn**	**21 07 56.3**	**+0.1**
YOJ	**Yonaguni jima**	**2.04 46**		*eP*	**Pn**	**21 07 55.9**	**-0.2**
YOJ	**Yonaguni jima**	**2.04 46**		*eP*	**Pn**	**21 07 56.0**	**-0.1**
YOJ				*eS*	**Sn**	**21 08 20.7**	**-0.5**
YOJ	**Yonaguni jima**	**2.04 46**		A	A	21 07 56.0	
	comp=N,7.0nm,1.3s,comp=E,5.0nm,1.6s						
TWS1	**Kuangyinshan**	**2.05 0**		*eP*	**Pn**	**21 07 57.0**	**+0.8**
WFSB	**Wu-fen Shan**	**2.05 10**		*eP*	**Pb**	**21 07 57.9**	**-1.5**
SXI1	**Grass Mountain**	**2.09 12**		*eP*	**Pb**	**21 07 58.6**	**-1.5**
YM01	**YM01**	**2.10 4**		*eP*	**Pn**	**21 07 57.5**	**+0.5**
NTST	**Danshui**	**2.12 1**		*eP*	**Pn**	**21 07 58.5**	**+1.3**
ZUZH	**Zhuzihu**	**2.12 4**		*eP*	**Pn**	**21 07 57.5**	**+0.3**
ANP	**Anpu**	**2.14 3**		*eP*	**Pn**	**21 07 59.0**	**+1.4**
YM08	**YM08**	**2.15 5**		*eP*	**Pn**	**21 07 57.9**	**+0.3**
**TWY

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DL2                                    LR    LR
     comp=Z,330nm,17.9s
DL2                                    LR    LR
     comp=Z,570nm,10.4s
DL2                                    LR    LR
     comp=Z,510nm,15.4s
BJI  Beijing        17.52 347          P     P     21 11 28.6 +1.6
BJI                                    sP    sP    21 11 33.1 -0.8
BJI                                    pmax  pmax
     comp=Z,67nm,7.3s
BJI                                    LR    LR
     comp=Z,110nm,12.9s
BJI                                    LR    LR
     comp=Z,300nm,15.4s
CD2  Chengdu        17.56 300          P     Pn    21 11 25.8 -0.8
CD2                                    pP    pP    21 11 30.5 -2.4
CD2                                    S     Sn    21 14 41.4 -0.3
CD2                                    sS    sS    21 14 57.0 -1.7
CD2                                    pmax  pmax
     comp=Z,10.0nm,0.4s
CD2                                    pmax  pmax
     comp=Z,110nm,3.4s
CD2                                    LR    LR
     comp=Z,600nm,10.2s
CD2                                    LR    LR
     comp=Z,950nm,10.9s
PZH  PanZhiHua      18.18 285          P     P     21 11 35.4 +0.8
PZH                                    pmax  pmax
     comp=Z,8.0nm,0.8s
PZH                                    pmax  pmax
     comp=Z,110nm,4.4s
JGF  Kuroka         18.68  44          P     Pn    21 11 41.9 +1.6
JGF                                    IAmb  IAmb  21 12 16.0
     comp=Z,39nm,1.4s
HHC  Hu-ho-hao-te   19.59 337          eP    Pn    21 12 00.0 +8.7
HHC                                    S     Sn    21 15 35.8 +4.9
HHC                                    pmax  pmax
     comp=Z,10.0nm,0.6s
HHC                                    pmax  pmax
     comp=Z,110nm,5.1s
HHC                                    LR    LR
     comp=N,470nm,11.5s
HHC                                    LR    LR
     comp=E,240nm,12.2s
HHC                                    LR    LR
     comp=Z,410nm,12.2s
MAJO Matsushiro     19.80  43          P     P     21 11 52.3 +0.1
MAJO                                   IAmb  IAmb  21 11 59.9
     comp=Z,18nm,0.8s
MJAR Matsushiro Arr 19.80  43          P     P     21 11 52.1 -0.1
     comp=Z,0.1nm,0.3s,baz=226,slow=8.3,SNR=11
MJAR                                   LR    LR    21 20 17.2
     comp=Z,124nm,19.1s,baz=220,slow=39
     comp=Z,12nm,1.0s
BTO  Baotou         19.97 334          eP    Pn    21 12 02.6 +6.8
BTO                                    pP    sP    21 12 06.6 +5.4
BTO                                    sP    pP    21 12 09.6 +10
BTO                                    pmax  pmax
     comp=Z,20nm,1.2s
BTO                                    pmax  pmax
     comp=Z,290nm,4.3s
BTO                                    LR    LR
     comp=Z,2µm,16.0s
BTO                                    LR    LR
     comp=Z,3µm,16.6s
BTO                                    LR    LR
     comp=Z,3µm,13.3s
LZH  Lanzhou        20.01 314          eP    Pn    21 11 57.8 +1.4
LZH                                    sP    sP    21 12 05.6 +3.7
LZH                                    pmax  pmax
     comp=Z,19nm,1.1s
LZH                                    LR    LR
     comp=Z,480nm,10.3s
LZH                                    LR    LR
     comp=Z,670nm,12.4s
LZH                                    LR    LR
     comp=Z,740nm,12.7s
CN2  Changchun      20.98   8          P     P     21 12 05.9 +1.1
CN2                                    pmax  pmax
     comp=Z,10.0nm,0.7s
CN2                                    pmax  pmax
     comp=Z,400nm,5.0s
CN2                                    LR    LR
     comp=Z,200nm,11.0s
CN2                                    LR    LR
     comp=Z,300nm,11.0s
CN2                                    LR    LR
     comp=Z,200nm,12.0s
TNCH TengChong      20.99 280          P     P     21 12 08.3 +3.0
TNCH                                   sP    sP    21 12 15.8 +3.7
TNCH                                   S     S     21 15 55.4 -3.3
TNCH                                   pmax  pmax
     comp=Z,15nm,0.9s
TNCH                                   pmax  pmax
     comp=Z,170nm,4.1s
TNCH                                   LR    LR
     comp=Z,190nm,8.4s
TNCH                                   LR    LR
     comp=Z,340nm,12.6s
TNCH                                   LR    LR
     comp=Z,490nm,12.2s
XLT  XiLinHaoTe     21.26 349          eP    P     21 12 11.1 +3.1
XLT                                    pP    sP    21 12 15.6 +0.6
XLT                                    sP    pP    21 12 18.4 +5.1
XLT                                    PP    PnPn  21 12 34.3 +6.5
XLT                                    pmax  pmax
     comp=Z,13nm,0.8s
XLT                                    pmax  pmax
     comp=Z,150nm,5.4s
XLT                                    LR    LR
     comp=Z,510nm,19.1s
XLT                                    LR    LR
     comp=Z,320nm,15.7s
CHTO Chiang Mai     21.39 263          P     P     21 12 10.3 +0.8
CM31 Chiang Mai Arr 21.48 262          P     P     21 12 11.0 +0.5
CMAR Chiang Mai Arr 21.48 262          P     P     21 12 11.7 +1.2
CMAR Chiang Mai Arr 21.48 262          P     P     21 12 12.2 +1.6
     comp=Z,2.5nm,0.8s,baz=62,slow=8.7,SNR=26
CMAR                                   PcP   PcP   21 16 13.9 +0.6
     comp=Z,0.3nm,0.4s,baz=91,slow=2.5,SNR=4.4
CMAR                                   LR    LR    21 21 26.2
     comp=Z,194nm,18.4s,baz=80,slow=39
     comp=Z,2.5nm,0.8s
TOLI2 Tolitoli      21.81 182          P     P     21 12 13.6 -0.4
JMM  Marumori       22.25  44          P     P     21 12 18.3 -0.2
SBUM Sibu           22.32 205          P     P     21 12 20.1 +0.6
MDJ  Mudanjiang     22.55  15          P     P     21 12 21.1 -0.6
MDJ                                    IAmb  IAmb  21 12 24.5
     comp=Z,12nm,0.9s
MDJ  Mudanjiang     22.55  15          P     P     21 12 22.8 +1.1
MDJ                                    pmax  pmax
     comp=Z,17nm,1.0s
GUMO Guam           24.15 109          LR    LR    21 20 24.4
     comp=Z,78nm,20.5s,baz=298,slow=33
JTM  Tenmabayashi   24.23  39          P     P     21 12 38.5 +0.1
GTA  Gaotai         24.54 317          eP    P     21 12 44.8 +3.3
GTA                                    sP    sP    21 12 53.0 +4.1
GTA                                    pmax  pmax
     comp=Z,2.0nm,0.9s
GTA                                    LR    LR
     comp=Z,220nm,13.1s
GTA                                    LR    LR
     comp=Z,240nm,15.5s
GTA                                    LR    LR
     comp=Z,320nm,15.5s
GOMU GeErMu         26.47 306          P     P     21 13 00.0 +0.7
GOMU                                   sP    sP    21 13 07.8 +1.0
GOMU                                   S     S     21 17 34.3 +1.6
GOMU                                   pmax  pmax
     comp=Z,3.0nm,1.2s
GOMU                                   LR    LR
     comp=Z,300nm,14.0s
GOMU                                   LR    LR
     comp=Z,560nm,13.2s
GOMU                                   LR    LR
     comp=Z,870nm,13.6s
SHL  Shillong       27.00 281          P     P     21 13 03.5 -0.4
SHL                                    IAmb  IAmb  21 13 21.1
     comp=Z,11nm,0.5s
ULN  Ulaanbaatar    27.30 339          P     P     21 13 05.5 -0.8
ASAJ Asahikawa      27.31  35          LR    LR    21 25 04.8
     comp=Z,200nm,18.6s,baz=192,slow=39
KLR  Kul'dur        27.39  15          LR    LR    21 24 24.5
     comp=Z,85nm,20.1s,baz=206,slow=38
SONM Songino Array  27.50 338          P     P     21 13 07.5 -0.6
SONM Songino Array  27.50 338          P     P     21 13 07.1 -0.9
     comp=Z,1.2nm,0.7s,baz=162,slow=11,SNR=8.8
     comp=Z,1.2nm,0.7s
LSA  Lhasa          27.85 290          P     P     21 13 11.7 -0.1
LSA                                    IAmb  IAmb  21 13 23.3
     comp=Z,11nm,0.7s
LSA  Lhasa          27.85 290          P     P     21 13 11.0 -0.8
LSA                                    pmax  pmax
     comp=Z,2.0nm,1.3s
KAPI Kappang        27.93 184          LR    LR    21 25 41.9
     comp=Z,90nm,18.2s,baz=1.5,slow=40
YSS  Yuzhno-Sakhali 29.40  31          P     P     21 13 24.6 -0.3
YSS                                    IAmb  IAmb  21 13 29.8
     comp=Z,24nm,1.1s
PSI  Prapat         29.65 231          LR    LR    21 25 53.9
     comp=Z,108nm,18.5s,baz=15,slow=37
LEM  Lembang        32.60 206          LR    LR    21 27 49.8
     comp=Z,92nm,19.6s,baz=186,slow=38
WMQ  Urumqi         34.59 315          eP    P     21 14 10.3 -0.3
WMQ                                    pP    sP    21 14 17.3 -0.7
WMQ                                    PcP   PcP   21 16 48.3 +3.4
WMQ                                    pmax  pmax
     comp=Z,10.0nm,0.7s
MK31 Makanchi Array 39.30 317          P     P     21 14 50.6 +0.1
MKAR Makanchi Array 39.30 317          P     P     21 14 51.1 +0.6
     comp=Z,3.0nm,0.7s,baz=108,slow=10.0,SNR=29
MKAR                                   PcP   PcP   21 16 58.4 -0.7
     comp=Z,2.0nm,0.9s,baz=94,slow=5.1,SNR=4.7
     comp=Z,3.0nm,0.7s
YAK  Yakutsk        39.38   6          LR    LR    21 32 44.0
     comp=Z,94nm,19.4s,baz=223,slow=39
MAKZ Makanchi       39.50 317          P     P     21 14 52.3 +0.1
PEA0B Petropavlovsk- 40.71  33          P     P     21 15 02.0 -0.1
PETK Petropavlovsk- 40.71  33          P     P     21 15 01.8 -0.3
PETK Petropavlovsk- 40.71  33          P     P     21 15 01.4 -0.7
     comp=Z,4.6nm,0.7s,baz=213,slow=4.4,SNR=5.7
PETK                                   LR    LR    21 32 49.4
     comp=Z,51nm,18.4s,baz=232,slow=38
     comp=Z,4.6nm,0.7s
PET  Petropavlovsk  41.15  34          P     P     21 15 05.9 +0.3
     comp=Z,43nm,1.0s
KDJ  Kajisay        41.31 308          P     P     21 15 07.2 -0.2
ZAA0 Zalesovo Array 41.31 328          P     P     21 15 06.4 -0.6
ZAA0                                   IAmb  IAmb  21 15 23.3
     comp=Z,5.5nm,0.8s
ZALV Zalesovo Beam  41.31 328          P     P     21 15 06.2 -0.8
ZALV Zalesovo Beam  41.31 328          P     P     21 15 06.7 -0.4
     comp=Z,4.0nm,0.5s,baz=114,slow=8.0,SNR=23
     comp=Z,4.0nm,0.5s
KSH  Kashi          41.69 304          P     P     21 15 15.0 +4.4
KSH                                    pP    sP    21 15 21.3 +3.2
KSH                                    pmax  pmax
     comp=Z,2.0nm,1.2s
MA2  Magadan        41.97  22          P     P     21 15 12.0 -0.3
MA2                                    IAmb  IAmb  21 15 14.8
     comp=Z,8.8nm,0.9s
MA2  Magadan        41.97  22          LR    LR    21 34 16.1
     comp=Z,52nm,18.1s,baz=218,slow=39
MA2  Magadan        41.97  22          P     P     21 15 12.8 +0.5
     comp=Z,12nm,1.0s
PALK Pallekele      42.12 255          LR    LR    21 34 17.4
     comp=Z,47nm,18.3s,baz=68,slow=38
H11N1 WAKE ISLAND Hy 42.37  86          T     T     22 00 29.6
     baz=283,slow=75,SNR=570
H11N2 WAKE ISLAND Hy 42.37  86          T     T     22 00 27.7
     baz=283,slow=75,SNR=382
H11N3 WAKE ISLAND Hy 42.38  86          T     T     22 00 30.8
     baz=283,slow=75,SNR=576
H11S3 WAKE ISLAND Hy 42.46  87          T     T     22 00 34.4
     baz=284,slow=75,SNR=582
H11S1 WAKE ISLAND Hy 42.47  87          T     T     22 00 36.5
     baz=284,slow=75,SNR=844
H11S2 WAKE ISLAND Hy 42.48  87          T     T     22 00 36.1
     baz=284,slow=75,SNR=764
COEN Coen           42.50 148          P     P     21 15 17.2  0.0
COEN                                   IAmb  IAmb  21 15 23.4
     comp=Z,7.2nm,0.8s
KURK Kurchatov      43.10 321          P     P     21 15 21.7 +0.1
KURBB Kurchatov Arra 43.11 321          P     P     21 15 22.0 +0.3
     comp=Z,3.4nm,1.0s,baz=118,slow=7.2,SNR=12
     comp=Z,3.4nm,1.0s
NIL  Nilore         43.34 295          P     P     21 15 24.7 +0.8
AAK  Ala-Archa      43.36 308          P     P     21 15 23.7 -0.4
     comp=Z,0.9nm,0.8s,baz=91,slow=9.1,SNR=4.1
AAK                                    PcP   PcP   21 17 12.0 -0.7
     comp=Z,1.1nm,0.7s,baz=86,slow=2.2,SNR=5.2
     comp=Z,0.9nm,0.8s
WB0  Warramunga Arr 44.40 162          P     P     21 15 30.5 -1.9
WB0                                    IAmb  IAmb  21 15 34.0
     comp=Z,7.8nm,1.4s
WRA  Warramunga Arr 44.55 163          P     P     21 15 32.6 -1.0
WRA  Warramunga Arr 44.55 163          P     P     21 15 31.4 -2.2
     comp=Z,0.7nm,0.5s,baz=345,slow=8.8,SNR=7.6
WRA                                    PcP   PcP   21 17 15.0 -1.7
     comp=Z,0.7nm,0.7s,baz=338,slow=3.3,SNR=2.8
     comp=Z,0.7nm,0.5s
GIRL Giralia        45.94 189          P     P     21 15 44.5 -0.1
KK31 Karatay Array  46.33 308          P     P     21 15 48.0 +0.4
KK31                                   IAmb  IAmb  21 15 50.3
     comp=Z,3.3nm,0.9s
KKAR Karatay Array  46.33 308          P     P     21 15 48.2 +0.6
AS31 Alice Springs  47.99 165          P     P     21 16 00.4 -0.2
ASAR Alice Springs  47.99 165          P     P     21 16 00.8 +0.2
ASAR Alice Springs  47.99 165          P     P     21 15 59.0 -1.7
     comp=Z,1.0nm,0.8s,baz=352,slow=7.6,SNR=9.4
ASAR                                   PcP   PcP   21 17 27.1 -1.6
     comp=Z,0.6nm,0.6s,baz=339,slow=2.9,SNR=5.1
     comp=Z,1.0nm,0.8s
BVAR Borovoye Array 48.68 321          P     P     21 16 06.1 +0.4
     comp=Z,1.6nm,0.7s,baz=105,slow=8.8,SNR=9.3
BVAR                                   PcP   PcP   21 17 30.1 -0.8
     comp=Z,1.2nm,0.7s,baz=121,slow=3.9,SNR=4.2
     comp=Z,1.6nm,0.7s
BRVK Borovoye       48.75 321          P     P     21 16 06.4 +0.1
BRVK                                   IAmb  IAmb  21 16 09.7
     comp=Z,7.3nm,1.2s
TIXI Tiksi          48.82   3          LR    LR    21 37 53.8
     comp=Z,76nm,18.1s,baz=192,slow=38
HNR  Honiara        49.65 126          LR    LR    21 36 28.5
     comp=Z,36nm,19.1s,baz=320,slow=35
ABKAR Abkulak array 54.38 315          P     P     21 16 49.1 +0.6
ABKAR                                  IAmb  IAmb  21 16 56.9
     comp=Z,4.6nm,1.1s
ABKAR Abkulak array 54.38 315          P     P     21 16 49.0 +0.6
ARTI Arti           56.23 323          P     P     21 17 00.4 -1.2
ARTI                                   IAmb  IAmb  21 17 02.6
     comp=Z,6.8nm,0.8s
BBOO Buckleboo      57.27 165          P     P     21 17 08.4 -0.9
BBOO                                   IAmb  IAmb  21 17 09.6
     comp=Z,9.3nm,1.0s
STKA Stephens Creek 57.93 160          P     P     21 17 13.3 -0.5
STKA Stephens Creek 57.93 160          P     P     21 17 13.5 -0.3
     comp=Z,3.8nm,0.7s,baz=332,slow=11,SNR=5.2
     comp=Z,3.8nm,0.7s
ARMA Armidale       60.56 150          P     P     21 17 32.3  0.0
TOO  Toolangi       64.41 159          P     P     21 17 57.4 -0.4
TOO                                    IAmb  IAmb  21 18 07.6
     comp=Z,3.1nm,0.9s
D19K Kuna River     65.30  24          P     P     21 18 03.3 +0.1
D19K                                   IAmb  IAmb  21 18 05.1
     comp=Z,4.0nm,0.8s
GNI  Garni          65.62 305          LR    LR    21 48 57.0
     comp=Z,62nm,18.2s,baz=4.5,slow=38
KBZ  Khabaz         66.35 309          P     P     21 18 11.1 +0.8
     comp=Z,3.6nm,0.8s,baz=162,slow=4.7,SNR=6.5
     comp=Z,3.6nm,0.8s
TTA  Tatalina       66.40  30          P     P     21 18 10.4  0.0
TTA                                    IAmb  IAmb  21 18 17.8
     comp=Z,7.9nm,1.3s
KIV  Kislovodsk     66.46 309          ⇑P    P     21 18 12.0 +0.8
KIV  Kislovodsk     66.46 309          P     P     21 18 12.0 +0.8
     comp=Z,7.5nm,1.2s
B21K Ikpikpuk River 66.53  22          P     P     21 18 12.4 +1.4
B21K                                   IAmb  IAmb  21 18 26.9
     comp=Z,3.8nm,0.8s
O18K Koktuh Hills   67.08  33          P     P     21 18 14.8 +0.1
D22K Ayikyak River  67.27  23          P     P     21 18 16.5 +0.7
D22K                                   IAmb  IAmb  21 18 20.7
     comp=Z,4.4nm,0.9s
E22K Anaktuvuk Pass 67.66  24          P     P     21 18 18.7 +0.4
E22K                                   IAmb  IAmb  21 18 23.1
     comp=Z,4.3nm,1.0s
CAST Castle Rocks   68.11  29          P     P     21 18 21.2  0.0
CAST                                   IAmb  IAmb  21 18 22.9
     comp=Z,9.1nm,1.2s
E24K Your Creek     68.90  24          P     P     21 18 26.1  0.0
E24K                                   IAmb  IAmb  21 18 31.7
     comp=Z,3.3nm,0.9s
F24K Squaw Lake     69.22  24          P     P     21 18 28.7 +0.7
F24K                                   IAmb  IAmb  21 18 36.3
     comp=Z,12nm,1.5s
ILAR Eielson Array  70.14  27          P     P     21 18 33.6 -0.1
     comp=Z,0.4nm,0.6s,baz=300,slow=8.1,SNR=5.9
     comp=Z,0.4nm,0.6s
BMAR Burnt Mountain 70.48  24          P     P     21 18 35.5 -0.3
ARCES ARCESS Array B 70.67 338         P     P     21 18 35.9 -1.0
ARCES ARCESS Array B 70.67 338         P     P     21 18 36.4 -0.5
     comp=Z,3.0nm,0.8s,baz=35,slow=4.4,SNR=5.6
     comp=Z,3.0nm,0.8s
D27M Malcolm River  71.34  22          P     P     21 18 41.7 +0.7
D27M                                   IAmb  IAmb  21 19 07.9
     comp=Z,2.9nm,1.1s
FIA1 FINESS Array S 72.53 330          P     P     21 18 47.4 -0.8
FINES FINESS Array B 72.53 330         P     P     21 18 47.7 -0.6
FINES FINESS Array B 72.53 330         P     P     21 18 47.5 -0.7
     comp=Z,2.7nm,0.5s,baz=54,slow=6.1,SNR=20
     comp=Z,2.7nm,0.5s
BCAR Beaver Creek A 72.74  28          P     P     21 18 48.4 -1.2
AK09 Malin Array Si 73.84 318          P     P     21 18 55.7 -0.5
AK08 Malin Array Si 73.85 319          P     P     21 18 55.2 -1.0
AKASG Malin Array Be 73.85 319         P     P     21 18 55.0 -1.2
     comp=Z,1.4nm,0.7s,baz=58,slow=6.6,SNR=9.4
     comp=Z,1.4nm,0.7s
AK10 Malin Array Si 73.87 318          P     P     21 18 55.6 -0.7
BRTR Keskin Array B 74.01 307          P     P     21 18 57.6  0.0
BRTR Keskin Array B 74.01 307          P     P     21 18 58.1 +0.5
     comp=Z,1.5nm,0.8s,baz=120,slow=5.9,SNR=4.2
     comp=Z,1.5nm,0.8s
MI28 Mi28,Pidlybu   74.73 319          P     P     21 19 00.6 -0.7
LUBAR Lubar, Ukraine 74.98 318         P     P     21 19 01.7 -1.2
SORM Soroca         75.16 316          P     P     21 19 02.8 -1.1
     comp=Z,4.2nm,0.9s
NDNU Novodnistrovsk 75.64 317          P     P     21 19 06.1 -0.6
SUW  Suwalki        76.33 323          eP    P     21 19 09.6 -0.8
SUW  Suwalki        76.33 323          P     P     21 19 09.3 -1.1
TESR Tescani        76.78 315          ⇓P    P     21 19 13.2  0.0
TESR Tescani        76.78 315          P     P     21 19 12.6 -0.6
     comp=Z,16nm,1.0s
VRI  Vrincioaia     76.94 314          ⇑P    P     21 19 14.4 +0.2
PLOR Plostina       77.00 314          ⇑P    P     21 19 15.1 +0.6
BUR08 Bucovina Ar. S 77.33 316         P     P     21 19 14.6 -1.8
BUR08                                  IAmb  IAmb  21 19 29.3
     comp=Z,4.0nm,1.2s
BURAR Bucovina Array 77.33 316         ⇑P    P     21 19 16.7 +0.3
STNU Starunia       77.39 318          P     P     21 19 16.5 -0.1
OZUR                77.48 315          ⇑P    P     21 19 18.0 +0.8
MLR  Muntele Rosu   77.58 314          ⇑P    P     21 19 18.4 +0.4
MLR  Muntele Rosu   77.58 314          P     P     21 19 18.3 +0.4
     comp=Z,8.0nm,1.3s
DOPR Dopca          77.78 315          ⇑P    P     21 19 19.5 +0.6
ARCR ARCALIA        78.06 316          ⇑P    P     21 19 21.4 +1.1
BRIU Brid           78.45 318          P     P     21 19 22.2 -0.2
ARR  Arges          78.49 314          ⇑P    P     21 19 23.3 +0.4
HFS  Hagfors        78.66 331          P     P     21 19 21.7 -1.7
     comp=Z,4.8nm,0.7s,baz=116,slow=6.8,SNR=8.3
HFS                                    LR    LR    21 55 45.0
     comp=Z,77nm,20.5s,baz=352,slow=37
     comp=Z,4.8nm,0.7s
MARR Marisel-Cluj   79.00 316          ⇑P    P     21 19 26.4 +0.7
NC405 NORSAR Array S 79.08 332         P     P     21 19 24.5 -1.2
DRGR                79.22 316          ⇑P    P     21 19 27.3 +0.4
NB2  NORSAR Subarra 79.32 332          P     P     21 19 25.8 -1.3
     comp=Z,6.7nm,0.8s,baz=59,slow=5.6
NOA  NORSAR Array B 79.32 332          P     P     21 19 25.2 -1.9
     comp=Z,3.3nm,0.8s,baz=58,slow=5.6,SNR=15
NOA                                    LR    LR    21 56 43.0
     comp=Z,82nm,20.5s,baz=10.0,slow=37
     comp=Z,3.3nm,0.8s
OJC  Ojcow          79.67 320          eP    P     21 19 29.0 -0.2
OJC  Ojcow          79.67 320          P     P     21 19 28.3 -0.8
OJC                                    IAmb  IAmb  21 19 30.2
     comp=Z,8.9nm,0.8s
NIE  Niedzica       79.69 319          P     P     21 19 29.7 +0.4
     comp=Z,3.3nm,1.1s
GZR  Gura Zlata     79.70 315          ⇑P    P     21 19 28.6 -0.9
URZ  Urewera        80.30 139          LR    LR    21 55 45.7
     comp=Z,97nm,18.6s,baz=10.0,slow=36
KSP  Ksiaz          81.45 322          P     P     21 19 38.8 +0.1
DPC  Dobruska-Polom 81.65 321          P     P     21 19 39.7 -0.1
VRAC Vranov         81.94 320          LR    LR    22 00 08.4
     comp=Z,112nm,18.1s,baz=346,slow=39
CLL  Collm          83.08 323          eP    P     21 19 47.0 -0.2
CLL                                    epP   PcP   21 19 52.0 +0.2
GERES GERESS Array B 83.85 321         P     P     21 19 51.1 -0.2
     comp=Z,2.5nm,0.8s,baz=144,slow=9.8,SNR=5.1
     comp=Z,2.5nm,0.8s
YKA  Yellowknife Ar 83.94  23          P     P     21 19 50.0 -1.4
     comp=Z,0.6nm,0.8s,baz=315,slow=4.9,SNR=12
     comp=Z,0.6nm,0.8s
FRB  Frobisher Bay  93.15   4          LR    LR    22 06 21.8
     comp=Z,41nm,18.1s,baz=105,slow=38
```

*IGIL **13** 21:12:07.7, 36.55N×14.53W, h31km, ML2.5*
*MDD **13** 21:12:07.4±1.0, 36.92N×14.38W, h20km, Mb4.4/9, M_mb3.8/9, Error ellipse: s-maj=8.2km s-min=7.0km az=25.0*
*INMG **13** 21:12:09.6±1.4, 36.56N×14.52W, h39km±19km, ML2.7, Error ellipse: s-maj=7.5km s-min=7.1km az=43.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Josephine*
*CNRM **13** 21:12:16.7, 36.63N×13.40W, h145km*
ISC 13 21:12:10.3±3.3, 36.71N±0.06×13.7W±0.2, h10km, n56, σ2§62/89, 10C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.95**	**82⇑**	*eP*	**Pn**	**21 13 12.9**	**+2.1**
PFVI				*eS*	**Sn**	**21 14 00.9**	**+3.7**
PFVI				*i* AML	AML	21 14 02.5	
PFVI				*i* AML	AML	21 14 09.1	
PFVI				*i* AML	AML	21 14 10.5	
PTEO	**Sao Teotonio**	**4.08**	**77**	*eP*	**Pn**	**21 13 14.8**	**+2.1**
PTEO				*eS*	**Sn**	**21 14 03.9**	**+3.4**
PTEO				*i* AML	AML	21 14 05.9	
PTEO				*i* AML	AML	21 14 08.1	
PTEO				*i* AML	AML	21 14 10.2	
MORF	**Marmelete**	**4.10**	**80**	*eP*	**Pn**	**21 13 15.1**	**+2.1**
MORF				*eS*	**Sn**	**21 14 04.4**	**+3.3**
MORF				IAML		21 14 06.3	
	comp=N,12nm,0.3s						
MORF	**Marmelete**	**4.10**	**80**	*eP*	**Pn**	**21 13 15.2**	**+2.2**
MORF				*eS*	**Sn**	**21 14 04.2**	**+3.1**
PMAFR	**Mafra**	**4.17**	**56**	*eP*	**Pn**	**21 13 15.6**	**+1.7**
PMAFR				*eS*	**Sn**	**21 14 05.8**	**+3.1**
PMAFR				*i* AML	AML	21 14 09.1	
PMAFR				*i* AML	AML	21 14 12.9	
PMAFR				*i* AML	AML	21 14 16.1	
MESJ	**Messejana**	**4.53**	**74**	*eP*	**Pn**	**21 13 20.8**	**+1.9**
MESJ				*eS*	**Sn**	**21 14 14.2**	**+2.6**
MESJ				IAML		21 14 18.8	
	comp=N,4.5nm,0.2s						
MESJ	**Messejana**	**4.53**	**74**	*eP*	**Pn**	**21 13 21.1**	**+2.1**
MESJ				*eS*	**Sn**	**21 14 14.3**	**+2.6**
MESJ				*i* AML	AML	21 14 27.0	
MESJ				*i* AML	AML	21 14 28.0	
MESJ				*i* AML	AML	21 14 28.1	
PCVE	**Castro Verde**	**4.63**	**77**	*eP*	**Pn**	**21 13 22.6**	**+2.3**
PCVE				*eS*	**Sn**	**21 14 17.4**	**+3.2**
PCVE				*i* AML	AML	21 14 21.0	
PCVE				*i* AML	AML	21 14 22.6	
PBDV	**Barranco-do-Ve**	**4.67**	**82**	*eP*	**Pn**	**21 13 23.4**	**+2.6**
PBDV				*eS*	**Sn**	**21 14 18.8**	**+3.7**
PBDV				*i* AML	AML	21 14 21.0	
PBDV				*i* AML	AML	21 14 25.4	
PBDV				*i* AML	AML	21 14 29.2	
PSBE	**So Bento**	**4.79**	**53**	*eP*	**Pn**	**21 13 25.8**	**+3.3**
PSBE				*eS*	**Sn**	**21 14 21.4**	**+3.3**
PBEJ	**Beja**	**4.85**	**73**	*eS*	**Sn**	**21 14 22.6**	**+3.2**
PBEJ				*i* AML	AML	21 14 24.9	
PBEJ				*i* AML	AML	21 14 26.0	
PBEJ				*i* AML	AML	21 14 26.2	
PVAQ	**Vaqueiros**	**4.86**	**80**	*eP*	**Pn**	**21 13 25.9**	**+2.5**
PVAQ				*i* AML	AML	21 14 24.5	
EVO	**Evora**	**4.89**	**66**	*eP*	**Pn**	**21 13 26.6**	**+2.9**
EVO				*eS*	**Sn**	**21 14 21.3**	**+0.9**
EVO				*i* AML	AML	21 14 24.2	
EVO				*i* AML	AML	21 14 27.1	
PMTG	**Montargil**	**4.95**	**60**	*eP*	**Pn**	**21 13 25.9**	**+1.3**
PMTG				*eS*	**Sn**	**21 14 23.4**	**+1.5**
PMTG				*i* AML	AML	21 14 27.6	
PMTG				*i* AML	AML	21 14 29.2	

PMTG				*i* AML	AML	21 14 32.7	
EGRO	**El Granado**	**5.05**	**79**	P	**Pn**	**21 13 27.8**	**+1.7**
EGRO				⇑*i*Vmb_V		21 13 35.1	
	comp=N,188nm,SNR=1.5						
EGRO				S	**Sn**	**21 14 27.2**	**+2.6**
PCAS	**Casmilo, Conde**	**5.29**	**49**	*e*P	**Pn**	**21 13 30.5**	**+1.2**
PCAS				*e*S	**Sn**	**21 14 31.9**	**+1.5**
PCAS				*i* AML	AML	21 14 35.7	
PCAS				*i* AML	AML	21 14 41.9	
PCAS				*i* AML	AML	21 14 55.8	
PESTR	**Estremoz**	**5.32**	**64**	*e*P	**Pn**	**21 13 31.7**	**+2.0**
PESTR				*e*S	**Sn**	**21 14 31.9**	**+1.0**
PESTR				*i* AML	AML	21 14 35.9	
PESTR				*i* AML	AML	21 14 38.0	
PESTR				*i* AML	AML	21 14 38.2	
PBAR	**Barrancos**	**5.52**	**73**	*e*P	**Pn**	**21 13 36.3**	**+3.9**
PBAR				*e*S	**Sn**	**21 14 38.7**	**+2.7**
PBAR				*i* AML	AML	21 14 44.2	
PBAR				*i* AML	AML	21 14 45.4	
PBAR				*i* AML	AML	21 14 48.1	
PMRV	**Marv??o**	**5.69**	**60**	*e*P	**Pn**	**21 13 36.4**	**+1.7**
PMRV				*e*S	**Sn**	**21 14 40.1**	**0.0**
PMRV				*i* AML	AML	21 14 42.7	
PMRV				*i* AML	AML	21 14 43.3	
PMRV				*i* AML	AML	21 14 44.8	
EBAD	**Badajoz**	**5.70**	**67**	P	**Pn**	**21 13 35.8**	**+0.9**
EBAD				⇑*i*Vmb_V		21 13 40.0	
	comp=N,156nm,SNR=1.2						
EBAD				S	**Sn**	**21 14 40.1**	**-0.3**
EMIN	**Mina Concepcio**	**5.72**	**77**	P	**Pn**	**21 13 37.4**	**+2.1**
EMIN				S	**Sn**	**21 14 41.8**	**+0.8**
PCBR	**Castelo Branco**	**5.82**	**56**	*e*P	**Pn**	**21 13 38.1**	**+1.5**
PCBR				*e*S	**Sn**	**21 14 44.4**	**+0.9**
PCBR				*i* AML	AML	21 14 44.5	
PCBR				*i* AML	AML	21 14 47.2	
PCBR				*i* AML	AML	21 14 51.2	
PVIS	**Viseu**	**6.07**	**47**	*e*P	**Pn**	**21 13 41.8**	**+1.7**
PVIS				*e*S	**Sn**	**21 14 49.3**	**-0.2**
PVRL	**Vila Real**	**6.53**	**44**	*e*P	**Pn**	**21 13 47.4**	**+1.0**
PVRL				*e*S	**Sn**	**21 15 01.3**	**+0.3**
POLO	**Lamas de Olo**	**6.56**	**43**	*e*P	**Pn**	**21 13 47.4**	**+0.5**
POLO				*e*S	**Sn**	**21 15 00.2**	**-1.5**
POLO				*i* AML	AML	21 15 03.7	
ZHG	**ZHG**	**6.66**	**117**	P	**Pn**	**21 13 48.3**	**+0.2**
ZHG	**ZHG**	**6.66**	**117**	S	**Sn**	**21 15 01.8**	**-2.3**
PCAB	**Cabril**	**6.67**	**40**	*e*P	**Pn**	**21 13 49.5**	**+1.1**
PGAV	**Gavieira, Arco**	**6.74**	**37**	*e*P	**Pn**	**21 13 49.1**	**-0.2**
PGAV				*e*S	**Sn**	**21 15 02.6**	**-3.6**
PGAV				*i* AML	AML	21 15 04.4	
PGAV				*i* AML	AML	21 15 11.0	
PGAV				*i* AML	AML	21 15 20.7	
ECAB	**El Cabril**	**6.75**	**76**	P	**Pn**	**21 13 50.9**	**+1.4**
ECAB				⇑*i*Vmb_V		21 13 51.4	
	comp=N,115nm,SNR=1.2						
ECAB				S	**Sn**	**21 15 06.7**	**+0.3**
ELOB	**Lobios**	**6.77**	**39**	P	**Pn**	**21 13 48.6**	**-1.1**
ELOB				⇑*i*Vmb_V		21 13 51.4	
	comp=N,199nm,SNR=0.9						
ELOB				S	**Sn**	**21 15 00.6**	**-6.2**
MVO	**Moncorvo**	**6.86**	**48**	*e*P	**Pn**	**21 13 51.2**	**+0.3**
MVO				*e*S	**Sn**	**21 15 06.8**	**-2.2**
MVO				*i* AML	AML	21 15 13.1	
MVO				*i* AML	AML	21 15 13.5	
MVO				*i* AML	AML	21 15 13.5	
EPLA	**Plasencia**	**6.88**	**59**	P	**Pn**	**21 13 52.5**	**+1.4**
EPLA				⇑*i*Vmb_V		21 14 02.2	
	comp=N,223nm,SNR=1.2						
EPLA				S	**Sn**	**21 15 05.7**	**-3.8**
EMAZ	**Mazaricos**	**7.22**	**29**	P	**Pn**	**21 13 51.1**	**-4.8**
EMAZ				⇑*i*Vmb_V		21 13 52.7	
	comp=N,439nm,SNR=1.0						
EMAZ				S	**Sn**	**21 15 09.9**	**-8.1**
EADA	**Adamuz**	**7.42**	**76**	P	**Pn**	**21 13 58.9**	**+0.3**
EADA				⇑*i*Vmb_V		21 14 07.1	
	comp=N,124nm,SNR=0.9						
EADA				S	**Sn**	**21 15 22.8**	**-0.1**
PBRG	**Braganca**	**7.43**	**45**	*e*P	**Pn**	**21 13 59.1**	**+0.4**
EAGO	**Agolada(Pontev**	**7.47**	**34**	P	**Pn**	**21 13 56.3**	**-3.0**
EAGO				S	Sn	21 15 13.7	-10
TISM	**Timmit**	**7.82**	**127**	P	**Pn**	**21 14 03.8**	**-0.2**
TISM	**Timmit**	**7.82**	**127**	S	**Sn**	**21 15 29.4**	**-3.2**
LCRM	**LCR**	**7.86**	**110**	P	**Pn**	**21 14 04.6**	**-0.2**
LCRM	**LCR**	**7.86**	**110**	S	**Sn**	**21 15 30.4**	**-3.5**
TIO	**Tiouine**	**7.88**	**135**	P	**Pn**	**21 14 05.2**	**+0.1**
TIO	**Tiouine**	**7.88**	**135**	S	**Sn**	**21 15 31.6**	**-2.8**
PAB	**San Pablo**	**7.91**	**66**	P	**Pn**	**21 14 05.4**	**-0.1**
PAB				⇑*i*Vmb_V		21 14 13.5	
	comp=N,106nm,SNR=1.0						
PAB				S	**Sn**	**21 15 32.1**	**-2.9**
PSIM	**Granatula de C**	**8.17**	**72**	P	**Pn**	**21 14 08.6**	**-0.4**
PSIM				S	**Sn**	**21 15 40.5**	**-0.9**
OUZM	**OUZ**	**8.19**	**133**	P	**Pn**	**21 14 09.2**	**0.0**
OUZM	**OUZ**	**8.19**	**133**	S	**Sn**	**21 15 38.8**	**-3.1**
MD31	**MD31**	**8.31**	**115**	P	**Pn**	**21 14 11.2**	**+0.3**
MD31	**MD31**	**8.31**	**115**	S	**Sn**	**21 15 40.3**	**-4.6**
AKLM	**AKL**	**8.32**	**102**	P	**Pn**	**21 14 08.7**	**-2.4**
AKLM	**AKL**	**8.32**	**102**	S	**Sn**	**21 15 37.5**	**-7.8**
MDT	**Midelt**	**8.45**	**115**	P	**Pn**	**21 14 13.0**	**+0.2**
MDT	**Midelt**	**8.45**	**115**	S	**Sn**	**21 15 44.1**	**-4.2**
EQES	**Quesada**	**8.56**	**79**	P	**Pn**	**21 14 14.7**	**+0.3**
EQES				⇑*i*Vmb_V		21 14 21.7	
	comp=N,148nm,SNR=1.0						
EQES				S	**Sn**	**21 15 50.4**	**-0.7**
TZRR	**Tazzarine**	**9.00**	**129**	P	**Pn**	**21 14 20.4**	**+0.1**
TZRR	**Tazzarine**	**9.00**	**129**	S	**Sn**	**21 15 57.9**	**-3.9**

*IDC **13** 21:15:41.1±1.2, 10°.21S×152°.21E, h0km, mb3.7/6, mbtmp3.6/8, ML3.5/1, MS3.3/7, Error ellipse: s-maj=31.3km s-min=23.3km az=111.0*

ISC 13 21:15:46.2±1.1, 10°.3S±0°.2×152°.3E±0°.1, h35km, n14, σ1§47/9, mb3.7/6, MS3.2/4, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.09**	**279**	Pn	**Pn**	**21 16 58.5**	**-1.6**
	4.6nm,0.3s,baz=255,slow=3.5,SNR=5.9						
PMG				Sn	**Sn**	**21 18 00.1**	**+2.4**
	1.8nm,0.3s,baz=87,slow=16,SNR=1.4						
PMG				LR	LR	21 19 03.8	
	comp=Z,301nm,19.9s,baz=102,slow=40						
HNR	**Honiara**	**7.63**	**84**	LR	LR	21 19 59.4	
	comp=Z,154nm,18.1s,baz=326,slow=34						
DZM	**Mont Dzumac**	**17.96**	**132**	LR	LR	21 25 46.3	
	comp=Z,154nm,19.1s,baz=320,slow=34						
WRA	**Warramunga Arr**	**19.76**	**239**	P	**P**	**21 20 12.4**	**-1.0**
	0.1nm,0.3s,baz=62,slow=11,SNR=5.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**21.99**	**230**	P	**P**	**21 20 36.8**	**-0.7**
	0.8nm,0.7s,baz=62,slow=9.6,SNR=10.0						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**23.65**	**203**	P	**P**	**21 20 54.4**	**-0.1**
	2.3nm,0.7s,baz=32,slow=11,SNR=4.4						
	2.3nm,0.7s						
JOW	**Kunigami**	**43.62**	**328**	LR	LR	21 40 08.4	
	comp=Z,34nm,19.3s,baz=34,slow=34						
KSRS	**Korea Array**	**52.68**	**336**	LR	LR	21 44 36.3	
	comp=Z,14nm,21.5s,baz=355,slow=33						
MA2	**Magadan**	**69.63**	**359**	LR	LR	21 56 55.5	
	comp=Z,12nm,18.7s,baz=326,slow=36						
SONM	**Songino Array**	**70.68**	**329**	P	**P**	**21 26 57.7**	**-1.0**
	0.4nm,0.8s,baz=155,slow=4.6,SNR=7.2						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**21 27 51.6**	**+1.2**
	0.5nm,0.3s,baz=39,slow=4.2,SNR=5.3						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**84.09**	**320**	P	**P**	**21 28 14.4**	**+0.9**
	0.5nm,1.0s,baz=107,slow=4.2,SNR=5.4						
	0.5nm,1.0s						
ILAR	**Eielson Array**	**87.41**	**22**	P	**P**	**21 28 29.8**	**+0.2**
	0.5nm,0.8s,baz=268,slow=6.2,SNR=6.8						
	0.5nm,0.8s						
NEW	**Newport**	**98.00**	**42**	LR	LR	22 06 22.1	
	comp=Z,25nm,20.0s,baz=342,slow=31						

*WEL **13** 21:30:29.9±1.0, 38°.5±7°.×18°.0E±°., h12km, M3.6/16, ML4.0/16, MLv3.6/16, Error ellipse: s-maj=9.1km s-min=7.8km az=168.0, confirmed*

*IDC **13** 21:30:36.0±2.5, 36°.87S×178°.18E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=52.1km s-min=27.3km az=103.0*

ISC 13 21:30:26.5±2.1, 37°.88S±0°.07×179°.89E±0°.08, h11km±11km, n65, σ1§28/77, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.17**	**272**	P	**Pg**	**21 30 49.1**	**+0.1**
MXZ	**Matakaoa Point**	**1.30**	**284**	P	**Pn**	**21 30 50.7**	**+0.2**
MXZ				S	**Sg**	**21 31 07.7**	**-0.6**
PUZ	**Puketiti**	**1.31**	**261**	P	**Pn**	**21 30 51.2**	**+0.5**
PUZ				S	**Sg**	**21 31 08.0**	**-0.6**
PKGZ	**Pakihiroa**	**1.44**	**270**	P	**Pn**	**21 30 52.8**	**+0.4**
CNGZ	**Carnagh Statio**	**1.46**	**245**	P	**Pn**	**21 30 54.4**	**+1.7**
TWGZ	**Tauwhareparae**	**1.54**	**258**	P	**Pn**	**21 30 54.9**	**+1.0**
TWGZ				S	**Sn**	**21 31 14.2**	**+0.3**
GKBS	**Kaiti Beach**	**1.67**	**241**	P	**Pn**	**21 30 57.6**	**+2.0**
HAZ	**Te Kaha**	**1.68**	**274**	P	**Pn**	**21 30 56.2**	**+0.5**
HAZ				S	**Sn**	**21 31 16.8**	**-0.4**
TKGZ	**Te Karaka**	**1.71**	**250**	P	**Pn**	**21 30 57.3**	**+1.2**
TKGZ				S	**Sn**	**21 31 18.4**	**+0.5**
RUGZ	**Raukumara Rang**	**1.75**	**266**	P	**Pn**	**21 30 57.3**	**+0.3**
RIGZ	**Rimuhau**	**1.87**	**243**	P	**Pn**	**21 30 60.0**	**+1.5**
RIGZ				S	**Sn**	**21 31 22.6**	**+0.6**
PRGZ	**Paritu Road**	**1.89**	**236**	P	**Pn**	**21 31 00.2**	**+1.4**
MWZ	**Matawai**	**1.92**	**256**	P	**Pn**	**21 30 59.6**	**+0.5**
MWZ				S	**Sn**	**21 31 22.9**	**-0.4**
RAGZ	**Rawiri**	**2.05**	**252**	P	**Pn**	**21 31 02.6**	**+1.7**
KNZ	**Kokohu**	**2.08**	**236**	P	**Pn**	**21 31 02.4**	**+1.1**
KNZ				S	**Sn**	**21 31 27.8**	**+0.5**
URZ	**Urewera**	**2.23**	**259**	Pn	**Pn**	**21 31 04.8**	**+1.5**
	6.5nm,0.3s,baz=343,slow=4.8,SNR=60						
URZ				Sn	**Sn**	**21 31 30.2**	**-0.6**
	29nm,0.3s,baz=30,slow=19,SNR=6.6						
URZ	**Urewera**	**2.23**	**259**	P	**Pn**	**21 31 05.0**	**+1.7**
URZ				S	**Sn**	**21 31 30.4**	**-0.4**
WHRZ	**Whale Island**	**2.31**	**270**	P	**Pn**	**21 31 06.0**	**+1.6**
RTZ	**Ruatahuna**	**2.41**	**251**	P	**Pn**	**21 31 07.6**	**+1.7**
RAHZ	**Arahi**	**2.44**	**244**	P	**Pn**	**21 31 07.9**	**+1.7**
RAHZ				S	**Sn**	**21 31 36.7**	**+0.7**
MUGZ	**Murupara**	**2.53**	**255**	P	**Pn**	**21 31 08.8**	**+1.3**
MUGZ				S	**Sn**	**21 31 37.8**	**-0.6**
MTHZ	**Maungataniwha**	**2.59**	**247**	P	**Pn**	**21 31 09.5**	**+1.2**
ARHZ	**Aropaoanui**	**2.66**	**238**	P	**Pn**	**21 31 11.1**	**+1.9**
TARZ	**Mount Tarawera**	**2.70**	**261**	P	**Pn**	**21 31 11.3**	**+1.4**
RRRZ	**Republican Roa**	**2.71**	**259**	P	**Pn**	**21 31 11.8**	**+1.9**
NMHZ	**Naumai**	**2.71**	**242**	P	**Pn**	**21 31 11.6**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.83**	**230**	P	**Pn**	**21 31 12.7**	**+1.1**
ALRZ	**Allen Road**	**2.88**	**255**	P	**Pn**	**21 31 13.7**	**+1.4**
KARZ	**Kaharoa**	**2.89**	**266**	P	**Pn**	**21 31 13.2**	**+0.8**
MRHZ	**Matea Rd**	**2.90**	**250**	P	**Pn**	**21 31 13.9**	**+1.4**
MCHZ	**McNeill Hill**	**2.95**	**237**	P	**Pn**	**21 31 14.9**	**+1.6**
BKZ	**Black Stump Fm**	**2.96**	**243**	P	**Pn**	**21 31 14.6**	**+1.2**
KAHZ	**Kahuranaki**	**3.04**	**230**	P	**Pn**	**21 31 15.4**	**+0.9**
KWHZ	**Kaweka Forest**	**3.12**	**239**	P	**Pn**	**21 31 16.6**	**+0.9**
PXZ	**Pawanui**	**3.19**	**227**	P	**Pn**	**21 31 16.9**	**+0.3**
KRHZ	**Kereru**	**3.27**	**236**	P	**Pn**	**21 31 18.3**	**+0.6**
PRHZ	**Porangahau**	**3.48**	**226**	P	**Pn**	**21 31 20.9**	**+0.3**
TMVZ	**Te Maari**	**3.51**	**248**	P	**Pn**	**21 31 22.3**	**+1.2**
ETVZ	**East Tongariro**	**3.51**	**248**	P	**Pn**	**21 31 21.9**	**+0.8**
NTVZ	**North Tongarir**	**3.53**	**248**	P	**Pn**	**21 31 22.1**	**+0.8**
PNHZ	**Pukenui**	**3.53**	**234**	P	**Pn**	**21 31 21.7**	**+0.4**
KRVZ	**Karewarewa**	**3.55**	**249**	P	**Pn**	**21 31 22.7**	**+1.1**
OTVZ	**Oturere**	**3.56**	**248**	P	**Pn**	**21 31 23.1**	**+1.4**
NNVZ	**North Ngauruho**	**3.58**	**248**	P	**Pn**	**21 31 23.6**	**+1.5**
SNVZ	**South Ngauruho**	**3.58**	**247**	P	**Pn**	**21 31 23.0**	**+0.9**
MOVZ	**Moawhango**	**3.58**	**244**	P	**Pn**	**21 31 23.9**	**+1.9**
TUVZ	**Tukino**	**3.60**	**246**	P	**Pn**	**21 31 24.1**	**+1.7**
NGZ	**Ngauruhoe**	**3.61**	**248**	P	**Pn**	**21 31 23.3**	**+0.8**
WNVZ	**Wahianoa**	**3.66**	**245**	P	**Pn**	**21 31 24.1**	**+0.9**
DVHZ	**Dannevirke**	**3.78**	**229**	P	**Pn**	**21 31 24.6**	**0.0**
MKAZ	**Moumakai**	**3.84**	**280**	P	**Pn**	**21 31 26.3**	**+0.8**
GRZ	**Great Barrier**	**3.90**	**293**	P	**Pn**	**21 31 27.4**	**+1.1**
PRWZ	**Pori Road**	**4.05**	**228**	P	**Pn**	**21 31 28.9**	**+0.5**
POWZ	**Post Office Ro**	**4.07**	**231**	P	**Pn**	**21 31 30.0**	**+1.3**
MRZ	**Mangatainoka R**	**4.35**	**229**	P	**Pn**	**21 31 32.3**	**-0.2**
OGWZ	**Otaki Gorge**	**4.69**	**230**	P	**Pn**	**21 31 36.5**	**-0.6**
PKE	**Pukeiti**	**4.81**	**252**	P	**Pn**	**21 31 42.4**	**+3.5**
KIW	**Kapiti Island**	**4.88**	**231**	P	**Pn**	**21 31 39.2**	**-0.6**
OUZ	**Omahuta**	**5.72**	**296**	P	**Pn**	**21 31 54.5**	**+3.1**
CTZ	**Chatham Island**	**6.42**	**157**	P	**Pn**	**21 32 04.2**	**+3.3**
THZ	**Tophouse**	**6.63**	**232**	P	**Pn**	**21 32 03.4**	**-0.5**
GLKZ	**Green Lake**	**8.78**	**13**	P	**Pn**	**21 32 33.6**	**+0.3**
ASAR	**Alice Springs**	**41.57**	**276**	P	**P**	**21 38 13.2**	**-1.1**
	0.5nm,0.7s,baz=118,slow=7.0,SNR=7.2						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**43.23**	**281**	P	**P**	**21 38 26.9**	**-1.0**
	1.0nm,0.9s,baz=121,slow=7.8,SNR=9.0						
	1.0nm,0.9s						
FINES	**FINESS Array B**	**151.33**	**334**	PKPbc	**PKPab**	**21 50 26.9**	**-0.5**
	3.4nm,1.1s,baz=68,slow=5.9,SNR=5.0						

*MOS **13** 21:31:59.7±0.9, 41°.42N×68°.93E, h17km, mb4.7/32, Error ellipse: s-maj=4.5km s-min=3.9km az=138.6*

*NNC **13** 21:31:59.7±1.1, 41°.32N×68°.89E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=8.6km s-min=5.6km az=24.0*

*IDC **13** 21:31:59.3±0.5, 41°.30N×68°.97E, h0km, mb4.3/24, mbtmp4.3/34, ML3.8/10, MS3.6/8, Error ellipse: s-maj=9.6km s-min=7.4km az=175.0*

*ISU **13** 21:32:00, 41°.42N×68°.97E, h12km*

*SOME **13** 21:32:00.0, 41°.32N×69°.05E, h5km*

*NEIC **13** 21:32:01.7±1.3, 41°.41N±0°.05×68°.95E±0°.07, h10km±1km, mb4.8/65, Error ellipse: s-maj=9.2km s-min=7.7km az=267.0*

*BJI **13** 21:32:01.0, 41°.39N×69°.16E, h10km, mB5.0/12, mb4.5/39, ML4.5/2, Ms4.2/16, Ms7 4.0/14*

ISC 13 21:32:01.5±0.2, 41°.43N±0°.02×68°.98E±0°.02, h10km, n392, σ2§10/417, mb4.6/93, MS3.7/7, 40C-37D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZBK	**Nazarbek**	**0.23**	**153**	P	**Pg**	**21 32 04.1**	**-2.2**
NZBK				S	**Sg**	**21 32 07.0**	**-2.6**
TGS	**TashGRES**	**0.41**	**91**	P	**Pg**	**21 32 06.6**	**-2.9**
TGS				S	**Sg**	**21 32 11.3**	**-3.6**
CHMG	**Chimgan**	**0.79**	**81**	P	**Pg**	**21 32 15.9**	**-0.7**
CHMG				S	**Sg**	**21 32 27.6**	**+0.7**
IUG	**Iuzhnay**	**1.06**	**47**	*e*PG	**Pg**	**21 32 21.8**	**-0.1**
IUG	**Iuzhnay**	**1.06**	**47**	*e*P	**Pg**	**21 32 21.9**	**-0.1**
CHDK	**Chadak**	**1.42**	**108**	P	**Pn**	**21 32 26.9**	**-0.5**
CHDK				S	**Sn**	**21 32 46.3**	**+0.2**
TRKS	**Terek-Say**	**1.63**	**86**	PN	**Pn**	**21 32 30.9**	**+0.5**
BRLS	**Borolday**	**1.72**	**22**	*e*PN	**Pn**	**21 32 29.0**	**-2.5**
BRLS	**Borolday**	**1.72**	**22**	*e*P	**Pn**	**21 32 29.1**	**-2.4**
	2μm,0.3s						
BRLS				*e*S	**Sn**	**21 32 50.5**	**-3.1**
	7μm,0.3s						
BRLS	**Borolday**	**1.72**	**22**	*e*P	**Pn**	**21 32 29.1**	**-2.4**
MINT	**Mingtut**	**1.79**	**122**	P	**Pn**	**21 32 33.1**	**+0.6**
MINT				S	**Sb**	**21 32 57.3**	**+0.3**
BXML	**Bakhmal**	**1.89**	**203**	P	**Pb**	**21 32 35.4**	**-0.7**
BXML				S	**Sg**	**21 33 01.3**	**-0.8**
BTK	**Batken**	**1.96**	**134**	Pn	**Pn**	**21 32 35.0**	**+0.2**
BTK				Sn	**Sn**	**21 33 00.1**	**+0.6**
BTK	**Batken**	**1.96**	**134**	PN	**Pn**	**21 32 35.0**	**+0.2**
BTK						21 33 00.1	
KK31	**Karatay Array**	**2.02**	**34**		**Pn**	**21 32 36.8**	**+1.2**
KK31	**Karatay Array**	**2.02**	**34**	⇑Pn	**Pb**	**21 32 38.9**	**+0.6**
	225nm,0.3s,baz=218,slow=16,SNR=2793						
KK31				⇑Sn	**Sg**	**21 33 06.4**	**-0.1**
	577nm,0.2s,baz=211,slow=23,SNR=18						
KK31	**Karatay Array**	**2.02**	**34**	PN	**Pn**	**21 32 36.8**	**+1.2**
KKAR	**Karatay Array**	**2.02**	**34**		**Pn**	**21 32 36.9**	**+1.3**
KKAR	**Karatay Array**	**2.02**	**34**		**Pn**	**21 32 37.0**	**+1.3**
KKAR	**Karatay Array**	**2.02**	**34**	PN	**Pn**	**21 32 36.9**	**+1.3**
CHMI	**Chimion**	**2.25**	**120**	P	**Pn**	**21 32 40.3**	**+1.5**
CHMI				S	**Sb**	**21 33 10.7**	**+0.5**
ARK	**Arkit**	**2.27**	**80**	PN	**Pn**	**21 32 40.5**	**+1.4**
DZA	**Taraz**	**2.28**	**49**	*e*PN	**Pn**	**21 32 40.9**	**+1.7**
DZA				*e*S	**Sn**	**21 33 10.0**	**+2.7**
DZA	**Taraz**	**2.28**	**49**	*e*P	**Pb**	**21 32 43.0**	**+0.3**
	833nm,0.5s						
DZA				*e*S	**Sg**	**21 33 14.5**	**-0.2**
	4μm,0.3s						
DZA	**Taraz**	**2.28**	**49**	*e*P	**Pn**	**21 32 40.9**	**+1.7**
DZA				*e*S	**Sn**	**21 33 10.1**	**+2.7**
FRG	**Fergana**	**2.38**	**115**	P	**Pn**	**21 32 42.1**	**+1.6**
FRG				S	**Sb**	**21 33 14.2**	**+0.5**
DZET	**Dzherino**	**2.63**	**183**	PN	**Pn**	**21 32 45.7**	**+1.7**
GAR	**Garm**	**2.64**	**157**	Pn	**Pn**	**21 32 44.9**	**+0.7**
SIMJ	**Simiganj**	**2.77**	**179**		**Pn**	**21 32 47.6**	**+1.6**
DRK	**Karamyk**	**2.91**	**131**	Pn	**Pn**	**21 32 48.4**	**+0.3**
DRK	**Karamyk**	**2.91**	**131**	PN	**Pn**	**21 32 48.4**	**+0.3**
ARSB	**Arslanbob**	**3.02**	**91**		**Pn**	**21 32 49.5**	**+0.1**
ARSB	**Arslanbob**	**3.02**	**91**	PN	**Pn**	**21 32 49.5**	**+0.1**
OHH	**Osh**	**3.02**	**106**	PN	**Pn**	**21 32 49.7**	**+0.2**
TMD	**Tamdy-Bulak**	**3.27**	**277**	P	**Pn**	**21 32 54.8**	**+2.1**
TMD				S	**Sb**	**21 33 38.0**	**-1.4**
MRKS	**Merke**	**3.42**	**66**	Pg	**Pb**	**21 33 04.1**	**+1.9**
	460nm,0.6s						
MRKS				Lg	Lg	21 33 49.6	
	1μm,0.6s						
MRKS	**Merke**	**3.42**	**66**	*e*P	**Pb**	**21 33 04.1**	**+1.9**
	460nm,0.6s						
MRKS				*e*S	**Sg**	**21 33 49.6**	**-1.8**
	1μm,0.6s						
AML	**Almayashu**	**3.60**	**77**	P	**Pn**	**21 32 58.8**	**+1.2**
	SNR=105						
EKS2	**Erkin-Say**	**3.78**	**69**	P	**Pn**	**21 33 02.0**	**+2.1**
	SNR=42						
UCH	**Uchtor**	**4.21**	**77**	P	**Pg**	**21 33 20.1**	**-2.1**
	SNR=20						
AAK	**Ala-Archa**	**4.28**	**72**		**Pn**	**21 33 08.7**	**+1.9**
AAK	**Ala-Archa**	**4.28**	**72**	Pn	**Pn**	**21 33 08.2**	**+1.3**
	7.2nm,0.3s,baz=234,slow=5.1,SNR=74						
AAK				Sn	**Sn**	**21 34 00.8**	**+3.8**
	34nm,0.3s,baz=181,slow=15,SNR=5.1						
AAK				Lg	Lg	21 34 18.2	
	35nm,0.3s,baz=148,slow=14,SNR=6.7						
	36nm,0.6s						
AAK	**Ala-Archa**	**4.28**	**72**	P	**Pn**	**21 33 08.9**	**+2.1**
	SNR=42						
AAK	**Ala-Archa**	**4.28**	**72**	⇓Pn	**Pn**	**21 33 08.8**	**+1.9**
	35nm,0.7s						
AAK				⇓Pg	**Pb**	**21 33 20.2**	**+3.2**
	204nm,0.7s						
AAK				⇑Lg	Lg	21 34 19.4	
	1μm,1.2s						
AAK	**Ala-Archa**	**4.28**	**72**	*c i*PN	**Pn**	**21 33 09.0**	**+2.1**
AAK				pmax	pmax		
	comp=Z,29nm,0.6s						
AAK	**Ala-Archa**	**4.28**	**72**	*i* P	**Pn**	**21 33 09.0**	**+2.1**
	SNR=54						
FRU1	**Bishkek**	**4.42**	**70**		**Pn**	**21 33 10.8**	**+2.1**
FRU1	**Bishkek**	**4.42**	**70**	PN	**Pn**	**21 33 10.8**	**+2.1**
USP	**Ospenovka**	**4.49**	**64**	P	**Pn**	**21 33 11.2**	**+1.6**
	SNR=18						
CHMS	**Chumysh**	**4.57**	**68**	P	**Pn**	**21 33 12.2**	**+1.5**
	SNR=9.5						
CHMS	**Chumysh**	**4.57**	**68**	⇑Pn	**Pn**	**21 33 11.3**	**+0.7**
	comp=Z,12nm,0.6s						
CHMS				⇑Pg	**Pb**	**21 33 23.6**	**+1.9**
	comp=Z,151nm,0.6s						
CHMS				⇓Lg	Lg	21 34 28.7	
	comp=Z,435nm,0.8s						
CHMS	**Chumysh**	**4.57**	**68**	PN	**Pn**	**21 33 11.3**	**+0.7**
CHMS				PG	**Pb**	**21 33 23.6**	**+1.9**
KBK	**Karagaybulak**	**4.61**	**73**	P	**Pn**	**21 33 13.6**	**+2.2**
	SNR=26						
SGDS	**Sogindy**	**4.64**	**62**	Pg	**Pb**	**21 33 25.7**	**+2.7**
	comp=Z,57nm,0.4s						
SGDS				Lg	Lg	21 34 26.3	
	comp=Z,521nm,0.6s						
SGDS	**Sogindy**	**4.64**	**62**	*e*PN	**Pn**	**21 33 12.8**	**+1.1**
SGDS	**Sogindy**	**4.64**	**62**	*e*P	**Pn**	**21 33 12.8**	**+1.1**
TKM2	**Tokmak 2**	**5.14**	**71**	P	**Pn**	**21 33 19.9**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**5.14**	**71**	⇑Pn	**Pn**	**21 33 19.0**	**+0.3**
	comp=Z,13nm,0.5s						
TKM2				⇓Pg	**Pb**	**21 33 33.9**	**+2.3**
	comp=Z,128nm,0.6

KOTS *eS* **Sg** **21 35 22.9 -0.5**
comp=Z,747nm,0.8s
CHKK Chushkaly 6.38 65 Pg Pb 21 33 58.2 +5.5
comp=Z,30nm,1.0s
CHKK Lg Lg 21 35 22.3
comp=Z,266nm,0.7s
CHKK Chushkaly 6.38 65 *e*P Pb 21 33 58.2 +5.5
comp=Z,30nm,1.0s
CHKK *eS* **Sg** **21 35 22.3 -4.1**
comp=Z,266nm,0.7s
TARG Taragay, Kyrgy 6.63 85 **Pn** **21 33 40.4 +1.1**
TARG Taragay, Kyrgy 6.63 85 PN **Pn** **21 33 40.4 +1.1**
KBL Kabul 6.88 180 Pn **Pn** **21 33 43.8 +1.2**
KBL Kabul 6.88 180 PN **Pn** **21 33 43.8 +1.2**
ARXS Arharly 7.08 64 Pg Pb 21 34 10.5 +6.1
comp=Z,51nm,0.5s
ARXS Lg Lg 21 35 45.1
comp=Z,256nm,0.9s
KURS Kuram 7.10 70 Pg Pb 21 34 10.5 +5.6
comp=Z,35nm,1.1s
KURS Lg Lg 21 35 45.0
comp=Z,177nm,1.7s
KURS Kuram 7.10 70 *e*P Pb 21 33 58.2 -6.7
comp=Z,30nm,1.0s
KURS *eS* **Sb** **21 35 22.3 -7.5**
comp=Z,266nm,0.7s
SATY Saty 7.18 74 Pg Pg 21 34 13.4 -5.5
comp=Z,122nm,1.1s
SATY Lg Lg 21 35 49.4
comp=Z,299nm,1.1s
SATY Saty 7.18 74 *e*P **Pn** **21 33 48.3 +1.7**
SATY *eS* **Sn** **21 35 11.2 +2.9**
SATY Saty 7.18 74 *e*P **Pb** **21 34 10.5 +4.2**
comp=Z,51nm,0.5s
SATY *eS* **Sg** **21 35 45.1 -6.9**
comp=Z,256nm,0.9s
SATY Saty 7.18 74 *e*P **Pn** **21 33 48.3 +1.7**
SATY *eS* **Sn** **21 35 11.2 +2.9**
OTUK Ortayu 7.22 18 Pg **Pg** **21 34 15.6 -4.0**
comp=Z,9.3nm,0.5s
OTUK Lg Lg 21 35 53.3
comp=Z,93nm,1.1s
OTUK Ortayu 7.22 18 ⇑Pn **Pn** **21 33 49.0 +2.0**
comp=Z,26nm,0.5s
OTUK ⇑Sn **Sn** **21 35 12.9 +3.9**
comp=Z,54nm,0.8s
OTUK ⇑Lg Lg 21 35 53.4
comp=Z,209nm,0.8s
OTUK Ortayu 7.22 18 P **Pn** **21 33 49.0 +2.0**
KPKS Kokpek 7.46 71 Pg Pb 21 34 16.9 +5.8
comp=Z,108nm,1.1s
KPKS Lg Lg 21 35 56.4
comp=Z,24nm,0.6s
KPKS Kokpek 7.46 71 *e*P **Pn** **21 33 52.3 +1.9**
KPKS Kokpek 7.46 71 *e*P Pb 21 34 16.9 +5.8
comp=Z,108nm,1.1s
KPKS *eS* **Sg** **21 35 56.4 -4.4**
comp=Z,24nm,0.6s
KPKS Kokpek 7.46 71 *e*P **Pn** **21 33 52.4 +1.9**
BLB Baldybastay 7.48 66 Pg Pb 21 34 18.1 +6.7
comp=Z,123nm,0.5s
BLB Lg Lg 21 35 57.4
comp=Z,353nm,1.3s
UZB Uzynbulak 7.64 74 Pg Pb 21 34 20.6 +6.4
comp=Z,34nm,0.8s
UZB Lg Lg 21 36 01.7
comp=Z,79nm,1.4s
UZB Uzynbulak 7.64 74 *e*P **Pn** **21 33 54.9 +1.9**
UZB Uzynbulak 7.64 74 *e*P Pb 21 34 20.6 +6.4
comp=Z,34nm,0.8s
UZB *eS* **Sg** **21 36 01.7 -5.0**
comp=Z,79nm,1.4s
UZB Uzynbulak 7.64 74 *e*P **Pn** **21 33 54.9 +1.9**
WUS Wushi 7.71 88 Pn **Pn** **21 33 54.7 +0.7**
TDK Taldyqorghan 7.76 59 Pg Pg 21 34 24.5 -5.4
comp=Z,298nm,0.7s
TDK Lg Lg 21 36 08.3
comp=Z,638nm,0.8s
TDK Taldyqorghan 7.76 59 *e*P **Pn** **21 33 56.5 +2.1**
TDK Taldyqorghan 7.76 59 *e*P Pg 21 34 24.5 -5.4
comp=Z,298nm,0.7s
TDK *eS* **Sg** **21 36 08.3 -2.0**
comp=Z,638nm,0.8s
TDK Taldyqorghan 7.76 59 *e*P **Pn** **21 33 56.6 +2.1**
SHLS Shalkode 7.96 74 Pg **Pg** **21 34 31.2 -2.7**
comp=Z,75nm,0.7s
SHLS Lg Lg 21 36 19.0
comp=Z,109nm,0.6s
SHLS Shalkode 7.96 74 *e*P Pn 21 34 02.8 +5.5
SHLS Shalkode 7.96 74 *e*P **Pg** **21 34 33.1 -0.7**
comp=Z,26nm,0.9s
SHLS *eS* **Sg** **21 36 22.5 +5.6**
comp=Z,547nm,0.2s
SHLS Shalkode 7.96 74 *e*P Pn 21 34 02.9 +5.5
PDGK Podgornoye 8.01 73 ⇓Pn **Pn** **21 33 58.6 +0.6**
comp=Z,5.1nm,0.6s
PDGK ⇑Pg Pb 21 34 26.9 +6.5
comp=Z,80nm,0.8s
PDGK ⇓Lg Lg 21 36 15.7
comp=Z,125nm,0.8s
PDGK Podgornoye 8.01 73 P **Pn** **21 34 00.0 +2.0**
KNOS Konyrlen 8.04 65 Pg Pb 21 34 27.9 +7.0
comp=Z,43nm,0.9s
KNOS Lg Lg 21 36 14.2
comp=Z,107nm,0.7s
DJR Jarkent 8.45 66 Pg Pb 21 34 34.6 +6.7
comp=Z,19nm,0.9s
DJR Lg Lg 21 36 26.0
comp=Z,119nm,1.1s
DJR Jarkent 8.45 66 *e*P Pb 21 34 36.1 +8.2
comp=Z,19nm,0.9s
DJR *eS* **Sg** **21 36 27.7 -4.9**
comp=Z,71nm,1.1s
NIL Nilore 8.48 155 Pn **Pn** **21 34 05.2 +0.9**
NIL Nilore 8.48 155 P **Pn** **21 34 05.2 +0.9**
KAPS Kapalarasan 8.49 60 Pg Pg 21 34 36.5 -7.3
comp=Z,28nm,0.6s
KAPS Lg Lg 21 36 29.0
comp=Z,237nm,0.7s
KTMS Ketmen 8.65 73 *e*P Pg 21 34 41.4 -5.6
KTMS *eS* **Sg** **21 36 36.6 -2.4**
HRA Herat 8.82 219 Pn **Pn** **21 34 09.3 +0.1**
BRZS Berezniki 8.93 16 *e*P **Pn** **21 34 11.2 +0.7**
BRZS Berezniki 8.93 16 *e*P **Pg** **21 34 48.3 -4.1**
comp=Z,5.5nm,0.3s
BRZS *eS* **Sg** **21 36 48.6 +0.6**
comp=Z,36nm,0.6s
BRZS Berezniki 8.93 16 *e*P **Pn** **21 34 11.2 +0.7**
JMU Jammu 9.90 150 *e*P **Pn** **21 34 22.8 -1.0**
JMU *eS* Sn 21 36 03.7 -11
JMU IAML 21 36 19.1
comp=E,188nm,0.6s
JMU IAML 21 36 30.8
comp=E,162nm,1.0s
AB31 Akbulak array 10.07 324 ⇑Pn **Pn** **21 34 25.2 -0.9**
comp=E,12nm,0.6s,baz=145,slow=12,SNR=206
AB31 ⇑Sn **Sn** **21 36 18.4 -0.7**
comp=E,42nm,0.6s,baz=139,slow=22,SNR=4.5
AB31 ⇑Lg Lg 21 37 19.7
comp=E,39nm,0.6s
AB31 Akbulak array 10.07 324 P **Pn** **21 34 25.2 -0.9**
AB31 S **Sn** **21 36 18.4 -0.7**
ABKAR Akbulak array 10.07 324 Pn **Pn** **21 34 25.4 -0.8**
ABKAR Akbulak array 10.07 324 Pn **Pn** **21 34 25.3 -0.8**
MAKZ Makanchi 10.78 56 **Pn** **21 34 35.5 -0.3**
MAKZ Makanchi 10.78 56 P **Pn** **21 34 35.5 -0.3**
DHRM DHARAMSHALA 10.88 145 *e*P **Pn** **21 34 35.5 -1.9**
DHRM *eS* Sn 21 36 28.9 -10
DHRM IAML 21 36 38.3
comp=E,209nm,0.7s
DHRM IAML 21 36 39.8
comp=E,202nm,0.7s
MK31 Makanchi Array 10.97 56 Pn **Pn** **21 34 38.4 0.0**
MK31 Makanchi Array 10.97 56 Pn **Pn** **21 34 38.5 +0.1**
comp=E,9.6nm,0.5s,baz=241,slow=13,SNR=56
MK31 ⇑Lg Lg 21 37 55.9
comp=E,44nm,0.8s,baz=246,slow=23,SNR=3.5
MK31 Makanchi Array 10.97 56 *d i*P **Pn** **21 34 38.7 +0.3**
MKAR Makanchi Array 10.97 56 Pn **Pn** **21 34 38.7 +0.3**
MKAR Makanchi Array 10.97 56 Pn **Pn** **21 34 38.5 +0.1**
comp=E,0.3nm,0.3s,baz=244,slow=13,SNR=25
MKAR Lg Lg 21 37 52.8
comp=E,2.0nm,0.3s,baz=260,slow=33,SNR=5.3
MKAR LR LR 21 39 14.2
comp=E,224nm,18.3s,baz=267,slow=39
comp=E,7.0nm,0.9s

MKAR Makanchi Array 10.97 56 P **Pn** **21 34 38.7 +0.3**
KURBB Kurchatov Arra 11.33 33 Pn **Pn** **21 34 42.0 -1.3**
comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=17
KURBB Sn **Sn** **21 36 50.8 +1.0**
comp=E,0.1nm,0.3s,baz=7.0,slow=10.0,SNR=4.3
KURBB Lg Lg 21 38 00.5
comp=E,0.4nm,0.3s,baz=228,slow=33,SNR=5.2
comp=E,2.4nm,0.7s
KURBB Kurchatov Arra 11.33 33 ⇓Pn **Pn** **21 34 42.2 -1.1**
comp=E,11nm,0.8s
KURBB ⇓Lg Lg 21 38 06.1
comp=E,338nm,1.2s
KURBB Kurchatov Arra 11.33 33 P **Pn** **21 34 42.2 -1.1**
KURK Kurchatov 11.44 32 Pn **Pn** **21 34 43.5 -1.3**
KURK Kurchatov 11.44 32 ⇑Pn **Pn** **21 34 44.2 -0.6**
comp=E,11nm,1.1s
KURK ⇓Lg Lg 21 38 06.5
comp=E,257nm,1.5s
KURK Kurchatov 11.44 32 *de*P **Pn** **21 34 47.0 +2.2**
KURK pmax pmax
comp=Z,5.0nm,1.3s
BVA0 Borovoye Array 11.64 4 Pn **Pn** **21 34 46.4 -1.1**
comp=Z,13nm,0.8s,baz=171,slow=14,SNR=72
BVA0 ⇑Sn **Sn** **21 36 58.9 +1.4**
comp=Z,47nm,1.2s,baz=161,slow=25,SNR=3.7
BVA0 ⇑Lg Lg 21 38 11.8
comp=Z,64nm,0.9s,baz=174,slow=19,SNR=3.6
BVA0 Borovoye Array 11.64 4 P **Pn** **21 34 46.4 -1.1**
BVAR Borovoye Array 11.64 4 Pn **Pn** **21 34 46.8 -0.7**
comp=Z,0.2nm,0.3s,baz=178,slow=12,SNR=31
BVAR Sn **Sn** **21 36 56.2 -1.2**
comp=Z,0.5nm,0.3s,baz=184,slow=22,SNR=4.2
BVAR Lg Lg 21 38 12.8
comp=Z,0.3nm,0.3s,baz=172,slow=24,SNR=2.5
BVAR LR LR 21 39 36.8
comp=Z,300nm,19.0s,baz=190,slow=39
comp=Z,4.7nm,0.3s
BHK Bhakra 11.65 147 *e*P **Pn** **21 34 47.2 -0.6**
BHK *eS* Sn 21 36 47.7 -10
BHK IAML 21 36 58.2
comp=E,66nm,0.6s
BHK IAML 21 37 12.1
comp=E,61nm,0.2s
BRVK Borovoye 11.66 4 Pn **Pn** **21 34 47.1 -0.8**
BRVK Borovoye 11.66 4 ⇑Pn **Pn** **21 34 46.9 -1.0**
comp=E,14nm,0.8s
BRVK ⇓Sn **Sn** **21 36 59.1 +1.0**
comp=E,35nm,0.9s
BRVK ⇑Lg Lg 21 38 13.3
comp=E,103nm,1.2s
BRVK Borovoye 11.66 4 *ce*P **Pn** **21 34 47.2 -0.7**
AKTO Aktyubinsk 11.79 323 Pn **Pn** **21 34 49.9 +0.3**
comp=E,0.7nm,0.3s,baz=136,slow=14,SNR=6.9
AKTO Sn **Sn** **21 36 57.0 -4.2**
comp=E,5.4nm,0.3s,baz=15,slow=18,SNR=7.0
AKTO Lg Lg 21 38 17.1
comp=E,1.9nm,0.3s,baz=216,slow=17,SNR=1.3
comp=E,2.9nm,0.4s
AKTO Aktyubinsk 11.79 323 ⇑Pn **Pn** **21 34 48.9 -0.7**
comp=E,13nm,0.9s
AKTO ⇑Sn **Sn** **21 36 59.1 -2.0**
comp=E,42nm,1.2s
AKTO ⇓Lg Lg 21 38 15.2
comp=E,70nm,1.1s
SMLA Simla 12.21 145 *e*P **Pn** **21 34 52.2 -3.2**
SMLA *eS* Sn 21 36 57.4 -14
SMLA IAML 21 37 09.1
comp=E,98nm,0.6s
SMLA IAML 21 37 09.4
comp=E,97nm,1.4s
JOSI Joshimath 13.81 138 *e*P **Pn** **21 35 13.5 -4.0**
JOSI IAmb IAmb 21 35 23.3
comp=Z,41nm,0.6s
JOSI *eS* Sn 21 37 33.0 -18
WMQ Urumqi 13.99 74 *e*P **Pn** **21 35 21.0 +1.3**
WMQ pmax pmax
comp=Z,11nm,0.7s
JASL Jaisalmer 14.56 173 *e*P **Pn** **21 35 24.4 -3.1**
JASL IAmb IAmb 21 35 35.0
comp=Z,117nm,0.7s
JASL *eS* Sn 21 37 57.4 -12
KUDL Kundal 14.61 153 *e*P Pn 21 35 22.4 -5.8
KUDL IAmb IAmb 21 35 29.3
comp=Z,26nm,0.4s
KUDL *eS* Sn 21 37 54.9 -15
PTH Pithoragarh 14.96 139 *e*P Pn 21 35 26.9 -6.2
LGTI Lohaghat 15.06 139 *e*P Pn 21 35 26.5 -7.8
LGTI IAmb IAmb 21 35 46.3
comp=Z,25nm,1.1s
LGTI *eS* Sn 21 38 02.8 -18
LKRN Lenkeran, Azer 15.70 267 P **Pn** **21 35 42.7 +0.1**
MAK Makhachkala 15.98 283 *e*P **Pn** **21 35 41.9 -4.4**
MAK *eS* **Sn** **21 38 39.2 -4.3**
MAK pmax pmax
comp=Z,126nm,1.0s
MAK MLR MLR
comp=Z,232nm,11.0s
SVE Sverdlovsk 16.32 344 *e*P **Pn** **21 35 48.7 -1.9**
SVE *eS* **Sn** **21 38 48.0 -3.6**
SVE pmax pmax
comp=Z,32nm,1.3s
SEKA Sheki 16.36 276 P **Pn** **21 35 50.3 -0.9**
ZAA0 Zalesovo Array 16.40 35 **Pn** **21 35 51.6 +0.1**
ZALV Zalesovo Beam 16.40 35 **Pn** **21 35 51.7 +0.2**
ZALV Zalesovo Beam 16.40 35 Pn **Pn** **21 35 50.4 -1.1**
comp=Z,1.6nm,0.3s,baz=225,slow=10,SNR=35
ZALV Sn **Sn** **21 38 48.3 -5.1**
comp=Z,0.3nm,0.3s,baz=225,slow=14,SNR=1.6
ZALV Lg Lg 21 40 44.1
comp=Z,0.2nm,0.3s,baz=234,slow=20,SNR=2.6
ZALV LR LR 21 42 47.6
comp=Z,139nm,18.6s,baz=261,slow=39
comp=Z,1.6nm,0.4s
ZALV Zalesovo Beam 16.40 35 *i* P **P** **21 35 55.2 +0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.5s
ARTI Arti 16.48 339 **Pn** **21 35 51.5 -1.1**
ARTI Arti 16.48 339 Pn **Pn** **21 35 52.4 0.0**
comp=Z,1.1nm,0.3s,baz=144,slow=11,SNR=11
ARTI Sn **Sn** **21 38 47.3 -8.0**
comp=Z,0.8nm,0.3s,baz=192,slow=20,SNR=1.8
ARTI Lg Lg 21 40 46.7
comp=Z,0.5nm,0.3s,baz=323,slow=20,SNR=2.1
comp=Z,5.4nm,0.4s
ARTI Arti 16.48 339 P **Pn** **21 35 52.5 0.0**
ARTI S **Sn** **21 38 57.4 +2.1**
MNGR Mingechevir, A 16.51 275 P **Pn** **21 35 53.1 0.0**
GANJ Ganja 17.11 275 P **Pn** **21 36 00.5 -0.1**
JHNI Jhansi 17.79 151 *e*P **Pn** **21 36 04.8 -4.4**
NAX Nakhchivan 18.04 271 P **Pn** **21 36 12.2 -0.1**
GUNA GUNA 18.13 155 *e*P **Pn** **21 36 08.1 -5.3**
GUNA IAmb IAmb 21 36 14.2
comp=Z,44nm,1.1s
GUNA *eS* Sn 21 39 14.8 -21
GNI Garni 18.39 274 P **P** **21 36 16.8 +0.2**
GNI Garni 18.39 274 P **P** **21 36 17.2 +0.6**
comp=Z,0.6nm,0.3s,baz=84,slow=15,SNR=13
comp=Z,16nm,0.9s
GNI Garni 18.39 274 ⇑*e*P **Pn** **21 36 16.4 -0.2**
GNI pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 18.39 274 P **P** **21 36 18.5 +1.9**
GOF Gofitskoye 19.21 290 *ce*P **Pn** **21 36 32.3 +6.0**
KBZ Khabaz 19.32 286 P **P** **21 36 27.2 +0.6**
comp=Z,0.4nm,0.3s,baz=106,slow=11,SNR=20
KBZ S Sn 21 39 52.4 -12
comp=Z,4.6nm,0.9s,baz=273,slow=8.3,SNR=1.7
comp=Z,6.5nm,0.7s
KBZ Khabaz 19.32 286 *de*P **Pn** **21 36 29.9 +2.3**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KVAR Kislovodsk Arr 19.46 286 S Sn 21 39 55.6 -12
comp=Z,6.0nm,0.7s,baz=92,slow=6.0,SNR=2.7
KIV Kislovodsk 19.46 286 P **P** **21 36 28.8 +0.4**
KIV Kislovodsk 19.46 286 ⇓P **Pn** **21 36 32.6 +3.1**
KIV Kislovodsk 19.46 286 *e*P **Pn** **21 36 30.4 +0.9**
KIV *eS* **S** **21 40 10.3 +2.0**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 19.46 286 P **Pn** **21 36 32.3 +2.7**
BHPL Bhopal 19.47 156 *e*P **P** **21 36 27.7 -0.8**
BHPL IAmb IAmb 21 36 33.5
comp=Z,19nm,0.5s
SHA1 Shidzhatmaz 19.49 286 ⇑*e*P **P** **21 36 29.4 +0.6**
NAZ Nazwa, Dubai 19.78 218 P **Pn** **21 36 32.6 -0.8**
NRDN NARMADA NAGAR 19.89 157 *e*P **Pn** **21 36 34.2 -0.4**

NRDN IAmb IAmb 21 36 40.4
comp=N,12nm,0.8s
FAQ Al Faqa, Dubai 20.02 218 P **P** **21 36 35.2 +0.8**
WSAR Wadi Sarin 20.11 209 P **P** **21 36 35.1 -0.3**
comp=N,0.6nm,0.3s,baz=55,slow=7.7,SNR=9.6
comp=N,8.1nm,0.7s
GEVA Gevas 20.11 270 P **P** **21 36 35.1 -0.4**
ASUD Al Ashush, Dub 20.25 218 P Pn 21 36 38.2 -0.7
ALNE Al Ain 20.55 217 *i* P **P** **21 36 41.0 +0.8**
SNR=9.0
GOMU GeErMu 20.77 96 P **P** **21 36 42.3 -0.6**
GOMU pP pP 21 36 46.3 +0.5
GOMU sP sP 21 36 49.4 +2.2
GOMU pmax pmax
comp=N,5.0nm,0.6s
GURO Guroymak-BITLI 20.81 271 P **P** **21 36 42.3 -0.9**
LABN Labinsk 20.86 288 *e*P Pn 21 36 45.9 +0.1
LABN pmax pmax
comp=Z,84nm,1.1s
ERBR Yeremizino-Bor 21.03 291 *e*P **P** **21 36 46.9 +1.7**
ERBR *e**PP **sP** **21 36 49.8 +0.3**
ERBR *eS* Sn 21 40 43.3 -2.1
ERBR pmax pmax
comp=Z,80nm,0.9s
VRH Novokhopyorsk 21.10 307 *e*P **P** **21 36 46.5 +0.6**
VRH pmax pmax
comp=Z,31nm,0.6s
KIRV Kirov 21.14 331 P **P** **21 36 46.4 +0.1**
comp=Z,17nm,0.7s,baz=150,slow=6.0,SNR=5.4
comp=Z,17nm,0.7s
KIRV Kirov 21.14 331 *c i*P **P** **21 36 47.5 +1.2**
GTK Tadong 21.39 125 *e*P **P** **21 36 49.3 -0.1**
GTK IAmb IAmb 21 36 53.9
comp=Z,26nm,0.9s
VSLR Vesyoloye 21.41 285 ⇑*e*P **P** **21 36 49.6 +0.2**
VSLR pmax pmax
comp=Z,17nm,1.0s
LSA Lhasa 21.44 116 P **P** **21 36 49.4 -0.8**
LSA Lhasa 21.44 116 P **P** **21 36 50.1 -0.2**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 21.44 116 P **P** **21 36 49.4 -0.8**
LSA pmax pmax
comp=Z,16nm,0.8s
MZR Muzera 22.51 220 *i* P **P** **21 37 01.5 +0.2**
SNR=9.6
VORD Divnogorie 22.51 305 *e*P **P** **21 37 01.0 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
BOK Bokaro 22.56 136 IAmb IAmb 21 37 03.4
BOK *e*P **P** **21 37 05.7 +3.9**
comp=Z,64nm,0.7s
VSR Storozhevoye 22.65 306 *e*P **P** **21 37 01.0 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 22.74 307 *e*P **P** **21 37 07.3 +3.8**
VORR pmax pmax
comp=Z,17nm,0.8s
KNTI KHUNTI 22.86 138 IAmb IAmb 21 37 08.4
comp=Z,16nm,0.5s
KNTI *e*P **P** **21 37 09.1 +4.0**
LPSR Galich'ya Gora 23.16 309 *e*P **P** **21 37 08.9 +1.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
ANN Anapa 23.19 289 *e*P **P** **21 37 11.9 +3.6**
ANN pmax pmax
comp=Z,43nm,1.0s
GTA Gaotai 23.51 85 *e*P **P** **21 37 11.8 +0.2**
GTA pP pP 21 37 15.8 +1.1
GTA pmax pmax
comp=Z,6.0nm,0.7s
MOY Mondy 24.10 54 *e*P **P** **21 37 18.2 +1.0**
MOY pmax pmax
comp=Z,23nm,2.4s
SHL Shillong 24.70 123 P **P** **21 37 22.0 -0.9**
SHL IAmb IAmb 21 37 27.4
comp=Z,31nm,1.2s
SHL Shillong 24.70 123 P **P** **21 37 22.0 -0.9**
SHL pmax pmax
comp=Z,31nm,1.2s
GAZ Gaziantep 24.87 271 P **P** **21 37 24.4 +0.1**
GAZ IAmb IAmb 21 37 32.9
comp=Z,21nm,1.2s
MOS Moscow 24.93 316 *e*P **P** **21 37 27.5 +3.0**
MOS *e* 21 38 04.1
OBN Obninsk 25.27 314 P **P** **21 37 27.7 +0.1**
OBN IAmb IAmb 21 37 34.4
comp=Z,18nm,0.8s
OBN Obninsk 25.27 314 *i* P **P** **21 37 29.0 +1.4**
OBN *i* 21 38 09.7
OBN pmax pmax
comp=Z,24nm,1.2s
ZAK Zakamensk 25.30 58 *e*P **P** **21 37 28.9 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
SIM Simferopol' 25.54 290 *e*P P 21 37 37.7 +7.5
SIM MLR MLR
comp=Z,70nm,16.0s
KLMR Klimovskoe 26.45 327 *e*P **P** **21 37 42.4 +4.2**
KLMR pmax pmax
comp=Z,19nm,1.3s
RAYN Ar Rayn 26.53 235 P **P** **21 37 38.8 -0.6**
RAYN Ar Rayn 26.53 235 ⇑P **P** **21 37 40.4 +1.0**
RAYN Ar Rayn 26.53 235 P **P** **21 37 40.0 +0.7**
KIRS Kirsehir-Merke 26.74 277 ⇑P **P** **21 37 45.5 +4.3**
BR131 Keskin Array S 26.78 278 ⇑*i*P **P** **21 37 42.1 +0.4**
BRTR Keskin Array B 26.78 278 P **P** **21 37 41.8 +0.1**
BRTR Keskin Array B 26.78 278 P **P** **21 37 42.2 +0.5**
comp=Z,3.5nm,0.7s,baz=94,slow=8.4,SNR=5.7
comp=Z,3.5nm,0.7s
SONM Songino Array 27.19 64 P **P** **21 37 45.5 +0.3**
SONM Songino Array 27.19 64 P **P** **21 37 45.9 +0.6**
comp=Z,1.9nm,0.7s,baz=267,slow=10,SNR=22
comp=Z,1.9nm,0.7s
ANTO Ankara 27.38 279 ⇑P **P** **21 37 50.9 +4.0**
ANTO Ankara 27.38 279 ⇑P **P** **21 37 50.9 +4.0**
LZH Lanzhou 27.59 90 *e*P **P** **21 37 49.6 +0.7**
LZH sP sP 21 37 58.8 +5.4
LZH pmax pmax
comp=Z,14nm,1.1s
ULN Ulaanbaatar 27.63 64 P **P** **21 37 49.1 -0.1**
ULN Ulaanbaatar 27.63 64 *de*P **P** **21 37 50.2 +1.0**
ULN pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 28.79 302 P **P** **21 37 59.1 -0.2**
comp=Z,0.3nm,0.4s,baz=79,slow=8.2,SNR=4.3
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 28.79 302 *i* P **P** **21 37 59.7 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 28.79 302 ⇓*e*P **P** **21 38 01.7 +2.4**
KIEV Kiev 28.80 302 ⇓P **P** **21 38 03.7 +4.3**
KIEV Kiev 28.80 302 ⇓P **P** **21 38 03.7 +4.3**
TNCH TengChong 29.45 115 P **P** **21 38 09.1 +3.5**
TNCH pP sP 21 38 10.5 +0.4
TNCH sP pP 21 38 12.3 +3.5
TNCH PP **PnPn** **21 39 01.3 +1.9**
TNCH S **S** **21 43 03.8 +3.9**
TNCH sS sS 21 43 10.0 +4.9
TNCH pmax pmax
comp=Z,49nm,5.7s
TNCH LR LR
comp=Z,84nm,4.8s
TNCH LR LR
comp=Z,77nm,4.1s
TNCH LR LR
comp=Z,66nm,6.2s
MNK Minsk 30.00 310 *i* P **P** **21 38 13.3 +3.3**
comp=E,5.0nm,0.8s,baz=99
MNK *i* P **P** **21 38 13.3 +3.3**
comp=N,11nm,0.8s
MNK *i* P **P** **21 38 13.3 +3.3**
comp=Z,54nm,9.3s
MNK *i* PP PP 21 39 29.9 +12
MNK *i* PcP **PcP** **21 41 05.5 -6.5**
MNK *i* S **S** **21 43 12.4 +4.7**
MNK *i* PcS **PcS** **21 44 57.4 +2.3**
MNK *i* SS **ScP** **21 45 01.4 +7.3**
MNK *i* LQ LQ 21 47 29.8
MNK *i* LR LR 21 48 42.9
MNK *i* LRM MLR 21 51 31.6
comp=Z,58nm,9.9s
MNK *i* LRM MLR 21 52 00.3
comp=E,173nm,13.7s
MNK *i* LRM MLR 21 52 03.8

comp=N,217nm,16.4s
MNK Minsk 30.00 310 *i* P **P 21 38 13.3 +3.3**
MNK *i* 21 39 29.9
MNK *i* S **S 21 43 12.4 +4.7**
MNK *i* SS **ScP 21 45 01.3 +7.3**
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=N,11nm,0.8s
MNK MLR MLR
comp=Z,58nm,10.0s
MNK MLR MLR
comp=E,173nm,14.0s
MNK MLR MLR
comp=N,217nm,16.0s
VRI Vrincioaia 30.62 293 ⇓P P 21 38 20.8 +5.1
VRI Vrincioaia 30.62 293 ⇓P P 21 38 20.8 +5.1
PLOR Plostina 30.68 293 ⇑P P 21 38 20.9 +4.7
PLOR Plostina 30.68 293 ⇑P P 21 38 20.9 +4.7
NACGM Naroch 30.69 311 *e*P **P 21 38 16.8 +0.7**
baz=98
PZH PanZhiHua 30.77 109 P **P 21 38 19.8 +2.5**
PZH pmax pmax
comp=N,7.0nm,0.8s
PZH pmax pmax
comp=N,100nm,4.9s
MLR Muntele Rosu 31.22 292 ⇓P P 21 38 26.1 +5.1
MLR Muntele Rosu 31.22 292 ⇓P P 21 38 26.1 +5.1
HHC Hu-ho-hao-te 31.84 77 *e*P **P 21 38 28.6 +2.0**
HHC pmax pmax
comp=N,12nm,0.7s
HHC pmax pmax
comp=N,230nm,5.0s
ARR Arges 32.15 292 ⇑P **P 21 38 33.2 +4.0**
XAN Xi'an 32.22 90 ⇓P **P 21 38 30.1 +0.2**
XAN pmax pmax
comp=N,9.0nm,0.8s
FIA1 FINESS Array S 32.56 323 P **P 21 38 32.7 +0.3**
FINES FINESS Array B 32.56 323 P **P 21 38 32.7 +0.3**
FINES FINESS Array B 32.56 323 P **P 21 38 32.5 +0.1**
comp=N,1.8nm,0.3s,baz=119,slow=8.4,SNR=33
comp=N,1.8nm,0.3s
FINES FINESS Array B 32.56 323 P **P 21 38 32.7 +0.3**
BZS Buzias 34.20 293 ⇓P **P 21 38 50.5 +3.5**
BZS Buzias 34.20 293 ⇓P **P 21 38 50.5 +3.5**
CMAR Chiang Mai Arr 34.33 123 P **P 21 38 48.4 0.0**
CMAR Chiang Mai Arr 34.33 123 P **P 21 38 47.1 -1.3**
comp=N,0.7nm,0.9s,baz=307,slow=9.1,SNR=8.1
CMAR LR LR 21 55 35.5
comp=N,36nm,18.1s,baz=190,slow=41
comp=N,0.7nm,0.9s
CMAR Chiang Mai Arr 34.33 123 *i* P **P 21 38 50.0 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
GYA Guiyang 34.35 104 P **P 21 38 47.8 -0.8**
GYA pmax pmax
comp=Z,13nm,1.5s
XLT XiLinHaoTe 34.36 70 *e*P **P 21 38 49.3 +0.8**
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,210nm,5.3s
ENH Enshi 34.39 96 P **P 21 38 48.9 +0.1**
ENH IAmb IAmb 21 38 54.3
comp=Z,9.0nm,1.0s
HNS HongShan 35.24 81 ⇓P **P 21 38 57.3 +1.3**
HNS pmax pmax
comp=Z,7.0nm,1.0s
PALK Pallekele 35.58 160 P **P 21 38 57.7 -1.4**
PALK IAmb IAmb 21 40 12.0
comp=Z,15nm,1.4s
PALK Pallekele 35.58 160 P **P 21 38 57.7 -1.4**
PALK pmax pmax
comp=Z,15nm,1.4s
ARCES ARCESS Array B 36.00 336 P **P 21 39 02.4 +0.2**
ARCES ARCESS Array B 36.00 336 P **P 21 39 00.9 -1.3**
comp=Z,3.4nm,0.6s,baz=100,slow=7.3,SNR=19
comp=Z,3.4nm,0.6s
ARCES ARCESS Array B 36.00 336 P **P 21 39 02.4 +0.2**
ARCES pmax pmax
comp=Z,88nm,2.0s
PUK Puka 36.23 288 P **P 21 39 03.4 -1.1**
HFS Hagfors 38.27 318 P **P 21 39 20.0 -1.6**
comp=Z,2.9nm,0.3s,baz=105,slow=9.1,SNR=41
comp=Z,2.9nm,0.3s
GERES GERESS Array B 38.93 300 P **P 21 39 26.9 -0.5**
comp=Z,0.9nm,0.6s,baz=40,slow=10,SNR=3.6
comp=Z,0.9nm,0.6s
CLL Collm 38.99 304 *i* P **P 21 39 28.3 +0.6**
NORES NORESS Array B 39.37 319 P **P 21 39 31.2 +0.4**
NB2 NORSAR Subarra 39.55 320 P **P 21 39 32.6 +0.3**
comp=Z,7.3nm,0.8s,baz=93,slow=8.6
NB2 NORSAR Subarra 39.55 320 P **P 21 39 32.0 -0.3**
NOA NORSAR Array B 39.55 320 P **P 21 39 32.6 +0.3**
comp=Z,4.5nm,0.7s,baz=94,slow=8.3,SNR=10
comp=Z,4.5nm,0.7s
SABO M.te Sabotino 39.61 296 P **P 21 39 32.2 -0.8**
NJ2 Nanjing 40.57 87 *e*P **P 21 39 41.4 +0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HEH HeiHe 40.70 57 *e*P **P 21 39 43.0 +1.1**
HEH LR LR
comp=Z,310nm,8.6s
HEH LR LR
comp=Z,400nm,8.4s
HEH LR LR
comp=Z,550nm,9.9s
FDMO Fiordimonte 40.76 292 P **P 21 39 42.4 -0.2**
FDMO IAmb IAmb 21 40 18.4
comp=Z,16nm,1.2s
YAK Yakutsk 40.99 39 P **P 21 39 44.1 -0.1**
YAK Yakutsk 40.99 39 *e*P **P 21 39 44.3 +0.1**
YAK *e* 21 41 18.9
YAK *e*PPP PPP 21 41 46.6
YAK *e*S **S 21 45 55.5 -0.4**
YAK *e*SS **SS 21 48 59.5 +2.0**
YAK *e*SSS SSS 21 49 27.9
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,1.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,138nm,6.2s
YAK pmax pmax
comp=N,138nm,5.8s
YAK pmax pmax
comp=E,96nm,5.6s
YAK smax smax
comp=E,157nm,6.3s
YAK smax smax
comp=N,123nm,6.4s
SPITS Spitsbergen Ar 42.34 346 P **P 21 39 56.0 +1.0**
comp=N,3.0nm,0.6s,baz=122,slow=11,SNR=12
comp=N,3.0nm,0.6s
SPITS Spitsbergen Ar 42.34 346 P **P 21 39 56.5 +1.5**
SPITS pmax pmax
comp=Z,70nm,1.6s
KBS Kingsbay 43.46 346 P **P 21 40 05.3 +1.2**
KBS IAmb IAmb 21 40 22.8
comp=Z,24nm,1.1s
KBS Kingsbay 43.46 346 P **P 21 40 05.3 +1.2**
KBS pmax pmax
comp=Z,24nm,1.1s
KLR Kul'dur 43.67 58 LR LR 21 59 16.8
comp=Z,80nm,18.1s,baz=280,slow=37
KLR Kul'dur 43.67 58*de*P **P 21 40 06.9 +0.7**
KLR pmax pmax
comp=Z,2.0nm,0.9s
SENIN Lac Senin/Sane 43.73 298 P **P 21 40 06.5 -0.5**
BMRD Maredsous 44.30 304 *d*PP PP 21 41 53.4 -1.0
KSRS Korea Array 44.94 75 P **P 21 40 16.3 -0.2**
comp=Z,1.7nm,0.9s,baz=286,slow=4.5,SNR=4.1
comp=Z,1.7nm,0.9s
PSI Prapat 46.94 137 LR LR 22 03 08.4
comp=Z,124nm,18.6s,baz=157,slow=40
GSI Gunungsitoli 47.55 140 P **P 21 40 36.7 -0.5**
GSI Gunungsitoli 47.55 140 P **P 21 40 36.5 -0.7**
EKA Eskdalemuir Ar 47.72 313 P **P 21 40 37.7 -0.3**
comp=Z,5.8nm,0.7s,baz=86,slow=8.1,SNR=6.2
comp=Z,5.8nm,0.7s
JNU Nakatsue 49.03 79 LR LR 22 01 31.0
comp=Z,59nm,19.5s,baz=12,slow=36
DAG Danmarks Havn 49.56 342 P **P 21 40 53.0 +1.0**
DAG pmax pmax
comp=Z,11nm,0.9s
DAG Danmarks Havn 49.56 342 *i* P **P 21 40 52.0 0.0**
DAG IAmb IAmb 21 40 53.5
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 51.20 222 P **P 21 41 05.3 -0.1**
comp=Z,2.1nm,0.7s,baz=38,slow=8.8,SNR=7.8
comp=Z,2.1nm,0.7s
KMBO Kilima Mbogo 51.20 222 *i* P **P 21 41 07.0 +1.6**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
SEY Seymchan 51.27 36⇑*i*P **P 21 41 06.2 +1.2**
SEY pmax pmax
comp=Z,2.0nm,1.0s
YSS Yuzhno-Sakhali 51.38 57 *e*P **P 21 41 07.2 +1.1**
YSS pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 51.53 40⇓*e*P **P 21 41 06.6 -0.5**
MA2 pmax pmax
comp=Z,2.0nm,0.8s
KIBK Kibwezi 51.85 221 P **P 21 41 09.8 -0.2**
JGF Kuroka 52.57 73 P **P 21 41 14.8 -0.5**
MJAR Matsushiro Arr 52.73 71 P **P 21 41 16.0 -0.4**
comp=Z,5.9nm,0.9s,baz=303,slow=8.7,SNR=11
comp=Z,5.9nm,0.9s
ESDC Sonseca Array 53.88 294 P **P 21 41 24.6 -0.3**
comp=Z,1.4nm,0.7s,baz=51,slow=8.0,SNR=5.8
comp=Z,1.4nm,0.7s
MBAR Mbarara 54.29 230*ce*P **P 21 41 29.0 +0.8**
MBAR pmax pmax
comp=Z,9.0nm,2.5s
BILL Bilibino 54.91 27 P **P 21 41 32.5 +0.7**
BILL Bilibino 54.91 27⇓*e*P **P 21 41 32.7 +0.9**
BILL pmax pmax
comp=Z,6.0nm,1.3s
SUMG Summit 55.89 340 P **P 21 41 40.2 +0.8**
SUMG IAmb IAmb 21 41 45.5
comp=Z,12nm,1.0s
SUMG Summit 55.89 340 P **P 21 41 40.2 +0.8**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 55.89 340 *i* P **P 21 41 43.8 +4.5**
SUMG IAmb IAmb 21 41 45.9
comp=Z,12nm,0.9s
KULLO Kullorsuaq 58.91 345 *i* P **P 21 41 56.8 -3.3**
KULLO IAmb IAmb 21 42 00.7
comp=Z,9.0nm,0.9s
UPNV Upernavik 59.97 344 *i* P **P 21 42 06.8 -0.6**
UPNV IAmb IAmb 21 42 09.2
comp=Z,6.0nm,0.8s
C16K Lisburne Hills 63.35 20 P **P 21 42 30.4 +0.1**
C16K IAmb IAmb 21 42 35.5
comp=Z,5.8nm,0.9s
B20K Meade River 63.91 16 P **P 21 42 34.6 +0.7**
B20K IAmb IAmb 21 42 39.7
comp=Z,9.5nm,0.8s
C18K Utukok River 64.08 18 P **P 21 42 35.5 +0.3**
C18K IAmb IAmb 21 42 40.5
comp=Z,7.3nm,0.8s
B22K Teshekpuk Lake 64.38 15 P **P 21 42 37.3 +0.3**
TORD Torodi Ar. Bea 64.41 265 P **P 21 42 36.1 -2.0**
TORD Torodi Ar. Bea 64.41 265 P **P 21 42 37.8 -0.3**
comp=Z,3.8nm,0.6s,baz=46,slow=8.5,SNR=3.9
comp=Z,3.8nm,0.6s
B21K Ikpikpuk River 64.74 15 P **P 21 42 40.2 +0.9**
D19K Kuna River 64.91 17 P **P 21 42 40.7 +0.1**
D19K IAmb IAmb 21 42 45.9
comp=Z,8.6nm,0.8s
D22K Ayikyak River 65.75 15 P **P 21 42 46.5 +0.5**
D22K IAmb IAmb 21 42 47.8
comp=Z,9.8nm,1.0s
E21K Killik River 65.85 16 P **P 21 42 46.9 +0.2**
E21K IAmb IAmb 21 42 47.8
comp=Z,5.6nm,0.8s
VOI Vohitsoka 66.29 203 P **P 21 42 48.9 -1.2**
A36M Sachs Harbour 66.44 5 P **P 21 42 50.6 +0.3**
A36M IAmb IAmb 21 42 51.5
comp=Z,6.9nm,0.8s
D25K Kavik River 66.52 13 P **P 21 42 51.7 +0.7**
D25K IAmb IAmb 21 42 53.0
comp=Z,6.5nm,0.8s
C27K Jago River 66.68 12 P **P 21 42 52.7 +0.7**
C27K IAmb IAmb 21 42 58.2
comp=Z,7.3nm,1.1s
E24K Your Creek 67.24 14 P **P 21 42 55.9 +0.3**
E24K IAmb IAmb 21 43 01.2
comp=Z,5.2nm,0.7s
D27M Malcolm River 67.44 11 P **P 21 42 57.6 +0.8**
LSZ Lusaka 67.86 223 P **P 21 42 59.6 -0.6**
LSZ IAmb IAmb 21 43 00.6
comp=Z,3.1nm,0.7s
LSZ Lusaka 67.86 223 P **P 21 42 59.6 -0.6**
LSZ pmax pmax
comp=Z,3.0nm,0.7s
E28M Babbage River 68.23 11 P **P 21 43 02.7 +0.9**
E28M IAmb IAmb 21 43 41.3
comp=Z,11nm,1.6s
BMAR Burnt Mountain 68.52 13 P **P 21 43 04.4 +0.8**
C36M Paulatuk 69.12 5 P **P 21 43 07.1 -0.1**
INK Inuvik 69.29 9 P **P 21 43 08.8 +0.5**
INK IAmb IAmb 21 43 13.9
comp=Z,8.2nm,1.0s
INK Inuvik 69.29 9 P **P 21 43 08.8 +0.5**
INK pmax pmax
comp=Z,8.0nm,1.0s
COLA College 70.17 16*c i*P **P 21 43 14.9 +1.1**
COLA pmax pmax
comp=Z,10.0nm,0.9s
ILAR Eielson Array 70.46 15 P **P 21 43 15.4 -0.2**
ILAR Eielson Array 70.46 15 P **P 21 43 15.7 0.0**
comp=Z,2.7nm,0.8s,baz=328,slow=5.1,SNR=29
comp=Z,2.7nm,0.8s
G31M Satah River 70.52 10 P **P 21 43 16.3 +0.4**
G31M IAmb IAmb 21 43 21.1
comp=Z,7.7nm,1.1s
DAWY Dawson 72.47 13 P **P 21 43 28.0 +0.1**
DAWY IAmb IAmb 21 43 33.1
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 76.38 2 P **P 21 43 50.5 +0.1**
comp=Z,2.1nm,0.9s,baz=354,slow=6.0,SNR=22
comp=Z,2.1nm,0.9s
SCHQ Schefferville 76.95 336 P **P 21 43 54.5 +0.6**
comp=Z,3.4nm,0.8s,baz=4.6,slow=5.4,SNR=5.6
comp=Z,3.4nm,0.8s
LBTB Lobatse 77.37 220 P **P 21 43 56.5 -0.1**
LBTB Lobatse 77.37 220 P **P 21 43 56.5 -0.1**
LBTB pmax pmax
comp=Z,31nm,1.9s
PSA00 Pilbara Seismi 78.42 133 P **P 21 44 00.9 -1.5**
PSA00 IAmb IAmb 21 44 55.2
comp=Z,20nm,1.8s
FITZ Fitzroy Crossi 79.08 126 P **P 21 44 04.9 -1.2**
FCC Fort Churchill 79.18 351 P **P 21 44 06.3 +0.2**
FCC IAmb IAmb 21 44 11.5
comp=Z,5.9nm,1.0s
FCC Fort Churchill 79.18 351 P **P 21 44 06.3 +0.2**
FCC pmax pmax
comp=Z,6.0nm,1.0s
KNRA Kununurra 79.19 122 P **P 21 44 05.5 -1.3**
KNRA IAmb IAmb 21 45 05.5
comp=Z,19nm,1.4s
BOSA Boshof 80.58 218 P **P 21 44 12.9 -1.2**
BOSA Boshof 80.58 218 P **P 21 44 11.9 -2.3**
comp=Z,3.2nm,1.0s,baz=41,slow=9.3,SNR=3.0
comp=Z,3.2nm,1.0s
BOSA Boshof 80.58 218 P **P 21 44 12.9 -1.2**
BOSA pmax pmax
comp=Z,28nm,1.6s
MORW Morawa 82.54 140 P **P 21 44 22.8 -1.6**
FFC Flin Flon 83.90 355 P **P 21 44 31.1 -0.1**
FFC IAmb IAmb 21 44 36.6
comp=Z,8.1nm,1.1s
FFC Flin Flon 83.90 355 P **P 21 44 31.1 -0.1**
FFC pmax pmax
comp=Z,8.0nm,1.2s
BBB Bella Bella 85.59 10 LR LR 22 25 16.7
comp=Z,28nm,18.9s,baz=222,slow=37
WRA Warramunga Arr 85.91 121 P **P 21 44 40.0 -1.8**
comp=Z,3.4nm,0.9s,baz=327,slow=5.0,SNR=16
comp=Z,3.4nm,0.9s
WRA Warramunga Arr 85.91 121 P **P 21 44 40.0 -1.8**
WRAB Tennant Creek 85.91 121⇓*e*P **P 21 44 40.2 -1.5**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
WB2 Warramunga Arr 85.92 121 P **P 21 44 40.6 -1.2**
WB2 IAmb IAmb 21 44 41.4
comp=Z,6.5nm,1.0s
VLDQ Val d'Or 86.02 338 P **P 21 44 42.1 +0.1**
VLDQ IAmb IAmb 21 44 43.8
comp=Z,7.2nm,0.9s
ASAR Alice Springs 88.34 124 P **P 21 44 52.2 -1.3**
ASAR Alice Springs 88.34 124 P **P 21 44 52.4 -1.1**
comp=Z,1.5nm,0.9s,baz=314,slow=6.1,SNR=13
comp=Z,1.5nm,0.9s
EYMN Ely 89.34 347 P **P 21 44 57.5 -0.4**
EYMN IAmb IAmb 21 45 03.1
comp=Z,4.7nm,0.9s
PLID Pearl Lake 93.75 4 P **P 21 45 18.1 -0.6**
PLID IAmb IAmb 21 47 06.2
comp=Z,9.0nm,1.6s
PDAR Pinedale Array 96.17 359 P **P 21 45 29.5 -0.3**
comp=Z,0.5nm,0.8s,baz=342,slow=4.4,SNR=3.8
comp=Z,0.5nm,0.8s

ATH 13 21:36:00.6, 37°.72N×20°.58E, h16km±4km, ML2.0/7, Manual Solution by M.Papanikolaou First location: 2019/03/13 21:37:00, This location: 2019/03/13 22:10:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.16**	**35**	P		Pg	21 36 04.9	+0.2
ORTH				S		Sg	21 36 07.6	+0.1
LTHK	**Lithakia**	**0.20**	**93**	P		Pg	21 36 04.8	-0.6
LTHK				S		Sg	21 36 08.2	-0.3
KYPS	**Kipseli, Zakin**	**0.22**	**63**	P		Pg	21 36 05.8	+0.3
KYPS				S		Sb	21 36 09.5	-0.4
PSDA	**Pessada-Kefalo**	**0.39**	**0**	P		Pg	21 36 08.8	+0.1
PSDA				S		Sg	21 36 14.0	0.0
CLEM	**Kyllini,Ilia,G**	**0.47**	**69**	P		Pb	21 36 10.4	-0.1
CLEM				S		Sb	21 36 17.0	-0.2
DMLN	**Damoulianata-K**	**0.54**	**342**	P		Pg	21 36 11.4	0.0
FSK	**Fiskardo**	**0.74**	**359**	P		Pg	21 36 14.8	-0.2
RLS	**Riolos of Patr**	**0.78**	**64**	P		Pg	21 36 15.7	-0.1
AXS	**Araxos**	**0.79**	**53**	P		Pg	21 36 15.9	0.0
EVGI	**Lefkada island**	**0.90**	**4**	P		Pb	21 36 17.6	-0.4
AMT	**Artemida-Makis**	**0.92**	**101**	P		Pb	21 36 17.4	-0.7
DRO	**Drossia**	**0.92**	**75**	P		Pb	21 36 18.3	0.0
LKD2	**Lefkada island**	**1.07**	**3**	P		Pb	21 36 20.4	-0.4

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*IDC **13** 21:46:04.6±1.0, 30°.73S×71°.43W, h0km, mb4.0/5, mbtmp3.9/9, ML3.9/4, MS3.1/6, Error ellipse: s-maj=31.8km s-min=23.9km az=90.0*
*SJA **13** 21:46:05.8±2.0, 30°.74S×71°.67W, h10km, ML4.1, MW3.8*
*GUC **13** 21:46:10.9±0.8, 30°.71S×71°.41W, h42km±2km, ML4.1*
*NEIC **13** 21:46:11.1±1.9, 30°.69S±0°.03×71°.54W±0°.07, h41km±5km, mb4.4/10, Mwr4.0/35, Error ellipse: s-maj=9.2km s-min=4.5km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.99; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-1.13; $M_{r\theta}$0.32; $M_{\phi\phi}$0.28; $M_{\phi r}$-0.20; Fault plane solution: $M_0$1.17000×10^{15} NP1:ϕ_s152.16000°, δ53.93000°, λ69.45000°. NP2:ϕ_s4.64000°, δ40.82000°, λ115.73000°. Principal axes: T 1.0987, Plg72.0000°, Azm8.0000°; N 0.1230, Plg16.0000°, Azm165.0000°; P -1.2217, Plg7.0000°, Azm257.0000°;*
*NEIC **13** 21:46:11.4, 30°.70S×71°.45W, h44km*
ISC 13 21:46:10.7±0.7, 30°.69S±0°.03×71°.53W±0°.04, h45km±6km, n103, σ1^{s}47/117, mb4.2/9, MS3.1/3, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.10**	**278**	Pn		**Pn**	**21 46 18.4**	**+0.6**
CO06				Sn		**Sn**	**21 46 24.0**	**+1.0**
CO06	**Fray Jorge**	**0.10**	**278**	⇑*i*P		**Pn**	**21 46 18.4**	**+0.6**
CO06				*e*S		**Sn**	**21 46 23.9**	**+1.0**
CO06				IAML			21 46 24.5	
comp=N,69μm,0.2s								
CO03	**El Pedregal**	**0.74**	**102**	Pn		**Pn**	**21 46 24.0**	**-0.8**
CO03				Sn		**Sn**	**21 46 33.4**	**-1.7**
CO03	**El Pedregal**	**0.74**	**102**	⇓*i*P		**Pn**	**21 46 24.0**	**-0.8**
CO03				*e*S		**Sn**	**21 46 33.6**	**-1.5**
CO03				IAML			21 46 35.1	
comp=E,9μm,0.3s								
CO03	**El Pedregal**	**0.74**	**102**	*i* P		**Pn**	**21 46 23.2**	**-1.6**
CO03				*e*P			21 46 24.0	
CO03				*e*S		**Sn**	**21 46 33.0**	**-2.1**
CO03				IAML			21 46 33.9	
comp=Z,7μm,1.0s								
GO04	**Tololo Observa**	**0.81**	**51**			**Pn**	**21 46 25.8**	**-0.2**
GO04				Sn		**Sn**	**21 46 36.8**	**-0.3**
GO04	**Tololo Observa**	**0.81**	**51**	⇓*i*P		**Pn**	**21 46 25.8**	**-0.2**
GO04				*e*S		**Sn**	**21 46 37.2**	**+0.1**
GO04				IAML			21 46 42.4	
comp=N,20μm,0.5s								
GO04	**Tololo Observa**	**0.81**	**51**	*i* P		**Pn**	**21 46 25.0**	**-0.9**
GO04				⇓*e*S		**Sn**	**21 46 36.9**	**-0.1**
GO04				IAML			21 46 46.5	
comp=Z,5μm,0.3s								
CO01	**Juntas del Tor**	**1.43**	**61**	Pn		**Pn**	**21 46 35.0**	**+0.6**
CO01				Sn		**Sn**	**21 46 52.8**	**+0.8**
CO01	**Juntas del Tor**	**1.43**	**61**	⇓*i*P		**Pn**	**21 46 35.0**	**+0.6**
CO01				*e*S		**Sn**	**21 46 51.4**	**-0.7**
CO01				IAML			21 46 57.4	
comp=N,3μm,0.3s								
CO01	**Juntas del Tor**	**1.43**	**61**	*i* P		**Pn**	**21 46 34.4**	**0.0**
CO01				IAML			21 46 57.1	
comp=Z,1μm,0.2s								
LCO	**Las Campanas**	**1.82**	**23**	Pn		**Pn**	**21 46 40.6**	**+0.8**
LCO				Sn		**Sn**	**21 47 03.3**	**+1.6**
LCO	**Las Campanas**	**1.82**	**23**	⇓*i*P		**Pn**	**21 46 40.7**	**+1.0**
LCO				*e*S		**Sn**	**21 47 03.2**	**+1.5**
LCO	**Las Campanas**	**1.82**	**23**	*i* P		**Pn**	**21 46 40.0**	**+0.3**
LCO				*e*S		**Sn**	**21 47 08.3**	**+6.6**
LCO				IAML			21 47 12.4	
comp=Z,2μm,0.7s								
AROD	**Rodeo**	**1.85**	**74**	*i* P		**Pn**	**21 46 42.6**	**+2.4**
VA06	**Catapilco**	**1.88**	**174**	Pn		**Pn**	**21 46 40.7**	**+0.4**
VA06				Sn		**Sn**	**21 47 04.6**	**+1.8**
VA06	**Catapilco**	**1.88**	**174**	*e*P		**Pn**	**21 46 40.8**	**+0.4**
VA06				*e*S		**Sn**	**21 47 03.9**	**+1.1**
VA06				IAML			21 47 19.6	
comp=N,4μm,0.5s								
ACCO	**Cerro Coronel**	**2.12**	**88**	*i* P		**Pn**	**21 46 46.6**	**+2.6**
RTLS	**Leoncito**	**2.21**	**121**	*i* P		**Pn**	**21 46 45.8**	**+0.6**
RTLS				IAML			21 47 21.1	
comp=Z,2μm,0.4s								
VA03	**San Esteban**	**2.23**	**158**			**Pn**	**21 46 45.9**	**+0.6**
VA03				Sn		**Sn**	**21 47 14.2**	**+2.6**
VA03	**San Esteban**	**2.23**	**158**	*e*P		**Pn**	**21 46 46.1**	**+0.8**
VA03				*e*S		**Sn**	**21 47 13.1**	**+1.4**
VA03				IAML			21 47 25.7	
comp=E,4μm,0.2s								
VA03	**San Esteban**	**2.23**	**158**	*i* P		**Pn**	**21 46 45.5**	**+0.2**
VA03				IAML			21 47 26.2	
comp=Z,2μm,0.7s								
ROCH	**El Roble**	**2.32**	**169**	*e*P		**Pn**	**21 46 47.1**	**+0.5**
ROCH				*e*S		**Sn**	**21 47 15.6**	**+1.6**
ROCH				IAML			21 47 22.1	
comp=N,2μm,0.4s								
VA01	**Torpederas**	**2.33**	**183**	Pn		**Pn**	**21 46 46.2**	**-0.4**
AC04	**Llanos de Chal**	**2.50**	**9**	Pn		**Pn**	**21 46 49.5**	**+0.5**
AC04	**Llanos de Chal**	**2.50**	**9**	*e*P		**Pn**	**21 46 50.0**	**+1.0**
AC04				IAML			21 47 30.4	
comp=N,770nm,0.7s								
AC04	**Llanos de Chal**	**2.50**	**9**	*i* P		**Pn**	**21 46 49.7**	**+0.7**
AC04				IAML			21 47 31.0	
comp=Z,646nm,0.6s								
PEL	**Peldehue**	**2.55**	**164**			**Pn**	**21 46 50.4**	**+0.8**
PEL	**Peldehue**	**2.55**	**164**	*e*P		**Pn**	**21 46 50.6**	**+1.0**
PEL				IAML			21 47 32.9	
comp=E,1μm,0.3s								
MT02	**Curacav**	**2.59**	**173**	Pn		**Pn**	**21 46 50.2**	**+0.1**
MT02	**Curacav**	**2.59**	**173**	*i* P		**Pn**	**21 46 50.0**	**-0.1**
MT02				IAML			21 47 35.1	
comp=Z,699nm,0.3s								
MT05	**Renca**	**2.78**	**166**	Pn		**Pn**	**21 46 53.4**	**+0.6**
FCH	**Farellones**	**2.83**	**159**	*e*P		**Pn**	**21 46 55.2**	**+1.4**
FCH				IAML			21 47 38.1	
comp=N,596nm,0.4s								
MT16	**CCHEN**	**2.86**	**163**			**Pn**	**21 46 54.5**	**+0.6**
AGUA	**GUANDACOL**	**2.89**	**66**	*i* P		Pn	21 46 58.9	+4.6
AGUA				IAML			21 47 40.6	

```
     comp=Z,822nm,0.4s
MT03 Universidad Ad   2.93 163          Pn      Pn  21 46 55.8 +1.0
VA05 Santo Domingo    2.96 181          Pn      Pn  21 46 54.8 -0.4
CFA  Coronel Fontan   2.96 109  Pn      Pn      Pn  21 46 57.2 +1.9
     comp=Z,47nm,0.3s,baz=295,slow=14,SNR=50
CFA                            Sn      Sn      Sn  21 47 35.7 +6.1
     comp=Z,86nm,0.3s,baz=110,slow=19,SNR=13
MT08 Bocatoma Ro      3.03 155          Pn      Pn  21 46 58.7 +2.3
ARCO CERRO ARCO       3.08 135 i P      Pn      Pn  21 47 00.5 +3.5
ARCO                           IAML                  21 47 57.7
     comp=Z,405nm,1.0s
MT09 Talagante        3.11 172          Pn      Pn  21 46 58.1 +0.6
MT01 Popeta           3.18 176          Pn      Pn  21 46 58.5 +0.3
MT01 Popeta           3.18 176 i P      Pn      Pn  21 46 57.8 -0.4
MT01                           IAML                  21 48 01.6
     comp=Z,347nm,0.4s
MT13 San Alfonso      3.22 161          Pn      Pn  21 47 00.0 +1.1
AAGR Agrelo           3.31 137 i P      Pn      Pn  21 47 03.4 +3.2
AAGR                           IAML                  21 48 08.2
     comp=Z,356nm,0.6s
LMEL Las Melosas      3.34 161          Pn      Pn  21 47 02.1 +1.5
LMEL Las Melosas      3.34 161 i P      Pn      Pn  21 47 01.9 +1.3
LMEL                           IAML                  21 47 50.2
     comp=Z,384nm,0.6s
BO04 La Punta         3.38 167          Pn      Pn  21 47 01.5 +0.5
BO04 La Punta         3.38 167 eP       Pn      Pn  21 47 01.8 +0.7
BO04                           eS      Sn      Sn  21 47 40.6 +0.7
BO04                           IAML                  21 47 55.2
     comp=E,796nm,0.5s
AC06 Mina Casimiro    3.47  17  Pn      Pn      Pn  21 47 03.1 +0.8
VCA  Vinchina         3.48  57 i P      Pn      Pn  21 47 06.2 +3.6
VCA                            IAML                  21 47 59.1
     comp=Z,1μm,0.5s
BO01 Tunca            3.71 174  Pn      Pn      Pn  21 47 05.3 -0.2
BO01 Tunca            3.71 174 i P      Pn      Pn  21 47 05.1 -0.4
BO01                           IAML                  21 48 08.9
     comp=Z,228nm,0.5s
BO03 Pichilemu        3.82 185          IAML        21 48 13.5
     comp=E,177nm,0.7s
BO02 Sierra Bellavi   4.14 171          Pn      Pn  21 47 12.1 +0.6
BO02 Sierra Bellavi   4.14 171 i P      Pn      Pn  21 47 11.5  0.0
BO02                           IAML                  21 48 15.3
     comp=Z,378nm,0.5s
ACLC CERRO LA CRUZ    4.16  74 i P      Pn      Pn  21 47 14.0 +2.2
ACLC                           IAML                  21 48 11.5
     comp=Z,384nm,0.9s
AC02 Maricunga        4.38  29          Pn      Pn  21 47 15.2 +0.1
AC02 Maricunga        4.38  29 i P      Pn      Pn  21 47 17.0 +1.9
AC02                           IAML                  21 48 29.3
     comp=Z,188nm,0.9s
AC01 Pan de Azucar    4.59  10          Pn      Pn  21 47 16.8 -0.9
RFA  San Rafael       4.82 148 i P      Pn      Pn  21 47 21.0 +0.2
RFA                            IAML                  21 48 47.6
     comp=Z,76nm,0.5s
ML02 Panimavida       5.06 179          Pn      Pn  21 47 25.5 +1.4
GO02 Mina Guanaco     5.76  18  Pn      Pn      Pn  21 47 33.5 -0.5
BI02 San Fabin de     5.96 178          Pn      Pn  21 47 36.3 -0.2
PB14 IPOC Station P   6.12  10          Pn      Pn  21 47 38.8 -0.1
BI05 Punta Hualpn     6.20 192  Pn      Pn      Pn  21 47 38.1 -1.5
H03N1 Juan Fernandez  6.84 244  Pn      Pn      Pn  21 47 48.3 +0.1
     baz=114,slow=18
H03N1                          T       T           21 54 45.1
     baz=69,slow=72,SNR=2379
VA04 Juan Fernndez    6.86 243  Pn      Pn      Pn  21 47 48.0 -0.7
H03N2 Juan Fernandez  6.86 244  Pn      Pn      Pn  21 47 48.4  0.0
     baz=114,slow=18
H03N2                          T       T           21 54 42.7
     baz=69,slow=72,SNR=2531
H03N3 Juan Fernandez  6.86 244  Pn      Pn      Pn  21 47 48.3 -0.2
     baz=114,slow=18
H03N3                          T       T           21 54 44.4
     baz=69,slow=72,SNR=2056
H03S3 Juan Fernandez  6.99 241  Pn      Pn      Pn  21 47 49.5 -0.8
     baz=37,slow=19
H03S1 Juan Fernandez  7.00 241  Pn      Pn      Pn  21 47 49.1 -1.2
     baz=37,slow=19
H03S2 Juan Fernandez  7.01 241  Pn      Pn      Pn  21 47 49.4 -1.1
     baz=37,slow=19
PB09 IPOC Station P   9.09  14  Pn      Pn      Pn  21 48 20.9 +1.4
PLCA Paso Flores     10.05 176  Pn      Pn      Pn  21 48 31.1 -1.4
     comp=Z,0.1nm,0.3s,baz=358,slow=13,SNR=4.6
PLCA                           LR      LR          21 52 41.7
     comp=Z,84nm,19.7s,baz=282,slow=40
     comp=Z,1.6nm,0.8s
TRQA Tornquist       10.78 136          Pn      Pn  21 48 41.5 -0.9
CPUP Villa Florida   13.21  74  Pn      Pn      Pn  21 49 15.6 -0.1
CPUP Villa Florida   13.21  74  Pn      Pn      Pn  21 49 12.8 -2.9
     comp=Z,0.3nm,0.3s,baz=238,slow=8.5,SNR=3.5
CPUP                           Sn      Sn      Sn  21 51 44.1 +2.9
     comp=Z,0.3nm,0.3s,baz=75,slow=14,SNR=2.3
CPUP                           LR      LR          21 54 48.3
     comp=Z,50nm,18.3s,baz=229,slow=40
     comp=Z,0.6nm,0.4s
LPAZ La Paz          14.67  13  Pn      Pn      Pn  21 49 36.0 +0.1
LPAZ La Paz          14.67  13  Pn      Pn      Pn  21 49 35.1 -0.9
     comp=Z,0.2nm,0.3s,baz=177,slow=6.9,SNR=7.1
LPAZ                           LR      LR          21 55 39.1
     comp=Z,44nm,20.7s,baz=174,slow=39
     comp=Z,2.9nm,0.9s
SIV  San Ignacio     17.48  36  P       P       P   21 50 11.5 -0.5
     comp=Z,0.1nm,0.3s,baz=216,slow=8.5,SNR=15
     comp=Z,2.5nm,0.5s
EFI  East Falkland   23.21 158  P       P       P   21 51 13.1 -0.5
EFI                            IAmb    IAmb        21 51 17.7
     comp=Z,18nm,1.1s
BDFB Brasilia        26.22  60  P       P       P   21 51 39.9 -1.7
BDFB Brasilia        26.22  60  P       P       P   21 51 40.7 -0.9
     comp=Z,2.7nm,0.6s,baz=246,slow=13,SNR=4.8
BDFB                           LR      LR          22 04 32.9
     comp=Z,39nm,18.3s,baz=322,slow=42
     comp=Z,2.7nm,0.6s
BOAV Boa Vista       34.53  20  P       P       P   21 52 54.4 -0.5
BOAV                           IAmb    IAmb        21 52 55.9
     comp=Z,2.0nm,0.7s
MDP  Montagnes des   39.91  30  LR      LR          22 11 42.8
     comp=Z,26nm,18.6s,baz=99,slow=38
JTS  Las Juntas de   42.74 340  LR      LR          22 09 09.2
     comp=Z,52nm,19.4s,baz=118,slow=32
SNAA Sanae           54.49 159  P       P       P   21 55 33.2 -0.3
SNAA                           IAmb    IAmb        21 55 54.2
     comp=Z,4.1nm,1.1s
SNAA Sanae           54.49 159  P       P       P   21 55 33.3 -0.2
     comp=Z,1.7nm,0.7s,baz=276,slow=8.9,SNR=7.6
     comp=Z,1.7nm,0.7s
TXAR Lajitas Array   67.08 330  P       P       P   21 57 00.8 +1.2
     comp=Z,0.5nm,0.5s,baz=143,slow=6.9,SNR=1.8
     comp=Z,0.5nm,0.5s
ACSO Alum Creek Sta  71.36 351  P       P           21 57 25.2 -0.5
DBIC Dimbokro        73.72  72  P       P           21 57 39.7 -0.6
DBIC Dimbokro        73.72  72  P       P           21 57 40.4  0.0
     comp=Z,2.5nm,0.4s,baz=219,slow=6.7,SNR=8.4
     comp=Z,2.5nm,0.4s
ECSD EROS Data Cent  77.54 342  P       P       P   21 58 01.9 +0.3
ECSD                           IAmb    IAmb        21 58 03.8
     comp=Z,5.3nm,1.0s
PDAR Pinedale Array  81.02 333  P       P       P   21 58 21.9 +1.1
     comp=Z,0.2nm,0.7s,baz=162,slow=4.9,SNR=2.1
     comp=Z,0.2nm,0.7s
BOSA Boshof          81.23 118  P       P           21 58 21.7 -0.7
TORD Torodi Ar. Bea  82.67  70  P       P           21 58 30.1 +0.2
TORD                           IAmb    IAmb        21 58 31.2
     comp=Z,1.0nm,0.6s
H11S2 WAKE ISLAND Hyl26.19 271  T       T           00 23 56.2
     baz=115,slow=75,SNR=78
H11S1 WAKE ISLAND Hyl26.20 271  T       T           00 23 56.2
     baz=115,slow=75,SNR=94
H11S3 WAKE ISLAND Hyl26.21 271  T       T           00 23 56.1
     baz=115,slow=75,SNR=70
BVAR Borovoye Array 144.52  40  PKP     PKPdf       22 05 41.3 -0.4
     comp=Z,2.2nm,0.5s,baz=299,slow=2.1,SNR=24
ZALV Zalesovo Beam  151.17  29  PKPbc   PKiKP       22 05 58.8 -0.3
     comp=Z,4.5nm,0.5s,baz=307,slow=3.4,SNR=21
MKAR Makanchi Array 154.17  44  PKPbc   PKiKP       22 06 05.6 +0.1
     comp=Z,0.4nm,0.8s,baz=331,slow=2.1,SNR=3.4
```

IDC 13 21:49:57.4±9.2, 18°.68S×179°.22E, h365km±37km, mb3.5/4, mbtmp4.2/4, Error ellipse: s-maj=209.2km s-min=82.1km az=89.0, Fiji Islands

```
Code Station Name     Δ°   AZ°   Phase ID        Time      Res
                                Op      ISC     h m s     ISC
MSVF Nonsavu         1.46 310   P       Pn      21 50 46.8 -0.1
     12nm,0.5s,baz=153,slow=5.7,SNR=23
STKA Stephens Creek 36.28 241   P       P       21 56 27.8 +0.1
     3.7nm,0.7s,baz=91,slow=9.2,SNR=11
     3.7nm,0.7s
```

```
WRA  Warramunga Arr  42.28 261   P       P       21 57 17.0 +0.1
     0.6nm,0.4s,baz=97,slow=7.8,SNR=5.9
     0.6nm,0.4s
ASAR Alice Springs   42.41 255   P       P       21 57 17.9  0.0
     4.1nm,0.6s,baz=90,slow=8.5,SNR=101
     4.1nm,0.6s
FITZ Fitzroy Crossi  50.68 262   P       P       21 58 20.6 -0.8
     1.8nm,0.5s,baz=114,slow=5.6,SNR=8.1
     1.8nm,0.5s
```

CNRM 13 22:22:38.5, 32°.38N×7°.29W, h9km, ML2.5
MDD 13 22:22:38.8±0.6, 32°.40N×7°.11W, h16km±6km, Mb4.0/4, M_mb3.4/1, Error ellipse: s-maj=6.8km s-min=4.5km az=96.0
INMG 13 22:22:40.1±1.5, 32°.44N×7°.42W, h17km±7km, ML2.3, Error ellipse: s-maj=9.0km s-min=3.2km az=90.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Morocco

ISC 13 22:22:38.4±0.9, 32°.50N±0°.03×7°.31W±0°.04, h10km, n33, σ2§23/37, 4C, Morocco

```
Code Station Name     Δ°   AZ°   Phase ID        Time      Res
                                Op      ISC     h m s     ISC
AVE  Averroes        0.80 354   P       Pg      22 22 55.7 +1.8
AVE  Averroes        0.80 354   S       Sb      22 23 09.1 +3.6
ZHG  ZHG             1.10  31   P       Pb      22 22 58.8 -0.8
ZHG  ZHG             1.10  31   S       Sg      22 23 13.5 -0.5
TIO  Tiouine         1.56 178   P       Pn      22 23 05.2 -1.3
TIO  Tiouine         1.56 178   S       Sn      22 23 25.3 -1.5
OUZM OUZ             1.65 163   P       Pn      22 23 06.0 -1.6
OUZM OUZ             1.65 163   S       Sn      22 23 29.3 +0.4
EAH  EAH             2.10 247   P       Pn      22 23 14.0 +0.3
EAH  EAH             2.10 247   S       Sn      22 23 40.9 +1.0
GOLM Goulmima        2.15 111   P       Pn      22 23 14.4 -0.1
GOLM Goulmima        2.15 111   S       Sn      22 23 42.0 +0.6
TTIG Tnine Tigouga,  2.17 207   P       Pn      22 23 13.5 -1.2
TTIG Tnine Tigouga,  2.17 207   S       Sn      22 23 40.8 -0.9
MD31 MD31            2.19  80   P       Pn      22 23 15.7 +0.8
MD31 MD31            2.19  80   S       Sn      22 23 42.7 +0.6
TZRR Tazzarine       2.26 138   P       Pn      22 23 14.7 -1.3
TZRR Tazzarine       2.26 138   S       Sn      22 23 43.2 -0.8
MDT  Midelt          2.31  81   P       Pn      22 23 16.8 +0.2
MDT  Midelt          2.31  81   S       Sn      22 23 46.0 +1.0
ZGR  Zagora          2.78 148   P       Pn      22 23 22.5 -0.6
ZGR  Zagora          2.78 148   S       Sn      22 23 55.5 -1.2
AKLM AKL             3.51  54   P       Pn      22 23 33.3 +0.2
PBDV Barranco-do-Ve  4.76 354   eP      Pn      22 23 51.1 +0.8
PBDV                            eS      Sn      22 24 41.7 -3.9
PVAQ Vaqueiros       4.91 356   eS      Sn      22 24 47.0 -2.1
EGRO El Granado      5.03 358   Pn      Pn      22 23 55.1 +1.3
EGRO                            ⇑iVmb_V         22 23 57.5
     145nm,SNR=0.9
EGRO                            Sn      Sn      22 24 48.2 -3.9
PCVE Castro Verde    5.16 354   eP      Pn      22 23 56.5 +0.9
PCVE                            eS      Sn      22 24 51.7 -3.6
PCVE                            i AML   AML     22 24 53.5
PCVE                            i AML   AML     22 24 54.0
PTEO Sao Teotonio    5.17 347   eP      Pn      22 23 57.1 +1.3
PTEO                            eS      Sn      22 24 54.6 -0.9
MESJ Messejana       5.38 352   eS      Sn      22 24 58.7 -2.1
ECAB El Cabril       5.78  15   Pn      Pn      22 24 06.2 +2.0
ECAB                            ⇑iVmb_V         22 24 08.0
     91nm,SNR=0.9
ECAB                            Sn      Sn      22 25 05.2 -5.4
EADA Adamuz          6.08  21 ⇑iVmb_V            22 24 09.2
     62nm,SNR=0.6
EADA                            Sn      Sn      22 25 12.0 -6.1
EBAD Badajoz         6.25   2 ⇑iVmb_V            22 24 11.0
     122nm,SNR=1.0
EBAD                            Sn      Sn      22 25 19.5 -2.7
PSIM Granatula de C  6.94  24   Sn      Sn      22 25 32.2 -7.1
```

NAO 13 22:28:20.9±1.3, 77°.98N×20°.58E, h20km±10km, ML3.4
KOLA 13 22:28:20.9, 77°.99N×20°.24E, h0km, ML2.9, Error ellipse: s-maj=13.5km s-min=7.5km az=80.0, Storfjorden zone
FCIAR 13 22:28:22.0, 78°.14N×20°.03E, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.60

BER 13 22:28:22.8±2.9, 78°.05N×20°.61E, h17km±8km, ML2.7, ML3.4(NAO), 1D, Confirmed Earthquake, Svalbard region

```
Code Station Name     Δ°   AZ°   Phase ID        Time      Res
                                Op      ISC     h m s     ISC
SPA0 Spitsbergen Ar  0.89 280   Pg      Pb      22 28 38.0 -1.8
     baz=103,slow=22
SPA0                            Sg      Sb      22 28 49.0 -2.3
     baz=101,slow=37
SPA0 Spitsbergen Ar  0.89 280   Pg      Pb      22 28 38.0 -1.8
     baz=103,slow=22
SPA0                            Lg      Lg      22 28 49.0
     baz=101,slow=37
SPA0 Spitsbergen Ar  0.89 280   eP      Pb      22 28 38.7 -1.0
SPA0                            eS      Sb      22 28 48.6 -2.7
SPITS Spitsbergen Ar 0.89 280   P       Pb      22 28 37.6 -2.2
SPITS                           S       Sb      22 28 48.9 -2.3
BRBA Barentsburg A   1.33 274   ePg     Pn      22 28 46.3 -0.2
BRBA                            eSg     Sn      22 29 02.9 -1.0
BRBA                            IAML            22 29 04.4
     comp=Z,552nm,0.5s
BRBA Barentsburg A   1.33 274   Pn      Pn      22 28 45.0 -1.5
BRBA                            Pg      Pb      22 28 46.3 -1.0
BRBA                            Lg      Lg      22 29 02.8
BRBB Barentsburg B   1.33 275   eP      Pn      22 28 44.8 -1.7
BRBB                            ePg     Pb      22 28 46.1 -1.2
BRBB                            eSg     Sn      22 29 03.6 -0.2
BRBB Barentsburg B   1.33 275   Pn      Pn      22 28 44.9 -1.7
BRBB                            Pg      Pb      22 28 46.2 -1.1
BRBB                            Lg      Lg      22 29 03.8
BRBB Barentsburg B   1.33 275   P       Pn      22 28 45.4 -1.2
BRBB                            S       Sn      22 29 01.2 -2.6
HSPB Hornsund (broa  1.53 229 ⇓iP              22 28 47.2 -2.0
HSPB                            ePg     Pb      22 28 49.0 -1.5
HSPB                            eSg     Sn      22 29 08.3 -0.3
HSPB                            IAML            22 29 09.2
     comp=Z,361nm,0.5s
HSPB Hornsund (broa  1.53 229   Pn      Pn      22 28 47.2 -2.0
HSPB                            Pg      Pb      22 28 49.0 -1.5
HSPB                            Lg      Lg      22 29 08.0
HSPB Hornsund (broa  1.53 229   P       Pn      22 28 47.0 -2.2
HSPB                            S       Sn      22 29 06.5 -2.1
HOPEN Hopen          1.83 146   eP      Pn      22 28 50.9 -2.5
HOPEN                           ePg     Pb      22 28 54.5 -1.2
HOPEN                           eS      Sn      22 29 12.1 -3.9
HOPEN                           eSg     Sb      22 29 17.9 -0.3
HOPEN                           IAML            22 29 19.4
     comp=Z,257nm,0.5s
HOPEN Hopen          1.83 146   Pn      Pn      22 28 50.7 -2.7
HOPEN                           Pg      Pb      22 28 54.3 -1.4
HOPEN                           Sn      Sn      22 29 11.9 -4.2
HOPEN                           Lg      Lg      22 29 17.9
HOPEN Hopen          1.83 146   eP      Pn      22 28 54.3 +0.9
HOPEN                           eS      Sb      22 29 17.9 -0.3
KBS  Kingsbay        1.95 301   eP      Pn      22 28 53.0 -2.1
KBS                             ePg     Pb      22 28 57.8  0.0
KBS                             eS      Sn      22 29 15.0 -4.0
KBS                             eSg     Sb      22 29 21.5 -0.3
KBS                             IAML            22 29 22.5
     comp=Z,170nm,0.4s
KBS  Kingsbay        1.95 301   Pn      Pn      22 28 53.1 -1.9
KBS                             Pg      Pb      22 28 57.3 -0.5
KBS                             Lg      Lg      22 29 21.1
KBS  Kingsbay        1.95 301   P       Pn      22 28 54.6 -0.4
KBS                             S       Sn      22 29 19.8 +0.7
KBS  Kingsbay        1.95 301   eP      Pb      22 28 58.0 +0.2
KBS                             eS      Sb      22 29 20.9 -0.8
BJO1 Bjornoya        3.59 187   eP      Pn      22 29 15.3 -2.2
BJO1                            ePg     Pb      22 29 24.2 -1.5
BJO1                            eS      Sn      22 29 55.8 -3.6
BJO1                            eSg     Sb      22 30 10.0 +1.2
BJO1                            IAML            22 30 17.9
     comp=Z,44nm,0.3s
BJO1 Bjornoya        3.59 187   Pn      Pn      22 29 15.3 -2.2
BJO1                            Pg      Pb      22 29 24.5 -1.1
BJO1                            Lg      Lg      22 30 10.6
BJO1 Bjornoya        3.59 187   eP      Pb      22 29 25.2 -0.5
BJO1                            eS      Sb      22 30 09.4 +0.5
ZFI2 Zemlya Franca-  5.64  48   eP      Pn      22 29 43.6 -2.0
ZFI2                            eS      Sn      22 30 45.4 -4.4
     comp=Z,28nm,0.8s
```

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OMEGA Omega          5.64  48   eP      Pn      22 29 43.6 -2.1
OMEGA                           eS      Sn      22 30 45.4 -4.6
     comp=Z,33nm,0.7s
HAMF Hammerfest      7.49 172   eP      Pn      22 30 07.7 -3.4
HAMF                            eS      Sn      22 31 25.1 -10
HAMF                            IAML            22 31 40.2
     comp=Z,5.6nm,0.9s
HAMF Hammerfest      7.49 172   Pn      Pn      22 30 06.9 -4.2
HAMF                            Sn      Sn      22 31 23.9 -12
VADS Vadso           8.31 159   eP      Pn      22 30 19.1 -3.2
VADS                            eS      Sn      22 31 46.1 -9.4
VADS                            IAML            22 31 51.5
     comp=Z,6.7nm,0.7s
VADS Vadso           8.31 159   Pn      Pn      22 30 19.2 -3.1
VADS                            Sn      Sn      22 31 45.8 -10
VADS Vadso           8.31 159   P       Pn      22 30 18.9 -3.3
VADS                            S       Sn      22 31 46.1 -9.4
TRO  Tromso          8.48 184   eP      Pn      22 30 21.1 -3.5
TRO                             eS      Sn      22 31 49.0 -11
TRO                             IAML            22 32 16.4
     comp=Z,1.8nm,0.3s
KEV  Kevo            8.52 165   eP      Pn      22 30 21.3 -3.8
KEV                             eS      Sn      22 31 49.1 -11
KEV  Kevo            8.52 165   Pn      Pn      22 30 22.9 -2.2
KEV                             Sn      Sn      22 31 51.0 -10
DAG  Danmarks Havn   8.54 281   eP      Pn      22 30 23.7 -1.7
JETT Jettan, Norway  8.54 180   eP      Pn      22 30 21.8 -3.7
JETT                            eS      Sn      22 31 49.3 -12
JETT                            IAML            22 31 58.0
     comp=Z,5.6nm,0.8s
ARA0 ARCESS Array S  8.66 169   Pn      Pn      22 30 23.8 -3.3
     baz=357,slow=12
ARA0                            Sn      Sn      22 31 54.9 -9.4
     slow=22
ARA0                            IAML            22 32 00.6
     comp=Z,3.1nm,0.3s
ARA0 ARCESS Array S  8.66 169   Pn      Pn      22 30 23.8 -3.3
     baz=357,slow=12
ARA0                            Sn      Sn      22 31 54.9 -9.4
     slow=22
ARCES ARCESS Array B 8.66 169   P       Pn      22 30 24.3 -2.9
ARCES                           S       Sn      22 31 54.9 -9.4
KIF  Kilpisjarvi     9.10 180   eP      Pn      22 30 29.0 -4.0
KIF                             i S     Sn      22 32 03.8 -11
KIF  Kilpisjarvi     9.10 180   Pn      Pn      22 30 29.1 -3.9
KIF                             Sn      Sn      22 32 05.2 -10
KTK1 Kautokeino      9.12 174   eP      Pn      22 30 29.8 -3.5
KTK1                            eS      Sn      22 32 06.0 -9.3
KTK1                            IAML            22 32 14.4
     comp=Z,2.3nm,0.8s
HEF  Hetta           9.73 173   eP      Pn      22 30 37.8 -4.0
HEF                             eS      Sn      22 32 20.9 -10
HEF  Hetta           9.73 173   Pn      Pn      22 30 38.0 -3.8
HEF                             Sn      Sn      22 32 21.6 -8.9
TERR Teriberka       9.74 148   P       Pn      22 30 37.5 -4.3
TERR                            S       Sn      22 32 19.3 -11
APA0 Apatity Array  11.07 155   Pn      Pn      22 30 55.3 -4.7
     baz=345,slow=10
APA0                            Sn      Sn      22 32 50.4 -13
     baz=354,slow=22
APA0 Apatity Array  11.07 155   Pn      Pn      22 30 55.3 -4.7
     baz=345,slow=10
APA0                            Sn      Sn      22 32 50.4 -13
     baz=354,slow=22
APA0 Apatity Array  11.07 155   P       Pn      22 30 56.4 -3.6
APA0                            S       Sn      22 32 50.6 -13
KVDA Kovda          11.96 156   P       Pn      22 31 08.2 -3.9
KVDA                            S       Sn      22 33 13.8 -11
```

SOME 13 22:56:14.4, 41°.37N×68°.82E, h10km
ISU 13 22:56:15, 41°.38N×69°.05E, h12km
KRNET 13 22:56:17.1±0.1, 41°.36N×69°.22E, mb2.6

ISC 13 22:56:13.5±1.5, 41°.39N±0°.03×69°.00E±0°.07, h13km±8km, n16, σ1§49/32, 12C-4D, Central Kazakhstan

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Code Station Name     Δ°   AZ°   Phase ID        Time      Res
                                Op      ISC     h m s     ISC
NZBK Nazarbek        0.19 152   P       Pg      22 56 18.7 +0.9
NZBK                            S       Sg      22 56 21.1 +0.3
TGS  TashGRES        0.40  85   P       Pg      22 56 20.8 -0.6
TGS                             S       Sg      22 56 24.7 -2.1
CHMG Chimgan         0.78  78   P       Pn      22 56 30.4 +0.1
CHMG                            S       Sn      22 56 41.4 -0.5
CHDK Chadak          1.39 107   P       Pg      22 56 40.8 +0.6
CHDK                            S       Sg      22 56 59.7 +1.4
TRKS Terek-Say       1.62  84⇑eP           Pg      22 56 44.8 +0.3
TRKS                            ⇑eS     Sg      22 57 05.4 -0.2
BRLS Borolday        1.75  21   eP      Pn      22 56 43.4 -0.2
     3.9nm,0.1s
BRLS                            eS      Sn      22 57 04.2 -1.6
     40nm,0.2s
BTK  Batken          1.92 133⇑eP           Pg      22 56 50.4 +0.1
BTK                             ⇑eS     Sg      22 57 14.5 -0.8
KK31 Karatay Array   2.05  33 ⇑Pn           Pg      22 56 53.2 +0.5
     0.5nm,0.2s,baz=213,slow=17,SNR=21
KK31                            ⇑Sn     Sg      22 57 19.3  0.0
     2.5nm,0.2s,baz=214,slow=22,SNR=19
CHMI Chimion         2.22 119   P       Pb      22 56 54.6 +1.1
CHMI                            S       Sg      22 57 24.1 -0.8
ARK  Arkit           2.26  79⇓eP           Pb      22 56 55.7 +1.5
ARK                             ⇓eS     Sb      22 57 23.8 +1.6
FRG  Fergana         2.35 115   P       Pb      22 56 56.5 +0.9
FRG                             S       Sg      22 57 27.6 -1.3
MNAS Manas           2.84  66⇓eP           Pb      22 57 03.9 -0.1
MNAS                            ⇓eS     Sb      22 57 38.1 -0.6
DRK  Karamyk         2.87 131⇑eP           Pb      22 57 04.3 -0.4
DRK                             ⇑eS     Sb      22 57 38.9 -0.9
OHH  Osh             3.00 106⇑eP           Pb      22 57 05.4 -1.3
OHH                             ⇑eS     Sb      22 57 40.8 -2.5
MRKS Merke           3.43  65   eP      Pg      22 57 19.4 +0.3
     0.2nm,0.1s
MRKS                            eS      Sg      22 58 06.0 +2.4
     2.1nm,0.3s
SFK  Sufi-Kurgan     3.69 110⇑eP           Pb      22 57 15.6 -3.1
SFK                             ⇑eS     Sn      22 57 58.0 +4.1
```

IDC 13 23:22:41.7±0.5, 1°.13N×126°.27E, h0km, mb4.3/20, mbtmp4.3/21, ML4.4/1, MS3.4/13, Error ellipse: s-maj=31.2km s-min=8.6km az=73.0
DJA 13 23:22:46.7±0.2, 1°N±2°×12°6E±°, h10km, M4.7/16, mB5.0/2, mb4.8/9, MLv4.6/16, Mw(mB)4.2/2, MwMwp4.4/1, Mwp4.8/1
NEIC 13 23:22:48.0±1.5, 1°.28N±0°.07×126°.43E±0°.05, h37km±7km, mb4.7/52, Error ellipse: s-maj=10.6km s-min=7.2km az=201.0

ISC 13 23:22:49.0±0.3, 1°.26N±0°.04×126°.40E±0°.05, h47km, n133, σ1§48/129, mb4.5/51, MS3.2/11, 1C, Northern Molucca Sea

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Code Station Name     Δ°   AZ°   Phase ID        Time      Res
                                Op      ISC     h m s     ISC
TNTI Ternate         1.08 117   Pn      Pn      23 23 05.8 -2.0
TNTI                            Sn      Sn      23 23 20.1 -1.6
TNTI Ternate         1.08 117   P       Pn      23 23 07.3 -0.5
TNTI Ternate         1.08 117   P       Pn      23 23 07.1 -0.7
KMSI Cibinong        2.51 254   P       Pn      23 23 27.8 +0.4
SGSI Sangihe         2.56 340   P       Pn      23 23 27.3 -0.8
SGSI                            S       Sn      23 23 57.5 -0.5
SANI Sanana          3.31 187   P       Pn      23 23 39.2 +0.7
SANI Sanana          3.31 187   P       Pn      23 23 39.1 +0.6
LUWI Luwuk           4.29 238   Pn      Pn      23 23 51.0 -0.8
LUWI Luwuk           4.29 238   P       Pn      23 23 54.7 +2.9
MRSI Marisa          4.53 260   P       Pn      23 23 56.5 +1.4
NLAI Namlea          4.53 171   P       Pn      23 23 56.6 +1.5
SWI  Sorong          5.30 113   P       Pn      23 24 04.2 -1.5
     46nm,0.9s
TOLI2 Tolitoli       5.62 269   Pn      Pn      23 24 09.3 -0.7
TOLI2 Tolitoli       5.62 269   P       Pn      23 24 10.3 +0.2
DAV  Davao City (W)  5.83 352   LR      LR      23 26 34.3
     comp=Z,291nm,18.4s,baz=80,slow=39
PCI  Palu            6.91 252   P       Pn      23 24 29.7 +1.9
     0.4nm109nm,1.1s
FAKI Fak Fak         7.17 125           Pn      23 24 30.1 -1.3
FAKI Fak Fak         7.17 125   P       Pn      23 24 33.3 +1.9
FAKI Fak Fak         7.17 125   P       Pn      23 24 32.9 +1.5
     0.3nm70nm,1.3s
TTSI Tana Toraja     7.85 237   P       Pn      23 24 42.4 +1.7
     0.2nm1μm63nm,0.7s
SPSI Sidrap Palu     8.42 232   P       Pn      23 24 52.0 +3.5
     51nm,0.7s
MYLDM Lahad Datu     8.79 296   Pn      Pn      23 24 52.5 -1.1
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BKSI	Bulukumba	9.06 224	P	Pn	23 24 59.3 +2.0
	34nm,0.7s				
KAPI	Kappang	9.11 227	Pn	Pn	23 24 55.2 -2.7
KAPI	Kappang	9.11 227	Pn	Pn	23 24 56.8 -1.2
	4.8nm,0.3s,baz=23,slow=5.5,SNR=5.8				
KAPI			Sn	Sn	23 26 40.4 +1.2
	1.7nm,0.3s,baz=112,slow=17,SNR=1.2				
KAPI			LR	LR	23 28 47.5
	comp=Z,151nm,21.1s,baz=62,slow=41				
BSSI	Bau Bau, Buton	9.43 219	P	Pn	23 25 06.6 +4.2
BKB	Balikpapan	9.83 255	Pn	Pn	23 25 06.9 -0.9
SOEI	Soe	11.15 191	Pn	Pn	23 25 25.4 -0.6
KKM	Kota Kinabalu	11.22 295	Pn	Pn	23 25 25.7 -1.2
PLAI	Plampang	13.20 220	P	Pn	23 25 54.6 +0.6
SBUM	Sibu	14.22 275	Pn	Pn	23 26 09.4 +1.5
MTN	Manton Dam	14.78 162	Pn	Pn	23 26 14.5 -0.7
JAGI	Jajag, Banyuwa	15.57 231		Pn	23 26 25.8 +0.2
JAGI			IAmb	IAmb	23 26 36.6
	comp=Z,82nm,1.3s				
KSM	Kuching	16.09 271	Pn	Pn	23 26 30.9 -1.3
KNRA	Kununurra	16.99 172	Pn	Pn	23 26 41.9 -1.6
KNRA			IAmb	IAmb	23 26 46.3
	comp=Z,42nm,1.2s				
SZP	Santa	17.21 340	P	P	23 26 47.7 +0.5
FITZ	Fitzroy Crossi	19.25 182	P	P	23 27 08.8 -0.9
FITZ	Fitzroy Crossi	19.25 182	P	P	23 27 08.0 -1.7
	comp=Z,0.8nm,0.3s,baz=11,slow=8.8,SNR=20				
	comp=Z,3.2nm,0.4s				
GUMO	Guam	22.00 55	LR	LR	23 35 04.5
	comp=Z,71nm,21.7s,baz=94,slow=34				
WRAB	Tennant Creek	22.46 160	P	P	23 27 43.8 -0.6
WRAB			IAmb	IAmb	23 27 50.5
	comp=Z,37nm,1.0s				
WRA	Warramunga Arr	22.47 160	P	P	23 27 43.3 -1.1
WRA	Warramunga Arr	22.47 160	P	P	23 27 43.5 -1.0
	comp=Z,8.6nm,0.4s,baz=340,slow=11,SNR=134				
WRA			S	S	23 31 46.1 -2.1
	comp=Z,4.0nm,1.1s,baz=336,slow=18,SNR=8.9				
	comp=Z,8.6nm,0.4s				
COEN	Coen	22.47 133	P	P	23 27 44.0 -0.5
COEN	Coen	22.47 133	P	P	23 27 48.0 +3.4
MYKOM	Kota Tinggi	22.55 272	P	P	23 27 44.7 -0.7
MYKOM			IAmb	IAmb	23 27 49.6
	comp=Z,30nm,1.4s				
YULB	Yu-li	22.55 348	P	P	23 27 42.9 -2.4
YULB			IAmb	IAmb	23 28 11.3
	comp=Z,45nm,1.4s				
TPUB	Ta-pu	22.61 346	P	P	23 27 43.3 -2.7
PMG	Port Moresby	23.24 118	LR	LR	23 39 28.2
	comp=Z,262nm,18.2s,baz=354,slow=43				
PSA00	Pilbara Seismi	23.58 195	P	P	23 27 55.7 +0.1
PSA00			IAmb	IAmb	23 27 58.4
	comp=Z,11nm,0.7s				
UBPT	Khong Chiam	24.91 305	P	P	23 28 06.8 -1.2
BKNI	Bangkinang	25.37 268	P	P	23 28 14.2 +2.0
	comp=Z,120nm,0.4s				
JOW	Kunigami	25.49 4	P	P	23 28 10.8 -2.2
JOW	Kunigami	25.49 4	LR	LR	23 40 18.4
	comp=Z,22nm,18.2s,baz=194,slow=41				
AS31	Alice Springs	25.83 164	P	P	23 28 14.1 -2.1
AS31			IAmb	IAmb	23 28 22.1
	comp=Z,5.1nm,0.4s				
ASAR	Alice Springs	25.83 164	P	P	23 28 15.6 -0.6
	comp=Z,2.9nm,0.5s,baz=344,slow=7,SNR=43				
ASAR			S	S	23 32 45.9 +3.1
	comp=Z,1.8nm,0.9s,baz=347,slow=20,SNR=7.4				
	comp=Z,2.9nm,0.5s				
KULM	Kulim	26.01 279	P	P	23 28 16.4 -1.6
KULM			IAmb	IAmb	23 28 45.3
	comp=Z,13nm,1.1s				
MEEK	Meekatharra	28.74 195	P	P	23 28 43.8 +1.6
NJ2	Nanjing	31.44 348	*e*P	P	23 29 07.6 +1.6
NJ2			pmax	pmax	
	comp=Z,6.0nm,0.5s				
CMAR	Chiang Mai Arr	31.90 304	P	P	23 29 09.1 -1.2
	comp=Z,1.3nm,0.3s,baz=112,slow=7.6,SNR=2.4				
CMAR			LR	LR	23 43 16.1
	comp=Z,42nm,20.4s,baz=100,slow=39				
	comp=Z,1.3nm,0.3s				
FORT	Forrest	31.90 177	P	P	23 29 09.7 -0.4
FORT			IAmb	IAmb	23 29 33.2
	comp=Z,17nm,0.9s				
JNU	Nakatsue	31.97 7	LR	LR	23 40 42.4
	comp=Z,39nm,21.9s,baz=190,slow=34				
PZH	PanZhiHua	34.52 319	P	P	23 29 35.6 +2.4
PZH			pmax	pmax	
	comp=Z,10.0nm,0.7s				
PZH			pmax	pmax	
	comp=Z,110nm,4.7s				
NWAO	Narrogin (SRO)	35.09 193	LR	LR	23 45 40.8
	comp=Z,81nm,18.0s,baz=192,slow=40				
BBOO	Buckleboo	35.10 166	P	P	23 29 37.5 -0.4
BBOO			IAmb	IAmb	23 29 42.7
	comp=Z,18nm,1.2s				
STKA	Stephens Creek	35.97 158	P	P	23 29 45.0 -0.4
STKA	Stephens Creek	35.97 158	P	P	23 29 44.5 -0.9
	comp=Z,5.6nm,0.6s,baz=340,slow=8.3,SNR=19				
	comp=Z,5.6nm,0.6s				
KSRS	Korea Array	36.04 2	P	P	23 29 46.2 +0.3
	comp=Z,0.7nm,0.5s,baz=186,slow=10,SNR=4.3				
	comp=Z,0.7nm,0.5s				
CD2	Chengdu	36.46 326	P	P	23 29 50.1 +0.4
CD2			pmax	pmax	
	comp=Z,10.0nm,0.4s				
MJAR	Matsushiro Arr	36.77 16	P	P	23 29 53.3 +1.1
	comp=Z,1.6nm,0.5s,baz=178,slow=9.1,SNR=2.4				
MJAR			LR	LR	23 45 24.0
	comp=Z,39nm,21.1s,baz=198,slow=37				
	comp=Z,1.6nm,0.5s				
JMM	Marumori	38.76 18	P	P	23 30 07.8 -1.2
ARMA	Armidale	39.63 145	P	P	23 30 15.8 -0.7
ARMA			IAmb	IAmb	23 30 19.2
	comp=Z,6.6nm,0.8s				
SHL	Shillong	41.11 309	P	P	23 30 27.4 -1.6
SHL			IAmb	IAmb	23 30 32.2
	comp=Z,7.4nm,0.8s				
HHC	Hu-ho-hao-te	41.63 343	*e*P	P	23 30 35.8 +2.9
HHC			pmax	pmax	
	comp=Z,7.0nm,0.7s				
HHC			pmax	pmax	
	comp=Z,160nm,5.7s				
USRK	Ussuriysk Ar.	43.04 6	P	P	23 30 45.6 +1.5
	comp=Z,1.5nm,0.4s,baz=210,slow=10,SNR=5.1				
	comp=Z,1.5nm,0.4s				
XLT	XiLinHaoTe	43.44 349	*e*P	P	23 30 53.8 +6.3
XLT			pP	sP	23 31 03.6 -1.7
XLT			PP	PP	23 32 38.1 +8.9
XLT			PcP	PcP	23 32 40.9 +5.8
XLT			pmax	pmax	
	comp=Z,12nm,0.9s				
XLT			pmax	pmax	
	comp=Z,110nm,4.1s				
PALK	Pallekele	45.93 279	LR	LR	23 52 44.4
	comp=Z,71nm,18.3s,baz=105,slow=39				
HEH	HeiHe	48.82 1	*e*P	P	23 31 31.6 +2.1
SONM	Songino Array	49.52 342	P	P	23 31 34.9 -0.2
SONM	Songino Array	49.52 342	P	P	23 31 34.7 -0.5
	comp=Z,0.7nm,0.6s,baz=134,slow=6.9,SNR=7.9				
	comp=Z,0.7nm,0.6s				
WMQ	Urumqi	54.56 326	*e*P	P	23 32 14.6 +1.9
WMQ			pP	pP	23 32 25.6 +0.2
WMQ			PP	PP	23 34 23.8 +8.4
WMQ			pmax	pmax	
	comp=Z,8.0nm,0.7s				
PETK	Petropavlovsk-	57.83 22	P	P	23 32 36.6 +0.9
	comp=Z,3.3nm,0.8s,baz=167,slow=7.1,SNR=6.7				
	comp=Z,3.3nm,0.8s				
WUS	Wushi	58.19 319	P	P	23 32 37.0 -1.6
WUS			IAmb	IAmb	23 32 42.9
	comp=Z,9.7nm,1.5s				
NIL	Nilore	59.19 309	P	P	23 32 45.4 -0.2
MK31	Makanchi Array	59.40 326	P	P	23 32 45.8 -1.0
MKAR	Makanchi Array	59.40 326	P	P	23 32 45.6 -1.1
MKAR	Makanchi Array	59.40 326	P	P	23 32 45.8 -1.0
	comp=Z,2.2nm,0.3s,baz=120,slow=8.0,SNR=47				
	comp=Z,2.2nm,0.3s				
KSH	Kashi	59.57 316	P	P	23 32 49.6 +1.4
KSH			pmax	pmax	
	comp=Z,3.0nm,1.2s				
MAKZ	Makanchi	59.58 326	P	P	23 32 46.9 -1.1
MAKZ			IAmb	IAmb	23 32 55.1
	comp=Z,4.6nm,1.1s				
KDJ	Kajisay	59.98 319	P	P	23 32 49.9 -1.2
KDJ			IAmb	IAmb	23 32 53.7
	comp=Z,4.6nm,1.2s				
TUWZ	Tuamarina	60.46 140	P	P	23 32 54.1 +0.1
RTZ	Ruatahuna	61.07 136	P	P	23 32 58.0 -0.5
MA2	Magadan	61.16 14	LR	LR	00 01 03.1
	comp=Z,15nm,19.4s,baz=226,slow=38				
DRK	Karamyk	62.48 315	P	P	23 33 07.4 -0.8
DRK			IAmb	IAmb	23 33 21.5
	comp=Z,3.7nm,0.6s				
ZAA0	Zalesovo Array	62.63 334	P	P	23 33 07.3 -1.2
ZALV	Zalesovo Beam	62.63 334	P	P	23 33 07.8 -0.7
ZALV	Zalesovo Beam	62.63 334	P	P	23 33 07.1 -1.4
	comp=Z,1.0nm,0.4s,baz=131,slow=7.3,SNR=7.8				
ZALV			LR	LR	00 00 55.5
	comp=Z,68nm,18.3s,baz=253,slow=37				
	comp=Z,1.0nm,0.4s				
KBL	Kabul	62.77 309	P	P	23 33 09.2 -1.0
KBL			IAmb	IAmb	23 33 12.9
	comp=Z,3.6nm,0.7s				
GAR	Garm	63.36 314	P	P	23 33 12.9 -1.0
KURBB	Kurchatov Arra	63.64 328	P	P	23 33 14.1 -1.1
	comp=Z,5.4nm,0.6s,baz=128,slow=6.2,SNR=19				
	comp=Z,5.4nm,0.6s				
KURK	Kurchatov	63.64 328	P	P	23 33 14.2 -1.1
SIMJ	Simiganj	64.19 313	P	P	23 33 18.2 -1.1
SIMJ			IAmb	IAmb	23 33 25.5
	comp=Z,9.6nm,1.4s				
KK31	Karatay Array	64.81 318	P	P	23 33 22.6 -0.5
KKAR	Karatay Array	64.81 318	P	P	23 33 22.5 -0.7
BVAR	Borovoye Array	69.20 328	P	P	23 33 50.7 -0.1
	comp=Z,0.8nm,0.3s,baz=127,slow=10,SNR=12				
	comp=Z,0.8nm,0.3s				
BRVK	Borovoye	69.28 328	P	P	23 33 50.8 -0.5
ABKAR	Akbulak array	73.85 321	P	P	23 34 18.0 -0.8
ABKAR	Akbulak array	73.85 321	P	P	23 34 16.4 -2.4
ABKAR			IAmb	IAmb	23 34 43.1
	comp=Z,3.1nm,0.9s				
ARTI	Arti	76.92 328	P	P	23 34 34.6 -1.7
ARTI			IAmb	IAmb	23 34 38.6
	comp=Z,4.2nm,0.8s				
K15K	Wolf Creek Mou	80.61 27	P	P	23 34 56.5 0.0
VOI	Vohitsoka	80.83 248	P	P	23 34 57.5 -1.2
VOI			IAmb	IAmb	23 35 32.4
	comp=Z,13nm,1.1s				
C16K	Lisburne Hills	80.90 21	P	P	23 34 58.7 +0.8
C16K			IAmb	IAmb	23 35 18.7
	comp=Z,5.9nm,1.1s				
VNDA	Vanda	81.04 173	P	P	23 34 58.7 +0.2
VNDA	Vanda	81.04 173	P	P	23 34 59.2 +0.7
	comp=Z,1.6nm,0.5s,baz=313,slow=8.4,SNR=13				
	comp=Z,1.6nm,0.5s				
RAYN	Ar Rayn	81.15 293	P	P	23 34 59.0 -1.3
C18K	Utukok River	82.47 21	P	P	23 35 07.4 +1.1
C18K			IAmb	IAmb	23 35 42.2
	comp=Z,6.8nm,1.4s				
L18K	Granite Mounta	82.80 27	P	P	23 35 09.0 +1.0
G19K	Purcell Mounta	83.41 23	P	P	23 35 12.1 +0.9
D19K	Kuna River	83.53 21	P	P	23 35 12.8 +1.1
D19K			IAmb	IAmb	23 35 32.1
	comp=Z,14nm,1.2s				
GEVA	Gevas	83.99 308	P	P	23 35 14.9 -0.1
KBZ	Khabaz	84.43 314	P	P	23 35 16.1 -0.7
	comp=Z,1.2nm,0.6s,baz=146,slow=3.6,SNR=5.3				
	comp=Z,1.2nm,0.6s				
GURO	Guroymak-BITLI	84.81 308	P	P	23 35 18.2 -0.8
GURO			IAmb	IAmb	23 35 24.6
	comp=Z,9.3nm,1.3s				
B21K	Ikpikpuk River	84.99 20	P	P	23 35 19.7 +0.7
B21K			IAmb	IAmb	23 35 40.2
	comp=Z,10nm,1.1s				
BRLK	Bradley Lake	85.24 30	P	P	23 35 21.0 +0.4
ILAR	Eielson Array	87.46 25	P	P	23 35 30.2 -1.1
	comp=Z,0.4nm,0.4s,baz=256,slow=4.3,SNR=10				
	comp=Z,0.4nm,0.4s				
SYO	Syowa Base	90.02 201⇑	*e*P	P	23 35 43.4 +0.1
QSPA	South Pole Qui	91.19 180	P	P	23 35 49.2 +0.3
QSPA			IAmb	IAmb	23 35 52.8
	comp=Z,8.6nm,1.4s				
QSPA	South Pole Qui	91.19 180	P	P	23 35 49.4 +0.4
	comp=Z,1.3nm,0.8s,baz=279,slow=2.3,SNR=5.6				
	comp=Z,1.3nm,0.8s				
ARCES	ARCESS Array B	92.63 340	P	P	23 35 55.1 -0.3
	comp=Z,2.2nm,0.8s,baz=68,slow=6.7,SNR=5.4				
	comp=Z,2.2nm,0.8s				
SPITS	Spitsbergen Ar	92.82 349	P	P	23 35 55.6 -0.6
	comp=Z,7.0nm,1.0s,baz=87,slow=7.4,SNR=1.6				
	comp=Z,7.0nm,1.0s				
FINES	FINESS Array B	93.83 332	P	P	23 36 00.1 -0.9
	comp=Z,3.3nm,1.0s,baz=46,slow=5.5,SNR=8.9				
	comp=Z,3.3nm,1.0s				
LSZ	Lusaka	98.25 255	LR	LR	00 14 50.6
	comp=Z,58nm,20.1s,baz=99,slow=32				
KECS	Kecovo	99.56 320	*e*PDIFF	Pdif	23 36 26.7 -0.7
SCHQ	Schefferville	123.04 9	PKP	PKiKP	23 41 40.7 +0.1
	comp=Z,1.2nm,0.4s,baz=351,slow=2.6,SNR=13				

GCG 14 00:13:31.9±0.3, 14°.59N×91°.77W, h81km±14km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	El Palmar, Qui	0.43	109	*i* P		00 13 44.9	
STG8				*e*S		00 13 55.1	
STG0	El Palmar, Qui	0.44	111	*i* P		00 13 44.6	
STG0				*i* S		00 13 54.5	

TRN 14 00:37:58.8, 15°.03N×60°.38W, h29km, MD4.2, North-east of Martinique., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	0.54	242	*e*P	Pn	00 38 10.5	0.0
ILAM				*e*S	Sn	00 38 19.2	+0.7
SVN	Savane Anatole	0.78	256	*e*P	Pb	00 38 14.1	+0.1
SVN				*e*S	Sn	00 38 25.6	+1.0
BIM	Bigot	0.84	233	*e*P	Pb	00 38 14.9	0.0
BIM				*e*S	Sn	00 38 27.6	+1.5
MDN	Morne-Daniel	1.02	287	*e*P	Pb	00 38 17.5	-0.3
MDN				*e*S	Sb	00 38 31.4	+0.5
DSLB	Salisbury	1.08	292	*e*P	Pn	00 38 18.5	+0.5
DSLB				*e*S	Sb	00 38 33.5	+0.8
SLW	Petit Monier	1.14	208	*e*P	Pb	00 38 19.6	-0.3
SLW				*e*S	Sb	00 38 34.9	+0.6
SLBI	Saint Lucia, B	1.15	210	*e*P	Pn	00 38 18.9	0.0
SLBI				*e*S	Sb	00 38 34.3	-0.4
SLAC	Saint Lucia, A	1.23	204	*e*P	Pn	00 38 19.6	-0.4
SLAC				*e*S	Sn	00 38 36.0	+0.3
SLB	Belfond	1.35	208	*e*P	Pb	00 38 23.1	-0.6
SLB				*e*S	Sn	00 38 39.1	+0.2
TBG	Guadaloupe-3	1.47	304	*e*P	Pn	00 38 23.1	-0.2
TBG				*e*S	Sb	00 38 42.8	-0.9
SSV	Crater Summit	1.87	205	*e*P	Pn	00 38 30.0	+1.1
SVB	Belmont	1.94	206	*e*P	Pn	00 38 30.0	+0.2
SVB				*e*S	Sn	00 38 54.4	+1.2
SVT	Saint Vincent	2.03	204	*e*P	Pn	00 38 30.6	-0.4
SVT				*e*S	Sn	00 38 56.0	+0.7
SVOC	Richmond Hill,	2.04	204	*e*P	Pn	00 38 32.0	+0.9
SVOC				*e*S	Sn	00 38 56.4	+0.9
ANBD	Bethesda, Anti	2.41	327	*e*P	Pn	00 38 36.4	+0.2
ANBD				*e*S	Sn	00 39 05.7	+0.9
MBWH		2.44	315	*e*P	Pn	00 38 37.8	+1.2
MBWH				*e*S	Sn	00 39 05.9	+0.4
MBFL	Flemmings, Mon	2.45	314	*e*P	Pn	00 38 38.2	+1.3
MBFL				*e*S	Sn	00 39 07.4	+1.5
GCMP	Grenada, Carri	2.72	202	*e*P	Pn	00 38 42.4	+1.8
GCMP				*e*S	Sn	00 39 13.4	+0.8
ANWB	Willy Bob	2.95	333	*e*P	Pn	00 38 43.6	-0.1
ANWB				*e*S	Sn	00 39 17.9	-0.3
GRW	Mount Saint Ca	3.11	204	*e*P	Pn	00 38 47.5	+1.5
GRW				*e*S	Sn	00 39 22.7	+0.4
GRGR	Grenville	3.13	203	*e*P	Pn	00 38 47.6	+1.3
GRGR				*e*S	Sn	00 39 22.7	0.0
SKI	Saint Kitts	3.22	316	*e*P	Pn	00 38 48.7	+1.3
GRFF	Grenada Fort F	3.24	204	*e*P	Pn	00 38 48.9	+1.2
GRFF				*e*S	Sn	00 39 25.7	+0.3
TOSP	Speyside	3.71	182	*e*P	Pn	00 38 54.7	+0.5
TOSP				*e*S	Sn	00 39 36.5	-0.4
TRN	Trinidad (W)	4.47	193	*e*P	Pn	00 39 05.9	+1.3
TRN				*e*S	Sn	00 39 55.6	0.0

IDC 14 00:52:24.1±2.0, 17°.81S×178°.01W, h578km±20km, mb2.9/5, mbtmp3.8/6, Error ellipse: s-maj=35.0km s-min=23.9km az=145.0
ISC 14 00:52:25.4±1.0, 17°.7S±0°.3×178°.2W±0°.2, h600km, n7, σ0°91/9, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.57	268	P	P	00 53 46.8	-1.3
	8.3nm,0.5s,baz=133,slow=11,SNR=11						
WRA	Warramunga Arr	44.87	259	P	P	00 59 48.5	+0.4
	0.5nm,0.5s,baz=97,slow=7.5,SNR=9.6						
WRA				PcP	PcP	01 01 17.3	+0.7
	0.3nm,0.3s,baz=91,slow=3.7,SNR=6.9						
	0.5nm,0.5s						
ASAR	Alice Springs	45.04	254	P	P	00 59 50.5	+1.0
	1.9nm,0.5s,baz=86,slow=8.6,SNR=16						
ASAR				PcP	PcP	01 01 18.2	+1.0
	0.9nm,0.5s,baz=104,slow=4.0,SNR=9.5						
	1.9nm,0.5s						
QSPA	South Pole Qui	72.38	180	P	P	01 02 51.2	-0.4
	0.8nm,0.4s,baz=287,slow=0.6,SNR=5.5						
	0.8nm,0.4s						
ILAR	Eielson Array	85.62	13	P	P	01 04 01.1	0.0
	0.2nm,0.4s,baz=207,slow=4.9,SNR=5.4						
	0.2nm,0.4s						
PDAR	Pinedale Array	87.05	43	P	P	01 04 08.8	+0.2
	0.4nm,0.7s,baz=243,slow=4.2,SNR=4.7						
	0.4nm,0.7s						
MMAI	Mount Meron Ar	146.18	303	PKPbc	PKiKP	01 11 02.0	-0.5
	0.7nm,0.4s,baz=76,slow=6.1,SNR=6.0						

SFS 14 00:55:16.5, 37°.01N×5°.35W, h5km, ML2.2/5, ML2.5/6, MLv2.7/6
MDD 14 00:55:16.2±0.4, 37°.02N×5°.34W, h4km±6km, mb_Lg1.9/5, Error ellipse: s-maj=3.4km s-min=2.6km az=165.0
ISC 14 00:55:15.7±1.0, 37°.01N±0°.03×5°.35W±0°.03, h5km±9km, n20, σ0°99/34, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	Lijar	0.12	204	Sg	Sg	00 55 21.1	+1.3
LIJA				Pg	Pg	00 55 18.0	-0.2
ESPR	Espera	0.43	251	Sg	Sg	00 55 29.5	-0.3
EJIF	Jimena Fronter	0.57	190	Pg	Pg	00 55 25.9	-0.8
EJIF				Sg	Sb	00 55 38.1	+1.5
EGOR	Sierra Gorda,	0.99	84	Pg	Pg	00 55 34.7	0.0
EGOR				Sg	Sb	00 55 48.9	0.0
EGOR	Sierra Gorda,	0.99	84	Pg	Pg	00 55 34.3	-0.5
EGOR				Sg	Sg	00 55 48.4	+0.8
EGOR				*i* Vmb_Lg		00 55 56.7	
ECAB	El Cabril	1.06	357	Pg	Pg	00 55 35.8	-0.3
ECAB				Sg	Sg	00 55 50.9	+1.0
ECAB	El Cabril	1.06	357	Pg	Pg	00 55 35.8	-0.3
ECAB				Sg	Sg	00 55 50.8	+1.0
ECAB				*i* Vmb_Lg		00 56 00.3	
EMIN	Mina Concepcio	1.30	306	Sg	Sn	00 55 59.4	+1.2
EADA	Adamuz	1.30	28	Pn	Pn	00 55 39.6	-1.0
EADA				Sn	Sg	00 55 56.8	-0.8
EADA	Adamuz	1.30	28	Pg	Pn	00 55 40.1	-0.5
EADA				Sn	Sg	00 55 55.9	-1.7
EADA				Sg	Sb	00 55 58.3	+0.5
EADA				*i* Vmb_Lg		00 55 58.8	
EQTA	Presa de Quent	1.53	82	Pn	Pn	00 55 43.3	-0.5
EQTA				Sn	Sn	00 56 03.6	-0.6
EQUE	Quentar	1.53	82	Pn	Pn	00 55 43.1	-0.7
EQUE				*i* Vmb_Lg		00 56 03.4	
EQUE				Sg	Sb	00 56 05.3	+0.8
E0803	Jimena (Jaen)	1.70	61	Pn	Pn	00 55 46.5	+0.4
E0803				Sg	Sg	00 56 10.6	+0.2
PBAR	Barrancos	1.78	311	Sn	Sn	00 56 10.4	+0.4
EGRO	El Granado	1.78	288	Sg	Sb	00 56 12.9	+1.4
PVAQ	Vaqueiros	1.93	282	Pn	Pn	00 55 47.2	-2.0
EQES	Quesada	1.97	66	Pg	Pn	00 55 51.0	+1.1
EQES				Sg	Sb	00 56 17.7	+0.6
EQES				*i* Vmb_Lg		00 56 20.9	
EBAD	Badajoz	2.18	323	Sg	Sg	00 56 26.1	+0.2
PSIM	Granatula de C	2.20	34	Pg	Pb	00 55 55.4	-0.6
PSIM				Sg	Sb	00 56 24.4	+0.9
PAB	San Pablo	2.65	17	Sg	Sb	00 56 38.6	+2.1

OSPL 14 01:00:13.9±1.2, 18°.54N×70°.37W, h0km±7km, ML1.9
SDD 14 01:00:14.7±1.5, 18°.53N×70°.34W, h26km±7km, MD2.8, ML2.2, MW2.7
ISC 14 01:00:13.8±1.0, 18°.52N±0°.05×70°.33W±0°.04, h27km±8km, n13, σ2°16/22, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	BANI	0.13	190	*e*Pg	Pb	01 00 18.9	-0.3
BANI				*e*Sg	Sb	01 00 23.6	+0.8
BANI				IAML		01 00 23.8	
	comp=N,733nm,0.1s						
ABDR	Alto Bandera	0.40	316	*e*Pg	Pb	01 00 21.9	-0.9
ABDR				*e*Sg	Sb	01 00 28.7	-0.2
ABDR				IAML		01 00 28.9	
	comp=N,198nm,0.1s						
SDD	Santo Domingo	0.40	99	*i* P	Pb	01 00 22.2	-0.4
DR08	Loma La Naviza	0.53	34	*e*Pg	Pb	01 00 24.2	-0.4
DR08				*e*Sg	Sn	01 00 32.2	-1.4
DR08				IAML		01 00 34.8	
	comp=N,1μm,0.2s						
PODR	Polo	0.97	249	*e*Pg	Pb	01 00 30.6	-1.5
PODR				*e*Sg	Sb	01 00 44.9	+0.3
PODR				IAML		01 01 30.3	
	comp=N,37nm,1.8s						
PODR	Polo	0.97	249	*i* P	Pb	01 00 30.5	-1.6
PODR				*e*S	Sb	01 00 43.9	-0.7
SDDR	Presa de Saban	1.01	297	*e*Pg	Pn	01 00 32.6	+0.4
SDDR				*e*Sg	Sn	01 00 45.3	-0.3
SDDR				IAML		01 00 50.4	
	comp=N,18nm,0.9s						
SDDR	Presa de Saban	1.01	297	*i* P	Pb	01 00 31.5	-1.2
SDDR				*e*S	Sb	01 00 44.8	-0.9
SDDR				IAML		01 00 46.7	
	comp=Z,14nm,0.7s						
LONE3	El Aguacate, B	1.07	275	*i* P	Pn	01 00 31.9	-1.2
LONE3				*e*S	Sb	01 00 46.1	-1.3
LONE3				IAML		01 00 49.9	
	comp=Z,19nm,1.7s						
LODU1	El Espartillar	1.10	261	*i* P	Pn	01 00 33.0	-0.3
LODU1				IAML		01 00 57.5	
	comp=Z,44nm,2.5s						
REDR	Restauracion	1.19	303	*e*Pg	Pb	01 00 40.1	+4.3
REDR				*e*Sg	Sn	01 00 58.2	+8.2
REDR				IAML		01 01 00.5	
	comp=N,32nm,0.1s						
MIDR	Miches	1.30	69	*e*Pg	Pb	01 00 36.9	-0.7
MIDR				IAML		01 01 04.9	
	comp=N,10nm,1.3s						
LOBH	Bahia de las A	1.40	242	*i* P	Pn	01 00 37.8	+0.2
LOBH				*e*S	Sb	01 00 57.1	+0.2
LOBH				IAML		01 01 03.6	
	comp=Z,58nm,1.6s

G31M			S	Sb	01 18 46.9	+0.2
	baz=228					
H31M	**Peel River**	**0.80 143**	P	Pg	01 18 38.9	+0.7
H31M			S	Sg	01 18 49.9	+1.3
H31M	**Peel River**	**0.80 143**	P	Pg	01 18 38.9	+0.7
	baz=323,SNR=1000					
H31M			S	Sg	01 18 50.3	+1.7
	baz=323					
G29M	**Pine Creek**	**1.10 296**	P	Pg	01 18 43.6	-0.4
G29M			S	Sg	01 18 57.8	-0.5
G29M	**Pine Creek**	**1.10 296**	P	Pg	01 18 43.6	-0.4
	baz=114,SNR=947					
G29M			S	Sb	01 18 59.4	+0.8
	baz=114					
H29M	**Whitestone**	**1.17 260**	P	Pg	01 18 44.8	-0.5
H29M			S	Sg	01 18 60.0	-0.5
H29M	**Whitestone**	**1.17 260**	P	Pg	01 18 44.9	-0.4
	baz=77,SNR=1000					
H29M			S	Sb	01 19 01.0	+0.4
	baz=77					
F30M	**Barrier River**	**1.18 355**	P	Pg	01 18 45.7	+0.3
F30M			S	Sb	01 19 01.3	+0.6
F30M	**Barrier River**	**1.18 355**	P	Pg	01 18 45.6	+0.3
	baz=176					
F30M			S	Sb	01 19 02.1	+1.4
	baz=176					
F31M	**Tsiigehtchic**	**1.22 34**	P	Pg	01 18 46.4	+0.1
F31M			S	Sg	01 19 02.7	+0.6
F31M	**Tsiigehtchic**	**1.22 34**	P	Pg	01 18 46.4	+0.1
	baz=217,SNR=1000					
F31M			S	Sb	01 19 03.3	+1.3
	baz=217					
I30M	**Mount Dempster**	**1.28 196**	P	Pg	01 18 47.2	-0.1
I30M			S	Sg	01 19 04.2	+0.4
I30M	**Mount Dempster**	**1.28 196**	P	Pg	01 18 47.4	+0.1
	baz=15,SNR=943					
I30M			S	Sb	01 19 04.7	+1.0
	baz=15					
I29M	**Ogilvie Camp,**	**1.58 228**	P	Pn	01 18 52.0	+0.9
I29M			S	Sn	01 19 12.3	+0.7
I29M	**Ogilvie Camp,**	**1.58 228**	P	Pn	01 18 52.1	+1.0
	baz=44,SNR=44					
I29M			S	Sb	01 19 13.2	+0.9
	baz=44					
J30M	**Hart River**	**1.91 191**	Pn	Pn	01 18 56.8	+1.1
J30M			Sn	Sn	01 19 22.2	+2.3
J30M	**Hart River**	**1.91 191**	P	Pn	01 18 56.4	+0.8
	baz=9.2,SNR=50					
J30M			Sb	Sb	01 19 23.5	+1.7
	baz=9.2					
INK	**Inuvik**	**2.02 21**	Pn	Pn	01 18 57.7	+0.5
	10nm,0.3s,baz=200,slow=20,SNR=159					
INK			Sn	Sn	01 19 23.3	+0.8
	26nm,0.3s,baz=162,slow=19,SNR=5.2					
INK	**Inuvik**	**2.02 21**	Pn	Pn	01 18 57.6	+0.5
INK			Sn	Sn	01 19 23.6	+1.1
INK			Sg	Sb	01 19 26.7	+1.7
INK	**Inuvik**	**2.02 21**	P	Pn	01 18 57.6	+0.5
	baz=204,SNR=759					
INK			S	Sb	01 19 25.0	-0.1
	baz=204					
I28M	**Miner Creek**	**2.07 243**	Pn	Pn	01 18 58.5	+0.7
I28M			Sn	Sn	01 19 24.5	+0.7
I28M	**Miner Creek**	**2.07 243**	P	Pn	01 18 58.0	+0.2
	baz=59,SNR=293					
I28M			S	Sn	01 19 25.4	+1.6
	baz=59					
E29M	**Blow River**	**2.16 336**	Pn	Pn	01 19 00.4	+1.4
E29M			Sn	Sn	01 19 26.6	+0.7
E29M	**Blow River**	**2.16 336**	P	Pn	01 19 00.5	+1.4
	baz=154,SNR=508					
E29M			S	Sn	01 19 27.5	+1.6
	baz=154					
J29N	**Klondike Camp**	**2.29 211**	Pn	Pn	01 19 02.3	+1.3
J29N			Sn	Sn	01 19 30.1	+0.7
J29N			Sg	Sg	01 19 35.9	-0.6
J29N	**Klondike Camp**	**2.29 211**	P	Pn	01 19 02.3	+1.3
	baz=28,SNR=26					
J29N			S	Sn	01 19 31.1	+1.8
	baz=28					
H27K	**Steamboat Moun**	**2.43 268**	Pn	Pn	01 19 03.5	+0.6
H27K			Sn	Sn	01 19 32.9	+0.2
H27K	**Steamboat Moun**	**2.43 268**	P	Pn	01 19 03.7	+0.9
	baz=82,SNR=156					
H27K			S	Sn	01 19 33.9	+1.2
	baz=82					
G27K	**Doyon Strip**	**2.47 281**	Pn	Pn	01 19 04.4	+1.0
G27K			Sn	Sn	01 19 33.8	+0.1
G27K			Sg	Sb	01 19 39.5	+1.5
G27K	**Doyon Strip**	**2.47 281**	P	Pn	01 19 04.4	+1.0
	baz=96,SNR=265					
G27K			S	Sn	01 19 34.7	+1.0
	baz=96					
I27K	**Kandik River**	**2.63 254**	Pn	Pn	01 19 06.3	+0.8
I27K			Sn	Sn	01 19 38.2	+0.6
I27K			Sg	Sb	01 19 44.6	+2.1
I27K	**Kandik River**	**2.63 254**	P	Pn	01 19 06.2	+0.8
	baz=68,SNR=161					
I27K			S	Sn	01 19 39.1	+1.5
	baz=68					
E28M	**Babbage River**	**2.66 326**	Pn	Pn	01 19 06.8	+0.8
E28M			Sn	Sn	01 19 38.9	+0.5
E28M	**Babbage River**	**2.66 326**	P	Pn	01 19 06.6	+0.6
	baz=143,SNR=95					
E28M			S	Sn	01 19 39.8	+1.5
	baz=143					
K29M	**Barlow Dome**	**2.74 199**	Pn	Pn	01 19 08.3	+1.1
K29M			Sn	Sn	01 19 41.7	+1.2
K29M			Sg	Sb	01 19 49.2	+3.3
K29M	**Barlow Dome**	**2.74 199**	P	Pn	01 19 08.4	+1.2
	baz=17,SNR=19					
K29M			Sb	Sb	01 19 49.0	+3.1
	baz=17					
MAYO	**Mayo, Yukon**	**2.86 183**	Sn	Sn	01 19 44.1	+0.8
MAYO			Sg	Sb	01 19 53.0	+3.8
MAYO	**Mayo, Yukon**	**2.86 183**	Sb	Sb	01 19 52.5	+3.3
	baz=2.6					
DAWY	**Dawson**	**2.89 216**	Pn	Pn	01 19 10.9	+1.8
DAWY			Sn	Sn	01 19 44.6	+0.6
DAWY	**Dawson**	**2.89 216**	P	Pn	01 19 10.9	+1.8
	baz=32,SNR=52					
DAWY			Sb	Sb	01 19 52.1	+2.1
	baz=32					
E27K	**Coleen River**	**2.93 309**	Pn	Pn	01 19 10.6	+1.0
E27K			Sn	Sn	01 19 45.5	+0.5
E27K			Sg	Sb	01 19 53.4	+2.1
E27K	**Coleen River**	**2.93 309**	P	Pn	01 19 10.8	+1.1
	baz=124,SNR=70					
E27K			S	Sn	01 19 46.6	+1.5
	baz=124					
D28M	**Stokes Point**	**3.14 339**	Pn	Pn	01 19 13.5	+1.0
D28M			Sn	Sn	01 19 49.4	-0.7
D28M			Sg	Sg	01 20 00.8	-2.8
D28M	**Stokes Point**	**3.14 339**	P	Pn	01 19 14.1	+1.6
	baz=156,SNR=12					
D28M			S	Sn	01 19 51.2	+1.2
	baz=156					
G26K	**Porcupine Rive**	**3.32 283**	Pn	Pn	01 19 15.6	+0.6
G26K			Sn	Sn	01 19 53.2	-1.3
G26K			Sg	Sb	01 20 05.2	+2.8
G26K	**Porcupine Rive**	**3.32 283**	P	Pn	01 19 15.7	+0.7
	baz=95,SNR=40					
G26K			Sb	Sb	01 20 05.1	+2.7
	baz=95					
I26K	**Coal Creek Min**	**3.34 254**	Pn	Pn	01 19 15.9	+0.7
I26K			Sn	Sn	01 19 53.8	-1.1
I26K	**Coal Creek Min**	**3.34 254**	P	Pn	01 19 15.8	+0.6
	baz=66,SNR=52					
I26K			S	Sn	01 19 55.8	+0.9
	baz=66					
D27M	**Malcolm River**	**3.49 326**	Pn	Pn	01 19 18.1	+0.8
D27M			Sn	Sn	01 19 56.6	-2.1
D27M	**Malcolm River**	**3.49 326**	P	Pn	01 19 18.5	+1.2
	baz=141,SNR=68					
D27M			S	Sn	01 20 00.0	+1.3
	baz=141					
L29M	**L29M**	**3.53 200**	Pn	Pn	01 19 19.1	+1.2
L29M			Sn	Sn	01 19 60.0	+0.2
L29M			Sg	Sb	01 20 11.6	+3.2
L29M	**L29M**	**3.53 200**	P	Pn	01 19 18.4	+0.5
	baz=17					
L29M			S	Sn	01 20 00.7	+0.9
	baz=17					
F26K	**Sheenjek River**	**3.60 294**	Pn	Pn	01 19 18.9	0.0
F26K			Sn	Sn	01 20 01.0	-0.5
F26K			Sg	Sb	01 20 13.9	+3.5
F26K	**Sheenjek River**	**3.60 294**	P	Pn	01 19 19.4	+0.6
	baz=106					
F26K			S	Sn	01 20 01.0	-0.5
	baz=106					
K27K	**Chicken**	**3.67 232**	Pn	Pn	01 19 19.8	0.0
K27K			Sn	Sn	01 20 03.2	0.0
K27K			Sg	Sb	01 20 16.0	+3.6
K27K	**Chicken**	**3.67 232**	P	Pn	01 19 20.3	+0.5
	baz=46,SNR=20					
K27K			Sb	Sb	01 20 15.2	+2.7
	baz=46					
J26L	**Joseph Creek**	**3.88 244**	P	Pn	01 19 23.1	+0.3
	baz=56,SNR=23					
J26L			Sb	Sb	01 20 21.3	+2.8
	baz=56					
M30M	**Minto, Yukon**	**3.92 189**	Pn	Pn	01 19 24.6	+1.3
M30M			Sn	Sn	01 20 09.4	0.0
M30M			Sg	Sb	01 20 24.7	+5.0
M30M	**Minto, Yukon**	**3.92 189**	P	Pn	01 19 24.5	+1.3
	baz=7.2,SNR=61					
M30M			Sb	Sb	01 20 25.0	+5.4
	baz=7.2					
F25K	**Christian Rive**	**4.13 291**	Pn	Pn	01 19 26.5	+0.3
F25K			Sg	Sb	01 20 29.8	+4.0
F25K	**Christian Rive**	**4.13 291**	P	Pn	01 19 26.9	+0.7
	baz=102					
F25K			Sb	Sb	01 20 29.5	+3.7
	baz=102					
H25L	**Birch Creek**	**4.15 272**	P	Pn	01 19 27.0	+0.7
	baz=83					
H25L			Sb	Sb	01 20 30.1	+3.9
	baz=83					
PRP	**Porcupine Dome**	**4.19 262**	P	Pn	01 19 27.4	+0.3
	baz=72					
PRP			S	Sn	01 20 14.2	-2.1
	baz=72					
M29M	**Somme Creek**	**4.21 199**	Pn	Pn	01 19 28.6	+1.2
M29M			Sn	Sn	01 20 15.0	-1.7
M29M	**Somme Creek**	**4.21 199**	P	Pn	01 19 28.6	+1.2
	baz=16,SNR=37					
M29M			S	Sn	01 20 16.6	-0.1
	baz=16					
G25K	**Bearman Lake**	**4.23 279**	Pn	Pn	01 19 28.4	+1.0
G25K			Sn	Sn	01 20 15.5	-1.4
G25K			Sg	Sb	01 20 33.1	+4.6
G25K	**Bearman Lake**	**4.23 279**	S	Sn	01 20 16.7	-0.2
	baz=90					
E25K	**Arctic Village**	**4.24 298**	Pn	Pn	01 19 28.3	+0.6
E25K			Sn	Sn	01 20 16.6	-0.7
E25K			Sg	Sb	01 20 33.8	+4.8
E25K	**Arctic Village**	**4.24 298**	P	Pn	01 19 28.8	+1.1
	baz=109,SNR=26					
E25K			S	Sn	01 20 17.5	+0.2
	baz=109					
MMPY	**Sheldon Lake,**	**4.26 152**	Pn	Pn	01 19 28.6	+0.7
MMPY			Sn	Sn	01 20 18.2	+0.6
MMPY	**Sheldon Lake,**	**4.26 152**	P	Pn	01 19 28.5	+0.6
	baz=336,SNR=10					
MMPY			S	Sn	01 20 18.7	+1.0
	baz=336					
M31M	**Drury Creek, Y**	**4.29 173**	Sn	Sn	01 20 19.2	+0.9
M31M			Sg	Sg	01 20 37.0	-3.3
FARO	**Faro, Yukon**	**4.33 166**	Pn	Pn	01 19 30.0	+1.0
FARO			Sn	Sn	01 20 18.9	-0.7
FARO			Sg	Sg	01 20 38.9	-3.0
FARO	**Faro, Yukon**	**4.33 166**	P	Pn	01 19 29.9	+1.0
	baz=348,SNR=12					
FARO			S	Sn	01 20 21.7	+2.1
	baz=348					
L27K	**Beaver Creek,**	**4.34 221**	Pn	Pn	01 19 30.1	+1.1
L27K			Sn	Sn	01 20 18.7	-1.0
L27K	**Beaver Creek,**	**4.34 221**	P	Pn	01 19 29.9	+0.9
	baz=35					
L27K			S	Sn	01 20 21.9	+2.2
	baz=35					
SCRK	**Sand Creek**	**4.34 239**	P	Pn	01 19 30.0	+0.9
	baz=51					
SCRK			Sb	Sb	01 20 35.9	+4.2
	baz=51					
C27K	**Jago River**	**4.43 320**	Pn	Pn	01 19 31.6	+1.3
C27K			Sn	Sn	01 20 20.4	-1.6
C27K	**Jago River**	**4.43 320**	P	Pn	01 19 32.3	+2.0
	baz=132,SNR=36					
C27K			S	Sn	01 20 23.0	+1.0
	baz=132					
J25K	**Salcha River,**	**4.49 250**	Pn	Pn	01 19 31.5	+0.4
J25K			Sn	Sn	01 20 20.7	-2.7
J25K	**Salcha River,**	**4.49 250**	P	Pn	01 19 31.6	+0.5
	baz=61					
J25K			S	Sn	01 20 24.0	+0.6
	baz=61					
DOT	**Dot Lake**	**4.58 236**	Pn	Pn	01 19 33.0	+0.8
DOT			Sn	Sn	01 20 23.3	-2.2
BVCY	**Beaver Creek**	**4.66 212**	Pn	Pn	01 19 34.5	+1.1
BVCY			Sn	Sn	01 20 24.8	-2.8
BVCY			Sg	Sb	01 20 46.8	+6.0
BVCY	**Beaver Creek**	**4.66 212**	P	Pn	01 19 34.4	+1.0
	baz=27					
BVCY			Sb	Sb	01 20 45.5	+4.6
	baz=27					
G24K	**Hadweenzic Riv**	**4.78 279**	P	Pn	01 19 35.8	+0.8
	baz=88					
RIDG	**Independent Ri**	**4.79 240**	Pg	Pg	01 19 53.6	-0.8
	baz=51					
L26K	**Log Cabin Wild**	**4.80 228**	Pn	Pn	01 19 36.5	+1.3
L26K			Sn	Sn	01 20 29.6	-1.3
L26K			Sg	Sb	01 20 51.1	+6.3
C26K	**Camden Bay**	**4.94 319**	Pn	Pn	01 19 37.9	+0.7
C26K			Sn	Sn	01 20 30.6	-3.8
C26K			Sg	Sg	01 20 56.9	-4.4
C26K	**Camden Bay**	**4.94 319**	P	Pn	01 19 38.5	+1.4
	baz=131,SNR=26					
C26K			S	Sn	01 20 36.1	+1.8
	baz=131					
M27K	**Edge Creek, AK**	**4.94 217**	Pn	Pn	01 19 38.1	+0.7
M27K			Sg	Sg	01 20 56.0	-5.3
M27K	**Edge Creek, AK**	**4.94 217**	P	Pn	01 19 38.1	+0.7
	baz=31,SNR=73					
F24K	**Squaw Lake**	**4.97 288**	P	Pn	01 19 38.7	+1.0
	baz=97					
F24K			S	Sn	01 20 35.8	+0.5
	baz=97					
N31M	**Braeburn, Yuko**	**4.98 181**	Pn	Pn	01 19 39.5	+1.8
N31M			Sn	Sn	01 20 35.9	+0.5
ILAR	**Eielson Array**	**5.00 256**	Pn	Pn	01 19 39.1	+1.1
	0.3nm,0.3s,baz=51,slow=14,SNR=11					
ILAR			Sn	Sn	01 20 33.4	-2.5
	1.0nm,0.3s,baz=68,slow=20,SNR=8.7					
	0.4nm,0.4s					
D25K	**Kavik River**	**5.01 310**	Pn	Pn	01 19 39.2	+0.9
D25K			Sn	Sn	01 20 33.9	-2.4
D25K	**Kavik River**	**5.01 310**	P	Pn	01 19 39.5	+1.2
	baz=120,SNR=24					
D25K			S	Sn	01 20 36.2	-0.1
	baz=120					
N30M	**Aishikik Lake**	**5.05 189**	Pn	Pn	01 19 40.2	+1.4
N30M			Sn	Sn	01 20 35.6	-1.7
N30M			Sg	Sg	01 21 01.6	-3.3
N30M	**Aishikik Lake**	**5.05 189**	P	Pn	01 19 40.0	+1.2
	baz=6.9					
POKR	**Poker Plat Res**	**5.08 260**	S	Sn	01 20 36.6	-1.3
	baz=69					
YUK3	**Moose Creek**	**5.16 207**	Pn	Pn	01 19 41.3	+0.9
YUK3			Sn	Sn	01 20 38.9	-1.2
YUK3	**Moose Creek**	**5.16 207**	P	Pn	01 19 41.5	+1.1
	baz=22,SNR=23					
YUK3			S	Sn	01 20 40.0	-0.1
	baz=22					
HDA	**Harding Lake**	**5.19 252**	S	Sn	01 20 39.4	-1.1
	baz=62					
M26K	**Nabesna, AK**	**5.19 222**	Pn	Pn	01 19 41.2	+0.5
M26K			Sn	Sn	01 20 39.3	-1.4
M26K	**Nabesna, AK**	**5.19 222**	P	Pn	01 19 41.4	+0.7
	baz=35,SNR=24					
C36M	**Paulatuk**	**5.21 51**	Pn	Pn	01 19 40.3	-0.5
C36M			Sn	Sn	01 20 39.0	-2.0
C36M	**Paulatuk**	**5.21 51**	P	Pn	01 19 40.4	-0.5
	baz=242,SNR=82					
C36M			S	Sn	01 20 39.9	-1.2
	baz=242					
YUK2	**White River**	**5.22 209**	Pn	Pn	01 19 41.4	+0.2
YUK2			Sn	Sn	01 20 38.5	-3.0
YUK2			Sg	Sg	01 21 06.1	-4.3
E24K	**Your Creek**	**5.29 294**	P	Pn	01 19 43.7	+1.7
	baz=102					
E24K			S	Sn	01 20 42.8	-0.3
	baz=102					
YUK4	**Talbot Arm**	**5.30 197**	Pn	Pn	01 19 42.0	-0.3
YUK4			Sn	Sn	01 20 39.9	-3.7
BRWY	**Burwash Landin**	**5.32 199**	Pn	Pn	01 19 43.5	+0.9
BRWY			Sn	Sn	01 20 42.7	-1.2
N32M	**Quiet Lake**	**5.42 167**	Pn	Pn	01 19 45.0	+1.1
N32M			Sn	Sn	01 20 45.1	-1.3
N32M			Sg	Sg	01 21 13.1	-3.7
N32M	**Quiet Lake**	**5.42 167**	P	Pn	01 19 44.7	+0.8
	baz=349					
PAX	**Paxson**	**5.51 235**	Pn	Pn	01 19 46.1	+1.1
PAX			Sn	Sn	01 20 44.7	-3.8
PAX	**Paxson**	**5.51 235**	P	Pn	01 19 46.4	+1.3
	baz=46					
YUK8	**Steele Glacier**	**5.51 202**	Pn	Pn	01 19 46.2	+1.0
YUK8			Sn	Sn	01 20 46.8	-1.9
YUK6	**Outpost Mounta**	**5.67 194**	Pn	Pn	01 19 48.7	+1.4
O30N	**Mendenhall**	**5.70 183**	Pn	Pn	01 19 48.9	+1.2
O30N			Sn	Sn	01 20 51.0	-2.3
O30N	**Mendenhall**	**5.70 183**	P	Pn	01 19 49.2	+1.5
	baz=2.1,SNR=14					
O30N			S	Sn	01 20 54.5	+1.2
	baz=2.1					
E23K	**Chandalar**	**5.70 293**	P	Pn	01 19 49.5	+1.8
	baz=100					
E23K			S	Sn	01 20 53.9	+0.6
	baz=100					
HYT	**Haines Junctio**	**5.71 190**	Pn	Pn	01 19 48.8	+0.9
HYT			Sn	Sn	01 20 51.3	-2.3
HYT	**Haines Junctio**	**5.71 190**	P	Pn	01 19 49.3	+1.4
	baz=7.8,SNR=7.0					
D24K	**Happy Valley**	**5.73 304**	P	Pn	01 19 49.9	+2.0
	baz=112					
D24K			S	Sn	01 20 55.4	+1.7
	baz=112					
H23K	**Yukon River**	**5.73 270**	S	Sn	01 20 53.8	0.0
	baz=77					
G23K	**Bananza Creek**	**5.79 279**	P	Pn	01 19 49.9	+1.0
	baz=86					
WHY	**Whitehorse**	**5.81 177**	Pn	Pn	01 19 49.7	+0.4
WHY			Sn	Sn	01 20 54.9	-1.2
TOLK	**Toolik Lake Re**	**5.82 299**	P	Pn	01 19 51.6	+2.4
	baz=106					
TOLK			S	Sn	01 20 56.5	+0.5
	baz=106					
COLD	**Coldfoot**	**5.85 284**	Pn	Pn	01 19 50.3	+0.7
COLD			Sn	Sn	01 20 52.0	-4.7
COLD	**Coldfoot**	**5.85 284**	P	Pn	01 19 51.1	+1.5
	baz=91					
COLD			S	Sn	01 20 56.4	-0.3
	baz=91					
TGTN	**Hyland Airport**	**5.87 144**	Pn	Pn	01 19 51.9	+1.8
TGTN	**Hyland Airport**	**5.87 144**	P	Pn	01 19 51.8	+1.8
	baz=330					
C24K	**Franklin Bluff**	**5.92 310**	P	Pn	01 19 52.7	+2.1
	baz=118					
NEA2	**Nenana**	**5.93 258**	S	Sn	01 20 58.9	+0.1
	baz=66					
YUK7	**Dusty Glacier**	**6.05 192**	Pn	Pn	01 19 53.4	+0.7
YUK7			Sn	Sn	01 20 59.8	-2.2
O28M	**Mount Upton**	**6.06 202**	Sn	Sn	01 21 01.1	-1.4
WRGLY	**Wrigley**	**6.07 116**	P	Pn	01 19 53.6	+1.0
	baz=307,SNR=12					
WRGLY			S	Sn	01 21 02.2	+0.1
	baz=307					
BALM	**Baldy**	**6.21 212**	Sn	Sn	01 21 02.8	-3.1
D23K	**Nanushuk River**	**6.29 301**	P	Pn	01 19 57.8	+2.1
	baz=107					
D23K			S	Sn	01 21 08.6	+0.9
	baz=107					
P33M	**Teslin, Yukon**	**6.37 168**	Pn	Pn	01 19 57.7	+0.7
P33M			Sg	Sg	01 21 41.6	-5.6
P30M	**Million Dollar**	**6.38 186**	Pn	Pn	01 19 57.8	+0.8
P30M			Sg	Sg	01 21 41.5	-5.9
H22K	**Ishtalitna Cre**	**6.45 272**	S	Sn	01 21 11.6	0.0
	baz=78					
E22K	**Anaktuvuk Pass**	**6.53 292**	P	Pn	01 20 01.1	+2.1
	baz=98					
E22K			S	Sn	01 21 14.9	+1.3
	baz=98					
C23K	**Itkillik River**	**6.57 308**	P	Pn	01 20 01.2	+1.6
	baz=114					
C23K			S	Sn	01 21 14.4	-0.1
	baz=114					
A36M	**Sachs Harbour**	**6.65 29**	Pn	Pn	01 20 00.6	0.0
A36M			Sn	Sn	01 21 13.3	-3.1
A36M	**Sachs Harbour**	**6.65 29**	P	Pn	01 20 00.3	-0.3
	baz=218,SNR=28					
A36M			S	Sn	01 21 16.3	-0.1
	baz=218					
D22K	**Ayikyak River**	**6.97 298**	P	Pn	01 20 07.3	+2.2
	baz=102					
D22K			S	Sn	01 21 24.0	-0.4
	baz=102					
H21K	**Melozitna Rive**	**7.08 272**	S	Sn	01 21 26.7	-0.3
	baz=76					
F21K	**Alatna River**	**7.12 284**	P	Pn	01 20 08.0	+0.8
	baz=88					
F21K			S	Sn	01 21 27.6	-0.6
	baz=88					
G21K	**Allakaket**	**7.19 279**	P	Pn	01 20 09.1	+1.0
	baz=82					
G21K			S	Sn	01 21 28.5	-1.3
	baz=82					
E21K	**Killik River**	**7.37 294**	S	Sn	01 21 33.2	-0.9
	baz=97					
B22K	**Teshekpuk Lake**	**7.66 309**	P	Pn	01 20 16.5	+2.1
	baz=112					
B22K			S	Sn	01 21 38.5	-2.7
	baz=112					
C21K	**Knifeblade Rid**	**7.77 299**	S	Sn	01 21 42.9	-1.1
	baz=101					
B21K	**Ikpikpuk River**	**7.82 303**	P	Pn	01 20 18.3	+1.6
	baz=105					
B21K			S	Sn	01 21 44.8	-0.3
	baz=105					
H20K	**Anotleneega Mo**	**7.95 272**	S	Sn	01 21 46.8	-1.7
	baz=74					
I20K	**Naaghedeneel**	**8.01 267**	S	Sn	01 21 49.4	-0.3
	baz=70					
F20K	**Avaraart Lake**	**8.01 284**	P	Pn	01 20 20.1	+0.8
	baz=85					
F20K			S	Sn	01 21 48.6	-1.2
	baz=85					
KUKN	**Kugluktuk,NWT**	**8.06 71**	Pn	Pn	01 20 19.7	-0.3
KUKN			Sn	Sn	01 21 46.0	-5.3
E20K	**Nigu River**	**8.17 292**	P	Pn	01 20 22.8	+1.4
	baz=93					
E20K			S	Sn	01 21 54.6	+0.8
	baz=93					
A22K	**Sinclair Lake**	**8.39 312**	P	Pn	01 20 25.5	+1.0
	baz=114					
DLBC	**Dease Lake**	**8.43 160**	Pn	Pn	01 20 26.8	+1.7
	0.3nm,0.3s,baz=3.8,slow=15,SNR=1.8					
DLBC			Sn	Sn	01 21 59.4	-0.8
	0.2nm,0.3s,baz=326,slow=16,SNR=1.5					
DLBC			Lg	Lg	01 22 45.6	
	0.4nm,0.3s,baz=228,slow=15,SNR=3.7					
	0.9nm,0.3s					
DLBC	**Dease Lake**	**8.43 160**	Sg	Sg	01 22 46.6	-6.4
B20K	**Meade River**	**8.77 304**	P	Pn	01 20 30.9	+1.2
	baz=104					
D19K	**Kuna River**	**8.89 294**	P	Pn	01 20 33.5	+2.1
	baz=93					
YKAW3	**Yellowknife Wh**	**9.79 104**	Pn	Pn	01 20 42.6	-1.1
YKAW3			Sn	Sn	01 22 26.1	-7.6
YKA	**Yellowknife Ar**	**9.83 104**	Pn	Pn	01 20 43.0	-1.2
	0.4nm,0.3s,baz=300,slow=12,SNR=12					
YKA			Sn	Sn	01 22 27.2	-7.4
	0.6nm,0.3s,baz=297,slow=23,SNR=5.7					
YKA			Lg	Lg	01 23 27.9	
	0.3nm,0.3s,baz=299,slow=28,SNR=4.3					
	0.4nm,0.5s					
YKAW1	**Yellowknife Wh**	**9.89 104**	Pn	Pn	01 20 43.7	-1.2
YKAW1			Sn	Sn	01 22 28.7	-7.2
C18K	**Utukok River**	**10.03 294**	P	Pn	01 20 48.1	+1.2
	baz=91					
C17K	**DeLong Mountai**	**10.76 293**	P	Pn	01 20 57.9	+1.0
	baz=88					
C16K	**Lisburne Hills**	**11.57 293**	P	Pn	01 21 09.0	+1.0

0.2nm,0.3s,baz=311,slow=10,SNR=3.9
RES Lg Lg 01 26 29.4
0.1nm,0.3s,baz=323,slow=18,SNR=2.0
RES Resolute Bay 15.46 40 Pn Pn 01 21 57.0 -3.7
EUNU Eureka 18.65 24 P P 01 22 41.2 +0.6
FINES FINESS Array B 51.70 11 P P 01 27 30.2 +0.7
4.7nm,1.2s,baz=341,slow=11,SNR=3.8
4.7nm,1.2s

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*NNC **14** 01:34:41.4±0.5, 44°.91N×79°.56E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=4.3km s-min=2.6km az=75.0
*SOME **14** 01:34:41.3, 44°.90N×79°.57E, h10km*
ISC 14 01:34:41.4±1.3, 44°.90N±0°.03×79°.57E±0°.04, h2km±11km,
n29, σ0°69/46, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.41**	**339**	P	**Pg**	**01 34 49.1**	**-0.1**
KAPS	61nm,0.1s			S	**Sg**	**01 34 54.6**	**0.0**
DJR	**Jarkent**	**0.59**	**164**	P	**Pg**	**01 34 52.4**	**-0.2**
DJR	696nm,0.1s 41nm,0.2s			S	**Sg**	**01 35 00.5**	**+0.1**
DJR	**Jarkent**	**0.59**	**164**	*e*P	**Pg**	**01 34 52.5**	**-0.2**
DJR	41nm,0.2s 65nm,0.2s			*e*S	**Sg**	**01 35 00.5**	**+0.1**
KNOS	**Konyrlen**	**0.61**	**207**	P	**Pg**	**01 34 53.1**	**0.0**
KNOS	69nm,0.1s 39nm,0.2s			S	**Sg**	**01 35 01.5**	**+0.5**
ARXS	**Arharly**	**1.42**	**242**	P	**Pn**	**01 35 08.2**	**-0.1**
ARXS	13nm,0.1s 113nm,0.5s			S	**Sn**	**01 35 27.5**	**-0.1**
KTMS	**Ketmen**	**1.56**	**159**	P	**Pn**	**01 35 10.1**	**-0.2**
KTMS	4.5nm,0.1s 15nm,0.3s			S	**Sn**	**01 35 30.6**	**-0.5**
KTMS	**Ketmen**	**1.56**	**159**	*e*P	**Pn**	**01 35 10.1**	**-0.2**
KTMS	4.5nm,0.1s 15nm,0.3s			*e*S	**Sn**	**01 35 30.6**	**-0.5**
KPKS	**Kokpek**	**1.57**	**204**	P	**Pb**	**01 35 11.1**	**0.0**
KPKS	20nm,0.1s 59nm,0.3s			S	**Sg**	**01 35 32.3**	**+0.5**
KPKS	**Kokpek**	**1.57**	**204**	*e*P	**Pb**	**01 35 11.1**	**0.0**
KPKS	20nm,0.1s 59nm,0.3s			*e*S	**Sg**	**01 35 32.3**	**+0.5**
KURS	**Kuram**	**1.74**	**216**	P	**Pb**	**01 35 14.1**	**+0.2**
KURS	20nm,0.2s 24nm,0.4s			S	**Sg**	**01 35 37.8**	**+0.7**
KURS	**Kuram**	**1.74**	**216**	*e*P	Pg	01 35 20.4	+5.7
KURS	6.7nm,0.2s 54nm,0.2s			*e*S	Sg	01 35 48.2	+11
SHLS	**Shalkode**	**1.75**	**183**	P	**Pb**	**01 35 14.4**	**+0.2**
SHLS	17nm,0.2s 63nm,0.2s			S	**Sg**	**01 35 38.0**	**+0.6**
SHLS	**Shalkode**	**1.75**	**183**	*e*P	**Pb**	**01 35 14.4**	**+0.2**
SHLS	17nm,0.2s 63nm,0.2s			*e*S	**Sg**	**01 35 38.0**	**+0.6**
UZB	**Uzynbulak**	**1.80**	**193**	P	**Pb**	**01 35 15.0**	**-0.1**
UZB	18nm,0.3s 39nm,0.4s			S	**Sg**	**01 35 38.6**	**-0.5**
UZB	**Uzynbulak**	**1.80**	**193**	*e*P	**Pb**	**01 35 15.0**	**-0.1**
UZB	18nm,0.3s 39nm,0.4s			*e*S	**Sg**	**01 35 38.6**	**-0.5**
SATY	**Saty**	**2.02**	**205**	Pg	**Pb**	**01 35 18.9**	**0.0**
SATY	15nm,0.2s 74nm,0.2s			Lg	Lg	01 35 46.0	
SATY	**Saty**	**2.02**	**205**	*e*P	Pn	01 35 08.2	-8.4
SATY	13nm,0.1s 113nm,0.5s			*e*S	Sn	01 35 27.4	-15
CHKK	**Chushkaly**	**2.13**	**241**	Pg	**Pb**	**01 35 20.4**	**-0.2**
CHKK	6.7nm,0.2s 54nm,0.2s			Lg	Lg	01 35 48.2	
CHKK	**Chushkaly**	**2.13**	**241**	*e*P	**Pb**	**01 35 20.4**	**-0.2**
CHKK	6.7nm,0.2s 54nm,0.2s			*e*S	**Sb**	**01 35 48.2**	**+0.8**
KTBS	**Karatobe**	**2.39**	**241**	Pg	**Pb**	**01 35 25.2**	**+0.1**
KTBS	8.6nm,0.3s 93nm,0.5s			Lg	Lg	01 35 56.6	
KOTS	**Kotyrbulak**	**2.43**	**228**	Pg	**Pb**	**01 35 26.5**	**+0.6**
KOTS	11nm,0.2s 46nm,0.2s			Lg	Lg	01 35 58.9	
KOTS	**Kotyrbulak**	**2.43**	**228**	*e*P	**Pb**	**01 35 26.5**	**+0.6**
KOTS	11nm,0.2s 46nm,0.2s			*e*S	**Sg**	**01 35 58.9**	**-0.6**
TNSS	**Tian-Shan**	**2.66**	**226**	Pg	**Pb**	**01 35 30.3**	**+0.5**
TNSS	8.5nm,0.3s 11nm,0.3s			Lg	Lg	01 36 05.5	
TNSS	**Tian-Shan**	**2.66**	**226**	*e*P	**Pb**	**01 35 30.3**	**+0.5**
TNSS	8.5nm,0.3s 11nm,0.3s			*e*S	**Sg**	**01 36 05.5**	**-1.2**
MTBS	**Maitube**	**2.88**	**233**	Pg	**Pb**	**01 35 34.4**	**+1.0**
MTBS	4.7nm,0.2s 25nm,0.4s			Lg	Lg	01 36 12.3	
MTBS	**Maitube**	**2.88**	**233**	*e*P	**Pb**	**01 35 34.4**	**+1.0**
MTBS	4.7nm,0.2s 25nm,0.4s			*e*S	**Sg**	**01 36 12.3**	**-1.4**
KRBS	**Karabastau**	**3.04**	**248**	Pg	**Pb**	**01 35 37.4**	**+1.1**
KRBS	2.0nm,0.3s 2.9nm,0.2s			Lg	Lg	01 36 17.3	
KST	**Kastek**	**3.20**	**236**	Pg	**Pb**	**01 35 40.3**	**+1.3**
KST	3.2nm,0.4s 14nm,0.4s			Lg	Lg	01 36 22.1	
KST	**Kastek**	**3.20**	**236**	*e*P	**Pb**	**01 35 40.3**	**+1.3**
KST	3.2nm,0.4s 14nm,0.4s			*e*S	**Sg**	**01 36 22.1**	**-2.0**

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*AFAD **14** 01:39:45.9, 38°.98N×26°.28E, h7km±3km, ML2.5*
*ISK **14** 01:39:45.9, 39°.00N×26°.28E, h9km, ML2.7/12*
*ATH **14** 01:39:46.2, 38°.98N×26°.27E, h10km±3km, ML2.4/5,*
Manual Solution by F.Xalaris First location: 2019/03/14
01:41:25, This location: 2019/03/14 06:24:06 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 5 km;
Longitude uncertainty: 3 km
ISC 14 01:39:46.2±0.9, 38°.98N±0°.02×26°.28E±0°.02, h12km±8km,
n44, σ0°46/69, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.27**	**358**	P	**Pg**	**01 39 51.4**	**-0.3**
PRK				S	**Sg**	**01 39 55.9**	**+0.4**
KARB	**zmir-Karabur**	**0.33**	**162**	P	**Pg**	**01 39 53.1**	**+0.3**
KARB				S	**Sg**	**01 39 57.9**	**+0.7**
SIGR	**SIGRI**	**0.41**	**305**	Pg	**Pg**	**01 39 53.9**	**-0.3**
SIGR				Sg	**Sg**	**01 40 00.3**	**+0.6**
SIGR	**SIGRI**	**0.41**	**305**	P	**Pg**	**01 39 54.0**	**-0.2**
SIGR				S	**Sg**	**01 39 59.6**	**0.0**
CAND	**Candarli**	**0.41**	**93**	Pg	**Pb**	**01 39 54.6**	**-0.8**
CAND				Sg	**Sb**	**01 40 01.2**	**-0.3**
FOCM	**Foa**	**0.44**	**127**	Pg	**Pb**	**01 39 55.3**	**-0.6**
AYVA	**Ayvalik**	**0.46**	**44**	P	**Pg**	**01 39 55.2**	**0.0**
AYVA				S	**Sg**	**01 40 01.2**	**-0.2**
DKL	**Dikili**	**0.49**	**79**	Pg	**Pg**	**01 39 55.9**	**0.0**
DKL				Sg	**Sb**	**01 40 03.3**	**-0.7**
DKL	**Dikili**	**0.49**	**79**	P	**Pb**	**01 39 56.6**	**-0.3**
DKL				S	**Sb**	**01 40 03.4**	**-0.7**
IZMD	**zmir-Dikili-**	**0.50**	**89**	P	**Pb**	**01 39 56.4**	**-0.7**
IZMD				S	**Sg**	**01 40 02.6**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.54**	**348**	P	**Pg**	**01 39 56.3**	**-0.4**
KOCA				S	**Sg**	**01 40 04.1**	**+0.3**
KOCA				*i* AML	AML	01 40 10.0	
	comp=E,207nm,0.2s						
ZEDA	**zmir-Bergama**	**0.62**	**91**	P	**Pb**	**01 39 58.5**	**-0.5**
ZEDA				S	**Sg**	**01 40 06.3**	**-0.1**
URLA	**Izmir**	**0.66**	**158**	P	**Pg**	**01 39 58.9**	**-0.2**
URLA				S	**Sg**	**01 40 08.2**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**0.76**	**167**	P	**Pg**	**01 40 00.4**	**-0.4**
ZEYE				S	**Sb**	**01 40 12.0**	**+0.4**
ZEYE				*i* AML	AML	01 40 14.0	
	comp=N,209nm,0.6s						
ZEYE				*i* AML	AML	01 40 14.0	
	comp=E,273nm,0.3s						
EZNE	**Ezine-Canakkal**	**0.78**	**5**	Pg	**Pg**	**01 40 01.0**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.79**	**15**	P	**Pg**	**01 40 00.6**	**-0.9**
BAYC				S	**Sb**	**01 40 12.8**	**+0.2**
BAYC				*i* AML	AML	01 40 15.0	
	comp=E,256nm,0.4s						
BAYC				*i* AML	AML	01 40 16.0	
	comp=N,209nm,0.4s						
BUHA	**Balikesir, Bur**	**0.81**	**49**	P	**Pg**	**01 40 01.7**	**-0.2**
BUHA				S	**Sb**	**01 40 14.3**	**+1.1**
BUHA				*i* AML	AML	01 40 16.0	
	comp=E,255nm,0.4s						
BUHA				*i* AML	AML	01 40 19.0	
	comp=N,142nm,0.4s						
BLCB	**Balcova**	**0.84**	**135**	Pg	**Pb**	**01 40 02.8**	**+0.1**
BOZC	**Bozcaada**	**0.88**	**348**	Pg	**Pg**	**01 40 02.9**	**-0.3**
BOZC	**Bozcaada**	**0.88**	**348**	P	**Pg**	**01 40 02.6**	**-0.6**
BOZC				S	**Sg**	**01 40 14.5**	**-0.3**
BOZC				*i* AML	AML	01 40 17.0	
	comp=N,200nm,0.3s						
BOZC				*i* AML	AML	01 40 18.0	
	comp=E,144nm,0.5s						
DGB	**zmir**	**1.04**	**153**	P	**Pg**	**01 40 05.5**	**-0.6**
DGB				S	**Sg**	**01 40 19.3**	**-0.4**
ECEA	**Canakkale, Ece**	**1.07**	**356**	P	**Pb**	**01 40 06.6**	**0.0**
ECEA				S	**Sb**	**01 40 20.6**	**0.0**
CNKL	**anakkale-Mer**	**1.09**	**4**	P	**Pb**	**01 40 06.9**	**-0.1**
CNKL				S	**Sn**	**01 40 22.1**	**-0.3**
CNKL				*i* AML	AML	01 40 24.0	
	comp=E,97nm,0.3s						
CNKL				*i* AML	AML	01 40 26.0	
	comp=N,103nm,0.4s						
COMU	**Canakkale**	**1.13**	**7**	Pn	**Pb**	**01 40 07.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.19**	**70**	P	**Pn**	**01 40 09.3**	**+0.7**
STEP				S	**Sb**	**01 40 24.3**	**+0.3**
STEP				*i* AML	AML	01 40 27.0	
	comp=N,113nm,0.4s						
STEP				*i* AML	AML	01 40 31.0	
	comp=E,106nm,0.7s						
CANM	**Can-anakkale**	**1.19**	**30**	Pn	**Pn**	**01 40 08.8**	**+0.1**
AKHS	**Akhisar**	**1.20**	**94**	P	**Pg**	**01 40 09.5**	**+0.2**
YENI	**Yenice-Canakka**	**1.21**	**38**	Pn	**Pg**	**01 40 09.2**	**-0.3**
GOAD	**anakkale-G¶**	**1.22**	**346**	P	**Pb**	**01 40 08.9**	**-0.2**
GOAD				S	**Sg**	**01 40 25.0**	**-0.4**
GOAD				*i* AML	AML	01 40 26.0	
	comp=N,84nm,0.3s						
GOAD				*i* AML	AML	01 40 27.0	
	comp=E,129nm,0.5s						
GADA	**Gvkgeada**	**1.25**	**346**	Pn	**Pn**	**01 40 09.5**	**0.0**
BALY	**Balya**	**1.29**	**53**	P	**Pg**	**01 40 11.0**	**0.0**
BALY				S	**Sn**	**01 40 28.8**	**+1.5**
BALY				*i* AML	AML	01 40 30.0	
	comp=N,79nm,0.7s						
GELI	**Tayfur-Gelibol**	**1.43**	**6**	Pn	**Pn**	**01 40 12.2**	**+0.2**
LPK	**Lapseki**	**1.44**	**15**	Pn	**Pn**	**01 40 12.3**	**+0.1**
GCAM	**G?zelcaml?**	**1.48**	**149**	P	**Pg**	**01 40 14.0**	**-0.6**
GCAM				S	**Sn**	**01 40 32.0**	**+0.1**
IZMR	**zmir-demi**	**1.56**	**122**	P	**Pb**	**01 40 15.2**	**+0.2**
IZMR				S	**Sn**	**01 40 33.1**	**-0.7**
SMTH	**Samothraki Isl**	**1.60**	**339**	P	**Pn**	**01 40 14.6**	**+0.2**
SMTH				S	**Sn**	**01 40 35.5**	**+0.5**
ERIK	**Erikli-Kesan**	**1.70**	**6**	Pn	**Pn**	**01 40 16.1**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.74**	**259**	P	**Pn**	**01 40 16.4**	**+0.1**
ENEZ	**Enez**	**1.76**	**357**	Pn	**Pn**	**01 40 16.9**	**+0.4**
AYDN	**Tasoluk**	**1.82**	**136**	P	**Pb**	**01 40 19.2**	**-0.2**
ALN	**Alexandroupoli**	**1.93**	**355**	Pn	**Pn**	**01 40 19.2**	**+0.4**
APE	**Apeiranthos**	**2.00**	**198**	P	**Pn**	**01 40 19.9**	**+0.1**
OUR	**Ouranopolis**	**2.23**	**308**	P	**Pn**	**01 40 23.1**	**+0.1**
RDO	**Rodhopi**	**2.24**	**345**	P	**Pn**	**01 40 23.7**	**+0.5**

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*IDC **14** 01:56:16.5±0.7, 36°.16N×69°.39E, h0km, mb4.1/20,*
mbtmp4.2/25, ML4.2/5, MS3.5/27, Error ellipse:
s-maj=14.7km s-min=13.0km az=25.0
*MOS **14** 01:56:22.3±1.3, 36°.45N×69°.31E, h52km, mb4.5/17, Error*
ellipse: s-maj=7.9km s-min=4.2km az=80.6
*BJI **14** 01:56:23.1, 36°.62N×69°.23E, h50km, mB4.8/5, mb4.5/23,*
ML4.2/3, Ms4.1/2, Ms7 3.8/3
*NEIC **14** 01:56:24.5±1.7, 36°.38N±0°.04×69°.17E±0°.06, h54km±5km,*
mb4.7/41, Error ellipse: s-maj=8.2km s-min=5.2km
az=56.0
*NNC **14** 01:56:25.4±1.9, 36°.55N×69°.17E, h134km±28km, mb4.1,*
mpv4.8, Error ellipse: s-maj=15.3km s-min=11.5km
az=36.0
ISC 14 01:56:23.1±0.3, 36°.36N±0°.03×69°.26E±0°.04, h48km, n241,
σ2°17/256, mb4.5/57, MS3.5/22, 12C-10D, Hindu Kush
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.82**	**186**	Pn	**Pn**	**01 56 53.8**	**+1.6**
KBL				Sn	**Sn**	**01 57 17.5**	**+3.4**
KBL	**Kabul**	**1.82**	**186**	P	**Pn**	**01 56 53.9**	**+1.8**
KBL				S	**Sn**	**01 57 18.1**	**+4.0**
KBL	**Kabul**	**1.82**	**186**	PN	**Pn**	**01 56 53.8**	**+1.6**
KBL				S	**Sn**	**01 57 17.5**	**+3.4**
SIMJ	**Simiganj**	**2.31**	**355**	Pn	**Pn**	**01 56 59.5**	**+0.7**
GAR	**Garm**	**2.77**	**17**	Pn	**Pn**	**01 57 06.3**	**+1.2**
DRK	**Karamyk**	**3.71**	**32**		**Pn**	**01 57 20.3**	**+2.1**
DRK	**Karamyk**	**3.71**	**32**	PN	**Pn**	**01 57 20.3**	**+2.1**
BTK	**Batken**	**3.90**	**18**		**Pn**	**01 57 22.8**	**+2.3**
BTK	**Batken**	**3.90**	**18**	PN	**Pn**	**01 57 22.8**	**+2.3**
NIL	**Nilore**	**4.25**	**128**		**Pn**	**01 57 28.7**	**+3.4**
NIL	**Nilore**	**4.25**	**128**	P	**Pn**	**01 57 28.9**	**+3.6**
NIL	**Nilore**	**4.25**	**128**	PN	**Pn**	**01 57 28.7**	**+3.4**
SRNI	**Srinagar**	**5.10**	**115**	*e*S	**Sn**	**01 58 41.8**	**+7.3**
ARSB	**Arslanbob**	**5.75**	**29**		**Pn**	**01 57 46.0**	**0.0**
ARSB	**Arslanbob**	**5.75**	**29**	PN	**Pn**	**01 57 46.0**	**0.0**
IUG	**Iuzhnay**	**5.81**	**6**	*e*PN	**Pn**	**01 57 47.7**	**+0.9**
IUG				pmax	pmax		
	comp=Z,113nm,0.3s						
JMU	**Jammu**	**5.90**	**126**	*e*P	**Pn**	**01 57 51.2**	**+3.2**
JMU				*e*S	**Sn**	**01 58 55.2**	**+0.9**
JMU				IAML		01 59 23.5	
	comp=E,557nm,0.4s						
HRA	**Herat**	**6.06**	**253**		**Pn**	**01 57 51.2**	**+0.9**
KSH	**Kashi**	**6.17**	**57**	P	**Pn**	**01 57 49.8**	**-2.0**
KSH				S	**Sn**	**01 58 54.8**	**-6.3**
KSH				smax	smax		
	comp=E,190nm,0.7s						
KSH				smax	smax		
	comp=E,120nm,0.7s						
BRLS	**Borolday**	**6.68**	**4**	*e*PN	**Pn**	**01 57 55.3**	**-3.3**
BRLS				pmax	pmax		
	comp=Z,10.0nm,0.2s						
AML	**Almayashu**	**6.71**	**29**	P	**Pn**	**01 58 00.1**	**+0.7**
	SNR=357						
KK31	**Karatay Array**	**6.81**	**8**	Pn	**Pn**	**01 58 00.7**	**+0.3**
KK31	**Karatay Array**	**6.81**	**8**	⇓P	**Pn**	**01 58 00.6**	**+0.3**
	comp=Z,17nm,0.3s,baz=206,slow=15,SNR=704						
KK31				⇓S	**Sn**	**01 59 16.6**	**0.0**
	comp=Z,32nm,0.5s,baz=178,slow=20,SNR=4.9						
KK31	**Karatay Array**	**6.81**	**8**	PN	**Pn**	**01 58 00.7**	**+0.3**
KKAR	**Karatay Array**	**6.81**	**8**	Pn	**Pn**	**01 58 00.7**	**+0.3**
KKAR	**Karatay Array**	**6.81**	**8**	Pn	**Pn**	**01 58 00.7**	**+0.3**
KKAR	**Karatay Array**	**6.81**	**8**	PN	**Pn**	**01 58 00.7**	**+0.3**
DHRM	**DHARAMSHALA**	**7.12**	**123**	*e*P	**Pn**	**01 58 06.3**	**+1.5**
DHRM				*e*S	**Sn**	**01 59 26.6**	**+2.0**
DHRM				IAML		01 59 53.6	
	comp=E,385nm,0.6s						
DHRM				IAML		01 59 53.9	
	comp=N,307nm,0.6s						
UCH	**Uchtor**	**7.14**	**33**	P	**Pn**	**01 58 06.6**	**+1.3**
	SNR=17						
EKS2	**Erkin-Say**	**7.20**	**28**	P	**Pn**	**01 58 06.7**	**+0.9**
	SNR=56						
AAK	**Ala-Archa**	**7.46**	**31**	Pn	**Pn**	**01 58 10.5**	**+1.0**
	comp=N,17nm,0.3s,baz=212,slow=3.7,SNR=190						
AAK				Sn	**Sn**	**01 59 31.6**	**-1.2**
	comp=N,12nm,0.3s,baz=337,slow=23,SNR=12						
AAK				LR	LR	02 01 39.7	
	comp=N,360nm,18.8s,baz=222,slow=43						
	comp=N,40nm,0.4s						
AAK	**Ala-Archa**	**7.46**	**31**	P	**Pn**	**01 58 10.5**	**+1.0**
AAK				S	**Sn**	**01 59 31.4**	**-1.5**
AAK	**Ala-Archa**	**7.46**	**31**	P	**Pn**	**01 58 10.5**	**+1.0**
	SNR=57						
AAK	**Ala-Archa**	**7.46**	**31**	⇓P	**Pn**	**01 58 10.3**	**+0.8**
	comp=N,26nm,0.4s						
AAK				S	**Sn**	**01 59 32.6**	**-0.3**
	comp=N,68nm,0.5s						
AAK	**Ala-Archa**	**7.46**	**31**	*d i*P	**Pn**	**01 58 10.3**	**+0.8**
AAK				pmax	pmax		
	comp=Z,45nm,0.8s						
FRU1	**Bishkek**	**7.66**	**31**		**Pn**	**01 58 13.7**	**+1.5**
FRU1	**Bishkek**	**7.66**	**31**	P	**Pn**	**01 58 13.7**	**+1.5**
KBK	**Karagaybulak**	**7.67**	**33**	P	**Pn**	**01 58 13.7**	**+1.3**
	SNR=30						
BHK	**Bhakra**	**7.72**	**128**	*e*S	**Sn**	**01 59 40.3**	**+1.2**
BHK				IAML		01 59 43.5	
	comp=E,148nm,0.6s						
BHK				IAML		01 59 46.1	
	comp=N,159nm,0.3s						
CHMS	**Chumysh**	**7.87**	**31**	P	**Pn**	**01 58 15.7**	**+0.7**
	SNR=66						
CHMS	**Chumysh**	**7.87**	**31**	⇓P	**Pn**	**01 58 15.3**	**+0.4**
	comp=N,69nm,0.7s						
CHMS				⇓S	**Sn**	**01 59 41.3**	**-1.3**
	comp=N,116nm,0.5s						
CHMS	**Chumysh**	**7.87**	**31**	P	**Pn**	**01 58 15.3**	**+0.4**
CHMS				S	**Sn**	**01 59 41.3**	**-1.3**
USP	**Ospenovka**	**7.99**	**29**	P	**Pn**	**01 58 16.9**	**+0.2**
	SNR=21						
BOOM	**Boomskoye usch**	**8.01**	**38**		**Pn**	**01 58 18.0**	**+0.9**
BOOM	**Boomskoye usch**	**8.01**	**38**	P	**Pn**	**01 58 18.0**	**+0.9**
TKM2	**Tokmak 2**	**8.18**	**35**	P	**Pn**	**01 58 20.2**	**+0.9**
	SNR=5.6						
TKM2	**Tokmak 2**	**8.18**	**35**	⇑P	**Pn**	**01 58 19.5**	**+0.2**
	comp=N,28nm,0.5s						
TKM2				⇓S	**Sn**	**01 59 50.2**	**-0.2**
	comp=N,32nm,0.7s						
TKM2	**Tokmak 2**	**8.18**	**35**	P	**Pn**	**01 58 19.5**	**+0.2**
TKM2				S	**Sn**	**01 59 50.2**	**-0.2**
SMLA	**Simla**	**8.40**	**126**	*e*P	**Pn**	**01 58 22.9**	**+0.8**
SMLA				*e*S	**Sn**	**01 59 55.8**	**+0.2**
SMLA				IAML		02 00 21.0	
	comp=E,191nm,0.9s						
SMLA				IAML		02 00 22.9	
	comp=N,141nm,0.6s						
KDJ	**Kajisay**	**8.42**	**44**		**Pn**	**01 58 22.1**	**-0.6**
KDJ	**Kajisay**	**8.42**	**44**	P	**Pn**	**01 58 22.1**	**-0.6**
KST	**Kastek**	**8.44**	**36**	Lg	Lg	01 59 56.4	
	comp=N,42nm,0.8s						
DGS	**Degeres**	**8.51**	**34**	P	**Pn**	**01 58 24.0**	**+0.3**
	comp=N,11nm,0.5s						
TARG	**Taragay, Kyrgy**	**8.54**	**48**		**Pn**	**01 58 24.5**	**0.0**
TARG	**Taragay, Kyrgy**	**8.54**	**48**	P	**Pn**	**01 58 24.5**	**0.0**
MTBS	**Maitube**	**8.73**	**37**	P	**Pn**	**01 58 27.8**	**+1.0**
	comp=N,31nm,0.8s						
HNLY	**HANLEY**	**8.77**	**111**	*e*P	**Pn**	**01 58 29.1**	**+1.3**
HNLY				*e*S	**Sn**	**02 00 07.4**	**+1.9**
HNLY				IAML		02 00 12.5	
	comp=N,112nm,0.6s						
HNLY				IAML		02 00 16.6	
	comp=E,118nm,0.7s						
KRBS	**Karabastau**	**8.83**	**32**	P	**Pn**	**01 58 27.8**	**-0.3**
	comp=E,27nm,0.6s						
TNSS	**Tian-Shan**	**8.92**	**39**	P	**Pn**	**01 58 30.1**	**+0.5**
	comp=E,13nm,0.7s						
BKNR	**BIKANER**	**8.98**	**157**	*e*S	Sn	02 00 00.5	-9.4
KOTS	**Kotyrbulak**	**9.15**	**39**	P	**Pn**	**01 58 33.7**	**+1.2**
	comp=E,17nm,0.6s						
WUS	**Wushi**	**9.15**	**55**		**Pn**	**01 58 32.8**	**+0.1**
KTBS	**Karatobe**	**9.29**	**35**	P	**Pn**	**01 58 33.9**	**-0.5**
	comp=E,7.3nm,0.6s						
BTLS	**Baital**	**9.40**	**21**	*e*P	Pn	01 58 30.0	-5.9
BTLS				pmax	pmax		
	comp=Z,6.0nm,2.8s						
DDI	**Dehra Dun**	**9.50**	**127**	*e*S	**Sn**	**02 00 21.5**	**-1.3**
JASL	**Jaisalmer**	**9.51**	**171**	*e*P	**Pn**	**01 58 34.4**	**-3.0**
JASL				*e*S	**Sn**	**02 00 16.2**	**-6.7**
JASL				IAML		02 00 25.6	
	comp=N,87nm,0.5s						
JASL				IAML		02 00 29.9	
	comp=E,94nm,0.5s						
CHKK	**Chushkaly**	**9.54**	**36**	P	**Pn**	**01 58 37.4**	**-0.5**
	comp=E,7.2nm,0.6s						
SATY	**Saty**	**9.72**	**44**	P	**Pn**	**01 58 40.9**	**+0.6**
	comp=E,7.8nm,0.9s						
KURS	**Kuram**	**9.87**	**41**	P	**Pn**	**01 58 43.0**	**+0.6**
	comp=E,8.1nm,0.7s						
KPKS	**Kokpek**	**10.14**	**43**	P	**Pn**	**01 58 45.9**	**-0.1**
	comp=E,8.3nm,0.6s						
KPKS	**Kokpek**	**10.14**	**43**	*e*P	**Pn**	**01 58 45.1**	**-0.9**
NDI	**New Delhi**	**10.18**	**136**	*e*P	**Pn**	**01 58 45.3**	**-1.2**
NDI				*e*S	**Sn**	**02 00 35.0**	**-4.2**
NDI				IAML		02 00 51.9	
	comp=N,77nm,0.6s						
NDI				IAML		02 00 56.4	
	comp=E,65nm,0.4s						
NPLP	**NPLP New Delhi**	**10.19**	**137**	*e*P	**Pn**	**01 58 46.4**	**-0.3**
NPLP				*e*S	**Sn**	**02 00 35.1**	**-4.4**
KUDL	**Kundal**	**10.22**	**141**	*e*P	**Pn**	**01 58 45.9**	**-1.2**
KUDL				*e*S	**Sn**	**02 00 33.9**	**-6.4**
KUDL				IAML		02 00 52.1	
	comp=E,72nm,0.8s						
KUDL				IAML		02 00 57.5	
	comp=E,47nm,0.4s						
AYAN	**Aya Nagar**	**10.28**	**138**	*ex*	Pn	01 58 37.3	-11
AYAN				*e*S	**Sn**	**02 00 38.1**	**-3.7**
JOSI	**Joshimath**	**10.36**	**121**	*e*P	**Pn**	**01 58 50.0**	**+0.7**
JOSI				*e*S	**Sn**	**02 00 44.7**	**+0.5**
JOSI				IAML		02 00 46.8	
	comp=E,97nm,0.4s						
JOSI				IAML		02 00 53.7	
	comp=E,73nm,0.5s						
SHLS	**Shalkode**	**10.38**	**46**	*e*P	**Pn**	**01 58 49.3**	**-0.1**
SHLS				pmax	pmax		
	comp=Z,24nm,2.6s						
SONA	**Sohna**	**10.44**	**138**	*e*S	**Sn**	**02 00 39.5**	**-6.2**
PDGK	**Podgornoye**	**10.50**	**45**	⇑P	**Pn**	**01 58 50.8**	**-0.2**
	comp=Z,6.2nm,0.7s						
PDGK	**Podgornoye**	**10.50**	**45**	P	**Pn**	**01 58 50.8**	**-0.2**
KNOS	**Konyrlen**	**11.00**	**40**	P	**Pn**	**01 58 57.1**	**-0.8**
	comp=Z,4.5nm,0.9s						
LGTI	**Lohaghat**	**11.51**	**124**	*e*P	**Pn**	**01 59 03.2**	**-1.6**
LGTI				*e*S	**Sn**	**02 01 07.4**	**-4.5**
LGTI				IAML		02 01 12.1	
	comp=E,57nm,0.6s						
LGTI				IAML		02 01 27.8	
	comp=E,45nm,0.7s						
OTUK	**Ortayu**	**12.10**	**10**	P	**Pn**	**01 59 10.9**	**-1.8**

NRDN	**NARMADA NAGAR**	**15.22**	**151**	*e*P	**Pn**	**01 59 54.0**	**-0.9**
NRDN				*e*S	**Sn**	**02 02 34.6**	**-7.9**
NRDN				IAML		02 03 08.7	
	comp=N,17nm,1.1s						
NRDN				IAML		02 03 12.8	
	comp=E,20nm,0.9s						
KURBB	**Kurchatov Arra**	**15.75**	**22**	Pn	**Pn**	**01 59 57.8**	**-3.8**
	comp=E,0.2nm,0.3s,baz=213,slow=12,SNR=15						
KURBB				Lg	Lg	02 04 40.7	
	baz=217,slow=28						
KURBB				LR	LR	02 06 53.8	
	comp=E,301nm,18.3s,baz=180,slow=40						
	comp=E,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**15.75**	**22**	⇓P	**Pn**	**01 59 57.2**	**-4.3**
	comp=E,8.0nm,0.6s						
KURBB	**Kurchatov Arra**	**15.75**	**22**	P	**Pn**	**01 59 57.2**	**-4.3**
KURK	**Kurchatov**	**15.86**	**22**		**Pn**	**01 59 59.6**	**-3.2**
KURK	**Kurchatov**	**15.86**	**22**	P	**Pn**	**01 59 59.7**	**-3.2**
KURK	**Kurchatov**	**15.86**	**22**	*ce*P	**Pn**	**01 59 58.7**	**-4.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WSAR	**Wadi Sarin**	**15.98**	**218**	LR	LR	02 07 18.1	
	comp=Z,85nm,18.2s,baz=79,slow=42						
AKTO	**Aktyubinsk**	**16.25**	**334**	Pn	**Pn**	**02 00 06.0**	**-1.8**
	comp=Z,5.1nm,0.3s,baz=148,slow=12,SNR=78						
AKTO				Sn	**Sn**	**02 02 59.1**	**-7.8**
	comp=Z,0.9nm,0.3s,baz=89,slow=21,SNR=3.8						
AKTO				LR	LR	02 06 56.2	
	comp=Z,139nm,21.8s,baz=94,slow=39						
	comp=Z,25nm,0.6s						
AKTO	**Aktyubinsk**	**16.25**	**334**	⇑P	**Pn**	**02 00 05.8**	**-2.0**
	comp=Z,16nm,0.7s						
ASHO	**Ashiyiah**	**16.25**	**228**	P	**Pn**	**02 00 05.2**	**-3.0**
WBK	**Wadí Bani Khal**	**16.35**	**216**	P	**Pn**	**02 00 09.9**	**+0.5**
SMDO	**Samad**	**16.43**	**219**	P	**Pn**	**02 00 10.5**	**+0.1**
JLN	**Jalan Bani Buh**	**16.54**	**214**	P	**Pn**	**02 00 10.0**	**-1.7**
BVA0	**Borovoye Array**	**16.69**	**2**	P	**Pn**	**02 00 10.4**	**-3.0**
	comp=Z,7.8nm,0.6s,baz=170,slow=9.6,SNR=65						
BVA0	**Borovoye Array**	**16.69**	**2**	P	**Pn**	**02 00 10.4**	**-3.0**
BVAR	**Borovoye Array**	**16.69**	**2**	Pn	**Pn**	**02 00 10.6**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=170,slow=13,SNR=38						
BVAR				LR	LR	02 07 37.9	
	comp=Z,162nm,18.9s,baz=208,slow=40						
	comp=Z,12nm,0.5s						
BRVK	**Borovoye**	**16.72**	**2**		**Pn**	**02 00 11.2**	**-2.5**
BRVK	**Borovoye**	**16.72**	**2**	P	**Pn**	**02 00 10.9**	**-2.8**
BRVK	**Borovoye**	**16.72**	**2**	*c i*P	**Pn**	**02 00 11.2**	**-2.5**
ALNE	**Al Ain**	**16.91**	**227**	P	**P**	**02 00 17.8**	**0.0**
AJN	**Ajban**	**16.99**	**230**	P	**Pn**	**02 00 15.4**	**-2.0**
AKL	**Akola**	**17.01**	**154**	*e*P	**Pn**	**02 00 16.0**	**-1.6**
MHTO	**MHTO**	**18.21**	**216**	P	**Pn**	**02 00 33.4**	**+1.0**
MZWR	**Madinat Zayed**	**18.27**	**231**	P	**P**	**02 00 32.6**	**-0.2**
UMZA	**Um Al Zommool**	**18.28**	**226**	P	**P**	**02 00 33.0**	**+0.1**
GHWR	**Ruwais**	**18.76**	**233**	P	**P**	**02 00 37.6**	**-0.5**
MZR	**Muzera**	**19.07**	**230**	P	**P**	**02 00 38.5**	**-3.1**
SLWR	**Sila**	**19.47**	**236**	P	**P**	**02 00 44.6**	**-1.2**
LSA	**Lhasa**	**19.50**	**104**	P	**P**	**02 00 47.2**	**+0.6**
LSA	**Lhasa**	**19.50**	**104**	P	**Pn**	**02 00 49.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
LSA	**Lhasa**	**19.50**	**104**	P	**P**	**02 00 47.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,17nm,0.9s						
GNI	**Garni**	**19.61**	**289**	P	**Pn**	**02 00 50.5**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=246,slow=15,SNR=3.1						
GNI				LR	LR	02 12 04.0	
	comp=Z,52nm,18.1s,baz=104,slow=48						
GOMU	**GeErMu**	**20.59**	**83**	P	**P**	**02 00 59.1**	**+0.7**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAA0	**Zalesovo Array**	**20.65**	**27**	P	**P**	**02 00 58.0**	**-0.5**
ZALV	**Zalesovo Beam**	**20.65**	**27**	P	**P**	**02 00 58.1**	**-0.4**
ZALV	**Zalesovo Beam**	**20.65**	**27**	P	**P**	**02 00 58.2**	**-0.3**
	comp=Z,10nm,0.6s,baz=217,slow=10.0,SNR=30						
ZALV				Lg	Lg	02 07 16.0	
	comp=Z,0.5nm,0.3s,baz=206,slow=32,SNR=4.7						
ZALV				LR	LR	02 09 50.6	
	comp=Z,177nm,18.1s,baz=230,slow=39						
	comp=Z,10nm,0.6s						
SVE	**Sverdlovsk**	**21.29**	**347**	*e*P	**P**	**02 01 05.8**	**+0.5**
SVE				*e*S	**S**	**02 05 00.1**	**+1.1**
SVE				pmax	pmax		
	comp=Z,14nm,0.5s						
ARTI	**Arti**	**21.35**	**343**	P	**P**	**02 01 06.6**	**+0.7**
ARTI				IAmb	IAmb	02 01 15.1	
	comp=Z,12nm,0.6s						
ARTI	**Arti**	**21.35**	**343**	P	**P**	**02 01 06.8**	**+0.9**
	comp=Z,8.0nm,0.6s,baz=154,slow=7.7,SNR=18						
ARTI				LR	LR	02 10 31.2	
	comp=Z,250nm,18.2s,baz=168,slow=40						
	comp=Z,8.0nm,0.6s						
ARTI	**Arti**	**21.35**	**343**	*c i*P	**P**	**02 01 06.8**	**+0.9**
ARTI						02 01 26.1	
ARTI				S	**S**	**02 05 03.3**	**+3.1**
ARTI				SS	**SnSn**	**02 05 27.4**	**+2.0**
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARTI				MLR	MLR		
	comp=Z,250nm,17.0s						
KBZ	**Khabaz**	**21.43**	**298**	P	**P**	**02 01 07.6**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=124,slow=10,SNR=7.8						
KBZ				LR	LR	02 12 27.9	
	comp=Z,84nm,19.1s,baz=74,slow=45						
	comp=Z,1.7nm,0.7s						
KBZ	**Khabaz**	**21.43**	**298**	⇓*e*P	**P**	**02 01 06.3**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SHA1	**Shidzhatmaz**	**21.60**	**298**	⇑*e*P	**P**	**02 01 09.1**	**0.0**
KVAR	**Kislovodsk Arr**	**21.61**	**299**	P	**P**	**02 01 10.6**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=86,slow=19,SNR=2.5						
	comp=Z,2.8nm,0.7s						
KIV	**Kislovodsk**	**21.62**	**299**	P	**P**	**02 01 09.8**	**+0.7**
KIV				IAmb	IAmb	02 01 23.1	
	comp=Z,12nm,0.7s						
KIV	**Kislovodsk**	**21.62**	**299**	*e*P	**P**	**02 01 09.7**	**+0.6**
KIV				*e*S	**S**	**02 05 08.4**	**+2.4**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,56nm,14.0s						
SHL	**Shillong**	**22.13**	**113**	P	**P**	**02 01 14.8**	**-0.1**
SHL				IAmb	IAmb	02 01 17.3	
	comp=Z,57nm,1.2s						
SHL	**Shillong**	**22.13**	**113**	P	**P**	**02 01 16.0**	**+1.2**
SHL	**Shillong**	**22.13**	**113**	P	**P**	**02 01 14.8**	**-0.1**
SHL				pmax	pmax		
	comp=Z,57nm,1.2s						
DOK	**Doka**	**22.14**	**221**	P	**P**	**02 01 14.5**	**-0.3**
	SNR=9.4						
DMTO	**DMTO**	**22.47**	**218**	P	**P**	**02 01 17.4**	**-0.9**
WHFO	**Wadi Hawf**	**22.90**	**221**	P	**P**	**02 01 22.2**	**-0.7**
	SNR=8.8						
RBK	**Rabkut**	**23.03**	**219**	P	**P**	**02 01 24.0**	**-0.2**
ABTO	**Aybut**	**23.62**	**221**	P	**P**	**02 01 28.7**	**-1.2**
RAYN	**Ar Rayn**	**24.16**	**245**	P	**P**	**02 01 34.6**	**-0.3**
RAYN	**Ar Rayn**	**24.16**	**245**	P	**P**	**02 01 35.3**	**+0.4**
RAYN	**Ar Rayn**	**24.16**	**245**	P	**P**	**02 01 34.6**	**-0.3**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA	**Gaotai**	**24.25**	**73**	*e*P	**P**	**02 01 38.6**	**+2.9**
GTA				pP	pP	02 01 48.3	-0.5
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
VRH	**Novokhopyorsk**	**24.62**	**316**	*e*P	**P**	**02 01 39.8**	**+1.1**
VRH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ANN	**Anapa**	**25.48**	**299**	*e*P	**P**	**02 01 43.5**	**-3.1**
ANN				*e*S	**S**	**02 06 11.9**	**+1.6**
ANN				pmax	pmax		
	comp=Z,27nm,0.8s						
KIRV	**Kirov**	**25.78**	**336**	LR	LR	02 12 56.9	
	comp=Z,102nm,21.5s,baz=171,slow=38						
KIRV	**Kirov**	**25.78**	**336**	⇓*e*P	**P**	**02 01 50.1**	**+1.0**
VSR	**Storozhevoye**	**26.09**	**314**	*e*P	**P**	**02 01 52.7**	**+0.7**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VORR	**Voronezh**	**26.24**	**315**	*e*P	**P**	**02 01 52.5**	**-0.9**
VORR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LPSR	**Galich'ya Gora**	**26.79**	**317**	*e*P	**P**	**02 01 56.6**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MMAI	**Mount Meron Ar**	**27.96**	**273**	LR	LR	02 17 19.9	
	comp=Z,50nm,18.4s,baz=44,slow=45						
OBN	**Obninsk**	**29.14**	**320**	*e*P	**P**	**02 02 20.5**	**+1.2**
OBN				*e*		02 03 12.0	
OBN				*e*		02 05 27.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,89nm,12.0s						
PZH	**PanZhiHua**	**29.29**	**100**	P	**P**	**02 02 23.8**	**+2.7**
PZH				pmax	pmax		
	comp=Z,80nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
SONM	**Songino Array**	**29.57**	**56**	P	**P**	**02 02 24.6**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=263,slow=9.5,SNR=12						
SONM				LR	LR	02 15 54.8	
	comp=Z,139nm,20.1s,baz=270,slow=40						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**29.57**	**56**	*e*P	**P**	**02 02 24.8**	**+1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PALK	**Pallekele**	**30.78**	**157**	LR	LR	02 16 27.6	
	comp=Z,91nm,18.9s,baz=321,slow=40						
CMAR	**Chiang Mai Arr**	**31.63**	**116**	P	**P**	**02 02 41.6**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=287,slow=8.1,SNR=8.8						
CMAR				LR	LR	02 18 48.3	
	comp=Z,47nm,20.1s,baz=295,slow=43						
	comp=Z,1.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.63**	**116**	*ce*P	**P**	**02 02 42.9**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**31.95**	**309**	P	**P**	**02 02 45.3**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=87,slow=7.6,SNR=9.3						
AKASG				LR	LR	02 18 56.9	
	comp=Z,62nm,18.9s,baz=132,slow=42						
	comp=Z,0.5nm,0.4s						
HHC	**Hu-ho-hao-te**	**33.13**	**69**	*e*P	**P**	**02 02 57.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,5.5s						
MLR	**Muntele Rosu**	**33.63**	**299**	LR	LR	02 19 25.5	
	comp=Z,154nm,18.3s,baz=33,slow=41						
XLT	**XiLinHaoTe**	**36.18**	**63**	*e*P	**P**	**02 03 22.5**	**+1.4**
XLT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**36.83**	**327**	P	**P**	**02 03 27.4**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=117,slow=9.2,SNR=14						
FINES				LR	LR	02 19 59.0	
	comp=Z,193nm,18.5s,baz=16,slow=38						
	comp=Z,4.2nm,0.7s						
ARCES	**ARCESS Array B**	**40.75**	**338**	P	**P**	**02 04 00.9**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=113,slow=9.3,SNR=6.9						
ARCES				LR	LR	02 20 20.5	
	comp=Z,117nm,18.5s,baz=251,slow=35						
	comp=Z,1.6nm,0.7s						
NJ2	**Nanjing**	**40.88**	**81**	*e*P	**P**	**02 04 01.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HFS	**Hagfors**	**42.32**	**322**	P	**P**	**02 04 13.7**	**+1.8**
	comp=Z,1.9nm,0.5s,baz=105,slow=9.3,SNR=13						
HFS				LR	LR	02 25 01.2	
	comp=Z,135nm,20.9s,baz=66,slow=40						
	comp=Z,1.9nm,0.5s						
PSI	**Prapat**	**43.17**	**134**	P	**P**	**02 04 19.1**	**-0.4**
PSI				pmax	pmax		
	comp=Z,15nm,0.7s						
ZEA	**Zeya**	**43.20**	**47**	*e*P	P	02 04 30.1	+11
RPSI	**Rantau Prapat**	**43.26**	**134**	P	**P**	**02 04 19.1**	**-0.9**
RPSI				IAmb	IAmb	02 04 20.5	
	comp=Z,16nm,0.7s						
HEH	**HeiHe**	**43.45**	**52**	*e*P	**P**	**02 04 22.8**	**+1.6**
HEH				pmax	pmax		
	comp=Z,11nm,0.8s						
NORES	**NORESS Array B**	**43.46**	**323**	P	**P**	**02 04 22.2**	**+1.1**
NC303	**NORSAR Array S**	**43.60**	**324**	P	**P**	**02 04 23.2**	**+0.9**
NC303				IAmb	IAmb	02 04 33.2	
	comp=Z,8.7nm,0.8s						
GSI	**Gunungsitoli**	**43.63**	**137**	P	**P**	**02 04 24.2**	**+1.2**
NB2	**NORSAR Subarra**	**43.65**	**323**	P	**P**	**02 04 23.5**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**43.65**	**323**	P	**P**	**02 04 24.0**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=99,slow=8.0,SNR=11						
NOA				LR	LR	02 24 07.2	
	comp=Z,56nm,19.9s,baz=355,slow=38						
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**43.65**	**323**	*e*P	**P**	**02 04 24.2**	**+1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**46.25**	**70**	LR	LR	02 26 30.8	
	comp=Z,31nm,20.5s,baz=0.0,slow=39						
KLR	**Kul'dur**	**46.36**	**53**	LR	LR	02 25 44.6	
	comp=Z,47nm,20.8s,baz=342,slow=38						
TIXI	**Tiksi**	**46.44**	**22**	LR	LR	02 25 57.5	
	comp=Z,66nm,18.7s,baz=288,slow=38						
SPITS	**Spitsbergen Ar**	**47.32**	**347**	P	**P**	**02 04 53.0**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=125,slow=12,SNR=7.3						
	comp=Z,2.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**47.32**	**347**	P	**P**	**02 04 53.0**	**+1.5**
USRK	**Ussuriysk Ar.**	**47.46**	**60**	P	**P**	**02 04 52.7**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=284,slow=5.8,SNR=3.7						
	comp=Z,1.7nm,0.5s						
KEST	**Kesra**	**47.75**	**288**	P	**P**	**02 04 58.0**	**+2.6**
	comp=Z,2.2nm,0.5s,baz=153,slow=2.3,SNR=6.0						
	comp=Z,2.2nm,0.5s						
JOW	**Kunigami**	**50.48**	**83**	LR	LR	02 29 36.7	
	comp=Z,31nm,18.5s,baz=114,slow=40						
DAG	**Danmarks Havn**	**54.47**	**344**	P	P	02 05 50.0	+4.8
DAG				pmax	pmax		
	comp=Z,9.0nm,1.9s						
SEY	**Seymchan**	**55.32**	**34**	⇑*e*P	**P**	**02 05 51.7**	**+0.3**
SEY				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ESDC	**Sonseca Array**	**56.28**	**297**	P	**P**	**02 06 00.3**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=56,slow=8.1,SNR=7.3						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.31**	**268**	P	**P**	**02 06 52.5**	**-1.5**
C18K	**Utukok River**	**68.84**	**18**	P	**P**	**02 07 23.0**	**+0.9**
B21K	**Ikpikpuk River**	**69.58**	**15**	P	**P**	**02 07 27.9**	**+1.4**
B21K				IAmb	IAmb	02 07 28.9	
	comp=Z,6.2nm,1.1s						
D19K	**Kuna River**	**69.69**	**17**	P	**P**	**02 07 27.8**	**+0.5**
A36M	**Sachs Harbour**	**71.47**	**5**	P	**P**	**02 07 39.4**	**+1.4**
A36M				IAmb	IAmb	02 07 53.5	
	comp=Z,6.7nm,0.8s						
C36M	**Paulatuk**	**74.15**	**5**	P	**P**	**02 07 54.6**	**+0.6**
INK	**Inuvik**	**74.27**	**9**	P	**P**	**02 07 56.1**	**+1.5**
INK				IAmb	IAmb	02 07 57.0	
	comp=Z,14nm,1.4s						
INK	**Inuvik**	**74.27**	**9**	P	**P**	**02 07 56.1**	**+1.5**
INK				pmax	pmax		
	comp=Z,15nm,1.5s						
CAST	**Castle Rocks**	**75.26**	**18**	P	**P**	**02 08 01.0**	**+0.4**
CAST				IAmb	IAmb	02 08 02.8	
	comp=Z,6.4nm,1.0s						
ILAR	**Eielson Array**	**75.29**	**15**	P	**P**	**02 08 01.1**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=311,slow=5.2,SNR=8.1						
	comp=Z,1.6nm,1.0s						
ILAR	**Eielson Array**	**75.29**	**15**	*e*P	**P**	**02 08 02.5**	**+1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BOSA	**Boshof**	**76.74**	**219**	P	**P**	**02 08 09.4**	**0.0**
	comp=Z,3.2nm,1.0s,baz=21,slow=8.6,SNR=3.3						
	comp=Z,3.2nm,1.0s						
I30M	**Mount Dempster**	**76.79**	**11**	P	**P**	**02 08 10.2**	**+0.8**
I30M				IAmb	IAmb	02 08 37.0	
	comp=Z,8.7nm,1.3s						
DOT	**Dot Lake**	**76.87**	**15**	P	**P**	**02 08 10.3**	**+0.6**
DOT				IAmb	IAmb	02 08 19.0	
	comp=Z,6.9nm,1.2s						
K27K	**Chicken**	**76.92**	**14**	P	**P**	**02 08 10.7**	**+0.8**
K27K				IAmb	IAmb	02 08 12.3	
	comp=Z,10nm,1.3s						
STLK	**Strandline Lak**	**76.93**	**19**	P	**P**	**02 08 10.6**	**+0.4**
STLK				IAmb	IAmb	02 08 28.5	
	comp=Z,13nm,1.5s						
PAX	**Paxson**	**77.18**	**15**	P	**P**	**02 08 12.3**	**+0.7**
PAX				IAmb	IAmb	02 08 32.9	
	comp=Z,11nm,1.4s						
PAX	**Paxson**	**77.18**	**15**	P	**P**	**02 08 12.3**	**+0.7**
PAX				pmax	pmax		
	comp=Z,11nm,1.4s						
SML	**Sawmill**	**77.55**	**17**	P	**P**	**02 08 14.4**	**+0.9**
SCM	**Sheep Creek Mo**	**77.76**	**17**	P	**P**	**02 08 15.1**	**+0.3**
SCM	**Sheep Creek Mo**	**77.76**	**17**	P	**P**	**02 08 15.1**	**+0.3**
SCM				pmax	pmax		
	comp=Z,63nm,1.5s						
M24K	**Tolsona, Glenn**	**77.79**	**16**	P	**P**	**02 08 15.4**	**+0.5**
RC01	**Rabbit Creek A**	**77.82**	**18**	P	**P**	**02 08 15.5**	**+0.4**
BCAR	**Beaver Creek A**	**77.85**	**14**	P	**P**	**02 08 16.3**	**+1.1**
KNK	**Knik Glacier**	**77.86**	**18**	P	**P**	**02 08 15.8**	**+0.5**
K29M	**Barlow Dome**	**77.90**	**12**	P	**P**	**02 08 16.6**	**+1.0**
K29M				IAmb	IAmb	02 08 28.1	
	comp=Z,4.6nm,0.9s						
KLU	**Klutina**	**78.39**	**16**	P	**P**	**02 08 19.0**	**+0.7**
KLU				IAmb	IAmb	02 08 20.9	
	comp=Z,13nm,1.2s						
M27K	**Edge Creek, AK**	**78.47**	**14**	P	**P**	**02 08 19.7**	**+0.9**
M27K				IAmb	IAmb	02 08 35.1	
	comp=Z,11nm,1.1s						
L29M	**L29M**	**78.48**	**12**	P	**P**	**02 08 20.0**	**+1.3**
L29M				IAmb	IAmb	02 08 39.3	
	comp=Z,11nm,1.4s						
MORW	**Morawa**	**78.54**	**139**	P	**P**	**02 08 18.7**	**-0.7**
MORW				IAmb	IAmb	02 08 47.4	
	comp=Z,19nm,1.4s						
DIV	**Divide**	**78.74**	**17**	P	**P**	**02 08 20.8**	**+0.6**
M29M	**Somme Creek**	**79.04**	**13**	P	**P**	**02 08 22.2**	**+0.3**
M29M				IAmb	IAmb	02 08 45.9	
	comp=Z,17nm,1.5s						
SOE	**Somerset East**	**79.94**	**216**	P	**P**	**02 08 28.1**	**+1.1**
O30N	**Mendenhall**	**81.02**	**12**	P	**P**	**02 08 33.4**	**+0.9**
O30N				IAmb	IAmb	02 08 43.3	
	comp=Z,21nm,1.5s						
YKAW3	**Yellowknife Wh**	**81.38**	**2**	P	**P**	**02 08 33.4**	**-0.9**
YKAW3				IAmb	IAmb	02 08 51.9	
	comp=Z,2.2nm,1.1s						
YKA	**Yellowknife Ar**	**81.44**	**2**	P	**P**	**02 08 35.5**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=349,slow=5.4,SNR=18						
	comp=Z,1.1nm,0.8s						
SCHQ	**Schefferville**	**81.67**	**336**	LR	LR	02 43 56.8	
	comp=Z,33nm,20.2s,baz=52,slow=35						
SUR	**Sutherland**	**82.04**	**220**	LR	LR	02 46 04.5	
	comp=Z,49nm,18.4s,baz=153,slow=36						
WRA	**Warramunga Arr**	**83.11**	**121**	P	**P**	**02 08 42.2**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=323,slow=4.8,SNR=15						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**83.11**	**121**	*e*P	**P**	**02 08 41.4**	**-2.6**
ASAR	**Alice Springs**	**85.33**	**124**	P	**P**	**02 08 53.9**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=312,slow=4.9,SNR=16						
	comp=Z,1.5nm,0.6s						

NEIC ***14*** *02:07:02.3±0.7, 19°.14N±0°.05×155°.45W±0°.02, h45km±5km, Error ellipse: s-maj=7.4km s-min=2.7km az=165.0*

HVO 14 02:07:03.7±0.9, 19°.07N±0°.06×155°.41W±0°.06, h35km±7km, ML2.5/11, ML2.6/26(NEIC), Error ellipse: s-maj=10.1km s-min=6.2km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.14**	**276**		Sb	02 07 14.5	+0.2
HTC	**Hot Caves**	**0.16**	**3**		Pn	02 07 09.6	-0.1
HLP	**Hilina Pali**	**0.24**	**23**		Pn	02 07 10.2	-0.7
HLP	**Hilina Pali**	**0.24**	**23**	IAML		02 07 19.9	
HLP	comp=N,740nm,0.7s			IAML		02 07 24.4	
	comp=E,809nm,0.9s						
KHU	**Kahuku**	**0.26**	**311**		Pn	02 07 10.3	-0.9
KHU					Sn	02 07 15.5	-0.7
KHU	**Kahuku**	**0.26**	**311**	IAML		02 07 15.8	
KHU	comp=N,655nm,0.4s			IAML		02 07 16.1	
	comp=E,875nm,0.6s						
SDHHI	**Sand Hill**	**0.33**	**19**		Pn	02 07 10.9	-1.3
SDHHI					Sn	02 07 16.6	-1.2
WRMHI	**West Rim**	**0.35**	**17**		Pb	02 07 11.3	-1.1
KKO	**Keanakako'i**	**0.35**	**23**		Pb	02 07 10.9	-1.5
UWE	**Uwekahuna**	**0.36**	**17**		Pb	02 07 11.1	-1.5
UWE	**Uwekahuna**	**0.36**	**17**	IAML		02 07 18.4	
UWE	comp=N,584nm,1.0s			IAML		02 07 27.8	
	comp=E,652nm,0.8s						
BYL	**Byron's Ledge**	**0.36**	**23**		Pb	02 07 11.1	-1.5
BYL	**Byron's Ledge**	**0.36**	**23**	IAML		02 07 14.9	
BYL	comp=N,235nm,3.2s			IAML		02 07 25.3	
	comp=E,619nm,1.3s						
UWB	**Uwekahuna Bluf**	**0.37**	**19**		Pb	02 07 11.1	-1.6
HATHI	**Halema'uma'u T**	**0.37**	**22**		Pb	02 07 11.2	-1.6
HATHI	**Halema'uma'u T**	**0.37**	**22**	IAML		02 07 19.7	
HATHI	comp=N,475nm,0.6s			IAML		02 07 22.3	
	comp=E,437nm,0.9s						
SBLHI	**Steaming Bluff**	**0.38**	**21**		Pb	02 07 11.2	-1.6
KNHH	**Kane Nui o Ham**	**0.38**	**36**		Pb	02 07 11.5	-1.3
STCH	**Steam Cracks**	**0.41**	**41**		Pb	02 07 12.1	-1.1
STCH	**Steam Cracks**	**0.41**	**41**	IAML		02 07 21.6	
STCH	comp=N,326nm,1.1s			IAML		02 07 23.2	
	comp=E,178nm,0.6s						
MLH	**Mauna Loa**	**0.42**	**3**		Pb	02 07 12.2	-1.3
MLH	**Mauna Loa**	**0.42**	**3**	IAML		02 07 19.0	
MLH	comp=N,470nm,0.7s			IAML		02 07 26.9	
	comp=E,334nm,0.9s						
MWH	**Mokuaweoweo**	**0.45**	**336**		Pb	02 07 12.3	-1.8
MWH				IAML		02 07 19.5	
MWH	comp=N,356nm,0.8s			IAML		02 07 20.9	
	comp=E,468nm,1.2s				

KIF	**Kilpisjarvi**	**9.38**	**90**	*eP*	**Pn**	**02 17 11.5**	**+2.5**
NSS	**Namsos**	**9.41**	**125**	*eP*	**Pn**	**02 17 12.1**	**+2.6**

*THE **14** 02:19:22.8, 37.°36N×20.°64E, h2km, ML3.5/16, Error ellipse: s-maj=1.4km s-min=0.7km az=46.0*
*ATH **14** 02:19:25.1, 37.°49N×20.°73E, h10km±1km, ML3.2/14, Manual Solution by F.Xalaris First location: 2019/03/14 02:20:19, This location: 2020/09/09 11:14:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 14 02:19:23.7±1.8, 37.°41N±0.°06×20.°68E±0.°05, h7km±9km, n44, σ0°74/68, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**23**	P	**Pg**	**02 19 29.3**	**+0.1**
KRI1				S	**Sg**	**02 19 34.0**	**+1.2**
	13μm,0.4s						
KRI1	**kERI**	**0.27**	**23**	P	**Pg**	**02 19 29.3**	**+0.1**
KRI1				S	**Sg**	**02 19 31.9**	**-0.9**
LTHK	**Lithakia**	**0.32**	**22**	P	**Pg**	**02 19 30.2**	**+0.1**
LTHK				S	**Sg**	**02 19 35.4**	**+1.0**
	17μm,0.2s						
LTHK	**Lithakia**	**0.32**	**22**	P	**Pg**	**02 19 30.1**	**0.0**
LTHK				S	**Sg**	**02 19 33.2**	**-1.1**
KYPS	**Kipseli, Zakin**	**0.42**	**15**	P	**Pg**	**02 19 32.4**	**+0.4**
KYPS				S	**Sg**	**02 19 36.4**	**-1.2**
ORTH	**Orthonies,Zaky**	**0.44**	**1**	P	**Pg**	**02 19 32.6**	**+0.2**
ORTH				S	**Sg**	**02 19 37.8**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.67**	**6**	P	**Pg**	**02 19 36.4**	**-0.2**
RTZL				S	**Sb**	**02 19 46.9**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.71**	**354**	P	**Pg**	**02 19 37.2**	**-0.2**
PSDA				S	**Sb**	**02 19 47.8**	**-0.6**
	4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.71**	**354**	P	**Pg**	**02 19 37.3**	**0.0**
VLS	**Valsamata**	**0.77**	**355**	P	**Pg**	**02 19 38.0**	**-0.5**
VLS				S	**Sb**	**02 19 50.4**	**+0.2**
	3μm,0.2s						
VLS	**Valsamata**	**0.77**	**355**	P	**Pg**	**02 19 38.1**	**-0.5**
VLS				S	**Sg**	**02 19 47.9**	**-0.7**
ZARO	**Zacharo**	**0.77**	**84**	P	**Pb**	**02 19 39.8**	**+0.3**
LXR1	**Lixouri, Cepha**	**0.81**	**346**	P	**Pg**	**02 19 39.5**	**+0.1**
LXR1				S	**Sb**	**02 19 52.2**	**+0.8**
	16μm,0.4s						
AMT	**Artemida-Makis**	**0.83**	**81**	P	**Pg**	**02 19 39.7**	**+0.1**
AMT				S	**Sg**	**02 19 50.5**	**+0.2**
DMLN	**Damoulianata-K**	**0.86**	**344**	P	**Pg**	**02 19 39.8**	**-0.5**
DMLN				S	**Sb**	**02 19 53.4**	**+0.5**
	4μm,0.4s						
DMLN	**Damoulianata-K**	**0.86**	**344**	P	**Pg**	**02 19 40.2**	**-0.1**
RLS	**Riolos of Patr**	**0.90**	**44**	P	**Pg**	**02 19 40.3**	**-0.7**
RLS				S	**Sb**	**02 19 54.0**	**+0.2**
	608nm,0.6s						
RLS	**Riolos of Patr**	**0.90**	**44**	P	**Pg**	**02 19 40.2**	**-0.7**
DRO	**Drossia**	**0.98**	**56**	P	**Pg**	**02 19 41.9**	**-0.6**
DRO				S	**Sn**	**02 19 57.3**	**-0.8**
	1μm,0.4s						
DRO	**Drossia**	**0.98**	**56**	P	**Pg**	**02 19 42.1**	**-0.4**
VSK1	**VASILIKIADES**	**1.00**	**355**	P	**Pg**	**02 19 42.3**	**-0.7**
VSK1				S	**Sn**	**02 19 57.9**	**-0.8**
	3μm,0.5s						
ITM	**Ithomi**	**1.02**	**103**	P	**Pg**	**02 19 42.7**	**-0.6**
ITM				S	**Sb**	**02 19 58.1**	**+0.8**
	572nm,0.4s						
ITM	**Ithomi**	**1.02**	**103**	P	**Pb**	**02 19 44.0**	**+0.3**
FSK	**Fiskardo**	**1.05**	**355**	P	**Pg**	**02 19 42.8**	**-1.1**
FSK				S	**Sn**	**02 19 59.2**	**-0.7**
	2μm,0.3s						
AST1	**Astakos**	**1.18**	**16**	P	**Pg**	**02 19 45.5**	**-0.8**
AST1				S	**Sn**	**02 20 03.7**	**+0.8**
	978nm,0.5s						
EVGI	**Lefkada island**	**1.21**	**359**	P	**Pg**	**02 19 45.6**	**-1.4**
EVGI				S	**Sn**	**02 20 04.8**	**+1.0**
	2μm,0.3s						
DRAG	**Dragano-Lefkad**	**1.27**	**356**	P	**Pn**	**02 19 47.0**	**-1.0**
DRAG				S	**Sn**	**02 20 06.7**	**+1.3**
NYDR	**Nydri-Lefkada**	**1.30**	**1**	P	**Pn**	**02 19 46.9**	**-1.4**
NYDR				S	**Sn**	**02 20 07.2**	**+1.2**
	750nm,0.5s						
KLV	**Kalavryta, Ach**	**1.32**	**61**	P	**Pn**	**02 19 47.5**	**-1.3**
LKD2	**Lefkada island**	**1.38**	**359**	P	**Pn**	**02 19 48.4**	**-1.0**
LKD2	**Lefkada island**	**1.38**	**359**	P	**Pn**	**02 19 49.2**	**-0.3**
PVO	**Paravola**	**1.38**	**29**	P	**Pn**	**02 19 49.1**	**-0.3**
EFP	**Efpalio**	**1.40**	**43**	P	**Pn**	**02 19 48.9**	**-0.8**
EFP	**Efpalio**	**1.40**	**43**	P	**Pn**	**02 19 49.5**	**-0.2**
TSLK	**Tsoukalades, L**	**1.41**	**359**	P	**Pn**	**02 19 50.2**	**+0.3**
TSLK				S	**Sg**	**02 20 11.0**	**+1.8**
	1μm,0.5s						
TSLK	**Tsoukalades, L**	**1.41**	**359**	P	**Pn**	**02 19 50.2**	**+0.3**
GUR	**Goura**	**1.42**	**68**	P	**Pn**	**02 19 49.1**	**-1.0**
GUR	**Goura**	**1.42**	**68**	P	**Pn**	**02 19 49.8**	**-0.3**
KALE	**Kalithea**	**1.51**	**49**	P	**Pn**	**02 19 51.1**	**-0.2**
KALE	**Kalithea**	**1.51**	**49**	P	**Pn**	**02 19 51.3**	**0.0**
ANX	**Ano Chora**	**1.53**	**39**	P	**Pn**	**02 19 51.4**	**-0.3**
ANX				S	**Sg**	**02 20 14.1**	**+1.0**
	948nm,0.5s						
ANX	**Ano Chora**	**1.53**	**39**	P	**Pn**	**02 19 51.7**	**0.0**
LTK	**Loutraki**	**1.91**	**71**	P	**Pn**	**02 19 57.0**	**+0.3**
IGT	**Igoumenitsa**	**2.14**	**353**	P	**Pn**	**02 20 00.1**	**+0.3**

IDC 14 02:43:13.7±16.0, 18.°89S×175.°39W, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=407.0km s-min=50.2km az=38.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.28**	**260**	P	P	02 51 48.9	-0.4
	0.4nm,0.3s,baz=98,slow=6.8,SNR=14						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**47.30**	**255**	P	P	02 51 49.5	+0.1
	1.1nm,0.6s,baz=90,slow=7.9,SNR=20						
	1.1nm,0.6s						
VNDA	**Vanda**	**59.73**	**186**	P	P	02 53 19.8	0.0
	0.6nm,0.5s,baz=14,slow=4.7,SNR=1.6						
	0.6nm,0.5s						

*IDC **14** 02:52:06.2±0.7, 19.°07N×147.°29E, h0km, mb4.3/17, mbtmp4.3/18, ML3.9/1, MS3.4/19, Error ellipse: s-maj=21.0km s-min=15.2km az=81.0*
*NEIC **14** 02:52:08.8±1.5, 19.°07N±0.°07×147.°3E±0.°1, h10km±1km, mb5.0/57, Error ellipse: s-maj=18.7km s-min=12.0km az=80.0*

ISC 14 02:52:08.6±0.4, 19.°08N±0.°06×147.°32E±0.°07, h10km, n117, σ1°23/97, mb4.9/49, MS3.6/17, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.94**	**204**	Pn	**Pn**	**02 53 39.8**	**+3.1**
	80nm,0.3s,baz=6.6,slow=22,SNR=5.6						
GUMO				Sn	**Sn**	**02 54 46.3**	**+1.4**
	57nm,0.3s,baz=107,slow=23,SNR=12						
GUMO				LR	LR	02 55 40.9	
	comp=Z,180nm,21.6s,baz=331,slow=36						
JCJ	**Chichijima**	**9.27**	**330**	Pn	**Pn**	**02 54 22.5**	**+0.1**
JCJ	**Chichijima**	**9.27**	**330**	Pn	Pn	02 54 16.2	-6.2
	44nm,0.3s,baz=255,slow=22,SNR=8.1						
JCJ				Sn	Sn	02 55 51.7	-15
	36nm,0.3s,baz=297,slow=22,SNR=7.8						
PATS	**Pohnpei**	**16.20**	**137**		**Pn**	**02 55 53.5**	**-2.9**
PATS				IAmb	IAmb	02 56 04.0	
	comp=Z,218nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**18.35**	**89**	P	**Pn**	**02 56 22.9**	**-0.3**
	SNR=4.3						
H11S3				S	Sn	02 59 31.6	-17
	baz=129,slow=11,SNR=7.0						
H11S3				T	T	03 13 37.1	
	baz=276,slow=75,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**18.36**	**89**	P	**Pn**	**02 56 23.0**	**-0.3**
	SNR=5.0						
H11S1				S	Sn	02 59 35.1	-13
	baz=129,slow=11,SNR=6.6						
H11S1				T	T	03 13 36.3	
	baz=276,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**18.36**	**89**	P	**Pn**	**02 56 23.1**	**-0.3**
	SNR=6.1						
H11S2				S	Sn	02 59 32.8	-16
	baz=129,slow=11,SNR=5.5						
H11S2				T	T	03 13 37.8	
	baz=276,slow=75,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**18.47**	**85**	P	**P**	**02 56 27.2**	**+2.6**
	baz=264,slow=13,SNR=12						
H11N1				S	Sn	02 59 33.0	-18
	baz=212,slow=74,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**18.48**	**85**	P	**P**	**02 56 26.3**	**+1.8**
	baz=264,slow=13,SNR=11						
H11N2				S	Sn	02 59 33.0	-18
H11N3	**WAKE ISLAND Hy**	**18.49**	**85**	P	**P**	**02 56 27.6**	**+2.9**
	baz=264,slow=13,SNR=9.6						
H11N3				S	Sn	02 59 35.4	-16
	baz=300,slow=74,SNR=4.6						
JGF	**Kuroka**	**18.67**	**334**	P	**P**	**02 56 28.0**	**+1.2**
JGF				IAmb	IAmb	02 56 35.8	
	comp=Z,141nm,1.9s						
JMN	**Monobe**	**18.89**	**323**	P	**P**	**02 56 29.8**	**+0.6**
JMN				IAmb	IAmb	02 56 35.9	
	comp=Z,111nm,1.5s						
JOW	**Kunigami**	**19.15**	**297**	LR	LR	03 02 43.4	
	comp=Z,124nm,19.8s,baz=212,slow=33						
MJAR	**Matsushiro Arr**	**19.15**	**337**	P	**P**	**02 56 32.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=161,slow=10,SNR=11						
MJAR				LR	LR	03 03 29.3	
	comp=Z,45nm,21.7s,baz=145,slow=36						
	comp=Z,3.6nm,0.7s						
JNU	**Nakatsue**	**20.30**	**317**	P	**P**	**02 56 44.6**	**0.0**
JNU	**Nakatsue**	**20.30**	**317**	P	**P**	**02 56 44.8**	**+0.1**
	comp=Z,8.8nm,0.7s,baz=90,slow=11,SNR=3.7						
JNU				LR	LR	03 03 39.8	
	comp=Z,80nm,19.6s,baz=140,slow=34						
	comp=Z,8.8nm,0.7s						
JAY	**Jayapura**	**22.42**	**198**	LR	LR	03 05 55.4	
	comp=Z,47nm,18.7s,baz=266,slow=37						
KSRS	**Korea Array**	**24.95**	**321**	P	**P**	**02 57 31.8**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=151,slow=8.9,SNR=10.0						
	comp=Z,4.9nm,0.6s						
SSLB	**Suanglung**	**24.97**	**285**	P	**P**	**02 57 32.3**	**-0.2**
SSLB				IAmb	IAmb	02 57 32.9	
	comp=Z,22nm,0.7s						
PMG	**Port Moresby**	**28.30**	**180**	LR	LR	03 10 31.3	
	comp=Z,48nm,18.2s,baz=29,slow=39						
NJ2	**Nanjing**	**28.65**	**302**	*eP*	**P**	**02 58 06.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
HNR	**Honiara**	**30.95**	**155**	LR	LR	03 10 47.6	
	comp=Z,122nm,19.6s,baz=317,slow=36						
KLR	**Kul'dur**	**32.59**	**341**	LR	LR	03 14 17.5	
	comp=Z,23nm,19.2s,baz=128,slow=41						
COEN	**Coen**	**33.08**	**187**	P	**P**	**02 58 44.0**	**-0.7**
HNS	**HongShan**	**33.81**	**310**	⇑P	**P**	**02 58 50.6**	**-0.3**
HNS				pmax	pmax		
	comp=Z,34nm,0.9s						
BJI	**Beijing**	**33.94**	**315**	P	**P**	**02 58 50.8**	**-1.2**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,52nm,6.0s						
PETK	**Petropavlovsk-**	**34.91**	**11**	LR	LR	03 10 52.1	
	comp=Z,31nm,21.4s,baz=173,slow=32						
HEH	**HeiHe**	**34.92**	**338**	*eP*	**P**	**02 59 00.8**	**+0.4**
QIZ	**Qiongzhong**	**35.38**	**276**	P	**P**	**02 59 05.8**	**+1.0**
QIZ				S	**S**	**03 04 37.3**	**-2.3**
QIZ				LR	LR		
	comp=N,160nm,15.8s						
QIZ				LR	LR		
	comp=E,200nm,13.7s						
QIZ				LR	LR		
	comp=Z,260nm,18.1s						
HHC	**Hu-ho-hao-te**	**37.45**	**313**	*eP*	**P**	**02 59 22.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,88nm,5.3s						
BTO	**Baotou**	**38.42**	**312**	*eP*	**P**	**02 59 32.6**	**+2.1**
BTO				pP	**pwP**	**02 59 44.5**	**+6.8**
BTO				sP	sP	02 59 49.9	+17
BTO				PP	PP	03 00 38.9	-20
BTO				pmax	pmax		
	comp=Z,24nm,0.7s						
BTO				pmax	pmax		
	comp=Z,280nm,4.4s						
MA2	**Magadan**	**40.52**	**3**	LR	LR	03 15 40.2	
	comp=Z,23nm,20.8s,baz=148,slow=35						
WR0	**Warramunga Arr**	**40.77**	**199**	P	**P**	**02 59 49.3**	**-0.8**
WB2	**Warramunga Arr**	**40.81**	**199**	P	**P**	**02 59 49.4**	**-1.0**
WRA	**Warramunga Arr**	**40.81**	**199**	P	P	02 59 49.0	-1.5
WRA	**Warramunga Arr**	**40.81**	**199**	P	**P**	**02 59 49.1**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=17,slow=8.0,SNR=17						
WRA				LR	LR	03 16 19.5	
	comp=Z,50nm,20.6s,baz=7.5,slow=36						
	comp=Z,1.1nm,0.4s						
PZH	**PanZhiHua**	**42.49**	**289**	P	**P**	**03 00 04.6**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
FITZ	**Fitzroy Crossi**	**42.64**	**211**	P	**P**	**03 00 04.1**	**-1.3**
SONM	**Songino Array**	**43.82**	**320**	P	**P**	**03 00 14.5**	**-0.4**
SONM	**Songino Array**	**43.82**	**320**	P	**P**	**03 00 13.9**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=126,slow=7.0,SNR=17						
	comp=Z,1.9nm,0.4s						
AS31	**Alice Springs**	**44.45**	**198**	P	**P**	**03 00 19.9**	**-0.2**
ASAR	**Alice Springs**	**44.46**	**198**	P	**P**	**03 00 19.9**	**-0.1**
ASAR	**Alice Springs**	**44.46**	**198**	P	**P**	**03 00 19.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=16,slow=8.8,SNR=14						
	comp=Z,1.0nm,0.6s						
DZM	**Mont Dzumac**	**44.97**	**155**	*eLR*	LR	03 13 02.1	
	comp=Z,178nm,23.4s						
DZM	**Mont Dzumac**	**44.97**	**155**	LR	LR	03 16 45.3	
	comp=Z,104nm,20.5s,baz=330,slow=33						
CMAR	**Chiang Mai Arr**	**45.69**	**277**	P	**P**	**03 00 29.1**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=66,slow=6.9,SNR=11						
	comp=Z,2.0nm,0.3s						
MBWA	**Marble Bar**	**48.26**	**215**	P	P	03 00 47.6	-2.3
MBWA				IAmb	IAmb	03 01 38.8	
	comp=Z,28nm,1.4s						
PSA00	**Pilbara Seismi**	**48.53**	**215**	P	**P**	**03 00 51.3**	**-0.8**
GOMU	**GeErMu**	**48.95**	**302**	P	**P**	**03 00 55.3**	**-0.4**
GOMU				pP	pP	03 00 58.8	+1.2
GOMU				sP	sP	03 01 02.4	+4.0
GOMU				pmax	pmax		
	comp=Z,13nm,0.6s						
STKA	**Stephens Creek**	**50.96**	**186**	P	**P**	**03 01 10.7**	**+0.3**
STKA	**Stephens Creek**	**50.96**	**186**	P	**P**	**03 01 09.7**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=43,slow=8.6,SNR=4.9						
STKA				LR	LR	03 24 20.4	
	comp=Z,57nm,18.9s,baz=27,slow=38						
	comp=Z,0.8nm,0.3s						
BBOO	**Buckleboo**	**52.71**	**192**	P	**P**	**03 01 23.6**	**+0.1**
BBOO				IAmb	IAmb	03 01 44.2	
	comp=Z,12nm,0.7s						
N15K	**Kwethluk River**	**55.34**	**29**	P	**P**	**03 01 43.4**	**+1.0**
M16K	**Timber Creek**	**56.20**	**28**	P	**P**	**03 01 48.5**	**-0.1**
MORW	**Morawa**	**56.60**	**213**	P	P	03 01 49.9	-1.9
K17K	**Iditarod**	**57.17**	**26**	P	**P**	**03 01 56.2**	**+0.8**
K17K				IAmb	IAmb	03 02 04.7	
	comp=Z,31nm,1.6s						
C16K	**Lisburne Hills**	**57.30**	**19**	P	**P**	**03 01 56.3**	**+0.1**
C16K				IAmb	IAmb	03 02 56.4	
	comp=Z,23nm,1.9s						
N18K	**Kilae Creek**	**57.47**	**29**	P	**P**	**03 01 58.2**	**+0.6**
H18K	**Honhosa River**	**58.16**	**24**	P	**P**	**03 02 02.9**	**+0.5**
H18K				IAmb	IAmb	03 03 46.3	
	comp=Z,33nm,1.9s						
N19K	**Bonanza Creek**	**58.16**	**29**	P	**P**	**03 02 03.3**	**+0.8**
ZAA0	**Zalesovo Array**	**58.66**	**322**	P	**P**	**03 02 05.7**	**-0.3**
ZALV	**Zalesovo Beam**	**58.66**	**322**	P	**P**	**03 02 05.1**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=114,slow=5.2,SNR=8.2						
ZALV				LR	LR	03 26 27.0	
	comp=Z,54nm,20.3s,baz=50,slow=35						
	comp=Z,1.2nm,0.4s						
MK31	**Makanchi Array**	**59.31**	**314**	P	**P**	**03 02 10.0**	**-0.7**
MKAR	**Makanchi Array**	**59.31**	**314**	P	**P**	**03 02 10.2**	**-0.5**
MKAR	**Makanchi Array**	**59.31**	**314**	P	**P**	**03 02 10.0**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=90,slow=8.8,SNR=52						
	comp=Z,3.7nm,0.6s						
MAKZ	**Makanchi**	**59.53**	**314**	P	**P**	**03 02 11.8**	**-0.4**
MAKZ				IAmb	IAmb	03 02 13.1	
	comp=Z,5.4nm,0.6s						
CAST	**Castle Rocks**	**60.06**	**27**	P	**P**	**03 02 15.9**	**+0.3**
CAST				IAmb	IAmb	03 03 28.3	
	comp=Z,30nm,1.8s						
H21K	**Melozitna Rive**	**60.50**	**24**	P	**P**	**03 02 18.8**	**+0.2**
H21K				IAmb	IAmb	03 02 58.6	
	comp=Z,23nm,1.9s						
TRF	**Thorofare Moun**	**60.84**	**27**	P	**P**	**03 02 21.2**	**+0.1**
KNK	**Knik Glacier**	**61.14**	**30**	P	**P**	**03 02 22.5**	**-0.5**
D22K	**Ayikyak River**	**61.69**	**21**	P	**P**	**03 02 27.3**	**+0.7**
D22K				IAmb	IAmb	03 03 12.1	
	comp=Z,19nm,1.8s						
I23K	**Minto, Yukon-K**	**61.71**	**25**	P	**P**	**03 02 26.4**	**-0.3**
I23K				IAmb	IAmb	03 04 36.9	
	comp=Z,32nm,1.8s						
E22K	**Anaktuvuk Pass**	**61.72**	**22**	P	**P**	**03 02 27.2**	**+0.4**
E22K				IAmb	IAmb	03 03 01.1	
	comp=Z,13nm,1.6s						
SCM	**Sheep Creek Mo**	**61.76**	**29**	P	P	03 02 25.5	-1.8
KURK	**Kurchatov**	**62.02**	**318**	P	**P**	**03 02 28.2**	**-0.9**
KURK				IAmb	IAmb	03 02 30.2	
	comp=Z,4.6nm,0.5s						
KURBB	**Kurchatov Arra**	**62.07**	**318**	P	**P**	**03 02 28.2**	**-1.1**
	comp=Z,5.9nm,0.4s,baz=93,slow=7.5,SNR=85						
	comp=Z,5.9nm,0.4s						
D23K	**Nanushuk River**	**62.40**	**21**	P	**P**	**03 02 31.6**	**+0.3**
D23K				IAmb	IAmb	03 02 53.8	
	comp=Z,28nm,2.0s						
H24K	**Noodor Dome**	**62.49**	**25**	P	**P**	**03 02 32.8**	**+0.8**
H24K				IAmb	IAmb	03 03 13.9	
	comp=Z,23nm,1.9s						
ILAR	**Eielson Array**	**62.63**	**26**	P	**P**	**03 02 32.5**	**-0.4**
ILAR	**Eielson Array**	**62.63**	**26**	P	**P**	**03 02 31.8**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=255,slow=6.2,SNR=9.0						
	comp=Z,1.2nm,1.0s						
KDJ	**Kajisay**	**62.86**	**308**	P	**P**	**03 02 34.2**	**-0.9**
KDJ				IAmb	IAmb	03 02 35.8	
	comp=Z,11nm,1.2s						
E24K	**Your Creek**	**62.89**	**22**	P	**P**	**03 02 35.4**	**+0.7**
F24K	**Squaw Lake**	**62.95**	**23**	P	**P**	**03 02 35.2**	**+0.2**
F24K				IAmb	IAmb	03 03 40.2	
	comp=Z,19nm,1.9s						
D24K	**Happy Valley**	**63.09**	**21**	P	**P**	**03 02 36.7**	**+0.8**
D24K				IAmb	IAmb	03 02 46.3	
	comp=Z,22nm,1.7s						
J25K	**Salcha River,**	**63.23**	**26**	P	**P**	**03 02 35.9**	**-1.1**
J25K				IAmb	IAmb	03 02 50.2	
	comp=Z,17nm,1.9s						
BOOM	**Boomskoye usch**	**63.77**	**309**	P	**P**	**03 02 40.9**	**-0.2**
BOOM				IAmb	IAmb	03 02 41.7	
	comp=Z,9.1nm,0.6s						
AAK	**Ala-Archa**	**64.83**	**309**	P	**P**	**03 02 47.7**	**-0.3**
HYB	**Hyderabad**	**64.93**	**281**	*eP*	**P**	**03 02 47.9**	**-1.0**
ARSB	**Arslanbob**	**66.05**	**307**	P	P	03 02 54.4	-1.5
ARSB				IAmb	IAmb	03 02 56.4	
	comp=Z,9.4nm,0.6s						
BVAR	**Borovoye Array**	**67.16**	**320**	P	**P**	**03 03 01.9**	**-0.8**
	comp=Z,9.5nm,0.4s,baz=89,slow=7.6,SNR=28						
BVAR				LR	LR	03 31 55.4	
	comp=Z,53nm,20.5s,baz=53,slow=36						
	comp=Z,9.5nm,0.4s						
BRVK	**Borovoye**	**67.23**	**320**	P	**P**	**03 03 02.0**	**-1.0**
BRVK				IAmb	IAmb	03 03 06.0	
	comp=Z,7.0nm,0.7s						
KK31	**Karatay Array**	**67.71**	**310**	P	**P**	**03 03 05.8**	**-0.6**
KKAR	**Karatay Array**	**67.71**	**310**	P	**P**	**03 03 05.7**	**-0.6**
KKAR				IAmb	IAmb	03 03 06.5	
	comp=Z,8.4nm,0.8s						
KKAR	**Karatay Array**	**67.71**	**310**	P	**P**	**03 03 05.6**	**-0.7**
GAR	**Garm**	**68.32**	**305**	P	**P**	**03 03 09.5**	**-0.9**
GAR				IAmb	IAmb	03 03 10.3	
	comp=Z,9.1nm,0.5s						
SIMJ	**Simiganj**	**69.38**	**305**	P	**P**	**03 03 16.1**	**-0.9**
SIMJ				IAmb	IAmb	03 03 17.0	
	comp=Z,7.5nm,0.7s						
KBL	**Kabul**	**70.00**	**301**	P	P	03 03 19.2	-1.8
PPT	**Papeete**	**71.90**	**116**	LR	LR	03 26 10.3	
	comp=Z,75nm,21.7s,baz=119,slow=28						
PPT2	**Papeete2**	**71.91**	**117**	*eLR*	LR	03 25 26.1	
	comp=Z,99nm,25.0s						
ABKAR	**Akbulak array**	**74.11**	**317**	P	**P**	**03 03 43.9**	**-1.2**
ABKAR	**Akbulak array**	**74.11**	**317**	P	P	03 03 43.7	-1.4
YKA	**Yellowknin Ar**	**76.93**	**28**	P	**P**	**03 04 00.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=290,slow=5.7,SNR=9.9						
	comp=Z,0.9nm,0.7s						
NEW	**Newport**	**79.60**	**43**	LR	LR	03 35 34.5	
	comp=Z,43nm,20.7s,baz=340,slow=33						
NVAR	**Mina Array Bea**	**81.69**	**52**	P	**P**	**03 04 28.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=265,slow=5.9,SNR=5.2						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**82.60**	**342**	P	**P**	**03 04 30.6**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=72,slow=7.8,SNR=8.6						
	comp=Z,2.4nm,0.9s						
MSU	**Marysvale**	**86.20**	**51**	P	**P**	**03 04 52.5**	**+1.7**
PDAR	**Pinedale Array**	**86.46**	**46**	P	**P**	**03 04 51.5**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=318,slow=8.3,SNR=1.3						
KBZ	**Khabaz**	**86.96**	**315**	LR	LR	03 48 16.4	
	comp=Z,37nm,18.1s,baz=72,slow=39						
FINES	**FINESS Array B**	**87.18**	**336**	P	P	03 04 52.7	-2.1
	comp=Z,2.4nm,0.7s,baz=45,slow=4.0,SNR=9.0						
	comp=Z,2.4nm,0.7s						
PV10	**Paradox Valley**	**88.53**	**50**	P	**P**	**03 05 01.8**	**-0.3**
HFS	**Hagfors**	**92.60**	**339**	P	**P**	**03 05 19.7**	**-0.6**
	comp=Z,4.2nm,1.0s,baz=97,slow=4.9,SNR=4.3						
	comp=Z,4.2nm,1.0s						
NOA	**NORSAR Array B**	**92.74**	**340**	LR	LR	03 51 57.4	
	comp=Z,8.9nm,21.1s,baz=350,slow=39						
MSTX	**Muleshoe**	**94.99**	**52**	P	**P**	**03 05 30.8**	**-1.2**
CLL	**Collm**	**99.31**	**333**	*

comp=Z,2.8nm,0.4s,baz=336,slow=7.4,SNR=41
comp=Z,2.8nm,0.4s
MKAR Makanchi Array 44.51 324 P **P 03 21 43.8 +0.9**
comp=Z,0.5nm,0.8s,baz=123,slow=8.8,SNR=4.5
MKAR PcP **PcP 03 23 26.0 +0.5**
comp=Z,0.5nm,0.7s,baz=96,slow=4.9,SNR=4.3
comp=Z,0.5nm,0.8s
FORT Forrest 46.06 170 P **P 03 21 56.0 +0.8**
HNR Honiara 46.68 119 LR LR 03 40 20.0
comp=Z,21nm,20.8s,baz=336,slow=34
AAK Ala-Archa 47.54 315 LR LR 03 43 42.5
comp=Z,64nm,20.9s,baz=63,slow=38
ZALV Zalesovo Beam 47.59 333 P **P 03 22 06.4 -0.5**
ZALV Zalesovo Beam 47.59 333 P **P 03 22 07.0 +0.1**
comp=Z,0.6nm,0.4s,baz=129,slow=8.2,SNR=3.0
comp=Z,0.6nm,0.4s
PETK Petropavlovsk- 48.56 30 P **P 03 22 12.9 -1.6**
PETK Petropavlovsk- 48.56 30 P **P 03 22 13.5 -1.0**
comp=Z,3.0nm,0.7s,baz=223,slow=8.6,SNR=3.1
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 48.68 326 P **P 03 22 16.4 +1.0**
comp=Z,1.0nm,0.9s,baz=121,slow=8.3,SNR=8.0
comp=Z,1.0nm,0.9s
KURK Kurchatov 48.68 326 P **P 03 22 16.3 +0.9**
KURK IAmb IAmb 03 22 29.9
comp=Z,4.1nm,1.1s
BBOO Buckleboo 49.91 162 P **P 03 22 24.4 -0.5**
BBOO IAmb IAmb 03 23 04.2
comp=Z,11nm,1.4s
HRA Herat 54.96 302 P **P 03 23 02.1 -0.6**
TIXI Tiksi 57.08 3 P **P 03 23 16.0 -1.0**
TIXI IAmb IAmb 03 23 17.4
comp=Z,7.0nm,1.1s
ABKAR Abkulak array 59.20 319 P **P 03 23 32.9 +0.6**
ABKAR Abkulak array 59.20 319 P **P 03 23 32.1 -0.2**
ABKAR IAmb IAmb 03 23 51.8
comp=Z,1.9nm,0.9s
F15K North Star Dit 70.73 25 P **P 03 24 47.0 +0.2**
F15K IAmb IAmb 03 25 13.0
comp=Z,7.6nm,1.5s
G16K Koyuk River 71.65 26 P **P 03 24 52.0 -0.4**
G16K IAmb IAmb 03 25 12.4
comp=Z,5.7nm,1.1s
C18K Utukok River 72.36 22 P **P 03 24 56.6 -0.1**
L16K Owhat River 72.76 30 P **P 03 24 58.7 -0.4**
L16K IAmb IAmb 03 24 59.5
comp=Z,11nm,1.4s
J17K VABM Dome 72.97 28 P **P 03 24 59.4 -0.9**
J17K IAmb IAmb 03 25 12.9
comp=Z,15nm,1.5s
M16K Timber Creek 73.00 30 P **P 03 24 59.2 -1.3**
M16K IAmb IAmb 03 25 22.1
comp=Z,12nm,1.4s
K17K Iditarod 73.32 28 P **P 03 25 01.5 -0.9**
K17K IAmb IAmb 03 25 07.3
comp=Z,13nm,1.4s
D19K Kuna River 73.48 22 P **P 03 25 03.0 -0.3**
D19K IAmb IAmb 03 25 26.2
comp=Z,6.9nm,1.3s
N17K Nushagak Hills 73.88 31 P **P 03 25 03.4 -2.3**
QRZ Quartz Range 73.92 141 P **P 03 25 05.5 -0.7**
J18K Innoko River 74.03 28 P **P 03 25 05.1 -1.5**
L18K Granite Mounta 74.08 29 P **P 03 25 06.9 0.0**
L18K IAmb IAmb 03 25 48.6
comp=Z,18nm,1.4s
TTA Tatalina 74.37 28 P **P 03 25 08.4 -0.2**
TTA IAmb IAmb 03 25 33.6
comp=Z,8.0nm,1.5s
ARCES ARCESS Array B 77.67 339 P **P 03 25 27.8 +0.6**
comp=Z,2.1nm,0.6s,baz=72,slow=6.0,SNR=14
comp=Z,2.1nm,0.6s
ILAR Eielson Array 78.20 26 P **P 03 25 30.4 +0.1**
comp=Z,0.3nm,0.8s,baz=259,slow=5.3,SNR=2.5
comp=Z,0.3nm,0.8s
SPITS Spitsbergen Ar 78.28 348 P **P 03 25 31.1 +0.6**
comp=Z,4.3nm,0.7s,baz=72,slow=8.0,SNR=12
comp=Z,4.3nm,0.7s
FINES FINESS Array B 78.80 331 P **P 03 25 34.2 +0.6**
comp=Z,2.1nm,0.5s,baz=61,slow=5.7,SNR=22
comp=Z,2.1nm,0.5s
HFS Hagfors 84.99 331 P **P 03 26 06.3 +0.2**
comp=Z,1.7nm,0.6s,baz=143,slow=3.7,SNR=11
comp=Z,1.7nm,0.6s
NB2 NORSAR Subarra 85.79 332 P **P 03 26 10.2 0.0**
comp=Z,6.6nm,1.1s,baz=71,slow=4.6
NOA NORSAR Array B 85.79 332 P **P 03 26 10.2 0.0**
comp=Z,2.0nm,0.8s,baz=68,slow=4.7,SNR=7.0
NOA LR LR 04 06 09.0
comp=Z,25nm,20.1s,baz=355,slow=37
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 92.14 22 P **P 03 26 39.6 -0.6**
comp=Z,0.7nm,0.7s,baz=306,slow=4.6,SNR=12
comp=Z,0.7nm,0.7s
PLCA Paso Flores 152.71 163 PKPbc **PKiKP 03 33 30.0 +1.9**
comp=Z,1.7nm,0.7s,baz=214,slow=2.5,SNR=6.8

*ISN **14** 03:20:08.7±1.2,32.°72N×47.°58E,h6km±6km,ML2.7*
*TEH **14** 03:20:09.0,32.°73N×47.°59E,h10km±400km*
ISC 14 03:20:09.9±2.5,32.°7N±0.°2×47.°61E±0.°07,h10km,n7,
σ1°§15/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.82**	**14**	P	**Pg**	**Pg**	**03 20 24.7**	**-1.1**
IDOB	**Doab**	**1.17**	**24**	Pg	**Pn**	**Pn**	**03 20 32.3**	**-0.2**
IBDR	**Badra**	**1.46**	**286**	*e*Pg	**Pg**	**Pg**	**03 20 37.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**Sg**	**03 20 56.0**	**-0.9**
IBDR				AML	AML	AML	03 21 02.1	
	comp=N,154nm,0.5s							
IBDR				AML	AML	AML	03 21 06.5	
	comp=E,113nm,0.8s							
BDRS	**Dareh Seyedi**	**1.63**	**41**	Pg	**Pg**	**Pg**	**03 20 40.1**	**-1.0**
BDRS				Sg	**Sg**	**Sg**	**03 21 03.9**	**+1.7**
HSAM	**Samen**	**1.70**	**29**	Pg	**Pg**	**Pb**	**03 20 41.1**	**-0.3**
BHD	**Baghdad**	**2.77**	**282**	*e*Pn	**Pn**	**Pn**	**03 20 55.0**	**+0.8**
BHD				*e*Sn	**Sn**	**Sn**	**03 21 29.0**	**+1.3**
IKRK	**Kirkuk**	**3.81**	**315**	*e*Pn	**Pn**	**Pn**	**03 21 09.0**	**+0.4**
IKRK				*e*Sn	**Sn**	**Sn**	**03 21 54.5**	**+1.1**

*GCG **14** 03:24:15.1±2.9,15.°33N×94.°75W,h43km±999km,MD4.6*
*MEX **14** 03:24:16.6±1.2,15.°33N×94.°69W,h25km±29km,MD4.2*
ISC 14 03:24:15.5±1.2,15.°35N±0.°05×94.°72W±0.°02,h40km,n36,
σ2°§10/67,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.22**	**5**	*i* P	**Pn**	**Pn**	**03 24 34.3**	**-1.7**
NILT				*e*S	**Sn**	**Sn**	**03 24 47.5**	**-3.8**
HUIG	**Huatulco**	**1.41**	**288**	*e*P	**Pn**	**Pn**	**03 24 38.8**	**+0.2**
HUIG				*e*S	**Sn**	**Sn**	**03 24 54.8**	**-1.2**
HUIG	**Huatulco**	**1.41**	**288**	*e*P	**Pn**	**Pn**	**03 24 38.4**	**-0.2**
HUIG				*i* S	**Sn**	**Sn**	**03 24 54.7**	**-1.2**
HUIG	**Huatulco**	**1.41**	**288**	*e*P			03 24 38.4	
HUIG				*i* S			03 24 54.7	
PCIG		**1.49**	**76**	*e*P	**Pn**	**Pn**	**03 24 38.8**	**-0.9**
PCIG				*e*S	**Sn**	**Sn**	**03 24 55.6**	**-2.4**
CMIG	**Matias Romero**	**1.74**	**355**	*e*P	**Pn**	**Pn**	**03 24 42.8**	**-0.4**
CMIG				*e*S	**Sn**	**Sn**	**03 25 03.0**	**-1.3**
UXUV	**UXUV**	**2.04**	**16**	*e*P	**Pn**	**Pn**	**03 24 47.6**	**+0.3**
UXUV				*e*S	**Sn**	**Sn**	**03 25 11.0**	**-0.5**
TGIG		**2.09**	**47**	*e*P			03 24 48.2	
TGIG				*e*S			03 25 13.7	
TGIG		**2.09**	**47**	*e*P	**Pn**	**Pn**	**03 24 48.3**	**+0.1**
TGIG				*e*S	**Sn**	**Sn**	**03 25 13.2**	**+0.2**
TGIG		**2.09**	**47**	*e*P	**Pn**	**Pn**	**03 24 48.2**	**+0.1**
TGIG				*e*S	**Sn**	**Sn**	**03 25 13.7**	**+0.7**
TGBT	**Tuxtla Gutierr**	**2.12**	**48**	*e*S	**Sn**	**Sn**	**03 25 14.3**	**+0.9**
PATR	**El Naranjo**	**2.41**	**95**	*e*P	**Pn**	**Pn**	**03 24 52.0**	**-0.7**
PATR				*e*S	**Sn**	**Sn**	**03 25 19.2**	**-1.8**
THIG		**2.41**	**100**	*e*S	**Sn**	**Sn**	**03 25 20.8**	**+0.2**
PEIG	**Puerto Escondi**	**2.43**	**286**	*e*P	**Pn**	**Pn**	**03 24 53.2**	**+0.4**
PEIG				*e*S	**Sn**	**Sn**	**03 25 19.1**	**-2.1**
PAVE	**Pavencul**	**2.46**	**93**	*e*P	**Pn**	**Pn**	**03 24 53.4**	**+0.1**
PAVE				*e*S	**Sn**	**Sn**	**03 25 22.6**	**+0.4**
NEUV	**Arroyo Zacate**	**2.57**	**336**	*e*P	**Pn**	**Pn**	**03 24 54.8**	**+0.1**
NEUV				*e*S	**Sn**	**Sn**	**03 25 23.1**	**-1.6**
VHO	**Vista Hermosa**	**2.59**	**312**	*e*P	**Pn**	**Pn**	**03 24 57.5**	**+2.4**
VHO				*e*S	**Sn**	**Sn**	**03 25 26.9**	**+1.4**
CCIG	**Comitan**	**2.65**	**69**	*e*P	**Pn**	**Pn**	**03 24 57.8**	**+1.8**
CCIG				*e*S	**Sn**	**Sn**	**03 25 29.2**	**+2.3**
CCIG	**Comitan**	**2.65**	**69**	*e*P	**Pn**	**Pn**	**03 24 57.6**	**+1.6**
CCIG	**Comitan**	**2.65**	**69**	*e*P			03 24 57.6	
HUEH	**Huehuetenango**	**3.10**	**90**	*e*P	**Pn**	**Pn**	**03 25 02.7**	**+0.5**
HUEH				*e*S	**Sn**	**Sn**	**03 25 36.9**	**-1.2**
YOIG	**Yosondua**	**3.11**	**299**	*e*P	**Pn**	**Pn**	**03 25 04.9**	**+2.6**
YOIG				*e*S	**Sn**	**Sn**	**03 25 36.8**	**-1.5**
STG8	**El Palmar, Qui**	**3.37**	**105**	*e*P			03 25 01.8	
STG0	**El Palmar, Qui**	**3.39**	**105**	*e*P			03 25 02.0	
PNIG	**Pinotepa**	**3.44**	**288**	*e*P	**Pn**	**Pn**	**03 25 08.0**	**+1.3**
PNIG				*e*S	**Sn**	**Sn**	**03 25 42.6**	**-3.6**
TXIG	**Tlaxiaco**	**3.49**	**303**	*e*P	**Pn**	**Pn**	**03 25 10.5**	**+2.9**
TXIG				*e*S	**Sn**	**Sn**	**03 25 45.5**	**-2.2**
TOIG	**Toxpalan**	**3.54**	**321**	*e*P	**Pn**	**Pn**	**03 25 12.2**	**+4.1**
TOIG				*e*S	**Sn**	**Sn**	**03 25 49.4**	**+0.6**
HLIG	**Huajuapan de L**	**3.85**	**310**	*e*P	**Pn**	**Pn**	**03 25 14.8**	**+2.3**
HLIG				*e*S	**Sn**	**Sn**	**03 25 57.0**	**+0.4**
TPIG	**Tehuac#an**	**3.97**	**321**	*e*P	**Pn**	**Pn**	**03 25 14.5**	**+0.5**
TPIG				*e*S	**Sn**	**Sn**	**03 26 01.2**	**+1.7**
APG	**El Apazote**	**4.12**	**94**	*e*P	**Pn**	**Pn**	**03 25 19.2**	**+3.0**
APG	**El Apazote**	**4.12**	**94**	*e*P			03 25 19.2	
FTIG	**Fresnillo de T**	**4.15**	**308**	*e*P	**Pn**	**Pn**	**03 25 19.9**	**+3.4**
FTIG				*e*S	**Sn**	**Sn**	**03 26 01.4**	**-2.4**
MGIG	**Malinaltepec**	**4.20**	**297**	*e*P	**Pn**	**Pn**	**03 25 20.1**	**+2.9**
MGIG				*e*S	**Sn**	**Sn**	**03 26 03.6**	**-1.6**
TLIG	**Tlapa**	**4.30**	**301**	*e*P	**Pn**	**Pn**	**03 25 21.8**	**+3.2**
TLIG				*e*S	**Sn**	**Sn**	**03 26 04.6**	**-3.0**
POHV	**Veracruz**	**4.44**	**327**	*e*P	**Pn**	**Pn**	**03 25 21.9**	**+1.1**
CRIG	**Cruz Grande**	**4.46**	**289**	*e*P	**Pn**	**Pn**	**03 25 21.7**	**+1.0**
CRIG				*e*S	**Sn**	**Sn**	**03 26 07.7**	**-3.8**
JAUV	**Jalcomulco**	**4.47**	**334**	*e*P	**Pn**	**Pn**	**03 25 20.9**	**+0.2**
JAUV				*e*S	**Sn**	**Sn**	**03 26 09.7**	**-1.9**
SCIG	**Sabancuy**	**4.94**	**43**	*e*P	**Pn**	**Pn**	**03 25 27.5**	**+0.3**
SCIG				*e*S	**Sn**	**Sn**	**03 26 18.8**	**-4.2**
DAIG	**Los Arroyos**	**5.02**	**290**	*e*P	**Pn**	**Pn**	**03 25 27.1**	**-1.3**
DAIG				*e*S	**Sn**	**Sn**	**03 26 20.6**	**-4.6**
YAIG	**Yautepec**	**5.43**	**311**	*e*P	**Pn**	**Pn**	**03 25 37.8**	**+3.7**
YAIG				*e*S	**Sn**	**Sn**	**03 26 34.4**	**-1.1**
PLIG	**Platanillo**	**5.49**	**304**	*e*P	**Pn**	**Pn**	**03 25 38.6**	**+3.7**
PLIG				*e*S	**Sn**	**Sn**	**03 26 37.0**	**+0.1**
ARIG	**Puente Sto Nin**	**6.13**	**299**	*e*P	**Pn**	**Pn**	**03 25 47.0**	**+3.3**
ARIG				*e*S	**Sn**	**Sn**	**03 26 52.3**	**-0.2**

WEL 14 04:32:46.7±1.2,35.°S±15.°×17.°9W±2.°0,h318km±14km,
M3.5/8,mB4.3/4,ML4.0/12,MLv3.6/8,Mw(mB)3.4/4,Error
ellipse: s-maj=28.4km s-min=15.6km az=120.3,
confirmed,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.98**	**225**	P	Pn		04 33 40.2	-3.2
MXZ				S	S		04 34 27.5	-1.4
PKGZ	**Pakihiroa**	**3.32**	**224**	P	Pn		04 33 48.4	+1.7
PKGZ				S	S		04 34 35.9	+0.9
PUZ	**Puketiti**	**3.37**	**220**	S	S		04 34 38.4	+2.5
HAZ	**Te Kaha**	**3.42**	**228**	P	Pn		04 33 47.8	+0.1
HAZ				S	S		04 34 33.3	-3.4
TWGZ	**Tauwhareparae**	**3.59**	**221**	S	S		04 34 42.5	+2.4
RUGZ	**Raukumara Rang**	**3.62**	**226**	P	Pn		04 33 49.4	-0.5
RUGZ				S	S		04 34 37.9	-2.8
TKGZ	**Te Karaka**	**3.86**	**220**	S	S		04 34 48.1	+3.1
RIGZ	**Rimuhau**	**4.10**	**218**	P	Pn		04 33 57.1	+2.1
RIGZ				S	S		04 34 53.6	+3.8
RAGZ	**Rawiri**	**4.13**	**223**	P	Pn		04 33 56.4	+1.1
RAGZ				S	S		04 34 51.3	+0.8
URZ	**Urewera**	**4.15**	**227**	P	Pn		04 33 53.9	-1.5
URZ				S	S		04 34 47.8	-2.8
RTZ	**Ruatahuna**	**4.46**	**225**	P	Pn		04 33 58.3	-0.6
MUGZ	**Murupara**	**4.49**	**227**	P	Pn		04 33 58.0	-1.2
NMHZ	**Naumai**	**4.89**	**222**	P	Pn		04 34 04.7	+1.0
NMHZ				S	S		04 35 07.4	+1.7
BKZ	**Black Stump Fm**	**5.12**	**223**	P	Pn		04 34 05.6	-0.6
BKZ				S	S		04 35 08.9	-1.4
KWHZ	**Kaweka Forest**	**5.34**	**221**	P	Pn		04 34 08.8	0.0
KWHZ				S	S		04 35 15.3	+0.4
KAHZ	**Kahuranaki**	**5.38**	**216**	P	Pn		04 34 11.8	+2.5
KAHZ				S	S		04 35 13.0	-2.8
WCZ	**Waipu Caves**	**5.41**	**263**	P	Pn		04 34 15.2	+5.5
KRHZ	**Kereru**	**5.52**	**220**	P	Pn		04 34 10.7	-0.2
KRHZ				S	S		04 35 17.4	-1.4
PXZ	**Pawanui**	**5.58**	**215**	P	Pn		04 34 10.6	-0.8
PXZ				S	S		04 35 22.5	+2.6
OTVZ	**Oturere**	**5.59**	**228**	P	Pn		04 34 09.6	-2.3
SNVZ	**South Ngauruho**	**5.62**	**228**	P	Pn		04 34 09.9	-2.3
SNVZ				S	S		04 35 19.9	-1.3
COVZ	**Chateau Observ**	**5.69**	**228**	P	Pn		04 34 14.7	+1.8
WNVZ	**Wahianoa**	**5.74**	**227**	P	Pn		04 34 11.1	-2.5
PRHZ	**Porangahau**	**5.87**	**215**	P	Pn		04 34 17.5	+2.6
DVHZ	**Dannevirke**	**6.12**	**217**	P	Pn		04 34 18.3	+0.5
GLKZ	**Green Lake**	**6.29**	**9**	P	Pn		04 34 32.4	+12

NOU 14 04:43:13.9,17.°38S×167.°34E,h20km,MLv3.9/10,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.88**	**113**	P	Pb		04 43 30.0	-0.5
DVP	**Devils Point**	**0.88**	**113**	S	Sb		04 43 42.1	+0.3
YATNC	**Mamie plateau,**	**4.67**	**185**	P	Pn		04 44 22.5	-0.9
DZM	**Mont Dzumac**	**4.74**	**190**	P	Pn		04 44 24.4	0.0
ONTNC	**Ouen Toro**	**4.97**	**190**	P	Pn		04 44 27.9	+0.4
OUENC	**Ouen Island, N**	**5.03**	**185**	P	Pn		04 44 28.3	0.0

*BER **14** 04:44:52.6±2.6,81.°99N×5.°69W,h10km,mb(Pn)3.0,*
ML1.7(DNK),Confirmed Earthquake
*DNK **14** 04:44:52.5±4.2,82.°08N×4.°89W,h36km±46km,ML1.7*
*FCIAR **14** 04:44:54.0,81.°68N×3.°63W,h10km,station OMEGA has*
station magnitude of 3.60 station ZFI2 has station
magnitude of 3.50
ISC 14 04:44:49.0±1.5,81.°9N±0.°1×4.°72W±0.°06,h10km,n16,
σ3°§41/27,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NOR	**Nord**	**1.75**	**265**	*i* P	**Pn**	**Pn**	**04 45 19.8**	**+0.4**
NOR				*i* S	**Sn**	**Sn**	**04 45 37.1**	**-4.5**
NOR				IAML			04 45 40.8	
	comp=Z,6.4nm,0.2s							
NOR	**Nord**	**1.75**	**265**	*i* P	**Pn**	**Pn**	**04 45 19.8**	**+0.4**
NOR				*i* S	**Sn**	**Sn**	**04 45 37.1**	**-4.5**
NOR				IAML			04 45 40.8	
	comp=Z,6.4nm,0.2s							
KBS	**Kingsbay**	**4.08**	**129**	*i* P	**Pn**	**Pn**	**04 45 54.6**	**+3.2**
KBS				*e*S	**Sn**	**Sn**	**04 46 39.8**	**+0.7**
KBS				IAML			04 46 55.7	
	comp=Z,2.8nm,0.7s							
KBS	**Kingsbay**	**4.08**	**129**	*e*P	**Pn**	**Pn**	**04 45 54.0**	**+2.7**
KBS				*e*S	**Sn**	**Sn**	**04 46 37.8**	**-1.3**
KBS	**Kingsbay**	**4.08**	**129**	*i* P	**Pn**	**Pn**	**04 45 54.5**	**+3.2**
KBS				*i* S	**Sn**	**Sn**	**04 46 34.6**	**-4.5**
BRBB	**Barentsburg B**	**5.03**	**130**	*e*P	**Pn**	**Pn**	**04 46 08.9**	**+4.5**
BRBA	**Barentsburg A**	**5.06**	**130**	*e*P	**Pn**	**Pn**	**04 46 09.3**	**+4.5**
SPA0	**Spitsbergen Ar**	**5.20**	**125**	*e*P	**Pn**	**Pn**	**04 46 10.9**	**+4.1**
SPA0				*e*S	**Sn**	**Sn**	**04 47 06.3**	**-0.4**
SPA0				IAML			04 47 16.3	
	comp=Z,2.4nm,0.7s							
SPA0	**Spitsbergen Ar**	**5.20**	**125**	*e*P	**Pn**	**Pn**	**04 46 09.7**	**+3.0**
SPA0				*e*S	**Sn**	**Sn**	**04 47 06.3**	**-0.4**
DAG	**Danmarks Havn**	**5.76**	**214**	*i* P	**Pn**	**Pn**	**04 46 16.5**	**+2.1**
DAG				*i* S	**Sn**	**Sn**	**04 47 15.9**	**-4.6**
DAG				IAML			04 47 25.6	
	comp=Z,3.5nm,0.3s							
DAG	**Danmarks Havn**	**5.76**	**214**	*i* P	**Pn**	**Pn**	**04 46 16.5**	**+2.1**
DAG				*i* S	**Sn**	**Sn**	**04 47 15.9**	**-4.6**
DAG				IAML			04 47 25.6	
	comp=Z,3.5nm,0.3s							
HSPB	**Hornsund (broa**	**6.13**	**133**	*e*P	**Pn**	**Pn**	**04 46 22.9**	**+3.5**
ZFI2	**Zemlya Franca-**	**7.71**	**72**	*e*P	**Pn**	**Pn**	**04 46 41.1**	**0.0**
ZFI2				*e*S	**Sn**	**Sn**	**04 48 03.3**	**-5.0**
	comp=Z,12nm,0.6s							
OMEGA	**Omega**	**7.74**	**72**	*e*P	**Pn**	**Pn**	**04 46 41.1**	**-0.3**
OMEGA				*e*S	**Sn**	**Sn**	**04 48 03.3**	**-5.6**
	comp=Z,16nm,0.7s							
DBG	**Daneborg**	**8.25**	**210**	*i* P	**Pn**	**Pn**	**04 46 49.2**	**+0.8**
DBG				*i* S	Sn	Sn	04 48 14.8	-6.7
DBG				IAML			04 48 20.4	
	comp=Z,2.0nm,0.3s							
DBG	**Daneborg**	**8.25**	**210**	*i* P	**Pn**	**Pn**	**04 46 49.2**	**+0.8**
DBG				*i* S	Sn	Sn	04 48 14.8	-6.7
DBG				IAML			04 48 20.4	
	comp=Z,2.0nm,0.3s							

*ATH **14** 04:57:10.0,39.°28N×20.°94E,h13km±1km,ML3.3/25,*
Manual Solution by M.Kolligri First location: 2019/03/14
04:58:05, This location: 2020/07/03 14:42:36 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 0 km;
Longitude uncertainty: 1 km
*BEO **14** 04:57:11.4±0.6,39.°18N×21.°10E,h0km,ML2.8/5*
*TIR **14** 04:57:11.1,39.°15N×20.°76E,h39km±3km,Ml3.5/8*
*THE **14** 04:57:11.1,39.°26N×20.°88E,h11km±1km,ML3.2/13,Error*
ellipse: s-maj=2.0km s-min=0.7km az=286.0
ISC 14 04:57:10.8±0.8,39.°22N±0.°01×20.°95E±0.°02,h10km±6km,
n111,σ1°§40/147,1C,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ARTB	**Arta**	**0.07**	**160**	P	**Pg**	**Pg**	**04 57 13.3**	**+0.3**
ARTB				S	**Sg**	**Sg**	**04 57 15.7**	**+1.1**
TETR	**Tetrakomo, Epi**	**0.28**	**64**	P	**Pg**	**Pg**	**04 57 15.9**	**-0.6**
TETR				S	**Sb**	**Sb**	**04 57 20.7**	**-2.2**
PRGA	**Parga**	**0.43**	**278**	P	**Pb**	**Pb**	**04 57 19.7**	**-0.8**
JAN	**Janina**	**0.44**	**350**	P	**Pg**	**Pg**	**04 57 18.5**	**-1.0**
JAN				S	**Sg**	**Sg**	**04 57 25.1**	**-0.2**
	5μm,0.5s							
JAN	**Janina**	**0.44**	**350**	P	**Pg**	**Pg**	**04 57 18.3**	**-1.2**
JAN				S	**Sg**	**Sg**	**04 57 23.6**	**-1.7**
TSLK	**Tsoukalades, L**	**0.46**	**210**	P	**Pb**	**Pb**	**04 57 19.9**	**-1.1**
TSLK				S	**Sb**	**Sb**	**04 57 28.3**	**+0.4**
	4μm,0.4s							
TSLK	**Tsoukalades, L**	**0.46**	**210**	P	**Pb**	**Pb**	**04 57 20.0**	**-1.1**
LKD2	**Lefkada island**	**0.49**	**208**	Pg	**Pg**	**Pg**	**04 57 20.3**	**0.0**
LKD2				Sg	**Sb**	**Sb**	**04 57 28.8**	**0.0**
LKD2				AML	AML	AML	04 57 34.2	
	19nm,0.5s							
LKD2				AML	AML	AML	04 57 37.1	
	18nm,0.4s							
LKD2	**Lefkada island**	**0.49**	**208**	P	**Pg**	**Pg**	**04 57 20.4**	**0.0**
LKD2				S	**Sb**	**Sb**	**04 57 29.0**	**+0.2**
	5μm,0.4s							
LKD2	**Lefkada island**	**0.49**	**208**	P	**Pg**	**Pg**	**04 57 20.3**	**0.0**
LKD2				S	**Sb**	**Sb**	**04 57 28.3**	**-0.5**
NYDR	**Nydri-Lefkada**	**0.55**	**201**	P	**Pg**	**Pg**	**04 57 21.1**	**-0.3**
NYDR				S	**Sb**	**Sb**	**04 57 31.1**	**+0.7**
	2μm,0.3s							
NYDR	**Nydri-Lefkada**	**0.55**	**201**	P	**Pg**	**Pg**	**04 57 21.1**	**-0.3**
NYDR				S	**Sb**	**Sb**	**04 57 30.3**	**0.0**
IGT	**Igoumenitsa**	**0.57**	**303**	Pg	**Pg**	**Pg**	**04 57 20.9**	**-1.0**
IGT				Sg	**Sb**	**Sb**	**04 57 31.0**	**-0.1**
IGT				AML	AML	AML	04 57 36.0	
	5.1nm,0.6s							
IGT	**Igoumenitsa**	**0.57**	**303**	P	**Pg**	**Pg**	**04 57 20.4**	**-1.5**
IGT				S	**Sg**	**Sg**	**04 57 28.9**	**-0.5**
	2μm,0.5s							
IGT	**Igoumenitsa**	**0.57**	**303**	*e*Pg	**Pg**	**Pg**	**04 57 20.8**	**-1.0**
IGT				*e*Sg	**Sb**	**Sb**	**04 57 32.6**	**+1.5**
IGT	**Igoumenitsa**	**0.57**	**303**	P	**Pg**	**Pg**	**04 57 20.4**	**-1.5**
IGT				S	**Sg**	**Sg**	**04 57 28.5**	**-0.9**
DRAG	**Dragano-Lefkad**	**0.61**	**208**	P	**Pb**	**Pb**	**04 57 22.8**	**-0.8**
DRAG				S	**Sb**	**Sb**	**04 57 33.4**	**+1.1**
EVGI	**Lefkada island**	**0.64**	**201**	P	**Pg**	**Pg**	**04 57 22.9**	**-0.4**
EVGI				S	**Sb**	**Sb**	**04 57 34.2**	**+1.0**
	4μm,0.3s							
EVGI	**Lefkada island**	**0.64**	**201**	P	**Pg**	**Pg**	**04 57 22.7**	**-0.6**
EVGI				S	**Sb**	**Sb**	**04 57 33.6**	**+0.4**
EVR	**Evrytania**	**0.74**	**114**	P	**Pb**	**Pb**	**04 57 26.0**	**+0.2**
EVR				S	**Sn**	**Sn**	**04 57 38.9**	**+0.1**
	1μm,0.5s							
EVR	**Evrytania**	**0.74**	**114**	P	**Pb**	**Pb**	**04 57 25.4**	**-0.4**
PVO	**Paravola**	**0.76**	**143**	P	**Pb**	**Pb**	**04 57 25.3**	**-0.7**
KPRO	**Kipourio**	**0.80**	**24**	P	**Pg**	**Pg**	**04 57 25.1**	**-1.1**
KPRO				S	**Sb**	**Sb**	**04 57 38.4**	**+0.6**
	1μm,0.4s							
KPRO	**Kipourio**	**0.80**	**24**	P	**Pg**	**Pg**	**04 57 24.7**	**-1.6**
FSK	**Fiskardo**	**0.82**	**202**	P	**Pg**	**Pg**	**04 57 25.7**	**-0.9**
FSK				S	**Sb**	**Sb**	**04 57 39.4**	**+1.1**
	2μm,0.3s							
FSK	**Fiskardo**	**0.82**	**202**	P	**Pg**	**Pg**	**04 57 25.5**	**-1.1**
VSK1	**VASILIKIADES**	**0.87**	**200**	P	**Pb**	**Pb**	**04 57 27.6**	**-0.4**
THL	**Klokotos Trika**	**0.89**	**67**	P	**Pb**	**Pb**	**04 57 27.6**	**-0.8**
THL				S	**Sn**	**Sn**	**04 57 42.5**	**0.0**
	610nm,0.5s							
THL	**Klokotos Trika**	**0.89**	**67**	P	**Pg**	**Pg**	**04 57 26.8**	**-1.3**
MAKR	**Makrakomi, Fth**	**0.94**	**102**	P	**Pb**	**Pb**

BCI			AML	AML	04 58 45.8	
	0.8nm,0.6s					
DRME	**Dracevica, Mon**	**3.25 336**	*e*Pn	**Pn**	**04 58 01.8**	**-0.1**
PDG	**Podgorica**	**3.45 339**	*e*Pn	**Pn**	**04 58 06.3**	**+1.7**
BOSS	**Bosilegrad**	**3.47 19**	*e*Pn	**Pn**	**04 58 06.7**	**+1.8**
BARS	**Barje**	**3.65 10**	*e*Pn	**Pn**	**04 58 09.5**	**+2.1**
HCY	**Herceg Novi**	**3.72 331**	*e*Pn	**Pn**	**04 58 06.8**	**-1.5**
VTS	**Vitosha**	**3.81 26**	*e*Pn	**Pn**	**04 58 10.6**	**+0.9**
VTS			*e*Sn	**Sn**	**04 58 55.0**	**+0.4**
SELS	**Selova**	**3.99 2**	*e*Pn	**Pn**	**04 58 14.9**	**+2.8**
TREB	**Trebinje**	**4.01 331**	*e*Pn	**Pn**	**04 58 09.9**	**-2.4**
SJES	**Sjenica**	**4.10 350**	*e*Pn	**Pn**	**04 58 15.9**	**+2.2**
SJES	**Sjenica**	**4.10 350**	*e*Pn	**Pn**	**04 58 16.7**	**+3.0**
BRY	**Bratogost**	**4.10 334**	*e*Pn	**Pn**	**04 58 14.8**	**+1.1**
ZAPS	**Zavoj**	**4.24 17**	*e*Pn	**Pn**	**04 58 17.2**	**+1.7**
UPM	**Unac-Piva**	**4.26 339**	*e*Pn	**Pn**	**04 58 17.3**	**+1.3**
STON	**Ston**	**4.39 327**	*e*Pn	**Pn**	**04 58 15.1**	**-2.5**
BOVS	**Bovan**	**4.44 7**	*e*Pn	**Pn**	**04 58 21.3**	**+3.0**
GRUS	**Gruza**	**4.66 358**	*e*Pn	**Pn**	**04 58 22.6**	**+1.3**
ZAGS	**Zajecar**	**4.69 11**	*e*Pn	**Pn**	**04 58 24.6**	**+3.0**
BBLS	**Lazi&#263i**	**4.78 346**	*e*Pn	**Pn**	**04 58 26.3**	**+3.3**
BBLS	**Lazi&#263i**	**4.78 346**	*e*Pn	**Pn**	**04 58 25.8**	**+2.8**
DIVS	**Divibare**	**4.92 352**	*e*Pn	**Pn**	**04 58 26.8**	**+1.8**
TRUS	**Trudelj**	**5.01 356**	*e*Pn	**Pn**	**04 58 27.9**	**+1.8**
HAPS	**Han Pijesak,BI**	**5.08 344**	*e*Pn	**Pn**	**04 58 28.7**	**+1.5**
KUBS	**Kucevo**	**5.21 6**	*e*Pn	**Pn**	**04 58 30.2**	**+1.3**
FRGS	**Fruska Gora**	**5.99 352**	*e*Pn	**Pn**	**04 58 38.1**	**-1.4**
BLY	**Banja Luka**	**6.19 334**	*e*Pn	**Pn**	**04 58 42.8**	**+0.5**
A050A	**Klekovaca**	**6.20 329**	*e*Pn	**Pn**	**04 58 43.2**	**+0.7**
A051A	**Mrakovica**	**6.52 334**	*e*Pn	**Pn**	**04 58 46.2**	**-0.6**
BOJS	**Bojanci**	**7.56 328**	*e*Pn	**Pn**	**04 59 00.1**	**-1.0**
CEY	**Cerknica**	**8.10 326**	*e*Pn	**Pn**	**04 59 06.6**	**-1.9**
SOKA	**Soboth**	**8.62 332**	*i* Pn	**Pn**	**04 59 17.0**	**+1.3**
	0.7nm,0.3s					
OBKA	**Obir**	**8.66 329**	*e*Pn	**Pn**	**04 59 19.0**	**+2.8**
	1.4nm,0.5s					
OBKA	**Obir**	**8.66 329**	*e*Pn	**Pn**	**04 59 17.3**	**+1.0**

*PDG **14** 05:05:24.7±0.4,42°.68N×16°.70E,h13km±2km,MD3.4/1,*
ML3.3/13,Error ellipse: s-maj=0.8km s-min=1.0km az=0.0
*RHSSO **14** 05:05:25.4±0.4,42°.82N×16°.80E,h11km±2km,ML3.2/16*
*PRU **14** 05:05:26.0,42°.92N×17°.06E,h10km*
*VIE **14** 05:05:28.1±1.0,43°.01N×16°.57E,h8km,mb2.9/13,*
ml2.9/12,ms3.8/2,Error ellipse: s-maj=13.8km
s-min=7.0km az=48.0
*BEO **14** 05:05:30.4±0.4,43°.16N×17°.09E,h0km,ML3.0/8*

ISC 14 05:05:25.9±0.9,**42°.87N**±0°.03×**16°.77E**±0°.03,**h17**km±6km,
n91,σ1s**33**/144,**12C-12D,Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSTV	**Lastovo**	**0.14**	**139**	*i* Pg	**Pg**	**05 05 30.5**	**+0.6**
LSTV				Sg	**Sg**	**05 05 33.1**	**+0.5**
HVAR	**Hvar**	**0.39**	**323**	*e*Pg	**Pb**	**05 05 34.7**	**+0.4**
HVAR				Sg	**Sb**	**05 05 41.2**	**+1.2**
MAKA	**Makarska**	**0.45**	**24**	*e*Pg	**Pb**	**05 05 36.1**	**+0.7**
STON	**Ston**	**0.68**	**90**	⇓*i*Pg	**Pg**	**05 05 38.0**	**-1.4**
STON				*e*Sg	**Sg**	**05 05 48.1**	**-0.4**
STON	**Ston**	**0.68**	**90**	*e*Pg	**Pg**	**05 05 38.7**	**-0.7**
STON				Sg	**Sb**	**05 05 48.8**	**+0.3**
STON	**Ston**	**0.68**	**90**	*e*Pg	**Pg**	**05 05 38.8**	**-0.6**
STON				*e*Sg	**Sg**	**05 05 46.9**	**-1.6**
DBRK	**Dubrovnik**	**1.03**	**101**	*i* Pn	**Pg**	**05 05 43.9**	**-2.0**
ZIRJ	**Zirje**	**1.14**	**314**	*i* Pn	**Pb**	**05 05 46.0**	**-1.0**
KIJV	**Kijevo**	**1.16**	**347**	*e*Pn	**Pb**	**05 05 47.4**	**-0.2**
TREB	**Trebinje**	**1.17**	**97**	⇑*i*Pg	**Pb**	**05 05 45.9**	**-1.8**
TREB				*e*Sg	**Sb**	**05 06 01.7**	**-0.9**
TREB	**Trebinje**	**1.17**	**97**	*e*Pg	**Pb**	**05 05 47.9**	**+0.2**
TREB				*e*Sg	**Sb**	**05 06 03.2**	**+0.6**
MORI	**Morici**	**1.26**	**322**	*i* Pn	**Pn**	**05 05 48.3**	**-0.4**
BRY	**Bratogost**	**1.30**	**88**	⇑*i*Pg	**Pn**	**05 05 48.3**	**-1.1**
BRY				*e*Sg	**Sb**	**05 06 05.9**	**-0.5**
BRY	**Bratogost**	**1.30**	**88**	⇑*i*Pg	**Pn**	**05 05 48.2**	**-1.1**
BRY				*i* Sg	**Sn**	**05 06 07.3**	**+0.9**
HCY	**Herceg Novi**	**1.34**	**108**	⇓*i*Pg	**Pn**	**05 05 48.8**	**-1.0**
HCY				*e*Sg	**Sb**	**05 06 06.4**	**-1.0**
HCY	**Herceg Novi**	**1.34**	**108**	⇑*i*Pg	**Pn**	**05 05 48.4**	**-1.4**
HCY				*i* Sg	**Sb**	**05 06 06.5**	**-1.0**
UPM	**Unac-Piva**	**1.60**	**77**	⇓*i*Pn	**Pn**	**05 05 53.4**	**-0.2**
UPM				*e*Sn	**Sn**	**05 06 14.0**	**+0.1**
UPM	**Unac-Piva**	**1.60**	**77**	⇓*i*Pn	**Pn**	**05 05 53.9**	**+0.3**
UPM				*i* Sn	**Sg**	**05 06 17.0**	**-0.6**
NKME	**Niksic**	**1.61**	**93**	*e*Pn	**Pn**	**05 05 53.2**	**-0.4**
NKME				*i* Sn	**Sb**	**05 06 15.8**	**+0.6**
CEME	**Cevo**	**1.62**	**101**	⇓*i*Pn	**Pn**	**05 05 52.9**	**-0.8**
CEME				*i* Sn	**Sn**	**05 06 14.8**	**+0.7**
A050A	**Klekovaca**	**1.62**	**354**	*e*Pn	**Pb**	**05 05 54.7**	**-0.7**
A050A				*e*Sn	**Sg**	**05 06 16.3**	**-1.9**
BUM	**Brajici-Budva**	**1.67**	**109**	⇓*i*Pn	**Pn**	**05 05 53.4**	**-1.0**
BUM				*i* Sn	**Sn**	**05 06 15.6**	**+0.2**
DUGI	**Dugi Otok**	**1.68**	**312**	*e*Pn	**Pn**	**05 05 54.2**	**-0.2**
PDG	**Podgorica**	**1.89**	**103**	*e*Pn	**Pn**	**05 05 57.3**	**0.0**
PDG				*e*Sn	**Sn**	**05 06 20.9**	**+0.3**
PDG	**Podgorica**	**1.89**	**103**	*e*Pn	**Pg**	**05 06 01.6**	**-0.6**
PDG				*e*Sg	**Sg**	**05 06 27.0**	**+0.3**
PDG	**Podgorica**	**1.89**	**103**	⇑*i*Pn	**Pn**	**05 05 57.2**	**0.0**
PDG				*i* Sn	**Sb**	**05 06 24.2**	**+1.1**
VIRC	**Vir**	**1.89**	**319**	*e*Pn	**Pn**	**05 05 57.9**	**+0.5**
BLY	**Banja Luka**	**1.90**	**9**	⇓*i*Pn	**Pn**	**05 05 58.6**	**+1.1**
BLY				*e*Sn	**Sb**	**05 06 22.3**	**-1.2**
BLY	**Banja Luka**	**1.90**	**9**	*e*Pg	**Pb**	**05 05 59.2**	**-0.9**
DRME	**Dracevica, Mon**	**1.91**	**110**	*e*Pn	**Pn**	**05 05 57.1**	**-0.6**
DRME				*e*Sn	**Sn**	**05 06 20.9**	**-0.4**
DRME	**Dracevica, Mon**	**1.91**	**110**	⇓*i*Pn	**Pn**	**05 05 57.1**	**-0.6**
DRME				*i* Sn	**Sn**	**05 06 22.0**	**+0.7**
PLE	**Pljevlja**	**1.97**	**76**	⇑*i*Pn	**Pn**	**05 05 59.2**	**+0.6**
PLE				*i* Sn	**Sb**	**05 06 26.1**	**+0.4**
HAPS	**Han Pijesak,BI**	**2.00**	**52**	⇓*i*Pn	**Pn**	**05 05 58.9**	**-0.1**
HAPS				*e*Sn	**Sn**	**05 06 24.8**	**+1.2**
HAPS	**Han Pijesak,BI**	**2.00**	**52**	*e*Pg	**Pn**	**05 05 59.8**	**+0.8**
KOME	**Kolasin**	**2.02**	**90**	⇑*i*Pn	**Pn**	**05 05 59.5**	**+0.3**
KOME				*i* Sn	**Sn**	**05 06 26.1**	**+2.0**
RUDO	**Rudo**	**2.04**	**68**	⇑*i*Pn	**Pn**	**05 05 59.8**	**+0.3**
RUDO				*e*Sn	**Sn**	**05 06 24.5**	**0.0**
ULC	**Ulcinj**	**2.04**	**116**	⇓*i*Pn	**Pn**	**05 05 58.7**	**-0.8**
ULC				*i* Sn	**Sn**	**05 06 24.6**	**0.0**
DOB	**Doboj**	**2.10**	**27**	*e*Pn	**Pn**	**05 06 01.2**	**+1.0**
DOB				*e*Sn	**Sb**	**05 06 27.4**	**-1.7**
PRIJ	**Prijedor**	**2.10**	**359**	*e*Pn	**Pn**	**05 06 01.0**	**+0.7**
PRIJ				*e*Sn	**Sn**	**05 06 27.2**	**+1.2**
A051A	**Mrakovica**	**2.14**	**3**	⇓*i*Pn	**Pn**	**05 06 02.1**	**+1.2**
A051A				*e*Sn	**Sn**	**05 06 28.7**	**+1.6**
BBLS	**Lazi&#263i**	**2.16**	**62**	⇓*i*Pn	**Pn**	**05 06 01.4**	**+0.2**
BBLS				*e*Sn	**Sn**	**05 06 28.6**	**+1.0**
BBLS	**Lazi&#263i**	**2.16**	**62**	*e*Pn	**Pn**	**05 06 01.7**	**+0.5**
NVLJ	**Novalja**	**2.18**	**321**	*e*Pn	**Pn**	**05 06 01.7**	**+0.4**
IVA	**Berane**	**2.30**	**89**	⇑*i*Pn	**Pn**	**05 06 03.5**	**+0.5**
IVA				*i* Sn	**Sn**	**05 06 33.2**	**+2.3**
PVY	**Plav**	**2.37**	**96**	⇑*i*Pn	**Pn**	**05 06 04.1**	**+0.1**
PVY				*i* Sn	**Sn**	**05 06 34.4**	**+1.7**
RABC	**Rab**	**2.37**	**323**	*i* Pn	**Pn**	**05 06 03.7**	**-0.1**
SJES	**Sjenica**	**2.38**	**80**	*e*Pn	**Pn**	**05 06 04.4**	**+0.2**
SJES				*e*Sn	**Sn**	**05 06 33.6**	**+0.6**
SJES	**Sjenica**	**2.38**	**80**	*e*Pn	**Pb**	**05 06 07.4**	**-0.9**
SJES				*e*Sg	**Sb**	**05 06 37.3**	**-0.1**
TEKS	**Tekeris**	**2.61**	**49**	*e*Pn	**Pn**	**05 06 08.6**	**+1.3**
TEKS				*e*Sn	**Sn**	**05 06 40.4**	**+1.8**
TEKS	**Tekeris**	**2.61**	**49**	*e*Pn	**Pb**	**05 06 09.9**	**-2.3**
DIVS	**Divibare**	**2.65**	**61**	*e*Pn	**Pn**	**05 06 09.5**	**+1.7**
TIR	**Tirane**	**2.76**	**122**	*e*Pn	**Pb**	**05 06 15.8**	**+1.0**
BOJS	**Bojanci**	**2.85**	**338**	*i* Pn	**Pn**	**05 06 11.6**	**+1.1**
BOJS	**Bojanci**	**2.85**	**338**	*e*Pn	**Pn**	**05 06 11.8**	**+1.3**
BOJS				*e*Sn	**Sn**	**05 06 46.6**	**+2.2**
TRUS	**Trudelj**	**2.97**	**62**	*e*Pn	**Pn**	**05 06 15.0**	**+2.8**
GRUS	**Gruza**	**3.05**	**69**	*e*Pn	**Pn**	**05 06 16.2**	**+2.9**
GRUS				*e*Sg	**Sb**	**05 06 56.1**	**-0.5**
GOCS	**Kraljevo Serbi**	**3.08**	**76**	*e*Pn	**Pn**	**05 06 16.6**	**+2.8**
CRES	**Cresnjevec Ost**	**3.10**	**343**	*i* Pn	**Pn**	**05 06 14.9**	**+0.9**
FRGS	**Fruska Gora**	**3.17**	**43**	*e*Pn	**Pn**	**05 06 16.1**	**+1.2**
FRGS				*e*Sn	**Sn**	**05 06 53.0**	**+0.7**
FRGS	**Fruska Gora**	**3.17**	**43**	*e*Pn	**Pn**	**05 06 16.4**	**+1.5**
FRGS				*e*Sg	**Sb**	**05 06 58.2**	**-1.8**
SELS	**Selova**	**3.21**	**82**	*e*Pn	**Pn**	**05 06 18.9**	**+3.4**
AVAS	**Avala Beograd**	**3.27**	**55**	*e*Pn	**Pn**	**05 06 17.2**	**+0.9**
CEY	**Cerknica**	**3.32**	**330**	⇑*i*Pn	**Pn**	**05 06 17.8**	**+0.7**
CEY				*e*Sn	**Sn**	**05 06 57.2**	**+1.0**
PDKS	**Podkum**	**3.43**	**339**	*i* Pn	**Pn**	**05 06 19.4**	**+0.8**
OHR	**Ohrid**	**3.48**	**119**	*i* Pn	**Pn**	**05 06 19.9**	**+0.6**
MORH	**Mrgy, Hungar**	**3.60**	**21**	*e*Pn	**Pn**	**05 06 21.3**	**+0.4**
MORH				*e*Sn	**Sn**	**05 07 03.5**	**+0.6**
BARS	**Barje**	**3.71**	**89**	*e*Pn	**Pn**	**05 06 27.1**	**+4.7**
KUBS	**Kucevo**	**3.88**	**65**	*e*Pn	**Pn**	**05 06 27.9**	**+3.2**
OBKA	**Obir**	**3.97**	**337**	*i* Pn	**Pn**	**05 06 27.0**	**+1.0**
	1.8nm,0.2s						
OBKA				*e*Sn	**Sn**	**05 07 14.7**	**+2.6**
	29nm,0.6s						
OBKA	**Obir**	**3.97**	**337**	*e*Pn	**Pn**	**05 06 26.9**	**+0.9**
OBKA				*e*Sn	**Sn**	**05 07 13.0**	**+0.9**
VRSS	**Vrsac**	**3.98**	**54**	*e*Pn	**Pn**	**05 06 29.2**	**+3.1**
SOKA	**Soboth**	**4.00**	**343**	*i* Pn	**Pn**	**05 06 27.0**	**+0.6**
	2.8nm,0.2s,SNR=10.0						
SOKA				*e*Sn	**Sn**	**05 07 14.3**	**+1.4**
	9.9nm,0.6s						
BORS2	**Bor- Borsko je**	**4.01**	**71**	*e*Pn	**Pn**	**05 06 29.9**	**+3.4**
BOSS	**Bosilegrad**	**4.23**	**93**	*e*Pn	**Pn**	**05 06 32.8**	**+3.3**
ZAPS	**Zavoj**	**4.31**	**83**	*e*Pn	**Pn**	**05 06 34.2**	**+3.5**
MYKA	**Terra Mystica**	**4.37**	**330**	Pn	**Pn**	**05 06 32.4**	**+0.9**
	1.9nm,0.4s						
MYKA				*e*Sn	**Sn**	**05 07 22.9**	**+0.9**
	4.3nm,0.4s						
ARSA	**Arzberg**	**4.47**	**349**	*i* Pn	Pn	05 06 38.3	+5.5
	9.6nm,0.4s						
ARSA	**Arzberg**	**4.47**	**349**	⇑*i*Pn	**Pn**	**05 06 33.4**	**+0.6**
ARSA				*e*Sn	**Sn**	**05 07 25.0**	**+0.7**
RONA	**Rosalia, Austr**	**4.84**	**356**	*i* Pn	**Pn**	**05 06 38.8**	**+0.8**
	1.1nm,0.2s,SNR=4.8						
KBA	**Koelnbreinsper**	**4.86**	**331**	*e*Pn	**Pn**	**05 06 39.3**	**+1.0**
	0.3nm,0.1s						
KBA				*e*Sn	**Sn**	**05 07 33.8**	**-0.3**
	6.6nm,0.4s						
ABTA	**Abfaltersbach**	**4.92**	**323**	*i* Pn	**Pn**	**05 06 39.5**	**+0.5**
	1.2nm,0.4s						
ABTA				*e*Sn	**Sn**	**05 07 35.1**	**-0.5**
	16nm,0.6s						
CONA	**Conrad Observa**	**5.10**	**353**	*i* Pn	**Pn**	**05 06 41.3**	**-0.2**
	1.6nm,0.3s						
MOA	**Molln**	**5.28**	**341**	*i* Pn	**Pn**	**05 06 45.2**	**+1.2**
	5.2nm,0.2s,SNR=16						
MOA				*e*Sn	**Sn**	**05 07 45.1**	**+0.7**
	12nm,0.5s						
MOA	**Molln**	**5.28**	**341**	*e*Pn	**Pn**	**05 06 45.1**	**+1.1**
BIOA	**Bad Ischl, Aus**	**5.30**	**336**	*i* Pn	**Pn**	**05 06 45.2**	**+0.9**
	1.8nm,0.3s						
BIOA				*e*Sn	**Sn**	**05 07 46.2**	**+1.3**
	6.3nm,0.4s						
LESA	**Schwarzleotal**	**5.39**	**329**	*e*Pn	**Pn**	**05 06 46.5**	**+0.9**
	2.5nm,0.5s						
LESA				*e*Sn	**Sn**	**05 07 45.8**	**-1.5**
	10nm,0.5s						
WTTA	**Wattenberg**	**5.70**	**322**	*i* Pn	**Pn**	**05 06 52.1**	**+2.2**
	0.9nm,0.2s						
WATA	**Walderalm**	**5.78**	**322**	*e*Pn	Pn	05 06 56.0	+5.0
	1.0nm,0.2s						
WATA				*e*Sn	**Sn**	**05 07 57.1**	**+0.2**
	4.8nm,0.3s						
SQTA	**Sankt Quirin**	**5.87**	**320**	*i* Pn	**Pn**	**05 06 53.6**	**+1.5**
	0.9nm,0.3s						
SQTA				*e*Sn	**Sn**	**05 07 58.5**	**-0.5**
	6.6nm,0.4s						
FETA	**Feichten**	**5.96**	**316**	*e*Pn	Pn	05 07 00.0	+6.5
	0.6nm,0.4s						
KHC	**Kasperske Hory**	**6.64**	**342**	*e*PN	**Pn**	**05 07 02.7**	**0.0**
KHC				*e*SN	**Sn**	**05 08 16.4**	**-1.5**

*NOU **14** 05:08:11.6,39°.33S×174°.88E,h20km,MLv3.2/6,North*
Island, New Zealand
*WEL **14** 05:08:11.0±0.3,39°.S±4°.×17°.5E±°.,h20km±4km,M3.5/30,*
ML3.8/31,MLv3.5/30,Error ellipse: s-maj=4.9km
s-min=2.2km az=174.7,confirmed

ISC 14 05:08:11.8±1.0,**39°.32S**±0°.03×**174°.89E**±0°.02,**h33**km±5km,
n46,σ0s**53**/61,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.22**	**332**	P	**Pb**	**05 08 18.2**	**-0.3**
VRZ				S	**Sb**	**05 08 23.9**	**+0.7**
PKVZ	**Pokaka**	**0.36**	**85**	P	**Pb**	**05 08 20.0**	**-0.3**
PKVZ				S	**Sn**	**05 08 26.6**	**0.0**
LREZ	**Lake Rotokare**	**0.40**	**249**	P	**Pb**	**05 08 20.3**	**-0.6**
LREZ				S	**Sn**	**05 08 27.9**	**+0.1**
WAZ	**Wanganui**	**0.44**	**170**	P	**Pb**	**05 08 21.1**	**-0.4**
WAZ				S	**Sn**	**05 08 28.6**	**-0.2**
MTVZ	**Mangateitei**	**0.46**	**99**	P	**Pb**	**05 08 21.5**	**-0.3**
MTVZ				S	**Sn**	**05 08 29.0**	**-0.2**
TWVZ	**Taurewa**	**0.49**	**60**	P	**Pb**	**05 08 21.8**	**-0.5**
MHEZ	**Mangahewa**	**0.50**	**299**	P	**Pb**	**05 08 22.1**	**-0.3**
TRVZ	**Turoa**	**0.51**	**88**	P	**Pb**	**05 08 22.5**	**-0.3**
TRVZ				S	**Sb**	**05 08 30.2**	**-0.1**
FWVZ	**Far West T-bar**	**0.52**	**83**	P	**Pb**	**05 08 22.5**	**-0.3**
FWVZ				S	**Sb**	**05 08 30.3**	**-0.1**
COVZ	**Chateau Observ**	**0.52**	**77**	P	**Pb**	**05 08 22.4**	**-0.4**
COVZ				S	**Sb**	**05 08 30.6**	**+0.2**
MAVZ	**Matarangi**	**0.52**	**85**	P	**Pb**	**05 08 22.7**	**-0.3**
MAVZ				S	**Sb**	**05 08 30.6**	**-0.1**
WHVZ	**Whangaehu Hut**	**0.54**	**86**	P	**Pb**	**05 08 22.9**	**-0.4**
WHVZ				S	**Sb**	**05 08 30.8**	**-0.4**
WNVZ	**Wahianoa**	**0.55**	**91**	P	**Pb**	**05 08 23.0**	**-0.3**
WNVZ				S	**Sb**	**05 08 31.3**	**+0.2**
DREZ	**Durham Road**	**0.55**	**283**	P	**Pb**	**05 08 22.7**	**-0.5**
DREZ				S	**Sn**	**05 08 31.7**	**+0.3**
PREZ	**Palmer Road**	**0.57**	**267**	P	**Pb**	**05 08 23.1**	**-0.4**
NGZ	**Ngauruhoe**	**0.57**	**76**	P	**Pb**	**05 08 23.2**	**-0.4**
NGZ				S	**Sb**	**05 08 31.9**	**+0.2**
WTVZ	**West Tongariro**	**0.58**	**70**	P	**Pb**	**05 08 23.3**	**-0.4**
WTVZ				S	**Sb**	**05 08 32.0**	**+0.1**
NNVZ	**North Ngauruho**	**0.59**	**72**	P	**Pb**	**05 08 23.6**	**-0.4**
NNVZ				S	**Sb**	**05 08 32.4**	**+0.1**
TUVZ	**Tukino**	**0.59**	**85**	P	**Pb**	**05 08 23.8**	**-0.2**
SNVZ	**South Ngauruho**	**0.60**	**77**	P	**Pb**	**05 08 23.7**	**-0.4**
NEZ	**North Egmont**	**0.62**	**274**	P	**Pb**	**05 08 23.6**	**-0.8**
OTVZ	**Oturere**	**0.62**	**76**	P	**Pb**	**05 08 24.1**	**-0.4**
KRVZ	**Karewarewa**	**0.62**	**69**	P	**Pb**	**05 08 24.0**	**-0.5**
NTVZ	**North Tongarir**	**0.65**	**70**	P	**Pb**	**05 08 24.4**	**-0.5**
ETVZ	**East Tongariro**	**0.66**	**74**	P	**Pb**	**05 08 24.6**	**-0.5**
TMVZ	**Te Maari**	**0.66**	**73**	P	**Pb**	**05 08 24.7**	**-0.5**
MOVZ	**Moawhango**	**0.68**	**98**	P	**Pb**	**05 08 24.6**	**-0.7**
KHEZ	**Kahui Hut**	**0.68**	**272**	P	**Pb**	**05 08 24.7**	**-0.7**
KHEZ	**Kahui Hut**	**0.68**	**272**	P	**Pb**	**05 08 24.6**	**-0.8**
PKE	**Pukeiti**	**0.71**	**280**	P	**Pb**	**05 08 25.1**	**-0.8**
KATZ	**Kakaramea**	**0.71**	**62**	P	**Pb**	**05 08 25.4**	**-0.6**
NMEZ	**Namu Road**	**0.79**	**263**	P	**Pb**	**05 08 26.3**	**-0.8**
NBEZ	**Newall Road No**	**0.80**	**273**	P	**Pb**	**05 08 26.6**	**-0.6**
HIZ	**Hauiti**	**0.81**	**358**	P	**Pb**	**05 08 26.4**	**-0.9**
HIZ	**Hauiti**	**0.81**	**358**	P	**Pb**	**05 08 26.5**	**-0.9**
RITZ	**Rihia Road**	**0.83**	**66**	P	**Pn**	**05 08 27.8**	**+0.7**
WATZ	**Wairara**	**0.90**	**47**	P	**Pb**	**05 08 28.0**	**-0.9**
OHWZ	**Ohakea**	**0.94**	**160**	P	**Pb**	**05 08 28.9**	**-0.8**
KUTZ	**Kaahu Road**	**1.10**	**42**	P	**Pn**	**05 08 31.0**	**+0.1**
PNHZ	**Pukenui**	**1.17**	**121**	P	**Pn**	**05 08 32.0**	**0.0**
KRHZ	**Kereru**	**1.19**	**106**	P	**Pn**	**05 08 32.2**	**+0.1**
BKZ	**Black Stump Fm**	**1.25**	**84**	P	**Pn**	**05 08 33.2**	**+0.1**
BKZ	**Black Stump Fm**	**1.25**	**84**	P	**Pn**	**05 08 33.2**	**+0.1**
BFZ	**Birch Farm**	**1.71**	**143**	P	**Pn**	**05 08 40.1**	**+0.7**
SNZO	**South Karori**	**2.00**	**184**	P	**Pn**	**05 08 43.9**	**+0.7**
URZ	**Urewera**	**2.03**	**59**	P	**Pn**	**05 08 45.1**	**+1.4**

*IDC **14** 05:11:24.2±1.2,1°.95N×126°.52E,h0km,mb4.1/8,*
mbtmp4.1/9,ML3.9/1,Error ellipse: s-maj=118.3km
s-min=15.4km az=70.0
*DJA **14** 05:11:28.9±0.9,2°.N±2°.×12°.7E±°.,h12km±7km,M4.3/12,*
mb4.5/1,MLv4.2/12
*NEIC **14** 05:11:30.0±1.4,2°.0N±0°.1×126°.59E±0°.10,h38km±5km,*
mb4.1/19,Error ellipse: s-maj=18.4km s-min=9.1km
az=222.0

ISC 14 05:11:30.4±0.6,**2°.00N**±0°.06×**126°.60E**±0°.09,**h47**km,**n42,**
σ0s**84**/44,**mb4.1**/18,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.44**	**148**		**Pn**	**05 11 54.3**	**+0.3**
TNTI	**Ternate**	**1.44**	**148**	P	**Pn**	**05 11 54.2**	**+0.3**
SGSI	**Sangihe**	**1.99**	**327**	P	**Pn**	**05 12 00.7**	**-0.9**
SGSI				S	**Sn**	**05 12 26.6**	**+1.2**
KMSI	**Cibinong**	**2.98**	**242**	P	**Pn**	**05 12 16.1**	**+1.0**
SANI	**Sanana**	**4.06**	**189**	P	**Pn**	**05 12 29.0**	**-1.1**
LUWI	**Luwuk**	**4.87**	**232**	Pn	**Pn**	**05 12 42.5**	**+1.3**
LUWI	**Luwuk**	**4.87**	**232**	P	**Pn**	**05 12 41.7**	**+0.5**
MRSI	**Marisa**	**4.90**	**252**	P	**Pn**	**05 12 41.9**	**+0.4**
NLAI	**Namlea**	**5.22**	**175**	P	**Pn**	**05 12 45.8**	**-0.2**
TOLI2	**Tolitoli**	**5.88**	**262**	Pn	**Pn**	**05 12 54.1**	**-1.0**
FAKI	**Fak Fak**	**7.46**	**131**	Pn	**Pn**	**05 13 16.3**	**-0.4**
MYLDM	**Lahad Datu**	**8.68**	**292**	Pn	**Pn**	**05 13 32.7**	**-0.8**
MTN	**Manton Dam**	**15.41**	**163**	Pn	**Pn**	**05 15 03.6**	**-1.2**
MTN				IAmb	IAmb	05 15 07.8	
	comp=Z,5.9nm,0.9s						
KNRA	**Kununurra**	**17.69**	**173**		**Pn**	**05 15 32.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.99**	**183**	P	**P**	**05 15 57.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**19.99**	**183**	P	**P**	**05 15 57.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=359,slow=6.4,SNR=7.4						
	comp=Z,0.9nm,0.6s						
COEN	**Coen**	**22.83**	**134**	P	**P**	**05 16 29.5**	**-0.2**
COEN				IAmb	IAmb	05 16 55.3	
	comp=Z,4.2nm,1.0s						
WB0	**Warramunga Arr**	**22.94**	**161**	P	**P**	**05 16 30.1**	**-0.6**
WB0				IAmb	IAmb	05 16 34.3	
	comp=Z,7.1nm,0.5s						
WRAB	**Tennant Creek**	**23.08**	**161**	P	**P**	**05 16 31.3**	**-0.8**
WRAB				IAmb	IAmb	05 16 35.8	
	comp=Z,5.3nm,0.6s						
WRA	**Warramunga Arr**	**23.09**	**161**	P	**P**	**05 16 30.6**	**-1.7**
WRA	**Warramunga Arr**	**23.09**	**161**	P	**P**	**05 16 31.1**	**-1.1**
	comp=Z,5.1nm,0.5s,baz=339,slow=11,SNR=49						
	comp=Z,5.1nm,0.5s						
WB2	**Warramunga Arr**	**23.09**	**161**	P	**P**	**05 16 31.0**	**-1.2**
WB2				IAmb	IAmb	05 16 35.9	
	comp=Z,5.7nm,0.7s						
WR0	**Warramunga Arr**	**23.17**	**161**	P	**P**	**05 16 32.1**	**-0.9**
WR0				IAmb	IAmb	05 16 34.1	
	comp=Z,3.0nm,0.6s						
AS31	**Alice Springs**	**26.48**	**165**	P	**P**	**05 17 02.6**	**-0.8**
AS31				IAmb	IAmb	05 17 12.1	
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**26.48**	**165**	P

CPUP	**Villa Florida**	**10.13 122**	P	**Pn**	**05 34 45.9**	**-0.1**
	comp=N,2.2nm,0.6s,baz=309,slow=12,SNR=11					
CPUP	**Villa Florida**	**10.13 122**	*e*P	**Pn**	**05 34 45.5**	**-0.5**
CPUP			*e*S	**Sn**	**05 36 37.3**	**-0.5**
VILB	**Vilhena**	**10.34 39**	*e*P	**Pn**	**05 34 48.9**	**-0.1**
VILB			*e*S	**Sn**	**05 36 41.1**	**-2.0**
AQDB	**Aquidauana**	**10.45 88**	*e*P	**Pn**	**05 34 50.2**	**-0.2**
SJPY	**San Joaquin**	**10.61 113**	*e*P	**Pn**	**05 34 53.5**	**+1.0**
SALV	**Santo Antonio**	**11.80 66**	*e*P	**Pn**	**05 35 07.4**	**-1.0**
PDRB	**Porto dos Gac**	**13.57 47**	*e*P	**Pn**	**05 35 31.8**	**+0.3**
ITAB	**Concordia**	**14.73 117**	*e*P	**P**	**05 35 52.0**	**+3.0**
BDFB	**Brasília**	**18.69 76**	P	**Pn**	**05 36 33.5**	**-1.2**
	comp=N,2.7nm,0.6s,baz=252,slow=9.7,SNR=6.5					
DBIC	**Dimbokro**	**66.80 73**	P	**P**	**05 43 02.4**	**-0.4**
	comp=N,3.7nm,0.6s,baz=203,slow=6.8,SNR=4.6					
	comp=N,3.7nm,0.6s					
QSPA	**South Pole Qui**	**69.04 180**	P	**P**	**05 43 17.6**	**+1.4**
	comp=N,1.0nm,0.5s,baz=300,slow=2.6,SNR=14					
	comp=N,1.0nm,0.5s					
TORD	**Torodi Ar. Bea**	**75.43 70**	P	**P**	**05 43 54.6**	**-0.2**
	comp=N,2.7nm,0.5s,baz=261,slow=5.3,SNR=36					
	comp=N,2.7nm,0.5s					
ULM	**Lac du Bonnet**	**75.59 341**	P	**P**	**05 43 56.0**	**+1.1**
	comp=N,1.1nm,0.5s,baz=149,slow=6.5,SNR=4.0					
	comp=N,1.1nm,0.5s					
ZALV	**Zalesovo Beam**	**140.81 26**	PKP	**PKiKP**	**05 51 39.8**	**-1.8**
	comp=N,0.6nm,0.4s,baz=305,slow=5.1,SNR=2.7					
MKAR	**Makanchi Array**	**144.21 37**	PKP	**PKPdf**	**05 51 45.1**	**-0.1**
	comp=N,0.4nm,0.6s,baz=332,slow=3.4,SNR=4.8					

*IDC **14** 05:32:41.9±0.5, 34.°99N×101.°89E, h0km, mb4.5/28, mbtmp4.5/31, ML4.5/2, MS3.9/27, Error ellipse: s-maj=16.9km s-min=11.9km az=44.0*
*MOS **14** 05:32:42.8±0.9, 35.°04N×101.°86E, h14km, mb4.8/33, Error ellipse: s-maj=6.4km s-min=4.4km az=118.6*
*BJI **14** 05:32:43.2, 34.°97N×101.°84E, h10km, mB4.8/16, mb4.7/44, ML4.6/25, Ms4.3/50, Ms7 4.2/44*
*NEIC **14** 05:32:44.1±1.2, 35.°03N±0.°07×101.°84E±0.°09, h10km±1km, mb4.9/105, ML4.2(BJI), Error ellipse: s-maj=12.7km s-min=12.6km az=244.0*
ISC 14 05:32:44.0±0.3, 35.°06N±0.°03×101.°82E±0.°03, h10km, n556, σ1§16/545, mb4.9/139, MS3.9/32, 37C-14D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.95**	**58**	*e*Pg	**Pb**	**05 33 19.8**	**+0.1**
LZH				Sg	**Sg**	**05 33 46.1**	**-0.5**
LZH				smax	smax		
	comp=N,18μm,1.2s						
LZH				smax	smax		
	comp=E,18μm,1.1s						
CD2	**Chengdu**	**4.45**	**158**	Pn	**Pn**	**05 33 54.0**	**+2.5**
CD2				Sn	**Sn**	**05 34 47.6**	**+4.2**
CD2				smax	smax		
	comp=N,270nm,1.0s						
GTA	**Gaotai**	**4.63**	**340**	Pn	**Pn**	**05 33 57.9**	**+3.8**
GTA				Sg	**Sg**	**05 35 16.6**	**+3.9**
GTA				smax	smax		
	comp=N,250nm,1.0s						
GTA				smax	smax		
	comp=E,260nm,1.1s						
GTA				LR	LR		
	comp=N,2μm,6.8s						
GTA				LR	LR		
	comp=E,980nm,9.2s						
GTA				LR	LR		
	comp=Z,2μm,13.1s						
GOMU	**GeErMu**	**5.81**	**283**	Pn	**Pn**	**05 34 13.4**	**+2.8**
GOMU				Sn	**Sn**	**05 35 23.1**	**+5.5**
GOMU				Sg	**Sg**	**05 35 49.8**	**-0.9**
GOMU				smax	smax		
	comp=N,1μm,0.8s						
GOMU				smax	smax		
	comp=E,790nm,0.8s						
XAN	**Xi'an**	**5.95**	**98**	Pn	**Pn**	**05 34 10.9**	**-1.3**
XAN				Sg	**Sg**	**05 35 54.9**	**-0.2**
XAN				smax	smax		
	comp=N,840nm,1.3s						
XAN				smax	smax		
	comp=E,880nm,1.0s						
XAN				LR	LR		
	comp=N,4μm,7.2s						
XAN				LR	LR		
	comp=E,3μm,6.5s						
XAN				LR	LR		
	comp=Z,2μm,6.9s						
ENH	**Enshi**	**8.04**	**124**	Pn	**Pn**	**05 34 41.0**	**+0.1**
ENH	**Enshi**	**8.04**	**124**	P	**Pn**	**05 34 42.6**	**+1.8**
PZH	**PanZhiHua**	**8.53**	**180**	P	**Pn**	**05 34 51.4**	**+3.7**
PZH				S	**Sn**	**05 36 26.5**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
PZH				LR	LR		
	comp=N,1μm,9.6s						
PZH				LR	LR		
	comp=E,2μm,10.9s						
PZH				LR	LR		
	comp=Z,2μm,10.4s						
BTO	**Baotou**	**8.53**	**47**	*e*P	**Pn**	**05 34 49.3**	**+1.6**
BTO				pP	Pg	05 34 52.4	-35
BTO				sP		05 34 55.3	
BTO				S	**Sn**	**05 36 27.5**	**+3.5**
BTO				sS	Sg	05 36 33.1	-45
BTO				pmax	pmax		
	comp=Z,77nm,0.6s						
BTO				pmax	pmax		
	comp=Z,330nm,3.8s						
BTO				LR	LR		
	comp=N,4μm,10.9s						
BTO				LR	LR		
	comp=E,4μm,11.5s						
BTO				LR	LR		
	comp=Z,4μm,11.8s						
LYN	**LuoYang**	**8.78**	**90**	P	**Pn**	**05 34 48.9**	**-2.1**
LYN				pmax	pmax		
	comp=Z,35nm,0.6s						
LYN				smax	smax		
	comp=N,300nm,1.2s						
LYN				smax	smax		
	comp=E,250nm,1.3s						
LYN				LR	LR		
	comp=N,3μm,9.6s						
LYN				LR	LR		
	comp=E,2μm,10.8s						
LYN				LR	LR		
	comp=Z,3μm,11.3s						
GYA	**Guiyang**	**9.53**	**153**	P	Pn	05 35 06.0	+4.6
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
HHC	**Hu-ho-hao-te**	**9.62**	**50**	*e*P	**Pn**	**05 35 03.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						
HHC				LR	LR		
	comp=N,840nm,7.2s						
HHC				LR	LR		
	comp=E,400nm,6.2s						
HHC				LR	LR		
	comp=Z,870nm,8.4s						
KMI	**Kunming**	**9.93**	**175**	⇓P	**Pn**	**05 35 09.8**	**+2.8**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI				pmax	pmax		
	comp=Z,93nm,4.0s						
KMI				LR	LR		
	comp=N,1μm,10.3s						
KMI				LR	LR		
	comp=E,820nm,10.4s						
KMI				LR	LR		
	comp=Z,1μm,9.1s						
TNCH	**TengChong**	**10.39**	**197**	*e*P	**Pn**	**05 35 13.9**	**+0.6**
TNCH				S	**Sn**	**05 37 11.4**	**+1.4**
TNCH				pmax	pmax		
	comp=Z,140nm,4.4s						
TNCH				LR	LR		
	comp=N,1μm,7.8s						
TNCH				LR	LR		
	comp=E,2μm,10.7s						
TNCH				LR	LR		
	comp=Z,1μm,10.1s						
LSA	**Lhasa**	**10.48**	**242**	Pn	**Pn**	**05 35 14.2**	**-0.5**
LSA	**Lhasa**	**10.48**	**242**	P	**Pn**	**05 35 14.6**	**-0.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LSA	**Lhasa**	**10.48**	**242**	P	**Pn**	**05 35 14.2**	**-0.5**
HNS	**HongShan**	**10.67**	**74**	⇑P	**Pn**	**05 35 17.4**	**+0.5**
HNS				S	**Sn**	**05 37 19.9**	**+3.4**
HNS				pmax	pmax		
	comp=Z,18nm,0.8s						
HNS				LR	LR		
	comp=E,760nm,8.6s						
HNS				LR	LR		
	comp=Z,1μm,10.0s						
WHN	**Wuhan**	**11.46**	**110**	P	**Pn**	**05 35 23.8**	**-4.0**
WHN				S	**Sn**	**05 37 31.1**	**-4.8**
WHN				LR	LR		
	comp=N,6μm,8.5s						
WHN				LR	LR		
	comp=E,5μm,8.6s						
WHN				LR	LR		
	comp=Z,3μm,10.4s						
GULI	**GuiLin**	**12.22**	**141**	P	**Pn**	**05 35 38.9**	**+0.8**
GULI				pmax	pmax		
	comp=Z,20nm,0.9s						
BJT	**Baijiatuau**	**12.42**	**62**	Pn	**Pn**	**05 35 40.9**	**+0.1**
BJT	**Baijiatuau**	**12.42**	**62**	P	**Pn**	**05 35 40.9**	**+0.1**
BJI	**Beijing**	**12.43**	**62**	P	**Pn**	**05 35 40.0**	**-1.0**
BJI				pP		05 35 43.4	
BJI				sP		05 35 46.3	
BJI				S	**Sn**	**05 38 01.4**	**+1.9**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BJI				LR	LR		
	comp=Z,630nm,10.2s						
BJI				LR	LR		
	comp=Z,620nm,10.0s						
BJI				LR	LR		
	comp=Z,760nm,9.9s						
TIA	**Tai'an**	**12.51**	**80**	P	**Pn**	**05 35 41.5**	**-0.6**
TIA				S	**Sn**	**05 38 03.5**	**+2.0**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TIA				LR	LR		
	comp=Z,720nm,13.0s						
TIA				LR	LR		
	comp=Z,670nm,8.4s						
TIA				LR	LR		
	comp=Z,1μm,10.4s						
SHL	**Shillong**	**12.76**	**225**	Pn	**Pn**	**05 35 42.9**	**-2.8**
SHL	**Shillong**	**12.76**	**225**	P	**Pn**	**05 35 42.9**	**-2.8**
SONM	**Songino Array**	**13.22**	**14**	Pn	**Pn**	**05 35 51.9**	**+0.1**
SONM	**Songino Array**	**13.22**	**14**	Pn	**Pn**	**05 35 52.8**	**+1.0**
	comp=Z,5.0nm,0.3s,baz=195,slow=13,SNR=151						
SONM				Sn	**Sn**	**05 38 16.5**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=195,slow=27,SNR=1.9						
	comp=Z,39nm,0.7s						
ULN	**Ulaanbaatar**	**13.38**	**15**	Pn	**Pn**	**05 35 54.6**	**+0.5**
ULN	**Ulaanbaatar**	**13.38**	**15**	⇓*e*P	**Pn**	**05 35 55.9**	**+1.8**
SLVN	**Son La**	**13.79**	**172**	Pn	**Pn**	**05 35 58.9**	**-0.9**
SLVN	**Son La**	**13.79**	**172**	P	**Pn**	**05 36 02.8**	**+3.1**
WMQ	**Urumqi**	**13.97**	**313**	*e*P	**Pn**	**05 36 01.4**	**-0.7**
WMQ				S	**Sn**	**05 38 36.9**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				LR	LR		
	comp=Z,910nm,11.9s						
WMQ				LR	LR		
	comp=Z,440nm,18.3s						
XLT	**XiLinHaoTe**	**14.10**	**47**	*e*P	**Pn**	**05 36 03.5**	**-0.4**
XLT				pP	P	05 36 07.4	-4.3
XLT				S	**Sn**	**05 38 39.0**	**-1.5**
XLT				pmax	pmax		
	comp=Z,15nm,0.8s						
XLT				pmax	pmax		
	comp=Z,150nm,5.0s						
XLT				LR	LR		
	comp=Z,110nm,13.4s						
XLT				LR	LR		
	comp=Z,810nm,11.9s						
XLT				LR	LR		
	comp=Z,1μm,11.3s						
NJ2	**Nanjing**	**14.52**	**97**	*e*P	**Pn**	**05 36 09.3**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				LR	LR		
	comp=Z,540nm,8.1s						
NJ2				LR	LR		
	comp=Z,610nm,9.0s						
NJ2				LR	LR		
	comp=Z,550nm,8.1s						
BRDH	**Bariadhala**	**15.20**	**218**	LR	LR	05 43 28.4	
	comp=Z,164nm,21.5s,baz=42,slow=43						
ZAK	**Zakamensk**	**15.35**	**4**	*e*P	**Pn**	**05 36 21.4**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,22nm,1.1s						
DL2	**Dalian**	**16.29**	**71**	P	**Pn**	**05 36 33.5**	**+0.7**
DL2				S	**Sn**	**05 39 36.5**	**+3.0**
DL2				pmax	pmax		
	comp=Z,38nm,1.1s						
DL2				LR	LR		
	comp=Z,450nm,13.6s						
DL2				LR	LR		
	comp=Z,440nm,10.3s						
DL2				LR	LR		
	comp=Z,480nm,10.3s						
CHTO	**Chiang Mai**	**16.38**	**190**	P	**P**	**05 36 36.2**	**-0.7**
CHTO	**Chiang Mai**	**16.38**	**190**	P	**P**	**05 36 36.2**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,30nm,0.8s						
MOY	**Mondy**	**16.61**	**358**	*e*P	**Pn**	**05 36 38.5**	**+1.5**
MOY				pmax	pmax		
	comp=Z,97nm,1.6s						
CM31	**Chiang Mai Arr**	**16.73**	**190**	Pn	**Pn**	**05 36 37.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.73**	**190**		**Pn**	**05 36 38.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.73**	**190**	Pn	**Pn**	**05 36 39.0**	**+0.4**
	comp=Z,9.8nm,1.0s,baz=0.3,slow=10,SNR=28						
CMAR	**Chiang Mai Arr**	**16.73**	**190**	*i* P	**Pn**	**05 36 39.4**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NONG	**Nongkai**	**16.97**	**176**	P	**P**	**05 36 45.2**	**+1.8**
QIZ	**Qiongzhong**	**17.48**	**154**	P	**P**	**05 36 50.3**	**+1.2**
QIZ				S	**Sn**	**05 40 03.9**	**+1.3**
QIZ				LR	LR		
	comp=Z,960nm,10.3s						
QIZ				LR	LR		
	comp=Z,530nm,8.2s						
QIZ				LR	LR		
	comp=Z,1μm,13.4s						
WUS	**Wushi**	**18.78**	**296**	P	**P**	**05 37 03.0**	**-0.5**
MK31	**Makanchi Array**	**18.79**	**315**	P	**P**	**05 37 03.1**	**-0.3**
MK31	**Makanchi Array**	**18.79**	**315**	*c i* P	**P**	**05 37 03.6**	**+0.2**
MKAR	**Makanchi Array**	**18.79**	**315**	P	**P**	**05 37 03.4**	**0.0**
MKAR	**Makanchi Array**	**18.79**	**315**	P	**P**	**05 37 03.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=112,slow=14,SNR=84						
MKAR				S	**Sn**	**05 40 26.5**	**-7.5**
	comp=Z,3.9nm,1.0s,baz=127,slow=24,SNR=3.7						
	comp=Z,15nm,0.8s						
CIT	**Chita**	**18.93**	**23**	*e*P	**Pn**	**05 37 05.8**	**+0.2**
CIT				*e*		05 40 26.8	
CIT				pmax	pmax		
	comp=Z,88nm,2.7s						
MAKZ	**Makanchi**	**18.98**	**314**	P	**P**	**05 37 05.6**	**+0.1**
MAKZ	**Makanchi**	**18.98**	**314**	P	**P**	**05 37 05.6**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,32nm,1.0s						
HIA	**Hailar**	**19.38**	**37**		**P**	**05 37 08.4**	**-1.4**
HIA	**Hailar**	**19.38**	**37**	P	**Pn**	**05 37 12.5**	**+1.5**
HIA	**Hailar**	**19.38**	**37**	P	**P**	**05 37 08.5**	**-1.4**
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
YHNB	**Yeheng**	**19.84**	**116**	P	**P**	**05 37 13.7**	**-1.4**
UBPT	**Khong Chiam**	**19.97**	**170**		**P**	**05 37 16.5**	**+0.1**
UBPT				IAmb	IAmb	05 37 20.4	
	comp=Z,32nm,0.8s						
UBPT	**Khong Chiam**	**19.97**	**170**	P	**Pn**	**05 37 19.5**	**+1.4**
CN2	**Changchun**	**20.18**	**57**	*e*P	**P**	**05 37 19.6**	**+0.9**
CN2				*e*S	**S**	**05 41 04.8**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,11.0s						
CN2				LR	LR		
	comp=Z,100nm,10.0s						
ANVS	**Anan'yevo**	**20.27**	**300**	P	Pn	05 37 22.4	+0.6
ANVS				pmax	pmax		
	comp=Z,17nm,0.7s						
KDJ	**Kajisay**	**20.47**	**298**	P	**P**	**05 37 21.8**	**-0.2**
KDJ	**Kajisay**	**20.47**	**298**	P	**P**	**05 37 21.8**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,18nm,1.1s						
NAYO	**Nakonayok**	**20.66**	**181**	P	Pn	05 37 27.2	+0.9
SRDT	**SRDT**	**20.76**	**187**	P	**P**	**05 37 25.6**	**+0.5**
TJN	**Taejon**	**20.77**	**79**	P	**P**	**05 37 25.7**	**+0.6**
TJN	**Taejon**	**20.77**	**79**	⇑*e*P	Pn	05 37 26.5	-1.0
KSH	**Kashi**	**21.01**	**290**	P	**P**	**05 37 32.8**	**+5.0**
KSH				pP	sP	05 37 35.3	+1.8
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,190nm,5.8s						
KSH				LR	LR		
	comp=Z,600nm,13.7s						
KSH				LR	LR		
	comp=Z,750nm,13.1s						
KSAR	**Wonju Array Be**	**21.14**	**76**	P	**P**	**05 37 29.9**	**+0.8**
KSAR	**Wonju Array Be**	**21.14**	**76**	P	**P**	**05 37 29.9**	**+0.8**
KSRS	**Korea Array**	**21.17**	**76**	P	**P**	**05 37 28.6**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=261,slow=8.1,SNR=16						
	comp=Z,3.2nm,0.8s						
BOOM	**Boomskoye usch**	**21.44**	**298**	P	**P**	**05 37 32.4**	**-0.1**
BOOM	**Boomskoye usch**	**21.44**	**298**	P	**P**	**05 37 32.4**	**-0.1**
BOOM				pmax	pmax		
	comp=Z,14nm,0.8s						
TKM2	**Tokmak 2**	**21.78**	**299**	P	**P**	**05 37 39.5**	**+3.3**
	SNR=11						
TKM2	**Tokmak 2**	**21.78**	**299**	P	**P**	**05 37 36.3**	**+0.2**
BNX	**BinXian**	**22.13**	**53**	⇑P	**P**	**05 37 40.5**	**+0.9**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBK	**Karagaybulak**	**22.19**	**298**	P	**P**	**05 37 42.6**	**+2.0**
	SNR=19						
ZAA0	**Zalesovo Array**	**22.34**	**333**	P	**P**	**05 37 41.8**	**+0.1**
ZALV	**Zalesovo Beam**	**22.34**	**333**	P	**P**	**05 37 41.7**	**-0.1**
ZALV	**Zalesovo Beam**	**22.34**	**333**	P	**P**	**05 37 42.5**	**+0.7**
	comp=Z,18nm,0.7s,baz=134,slow=11,SNR=83						
ZALV				LR	LR	05 46 40.0	
	comp=Z,330nm,20.5s,baz=136,slow=37						
	comp=Z,18nm,0.7s						
ARLS	**Aral**	**22.52**	**296**	P	**P**	**05 37 45.9**	**+1.9**
ARLS				pmax	pmax		
	comp=Z,24nm,1.0s						
AAK	**Ala-Archa**	**22.52**	**298**	P	**P**	**05 37 43.4**	**-0.6**
AAK	**Ala-Archa**	**22.52**	**298**	P	**P**	**05 37 45.4**	**+1.3**
	SNR=6.1						
AAK	**Ala-Archa**	**22.52**	**298**	⇑*e*P	**P**	**05 37 45.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,14nm,1.7s						
USP	**Ospenovka**	**22.64**	**299**	P	**P**	**05 37 46.6**	**+1.4**
	SNR=17						
KURBB	**Kurchatov Arra**	**22.96**	**320**	P	**P**	**05 37 48.7**	**+0.3**
	comp=Z,14nm,0.6s,baz=124,slow=11,SNR=78						
KURBB				PcP	**PcP**	**05 41 37.5**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=122,slow=1.9,SNR=4.9						
KURBB				LR	LR	05 47 16.5	
	comp=Z,251nm,21.7s,baz=195,slow=38						
	comp=Z,14nm,0.6s						
KURK	**Kurchatov**	**22.96**	**320**	P	**P**	**05 37 48.2**	**-0.2**
KURK				IAmb	IAmb	05 37 54.7	
	comp=Z,28nm,1.1s						
KURK	**Kurchatov**	**22.96**	**320**	*c i* P	**P**	**05 37 48.4**	**0.0**
KURK				pmax	pmax		
	comp=Z,25nm,1.3s						
AML	**Almayashu**	**23.02**	**296**	P	**P**	**05 37 51.5**	**+2.0**
	SNR=21						
EKS2	**Erkin-Say**	**23.04**	**298**	P	**P**	**05 37 51.3**	**+1.8**
	SNR=6.1						
NIL	**Nilore**	**23.59**	**275**	P	**P**	**05 37 54.6**	**-0.4**
NIL				IAmb	IAmb	05 38 02.3	
	comp=Z,42nm,0.9s						
NIL	**Nilore**	**23.59**	**275**	P	**P**	**05 37 54.6**	**-0.4**
NIL				pmax	pmax		
	comp=Z,43nm,0.9s						
DLV	**Lat**	**23.80**	**164**	P	**P**	**05 37 56.5**	**-0.7**
DLV				IAmb	IAmb	05 38 00.7	
	comp=Z,48nm,1.4s						
DLV	**Lat**	**23.80**	**164**	P	**P**	**05 38 00.1**	**+2.9**
HEH	**HeiHe**	**24.02**	**43**	*e*P	**P**	**05 37 59.5**	**+0.6**
HEH				pmax	pmax		
	comp=Z,17nm,0.9s						
HEH				LR	LR		
	comp=Z,1μm,9.8s						
HEH				LR	LR		
	comp=Z,750nm,8.8s						
HEH				LR	LR		
	comp=Z,980nm,10.2s						
BOD	**Bodaibo**	**24.19**	**16**	*e*P	**P**	**05 38 01.2**	**+0.8**
BOD				pmax	pmax		
	comp=Z,18nm,1.5s						
DRK	**Karamyk**	**24.23**	**289**	P	**P**	**05 38 00.4**	**-1.0**
DRK	**Karamyk**	**24.23**	**289**	P	**P**	**05 38 00.4**	**-1.0**
DRK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TRKS	**Terek-Say**	**24.84**	**294**	P	**P**	**05 38 07.8**	**+1.1**
TRKS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**24.86**	**59**	P	**P**	**05 38 06.8**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=250,slow=10.0,SNR=5.4						
	comp=Z,2.4nm,0.7s						
BTK	**Batken**	**25.00**	**291**	P	**P**	**05 38 08.5**	**+0.4**
BTK	**Batken**	**25.00**	**291**	P	**P**	**05 38 08.5**	**+0.4**
BTK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GAR	**Garm**	**25.39**	**288**	P	**P**	**05 38 12.1**	**+0.5**
GAR				IAmb	IAmb	05 38 13.9	
	comp=Z,35nm,1.1s						
KK31	**Karatay Array**	**25.48**	**298**	P	**P**	**05 38 12.9**	**+0.6**
KK31	**Karatay Array**	**25.48**	**298**	*i* P	**P**	**05 38 12.6**	**+0.3**
KKAR	**Karatay Array**	**25.48**	**298**	P	**P**	**05 38 12.8**	**+0.5**
KKAR	**Karatay Array**	**25.48**	**298**	P	**P**	**05 38 12.8**	**+0.5**
OTUK	**Ortayu**	**25.49**	**310**	P	**P**	**05 38 12.7**	**+0.4**
ZEA	**Zeya**	**25.83**	**36**	*e*P	**P**	**05 38 16.7**	**+1.4**
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
KLR	**Kul'dur**	**26.12**	**48**	LR	LR	05 49 50.7	
	comp=Z,106nm,19.2s,baz=219,slow=39						
KLR	**Kul'dur**	**26.12**	**48**	⇓*e*P	**P**	**05 38 18.7**	**+0.7**
KLR				pmax	pmax		
	comp=Z,11nm,1.6s						
SIMJ	**Simiganj**	**26.42**	**288**	P	**P**	**05 38 20.5**	**-0.5**
DZET	**Dzherino**	**26.55**	**288**	P	**P**	**05 38 23.1**	**+0.9**
DZET				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBL	**Kabul**	**26.85**	**278**	P	**P**	**05 38 25.8**	**+0.7**
KBL	**Kabul**	**26.85**	**278**	P	**P**	**05 38 25.8**	**+0.7**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BVAR	**Borovoye Array**	**28.53**	**319**	P	**P**	**05 38 40.6**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=119,slow=8.4,SNR=8.8						
BVAR				LR	LR	05 51 19.9	
	comp=Z,123nm,20.5s,baz=120,slow=39						
	comp=Z,2.3nm,0.7s						
BRVK	**Borovoye**	**28.60**	**319**	P	**P**	**05 38 40.6**	**+0.4**
BRVK	**Borovoye**	**28.60**	**319**	*ce*P	**P**	**05 38 41.1**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK	**Yakutsk**	**32.20**	**24**	LR	LR	05 54 01.2	
	comp=Z,86nm,18.1s,baz=218,slow=40						
YAK	**Yakutsk**	**32.20**	**24**	*ce*P	**P**	**05 39 12.5**	**+0.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PSI	**Prapat**	**32.21**	**185**	LR	LR	05 52 02.3	
	comp=Z,180nm,18.9s,baz=328,slow=36						
AB31	**Akbulak array**	**33.67**	**308**	*i* P	**P**	**05 39 25.5**	**+0.6**
ABKAR	**Akbulak array**	**33.67**	**308**	P	**P**	**05 39 25.4**	**+0.5**
PALK	**Pallekele**	**33.78**	**220**	LR	LR	05 54 54.1	
	comp=Z,78nm,21.3s,baz=48,slow=39						
GSI	**Gunungsitoli**	**33.81**	**188**	P	**P**	**05 39 26.2**	**-0.2**
GSI				IAmb	IAmb	05 39 28.7	
	comp=Z,21nm,1.1s						
SBUM	**Sibu**	**33.85**	**161**	P	**P**	**05 39 26.3**	**-0.5**
SBUM	**Sibu**	**33.85**	**161**	P	**P**	**05 39 30.3**	**+3.5**
AKTO	**Aktyubinsk**	**35.09**	**310

ARTI 05 41 07.0
ARTI S **S** **05 45 30.8 +3.7**
ARTI SS **SnSn** **05 47 54.0 +0.8**
ARTI pmax pmax
comp=Z,21nm,1.1s
WSAR Wadi Sarin 39.23 264 LR LR 05 59 27.1
comp=Z,85nm,19.2s,baz=90,slow=41
TIXI Tiksi 39.30 13 LR LR 05 55 38.2
comp=Z,102nm,18.3s,baz=261,slow=35
MA2 Magadan 39.97 37 P **P** **05 40 19.5 +1.1**
MA2 Magadan 39.97 37 *de*P **P** **05 40 18.9 +0.5**
MA2 pmax pmax
comp=Z,20nm,2.5s
MA2 Magadan 39.97 37 P **P** **05 40 17.7 -0.7**
comp=Z,12nm,1.0s
KIRV Kirov 41.47 321 *ce*P **P** **05 40 31.3 +0.5**
SEY Seymchan 41.68 32⇓ *e*P **P** **05 40 32.5 0.0**
SEY pmax pmax
comp=Z,6.0nm,1.5s
SKR Severo-Kuril's 41.78 51 *e*P P 05 40 19.9 -13
PETK Petropavlovsk- 42.81 47 P **P** **05 40 41.2 -0.6**
PETK Petropavlovsk- 42.81 47 P **P** **05 40 41.7 -0.1**
comp=Z,3.5nm,0.9s,baz=257,slow=13,SNR=3.1
comp=Z,3.5nm,0.9s
PET Petropavlovsk 43.38 47 P **P** **05 40 45.7 -0.7**
comp=Z,35nm,1.7s
JAGI Jajag, Banyuwa 44.83 163 P **P** **05 40 57.2 -1.2**
JAGI Jajag, Banyuwa 44.83 163 P **P** **05 41 01.1 +2.7**
JAGI Jajag, Banyuwa 44.83 163 P **P** **05 41 00.9 +2.5**
comp=Z,32nm,1.5s
GNI Garni 44.84 294 P **P** **05 40 57.1 -1.4**
GNI IAmb IAmb 05 41 06.5
comp=Z,12nm,0.9s
GNI Garni 44.84 294 *ce*P **P** **05 41 00.1 +1.6**
GNI pmax pmax
comp=Z,13nm,0.9s
GNI Garni 44.84 294 P **P** **05 40 58.0 -0.5**
comp=Z,15nm,1.6s
VRH Novokhopyorsk 45.43 310 *e*P **P** **05 41 02.8 0.0**
VRH pmax pmax
comp=Z,27nm,0.6s
KBZ Khabaz 45.50 299 P **P** **05 41 04.0 +0.5**
comp=Z,3.1nm,0.7s,baz=102,slow=8.9,SNR=8.5
KBZ LR LR 06 02 33.2
comp=Z,155nm,19.2s,baz=86,slow=39
comp=Z,3.1nm,0.7s
KBZ Khabaz 45.50 299 *ce*P **P** **05 41 04.2 +0.7**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 45.61 300 P **P** **05 41 03.9 -0.6**
KIV IAmb IAmb 05 41 06.9
comp=Z,12nm,0.7s
KIV Kislovodsk 45.61 300 *e*P **P** **05 41 05.9 +1.4**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,109nm,16.0s
KIV Kislovodsk 45.61 300 P **P** **05 41 04.0 -0.5**
comp=Z,14nm,1.1s
SHA1 Shidzhatmaz 45.67 300 *c i*P **P** **05 41 06.4 +1.3**
GEVA Gevas 46.55 292 P **P** **05 41 10.4 -1.6**
GEVA IAmb IAmb 05 41 15.3
comp=Z,8.6nm,1.0s
KLMR Klimovskoe 46.74 323 *e*P **P** **05 41 10.8 -2.2**
KLMR pmax pmax
comp=Z,28nm,0.6s
VORR Voronezh 46.96 311 *e*P **P** **05 41 15.1 +0.2**
VORR pmax pmax
comp=Z,34nm,0.4s
VORD Divnogorie 46.97 310 *e*P **P** **05 41 13.4 -1.6**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 47.03 310 *e*P **P** **05 41 13.4 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 47.06 312 *e*P **P** **05 41 16.3 +0.7**
LPSR pmax pmax
comp=Z,49nm,0.8s
GURO Guroymak-BITLI 47.26 293 P **P** **05 41 18.1 +0.5**
GURO IAmb IAmb 05 41 20.6
comp=Z,15nm,1.1s
MOS Moscow 47.66 316 *e*P **P** **05 41 19.4 -0.8**
MOS pmax pmax
comp=Z,74nm,0.8s
OBN Obninsk 48.29 316 P **P** **05 41 25.8 +0.7**
OBN Obninsk 48.29 316 LR LR 06 04 56.7
comp=Z,84nm,18.7s,baz=332,slow=40
OBN Obninsk 48.29 316 *ce*P **P** **05 41 25.3 +0.2**
OBN *e* 05 42 52.5
OBN *e* 05 43 16.7
OBN *e*PPP PPP 05 44 07.3
OBN pmax pmax
comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,216nm,23.0s
OBN Obninsk 48.29 316 P **P** **05 41 24.7 -0.4**
comp=Z,33nm,0.5s
BILL Bilibino 48.48 27 P **P** **05 41 26.7 +0.2**
BILL IAmb IAmb 05 41 27.7
comp=Z,5.5nm,0.6s
BILL Bilibino 48.48 27 *ce*P **P** **05 41 27.0 +0.6**
BILL pmax pmax
comp=Z,9.0nm,1.3s
JOF Joensuu 50.67 326 *e*P **P** **05 41 43.4 +0.2**
KEV Kevo 52.35 335 P **P** **05 41 56.1 +0.5**
KEV IAmb IAmb 05 42 19.3
comp=Z,27nm,1.2s
KEV Kevo 52.35 335 P **P** **05 41 56.1 +0.5**
KEV pmax pmax
comp=Z,27nm,1.2s
ARA0 ARCESS Array S 52.87 335 *e*P **P** **05 42 00.0 +0.5**
ARA0 IAmb IAmb 05 42 00.6
comp=Z,26nm,1.2s
ARCES ARCESS Array B 52.87 335 P **P** **05 42 00.1 +0.6**
ARCES IAmb IAmb 05 42 00.9
comp=Z,18nm,1.1s
ARCES ARCESS Array B 52.87 335 P **P** **05 41 59.9 +0.3**
comp=Z,9.1nm,0.8s,baz=82,slow=7.5,SNR=18
comp=Z,9.1nm,0.8s
ARCES ARCESS Array B 52.87 335 P **P** **05 42 00.2 +0.6**
ARCES pmax pmax
comp=Z,18nm,1.1s
OUL Oulu 52.95 329 P **P** **05 42 00.6 +0.5**
OUL pmax pmax
comp=Z,34nm,1.0s
HOPEN Hopen 53.15 343 *e*P **P** **05 42 02.3 +0.9**
HOPEN IAmb IAmb 05 42 04.0
comp=Z,20nm,1.1s
BR131 Keskin Array S 53.19 297 P **P** **05 42 03.1 +0.6**
BR131 IAmb IAmb 05 42 03.5
comp=Z,6.1nm,0.7s
BR131 Keskin Array S 53.19 297 *c i*P **P** **05 42 02.9 +0.4**
BRTR Keskin Array B 53.19 297 P **P** **05 42 03.1 +0.6**
BRTR Keskin Array B 53.19 297 P **P** **05 42 02.9 +0.4**
comp=Z,4.8nm,0.7s,baz=100,slow=7.5,SNR=11
comp=Z,4.8nm,0.7s
BRTR Keskin Array B 53.19 297 P **P** **05 42 03.1 +0.6**
BR104 Keskin Array S 53.19 297 P **P** **05 42 02.0 -0.5**
comp=Z,76nmcomp=Z,8.1nm,1.0s
BR105 Keskin Array S 53.20 297 P **P** **05 42 02.1 -0.5**
comp=Z,6.2nm,0.7s
FIA1 FINESS Array S 53.23 324 P **P** **05 42 02.8 +0.5**
FINES FINESS Array B 53.23 324 P **P** **05 42 02.8 +0.5**
FINES FINESS Array B 53.23 324 P **P** **05 42 02.6 +0.3**
comp=Z,16nm,0.8s,baz=79,slow=7.2,SNR=33
comp=Z,16nm,0.8s
FINES FINESS Array B 53.23 324 P **P** **05 42 02.8 +0.5**
AK09 Malin Array Si 53.30 311 P **P** **05 42 02.6 -0.3**
VSU Vasula 53.31 321 *ce*P **P** **05 42 03.5 +0.6**
VSU pmax pmax
comp=Z,44nm,1.0s
VSU Vasula 53.31 321 *e*P **P** **05 42 02.9 0.0**
AK08 Malin Array Si 53.31 311 P **P** **05 42 02.7 -0.3**
AKASG Malin Array Be 53.32 311 P **P** **05 42 03.2 +0.1**
comp=Z,3.2nm,0.4s,baz=70,slow=6.7,SNR=23
comp=Z,3.2nm,0.4s
AKBB Malin Array Si 53.32 311 P **P** **05 42 03.4 +0.3**
AKBB IAmb IAmb 05 42 04.2
comp=Z,16nm,1.0s
AKBB Malin Array Si 53.32 311 *de*P **P** **05 42 03.3 +0.3**
AKBB Malin Array Si 53.32 311 P **P** **05 42 02.7 -0.4**
KIEV Kiev 53.33 311 P **P** **05 42 03.2 +0.1**
KIEV IAmb IAmb 05 42 04.2
comp=Z,14nm,1.0s
KIEV Kiev 53.33 311 ⇑P **P** **05 42 03.4 +0.3**
KIEV Kiev 53.33 311 ⇑P **P** **05 42 03.4 +0.3**
MNK Minsk 53.35 316 *i* P **P** **05 42 03.6 +0.3**
MNK *i* 05 44 04.0
MNK *i* PPP PPP 05 45 10.2
MNK *i* S **S** **05 49 33.8 -1.1**
MNK *i* SS **SKiKP** **05 53 17.9 -2.0**
MNK *i* SSS SSS 05 55 09.3
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK MLR MLR
comp=Z,43nm,15.0s
MNK MLR MLR
comp=E,241nm,19.0s
MNK MLR MLR
comp=N,137nm,21.0s
HAMF Hammerfest 53.46 336 *e*P **P** **05 42 04.3 +0.5**
HAMF IAmb IAmb 05 42 04.9
comp=Z,21nm,0.8s
ARBE Arbavere 53.55 322 *e*P **P** **05 42 04.9 +0.3**
KTK1 Kautokeino 53.70 334 *e*P **P** **05 42 05.8 +0.1**
KTK1 IAmb IAmb 05 42 07.1
comp=Z,17nm,1.1s
KEF Keuruu 53.71 325 *e*P **P** **05 42 06.1 +0.3**
MMAI Mount Meron Ar 54.13 288 LR LR 06 09 15.4
comp=Z,64nm,21.2s,baz=60,slow=40
SORM Soroca 54.48 308⇓P **P** **05 42 11.9 +0.3**
SORM Soroca 54.48 308⇓P **P** **05 42 11.9 +0.3**
VAF Ylistaro 54.59 327 *e*P **P** **05 42 12.1 -0.1**
JETT Jettan, Norway 54.66 335 *e*P **P** **05 42 13.0 +0.3**
JETT IAmb IAmb 05 42 13.7
comp=Z,24nm,1.2s
SPA0 Spitsbergen Ar 55.04 345 *e*P **P** **05 42 15.9 +0.6**
SPA0 IAmb IAmb 05 42 16.4
comp=Z,26nm,1.2s
SPITS Spitsbergen Ar 55.04 345 P **P** **05 42 15.3 -0.1**
comp=Z,11nm,1.0s,baz=63,slow=5.7,SNR=4.6
comp=Z,11nm,1.0s
TRO Tromso 55.17 335 *e*P **P** **05 42 16.9 +0.6**
TRO IAmb IAmb 05 42 20.7
comp=Z,12nm,0.9s
RNPP9 Sopachiv 55.20 312 P **P** **05 42 16.6 -0.2**
TPGR Topolog 55.34 304⇓P **P** **05 42 18.9 +0.9**
PABE Paberze 55.35 317 P **P** **05 42 18.5 +0.7**
PABE Paberze 55.35 317 *e*P **P** **05 42 18.0 +0.2**
EIL Elat 55.80 285 LR LR 06 09 32.6
comp=Z,56nm,18.2s,baz=344,slow=40
VRI Vrincioaia 56.18 306⇓P **P** **05 42 25.7 +1.7**
VRI Vrincioaia 56.18 306⇓P **P** **05 42 25.7 +1.7**
PLOR Plostina 56.24 306⇓P **P** **05 42 25.3 +0.9**
PLOR Plostina 56.24 306⇓P **P** **05 42 25.3 +0.9**
BIZ Bicaz 56.27 307⇑P **P** **05 42 25.7 +1.1**
KNRA Kununurra 56.57 148 P **P** **05 42 25.9 -1.0**
KNRA IAmb IAmb 05 42 29.5
comp=Z,7.5nm,0.8s
BURAR Bucovina Array 56.65 308 P **P** **05 42 27.9 +0.5**
BURAR Bucovina Array 56.65 308⇑P **P** **05 42 27.7 +0.3**
BURAR Bucovina Array 56.65 308⇑P **P** **05 42 27.7 +0.3**
BUR08 Bucovina Ar. S 56.66 308 P **P** **05 42 27.7 +0.2**
STEI Steigen 56.77 333 *e*P **P** **05 42 27.8 +0.1**
STEI IAmb IAmb 05 42 28.9
comp=Z,17nm,1.1s
MLR Muntele Rosu 56.82 305⇑P **P** **05 42 29.5 +0.9**
MLR Muntele Rosu 56.82 305⇑P **P** **05 42 29.5 +0.9**
DOPR Dopca 57.04 306⇓P **P** **05 42 31.7 +1.7**
LOF Lofoten 57.36 334 *e*P **P** **05 42 31.2 -0.7**
LOF IAmb IAmb 05 42 33.6
comp=Z,52nm,1.1s
MOR8 Moi Rana 57.47 331 *e*P **P** **05 42 31.1 -1.7**
MOR8 IAmb IAmb 05 42 31.9
comp=Z,8.8nm,0.5s
GAMB Gambell 57.68 32 P **P** **05 42 34.1 -0.1**
baz=284
KONS Konsvik 57.91 332 *e*P **P** **05 42 36.3 +0.5**
KONS IAmb IAmb 05 42 40.0
comp=Z,28nm,1.1s
LEIR Leirfjorden 58.01 331 *e*P **P** **05 42 35.9 -0.6**
LEIR IAmb IAmb 05 42 37.8
comp=Z,21nm,1.1s
KOLS Kolonicke sedl 58.13 310 *e*P **P** **05 42 38.4 +0.7**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 58.13 310 *e*P **P** **05 42 38.4 +0.7**
KOLS *e*PP **PP** **05 44 43.6 -2.5**
LOT Lotru 58.28 306⇑P **P** **05 42 39.9 +0.9**
MARR Marisel-Cluj 58.31 307⇑P **P** **05 42 40.2 +1.1**
DRGR 58.53 308⇑P **P** **05 42 41.8 +1.2**
DRGR 58.53 308⇑P **P** **05 42 41.8 +1.2**
STHS Stebnicka Huta 58.61 311 *e*P **P** **05 42 38.7 -2.4**
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 58.61 311 *e*P **P** **05 42 38.7 -2.4**
PSA00 Pilbara Seismi 58.86 160 P **P** **05 42 42.6 -0.4**
PSA00 IAmb IAmb 05 42 45.8
comp=Z,6.0nm,0.9s
C16K Lisburne Hills 58.97 26 P **P** **05 42 42.8 -0.4**
baz=287
NIE Niedzica 59.20 311 *e*P **P** **05 42 46.4 +1.3**
OJC Ojcow 59.24 312 *e*P **P** **05 42 45.8 +0.4**
OJC Ojcow 59.24 312 IAmb IAmb 05 42 47.1
comp=Z,15nm,0.9s
SURR Surduc 59.27 307⇑P **P** **05 42 46.9 +1.2**
HERR Herculane 59.37 306⇑P **P** **05 42 47.0 +0.6**
HFS Hagfors 59.44 324 P **P** **05 42 46.2 -0.3**
comp=Z,10nm,0.8s,baz=111,slow=7.0,SNR=16
comp=Z,10nm,0.8s
C17K DeLong Mountai 59.67 25 P **P** **05 42 48.6 +0.6**
baz=289
A19K Wainwright 59.80 23 P **P** **05 42 49.7 +0.8**
baz=290
B18K Kokolik River 59.85 24 P **P** **05 42 50.1 +0.8**
baz=289
MDVR Moldovita 59.88 306⇑P **P** **05 42 50.7 +0.7**
D17K Noatak River 59.96 26 P **P** **05 42 50.5 +0.5**
baz=289,SNR=7.6
NC405 NORSAR Array S 60.05 326 P **P** **05 42 51.0 +0.1**
NC303 NORSAR Array S 60.18 326 P **P** **05 42 51.6 0.0**
NC303 IAmb IAmb 05 42 56.4
comp=Z,11nm,0.9s
NC602 NORSAR Array S 60.26 326 *e*P **P** **05 42 51.8 -0.4**
NC602 IAmb IAmb 05 42 52.2
comp=Z,37nm,1.3s
NORES NORESS Array B 60.26 326 P **P** **05 42 51.6 -0.6**
NB201 NORSAR Array S 60.27 326 P **P** **05 42 52.1 -0.2**
BOVS Boven 60.30 305⇑P **P** **05 42 53.1 +0.4**
C18K Utukok River 60.30 25 IAmb IAmb 05 42 53.4
comp=Z,6.4nm,0.8s
C18K Utukok River 60.30 25 P **P** **05 42 52.4 -0.1**
baz=290
NB2 NORSAR Subarra 60.31 326 P **P** **05 42 52.0 -0.6**
comp=Z,3.3nm,0.5s,baz=73,slow=6.9
NB2 NORSAR Subarra 60.31 326 P **P** **05 42 52.0 -0.6**
baz=73,slow=6.9
NOA NORSAR Array B 60.31 326 P **P** **05 42 52.2 -0.4**
comp=Z,3.7nm,0.6s,baz=77,slow=7.8,SNR=27
NOA LR LR 06 11 08.3
comp=Z,90nm,18.9s,baz=55,slow=38
comp=Z,3.7nm,0.6s
NC204 NORSAR Array S 60.44 326 P **P** **05 42 53.3 -0.3**
G15K Niukluk 60.50 29 P **P** **05 42 54.0 +0.2**
baz=290
STEB Steborice 60.57 312 *e*P **P** **05 42 55.5 +1.0**
E17K Hotham Inlet 60.62 27 P **P** **05 42 55.3 +0.7**
baz=291
MORC Moravsky Berou 60.76 312 P **P** **05 42 56.1 +0.2**
MORC IAmb IAmb 05 42 57.7
comp=Z,9.1nm,0.9s
MORC Moravsky Berou 60.76 312 *e*P **P** **05 42 56.6 +0.7**
MORC Moravsky Berou 60.76 312⇑P **P** **05 42 57.0 +1.1**
MORC Moravsky Berou 60.76 312⇑P **P** **05 42 57.0 +1.1**
OSL Oslo 60.91 325 *e*P **P** **05 42 56.9 +0.3**
OSL IAmb IAmb 05 42 58.9
comp=Z,17nm,1.0s
DOMB Dombas 60.94 327 *e*P **P** **05 42 56.8 -0.1**
DOMB IAmb IAmb 05 42 59.6
comp=Z,64nm,1.9s
E18K Tukpahlearik C 60.95 26 P **P** **05 42 57.5 +0.7**
baz=292
JAVC Velka Javorina 61.01 311 *e*P **P** **05 42 59.5 +1.9**
G16K Koyuk River 61.03 28 IAmb IAmb 05 43 02.5
comp=Z,9.9nm,1.4s
G16K Koyuk River 61.03 28 P **P** **05 42 57.9 +0.6**
baz=291
F17K Baldwin Pennin 61.07 27 P **P** **05 42 58.0 +0.4**
baz=292
B20K Meade River 61.12 23 P **P** **05 42 58.7 +0.7**
baz=293
DPC Dobruska-Polom 61.29 313 *e*P **P** **05 43 00.6 +1.1**
DPC Dobruska-Polom 61.29 313 *e*P **P** **05 43 00.6 +1.1**
H16K Elim 61.35 29 P **P** **05 42 59.9 +0.3**
baz=292
CHVC Chvalec 61.36 314 *e*P **P** **05 43 00.9 +0.9**
CHVC Chvalec 61.36 314 *e*P **P** **05 43 00.9 +0.9**
MORH Mrgy, Hungar 61.37 308⇑P **P** **05 43 00.6 +0.6**
A22K Sinclair Lake 61.39 21 P **P** **05 43 00.2 +0.5**
baz=294
D19K Kuna River 61.41 24 P **P** **05 43 00.0 +0.1**
baz=293,SNR=20
MODS Modra-Piesok 61.43 311 *e*P **P** **05 43 02.8 +2.4**
MODS pmax pmax
comp=Z,31nm,1.4s
MODS Modra-Piesok 61.43 311 *e*P **P** **05 43 02.8 +2.4**
MODS *e*PP **PP** **05 45 09.6 -5.7**
VRAC Vranov 61.51 312 LR LR 06 11 02.2
comp=Z,237nm,19.4s,baz=50,slow=37
G17K Kiwalik Mounta 61.65 28 P **P** **05 43 01.7 +0.1**
baz=292
SKAR Skarslia 61.77 326 *e*P **P** **05 43 02.9 +0.4**
SKAR IAmb IAmb 05 43 03.6
comp=Z,23nm,1.1s
D20K Etivluk River 61.82 24 P **P** **05 43 03.3 +0.5**
baz=294
B21K Ikpikpuk River 62.09 23 P **P** **05 43 05.5 +1.0**
baz=296,SNR=8.5
E19K Redstone River 62.13 25 P **P** **05 43 05.2 +0.4**
baz=294
B22K Teshekpuk Lake 62.14 22 P **P** **05 43 05.4 +0.6**
baz=296
E20K Nigu River 62.15 24 P **P** **05 43 05.3 +0.2**
baz=295
H17K Granite Mounta 62.16 28 P **P** **05 43 05.0 -0.1**
baz=293
F19K Shaleruckik Mo 62.19 26 P **P** **05 43 04.4 -0.8**
baz=294
C21K Knifeblade Rid 62.23 23 P **P** **05 43 05.9 +0.4**
baz=296
G18K Tagagawik 62.25 27 P **P** **05 43 05.9 +0.3**
baz=294
I17K Unalakleet 62.26 30 P **P** **05 43 05.8 +0.1**
baz=293
RONA Rosalia, Austr 62.29 310 *e*P **P** **05 43 07.0 +0.7**
comp=Z,4.3nm,0.7s
L14K Kuka Creek 62.42 33 P **P** **05 43 06.8 +0.1**
baz=293
PDG Podgorica 62.42 304⇑P **P** **05 43 07.3 +0.2**
CONA Conrad Observa 62.48 311 *e*P **P** **05 43 08.8 +1.2**
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 62.50 314 *e*P **P** **05 43 08.1 +0.6**
BRG Amp 05 43 09.2
comp=Z,7.1nm,0.8s
BRG Berggiesshubel 62.50 314 P **P** **05 43 11.9 +4.3**
BRG Amp 05 43 12.2
comp=Z,4.0nm,0.8s
J16K Anvik River 62.54 30 P **P** **05 43 08.3 +0.7**
baz=294
K15K Wolf Creek Mou 62.54 32 P **P** **05 43 08.1 +0.5**
baz=293
WB0 Warramunga Arr 62.69 145 IAmb IAmb 05 43 11.7
comp=Z,8.8nm,0.8s
WRAB Tennant Creek 62.81 145 P **P** **05 43 08.7 -1.2**
WRAB Tennant Creek 62.81 145 P **P** **05 43 08.7 -1.2**
WRAB pmax pmax
comp=Z,15nm,0.9s
WRA Warramunga Arr 62.81 145 P **P** **05 43 08.5 -1.4**
comp=Z,6.9nm,0.8s,baz=341,slow=7.2,SNR=20
comp=Z,6.9nm,0.8s
E21K Killik River 62.81 24 P **P** **05 43 09.7 +0.3**
baz=297
WB2 Warramunga Arr 62.82 145 P **P** **05 43 08.9 -1.1**
CLL Collm 62.88 315 *i* P **P** **05 43 10.3 +0.2**
CLL *i* *PP **pP** **05 43 13.4 -1.1**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 62.88 315 *i* P **P** **05 43 10.3 +0.2**
comp=Z,7.0nm,1.0s
CLL *i* pP **pP** **05 43 13.4 -1.1**
CLL *e*PP **PP** **05 45 26.0 -2.0**
ZVC Zvikov 62.91 313 *e*P **P** **05 43 10.6 +0.3**
WR0 Warramunga Arr 62.92 145 P **P** **05 43 08.9 -1.7**
WR0 IAmb IAmb 05 43 13.3
comp=Z,10nm,1.1s
ARSA Arzberg 62.95 310 P **P** **05 43 11.1 +0.4**
comp=Z,4.5nm,0.9s
M14K Bethel 62.97 33 P **P** **05 43 10.7 +0.2**
baz=294
D22K Ayikyak River 63.03 23 P **P** **05 43 11.5 +0.6**
D22K IAmb IAmb 05 43 12.6
comp=Z,11nm,0.8s
D22K Ayikyak River 63.03 23 P **P** **05 43 11.7 +0.8**
baz=298,SNR=9.2
CKRC Cesky Krumlov 63.08 312 *e*P **P** **05 43 12.9 +1.4**
CKRC Cesky Krumlov 63.08 312 *e*P **P** **05 43 12.9 +1.4**
J17K VABM Dome 63.12 30 P **P** **05 43 12.1 +0.6**
baz=295
C23K Itkillik River 63.23 22 P **P** **05 43 13.0 +0.9**
baz=299
KHC Kasperske Hory 63.40 313 *e*P **P** **05 43 14.4 +0.8**
KHC Kasperske Hory 63.40 313 *e*P **P** **05 43 14.4 +0.8**
GCSA Galena City Sc 63.41 28 P **P** **05 43 13.9 +0.5**
baz=296
N14K Kuskokwak Cree 63.44 34 P **P** **05 43 14.0 +0.4**
baz=294
GERES GERESS Array B 63.44 312 P **P** **05 43 13.9 -0.1**
GERES GERESS Array B 63.44 312 P **P** **05 43 14.5 +0.5**
comp=Z,3.5nm,0.8s,baz=90,slow=5.3,SNR=9.2
GERES LR LR 06 12 19.9
comp=Z,206nm,18.6s,baz=60,slow=37
comp=Z,3.5nm,0.8s
JMIC Jan Mayen 63.46 340 LR LR 06 14 23.4
comp=Z,60nm,19.6s,baz=74,slow=39
SOKA Soboth 63.49 310 *e*P **P** **05 43 14.7 +0.4**
comp=Z,7.2nm,0.7s
MOA Molln 63.49 311 *e*P **P** **05 43 15.1 +0.8**
comp=Z,5.3nm,0.9s
F21K Alatna River 63.54 25 P **P** **05 43 14.8 +0.6**
baz=298
D23K Nanushuk River 63.63 23 P **P** **05 43 15.5 +0.8**
baz=299
L16K Owhat River 63.67 32 P **P** **05 43 14.9 -0.2**
baz=295
E22K Anaktuvuk Pass 63.67 24 IAmb IAmb 05 43 16.3
comp=Z,7.1nm,0.8s
E22K Anaktuvuk Pass 63.67 24 P **P** **05 43 15.6 +0.5**
baz=299,SNR=6.0
K17K Iditarod 63.73 30 P **P** **05 43 15.4 -0.1**
baz=296
H20K Anotleneega Mo 63.84 27 P **P** **05 43 16.5 +0.2**
baz=297
F22K John River 63.85 24 P **P** **05 43 17.1 +0.8**
baz=298
G21K Allakaket 63.86 26 P **P** **05 43 16.9 +0.6**
baz=298
OBKA Obir 63.86 310 *e*P **P** **05 43 16.9 +0.1**
comp=Z,9.8nm,1.2s
C24K Franklin Bluff 63.86 21 P **P** **05 43 16.7 +0.5**
baz=300
BIOA Bad Ischl, Aus 63.95 311 *e*P **P** **05 43 18.0 +0.7**
comp=Z,13nm,1.3s
L17K Donlin 63.99 31 P **P** **05 43 17.9 +0.7**
baz=296
J18K Innoko River 64.05 29 P **P** **05 43 17.4 -0.2**
baz=297
N15K Kwethluk River 64.06 33 P **P** **05 43 18.2 +0.4**
baz=295
D24K Happy Valley 64.12 22 P **P** **05 43 18.5 +0.6**
baz=301
TOLK Toolik Lake Re 64.14 23 IAmb IAmb 05 43 19.4
comp=Z,9.9nm,0.9s
TOLK Toolik Lake Re 64.14 23 P **P** **05 43 18.8 +0.6**
baz=300,SNR=8.5
J19K Poorman 64.24 29 P **P** **05 43 19.0 +0.1**
baz=297
KBA Koelnbreinsper 64.38 311 *e*P **P** **05 43 20.7 +0.4**
comp=Z,8.3nm,0.8s
E23K Chandalar 64.42 23 P **P** **05 43 20.5 +0.4**
baz=300
N16K Nishlik Lake 64.52 33 P **P** **05 43 21.4 +0.6**
baz=296
H21K Melozitna Rive 64.52 26 P **P** **05 43 21.4 +0.7**

baz=299
TTA Tatalina 64.58 30 P **P 05 43 21.5 +0.4**
baz=297
O15K Ungalikthiuk R 64.61 34 P **P 05 43 21.2 -0.1**
baz=296
LESA Schwarzleotal 64.65 311 *i* P **P 05 43 22.7 +0.8**
comp=Z,11nm,0.6s
COLD Coldfoot 64.65 24 P **P 05 43 22.2 +0.8**
COLD IAmb IAmb 05 43 23.7
comp=Z,11nm,0.8s
COLD Coldfoot 64.65 24 P **P 05 43 22.3 +0.8**
baz=300,SNR=11
M17K Holitna River 64.68 32 P **P 05 43 22.6 +0.8**
baz=297
J20K Nowinta River 64.73 28 P **P 05 43 22.8 +0.7**
baz=298
D25K Kavik River 64.77 21 P **P 05 43 22.7 +0.4**
baz=303
E24K Your Creek 64.78 23 P **P 05 43 23.1 +0.7**
baz=301
C26K Camden Bay 64.87 21 P **P 05 43 23.7 +0.8**
baz=304
G23K Bananza Creek 64.98 25 P **P 05 43 24.1 +0.4**
baz=301
ABTA Abfaltersbach 65.04 311 P **P 05 43 23.8 -0.7**
comp=Z,6.6nm,1.0s
EUNU Eureka 65.04 2 P **P 05 43 24.7 +0.7**
EUNU IAmb IAmb 05 43 29.9
comp=Z,7.3nm,1.2s
I21K Tanana 65.06 27 P **P 05 43 24.3 +0.2**
baz=300
K20K Telida 65.15 29 P **P 05 43 25.3 +0.4**
baz=299
N17K Nushagak Hills 65.19 32 P **P 05 43 25.6 +0.4**
baz=298
O16K Kokwok River B 65.22 33 P **P 05 43 25.4 +0.1**
baz=297
F24K Squaw Lake 65.27 23 P **P 05 43 26.2 +0.7**
baz=302
M18K Stony River 65.33 31 P **P 05 43 26.3 +0.3**
baz=298
WTTA Wattenberg 65.36 311 *e*P **P 05 43 26.8 +0.1**
comp=Z,9.7nm,0.8s
WATA Walderalm 65.36 312 *e*P **P 05 43 27.1 +0.5**
comp=Z,7.9nm,1.0s
C27K Jago River 65.38 21 P **P 05 43 27.3 +1.1**
baz=305
L19K White Mountain 65.40 30 P **P 05 43 26.9 +0.4**
baz=299
CHUM Lake Minchumin 65.58 28 P **P 05 43 28.4 +0.8**
baz=300
O17K Koliganek Bris 65.58 33 P **P 05 43 28.0 +0.3**
baz=298
H23K Yukon River 65.60 25 P **P 05 43 28.9 +1.1**
baz=301
SQTA Sankt Quirin 65.64 312 *e*P **P 05 43 28.6 +0.2**
comp=Z,6.3nm,0.5s
L20K Farewell, AK 65.66 30 P **P 05 43 29.0 +0.9**
baz=299
E25K Arctic Village 65.68 22 P **P 05 43 28.6 +0.5**
E25K Arctic Village 65.68 22 P **P 05 43 28.7 +0.5**
baz=304
N18K Kilae Creek 65.69 32 P **P 05 43 28.6 +0.3**
baz=298
M19K Big River Lodg 65.73 30 P **P 05 43 28.8 +0.2**
baz=299
G24K Hadweenzic Riv 65.84 24 P **P 05 43 29.9 +0.6**
baz=303
AS31 Alice Springs 65.85 148 P **P 05 43 28.8 -1.0**
ASAR Alice Springs 65.86 148 P **P 05 43 28.9 -0.9**
ASAR Alice Springs 65.86 148 P **P 05 43 28.8 -1.1**
comp=Z,5.8nm,0.8s,baz=331,slow=5.9,SNR=34
comp=Z,5.8nm,0.8s
ASAR Alice Springs 65.86 148 P **P 05 43 28.9 -0.9**
CAST Castle Rocks 65.90 28 IAmb IAmb 05 43 32.1
comp=Z,5.5nm,0.8s
CAST Castle Rocks 65.90 28 P **P 05 43 29.9 +0.2**
baz=300
F25K Christian Rive 65.95 23 IAmb IAmb 05 43 33.0
comp=Z,7.7nm,0.8s
F25K Christian Rive 65.95 23 P **P 05 43 31.1 +1.1**
baz=304,SNR=13
FETA Feichten 66.02 312 *i* P **P 05 43 31.0 +0.1**
comp=Z,3.2nm,0.5s
I23K Minto, Yukon-K 66.02 26 IAmb IAmb 05 43 31.4
comp=Z,6.1nm,0.8s
I23K Minto, Yukon-K 66.02 26 P **P 05 43 31.0 +0.6**
baz=302
PPLA Purkeypile 66.12 29 P **P 05 43 31.4 +0.2**
baz=300
H24K Noodor Dome 66.18 25 P **P 05 43 31.9 +0.4**
baz=303
N19K Bonanza Creek 66.22 31 P **P 05 43 32.1 +0.2**
baz=299
M20K Styx River 66.26 30 P **P 05 43 32.2 +0.1**
baz=300
G25K Bearman Lake 66.27 24 P **P 05 43 32.6 +0.6**
baz=304
F26K Sheenjek River 66.36 22 P **P 05 43 32.6 0.0**
baz=305
BMAR Burnt Mountain 66.38 23 P **P 05 43 33.5 +0.8**
O18K Koktuh Hills 66.38 32 P **P 05 43 32.3 -0.5**
baz=299
D27M Malcolm River 66.39 20 P **P 05 43 33.1 +0.3**
baz=307
R16K Pilot Point 66.41 35 P **P 05 43 33.3 +0.3**
baz=298
NEA2 Nenana 66.42 26 P **P 05 43 33.9 +0.9**
baz=302
FUORN Ofenpass-Fuorn 66.49 311 P **P 05 43 33.7 -0.3**
FUORN IAmb IAmb 05 43 40.1
comp=Z,7.4nm,0.7s
TRF Thorofare Moun 66.58 28 P **P 05 43 35.0 +0.8**
baz=302
P18K Big Mountain, 66.60 33 P **P 05 43 34.4 +0.1**
baz=299
O19K Port Alsworth 66.60 32 P **P 05 43 34.6 +0.5**
baz=300
CHGN Chignik 66.60 37 P **P 05 43 35.2 +1.0**
baz=298
H25L Birch Creek 66.64 24 P **P 05 43 35.5 +1.2**
baz=304
DAVOX Davos/Dischmat 66.65 312 LR LR 06 14 36.0
comp=Z,207nm,18.7s,baz=56,slow=38
CHNA Chernabura Isl 66.71 39 P **P 05 43 34.1 -0.8**
baz=298
COLA College 66.71 26 P **P 05 43 34.6 -0.2**
COLA College 66.71 26 ⇑P **P 05 43 35.2 +0.4**
COLA College 66.71 26 P **P 05 43 35.1 +0.3**
baz=303
POKR Poker Plat Res 66.73 26 IAmb IAmb 05 43 36.4
comp=Z,12nm,0.9s
POKR Poker Plat Res 66.73 26 P **P 05 43 35.5 +0.6**
baz=303
E27K Coleen River 66.85 21 P **P 05 43 36.1 +0.3**
baz=307
SKT Skwentna 66.86 29 P **P 05 43 35.7 -0.2**
baz=301
G26K Porcupine Rive 66.91 23 P **P 05 43 36.8 +0.7**
baz=306
MCK McKinley 66.94 27 P **P 05 43 36.3 0.0**
baz=303
D28M Stokes Point 66.96 20 P **P 05 43 36.8 +0.5**
baz=309
SPCR Spurr Chakacha 66.99 30 P **P 05 43 36.8 +0.1**
baz=301
IL31 67.11 26 IAmb IAmb 05 43 37.5
comp=Z,7.8nm,0.9s
ILAR Eielson Array 67.11 26 P **P 05 43 36.7 -0.7**
ILAR Eielson Array 67.11 26 P **P 05 43 36.6 -0.8**
comp=Z,5.0nm,0.9s,baz=292,slow=6.1,SNR=49
ILAR LR LR 06 14 19.5
comp=Z,106nm,18.9s,baz=272,slow=37
comp=Z,5.0nm,0.9s
ILAR Eielson Array 67.11 26 P **P 05 43 36.7 -0.7**
TUE Stuetta 67.12 311 P **P 05 43 37.8 -0.2**
TUE IAmb IAmb 05 43 42.2
comp=Z,8.6nm,0.8s
IL03 Eielson Array 67.13 26 P **P 05 43 36.8 -0.7**
CUT Chulitna 67.14 29 P **P 05 43 37.4 -0.2**
baz=302
PRP Porcupine Dome 67.17 25 P **P 05 43 38.5 +0.6**
baz=305
E28M Babbage River 67.20 20 P **P 05 43 38.7 +0.8**
baz=309
HDA Harding Lake 67.29 26 P **P 05 43 37.9 -0.7**
baz=304
O20K Slope Mountain 67.39 32 P **P 05 43 40.1 +0.8**
baz=301
SUA Susitna One 67.45 30 P **P 05 43 39.7 -0.1**
baz=302
CAPN Captain Cook N 67.65 30 P **P 05 43 40.9 +0.1**
baz=302
G27K Doyon Strip 67.67 23 P **P 05 43 41.6 +0.7**
baz=308
J25K Salcha River, 67.74 25 P **P 05 43 40.1 -1.3**
baz=305
E29M Blow River 67.80 20 P **P 05 43 42.5 +0.8**
baz=310
PMR Palmer 68.03 29 P **P 05 43 42.6 -0.6**
baz=303
HOM Homer 68.03 32 P **P 05 43 43.3 +0.1**
baz=302
K24K Donnelly Dome 68.06 26 P **P 05 43 42.8 -0.6**
baz=305
H27K Steamboat Moun 68.07 23 P **P 05 43 44.4 +1.0**
baz=308
I26K Coal Creek Min 68.09 24 P **P 05 43 44.0 +0.5**
baz=307
SML Sawmill 68.23 29 P **P 05 43 44.5 -0.1**
baz=304
A36M Sachs Harbour 68.31 14 P **P 05 43 45.0 +0.2**
A36M Sachs Harbour 68.31 14 P **P 05 43 45.3 +0.5**
baz=320
I27K Kandik River 68.42 24 P **P 05 43 46.2 +0.5**
baz=308
RIDG Independent Ri 68.44 26 P **P 05 43 44.9 -0.9**
baz=306
J26L Joseph Creek 68.44 25 P **P 05 43 45.2 -0.7**
baz=307
M23K Glacier View 68.48 29 P **P 05 43 45.8 -0.3**
baz=304
SCRK Sand Creek 68.60 26 P **P 05 43 46.5 -0.4**
baz=306
SCM Sheep Creek Mo 68.61 28 P **P 05 43 47.4 +0.4**
baz=305
PAX Paxson 68.66 27 P **P 05 43 47.1 -0.1**
baz=306
G29M Pine Creek 68.72 21 P **P 05 43 47.7 +0.2**
baz=310
PWL Port Wells 68.76 30 P **P 05 43 47.0 -0.9**
baz=304
M24K Tolsona, Glenn 68.90 28 P **P 05 43 48.6 -0.1**
baz=305
F30M Barrier River 68.91 20 P **P 05 43 49.0 +0.4**
baz=312
INK Inuvik 69.06 19 P **P 05 43 49.7 +0.2**
INK Inuvik 69.06 19 P **P 05 43 49.7 +0.2**
INK pmax pmax
comp=Z,11nm,0.7s
INK Inuvik 69.06 19 P **P 05 43 49.7 +0.2**
baz=314,SNR=14
H29M Whitestone 69.07 22 P **P 05 43 49.6 0.0**
baz=310
I28M Miner Creek 69.07 23 P **P 05 43 50.3 +0.5**
baz=309
HARP HAARP 69.11 27 P **P 05 43 50.5 +0.5**
baz=306
G30M tAoh Zraii Nji 69.21 21 P **P 05 43 50.5 0.0**
baz=312
K27K Chicken 69.24 25 P **P 05 43 51.4 +0.7**
baz=308
KLU Klutina 69.35 28 P **P 05 43 51.7 +0.1**
baz=306
F31M Tsiigehtchic 69.61 20 P **P 05 43 53.0 +0.1**
F31M IAmb IAmb 05 43 53.1
comp=Z,6.6nm,0.8s
F31M Tsiigehtchic 69.61 20 P **P 05 43 53.0 +0.1**
baz=314,SNR=8.3
EKA Eskdalemuir Ar 69.63 324 P **P 05 43 53.1 -0.1**
comp=Z,0.9nm,0.5s,baz=56,slow=6.1,SNR=4.3
comp=Z,0.9nm,0.5s
N25K Chitina, Valde 69.80 28 P **P 05 43 54.8 +0.4**
baz=307
G31M Satah River 69.81 20 P **P 05 43 53.9 -0.3**
G31M IAmb IAmb 05 43 54.9
comp=Z,13nm,0.8s
G31M Satah River 69.81 20 P **P 05 43 53.9 -0.3**
baz=314,SNR=9.8
M26K Nabesna, AK 69.92 27 P **P 05 43 55.2 +0.2**
baz=308
L27K Beaver Creek, 69.93 26 P **P 05 43 55.6 +0.5**
baz=308
BCAR Beaver Creek A 69.94 26 P **P 05 43 55.5 +0.3**
RES Resolute Bay 69.97 5 P **P 05 43 54.9 -0.2**
RES IAmb IAmb 05 43 56.2
comp=Z,5.0nm,0.9s
RES Resolute Bay 69.97 5 P **P 05 43 54.9 -0.2**
RES pmax pmax
comp=Z,5.0nm,0.9s
EYAK Cordova Ski Ar 69.98 29 P **P 05 43 55.8 +0.4**
baz=306
KMBO Kilima Mbogo 70.05 254 P **P 05 43 56.5 -0.3**
KMBO IAmb IAmb 05 44 01.4
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 70.05 254 P **P 05 43 57.2 +0.4**
comp=Z,2.2nm,0.4s,baz=36,slow=11,SNR=6.8
comp=Z,2.2nm,0.4s
DAWY Dawson 70.14 24 IAmb IAmb 05 43 56.9
comp=Z,7.4nm,0.8s
DAWY Dawson 70.14 24 P **P 05 43 56.2 -0.1**
baz=310
BMRM Bremner River 70.18 28 P **P 05 43 56.5 -0.1**
baz=307
J29N Klondike Camp 70.27 24 IAmb IAmb 05 43 58.6
comp=Z,9.3nm,0.7s
J29N Klondike Camp 70.27 24 P **P 05 43 57.4 +0.2**
baz=311
I30M Mount Dempster 70.35 22 IAmb IAmb 05 43 58.2
comp=Z,9.1nm,0.8s
I30M Mount Dempster 70.35 22 P **P 05 43 57.3 -0.4**
baz=312
H31M Peel River 70.57 21 P **P 05 43 58.8 -0.2**
baz=314
C36M Paulatuk 70.61 16 P **P 05 43 58.6 -0.3**
C36M Paulatuk 70.61 16 P **P 05 43 58.7 -0.3**
baz=321,SNR=17
BVCY Beaver Creek 70.69 26 P **P 05 44 00.3 +0.6**
baz=309
K29M Barlow Dome 70.91 24 P **P 05 44 01.4 +0.3**
baz=312
L29M L29M 71.19 25 P **P 05 44 03.2 +0.5**
baz=311
YUK3 Moose Creek 71.24 26 P **P 05 44 02.6 -0.7**
baz=310
M29M Somme Creek 71.52 25 P **P 05 44 05.5 +0.7**
baz=311
M30M Minto, Yukon 72.00 25 P **P 05 44 06.8 -0.9**
baz=313
YUK4 Talbot Arm 72.18 26 P **P 05 44 07.2 -1.7**
baz=312
KEST Kesra 72.32 301 P **P 05 44 10.5 +0.4**
comp=Z,2.6nm,0.6s,baz=346,slow=8.3,SNR=1.9
comp=Z,2.6nm,0.6s
N30M Aishikik Lake 72.66 26 P **P 05 44 11.1 -0.5**
baz=313
HYT Haines Junctio 72.94 26 P **P 05 44 12.5 -0.9**
baz=312
PNL Peninsula 73.01 28 P **P 05 44 13.2 -0.5**
baz=311
M31M Drury Creek, Y 73.07 24 P **P 05 44 13.8 -0.2**
baz=315
N31M Braeburn, Yuko 73.10 25 P **P 05 44 14.8 +0.6**
baz=314
FARO Faro, Yukon 73.40 24 P **P 05 44 16.9 +0.9**
baz=315
O30N Mendenhall 73.49 26 P **P 05 44 16.8 +0.3**
baz=314
N32M Quiet Lake 74.26 24 P **P 05 44 21.4 +0.3**
baz=316
PLBC Pleasant Camp 74.30 27 P **P 05 44 21.4 +0.2**
baz=314
SKAG Skagway 74.67 26 P **P 05 44 23.3 -0.1**
baz=314
TGTN Hyland Airport 75.55 22 P **P 05 44 28.7 +0.2**
baz=320
WRGLY Wrigley 75.62 19 P **P 05 44 29.0 +0.2**
baz=323
SFJD Kangerlussuaq 76.12 349 LR LR 06 19 54.1
comp=Z,86nm,20.8s,baz=15,slow=37
STKA Stephens Creek 76.36 146 P **P 05 44 33.0 -0.3**
comp=Z,0.6nm,0.3s,baz=320,slow=9.7,SNR=2.8
comp=Z,0.6nm,0.3s
STKA Stephens Creek 76.36 146 P **P 05 44 33.0 -0.3**
YKA Yellowknife Ar 78.47 16 P **P 05 44 44.8 0.0**
comp=Z,2.4nm,0.8s,baz=318,slow=5.0,SNR=18
comp=Z,2.4nm,0.8s
ESDC Sonseca Array 78.96 311 P **P 05 44 48.1 0.0**
comp=Z,2.3nm,0.9s,baz=55,slow=5.3,SNR=9.4
ESDC LR LR 06 23 55.1
comp=Z,121nm,20.3s,baz=34,slow=39
comp=Z,2.3nm,0.9s
DZM Mont Dzumac 83.54 122 *e*LR LR 06 11 27.4
comp=Z,106nm,24.7s
FCC Fort Churchill 85.59 8 P **P 05 45 22.0 -0.3**
FCC IAmb IAmb 05 45 22.1
comp=Z,5.4nm,1.1s
FCC Fort Churchill 85.59 8 P **P 05 45 22.0 -0.3**
FCC pmax pmax
comp=Z,5.0nm,1.1s
FFC Flin Flon 88.26 14 P **P 05 45 34.6 -0.8**
FFC IAmb IAmb 05 45 35.7
comp=Z,4.7nm,0.9s
FFC Flin Flon 88.26 14 P **P 05 45 34.6 -0.8**
FFC pmax pmax
comp=Z,5.0nm,0.9s
SCHQ Schefferville 89.94 353 P **P 05 45 42.6 -0.7**
comp=Z,1.6nm,0.7s,baz=6.6,slow=6.6,SNR=5.1
comp=Z,1.6nm,0.7s
NEW Newport 90.06 25 LR LR 06 27 52.6
comp=Z,114nm,19.0s,baz=324,slow=37
TORD Torodi Ar. Bea 90.64 286 P **P 05 45 46.6 -0.6**
TORD Torodi Ar. Bea 90.64 286 P **P 05 45 46.8 -0.5**
comp=Z,3.6nm,0.8s,baz=36,slow=5.8,SNR=19
comp=Z,3.6nm,0.8s
PINE Pine Mountain 92.40 29 IAmb IAmb 05 45 57.4
comp=Z,8.5nm,0.9s
YBH Yreka Blue Hor 93.36 32 LR LR 06 29 02.5
comp=Z,65nm,18.5s,baz=330,slow=36
ULM Lac du Bonnet 93.63 11 P **P 05 45 59.4 -1.1**
comp=Z,1.8nm,0.8s,baz=354,slow=5.6,SNR=3.6
comp=Z,1.8nm,0.8s
MOOW Moose Ponds 96.15 23 IAmb IAmb 05 46 17.4
comp=Z,4.8nm,1.2s
PDAR Pinedale Array 97.41 23 LR LR 06 36 59.4
comp=Z,52nm,18.1s,baz=332,slow=40
NVAR Mina Array Bea 97.98 31 P **P 05 46 20.7 -0.1**
comp=Z,0.3nm,0.6s,baz=331,slow=5.3,SNR=2.6
NVAR LR LR 06 34 39.0
comp=Z,90nm,18.2s,baz=191,slow=38
comp=Z,0.3nm,0.6s
PPT2 Papeete2 114.93 95 *e*LR LR 06 25 55.1
comp=Z,84nm,26.0s
TAOE Nuku Hiva Isla 117.94 81 *e*LR LR 06 27 19.2
comp=Z,72nm,26.7s
QSPA South Pole Qui 124.82 180 PKP **PKPdf 05 51 41.4 -1.8**
comp=Z,3.5nm,1.0s,baz=137,slow=2.8,SNR=6.3
BDFB Brasilia 146.78 298 PKPbc **PKPbc 05 52 26.3 -0.6**
comp=Z,6.7nm,0.7s,baz=87,slow=1.6,SNR=13
LPAZ La Paz 159.25 332 PKP **PKPdf 05 52 43.2 -0.6**
comp=Z,1.8nm,0.8s,baz=3.8,slow=4.3,SNR=6.0
CPUP Villa Florida 160.09 290 PKP **PKPdf 05 52 42.7 -1.1**
comp=Z,2.7nm,1.1s,baz=68,slow=1.2,SNR=4.1
CPUP PKPab **PKPab 05 53 23.2 -0.5**
comp=Z,0.8nm,0.5s,baz=63,slow=4.5,SNR=3.3

BJI ***14*** *05:51:09.3,28.°09N×143.°17E,h22km,mB4.9/13,mb4.4/43, Ms4.3/7,Ms7 4.1/8*
MOS ***14*** *05:51:10.7±1.0,28.°27N×142.°96E,h15km,mb4.6/25,Error ellipse: s-maj=12.5km s-min=5.6km az=112.7*
IDC ***14*** *05:51:10.2±0.6,28.°22N×142.°95E,h0km,mb4.2/21, mbtmp4.2/24,ML3.9/3,MS3.6/37,Error ellipse: s-maj=18.4km s-min=14.8km az=71.0*
NIED ***14*** *05:51:12.6,28.°39N×142.°58E,h16km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.15; $M_{\varphi\varphi}$1.19; $M_{\theta\theta}$-4.34; $M_{r\theta}$-1.27; $M_{\theta\varphi}$-0.27; $M_{\varphi r}$4.67; Fault plane solution: $M_0$6.17000×10^{15} NP1: ϕ_s205.00000°,δ22.00000°,λ126.00000°. NP2: ϕ_s347.00000°,δ72.00000°,λ76.00000°.*
NEIC ***14*** *05:51:12.2±0.7,28.°29N±0.°05×143.°0E±0.°1,h10km±1km, mb4.6/44 Error ellipse: s-maj=17.7km s-min=8.9km az=96.0*
JMA ***14*** *05:51:12.6±0.2,28.°4N±0.°9×14.°3E±.°,h16km,MD4.7/25, MV4.8/25,NEAR CHICHIJIMA ISLAND*

ISC 14 05:51:11.7±0.5,28.°24N±0.°04×142.°89E±0.°07,h10km,n178, σ1§16/151,mb4.5/63,MS3.6/34,9C-9D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.30**	**209**	*e*P	**Pg**	**05 51 36.7**	**+0.1**
CBIJ				*e*S	**Sg**	**05 51 53.4**	**-0.1**
CBIJ	**Chichi jima**	**1.30**	**209**	A	A	05 51 36.7	
comp=N,27nm,5.8s,comp=E,23nm,4.1s							
JCJ	**Chichijima**	**1.30**	**209**	Pn	**Pg**	**05 51 36.4**	**-0.3**
JCJ	**Chichijima**	**1.30**	**209**	Pn	Pn	05 51 30.6	-5.3
comp=E,100nm,0.3s,baz=274,slow=1.9,SNR=15							
JCJ				Sn	**Sb**	**05 51 47.5**	**-5.5**
comp=E,169nm,0.3s,baz=135,slow=22,SNR=7.3							
JHH2	**Haha-jima-NKT2**	**1.72**	**202**	*e*P	**Pg**	**05 51 43.2**	**-1.5**
JHH2				*e*S	**Sg**	**05 52 07.0**	**-0.1**
JHH2	**Haha-jima-NKT2**	**1.72**	**202**	A	A	05 51 43.2	
comp=N,15nm,4.0s,comp=E,23nm,4.3s							
BSO1	**Boso 1**	**6.60**	**346**	*e*P	**Pn**	**05 52 47.2**	**-1.1**
BSO1				*e*S	**Sn**	**05 53 58.3**	**-4.9**
BSO3	**Boso 3**	**6.85**	**343**	*e*P	**Pn**	**05 52 51.0**	**-0.9**
BSO4	**Boso 4**	**7.07**	**343**	*e*P	**Pn**	**05 52 54.6**	**-0.5**
BSO4				*e*S	**Sn**	**05 54 12.6**	**-2.9**
JRY	**Ryogami san**	**8.46**	**337**	*e*P	**Pn**	**05 53 13.8**	**-0.4**
JAG	**Ashikaga**	**8.66**	**341**	*e*P	**Pn**	**05 53 15.4**	**-1.6**
JGF	**Kuroka**	**8.71**	**329**	Pn	**Pn**	**05 53 18.2**	**+0.4**
MJAR	**Matsushiro Arr**	**9.17**	**336**	Pn	**Pn**	**05 53 23.7**	**-0.4**
comp=E,0.9nm,0.3s,baz=151,slow=10,SNR=20							
MJAR				LR	LR	05 56 41.3	
comp=E,242nm,19.3s,baz=165,slow=36							
comp=E,5.2nm,0.3s							
MAJO	**Matsushiro**	**9.17**	**336**	Pn	**Pn**	**05 53 23.9**	**-0.2**
MAJO	**Matsushiro**	**9.17**	**336**	‖*e*P	**Pn**	**05 53 23.3**	**-0.8**
MJB9	**Matsu-Tunnel**	**9.18**	**336**	Pn	**Pn**	**05 53 25.0**	**+0.8**
JMN	**Monobe**	**9.47**	**308**	Pn	**Pn**	**05 53 30.1**	**+2.0**
JMM	**Marumori**	**9.76**	**350**		**Pn**	**05 53 29.4**	**-2.6**
JNU	**Nakatsue**	**11.42**	**298**	LR	LR	05 57 51.7	
comp=E,279nm,22.0s,baz=126,slow=35							
JOW	**Kunigami**	**13.04**	**267**	LR	LR	05 58 46.7	
comp=E,158nm,19.7s,baz=168,slow=35							
KSRS	**Korea Array**	**15.56**	**310**	Pn	**P**	**05 54 52.8**	**-2.6**
comp=E,0.6nm,0.3s,baz=121,slow=9.8,SNR=9.8							
KSRS				LR	LR	06 01 18.1	
comp=E,147nm,18.0s,baz=110,slow=39							
comp=E,1.6nm,0.6s							
JKA	**Kamikawa-asahi**	**15.85**	**359**	Pn	**Pn**	**05 54 53.4**	**-1.4**
ASAJ	**Asahikawa**	**15.85**	**359**	LR	LR	06 00 49.2	
comp=E,177nm,21.7s,baz=172,slow=36							
ASAJ	**Asahikawa**	**15.85**	**359**	P	**Pn**	**05 54 53.4**	**-1.4**
ASAJ				pmax	pmax		
comp=Z,28nm,1.4s							
INCN	**Inchon**	**16.46**	**308**	P	**P**	**05 55 03.9**	**-1.5**
VLA	**Vladivostok**	**17.30**	**332**	⇑*e*P	**P**	**05 55 14.6**	**-0.1**
VLA				pmax	pmax		
comp=Z,61nm,1.4s							
PSTR	**Posyet**	**17.40**	**329**	‖*e*P	**P**	**05 55 15.2**	**-0.6**
USA0B	**Ussuriysk Arra**	**18.16**	**334**	‖*e*P	**Pn**	**05 55 22.1**	**-1.8**
USRK	**Ussuriysk Ar.**	**18.16**	**334**	P	**Pn**	**05 55 22.3**	**-1.6**
comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=6.8							
USRK				LR	LR	06 02 53.7	
comp=Z,154nm,18.7s,baz=145,slow=39							
comp=Z,10nm,1.0s							
YSS	**Yuzhno-Sakhali**	**18.68**	**360**	*e*P	**Pn**	**05 55 31.9**	**+1.7**
YSS				pmax	pmax		
comp=Z,20nm,1.1s							
MDJ	**Mudanjiang**	**19.49**	**331**	P	**Pn**	**05 55 39.0**	**-1.0**
MDJ	**Mudanjiang**	**19.49**	**331**	P	**Pn**	**05 55 39.3**	**-0.7**
MDJ				pmax	pmax		
comp=Z,25nm,1.7s							
MDJ				pmax	pmax		
comp=Z,830nm,4.7s							
YHNB	**Yeheng**	**19.58**	**264**	P	**Pn**	**05 55 41.5**	**+0.2**
YHNB				IAmb	IAmb	05 55 47.0	
comp=Z,23nm,1.0s							
YULB	**Yu-li**	**20.02**	**261**	P	Pn	05 55 46.2	-0.3
YULB				IAmb	IAmb	05 55 58.0	
comp=Z,23nm,1.0s							
SSLB	**Suanglung**	**20.20**	**262**	P	Pn	05 55 49.1	+0.4
SSLB				IAmb	IAmb	05 56 11.0	
comp=Z,72nm,1.4s							
CN2	**Changchun**	**20.91**	**323**	*e*P	Pn	05 55 57.3	+0.5
CN2				*e*S	**S**	**05 59 45.6**	**-1.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							

CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,11.0s
NJ2 Nanjing 21.12 286 *e*P **P 05 55 58.0 +1.4**
NJ2 pmax pmax
comp=Z,16nm,0.8s
BNX BinXian 21.34 329 ⇑P **P 05 55 59.1 +0.3**
BNX pmax pmax
comp=Z,19nm,1.2s
KLR Kul'dur 22.64 341 LR LR 06 05 07.5
comp=Z,111nm,18.1s,baz=132,slow=37
KLR Kul'dur 22.64 341 *e*P **P 05 56 15.0 +2.2**
KLR pmax pmax
comp=Z,14nm,1.6s
TIA Tai'an 23.15 297 P **P 05 56 17.9 -0.4**
TIA pmax pmax
comp=Z,9.0nm,1.1s
H11N2 WAKE ISLAND Hy 23.48 106 T T 06 21 04.3
baz=297,slow=75,SNR=9.0
H11N1 WAKE ISLAND Hy 23.48 106 T T 06 21 04.8
baz=297,slow=75,SNR=6.2
H11N3 WAKE ISLAND Hy 23.50 106 T T 06 21 26.2
baz=297,slow=75,SNR=6.3
HEH HeiHe 24.94 336 *e*P **P 05 56 37.5 +2.5**
BJI Beijing 24.95 305 P **P 05 56 34.9 -0.3**
BJI pP **sP 05 56 39.0 +2.1**
BJI S **S 06 00 55.4 -3.3**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI LR LR
comp=Z,48nm,9.9s
BJI LR LR
comp=Z,88nm,9.4s
BJI LR LR
comp=Z,100nm,14.2s
LYN LuoYang 26.66 291 P **P 05 56 53.4 +2.7**
LYN pmax pmax
comp=Z,64nm,1.1s
PETK Petropavlovsk- 27.15 20 LR LR 06 06 35.1
comp=Z,53nm,21.7s,baz=220,slow=34
ZEA Zeya 27.95 340 *e*P P 05 57 10.8 +8.7
HHC Hu-ho-hao-te 28.55 304 *e*P **P 05 57 08.8 +1.1**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,97nm,4.9s
HHC LR LR
comp=Z,160nm,12.2s
HHC LR LR
comp=Z,170nm,13.8s
HHC LR LR
comp=Z,230nm,12.2s
XAN Xi'an 29.55 290 ⇓P **P 05 57 17.0 +0.3**
XAN pmax pmax
comp=Z,13nm,1.4s
MA2 Magadan 31.79 8 LR LR 06 09 52.5
comp=Z,44nm,20.8s,baz=202,slow=35
MA2 Magadan 31.79 8⇓*e*P **P 05 57 36.5 +0.5**
MA2 pmax pmax
comp=Z,11nm,2.0s
MA2 Magadan 31.79 8 P **P 05 57 35.5 -0.5**
SHEM Shemya Is, Ala 33.64 35 LR LR 06 09 00.2
comp=Z,95nm,20.6s,baz=296,slow=32
ULN Ulaanbaatar 33.94 315 P **P 05 57 55.7 +0.5**
ULN IAmb IAmb 05 57 57.9
comp=Z,4.8nm,0.8s
ULN Ulaanbaatar 33.94 315⇑*e*P **P 05 57 55.5 +0.3**
ULN pmax pmax
comp=Z,8.0nm,1.1s
CD2 Chengdu 34.02 284 P **P 05 57 55.6 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.9s
SONM Songino Array 34.34 315 P **P 05 57 58.9 +0.3**
SONM Songino Array 34.34 315 P **P 05 57 59.3 +0.6**
comp=Z,3.9nm,0.8s,baz=120,slow=7.7,SNR=18
SONM LR LR 06 12 44.8
comp=Z,91nm,18.0s,baz=68,slow=38
comp=Z,3.9nm,0.8s
SEY Seymchan 35.25 8⇓*e*P **P 05 58 06.0 -0.1**
SEY pmax pmax
comp=Z,13nm,3.0s
SLVN Son La 35.94 268 P **P 05 58 13.3 +0.7**
SLVN IAmb IAmb 05 58 25.1
comp=Z,15nm,1.2s
PZH PanZhiHua 36.46 277 P **P 05 58 19.6 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
GTA Gaotai 37.16 299 *e*P **P 05 58 22.5 -0.5**
GTA sP pwP 05 58 31.1 -1.0
GTA pmax pmax
comp=Z,4.0nm,1.0s
ZAK Zakamensk 37.18 318 *e*P **P 05 58 23.6 +0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
HNR Honiara 40.92 154 LR LR 06 14 42.1
comp=Z,77nm,19.8s,baz=335,slow=34
GOMU GeErMu 41.10 294 P **P 05 58 56.3 +0.1**
GOMU pP sP 05 59 00.1 +2.1
GOMU sP pwP 05 59 04.3 -1.1
GOMU pmax pmax
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 41.31 266 P **P 05 58 58.8 +1.0**
CMAR Chiang Mai Arr 41.31 266 P **P 05 58 58.0 +0.3**
comp=Z,0.9nm,0.4s,baz=63,slow=6.5,SNR=7.2
CMAR LR LR 06 16 02.9
comp=Z,30nm,18.4s,baz=85,slow=36
comp=Z,0.9nm,0.4s
CMAR Chiang Mai Arr 41.31 266*ce*P **P 05 58 58.5 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BILL Biiibino 42.20 13 P **P 05 59 04.4 0.0**
BILL Biiibino 42.20 13⇓*e*P **P 05 59 04.4 0.0**
MTN Manton Dam 42.40 197 P **P 05 59 06.7 +0.2**
MTN IAmb IAmb 05 59 28.8
comp=Z,7.4nm,0.8s
TIXI Tiksi 44.14 354 LR LR 06 18 15.1
comp=Z,34nm,21.5s,baz=188,slow=37
BRDH Bariadhala 46.33 275 LR LR 06 21 17.2
comp=Z,66nm,18.5s,baz=280,slow=39
WB0 Warramunga Arr 48.43 191 P **P 05 59 54.6 +0.3**
WR0 Warramunga Arr 48.59 190 P **P 05 59 55.7 +0.2**
WRAB Tennant Creek 48.60 191 P **P 05 59 55.7 +0.2**
WRAB Tennant Creek 48.60 191*d i*P **P 05 59 55.8 +0.2**
WRAB pmax pmax
comp=Z,13nm,0.8s
WB2 Warramunga Arr 48.61 191 P **P 05 59 55.9 +0.3**
WRA Warramunga Arr 48.61 191 P **P 05 59 55.5 -0.1**
WRA Warramunga Arr 48.61 191 P **P 05 59 55.7 0.0**
comp=Z,14nm,0.7s,baz=12,slow=8.3,SNR=46
WRA LR LR 06 21 04.4
comp=Z,32nm,18.4s,baz=36,slow=37
comp=Z,14nm,0.7s
PSI Prapat 48.92 247 P **P 05 59 59.4 +1.0**
PSI pmax pmax
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 48.98 247 P **P 05 59 59.4 +0.7**
RPSI IAmb IAmb 06 00 13.2
comp=Z,9.5nm,0.9s
FITZ Fitzroy Crossi 49.00 202 P **P 05 59 59.5 +0.8**
ZAA0 Zalesovo Array 49.04 318 P **P 05 59 59.4 +0.8**
ZAA0 IAmb IAmb 06 00 01.1
comp=Z,8.3nm,1.2s
ZALV Zalesovo Beam 49.04 318 P **P 05 59 59.2 +0.5**
ZALV Zalesovo Beam 49.04 318 P **P 05 59 59.4 +0.8**
comp=Z,2.6nm,0.6s,baz=95,slow=7.9,SNR=12
ZALV PcP **PcP 06 01 22.8 +0.4**
comp=Z,0.9nm,0.3s,baz=167,slow=2.6,SNR=4.4
ZALV LR LR 06 21 22.8
comp=Z,126nm,18.1s,baz=85,slow=37
comp=Z,2.6nm,0.6s
ZALV Zalesovo Beam 49.04 318 *i* P **P 06 00 00.1 +1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
MDSI Maura Dua 49.47 235 P P 06 00 08.8 +6.4
MK31 Makanchi Array 50.24 309 P **P 06 00 08.4 +0.5**
MK31 Makanchi Array 50.24 309*de*P **P 06 00 08.2 +0.2**
MKAR Makanchi Array 50.24 309 P **P 06 00 08.3 +0.4**
comp=Z,1.2nm,0.6s,baz=88,slow=9.0,SNR=21
MKAR PcP **PcP 06 01 27.4 +0.4**
comp=Z,1.9nm,0.8s,baz=75,slow=4.4,SNR=6.8
MKAR LR LR 06 21 15.2
comp=Z,72nm,19.3s,baz=112,slow=36
comp=Z,1.2nm,0.6s
GSI Gunungsitoli 50.88 246 P **P 06 00 14.1 +0.9**
RDOG Red Dog Mine 50.94 23 P **P 06 00 12.4 -0.5**
RDOG IAmb IAmb 06 00 29.6
comp=Z,13nm,1.5s
ASAR Alice Springs 52.33 190 P **P 06 00 23.0 -0.8**
comp=Z,0.8nm,0.6s,baz=5.5,slow=6.0,SNR=8.3
ASAR LR LR 06 20 52.3
comp=Z,97nm,21.8s,baz=9.0,slow=34
comp=Z,0.8nm,0.6s
ASAR Alice Springs 52.33 190 P **P 06 00 23.0 -0.8**
KURK Kurchatov 52.64 314 P **P 06 00 26.4 +0.6**
KURK Kurchatov 52.64 314*ce*P **P 06 00 26.7 +0.9**
KURK pmax pmax
comp=Z,22nm,1.3s
KURBB Kurchatov Arra 52.70 314 P **P 06 00 26.5 +0.3**
comp=Z,2.7nm,0.4s,baz=92,slow=7.0,SNR=39
KURBB LR LR 06 23 54.9
comp=Z,136nm,18.8s,baz=178,slow=37
comp=Z,2.7nm,0.4s
KDAK Kodiak Island 53.08 37 LR LR 06 23 29.8
comp=Z,52nm,19.6s,baz=138,slow=37
CAST Castle Rocks 53.99 30 P **P 06 00 36.5 +0.9**
CAST IAmb IAmb 06 01 03.1
comp=Z,7.9nm,1.2s
TRF Thorofare Moun 54.79 30 P **P 06 00 41.8 +0.2**
TRF IAmb IAmb 06 00 49.1
comp=Z,12nm,1.2s
E22K Anaktuvuk Pass 54.93 25 P **P 06 00 43.3 +0.9**
DZM Mont Dzumac 54.95 153 *e*LR LR 06 16 43.7
comp=Z,106nm,24.7s
BOOM Boomskoye usch 55.09 304 P **P 06 00 44.3 +0.2**
BOOM IAmb IAmb 06 01 10.9
comp=Z,5.7nm,1.4s
BOOM Boomskoye usch 55.09 304 P **P 06 00 44.3 +0.2**
BOOM pmax pmax
comp=Z,6.0nm,1.4s
RND Reindeer 55.43 31 P **P 06 00 45.6 -0.5**
RND Reindeer 55.43 31 P **P 06 00 45.6 -0.5**
RND pmax pmax
comp=Z,16nm,1.3s
C23K Itkillik River 55.70 23 IAmb IAmb 06 00 50.4
comp=Z,6.2nm,0.8s
AAK Ala-Archa 56.12 304 LR LR 06 25 03.3
comp=Z,48nm,21.1s,baz=80,slow=36
ILAR Eielson Array 56.41 29 P **P 06 00 52.5 -0.5**
comp=Z,1.5nm,0.8s,baz=259,slow=6.3,SNR=14
comp=Z,1.5nm,0.8s
MSVF Nonsavu 56.98 139 LR LR 06 20 15.3
comp=Z,47nm,20.9s,baz=151,slow=31
ARSB Arslanbob 57.46 303 IAmb IAmb 06 01 14.3
comp=Z,7.6nm,1.1s
BVAR Borovoye Array 57.63 317 P **P 06 01 02.3 +0.5**
comp=Z,4.3nm,0.6s,baz=78,slow=7.5,SNR=19
BVAR LR LR 06 26 59.8
comp=Z,125nm,18.4s,baz=77,slow=37
comp=Z,4.3nm,0.6s
BRVK Borovoye 57.69 317 P **P 06 01 01.2 -1.0**
BRVK IAmb IAmb 06 01 06.2
comp=Z,9.2nm,1.1s
BRVK Borovoye 57.69 317*ce*P **P 06 01 03.2 +0.9**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 58.93 305 P **P 06 01 11.6 +0.5**
KK31 IAmb IAmb 06 01 24.0
comp=Z,12nm,1.3s
KK31 Karatay Array 58.93 305 P **P 06 01 11.6 +0.5**
KK31 pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 58.93 305 P **P 06 01 11.3 +0.2**
KKAR Karatay Array 58.93 305 P **P 06 01 11.3 +0.2**
D27M Malcolm River 59.00 24 IAmb IAmb 06 01 27.7
comp=Z,3.5nm,1.0s
STKA Stephens Creek 59.80 181 P **P 06 01 17.1 +0.1**
comp=Z,1.7nm,0.7s,baz=329,slow=12,SNR=4.0
comp=Z,1.7nm,0.7s
SIMJ Simiganj 61.01 301 P **P 06 01 25.6 0.0**
SIMJ IAmb IAmb 06 01 49.9
comp=Z,5.5nm,1.0s
INK Inuvik 61.73 25 P **P 06 01 29.2 -0.6**
KBL Kabul 62.08 296 P **P 06 01 33.3 +0.3**
KBL IAmb IAmb 06 01 37.4
comp=Z,3.2nm,0.6s
KBL Kabul 62.08 296 P **P 06 01 33.3 +0.3**
KBL pmax pmax
comp=Z,3.0nm,0.6s
ARTI Arti 64.01 322 P **P 06 01 45.3 +0.1**
ARTI IAmb IAmb 06 01 58.5
comp=Z,5.3nm,0.8s
ARTI Arti 64.01 322 LR LR 06 32 17.8
comp=Z,69nm,18.2s,baz=48,slow=38
ARTI Arti 64.01 322*d i*P **P 06 01 45.4 +0.2**
ARTI 06 04 02.3
ARTI S **S 06 10 23.8 +2.5**
ARTI SS **SS 06 14 27.5 -2.0**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 64.75 314 P **P 06 01 50.7 +0.5**
NWAO Narrogin (SRO) 65.53 204 LR LR 06 28 59.0
comp=Z,44nm,21.5s,baz=118,slow=35
AKTO Aktyubinsk 65.65 316 LR LR 06 29 27.2
comp=Z,72nm,19.9s,baz=162,slow=35
SPITS Spitsbergen Ar 69.37 350 LR LR 06 41 23.1
comp=Z,37nm,18.4s,baz=106,slow=43
RES Resolute Bay 70.80 14 P **P 06 02 28.0 +0.1**
RES Resolute Bay 70.80 14 P **P 06 02 28.0 +0.1**
RES pmax pmax
comp=Z,4.0nm,1.4s
YKA Yellowknife Ar 70.84 29 P **P 06 02 28.3 0.0**
comp=Z,1.1nm,0.7s,baz=293,slow=6.5,SNR=16
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 72.67 341 P **P 06 02 39.5 +0.3**
ARCES IAmb IAmb 06 02 53.6
comp=Z,5.4nm,1.1s
ARCES ARCESS Array B 72.67 341 P **P 06 02 39.4 +0.1**
comp=Z,2.1nm,0.8s,baz=52,slow=6.3,SNR=4.9
ARCES LR LR 06 39 36.4
comp=Z,77nm,18.4s,baz=44,slow=40
comp=Z,2.1nm,0.8s
ARCES ARCESS Array B 72.67 341 P **P 06 02 39.5 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,1.2s
RAR Rarotonga 74.04 125 LR LR 06 25 55.5
comp=Z,98nm,21.9s,baz=256,slow=28
OBN Obninsk 75.95 325 *e*P **P 06 02 59.7 +1.2**
OBN *e* 06 03 11.9
OBN *e* 06 05 49.2
OBN *e*PPP PPP 06 07 35.8
OBN pmax pmax
comp=Z,5.0nm,1.1s
FINES FINESS Array B 77.20 334 P **P 06 03 05.9 +0.4**
comp=Z,1.6nm,0.8s,baz=53,slow=6.7,SNR=5.7
comp=Z,1.6nm,0.8s
KBZ Khabaz 77.69 313 P **P 06 03 09.8 +1.3**
comp=Z,5.5nm,0.8s,baz=78,slow=3.0,SNR=13
KBZ LR LR 06 39 35.6
comp=Z,35nm,19.7s,baz=34,slow=37
comp=Z,5.5nm,0.8s
KBZ Khabaz 77.69 313*ce*P **P 06 03 10.2 +1.6**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 77.72 313 *e*P **P 06 03 09.9 +1.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 78.08 309 LR LR 06 42 01.3
comp=Z,31nm,18.3s,baz=16,slow=39
NVAR Mina Array Bea 79.32 52 P **P 06 03 18.6 +0.5**
comp=Z,0.9nm,0.7s,baz=284,slow=5.9,SNR=8.2
comp=Z,0.9nm,0.7s
PPT2 Papeete2 79.62 116 *e*LR LR 06 28 02.3
comp=Z,84nm,26.0s
BOZ Bozeman (W) 80.22 43 P **P 06 03 22.4 -0.3**
BOZ Bozeman (W) 80.22 43 P **P 06 03 22.4 -0.3**
BOZ pmax pmax
comp=Z,3.0nm,1.3s
AKASG Malin Array Be 82.06 324 P **P 06 03 32.4 +0.3**
comp=Z,0.5nm,0.5s,baz=53,slow=5.3,SNR=6.9
AKASG LR LR 06 44 34.9
comp=Z,31nm,20.5s,baz=42,slow=39
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 82.06 324 *i* P **P 06 03 31.7 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 82.06 324 P **P 06 03 32.5 +0.3**
AKBB Malin Array Si 82.06 324 P **P 06 03 32.5 +0.3**
HFS Hagfors 82.62 337 P **P 06 03 35.5 +0.6**
comp=Z,2.4nm,0.8s,baz=74,slow=11,SNR=2.5
comp=Z,2.4nm,0.8s
NB2 NORSAR Subarra 82.78 339 P **P 06 03 36.0 +0.2**
comp=Z,6.8nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 82.78 339 P **P 06 03 36.3 +0.5**
comp=Z,1.5nm,0.8s,baz=40,slow=5.1,SNR=5.7
NOA LR LR 06 45 05.9
comp=Z,45nm,20.9s,baz=0.0,slow=39
comp=Z,1.5nm,0.8s
TAOE Nuku Hiva Isla 82.84 104 *e*LR LR 06 29 34.2
comp=Z,66nm,26.5s
PDAR Pinedale Array 82.96 45 P **P 06 03 37.5 +0.1**
comp=Z,0.5nm,0.8s,baz=290,slow=4.4,SNR=5.6
comp=Z,0.5nm,0.8s
RNPP9 Sopachiv 83.33 326 P **P 06 03 39.2 +0.5**
RNPP8 Varash 83.39 326 P **P 06 03 39.4 +0.3**
FRB Frobisher Bay 85.02 13 LR LR 06 42 33.1
comp=Z,25nm,21.6s,baz=298,slow=36
RAYN Ar Rayn 85.26 294 P **P 06 03 48.5 -0.7**
RAYN Ar Rayn 85.26 294 P **P 06 03 48.5 -0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
PV10 Paradox Valley 85.65 49 P **P 06 03 50.4 -0.8**
BR131 Keskin Array S 85.68 313 P **P 06 03 52.0 +1.0**
BR131 IAmb IAmb 06 03 53.0
comp=Z,3.2nm,0.8s
BR131 Keskin Array S 85.68 313*ce*P **P 06 03 52.1 +1.0**
BRTR Keskin Array B 85.68 313 P **P 06 03 51.5 +0.4**
BRTR Keskin Array B 85.68 313 P **P 06 03 51.3 +0.2**
comp=Z,2.1nm,0.7s,baz=113,slow=4.3,SNR=9.6
comp=Z,2.1nm,0.7s
BRTR Keskin Array B 85.68 313 *i* P **P 06 03 52.4 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ULM Lac du Bonnet 86.15 33 LR LR 06 40 37.1
comp=Z,27nm,21.0s,baz=9.5,slow=34
STHS Stebnicka Huta 86.89 326 *e*P **P 06 03 57.0 +0.3**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 86.89 326 *e*P **P 06 03 57.0 +0.3**
MLR Muntele Rosu 86.94 321 LR LR 06 43 50.3
comp=Z,69nm,19.3s,baz=16,slow=36
TXAR Lajitas Array 94.42 53 P **P 06 04 32.4 0.0**
comp=Z,0.8nm,0.8s,baz=304,slow=2.8,SNR=6.0
comp=Z,0.8nm,0.8s
QSPA South Pole Qui 118.01 180 PKP **PKiKP 06 09 57.6 -0.4**
comp=Z,0.6nm,0.8s,baz=241,slow=0.8,SNR=6.4
LPAZ La Paz 149.02 74 PKPbc **PKiKP 06 11 02.0 -0.7**
comp=Z,2.2nm,0.9s,baz=323,slow=4.5,SNR=5.0

AZER 14 05:51:56.9, 40°.23N×45°.10E, h10km, ml2.7
AFAD 14 05:51:58.7, 40°.23N×45°.02E, h8km±3km, ML2.2
ISK 14 05:51:59.0, 40°.20N×45°.03E, h5km, ML2.4/6
TEH 14 05:52:00.9, 40°.12N×44°.87E, h17km±56km
ISC 14 05:51:59.0±1.0, 40°.24N±0°.02×45°.05E±0°.02, h9km±9km, n38, σ0°.91/65, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.25**	**249**	Pg	**Pg**	**05 52 04.2**	**0.0**
GNI	**Garni**	**0.25**	**249**	Pg	**Pg**	**05 52 04.4**	**+0.2**
HYR	**Heyderabad**	**0.54**	**196**	P	**Pb**	**05 52 10.0**	**-0.7**
HYR				S	**Sb**	**05 52 19.6**	**+1.0**
TASB	**TASBURUN-IGDIR**	**0.67**	**248**	Pg	**Pb**	**05 52 12.4**	**-0.5**
TASB				Sg	**Sb**	**05 52 23.3**	**+0.9**
GDB	**GEDABAY**	**0.72**	**48**	P	**Pg**	**05 52 12.4**	**-0.5**
GDB				S	**Sg**	**05 52 22.5**	**+0.1**
IGDI	**IGDIR**	**0.83**	**244**	P	**Pg**	**05 52 14.5**	**-0.7**
IGDI				S	**Sg**	**05 52 25.9**	**0.0**
IGDI				*i* AML	AML	05 52 27.0	
	comp=N,126nm,0.3s						
IGDI				*i* AML	AML	05 52 27.0	
	comp=E,140nm,0.5s						
IGDI	**IGDIR**	**0.83**	**244**	P	**Pg**	**05 52 14.4**	**-0.7**
IGDI				S	**Sb**	**05 52 27.1**	**+0.1**
QZX	**Qazax, Azerbai**	**0.85**	**17**	P	**Pg**	**05 52 15.4**	**0.0**
QZX				S	**Sb**	**05 52 27.5**	**0.0**
SBZ	**Shahbuz**	**0.93**	**155**	P	**Pg**	**05 52 16.6**	**-0.2**
SBZ				S	**Sb**	**05 52 29.9**	**+0.2**
MAKU	**Maku**	**0.93**	**198**	Pg	**Pg**	**05 52 16.7**	**-0.3**
GANJ	**Ganja**	**1.05**	**67**	P	**Pg**	**05 52 18.4**	**-0.8**
GANJ				S	**Sg**	**05 52 32.4**	**-0.4**
NAX	**Nakhchivan**	**1.12**	**162**	P	**Pg**	**05 52 20.5**	**0.0**
NAX				S	**Sn**	**05 52 36.5**	**0.0**
EAK	**Akyaka**	**1.19**	**292**	P	**Pn**	**05 52 21.8**	**-0.1**
EAK				S	**Sn**	**05 52 38.2**	**0.0**
EAK				*i* AML	AML	05 52 39.0	
	comp=N,281nm,0.4s						
EAK				*i* AML	AML	05 52 42.0	
	comp=E,192nm,0.7s						
DGRG	**David-gareji**	**1.23**	**11**	P	**Pg**	**05 52 23.2**	**+0.6**
DIGO	**Kars**	**1.29**	**278**	P	**Pn**	**05 52 22.7**	**-0.8**
DIGO				S	**Sn**	**05 52 43.1**	**+2.2**
DIGO				*i* AML	AML	05 52 49.0	
	comp=E,157nm,0.4s						
DIGO				*i* AML	AML	05 52 52.0	
	comp=N,191nm,0.5s						
KOTA	**Agri, Merkez-K**	**1.48**	**253**	P	**Pb**	**05 52 26.8**	**-0.1**
KOTA				S	**Sg**	**05 52 48.1**	**+1.4**
ORD	**Ordubad**	**1.50**	**151**	P	**Pb**	**05 52 26.6**	**-0.5**
ORD				S	**Sg**	**05 52 47.2**	**0.0**
KARS	**Kars**	**1.55**	**285**	Pn	**Pg**	**05 52 28.9**	**+0.1**
KARS				Sn	**Sg**	**05 52 50.5**	**+1.5**
AGDM	**Agdam**	**1.58**	**94**	P	**Pb**	**05 52 28.6**	**+0.2**
AGDM				S	**Sg**	**05 52 50.1**	**+0.2**
IMRD	**Marand**	**1.61**	**161**	Pg	**Pb**	**05 52 28.2**	**-0.8**
IMRD				Sg	**Sg**	**05 52 51.4**	**+0.6**
BOZK	**Kars-Merkez-Bo**	**1.62**	**283**	P	**Pb**	**05 52 29.2**	**0.0**
BOZK				S	**Sn**	**05 52 47.2**	**-1.8**
BOZK				*i* AML	AML	05 52 56.0	
	comp=N,22nm,0.5s						
BOZK				*i* AML	AML	05 52 59.0	
	comp=E,24nm,0.6s						
BRDA	**Brd**	**1.63**	**89**	P	**Pb**	**05 52 29.3**	**+0.1**
BRDA				S	**Sg**	**05 52 51.9**	**+0.5**
MNGR	**Mingechevir, A**	**1.64**	**70**	P	**Pg**	**05 52 30.9**	**+0.5**
MNGR				S	**Sg**	**05 52 52.4**	**+0.7**
AGRB	**Hanur-Agry**	**1.72**	**248**	Pn	**Pb**	**05 52 30.9**	**+0.1**
AGRB				Sn	**Sg**	**05 52 54.3**	**+0.1**
ZKTA	**Zakatala**	**1.83**	**40**	P	**Pn**	**05 52 30.6**	**-0.1**
ZKTA				S	**Sg**	**05 52 59.4**	**+1.5**
SEKA	**Sheki**	**1.90**	**59**	P	**Pb**	**05 52 33.6**	**-0.2**
SEKA				S	**Sg**	**05 53 00.1**	**+0.1**
QRD	**Qoradiz**	**1.91**	**113**	P	**Pn**	**05 52 30.9**	**-0.8**
QRD				S	**Sg**	**05 53 01.1**	**+0.6**
ISHB	**Shabestar**	**2.00**	**167**	Pn	**Pb**	**05 52 34.5**	**-1.3**
SENK	**Senkaya-Erzuru**	**2.09**	**280**	Pn	**Pb**	**05 52 36.4**	**-0.7**
SENK				Sn	**Sb**	**05 53 03.7**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**2.46**	**265**	Pn	**Pb**	**05 52 41.6**	**-1.9**
IHRS	**Heris**	**2.47**	**141**	Pn	**Pb**	**05 52 42.9**	**-0.7**
XNQ	**Khinaliq**	**2.52**	**67**	P	**Pb**	**05 52 43.2**	**-1.4**
XNQ				S	**Sb**	**05 53 16.7**	**+0.9**
DAGI	**Agillar**	**2.53**	**290**	P	**Pg**	**05 52 46.4**	**-1.0**
DAGI				*i* AML	AML	05 53 23.0	
	comp=E,5.0nm,0.8s						
DAGI				*i* AML	AML	05 53 27.0	
	comp=N,5.4nm,1.2s						
GRMI	**Germi**	**2.62**	**122**	Pn	**Pb**	**05 52 46.0**	**-0.3**
QSAR	**Qusar**	**2.75**	**61**	P	**Pb**	**05 52 46.6**	**-1.7**
YRD	**Yardimli**	**2.80**	**117**	P	**Pb**	**05 52 49.3**	**+0.1**
YRD				S	**Sg**	**05 53 27.0**	**-1.9**
HAKT	**HAKKARI**	**2.88**	**202**	P	**Pb**	**05 52 51.9**	**+1.2**
LRK	**Lerik**	**3.01**	**121**	P	**Pb**	**05 52 53.1**	**+0.3**
LRK				S	**Sb**	**05 53 32.6**	**+3.0**

IDC 14 05:56:49.3±190.0, 55°.21S×29°.78E, h0km, Error ellipse: s-maj=387.4km s-min=26.7km az=87.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**16.17**	**68**	H	H	06 17 19.0	
	baz=230,slow=76,SNR=64						
H04S3	**CROZET ISLANDS**	**16.18**	**68**	H	H	06 17 20.2	
	baz=230,slow=76,SNR=61						
H04S1	**CROZET ISLANDS**	**16.19**	**68**	H	H	06 17 18.8	
	baz=230,slow=76,SNR=51						
H04N3	**CROZET ISLANDS**	**16.55**	**66**	H	H	06 17 46.4	
	baz=227,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**16.56**	**66**	H	H	06 17 45.4	
	baz=227,slow=75,SNR=22						

H04N2	CROZET ISLANDS	16.57	66	H	H	06 17 47.0
	baz=227,slow=75,SNR=26					
H01W2	Cape Leeuwin H	59.13	108	H	H	07 11 18.2
	baz=222,slow=75,SNR=13					
H01W3	Cape Leeuwin H	59.14	108	H	H	07 11 17.7
	baz=222,slow=75,SNR=10					
H01W1	Cape Leeuwin H	59.15	108	H	H	07 11 18.2
	baz=222,slow=75,SNR=12					

IDC 14 06:19:53.6±3.3, 53°.47N×87°.54E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=32.4km s-min=16.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.69	288	I	I	06 32 00.0	
	baz=105,slow=332,SNR=3.6						
ZALV	Zalesovo Beam	1.69	288	Pg	Pn	06 20 23.8	-0.5
	0.3nm,0.3s,baz=107,slow=17,SNR=7.5						
ZALV				Lg	Lg	06 20 47.0	
	0.6nm,0.3s,baz=109,slow=28,SNR=5.9						
KURBB	Kurchatov Arra	6.24	246	Pn	Pn	06 21 27.5	+0.6
	baz=62,slow=14,SNR=8.2						
	0.6nm,0.5s						
MKAR	Makanchi Array	7.48	209	Pn	Pn	06 21 45.1	+1.2
	0.1nm,0.3s,baz=26,slow=12,SNR=6.2						
	0.2nm,0.5s						

NEIC 14 06:36:02.1±1.3, 19°.26N±0°.05×67°.62W±0°.01, h9km±7km, ML2.5/30, Md3.1/16(RSPR), Error ellipse: s-maj=6.7km s-min=1.9km az=183.0
SDD 14 06:36:02.5±1.3, 19°.32N×67°.59W, h21km±83km, MD3.1, ML3.6, MW3.0
RSPR 14 06:36:03.2, 19°.16N×67°.76W, h98km±5km, MD3.1/16
OSPL 14 06:36:03.2±0.5, 19°.24N×67°.61W, h2km±4km, ML2.5

ISC 14 06:36:02.5±1.4, 19°.23N±0°.06×67°.67W±0°.03, h15km±9km, n70, σ0s59/89, 17C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	Isla Desecheo	0.86	167		Pb	06 36 18.9	-0.3
IDE					Sg	06 36 30.2	-0.2
IDE	Isla Desecheo	0.86	167	⇑eP	Pb	06 36 18.9	-0.3
IDE	Isla Desecheo	0.86	167	eS	Sg	06 36 30.2	-0.2
AGPR	Aguadilla, PR	0.92	145		Sg	06 36 32.3	-0.2
AGPR				IAML		06 36 35.0	
	comp=E,174nm,0.4s						
AGPR				IAML		06 36 36.7	
	comp=N,190nm,0.3s						
AGPR	Aguadilla, PR	0.92	145		Pb	06 36 19.8	-0.5
AGPR	Aguadilla, PR	0.92	145	ePg	Pb	06 36 19.8	-0.5
AGPR				eSg	Sg	06 36 32.8	+0.2
AGPR				IAML		06 36 36.9	
	comp=N,2μm,0.3s						
AGPR	Aguadilla, PR	0.92	145	⇑eP	Pb	06 36 19.8	-0.5
AGPR	Aguadilla, PR	0.92	145	iP	Pb	06 36 19.8	-0.5
AGPR				eS	Sb	06 36 31.3	-1.1
AGPR				IAML		06 36 36.7	
	comp=Z,118nm,0.2s						
PCDR	Punta Cana, DR	0.97	224		Pn	06 36 21.6	-0.1
PCDR					Sn	06 36 35.9	+0.6
PCDR				IAML		06 36 36.9	
	comp=E,93nm,0.7s						
PCDR	Punta Cana, DR	0.97	224	⇓ePg	Pn	06 36 21.5	-0.1
PCDR				eSg	Sn	06 36 35.4	+0.1
PCDR				IAML		06 36 39.6	
	comp=N,3μm,0.3s						
PCDR	Punta Cana, DR	0.97	224	⇑eP	Pn	06 36 21.6	-0.1
PCDR	Punta Cana, DR	0.97	224	eS	Sn	06 36 35.8	+0.6
PCDR	Punta Cana, DR	0.97	224	iP	Pn	06 36 21.5	-0.1
PCDR				eS	Sn	06 36 35.3	+0.1
PCDR				IAML		06 36 38.6	
	comp=Z,127nm,1.1s						
PRSN	Puerto Rico Se	1.12	153		Pn	06 36 23.5	-0.2
PRSN	Puerto Rico Se	1.12	153	ePg	Pb	06 36 23.2	-0.4
PRSN				IAML		06 36 41.6	
	comp=N,4μm,0.2s						
PRSN	Puerto Rico Se	1.12	153	⇑eP	Pg	06 36 24.6	+0.4
PRSN	Puerto Rico Se	1.12	153	eS	Sg	06 36 40.6	+1.8
HIDR	Higuey Centro	1.17	238	⇑eP	Pb	06 36 24.4	-0.1
HIDR	Higuey Centro	1.17	238	eS	Sg	06 36 41.3	+0.9
LSP	Las Mesas	1.18	152		Pn	06 36 24.4	-0.3
LSP					Sg	06 36 42.1	+1.2
LSP	Las Mesas	1.18	152	⇑eP	Pn	06 36 24.4	-0.3
LSP	Las Mesas	1.18	152	eS	Sg	06 36 42.1	+1.2
AOPR	Arecibo Observ	1.23	135		Pn	06 36 24.8	-0.5
AOPR					Pb	06 36 25.1	-0.5
AOPR				IAML		06 36 50.4	
	comp=N,119nm,0.2s						
AOPR	Arecibo Observ	1.23	135	ePg	Pn	06 36 24.2	-1.1
AOPR				IAML		06 36 50.9	
	comp=N,1μm,0.3s						
AOPR	Arecibo Observ	1.23	135	⇑eP	Pn	06 36 24.9	-0.5
AOPR	Arecibo Observ	1.23	135	eS	Sg	06 36 43.9	+1.4
EMPR	Esperanza - Ma	1.31	124	Pn	Pn	06 36 25.8	-0.6
EMPR					Pb	06 36 26.5	-0.5
EMPR				IAML		06 36 51.5	
	comp=E,100nm,1.2s						
EMPR				IAML		06 37 08.9	
	comp=N,107nm,1.6s						
EMPR	Esperanza - Ma	1.31	124	⇑eP	Pb	06 36 27.5	+0.5
EMPR	Esperanza - Ma	1.31	124	eS	Sg	06 36 46.0	+0.9
MIDR	Miches	1.32	260	ePg	Pg	06 36 27.6	-0.4
MIDR				IAML		06 36 50.9	
	comp=N,41nm,0.3s						
UUPR	Utuado, UPR, P	1.32	137		Pn	06 36 26.2	-0.4
UUPR	Utuado, UPR, P	1.32	137	⇑eP	Pn	06 36 26.6	+0.1
UUPR	Utuado, UPR, P	1.32	137	eS	Sg	06 36 44.6	-0.7
CRPR	Cabo Rojo, PR	1.33	156	Pn	Pn	06 36 26.3	-0.3
CRPR					Pb	06 36 26.4	-0.7
CRPR				IAML		06 36 50.2	
	comp=N,64nm,0.7s						
CRPR				IAML		06 36 50.3	
	comp=E,73nm,0.7s						
CRPR	Cabo Rojo, PR	1.33	156	ePg	Pg	06 36 27.7	-0.4
CRPR				eSg	Sg	06 36 44.6	-0.7
CRPR				IAML		06 36 50.1	
	comp=N,414nm,0.3s						
CRPR	Cabo Rojo, PR	1.33	156	⇓eP	Pn	06 36 26.3	-0.3
CRPR	Cabo Rojo, PR	1.33	156	eS	Sb	06 36 44.2	+0.2
CRPR	Cabo Rojo, PR	1.33	156	iP	Pb	06 36 26.9	-0.3
CRPR				eS	Sb	06 36 44.1	+0.2
CRPR				IAML		06 36 51.0	
	comp=Z,106nm,0.5s						
MLPR	Magueyes Islan	1.39	154	ePg	Pb	06 36 27.6	-0.6
MLPR				eSg	Sb	06 36 46.0	+0.4
MLPR				IAML		06 36 53.4	
	comp=N,415nm,0.3s						
MLPR	Magueyes Islan	1.39	154	⇑eP	Pn	06 36 27.2	-0.2
MLPR	Magueyes Islan	1.39	154	eS	Sb	06 36 45.6	-0.1
SMDR	Samana, DR	1.43	273	ePg	Pn	06 36 28.3	+0.3
SMDR				IAML		06 36 58.1	
	comp=N,1μm,0.3s						
GBPR	Guanica, Bosqu	1.46	149		Pb	06 36 29.0	-0.4
GBPR					Sb	06 36 48.2	+0.6
GBPR	Guanica, Bosqu	1.46	149	⇑eP	Pb	06 36 29.0	-0.4
GBPR	Guanica, Bosqu	1.46	149	eS	Sb	06 36 48.2	+0.6
ECPR	Experimental S	1.54	126	⇑eP	Pn	06 36 29.1	-0.4
ECPR	Experimental S	1.54	126	eS	Sb	06 36 50.2	+0.2
CELP	Cerrillos	1.55	138		Pn	06 36 29.6	0.0
CELP				IAML		06 36 53.2	
	comp=N,61nm,0.2s						
CELP				IAML		06 36 55.0	
	comp=E,48nm,0.5s						
CELP	Cerrillos	1.55	138	ePg	Pn	06 36 29.6	0.0
CELP				eSg	Sn	06 36 49.2	-0.2
CELP				IAML		06 36 53.3	
	comp=N,976nm,0.3s						
CELP	Cerrillos	1.55	138	⇑eP	Pn	06 36 29.4	-0.2
CELP	Cerrillos	1.55	138	eS	Sb	06 36 51.1	+0.8
OBIP	Obispado Ponce	1.55	139		Pn	06 36 28.8	-0.9
OBIP					Sb	06 36 50.1	-0.4
OBIP				IAML		06 36 52.6	
	comp=E,52nm,0.4s						
OBIP	Obispado Ponce	1.55	139	⇑eP	Pn	06 36 28.7	-0.9
OBIP	Obispado Ponce	1.55	139	eS	Sb	06 36 50.2	-0.3
DR12	Loma Pena Alta	1.67	255	Pn	Pb	06 36 32.8	-0.3
HATOM	Hato Mayor del	1.67	255	ePg	Pb	06 36 33.5	+0.4
HATOM				eSg	Sg	06 36 55.5	-1.0
HATOM				IAML		06 36 59.7	
	comp=N,253nm,0.3s						
GCPR	Guaynabo City	1.76	121	Pn	Pn	06 36 32.0	-0.6
SJG	San Juan	1.82	127		Pn	06 36 33.9	+0.5
SJG				IAML		06 37 02.8	
	comp=N,44nm,0.6s						
SJG				IAML		06 37 06.1	
	comp=N,53nm,0.3s						
SJG	San Juan	1.82	127	ePg	Pn	06 36 33.1	-0.3
SJG				eSg	Sn	06 36 56.8	+0.6
SJG				IAML		06 37 06.5	
	comp=N,24μm,0.3s						
SJG	San Juan	1.82	127	⇑eP	Pn	06 36 34.2	+0.9
SJG	San Juan	1.82	127	eS	Sb	06 36 57.0	-1.3
SJG	San Juan	1.82	127	iP	Pn	06 36 33.0	-0.3
SJG				IAML		06 37 01.1	
	comp=Z,20nm,0.3s						
IGPR	InterUniversit	1.94	130		Pn	06 36 35.0	-0.1
IGPR				Sn	Sn	06 36 60.0	+0.7
IGPR				IAML		06 37 06.2	
	comp=N,57nm,0.3s						
IGPR	InterUniversit	1.94	130	⇑eP	Pn	06 36 35.0	-0.1
IGPR	InterUniversit	1.94	130	eS	Sn	06 37 00.0	+0.7
PDPR	Patillas Dam,	1.97	127	Pn	Pn	06 36 35.0	-0.5
PDPR	Patillas Dam,	1.97	127	eS	Sn	06 37 00.0	+0.1
HUMP	Col San Antoni	2.04	122		Pn	06 36 36.0	-0.3
HUMP				IAML		06 37 06.7	
	comp=E,34nm,0.2s						
HUMP				IAML		06 37 08.7	
	comp=N,29nm,0.4s						
HUMP	Col San Antoni	2.04	122	⇑eP	Pn	06 36 36.5	+0.1
HUMP	Col San Antoni	2.04	122	eS	Sn	06 37 02.1	+0.6

IDC 14 06:52:58.2±1.0, 56°.48S×25°.91W, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=53.5km s-min=20.7km az=64.0
NEIC 14 06:53:13.4±1.4, 56°.9S±0°.1×26°.9W±0°.2, h120km±5km, mb4.4/28, Error ellipse: s-maj=17.6km s-min=12.9km az=189.0

ISC 14 06:53:11.3±0.5, 56°.71S±0°.09×26°.85W±0°.09, h100km, n47, σ1s53/44, mb4.5/16, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.99	290	Pn	Pn	06 54 39.8	+2.5
VNA1	Neumayer--Stat	16.11	157	⇑P	P	06 56 58.0	+5.1
	comp=Z,0.6nm,0.2s						
VNA3	Neumayer Olymp	16.31	160	⇑P	P	06 56 59.7	+4.6
	comp=Z,0.1nm,0.1s						
SNAA	Sanae	18.06	155	P	P	06 57 12.5	-2.0
SNAA	Sanae	18.06	155	⇑P	Pn	06 57 15.8	+0.4
	comp=Z,4.5nm,0.3s						
EFI	East Falkland	18.84	272	P	Pn	06 57 23.4	-1.3
TROLL	Troll, Antarti	19.57	153	⇑P	Pn	06 57 32.1	-1.2
	comp=Z,8.1nm,0.1s						
PMSA	Palmer Station	19.62	231	P	P	06 57 31.5	+0.2
BELA	Belgrano 2	21.43	184	P	P	06 57 49.8	-1.0
MG02	Cerro Sombrero	24.48	261	P	P	06 58 20.4	-0.2
MG03	Isla Dawson	24.69	258	P	P	06 58 22.1	-0.4
MG03				IAmb	IAmb	06 58 24.4	
	comp=Z,16nm,1.3s						
MG05	Puerto Natales	26.77	261	P	P	06 58 40.7	-0.7
MG05				IAmb	IAmb	06 59 01.7	
	comp=Z,12nm,1.4s						
TRQA	Tornquist	29.76	294	P	P	06 59 07.0	-1.0
TRQA				IAmb	IAmb	06 59 26.9	
	comp=Z,8.9nm,1.1s						
AY01	Puyuhuapi	30.98	274	P	P	06 59 17.8	-0.8
AY01				IAmb	IAmb	06 59 34.5	
	comp=Z,15nm,1.3s						
PLTB	Pedras Altas	31.08	312	P	P	06 59 20.6	+0.8
PLTB				IAmb	IAmb	06 59 21.4	
	comp=Z,16nm,1.3s						
QSPA	South Pole Qui	33.54	180	P	P	06 59 41.9	+0.8
QSPA	South Pole Qui	33.54	180	P	P	06 59 41.6	+0.4
	comp=Z,1.0nm,0.5s,baz=208,slow=3.7,SNR=12						
	comp=Z,1.0nm,0.5s						
ITAB	Concordia	34.54	318	P	P	06 59 51.1	+1.2
VAO	Valinhos	36.75	328	P	P	07 00 11.1	+2.2
CPUP	Villa Florida	37.39	311	P	P	07 00 14.6	+0.3
CPUP				IAmb	IAmb	07 00 15.0	
	comp=Z,3.1nm,0.8s						
CPUP	Villa Florida	37.39	311	P	P	07 00 14.5	+0.3
	comp=Z,2.3nm,0.5s,baz=150,slow=7.4,SNR=6.2						
	comp=Z,2.3nm,0.5s						
MT09	Talagante	37.69	288	P	P	07 00 15.1	-1.8
LCO	Las Campanas	41.34	293	P	P	07 00 46.8	-0.5
AQDB	Aquidauana	42.01	317	P	P	07 00 52.7	+0.2
AC04	Llanos de Chal	42.18	294	P	P	07 00 53.4	-0.5
AC04				IAmb	IAmb	07 01 20.7	
	comp=Z,12nm,1.1s						
AC02	Maricunga	42.34	297	P	P	07 00 55.6	-0.2
BDFB	Brasilia	44.03	330	P	P	07 01 10.4	+1.4
BDFB				IAmb	IAmb	07 01 27.1	
	comp=Z,10nm,1.5s						
BDFB	Brasilia	44.03	330	P	P	07 01 09.4	+0.4
	comp=Z,1.9nm,0.5s,baz=158,slow=5.4,SNR=6.2						
	comp=Z,1.9nm,0.5s						
VNDA	Vanda	45.92	183	P	P	07 01 20.8	-2.4
VNDA				IAmb	IAmb	07 01 30.0	
	comp=Z,7.8nm,1.5s						
VNDA	Vanda	45.92	183	P	P	07 01 24.2	+1.1
	comp=Z,0.8nm,0.5s,baz=179,slow=7.9,SNR=2.0						
	comp=Z,0.8nm,0.5s						
BOSA	Boshof	45.96	75	P	P	07 01 23.6	-0.6
PB09	IPOC Station P	46.65	300	P	P	07 01 30.3	+0.6
PB09				IAmb	IAmb	07 01 45.8	
	comp=Z,23nm,1.5s						
PTLB	Pontes e Lacer	47.90	316	P	P	07 01 39.2	0.0
H10S2	ASCENSION HYDR	48.58	16	T	T	07 54 46.1	
	baz=189,slow=74,SNR=5.8						
H10S3	ASCENSION HYDR	48.58	16	T	T	07 54 46.7	
	baz=31,slow=74,SNR=6.4						
LBTB	Lobatse	49.03	72	P	P	07 01 48.4	+0.5
LBTB				IAmb	IAmb	07 02 11.6	
	comp=Z,13nm,1.5s						
LPAZ	La Paz	50.91	305	P	P	07 02 03.5	+0.6
LPAZ	La Paz	50.91	305	P	P	07 02 03.5	+0.6
	comp=Z,6.6nm,0.4s,baz=105,slow=4.9,SNR=61						
	comp=Z,6.6nm,0.4s						
BOAV	Boa Vista	64.92	322	P	P	07 03 39.4	-0.6
BOAV				IAmb	IAmb	07 03 39.8	
	comp=Z,4.5nm,0.6s						
RUSC	La Rusia	72.88	311	P	P	07 04 29.1	-0.7
RUSC				IAmb	IAmb	07 04 29.4	
	comp=Z,3.6nm,0.4s						
TORD	Torodi Ar. Bea	73.54	29	P	P	07 04 34.0	+0.9
SDV	Santo Domingo	74.61	315	P	P	07 04 39.7	+0.1
SDV				IAmb	IAmb	07 04 40.3	
	comp=Z,4.6nm,0.8s						
ASAR	Alice Springs	98.30	162	P	Pdif	07 06 37.6	0.0
	comp=Z,0.6nm,1.1s,baz=186,slow=2.9,SNR=2.1						
	comp=Z,0.6nm,1.1s						
ARCES	ARCESS Array B	131.49	22	PKP	PKiKP	07 12 09.9	-1.4
	comp=Z,2.3nm,0.9s,baz=212,slow=1.1,SNR=6.1						
YKA	Yellowknife Ar	136.78	317	PKP	PKiKP	07 12 20.2	-1.9
	comp=Z,0.1nm,0.3s,baz=139,slow=2.1,SNR=7.0						
SONM	Songino Array	150.58	87	PKPbc	PKPbc	07 12 49.4	-1.2
	comp=Z,0.8nm,0.5s,baz=189,slow=3.6,SNR=5.4						
ILAR	Eielson Array	150.69	311	PKPbc	PKiKP	07 12 49.6	-1.1
	comp=Z,1.1nm,0.8s,baz=123,slow=3.1,SNR=7.2						

ASRS 14 07:00:59.0±0.9, 54°.08N×86°.46E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 14 07:01:06.5±2.4, 53°.87N×86°.18E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=20.8km s-min=12.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.81	277	I	I	07 03 20.0	
	baz=97,slow=336,SNR=5.0						
ZALV	Zalesovo Beam	0.81	276	Pg	Pg	07 01 20.1	-1.9
	1.0nm,0.3s,baz=81,slow=16,SNR=6.4						
ZALV				Lg	Lg	07 01 34.7	
	2.0nm,0.3s,baz=84,slow=28,SNR=7.1						
KURBB	Kurchatov Arra	5.71	238	Pn	Pn	07 02 33.3	+0.9
	0.1nm,0.3s,baz=66,slow=16,SNR=5.9						
	0.4nm,0.3s						
MKAR	Makanchi Array	7.50	201	Pn	Pn	07 02 58.4	+1.3
	0.2nm,0.3s,baz=23,slow=12,SNR=7.0						
	0.2nm,0.3s						

IDC 14 07:09:50.6±0.7, 8°.71N×79°.15W, h0km, mb4.3/16, mbtmp4.3/19, ML3.6/3, MS3.2/10, Error ellipse: s-maj=20.5km s-min=15.7km az=25.0
UPA 14 07:09:52.4±1.4, 8°.61N×79°.04W, h9km±6km, MW4.6, Fault plane solution: NP1:φs118.00000°, δ54.00000°, λ90.00000°.
NEIC 14 07:09:55.8±1.3, 8°.71N±0°.07×79°.08W±0°.04, h27km±5km, mb4.4/28, Error ellipse: s-maj=10.5km s-min=4.2km az=200.0
RSNC 14 07:09:55.3±0.0, 9°N±4°×7°9W±°, h23km±6km, M4.0, mB4.9, mb4.8, ML3.6, Mw(mB)4.3

ISC 14 07:09:54.6±1.0, 8°.64N±0°.03×79°.06W±0°.02, h26km±7km, n225, σ1s58/265, mb4.4/27, MS3.2/6, 6C-13D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABO3	Taboga, Panama	0.51	287	⇓iP	Pb	07 10 03.4	-1.7
TABO3				eS	Sb	07 10 10.8	-1.4
CNTA3	Canitas, Panam	0.60	16	⇓iP	Pb	07 10 05.5	-1.1
CNTA3				eS	Sb	07 10 13.5	-1.2
ARRA3	Arraijan, Pana	0.67	299	⇓iP	Pb	07 10 06.2	-1.6
ARRA3				eS	Sb	07 10 16.0	-0.7
BCIP	Isla Barro Col	0.93	304		Pb	07 10 10.6	-1.6
BCIP					Sb	07 10 24.1	0.0
BCIP	Isla Barro Col	0.93	304	P	Pb	07 10 10.5	-1.6
BCIP				S	Sb	07 10 23.7	-0.4
BCIP	Isla Barro Col	0.93	304	⇓iP	Pb	07 10 10.6	-1.6
BCIP				eS	Sb	07 10 24.4	+0.3
BCIP	Isla Barro Col	0.93	304	P	Pb	07 10 10.5	-1.6
BCIP				S	Sb	07 10 23.7	-0.4
PCRI3	Pocri, Los San	1.43	227	⇓eP	Pn	07 10 17.2	-1.7
PCRI3				eS	Sn	07 10 35.2	-1.7
PEDA3	Pedasi	1.46	221	eP	Pn	07 10 17.6	-1.8
PEDA3				eS	Sn	07 10 36.7	-1.0
CRIS3	El Cristo, Coc	1.59	256	⇓iP	Pn	07 10 20.5	-0.6
CRIS3				eS	Sn	07 10 41.2	+0.4
ACHO3	Achotines, Los	1.64	222	⇓eP	Pn	07 10 20.4	-1.4
ACHO3				eS	Sn	07 10 41.0	-1.2
CAPC	Capurgana	1.69	90	P	Pn	07 10 21.0	-1.5
CAPC				S	Sn	07 10 42.0	-1.3
CAPC	Capurgana	1.69	90	P	Pn	07 10 21.0	-1.5
CAPC				S	Sn	07 10 42.0	-1.3
PESE3	Pese, Herrera	1.70	245	eP	Pn	07 10 21.4	-1.2
PESE3				eS	Sn	07 10 42.6	-1.0
CALO3	Calobre, Verag	1.79	260	⇓iP	Pn	07 10 24.2	+0.4
CALO3				eS	Sn	07 10 46.0	+0.2
PTAC	Punta Ardita,	1.93	140	P	Pn	07 10 23.2	-2.6
PTAC	Punta Ardita,	1.93	140	⇑iP	Pn	07 10 23.3	-2.6
PTAC				eS	Sn	07 10 48.1	-1.2
PTAC	Punta Ardita,	1.93	140	P	Pn	07 10 23.2	-2.6
STIA3	Santiago, Vera	1.97	254	⇓iP	Pn	07 10 26.3	0.0
STIA3				eS	Sn	07 10 51.3	+1.2
MESA3	La Mesa, Verag	2.16	257	⇓iP	Pn	07 10 29.4	+0.5
MESA3				eS	Sn	07 10 55.7	+0.8
GMAL	Guarumal, Vera	2.32	248	⇓eP	Pn	07 10 31.1	-0.1
GMAL				eS	Sn	07 10 58.7	-0.2
APAC	Apartado, Choc	2.56	107	P	Pn	07 10 36.5	+2.0
APAC	Apartado, Choc	2.56	107	P	Pn	07 10 36.5	+2.0
LCBC	Los crdobas,	2.67	85	P	Pn	07 10 38.3	+2.4
LCBC				S	Sb	07 11 13.2	-0.9
LCBC	Los crdobas,	2.67	85	⇑eP	Pn	07 10 38.4	+2.4
LCBC				eS	Sn	07 11 06.1	-1.4
LCBC	Los crdobas,	2.67	85	P	Pn	07 10 38.3	+2.4
LCBC				S	Sb	07 11 13.2	-0.9
SOLC	Bahia Solano	2.90	146	P	Pn	07 10 37.8	-1.4
SOLC	Bahia Solano	2.90	146	P	Pn	07 10 37.8	-1.4
DBBC	Dabeiba	3.25	120	P	Pn	07 10 44.5	+0.4
DBBC				S	Sb	07 11 29.6	-1.3
DBBC	Dabeiba	3.25	120	P	Pn	07 10 44.5	+0.4
DBBC				S	Sb	07 11 29.6	-1.3
PEDE3	Pedregal, Chir	3.34	266	⇑iP	Pn	07 10 49.3	+4.2
PTAR3	Potrerillos Ar	3.40	271	⇓eP	Pn	07 10 46.9	+0.8
PTAR3				eS	Sb	07 11 36.7	+1.5
BRU2	Volcan	3.59	273		Pn	07 10 48.6	-0.2
BRU2	Volcan	3.59	273	⇑eP	Pn	07 10 49.8	+0.9
BRU2				eS	Sn	07 11 31.0	+0.4
BRU2	Volcan	3.59	273	eP	Pn	07 10 49.5	+0.6
BRIBI	Bribri	3.87	285	eP	Pn	07 10 56.7	+4.2
VITO	San Vito	3.87	273	eP	Pn	07 10 53.9	+1.3
PIZC	Pizarro, Choco	4.02	155	P	Pn	07 10 52.5	-2.1
PIZC				S	Sn	07 11 39.8	-1.1
PIZC	Pizarro, Choco	4.02	155	P	Pn	07 10 52.5	-2.1
PIZC				S	Sn	07 11 39.8	-1.1
SJCC	San Jacinto, C	4.03	72	P	Pn	07 10 56.1	+1.4
SJCC				S	Sn	07 11 41.8	+0.7
SJCC	San Jacinto, C	4.03	72	⇑iP	Pn	07 10 55.6	+0.8
SJCC				eS	Sn	07 11 40.6	-0.5
SJCC	San Jacinto, C	4.03	72	P	Pn	07 10 56.1	+1.4
SJCC				S	Sn	07 11 41.8	+0.7
CBOC	Ciudad Bolivar	4.09	132	P	Pn	07 10 54.6	-1.1
CBOC				S	Sn	07 11 43.9	+1.0
CBOC	Ciudad Bolivar	4.09	132	P	Pn	07 10 54.6	-1.1
CBOC				S	Sn	07 11 43.9	+1.0
DRK0	Durika	4.18	279	eP	Pn	07 10 56.6	-0.3
JIME	Puerto Jimenez	4.22	269	eP	Pn	07 10 59.1	+1.8
PIRO	Carate, Puerto	4.24	267	eP	Pn	07 10 59.5	+2.0
BURE	Buenos Aires	4.26	277	eP	Pn	07 11 00.6	+2.7
HELC	Santa Helena	4.26	125	P	Pn	07 10 58.2	0.0
HELC	Santa Helena	4.26	125	eS	Sn	07 11 44.0	-3.4
HELC	Santa Helena	4.26	125	P	Pn	07 10 58.2	0.0
ZARC	Zaragoza, Cauc	4.31	105	P	Pn	07 10 58.6	0.0
ZARC	Zaragoza, Cauc	4.31	105	P	Pn	07 10 58.6	0.0
IRES	Siquirres	4.62	289	eP	Pn	07 11 03.0	+0.2
PLMC	San Jos del P	4.62	143	P	Pn	07 10 59.7	-3.2

BLUN S Sn 07 12 17.3 -5.5
SOCE Pocosol 5.75 288 Pn 07 11 19.6 +1.2
SOCE Pocosol 5.75 288 eP Pn 07 11 19.9 +1.5
VACR Volcan Arenal 5.83 289 eP Pn 07 11 20.8 +1.3
ARE1 Arenal 1 5.87 288 eP Pn 07 11 23.9 +3.9
ROSC El Rosal 6.03 128 Pn Pn 07 11 23.8 +1.2
ROSC El Rosal 6.03 128 Pn Pn 07 11 24.1 +1.5
4.8nm,0.3s,baz=276,slow=17,SNR=5.2
8.5nm,0.4s
ORTC Ortega, Tolima 6.04 141 P Pn 07 11 25.5 +3.1
610nm60nm,0.7s
ORTC Ortega, Tolima 6.04 141 P Pn 07 11 25.5 +3.1
610nm60nm,0.7s
JTS Las Juntas de 6.04 286 Pn Pn 07 11 24.0 +1.6
JTS Las Juntas de 6.04 286 Pn Pn 07 11 20.6 -1.7
3.5nm,0.3s,baz=285,slow=20,SNR=15
JTS Lg Lg 07 13 00.5
0.8nm,0.3s,baz=264,slow=19,SNR=4.6
JTS LR LR 07 13 56.5
comp=Z,194nm,19.6s,baz=56,slow=41
12nm,0.7s
JTS Las Juntas de 6.04 286 eP Pn 07 11 24.3 +2.0
JUNT Juntas 6.04 286 eP Pn 07 11 24.9 +2.5
ESPN Las Esperanzas 6.25 305 Pn 07 11 25.4 +0.2
ESPN Las Esperanzas 6.25 305 P Pn 07 11 25.6 +0.4
1μm73nm,0.6s
ESPN S Sn 07 12 32.7 -3.1
1μm73nm,0.6s
ESPN Las Esperanzas 6.25 305 eP Pn 07 11 25.4 +0.2
ESPN Las Esperanzas 6.25 305 P Pn 07 11 25.6 +0.4
1μm73nm,0.6s
ESPN S Sn 07 12 32.7 -3.1
1μm73nm,0.6s
NYURE Nandayure 6.26 283 eP Pn 07 11 30.4 +5.1
BAGA Bagaces 6.40 288 eP Pn 07 11 26.2 -1.1
PAMC Pamplona, Colo 6.43 101 P Pn 07 11 29.0 +0.9
PAMC S Sn 07 12 41.6 +0.6
PAMC Pamplona, Colo 6.43 101 P Pn 07 11 29.0 +0.9
PAMC S Sn 07 12 41.6 +0.6
POPC Popayan, Colom 6.51 158 P Pn 07 11 29.1 +0.1
309nm21nm,0.6s
POPC Popayan, Colom 6.51 158 P Pn 07 11 29.1 +0.1
309nm21nm,0.6s
RUSC La Rusia 6.53 114 Pn Pn 07 11 29.6 +0.1
CRJC Cerrejon, Guaj 6.53 68 P Pn 07 11 29.4 +0.2
CRJC S Sn 07 12 39.1 -3.8
CRJC Cerrejon, Guaj 6.53 68 P Pn 07 11 29.4 +0.2
CRJC S Sn 07 12 39.1 -3.8
BBAC Balboa, Cauca 6.82 165 P Pn 07 11 33.5 +0.3
27nm,0.5s
BBAC Balboa, Cauca 6.82 165 P Pn 07 11 33.5 +0.3
27nm,0.5s
ACON Acoyapa 6.87 299 Pn 07 11 34.1 +0.5
GARC Garzon, Huila 7.33 151 P Pn 07 11 41.9 +1.6
GARC Garzon, Huila 7.33 151 P Pn 07 11 41.9 +1.6
BOAB BOACO BROADBAN 7.52 301 Pn Pn 07 11 43.8 +1.1
FLOC Florencia 7.79 154 Pn Pn 07 11 47.7 +1.3
SDV Santo Domingo 8.33 88 Pn 07 11 54.4 +0.4
OTAV Otavalo 8.37 176 Pn 07 11 57.1 +2.3
OTAV Otavalo 8.37 176 eP Pn 07 11 58.9 +4.1
HOJ Hope 9.57 13 i P Pn 07 12 11.8 +0.9
STH Stony Hill 9.63 13 ⇓i P Pn 07 12 13.3 +1.6
MTDJ Mount Denham 9.64 9 Pn Pn 07 12 12.1 +0.2
TGUH Tegucigalpa,Un 9.69 305 Pn Pn 07 12 11.4 -1.1
HATO Hato, Curacao 10.54 70 Pn Pn 07 12 25.7 +1.6
COHC Cochancay 11.04 181 Pn Pn 07 12 35.4 +4.5
LMGC Las Mercedes 11.53 10 eP Pn 07 12 39.7 +2.0
CHIV Chivirico 11.56 13 eP Pn 07 12 39.1 +1.2
MARVS Santiago de Cu 11.70 15 eP Pn 07 12 42.1 +2.1
RCC Rio Carpintero 11.75 16 eP Pn 07 12 43.2 +2.6
PAPH Port-au-Prince 11.81 33 Pn 07 12 42.0 +0.4
PAPH Port-au-Prince 11.81 33 eP Pn 07 12 43.6 +2.0
GTBY Guantanamo Bay 11.85 18 Pn Pn 07 12 42.1 +0.1
GTBY Guantanamo Bay 11.85 18 ⇓eP Pn 07 12 43.5 +1.5
GTBY Guantanamo Bay 11.85 18 i P Pn 07 12 44.1 +2.1
PINC Pinares de May 12.19 15 eP Pn 07 12 47.8 +1.1
QMBU Quimbuelo 12.20 19 eP Pn 07 12 48.5 +1.6
MASC Masc 12.38 22 eP Pn 07 12 49.2 0.0
HLGC Holguin 12.52 13 eP Pn 07 12 54.0 +2.8
MOAC Moa 12.59 18 eP Pn 07 12 55.5 +3.4
SDDR Presa de Saban 12.75 35 Pn Pn 07 12 55.7 +1.4
SDDR Presa de Saban 12.75 35 eP Pn 07 12 56.8 +2.4
BANI BANI 12.86 40 Pn 07 12 55.5 -0.4
DR12 Loma Pena Alta 13.78 42 Pn 07 13 08.3 -0.2
PCRV Puerto La Cruz 14.31 83 Pn Pn 07 13 17.3 +1.5
2.0nm,0.3s,baz=281,slow=4.9,SNR=15
PCRV LR LR 07 19 58.6
comp=Z,301nm,20.6s,slow=42
14nm,0.5s
AOPR Arecibo Observ 15.36 50 Pn 07 13 29.9 +0.1
ATAH Atahualpa 15.69 178 LR LR 07 19 03.3
comp=Z,97nm,21.7s,baz=7.1,slow=35
SJG San Juan 15.69 52 LR LR 07 19 32.5
comp=Z,25nm,19.4s,baz=239,slow=37
TEFE Tefe 18.78 129 eP P 07 14 13.4 +1.3
BOAV Boa Vista 19.46 108 P P 07 14 20.2 +0.7
MACA Manacapuru-AM 21.75 122 P P 07 14 43.8 -0.6
MACA IAmb IAmb 07 14 54.1
comp=Z,14nm,0.6s
GOGA Godfrey 24.98 351 P P 07 15 17.1 +0.9
GOGA IAmb IAmb 07 15 28.0
comp=Z,7.7nm,1.1s
LRAL Lakeview Retre 25.36 344 P P 07 15 20.8 +1.1
MDP Montagnes des 26.46 96 LR LR 07 27 22.9
comp=Z,53nm,18.5s,baz=316,slow=40
TKL Tuckaleechee C 27.23 352 LR LR 07 26 24.8
comp=Z,54nm,19.1s,baz=122,slow=37
833A Chaparral WMA, 27.40 318 P P 07 15 37.8 -0.4
NPGB Novo Progresso 28.30 123 eP P 07 15 47.0 +0.6
T47A Sharon Grove 29.15 347 P P 07 15 53.4 -0.2
T47A IAmb IAmb 07 15 54.3
comp=Z,5.0nm,0.8s
BRDY Brady 29.20 323 P P 07 15 52.9 -1.3
BRDY IAmb IAmb 07 15 53.7
comp=Z,6.6nm,1.1s
PB11 IPOC Station P 29.70 162 P P 07 15 59.5 +0.6
PDRB Porto dos Gac 29.96 132 eP P 07 16 01.1 -0.1
T42A Van Buren 30.30 341 P P 07 16 03.3 -0.5
T42A IAmb IAmb 07 16 04.2
comp=Z,3.3nm,0.8s
TX31 Lajitas Ar. Si 30.94 315 P P 07 16 09.8 +0.1
TXAR Lajitas Array 30.94 315 P P 07 16 09.8 +0.1
TXAR Lajitas Array 30.94 315 P P 07 16 09.2 -0.5
comp=Z,0.7nm,0.7s,baz=134,slow=7.7,SNR=9.2
comp=Z,0.7nm,0.7s
CCM Cathedral Cave 31.28 341 P P 07 16 11.6 -0.9
CCM IAmb IAmb 07 16 12.9
comp=Z,5.7nm,0.8s
MSTX Muleshoe 33.34 323 P P 07 16 29.7 -1.1
K57A Scipio Center 34.03 3 P P 07 16 37.0 +0.5
ANMO Albuquerque 36.27 320 P P 07 16 55.9 -0.2
ANMO IAmb IAmb 07 16 57.4
comp=Z,5.6nm,0.9s
ANMO Albuquerque 36.27 320 LR LR 07 34 43.0
comp=Z,33nm,18.3s,baz=324,slow=41
SDCO Great Sand Dun 37.55 325 P P 07 17 07.4 +0.3
SDCO IAmb IAmb 07 17 09.1
comp=Z,6.3nm,1.2s
PV13 Radium Mtn., P 39.78 322 P P 07 17 24.9 -0.9
PV13 IAmb IAmb 07 17 27.5
comp=Z,7.5nm,1.0s
SDBA SAO DESIDERIO 39.87 121 eP P 07 17 26.6 +0.1
IPMB Ipameri, GO 40.34 131 eP P 07 17 29.3 -1.1
JANB Januaria 41.72 124 eP P 07 17 41.2 -0.6
BSUT Blindstream Ca 42.46 324 P P 07 17 47.8 -0.2
TCUT Toone Canyon 43.20 324 P P 07 17 53.3 -0.6
TCUT IAmb IAmb 07 17 54.9
comp=Z,7.8nm,0.9s
PD31 Pinedale Array 43.25 327 P P 07 17 53.9 -0.4
PDAR Pinedale Array 43.25 327 P P 07 17 53.8 -0.4
comp=Z,2.5nm,0.9s,baz=131,slow=10,SNR=22
PDAR PcP PcP 07 19 42.5 -0.6
comp=Z,0.5nm,0.7s,baz=149,slow=2.5,SNR=3.2
comp=Z,2.5nm,0.9s
ULM Lac du Bonnet 43.77 344 P P 07 17 55.8 -2.2
comp=Z,0.9nm,0.5s,baz=167,slow=16,SNR=3.3
comp=Z,0.9nm,0.5s
DIAM Diamantina, MG 44.00 128 eP P 07 17 59.7 -0.7
SNOW Snow King Moun 44.37 327 P P 07 18 02.7 -0.5
SNOW IAmb IAmb 07 18 03.9
comp=Z,8.2nm,1.1s
RCBR Riachuelo 45.37 107 LR LR 07 38 54.1
comp=Z,28nm,19.0s,baz=254,slow=38
CMC01 Camacan, BA 45.86 121 eP P 07 18 14.8 -0.3
NVAR Mina Array Bea 46.07 316 P P 07 18 16.0 -0.7
comp=Z,0.7nm,0.9s,baz=122,slow=8.2,SNR=4.8
NVAR PcP PcP 07 19 52.7 -0.2
comp=Z,1.0nm,0.6s,baz=130,slow=5.4,SNR=6.8
comp=Z,0.7nm,0.9s
GUA01 Guaratinga, BA 46.22 123 eP P 07 18 17.6 -0.3
NBAN Anadia - AL 46.32 112 eP P 07 18 17.8 -1.0
MCMT McKenzie Canyo 46.40 327 P P 07 18 18.9 -0.4
HLID Hailey 46.47 325 P P 07 18 19.6 -0.2
LRM Limekiln Ridge 46.84 328 P P 07 18 22.8 0.0
SCHQ Schefferville 47.09 10 P P 07 18 24.6 +0.4
SCHQ Schefferville 47.09 10 P P 07 18 24.5 +0.3
comp=Z,6.5nm,0.8s,baz=200,slow=6.5,SNR=20
comp=Z,6.5nm,0.8s
PLCA Paso Flores 49.75 172 P P 07 18 45.3 +0.3
comp=Z,2.9nm,0.9s,baz=15,slow=10,SNR=7.3
comp=Z,2.9nm,0.9s
PLCA Paso Flores 49.75 172 eP P 07 18 45.9 +0.9
FRB Frobisher Bay 55.52 6 LR LR 07 44 27.4
comp=Z,26nm,19.9s,baz=113,slow=37
YKA Yellowknife Ar 59.62 342 P P 07 19 54.5 -1.6
comp=Z,0.9nm,0.7s,baz=136,slow=7.1,SNR=18
comp=Z,0.9nm,0.7s
A36M Sachs Harbour 69.22 346 P 07 20 56.8 -1.9
ILAR Eielson Array 72.86 335 P P 07 21 19.8 -1.2
comp=Z,0.4nm,0.7s,baz=112,slow=4.9,SNR=6.8
comp=Z,0.4nm,0.7s
ESDC Sonseca Array 73.07 51 P P 07 21 23.3 +0.4
comp=Z,4.1nm,0.9s,baz=280,slow=5.9,SNR=15
comp=Z,4.1nm,0.9s
EKA Eskdalemuir Ar 74.92 35 P P 07 21 33.6 +0.4
comp=Z,9.1nm,0.6s,baz=258,slow=4.9,SNR=31
comp=Z,9.1nm,0.6s
NB2 NORSAR Subarra 82.64 29 P P 07 22 16.8 +1.2
comp=Z,1.0nm,0.6s,baz=275,slow=5.3
NOA NORSAR Array B 82.64 29 P P 07 22 16.4 +0.7
comp=Z,4.3nm,1.0s,baz=275,slow=5.1,SNR=7.4
comp=Z,4.3nm,1.0s
SPITS Spitsbergen Ar 82.72 12 P P 07 22 15.9 +0.2
comp=Z,4.4nm,0.8s,baz=237,slow=2.6,SNR=5.0
comp=Z,4.4nm,0.8s
HFS Hagfors 83.95 30 P P 07 22 22.2 -0.1
comp=Z,2.2nm,0.8s,baz=260,slow=4.2,SNR=3.5
comp=Z,2.2nm,0.8s
GERES GERESS Array B 85.38 41 P P 07 22 30.2 +0.3
comp=Z,2.5nm,0.7s,baz=201,slow=7.1,SNR=7.6
comp=Z,2.5nm,0.7s
ARCES ARCESS Array B 87.00 20 P P 07 22 37.4 0.0
comp=Z,3.1nm,0.6s,baz=285,slow=4.8,SNR=24
comp=Z,3.1nm,0.6s
FINES FINESS Array B 89.61 28 P P 07 22 49.9 +0.1
comp=Z,1.5nm,0.6s,baz=228,slow=4.9,SNR=7.5
comp=Z,1.5nm,0.6s
TIXI Tiksi 97.77 351 LR LR 08 10 42.9
comp=Z,15nm,18.3s,baz=9.0,slow=37
STKA Stephens Creek 135.78 233 PKP PKPdf 07 29 13.2 -0.4
comp=Z,0.9nm,0.5s,baz=46,slow=11,SNR=4.4
ASAR Alice Springs 145.11 241 PKPbc PKPbc 07 29 29.4 -0.7
comp=Z,4.8nm,0.7s,baz=113,slow=3.3,SNR=41
WRA Warramunga Arr 145.81 247 PKPbc PKPdf 07 29 31.8 -0.2
comp=Z,1.3nm,0.5s,baz=103,slow=3.6,SNR=15
CMAR Chiang Mai Arr 153.00 4 PKPbc PKPbc 07 29 50.1 -0.7
comp=Z,1.6nm,0.3s,baz=331,slow=2.9,SNR=10.0

NOU 14 07:14:25.2, 11°.85S×166°.21E, h0km, mb5.1/12, Santa Cruz Islands
IDC 14 07:14:26.3±3.5, 11°.89S×166°.51E, h76km±29km, mb4.0/12, mbtmp4.3/14, MS3.4/19, Error ellipse: s-maj=22.8km s-min=19.2km az=94.0
NEIC 14 07:14:28.1±1.6, 11°.9S±0°.1×166°.4E±0°.1, h82km±8km, mb4.5/29, Error ellipse: s-maj=18.0km s-min=14.1km az=57.0
ISC 14 07:14:27.6±0.5, 11°.94S±0°.06×166°.38E±0°.07, h83km, n83, σ1§52/72, mb4.6/28, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	1.35	340	P	Pn	07 14 46.9	-4.3
HURO	Huro Makira	4.63	288	P	Pn	07 15 33.5	-1.7
DVP	Devils Point	6.01	163	P	Pn	07 15 56.8	+2.8
NGOA	Tingoa Rental	6.20	273	P	Pn	07 15 54.0	-2.6
ALEG	Aligegeo Malai	6.43	299	P	Pn	07 15 58.4	-1.3
HNR	Honiara	6.80	291		Pn	07 16 03.9	-0.9
HNR	Honiara	6.80	291	P	Pn	07 16 04.6	-0.1
	200nm,0.6s,baz=180,slow=3.4,SNR=9.6						
HNR				S	Sn	07 17 19.0	-1.7
	52nm,0.4s,baz=248,slow=21,SNR=1.1						
HNR				LR	LR	07 19 01.6	
	comp=Z,262nm,21.4s,baz=134,slow=40						
HNR	Honiara	6.80	291	P	Pn	07 16 04.7	-0.1
TATA	Tatamba Isabel	7.37	298	P	Pn	07 16 11.6	-1.0
KOUNC	Koumac, New Ca	8.79	193	P	Pn	07 16 34.0	+2.0
YATNC	Mamie plateau,	10.07	177	P	Pn	07 16 52.2	+2.8
DZM	Mont Dzumac	10.07	180		Pn	07 16 50.0	+0.4
DZM	Mont Dzumac	10.07	180	eP	Pn	07 16 51.2	+1.7
	28nm,1.1s						
DZM				eSn	Sn	07 18 36.3	-4.5
	30nm,0.8s						
DZM				eLR	LR	07 19 10.2	
	370nm,26.1s						
DZM	Mont Dzumac	10.07	180	P	Pn	07 16 49.9	+0.3
	2.5nm,0.3s,baz=10.0,slow=20,SNR=3.7						
DZM				S	Sn	07 18 37.8	-3.0
	3.2nm,0.5s,baz=230,slow=23,SNR=1.4						
DZM	Mont Dzumac	10.07	180	P	Pn	07 16 50.7	+1.2
ONTNC	Ouen Toro	10.31	180	Pn	Pn	07 16 54.3	+1.6
OUENC	Ouen Island, N	10.43	178	P	Pn	07 16 56.7	+2.4
PINNC	Pines Island,	10.66	175	Pn	Pn	07 16 58.2	+0.8
MSVF	Nonsavu	12.66	118	Pn	Pn	07 17 25.3	+0.6
MSVF	Nonsavu	12.66	118	LR	LR	07 21 42.4	
	comp=Z,113nm,18.9s,baz=293,slow=35						
PMG	Port Moresby	19.05	276	LR	LR	07 25 26.7	
	comp=Z,200nm,20.7s,baz=145,slow=34						
EIDS	Eidsvold	19.68	225		P	07 18 50.8	+0.6
EIDS				IAmb	IAmb	07 18 54.5	
	comp=Z,9.8nm,0.7s						
LHI	Lord Howe Isla	20.62	198	P	P	07 19 00.8	+0.6
COEN	Coen	22.70	262	P	P	07 19 23.2	+0.5
ARMA	Armidale	22.91	214		P	07 19 26.4	+1.6
URZ	Urewera	27.90	162	LR	LR	07 29 34.5	
	comp=Z,102nm,18.5s,baz=38,slow=32						
CAN	Canberra	28.10	211	P	P	07 20 12.5	+0.8
CAN				IAmb	IAmb	07 20 19.9	
	comp=Z,29nm,1.3s						
MRNZ	Matariki Terra	29.87	170	P	P	07 20 26.8	-0.5
STKA	Stephens Creek	30.23	225		P	07 20 31.4	+0.7
STKA	Stephens Creek	30.23	225	P	P	07 20 31.6	+1.0
	comp=Z,10nm,0.7s,baz=42,slow=8.4,SNR=30						
STKA				LR	LR	07 32 13.0	
	comp=Z,97nm,19.0s,baz=28,slow=35						
	comp=Z,10nm,0.7s						
THZ	Tophouse	30.25	170	P	P	07 20 30.3	-0.4
THZ				IAmb	IAmb	07 20 59.2	
	comp=Z,25nm,1.5s						
WR0	Warramunga Arr	31.59	251	P	P	07 20 42.6	-0.1
WB2	Warramunga Arr	31.76	251	P	P	07 20 44.1	-0.1
WB2				IAmb	IAmb	07 20 44.9	
	comp=Z,6.5nm,1.1s						
WRA	Warramunga Arr	31.77	251	P	P	07 20 43.4	-0.9
WRA	Warramunga Arr	31.77	251	P	P	07 20 44.1	-0.2
	comp=Z,2.8nm,0.6s,baz=84,slow=9.2,SNR=17						
WRA				PcP	PcP	07 23 33.4	-0.6
	comp=Z,0.9nm,0.8s,baz=78,slow=2.0,SNR=4.7						
WRA				LR	LR	07 31 56.2	
	comp=Z,80nm,19.8s,baz=41,slow=33						
	comp=Z,2.8nm,0.6s						
AS31	Alice Springs	32.96	245	P	P	07 20 53.1	-1.6
ASAR	Alice Springs	32.96	245	P	P	07 20 52.8	-1.9
ASAR	Alice Springs	32.96	245	P	P	07 20 54.4	-0.4
	comp=Z,4.8nm,0.7s,baz=74,slow=9.5,SNR=67						
ASAR				PcP	PcP	07 23 36.8	-0.5
	comp=Z,1.5nm,0.8s,baz=71,slow=2.6,SNR=9.7						
ASAR				LR	LR	07 33 12.1	
	comp=Z,76nm,19.4s,baz=84,slow=34						
	comp=Z,4.8nm,0.7s						
GUMO	Guam	33.14	319	LR	LR	07 33 44.3	
	comp=Z,43nm,19.2s,baz=98,slow=35						
RAR	Rarotonga	33.66	110	LR	LR	07 32 06.2	
	comp=Z,42nm,18.3s,baz=250,slow=32						
MGBR	Mount Gambier	34.52	218	P	P	07 21 08.1	0.0
BBOO	Buckleboo	34.69	228	P	P	07 21 09.9	+0.4
BBOO				IAmb	IAmb	07 21 11.1	
	comp=Z,13nm,1.2s						
FITZ	Fitzroy Crossi	39.76	256	P	P	07 21 52.5	-0.1
FITZ	Fitzroy Crossi	39.76	256	P	P	07 21 52.8	+0.2
	comp=Z,6.4nm,0.8s,baz=111,slow=7.1,SNR=14						
FITZ				LR	LR	07 38 21.6	
	comp=Z,95nm,18.0s,baz=99,slow=36						
	comp=Z,6.4nm,0.8s						
FORT	Forrest	40.05	236		P	07 21 55.5	+0.7
PPT2	Papeete2	42.89	103	eLR	LR	07 34 14.2	
	comp=Z,106nm,30.2s						
PPT2				eLR	LR	07 34 14.6	
	comp=Z,140nm,26.5s						
NWAO	Narrogin (SRO)	49.48	237	P	P	07 23 10.4	+0.6
NWAO	Narrogin (SRO)	49.48	237	LR	LR	07 44 12.7	
	comp=Z,71nm,18.1s,baz=308,slow=36						
MORW	Morawa	49.74	242	P	P	07 23 12.8	+0.9
MORW				IAmb	IAmb	07 23 13.5	
	comp=Z,6.5nm,0.8s						
TAOE	Nuku Hiva Isla	52.62	92	eLR	LR	07 38 39.9	
	comp=Z,90nm,30.1s						
JOW	Kunigami	53.43	317	LR	LR	07 46 13.7	
	comp=Z,29nm,18.7s,baz=130,slow=36						
JNU	Nakatsue	56.17	324	LR	LR	07 46 36.8	
	comp=Z,15nm,18.6s,baz=40,slow=34						
RKT	Rikitea	56.70	110	eLR	LR	07 40 37.9	
	comp=Z,1μm,35.2s						
ASAJ	Asahikawa	59.84	340	LR	LR	07 45 46.4	
	comp=Z,23nm,22.0s,baz=181,slow=31						
VNDA	Vanda	65.61	181	P	P	07 25 01.9	-0.4
VNDA				IAmb	IAmb	07 25 09.6	
	comp=Z,4.3nm,1.1s						
VNDA	Vanda	65.61	181	P	P	07 25 02.5	+0.1
	comp=Z,1.5nm,0.8s,baz=346,slow=8.3,SNR=2.6						
	comp=Z,1.5nm,0.8s						
SBA	Scott Base	65.91	180	P	P	07 25 05.7	+1.5
KLR	Kul'dur	68.12	336	LR	LR	07 55 26.5	
	comp=Z,17nm,18.1s,baz=237,slow=36						
LYN	LuoYang	68.92	314	P	P	07 25 18.5	-5.4
LYN				pmax	pmax		
	comp=Z,19nm,0.6s						
MA2	Magadan	72.38	352	LR	LR	07 51 44.1	
	comp=Z,18nm,21.1s,baz=158,slow=31						
HHC	Hu-ho-hao-te	72.91	320	eP	P	07 25 50.6	+2.5
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,96nm,5.4s						
CM31	Chiang Mai Arr	73.04	294	P	P	07 25 50.7	+1.5
CMAR	Chiang Mai Arr	73.04	294	P	P	07 25 50.3	+1.1
CMAR	Chiang Mai Arr	73.04	294	P	P	07 25 50.5	+1.3
	comp=Z,8.0nm,0.8s,baz=125,slow=4.5,SNR=34						
	comp=Z,8.0nm,0.8s						
CHTO	Chiang Mai	73.15	294	P	P	07 25 50.7	+0.9
CHTO				IAmb	IAmb	07 25 51.6	
	comp=Z,9.1nm,1.1s						
PZH	PanZhiHua	73.48	302	P	P	07 25 54.4	+2.6
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
L14K	Kuka Creek	77.03	15	P	P	07 26 11.1	-0.1
L14K				IAmb	IAmb	07 26 26.4	
	comp=Z,12nm,1.3s						
P18K	Big Mountain,	77.54	19	P	P	07 26 14.4	+0.3
P18K				IAmb	IAmb	07 26 23.3	
	comp=Z,5.7nm,1.1s						
QSPA	South Pole Qui	78.07	180	P	P	07 26 16.9	-0.4
QSPA	South Pole Qui	78.07	180	P	P	07 26 16.9	-0.4
	comp=Z,2.5nm,0.7s,baz=337,slow=0.7,SNR=17						
	comp=Z,2.5nm,0.7s						
ULN	Ulaanbaatar	79.39	324	P	P	07 26 24.3	-0.5
ULN				IAmb	IAmb	07 26 25.1	
	comp=Z,2.6nm,0.6s						
SONM	Songino Array	79.75	324	P	P	07 26 26.4	-0.3
SONM	Songino Array	79.75	324	P	P	07 26 26.5	-0.3
	comp=Z,0.6nm,0.4s,baz=138,slow=3.6,SNR=4.0						
	comp=Z,0.6nm,0.4s						
ILAR	Eielson Array	84.16	18	P	P	07 26 48.0	-1.3
	comp=Z,0.4nm,0.4s,baz=247,slow=4.5,SNR=11						
	comp=Z,0.4nm,0.4s						
PFO	Pinyon Flats O	86.09	55	LR	LR	07 57 08.9	
	comp=Z,32nm,21.5s,baz=252,slow=30						
NVAR	Mina Array Bea	86.13	50	P	P	07 26 58.5	-1.5
	comp=Z,0.3nm,0.7s,baz=263,slow=5.2,SNR=1.9						
NVAR				LR	LR	08 03 08.4	
	comp=Z,53nm,18.5s,baz=32,slow=34						
	comp=Z,0.3nm,0.7s						
BELA	Belgrano 2	89.55	176	P	P	07 27 13.9	-1.5
BELA				IAmb	IAmb	07 27 20.9	
	comp=Z,1.7nm,0.9s						
WMQ	Urumqi	90.17	315	eP	P	07 27 21.4	+2.5
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
SYO	Syowa Base	91.11	197⇑	ePcP	PcP	07 27 26.6	+2.9
MK31	Makanchi Array	94.60	317	P	P	07 27 38.9	-0.4
MK31				IAmb	IAmb	07 27 39.4	
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	94.60	317	P	P	07 27 38.6	-0.7
	comp=Z,2.2nm,0.6s,baz=90,slow=6.4,SNR=27						
	comp=Z,2.2nm,0.6s						
MAKZ	Makanchi	94.81	317	P	P	07 27 39.7	-0.6
MAKZ				IAmb	IAmb	07 27 40.4	
	comp=Z,1.7nm,0.9s						
YKA	Yellowknife Ar	95.48	27	P	P	07 27 41.7	-1.2
	comp=Z,0.2nm,0.6s,baz=244,slow=5.2,SNR=2.9						
YKA				LR	LR	08 09 51.8	
	comp=Z,24nm,18.4s,baz=292,slow=35						
	comp=Z,0.2nm,0.6s						

NNC 14 07:29:03.8±0.3, 50°.00N×78°.60E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=3.5km s-min=1.7km az=84.0, Suspected Mining explosion.
IDC 14 07:29:04.7±0.9, 50°.05N×78°.73E, h0km, mbtmp3.0/2, ML2.3/2, Error ellipse: s-maj=10.8km s-min=6.1km az=59.0
ISC 14 07:29:01.2±0.8, 49°.86N±0°.04×78°.70E±0°.03, h0km, n44, σ1§40/59, 19C-15D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.73	351	⇑P	Pb	07 29 15.5	-1.3
KUR07				⇓S	Sg	07 29 24.0	-0.6
KUR06	Kurchatov Arra	0.75	351	⇑P	Pb	07 29 15.6	-1.5
KUR06				⇑S	Sg	07 29 24.5	-0.7
KUR14	Kurchatov Arra	0.76	355	⇑P	Pb	07 29 15.7	-1.5
KUR14				⇓S	Sg	07 29 24.0	-1.4
KUR15	Kurchatov Arra	0.76	353	⇓P	Pb	07 29 15.8	-1.5
KUR15				⇓S	Sg	07 29 25.2	-0.5
KURBB	Kurchatov Arra	0.77	352	Pg	Pb	07 29 16.2	-1.3
	1.3nm,0.3s,baz=166,slow=19,SNR=54						
KURBB				Lg	Lg	07 29 25.4	
	3.0nm,0.3s,baz=164,slow=32,SNR=64						
KURBB	Kurchatov Arra	0.77	352	⇓P	Pb	07 29 16.1	-1.3
	38nm,0.6s						
KURBB				⇑S	Sg	07 29 25.1	-0.8
	311nm,0.7s						
KUR16	Kurchatov Arra	0.78	351	⇑P	Pb	07 29 16.2	-1.3
KUR16				⇓S	Sg	07 29 24.8	-1.3
KUR17	Kurchatov Arra	0.78	349	⇑P	Pb	07 29 16.5	-1.2
KUR17				⇓S	Sg	07 29 25.0	-1.4
KUR05	Kurchatov Arra	0.79	352	⇑P	Pb	07 29 16.2	-1.5
KUR05				⇑S	Sg	07 29 24.9	-1.6
KUR04	Kurchatov Arra	0.81	353	⇓P	Pb	07 29 16.5	-1.6
KUR04				⇓S	Sg	07 29 25.3	-1.8
KURK	Kurchatov	0.85	357	⇑P	Pb	07 29 17.5	-1.4
	31nm,1.0s						
KURK				⇑S	Sg	07 29 27.6	-1.1
	161nm,0.7s						
SEM	Semipalatinsk	1.14	61	P	Pn	07 29 26.5	+1.9
	2.4nm,0.1s						
SEM				S	Sn	07 29 41.1	+0.1
	116nm,0.8s						
MAKZ	Makanchi	3.76	143	⇑Pn	Pb	07 30 05.4	-3.0
	1.1nm,0.7s						
MAKZ				⇑Pg	Pg	07 30 13.5	+0.3
	8.7nm,0.8s						
MAKZ				⇓Lg	Lg	07 31 05.5	
	48nm,0.8s						
BRZS	Berezniki

MK31 Lg Lg 07 31 10.5
32nm,0.7s,baz=329,slow=26,SNR=23
MKAR Makanchi Array 3.89 141 Pn **Pb 07 30 08.3 -2.4**
0.2nm,0.3s,baz=334,slow=12,SNR=14
MKAR Pg **Pg 07 30 15.3 -0.5**
0.3nm,0.3s,baz=322,slow=13,SNR=20
MKAR Lg Lg 07 31 10.3
2.6nm,0.3s,baz=327,slow=26,SNR=11
1.4nm,0.7s
OTUK Ortayu 4.49 251 Pg **Pg 07 30 26.6 -0.5**
1.2nm,0.7s
OTUK Lg Lg 07 31 25.1
6.6nm,0.8s
OTUK Ortayu 4.49 251 ⇑Pn **Pn 07 30 13.3 +2.9**
1.4nm,0.8s
OTUK ⇓Pg **Pg 07 30 26.2 -0.9**
2.7nm,0.8s
OTUK ⇓Lg Lg 07 31 26.3
15nm,0.8s
KAPS Kapalarasan 4.60 174 Pg **Pg 07 30 28.6 -0.7**
1.7nm,0.1s
KAPS Lg Lg 07 31 28.3
20nm,0.5s
ZSN Zaisan 4.75 118 Pg **Pg 07 30 33.3 +1.2**
4.9nm,0.2s
ZSN Lg Lg 07 31 36.0
29nm,0.9s
TDK Taldyqorghan 4.87 182 Pg **Pg 07 30 33.6 -0.9**
48nm,0.4s
TDK Lg Lg 07 31 36.8
85nm,0.1s
KNOS Konyrlen 5.52 176 Pg **Pg 07 30 47.6 +0.7**
1.8nm,0.3s
KNOS Lg Lg 07 32 01.0
11nm,0.3s
I46RU ZALESOVO INFRA 5.57 40 I I 08 00 00.0
0.1nm,1.1s,baz=224,slow=316,SNR=5.9
ZALV Zalesovo Beam 5.57 40 Pn **Pn 07 30 28.5 +3.2**
0.5nm,0.3s,baz=229,slow=13,SNR=9.7
ZALV Sn **Sn 07 31 27.8 -2.2**
baz=228,slow=23
ZALV Lg Lg 07 31 53.4
baz=232,slow=25
3.7nm,0.8s
DJR Jarkent 5.58 172 Pg **Pg 07 30 48.7 +0.6**
2.9nm,1.3s
DJR Lg Lg 07 32 02.9
11nm,0.6s
ARXS Arharly 5.68 186 Pg **Pg 07 30 49.6 -0.5**
3.9nm,0.4s
ARXS Lg Lg 07 32 04.7
28nm,0.7s
BTLS Baital 5.76 215 Pg **Pg 07 30 50.8 -0.8**
2.7nm,0.7s
BTLS Lg Lg 07 32 06.6
9.0nm,0.8s
BVA0 Borovoye Array 6.08 305 ⇑Sn **Sn 07 31 42.6 0.0**
3.4nm,0.9s,baz=111,slow=24,SNR=8.8
BVA0 ⇑Lg Lg 07 32 15.1
0.6nm,0.9s,baz=115,slow=30,SNR=5.8
BVAR Borovoye Array 6.08 305 Pg **Pb 07 30 46.3 -1.7**
baz=93,slow=19,SNR=2.6
BVAR Sn **Sn 07 31 41.0 -1.6**
0.1nm,0.3s,baz=116,slow=20,SNR=12
BVAR Lg Lg 07 32 12.0
0.1nm,0.3s,baz=114,slow=28,SNR=5.0
CHKK Chushkaly 6.12 192 Pg **Pg 07 30 57.8 -0.7**
1.0nm,0.1s
CHKK Lg Lg 07 32 18.7
32nm,0.9s
BRVK Borovoye 6.16 305 ⇑Sn **Sn 07 31 46.0 +1.7**
2.7nm,0.6s
BRVK ⇑Lg Lg 07 32 17.3
5.0nm,0.8s
KTBS Karatobe 6.31 193 Pg **Pg 07 31 01.4 -0.6**
1.0nm,0.4s
KTBS Lg Lg 07 32 25.0
36nm,0.9s
KURS Kuram 6.39 183 Pg **Pg 07 31 03.7 +0.2**
5.6nm,0.4s
KURS Lg Lg 07 32 28.4
20nm,1.0s
KPKS Kokpek 6.40 180 Pg **Pg 07 31 04.2 +0.5**
2.0nm,0.3s
KPKS Lg Lg 07 32 29.6
66nm,0.5s
KRBS Karabastau 6.51 200 Pg **Pg 07 31 05.7 -0.1**
1.3nm,0.6s
KRBS Lg Lg 07 32 32.3
8.9nm,1.0s
KOTS Kotyrbulak 6.72 190 Pg **Pg 07 31 09.4 -0.5**
2.9nm,0.3s
KOTS Lg Lg 07 32 38.4
35nm,1.0s
UZB Uzynbulak 6.72 178 Pg **Pg 07 31 09.9 0.0**
4.0nm,0.4s
UZB Lg Lg 07 32 39.9
20nm,0.8s
SATY Saty 6.81 182 Pg **Pg 07 31 10.7 -0.9**
1.9nm,0.4s
SATY Lg Lg 07 32 40.1
16nm,0.9s
MTBS Maitube 6.91 194 Pg **Pg 07 31 13.4 -0.3**
1.5nm,0.2s
MTBS Lg Lg 07 32 45.3
17nm,0.7s
DGS Degeres 6.92 198 Pg **Pg 07 31 12.5 -1.3**
1.3nm,0.5s
DGS Lg Lg 07 32 43.6
18nm,0.8s
TNSS Tian-Shan 6.93 191 Pg **Pg 07 31 13.1 -1.0**
2.8nm,0.6s
TNSS Lg Lg 07 32 45.1
5.0nm,0.9s
KST Kastek 7.08 197 Pg **Pg 07 31 15.1 -1.7**
2.7nm,0.6s
KST Lg Lg 07 32 48.0
16nm,0.8s
TKM2 Tokmak 2 7.27 198 ⇓Lg Lg 07 33 00.2
17nm,1.2s
AAK Ala-Archa 7.79 204 Lg Lg 07 33 10.0
0.8nm,0.3s,baz=216,slow=5.9,SNR=13

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*FUNV **14** 07:32:27.9, 10.°31N×62.°61W, h29km, MW3.3*
ISC 14 07:32:25.5±1.4, 9.°6N±0.°2×62.°64W±0.°08, h31km, n6, σ1§91/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.63**	**48**	*e*P	**Pn**	**07 32 52.7**	**+0.6**
TRN				*e*S	**Sn**	**07 33 13.5**	**+1.5**
PCRV	**Puerto La Cruz**	**2.06**	**287**	*e*P	**Pn**	**07 32 59.2**	**+1.2**
TOSP	**Speyside**	**2.69**	**50**	*e*P	**Pb**	**07 33 11.5**	**-1.6**
CACV	**CAICARA DEL OR**	**4.34**	**243**	*e*P	**Pn**	**07 33 30.4**	**+1.0**
CACV				*e*S	**Sn**	**07 34 17.5**	**-1.5**
BENV	**Beln**	**4.90**	**275**	*e*P	**Pn**	**07 33 38.5**	**+1.3**
BENV				*e*S	**Sn**	**07 34 30.3**	**-2.7**
BAUV	**El Baul**	**5.37**	**264**	*e*P	**Pn**	**07 33 46.1**	**+2.6**
BAUV				*e*S	**Sn**	**07 34 44.8**	**+0.4**

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*NEIC **14** 07:37:40.2±1.4, 5.°9S±0.°1×149.°4E±0.°2, h70km±9km, mb4.4/19, Error ellipse: s-maj=25.8km s-min=13.0km az=126.0*
*IDC **14** 07:37:47.8±1.9, 5.°84S×148.°97E, h136km±18km, mb3.6/9, mbtmp4.1/11, Error ellipse: s-maj=34.0km s-min=12.0km az=114.0*
ISC 14 07:37:39.2±1.0, 5.°9S±0.°1×149.°1E±0.°2, h60km, n33, σ0§92/31, mb4.3/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.49**	**62**	Pn	Pn	07 38 27.2	-3.9
PMG	**Port Moresby**	**4.00**	**208**	P	Pn	07 38 46.5	+8.4
	135nm,0.5s,baz=40,slow=5.3,SNR=28						
PMG				S	Sn	07 39 34.2	+10
	157nm,0.5s,baz=306,slow=22,SNR=8.8						
COEN	**Coen**	**9.92**	**215**	Pn	Pn	07 40 04.3	+5.0
MTN	**Manton Dam**	**19.01**	**247**	P	**Pn**	**07 41 57.6**	**0.0**
MTN				IAmb	IAmb	07 41 59.5	
	comp=Z,31nm,0.8s						
GUMO	**Guam**	**19.77**	**348**	P	**P**	**07 42 05.1**	**+0.5**
WB0	**Warramunga Arr**	**19.88**	**225**	P	**Pn**	**07 42 08.4**	**+0.5**
WB0				IAmb	IAmb	07 42 09.4	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**20.03**	**224**	P	**Pn**	**07 42 08.8**	**-0.8**
WRA	**Warramunga Arr**	**20.03**	**224**	P	**Pn**	**07 42 10.1**	**+0.4**
	comp=Z,20nm,0.7s,baz=52,slow=11,SNR=78						
WRA				S	**S**	**07 45 47.6**	**-1.9**
	comp=Z,2.0nm,1.1s,baz=44,slow=19,SNR=6.3						
KNRA	**Kununurra**	**22.19**	**242**	P	**P**	**07 42 31.8**	**+1.1**
AS31	**Alice Springs**	**22.95**	**218**	P	**P**	**07 42 39.4**	**+0.7**
ASAR	**Alice Springs**	**22.95**	**218**	P	**P**	**07 42 40.1**	**+1.4**
ASAR	**Alice Springs**	**22.95**	**218**	P	**P**	**07 42 40.7**	**+2.0**
	comp=Z,2.4nm,0.4s,baz=49,slow=8.8,SNR=60						
	comp=Z,2.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**25.91**	**240**		**P**	**07 43 05.5**	**-0.4**
FITZ				IAmb	IAmb	07 43 09.6	
	comp=Z,6.5nm,0.7s						
FORT	**Forrest**	**31.69**	**216**	P	**P**	**07 43 57.8**	**+0.5**
MBWA	**Marble Bar**	**32.24**	**239**	P	**P**	**07 44 01.9**	**-0.3**
MBWA				IAmb	IAmb	07 44 03.3	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**32.31**	**238**	P	**P**	**07 44 02.8**	**0.0**
PSA00				IAmb	IAmb	07 44 06.9	
	comp=Z,14nm,1.1s						
JOW	**Kunigami**	**38.24**	**329**	P	**P**	**07 44 53.3**	**-0.4**
JNU	**Nakatsue**	**42.45**	**337**	P	**P**	**07 45 29.0**	**+0.6**
JNU				IAmb	IAmb	07 45 30.6	
	comp=Z,15nm,0.9s						
KSRS	**Korea Array**	**47.40**	**337**	P	**P**	**07 46 08.3**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=154,slow=8.6,SNR=11						
	comp=Z,2.9nm,0.7s						
PETK	**Petropavlovsk-**	**59.20**	**6**	P	**P**	**07 47 35.0**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=146,slow=5.5,SNR=6.5						
	comp=Z,1.7nm,0.5s						
SONM	**Songino Array**	**65.31**	**330**	P	**P**	**07 48 15.2**	**+0.1**
SONM	**Songino Array**	**65.31**	**330**	P	**P**	**07 48 15.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=166,slow=3.9,SNR=4.3						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**78.72**	**320**	P	**P**	**07 49 34.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=97,slow=8.1,SNR=6.8						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**80.01**	**327**	P	**P**	**07 49 40.5**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=112,slow=11,SNR=7.2						
	comp=Z,0.8nm,0.5s						
E19K	**Redstone River**	**82.33**	**18**	P	**P**	**07 49 54.5**	**+0.3**
E19K				IAmb	IAmb	07 49 57.8	
	comp=Z,2.4nm,1.1s						
D19K	**Kuna River**	**82.68**	**17**	P	**P**	**07 49 55.6**	**-0.4**
D19K				IAmb	IAmb	07 49 57.7	
	comp=Z,3.2nm,1.2s						
E21K	**Killik River**	**83.90**	**18**	P	**P**	**07 50 02.2**	**-0.1**
E21K				IAmb	IAmb	07 50 15.9	
	comp=Z,4.1nm,1.4s						
QSPA	**South Pole Qui**	**84.10**	**180**	P	**P**	**07 50 03.2**	**-0.4**
QSPA				IAmb	IAmb	07 50 24.3	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**84.10**	**180**	P	**P**	**07 50 03.7**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=151,slow=4.5,SNR=10						
	comp=Z,2.3nm,0.9s						
D22K	**Ayikyak River**	**84.54**	**18**	P	**P**	**07 50 04.9**	**-0.6**
D22K				IAmb	IAmb	07 50 29.3	
	comp=Z,4.6nm,1.5s						
ILAR	**Eielson Array**	**84.55**	**23**	P	**P**	**07 50 04.3**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=253,slow=5.3,SNR=2.2						
	comp=Z,0.4nm,0.8s						
D23K	**Nanushuk River**	**85.20**	**18**	P	**P**	**07 50 08.8**	**0.0**
BVAR	**Borovoye Array**	**87.88**	**324**	P	**P**	**07 50 20.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.8,SNR=2.5						
	comp=Z,0.3nm,0.4s						

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*FUNV **14** 07:45:01.8, 10.°78N×62.°10W, h35km, MW3.5*
*TRN **14** 07:45:01.8, 10.°93N×62.°29W, h93km, MD3.3, North of the Paria peninsula.*
ISC 14 07:45:00.7±1.6, 10.°92N±0.°05×62.°29W±0.°05, h104km±17km, n19, σ1§06/33, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.79**	**108**	*e*P	**Pn**	**07 45 20.0**	**+0.8**
PSMG				*e*S	**Sn**	**07 45 32.4**	**-0.8**
TRN	**Trinidad (W)**	**0.91**	**107**	*e*P	**Pn**	**07 45 21.3**	**+0.8**
TRN				*e*S	**Sn**	**07 45 34.5**	**-0.9**
GRFF	**Grenada Fort F**	**1.25**	**26**	*e*P	**Pn**	**07 45 24.6**	**+0.4**
GRFF				*e*S	**Sn**	**07 45 41.2**	**-0.7**
TBH	**Brigand Hill**	**1.28**	**110**	*e*P	**Pn**	**07 45 25.7**	**+1.1**
GRGR	**Grenville**	**1.35**	**27**	*e*P	**Pn**	**07 45 25.5**	**0.0**
GRGR				*e*S	**Sn**	**07 45 43.4**	**-0.8**
GRW	**Mount Saint Ca**	**1.38**	**27**	*e*P	**Pn**	**07 45 27.0**	**+1.2**
GRW				*e*S	**Sn**	**07 45 43.0**	**-1.8**
TPR	**Prospect**	**1.51**	**80**	*e*P	**Pn**	**07 45 27.8**	**+0.5**
TPR				*e*S	**Sn**	**07 45 48.2**	**+0.7**
GRSS	**Sisters**	**1.52**	**26**	*e*P	**Pn**	**07 45 28.2**	**+0.8**
GRSS				*e*S	**Sn**	**07 45 47.6**	**-0.2**
TOSP	**Speyside**	**1.76**	**78**	*e*P	**Pn**	**07 45 30.4**	**-0.1**
TOSP				*e*S	**Sn**	**07 45 51.5**	**-1.6**
GCMP	**Grenada, Carri**	**1.77**	**28**	*e*P	**Pn**	**07 45 31.1**	**+0.5**
GCMP				*e*S	**Sn**	**07 45 52.6**	**-0.7**
PCRV	**Puerto La Cruz**	**2.42**	**252**	*e*P	**Pn**	**07 45 40.2**	**+1.2**
PCRV				*e*S	**Sn**	**07 46 08.1**	**-0.3**
SVT	**Saint Vincent**	**2.46**	**25**	*e*S	**Sn**	**07 46 09.1**	**0.0**
SVB	**Belmont**	**2.55**	**23**	*e*P	**Pn**	**07 45 40.8**	**+0.2**
SVB				*e*S	**Sn**	**07 46 11.7**	**+0.5**
SLBI	**Saint Lucia, B**	**3.34**	**22**	*e*P	**Pn**	**07 45 51.3**	**+0.2**
SLBI				*e*S	**Sn**	**07 46 29.5**	**-0.5**
BIM	**Bigot**	**3.77**	**18**	*e*P	**Pn**	**07 45 57.6**	**+0.8**
TACV	**Tcata**	**4.72**	**261**	*e*P	**Pn**	**07 46 11.4**	**+1.6**
TACV				*e*S	**Sn**	**07 47 02.5**	**-1.0**
BENV	**Beln**	**5.31**	**260**	*e*P	**Pn**	**07 46 19.3**	**+1.6**
BENV				*e*S	**Sn**	**07 47 16.4**	**-1.3**
CACV	**CAICARA DEL OR**	**5.36**	**232**	*e*P	Pn	07 46 13.5	-4.9
CACV				*e*S	Sn	07 47 06.1	-13
BAUV	**El Baul**	**6.00**	**251**	*e*P	**Pn**	**07 46 27.0**	**0.0**
BAUV				*e*S	**Sn**	**07 47 31.7**	**-2.7**

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*IDC **14** 07:48:19.6±2.0, 10.°76S×112.°54E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=102.2km s-min=20.1km az=48.0*
*DJA **14** 07:48:22.1±0.4, 11.°5±3.°×11.°2E±.°, h10km, M4.2/18, mB4.8/1, mb4.3/5, MLv4.1/18, Mw(mB)4.1/1*
ISC 14 07:48:24.0±1.1, 10.°88S±0.°09×112.°31E±0.°07, h35km, n22, σ1§03/25, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.82**	**24**	P	**Pn**	**07 49 06.9**	**+0.3**
GMJI				S	**Sn**	**07 49 37.9**	**-1.5**
PCJI	**Pacitan**	**2.89**	**337**	P	**Pn**	**07 49 06.3**	**-1.2**
PCJI				S	**Sn**	**07 49 39.1**	**-1.9**
JAGI	**Jajag, Banyuwa**	**3.01**	**37**	P	**Pn**	**07 49 10.1**	**+1.0**
JAGI				S	**Sn**	**07 49 42.9**	**-1.1**
UGM	**Wanagama**	**3.43**	**329**	P	**Pn**	**07 49 15.2**	**+0.2**
UGM				S	**Sn**	**07 49 54.7**	**+0.2**
NGJI	**Ngawi**	**3.59**	**346**	P	**Pn**	**07 49 18.1**	**+1.0**
NGJI				S	**Sn**	**07 49 59.3**	**+1.0**
ABJI	**Asem Bagus**	**3.60**	**32**	P	**Pn**	**07 49 19.3**	**+1.9**
GRJI	**Gresik**	**3.94**	**3**	P	**Pn**	**07 49 21.7**	**-0.3**
GRJI				S	**Sn**	**07 50 07.5**	**+0.5**
SRBI	**Singaraja**	**3.99**	**46**	P	**Pn**	**07 49 22.9**	**+0.2**
SMRI	**Semarang**	**4.23**	**334**	P	**Pn**	**07 49 25.2**	**-0.7**
CMJI	**Cimerak**	**4.89**	**309**	P	**Pn**	**07 49 34.2**	**-0.9**
TWSI	**Taliwang, Sumb**	**4.99**	**65**	P	**Pn**	**07 49 36.4**	**0.0**
PLAI	**Plampang**	**5.76**	**70**	P	**Pn**	**07 49 46.5**	**-0.6**
	0.2nm35nm,1.1s						
CNJI	**Cibinong**	**6.22**	**304**	P	**Pn**	**07 49 52.4**	**-0.9**
BKSI	**Bulukumba**	**9.50**	**55**	P	**Pn**	**07 50 39.5**	**+1.1**
WRA	**Warramunga Arr**	**23.05**	**116**	P	**P**	**07 53 25.1**	**-1.4**
	1.9nm,0.6s,baz=289,slow=11,SNR=10						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**24.18**	**125**	P	**P**	**07 53 36.5**	**-0.8**
	0.6nm,0.6s,baz=302,slow=9.2,SNR=11						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**34.17**	**132**	P	**P**	**07 55 06.2**	**+0.2**
	1.8nm,0.8s,baz=291,slow=10.0,SNR=5.1						
	1.8nm,0.8s						
H08S2	**Diego Garcia H**	**39.40**	**271**	T	T	08 37 51.3	
	baz=98,slow=75,SNR=5.2						
H08S3	**Diego Garcia H**	**39.42**	**271**	T	T	08 37 53.5	
	baz=98,slow=75,SNR=4.7						
H08S1	**Diego Carcia H**	**39.42**	**271**	T	T	08 37 52.9	
	baz=98,slow=75,SNR=5.9						
MKAR	**Makanchi Array**	**63.38**	**337**	P	**P**	**07 58 50.8**	**+1.0**
	0.5nm,0.6s,baz=132,slow=7.8,SNR=8.0						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**68.66**	**343**	P	**P**	**07 59 24.1**	**+0.6**
	1.3nm,0.5s,baz=158,slow=4.7,SNR=5.0						
	1.3nm,0.5s						

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*ASRS **14** 08:10:07.0±0.7, 55.°54N×86.°15E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 14 08:10:08.5±3.0, 55.°57N×86.°72E, h0km, mbtmp3.2/3, ML2.4/3, Error ellipse: s-maj=27.6km s-min=19.1km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**215**	I	I	08 19 50.0	
	baz=28,slow=337,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.96**	**215**	Pn	Pn	08 10 41.6	-1.4
	2.4nm,0.3s,baz=35,slow=16,SNR=15						
ZALV				Lg	Lg	08 11 11.2	
	4.8nm,0.3s,baz=34,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.99**	**228**	Pn	Pn	08 11 51.2	-0.8
	baz=43,slow=14,SNR=1.5						
KURBB				Lg	Lg	08 13 53.3	
	0.1nm,0.3s,baz=49,slow=34,SNR=4.4						
	1.2nm,0.2s						
MKAR	**Makanchi Array**	**9.21**	**199**	Pn	Pn	08 12 23.1	+0.6
	baz=14,slow=6.7,SNR=1.8						
MKAR				Sn	Sn	08 14 04.7	-2.1
	baz=20,slow=29,SNR=1.2						
MKAR				Lg	Lg	08 15 01.9	
	baz=6.3,slow=28,SNR=1.8						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**9.88**	**262**	Pn	Pn	08 12 31.3	-0.3
	baz=66,slow=14,SNR=2.3						
	0.6nm,0.4s						

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*MOS **14** 08:24:21.6±0.8, 46.°42N×136.°07E, h441km, mb4.1/8, Error ellipse: s-maj=12.5km s-min=7.9km az=110.7*
*NEIC **14** 08:24:22.7±0.9, 46.°4N±0.°1×136.°1E±0.°1, h434km±9km, mb4.0/17, Error ellipse: s-maj=17.4km s-min=9.2km az=215.0*
*IDC **14** 08:24:22.4±0.8, 46.°45N×136.°06E, h433km±9km, mb3.3/20, mbtmp4.2/29, Error ellipse: s-maj=12.4km s-min=8.9km az=67.0*
*SKHL **14** 08:24:22.2±0.6, 46.°40N×136.°10E, h436km±2km, mb4.3/8*
ISC 14 08:24:22.9±0.5, 46.°36N±0.°06×136.°12E±0.°06, h450km, n89, σ1§22/98, mb3.8/29, 6C-1D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.37**	**166**	⇓*i*P	**P**	**08 25 18.9**	**-1.6**
TEY				AMB	AMB	08 25 19.0	
	40nm,0.3s						
TEY				*e*S	**S**	**08 26 03.1**	**-3.9**
TEY				A	A	08 26 03.1	
	40nm,0.8s						
TEY				A	A	08 26 03.1	
	50nm,0.8s						
KHBR	**Khabarovsk**	**2.23**	**342**	⇑*i*P	**P**	**08 25 23.8**	**-0.8**
KHBR				AMB	AMB	08 25 23.9	
	80nm,0.3s						
KHBR				*e*S	**S**	**08 26 12.0**	**-2.9**
USA0B	**Ussuriysk Arra**	**3.63**	**235**	P	**P**	**08 25 33.1**	**-1.8**
USA0B	**Ussuriysk Arra**	**3.63**	**235**	P	**P**	**08 25 33.1**	**-1.8**
USRK	**Ussuriysk Ar.**	**3.63**	**235**	P	**P**	**08 25 33.5**	**-1.4**
	4.6nm,0.4s,baz=57,slow=10,SNR=9.6						
GRTR	**Gornotajezhnoj**	**3.87**	**228**	⇑*i*P	**P**	**08 25 36.2**	**-0.7**
GRTR				AMB	AMB	08 25 36.5	
	10.0nm,0.6s						
KLR	**Kul'dur**	**4.11**	**316**	P	**P**	**08 25 37.5**	**-1.4**
	41nm,0.6s,baz=146,slow=5.9,SNR=170						
KLR				S	**S**	**08 26 37.3**	**-3.6**
	1.1nm,0.5s,baz=30,slow=20,SNR=0.8						
KLR	**Kul'dur**	**4.11**	**316**	*e*P	**P**	**08 25 36.8**	**-2.1**
KLR				pmax	pmax		
	comp=Z,41nm,0.7s						
KLR	**Kul'dur**	**4.11**	**316**	⇑*i*P	**P**	**08 25 38.1**	**-0.8**
KLR				*e*S	**S**	**08 26 38.2**	**-2.7**
GRNR	**Gornyy**	**4.42**	**2**	⇑*i*P	**P**	**08 25 41.0**	**-0.6**
GRNR				pmax	pmax		
	comp=N,10.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,160nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,130nm,13.0s						
GRNR	**Gornyy**	**4.42**	**2**	⇑*i*P	**P**	**08 25 41.0**	**-0.6**
GRNR				AMB	AMB	08 25 41.5	
	comp=Z,30nm,0.6s						
YSS	**Yuzhno-Sakhali**	**4.61**	**80**	P	**P**	**08 25 42.9**	**-0.5**
YSS	**Yuzhno-Sakhali**	**4.61**	**80**	*e*P	**P**	**08 25 43.4**	**0.0**
YSS				*e*S	**S**	**08 26 45.0**	**-4.1**
YSS				pmax	pmax		
	comp=Z,80nm,0.7s						
YSS	**Yuzhno-Sakhali**	**4.61**	**80**	*e*P	**P**	**08 25 43.5**	**0.0**
ASAJ	**Asahikawa**	**5.09**	**114**	P	**P**	**08 25 47.4**	**-0.7**
	comp=Z,25nm,0.4s,baz=285,slow=7.8,SNR=42						
JKA	**Kamikawa-asahi**	**5.10**	**114**	P	**P**	**08 25 47.4**	**-0.8**
JKA	**Kamikawa-asahi**	**5.10**	**114**	P	**P**	**08 25 47.4**	**-0.8**
PSTR	**Posyet**	**5.31**	**228**	*e*P	**P**	**08 25 50.3**	**0.0**
PSTR				AMB	AMB	08 25 50.6	
	comp=Z,20nm,0.5s						
JTM	**Tenmabayashi**	**6.63**	**145**	P	**P**	**08 26 01.8**	**-2.0**
ERM	**Erimo**	**6.67**	**128**	P	**P**	**08 26 03.8**	**-0.3**
ERM	**Erimo**	**6.67**	**128**	P	**P**	**08 26 03.8**	**-0.3**
EKMR	**Ekimchan**	**7.02**	**344**	⇑*i*P	**P**	**08 26 07.1**	**-0.6**
EKMR				AMB	AMB	08 26 07.7	
	comp=Z,30nm,0.6s						
SHO	**Shikotan**	**7.97**	**104**	*e*P	**P**	**08 26 17.1**	**-0.9**
SHO				AMB	AMB	08 26 17.3	
	comp=Z,20nm,0.7s						
SHO				*e*S	**S**	**08 27 47.8**	**-4.6**
JMM	**Marumori**	**9.17**	**156**	P	**P**	**08 26 29.5**	**-1.6**
MJB9	**Matsu-Tunnel**	**9.93**	**170**	P	**P**	**08 26 40.2**	**+0.8**
MAJO	**Matsushiro**	**9.93**	**170**	P	**P**	**08 26 39.9**	**+0.5**
MAJO	**Matsushiro**	**9.93**	**170**	P	**P**	**08 26 39.9**	**+0.5**
MJAR	**Matsushiro Arr**	**9.94**	**170**	P	**P**	**08 26 40.0**	**+0.6**
	comp=Z,10nm,0.6s,baz=359,slow=9.6,SNR=39						
MJAR	**Matsushiro Arr**	**9.94**	**170**	P	**P**	**08 26 40.0**	**+0.6**
KSRS	**Korea Array**	**10.79**	**217**	P	**P**	**08 26 49.4**	**+0.8**
	comp=Z,3.7nm,0.7s,baz=34,slow=11,SNR=13						
JGF	**Kuroka**	**10.79**	**175**	P	**P**	**08 26 48.9**	**+0.2**
INU	**Inuyama**	**11.02**	**176**	P	**P**	**08 26 51.0**	**-0.2**
HIA	**Hailar**	**11.39**	**291**	P	**P**	**08 26 54.8**	**-0.2**
HIA	**Hailar**	**11.39**	**291**	P	**P**	**08 26 54.8**	**-0.2**
JMN	**Monobe**	**12.73**	**189**	P	**P**	**08 27 10.2**	**+0.4**
JHJ	**Hachijo jima 2**	**13.52**	**167**	P	**P**	**08 27 18.9**	**+0.6**
	comp=Z,61nm,0.5s,baz=83,slow=23,SNR=6.0						
JNU	**Nakatsue**	**13.82**	**199**	P	**P**	**08 27 21.1**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=94,slow=4.5,SNR=4.6						
MA2	**Magadan**	**15.85**	**28**	P	**P**	**08 27 42.2**	**-0.5**
MA2	**Magadan**	**15.85**	**28**	P	**P**	**08 27 42.5**	**-0.2**
	comp=Z,5.8nm,0.7s,baz=219,slow=9.7,SNR=11						
SEY	**Seymchan**	**18.98**	**23**	P	**P**	**08 28 14.5**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=202,slow=8.7,SNR=11						
SONM	**Songino Array**	**20.24**	**285**	P	**P**	**08 28 26.2**	**-0.2**
SONM				IAmb	IAmb	08 28 27.4	
	comp=Z,5.2nm,0.9s						
SONM	**Songino Array**	**20.24**	**285**	P	**P**	**08 28 26.1**	**-0.3**
	comp=Z,6.2nm,0.7s,baz=83,slow=9.0,SNR=30						
	comp=Z,6.2nm,0.7s						
SONM	**Songino Array**	**20.24**	**285**	P	**P**	**08 28 26.2**	**-0.2**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**33.09**	**302**	P	**P**	**08 30 19.7**	**+0.2**
ZALV	**Zal

KURK				IAmb	IAmb	08 30 57.2	
	comp=Z,4.3nm,0.6s						
KURK	**Kurchatov**	**37.50**	**298**	P	**P**	**08 30 56.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**37.50**	**298**	P	**P**	**08 30 56.7**	**+0.2**
KURBB	**Kurchatov Arra**	**37.58**	**298**	P	**P**	**08 30 57.2**	**0.0**
	comp=Z,4.4nm,0.5s,baz=73,slow=8.9,SNR=8.0						
KURBB				PcP	**PcP**	**08 33 04.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=44,slow=4.1,SNR=1.7						
	comp=Z,4.4nm,0.5s						
C18K	**Utukok River**	**38.03**	**32**	P	**P**	**08 31 00.9**	**+0.2**
G18K	**Tagagawik**	**39.02**	**36**	P	**P**	**08 31 08.9**	**+0.1**
G18K				IAmb	IAmb	08 31 12.9	
	comp=Z,5.1nm,1.5s						
D19K	**Kuna River**	**39.16**	**32**	P	**P**	**08 31 09.8**	**-0.1**
B20K	**Meade River**	**39.51**	**30**	P	**P**	**08 31 13.2**	**+0.6**
B21K	**Ikpikpuk River**	**40.40**	**30**		**P**	**08 31 20.0**	**+0.2**
B21K				IAmb	IAmb	08 31 21.3	
	comp=Z,3.7nm,0.6s						
KDJ	**Kajisay**	**41.59**	**286**	P	**P**	**08 31 30.8**	**+0.8**
KDJ	**Kajisay**	**41.59**	**286**	P	**P**	**08 31 30.8**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVAR	**Borovoye Array**	**41.68**	**304**	P	**P**	**08 31 30.9**	**+0.6**
	comp=Z,4.0nm,0.3s,baz=84,slow=10,SNR=31						
BVAR				PcP	**PP**	**08 33 17.9**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=81,slow=3.0,SNR=3.9						
	comp=Z,4.0nm,0.3s						
BOOM	**Boomskoye usch**	**42.25**	**287**	P	**P**	**08 31 36.8**	**+1.5**
BOOM				IAmb	IAmb	08 31 37.6	
	comp=Z,5.2nm,0.7s						
BOOM	**Boomskoye usch**	**42.25**	**287**	P	**P**	**08 31 36.8**	**+1.5**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AAK	**Ala-Archa**	**43.14**	**288**	P	**P**	**08 31 42.4**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=72,slow=6.4,SNR=3.3						
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**44.06**	**37**	P	**P**	**08 31 49.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=283,slow=7.0,SNR=6.0						
	comp=Z,0.5nm,0.7s						
KK31	**Karatay Array**	**45.52**	**291**	P	**P**	**08 32 01.2**	**+0.6**
KK31				IAmb	IAmb	08 32 02.1	
	comp=Z,2.8nm,0.6s						
KK31	**Karatay Array**	**45.52**	**291**	P	**P**	**08 32 01.2**	**+0.6**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**45.52**	**291**	P	**P**	**08 32 01.1**	**+0.5**
KKAR	**Karatay Array**	**45.52**	**291**	P	**P**	**08 32 01.4**	**+0.8**
KKAR				IAmb	IAmb	08 32 02.0	
	comp=Z,1.7nm,0.7s						
KKAR	**Karatay Array**	**45.52**	**291**	P	**P**	**08 32 01.4**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
H29M	**Whitestone**	**47.05**	**34**	P	**P**	**08 32 13.2**	**+1.3**
ARTI	**Arti**	**47.05**	**312**	P	**P**	**08 32 11.6**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=102,slow=1.0,SNR=5.1						
	comp=Z,1.4nm,0.3s						
ABKAR	**Akbulak array**	**49.20**	**303**	P	**P**	**08 32 28.8**	**+0.5**
ABKAR				IAmb	IAmb	08 32 30.2	
	comp=Z,4.6nm,0.7s						
AKTO	**Aktyubinsk**	**49.77**	**305**	P	**P**	**08 32 32.2**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=73,slow=9.3,SNR=4.9						
	comp=Z,1.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**50.58**	**347**	P	**P**	**08 32 38.5**	**+0.5**
	comp=Z,4.1nm,1.1s,baz=104,slow=12,SNR=0.8						
	comp=Z,4.1nm,1.1s						
ARCES	**ARCESS Array B**	**53.88**	**336**	P	**P**	**08 33 01.2**	**-0.7**
	comp=Z,4.6nm,1.0s,baz=45,slow=5.8,SNR=3.8						
	comp=Z,4.6nm,1.0s						
YKA	**Yellowknife Ar**	**57.81**	**31**	P	**P**	**08 33 29.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=312,slow=7.0,SNR=6.4						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**58.76**	**328**	P	**P**	**08 33 35.8**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=59,slow=7.5,SNR=17						
FINES				PcP	**PcP**	**08 34 19.6**	**-0.3**
	comp=Z,3.5nm,1.1s,baz=46,slow=6.0,SNR=3.6						
	comp=Z,1.6nm,0.4s						
KBZ	**Khabaz**	**62.05**	**305**	P	**P**	**08 33 59.1**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=50,slow=2.9,SNR=4.2						
	comp=Z,2.2nm,0.8s						
HFS	**Hagfors**	**63.98**	**332**	P	**P**	**08 34 10.3**	**0.0**
	comp=Z,0.9nm,0.3s,baz=36,slow=5.9,SNR=1.6						
	comp=Z,0.9nm,0.3s						
NOA	**NORSAR Array B**	**64.07**	**334**	P	**P**	**08 34 11.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=37,slow=6.7,SNR=1.5						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**64.61**	**318**	P	**P**	**08 34 14.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=46,slow=6.8,SNR=7.4						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**66.01**	**182**	P	**P**	**08 34 24.9**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=359,slow=6.7,SNR=21						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**69.72**	**182**	P	**P**	**08 34 48.1**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=358,slow=5.7,SNR=21						
	comp=Z,0.7nm,0.4s						
MZP	**Montezuma Peak**	**73.54**	**52**	P	**P**	**08 35 09.9**	**+0.8**
STKA	**Stephens Creek**	**78.03**	**175**	P	**P**	**08 35 35.9**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=331,slow=19,SNR=3.3						
	comp=Z,0.5nm,0.4s						

*GCG **14** 08:30:52.4±1.8, 14°.76N×93°.63W, h36km±999km, MD4.4*
*MEX **14** 08:30:52.1±0.7, 14°.75N×93°.73W, h22km±55km, MD4.0*
ISC 14 08:30:49.0±3.0,**14°.8N**±0°.1×**93°.75W**±0°.08,**h25**km±17km,
n13,σ1§**01**/25,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.03**	**30**	*eP*	**Pb**	**08 31 08.6**	**+0.5**
PCIG				*i S*	**Sb**	**08 31 21.8**	**+0.6**
CARR	**Arriaga**	**1.44**	**354**	*eP*	**Pn**	**08 31 13.8**	**+0.3**
CARR				*i S*	**Sn**	**08 31 31.2**	**-0.3**
PATR	**El Naranjo**	**1.49**	**78**	*eP*	**Pn**	**08 31 15.2**	**+0.7**
PATR				*i S*	**Sn**	**08 31 32.1**	**-1.1**
PAVE	**Pavencul**	**1.56**	**76**	*eP*	**Pn**	**08 31 16.5**	**+1.1**
PAVE				*i S*	**Sn**	**08 31 34.1**	**-0.9**
NILT	**Santiago Nilte**	**1.94**	**334**	*eP*	**Pn**	**08 31 20.2**	**-0.1**
NILT				*i S*	**Sn**	**08 31 43.3**	**-0.5**
TGIG		**2.05**	**17**	*eP*	**Pb**	**08 31 24.8**	**-0.8**
TGIG				*eS*	**Sb**	**08 31 49.7**	**-1.0**
TGIG		**2.05**	**17**	*eP*	**Pb**	**08 31 24.7**	**-0.9**
TGIG				*i S*	**Sb**	**08 31 49.5**	**-1.1**
TGIG		**2.05**	**17**	*eP*		08 31 24.7	
TGIG				*i S*		08 31 49.5	
CCIG	**Comitan**	**2.13**	**46**	*eP*	**Pb**	**08 31 27.2**	**0.0**
CCIG				*i S*	**Sb**	**08 31 53.5**	**+0.3**
CCIG	**Comitan**	**2.13**	**46**	*eP*	**Pb**	**08 31 27.1**	**0.0**
CCIG	**Comitan**	**2.13**	**46**	*eP*		08 31 27.1	
HUEH	**Huehuetenango**	**2.23**	**77**	*eP*	**Pn**	**08 31 24.8**	**+0.3**
HUEH				*i S*	**Sb**	**08 31 55.5**	**-0.4**
STG8	**El Palmar, Qui**	**2.35**	**98**	*eP*		08 31 23.7	
STG0	**El Palmar, Qui**	**2.36**	**99**	*eP*		08 31 24.1	
CMIG	**Matias Romero**	**2.52**	**334**	*eP*	**Pn**	**08 31 29.1**	**+0.8**
CMIG				*eS*	**Sn**	**08 31 56.8**	**-1.5**
UXUV	**UXUV**	**2.52**	**351**	*eP*	**Pn**	**08 31 31.4**	**+3.0**
UXUV				*eS*	**Sn**	**08 31 59.0**	**+0.6**
NEUV	**Arroyo Zacate**	**3.50**	**326**	*eP*	**Pn**	**08 31 42.5**	**+0.7**
NEUV				*i S*	**Sn**	**08 32 22.1**	**-0.3**

IDC 14 08:33:01.6±2.7,**31°.17S**×**59°.12E**,**h0**km,**mb3.8**/3,
mbtmp3.8/3,**Error ellipse: s-maj=85.9km s-min=49.1km**
az=48.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**16.01**	**199**	T	T	08 53 33.6	
	baz=24,slow=74						
H04N1	**CROZET ISLANDS**	**16.01**	**199**	T	T	08 53 32.6	
	baz=24,slow=74						
H04N3	**CROZET ISLANDS**	**16.03**	**199**	T	T	08 53 21.8	
	baz=24,slow=74						
CMAR	**Chiang Mai Arr**	**62.44**	**43**	P	P	08 43 26.7	-0.1
	1.1nm,0.3s,baz=216,slow=6.7,SNR=8.6						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**65.68**	**104**	P	P	08 43 48.0	-0.2
	0.3nm,0.7s,baz=241,slow=5.5,SNR=4.7						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**67.65**	**100**	P	P	08 44 01.2	+0.4
	0.9nm,0.8s,baz=245,slow=6.0,SNR=3.9						
	0.9nm,0.8s						
YKA	**Yellowknife Ar**	**148.40**	**354**	PKPbc	PKPbc	08 52 48.6	-0.7
	0.5nm,0.8s,baz=6.5,slow=2.2,SNR=9.2						

*GCG **14** 08:47:06.5±1.7, 14°.68N×93°.71W, h37km±999km, MD4.1*
*MEX **14** 08:47:09.1±1.0, 14°.79N×93°.68W, h15km±29km, MD3.9*
ISC 14 08:47:02.1±2.2,**14°.80N**±0°.10×**93°.77W**±0°.05,**h9**km±13km,
n12,σ1§**33**/23,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.04**	**31**	*eP*	**Pn**	**08 47 24.5**	**+1.7**
PCIG				*eS*	**Sn**	**08 47 37.6**	**+0.1**
CARR	**Arriaga**	**1.44**	**355**	*eP*	**Pb**	**08 47 29.7**	**+0.6**
CARR				*eS*	**Sn**	**08 47 46.5**	**-0.9**
PATR	**El Naranjo**	**1.52**	**78**	*eP*	**Pg**	**08 47 30.9**	**-0.3**
PATR				*i S*	**Sn**	**08 47 47.3**	**-2.3**
PAVE	**Pavencul**	**1.59**	**76**	*eP*	**Pg**	**08 47 32.3**	**-0.3**
PAVE				*i S*	**Sb**	**08 47 51.0**	**-1.0**
NILT	**Santiago Nilte**	**1.93**	**335**	*eP*	**Pb**	**08 47 38.3**	**+0.9**
NILT				*i S*	**Sn**	**08 48 00.4**	**+0.9**
TGIG		**2.06**	**18**	*eP*	**Pb**	**08 47 40.4**	**+0.7**
TGIG				*eS*	**Sb**	**08 48 05.5**	**+0.1**
TGIG		**2.06**	**18**	*eP*	**Pb**	**08 47 40.5**	**+0.8**
TGIG				*eS*	**Sb**	**08 48 05.6**	**+0.1**
TGIG		**2.06**	**18**	*eP*		08 47 40.5	
TGIG				*eS*		08 48 05.6	
CCIG	**Comitan**	**2.15**	**47**	*eP*	**Pb**	**08 47 42.3**	**+0.9**
CCIG				*eS*	**Sb**	**08 48 09.2**	**+1.0**
CCIG	**Comitan**	**2.15**	**47**	*eS*	**Sg**	**08 48 10.0**	**-1.3**
CCIG	**Comitan**	**2.15**	**47**	*eS*		08 48 10.0	
STG8	**El Palmar, Qui**	**2.37**	**98**	*eP*		08 47 39.6	
STG8				*eS*		08 48 04.3	
STG0	**El Palmar, Qui**	**2.38**	**99**	*eP*		08 47 39.8	
CMIG	**Matias Romero**	**2.51**	**335**	*eP*	**Pn**	**08 47 45.1**	**+2.0**
CMIG				*eS*	**Sn**	**08 48 11.7**	**-2.2**
UXUV	**UXUV**	**2.53**	**352**	*eP*	**Pb**	**08 47 47.5**	**-0.1**
UXUV				*eS*	**Sb**	**08 48 17.1**	**-1.7**
NEUV	**Arroyo Zacate**	**3.49**	**326**	*eP*	**Pn**	**08 47 56.8**	**+0.3**
NEUV				*eS*	**Sn**	**08 48 35.7**	**-2.2**

*KRNET **14** 08:48:55.7±0.1, 40°.27N×76°.70E, mb3.0*
*NNC **14** 08:49:07.0±1.9, 40°.69N×76°.72E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=14.3km s-min=9.8km az=157.0
ISC 14 08:48:57.5±2.0,**40°.31N**±0°.07×**76°.76E**±0°.05,**h7**km±12km,
n31,σ1§**48**/45,**21C-12D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.63**	**29**	⇓*iP*	**Pn**	**08 49 27.2**	**+0.1**
TARG				⇓*iS*	**Sg**	**08 49 50.0**	**+0.1**
KDJ	**Kajisay**	**1.85**	**10**	⇑*iP*	**Pn**	**08 49 30.8**	**+0.9**
KDJ				⇑*iS*	**Sg**	**08 49 56.4**	**-0.6**
ULHL	**Ulahol**	**1.98**	**349**	⇓*iP*	**Pn**	**08 49 32.6**	**+0.9**
ULHL				⇓*iS*	**Sg**	**08 49 59.7**	**-1.4**
BOOM	**Boomskoye usch**	**2.27**	**345**	⇑*iP*	**Pn**	**08 49 36.7**	**+1.1**
BOOM				⇑*iS*	**Sb**	**08 50 06.5**	**-0.8**
SALK	**Salom-Alik**	**2.31**	**285**	⇑*iP*	**Pn**	**08 49 36.4**	**+0.2**
SALK				⇑*iS*	**Sn**	**08 50 06.2**	**+1.2**
ARLS	**Aral**	**2.41**	**311**	⇑*iP*	**Pn**	**08 49 38.0**	**+0.4**
ARLS				⇑*iS*	**Sb**	**08 50 08.8**	**-2.5**
PRZ	**Przheval'sk**	**2.50**	**29**	⇑*eP*	**Pn**	**08 49 40.2**	**+1.3**
PRZ				⇑*eS*	**Sb**	**08 50 13.1**	**-1.0**
SFK	**Sufi-Kurgan**	**2.51**	**264**	⇑*iP*	**Pn**	**08 49 39.0**	**0.0**
SFK				⇑*iS*	**Sn**	**08 50 10.9**	**+0.9**
ANVS	**Anan'yevo**	**2.57**	**15**	⇑*eP*	**Pn**	**08 49 41.4**	**+1.6**
ANVS				⇑*eS*	**Sb**	**08 50 14.5**	**-1.4**
KBK	**Karagaybulak**	**2.71**	**331**	⇓*iP*	**Pn**	**08 49 42.6**	**+0.8**
KBK				⇓*iS*	**Sb**	**08 50 17.0**	**-3.1**
TNSS	**Tian-Shan**	**2.73**	**3**	Pg	**Pg**	**08 49 52.3**	**+2.3**
TNSS	13nm,0.6s						
				Lg	Lg	08 50 23.5	
	9.5nm,0.6s						
TKM2	**Tokmak 2**	**2.75**	**342**	⇑Pn	**Pn**	**08 49 44.5**	**+2.1**
	4.2nm,0.5s						
TKM2				⇓Lg	Lg	08 50 21.3	
	3.8nm,0.4s						
TKM2	**Tokmak 2**	**2.75**	**342**	⇑*iP*	**Pn**	**08 49 43.4**	**+1.0**
TKM2				⇑*iS*	**Sb**	**08 50 18.3**	**-3.0**
KST	**Kastek**	**2.80**	**348**	Pg	**Pg**	**08 49 53.1**	**+1.9**
	7.3nm,0.4s						
KST				Lg	Lg	08 50 24.9	
	11nm,0.7s						
MTBS	**Maitube**	**2.83**	**355**	Pg	**Pg**	**08 49 53.1**	**+1.3**
	7.0nm,0.4s						
MTBS				Lg	Lg	08 50 24.9	
	12nm,0.3s						
AAK	**Ala-Archa**	**2.88**	**325**	⇑Pn	**Pb**	**08 49 48.2**	**-1.2**
	24nm,0.7s						
AAK				Lg	Lg	08 50 25.9	
	31nm,1.3s						
AAK	**Ala-Archa**	**2.88**	**325**	⇑*eP*	**Pn**	**08 49 44.8**	**+0.7**
AAK				⇑*iS*	**Sn**	**08 50 20.8**	**+1.6**
KOTS	**Kotyrbulak**	**2.94**	**5**	Pg	**Pg**	**08 49 54.8**	**+1.0**
	10nm,0.5s						
KOTS				Lg	Lg	08 50 27.9	
	35nm,0.6s						
AML	**Almayashu**	**2.94**	**309**	⇓*iP*	**Pn**	**08 49 45.7**	**+0.6**
AML				⇓*iS*	**Sn**	**08 50 22.2**	**+1.3**
SATY	**Saty**	**3.02**	**24**	Pg	**Pg**	**08 49 56.2**	**+0.9**
	12nm,0.9s						
SATY				Lg	Lg	08 50 30.3	
	18nm,0.3s						
DGS	**Degeres**	**3.02**	**346**	Pg	**Pg**	**08 49 57.1**	**+1.6**
	10nm,0.7s						
DGS				Lg	Lg	08 50 31.8	
	6.5nm,0.4s						
EKS2	**Erkin-Say**	**3.25**	**317**	⇓*iP*	**Pn**	**08 49 49.8**	**+0.7**
EKS2				⇓*iS*	**Sn**	**08 50 29.4**	**+1.3**
UZB	**Uzynbulak**	**3.31**	**30**	Pg	**Pg**	**08 50 02.2**	**+1.3**
	4.6nm,0.2s						
UZB				Lg	Lg	08 50 40.6	
	7.0nm,0.4s						
KURS	**Kuram**	**3.35**	**18**	Pg	**Pg**	**08 50 02.5**	**+0.7**
	5.4nm,1.1s						
KURS				Lg	Lg	08 50 40.9	
	5.5nm,0.7s						
KTBS	**Karatobe**	**3.40**	**359**	Pg	**Pg**	**08 50 03.5**	**+0.7**
	4.2nm,0.4s						
KTBS				Lg	Lg	08 50 42.5	
	12nm,0.8s						
KPKS	**Kokpek**	**3.47**	**24**	Pg	**Pg**	**08 50 03.6**	**-0.4**
	7.9nm,0.4s						
KPKS				Lg	Lg	08 50 42.9	
	20nm,0.6s						
CHKK	**Chushkaly**	**3.55**	**3**	Pg	**Pg**	**08 50 05.8**	**+0.2**
	2.4nm,0.2s						
CHKK				Lg	Lg	08 50 46.6	
	14nm,0.3s						
MRKS	**Merke**	**3.60**	**314**	Pg	**Pg**	**08 50 10.3**	**+3.8**
	4.0nm,0.7s						
MRKS				Lg	Lg	08 50 54.3	
	4.6nm,0.6s						
ARXS	**Arharly**	**3.98**	**11**	Pg	**Pg**	**08 50 13.3**	**-0.5**
	4.9nm,0.6s						
ARXS				Lg	Lg	08 50 59.4	
	6.7nm,0.7s						
KNOS	**Konyrlen**	**4.43**	**23**	Pg	**Pg**	**08 50 21.6**	**-0.8**
	3.0nm,0.7s						
KNOS				Lg	Lg	08 51 13.8	
	15nm,0.2s						
KK31	**Karatay Array**	**5.45**	**303**	⇑Pg	**Pg**	**08 50 41.0**	**-0.8**
	1.3nm,0.7s,baz=128,slow=16,SNR=5.1						
KK31				⇓Lg	Lg	08 51 53.5	
	1.3nm,0.7s						

*SNET **14** 08:49:58.9±1.0, 12°.43N×89°.52W, h13km±5km, ML3.5*
*GCG **14** 08:49:59.9±1.0, 12°.43N×89°.65W, h25km±17km, MD4.3*
*CATAC **14** 08:49:59.7±1.0, 12°N±5°×9°0W±°, h32km±25km, M3.7/6,*
MLv3.7/6, Error ellipse: s-maj=16.0km s-min=4.7km
az=53.5, confirmed
ISC 14 08:49:58.6±2.2,**12°.38N**±0°.07×**89°.54W**±0°.07,**h23**km±17km,
n60,σ0§**70**/72,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.27**	**4**	*eP*	**Pn**	**08 50 20.9**	**-0.2**
JAYA				*eS*	**Sn**	**08 50 36.9**	**-0.7**
JAYA				IAML		08 50 41.6	
	comp=Z,972nm,0.3s						
JAYA	**Jayaque - finc**	**1.27**	**4**	P	**Pn**	**08 50 21.0**	**-0.2**
JAYA	**Jayaque - finc**	**1.27**	**4**	S	**Sb**	**08 50 38.8**	**+0.7**
JAYA	**Jayaque - finc**	**1.27**	**4**	*eP*	**Pn**	**08 50 20.9**	**-0.2**
JAYA				*eS*	**Sb**	**08 50 38.6**	**+0.5**
JAYA	**Jayaque - finc**	**1.27**	**4**	*eP*		08 50 20.9	
JAYA				*eS*		08 50 38.6	
LOMA	**Loma Larga**	**1.31**	**16**	*eP*	**Pn**	**08 50 21.8**	**+0.1**
LOMA				*eS*	**Sb**	**08 50 39.1**	**+0.1**
LOMA	**Loma Larga**	**1.31**	**16**	P	**Pn**	**08 50 21.9**	**+0.3**
PMON	**Piamonte**	**1.34**	**9**	*eP*	**Pn**	**08 50 22.4**	**+0.3**
PMON				*eS*	**Sb**	**08 50 39.7**	**-0.4**
PMON	**Piamonte**	**1.34**	**9**	P	**Pn**	**08 50 22.8**	**+0.7**
UEES	**Universidad Ev**	**1.36**	**12**	P	**Pn**	**08 50 23.0**	**+0.7**
TECO	**Alcaldia de Te**	**1.37**	**33**	*eP*	**Pn**	**08 50 21.9**	**-0.5**
TECO				*eS*	**Sb**	**08 50 40.5**	**-0.2**
TECO	**Alcaldia de Te**	**1.37**	**33**	P	**Pn**	**08 50 22.1**	**-0.3**
BOQS	**Boqueron**	**1.37**	**11**	*eP*	**Pn**	**08 50 23.3**	**+0.7**
BOQS				*eS*	**Sb**	**08 50 41.1**	**+0.1**
UDBS	**Universidad Do**	**1.38**	**16**	P	**Pn**	**08 50 22.4**	**-0.2**
PIC2	**El Picacho**	**1.39**	**11**	*eP*	**Pn**	**08 50 23.4**	**+0.6**
COEG	**Centro de Oper**	**1.39**	**27**	*eP*	**Pn**	**08 50 22.3**	**-0.4**
COEG				IAML		08 50 46.7	
	comp=Z,360nm,0.4s						
LFU	**La Fuente**	**1.42**	**17**	*eP*	**Pn**	**08 50 23.7**	**+0.5**
CEVE	**Cerro Verde**	**1.44**	**357**	*eP*	**Pn**	**08 50 23.6**	**0.0**
CEVE				IAML		08 50 49.3	
	comp=Z,864nm,0.5s						
CEVE	**Cerro Verde**	**1.44**	**357**	P	**Pn**	**08 50 24.0**	**+0.4**
UESV	**Universidad de**	**1.45**	**30**	P	**Pn**	**08 50 23.4**	**-0.1**
UESV	**Universidad de**	**1.45**	**30**	S	**Sb**	**08 50 43.2**	**+0.2**
PAVA	**Las Pavas**	**1.45**	**24**	*eP*	**Pn**	**08 50 24.0**	**+0.4**
PAVA				*eS*	**Sb**	**08 50 42.7**	**-0.4**
PAVA				IAML		08 50 44.7	
	comp=Z,711nm,0.3s						
PAVA	**Las Pavas**	**1.45**	**24**	P	**Pn**	**08 50 24.0**	**+0.4**
PAVA	**Las Pavas**	**1.45**	**24**	S	**Sb**	**08 50 43.8**	**+0.7**
SBLS	**San Blas**	**1.45**	**357**	*eP*	**Pn**	**08 50 23.9**	**+0.1**
SBLS				*eP*	**Pb**	**08 50 24.0**	**-1.2**
SNJE	**San Jose**	**1.48**	**357**	*eP*	**Pn**	**08 50 24.3**	**+0.2**
NUBE	**Las Nubes**	**1.53**	**351**	*eP*	**Pn**	**08 50 24.7**	**-0.1**
NUBE	**Las Nubes**	**1.53**	**351**	P	**Pn**	**08 50 24.8**	**0.0**
NUBE	**Las Nubes**	**1.53**	**351**	*eP*	**Pn**	**08 50 24.8**	**0.0**
NUBE				*i S*	**Sn**	**08 50 44.2**	**+0.2**
NUBE	**Las Nubes**	**1.53**	**351**	*eP*		08 50 24.8	
NUBE				*i S*		08 50 44.2	
SCLA	**Alcaldia de Sa**	**1.53**	**31**	*eP*	**Pn**	**08 50 24.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.53**	**31**	P	**Pn**	**08 50 25.0**	**+0.3**
PQSS	**Presa 15 de Se**	**1.56**	**37**	*eP*	**Pn**	**08 50 25.1**	**0.0**
PQSS				*eS*	**Sb**	**08 50 46.2**	**-0.1**
PQSS	**Presa 15 de Se**	**1.56**	**37**	P	**Pn**	**08 50 25.3**	**+0.3**
UNIC	**Universidad Ca**	**1.59**	**360**	P	**Pn**	**08 50 26.3**	**+0.8**
PACA	**Pacayal**	**1.61**	**47**	*eP*	**Pn**	**08 50 26.3**	**+0.5**
PACA				*eS*	**Sb**	**08 50 47.8**	**+0.1**
PACA	**Pacayal**	**1.61**	**47**	P	**Pn**	**08 50 26.8**	**+1.1**
SLOZ	**Alcaldia de Sa**	**1.66**	**352**	*eP*	**Pn**	**08 50 26.8**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.66**	**352**	P	**Pn**	**08 50 27.1**	**+0.7**
LCND	**La Caada**	**1.85**	**60**	*eP*	**Pn**	**08 50 28.7**	**-0.4**
LCND				IAML		08 50 54.9	
	comp=Z,542nm,0.4s						
LCND	**La Caada**	**1.85**	**60**	P	**Pn**	**08 50 28.9**	**-0.2**
LLGN	**La Laguna**	**1.86**	**18**	*eP*	**Pn**	**08 50 30.1**	**+0.8**
LLGN	**La Laguna**	**1.86**	**18**	P	**Pn**	**08 50 30.2**	**+0.9**
CNCH	**Conchagua**	**1.89**	**62**	*eP*	**Pn**	**08 50 29.9**	**+0.3**
CNCH	**Conchagua**	**1.89**	**62**	P	**Pn**	**08 50 29.9**	**+0.3**
MTO3	**Montecristo**	**2.02**	**5**	*eP*		08 50 32.5	
MTO3	**Montecristo**	**2.02**	**5**	*eP*	**Pn**	**08 50 32.3**	**+0.8**
MTO3	**Montecristo**	**2.02**	**5**	P	**Pn**	**08 50 32.5**	**+1.0**
MTO3	**Montecristo**	**2.02**	**5**	*eP*	**Pn**	**08 50 32.5**	**+1.0**
CSGN	**Cosiguina Volc**	**2.02**	**73**	P	**Pn**	**08 50 32.1**	**+0.7**
POTN	**Potosi Cosigui**	**2.08**	**72**	P	**Pn**	**08 50 33.0**	**+0.9**
ESQI	**Esquipulas**	**2.18**	**5**	*eP*	**Pn**	**08 50 34.5**	**+0.9**
ESQI	**Esquipulas**	**2.18**	**5**	P	**Pn**	**08 50 35.0**	**+1.4**
CRIN	**San Cristobal**	**2.45**	**82**	P	**Pn**	**08 50 38.2**	**+0.8**
QUEN	**Al S del Volca**	**2.63**	**85**	P	**Pn**	**08 50 37.0**	**-2.8**
STG0	**El Palmar, Qui**	**2.69**	**319**	*eP*		08 50 45.7	
STG8	**El Palmar, Qui**	**2.71**	**320**	*eP*		08 50 46.7	
TGUH	**Tegucigalpa,Un**	**2.77**	**53**	P	**Pn**	**08 50 42.8**	**+1.0**
APQ2	**Apoyeque**	**3.15**	**93**	P	**

MKAR Makanchi Array 60.65 330 P **P** **09 01 38.9 -0.1**
comp=Z,1.6nm,0.8s,baz=124,slow=7.7,SNR=9.2
MKAR LR LR 09 29 20.6
comp=Z,48nm,20.1s,baz=92,slow=38
comp=Z,1.6nm,0.8s
KURBB Kurchatov Arra 65.06 331 P **P** **09 02 07.2 -0.9**
comp=Z,0.6nm,0.4s,baz=134,slow=6.1,SNR=6.6
comp=Z,0.6nm,0.4s
KURK Kurchatov 65.07 331 P **P** **09 02 07.9 -0.4**
KURK IAmb IAmb 09 02 09.5
comp=Z,3.1nm,0.8s
TIXI Tiksi 74.48 2 P **P** **09 03 05.8 +0.1**
TIXI IAmb IAmb 09 03 06.4
comp=Z,6.4nm,0.9s
ABKAR Abkulak array 74.53 323 P **P** **09 03 05.3 -1.1**
FINES FINESS Array B 95.45 331 LR LR 09 51 25.3
comp=Z,60nm,18.6s,baz=37,slow=38

*IDC **14** 08:58:10.6±0.7, 8°.83N×127°.26E, h0km, mb4.0/14, mbtmp4.0/15, ML4.0/1, MS3.4/9, Error ellipse: s-maj=21.2km s-min=11.8km az=95.0*
*NEIC **14** 08:58:14.3±1.2, 8°.75N±0°.08×127°.0E±0°.1, h10km±1km, mb4.4/34, Error ellipse: s-maj=18.6km s-min=12.7km az=106.0*
ISC 14 08:58:17.3±0.5, **8°.77N**±0°.06×**127°.06E**±0°.08, **h38**km, **n68**, σ1§**18**/64, **mb4.3**/34, **MS3.4**/8, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.24**	**221**		**Pn**	**08 58 50.9**	**-0.8**
DAV	**Davao City (W)**	**2.24**	**221**	Pn	**Pn**	**08 58 52.3**	**+0.5**
	38nm,0.3s,baz=65,slow=6.1,SNR=15						
DAV				Sn	**Sn**	**08 59 21.3**	**+3.1**
	65nm,0.3s,baz=104,slow=16,SNR=6.0						
DAV				Lg	Lg	08 59 27.3	
	143nm,0.3s,baz=258,slow=19,SNR=6.3						
DAV				LR	LR	08 59 28.8	
	comp=Z,593nm,19.5s,baz=50,slow=32						
	287nm,0.4s						
DAV	**Davao City (W)**	**2.24**	**221**	P	**Pn**	**08 58 52.0**	**+0.2**
KKM	**Kota Kinabalu**	**11.09**	**257**	Pn	**Pn**	**09 00 52.1**	**-1.4**
TPUB	**Ta-pu**	**15.71**	**338**	Pn	**Pn**	**09 01 55.4**	**-0.6**
SBUM	**Sibu**	**16.04**	**248**		**Pn**	**09 01 59.7**	**-0.5**
JOW	**Kunigami**	**18.01**	**4**		**P**	**09 02 25.3**	**+0.5**
JOW				IAmb	IAmb	09 02 32.7	
	comp=Z,20nm,1.0s						
GUMO	**Guam**	**18.11**	**73**	LR	LR	09 09 18.1	
	comp=Z,68nm,18.3s,baz=186,slow=37						
QIZ	**Qiongzhong**	**19.57**	**303**	P	**P**	**09 02 39.8**	**-2.2**
QIZ				S	**S**	**09 06 22.3**	**+1.2**
QIZ				LR	LR		
	comp=N,150nm,6.4s						
QIZ				LR	LR		
	comp=E,220nm,11.1s						
QIZ				LR	LR		
	comp=Z,290nm,13.4s						
MTN	**Manton Dam**	**21.84**	**169**	P	**P**	**09 03 05.2**	**-1.5**
MTN				IAmb	IAmb	09 03 34.3	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**24.34**	**176**	P	**P**	**09 03 31.2**	**-0.5**
KNRA				IAmb	IAmb	09 03 52.6	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.73**	**183**	P	**P**	**09 03 52.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**26.73**	**183**	P	**P**	**09 03 52.9**	**-0.4**
	comp=Z,3.6nm,0.5s,baz=358,slow=10,SNR=11						
	comp=Z,3.6nm,0.5s						
PMG	**Port Moresby**	**26.95**	**132**	LR	LR	09 16 24.3	
	comp=Z,80nm,18.5s,baz=10.0,slow=41						
KSRS	**Korea Array**	**28.57**	**1**	P	**P**	**09 04 08.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=177,slow=10,SNR=2.1						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.94**	**292**	P	**P**	**09 04 13.0**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=106,slow=8.8,SNR=1.9						
CMAR				LR	LR	09 16 26.7	
	comp=Z,60nm,18.5s,baz=115,slow=38						
	comp=Z,1.2nm,0.3s						
WB0	**Warramunga Arr**	**29.26**	**166**	P	**P**	**09 04 14.8**	**-1.1**
WB0				IAmb	IAmb	09 04 24.0	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**29.41**	**166**	P	**P**	**09 04 16.9**	**-0.4**
WRA	**Warramunga Arr**	**29.41**	**166**	P	**P**	**09 04 15.3**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=348,slow=10,SNR=8.5						
	comp=Z,0.6nm,0.9s						
WB2	**Warramunga Arr**	**29.41**	**166**	P	**P**	**09 04 15.7**	**-1.6**
WB2				IAmb	IAmb	09 04 25.8	
	comp=Z,4.8nm,0.9s						
WR0	**Warramunga Arr**	**29.48**	**166**	P	**P**	**09 04 17.6**	**-0.2**
PZH	**PanZhiHua**	**29.79**	**310**	P	**P**	**09 04 23.3**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
BJT	**Baijiatuau**	**32.61**	**344**	P	**P**	**09 04 45.7**	**+0.5**
BJT				IAmb	IAmb	09 04 47.8	
	comp=Z,5.0nm,0.6s						
AS31	**Alice Springs**	**32.92**	**168**	P	**P**	**09 04 47.8**	**-0.4**
ASAR	**Alice Springs**	**32.92**	**168**	P	**P**	**09 04 47.3**	**-0.9**
ASAR	**Alice Springs**	**32.92**	**168**	P	**P**	**09 04 47.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=345,slow=8.5,SNR=8.9						
ASAR				LR	LR	09 24 12.0	
	comp=Z,43nm,18.1s,baz=349,slow=47						
	comp=Z,0.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**34.79**	**339**	*e*P	**P**	**09 05 07.4**	**+3.0**
HHC				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,4.7s						
USRK	**Ussuriysk Ar.**	**35.56**	**6**	P	**P**	**09 05 09.1**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=152,slow=9.5,SNR=2.3						
	comp=Z,0.9nm,0.6s						
ERM	**Erimo**	**36.03**	**21**	P	**P**	**09 05 14.9**	**+0.1**
SHL	**Shillong**	**37.37**	**301**	P	**P**	**09 05 26.1**	**-0.7**
SHL				IAmb	IAmb	09 05 50.5	
	comp=Z,13nm,1.0s						
HNR	**Honiara**	**37.40**	**118**	LR	LR	09 19 32.0	
	comp=Z,41nm,19.9s,baz=220,slow=34						
FORT	**Forrest**	**39.33**	**179**	P	**P**	**09 05 43.4**	**+0.5**
FORT				IAmb	IAmb	09 05 58.5	
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**40.83**	**353**	P	**P**	**09 05 56.6**	**+1.4**
HIA				IAmb	IAmb	09 06 13.9	
	comp=Z,5.6nm,1.0s						
EIDS	**Eidsvold**	**41.21**	**146**	P	**P**	**09 05 59.8**	**+1.3**
BBOO	**Buckleboo**	**42.22**	**169**	P	**P**	**09 06 05.8**	**-0.9**
BBOO				IAmb	IAmb	09 06 31.5	
	comp=Z,7.2nm,1.0s						
ULN	**Ulaanbaatar**	**42.50**	**340**	P	**P**	**09 06 09.4**	**+0.4**
ULN				IAmb	IAmb	09 06 23.7	
	comp=Z,4.1nm,1.0s						
SONM	**Songino Array**	**42.69**	**339**	P	**P**	**09 06 11.0**	**+0.4**
SONM	**Songino Array**	**42.69**	**339**	P	**P**	**09 06 08.9**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=160,slow=8.8,SNR=4.8						
	comp=Z,0.5nm,0.6s						
STKA	**Stephens Creek**	**42.73**	**162**	P	**P**	**09 06 11.3**	**+0.4**
STKA	**Stephens Creek**	**42.73**	**162**	P	**P**	**09 06 10.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=318,slow=3.4,SNR=3.6						
	comp=Z,1.6nm,0.8s						
WMQ	**Urumqi**	**48.88**	**322**	*e*P	**P**	**09 07 02.0**	**+2.6**
WMQ				LR	LR		
	comp=Z,97nm,21.5s						
PETK	**Petropavlovsk-**	**50.69**	**23**	P	**P**	**09 07 13.2**	**+0.3**
MK31	**Makanchi Array**	**53.69**	**323**	P	**P**	**09 07 35.8**	**+0.5**
MK31				IAmb	IAmb	09 07 51.4	
	comp=Z,3.8nm,0.9s						
MKAR	**Makanchi Array**	**53.69**	**323**	P	**P**	**09 07 36.0**	**+0.6**
MKAR	**Makanchi Array**	**53.69**	**323**	P	**P**	**09 07 35.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=121,slow=7.7,SNR=19						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**53.89**	**323**	P	**P**	**09 07 37.3**	**+0.5**
MAKZ				IAmb	IAmb	09 07 49.1	
	comp=Z,4.1nm,1.0s						
KDJ	**Kajisay**	**54.90**	**316**	P	**P**	**09 07 45.4**	**+0.9**
KDJ				IAmb	IAmb	09 07 46.5	
	comp=Z,3.7nm,0.6s						
NIL	**Nilore**	**55.23**	**305**	P	**P**	**09 07 46.7**	**-0.1**
ZAA0	**Zalesovo Array**	**56.31**	**331**	P	**P**	**09 07 54.2**	**+0.1**
ZAA0				IAmb	IAmb	09 08 06.0	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**56.31**	**331**	P	**P**	**09 07 54.1**	**-0.1**
ZALV	**Zalesovo Beam**	**56.31**	**331**	P	**P**	**09 07 53.3**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=131,slow=10,SNR=5.1						
	comp=Z,1.1nm,0.6s						
MSVF	**Nonsavu**	**56.82**	**118**	LR	LR	09 29 34.6	
	comp=Z,35nm,21.4s,baz=234,slow=33						
AAK	**Ala-Archa**	**56.94**	**316**	LR	LR	09 34 42.5	
	comp=Z,46nm,18.6s,baz=110,slow=38						
KURK	**Kurchatov**	**57.74**	**326**	P	**P**	**09 08 04.0**	**-0.3**
KURK				IAmb	IAmb	09 08 16.6	
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**57.75**	**326**	P	**P**	**09 08 04.3**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=126,slow=6.5,SNR=19						
	comp=Z,2.5nm,0.5s						
DRK	**Karamyk**	**57.88**	**311**	P	**P**	**09 08 06.1**	**+0.2**
DRK				IAmb	IAmb	09 08 20.0	
	comp=Z,3.8nm,0.7s						
KBL	**Kabul**	**58.83**	**305**	P	**P**	**09 08 12.3**	**-0.2**
GAR	**Garm**	**58.85**	**310**	P	**P**	**09 08 12.1**	**-0.4**
KK31	**Karatay Array**	**59.86**	**315**	P	**P**	**09 08 19.4**	**+0.1**
KK31				IAmb	IAmb	09 08 31.7	
	comp=Z,3.3nm,0.8s						
KKAR	**Karatay Array**	**59.86**	**315**	P	**P**	**09 08 19.4**	**+0.1**
TIXI	**Tiksi**	**62.84**	**1**	P	**P**	**09 08 40.4**	**+1.6**
BVAR	**Borovoye Array**	**63.34**	**326**	P	**P**	**09 08 41.5**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=120,slow=8.5,SNR=8.0						
	comp=Z,2.2nm,0.7s						
BRVK	**Borovoye**	**63.41**	**326**	P	**P**	**09 08 43.4**	**+0.4**
ABKAR	**Abkulak array**	**68.52**	**320**	P	**P**	**09 09 16.4**	**+0.5**
ILAR	**Eielson Array**	**80.45**	**26**	P	**P**	**09 10 26.1**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=245,slow=5.2,SNR=3.5						
FINES	**FINESS Array B**	**87.58**	**332**	P	**P**	**09 10 59.2**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=104,slow=5.9,SNR=6.3						
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**94.45**	**334**	LR	LR	10 00 14.0	
	comp=Z,25nm,19.0s,baz=30,slow=39						
YKA	**Yellowknife Ar**	**94.80**	**24**	P	**P**	**09 11 33.0**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=275,slow=4.7,SNR=6.3						
	comp=Z,0.3nm,0.7s						

*IGQ **14** 09:02:07.5±0.4, 3°S±2°×7°7W±°, h73km±16km, MLv4.1/39*
*VAO **14** 09:02:07.0±0.4, 2°.37S×77°.02W, h116km, mb4.4*
*NEIC **14** 09:02:07.8±2.2, 2°.36S±0°.04×77°.02W±0°.06, h114km±8km, mb4.5/40, Error ellipse: s-maj=9.4km s-min=4.9km az=121.0*
*IDC **14** 09:02:08.0±0.8, 2°.29S×76°.94W, h136km±7km, mb3.7/11, mbtmp4.2/17, MS2.9/3, Error ellipse: s-maj=17.9km s-min=10.8km az=70.0*
*RSNC **14** 09:02:07.1±2.5, 2°S±5°×7°7W±°, h116km±21km, M3.8, mB5.0, mb4.7, ML3.3, Mw(mB)4.5*
ISC 14 09:02:07.2±0.5, **2°.43S**±0°.04×**77°.04W**±0°.04, **h126**km±5km, **h126**km:**pP-P**, **n226**, σ1§**45**/246, **mb4.4**/24, **14C-47D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.35**	**313**	S	**Sn**	**09 02 53.7**	**+0.2**
PUYO				⇓P	**Pn**	**09 02 33.5**	**0.0**
ATEN	**Tena**	**1.61**	**331**	⇓P	**Pn**	**09 02 35.5**	**-0.8**
ARDO	**Archidona, Ten**	**1.61**	**332**	⇓P	**Pn**	**09 02 35.9**	**-0.5**
ARDO				S	**Sn**	**09 02 57.8**	**-0.9**
BOSC	**San Juan Bosco**	**1.62**	**244**	S	**Sn**	**09 02 57.4**	**-1.5**
BOSC				⇑P	**Pn**	**09 02 35.5**	**-1.0**
BPAT	**Tungurahua Vol**	**1.67**	**303**	⇓P	**Pn**	**09 02 37.1**	**-0.3**
BPAT				S	**Sn**	**09 02 59.5**	**-0.9**
BULB	**Ulba Tungurahu**	**1.68**	**306**	⇓P	**Pn**	**09 02 37.1**	**-0.5**
BULB				S	**Sn**	**09 02 59.9**	**-0.7**
BMAS	**Trigal station**	**1.70**	**303**	⇓P	**Pn**	**09 02 36.4**	**-1.3**
POND	**Pondoa**	**1.73**	**305**	⇓P	**Pn**	**09 02 37.6**	**-0.4**
POND				S	**Sn**	**09 03 00.4**	**-1.0**
JUI6	**Juive**	**1.74**	**305**	⇓P	**Pn**	**09 02 37.6**	**-0.5**
BBIL	**Ulba Tungurahu**	**1.74**	**304**	⇓P	**Pn**	**09 02 37.8**	**-0.3**
AZOG	**Ecuador-Azogue**	**1.83**	**260**	⇓P	**Pn**	**09 02 39.5**	**+0.3**
IGUA	**Igualata**	**1.85**	**300**	P	**Pn**	**09 02 40.3**	**+0.6**
PIAT	**Ana Tenorio**	**1.87**	**319**	P	**Pn**	**09 02 39.4**	**-0.4**
PIAT				S	**Sn**	**09 03 09.1**	**+4.5**
PIAT	**Ana Tenorio**	**1.87**	**319**	⇓P	**Pn**	**09 02 39.4**	**-0.4**
PIAT	**Ana Tenorio**	**1.87**	**319**	P	**Pn**	**09 02 39.4**	**-0.4**
PIAT				S	**Sn**	**09 03 09.1**	**+4.5**
PIS1	**Pisayambo**	**1.91**	**315**	⇓P	**Pn**	**09 02 40.2**	**-0.1**
TAMH	**Tambohuasha Ch**	**1.94**	**297**	⇑P	**Pn**	**09 02 41.2**	**+0.4**
ACUE	**Ecuador-Cuenca**	**1.97**	**256**	P	**Pn**	**09 02 40.5**	**-0.4**
JSCH	**Cashca Tororas**	**2.06**	**290**	⇑P	**Pn**	**09 02 42.3**	**+0.2**
VCES	**Cotopaxi**	**2.11**	**320**	⇓P	**Pn**	**09 02 42.9**	**+0.1**
TAMB	**Tambo**	**2.17**	**322**	P	**Pn**	**09 02 44.1**	**+0.5**
BMOR	**Cotopaxi Volca**	**2.20**	**320**	⇓P	**Pn**	**09 02 44.6**	**+0.6**
BTAM	**Cotopaxi Volca**	**2.21**	**322**	⇓P	**Pn**	**09 02 44.7**	**+0.7**
COHC	**Cochancay**	**2.21**	**269**		**Pn**	**09 02 42.9**	**-0.5**
COHC				Sn	**Sn**	**09 03 11.3**	**0.0**
COHC	**Cochancay**	**2.21**	**269**	P	**Pn**	**09 02 43.0**	**-0.5**
COHC				S	**Sn**	**09 03 10.8**	**-0.6**
COHC	**Cochancay**	**2.21**	**269**	⇑P	**Pn**	**09 02 43.1**	**-0.4**
COHC	**Cochancay**	**2.21**	**269**	P	**Pn**	**09 02 43.0**	**-0.5**
COHC				S	**Sn**	**09 03 10.8**	**-0.6**
ANTM	**Antisana-La Mi**	**2.22**	**328**	⇓P	**Pn**	**09 02 44.2**	**0.0**
ANTS	**Antisana-Sarah**	**2.22**	**330**	⇓P	**Pn**	**09 02 44.4**	**0.0**
BVC2	**Cotopaxi Volca**	**2.23**	**322**	P	**Pn**	**09 02 45.2**	**+0.9**
VC1	**Cotopaxi 1**	**2.23**	**323**	⇓P	**Pn**	**09 02 45.3**	**+0.9**
BREF	**Cotopaxi Volca**	**2.24**	**321**	⇓P	**Pn**	**09 02 45.5**	**+0.9**
BNAS	**Cotopaxi Volca**	**2.26**	**321**	⇓P	**Pn**	**09 02 46.6**	**+1.9**
ANTI	**Antisana**	**2.26**	**330**	⇓P	**Pn**	**09 02 44.8**	**0.0**
ANTG	**Antisana-Guama**	**2.26**	**328**	⇓P	**Pn**	**09 02 45.0**	**+0.2**
CAMI	**Rancho Maria**	**2.27**	**320**	P	**Pn**	**09 02 46.1**	**+1.3**
SUCR	**Mariscal Sucre**	**2.29**	**321**	⇓P	**Pn**	**09 02 46.1**	**+1.1**
PITA	**Cotopaxi Volc**	**2.32**	**323**	⇓P	**Pn**	**09 02 46.3**	**+0.9**
PAST	**Pastocalle**	**2.35**	**317**	P	**Pn**	**09 02 48.1**	**+2.4**
TOMA	**Boca Toma-Volc**	**2.37**	**324**	⇓P	**Pn**	**09 02 47.2**	**+1.2**
ILLI	**Illinizas Sur**	**2.39**	**315**	⇓P	**Pn**	**09 02 47.0**	**+0.6**
AZAM	**Ecuador-Zamora**	**2.51**	**229**	⇑P	**Pn**	**09 02 45.6**	**-1.9**
MILO	**Milagro-Astudi**	**2.51**	**273**	⇑P	**Pn**	**09 02 46.5**	**-0.9**
TING	**Casa Alexandra**	**2.55**	**327**	P	**Pn**	**09 02 49.8**	**+1.6**
CASC	**Dorado de Casc**	**2.56**	**353**	⇓P	**Pn**	**09 02 47.8**	**-0.4**
CAYR	**Refugio Cayamb**	**2.61**	**338**	P	**Pn**	**09 02 50.0**	**+0.7**
ANGU	**Angureal**	**2.64**	**339**	⇓P	**Pn**	**09 02 50.3**	**+0.6**
ALJ1	**Ecuador-Loja-U**	**2.65**	**234**	P	**Pn**	**09 02 49.3**	**-0.1**
JUA2	**San Juan 2**	**2.70**	**325**	P	**Pn**	**09 02 50.7**	**+0.5**
GGPT	**Toaza - Volcan**	**2.70**	**324**	⇓P	**Pn**	**09 02 50.6**	**+0.5**
GGPC	**Guagua Pichinc**	**2.72**	**325**	⇓P	**Pn**	**09 02 51.1**	**+0.5**
HPAL	**Hacienda Las P**	**2.72**	**324**	P	**Pn**	**09 02 51.3**	**+0.8**
TERV	**Terraza Guagua**	**2.73**	**325**	⇓P	**Pn**	**09 02 51.3**	**+0.6**
PINO	**Pino**	**2.74**	**325**	⇓P	**Pn**	**09 02 51.6**	**+0.6**
YANA	**Yana**	**2.76**	**326**	⇓P	**Pn**	**09 02 51.4**	**+0.4**
PULU	**Pululahua**	**2.84**	**329**	⇓P	**Pn**	**09 02 52.4**	**+0.4**
BONI	**La Bonita**	**2.90**	**350**	P	**Pn**	**09 02 52.4**	**-0.3**
BONI	**La Bonita**	**2.90**	**350**	⇓P	**Pn**	**09 02 52.3**	**-0.3**
BONI	**La Bonita**	**2.90**	**350**	P	**Pn**	**09 02 52.4**	**-0.3**
IMBA	**Imbabura, San**	**2.92**	**337**	⇓P	**Pn**	**09 02 54.7**	**+1.6**
AGUAY	**Guayaquil**	**2.93**	**277**	P	**Pn**	**09 02 50.7**	**-2.0**
GONZ	**Gonzanam**	**2.96**	**233**	⇑P	**Pn**	**09 02 52.8**	**-0.7**
YAHU	**Yahuaccocha**	**2.96**	**340**	⇓P	**Pn**	**09 02 54.7**	**+1.1**
CUSW	**Cuicocha Oeste**	**3.00**	**334**	P	**Pn**	**09 02 55.8**	**+1.7**
OTAV	**Otavalo**	**3.00**	**332**	Pn	**Pn**	**09 02 54.2**	**+0.1**
OTAV	**Otavalo**	**3.00**	**332**	P	**Pn**	**09 02 54.4**	**+0.3**
OTAV	**Otavalo**	**3.00**	**332**	⇓P	**Pn**	**09 02 54.3**	**+0.3**
OTAV	**Otavalo**	**3.00**	**332**	*e*P	**Pn**	**09 02 51.9**	**-2.2**
OTAV	**Otavalo**	**3.00**	**332**	P	**Pn**	**09 02 54.4**	**+0.3**
CUIC	**Cuicocha-Domo**	**3.02**	**334**	⇓P	**Pn**	**09 02 55.1**	**+0.8**
CUSE	**Cuicocha Este**	**3.04**	**333**	P	**Pn**	**09 02 55.3**	**+0.7**
CUSE	**Cuicocha Este**	**3.04**	**333**	⇓P	**Pn**	**09 02 55.2**	**+0.6**
CUSE	**Cuicocha Este**	**3.04**	**333**	P	**Pn**	**09 02 55.3**	**+0.7**
URCU	**Urcuqui**	**3.10**	**337**	⇓P	**Pn**	**09 02 56.6**	**+1.2**
ISPG	**Isla Puna-Puer**	**3.17**	**260**	⇑P	**Pn**	**09 02 54.5**	**-1.4**
PAC1	**Pacto, Paraso**	**3.20**	**327**	P	**Pn**	**09 02 57.0**	**+0.6**
PAC1	**Pacto, Paraso**	**3.20**	**327**	P	**Pn**	**09 02 56.8**	**+0.4**
PAC1	**Pacto, Paraso**	**3.20**	**327**	P	**Pn**	**09 02 57.0**	**+0.6**
ZUMB	**Zumba**	**3.20**	**221**	⇑P	**Pn**	**09 02 55.6**	**-0.9**
ATUL	**Tulcn**	**3.25**	**348**	P	Pn	09 03 08.8	+11
CHL1	**Volcn Chiles**	**3.32**	**344**	⇓P	**Pn**	**09 02 60.0**	**+1.5**
CHL2	**Volcn Chiles**	**3.33**	**345**	⇓P	**Pn**	**09 03 00.1**	**+1.6**
ECEN	**Cerro Negro**	**3.36**	**344**	⇓P	**Pn**	**09 03 00.4**	**+1.4**
PTLC	**Puerto Leguiza**	**3.42**	**41**	P	**Pn**	**09 02 56.4**	**-2.9**
PTLC	**Puerto Leguiza**	**3.42**	**41**	⇑P	**Pn**	**09 02 56.2**	**-3.0**
PTLC	**Puerto Leguiza**	**3.42**	**41**	P	**Pn**	**09 02 56.4**	**-2.9**
CHMA	**Chilma**	**3.42**	**343**	⇓P	**Pn**	**09 02 59.8**	**+0.2**
CMBC	**Cumbal**	**3.44**	**347**	P	**Pn**	**09 03 02.0**	**+2.1**
CMBC	**Cumbal**	**3.44**	**347**	P	**Pn**	**09 03 01.9**	**+2.1**
CMBC	**Cumbal**	**3.44**	**347**	P	**Pn**	**09 03 02.0**	**+2.1**
LITE1	**Lita**	**3.46**	**338**	P	**Pn**	**09 03 00.6**	**+0.7**
PPLP	**Puerto Lpez**	**3.83**	**283**	P	**Pn**	**09 03 01.5**	**-3.2**
CAB1	**Cabo Pasado-Ma**	**3.94**	**301**	P	**Pn**	**09 03 06.4**	**+0.3**
SALI	**Salinas**	**3.95**	**273**	⇑P	**Pn**	**09 03 04.3**	**-1.9**
CRUC	**La Cruz**	**3.97**	**1**	P	**Pn**	**09 03 08.4**	**+1.6**
CRUC	**La Cruz**	**3.97**	**1**	P	**Pn**	**09 03 08.4**	**+1.6**
AMNT	**Manta-Manabi**	**3.97**	**292**	P	**Pn**	**09 03 07.1**	**+0.6**
ISPT	**Isla de la Pla**	**4.19**	**286**	P	**Pn**	**09 03 07.2**	**-2.3**
FLOC	**Florencia**	**4.22**	**19**	Pn	**Pn**	**09 03 09.3**	**-0.6**
FLOC	**Florencia**	**4.22**	**19**	⇑P	**Pn**	**09 03 09.4**	**-0.4**
BBAC	**Balboa, Cauca**	**4.42**	**357**	P	**Pn**	**09 03 13.9**	**+1.1**
BBAC	**Balboa, Cauca**	**4.42**	**357**	⇑P	**Pn**	**09 03 13.6**	**+0.8**
BBAC	**Balboa, Cauca**	**4.42**	**357**	P	**Pn**	**09 03 13.9**	**+1.1**
TUMC	**Tumaco**	**4.55**	**338**	Pn	**Pn**	**09 03 13.8**	**-0.4**
GARC	**Garzon, Huila**	**4.84**	**19**	P	**Pn**	**09 03 18.2**	**-0.2**
GARC	**Garzon, Huila**	**4.84**	**19**	P	**Pn**	**09 03 18.2**	**-0.2**
ATAH	**Atahualpa**	**4.87**	**196**	P	**Pn**	**09 03 20.4**	**+1.5**
	299nm,0.6s,baz=19,slow=8.5,SNR=324						
ATAH				S	**Sn**	**09 04 13.0**	**-1.5**
	386nm,0.9s,baz=178,slow=16,SNR=16						
ATAH				LR	LR	09 06 06.5	
	comp=Z,46nm,19.6s,baz=51,slow=47						
POPC	**Popayan, Colom**	**4.95**	**4**	P	**Pn**	**09 03 21.3**	**+1.5**
	27nm,0.8s						
POPC	**Popayan, Colom**	**4.95**	**4**	P	**Pn**	**09 03 21.3**	**+1.5**
	27nm,0.8s						
MACC	**Macarena, Meta**	**5.55**	**35**	P	**Pn**	**09 03 27.5**	**-0.2**
MACC	**Macarena, Meta**	**5.55**	**35**	P	**Pn**	**09 03 27.5**	**-0.2**
JAMC	**Jamundi, Valle**	**5.62**	**4**	P	**Pn**	**09 03 30.4**	**+1.6**
	38nm,0.7s						
JAMC	**Jamundi, Valle**	**5.62**	**4**	P	**Pn**	**09 03 30.4**	**+1.6**
	38nm,0.7s						
PRAC	**Prado**	**6.47**	**19**	P	**Pn**	**09 03 41.7**	**+1.6**
	877nm39nm,0.7s						
PRAC	**Prado**	**6.47**	**19**	P	**Pn**	**09 03 41.7**	**+1.6**
	877nm39nm,0.7s						
ORTC	**Ortega, Tolima**	**6.55**	**16**	P	**Pn**	**09 03 42.1**	**+1.0**
	807nm77nm,0.9s						
ORTC	**Ortega, Tolima**	**6.55**	**16**	P	**Pn**	**09 03 42.1**	**+1.0**
	807nm77nm,0.9s						
GUVC	**San Jose del G**	**6.63**	**42**	P	**Pn**	**09 03 42.3**	**+0.1**
GUVC	**San Jose del G**	**6.63**	**42**	P	**Pn**	**09 03 42.3**	**+0.1**
CZSB	**Cruzeiro do Su**	**6.81**	**141**	Pn	**Pn**	**09 03 45.2**	**+0.5**
CZSB	**Cruzeiro do Su**	**6.81**	**141**	P	**Pn**	**09 03 45.7**	**+1.0**
CZSB				S	**Sn**	**09 05 01.0**	**+0.1**
CZSB	**Cruzeiro do Su**	**6.81**	**141**	*e*P	**Pn**	**09 03 45.2**	**+0.5**
CZSB	**Cruzeiro do Su**	**6.81**	**141**	P	**Pn**	**09 03 45.7**	**+1.0**
CZSB				S	**Sn**	**09 05 01.0**	**+0.1**
TBTG	**Tabatinga, AM**	**7.33**	**104**		**Pn**	**09 03 51.3**	**-0.3**
TBTG	**Tabatinga, AM**	**7.33**	**104**	P	**Pn**	**09 03 51.4**	**-0.3**
TBTG	**Tabatinga, AM**	**7.33**	**104**	*e*P	**Pn**	**09 03 51.0**	**-0.7**
TBTG	**Tabatinga, AM**	**7.33**	**104**	P	**Pn**	**09 03 51.4**	**-0.3**
CVER	**Cruz Verde, Cu**	**7.51**	**23**	P	**Pn**	**09 03 57.5**	**+2.9**
CVER	**Cruz Verde, Cu**	**7.51**	**23**	P	**Pn**	**09 03 57.5**	**+2.9**
ROSC	**El Rosal**	**7.72**	**21**	Pn	**Pn**	**09 03 57.1**	**-0.2**
ROSC	**El Rosal**	**7.72**	**21**	P	**Pn**	**09

HNDO IAmb IAmb 09 09 16.8
comp=Z,4.8nm,0.7s
PLCA Paso Flores 38.58 172 P **P** **09 09 18.9 +0.9**
comp=Z,4.8nm,0.7s,baz=349,slow=9.9,SNR=19
comp=Z,4.8nm,0.7s
PLCA Paso Flores 38.58 172 *eP* **P** **09 09 19.4 +1.5**
SJMB Sao Joao De Ma 38.66 117 *eP* **P** **09 09 19.6 +0.7**
BSFB Barra de Sao F 39.00 117 *eP* **P** **09 09 21.2 -0.5**
CLTN Cedars of Leba 39.29 348 P **P** **09 09 20.7 -3.1**
CLTN IAmb IAmb 09 09 21.2
comp=Z,11nm,1.1s
TXAR Lajitas Array 40.59 323 P **P** **09 09 34.9 +0.1**
TXAR Lajitas Array 40.59 323 P **P** **09 09 34.6 -0.2**
comp=Z,0.4nm,0.6s,baz=145,slow=8.1,SNR=6.1
TXAR pP **pP** **09 10 05.4 +2.2**
comp=Z,0.3nm,0.7s,baz=134,slow=6.9,SNR=3.0
TXAR PcP **PcP** **09 11 34.6 -0.1**
comp=Z,0.6nm,0.8s,baz=136,slow=5.8,SNR=4.8
comp=Z,0.4nm,0.6s
SMWD Sammorwood 43.21 332 P **P** **09 09 56.3 +0.3**
ANMO Albuquerque 46.29 326 P **P** **09 10 21.2 +0.6**
ANMO Albuquerque 46.29 326 LR LR 09 32 38.7
comp=Z,27nm,19.9s,baz=271,slow=40
SDCO Great Sand Dun 47.88 329 P **P** **09 10 33.4 +0.4**
PV13 Radium Mtn., P 49.94 327 IAmb IAmb 09 10 49.5
comp=Z,3.7nm,0.7s
TCUT Toone Canyon 53.45 328 IAmb IAmb 09 11 15.4
comp=Z,4.1nm,0.7s
PDAR Pinedale Array 53.70 331 P **P** **09 11 14.9 -1.5**
comp=Z,0.4nm,0.6s,baz=125,slow=8.4,SNR=6.1
PDAR PcP **PcP** **09 12 19.8 -1.3**
comp=Z,0.2nm,0.5s,baz=153,slow=3.4,SNR=1.9
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 55.68 321 P **P** **09 11 30.4 -0.4**
comp=Z,0.4nm,0.5s,baz=107,slow=5.8,SNR=5.6
NVAR pP **pP** **09 12 02.9 +2.2**
comp=Z,0.3nm,0.6s,baz=126,slow=6.5,SNR=2.7
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 70.70 343 P **P** **09 13 07.1 -2.0**
comp=Z,0.4nm,0.8s,baz=148,slow=5.6,SNR=5.5
comp=Z,0.4nm,0.8s
BELA Belgrano 2 78.63 172 P **P** **09 13 55.6 +0.9**
SNAA Sanae 82.76 162 P **P** **09 14 18.2 +1.3**
SNAA IAmb IAmb 09 14 23.1
comp=Z,11nm,1.3s
SNAA Sanae 82.76 162 P **P** **09 14 16.8 -0.1**
comp=Z,1.9nm,0.8s,baz=239,slow=5.9,SNR=6.4
comp=Z,1.9nm,0.8s
ILAR Eielson Array 83.71 336 P **P** **09 14 20.6 -1.2**
comp=Z,0.7nm,0.9s,baz=130,slow=2.9,SNR=6.7
ILAR pP **pP** **09 14 54.6 +0.7**
comp=Z,0.6nm,0.8s,baz=124,slow=4.9,SNR=4.9
comp=Z,0.7nm,0.9s
TROLL Troll, Antarti 84.48 162 ⇑P **P** **09 14 26.7 +1.0**
comp=Z,328nm,0.9s
QSPA South Pole Qui 87.64 180 P **P** **09 14 42.9 +1.6**
QSPA South Pole Qui 87.64 180 P **P** **09 14 42.3 +1.0**
comp=Z,6.0nm,0.8s,baz=196,slow=1.7,SNR=26
comp=Z,6.0nm,0.8s
ELIB Princess Elisa 90.93 162 *d*P **P** **09 14 57.7 +1.1**
SYO Syowa Base 97.02 161 ⇓*eP* **P** **09 15 25.8 +1.4**
KURBB Kurchatov Arra 127.73 19 PKP **PKPdf** **09 20 56.9 -0.9**
comp=Z,0.2nm,0.3s,baz=340,slow=3.2,SNR=5.3
MKAR Makanchi Array 132.29 19 PKP **PKPdf** **09 21 06.4 -0.3**
comp=Z,0.2nm,0.5s,baz=326,slow=2.1,SNR=2.2
ASAR Alice Springs 140.25 228 PKhKP PKPpre 09 21 12.6
comp=Z,0.6nm,0.7s,baz=124,slow=3.9,SNR=11
ASAR PKP **PKPdf** **09 21 20.9 -1.2**
comp=Z,0.9nm,0.7s,baz=121,slow=1.7,SNR=10
WRA Warramunga Arr 142.01 233 PKhKP PKPpre 09 21 19.8
comp=Z,0.4nm,0.4s,baz=116,slow=2.8,SNR=14
WRA PKP **PKPdf** **09 21 24.2 -1.2**
comp=Z,1.3nm,0.8s,baz=121,slow=2.2,SNR=8.7

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*IDC **14** 09:02:43.8±3.6, 55°.30N×85°.67E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=31.8km s-min=21.0km az=29.0*
ASRS 14 09:02:40.0±1.8, 55°.31N×85°.64E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45 200**		I	I	09 10 30.0	
	baz=18,slow=337,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.45 200**		Pg	Pb	09 03 10.0	+2.2
	0.8nm,0.3s,baz=21,slow=17,SNR=12						
ZALV				Lg	Lg	09 03 30.1	
	1.5nm,0.3s,baz=18,slow=28,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.36 225**		Pn	Pn	09 04 19.2	+4.3
	0.1nm,0.3s,baz=44,slow=14,SNR=7.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**8.78 195**		Pn	Pn	09 04 51.1	+2.9
	0.1nm,0.3s,baz=12,slow=7.4,SNR=1.9						
	0.1nm,0.5s						

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*SOME **14** 09:21:47.1, 42°.00N×84°.43E, h5km*
*NNC **14** 09:21:50.3±1.1, 42°.00N×84°.31E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=9.1km s-min=5.1km az=153.0*
ISC 14 09:21:50.5±2.5, 42°.0N±0°.1×84°.22E±0°.08, h10km, n28, σ2§97/31, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.71 290**		Pg	**Pb**	**09 22 53.3**	**-3.0**
	15nm,0.3s						
SHLS				Lg	Lg	09 23 41.7	
	59nm,0.5s						
SHLS	**Shalkode**	**3.71 290**		*eP*	**Pb**	**09 22 53.2**	**-3.0**
	15nm,0.3s						
SHLS				*eS*	**Sb**	**09 23 41.7**	**+0.4**
	59nm,0.5s						
DJR	**Jarkent**	**4.01 308**		Pg	**Pb**	**09 23 04.1**	**+2.8**
	7.0nm,0.6s						
DJR				Lg	Lg	09 23 60.0	
	20nm,0.6s						
DJR	**Jarkent**	**4.01 308**		*eP*	**Pb**	**09 23 04.1**	**+2.8**
	7.0nm,0.6s						
DJR				*eS*	**Sg**	**09 23 60.0**	**+0.8**
	20nm,0.6s						
UZB	**Uzynbulak**	**4.01 289**		Pg	**Pb**	**09 23 03.5**	**+2.1**
	7.6nm,0.2s						
UZB				Lg	Lg	09 23 59.0	
	20nm,0.6s						
UZB	**Uzynbulak**	**4.01 289**		*eP*	**Pb**	**09 23 03.5**	**+2.1**
	7.6nm,0.2s						
UZB				*eS*	**Sg**	**09 23 59.0**	**-0.5**
	20nm,0.6s						
KPKS	**Kokpek**	**4.34 292**		Pg	**Pb**	**09 23 10.2**	**+3.2**
	9.6nm,0.5s						
KPKS				Lg	Lg	09 24 10.5	
	36nm,0.5s						
KPKS	**Kokpek**	**4.34 292**		*eP*	**Pb**	**09 23 10.2**	**+3.2**
	9.6nm,0.5s						
KPKS				*eS*	**Sg**	**09 24 10.5**	**+0.5**
	36nm,0.5s						
KNOS	**Konyrlen**	**4.39 305**		Pg	**Pb**	**09 23 11.2**	**+3.3**
	8.2nm,0.6s						
KNOS				Lg	Lg	09 24 12.1	
	21nm,0.5s						
SATY	**Saty**	**4.43 286**		Pg	**Pb**	**09 23 12.2**	**+3.7**
	6.2nm,0.3s						
SATY				Lg	Lg	09 24 13.9	
	35nm,0.4s						
MK31	**Makanchi Array**	**5.01 345**		Pn	**Pn**	**09 23 08.0**	**+2.1**
	0.3nm,0.3s,baz=20,slow=14,SNR=7.4						
MK31				⇑Pg	**Pb**	**09 23 21.2**	**+2.8**
	1.0nm,0.3s,baz=152,slow=14,SNR=31						
MK31				⇑Lg	Lg	09 24 26.2	
	29nm,0.8s,baz=158,slow=30,SNR=14						
MAKZ	**Makanchi**	**5.09 342**		⇑Pn	**Pn**	**09 23 08.4**	**+1.4**
	1.1nm,0.8s						
MAKZ				⇓Pg	**Pb**	**09 23 23.1**	**+3.4**
	4.2nm,0.6s						
MAKZ				⇑Lg	Lg	09 24 31.5	
	12nm,0.7s						
ARXS	**Arharly**	**5.19 298**		Pg	**Pg**	**09 23 26.2**	**-3.7**
	3.3nm,0.3s						
ARXS				Lg	Lg	09 24 37.9	
	25nm,0.9s						
KOTS	**Kotyrbulak**	**5.39 286**		Pg	**Pb**	**09 23 29.8**	**+4.8**
	5.0nm,0.3s						
KOTS				Lg	Lg	09 24 43.8	
	30nm,0.6s						
KOTS	**Kotyrbulak**	**5.39 286**		*eP*	**Pb**	**09 23 29.8**	**+4.8**
	5.0nm,0.3s						
KOTS				*eS*	**Sg**	**09 24 43.8**	**+0.1**
	30nm,0.6s						
TNSS	**Tian-Shan**	**5.48 284**		Pg	**Pg**	**09 23 32.2**	**-3.3**
	3.0nm,0.3s						
TNSS				Lg	Lg	09 24 47.9	
	4.1nm,0.7s						
TNSS	**Tian-Shan**	**5.48 284**		*eP*	**Pg**	**09 23 32.2**	**-3.3**
	3.0nm,0.3s						
TNSS				*eS*	**Sg**	**09 24 47.9**	**+1.4**
	4.1nm,0.7s						
ZSN	**Zaisan**	**5.50 5**		Pg	**Pb**	**09 23 28.9**	**+2.3**
	8.1nm,0.6s						
ZSN				Lg	Lg	09 24 42.3	
	19nm,0.9s						
ZSN	**Zaisan**	**5.50 5**		*eP*	**Pb**	**09 23 28.9**	**+2.3**
	8.1nm,0.6s						
ZSN				*eS*	**Sg**	**09 24 42.3**	**-4.7**
	19nm,0.9s						
KTBS	**Karatobe**	**5.81 290**		Pg	**Pg**	**09 23 37.7**	**-4.0**
	1.9nm,0.5s						
KTBS				Lg	Lg	09 24 57.3	
	13nm,0.5s						
KST	**Kastek**	**6.20 283**		Pg	Pb	09 23 44.2	+5.6
	2.8nm,0.5s						
KST				Lg	Lg	09 25 08.3	
	7.0nm,0.5s						
KST	**Kastek**	**6.20 283**		*eP*	Pb	09 23 44.1	+5.6
	2.8nm,0.5s						
KST				*eS*	**Sg**	**09 25 08.3**	**-1.1**
	7.0nm,0.5s						
DGS	**Degeres**	**6.36 284**		Pg	Pg	09 23 47.7	-4.6
	2.0nm,0.5s						
DGS				Lg	Lg	09 25 14.0	
	7.9nm,0.7s						
TKM2	**Tokmak 2**	**6.45 281**		⇑Pn	**Pn**	**09 23 25.4**	**-0.3**
	1.6nm,0.5s						
TKM2				⇓Lg	Lg	09 25 13.0	
	10nm,1.1s						
KRBS	**Karabastau**	**6.51 288**		Pg	Pg	09 23 50.7	-4.6
	1.2nm,0.4s						
KRBS				Lg	Lg	09 25 19.2	
	2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**9.50 338**		⇑Lg	Lg	09 26 48.5	
	3.0nm,0.8s						
KURK	**Kurchatov**	**9.56 338**		⇑Lg	Lg	09 26 50.1	
	12nm,1.3s						
OTUK	**Ortayu**	**10.47 311**		⇑Lg	Lg	09 27 21.3	
	4.1nm,0.9s						

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*FUNV **14** 09:25:48.0, 7°.53N×70°.68W, h4km, MW2.9*
*RSNC **14** 09:25:49.0±0.0, 9°N±2°×7°.1W±°, h43km±5km, M2.0, ML2.0, MLv2.7*
ISC 14 09:25:43.9±3.5, 9°.22N±0°.04×71°.06W±0°.03, h14km±29km, n10, σ1§38/20, 1D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.54 128**		P	**Pn**	**09 25 58.6**	**+1.3**
SDV				S	**Sn**	**09 26 06.0**	**-0.3**
SDV	**Santo Domingo**	**0.54 128**		P	**Pn**	**09 25 58.6**	**+1.3**
SDV				S	**Sn**	**09 26 06.0**	**-0.3**
SOCV	**Socops**	**0.95 168**		⇓*i*P	**Pn**	**09 26 03.1**	**+0.3**
SOCV				*eS*	**Sb**	**09 26 13.5**	**-1.1**
CAPV	**Capacho**	**1.83 223**		*eP*	**Pb**	**09 26 17.5**	**+0.2**
CAPV				*eS*	**Sb**	**09 26 39.3**	**-0.8**
OCAC	**Ocana**	**2.43 247**		P	**Pb**	**09 26 28.0**	**+0.4**
OCAC				S	**Sb**	**09 26 57.1**	**-0.4**
OCAC	**Ocana**	**2.43 247**		P	**Pb**	**09 26 28.0**	**+0.4**
OCAC				S	**Sb**	**09 26 57.1**	**-0.4**
CRJC	**Cerrejon, Guaj**	**2.53 315**		P	**Pb**	**09 26 28.3**	**-0.9**
CRJC				S	**Sb**	**09 27 00.1**	**-0.2**
CRJC	**Cerrejon, Guaj**	**2.53 315**		P	**Pb**	**09 26 28.3**	**-0.9**
CRJC				S	**Sb**	**09 27 00.1**	**-0.2**
BAUV	**El Baul**	**3.00 95**		*eP*	**Pb**	**09 26 36.3**	**-0.7**
BAUV				*eS*	**Sb**	**09 27 10.1**	**-3.5**
BENV	**Beln**	**3.50 77**		*eP*	**Pb**	**09 26 45.5**	**-0.1**
BENV				*eS*	**Sb**	**09 27 31.2**	**+3.2**

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*IDC **14** 09:35:33.8±2.6, 3°.33S×130°.59E, h0km, mb3.8/2, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=133.2km s-min=27.8km az=75.0*
*DJA **14** 09:35:37.4±0.6, 3°S±4°×13°1E±°, h10km±5km, M3.5/7, MLv3.5/7*
ISC 14 09:35:35.3±1.0, 3°.22S±0°.07×130°.83E±0°.07, h10km, n9, σ2§39/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.45 78**		P	**Pn**	**09 36 03.6**	**+2.1**
BNDI	**Bandanaira**	**1.59 215**		P	**Pn**	**09 36 06.5**	**+2.9**
MSAI	**Masohi**	**1.91 266**		P	**Pn**	**09 36 08.7**	**+0.9**
SWI	**Sorong**	**2.38 10**		P	**Pn**	**09 36 14.7**	**+0.4**
SWI				S	**Sn**	**09 36 44.7**	**+1.2**
NLAI	**Namlea**	**3.73 270**		P	**Pn**	**09 36 34.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**15.64 199**		Pn	**Pn**	**09 39 12.4**	**-3.6**
	0.2nm,0.3s,baz=37,slow=12,SNR=7.2						
FITZ				Sn	Sn	09 41 57.7	-12
	0.1nm,0.3s,baz=198,slow=17,SNR=1.4						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**16.97 169**		Pn	**Pn**	**09 39 30.2**	**-2.8**
	0.3nm,0.3s,baz=350,slow=12,SNR=14						
WRA				Sn	Sn	09 42 26.8	-15
	0.1nm,0.3s,baz=359,slow=23,SNR=2.4						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**20.55 172**		P	**P**	**09 40 14.3**	**+0.1**
	3.9nm,0.4s,baz=351,slow=10,SNR=103						
ASAR				S	S	09 43 57.2	-7.0
	0.2nm,0.5s,baz=352,slow=22,SNR=2.3						
	3.9nm,0.4s						
MKAR	**Makanchi Array**	**65.56 326**		P	**P**	**09 46 19.1**	**-0.1**
	0.4nm,0.6s,baz=109,slow=6.7,SNR=4.5						
	0.4nm,0.6s						

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*NNC **14** 09:40:31.7±4.1, 37°.23N×69°.89E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=45.4km s-min=29.3km az=64.0*
*IDC **14** 09:40:41.9±4.0, 37°.95N×70°.76E, h0km, mb3.4/1, mbtmp3.5/7, ML3.0/6, MS3.4/2, Error ellipse: s-maj=55.3km s-min=21.2km az=159.0*
*SOME **14** 09:40:51.1, 39°.10N×72°.08E, h15km*
ISC 14 09:40:39.2±2.0, 38°.2N±0°.1×71°.23E±0°.09, h10km, n21, σ2§56/22, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.39 25**		P	**Pb**	**09 41 58.4**	**+1.7**
	SNR=7.1						
MRKS	**Merke**	**4.83 18**		*eP*	**Pb**	**09 42 00.2**	**-3.8**
	9.5nm,0.6s						
MRKS				*eS*	**Sn**	**09 42 49.7**	**+1.7**
	6.8nm,0.6s						
EKS2	**Erkin-Say**	**4.90 23**		P	**Pb**	**09 42 07.3**	**+2.2**
	SNR=6.3						
KK31	**Karatay Array**	**4.97 354**		⇓P	**Pn**	**09 41 58.5**	**+4.6**
	2.5nm,0.3s,baz=171,slow=11,SNR=65						
KK31				⇑S	**Sb**	**09 43 09.7**	**+3.7**
	20nm,0.8s,baz=179,slow=28,SNR=6.3						
BRLS	**Borolday**	**4.98 348**		*eP*	**Pb**	**09 42 06.0**	**-0.5**
	5.0nm,0.4s						
BRLS				*eS*	**Sb**	**09 43 00.2**	**-6.2**
	15nm,0.5s						
AAK	**Ala-Archa**	**5.12 28**		Pn	**Pb**	**09 42 07.7**	**-1.2**
	1.6nm,0.3s,baz=220,slow=8.7,SNR=26						
AAK				Sn	**Sb**	**09 43 10.2**	**-0.4**
	0.2nm,0.3s,baz=11,slow=16,SNR=1.3						
AAK				Lg	Lg	09 43 28.0	
	0.6nm,0.3s,baz=133,slow=18,SNR=3.8						
AAK				LR	LR	09 43 59.1	
	9.0nm,0.5s						
AAK	**Ala-Archa**	**5.12 28**		P	**Pb**	**09 42 08.7**	**-0.3**
	SNR=16						
AAK	**Ala-Archa**	**5.12 28**		⇑P	**Pb**	**09 42 08.3**	**-0.7**
	8.4nm,0.6s						
KBK	**Karagaybulak**	**5.31 31**		P	**Pb**	**09 42 13.1**	**+0.8**
	SNR=20						
TKM2	**Tokmak 2**	**5.80 34**		P	**Pb**	**09 42 19.1**	**-1.5**
	SNR=11						
TKM2	**Tokmak 2**	**5.80 34**		⇑P	**Pb**	**09 42 18.5**	**-2.1**
	5.0nm,0.6s						
BTLS	**Baital**	**7.19 16**		*eP*	**Pb**	**09 42 45.5**	**+1.3**
	1.6nm,0.5s						
BTLS				*eS*	**Sb**	**09 44 07.6**	**-2.4**
	2.3nm,0.4s						
MKAR	**Makanchi Array**	**11.87 40**		Pn	Pn	09 43 38.5	+10
	0.1nm,0.3s,baz=234,slow=14,SNR=6.6						
	0.8nm,0.7s						
MK31	**Makanchi Array**	**11.87 40**		P	Pn	09 43 41.5	+13
	0.9nm,0.7s,baz=231,slow=14,SNR=6.6						
KURBB	**Kurchatov Arra**	**13.50 20**		Pn	**P**	**09 43 57.5**	**-2.5**
	baz=213,slow=14,SNR=2.3						
KURBB				Lg	Lg	09 47 56.5	
	baz=204,slow=31,SNR=4.3						
	0.2nm,0.6s						
AB31	**Akbulak array**	**13.75 327**		⇑P	**Pn**	**09 43 53.2**	**-0.9**
	0.6nm,0.5s,baz=135,slow=14,SNR=22						
BVAR	**Borovoye Array**	**14.88 358**		Pn	**P**	**09 44 13.7**	**-1.6**
	baz=186,slow=7.2,SNR=2.5						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**15.46 327**		Pn	**Pn**	**09 44 17.9**	**+0.6**
	0.2nm,0.3s,baz=138,slow=12,SNR=3.6						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**18.34 26**		P	P	09 45 02.7	+9.1
	0.2nm,0.3s,baz=218,slow=13,SNR=4.2						
	1.2nm,0.7s						
KBZ	**Khabaz**	**22.05 294**		P	**P**	**09 45 33.8**	**-0.2**
	0.7nm,0.4s,baz=95,slow=12,SNR=2.5						
	0.7nm,0.4s						
TGY	**Tagaytay City**	**49.94 105**		LR	LR	10 10 58.4	
	comp=Z,332nm,21.3s,baz=17,slow=36						

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*IPEC **14** 09:53:02.1±0.3, 50°.09N×18°.48E, h1km, ML2.8/5, Error ellipse: s-maj=1.8km s-min=1.6km az=24.0*
*MCSM **14** 09:53:03.2±0.2, 50°N±3°×1°8E±°, h11km, mb4.0, MLv3.0*
*PRU **14** 09:53:04.4, 50°.07N×18°.31E, h0km*
*IDC **14** 09:53:12.9±1.2, 51°.49N×16°.29E, h0km, mbtmp3.4/4, ML2.9/4, Error ellipse: s-maj=27.9km s-min=11.0km az=129.0*
ISC 14 09:53:01.5±0.7, 50°.12N±0°.03×18°.38E±0°.02, h0km, n80, σ1§56/111, 5C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.13 252**		*eP*G	**Pg**	**09 53 06.8**	**+2.9**
RAC				*eS*G	**Sg**	**09 53 10.1**	**+4.5**
OKC	**Ostrava-Krasne**	**0.32 208**		*eP*G	**Pb**	**09 53 08.9**	**-1.2**
OKC				*eS*G	**Sg**	**09 53 13.6**	**+1.8**
	comp=Z,708nm,0.7s						
STEB	**Steborice**	**0.44 245**		*eP*G	**Pb**	**09 53 11.8**	**-0.3**
STEB				*eS*G	**Sb**	**09 53 17.6**	**-1.6**
MORC	**Moravsky Berou**	**0.64 238**		*eP*g	**Pb**	**09 53 15.0**	**-0.6**
	baz=62						
MORC				*eS*g	**Sg**	**09 53 23.4**	**+1.3**
	228nm,0.6s,baz=62						
MORC	**Moravsky Berou**	**0.64 238**		⇓P	**Pb**	**09 53 14.7**	**-0.9**
MORC				⇓S	**Sb**	**09 53 24.2**	**-1.0**
ANAC	**Anensky vrch**	**0.65 266**		*eP*g	**Pb**	**09 53 15.7**	**0.0**
	baz=88						
ANAC				*eS*g	**Sb**	**09 53 24.5**	**-0.8**
	152nm,0.3s,baz=88						
OJC	**Ojcow**	**0.92 83**		*eP*g	**Pg**	**09 53 18.9**	**-0.1**
OJC				*eS*g	**Sg**	**09 53 31.4**	**+0.6**
OJC	**Ojcow**	**0.92 83**		P	**Pg**	**09 53 19.2**	**+0.2**
KRLC	**Kraliky**	**1.03 268**		*eP*G	**Pb**	**09 53 22.0**	**-0.3**
KRLC				*eS*G	**Sb**	**09 53 36.1**	**-0.3**
	comp=Z,171nm,0.4s						
LANS	**Liptovska Anna**	**1.20 144**		*eP*G	**Pg**	**09 53 24.4**	**-0.1**
LANS				*eS*G	**Sb**	**09 53 40.4**	**-0.8**
LANS				*eL*G	Lg	09 53 44.4	
DPC	**Dobruska-Polom**	**1.34 281**		*eP*G	**Pb**	**09 53 28.4**	**+0.9**
DPC				*eS*G	**Sn**	**09 53 46.6**	**+0.5**
	comp=Z,188nm,0.6s						
DPC	**Dobruska-Polom**	**1.34 281**		P	**Pb**	**09 53 27.5**	**0.0**
JAVC	**Velka Javorina**	**1.35 200**		*eP*g	**Pb**	**09 53 27.7**	**+0.1**
	baz=23						
VRAC	**Vranov**	**1.42 236**		*eP*g	**Pb**	**09 53 28.6**	**-0.2**
	baz=57						
VRAC				*eS*g	**Sn**	**09 53 47.7**	**-0.2**
	102nm,0.6s,baz=57						
VRAC	**Vranov**	**1.42 236**		*eP*G	**Pb**	**09 53 28.7**	**-0.1**
VRAC				*eS*G	**Sn**	**09 53 47.8**	**-0.2**
VRAC	**Vranov**	**1.42 236**		⇓P	**Pn**	**09 53 28.4**	**-0.1**
VRAC				⇓S	**Sb**	**09 53 47.2**	**-0.2**
NIE	**Niedzica**	**1.43 119**		*eP*g	**Pb**	**09 53 28.6**	**-0.4**
NIE				*eS*g	**Sn**	**09 53 48.9**	**+0.7**
NIE	**Niedzica**	**1.43 119**		P	**Pb**	**09 53 28.6**	**-0.4**
OSTC	**Ostas**	**1.46 288**		*eP*G	**Pb**	**09 53 30.1**	**+0.7**
OSTC				*eS*G	**Sn**	**09 53 51.2**	**+2.4**
KSP	**Ksiaz**	**1.52 299**		*eP*g	**Pg**	**09 53 30.8**	**+0.3**
KSP				*eS*g	**Sn**	**09 53 52.9**	**+2.5**
KSP	**Ksiaz**	**1.52 299**		P	**Pb**	**09 53 30.1**	**-0.4**
UPC	**Upice**	**1.57 285**		*eP*G	**Pg**	**09 53 31.7**	**+0.2**
KRUC	**Moravsky**	**1.67 231**		*eP*n	**Pb**	**09 53 32.8**	**-0.3**
	baz=52						
KRUC				*eS*g	**Sg**	**09 53 55.5**	**+0.3**
	94nm,0.6s,baz=52						
KRUC	**Moravsky**	**1.67 231**		*eP*N	**Pb**	**09 53 32.9**	**-0.2**
KRUC				*eS*G	**Sg**	**09 53 55.6**	**+0.3**
MODS	**Modra-Piesok**	**1.90 203**		*eP*G	**Pn**	**09 53 34.8**	**-0.3**
STHS	**Stebnicka Huta**	**1.98 110**		*eP*G	**Pb**	**09 53 38.5**	**0.0**
KECS	**Kecovo**	**2.14 139**		*eP*G	**Pn**	**09 53 38.0**	**-0.5**
GOPC	**GO Pecny, Ondr**	**2.33 266**		*eP*G	**Pb**	**09 53 44.8**	**+0.5**
GOPC				*eS*G	**Sg**	**09 54 15.9**	**-0.4**
	comp=Z,28nm,0.4s						
PSZ	**Piszkesteto**	**2.42 155**		⇑P	**Pn**	**09 53 41.9**	**-0.4**
PRU	**Pruhonice**	**2.48 268**		*eS*G	**Sg**	**09 54 20.4**	**-0.7**
	comp=Z,21nm,0.4s						
CONA	**Conrad Observa**	**2.75 218**		*eP*n	**Pn**	**09 53 46.9**	**0.0**
	1.6nm,0.2s						
CONA				*eS*n	**Sn**	**09 54 19.8**	**-1.1**
	6.8nm,0.3s						
RONA	**Rosalia, Austr**	**2.79 210**		*eP*n	**Pn**	**09 53 47.5**	**+0.1**
	1.0nm,0.1s						
KOLS	**Kolonicke sedl**	**2.80 114**		*eP*G	**Pg**	**09 53 54.3**	**-0.8**
BRG	**Berggiesshubel**	**2.93 287**		Pg	**Pg**	**09 53 57.4**	**-0.3**
BRG				Sg	**Sg**	**09 54 36.5**	**+0.8**
BRG				Amp		09 54 41.1	
	comp=Z,23nm,0.6s						
CKRC	**Cesky Krumlov**	**2.96 245**		*eP*G	**Pb**	**09 53 56.4**	**+1.3**
CKRC				*eS*G	**Sb**	**09 54 33.8**	**+2.0**
	comp=Z,21nm,0.4s						
HOLU	**Holmets**	**3.07 120**		P	**Pn**	**09 53 51.1**	**0.0**
KHC	**Kasperske Hory**	**3.28 254**		*eP*N	**Pn**	**09 53 54.1**	**0.0**
KHC				*eP*G	**Pb**	**09 54 02.2**	**+1.7**
KHC				*eS*G	**Sg**	**09 54 45.5**	**-1.2**
	comp=Z,30nm,0.4s						
KHC	**Kasperske Hory**	**3.28 254**		P	**Pn**	**09 53 53.8**	**-0.3**
GERES	**GERESS Array B**	**3.31 249**		Pn	**Pg**	**09 54 03.5**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=64,slow=18,SNR=11						
GERES				Sn	**Sb**	**09 54 41.8**	**-0.1**
	comp=Z,3.8nm,0.3s,baz=61,slow=28,SNR=5.3						
	comp=Z,2.2nm,

MARR	Marisel-Cluj	4.67	136	⇑P		Pn	09 54 13.2 -0.1
KSV	Kosov	4.74	110	P		Pn	09 54 14.0 -0.2
RNPP5	Staryi Chortor	4.90	74	P		Pn	09 54 16.6 +0.3
RNPP8	Varash	4.90	73	P		Pn	09 54 16.6 +0.3
RNPP9	Sopachiv	4.94	72	P		Pn	09 54 17.1 +0.3
BZS	Buzias	5.01	153	⇓P		Pn	09 54 18.0 +0.1
BURAR	Bucovina Array	5.16	116	⇑P		Pn	09 54 20.2 +0.1
ABTA	Abfaltersbach	5.16	231	Sg		Sg	09 55 44.4 -2.9
	comp=Z,5.5nm,0.4s						
WTTA	Wattenberg	5.30	240	Sg		Sg	09 55 50.5 -1.3
	comp=Z,8.3nm,0.6s						
KMPD	K-Podol'skiy	5.50	103	P		Pn	09 54 25.0 +0.4
GZR	Gura Zlata	5.58	146	⇓P		Pn	09 54 25.7 -0.1
MI28	Mi28,Pidlybu	5.98	79	P		Pn	09 54 31.7 +0.6
AK19	Malin Array Si	6.82	81	P		Pn	09 54 43.5 +0.8
AK20	Malin Array Si	6.82	81	P		Pn	09 54 43.5 +0.8
SORM	Soroca	6.84	103	P		Pn	09 54 43.5 +0.6
	comp=Z,0.1nmcomp=Z,4.5nm,0.7s						
AK21	Malin Array Si	6.84	80	P		Pn	09 54 43.7 +0.7
AK17	Malin Array Si	6.85	81	P		Pn	09 54 43.8 +0.7
AK22	Malin Array Si	6.86	81	P		Pn	09 54 44.0 +0.8
AK16	Malin Array Si	6.88	81	P		Pn	09 54 44.3 +0.8
KIEV	Kiev	6.94	81	P		Pn	09 54 45.3 +0.9
	comp=Z,0.2nmcomp=Z,14nm,1.6s						
AKASG	Malin Array Be	6.95	81	Pn		Pg	09 55 09.0 -5.6
	comp=Z,0.7nm,0.3s,baz=274,slow=15,SNR=5.5						
AKASG				Sn		Sb	09 56 32.8 +6.2
	comp=Z,0.5nm,0.3s,baz=262,slow=28,SNR=1.7						
	comp=Z,1.2nm,0.7s						
AKBB	Malin Array Si	6.95	81	P		Pn	09 54 45.3 +0.8
AK09	Malin Array Si	6.99	82	P		Pn	09 54 45.5 +0.4
FINES	FINESS Array B	12.13	18	Pn		Pn	09 55 51.6 -3.8
	comp=Z,0.2nm,0.3s,baz=202,slow=22,SNR=5.4						
	comp=Z,1.3nm,0.8s						
ARCES	ARCESS Array B	19.77	7	P		P	09 57 30.7 -2.1
	baz=199,slow=12,SNR=2.1						
	comp=Z,1.7nm,0.8s						

NEIC ***14*** *10:05:25.1±2.4, 15°.49N±0°.05×92°.16W±0°.05, h198km±5km, mb4.6/103, Md4.6/95(MEX), Error ellipse: s-maj=9.1km s-min=4.3km az=218.0*
SNET ***14*** *10:05:25.6±0.9, 15°.49N×91°.98W, h186km±5km, ML4.3*
IDC ***14*** *10:05:25.8±0.6, 15°.55N×91°.80W, h204km±4km, mb3.6/14, mbtmp4.1/16, Error ellipse: s-maj=18.7km s-min=7.3km az=50.0*
GCG ***14*** *10:05:26.1±1.3, 15°.56N×91°.96W, h177km±7km, MD4.8, ML4.8, MW4.0*
MEX ***14*** *10:05:26.7±0.8, 15°.54N×92°.15W, h192km±6km, MD4.6*
CATAC ***14*** *10:05:26.2±0.5, 16°.1N±11°×9°.2W±°, h185km±5km, M4.8/18, mb5.0/7, mB5.5/6, MLv4.6/18, Mw(mB)5.0/6, Error ellipse: s-maj=25.1km s-min=8.5km az=25.3, confirmed*
ISC 14 10:05:24.9±0.4, 15°.43N±0°.04×92°.21W±0°.03, h204km±3km, n255, σ2$25/303, mb4.5/45, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVE	Pavencul	0.24	172	eP	Pn	10 05 50.9	-1.1
PAVE				eS	S	10 06 11.0	-2.3
PATR	El Naranjo	0.31	184	eP	Pn	10 05 50.7	-1.5
PATR				eS	S	10 06 10.9	-2.6
THIG		0.52	186		Pn	10 05 52.0	-0.6
THIG					S	10 06 12.8	-1.3
THIG		0.52	186	eP	Pn	10 05 52.0	-0.6
THIG				eS	S	10 06 12.8	-1.3
THIG		0.52	186	i P	Pn	10 05 51.9	-0.6
THIG				IAML		10 06 14.5	
	comp=E,21μm,0.4s						
THIG		0.52	186	i P		10 05 51.9	
THIG				IAML		10 06 14.5	
	comp=E,21μm,0.4s						
SMCA	Catarina	0.59	167	i P	Pn	10 05 51.5	-1.3
SMCA				i S	S	10 06 11.9	-2.7
SMCA				IAML		10 06 17.6	
	comp=N,5μm,0.3s						
SMCA	Catarina	0.59	167	i P		10 05 51.5	
SMCA				i S		10 06 11.9	
SMCA				IAML		10 06 17.6	
	comp=N,5μm,0.3s						
HUEH	Huehuetenango	0.69	99		Pn	10 05 52.1	-1.4
HUEH				Sn	S	10 06 12.5	-3.2
HUEH	Huehuetenango	0.69	99	i P	Pn	10 05 52.2	-1.3
HUEH				i S	S	10 06 12.0	-3.6
HUEH	Huehuetenango	0.69	99	eP	Pn	10 05 52.1	-1.4
HUEH				eS	S	10 06 12.4	-3.2
HUEH	Huehuetenango	0.69	99	P	Pn	10 05 52.3	-1.3
HUEH	Huehuetenango	0.69	99	i P	Pn	10 05 52.2	-1.3
	comp=Z,8μm,0.4s						
HUEH				i S	S	10 06 11.8	-3.9
HUEH				IAML		10 06 14.7	
	comp=N,26μm,0.5s						
HUEH	Huehuetenango	0.69	99	i P		10 05 52.2	
	comp=Z,8μm,0.4s						
HUEH				i S		10 06 11.8	
HUEH				IAML		10 06 14.7	
	comp=N,26μm,0.5s						
CCIG	Comitan	0.85	5		Pn	10 05 53.6	-0.7
CCIG				Sn	S	10 06 14.6	-2.7
CCIG	Comitan	0.85	5	eP	Pn	10 05 53.6	-0.7
CCIG				eS	S	10 06 12.9	-4.3
CCIG	Comitan	0.85	5	P	Pn	10 05 53.7	-0.7
CCIG	Comitan	0.85	5	i P	Pn	10 05 53.6	-0.7
CCIG				IAML		10 06 15.8	
	comp=N,8μm,0.6s						
CCIG	Comitan	0.85	5	i P		10 05 53.6	
CCIG				IAML		10 06 15.8	
	comp=N,8μm,0.6s						
SOKI	Kika Raxquin	0.99	128	i P	Pn	10 05 54.8	-0.7
SOKI				i S	S	10 06 15.5	-3.5
SOKI				IAML		10 06 26.6	
	comp=N,7μm,0.8s						
SOKI	Kika Raxquin	0.99	128	i P		10 05 54.8	
SOKI				i S		10 06 15.5	
SOKI				IAML		10 06 26.6	
	comp=N,7μm,0.8s						
PCIG		1.01	286		Pn	10 05 54.5	-0.5
PCIG					S	10 06 16.4	-1.9
PCIG		1.01	286	eP	Pn	10 05 54.5	-0.5
PCIG				eS	S	10 06 16.4	-1.9
RTAL	Retalhuleu	1.03	151	Pn	Pn	10 05 55.0	-0.3
RTAL				Sn	S	10 06 17.2	-1.5
RTAL	Retalhuleu	1.03	151	eP	Pn	10 05 54.6	-0.7
RTAL				eS	S	10 06 16.9	-1.9
RTAL	Retalhuleu	1.03	151	eP	Pn	10 05 54.3	-1.0
RTAL				eS	S	10 06 16.7	-2.0
RTAL	Retalhuleu	1.03	151	P	Pn	10 05 55.1	-0.3
STG8	El Palmar, Qui	1.28	139	i P		10 05 53.7	
STG8				IAML		10 06 23.1	
	comp=N,10μm,0.2s						
STG0	El Palmar, Qui	1.31	140	i P		10 05 53.8	
STG0				i S		10 06 15.1	
STG0				IAML		10 06 24.7	
	comp=N,13μm,0.2s						
TGBT	Tuxtla Gutierr	1.58	328		Pn	10 06 00.1	+0.5
TGBT					S	10 06 23.4	-3.0
TGBT	Tuxtla Gutierr	1.58	328	eP	Pn	10 06 00.1	+0.5
TGBT				i S	S	10 06 23.4	-3.0
TGIG		1.60	327		Pn	10 05 59.6	-0.3
TGIG					S	10 06 24.9	-1.9
TGIG		1.60	327	eP	Pn	10 05 59.6	-0.3
TGIG				eS	S	10 06 24.9	-1.9
TGIG		1.60	327	i P	Pn	10 05 59.9	0.0
TGIG		1.60	327	i P		10 05 59.9	
APG	El Apazote	1.74	104	P	Pn	10 05 59.9	-1.5
	comp=N,59nm,0.4s,baz=323,slow=16,SNR=758						
APG				S	S	10 06 25.2	-4.0
	comp=N,159nm,0.8s,baz=232,slow=21,SNR=33						
APG	El Apazote	1.74	104	i P	Pn	10 05 59.9	-1.5
APG				i S	S	10 06 25.2	-4.0
APG	El Apazote	1.74	104	i P		10 05 59.9	
APG				i S		10 06 25.2	
CARR	Arriaga	1.83	297	eP	Pn	10 06 01.6	-0.3
CARR				eS	S	10 06 28.6	-1.7
FG8	Yepocapa, Chim	1.98	126	i P		10 05 59.0	
NILT	Santiago Nilte	2.57	296	eP	Pn	10 06 09.6	-0.2
NILT				i S	S	10 06 42.6	-1.7
UXUV	UXUV	2.64	316	eP	Pn	10 06 10.1	-0.4
UXUV				eS	S	10 06 42.9	-2.8
PETF	Flores	2.69	56		Pn	10 06 09.3	-1.9
PETF				Sn	S	10 06 42.6	-4.2
PETF	Flores	2.69	56	i P	Pn	10 06 09.5	-1.7
PETF				i S	S	10 06 37.6	-9.2
PETF	Flores	2.69	56	i P	Pn	10 06 09.4	-1.7
PETF				IAML		10 06 44.9	
	comp=N,3μm,0.7s						
PETF	Flores	2.69	56	i P		10 06 09.4	
PETF				IAML		10 06 44.9	
	comp=N,3μm,0.7s						
SLOZ	Alcaldia de Sa	2.73	120	eP	Pn	10 06 10.9	-0.8
SLOZ				eS	S	10 06 45.2	-2.5
SLOZ	Alcaldia de Sa	2.73	120	P	Pn	10 06 12.3	+0.6
NUBE	Las Nubes	2.80	123	eP	Pn	10 06 11.2	-1.4
NUBE				eS	S	10 06 46.1	-3.1
NUBE	Las Nubes	2.80	123	P	Pn	10 06 12.1	-0.5
NUBE	Las Nubes	2.80	123	i P	Pn	10 06 12.2	-0.5
NUBE	Las Nubes	2.80	123	i P		10 06 12.2	
ESQI	Esquipulas	2.91	107		Pn	10 06 12.7	-1.1
ESQI	Esquipulas	2.91	107	eP	Pn	10 06 11.8	-1.9
ESQI				eS	S	10 06 49.4	-1.9
ESQI	Esquipulas	2.91	107	P	Pn	10 06 12.5	-1.3
MTO3	Montecristo	2.94	110		Pn	10 06 13.3	-1.0
MTO3	Montecristo	2.94	110	eP	Pn	10 06 13.2	-1.1
MTO3	Montecristo	2.94	110	P	Pn	10 06 13.6	-0.7
MTO3	Montecristo	2.94	110	i P	Pn	10 06 13.5	-0.7
MTO3	Montecristo	2.94	110	i P		10 06 13.5	
SNJE	San Jose	2.96	121	eP	Pn	10 06 13.7	-0.8
SBLS	San Blas	2.96	122	eP	Pn	10 06 13.3	-1.2
CEVE	Cerro Verde	2.97	122	eP	Pn	10 06 14.1	-0.6
CEVE				IAML		10 06 59.3	
	comp=Z,945nm,0.3s						
CEVE	Cerro Verde	2.97	122	P	Pn	10 06 18.5	+3.8
CMIG	Matias Romero	3.05	303	P	Pn	10 06 15.0	-0.3
	comp=Z,423nm,0.5s,baz=116,slow=6.0,SNR=1550						
CMIG				S	S	10 06 51.5	-2.7
	comp=Z,783nm,0.8s,baz=103,slow=18,SNR=27						
CMIG	Matias Romero	3.05	303	i P	Pn	10 06 15.0	-0.3
CMIG				eS	S	10 06 51.3	-2.9
JAYA	Jayaque - finc	3.21	123	eP	Pn	10 06 16.4	-0.9
JAYA				IAML		10 07 00.8	
	comp=Z,455nm,0.2s						
JAYA	Jayaque - finc	3.21	123	P	Pn	10 06 16.7	-0.6
JAYA	Jayaque - finc	3.21	123	i P	Pn	10 06 16.5	-0.9
JAYA				i S	S	10 06 55.9	-1.9
JAYA	Jayaque - finc	3.21	123	i P		10 06 16.5	
JAYA				i S		10 06 55.9	
TUIG	Tuzandepetl	3.34	321	eP	Pn	10 06 18.4	-0.4
TUIG				eS	S	10 06 59.1	-1.4
IZABA	Izabal, Puerto	3.51	85	eP	Pn	10 06 19.6	-1.1
IZABA				eS	S	10 06 58.0	-6.0
PAVA	Las Pavas	3.60	118	eP	Pn	10 06 21.1	-1.0
SCIG	Sabancuy	3.65	15	i P	Pn	10 06 20.8	-1.7
SCIG	Sabancuy	3.65	15	i P	Pn	10 06 20.3	-2.1
SCIG	Sabancuy	3.65	15	i P		10 06 20.3	
HUIG	Huatulco	3.77	276		Pn	10 06 23.0	-1.0
HUIG	Huatulco	3.77	276	eP	Pn	10 06 23.0	-1.0
HUIG				eS	S	10 07 05.1	-4.7
SCLA	Alcaldia de Sa	3.79	117	P	Pn	10 06 23.9	-0.4
PANG	Puerto Angel	4.11	274		Pn	10 06 27.4	-0.8
PANG	Puerto Angel	4.11	274	eP	Pn	10 06 27.4	-0.8
PANG				eS	S	10 07 08.6	-8.8
NEUV	Arroyo Zacate	4.12	304	eP	Pn	10 06 27.9	-0.4
NEUV				eS	S	10 07 12.5	-5.1
PMUV	Sontecomapan	4.16	318	eP	Pn	10 06 27.9	-1.0
PMUV				eS	S	10 07 14.8	-4.0
NISHN	Nisperales Com	4.18	85	i P	Pn	10 06 26.5	-2.7
NISHN	Nisperales Com	4.18	85	i P		10 06 26.5	
PACA	Pacayal	4.24	117	P	Pn	10 06 32.5	+2.5
OXLC	Oaxaca	4.61	291	eP	Pn	10 06 35.5	+0.9
OXLC				i S	S	10 07 22.2	-6.8
OXBJ	Oaxaca	4.63	291		Pn	10 06 36.0	+1.1
OXBJ	Oaxaca	4.63	291	eP	Pn	10 06 36.0	+1.1
OXBJ				eS	S	10 07 21.2	-8.3
OXIG	Oaxaca	4.64	291		Pn	10 06 36.5	+1.5
OXIG					S	10 07 27.0	-2.7
VHO	Vista Hermosa	4.64	291	eP	Pn	10 06 36.5	+1.5
VHO				eS	S	10 07 27.0	-2.7
CNCH	Conchagua	4.75	116	P	Pn	10 06 37.4	+1.0
PEIG	Puerto Escondi	4.79	277		Pn	10 06 36.7	0.0
PEIG	Puerto Escondi	4.79	277	eP	Pn	10 06 36.7	0.0
PEIG				eS	S	10 07 28.7	-4.2
TGUH	Tegucigalpa,Un	4.97	105	Pn	Pn	10 06 38.8	-0.4
TGUH	Tegucigalpa,Un	4.97	105	P	Pn	10 06 39.1	-0.1
YOIG	Yosondua	5.32	286		Pn	10 06 45.0	+1.3
YOIG	Yosondua	5.32	286	i P	Pn	10 06 45.0	+1.3
YOIG				eS	S	10 07 37.1	-8.5
TOIG	Toxpalan	5.35	300		Pn	10 06 44.6	+0.7
TOIG	Toxpalan	5.35	300	eP	Pn	10 06 44.6	+0.7
TOIG				i S	S	10 07 37.2	-8.8
TXIG	Tlaxiaco	5.63	290		Pn	10 06 49.7	+2.0
TXIG					S	10 07 51.8	-1.1
TXIG	Tlaxiaco	5.63	290	i P	Pn	10 06 49.7	+2.0
TXIG				eS	S	10 07 51.8	-1.1
TPIG	Tehuac#an	5.75	302		Pn	10 06 50.2	+1.0
TPIG	Tehuac#an	5.75	302	eP	Pn	10 06 50.2	+1.0
TPIG				eS	S	10 07 46.0	-10
PNIG	Pinotepa	5.77	280		Pn	10 06 50.3	+1.0
PNIG					S	10 07 52.2	-3.5
PNIG	Pinotepa	5.77	280	eP	Pn	10 06 50.3	+1.0
PNIG				eS	S	10 07 52.2	-3.5
LVIG	Laguna Verde	5.86	317	eP	Pn	10 06 51.2	+0.9
LVIG				i S	S	10 07 52.8	-4.9
HLIG	Huajuapan de L	5.87	295		Pn	10 06 52.5	+1.8
HLIG	Huajuapan de L	5.87	295	eP	Pn	10 06 52.5	+1.8
HLIG				eS	S	10 07 52.8	-5.5
JAUV	Jalcomulco	5.88	312	eP	Pn	10 06 49.6	-1.0
JAUV				eS	S	10 07 52.5	-5.8
PLRN	Geotermica Pol	5.99	117	P	Pn	10 06 52.9	+0.7
POHV	Veracruz	6.04	307	eP	Pn	10 06 54.1	+0.8
POHV				eS	S	10 07 52.0	-11
TEIG	Tepich	6.07	38	Pn	Pn	10 06 50.9	-2.2
RCVN	Varillal2	6.11	107	P	Pn	10 06 53.5	-0.3
LIMN	Finca el Limon	6.14	112	P	Pn	10 06 55.1	+1.0
FTIG	Fresnillo de T	6.18	294		Pn	10 06 56.8	+2.0
FTIG					S	10 08 02.8	-2.9
FTIG	Fresnillo de T	6.18	294	eP	Pn	10 06 56.8	+2.0
FTIG				eS	S	10 08 02.8	-2.9
MOMN	Momotombo	6.27	118	P	Pn	10 06 57.1	+1.3
MGIG	Malinaltepec	6.42	287		Pn	10 06 59.8	+1.9
MGIG					S	10 08 08.3	-2.9
MGIG	Malinaltepec	6.42	287	i P	Pn	10 06 59.8	+1.9
MGIG				eS	S	10 08 08.3	-2.9
TLIG	Tlapa	6.45	290	Pn	Pn	10 07 00.5	+2.3
TLIG	Tlapa	6.45	290	eP	Pn	10 07 00.5	+2.3
TLIG				i S	S	10 08 04.0	-8.0
TLIG	Tlapa	6.45	290	P	Pn	10 07 00.5	+2.3
MGAN	Managua	6.65	119	Pn	Pn	10 07 00.2	-0.4
CRIG	Cruz Grande	6.78	282		Pn	10 07 03.1	+0.9
CRIG	Cruz Grande	6.78	282	i P	Pn	10 07 03.1	+0.9
CRIG				eS	S	10 08 15.2	-4.2
NANN	Nandasmo	6.86	120	P	Pn	10 07 04.7	+1.2
CXUV	Coxquihui	6.96	313	eP	Pn	10 07 05.3	+0.6
CXUV				eS	S	10 08 22.6	-1.2
BOAB	BOACO BROADBAN	7.01	114	Pn	Pn	10 07 04.2	-1.1
PBCV	Popocatepetl	7.02	301	eP	Pn	10 07 08.8	+3.1
PBCV				eS	S	10 08 24.9	-0.7
PBPN	Popocatepetl	7.10	301	eP	Pn	10 07 10.1	+3.1
PBPN				eP		10 07 10.2	
PBPN				eS	S	10 08 26.9	-1.1
PBPN				eS	S	10 08 27.8	-0.1
PBXN	Popocatepetl	7.11	301	eP	Pn	10 07 10.1	+3.0
PBXN				eP	Pn	10 07 10.1	+3.0
PBXN				eS	S	10 08 26.9	-1.2
PBXN				eS	S	10 08 27.2	-0.9
PPM	Popocatepetl	7.12	301	eP	Pn	10 07 10.4	+3.3
PPM				i S	S	10 08 26.7	-1.5
PPIG	Popocatepetl	7.12	301		Pn	10 07 10.4	+3.3
PPIG					S	10 08 26.7	-1.5
DAIG	Los Arroyos	7.32	283		Pn	10 07 11.1	+1.8
DAIG	Los Arroyos	7.32	283	eP	Pn	10 07 11.1	+1.8
DAIG				i S	S	10 08 27.4	-4.8
YAIG	Yautepec	7.39	298		Pn	10 07 13.2	+2.9
YAIG					S	10 08 30.3	-3.8
YAIG	Yautepec	7.39	298	eP	Pn	10 07 13.2	+2.9
YAIG				eS	S	10 08 30.3	-3.8
MPVM	San Francisco	7.50	301	eP	Pn	10 07 15.2	+3.4
MPVM				i S	S	10 08 36.6	-0.2
THVM	De Xico	7.52	302	eP	Pn	10 07 17.1	+4.9
THVM				i S	S	10 08 39.1	+1.7
PLIG	Platanillo	7.57	294		Pn	10 07 15.5	+2.8
PLIG	Platanillo	7.57	294	eP	Pn	10 07 15.5	+2.8
PLIG				eS	S	10 08 32.3	-6.1
TLVM	San Miguel Top	7.62	301	eP	Pn	10 07 16.6	+3.1
TLVM				i S	S	10 08 39.3	-0.6
ACON	Acoyapa	7.66	116		Pn	10 07 13.4	-0.4
ACON	Acoyapa	7.66	116	P	Pn	10 07 13.7	0.0
UNM	Universidad Na	7.70	301		Pn	10 07 17.6	+3.1
CARN	Rivas	7.76	122	P	Pn	10 07 15.3	+0.3
AOVM	Tlapan	7.79	300		Pn	10 07 18.9	+3.1
AOVM					S	10 08 43.5	-0.6
AOVM	Tlapan	7.79	300	eP	Pn	10 07 18.9	+3.1
AOVM				i S	S	10 08 43.5	-0.6
MAVM	Malinalco, Edo	7.79	298	eP	Pn	10 07 03.8	-12
MAVM				i S	S	10 08 22.0	-22
ESPN	Las Esperanzas	8.33	112		Pn	10 07 21.0	-1.5
INDI	Punta indio, G	8.57	129	P	Pn	10 07 25.6	0.0
JTS	Las Juntas de	8.73	125	P	Pn	10 07 26.9	-0.8
	comp=Z,51nm,0.3s,baz=303,slow=15,SNR=39						
JTS				S	S	10 08 54.6	-11
	comp=Z,4.6nm,0.3s,baz=340,slow=24,SNR=5.1						
SOCE	Pocosol	8.94	123		Pn	10 07 29.7	-0.8
SOCE	Pocosol	8.94	123	P	Pn	10 07 30.5	0.0
ARZA	Esparza	9.13	125	eP	Pn	10 07 33.6	+0.7
JRQG	Juriquilla Cam	9.42	305	Pn	Pn	10 07 36.5	-0.3
VBV1	V. Barva	9.52	123	eP	Pn	10 07 37.8	-0.4
BELE	Belen	9.52	124	eP	Pn	10 07 37.5	-0.6
MOIG	Morelia	9.54	298		Pn	10 07 38.7	+0.3
HDC	Heredia	9.57	123	Pn	Pn	10 07 37.1	-1.6
PICV	PH. Pirrs	9.72	125	eP	Pn	10 07 40.5	-0.2
CVTG	V. Turrialba,	9.76	122	eP	Pn	10 07 40.9	-0.2
PISJ	San Jeronim	9.78	125	eP	Pn	10 07 41.1	-0.2
ABE2	San Pablo	9.79	125	eP	Pn	10 07 41.6	-0.1
VICA	Volcano Irazu	9.79	123	eP	Pn	10 07 41.4	-0.5
LCR2	La Lucha 2	9.80	124	eP	Pn	10 07 41.0	-0.8
RAFA	San Farael, Vo	9.84	123	eP	Pn	10 07 42.3	0.0
PCAYA	Pacayas	9.86	123	eP	Pn	10 07 42.7	+0.1
REPA	Paraso	9.86	123	eP	Pn	10 07 42.7	+0.1
LLNJ	Naranjito	9.89	126	eP	Pn	10 07 44.0	+1.3
VERB	Verbena	9.94	122	eP	Pn	10 07 43.4	-0.1
OCHAL	Ojochal	10.47	126	P	Pn	10 07 50.5	+0.3
EDPE	Pejibaye, P	10.49	125	eP	Pn	10 07 50.2	-0.3
DRK0	Durika	10.69	124	eP	Pn	10 07 51.7	-1.5
FIMO	Fila Mora	10.77	125	eP	Pn	10 07 54.9	+0.7
EDP2	Potrero Grande	10.89	125	eP	Pn	10 07 55.4	-0.2
PIRO	Carate, Puerto	11.14	128	eP	Pn	10 07 59.6	+0.8
BRU2	Volcan	11.41	124		Pn	10 08 01.6	-0.8
BRU2	Volcan	11.41	124	eP	Pn	10 08 01.8	-0.6
MTDJ	Mount Denham	14.32	77		Pn	10 08 38.9	0.0
CHIV	Chivirico	15.71	71	P	P	10 08 55.7	+0.2
CHIV				IAmb	IAmb	10 08 56.4	
	comp=Z,20nm,0.8s						
435B	Jarrell	16.05	343	P	Pn	10 09 00.5	+0.8
435B				IAmb	IAmb	10 09 12.2	
	comp=Z,26nm,1.1s						
553A	Crawfordville	16.34	25	P	Pn	10 09 03.9	+0.9
JCT	Junction City	16.52	336	P	P	10 09 04.6	+0.3
VBMS	Vicksburg	16.78	5	P	P	10 09 06.1	-1.0
VBMS				IAmb	IAmb	10 09 12.4	
	comp=Z,24nm,0.7s						
GTBY	Guantanamo Bay	16.89	72	P	Pn	10 09 11.7	+1.9
BRDY	Brady	16.96	340	P	P	10 09 07.7	-1.4
143A	Socs Landing,	17.21	2	P	Pn	10 09 13.6	+0.2
143A				IAmb	IAmb	10 09 26.7	
	comp=Z,40nm,0.9s						
352A	Blakely	17.31	21	P	Pn	10 09 14.9	+0.4
352A				IAmb	IAmb	10 09 15.3	
	comp=Z,29nm,0.7s						
TXAR	Lajitas Array	17.41	325	P	Pn	10 09 17.7	+1.9
	comp=Z,0.7nm,0.7s,baz=120,slow=9.2,SNR=8.3						
Z47A	Carrollton	18.08	11	P	P	10 09 23.0	+1.7
LRAL	Lakeview Retre	18.15	14	P	P	10 09 22.9	+0.8
LRAL				IAmb	IAmb	10 09 24.7	
	comp=Z,21nm,0.9s						
PLPT	Palo Pinto	18.17	343	P	P	10 09 23.3	+1.0
PLPT				IAmb	IAmb	10 09 25.2	
	comp=Z,24nm,0.8s						
MIAR	Mount Ida	19.07	357	P	P	10 09 33.3	+1.3
Y49A	Blount Mountai	19.08	15	IAmb	IAmb	10 09 34.3	
	comp=Z,18nm,1.1s						
APMT	Aspermont	19.20	339	P	Pn	10 09 35.6	-1.3
APMT				IAmb	IAmb	10 09 36.0	
	comp=Z,17nm,0.7s						
PAPH	Port-au-Prince	19.29	78	P	P	10 09 33.8	-0.7
POST	Post	19.47	336	P	P	10 09 38.2	+1.8
GOGA	Godfrey	19.57	22	P	P	10 09 38.0	+0.5
GOGA				IAmb	IAmb	10 09 39.0	
	comp=Z,16nm,0.8s						
Y52A	Lilburn	19.77	20	IAmb	IAmb	10 09 43.1	
	comp=Z,23nm,0.7s						
FPAL	Fort Paine	19.93	16	IAmb	IAmb	10 09 43.1	
	comp=Z,21nm,0.9s						
W35A	Tecumseh	20.08	349	P	P	10 09 42.5	-0.3
X51A	Calhoun	20.17	18	IAmb	IAmb	10 09 46.9	
	comp=Z,15nm,0.7s						
FNO	Franklin	20.28	348	P	P	10 09 46.6	+

Q56A	Snyder Ridge,	26.16	23	IAmb	IAmb	10 10 43.2
	comp=Z,8.2nm,0.7s					
SDMD	Soldier's Deli	27.43	26	IAmb	IAmb	10 10 52.6
	comp=Z,8.9nm,0.9s					
SSPA	Standing Stone	28.04	24	P	P	10 10 57.2 +0.1
SSPA				IAmb	IAmb	10 10 57.9
	comp=Z,7.8nm,0.7s					
MVL	Millersville	28.12	26	IAmb	IAmb	10 10 59.0
	comp=Z,13nm,0.8s					
LUPA	Lehigh Univers	29.04	27	IAmb	IAmb	10 11 07.1
	comp=Z,17nm,0.8s					
WVNY	West Valley, N	29.32	21	IAmb	IAmb	10 11 09.1
	comp=Z,9.2nm,0.8s					
PDAR	Pinedale Array	31.04	335	P	P	10 11 24.2 +0.4
	comp=Z,0.1nm,0.3s,baz=130,slow=11,SNR=4.6					
PDAR				pP	pP	10 12 07.1 +1.2
	comp=Z,0.4nm,0.8s,baz=145,slow=5.4,SNR=1.7					
	comp=Z,0.1nm,0.3s					
UCCT	U. Connecticut	31.43	29	IAmb	IAmb	10 11 27.9
	comp=Z,21nm,1.0s					
DELO	Deloro Mine	31.52	20	IAmb	IAmb	10 11 28.0
	comp=Z,14nm,0.7s					
NCB	Newcomb	32.30	25	IAmb	IAmb	10 11 34.9
	comp=Z,12nm,0.8s					
NVAR	Mina Array Bea	32.44	320	P	P	10 11 39.5 +3.4
	comp=Z,1.1nm,0.7s,baz=133,slow=8.5,SNR=8.7					
NVAR				pP	pP	10 12 20.4 +2.2
	comp=Z,3.5nm,1.0s,baz=138,slow=8.6,SNR=7.6					
NVAR				sP	sP	10 12 44.5 +2.8
	comp=Z,2.2nm,0.8s,baz=133,slow=7.9,SNR=4.4					
NVAR				PcP	PcP	10 14 19.3 +0.9
	comp=Z,0.5nm,0.7s,baz=110,slow=4.8,SNR=3.7					
NVAR				ScP	ScP	10 17 45.3 +2.4
	comp=Z,0.5nm,0.7s,baz=97,slow=2.7,SNR=3.9					
	comp=Z,1.1nm,0.7s					
LONY	Lake Ozonia	32.70	24	IAmb	IAmb	10 11 38.5
	comp=Z,12nm,0.8s					
WBO	Williamsburg	32.77	22	IAmb	IAmb	10 11 38.9
	comp=Z,9.8nm,0.8s					
LPAZ	La Paz	39.48	142	P	P	10 12 37.2 +0.7
LPAZ	La Paz	39.48	142	P	P	10 12 36.7 +0.2
	comp=Z,1.7nm,0.4s,baz=314,slow=3.2,SNR=12					
LPAZ				pP	pP	10 13 18.2 -1.3
	comp=Z,0.3nm,0.4s,baz=168,slow=2.3,SNR=1.1					
LPAZ				PcP	PcP	10 14 40.8 +0.6
	comp=Z,0.8nm,0.5s,baz=319,slow=2.3,SNR=3.2					
	comp=Z,1.7nm,0.4s					
SCHQ	Schefferville	43.96	21	P	P	10 13 10.7 -1.0
SCHQ	Schefferville	43.96	21	P	P	10 13 10.5 -1.2
	comp=Z,7.7nm,0.9s,baz=219,slow=7.2,SNR=16					
	comp=Z,7.7nm,0.9s					
YKA	Yellowknife Ar	49.59	347	P	P	10 13 55.5 +0.4
	comp=Z,2.2nm,0.6s,baz=153,slow=7.4,SNR=41					
YKA				pP	pP	10 14 40.0 -0.5
	comp=Z,1.1nm,0.7s,baz=149,slow=8.0,SNR=7.2					
YKA				sP	sP	10 15 02.9 -0.7
	comp=Z,1.2nm,0.9s,baz=150,slow=7.7,SNR=3.2					
YKA				ScP	ScP	10 18 50.7 +1.2
	comp=Z,0.4nm,0.8s,baz=157,slow=4.4,SNR=4.3					
	comp=Z,2.2nm,0.6s					
BDFB	Brasilia	53.47	123	P	P	10 14 22.9 -1.7
	comp=Z,4.3nm,0.7s,baz=314,slow=10,SNR=6.0					
	comp=Z,4.3nm,0.7s					
CPUP	Villa Florida	53.61	140	P	P	10 14 24.8 -0.5
CPUP	Villa Florida	53.61	140	P	P	10 14 24.0 -1.3
	comp=Z,5.5nm,0.9s,baz=319,slow=8.5,SNR=10					
	comp=Z,5.5nm,0.9s					
PLCA	Paso Flores	59.39	161	P	P	10 15 06.6 +0.7
	comp=Z,2.6nm,1.0s,baz=315,slow=4.8,SNR=3.6					
	comp=Z,2.6nm,1.0s					
ILAR	Eielson Array	61.45	337	P	P	10 15 20.7 +1.2
	comp=Z,0.2nm,0.8s,baz=119,slow=6.3,SNR=2.1					
ILAR				pP	pP	10 16 07.0 +0.5
	comp=Z,2.2nm,1.0s,baz=119,slow=5.3,SNR=12					
	comp=Z,0.2nm,0.8s					
ESDC	Sonseca Array	79.00	52	P	P	10 17 04.7 -1.8
	comp=Z,1.3nm,0.8s,baz=288,slow=6.1,SNR=6.9					
	comp=Z,1.3nm,0.8s					
ARCES	ARCESS Array B	84.85	18	P	P	10 17 35.1 -1.2
	comp=Z,2.1nm,0.8s,baz=269,slow=4.9,SNR=5.9					
ARCES				pP	pP	10 18 25.5 -1.0
	comp=Z,4.3nm,0.9s,baz=310,slow=5.9,SNR=3.1					
	comp=Z,2.1nm,0.8s					
FINES	FINESS Array B	89.30	25	P	P	10 17 55.8 -2.0
	comp=Z,1.5nm,0.8s,baz=186,slow=32,SNR=5.0					
	comp=Z,1.5nm,0.8s					
HHC	Hu-ho-hao-te	119.82	339	eP	PKiKP	10 23 56.5 +5.1
NJ2	Nanjing	124.18	328	eP	PKPdf	10 23 59.1 -0.7
NJ2				pmax	pmax	
	comp=Z,11nm,0.5s					
WRA	Warramunga Arr	135.53	257	PKP	PKiKP	10 24 22.8 -0.4
	comp=Z,0.6nm,0.9s,baz=87,slow=3.2,SNR=3.0					
ASAR	Alice Springs	135.93	252	PKP	PKiKP	10 24 23.3 -0.6
	comp=Z,0.4nm,0.8s,baz=94,slow=1.7,SNR=5.9					
PZH	PanZhiHua	136.16	342	PKP	PKiKP	10 24 24.3 -0.2

AFAD ***14*** *10:36:50.9, 39.°71N×22.°74E, h0km±3km, ML3.8*
IDC ***14*** *10:37:07.5±1.0, 39.°54N×23.°96E, h0km, mb3.6/9, mbtmp3.7/14, ML4.0/4, MS3.1/6, Error ellipse: s-maj=20.1km s-min=12.7km az=84.0*
SOF ***14*** *10:37:07.8, 39.°50N±0.°03×24.°15E±0.°02, h18km±2km, MD4.1/8*
ISK ***14*** *10:37:08.9, 39.°52N×24.°06E, h20km, ML4.0/62*
THE ***14*** *10:37:09.6, 39.°52N×24.°11E, h10km, ML3.8/18, Error ellipse: s-maj=0.8km s-min=0.4km az=253.0*
ATH ***14*** *10:37:09.4, 39.°52N×24.°11E, h15km±3km, ML3.8/39, Manual Solution by S.Koutrakis First location: 2019/03/14 10:37:58, This location: 2019/03/14 11:16:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
NAO ***14*** *10:37:35.7, 41.°94N×24.°46E, h33km, mb3.6*
ISC 14 10:37:09.1±1.0, 39.°52N±0.°01×24.°09E±0.°01, h12km±8km, n281, σ0.99/355, mb3.6/9, 30C-14D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.39	205	P	Pb	10 37 17.5	-0.4
AOS				S	Sb	10 37 23.6	-0.2
	27μm,0.4s						
PAIG	Paliouri	0.51	322	Pg	Pb	10 37 19.7	-0.3
PAIG				Sg	Sb	10 37 28.2	+0.8
PAIG	Paliouri	0.51	322	P	Pb	10 37 20.2	+0.2
PAIG				S	Sb	10 37 27.9	+0.5
	18μm,0.5s						
NEO	Neokhori	0.70	252	P	Pg	10 37 22.8	0.0
NEO				S	Sn	10 37 34.3	-1.4
	14μm,0.4s						
NEO	Neokhori	0.70	252	P	Pb	10 37 23.6	+0.2
NEO				S	Sb	10 37 33.7	+0.7
XOR	Xorichti	0.71	258	P	Pg	10 37 22.9	0.0
XOR				S	Sn	10 37 34.4	-1.5
	17μm,0.5s						
XOR	Xorichti	0.71	258	P	Pb	10 37 23.8	+0.4
XOR				S	Sb	10 37 34.0	+0.8
SKY	Skiros Island	0.74	151	P	Pg	10 37 23.0	-0.4
SKY				S	Sb	10 37 33.1	-0.8
	40μm,0.2s						
OUR	Ouranopolis	0.81	354	Pg	Pb	10 37 25.1	-0.1
OUR	Ouranopolis	0.81	354	P	Pn	10 37 25.4	-1.0
OUR				S	Sn	10 37 37.5	-0.8
	9μm,0.3s						
OUR	Ouranopolis	0.81	354	P	Pb	10 37 25.2	+0.1
OUR				S	Sn	10 37 37.1	-1.3
KYMI	Kymi, Euboea I	0.89	179	P	Pg	10 37 26.1	-0.2
KYMI				S	Sg	10 37 38.3	+0.4
	5μm,0.4s						
KYMI	Kymi, Euboea I	0.89	179	P	Pg	10 37 26.2	-0.1
KYMI				S	Sg	10 37 38.8	-0.1
PLG	Polygyros	0.98	330	P	Pb	10 37 27.7	-0.4
PLG				S	Sn	10 37 42.2	-0.4
	3μm,0.5s						
PLG	Polygyros	0.98	330	P	Pb	10 37 27.7	-0.4
PLG				S	Sn	10 37 41.8	-0.8
THAS	Thassos island	1.19	24	P	Pn	10 37 30.6	-0.9
THAS				S	Sg	10 37 48.9	+1.5
	6μm,0.3s						
THAS	Thassos island	1.19	24	P	Pn	10 37 30.8	-0.7
THAS				S	Sn	10 37 46.8	-0.7
LKR	Lokris	1.22	225	P	Pn	10 37 31.4	-0.5
LKR				S	Sn	10 37 47.9	-0.3
KOKK	Kokkinochori,	1.29	357	P	Pn	10 37 32.6	-0.4
KOKK	Kokkinochori,	1.29	357	P	Pn	10 37 32.5	-0.5
KOKK				S	Sb	10 37 49.0	-0.9
HORT	Hortiatis	1.31	325	Pn	Pn	10 37 32.9	-0.4
HORT	Hortiatis	1.31	325	P	Pb	10 37 33.5	-0.3
HORT				S	Sg	10 37 51.5	0.0
	3μm,0.4s						
HORT	Hortiatis	1.31	325	P	Pb	10 37 33.8	0.0
HORT				S	Sg	10 37 51.1	-0.4
AXAR	Agios Charalam	1.34	236	P	Pb	10 37 33.7	-0.5
AXAR	Agios Charalam	1.34	236	P	Pb	10 37 33.7	-0.5
AXAR				S	Sg	10 37 52.2	-0.2
LIT	Litokhoron	1.36	296	P	Pn	10 37 33.8	-0.1
LIT				S	Sb	10 37 52.2	+0.4
	2μm,0.2s						
LIT	Litokhoron	1.36	296	P	Pb	10 37 34.6	+0.1
LIT				S	Sn	10 37 51.4	-0.5
SIGR	SIGRI	1.40	102	Pn	Pb	10 37 34.7	-0.5
SIGR	SIGRI	1.40	102	P	Pb	10 37 34.5	-0.7
SIGR				S	Sg	10 37 54.3	0.0
	3μm,0.5s						
SIGR	SIGRI	1.40	102	P	Pb	10 37 34.5	-0.7
SIGR				S	Sg	10 37 53.3	-1.0
THE	Thessaloniki	1.40	322	P	Pb	10 37 34.9	-0.4
THE				S	Sb	10 37 53.2	+0.1
	1μm,0.9s						
THE	Thessaloniki	1.40	322	P	Pb	10 37 34.8	-0.4
THE				S	Sb	10 37 52.7	-0.3
SOH	Sokhos	1.41	337	P	Pb	10 37 35.0	-0.4
SOH				S	Sb	10 37 53.5	+0.1
	2μm,0.4s						
SOH	Sokhos	1.41	337	P	Pb	10 37 35.0	-0.4
SOH				S	Sb	10 37 53.3	-0.1
TYRN	Tyrnavos	1.45	278	P	Pn	10 37 35.0	0.0
TYRN	Tyrnavos	1.45	278	P	Pb	10 37 35.3	-0.6
TYRN				S	Sb	10 37 54.0	-0.2
DION	Dionisos Attik	1.45	185	P	Pn	10 37 35.0	-0.1
DION				S	Sb	10 37 54.2	-0.2
	3μm,0.5s						
DION	Dionisos Attik	1.45	185	P	Pn	10 37 34.8	-0.3
DION				S	Sb	10 37 54.0	-0.3
SMTH	Samothraki Isl	1.46	49	P	Pn	10 37 34.2	-1.0
SMTH	Samothraki Isl	1.46	49	P	Pn	10 37 34.4	-0.9
SMTH				S	Sn	10 37 53.5	-0.8
VIL2	Platees	1.46	206	P	Pb	10 37 35.7	-0.5
VIL2				S	Sg	10 37 56.2	+0.2
PTL	Penteli	1.48	187	P	Pn	10 37 35.4	-0.2
PTL	Penteli	1.48	187	P	Pn	10 37 35.3	-0.3
PTL				S	Sb	10 37 55.5	+0.1
VILL	Villia	1.49	204	P	Pn	10 37 35.4	-0.3
VILL				S	Sb	10 37 55.9	+0.4
	5μm,0.6s						
KAVA	Kavala	1.51	12	P	Pn	10 37 35.3	-0.6
KAVA	Kavala	1.51	12	P	Pn	10 37 35.3	-0.6
KARY	Karystos	1.51	170	P	Pn	10 37 35.9	-0.1
KARY	Karystos	1.51	170	P	Pn	10 37 35.9	-0.1
GOAD	anakkale-G¶	1.54	65	P	Pn	10 37 35.8	-0.6
GOAD				S	Sg	10 38 01.2	+2.5
GOAD				*i* AML	AML	10 38 09.0
	comp=E,987nm,0.4s					
GOAD				*i* AML	AML	10 38 10.0
	comp=N,1μm,0.5s					
GADA	Gvkgeada	1.54	64	Pn	Pn	10 37 36.1	-0.3
BOZC	Bozcaada	1.55	78	Pn	Pn	10 37 36.4	-0.1
BOZC	Bozcaada	1.55	78	P	Pn	10 37 36.3	-0.1
BOZC				S	Sg	10 38 00.0	+1.1
BOZC				*i* AML	AML	10 38 10.0
	comp=E,552nm,0.7s					
BOZC				*i* AML	AML	10 38 13.0
	comp=N,335nm,0.4s					
GOKC	Gokceada-Canak	1.56	64	Pn	Pb	10 37 36.9	-1.0
ATHU	Athens Univers	1.57	189	P	Pn	10 37 36.5	-0.3
ATHU				S	Sb	10 37 58.1	+0.2
ATH	Athens Observa	1.58	191	P	Pn	10 37 36.8	0.0
ATH				S	Sb	10 37 58.4	+0.4
	2μm,0.4s						
ATH	Athens Observa	1.58	191	P	Pn	10 37 37.0	+0.2
ATH				S	Sb	10 37 57.8	-0.1
GPNR	Gulpinar-Canak	1.58	92	Pn	Pb	10 37 37.2	-1.1
KOCA	Canakkale, Ayv	1.59	90	P	Pn	10 37 36.9	-0.1
KOCA				*i* AML	AML	10 38 12.0
	comp=N,652nm,0.5s					
KOCA				*i* AML	AML	10 38 14.0
	comp=E,774nm,0.7s					
MAKR	Makrakomi, Fth	1.60	252	P	Pn	10 37 37.5	+0.3
MAKR	Makrakomi, Fth	1.60	252	P	Pb	10 37 37.8	-0.9
MAKR				S	Sb	10 37 58.2	-0.6
THL	Klokotos Trika	1.60	272	P	Pn	10 37 37.1	-0.1
THL	Klokotos Trika	1.60	272	P	Pn	10 37 37.4	+0.2
SRS	Serrai	1.64	347	P	Pn	10 37 37.5	-0.2
SRS	Serrai	1.64	347	P	Pn	10 37 37.6	-0.2
SRS				S	Sb	10 37 59.0	-0.8
VLY	Voula,Athens	1.68	188	P	Pn	10 37 38.1	-0.2
ECEA	Canakkale, Ece	1.69	71	P	Pn	10 37 37.8	-0.6
ECEA				S	Sg	10 38 04.1	+0.6
ECEA				*i* AML	AML	10 38 11.0
	comp=E,1μm,0.5s					
ECEA				*i* AML	AML	10 38 13.0
	comp=N,1000nm,1.0s					
PRK	Paraskevi	1.71	99	P	Pb	10 37 39.0	-1.5
PRK	Paraskevi	1.71	99	P	Pb	10 37 39.1	-1.5
PRK				S	Sn	10 37 59.9	-0.6
LTK	Loutraki	1.73	211	P	Pn	10 37 39.2	+0.1
LTK				S	Sb	10 38 02.0	-0.6
EZNE	Ezine-Canakkal	1.77	82	Pn	Pb	10 37 39.9	-1.6
NVR	Nevrokopi	1.83	355	P	Pb	10 37 41.4	-1.2
NVR	Nevrokopi	1.83	355	P	Pb	10 37 41.5	-1.0
CNKL	anakkale-Mer	1.85	72	P	Pn	10 37 41.0	+0.3
CNKL				S	Sg	10 38 08.4	-0.3
CNKL				*i* AML	AML	10 38 17.0
	comp=N,502nm,0.4s					
CNKL				*i* AML	AML	10 38 17.0
	comp=E,351nm,0.6s					
EVR	Evrytania	1.87	252	P	Pb	10 37 42.4	-0.8
EVR	Evrytania	1.87	252	P	Pb	10 37 42.5	-0.8
KNT	Kendrikon	1.87	331	P	Pn	10 37 41.5	+0.5
KNT	Kendrikon	1.87	331	P	Pn	10 37 41.7	+0.8
KALE	Kalithea	1.89	234	P	Pn	10 37 41.5	+0.2
KALE	Kalithea	1.89	234	P	Pn	10 37 41.3	0.0
BAYC	CANAKKALE_Bayr	1.91	83	P	Pn	10 37 41.5	+0.1
BAYC				S	Sg	10 38 10.4	-0.1
BAYC				*i* AML	AML	10 38 20.0
	comp=E,218nm,0.6s					
BAYC				*i* AML	AML	10 38 22.0
	comp=N,272nm,0.9s					
ENZZ	Sultanice-Enez	1.91	55	Pn	Pn	10 37 41.8	+0.4
COMU	Canakkale	1.93	72	Pn	Pn	10 37 42.1	+0.4
ANX	Ano Chora	1.93	242	P	Pn	10 37 42.2	+0.4
ANX				S	Sn	10 38 06.3	+0.4
	2μm,0.3s						
ANX	Ano Chora	1.93	242	P	Pn	10 37 42.1	+0.4
ANX				S	Sn	10 38 06.1	+0.2
GRG	Griva	1.93	318	P	Pb	10 37 42.9	-1.3
GRG	Griva	1.93	318	P	Pb	10 37 43.0	-1.3
GRG				S	Sb	10 38 06.8	-1.4
KZN	Kozani	1.95	294	P	Pb	10 37 43.4	-1.1
KZN	Kozani	1.95	294	P	Pb	10 37 43.4	-1.1
RDO	Rodhopi	1.96	34	Pn	Pn	10 37 41.6	-0.6
RDO	Rodhopi	1.96	34	P	Pn	10 37 41.6	-0.6
RDO	Rodhopi	1.96	34	P	Pn	10 37 41.7	-0.4
MET4	Agioi Theodoro	1.97	196	P	Pn	10 37 42.1	-0.2
CAVK	Edirne/Enez-Ca	1.98	53	P	Pn	10 37 41.3	-1.1
CAVK				*i* AML	AML	10 38 22.0
	comp=E,1μm,0.7s					
CAVK				*i* AML	AML	10 38 25.0
	comp=N,1μm,0.7s					
CAVK	Edirne/Enez-Ca	1.98	53	⇑P	Pn	10 37 42.2	-0.2
MET5	Makryloggos,Me	1.98	197	P	Pn	10 37 42.5	0.0
ALIK	Aliki, Aigiali	1.99	231	P	Pn	10 37 43.1	+0.6
ENEZ	Enez	1.99	52	Pn	Pn	10 37 42.9	+0.3
KARB	zmir-Karabur	2.00	115	P	Pn	10 37 42.7	0.0
KARB				S	Sg	10 38 15.3	+1.9
KARB				*i* AML	AML	10 38 20.0
	comp=N,279nm,0.5s					
KARB				*i* AML	AML	10 38 21.0
	comp=E,413nm,0.6s					
EFP	Efpalio	2.02	238	P	Pn	10 37 43.4	+0.4
EFP	Efpalio	2.02	238	P	Pn	10 37 43.5	+0.6
AYVA	Ayvalik	2.03	95	P	Pn	10 37 43.0	0.0
AYVA				*i* AML	AML	10 38 24.0
	comp=E,501nm,1.2s					
AYVA				*i* AML	AML	10 38 25.0
	comp=N,617nm,0.6s					
GELI	Tayfur-Gelibol	2.03	64	Pn	Pn	10 37 42.8	-0.3
ALN	Alexandroupoli	2.03	47	Pn	Pn	10 37 43.5	+0.4
ALN	Alexandroupoli	2.03	47	P	Pn	10 37 42.4	-0.7
MMB	Musomishta	2.04	353	⇑*i*P	Pn	10 37 43.3	0.0
MMB				Sg	Sg	10 38 16.3	+1.7
GUR	Goura	2.09	221	P	Pn	10 37 44.2	+0.2
GUR	Goura	2.09	221	P	Pn	10 37 44.1	+0.1
CESE	eme	2.10	124	Pn	Pn	10 37 44.4	+0.4
KLV	Kalavryta, Ach	2.12	226	P	Pn	10 37 44.4	+0.1
KLV	Kalavryta, Ach	2.12	226	P	Pn	10 37 44.5	+0.1
VAY	Valandovo	2.14	328	*i* Pn	Pn	10 37 45.1	+0.6
KPRO	Kipourio	2.15	282	P	Pn	10 37 46.1	+1.3
CAND	Candarli	2.18	104	Pn	Pn	10 37 45.8	+0.6
ERIK	Erikli-Kesan	2.19	58	Pn	Pn	10 37 45.7	+0.5
PVO	Paravola	2.19	246	P	Pn	10 37 45.9	+0.6
FOCM	Foa	2.21	111	Pn	Pn	10 37 45.9	+0.4
LPK	Lapseki	2.22	67	Pn	Pn	10 37 45.9	+0.2
RZN	Rozhen	2.23	13	⇑*i*P	Pn	10 37 45.6	-0.3
RZN				Sg	Sg	10 38 21.4	+0.8
DKL	Dikili	2.23	101	Pn	Pn	10 37 46.4	+0.6
KRND	KRANIDI	2.26	199	P	Pn	10 37 46.3	0.0
IZMD	zmir-Dikili-	2.27	103	P	Pb	10 37 47.6	-2.4
IZMD				P	Pg	10 37 52.0	-0.7
IZMD				*i* AML	AML	10 38 29.0
	comp=N,133nm,1.0s					
IZMD				*i* AML	AML	10 38 32.0
	comp=E,222nm,1.3s					
IZMD				*i* AML	AML	10 38 32.0
	comp=E,148nm,0.8s					
URLA	Izmir	2.27	120	P	Pn	10 37 46.8	+0.3
URLA				S	Sg	10 38 24.9	+2.7
URLA				*i* AML	AML	10 38 28.0
	comp=N,507nm,0.5s					
URLA				*i* AML	AML	10 38 29.0
	comp=E,357nm,1.2s					
ZEYE	Izmir, Urla-Ze	2.28	123	P	Pn	10 37 46.2	-0.3
ZEYE				S	Sg	10 38 23.4	+1.1
ZEYE				*i* AML	AML	10 38 27.0
	comp=N,316nm,0.8s					
ZEYE				*i* AML	AML	10 38 33.0
	comp=E,358nm,0.6s					
KDZ	Kurdzhali	2.31	24	Pn	Pn	10 37 46.7	-0.3
KDZ	Kurdzhali	2.31	24	⇑*i*P	Pn	10 37 46.4	-0.6
KDZ				S	Sg	10 38 23.2	-0.2
BUHA	Balikesir, Bur	2.31	90	P	Pn	10 37 47.3	+0.4
BUHA				*i* AML	AML	10 38 32.0
	comp=N,288nm,1.1s					
BUHA				*i* AML	AML	10 38 34.0
	comp=E,488nm,0.7s					
CANM	Can-anakkale	2.34	77	Pn	Pn	10 37 47.9	+0.6
ZEDA	zmir-Bergama	2.39	103	P	Pn	10 37 48.2	+0.2
ZEDA				*i* AML	AML	10 38 30.0
	comp=E,222nm,0.7s					
ZEDA				*i* AML	AML	10 38 33.0
	comp=N,279nm,0.5s					
KKB	Krupnik	2.43	343	⇑*i*P	Pn	10 37 49.0	+0.4
KKB				Sg	Sg	10 38 27.0	-0.1
FNA	Florina	2.43	302	P	Pn	10 37 49.6	+0.9
FNA	Florina	2.43	302	P	Pn	10 37 49.8	+1.1
DRO	Drossia	2.43	231	P	Pn	10 37 49.1	+0.5
DRO	Drossia	2.43	231	P	Pn	10 37 49.6	+1.0
YENI	Yenice-Canakka	2.47	79	Pn	Pn	10 37 49.9	+0.8
NEST	Nestorio	2.50	292	P	Pn	10 37 50.8	+1.2
RLS	Riolos of Patr	2.52	235	P	Pn	10 37 51.0	+1.2
RLS	Riolos of Patr	2.52	235	P	Pn	10 37 50.8	+1.0
UKOP	Uzunkopru-Edir	2.52	50	Pn	Pn	10 37 50.1	+0.3
BLCB	Balcova	2.57	115	Pn	Pn	10 37 50.9	+0.4
KRBG	Karabiga-Canak	2.62	70	Pn	Pn	10 37 51.4	+0.3
DGB	zmir	2.63	123	P	Pn	10 37 52.0	+0.6
DGB				S	Sg	10 38 34.1	+0.5
DGB				*i* AML	AML	10 38 36.0
	comp=N,135nm,0.6s					
GMLD	Gumuldur	2.64	122	Pn	Pn	10 37 51.6	+0.2
RKY	Sarkoy-Tekirda	2.64	63	Pn	Pn	10 37 51.7	+0.2
SART	Tekirdag	2.64	63	P	Pn	10 37 50.5	-1.1
SART				S	Sg	10 38 34.7	+0.7
SART				*i* AML	AML	10 38 41.0
	comp=E,304nm,0.5s					
SART				*i* AML	AML	10 38 43.0
	comp=N,295nm,1.1s					
PLD	Plovdiv	2.67	11	Pn	Pn	10 37 51.4	-0.4
PLD	Plovdiv	2.67	11	P	Pn	10 37 51.5	-0.4
PLD				Sg	Sg	10 38 36.0	+1.2
APE	Apeiranthos	2.70	155	Pn	Pn	10 37 52.1	-0.3
APE	Apeiranthos	2.70	155	P	Pn	10 37 52.3	0.0
APE	Apeiranthos	2.70	155	⇑P	Pn	10 37 52.4	0.0
APE	Apeiranthos	2.70	155	P	Pn	10 37 52.2	0.0
AMT	Artemida-Makis	2.73	224	P	Pn	10 37 53.5	+0.8
BALY	Balya	2.73	84	P	Pn	10 37 53.1	+0.3
BALY				S	Sg	10 38 37.9	+0.9
BALY				*i* AML	AML	10 38 40.0
	comp=N,348nm,0.5s					
BALY				*i* AML	AML	10 38 51.0
	comp=E,171nm,0.6s					
NYDR	Nydri-Lefkada	2.76	254	P	Pb	10 37 55.8	-2.5
TSLK	Tsoukalades, L	2.76	256	P	Pb	10 37 56.0	-2.3
DIM	Dimitrovgrad	2.76	24	⇑*i*P	Pn	10 37 53.7	+0.6
DIM				Sg	Sg	10 38 38.5	+0.7
LKD2	Lefkada island	2.77	256	P	Pb	10 37 56.0	-2.5
STEP	BALIKESIR_Sava	2.81	92	P	Pn	10 37 54.3	+0.4
STEP				S	Sg	10 38 45.1	+5.6
STEP				*i* AML	AML	10 38 47.0
	comp=N,337nm,0.8s					
STEP				*i* AML	AML	10 38 56.0
	comp=E,250nm,0.8s					
EVGI	Lefkada island	2.82	252	P	Pb	10 37 56.9	-2.5
GONE	Gonen-Balikesi	2.82	78	Pn	Pn	10 37 54.7	+0.8
ITM	Ithomi	2.89	217	P	Pn	10 37 56.3	+1.3
VLI	Veliai	2.94

comp=E,54nm,0.6s
KIRA *i* AML AML 10 39 15.0
comp=N,68nm,1.2s
DEMI Demirci 3.62 96 P **Pn 10 38 06.4 +1.3**
DEMI S **Sg 10 39 06.5 +1.0**
DEMI *i* AML AML 10 39 12.0
comp=N,77nm,0.9s
DEMI *i* AML AML 10 39 16.0
comp=E,114nm,0.6s
MANT Manisa 3.63 105 P **Pn 10 38 06.4 +1.1**
MANT *i* AML AML 10 39 07.0
comp=N,56nm,0.8s
MANT *i* AML AML 10 39 18.0
comp=E,36nm,0.8s
NAZL Nazilli-Aydin 3.64 114 Pn **Pn 10 38 06.2 +1.0**
MLSB Milas 3.65 126 Pn **Pn 10 38 06.4 +1.0**
PVL Pavlikeni 3.69 12 P **Pn 10 38 06.5 +0.6**
KULA Kula-Manisa 3.70 104 Pn **Pn 10 38 07.1 +1.0**
CTYL Yalikoy Yolu 3.75 57 Pn **Pn 10 38 07.8 +1.1**
ESEN Aydn-Nazilli 3.75 116 P **Pn 10 38 07.8 +1.1**
MDNY Mudanya-Bursa 3.78 76 Pn **Pn 10 38 08.4 +1.2**
CTKS Kestanelik-??a 3.78 62 Pn **Pn 10 38 08.4 +1.2**
ARMT Armutlu 3.81 73 Pn **Pn 10 38 08.8 +1.2**
SMAA Simav-Kutahya 3.82 95 Pn **Pn 10 38 08.5 +0.8**
SIMA Simav-Kutahya 3.82 95 Pn **Pn 10 38 08.9 +1.1**
MPEP Malo Peshtene 3.84 356 *i* P **Pn 10 38 09.5 +1.5**
YAZI Mula-Dat§a- 3.88 136 P **Pn 10 38 09.9 +1.3**
YAZI *i* AML AML 10 39 31.0
comp=N,34nm,1.6s
USAK Uak-Merkez 3.92 100 P **Pn 10 38 10.1 +1.0**
ULDT Uludag 3.94 79 P **Pn 10 38 11.3 +1.8**
ULDT S **Sg 10 39 15.1 -0.3**
ULDT *i* AML AML 10 39 18.0
comp=N,130nm,0.5s
ULDT *i* AML AML 10 39 22.0
comp=E,161nm,0.5s
BGKT Bogazkoy 3.94 64 Pn **Pn 10 38 10.5 +1.1**
SZH Strazhitsa 4.00 20 P **Pn 10 38 10.3 +0.1**
SHAP Saphane-Kutahy 4.01 96 Pn **Pn 10 38 11.6 +1.1**
EMET Ktahya-Emet 4.05 90 P **Pn 10 38 13.0 +2.0**
EMET *i* AML AML 10 39 32.0
comp=N,86nm,0.8s
EMET *i* AML AML 10 39 34.0
comp=E,77nm,0.6s
YER Yerkesik 4.07 125 Pn **Pn 10 38 12.3 +1.1**
ISK Istanbul-Kandi 4.10 66 Pn **Pn 10 38 13.1 +1.6**
KAVV Kandilli-Istan 4.10 66 Pn **Pn 10 38 12.8 +1.2**
GEDZ Gediz 4.16 95 Pn **Pn 10 38 13.4 +1.0**
TVSB Tavsanli 4.16 89 Pn **Pn 10 38 13.3 +0.9**
KLYT Kilyos 4.16 64 Pn **Pn 10 38 13.6 +1.3**
YLV Yalova 4.19 74 Pn **Pn 10 38 13.8 +1.0**
VALD Valchedram 4.19 354 *e*P **Pn 10 38 13.1 +0.3**
GDZ Gediz 4.21 94 P **Pn 10 38 14.5 +1.3**
GDZ *i* AML AML 10 39 38.0
comp=E,35nm,0.8s
GDZ *i* AML AML 10 39 41.0
comp=N,42nm,1.0s
TURN Turunc 4.27 129 P **Pn 10 38 14.8 +0.9**
TURN *i* AML AML 10 39 44.0
comp=N,30nm,1.6s
IDI Anoyia 4.28 171 Pn **Pn 10 38 13.6 -0.4**
19nm,0.3s,baz=4.9,slow=22,SNR=24
IDI Sn **Sn 10 39 05.7 +1.8**
0.4nm,0.3s,baz=13,slow=9.3,SNR=1.2
IDI Lg Lg 10 39 26.0
1.1nm,0.3s,baz=313,slow=17,SNR=1.4
LOZB Loznitsa 4.28 25 ⇓P **Pn 10 38 14.4 +0.4**
TAVA DENIZLI_Tavas 4.31 117 P **Pn 10 38 16.5 +2.0**
DNIZ Denizli-Tavas- 4.32 114 P **Pn 10 38 15.6 +1.0**
DNIZ *i* AML AML 10 39 31.0
comp=N,52nm,0.6s
DNIZ *i* AML AML 10 39 33.0
comp=E,40nm,0.8s
PASA Karahalli, USA 4.37 104 P **Pn 10 38 16.5 +1.1**
RAZG Razgrad 4.43 23 ⇑P **Pn 10 38 16.6 +0.5**
ADVT Abdulvahap 4.43 76 Pn **Pn 10 38 17.2 +1.1**
NEF NEVSHA 4.44 32 *i* P **Pn 10 38 16.3 +0.1**
HRT Hereke 4.47 71 Pn **Pn 10 38 17.9 +1.3**
DNZT Denizli-Tavas- 4.48 118 P **Pn 10 38 18.5 +1.7**
BOVS Bovan 4.48 337 ⇑P **Pn 10 38 18.1 +1.4**
CAVI Cavuskoy 4.48 79 Pn **Pn 10 38 18.1 +1.3**
HUMR Humele 5.04 7 ⇓P **Pn 10 38 25.2 +0.7**
ICOR Ion Corvin 5.36 30 ⇑P **Pn 10 38 29.6 +0.7**
SULR 5.40 17 ⇑P **Pn 10 38 30.1 +0.7**
HERR Herculane 5.50 347 ⇑P **Pn 10 38 31.5 +0.8**
MDVR Moldovita 5.54 342 ⇓P **Pn 10 38 32.3 +0.9**
MFTR Murfatlar 5.67 33 ⇑P **Pn 10 38 34.1 +1.1**
TIP Timpagrande 5.69 269 ⇓P **Pn 10 38 35.3 +1.8**
MTUR Matau 5.75 7 ⇑P **Pn 10 38 35.0 +0.8**
MATE Matera 5.77 284 ⇑P **Pn 10 38 35.9 +1.3**
ARR Arges 5.86 4 ⇑P **Pn 10 38 37.4 +1.7**
ISR Istrita 5.88 17 ⇓P **Pn 10 38 36.7 +0.7**
TIRR Tirgusor 5.89 32 ⇓P **Pn 10 38 36.7 +0.6**
HARR Harsova 5.90 28 ⇑P **Pn 10 38 37.0 +0.8**
LOT Lotru 5.93 358 ⇑P **Pn 10 38 37.0 +0.3**
GZR Gura Zlata 5.95 351 ⇓P **Pn 10 38 38.1 +1.1**
VOIR 5.95 7 ⇓P **Pn 10 38 38.0 +1.0**
MLR Muntele Rosu 6.12 12 Pn **Pn 10 38 39.7 +0.3**
2.6nm,0.3s,baz=203,slow=6.6,SNR=28
MLR Sn **Sn 10 39 50.6 +1.2**
0.9nm,0.3s,baz=214,slow=11,SNR=3.8
MLR Lg Lg 10 40 24.5
1.8nm,0.3s,baz=215,slow=16,SNR=4.2
MLR LR LR 10 41 44.7
comp=Z,131nm,18.7s,baz=200,slow=45
23nm,0.6s
MLR Muntele Rosu 6.12 12 ⇓P **Pn 10 38 40.1 +0.7**
NEHR Nehoiu 6.12 15 ⇑P **Pn 10 38 40.9 +1.5**
TNR Turnu Rosu 6.13 1 ⇑P **Pn 10 38 40.4 +1.0**
TPGR Topolog 6.22 30 ⇑P **Pn 10 38 41.3 +0.6**
CFR Carcaliu 6.40 27 ⇑P **Pn 10 38 43.8 +0.8**
COVR Voineasa-Covas 6.51 13 ⇓P **Pn 10 38 46.0 +1.4**
DOPR Dopca 6.51 8 ⇓P **Pn 10 38 46.2 +1.5**
SPBR Spulber 6.52 17 ⇑P **Pn 10 38 46.6 +1.7**
PLOR Plostina 6.60 16 ⇑P **Pn 10 38 46.2 +0.3**
VRI Vrincioaia 6.63 16 ⇑P **Pn 10 38 47.9 +1.6**
TLCR 6.65 30 ⇑P **Pn 10 38 47.2 +0.6**
MARR Marisel-Cluj 7.18 355 ⇓P **Pn 10 38 55.6 +1.6**
TESR Tescani 7.23 14 ⇓P **Pn 10 38 56.2 +1.6**
BRTR Keskin Array B 7.38 85 Pn **Pn 10 38 58.0 +1.3**
0.8nm,0.3s,baz=259,slow=11,SNR=7.7
BRTR Sn **Sn 10 40 16.9 -3.4**
0.1nm,0.3s,baz=296,slow=14,SNR=1.0
BRTR Lg Lg 10 41 07.3
0.1nm,0.3s,baz=274,slow=21,SNR=2.0
1.8nm,0.4s
MORH Mrgy, Hungar 7.79 331 ⇑P **Pn 10 39 02.8 +0.7**
BURAR Bucovina Array 8.13 5 ⇓P **Pn 10 39 08.6 +1.7**
SORM Soroca 9.14 18 ⇑P **Pn 10 39 20.5 -0.2**
MMAI Mount Meron Ar 11.20 122 Pn **Pn 10 39 48.2 -0.8**
1.5nm,0.3s,baz=309,slow=13,SNR=2.6
0.8nm,0.3s
AKASG Malin Array Be 11.75 16 Pn **Pn 10 39 54.9 -1.5**
1.0nm,0.3s,baz=199,slow=13,SNR=6.3
AKASG LR LR 10 44 54.5
comp=Z,82nm,18.8s,baz=264,slow=40
1.5nm,0.6s
DAVOX Davos/Dischmat 12.65 310 LR LR 10 46 40.8
comp=Z,94nm,18.7s,baz=246,slow=46
GNI Garni 15.88 81 LR LR 10 48 18.1
comp=Z,44nm,18.3s,baz=284,slow=42
ESDC Sonseca Array 21.59 279 P **P 10 41 58.1 -0.6**
0.6nm,0.5s,baz=82,slow=11,SNR=4.2
0.6nm,0.5s
HFS Hagfors 21.64 346 P **P 10 41 58.2 -0.8**
1.8nm,0.6s,baz=136,slow=12,SNR=5.2
HFS LR LR 10 51 21.2
comp=Z,78nm,20.7s,baz=230,slow=40
1.8nm,0.6s
FINES FINESS Array B 21.98 3 P **P 10 42 02.2 -0.4**
3.1nm,0.9s,baz=211,slow=13,SNR=2.4
3.1nm,0.9s
NB2 NORSAR Subarra 22.97 344 P **P 10 42 13.3 +0.1**
comp=Z,2.7nm,0.7s,baz=151,slow=11
NOA NORSAR Array B 22.97 344 P **P 10 42 12.6 -0.6**
comp=Z,2.5nm,0.8s,baz=153,slow=11,SNR=8.2
comp=Z,2.5nm,0.8s
EKA Eskdalemuir Ar 24.06 320 P **P 10 42 24.1 +0.1**
comp=Z,2.8nm,0.8s,baz=131,slow=9.4,SNR=3.5
comp=Z,2.8nm,0.8s
KURBB Kurchatov Arra 39.18 55 P **P 10 44 38.0 +1.4**
comp=Z,0.3nm,0.5s,baz=279,slow=8.6,SNR=2.7
comp=Z,0.3nm,0.5s
MKAR Makanchi Array 42.22 60 P **P 10 45 03.5 +1.7**
comp=Z,0.5nm,0.5s,baz=283,slow=6.3,SNR=9.9
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 42.71 49 P **P 10 45 06.7 +1.0**
comp=Z,2.1nm,0.5s,baz=283,slow=9.2,SNR=10
comp=Z,2.1nm,0.5s
SUR Sutherland 71.61 183 LR LR 11 19 54.9
comp=Z,10nm,21.0s,baz=173,slow=36
YKA Yellowknife Ar 73.05 341 P **P 10 48 38.1 -0.4**
comp=Z,0.1nm,0.5s,baz=26,slow=5.4,SNR=2.7
comp=Z,0.1nm,0.5s

*IDC **14** 10:42:08.9±3.8, 50°.16N×29°.03W, h0km, mb3.8/7, mbtmp3.8/7, MS3.1/4, Error ellipse: s-maj=152.3km s-min=23.6km az=165.0*
ISC 14 10:42:10.2±3.7, 50°.1N±1°.0×29°.0W±0°.3, h10km, n12, σ0°.80/8, mb4.1/7, MS3.0/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**20.15**	**335**	LR	LR	LR	10 52 44.4	
	comp=Z,23nm,21.8s,baz=9.5,slow=32							
VRAC	**Vranov**	**29.15**	**74**	LR	LR	LR	10 58 19.8	
	comp=Z,43nm,19.0s,baz=325,slow=33							
FINES	**FINESS Array B**	**31.99**	**48**	P	**P**	**P**	**10 48 35.6**	**-0.6**
	1.8nm,0.6s,baz=292,slow=7.4,SNR=6.8							
	1.8nm,0.6s							
AKASG	**Malin Array Be**	**36.28**	**66**	LR	LR	LR	11 03 10.5	
	comp=Z,23nm,20.1s,baz=236,slow=35							
PDAR	**Pinedale Array**	**53.46**	**295**	P	**P**	**P**	**10 51 30.1**	**-0.4**
	0.4nm,0.7s,baz=60,slow=8.8,SNR=5.5							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**56.88**	**45**	P	**P**	**P**	**10 51 54.1**	**-0.8**
	2.0nm,0.8s,baz=308,slow=5.5,SNR=5.7							
	2.0nm,0.8s							
TXAR	**Lajitas Array**	**58.56**	**279**	P	**P**	**P**	**10 52 07.3**	**+0.2**
	0.5nm,0.8s,baz=61,slow=6.8,SNR=5.0							
	0.5nm,0.8s							
JTS	**Las Juntas de**	**60.62**	**249**	LR	LR	LR	11 18 01.2	
	comp=Z,25nm,18.2s,baz=106,slow=36							
KURBB	**Kurchatov Arra**	**62.20**	**43**	P	**P**	**P**	**10 52 31.8**	**+0.2**
	0.5nm,0.3s,baz=318,slow=7.1,SNR=6.6							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**66.71**	**44**	P	**P**	**P**	**10 53 01.9**	**+0.8**
	1.0nm,0.8s,baz=328,slow=5.9,SNR=9.4							
	1.0nm,0.8s							
SONM	**Songino Array**	**75.13**	**29**	P	**P**	**P**	**10 53 53.6**	**+1.1**
	0.7nm,0.8s,baz=328,slow=5.1,SNR=2.9							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**150.42**	**33**	PKPbc	**PKPbc**	**PKPbc**	**11 02 01.6**	**-0.3**
	0.2nm,0.5s,baz=45,slow=2.6,SNR=2.1							

*SOME **14** 10:52:19.8, 42°.80N×82°.88E, h5km*
*NNC **14** 10:52:23.6±1.4, 42°.83N×82°.69E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.3km s-min=5.0km az=146.0*
ISC 14 10:52:23.1±1.9, 42°.80N±0°.09×82°.69E±0°.07, h10km, n30, σ2°.26/44, 11C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.39**	**280**	Pg	**Pn**	**Pn**	**10 53 01.9**	**-0.5**
	74nm,0.3s							
SHLS				Lg	Lg	Lg	10 53 33.3	
	158nm,0.4s							
SHLS	**Shalkode**	**2.39**	**280**	*e*P	**Pn**	**Pn**	**10 53 01.9**	**-0.5**
	74nm,0.3s							
SHLS				*e*S	**Sn**	**Sn**	**10 53 32.7**	**+0.8**
	158nm,0.4s							
DJR	**Jarkent**	**2.60**	**307**	Pg	**Pb**	**Pb**	**10 53 10.3**	**+0.4**
	10nm,0.3s							
DJR				Lg	Lg	Lg	10 53 47.0	
	40nm,0.3s							
DJR	**Jarkent**	**2.60**	**307**	*e*P	**Pb**	**Pb**	**10 53 10.2**	**+0.4**
	10nm,0.3s							
DJR				*e*S	**Sg**	**Sg**	**10 53 47.0**	**+0.3**
	40nm,0.3s							
UZB	**Uzynbulak**	**2.71**	**279**	Pg	**Pb**	**Pb**	**10 53 12.1**	**+0.3**
	12nm,0.3s							
UZB				Lg	Lg	Lg	10 53 49.8	
	32nm,0.3s							
UZB	**Uzynbulak**	**2.71**	**279**	*e*P	**Pb**	**Pb**	**10 53 12.1**	**+0.3**
	12nm,0.3s							
UZB				*e*S	**Sg**	**Sg**	**10 53 49.8**	**-0.4**
	32nm,0.3s							
KNOS	**Konyrlen**	**2.98**	**303**	Pg	**Pb**	**Pb**	**10 53 17.2**	**+0.8**
	8.5nm,0.2s							
KNOS				Lg	Lg	Lg	10 53 58.8	
	20nm,0.2s							
KPKS	**Kokpek**	**3.00**	**284**	Pg	**Pb**	**Pb**	**10 53 17.0**	**+0.3**
	4.8nm,0.2s							
KPKS				Lg	Lg	Lg	10 53 59.0	
	7.1nm,0.3s							
KPKS	**Kokpek**	**3.00**	**284**	*e*P	**Pb**	**Pb**	**10 53 17.0**	**+0.3**
	4.8nm,0.2s							
KPKS				*e*S	**Sg**	**Sg**	**10 53 59.0**	**-0.6**
	7.1nm,0.3s							
SATY	**Saty**	**3.15**	**276**	Pg	**Pb**	**Pb**	**10 53 19.5**	**+0.2**
	6.4nm,0.2s							
SATY				Lg	Lg	Lg	10 54 03.2	
	48nm,0.2s							
KURS	**Kuram**	**3.37**	**283**	Pg	**Pb**	**Pb**	**10 53 25.3**	**+2.3**
	4.7nm,0.4s							
KURS				Lg	Lg	Lg	10 54 12.6	
	14nm,0.5s							
KAPS	**Kapalarasan**	**3.45**	**317**	Pg	**Pb**	**Pb**	**10 53 25.5**	**+1.2**
	4.3nm,0.2s							
KAPS				Lg	Lg	Lg	10 54 13.1	
	67nm,0.2s							
ARXS	**Arharly**	**3.81**	**293**	Pg	**Pb**	**Pb**	**10 53 31.6**	**+1.2**
	4.8nm,0.3s							
ARXS				Lg	Lg	Lg	10 54 23.5	
	18nm,0.5s							
MK31	**Makanchi Array**	**4.00**	**356**	⇑Pn	**Pn**	**Pn**	**10 53 27.0**	**+2.5**
	0.3nm,0.3s,baz=182,slow=14,SNR=23							
MK31				⇑Pg	**Pg**	**Pg**	**10 53 37.2**	**-2.5**
	1.6nm,0.4s,baz=177,slow=5.7,SNR=20							
MK31				⇑Sn	**Sn**	**Sn**	**10 54 15.7**	**+4.3**
	4.2nm,0.8s,baz=175,slow=23,SNR=5.6							
MK31				⇑Lg	Lg	Lg	10 54 28.0	
	14nm,0.5s,baz=172,slow=27,SNR=8.4							
MAKZ	**Makanchi**	**4.04**	**353**	⇑Pn	**Pn**	**Pn**	**10 53 27.7**	**+2.7**
	1.6nm,0.6s							
MAKZ				⇑Pg	**Pg**	**Pg**	**10 53 38.5**	**-1.9**
	1.2nm,0.5s							
MAKZ				⇑Sn	**Sn**	**Sn**	**10 54 15.1**	**+2.8**
	1.9nm,0.3s							
MAKZ				⇑Lg	Lg	Lg	10 54 27.5	
	5.8nm,0.7s							
MDOK	**Medeo**	**4.15**	**277**	*e*P	**Pn**	**Pn**	**10 53 25.5**	**-1.2**
	4.3nm,0.2s							
MDOK				*e*S	**Sn**	**Sn**	**10 54 13.1**	**-2.3**
	67nm,0.2s							
TNSS	**Tian-Shan**	**4.22**	**275**	Pg	**Pb**	**Pb**	**10 53 40.4**	**+2.8**
	3.0nm,0.3s							
TNSS				Lg	Lg	Lg	10 54 39.1	
	6.4nm,0.5s							
TNSS	**Tian-Shan**	**4.22**	**275**	*e*P	**Pb**	**Pb**	**10 53 40.4**	**+2.8**
	3.0nm,0.3s							
TNSS				*e*S	**Sg**	**Sg**	**10 54 39.1**	**+0.4**
	6.4nm,0.5s							
CHKK	**Chushkaly**	**4.29**	**286**	Pg	**Pb**	**Pb**	**10 53 40.8**	**+2.3**
	0.6nm,0.1s							
CHKK				Lg	Lg	Lg	10 54 39.3	
	14nm,0.5s							
CHKK	**Chushkaly**	**4.29**	**286**	*e*P	**Pb**	**Pb**	**10 53 40.8**	**+2.3**
	0.6nm,0.1s							
CHKK				*e*S	**Sg**	**Sg**	**10 54 39.3**	**-1.4**
	14nm,0.5s							
KTBS	**Karatobe**	**4.48**	**284**	Pg	**Pb**	**Pb**	**10 53 45.4**	**+3.6**
	3.4nm,0.7s							
KTBS				Lg	Lg	Lg	10 54 47.6	
	1.6nm,0.5s							
MTBS	**Maitube**	**4.60**	**276**	Pg	**Pg**	**Pg**	**10 53 48.2**	**-3.0**
	1.4nm,0.1s							
MTBS				Lg	Lg	Lg	10 54 52.4	
	10nm,0.4s							
MTBS	**Maitube**	**4.60**	**276**	*e*P	**Pg**	**Pg**	**10 53 48.2**	**-3.0**
	1.4nm,0.1s							
MTBS				*e*S	**Sg**	**Sg**	**10 54 52.4**	**+1.6**
	10nm,0.4s							
ZSN	**Zaisan**	**4.90**	**18**	Pg	**Pb**	**Pb**	**10 53 50.0**	**+1.1**
	1.4nm,0.1s							
ZSN				Lg	Lg	Lg	10 54 54.8	
	12nm,0.6s							
ZSN	**Zaisan**	**4.90**	**18**	*e*P	**Pb**	**Pb**	**10 53 50.0**	**+1.1**
	1.4nm,0.1s							
ZSN				*e*S	**Sg**	**Sg**	**10 54 54.8**	**-5.4**
	12nm,0.6s							
KST	**Kastek**	**4.94**	**275**	Pg	**Pb**	**Pb**	**10 53 53.8**	**+4.0**
	1.1nm,0.2s							
KST				Lg	Lg	Lg	10 55 01.3	
	7.9nm,0.5s							
KST	**Kastek**	**4.94**	**275**	*e*P	**Pb**	**Pb**	**10 53 53.8**	**+4.0**
	1.1nm,0.2s							
KST				*e*S	**Sg**	**Sg**	**10 55 01.4**	**-0.4**
	7.9nm,0.5s							
DGS	**Degeres**	**5.09**	**277**	Pg	**Pb**	**Pb**	**10 53 56.0**	**+3.8**
	2.3nm,0.4s							
DGS				Lg	Lg	Lg	10 55 05.3	
	15nm,0.5s							
TKM2	**Tokmak 2**	**5.21**	**274**	⇑Lg	Lg	Lg	10 55 09.9	
	6.1nm,0.6s							
KURBB	**Kurchatov Arra**	**8.32**	**341**	⇑Pn	**Pn**	**Pn**	**10 54 24.8**	**+1.1**
	1.7nm,0.8s							
KURBB				⇑Sn	**Sn**	**Sn**	**10 55 56.6**	**-1.1**
	4.3nm,0.7s							

*VIE **14** 10:57:28.6±0.9, 48°.23N×8°.86E, h0km, mb2.1/4, ml2.2/5, Error ellipse: s-maj=9.3km s-min=3.7km az=18.0, Suspected Mining explosion.*
*STR **14** 10:57:29.2±0.6, 48°.N±3°.×±°., h0km, MLv2.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=31.7, preliminary*
ISC 14 10:57:28.5±0.9, 48°.21N±0°.05×8°.80E±0°.03, h0km, n20, σ0°.53/24, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.25**	**124**	Pg	**Pg**	**Pg**	**10 57 33.4**	**0.0**
GUT				Sg	**Sg**	**Sg**	**10 57 37.4**	**+0.8**
BFO	**Black Forest**	**0.34**	**291**	Pg	**Pg**	**Pg**	**10 57 34.9**	**-0.1**
BFO				Sg	**Sg**	**Sg**	**10 57 40.4**	**+1.0**
SLE	**Schleitheim**	**0.49**	**205**	Pg	**Pg**	**Pg**	**10 57 37.7**	**-0.2**
FELD	**Feldberg im Sc**	**0.63**	**238**	Pg	**Pg**	**Pg**	**10 57 40.4**	**-0.3**
FELD	**Feldberg im Sc**	**0.63**	**238**	Sg	**Sg**	**Sg**	**10 57 50.0**	**+1.1**
KIZ	**Kirchzarten**	**0.65**	**247**	Pg	**Pg**	**Pg**	**10 57 40.8**	**-0.1**
KIZ	**Kirchzarten**	**0.65**	**247**	Sg	**Sg**	**Sg**	**10 57 50.0**	**+0.7**
BABA	**Baden-Baden-Ne**	**0.65**	**322**	Pg	**Pb**	**Pb**	**10 57 42.6**	**-0.2**
BABA	**Baden-Baden-Ne**	**0.65**	**322**	Sg	**Sb**	**Sb**	**10 57 52.0**	**-0.4**
SULZ	**Cheisacher**	**0.83**	**214**	Pg	**Pg**	**Pg**	**10 57 44.2**	**-0.2**
ENDD	**Endenburg**	**0.87**	**236**	Pg	**Pg**	**Pg**	**10 57 45.4**	**+0.2**
ENDD	**Endenburg**	**0.87**	**236**	Sg	**Sg**	**Sg**	**10 57 57.1**	**+0.6**
HOHE	**HOHENGÖEFT**	**0.99**	**297**	Pg	**Pb**	**Pb**	**10 57 48.1**	**-0.4**
HOHE				Sg	**Sb**	**Sb**	**10 58 02.5**	**+0.4**
DAVA	**Damuels**	**1.18**	**141**	*i* Pg	**Pn**	**Pn**	**10 57 52.1**	**-0.3**
	2.9nm,0.3s							
DAVA				*e*Sg	**Sn**	**Sn**	**10 58 08.8**	**-0.4**
BOURR	**Bourrignon**	**1.34**	**233**	Pn	**Pg**	**Pg**	**10 57 54.0**	**-0.2**
BOURR	**Bourrignon**	**1.34**	**233**	Sn	**Sn**	**Sn**	**10 58 12.5**	**-0.6**
RETA	**Reutte**	**1.51**	**118**	*e*Sg	**Sn**	**Sn**	**10 58 17.9**	**+0.7**
	19nm,0.5s							
FETA	**Feichten**	**1.77**	**132**	Sg	**Sg**	**Sg**	**10 58 25.6**	**+0.4**
SQTA	**Sankt Quirin**	**1.90**	**121**	*e*Sg	**Sb**	**Sb**	**10 58 28.5**	**0.0**
	6.6nm,0.3s							
LESA	**Schwarzleotal**	**2.73**	**105**	Sg	**Sg**	**Sg**	**10 58 56.4**	**+0.3**
	2.9nm,0.4s							

NOU 14 10:58:06.6, 16°.10S×168°.33E, h156km, MLv3.8/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.62**	**185**	P	Pn	Pn	10 58 38.1	+0.2
DVP	**Devils Point**	**1.62**	**185**	S	Sn	Sn	10 59 03.0	+1.0
MARNC	**Mare, Loyalty**	**5.36**	**183**	P	Pn	Pn	10 59 24.1	-0.8
KOUNC	**Koumac, New Ca**	**5.86**	**220**	P	Pn	Pn	10 59 30.5	-1.0
LUES	**Luesalemba Tem**	**5.89**	**336**	P	Pn	Pn	10 59 30.1	-1.9
DZM	**Mont Dzumac**	**6.20**	**196**	P	Pn	Pn	10 59 36.9	+0.8
NGOA	**Tingoa Renbel**	**9.21**	**298**	P	Pn	Pn	11 00 14.3	-1.9
TATA	**Tatamba Isabel**	**11.32**	**312**	P	Pn	Pn	11 00 44.2	+0.3

WEL 14 11:11:32.5±0.9, 35°.S±5°.×17°.8E±1°.0, h33km, M3.1/12, ML3.5/18, MLv3.1/12, Error ellipse: s-maj=12.6km s-min=7.0km az=90.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.15**	**165**	P	P	Pn	11 12 06.9	+0.8
MXZ				S	S	Sn	11 12 33.2	+1.5
HAZ	**Te Kaha**	**2.28**	**177**	P	P	Pn	11 12 09.4	+1.6
HAZ				S	S	Sb	11 12 38.9	-1.8
PKGZ	**Pakihiroa**	**2.42**	**171**	P	P	Pn	11 12 10.9	+1.2
PKGZ				S	S	Sn	11 12 39.5	+1.4
WMGZ	**Waiomatatini S**	**2.42**	**165**	P	P	Pn	11 12 10.0	+0.2
WMGZ				S	S	Sn	11 12 38.5	+0.2
RUGZ	**Raukumara Rang**	**2.49**	**179**	P	P	Pn	11 12 11.8	+1.1
PUZ	**Puketiti**	**2.64**	**169**	P	P	Pn	11 12 12.6	-0.1
PUZ				S	S	Sn	11 12 41.8	-1.9
TWGZ	**Tauwhareparae**	**2.71**	**174**	P	P	Pn	11 12 14.5	+0.7
TWGZ				S	S	Sn	11 12 46.9	+1.5
URZ	**Urewera**	**2.81**	**188**	P	P	Pn	11 12 16.4	+1.3
URZ				S	S	Sn	11 12 51.2	+3.4
MWZ	**Matawai**	**2.85**	**181**	P	P	Pn	11 12 16.2	+0.5
MWZ				S	S	Sn	11 12 51.0	+2.0
TKGZ	**Te Karaka**	**2.96**	**177**	P	P	Pn	11 12 16.8	-0.4
TKGZ				S	S	Sn	11 12 50.1	-1.5
RAGZ	**Rawiri**	**3.02**	**183**	P	P	Pn	11 12 18.7	+0.7
RAGZ				S	S	Sn	11 12 55.8	+2.6
MUGZ	**Murupara**	**3.07**	**193**	P	P	Pn	11 12 20.4	+1.7
MUGZ				S	S	Sn	11 12 57.7	+3.4
RIGZ	**Rimuhau**	**3.23**	**178**	P	P	Pn	11 12 19.7	-1.1
RIGZ				S	S	Sn	11 12 57.0	-1.1
SNGZ	**Shannon Statio**	**3.31**	**184**	P	P	Pn	11 12 22.2	+0.3
SNGZ				S	S	Sn	11 13 00.3	+0.1
MTHZ	**Maungataniwha**	**3.43**	**190**	P	P	Pn	11 12 23.9	+0.3
MTHZ				S	S	Sn	11 13 05.1	+2.0
RAHZ	**Arahi**	**3.46**	**187**	P	P	Pn	11 12 23.8	-0.3
RAHZ				S	S	Sn	11 13 04.4	+0.5
MHGZ	**Mahia Peninsul**	**3.68**	**177**	P	P	Pn	11 12 24.1	-2.9
BKZ	**Black Stump Fm**	**3.79**	**193**	P	P	Pn	11 12 28.7	+0.1
BKZ				S	S	Sn	11 13 12.9	+0.8
ARHZ	**Aropaoanui**	**3.81**	**187**	P	P	Pn	11 12 27.8	-1.1
ARHZ				S	S	Sn	11 13 11.9	-0.7
TMVZ	**Te Maari**	**3.94**	**202**	P	P	Pn	11 12 32.4	+1.7
OTVZ	**Oturere**	**4.00**	**202**	P	P	Pn	11 12 33.1	+1.6
MCHZ	**McNeill Hill**	**4.03**	**190**	P

*AEIC **14** 11:52:24.7±0.8, 55°.40N±0°.05×160°.14W±0°.07, h67km±7km, Error ellipse: s-maj=7.4km s-min=5.4km az=180.0*
NEIC 14 11:52:25.0±1.1, 55°.37N±0°.05×160°.16W±0°.06, h72km±10km, ML3.0/28, **ML3.0**(AEIC), **Error ellipse: s-maj=7.5km s-min=4.8km az=192.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.18**	**262**		Pn	11 52 35.3	-0.5
SDPT					Sn	11 52 43.0	-0.5
SDPT	**Sand Point**	**0.18**	**262**	IAML		11 52 43.3	
	comp=E,725nm,0.6s						
SDPT				IAML		11 52 43.5	
	comp=N,564nm,0.5s						
CNBA	**Chernabura Isl**	**0.65**	**149**		Pn	11 52 39.0	-0.4
CNBA					Sn	11 52 49.9	-0.2
CNBA	**Chernabura Isl**	**0.65**	**149**	IAML		11 52 51.2	
	comp=E,393nm,0.2s						
CNBA				IAML		11 52 51.9	
	comp=N,446nm,0.2s						
VNKR	**Veniaminof 5**	**0.80**	**34**		Pn	11 52 40.7	-0.5
PS1A	**Pavlof South-1**	**0.91**	**274**		Pn	11 52 42.3	-0.1
PS1A					Sn	11 52 55.6	+0.3
PVV	**Pavlof Volcano**	**0.93**	**271**		Pn	11 52 42.6	-0.1
PVV					Sn	11 52 55.9	0.0
VNSS	**Veniaminof 8**	**0.94**	**25**		Pn	11 52 42.9	-0.2
VNSG	**Veniaminof 6**	**0.97**	**38**		Pn	11 52 42.8	-0.4
PS4A	**Pavlof South-4**	**0.97**	**269**		Pn	11 52 43.1	-0.1
PS4A					Sn	11 52 57.1	+0.4
VNFG	**Fog Glacier, M**	**0.97**	**20**		Pn	11 52 43.4	0.0
VNFG	**Fog Glacier, M**	**0.97**	**20**	IAML		11 52 59.4	
	comp=N,289nm,1.3s						
VNFG				IAML		11 53 17.0	
	comp=E,309nm,0.9s						
HAG	**Hague Volcano**	**1.00**	**267**		Pn	11 52 43.6	0.0
VNHG	**Veniaminof 1**	**1.02**	**33**		Pn	11 52 43.8	-0.1
CHGN	**Chignik**	**1.35**	**46**		Pn	11 52 47.8	-0.3
CHGN				IAML		11 53 09.8	
	comp=N,316nm,0.1s						
ANPB	**Aniakchak Plen**	**1.78**	**36**		Pn	11 52 53.6	-0.1
AZAC	**Aniakchak**	**1.87**	**34**		Pn	11 52 54.9	-0.1
ANNE	**Aniakchak Nort**	**1.94**	**36**		Pn	11 52 55.8	-0.1
ISLZ	**Isanotski Laza**	**2.15**	**254**		Pn	11 52 59.3	+0.6
SSLS	**Shishaldin Sou**	**2.31**	**255**		Pn	11 53 01.8	+0.9
R16K	**Pilot Point**	**2.62**	**32**	IAML		11 54 43.6	
	comp=N,63nm,1.3s						
WESE	**West Dahl East**	**2.71**	**252**		Pn	11 53 07.6	+1.3
WEBT	**Westdahl Beart**	**2.76**	**255**		Pn	11 53 08.4	+1.5
PLBL	**Peulik Blue Cr**	**2.98**	**37**		Pn	11 53 10.2	+0.4
PLK1	**Peulik 1**	**3.13**	**37**		Pn	11 53 12.3	+0.4
AKSA	**Akutan Strait**	**3.44**	**251**		Pn	11 53 17.4	+1.2
AHB	**Akutan Harbor**	**3.51**	**251**		Pn	11 53 18.1	+0.9
SII	**Sitkinak Islan**	**3.56**	**68**	Pn	Pn	11 53 17.3	-0.6
AKV	**Akutan Volcano**	**3.59**	**252**		Pn	11 53 19.3	+1.1
ZRO	**Akutan Zero**	**3.61**	**252**		Pn	11 53 19.6	+1.1
O15K	**Ungalikthiuk R**	**3.82**	**3**		Pn	11 53 21.9	+0.7
ANCK	**Angle Creek**	**3.82**	**40**		Pn	11 53 21.9	+0.5
Q16K	**King Salmon**	**3.83**	**29**		Pn	11 53 21.9	+0.5
R18K	**Karluk**	**3.85**	**53**		Pn	11 53 22.2	+0.5
ACHA	**Angle Creek He**	**3.89**	**41**		Pn	11 53 22.7	+0.3
UNV	**Unalaska Valle**	**4.00**	**250**		Pn	11 53 24.0	+0.3
MREP	**Makushin Rep't**	**4.14**	**250**		Pn	11 53 26.3	+0.5
MGOD	**Makushin Gods**	**4.21**	**251**		Pn	11 53 27.3	+0.5
MAPS	**Pakushin South**	**4.25**	**251**		Pn	11 53 27.7	+0.5
OHAK	**Old Harbor**	**4.25**	**61**		Pn	11 53 25.9	-1.3
OHAK	**Old Harbor**	**4.25**	**61**	IAML		11 54 48.6	
	comp=N,17nm,1.1s						
KAHC	**Katmai Hardscr**	**4.32**	**39**		Pn	11 53 28.8	+0.5
P17K	**Kvichak River**	**4.33**	**26**		Pn	11 53 28.9	+0.6
O16K	**Kokwok River B**	**4.38**	**14**		Pn	11 53 29.5	+0.6
KAHG	**Katmai Hook Gl**	**4.38**	**42**		Pn	11 53 29.5	+0.4
O17K	**Koliganek Bris**	**4.71**	**19**		Pn	11 53 33.5	+0.1
N15K	**Kwethluk River**	**4.81**	**0**		Pn	11 53 35.1	+0.3
N15K	**Kwethluk River**	**4.81**	**0**	IAML		11 55 06.0	
	comp=N,9.6nm,1.4s						
N15K				IAML		11 55 47.0	
	comp=E,14nm,1.3s						
P18K	**Big Mountain,**	**4.83**	**31**		Pn	11 53 35.7	+0.5
P18K	**Big Mountain,**	**4.83**	**31**	IAML		11 55 21.8	
	comp=E,12nm,1.4s						
KDAK	**Kodiak Island**	**4.83**	**57**		Pn	11 53 33.9	-1.2
KDAK	**Kodiak Island**	**4.83**	**57**	IAML		11 54 43.0	
	comp=E,16nm,1.4s						
N16K	**Nishlik Lake**	**5.17**	**8**		Pn	11 53 40.0	+0.2
O18K	**Koktuh Hills**	**5.22**	**29**	Pn	Pn	11 53 41.1	+0.6
O18K				IAML		11 55 52.3	
	comp=N,11nm,1.4s						
O18K				IAML		11 56 54.5	
	comp=E,8.6nm,1.2s						
N17K	**Nushagak Hills**	**5.40**	**16**	Pn	Pn	11 53 42.6	-0.4
M16K	**Timber Creek**	**5.70**	**6**	Pn	Pn	11 53 47.3	+0.4
SUA	**Susitna One**	**7.85**	**35**	Pn	Pn	11 54 18.5	+2.1

*MOS **14** 11:59:02.7±1.1, 35°.67N×140°.77E, h47km, mb4.5/12, Error ellipse: s-maj=12.2km s-min=6.8km az=114.9*
*NIED **14** 11:59:04.5, 35°.66N×140°.73E, h48km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.89; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.77; $M_{r\theta}$-0.25; $M_{\theta\phi}$0.03; $M_{\phi r}$1.94; Fault plane solution: $M_0$2.68000×10^15 NP1: ϕ_s183.00000°, δ22.00000°, λ98.00000°. NP2: ϕ_s354.00000°, δ69.00000°, λ87.00000°.*
*JMA **14** 11:59:04.5±0.2, 35°.7N±0°.6×140°.7E±0°.8, h48km±1km, MD4.0/39, MV3.8/39, NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
*NEIC **14** 11:59:05.4±1.1, 35°.66N±0°.06×140°.78E±0°.08, h50km±9km, mb4.3/21, Error ellipse: s-maj=11.0km s-min=6.7km az=128.0*
*IDC **14** 11:59:06.7±1.6, 35°.56N×140°.61E, h69km±14km, mb3.6/19, mbtmp3.9/24, MS3.2/13, Error ellipse: s-maj=17.4km s-min=7.7km az=71.0*
ISC 14 11:59:04.8±0.8, 35°.64N±0°.04×140°.74E±0°.06, h48km±7km, **n137,** σ1°.**22**/123, **mb4.1**/38, **MS3.3**/9, **6C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.24**	**270**	*i* P	**Pn**	**11 59 13.2**	**0.0**
JSMT	**Sammumatsuo**	**0.24**	**270**	A	A	11 59 13.2	
	comp=N,44nm,0.4s,comp=E,137nm,1.1s						
JIHU	**Itakohorinouch**	**0.37**	**332**	*i* P	**Pn**	**11 59 14.4**	**0.0**
JIHU				S	**Sn**	**11 59 21.9**	**+0.6**
JIHU	**Itakohorinouch**	**0.37**	**332**	A	A	11 59 14.4	
	comp=N,40nm,1.3s,comp=E,87nm,0.9s						
JHYU	**Hitachinakayam**	**0.71**	**350**	A	A	11 59 17.9	
	comp=N,12nm,1.0s,comp=E,10.0nm,1.2s						
BSO4	**Boso 4**	**0.73**	**207**	P	**Pn**	**11 59 19.0**	**+0.3**
JYT	**Yasato**	**0.73**	**323**	||*i* P	**Pn**	**11 59 18.1**	**-0.8**
JYT	**Yasato**	**0.73**	**323**	A	A	11 59 18.1	
	comp=N,11nm,0.3s,comp=E,18nm,0.4s						
TOK	**Tokyo**	**0.80**	**273**	A	A	11 59 19.4	
	comp=N,20nm,0.8s,comp=E,18nm,0.7s						
BSO3	**Boso 3**	**0.86**	**193**	P	**Pn**	**11 59 20.7**	**+0.4**
JYO	**Yokosk**	**0.97**	**245**	A	A	11 59 21.9	
	comp=N,11nm,0.4s,comp=E,7.0nm,0.4s						
JHO	**Hitachi**	**0.97**	**352**	A	A	11 59 21.7	
	comp=N,5.0nm,0.8s,comp=E,5.0nm,0.9s						
BSO1	**Boso 1**	**1.01**	**169**	*eP*	**Pn**	**11 59 22.4**	**+0.3**
JSGW	**Sagamiharawaka**	**1.25**	**269**	A	A	11 59 25.8	
	comp=N,5.0nm,1.2s,comp=E,4.0nm,0.7s						
JAG	**Ashikaga**	**1.30**	**307**	||*i* P	**Pn**	**11 59 25.7**	**-0.9**
JAG	**Ashikaga**	**1.30**	**307**	A	A	11 59 25.7	
	comp=N,3.0nm,0.4s,comp=E,3.0nm,1.6s						
JOD2	**Odawara 2**	**1.40**	**255**	||*i* P	**Pn**	**11 59 27.7**	**-0.3**
JOD2				||*eS*	**Sn**	**11 59 45.1**	**-0.2**
JIM2	**Oshima 3**	**1.42**	**230**	*eP*	**Pn**	**11 59 27.0**	**-1.2**
JIM2				*eS*	**Sn**	**11 59 45.4**	**-0.2**
JMM	**Marumori**	**2.22**	**1**	Pn	**Pn**	**11 59 39.6**	**+0.5**
JMM				Sn	**Sn**	**12 00 06.0**	**+0.7**
JMM	**Marumori**	**2.22**	**1**	P	**Pn**	**11 59 39.8**	**+0.7**
JMM	**Marumori**	**2.22**	**1**	S	**Sn**	**12 00 06.6**	**+1.3**
MJAR	**Matsushiro Arr**	**2.24**	**294**	P	**Pn**	**11 59 40.0**	**+0.6**
	comp=E,40nm,0.4s,baz=101,slow=14,SNR=318						
MJAR				S	**Sn**	**12 00 07.1**	**+1.3**
	comp=E,94nm,0.6s,baz=130,slow=16,SNR=6.6						
MJAR				LR	LR	12 00 43.1	
	comp=E,464nm,21.4s,baz=146,slow=44						
MAJO	**Matsushiro**	**2.24**	**294**	Pn	**Pn**	**11 59 40.5**	**+1.1**
MAJO	**Matsushiro**	**2.24**	**294**	P	**Pn**	**11 59 40.5**	**+1.1**
MAJO	**Matsushiro**	**2.24**	**294**	P	**Pn**	**11 59 40.5**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.24**	**294**		**Pn**	**11 59 41.5**	**+2.0**
JSG	**Sagara**	**2.31**	**246**		**Pn**	**11 59 42.2**	**+1.9**
JSG	**Sagara**	**2.31**	**246**	P	**Pn**	**11 59 43.0**	**+2.7**
JHJ2	**Mitsune**	**2.64**	**197**	Pn	**Pn**	**11 59 45.1**	**+0.2**
JHJ2	**Mitsune**	**2.64**	**197**	P	**Pn**	**11 59 45.6**	**+0.7**
JHJ	**Hachijo jima 2**	**2.64**	**198**	P	**Pn**	**11 59 45.0**	**0.0**
	comp=E,138nm,0.3s,baz=328,slow=22,SNR=25						
JHJ				S	**Sn**	**12 00 15.8**	**+0.1**
	comp=E,343nm,0.4s,baz=299,slow=19,SNR=7.2						
JGF	**Kuroka**	**2.76**	**270**	Pn	**Pn**	**11 59 48.3**	**+1.8**
JGF	**Kuroka**	**2.76**	**270**	P	**Pn**	**11 59 48.3**	**+1.8**
INU	**Inuyama**	**3.05**	**266**		**Pn**	**11 59 51.4**	**+0.8**
INU	**Inuyama**	**3.05**	**266**	P	**Pn**	**11 59 51.6**	**+1.0**
JSD	**Sado**	**3.11**	**321**	Pn	**Pn**	**11 59 51.9**	**+0.6**
JSD	**Sado**	**3.11**	**321**	P	**Pn**	**11 59 52.8**	**+1.5**
JTM	**Tenmabayashi**	**5.14**	**3**	Pn	**Pn**	**12 00 19.8**	**+0.6**
JTM	**Tenmabayashi**	**5.14**	**3**	P	**Pn**	**12 00 20.2**	**+1.0**
JMN	**Monobe**	**5.97**	**253**	Pn	**Pn**	**12 00 31.9**	**+1.3**
JMN	**Monobe**	**5.97**	**253**	P	**Pn**	**12 00 32.3**	**+1.7**
ERM	**Erimo**	**6.63**	**16**	Pn	**Pn**	**12 00 38.4**	**-1.3**
ERM	**Erimo**	**6.63**	**16**	P	**Pn**	**12 00 38.6**	**-1.1**
ERM	**Erimo**	**6.63**	**16**	*i* P	**Pn**	**12 00 39.1**	**-0.6**
JEM	**Erimo**	**6.64**	**16**	P	**Pn**	**12 00 38.1**	**-1.6**
JNU	**Nakatsue**	**8.53**	**256**	Pn	**Pn**	**12 01 07.3**	**+1.5**
JNU	**Nakatsue**	**8.53**	**256**	P	**Pn**	**12 01 05.7**	**-0.1**
	comp=E,4.3nm,1.0s,baz=116,slow=8.3,SNR=5.6						
ASAJ	**Asahikawa**	**8.58**	**9**	P	**Pn**	**12 01 04.0**	**-2.4**
	comp=E,5.7nm,0.4s,baz=207,slow=14,SNR=9.5						
ASAJ				S	**Sn**	**12 02 36.7**	**-5.0**
	comp=E,6.0nm,0.4s,baz=111,slow=17,SNR=2.8						
ASAJ				LR	LR	12 05 10.6	
	comp=E,57nm,19.9s,baz=192,slow=42						
ASAJ	**Asahikawa**	**8.58**	**9**	P	**Pn**	**12 01 05.1**	**-1.3**
JKA	**Kamikawa-asahi**	**8.58**	**9**	Pn	**Pn**	**12 01 05.1**	**-1.3**
KSRS	**Korea Array**	**10.47**	**284**	P	**Pn**	**12 01 31.6**	**-0.7**
	comp=E,0.4nm,0.5s,baz=99,slow=14,SNR=8.4						
USA0B	**Ussuriysk Arra**	**10.86**	**325**	*i* P	**Pn**	**12 01 38.9**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.86**	**325**	P	**Pn**	**12 01 38.5**	**+1.0**
	comp=E,2.6nm,0.7s,baz=129,slow=13,SNR=2.8						
YSS	**Yuzhno-Sakhali**	**11.40**	**7**	*eP*	**Pn**	**12 01 43.0**	**-1.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JOW	**Kunigami**	**13.80**	**234**	LR	LR	12 07 23.1	
	comp=Z,69nm,21.5s,baz=84,slow=36						
KLR	**Kul'dur**	**15.10**	**337**	P	**Pn**	**12 02 31.9**	**-2.9**
	comp=Z,0.7nm,0.5s,baz=154,slow=16,SNR=2.2						
KLR				LR	LR	12 07 55.7	
	comp=Z,60nm,21.1s,baz=151,slow=35						
KLR	**Kul'dur**	**15.10**	**337**	*i* P	**Pn**	**12 02 34.8**	**0.0**
TIA	**Tai'an**	**19.13**	**279**	P	**P**	**12 03 22.8**	**-1.1**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ZEA	**Zeya**	**20.41**	**337**	*eP*	Pn	12 03 42.2	+2.1
PETK	**Petropavlovsk-**	**21.16**	**29**	LR	LR	12 12 03.8	
	comp=Z,30nm,21.2s,baz=258,slow=36						
HHC	**Hu-ho-hao-te**	**23.44**	**292**	*eP*	**P**	**12 04 10.1**	**+0.2**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
MA2	**Magadan**	**24.82**	**12**	P	**P**	**12 04 21.8**	**-0.5**
MA2				IAmb	IAmb	12 04 36.6	
	comp=Z,5.3nm,0.8s						
MA2	**Magadan**	**24.82**	**12**	P	**P**	**12 04 23.0**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=188,slow=9.7,SNR=8.6						
MA2				LR	LR	12 14 01.6	
	comp=Z,35nm,19.7s,baz=168,slow=36						
	comp=Z,1.8nm,0.5s						
ENH	**Enshi**	**26.70**	**267**	P	**P**	**12 04 37.7**	**-1.9**
HKPS	**Hong Kong Po S**	**26.71**	**247**	P	**P**	**12 04 40.1**	**+0.3**
YAK	**Yakutsk**	**27.31**	**349**	LR	LR	12 15 15.8	
	comp=Z,41nm,20.4s,baz=250,slow=35						
ULN	**Ulaanbaatar**	**27.71**	**307**	P	**P**	**12 04 48.5**	**-0.2**
ULN	**Ulaanbaatar**	**27.71**	**307**	*i* P	**P**	**12 04 48.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	12 33 55.5	
	baz=310,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	12 34 09.4	
	baz=310,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	12 33 55.1	
	baz=310,slow=75						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**12 04 52.0**	**-0.4**
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**12 04 50.6**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=104,slow=9.2,SNR=8.2						
SONM				LR	LR	12 16 32.0	
	comp=Z,49nm,18.2s,baz=94,slow=37						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**12 04 52.0**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SEY	**Seymchan**	**28.26**	**11**	P	**P**	**12 04 54.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=173,slow=5.9,SNR=4.0						
	comp=Z,0.7nm,0.5s						
SEY	**Seymchan**	**28.26**	**11**	*i* P	**P**	**12 04 53.8**	**+0.7**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	12 34 44.6	
	baz=312,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	12 34 47.2	
	baz=312,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	12 34 51.6	
	baz=312,slow=75						
PZH	**PanZhiHua**	**34.44**	**266**	P	**P**	**12 05 50.1**	**+2.1**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
CMAR	**Chiang Mai Arr**	**40.63**	**256**	P	**P**	**12 06 39.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=48,slow=5.0,SNR=1.3						
CMAR				LR	LR	12 24 07.1	
	comp=Z,50nm,18.8s,baz=255,slow=37						
	comp=Z,0.4nm,0.4s						
ZAA0	**Zalesovo Array**	**42.46**	**314**	P	**P**	**12 06 54.9**	**+0.1**
ZAA0				IAmb	IAmb	12 06 56.1	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**42.46**	**314**	P	**P**	**12 06 54.3**	**-0.6**
ZALV	**Zalesovo Beam**	**42.46**	**314**	P	**P**	**12 06 55.1**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=97,slow=7.6,SNR=9.9						
ZALV				PcP	**PcP**	**12 08 46.0**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=107,slow=4.3,SNR=2.9						
	comp=Z,1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**42.46**	**314**	*i* P	**P**	**12 06 55.0**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRDH	**Bariadhala**	**44.36**	**267**	LR	LR	12 29 31.6	
	comp=Z,98nm,19.3s,baz=164,slow=41						
MK31	**Makanchi Array**	**44.41**	**303**	P	**P**	**12 07 10.6**	**-0.1**
MK31				IAmb	IAmb	12 07 11.8	
	comp=Z,4.6nm,1.2s						
MK31	**Makanchi Array**	**44.41**	**303**	*ceP*	**P**	**12 07 10.0**	**-0.7**
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**12 07 10.9**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=84,slow=9.1,SNR=32						
MKAR				PcP	**PcP**	**12 08 52.1**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=72,slow=4.7,SNR=2.0						
MKAR				LR	LR	12 25 28.7	
	comp=Z,34nm,18.8s,baz=60,slow=36						
	comp=Z,2.3nm,0.6s						
MKAR	**Makanchi Array**	**44.41**	**303**	*ceP*	**P**	**12 07 10.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**44.62**	**303**	P	**P**	**12 07 12.4**	**0.0**
MAKZ	**Makanchi**	**44.62**	**303**	P	**P**	**12 07 12.4**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**46.37**	**309**	P	**P**	**12 07 26.3**	**+0.2**
KURK	**Kurchatov**	**46.37**	**309**	*ceP*	**P**	**12 07 26.5**	**+0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.44**	**309**	P	**P**	**12 07 26.4**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=85,slow=8.0,SNR=32						
	comp=Z,2.3nm,0.4s						
KDJ	**Kajisay**	**48.89**	**298**	IAmb	IAmb	12 07 49.4	
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**50.68**	**299**	P	**P**	**12 07 57.3**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=146,slow=11,SNR=3.9						
	comp=Z,1.1nm,0.5s						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**12 08 02.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=6.3,SNR=5.1						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**51.11**	**313**	P	**P**	**12 08 00.3**	**-2.1**
	comp=Z,1.8nm,0.6s,baz=79,slow=7.7,SNR=7.2						
	comp=Z,1.8nm,0.6s						
BRVK	**Borovoye**	**51.17**	**313**	*ceP*	**P**	**12 08 03.9**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARSB	**Arslanbob**	**52.13**	**298**	IAmb	IAmb	12 08 15.4	
	comp=Z,3.5nm,0.6s						
WB0	**Warramunga Arr**	**55.43**	**187**	P	**P**	**12 08 34.4**	**-0.1**
WB0				IAmb	IAmb	12 08 39.5	
	comp=Z,3.2nm,0.7s						
WR0	**Warramunga Arr**	**55.61**	**187**	P	**P**	**12 08 35.4**	**-0.3**
WR0				IAmb	IAmb	12 08 52.1	
	comp=Z,3.5nm,0.9s						
WB2	**Warramunga Arr**	**55.61**	**187**	P	**P**	**12 08 35.7**	**0.0**
WB2				IAmb	IAmb	12 08 41.3	
	comp=Z,5.7nm,1.2s						
WRA	**Warramunga Arr**	**55.61**	**187**	P	**P**	**12 08 35.5**	**-0.3**
WRA	**Warramunga Arr**	**55.61**	**187**	P	**P**	**12 08 34.9**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=0.6,slow=7.5,SNR=24						
	comp=Z,1.2nm,0.4s						
WRA	**Warramunga Arr**	**55.61**	**187**	P	**P**	**12 08 35.5**	**-0.3**
CHGR	**Chuyangaron**	**55.78**	**296**	P	**P**	**12 08 37.5**	**+0.5**
CHGR	**Chuyangaron**	**55.78**	**296**	P	**P**	**12 08 37.5**	**+0.5**
ARTI	**Arti**	**57.15**	**319**	P	**P**	**12 08 45.7**	**-0.7**
ARTI	**Arti**	**57.15**	**319**	*c iP*	**P**	**12 08 46.4**	**0.0**
ARTI						12 10 56.4	
ARTI				S	**S**	**12 16 41.2**	**+3.2**
ARTI				SS	**SS**	**12 20 25.9**	**-1.0**
ARTI				pmax	pmax		
	comp=Z,12nm,1.1s						
ABKAR	**Akbulak array**	**58.42**	**311**	P	**P**	**12 08 55.6**	**+0.2**
AS31	**Alice Springs**	**59.34**	**187**	P	**P**	**12 09 03.1**	**+1.1**
ASAR	**Alice Springs**	**59.34**	**187**	P	**P**	**12 09 03.0**	**+1.0**
ASAR	**Alice Springs**	**59.34**	**187**	P	**P**	**12 09 01.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=1.4,slow=6.4,SNR=17						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**59.34**	**187**	P	**P**	**12 09 03.0**	**+1.0**
EUNU	**Eureka**	**61.64**	**8**	P	**P**	**12 09 17.8**	**+0.7**
EUNU				IAmb	IAmb	12 09 46.3	
	comp=Z,2.1nm,1.3s						
RES	**Resolute Bay**	**64.08**	**14**	P	**P**	**12 09 34.4**	**+1.1**
RES				IAmb	IAmb	12 09 35.9	
	comp=Z,4.4nm,1.3s						
RES	**Resolute Bay**	**64.08**	**14**	P	**P**	**12 09 34.4**	**+1.1**
RES				pmax	pmax		
	comp=Z,4.0nm,1.3s						
YKA	**Yellowknife Ar**	**65.28**	**30**	P	**P**	**12 09 42.2**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=302,slow=7.7,SNR=2.8						
	comp=Z,0.2nm,0.7s						
OBN	**Obninsk**	**68.88**	**323**	*eP*	**P**	**12 09 59.7**	**-4.5**
OBN				*e*		12 10 27.4	
OBN				*e*		12 12 36.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FINES	**FINESS Array B**	**69.79**	**332**	P	**P**	**12 10 09.7**	**+0.1**
FINES	**FINESS Array B**	**69.79**	**332**	P	**P**	**12 10 09.4**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=48,slow=6.2,SNR=6.6						
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**69.79**	**332**	*i* P	**P**	**12 10 09.8**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**71.39**	**311**	P	**P**	**12 10 20.7**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=45,slow=6.6,SNR=3.5						
	comp=Z,1.6nm,0.8s						
NC405	**NORSAR Array S**	**75.04**	**337**	P	**P**	**12 10 41.5**	**+0.5**
AKASG	**Malin Array Be**	**75.06**	**322**	P	**P**	**12 10 40.9**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=45,slow=6.2,SNR=6.8						
AKASG				LR	LR	12 46 39.8	
	comp=Z,39nm,18.9s,baz=64,slow=38						
	comp=Z,0.5nm,0.4s						
AKBB	**Malin Array Si**	**75.06**	**322**	*ceP*	**P**	**12 10 40.6**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HFS	**Hagfors**	**75.13**	**336**	P	**P**	**12 10 41.2**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=69,slow=8.6,SNR=4.9						
	comp=Z,4.9nm,1.0s						
NC204	**NORSAR Array S**	**75.22**	**337**	P	**P**	**12 10 42.7**	**+0.5**
NC204		

```
MKAR Makanchi Array   44.48 303  P          P          12 11 57.4 -0.2
     0.6nm,0.5s,baz=87,slow=9.4,SNR=7.1
     0.6nm,0.5s
KURBB Kurchatov Arra  46.51 309  P          P          12 12 12.8 -0.6
     0.8nm,0.5s,baz=86,slow=7.9,SNR=9.1
     0.8nm,0.5s
BVAR Borovoye Array   51.17 313  P          P          12 12 48.9 -0.3
     0.4nm,0.4s,baz=72,slow=9.3,SNR=2.5
     0.4nm,0.4s
WRA  Warramunga Arr   55.64 187  P          P          12 13 21.6 -0.6
     0.2nm,0.4s,baz=0.8,slow=7.6,SNR=5.8
     0.2nm,0.4s
ASAR Alice Springs    59.37 187  P          P          12 13 47.6 -0.8
     0.1nm,0.5s,baz=18,slow=12,SNR=5.4
     0.1nm,0.5s
ARCES ARCESS Array B  65.12 339  P          P          12 14 25.7 -0.7
     2.3nm,0.9s,baz=30,slow=5.6,SNR=1.7
     2.3nm,0.9s
```

*IDC **14** 12:09:09.8±1.7, 34°.96N×77°.67E, h0km, mb3.5/5, mbtmp3.5/9, ML3.2/4, MS3.8/1, Error ellipse: s-maj=36.7km s-min=21.9km az=52.0*

ISC 14 12:09:11.6±1.5, 34°.9N±0°.1×77°.8E±0°.1, h10km, n10, σ1§46/11, mb3.5/5, Eastern Kashmir

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
AAK  Ala-Archa       8.12 342   Pn    Pn        12 11 11.9 +2.3
     0.2nm,0.3s,baz=165,slow=12,SNR=1.8
AAK                             Pg    Pb        12 11 33.3 +1.0
     0.3nm,0.3s,baz=155,slow=9.7,SNR=4.7
AAK                             Lg    Lg        12 13 14.3
     0.2nm,0.3s,baz=29,slow=20,SNR=1.2
     0.8nm,0.5s
MKAR Makanchi Array  12.30  14  Pn    Pn        12 12 07.3 +0.4
     0.3nm,0.3s,baz=200,slow=14,SNR=13
MKAR                            Sn    Sn        12 14 22.7 -1.3
     baz=198,slow=23,SNR=6.8
     1.0nm,0.5s
BVAR Borovoye Array  18.84 346  P     P         12 13 30.3 -1.2
     0.1nm,0.3s,baz=146,slow=10,SNR=2.4
     0.5nm,0.4s
ZALV Zalesovo Beam   19.62  12  P     P         12 13 40.0 -0.1
     0.2nm,0.3s,baz=207,slow=9.3,SNR=2.8
     0.5nm,0.4s
AKTO Aktyubinsk      21.16 323  P     P         12 13 54.8 -2.0
     0.6nm,0.4s,baz=130,slow=10,SNR=2.5
     0.6nm,0.4s
SONM Songino Array   24.84  50  P     P         12 14 35.2 +1.0
     0.2nm,0.5s,baz=239,slow=9.2,SNR=2.1
     0.2nm,0.5s
CMAR Chiang Mai Arr  24.91 126  P     P         12 14 35.5 +0.5
     0.3nm,0.3s,baz=303,slow=11,SNR=4.4
     0.3nm,0.3s
KVAR Kislovodsk Arr  28.42 299  LR    LR        12 29 29.8
     comp=Z,158nm,18.3s,baz=90,slow=43
FINES FINESS Array B 41.90 326  P     P         12 17 01.0 -0.9
     1.0nm,0.6s,baz=107,slow=8.5,SNR=3.7
     1.0nm,0.6s
HFS  Hagfors         47.71 322  P     P         12 17 47.0 -1.2
     0.9nm,0.7s,baz=111,slow=8.2,SNR=1.3
     0.9nm,0.7s
```

IDC 14 12:17:07.9±10.0, 26°.16S×179°.59E, h502km±54km, mb3.1/3, mbtmp4.0/5, Error ellipse: s-maj=181.0km s-min=40.1km az=68.0, South of Fiji Islands

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
URZ  Urewera         12.24 189  P     P         12 19 48.6 -0.2
     2.2nm,0.5s,baz=352,slow=5.4,SNR=1.5
URZ                             S     S         12 22 02.4 +1.0
     6.0nm,1.0s,baz=72,slow=14,SNR=1.8
DZM  Mont Dzumac     12.68 286  P     P         12 19 54.0 +0.2
     2.8nm,0.7s,baz=110,slow=17,SNR=6.9
STKA Stephens Creek  33.59 251  P     P         12 23 05.0 -0.8
     0.5nm,0.3s,baz=80,slow=6.1,SNR=1.9
     0.5nm,0.3s
ASAR Alice Springs   41.35 263  P     P         12 24 09.9 +0.3
     1.1nm,0.4s,baz=104,slow=8.6,SNR=12
     1.1nm,0.4s
WRA  Warramunga Arr  41.93 269  P     P         12 24 13.9 -0.3
     1.6nm,0.5s,baz=105,slow=7.9,SNR=15
     1.6nm,0.5s
```

TXNET 14 12:30:16.1, 31°.7N±0°.5×104°.3W±0°.6, h6km±2km, ML2.3/9, 2C, Error ellipse: s-maj=1.0km s-min=0.7km az=72.6, final, Western Texas

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
TPB11 China Draw      0.34  33  ⇑P    Pg        12 30 22.8  0.0
TPB11                             S     Sg        12 30 27.5 +0.1
PECS Pecos            0.43 130  P     Pg        12 30 24.5 +0.1
PECS                              S     Sg        12 30 30.3 +0.3
TPB12 Southwest of T  0.50 150  P     Pg        12 30 26.0 +0.2
TPB12                             S     Sg        12 30 32.7 +0.4
TPB07 Mentone         0.50  98  P     Pg        12 30 26.3 +0.4
TPB07                             S     Sg        12 30 32.9 +0.5
GDL2  Guadalupe Moun  0.56 350  P     Pg        12 30 27.2 +0.2
PCOS  Crockett Middl  0.68 110  S     Sg        12 30 38.5 +0.6
CLNB  Carlsbad        0.69  27  P     Pg        12 30 29.2 -0.2
CLNB                              S     Sg        12 30 39.2 +0.7
CLNB  Carlsbad        0.69  27  P     Pg        12 30 29.3 -0.2
TPB01 Permian Basin   0.81 150  P     Pg        12 30 31.0 -0.6
TPB01                             S     Sg        12 30 41.5 -0.7
TPB03 Saragosa        0.84 132  S     Sg        12 30 43.7 +0.4
CLN7  Carlsbad 7      0.85  26  P     Pg        12 30 31.9 -0.6
TPB06 Permian Basin   0.88  90  S     Sg        12 30 43.8 -0.7
TPB04 Verhalen        0.96 118  ⇑P    Sg        12 30 34.2 -0.3
TPB04                             S     Sg        12 30 46.7 -0.2
MNTX  Cornudas Mount  0.97 273  P     Pg        12 30 34.8 +0.1
MNTX                              S     Sb        12 30 47.8 -0.6
HTMS  Hat Mesa        0.97  32  P     Pg        12 30 34.7 -0.2
HTMS                              S     Sg        12 30 47.8 +0.2
TPB16 Coyonosa        1.00 121  S     Sg        12 30 48.1 -0.2
NM01  Eunice          1.01  45  P     Pg        12 30 35.3 -0.3
NM01                              S     Sg        12 30 48.8 +0.1
VHRN  Van Horn        1.06 216  P     Pg        12 30 36.3 -0.3
VHRN                              S     Sb        12 30 51.1 -0.2
TPB05 Hovey Rd        1.07 132  P     Pg        12 30 36.2 -0.6
TPB05                             S     Sg        12 30 50.4 -0.3
MNHN  Monahans        1.31 103  P     Pn        12 30 40.3 -0.8
MNHN                              S     Sg        12 30 56.8 -1.4
ALPN  Alpine          1.37 157  P     Pn        12 30 40.8 -1.2
ALPN                              S     Sb        12 30 58.3 -1.9
TPB08 Permian Basin   1.37 123  S     Sb        12 30 59.4 -0.8
CPRX  Cap Rock        1.42  13  P     Pn        12 30 42.5 -0.1
ODSA  Odessa          1.52  72  P     Pn        12 30 43.6 -0.4
ODSA                              S     Sn        12 31 03.3 -0.9
TMB04 Seminole        1.79  56  P     Pn        12 30 48.1 +0.5
TMB04                             S     Sb        12 31 12.3 +0.3
TMB02 Rankin          1.94 103  P     Pn        12 30 50.5 +0.7
TMB02                             S     Sb        12 31 15.8 -0.8
TX31  Lajitas Ar. Si  2.36 168  Pn    Pn        12 30 57.1 +1.5
TX31                              Pg    Pb        12 30 58.4 -0.8
TX31                              S     Sb        12 31 30.1 +1.5
```

*IDC **14** 12:30:29.6±2.0, 63°.81N×28°.83E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=31.2km s-min=7.9km az=103.0*
*HEL **14** 12:30:30.8±0.1, 63°.98N×28°.14E, h0km, ML2.1, Suspected explosion*
*BER **14** 12:30:32.4±2.9, 63°.90N×28°.11E, h0km, ML2.0, ML2.1(HEL), Suspected explosion*
*UPP **14** 12:30:33.9±2.4, 63°.94N×27°.51E, h0km, ML2.3*

ISC 14 12:30:30.2±0.7, 63°.95N±0°.02×28°.06E±0°.02, h0km, n60, σ1§12/91, Finland

```
Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
NIF  Nilsia           0.57 191  PG    Pg        12 30 41.7 +0.5
NIF                             SG    Sg        12 30 49.5 +0.9
NIF  Nilsia           0.57 191  PG    Pg        12 30 41.7 +0.5
NIF                             SG    Sg        12 30 49.5 +0.9
RMF  Romuvaara        0.86  71  PB    Pg        12 30 46.4 -0.4
     baz=255
RMF                             MSG               12 30 56.5
     comp=Z,21nm,0.2s
RMF                             SB    Sg        12 30 57.2 -0.8
RMF  Romuvaara        0.86  71  PB    Pg        12 30 46.4 -0.4
     baz=255
RMF                             MSG               12 30 56.5
     comp=Z,21nm,0.2s
RMF                             SB    Sg        12 30 57.2 -0.8
OUL  Oulu             1.48 322  PN    Pn        12 30 57.9 -0.1
OUL                             SN    Sg        12 31 17.8 +0.2
OUL  Oulu             1.48 322  PN    Pn        12 30 57.9 -0.1
OUL                             SN    Sg        12 31 17.8 +0.2
SUF  Sumiainen        1.51 216  PG    Pn        12 30 58.8 +0.3
     baz=32
SUF                             MSG               12 31 17.2
     comp=Z,12nm,0.2s
SUF  Sumiainen        1.51 216  PG    Pn        12 30 58.8 +0.3
     baz=32
SUF                             MSG               12 31 17.2
     comp=Z,12nm,0.2s
OUF  Merijarvi        1.52 288  PG    Pn        12 30 58.5 -0.1
OUF                             MSG               12 31 16.9
     comp=Z,15nm,0.2s
OUF                             SN    Sg        12 31 19.1 +0.1
OUF  Merijarvi        1.52 288  PG    Pn        12 30 58.5 -0.1
OUF                             MSG               12 31 16.9
     comp=Z,15nm,0.2s
OUF                             SN    Sg        12 31 19.1 +0.1
OBF4 Vikkela, Lumij   1.55 305  PG    Pn        12 30 59.1  0.0
OBF4                            MSG               12 31 17.7
     comp=Z,16nm,0.2s
OBF4 Vikkela, Lumij   1.55 305  PG    Pn        12 30 59.1  0.0
OBF4                            MSG               12 31 17.7
     comp=Z,16nm,0.2s
KU1  Kurvinen         1.75  21  PN    Pn        12 31 01.9 +0.1
OBF0 Syolatti, Pyha   1.76 290  PG    Pn        12 31 02.8 +0.9
OBF0                            MSG               12 31 23.9
     comp=Z,19nm,0.2s
OBF0                            SG    Sb        12 31 26.3 +0.4
KU2  Taivalkoski      1.77   2  PG    Pn        12 31 02.5 +0.4
JOF  Joensuu          1.79 124  PG    Pn        12 31 02.8 +0.4
     baz=305
JOF                             SN    Sn        12 31 26.0 +0.3
JOF  Joensuu          1.79 124  eP    Pn        12 31 02.6 +0.2
JOF  Joensuu          1.79 124  PG    Pn        12 31 02.8 +0.4
     baz=305
JOF                             SN    Sn        12 31 26.0 +0.3
KAF  Kangasniemi      2.01 204  PG    Pb        12 31 07.1 -0.5
     baz=20
KAF                             MSG               12 31 31.7
     comp=Z,26nm,0.2s
KAF                             SG    Sg        12 31 34.0 -0.7
MSF  Maaselka         2.02  11  PG    Pn        12 31 06.0 +0.5
     baz=191
MSF                             SG    Sn        12 31 31.7 +0.4
RANF Ranua            2.14 346  PG    Pn        12 31 08.9 +1.7
     baz=168
RANF                            SG    Sn        12 31 36.4 +1.9
KU6  Riekki           2.23  20  PG    Pn        12 31 09.8 +1.4
     baz=199
KU6                             MSG               12 31 35.6
     comp=Z,5.6nm,0.2s
KU6                             SG    Sn        12 31 37.9 +1.4
KEF  Keuruu           2.30 221  eP    Pb        12 31 11.7 -0.9
KEF  Keuruu           2.30 221  PG    Pb        12 31 11.7 -0.9
KEF                             MSG               12 31 40.2
     comp=Z,20nm,0.2s
KEF                             SG    Sb        12 31 42.5 +0.9
RUF  Ruokolahti       2.57 170  PB    Pb        12 31 15.9 -1.2
RUF                             MSG               12 31 47.2
     comp=Z,14nm,0.2s
RUF                             SB    Sb        12 31 49.2 +0.1
VAF  Ylistaro         2.58 252  eP    Pb        12 31 16.0 -1.4
VAF  Ylistaro         2.58 252  PB    Pb        12 31 16.2 -1.2
VAF                             MSG               12 31 48.3
     comp=Z,9.3nm,0.2s
VAF                             SG    Sb        12 31 50.5 +0.9
TOF  Tornio           2.66 325  PB    Pn        12 31 15.3 +0.9
TOF                             MSG               12 31 49.1
     comp=Z,4.0nm,0.2s
TOF                             SG    Sb        12 31 51.4 -0.5
FIA0 FINESS Array S   2.68 201  PB    Pb        12 31 17.4 -1.5
     baz=21
FIA0                            MSG               12 31 50.9
     comp=Z,8.1nm,0.2s
FIA0                            SB    Sb        12 31 52.4 +0.1
FINES FINESS Array B  2.68 201  Pg    Pb        12 31 17.5 -1.5
     comp=Z,0.9nm,0.3s,baz=26,slow=16,SNR=48
FINES                           Lg    Lg        12 31 52.6
     comp=Z,0.8nm,0.3s,baz=28,slow=27,SNR=3.9
KALU Kalix            2.77 316  P     Pn        12 31 17.3 +1.4
KALU                            S     Sn        12 31 50.2 +0.2
KALU Kalix            2.77 316  PB    Pn        12 31 17.2 +1.4
KALU                            SB    Sn        12 31 51.4 +1.4
RNF  Rovaniemi        2.81 343  PB    Pn        12 31 17.8 +1.5
RNF                             SG    Sb        12 31 55.4 -0.7
BURU Burvik           2.99 285  P     Pn        12 31 19.4 +0.6
SJUU Sjulsmark        3.18 302  P     Pn        12 31 22.2 +0.8
ODEU Stanfors         3.25 281  P     Pn        12 31 22.6 +0.2
ODEU                            S     Sn        12 31 59.1 -2.6
VJF  Virojoki         3.43 184  SB    Sb        12 32 13.8 -0.1
KPF  Kankaanpaa       3.47 235  PN    Pn        12 31 27.8 +2.4
     baz=49
PVF  Pernaja          3.57 198  PB    Pb        12 31 32.4 -1.7
ERTU Ertsjaerv        3.60 319  P     Pn        12 31 28.8 +1.6
ERTU                            S     Sn        12 32 10.0 -0.3
ERTU Ertsjaerv        3.60 319  PN    Pn        12 31 28.6 +1.4
KLF  Kolari           3.71 335  PN    Pn        12 31 30.0 +1.3
KLF                             SN    Sn        12 32 13.0 -0.2
SVAU Svanoeiden       3.75 282  P     Pn        12 31 29.6 +0.3
LILU Lilltraesk       3.78 294  P     Pn        12 31 30.5 +0.8
VRF  Varrio           3.87   9  PB    Pn        12 31 33.5 +2.6
HUSU Husum            3.99 265  PN    Pn        12 31 34.6 +2.0
     baz=74
RAF  Rauma            4.14 228  eP    Pn        12 31 37.0 +2.4
RAF  Rauma            4.14 228  PN    Pn        12 31 37.2 +2.6
RAF                             SG    Sg        12 32 40.8 -2.4
RAJF Raja-Jooseppi    4.55   1  PG    Pb        12 31 51.1 +0.3
HEF  Hetta            4.82 340  eP    Pn        12 31 44.8 +0.8
HEF                             eS    Sn        12 32 41.0 +0.6
KTK1 Kautokeino       5.44 341  eP    Pn        12 31 53.9 +1.5
KTK1                            IAML              12 32 51.2
     comp=Z,2.9nm,0.4s
ARA0 ARCESS Array S   5.70 351  eP    Pn        12 31 56.9 +0.8
ARA0                            IAML              12 33 00.1
     comp=Z,2.4nm,0.8s
ARA0                            eS    Sn        12 33 00.7 -1.4
ARCES ARCESS Array B  5.70 351  Pn    Pn        12 31 56.7 +0.6
     comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=17
ARCES                           Sn    Sn        12 33 01.1 -1.0
     comp=Z,0.3nm,0.3s,baz=168,slow=24,SNR=6.0
     comp=Z,0.9nm,0.6s
KIF  Kilpisjarvi      5.85 333  eP    Pn        12 31 59.7 +1.7
KEV  Kevo             5.85 356  eP    Pn        12 31 58.8 +0.7
KEV                             eS    Sn        12 33 03.5 -2.1
VADS Vadso            6.22   4  eP    Pn        12 32 03.6 +0.5
VADS                            IAML              12 33 14.4
     comp=Z,4.8nm,0.7s
JETT Jettan, Norway   6.39 335  eP    Pn        12 32 06.3 +0.7
JETT                            IAML              12 33 33.1
     comp=Z,3.8nm,0.6s
STEI Steigen          6.58 313  eP    Pn        12 32 08.2 +0.1
HFS  Hagfors          7.75 247  Pn    Pn        12 32 25.1 +0.9
     comp=Z,0.3nm,0.3s,baz=60,slow=13,SNR=10
     comp=Z,0.5nm,0.3s
NOA  NORSAR Array B   8.32 257  Pn    Pn        12 32 32.7 +0.7
     baz=55,slow=10.0,SNR=4.1
     comp=Z,0.1nm,0.3s
```

*IDC **14** 12:44:00.2±7.6, 31°.04S×179°.54W, h479km±97km, mb2.9/3, mbtmp3.9/4, Error ellipse: s-maj=98.0km s-min=42.8km az=4.0*
*WEL **14** 12:44:01.9±0.8, 31°.5±6°.×17°.9W±1°.7, h350km±12km, M4.2/13, mB4.5/9, ML4.7/7, MLv4.8/13, Mw(mB)3.7/9, Error ellipse: s-maj=22.5km s-min=5.2km az=107.4, confirmed*

ISC 14 12:43:56.1±1.0, 30°.70S±0°.08×179°.6W±0°.1, h400km, n29, σ2§12/49, mb3.3/3, Kermadec Islands region

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Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
GLKZ Green Lake       2.04  46  P     Pn        12 44 54.7 +2.4
GLKZ                            S     S         12 45 36.5 -1.3
GRZ  Great Barrier    6.91 215  P     P         12 45 41.2 +2.1
WCZ  Waipu Caves      7.28 223  P     P         12 45 47.6 +4.3
OUZ  Omahuta          7.28 230  P     P         12 45 47.4 +4.1
WMGZ Waiomatatini S   7.29 193  P     P         12 45 44.9 +1.5
WMGZ                            S     S         12 47 12.4 +2.2
HAZ  Te Kaha          7.36 196  P     P         12 45 46.1 +1.9
HAZ                             S     S         12 47 11.7  0.0
PKGZ Pakihiroa        7.40 194  P     P         12 45 46.7 +2.1
PKGZ                            S     S         12 47 09.8 -2.8
PUZ  Puketiti         7.56 193  P     P         12 45 49.4 +2.9
PUZ                             S     S         12 47 14.0 -1.9
RUGZ Raukumara Rang   7.59 197  P     P         12 45 48.4 +1.6
RUGZ                            S     S         12 47 15.2 -1.4
TWGZ Tauwhareparae    7.72 194  P     P         12 45 51.5 +3.3
TWGZ                            S     S         12 47 19.7 +0.5
OPRZ Ohinepanea       7.80 203  P     P         12 45 49.9 +0.8
MWZ  Matawai          7.97 197  P     P         12 45 52.1 +1.0
MWZ                             S     S         12 47 24.0 -0.5
TKGZ Te Karaka        8.00 195  P     P         12 45 53.8 +2.6
TKGZ                            S     S         12 47 23.4 -1.6
URZ  Urewera          8.01 199  P     P         12 45 53.6 +2.2
     15nm,0.4s,baz=354,slow=3.7,SNR=96
URZ                             S     S         12 47 24.8 -0.5
     14nm,0.3s,baz=102,slow=23,SNR=16
URZ  Urewera          8.01 199  P     P         12 45 51.9 +0.5
URZ                             S     S         12 47 24.1 -1.1
RAGZ Rawiri           8.15 197  P     P         12 45 54.0 +0.9
RAGZ                            S     S         12 47 29.0 +0.6
RIGZ Rimuhau          8.28 195  P     P         12 45 55.3 +0.9
RIGZ                            S     S         12 47 29.5 -1.3
MUGZ Murupara         8.31 200  P     P         12 45 55.7 +1.0
MUGZ                            S     S         12 47 32.3 +0.7
RTZ  Ruatahuna        8.38 199  P     P         12 45 57.5 +1.9
RTZ                             S     S         12 47 31.3 -1.9
SNGZ Shannon Statio   8.44 197  P     P         12 45 57.7 +1.5
SNGZ                            S     S         12 47 33.2 -1.2
PRGZ Paritu Road      8.46 193  P     P         12 46 00.9 +4.5
PRGZ                            S     S         12 47 33.0 -1.7
MTHZ Maungataniwha    8.64 199  P     P         12 46 00.7 +2.2
MHGZ Mahia Peninsul   8.68 193  P     P         12 46 02.4 +3.6
MHGZ                            S     S         12 47 38.7 -0.6
MRHZ Matea Rd         8.75 201  P     P         12 46 00.9 +1.2
MRHZ                            S     S         12 47 37.8 -3.2
ARHZ Aropaoanui       8.99 197  P     P         12 46 04.2 +1.9
ARHZ                            S     S         12 47 44.9 -1.0
STKA Stephens Creek  33.07 258  P     P         12 49 56.0 -0.3
     0.8nm,0.4s,baz=100,slow=11,SNR=3.6
     0.8nm,0.4s
ASAR Alice Springs   41.72 268  P     P         12 51 06.7 -1.5
     0.4nm,0.4s,baz=109,slow=7.7,SNR=10
     0.4nm,0.4s
WRA  Warramunga Arr  42.74 273  P     P         12 51 14.4 -1.8
     0.9nm,0.6s,baz=113,slow=8.1,SNR=10
     0.9nm,0.6s
FINES FINESS Array B 144.94 339 PKPbc PKPdf     13 02 41.9 -3.6
     1.4nm,0.8s,baz=54,slow=2.4,SNR=4.4
```

*IDC **14** 12:47:58.0±0.9, 17°.94S×174°.46W, h0km, mb3.9/7, mbtmp3.9/7, MS3.6/3, Error ellipse: s-maj=42.3km s-min=23.3km az=139.0*

ISC 14 12:48:14.3±1.0, 17°.95±0°.3×174°.6W±0°.3, h132km, n21, σ0§95/7, mb3.6/7, Tonga Islands

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Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
DZM  Mont Dzumac     18.27 254  LR    LR        12 57 58.9
     comp=Z,99nm,19.3s,baz=169,slow=33
H11S2 WAKE ISLAND Hy 40.59 332  T     T         13 39 42.9
     baz=149,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 40.60 332  T     T         13 39 41.4
     baz=149,slow=76,SNR=7.3
H11S1 WAKE ISLAND Hy 40.61 332  T     T         13 39 42.8
     baz=149,slow=76,SNR=7.6
H11N3 WAKE ISLAND Hy 41.58 333  T     T         13 40 28.6
     baz=152,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 41.59 333  T     T         13 40 15.7
     baz=152,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 41.60 333  T     T         13 40 30.0
     baz=152,slow=76,SNR=9.9
WRA  Warramunga Arr  48.18 259  P     P         12 56 41.7 +0.1
     0.6nm,0.6s,baz=96,slow=8.2,SNR=8.7
WRA                             LR    LR        13 15 41.1
     comp=Z,60nm,18.9s,baz=154,slow=34
     0.6nm,0.6s
ASAR Alice Springs   48.26 254  P     P         12 56 41.9 -0.4
     4.8nm,0.7s,baz=88,slow=8.3,SNR=62
     4.8nm,0.7s
QSPA South Pole Qui  72.12 180  P     P         12 59 24.4 +0.1
     1.8nm,0.8s,baz=48,slow=1.6,SNR=10.0
     1.8nm,0.8s
NVAR Mina Array Bea  76.98  42  P     P         12 59 51.9 -0.9
     0.6nm,0.8s,baz=245,slow=7.0,SNR=4.8
     0.6nm,0.8s
H03S2 Juan Fernandez 84.77 124  T     T         14 33 43.0
     baz=250,slow=75,SNR=16
H03S1 Juan Fernandez 84.79 124  T     T         14 33 42.6
     baz=250,slow=75,SNR=12
H03S3 Juan Fernandez 84.79 124  T     T         14 33 42.3
     baz=250,slow=75,SNR=15
H03N2 Juan Fernandez 84.89 123  T     T         14 33 45.0
     baz=257,slow=72,SNR=41
H03N3 Juan Fernandez 84.89 123  T     T         14 33 46.2
     baz=257,slow=72,SNR=38
H03N1 Juan Fernandez 84.91 123  T     T         14 33 45.5
     baz=257,slow=72,SNR=57
PDAR Pinedale Array  84.92  42  P     P         13 00 35.7 +0.9
     0.7nm,0.8s,baz=208,slow=3.4,SNR=5.7
     0.7nm,0.8s
ILAR Eielson Array   85.14  12  P     P         13 00 36.1 +1.0
     1.3nm,1.1s,baz=214,slow=6.2,SNR=6.6
     1.3nm,1.1s
PSI  Prapat          87.49 274  LR    LR        13 40 23.1
     comp=Z,45nm,18.1s,baz=339,slow=36
YKA  Yellowknife Ar  92.87  24  P     P         13 01 10.8 -0.9
     0.2nm,0.9s,baz=231,slow=5.4,SNR=2.3
     0.2nm,0.9s
```

*TAP **14** 12:50:18.7, 24°.94N×122°.01E, h114km, ML3.2, C*
*JMA **14** 12:50:18.9±0.2, 24°.9N±0°.6×122°.0E±0°.4, h112km±1km, MV2.4/11, TAIWAN REGION*

ISC 14 12:50:18.3±1.5, 24°.96N±0°.04×121°.99E±0°.03, h119km±6km, n107, σ0§81/210, Taiwan

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Code Station Name      Δ°   AZ°  Phase ID        Time      Res
                                Op    ISC       h m s     ISC
TWB1 Santiao Chiao    0.05   3  i P   Pn        12 50 34.6 +0.1
TWB1                            S     Sn        12 50 45.7 -1.0
EGS                   0.12 204  P     Pn        12 50 34.9 +0.3
EGS                             eS    Sn        12 50 46.5 -0.3
TIPB Shuangxi         0.15 276  i P   Pn        12 50 34.6  0.0
TIPB                            S     Sn        12 50 45.8 -1.1
SXI1 Grass Mountain   0.17 324  i P   Pn        12 50 34.6 -0.2
SXI1                            eS    Sn        12 50 47.2  0.0
NWF  Wu-fen Shan      0.22 302  i P   Pn        12 50 34.9  0.0
NWF                             eS    Sn        12 50 46.8 -0.6
WFSB Wu-fen Shan      0.22 302  eP    Pn        12 50 34.9 +0.2
WFSB                            eS    Sn        12 50 46.7 -0.5
ILA  Ilan             0.29 229  eP    Pn        12 50 35.2 +0.2
ILA                             eS    Sn        12 50 46.8 -0.7
TWA  Mucha            0.37 274  i P   Pn        12 50 36.6 +1.3
TWA                             i S   Sn        12 50 49.2 +1.0
TWC  Suao             0.37 200  i P   Pn        12 50 35.4  0.0
TWC                             eS    Sn        12 50 47.1 -1.1
TWE  Neicheng         0.37 231  P     Pn        12 50 35.4 +0.1
TWE                             i S   Sn        12 50 48.4 +0.2
ESAO Su ao            0.40 199  eP    Pn        12 50 36.3 +0.8
ESAO                            i S   Sn        12 50 47.5 -1.0
NDS  Dongshan         0.41 217  eP    Pn        12 50 36.1 +0.5
NDS                             eS    Sn        12 50 48.7 +0.1
FUSB Fushanzhiwuyua   0.41 242  i P   Pn        12 50 35.6  0.0
FUSB                            S     Sn        12 50 48.8  0.0
NHDH Xindian Distri   0.42 271  eP    Pn        12 50 35.6 +0.1
NHDH                            eS    Sn        12 50 48.2 -0.4
YM01 YM01             0.42 297  eP    Pn        12 50 35.7 +0.1
YM01                            S     Sn        12 50 48.4 -0.4
YM08 YM08             0.43 303  i P   Pn        12 50 35.7 +0.1
YM08                            eS    Sn        12 50 48.9 +0.1
ZUZH Zhuzihu          0.45 297  P     Pn        12 50 35.8  0.0
ZUZH                            eS    Sn        12 50 48.4 -0.7
TATO Taipei           0.45 272  P     Pn        12 50 35.9 +0.2
TATO                            S     Sn        12 50 48.6 -0.3
TWY  Chenhua          0.47 312  i P   Pn        12 50 34.7 -1.2
TWY                             S     Sn        12 50 49.8 +0.7
NWLT Wulai            0.47 248  eP    Pn        12 50 36.0  0.0
NWLT                            i S   Sn        12 50 48.7 -0.5
ANP  Anpu             0.48 299  i P   Pn        12 50 35.9 -0.1
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ANP				*e*S	Sn	12 50 48.6	-0.8
ENTT	**Nioudou**	**0.49**	**230**	*e*P	Pn	12 50 36.6	+0.5
ENTT				*i* S	Sn	12 50 49.6	+0.1
NTST	**Danshui**	**0.53**	**293**	*e*P	Pn	12 50 37.3	+1.1
NTST				*e*S	Sn	12 50 50.6	+0.9
TWS1	**Kuangyinshan**	**0.54**	**286**	*e*P	Pn	12 50 35.6	-0.7
TWS1				*i* S	Sn	12 50 49.7	-0.1
EWUT	**Wuta**	**0.54**	**200**	*i* P	Pn	12 50 37.0	+0.6
EWUT				*i* S	Sn	12 50 50.0	0.0
ENA	**Nanau**	**0.57**	**203**	*i* P	Pn	12 50 37.2	+0.6
ENA				*i* S	Sn	12 50 50.4	+0.1
EOS2	**EOS2**	**0.58**	**157**	*e*P	Pn	12 50 37.4	+0.9
EOS2				*e*S	Sn	12 50 50.7	+0.6
LATG	**Datong**	**0.59**	**225**	P	Pn	12 50 37.5	+0.7
LATG				*e*S	Sn	12 50 51.1	+0.4
YHNB	**Yeheng**	**0.62**	**243**	*i* P	Pn	12 50 37.1	+0.2
YHNB				*i* S	Sn	12 50 50.2	-0.9
NSK	**Sanguang**	**0.64**	**244**	*i* P	Pn	12 50 37.2	+0.1
NSK				*i* S	Sn	12 50 50.3	-0.9
EAHA	**Aohua**	**0.66**	**200**	P	Pn	12 50 37.9	+0.7
EAHA				*i* S	Sn	12 50 52.2	+0.8
NCUH	**Zhongli**	**0.73**	**271**	*i* P	Pn	12 50 38.2	+0.6
NCUH				*i* S	Sn	12 50 52.3	0.0
EOS3	**EOS3**	**0.73**	**156**	*e*P	Pn	12 50 38.7	+1.1
EOS3				*e*S	Sn	12 50 53.6	+1.4
KSHI	**Guanxi Townshi**	**0.76**	**256**	*i* P	Pn	12 50 38.8	+0.8
KSHI				S	Sn	12 50 53.3	+0.5
NNS	**Nan Shan**	**0.76**	**227**	*i* P	Pn	12 50 38.6	+0.5
NNS				*e*S	Sn	12 50 52.9	-0.1
NNSB	**Datong**	**0.76**	**226**	*e*P	Pn	12 50 38.6	+0.5
NNSB				*i* S	Sn	12 50 52.2	-0.9
NNSH	**Datong**	**0.76**	**226**	*i* P	Pn	12 50 38.8	+0.7
NNSH				S	Sn	12 50 52.9	-0.1
NFF	**Wufeng Townshi**	**0.85**	**248**	*i* P	Pn	12 50 39.0	+0.2
NFF				*i* S	Sn	12 50 53.6	-0.8
NACB	**Ninganchiao**	**0.86**	**205**	P	Pn	12 50 39.6	+0.7
NACB				*e*S	Sn	12 50 52.7	-1.6
ETL	**Fush Village**	**0.86**	**203**	*i* P	Pn	12 50 39.1	+0.2
ETL				*i* S	Sn	12 50 53.8	-0.6
ETLH	**Xiulin Townshi**	**0.88**	**212**	P	Pn	12 50 39.4	+0.2
ETLH				S	Sn	12 50 54.6	-0.2
EOS4	**EOS4**	**0.89**	**160**	*e*P	Pn	12 50 39.4	+0.7
EOS4				*e*S	Sn	12 50 53.4	-0.7
SBCB	**Hsinchu**	**0.92**	**260**	*e*P	Pn	12 50 40.4	+1.0
SBCB				S	Sn	12 50 55.8	+0.4
LIOB	**Emei**	**0.93**	**251**	*i* P	Pn	12 50 40.0	+0.5
LIOB				S	Sn	12 50 55.5	-0.2
HSN	**Hsinchu**	**0.94**	**261**	*e*P	Pn	12 50 39.9	+0.3
HSN				S	Sn	12 50 54.9	-0.7
TWD	**Chiawan**	**0.94**	**202**	*e*P	Pn	12 50 39.4	-0.2
TWD				S	Sn	12 50 54.5	-1.2
NSTT	**Nanjuang**	**0.95**	**250**	*i* P	Pn	12 50 40.0	+0.3
NSTT				*i* S	Sn	12 50 55.4	-0.5
FUSS	**Fushou**	**0.98**	**224**	*e*P	Pn	12 50 41.3	+1.1
FUSS				*i* S	Sn	12 50 57.2	+0.4
JYNG	**Yonagunijimaku**	**1.01**	**120**	P	Pn	12 50 40.4	+0.2
JYNG				*e*S	Sn	12 50 56.4	-0.4
TWT	**Tachien**	**1.02**	**227**	*e*P	Pn	12 50 41.7	+1.1
TWT				*e*S	Sn	12 50 58.1	+0.7
TDCB	**Techi**	**1.03**	**227**	*i* P	Pn	12 50 41.6	+1.0
TDCB				*i* S	Sn	12 50 57.7	+0.1
HWA	**Hwalien**	**1.03**	**200**	*e*P	Pn	12 50 42.0	+1.4
HWA				*i* S	Sn	12 50 58.3	+0.9
WHF	**Hehuan Shan**	**1.04**	**219**	P	Pn	12 50 41.9	+0.8
WHF				*i* S	Sn	12 50 57.8	-0.5
YOJ	**Yonaguni jima**	**1.05**	**118**	P	Pn	12 50 41.1	+0.4
YOJ				S	Sn	12 50 55.7	-1.9
YOJ	**Yonaguni jima**	**1.05**	**118**	*e*P	Pn	12 50 40.9	+0.2
LXIB	**Xiulin Townshi**	**1.07**	**209**	*e*P	Pn	12 50 40.9	-0.2
LXIB				S	Sn	12 50 57.7	-0.6
ETM	**Tongmen**	**1.08**	**205**	*i* P	Pn	12 50 40.4	-0.6
ETM				S	Sn	12 50 55.7	-2.6
TEYL	**Yanliau Villag**	**1.14**	**198**	*e*P	Pn	12 50 39.4	-2.2
TEYL				S	Sn	12 50 56.7	-2.6
WHP	**Taichung City**	**1.16**	**235**	*i* P	Pn	12 50 42.7	+0.8
WHP				*i* S	Sn	12 50 59.6	-0.3
NMLH	**Miaoli**	**1.16**	**249**	P	Pn	12 50 42.6	+0.7
NMLH				*e*S	Sn	12 50 60.0	+0.2
SHUL	**Shoufeng**	**1.23**	**198**	P	Pn	12 50 42.0	-0.5
SHUL				*i* S	Sn	12 51 01.3	+0.4
NSY	**Sanyi**	**1.24**	**244**	P	Pn	12 50 42.8	+0.1
NSY				*e*S	Sn	12 51 00.7	-0.4
OWD	**Renai**	**1.24**	**217**	*i* P	Pn	12 50 43.4	+0.5
OWD				*i* S	Sn	12 51 01.3	-0.2
ESL	**Shilin**	**1.24**	**204**	*i* P	Pn	12 50 43.1	+0.4
ESL				S	Sn	12 50 59.6	-1.7
WUSB	**Renai**	**1.24**	**220**	P	Pn	12 50 44.0	+1.2
WUSB				S	Sn	12 51 01.1	-0.4
TWQ1	**Liyutan**	**1.26**	**241**	P	Pn	12 50 43.5	+0.6
TWQ1				S	Sn	12 51 01.4	-0.2
WCS	**Beigang Elemen**	**1.33**	**228**	*e*P	Pn	12 50 44.5	+0.9
WCS				*i* S	Sn	12 51 02.9	0.0
WARBT	**Fenglin Townsh**	**1.35**	**204**	*e*P	Pn	12 50 43.4	-0.5
WARBT				*i* S	Sn	12 51 01.6	-1.7
WDJ	**Dajia District**	**1.37**	**244**	*e*P	Pn	12 50 45.0	+1.0
WDJ				*e*S	Sn	12 51 02.7	-1.0
EGFH	**Guangfu**	**1.38**	**202**	P	Pn	12 50 44.2	-0.1
EGFH				*i* S	Sn	12 51 02.3	-1.7
VWDT	**VWDT**	**1.42**	**213**	*e*P	Pn	12 50 46.1	+1.4
VWDT				*e*S	Sn	12 51 05.9	+1.1
SMLT	**Sun Moon Lake**	**1.46**	**223**	*i* P	Pn	12 50 45.3	0.0
SMLT				*e*S	Sn	12 51 06.5	+0.8
TYC	**Yuchr**	**1.47**	**225**	*i* P	Pn	12 50 45.9	+0.7
TYC				*e*S	Sn	12 51 06.6	+0.9
SSLB	**Suanglung**	**1.50**	**219**	*e*P	Pn	12 50 46.5	+0.9
SSLB				*i* S	Sn	12 51 06.7	+0.3
HGSD	**Ruisui**	**1.55**	**199**	*i* P	Pn	12 50 46.9	+0.7
HGSD				S	Sn	12 51 07.4	0.0
EHY	**Hungye**	**1.57**	**203**	*i* P	Pn	12 50 46.6	+0.2
EHY				*i* S	Sn	12 51 06.4	-1.4
WNT	**Mingjian**	**1.60**	**228**	*e*P	Pn	12 50 47.1	+0.4
WNT				*i* S	Sn	12 51 09.1	+0.6
WJS	**Zhushan**	**1.61**	**226**	*i* P	Pn	12 50 47.6	+0.7
WJS				*i* S	Sn	12 51 09.2	+0.5
WHYT	**Xinyi Township**	**1.63**	**220**	P	Pn	12 50 48.3	+1.2
WHYT				*i* S	Sn	12 51 09.9	+0.7
YULB	**Yu-li**	**1.68**	**202**	*i* P	Pn	12 50 47.6	-0.2
YULB				*e*S	Sn	12 51 08.2	-2.1
IRIF	**Iriomote-Funau**	**1.70**	**111**	P	Pn	12 50 48.5	+0.5
IRIF				*e*S	Sn	12 51 10.3	-0.4
EYUL	**Yuli**	**1.71**	**201**	P	Pn	12 50 48.5	+0.3
TWF1	**Yuli**	**1.72**	**202**	*i* P	Pn	12 50 47.7	-0.5
TWF1				*e*S	Sn	12 51 09.2	-1.9
YUS	**Yu-Shan**	**1.74**	**213**	*e*P	Pn	12 50 49.7	+0.8
YUS				S	Sn	12 51 12.2	-0.1
ALS	**Alishan**	**1.80**	**217**	*i* P	Pn	12 50 49.8	+0.3
ALS				*i* S	Sn	12 51 14.1	+0.8
CHN5	**Tsauling**	**1.81**	**222**	*i* P	Pn	12 50 49.6	+0.3
CHN5				*i* S	Sn	12 51 13.6	+0.6
WGK	**Gukeng**	**1.81**	**226**	*e*P	Pn	12 50 50.4	+1.1
WGK				*i* S	Sn	12 51 14.1	+1.1
WDLH	**Douliu**	**1.83**	**227**	*e*P	Pn	12 50 49.4	-0.1
WDLH				*i* S	Sn	12 51 13.2	-0.1
FULB	**Fuli**	**1.86**	**200**	P	Pn	12 50 50.3	+0.3
FULB				*i* S	Sn	12 51 14.1	-0.1
WTK	**Tuku**	**1.93**	**229**	P	Pn	12 50 50.9	+0.2
WTK				S	Sn	12 51 13.7	-1.9
WCKO	**Fanlu**	**1.97**	**220**	*i* P	Pn	12 50 52.2	+1.0
WCKO				*i* S	Sn	12 51 17.4	+0.8
ELDTW	**Lidau**	**1.97**	**207**	*e*P	Pn	12 50 51.7	+0.3
ELDTW				*i* S	Sn	12 51 15.8	-0.9
CHN4	**Tsaushan**	**2.04**	**219**	*e*P	Pn	12 50 53.8	+1.6
CHN4				*i* S	Sn	12 51 18.6	+0.5
JIJ	**Ishigaki jima**	**2.05**	**106**	*e*P	Pn	12 50 52.8	+0.5
JIJ				S	Sn	12 51 17.9	-0.3
EDH	**Donghe**	**2.07**	**198**	*e*P	Pn	12 50 53.0	+0.4
EDH				*i* S	Sn	12 51 17.9	-0.9
STYH	**Taoyuan**	**2.09**	**212**	*e*P	Pn	12 50 53.4	+0.5
STYH				*i* S	Sn	12 51 19.8	+0.6
WTP	**Ta-pu**	**2.12**	**217**	*e*P	Pn	12 50 52.4	-0.8
WTP				*i* S	Sn	12 51 19.8	0.0
WTP	**Ta-pu**	**2.12**	**217**	*i* S	Pn	12 50 52.1	-1.0
JISG	**Ishigakijimahi**	**2.15**	**99**	P	Pn	12 50 54.5	+1.0
JISG				*e*S	Sn	12 51 20.6	+0.2
WSL	**Shuilin Townsh**	**2.15**	**229**	*e*P	Pn	12 50 52.1	-1.4
WSL				*i* S	Sn	12 51 20.3	-0.2
TWK	**Hsinying**	**2.17**	**219**	*e*P	Pn	12 50 54.6	+0.7
TWK				S	Sn	12 51 21.1	0.0
SNST	**Tainan City**	**2.20**	**218**	*e*P	Pn	12 50 54.5	+0.3
SNST				S	Sn	12 51 22.6	+0.9
CHN1	**Nanshi**	**2.21**	**217**	*i* S	Sn	12 51 21.9	0.0
VWUC	**VWUC**	**2.30**	**271**	*e*P	Pn	12 50 55.7	+0.2
VWUC				*e*S	Sn	12 51 22.5	-1.4
PTMZ	**Houxiangcun**	**2.60**	**272**	*i* P	Pn	12 50 59.8	+0.5
PTMZ				*e*S	Sn	12 51 30.2	-0.6
PHUB	**P'eng-hu**	**2.63**	**237**	P	Pn	12 50 59.6	-0.1
PHUB				S	Sn	12 51 29.3	-2.2
MASBT	**Mashibuluo**	**2.64**	**208**	*e*P	Pn	12 51 00.1	+0.2
MASBT				S	Sn	12 51 32.0	+0.2

TAP 14 12:50:42.5, 23°.04N×120°.59E, h8km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.05**	**351**	*i* P	Pg	12 50 44.8	+0.5
SGST				*i* S	Sg	12 50 46.6	+1.1
CHN1	**Nanshi**	**0.16**	**339**	*i* P	Pg	12 50 47.1	+1.2
CHN1				*i* S	Sg	12 50 50.3	+2.0
STYT	**Tauyuan**	**0.20**	**50**	*i* P	Pg	12 50 47.2	+0.6
STYT				S	Sg	12 50 51.6	+2.2
SNST	**Tainan City**	**0.20**	**335**	*i* P	Pg	12 50 48.1	+1.4
SNST				*i* S	Sg	12 50 51.8	+2.4
WTP	**Ta-pu**	**0.21**	**6**	*i* P	Pg	12 50 48.2	+1.4
TWK	**Hsinying**	**0.25**	**338**	*i* P	Pg	12 50 48.9	+1.4
TWK				*e*S	Sg	12 50 53.4	+2.5
TPUB	**Ta-pu**	**0.27**	**8**	*i* P	Pb	12 50 49.4	-0.2
TPUB				*e*S	Sb	12 50 54.5	+0.2
CHN4	**Tsaushan**	**0.31**	**0**	*i* P	Pb	12 50 50.2	-0.1
CHN4				*e*S	Sb	12 50 55.3	-0.4

NSSP ***14*** *13:18:56.2, 38°.87N×43°.78E, h10km, Ms4.0*
TEH ***14*** *13:18:57.8, 39°.00N×43°.68E, h7km±48km*
ISK ***14*** *13:18:57.2, 38°.98N×43°.69E, h5km, ML3.9/17*
IDC ***14*** *13:18:57.9±1.0, 38°.90N×43°.78E, h0km, mb3.7/11, mbtmp3.6/15, ML3.0/3, MS3.1/12, Error ellipse: s-maj=18.2km s-min=10.9km az=150.0*
AFAD ***14*** *13:18:57.7, 39°.04N×43°.68E, h4km±5km, ML3.6*
ISC 14 13:18:58.3±1.1, 38°.98N±0°.02×43°.69E±0°.02, h2km±8km, n93, σ1§61/111, mb3.7/10, MS3.0/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.28**	**279**	Pg	**Pg**	**13 19 03.4**	**-0.2**
ERCV	**ERCIS-VAN**	**0.28**	**279**	Pg	**Pg**	**13 19 03.3**	**-0.3**
OZAP	**Van, Ozalp-Mer**	**0.40**	**143**	P	**Pg**	**13 19 05.7**	**-0.1**
OZAP				S	**Sb**	**13 19 14.7**	**0.0**
OZAP				*i* AML	AML	13 19 16.0	
	comp=E,8μm,0.6s						
OZAP				*i* AML	AML	13 19 17.0	
	comp=N,6μm,0.6s						
VANB	**Van**	**0.45**	**212**	Pg	**Pb**	**13 19 08.4**	**-0.5**
VANB	**Van**	**0.45**	**212**	Pg	**Pb**	**13 19 08.1**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.77**	**258**	P	**Pg**	**13 19 12.8**	**-0.2**
ADCV				S	**Sb**	**13 19 25.5**	**0.0**
ADCV				*i* AML	AML	13 19 30.0	
	comp=E,2μm,0.3s						
ADCV				*i* AML	AML	13 19 34.0	
	comp=N,2μm,0.8s						
ADCV	**BITLIS_Adilcev**	**0.77**	**258**	Pg	**Pg**	**13 19 12.8**	**-0.2**
AGRB	**Hanur-Agry**	**0.81**	**318**	Pg	**Pg**	**13 19 13.4**	**-0.3**
AGRB				Sg	**Sb**	**13 19 25.9**	**-0.6**
AGRB	**Hanur-Agry**	**0.81**	**318**	Pg	**Pg**	**13 19 13.1**	**-0.6**
MAKU	**Maku**	**0.86**	**64**	Pg	**Pg**	**13 19 13.4**	**-1.4**
MLAZ	**Malazgirt-MUS**	**0.90**	**281**	Pg	**Pb**	**13 19 15.7**	**-1.0**
MLAZ	**Malazgirt-MUS**	**0.90**	**281**	Pg	**Pg**	**13 19 14.8**	**-0.8**
IGDI	**IGDIR**	**0.94**	**19**	P	**Pg**	**13 19 15.6**	**-0.7**
IGDI				S	**Sn**	**13 19 33.8**	**+1.2**
IGDI				*i* AML	AML	13 19 35.0	
	comp=N,2μm,0.4s						
IGDI				*i* AML	AML	13 19 36.0	
	comp=E,3μm,0.7s						
TASB	**TASBURUN-IGDIR**	**1.09**	**23**	Pn	**Pb**	**13 19 19.1**	**-0.8**
VNNZ	**Vanand**	**1.13**	**5**	*e*P	**Pb**	**13 19 19.9**	**-0.7**
VNNZ				*e*S	**Sn**	**13 19 37.3**	**0.0**
METS	**Metsamor**	**1.21**	**14**	*e*P	**Pg**	**13 19 20.7**	**-0.8**
METS				*e*S	**Sn**	**13 19 38.8**	**-0.5**
NRKZ	**NAREK**	**1.27**	**36**	*e*P	**Pg**	**13 19 21.5**	**-1.0**
NRKZ				*e*S	**Sn**	**13 19 40.0**	**-0.8**
ARUZ	**Aruch**	**1.34**	**13**	*e*P	**Pg**	**13 19 24.6**	**+0.7**
ARUZ				*e*S	**Sn**	**13 19 45.5**	**+2.9**
BLIS	**Bitlis-Merkez**	**1.35**	**246**	P	**Pn**	**13 19 22.5**	**-1.8**
BLIS				S	**Sn**	**13 19 42.8**	**-0.2**
BLIS				*i* AML	AML	13 19 47.0	
	comp=N,1μm,0.4s						
BLIS				*i* AML	AML	13 19 47.0	
	comp=E,928nm,0.4s						
BLIS	**Bitlis-Merkez**	**1.35**	**246**	Pg	**Pn**	**13 19 22.5**	**-1.8**
PERV	**Siirt/Pervari-**	**1.37**	**222**	P	**Pb**	**13 19 23.9**	**-0.7**
PERV				*i* AML	AML	13 19 52.0	
	comp=N,2μm,0.6s						
NAX	**Nakhchivan**	**1.42**	**81**	Pg	**Pg**	**13 19 25.5**	**0.0**
GNI	**Garni**	**1.43**	**34**	Pn	**Pg**	**13 19 25.1**	**-0.5**
GNI				Sn	**Sn**	**13 19 45.7**	**+1.0**
GNI	**Garni**	**1.43**	**34**	*e*P	**Pg**	**13 19 25.0**	**-0.6**
GNI				*e*S	**Sn**	**13 19 45.5**	**+0.8**
GNI	**Garni**	**1.43**	**34**	Pg	**Pg**	**13 19 25.5**	**-0.1**
	98nm,0.3s,baz=232,slow=3.3,SNR=133						
GNI				Lg	Lg	13 19 44.9	
	101nm,0.3s,baz=224,slow=17,SNR=16						
GNI				LR	LR	13 20 16.1	
	comp=Z,339nm,20.7s,baz=112,slow=54						
YOVA	**Hakkari_Yksek**	**1.47**	**161**	P	**Pn**	**13 19 23.5**	**-2.4**
YOVA				S	**Sg**	**13 19 47.9**	**+2.5**
YOVA				*i* AML	AML	13 19 49.0	
	comp=E,746nm,1.2s						
AMBZ	**Amberd**	**1.48**	**17**	*e*P	**Pg**	**13 19 26.4**	**-0.2**
AMBZ				*e*S	**Sg**	**13 19 48.5**	**+2.7**
SBZ	**Shahbuz**	**1.51**	**73**	Pg	**Pb**	**13 19 25.9**	**-1.1**
VAYK	**Vayk**	**1.53**	**61**	*i* P	**Pg**	**13 19 27.7**	**+0.2**
VAYK				*i* S	**Sg**	**13 19 48.6**	**+1.3**
KAPZ	**Kaputan**	**1.55**	**30**	*e*P	**Pb**	**13 19 27.0**	**-0.9**
KAPZ				*e*S	**Sg**	**13 19 49.6**	**+1.4**
IMRD	**Marand**	**1.59**	**99**	Pg	**Pn**	**13 19 27.0**	**-0.7**
SRTM	**Siirt_Merkez**	**1.70**	**235**	P	**Pb**	**13 19 29.2**	**-1.1**
SRTM				*i* AML	AML	13 19 54.0	
	comp=N,556nm,0.7s						
KARS	**Kars**	**1.71**	**344**	Pn	**Pb**	**13 19 29.1**	**-1.5**
KOPR	**Koprukoy-ERZUR**	**1.75**	**306**	Pn	**Pb**	**13 19 29.8**	**-1.3**
VRTB	**Varto-Mus**	**1.75**	**277**	Pn	**Pb**	**13 19 30.2**	**-0.9**
KMOZ	**Kamo**	**1.85**	**6**	*e*P	**Pb**	**13 19 32.1**	**-0.8**
KMOZ				*e*S	**Sg**	**13 19 58.7**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.89**	**327**	Pn	**Pb**	**13 19 31.9**	**-1.7**
AYRK	**Ayrk**	**1.98**	**54**	*e*P	**Pb**	**13 19 33.9**	**-1.3**
AYRK				*e*S	**Sg**	**13 20 01.8**	**-0.2**
ERZM	**Erzurum**	**2.02**	**298**	P	**Pb**	**13 19 35.6**	**-0.3**
EJDE	**Erzurum, Palan**	**2.04**	**296**	P	**Pb**	**13 19 35.5**	**-0.7**
KARO	**Karliova-Bingo**	**2.08**	**280**	Pn	**Pb**	**13 19 34.7**	**-2.1**
SVAN	**Silvan-Diyarba**	**2.12**	**248**	Pn	**Pn**	**13 19 35.2**	**+0.5**
SRTK	**Saratovka**	**2.14**	**13**	*e*P	**Pb**	**13 19 36.3**	**-1.6**
SRTK				*e*S	**Sg**	**13 20 06.0**	**-1.1**
IAZR	**Azarshahr**	**2.22**	**125**	Pn	**Pb**	**13 19 37.2**	**-2.0**
EGVZ	**Egvard**	**2.23**	**83**	*e*P	**Pb**	**13 19 37.3**	**-2.1**
EGVZ				*e*S	**Sb**	**13 20 07.6**	**+0.1**
LSVT	**Lusahovit**	**2.25**	**30**	*e*P	**Pb**	**13 19 37.9**	**-1.8**
LSVT				*e*S	**Sg**	**13 20 08.7**	**-2.0**
BNGB	**Bingl**	**2.35**	**271**	Pn	**Pn**	**13 19 38.4**	**+0.5**
KZRT	**Kazreti**	**2.47**	**12**	P	**Pb**	**13 19 43.4**	**+0.1**
KZRT				S	**Sg**	**13 20 19.9**	**+2.4**
YEDI	**Yedisu-Bingol**	**2.49**	**282**	Pn	**Pn**	**13 19 40.4**	**+0.5**
TRLG	**Trialeti**	**2.58**	**7**	P	**Pg**	**13 19 45.7**	**-2.0**
TRLG				S	**Sg**	**13 20 24.0**	**+2.9**
IHRS	**Heris**	**2.71**	**103**	Pn	**Pn**	**13 19 43.7**	**+0.7**
MAHB	**Mahabad**	**2.72**	**144**	Pn	**Pn**	**13 19 44.6**	**+1.5**
DGRG	**David-gareji**	**2.79**	**27**	P	**Pb**	**13 19 46.5**	**-2.3**
DGRG				S	**Sg**	**13 20 31.1**	**+3.3**
TBLG	**Delisi**	**2.87**	**16**	P	**Pg**	**13 19 51.3**	**-1.8**
BCA	**Borcka**	**2.93**	**328**	Pn	**Pn**	**13 19 46.7**	**+0.8**
MAZI	**Mazidag**	**2.97**	**240**	Pn	**Pn**	**13 19 47.3**	**+0.8**
VSHL	**Vashlovani**	**3.06**	**42**	P	**Pb**	**13 19 50.8**	**-2.7**
VSHL				S	**Sg**	**13 20 40.8**	**+4.1**
BAYT	**Aydıntepe-Bayb**	**3.08**	**298**	Pn	**Pn**	**13 19 48.8**	**+0.7**
CHOM	**Cayeli-Rize**	**3.09**	**314**	Pn	**Pn**	**13 19 49.0**	**+1.0**
SDS1	**Sardasht. Az.**	**3.16**	**153**	Pn	**Pn**	**13 19 50.7**	**+1.5**
IHSH	**Hashtrud**	**3.27**	**120**	Pn	**Pn**	**13 19 52.1**	**+1.2**
GRMI	**Germi**	**3.29**	**92**	Pn	**Pn**	**13 19 51.8**	**+1.0**
ISRB	**Sarab**	**3.33**	**109**	Pn	**Pn**	**13 19 52.7**	**+1.2**
TKB	**Tkibuli**	**3.41**	**351**	P	**Pb**	**13 19 55.9**	**-3.6**
LGD	**Lagodekhi**	**3.46**	**34**	P	**Pn**	**13 19 55.2**	**+2.1**
LGD				S	**Sg**	**13 20 49.3**	**+0.1**
CHRG	**Chargali**	**3.48**	**15**	P	**Pb**	**13 19 56.7**	**-3.9**
GARIG	**Gari**	**3.63**	**357**	P	**Pb**	**13 19 59.1**	**-4.0**
MTEO	**Meteo**	**3.75**	**10**	P	**Pb**	**13 20 01.9**	**-3.6**
MTEO				S	**Sg**	**13 21 05.0**	**+6.1**
SHTL	**Shatili**	**3.84**	**16**	P	**Pb**	**13 20 07.7**	**+1.0**
SHTL				S	**Sg**	**13 21 01.1**	**-0.5**
GAS1	**Astara - Iran**	**4.07**	**97**	Pn	**Pn**	**13 20 02.6**	**+1.1**
KBZ	**Khabaz**	**4.78**	**353**	Pn	Pn	13 20 15.3	+4.1
	0.1nm,0.3s,baz=166,slow=8.5,SNR=4.3						
KBZ				LR	LR	13 21 41.3	
	comp=Z,41nm,21.4s,baz=168,slow=34 2.4nm,0.9s						
KVAR	**Kislovodsk Arr**	**5.03**	**352**	Pg	**Pb**	**13 20 26.6**	**-0.4**
	baz=168,slow=19						
BRTR	**Keskin Array B**	**7.82**	**279**	Pn	Pn	13 20 57.4	+4.2
	0.9nm,0.7s,baz=97,slow=12,SNR=2.3						
MMAI	**Mount Meron Ar**	**8.97**	**231**	LR	LR	13 25 03.4	
	comp=Z,163nm,19.8s,baz=54,slow=41						
AKTO	**Aktyubinsk**	**15.30**	**37**	Pn	**Pn**	**13 22 32.9**	**-2.2**
	0.1nm,0.3s,baz=234,slow=12,SNR=6.1 1.5nm,0.6s						
AKASG	**Malin Array Be**	**15.54**	**324**	Pn	**Pn**	**13 22 38.2**	**-0.1**
	0.2nm,0.3s,baz=135,slow=12,SNR=5.2						
AKASG				LR	LR	13 29 09.5	
	comp=Z,65nm,18.7s,baz=220,slow=39 0.1nm,0.3s						
ARTI	**Arti**	**19.96**	**24**	P	**Pn**	**13 23 32.4**	**-0.6**
	3.0nm,0.7s,baz=218,slow=6.8,SNR=6.0						
ARTI				LR	LR	13 33 29.6	
	comp=Z,48nm,20.3s,baz=212,slow=44 3.0nm,0.7s						
KIRV	**Kirov**	**19.97**	**9**	LR	LR	13 32 03.5	
	comp=Z,46nm,20.6s,baz=207,slow=39						
WSAR	**Wadi Sarin**	**20.20**	**137**	LR	LR	13 32 45.6	
	comp=Z,69nm,20.3s,baz=360,slow=41						
BVAR	**Borovoye Array**	**23.09**	**44**	P	**P**	**13 24 05.2**	**+0.1**
	1.0nm,0.7s,baz=235,slow=12,SNR=6.6 1.0nm,0.7s						
AAK	**Ala-Archa**	**23.54**	**71**	LR	LR	13 33 59.5	
	comp=Z,47nm,22.0s,baz=248,slow=38						
FINES	**FINESS Array B**	**24.99**	**340**	P	**P**	**13 24 23.9**	**+0.9**
	3.1nm,0.9s,baz=147,slow=13,SNR=2.2 3.1nm,0.9s						
KURBB	**Kurchatov Arra**	**27.07**	**53**	P	**P**	**13 24 42.1**	**+0.1**
	0.5nm,0.2s,baz=264,slow=9.0,SNR=5.5						
KURBB				LR	LR	13 36 44.7	
	comp=Z,43nm,19.9s,baz=174,slow=39 0.5nm,0.2s						
HFS	**Hagfors**	**28.33**	**328**	LR	LR	13 38 30.8	
	comp=Z,85nm,20.8s,baz=178,slow=41						
MKAR	**Makanchi Array**	**29.11**	**62**	P	**P**	**13 25 00.5**	**+0.2**
	1.0nm,0.8s,baz=269,slow=7.3,SNR=12						
MKAR				LR	LR	13 39 58.1	
	comp=Z,30nm,18.4s,baz=354,slow=43 1.0nm,0.8s						
NOA	**NORSAR Array B**	**29.85**	**328**	LR	LR	13 37 16.3	
	comp=Z,28nm,19.4s,baz=230,slow=37						
ZALV	**Zalesovo Beam**	**31.53**	**48**	P	**P**	**13 25 22.5**	**+0.9**
	0.3nm,0.4s,baz=263,slow=12,SNR=1.4 0.3nm,0.4s						
ESDC	**Sonseca Array**	**36.53**

COEN	**Coen**	**23.84 267**	P	**P**	**13 31 54.9**	**-2.1**
COEN			IAmb	IAmb	13 31 59.7	
comp=Z,7.8nm,1.0s						
STKA	**Stephens Creek**	**29.70 229**	P	**P**	**13 32 50.0**	**+0.3**
STKA	**Stephens Creek**	**29.70 229**	P	**P**	**13 32 50.7**	**+1.0**
comp=Z,6.6nm,0.8s,baz=32,slow=8.3,SNR=16						
STKA			LR	LR	13 44 47.5	
comp=Z,55nm,18.3s,baz=41,slow=37						
comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**32.41 255**	P	**P**	**13 33 12.6**	**-1.2**
comp=Z,1.3nm,0.8s,baz=84,slow=8.9,SNR=6.3						
WRA			LR	LR	13 45 34.7	
comp=Z,63nm,20.1s,baz=36,slow=35						
comp=Z,1.3nm,0.8s						
AS31	**Alice Springs**	**33.30 248**	P	**P**	**13 33 20.5**	**-1.0**
ASAR	**Alice Springs**	**33.31 248**	P	**P**	**13 33 20.1**	**-1.4**
ASAR	**Alice Springs**	**33.31 248**	P	**P**	**13 33 20.4**	**-1.1**
comp=Z,1.2nm,0.5s,baz=76,slow=9.5,SNR=49						
ASAR			LR	LR	13 45 06.8	
comp=Z,61nm,20.9s,baz=108,slow=33						
comp=Z,1.2nm,0.5s						
BBOO	**Buckleboo**	**34.28 232**	P	**P**	**13 33 30.7**	**+0.8**
BBOO			IAmb	IAmb	13 33 31.6	
comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**37.67 263**	P	**P**	**13 33 56.0**	**-3.0**
KNRA			IAmb	IAmb	13 34 11.3	
comp=Z,8.4nm,1.1s						
FORT	**Forrest**	**39.98 239**	P	**P**	**13 34 16.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**40.58 259**	P	**P**	**13 34 22.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.58 259**	LR	LR	13 49 25.4	
comp=Z,57nm,20.4s,baz=126,slow=34						
NWAO	**Narrogin (SRO)**	**49.43 239**	LR	LR	13 57 01.5	
comp=Z,93nm,18.2s,baz=350,slow=37						
CMAR	**Chiang Mai Arr**	**75.15 294**	P	**P**	**13 38 26.9**	**+0.8**
comp=Z,0.7nm,0.3s,baz=128,slow=4.9,SNR=9.2						
comp=Z,0.7nm,0.3s						
QSPA	**South Pole Qui**	**75.85 180**	IAmb	IAmb	13 38 24.0	
QSPA			P	P	13 38 25.0	-4.5
QSPA	**South Pole Qui**	**75.85 180**	P	**P**	**13 38 29.3**	**-0.1**
comp=Z,0.7nm,0.8s,baz=14,slow=4.2,SNR=1.6						
comp=Z,0.7nm,0.8s						
SONM	**Songino Array**	**82.33 323**	P	**P**	**13 39 05.8**	**+0.7**
comp=Z,0.3nm,0.5s,baz=106,slow=4.7,SNR=3.8						
comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**85.86 18**	P	**P**	**13 39 22.2**	**-0.3**
comp=Z,1.0nm,0.7s,baz=212,slow=5.3,SNR=12						
comp=Z,1.0nm,0.7s						
BBB	**Bella Bella**	**86.06 34**	LR	LR	14 08 47.4	
comp=Z,25nm,21.0s,baz=170,slow=29						
NVAR	**Mina Array Bea**	**86.56 49**	P	**P**	**13 39 28.3**	**+1.5**
comp=Z,0.4nm,0.6s,baz=214,slow=8.2,SNR=3.6						
comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**97.12 316**	P	**P**	**13 40 15.4**	**-0.2**
comp=Z,0.4nm,0.8s,baz=101,slow=6.3,SNR=3.7						
comp=Z,0.4nm,0.8s						

*NEIC **14** 13:44:51.5±2.7, 37°.51N±0°.03×113°.85W±0°.02, h5km±1km, Error ellipse: s-maj=5.5km s-min=2.9km az=172.0*

UUSS 14 13:44:51.5±3.1, 37°.51N±0°.02×113°.84W±0°.02, h7km±5km, ML2.7/6, ML2.7/40(NEIC), Error ellipse: s-maj=2.6km s-min=2.1km az=199.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.36**	**190**		Pg	13 44 58.9	+0.3
ARUT	**Antelope Range**	**0.42**	**49**		Pg	13 45 00.2	+0.4
ZNPU	**Zion National**	**0.59**	**105**		Pg	13 45 03.4	+0.5
ZNPU					Sg	13 45 11.5	+0.8
LCMT	**Little Creek M**	**0.69**	**136**		Pg	13 45 04.8	+0.1
LCMT					Sb	13 45 14.8	-0.9
LCMT	**Little Creek M**	**0.69**	**136**	IAML		13 45 17.9	
comp=E,249nm,0.2s							
LCMT				IAML		13 45 18.0	
comp=N,307nm,0.2s							
DWU	**Dry Willow Pea**	**0.90**	**48**		Pg	13 45 09.1	+0.3
KNB	**Kanab**	**0.95**	**121**		Pg	13 45 09.8	0.0
PRN	**Pahroc Range**	**0.97**	**264**		Pg	13 45 10.2	+0.1
PRN	**Pahroc Range**	**0.97**	**264**	IAML		13 45 29.5	
comp=N,370nm,0.3s							
PRN				IAML		13 45 30.3	
comp=E,384nm,0.3s							
PSUT	**Pine Spring**	**1.02**	**359**		Pg	13 45 10.9	-0.2
PSUT	**Pine Spring**	**1.02**	**359**	IAML		13 45 31.2	
comp=N,274nm,0.4s							
PKCU	**Pink Cliffs**	**1.22**	**93**		Pn	13 45 15.4	+0.1
MTPU	**Mount Pierson**	**1.42**	**67**		Pg	13 45 18.9	+0.2
MTPU	**Mount Pierson**	**1.42**	**67**	IAML		13 45 40.2	
comp=E,69nm,0.6s							
SHPR	**Sheep Range**	**1.45**	**227**	Pg	Pn	13 45 18.1	-0.3
S11A	**Rachel**	**1.52**	**276**		Pg	13 45 21.3	+0.7
SPR3	**Spring Creek 3**	**1.54**	**346**		Pn	13 45 18.2	-1.4
SPR3				IAML		13 45 38.1	
comp=E,124nm,0.4s							
SPR3				IAML		13 45 42.0	
comp=N,127nm,0.4s							
TCRU	**Three Creeks R**	**1.56**	**45**		Pb	13 45 20.6	-0.2
R11B	**Troy Canyon, C**	**1.61**	**302**		Pn	13 45 20.1	-0.4
U15A	**North Rim**	**1.64**	**131**	Pg	Pb	13 45 22.1	-0.2
MSU	**Marysvale**	**1.65**	**52**		Pn	13 45 20.5	-0.6
V12A	**Nelson**	**1.96**	**205**		Pn	13 45 24.8	-0.4
TPNV	**Topopah Spring**	**2.00**	**255**		Pn	13 45 24.9	-1.0
TPNV				IAML		13 45 59.8	
comp=N,80nm,0.5s							
TPNV				IAML		13 46 00.7	
comp=N,83nm,0.6s							
Q16A	**Castle Valley**	**2.53**	**55**	Pn	Pn	13 45 32.3	-0.9
TMUT	**Trail Mountain**	**2.73**	**48**		Pg	13 45 43.3	-0.6
DUG	**Dugway, Tooele**	**2.80**	**16**	Pg	Pg	13 45 44.0	-1.2
DUG				IAML		13 46 25.7	
comp=N,31nm,0.6s							
DUG				IAML		13 46 30.0	
comp=N,22nm,0.9s							
WUAZ	**Wupatki**	**2.81**	**134**		Pn	13 45 37.3	+0.3
SRU	**San Rafael Swe**	**3.06**	**57**		Pb	13 45 48.3	+1.9
DSP	**Deep Springs**	**3.29**	**269**		Pn	13 45 43.7	+0.3
ELK	**Elko**	**3.41**	**342**		Pn	13 45 45.1	-0.2
P18A	**Preston Nutter**	**3.52**	**52**	IAML		13 46 14.0	
comp=E,9.1nm,4.7s							
NV11	**Mina Array Sit**	**3.53**	**286**	Pg	Pg	13 45 58.1	-1.0
NV11				IAML		13 46 46.0	
comp=N,11nm,1.3s							
NV11				IAML		13 47 23.0	
comp=E,12nm,4.5s							
NVAR	**Mina Array Bea**	**3.64**	**286**		Pn	13 45 45.6	-2.9

*BGSI **14** 13:58:06.5±1.2, 24°.49S×24°.39E, h80km±31km, ML2.2*

PRE 14 13:58:09.9±0.8, 24°.58S×25°.03E, h0km, ML1.8, Suspected explosion, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKOMA	**Sekoma**	**1.00**	**273**	*i* P	Pg	13 58 19.4	-10
SKOMA				IAML		13 58 39.5	
comp=N,63nm,0.1s							
KDWAN	**Kaudwane**	**1.24**	**344**	*i* P	Pg	13 58 25.5	-8.2
KDWAN				IAML		13 58 50.0	
comp=E,148nm,0.1s							
MAKGR	**Makgori**	**1.25**	**190**	*i* P	Pg	13 58 29.5	-4.3
MAKGR				*i* S	Sg	13 58 45.9	-4.1
MAKGR				IAML		13 58 50.8	
comp=E,93nm,0.3s							
LPHEP	**Lephephe**	**1.43**	**32**	*i* P	Pn	13 58 34.6	-2.6
LPHEP				*i* S	Sg	13 58 54.6	-1.2
LPHEP				IAML		13 58 58.7	
comp=E,16nm,0.1s							
SWZ	**Schweizer**	**2.61**	**174**	*e*P	Pn	13 58 53.9	+0.4
SWZ				*e*S	Sn	13 59 25.8	-0.1
SWZ				IAML		13 59 36.6	
comp=Z,6.7nm,0.3s							
LEPH	**Lephalale, Lim**	**2.62**	**75**	*e*P	Pn	13 58 53.9	+0.3
LEPH				*e*S	Sn	13 59 27.1	+0.8
LEPH				IAML		13 59 44.1	
comp=Z,7.1nm,0.2s							
HRAO	**HartRAO**	**2.73**	**119**	*e*P	Pn	13 58 56.0	+0.8
HRAO				*e*S	Sn	13 59 29.9	+0.8
HRAO				IAML		13 59 43.0	
comp=Z,9.2nm,0.2s							
BOSA	**Boshof**	**4.02**	**177**	*e*P	Pn	13 59 13.5	+0.6
BOSA				*e*S	Sn	14 00 00.7	-0.2
BOSA				IAML		14 00 16.6	
comp=Z,1.8nm,0.3s							
ALKP	**Alkanpan, Nort**	**5.89**	**204**	*e*P	Pn	13 59 40.0	+1.4
ALKP				*e*S	Sn	14 00 45.5	-1.3
ALKP				IAML		14 01 21.4	
comp=Z,1.6nm,0.4s							

IDC 14 14:04:49.1±7.4, 4°.98S×150°.34E, h142km±48km, mb3.0/3, mbtmp3.5/4, Error ellipse: s-maj=129.4km s-min=38.7km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**216**	P	Pn	14 06 07.2	-0.7
3.8nm,0.3s,baz=22,slow=8.1,SNR=5.5							
PMG				S	Sn	14 07 10.8	+1.5
6.4nm,0.4s,baz=182,slow=18,SNR=6.2							
WRA	**Warramunga Arr**	**21.53**	**225**	P	P	14 09 26.6	-0.6
0.3nm,0.5s,baz=51,slow=10,SNR=2.7							
0.3nm,0.5s							
ASAR	**Alice Springs**	**24.41**	**219**	P	P	14 09 54.7	+0.1
0.5nm,0.5s,baz=42,slow=10,SNR=4.8							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**78.86**	**319**	P	P	14 16 36.8	+0.2
0.4nm,0.5s,baz=123,slow=5.3,SNR=9.4							
0.4nm,0.5s							

*IDC **14** 14:05:35.4±1.4, 50°.03N×179°.83E, h0km, mb3.8/12, mbtmp3.8/16, ML4.0/3, Error ellipse: s-maj=34.3km s-min=18.7km az=5.0*

*NEIC **14** 14:05:40.2±2.6, 50°.29N±0°.06×179°.70E±0°.06, h22km±11km, mb3.7/16, ML3.6(AEIC), Error ellipse: s-maj=9.3km s-min=4.0km az=150.0*

*AEIC **14** 14:05:41.6±2.8, 50°.05N±0°.08×179°.8E±0°.1, h6km±8km, Error ellipse: s-maj=13.1km s-min=8.4km az=208.0*

ISC 14 14:05:40.2±0.9, 50°.1N±0°.1×179°.9E±0°.05, h35km, n60, σ1§51/65, mb3.9/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.87**	**27**		**Pn**	**14 06 10.1**	**+0.4**
GASW					**Sn**	**14 06 32.9**	**+0.8**
GALAA	**Gareloi Lava P**	**1.88**	**28**		**Pn**	**14 06 10.3**	**+0.5**
GANO	**Gareloi North**	**1.93**	**27**		**Pn**	**14 06 10.8**	**+0.4**
GANO					**Sn**	**14 06 34.3**	**+0.8**
GANE	**Gareloi Northe**	**1.93**	**28**		**Pn**	**14 06 10.9**	**+0.4**
TASE	**Tanaga Southea**	**2.20**	**38**		**Pn**	**14 06 14.9**	**+0.6**
TAFP	**Tanaga Falls P**	**2.28**	**37**		**Pn**	**14 06 15.8**	**+0.5**
TAFP					**Sn**	**14 06 43.0**	**+0.9**
KIWB	**Kanaga Island**	**2.60**	**47**		**Pn**	**14 06 19.9**	**+0.2**
KIWB	**Kanaga Island**	**2.60**	**47**		**Sn**	**14 06 50.1**	**0.0**
KIRH	**Kanaga Island**	**2.66**	**47**		**Pn**	**14 06 20.8**	**+0.3**
KIRH					**Sn**	**14 06 51.9**	**+0.4**
ADK	**Adak**	**2.85**	**50**		**Pn**	**14 06 23.0**	**-0.1**
ADAG	**Mount Adagdak**	**2.95**	**49**		**Pn**	**14 06 25.2**	**+0.7**
GSCK	**Great Sitkin C**	**3.18**	**52**		**Pn**	**14 06 28.1**	**+0.4**
GSCK					**Sn**	**14 07 04.1**	**-0.4**
GSTR	**Great Sitkin T**	**3.28**	**51**		**Pn**	**14 06 29.5**	**+0.4**
ATKA	**Atka Island**	**4.33**	**59**		**Pn**	**14 06 42.9**	**-0.4**
SHEM	**Shemya Is, Ala**	**4.42**	**309**	Pn	**Pn**	**14 06 44.7**	**+0.1**
1.7nm,0.3s,baz=86,slow=23,SNR=2.2							
SHEM				Sn	**Sn**	**14 07 34.1**	**-0.6**
1.2nm,0.3s,baz=106,slow=20,SNR=1.3							
35nm,0.8s							
OKFG	**Magazine Ridge**	**8.31**	**62**		**Pn**	**14 07 38.6**	**+0.5**
MAPS	**Pakushin South**	**8.99**	**61**		**Pn**	**14 07 47.5**	**+0.1**
MGOD	**Makushin Gods**	**9.02**	**61**		**Pn**	**14 07 47.7**	**-0.2**
MSW	**Makushin Switc**	**9.11**	**60**		**Pn**	**14 07 49.0**	**-0.1**
UNV	**Unalaska Valle**	**9.25**	**61**		**Pn**	**14 07 50.9**	**+0.1**
LVA	**Lava Point**	**9.61**	**60**	Pn	**Pn**	**14 07 54.6**	**-1.3**
ZRO	**Akutan Zero**	**9.62**	**60**		**Pn**	**14 07 56.5**	**+0.5**
AKBBA	**Akutan Broad B**	**9.65**	**60**		**Pn**	**14 07 57.0**	**+0.7**
M11K	**Mekoryuk**	**12.99**	**32**	Pn	Pn	14 08 37.2	-4.8
SDPT	**Sand Point**	**13.04**	**59**	Pn	**Pn**	**14 08 40.9**	**-1.8**
PEA0B	**Petropavlovsk-**	**14.03**	**291**	Pn	**Pn**	**14 08 56.3**	**0.0**
PETK	**Petropavlovsk-**	**14.03**	**291**	Pn	**Pn**	**14 08 52.5**	**-3.8**
PETK	**Petropavlovsk-**	**14.03**	**291**	Pn	**Pn**	**14 08 55.9**	**-0.4**
2.8nm,0.9s,baz=208,slow=8.1,SNR=1.8							
O16K	**Kokwok River B**	**15.81**	**45**	Pn	**Pn**	**14 09 18.8**	**-1.0**
O16K				IAmb	IAmb	14 09 47.1	
comp=Z,8.4nm,1.1s							
K15K	**Wolf Creek Mou**	**15.95**	**33**	Pn	**Pn**	**14 09 19.2**	**-2.4**
M16K	**Timber Creek**	**16.15**	**39**	Pn	**Pn**	**14 09 22.5**	**-1.7**
J16K	**Anvik River**	**16.93**	**31**	Pn	**Pn**	**14 09 33.6**	**-0.3**
K17K	**Iditarod**	**17.38**	**35**	Pn	**Pn**	**14 09 36.6**	**-3.0**
OHAK	**Old Harbor**	**17.39**	**56**	Pn	**Pn**	**14 09 36.1**	**-3.6**
KDAK	**Kodiak Island**	**17.88**	**54**	Pn	**Pn**	**14 09 41.8**	**-4.0**
KDAK	**Kodiak Island**	**17.88**	**54**	P	**Pn**	**14 09 42.7**	**-3.2**
comp=Z,12nm,1.1s,baz=106,slow=4.2,SNR=7.1							
J18K	**Innoko River**	**18.40**	**35**	P	**P**	**14 09 48.7**	**-3.2**
J18K				IAmb	IAmb	14 09 55.6	
comp=Z,5.0nm,1.1s							
H18K	**Honhosa River**	**18.91**	**29**	P	**P**	**14 09 55.0**	**-2.5**
MA2	**Magadan**	**19.05**	**311**	P	**P**	**14 09 58.1**	**-1.0**
comp=Z,0.2nm,0.3s,baz=101,slow=12,SNR=3.6							
comp=Z,0.8nm,0.2s							
SEY	**Seymchan**	**19.62**	**321**	P	**Pn**	**14 10 07.3**	**+0.4**
comp=Z,0.1nm,0.3s,baz=123,slow=10.0,SNR=7.7							
comp=Z,1.1nm,0.7s							
C16K	**Lisburne Hills**	**19.63**	**17**	P	**P**	**14 10 05.3**	**0.0**
C16K				IAmb	IAmb	14 10 14.1	
comp=Z,4.0nm,1.1s							
SKT	**Skwentna**	**19.74**	**42**	P	**P**	**14 10 04.6**	**-2.0**
PPLA	**Purkeypile**	**19.86**	**39**	P	**P**	**14 10 06.1**	**-1.9**
PPLA				IAmb	IAmb	14 10 11.1	
comp=Z,5.5nm,1.1s							
CAST	**Castle Rocks**	**20.15**	**38**	P	**P**	**14 10 07.1**	**-3.9**
CAST				IAmb	IAmb	14 10 33.7	
comp=Z,4.5nm,1.1s							
KTH	**Kantishna Hill**	**20.67**	**38**	P	**P**	**14 10 15.0**	**-1.8**
C18K	**Utukok River**	**20.78**	**20**	P	**P**	**14 10 16.9**	**-1.0**
C18K				IAmb	IAmb	14 10 20.0	
comp=Z,5.0nm,1.0s							
G21K	**Allakaket**	**21.32**	**30**	P	**P**	**14 10 24.1**	**+0.5**
G21K				IAmb	IAmb	14 10 25.3	
comp=Z,3.4nm,0.8s							
D19K	**Kuna River**	**21.37**	**22**	P	**P**	**14 10 24.2**	**0.0**
D19K				IAmb	IAmb	14 10 25.9	
comp=Z,2.7nm,0.9s							
ILAR	**Eielson Array**	**22.79**	**37**	P	**P**	**14 10 39.2**	**-0.1**
comp=Z,0.4nm,0.6s,baz=244,slow=9.4,SNR=4.8							
comp=Z,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**36.76**	**45**	P	**P**	**14 12 45.1**	**+1.3**
comp=Z,1.4nm,0.7s,baz=282,slow=8.5,SNR=8.2							
comp=Z,1.4nm,0.7s							
PDAR	**Pinedale Array**	**47.57**	**70**	P	**P**	**14 14 12.3**	**-0.1**
comp=Z,0.3nm,0.5s,baz=303,slow=2.0,SNR=5.6							
comp=Z,0.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**51.57**	**356**	P	**P**	**14 14 43.2**	**+1.1**
comp=Z,8.8nm,0.8s,baz=30,slow=6.8,SNR=9.3							
comp=Z,8.8nm,0.8s							
KURBB	**Kurchatov Arra**	**59.34**	**313**	P	**P**	**14 15 39.2**	**+0.9**
comp=Z,0.4nm,0.4s,baz=45,slow=6.5,SNR=4.6							
comp=Z,0.4nm,0.4s							
TXAR	**Lajitas Array**	**59.75**	**79**	P	**P**	**14 15 41.8**	**+0.2**
comp=Z,0.4nm,0.6s,baz=315,slow=7.5,SNR=3.3							
comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**60.11**	**308**	P	**P**	**14 15 44.4**	**+0.7**
comp=Z,0.2nm,0.6s,baz=56,slow=8.9,SNR=2.5							
comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**61.27**	**319**	P	**P**	**14 15 53.2**	**+1.7**
comp=Z,0.9nm,0.6s,baz=54,slow=7.5,SNR=5.6							
comp=Z,0.9nm,0.6s							
FINES	**FINESS Array B**	**66.81**	**347**	P	**P**	**14 16 28.4**	**+0.7**
comp=Z,3.4nm,1.1s,baz=352,slow=9.0,SNR=1.7							
comp=Z,3.4nm,1.1s							
NOA	**NORSAR Array B**	**68.82**	**354**	P	**P**	**14 16 41.7**	**+1.4**
comp=Z,0.6nm,0.6s,baz=4.7,slow=3.5,SNR=2.3							
comp=Z,0.6nm,0.6s							
HFS	**Hagfors**	**69.53**	**353**	P	**P**	**14 16 45.9**	**+1.2**
comp=Z,0.9nm,0.5s,baz=359,slow=13,SNR=1.5							
comp=Z,0.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**82.97**	**231**	P	**P**	**14 18 02.4**	**+0.9**
comp=Z,1.7nm,0.9s,baz=42,slow=9.0,SNR=2.0							
comp=Z,1.7nm,0.9s							

*IDC **14** 14:14:12.3±3.8, 19°.57N×122°.19E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=321.8km s-min=23.2km az=62.0*

ISC 14 14:14:18.8±1.2, 19°.1N±0°.1×121°.1E±0°.3, h35km, n16, σ1§16/10, mb3.1/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**3.74**	**0**	P	**Pn**	**14 15 15.2**	**+1.1**
TPUB	**Ta-pu**	**4.24**	**355**	P	**Pn**	**14 15 19.0**	**-2.0**
YULB	**Yu-li**	**4.32**	**3**	P	**Pn**	**14 15 21.6**	**-0.5**
SSLB	**Suanglung**	**4.71**	**359**	P	**Pn**	**14 15 26.3**	**-1.1**
NACB	**Ninganchiao**	**5.12**	**5**	P	**Pn**	**14 15 32.5**	**-0.5**
YHNB	**Yeheng**	**5.59**	**3**	P	**Pn**	**14 15 40.0**	**+0.4**
WRA	**Warramunga Arr**	**40.88**	**161**	P	**P**	**14 21 56.7**	**-1.0**
0.3nm,0.7s,baz=343,slow=8.3,SNR=5.1							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**42.06**	**320**	P	**P**	**14 22 07.9**	**+0.7**
0.2nm,0.6s,baz=108,slow=9.3,SNR=2.4							
0.2nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**43.10**	**83**	T	T	15 07 55.3	
baz=274							
H11S1	**WAKE ISLAND Hy**	**43.11**	**83**	T	T	15 07 57.9	
baz=274							
H11S2	**WAKE ISLAND Hy**	**43.12**	**83**	T	T	15 08 01.1	
baz=274							
H11N1	**WAKE ISLAND Hy**	**43.13**	**81**	T	T	15 08 00.4	
baz=277							
H11N2	**WAKE ISLAND Hy**	**43.13**	**81**	T	T	15 07 59.0	
baz=277							
H11N3	**WAKE ISLAND Hy**	**43.15**	**81**	T	T	15 07 58.9	
baz=277							
ASAR	**Alice Springs**	**44.27**	**163**	P	**P**	**14 22 25.8**	**+0.6**
0.1nm,0.3s,baz=345,slow=7.0,SNR=11							
0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**46.04**	**323**	P	**P**	**14 22 39.6**	**+0.6**
0.6nm,0.6s,baz=118,slow=8.3,SNR=3.9							
0.6nm,0.6s							

IDC 14 14:15:21.0±6.6, 20°.98S×179°.66E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=341.4km s-min=58.1km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.28**	**258**	P	P	14 23 16.6	0.0
0.3nm,0.8s,baz=103,slow=9.1,SNR=4.1							
0.3nm,0.8s							
WRA	**Warramunga Arr**	**42.37**	**263**	P	P	14 23 17.0	-0.3
0.2nm,0.8s,baz=98,slow=8.1,SNR=4.6							
0.2nm,0.8s							
GERES	**GERESS Array B**	**150.01**	**341**	PKPbc	PKPbc	14 35 13.2	-0.4
0.7nm,0.4s,baz=4.7,slow=2.5,SNR=2.0							

*IDC **14** 14:16:40.5±1.1, 63°.77N×149°.30W, h113km±16km, mb3.5/4, mbtmp3.8/7, Error ellipse: s-maj=31.1km s-min=12.0km az=112.0*

*AEIC **14** 14:16:42.5±0.7, 63°.82N±0°.04×149°.12W±0°.09, h119km±5km, ML3.1, ML3.2/230(NEIC), Error ellipse: s-maj=6.5km s-min=5.7km az=137.0*

*NEIC **14** 14:16:42.4±0.7, 63°.83N±0°.04×149°.14W±0°.08, h118km±5km, Error ellipse: s-maj=6.0km s-min=3.8km az=136.0*

ISC 14 14:16:41.6±0.9, 63°.81N±0°.04×149°.12W±0°.04, h122km±6km, n265, σ0§77/220, mb3.8/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.12**	**135**	Pn	**Pn**	**14 16 58.7**	**+0.4**
MCK	**McKinley**	**0.12**	**135**		**Sn**	**14 17 10.7**	**-0.2**
BWN	**Browne**	**0.39**	**337**		**Pn**	**14 16 59.5**	**+0.4**
BWN				IAML		14 17 12.6	
comp=E,832nm,0.7s							
BWN				IAML		14 17 15.6	
comp=N,389nm,1.1s							
BWN	**Browne**	**0.39**	**337**		**Sn**	**14 17 12.1**	**-0.3**
RND	**Reindeer**	**0.43**	**164**	Pn	**Pn**	**14 16 59.6**	**+0.2**
RND				IAML		14 17 13.5	
comp=N,588nm,0.5s							
RND				IAML		14 17 20.6	
comp=E,260nm,0.4s							
RND	**Reindeer**	**0.43**	**164**		**Sn**	**14 17 12.9**	**0.0**
TRF	**Thorofare Moun**	**0.64**	**236**	Pn	**Pn**	**14 17 01.5**	**+0.6**
TRF				IAML		14 17 17.6	
comp=N,346nm,0.3s							
TRF				IAML		14 17 23.3	
comp=E,192nm,0.7s							
NEA2	**Nenana**	**0.78**	**2**		**Pn**	**14 17 02.1**	**+0.3**
NEA2				IAML		14 17 16.9	
comp=E,187nm,0.7s							
NEA2				IAML		14 17 16.9	
comp=N,270nm,0.8s							
NEA2	**Nenana**	**0.78**	**2**		**Sn**	**14 17 16.3**	**-0.8**
WRH	**Wood River Hil**	**0.80**	**34**	Pn	**Pn**	**14 17 02.3**	**+0.4**
WRH				IAML		14 17 17.6	
comp=N,242nm,1.1s							
KTH	**Kantishna Hill**	**0.84**	**253**		**Pn**	**14 17 03.1**	**+0.6**
KTH				IAML		14 17 18.4	
comp=E,298nm,0.8s							
KTH				IAML		14 17 19.1	
comp=N,200nm,0.8s							
KTH	**Kantishna Hill**	**0.84**	**253**		**Sn**	**14 17 18.0**	**-0.1**
BPAW	**Bear Paw Mtn.**	**0.87**	**290**	Pn	**Pn**	**14 17 02.9**	**+0.3**
BPAW	**Bear Paw Mtn.**	**0.87**	**290**		**Sn**	**14 17 17.6**	**-0.9**
CCB	**Clear Creek Bu**	**1.01**	**34**	Pn	**Pn**	**14 17 04.3**	**+0.4**
CCB				IAML		14 17 20.5	
comp=E,416nm,0.4s							
CCB				IAML		14 17 20.8	
comp=N,346nm,0.5s							
CCB	**Clear Creek Bu**	**1.01**	**34**		**Sn**	**14 17 20.2**	**-0.6**
HDA	**Harding Lake**	**1.12**	**57**		**Pn**	**14 17 05.5**	**+0.5**
HDA				IAML		14 17 26.7	
comp=N,449nm,0.6s					

comp=E,99nm,0.8s
J20K IAML 14 17 46.9
comp=N,92nm,0.6s
DOT Dot Lake 2.26 92 Pn 14 17 18.7 +0.4
K20K Telida 2.26 261 Pn 14 17 18.8 +0.4
K20K Telida 2.26 261 IAML 14 17 46.7
comp=E,58nm,0.9s
K20K IAML 14 17 47.5
comp=N,52nm,0.6s
SCRK Sand Creek 2.28 84 Pn **Pn 14 17 19.2 +0.5**
SCRK IAML 14 17 48.5
comp=N,262nm,1.1s
SCRK IAML 14 17 51.3
comp=E,279nm,0.6s
H22K Ishtalitna Cre 2.30 336 Pn 14 17 19.3 +0.5
PRP Porcupine Dome 2.31 41 Pn **Pn 14 17 19.3 +0.3**
PRP IAML 14 17 51.0
comp=E,182nm,0.6s
PRP IAML 14 17 51.1
comp=N,223nm,0.5s
KNK Knik Glacier 2.43 172 Pn 14 17 21.9 +1.3
H21K Melozitna Rive 2.43 321 Pn 14 17 20.8 +0.3
H21K Melozitna Rive 2.43 321 IAML 14 17 49.6
comp=E,42nm,1.0s
SUA Susitna One 2.48 198 Pn 14 17 22.1 +0.9
SUA Susitna One 2.48 198 IAML 14 18 02.4
comp=E,247nm,0.4s
J26L Joseph Creek 2.53 72 Pn 14 17 22.6 +0.7
I20K Naaghedeneel 2.54 295 Pn 14 17 22.4 +0.7
I20K Naaghedeneel 2.54 295 IAML 14 17 54.2
comp=E,166nm,0.9s
I20K IAML 14 17 54.7
comp=N,165nm,0.9s
L20K Farewell, AK 2.54 240 Pn 14 17 22.4 +0.5
MENT Mentasta 2.59 107 Pn 14 17 23.4 +0.8
MENT Mentasta 2.59 107 IAML 14 18 05.0
comp=N,196nm,0.4s
MENT IAML 14 18 15.6
comp=E,262nm,0.4s
STLK Strandline Lak 2.64 210 Pn 14 17 23.6 +0.3
STLK IAML 14 18 00.3
comp=E,165nm,0.4s
STLK IAML 14 18 03.8
comp=N,167nm,0.4s
M20K Styx River 2.67 225 Pn 14 17 24.1 +0.4
M20K Styx River 2.67 225 IAML 14 18 00.7
comp=E,114nm,0.6s
M20K IAML 14 18 05.7
comp=N,98nm,0.6s
L26K Log Cabin Wild 2.71 104 Pn 14 17 25.0 +0.8
L26K Log Cabin Wild 2.71 104 IAML 14 18 03.2
comp=N,236nm,0.4s
L26K IAML 14 18 15.8
comp=E,238nm,0.5s
RC01 Rabbit Creek A 2.75 186 Pn 14 17 25.8 +1.1
KLU Klutina 2.76 146 Pn 14 17 25.2 +0.4
H25L Birch Creek 2.83 28 Pn 14 17 26.5 +0.9
WACK Wrangell Chich 2.86 128 Pn 14 17 26.9 +0.6
SPCG Spurr Capps Gl 2.87 209 Pn 14 17 27.0 +0.7
J19K Poorman 2.88 277 Pn 14 17 26.5 +0.2
J19K Poorman 2.88 277 IAML 14 18 00.5
comp=E,38nm,0.6s
J19K IAML 14 18 00.6
comp=N,41nm,0.9s
G23K Bananza Creek 2.93 353 Pn 14 17 27.5 +0.5
G23K Bananza Creek 2.93 353 IAML 14 18 02.0
comp=E,30nm,1.1s
WASW Wrangell South 2.95 128 Pn 14 17 28.1 +0.6
SPBG Spurr Blockage 2.97 212 Pn 14 17 29.1 +1.5
I26K Coal Creek Min 2.98 57 Pn 14 17 28.0 +0.5
I26K Coal Creek Min 2.98 57 IAML 14 18 04.5
comp=E,145nm,0.5s
I26K IAML 14 18 07.7
comp=N,172nm,0.7s
G24K Hadweenzic Riv 2.98 13 Pn 14 17 28.1 +0.6
G24K Hadweenzic Riv 2.98 13 IAML 14 18 18.8
comp=N,27nm,1.0s
PWL Port Wells 2.99 173 Pn 14 17 28.6 +0.8
SPCR Spurr Chakacha 2.99 210 Pn 14 17 28.8 +1.0
H20K Anotleneega Mo 3.00 307 Pn 14 17 28.2 +0.4
CKL Chakachamna La 3.02 211 Pn 14 17 29.3 +1.0
N25K Chitina, Valde 3.04 135 Pn 14 17 29.1 +0.6
N25K Chitina, Valde 3.04 135 IAML 14 18 08.2
comp=N,78nm,0.6s
N25K IAML 14 18 23.1
comp=E,78nm,0.6s
M19K Big River Lodg 3.08 234 Pn 14 17 29.4 +0.4
M19K Big River Lodg 3.08 234 IAML 14 18 07.1
comp=N,49nm,0.5s
M19K IAML 14 18 12.8
comp=E,48nm,0.8s
L19K White Mountain 3.09 241 Pn 14 17 29.4 +0.4
L19K White Mountain 3.09 241 IAML 14 18 08.7
comp=E,41nm,0.7s
L19K IAML 14 18 11.5
comp=N,29nm,0.6s
GLI Glacier Island 3.09 161 Pn 14 17 29.4 +0.3
DIV Divide 3.11 149 Pn 14 17 29.5 +0.1
K27K Chicken 3.12 83 Pn 14 17 30.1 +0.7
M26K Nabesna, AK 3.12 114 Pn 14 17 30.4 +0.8
M26K Nabesna, AK 3.12 114 IAML 14 18 25.1
comp=N,106nm,0.5s
M26K IAML 14 18 26.4
comp=E,63nm,0.4s
FYU Fort Yukon 3.21 29 Pn 14 17 31.1 +0.5
FYU Fort Yukon 3.21 29 IAML 14 18 58.4
comp=E,27nm,1.1s
G25K Bearman Lake 3.22 22 Pn 14 17 31.1 +0.4
TTA Tatalina 3.23 257 Pn **Pn 14 17 31.0 +0.1**
TTA IAML 14 18 11.0
comp=N,26nm,0.6s
G21K Allakaket 3.28 328 Pn 14 17 31.9 +0.3
G21K Allakaket 3.28 328 IAML 14 18 12.1
comp=N,28nm,1.1s
G21K IAML 14 18 12.3
comp=E,30nm,1.1s
O22K Cooper Landing 3.36 185 Pn 14 17 33.4 +0.8
SLKM Skilak Lake 3.36 189 Pn 14 17 33.7 +1.0
SLKM Skilak Lake 3.36 189 IAML 14 18 24.8
comp=N,153nm,0.6s
L27K Beaver Creek, 3.36 100 Pn 14 17 33.1 +0.4
L27K Beaver Creek, 3.36 100 IAML 14 18 12.5
comp=N,49nm,0.7s
L27K IAML 14 18 36.5
comp=E,44nm,0.4s
BCAR Beaver Creek A 3.38 100 Pn **Pn 14 17 32.8 -0.1**
J18K Innoko River 3.41 268 Pn 14 17 33.7 +0.5
GLB Gilahina Butte 3.42 132 Pn 14 17 34.2 +0.7
GLB Gilahina Butte 3.42 132 IAML 14 18 17.3
comp=N,58nm,0.5s
GLB IAML 14 18 38.3
comp=E,47nm,1.0s
COLD Coldfoot 3.46 353 Pn **Pn 14 17 34.5 +0.6**
GCSA Galena City Sc 3.51 289 Pn 14 17 35.0 +0.5
BMRM Bremner River 3.55 142 Pn **Pn 14 17 35.2 +0.1**
H19K Roundabout Mou 3.59 302 Pn 14 17 35.7 +0.1
RDT Redoubt 3.60 207 Pn 14 17 37.4 +1.6
M27K Edge Creek, AK 3.60 111 Pn 14 17 37.2 +1.2
M27K Edge Creek, AK 3.60 111 IAML 14 18 45.1
comp=N,45nm,0.9s
M27K IAML 14 18 52.8
comp=E,37nm,0.8s
EYAK Cordova Ski Ar 3.64 153 Pn 14 17 36.8 +0.5
HIN Hinchinbrook I 3.64 159 Pn 14 17 36.6 +0.2
RDJH Redoubt Jeurge 3.67 210 Pn 14 17 38.7 +1.9
I27K Kandik River 3.69 58 Pn 14 17 37.5 +0.6
VRDI Verde Repeater 3.69 132 Pn 14 17 37.7 +0.5
VRDI Verde Repeater 3.69 132 IAML 14 18 24.6
comp=N,37nm,0.4s
VRDI IAML 14 18 45.3
comp=E,27nm,0.9s
NCT North Crescent 3.72 210 Pn 14 17 39.1 +1.6
SEW Seward 3.73 183 Pn 14 17 37.7 +0.3
F24K Squaw Lake 3.75 7 Pn 14 17 38.5 +0.7
RDWB Redoubt West 3.77 209 Pn 14 17 39.5 +1.3
L18K Granite Mounta 3.80 249 Pn 14 17 39.0 +0.5
L18K Granite Mounta 3.80 249 IAML 14 18 28.6
comp=N,13nm,1.0s
L18K IAML 14 18 37.0
comp=E,20nm,0.9s
RED Redoubt Volcan 3.81 208 Pn 14 17 40.0 +1.3
G26K Porcupine Rive 3.86 33 Pn 14 17 39.5 +0.3
F21K Alatna River 3.87 334 Pn 14 17 39.7 +0.3
M18K Stony River 3.87 236 Pn 14 17 39.8 +0.4
N19K Bonanza Creek 3.92 222 Pn 14 17 40.7 +0.6
N19K Bonanza Creek 3.92 222 IAML 14 18 51.4
comp=E,26nm,0.8s
N19K IAML 14 18 54.4
comp=N,20nm,0.9s
P23K Montague Islan 3.92 167 Pn 14 17 40.6 +0.6
F22K John River 3.92 343 Pn 14 17 40.7 +0.7
H27K Steamboat Moun 4.03 50 Pn 14 17 41.6 +0.1
F25K Christian Rive 4.06 19 Pn 14 17 42.3 +0.5
BMAR Burnt Mountain 4.09 25 Pn **Pn 14 17 42.6 +0.3**
O20K Slope Mountain 4.09 205 Pn 14 17 43.7 +1.3
G19K Purcell Mounta 4.11 308 Pn 14 17 42.8 +0.2
BRLK Bradley Lake 4.15 192 Pn 14 17 44.0 +0.9
BRSE Bradley Lake S 4.16 191 Pn 14 17 43.9 +0.7
BALM Baldy 4.21 128 Pn 14 17 44.7 +0.7
H18K Honhosa River 4.22 293 Pn 14 17 44.4 +0.4
F20K Avaraart Lake 4.26 323 Pn 14 17 45.4 +1.0
E23K Chandalar 4.27 357 Pn 14 17 45.4 +0.7
BERG Berg Lake 4.27 141 Pn 14 17 45.3 +0.6
I28M Miner Creek 4.28 63 Pn 14 17 45.5 +0.6
I28M Miner Creek 4.28 63 IAML 14 19 08.4
comp=N,34nm,0.8s
I28M IAML 14 19 11.7
comp=E,41nm,0.8s
KIAG Kiagna River 4.28 130 Pn 14 17 44.9 -0.1
E24K Your Creek 4.29 3 Pn 14 17 45.6 +0.7
ILSW Iliamna Southw 4.29 208 Pn 14 17 46.2 +1.2
ILSW Iliamna Southw 4.29 208 IAML 14 18 46.9
comp=N,27nm,0.8s
ILSW IAML 14 19 04.2
comp=E,27nm,1.1s
K17K Iditarod 4.29 259 Pn 14 17 46.7 +1.7
K17K IAML 14 18 47.3
comp=N,12nm,0.9s
K17K IAML 14 18 56.6
comp=E,13nm,1.1s
ILS Iliamna Low So 4.30 208 Pn 14 17 46.4 +1.2
DAWY Dawson 4.30 82 Pn 14 17 45.9 +0.7
DAWY Dawson 4.30 82 IAML 14 18 55.3
comp=E,48nm,0.8s
DAWY IAML 14 19 02.3
comp=N,50nm,1.0s
G27K Doyon Strip 4.34 43 Pn 14 17 45.9 +0.3
G27K Doyon Strip 4.34 43 IAML 14 18 37.0
comp=E,8.8nm,1.1s
HOM Homer 4.34 197 Pn 14 17 46.8 +1.2
O19K Port Alsworth 4.38 216 Pn 14 17 46.9 +0.8
O19K Port Alsworth 4.38 216 IAML 14 18 41.1
comp=E,68nm,0.5s
O19K IAML 14 19 03.0
comp=N,72nm,0.4s
N18K Kilae Creek 4.46 228 Pn 14 17 47.8 +0.5
N18K Kilae Creek 4.46 228 IAML 14 18 40.6
comp=E,12nm,0.8s
N18K IAML 14 19 12.0
comp=N,15nm,0.9s
J17K VABM Dome 4.47 269 Pn 14 17 47.8 +0.5
YUK3 Moose Creek 4.47 113 Pn 14 17 48.6 +1.0
M17K Holitna River 4.54 242 Pn 14 17 48.6 +0.3
M17K Holitna River 4.54 242 IAML 14 19 00.8
comp=N,27nm,1.1s
M17K IAML 14 19 16.8
comp=E,18nm,1.1s
E25K Arctic Village 4.56 17 Pn **Pn 14 17 49.2 +0.7**
G18K Tagagawik 4.57 301 Pn 14 17 49.1 +0.4
P19K Oil Pt 4.61 207 Pn 14 17 50.1 +0.8
SNH Sunshine Point 4.70 138 Pn 14 17 51.1 +0.7
SNH Sunshine Point 4.70 138 IAML 14 19 12.6
comp=E,58nm,1.0s
F19K Shaleruckik Mo 4.72 314 Pn 14 17 51.5 +0.8
H17K Granite Mounta 4.82 288 Pn 14 17 53.0 +1.0
H17K Granite Mounta 4.82 288 IAML 14 18 49.1
comp=E,9.0nm,1.1s
TOLK Toolik Lake Re 4.85 358 Pn 14 17 54.0 +1.5
TOLK Toolik Lake Re 4.85 358 IAML 14 19 18.4
comp=N,6.3nm,0.8s
YAH Yahtse 4.90 132 Pn 14 17 53.8 +0.5
YAH Yahtse 4.90 132 IAML 14 19 10.5
comp=E,20nm,0.8s
YAH IAML 14 20 34.5
comp=N,22nm,1.1s
AUL Augustine Lava 4.90 207 Pn 14 17 54.2 +1.0
O18K Koktuh Hills 4.91 219 IAML 14 18 54.9
comp=N,14nm,1.1s
O18K IAML 14 19 20.2
comp=E,10nm,1.0s
I29M Ogilvie Camp, 4.91 67 IAML 14 19 20.9
comp=N,26nm,1.2s
I29M IAML 14 19 25.1
comp=E,20nm,1.1s
AUCH Augustine Cone 4.92 207 Pn 14 17 54.7 +1.2
E19K Redstone River 4.96 321 Pn 14 17 55.4 +1.4
E19K Redstone River 4.96 321 IAML 14 18 52.7
comp=N,5.8nm,1.0s
MESA MESA 4.97 134 Pn 14 17 54.4 +0.1
L29M L29M 4.98 93 Pn 14 17 54.6 +0.3
N17K Nushagak Hills 5.02 233 Pn 14 17 55.2 +0.6
N17K Nushagak Hills 5.02 233 IAML 14 19 21.6
comp=E,8.2nm,1.2s
M29M Somme Creek 5.03 101 Pn 14 17 55.7 +0.8
M29M Somme Creek 5.03 101 IAML 14 19 24.4
comp=E,25nm,0.9s
M29M IAML 14 19 31.2
comp=N,16nm,0.6s
RKAV Rock Avalanche 5.08 130 Pn 14 17 56.2 +0.5
K29M Barlow Dome 5.14 84 Pn 14 17 56.8 +0.4
K29M Barlow Dome 5.14 84 IAML 14 19 13.8
comp=E,14nm,0.6s
K29M IAML 14 19 26.4
comp=N,26nm,1.1s
H29M Whitestone 5.16 57 Pn 14 17 57.3 +0.8
H29M Whitestone 5.16 57 IAML 14 19 16.4
comp=N,17nm,1.1s
H29M IAML 14 19 20.4
comp=E,16nm,0.9s
J16K Anvik River 5.16 269 Pn 14 17 57.1 +0.4
L16K Owhat River 5.20 251 Pn **Pn 14 17 57.0 -0.2**
L16K IAML 14 19 43.0
comp=N,6.3nm,1.1s
G17K Kiwalik Mounta 5.24 294 Pn 14 17 57.9 +0.3
E20K Nigu River 5.31 330 Pn 14 17 59.9 +1.3
P18K Big Mountain, 5.31 216 Pn 14 17 59.7 +1.1
P18K Big Mountain, 5.31 216 IAML 14 19 33.7
comp=N,9.2nm,1.0s
P18K IAML 14 20 14.4
comp=E,7.1nm,1.1s
E27K Coleen River 5.35 32 Pn 14 17 59.6 +0.4
M16K Timber Creek 5.36 243 Pn 14 17 59.7 +0.4
M16K Timber Creek 5.36 243 IAML 14 19 16.4
comp=E,9.4nm,1.2s
M16K IAML 14 19 35.1
comp=N,7.7nm,1.0s
Q19K Cape Douglas, 5.36 206 Pn 14 17 59.8 +0.4
D24K Happy Valley 5.37 1 Pn 14 18 00.1 +0.9
SYI Shuyak Island 5.46 198 Pn 14 18 00.6 +0.1
O17K Koliganek Bris 5.54 227 Pn 14 18 02.3 +0.5
G29M Pine Creek 5.58 51 Pn 14 18 03.1 +0.8
N16K Nishlik Lake 5.63 238 Pn 14 18 03.5 +0.5
D25K Kavik River 5.64 10 Pn 14 18 04.7 +1.6
J30M Hart River 5.64 77 Pn 14 18 04.3 +1.2
I30M Mount Dempster 5.68 70 Pn 14 18 04.0 +0.3
F17K Baldwin Pennin 5.76 303 Pn **Pn 14 18 05.3 +0.8**
D20K Etivluk River 5.77 332 Pn 14 18 05.9 +1.1
P17K Kvichak River 5.81 220 Pn 14 18 06.1 +0.8
K15K Wolf Creek Mou 5.85 260 Pn **Pn 14 18 07.4 +1.6**
KAHC Katmai Hardscr 5.91 211 Pn 14 18 07.3 +0.5
G16K Koyuk River 5.91 291 Pn 14 18 07.2 +0.6
C24K Franklin Bluff 5.94 1 Pn 14 18 08.2 +1.3
D19K Kuna River 5.94 326 Pn 14 18 08.0 +0.8
KAHG Katmai Hook Gl 5.95 209 Pn 14 18 07.5 +0.3
E18K Tukpahlearik C 5.97 312 Pn **Pn 14 18 08.8 +1.4**
O16K Kokwok River B 6.01 229 Pn 14 18 08.6 +0.6
N30M Aishikik Lake 6.03 108 Pn 14 18 09.0 +0.6
L15K Ungalak Mounta 6.07 255 Pn 14 18 09.6 +0.8
E28M Babbage River 6.17 35 Pn 14 18 10.3 +0.2
HYT Haines Junctio 6.19 114 Pn **Pn 14 18 12.2 +1.7**
B21K Ikpikpuk River 6.22 342 Pn **Pn 14 18 11.6 +0.8**
KDAK Kodiak Island 6.28 197 Pn **Pn 14 18 10.5 -1.3**
KDAK Kodiak Island 6.28 197 P **Pn 14 18 10.0 -1.7**
comp=N,2.8nm,0.2s,baz=244,slow=3.6,SNR=63
KDAK S **Sn 14 19 20.8 -1.3**
comp=N,5.6nm,0.4s,baz=311,slow=5.8,SNR=6.6
N15K Kwethluk River 6.33 240 Pn 14 18 12.8 +0.5
ACHA Angle Creek He 6.38 211 Pn 14 18 13.5 +0.4
ANCK Angle Creek 6.43 212 Pn 14 18 14.3 +0.5
E29M Blow River 6.46 40 Pn 14 18 14.5 +0.4
G15K Niukluk 6.57 287 Pn 14 18 16.0 +0.5
H31M Peel River 6.61 66 Pn 14 18 15.7 -0.4
F30M Barrier River 6.68 49 Pn 14 18 17.8 +0.7
M14K Bethel 6.73 249 Pn 14 18 18.9 +1.2
L14K Kuka Creek 6.74 255 Pn 14 18 19.6 +1.9
P30M Million Dollar 6.82 117 Pn 14 18 20.3 +1.3
C18K Utukok River 6.87 320 Pn 14 18 20.3 +0.6
M31M Drury Creek, Y 6.90 97 Pn **Pn 14 18 19.4 -0.6**
D28M Stokes Point 6.90 32 Pn 14 18 20.2 +0.3
F15K North Star Dit 6.90 293 Pn **Pn 14 18 20.1 0.0**
OHAK Old Harbor 6.92 199 Pn 14 18 18.5 -1.9
G31M Satah River 6.94 57 Pn 14 18 20.1 -0.4
C17K DeLong Mountai 7.36 316 Pn 14 18 26.7 +0.5
B18K Kokolik River 7.51 323 Pn 14 18 29.2 +1.1
INK Inuvik 7.77 48 Pn **Pn 14 18 31.4 -0.3**
INK Inuvik 7.77 48 P **Pn 14 18 32.0 +0.4**
comp=N,18nm,0.8s,baz=242,slow=13,SNR=75
C16K Lisburne Hills 7.96 311 Pn 14 18 35.1 +0.9
YKA Yellowknife Ar 15.53 79 P **Pn 14 20 13.8 +0.2**
comp=N,0.4nm,0.8s,baz=295,slow=13,SNR=6.0
ZALV Zalesovo Beam 55.35 324 P **P 14 26 01.7 -0.4**
comp=N,0.5nm,0.4s,baz=37,slow=7.4,SNR=2.9
comp=N,0.5nm,0.4s
BVAR Borovoye Array 59.51 334 P **P 14 26 31.4 +0.2**
comp=N,1.2nm,0.5s,baz=47,slow=11,SNR=8.9
comp=N,1.2nm,0.5s
KURBB Kurchatov Arra 59.97 327 P **P 14 26 34.2 -0.2**
comp=N,0.5nm,0.6s,baz=29,slow=6.9,SNR=5.3
comp=N,0.5nm,0.6s
MKAR Makanchi Array 62.55 323 P **P 14 26 51.4 -0.5**
comp=N,0.4nm,0.5s,baz=39,slow=5.5,SNR=7.3
comp=N,0.4nm,0.5s

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*NOU **14** 14:22:48.2, 45°.08S×167°.67E, h98km, MLv3.6/12, South Island, New Zealand*
*WEL **14** 14:22:48.2±1.1, 45°.S±6°.×16°.7E±°, h98km±8km, M3.1/7, MLv3.1/7, Error ellipse: s-maj=12.4km s-min=4.9km az=127.4, confirmed*

ISC 14 14:22:45.8±1.8, 45°.05S±0°.05×167°.50E±0°.07, h125km±10km, n33, σ0.90/41, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFS	**Te Anau Fire S**	**0.40**	**158**	P	**Pn**	**14 23 03.4**	**-0.4**
TAFS				S	**Sn**	**14 23 16.5**	**-1.0**
MSZ	**Milford Sound**	**0.48**	**39**	P	**Pn**	**14 23 05.3**	**+1.1**
MSZ				S	**Sn**	**14 23 18.3**	**+0.2**
DCZ	**Deep Cove**	**0.49**	**210**	P	**Pn**	**14 23 04.5**	**+0.2**
DCZ				S	**Sn**	**14 23 17.1**	**-1.1**
MLZ	**Mavora Lakes**	**0.54**	**127**	P	**Pn**	**14 23 05.4**	**+0.7**
MLZ				S	**Sn**	**14 23 18.8**	**-0.1**
GLNY	**Glenorchy**	**0.67**	**74**	P	**Pn**	**14 23 05.1**	**-0.3**
MOSS	**Mossburn Schoo**	**0.81**	**140**	P	**Pn**	**14 23 07.7**	**+1.1**
QTPS	**Queenstown Pol**	**0.82**	**89**	P	**Pn**	**14 23 07.8**	**+1.1**
WHZ	**Wether Hill Ro**	**0.90**	**160**	P	**Pn**	**14 23 08.1**	**+0.7**
WHZ				S	**Sn**	**14 23 23.3**	**-0.5**
WKZ	**Wanaka**	**1.10**	**79**	P	**Pn**	**14 23 10.6**	**+1.3**
WKZ				S	**Sn**	**14 23 27.1**	**0.0**
RRKS	**Rarakau**	**1.10**	**181**	P	**Pn**	**14 23 10.2**	**+0.9**
WNPS	**Wanaka Nationa**	**1.22**	**74**	P	**Pn**	**14 23 10.6**	**+0.1**
PYZ	**Puysegur Point**	**1.26**	**207**	P	**Pn**	**14 23 11.3**	**+0.4**
PYZ	**Puysegur Point**	**1.26**	**207**	S	**Sn**	**14 23 29.7**	**-0.3**
PYZ	**Puysegur Point**	**1.26**	**207**	P	**Pn**	**14 23 11.5**	**+0.6**
PYZ				S	**Sn**	**14 23 29.0**	**-1.1**
EAZ	**Earnscleugh**	**1.29**	**99**	P	**Pn**	**14 23 12.3**	**+1.1**
JCZ	**Jackson Bay**	**1.34**	**44**	P	**Pn**	**14 23 12.2**	**+0.3**
JCZ	**Jackson Bay**	**1.34**	**44**	P	**Sn**	**14 23 31.0**	**-0.7**
JCZ	**Jackson Bay**	**1.34**	**44**	P	**Pn**	**14 23 12.7**	**+0.8**
JCZ				S	**Sn**	**14 23 31.6**	**-0.1**
NSBS	**Neils Beach**	**1.34**	**39**	P	**Pn**	**14 23 12.3**	**+0.6**
MECS	**Makarora Emerg**	**1.48**	**57**	P	**Pn**	**14 23 14.5**	**+1.1**
HDWS	**Haast DOC Work**	**1.60**	**44**	P	**Pn**	**14 23 15.4**	**+0.7**
TUZ	**Tuapeka**	**1.75**	**122**	P	**Pn**	**14 23 17.6**	**+1.1**
APZ	**The Paps**	**1.82**	**169**	P	**Pn**	**14 23 17.8**	**+0.5**
SYZ	**Scrubby Hill**	**1.88**	**143**	P	**Pn**	**14 23 18.6**	**+0.6**
SYZ	**Scrubby Hill**	**1.88**	**143**	P	**Sn**	**14 23 41.8**	**-0.8**
SYZ	**Scrubby Hill**	**1.88**	**143**	P	**Pn**	**14 23 19.2**	**+1.2**
BDCS	**Balclutha Dist**	**1.96**	**129**	P	**Pn**	**14 23 20.1**	**+1.0**
ODZ	**Otahua Downs**	**2.23**	**91**	P	**Pn**	**14 23 22.4**	**+0.1**
ODZ	**Otahua Downs**	**2.23**	**91**	S	**Sn**	**14 23 48.2**	**-2.1**
RPZ	**Rata Peaks**	**2.87**	**64**	P	**Pn**	**14 23 29.8**	**-0.8**
RPZ	**Rata Peaks**	**2.87**	**64**	S	**Sn**	**14 24 03.7**	**-1.4**
KHZ	**Kahutara**	**5.10**	**61**	P	**Pn**	**14 24 01.0**	**+0.8**
QRZ	**Quartz Range**	**5.60**	**43**	P	**Pn**	**14 24 07.8**	**+0.9**

NEIC 14 14:24:05.7±0.5, 36°.27N±0°.01×97°.51W±0°.01, h5km±1km, mb_Lg2.3/14, ML2.4/44, Error ellipse: s-maj=2.7km s-min=2.0km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.45**	**302**		Pg	14 24 14.6	+0.3
CROK				IAML		14 24 21.1	
comp=E,323nm,0.3s							
OK029	**Liberty Lake**	**0.47**	**174**		Pg	14 24 15.3	+0.5
OK048	**Pawnee Station**	**0.48**	**72**		Pg	14 24 15.3	+0.3
BLOK	**Blackwell**	**0.55**	**26**		Pg	14 24 16.4	+0.2
BLOK				IAML		14 24 29.7	
comp=N,347nm,0.2s							
OK051	**E0350 and S346**	**0.59**	**67**	Pg	Pg	14 24 17.3	+0.2
OK051				IAmb_Lg		14 24 24.9	
comp=Z,38nm,0.9s							
OK051				IAML		14 24 30.3	
comp=Z,204nm,0.2s							
OK051				IAML		14 24 36.5	
comp=Z,162nm,0.2s							
OK052	**Battle Ridge R**	**0.64**	**115**		Pg	14 24 18.3	+0.3
OK052				IAML		14 24 27.2	
comp=Z,227nm,0.3s							
GC02	**Grant County #**	**0.64**	**334**		Pg	14 24 18.1	0.0
QUOK	**Quay**	**0.66**	**98**		Pg	14 24 18.2	-0.1
QUOK				IAML		14 24 27.7	
comp=N,154nm,0.2s							
QUOK				IAML		14 24 35.2	
comp=E,168nm,0.2s							
KAN14	**Manchester OK**	**0.78**	**332**		Pg	14 24 20.2	-0.4
KAN14				IAML		14 24 31.9	
comp=N,209nm,0.1s							
KAN01	**Argonia South**	**0.90**	**347**	IAmb_Lg		14 24 34.2	
comp=Z,80nm,0.9s							
DEOK	**Depew**	**0.93**	**117**		Pg	14 24 23.2	-0.3
DEOK				IAML		14 24 36.2	
comp=N,132nm,0.5s							
DEOK				IAML		14 24 37.8	
comp=E,124nm,0.1s							
OK038	**West end E0370**	**1.01**	**282**		Pg	14 24 24.8	-0.3
FNO	**Franklin**	**1.01**	**175**		Pg	14 24 25.0	-0.1
FNO				IAML		14 24 41.3	
comp=E,112nm,0.1s							
T35A	**Sooner Cattle**	**1.03**	**51**	Pg	Pg	14 24 25.4	-0.1
T35A				IAML		14 24 39.9	
comp=E,105nm,0.3s							
T35A				IAML		14 24 40.3	
comp=E,104nm,0.2s							
NOKA	**Waynoka**	**1.20**	**288**	IAmb_Lg		14 24 44.3	
comp=Z,23nm,0.9s							
W35A	**Tecumseh**	**1.23**	**155**		Pg	14 24 27.9	-1.3
W35A				IAML		14 24 46.8	
comp=N,77nm,0.2s							
W35A				IAML		14 24 50.0	
comp=E,132nm,0.4s							
TUL3	**Leonard**	**1.44**	**104**		Pn	14 24 30.8	-1.7
X34A	**Smith Ranch, M**	**1.69**	**189**	IAmb_Lg		14 25 00.4	
comp=Z,10nm,0.8s							
MIAR	**Mount Ida**	**3.65**	**117**	IAmb_Lg		14 26 04.7	
comp=Z,3.8nm,0.7s							
Z38A	**Mt. Pleasant**	**3.65**	**145**	IAmb_Lg		14 26 08.8	
comp=Z,20nm,0.9s							
R40A	**Maddies Statio**	**4.64**	**63**	IAmb_Lg		14 26 33.9	
comp=Z,7.1nm,0.8s							
OZNA	**Ozona**	**6.13**	**210**	IAmb_Lg		14 27 32.0	
comp=Z,2.3nm,0.8s							

IDC 14 14:43:34.4±2.9, 4°.21S×131°.38E, h0km, mb3.2/1, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=135.1km s-min=30.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.90**	**202**	Pn	Pn	14 47 05.5	-1.0

0.2nm,0.3s,baz=26,slow=9.5,SNR=2.6
1.3nm,0.7s
WRA Warramunga Arr 15.90 170 Pn Pn 14 47 18.4 -1.3
WRA Sn Sn 14 50 08.1 -8.8
baz=353,slow=24,SNR=2.0
0.2nm,0.5s
ASAR Alice Springs 19.50 173 P Pn 14 48 04.2 -0.3
0.1nm,0.3s,baz=352,slow=11,SNR=10
ASAR S Sn 14 51 34.8 -9.2
0.3nm,1.0s,baz=0.9,slow=29,SNR=1.8
0.4nm,0.6s
MKAR Makanchi Array 66.69 326 P P 14 54 27.2 0.0
0.1nm,0.3s,baz=138,slow=6.9,SNR=1.5
0.1nm,0.3s

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*BKK **14** 14:55:19.6±0.3, 19°N±7°×10°0E±°, h4km±11km, M4.0/12, Mjma3.9/8, ML4.2/9, MLv3.9/12*
*IDC **14** 14:55:19.8±1.4, 19°.12N×99°.75E, h0km, mb3.4/6, mbtmp3.4/6, MS2.9/1, Error ellipse: s-maj=29.8km s-min=10.7km az=126.0*
ISC 14 14:55:21.0±0.8, 19°.09N±0°.09×99°.65E±0°.06, h10km, n11, σ1°82/11, mb3.4/6, Thailand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMP	**Lampang**	**0.57**	**182**	P	**Pb**	**14 55 33.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**0.92**	**227**	Pg	**Pg**	**14 55 38.6**	**-0.1**
CMAR	71nm,0.3s,baz=30,slow=16,SNR=1397			Lg	Lg	14 55 53.4	
	380nm,0.3s,baz=67,slow=38,SNR=29						
NANT	**Nan**	**1.03**	**106**	P	**Pg**	**14 55 42.4**	**+1.4**
QIZ	**Qiongzhong**	**9.64**	**89**	P	**Pn**	**14 57 40.0**	**+0.1**
QIZ				S	**Sn**	**14 59 24.4**	**-4.0**
QIZ				LR	LR		
	comp=N,250nm,6.2s						
QIZ				LR	LR		
	comp=E,160nm,5.2s						
QIZ				LR	LR		
	comp=Z,190nm,6.8s						
SONM	**Songino Array**	**29.19**	**9**	P	**P**	**15 01 22.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=202,slow=7.0,SNR=2.5						
	comp=Z,0.3nm,0.5s						
KSRS	**Korea Array**	**30.72**	**48**	LR	LR	15 14 43.2	
	comp=Z,19nm,18.0s,baz=340,slow=38						
MKAR	**Makanchi Array**	**31.09**	**337**	P	**P**	**15 01 38.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=150,slow=8.4,SNR=4.8						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**35.65**	**337**	P	**P**	**15 02 18.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=150,slow=6.9,SNR=4.6						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**36.62**	**345**	P	**P**	**15 02 28.9**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=152,slow=9.4,SNR=4.1						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**40.76**	**333**	P	**P**	**15 03 04.3**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=134,slow=8.3,SNR=2.1						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**54.06**	**140**	P	**P**	**15 04 46.2**	**+0.1**
	comp=Z,0.2nm,1.0s,baz=319,slow=7.0,SNR=1.5						
	comp=Z,0.2nm,1.0s						

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*IDC **14** 14:56:58.1±3.5, 32°.16N×40°.98W, h0km, mb3.7/8, mbtmp3.7/8, MS3.4/15, Error ellipse: s-maj=108.0km s-min=26.0km az=174.0*
ISC 14 14:56:59.6±3.2, 32°.2N±0°.7×41°.0W±0°.2, h10km, n26, σ0°56/9, mb3.8/8, MS3.4/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.29**	**122**	LR	LR	15 12 12.6	
	comp=Z,92nm,19.1s,baz=206,slow=32						
SCHQ	**Schefferville**	**29.12**	**329**	LR	LR	15 14 21.6	
	comp=Z,89nm,18.3s,baz=63,slow=36						
MDT	**Midelt**	**30.60**	**79**	LR	LR	15 13 54.4	
	comp=Z,37nm,18.4s,baz=304,slow=33						
SADO	**Sadowa**	**32.14**	**304**	LR	LR	15 15 54.6	
	comp=Z,40nm,20.0s,baz=244,slow=35						
TKL	**Tuckaleechee C**	**35.49**	**288**	LR	LR	15 16 02.2	
	comp=Z,44nm,21.3s,baz=137,slow=32						
FRB	**Frobisher Bay**	**36.02**	**340**	LR	LR	15 17 32.3	
	comp=Z,28nm,19.2s,baz=131,slow=34						
JTS	**Las Juntas de**	**45.99**	**252**	LR	LR	15 22 10.0	
	comp=Z,36nm,19.4s,baz=290,slow=33						
H10N2	**ASCENSION HYDR**	**47.12**	**143**	T	T	15 54 57.5	
	baz=328,slow=75,SNR=69						
H10N3	**ASCENSION HYDR**	**47.12**	**143**	T	T	15 55 00.1	
	baz=328,slow=75,SNR=76						
H10N1	**ASCENSION HYDR**	**47.13**	**143**	T	T	15 54 59.0	
	baz=328,slow=75,SNR=91						
H10S3	**ASCENSION HYDR**	**47.99**	**144**	T	T	15 56 02.5	
	baz=328,slow=74,SNR=128						
H10S2	**ASCENSION HYDR**	**48.00**	**144**	T	T	15 56 07.1	
	baz=252,slow=74,SNR=149						
FINES	**FINESS Array B**	**51.44**	**34**	P	**P**	**15 06 05.1**	**+0.5**
	2.3nm,0.9s,baz=206,slow=13,SNR=4.1						
	2.3nm,0.9s						
TXAR	**Lajitas Array**	**53.27**	**285**	P	**P**	**15 06 19.1**	**+0.2**
	0.3nm,0.4s,baz=60,slow=6.3,SNR=2.2						
	0.3nm,0.4s						
AKASG	**Malin Array Be**	**53.74**	**48**	P	**P**	**15 06 21.1**	**-0.7**
	1.0nm,0.6s,baz=280,slow=6.7,SNR=8.1						
	1.0nm,0.6s						
PDAR	**Pinedale Array**	**54.09**	**302**	P	**P**	**15 06 24.3**	**-0.6**
	0.5nm,0.5s,baz=64,slow=5.1,SNR=7.3						
PDAR				LR	LR	15 28 04.4	
	comp=Z,36nm,19.9s,baz=67,slow=34						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**54.54**	**327**	P	**P**	**15 06 27.4**	**-0.1**
	0.1nm,0.6s,baz=88,slow=7.1,SNR=2.0						
YKA				LR	LR	15 28 52.1	
	comp=Z,47nm,20.6s,baz=288,slow=35						
	0.1nm,0.6s						
NEW	**Newport**	**58.01**	**310**	LR	LR	15 31 46.8	
	comp=Z,23nm,19.2s,baz=37,slow=36						
NVAR	**Mina Array Bea**	**61.70**	**300**	LR	LR	15 32 51.9	
	comp=Z,73nm,19.8s,baz=200,slow=35						
PFO	**Pinyon Flats O**	**62.01**	**294**	LR	LR	15 32 29.7	
	comp=Z,45nm,21.0s,baz=75,slow=34						
YBH	**Yreka Blue Hor**	**63.73**	**304**	LR	LR	15 33 52.2	
	comp=Z,29nm,20.1s,baz=74,slow=35						
ILAR	**Eielson Array**	**67.74**	**334**	P	**P**	**15 07 57.2**	**+0.3**
	0.9nm,1.1s,baz=42,slow=3.2,SNR=4.5						
ILAR				LR	LR	15 35 47.2	
	comp=Z,62nm,18.8s,baz=68,slow=34						
	0.9nm,1.1s						
KDAK	**Kodiak Island**	**73.75**	**329**	LR	LR	15 40 16.1	
	comp=Z,47nm,19.6s,baz=280,slow=35						
BVAR	**Borovoye Array**	**76.39**	**35**	P	**P**	**15 08 48.5**	**-0.5**
	0.3nm,0.5s,baz=305,slow=5.1,SNR=2.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**81.83**	**34**	P	**P**	**15 09 19.1**	**+0.3**
	0.3nm,0.2s,baz=317,slow=6.6,SNR=4.1						
	0.3nm,0.2s						
ASAR	**Alice Springs**	**170.41**	**29**	PKPab	**PKPab**	**15 18 25.4**	**+0.6**
	0.5nm,0.8s,baz=325,slow=4.4,SNR=6.6						

NNC 14 15:06:50.6±12.0, 36°.71N×70°.26E, h0km, mb3.6, mpv3.1, 2C, Error ellipse: s-maj=118.4km s-min=93.9km az=133.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.39**	**2**	P	Pn	15 08 28.2	+2.2
	0.4nm,0.3s,baz=188,slow=14,SNR=8.3						
KK31				⇑S	Sn	15 09 41.4	+1.8
	0.3nm,0.2s,baz=194,slow=23,SNR=4.2						
AAK	**Ala-Archa**	**6.76**	**28**	P	Pn	15 08 31.2	0.0
	1.4nm,0.8s						
AAK				S	Sn	15 09 48.8	-0.1
	1.8nm,0.8s						
AB31	**Akbulak array**	**14.62**	**332**	⇑P	Pn	15 10 13.9	-4.7
	1.1nm,0.6s,baz=25,slow=25,SNR=14						

HEL 14 15:08:49.3±0.2, 63°.79N×22°.93E, h0km, ML1.3, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.76**	**189**	PB	Pg	15 09 03.1	-0.7
VAF				MSG		15 09 12.9	
	comp=Z,1.8nm,0.2s						
VAF				SB	Sg	15 09 13.0	-0.5
OBF0	**Syolatti, Pyha**	**0.92**	**38**	PG	Pg	15 09 06.2	-0.6
OBF0				MSG		15 09 17.6	
	comp=Z,1.4nm,0.2s						
OBF0				SB	Sg	15 09 18.2	-0.4
OUF	**Merijarvi**	**0.98**	**53**	MSG		15 09 19.4	
	comp=Z,1.2nm,0.2s						
OUF				SG	Sg	15 09 20.5	-0.3
OBF4	**Vikkela, Lumij**	**1.40**	**42**	PG	Pn	15 09 14.5	-1.5
OBF4				MSG		15 09 31.3	
	comp=Z,3.3nm,0.2s						
OBF4				SN	Sg	15 09 34.4	+0.2
HUSU	**Husum**	**1.72**	**257**	SN	Sn	15 09 43.2	+0.2
SUF	**Sumiainen**	**1.81**	**125**	MSG		15 09 43.2	
	comp=Z,1.0nm,0.2s						
SUF				SG	Sb	15 09 46.0	-0.4
OUL	**Oulu**	**1.83**	**43**	SG	Sn	15 09 46.2	+0.4
KEF	**Keuruu**	**1.85**	**151**	PG	Pn	15 09 22.5	+0.2
KEF				MSG		15 09 44.5	
	comp=Z,1.5nm,0.2s						
KEF				SG	Sb	15 09 47.1	-0.5
KPF	**Kankaanpaa**	**2.00**	**192**	PG	Pb	15 09 25.7	-0.8
KPF				SG	Sb	15 09 51.3	-0.6
KALU	**Kalix**	**2.09**	**5**	PG	Pn	15 09 25.7	+0.2
	baz=182						
KALU				SG	Sn	15 09 53.0	+0.8
NIF	**Nilsia**	**2.22**	**98**	PG	Pn	15 09 27.9	+0.6
NIF				SG	Sb	15 09 56.9	-1.3
KAF	**Kangasniemi**	**2.28**	**136**	MSG		15 09 56.9	
	comp=Z,1.0nm,0.2s						
KAF				SG	Sb	15 09 58.5	-1.5
TOF	**Tornio**	**2.38**	**14**	PG	Pn	15 09 30.9	+1.5
TOF				SN	Sn	15 09 58.6	-0.6
TOF				MSG		15 09 59.5	
	comp=Z,2.0nm,0.2s						
FIA0	**FINESS Array S**	**2.77**	**147**	PB	Pn	15 09 36.5	+1.7
FIA0				MSG		15 10 10.7	
	comp=Z,1.1nm,0.2s						
FIA0				SB	Sb	15 10 12.3	-1.6
RANF	**Ranua**	**2.78**	**35**	SB	Sb	15 10 12.7	-1.5
ERTU	**Ertsjaerv**	**2.80**	**354**	SN	Sn	15 10 09.7	+0.1
RAF	**Rauma**	**2.83**	**192**	MSG		15 10 12.5	
	comp=Z,0.7nm,0.2s						
RAF				SG	Sb	15 10 15.4	-0.3
KU2	**Taivalkoski**	**2.98**	**47**	PN	Pn	15 09 35.6	-2.2
KLF	**Kolari**	**3.49**	**7**	PG	Pb	15 09 52.3	+0.4
KLF				SN	Sn	15 10 26.2	-0.5
HEL1	**Helsinki**	**3.74**	**165**	SG	Sb	15 10 41.3	-0.6
JOF	**Joensuu**	**3.88**	**99**	SN	Sn	15 10 36.4	+0.2

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*RSNC **14** 15:09:48.6±1.5, 28°S±10°×6°7W±1°0, h166km±11km, M4.6, mB5.2, mb4.5, Mw(mB)4.8*
*SJA **14** 15:09:48.2±0.6, 27°.97S×66°.66W, h194km±4km, ML5.0, MW4.6*
*VAO **14** 15:09:49.3±0.3, 27°.87S×66°.63W, h166km, mb5.1*
*NEIC **14** 15:09:49.7±1.5, 27°.92S±0°.05×66°.76W±0°.08, h174km±6km, mb4.8/77, Error ellipse: s-maj=11.0km s-min=6.6km az=76.0*
*IDC **14** 15:09:49.8±0.5, 27°.80S×66°.55W, h166km±4km, mb4.2/21, mbtmp4.7/25, MS3.2/2, Error ellipse: s-maj=13.3km s-min=9.7km az=75.0*
ISC 14 15:09:49.4±0.3, 27°.88S±0°.03×66°.73W±0°.04, h171km±3km, h171km; pP-P, n310, σ1°49/353, mb4.7/62, 6D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.99**	**125**	*eP*	**Pn**	**15 10 17.0**	**+0.9**
CYA				*eS*	**Sn**	**15 10 37.0**	**+0.2**
ACLC	**CERRO LA CRUZ**	**1.56**	**187**	*eP*	**Pn**	**15 10 21.9**	**+0.6**
VCA	**Vinchina**	**1.56**	**236**	*eP*	**Pn**	**15 10 22.5**	**+1.1**
VCA				*eS*	**Sn**	**15 10 48.1**	**+2.0**
VCA				IAML		15 10 50.3	
	comp=Z,23μm,0.3s						
FSA	**Cafayete**	**1.88**	**21**	*eP*	**Pn**	**15 10 26.7**	**+1.9**
AGUA	**GUANDACOL**	**2.23**	**224**	*eP*	**Pn**	**15 10 29.1**	**+0.6**
AGUA				IAML		15 11 03.2	
	comp=Z,4μm,0.8s						
AC02	**Maricunga**	**2.37**	**295**		**Pn**	**15 10 32.3**	**+1.7**
AC02				Sn	**Sn**	**15 11 02.9**	**+0.5**
AC02	**Maricunga**	**2.37**	**295**	*eP*	**Pn**	**15 10 32.5**	**+1.8**
AC02				*eS*	Sn	15 11 17.2	+15
APLL	**PUNTA DE LOS L**	**2.52**	**176**	*eP*	**Pn**	**15 10 31.7**	**-0.1**
APLL				*eP*		15 10 31.9	
AVFE	**Valle Fertil**	**2.84**	**193**	*eP*	**Pn**	**15 10 35.4**	**-0.4**
AVFE				*eS*	**Sn**	**15 11 09.9**	**-2.0**
AVFE				IAML		15 11 13.3	
	comp=Z,4μm,0.6s						
ACDV	**Cuesta del Vie**	**3.10**	**222**	*eP*	**Pn**	**15 10 39.5**	**+0.5**
ACDV				IAML		15 11 20.9	
	comp=Z,1μm,0.6s						
AC06	**Mina Casimiro**	**3.26**	**278**		**Pn**	**15 10 41.0**	**+0.1**
AC06				Sn	**Sn**	**15 11 17.9**	**-2.9**
ACHE	**Chepes**	**3.27**	**179**	*eP*	**Pn**	**15 10 40.8**	**-0.3**
AROD	**Rodeo**	**3.31**	**226**	*eP*	**Pn**	**15 10 42.6**	**+0.8**
SLA	**San Lorenzo**	**3.33**	**20**	*eP*	Pn	15 10 31.6	-10
ACCO	**Cerro Coronel**	**3.39**	**217**	*eP*	**Pn**	**15 10 43.1**	**+0.4**
CO01	**Juntas del Tor**	**3.62**	**234**		**Pn**	**15 10 46.4**	**+0.8**
CO01	**Juntas del Tor**	**3.62**	**234**	*eP*	**Pn**	**15 10 46.7**	**+1.1**
LCO	**Las Campanas**	**3.68**	**251**		**Pn**	**15 10 46.2**	**-0.1**
LCO				Sn	**Sn**	**15 11 28.9**	**-1.8**
LCO	**Las Campanas**	**3.68**	**251**	*eP*	**Pn**	**15 10 46.3**	**-0.1**
LCO				*eS*	**Sn**	**15 11 29.8**	**-0.9**
DOCA	**Reserva Natura**	**3.69**	**213**	*eP*	**Pn**	**15 10 46.2**	**-0.4**
DOCA				*eS*	**Sn**	**15 11 29.8**	**-1.4**
DOCA				IAML		15 11 31.4	
	comp=Z,1μm,1.3s						
GO02	**Mina Guanaco**	**3.73**	**316**		**Pn**	**15 10 49.0**	**+1.9**
GO02				Sn	**Sn**	**15 11 32.2**	**+0.2**
GO02	**Mina Guanaco**	**3.73**	**316**	*eP*	**Pn**	**15 10 48.9**	**+1.9**
AC04	**Llanos de Chal**	**3.85**	**264**		**Pn**	**15 10 47.7**	**-0.6**
AC04				Sn	**Sn**	**15 11 30.9**	**-3.4**
AC04	**Llanos de Chal**	**3.85**	**264**	*eP*	**Pn**	**15 10 47.8**	**-0.6**
AC04				*eS*	**Sn**	**15 11 31.9**	**-2.4**
AC04				IAML		15 11 33.1	
	comp=Z,3μm,0.3s						
AC01	**Pan de Azucar**	**3.86**	**296**		**Pn**	**15 10 48.4**	**0.0**
AC01				Sn	**Sn**	**15 11 30.4**	**-4.0**
AC01	**Pan de Azucar**	**3.86**	**296**	*eP*	**Pn**	**15 10 48.5**	**0.0**
AC01				*eS*	**Sn**	**15 11 32.5**	**-2.0**
AC01				IAML		15 11 39.4	
	comp=Z,1μm,0.4s						
TCA	**Tanti**	**3.92**	**152**	*eP*	**Pn**	**15 10 48.6**	**-0.6**
TCA				*eS*	**Sn**	**15 11 32.7**	**-3.3**
TCA				IAML		15 11 33.4	
	comp=Z,2μm,0.6s						
AZAP	**Zapla**	**3.93**	**23**	*eP*	**Pn**	**15 10 50.9**	**+1.2**
AZAP				IAML		15 12 09.9	
	comp=Z,836nm,1.4s						
CFA	**Coronel Fontan**	**3.94**	**199**	P	**Pn**	**15 10 48.8**	**-0.7**
	comp=Z,2μm,0.3s,baz=33,slow=14,SNR=9773						
CFA				S	**Sn**	**15 11 33.0**	**-3.5**
	comp=Z,2μm,0.3s,baz=288,slow=20,SNR=44						
CFA	**Coronel Fontan**	**3.94**	**199**	*eP*	**Pn**	**15 10 49.0**	**-0.5**
CFA				*eS*	**Sn**	**15 11 34.0**	**-2.4**
SJA	**San Juan**	**3.97**	**203**	*eP*	**Pn**	**15 10 49.6**	**-0.2**
SJA				*eS*	**Sn**	**15 11 36.8**	**-0.5**
SJA				IAML		15 11 39.9	
	comp=Z,2μm,0.2s						
ZON	**Zonda**	**4.03**	**204**		**Pn**	**15 10 50.1**	**-0.5**
ZON				Sn	**Sn**	**15 11 34.9**	**-3.6**
ZON	**Zonda**	**4.03**	**204**	*eP*	**Pn**	**15 10 50.3**	**-0.4**
ZON				*eS*	**Sn**	**15 11 36.7**	**-1.8**
ZON				IAML		15 11 39.2	
	comp=Z,2μm,0.2s						
GO04	**Tololo Observa**	**4.24**	**236**		**Pn**	**15 10 52.8**	**-0.7**
GO04				Sn	**Sn**	**15 11 41.8**	**-1.7**
GO04	**Tololo Observa**	**4.24**	**236**	*eP*	**Pn**	**15 10 52.2**	**-1.2**
RTLS	**Leoncito**	**4.50**	**209**	*eP*	**Pn**	**15 10 56.5**	**-0.4**
RTLS				IAML		15 11 53.4	
	comp=Z,3μm,0.6s						
PIL	**Pilar**	**4.52**	**147**	*eP*	**Pn**	**15 10 58.0**	**+1.1**
PIL				IAML		15 12 17.0	
	comp=Z,2μm,1.0s						
CO03	**El Pedregal**	**4.55**	**229**		**Pn**	**15 10 56.7**	**-0.6**
CO03				Sn	**Sn**	**15 11 49.6**	**-0.9**
CO03	**El Pedregal**	**4.55**	**229**	*eP*	**Pn**	**15 10 57.0**	**-0.3**
CO03				*eS*	**Sn**	**15 11 51.4**	**+0.9**
CO03				IAML		15 11 56.1	
	comp=Z,849nm,0.3s						
PB14	**IPOC Station P**	**4.62**	**314**	Pn	**Pn**	**15 10 58.9**	**+0.3**
PB14				Sn	**Sn**	**15 11 51.0**	**-1.7**
PB14	**IPOC Station P**	**4.62**	**314**	*eP*	**Pn**	**15 10 59.3**	**+0.7**
PB14				*eS*	**Sn**	**15 11 53.7**	**+1.0**
PB14				IAML		15 11 56.3	
	comp=Z,800nm,0.6s						
ASAL	**Salagasta**	**5.04**	**201**	*eP*	**Pn**	**15 11 03.0**	**-0.8**
AF01	**San Pedro de A**	**5.08**	**345**		**Pn**	**15 11 05.9**	**+1.4**
AF01				Sn	**Sn**	**15 12 02.9**	**-0.4**
AF01	**San Pedro de A**	**5.08**	**345**	IAML		15 12 27.6	
	comp=Z,701nm,1.0s						
CO06	**Fray Jorge**	**5.11**	**236**		**Pn**	**15 11 01.8**	**-2.9**
CO06				Sn	**Sn**	**15 11 58.9**	**-4.8**
ARCO	**CERRO ARCO**	**5.30**	**201**	*eS*	**Sn**	**15 12 07.1**	**-1.2**
PB10	**IPOC Station P**	**5.55**	**321**	Pn	**Pn**	**15 11 10.6**	**+0.2**
VA03	**San Esteban**	**5.89**	**213**		**Pn**	**15 11 13.8**	**-1.1**
VA03				Sn	**Sn**	**15 12 18.8**	**-3.2**
VA06	**Catapilco**	**6.12**	**219**		**Pn**	**15 11 14.7**	**-3.0**
MT08	**Bocatoma Ro**	**6.23**	**206**		**Pn**	**15 11 18.6**	**-0.9**
PEL	**Peldehue**	**6.26**	**212**		**Pn**	**15 11 17.6**	**-2.1**
MT16	**CCHEN**	**6.43**	**210**		**Pn**	**15 11 20.6**	**-1.4**
PB09	**IPOC Station P**	**6.47**	**339**		**Pn**	**15 11 22.3**	**-0.4**
MT03	**Universidad Ad**	**6.48**	**209**		**Pn**	**15 11 21.1**	**-1.5**
MT05	**Renca**	**6.49**	**211**		**Pn**	**15 11 21.0**	**-1.8**
MT02	**Curacav**	**6.58**	**214**	Pn	**Pn**	**15 11 20.8**	**-3.0**
MT13	**San Alfonso**	**6.60**	**207**		**Pn**	**15 11 22.9**	**-1.3**
LMEL	**Las Melosas**	**6.66**	**206**		**Pn**	**15 11 23.6**	**-1.5**
VA01	**Torpederas**	**6.66**	**218**		**Pn**	**15 11 21.5**	**-3.4**
MT09	**Talagante**	**6.93**	**211**		**Pn**	**15 11 25.5**	**-3.1**
BO04	**La Punta**	**6.95**	**208**		**Pn**	**15 11 26.9**	**-1.9**
MT01	**Popeta**	**7.12**	**212**		**Pn**	**15 11 27.4**	**-3.7**
VA05	**Santo Domingo**	**7.13**	**215**		**Pn**	**15 11 27.2**	**-3.9**
PB01	**IPOC Station P**	**7.25**	**339**		**Pn**	**15 11 31.8**	**-1.2**
BO01	**Tunca**	**7.49**	**209**		**Pn**	**15 11 32.4**	**-3.5**
BO02	**Sierra Bellavi**	**7.72**	**206**	Pn	**Pn**	**15 11 36.8**	**-2.2**
TA01	**Diego Aracena**	**7.93**	**336**		**Pn**	**15 11 39.6**	**-2.2**
PB08	**IPOC Station P**	**8.01**	**343**		**Pn**	**15 11 42.4**	**-0.9**
TA02	**Huaiquique**	**8.18**	**337**		**Pn**	**15 11 43.2**	**-2.0**
PB11	**IPOC Station P**	**8.51**	**341**	Pn	**Pn**	**15 11 47.3**	**-2.4**
CPUP	**Villa Florida**	**8.52**	**82**	Pn	**Pn**	**15 11 47.6**	**-1.9**
CPUP	**Villa Florida**	**8.52**	**82**	P	**Pn**	**15 11 47.8**	**-1.7**
	comp=Z,50nm,0.9s,baz=266,slow=12,SNR=93						
CPUP				LR	LR	15 15 50.8	
	comp=Z,114nm,18.6s,baz=221,slow=43						
CPUP	**Villa Florida**	**8.52**	**82**	*eP*	**Pn**	**15 11 47.4**	**-2.2**
ML02	**Panimavida**	**8.81**	**206**	Pn	**Pn**	**15 11 49.8**	**-3.6**
BI02	**San Fabin de**	**9.57**	**203**	Pn	**Pn**	**15 12 00.3**	**-3.1**
PB12	**IPOC Station P**	**9.79**	**340**	Pn	**Pn**	**15 12 03.9**	**-2.7**
SJPY	**San Joaquin**	**9.94**	**76**	*eP*	**Pn**	**15 12 07.1**	**-1.3**
AP01	**Chacalluta**	**10.03**	**340**	Pn	**Pn**	**15 12 07.3**	**-2.2**
TBOT	**Tacuaremb**	**10.11**	**115**	*eP*	**Pn**	**15 12 10.2**	**-0.3**
BI05	**Punta Hualpn**	**10.39**	**210**	Pn	Pn	15 12 08.5	-5.6
PB18	**Visviri**	**10.55**	**346**	Pn	**Pn**	**15 12 16.7**	**-0.1**
TRQA	**Tornquist**	**10.90**	**160**	Pn	**Pn**	**15 12 18.6**	**-2.2**
LPAZ	**La Paz**	**11.61**	**353**	Pn	**Pn**	**15 12 30.1**	**-0.6**
LPAZ	**La Paz**	**11.61**	**353**	P	**Pn**	**15 12 30.9**	**+0.2**
	comp=Z,25nm,0.3s,baz=135,slow=5.7,SNR=67						
LPAZ				S	**Sn**	**15 14 35.0**	**-4.7**
	comp=Z,11nm,0.7s,baz=198,slow=19,SNR=2.1						
LPAZ	**La Paz**	**11.61**	**353**	*eP*	**Pn**	**15 12 29.5**	**-1.1**
BDQN	**Bodoquena, MS**	**11.73**	**53**	*eP*	**Pn**	**15 12 30.5**	**-1.1**
H03N1	**Juan Fernandez**	**11.86**	**239**	P	**Pn**	**15 12 32.0**	**-0.9**
	baz=208,slow=74,SNR=66						
H03N2	**Juan Fernandez**	**11.88**	**239**	P	**Pn**	**15 12 32.1**	**-1.1**
	baz=208,slow=74,SNR=43						
H03N3	**Juan Fernandez**	**11.88**	**239**	P	**Pn**	**15 12 31.9**	**-1.4**
	baz=208,slow=74,SNR=42						
VA04	**Juan Fernndez**	**11.89**	**238**	Pn	**Pn**	**15 12 29.7**	**-3.9**
CPSB	**Cacapava Do Su**	**11.89**	**105**	*eP*	**Pn**	**15 12 31.9**	**-1.7**
H03S3	**Juan Fernandez**	**12.03**	**237**	P	**Pn**	**15 12 34.9**	**-0.2**
	baz=10,slow=74,SNR=4.7						
H03S1	**Juan Fernandez**	**12.03**	**237**	P	**Pn**	**15 12 33.0**	**-2.1**
	baz=170,slow=74,SNR=2.5						
PLTB	**Pedras Altas**	**12.04**	**112**	Pn	**Pn**	**15 12 33.0**	**-2.5**
PLTB	**Pedras Altas**	**12.04**	**112**	*eP*	**Pn**	**15 12 33.3**	**-2.2**
H03S2	**Juan Fernandez**	**12.04**	**237**	P	**Pn**	**15 12 34.9**	**-0.4**
AQDB	**Aquidauana**	**12.47**	**56**	Pn	**Pn**	**15 12 39.8**	**-1.3**
AQDB	**Aquidauana**	**12.47**	**56**	*eP*	**Pn**	**15 12 40.7**	**-0.5**
SIV	**San Ignacio**	**12.94**	**25**	P	**Pn**	**15 12 46.7**	**-0.5**
	comp=Z,50nm,0.7s,baz=208,slow=13,SNR=202						
ITAB	**Concordia**	**12.97**	**91**	Pn	**Pn**	**15 12 45.9**	**-1.6**
ITAB	**Concordia**	**12.97**	**91**	*eP*	**Pn**	**15 12 46.8**	**-0.7**
LR05	**Currie**	**13.07**	**198**	Pn	**Pn**	**15 12 45.1**	**-3.6**
LR04	**Corral**	**13.20**	**203**	Pn	Pn	15 12 45.4	-4.9
PLCA	**Paso Flores**	**13.21**	**193**	Pn	**Pn**	**15 12 47.3**	**-3.2**
PLCA	**Paso Flores**	**13.21**	**193**	P	**Pn**	**15 12 50.4**	**0.0**
	comp=Z,8.2nm,0.4s,baz=346,slow=10,SNR=21						
PLCA	**Paso Flores**	**13.21**	**193**	*eP*	**Pn**	**15 12 49.9**	**-0.6**
PTGB	**Pitanga**	**13.52**	**80**	*eP*	**Pn**	**15 12 54.1**	**-0.5**
LL04	**Puerto Octay**	**13.82**	**198**		**Pn**	**15 12 54.0**	**-4.1**
RPRD

comp=Z,10.0nm,0.5s,baz=216,slow=19,SNR=1.9
comp=Z,10.0nm,0.5s
NBAN Anadia - AL 33.90 64 *e*P **P 15 16 14.8 -1.4**
NBPB Pedra_Branca-C 34.03 54 *e*P **P 15 16 15.8 -1.5**
RUSC La Rusia 34.13 349 P **P 15 16 18.0 -0.7**
RUSC IAmb IAmb 15 16 20.1
comp=Z,26nm,0.7s
HOPE Hope Point 34.39 148 P **P 15 16 20.0 +0.1**
MPGF Montagnes des 35.50 25 P **P 15 16 29.6 -0.2**
ESPZ Base Esperanza 36.09 173 P **P 15 16 34.3 -0.1**
RCBR Riachuelo 36.56 59 P **P 15 16 36.8 -2.2**
RCBR IAmb IAmb 15 16 40.8
comp=Z,25nm,0.9s
RCBR Riachuelo 36.56 59 *e*P **P 15 16 39.1 +0.1**
RCBR Riachuelo 36.56 59 P **P 15 16 39.3 +0.3**
SDV Santo Domingo 36.74 354 P **P 15 16 39.0 -1.6**
SDV IAmb IAmb 15 16 41.4
comp=Z,25nm,1.2s
SDV Santo Domingo 36.74 354 LR LR 15 32 37.2
comp=Z,59nm,20.4s,baz=312,slow=37
SDV Santo Domingo 36.74 354 *e*P **P 15 16 39.9 -0.7**
SMRC Santa Marta, M 39.48 348 P **P 15 17 01.6 -1.7**
SMRC IAmb IAmb 15 18 05.0
comp=Z,24nm,1.0s
MPOM Morne Pois Mar 42.45 8 P **P 15 17 27.1 -0.5**
BIM Bigot 42.50 8 P **P 15 17 27.8 -0.1**
FDF Fort de France 42.70 8 P **P 15 17 29.0 -0.6**
FDF Fort de France 42.70 8 P **P 15 17 29.0 -0.6**
OBIP Obispado Ponce 45.65 0 P **P 15 17 51.4 -1.5**
OBIP IAmb IAmb 15 17 52.3
comp=Z,19nm,0.5s
CELP Cerrillos 45.68 0 P **P 15 17 52.3 -0.9**
CELP IAmb IAmb 15 17 53.4
comp=Z,30nm,0.5s
TEIG Tepich 52.17 334 P **P 15 18 42.9 +0.4**
VNA3 Neumayer Olymp 53.43 160 ⇓P **P 15 18 52.2 +1.0**
comp=Z,45nm,0.7s
VNA1 Neumayer--Stat 53.64 159 ⇓P **P 15 18 53.9 +1.2**
comp=Z,22nm,0.6s
VNA2 Neumayer--Watz 54.01 160 ⇓P **P 15 18 56.5 +1.1**
comp=Z,32nm,0.4s,baz=279,slow=7.9
SNAA Sanae 55.63 160 P **P 15 19 07.7 +0.5**
SNAA PcP **PcP 15 20 05.6 +1.0**
SNAA Sanae 55.63 160 ⇓P **P 15 19 08.0 +0.8**
comp=Z,585nm,0.5s
SNAA Sanae 55.63 160 P **P 15 19 07.7 +0.5**
comp=Z,26nm,0.6s,baz=284,slow=8.3,SNR=134
comp=Z,26nm,0.6s
TROLL Troll, Antarti 57.35 160 ⇓P **P 15 19 20.4 +1.1**
comp=Z,1μm,0.5s
QSPA South Pole Qui 62.34 180 P **P 15 19 54.2 +0.7**
QSPA South Pole Qui 62.34 180 P **P 15 19 54.7 +1.3**
comp=Z,42nm,0.6s,baz=172,slow=1.0,SNR=334
QSPA pP **pP 15 20 33.3 -0.4**
comp=Z,11nm,0.8s,baz=183,slow=6.9,SNR=1.9
comp=Z,42nm,0.6s
QSPA South Pole Qui 62.34 180 P **P 15 19 54.8 +1.3**
QSPA PcP **PcP 15 20 32.0 +0.6**
QSPA pP **pP 15 20 35.8 +2.1**
QSPA sP **sP 15 20 54.4 +2.0**
833A Chaparral WMA, 64.06 328 P **P 15 20 05.0 0.0**
833A IAmb IAmb 15 20 07.6
comp=Z,17nm,0.7s
833A pP **pP 15 20 47.2 +0.8**
X51A Calhoun 64.43 343 P **P 15 20 06.6 -0.7**
X51A IAmb IAmb 15 20 08.4
comp=Z,14nm,0.5s
143A Socs Landing, 64.65 337 P **P 15 20 08.8 0.0**
X48A Hartselle 64.91 342 P **P 15 20 10.3 -0.1**
X48A IAmb IAmb 15 20 11.3
comp=Z,12nm,0.4s
TKL Tuckaleechee C 65.21 345 P **P 15 20 12.2 -0.1**
comp=Z,3.4nm,0.6s,baz=167,slow=10,SNR=3.8
comp=Z,3.4nm,0.6s
JCT Junction City 66.07 329 P **P 15 20 18.2 +0.2**
JCT IAmb IAmb 15 20 20.2
comp=Z,9.6nm,0.7s
BRDY Brady 66.39 330 P **P 15 20 19.8 -0.2**
BRDY IAmb IAmb 15 20 21.9
comp=Z,7.4nm,0.7s
WVT Waverly 66.70 341 P **P 15 20 21.4 -0.4**
WVT IAmb IAmb 15 20 22.7
comp=Z,17nm,0.7s
WVT **pP 15 21 02.5 -1.0**
WVT Waverly 66.70 341 P **P 15 20 21.8 0.0**
WVT pP **pP 15 21 02.9 -0.6**
SAND Sanderson 66.72 327 P **P 15 20 22.6 +0.5**
SAND IAmb IAmb 15 20 24.8
comp=Z,7.4nm,0.7s
SAND pP **pP 15 21 03.8 -0.1**
TXAR Lajitas Array 66.97 325 P **P 15 20 25.2 +1.4**
comp=Z,0.8nm,0.5s,baz=146,slow=7.4,SNR=7.1
TXAR pP **pP 15 21 03.7 -1.9**
comp=Z,0.7nm,0.7s,baz=140,slow=6.5,SNR=3.5
comp=Z,0.8nm,0.5s
OZNA Ozona 67.05 328 P **P 15 20 22.6 -1.6**
OZNA IAmb IAmb 15 20 26.2
comp=Z,8.5nm,0.7s
Q56A Snyder Ridge, 67.58 350 P **P 15 20 27.4 +0.1**
Q56A IAmb IAmb 15 20 29.9
comp=Z,9.8nm,0.9s
ALPN Alpine 67.81 326 IAmb IAmb 15 22 57.6
comp=Z,16nm,0.5s
MNHN Monahans 68.17 327 P **P 15 20 30.4 -0.9**
MNHN IAmb IAmb 15 20 33.9
comp=Z,9.7nm,0.6s
APMT Aspermont 68.62 330 P **P 15 20 33.7 -0.3**
APMT IAmb IAmb 15 20 36.0
comp=Z,7.9nm,0.8s
VHRN Van Horn 68.82 325 IAmb IAmb 15 21 18.5
comp=Z,18nm,1.9s
DBIC Dimbokro 68.84 70 P **P 15 20 34.5 -1.3**
DBIC IAmb IAmb 15 20 51.6
comp=Z,52nm,1.9s
DBIC Dimbokro 68.84 70 P **P 15 20 34.7 -1.0**
comp=Z,7.3nm,0.5s,baz=270,slow=20,SNR=13
comp=Z,7.3nm,0.5s
DBIC Dimbokro 68.84 70 P **P 15 20 34.9 -0.9**
DBIC PcP **PcP 15 20 58.5 -0.7**
SSPA Standing Stone 68.95 351 P **P 15 20 37.0 +1.2**
SSPA pP **pP 15 21 18.6 +1.3**
FVM French Village 69.18 340 IAmb IAmb 15 20 38.6
comp=Z,9.6nm,0.7s
CCM Cathedral Cave 69.49 340 P **P 15 20 38.6 -0.6**
CCM IAmb IAmb 15 20 40.6
comp=Z,11nm,0.7s
CCM pP **pP 15 21 21.7 +0.6**
CCM Cathedral Cave 69.49 340 P **P 15 20 39.9 +0.7**
CCM pP **pP 15 21 21.3 +0.2**
SYO Syowa Base 69.86 158⇓*e*P **P 15 20 38.0 -3.1**
VNDA Vanda 70.94 190 P **P 15 20 49.6 +2.1**
comp=Z,5.3nm,0.7s,baz=143,slow=4.9,SNR=8.5
comp=Z,5.3nm,0.7s
VNDA Vanda 70.94 190 P **P 15 20 49.8 +2.3**
VNDA pP **pP 15 21 30.7 +1.8**
ANMO Albuquerque 72.90 327 P **P 15 21 01.6 +1.6**
comp=Z,1.6nm,0.6s,baz=84,slow=4.8,SNR=4.5
comp=Z,1.6nm,0.6s
WBO Williamsburg 72.94 354 P **P 15 21 00.0 +0.3**
WBO IAmb IAmb 15 21 11.6
comp=Z,8.2nm,0.8s
L40A Anamosa 73.18 341 P **P 15 21 00.6 -0.5**
L40A IAmb IAmb 15 21 02.5
comp=Z,13nm,0.7s
SADO Sadowa 73.18 351 P **P 15 21 01.4 +0.3**
comp=Z,4.9nm,0.7s,baz=175,slow=3.9,SNR=4.4
comp=Z,4.9nm,0.7s
D62A Allapoint, All 74.64 358 IAmb IAmb 15 21 12.0
comp=Z,12nm,0.9s
SDCO Great Sand Dun 74.72 329 P **P 15 21 10.7 +0.1**
BATG Bathurst New B 74.81 0 P **P 15 21 10.3 -0.2**
BATG IAmb IAmb 15 21 20.7
comp=Z,8.3nm,1.0s
Q24A Divide 75.56 330 IAmb IAmb 15 21 18.3
comp=Z,5.4nm,0.6s
LDAQ Lac Daran 75.60 357 P **P 15 21 15.0 -0.1**
LDAQ IAmb IAmb 15 21 22.3
comp=Z,36nm,2.0s
PPT Papeete 75.84 257 P **P 15 21 19.6 +2.4**
comp=Z,19nm,0.7s,baz=100,slow=17,SNR=2.7
comp=Z,19nm,0.7s
ECSD EROS Data Cent 76.35 338 P **P 15 21 18.9 -0.6**
DRLN Deer Lake 77.22 6 P **P 15 21 24.2 +0.1**
DRLN IAmb IAmb 15 21 26.2
comp=Z,15nm,0.8s
DRLN pP **pP 15 22 07.2 +0.6**
MAW Mawson 77.68 162 P **P 15 21 27.7 +1.2**
comp=Z,11nm,0.4s,baz=258,slow=2.8,SNR=2.3
comp=Z,11nm,0.4s
TORD Torodi Ar. Bea 77.76 68 P **P 15 21 27.0 -0.9**
TORD IAmb IAmb 15 21 28.4
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 77.76 68 P **P 15 21 27.8 -0.1**
comp=Z,10nm,0.6s,baz=274,slow=4.7,SNR=10.0
comp=Z,10nm,0.6s
SRU San Rafael Swe 78.18 327 P **P 15 21 29.3 -0.7**
P18A Preston Nutter 78.44 327 IAmb IAmb 15 23 09.6
comp=Z,20nm,1.9s
BOSA Boshof 78.78 116 P **P 15 21 32.4 -1.2**
BOSA Boshof 78.78 116 P **P 15 21 34.0 +0.4**
comp=Z,8.2nm,0.4s,baz=207,slow=15,SNR=21
comp=Z,8.2nm,0.4s
AGMN Agassiz Nation 80.21 341 P **P 15 21 40.9 +0.4**
AGMN IAmb IAmb 15 21 42.1
comp=Z,5.9nm,0.7s
PD31 Pinedale Array 80.59 330 P **P 15 21 44.2 +1.2**
PDAR Pinedale Array 80.59 330 P **P 15 21 44.1 +1.2**
comp=Z,1.0nm,0.5s,baz=125,slow=7.3,SNR=18
PDAR pP **pP 15 22 24.2 -1.8**
comp=Z,0.8nm,0.8s,baz=123,slow=5.5,SNR=2.0
PDAR PKKPbc **PKKPbc 15 40 22.6 -1.5**
comp=Z,0.3nm,0.6s,baz=320,slow=2.2,SNR=4.3
comp=Z,1.0nm,0.5s
HWUT Hardware Ranch 80.61 328 P **P 15 21 43.2 +0.1**
HWUT pP **pP 15 22 27.8 +1.8**
LBTB Lobatse 80.62 113 P **P 15 21 43.2 -0.3**
LBTB IAmb IAmb 15 21 44.5
comp=Z,11nm,0.7s
NVAR Mina Array Bea 81.71 322 P **P 15 21 51.0 +2.1**
comp=Z,0.3nm,0.5s,baz=166,slow=5.6,SNR=2.4
ELK Elko 81.77 325 P **P 15 21 49.5 +0.3**
ELK pP **pP 15 22 33.8 +1.6**
ELK Elko 81.77 325 P **P 15 21 50.2 +0.9**
comp=Z,1.4nm,0.5s,baz=143,slow=5.1,SNR=6.5
comp=Z,1.4nm,0.5s
FXWY Fox Creek 81.94 329 P **P 15 21 50.7 +0.6**
ULM Lac du Bonnet 81.97 342 P **P 15 21 50.2 +0.5**
comp=Z,2.9nm,0.7s,baz=140,slow=6.7,SNR=8.1
ULM pP **pP 15 22 31.4 -1.1**
comp=Z,1.3nm,0.6s,baz=157,slow=8.8,SNR=1.8
comp=Z,2.9nm,0.7s
SCHQ Schefferville 82.37 360 P **P 15 21 50.7 -1.0**
comp=Z,1.6nm,0.9s,baz=164,slow=12,SNR=2.7
comp=Z,1.6nm,0.9s
YHL Hebgen Lake 82.96 330 P **P 15 21 55.8 +0.4**
HLID Hailey 83.47 327 P **P 15 21 57.4 -0.4**
LRM Limekiln Ridge 84.28 330 P **P 15 22 02.5 +0.5**
PTEO Sao Teotonio 84.80 43 *e*P **P 15 22 05.6 +1.1**
LYMT Lyon Mountain 85.09 331 P **P 15 22 05.9 -0.2**
PCVE Castro Verde 85.27 43 *e*P **P 15 22 08.7 +1.9**
OVMT Ovando 85.47 330 P **P 15 22 09.1 +1.3**
EVO Evora 85.87 42 *e*P **P 15 22 11.8 +2.0**
TAM Tamanrasset 85.99 62 P **P 15 22 10.5 -0.5**
TAM IAmb IAmb 15 22 13.1
comp=Z,8.1nm,1.0s
PMTG Montargil 86.10 42 *e*P **P 15 22 12.2 +1.3**
PESTR Estremoz 86.34 42 *e*P **P 15 22 14.2 +2.1**
YBH Yreka Blue Hor 86.43 322 P **P 15 22 12.7 +0.2**
comp=Z,1.2nm,0.6s,baz=61,slow=5.6,SNR=4.1
comp=Z,1.2nm,0.6s
PCAS Casmilo, Conde 86.58 41 *e*P **P 15 22 14.7 +1.5**
PMRV Marv??o 86.82 42 *e*P **P 15 22 16.3 +1.9**
PINE Pine Mountain 86.90 324 P **P 15 22 15.6 +0.6**
PINE IAmb IAmb 15 23 02.2
comp=Z,7.4nm,0.9s
PCBR Castelo Branco 87.04 41 *e*P **P 15 22 17.1 +1.7**
MTE Manteigas 87.36 41 *e*P **P 15 22 19.0 +2.0**
POLO Lamas de Olo 87.85 40 *e*P **P 15 22 22.2 +2.8**
MVO Moncorvo 88.15 41 *e*P **P 15 22 23.0 +2.2**
C09A Chrisman Ranch 88.42 328 P **P 15 22 23.0 +1.2**
C09A IAmb IAmb 15 22 24.4
comp=Z,4.6nm,0.8s
PBRG Braganca 88.73 40 *e*P **P 15 22 26.1 +2.7**
ESDC Sonseca Array 89.03 43 P **P 15 22 25.1 +0.1**
comp=Z,1.7nm,0.8s,baz=254,slow=4.5,SNR=8.1
comp=Z,1.7nm,0.8s
YKA Yellowknife Ar 97.83 340 P **P 15 23 05.2 +0.5**
comp=Z,0.3nm,0.5s,baz=141,slow=4.3,SNR=7.9
YKA pP **pP 15 23 47.8 -0.5**
comp=Z,0.3nm,0.7s,baz=144,slow=4.1,SNR=2.8
comp=Z,0.3nm,0.5s
RNPP1 Kostyukhnivka 112.73 43 P **Pdif 15 24 11.3 0.0**
SPITS Spitsbergen Ar 115.67 13 PKKPab PKKPab 15 38 48.2 +1.6
comp=Z,13nm,1.2s,baz=101,slow=7.7,SNR=5.1
ARCES ARCESS Array B 116.58 23 PKKPbc PKKPbc 15 38 41.2 -1.0
comp=Z,2.0nm,0.7s,baz=76,slow=3.8,SNR=5.2
ASAR Alice Springs 125.03 203 PKP **PKPdf 15 28 30.1 +0.2**
comp=Z,3.9nm,0.4s,baz=135,slow=1.8,SNR=73
ASAR pPKP **pPKPdf 15 29 14.3 -0.7**
comp=Z,1.2nm,0.6s,baz=136,slow=1.8,SNR=3.7
ASAR PKKPbc **PKKPbc 15 38 10.4 +0.4**
comp=Z,0.3nm,1.0s,baz=329,slow=3.6,SNR=6.0
WRA Warramunga Arr 128.28 206 PKP **PKPdf 15 28 36.8 +0.6**
comp=Z,6.2nm,0.5s,baz=157,slow=1.9,SNR=55
WRA pPKP **pPKPdf 15 29 21.2 0.0**
comp=Z,1.5nm,0.6s,baz=165,slow=1.6,SNR=4.5
PETK Petropavlovsk- 138.78 320 PKP **PKiKP 15 28 57.4 +0.4**
comp=Z,3.3nm,1.0s,baz=78,slow=3.1,SNR=7.6
BVAR Borovoye Array 139.68 39 PKhKP PKPpre 15 28 54.5
comp=Z,0.7nm,0.5s,baz=258,slow=1.8,SNR=2.9
BVAR PKP **PKiKP 15 28 58.5 -0.3**
comp=Z,1.0nm,0.6s,baz=241,slow=3.1,SNR=4.8
EKS2 Erkin-Say 144.88 55 P **PKPdf 15 29 07.6 +1.5**
SNR=6.2
AML Almayashu 144.92 56 P **PKPdf 15 29 08.0 +1.4**
SNR=7.0
USP Ospenovka 145.26 53 P **PKPab 15 29 08.4 +1.3**
SNR=8.8
KURBB Kurchatov Arra 145.28 40 PKPbc **PKPab 15 29 08.1 +1.3**
comp=Z,4.5nm,0.5s,baz=299,slow=3.5,SNR=28
KURBB pPKPbc pPKPab 15 29 49.0 -1.9
comp=Z,3.2nm,0.8s,baz=299,slow=3.5,SNR=2.2
AAK Ala-Archa 145.40 54 P **PKPab 15 29 09.5 +1.7**
SNR=20
KBK Karagaybulak 145.72 54 P **PKPab 15 29 10.4 +1.4**
SNR=11
TKM2 Tokmak 2 146.13 54 P **PKPbc 15 29 10.5 +0.8**
SNR=16
ZALV Zalesovo Beam 146.64 31 PKPbc **PKPbc 15 29 10.6 +0.2**
comp=Z,10nm,0.3s,baz=305,slow=3.6,SNR=51
ZALV pPKPbc pPKPbc 15 29 54.0 -1.0
comp=Z,10nm,0.8s,baz=281,slow=3.2,SNR=1.1
ULHL Ulahol 146.75 55 P **PKPbc 15 29 12.1 +0.6**
SNR=16
KSH Kashi 147.09 60 PKPbc **PKPbc 15 29 12.3 -0.1**
KSH pPKP pPKPab 15 29 57.6 -0.7
MKAR Makanchi Array 149.25 44 PKPbc **PKPbc 15 29 18.6 +1.0**
comp=Z,4.9nm,0.6s,baz=291,slow=3.0,SNR=63
MKAR pPKPbc **pPKPbc 15 30 01.7 -0.8**
comp=Z,3.0nm,0.7s,baz=293,slow=3.4,SNR=1.7
MJAR Matsushiro Arr 157.25 299 PKPab **PKPab 15 29 57.2 +0.3**
comp=Z,1.7nm,0.6s,baz=77,slow=4.6,SNR=4.5
SONM Songino Array 159.37 13 PKP **PKPdf 15 29 28.5 +1.2**
comp=Z,0.5nm,0.4s,baz=0.0,slow=2.9,SNR=4.1
SONM PKPab **PKPab 15 30 07.2 +1.5**
comp=Z,0.3nm,0.4s,baz=336,slow=5.7,SNR=3.4
CMAR Chiang Mai Arr 163.84 122 PKP **PKPdf 15 29 34.2 +1.6**
comp=Z,0.3nm,0.3s,baz=229,slow=2.5,SNR=7.8
CMAR PKPab **PKPab 15 30 26.3 +0.2**
comp=Z,0.4nm,0.3s,baz=237,slow=4.4,SNR=6.7
GTA Gaotai 163.96 41 *e*P **PKPab 15 30 27.8 +1.6**
GTA pP sPKPdf 15 30 31.9 -3.2
GTA pmax pmax
comp=Z,2.0nm,1.1s
KSRS Korea Array 164.41 311 PKPab **PKPab 15 30 29.9 +1.8**
comp=Z,0.8nm,0.8s,baz=52,slow=4.7,SNR=4.6
HHC Hu-ho-hao-te 166.98 6 *e*P **PKPdf 15 29 34.0 -0.7**
PZH PanZhiHua 169.64 95 PKP **PKPdf 15 29 35.1 -1.9**
NJ2 Nanjing 173.62 312 *e*P **PKPdf 15 29 39.3 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s

HEL 14 15:11:48.9±0.1, 62°.33N×25°.21E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.23**	**224**	*e*P	Pg	15 11 52.8	-0.4
KEF	**Keuruu**	**0.23**	**224**	PG	Pg	15 11 52.7	-0.5
KEF				SG	Sg	15 11 56.2	+0.1
KAF	**Kangasniemi**	**0.56**	**112**	PG	Pg	15 11 58.4	-1.2
KAF				SG	Sg	15 12 05.6	-1.2
KAF				MSG		15 12 06.8	
	comp=Z,4.4nm,0.2s						
SUF	**Sumiainen**	**0.59**	**48**	PG	Pg	15 11 59.4	-0.7
SUF				SG	Sg	15 12 07.4	-0.3
SUF				MSG		15 12 07.6	
	comp=Z,1.7nm,0.2s						
FIA0	**FINESS Array S**	**0.98**	**155**	PG	Pg	15 12 06.4	-1.2
	baz=335						
FIA0				MSG		15 12 19.0	
	comp=Z,1.5nm,0.2s						
FIA0				SB	Sg	15 12 19.6	-0.7
VAF	**Ylistaro**	**1.37**	**303**	*e*P	Pg	15 12 14.5	-0.6
VAF	**Ylistaro**	**1.37**	**303**	PN	Pg	15 12 14.4	-0.8
VAF				MSG		15 12 30.4	
	comp=Z,1.1nm,0.2s						
VAF				SN	Sg	15 12 33.0	+0.1
KPF	**Kankaanpaa**	**1.56**	**253**	PN	Pn	15 12 17.3	-0.5
KPF				SN	Sn	15 12 38.1	-0.6
NIF	**Nilsia**	**1.60**	**47**	PG	Pn	15 12 17.9	-0.5
	baz=233						
NUR	**Nurmijarvi**	**1.85**	**189**	MSG		15 12 43.9	
	comp=Z,2.0nm,0.2s						
NUR				SN	Sn	15 12 46.3	+0.5
RUF	**Ruokolahti**	**1.99**	**115**	PG	Pb	15 12 25.0	-0.9
RUF				MSG		15 12 48.0	
	comp=Z,2.2nm,0.2s						
RUF				SG	Sb	15 12 50.7	-0.6
OUF	**Merijarvi**	**2.06**	**354**	MSG		15 12 50.1	
	comp=Z,1.0nm,0.2s						
OUF				SG	Sb	15 12 53.2	0.0
RAF	**Rauma**	**2.10**	**233**	*e*P	Pn	15 12 24.9	-0.4
RAF	**Rauma**	**2.10**	**233**	PG	Pb	15 12 27.3	-0.5
RAF				MSG		15 12 51.4	
	comp=Z,1.8nm,0.2s						
RAF				SG	Sb	15 12 54.1	-0.3
VJF	**Virojoki**	**2.12**	**147**	MSG		15 12 51.9	
	comp=Z,1.6nm,0.2s						
VJF				SG	Sb	15 12 54.2	-0.7
MEF	**Metsahovi**	**2.16**	**191**	MSG		15 12 52.9	
	comp=Z,1.3nm,0.2s						
MEF				SG	Sb	15 12 55.7	-0.3
OBF0	**Syolatti, Pyha**	**2.22**	**349**	MSG		15 12 54.7	
	comp=Z,1.0nm,0.2s						
OBF0				SG	Sb	15 12 58.3	+0.5
OBF4	**Vikkela, Lumij**	**2.49**	**359**	MSG		15 13 02.5	
	comp=Z,0.8nm,0.2s						
OBF4				SG	Sb	15 13 05.8	+0.1
RMF	**Romuvaara**	**2.85**	**46**	MSG		15 13 12.8	
	comp=Z,0.4nm,0.2s						
RMF				SB	Sb	15 13 14.3	-1.8
JOF	**Joensuu**	**2.88**	**75**	SB	Sb	15 13 14.2	-2.7

*IDC **14** 15:17:31.6±1.1, 26°.13N×96°.86E, h0km, mb3.9/14, mbtmp3.9/15, ML3.4/1, MS3.5/2, Error ellipse: s-maj=47.8km s-min=20.6km az=62.0*
*NEIC **14** 15:17:36.8±1.3, 26°.12N±0°.09×96°.95E±0°.09, h46km±9km, mb4.3/28, Error ellipse: s-maj=13.7km s-min=10.6km az=213.0*

ISC 14 15:17:33.1±0.7, 26°.15N±0°.06×97°.03E±0°.06, h16km, n58, σ1§18/65, mb4.2/27, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.58**	**318**	*e*S	**Sg**	**15 18 26.3**	**+2.1**
KOHI	**KOHIMA**	**2.67**	**261**	*e*P	**Pn**	**15 18 18.1**	**+2.6**
KOHI				*e*S	**Sb**	**15 18 53.0**	**-0.2**
KOHI				IAML		15 19 04.8	
	comp=N,246nm,0.6s						
KOHI				IAML		15 19 08.6	
	comp=E,262nm,0.7s						
IMP	**Imphal**	**3.08**	**245**	*e*P	**Pn**	**15 18 23.6**	**+2.4**
IMP				*e*S	**Sn**	**15 19 00.2**	**+2.4**
IMP				IAML		15 19 11.3	
	comp=N,352nm,0.8s						
IMP				IAML		15 19 17.3	
	comp=E,353nm,0.8s						
ZIRO	**ZIRO**	**3.15**	**296**	*e*P	**Pn**	**15 18 23.3**	**+1.0**
ZIRO				*e*S	**Sn**	**15 19 01.0**	**+1.2**
ZIRO				IAML		15 19 04.0	
	comp=E,387nm,0.4s						
ZIRO				IAML		15 19 04.0	
	comp=N,400nm,0.4s						
AZL	**Aizawl**	**4.62**	**240**	*e*P	**Pn**	**15 18 44.3**	**+1.9**
AZL				*e*S	**Sn**	**15 19 36.3**	**+0.6**
AZL				IAML		15 19 47.7	
	comp=E,235nm,0.9s						
AZL				IAML		15 19 48.6	
	comp=N,231nm,0.6s						
SHL	**Shillong**	**4.67**	**264**	Pn	**Pn**	**15 18 43.9**	**+0.7**
SHL				Sn	**Sn**	**15 19 35.7**	**-1.5**
SHL	**Shillong**	**4.67**	**264**	*e*P	**Pn**	**15 18 43.6**	**+0.5**
SHL				*e*S	**Sn**	**15 19 36.6**	**-0.7**
GUWA	**GUWAHATI**	**4.80**	**272**	*e*P	**Pn**	**15 18 44.6**	**-0.1**
GUWA				*e*S	**Sn**	**15 19 38.4**	**-1.6**
GUWA				IAML		15 19 41.0	
	comp=N,235nm,0.3s						
GUWA				IAML		15 19 42.1	
	comp=E,262nm,0.4s						
TAWA	**Tawang**	**4.83**	**288**	*e*P	**Pn**	**15 18 46.6**	**+1.1**
TAWA				*e*S	**Sn**	**15 19 42.6**	**+1.2**
LSA	**Lhasa**	**6.29**	**306**		**Pn**	**15 19 06.8**	**+1.2**
GTK	**Tadong**	**7.63**	**281**	*e*P	**Pn**	**15 19 23.8**	**+0.1**
GTK				*e*S	**Sn**	**15 20 48.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**7.86**	**167**	Pn	**Pn**	**15 19 26.6**	**-0.2**
	comp=E,0.1nm,0.3s,baz=347,slow=11,SNR=4.7						
CMAR				Lg	Lg	15 21 38.7	
	comp=E,0.4nm,0.3s,baz=344,slow=29,SNR=8.6						
	comp=E,0.3nm,0.5s						
WUS	**Wushi**	**21.03**	**320**	P	**P**	**15 22 16.4**	**+0.1**
WUS				IAmb	IAmb	15 22 18.1	
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**21.11**	**44**	P	**P**	**15 22 17.2**	**+0.2**
BJT				IAmb	IAmb	15 22 20.6	
	comp=Z,8.3nm,0.4s						
TARG	**Taragay, Kyrgy**	**22.19**	**319**	P	**P**	**15 22 29.1**	**0.0**
TARG				IAmb	IAmb	15 22 33.2	
	comp=Z,5.9nm,0.8s						
KDJ	**Kajisay**	**22.80**	**319**		**P**	**15 22 34.7**	**-0.7**
SONM	**Songino Array**	**22.86**	**16**	P	**P**	**15 22 35.1**	**-0.7**
SONM	**Songino Array**	**22.86**	**16**	P	**P**	**15 22 35.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=186,slow=12,SNR=1.3						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**23.69**	**334**	P	**P**	**15 22 44.9**	**+0.8**
MK31				IAmb	IAmb	15 22 47.3	
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**23.69**	**334**	P	**P**	**15 22 44.7**	**+0.6**
MKAR	**Makanchi Array**	**23.69**	**334**	P	**P**	**15 22 46.0**	**+1.9**
	comp=Z,7.5nm,0.8s,baz=147,slow=10.0,SNR=58						
	comp=Z,7.5nm,0.8s						
BOOM	**Boomskoye usch**	**23.75**	**319**	P	**P**	**15 22 45.0**	**+0.1**
MAKZ	**Makanchi**	**23.83**	**334**	P	**P**	**15 22 45.6**	**+0.3**
MAKZ				IAmb	IAmb	15 22 48.0	
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**24.71**	**317**	P	**P**	**15 22 54.1**	**+0.4**
AAK	**Ala-Archa**	**24.71**	**317**	P	**P**	**15 22 54.2**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=154,slow=5.4,SNR=8.9						
	comp=Z,1.9nm,0.8s						
DRK	**Karamyk**	**24.93**	**308**	P	**P**	**15 22 55.6**	**-0.3**
DRK				IAmb	IAmb	15 22 59.4	
	comp=Z,5.9nm,0.5s						
KBL	**Kabul**	**25.50**	**296**	P	**P**	**15 23 00.6**	**-0.4**
KBL				IAmb	IAmb	15 23 05.4	
	comp=Z,4.9nm,0.8s						
GAR	**Garm**	**25.80**	**306**		**P**	**15 23 01.6**	**-1.9**
GAR				IAmb	IAmb	15 23 06.6	
	comp=Z,8.6nm,0.8s						
BTK	**Batken**	**25.86**	**309**		**P**	**15 23 03.0**	**-1.0**
BTK				IAmb	IAmb	15 23 09.4	
	comp=Z,5.1nm,0.5s						
KURBB	**Kurchatov Arra**	**28.25**	**335**	P	**P**	**15 23 26.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=150,slow=12,SNR=0.7						
	comp=Z,0.4nm,0.3s						
ZAA0	**Zalesovo Array**	**29.21**	**345**	P	**P**	**15 23 33.8**	**0.0**
ZALV	**Zalesovo Beam**	**29.21**	**345**	P	**P**	**15 23 34.7**	**+0.9**
ZALV	**Zalesovo Beam**	**29.21**	**345**	P	**P**	**15 23 35.0**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=166,slow=8.8,SNR=7.6						
	comp=Z,1.4nm,0.5s						
BVAR	**Borovoye Array**	**33.42**	**331**	P	**P**	**15 24 11.9**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=131,slow=9.8,SNR=8.7						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**33.49**	**331**	P	**P**	**15 24 11.7**	**+0.2**
BRVK				IAmb	IAmb	15 24 13.4	
	comp=Z,1.7nm,0.7s						

AB31	**Akbulak array**	**36.78 319**	P	**P**	**15 24 38.7**	**-1.2**
ABKAR	**Akbulak array**	**36.78 319**	P	**P**	**15 24 39.2**	**-0.7**
ABKAR	**Akbulak array**	**36.78 319**	P	**P**	**15 24 39.5**	**-0.4**
JHJ2	**Mitsune**	**37.63 69**	P	**P**	**15 24 46.5**	**-0.8**
AKTO	**Aktyubinsk**	**38.41 320**	P	**P**	**15 24 53.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=72,slow=7.1,SNR=2.5					
	comp=Z,1.0nm,0.6s					
ARTI	**Arti**	**41.00 328**	P	**P**	**15 25 14.4**	**-0.8**
ARTI	**Arti**	**41.00 328**	P	**P**	**15 25 15.7**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=148,slow=5.7,SNR=6.0					
	comp=Z,2.3nm,0.3s					
EIL	**Elat**	**54.40 289**	LR	LR	15 54 32.3	
	comp=Z,32nm,18.9s,baz=242,slow=41					
AKASG	**Malin Array Be**	**56.34 315**	P	**P**	**15 27 12.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=78,slow=6.0,SNR=7.6					
	comp=Z,0.6nm,0.3s					
AKBB	**Malin Array Si**	**56.34 315**	P	**P**	**15 27 12.1**	**-1.1**
AKBB			IAmb	IAmb	15 27 40.1	
	comp=Z,3.1nm,1.1s					
KIEV	**Kiev**	**56.35 315**	P	**P**	**15 27 12.1**	**-1.1**
KIEV			IAmb	IAmb	15 27 40.1	
	comp=Z,2.8nm,1.1s					
FINES	**FINESS Array B**	**58.31 328**	P	**P**	**15 27 26.1**	**-0.8**
FINES	**FINESS Array B**	**58.31 328**	P	**P**	**15 27 27.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=93,slow=5.6,SNR=1.0					
	comp=Z,1.0nm,0.8s					
WRA	**Warramunga Arr**	**58.41 138**	P	**P**	**15 27 30.7**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=320,slow=7.4,SNR=2.2					
	comp=Z,0.4nm,0.6s					
BURAR	**Bucovina Array**	**59.16 312**	P	**P**	**15 27 31.9**	**-1.3**
BUR08	**Bucovina Ar. S**	**59.17 312**	P	**P**	**15 27 31.7**	**-1.6**
BUR08			IAmb	IAmb	15 28 14.8	
	comp=Z,4.4nm,1.4s					
ARCES	**ARCESS Array B**	**59.30 337**	P	**P**	**15 27 32.2**	**-1.5**
ARCES	**ARCESS Array B**	**59.30 337**	P	**P**	**15 27 35.0**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=95,slow=9.1,SNR=1.8					
	comp=Z,2.9nm,0.9s					
HFS	**Hagfors**	**64.42 327**	P	**P**	**15 28 08.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=108,slow=4.7,SNR=5.7					
	comp=Z,0.5nm,0.3s					
VRAC	**Vranov**	**64.59 314**	LR	LR	16 02 41.9	
	comp=Z,41nm,18.0s,baz=338,slow=42					
NOA	**NORSAR Array B**	**65.49 328**	P	**P**	**15 28 14.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=90,slow=4.3,SNR=1.9					
	comp=Z,0.3nm,0.5s					
NC204	**NORSAR Array S**	**65.66 328**	P	**P**	**15 28 15.9**	**-0.5**
VOI	**Vohitsoka**	**68.21 230**	P	**P**	**15 28 31.1**	**-2.1**

*IDC **14** 15:30:17.1±0.8, 61°.13N×13°.21E, h0km, mbtmp3.4/2, ML2.1/2, Error ellipse: s-maj=6.8km s-min=5.0km az=48.0*

ISC 14 15:30:16.3±1.1, 61°.26N±0°.08×13°.24E±0°.06, h10km, n6, σ2°28/7, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC303	**NORSAR Array S**	**0.90**	**269**	*e*P	**Pb**	**15 30 34.0**	**-0.1**
NB201	**NORSAR Array S**	**0.97**	**258**	*e*P	**Pb**	**15 30 35.0**	**-0.1**
NOA	**NORSAR Array B**	**1.01**	**258**	Pg	**Pg**	**15 30 35.3**	**-0.3**
	0.2nm,0.3s,baz=83,slow=19,SNR=66						
NOA				Lg	Lg	15 30 47.8	
	0.2nm,0.3s,baz=83,slow=18,SNR=7.5						
NOA				Rg	Rg	15 30 53.6	
	0.6nm,0.3s,baz=83,slow=18,SNR=4.6						
HFS	**Hagfors**	**1.15**	**169**	Pg	**Pb**	**15 30 37.0**	**-1.3**
	0.6nm,0.3s,baz=344,slow=19,SNR=26						
HFS				Lg	Lg	15 30 49.0	
	1.3nm,0.3s,baz=346,slow=29,SNR=16						
HFS				Rg	Rg	15 30 53.9	
	20nm,0.6s,baz=350,slow=23,SNR=14						
FINES	**FINESS Array B**	**6.18**	**83**	Pn	**Pn**	**15 31 50.3**	**+2.8**
	0.1nm,0.3s,baz=270,slow=15,SNR=2.0						
FINES				Lg	Lg	15 33 29.1	
	0.2nm,0.3s,baz=270,slow=23,SNR=4.1						
	2.9nm,1.0s						
ARCES	**ARCESS Array B**	**9.73**	**26**	Pn	**Pn**	**15 32 37.4**	**+1.3**
	baz=218,slow=12,SNR=1.8						
ARCES				Sn	**Sn**	**15 34 22.2**	**-3.1**
	baz=214,slow=24,SNR=1.5						
	2.3nm,1.0s						

WEL 14 16:04:03.3±1.1, 41°.5S±3°.5×17°.5E±°, h19km±7km, M0.7/7, ML1.5/7, MLv0.7/7, Error ellipse: s-maj=4.8km s-min=3.5km az=82.4, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTW	**Mount Morrison**	**0.15**	**109**	P	Pg	16 04 09.2	+1.6
MTW				S	Sg	16 04 13.1	+2.6
CAW	**Cannon Point**	**0.19**	**271**	P	Pg	16 04 09.9	+1.8
CAW				S	Sg	16 04 14.2	+2.7
HOWZ	**Holdsworth Sta**	**0.26**	**35**	P	Pg	16 04 10.6	+1.4
PAWZ	**Paruwai Farm**	**0.28**	**163**	P	Pb	16 04 10.9	+1.2
PAWZ				S	Sn	16 04 16.4	-1.9
MSWZ	**Moikau Station**	**0.31**	**190**	P	Pb	16 04 11.3	+1.1
MSWZ				S	Sb	16 04 16.8	+1.8
OGWZ	**Otaki Gorge**	**0.31**	**339**	P	Pb	16 04 11.5	+1.2
KIW	**Kapiti Island**	**0.40**	**309**	P	Pb	16 04 12.9	+1.1
PLWZ	**Palliser**	**0.46**	**186**	P	Pb	16 04 13.7	+0.8
PLWZ				S	Sb	16 04 20.9	+1.5
MRZ	**Mangatainoka R**	**0.49**	**24**	P	Pb	16 04 14.1	+0.8
MRZ				S	Sb	16 04 21.6	+1.5

*SDD **14** 16:05:03.2±0.9, 19°.55N×70°.73W, h15km±178km, MD2.9, ML2.1*
*OSPL **14** 16:05:03.3±0.6, 19°.62N×70°.88W, h0km±999km, ML1.4*

ISC 14 16:05:02.9±1.4, 19°.53N±0°.07×70°.77W±0.05, h23km±8km, n7, σ0°69/13, 1C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.11**	**156**	*i* P	**Pb**	**16 05 07.2**	**-0.2**
SC01				*e*S	**Sb**	**16 05 10.8**	**+0.4**
ABDR	**Alto Bandera**	**0.72**	**169⇓**	*e*Pg	**Pb**	**16 05 16.7**	**-0.4**
ABDR				*e*Sg	**Sb**	**16 05 25.9**	**-0.7**
ABDR				IAML		16 05 29.7	
	comp=N,38nm,0.3s						
SDDR	**Presa de Saban**	**0.73**	**222⇑**	*e*Pg	**Pb**	**16 05 17.0**	**0.0**
SDDR			⇓	*e*Sg	**Sn**	**16 05 27.4**	**-0.7**
SDDR				IAML		16 05 30.8	
	comp=N,19nm,1.4s						
SDDR	**Presa de Saban**	**0.73**	**222**	*i* P	**Pb**	**16 05 16.8**	**-0.1**
SDDR				*e*S	**Sb**	**16 05 26.2**	**-0.3**
SDDR				IAML		16 05 27.9	
	comp=Z,11nm,0.5s						
MCDR	**Montecristi**	**0.91**	**294**	*e*Pg	**Pb**	**16 05 19.8**	**-0.2**
MCDR				IAML		16 05 43.2	
	comp=N,73nm,1.6s						
MCDR				IAML		16 05 45.7	
	comp=E,520nm,0.2s						
LONE3	**El Aguacate, B**	**1.12**	**215**	*i* P	**Pb**	**16 05 24.0**	**+0.3**
LONE3				*e*S	**Sb**	**16 05 39.2**	**+1.3**
LONE3				IAML		16 05 42.4	
	comp=Z,13nm,0.5s						
HATOM	**Hato Mayor del**	**1.51**	**119**	*e*Pg	**Pn**	**16 05 28.3**	**-0.2**
HATOM			⇓	*e*Sg	**Sn**	**16 05 48.4**	**+0.9**
HATOM				IAML		16 05 51.2	
	comp=N,19nm,2.0s						

*IDC **14** 16:31:54.9±3.6, 17°.25S×69°.96W, h148km±21km, mb3.8/4, mbtmp4.3/5, Error ellipse: s-maj=74.3km s-min=29.2km az=133.0*

ISC 14 16:31:54.2±1.9, 17°.7S±0°.2×69°.8W±0°.2, h117km, n6, σ2°18/7, mb4.0/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.16**	**49**	P	**Pn**	**16 32 31.8**	**+1.7**
	52nm,0.6s,baz=234,slow=6.3,SNR=252						
LPAZ				S	**Sn**	**16 32 58.0**	**+0.4**
	23nm,0.5s,baz=356,slow=17,SNR=15						
SIV	**San Ignacio**	**8.56**	**80**	P	**Pn**	**16 33 55.4**	**+0.1**
	10nm,0.4s,baz=266,slow=12,SNR=58						
BDFB	**Brasilia**	**21.00**	**88**	P	**P**	**16 36 29.5**	**+0.9**
	3.1nm,0.4s,baz=180,slow=20,SNR=4.3						
	3.1nm,0.4s						
PLCA	**Paso Flores**	**22.94**	**181**	P	**P**	**16 36 49.9**	**+1.5**
	1.5nm,0.8s,baz=333,slow=12,SNR=3.6						
	1.5nm,0.8s						
QSPA	**South Pole Qui**	**72.45**	**180**	P	**P**	**16 43 08.2**	**+0.4**
	2.6nm,1.2s,baz=90,slow=6.1,SNR=2.2						
	2.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**76.95**	**72**	P	**P**	**16 43 30.8**	**-3.6**
	9.0nm,0.6s,baz=259,slow=4.8,SNR=1.5						
	9.0nm,0.6s						

SJA 14 16:36:09.9±0.8, 31°.25S×68°.79W, h106km±2km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.28**	**106**	*e*P	Pn	16 36 26.0	+0.7
RTLL				*e*S	Sn	16 36 37.5	+0.8
ZON	**Zonda**	**0.31**	**162**	*e*P	Pn	16 36 26.2	+0.8
ZON				*e*S	Sn	16 36 37.9	+0.9
ZON				IAML		16 36 39.5	
	comp=Z,862nm,0.5s						
SJA	**San Juan**	**0.34**	**144**	*e*P	Pn	16 36 26.6	+1.1
SJA				*e*S	Sn	16 36 39.8	+2.6
SJA				IAML		16 36 40.9	
	comp=Z,630nm,0.2s						
DOCA	**Reserva Natura**	**0.39**	**320**	*e*P	Pn	16 36 26.8	+0.6
DOCA				*e*S	Sn	16 36 39.6	+1.2
DOCA				IAML		16 36 39.6	
	comp=Z,754nm,0.3s						
CFA	**Coronel Fontan**	**0.59**	**127**	*e*P	Pn	16 36 27.8	+0.8
CFA				*e*S	Sn	16 36 41.1	+1.1
RTLS	**Leoncito**	**0.69**	**218**	*e*P	Pn	16 36 29.2	+0.9
RTLS				*e*S	Sn	16 36 43.2	+1.2
RTLS				IAML		16 36 44.0	
	comp=Z,2μm,0.2s						
ACCO	**Cerro Coronel**	**0.70**	**340**	*e*P	Pn	16 36 30.1	+1.7
ACCO				*e*S	Sn	16 36 43.6	+1.4
ACDV	**Cuesta del Vie**	**1.12**	**345**	*e*P	Pn	16 36 33.8	+1.5
ACDV				IAML		16 36 54.3	
	comp=Z,260nm,0.1s						
AROD	**Rodeo**	**1.23**	**331**	*e*P	Pn	16 36 34.8	+1.1
AROD				*e*S	Sn	16 36 53.4	+1.7
AVFE	**Valle Fertil**	**1.29**	**63**	*e*P	Pn	16 36 35.3	+1.2
AVFE				IAML		16 36 54.6	
	comp=Z,565nm,1.2s						
ASAL	**Salagasta**	**1.33**	**182**	*e*P	Pn	16 36 35.8	+1.1
ASAL				*e*S	Sn	16 36 53.3	-0.1
ASAL				IAML		16 36 55.5	
	comp=Z,428nm,2.7s						
ARCO	**CERRO ARCO**	**1.59**	**184**	*e*P	Pn	16 36 38.7	+0.9
ARCO				*e*S	Sn	16 36 58.5	-0.4
ARCO				IAML		16 37 02.1	
	comp=Z,1μm,0.7s						
CO03	**El Pedregal**	**1.68**	**284**	*e*P	Pn	16 36 40.0	+1.2
CO03				*e*S	Sn	16 37 02.3	+1.5
CO03				IAML		16 37 03.1	
	comp=Z,497nm,0.2s						
CO01	**Juntas del Tor**	**1.70**	**318**	*e*P	Pn	16 36 41.2	+2.1
CO01				IAML		16 37 05.5	
	comp=Z,335nm,3.0s						
AGUA	**GUANDACOL**	**1.78**	**8**	*e*P	Pn	16 36 41.6	+1.5
AGUA				*e*S	Sn	16 37 05.4	+2.3
AGUA				IAML		16 37 06.7	
	comp=Z,501nm,0.7s						
ACHE	**Chepes**	**1.82**	**88**	*e*P	Pn	16 36 41.7	+1.1
ACHE				*e*S	Sn	16 37 04.9	+0.8
AAGR	**Agrelo**	**1.83**	**181**	*e*P	Pn	16 36 41.9	+1.2
AAGR				*e*S	Sn	16 37 02.6	-1.5
AAGR				*e*S		16 37 05.7	
GO04	**Tololo Observa**	**2.04**	**301**	*e*P	Pn	16 36 44.0	+0.6
GO04				*e*S	Sn	16 37 10.0	+1.0
VA03	**San Esteban**	**2.12**	**224**	*e*P	Pn	16 36 45.4	+1.0
VA03				*e*S	Sn	16 37 13.7	+3.0
VA03				IAML		16 37 15.6	
	comp=Z,236nm,0.2s						
APLL	**PUNTA DE LOS L**	**2.13**	**67**	*e*P	Pn	16 36 45.4	+1.0
APLL				*e*S	Sn	16 37 12.2	+1.4
AVIZ	**Vizcacheras**	**2.23**	**174**	*e*P	Pn	16 36 31.9	-14
AVIZ				*e*S	Sn	16 37 15.7	+2.6
ACLC	**CERRO LA CRUZ**	**2.42**	**42**	*e*P	Pn	16 36 49.2	+0.8
ACLC				*e*S	Sn	16 37 05.1	-13
MT08	**Bocatoma Ro**	**2.42**	**205**	*e*P	Pn	16 36 50.1	+1.7
MT08				*e*S	Sn	16 37 17.2	-0.7
MT08				IAML		16 37 22.8	
	comp=Z,135nm,0.8s						
MT04	**Ro Olivares**	**2.43**	**208**	*e*P	Pn	16 36 45.1	-3.4
MT04				*e*S	Sn	16 37 19.1	+1.1
MT04				IAML		16 37 27.0	
	comp=Z,60nm,0.2s						
PEL	**Peldehue**	**2.48**	**220**	*e*P	Pn	16 36 49.5	+0.5
PEL				*e*S	Sn	16 37 20.4	+1.6
ROC1	**El Roble**	**2.55**	**227**	*e*P	Pn	16 36 49.8	-0.3
ROC1				*e*S	Sn	16 37 22.4	+1.4
VCA	**Vinchina**	**2.56**	**12**	*e*P	Pn	16 36 51.8	+1.6
VCA				*e*S	Sn	16 37 22.2	+1.1
VCA				IAML		16 37 26.3	
	comp=Z,334nm,0.8s						
MT03	**Universidad Ad**	**2.67**	**213**	*e*P	Pn	16 36 52.5	+1.1
MT03				*e*S	Sn	16 37 25.8	+2.4
MT03				IAML		16 37 28.7	
	comp=Z,264nm,0.3s						
MT05	**Renca**	**2.69**	**217**	*e*P	Pn	16 36 52.5	+0.7
MT05				*e*S	Sn	16 37 26.0	+1.9
MT05				IAML		16 37 27.9	
	comp=Z,149nm,0.1s						
LCO	**Las Campanas**	**2.78**	**323**	*e*P	Pn	16 36 53.7	+0.5
LCO				IAML		16 37 32.5	
	comp=Z,354nm,0.3s						
MT13	**San Alfonso**	**2.79**	**207**	*e*P	Pn	16 36 54.8	+1.7
MT13				*e*S	Sn	16 37 30.2	+3.9
MT13				IAML		16 37 35.9	
	comp=Z,75nm,0.2s						
MT02	**Curacav**	**2.82**	**224**	*e*P	Pn	16 36 52.8	-0.6
MT02				*e*S	Sn	16 37 27.1	+0.2
MT02				IAML		16 37 32.5	
	comp=Z,57nm,0.3s						
LMEL	**Las Melosas**	**2.85**	**204**	*e*P	Pn	16 36 55.7	+1.8
LMEL				*e*S	Sn	16 37 34.4	+6.6
VA01	**Torpederas**	**3.00**	**233**	*e*P	Pn	16 36 55.2	-0.5
VA01				*e*S	Sn	16 37 29.2	-1.8
VA01				IAML		16 37 33.7	
	comp=Z,52nm,0.2s						
MT01	**Popeta**	**3.33**	**218**	*e*P	Pn	16 36 58.9	-1.3
MT01				*e*S	Sn	16 37 38.7	-0.4
MT01				IAML		16 37 48.1	
	comp=Z,42nm,0.5s						
RFA	**San Rafael**	**3.52**	**176**	*e*P	Pn	16 37 02.6	-0.2
RFA				*e*S	Sn	16 37 44.1	+0.5
RFA				IAML		16 38 13.2	
	comp=Z,71nm,0.4s						
TCA	**Tanti**	**3.59**	**92**	*e*P	Pn	16 37 04.3	+0.6
TCA				*e*S	Sn	16 37 30.7	-15
TCA				IAML		16 37 45.6	
	comp=Z,121nm,0.9s						
AC04	**Llanos de Chal**	**3.63**	**326**	*e*P	Pn	16 37 04.1	-0.2
AC04				IAML		16 37 52.9	
	comp=Z,52nm,1.1s						
BO01	**Tunca**	**3.68**	**211**	*e*P	Pn	16 37 03.8	-1.0
BO01				*e*S	Sn	16 37 46.5	-0.9
BO01				IAML		16 37 57.5	
	comp=Z,24nm,0.5s						
CYA	**Choya**	**3.82**	**44**	*e*P	Pn	16 37 06.7	-0.2
CYA				*e*S	Sn	16 37 50.2	-0.7
CYA				IAML		16 37 51.1	
	comp=Z,30nm,0.2s						
BO02	**Sierra Bellavi**	**3.91**	**205**	*e*P	Pn	16 37 08.2	+0.2
BO02				IAML		16 38 01.9	
	comp=Z,36nm,0.2s						
AC02	**Maricunga**	**4.41**	**356**	*e*P	Pn	16 37 17.3	+2.0
AC02				*e*S	Sn	16 38 06.3	+0.4
AC02				IAML		16 38 08.2	
	comp=Z,27nm,0.3s						
AC01	**Pan de Azucar**	**5.33**	**342**	*e*P	Pn	16 37 27.2	0.0
AC01				*e*S	Sn	16 38 25.5	-1.9
AC01				IAML		16 38 40.2	
	comp=Z,19nm,0.6s						

*NEIC **14** 17:18:35.0±0.5, 13°.1S±0°.1×74°.64W±0°.08, h35km±2km, mb4.3/8, Error ellipse: s-maj=24.3km s-min=13.7km az=184.0*
*IDC **14** 17:18:43.8±5.3, 12°.45S×74°.89W, h35km±37km, mb4.2/3, mbtmp4.2/5, ML3.5/2, MS3.2/7, Error ellipse: s-maj=70.5km s-min=21.6km az=46.0*
*VAO **14** 17:18:53.7±2.3, 11°.53S×75°.36W, h221km, mb3.9*

ISC 14 17:18:43.6±0.8, 12°.32S±0°.09×74°.86W±0°.07, h35km, n39, σ2°56/30, mb4.5/4, MS3.2/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.97**	**280**		**Pn**	**17 19 12.3**	**-2.3**
NNA				Sn	**Sn**	**17 19 38.7**	**+0.7**
CZSB	**Cruzeiro do Su**	**5.03**	**25**		**Pn**	**17 19 58.7**	**+2.1**
ATAH	**Atahualpa**	**6.22**	**326**	Pn	**Pn**	**17 20 16.0**	**+2.6**
	1.0nm,0.3s,baz=148,slow=9.5,SNR=7.9						
ATAH				Sn	**Sn**	**17 21 27.5**	**+4.0**
	baz=60,slow=20						
ATAH				Lg	Lg	17 21 56.4	
	1.0nm,0.3s,baz=187,slow=8.1,SNR=1.4						
	8.1nm,0.6s						
LPAZ	**La Paz**	**7.62**	**122**	Pn	Pn	17 20 22.1	-11
LPAZ	**La Paz**	**7.62**	**122**	Pn	**Pn**	**17 20 33.9**	**+1.1**
	0.3nm,0.3s,baz=299,slow=13,SNR=6.3						
LPAZ				Lg	Lg	17 22 44.0	
	0.1nm,0.3s,baz=349,slow=24,SNR=1.1						
LPAZ				LR	LR	17 24 03.7	
	comp=Z,163nm,21.7s,baz=316,slow=42						
	0.6nm,0.4s						
LPAZ	**La Paz**	**7.62**	**122**	*e*P	Pn	17 20 52.7	+20
TBTG	**Tabatinga, AM**	**9.45**	**32**		**Pn**	**17 20 56.5**	**-0.8**
TBTG	**Tabatinga, AM**	**9.45**	**32**	*e*P	**Pn**	**17 21 00.9**	**+3.6**
COHC	**Cochancay**	**10.72**	**336**	Pn	**Pn**	**17 21 14.2**	**-0.5**
SLOR	**San Lorenzo -**	**12.07**	**342**	Pn	**Pn**	**17 21 33.0**	**-0.7**
FLOC	**Florencia**	**13.84**	**357**	Pn	Pn	17 21 47.9	-10
VILB	**Vilhena**	**14.32**	**94**	Pn	Pn	17 21 50.0	-14
VILB	**Vilhena**	**14.32**	**94**	*e*P	**P**	**17 22 13.4**	**+2.8**
AC06	**Mina Casimiro**	**15.54**	**165**	Pn	Pn	17 21 58.0	-22
PTLB	**Pontes e Lacer**	**15.57**	**103**	P	Pn	17 22 10.2	-10
PTLB				IAmb	IAmb	17 22 28.5	
	comp=Z,17nm,1.1s						
PTLB	**Pontes e Lacer**	**15.57**	**103**	*e*P	**P**	**17 22 27.5**	**+3.0**
MACA	**Manacapuru-AM**	**16.72**	**58**	P	**Pn**	**17 22 30.4**	**-4.9**
MACA	**Manacapuru-AM**	**16.72**	**58**	*e*P	**Pn**	**17 22 33.6**	**-1.7**
ROSC	**El Rosal**	**17.06**	**2**	Pn	**Pn**	**17 22 37.2**	**-2.7**
ROSC				IAmb	IAmb	17 23 00.6	
	comp=Z,13nm,0.7s						
PDRB	**Porto dos Gac**	**17.75**	**90**	*e*P	**P**	**17 22 52.0**	**+3.3**
RUSC	**La Rusia**	**18.18**	**6**	P	**Pn**	**17 22 55.8**	**+1.9**
RUSC				IAmb	IAmb	17 23 12.0	
	comp=Z,14nm,0.6s						
NPGB	**Novo Progresso**	**19.92**	**77**	*e*P	**P**	**17 23 13.1**	**+0.6**
BOAV	**Boa Vista**	**20.41**	**45**	P	**P**	**17 23 13.2**	**-4.7**
BOAV	**Boa Vista**	**20.41**	**45**	*e*P	**P**	**17 23 12.1**	**-5.7**
ITTB	**Itaituba**	**20.49**	**69**	*e*P	**P**	**17 23 17.9**	**-0.8**
SDV	**Santo Domingo**	**21.48**	**11**	P	**P**	**17 23 28.3**	**-1.3**
SDV				IAmb	IAmb	17 23 36.2	
	comp=Z,22nm,1.0s						
SDV	**Santo Domingo**	**21.48**	**11**	P	**P**	**17 23 31.1**	**+1.5**
	comp=Z,18nm,0.9s,baz=212,slow=7.6,SNR=12						
SDV				LR	LR	17 32 50.9	
	comp=Z,105nm,19.2s,baz=132,slow=39						
	comp=Z,18nm,0.9s						
ARAG	**Araguaiana, MT**	**22.61**	**101**	*e*P	**P**	**17 23 41.1**	**-0.4**
MAL2	**Monte Alegre,**	**22.90**	**65**	P	P	17 23 36.3	-8.3
MAL2				IAmb	IAmb	17 24 08.4	
	comp=Z,12nm,0.9s						
SNDB	**Serra Nova Dou**	**23.04**	**92**	*e*P	**P**	**17 23 46.2**	**+0.2**
SMRC	**Santa Marta, M**	**23.34**	**2**	P	**P**	**17 23 47.0**	**-1.9**
PCRV	**Puerto La Cruz**	**24.55**	**25**	LR	LR	17 36 07.7	
	comp=Z,16nm,19.3s,slow=42						
LDASE	**Londrina, Braz**	**25.09**	**119**	*e*P	**P**	**17 24 05.9**	**+0.7**
MDP	**Montagnes des**	**28.06**	**53**	LR	LR	17 36 48.9	
	comp=Z,37nm,18.6s,baz=194,slow=38						
SJG	**San Juan**	**31.44**	**16**	LR	LR	17 38 05.0	
	comp=Z,50nm,20.2s,baz=181,slow=37						
TORD	**Torodi Ar. Bea**	**80.01**	**74**	P	**P**	**17 30 50.9**	**+0.8**
	comp=Z,6.3nm,0.3s,baz=270,slow=4.3,SNR=2.4						
	comp=Z,6.3nm,0.3s						
YKA	**Yellowknife Ar**	**80.73**	**342**	P	**P**	**17 30 53.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=142,slow=5.9,SNR=8.0						
YKA				LR	LR	18 09 18.0	
	comp=Z,31nm,18.7s,baz=312,slow=38						
	comp=Z,0.4nm,0.6s						
SFJD	**Kangerlussuaq**	**81.07**	**9**	LR	LR	18 10 33.0	
	comp=Z,24nm,18.0s,baz=142,slow=38						
SONM	**Songino Array**	**144.58**	**359**	PKP	**PKPdf**	**17 38 16.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=352,slow=2.9,SNR=4.2						

*NEIC **14** 17:23:52.3±0.8, 24°.3S±0°.1×179°.5W±0°.2, h534km±14km, mb4.3/17, Error ellipse: s-maj=30.1km s-min=12.0km az=68.0*
*NOU **14** 17:23:55.0, 24°.21S×179°.61W, h543km, ML6.1/13, South of Fiji Islands*
*IDC **14** 17:23:55.9±1.7, 24°.20S×179°.77E, h516km±19km, mb3.2/5, mbtmp4.1/7, Error ellipse: s-maj=26.7km s-min=19.9km az=163.0*

ISC 14 17:23:53.9±0.8, 24°.32S±0°.07×179°.7W±0°.1, h550km, n58, σ1°88/60, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.18**	**162**	P	**P**	**17 25 26.9**	**+1.8**
GLKZ				S	**S**	**17 26 37.2**	**-2.6**
LKBA	**Tubou, Lakemba**	**6.11**	**8**	P	**P**	**17 25 34.1**	**+0.4**
MSVF	**Nonsavu**	**6.87**	**342**	P	**P**	**17 25 38.7**	**-2.3**
MSVF	**Nonsavu**	**6.87**	**342**	P	**P**	**17 25 39.3**	**-1.6**
	4.3nm,0.4s,baz=230,slow=17,SNR=14						
MSVF	**Nonsavu**	**6.87**	**342**	P	**P**	**17 25 40.0**	**-0.9**
DGTI	**Dogotuki**	**7.99**	**356**	P	**P**	**17 25 52.1**	**+0.4**
YSA	**Yasawairara**	**7.99**	**341**	P	**P**	**17 25 51.6**	**-0.1**
PINNC	**Pines Island,**	**11.91**	**276**	P	**P**	**17 26 32.3**	**+0.8**
PINNC	**Pines Island,**	**11.91**	**276**	P	**P**	**17 26 34.2**	**+2.7**
OUZ	**Omahuta**	**12.32**	**207**	P	**P**	**17 26 38.5**	**+3.0**
OUZ	**Omahuta**	**12.32**	**207**	P	**P**	**17 26 37.7**	**+2.2**
WCZ	**Waipu Caves**	**12.67**	**203**	P	**P**	**17 26 42

WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**17 31 02.8**	**+0.1**
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**17 31 03.1**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=97,slow=8.3,SNR=72						
	comp=Z,3.1nm,0.3s						
KNRA	**Kununurra**	**48.95**	**270**	P	**P**	**17 31 52.0**	**+1.4**
KNRA				IAmb	IAmb	17 32 26.1	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.06**	**266**	P	**P**	**17 32 07.6**	**+1.5**
NWAO	**Narrogin (SRO)**	**55.30**	**246**	P	**P**	**17 32 34.2**	**-1.8**
NWAO				IAmb	IAmb	17 32 53.8	
	comp=Z,31nm,1.4s						
MORW	**Morawa**	**56.98**	**250**	P	**P**	**17 32 47.8**	**+0.2**
MORW				IAmb	IAmb	17 33 05.3	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**65.77**	**180**	P	**P**	**17 33 44.5**	**0.0**
QSPA				IAmb	IAmb	17 34 27.0	
	comp=Z,9.4nm,1.5s						
QSPA	**South Pole Qui**	**65.77**	**180**	P	P	17 33 50.2	+5.6
	comp=Z,1.6nm,1.1s,baz=344,slow=2.0,SNR=2.2						
	comp=Z,1.6nm,1.1s						
MAW	**Mawson**	**77.45**	**200**	P	**P**	**17 34 51.0**	**-1.3**
MAW				IAmb	IAmb	17 35 25.0	
	comp=Z,22nm,1.4s						
TXAR	**Lajitas Array**	**90.43**	**58**	P	P	17 36 04.2	+6.8
	comp=Z,0.4nm,0.7s,baz=236,slow=4.6,SNR=3.9						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**143.00**	**349**	PKhKP	PKPpre	17 42 25.8	
	comp=Z,0.7nm,0.3s,baz=62,slow=5.0,SNR=7.1						
AKASG	**Malin Array Be**	**145.46**	**327**	PKPbc	**PKiKP**	**17 42 33.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=50,slow=4.2,SNR=4.3						
AKBB	**Malin Array Si**	**145.46**	**327**	PKPdf	**PKPdf**	**17 42 27.8**	**-1.5**
KIEV	**Kiev**	**145.47**	**327**	PKPdf	**PKPdf**	**17 42 28.0**	**-1.3**

DJA 14 17:26:39.7±0.6, 4°S±5°×9°9E±°, h75km±20km, M3.8/11, mB5.3/1, mb3.3/1, MLv4.0/11, Mw(mB)4.8/1, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.46**	**48**	P	Pn	17 27 04.8	+0.5
PPSI				S	Sn	17 27 23.2	+0.4
SISI	**Saibi**	**2.41**	**4**	P	Pn	17 27 17.6	+0.5
SISI				S	Sn	17 27 46.3	+0.7
PPI	**Padang Panjang**	**3.58**	**24**	P	Pn	17 27 33.0	0.0
PPI				S	Sn	17 28 15.4	+1.2
KSI	**Kapahiang**	**3.66**	**89**	P	Pn	17 27 33.1	-0.9
PBSI	**Pulau Batu**	**3.73**	**350**	P	Pn	17 27 34.4	-0.5
PBSI				S	Sn	17 28 18.0	+0.3
MNAI	**Manna**	**4.06**	**99**	P	Pn	17 27 40.0	+0.5
MNSI	**Mandailing Nat**	**4.56**	**8**	P	Pn	17 27 46.9	+0.6
SBSI	**Sibolga**	**5.26**	**360**	P	Pn	17 27 53.4	-2.5
LWLI	**Liwa**	**5.27**	**104**	P	Pn	17 27 56.2	+0.2
MDSI	**Maura Dua**	**5.29**	**98**	P	Pn	17 27 56.8	+0.6

*DJA **14** 17:28:52.8±0.6, 5°N±4°×9°4E±°, h10km, M4.6/13, mB5.1/3, mb4.6/6, MLv4.6/13, Mw(mB)4.5/3*
*NEIC **14** 17:28:55.3±1.9, 5°31'N±0°09'×94°21'E±0°09, h35km±2km, mb4.5/41, Error ellipse: s-maj=17.1km s-min=13.2km az=236.0*
*IDC **14** 17:28:56.9±3.0, 5°32'N×94°23'E, h53km±27km, mb4.0/19, mbtmp4.3/22, ML4.3/3, MS3.2/9, Error ellipse: s-maj=27.6km s-min=12.8km az=50.0*
*BKK **14** 17:29:00.5±1.4, 5°N±8°×9°5E±1°2, h10km, M4.1/15, mB4.5/10, mb4.4/10, Mjma3.8/15, ML4.6/6, MLv4.3/7, Mw(mB)3.7/10*

ISC 14 17:28:55.4±0.5, 5°32'N±0°05'×94°24'E±0°06, h43km, n127, σ1°77/121, mb4.5/49, MS3.3/6, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.07**	**80**	P	**Pn**	**17 29 13.7**	**-0.3**
BSI				S	**Sn**	**17 29 27.6**	**0.0**
CMBY	**CAMPBELL BAY**	**1.71**	**350**	*e*P	**Pn**	**17 29 23.7**	**+0.9**
CMBY				*e*S	**Sn**	**17 29 47.2**	**+3.9**
CMBY				IAML		17 29 56.0	
	comp=E,4μm,0.5s						
CMBY				IAML		17 29 56.1	
	comp=N,3μm,0.4s						
MLSI	**Meulaboh, Aceh**	**2.40**	**116**	P	**Pn**	**17 29 32.6**	**+0.4**
MLSI				S	**Sn**	**17 30 04.3**	**+3.9**
LHMI	**Lhok Sumawe**	**2.70**	**92**		**Pn**	**17 29 37.1**	**+0.8**
LHMI	**Lhok Sumawe**	**2.70**	**92**	P	**Pn**	**17 29 37.2**	**+0.8**
SNSI	**Sinabang, Aceh**	**3.56**	**144**	P	**Pn**	**17 29 48.2**	**0.0**
SNSI				S	**Sn**	**17 30 26.1**	**-3.0**
TSI	**Tuntungan**	**4.68**	**113**	P	**Pn**	**17 30 05.5**	**+2.0**
GSI	**Gunungsitoli**	**5.20**	**140**	Pn	**Pn**	**17 30 09.2**	**-1.5**
GSI	**Gunungsitoli**	**5.20**	**140**	P	**Pn**	**17 30 10.5**	**-0.2**
	comp=N,0.2nmcomp=N,32nm,0.7s						
PSI	**Prapat**	**5.30**	**118**	P	**Pn**	**17 30 14.5**	**+2.3**
	comp=N,6.0nm,0.3s,baz=338,slow=12,SNR=17						
PSI				S	**Sn**	**17 31 12.4**	**+0.3**
	comp=N,14nm,0.5s,baz=233,slow=18,SNR=1.8						
PSI				LR	LR	17 32 41.0	
	comp=N,133nm,19.2s,baz=292,slow=42						
	comp=N,14nm,0.3s						
RPSI	**Rantau Prapat**	**5.35**	**119**	Pn	**Pn**	**17 30 12.8**	**0.0**
RPSI	**Rantau Prapat**	**5.35**	**119**		**Pn**	**17 30 14.5**	**+1.7**
RPSI					**Sn**	**17 31 12.4**	**-0.8**
RNTT	**Ranong**	**5.83**	**46**	P	**Pn**	**17 30 20.6**	**+1.2**
SRIT	**Nakonsritamara**	**6.24**	**58**	Pn	**Pn**	**17 30 26.1**	**+1.1**
SRIT	**Nakonsritamara**	**6.24**	**58**	P	**Pn**	**17 30 26.4**	**+1.4**
KULM	**Kulim**	**6.38**	**90**	Pn	**Pn**	**17 30 26.2**	**-0.8**
PBA	**Port Blair**	**6.47**	**347**	*e*P	**Pn**	**17 30 26.7**	**-1.5**
PBA				*e*S	**Sn**	**17 31 39.0**	**-1.7**
MNSI	**Mandailing Nat**	**6.97**	**130**	P	**Pn**	**17 30 34.3**	**-0.8**
DGPR	**DIGLIPUR**	**7.91**	**351**	*e*P	**Pn**	**17 30 47.6**	**-0.4**
DGPR				*e*S	**Sn**	**17 32 13.1**	**-3.2**
DGPR				IAML		17 32 18.1	
	comp=N,328nm,0.4s						
DGPR				IAML		17 32 18.5	
	comp=E,245nm,0.3s						
SISI	**Saibi**	**8.19**	**144**	P	**Pn**	**17 30 50.7**	**-1.1**
	comp=E,21nm,1.4s						
PHIT	**Phitsanulok**	**13.26**	**27**	P	**P**	**17 32 11.9**	**+1.9**
PALK	**Pallekele**	**13.59**	**279**	P	**Pn**	**17 32 07.0**	**+1.2**
	comp=E,0.5nm,0.3s,baz=83,slow=14,SNR=5.4						
PALK				S	Sn	17 34 23.9	-12
	comp=E,5.1nm,0.4s,baz=24,slow=18,SNR=10						
PALK				LR	LR	17 37 10.1	
	comp=E,107nm,18.5s,baz=101,slow=36						
	comp=E,5.4nm,0.9s						
CM13	**Chiang Mai Arr**	**13.80**	**19**	P	**Pn**	**17 32 12.7**	**+4.2**
	comp=E,0.0nmcomp=E,9.0nm,0.7s						
CM02	**Chiang Mai Arr**	**13.82**	**19**	P	**P**	**17 32 13.3**	**-3.0**
	comp=E,0.0nmcomp=E,99nmcomp=E,14nm,0.8s						
CM15	**Chiang Mai Arr**	**13.83**	**19**	P	**Pn**	**17 32 13.0**	**+4.0**
	comp=E,0.0nmcomp=E,155nmcomp=E,15nm,0.7s						
CM31	**Chiang Mai Arr**	**13.84**	**19**		**Pn**	**17 32 13.2**	**+4.1**
CM31	**Chiang Mai Arr**	**13.84**	**19**	P	**P**	**17 32 13.5**	**-3.0**
CMAR	**Chiang Mai Arr**	**13.84**	**19**	Pn	**Pn**	**17 32 12.8**	**+3.6**
CMAR	**Chiang Mai Arr**	**13.84**	**19**	P	**Pn**	**17 32 11.6**	**+2.4**
	comp=E,1.3nm,0.3s,baz=206,slow=14,SNR=28						
CMAR				LR	LR	17 37 04.0	
	comp=E,51nm,20.0s,baz=210,slow=35						
	comp=E,2.9nm,0.4s						
CHTO	**Chiang Mai**	**14.18**	**18**		**Pn**	**17 32 17.4**	**+3.7**
NONG	**Nongkai**	**15.37**	**34**	P	**P**	**17 32 34.5**	**+1.0**
	comp=E,17nm,1.0s						
SLVN	**Son La**	**18.47**	**30**		**Pn**	**17 33 08.9**	**+0.5**
IMP	**Imphal**	**19.40**	**359**	*e*P	**P**	**17 33 18.6**	**+0.5**
IMP				IAmb	IAmb	17 33 27.3	
	comp=Z,4.1nm,0.5s						
KNTI	**KHUNTI**	**19.64**	**335**	*e*P	**Pn**	**17 33 21.9**	**-0.4**
TNCH	**TengChong**	**20.02**	**11**	P	**P**	**17 33 26.1**	**+1.1**
TNCH				pP	pP	17 33 35.3	+0.6
TNCH				sP	pwP	17 33 38.9	+0.8
TNCH				S	**S**	**17 36 57.9**	**-10**
TNCH				sS	Sn	17 37 15.4	+3.9
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,52nm,3.5s						
TNCH				LR	LR		
	comp=N,88nm,5.1s						
TNCH				LR	LR		
	comp=E,170nm,4.9s						
TNCH				LR	LR		
	comp=Z,120nm,5.8s						
SHL	**Shillong**	**20.26**	**354**	P	**P**	**17 33 24.6**	**-2.9**
SHL				IAmb	IAmb	17 33 28.1	
	comp=Z,10nm,0.4s						
KOHI	**KOHIMA**	**20.29**	**360**	*e*P	**P**	**17 33 25.9**	**-1.8**
KOHI				IAmb	IAmb	17 33 31.0	
	comp=Z,11nm,0.8s						
GUWA	**GUWAHATI**	**20.90**	**354**	*e*P	**P**	**17 33 34.9**	**+0.7**
GUWA				IAmb	IAmb	17 33 36.0	
	comp=Z,18nm,0.5s						
ZIRO	**ZIRO**	**22.09**	**359**	*e*P	**P**	**17 33 44.1**	**-3.1**
ZIRO				IAmb	IAmb	17 33 46.4	
	comp=Z,20nm,0.3s						
PZH	**PanZhiHua**	**22.25**	**18**	P	**P**	**17 33 51.4**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
TAWA	**Tawang**	**22.27**	**354**	*e*P	**P**	**17 33 47.5**	**-1.8**
TAWA				IAmb	IAmb	17 33 48.6	
	comp=Z,5.5nm,0.8s						
GYA	**Guiyang**	**24.14**	**28**	P	**P**	**17 34 08.5**	**+0.8**
GYA				pmax	pmax		
	comp=Z,35nm,0.7s						
LSA	**Lhasa**	**24.43**	**353**	P	**P**	**17 34 11.3**	**+0.7**
LSA				IAmb	IAmb	17 34 13.3	
	comp=Z,9.1nm,0.6s						
H08S3	**Diego Garcia H**	**25.23**	**240**	T	T	18 00 13.1	
	baz=59,slow=76,SNR=270						
H08S2	**Diego Garcia H**	**25.23**	**239**	T	T	18 00 10.6	
	baz=59,slow=76,SNR=385						
H08S1	**Diego Carcia H**	**25.25**	**240**	T	T	18 00 19.2	
	baz=59,slow=76,SNR=298						
LGTI	**Lohaghat**	**27.41**	**333**	*e*P	**P**	**17 34 37.6**	**+0.6**
LGTI				IAmb	IAmb	17 34 44.0	
	comp=Z,4.6nm,0.5s						
ENH	**Enshi**	**28.68**	**28**	P	**P**	**17 34 47.2**	**-1.3**
ENH				IAmb	IAmb	17 34 48.5	
	comp=Z,8.5nm,1.0s						
XAN	**Xi'an**	**31.66**	**24**	⇑P	**P**	**17 35 13.8**	**-1.0**
XAN				pmax	pmax		
	comp=Z,26nm,0.7s						
LZH	**Lanzhou**	**31.87**	**15**	*e*P	**P**	**17 35 16.0**	**-0.7**
LZH				pP	pP	17 35 21.8	-5.8
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
GTA	**Gaotai**	**34.31**	**8**	*e*P	**P**	**17 35 38.1**	**+0.1**
GTA				pP	pP	17 35 46.8	-2.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NJ2	**Nanjing**	**35.18**	**38**	*e*P	**P**	**17 35 46.1**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
HNS	**HongShan**	**37.00**	**28**	⇑P	**P**	**17 36 01.8**	**+0.9**
HNS				pmax	pmax		
	comp=Z,17nm,0.9s						
TIA	**Tai'an**	**37.24**	**31**	P	**P**	**17 36 03.3**	**+0.3**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
WUS	**Wushi**	**38.17**	**342**	P	**P**	**17 36 10.1**	**-0.9**
HHC	**Hu-ho-hao-te**	**38.64**	**21**	*e*P	**P**	**17 36 17.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,96nm,5.4s						
FITZ	**Fitzroy Crossi**	**38.74**	**128**	P	**P**	**17 36 14.9**	**-0.9**
TARG	**Taragay, Kyrgy**	**39.11**	**340**	P	**P**	**17 36 19.4**	**+0.3**
TARG				IAmb	IAmb	17 36 23.0	
	comp=Z,5.1nm,0.6s						
DRK	**Karamyk**	**39.59**	**332**	P	**P**	**17 36 24.1**	**+1.1**
DRK				IAmb	IAmb	17 36 28.2	
	comp=Z,9.1nm,0.8s						
KDJ	**Kajisay**	**39.68**	**340**	P	**P**	**17 36 25.0**	**+1.4**
KDJ				IAmb	IAmb	17 36 27.0	
	comp=Z,4.5nm,0.7s						
BJI	**Beijing**	**39.81**	**27**	P	**P**	**17 36 25.8**	**+1.3**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOOM	**Boomskoye usch**	**40.43**	**339**	P	**P**	**17 36 30.4**	**+0.7**
ARSB	**Arslanbob**	**40.58**	**335**	P	**P**	**17 36 32.0**	**+1.0**
ARSB				IAmb	IAmb	17 36 49.0	
	comp=Z,4.8nm,0.8s						
AAK	**Ala-Archa**	**41.09**	**338**	P	**P**	**17 36 36.7**	**+1.4**
AAK	**Ala-Archa**	**41.09**	**338**	LR	LR	17 56 04.5	
	comp=Z,27nm,19.5s,baz=186,slow=40						
MK31	**Makanchi Array**	**42.59**	**348**	P	**P**	**17 36 47.7**	**+0.5**
MK31				IAmb	IAmb	17 36 48.7	
	comp=Z,7.6nm,0.7s						
MKAR	**Makanchi Array**	**42.59**	**348**	P	**P**	**17 36 47.9**	**+0.6**
	comp=Z,8.2nm,0.5s,baz=168,slow=8.0,SNR=144						
	comp=Z,8.2nm,0.5s						
MAKZ	**Makanchi**	**42.67**	**348**	P	**P**	**17 36 48.2**	**+0.3**
MAKZ				IAmb	IAmb	17 36 49.2	
	comp=Z,10nm,0.6s						
KK31	**Karatay Array**	**43.08**	**334**	P	**P**	**17 36 51.9**	**+0.6**
KKAR	**Karatay Array**	**43.08**	**334**	P	**P**	**17 36 51.3**	**0.0**
KKAR	**Karatay Array**	**43.08**	**334**	P	**P**	**17 36 52.0**	**+0.7**
KKAR				IAmb	IAmb	17 36 53.0	
	comp=Z,1.5nm,0.9s						
SONM	**Songino Array**	**43.62**	**12**	P	**P**	**17 36 55.5**	**-0.3**
SONM	**Songino Array**	**43.62**	**12**	P	**P**	**17 36 55.3**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=194,slow=8.8,SNR=17						
SONM				PcP	**PcP**	**17 38 43.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=189,slow=5.6,SNR=4.7						
SONM				LR	LR	17 55 58.4	
	comp=Z,45nm,18.2s,baz=236,slow=37						
	comp=Z,2.9nm,0.7s						
ULN	**Ulaanbaatar**	**43.79**	**12**	P	**P**	**17 36 56.3**	**-0.8**
H01W3	**Cape Leeuwin H**	**44.17**	**156**	T	T	18 24 34.7	
	baz=329						
H01W2	**Cape Leeuwin H**	**44.18**	**156**	T	T	18 24 42.5	
	baz=329						
H01W1	**Cape Leeuwin H**	**44.18**	**156**	T	T	18 24 47.0	
	baz=329						
KSRS	**Korea Array**	**44.34**	**39**	P	**P**	**17 37 01.3**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=215,slow=9.2,SNR=5.1						
KSRS				LR	LR	17 57 54.3	
	comp=Z,28nm,18.7s,baz=225,slow=39						
	comp=Z,1.0nm,0.7s						
WB0	**Warramunga Arr**	**46.70**	**123**	P	**P**	**17 37 20.4**	**-0.1**
WB0				IAmb	IAmb	17 37 21.0	
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**46.74**	**124**	P	**P**	**17 37 21.1**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=301,slow=9.7,SNR=29						
	comp=Z,1.6nm,0.3s						
WRAB	**Tennant Creek**	**46.74**	**124**	P	**P**	**17 37 20.9**	**+0.1**
WB2	**Warramunga Arr**	**46.75**	**124**	P	**P**	**17 37 20.9**	**0.0**
WB2				IAmb	IAmb	17 37 22.0	
	comp=Z,9.4nm,1.1s						
WR0	**Warramunga Arr**	**46.91**	**124**	P	**P**	**17 37 21.9**	**-0.2**
WR0				IAmb	IAmb	17 37 23.3	
	comp=Z,5.9nm,0.9s						
KURBB	**Kurchatov Arra**	**47.03**	**346**	P	**P**	**17 37 23.3**	**+0.8**
	comp=Z,4.7nm,0.3s,baz=171,slow=6.7,SNR=141						
	comp=Z,4.7nm,0.3s						
KURK	**Kurchatov**	**47.10**	**346**	P	**P**	**17 37 23.1**	**+0.1**
KURK				IAmb	IAmb	17 37 25.0	
	comp=Z,9.0nm,0.8s						
AS31	**Alice Springs**	**48.24**	**128**	P	**P**	**17 37 32.5**	**+0.1**
AS31				IAmb	IAmb	17 37 47.4	
	comp=Z,1.7nm,0.4s						
ASAR	**Alice Springs**	**48.24**	**128**	P	**P**	**17 37 32.6**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=300,slow=7.6,SNR=48						
ASAR				PcP	**PcP**	**17 38 59.7**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.2,SNR=0.6						
	comp=Z,2.4nm,0.6s						
ZAA0	**Zalesovo Array**	**49.09**	**353**	P	**P**	**17 37 38.5**	**+0.2**
ZALV	**Zalesovo Beam**	**49.09**	**353**	P	**P**	**17 37 38.5**	**+0.2**
ZALV	**Zalesovo Beam**	**49.09**	**353**	P	**P**	**17 37 38.9**	**+0.6**
	comp=Z,6.4nm,0.3s,baz=173,slow=7.3,SNR=55						
	comp=Z,6.4nm,0.3s						
BVAR	**Borovoye Array**	**51.43**	**342**	P	**P**	**17 37 56.2**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=141,slow=9.6,SNR=21						
	comp=Z,4.3nm,0.7s						
ABKAR	**Akbulak array**	**52.51**	**332**	P	**P**	**17 38 04.6**	**+0.3**
ABKAR	**Akbulak array**	**52.51**	**332**	IAmb	IAmb	17 38 23.2	
	comp=Z,4.8nm,1.2s						
KLR	**Kul'dur**	**54.03**	**30**	LR	LR	18 06 41.8	
	comp=Z,22nm,18.9s,baz=216,slow=42						
STKA	**Stephens Creek**	**58.30**	**133**	P	**P**	**17 38 46.3**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=296,slow=8.4,SNR=4.6						
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**59.05**	**319**	P	**P**	**17 38 51.9**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=106,slow=7.4,SNR=2.8						
	comp=Z,1.2nm,0.9s						
H04N2	**CROZET ISLANDS**	**63.61**	**212**	T	T	18 48 26.5	
	baz=49,slow=75,SNR=188						
H04N1	**CROZET ISLANDS**	**63.62**	**212**	T	T	18 48 12.0	
	baz=49,slow=75,SNR=186						
H04N3	**CROZET ISLANDS**	**63.62**	**212**	T	T	18 48 29.0	
	baz=49,slow=75,SNR=174						
H04S1	**CROZET ISLANDS**	**64.00**	**211**	T	T	18 49 22.5	
	baz=54						
H04S3	**CROZET ISLANDS**	**64.01**	**211**	T	T	18 49 01.8	
	baz=54						
H04S2	**CROZET ISLANDS**	**64.02**	**211**	T	T	18 49 35.9	
	baz=54						
BRTR	**Keskin Array B**	**64.17**	**312**	P	**P**	**17 39 25.9**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=116,slow=6.7,SNR=2.7						
	comp=Z,1.0nm,0.6s						
MA2	**Magadan**	**68.98**	**27**	P	**P**	**17 39 55.5**	**-0.6**
MA2				IAmb	IAmb	17 39 56.5	
	comp=Z,5.4nm,1.0s						
TIXI	**Tiksi**	**69.70**	**11**	P	**P**	**17 39 58.9**	**-1.5**
TIXI	**Tiksi**	**69.70**	**11**	LR	LR	18 15 32.4	
	comp=Z,44nm,18.1s,baz=10.0,slow=40						
AKASG	**Malin Array Be**	**70.21**	**322**	P	**P**	**17 40 03.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=91,slow=5.4,SNR=10						
	comp=Z,0.6nm,0.5s						
MLR	**Muntele Rosu**	**71.06**	**316**	LR	LR	18 16 35.4	
	comp=Z,26nm,19.5s,baz=300,slow=40						
FINES	**FINESS Array B**	**75.00**	**332**	P	**P**	**17 40 31.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=69,slow=6.3,SNR=6.0						
	comp=Z,1.5nm,0.7s						
LANS	**Liptovska Anna**	**76.04**	**319**	*e*P	**P**	**17 40 37.6**	**-0.9**
MODS	**Modra-Piesok**	**77.38**	**318**	*e*P	**P**	**17 40 43.8**	**-2.2**
ARCES	**ARCESS Array B**	**77.69**	**340**	P	**P**	**17 40 47.7**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=99,slow=5.8,SNR=8.7						
	comp=Z,1.8nm,1.0s						
GEC2	**GERESS Array S**	**79.79**	**319**	P	**P**	**17 41 00.6**	**+1.2**
GEC2				IAmb	IAmb	17 41 01.5	
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**79.79**	**319**	P	**P**	**17 41 00.6**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=97,slow=6.9,SNR=8.0						
	comp=Z,2.6nm,0.6s						
HFS	**Hagfors**	**80.70**	**330**	P	**P**	**17 41 04.0**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=122,slow=7.0,SNR=1.1						
	comp=Z,0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**82.34**	**348**	P	**P**	**17 41 12.9**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=98,slow=10,SNR=7.1						
	comp=Z,2.9nm,0.7s						
SYO	**Syowa Base**	**83.01**	**197**	‖*e*P	**P**	**17 41 15.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**89.87**	**325**	P	**P**	**17 41 50.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=92,slow=4.3,SNR=3.7						
	comp=Z,1.0nm,0.5s						
E18K	**Tukpahlearik C**	**90.89**	**22**	P	**P**	**17 41 54.9**	**+0.6**
E18K				IAmb	IAmb	17 41 56.1	
	comp=Z,3.2nm,0.9s						
F17K	**Baldwin Pennin**	**90.92**	**23**	P	**P**	**17 41 55.3**	**+1.0**
D19K	**Kuna River**	**91.47**	**21**	P	**P**	**17 41 57.6**	**+0.6**
E19K	**Redstone River**	**92.12**	**21**	P	**P**	**17 42 00.6**	**+0.6**
G19K	**Purcell Mounta**	**92.61**	**23**	P	**P**	**17 42 02.8**	**+0.6**
F20K	**Avaraart Lake**	**92.81**	**22**	P	**P**	**17 42 03.6**	**+0.5**
D25K	**Kavik River**	**95.02**	**18**	P	**P**	**17 42 13.7**	**+0.4**
D27M	**Malcolm River**	**96.69**	**17**	P	**P**	**17 42 21.7**	**+0.7**
D27M				IAmb	IAmb	17 42 23.5	
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**97.06**	**22**	P	**P**	**17 42 22.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=311,slow=4.6,SNR=5.3						
	comp=Z,0.3nm,0.5s						

*ISK **14** 17:38:39.9, 35°81'N×31°30'E, h7km, ML2.5/28*
*AFAD **14** 17:38:42.0, 35°95'N×31°37'E, h7km±5km, ML2.1*
*NIC **14** 17:38:43.5, 36°08'N×31°68'E, h34km±29km, Ml2.2/4*

ISC 14 17:38:41.1±1.2, 35°85'N±0°04'×31°34'E±0°04, h10km±10km, n40, σ1°23/51, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.88**	**64**	Pg	**Pb**	**17 38 58.4**	**+0.1**
GAZI	**Gazipasa**	**0.88**	**64**	P	**Pb**	**17 38 58.5**	**+0.2**
GAZI				S	**Sg**	**17 39 08.7**	**-0.6**
GAZI				*i* AML	AML	17 39 12.0	
	comp=N,63nm,0.4s						
GAZI				*i* AML	AML	17 39 18.0	
	comp=E,68nm,0.3s						
ALAN	**Alanya-ANTALYA**	**0.90**	**38**	Pg	**Pb**	**17 38 58.5**	**-0.2**
AKUM	**Antalya-Kumluc**	**0.94**	**300**	P	**Pg**	**17 38 58.9**	**-0.2**
AKUM				S	**Sb**	**17 39 12.7**	**+0.9**
AKUM				*i* AML	AML	17 39 14.0	
	comp=E,49nm,1.0s						
AKUM				*i* AML	AML	17 39 18.0	
	comp=N,56nm,0.5s						
KEPZ	**Antalya-Kepez**	**1.07**	**11**	P	**Pb**	**17 39 00.9**	**-0.7**
KEPZ				*i* AML	AML	17 39 15.0	
	comp=N,87nm,0.3s						
KEPZ				S	**Sb**	**17 39 15.1**	**-0.6**
KEPZ				*i* AML	AML	17 39 16.0	
	comp=E,68nm,0.4s						
AKMS	**Akamas**	**1.16**	**136**	P	**Pg**	**17 39 03.3**	**-0.1**
AKMS				S	**Sg**	**17 39 19.6**	**+1.1**
AKMS				AML	AML	17 39 28.9	
	0.2nm,0.4s						
AKMS				AML	AML	17 39 31.8	
	0.2nm,0.6s

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.58**	**344**	⇓*i*P	**Pn**	**Pn**	**18 00 05.8**	**+0.3**
AC06				*e*S		**Sn**	**18 00 17.9**	**-0.3**
AC06				IAML			18 00 19.2	
	comp=E,3μm,0.1s							
AC04	**Llanos de Chal**	**0.85**	**250**	*i* P	**Pn**	**Pn**	**18 00 08.5**	**+0.8**
AC04				*e*S		**Sn**	**18 00 22.9**	**+0.6**
AC04				IAML			18 00 24.2	
	comp=N,3μm,0.2s							
AC04	**Llanos de Chal**	**0.85**	**250**	*i* P	**Pn**	**Pn**	**18 00 07.7**	**0.0**
AC04				⇓*e*S		**Sn**	**18 00 22.7**	**+0.4**
AC04				IAML			18 00 24.2	
	comp=Z,1μm,0.3s							
LCO	**Las Campanas**	**1.19**	**203**	*e*P	**Pn**	**Pn**	**18 00 11.2**	**-0.4**
LCO				*e*S		**Sn**	**18 00 28.5**	**-0.6**
LCO	**Las Campanas**	**1.19**	**203**	*i* P	**Pn**	**Pn**	**18 00 11.1**	**-0.5**
LCO				⇓*e*S		**Sn**	**18 00 28.4**	**-0.7**
LCO				IAML			18 00 30.2	
	comp=Z,4μm,0.2s							
AC02	**Maricunga**	**1.42**	**41**	*e*P	**Pn**	**Pn**	**18 00 15.0**	**+0.5**
AC02				*e*S		**Sn**	**18 00 33.7**	**-0.5**
AC02				IAML			18 00 35.3	
	comp=E,2μm,0.2s							
AC02	**Maricunga**	**1.42**	**41**	*i* P	**Pn**	**Pn**	**18 00 14.3**	**-0.2**
AC02				IAML			18 00 36.1	
	comp=Z,586nm,0.1s							
AC01	**Pan de Azucar**	**1.80**	**348**	*e*P	**Pn**	**Pn**	**18 00 20.1**	**+1.4**
AC01				*e*S		**Sn**	**18 00 40.6**	**-1.2**
AC01				IAML			18 00 44.5	
	comp=E,944nm,0.4s							
AC01	**Pan de Azucar**	**1.80**	**348**	*i* P	**Pn**	**Pn**	**18 00 19.4**	**+0.7**
AC01				IAML			18 00 44.3	
	comp=Z,362nm,0.2s							
VCA	**Vinchina**	**1.92**	**116**	*i* P	**Pn**	**Pn**	**18 00 20.9**	**+0.7**
VCA				IAML			18 00 49.4	
	comp=Z,1μm,0.3s							
AGUA	**GUANDACOL**	**2.15**	**137**	*i* P	**Pn**	**Pn**	**18 00 23.0**	**-0.1**
AGUA				IAML			18 00 52.0	
	comp=Z,865nm,0.4s							
GO04	**Tololo Observa**	**2.31**	**194**	*e*P	**Pn**	**Pn**	**18 00 25.5**	**+0.1**
GO04	**Tololo Observa**	**2.31**	**194**	*i* P	**Pn**	**Pn**	**18 00 24.9**	**-0.6**
GO04				IAML			18 01 20.2	
	comp=Z,488nm,0.2s							
AROD	**Rodeo**	**2.33**	**165**	*i* P	**Pn**	**Pn**	**18 00 27.5**	**+1.9**
GO02	**Mina Guanaco**	**2.79**	**11**	*e*P	**Pn**	**Pn**	**18 00 32.8**	**+1.1**
GO02				IAML			18 01 34.0	
	comp=N,471nm,0.5s							
ACCO	**Cerro Coronel**	**2.83**	**160**	*i* P	**Pn**	**Pn**	**18 00 34.7**	**+2.5**
CO03	**El Pedregal**	**2.95**	**189**	*e*P	**Pn**	**Pn**	**18 00 33.9**	**+0.3**
CO03	**El Pedregal**	**2.95**	**189**	*i* P	**Pn**	**Pn**	**18 00 33.3**	**-0.3**
CO03				IAML			18 01 39.6	
	comp=Z,212nm,0.3s							
DOCA	**Reserva Natura**	**3.17**	**163**	*i* P	**Pn**	**Pn**	**18 00 37.5**	**+0.7**
DOCA				IAML			18 01 18.7	
	comp=Z,198nm,0.9s							
ACLC	**CERRO LA CRUZ**	**3.20**	**119**	*i* P	**Pn**	**Pn**	**18 00 37.5**	**+0.5**
ACLC				IAML			18 01 16.4	
	comp=Z,80nm,0.3s							
PB14	**IPOC Station P**	**3.28**	**356**	*i* P	**Pn**	**Pn**	**18 00 38.4**	**+0.1**
PB14				IAML			18 01 26.8	
	comp=Z,109nm,1.0s							
AVFE	**Valle Fertil**	**3.62**	**140**	*i* P	**Pn**	**Pn**	**18 00 43.0**	**+0.4**
AVFE				IAML			18 01 26.5	
	comp=Z,127nm,0.3s							
CYA	**Choya**	**3.89**	**99**	*e*P	**Pn**	**Pn**	**18 00 45.6**	**-0.5**
CYA				IAML			18 01 31.4	
	comp=N,90nm,0.4s							
CYA	**Choya**	**3.89**	**99**	*i* P	**Pn**	**Pn**	**18 00 45.3**	**-0.9**
CYA				IAML			18 01 30.6	
	comp=Z,75nm,0.3s							
RTLS	**Leoncito**	**3.94**	**169**	*i* P	**Pn**	**Pn**	**18 00 48.3**	**+1.2**
RTLS				IAML			18 01 37.4	
	comp=Z,209nm,0.4s							
APLL	**PUNTA DE LOS L**	**4.03**	**129**	*i* P	**Pn**	**Pn**	**18 00 48.0**	**-0.1**
CFA	**Coronel Fontan**	**4.04**	**156**	*i* P	**Pn**	**Pn**	**18 00 47.8**	**-0.4**
CFA				IAML			18 01 38.7	
	comp=Z,49nm,0.4s							
PB10	**IPOC Station P**	**4.40**	**355**	*i* P	**Pn**	**Pn**	**18 00 52.1**	**-0.9**
PB10				IAML			18 02 02.4	
	comp=Z,32nm,0.3s							
ACHE	**Chepes**	**4.45**	**137**	*i* P	**Pn**	**Pn**	**18 00 54.1**	**+0.3**
ASAL	**Salagasta**	**4.80**	**166**	*i* P	**Pn**	**Pn**	**18 00 59.5**	**+1.1**
ASAL				IAML			18 01 55.8	
	comp=Z,39nm,0.6s							
VA03	**San Esteban**	**4.84**	**184**	*i* P	**Pn**	**Pn**	**18 00 58.4**	**-0.7**
VA03				IAML			18 02 38.2	
	comp=Z,54nm,0.7s							
ARCO	**CERRO ARCO**	**5.03**	**168**	*i* P	**Pn**	**Pn**	**18 01 03.0**	**+1.4**
ARCO				IAML			18 02 08.6	
	comp=Z,45nm,0.6s							
VA01	**Torpederas**	**5.25**	**194**	*i* P	**Pn**	**Pn**	**18 01 03.3**	**-1.1**
VA01				IAML			18 02 22.7	
	comp=Z,43nm,0.2s							
AAGR	**Agrelo**	**5.28**	**168**	*i* P	**Pn**	**Pn**	**18 01 06.8**	**+1.9**
AAGR				IAML			18 02 12.2	
	comp=Z,36nm,1.2s							

*IDC **14** 18:14:22.9±0.6, 38.°62N×91.°01E, h0km, mb4.0/18, mbtmp4.0/21, ML4.4/4, MS3.4/20, Error ellipse: s-maj=22.0km s-min=11.9km az=43.0*
*MOS **14** 18:14:22.0±1.4, 38.°64N×90.°81E, h10km, mb4.3/7, Error ellipse: s-maj=8.0km s-min=5.5km az=121.9*
*NEIC **14** 18:14:23.7±2.2, 38.°61N±0.°08×90.°88E±0.°09, h10km±1km, mb4.3/24, ML4.2(BJI), Error ellipse: s-maj=14.5km s-min=11.5km az=214.0*
*BJI **14** 18:14:24.5, 38.°71N×91.°09E, h9km, mB4.7/4, mb4.5/16, ML4.7/16, Ms4.0/14, Ms7 3.8/13*
ISC 14 18:14:24.2±0.4, 38.°67N±0.°04×90.°89E±0.°04, h10km, n129, σ2.°2 21/127, mb4.1/27, MS3.3/19, 6C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**3.98**	**127**	Pn	**Pn**	**Pn**	**18 15 25.9**	**+0.3**
GOMU				Pg	**Pb**	**Pb**	**18 15 36.3**	**+1.6**
GOMU				Sn	**Sn**	**Sn**	**18 16 13.9**	**+1.4**
GOMU				Sg	**Sg**	**Sg**	**18 16 26.3**	**-5.8**
GOMU				smax	smax			
	comp=N,710nm,0.6s							
GOMU				smax	smax			
	comp=E,750nm,0.4s							
WMQ	**Urumqi**	**5.68**	**336**	Pn	**Pn**	**Pn**	**18 15 51.1**	**+2.4**
WMQ				Sn	**Sn**	**Sn**	**18 16 55.9**	**+2.0**
WMQ				smax	smax			
	comp=N,1μm,0.9s							
WMQ				smax	smax			
	comp=E,1μm,0.9s							
GTA	**Gaotai**	**6.99**	**81**	Pn	**Pn**	**Pn**	**18 16 05.6**	**-1.1**
GTA				Sn	**Sn**	**Sn**	**18 17 21.8**	**-4.4**
GTA				Sg	**Sb**	**Sb**	**18 17 55.5**	**+6.3**
GTA				smax	smax			
	comp=N,280nm,1.2s							
GTA				smax	smax			
	comp=E,100nm,0.7s							
GTA				LR	LR			
	comp=N,1μm,11.2s							
GTA				LR	LR			
	comp=E,550nm,12.7s							
GTA				LR	LR			
	comp=Z,570nm,10.4s							
LSA	**Lhasa**	**8.95**	**179**	Pn	**Pn**	**Pn**	**18 16 32.3**	**-1.7**
LSA	**Lhasa**	**8.95**	**179**	P	**Pn**	**Pn**	**18 16 30.0**	**-4.0**
LSA				S	Sn	Sn	18 17 49.6	-26
LSA				LR	LR			
	comp=N,190nm,10.8s							
LSA				LR	LR			
	comp=Z,180nm,11.1s							
LSA	**Lhasa**	**8.95**	**179**	P	**Pn**	**Pn**	**18 16 32.3**	**-1.7**
WUS	**Wushi**	**9.31**	**289**	Pn	**Pn**	**Pn**	**18 16 37.6**	**-1.0**
MK31	**Makanchi Array**	**10.28**	**325**			**Pn**	**18 16 51.8**	**0.0**
MK31	**Makanchi Array**	**10.28**	**325**	*ce*P		**Pn**	**18 16 52.7**	**+0.9**
MKAR	**Makanchi Array**	**10.28**	**325**			**Pn**	**18 16 51.3**	**-0.5**
MKAR	**Makanchi Array**	**10.28**	**325**	Pn		**Pn**	**18 16 52.1**	**+0.3**
	comp=Z,14nm,0.3s,baz=130,slow=14,SNR=565							
MKAR				Sn		**Sn**	**18 18 43.5**	**-3.5**
	comp=Z,2.6nm,0.3s,baz=137,slow=25,SNR=2.7							
MKAR				Lg		Lg	18 19 51.4	
	comp=Z,0.9nm,0.3s,baz=141,slow=28,SNR=1.6							
MAKZ	**Makanchi**	**10.44**	**324**	Pn		**Pn**	**18 16 53.7**	**-0.2**
MAKZ	**Makanchi**	**10.44**	**324**	P		**Pn**	**18 16 53.7**	**-0.2**
TARG	**Taragay, Kyrgy**	**10.46**	**291**	Pn		**Pn**	**18 16 53.5**	**-1.1**
TARG	**Taragay, Kyrgy**	**10.46**	**291**	P		**Pn**	**18 16 53.5**	**-1.1**
LZH	**Lanzhou**	**10.63**	**100**	*e*P		**Pn**	**18 16 55.9**	**-0.7**
LZH				pP			18 17 08.1	
LZH				pmax	pmax			
	comp=Z,24nm,1.4s							
LZH				LR	LR			
	comp=Z,640nm,14.4s							
LZH				LR	LR			
	comp=Z,540nm,11.7s							
LZH				LR	LR			
	comp=Z,310nm,11.3s							
KDJ	**Kajisay**	**11.01**	**293**	Pn	**Pn**	**Pn**	**18 17 03.5**	**+1.6**
KDJ	**Kajisay**	**11.01**	**293**	P	**Pn**	**Pn**	**18 17 03.5**	**+1.6**
ULHL	**Ulahol**	**11.72**	**292**	P	**Pn**	**Pn**	**18 17 14.9**	**+3.3**
	SNR=8.5							
BOOM	**Boomskoye usch**	**11.99**	**293**	Pn	**Pn**	**Pn**	**18 17 16.1**	**+0.8**
BOOM	**Boomskoye usch**	**11.99**	**293**	P	**Pn**	**Pn**	**18 17 16.1**	**+0.8**
TKM2	**Tokmak 2**	**12.34**	**295**	P	**Pn**	**Pn**	**18 17 21.9**	**+1.8**
	SNR=34							
KBK	**Karagaybulak**	**12.74**	**293**	P		**Pn**	**18 17 27.4**	**+1.8**
	SNR=50							
KNGR	**Kungurtug, Tuv**	**12.82**	**19**	*i* P		**Pn**	**18 17 23.7**	**-2.8**
FRU1	**Bishkek**	**13.00**	**294**			**Pn**	**18 17 26.3**	**-2.7**
FRU1	**Bishkek**	**13.00**	**294**	P		**Pn**	**18 17 26.3**	**-2.7**
AAK	**Ala-Archa**	**13.06**	**293**			**Pn**	**18 17 30.8**	**+0.9**
AAK	**Ala-Archa**	**13.06**	**293**	Pn		**Pn**	**18 17 31.1**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=105,slow=8.8,SNR=29							
AAK				Lg		Lg	18 21 20.5	
	comp=Z,0.1nm,0.3s,baz=45,slow=23,SNR=1.3							
AAK				LR		LR	18 23 12.0	
	comp=Z,276nm,21.5s,baz=108,slow=40							
	comp=Z,3.6nm,0.4s							
AAK	**Ala-Archa**	**13.06**	**293**	P		**Pn**	**18 17 31.3**	**+1.4**
	SNR=9.4							
AAK	**Ala-Archa**	**13.06**	**293**	*ce*P		**Pn**	**18 17 31.2**	**+1.3**
AAK				pmax	pmax			
	comp=Z,11nm,1.3s							
SHL	**Shillong**	**13.10**	**176**	Pn		**Pn**	**18 17 26.1**	**-4.3**
SHL	**Shillong**	**13.10**	**176**	P		**Pn**	**18 17 26.1**	**-4.3**
USP	**Ospenovka**	**13.21**	**296**	P		**Pn**	**18 17 32.3**	**+0.5**
	SNR=12							
ARSB	**Arslanbob**	**13.98**	**287**			**Pn**	**18 17 40.1**	**-2.3**
ARSB	**Arslanbob**	**13.98**	**287**	P		**Pn**	**18 17 40.2**	**-2.3**
SONM	**Songino Array**	**14.52**	**46**	Pn		**Pn**	**18 17 49.1**	**-0.7**
SONM	**Songino Array**	**14.52**	**46**	Pn		**Pn**	**18 17 48.8**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=231,slow=14,SNR=16							
SONM				Sn		**Sn**	**18 20 24.8**	**-5.9**
	comp=Z,0.3nm,0.3s,baz=241,slow=17,SNR=1.9							
SONM				Lg		Lg	18 21 48.7	
	comp=Z,0.6nm,0.3s,baz=305,slow=31,SNR=5.3							
SONM				LR		LR	18 23 28.0	
	comp=Z,62nm,19.3s,baz=236,slow=38							
	comp=Z,3.1nm,0.5s							
SONM	**Songino Array**	**14.52**	**46**	P		**Pn**	**18 17 49.1**	**-0.7**
ZAK	**Zakamensk**	**14.64**	**33**	*e*P		**Pn**	**18 17 50.6**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MOY	**Mondy**	**14.80**	**25**	*e*P		**Pn**	**18 17 54.6**	**+1.1**
MOY				pmax	pmax			
	comp=Z,15nm,1.7s							
KURBB	**Kurchatov Arra**	**14.81**	**328**	Pn		**Pn**	**18 17 51.2**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=134,slow=13,SNR=93							
KURBB				Sn		**Sn**	**18 20 31.1**	**-6.4**
	baz=124,slow=28,SNR=2.1							
KURBB				Lg		Lg	18 22 10.2	
	baz=142,slow=31							
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**14.84**	**328**	Pn		**Pn**	**18 17 51.5**	**-2.5**
KURK	**Kurchatov**	**14.84**	**328**	*ce*P		**Pn**	**18 17 51.8**	**-2.2**
KURK				pmax	pmax			
	comp=Z,9.0nm,1.3s							
DRK	**Karamyk**	**14.85**	**279**			**Pn**	**18 17 52.0**	**-2.5**
DRK	**Karamyk**	**14.85**	**279**	P		**Pn**	**18 17 52.0**	**-2.5**
ULN	**Ulaanbaatar**	**14.91**	**47**	Pn		**Pn**	**18 17 53.7**	**-1.4**
ULN	**Ulaanbaatar**	**14.91**	**47**	*i* P		**Pn**	**18 17 53.8**	**-1.3**
ULN				pmax	pmax			
	comp=Z,13nm,2.1s							
TNCH	**TengChong**	**15.06**	**152**	⇓P		**Pn**	**18 17 56.3**	**-0.9**
TNCH				sP		pP	18 18 04.5	-1.9
TNCH				PP		**sP**	**18 18 12.3**	**+4.2**
TNCH				S		**Sn**	**18 20 43.1**	**-1.1**
TNCH				sS		S	18 20 49.4	-12
TNCH				pmax	pmax			
	comp=Z,9.0nm,1.3s							
TNCH				pmax	pmax			
	comp=Z,87nm,5.1s							
TNCH				LR	LR			
	comp=Z,140nm,4.1s							
TNCH				LR	LR			
	comp=Z,94nm,3.8s							
TNCH				LR	LR			
	comp=Z,130nm,5.1s							
NIL	**Nilore**	**15.10**	**256**	Pn		**Pn**	**18 17 55.7**	**-1.9**
NIL	**Nilore**	**15.10**	**256**	P		**Pn**	**18 17 55.7**	**-1.9**
NIL				pmax	pmax			
	comp=Z,13nm,0.5s							
PZH	**PanZhiHua**	**15.18**	**140**	P		**Pn**	**18 18 00.1**	**+1.3**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,110nm,5.1s							
XAN	**Xi'an**	**15.24**	**102**	⇑P		**P**	**18 18 03.8**	**-0.7**
XAN				pmax	pmax			
	comp=Z,20nm,0.6s							
BTK	**Batken**	**15.59**	**281**	P		**Pn**	**18 18 03.4**	**-0.7**
BTK	**Batken**	**15.59**	**281**	P		**Pn**	**18 18 03.4**	**-0.7**
BTK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ZAA0	**Zalesovo Array**	**15.83**	**347**	Pn		**Pn**	**18 18 04.1**	**-2.9**
ZALV	**Zalesovo Beam**	**15.83**	**347**			**Pn**	**18 18 04.5**	**-2.5**
ZALV	**Zalesovo Beam**	**15.83**	**347**	Pn		**Pn**	**18 18 04.8**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=14							
ZALV				Lg		Lg	18 22 43.6	
	baz=158,slow=25							
ZALV	**Zalesovo Beam**	**15.83**	**347**	P		**Pn**	**18 18 04.5**	**-2.5**
KK31	**Karatay Array**	**16.03**	**293**			**Pn**	**18 18 07.3**	**-2.3**
KK31	**Karatay Array**	**16.03**	**293**	P		**Pn**	**18 18 07.3**	**-2.3**
KK31				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**16.03**	**293**			**Pn**	**18 18 08.7**	**-0.9**
KKAR	**Karatay Array**	**16.03**	**293**			**Pn**	**18 18 07.7**	**-1.9**
KKAR	**Karatay Array**	**16.03**	**293**	P		**Pn**	**18 18 07.7**	**-1.9**
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GAR	**Garm**	**16.04**	**278**	Pn		**Pn**	**18 18 08.2**	**-1.7**
GAR				IAmb		IAmb	18 18 24.1	
	comp=Z,22nm,0.8s							
IRK	**Irkutsk**	**16.46**	**30**	*e*P		**P**	**18 18 17.7**	**-0.1**
IRK				pmax	pmax			
	comp=Z,42nm,2.3s							
KMI	**Kunming**	**16.82**	**140**	⇓P		**P**	**18 18 22.8**	**+0.6**
KMI				pmax	pmax			
	comp=Z,20nm,0.8s							
SIMJ	**Simiganj**	**17.09**	**277**			**Pn**	**18 18 23.0**	**-0.3**
SIMJ				IAmb		IAmb	18 18 35.4	
	comp=Z,13nm,0.9s							
ENH	**Enshi**	**17.45**	**113**			**Pn**	**18 18 25.3**	**-2.4**
ENH				IAmb		IAmb	18 18 45.4	
	comp=Z,32nm,1.5s							
KBL	**Kabul**	**18.01**	**263**	P		**Pn**	**18 18 32.7**	**-2.1**
KBL				IAmb		IAmb	18 18 55.0	
	comp=Z,10nm,0.5s							
KBL	**Kabul**	**18.01**	**263**	P		**Pn**	**18 18 32.7**	**-2.1**
KBL				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HNS	**HongShan**	**18.80**	**86**	⇑P		**Pn**	**18 18 45.0**	**+0.9**
HNS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
BVAR	**Borovoye Array**	**20.14**	**322**	P		Pn	18 18 59.9	-0.3
	comp=Z,4.1nm,0.5s,baz=125,slow=11,SNR=31							
BVAR				LR		LR	18 27 23.6	
	comp=Z,49nm,21.3s,baz=111,slow=39							
	comp=Z,4.1nm,0.5s							
BRVK	**Borovoye**	**20.21**	**322**	P		**P**	**18 18 59.0**	**0.0**
BRVK				IAmb		IAmb	18 19 17.3	
	comp=Z,10nm,0.8s							
BRVK	**Borovoye**	**20.21**	**322**	*ce*P		Pn	18 19 00.7	-0.3
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SLVN	**Son La**	**20.59**	**143**			Pn	18 19 03.8	-1.9
CHTO	**Chiang Mai**	**20.99**	**158**			**P**	**18 19 07.7**	**0.0**
CHTO	**Chiang Mai**	**20.99**	**158**	P		**P**	**18 19 07.7**	**0.0**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CM31	**Chiang Mai Arr**	**21.33**	**159**	IAmb		IAmb	18 19 12.7	
	comp=Z,6.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**21.33**	**159**	P		**P**	**18 19 11.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**21.33**	**159**	P		**P**	**18 19 11.8**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=331,slow=11,SNR=65							
	comp=Z,5.2nm,0.8s							
HIA	**Hailar**	**23.17**	**53**	*i* P		**P**	**18 19 34.4**	**+3.6**
HIA				pmax	pmax			
	comp=Z,8.0nm,1.2s							
ABKAR	**Akbulak array**	**24.50**	**306**	P		**P**	**18 19 40.0**	**-3.5**
ABKAR				IAmb		IAmb	18 19 58.1	
	comp=Z,9.5nm,0.9s							
QIZ	**Qiongzhong**	**25.57**	**135**	P		**P**	**18 19 54.3**	**+0.9**
QIZ				S		**S**	**18 24 25.3**	**+4.1**
QIZ				pmax	pmax			
	comp=Z,16nm,1.5s							
QIZ				LR	LR			
	comp=Z,250nm,8.2s							
QIZ				LR	LR			
	comp=Z,240nm,12.6s							
QIZ				LR	LR			
	comp=Z,160nm,9.3s							
UBPT	**Khong Chiam**	**26.61**	**147**	P		**P**	**18 20 02.4**	**-0.4**
UBPT				IAmb		IAmb	18 20 38.4	
	comp=Z,17nm,1.5s							
ARTI	**Arti**	**27.83**	**320**	P		**P**	**18 20 12.5**	**-1.0**
ARTI	**Arti**	**27.83**	**320**	LR		LR	18 31 13.9	
	comp=Z,61nm,18.8s,baz=290,slow=36							
ARTI	**Arti**	**27.83**	**320**	*d* *i* P		**P**	**18 20 16.7**	**+3.2**
ARTI							18 21 00.2	
ARTI				S		**S**	**18 25 00.6**	**+4.3**
ARTI				SS		**SnSn**	**18 26 11.2**	**+2.1**
ARTI				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HEH	**HeiHe**	**28.24**	**54**	*e*P		**P**	**18 20 16.6**	**-0.6**
KSRS	**Korea Array**	**29.06**	**81**	P		**P**	**18 20 24.1**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=283,slow=8.7,SNR=7.5							
KSRS				LR		LR	18 32 54.8	
	comp=Z,66nm,18.6s,baz=275,slow=38							
	comp=Z,1.2nm,0.5s							
KLR	**Kul'dur**	**30.90**	**57**	LR		LR	18 33 59.9	
	comp=Z,78nm,18.5s,baz=283,slow=38							
JNU	**Nakatsue**	**32.68**	**87**	LR		LR	18 35 07.5	
	comp=Z,56nm,18.4s,baz=304,slow=38							
YAK	**Yakutsk**	**33.23**	**33**	LR		LR	18 35 07.3	
	comp=Z,45nm,18.1s,baz=278,slow=38							
GNI	**Garni**	**35.38**	**287**	LR		LR	18 37 05.0	
	comp=Z,84nm,19.0s,baz=78,slow=38							
KBZ	**Khabaz**	**36.06**	**294**	LR		LR	18 38 19.9	
	comp=Z,58nm,20.4s,baz=97,slow=40							
VRH	**Novokhopyorsk**	**36.32**	**307**	*e*P		**P**	**18 21 30.1**	**+2.2**
VRH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MJAR	**Matsushiro Arr**	**37.22**	**78**	LR		LR	18 37 21.9	
	comp=Z,31nm,20.6s,baz=298,slow=37							
VSR	**Storozhevoye**	**37.93**	**307**	*e*P		**P**	**18 21 40.3**	**-1.2**
VSR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TIXI	**Tiksi**	**38.21**	**18**	P		**P**	**18 21 43.3**	**-0.4**
TIXI				IAmb		IAmb	18 21 55.3	
	comp=Z,2.4nm,0.6s							
TIXI	**Tiksi**	**38.21**	**18**	LR		LR	18 37 03.7	
	comp=Z,49nm,18.3s,baz=18,slow=36							
TIXI	**Tiksi**	**38.21**	**18**	*e*P		**P**	**18 21 43.3**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ASAJ	**Asahikawa**	**38.64**	**65**	LR		LR	18 39 27.4	
	comp=Z,54nm,18.4s,baz=247,slow=39							
OBN	**Obninsk**	**39.50**	**313**	*e*P		**P**	**18 21 56.8**	**+2.2**
OBN				*e*			18 23 27.4	
OBN				pmax	pmax			
	comp=Z,5.0nm,1.3s							
MA2	**Magadan**	**42.64**	**41**	LR		LR	18 40 06.9	
	comp=Z,25nm,18.8s,baz=269,slow=36							
MA2	**Magadan**	**42.64**	**41**	*i* P		**P**	**18 22 21.0**	**+0.5**
BRTR	**Keskin Array B**	**43.72**	**290**	P		**P**	**18 22 31.0**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=85,slow=10,SNR=2.5							
	comp=Z,0.9nm,0.6s							
BRTR	**Keskin Array B**	**43.72**	**290**	P		**P**	**18 22 31.0**	**+1.3**
AKASG	**Malin Array Be**	**44.23**	**307**	P		**P**	**18 22 34.7**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=68,slow=8.3,SNR=4.8							
	comp=Z,0.4nm,0.4s							
AKASG	**Malin Array Be**	**44.23**	**307**	*e*P		**P**	**18 22 37.7**	**+4.3**
MMAI	**Mount Meron Ar**	**44.76**	**280**	LR		LR	18 45 05.3	
	comp=Z,36nm,20.1s,baz=63,slow=41							
FINES	**FINESS Array B**	**45.10**	**322**	P		**P**	**18 22 41.4**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=77,slow=7.2,SNR=18							
FINES				LR		LR	18 44 23.9	
	comp=Z,52nm,18.5s,baz=38,slow=40							
	comp=Z,1.7nm,0.5s							
NACGM	**Naroch**	**45.13**	**313**	⇓*i*P		**P**	**18 22 42.5**	**+2.0**
	baz=82							
ARCES	**ARCESS Array B**	**45.80**	**334**	P		**P**	**18 22 46.8**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=69,slow=6.6,SNR=17							
ARCES				LR		LR	18 44 17.5	
	comp=Z,66nm,19.5s,baz=112,slow=39							
	comp=Z,0.9nm,0.4s							
EIL	**Elat**	**46.52**	**277**	LR		LR	18 47 25.2	
	comp=Z,30nm,18.3s,baz=65,slow=42	

KAN14	Manchester OK	0.68	17		Pg	18 25 44.5	-0.1
KAN14				IAML		18 25 54.5	
	comp=E,989nm,0.2s						
KAN14				IAML		18 25 54.9	
	comp=N,698nm,0.1s						
CSTR	Hydro, Custer	0.77	211		Pg	18 25 46.3	+0.1
OK029	Liberty Lake	0.79	129		Pg	18 25 46.4	-0.4
OK029				IAML		18 25 57.7	
	comp=N,392nm,0.3s						
OK029				IAML		18 25 60.0	
	comp=N,445nm,0.5s						
KAN13	South Haven SW	0.92	39		Pg	18 25 48.7	-0.5
ADOK	Arcadia Dam	0.94	134		Pg	18 25 48.8	-0.7
KAN08	Anthony NE Sta	0.94	12	Pg	Pg	18 25 49.4	-0.2
KAN08				IAML		18 25 53.0	
	comp=N,444nm,3.2s						
KAN09	Caldwell North	0.96	29	Pg	Pg	18 25 49.6	-0.2
KAN12	Harper NE Stat	1.01	10		Pg	18 25 50.4	-0.4
KAN12				IAML		18 26 09.6	
	comp=E,495nm,0.3s						
KAN12				IAML		18 26 13.7	
	comp=N,606nm,0.4s						
OK048	Pawnee Station	1.03	83		Pg	18 25 50.7	-0.6
OK048				IAML		18 26 09.5	
	comp=N,429nm,0.3s						
OKCSW	OKLAHOMA CITY	1.09	145	Pg	Pg	18 25 51.9	-0.6
OKCSW				IAML		18 26 11.9	
	comp=E,501nm,0.5s						
OK051	E0350 and S346	1.12	79		Pg	18 25 52.4	-0.7
OK031	S. Brethren Rd	1.16	107	Pg	Pg	18 25 53.0	-0.8
OK031				IAML		18 26 09.4	
	comp=E,453nm,0.2s						
OK052	Battle Ridge R	1.18	105		Pb	18 25 53.2	-0.9
OK052				IAML		18 26 11.1	
	comp=E,419nm,0.2s						
OK052				IAML		18 26 11.2	
	comp=E,470nm,0.2s						
QUOK	Quay	1.22	96	IAML		18 26 11.8	
	comp=N,419nm,0.2s						
QUOK				IAML		18 26 13.5	
	comp=E,382nm,0.2s						
DEOK	Depew	1.46	108		Pn	18 25 55.9	-2.2
T35A	Sooner Cattle	1.49	65		Pn	18 25 56.5	-2.1
WMOK	Wichita Mounta	1.63	197		Pn	18 25 59.2	-1.3
X34A	Smith Ranch, M	1.73	170	Pn	Pn	18 26 00.6	-1.2
X34A				IAmb_Lg		18 26 27.4	
	comp=Z,38nm,0.8s						
SMWD	Samnorwood	2.04	235	Pn	Pn	18 26 03.9	-2.4
LOOK	Love County	2.46	160		Pn	18 26 09.6	-2.2
LOOK				IAmb_Lg		18 26 52.7	
	comp=Z,33nm,0.8s						
WTFS	Witchita Falls	2.54	185	Pn	Pn	18 26 10.0	-3.0
CBKS	Cedar Bluff	2.79	335	IAmb_Lg		18 27 06.5	
	comp=Z,28nm,0.7s						
KSU1	Kansas State U	3.07	24	Pn	Pn	18 26 18.8	-1.4
KSU1				IAmb_Lg		18 27 12.3	
	comp=Z,26nm,1.1s						
U38A	Gravette	3.09	86		Pn	18 26 17.5	-3.1
U38A				IAmb_Lg		18 27 14.5	
	comp=Z,15nm,0.7s						
DKNS	Dickens	3.45	221		Pn	18 26 23.1	-2.5
DKNS				IAmb_Lg		18 27 24.1	
	comp=Z,14nm,0.8s						
PLPT	Palo Pinto	3.48	182	IAmb_Lg		18 27 25.5	
	comp=Z,13nm,1.0s						
SN07	Snyder 07	3.89	215	IAmb_Lg		18 27 40.8	
	comp=Z,20nm,0.8s						
SN05	Snyder 5	4.07	214	IAmb_Lg		18 27 47.8	
	comp=Z,11nm,0.8s						
MIAR	Mount Ida	4.17	114	Pn	Pn	18 26 35.4	0.0
MIAR				IAmb_Lg		18 27 51.5	
	comp=Z,11nm,0.8s						
POST	Post	4.22	221	IAmb_Lg		18 27 50.1	
	comp=Z,12nm,0.8s						
X40A	Basin Creek Fa	4.75	111		Pn	18 26 40.5	-2.8
X40A				IAmb_Lg		18 28 03.6	
	comp=Z,13nm,0.8s						
MGMO	Mountain Grove	4.84	78		Pn	18 26 40.2	-4.5
MGMO				IAmb_Lg		18 28 11.7	
	comp=Z,12nm,0.7s						
P38A	Dawn	4.96	47	IAmb_Lg		18 28 16.8	
	comp=Z,15nm,0.9s						
SGCY	Sterling City	5.00	210	IAmb_Lg		18 28 17.2	
	comp=Z,13nm,0.8s						
UALR	University of	5.02	106	IAmb_Lg		18 28 16.5	
	comp=Z,8.9nm,1.0s						
BRDY	Brady	5.05	188		Pn	18 26 45.0	-2.5
BRDY				IAmb_Lg		18 28 19.0	
	comp=Z,9.7nm,0.8s						
T25A	Trinidad	5.05	281		Pn	18 26 43.2	-4.5
R40A	Maddies Statio	5.13	66	IAmb_Lg		18 28 15.0	
	comp=Z,8.6nm,0.8s						
LCAR	Lake Charles	5.71	90	IAmb_Lg		18 28 36.0	
	comp=Z,7.4nm,0.8s						
T42A	Van Buren	5.76	81	IAmb_Lg		18 28 35.8	
	comp=Z,10nm,0.8s						
CCM	Cathedral Cave	5.83	70	IAmb_Lg		18 28 37.8	
	comp=Z,10nm,0.7s						
P40A	Paris	5.84	55	IAmb_Lg		18 28 43.0	
	comp=Z,14nm,0.7s						
FVM	French Village	6.44	73	IAmb_Lg		18 28 55.0	
	comp=Z,10nm,0.7s						
ISCO	Idaho Springs	6.81	303	IAmb_Lg		18 29 13.2	
	comp=Z,6.8nm,1.0s						

IDC 14 18:40:12.6±2.0, 6°.64S×128°.91E, h0km, mb3.8/1, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=121.8km s-min=30.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.24	159	Pn	Pn	18 43 34.4	-1.3
	0.1nm,0.3s,baz=337,slow=14,SNR=4.6						
WRA				Sn	Sn	18 46 03.7	-11
	0.2nm,0.3s,baz=336,slow=22,SNR=6.6						
	0.4nm,0.7s						
ASAR	Alice Springs	17.60	165	P	P	18 44 20.4	-0.3
	0.1nm,0.3s,baz=344,slow=8.2,SNR=8.3						
ASAR				S	Sn	18 47 25.1	-11
	0.4nm,0.8s,baz=349,slow=24,SNR=3.3						
	0.2nm,0.7s						
MKAR	Makanchi Array	67.33	327	P	P	18 51 09.5	0.0
	0.3nm,0.3s,baz=116,slow=6.6,SNR=13						
	0.3nm,0.3s						

RSNC 14 19:24:24.8±0.8, 4°.N±7°.×8°.2W±°., h0km, M3.3, mB4.8, mb4.0, ML2.9, Mw(mB)4.1, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	Gorgona, Isla	4.14	109	P	Pn	19 25 26.9	-2.5
GR1C				S	Sn	19 26 19.2	+0.6
GR1C	Gorgona, Isla	4.14	109	P	Pn	19 25 26.9	-2.5
GR1C				S	Sn	19 26 19.2	+0.6
MALC	Bahia Malaga	4.75	94	P	Pn	19 25 36.8	-0.9
MALC				S	Sn	19 26 35.1	+1.6
MALC	Bahia Malaga	4.75	94	P	Pn	19 25 36.8	-0.9
MALC				S	Sn	19 26 35.1	+1.6
BBAC	Balboa, Cauca	5.37	116	P	Pn	19 25 44.6	-1.9
	9.4nm,0.6s						
BBAC				S	Sn	19 26 48.9	-0.3
	9.4nm,0.6s						
BBAC	Balboa, Cauca	5.37	116	P	Pn	19 25 44.6	-1.9
	9.4nm,0.6s						
BBAC				S	Sn	19 26 48.9	-0.3
	9.4nm,0.6s						
JAMC	Jamundi, Valle	5.52	102	P	Pn	19 25 47.5	-1.1
	5.9nm,0.5s						
JAMC				S	Sn	19 26 49.6	-3.3
	5.9nm,0.5s						
JAMC	Jamundi, Valle	5.52	102	P	Pn	19 25 47.5	-1.1
	5.9nm,0.5s						
JAMC				S	Sn	19 26 49.6	-3.3
	5.9nm,0.5s						
GCUF	Volcan Galeras	5.68	124	P	Pn	19 25 51.0	0.0
	33nm,0.6s						
GCUF	Volcan Galeras	5.68	124	P	Pn	19 25 51.0	0.0
	33nm,0.6s						
POPC	Popayan, Colom	5.70	109	P	Pn	19 25 52.3	+1.3
	5.6nm,0.5s						
POPC				S	Sn	19 26 56.7	-0.7
	5.6nm,0.5s						
POPC	Popayan, Colom	5.70	109	P	Pn	19 25 52.3	+1.3
	5.6nm,0.5s						
POPC				S	Sn	19 26 56.7	-0.7
	5.6nm,0.5s						
YOTC	Yotoco, Valle	5.74	94	P	Pn	19 25 50.7	-0.7
	5.4nm,1.2s						
YOTC				S	Sn	19 26 59.1	+1.1
	5.4nm,1.2s						
YOTC	Yotoco, Valle	5.74	94	P	Pn	19 25 50.7	-0.7
	5.4nm,1.2s						
YOTC				S	Sn	19 26 59.1	+1.1
	5.4nm,1.2s						
PLMC	San Jos del P	5.80	85	P	Pn	19 25 50.6	-1.6
PLMC				S	Sn	19 26 59.2	-0.4
PLMC	San Jos del P	5.80	85	P	Pn	19 25 50.6	-1.6
PLMC				S	Sn	19 26 59.2	-0.4
GUY2C	Guyana, Caldas	6.74	83	P	Pn	19 26 05.7	+0.2
	13nm,0.7s						
GUY2C				S	Sn	19 27 15.1	-8.2
	13nm,0.7s						
GUY2C	Guyana, Caldas	6.74	83	P	Pn	19 26 05.7	+0.2
	13nm,0.7s						
GUY2C				S	Sn	19 27 15.1	-8.2
	13nm,0.7s						
ORTC	Ortega, Tolima	6.83	94	P	Pn	19 26 08.4	+2.0
ORTC				S	Sn	19 27 29.8	+4.8
ORTC	Ortega, Tolima	6.83	94	P	Pn	19 26 08.4	+2.0
ORTC				S	Sn	19 27 29.8	+4.8
PRAC	Prado	7.21	95	P	Pn	19 26 12.1	+0.5
PRAC				S	Sn	19 27 39.1	+4.8
PRAC	Prado	7.21	95	P	Pn	19 26 12.1	+0.5
PRAC				S	Sn	19 27 39.1	+4.8
URMC	La Uribe, Meta	7.77	98	P	Pn	19 26 19.6	+0.3
URMC				S	Sn	19 27 50.9	+2.8
URMC	La Uribe, Meta	7.77	98	P	Pn	19 26 19.6	+0.3
URMC				S	Sn	19 27 50.9	+2.8

*MOS **14** 19:25:16.4±1.0, 36°.45N×71°.45E, h115km, mb4.7/30, Error ellipse: s-maj=5.1km s-min=3.1km az=90.7*
*NNC **14** 19:25:17.4±3.9, 36°.93N×70°.99E, h0km, mb5.2, mpv5.2, Error ellipse: s-maj=36.8km s-min=28.7km az=136.0*
*BJI **14** 19:25:17.5, 36°.53N×71°.45E, h106km, mB4.5/3, mb4.6/22*
*IDC **14** 19:25:18.5±0.5, 36°.31N×71°.38E, h122km±4km, mb4.0/29, mbtmp4.4/33, MS3.3/10, Error ellipse: s-maj=11.4km s-min=8.6km az=33.0*
*NEIC **14** 19:25:18.0±1.8, 36°.46N±0°.06×71°.27E±0°.08, h115km±6km, mb4.6/44, Error ellipse: s-maj=9.7km s-min=8.2km az=92.0*

ISC 14 19:25:16.8±0.4, 36°.29N±0°.03×71°.43E±0°.03, h110km±3km, h110km:pP-P, n397, σ1°.94/429, mb4.6/101, 40C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.62	229	Pn	Pn	19 25 59.3	+1.3
KBL	Kabul	2.62	229	P	Pn	19 25 60.0	+1.9
	SNR=47						
KBL				S	Sn	19 26 31.6	+2.0
KBL	Kabul	2.62	229	PN	Pn	19 25 59.3	+1.3
GAR	Garm	2.85	342	Pn	Pn	19 25 59.5	-1.3
CHGR	Chuyangaron	2.98	323		Pn	19 26 00.2	-2.4
CHGR	Chuyangaron	2.98	323	PN	Pn	19 26 00.2	-2.4
NIL	Nilore	3.03	150	Pn	Pn	19 26 07.0	+3.8
NIL	Nilore	3.03	150	PN	Pn	19 26 07.0	+3.8
SIMJ	Simiganj	3.05	321	Pn	Pn	19 26 01.2	-2.4
DRK	Karamyk	3.20	5	Pn	Pn	19 26 06.0	+0.3
DRK	Karamyk	3.20	5	PN	Pn	19 26 06.0	+0.3
DZET	Dzherino	3.25	321	PN	Pn	19 26 04.1	-2.2
SRNI	Srinagar	3.55	127	*e*P	Pn	19 26 13.2	+3.1
SRNI				*e*S	Sn	19 26 53.8	+2.4
SRNI				IAML		19 26 59.3	
	comp=E,3μm,0.3s						
SRNI				IAML		19 26 59.8	
	comp=N,3μm,0.4s						
BTK	Batken	3.79	353	Pn	Pn	19 26 13.3	-0.1
BTK	Batken	3.79	353	PN	Pn	19 26 13.3	-0.1
OHH	Osh	4.36	14	PN	Pn	19 26 21.4	+0.4
JMU	Jammu	4.57	140	*e*P	Pn	19 26 26.2	+2.4
JMU				*e*S	Sn	19 27 12.5	-3.4
JMU				*e*S		19 27 17.6	
JMU				IAML		19 27 18.1	
	comp=E,1μm,0.8s						
JMU				IAML		19 27 20.5	
	comp=N,2μm,0.4s						
KSH	Kashi	4.82	47	P	Pn	19 26 23.4	-3.9
KSH				S	Sn	19 27 12.3	-10
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=N,2μm,0.7s						
ARSB	Arslanbob	5.17	13	Pn	Pn	19 26 31.0	-1.0
ARSB	Arslanbob	5.17	13	PN	Pn	19 26 31.0	-1.0
THN	Thein Dam	5.23	136	*e*P	Pn	19 26 35.3	+2.6
THN				*e*S	Sn	19 27 33.1	+1.3
THN				IAML		19 27 37.5	
	comp=N,449nm,0.3s						
THN				IAML		19 27 39.6	
	comp=E,664nm,0.5s						
TRKS	Terek-Say	5.24	358	PN	Pn	19 26 31.0	-1.9
TRKS				pmax	pmax		
	comp=Z,88nm,0.5s						
ARK	Arkit	5.51	4	PN	Pn	19 26 35.2	-1.5
ARK				pmax	pmax		
	comp=Z,109nm,0.6s						
DHRM	DHARAMSHALA	5.70	134	*e*P	Pn	19 26 41.4	+2.1
DHRM				*e*S	Sn	19 27 45.8	+2.3
DHRM				IAML		19 27 52.0	
	comp=E,1μm,0.3s						
DHRM				IAML		19 27 53.5	
	comp=E,998nm,0.3s						
IUG	Iuzhnay	5.95	350	*e*PN	Pn	19 26 41.0	-1.5
IUG	Iuzhnay	5.95	350	*e*P	Pn	19 26 41.0	-1.5
AML	Almayashu	6.09	16	P	Pn	19 26 44.4	-0.3
	SNR=972						
BHK	Bhakra	6.39	138	*e*P	Pn	19 26 49.8	+1.3
BHK				*e*S	Sn	19 27 56.3	-3.7
BHK				IAML		19 28 06.2	
	comp=E,510nm,0.3s						
UCH	Uchtor	6.39	21	P	Pn	19 26 49.0	+0.2
	SNR=17						
DZA	Taraz	6.59	359	*e*PN	Pn	19 26 50.0	-1.1
DZA	Taraz	6.59	359	*e*P	Pn	19 26 50.1	-1.1
EKS2	Erkin-Say	6.62	15	P	Pn	19 26 51.1	-0.5
	SNR=208						
AAK	Ala-Archa	6.76	20	Pn	Pn	19 26 53.5	-0.1
AAK	Ala-Archa	6.76	20	P	Pn	19 26 53.7	+0.1
	comp=E,127nm,0.3s,baz=182,slow=6.0,SNR=494						
AAK				S	Sn	19 28 05.6	-3.6
	comp=E,49nm,0.3s,baz=336,slow=20,SNR=11						
AAK	Ala-Archa	6.76	20	P	Pn	19 26 53.7	+0.1
	SNR=303						
AAK	Ala-Archa	6.76	20	⇑P	Pn	19 26 53.5	-0.1
	comp=E,83nm,0.4s						
AAK				⇑S	Sn	19 28 05.9	-3.3
	comp=E,216nm,0.7s						
AAK	Ala-Archa	6.76	20	*ce*PN	Pn	19 26 53.5	-0.1
AAK				pmax	pmax		
	comp=Z,79nm,0.5s						
AAK	Ala-Archa	6.76	20	*i* P	Pn	19 26 53.7	+0.1
	SNR=374						
KK31	Karatay Array	6.84	354	Pn	Pn	19 26 52.8	-1.7
KK31	Karatay Array	6.84	354	P	Pn	19 26 53.0	-1.5
	comp=Z,322nm,0.4s,baz=187,slow=17,SNR=3980						
KK31				S	Sn	19 28 02.6	-8.3
	comp=Z,304nm,0.8s,baz=194,slow=12,SNR=11						
KK31	Karatay Array	6.84	354	PN	Pn	19 26 52.8	-1.7
KKAR	Karatay Array	6.84	354	Pn	Pn	19 26 52.6	-1.9
KKAR	Karatay Array	6.84	354	Pn	Pn	19 26 52.8	-1.8
KKAR	Karatay Array	6.84	354	PN	Pn	19 26 52.6	-1.9
BRLS	Borolday	6.84	350	*e*PN	Pn	19 26 49.3	-5.2
BRLS	Borolday	6.84	350	*e*P	Pn	19 26 49.4	-5.2
KBK	Karagaybulak	6.91	22	P	Pn	19 26 55.9	+0.3
	SNR=39						
FRU1	Bishkek	6.96	20		Pn	19 26 55.7	-0.5
FRU1	Bishkek	6.96	20	PN	Pn	19 26 55.7	-0.5
ULHL	Ulahol	7.02	31	P	Pn	19 26 57.2	+0.1
	SNR=49						
SMLA	Simla	7.02	136	*e*P	Pn	19 26 57.5	+0.5
SMLA				*e*S	Sn	19 28 14.5	-0.8
SMLA				IAML		19 28 22.2	
	comp=E,467nm,0.2s						
SMLA				IAML		19 28 24.0	
	comp=E,410nm,0.5s						
BOOM	Boomskoye usch	7.11	28	Pn	Pn	19 26 58.2	0.0
BOOM	Boomskoye usch	7.11	28	PN	Pn	19 26 58.3	0.0
CHMS	Chumysh	7.17	20	P	Pn	19 26 58.7	-0.3
	SNR=125						
CHMS	Chumysh	7.17	20	⇑P	Pn	19 26 58.5	-0.5
	comp=E,44nm,0.3s						
CHMS				⇓S	Sn	19 28 15.5	-3.4
	comp=E,112nm,0.8s						
CHMS	Chumysh	7.17	20	PN	Pn	19 26 58.5	-0.5
KDJ	Kajisay	7.34	36	Pn	Pn	19 27 01.4	0.0
KDJ	Kajisay	7.34	36	PN	Pn	19 27 01.4	0.0
TARG	Taragay, Kyrgy	7.35	40	Pn	Pn	19 27 01.9	+0.1
TARG	Taragay, Kyrgy	7.35	40	PN	Pn	19 27 01.9	+0.1
USP	Ospenovka	7.36	18	P	Pn	19 27 00.7	-0.8
	SNR=182						
TKM2	Tokmak 2	7.36	25	P	Pn	19 27 01.7	0.0
	SNR=153						
TKM2	Tokmak 2	7.36	25	⇑P	Pn	19 27 01.5	-0.2
	comp=E,61nm,0.6s						
TKM2				⇑S	Sn	19 28 20.7	-3.0
	comp=E,70nm,0.8s						
TKM2	Tokmak 2	7.36	25	PN	Pn	19 27 01.5	-0.2
SGDS	Sogindy	7.56	18	*e*PN	Pn	19 27 02.9	-1.4
SGDS	Sogindy	7.56	18	*e*P	Pn	19 27 02.9	-1.4
HRA	Herat	7.75	258		Pn	19 27 07.0	0.0
TNSS	Tian-Shan	7.96	31	*e*PN	Pn	19 27 08.4	-1.7
TNSS	Tian-Shan	7.96	31	*e*P	Pn	19 27 08.4	-1.7
AAA	Alma-Ata	8.09	30	*e*PN	Pn	19 27 10.2	-1.3
AAA	Alma-Ata	8.09	30	*e*P	Pn	19 27 10.3	-1.3
KNDC	Almaty	8.12	30	⇓P	Pn	19 27 12.5	+0.6
	comp=E,67nm,0.6s						
KNDC	Almaty	8.12	30	PN	Pn	19 27 12.5	+0.6
DDI	Dehra Dun	8.13	135	*e*P	Pn	19 27 13.3	+1.2
DDI				*e*S	Sn	19 28 40.1	-2.3
DDI				IAML		19 28 48.5	
	comp=E,522nm,0.3s						
DDI				IAML		19 28 50.4	
	comp=E,459nm,0.3s						
RTK	Rohtak	8.37	148	*e*P	Pn	19 27 14.8	-0.4
RTK				IAML		19 28 48.1	
	comp=N,390nm,0.2s						
RTK				IAML		19 28 48.8	
	comp=E,420nm,0.2s						
BKNR	BIKANER	8.39	169	*e*P	Pn	19 27 15.4	-0.2
BKNR				*e*S	Sn	19 28 42.4	-6.3
BKNR				IAML		19 28 48.3	
	comp=E,619nm,0.5s						
BKNR				IAML		19 28 50.8	
	comp=N,417nm,0.2s						
SATY	Saty	8.63	36	*e*PN	Pn	19 27 17.6	-1.3
SATY	Saty	8.63	36	*e*P	Pn	19 27 17.7	-1.3
CHKK	Chushkaly	8.67	28	*e*PN	Pn	19 27 17.8	-1.5
CHKK	Chushkaly	8.67	28	*e*P	Pn	19 27 17.9	-1.5
JOSI	Joshimath	8.88	128	*e*P	Pn	19 27 23.6	+1.2
JOSI				*e*S	Sn	19 28 56.4	-4.3
JOSI				IAML		19 29 03.9	
	comp=E,276nm,0.3s						
JOSI				IAML		19 29 07.0	
	comp=N,381nm,0.3s						
BTLS	Baital	8.96	12	*e*PN	Pn	19 27 21.2	-2.0
BTLS	Baital	8.96	12	*e*P	Pn	19 27 21.2	-2.0
BTLS				*e*S	Sn	19 29 00.6	-1.7
UZB	Uzynbulak	9.00	38	*e*PN	Pn	19 27 22.6	-1.3
UZB	Uzynbulak	9.00	38	*e*P	Pn	19 27 22.6	-1.3
NDI	New Delhi	9.02	146	*e*P	Pn	19 27 24.3	+0.2
NDI				*e*S	Sn	19 28 56.3	-7.6
NDI				IAML		19 29 04.4	
	comp=E,80nm,0.4s						
NDI				IAML		19 29 09.3	
	comp=E,82nm,0.4s						
NPLP	NPLP New Delhi	9.04	146	*e*S	Sn	19 28 58.4	-6.0
NPLP				IAML		19 29 05.0	
	comp=E,218nm,0.2s						
NPLP				IAML		19 29 06.4	
	comp=N,261nm,0.3s						
KPKS	Kokpek	9.07	36	*e*PN	Pn	19 27 22.9	-1.9
KPKS	Kokpek	9.07	36	*e*P	Pn	19 27 23.0	-1.9
LDR	Lodi Road	9.10	146	*e*P	Pn	19 27 28.1	+2.8
AYAN	Aya Nagar	9.15	147	*e*P	Pn	19 27 25.7	-0.2
AYAN				*e*S	Sn	19 29 01.5	-5.6
KUDL	Kundal	9.18	151	*e*P	Pn	19 27 25.7	-0.6
KUDL				*e*S	Sn	19 29 02.2	-5.6
KUDL				IAML		19 29 07.1	
	comp=E,121nm,0.5s						
KUDL				IAML		19 29 09.2	
	comp=N,82nm,0.4s						
SHLS	Shalkode	9.23	40	*e*P	Pn	19 27 30.7	+3.7
ARXS	Arharly	9.30	30	*e*P	Pn	19 27 26.1	-1.8
JASL	Jaisalmer	9.35	183	*e*P	Pn	19 27 28.1	-0.5
JASL				*e*S	Sn	19 29 06.2	-5.7
JASL				IAML		19 29 11.4	
	comp=E,310nm,0.4s						
JASL				IAML		19 29 16.6	
	comp=E,256nm,0.4s						
TKRD	Thakurdwara	9.47	137	*e*S	Sn	19 29 08.2	-6.7
PTH	Pithoragarh	9.98	130	*e*P	Pn	19 27 36.2	-1.1
PTH				*e*S	Sn	19 29 20.1	-7.4
PTH				IAML		19 29 29.0	
	comp=E,84nm,0.4s						
PTH				IAML		19 29 36.5	
	comp=E,68nm,0.5s						
LGTI	Lohaghat	10.07	130	*e*P	Pn	19 27 37.2	-1.1
LGTI				*e*S	Sn	19 29 21.4	-7.9
LGTI				IAML		19 29 27.1	
	comp=E,77nm,0.5s						
LGTI				IAML		19 29 37.0	
	comp=E,117nm,0.6s						
TDK	Taldyqorghan	10.18	29	*e*P	Pn	19 27 38.0	-1.8
TDK	Taldyqorghan	10.18	29	*e*P	Pn	19 27 38.0	-1.8
OTUK	Ortayu	11.96	3	⇑P	Pn	19 28 00.1	-3.5
	comp=E,20nm,0.6s						
OTUK	Ortayu	11.96	3	P	Pn	19 28 00.1	-3.5
JHNI	Jhansi	12.39	149	*e*P	Pn	19 28 08.4	-1.0
JHNI				*e*S	Sn	19 30 18.6	-7.1
BHUJ	Bhuj	13.08	187	*e*P	Pn	19 28 17.3	-1.2
BHUJ				IAmb	IAmb	19 28 23.1	
	comp=Z,45nm,0.8s						
BHUJ				*e*S	Sn	19 30 28.6	-14
BHUJ				IAML		19 30 40.1	
	comp=E,60nm,0.7s						
BHUJ				IAML		19 30 44.8	
	comp=E,50nm,0.3s						
MAKZ	Makanchi	13.13	34	Pn	Pn	19 28 17.0	-2.0
MAKZ	Makanchi	13.13	34	P	Pn	19 28 17.0	-2.0
MK31	Makanchi Array	13.26	34	P	Pn	19 28 18.9	-1.8
	comp=E,3.9nm,0.5s,baz=217,slow=9.9,SNR=84						
MK31	Makanchi Array	13.26	34	*ce*P	Pn	19 28 19.9	-0.8
MKAR	Makanchi Array	13.26	34	Pn	Pn	19 28 18.9	-1.8
MKAR	Makanchi Array	13.26	34	P	Pn	19 28 20.2	-0.5
	comp=E,6.7nm,0.9s,baz=225,slow=13,SNR=25						
MKAR	Makanchi Array	13.26	34	P	Pn	19 28 18.9	-1.8
BRZS	Berezniki	13.71	3	*e*P	Pn	19 28 22.8	-3.7
BHPL	Bhopal	14.00	157	*e*P	Pn	19 28 28.6	-1.9
BHPL				IAmb	IAmb	19 28 38.5	
	comp=Z,34nm,

comp=Z,27nm,0.8s
SHME Shamm 16.58 236 P **P 19 29 04.7 +1.4**
SNR=5.9
SHME Shamm 16.58 236 *i* P **P 19 29 04.1 +0.8**
SNR=6.0
BVA0 Borovoye Array 16.75 358 P **Pn 19 29 01.2 -3.4**
comp=Z,6.4nm,0.5s,baz=165,slow=12,SNR=58
BVA0 Borovoye Array 16.75 358 P **Pn 19 29 01.2 -3.4**
BVAR Borovoye Array 16.75 358 P **Pn 19 29 01.4 -3.2**
comp=Z,16nm,0.6s,baz=163,slow=12,SNR=39
BVAR LR LR 19 35 36.0
comp=Z,69nm,20.6s,baz=176,slow=37
BRVK Borovoye 16.79 358 **Pn 19 29 00.9 -4.1**
BRVK IAmb IAmb 19 29 06.9
comp=Z,20nm,0.8s
BRVK Borovoye 16.79 358*ce*P **Pn 19 29 02.8 -2.2**
BRVK pmax pmax
comp=Z,26nm,1.0s
BLSP Bilaspur 16.90 144 *e*P **Pn 19 29 06.3 -0.4**
MDH Madha 16.98 234 P **P 19 29 07.9 +0.1**
MDH Madha 16.98 234 P **P 19 29 08.0 +0.1**
MASF Masafi 17.02 234 P **P 19 29 10.5 +2.2**
WSAR Wadi Sarin 17.09 224 P **Pn 19 29 09.7 +0.8**
comp=Z,9.4nm,0.6s,baz=65,slow=8.1,SNR=10
GTK Tadong 17.10 117 *e*P **P 19 29 08.3 -0.8**
GTK IAmb IAmb 19 29 16.6
comp=Z,41nm,0.9s
AKTO Aktyubinsk 17.14 330 P **P 19 29 07.8 -1.4**
comp=Z,95nm,0.5s,baz=143,slow=11,SNR=61
AKTO Aktyubinsk 17.14 330 ⇓P **P 19 29 07.1 -2.2**
comp=Z,64nm,0.6s
UOSS Minazif 17.29 233 P **Pn 19 29 13.4 +2.0**
WBK Wadi Bani Khal 17.40 222 P **Pn 19 29 13.6 +0.8**
HATD Hatta, Dubai 17.42 233 P **Pn 19 29 15.9 +3.0**
HATD Hatta, Dubai 17.42 233 P **Pn 19 29 15.2 +2.2**
JLN Jalan Bani Buh 17.55 220 P **Pn 19 29 16.8 +2.3**
SMDO Samad 17.56 225 P **Pn 19 29 16.1 +1.4**
ASHO Ashiyiah 17.57 233 P **Pn 19 29 15.9 +1.1**
SNR=10
ASHO Ashiyiah 17.57 233 *i* P **Pn 19 29 15.4 +0.6**
SNR=10
HOQ Hoqain 17.59 228 P **Pn 19 29 16.3 +1.3**
BOK Bokaro 17.63 131 *e*P **P 19 29 14.9 0.0**
BOK IAmb IAmb 19 29 19.7
comp=Z,18nm,0.5s
LSA Lhasa 17.78 106 P **Pn 19 29 17.7 -0.1**
LSA IAmb IAmb 19 29 20.9
comp=Z,45nm,1.1s
LSA Lhasa 17.78 106 P **Pn 19 29 18.6 +0.8**
LSA Lhasa 17.78 106 P **Pn 19 29 17.7 -0.1**
LSA pmax pmax
comp=Z,45nm,1.1s
KNTI KHUNTI 17.83 134 *e*P **P 19 29 17.2 +0.1**
KNTI IAmb IAmb 19 29 20.3
comp=Z,18nm,0.6s
JHSG JHARSUGUGA 18.03 140 *e*P **P 19 29 19.2 -0.2**
JHSG IAmb IAmb 19 29 28.0
comp=Z,22nm,0.8s
ASUD Al Ashush, Dub 18.08 234 P **Pn 19 29 22.2 +1.3**
LKRN Lenkeran, Azer 18.13 284 P **Pn 19 29 22.6 +1.2**
ALNE Al Ain 18.21 232 P **Pn 19 29 23.2 +0.7**
ALNE Al Ain 18.21 232 *i* P **Pn 19 29 22.4 0.0**
SNR=12
ARQ Araqi 18.25 229 P **Pn 19 29 24.2 +1.3**
BSY Bisya 18.29 226 P **Pn 19 29 24.6 +1.1**
GOMU GeErMu 18.85 83 P **Pn 19 29 31.5 +1.1**
GOMU pmax pmax
comp=Z,29nm,0.9s
MHTO MHTO 19.26 221 P **Pn 19 29 36.0 +1.1**
SNR=13
TAWA Tawang 19.36 111 *e*P **Pn 19 29 36.6 +0.2**
TAWA IAmb IAmb 19 29 41.2
comp=Z,21nm,0.7s
SEKA Sheki 19.51 292 P **Pn 19 29 36.7 -1.0**
MNGR Mingechevir, A 19.55 291 P **Pn 19 29 38.0 -0.1**
UMZA Um Al Zommool 19.55 231 P **P 19 29 37.1 +1.2**
JRN Qarnain Island 19.55 240 P **P 19 29 34.9 -1.0**
ZAA0 Zalesovo Array 19.96 24 P **P 19 29 38.8 -1.3**
ZAA0 IAmb IAmb 19 29 42.6
comp=Z,17nm,1.0s
ZALV Zalesovo Beam 19.96 24 P **P 19 29 39.4 -0.7**
ZALV Zalesovo Beam 19.96 24 P **P 19 29 39.6 -0.4**
comp=Z,9.9nm,0.4s,baz=212,slow=10,SNR=38
GUWA GUWAHATI 20.00 115 *e*P Pn 19 29 43.7 +0.3
RAGD RAYAGADA 20.00 145 *e*P Pn 19 29 43.6 0.0
RAGD IAmb IAmb 19 29 48.0
comp=Z,18nm,0.9s
GANJ Ganja 20.11 290 P Pn 19 29 44.1 -0.6
GHWR Ruwais 20.17 238 P **P 19 29 42.3 -0.3**
SHMA Al-Shehemyia 20.35 245 P **P 19 29 44.0 -0.5**
SNR=12
DQM DQM 20.36 221 P Pn 19 29 49.8 +2.1
MZR Muzera 20.42 234 P **P 19 29 45.4 +0.1**
MZR Muzera 20.42 234 *i* P **P 19 29 45.5 +0.2**
SNR=9.1
SHL Shillong 20.50 116 P Pn 19 29 48.2 -1.3
SHL Shillong 20.50 116 P Pn 19 29 48.4 -1.1
SHL Shillong 20.50 116 *e*P Pn 19 29 48.4 -1.2
SHL IAmb IAmb 19 29 54.7
comp=Z,21nm,0.6s
SHL Shillong 20.50 116 P Pn 19 29 48.2 -1.3
SHL pmax pmax
comp=Z,50nm,0.9s
SAKB Bahrain 20.59 246 P **P 19 29 46.8 -0.2**
NAX Nakhchivan 20.70 286 P Pn 19 29 50.4 -1.2
TRNA Turayna 20.84 242 P **P 19 29 49.0 -0.7**
SNR=13
DGRG David-gareji 20.90 292 P Pn 19 29 52.6 -1.3
SLWR Sila 20.92 240 P **P 19 29 50.0 -0.6**
SMRA Abu-Samra 21.11 243 P **P 19 29 52.1 -0.6**
KBD Kabd 21.16 257 P **P 19 29 53.4 +0.1**
GNI Garni 21.29 289 P **P 19 29 53.4 -1.3**
GNI Garni 21.29 289 P **P 19 29 55.5 +0.8**
comp=Z,28nm,0.6s,baz=4.3,slow=2.7,SNR=24
comp=Z,28nm,0.6s
GNI Garni 21.29 289 *i* P **P 19 29 56.4 +1.7**
GNI pmax pmax
comp=Z,41nm,0.8s
GNI Garni 21.29 289 P **P 19 29 55.9 +1.2**
GNI Garni 21.29 289 P **P 19 29 54.3 -0.4**
comp=Z,565nmcomp=Z,54nm,1.0s
SVE Sverdlovsk 21.79 344 *e*P **P 19 29 59.2 -0.4**
SVE *e*S **S 19 33 59.1 +5.3**
SVE pmax pmax
comp=Z,27nm,1.0s
ARTI Arti 21.95 340 P **P 19 30 00.5 -0.9**
ARTI Arti 21.95 340 P **P 19 30 01.3 -0.1**
comp=Z,33nm,0.7s,baz=158,slow=5.3,SNR=41
comp=Z,33nm,0.7s
ARTI Arti 21.95 340*c i*P **P 19 30 01.6 +0.2**
ARTI 19 30 27.8
ARTI S **S 19 33 59.0 +2.3**
ARTI pmax pmax
comp=Z,46nm,0.8s
KOHI KOHIMA 22.06 112 *e*P **P 19 30 05.4 +2.5**
KOHI IAmb IAmb 19 30 14.2
comp=Z,24nm,0.7s
KOHI *e*S **S 19 33 57.4 -1.9**
AZL Aizawl 22.20 118 *e*P **P 19 30 06.7 +2.4**
AZL IAmb IAmb 19 30 13.4
comp=Z,47nm,1.0s
IMP Imphal 22.44 114 *e*P **P 19 30 09.7 +2.9**
IMP IAmb IAmb 19 30 17.6
comp=Z,23nm,0.8s
NCK Nalchik 22.47 297 *i* P **P 19 30 06.8 -0.1**
NCK pmax pmax
comp=Z,36nm,0.6s
LKP Lekhapani 22.54 106 *e*P **P 19 30 09.5 +1.9**
LKP IAmb IAmb 19 30 11.8
comp=Z,42nm,0.9s
KARS Kars 22.58 290 P **P 19 30 06.4 -1.7**
KARS IAmb IAmb 19 30 36.2
comp=Z,28nm,0.7s
KARS Kars 22.58 290 P **P 19 30 06.4 -1.7**
KARS pmax pmax
comp=Z,28nm,0.7s
GTA Gaotai 22.59 73 *e*P **P 19 30 10.1 +1.9**
GTA pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 23.01 298 P **P 19 30 11.9 -0.2**
comp=Z,4.7nm,0.7s,baz=124,slow=8.4,SNR=12
comp=Z,4.7nm,0.7s
KBZ Khabaz 23.01 298*ce*P **P 19 30 11.5 -0.6**
KBZ pmax pmax
comp=Z,17nm,0.9s

GOF Gofitskoye 23.15 301*ce*P **P 19 30 13.8 +0.3**
SHA1 Shidzhatmaz 23.18 298 *e*P **P 19 30 13.7 -0.4**
KIV Kislovodsk 23.20 298 P **P 19 30 12.3 -1.7**
KIV IAmb IAmb 19 30 43.3
comp=Z,33nm,0.7s
KIV Kislovodsk 23.20 298 *e*P **P 19 30 14.1 0.0**
KIV *e*S **S 19 34 19.5 +2.2**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,31nm,14.0s
KIV Kislovodsk 23.20 298 P **P 19 30 13.5 -0.6**
KIV Kislovodsk 23.20 298 P **P 19 30 14.0 0.0**
comp=Z,35nm,0.7s
DOK Doka 23.30 226 P **P 19 30 16.1 +1.1**
DMTO DMTO 23.56 223 P **P 19 30 18.7 +1.3**
WHFO Wadi Hawf 24.05 225 P **P 19 30 22.7 +0.8**
SNR=8.3
LABN Labinsk 24.70 299 *e*P **P 19 30 29.8 +2.3**
LABN pmax pmax
comp=Z,31nm,0.7s
ABTO Aybut 24.78 225 P **P 19 30 31.0 +2.5**
SOC Sochi 25.28 297 *e*P **P 19 30 31.3 -1.5**
SOC *e* 19 31 13.7
SOC *e*S **S 19 34 51.3 +0.9**
RAYN Ar Rayn 25.74 248 P **P 19 30 36.5 -0.7**
RAYN IAmb IAmb 19 30 42.1
comp=Z,9.3nm,0.6s
RAYN Ar Rayn 25.74 248 P **P 19 30 36.5 -0.7**
RAYN pmax pmax
comp=Z,9.0nm,0.6s
RAYN Ar Rayn 25.74 248 P **P 19 30 36.9 -0.3**
VRH Novokhopyorsk 25.91 314 *e*P **P 19 30 38.2 -0.1**
VRH pmax pmax
comp=Z,11nm,0.7s
KIRV Kirov 26.58 334 P **P 19 30 45.3 +1.0**
comp=Z,28nm,0.7s,baz=159,slow=3.5,SNR=7.7
KIRV LR LR 19 41 33.3
comp=Z,60nm,20.0s,baz=175,slow=37
comp=Z,28nm,0.7s
KIRV Kirov 26.58 334*ce*P **P 19 30 44.2 -0.1**
ANN Anapa 27.04 299 *e*P **P 19 30 48.7 +0.1**
ANN *e*S **S 19 35 19.3 +1.1**
ANN pmax pmax
comp=Z,19nm,1.3s
VSR Storozhevoye 27.40 313 *e*P **P 19 30 49.8 -2.0**
VSR pmax pmax
comp=Z,9.0nm,1.0s
VORR Voronezh 27.54 314 *e*P **P 19 30 52.5 -0.5**
VORR pmax pmax
comp=Z,34nm,0.4s
LPSR Galich'ya Gora 28.05 316 *e*P **P 19 30 56.5 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 28.17 55 P **P 19 31 00.3 +1.5**
comp=Z,1.0nm,0.6s,baz=268,slow=9.4,SNR=9.7
SONM pP **pP 19 31 26.5 +1.9**
comp=Z,0.9nm,0.7s,baz=260,slow=8.9,SNR=3.9
SONM LR LR 19 41 49.6
comp=Z,42nm,20.7s,baz=288,slow=35
comp=Z,1.0nm,0.6s
MMAI Mount Meron Ar 29.71 274 P **P 19 31 13.2 +0.6**
comp=Z,1.2nm,0.7s,baz=66,slow=14,SNR=1.6
comp=Z,1.2nm,0.7s
CHTO Chiang Mai 29.81 118 P **P 19 31 15.8 +2.3**
CHTO Chiang Mai 29.81 118 P **P 19 31 15.8 +2.3**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
BR104 Keskin Array S 29.83 288 P **P 19 31 13.9 +0.2**
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 29.83 288 P **P 19 31 14.6 +0.9**
comp=Z,1.6nm,0.6s,baz=105,slow=9.0,SNR=4.7
comp=Z,1.6nm,0.6s
BR106 Keskin Array S 29.85 288 P **P 19 31 14.0 +0.2**
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 30.05 119 P **P 19 31 16.9 +1.3**
comp=Z,1.5nm,0.6s,baz=305,slow=8.8,SNR=13
comp=Z,1.5nm,0.6s
OBN Obninsk 30.32 319 P **P 19 31 17.8 +0.1**
comp=Z,9.0nm,0.3s,baz=52,slow=10.0,SNR=3.6
OBN sP **sP 19 31 58.9 +3.3**
comp=Z,11nm,0.4s,baz=114,slow=12,SNR=2.3
comp=Z,9.0nm,0.3s
OBN Obninsk 30.32 319 *e*P **P 19 31 17.3 -0.3**
OBN *e* 19 32 20.0
OBN *e* 19 34 15.8
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,75nm,14.0s
OBN Obninsk 30.32 319 P **P 19 31 17.7 +0.1**
comp=Z,20nm,0.6s
ANTO Ankara 30.47 289 P **P 19 31 19.5 +0.3**
ANTO Ankara 30.47 289 P **P 19 31 19.5 +0.3**
comp=Z,3.4nm,0.6s
KLMR Klimovskoe 31.84 331 *e*P **P 19 31 27.9 -2.9**
KLMR pmax pmax
comp=Z,14nm,0.9s
PURM Purcari 32.47 301 P **P 19 31 36.9 +0.3**
comp=Z,43nm,0.8s
AK09 Malin Array Si 33.30 309 P **P 19 31 44.0 +0.3**
AK08 Malin Array Si 33.32 309 P **P 19 31 44.1 +0.2**
AKASG Malin Array Be 33.35 309 P **P 19 31 42.2 -2.0**
AKASG Malin Array Be 33.35 309 P **P 19 31 44.4 +0.2**
comp=Z,3.9nm,0.5s,baz=83,slow=7.0,SNR=34
AKASG pP **pP 19 32 10.4 +0.9**
comp=Z,1.8nm,0.5s,baz=84,slow=7.2,SNR=2.8
comp=Z,3.9nm,0.5s
AKBB Malin Array Si 33.35 309*ce*P **P 19 31 44.2 +0.1**
AKBB pmax pmax
comp=Z,23nm,1.5s
AKBB Malin Array Si 33.35 309 P **P 19 31 44.3 +0.1**
KIEV Kiev 33.36 309 P **P 19 31 44.3 0.0**
KIEV pmax pmax
comp=Z,66nm,1.0s
KIEV Kiev 33.36 309 P **P 19 31 44.2 0.0**
comp=Z,67nm,1.0s
SORM Soroca 33.61 304 ⇑P **P 19 31 46.4 -0.1**
SORM Soroca 33.61 304 ⇑P **P 19 31 46.4 -0.1**
SORM Soroca 33.61 304 P **P 19 31 46.5 0.0**
comp=Z,8.5nm,0.7s
CFR Carcaliu 33.65 299 ⇑P **P 19 31 47.9 +1.1**
CFR Carcaliu 33.65 299 ⇑P **P 19 31 47.9 +1.1**
VLDR Vladesti 33.69 300 ⇑P **P 19 31 49.8 +2.6**
NDNU Novodnistrovsk 34.30 305 P **P 19 31 52.7 +0.2**
VRI Vrincioaia 34.63 300 ⇑P **P 19 31 58.1 +2.7**
VRI Vrincioaia 34.63 300 ⇑P **P 19 31 58.1 +2.7**
PLOR5 Plostina Array 34.68 300 P **P 19 31 56.1 +0.3**
comp=Z,16nm,0.8s
PLOR Plostina 34.69 300 ⇑P **P 19 31 57.7 +1.8**
PLOR Plostina 34.69 300 ⇑P **P 19 31 57.7 +1.8**
TESR Tescani 34.69 301 ⇑P **P 19 31 55.4 -0.5**
TESR Tescani 34.69 301 P **P 19 31 56.2 +0.3**
comp=Z,8.6nm,0.8s
MNK Minsk 34.90 315 *i* P **P 19 31 58.0 +0.5**
comp=E,9.0nm,1.0s
MNK *i* P **P 19 31 58.0 +0.5**
comp=N,16nm,1.0s
MNK *i* P **P 19 31 58.0 +0.5**
comp=Z,10.0nm,1.0s,baz=103
MNK *i* pP **pP 19 32 21.5 -1.4**
MNK *i* sP **sP 19 32 30.5 -5.3**
MNK *i* PP **PP 19 33 17.9 -0.6**
MNK *i* S **S 19 37 23.2 +2.8**
MNK *i* sS **ScP 19 38 03.1 0.0**
MNK *i* SS **SnSn 19 39 50.4 +3.6**
MNK *i* LQ LQ 19 42 26.8
MNK *i* LR LR 19 46 08.6
MNK *i* LRM MLR 19 48 19.5
comp=Z,96nm,18.1s
MNK *i* LRM MLR 19 49 30.4
comp=N,991nm,23.6s
MNK *i* LRM MLR 19 49 42.3
comp=E,1μm,23.3s
MNK Minsk 34.90 315 *i* P **P 19 31 57.9 +0.5**
MNK *i* *PP **pP 19 32 21.4 -1.4**
MNK *i* 19 33 17.9
MNK *i* S **S 19 37 23.2 +2.8**
MNK *i* *SS **ScP 19 38 03.0 0.0**
MNK pmax pmax
comp=Z,10.0nm,1.0s
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=E,9.0nm,1.0s

MNK MLR MLR
comp=Z,96nm,18.0s
MNK MLR MLR
comp=N,991nm,24.0s
MNK MLR MLR
comp=E,1μm,23.0s
COVR Voineasa-Covas 35.00 300 ⇑P **P 19 31 59.3 +0.7**
PRAR RASCA 35.00 303 ⇑P **P 19 31 59.1 +0.6**
MLR Muntele Rosu 35.19 299 IAmb IAmb 19 32 04.3
comp=Z,9.8nm,0.8s
MLR Muntele Rosu 35.19 299 P **P 19 32 01.0 +0.7**
comp=Z,7.6nm,0.8s,baz=185,slow=0.9,SNR=21
comp=Z,7.6nm,0.8s
MLR Muntele Rosu 35.19 299 ⇑P **P 19 32 03.3 +3.0**
RNPP5 Staryi Chortor 35.51 309 P **P 19 32 03.1 +0.3**
NACGM Naroch 35.61 316 ⇓*i*P **P 19 32 04.3 +0.7**
baz=103
BURAR Bucovina Array 35.69 303 ⇑P **P 19 32 05.0 +0.4**
BURAR Bucovina Array 35.69 303 ⇑P **P 19 32 05.0 +0.4**
BUR08 Bucovina Ar. S 35.70 303 P **P 19 32 03.9 -0.8**
VOIR 35.82 299 ⇑P **P 19 32 05.8 +0.2**
VOIR 35.82 299 ⇑P **P 19 32 05.8 +0.2**
ARR Arges 36.12 299 ⇑P **P 19 32 08.1 0.0**
ARCR ARCALIA 36.27 302 ⇑P **P 19 32 12.8 +3.4**
VSU Vasula 36.56 322*ce*P **P 19 32 10.2 -1.5**
VSU pmax pmax
comp=Z,11nm,0.8s
LOT Lotru 36.72 300 ⇑P **P 19 32 13.6 +0.3**
MARR Marisel-Cluj 37.13 302 ⇑P **P 19 32 17.5 +0.7**
DRGR 37.40 302 ⇑P **P 19 32 20.3 +1.3**
DRGR 37.40 302 ⇑P **P 19 32 20.3 +1.3**
KWP Kalwaria Pacla 37.42 306 *e*P **P 19 32 21.3 +2.3**
KWP Kalwaria Pacla 37.42 306 P **P 19 32 18.4 -0.6**
KWP pmax pmax
comp=Z,24nm,2.3s
FIA1 FINESS Array S 37.85 326 P **P 19 32 22.4 -0.1**
FINES FINESS Array B 37.85 326 P **P 19 32 22.9 +0.4**
comp=Z,6.1nm,0.6s,baz=113,slow=8.8,SNR=30
comp=Z,6.1nm,0.6s
SURR Surduc 37.86 300 ⇓P **P 19 32 23.7 +1.0**
NIE Niedzica 38.98 306 *e*P **P 19 32 34.2 +2.0**
NIE Niedzica 38.98 306 *e*P **P 19 32 32.4 +0.2**
NIE Niedzica 38.98 306 P **P 19 32 32.4 +0.2**
comp=Z,4.3nm,0.7s
OJC Ojcow 39.31 307 *e*P **P 19 32 35.3 +0.3**
OJC Ojcow 39.31 307 P **P 19 32 35.2 +0.3**
OJC Ojcow 39.31 307 P **P 19 32 35.2 +0.3**
comp=Z,9.6nm,1.5s
VADS Vadso 40.63 339 *e*P **P 19 32 46.2 +0.7**
VADS IAmb IAmb 19 32 47.1
comp=Z,20nm,0.9s
KEV Kevo 41.12 338 P **P 19 32 49.8 +0.2**
KEV IAmb IAmb 19 33 10.4
comp=Z,24nm,1.3s
KEV Kevo 41.12 338 P **P 19 32 49.8 +0.2**
KEV pmax pmax
comp=Z,24nm,1.3s
ARA0 ARCESS Array S 41.47 338 *e*P **P 19 32 53.3 +0.9**
ARA0 IAmb IAmb 19 32 54.9
comp=Z,17nm,1.0s
ARCES ARCESS Array B 41.47 338 P **P 19 32 52.9 +0.5**
ARCES ARCESS Array B 41.47 338 P **P 19 32 53.1 +0.7**
comp=Z,4.1nm,0.4s,baz=116,slow=8.7,SNR=66
ARCES pP **pP 19 33 19.8 +1.2**
comp=Z,2.3nm,0.7s,baz=116,slow=8.2,SNR=2.2
ARCES LR LR 19 51 31.3
comp=Z,48nm,18.7s,baz=140,slow=38
comp=Z,4.1nm,0.4s
ARCES ARCESS Array B 41.47 338 P **P 19 32 52.9 +0.5**
ARCES pmax pmax
comp=Z,31nm,1.5s
PSI Prapat 41.89 136 P **P 19 32 58.4 +1.8**
comp=Z,4.1nm,0.4s,baz=187,slow=4.8,SNR=3.8
comp=Z,4.1nm,0.4s
KTK1 Kautokeino 41.95 336 *e*P **P 19 32 56.8 +0.5**
KTK1 IAmb IAmb 19 32 58.4
comp=Z,12nm,1.0s
RPSI Rantau Prapat 41.98 136 P **P 19 32 58.4 +1.3**
CONA Conrad Observa 41.99 304 *e*P **P 19 32 57.9 +0.9**
comp=Z,1.5nm,0.6s
HEH HeiHe 42.09 53 *e*P **P 19 32 58.9 +1.2**
HEH pmax pmax
comp=Z,3.0nm,0.6s
HAMF Hammerfest 42.55 339 *e*P **P 19 33 01.9 +0.8**
HAMF IAmb IAmb 19 33 02.6
comp=Z,20nm,0.8s
JETT Jettan, Norway 43.09 336 *e*P **P 19 33 06.4 +0.8**
JETT IAmb IAmb 19 33 07.7
comp=Z,12nm,1.0s
GERES GERESS Array B 43.34 306 LR LR 19 53 33.2
comp=Z,77nm,20.0s,baz=278,slow=39
HFS Hagfors 43.45 322 P **P 19 33 08.6 +0.1**
comp=Z,4.2nm,0.4s,baz=90,slow=12,SNR=31
HFS pP **pP 19 33 35.3 +0.6**
comp=Z,3.9nm,0.5s,baz=82,slow=11,SNR=3.2
comp=Z,4.2nm,0.4s
TRO Tromso 43.60 336 *e*P **P 19 33 10.0 +0.4**
TRO IAmb IAmb 19 33 11.8
comp=Z,8.1nm,0.9s
PRED Cave del Predi 43.71 302 P **P 19 33 10.3 -0.7**
YAK Yakutsk 43.93 35 *i* P **P 19 33 11.2 -1.1**
YAK pmax pmax
comp=Z,3.0nm,0.5s
FAUS Fauske 44.15 333 *e*P **P 19 33 14.6 +0.5**
FAUS IAmb IAmb 19 33 15.1
comp=Z,38nm,1.3s
MOR8 Moi Rana 44.17 331 *e*P **P 19 33 13.9 -0.3**
MOR8 IAmb IAmb 19 33 15.0
comp=Z,22nm,0.8s
LESA Schwarzleotal 44.18 304 *e*P **P 19 33 15.1 +0.4**
comp=Z,2.3nm,0.4s
STEI Steigen 44.32 333 *e*P **P 19 33 15.9 +0.6**
STEI IAmb IAmb 19 33 18.0
comp=Z,8.1nm,0.8s
NC405 NORSAR Array S 44.52 323 P **P 19 33 16.7 -0.4**
NC602 NORSAR Array S 44.57 323 P **P 19 33 16.5 -1.0**
NC602 IAmb IAmb 19 33 53.2
comp=Z,11nm,1.2s
NC602 NORSAR Array S 44.57 323 *e*P **P 19 33 17.1 -0.4**
NC602 IAmb IAmb 19 33 41.3
comp=Z,250nm,3.0s
NORES NORESS Array B 44.57 323 P **P 19 33 17.2 -0.3**
KSRS Korea Array 44.62 71 P **P 19 33 19.6 +1.5**
comp=Z,0.9nm,0.5s,baz=279,slow=7.4,SNR=4.6
KSRS LR LR 19 54 08.8
comp=Z,34nm,19.7s,baz=175,slow=39
comp=Z,0.9nm,0.5s
LEIR Leirfjorden 44.68 330 *e*P **P 19 33 18.2 0.0**
LEIR IAmb IAmb 19 33 19.1
comp=Z,36nm,1.4s
NC303 NORSAR Array S 44.70 323 IAmb IAmb 19 33 19.7
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 44.76 323 P **P 19 33 18.6 -0.4**
comp=Z,3.9nm,0.5s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.76 323 P **P 19 33 18.6 -0.4**
baz=96,slow=7.9
NB2 NORSAR Subarra 44.76 323 P **P 19 33 15.8 -3.2**
NOA NORSAR Array B 44.76 323 P **P 19 33 18.7 -0.3**
comp=Z,5.5nm,0.7s,baz=96,slow=7.8,SNR=31
NOA pP **pP 19 33 46.6 +1.2**
comp=Z,2.4nm,0.6s,baz=96,slow=8.0,SNR=2.8
NOA LR LR 19 53 07.9
comp=Z,17nm,19.9s,baz=105,slow=37
comp=Z,5.5nm,0.7s
KONS Konsvik 44.76 331 *e*P **P 19 33 19.5 +0.6**
KONS IAmb IAmb 19 33 20.7
comp=Z,11nm,0.7s
STOK Stokkvaagen 44.77 331 IAmb IAmb 19 33 19.1
comp=Z,457nm,3.0s
STOK *e*P **P 19 33 19.5 +0.6**
NSS Namsos 44.86 328 *e*P **P 19 33 20.2 +0.5**
NSS IAmb IAmb 19 33 23.7
comp=Z,85nm,1.6s
NBO00 NORSAR Array S 44.97 323 P **P 19 33 19.9 -0.8**
NBO00 IAmb IAmb 19 34 02.2
comp=Z,24nm,1.2s
KLR Kul'dur 44.98 54 LR LR 19 53 20.8
comp=Z,32nm,18.5s,baz=298,slow=37
LOF Lofoten 44.99 333 *e*P **P 19 33 20.9 +0.3**
LOF IAmb IAmb 19 33 21.9
comp=Z,71nm,1.5s
NC204 NORSAR Array S 45.00 323 P **P 19 33 20.6 -0.3**
NC204 IAmb IAmb 19 33 22.4
comp=Z,7.4nm,0.8s
HOPEN Hopen 45.29 346 *e*P **P 19 33 22.8 -0.2**
KONO Kongsberg 45.47 321 P **P 19 33 23.9 -0.7**

KONO Kongsberg 45.47 321 *eP* **P 19 33 24.6 0.0**
KONO Kongsberg 45.47 321 P **P 19 33 23.9 -0.7**
KONO pmax pmax
comp=Z,43nm,1.5s
TIXI Tiksi 45.84 22 P **P 19 33 27.3 0.0**
TIXI Tiksi 45.84 22 *i P* **P 19 33 27.0 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,0.4s
DOMB Dombas 45.87 324 *eP* **P 19 33 28.0 +0.2**
DOMB IAmb IAmb 19 33 28.6
comp=Z,36nm,1.6s
USRK Ussuriysk Ar. 45.97 61 P **P 19 33 29.6 +0.9**
comp=Z,0.6nm,0.7s,baz=276,slow=6.8,SNR=1.5
comp=Z,0.6nm,0.7s
DAVA Damuels 46.08 304 *eP* **P 19 33 29.8 0.0**
comp=Z,3.8nm,0.4s
SKAR Skarslia 46.16 323 *eP* **P 19 33 31.9 +1.9**
SKAR IAmb IAmb 19 33 32.5
comp=Z,11nm,1.2s
ODD1 Odda 46.98 321 *eP* **P 19 33 37.9 +1.5**
ODD1 IAmb IAmb 19 33 40.3
comp=Z,44nm,1.5s
BER Bergen 47.62 322 *eP* **P 19 33 42.2 +0.8**
ASK Askoy 47.69 322 *eP* **P 19 33 42.3 +0.5**
ASK IAmb IAmb 19 33 43.2
comp=Z,88nm,1.7s
SPA0 Spitsbergen Ar 47.77 347 *eP* **P 19 33 42.7 +0.3**
SPITS Spitsbergen Ar 47.77 347 P **P 19 33 43.6 +1.2**
comp=Z,4.8nm,0.8s,baz=96,slow=8.7,SNR=10
comp=Z,4.8nm,0.8s
JNU Nakatsue 48.30 75 LR LR 19 56 15.5
comp=Z,32nm,20.1s,baz=334,slow=38
KBS Kingsbay 48.89 347 *eP* **P 19 33 51.2 +0.3**
KMBO Kilima Mbogo 48.95 228 P **P 19 33 53.4 +1.0**
comp=Z,1.0nm,0.4s,baz=45,slow=11,SNR=4.5
comp=Z,1.0nm,0.4s
KIBK Kibwezi 49.45 226 P **P 19 33 55.4 -0.7**
KIBK IAmb IAmb 19 33 58.9
comp=Z,3.5nm,0.8s
MBAR Mbarara 52.67 235 P **P 19 34 20.5 +0.3**
MBAR IAmb IAmb 19 34 21.7
comp=Z,4.5nm,0.6s
MBAR Mbarara 52.67 235 *ceP* **P 19 34 21.4 +1.1**
MBAR pmax pmax
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 52.68 316 P **P 19 34 19.4 -0.2**
comp=Z,4.9nm,0.8s,baz=91,slow=7.8,SNR=5.6
comp=Z,4.9nm,0.8s
MJAR Matsushiro Arr 52.70 68 LR LR 19 57 54.2
comp=Z,25nm,19.8s,baz=14,slow=37
DAG Danmarks Havn 55.03 344 P **P 19 34 36.8 +0.4**
DAG pmax pmax
comp=Z,16nm,1.6s
DAG Danmarks Havn 55.03 344 *i P* **P 19 34 36.0 -0.4**
DAG *i P* **P 19 34 36.0 -0.4**
ESDC Sonseca Array 57.86 298 P **P 19 34 56.4 -0.7**
comp=Z,1.5nm,0.9s,baz=53,slow=7.9,SNR=6.8
comp=Z,1.5nm,0.9s
BILL Bilibino 58.64 26 *i P* **P 19 35 01.8 -0.2**
BILL pmax pmax
comp=Z,15nm,4.0s
SUMG Summit 61.37 341 P **P 19 35 21.9 +0.8**
SUMG Summit 61.37 341 P **P 19 35 21.9 +0.8**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 61.37 341 *i P* **P 19 35 22.0 +0.9**
TORD Torodi Ar. Bea 66.06 269 P **P 19 35 50.3 -1.9**
TORD Torodi Ar. Bea 66.06 269 P **P 19 35 50.2 -2.1**
comp=Z,2.8nm,0.3s,baz=47,slow=6.0,SNR=2.3
D19K Kuna River 69.24 17 IAmb IAmb 19 36 17.4
comp=Z,16nm,1.5s
TOLK Toolik Lake Re 71.03 15 P **P 19 36 22.8 +0.4**
A36M Sachs Harbour 71.38 5 IAmb IAmb 19 36 56.0
comp=Z,7.4nm,1.0s
C36M Paulatuk 74.05 6 IAmb IAmb 19 36 42.7
comp=Z,6.8nm,0.5s
INK Inuvik 74.05 9 P **P 19 36 39.9 -0.3**
INK Inuvik 74.05 9 P **P 19 36 39.9 -0.3**
INK pmax pmax
comp=Z,6.0nm,1.3s
COLA College 74.58 16 *i P* **P 19 36 42.0 -1.3**
COLA pmax pmax
comp=Z,5.0nm,0.8s
LBTB Lobatse 74.76 222 P **P 19 36 45.3 +0.4**
LBTB Lobatse 74.76 222 P **P 19 36 45.3 +0.4**
LBTB pmax pmax
comp=Z,33nm,1.4s
ILAR Eielson Array 74.88 16 P **P 19 36 44.7 -0.4**
comp=Z,0.4nm,0.5s,baz=293,slow=4.5,SNR=9.6
ILAR pP **pP 19 37 16.6 +2.6**
comp=Z,0.7nm,0.9s,baz=312,slow=5.4,SNR=3.4
comp=Z,0.4nm,0.5s
DBIC Dimbokro 75.04 267 P **P 19 36 45.0 -1.7**
comp=Z,3.1nm,0.6s,baz=351,slow=4.5,SNR=4.4
comp=Z,3.1nm,0.6s
H29M Whitestone 75.26 12 IAmb IAmb 19 36 51.0
comp=Z,14nm,1.5s
BOSA Boshof 77.81 220 P **P 19 37 02.3 +0.1**
BOSA IAmb IAmb 19 37 03.7
comp=Z,8.8nm,0.8s
BOSA Boshof 77.81 220 P **P 19 37 02.5 +0.3**
comp=Z,7.9nm,0.8s,baz=40,slow=5.7,SNR=14
comp=Z,7.9nm,0.8s
YKA Yellowknife Ar 81.44 3 P **P 19 37 20.8 -0.4**
YKA Yellowknife Ar 81.44 3 P **P 19 37 21.3 +0.1**
comp=Z,1.3nm,0.5s,baz=349,slow=5.4,SNR=31
YKA pP **pP 19 37 53.4 +2.8**
comp=Z,0.6nm,0.5s,baz=348,slow=5.2,SNR=3.4
comp=Z,1.3nm,0.5s
WRA Warramunga Arr 81.58 122 P **P 19 37 22.6 0.0**
comp=Z,0.6nm,0.5s,baz=324,slow=4.9,SNR=7.5
WRA pP **pP 19 37 54.5 +2.3**
comp=Z,1.7nm,0.6s,baz=324,slow=5.0,SNR=4.6
comp=Z,0.6nm,0.5s
SCHQ Schefferville 82.42 337 P **P 19 37 26.8 +0.2**
comp=Z,1.7nm,0.6s,baz=49,slow=14,SNR=7.3
comp=Z,1.7nm,0.6s
ASAR Alice Springs 83.85 125 P **P 19 37 34.4 +0.1**
comp=Z,0.7nm,0.5s,baz=310,slow=5.0,SNR=15
ASAR pP **pP 19 38 05.7 +2.2**
comp=Z,2.4nm,0.9s,baz=319,slow=4.8,SNR=6.2
comp=Z,0.7nm,0.5s
PDAR Pinedale Array 101.31 1 P **Pdif 19 38 56.0 +0.4**
comp=Z,0.2nm,0.6s,baz=333,slow=3.1,SNR=1.6
QSPA South Pole Qui 126.09 180 PKP **PKPdf 19 44 04.3 -0.8**
comp=Z,8.0nm,1.4s,baz=52,slow=0.9,SNR=5.7
PLCA Paso Flores 150.08 250 PKPbc **PKPbc 19 44 54.0 -0.5**
comp=Z,1.5nm,0.5s,baz=9.8,slow=6.1,SNR=4.5

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*IDC **14** 19:26:54.9±2.8,2°.63S×101°.38E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=131.8km s-min=23.7km az=57.0*
*DJA **14** 19:27:07.1±0.3,3°S±4°×10°1E±°, h45km±8km, M4.0/8, mB5.1/1, mb3.7/1, MLv4.1/8, Mw(mB)4.5/1*
ISC 14 19:26:59.6±1.1, 3.32S±0.10×100.7E±0.1, h35km, n21, σ2§41/15, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.96**	**100**	P	**Pn**	**19 27 32.3**	**+1.8**
KSI				S	**Sn**	**19 27 51.6**	**-2.4**
MNAI	**Manna**	**2.52**	**114**	P	**Pn**	**19 27 42.3**	**+4.2**
MNAI				S	**Sn**	**19 28 08.1**	**+0.5**
SISI	**Saibi**	**2.52**	**322**	P	Pn	19 27 48.5	+10
PPI	**Padang Panjang**	**2.86**	**355**	P	Pn	19 27 45.6	+2.9
PPI				S	**Sn**	**19 28 17.0**	**+1.1**
MDSI	**Maura Dua**	**3.70**	**108**	P	**Pn**	**19 27 56.2**	**+1.8**
MDSI				S	**Sn**	**19 28 34.8**	**-2.0**
LWLI	**Liwa**	**3.79**	**116**	P	**Pn**	**19 27 57.7**	**+2.0**
LWLI				S	**Sn**	**19 28 39.4**	**+0.2**
PBSI	**Pulau Batu**	**4.02**	**324**	P	Pn	19 28 07.6	+8.9
GSI	**Gunungsitoli**	**5.53**	**326**	P	Pn	19 28 26.9	+7.4
CGJI	**Cibinong**	**5.99**	**123**	P	**Pn**	**19 28 29.9**	**+4.1**
H08S2	**Diego Garcia H** baz=78	**28.35**	**260**	T	T	20 02 37.9	
H08S3	**Diego Garcia H** baz=78	**28.36**	**260**	T	T	20 02 33.4	
H08S1	**Diego Carcia H** baz=78	**28.37**	**260**	T	T	20 02 37.2	
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=304,slow=10,SNR=9.9 0.6nm,0.4s	**36.77**	**119**	P	**P**	**19 34 01.6**	**-2.6**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=300,slow=8.0,SNR=16	**37.96**	**125**	P	**P**	**19 34 13.1**	**-1.2**
ASAR				PcP	**PcP**	**19 36 29.8**	**0.0**
	0.3nm,0.6s,baz=294,slow=3.1,SNR=3.0 0.7nm,0.5s						
STKA	**Stephens Creek** 1.5nm,0.8s,baz=298,slow=15,SNR=3.2 1.5nm,0.8s	**47.79**	**131**	P	**P**	**19 35 34.4**	**+0.6**
SONM	**Songino Array** 0.2nm,0.4s,baz=172,slow=8.8,SNR=1.9 0.2nm,0.4s	**51.19**	**5**	P	P	19 35 54.8	-4.8
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=162,slow=8.8,SNR=1.7 0.6nm,0.8s	**52.47**	**344**	P	P	19 36 05.9	-3.1
H04N2	**CROZET ISLANDS** baz=58,slow=75,SNR=7.3	**60.13**	**217**	T	T	20 42 40.7	
H04N1	**CROZET ISLANDS** baz=58,slow=75,SNR=7.4	**60.15**	**217**	T	T	20 42 43.3	
H04N3	**CROZET ISLANDS** baz=58,slow=75,SNR=6.0	**60.15**	**217**	T	T	20 42 38.6	
TXAR	**Lajitas Array** 0.7nm,0.6s,baz=202,slow=0.7,SNR=4.9	**145.33**	**39**	PKP	**PKPab**	**19 46 32.5**	**-2.1**

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*GUC **14** 19:27:04.9±0.8,20°.27S×69°.15W, h114km±6km, ML4.1*
*NEIC **14** 19:27:05.0±0.9,20°.27S±0°.05×69°.06W±0°.09, h108km±3km, mb4.2/8, Error ellipse: s-maj=11.7km s-min=7.1km az=89.0*
*IDC **14** 19:27:06.2±0.8,20°.22S×68°.81W, h110km±6km, mb3.7/7, mbtmp4.1/10, MS2.6/1, Error ellipse: s-maj=23.1km s-min=11.7km az=95.0*
*VAO **14** 19:27:07.8±0.9,20°.13S×68°.94W, h135km±9km, mb4.3*
ISC 14 19:27:04.6±0.5, 20°.26S±0°.04×68°.99W±0°.06, h105km±5km, n70, σ1§34/86, mb4.1/7, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.19**	**306**		**Pn**	**19 27 19.8**	**-0.2**
PB08				Sn	**Sn**	**19 27 32.0**	**+0.8**
PB11	**IPOC Station P**	**0.80**	**308**		**Pn**	**19 27 23.6**	**0.0**
PB11	**IPOC Station P**	**0.80**	**308**	⇓ *iP*	**Pn**	**19 27 23.9**	**+0.3**
PB11				*eS*	**Sn**	**19 27 37.8**	**-0.1**
PB11				IAML		19 27 38.5	
	comp=N,22μm,0.3s						
PB01	**IPOC Station P**	**0.91**	**211**		**Pn**	**19 27 25.2**	**+0.6**
PB01	**IPOC Station P**	**0.91**	**211**	⇑ *iP*	**Pn**	**19 27 25.4**	**+0.7**
PB01				*eS*	**Sn**	**19 27 40.9**	**+1.1**
PB01				IAML		19 27 41.8	
	comp=N,11μm,0.2s						
TA02	**Huaiquique**	**1.08**	**269**		**Pn**	**19 27 26.3**	**0.0**
TA02				Sn	**Sn**	**19 27 41.7**	**-0.8**
TA02	**Huaiquique**	**1.08**	**269**	*eP*	**Pn**	**19 27 26.2**	**0.0**
TA02				*eS*	**Sn**	**19 27 42.1**	**-0.4**
TA02				IAML		19 27 43.2	
	comp=E,15μm,0.1s						
TA01	**Diego Aracena**	**1.16**	**254**	Pn	**Pn**	**19 27 27.0**	**-0.2**
TA01	**Diego Aracena**	**1.16**	**254**	⇑ *iP*	**Pn**	**19 27 27.0**	**-0.2**
TA01				*eS*	**Sn**	**19 27 43.3**	**-0.9**
TA01				IAML		19 27 48.7	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**1.55**	**189**		**Pn**	**19 27 32.7**	**+0.7**
PB09	**IPOC Station P**	**1.55**	**189**	⇑ *iP*	**Pn**	**19 27 33.4**	**+1.4**
PB09				*eS*	**Sn**	**19 27 54.4**	**+1.7**
PB09				IAML		19 27 57.6	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**1.92**	**202**	*eP*	**Pn**	**19 27 37.1**	**+0.5**
PB03				*eS*	**Sn**	**19 28 00.5**	**-0.4**
PB03				IAML		19 28 02.3	
	comp=E,2μm,0.2s						
PB12	**IPOC Station P**	**2.07**	**322**	Pn	**Pn**	**19 27 38.0**	**-0.4**
PB12	**IPOC Station P**	**2.07**	**322**	*eP*	**Pn**	**19 27 38.2**	**-0.2**
PB12				*eS*	**Sn**	**19 28 01.9**	**-2.3**
PB12				IAML		19 28 09.2	
	comp=N,974nm,0.4s						
AP01	**Chacalluta**	**2.27**	**325**	Pn	**Pn**	**19 27 40.9**	**-0.1**
PB06	**IPOC Station P**	**2.50**	**193**	*eP*	**Pn**	**19 27 45.5**	**+1.4**
PB06				*eS*	**Sn**	**19 28 12.2**	**-2.1**
PB06				IAML		19 28 16.2	
	comp=E,2μm,0.2s						
PB18	**Visviri**	**2.69**	**350**		**Pn**	**19 27 47.4**	**+0.4**
PB18	**Visviri**	**2.69**	**350**	*eP*	**Pn**	**19 27 49.2**	**+2.2**
YJA	**Yavi**	**3.76**	**121**	*eP*	**Pn**	**19 28 05.3**	**+4.2**
LPAZ	**La Paz**	**4.03**	**12**	Pn	**Pn**	**19 28 06.1**	**+1.2**
LPAZ	**La Paz**	**4.03**	**12**	P	**Pn**	**19 28 07.5**	**+2.6**
	comp=E,16nm,0.3s,baz=190,slow=8.0,SNR=59						
LPAZ				S	**Sn**	**19 28 52.0**	**+0.5**
	comp=E,23nm,0.7s,baz=215,slow=17,SNR=6.5						
LPAZ	**La Paz**	**4.03**	**12**	*eP*	**Pn**	**19 28 07.8**	**+2.9**
PB14	**IPOC Station P**	**4.54**	**197**	Pn	**Pn**	**19 28 11.1**	**-0.5**
GO02	**Mina Guanaco**	**4.92**	**186**	Pn	**Pn**	**19 28 16.0**	**-0.6**
AC01	**Pan de Azucar**	**6.05**	**194**		**Pn**	**19 28 29.1**	**-2.5**
AC02	**Maricunga**	**6.55**	**181**		**Pn**	**19 28 37.1**	**-1.8**
SIV	**San Ignacio**	**8.64**	**62**	P	**Pn**	**19 29 05.6**	**-1.2**
	comp=E,8.3nm,0.4s,baz=254,slow=11,SNR=49						
SIV				LR	LR	19 33 04.4	
	comp=E,41nm,18.8s,baz=180,slow=42						
CO01	**Juntas del Tor**	**9.73**	**186**	Pn	**Pn**	**19 29 20.6**	**-1.3**
PTLB	**Pontes e Lacer**	**10.52**	**65**	Pn	**Pn**	**19 29 31.5**	**-1.0**
PTLB	**Pontes e Lacer**	**10.52**	**65**	*eP*	**Pn**	**19 29 31.7**	**-0.7**
VILB	**Vilhena**	**11.12**	**51**	Pn	**Pn**	**19 29 39.6**	**-1.0**
VILB	**Vilhena**	**11.12**	**51**	*eP*	**Pn**	**19 29 40.2**	**-0.3**
CFA	**Coronel Fontan**	**11.32**	**177**	P	**Pn**	**19 29 39.5**	**-3.8**
	comp=E,0.5nm,0.4s,baz=355,slow=18,SNR=1.5						
CFA				S	Sn	19 31 36.8	-11
	comp=E,0.8nm,0.3s,baz=249,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**12.30**	**122**	Pn	**Pn**	**19 29 53.2**	**-3.0**
CPUP	**Villa Florida**	**12.30**	**122**	P	**Pn**	**19 29 55.3**	**-0.8**
	comp=E,1.5nm,0.5s,baz=290,slow=14,SNR=5.2						
MT08	**Bocatoma Ro**	**13.17**	**184**		**Pn**	**19 30 05.1**	**-2.7**
SALV	**Santo Antonio**	**13.36**	**73**	*eP*	**Pn**	**19 30 10.9**	**+0.7**
MT13	**San Alfonso**	**13.48**	**185**	P	**Pn**	**19 30 11.9**	**+0.1**
BO01	**Tunca**	**14.20**	**187**		**P**	**19 30 25.7**	**+0.5**
RPRD	**Ribas do Rio P**	**14.34**	**94**	*eP*	**P**	**19 30 25.1**	**-1.7**
BO02	**Sierra Bellavi**	**14.57**	**186**		**Pn**	**19 30 26.6**	**+0.9**
PDRB	**Porto dos Gac**	**14.58**	**56**	*eP*	**P**	**19 30 27.1**	**-2.3**
BI02	**San Fabin de**	**16.47**	**186**	Pn	**Pn**	**19 30 48.2**	**-1.3**
BI02				IAmb	IAmb	19 31 00.9	
	comp=Z,20nm,1.5s						
LDASE	**Londrina, Braz**	**16.88**	**104**	*eP*	**P**	**19 30 56.8**	**+1.9**
ARAG	**Araguaiana, MT**	**16.95**	**77**	*eP*	**P**	**19 30 56.6**	**+0.9**
FRTB	**Fartura**	**18.29**	**103**	*eP*	**Pn**	**19 31 11.5**	**-0.2**
TRQA	**Tornquist**	**18.75**	**163**		**P**	**19 31 16.1**	**+0.7**
TRQA				IAmb	IAmb	19 31 17.0	
	comp=Z,8.7nm,0.7s						
SNDB	**Serra Nova Dou**	**18.87**	**67**	*eP*	**Pn**	**19 31 16.9**	**-1.7**
BB19B	**Bebedouro**	**19.16**	**96**	*eP*	**P**	**19 31 20.2**	**+0.2**
IPMB	**Ipameri, GO**	**19.76**	**87**	*eP*	**P**	**19 31 26.4**	**-0.1**
PLCA	**Paso Flores**	**20.46**	**183**	P	**P**	**19 31 33.1**	**-0.8**
PLCA	**Paso Flores**	**20.46**	**183**	P	**P**	**19 31 35.3**	**+1.4**
	comp=Z,8.1nm,0.8s,baz=12,slow=8.3,SNR=10						
	comp=Z,8.1nm,0.8s						
PLCA	**Paso Flores**	**20.46**	**183**	*eP*	**P**	**19 31 35.3**	**+1.4**
BDFB	**Brasilia**	**20.47**	**80**	P	**P**	**19 31 34.2**	**0.0**
BDFB	**Brasilia**	**20.47**	**80**	P	**P**	**19 31 34.1**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=254,slow=7.1,SNR=7.1						
	comp=Z,5.6nm,0.5s						
BOAV	**Boa Vista**	**23.99**	**21**	P	**P**	**19 32 09.5**	**-0.2**
BOAV	**Boa Vista**	**23.99**	**21**	*eP*	**P**	**19 32 09.5**	**-0.2**
JANB	**Januaria**	**24.06**	**82**	*eP*	**P**	**19 32 10.0**	**-0.4**
AY01	**Puyuhuapi**	**24.29**	**186**	P	**P**	**19 32 12.2**	**+0.1**
AY01				IAmb	IAmb	19 32 13.4	
	comp=Z,8.0nm,0.9s						
RUSC	**La Rusia**	**26.30**	**351**	P	**P**	**19 32 31.1**	**+0.1**
RUSC				IAmb	IAmb	19 32 34.2	
	comp=Z,7.9nm,1.1s						
EFI	**East Falkland**	**32.50**	**167**	P	**P**	**19 33 24.1**	**-1.1**
SNAA	**Sanae**	**63.47**	**161**	P	**P**	**19 37 23.7**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=76,slow=20,SNR=2.0						
	comp=Z,3.0nm,0.9s						
QSPA	**South Pole Qui**	**69.93**	**180**	P	**P**	**19 38 06.2**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=96,slow=0.1,SNR=8.3						
QSPA				pP	**pP**	**19 38 33.4**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=163,slow=3.7,SNR=1.2						
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**74.47**	**322**	P	**P**	**19 38 33.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=88,slow=3.9,SNR=1.6						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.01**	**71**	P	**P**	**19 38 46.1**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=255,slow=5.3,SNR=1.6						
TORD				pP	**pP**	**19 39 15.1**	**+0.3**
	comp=Z,6.4nm,0.4s,baz=237,slow=4.5,SNR=5.2						
	comp=Z,2.3nm,0.3s						
YKA	**Yellowknife Ar**	**90.00**	**341**	P	**P**	**19 39 52.6**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=141,slow=5.2,SNR=3.8						
YKA				pP	**pP**	**19 40 20.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=138,slow=4.5,SNR=4.1						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=128,slow=2.1,SNR=5.0	**130.97**	**208**	PKP	**PKiKP**	**19 46 05.2**	**-0.5**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=142,slow=1.6,SNR=1.5	**133.98**	**211**	PKP	**PKiKP**	**19 46 11.3**	**-0.4**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.8s,baz=321,slow=4.0,SNR=3.7	**144.66**	**35**	PKP	**PKPab**	**19 46 27.3**	**-0.7**
MKAR				pPKP	**pPKPdf**	**19 46 58.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=2.7						
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=346,slow=1.4,SNR=2.8	**152.23**	**7**	PKPbc	**PKiKP**	**19 46 50.0**	**+1.6**
SONM				PKPab	**PKPab**	**19 46 58.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=352,slow=2.3,SNR=2.2						

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*IDC **14** 19:55:20.1±1.2,30°.01N×97°.81E, h0km, mb3.3/5, mbtmp3.3/6, Error ellipse: s-maj=78.1km s-min=18.3km az=67.0*
ISC 14 19:55:24.7±1.2, 30°.0N±0°.1×97°.5E±0°.1, h35km, n13, σ1§65/14, mb3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare** baz=251,slow=0.0	**9.38**	**253**	Pn	**Pn**	**19 57 37.1**	**-0.5**
RAMN	**Ramite** baz=253,slow=0.0	**10.01**	**255**	Pn	**Pn**	**19 57 45.6**	**-0.6**
RAMN				Sn	**Sn**	**19 59 39.3**	**+1.9**
	8.8nm,0.6s,baz=253,slow=0.0						
PKI	**Pulchoki** baz=258,slow=0.0	**10.83**	**260**	Pn	**Pn**	**19 57 56.4**	**-1.1**
PKIN	**Phulchoki** baz=258,slow=0.0	**10.84**	**260**	Pn	**Pn**	**19 57 56.3**	**-1.3**
DMN	**Daman** baz=258,slow=0.0	**11.08**	**261**	Pn	**Pn**	**19 58 00.1**	**-0.7**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=349,slow=9.9,SNR=5.6	**11.54**	**173**	Pn	**Pn**	**19 58 07.5**	**+0.6**
CMAR				Lg	Lg	20 01 28.0	
	0.1nm,0.3s,baz=3.8,slow=27,SNR=1.3						
KOLN	**Koldanda** baz=261,slow=0.0	**12.33**	**263**	Pn	**Pn**	**19 58 16.1**	**-1.9**
PYUN	**Piuthan** baz=263,slow=0.0	**12.79**	**265**	Pn	**Pn**	**19 58 20.6**	**-3.6**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=136,slow=12,SNR=5.0 0.3nm,0.5s	**20.52**	**329**	P	**P**	**20 00 00.8**	**+1.0**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=154,slow=8.6,SNR=6.3 0.2nm,0.3s	**25.04**	**331**	P	**P**	**20 00 46.8**	**+1.4**
ZALV	**Zalesovo Beam** 1.1nm,0.7s,baz=163,slow=11,SNR=5.2 1.1nm,0.7s	**25.66**	**343**	P	**P**	**20 00 52.4**	**+1.4**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=324,slow=7.1,SNR=2.3 0.4nm,0.7s	**61.03**	**140**	P	**P**	**20 05 34.0**	**-0.9**
ASAR	**Alice Springs** 0.1nm,0.5s,baz=321,slow=6.6,SNR=1.8 0.1nm,0.5s	**63.80**	**143**	P	**P**	**20 05 53.1**	**-0.3**

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*JMA **14** 20:09:10.6±0.2,26°N±2°×12°5E±°, h152km, MV3.6/29, NW OFF MIYAKOJIMA ISLAND*
*IDC **14** 20:09:27.5±6.3,26°.89N×125°.30E, h354km±88km, mb2.6/4, mbtmp3.3/5, Error ellipse: s-maj=51.9km s-min=24.2km az=45.0*
ISC 14 20:09:09.6±0.9, 26°.57N±0°.08×125°.34E±0°.06, h152km±11km, n34, σ1§35/51, mb3.1/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.31**	**100**	*i P*	**Pn**	**20 09 38.3**	**+0.9**
JKE				S	**Sn**	**20 09 59.1**	**+0.3**
JIKM	**Ikemajima**	**1.64**	**183**	*eS*	**Sn**	**20 10 03.6**	**-1.2**
JAGN	**Aguni-jima**	**1.70**	**89**	P	**Pn**	**20 09 42.3**	**+0.8**
JAGN				*eS*	**Sn**	**20 10 05.3**	**-0.6**
JIRB	**Irabujima**	**1.74**	**185**	P	**Pn**	**20 09 42.5**	**+0.5**
JIRB				S	**Sn**	**20 10 05.9**	**-0.9**
JMJ	**Miyako jima 2**	**1.75**	**182**	P	**Pn**	**20 09 44.1**	**+2.0**
JOGS	**Gusukube**	**1.80**	**178**	P	**Pn**	**20 09 43.5**	**+0.8**
JOGS				*eS*	**Sn**	**20 10 08.1**	**0.0**
JMJ2	**Miyako jima3**	**1.82**	**180**	P	**Pn**	**20 09 43.6**	**+0.7**
JMJ2				S	**Sn**	**20 10 07.4**	**-1.0**
JTJ	**Tarama**	**2.00**	**197**	P	**Pn**	**20 09 45.4**	**+0.5**
JTJ				S	**Sn**	**20 10 10.4**	**-1.8**
JISG	**Ishigakijimahi**	**2.18**	**206**	P	**Pn**	**20 09 47.6**	**+0.6**
JISG				S	**Sn**	**20 10 13.9**	**-1.9**
JJT3	**Tamagusuku3**	**2.23**	**100**	P	**Pn**	**20 09 48.5**	**+0.9**
JJT3				*eS*	**Sn**	**20 10 16.7**	**-0.1**
JIH	**Iheya**	**2.39**	**78**	P	**Pn**	**20 09 50.3**	**+0.8**
JIH				S	**Sn**	**20 10 19.9**	**-0.3**
JNTH	**Nagotoyohara**	**2.40**	**91**	P	**Pn**	**20 09 50.1**	**+0.5**
JNTH				S	**Sn**	**20 10 18.0**	**-2.4**
JIJ	**Ishigaki jima**	**2.45**	**207**	P	**Pn**	**20 09 50.3**	**0.0**
JIJ				S	**Sn**	**20 10 18.5**	**-3.1**
JKRS	**Kuro-shima**	**2.62**	**208**	P	**Pn**	**20 09 52.5**	**+0.2**
JKRS				*eS*	**Sn**	**20 10 22.8**	**-2.5**
JOW	**Kunigami**	**2.63**	**84**	P	**Pn**	**20 09 52.9**	**+0.4**
JOW	**Kunigami**	**2.63**	**84**	P	**Pn**	**20 09 52.9**	**+0.4**
IRIF	**Iriomote-Funau**	**2.66**	**214**	P	**Pn**	**20 09 53.2**	**+0.3**
IRIF				S	**Sn**	**20 10 25.2**	**-1.0**
JYRO	**Yoronjima**	**2.81**	**80**	*i P*	**Pn**	**20 09 55.2**	**+0.5**
JYRO				S	**Sn**	**20 10 27.1**	**-2.5**
HATJ	**Hateruma jima**	**2.86**	**209**	*eS*	**Sn**	**20 10 28.5**	**-2.2**
YOJ	**Yonaguni jima**	**2.97**	**226**	P	**Pn**	**20 09 58.5**	**+1.7**
YOJ	**Yonaguni jima**	**2.97**	**226**	P	**Pn**	**20 09 58.5**	**+1.7**
JOKE	**Okinoerabujima**	**2.99**	**74**	*i P*	**Pn**	**20 09 57.3**	**+0.4**
JOKE				*eS*	**Sn**	**20 10 31.8**	**-1.6**
JTK	**Tokunoshima**	**3.43**	**69**	*i P*	**Pn**	**20 10 02.7**	**+0.1**
JTK				S	**Sn**	**20 10 42.5**	**-1.2**
JAMN	**Amaminishikomi**	**3.79**	**63**	P	**Pn**	**20 10 07.1**	**-0.1**
JAMN				*eS*	**Sn**	**20 10 49.7**	**-2.3**
NACB	**Ninganchiao**	**4.15**	**236**	P	**Pn**	**20 10 12.6**	**+0.7**
JAM	**Amami Oshima**	**4.21**	**63**	P	**Pn**	**20 10 12.3**	**-0.3**
SSLB	**Suanglung**	**4.85**	**236**	P	**Pn**	**20 10 21.9**	**+0.8**
JMZ	**Minamidaito 2**	**5.33**	**97**	P	**Pn**	**20 10 26.7**	**-0

comp=E,11µm,0.3s
PB01 IPOC Station P 0.80 292 *e*P **Pn 20 25 58.9 +0.4**
PB01 *e*S **Sn 20 26 14.1 +0.5**
PB01 IAML 20 26 14.4
comp=Z,3µm,0.3s
PB03 IPOC Station P 1.20 235⇑ *e*P **Pn 20 26 03.1 +0.5**
PB03 *e*S **Sn 20 26 20.2 -0.6**
PB03 IAML 20 26 20.9
comp=N,3µm,0.2s
PB03 IPOC Station P 1.20 235 *e*P **Pn 20 26 02.3 -0.3**
PB03 *e*S **Sn 20 26 20.7 -0.1**
PB03 IAML 20 26 22.0
comp=Z,3µm,0.3s
PB08 IPOC Station P 1.28 340 Pn **Pn 20 26 04.6 +1.0**
PB06 IPOC Station P 1.57 211⇑ *e*P **Pn 20 26 07.6 +0.8**
PB06 *e*S **Sn 20 26 28.4 +0.1**
PB06 IAML 20 26 30.1
comp=E,3µm,0.3s
PB06 IPOC Station P 1.57 211 *e*P **Pn 20 26 06.9 +0.1**
PB06 *e*S **Sn 20 26 28.6 +0.3**
PB06 IAML 20 26 29.3
comp=Z,1µm,0.7s
PB06 *e*S 20 26 29.7
TA01 Diego Aracena 1.59 299 **Pn 20 26 06.9 0.0**
TA01 Diego Aracena 1.59 299⇑ *e*P **Pn 20 26 06.9 0.0**
TA01 *e*S **Sn 20 26 26.8 -1.6**
TA01 IAML 20 26 29.2
comp=E,4µm,0.2s
TA01 Diego Aracena 1.59 299 *e*P Pn 20 25 58.5 -8.4
TA01 *e*P 20 26 06.2
TA01 *e*S **Sn 20 26 27.8 -0.6**
TA01 IAML 20 26 28.6
comp=Z,1µm,0.7s
TA02 Huaiquique 1.72 308 **Pn 20 26 08.1 -0.3**
TA02 Huaiquique 1.72 308 *e*S **Sn 20 26 30.1 -1.0**
TA02 Huaiquique 1.72 308 *e*P **Pn 20 26 08.6 +0.2**
TA02 *e*S **Sn 20 26 32.3 +1.2**
TA02 IAML 20 26 33.5
comp=Z,1µm,0.1s
PB11 IPOC Station P 1.82 330 **Pn 20 26 10.2 +0.4**
PB11 IPOC Station P 1.82 330⇑ *e*P **Pn 20 26 10.3 +0.4**
PB11 *e*S **Sn 20 26 33.8 +0.2**
PB11 IAML 20 26 35.6
comp=N,4µm,0.5s
PB11 IPOC Station P 1.82 330 *e*P **Pn 20 26 10.2 +0.4**
PB11 *e*S **Sn 20 26 34.4 +0.8**
PB11 IAML 20 26 36.2
comp=Z,982nm,0.7s
PB05 IPOC Station P 2.05 223 **Pn 20 26 12.1 -0.5**
PB05 IPOC Station P 2.05 223⇑ *i*P **Pn 20 26 12.5 -0.1**
PB05 *i*S **Sn 20 26 36.3 -2.3**
PB05 IAML 20 26 44.5
comp=E,457nm,0.3s
PB10 IPOC Station P 2.75 218 **Pn 20 26 21.3 -0.3**
PB10 IPOC Station P 2.75 218 *e*P **Pn 20 26 21.3 -0.3**
PB10 *e*S **Sn 20 26 50.4 -4.3**
PB10 IAML 20 26 51.8
comp=E,207nm,0.3s
PB10 IPOC Station P 2.75 218 *e*P **Pn 20 26 21.2 -0.3**
PB10 *e*S **Sn 20 26 52.7 -2.0**
VJA Yavi 3.07 106 *e*P **Pn 20 26 29.7 +3.6**
PB16 IPOC Station P 3.10 346 Pn **Pn 20 26 27.3 +0.7**
PB12 IPOC Station P 3.12 330 **Pn 20 26 25.6 -0.9**
PB12 IPOC Station P 3.12 330 *e*P **Pn 20 26 25.7 -0.9**
PB12 *e*S **Sn 20 27 01.3 -2.2**
PB12 IAML 20 27 03.6
comp=E,359nm,0.2s
PB12 IPOC Station P 3.12 330 *e*P **Pn 20 26 25.6 -0.9**
PB12 *e*S **Sn 20 27 03.5 0.0**
PB12 IAML 20 27 20.1
comp=Z,181nm,0.9s
PB14 IPOC Station P 3.62 205 **Pn 20 26 32.1 -1.1**
PB14 IPOC Station P 3.62 205 *e*P **Pn 20 26 29.7 -3.6**
PB14 *e*P 20 26 33.0
PB14 *e*S **Sn 20 27 14.4 -1.1**
GO02 Mina Guanaco 3.88 192 **Pn 20 26 36.8 +0.1**
GO02 Mina Guanaco 3.88 192⇑ *e*P **Pn 20 26 36.9 +0.1**
GO02 IAML 20 27 22.9
comp=E,158nm,0.3s
GO02 Mina Guanaco 3.88 192 *e*P **Pn 20 26 36.8 +0.1**
GO02 *e*S **Sn 20 27 23.4 +1.6**
LPAZ La Paz 5.06 6 **Pn 20 26 53.8 +0.8**
LPAZ La Paz 5.06 6 P **Pn 20 26 53.9 +0.9**
comp=E,4.2nm,0.5s,baz=194,slow=3.3,SNR=22
LPAZ S **Sn 20 27 48.5 -2.2**
comp=E,4.5nm,0.6s,baz=115,slow=6.8,SNR=4.4
LPAZ La Paz 5.06 6 *e*P **Pn 20 26 56.2 +3.2**
AC01 Pan de Azucar 5.08 200 **Pn 20 26 51.0 -1.7**
AC02 Maricunga 5.47 184 **Pn 20 26 57.9 -0.5**
AC06 Mina Casimiro 6.17 194 Pn **Pn 20 27 05.6 -1.7**
CO01 Juntas del Tor 8.68 188 Pn **Pn 20 27 38.4 -3.1**
SIV San Ignacio 8.98 55 P **Pn 20 27 43.8 -1.6**
comp=E,16nm,0.5s,baz=243,slow=13,SNR=75
SIV S **Sn 20 29 20.5 -4.3**
comp=E,0.6nm,0.4s,baz=130,slow=20,SNR=1.3
GO04 Tololo Observa 8.99 192 Pn **Pn 20 27 42.0 -3.6**
CFA Coronel Fontan 10.22 178 P **Pn 20 27 59.4 -2.8**
comp=E,0.5nm,0.4s,baz=347,slow=22,SNR=1.6
PTLB Pontes e Lacer 10.80 59 **Pn 20 28 06.1 -4.0**
PTLB Pontes e Lacer 10.80 59 *e*P **Pn 20 28 08.4 -1.6**
BDQN Bodoquena, MS 11.20 88 *e*P **Pn 20 28 13.6 -1.8**
CPUP Villa Florida 11.52 118 P **Pn 20 28 19.2 -0.3**
comp=E,1.1nm,0.5s,baz=290,slow=13,SNR=3.6
VILB Vilhena 11.64 46 *e*P **Pn 20 28 21.7 +0.4**
SJPY San Joaquin 12.14 110 *e*P **Pn 20 28 28.3 +0.6**
AQDB Aquidauana 12.18 88 Pn **Pn 20 28 29.8 +1.6**
BI02 San Fabin de 15.42 188 Pn **Pn 20 29 08.3 -1.6**
BI02 IAmb IAmb 20 29 12.1
comp=Z,11nm,1.2s
LDASE Londrina, Braz 16.39 100 *e*P **P 20 29 22.7 +0.1**
CPSB Cacapava Do Su 16.41 126 *e*P **P 20 29 23.3 +0.5**
FRTB Fartura 17.81 100 *e*P **Pn 20 29 40.0 +0.8**
BB19B Bebedouro 18.81 93 *e*P **P 20 29 49.5 +0.3**
MAJ01 Sao Joao Batis 18.91 112 *e*P **Pn 20 29 52.3 +0.2**
SNDB Serra Nova Dou 19.08 64 *e*P **P 20 29 52.7 +0.4**
NPGB Novo Progresso 19.20 44 *e*P **P 20 29 53.7 +0.2**
PLCA Paso Flores 19.39 184 P **Pn 20 29 57.3 -0.4**
comp=Z,2.8nm,0.8s,baz=348,slow=9.6,SNR=4.5
IPMB Ipameri, GO 19.58 84 *e*P **P 20 29 58.5 +0.9**
MACA Manacapuru-AM 19.69 24 P **P 20 29 59.3 +0.5**
MACA Manacapuru-AM 19.69 24 *e*P **Pn 20 30 01.2 -0.1**
LL04 Puerto Octay 19.75 188 P **P 20 29 59.0 -0.2**
LL04 IAmb IAmb 20 30 26.0
comp=Z,21nm,1.4s
SPB Sao Paulo 19.78 100 *e*P **Pn 20 30 01.2 -1.1**
VAO Valinhos 20.19 99 P **P 20 30 04.0 -0.2**
VAO IAmb IAmb 20 30 05.6
comp=Z,14nm,0.8s
VAO Valinhos 20.19 99 *e*P **P 20 30 05.0 +0.7**
BDFB Brasilia 20.41 77 P **P 20 30 06.9 +0.2**
BDFB IAmb IAmb 20 30 11.1
comp=Z,8.2nm,0.5s
BDFB Brasilia 20.41 77 P **P 20 30 07.5 +0.8**
comp=Z,7.7nm,0.5s,baz=273,slow=8.3,SNR=12
comp=Z,7.7nm,0.5s
PMNB Patos De Minas 21.11 86 *e*P **P 20 30 14.2 +0.1**
JANB Januaria 23.98 79 *e*P **P 20 30 42.3 -0.2**
SDBA SAO DESIDERIO 24.41 72 *e*P **P 20 30 47.7 +1.2**
BOAV Boa Vista 24.92 20 P **P 20 30 49.7 -1.2**
SNAA Sanae 62.35 161 P **P 20 35 50.3 +1.8**
comp=Z,1.9nm,0.9s,baz=196,slow=14,SNR=1.3
comp=Z,1.9nm,0.9s
QSPA South Pole Qui 68.84 180 P **P 20 36 33.0 +2.7**
comp=Z,0.8nm,0.5s,baz=350,slow=0.5,SNR=13
comp=Z,0.8nm,0.5s
PDAR Pinedale Array 74.08 330 P **P 20 37 03.2 +1.1**
comp=Z,0.1nm,0.4s,baz=151,slow=4.5,SNR=2.0
comp=Z,0.1nm,0.4s
TORD Torodi Ar. Bea 77.12 70 P **P 20 37 19.9 +0.2**
comp=Z,2.4nm,0.3s,baz=246,slow=5.8,SNR=2.3
comp=Z,2.4nm,0.3s
YKA Yellowknife Ar 91.11 341 P **P 20 38 30.7 +1.1**
comp=Z,0.4nm,0.6s,baz=138,slow=4.2,SNR=7.5
comp=Z,0.4nm,0.6s
ASAR Alice Springs 130.14 207 PKP **PKiKP 20 44 37.2 +0.8**
comp=Z,0.6nm,1.0s,baz=134,slow=2.7,SNR=2.6
MKAR Makanchi Array 145.40 36 PKPbc **PKiKP 20 45 04.5 -2.3**
comp=Z,0.4nm,0.8s,baz=323,slow=1.8,SNR=4.1

*IDC **14** 20:35:45.7±1.3, 3.°03S×146.°78E, h0km, mb3.7/9, mbtmp3.8/11, ML2.5/2, MS3.5/32, Error ellipse: s-maj=39.7km s-min=18.8km az=93.0*

*NEIC **14** 20:35:47.7±1.8, 3.°05S±0.°07×146.°60E±0.°10, h10km±1km, mb4.1/11, Error ellipse: s-maj=19.2km s-min=5.8km az=303.0*

ISC 14 20:35:50.9±0.7, **3.°08S**±0.°06×**146.°66E**±0.°08, **h35**km, **n55**, σ1§**10**/29, **mb3.8**/11, **MS3.5**/29, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.25**	**34**	Pn	**Pn**	**20 36 11.0**	**-0.8**
MANU				Sn	**Sn**	**20 36 28.9**	**+1.5**
JAY	**Jayapura**	**5.98**	**275**	Pn	**Pn**	**20 37 18.2**	**+1.2**
	0.4nm,0.3s,baz=360,slow=9.3,SNR=4.0						
JAY				Sn	**Sn**	**20 38 25.4**	**+1.1**
	baz=266,slow=8.8						
	34nm,1.0s						
PMG	**Port Moresby**	**6.31**	**176**	Pn	**Pn**	**20 37 21.7**	**+0.3**
	2.5nm,0.3s,baz=80,slow=2.9,SNR=5.6						
PMG				Sn	**Sn**	**20 38 35.0**	**+2.7**
	0.3nm,0.3s,baz=203,slow=21,SNR=1.3						
PMG				LR	LR	20 39 55.0	
	comp=Z,814nm,18.1s,baz=0.5,slow=39						
	9.2nm,0.5s						
COEN	**Coen**	**11.35**	**197**		**Pn**	**20 38 30.2**	**-0.4**
HNR	**Honiara**	**14.63**	**116**	LR	LR	20 44 56.1	
	comp=Z,139nm,18.7s,baz=310,slow=38						
GUMO	**Guam**	**16.65**	**354**	LR	LR	20 45 13.2	
	comp=Z,101nm,19.8s,baz=124,slow=34						
MTN	**Manton Dam**	**18.17**	**237**	P	**Pn**	**20 39 59.5**	**-1.1**
MTN				IAmb	IAmb	20 40 09.5	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**20.46**	**215**	P	**P**	**20 40 25.4**	**-0.3**
WB0				IAmb	IAmb	20 40 34.3	
	comp=Z,7.9nm,1.0s						
WR0	**Warramunga Arr**	**20.53**	**214**	P	**P**	**20 40 26.3**	**-0.2**
WR0				IAmb	IAmb	20 40 30.7	
	comp=Z,7.8nm,1.2s						
WB2	**Warramunga Arr**	**20.62**	**215**	P	**P**	**20 40 26.6**	**-0.9**
WB2				IAmb	IAmb	20 40 49.3	
	comp=Z,7.9nm,1.1s						
WRA	**Warramunga Arr**	**20.63**	**215**	P	**P**	**20 40 27.6**	**0.0**
	comp=Z,4.6nm,1.1s,baz=39,slow=11,SNR=9.4						
	comp=Z,4.6nm,1.1s						
KNRA	**Kununurra**	**21.62**	**233**	P	**P**	**20 40 36.8**	**-1.3**
EIDS	**Eidsvold**	**22.57**	**170**	P	**P**	**20 40 47.8**	**-0.5**
AS31	**Alice Springs**	**23.90**	**210**	P	**P**	**20 41 00.1**	**-1.6**
ASAR	**Alice Springs**	**23.90**	**210**	P	**P**	**20 41 00.6**	**-1.0**
ASAR	**Alice Springs**	**23.90**	**210**	P	**P**	**20 41 02.0**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=40,slow=8.1,SNR=18						
ASAR				LR	LR	20 51 06.4	
	comp=Z,75nm,19.3s,baz=38,slow=38						
	comp=Z,1.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.44**	**233**	P	**P**	**20 41 13.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**25.44**	**233**	LR	LR	20 51 51.1	
	comp=Z,253nm,19.2s,baz=61,slow=38						
KAPI	**Kappang**	**26.91**	**265**	LR	LR	20 53 10.1	
	comp=Z,70nm,19.0s,baz=78,slow=39						
DZM	**Mont Dzumac**	**26.93**	**136**	LR	LR	20 50 46.3	
	comp=Z,266nm,19.6s,baz=294,slow=34						
STKA	**Stephens Creek**	**29.04**	**189**	LR	LR	20 54 04.0	
	comp=Z,121nm,19.9s,baz=20,slow=38						
H11S3	**WAKE ISLAND Hy**	**29.13**	**42**	T	T	21 11 03.8	
	baz=223						
H11S2	**WAKE ISLAND Hy**	**29.14**	**42**	T	T	21 11 10.5	
	baz=223						
H11S1	**WAKE ISLAND Hy**	**29.15**	**42**	T	T	21 11 01.2	
	baz=223						
JCJ	**Chichijima**	**30.31**	**352**	LR	LR	20 53 50.1	
	comp=Z,43nm,18.3s,baz=78,slow=36						
TGY	**Tagaytay City**	**30.69**	**304**	LR	LR	20 54 54.4	
	comp=Z,27nm,18.9s,baz=219,slow=37						
JOW	**Kunigami**	**34.63**	**330**	LR	LR	20 53 18.6	
	comp=Z,91nm,21.5s,baz=142,slow=30						
JHJ	**Hachijo jima 2**	**36.58**	**350**	LR	LR	20 56 50.2	
	comp=Z,94nm,18.4s,baz=111,slow=35						
JNU	**Nakatsue**	**38.98**	**339**	LR	LR	20 56 21.6	
	comp=Z,57nm,19.2s,baz=161,slow=32						
MJAR	**Matsushiro Arr**	**40.20**	**349**	LR	LR	20 57 36.7	
	comp=Z,38nm,18.8s,baz=144,slow=33						
NWAO	**Narrogin (SRO)**	**40.51**	**220**	LR	LR	21 01 30.7	
	comp=Z,132nm,20.0s,baz=268,slow=38						
KSRS	**Korea Array**	**43.92**	**338**	P	**P**	**20 43 54.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=157,slow=8.2,SNR=2.9						
KSRS				LR	LR	21 00 51.9	
	comp=Z,48nm,19.7s,baz=150,slow=34						
	comp=Z,0.6nm,0.5s						
URZ	**Urewera**	**44.72**	**145**	LR	LR	20 59 49.5	
	comp=Z,95nm,19.4s,baz=14,slow=32						
USRK	**Ussuriysk Ar.**	**48.87**	**346**	LR	LR	21 02 13.4	
	comp=Z,22nm,20.9s,baz=148,slow=32						
CMAR	**Chiang Mai Arr**	**51.62**	**296**	P	**P**	**20 44 54.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=104,slow=7.5,SNR=5.3						
	comp=Z,0.4nm,0.3s						
KLR	**Kul'dur**	**53.68**	**348**	LR	LR	21 05 57.3	
	comp=Z,18nm,19.7s,baz=172,slow=34						
RAR	**Rarotonga**	**55.07**	**114**	LR	LR	21 05 26.0	
	comp=Z,34nm,21.4s,baz=348,slow=32						
PETK	**Petropavlovsk-**	**56.75**	**8**	LR	LR	21 05 43.2	
	comp=Z,34nm,21.2s,baz=179,slow=32						
SONM	**Songino Array**	**61.71**	**330**	P	**P**	**20 46 06.1**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=157,slow=8.4,SNR=4.2						
SONM				LR	LR	21 12 01.9	
	comp=Z,47nm,20.9s,baz=126,slow=35						
	comp=Z,0.5nm,0.8s						
MA2	**Magadan**	**62.55**	**2**	LR	LR	21 08 53.1	
	comp=Z,18nm,21.6s,baz=196,slow=32						
YAK	**Yakutsk**	**66.22**	**351**	LR	LR	21 14 58.7	
	comp=Z,23nm,19.3s,baz=124,slow=36						
MK31	**Makanchi Array**	**75.05**	**320**	P	**P**	**20 47 28.8**	**-0.4**
MK31				IAmb	IAmb	20 47 37.1	
	comp=Z,2.6nm,1.3s						
MKAR	**Makanchi Array**	**75.05**	**320**	P	**P**	**20 47 30.2**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=101,slow=7.5,SNR=5.4						
MKAR				LR	LR	21 21 45.2	
	comp=Z,21nm,18.7s,baz=65,slow=37						
	comp=Z,1.0nm,1.0s						
MAKZ	**Makanchi**	**75.25**	**320**	P	**P**	**20 47 28.5**	**-1.8**
MAKZ				IAmb	IAmb	20 47 41.1	
	comp=Z,3.4nm,1.2s						
ZALV	**Zalesovo Beam**	**76.38**	**328**	LR	LR	21 19 47.8	
	comp=Z,41nm,21.7s,baz=90,slow=35						
KURBB	**Kurchatov Arra**	**78.71**	**323**	P	**P**	**20 47 50.3**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=91,slow=5.6,SNR=2.0						
	comp=Z,0.2nm,0.4s						
AAK	**Ala-Archa**	**79.07**	**314**	LR	LR	21 22 50.4	
	comp=Z,33nm,20.9s,baz=115,slow=36						
ARSB	**Arslanbob**	**79.85**	**313**	P	**P**	**20 47 56.6**	**+0.3**
ARSB				IAmb	IAmb	20 48 06.8	
	comp=Z,4.9nm,1.4s						
ILAR	**Eielson Array**	**82.95**	**23**	P	**P**	**20 48 11.6**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=234,slow=4.3,SNR=1.9						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**84.22**	**324**	P	**P**	**20 48 19.2**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=94,slow=6.4,SNR=3.6						
BVAR				LR	LR	21 27 29.3	
	comp=Z,23nm,19.0s,baz=168,slow=37						
	comp=Z,1.3nm,0.8s						
YBH	**Yreka Blue Hor**	**92.50**	**49**	LR	LR	21 22 08.7	
	comp=Z,48nm,20.9s,baz=308,slow=30						
NVAR	**Mina Array Bea**	**95.84**	**52**	LR	LR	21 26 57.0	
	comp=Z,24nm,18.3s,baz=270,slow=32						
KIRV	**Kirov**	**96.39**	**328**	LR	LR	21 33 30.9	
	comp=Z,61nm,20.4s,baz=88,slow=36						
PFO	**Pinyon Flats O**	**97.42**	**57**	LR	LR	21 24 40.2	
	comp=Z,41nm,21.0s,baz=138,slow=30						
TORD	**Torodi Ar. Bea**	**143.95**	**288**	PKP	**PKPdf**	**20 55 24.9**	**+1.1**
	comp=Z,4.3nm,0.4s,baz=86,slow=0.8,SNR=2.2						

*PDG **14** 20:41:21.7±0.5, 43.°71N×17.°53E, h1km±1km, MD3.6/3, ML3.5/13, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
*RHSSO **14** 20:41:23.8±0.2, 43.°73N×17.°54E, h5km±1km, ML3.4/14*
*BEO **14** 20:41:24.4±0.3, 43.°76N×17.°55E, h6km±2km, ML3.3/20*
*PRU **14** 20:41:27.4, 43.°98N×17.°68E, h1km*

ISC 14 20:41:22.8±1.1, **43.°73N**±0.°02×**17.°53E**±0.°02, **h0**km±10km, **n133**, σ1§**23**/214, **35C-26D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKA	**Makarska**	**0.58**	**221**	*i* Pg	**Pg**	**20 41 33.1**	**-0.7**
KIJV	**Kijevo**	**0.86**	**289**	*e*Pg	**Pg**	**20 41 38.4**	**-0.9**
STON	**Ston**	**0.86**	**172**	⇓*i*Pg	**Pg**	**20 41 38.3**	**-1.1**
STON				*e*Sg	**Sg**	**20 41 50.8**	**+0.2**
STON	**Ston**	**0.86**	**172**	*e*Pg	**Pg**	**20 41 38.2**	**-1.1**
STON	**Ston**	**0.86**	**172**	*e*Pg	**Pg**	**20 41 38.3**	**-1.1**
STON				*e*Sg	**Sg**	**20 41 51.7**	**+1.1**
HVAR	**Hvar**	**0.96**	**236**	*e*Pg	**Pg**	**20 41 39.9**	**-1.3**
A050A	**Klekovaca**	**1.04**	**317**	*e*Pg	**Pg**	**20 41 42.5**	**-0.3**
A050A				*e*Sg	**Sg**	**20 41 57.1**	**+0.7**
BLY	**Banja Luka**	**1.05**	**346**	⇓*i*Pg	**Pg**	**20 41 43.1**	**+0.1**
BLY				*e*Sg	**Sg**	**20 41 57.1**	**+0.5**
BLY	**Banja Luka**	**1.05**	**346**	*e*Pg	**Pg**	**20 41 43.3**	**+0.3**
BLY				*e*Sg	**Sn**	**20 41 59.7**	**-0.5**
DOB	**Doboj**	**1.08**	**22**	*e*Pg	**Pg**	**20 41 42.9**	**-0.7**
DOB				*e*Sg	**Sg**	**20 41 57.9**	**+0.2**
HAPS	**Han Pijesak,BI**	**1.09**	**70**	*e*Pg	**Pg**	**20 41 44.3**	**+0.6**
HAPS				*e*Sg	**Sb**	**20 41 59.2**	**-0.1**
HAPS				*e*Sg	**Sb**	**20 41 59.2**	**-0.1**
BRY	**Bratogost**	**1.10**	**138**	*e*Pg	**Pg**	**20 41 43.2**	**-0.8**
BRY				*e*Sg	**Sg**	**20 41 59.2**	**+0.9**
BRY	**Bratogost**	**1.10**	**138**	⇓*i*Pg	**Pg**	**20 41 43.5**	**-0.5**
BRY				*i* Sg	**Sn**	**20 42 01.1**	**-0.6**
UPM	**Unac-Piva**	**1.13**	**117**	⇑*i*Pg	**Pg**	**20 41 44.2**	**-0.2**
UPM				*e*Sg	**Sb**	**20 42 00.2**	**-0.4**
UPM	**Unac-Piva**	**1.13**	**117**	⇑*i*Pg	**Pg**	**20 41 44.3**	**-0.2**
UPM				*i* Sg	**Sn**	**20 42 01.4**	**-1.0**
DBRK	**Dubrovnik**	**1.15**	**157**	*e*Pg	**Pb**	**20 41 43.6**	**-2.0**
TREB	**Trebinje**	**1.17**	**149**	⇑*i*Pg	**Pb**	**20 41 44.4**	**-1.5**
TREB				*e*Sg	**Sb**	**20 42 00.9**	**-0.8**
TREB	**Trebinje**	**1.17**	**149**	*e*Pg	**Pb**	**20 41 44.5**	**-1.5**
TREB				*e*Sg	**Sn**	**20 42 04.0**	**+0.8**
MORI	**Morici**	**1.33**	**277**	*e*Pg	**Pn**	**20 41 46.8**	**-1.8**
RUDO	**Rudo**	**1.34**	**94**	⇓*i*Pg	**Pn**	**20 41 47.1**	**-1.7**
RUDO				*e*Sg	**Sb**	**20 42 05.8**	**-0.7**
A051A	**Mrakovica**	**1.36**	**341**	⇓*i*Pg	**Pn**	**20 41 48.7**	**-0.5**
A051A				*e*Sg	**Sn**	**20 42 06.9**	**-1.1**
BBLS	**Lazi&#263i**	**1.36**	**84**	⇑*i*Pg	**Pb**	**20 41 48.9**	**-0.4**
BBLS				*e*Sg	**Sb**	**20 42 06.5**	**-0.8**
BBLS	**Lazi&#263i**	**1.36**	**84**	*e*Pg	**Pb**	**20 41 49.2**	**-0.1**
BBLS				*e*Sg	**Sn**	**20 42 07.0**	**-1.0**
ZIRJ	**Zirje**	**1.37**	**268**	*e*Pg	**Pn**	**20 41 47.6**	**-1.6**
PRIJ	**Prijedor**	**1.38**	**335**	⇑*i*Pg	**Pb**	**20 41 49.1**	**-0.4**
PRIJ				*e*Sg	**Sn**	**20 42 07.0**	**-1.3**
PLE	**Pljevlja**	**1.41**	**106**	⇑*i*Pg	**Pn**	**20 41 49.3**	**-0.5**
PLE				*i* Sg	**Sg**	**20 42 11.0**	**+3.0**
NKME	**Niksic**	**1.41**	**132**	⇓*i*Pg	**Pn**	**20 41 49.3**	**-0.5**
NKME				*i* Sg	**Sg**	**20 42 11.2**	**+3.0**
HCY	**Herceg Novi**	**1.46**	**151**	⇑*i*Pg	**Pb**	**20 41 50.4**	**-0.5**
HCY				*e*Sg	**Sg**	**20 42 10.4**	**+0.7**
HCY	**Herceg Novi**	**1.46**	**151**	⇓*i*Pg	**Pn**	**20 41 49.9**	**-0.5**
HCY				*e*Sg	**Sg**	**20 42 12.8**	**+3.1**
CEME	**Cevo**	**1.56**	**139**	⇓*i*Pg	**Pn**	**20 41 51.7**	**-0.1**
CEME				*i* Sg	**Sg**	**20 42 15.0**	**+2.2**
TEKS	**Tekeris**	**1.66**	**60**	*e*Pn	**Pn**	**20 41 53.2**	**0.0**
TEKS				*e*Sn	**Sb**	**20 42 14.9**	**-0.7**
TEKS	**Tekeris**	**1.66**	**60**	*e*Pn	**Pb**	**20 41 53.5**	**-0.7**
TEKS				*e*Sg	**Sg**	**20 42 16.2**	**+0.2**
KOME	**Kolasin**	**1.69**	**120**	⇓*i*Pn	**Pb**	**20 41 54.6**	**-0.3**
KOME				*i* Sn	**Sg**	**20 42 18.9**	**+1.7**
BUM	**Brajici-Budva**	**1.74**	**145**	⇑*i*Pn	**Pb**	**20 41 55.5**	**-0.2**
BUM				*i* Sn	**Sg**	**20 42 19.6**	**+0.9**
DUGI	**Dugi Otok**	**1.81**	**279**	*e*Pn	**Pb**	**20 41 55.8**	**-1.0**
PDG	**Podgorica**	**1.81**	**135**	⇑*i*Pn	**Pn**	**20 41 54.8**	**-0.4**
PDG				*e*Sn	**Sb**	**20 42 19.1**	**-0.9**
PDG	**Podgorica**	**1.81**	**135**	⇑P	**Pb**	**20 41 56.0**	**-0.8**
PDG				⇑S	**Sb**	**20 42 20.5**	**+0.5**
PDG	**Podgorica**	**1.81**	**135**	*e*Pg	**Pg**	**20 41 58.2**	**+0.7**
PDG				*e*Sg	**Sg**	**20 42 22.3**	**+1.4**
PDG	**Podgorica**	**1.81**	**135**	⇑*i*Pn	**Pb**	**20 41 55.8**	**-1.0**
PDG				*i* Sn	**Sg**	**20 42 21.2**	**+0.3**
DIVS	**Divibare**	**1.82**	**77**	*e*Pg	**Pb**	**20 41 56.0**	**-1.0**
DIVS				*e*Sg	**Sb**	**20 42 19.8**	**-0.5**
SJES	**Sjenica**	**1.84**	**104**	*e*Pn	**Pn**	**20 41 56.0**	**+0.3**
SJES				*e*Sn	**Sn**	**20 42 19.0**	**-0.7**
SJES	**Sjenica**	**1.84**	**104**	*e*Pg	**Pb**	**20 41 56.0**	**-0.6**
SJES				*e*Sg	**Sg**	**20 42 23.6**	**+1.8**
VIRC	**Vir**	**1.88**	**288**	*e*Pn	**Pb**	**20 41 57.1**	**-0.8**
IVA	**Berane**	**1.92**	**116**	*e*Pn	**Pb**	**20 41 58.7**	**-0.1**
IVA				*i* Sn	**Sg**	**20 42 24.4**	**-0.2**
DRME	**Dracevica, Mon**	**1.96**	**141**	*e*Pn	**Pn**	**20 41 57.6**	**+0.3**
DRME				*e*Sn	**Sn**	**20 42 22.1**	**-0.5**
DRME	**Dracevica, Mon**	**1.96**	**141**	⇓*i*Pn	**Pb**	**20 41 59.7**	**+0.3**
DRME				*i* Sn	**Sb**	**20 42 24.9**	**+0.6**
NVLJ	**Novalja**	**2.09**	**295**	*e*Pn	**Pb**	**20 42 00.7**	**-0.9**
PVY	**Plav**	**2.11**	**122**	*e*Pn	**Pb**	**20 42 01.7**	**-0.2**
TRUS	**Trudelj**	**2.13**	**76**	*e*Pn	**Pn**	**20 42 00.3**	**+0.6**
TRUS				*e*Sg	**Sg**	**20 42 31.6**	**+0.2**
ULC	**Ulcinj**	**2.17**	**144**	*e*Pn	**Pb**	**20 42 02.2**	**-0.7**
ULC				*i* Sn	**Sb**	**20 42 30.1**	**-0.2**
FRGS	**Fruska Gora**	**2.17**	**48**	*e*Pn	**Pn**	**20 42 00.0**	**-0.2**
FRGS				*e*Sn	**Sn**	**20 42 27.3**	**-0.5**
FRGS	**Fruska Gora**	**2.17**	**48**	*e*Pn	**Pn**	**20 42 00.0**	**-0.2**
FRGS				*e*Sg	**Sg**	**20 42 32.0**	**+1.5**
RABC	**Rab**	**2.23**	**298**	*e*Pn	**Pb**	**20 42 02.8**	**-1.1**
GRUS	**Gruza**	**2.31**	**85**	*e*Pn	**Pn**	**20 42 03.0**	**+0.9**
GRUS				*e*Sg	**Sg**	**20 42 36.7**	**-0.3**
AVAS	**Avala Beograd**	**2.35**	**65**	*e*Pn	**Pn**	**20 42 02.8**	**+0.1**
AVAS				*e*Sg	**Sg**	**20 42 38.1**	**-0.3**
BOJS	**Bojanci**	**2.41**	**318**	*e*Pn	**Pn**	**20 42 04

comp=Z,7.3nm,0.2s,SNR=14
RONA eSn Sn 20 43 15.1 +0.5
comp=Z,12nm,0.3s
FNA Florina 4.10 135 ePn Pn 20 42 28.1 +1.3
GZR Gura Zlata 4.10 64 ⇑P Pn 20 42 27.1 +0.3
GZR ⇑S Sn 20 43 14.9 -0.6
SRO Srobarova 4.12 7 ePN Pn 20 42 28.3 +1.3
SRO eSN Sn 20 43 19.0 +3.1
VTS Vitosha 4.32 103 ePn Pn 20 42 30.6 +0.8
CONA Conrad Observa 4.36 345 i Pn Pn 20 42 31.2 +0.8
comp=Z,6.8nm,0.3s,SNR=23
CONA eSn Sn 20 43 21.8 -0.1
comp=Z,22nm,0.5s
VAY Valandovo 4.43 121 i Pn Pn 20 42 23.8 -7.4
KBA Koelnbreinsper 4.46 320 ePn Pb 20 42 39.6 -2.6
comp=Z,3.2nm,0.4s
PSZ Piszkesteto 4.50 21 ⇓P Pn 20 42 32.2 -0.1
PSZ ⇑S Sn 20 43 25.1 -0.3
TIP Timpagrande 4.58 188 ⇑P Pn 20 42 35.7 +2.2
TIP ⇑S Sn 20 43 30.5 +3.1
MODS Modra-Piesok 4.65 358 ePN Pn 20 42 34.8 +0.5
MODS eSN Sn 20 43 28.7 -0.3
ABTA Abfaltersbach 4.66 312 i Pn Pn 20 42 36.3 +1.8
comp=Z,4.9nm,0.3s,SNR=11
MOA Molln 4.71 332 ePn Pn 20 42 36.8 +1.6
comp=Z,9.5nm,0.2s
MOA Molln 4.71 332 ePn Pn 20 42 36.5 +1.3
DRGR 4.77 48 ⇑P Pn 20 42 37.2 +1.2
DRGR ⇑S Sn 20 43 31.3 -0.7
LOT Lotru 4.78 67 ⇑P Pn 20 42 37.1 +0.9
LOT ⇓S Sn 20 43 31.8 -0.4
BIOA Bad Ischl, Aus 4.81 327 i Pn Pn 20 42 37.4 +0.8
comp=Z,3.7nm,0.3s
MARR Marisel-Cluj 4.93 51 ⇑P Pn 20 42 38.9 +0.7
MARR ⇓S Sn 20 43 35.2 -0.8
LESA Schwarzleotal 5.03 319 i Pn Pn 20 42 42.6 +3.0
comp=Z,5.5nm,0.3s,SNR=17
LESA eSn Sn 20 43 42.0 +3.6
comp=Z,13nm,0.6s
JAVC Velka Javorina 5.13 1 ePN Pn 20 42 40.7 -0.3
KECS Kecovo 5.18 22 ePN Pn 20 42 43.3 +1.7
KECS eSN Sn 20 43 38.8 -3.2
KRUC Moravsky 5.39 352 ePN Pn 20 42 45.2 +0.7
KRUC eSN Sn 20 43 47.7 +0.4
WTTA Wattenberg 5.45 313 ePn Pn 20 42 47.8 +2.4
comp=Z,10nm,0.2s,SNR=11
WTTA eSn Sn 20 43 52.8 +3.9
comp=Z,8.7nm,0.5s
WATA Walderalm 5.52 313 i Pn Pn 20 42 49.1 +2.7
comp=Z,5.7nm,0.3s,SNR=10
CKRC Cesky Krumlov 5.56 337 ePN Pn 20 42 48.7 +1.9
LANS Liptovska Anna 5.59 13 ePN Pn 20 42 48.2 +1.0
LANS eSN Sn 20 43 53.9 +1.8
VRAC Vranov 5.62 354 ePN Pn 20 42 48.6 +1.0
VRAC eSN Sn 20 43 52.9 0.0
VRAC Vranov 5.62 354 ⇓P Pn 20 42 48.3 +0.7
VRAC ⇓S Sn 20 43 53.1 +0.2
VOIR 5.63 70 ⇑P Pn 20 42 48.5 +0.6
VOIR ⇓S Sn 20 43 52.6 -0.7
MAUC Maruska 5.64 2 ePN Pn 20 42 48.9 +0.9
SQTA Sankt Quirin 5.65 310 i Pn Pn 20 42 51.6 +3.4
comp=Z,7.0nm,0.3s,SNR=9.8
FETA Feichten 5.81 307 ePn Pn 20 42 51.4 +0.9
comp=Z,0.9nm,0.4s
MORC Moravsky Berou 6.05 0 ⇓P Pn 20 42 54.3 +0.8
MORC ⇓S Sn 20 44 03.0 -0.5
KHC Kasperske Hory 6.06 335 ePN Pn 20 42 54.6 +1.0
KHC eSN Sn 20 44 01.3 -2.3
KOLS Kolonicke sedl 6.16 31 ePG Pg 20 43 31.1 +10
ZVC Zvikov 6.16 339 ePN Pn 20 42 55.8 +0.8
STHS Stebnicka Huta 6.24 23 ePN Pn 20 42 49.1 -7.0
STHS eSN Sn 20 43 50.5 -18
DAVA Damuels 6.45 306 i Pn Pn 20 43 02.5 +3.3
comp=Z,6.7nm,0.5s

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*IDC **14** 20:46:56.9±4.4, 18°.06S×178°.05W, h596km±23km, mb2.8/4, mbtmp3.8/6, Error ellipse: s-maj=115.3km s-min=30.1km az=138.0*

ISC 14 20:46:57.1±2.3, 18°.0S±0°.4×178°.1W±0°.3, h600km, n6, σ0.9 38/7, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.69	274	P		P 20 48 20.5	-0.1
	18nm,0.6s,baz=155,slow=4.7,SNR=28						
MSVF				S		S 20 49 28.5	-0.1
	2.8nm,0.8s,baz=221,slow=20,SNR=1.2						
DZM	Mont Dzumac	15.07	252	P		P 20 50 06.3	+0.2
	2.3nm,0.8s,baz=34,slow=16,SNR=1.7						
STKA	Stephens Creek	38.83	241	P		P 20 53 31.9	-0.4
	1.0nm,0.6s,baz=83,slow=8.1,SNR=4.5						
	1.0nm,0.6s						
WRA	Warramunga Arr	44.91	260	P		P 20 54 20.1	0.0
	0.4nm,0.3s,baz=95,slow=7.3,SNR=10.0						
	0.4nm,0.3s						
ASAR	Alice Springs	45.05	254	P		P 20 54 21.8	+0.6
	1.6nm,0.6s,baz=87,slow=9.0,SNR=35						
	1.6nm,0.6s						
ILAR	Eielson Array	85.95	13	P		P 20 58 34.3	0.0
	0.2nm,0.8s,baz=206,slow=4.7,SNR=4.4						
	0.2nm,0.8s						

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*NEIC **14** 20:57:39.6±1.4, 5°.9S±0°.1×149°.32E±0°.10, h60km±13km, mb4.1/9, Error ellipse: s-maj=17.4km s-min=11.6km az=144.0*
*IDC **14** 20:57:39.9±5.1, 6°.24S×149°.53E, h48km±47km, mb3.6/5, mbtmp3.9/6, ML2.1/1, MS2.7/1, Error ellipse: s-maj=60.4km s-min=34.3km az=117.0*

ISC 14 20:57:41.5±1.0, 6°.2S±0°.1×149°.2E±0°.2, h60km, n20, σ0.9 91/22, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	3.52	56		Pn	20 58 28.2	-5.6
PMG	Port Moresby	3.83	212	Pn	Pn	20 58 38.9	+0.9
PMG				Sn	Sn	20 59 20.8	-1.0
PMG	Port Moresby	3.83	212	P	Pn	20 58 38.6	+0.6
	11nm,0.3s,baz=40,slow=9.7,SNR=22						
PMG				S	Sn	20 59 23.0	+1.3
	99nm,0.6s,baz=58,slow=17,SNR=13						
PMG				LR	LR	21 00 19.4	
	comp=Z,104nm,21.0s,baz=82,slow=41						
	36nm,0.4s						
COEN	Coen	9.78	217	Pn	Pn	20 59 59.4	-0.1
COEN				Sn	Sn	21 01 37.8	-10
WB0	Warramunga Arr	19.77	225	P	P	21 02 07.0	0.0
WB0				IAmb	IAmb	21 02 07.9	
	comp=Z,5.4nm,0.7s						
WR0	Warramunga Arr	19.80	225	P	P	21 02 07.4	+0.2
WR0				IAmb	IAmb	21 02 08.1	
	comp=Z,4.2nm,0.6s						
WR8	Warramunga Arr	19.82	225	P	P	21 02 07.4	-0.1
WR8				IAmb	IAmb	21 02 08.3	
	comp=Z,7.3nm,0.5s						
WB2	Warramunga Arr	19.92	225	P	P	21 02 08.7	+0.2
WB2				IAmb	IAmb	21 02 09.4	
	comp=Z,11nm,0.5s						
WRA	Warramunga Arr	19.93	225	P	P	21 02 08.0	-0.6
WRA	Warramunga Arr	19.93	225	P	P	21 02 08.9	+0.2
	comp=Z,6.0nm,0.4s,baz=51,slow=11,SNR=45						
WRA				PcP	PcP	21 06 25.2	+1.6
	comp=Z,0.4nm,0.8s,baz=46,slow=2.4,SNR=2.1						
	comp=Z,6.0nm,0.4s						
KNRA	Kununurra	22.19	243	P	P	21 02 32.2	-0.8
AS31	Alice Springs	22.81	219	P	P	21 02 38.5	-1.1
ASAR	Alice Springs	22.81	219	P	P	21 02 40.1	+0.5
ASAR	Alice Springs	22.81	219	P	P	21 02 39.8	+0.1
	comp=Z,1.5nm,0.5s,baz=54,slow=9.3,SNR=41						
	comp=Z,1.5nm,0.5s						
FITZ	Fitzroy Crossi	25.89	241	P	P	21 03 07.0	-1.0
FITZ				IAmb	IAmb	21 03 37.7	
	comp=Z,2.6nm,1.4s						
VNDA	Vanda	71.64	177	P	P	21 08 56.9	+0.6
MKAR	Makanchi Array	79.03	320	P	P	21 09 40.9	+1.6
	comp=Z,0.1nm,0.3s,baz=120,slow=5.7,SNR=4.6						
	comp=Z,0.1nm,0.3s						
ZALV	Zalesovo Beam	80.33	327	P	P	21 09 45.6	-0.5
	comp=Z,0.5nm,0.4s,baz=120,slow=5.2,SNR=2.7						
	comp=Z,0.5nm,0.4s						
QSPA	South Pole Qui	83.81	180	P	P	21 10 02.6	-1.7
ILAR	Eielson Array	84.76	23	P	P	21 10 08.7	-0.2
	comp=Z,0.5nm,0.4s,baz=243,slow=4.9,SNR=4.6						

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comp=Z,0.5nm,0.8s

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*TAP **14** 21:15:09.6, 24°.34N×122°.83E, h51km, ML3.4, C*
*JMA **14** 21:15:09.4±0.1, 24°.N±2°.×122°.9E±0°.6, h58km±1km, MV2.8/15, NW OFF ISHIGAKIJIMA IS*

ISC 14 21:15:07.7±1.0, 24°.10N±0°.03×122°.85E±0°.02, h31km±11km, n120, σ1.9 46/206, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.36	14	i P		Pn 21 15 18.2	+1.5
JYNG				S		Sn 21 15 24.4	+1.7
YOJ	Yonaguni jima	0.39	22	P		Pn 21 15 18.3	+1.2
YOJ	Yonaguni jima	0.39	22	S		Sn 21 15 24.8	+1.4
YOJ	Yonaguni jima	0.39	22	i P		Pn 21 15 18.4	+1.4
YOJ				S		Sn 21 15 24.6	+1.3
YOJ	Yonaguni jima	0.39	22	P		Pn 21 15 18.3	+1.2
YOJ				S		Sn 21 15 24.7	+1.3
EOS4	EOS4	0.49	272	eP		Pn 21 15 21.6	+3.5
EOS4				eS		Sn 21 15 31.1	+5.7
EOS3	EOS3	0.52	291	P		Pn 21 15 21.4	+2.7
EOS3				eS		Sn 21 15 30.6	+4.1
EOS2	EOS2	0.65	299	eP		Pn 21 15 22.2	+1.7
EOS2				eS		Sn 21 15 32.1	+2.5
IRIF	Iriomote-Funau	0.83	74	i P		Pn 21 15 24.6	+1.3
IRIF				S		Sn 21 15 36.2	+1.7
HATJ	Hateruma jima	0.87	93	eP		Pn 21 15 26.8	+3.0
HATJ				eS		Sn 21 15 39.7	+4.3
ESAO	Su ao	1.03	297	eP		Pn 21 15 26.4	+0.5
ESAO				eS		Sn 21 15 38.8	-0.6
EWUT	Wuta	1.04	289	eP		Pb 21 15 27.2	+0.1
EWUT				eS		Sn 21 15 40.4	+0.9
EAHA	Aohua	1.04	283	eS		Sb 21 15 42.0	+1.5
TWC	Suao	1.04	299	eP		Pn 21 15 26.0	-0.1
TWC				eS		Sn 21 15 38.5	-1.2
ENA	Nanau	1.06	288	eP		Pb 21 15 28.0	+0.4
ENA				eS		Sb 21 15 41.8	+0.7
JKRS	Kuro-shima	1.07	83	P		Pb 21 15 28.6	+1.0
JKRS				S		Sn 21 15 42.8	+2.6
ETL	Fush Village	1.12	273	eP		Pb 21 15 29.7	+1.1
NACB	Ninganchiao	1.15	274	P		Pb 21 15 29.3	+0.3
NACB	Ninganchiao	1.15	274	S		Sb 21 15 44.0	+0.4
NACB	Ninganchiao	1.15	274	eP		Pb 21 15 29.1	+0.1
NACB				eS		Sb 21 15 43.5	-0.1
NDS	Dongshan	1.16	297	eP		Pn 21 15 28.5	+0.7
NDS				eS		Sn 21 15 42.9	+0.3
TEYL	Yanliau Villag	1.17	259	eS		Sb 21 15 44.0	-0.2
ILA	Ilan	1.20	303	eS		Sn 21 15 42.5	-1.1
JIJ	Ishigaki jima	1.21	77	i P		Pb 21 15 29.4	-0.5
JIJ				S		Sb 21 15 44.3	-0.9
SHUL	Shoufeng	1.22	255	eP		Pb 21 15 31.1	+0.9
SHUL				eS		Sb 21 15 46.9	+1.3
TWE	Neicheng	1.24	300	eP		Pn 21 15 29.5	+0.6
ETM	Tongmen	1.25	264	P		Pb 21 15 30.6	-0.1
ETM				eS		Sb 21 15 46.2	-0.3
ETLH	Xiulin Townshi	1.25	275	eP		Pb 21 15 30.6	-0.2
ETLH				eS		Sb 21 15 46.4	-0.3
TIPB	Shuangxi	1.27	313	P		Pn 21 15 29.1	-0.3
TIPB				eS		Sn 21 15 42.9	-2.5
LATG	Datong	1.28	290	eP		Pb 21 15 31.0	-0.4
LATG				eS		Sn 21 15 47.2	+1.4
ENT	Nioudou	1.29	295	P		Pb 21 15 30.8	-0.6
LXIB	Xiulin Townshi	1.32	267	eP		Pb 21 15 32.1	+0.2
LXIB				eS		Sb 21 15 48.6	+0.1
FUSB	Fushanzhiwuyua	1.32	300	P		Pn 21 15 30.6	+0.5
FUSB				eS		Sn 21 15 46.7	0.0
SXI1	Grass Mountain	1.33	318	eP		Pn 21 15 29.5	-0.6
SXI1				eS		Sn 21 15 44.7	-2.1
ESL	Shilin	1.33	258	eP		Pb 21 15 31.7	-0.3
ESL				eS		Sb 21 15 48.5	-0.2
NWF	Wu-fen Shan	1.37	315	eP		Pn 21 15 30.5	-0.2
NWF				eS		Sn 21 15 45.9	-1.9
WFSB	Wu-fen Shan	1.37	315	eP		Pn 21 15 30.3	-0.4
WFSB				eS		Sn 21 15 46.4	-1.3
NNSB	Datong	1.38	284	eP		Pb 21 15 32.3	-0.6
NNSB				eS		Sn 21 15 49.1	+1.0
NNS	Nan Shan	1.39	284	eP		Pb 21 15 32.5	-0.6
NNS				eS		Sn 21 15 49.5	+1.1
WARBT	Fenglin Townsh	1.40	254	eP		Pb 21 15 32.7	-0.4
WARBT				eS		Sb 21 15 50.4	-0.2
NWLT	Wulai	1.40	299	P		Pn 21 15 31.8	+0.7
NWLT				eS		Sn 21 15 48.0	-0.5
JISG	Ishigakijimahi	1.42	70	i P		Pb 21 15 31.8	-1.6
JISG				S		Sn 21 15 48.8	-0.1
HGSD	Ruisui	1.44	245	eP		Pb 21 15 34.4	+0.5
HGSD				eS		Sb 21 15 51.9	0.0
WHF	Hehuan Shan	1.45	272	eS		Sn 21 15 51.5	+1.2
YHNB	Yeheng	1.46	293	P		Pb 21 15 33.6	-0.7
YHNB	Yeheng	1.46	293	eP		Pb 21 15 33.3	-0.9
YHNB				eS		Sn 21 15 50.2	+0.1
FUSS	Fushou	1.48	276	eP		Pb 21 15 34.6	-0.1
FUSS				eS		Sn 21 15 52.1	+1.4
NSK	Sanguang	1.48	293	eP		Pn 21 15 33.4	+1.3
NSK				eS		Sn 21 15 51.0	+0.6
ECBN	Changbin	1.50	239	eP		Pb 21 15 35.3	+0.3
ECBN				eS		Sb 21 15 53.6	-0.1
EHY	Hungye	1.52	247	eP		Pb 21 15 35.5	0.0
EHY				eS		Sb 21 15 53.9	-0.3
TWT	Tachien	1.54	276	eP		Pb 21 15 36.0	+0.3
TWT				eS		Sn 21 15 53.2	+1.1
OWD	Renai	1.54	265	P		Pb 21 15 35.4	-0.3
OWD				eS		Sb 21 15 53.6	-1.2
TDCB	Techi	1.55	276	P		Pb 21 15 35.4	-0.5
TDCB				S		Sn 21 15 53.5	+1.1
YM01	YM01	1.56	312	eP		Pn 21 15 33.3	0.0
YM01				eS		Sn 21 15 50.6	-1.9
YM08	YM08	1.58	313	eP		Pn 21 15 33.0	-0.5
YM08				eS		Sn 21 15 50.0	-2.8
WUSB	Renai	1.59	266	P		Pb 21 15 36.2	-0.3
WUSB				eS		Sb 21 15 55.0	-1.3
ZUZH	Zhuzihu	1.59	312	eP		Pn 21 15 33.7	0.0
ZUZH				eS		Sn 21 15 50.5	-2.7
YULB	Yu-li	1.59	244	P		Pb 21 15 36.3	-0.2
YULB	Yu-li	1.59	244	eP		Pb 21 15 36.1	-0.4
YULB				eS		Sb 21 15 55.7	-0.5
EYUL	Yuli	1.59	242	eP		Pb 21 15 36.5	0.0
EYUL				eS		Sb 21 15 57.1	+0.8
VWDT	VWDT	1.60	258	P		Pb 21 15 36.8	+0.1
VWDT				eS		Sb 21 15 55.8	-0.7
TWF1	Yuli	1.61	243	eP		Pb 21 15 36.8	0.0
TWF1				eS		Sb 21 15 57.3	+0.6
NFF	Wufeng Townshi	1.67	289	eP		Pb 21 15 36.6	-1.2
NFF				eS		Sn 21 15 56.5	+1.3
KSHI	Guanxi Townshi	1.67	294	eP		Pn 21 15 35.1	+0.3
FULB	Fuli	1.69	238	eP		Pb 21 15 37.3	-0.9
FULB				eS		Sb 21 15 58.9	-0.1
CHKT	Chengkung	1.69	234	eS		Sb 21 15 58.1	-0.9
WHP	Taichung City	1.75	276	P		Pb 21 15 38.8	-0.4
WHP				S		Sn 21 15 59.2	+2.0
LIOB	Emei	1.76	288	eP		Pb 21 15 37.9	-1.4
LIOB				eS		Sn 21 15 58.7	+1.3
SSLB	Suanglung	1.76	260	P		Pb 21 15 38.8	-0.6
SSLB	Suanglung	1.76	260	P		Pb 21 15 38.3	-1.1
SSLB				eS		Sb 21 15 59.7	-1.5
NSTT	Nanjuang	1.77	288	eP		Pb 21 15 38.6	-0.9
NSTT				eS		Sn 21 15 58.7	+1.2
JTJ	Tarama	1.77	72	eP		Pb 21 15 37.4	-2.1
JTJ				eS		Sn 21 15 58.0	+0.4
WCS	Beigang Elemen	1.77	269	eP		Pb 21 15 38.7	-0.8
WCS				eS		Sb 21 16 00.6	-0.8
EHD	Haiduan	1.78	238	eP		Pb 21 15 38.3	-1.4
SMLT	Sun Moon Lake	1.80	263	eP		Pb 21 15 38.9	-1.2
SMLT				eS		Sn 21 16 00.3	+1.8
ECS	Chishang	1.80	236	eP		Pb 21 15 39.9	-0.1
EDH	Donghe	1.81	232	P		Pb 21 15 39.1	-1.1
EDH				eS		Sb 21 16 00.5	-2.0
TYC	Yuchr	1.83	264	eP		Pb 21 15 39.8	-0.8
TYC				eS		Sb 21 16 01.3	-1.9
YUS	Yu-Shan	1.84	251	eP		Pn 21 15 38.4	+0.8
YUS				eS		Sn 21 16 00.3	+0.2
WHYT	Xinyi Township	1.87	258	P		Pb 21 15 40.9	-0.4
WHYT				eS		Sb 21 16 03.8	-0.6
LDUT	Ludao	1.91	222	eP		Pb 21 15 40.5	-1.4
LDUT				eS		Sb 21 16 02.7	-2.5
ELDTW	Lidau	1.91	242	P		Pb 21 15 40.6	-1.4
ELDTW				eS		Sb 21 16 02.8	-2.7
TWQ1	Liyutan	1.91	278	eS		Sn 21 16 03.3	+2.2
WJS	Zhushan	1.96	262	eP		Pb 21 15 42.8	0.0
WJS				eS		Sb 21 16 07.3	+0.5
ALS	Alishan	1.96	253	P		Pb 21 15 42.7	-0.3
ALS				eS		Sb 21 16 06.4	-0.8
LONT	Longtian	1.98	233	eP		Pb 21 15 42.0	-1.1
LONT				eS		Sb 21 16 06.4	-0.9
TCU	Taichung	1.99	272	eS		Sb 21 16 06.9	-0.7
WNT	Mingjian	2.00	264	eP		Pb 21 15 43.1	-0.2
WNT				eS		Sb 21 16 07.7	-0.1
CHN5	Tsauling	2.05	256	eP		Pb 21 15 43.9	-0.5
CHN5				eS		Sb 21 16 08.6	-0.9
TWGBT	Beinan	2.07	232	P		Pb 21 15 43.4	-1.2
TWGBT	Beinan	2.07	232	S		Sb 21 16 09.0	-0.9
TWGBT	Beinan	2.07	232	eP		Pb 21 15 42.7	-1.9
TWGBT				eS		Sb 21 16 07.2	-2.8
TWG	Pinlang	2.07	232	eP		Pb 21 15 43.0	-1.7
TWG				eS		Sb 21 16 07.0	-3.0
STYH	Taoyuan	2.12	244	P		Pb 21 15 44.5	-1.0
STYH				eS		Sb 21 16 10.3	-1.0
WGK	Gukeng	2.14	259	eP		Pb 21 15 44.4	-1.3
WGK				eS		Sb 21 16 13.0	+1.2
WDL	Douliou City	2.15	260	eS		Sb 21 16 12.2	-0.1
WDLH	Douliu	2.16	259	eP		Pb 21 15 45.7	-0.3
WDLH				eS		Sb 21 16 11.9	-0.5
WCKO	Fanlu	2.16	253	P		Pb 21 15 46.3	+0.1
WCKO				S		Sb 21 16 12.6	0.0
TPUB	Ta-pu	2.19	249	P		Pb 21 15 46.6	0.0
TPUB	Ta-pu	2.19	249	S		Sb 21 16 13.4	+0.1
TPUB	Ta-pu	2.19	249	P		Pb 21 15 46.2	-0.4
TPUB				eS		Sb 21 16 12.5	-0.9
CHN4	Tsaushan	2.20	251	P		Pb 21 15 46.8	0.0
CHN4				eS		Sb 21 16 14.1	+0.3
WTP	Ta-pu	2.22	248	P		Pb 21 15 46.6	-0.6
WTP				eS		Sb 21 16 13.6	-0.8
JIRB	Irabujima	2.23	71	eP		Pn 21 15 43.5	+1.0
WTK	Tuku	2.29	260	eS		Sb 21 16 15.2	-1.1
ECL	Taimali	2.30	230	eP		Pb 21 15 46.2	-2.3
SGST	Jiashian	2.32	244	P		Pb 21 15 47.6	-1.2
SGST				S		Sb 21 16 16.7	-0.3
CHN1	Nanshi	2.32	247	eP		Pb 21 15 47.8	-1.0
CHN1				eS		Sb 21 16 16.5	-0.6
TWK	Hsinying	2.32	249	eP		Pb 21 15 48.4	-0.5
TWK				eS		Sb 21 16 17.3	+0.1
SNST	Tainan City	2.33	248	eP		Pb 21 15 48.0	-1.0
SNST				eS		Sb 21 16 17.1	-0.4
LAY	Lan-yu	2.38	210	eP		Pb 21 15 46.9	-2.9
LAY				eS		Sb 21 16 14.0	-4.9
LYUB	Lan-yu	2.40	209	eS		Sb 21 16 14.7	-4.6
WSF	Szhu	2.45	260	eS		Sb 21 16 19.1	-1.8
TSMG	Majia	2.46	236	eP		Pb 21 15 50.5	-0.7
TSMG				eS		Sb 21 16 20.6	-0.5
ICHU	Yijhu	2.47	253	eS		Sb 21 16 18.1	-3.3
WSL	Shuilin Townsh	2.47	257	eS		Sn 21 16 17.9	+3.0
MASBT	Mashibuluo	2.52	234	eP		Pb 21 15 49.9	-2.4
MASBT				eS		Sb 21 16 23.2	+0.3
CHN8	Yiju	2.54	253	eS		Sb 21 16 20.6	-2.7
SLIU	Shizi	2.66	226	eP		Pb 21 15 51.1	-3.6
SCZT	Fangliau	2.68	230	eP		Pb 21 15 52.8	-2.2
SCZT				eS		Sb 21 16 26.8	-0.6

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*NIED **14** 21:32:47.2, 36°.45N×141°.15E, h45km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.12; $M_{\theta\theta}$0.06; $M_{\phi\phi}$0.06; $M_{r\theta}$1.77; $M_{\theta\phi}$-0.50; $M_{\phi r}$-0.14; Fault plane solution: $M_0$1.85000×10^{14} NP1: ϕ_s177.00000°, δ16.00000°, λ-8.00000°. NP2:ϕ_s275.00000°, δ88.00000°, λ-105.00000°.*
*JMA **14** 21:32:47.2±0.1, 36°.5N±0°.3×141°.2E±0°.9, h45km±1km, MV3.5/37, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*IDC **14** 21:32:48.3±2.5, 36°.40N×141°.23E, h51km±24km, mb3.3/5, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=19.7km s-min=12.5km az=72.0*

ISC 14 21:32:46.4±1.5, 36°.50N±0°.04×141°.18E±0°.07, h32km±11km, n27, σ1.9 11/30, mb3.5/5, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.50	283	⇓P		Pn 21 32 58.0	+0.7
JHO				⇓S		Sn 21 33 05.4	+0.4
JHYU	Hitachinakayam	0.50	252	P		Pn 21 32 58.0	+0.6
JHYU				S		Sn 21 33 05.3	+0.4
ONAJ	Iwakimizuishiy	0.67	333	⇓P		Pn 21 33 00.6	+0.8
ONAJ				⇓S		Sn 21 33 09.7	+0.4
JIHU	Itakohorinouch	0.75	225	P		Pb 21 33 01.5	+0.5
JIHU				eS		Sn 21 33 11.7	+0.7
JYT	Yasato	0.84	251	P		Pn 21 33 02.1	+0.2
JYT				S		Sn 21 33 12.8	-0.4
JFK	Kawauchi	0.90	344	⇓i P		Pb 21 33 03.7	+0.2
JFK				⇓S		Sb 21 33 15.4	+0.2
JOTO	OTAMA OYAMA	1.25	328	P		Pb 21 33 10.0	+0.5
JOTO				eS		Sb 21 33 26.0	+0.6
JAG	Ashikaga	1.39	267	P		Pn 21 33 10.4	+0.8
JAG				S		Sn 21 33 27.0	+0.2
JMM	Marumori	1.40	347	i P		Pb 21 33 11.1	-0.8
JMM				S		Sb 21 33 28.7	-0.6
JKT	Katashina	1.57	280	S		Sb 21 33 33.4	-1.1
MJAR	Matsushiro Arr	2.39	272	P		Pn 21 33 25.0	+1.6
	0.8nm,0.3s,baz=97,slow=9.6,SNR=33						
MJAR				S		Sb 21 33 54.6	-3.2
	12nm,0.5s,baz=98,slow=28,SNR=9.5						
	4.3nm,0.3s						
JHJ	Hachijo jima 2	3.56	199	P		Pn 21 33 40.7	+1.2
	11nm,0.3s,baz=64,slow=23,SNR=9.2						
JHJ				S		Sn 21 34 19.9	-0.6
	51nm,0.3s,baz=65,slow=23,SNR=1.3						
	108nm,0.7s						
ASAJ	Asahikawa	7.69	8	P		Pn 21 34 37.3	+1.3
	0.7nm,0.3s,baz=188,slow=14,SNR=6.7						
ASAJ				S		Sn 21 35 59.7	-2.3
	2.3nm,0.6s,baz=358,slow=28,SNR=1.2						
	1.4nm,0.3s						
H11N2	WAKE ISLAND Hy 28.04	120		T		T 22 07 59.5	
	baz=312,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy 28.05	120		T		T 22 08 06.9	
	baz=312,slow=75,

comp=Z,0.3nm,0.2s
VNA3 Neumayer Olymp 16.74 161 ⇓P **Pn 21 40 05.2 +1.0**
comp=Z,0.1nm,0.2s
SNAA Sanae 18.49 156 **P 21 40 24.0 -1.1**
SNAA Sanae 18.49 156 ⇓P **P 21 40 24.0 -1.1**
comp=Z,1.0nm,0.2s
SNAA Sanae 18.49 156 P **P 21 40 23.9 -1.1**
comp=Z,0.3nm,0.3s,baz=9.5,slow=11,SNR=6.3
comp=Z,3.2nm,0.9s
TROLL Troll, Antarti 19.99 153 ⇓P **P 21 40 41.4 -0.1**
comp=Z,4.5nm,0.2s
BELA Belgrano 2 21.89 184 P **P 21 41 00.2 -1.6**
MG04 Isla Riesco 25.79 259 P **P 21 41 39.6 +0.1**
QSPA South Pole Qui 34.00 180 P **P 21 42 51.6 -0.7**
QSPA IAmb IAmb 21 42 54.4
comp=Z,5.1nm,0.7s
QSPA South Pole Qui 34.00 180 P **P 21 42 51.5 -0.7**
comp=Z,3.7nm,0.6s,baz=201,slow=2.8,SNR=38
comp=Z,3.7nm,0.6s
CPUP Villa Florida 37.08 311 P **P 21 43 17.1 -1.7**
comp=Z,1.3nm,0.7s,baz=173,slow=14,SNR=3.1
CPUP LR LR 22 00 19.1
comp=Z,29nm,18.2s,baz=198,slow=39
comp=Z,1.3nm,0.7s
MT09 Talagante 37.54 288 P **P 21 43 23.1 +0.3**
MT09 IAmb IAmb 21 43 48.1
comp=Z,14nm,1.1s
CFA Coronel Fontan 37.80 293 P **P 21 43 23.9 -1.0**
comp=Z,1.3nm,0.8s,baz=160,slow=11,SNR=3.8
comp=Z,1.3nm,0.8s
MT02 Curacav 38.02 288 P **P 21 43 26.3 -0.4**
SUR Sutherland 40.53 74 LR LR 21 56 38.3
comp=Z,80nm,18.2s,baz=194,slow=30
AC02 Maricunga 42.12 296 P **P 21 44 01.7 +0.4**
AC02 IAmb IAmb 21 44 04.2
comp=Z,4.0nm,0.6s
BDFB Brasília 43.63 330 P **P 21 44 12.5 -0.6**
comp=Z,2.2nm,0.8s,baz=150,slow=2.4,SNR=3.5
BDFB LR LR 22 03 26.9
comp=Z,31nm,18.2s,baz=164,slow=38
comp=Z,2.2nm,0.8s
BOSA Boshof 45.85 75 LR LR 22 01 18.2
comp=Z,86nm,18.6s,baz=200,slow=33
VNDA Vanda 46.38 183 P **P 21 44 35.6 +1.5**
VNDA Vanda 46.38 183 P **P 21 44 35.2 +1.1**
comp=Z,2.5nm,0.7s,baz=183,slow=6.6,SNR=7.0
comp=Z,2.5nm,0.7s
WIN Windhoek 46.54 62 P **P 21 44 38.3 +2.0**
WIN IAmb IAmb 21 44 41.6
comp=Z,20nm,1.4s
SIV San Ignacio 47.84 313 LR LR 22 04 21.6
comp=Z,17nm,20.2s,baz=158,slow=35
H10N1 ASCENSION HYDR 49.26 16 T T 22 38 53.8
baz=189,slow=75,SNR=2.3
H10N3 ASCENSION HYDR 49.27 16 T T 22 38 47.3
baz=189,slow=75,SNR=5.2
H10N2 ASCENSION HYDR 49.28 16 T T 22 38 51.0
baz=189,slow=75,SNR=5.6
LPAZ La Paz 50.63 305 P **P 21 45 08.9 +0.7**
LPAZ IAmb IAmb 21 45 12.5
comp=Z,2.5nm,0.7s
LPAZ La Paz 50.63 305 P **P 21 45 09.0 +0.7**
comp=Z,2.6nm,0.6s,baz=141,slow=9.3,SNR=9.9
comp=Z,2.6nm,0.6s
BOAV Boa Vista 64.55 322 P **P 21 46 44.6 -0.7**
BOAV IAmb IAmb 21 47 19.5
comp=Z,4.8nm,1.2s
TORD Torodi Ar. Bea 73.15 29 P **P 21 47 38.5 -0.2**
comp=Z,1.6nm,0.3s,baz=196,slow=6.6,SNR=1.8
comp=Z,1.6nm,0.3s
ASAR Alice Springs 98.74 162 P **P 21 49 48.6 +0.9**
comp=Z,0.3nm,0.7s,baz=188,slow=4.8,SNR=2.5
comp=Z,0.3nm,0.7s
ARCES ARCESS Array B 131.07 22 PKP **PKPdf 21 55 17.5 -0.5**
comp=Z,3.4nm,1.0s,baz=179,slow=4.2,SNR=2.3
YKA Yellowknife Ar 136.44 318 PKP **PKPdf 21 55 27.6 -0.6**
comp=Z,0.3nm,0.6s,baz=134,slow=2.3,SNR=5.9
ILAR Eielson Array 150.38 311 PKPbc **PKPbc 21 55 57.2 -0.6**
comp=Z,1.3nm,0.7s,baz=111,slow=2.2,SNR=5.8
SONM Songino Array 150.57 87 PKPbc **PKPbc 21 55 57.7 -1.2**
comp=Z,1.0nm,0.8s,baz=234,slow=3.0,SNR=7.9

*NEIC **14** 21:46:43.0±1.5,2°.98S±0°.07×146°.62E±0°.09,h10km±1km, mb4.7/29, Error ellipse: s-maj=15.9km s-min=11.7km az=285.0*
*DJA **14** 21:46:43.6±0.4,3°.S±4°×14°.7E±°,h10km,M4.8/25, mb4.7/25,mB5.5/6,MLv4.7/2,Mw(mB)5.0/6*
*IDC **14** 21:46:43.2±1.0,3°.05S×146°.63E,h0km,mb4.1/13, mbtmp4.2/15,ML2.5/2,MS4.0/43,Error ellipse: s-maj=32.8km s-min=16.4km az=93.0*
*GCMT **14** 21:46:48.0±0.2,3°.13S±0°.01×146°.52E±0°.01,h17km±1km, MW5.0/126,Moment Tensor Solution. s51,c54; s126,c185; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.48±.11; Mθθ 1.79±.10; Mφφ-1.31±.10; Mrθ-0.00±.24; Mθφ3.73±.08; Mφr0.38±.24; Best double couple: M0 4.05900×10^16 NP1:φs101.00000°,δ84.00000°, λ-2.00000°. NP2:φs191.00000°,δ88.00000°, λ-174.00000°. Principal axes: T 4.2880, Plg3.0000°, Azm326.0000°; N -0.4590, Plg84.0000°, Azm212.0000°; P -3.8300, Plg5.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 21:46:43.2±0.4,3.09S±0°.05×146°.69E±0°.06,h10km,n110, σ2s20/78,mb4.6/34,MS4.1/43,1C-1D,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.23**	**33**	Pn	**Pg**	**21 47 06.4**	**-0.6**
RABL	**Rabaul**	**5.57**	**102**	Pn	**Pn**	**21 48 05.2**	**-1.0**
JAY	**Jayapura**	**6.01**	**275**	Pn	**Pn**	**21 48 12.5**	**+0.2**
	0.5nm,0.3s,baz=138,slow=3.0,SNR=5.3						
JAY				Sn	**Sn**	**21 49 16.9**	**-4.3**
	0.5nm,0.3s,baz=335,slow=22,SNR=1.0						
JAY				LR	LR	21 50 12.6	
	comp=Z,3μm,18.3s,baz=82,slow=35						
	43nm,1.1s						
JAY	**Jayapura**	**6.01**	**275**	P	**Pn**	**21 48 14.3**	**+2.0**
	0.2nm821nm65nm,1.3s						
PMG	**Port Moresby**	**6.30**	**176**	Pn	**Pn**	**21 48 18.1**	**+1.9**
	2.4nm,0.3s,baz=354,slow=7.0,SNR=13						
PMG				Sn	**Sn**	**21 49 28.2**	**-0.1**
	0.7nm,0.3s,baz=223,slow=23,SNR=1.2						
	40nm,0.7s						
GENI	**Genyem**	**6.54**	**274**	P	**Pn**	**21 48 21.1**	**+1.6**
	0.4nm4μm124nm,1.5s						
SMPI	**Sarmi**	**8.05**	**278**	P	**Pn**	**21 48 43.5**	**+3.2**
	1μm72nm,1.5s						
MMPI	**Merauke**	**8.24**	**229**	P	Pn	21 48 48.3	+5.3
BAKI	**Biak**	**10.74**	**280**	P	**Pn**	**21 49 19.7**	**+2.4**
	71nm,1.4s						
COEN	**Coen**	**11.35**	**198**	Pn	**Pn**	**21 49 25.9**	**+0.3**
FAKI	**Fak Fak**	**14.43**	**270**	P	**P**	**21 50 11.4**	**-3.2**
	61nm,1.2s						
HNR	**Honiara**	**14.60**	**116**	LR	LR	21 55 52.0	
	comp=Z,912nm,18.7s,baz=281,slow=37						
SWI	**Sorong**	**15.58**	**278**	P	**P**	**21 50 28.5**	**+1.1**
	20nm,0.9s						
GUMO	**Guam**	**16.66**	**354**	LR	LR	21 56 48.4	
	comp=Z,562nm,18.8s,baz=170,slow=36						
MSAI	**Masohi**	**17.74**	**269**	P	**P**	**21 50 55.7**	**+4.3**
	27nm,1.2s						
MTN	**Manton Dam**	**18.19**	**237**	P	**Pn**	**21 50 55.1**	**-1.0**
TNTI	**Ternate**	**19.70**	**281**	P	**Pn**	**21 51 16.7**	**+2.4**
	29nm,1.2s						
WB0	**Warramunga Arr**	**20.47**	**215**	P	**P**	**21 51 20.9**	**-0.4**
WB0				IAmb	IAmb	21 51 23.9	
	comp=Z,70nm,1.4s						
WR0	**Warramunga Arr**	**20.54**	**214**	P	**P**	**21 51 21.6**	**-0.4**
WR0				IAmb	IAmb	21 51 23.7	
	comp=Z,58nm,1.4s						
WRAB	**Tennant Creek**	**20.63**	**215**	P	**P**	**21 51 22.3**	**-0.8**
WRAB				IAmb	IAmb	21 51 24.0	
	comp=Z,36nm,0.9s						
WB2	**Warramunga Arr**	**20.64**	**215**	P	**P**	**21 51 22.3**	**-0.8**
WRA	**Warramunga Arr**	**20.64**	**215**	P	**P**	**21 51 21.7**	**-1.5**
WRA	**Warramunga Arr**	**20.64**	**215**	P	**P**	**21 51 23.1**	**-0.1**
	comp=Z,30nm,1.0s,baz=36,slow=12,SNR=82						
WRA				LR	LR	22 00 10.5	
	comp=Z,970nm,20.3s,baz=60,slow=39						
	comp=Z,30nm,1.0s						
KNRA	**Kununurra**	**21.64**	**234**	P	**P**	**21 51 31.6**	**-2.3**
KNRA				IAmb	IAmb	21 51 37.7	
	comp=Z,49nm,1.0s						
EIDS	**Eidsvold**	**22.55**	**170**	P	**P**	**21 51 43.9**	**+0.3**
EIDS				IAmb	IAmb	21 51 57.4	
	comp=Z,44nm,1.5s						
SOEI	**Soe**	**23.24**	**252**	P	**P**	**21 51 48.0**	**-3.0**
SOEI	**Soe**	**23.24**	**252**	P	**P**	**21 51 54.1**	**+3.0**
	comp=Z,51nm,1.2s						
DAV	**Davao City (W)**	**23.36**	**296**	LR	LR	22 00 53.0	
	comp=Z,359nm,19.1s,baz=116,slow=36						
AS31	**Alice Springs**	**23.91**	**210**	P	**P**	**21 51 57.1**	**-0.4**
ASAR	**Alice Springs**	**23.91**	**210**	P	**P**	**21 51 56.9**	**-0.6**
ASAR	**Alice Springs**	**23.91**	**210**	P	**P**	**21 51 58.0**	**+0.5**
	comp=Z,8.1nm,0.8s,baz=39,slow=8.6,SNR=78						
ASAR				LR	LR	22 01 06.3	
	comp=Z,742nm,20.6s,baz=40,slow=36						
	comp=Z,8.1nm,0.8s						
LUWI	**Luwuk**	**23.99**	**274**	P	**P**	**21 51 55.9**	**-2.4**
LUWI	**Luwuk**	**23.99**	**274**	P	**P**	**21 52 02.1**	**+3.8**
	comp=Z,2μmcomp=Z,60nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.46**	**233**	P	**P**	**21 52 10.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**25.46**	**233**	LR	LR	22 03 06.7	
	comp=Z,1μm,18.7s,baz=56,slow=39						
TOLI2	**Tolitoli**	**26.23**	**279**	P	**P**	**21 52 17.3**	**-1.5**
BKSI	**Bulukumba**	**26.59**	**264**	P	**P**	**21 52 25.4**	**+3.5**
	comp=Z,17nm,1.1s						
TTSI	**Tana Toraja**	**26.84**	**269**	P	**P**	**21 52 28.0**	**+3.8**
	comp=Z,5μmcomp=Z,17nm,1.2s						
DZM	**Mont Dzumac**	**26.91**	**136**	P	**P**	**21 52 25.1**	**+0.3**
DZM				IAmb	IAmb	21 52 31.2	
	comp=Z,15nm,1.0s						
DZM	**Mont Dzumac**	**26.91**	**136**	*e*P	**P**	**21 52 22.6**	**-2.2**
	comp=Z,30nm,1.0s						
DZM				*e*S	**S**	**21 56 54.4**	**-7.5**
	comp=Z,300nm,24.4s						
DZM				*e*LR	LR	21 59 07.0	
	comp=Z,2μm,27.2s						
DZM	**Mont Dzumac**	**26.91**	**136**	LR	LR	22 01 42.3	
	comp=Z,1μm,20.4s,baz=270,slow=33						
ONTNC	**Ouen Toro**	**27.07**	**137**	P	**P**	**21 52 26.0**	**-0.2**
ONTNC				IAmb	IAmb	21 52 33.5	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**29.04**	**189**	P	**P**	**21 52 47.4**	**+3.7**
	comp=Z,1.5nm,0.7s,baz=355,slow=7.4,SNR=6.6						
STKA				LR	LR	22 04 48.9	
	comp=Z,594nm,20.5s,baz=5.2,slow=37						
	comp=Z,1.5nm,0.7s						
JCJ	**Chichijima**	**30.32**	**352**	LR	LR	22 04 08.6	
	comp=Z,133nm,19.1s,baz=117,slow=34						
TGY	**Tagaytay City**	**30.72**	**304**	LR	LR	22 03 14.1	
	comp=Z,186nm,21.4s,baz=160,slow=32						
KKM	**Kota Kinabalu**	**31.76**	**287**	P	**P**	**21 53 06.0**	**-2.1**
KKM				IAmb	IAmb	21 53 09.7	
	comp=Z,18nm,1.2s						
PSA00	**Pilbara Seismi**	**31.92**	**233**	P	**P**	**21 53 07.7**	**-1.6**
PSA00				IAmb	IAmb	21 53 22.4	
	comp=Z,15nm,1.1s						
MSVF	**Nonsavu**	**34.02**	**118**	LR	LR	22 05 40.2	
	comp=Z,201nm,21.5s,baz=284,slow=33						
JOW	**Kunigami**	**34.66**	**330**	P	**P**	**21 53 31.6**	**-1.5**
JOW	**Kunigami**	**34.66**	**330**	LR	LR	22 04 47.8	
	comp=Z,555nm,21.0s,baz=153,slow=31						
SBUM	**Sibu**	**34.90**	**279**	P	**P**	**21 53 32.6**	**-2.7**
JHJ	**Hachijo jima 2**	**36.60**	**350**	LR	LR	22 07 45.6	
	comp=Z,305nm,18.4s,baz=132,slow=35						
KSM	**Kuching**	**36.65**	**277**	P	**P**	**21 53 47.6**	**-2.9**
KSM				IAmb	IAmb	21 53 55.7	
	comp=Z,21nm,1.3s						
KNMB	**Chin-men Tao**	**38.82**	**316**	P	**P**	**21 54 05.0**	**-3.5**
JNU	**Nakatsue**	**39.00**	**339**	LR	LR	22 07 18.5	
	comp=Z,303nm,21.6s,baz=172,slow=32						
INU	**Inuyama**	**39.30**	**347**	P	**P**	**21 54 07.7**	**-4.7**
INU				IAmb	IAmb	21 54 10.7	
	comp=Z,32nm,1.5s						
MJAR	**Matsushiro Arr**	**40.21**	**349**	LR	LR	22 08 43.3	
	comp=Z,173nm,20.6s,baz=148,slow=33						
NWAO	**Narrogin (SRO)**	**40.52**	**220**	LR	LR	22 11 43.3	
	comp=Z,606nm,19.4s,baz=30,slow=37						
AFI	**Afiamalu**	**42.38**	**107**	P	**P**	**21 54 38.1**	**-0.2**
TOZ	**Tahuroa Road**	**43.42**	**146**	P	**P**	**21 54 46.9**	**+0.6**
TOZ				IAmb	IAmb	21 55 04.8	
	comp=Z,11nm,1.1s						
NJ2	**Nanjing**	**43.81**	**325**	*e*P	**P**	**21 54 50.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSRS	**Korea Array**	**43.94**	**338**	P	**P**	**21 54 51.2**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=146,slow=8.8,SNR=2.1						
KSRS				LR	LR	22 11 47.9	
	comp=Z,294nm,19.3s,baz=150,slow=34						
	comp=Z,0.9nm,0.8s						
KSAR	**Wonju Array Be**	**43.95**	**338**	P	**P**	**21 54 48.5**	**-1.9**
QRZ	**Quartz Range**	**44.20**	**152**	P	**P**	**21 54 52.2**	**-0.3**
URZ	**Urewera**	**44.69**	**145**	LR	LR	22 12 51.1	
	comp=Z,263nm,18.1s,baz=34,slow=35						
LTZ	**Lake Taylor**	**45.63**	**154**	P	**P**	**21 55 04.4**	**+0.5**
LTZ				IAmb	IAmb	21 55 06.9	
	comp=Z,8.9nm,1.1s						
PLWZ	**Palliser**	**46.10**	**150**	P	**P**	**21 55 08.5**	**+0.9**
ASAJ	**Asahikawa**	**47.13**	**356**	LR	LR	22 14 36.2	
	comp=Z,89nm,19.6s,baz=182,slow=36						
PSI	**Prapat**	**48.10**	**277**	LR	LR	22 17 01.5	
	comp=Z,68nm,19.5s,baz=159,slow=38						
USRK	**Ussuriysk Ar.**	**48.89**	**340**	P	**P**	**21 55 31.6**	**+2.4**
	comp=Z,2.1nm,0.7s,baz=156,slow=7.4,SNR=3.1						
USRK				LR	LR	22 14 11.4	
	comp=Z,99nm,19.3s,baz=155,slow=34						
	comp=Z,2.1nm,0.7s						
HNS	**HongShan**	**50.05**	**327**	⇓P	**P**	**21 55 40.3**	**+2.1**
HNS				S	**S**	**22 02 48.0**	**-1.3**
HNS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
HNS				LR	LR		
	comp=N,360nm,16.9s						
HNS				LR	LR		
	comp=E,240nm,16.5s						
HNS				LR	LR		
	comp=Z,450nm,17.8s						
CN2	**Changchun**	**50.43**	**340**	*e*P	**P**	**21 55 43.8**	**+2.8**
CN2				*e*S	**S**	**22 02 56.1**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
BNX	**BinXian**	**51.55**	**343**	⇑P	**P**	**21 55 50.3**	**+1.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**51.65**	**296**	P	**P**	**21 55 50.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**51.65**	**296**	P	**P**	**21 55 52.9**	**+2.2**
	comp=Z,2.4nm,0.8s,baz=120,slow=5.9,SNR=14						
CMAR				LR	LR	22 19 07.3	
	comp=Z,58nm,18.1s,baz=105,slow=38						
	comp=Z,2.4nm,0.8s						
CHTO	**Chiang Mai**	**51.77**	**297**	P	**P**	**21 55 48.8**	**-2.7**
PZH	**PanZhiHua**	**52.44**	**307**	P	**P**	**21 55 57.6**	**+1.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,5.4s						
KLR	**Kul'dur**	**53.70**	**348**	LR	LR	22 15 27.1	
	comp=Z,100nm,20.5s,baz=164,slow=32						
HHC	**Hu-ho-hao-te**	**54.22**	**327**	*e*P	**P**	**21 56 10.3**	**+0.9**
HHC				sP	sP	21 56 16.9	+3.9
HHC				S	**S**	**22 03 47.9**	**+1.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.7s						
HHC				LR	LR		
	comp=N,190nm,18.3s						
HHC				LR	LR		
	comp=E,230nm,19.1s						
HHC				LR	LR		
	comp=Z,340nm,19.1s						
RAR	**Rarotonga**	**55.04**	**114**	LR	LR	22 18 26.7	
	comp=Z,47nm,18.5s,baz=322,slow=34						
PETK	**Petropavlovsk-**	**56.75**	**8**	LR	LR	22 18 23.0	
	comp=Z,88nm,20.1s,baz=185,slow=34						
BRDH	**Bariadhala**	**59.48**	**299**	LR	LR	22 24 20.1	
	comp=Z,42nm,18.2s,baz=52,slow=38						
SHEM	**Shemya Is, Ala**	**60.22**	**19**	LR	LR	22 17 54.1	
	comp=Z,140nm,21.7s,baz=188,slow=31						
SONM	**Songino Array**	**61.73**	**330**	P	**P**	**21 57 03.1**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=141,slow=6.4,SNR=5.8						
	comp=Z,0.9nm,0.7s						
MA2	**Magadan**	**62.55**	**2**	LR	LR	22 20 22.7	
	comp=Z,71nm,21.3s,baz=182,slow=32						
PPT2	**Papeete2**	**64.05**	**108**	*e*SS	SS	22 09 57.4	-6.6
	comp=Z,72nm,27.2s						
PPT2				*e*LQ	LQ	22 13 32.4	
	comp=Z,317nm,26.2s						
PPT2				*e*LR	LR	22 16 17.4	
	comp=Z,182nm,27.8s						
TBI	**Tubuai**	**64.81**	**114**	*e*LQ	LQ	22 13 56.1	
	comp=Z,3μm,36.5s						
TBI				*e*LR	LR	22 16 41.6	
	comp=Z,1μm,35.0s						
YAK	**Yakutsk**	**66.23**	**351**	LR	LR	22 25 13.4	
	comp=Z,68nm,20.1s,baz=149,slow=35						
PALK	**Pallekele**	**66.65**	**279**	LR	LR	22 28 36.6	
	comp=Z,34nm,19.9s,baz=98,slow=38						
VNDA	**Vanda**	**74.82**	**177**	LR	LR	22 28 39.1	
	comp=Z,84nm,18.8s,baz=341,slow=34						
MK31	**Makanchi Array**	**75.07**	**320**	P	**P**	**21 58 24.9**	**-0.6**
MK31				IAmb	IAmb	21 58 40.7	
	comp=Z,7.5nm,1.4s						
MKAR	**Makanchi Array**	**75.07**	**320**	P	**P**	**21 58 22.1**	**-3.3**
MKAR	**Makanchi Array**	**75.07**	**320**	P	**P**	**21 58 27.3**	**+1.8**
	comp=Z,3.2nm,1.0s,baz=102,slow=6.0,SNR=15						
	comp=Z,3.2nm,1.0s						
MAKZ	**Makanchi**	**75.28**	**320**	P	**P**	**21 58 26.4**	**-0.2**
MAKZ				IAmb	IAmb	21 58 34.1	
	comp=Z,12nm,1.3s						
TIXI	**Tiksi**	**75.50**	**354**	LR	LR	22 32 03.7	
	comp=Z,21nm,21.9s,baz=190,slow=36						
ZALV	**Zalesovo Beam**	**76.40**	**328**	P	**P**	**21 58 33.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=116,slow=6.6,SNR=3.8						
	comp=Z,0.4nm,0.5s						
KDAK	**Kodiak Island**	**77.50**	**29**	LR	LR	22 25 44.1	
	comp=Z,100nm,21.6s,baz=84,slow=30						
RKT	**Rikitea**	**78.07**	**113**	*e*LR	LR	22 22 49.3	
	comp=Z,1μm,33.8s						
KURBB	**Kurchatov Arra**	**78.73**	**323**	P	**P**	**21 58 46.1**	**+0.2**
	comp=Z,2.7nm,0.2s,baz=113,slow=5.9,SNR=5.0						
	comp=Z,2.7nm,0.2s						
ILAR	**Eielson Array**	**82.94**	**23**	P	**P**	**21 59 09.2**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=227,slow=6.1,SNR=4.5						
ILAR				LR	LR	22 32 27.4	
	comp=Z,93nm,19.3s,baz=240,slow=33						
	comp=Z,1.0nm,1.0s						
BVAR	**Borovoye Array**	**84.25**	**324**	P	**P**	**21 59 15.3**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=107,slow=7.9,SNR=6.8						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**86.86**	**180**	LR	LR	22 38 58.5	
	comp=Z,164nm,18.3s,baz=0.5,slow=36						
DLBC	**Dease Lake**	**89.08**	**31**	LR	LR	22 31 15.2	
	comp=Z,149nm,21.6s,baz=260,slow=30						
BBB	**Bella Bella**	**89.46**	**38**	LR	LR	22 32 34.0	
	comp=Z,159nm,19.6s,baz=252,slow=31						
YBH	**Yreka Blue Hor**	**92.48**	**49**	LR	LR	22 33 05.4	
	comp=Z,228nm,21.8s,baz=284,slow=30						
NVAR	**Mina Array Bea**	**95.83**	**52**	LR	LR	22 35 47.6	
	comp=Z,169nm,21.3s,baz=273,slow=31						
NEW	**Newport**	**96.41**	**42**	LR	LR	22 35 28.2	
	comp=Z,76nm,21.4s,baz=318,slow=30						
YKA	**Yellowknife Ar**	**96.75**	**28**	P	**P**	**22 00 15.3**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=262,slow=4.2,SNR=4.3						
YKA				LR	LR	22 42 05.1	
	comp=Z,42nm,20.2s,baz=320,slow=34						
	comp=Z,0.2nm,0.7s						
PFO	**Pinyon Flats O**	**97.40**	**57**	LR	LR	22 36 39.1	
	comp=Z,168nm,20.3s,baz=262,slow=31						
TORD	**Torodi Ar. Bea**	**143.99**	**288**	PKP	**PKPdf**	**22 06 21.1**	**+0.9**
	comp=Z,3.0nm,0.4s,baz=95,slow=3.8,SNR=2.2						

*DJA **14** 21:52:12.3±0.2,1°.N±2°×12°.6E±°,h10km,M4.6/11,mB5.2/1, mb4.8/2,MLv4.5/11,Mw(mB)4.6/1*
*NEIC **14** 21:52:14.7±1.6,1°.2N±0°.1×126°.47E±0°.05,h52km±4km, mb4.5/26,Error ellipse: s-maj=18.0km s-min=7.1km az=186.0*
*IDC **14** 21:52:17.5±2.6,1°.09N×126°.28E,h78km±23km,mb3.9/18, mbtmp4.2/20,Error ellipse: s-maj=25.6km s-min=8.9km az=75.0*

ISC 14 21:52:13.6±0.4,1°.22N±0°.04×126°.43E±0°.04,h39km,n86, σ1s45/94,mb4.4/37,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.04**	**115**	Pn	**Pn**	**21 52 32.6**	**+0.9**
TNTI				Sn	**Sn**	**21 52 46.1**	**+1.2**
TNTI	**Ternate**	**1.04**	**115**	P	**Pn**	**21 52 32.4**	**+0.8**
TNTI	**Ternate**	**1.04**	**115**	P	**Pn**	**21 52 32.6**	**+0.9**
TNTI				S	**Sn**	**21 52 47.2**	**+2.2**
KMSI	**Cibinong**	**2.53**	**255**	P	**Pn**	**21 52 53.0**	**+0.9**
KMSI				S	**Sn**	**21 53 22.5**	**+0.8**
SGSI	**Sangihe**	**2.61**	**340**	P	**Pn**	**21 52 52.9**	**-0.4**
SGSI				S	**Sn**	**21 53 26.1**	**+2.3**
SANI	**Sanana**	**3.27**	**188**	P	**Pn**	**21 53 03.3**	**+0.9**
SANI	**Sanana**	**3.27**	**188**	S	**Sn**	**21 53 39.7**	**-0.4**
SANI	**Sanana**	**3.27**	**188**	P	**Pn**	**21 53 02.4**	**0.0**
LUWI	**Luwuk**	**4.29**	**238**	Pn	**Pn**	**21 53 18.7**	**+2.3**
LUWI				Sn	**Sn**	**21 54 09.0**	**+3.9**
LUWI	**Luwuk**	**4.29**	**238**	P	**Pn**	**21 53 19.7**	**+3.4**
LUWI	**Luwuk**	**4.29**	**238**	P	**Pn**	**21 53 17.6**	**+1.3**
NLAI	**Namlea**	**4.48**	**171**	P	**Pn**	**21 53 21.3**	**+2.4**
MRSI	**Marisa**	**4.54**	**261**	P	**Pn**	**21 53 21.0**	**+1.1**
APSI	**Ampana**	**5.22**	**246**	P	**Pn**	**21 53 30.5**	**+1.3**
TOLI2	**Tolitoli**	**5.64**	**269**	Pn	**Pn**	**21 53 35.2**	**+0.2**
TOLI2	**Tolitoli**	**5.64**	**269**	P	Pn	21 53 39.3	+4.3
DAV	**Davao City (W)**	**5.88**	**352**	S	**Sn**	**21 54 48.0**	**+3.7**
	73nm,0.4s,baz=338,slow=1.8,SNR=1.4						
PCI	**Palu**	**6.92**	**252**	P	**Pn**	**21 53 53.0**	**+0.5**
KAPI	**Kappang**	**9.10**	**227**	P	**Pn**	**21 54 23.9**	**+1.5**
	8.4nm,0.3s,baz=26,slow=5.6,SNR=5.4						
KAPI				S	**Sn**	**21 56 07.0**	**+3.4**
	1.7nm,0.3s,baz=80,slow=14,SNR=1.0						
SBUM	**Sibu**	**14.25**	**275**	Pn	**Pn**	**21 55 33.1**	**+0.2**
SBUM	**Sibu**	**14.25**	**275**	P	**P**	**21 55 37.9**	**-1.6**
KDU	**Kakadu**	**15.06**	**157**	P	**Pn**	**21 55 43.2**	**-0.5**
KSM	**Kuching**	**16.11**	**271**		**Pn**	**21 55 57.5**	**+0.1**
KSM	**Kuching**	**16.11**	**271**	P	**P**	**21 56 01.7**	**+1.

comp=Z,1.8nm,0.7s
HHC Hu-ho-hao-te 41.69 343 *e*P **P 21 59 58.6 -0.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.7s
HHC LR LR
comp=N,180nm,14.5s
HHC LR LR
comp=E,270nm,16.0s
HHC LR LR
comp=Z,380nm,16.0s
USRK Ussuriysk Ar. 43.09 6 P **P 22 00 11.5 +1.7**
comp=Z,1.6nm,0.5s,baz=168,slow=7.4,SNR=4.9
comp=Z,1.6nm,0.5s
BNX BinXian 44.35 1 ⇑P **P 22 00 20.9 +0.9**
BNX pmax pmax
comp=Z,8.0nm,1.8s
SONM Songino Array 49.58 342 P **P 22 01 01.9 +1.0**
comp=Z,0.8nm,0.6s,baz=159,slow=7.7,SNR=6.8
comp=Z,0.8nm,0.6s
PETK Petropavlovsk- 57.86 22 P **P 22 02 03.0 +1.7**
comp=Z,4.0nm,0.8s,baz=183,slow=7.0,SNR=5.6
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 59.45 326 P **P 22 02 11.0 -1.5**
MKAR Makanchi Array 59.45 326 P **P 22 02 10.8 -1.8**
MKAR Makanchi Array 59.45 326 P **P 22 02 12.1 -0.5**
comp=Z,1.5nm,0.3s,baz=120,slow=7.6,SNR=68
MKAR PcP **PcP 22 03 01.2 +1.3**
comp=Z,0.4nm,0.4s,baz=132,slow=4.6,SNR=2.3
comp=Z,1.5nm,0.3s
MAKZ Makanchi 59.63 326 P **P 22 02 13.3 -0.5**
MAKZ IAmb IAmb 22 02 21.0
comp=Z,3.1nm,0.8s
KDJ Kajisay 60.03 319 P **P 22 02 16.0 -0.8**
KDJ IAmb IAmb 22 02 23.7
comp=Z,6.4nm,1.2s
ZAA0 Zalesovo Array 62.69 334 P **P 22 02 33.3 -1.0**
ZAA0 IAmb IAmb 22 02 35.9
comp=Z,1.9nm,0.8s
ZALV Zalesovo Beam 62.69 334 P **P 22 02 33.0 -1.2**
ZALV Zalesovo Beam 62.69 334 P **P 22 02 33.9 -0.4**
comp=Z,0.9nm,0.4s,baz=135,slow=8.0,SNR=5.8
comp=Z,0.9nm,0.4s
GAR Garm 63.41 314 P **P 22 02 37.9 -1.7**
BTK Batken 63.45 315 P **P 22 02 39.2 -0.6**
BTK IAmb IAmb 22 02 41.6
comp=Z,2.6nm,0.9s
KURBB Kurchatov Arra 63.69 328 P **P 22 02 40.4 -0.6**
comp=Z,2.2nm,0.3s,baz=128,slow=6.2,SNR=16
comp=Z,2.2nm,0.3s
KURK Kurchatov 63.70 328 P **P 22 02 40.3 -0.7**
KK31 Karatay Array 64.87 318 P **P 22 02 47.2 -1.8**
KK31 IAmb IAmb 22 02 55.4
comp=Z,4.2nm,1.4s
KKAR Karatay Array 64.87 318 P **P 22 02 46.8 -2.2**
BVAR Borovoye Array 69.26 328 P **P 22 03 15.7 -0.9**
comp=Z,1.2nm,0.4s,baz=145,slow=8.1,SNR=5.5
comp=Z,1.2nm,0.4s
BRVK Borovoye 69.33 328 P **P 22 03 16.9 -0.1**
BRVK IAmb IAmb 22 03 21.4
comp=Z,6.2nm,1.1s
MSEY Mahe Island 71.12 265 P **P 22 03 27.4 -1.4**
ABKAR Abkulak array 73.90 321 **P 22 03 43.6 -1.1**
ABKAR Abkulak array 73.90 321 P **P 22 03 43.1 -1.5**
ABKAR IAmb IAmb 22 03 49.6
comp=Z,2.0nm,0.8s
ARTI Arti 76.97 328 P **P 22 04 00.9 -1.2**
ARTI IAmb IAmb 22 04 04.2
comp=Z,3.8nm,0.7s
VNDA Vanda 80.99 173 P **P 22 04 22.9 -0.7**
comp=Z,3.3nm,1.0s,baz=58,slow=1.1,SNR=6.2
comp=Z,3.3nm,1.0s
KBZ Khabaz 84.48 314 P **P 22 04 42.0 -0.5**
comp=Z,2.0nm,1.0s,baz=165,slow=7.0,SNR=3.8
comp=Z,2.0nm,1.0s
STLK Strandline Lak 84.99 28 P **P 22 04 42.7 -2.1**
STLK IAmb IAmb 22 04 43.7
comp=Z,4.9nm,1.1s
B21K Ikpikpuk River 85.02 20 P P 22 04 39.6 -5.1
B21K IAmb IAmb 22 04 45.0
comp=Z,3.6nm,0.6s
E21K Killik River 85.05 21 P **P 22 04 45.5 +0.6**
CNPM China Poot 85.06 30 P **P 22 04 44.1 -1.0**
SKT Skwentna 85.19 28 P **P 22 04 45.3 -0.4**
SKT IAmb IAmb 22 04 50.3
comp=Z,16nm,1.4s
C23K Itkillik River 86.43 20 P **P 22 04 51.0 -0.7**
C23K IAmb IAmb 22 04 56.1
comp=Z,2.3nm,0.8s
SML Sawmill 86.68 28 P **P 22 04 51.7 -1.4**
D24K Happy Valley 87.00 21 **P 22 04 56.8 +2.3**
D24K IAmb IAmb 22 04 57.4
comp=Z,3.3nm,1.2s
ILAR Eielson Array 87.49 25 P **P 22 04 56.3 -0.7**
comp=Z,0.1nm,0.4s,baz=213,slow=6.5,SNR=4.2
comp=Z,0.1nm,0.4s
HIN Hinchinbrook I 87.50 30 P **P 22 04 54.8 -2.3**
BMAR Burnt Mountain 88.50 23 P **P 22 05 01.9 +0.2**
C27K Jago River 88.82 21 P **P 22 05 03.7 +0.5**
C27K IAmb IAmb 22 05 07.5
comp=Z,2.4nm,1.0s
BCAR Beaver Creek A 89.74 27 P **P 22 05 07.1 -0.6**
QSPA South Pole Qui 91.14 180 P **P 22 05 16.8 +2.6**
comp=Z,1.2nm,1.0s,baz=207,slow=16,SNR=1.5
BRTR Keskin Array B 91.38 310 P **P 22 05 14.8 -1.2**
comp=Z,0.1nm,0.3s,baz=90,slow=4.5,SNR=1.6
comp=Z,0.1nm,0.3s
FINES FINESS Array B 93.89 332 P **P 22 05 26.1 -0.7**
comp=Z,3.4nm,1.1s,baz=37,slow=7.4,SNR=5.2
comp=Z,3.4nm,1.1s
STHS Stebnicka Huta 98.92 320 *e*PDIFF Pdif 22 05 49.6 -0.4
LANS Liptovska Anna 100.11 320 *e*PDIFF **Pdif 22 05 56.2 +0.9**
MODS Modra-Piesok 101.71 320 *e*PDIFF **Pdif 22 06 01.5 -0.9**

HEL 14 21:59:21.3±0.8, 69°.43N×31°.07E, h0km, ML1.0, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.38**	**227**	PG	Pg	21 59 45.7	-2.1
RAJF				SG	Sg	22 00 03.1	-2.5
KEV	**Kevo**	**1.46**	**285**	PG	Pn	21 59 47.2	-1.7
	baz=98						
KEV				MSG		22 00 05.1	
	comp=Z,0.7nm,0.2s						
KEV				SG	Sg	22 00 06.7	-1.5
VRF	**Varrio**	**1.77**	**198**	MSG		22 00 14.2	
	comp=Z,0.8nm,0.2s						
VRF				SG	Sn	22 00 16.7	+0.4
ARA0	**ARCESS Array S**	**1.96**	**276**	PG	Pn	21 59 56.3	+0.5
	baz=90						
ARA0				SB	Sn	22 00 19.4	-1.7
HEF	**Hetta**	**2.87**	**253**	MSG		22 00 45.5	
	comp=Z,0.6nm,0.2s						

HEL 14 22:00:16.8±0.4, 67°.19N×20°.71E, h0km, ML1.3, Explosion

UPP 14 22:00:16.4±0.1, 67°.19N×20°.71E, h0km, ML2.3, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**216**	P	Pg	22 00 18.4	+0.3
DUNU				S	Sg	22 00 19.6	+0.3
RATU	**Laukkuluspa**	**0.77**	**326**	P	Pg	22 00 30.8	-0.3
RATU				S	Sg	22 00 41.0	+0.1
KUA	**Kurravaara**	**0.78**	**350**	P	Pg	22 00 30.9	-0.3
KUA				S	Sg	22 00 41.8	+0.4
ERTU	**Ertsjaerv**	**0.87**	**137**	P	Pg	22 00 32.6	-0.4
ERTU				S	Sg	22 00 44.5	+0.3
ERTU	**Ertsjaerv**	**0.87**	**137**	PG	Pg	22 00 32.6	-0.5
ERTU				SG	Sg	22 00 44.3	+0.1
LANU	**Lannavaara**	**0.99**	**29**	P	Pg	22 00 35.0	-0.4
LANU				S	Sg	22 00 48.4	+0.3
LANU	**Lannavaara**	**0.99**	**29**	PG	Pg	22 00 35.1	-0.2
LANU				SG	Sg	22 00 48.2	0.0
KOVU	**Salmi**	**1.05**	**349**	P	Pg	22 00 36.0	-0.6
KOVU				S	Sg	22 00 50.3	+0.1
KLF	**Kolari**	**1.27**	**87**	SN	Sg	22 00 57.0	-0.1
KLF	**Kolari**	**1.27**	**87**	PG	Pg	22 00 39.9	-0.8
KLF				MSG		22 00 56.2	
	comp=Z,1.2nm,0.2s						
KLF				SB	Sg	22 00 57.0	-0.1
HEF	**Hetta**	**1.66**	**41**	PG	Pn	22 00 46.2	-0.5
HEF				MSG		22 01 07.1	
	comp=Z,2.2nm,0.2s						
HEF				SG	Sn	22 01 08.7	0.0
KALU	**Kalix**	**1.71**	**140**	P	Pn	22 00 47.5	+0.2
KALU	**Kalix**	**1.71**	**140**	SN	Sb	22 01 10.7	+0.1
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	22 00 47.9	+0.2
KIF	**Kilpisjarvi**	**1.82**	**1**	PG	Pb	22 00 49.7	-0.8
KIF				MSG		22 01 12.3	
	comp=Z,3.1nm,0.2s						
KIF				SG	Sg	22 01 15.6	+0.9
TOF	**Tornio**	**1.83**	**126**	PG	Pb	22 00 49.9	-0.7
TOF				MSG		22 01 12.0	
	comp=Z,1.4nm,0.2s						
TOF				SN	Sb	22 01 13.6	-0.3
KTK1	**Kautokeino**	**2.06**	**26**	PG	Pb	22 00 54.0	-0.6
KTK1				SG	Sb	22 01 21.0	+0.3
RNF	**Rovaniemi**	**2.17**	**103**	SN	Pn	22 00 55.4	+1.7
RNF	**Rovaniemi**	**2.17**	**103**	PG	Pb	22 00 55.4	-1.1
RNF				SG	Sb	22 01 24.8	+0.9
TRO	**Tromso**	**2.54**	**346**	SG	Sg	22 01 36.2	-1.6
RANF	**Ranua**	**2.70**	**113**	SG	Sb	22 01 40.1	+1.0
ARA0	**ARCESS Array S**	**2.95**	**35**	SB	Sn	22 01 43.3	+2.8
KEV	**Kevo**	**3.46**	**39**	SN	Sn	22 01 53.6	+0.5

TRN 14 22:02:31.4, 12°.89N×60°.91W, h82km, MD3.5, South-east of St. Vincent., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVOC	**Richmond Hill,**	**0.40**	**310**	*e*P	Pn	22 02 45.6	+1.1
SVOC				*e*S	Sn	22 02 56.8	+2.4
SVT	**Saint Vincent**	**0.43**	**310**	*e*P	Pn	22 02 45.7	+0.9
SVT				*e*S	Sn	22 02 56.3	+1.7
SVB	**Belmont**	**0.50**	**318**	*e*P	Pn	22 02 46.5	+1.1
SVB				*e*S	Sn	22 02 57.5	+1.7
SSV	**Crater Summit**	**0.51**	**327**	*e*P	Pn	22 02 46.4	+0.8
SVV	**Soufriere Volc**	**0.52**	**325**	*e*P	Pn	22 02 46.5	+1.0
GCMP	**Grenada, Carri**	**0.65**	**231**	*e*P	Pn	22 02 47.9	+1.3
GCMP				*e*S	Sn	22 02 59.9	+1.8
GRSS	**Sisters**	**0.91**	**229**	*e*P	Pn	22 02 50.5	+1.0
GRSS				*e*S	Sn	22 03 04.5	+1.5
SLAC	**Saint Lucia, A**	**1.00**	**1**	*e*P	Pn	22 02 51.0	+0.4
SLAC				*e*S	Sn	22 03 05.6	+0.6
GRW	**Mount Saint Ca**	**1.03**	**225**	*e*P	Pn	22 02 52.3	+1.3
GRW				*e*S	Sn	22 03 08.0	+2.2
GRGR	**Grenville**	**1.05**	**224**	*e*P	Pn	22 02 52.5	+1.4
GRGR				*e*S	Sn	22 03 08.2	+2.2
SLBI	**Saint Lucia, B**	**1.13**	**357**	*e*P	Pn	22 02 52.8	+0.7
SLBI				*e*S	Sn	22 03 08.2	+0.6
GRFF	**Grenada Fort F**	**1.17**	**224**	*e*P	Pn	22 02 53.6	+1.1
GRFF				*e*S	Sn	22 03 09.8	+1.3
BBGH	**Gun Hill**	**1.34**	**79**	*e*P	Pn	22 02 56.4	+1.7
BBGH				*e*S	Sn	22 03 15.0	+2.7
BIM	**Bigot**	**1.62**	**354**	*e*P	Pn	22 02 59.4	+0.9
BIM				*e*S	Sn	22 03 20.5	+1.6
TOSP	**Speyside**	**1.63**	**167**	*e*P	Pn	22 02 59.7	+1.3
TOSP				*e*S	Sn	22 03 19.8	+0.9
ILAM	**Ilet Lapin Mar**	**1.87**	**1**	*e*P	Pn	22 03 02.4	+0.7
ILAM				*e*S	Sn	22 03 25.4	+0.8
SVN	**Savane Anatole**	**1.95**	**353**	*e*P	Pn	22 03 04.7	+1.9
SVN				*e*S	Sn	22 03 27.9	+1.2
TRN	**Trinidad (W)**	**2.28**	**192**	*e*P	Pn	22 03 08.4	+1.2
TRN				*e*S	Sn	22 03 34.8	+0.3
MDN	**Morne-Daniel**	**2.46**	**349**	*e*S	Sn	22 03 39.7	+1.1
TBG	**Guadaloupe-3**	**3.03**	**346**	*e*P	Pn	22 03 18.5	+1.4
TBG				*e*S	Sn	22 03 53.2	+0.8
ANBD	**Bethesda, Anti**	**4.21**	**349**	*e*S	Sn	22 04 21.0	-0.3

IDC 14 22:16:30.0±1.5, 35°.89N×69°.04E, h0km, mb3.9/7, mbtmp3.8/12, ML3.5/5, Error ellipse: s-maj=28.6km s-min=19.3km az=137.0
NNC 14 22:16:37.0±7.8, 36°.16N×68°.77E, h24km±266km, mb4.1, mpv4.0, Error ellipse: s-maj=276.6km s-min=36.9km az=5.0

ISC 14 22:16:35.6±1.2, 36°.0N±0°.1×68°.9E±0°.1, h35km, n25, σ1§03/30, mb3.9/7, 7C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**7.16**	**30**	P	**Pn**	**22 18 18.6**	**+0.5**
	SNR=42						
KK31	**Karatay Array**	**7.18**	**10**	P	**Pn**	**22 18 18.6**	**+0.5**
	1.6nm,0.2s,baz=202,slow=15,SNR=64						
EKS2	**Erkin-Say**	**7.64**	**28**	P	**Pn**	**22 18 25.4**	**+0.9**
	SNR=8.6						
AAK	**Ala-Archa**	**7.91**	**32**	**Pn**	**Pn**	**22 18 28.4**	**+0.2**
	2.2nm,0.3s,baz=199,slow=5.3,SNR=40						
AAK				Sn	**Sn**	**22 19 56.9**	**+0.4**
	1.1nm,0.3s,baz=343,slow=21,SNR=12						
	4.9nm,0.3s						
AAK	**Ala-Archa**	**7.91**	**32**	P	**Pn**	**22 18 28.9**	**+0.7**
	SNR=18						
AAK	**Ala-Archa**	**7.91**	**32**	⇑P	**Pn**	**22 18 28.6**	**+0.4**
	4.4nm,0.6s						
AAK				⇑S	**Sn**	**22 19 57.9**	**+1.4**
	22nm,0.8s						
CHMS	**Chumysh**	**8.31**	**31**	P	**Pn**	**22 18 34.2**	**+0.6**
	SNR=10						
CHMS	**Chumysh**	**8.31**	**31**	⇑P	**Pn**	**22 18 34.0**	**+0.4**
	6.3nm,0.5s						
CHMS				⇑S	**Sn**	**22 20 06.2**	**-0.1**
	30nm,0.7s						
USP	**Ospenovka**	**8.43**	**29**	P	**Pn**	**22 18 36.0**	**+0.8**
	SNR=8.0						
ULHL	**Ulahol**	**8.45**	**40**	P	**Pn**	**22 18 36.6**	**+1.0**
	SNR=7.1						
TKM2	**Tokmak 2**	**8.63**	**35**	P	**Pn**	**22 18 38.5**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**8.63**	**35**	⇑P	**Pn**	**22 18 38.4**	**+0.3**
	4.1nm,0.5s						
TKM2				⇑S	**Sn**	**22 20 13.7**	**-0.6**
	10nm,0.7s						
MKAR	**Makanchi Array**	**14.71**	**39**	Pn	**Pn**	**22 19 59.1**	**-1.9**
	0.1nm,0.3s,baz=220,slow=9.5,SNR=3.9						
	0.5nm,0.7s						
AB31	**Akbulak array**	**14.75**	**336**	⇑P	**Pn**	**22 19 59.0**	**-2.4**
	0.6nm,0.4s,baz=152,slow=13,SNR=6.9						
AB31				S	**Sn**	**22 22 42.8**	**-0.8**
	0.6nm,0.4s,baz=154,slow=24,SNR=2.5						
KURBB	**Kurchatov Arra**	**16.17**	**23**	Pn	**Pn**	**22 20 17.6**	**-2.4**
	0.2nm,0.3s,baz=210,slow=10,SNR=4.7						
	1.2nm,0.2s						
AKTO	**Aktyubinsk**	**16.40**	**335**	Pn	**Pn**	**22 20 22.5**	**-0.5**
	0.2nm,0.3s,baz=166,slow=9.8,SNR=5.4						
	0.6nm,0.4s						
BVA0	**Borovoye Array**	**17.03**	**3**	P	**P**	**22 20 32.6**	**+0.2**
	4.7nm,1.2s,baz=162,slow=10.0,SNR=9.4						
BVAR	**Borovoye Array**	**17.03**	**3**	P	**Pn**	**22 20 30.2**	**-0.6**
	0.1nm,0.3s,baz=168,slow=11,SNR=10						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**21.09**	**27**	P	**P**	**22 21 16.4**	**-0.3**
	2.7nm,0.3s,baz=216,slow=9.7,SNR=14						
	2.7nm,0.3s						
ARTI	**Arti**	**21.57**	**344**	P	**P**	**22 21 23.5**	**+1.7**
	0.8nm,0.4s,baz=132,slow=19,SNR=2.1						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**36.93**	**327**	P	**P**	**22 23 41.0**	**+0.2**
	1.5nm,0.8s,baz=120,slow=11,SNR=4.3						
	1.5nm,0.8s						
ARCES	**ARCESS Array B**	**40.94**	**338**	P	**P**	**22 24 14.8**	**+0.5**
	2.5nm,0.9s,baz=122,slow=9.0,SNR=2.0						
	2.5nm,0.9s						
NOA	**NORSAR Array B**	**43.73**	**324**	P	**P**	**22 24 38.4**	**+1.2**
	0.2nm,0.5s,baz=96,slow=8.1,SNR=1.5						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**63.98**	**268**	P	**P**	**22 27 06.1**	**+0.4**
	2.2nm,0.3s,baz=56,slow=6.6,SNR=2.2						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**83.22**	**120**	P	**P**	**22 28 57.8**	**-0.7**
	0.4nm,0.7s,baz=310,slow=4.9,SNR=2.3						
	0.4nm,0.7s						

NOU 14 22:22:52.3, 20°.44S×165°.47E, h0km, MLv4.3/14, New Caledonia, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**1.11**	**264**	P	Pg	22 23 12.7	-1.0
KOUNC	**Koumac, New Ca**	**1.11**	**264**	S	Sg	22 23 28.4	+0.2
DZM	**Mont Dzumac**	**1.86**	**151**	P	Pn	22 23 25.8	+0.3
ONTNC	**Ouen Toro**	**2.07**	**154**	P	Pn	22 23 28.5	+0.1
YATNC	**Mamie plateau,**	**2.09**	**141**	P	Pn	22 23 26.6	-2.0
YATNC	**Mamie plateau,**	**2.09**	**141**	S	Sn	22 23 56.2	+0.9
OUENC	**Ouen Island, N**	**2.35**	**147**	P	Pn	22 23 32.5	+0.4
MARNC	**Mare, Loyalty**	**2.61**	**114**	P	Pn	22 23 34.9	-0.8
PINNC	**Pines Island,**	**2.84**	**140**	P	Pn	22 23 39.4	+0.5
DVP	**Devils Point**	**3.73**	**44**	P	Pn	22 23 50.6	-0.5
LUES	**Luesalemba Tem**	**9.73**	**3**	P	Pn	22 25 14.1	+0.5

IDC 14 22:26:12.1±8.0, 20°.18S×177°.61W, h304km±56km, mb3.2/2, mbtmp3.9/4, Error ellipse: s-maj=99.6km s-min=31.4km az=139.0

ISC 14 22:26:10.6±1.3, 20°.2S±0°.2×177°.5W±0°.2, h300km, n11, σ1§34/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.90**	**299**	P	**Pn**	**22 27 28.8**	**+1.7**
	3.0nm,0.5s,baz=350,slow=23,SNR=6.7						
MSVF				S	**S**	**22 28 26.8**	**-1.7**
	0.9nm,0.2s,baz=226,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**15.13**	**260**	P	**Pn**	**22 29 30.3**	**-0.5**
	4.9nm,0.8s,baz=60,slow=18,SNR=2.5						
ASAR	**Alice Springs**	**45.08**	**256**	P	**P**	**22 33 57.0**	**-0.8**
	1.5nm,0.9s,baz=94,slow=7.7,SNR=11						
ASAR				PcP	**sP**	**22 35 33.0**	**+0.8**
	0.3nm,0.6s,baz=103,slow=3.8,SNR=2.6						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**45.15**	**262**	P	**P**	**22 33 58.8**	**+0.5**
	1.0nm,0.6s,baz=95,slow=7.9,SNR=11						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**111.35**	**313**	PKiKP	**PKiKP**	**22 44 08.0**	**-1.0**
	0.1nm,0.5s,baz=128,slow=0.9,SNR=2.0						
BVAR	**Borovoye Array**	**119.17**	**320**	PKP	**PKPdf**	**22 44 23.8**	**0.0**
	0.5nm,0.4s,baz=103,slow=2.4,SNR=4.4						
ARCES	**ARCESS Array B**	**128.71**	**350**	PKP	**PKPdf**	**22 44 41.1**	**-0.5**
	2.1nm,1.0s,baz=39,slow=1.8,SNR=1.4						
HFS	**Hagfors**	**139.31**	**351**	PKhKP	PKPpre	22 44 53.5	
	1.7nm,1.0s,baz=8.7,slow=1.9,SNR=1.8						
AKASG	**Malin Array Be**	**142.98**	**332**	PKP	**PKPdf**	**22 45 06.7**	**-1.8**
	0.5nm,0.3s,baz=51,slow=46,SNR=4.3						
BRTR	**Keskin Array B**	**147.00**	**313**	PKPbc	**PKPbc**	**22 45 19.6**	**+1.1**
	0.8nm,0.7s,baz=137,slow=4.9,SNR=5.8						
MMAI	**Mount Meron Ar**	**148.10**	**300**	PKPbc	**PKPbc**	**22 45 23.1**	**+1.7**
	1.2nm,0.4s,baz=80,slow=6.9,SNR=8.0						

IDC 14 22:26:23.1±0.8, 57°.36S×25°.38W, h0km, mb4.2/7, mbtmp4.1/8, ML3.8/1, Error ellipse: s-maj=35.5km s-min=20.2km az=74.0
NEIC 14 22:26:28.4±1.8, 57°.47S±0°.07×25°.4W±0°.3, h35km±2km, mb4.4/15, Error ellipse: s-maj=24.7km s-min=7.0km az=67.0

ISC 14 22:26:29.1±0.6, 57°.48S±0°.1×25°.4W±0°.1, h43km, n33, σ0§91/33, mb4.3/13, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.00**	**293**	Pn	**Pn**	**22 28 10.1**	**+1.3**
VNA1	**Neumayer--Stat**	**15.11**	**158**	⇑P	**Pn**	**22 29 57.3**	**-1.9**
	comp=Z,0.3nm,0.2s						
VNA3	**Neumayer Olymp**	**15.32**	**161**	⇑P	**Pn**	**22 30 00.1**	**-1.9**
	comp=Z,0.9nm,0.2s						
VNA2	**Neumayer--Watz**	**15.50**	**158**	⇑P	**Pn**	**22 30 03.2**	**-1.1**
	comp=Z,1.0nm,0.2s,baz=34,slow=36						
SNAA	**Sanae**	**17.04**	**156**	Pn	**Pn**	**22 30 23.3**	**-0.6**
SNAA	**Sanae**	**17.04**	**156**	⇑P	**Pn**	**22 30 23.5**	**-0.4**
	comp=Z,12nm,0.2s						
SNAA	**Sanae**	**17.04**	**156**	P	**Pn**	**22 30 23.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=324,slow=8.7,SNR=23						
	comp=Z,1.8nm,0.5s						
TROLL	**Troll, Antarti**	**18.53**	**153**	⇑P	**Pn**	**22 30 43.3**	**+1.1**
	comp=Z,14nm,0.1s						
BELA	**Belgrano 2**	**20.73**	**185**	P	**P**	**22 31 05.7**	**+0.2**
BELA				IAmb	IAmb	22 31 28.1	
	comp=Z,8.1nm,1.3s						
MG02	**Cerro Sombrero**	**25.13**	**262**	P	**P**	**22 31 49.1**	**-0.6**
MG03	**Isla Dawson**	**25.30**	**259**	P	**P**	**22 31 49.8**	**-1.4**
MG05	**Puerto Natales**	**27.43**	**262**	P	**P**	**22 32 09.9**	**-0.5**
MG05				IAmb	IAmb	22 32 49.2	
	comp=Z,16nm,1.2s						
PLTB	**Pedras Altas**	**32.17**	**311**	P	**P**	**22 32 52.6**	**0.0**
PLTB				IAmb	IAmb	22 33 23.5	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**22 32 58.3**	**+0.6**
QSPA				IAmb	IAmb	22 33 32.9	
	comp=Z,2.9nm,1.1s						
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**22 32 58.4**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=11,slow=0.6,SNR=14						
	comp=Z,1.3nm,0.5s						
LL05	**Los Muermos**	**34.30**	**277**	P	**P**	**22 33 10.2**	**-0.8**
ITAB	**Concordia**	**35.63**	**317**	P	**P**	**22 33 23.4**	**+0.8**
ITAB				IAmb	IAmb	22 33 35.8	
	comp=Z,12nm,1.4s						
CPUP	**Villa Florida**	**38.48**	**310**	P	**P**	**22 33 45.6**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=136,slow=8.9,SNR=4.6						
	comp=Z,1.6nm,0.6s						
VNDA	**Vanda**	**45.19**	**182**	P	**P**	**22 34 42.8**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=304,slow=22,SNR=1.0						
	comp=Z,1.0nm,0.6s						
PTLB	**Pontes e Lacer**	**48.99**	**315**	P	**P**	**22 35 12.1**	**+0.8**
PTLB				IAmb	IAmb	22 35 12.9	
	comp=Z,5.0nm,0.7s						
PB08	**IPOC Station P**	**49.09**	**301**	P	**P**	**22 35 11.6**	**-0.9**
PB08				IAmb	IAmb	22 35 24.8	
	comp=Z,7.3nm,1.0s						
LPAZ	**La Paz**	**51.99**	**304**	P	**P**	**22 35 34.7**	**+0.1**
LPAZ				IAmb	IAmb	22 36 01.2	
	comp=Z,2.1nm,0.8s						
LPAZ	**La Paz**	**51.99**	**304**	P	**P**	**22 35 34.3**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=79,slow=6.6,SNR=12						
	comp=Z,1.9nm,0.4s						
BOAV	**Boa Vista**	**66.00**	**321**	P	**P**	**22 37 11.3**	**+0.3**
BOAV				IAmb	IAmb	22 37 48.2	
	comp=Z,5.8nm,1.3s						
DBIC	**Dimbokro**	**66.09**	**22**	P	**P**	**22 37 11.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=328,slow=12,SNR=1.4						
	comp=Z,1.7nm,0.8s						
COHC	**Cochancay**	**69.24**	**300**	P	**P**	**22 37 30.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**73.85**	**28**	P	**P**	**22 37 58.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.85**	**28**	P	**P**	**22 37 59.1**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=203,slow=7.9,SNR=1.3						
	comp=Z,1.3nm,0.3s						
ASAR	**Alice Springs**	**97.33**	**161**	P	**P**	**22 39 57.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=195,slow=7.3,SNR=2.1						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**125.20**	**27**	PKP	**PKPdf**	**22 45 23.0**	**-0.2**
	comp=Z,3.2nm,1.0s,baz=204,slow=2.1,SNR=2.1						
YKA	**Yellowknife Ar**

YOJ	Yonaguni jima	2.70	286	eP	Pn	22 44 28.3	-0.5
JNTH	Nagotoyohara	3.38	35	eP	Pn	22 44 38.1	+0.5
JNTH				eS	Sn	22 45 15.7	-1.6
MKAR	Makanchi Array	41.66	315	P	P	22 51 35.8	+13
	0.1nm,0.4s,baz=100,slow=9.5,SNR=2.9 0.1nm,0.4s						
WRA	Warramunga Arr	44.21	169	P	P	22 51 52.4	+9.0
	0.9nm,0.4s,baz=345,slow=8.2,SNR=8.0 0.9nm,0.4s						
ASAR	Alice Springs	47.78	170	P	P	22 52 20.3	+8.9
	0.2nm,0.6s,baz=350,slow=7.3,SNR=1.8 0.2nm,0.6s						

ISK 14 22:47:12.7, 40.86N×30.88E, h7km, ML2.8/23
AFAD 14 22:47:12.7, 40.87N×30.91E, h10km, ML2.2
CFUSG 14 22:47:16.0, 41.18N×31.16E, h0km, mb2.3/4, Black Sea Magtype MSH 3.0 from 4 stations
ISC 14 22:47:13.0±0.9, 40.88N±0.03×30.91E±0.02, h12km±6km, n57, σ0.96/80, 11C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAHE	Sakarya_HENDEK	0.05	241	P	Pg	22 47 14.9	-0.4
SAHE				i AML	AML	22 47 16.0	
	comp=N,4μm,0.2s						
BTAS	Taskesti	0.31	167	P	Pg	22 47 19.2	-0.1
BTAS				S	Sg	22 47 22.8	-0.8
BTAS				i AML	AML	22 47 24.0	
	comp=N,1μm,0.8s						
BTAS				i AML	AML	22 47 24.0	
	comp=E,995nm,0.2s						
YIGI	Dzce	0.42	78	P	Pg	22 47 21.1	-0.1
YIGI				S	Sg	22 47 27.1	+0.3
YIGI				i AML	AML	22 47 29.0	
	comp=N,403nm,0.4s						
YIGI				i AML	AML	22 47 32.0	
	comp=E,180nm,0.5s						
KAYN	Sakarya, Kayna	0.44	282	P	Pg	22 47 21.8	+0.2
KAYN				S	Sg	22 47 27.7	+0.2
KAYN				i AML	AML	22 47 28.0	
	comp=E,138nm,0.2s						
KAYN				i AML	AML	22 47 29.0	
	comp=N,128nm,0.3s						
MDUB	Mudurnu	0.46	151	Pg	Pg	22 47 22.0	0.0
MDUB				Sg	Sg	22 47 28.7	+0.5
SAUV	Serdivan-Sakar	0.46	253	Pg	Pg	22 47 21.6	-0.5
GULT	Gulveren	0.54	214	Pg	Pg	22 47 23.3	-0.1
SUSU	Bolu-G¶ynk-	0.54	185	P	Pg	22 47 23.6	+0.1
SUSU				i AML	AML	22 47 32.0	
	comp=E,108nm,0.3s						
SUSU				i AML	AML	22 47 35.0	
	comp=N,73nm,0.6s						
KAND	Kocaeli-Kandir	0.58	292	P	Pg	22 47 24.3	-0.1
KAND				S	Sb	22 47 32.8	-0.6
KAND				i AML	AML	22 47 33.0	
	comp=N,176nm,0.1s						
KAND				i AML	AML	22 47 33.0	
	comp=E,177nm,0.2s						
BOLU	Bolu-Merkez-Mu	0.59	99	P	Pg	22 47 24.2	-0.2
BOLU				S	Sg	22 47 32.9	+0.6
BOLU				i AML	AML	22 47 38.0	
	comp=N,136nm,0.3s						
BOLU				i AML	AML	22 47 38.0	
	comp=E,144nm,0.4s						
GEYV	SAKARYA_Geyve	0.61	230	P	Pg	22 47 24.7	-0.1
GEYV				S	Sg	22 47 33.1	+0.2
GEYV				i AML	AML	22 47 34.0	
	comp=N,173nm,0.4s						
GEYV				i AML	AML	22 47 35.0	
	comp=E,116nm,0.3s						
GPA	Golpazari	0.74	218	Pg	Pg	22 47 26.8	-0.6
YUVA	Yuva-Kibriscik	0.77	129	Pg	Pb	22 47 28.1	-0.2
DEVR	Zonguldak/Devr	0.85	71	P	Pg	22 47 28.2	-1.1
DEVR				S	Sg	22 47 39.7	-0.7
KIBS	BOLU	0.85	122	P	Pb	22 47 29.6	-0.2
KIBS				i AML	AML	22 47 46.0	
	comp=N,82nm,0.7s						
KIBS				i AML	AML	22 47 48.0	
	comp=E,79nm,0.5s						
HISA	Bilecik-Osmane	0.86	242	P	Pg	22 47 29.1	-0.4
HISA				S	Sg	22 47 40.4	-0.3
HISA				i AML	AML	22 47 43.0	
	comp=E,105nm,0.4s						
HISA				i AML	AML	22 47 48.0	
	comp=N,86nm,0.3s						
BCAM	Yenicaga	0.88	94	P	Pg	22 47 29.6	-0.4
BCAM				i AML	AML	22 47 46.0	
	comp=N,28nm,0.3s						
BCAM				i AML	AML	22 47 48.0	
	comp=E,31nm,0.3s						
SEMS	Kocaeli-K¶rfe	0.89	270	P	Pg	22 47 29.8	-0.3
SEMS				S	Sg	22 47 41.6	-0.1
SEMS				i AML	AML	22 47 43.0	
	comp=N,201nm,0.2s						
SEMS				i AML	AML	22 47 43.0	
	comp=E,139nm,0.3s						
HRT	Hereke	0.94	267	Pg	Pg	22 47 30.7	-0.5
OSMT	Osmaniye	0.96	254	Pg	Pg	22 47 30.9	-0.6
ADVT	Abdulvahap	0.99	244	Pg	Pg	22 47 31.5	-0.6
SILT	Sile	1.00	287	Pg	Pg	22 47 31.9	-0.3
BORA	Eskisehir	1.05	199	P	Pg	22 47 32.7	-0.5
BORA				i AML	AML	22 47 52.0	
	comp=N,72nm,0.4s						
BORA				i AML	AML	22 47 53.0	
	comp=E,92nm,0.2s						
CAVI	Cavuskoy	1.05	231	Pg	Pg	22 47 32.7	-0.6
BILE	Bilecik/Merkez	1.06	228	P	Pb	22 47 33.3	-0.1
BILE				S	Sb	22 47 48.1	+0.8
BILE				i AML	AML	22 47 51.0	
	comp=E,69nm,0.3s						
BILE				i AML	AML	22 47 52.0	
	comp=N,60nm,0.2s						
YLV	Yalova	1.21	256	Pn	Pg	22 47 35.7	-0.5
KAVV	Kandilli-Istan	1.41	278	Pn	Pn	22 47 39.0	+0.5
ISK	Istanbul-Kandi	1.41	278	Pn	Pn	22 47 38.9	+0.3
KLYT	Kilyos	1.46	286	Pn	Pn	22 47 39.4	+0.2
CIFT	Cifteler, Eski	1.52	176	Pn	Pg	22 47 41.5	-0.6
ARMT	Armutlu	1.59	259	Pn	Pn	22 47 41.7	+0.7
MDNY	Mudanya-Bursa	1.62	252	Pn	Pn	22 47 42.0	+0.6
BGKT	Bogazkoy	1.65	281	Pn	Pn	22 47 42.6	+0.9
TVSB	Tavsanli	1.81	218	Pn	Pn	22 47 44.6	+0.5
CIDE	Kastamonu/Cide	1.83	56	⇓P	Pb	22 47 46.5	0.0
CIDE				⇑S	Sg	22 48 11.7	-0.2
CTKS	Kestanelik-??a	1.85	282	Pn	Pn	22 47 45.5	+0.9
KCTX	Karacabey (Bur	2.04	253	Pn	Pn	22 47 48.2	+1.0
CTYL	Yalikoy Yolu	2.07	288	Pn	Pn	22 47 48.4	+0.9
SLVT	Silivri	2.07	281	Pn	Pn	22 47 48.6	+1.0
BAND	Balkesir-Ban	2.20	257	⇑P	Pg	22 47 56.3	+1.1
BAND				⇓S	Sg	22 48 23.3	-0.4
KIRS	Kirsehir-Merke	2.89	126	⇑P	Pg	22 48 08.7	+0.3
KIRS				⇓S	Sg	22 48 46.0	+0.1
MANR	Mangalia	3.41	330	⇑P	Pn	22 48 06.4	+0.5
MANR				⇓S	Sn	22 48 46.3	+0.1
TIRR	Tirgusor	4.03	334	⇓P	Pn	22 48 15.6	+1.2
TIRR				⇑S	Sn	22 49 00.5	-1.0
SEV	Sevastopol'	4.19	28	eP	Pn	22 48 18.6	+1.9
SEV				Pm		22 48 20.9	
	comp=Z,1.0nm,0.2s						
SEV				eS	Sn	22 49 04.7	-0.9
SEV				Sm		22 49 06.1	
	comp=N,1.0nm,0.3s						
SEV				Sm		22 49 06.1	
	comp=E,3.0nm,0.4s						
YAL	Yalta	4.33	32	eP	Pn	22 48 20.0	+1.4
YAL				Pm		22 48 20.8	
	comp=Z,3.0nm,0.3s						
YAL				eS	Sn	22 49 08.0	-1.0
YAL				Sm		22 49 08.9	
	comp=N,3.0nm,0.2s						
YAL				Sm		22 49 08.9	
	comp=E,4.0nm,0.3s						
TPGR	Topolog	4.38	336	⇑P	Pn	22 48 20.6	+1.2
TPGR				⇑S	Sn	22 49 09.0	-1.3
HARR	Harsova	4.40	331	⇓P	Pn	22 48 21.3	+1.7
TLCR		4.57	341	⇓P	Pn	22 48 23.3	+1.3
TLCR				⇓S	Sn	22 49 13.6	-1.5
SIM	Simferopol'	4.70	29	eP	Pn	22 48 25.2	+1.4
SIM				Pm		22 48 30.1	
	comp=Z,13nm,0.4s						
CFR	Carcaliu	4.76	336	⇑P	Pn	22 48 25.1	+0.6
CFR				⇓S	Sn	22 49 18.4	-1.1
DNZ2	Donuzlav2	4.80	20	eP	Pn	22 48 26.5	+1.4
DNZ2				Pm		22 48 28.4	
	comp=Z,4.0nm,0.1s						
DNZ2				eS	Sn	22 49 17.7	-3.0
DNZ2				Sm		22 49 26.0	
	comp=N,3.0nm,0.2s						
DNZ2				Sm		22 49 26.0	
	comp=E,1.0nm,0.1s						
SUDU	Sudak	5.01	35	eP	Pn	22 48 29.0	+1.0
SUDU				Pm		22 48 31.8	
	comp=Z,4.0nm,0.3s						
SUDU				eS	Sn	22 49 25.0	-0.9
SUDU				Sm		22 49 27.2	
	comp=N,6.0nm,0.4s						
SUDU				Sm		22 49 27.2	
	comp=E,4.0nm,0.2s						
SPBR	Spulber	5.74	329	⇓P	Pn	22 48 40.1	+2.1
PLOR	Plostina	5.86	329	⇑P	Pn	22 48 40.3	+0.6
MLR	Muntele Rosu	5.87	323	⇑P	Pn	22 48 41.6	+1.7
COVR	Voineasa-Covas	6.04	327	⇓P	Pn	22 48 44.1	+2.0
VOIR		6.26	319	⇑P	Pn	22 48 47.8	+2.6

IDC 14 22:54:33.4±1.9, 6.36S×129.44E, h0km, mb3.5/2, mbtmp3.6/5, ML3.8/3, MS3.6/4, Error ellipse: s-maj=96.0km s-min=25.7km az=76.0
ISC 14 22:54:57.1±1.9, 7.6S±0.1×129.39E±0.08, h200km, n19, σ1.86/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.94	103	P	Pn	22 55 27.8	-7.2
DRS	Darwin Rock St	5.08	163	P	Pn	22 56 12.8	+0.3
FAKI	Fak Fak	5.41	32	P	Pn	22 55 58.1	-19
SOEI	Soe	5.52	246	P	Pn	22 56 16.5	-1.8
SOEI	Soe	5.52	246	S	Sn	22 57 23.3	+0.8
MTN	Manton Dam	5.54	162	P	Pn	22 56 18.6	+0.2
KDU	Kakadu	5.94	150	P	Pn	22 56 22.9	-0.7
FITZ	Fitzroy Crossi	11.11	199	Pn	Pn	22 57 29.9	-0.8
	0.2nm,0.3s,baz=29,slow=11,SNR=11						
FITZ				Sn	Sn	22 59 32.5	-2.1
	1.1nm,0.3s,baz=68,slow=22,SNR=9.8 2.4nm,0.6s						
WRA	Warramunga Arr	13.22	159	Pn	Pn	22 57 57.0	-0.5
	0.7nm,0.3s,baz=342,slow=14,SNR=12						
WRA				Sn	Sn	23 00 25.0	-0.1
	0.7nm,0.3s,baz=332,slow=21,SNR=6.9 0.5nm,0.3s						
COEN	Coen	14.96	116	P	P	22 58 18.3	-1.4
QIS	Mount Isa	16.28	144	P	Pn	22 58 36.7	+1.8
ASAR	Alice Springs	16.61	165	P	Pn	22 58 41.8	+3.0
	0.2nm,0.3s,baz=346,slow=11,SNR=14						
ASAR				S	Sn	23 01 46.5	+0.7
	0.6nm,0.5s,baz=348,slow=24,SNR=4.5 0.9nm,0.7s						
AS01	Alice Springs	16.61	165	P	Pn	22 58 42.5	+3.6
JCJ	Chichijima	36.60	19	LR	LR	23 15 49.7	
	comp=Z,61nm,19.0s,baz=100,slow=36						
CMAR	Chiang Mai Arr	39.62	311	LR	LR	23 20 32.7	
	comp=Z,87nm,18.0s,baz=105,slow=40						
JHJ	Hachijo jima 2	41.63	13	LR	LR	23 16 43.4	
	comp=Z,71nm,18.9s,baz=157,slow=33						
USRK	Ussuriysk Ar.	51.56	2	LR	LR	23 22 15.7	
	comp=Z,73nm,22.0s,baz=177,slow=33						
MKAR	Makanchi Array	68.35	327	P	P	23 05 31.1	-5.9
	0.3nm,0.4s,baz=130,slow=7.1,SNR=7.1 0.3nm,0.4s						
KURBB	Kurchatov Arra	72.66	329	P	P	23 05 56.4	-6.4
	0.2nm,0.6s,baz=127,slow=5.7,SNR=2.0 0.2nm,0.6s						

ISK 14 22:55:05.9, 35.78N×31.45E, h7km, ML2.7/17
NIC 14 22:55:07.0, 36.12N×31.86E, h15km±3km, Ml2.5/6
AFAD 14 22:55:08.8, 36.00N×31.46E, h7km±6km, ML2.2
ISC 14 22:55:07.1±1.1, 35.91N±0.03×31.49E±0.03, h17km±9km, n32, σ1.26/47, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.75	64	Pg	Pb	22 55 22.6	+0.9
GAZI				Sg	Sn	22 55 34.6	+0.7
GAZI	Gazipasa	0.75	64	P	Pn	22 55 23.1	+0.1
GAZI				S	Sn	22 55 34.1	+0.2
GAZI				i AML	AML	22 55 39.0	
	comp=N,114nm,0.5s						
GAZI				i AML	AML	22 55 39.0	
	comp=E,67nm,0.4s						
ALAN	Alanya-ANTALYA	0.78	34	Pg	Pn	22 55 23.7	+0.3
KEPZ	Antalya-Kepez	0.99	5	P	Pn	22 55 26.6	+0.2
KEPZ				i AML	AML	22 55 40.0	
	comp=N,79nm,0.4s						
KEPZ				i AML	AML	22 55 40.0	
	comp=E,65nm,0.5s						
KEPZ				S	Sn	22 55 40.2	+0.1
AKUM	Antalya-Kumluc	1.01	294	P	Pb	22 55 26.3	+0.1
AKUM				S	Sn	22 55 42.3	+1.8
AKUM				i AML	AML	22 55 44.0	
	comp=N,150nm,0.6s						
AKUM				i AML	AML	22 55 48.0	
	comp=E,116nm,0.4s						
AKMS	Akamas	1.13	142	P	Pg	22 55 27.5	-1.5
AKMS				S	Sg	22 55 45.2	+1.5
AKMS				AML	AML	22 55 50.1	
	0.7nm,0.3s						
AKMS				AML	AML	22 55 51.9	
	0.4nm,0.3s						
ALFC	Alefka	1.18	129	P	Pn	22 55 27.7	-1.2
ALFC				S	Sg	22 55 46.0	+0.6
ALFC				AML	AML	22 55 51.6	
	0.4nm,0.2s						
ALFC				AML	AML	22 55 53.3	
	0.5nm,0.3s						
BOZY	Bozyazi-Mersin	1.22	80	Pn	Pg	22 55 30.9	+0.1
HDMB	Hadim	1.32	37	Pn	Pg	22 55 33.2	+0.5
TEKE	Tekeli-Mersin	1.34	80	Pn	Pn	22 55 32.4	+1.3
AKDN	Akdeniz- Kıbrı	1.35	116	Pn	Pn	22 55 30.9	-0.3
LEF	Lefka	1.39	124	Pn	Pn	22 55 31.2	-0.6
LEF				Sn	Sn	22 55 49.9	+0.1
KORT	Korkueli	1.42	320	Pn	Pg	22 55 34.0	-0.6
KORT	Korkueli	1.42	320	P	Pg	22 55 34.4	-0.2
KORT				S	Sn	22 55 59.5	+8.8
KORT				i AML	AML	22 56 01.0	
	comp=N,48nm,0.5s						
KORT				i AML	AML	22 56 05.0	
	comp=E,51nm,0.6s						
NATA	Nata	1.44	142	P	Pn	22 55 32.9	+0.5
NATA				S	Sn	22 55 52.9	+2.0
NATA				AML	AML	22 56 05.7	
	1.0nm,0.7s						
NATA				AML	AML	22 56 06.1	
	1.0nm,0.7s						
BERE	Bereket-Mersin	1.47	72	Pn	Pb	22 55 34.6	+0.4
SEYD	Seydisehir-KON	1.52	11	Pn	Pg	22 55 36.1	-0.3
ELL	Elmali	1.52	304	P	Pg	22 55 36.4	-0.1
ELL				S	Sg	22 55 58.2	+1.8
SEDI	Konya, Seydise	1.55	8	P	Pg	22 55 35.6	-1.5
SEDI				S	Sg	22 55 56.5	-0.8
SEDI				i AML	AML	22 56 01.0	
	comp=E,64nm,0.6s						
SEDI				i AML	AML	22 56 02.0	
	comp=N,50nm,0.4s						
TEVE	Tevekalti-Mers	1.67	71	Pn	Pb	22 55 37.4	-0.1
AKKU	Akkuyu-Mersin	1.69	81	Pn	Pn	22 55 37.7	+1.8
KKBE	Karaman, Kazim	1.75	41	P	Pg	22 55 39.9	-1.0
KKBE				S	Sg	22 56 04.4	+0.7
KKBE				i AML	AML	22 56 10.0	
	comp=E,50nm,0.7s						
KKBE				i AML	AML	22 56 11.0	
	comp=N,31nm,0.3s						
CSS	Mathiatis	1.78	122	P	Pn	22 55 35.8	-1.3
CSS				S	Sn	22 55 59.7	+0.3
CSS				AML	AML	22 56 13.0	
	0.1nm,0.5s						
CSS				AML	AML	22 56 13.4	
	0.1nm,0.9s						
LFK	Lefkose	1.78	110	Pn	Pn	22 55 37.6	+0.4
TISA	Tisan-Mersin	1.79	81	Pn	Pn	22 55 38.9	+1.6
IKL	Isikli	1.81	79	Pn	Pn	22 55 39.1	+1.5
ASGA	Asgata	1.82	127	P	Pn	22 55 40.1	+2.4
ASGA				S	Sn	22 56 00.4	-0.1
ASGA				AML	AML	22 56 12.7	
	0.2nm,0.5s						
ASGA				AML	AML	22 56 13.9	
	0.2nm,0.6s						
KEBE	Keben-Mersin	1.88	73	Pn	Pn	22 55 40.3	+1.7
KRMN	Karaman	1.91	48	Pn	Pb	22 55 41.2	-0.4
MVOU	Mavrovouni	1.97	116	P	Pn	22 55 38.1	-1.5
MVOU				S	Sn	22 56 00.8	-3.1
MVOU				AML	AML	22 56 14.6	
	0.1nm,0.7s						
MVOU				AML	AML	22 56 18.9	
	0.1nm,0.5s						
KIZK	Mersin	2.22	74	Pn	Pn	22 55 45.1	+1.9
YVAC	Isparta, Yalva	2.37	355	P	Pb	22 55 47.3	-2.1
YVAC				S	Sb	22 56 16.5	-1.8
YVAC				i AML	AML	22 56 23.0	
	comp=N,6.8nm,0.4s						
YVAC				i AML	AML	22 56 23.0	
	comp=E,8.9nm,0.5s						

IDC 14 22:55:07.1±4.9, 36.36N×71.10E, h180km±42km, mb3.4/9, mbtmp3.8/13, Error ellipse: s-maj=38.2km s-min=19.9km az=33.0
NNC 14 22:55:14.5±4.9, 37.02N×70.97E, h215km±66km, mb2.8, mpv3.9, Error ellipse: s-maj=50.8km s-min=31.2km az=18.0
ISC 14 22:55:08.6±1.1, 36.57N±0.10×71.1E±0.1, h188km, n25, σ1.40/28, mb3.5/8, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.91	19	P	Pn	22 56 36.1	+1.2
	SNR=92						
EKS2	Erkin-Say	6.43	18	P	Pn	22 56 43.4	+2.0
	SNR=6.4						
KK31	Karatay Array	6.54	356	P	Pn	22 56 43.9	+1.2
	1.8nm,0.4s,baz=179,slow=13,SNR=18						
KK31				S	Sn	22 57 53.0	-4.1
	11nm,0.8s,baz=176,slow=16,SNR=14						
AAK	Ala-Archa	6.61	22	P	Pn	22 56 45.3	+1.6
	8.3nm,0.6s,baz=206,slow=5.8,SNR=63						
AAK				S	Sn	22 57 57.1	-1.8
	4.6nm,0.6s,baz=146,slow=21,SNR=12						
AAK	Ala-Archa	6.61	22	P	Pn	22 56 45.0	+1.2
	SNR=19						
AAK	Ala-Archa	6.61	22	⇓P	Pn	22 56 45.0	+1.2
	6.5nm,0.6s						
AAK				⇓S	Sn	22 57 58.6	-0.4
	12nm,0.8s						
KBK	Karagaybulak	6.77	25	P	Pn	22 56 47.9	+2.0
	SNR=13						
TKM2	Tokmak 2	7.24	27	P	Pn	22 56 53.4	+1.5
	SNR=22						
TKM2	Tokmak 2	7.24	27	⇓P	Pn	22 56 52.7	+0.7
	15nm,0.7s						
MK31	Makanchi Array	13.20	36	⇑P	Pn	22 58 08.6	-0.3
	0.5nm,0.6s,baz=206,slow=8.6,SNR=5.3						
MKAR	Makanchi Array	13.20	36	P	Pn	22 58 09.7	+0.8
	0.6nm,0.8s,baz=212,slow=4.3,SNR=6.9						
KURBB	Kurchatov Arra	15.04	19	P	P	22 58 32.3	-0.2
	0.1nm,0.5s,baz=202,slow=11,SNR=2.0						
BVAR	Borovoye Array	16.46	359	P	P	22 58 48.0	-0.2
	0.5nm,0.5s,baz=172,slow=11,SNR=3.2						
AKTO	Aktyubinsk	16.75	330	P	P	22 58 52.1	+0.7
	3.1nm,0.7s,baz=147,slow=8.3,SNR=6.5						
AKTO	Aktyubinsk	16.75	330	⇓P	Pn	22 58 52.2	-0.1
	2.8nm,0.9s						
ZALV	Zalesovo Beam	19.83	24	P	P	22 59 25.4	+0.7
	0.6nm,0.5s,baz=211,slow=9.8,SNR=2.3 0.6nm,0.5s						
FINES	FINESS Array B	37.46	326	P	P	23 02 04.5	+1.0
	6.4nm,1.2s,baz=183,slow=2.8,SNR=1.8 6.4nm,1.2s						
ARCES	ARCESS Array B	41.10	338	P	P	23 02 34.2	+0.6
	0.6nm,0.5s,baz=112,slow=9.3,SNR=5.3 0.6nm,0.5s						
HFS	Hagfors	43.05	322	P	P	23 02 50.3	+0.9
	1.5nm,0.5s,baz=106,slow=11,SNR=7.9 1.5nm,0.5s						
NB2	NORSAR Subarra	44.36	323	P	P	23 03 00.3	+0.4
	comp=Z,0.6nm,0.5s,baz=95,slow=7.9						
NOA	NORSAR Array B	44.36	323	P	P	23 03 00.7	+0.7
	comp=Z,0.8nm,0.6s,baz=96,slow=7.8,SNR=6.9 comp=Z,0.8nm,0.6s						
TORD	Torodi Ar. Bea	65.78	269	P	P	23 05 32.7	-1.1
	comp=Z,2.2nm,0.3s,baz=60,slow=6.5,SNR=2.2 comp=Z,2.2nm,0.3s						
YKA	Yellowknife Ar	81.17	3	P	P	23 07 03.4	+0.6
	comp=Z,0.2nm,0.7s,baz=353,slow=5.5,SNR=4.0 comp=Z,0.2nm,0.7s						
WRA	Warramunga Arr	81.98	122	P	P	23 07 07.0	-0.7
	comp=Z,0.7nm,0.9s,baz=316,slow=4.6,SNR=1.2 comp=Z,0.7nm,0.9s						
ASAR	Alice Springs	84.25	125	P	P	23 07 17.4	-1.8
	comp=Z,0.6nm,0.7s,baz=316,slow=5.4,SNR=4.4 comp=Z,0.6nm,0.7s						

NEIC 14 23:02:47.9±1.3, 9.65N±0.05×126.24E±0.09, h45km±7km, mb4.6/55, Error ellipse: s-maj=14.2km s-min=4.0km az=115.0
IDC 14 23:02:51.2±1.4, 9.47N×125.99E, h80km±13km, mb3.9/25, mbtmp4.3/28, MS3.7/29, Error ellipse: s-maj=18.8km s-min=8.0km az=77.0
DJA 14 23:02:56.6±0.5, 9.7N±4.×126.E±., h10km, M5.1/23, mb4.9/23, mB5.6/7, MLv5.2/7, Mw(mB)5.1/7
ISC 14 23:02:49.8±0.4, 9.52N±0.04×126.14E±0.07, h67km, n150, σ1.37/129, mb4.4/62, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.50	193	P	Pn	23 03 27.2	-0.9
DAV	Davao City (W)	2.50	193	P	Pn	23 03 29.3	+1.2
	521nm,0.3s,baz=39,slow=4.8,SNR=14						
DAV				S	Sn	23 03 58.0	+0.5
	4μm,1.1s,baz=184,slow=22,SNR=6.6						
DAV				LR	LR	23 04 43.6	
	comp=Z,2μm,18.8s,baz=113,slow=46						
DAV	Davao City (W)	2.50	193	P	Pn	23 03 35.0	+6.9
SGSI	Sangihe	5.83	186	P	Pn	23 04 16.5	+2.8
SGSI				S	Sn	23 05 17.4	-1.8
TGY	Tagaytay City	6.83	312	P	Pn	23 04 27.9	+0.5
	202nm,0.4s,baz=152,slow=3.7,SNR=15						
TGY				LR	LR	23 07 15.7	
	comp=Z,1μm,21.1s,baz=174,slow=39						
I39PW	PALAU INFRASON	8.55	103	I	I	23 59 00.0	
	baz=281,slow=315,SNR=0.6						
TNTI	Ternate	8.78	172	Pn	Pn	23 04 53.4	-0.7
TNTI	Ternate	8.78	172	P	Pn	23 04 58.5	+4.5
	92nm,1.0s						
KMSI	Cibinong	9.14	194	P	Pn	23 05 02.1	+3.1
MRSI	Marisa	9.91	205	P	Pn	23 05 09.8	+0.3
	46nm,0.6s						
TOLI2	Tolitoli	9.91	213	Pn	Pn	23 05 09.6	+0.1
LUWI	Luwuk	11.01	198	Pn	Pn	23 05 24.8	+0.2
LUWI	Luwuk	11.01	198	P	Pn	23 05 26.8	+2.2
	5μm135nm,0.8s						
APSI	Ampana	11.28	204	P	Pn	23 05 28.0	-0.3
	2μm89nm,1.2s						
MSAI	Masohi	13.08	168	P	P	23 05 58.4	-2.3
	62nm,0.6s						
TTSI	Tana Toraja	13.98	207	P	Pn	23 06 04.3	-0.5
	2μm54nm,1.3s						
BNDI	Bandanaira	14.45	165	P	P	23 06 16.3	+0.4
SPSI	Sidrap Palu	14.82	206	P	Pn	23 06 17.6	+1.8
	19nm,1.3s						
SBUM	Sibu	15.51	244	Pn	Pn	23 06 25.3

JAY Jayapura 18.80 129 P **Pn** **23 07 06.4 +1.1**
comp=Z,29nm,0.9s,baz=151,slow=19,SNR=2.9
JAY LR LR 23 14 28.3
comp=Z,223nm,20.5s,baz=346,slow=37
JAY Jayapura 18.80 129 P Pn 23 07 17.1 +12
comp=Z,27nm,1.1s
SOEI Soe 19.24 186 P **Pn** **23 07 14.6 +4.1**
comp=Z,69nm,1.4s
UBPT Khong Chiam 20.97 288 P **P** **23 07 28.4 +0.8**
UBPT IAmb IAmb 23 07 29.5
comp=Z,30nm,1.3s
MTN Manton Dam 22.76 167 P **P** **23 07 47.4 +0.6**
MTN IAmb IAmb 23 08 24.4
comp=Z,55nm,1.5s
NJ2 Nanjing 23.42 344 *e*P **P** **23 07 53.4 +0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
SLVN Son La 24.40 301 P **P** **23 08 02.8 +0.6**
SLVN IAmb IAmb 23 08 06.5
comp=Z,17nm,1.4s
KNRA Kununurra 25.17 174 P **P** **23 08 09.6 +0.5**
KNRA IAmb IAmb 23 08 32.6
comp=Z,24nm,0.8s
KULM Kulim 25.62 262 P **P** **23 08 13.9 +0.7**
SRIT Nakonsritamara 26.22 270 P **P** **23 08 18.5 -0.2**
SRIT IAmb IAmb 23 08 22.4
comp=Z,17nm,1.0s
FITZ Fitzroy Crossi 27.45 181 P **P** **23 08 31.2 +1.6**
TIA Tai'an 27.81 344 P **P** **23 08 32.3 -0.4**
TIA pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 27.81 292 P **P** **23 08 32.7 -0.3**
CMAR Chiang Mai Arr 27.81 292 P **P** **23 08 32.9 0.0**
comp=Z,1.3nm,0.3s,baz=102,slow=6.8,SNR=9.4
CMAR PcP **PcP** **23 11 47.1 -0.8**
comp=Z,1.1nm,0.3s,baz=113,slow=2.3,SNR=1.7
comp=Z,1.3nm,0.3s
KSAR Wonju Array Be 27.84 3 P **P** **23 08 30.7 -2.3**
PSI Prapat 27.85 258 P **P** **23 08 33.1 -0.4**
comp=Z,2.1nm,0.4s,baz=19,slow=5.8,SNR=5.3
PSI LR LR 23 21 18.3
comp=Z,118nm,20.0s,baz=94,slow=40
comp=Z,2.1nm,0.4s
KSRS Korea Array 27.86 3 P **P** **23 08 32.8 -0.3**
comp=Z,4.0nm,1.0s,baz=188,slow=11,SNR=10
comp=Z,4.0nm,1.0s
RPSI Rantau Prapat 27.88 258 P **P** **23 08 33.2 -0.4**
RPSI IAmb IAmb 23 08 43.9
comp=Z,12nm,1.1s
CHTO Chiang Mai 27.90 292 P **P** **23 08 32.9 -0.9**
PMG Port Moresby 28.13 131 LR LR 23 20 55.1
comp=Z,65nm,20.5s,baz=280,slow=38
XMIS Christmas Isla 28.46 226 P **P** **23 08 39.5 +0.8**
PZH PanZhiHua 28.61 309 P **P** **23 08 42.3 +2.2**
PZH pmax pmax
comp=Z,11nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.7s
COEN Coen 28.81 144 P **P** **23 08 41.6 -0.1**
COEN IAmb IAmb 23 09 18.0
comp=Z,12nm,1.1s
XAN Xi'an 29.08 330 ⇑P **P** **23 08 45.6 +1.5**
HNS HongShan 29.62 341 ⇑P **P** **23 08 49.8 +1.1**
HNS pmax pmax
comp=Z,8.0nm,1.0s
WB0 Warramunga Arr 30.22 164 P **P** **23 08 53.8 -0.4**
WRAB Tennant Creek 30.36 165 P **P** **23 08 55.1 -0.4**
WRAB IAmb IAmb 23 09 03.3
comp=Z,16nm,0.9s
WRA Warramunga Arr 30.37 165 P **P** **23 08 54.6 -1.0**
comp=Z,1.0nm,0.3s,baz=343,slow=8.8,SNR=6.9
WRA PcP **PcP** **23 11 54.5 +0.2**
comp=Z,0.4nm,0.7s,baz=341,slow=2.6,SNR=1.2
WRA S **S** **23 13 45.9 -5.6**
comp=Z,0.6nm,0.9s,baz=339,slow=14,SNR=2.0
WRA LR LR 23 21 48.3
comp=Z,92nm,21.6s,baz=45,slow=37
comp=Z,1.0nm,0.3s
WB2 Warramunga Arr 30.37 165 P **P** **23 08 56.0 +0.4**
TNCH TengChong 30.46 304 *e*P **P** **23 08 58.8 +2.2**
TNCH pmax pmax
comp=Z,13nm,0.5s
TNCH pmax pmax
comp=Z,66nm,4.1s
BJI Beijing 31.66 345 P **P** **23 09 06.3 -0.4**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI pmax pmax
comp=Z,55nm,5.2s
LZH Lanzhou 33.32 326 *e*P **P** **23 09 19.6 -1.9**
LZH pP pP 23 09 30.8 -7.0
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=N,220nm,12.4s
LZH LR LR
comp=E,270nm,16.1s
LZH LR LR
comp=Z,400nm,18.2s
HHC Hu-ho-hao-te 33.77 340 *e*P **P** **23 09 26.3 +1.0**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,94nm,4.3s
AS31 Alice Springs 33.84 167 P **P** **23 09 25.6 -0.4**
ASAR Alice Springs 33.84 167 P **P** **23 09 25.4 -0.6**
ASAR Alice Springs 33.84 167 P **P** **23 09 25.9 -0.1**
comp=Z,1.1nm,0.3s,baz=351,slow=7.1,SNR=20
ASAR PcP **PcP** **23 12 03.5 -0.2**
comp=Z,0.6nm,0.7s,baz=347,slow=3.0,SNR=2.6
ASAR S **S** **23 14 45.4 -0.2**
comp=Z,0.2nm,0.4s,baz=355,slow=20,SNR=4.1
ASAR LR LR 23 23 49.5
comp=Z,70nm,20.9s,baz=5.0,slow=37
comp=Z,1.1nm,0.3s
USRK Ussuriysk Ar. 34.92 7 P **P** **23 09 36.6 +1.5**
comp=Z,7.2nm,0.8s,baz=186,slow=9.1,SNR=12
comp=Z,7.2nm,0.8s
MDJ Mudanjiang 35.10 4 P **P** **23 09 35.8 -0.8**
XLT XiLinHaoTe 35.35 347 *e*P **P** **23 09 38.3 -0.6**
XLT pP pP 23 09 47.8 -7.5
XLT pmax pmax
comp=Z,6.0nm,1.0s
BRDH Bariadhala 35.53 296 LR LR 23 25 28.3
comp=Z,84nm,18.2s,baz=151,slow=38
SHL Shillong 36.20 301 P **P** **23 09 45.9 -0.7**
GTA Gaotai 37.92 326 *e*P **P** **23 10 00.8 -0.1**
GTA pP pP 23 10 10.1 -7.3
GTA pmax pmax
comp=Z,1.0nm,0.7s
GTA LR LR
comp=N,130nm,16.3s
GTA LR LR
comp=E,150nm,18.7s
GTA LR LR
comp=Z,170nm,18.3s
LSA Lhasa 38.36 306 P **P** **23 10 04.7 -0.4**
LSA IAmb IAmb 23 10 09.1
comp=Z,15nm,1.3s
LSA Lhasa 38.36 306 P **P** **23 10 06.8 +1.7**
LSA pmax pmax
comp=Z,8.0nm,1.4s
HNR Honiara 38.56 118 LR LR 23 23 42.3
comp=Z,70nm,22.0s,baz=290,slow=32
FORT Forrest 40.11 177 P **P** **23 10 19.9 +0.8**
H11S3 WAKE ISLAND Hy 40.26 73 T T 23 53 15.2
baz=262,slow=75,SNR=252
H11S1 WAKE ISLAND Hy 40.28 73 T T 23 53 18.2
baz=262,slow=75,SNR=117
H11S2 WAKE ISLAND Hy 40.28 73 T T 23 53 15.1
baz=262,slow=75,SNR=147
H11N1 WAKE ISLAND Hy 40.62 71 T T 23 53 54.4
baz=266,slow=75,SNR=154
HEH HeiHe 40.62 1 *e*P **P** **23 10 24.0 +1.0**
HEH pmax pmax
comp=Z,6.0nm,0.9s
H11N2 WAKE ISLAND Hy 40.63 71 T T 23 53 46.0
baz=266,slow=75,SNR=98
H11N3 WAKE ISLAND Hy 40.64 71 T T 23 53 55.8
baz=266,slow=75,SNR=149
SONM Songino Array 41.67 340 P **P** **23 10 32.2 +0.2**
SONM Songino Array 41.67 340 P **P** **23 10 32.4 +0.4**
comp=Z,0.9nm,0.8s,baz=158,slow=9.2,SNR=6.7
comp=Z,0.9nm,0.8s
BBOO Buckleboo 43.14 168 P **P** **23 10 44.0 +0.2**
STKA Stephens Creek 43.74 161 P **P** **23 10 47.8 -0.8**
comp=Z,71nm,18.4s,baz=128,slow=34
STKA Stephens Creek 43.74 161 P **P** **23 10 49.1 +0.5**
comp=Z,3.4nm,0.5s,baz=332,slow=8.9,SNR=8.5
comp=Z,3.4nm,0.5s
PALK Pallekele 44.98 271 LR LR 23 31 31.0
comp=Z,34nm,19.8s,baz=86,slow=38
WMQ Urumqi 47.73 323 *e*P **P** **23 11 16.5 -3.6**
WMQ S **S** **23 18 17.0 +5.4**
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ LR LR
comp=Z,130nm,17.7s
PEA0B Petropavlovsk- 50.37 24 P **P** **23 11 39.0 -1.0**
PETK Petropavlovsk- 50.37 24 P **P** **23 11 41.2 +1.1**
comp=Z,3.1nm,0.8s,baz=210,slow=2.9,SNR=4.5
comp=Z,3.1nm,0.8s
MK31 Makanchi Array 52.55 323 P **P** **23 11 55.7 -0.7**
MKAR Makanchi Array 52.55 323 P **P** **23 11 55.9 -0.6**
comp=Z,1.6nm,0.7s,baz=121,slow=8.2,SNR=22
comp=Z,1.6nm,0.7s
MAKZ Makanchi 52.74 323 P **P** **23 11 56.3 -1.6**
MAKZ IAmb IAmb 23 12 20.3
comp=Z,3.4nm,0.8s
MA2 Magadan 53.29 15 P **P** **23 12 01.0 -0.7**
MA2 IAmb IAmb 23 12 04.4
comp=Z,4.2nm,0.7s
KSH Kashi 53.64 312 P **P** **23 12 07.3 +2.6**
KSH sP sP 23 12 27.9 -1.7
KSH pmax pmax
comp=Z,4.0nm,1.3s
KDJ Kajisay 53.73 316 P **P** **23 12 04.6 -0.9**
KDJ IAmb IAmb 23 12 24.1
comp=Z,4.0nm,1.0s
NIL Nilore 54.05 305 P **P** **23 12 07.0 -0.8**
BOOM Boomskoye usch 54.72 316 **P** **23 12 11.9 -0.7**
ZALV Zalesovo Beam 55.22 332 P **P** **23 12 15.3 -0.5**
ZALV Zalesovo Beam 55.22 332 P **P** **23 12 14.5 -1.3**
comp=Z,0.5nm,0.4s,baz=116,slow=8.2,SNR=2.5
comp=Z,0.5nm,0.4s
AAK Ala-Archa 55.77 316 P **P** **23 12 19.6 -0.5**
ARSB Arslanbob 56.39 314 P **P** **23 12 23.0 -1.5**
ARSB IAmb IAmb 23 12 38.5
comp=Z,5.2nm,1.0s
KURK Kurchatov 56.61 326 **P** **23 12 24.6 -1.2**
KURBB Kurchatov Arra 56.62 326 P **P** **23 12 25.3 -0.5**
comp=Z,1.1nm,0.2s,baz=123,slow=6.8,SNR=8.5
comp=Z,1.1nm,0.2s
DRK Karamyk 56.69 311 P **P** **23 12 25.5 -1.4**
DRK IAmb IAmb 23 12 41.1
comp=Z,5.8nm,0.8s
BTK Batken 57.58 312 P **P** **23 12 32.8 -0.2**
BTK IAmb IAmb 23 12 51.7
comp=Z,7.5nm,1.3s
KBL Kabul 57.65 305 P **P** **23 12 32.9 -0.9**
KBL IAmb IAmb 23 12 47.1
comp=Z,6.5nm,1.0s
GAR Garm 57.67 310 P **P** **23 12 33.2 -0.5**
MSVF Nonsavu 57.98 118 LR LR 23 40 19.3
comp=Z,36nm,18.1s,baz=232,slow=39
SIMJ Simiganj 58.58 310 P **P** **23 12 39.0 -1.1**
SIMJ IAmb IAmb 23 12 53.5
comp=Z,7.2nm,1.2s
KK31 Karatay Array 58.69 315 P **P** **23 12 39.9 -0.6**
KK31 IAmb IAmb 23 12 54.8
comp=Z,5.7nm,1.2s
KKAR Karatay Array 58.69 315 P **P** **23 12 39.6 -0.9**
KKAR Karatay Array 58.69 315 P **P** **23 12 39.8 -0.8**
KKAR IAmb IAmb 23 12 54.7
comp=Z,3.6nm,1.2s
TIXI Tiksi 62.10 1 P **P** **23 13 03.0 -0.3**
TIXI IAmb IAmb 23 13 14.9
comp=Z,7.6nm,1.0s
BVAR Borovoye Array 62.21 326 P **P** **23 13 04.0 -0.3**
comp=Z,1.7nm,0.7s,baz=99,slow=9.2,SNR=9.0
comp=Z,1.7nm,0.7s
BILL Bilibino 64.16 16 P **P** **23 13 17.3 +0.4**
BILL IAmb IAmb 23 13 31.8
comp=Z,5.3nm,1.1s
RPZ Rata Peaks 66.84 146 P **P** **23 13 35.1 +0.5**
comp=Z,11nm,0.9s,baz=236,slow=18,SNR=2.8
comp=Z,11nm,0.9s
URZ Urewera 67.19 138 LR LR 23 40 17.0
comp=Z,47nm,21.6s,baz=26,slow=33
BKZ Black Stump Fm 67.30 140 P **P** **23 13 37.5 -0.2**
ABKAR Akbulak array 67.36 319 P **P** **23 13 36.9 -1.0**
AKTO Aktyubinsk 68.82 320 LR LR 23 45 52.0
comp=Z,125nm,19.1s,baz=76,slow=38
KIRV Kirov 75.01 328 LR LR 23 50 07.9
comp=Z,44nm,18.8s,baz=147,slow=38
GNI Garni 77.37 309 LR LR 23 52 48.1
comp=Z,57nm,20.7s,baz=82,slow=39
B21K Ikpikpuk River 77.39 21 P **P** **23 14 38.0 +0.7**
B21K IAmb IAmb 23 15 14.3
comp=Z,6.8nm,1.0s
KBZ Khabaz 78.62 313 P **P** **23 14 44.5 0.0**
comp=Z,0.4nm,0.4s,baz=351,slow=0.8,SNR=3.6
KBZ LR LR 23 53 19.5
comp=Z,79nm,19.8s,baz=104,slow=39
comp=Z,0.4nm,0.4s
C23K Itkillik River 78.80 21 P **P** **23 14 45.8 +0.8**
C23K IAmb IAmb 23 15 08.9
comp=Z,5.1nm,0.8s
GURO Guroymak-BITLI 79.55 308 P **P** **23 14 49.4 -0.6**
F24K Squaw Lake 79.73 23 P **P** **23 14 51.6 +1.4**
H24K Noodor Dome 79.74 25 P **P** **23 14 51.8 +1.5**
ILAR Eielson Array 80.17 26 P **P** **23 14 53.0 +0.4**
comp=Z,0.8nm,0.9s,baz=236,slow=5.4,SNR=6.3
comp=Z,0.8nm,0.9s
OBN Obninsk 82.03 325 LR LR 23 53 08.8
comp=Z,82nm,18.9s,baz=272,slow=37
I28M Miner Creek 83.05 25 P **P** **23 15 09.7 +1.8**
I28M IAmb IAmb 23 15 21.0
comp=Z,9.6nm,1.2s
H29M Whitestone 83.58 24 P **P** **23 15 11.4 +0.9**
H29M IAmb IAmb 23 15 47.5
comp=Z,12nm,1.5s
G29M Pine Creek 83.60 23 P **P** **23 15 11.8 +1.2**
G29M IAmb IAmb 23 15 53.3
comp=Z,8.6nm,1.1s
SPITS Spitsbergen Ar 84.72 349 P **P** **23 15 15.8 -0.3**
comp=Z,14nm,1.1s,baz=96,slow=6.8,SNR=7.9
comp=Z,14nm,1.1s
ARCES ARCESS Array B 84.85 340 P **P** **23 15 16.8 0.0**
comp=Z,1.9nm,0.6s,baz=86,slow=7.5,SNR=10
ARCES LR LR 23 56 01.9
comp=Z,33nm,19.7s,baz=230,slow=38
comp=Z,1.9nm,0.6s
MMAI Mount Meron Ar 85.50 303 LR LR 23 58 32.0
comp=Z,26nm,18.7s,baz=66,slow=39
BRTR Keskin Array B 85.91 309 P **P** **23 15 22.3 -0.7**
comp=Z,0.3nm,0.6s,baz=104,slow=6.1,SNR=5.2
comp=Z,0.3nm,0.6s
EIL Elat 86.38 299 LR LR 00 00 37.4
comp=Z,60nm,18.4s,baz=74,slow=40
FINES FINESS Array B 86.49 332 P **P** **23 15 24.6 -0.5**
comp=Z,7.1nm,1.1s,baz=73,slow=5.1,SNR=12
comp=Z,7.1nm,1.1s
A36M Sachs Harbour 86.67 17 P **P** **23 15 25.6 -0.2**
AKASG Malin Array Be 87.06 321 P **P** **23 15 27.7 -0.4**
comp=Z,0.1nm,0.3s,baz=71,slow=3.1,SNR=5.4
comp=Z,0.1nm,0.3s
KMBO Kilima Mbogo 89.08 269 LR LR 23 52 15.7
comp=Z,31nm,18.4s,baz=92,slow=33
VNDA Vanda 89.21 173 LR LR 23 55 23.9
comp=Z,56nm,19.2s,baz=316,slow=35
MLR Muntele Rosu 90.34 316 LR LR 00 00 57.0
comp=Z,99nm,19.9s,baz=68,slow=39
HFS Hagfors 92.65 332 P **P** **23 15 53.1 -1.0**
comp=Z,1.6nm,0.8s,baz=66,slow=7.0,SNR=2.0
HFS LR LR 00 04 39.2
comp=Z,71nm,18.3s,baz=69,slow=40
comp=Z,1.6nm,0.8s
NOA NORSAR Array B 93.37 334 P **P** **23 15 56.5 -1.0**
comp=Z,0.5nm,0.7s,baz=64,slow=4.5,SNR=2.5
NOA LR LR 00 01 20.0
comp=Z,46nm,18.9s,baz=55,slow=38
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 94.49 24 P **P** **23 16 03.2 +0.7**
comp=Z,0.7nm,0.7s,baz=299,slow=4.8,SNR=11
comp=Z,0.7nm,0.7s
VRAC Vranov 95.27 322 LR LR 00 01 39.3
comp=Z,29nm,18.0s,baz=84,slow=37
QSPA South Pole Qui 99.39 180 P **Pdif** **23 16 23.5 -1.1**
comp=Z,0.6nm,0.9s,baz=93,slow=17,SNR=3.1
comp=Z,0.6nm,0.9s
LSZ Lusaka 100.06 256 LR LR 23 59 27.3
comp=Z,71nm,18.4s,baz=128,slow=34
PLCA Paso Flores 145.57 157 PKPbc **PKPdf** **23 22 20.6 -0.3**
comp=Z,2.9nm,0.8s,baz=209,slow=6.9,SNR=4.5

IDC 14 23:07:57.6±2.3, 32°04S×177°81W, h0km, mb3.6/2, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=71.9km s-min=40.7km az=136.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.47**	**212**	Pn	Pn	23 09 47.0	-0.8
	0.2nm,0.3s,baz=51,slow=6.5,SNR=1.8						
URZ				Sn	Sn	23 11 08.7	-4.5
	1.0nm,0.3s,baz=278,slow=19,SNR=10						
	2.3nm,0.4s						
ASAR	**Alice Springs**	**43.20**	**269**	P	P	23 16 01.1	+0.4
	0.3nm,0.5s,baz=104,slow=7.5,SNR=4.4						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.34**	**274**	P	P	23 16 09.3	-0.5
	0.5nm,0.4s,baz=113,slow=7.7,SNR=5.5						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	PKPbc	23 27 40.4	-0.3
	3.6nm,1.0s,baz=29,slow=3.2,SNR=7.2						
HFS	**Hagfors**	**150.88**	**348**	PKPbc	PKPbc	23 27 50.6	-0.8
	1.7nm,1.0s,baz=0.0,slow=4.5,SNR=1.3						

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*AEIC **14** 23:10:47.1±1.3, 51°34N±0°08×178°51W±0°06, h44km±9km, Error ellipse: s-maj=11.1km s-min=5.2km az=184.0*

NEIC 14 23:10:46.7±1.8, 51°26N±0°05×178°53W±0°06, h35km±2km, mb3.8/9, ML3.7(AEIC), Error ellipse: s-maj=8.9km s-min=5.3km az=218.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.52**	**343**		Pn	23 10 58.0	+0.3
GAEA	**Gareloi East**	**0.54**	**345**		Pn	23 10 58.1	+0.2
GASW	**Gareloi Southw**	**0.56**	**338**		Pn	23 10 58.1	0.0
GANO	**Gareloi North**	**0.58**	**343**		Pn	23 10 58.4	-0.1
GANO					Sn	23 11 08.1	+1.2
TASE	**Tanaga Southea**	**0.65**	**28**		Pn	23 10 59.5	+0.1
TANO	**Tanaga North**	**0.70**	**21**		Pn	23 11 00.4	+0.3
TAPA	**Tanaga Point A**	**0.71**	**38**		Pn	23 11 00.1	-0.2
TAFP	**Tanaga Falls P**	**0.72**	**28**		Pn	23 11 00.3	-0.2
TAFP					Sn	23 11 11.0	+0.7
KIMD	**Kanaga Island**	**0.95**	**58**		Pn	23 11 03.2	-0.3
KIWB	**Kanaga Island**	**1.04**	**55**		Pn	23 11 04.2	-0.6
KIWB					Sn	23 11 18.7	+0.5
KIKV	**Kanaga Island**	**1.05**	**53**		Pn	23 11 04.8	-0.1
KICM	**Kanaga Island**	**1.06**	**51**		Pn	23 11 05.1	+0.1
KIRH	**Kanaga Island**	**1.10**	**54**		Pn	23 11 05.4	-0.1
ADK	**Adak**	**1.31**	**61**	Pn	Pn	23 11 08.0	-0.4
ADK				Sn	Sn	23 11 25.0	+0.4
GSCK	**Great Sitkin C**	**1.65**	**62**		Pn	23 11 13.9	+0.7
GSCK					Sn	23 11 35.7	+2.5
GSTR	**Great Sitkin T**	**1.75**	**61**		Pn	23 11 14.1	-0.4
ATKA	**Atka Island**	**2.85**	**69**		Pn	23 11 29.6	0.0
ATKA					Sn	23 12 04.2	+1.5
MAPS	**Pakushin South**	**7.51**	**66**		Pn	23 12 35.8	+2.2
MREP	**Makushin Rep't**	**7.62**	**66**		Pn	23 12 37.4	+2.2
ZRO	**Akutan Zero**	**8.13**	**65**		Pn	23 12 44.5	+2.3
M17K	**Holitna River**	**15.41**	**41**	Pn	Pn	23 14 20.2	-1.0
M17K				IAmb	IAmb	23 14 37.6	
	comp=Z,16nm,1.4s						
O18K	**Koktuh Hills**	**15.67**	**48**	P	P	23 14 29.0	+0.6
K17K	**Iditarod**	**15.82**	**36**	Pn	Pn	23 14 25.5	-1.0
K17K				IAmb	IAmb	23 14 39.0	
	comp=Z,6.3nm,1.0s						
OHAK	**Old Harbor**	**15.86**	**58**	Pn	Pn	23 14 24.5	-2.4
N19K	**Bonanza Creek**	**16.39**	**45**	Pn	Pn	23 14 33.0	-0.8
N19K				IAmb	IAmb	23 14 42.5	
	comp=Z,17nm,1.5s						
G16K	**Koyuk River**	**16.43**	**24**	Pn	Pn	23 14 30.7	-3.5
J18K	**Innoko River**	**16.85**	**35**	Pn	Pn	23 14 36.2	-3.3
L19K	**White Mountain**	**16.86**	**40**	Pn	Pn	23 14 35.4	-4.4
L19K				IAmb	IAmb	23 14 51.4	
	comp=Z,4.7nm,1.2s						
STLK	**Strandline Lak**	**17.85**	**45**	Pn	Pn	23 14 50.1	-1.8
STLK				IAmb	IAmb	23 14 53.8	
	comp=Z,7.7nm,1.4s						

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*SLM **14** 23:21:32.8±0.8, 37°93N±0°01×90°26W±0°02, h8km±2km, Error ellipse: s-maj=2.0km s-min=1.9km az=222.0*

NEIC 14 23:21:33.0±0.8, 37°933N±0°008×90°28W±0°01, h5km±1km, mb_Lg2.3/10, ML2.3/12, Md2.2/6(SLM), Error ellipse: s-maj=3.0km s-min=2.1km az=329.0, Missouri-Illinois border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FVM	**French Village**	**0.12**	**294**	Pg	Pg	23 21 35.8	+0.2
FVM				Sg	Sg	23 21 37.9	+0.7
JCMO	**Jefferson Coll**	**0.39**	**326**		Pg	23 21 40.2	-0.3
BVIL	**Belleville**	**0.65**	**26**		Pg	23 21 44.7	-0.6
BVIL					Sg	23 21 53.1	-0.7
SLM	**Saint Louis**	**0.70**	**3**		Sg	23 21 54.9	-0.8
CCM	**Cathedral Cave**	**0.77**	**279**		Pg	23 21 47.2	-0.5
CCM	**Cathedral Cave**	**0.77**	**279**		Pg	23 21 47.2	-0.5
CCM				IAML		23 21 57.9	
	89nm,0.1s						
CCM				IAML		23 21 59.1	
	47nm,0.5s						
CCM	**Cathedral Cave**	**0.77**	**279**	Sg	Sg	23 21 57.4	-0.4
CGM3	**Cape Girardeau**	**0.81**	**142**		Pg	23 21 47.4	-1.0
CGM3				Sg	Sg	23 21 57.8	-1.0
CGM3				IAML		23 21 59.4	
	comp=N,181nm,0.2s						
CGM3				IAML		23 21 59.7	
	comp=E,181nm,0.2s						
SIUC	**Southern Illin**	**0.87**	**104**		Pg	23 21 48.2	-1.5
SIUC	**Southern Illin**	**0.87**	**104**		Pg	23 21 49.0	-0.7
SIUC				Sg	Sg	23 21 59.7	-1.3
SIUC				IAML		23 22 00.4	
	comp=E,205nm,0.2s						
SIUC				IAmb_Lg		23 22 01.6	
	comp=Z,36nm,0.8s						
SIUC				IAML		23 22 03.1	
	comp=N,191nm,0.1s						
GUAMO	**Guam**	**1.10**	**161**		Pg	23 21 52.9	-1.1
T42A	**Van Buren**	**1.11**	**216**		Pg	23 21 53.2	-1.0
T42A					Sg	23 22 07.8	-0.7
T42A	**Van Buren**	**1.11**	**216**	IAML		23 22 08.5	
	comp=N,48nm,0.2s						
T42A				IAML		23 22 08.5	
	comp=N,54nm,0.3s						
PBMO	**Poplar Bluff**	**1.16**	**186**		Pg	23 21 54.2	-1.0
PBMO	**Poplar Bluff**	**1.16**	**186**		Pg	23 21 54.5	-0.7
PBMO				IAML		23 22 10.7	
	comp=N,112nm,0.4s						
PBMO				IAML		23 22 14.7	
	comp=E,116nm,0.2s						
BRNM	**Bernie**	**1.23**	**169**		Pg	23 21 55.1	-1.4
DWDM	**Dogwood**	**1.30**	**151**		Pn	23 21 56.4	-1.4
COKM	**Charter Oak**	**1.30**	**160**		Pn	23 21 56.3	-1.4
BETM	**Bethany**	**1.33**	**172**		Pn	23 21 57.2	-1.0
Q44A	**Meyer Farm, Va**	**1.39**	**45**		Pn	23 21 57.3	-1.7
R40A	**Maddies Statio**	**1.61**	**283**		Pn	23 22 01.6	-0.4
R40A				IAmb_Lg		23 22 26.2	
	comp=Z,17nm,0.7s						
MGMO	**Mountain Grove**	**1.76**	**244**		Sn	23 22 25.8	-1.1
LCAR	**Lake Charles**	**1.99**	**201**	Pn	Pn	23 22 06.0	-1.2
LCAR				IAmb_Lg		23 22 37.1	
	comp=Z,7.6nm,0.8s						
HDIL	**Hopedale**	**2.73**	**16**	IAmb_Lg		23 23 00.9	
	comp=Z,12nm,0.9s						
U49A	**Red Boiling Sp**	**3.86**	**110**	IAmb_Lg		23 23 41.2	
	comp=Z,6.4nm,1.3s						
R49A	**Shelbyville**	**4.05**	**83**	IAmb_Lg		23 23 45.8	
	comp=Z,5.2nm,1.0s						

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*IDC **14** 23:42:13.0±4.9, 36°40N×71°32E, h182km±35km, mb3.3/10, mbtmp3.9/16, Error ellipse: s-maj=52.3km s-min=23.3km az=158.0*

*NNC **14** 23:42:22.9±4.4, 37°24N×71°31E, h243km±52km, mb3.0, mpv4.3, Error ellipse: s-maj=44.3km s-min=29.4km az=11.0*

ISC 14 23:42:16.5±1.4, 36°8N±0°1×71°3E±0°1, h200km, n35, σ1°54/39, mb3.4/10, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.68**	**18**	P	**Pn**	**23 43 41.3**	**+1.3**
	SNR=286						
UCH	**Uchtor**	**6.01**	**24**	P	**Pn**	**23 43 46.1**	**+1.9**
	SNR=8.9						
EKS2	**Erkin-Say**	**6.20**	**17**	P	**Pn**	**23 43 48.0**	**+1.6**
	SNR=26						
KK31	**Karatay Array**	**6.37**	**355**	⇓P	**Pn**	**23 43 49.3**	**+0.9**
	8.2nm,0.4s,baz=180,slow=15,SNR=121						
KK31				S	**Sn**	**23 44 57.8**	**-3.6**
	7.6nm,0.3s,baz=166,slow=16,SNR=28						
AAK	**Ala-Archa**	**6.38**	**22**	P	**Pn**	**23 43 50.4**	**+1.8**
	14nm,0.3s,baz=195,slow=6.7,SNR=128						
AAK				S	**Sn**	**23 45 00.9**	**-0.9**
	7.0nm,0.5s,baz=340,slow=22,SNR=17						
AAK	**Ala-Archa**	**6.38**	**22**	P	**Pn**	**23 43 50.5**	**+1.8**
	SNR=44						
AAK	**Ala-Archa**	**6.38**	**22**	⇑P	**Pn**	**23 43 50.3**	**+1.6**
	16nm,0.6s						
AAK				⇑S	**Sn**	**23 45 01.1**	**-0.6**
	24nm,0.7s						
KBK	**Karagaybulak**	**6.54**	**24**	P	**Pn**	**23 43 52.8**	**+2.0**
	SNR=14						
ULHL	**Ulahol**	**6.69**	**33**	P	**Pn**	**23 43 53.9**	**+1.1**
	SNR=12						
CHMS	**Chumysh**	**6.78**	**22**	P	**Pn**	**23 43 55.2**	**+1.3**
	SNR=14						
CHMS	**Chumysh**	**6.78**	**22**	⇓P	**Pn**	**23 43 55.1**	**+1.3**
	20nm,0.8s						
CHMS				⇑S	**Sn**	**23 45 08.5**	**-2.6**
	9.4nm,0.7s						
USP	**Ospenovka**	**6.96**	**20**	P	**Pn**	**23 43 58.2**	**+2.1**
	SNR=7.7						
TKM2	**Tokmak 2**	**6.99**	**27**	P	**Pn**	**23 43 58.4**	**+1.6**
	SNR=45						
TKM2	**Tokmak 2**	**6.99**	**27**	⇓P	**Pn**	**23 43 58.2**	**+1.5**
	43nm,0.9s						
OTUK	**Ortayu**	**11.51**	**4**	⇑P	**Pn**	**23 44 54.9**	**-0.2**
	3.1nm,0.7s						
MAKZ	**Makanchi**	**12.81**	**35**	⇑P	**Pn**	**23 45 10.7**	**-0.9**
	3.9nm,0.4s						
MK31	**Makanchi Array**	**12.95**	**36**	P	**Pn**	**23 45 09.0**	**-4.3**
	0.9nm,0.4s,baz=103,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**12.95**	**36**	P	**Pn**	**23 45 13.2**	**-0.1**
	1.0nm,0.4s,baz=219,slow=8.5,SNR=8.2						
KURBB	**Kurchatov Arra**	**14.81**	**18**	P	**Pn**	**23 45 35.7**	**-0.5**
	1.1nm,0.6s,baz=203,slow=11,SNR=8.7						
AB31	**Akbulak array**	**14.97**	**330**	P	**Pn**	**23 45 38.1**	**-0.1**
	1.5nm,0.5s,baz=140,slow=11,SNR=36						
BVA0	**Borovoye Array**	**16.28**	**358**	P	**Pn**	**23 45 55.4**	**+1.4**
	0.9nm,0.4s,baz=160,slow=11,SNR=12						
BVAR	**Borovoye Array**	**16.28**	**358**	P	**P**	**23 45 54.0**	**+0.7**
	1.2nm,0.3s,baz=156,slow=10,SNR=13						
AKTO	**Aktyubinsk**	**16.68**	**329**	P	**Pn**	**23 45 58.9**	**+0.2**
	1.3nm,0.3s,baz=149,slow=8.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**19.59**	**24**	P	**P**	**23 46 30.2**	**+1.0**
	2.4nm,0.5s,baz=222,slow=11,SNR=11						
KBZ	**Khabaz**	**22.69**	**297**	P	**P**	**23 47 00.5**	**-0.4**
	0.6nm,0.7s,baz=237,slow=23,SNR=1.8						
	0.6nm,0.7s						
BRTR	**Keskin Array B**	**29.57**	**287**	P	**P**	**23 48 02.6**	**-0.2**
	0.3nm,0.9s,baz=79,slow=7.5,SNR=2.0						
	0.3nm,0.9s						
AKASG	**Malin Array Be**	**32.96**	**308**	P	**P**	**23 48 32.1**	**0.0**
	0.2nm,0.3s,baz=82,slow=8.4,SNR=2.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**23 49 10.6**	**+0.8**
	1.5nm,0.8s,baz=107,slow=8.9,SNR=3.9						
	1.5nm,0.8s						
ARCES	**ARCESS Array B**	**41.00**	**337**	P	**P**	**23 49 40.8**	**+1.3**
	1.8nm,0.9s,baz=119,slow=8.2,SNR=1.7						
	1.8nm,0.9s						
HFS	**Hagfors**	**43.01**	**322**	P	**P**	**23 49 56.7**	**+0.8**
	2.3nm,0.6s,baz=98,slow=11,SNR=9.1						
	2.3nm,0.6s						
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**23 50 06.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**23 50 06.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=96,slow=7.7,SNR=5.5						
	comp=Z,1.0nm,0.7s						
ESDC	**Sonseca Array**	**57.54**	**298**	P	**P**	**23 51 45.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=75,slow=5.0,SNR=2.3						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P	**P**	**23 52 39.6**	**-2.0**
	comp=Z,3.1nm,0.3s,baz=46,slow=6.3,SNR=2.4						
	comp=Z,3.1nm,0.3s						
YKA	**Yellowknife Ar**	**80.98**	**3**	P	**P**	**23 54 09.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=349,slow=5.4,SNR=8.6						
	comp=Z,0.4nm,0.6s						

IDC 15 00:03:18.4±2.1,4°.69N×123°.77E,h0km,mb3.6/4,
mbtmp3.6/4,Error ellipse: s-maj=303.5km
s-min=22.8km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.59**	**157**	P	P	00 08 58.7	+0.2
	0.9nm,0.4s,baz=336,slow=9.5,SNR=8.0						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**29.86**	**161**	P	P	00 09 27.6	-0.2
	0.5nm,0.5s,baz=342,slow=7.5,SNR=7.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**55.11**	**326**	P	P	00 12 52.6	+0.2
	0.2nm,0.4s,baz=117,slow=7.4,SNR=4.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**59.36**	**328**	P	P	00 13 22.0	-0.4
	0.2nm,0.5s,baz=125,slow=8.0,SNR=2.8						
	0.2nm,0.5s						

*BGSI **15** 00:05:22.2±1.3,27°.19S×28°.16E,h0km±332km,ML3.2*
*PRE **15** 00:05:30.8±1.1,26°.41S×27°.45E,h2km,ML2.6*
*BUL **15** 00:05:32.6±4.3,26°.30S×27°.59E,h0km±46km,MD3.2*
ISC 15 00:05:31.1±1.1,26°.44S±0°.02×27°.51E±0°.03,h9km±9km,
n30,σ2§06/58,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**195**	*e*P	**Pg**	**00 05 41.5**	**+0.5**
PRYS				*e*S	**Sg**	**00 05 48.1**	**+0.3**
PRYS				IAML		00 05 53.5	
	comp=Z,192nm,0.4s						
HRAO	**HartRAO**	**0.56**	**16**	*e*P	**Pg**	**00 05 42.3**	**+0.2**
HRAO				*e*S	**Sg**	**00 05 49.0**	**-0.6**
HRAO				IAML		00 05 51.1	
	comp=Z,488nm,0.3s						
SNKL	**Senekal, Frees**	**1.85**	**173**	*e*P	**Pb**	**00 06 05.3**	**+0.2**
SNKL				*e*S	**Sg**	**00 06 29.2**	**-1.4**
SNKL				IAML		00 06 33.7	
	comp=Z,171nm,0.2s						
SWZ	**Schweizer**	**2.08**	**249**	*e*P	**Pn**	**00 06 07.7**	**+1.4**
SWZ				*e*S	**Sn**	**00 06 33.6**	**+1.2**
SWZ				IAML		00 06 37.7	
	comp=Z,138nm,0.3s						
LBTB	**Lobatse**	**2.23**	**309**	*e*P	**Pn**	**00 06 09.5**	**+1.2**
LBTB				*e*S	**Sn**	**00 06 37.2**	**+1.2**
LBTB				IAML		00 06 42.1	
	comp=Z,118nm,0.2s						
LBTB	**Lobatse**	**2.23**	**309**	*i*P	**Pn**	**00 06 11.1**	**+2.7**
LBTB				*i*S	**Sn**	**00 06 38.1**	**+2.1**
CRLN	**Carolina, Mapu**	**2.30**	**80**	*e*P	**Pb**	**00 06 11.7**	**-1.2**
CRLN				*e*S	**Sb**	**00 06 41.2**	**-0.3**
CRLN				IAML		00 06 47.5	
	comp=Z,21nm,0.2s						
NWCL	**Newcastle**	**2.49**	**122**	*e*P	**Pb**	**00 06 14.3**	**-1.7**
NWCL				*e*S	**Sb**	**00 06 45.1**	**-1.8**
NWCL				IAML		00 06 54.4	
	comp=Z,60nm,0.4s						
MAKGR	**Makgori**	**2.51**	**284**	*i*P	**Pn**	**00 06 14.3**	**+2.1**
MAKGR				IAML		00 06 57.6	
	comp=N,440nm,0.3s						
LEPH	**Lephalale, Lim**	**2.58**	**6**	*e*P	**Pn**	**00 06 15.0**	**+1.9**
LEPH				*e*S	**Sn**	**00 06 45.1**	**+0.4**
LEPH				IAML		00 06 52.1	
	comp=Z,51nm,0.5s						
BOSA	**Boshof**	**2.95**	**222**	*e*P	**Pn**	**00 06 19.6**	**+1.3**
BOSA				*e*S	**Sn**	**00 06 54.0**	**+0.2**
BOSA				IAML		00 07 15.1	
	comp=Z,19nm,0.5s						
BOSA	**Boshof**	**2.95**	**222**	*i*P	**Pn**	**00 06 20.5**	**+2.3**
BOSA				*i*S	**Sb**	**00 06 59.6**	**-0.6**
PILG	**Pilgrimsrest,**	**3.25**	**63**	*e*P	**Pn**	**00 06 24.1**	**+1.7**
PILG				*e*S	**Sn**	**00 07 03.0**	**+1.6**
PILG				IAML		00 07 22.1	
	comp=Z,30nm,0.4s						
LPHEP	**Lephephe**	**3.41**	**334**	*i*P	**Pn**	**00 06 27.7**	**+3.2**
LPHEP				*i*S	**Sb**	**00 07 15.6**	**+2.4**
LPHEP				IAML		00 07 23.4	
	comp=N,33nm,0.6s						
SKOMA	**Sekoma**	**3.76**	**300**	*i*P	**Pn**	**00 06 31.2**	**+1.9**
SKOMA				*i*S	**Sb**	**00 07 23.0**	**-0.3**
SKOMA				IAML		00 07 32.5	
	comp=E,54nm,0.3s						
POGA	**Pongola**	**3.86**	**105**	*e*P	**Pn**	**00 06 32.5**	**+1.9**
POGA				*e*S	**Sn**	**00 07 17.5**	**+1.5**
POGA				IAML		00 07 34.9	
	comp=Z,40nm,0.5s						
KDWAN	**Kaudwane**	**3.99**	**319**	*i*P	**Pn**	**00 06 35.0**	**+2.4**
KDWAN				IAML		00 07 38.0	
	comp=N,95nm,0.6s						
PMBG	**Pietermaritzbu**	**4.05**	**140**	*e*P	**Pn**	**00 06 35.9**	**+2.5**
PMBG				*e*S	**Sn**	**00 07 23.6**	**+2.6**
PMBG				IAML		00 07 42.6	
	comp=Z,26nm,0.6s						
KSTD	**Kokstad**	**4.46**	**160**	*e*P	**Pn**	**00 06 41.6**	**+2.6**
KSTD				*e*S	**Sn**	**00 07 32.8**	**+1.7**
KSTD				IAML		00 07 59.6	
	comp=Z,9.5nm,0.5s						
MOPA	**Mopani**	**4.57**	**51**	*e*P	**Pn**	**00 06 41.6**	**+1.1**
MOPA				*e*S	**Sn**	**00 07 35.0**	**+1.4**
MOPA				IAML		00 08 00.5	
	comp=Z,26nm,0.8s						
MOPA	**Mopani**	**4.57**	**51**	*i*P	**Pn**	**00 06 40.5**	**+0.1**
MOPA				*i*S	**Sn**	**00 07 33.5**	**-0.2**
MUSN	**Musina, Limpop**	**4.65**	**28**	*e*P	**Pn**	**00 06 42.5**	**+1.0**
MUSN				*e*S	**Sn**	**00 07 35.2**	**-0.5**
MUSN				IAML		00 07 57.5	
	comp=Z,31nm,0.4s						
MUSN	**Musina, Limpop**	**4.65**	**28**	*i*P	**Pn**	**00 06 38.4**	**-3.2**
MUSN				*i*S	**Sn**	**00 07 30.0**	**-5.7**
KHWEE	**KHWEE**	**4.85**	**337**	*i*P	**Pn**	**00 06 47.0**	**+2.6**
KHWEE				*i*S	**Sb**	**00 07 50.2**	**-4.7**
KHWEE				IAML		00 08 03.1	
	comp=E,92nm,0.4s						
BFON	**Badsfontein, M**	**6.30**	**211**	*e*P	**Pn**	**00 07 05.5**	**+1.1**
BFON				*e*S	**Sn**	**00 08 15.2**	**-1.4**
BFON				IAML		00 08 56.8	
	comp=Z,9.8nm,0.5s						
GRAF	**Camdeboo Natio**	**6.39**	**204**	*e*P	**Pn**	**00 07 06.6**	**+1.1**
GRAF				*e*S	**Sn**	**00 08 17.9**	**-0.7**
GRAF				IAML		00 08 36.2	
	comp=Z,2.9nm,0.5s						
BRAK	**Brakfontein**	**6.68**	**216**	*e*P	**Pn**	**00 07 10.9**	**+1.4**
BRAK				*e*S	**Sn**	**00 08 24.0**	**-1.8**
BRAK				IAML		00 09 10.5	
	comp=Z,9.4nm,0.5s						
GRAN	**Grantham**	**7.47**	**217**	*e*P	**Pn**	**00 07 21.5**	**+1.2**
GRAN				*e*S	**Sn**	**00 08 42.3**	**-3.0**
GRAN				IAML		00 09 41.5	
	comp=Z,6.3nm,1.0s						
FRAZ	**Fraserburg**	**7.64**	**223**	*e*P	**Pn**	**00 07 24.1**	**+1.4**
FRAZ				*e*S	**Sn**	**00 08 46.3**	**-3.2**
FRAZ				IAML		00 09 42.3	
	comp=Z,3.8nm,0.6s						
CVNA	**Calvinia**	**8.45**	**232**	*e*P	**Pn**	**00 07 35.5**	**+1.8**
CVNA				*e*S	**Sn**	**00 09 05.3**	**-3.9**
CVNA				IAML		00 09 52.0	
	comp=Z,4.8nm,0.4s						

*NEIC **15** 00:06:29.6±2.5,37°.30N±0°.03×97°.94W±0°.02,h6km±1km,*
Error ellipse: s-maj=3.6km s-min=1.9km az=177.0
NEIC 15 00:06:28.3±2.3,37°.33N±0°.02×97°.92W±0°.01,h3km±2km,
mb_Lg2.5/25,ML2.9/40,ML2.6/13,Error ellipse:
s-maj=3.5km s-min=1.5km az=171.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.07**	**246**		Pg	00 06 31.2	+1.4
KAN12				Sg	Sg	00 06 32.3	+1.5
KAN12				IAML		00 06 32.5	
	comp=N,7μm,0.1s						
KAN06	**Argonia West S**	**0.09**	**148**	Pg	Pg	00 06 29.9	-0.3
KAN06				Sg	Sg	00 06 33.0	+1.6
KAN08	**Anthony NE Sta**	**0.11**	**203**	Pg	Pg	00 06 31.5	+1.0
KAN08				Sg	Sg	00 06 33.0	+1.1
KAN08				IAML		00 06 33.2	
	comp=N,5μm,0.2s						
KAN01	**Argonia South**	**0.21**	**143**		Pg	00 06 33.8	+1.4
KAN01				Sg	Sg	00 06 37.0	+1.8
KAN01				IAML		00 06 37.1	
	comp=N,3μm,0.3s						
KAN01				IAML		00 06 37.1	
	comp=E,3μm,0.3s						
KAN05	**Bluff City Nor**	**0.22**	**170**	Pg	Pg	00 06 31.2	-1.4
KAN05				Sg	Sg	00 06 36.3	+0.8
KAN05				IAML		00 06 38.5	
	comp=E,2μm,0.3s						
KAN05				IAML		00 06 38.5	
	comp=N,2μm,0.2s						
KAN10	**Anthony SW Sta**	**0.25**	**215**		Pg	00 06 34.5	+1.4
KAN10					Sg	00 06 37.5	+1.2
KAN09	**Caldwell North**	**0.31**	**128**		Pb	00 06 35.7	-0.7
KAN09				Sg	Sb	00 06 40.2	-1.6
KAN09				IAML		00 06 40.5	
	comp=E,1μm,0.4s						
KAN09				IAML		00 06 44.2	
	comp=N,1μm,0.2s						
KAN17	**Caldwell West**	**0.31**	**156**		Pb	00 06 35.5	-0.9
KAN17				Sg	Sg	00 06 39.3	+1.1
KAN14	**Manchester OK**	**0.37**	**185**		Pg	00 06 36.2	+0.7
KAN14				Sg	Sg	00 06 41.4	+1.2
KAN14				IAML		00 06 41.6	
	comp=N,973nm,0.2s						
KAN13	**South Haven SW**	**0.47**	**131**		Pb	00 06 39.8	+0.5
KAN13				Sg	Sb	00 06 45.2	-1.3
KAN13				IAML		00 06 45.3	
	comp=E,987nm,0.3s						
KAN13				IAML		00 06 55.0	
	comp=N,1μm,0.3s						
GC02	**Grant County #**	**0.48**	**174**		Pb	00 06 38.6	-0.7
GC02				Sg	Sg	00 06 44.9	+1.3
OK032	**Salt Plains WL**	**0.57**	**204**		Pg	00 06 40.1	+0.8
OK032				Sg	Sg	00 06 47.8	+1.2
BLOK	**Blackwell**	**0.80**	**135**		Pn	00 06 47.2	+0.8
BLOK				Sg	Sb	00 06 55.5	-0.5
CROK	**Carrier**	**0.82**	**184**		Pb	00 06 45.1	-0.1
CROK				Sg	Sb	00 06 56.7	0.0
CROK				IAML		00 07 02.2	
	comp=E,413nm,0.3s						
NOKA	**Waynoka**	**1.06**	**230**		Pb	00 06 49.6	+0.2
NOKA				Sg	Sb	00 07 03.5	-0.2
NOKA				IAML		00 07 03.6	
	comp=E,276nm,0.3s						
NOKA				IAML		00 07 03.6	
	comp=N,324nm,0.2s						
OK038	**West end E0370**	**1.07**	**218**		Pn	00 06 49.9	-0.3
OK038				Sg	Sb	00 07 03.5	-0.4
OK051	**E0350 and S346**	**1.19**	**133**		Pb	00 06 51.4	-0.1
OK051				Sg	Sb	00 07 07.1	-0.2
T35A	**Sooner Cattle**	**1.20**	**110**		Pn	00 06 51.8	-0.1
T35A				Sg	Sn	00 07 08.1	-0.6
T35A				IAML		00 07 12.4	
	comp=N,276nm,0.2s						
T35A				IAML		00 07 12.8	
	comp=N,240nm,0.2s						
OK048	**Pawnee Station**	**1.20**	**139**		Pb	00 06 51.6	-0.1
OK048					Sb	00 07 07.3	-0.2
OK048				IAML		00 07 12.2	
	comp=N,203nm,0.3s						
QUOK	**Quay**	**1.51**	**139**		Pb	00 06 56.6	-0.3
OK029	**Liberty Lake**	**1.57**	**166**		Pn	00 06 56.8	-0.3
OK029					Sg	00 07 19.2	+0.4
OK052	**Battle Ridge R**	**1.60**	**146**		Pn	00 06 57.5	0.0
OK052					Sg	00 07 19.9	0.0
OK031	**S. Brethren Rd**	**1.62**	**147**		Pn	00 06 57.0	-0.7
ADOK	**Arcadia Dam**	**1.73**	**165**		Pn	00 06 58.6	-0.6
ADOK					Sn	00 07 21.4	-0.3
ELIS	**Ellis County**	**1.74**	**224**		Pn	00 06 59.7	+0.3
ELIS					Sn	00 07 21.7	-0.5
CSTR	**Hydro, Custer**	**1.79**	**201**		Pn	00 06 59.9	-0.1
CSTR					Sg	00 07 25.7	0.0
DEOK	**Depew**	**1.87**	**142**		Pn	00 07 01.6	+0.4
DEOK					Sb	00 07 27.4	+0.6
OKCSW	**OKLAHOMA CITY**	**1.96**	**168**		Pn	00 07 03.0	+0.7
OKCSW					Sg	00 07 30.6	-0.5
KSU1	**Kansas State U**	**2.05**	**30**		Pb	00 07 05.1	-1.1
CBKS	**Cedar Bluff**	**2.07**	**317**	Pn	Pb	00 07 05.7	-0.7
FNO	**Franklin**	**2.11**	**168**		Pn	00 07 04.0	-0.5
TUL3	**Leonard**	**2.22**	**129**	Pn	Pn	00 07 06.6	+0.6
W35A	**Tecumseh**	**2.33**	**158**		Pn	00 07 08.6	+1.1
WMOK	**Wichita Mounta**	**2.67**	**195**		Pb	00 07 18.1	+1.3
WMOK	**Wichita Mounta**	**2.67**	**195**	Pg	Pg	00 07 18.5	-1.1
WMOK				IAmb_Lg		00 07 56.6	
	comp=Z,4.6nm,0.8s						
X34A	**Smith Ranch, M**	**2.72**	**178**	Pn	Pn	00 07 12.6	-0.2
SMWD	**Samnorwood**	**2.91**	**221**		Pn	00 07 16.3	+0.8
U38A	**Gravette**	**2.97**	**106**		Pn	00 07 17.6	+1.3
LOOK	**Love County**	**3.38**	**170**	Pn	Pn	00 07 21.3	-0.6
WTFS	**Witchita Falls**	**3.58**	**187**	Pn	Pn	00 07 25.7	+1.1
AMTX	**Amarillo**	**3.90**	**232**	IAmb_Lg		00 08 34.3	
	comp=Z,7.7nm,0.9s						
N35A	**Tabor**	**3.95**	**26**	IAmb_Lg		00 08 36.4	
	comp=Z,23nm,0.7s						
P38A	**Dawn**	**4.14**	**55**	IAmb_Lg		00 08 48.9	
	comp=Z,9.4nm,0.7s						
DKNS	**Dickens**	**4.40**	**215**	IAmb_Lg		00 08 58.4	
	comp=Z,9.3nm,1.0s						
MIAR	**Mount Ida**	**4.48**	**127**	IAmb_Lg		00 09 00.9	
	comp=Z,10nm,1.1s						
MGMO	**Mountain Grove**	**4.51**	**90**	IAmb_Lg		00 08 52.0	
	comp=Z,5.3nm,0.8s						
OGNE	**Ogallala**	**4.83**	**320**	IAmb_Lg		00 08 58.0	
	comp=Z,19nm,1.1s						
SN07	**Snyder 07**	**4.88**	**211**	IAmb_Lg		00 09 16.4	
	comp=Z,10.0nm,0.9s						
X40A	**Basin Creek Fa**	**5.00**	**123**	IAmb_Lg		00 09 14.4	
	comp=Z,6.4nm,0.8s						
N38A	**Joes South For**	**5.03**	**45**	IAmb_Lg		00 09 11.9	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**5.18**	**270**	IAmb_Lg		00 09 14.8	
	comp=Z,8.8nm,1.1s						
N41A	**Harden Midland**	**6.45**	**56**	IAmb_Lg		00 09 52.9	
	comp=Z,14nm,0.8s						
ECSD	**EROS Data Cent**	**6.48**	**8**	IAmb_Lg		00 09 57.6	
	comp=Z,3.3nm,1.1s						

*BEO **15** 00:06:58.5±4.6,33°.82N×23°.81E,h158km±2km,ML3.7/5*
*ISK **15** 00:07:13.7,35°.49N×24°.34E,h74km,ML3.4/15*
*HLW **15** 00:07:13.8,35°.16N×24°.56E,h15km±13km,MI3.7*
*IDC **15** 00:07:14.2±1.1,35°.46N×24°.43E,h68km±11km,mb3.5/8,*
mbtmp3.7/17,Error ellipse: s-maj=30.9km s-min=16.3km
az=18.0
*ATH **15** 00:07:15.8,35°.52N×24°.40E,h61km±8km,ML3.5/19,*
Manual Solution by A.Plessa First location: 2019/03/15
00:08:11, This location: 2019/03/15 07:46:50 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 8 km;
Longitude uncertainty: 3 km
*THE **15** 00:07:15.6,35°.48N×24°.37E,h67km±1km,ML3.4/7,Error*
ellipse: s-maj=1.9km s-min=0.8km az=189.0
*AFAD **15** 00:07:16.3,35°.53N×24°.94E,h6km±3km,ML2.8*
*GII **15** 00:07:20.2±0.0,35°.453N±0°.002×25°.268E±0°.001,h60km,*
Mws3.5,confirmed
ISC 15 00:07:13.3±0.7,35°.42N±0°.04×24°.40E±0°.03,h76km±6km,
n170,σ1§95/190,mb3.6/8,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRNS	**Prines Rethymn**	**0.10**	**122**	P	**Pn**	**00 07 25.0**	**+0.6**
PRNS				S	**Sn**	**00 07 33.2**	**+0.8**
PRNS	**Prines Rethymn**	**0.10**	**122**	P	**Pn**	**00 07 24.9**	**+0.6**
PRNS				S	**Sn**	**00 07 32.6**	**+0.2**
CHNB	**Souda**	**0.28**	**284**	P	**Pn**	**00 07 25.8**	**+0.7**
CHNB				S	**Sn**	**00 07 33.4**	**-0.3**
CHAN	**Chania**	**0.31**	**289**	P	**Pn**	**00 07 26.0**	**+0.8**
CHAN				S	**Sn**	**00 07 33.8**	**-0.2**
	4μm,0.4s						
CHAN	**Chania**	**0.31**	**289**	P	**Pn**	**00 07 26.0**	**+0.8**
CHAN				S	**Sn**	**00 07 33.9**	**-0.1**
IDI	**Anoyia**	**0.42**	**108**	Pg	**Pn**	**00 07 27.4**	**+1.2**
IDI				Sg	**Sn**	**00 07 37.3**	**+1.7**
IDI	**Anoyia**	**0.42**	**108**	P	**Pn**	**00 07 27.1**	**+0.9**
IDI				S	**Sn**	**00 07 36.2**	**+0.6**
	4μm,0.4s						
IDI	**Anoyia**	**0.42**	**108**	P	**Pn**	**00 07 27.8**	**+1.6**
	510nm,0.4s,baz=263,slow=8.2,SNR=1795						
IDI				S	**Sn**	**00 07 36.6**	**+1.0**
	239nm,0.3s,baz=311,slow=18,SNR=4.1						
TMBK	**Timbaki Herakl**	**0.46**	**139**	P	**Pn**	**00 07 28.3**	**+1.9**
TMBK				S	**Sn**	**00 07 37.1**	**+1.2**
IACM	**Heraklion**	**0.56**	**101**	P	**Pn**	**00 07 29.6**	**+2.3**
IACM	**Heraklion**	**0.56**	**101**	P	**Pn**	**00 07 29.5**	**+2.3**
IACM				S	**Sn**	**00 07 37.9**	**+0.4**
KNDR	**Palaiochora Ch**	**0.61**	**253**	Pg	**Pn**	**00 07 28.9**	**+1.1**
KNDR				Sg	**Sn**	**00 07 40.0**	**+1.6**
KNDR	**Palaiochora Ch**	**0.61**	**253**	P	**Pn**	**00 07 29.2**	**+1.4**
KNDR				S	**Sn**	**00 07 39.8**	**+1.4**
	802nm,0.5s						
KNDR	**Palaiochora Ch**	**0.61**	**253**	P	**Pn**	**00 07 29.2**	**+1.4**
KNDR				S	**Sn**	**00 07 40.7**	**+2.2**
GVD	**Gavdhos**	**0.63**	**204**	Pg	**Pn**	**00 07 28.9**	**+0.9**
GVD				Sg	**Sn**	**00 07 40.9**	**+2.1**
GVD	**Gavdhos**	**0.63**	**204**	P	**Pn**	**00 07 29.0**	**+0.9**
GVD				S	**Sn**	**00 07 40.1**	**+1.3**
	3μm,0.3s						
ANKY	**Antikythira Is**	**1.00**	**297**	P	**Pn**	**00 07 33.7**	**+1.5**
ANKY				S	**Sn**	**00 07 47.3**	**+1.1**
	3μm,0.7s						
ANKY	**Antikythira Is**	**1.00**	**297**	P	**Pn**	**00 07 33.6**	**+1.5**
ANKY				S	**Sn**	**00 07 47.4**	**+1.2**
THR6	**Thira Island,**	**1.24**	**41**	P	**Pn**	**00 07 36.6**	**+1.5**
THR5	**Thira Island,**	**1.26**	**37**	P

AMT	Artemida-Makis	3.02	315	P	Pn	00 08 00.0 +1.1
ARG	Arkhangelos	3.13	74	Pn	Pn	00 08 02.8 +2.3
ARG	Arkhangelos	3.13	74	P	Pn	00 08 02.7 +2.3
ARG	Arkhangelos	3.13	74	P	Pn	00 08 02.8 +2.3
KLV	Kalavryta, Ach	3.18	326	P	Pn	00 08 02.0 +0.8
KYMI	Kymi, Euboea I	3.22	356	P	Pn	00 08 03.0 +1.4
MLSB	Milas	3.31	55	Pn	Pn	00 08 05.1 +2.3
DRO	Drossia	3.33	320	P	Pn	00 08 04.5 +1.4
DRO	Drossia	3.33	320	P	Pn	00 08 04.8 +1.7
ALIK	Aliki, Aigiali	3.38	328	P	Pn	00 08 04.9 +1.2
TURN	Turunc	3.40	65	Pn	Pn	00 08 06.5 +2.5
TURN	Turunc	3.40	65	P	Pn	00 08 06.2 +2.3
TURN				S	Sn	00 08 44.6 +1.5
TURN				*i* AML	AML	00 08 47.0
	comp=N,23nm,0.6s					
TURN				*i* AML	AML	00 08 47.0
	comp=E,20nm,0.3s					
YER	Yerkesik	3.58	60	Pn	Pn	00 08 09.1 +2.6
DALY	Dalyan (Mula)	3.72	67	Pn	Pn	00 08 11.1 +2.8
ANX	Ano Chora	3.74	329	P	Pn	00 08 09.6 +0.9
SABU	Mula-Dalaman	3.96	68	P	Pn	00 08 14.8 +3.1
SABU				S	Sn	00 08 58.5 +1.6
SABU				*i* AML	AML	00 08 59.0
	comp=N,34nm,0.2s					
SABU				*i* AML	AML	00 09 00.0
	comp=E,34nm,0.3s					
SLUM	Salum	3.97	170	P	Pn	00 08 10.3 -1.6
FETY	Fethiye	3.99	71	Pn	Pn	00 08 14.5 +2.4
FETY	Fethiye	3.99	71	P	Pn	00 08 15.1 +3.0
IZZE	Mula-Seydike	4.05	74	P	Pn	00 08 14.8 +2.0
IZZE				S	Sn	00 08 58.3 -0.8
IZZE				*i* AML	AML	00 08 59.0
	comp=E,69nm,0.3s					
IZZE				*i* AML	AML	00 09 01.0
	comp=N,91nm,0.3s					
DNZT	Denizli-Tavas-	4.17	62	P	Pn	00 08 18.2 +3.5
DNZT				S	Sn	00 09 03.7 +1.5
DNZT				*i* AML	AML	00 09 13.0
	comp=N,11nm,1.2s					
DNZT				*i* AML	AML	00 09 13.0
	comp=E,9.3nm,0.6s					
TAVA	DENIZLI_Tavas	4.17	59	P	Pn	00 08 18.1 +3.4
TAVA				S	Sn	00 09 04.1 +1.8
TAVA				*i* AML	AML	00 09 14.0
	comp=N,8.5nm,0.5s					
TAVA				*i* AML	AML	00 09 50.0
	comp=E,9.3nm,2.9s					
AKAS	Kas	4.31	78	P	Pn	00 08 18.9 +2.4
AKAS				*i* AML	AML	00 10 12.0
	comp=N,84nm,1.6s					
AKAS				*i* AML	AML	00 10 25.0
	comp=E,73nm,1.8s					
CAEL	Denizli, Camel	4.33	65	P	Pn	00 08 19.6 +2.8
CAEL				S	Sn	00 09 07.0 +0.9
CAEL				*i* AML	AML	00 09 19.0
	comp=N,38nm,1.0s					
CAEL				*i* AML	AML	00 09 21.0
	comp=E,33nm,1.1s					
KNIK	Mula-Seydike	4.42	70	P	Pn	00 08 20.8 +2.7
KNIK				S	Sn	00 09 08.0 -0.4
KNIK				*i* AML	AML	00 09 11.0
	comp=E,13nm,0.5s					
KNIK				*i* AML	AML	00 09 15.0
	comp=N,12nm,0.3s					
GOLH	Golhisar	4.55	65	P	Pn	00 08 22.7 +2.9
GOLH				S	Sn	00 09 11.3 -0.1
GOLH				*i* AML	AML	00 09 14.0
	comp=N,21nm,0.4s					
GOLH				*i* AML	AML	00 09 20.0
	comp=E,18nm,0.5s					
AKUM	Antalya-Kumluc	4.91	78	P	Pn	00 08 27.2 +2.6
AKUM				S	Sn	00 09 18.2 -2.0
AKUM				*i* AML	AML	00 09 30.0
	comp=E,47nm,2.1s					
AKUM				*i* AML	AML	00 10 00.0
	comp=N,58nm,2.3s					
DB3	El Dabaa	5.58	140	P	Pn	00 08 32.0 -1.8
SRS	Serrai	5.73	354	*e*Pn	Pn	00 08 38.5 +2.7
SRS				*e*Sn	Sn	00 09 40.9 +0.8
FNA	Florina	5.86	337	*e*Pn	Pn	00 08 37.9 +0.2
FNA				*e*Sn	Sn	00 09 40.3 -3.2
SWA2		6.22	171	P	Pn	00 08 42.1 -0.5
OHR	Ohrid	6.35	335	*e*Pn	Pn	00 08 45.2 +0.9
OHR				*e*Sn	Sn	00 09 51.6 -3.8
BOSS	Bosilegrad	7.22	349	*e*Pn	Pn	00 08 58.9 +2.7
CSS	Mathiatis	7.33	91	P	Pn	00 08 55.2 -2.4
CSS	Mathiatis	7.33	91	S	Sn	00 10 09.9 -9.4
HMYD	Mayadein	7.78	134	P	Pn	00 09 03.4 -0.5
HNAT	Natroun	7.80	136	P	Pn	00 09 03.6 -0.5
ZAPS	Zavoj	7.96	351	*e*Pn	Pn	00 09 09.6 +3.3
RYAN	Fayoum	8.04	140	P	Pn	00 09 06.5 -0.9
RYAN				S	Sn	00 10 29.1 -7.7
PDG	Podgorica	8.07	332	*e*Pn	Pn	00 09 06.1 -1.6
PDG				*e*Sn	Sn	00 10 30.5 -6.7
SELS	Selova	8.19	343	*e*Pn	Pn	00 09 09.9 +0.4
VAE	Valguarnera	8.30	287	P	Pn	00 09 12.9 +1.9
	20nm,1.0s,baz=106,slow=8.7,SNR=3.2					
VAE				S	Sn	00 10 35.5 -7.8
	4.9nm,0.4s,baz=90,slow=20,SNR=5.9					
BRTR	Keskin Array B	8.50	57	P	Pn	00 09 16.0 +2.2
	1.5nm,0.7s,baz=240,slow=14,SNR=11					
SJES	Sjenica	8.55	338	*e*Pn	Pn	00 09 12.9 -1.5
HFRF	Wahat Farafira	8.90	157	P	Pn	00 09 18.1 -1.1
STON	Ston	9.08	327	*e*Pn	Pn	00 09 18.8 -2.7
STON				*e*Sn	Sn	00 10 51.0 -11
BBLS	Lazi&#263i	9.27	337	*e*Pn	Pn	00 09 22.5 -1.7
BBLS				*e*Sn	Sn	00 10 59.1 -7.7
BLGI	Bet Lehem HaGe	9.35	104	P	Pn	00 09 23.6 -1.6
BLGI	Bet Lehem HaGe	9.35	104	S	Sn	00 10 59.7 -8.9
SLTI	Sal'it	9.40	107	P	Pn	00 09 24.4 -1.6
SLTI	Sal'it	9.40	107	S	Sn	00 11 01.5 -8.6
MMC7	Mount Meron ar	9.41	102	P	Pn	00 09 24.4 -1.8
MMA0B	Mount Meron ar	9.42	102	P	Pn	00 09 24.1 -2.2
MMA0B	Mount Meron ar	9.42	102	S	Sn	00 11 01.7 -9.0
MMAI	Mount Meron Ar	9.42	102	P	Pn	00 09 26.4 0.0
	0.6nm,0.3s,baz=272,slow=11,SNR=8.1					
MMAI				S	Sn	00 11 05.0 -5.7
	1.1nm,0.3s,baz=300,slow=21,SNR=8.0					
KZIT	Kziot	9.51	115	P	Pn	00 09 26.1 -1.4
KZIT	Kziot	9.51	115	S	Sn	00 11 05.2 -7.5
GEM	Giv'at Ha'Em	9.57	100	P	Pn	00 09 26.2 -2.2
GEM	Giv'at Ha'Em	9.57	100	S	Sn	00 11 04.7 -10
AMAZ	Amatzia	9.60	111	P	Pn	00 09 27.1 -1.6
AMAZ	Amatzia	9.60	111	S	Sn	00 11 07.2 -7.7
NATI	Neve Ativ	9.62	100	P	Pn	00 09 27.0 -1.9
NATI	Neve Ativ	9.62	100	S	Sn	00 11 06.0 -9.3
KSHT	Keshet	9.76	101	P	Pn	00 09 28.9 -2.0
KSHT	Keshet	9.76	101	S	Sn	00 11 10.2 -8.7
HMDT	Nahal Hemdat	9.78	106	P	Pn	00 09 29.3 -1.9
HMDT	Nahal Hemdat	9.78	106	S	Sn	00 11 11.0 -8.3
YTIR	Yattir	9.83	111	P	Pn	00 09 30.3 -1.6
YTIR	Yattir	9.83	111	S	Sn	00 11 12.2 -8.4
TEKS	Tekeris	9.85	339	*e*Pn	Pn	00 09 29.8 -2.3
TEKS				*e*Sn	Sn	00 11 15.0 -5.9
DSI	Dead Sea	9.94	110	P	Pn	00 09 31.7 -1.6
DSI	Dead Sea	9.94	110	S	Sn	00 11 14.5 -8.7
MSBI	Mazada	10.04	111	P	Pn	00 09 33.1 -1.5
MSBI	Mazada	10.04	111	S	Sn	00 11 15.2 -10
MLR	Muntele Rosu	10.13	6	P	Pn	00 09 35.3 -0.7
	0.9nm,0.7s,baz=243,slow=19,SNR=2.5					
KRMI	Paran Flat	10.17	118	P	Pn	00 09 35.0 -1.6
KRMI	Paran Flat	10.17	118	S	Sn	00 11 22.3 -6.6
GHAJ	Ghor Haditha	10.20	111	P	Pn	00 09 35.3 -1.6
GHAJ	Ghor Haditha	10.20	111	S	Sn	00 11 21.5 -8.0
PRNI	Paran	10.25	117	P	Pn	00 09 36.2 -1.3
PRNI	Paran	10.25	117	S	Sn	00 11 23.5 -7.2
ZFRI	Zfri	10.27	115	P	Pn	00 09 36.3 -1.5
ZFRI	Zfri	10.27	115	S	Sn	00 11 23.5 -7.7
HRFI	Mount Harif	10.44	118	P	Pn	00 09 39.3 -0.9
HRFI	Mount Harif	10.44	118	S	Sn	00 11 29.2 -6.2
MBRI	Mt Berech	10.49	119	P	Pn	00 09 39.7 -1.2
MBRI	Mt Berech	10.49	119	S	Sn	00 11 30.2 -6.5
EIL	Elat	10.59	120	P	Pn	00 09 41.3 -0.8
	1.3nm,0.3s,baz=263,slow=1.4,SNR=23					
EIL				S	Sn	00 11 30.2 -8.8
	1.9nm,0.3s,baz=288,slow=20,SNR=6.1					
EIL	Elat	10.59	120	P	Pn	00 09 41.4 -0.8
EIL	Elat	10.59	120	S	Sn	00 11 32.5 -6.5
ASF	Jabal al Asfar	10.89	104	P	Pn	00 09 45.9 -0.5
	1.0nm,0.2s,baz=290,slow=15,SNR=1.8					
ASF				S	Sn	00 11 41.0 -5.5
	0.8nm,0.3s,baz=325,slow=12,SNR=1.8					
GERES	GERESS Array B	15.56	333	P	Pn	00 10 49.5 +1.3
	0.2nm,0.3s,baz=130,slow=12,SNR=1.6					
AKASG	Malin Array Be	15.67	11	P	Pn	00 10 52.0 +2.5
	0.4nm,0.3s,baz=205,slow=10,SNR=8.8					
KBZ	Khabaz	16.48	54	P	Pn	00 11 02.3 +2.7
	1.7nm,0.8s,baz=252,slow=8.7,SNR=5.0					
NACGM	Naroch	19.56	4	*e*P	P	00 11 35.4 +0.7
	baz=186					
ESDC	Sonseca Array	22.84	289	P	P	00 12 12.7 +2.5
	0.3nm,0.8s,baz=90,slow=8.9,SNR=1.8					
	0.3nm,0.8s					
HFS	Hagfors	25.69	348	P	P	00 12 37.1 +1.2
	1.1nm,0.6s,baz=163,slow=11,SNR=5.5					
	1.1nm,0.6s					
FINES	FINESS Array B	26.07	2	P	P	00 12 38.9 -0.4
	1.9nm,0.8s,baz=169,slow=11,SNR=7.4					
	1.9nm,0.8s					
ARCES	ARCESS Array B	34.18	1	P	P	00 13 51.0 +0.1
	2.8nm,1.1s,baz=185,slow=9.4,SNR=1.8					
	2.8nm,1.1s					
KURBB	Kurchatov Arra	41.45	51	P	P	00 14 54.0 +1.7
	0.2nm,0.3s,baz=272,slow=7.5,SNR=8.6					
	0.2nm,0.3s					
SPITS	Spitsbergen Ar	43.00	358	P	P	00 15 06.3 +1.6
	8.9nm,1.0s,baz=168,slow=15,SNR=1.5					
	8.9nm,1.0s					
MKAR	Makanchi Array	44.15	57	P	P	00 15 16.0 +1.7
	0.4nm,0.3s,baz=271,slow=7.7,SNR=12					
	0.4nm,0.3s					
ZALV	Zalesovo Beam	45.28	46	P	P	00 15 24.5 +1.4
	0.3nm,0.3s,baz=264,slow=8.5,SNR=2.0					
	0.3nm,0.3s					

UCR ***15*** *00:08:07.5±1.1, 8°.73N×82°.33W, h1km±2km, MW3.6*
UPA ***15*** *00:08:08.7±1.1, 8°.74N×82°.37W, h10km±2km, MW4.3*
ISC 15 00:08:08.6±0.8, **8°.71N**±0°.02×**82°.36W**±0°.02, **h16**km±5km, **n44**, σ1§**05**/70, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNBQ3	Los Naranjos,	0.11	317	*e*P	Pg	00 08 12.1	-0.3
LNBQ3				*e*S	Sg	00 08 14.3	-0.5
PTAR3	Potrerillos Ar	0.13	264	*e*P	Pg	00 08 12.9	+0.3
PTAR3				*e*S	Sg	00 08 15.3	+0.2
BC3P	Paso Ancho	0.27	294	*e*P	Pb	00 08 14.7	-0.5
BC3P				*e*S	Sb	00 08 19.3	-0.3
LOMA3	Las Lomas, Chi	0.28	186	*e*P	Pb	00 08 15.3	0.0
LOMA3				*e*S	Sb	00 08 19.8	+0.1
CHGR2	Aguacate	0.32	43	*e*P	Pg	00 08 14.5	-0.8
CHGR2				*e*S	Sg	00 08 19.0	-0.9
PEDE3	Pedregal, Chir	0.33	190	*e*P	Pb	00 08 16.5	+0.4
PEDE3				*e*S	Sb	00 08 21.7	+0.6
BRU2	Volcan	0.34	285	*e*P	Pb	00 08 15.8	-0.5
BRU2				*e*S	Sb	00 08 21.2	-0.4
BRU2	Volcan	0.34	285	*e*P	Pg	00 08 15.6	-0.1
BRU2				*e*S	Sb	00 08 21.1	-0.4
LPPC	Paso Canoas	0.50	250	*e*P	Pg	00 08 18.8	+0.1
VITO	San Vito	0.61	281	*e*P	Pb	00 08 21.2	+0.2
VITO				*e*S	Sb	00 08 31.2	+1.8
PTPM	Petroterminale	0.71	226	*e*P	Pg	00 08 17.4	-5.2
PTPM				*e*S	Sg	00 08 28.6	-3.4
CNI2	El Empalme, Bo	0.72	351	*e*P	Pg	00 08 22.1	-0.7
CNI2				*e*S	Sb	00 08 33.1	+0.6
LIMO3	Limones	0.78	220	*e*P	Pg	00 08 23.6	-0.3
LIMO3				*e*S	Sg	00 08 34.9	+0.8
EDAD	Golfito	0.80	266	*e*P	Pg	00 08 22.9	-1.2
EDP2	Potrero Grande	0.86	291	*e*P	Pg	00 08 25.0	-0.4
EDP2				*e*S	Sb	00 08 37.4	+0.8
PIRO	Carate, Puerto	1.01	253	*e*P	Pg	00 08 26.6	-1.6
FIMO	Fila Mora	1.02	286	*e*P	Pg	00 08 27.7	-0.7
FIMO				*e*S	Sb	00 08 42.9	+1.7
BRIBI	Bribri	1.03	332	*e*P	Pg	00 08 27.7	-0.9
DRK0	Durika	1.03	302	*e*P	Pg	00 08 25.6	-3.1
GMAL	Guarumal, Vera	1.46	130	*e*P	Pn	00 08 33.0	-1.3
GMAL				*e*S	Sn	00 08 52.8	-0.3
GMAL	Guarumal, Vera	1.46	130	*e*P	Pn	00 08 32.9	-1.5
GMAL				*e*S	Sn	00 08 51.5	-1.6
STIA3	Santiago, Vera	1.50	114	*e*P	Pn	00 08 34.6	-0.3
STIA3				*e*S	Sn	00 08 55.1	+0.9
CALO3	Calobre, Verag	1.55	104	*e*P	Pn	00 08 35.8	+0.2
CALO3				*e*S	Sn	00 08 56.2	+0.8
CRIS3	El Cristo, Coc	1.78	104	*e*P	Pn	00 08 39.2	+0.4
CRIS3				*e*S	Sn	00 09 02.4	+1.2
RVLA	Villa Bonita	1.84	319	*e*P	Pn	00 08 40.1	+0.4
VTCV	VTCV, Calle Va	1.85	313	*e*P	Pn	00 08 40.6	+0.7
REPA	Paraso	1.86	307	*e*P	Pn	00 08 41.5	+1.5
CVTV	Tajo	1.88	313	*e*P	Pn	00 08 41.2	+0.8
CVTQ	Turrialba Volc	1.89	313	*e*P	Pn	00 08 42.0	+1.3
VTLA	Turrialba Volc	1.90	313	*e*P	Pn	00 08 41.9	+1.2
PESE3	Pese, Herrera	1.90	114	*e*P	Pn	00 08 40.9	+0.4
PESE3				*e*S	Sn	00 09 05.0	+0.8
LCR2	La Lucha 2	1.92	303	*e*P	Pn	00 08 41.5	+0.6
ABE2	San Pablo	1.94	301	*e*P	Pn	00 08 41.9	+0.7
CVTG	V. Turrialba,	2.00	316	*e*P	Pn	00 08 42.6	+0.8
CACAO	El Cacao, Vera	2.01	132	*e*P	Pn	00 08 42.9	+1.0
CACAO				*e*S	Sn	00 09 08.0	+1.2
PNME	Penonome	2.02	96	*e*P	Pn	00 08 42.1	0.0
PNME				*e*S	Sn	00 09 07.8	+0.6
CHIT3	Chitre	2.06	111	*e*P	Pn	00 08 43.0	+0.3
CHIT3				*e*S	Sn	00 09 10.0	+2.0
VBV1	V. Barva	2.21	309	*e*P	Pn	00 08 46.7	+1.7
AZU	Azuero	2.26	114	*e*P	Pn	00 08 45.8	+0.5
AZU				*e*S	Sn	00 09 13.9	+1.1
AZU	Azuero	2.26	114	*e*P	Pn	00 08 46.0	+0.7
ZANG	Zanguenga, Cho	2.48	84	*e*P	Pn	00 08 47.5	-0.8
ZANG				*e*S	Sn	00 09 19.4	+1.1
ACHO3	Achotines, Los	2.52	120	*e*P	Pn	00 08 49.4	+0.5
BCIP	Isla Barro Col	2.54	79	*e*P	Pn	00 08 50.0	+0.9
BCIP				*e*S	Sn	00 09 20.0	+0.2
JTS	Las Juntas de	3.00	302	*e*P	Pn	00 08 55.1	-0.5
JTS				*e*S	Sn	00 09 31.7	+0.4

NEIC ***15*** *00:29:56.5±2.5, 9°.75S±0°.07×124°.67E±0°.07, h10km±1km, mb4.6/28, Error ellipse: s-maj=12.9km s-min=10.2km az=42.0*
IDC ***15*** *00:29:58.4±4.4, 9°.43S×124°.72E, h17km±27km, mb4.2/20, mbtmp4.3/22, ML5.0/2, MS3.5/14, Error ellipse: s-maj=23.9km s-min=12.9km az=75.0*
DJA ***15*** *00:30:02.3±0.2, 10°S±2°×12°5E±°, h46km±3km, M4.8/24, mb5.0/24, mB5.2/9, MLv4.9/10, Mw(mB)4.6/9*
ISC 15 00:29:59.2±0.3, **9°.56S**±0°.04×**124°.74E**±0°.04, **h25**km, **n149,** σ1§**94**/144, **mb4.5**/39, **MS3.5**/10, **2C-2D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.50	247		Pn	00 30 13.6	+2.7
SOEI	Soe	0.50	247	P	Pn	00 30 14.6	+3.7
SOEI	Soe	0.50	247	P	Pn	00 30 14.2	+3.3
SOEI				S	Sn	00 30 23.4	+4.6
BATI	Baumata	1.24	239	P	Pb	00 30 24.6	+2.7
BATI				S	Sb	00 30 39.6	+2.1
MMRI	Maumere	2.63	290		Pn	00 30 42.3	+2.1
MMRI				Sn	Sb	00 31 14.3	-3.3
MMRI	Maumere	2.63	290	P	Pb	00 30 44.5	-1.2
MMRI	Maumere	2.63	290	P	Pb	00 30 44.3	-1.4
MMRI				S	Sb	00 31 15.7	-1.9
BASI	Baing, Sumba	4.15	261	P	Pn	00 31 03.4	+2.4
WBSI	Waikabubak, Su	5.27	269	P	Pn	00 31 17.7	+1.2
	1.0nm2μm156nm,0.6s						
WBSI				S	Sn	00 32 15.5	-1.0
	1.0nm2μm156nm,0.6s						
BSSI	Bau Bau, Buton	5.41	309	P	Pn	00 31 22.1	+3.8
	0.7nm185nm,0.6s						
DRS	Darwin Rock St	6.69	116	P	Pn	00 31 37.3	+1.4
KAPI	Kappang	6.70	312		Pn	00 31 38.6	+2.6
KAPI	Kappang	6.70	312	Pn	Pn	00 31 40.8	+4.8
	4.8nm,0.3s,baz=147,slow=6.1,SNR=7.0						
KAPI				LR	LR	00 34 27.4	
	comp=Z,601nm,21.6s,baz=150,slow=41						
PLAI	Plampang	6.91	275	P	Pn	00 31 41.7	+2.7
PLAI	Plampang	6.91	275	P	Pn	00 31 41.3	+2.3
MTN	Manton Dam	7.07	118	Pn	Pn	00 31 41.4	+0.2
MTN	Manton Dam	7.07	118	P	Pn	00 31 42.1	+0.9
KNRA	Kunuurra	7.24	148	Pn	Pn	00 31 43.6	+0.2
SANI	Sanana	7.56	10	P	Pn	00 31 54.9	+7.0
SANI	Sanana	7.56	10	P	Pn	00 31 50.9	+3.0
	0.2nm67nm,0.6s						
TWSI	Taliwang, Sumb	7.80	275	P	Pn	00 31 52.9	+1.7
	0.4nm75nm,1.0s						
TTSI	Tana Toraja	8.11	323	P	Pn	00 31 59.5	+4.1
	1μm37nm,0.8s						
KDU	Kakadu	8.20	113	P	Pn	00 31 57.0	+0.3
FITZ	Fitzroy Crossi	8.53	174	Pn	Pn	00 31 58.8	-2.4
FITZ	Fitzroy Crossi	8.53	174	Pn	Pn	00 32 01.1	-0.2
	14nm,0.3s,baz=355,slow=9.8,SNR=414						
FITZ				Sn	Sn	00 33 29.3	-7.4
	59nm,0.3s,baz=307,slow=15,SNR=17						
FITZ				LR	LR	00 35 50.5	
	comp=Z,264nm,18.6s,baz=7.5,slow=41						
	28nm,0.3s						
FITZ	Fitzroy Crossi	8.53	174	P	Pn	00 32 01.0	-0.2
LUWI	Luwuk	8.69	347	Pn	Pn	00 32 04.2	+0.8
LUWI	Luwuk	8.69	347	P	Pn	00 32 07.9	+4.6
	2μm67nm,0.6s						
FAKI	Fak Fak	9.96	49	Pn	Pn	00 32 24.6	+3.8
FAKI	Fak Fak	9.96	49	P	Pn	00 32 26.0	+5.2
JAGI	Jajag, Banyuwa	10.51	275	Pn	Pn	00 32 27.0	-1.4
JAGI	Jajag, Banyuwa	10.51	275	P	Pn	00 32 32.0	+3.6
TOLI2	Tolitoli	11.31	339		Pn	00 32 45.0	+5.6
TOLI2	Tolitoli	11.31	339	P	Pn	00 32 46.1	+6.8
MBWA	Marble Bar	12.50	202	Pn	Pn	00 32 55.5	0.0
MBWA	Marble Bar	12.50	202	P	Pn	00 32 55.5	0.0
PSA00	Pilbara Seismi	12.84	201	Pn	Pn	00 32 59.2	-1.0
PSA00	Pilbara Seismi	12.84	201	Pn	Pn	00 32 58.1	-2.0
PSA00	Pilbara Seismi	12.84	201	P	Pn	00 32 59.8	-0.4
WB0	Warramunga Arr	13.78	138	Pn	Pn	00 33 10.2	-3.0
WRA	Warramunga Arr	13.88	139		Pn	00 33 11.1	-3.3
WRA	Warramunga Arr	13.88	139	Pn	Pn	00 33 11.6	-2.8
	5.8nm,0.3s,baz=319,slow=14,SNR=83						
WRA				Sn	Sn	00 35 36.5	-11
	9.7nm,0.3s,baz=312,slow=22,SNR=14						
WRA				LR	LR	00 39 12.0	
	comp=Z,213nm,20.1s,baz=271,slow=40						
WRAB	Tennant Creek	13.88	139	Pn	Pn	00 33 10.9	-3.5
WB2	Warramunga Arr	13.88	139	Pn	Pn	00 33 11.4	-3.1
WR0	Warramunga Arr	14.02	139		Pn	00 33 13.6	-2.7
UGM	Wanagama	14.14	276	Pn	Pn	00 33 17.4	-0.8
UGM	Wanagama	14.14	276	P	P	00 33 21.9	-3.5
WRKA	Warakurna	15.76	168	P	Pn	00 33 37.5	-2.1
CMJI	Cimerak	16.20	275	P	Pn	00 33 46.2	+0.9
	89nm,0.7s						
GIRL	Giralia	16.45	216	Pn	Pn	00 33 45.4	-3.0
GIRL				IAmb	IAmb	00 34 03.6	
	comp=Z,125nm,1.4s						
GIRL	Giralia	16.45	216	P	P	00 33 49.8	-1.2
AS31	Alice Springs	16.54	149		Pn	00 33 46.7	-2.9
ASAR	Alice Springs	16.54	149	Pn	Pn	00 33 46.9	-2.7
ASAR	Alice Springs	16.54	149	Pn	Pn	00 33 47.0	-2.5
	comp=Z,3.7nm,0.3s,baz=318,slow=11,SNR=94						
ASAR				Sn	Sn	00 36 39.9	-13
	comp=Z,1.2nm,0.3s,baz=326,slow=16,SNR=4.3						
ASAR				LR	LR	00 41 02.5	
	comp=Z,175nm,20.0s,baz=336,slow=40						
AS01	Alice Springs	16.56	149	P	Pn	00 33 47.9	-2.0
BBJI	Bungbulang	17.03	276	P	P	00 33 58.3	+0.8
LEM	Lembang	17.16	278	P	Pn	00 33 55.8	-1.8
	comp=Z,5.3nm,0.3s,baz=66,slow=12,SNR=5.4						
LEM				LR	LR	00 41 43.8	
	comp=Z,145nm,21.3s,baz=52,slow=41						
	comp=Z,42nm,0.7s						
SBUM	Sibu	17.26	313	P	P	00 34 01.2	+1.2
CNJI	Cibinong	17.56	276	P	P	00 34 04.4	+1.1
	comp=Z,566nmcomp=Z,44nm,0.5s						
MEEK	Meekatharra	17.95	198	P	Pn	00 34 07.1	0.0
QIS	Mount Isa	18.03	129	P	Pn	00 34 07.2	-1.0
COEN	Coen	18.57	105		P	00 34 14.7	+0.2
COEN	Coen	18.57	105	P	Pn	00 34 15.4	+0.6
SBJI	Serang	18.75	279	P	Pn	00 34 18.0	+1.1
CGJI	Cibinong	19.08	277	P	P	00 34 19.9	-0.2
	comp=Z,2μmcomp=Z,77nm,0.5s						
OOD	Oodnadatta	20.87	152	P	P	00 34 40.8	+1.4
MORW	Morawa	21.05	202	P	P	00 34 38.0	-3.5
MORW				IAmb	IAmb	00 34 42.5	
	comp=Z,25nm,1.0s						
MORW	Morawa	21.05	202	P	P	00 34 41.8	+0.4
FORT	Forrest	21.34	172	P	P	00 34 41.6	-2.8
FORT	Forrest	21.34	172	P	P	00 34 45.2	+0.7
KMBL	Kambalda	21.86	187	P	P	00 34 50.1	0.0
PMG	Port Moresby	22.12	91	P	P	00 34 53.5	+0.5
	comp=Z,3.7nm,0.3s,baz=227,slow=16,SNR=1.4						
PMG				LR	LR	00 45 26.6	
	comp=Z,140n

MK31 Makanchi Array 67.66 330 P P 00 40 53.3 -0.8
MK31 IAmb IAmb 00 41 09.8
comp=Z,3.1nm,0.9s
MKAR Makanchi Array 67.66 330 P P 00 40 53.5 -0.7
MKAR Makanchi Array 67.66 330 P P 00 40 53.7 -0.4
comp=Z,3.3nm,0.7s,baz=138,slow=6.1,SNR=30
comp=Z,3.3nm,0.7s
MAKZ Makanchi 67.82 330 P P 00 40 54.8 -0.4
BOOM Boomskoye usch 68.32 323 P P 00 40 57.5 -1.1
BOOM IAmb IAmb 00 41 11.7
comp=Z,3.5nm,0.7s
PEA0B Petropavlovsk- 68.45 21 P P 00 40 58.8 -0.2
PETK Petropavlovsk- 68.45 21 P P 00 40 58.4 -0.6
PETK Petropavlovsk- 68.45 21 P P 00 40 59.1 +0.2
comp=Z,1.4nm,0.6s,baz=163,slow=1.5,SNR=2.0
comp=Z,1.4nm,0.6s
KBL Kabul 68.55 313 P P 00 40 59.3 -0.9
KBL IAmb IAmb 00 41 07.1
comp=Z,3.4nm,0.8s
DRK Karamyk 69.17 319 P P 00 41 02.9 -1.2
DRK IAmb IAmb 00 41 23.2
comp=Z,3.9nm,0.6s
AAK Ala-Archa 69.26 323 P P 00 41 03.3 -1.1
AAK IAmb IAmb 00 41 05.7
comp=Z,3.2nm,0.7s
AAK Ala-Archa 69.26 323 LR LR 01 15 11.8
comp=Z,28nm,18.0s,baz=106,slow=39
ARSB Arslanbob 69.43 321 P P 00 41 04.4 -1.1
ARSB IAmb IAmb 00 41 06.5
comp=Z,4.6nm,0.6s
GAR Garm 69.90 318 P P 00 41 06.9 -1.4
GAR IAmb IAmb 00 41 25.6
comp=Z,8.8nm,1.3s
SIMJ Simiganj 70.60 317 P P 00 41 11.4 -1.3
SIMJ IAmb IAmb 00 41 12.3
comp=Z,7.3nm,1.3s
VNDA Vanda 70.60 172 P P 00 41 13.2 +1.3
comp=Z,2.0nm,0.6s,baz=319,slow=6.6,SNR=5.3
comp=Z,2.0nm,0.6s
CRZF Crozet Islands 71.33 224 P P 00 41 16.3 -0.6
ZAA0 Zalesovo Array 71.70 336 P P 00 41 18.1 -0.7
ZALV Zalesovo Beam 71.70 336 P P 00 41 17.2 -1.6
ZALV Zalesovo Beam 71.70 336 P P 00 41 18.1 -0.7
comp=Z,1.1nm,0.3s,baz=130,slow=4.2,SNR=11
comp=Z,1.1nm,0.3s
KKAR Karatay Array 71.94 321 P P 00 41 19.5 -1.1
MA2 Magadan 72.00 14 P P 00 41 20.0 -0.6
comp=Z,2.3nm,0.3s,baz=170,slow=21,SNR=4.7
comp=Z,2.3nm,0.3s
KURBB Kurchatov Arra 72.09 331 P P 00 41 20.9 -0.3
comp=Z,1.6nm,0.8s,baz=142,slow=5.2,SNR=18
comp=Z,1.6nm,0.8s
KURK Kurchatov 72.11 331 P P 00 41 19.9 -1.4
KURK IAmb IAmb 00 41 21.6
comp=Z,4.3nm,1.0s
SEY Seymchan 75.35 13 P P 00 41 40.0 -0.1
comp=Z,3.3nm,0.6s,baz=210,slow=4.2,SNR=16
comp=Z,3.3nm,0.6s
BVAR Borovoye Array 77.54 330 P P 00 41 53.0 +0.2
comp=Z,0.8nm,0.6s,baz=116,slow=6.8,SNR=5.8
comp=Z,0.8nm,0.6s
SYO Syowa Base 79.40 201‖ *e*P **P 00 42 02.1 -0.7**
SYO Syowa Base 79.40 201‖ *e*pP **P 00 42 05.6 +2.8**
QSPA South Pole Qui 80.43 180 P P 00 42 10.1 +1.4
comp=Z,4.8nm,0.7s,baz=288,slow=1.6,SNR=32
comp=Z,4.8nm,0.7s
TIXI Tiksi 81.08 1 P P 00 42 11.0 -0.7
comp=Z,1.1nm,0.3s,baz=264,slow=0.9,SNR=3.7
comp=Z,1.1nm,0.3s
KBZ Khabaz 90.70 314 P P 00 42 60.0 +0.1
comp=Z,0.8nm,0.7s,baz=125,slow=9.0,SNR=2.1
comp=Z,0.8nm,0.7s
SNAA Sanae 91.93 195 P P 00 43 07.3 +2.0
comp=Z,3.2nm,0.4s,baz=202,slow=6.2,SNR=26
comp=Z,3.2nm,0.4s
KDAK Kodiak Island 94.13 32 LR LR 01 24 20.4
comp=Z,23nm,21.0s,baz=23,slow=35
LBTB Lobatse 94.17 244 LR LR 01 18 55.9
comp=Z,41nm,21.0s,baz=141,slow=31
MDUB Mudurnu 98.81 310 PKiKP PKiKP 00 48 02.6 -5.8
YKA Yellowknife Ar 112.31 26 PKiKP PKiKP 00 48 33.0 +0.5
comp=Z,0.3nm,0.7s,baz=307,slow=1.8,SNR=4.9
PDAR Pinedale Array 122.38 45 PKP PKiKP 00 48 53.5 +0.6
comp=Z,0.1nm,0.6s,baz=316,slow=6.5,SNR=2.4
ULM Lac du Bonnet 127.39 32 PKP PKiKP 00 49 02.1 -0.3
comp=Z,0.3nm,0.3s,baz=315,slow=2.9,SNR=3.6
TXAR Lajitas Array 130.71 59 SKPbc SKPab 00 52 32.5 +1.0
comp=Z,0.5nm,0.7s,baz=302,slow=3.9,SNR=5.9
SCHQ Schefferville 133.92 9 PKP PKiKP 00 49 16.1 +0.7
comp=Z,1.1nm,0.4s,baz=261,slow=7.2,SNR=8.1
CPUP Villa Florida 144.27 177 PKP PKPdf 00 49 33.3 -0.6
comp=Z,3.8nm,0.6s,baz=192,slow=3.0,SNR=9.7
LPAZ La Paz 151.33 154 PKPbc PKiKP 00 49 53.2 +0.3
comp=Z,1.4nm,0.7s,baz=132,slow=2.4,SNR=6.9

GCG ***15*** *00:40:55.8±3.1, 15°.01N×94°.55W, h37km±999km, MD4.2, MW3.3*
MEX ***15*** *00:40:57.6±0.8, 15°.06N×94°.41W, h23km±16km, MD4.1*
ISC 15 00:40:48.4±1.4, 15°.02N±0°.05×94°.45W±0°.03, h13km±10km, n25, σ1°85/48, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.32**	**23**	*e*P	**Pg**	**00 41 16.9**	**+3.1**
CARR				*e*S	**Sg**	00 41 31.4	+0.3
PCIG		**1.37**	**60**	*e*P	**Pg**	00 41 17.9	+3.2
PCIG				*i* S	**Sg**	00 41 33.4	+0.9
NILT	**Santiago Nilte**	**1.54**	**354**	*e*P	**Pg**	00 41 19.9	+1.8
NILT				*e*S	**Sb**	00 41 35.7	-0.6
HUIG	**Huatulco**	**1.77**	**295**	*e*P	**Pg**	**00 41 24.0**	**+1.7**
HUIG				*e*S	**Sb**	**00 41 42.1**	**-0.7**
HUIG	**Huatulco**	**1.77**	**295**	*e*P	**Pg**	**00 41 23.7**	**+1.4**
HUIG				*i* S	**Sb**	**00 41 42.4**	**-0.3**
HUIG	**Huatulco**	**1.77**	**295**	*e*P		00 41 23.7	
HUIG				*i* S		00 41 42.4	
CMIG	**Matias Romero**	**2.10**	**349**	*e*P	**Pg**	**00 41 28.7**	**0.0**
CMIG				*i* S	**Sb**	**00 41 52.1**	**-0.3**
PATR	**El Naranjo**	**2.14**	**87**	*e*P	**Pg**	**00 41 29.4**	**-0.1**
PATR				*e*S	**Sn**	**00 41 53.0**	**+2.4**
TGIG		**2.16**	**36**	*e*P	**Pg**	**00 41 29.4**	**-0.5**
TGIG				*e*S	**Sb**	**00 41 54.4**	**+0.2**
TGIG		**2.16**	**36**	*i* P	**Pg**	**00 41 30.1**	**+0.2**
TGIG				*i* S	**Sg**	**00 41 56.8**	**-1.2**
TGIG		**2.16**	**36**	*i* P		00 41 30.1	
TGIG				*i* S		00 41 56.8	
PAVE	**Pavencul**	**2.20**	**85**	*e*P	**Pg**	**00 41 30.6**	**-0.1**
PAVE				*e*S	**Sb**	**00 41 54.6**	**-0.8**
UXUV	**UXUV**	**2.30**	**7**	*e*P	**Pg**	**00 41 32.2**	**-0.4**
UXUV				*e*S	**Sb**	**00 41 57.8**	**-0.4**
CCIG	**Comitan**	**2.55**	**60**	*e*P	**Pg**	**00 41 37.2**	**-0.2**
CCIG				*e*S	**Sb**	**00 42 05.5**	**-0.1**
CCIG	**Comitan**	**2.55**	**60**	*i* P	**Pg**	**00 41 38.1**	**+0.7**
CCIG				*i* S	**Sg**	**00 42 08.9**	**-1.7**
CCIG	**Comitan**	**2.55**	**60**	*i* P		00 41 38.1	
CCIG				*i* S		00 42 08.9	
PEIG	**Puerto Escondi**	**2.78**	**291**	*e*P	**Pb**	**00 41 37.6**	**-0.3**
PEIG				*e*S	**Sn**	**00 42 06.7**	**+0.6**
NEUV	**Arroyo Zacate**	**2.98**	**334**	*e*P	**Pb**	**00 41 40.5**	**-0.7**
NEUV				*i* S	**Sb**	**00 42 14.6**	**-3.0**
VHO	**Vista Hermosa**	**3.00**	**313**	*e*P	**Pb**	**00 41 39.2**	**-2.6**
VHO				*e*S	**Sb**	**00 42 15.5**	**-2.9**
STG8	**El Palmar, Qui**	**3.05**	**100**	*e*P		00 41 38.9	
STG8				*i* S		00 42 09.9	
STG0	**El Palmar, Qui**	**3.06**	**101**	*e*P		00 41 39.1	
STG0				*i* S		00 42 11.0	
YOIG	**Yosondua**	**3.50**	**302**	*e*P	**Pb**	**00 41 50.6**	**+0.3**
YOIG				*e*S	**Sn**	**00 42 26.4**	**+2.3**
PNIG	**Pinotepa**	**3.80**	**292**	*e*P	**Pb**	**00 41 53.4**	**-2.0**
PNIG				*e*S	**Sn**	**00 42 31.4**	**+0.2**
APG	**El Apazote**	**3.85**	**90**	*e*P	**Pb**	**00 41 55.1**	**-1.2**
APG	**El Apazote**	**3.85**	**90**	*e*P		00 41 55.1	
TXIG	**Tlaxiaco**	**3.89**	**305**	*e*P	**Pb**	**00 41 56.1**	**-0.9**
TXIG				*e*S	**Sn**	**00 42 34.3**	**+0.5**
TOIG	**Toxpalan**	**3.96**	**321**	*e*P	**Pb**	**00 42 00.6**	**+2.5**
TOIG				*e*S	**Sn**	**00 42 38.7**	**+3.5**
HLIG	**Huajuapan de L**	**4.26**	**311**	*e*P	**Pb**	**00 42 01.0**	**-2.4**
HLIG				*e*S	**Sn**	**00 42 46.7**	**+3.7**
FTIG	**Fresnillo de T**	**4.55**	**310**	*e*P	**Pb**	**00 42 05.5**	**-2.8**
FTIG				*e*S	**Sn**	**00 42 53.1**	**+3.1**
TLIG	**Tlapa**	**4.70**	**303**	*e*S	**Sn**	**00 42 55.6**	**+2.1**
JAUV	**Jalcomulco**	**4.87**	**333**	*e*P	**Pb**	**00 42 10.2**	**-3.5**
JAUV				*i* S	**Sn**	**00 42 57.6**	**-0.2**

NEIC ***15*** *00:46:35.9±1.5, 16°.9S±0°.2×179°.3W±0°.1, h547km±8km, mb4.1/83, Error ellipse: s-maj=25.3km s-min=15.7km az=145.0*
IDC ***15*** *00:46:37.0±0.9, 16°.88S×179°.35W, h557km±8km, mb3.1/10, mbtmp3.9/11, Error ellipse: s-maj=30.5km s-min=13.0km az=149.0*
ISC 15 00:46:36.1±0.5, 16°.9S±0°.1×179°.30W±0°.09, h550km, n111, σ0°68/112, mb4.0/53, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.66**	**252**	P	**P**	**00 47 50.1**	**+0.9**
MSVF	**Nonsavu**	**2.66**	**252**	P	**P**	**00 47 50.6**	**+1.4**
12nm,0.6s,baz=124,slow=10,SNR=14							
MSVF				S	**S**	**00 48 50.8**	**+2.1**
7.0nm,0.8s,baz=162,slow=19,SNR=6.3							
FUTU	**Fugatoga**	**2.85**	**24**	P	**P**	**00 47 49.9**	**-0.4**
NIUE	**Niue**	**9.16**	**105**	P	**P**	**00 48 45.2**	**-0.3**
PINNC	**Pines Island,**	**13.70**	**244**	P	**P**	**00 49 30.9**	**-1.2**
COEN	**Coen**	**36.26**	**269**	P	**P**	**00 52 53.8**	**+0.2**
STKA	**Stephens Creek**	**38.37**	**240**	P	**P**	**00 53 11.4**	**+0.8**
2.3nm,0.7s,baz=90,slow=9.2,SNR=4.0							
2.3nm,0.7s							
BBOO	**Buckleboo**	**43.15**	**240**	P	**P**	**00 53 48.6**	**0.0**
WB2	**Warramunga Arr**	**43.97**	**259**	P	**P**	**00 53 54.6**	**-0.6**
WB2				IAmb	IAmb	00 53 55.6	
comp=Z,9.9nm,1.4s							
WRA	**Warramunga Arr**	**43.98**	**259**	P	**P**	**00 53 54.6**	**-0.7**
WRA	**Warramunga Arr**	**43.98**	**259**	P	**P**	**00 53 54.8**	**-0.5**
comp=Z,0.8nm,0.3s,baz=94,slow=8.1,SNR=20							
WRA				PcP	**PcP**	**00 55 29.4**	**+0.5**
comp=Z,0.2nm,0.6s,baz=88,slow=3.2,SNR=2.7							
comp=Z,0.8nm,0.3s							
AS31	**Alice Springs**	**44.25**	**253**	P	**P**	**00 53 56.9**	**-0.4**
AS31				IAmb	IAmb	00 53 57.9	
comp=Z,2.6nm,0.6s							
ASAR	**Alice Springs**	**44.25**	**253**	P	**P**	**00 53 57.1**	**-0.3**
ASAR	**Alice Springs**	**44.25**	**253**	P	**P**	**00 53 57.4**	**+0.1**
comp=Z,5.1nm,0.5s,baz=86,slow=8.4,SNR=79							
ASAR				PcP	**PcP**	**00 55 30.0**	**+0.2**
comp=Z,0.6nm,0.6s,baz=96,slow=4.2,SNR=6.0							
ASAR				S	**S**	**00 59 49.6**	**-1.9**
comp=Z,0.8nm,1.1s,baz=87,slow=14,SNR=4.2							
comp=Z,5.1nm,0.5s							
FORT	**Forrest**	**49.67**	**244**	P	**P**	**00 54 37.6**	**-0.3**
KNRA	**Kununurra**	**49.75**	**264**	P	**P**	**00 54 39.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.36**	**260**	P	**P**	**00 54 57.7**	**+0.1**
MORW	**Morawa**	**60.10**	**246**	P	**P**	**00 55 50.2**	**-0.6**
MORW				IAmb	IAmb	00 56 06.0	
comp=Z,15nm,1.5s							
ATKA	**Atka Island**	**68.99**	**3**	P	**P**	**00 56 45.9**	**-0.4**
QSPA	**South Pole Qui**	**73.11**	**180**	P	**P**	**00 57 10.8**	**+0.2**
comp=Z,1.2nm,0.8s,baz=13,slow=14,SNR=6.2							
comp=Z,1.2nm,0.8s							
ACHA	**Angle Creek He**	**77.44**	**13**	P	**P**	**00 57 33.9**	**-0.8**
ACHA				IAmb	IAmb	00 57 33.9	
comp=Z,6.7nm,1.4s							
O16K	**Kokwok River B**	**78.19**	**11**	P	**P**	**00 57 37.3**	**-1.2**
O16K				IAmb	IAmb	00 57 38.5	
comp=Z,7.1nm,1.1s							
YBH	**Yreka Blue Hor**	**78.31**	**40**	P	**P**	**00 57 40.3**	**+0.6**
N15K	**Kwethluk River**	**78.39**	**10**	P	**P**	**00 57 39.6**	**0.0**
P18K	**Big Mountain,**	**78.55**	**12**	P	**P**	**00 57 40.1**	**-0.5**
P18K				IAmb	IAmb	00 57 46.6	
comp=Z,5.8nm,1.1s							
O18K	**Koktuh Hills**	**78.98**	**12**	P	**P**	**00 57 42.6**	**-0.1**
O18K				IAmb	IAmb	00 58 19.6	
comp=Z,15nm,1.4s							
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**00 57 44.0**	**-1.3**
comp=Z,0.6nm,0.6s,baz=228,slow=7.8,SNR=5.8							
comp=Z,0.6nm,0.6s							
M16K	**Timber Creek**	**79.39**	**10**	P	**P**	**00 57 43.6**	**-1.2**
M16K				IAmb	IAmb	00 57 45.9	
comp=Z,14nm,1.3s							
N18K	**Kilae Creek**	**79.61**	**11**	P	**P**	**00 57 45.0**	**-1.1**
N18K				IAmb	IAmb	00 58 18.4	
comp=Z,13nm,1.4s							
L16K	**Owhat River**	**79.95**	**9**	P	**P**	**00 57 47.8**	**0.0**
L16K				IAmb	IAmb	00 58 09.1	
comp=Z,10nm,1.5s							
M17K	**Holitna River**	**80.00**	**10**	P	**P**	**00 57 48.7**	**+0.6**
M17K				IAmb	IAmb	00 58 09.2	
comp=Z,17nm,1.5s							
N19K	**Bonanza Creek**	**80.01**	**12**	P	**P**	**00 57 47.6**	**-0.7**
N19K				IAmb	IAmb	00 57 55.3	
comp=Z,10.0nm,1.4s							
J05D	**Fort Rock, OR**	**80.10**	**39**	P	**P**	**00 57 49.8**	**+0.5**
K15K	**Wolf Creek Mou**	**80.20**	**8**	P	**P**	**00 57 49.8**	**+0.7**
H04A	**Detroit Lake**	**80.33**	**37**	P	**P**	**00 57 50.2**	**0.0**
H04A				IAmb	IAmb	00 58 29.9	
comp=Z,7.8nm,1.5s							
PINE	**Pine Mountain**	**80.56**	**39**	P	**P**	**00 57 51.5**	**-0.1**
L18K	**Granite Mounta**	**80.89**	**11**	P	**P**	**00 57 53.6**	**+0.9**
L18K				IAmb	IAmb	00 58 11.7	
comp=Z,6.2nm,1.3s							
M19K	**Big River Lodg**	**81.02**	**12**	P	**P**	**00 57 52.9**	**-0.6**
M19K				IAmb	IAmb	00 58 26.9	
comp=Z,8.7nm,1.5s							
STLK	**Strandline Lak**	**81.18**	**13**	P	**P**	**00 57 53.2**	**-1.1**
L19K	**White Mountain**	**81.19**	**11**	P	**P**	**00 57 53.9**	**-0.4**
L19K				IAmb	IAmb	00 58 37.8	
comp=Z,7.2nm,1.3s							
J16K	**Anvik River**	**81.28**	**8**	P	**P**	**00 57 55.5**	**+0.8**
SUA	**Susitna One**	**81.38**	**13**	P	**P**	**00 57 55.0**	**-0.4**
I07A	**Izee**	**81.58**	**39**	P	**P**	**00 57 57.6**	**+0.8**
J17K	**VABM Dome**	**81.61**	**9**	P	**P**	**00 57 57.0**	**+0.6**
J17K				IAmb	IAmb	00 58 18.2	
comp=Z,7.4nm,1.2s							
J18K	**Innoko River**	**82.05**	**10**	P	**P**	**00 57 59.1**	**+0.5**
GHO	**Glory Hole Cre**	**82.07**	**14**	P	**P**	**00 57 58.5**	**-0.3**
PSUT	**Pine Spring**	**82.39**	**46**	P	**P**	**00 58 01.4**	**+0.2**
K20K	**Telida**	**82.42**	**11**	P	**P**	**00 58 00.7**	**+0.2**
K20K				IAmb	IAmb	00 58 00.9	
comp=Z,3.3nm,0.7s							
BMRM	**Bremner River**	**82.46**	**16**	P	**P**	**00 58 00.2**	**-0.6**
SCM	**Sheep Creek Mo**	**82.50**	**15**	P	**P**	**00 58 00.9**	**-0.1**
U15A	**North Rim**	**82.51**	**48**	P	**P**	**00 58 02.9**	**+1.0**
G08A	**Pilot Rock**	**82.57**	**38**	P	**P**	**00 58 02.5**	**+0.7**
J19K	**Poorman**	**82.72**	**10**	P	**P**	**00 58 02.5**	**+0.5**
J19K				IAmb	IAmb	00 58 32.4	
comp=Z,6.6nm,1.4s							
CAST	**Castle Rocks**	**82.85**	**12**	P	**P**	**00 58 01.4**	**-1.3**
CAST				IAmb	IAmb	00 58 02.4	
comp=Z,3.6nm,0.8s							
N25K	**Chitina, Valde**	**83.00**	**16**	P	**P**	**00 58 03.5**	**0.0**
GLB	**Gilahina Butte**	**83.07**	**16**	P	**P**	**00 58 03.5**	**-0.3**
G16K	**Koyuk River**	**83.08**	**7**	P	**P**	**00 58 04.5**	**+0.8**
G16K				IAmb	IAmb	00 58 30.2	
comp=Z,11nm,1.5s							
F15K	**North Star Dit**	**83.13**	**6**	P	**P**	**00 58 04.5**	**+0.4**
F15K				IAmb	IAmb	00 58 45.3	
comp=Z,8.2nm,1.4s							
J20K	**Nowinta River**	**83.15**	**11**	P	**P**	**00 58 04.2**	**+0.1**
J20K				IAmb	IAmb	00 58 11.6	
comp=Z,11nm,1.5s							
KTH	**Kantishna Hill**	**83.21**	**12**	P	**P**	**00 58 03.4**	**-1.2**
BELA	**Belgrano 2**	**83.23**	**173**	P	**P**	**00 58 04.0**	**-0.5**
MTPU	**Mount Pierson**	**83.32**	**47**	P	**P**	**00 58 06.8**	**+0.7**
RND	**Reindeer**	**83.52**	**13**	P	**P**	**00 58 06.0**	**-0.1**
RND				IAmb	IAmb	00 58 06.2	
comp=Z,4.2nm,0.9s							
G19K	**Purcell Mounta**	**84.49**	**9**		pwP	01 00 13.1	+1.3
WRH	**Wood River Hil**	**84.61**	**13**	P	**P**	**00 58 10.5**	**-0.8**
WRH				IAmb	IAmb	00 58 24.0	
comp=Z,6.6nm,1.4s							
H21K	**Melozitna River**	**84.74**	**11**	P	**P**	**00 58 12.7**	**+0.7**
H21K				IAmb	IAmb	00 58 45.6	
comp=Z,6.5nm,1.5s							
Q32M	**Nakina River**	**84.81**	**22**	P	**P**	**00 58 12.9**	**+0.2**
CCB	**Clear Creek Bu**	**84.83**	**13**	P	**P**	**00 58 11.8**	**-0.6**
CCB				IAmb	IAmb	00 58 50.1	
comp=Z,7.5nm,1.5s							
DOT	**Dot Lake**	**84.84**	**15**	P	**P**	**00 58 12.2**	**-0.3**
F19K	**Shaleruckik Mo**	**85.04**	**8**	P	**P**	**00 58 14.3**	**+1.0**
F19K				IAmb	IAmb	00 58 45.7	
comp=Z,3.7nm,1.3s							
IL31		**85.14**	**13**	P	**P**	**00 58 12.9**	**-1.0**
ILAR	**Eielson Array**	**85.14**	**13**	P	**P**	**00 58 13.1**	**-0.8**
comp=Z,0.3nm,0.4s,baz=225,slow=5.0,SNR=16							
comp=Z,0.3nm,0.4s							
SCRK	**Sand Creek**	**85.14**	**15**	P	**P**	**00 58 14.0**	**-0.1**
DLBC	**Dease Lake**	**85.28**	**24**	P	**P**	**00 58 15.4**	**+0.6**
J25K	**Salcha River,**	**85.34**	**14**	P	**P**	**00 58 15.1**	**+0.2**
J25K				IAmb	IAmb	00 58 23.1	
comp=Z,7.8nm,1.4s							
G21K	**Allakaket**	**85.40**	**10**	P	**P**	**00 58 13.3**	**-1.8**
G21K				IAmb	IAmb	00 58 47.0	
comp=Z,3.7nm,1.3s							
J26L	**Joseph Creek**	**85.68**	**15**	P	**P**	**00 58 16.8**	**+0.1**
J26L				IAmb	IAmb	00 58 17.6	
comp=Z,3.0nm,1.1s							
E19K	**Redstone River**	**85.70**	**8**	P	**P**	**00 58 16.1**	**-0.5**
E19K				IAmb	IAmb	00 58 18.6	
comp=Z,4.6nm,1.4s							
M30M	**Minto, Yukon**	**85.98**	**18**	P	**P**	**00 58 17.9**	**-0.2**
M30M				IAmb	IAmb	00 58 34.5	
comp=Z,3.2nm,1.1s							
L29M	**L29M**	**86.00**	**17**	P	**P**	**00 58 18.9**	**+0.8**
L29M				IAmb	IAmb	00 58 57.8	
comp=Z,7.3nm,1.4s							
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**00 58 20.8**	**+0.9**
comp=Z,0.4nm,0.9s,baz=245,slow=4.9,SNR=2.1							
comp=Z,0.4nm,0.9s							
I26K	**Coal Creek Min**	**86.44**	**14**	P	**P**	**00 58 20.0**	**-0.1**
I26K				IAmb	IAmb	00 58 39.5	
comp=Z,5.8nm,1.4s							
D19K	**Kuna River**	**86.56**	**8**	P	**P**	**00 58 21.0**	**+0.3**
D19K				IAmb	IAmb	00 58 21.3	
comp=Z,6.2nm,1.3s							
OVMT	**Ovando**	**87.03**	**39**	P	**P**	**00 58 23.3**	**-0.2**
E21K	**Killik River**	**87.09**	**9**	P	**P**	**00 58 22.5**	**-0.6**
E22K	**Anaktuvuk Pass**	**87.15**	**10**	P	**P**	**00 58 23.2**	**-0.3**
E22K				IAmb	IAmb	00 58 45.8	
comp=Z,4.1nm,1.3s							
PDAR	**Pinedale Array**	**87.23**	**44**	P	**P**	**00 58 24.9**	**+0.2**
comp=Z,0.7nm,0.6s,baz=210,slow=3.3,SNR=12							
comp=Z,0.7nm,0.6s							
F24K	**Squaw Lake**	**87.31**	**12**	P	**P**	**00 58 24.3**	**+0.1**
I28M	**Miner Creek**	**87.35**	**15**	P	**P**	**00 58 23.9**	**-0.6**
I28M				IAmb	IAmb	00 58 38.8	
comp=Z,3.3nm,1.2s							
E24K	**Your Creek**	**87.68**	**11**	P	**P**	**00 58 25.1**	**-0.9**
D22K	**Ayikyak River**	**87.69**	**9**	P	**P**	**00 58 26.0**	**+0.1**
MMPY	**Sheldon Lake,**	**87.75**	**20**	P	**P**	**00 58 26.8**	**+0.4**
MMPY				IAmb	IAmb	00 58 39.7	
comp=Z,5.8nm,1.4s							
BMAR	**Burnt Mountain**	**87.90**	**13**	P	**P**	**00 58 27.1**	**+0.1**
TOLK	**Toolik Lake Re**	**87.98**	**10**	P	**P**	**00 58 27.3**	**0.0**
TOLK				IAmb	IAmb	00 58 44.9	
comp=Z,2.1nm,0.9s							
D23K	**Nanushuk River**	**88.08**	**10**	P	**P**	**00 58 27.9**	**+0.2**
D23K				IAmb	IAmb	00 58 28.9	
comp=Z,3.1nm,1.1s							
C23K	**Itkillik River**	**88.87**	**10**	P	**P**	**00 58 31.6**	**+0.3**
C23K				IAmb	IAmb	00 58 51.5	
comp=Z,4.4nm,1.4s							
C24K	**Franklin Bluff**	**89.09**	**10**	P	**P**	**00 58 32.2**	**-0.2**
G30M	**tAoh Zraii Nji**	**89.50**	**16**	P	**P**	**00 58 34.0**	**-0.3**
E28M	**Babbage River**	**89.96**	**14**	P	**P**	**00 58 36.5**	**0.0**
E28M				IAmb	IAmb	00 58 46.5	
comp=Z,4.0nm,1.4s							
SONM	**Songino Array**	**92.26**	**320**	P	**P**	**00 58 48.5**	**+0.7**
comp=Z,0.2nm,0.4s,baz=120,slow=5.2,SNR=2.1							
comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**93.81**	**25**	P	**P**	**00 58 53.7**	**-0.6**
comp=Z,0.3nm,0.5s,baz=241,slow=4.7,SNR=6.4							
comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**107.85**	**314**	PKiKP	**PKiKP**	**01 04 00.3**	**-1.0**
comp=Z,0.4nm,0.7s,baz=92,slow=4.8,SNR=5.0							
BVAR	**Borovoye Array**	**115.56**	**321**	PKP	**PKPdf**	**01 04 15.3**	**-0.4**
comp=Z,0.4nm,0.4s,baz=67,slow=3.1,SNR=2.8							
ARCES	**ARCESS Array B**	**125.21**	**350**	PKP	**PKPdf**	**01 04 33.6**	**-0.2**
comp=Z,1.4nm,0.8s,baz=40,slow=1.0,SNR=10.0							
FINES	**FINESS Array B**	**132.02**	**344**	PKP	**PKPdf**	**01 04 47.2**	**+0.3**
comp=Z,3.5nm,1.1s,baz=43,slow=3.6,SNR=4.9							
NOA	**NORSAR Array B**	**135.31**	**353**	PKP	**PKPdf**	**01 04 54.1**	**+0.9**
comp=Z,0.5nm,0.8s,baz=17,slow=2.5,SNR=1.9							
BUR08	**Bucovina Ar. S**	**143.35**	**332**		**PKPdf**	**01 05 07.8**	**-0.4**
BR131	**Keskin Array S**	**143.50**	**315**		PKPbc	01 05 08.1	+0.6
BRTR	**Keskin Array B**	**143.50**	**315**	PKP	PKPbc	01 05 08.1	+0.5
comp=Z,1.1nm,0.5s,baz=89,slow=1.9,SNR=13							
MMAI	**Mount Meron Ar**	**144.90**	**304**	PKP	**PKPab**	**01 05 13.0**	**+0.2**
comp=Z,2.1nm,0.4s,baz=67,slow=6.4,SNR=17							
GERES	**GERESS Array B**	**146.45**	**344**	PKPbc	**PKPbc**	**01 05 16.3**	**+0.4**
comp=Z,0.5nm,0.4s,baz=35,slow=4.9,SNR=3.6							

CATAC ***15*** *01:04:28.6±0.5, 12°.N±3°.×8°.8W±°, h25km±4km, M3.3/20, MLv3.3/20, Error ellipse: s-maj=5.9km s-min=2.4km az=26.3, confirmed*
SNET ***15*** *01:04:29.5±1.1, 12°.16N×87°.82W, h25km, ML3.2*
ISC 15 01:04:28.5±1.5, 12°.10N±0°.06×87°.81W±0°.03, h21km±4km, n93, σ0°75/110, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.90**	**16**	P	**Pb**	**01 04 45.2**	**-0.4**
CSGN				S	**Sn**	**01 04 59.3**	**+0.8**
CSGN	**Cosi

CHOHN	Orocuina	1.51	25	P	Pn	01 04 54.2	-0.3
R4DEC	Barrio San Lui	1.53	88	S	Sn	01 05 14.0	+0.2
MGAN	Managua	1.53	88	S	Sn	01 05 13.9	0.0
MAS3	Al N del Volca	1.60	93	P	Pn	01 04 55.3	-0.3
MAS3				S	Sn	01 05 15.5	-0.1
NANN	Nandasmo	1.66	95	P	Pn	01 04 57.6	+1.2
NANN	Nandasmo	1.66	95	S	Sn	01 05 17.3	+0.2
LIMN	Finca el Limon	1.70	56	P	Pn	01 04 56.7	-0.4
LIMN	Finca el Limon	1.70	56	P	Pn	01 04 56.7	-0.4
LIMN	Finca el Limon	1.70	56	P	Pn	01 04 56.8	-0.4
UESV	Universidad de	1.80	328	S	Sn	01 05 20.7	0.0
UESV	Universidad de	1.80	328	P	Pn	01 04 58.2	-0.2
SCLA	Alcaldia de Sa	1.82	331	eP	Pn	01 04 59.3	+0.5
SCLA				eS	Sn	01 05 22.1	+0.7
SCLA	Alcaldia de Sa	1.82	331	P	Pn	01 04 59.1	+0.3
SCLA	Alcaldia de Sa	1.82	331	P	Pn	01 04 58.9	+0.1
SCLA	Alcaldia de Sa	1.82	331	S	Sn	01 05 20.8	-0.5
SCLA	Alcaldia de Sa	1.82	331	P	Pn	01 04 59.0	+0.3
COEG	Centro de Oper	1.83	325	eS	Sn	01 05 21.9	+0.3
COEG				eS	Sb	01 05 22.3	-1.7
COEG	Centro de Oper	1.83	325	S	Sn	01 05 21.1	-0.5
TGUH	Tegucigalpa,Un	2.01	15	P	Pn	01 05 01.4	0.0
TGUH				S	Sn	01 05 26.5	+0.5
YUSH	Yuscaran	2.07	27	P	Pn	01 05 02.2	+0.1
RCON	San Juan de Ri	2.12	49	P	Pn	01 05 03.3	+0.5
RCON	San Juan de Ri	2.12	49	S	Sb	01 05 31.0	-1.3
RCON	San Juan de Ri	2.12	49	P	Pn	01 05 03.4	+0.5
BOAB	BOACO BROADBAN	2.12	80	P	Pn	01 05 02.8	0.0
BOAB	BOACO BROADBAN	2.12	80	S	Sn	01 05 29.8	+1.3
BOAB	BOACO BROADBAN	2.12	80	P	Pn	01 05 03.0	+0.1
RCVN	Varillal2	2.16	47	P	Pn	01 05 04.1	+0.7
RCVN	Varillal2	2.16	47	S	Sb	01 05 31.8	-1.5
RCVN	Varillal2	2.16	47	P	Pn	01 05 03.9	+0.5
RCPN	Sur Rio San Ju	2.19	50	P	Pn	01 05 04.0	+0.1
JAYA	Jayaque - finc	2.22	314	eP	Pn	01 05 04.5	+0.2
JAYA	Jayaque - finc	2.22	314	P	Pn	01 05 04.2	-0.1
CEVE	Cerro Verde	2.46	314	IAML		01 05 46.2	
	comp=Z,83nm,0.3s						
NUBE	Las Nubes	2.62	313	eP	Pn	01 05 10.0	+0.1
NUBE				eS	Sn	01 05 41.1	-0.2
NUBE	Las Nubes	2.62	313	P	Pn	01 05 10.1	+0.2
NUBE	Las Nubes	2.62	313	S	Sn	01 05 40.6	-0.6
NUBE	Las Nubes	2.62	313	P	Pn	01 05 10.3	+0.4
MTO3	Montecristo	2.74	327	eP	Pn	01 05 11.9	+0.4
MTO3	Montecristo	2.74	327	P	Pn	01 05 11.6	+0.1

NEIC 15 01:13:24.3±0.3, 36°.291N±0°.007×98°.19W±0°.02, h5km±1km, mb_Lg2.5/52, ML2.8/54, Error ellipse: s-maj=2.6km s-min=2.5km az=266.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.27	38		Pg	01 13 30.2	+0.6
CROK				Sg	Sg	01 13 34.4	+1.1
CROK				IAML		01 13 34.6	
	comp=N,2μm,0.3s						
OK038	West end E0370	0.48	293		Pg	01 13 33.9	+0.3
OK038				IAML		01 13 46.0	
	comp=N,842nm,0.4s						
OK038				IAML		01 13 48.2	
	comp=N,943nm,0.3s						
OK032	Salt Plains WL	0.51	358		Pg	01 13 34.5	+0.3
OK032				IAML		01 13 47.0	
	comp=N,856nm,0.2s						
OK032				IAML		01 13 49.3	
	comp=N,616nm,0.2s						
GC02	Grant County #	0.62	25		Pg	01 13 36.4	+0.2
GC02				Sg	Sg	01 13 44.9	+0.6
KAN14	Manchester OK	0.69	15		Pg	01 13 37.7	+0.1
KAN14				Sg	Sg	01 13 47.1	+0.6
KAN14				IAML		01 13 47.3	
	comp=N,475nm,0.1s						
NOKA	Waynoka	0.69	300		Pg	01 13 37.6	0.0
NOKA				IAML		01 13 54.0	
	comp=E,374nm,0.2s						
NOKA				IAML		01 13 56.0	
	comp=N,461nm,0.3s						
CSTR	Hydro, Custer	0.76	212		Pg	01 13 39.2	+0.3
OK029	Liberty Lake	0.77	129		Pg	01 13 39.4	+0.2
OK029				IAML		01 13 50.3	
	comp=N,297nm,0.4s						
OK029				IAML		01 13 52.8	
	comp=N,278nm,0.5s						
KAN17	Caldwell West	0.82	24		Pg	01 13 40.1	-0.1
KAN17				IAML		01 13 51.6	
	comp=E,414nm,0.3s						
KAN17				IAML		01 13 53.5	
	comp=N,414nm,0.2s						
BLOK	Blackwell	0.91	59		Pg	01 13 41.8	-0.1
KAN01	Argonia South	0.93	22	IAmb_Lg		01 13 54.5	
	comp=Z,42nm,1.0s						
KAN01				IAML		01 13 56.0	
	comp=E,200nm,0.2s						
OK048	Pawnee Station	1.01	83		Pg	01 13 43.6	-0.2
OK048				IAML		01 14 02.4	
	comp=E,242nm,0.3s						
OK051	E0350 and S346	1.11	79		Pg	01 13 45.4	-0.3
OK031	S. Brethren Rd	1.14	107	IAML		01 14 02.3	
	comp=E,284nm,0.4s						
OK031				IAmb_Lg		01 14 03.3	
	comp=Z,31nm,0.7s						
OK052	Battle Ridge R	1.16	104		Pg	01 13 46.1	-0.5
OK052				IAML		01 14 02.6	
	comp=Z,208nm,0.3s						
OK052				IAML		01 14 04.1	
	comp=Z,224nm,0.2s						
QUOK	Quay	1.20	95		Pg	01 13 46.9	-0.6
QUOK				IAML		01 14 04.6	
	comp=E,188nm,0.2s						
QUOK				IAML		01 14 04.8	
	comp=N,236nm,0.3s						
FNO	Franklin	1.22	148		Pg	01 13 47.1	-0.5
DEOK	Depew	1.44	108		Pn	01 13 50.6	-0.5
T35A	Sooner Cattle	1.49	65		Pn	01 13 51.8	+0.1
W35A	Tecumseh	1.56	136		Pn	01 13 52.5	-0.3
WMOK	Wichita Mounta	1.62	197		Pn	01 13 53.3	-0.3
X34A	Smith Ranch, M	1.71	170		Pb	01 13 56.0	-0.3
X34A				IAmb_Lg		01 14 20.2	
	comp=Z,24nm,0.8s						
SMWD	Samnorwood	2.05	235		Pn	01 14 00.6	+1.1
LOOK	Love County	2.44	160	IAmb_Lg		01 14 45.6	
	comp=Z,26nm,1.0s						
CBKS	Cedar Bluff	2.80	334	IAmb_Lg		01 14 55.0	
	comp=Z,21nm,0.9s						
KSU1	Kansas State U	3.07	24	IAmb_Lg		01 15 10.4	
	comp=Z,13nm,0.8s						
DKNS	Dickens	3.45	221	IAmb_Lg		01 15 16.9	
	comp=Z,9.4nm,0.8s						
FW07	Weatherford	3.60	175	IAmb_Lg		01 15 25.7	
	comp=Z,11nm,0.8s						
RTBA	Rita Blanca	3.67	274	IAmb_Lg		01 15 28.4	
	comp=Z,8.9nm,1.0s						
SN07	Snyder 07	3.89	216	IAmb_Lg		01 15 32.9	
	comp=Z,11nm,0.7s						
Z38A	Mt. Pleasant	4.01	138	IAmb_Lg		01 15 37.5	
	comp=Z,13nm,0.8s						
SN05	Snyder 5	4.07	214	IAmb_Lg		01 15 36.1	
	comp=Z,8.3nm,0.9s						
POST	Post	4.22	221	IAmb_Lg		01 15 40.3	
	comp=Z,7.9nm,0.8s						
X40A	Basin Creek Fa	4.73	111	IAmb_Lg		01 15 59.1	
	comp=Z,10nm,0.7s						
MGMO	Mountain Grove	4.83	78	IAmb_Lg		01 15 57.1	
	comp=Z,9.1nm,0.9s						
FCAR	Ozark Folk Cen	4.93	93	IAmb_Lg		01 16 00.2	
	comp=Z,6.5nm,0.8s						
P38A	Dawn	4.96	46	IAmb_Lg		01 16 05.7	
	comp=Z,10nm,0.9s						
SGCY	Sterling City	5.00	210	IAmb_Lg		01 16 14.6	
	comp=Z,7.9nm,0.7s						
T25A	Trinidad	5.07	281	IAmb_Lg		01 16 11.7	
	comp=Z,9.6nm,0.8s						
LCAR	Lake Charles	5.70	90	IAmb_Lg		01 16 29.1	
	comp=Z,6.0nm,0.9s						
T42A	Van Buren	5.75	81	IAmb_Lg		01 16 42.1	
	comp=Z,5.7nm,0.7s						
CCM	Cathedral Cave	5.82	70	IAmb_Lg		01 16 33.6	
	comp=Z,10nm,0.9s						
P40A	Paris	5.83	54	IAmb_Lg		01 16 35.8	
	comp=Z,8.7nm,0.7s						
JCT	Junction City	5.95	194	IAmb_Lg		01 16 45.5	
	comp=Z,8.1nm,0.7s						

IDC 15 01:15:20.5±1.1, 62°.22S×158°.34W, h0km, mb3.9/4, mbtmp3.9/5, ML3.6/1, MS3.8/21, Error ellipse: s-maj=54.0km s-min=27.1km az=10.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	19.85	204	P	P	01 19 52.7	+0.2
	0.2nm,0.3s,baz=84,slow=11,SNR=2.5						
VNDA				LR	LR	01 25 37.0	
	comp=Z,156nm,18.1s,baz=62,slow=31						
	4.6nm,1.0s						
QSPA	South Pole Qui	27.89	180	LR	LR	01 30 12.1	
	comp=Z,111nm,19.5s,baz=32,slow=32						
URZ	Urewera	28.33	316	LR	LR	01 29 41.6	
	comp=Z,135nm,21.1s,baz=278,slow=30						
PMSA	Palmer Station	38.44	137	LR	LR	01 35 50.5	
	comp=Z,114nm,18.3s,baz=161,slow=32						
TBI	Tubuai	39.32	13	eLR	LR	01 33 40.4	
	1μm,32.8s						
TBI				eLR	LR	01 33 45.1	
	756nm,27.5s						
RAR	Rarotonga	40.99	358	LR	LR	01 36 58.3	
	comp=Z,109nm,18.9s,baz=88,slow=32						
PPT2	Papeete2	45.01	12	eLR	LR	01 36 11.9	
	173nm,26.8s						
PPT2				eLR	LR	01 36 17.6	
	222nm,26.5s						
PPT	Papeete	45.03	12	LR	LR	01 37 11.8	
	comp=Z,87nm,20.5s,baz=188,slow=29						
SNAA	Sanae	45.31	169	LR	LR	01 39 48.3	
	comp=Z,125nm,21.9s,baz=192,slow=32						
DZM	Mont Dzumac	46.76	313	eLR	LR	01 37 05.0	
	111nm,22.1s						
MAW	Mawson	47.08	200	LR	LR	01 40 58.3	
	comp=Z,172nm,19.5s,baz=106,slow=33						
STKA	Stephens Creek	48.46	280	LR	LR	01 42 25.6	
	comp=Z,74nm,18.5s,baz=183,slow=34						
PLCA	Paso Flores	53.98	110	LR	LR	01 43 37.5	
	comp=Z,49nm,19.0s,baz=196,slow=31						
H03S2	Juan Fernandez	55.85	99	T	T	02 25 32.3	
	baz=211,slow=74						
H03S1	Juan Fernandez	55.86	99	T	T	02 25 32.1	
	baz=211,slow=74						
H03S3	Juan Fernandez	55.87	99	T	T	02 25 30.7	
	baz=211,slow=74						
ASAR	Alice Springs	58.99	278	P	P	01 25 22.0	+0.3
	0.7nm,0.9s,baz=148,slow=7.4,SNR=6.7						
ASAR				LR	LR	01 47 30.7	
	comp=Z,72nm,19.9s,baz=153,slow=33						
	0.7nm,0.9s						
WRA	Warramunga Arr	62.00	281	P	P	01 25 42.2	-0.2
	1.1nm,1.0s,baz=157,slow=7.0,SNR=2.6						
	1.1nm,1.0s						
CPUP	Villa Florida	71.97	112	P	P	01 26 45.0	-0.7
	1.8nm,0.8s,baz=211,slow=5.9,SNR=4.0						
CPUP				LR	LR	01 53 49.4	
	comp=Z,45nm,20.4s,baz=213,slow=32						
	1.8nm,0.8s						
LPAZ	La Paz	75.84	98	P	P	01 27 10.2	+1.0
	1.0nm,0.9s,baz=180,slow=7.1,SNR=2.1						
LPAZ				LR	LR	01 54 10.1	
	comp=Z,29nm,18.9s,baz=200,slow=31						
	1.0nm,0.9s						
KAPI	Kappang	81.81	275	LR	LR	02 00 50.2	
	comp=Z,32nm,20.5s,baz=162,slow=33						
BDFB	Brasilia	85.42	115	LR	LR	02 03 01.1	
	comp=Z,72nm,19.2s,baz=177,slow=34						
SUR	Sutherland	85.73	179	LR	LR	02 02 10.9	
	comp=Z,97nm,20.2s,baz=165,slow=33						
BOSA	Boshof	89.44	183	LR	LR	02 03 14.9	
	comp=Z,66nm,21.9s,baz=198,slow=32						
JTS	Las Juntas de	91.43	71	LR	LR	01 59 42.2	
	comp=Z,38nm,20.1s,baz=114,slow=29						
LBTB	Lobatse	93.01	184	LR	LR	02 05 33.4	
	comp=Z,62nm,20.9s,baz=178,slow=32						
SDV	Santo Domingo	96.72	84	LR	LR	02 08 35.3	
	comp=Z,26nm,18.3s,baz=254,slow=33						
TSUM	Tsumeb	98.79	176	LR	LR	02 11 55.3	
	comp=Z,51nm,18.1s,baz=164,slow=34						
ZALV	Zalesovo Beam	146.89	285	PKPbc	PKPdf	01 35 01.9	+0.5
	0.6nm,0.6s,baz=147,slow=3.4,SNR=2.1						

*IDC **15** 01:42:06.2±1.4, 59°.59N×153°.02W, h77km±18km, mb3.5/9, mbtmp3.8/13, Error ellipse: s-maj=19.3km s-min=10.0km az=111.0*

*ANF **15** 01:42:08.1±0.1, 59°.52N×152°.91W, h92km±2km, ML4.0/58, Error ellipse: s-maj=1.3km s-min=1.0km az=167.0*

*NEIC **15** 01:42:08.1±0.9, 59°.51N±0°.04×152°.92W±0°.07, h95km±4km, Error ellipse: s-maj=5.9km s-min=4.7km az=148.0*

*AEIC **15** 01:42:09.3±1.2, 59°.51N±0°.04×152°.89W±0°.06, h89km±4km, ML3.6, ML3.8/152(NEIC), Error ellipse: s-maj=5.7km s-min=4.5km az=157.0*

ISC 15 01:42:07.8±0.6, 59°.51N±0°.03×152°.87W±0°.03, h99km±5km, n450, σ0°78/477, mb3.8/9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.23	307		Pn	01 42 21.9	-0.2
P19K	Oil Pt	0.23	307		Pn	01 42 21.9	-0.2
P19K				Sn	Sn	01 42 32.2	-0.6
P19K				IAML		01 42 32.9	
	comp=N,7μm,0.6s						
P19K	Oil Pt	0.23	307	P	Pn	01 42 21.9	-0.2
	baz=119,SNR=60						
P19K				S	Sn	01 42 32.1	-0.6
	baz=119						
AU22	Augustine Moun	0.29	240		Pn	01 42 22.1	-0.2
AU22					Sn	01 42 32.8	-0.2
AUCH	Augustine Cone	0.33	243		Pn	01 42 22.4	-0.2
AUCH					Sn	01 42 33.8	+0.1
ILS	Iliamna Low So	0.46	347		Pn	01 42 22.9	-0.5
ILSW	Iliamna Southw	0.49	344		Pn	01 42 23.1	-0.5
ILSW				Sn	Sn	01 42 34.2	-1.2
ILSW				IAML		01 42 36.3	
	comp=E,2μm,0.5s						
ILSW				IAML		01 42 36.3	
	comp=N,3μm,0.7s						
O20K	Slope Mountain	0.58	12		Sn	01 42 35.9	-0.6
O20K	Slope Mountain	0.58	12	P	Pn	01 42 24.4	+0.1
	baz=196,SNR=43						
O20K				S	Sn	01 42 36.4	-0.2
	baz=196						
HOM	Homer	0.64	76		Pn	01 42 25.0	+0.4
HOM				Sn	Sn	01 42 38.0	+0.8
HOM				IAML		01 42 40.4	
	comp=N,3μm,0.8s						
HOM				IAML		01 42 44.9	
	comp=E,3μm,0.7s						
HOM	Homer	0.64	76	P	Pn	01 42 25.1	+0.4
	baz=262,SNR=28						
HOM				S	Sn	01 42 38.1	+0.8
	baz=262						
Q19K	Cape Douglas,	0.71	215		Pn	01 42 25.0	-0.3
Q19K				Sn	Sn	01 42 37.5	-0.9
Q19K				IAML		01 42 40.2	
	comp=E,3μm,0.8s						
Q19K				IAML		01 42 47.4	
	comp=N,4μm,0.8s						
Q19K	Cape Douglas,	0.71	215	P	Pn	01 42 25.1	-0.3
	baz=30,SNR=151						
Q19K				S	Sn	01 42 37.8	-0.6
	baz=30						
CNPM	China Poot	0.83	89		Pn	01 42 26.6	+0.2
CNPM				Sn	Sn	01 42 40.4	0.0
CNPM				IAML		01 42 42.3	
	comp=N,2μm,0.6s						
CNPM				IAML		01 42 43.9	
	comp=E,1μm,0.4s						
RED	Redoubt Volcan	0.91	3		Sn	01 42 41.4	-0.6
Q20K	Shuyak Island	0.94	165	P	Pn	01 42 27.8	+0.3
	baz=344,SNR=36						
Q20K				S	Sn	01 42 42.4	+0.1
	baz=344						
SYI	Shuyak Island	0.94	165		Pn	01 42 27.9	+0.3
SYI	Shuyak Island	0.94	165		Sn	01 42 42.3	0.0
RDWB	Redoubt West	0.98	1		Sn	01 42 42.5	-0.8
O19K	Port Alsworth	1.00	314		Pn	01 42 27.8	-0.3
O19K				IAML		01 42 43.6	
	comp=N,2μm,0.6s						
O19K				IAML		01 42 47.3	
	comp=E,3μm,0.5s						
O19K	Port Alsworth	1.00	314	P	Pn	01 42 27.9	-0.2
	baz=131,SNR=123						
O19K				S	Sn	01 42 42.3	-1.2
	baz=131						
BRLK	Bradley Lake	1.04	75	Pn	Pn	01 42 28.5	-0.1
BRLK				IAML		01 42 44.2	
	comp=N,2μm,0.3s						
BRLK				IAML		01 42 46.4	
	comp=E,1μm,0.4s						
RDT	Redoubt	1.09	12		Sn	01 42 44.8	-0.6
BRSE	Bradley Lake S	1.10	77	P	Pn	01 42 29.3	-0.1
	baz=262,SNR=20						
BRSE				S	Sn	01 42 45.1	-0.5
	baz=262						
P18K	Big Mountain,	1.21	265		Pn	01 42 29.9	-0.7
P18K				IAML		01 42 46.9	
	comp=N,688nm,1.1s						
P18K	Big Mountain,	1.21	265	P	Pn	01 42 29.9	-0.7
	baz=81,SNR=30						
P18K				S	Sn	01 42 46.5	-1.4
	baz=81						
O18K	Koktuh Hills	1.23	287		Pn	01 42 30.4	-0.5
O18K				IAML		01 42 47.9	
	comp=E,912nm,1.0s						
O18K				IAML		01 42 48.1	
	comp=N,2μm,0.8s						
O18K	Koktuh Hills	1.23	287	P	Pn	01 42 30.5	-0.4
	baz=103,SNR=157						
O18K				S	Sn	01 42 47.4	-0.9
	baz=103						
KAHG	Katmai Hook Gl	1.34	221		Sn	01 42 50.1	-0.5
KAHC	Katmai Hardscr	1.41	233		Pn	01 42 32.9	-0.1
KAHC					Sn	01 42 51.0	-1.1
KAHC	Katmai Hardscr	1.41	233		Pn	01 42 32.9	-0.1
Q18K	Katmai Hardscr	1.41	233	P	Pn	01 42 32.9	-0.1
	baz=49,SNR=155						
Q18K				S	Sn	01 42 51.0	-1.1
	baz=49						
CAPN	Captain Cook N	1.52	34	Pn	Pn	01 42 36.2	+1.9
CAPN	Captain Cook N	1.52	34	P	Pn	01 42 36.0	+1.8
	baz=217						
N19K	Bonanza Creek	1.53	329		Pn	01 42 34.4	-0.2
N19K	Bonanza Creek	1.53	329	P	Pn	01 42 34.4	-0.2
	baz=147,SNR=89						
N19K				S	Sn	01 42 53.6	-1.2
	baz=147						
SLKM	Skilak Lake	1.66	52		Pn	01 42 36.2	+0.1
SLKM				IAML		01 42 57.9	
	comp=N,2μm,0.5s						
SLKM				IAML		01 42 59.2	
	comp=E,1μm,0.3s						
KVTA	Katmai Vly 10	1.69	229		Pn	01 42 36.6	+0.1
SPCR	Spurr Chakacha	1.72	11		Pn	01 42 36.9	0.0
SPCR	Spurr Chakacha	1.72	11	P	Pn	01 42 36.9	0.0
	baz=192,SNR=49						
SPCR				S	Sn	01 42 58.4	-0.6
	baz=192						
KDAK	Kodiak Island	1.74	175	Pn	Pn	01 42 36.5	-0.5
KDAK				IAML		01 42 59.1	
	comp=E,710nm,0.6s						
KDAK				IAML		01 42 59.7	
	comp=E,684nm,0.5s						
KDAK	Kodiak Island	1.74	175	P	Pn	01 42 36.5	-0.5
	comp=E,229nm,0.4s,baz=233,slow=6.8,SNR=545						
KDAK				S	Sn	01 42 57.8	-1.4
	comp=E,137nm,0.4s,baz=202,slow=13,SNR=5.6						
KDAK	Kodiak Island	1.74	175	P	Pn	01 42 36.6	-0.5
	baz=355						
KDAK				S	Sn	01 42 58.3	-1.0
	baz=355						
SPBG	Spurr Blockage	1.77	8		Sn	01 43 00.5	+0.5
SEW	Seward	1.82	70	Pn	Pn	01 42 37.9	-0.2
SEW	Seward	1.82	70	P	Pn	01 42 37.5	-0.5
	baz=254						
SEW				S	Sn	01 42 59.7	-1.4
	baz=254						
ACHA	Angle Creek He	1.83	225	Pn	Pn	01 42 38.3	+0.1
ACHA	Angle Creek He	1.83	225		Sn	01 43 00.6	-0.7
SPCG	Spurr Capps Gl	1.83	13		Sn	01 43 01.3	-0.2
O22K	Cooper Landing	1.85	57		Pn	01 42 38.8	+0.4
O22K	Cooper Landing	1.85	57	P	Pn	01 42 38.9	+0.4
	baz=241,SNR=15						
O22K				S	Sn	01 43 02.1	+0.3
	baz=241						
P17K	Kvichak River	1.86	262		Pn	01 42 38.4	-0.1
P17K	Kvichak River	1.86	262	P	Pn	01 42 38.5	0.0
	baz=77,SNR=82						
P17K				S	Sn	01 43 01.4	-0.4
	baz=77						
N18K	Kilae Creek	1.91	309		Pn	01 42 39.1	-0.2
N18K	Kilae Creek	1.91	309	IAML		01 43 03.1	
	comp=N,581nm,0.8s						
N18K	Kilae Creek	1.91	309	P	Pn	01 42 39.1	-0.2
	baz=126,SNR=90						
N18K				S	Sn	01 43 02.1	-1.1
	baz=126						
STLK	Strandline Lak	2.06	14		Pn	01 42 41.2	+0.1
STLK				IAML		01 43 09.9	
	comp=N,315nm,0.4s						
R18K	Karluk	2.12	204		Pn	01 42 41.3	-0.5
R18K	Karluk	2.12	204	IAML		01 43 09.7	
	comp=N,382nm,0.5s						
R18K				IAML		01 43 10.2	
	comp=E,335nm,0.5s						
R18K	Karluk	2.12	204	P	Pn	01 42 41.4	-0.5
	baz=21						
Q16K	King Salmon	2.13	248		Pn	01 42 42.2	+0.2
Q16K	King Salmon	2.13	248	P	Pn	01 42 42.4	+0.5
	baz=64,SNR=38						
O17K	Koliganek Bris	2.16	279	P	Pn	01 42 42.2	-0.2
	baz=94,SNR=55						
RC01	Rabbit Creek A	2.22	43	Pn	Pn	01 42 43.4	+0.2
RC01	Rabbit Creek A	2.22	43	P	Pn	01 42 43.4	+0.2
	baz=227,SNR=16						
RC01				S	Sn	01 43 09.7	-0.5
	baz=227						
SUA	Susitna One	2.22	27	Pn	Pn	01 42 43.8	+0.5
SUA				IAML		01 43 12.9	
	comp=N,1μm,0.8s						
SUA	Susitna One	2.22	27	P	Pn	01 42 43.9	+0.5
	baz=210,SNR=122						
SUA				S	Sn	01 43 10.8	+0.3
	baz=210						
OHAK	Old Harbor	2.31	186	Pn	Pn	01 42 43.4	-0.9
OHAK	Old Harbor	2.31	186	P	Pn	01 42 43.3	-1.0
OHAK	Old Harbor	2.31	186	P	Pn	01 42 43.5	-0.9
	baz=4.6,SNR=27						
M20K	Styx River	2.38	357		Pn	01 42 45.7	+0.3
M20K	Styx River	2.38	357	P	Pn	01 42 45.7	+0.3
	baz=177,SNR=66						
N17K	Nushagak Hills	2.39	297		Pn	01 42 45.2	-0.3
N17K	Nushagak Hills	2.39	297	IAML		01 43 14.1	
	comp=N,204nm,0.8s						
N17K	Nushagak Hills	2.39	297	P	Pn	01 42 45.2	-0.3
	baz=112,SNR=30						
M18K	Stony River	2.46	325		Pn	01 42 46.2	-0.2
M18K	Stony River	2.46	325	P	Pn	01 42 46.2	-0.2
	baz=142						
M18K				S	Sn	01 43 15.2	-0.8
	baz=142						
M19K	Big River Lodg	2.51	343		Pn	01 42 47.0	0.0
M19K	Big River Lodg	2.51	343	P	Pn	01 42 47.0	0.0
	baz=162						
SKT	Skwentna	2.56	14	IAML		01 43 22.7	
	comp=N,228nm,0.4s						
SKT				IAML		01 43 23.0	
	comp=E,236nm,0.7s						
SKT	Skwentna	2.56	14	P	Pn	01 42 47.6

comp=N,346nm,0.5s
PMR Palmer 2.78 40 P Pn 01 42 50.0 -0.6
PMR Palmer 2.78 40 P Pn 01 42 50.6 0.0
baz=224,SNR=12
PMR S Sn 01 43 21.3 -2.2
baz=224
P23K Montague Islan 2.81 78 Pn 01 42 51.0 +0.1
P23K Montague Islan 2.81 78 P Pn 01 42 51.4 +0.4
baz=264
P23K S Sn 01 43 23.5 -0.6
baz=264
L19K White Mountain 2.85 341 Pn 01 42 51.4 0.0
L19K White Mountain 2.85 341 IAML 01 43 26.3
comp=E,134nm,0.8s
L19K White Mountain 2.85 341 P Pn 01 42 51.5 0.0
baz=159,SNR=231
KNK Knik Glacier 2.90 47 Pn 01 42 51.7 -0.4
KNK Knik Glacier 2.90 47 P Pn 01 42 52.0 -0.2
baz=232,SNR=9.5
KNK S Sn 01 43 25.0 -1.3
baz=232
M17K Holitna River 2.95 312 Pn 01 42 52.9 0.0
M17K Holitna River 2.95 312 IAML 01 43 27.5
comp=N,227nm,0.8s
M17K IAML 01 43 41.6
comp=E,232nm,0.8s
M17K Holitna River 2.95 312 P Pn 01 42 52.9 0.0
baz=128
GHO Glory Hole Cre 2.98 39 Pn 01 42 53.0 -0.3
L20K Farewell, AK 3.02 351 P Pn 01 42 54.0 +0.3
baz=170,SNR=53
SII Sitkinak Islan 3.04 194 Pn 01 42 53.1 -1.1
SII IAML 01 43 42.6
comp=E,203nm,0.9s
SII IAML 01 43 46.2
comp=N,196nm,0.7s
SII Sitkinak Islan 3.04 194 P Pn 01 42 52.9 -1.2
SII Sitkinak Islan 3.04 194 P Pn 01 42 53.2 -0.9
baz=12
N16K Nishlik Lake 3.12 291 Pn 01 42 55.3 +0.2
N16K Nishlik Lake 3.12 291 P Pn 01 42 55.3 +0.2
baz=105
R16K Pilot Point 3.15 234 S Sn 01 43 31.9 -0.2
baz=49
CUT Chulitna 3.17 22 Pn 01 42 55.5 -0.2
CUT Chulitna 3.17 22 IAML 01 43 37.5
comp=E,412nm,0.5s
CUT IAML 01 43 40.6
comp=N,393nm,0.3s
CUT Chulitna 3.17 22 P Pn 01 42 55.9 +0.3
baz=206,SNR=19
CUT S Sn 01 43 32.8 +0.2
baz=206
GLI Glacier Island 3.19 62 Pn 01 42 55.0 -1.1
GLI Glacier Island 3.19 62 P Pn 01 42 55.2 -0.8
baz=248
GLI S Sn 01 43 30.2 -3.0
baz=248
SML Sawmill 3.21 42 Pn 01 42 56.3 0.0
SML IAML 01 43 33.4
comp=E,438nm,0.5s
SML IAML 01 43 33.7
comp=N,462nm,0.6s
SML Sawmill 3.21 42 P Pn 01 42 56.4 +0.1
baz=227,SNR=8.1
SML S Sn 01 43 31.6 -2.1
baz=227
L18K Granite Mounta 3.29 327 Pn 01 42 57.1 -0.3
L18K Granite Mounta 3.29 327 P Pn 01 42 57.1 -0.3
baz=144
HIN Hinchinbrook I 3.32 72 Pn 01 42 57.4 -0.4
HIN Hinchinbrook I 3.32 72 IAML 01 43 36.2
comp=N,395nm,0.8s
Q23K Middleton Isla 3.33 89 Pn 01 42 57.9 +0.1
Q23K Middleton Isla 3.33 89 IAML 01 43 44.6
comp=E,244nm,1.4s
Q23K IAML 01 43 46.9
comp=N,258nm,1.4s
Q23K Middleton Isla 3.33 89 P Pn 01 42 58.0 +0.1
baz=275
Q23K S Sn 01 43 36.3 -0.2
baz=275
M16K Timber Creek 3.39 299 Pn 01 42 58.9 +0.2
M16K Timber Creek 3.39 299 P Pn 01 42 58.6 -0.1
baz=113
M16K S Sn 01 43 37.3 -0.8
baz=113
M23K Glacier View 3.41 46 P Pn 01 42 58.9 -0.1
baz=231,SNR=10
M23K S Sn 01 43 36.3 -2.3
baz=231
PPLA Purkeypile 3.41 5 P Pn 01 42 59.6 +0.5
baz=186,SNR=16
O15K Ungalikthiuk R 3.58 268 Pn 01 43 01.9 +0.7
O15K Ungalikthiuk R 3.58 268 P Pn 01 43 02.0 +0.7
baz=81
SCM Sheep Creek Mo 3.58 47 Pn 01 43 01.2 -0.1
SCM Sheep Creek Mo 3.58 47 P Pn 01 43 01.3 -0.1
baz=233
SCM S Sn 01 43 41.1 -1.7
baz=233
N15K Kwethluk River 3.70 283 Pn 01 43 03.8 +0.9
N15K Kwethluk River 3.70 283 IAML 01 44 13.8
comp=E,66nm,0.7s
N15K IAML 01 44 18.6
comp=N,79nm,0.8s
N15K Kwethluk River 3.70 283 P Pn 01 43 03.7 +0.8
baz=96,SNR=21
EYAK Cordova Ski Ar 3.72 71 Pn 01 43 02.5 -0.6
EYAK Cordova Ski Ar 3.72 71 P Pn 01 43 02.4 -0.6
EYAK Cordova Ski Ar 3.72 71 P Pn 01 43 02.6 -0.6
baz=258
EYAK S Sn 01 43 43.9 -2.0
baz=258
L17K Donlin 3.74 317 P Pn 01 43 03.0 -0.4
baz=132
DIV Divide 3.88 62 Pn 01 43 05.0 -0.4
K20K Telida 3.90 352 Pn 01 43 05.8 +0.2
K20K Telida 3.90 352 P Pn 01 43 05.8 +0.2
baz=171
L16K Owhat River 3.93 307 Pn 01 43 06.0 +0.1
L16K Owhat River 3.93 307 P Pn 01 43 05.7 -0.3
baz=121,SNR=10
CAST Castle Rocks 3.94 5 P Pn 01 43 06.0 -0.1
baz=186,SNR=68
KLU Klutina 3.97 57 Pn 01 43 06.3 -0.2
KLU Klutina 3.97 57 P Pn 01 43 06.3 -0.2
baz=244,SNR=12
CHIR Chirikof Islan 3.99 203 Pn 01 43 05.6 -1.1
CHIR Chirikof Islan 3.99 203 IAML 01 43 50.5
comp=E,108nm,0.8s
CHIR IAML 01 43 51.5
comp=N,90nm,0.6s
CHIR Chirikof Islan 3.99 203 P Pn 01 43 05.4 -1.4
CHIR Chirikof Islan 3.99 203 P Pn 01 43 05.8 -1.0
baz=20
CHIR S Sn 01 43 49.8 -2.6
baz=20
M15K Kasigluk River 4.09 290 Pn 01 43 08.2 +0.1
M15K Kasigluk River 4.09 290 P Pn 01 43 08.2 +0.1
baz=103
TRF Thorofare Moun 4.14 16 Pn 01 43 09.5 +0.6
TRF Thorofare Moun 4.14 16 IAML 01 43 59.0
comp=N,97nm,0.6s
TRF IAML 01 44 00.2
comp=E,106nm,0.8s
TRF Thorofare Moun 4.14 16 P Pn 01 43 09.3 +0.3
baz=199,SNR=14
K17K Iditarod 4.16 323 Pn 01 43 08.8 -0.2
K17K IAML 01 44 32.6
comp=N,53nm,1.1s
K17K IAML 01 44 41.2
comp=E,48nm,0.9s
K17K Iditarod 4.16 323 P Pn 01 43 08.8 -0.2
baz=138,SNR=24
KTH Kantishna Hill 4.16 12 IAML 01 44 23.9
comp=N,84nm,1.0s
KTH IAML 01 44 31.5
comp=E,77nm,1.3s
M24K Tolsona, Glenn 4.18 49 P Pn 01 43 09.6 +0.2
baz=235
M24K S Sn 01 43 56.8 -0.4
baz=235
KAIM Kayak Island 4.30 81 Pn 01 43 11.6 +0.7
KAIM Kayak Island 4.30 81 IAML 01 44 04.0
comp=E,202nm,0.7s
KAIM IAML 01 44 04.0
comp=N,195nm,0.8s
KAIM Kayak Island 4.30 81 P Pn 01 43 11.6 +0.7
baz=269
KAIM S Sn 01 44 00.1 +0.2
baz=269
O14K Tigyukauivet M 4.30 270 Pn 01 43 12.0 +1.0
O14K IAML 01 44 29.6
comp=N,45nm,1.2s
O14K Tigyukauivet M 4.30 270 P Pn 01 43 11.2 +0.2
baz=82,SNR=7.6
RND Reindeer 4.35 25 IAML 01 44 01.5
comp=N,117nm,0.6s
RND IAML 01 44 04.8
comp=E,85nm,0.6s
BMRM Bremner River 4.37 67 Pn 01 43 11.8 -0.1
BMRM Bremner River 4.37 67 P Pn 01 43 12.0 +0.1
baz=255,SNR=6.6
J18K Innoko River 4.37 337 P Pn 01 43 11.7 -0.2
baz=153
CHGN Chignik 4.37 225 P Pn 01 43 12.2 +0.3
baz=40
CHGN S Sn 01 43 59.2 -2.5
baz=40
CHUM Lake Minchumin 4.39 3 Pn 01 43 11.9 -0.2
CHUM Lake Minchumin 4.39 3 P Pn 01 43 12.0 -0.2
baz=184,SNR=26
HMT Hamilton 4.41 76 Pn 01 43 12.6 +0.1
N14K Kuskokwak Cree 4.48 279 Pn 01 43 14.3 +0.9
N14K Kuskokwak Cree 4.48 279 P Pn 01 43 14.3 +0.9
baz=91,SNR=10
N25K Chitina, Valde 4.59 59 Pn 01 43 14.8 -0.2
N25K Chitina, Valde 4.59 59 IAML 01 44 08.7
comp=N,142nm,0.4s
N25K IAML 01 44 15.1
comp=E,115nm,0.6s
N25K Chitina, Valde 4.59 59 P Pn 01 43 15.2 +0.3
baz=247,SNR=6.5
N25K S Sn 01 44 05.4 -1.7
baz=247
MCK McKinley 4.63 22 P Pn 01 43 15.7 +0.3
baz=206,SNR=24
MCK S Sn 01 44 07.8 -0.1
baz=206
J19K Poorman 4.68 345 Pn 01 43 16.0 -0.1
J19K Poorman 4.68 345 P Pn 01 43 15.8 -0.3
baz=163
BPAW Bear Paw Mtn. 4.69 10 IAML 01 44 11.2
comp=N,37nm,0.6s
BPAW Bear Paw Mtn. 4.69 10 P Pn 01 43 16.3 0.0
baz=192,SNR=11
M14K Bethel 4.71 289 Pn 01 43 17.4 +0.9
M14K IAML 01 44 39.1
comp=E,33nm,1.1s
M14K IAML 01 44 50.4
comp=N,33nm,1.3s
M14K Bethel 4.71 289 P Pn 01 43 17.0 +0.5
baz=101,SNR=5.8
J20K Nowinta River 4.72 353 Pn 01 43 16.7 +0.1
J20K Nowinta River 4.72 353 IAML 01 44 52.1
comp=E,32nm,0.9s
J20K IAML 01 44 54.8
comp=N,31nm,1.1s
J20K Nowinta River 4.72 353 P Pn 01 43 16.7 +0.1
baz=172,SNR=105
HARP HAARP 4.74 49 P Pn 01 43 18.1 +1.1
baz=236
HARP S Sn 01 44 11.3 +0.6
baz=236
L15K Ungalak Mounta 4.77 301 Pn 01 43 17.8 +0.5
L15K Ungalak Mounta 4.77 301 P Pn 01 43 17.6 +0.3
baz=113
WACK Wrangell Chich 4.87 56 Pn 01 43 19.0 +0.1
BGLC Bering Glacier 4.88 79 S Sn 01 44 14.4 +0.5
baz=268
GLB Gilahina Butte 4.88 63 Pn 01 43 18.5 -0.4
GLB Gilahina Butte 4.88 63 IAML 01 44 13.8
comp=N,99nm,0.6s
GLB IAML 01 44 14.6
comp=E,84nm,0.7s
J17K VABM Dome 4.90 325 IAML 01 44 54.1
comp=N,28nm,1.0s
J17K VABM Dome 4.90 325 P Pn 01 43 18.8 -0.3
baz=140
BWN Browne 4.94 18 Pn 01 43 19.8 +0.2
BWN Browne 4.94 18 IAML 01 44 59.6
comp=N,121nm,1.3s
PAX Paxson 4.98 43 Pn 01 43 20.1 -0.1
PAX Paxson 4.98 43 P Pn 01 43 20.3 +0.1
baz=230,SNR=16
PAX S Sn 01 44 15.1 -1.3
baz=230
VRDI Verde Repeater 4.98 66 IAML 01 44 16.3
comp=E,70nm,0.4s
K15K Wolf Creek Mou 5.06 307 Pn 01 43 22.3 +1.0
K15K Wolf Creek Mou 5.06 307 P Pn 01 43 21.9 +0.7
baz=119,SNR=5.9
SNH Sunshine Point 5.10 78 Pn 01 43 22.4 +0.5
SNH Sunshine Point 5.10 78 IAML 01 45 37.5
comp=N,99nm,1.5s
L14K Kuka Creek 5.20 295 Pn 01 43 23.6 +0.6
L14K Kuka Creek 5.20 295 IAML 01 44 57.9
comp=E,41nm,1.1s
L14K IAML 01 44 59.4
comp=N,39nm,1.2s
L14K Kuka Creek 5.20 295 P Pn 01 43 23.6 +0.6
baz=106,SNR=9.1
BARK Barkley Ridge 5.29 76 Pn 01 43 24.4 0.0
J16K Anvik River 5.30 319 P Pn 01 43 24.3 -0.2
baz=132
M13K Dall Lake 5.34 284 Pn 01 43 26.2 +1.2
M13K Dall Lake 5.34 284 IAML 01 44 48.8
comp=N,22nm,1.3s
M13K IAML 01 45 28.7
comp=E,26nm,1.2s
M13K Dall Lake 5.34 284 P Pn 01 43 25.8 +0.8
baz=95
I20K Naaghedeneel 5.36 353 IAML 01 45 22.1
comp=E,82nm,1.1s
I20K IAML 01 45 26.9
comp=N,64nm,0.8s
I20K Naaghedeneel 5.36 353 P Pn 01 43 25.1 0.0
baz=171,SNR=16
NEA2 Nenana 5.40 18 P Pn 01 43 25.3 -0.5
baz=201,SNR=45
KIAG Kiagna River 5.43 70 Pn 01 43 26.4 0.0
BALM Baldy 5.46 69 Pn 01 43 26.5 -0.2
K24K Donnelly Dome 5.47 35 P Pn 01 43 27.9 +1.1
baz=222,SNR=5.3
K24K S Sn 01 44 28.2 -0.1
baz=222
MESA MESA 5.54 78 Pn 01 43 28.6 +0.6
MESA MESA 5.54 78 P Pn 01 43 28.8 +0.8
baz=268
GCSA Galena City Sc 5.58 342 P Pn 01 43 27.9 -0.3
baz=159,SNR=9.4
M26K Nabesna, AK 5.61 55 P Pn 01 43 30.0 +1.2
baz=244
HDA Harding Lake 5.65 27 Pn 01 43 28.8 -0.3
HDA Harding Lake 5.65 27 P Pn 01 43 28.9 -0.3
baz=213,SNR=29
YAH Yahtse 5.66 77 Pn 01 43 29.9 +0.4
I21K Tanana 5.70 4 P Pn 01 43 30.3 +0.4
baz=185,SNR=18
RIDG Independent Ri 5.71 39 Pn 01 43 30.0 -0.1
RIDG Independent Ri 5.71 39 P Pn 01 43 30.5 +0.5
baz=226,SNR=22
L26K Log Cabin Wild 5.79 48 P Pn 01 43 32.4 +1.3
baz=237,SNR=8.6
RKAV Rock Avalanche 5.85 77 Pn 01 43 33.0 +0.8
COLA College 5.87 21 P Pn 01 43 31.6 -0.5
COLA College 5.87 21 P Pn 01 43 31.7 -0.4
baz=206
I23K Minto, Yukon-K 5.88 15 P Pn 01 43 32.1 -0.3
baz=198,SNR=53
DOT Dot Lake 5.90 42 Pn 01 43 32.8 +0.1
CHNA Chernabura Isl 5.95 221 P Pn 01 43 34.1 +0.8
CHNA Chernabura Isl 5.95 221 P Pn 01 43 33.5 +0.2
baz=35
CHX Chaix Hills 5.96 80 Pn 01 43 34.5 +0.9
ILAR Eielson Array 5.97 25 Pn 01 43 32.6 -1.0
ILAR Eielson Array 5.97 25 P Pn 01 43 32.7 -0.9
comp=N,14nm,0.5s,baz=212,slow=14,SNR=158
ILAR S Sn 01 44 36.4 -4.1
comp=N,14nm,0.7s,baz=212,slow=21,SNR=13
M27K Edge Creek, AK 6.07 57 Pn 01 43 36.3 +1.3
M27K Edge Creek, AK 6.07 57 P Pn 01 43 35.6 +0.6
baz=247
H20K Anotleneega Mo 6.07 352 P Pn 01 43 35.1 +0.1
baz=170,SNR=36
J14K Nanvaranak Lak 6.11 307 P Pn 01 43 35.7 +0.3
baz=117
SAMH Samovar Hills 6.13 79 Pn 01 43 36.8 +1.0
SCRK Sand Creek 6.15 39 Pn 01 43 35.4 -0.7
SCRK Sand Creek 6.15 39 P Pn 01 43 36.3 +0.2
baz=228,SNR=14
POKR Poker Plat Res 6.17 22 Pn 01 43 35.8 -0.4
POKR Poker Plat Res 6.17 22 P Pn 01 43 35.8 -0.4
baz=207,SNR=11
H21K Melozitna Rive 6.17 0 P Pn 01 43 36.5 +0.3
baz=180,SNR=15
H18K Honhosa River 6.21 338 Pn 01 43 36.6 -0.2
H18K Honhosa River 6.21 338 P Pn 01 43 36.5 -0.3
baz=153,SNR=12
J25K Salcha River, 6.21 31 Pn 01 43 36.4 -0.4
J25K Salcha River, 6.21 31 P Pn 01 43 36.5 -0.4
baz=218
H19K Roundabout Mou 6.26 346 P Pn 01 43 37.4 -0.1
baz=163
K13K Kusilvak Mount 6.27 298 P Pn 01 43 38.0 +0.3
baz=107
YUK2 White River 6.34 64 Pn 01 43 39.6 +0.9
H17K Granite Mounta 6.36 332 Pn 01 43 38.6 -0.2
H17K Granite Mounta 6.36 332 P Pn 01 43 38.5 -0.3
baz=146
PCA Pinnacle 6.39 79 Pn 01 43 40.1 +0.7
PINM Pinnacle 6.39 79 P Pn 01 43 40.1 +0.7
baz=271
L27K Beaver Creek, 6.40 52 P Pn 01 43 40.4 +1.0
baz=242,SNR=6.5
BCAR Beaver Creek A 6.42 52 Pn 01 43 40.5 +0.8
H22K Ishtalitna Cre 6.44 5 P Pn 01 43 39.6 -0.4
baz=187
O28M Mount Upton 6.46 73 Pn 01 43 41.3 +0.8
O28M Mount Upton 6.46 73 P Pn 01 43 41.5 +1.0
baz=265
YUK3 Moose Creek 6.51 64 Pn 01 43 42.0 +0.9
YUK3 Moose Creek 6.51 64 P Pn 01 43 41.9 +0.8
baz=256,SNR=12
H23K Yukon River 6.52 12 Pn 01 43 40.8 -0.3
H23K Yukon River 6.52 12 P Pn 01 43 40.7 -0.3
baz=195
BVCY Beaver Creek 6.53 58 P Pn 01 43 42.1 +1.0
baz=249
J26L Joseph Creek 6.64 37 Pn 01 43 42.0 -0.8
J26L Joseph Creek 6.64 37 P Pn 01 43 42.4 -0.4
baz=226
YUK8 Steele Glacier 6.73 69 Pn 01 43 45.5 +1.4
YUK8 Steele Glacier 6.73 69 P Pn 01 43 45.7 +1.6
baz=261,SNR=11
H24K Noodor Dome 6.75 18 Pn 01 43 43.5 -0.7
H24K Noodor Dome 6.75 18 P Pn 01 43 43.2 -0.9
baz=202,SNR=12
M11K Mekoryuk 6.75 283 P Pn 01 43 43.7 -0.5
baz=91
H16K Elim 6.76 323 P Pn 01 43 43.6 -0.7
baz=135
K27K Chicken 6.83 44 P Pn 01 43 45.3 +0.1
baz=234
PNL Peninsula 6.84 83 Pn 01 43 45.4 -0.1
PNL Peninsula 6.84 83 P Pn 01 43 45.3 -0.1
PNL Peninsula 6.84 83 P Pn 01 43 45.4 -0.1
baz=275,SNR=10
PRP Porcupine Dome 6.91 26 P Pn 01 43 46.1 -0.4
baz=213,SNR=20
G19K Purcell Mounta 6.93 346 P Pn 01 43 45.8 -0.7
baz=162
G18K Tagagawik 6.93 340 P Pn 01 43 46.0 -0.7
baz=155
G17K Kiwalik Mounta 7.00 332 Pn 01 43 46.8 -0.7
G17K Kiwalik Mounta 7.00 332 P Pn 01 43 46.8 -0.7
baz=146
G21K Allakaket 7.04 358 Pn 01 43 47.7 -0.3
G21K Allakaket 7.04 358 P Pn 01 43 48.2 +0.2
baz=178
O29M Mount Kennedy 7.23 78 Pn 01 43 51.3 +0.5
O29M Mount Kennedy 7.23 78 P Pn 01 43 51.6 +0.8
baz=270,SNR=14
YUK4 Talbot Arm 7.27 69 P Pn 01 43 52.9 +1.4
baz=262
G23K Bananza Creek 7.34 9 Pn 01 43 51.5 -0.6
G23K Bananza Creek 7.34 9 P Pn 01 43 52.0 -0.1
baz=192,SNR=56
I26K Coal Creek Min 7.35 34 Pn 01 43 51.5 -0.8
I26K Coal Creek Min 7.35 34 P Pn 01 43 51.7 -0.5
baz=223
G16K Koyuk River 7.35 327 P Pn 01 43 51.8 -0.5
baz=139
YUK6 Outpost Mounta 7.36 73 Pn 01 43 53.5 +0.8
YUK6 Outpost Mounta 7.36 73 P Pn 01 43 53.3 +0.6
baz=266
H25L Birch Creek 7.50 22 Pn 01 43 54.1 -0.2
H25L Birch Creek 7.50 22 P Pn 01 43 53.6 -0.6
baz=209,SNR=15
ISNN Isanotski Nort 7.56 236 Pn 01 43 56.0 +0.8
G15K Niukluk 7.57 321 P Pn 01 43 55.5 +0.3
baz=131
M29M Somme Creek 7.59 61 Pn 01 43 56.2 +0.5
M29M Somme Creek 7.59 61 P Pn 01 43 56.3 +0.6
baz=254
ISLZ Isanotski Laza 7.60 236 Pn 01 43 55.8 -0.1
G24K Hadweenzic Riv 7.61 16 Pn 01 43 54.9 -1.0
G24K Hadweenzic Riv 7.61 16 P Pn 01 43 54.7 -1.1
baz=202
F19K Shaleruckik Mo 7.67 345 P Pn 01 43 56.8 +0.1
baz=161
F20K Avaraart Lake 7.67 352 P Pn 01 43 56.7 +0.1
baz=169,SNR=9.8
SSLS Shishaldin Sou 7.73 236 Pn 01 43 57.9 +0.3
F21K Alatna River 7.74 358 P Pn 01 43 57.9 +0.3
baz=178
F18K Selawik 7.75 340 P Pn 01 43 57.1 -0.5
baz=154
ANM Nome 7.75 316 P Pn 01 43 58.0 +0.3
baz=125
HYT Haines Junctio 7.77 74 Pn 01 43 59.1 +0.9
HYT Haines Junctio 7.77 74 P Pn 01 43 58.8 +0.6
baz=267
COLD Coldfoot 7.83 8 P Pn 01 43 58.6 -0.3
baz=190,SNR=8.3
DAWY Dawson 7.84 49 Pn 01 43 59.4 +0.4
DAWY Dawson 7.84 49 P Pn 01 43 59.4 +0.4
baz=241,SNR=7.8
G25K Bearman Lake 7.89 20 P Pn 01 43 59.3 -0.3
baz=206
F17K Baldwin Pennin 7.92 335 P Pn 01 43 59.7 -0.3
baz=147
L29M L29M 7.95 57 P Pn 01 44 00.9 +0.4
baz=250
I27K Kandik River 8.01 36 P Pn 01 44 00.3 -1.0
baz=226
F22K John River 8.03 2 Pn 01 44 01.8 +0.2
F22K John River 8.03 2 P Pn 01 44 01.4 -0.1
baz=183
N30M Aishikik Lake 8.03 69 Pn 01 44 01.5 -0.2
N30M Aishikik Lake 8.03 69 P Pn 01 44 01.7 0.0
baz=263
P30M Million Dollar 8.04 79 P Pn 01 44 03.3 +1.5
baz=273
E19K Redstone River 8.21 348 Pn 01 44 04.3 +0.5
E19K Redstone River 8.21 348 P Pn 01 44 04.4 +0.5
baz=164
F15K North Star Dit 8.24 324 P Pn 01 44 04.1 -0.3
baz=133
F24K Squaw Lake 8.34 13 Pn 01 44 05.2 -0.5
F24K Squaw Lake 8.34 13 P Pn 01 44 05.3 -0.5
baz=198,SNR=12
M30M Minto, Yukon 8.38 62 Pn 01 44 06.6 +0.3
M30M Minto, Yukon 8.38 62 P Pn 01 44 07.0 +0.7
baz=256
PLBC Pleasant Camp 8.40 83 P Pn 01 44 06.6 0.0
baz=278,SNR=8.2
I28M Miner Creek 8.43 40 Pn 01 44 06.8 -0.2
I28M Miner Creek 8.43 40 P Pn 01 44 07.7 +0.6
baz=231
O30N Mendenhall 8.46 74 Pn 01 44 07.5 0.0
O30N Mendenhall 8.46 74 P Pn 01 44 07.3 -0.2
baz=269
J29N Klondike Camp 8.48 48 P Pn 01 44 08.7 +1.0
baz=241,SNR=13
K29M Barlow Dome 8.48 53 P Pn 01 44 08.7 +0.9
baz=247
H27K Steamboat Moun 8.49 33 P Pn 01 44 07.4 -0.4
baz=223

G26K	Porcupine Rive	8.50	25	P	Pn	01 44 06.7	-1.2
	baz=213						
E17K	Hotham Inlet	8.59	336		Pn	01 44 09.3	+0.2
E17K	Hotham Inlet	8.59	336	P	Pn	01 44 09.3	+0.2
	baz=148						
F14K	Arctic Creek	8.62	320	P	Pn	01 44 10.2	+0.7
	baz=128						
E18K	Tukpahlearik C	8.65	340		Pn	01 44 10.3	+0.4
E18K	Tukpahlearik C	8.65	340	P	Pn	01 44 10.0	0.0
	baz=153						
N31M	Braeburn, Yuko	8.66	69		Pn	01 44 10.8	+0.7
N31M	Braeburn, Yuko	8.66	69	P	Pn	01 44 10.5	+0.4
	baz=265						
E22K	Anaktuvuk Pass	8.67	3		Pn	01 44 10.9	+0.7
E22K	Anaktuvuk Pass	8.67	3	P	Pn	01 44 10.2	0.0
	baz=184,SNR=15						
E23K	Chandalar	8.70	8	P	Pn	01 44 10.4	-0.3
	baz=191,SNR=11						
F25K	Christian Rive	8.72	19	P	Pn	01 44 09.6	-1.4
	baz=205,SNR=8.2						
BMAR	Burnt Mountain	8.76	21	Pn	Pn	01 44 10.2	-1.2
S31K	Pelican	8.79	93	P	Pn	01 44 12.3	+0.5
	baz=288						
E24K	Your Creek	8.81	11		Pn	01 44 11.4	-0.7
E24K	Your Creek	8.81	11	P	Pn	01 44 11.6	-0.6
	baz=195						
G27K	Doyon Strip	8.89	30		Pn	01 44 11.8	-1.4
G27K	Doyon Strip	8.89	30	P	Pn	01 44 12.4	-0.8
	baz=220,SNR=5.2						
E20K	Nigu River	8.90	352		Pn	01 44 14.1	+0.7
E20K	Nigu River	8.90	352	P	Pn	01 44 13.7	+0.4
	baz=169						
AHB	Akutan Harbor	8.92	238		Pn	01 44 14.0	+0.3
SKAG	Skagway	8.92	83	P	Pn	01 44 14.6	+0.9
SKAG	Skagway	8.92	83	P	Pn	01 44 14.3	+0.7
	baz=278						
E21K	Killik River	8.98	357		Pn	01 44 14.2	-0.1
E21K	Killik River	8.98	357	P	Pn	01 44 14.1	-0.3
	baz=176						
WHY	Whitehorse	9.06	75		Pn	01 44 16.2	+0.6
WHY	Whitehorse	9.06	75	P	Pn	01 44 16.0	+0.3
	baz=271,SNR=8.9						
F26K	Sheenjek River	9.07	22		Pn	01 44 14.4	-1.3
F26K	Sheenjek River	9.07	22	P	Pn	01 44 14.5	-1.2
	baz=210						
E25K	Arctic Village	9.21	17		Pn	01 44 15.8	-1.8
E25K	Arctic Village	9.21	17	P	Pn	01 44 16.0	-1.6
	baz=204						
J30M	Hart River	9.26	50	P	Pn	01 44 19.4	+1.1
	baz=245						
TOLK	Toolik Lake Re	9.28	8	P	Pn	01 44 18.8	+0.4
	baz=191,SNR=18						
D19K	Kuna River	9.30	348		Pn	01 44 19.6	+0.8
D19K	Kuna River	9.30	348	P	Pn	01 44 19.1	+0.3
	baz=163						
D17K	Noatak River	9.37	335	P	Pn	01 44 20.1	+0.4
	baz=146						
D20K	Etivluk River	9.38	352	P	Pn	01 44 19.7	-0.1
	baz=168						
MTBL	Makushin Table	9.39	240		Pn	01 44 20.3	+0.1
M31M	Drury Creek, Y	9.40	65	P	Pn	01 44 20.5	+0.3
	baz=262,SNR=6.0						
UNV	Unalaska Valle	9.40	239	P	Pn	01 44 19.7	-0.5
	baz=47						
D22K	Ayikyak River	9.40	0		Pn	01 44 20.0	-0.2
D22K	Ayikyak River	9.40	0	P	Pn	01 44 20.0	-0.2
	baz=181						
H29M	Whitestone	9.42	38	P	Pn	01 44 20.5	+0.1
	baz=232						
MSW	Makushin Switc	9.48	240		Pn	01 44 20.8	-0.5
D23K	Nanushuk River	9.54	5	P	Pn	01 44 22.1	+0.1
	baz=187						
I30M	Mount Dempster	9.54	46	P	Pn	01 44 22.6	+0.4
	baz=241						
SIT	Sitka	9.56	97	P	Pn	01 44 22.8	+0.5
R32K	Eaglecrest	9.58	90	P	Pn	01 44 23.8	+1.3
	baz=286						
RDOG	Red Dog Mine	9.64	337	P	Pn	01 44 23.9	+0.6
	baz=148						
JIS	Juneau Island	9.64	89	P	Pn	01 44 24.1	+0.6
C21K	Knifeblade Rid	9.72	356	P	Pn	01 44 23.5	-0.9
	baz=174						
P32M	Atlin	9.72	81	P	Pn	01 44 24.4	-0.2
	baz=278						
S32K	Killisnoo	9.79	94	P	Pn	01 44 26.5	+1.0
	baz=290						
D24K	Happy Valley	9.83	9	P	Pn	01 44 25.4	-0.6
	baz=192						
C18K	Utukok River	9.85	342	P	Pn	01 44 26.3	-0.1
	baz=154						
FARO	Faro, Yukon	9.89	66	P	Pn	01 44 27.1	+0.2
	baz=263						
N32M	Quiet Lake	9.94	72	P	Pn	01 44 27.4	-0.2
	baz=270						
G29M	Pine Creek	9.97	36	P	Pn	01 44 28.6	+0.7
	baz=229						
E27K	Coleen River	10.00	25	P	Pn	01 44 26.9	-1.5
	baz=215						
C17K	DeLong Mountai	10.05	338	P	Pn	01 44 28.9	0.0
	baz=148						
P33M	Teslin, Yukon	10.10	77	P	Pn	01 44 30.4	+0.6
	baz=275,SNR=7.5						
B21K	Ikpikpuk River	10.18	357	P	Pn	01 44 30.9	+0.3
	baz=175						
D25K	Kavik River	10.23	13	P	Pn	01 44 30.5	-1.0
	baz=199,SNR=17						
C16K	Lisburne Hills	10.34	333	P	Pn	01 44 32.7	-0.2
	baz=142						
C24K	Franklin Bluff	10.40	8	P	Pn	01 44 32.8	-0.9
	baz=192						
C23K	Itkillik River	10.41	4	P	Pn	01 44 33.2	-0.6
	baz=186						
Q32M	Nakina River	10.56	84	P	Pn	01 44 37.2	+1.1
	baz=282						
G30M	tAoh Zraii Nji	10.56	38	P	Pn	01 44 35.7	-0.3
	baz=233						
H31M	Peel River	10.57	46	P	Pn	01 44 36.6	+0.6
	baz=242,SNR=7.0						
B18K	Kokolik River	10.60	343	P	Pn	01 44 36.7	+0.4
	baz=155						
B20K	Meade River	10.69	352	P	Pn	01 44 36.7	-1.0
	baz=168						
E28M	Babbage River	10.80	27	P	Pn	01 44 39.1	-0.1
	baz=219						
C27K	Jago River	10.87	17	P	Pn	01 44 38.9	-1.1
	baz=206						
B22K	Teshekpuk Lake	10.87	359	P	Pn	01 44 38.0	-2.0
	baz=179						
MMPY	Sheldon Lake,	10.90	64	P	Pn	01 44 40.5	-0.1
	baz=263						
C26K	Camden Bay	10.97	15	P	Pn	01 44 41.1	-0.3
	baz=202						
D27M	Malcolm River	11.01	23	P	Pn	01 44 41.9	-0.1
	baz=214						
E29M	Blow River	11.03	30	P	Pn	01 44 42.1	-0.2
	baz=224						
U33K	Whale Pass	11.06	99	P	Pn	01 44 42.8	+0.1
	baz=296						
F30M	Barrier River	11.09	36	P	Pn	01 44 43.0	-0.1
	baz=231						
R33M	Jennings River	11.14	81	P	Pn	01 44 45.5	+1.6
	baz=280,SNR=6.5						
CRAG	Craig	11.36	102	P	Pn	01 44 46.4	-0.3
S34M	Telegraph Cree	11.40	89	P	Pn	01 44 48.0	+0.6
	baz=288						
D28M	Stokes Point	11.55	26	P	Pn	01 44 50.0	+0.9
	baz=219						
A22K	Sinclair Lake	11.57	357	P	Pn	01 44 46.5	-3.0
	baz=175						
F31M	Tsiigehtchic	11.62	39	P	Pn	01 44 48.2	-1.9
	baz=236,SNR=8.8						
DLBC	Dease Lake	11.82	85	P	Pn	01 44 54.5	+1.5
	comp=N,5.0nm,0.3s,baz=230,slow=6.2,SNR=13						
DLBC				S	Sn	01 47 01.8	-1.0
	comp=N,1.7nm,0.6s,baz=168,slow=20,SNR=1.8						
DLBC	Dease Lake	11.82	85	P	Pn	01 44 54.3	+1.3
	baz=285						
INK	Inuvik	12.19	36	P	Pn	01 44 57.8	+0.1
	comp=N,5.1nm,0.9s,baz=220,slow=13,SNR=21						
INK				S	Sn	01 47 10.4	-1.0
	comp=N,0.9nm,0.6s,baz=210,slow=14,SNR=2.1						
INK	Inuvik	12.19	36	P	Pn	01 44 57.2	-0.5
	baz=233,SNR=8.7						
ATKA	Atka Island	13.99	248	P	Pn	01 45 23.5	+2.1
TOAD	Toad River Com	14.14	81	P	Pn	01 45 26.1	+2.7
	baz=285						
KOTAN	Kotaneelee Air	14.46	75	P	Pn	01 45 29.5	+2.1
	baz=280,SNR=6.0						
C36M	Paulatuk	15.67	39	P	Pn	01 45 40.4	-2.2
	baz=246,SNR=7.3						
A36M	Sachs Harbour	16.64	30	P	Pn	01 45 52.5	-2.1
	baz=236,SNR=16						
YKA	Yellowknife Ar	18.60	64	P	P	01 46 18.2	+1.3
	comp=N,0.7nm,0.6s,baz=278,slow=10,SNR=14						
PETK	Petropavlovsk-	27.59	279	P	P	01 47 44.9	-0.4
	comp=N,2.0nm,0.8s,baz=70,slow=12,SNR=2.1						
	comp=N,2.0nm,0.8s						
NVAR	Mina Array Bea	30.43	118	P	P	01 48 12.2	+1.4
	comp=N,0.3nm,0.7s,baz=345,slow=7.1,SNR=2.0						
	comp=N,0.3nm,0.7s						
KLR	Kul'dur	42.78	291	P	P	01 49 54.5	-0.5
	comp=N,1.1nm,0.5s,baz=56,slow=10,SNR=4.7						
	comp=N,1.1nm,0.5s						
SONM	Songino Array	55.13	306	P	P	01 51 30.2	+0.6
	comp=N,0.6nm,0.6s,baz=65,slow=8.6,SNR=4.1						
	comp=N,0.6nm,0.6s						
ZALV	Zalesovo Beam	57.81	324	P	P	01 51 48.4	+0.2
	comp=N,0.8nm,0.6s,baz=46,slow=8.3,SNR=1.9						
	comp=N,0.8nm,0.6s						
BVAR	Borovoye Array	62.53	332	P	P	01 52 20.6	+0.1
	comp=N,0.9nm,0.5s,baz=45,slow=8.6,SNR=4.4						
	comp=N,0.9nm,0.5s						
KURBB	Kurchatov Arra	62.58	326	P	P	01 52 21.0	+0.2
	comp=N,0.4nm,0.4s,baz=27,slow=6.3,SNR=7.8						
	comp=N,0.4nm,0.4s						
EKA	Eskdalemuir Ar	62.97	19	P	P	01 52 23.3	0.0
	comp=N,0.5nm,0.4s,baz=328,slow=5.4,SNR=6.3						
	comp=N,0.5nm,0.4s						
MKAR	Makanchi Array	64.85	321	P	P	01 52 35.2	-0.7
	comp=N,0.2nm,0.5s,baz=54,slow=6.2,SNR=3.5						
	comp=N,0.2nm,0.5s						

NEIC ***15*** *01:56:02.3±0.5, 37°.28N±0°.02×97°.93W±0°.01, h5km±1km, mb_Lg2.3/19, ML2.5/12, ML2.7/36, Error ellipse: s-maj=3.6km s-min=2.0km az=14.0*

NEIC 15 01:56:02.3±0.4, 37°.30N±0°.02×97°.93W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.4km az=176.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN12	Harper NE Stat	0.05	265		Pg	01 56 03.9	+0.2
KAN12				Sg	Sg	01 56 05.1	+0.4
KAN12				IAML		01 56 05.8	
	comp=E,6μm,0.3s						
KAN06	Argonia West S	0.08	132		Pg	01 56 04.4	+0.3
KAN08	Anthony NE Sta	0.08	202		Pg	01 56 04.4	+0.3
KAN08				Sg	Sg	01 56 05.7	+0.4
KAN08				IAML		01 56 05.8	
	comp=N,4μm,0.2s						
KAN08				IAML		01 56 05.8	
	comp=E,8μm,0.1s						
KAN05	Bluff City Nor	0.20	166		Pg	01 56 06.6	+0.4
KAN05				IAML		01 56 11.2	
	comp=N,2μm,0.2s						
KAN01	Argonia South	0.20	137		Pg	01 56 06.6	+0.3
KAN01				Sg	Sg	01 56 09.6	+0.6
KAN01				IAML		01 56 09.8	
	comp=E,2μm,0.3s						
KAN10	Anthony SW Sta	0.22	216		Pg	01 56 07.0	+0.3
KAN10					Sg	01 56 10.2	+0.7
KAN17	Caldwell West	0.29	152		Pg	01 56 08.2	+0.2
KAN09	Caldwell North	0.30	123		Pg	01 56 08.4	+0.2
KAN09				Sg	Sg	01 56 12.5	+0.4
KAN09				IAML		01 56 13.3	
	comp=E,1μm,0.3s						
KAN09				IAML		01 56 16.8	
	comp=N,1μm,0.2s						
KAN14	Manchester OK	0.34	184		Pg	01 56 09.3	+0.2
KAN14				Sg	Sg	01 56 14.1	+0.5
KAN14				IAML		01 56 14.3	
	comp=E,1μm,0.2s						
KAN14				IAML		01 56 17.6	
	comp=N,837nm,0.2s						
GC02	Grant County #	0.45	173		Pg	01 56 11.2	+0.2
GC02					Sg	01 56 17.6	+0.7
KAN13	South Haven SW	0.46	128		Pg	01 56 11.4	+0.1
KAN13				IAML		01 56 18.0	
	comp=E,917nm,0.3s						
KAN13				IAML		01 56 27.9	
	comp=N,810nm,0.3s						
OK032	Salt Plains WL	0.54	204		Pg	01 56 13.0	+0.2
OK032					Sg	01 56 20.5	+0.6
OK032				IAML		01 56 24.5	
	comp=N,831nm,0.2s						
BLOK	Blackwell	0.79	133	IAML		01 56 29.6	
	comp=N,484nm,0.3s						
CROK	Carrier	0.80	183		Pg	01 56 17.5	-0.1
CROK				IAML		01 56 38.3	
	comp=N,312nm,0.3s						
NOKA	Waynoka	1.04	231		Pg	01 56 21.7	-0.6
NOKA				IAML		01 56 46.0	
	comp=E,216nm,0.3s						
NOKA				IAML		01 56 49.7	
	comp=N,212nm,0.3s						
OK038	West end E0370	1.05	219		Pg	01 56 22.2	-0.3
T35A	Sooner Cattle	1.20	108		Pg	01 56 24.8	-0.5
QUOK	Quay	1.50	139		Pn	01 56 30.1	+0.2
OK029	Liberty Lake	1.55	165		Pn	01 56 30.4	-0.2
OK052	Battle Ridge R	1.59	145		Pn	01 56 31.5	+0.3
DEOK	Depew	1.86	141		Pn	01 56 35.3	+0.4
OKCSW	OKLAHOMA CITY	1.93	168	IAmb_Lg		01 57 02.2	
	comp=Z,8.8nm,0.7s						
CBKS	Cedar Bluff	2.08	317		Pn	01 56 38.8	+0.9
KSU1	Kansas State U	2.08	30		Pg	01 56 41.6	-0.5
FNO	Franklin	2.09	168		Pb	01 56 39.4	-1.3
W35A	Tecumseh	2.31	158		Pn	01 56 41.5	+0.5
SMWD	Samnorwood	2.88	221	IAmb_Lg		01 57 39.6	
	comp=Z,7.7nm,0.8s						
U38A	Gravette	2.97	106	IAmb_Lg		01 57 36.0	
	comp=Z,8.3nm,0.7s						
DKNS	Dickens	4.37	215	IAmb_Lg		01 58 27.3	
	comp=Z,4.5nm,0.8s						
MIAR	Mount Ida	4.48	127	IAmb_Lg		01 58 35.6	
	comp=Z,6.2nm,0.9s						
OGNE	Ogallala	4.84	320	IAmb_Lg		01 58 41.3	
	comp=Z,6.9nm,0.8s						
FCAR	Ozark Folk Cen	4.88	105	IAmb_Lg		01 58 45.7	
	comp=Z,4.3nm,0.8s						
CCM	Cathedral Cave	5.36	80	IAmb_Lg		01 58 56.8	
	comp=Z,5.0nm,0.8s						
T42A	Van Buren	5.47	91	IAmb_Lg		01 58 57.9	
	comp=Z,5.3nm,1.0s						
LCAR	Lake Charles	5.58	101	IAmb_Lg		01 59 01.1	
	comp=Z,9.0nm,1.1s						
N41A	Harden Midland	6.48	56	IAmb_Lg		01 59 40.7	
	comp=Z,14nm,1.2s						

MDD ***15*** *02:06:30.7±1.5, 36°.43N×9°.99W, h4km±9km, mb_Lg2.5/4, Error ellipse: s-maj=12.0km s-min=9.2km az=37.0*
SFS ***15*** *02:06:31.7, 36°.36N×9°.92W, h30km, ML2.9/7, ML3.0/7, MLv3.0/7*
INMG ***15*** *02:06:38.6±1.0, 36°.60N×9°.79W, h12km±4km, ML1.6, Error ellipse: s-maj=6.7km s-min=4.4km az=55.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
IGIL ***15*** *02:06:39.0, 36°.63N×9°.79W, h13km, ML1.2*
CNRM ***15*** *02:06:42.2, 35°.82N×9°.43W, h5km*

ISC 15 02:06:34.7±1.9, 36°.42N±0°.04×9°.83W±0°.09, h32km±13km, n36, σ1°.25/51, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	Vila Bisbo	1.08	48	eP	Pb	02 06 55.5	+0.6
PFVI				eS	Sb	02 07 08.1	-0.5
PFVI				i AML	AML	02 07 12.2	
PFVI				i AML	AML	02 07 13.9	
PFVI				i AML	AML	02 07 19.6	
PFVI	Vila Bisbo	1.08	48	S	Sb	02 07 08.1	-0.5
PFVI				P	Pn	02 06 53.9	+0.3
MORF	Marmelete	1.29	47	eP	Pb	02 06 58.7	+0.1
MORF				eS	Sn	02 07 13.3	+0.4
MORF				IAML		02 07 15.2	
	comp=N,4.2nm,0.2s						
MORF	Marmelete	1.29	47	eP	Pb	02 06 59.1	+0.5
MORF				eS	Sb	02 07 14.2	-0.7
MORF				i AML	AML	02 07 14.4	
MORF				i AML	AML	02 07 15.4	
MORF				i AML	AML	02 07 15.8	
PTEO	Sao Teotonio	1.43	38	eS	Sn	02 07 16.7	+0.5
PTEO				i AML	AML	02 07 17.6	
PTEO				i AML	AML	02 07 25.8	
PTEO				i AML	AML	02 07 26.2	
PBDV	Barranco-do-Ve	1.73	61	eS	Sb	02 07 25.5	-1.9
PBDV				i AML	AML	02 07 25.8	
PBDV				i AML	AML	02 07 28.9	
PBDV				i AML	AML	02 07 37.0	
PCVE	Castro Verde	1.88	49	S	Sn	02 07 28.7	+1.5
PCVE				P	Pn	02 06 57.9	-6.7
MESJ	Messejana	1.92	42	eS	Sn	02 07 27.8	-0.4
MESJ				IAML		02 07 28.9	
	comp=N,1.9nm,0.1s						
MESJ	Messejana	1.92	42	eS	Sn	02 07 28.7	+0.5
MESJ				i AML	AML	02 07 31.3	
MESJ				i AML	AML	02 07 31.6	
MESJ				i AML	AML	02 07 40.3	
PVAQ	Vaqueiros	1.96	59	P	Pn	02 06 59.8	-6.0
PVAQ				S	Sn	02 07 30.0	+0.8
EGRO	El Granado	2.19	59	P	Pn	02 07 03.9	-5.0
EGRO				S	Sn	02 07 35.1	+0.3
EGRO	El Granado	2.19	59	P	Pn	02 07 04.1	-4.8
EGRO				S	Sn	02 07 35.8	+1.0
EGRO				i Vmb_Lg		02 07 41.4	
PBEJ	Beja	2.25	44	eS	Sn	02 07 37.1	+0.8
EVO	Evora	2.56	34	eP	Pn	02 07 15.3	+1.3
EVO				eS	Sn	02 07 43.4	-0.6
EVO				i AML	AML	02 07 43.6	
EVO				i AML	AML	02 07 43.7	
EVO				i AML	AML	02 07 45.3	
EVO	Evora	2.56	34	P	Pn	02 07 14.8	+0.8
EVO				S	Sn	02 07 42.6	-1.4
PMAFR	Mafra	2.57	10	P	Pn	02 07 13.9	-0.2
PMAFR				S	Sn	02 07 43.8	-0.5
PBAR	Barrancos	2.83	51	eS	Sn	02 07 51.2	+0.3
PBAR				i AML	AML	02 07 52.9	
PBAR				i AML	AML	02 07 54.9	
PBAR				i AML	AML	02 07 56.8	
PBAR	Barrancos	2.83	51	P	Pn	02 07 19.2	+1.4
PBAR				S	Sn	02 07 51.1	+0.3
EMIN	Mina Concepcio	2.86	61	S	Sn	02 07 51.8	+0.3
PMTG	Montargil	2.94	25	eP	Pn	02 07 20.9	+1.8
PMTG				eS	Sn	02 07 52.0	-1.3
PMTG				i AML	AML	02 07 53.4	
PMTG				i AML	AML	02 07 54.1	
PMTG				i AML	AML	02 07 54.9	
PESTR	Estremoz	3.02	35	eS	Sn	02 07 54.8	-0.7
PESTR				i AML	AML	02 07 55.6	
PESTR				i AML	AML	02 08 04.5	
PESTR	Estremoz	3.02	35	P	Pn	02 07 19.5	-0.9
PESTR				S	Sn	02 07 54.0	-1.5
ESPR	Espera	3.23	81	P	Pn	02 07 22.5	-0.6
ESPR				S	Sn	02 08 02.0	+1.5
ESPR				i Vmb_Lg		02 08 04.2	
EBAD	Badajoz	3.23	43	P	Pn	02 07 22.9	-0.4
EBAD				S	Sn	02 07 59.6	-1.0
EBAD	Badajoz	3.23	43	P	Pn	02 07 22.5	-0.7
EBAD				S	Sn	02 08 00.2	-0.5
EBAD				i Vmb_Lg		02 08 02.9	
PMRV	Marv??o	3.57	32	eP	Pn	02 07 29.4	+1.5
PMRV				eS	Sn	02 08 07.6	-1.4
PMRV				i AML	AML	02 08 08.7	
PMRV				i AML	AML	02 08 11.7	
PMRV				i AML	AML	02 08 25.6	
ECAB	El Cabril	3.89	64	P	Pn	02 07 31.2	-1.1
ECAB				S	Sn	02 08 16.4	-0.5
ECAB				i Vmb_Lg		02 08 18.9	
EADA	Adamuz	4.54	66	S	Sn	02 08 32.0	-0.9
LCRM	LCR	4.91	122	P	Pn	02 07 48.3	+1.9
LCRM	LCR	4.91	122	S	Sn	02 08 41.0	-1.2
MD31	MD31	5.48	129	P	Pn	02 07 56.4	+2.1
MD31	MD31	5.48	129	S	Sn	02 08 53.8	-2.5
MDT	Midelt	5.61	128	P	Pn	02 07 58.4	+2.4
MDT	Midelt	5.61	128	S	Sn	02 08 56.9	-2.6
OUZM	OUZ	6.06	154	P	Pn	02 08 03.7	+1.4
OUZM	OUZ	6.06	154	S	Sn	02 09 08.3	-2.4

KRSC 15 02:32:40.1±1.0, 54°.84N×164°.05E, h47km±21km, Ml4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	1.17	71	eP	Pn	02 33 01.9	+2.0
BKI				eS	Sn	02 33 15.8	+1.1
MKZ	Mys Kozlova	1.37	259	eP	Pn	02 33 05.2	+2.5
MKZ				eS	Sn	02 33 21.2	+1.5
KBTR	Krutoberegovo	1.54	334	eP	Pn	02 33 06.2	+1.2
KBTR				eS	Sn	02 33 24.6	+0.8
KBG	Krutoberegovo	1.61	332	eP	Pn	02 33 07.2	+1.2
KBG				eS	Sn	02 33 26.8	+1.3
TUMD	Tumrok D	2.13	281	eP	Pn	02 33 16.0	+2.9
TUMD				eS	Sn	02 33 40.4	+2.0
ZLN	Zelenaya	2.19	304	eP	Pn	02 33 17.4	+3.3
BZGR	Bezymyannyi-Gr	2.21	301	eP	Pn	02 33 17.8	+3.5
CIRR	Tsirk	2.27	306	eP	Pn	02 33 18.3	+3.1
SMKR	Semkarok	2.27	321	eP	Pn	02 33 18.0	+2.8
SMKR				eS	Sn	02 33 46.6	+4.6
LGNR	Loginova	2.28	304	eP	Pn	02 33 18.9	+3.4
BZWR	Bezymyannyi-We	2.32	301	eP	Pn	02 33 19.5	+3.6
KMNR	Kamenistaya	2.36	294	eP	Pn	02 33 19.9	+3.5
KIRR	Kirishev	2.39	299	eP	Pn	02 33 20.6	+3.7
KRSR	Krestovskiy	2.41	306	eP	Pn	02 33 19.7	+2.6
KLY	Klyuchi	2.43	309	eP	Pn	02 33 19.0	+1.8
KPT	Kopyto	2.46	299	eP	Pn	02 33 21.3	+3.7
KOZ	Kozyrevsk	2.67	299	eP	Pn	02 33 24.4	+3.9
KII	Karymskiy	2.80	255	eP	Pn	02 33 26.0	+3.5
KII				eS	Sn	02 33 57.4	+2.4
SRDR	Sredinnyy	2.87	303	eP	Pn	02 33 26.8	+3.5
SPN	Mys Shipunski	2.95	235	eP	Pn	02 33 27.1	+2.7
SPN				eS	Sn	02 33 58.6	+0.1
ESO	Esso	3.24	292	eP	Pn	02 33 31.3	+3.0
NLC	Nalytchevo	3.24	241	eP	Pn	02 33 32.1	+3.8
SDLR	Sedlovina	3.42	245	eP	Pn	02 33 35.2	+4.2
KRER	Koryakskii	3.48	246	eP	Pn	02 33 36.3	+4.5
UGLR	Uglovaya	3.49	244	eP	Pn	02 33 35.9	+4.0
UGLR				eS	Sn	02 34 14.4	+2.6
AVH	Avacha	3.50	245	eP	Pn	02 33 36.4	+4.4
AVH				eS	Sn	02 34 15.3	+3.0
KRX	Arik	3.51	247	eP	Pn	02 33 36.1	+3.9
KOK	Koryaka	3.54	246	eP	Pn	02 33 37.2	+4.5
DALK	Dalny	3.62	242	eP	Pn	02 33 37.6	+4.1
PET	Petropavlovsk	3.67	242	eP	Pn	02 33 38.9	+4.6
GNL	Ganaly	3.76	255	eP	Pn	02 33 40.0	+4.4
KRMR	Karymshinskiy	4.04	243	eP	Pn	02 33 43.6	+4.2
RUS	Russkaya	4.08	236	eP	Pn	02 33 43.1	+3.2
GRL	Gorelyy	4.23	240	eP	Pn	02 33 46.3	+4.3
OSSR	Ossora	4.45	353

σ1§03/40, mb4.0/25, MS3.3/15, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.42	177	Pn	Pn	02 57 47.5	+0.5
DAV	Davao City (W)	3.42	177	Pn	Pn	02 57 45.6	-1.3
58nm,0.3s,baz=63,slow=4.9,SNR=6.3							
DAV				LR	LR	02 59 24.5	
comp=Z,1μm,21.7s,baz=6.5,slow=45							
173nm,0.3s							
TGY	Tagaytay City	5.65	310	Pn	Pn	02 58 16.6	-1.0
25nm,0.3s,baz=195,slow=16,SNR=1.1							
TGY				LR	LR	03 00 41.6	
comp=Z,355nm,18.7s,baz=244,slow=41							
SBUM	Sibu	15.35	239	P	Pn	03 00 31.0	+1.1
KAPI	Kappang	16.42	200	LR	LR	03 07 08.0	
comp=Z,72nm,21.2s,baz=0.5,slow=38							
JOW	Kunigami	16.46	9	LR	LR	03 07 48.1	
comp=Z,62nm,18.5s,baz=202,slow=40							
MTN	Manton Dam	23.89	166	P	P	03 02 07.8	+2.0
MTN				IAmb	IAmb	03 02 11.4	
comp=Z,15nm,1.1s							
LEM	Lembang	24.71	227	LR	LR	03 12 23.1	
comp=Z,161nm,18.9s,baz=168,slow=38							
KNRA	Kununurra	26.23	173	P	P	03 02 25.9	-1.2
CMAR	Chiang Mai Arr	26.79	290	P	P	03 02 32.5	+0.3
comp=Z,0.9nm,0.3s,baz=101,slow=7.7,SNR=4.4							
CMAR				LR	LR	03 11 59.4	
comp=Z,20nm,20.4s,baz=115,slow=34							
comp=Z,0.9nm,0.3s							
KSRS	Korea Array	26.92	4	P	P	03 02 33.5	+0.4
comp=Z,2.5nm,0.9s,baz=191,slow=9.6,SNR=5.5							
KSRS				LR	LR	03 12 48.6	
comp=Z,41nm,21.4s,baz=190,slow=36							
comp=Z,2.5nm,0.9s							
PSI	Prapat	27.38	256	LR	LR	03 15 47.0	
comp=Z,84nm,18.8s,baz=185,slow=41							
MJAR	Matsushiro Arr	28.38	22	LR	LR	03 13 56.7	
comp=Z,40nm,19.9s,baz=194,slow=36							
FITZ	Fitzroy Crossi	28.43	180	P	P	03 02 46.3	-0.4
FITZ				IAmb	IAmb	03 03 21.7	
comp=Z,4.4nm,1.4s							
WB0	Warramunga Arr	31.36	164	P	P	03 03 13.5	+0.8
WB0				IAmb	IAmb	03 03 47.6	
comp=Z,6.7nm,1.3s							
WRA	Warramunga Arr	31.51	164	P	P	03 03 13.6	-0.5
comp=Z,1.8nm,1.1s,baz=345,slow=9.3,SNR=4.2							
comp=Z,1.8nm,1.1s							
WB2	Warramunga Arr	31.52	164	P	P	03 03 15.2	+1.0
WB2				IAmb	IAmb	03 03 22.0	
comp=Z,9.6nm,1.3s							
USRK	Ussuriysk Ar.	34.04	8	P	P	03 03 34.7	-1.2
comp=Z,1.6nm,0.7s,baz=218,slow=11,SNR=4.8							
comp=Z,1.6nm,0.7s							
ASAR	Alice Springs	34.97	166	P	P	03 03 44.3	+0.1
comp=Z,1.3nm,0.8s,baz=342,slow=6.7,SNR=11							
ASAR				PcP	PcP	03 06 15.7	-0.3
comp=Z,0.4nm,0.8s,baz=336,slow=2.5,SNR=2.7							
comp=Z,1.3nm,0.8s							
SHL	Shillong	35.09	300	P	P	03 03 45.4	-0.2
ASAJ	Asahikawa	36.63	21	LR	LR	03 20 20.3	
comp=Z,18nm,18.8s,baz=16,slow=39							
GTA	Gaotai	36.71	326	*e*P	P	03 04 01.3	+2.2
GTA				sP	sP	03 04 16.9	+0.6
GTA				pmax	pmax		
comp=Z,7.0nm,1.0s							
HNR	Honiara	39.66	119	LR	LR	03 17 05.2	
comp=Z,52nm,21.4s,baz=302,slow=31							
SONM	Songino Array	40.50	340	P	P	03 04 31.7	+0.9
SONM	Songino Array	40.50	340	P	P	03 04 31.9	+1.1
comp=Z,0.5nm,0.8s,baz=151,slow=3.4,SNR=4.1							
comp=Z,0.5nm,0.8s							
H11S3	WAKE ISLAND Hy	40.66	74	T	T	03 47 41.7	
baz=264,slow=74							
H11S1	WAKE ISLAND Hy	40.67	74	T	T	03 47 41.4	
baz=264,slow=74							
H11S2	WAKE ISLAND Hy	40.68	74	T	T	03 47 44.2	
baz=264							
H11N1	WAKE ISLAND Hy	40.98	72	T	T	03 47 59.1	
baz=265,slow=74,SNR=19							
H11N2	WAKE ISLAND Hy	40.99	72	T	T	03 48 08.9	
baz=265,slow=74,SNR=11							
H11N3	WAKE ISLAND Hy	41.00	72	T	T	03 48 00.8	
baz=265,slow=74,SNR=13							
BBOO	Buckleboo	44.26	167	P	P	03 05 00.5	-0.9
PALK	Pallekele	44.26	270	LR	LR	03 26 31.9	
comp=Z,33nm,18.3s,baz=114,slow=40							
STKA	Stephens Creek	44.91	160	P	P	03 05 06.2	-0.4
comp=Z,1.4nm,0.6s,baz=317,slow=7.0,SNR=4.9							
comp=Z,1.4nm,0.6s							
PETK	Petropavlovsk-	49.77	25	P	P	03 05 43.8	-0.4
comp=Z,3.8nm,1.0s,baz=206,slow=13,SNR=3.7							
PETK				LR	LR	03 27 54.7	
comp=Z,21nm,18.9s,baz=234,slow=38							
comp=Z,3.8nm,1.0s							
MK31	Makanchi Array	51.33	323	P	P	03 05 56.5	+0.4
MKAR	Makanchi Array	51.33	323	P	P	03 05 56.4	+0.3
MKAR	Makanchi Array	51.33	323	P	P	03 05 56.6	+0.6
comp=Z,1.5nm,0.8s,baz=118,slow=8.3,SNR=12							
MKAR				PcP	PcP	03 07 09.5	-1.0
comp=Z,0.6nm,0.8s,baz=128,slow=4.4,SNR=1.6							
comp=Z,1.5nm,0.8s							
TARG	Taragay, Kyrgy	51.94	315	P	P	03 05 59.3	-1.9
TARG				IAmb	IAmb	03 06 02.6	
comp=Z,4.6nm,0.8s							
ZALV	Zalesovo Beam	54.01	332	P	P	03 06 14.8	-0.9
ZALV	Zalesovo Beam	54.01	332	P	P	03 06 15.7	0.0
comp=Z,1.9nm,0.7s,baz=123,slow=5.5,SNR=6.7							
ZALV				LR	LR	03 31 16.2	
comp=Z,26nm,18.3s,baz=111,slow=38							
comp=Z,1.9nm,0.7s							
AAK	Ala-Archa	54.56	315	LR	LR	03 31 28.1	
comp=Z,61nm,19.6s,baz=94,slow=38							
KURK	Kurchatov	55.39	326	P	P	03 06 25.8	+0.1
KURK				IAmb	IAmb	03 06 27.5	
comp=Z,7.8nm,1.1s							
KURBB	Kurchatov Arra	55.40	326	P	P	03 06 25.6	-0.1
comp=Z,1.2nm,0.6s,baz=123,slow=6.9,SNR=8.6							
comp=Z,1.2nm,0.6s							
KKAR	Karatay Array	57.48	315	P	P	03 06 40.5	-0.3
BVAR	Borovoye Array	60.99	326	P	P	03 07 05.0	+0.1
comp=Z,0.3nm,0.3s,baz=122,slow=7.2,SNR=4.1							
BVAR				LR	LR	03 32 45.7	
comp=Z,30nm,20.6s,baz=47,slow=35							
comp=Z,0.3nm,0.3s							
TIXI	Tiksi	61.13	1	P	P	03 07 05.7	+0.3
TIXI				IAmb	IAmb	03 07 06.7	
comp=Z,4.5nm,0.8s							
E19K	Redstone River	75.51	23	P	P	03 08 38.6	+3.1
E19K				IAmb	IAmb	03 09 10.5	
comp=Z,5.4nm,1.2s							
ILAR	Eielson Array	79.59	26	P	P	03 08 57.4	-0.9
comp=Z,0.3nm,0.8s,baz=252,slow=4.5,SNR=4.1							
comp=Z,0.3nm,0.8s							
FINES	FINESS Array B	85.28	332	P	P	03 09 27.6	-0.5
comp=Z,1.4nm,0.9s,baz=66,slow=6.5,SNR=3.9							
FINES				LR	LR	03 49 47.3	
comp=Z,32nm,18.1s,baz=353,slow=37							
comp=Z,1.4nm,0.9s							
AKASG	Malin Array Be	85.84	321	P	P	03 09 30.2	-0.9
comp=Z,0.1nm,0.3s,baz=68,slow=1.6,SNR=4.2							
comp=Z,0.1nm,0.3s							
HFS	Hagfors	91.45	332	LR	LR	03 57 28.5	
comp=Z,35nm,18.5s,baz=67,slow=40							
NOA	NORSAR Array B	92.17	334	LR	LR	03 55 19.7	
comp=Z,24nm,18.7s,baz=60,slow=38							
YKA	Yellowknife Ar	93.88	24	P	P	03 10 08.4	-0.2
comp=Z,0.2nm,0.8s,baz=297,slow=4.8,SNR=3.7							
comp=Z,0.2nm,0.8s							
PLCA	Paso Flores	146.75	158	PKPbc	PKPbc	03 16 33.6	-0.1
comp=Z,0.9nm,0.7s,baz=239,slow=8.6,SNR=1.3							

BEO ***15*** *03:16:34.6±0.7, 40°.47N×21°.84E, h5km±3km, ML2.3/5*
ATH ***15*** *03:16:34.3, 40°.42N×21°.64E, h20km±3km, ML2.5/9,*
Manual Solution by A.Moschou First location: 2019/03/15 03:17:37, This location: 2019/03/15 09:49:56 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
THE ***15*** *03:16:34.2, 40°.42N×21°.66E, h24km±1km, ML2.8/7, Error ellipse: s-maj=1.3km s-min=0.6km az=12.0*
SKO ***15*** *03:16:35.6, 40°.40N×21°.64E, h4km, ML2.4*
ISC 15 03:16:34.7±0.8, 40°.41N±0°.02×21°.66E±0°.02, h17km±6km, n44, σ0§88/71, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.13	141	P	Pb	03 16 39.3	+0.5
KZN				S	Sg	03 16 42.3	+1.1
7μm,0.5s							
KZN	Kozani	0.13	141	P	Pb	03 16 39.4	+0.6
KZN				S	Sg	03 16 42.4	+1.2
KTI	Kastanea	0.35	93	P	Pg	03 16 41.8	-0.2
FNA	Florina	0.43	330	P	Pg	03 16 42.7	-0.7
FNA				S	Sg	03 16 49.5	+0.1
3μm,0.2s							
FNA	Florina	0.43	330	*i* Pg	Pg	03 16 42.7	-0.7
FNA				*i* Sg	Sg	03 16 49.6	+0.3
FNA	Florina	0.43	330	*e*Pg	Pg	03 16 42.7	-0.7
FNA				*e*Sg	Sg	03 16 49.5	+0.1
FNA	Florina	0.43	330	P	Pg	03 16 42.7	-0.7
FNA				S	Sg	03 16 49.3	-0.1
PENT	Pentalofos	0.45	242	P	Pg	03 16 43.4	-0.5
PENT	Pentalofos	0.45	242	P	Pg	03 16 43.4	-0.5
PENT				S	Sg	03 16 50.7	+0.6
NEST	Nestorio	0.47	271	P	Pg	03 16 43.4	-0.7
NEST				S	Sg	03 16 50.4	-0.1
858nm,0.3s							
NEST	Nestorio	0.47	271	P	Pg	03 16 43.5	-0.6
NEST				S	Sg	03 16 49.9	-0.6
KPRO	Kipourio	0.51	207	P	Pg	03 16 44.3	-0.6
KPRO				S	Sg	03 16 53.1	+1.4
752nm,0.3s							
KPRO	Kipourio	0.51	207	P	Pg	03 16 44.1	-0.8
KPRO				S	Sg	03 16 52.0	+0.3
KBN	Korca	0.70	288	P	Pb	03 16 47.7	-0.8
KBN				S	Sb	03 16 58.3	+0.4
748nm,0.4s							
LIT	Litokhoron	0.71	116	P	Pb	03 16 47.5	-1.1
LIT				S	Sb	03 16 58.6	+0.6
588nm,0.3s							
LIT	Litokhoron	0.71	116	*i* Pg	Pb	03 16 47.9	-0.7
LIT				*i* Sg	Sg	03 16 59.4	+1.5
LIT	Litokhoron	0.71	116	P	Pb	03 16 47.5	-1.1
LIT				S	Sb	03 16 58.1	+0.1
GRG	Griva	0.78	46	*i* Pg	Pb	03 16 50.6	+0.7
GRG				*i* Sg	Sg	03 17 01.6	+1.3
GRG	Griva	0.78	46	P	Pb	03 16 50.2	+0.3
GRG				S	Sb	03 16 59.9	-0.4
TYRN	Tyrnavos	0.83	148	P	Pb	03 16 49.7	-0.9
TYRN				S	Sb	03 17 01.1	-0.3
335nm,0.5s							
TYRN	Tyrnavos	0.83	148	P	Pb	03 16 49.9	-0.6
TYRN				S	Sb	03 17 01.3	-0.1
THL	Klokotos Trika	0.89	162	P	Pb	03 16 50.5	-1.1
THL	Klokotos Trika	0.89	162	P	Pb	03 16 50.6	-1.1
THL				S	Sb	03 17 02.1	-1.1
OHR	Ohrid	0.96	317	*i* Pg	Pb	03 16 52.9	0.0
OHR				*i* Sg	Sg	03 17 07.2	+1.3
OHR				*e*Lg	Lg	03 17 08.7	
comp=N,118nm,0.7s							
OHR				*e*Lg	Lg	03 17 09.9	
comp=E,171nm,0.4s							
OHR	Ohrid	0.96	317	*e*Pg	Pb	03 16 52.7	-0.2
OHR				*e*Sg	Sn	03 17 07.7	+0.9
THE	Thessaloniki	1.02	77	*i* Pg	Pb	03 16 53.6	-0.2
THE				*i* Sg	Sg	03 17 08.3	+0.5
VAY	Valandovo	1.14	37	*i* Sg	Sg	03 17 12.7	+1.1
VAY				*e*Lg	Lg	03 17 15.2	
comp=N,42nm,0.6s							
VAY				*e*Lg	Lg	03 17 17.0	
comp=E,23nm,0.4s							
VAY	Valandovo	1.14	37	*e*Pn	Pn	03 16 56.2	+0.3
KNT	Kendrikon	1.20	51	*i* Pg	Pb	03 16 57.7	+0.7
KNT	Kendrikon	1.20	51	P	Pn	03 16 57.0	+0.3
IGT	Igoumenitsa	1.35	230	*i* Pg	Pg	03 17 01.8	+1.1
IGT				*i* Sg	Sg	03 17 21.6	+3.4
IGT	Igoumenitsa	1.35	230	*e*Pn	Pg	03 17 01.7	+1.1
SOH	Sokhos	1.35	72	P	Pn	03 16 59.1	+0.2
SOH				S	Sn	03 17 15.7	-0.8
XOR	Xorichti	1.57	131	P	Pn	03 17 01.1	-0.8
SRS	Serrai	1.63	64	*i* Pg	Pn	03 17 02.7	+0.1
SRS				*i* Sg	Sn	03 17 23.3	+0.1
SRS	Serrai	1.63	64	*e*Pg	Pn	03 17 02.4	-0.2
SRS				*e*Sg	Sn	03 17 20.7	-2.5
OUR	Ouranopolis	1.77	92	P	Pn	03 17 04.8	+0.1
MMB	Musomishta	1.95	54	*i* Pn	Pn	03 17 07.0	0.0
BOSS	Bosilegrad	2.17	16	*e*Pn	Pn	03 17 10.2	+0.1
BARS	Barje	2.41	3	*e*Pn	Pn	03 17 13.8	+0.5
SELS	Selova	2.83	352	*e*Pn	Pn	03 17 19.8	+0.6
ZAPS	Zavoj	2.95	14	*e*Pn	Pn	03 17 21.3	+0.5
GRUS	Gruza	3.54	349	*e*Pn	Pn	03 17 28.2	-0.8
DIVS	Divibare	3.89	342	*e*Pn	Pn	03 17 34.7	+0.9

NEIC ***15*** *03:22:18.3±1.2, 18°.2N±0°.4×68°.94W±0°.08, h102km±19km, ML2.6/16, Md2.6/13(RSPR), Error ellipse: s-maj=53.6km s-min=8.9km az=188.0*
OSPL ***15*** *03:22:19.6±1.1, 18°.29N×68°.79W, h109km±17km, ML2.6*
RSPR ***15*** *03:22:19.8, 18°.48N×68°.81W, h105km±1km, MD2.6/13*
SDD ***15*** *03:22:19.6±0.7, 18°.36N×68°.88W, h110km±5km, MD3.2, ML2.5, MW2.8*
ISC 15 03:22:17.9±1.5, 18°.35N±0°.08×68°.88W±0°.04, h111km±8km, n50, σ0§84/61, 7C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	Isla Saona	0.19	149	*e*Pg	Pn	03 22 34.3	+0.8
SADR	Isla Saona	0.19	149	⇓*e*P	Pn	03 22 34.7	+1.2
SADR	Isla Saona	0.19	149	*e*S	Sn	03 22 46.1	+1.0
HIDR	Higuey Centro	0.28	33	⇑*e*P	Pn	03 22 34.5	+0.7
HIDR	Higuey Centro	0.28	33	*e*S	Sn	03 22 44.8	-0.9
PCDR	Punta Cana, DR	0.50	71		Pn	03 22 34.8	-0.1
PCDR					Sn	03 22 47.0	-0.7
PCDR				IAML		03 23 05.5	
comp=N,137nm,2.6s							
PCDR	Punta Cana, DR	0.50	71	*e*Pg	Pn	03 22 35.6	+0.7
PCDR				⇑*e*Sg	Sn	03 22 47.1	-0.5
PCDR				IAML		03 23 27.1	
comp=N,136nm,1.9s							
PCDR	Punta Cana, DR	0.50	71	⇓*e*P	Pn	03 22 34.9	-0.1
PCDR	Punta Cana, DR	0.50	71	*e*S	Sn	03 22 47.0	-0.7
PCDR	Punta Cana, DR	0.50	71	*i* P	Pn	03 22 34.0	-0.1
PCDR				*e*S	Sn	03 22 46.9	-0.8
PCDR				IAML		03 22 48.8	
comp=Z,73nm,1.4s							
DR12	Loma Pena Alta	0.64	313	Pn	Pn	03 22 36.0	0.0
DR12				Sn	Sn	03 22 49.3	-0.3
HATOM	Hato Mayor del	0.64	312	*e*Pg	Pn	03 22 36.2	+0.2
HATOM				*e*Sg	Sn	03 22 49.1	-0.5
HATOM				IAML		03 22 53.4	
comp=N,51nm,0.3s							
MIDR	Miches	0.65	346	*e*Pg	Pn	03 22 36.3	+0.4
MIDR				IAML		03 22 50.1	
comp=N,20nm,1.1s							
MIDR	Miches	0.65	346	⇓*e*P	Pn	03 22 35.9	-0.1
MIDR	Miches	0.65	346	*e*S	Sn	03 22 49.1	-0.5
SMDR	Samana, DR	0.98	343	⇑*e*P	Pn	03 22 39.8	+0.8
SMDR	Samana, DR	0.98	343	*e*S	Sn	03 22 54.4	-0.4
SDD	Santo Domingo	0.98	276	Pn	Pn	03 22 38.6	-0.4
SDD				IAML		03 23 10.3	
comp=N,200nm,2.4s							
DR08	Loma La Naviza	1.24	299	*e*Pg	Pn	03 22 42.3	+0.5
DR08				*e*Sg	Sn	03 22 59.5	-0.4
DR08				IAML		03 23 06.7	
comp=N,1μm,0.2s							
AGPR	Aguadilla, PR	1.69	86		Sn	03 23 09.1	-0.1
AGPR	Aguadilla, PR	1.69	86	*e*S	Sn	03 23 09.1	-0.1
LSP	Las Mesas	1.72	96		Pn	03 22 48.1	+0.6
LSP					Sn	03 23 11.1	+1.1
LSP	Las Mesas	1.72	96	⇓*e*P	Pn	03 22 48.1	+0.6
LSP	Las Mesas	1.72	96	*e*S	Sn	03 23 11.1	+1.1
CRPR	Cabo Rojo, PR	1.72	101		Pn	03 22 47.4	0.0
CRPR					Sn	03 23 09.3	-0.6
CRPR	Cabo Rojo, PR	1.72	101	IAML		03 23 19.9	
comp=N,31nm,3.1s							
CRPR				IAML		03 23 29.0	
comp=E,32nm,2.0s							
CRPR	Cabo Rojo, PR	1.72	101	⇑*e*P	Pn	03 22 47.4	0.0
CRPR	Cabo Rojo, PR	1.72	101	*e*S	Sn	03 23 09.3	-0.6
CRPR	Cabo Rojo, PR	1.72	101	*i* P	Pn	03 22 47.4	0.0
CRPR				*e*S	Sn	03 23 06.2	-3.7
CRPR				IAML		03 23 19.1	
comp=Z,43nm,2.1s							
MLPR	Magueyes Islan	1.79	102	*e*Pg	Pn	03 22 48.6	+0.3
MLPR				*e*Sg	Sn	03 23 09.7	-1.8
MLPR				IAML		03 23 55.0	
comp=N,9.3nm,2.0s							
MLPR	Magueyes Islan	1.79	102	⇑*e*P	Pn	03 22 48.0	-0.3
MLPR	Magueyes Islan	1.79	102	*e*S	Sn	03 23 11.5	0.0
AOPR	Arecibo Observ	2.02	90		Pn	03 22 52.1	+0.9
AOPR					Sn	03 23 17.5	+0.8
AOPR	Arecibo Observ	2.02	90	IAML		03 23 20.8	
comp=E,51nm,0.3s							
AOPR				IAML		03 23 22.0	
comp=N,42nm,0.4s							
AOPR	Arecibo Observ	2.02	90	*e*Pg	Pn	03 22 51.3	+0.1
AOPR				*e*Sg	Sn	03 23 15.5	-1.2
AOPR				IAML		03 23 21.9	
comp=N,40nm,0.2s							
AOPR	Arecibo Observ	2.02	90	⇓*e*P	Pn	03 22 52.1	+0.9
AOPR	Arecibo Observ	2.02	90	*e*S	Sn	03 23 17.5	+0.8
UUPR	Utuado, UPR, P	2.06	92		Pn	03 22 53.0	+1.3
UUPR					Sn	03 23 17.4	-0.1
UUPR	Utuado, UPR, P	2.06	92	IAML		03 23 20.8	
comp=N,67nm,0.5s							
UUPR	Utuado, UPR, P	2.06	92	⇑*e*P	Pn	03 22 53.0	+1.3
UUPR	Utuado, UPR, P	2.06	92	*e*S	Sn	03 23 17.4	-0.1
CELP	Cerrillos	2.21	97		Pn	03 22 53.5	-0.1
CELP					Sn	03 23 20.2	-0.8
CELP	Cerrillos	2.21	97	IAML		03 23 39.1	
comp=E,18nm,2.9s							
CELP	Cerrillos	2.21	97	⇓*e*P	Pn	03 22 53.5	-0.1
CELP	Cerrillos	2.21	97	*e*S	Sn	03 23 20.2	-0.8
ECPR	Experimental S	2.39	90	⇑*e*P	Pn	03 22 56.6	+0.6
ECPR	Experimental S	2.39	90	*e*S	Sn	03 23 24.9	-0.3
LOBH	Bahia de las A	2.67	260	*i* P	Pn	03 23 00.0	+0.5
LOBH				*e*S	Sn	03 23 31.3	-0.3
LOBH				IAML		03 23 42.0	
comp=Z,43nm,1.8s							
HUMP	Col San Antoni	2.89	94		Sn	03 23 36.3	-0.5
HUMP	Col San Antoni	2.89	94	*e*S	Sn	03 23 36.3	-0.5

IDC ***15*** *03:38:13.9±1.3, 14°.53S×167°.86E, h0km, mb4.0/9, mbtmp4.0/10, ML4.1/1, MS3.1/2, Error ellipse: s-maj=41.7km s-min=22.5km az=125.0*
NEIC ***15*** *03:38:16.6±1.1, 14°.61S±0°.09×167°.9E±0°.2, h10km±2km, mb4.7/8, Error ellipse: s-maj=32.6km s-min=15.8km az=91.0*
NOU ***15*** *03:38:20.0, 14°.91S×167°.66E, h9km, mb4.7/21, Vanuatu Islands*
ISC 15 03:38:18.2±0.7, 14°.70S±0°.07×168°.1E±0°.1, h30km, n37, σ1§45/35, mb4.4/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.01	178	P	Pn	03 39 05.9	+2.1
KOUNC	Koumac, New Ca	6.83	211	P	Pn	03 39 57.1	+0.7
0.2nm,0.6s							
YATNC	Mamie plateau,	7.40	188	P	Pn	03 40 04.6	+0.4
YATNC	Mamie plateau,	7.40	188	S	Sn	03 41 27.1	-0.1
DZM	Mont Dzumac	7.49	192	Pn	Pn	03 40 06.3	+0.9
2.7nm,0.3s,baz=347,slow=23,SNR=30							
DZM				Sn	Sn	03 41 25.2	-4.2
1.1nm,0.3s,baz=307,slow=21,SNR=4.4							
5.0nm,0.3s							
DZM	Mont Dzumac	7.49	192	P	Pn	03 40 06.3	+0.9
14nm,0.7s							
DZM	Mont Dzumac	7.49	192	P	Sn	03 41 29.5	+0.1
14nm,0.7s							
ONTNC	Ouen Toro	7.71	191	Pn	Pn	03 40 11.3	+2.8
PINNC	Pines Island,	7.89	184	Pn	Pn	03 40 11.2	+0.3
HNR	Honiara	9.50	303	LR	LR	03 43 21.8	
comp=Z,63nm,21.0s,baz=96,slow=33							
MSVF	Nonsavu	10.06	109	LR	LR	03 43 45.9	
comp=Z,172nm,18.5s,baz=227,slow=32							
FUNA	Funafuti	12.52	62	P	P	03 41 25.3	-0.4
GD1S	Gladstone Soft	18.34	238	P	P	03 42 29.4	-0.8
STKA	Stephens Creek	29.59	230	P	P	03 44 21.8	+1.1
STKA	Stephens Creek	29.59	230	P	P	03 44 21.1	+0.4
8.5nm,0.6s,baz=51,slow=7.8,SNR=20							
8.5nm,0.6s							
STKA	Stephens Creek	29.59	230	P	P	03 44 22.1	+1.4
2.6nm,0.8s							
GENI	Genyem	30.03	291	P	P	03 44 28.1	+3.4
LCRK	Leigh Creek	31.57	235	P	P	03 44 39.2	+1.1
14nm,1.3s							
HTT	Hallett	32.31	230	P	P	03 44 46.0	+1.3
12nm,0.7s							
WB0	Warramunga Arr	32.51	256	P	P	03 44 44.9	-1.7
WRA	Warramunga Arr	32.57	256	P	P	03 44 45.3	-1.8
WRA	Warramunga Arr	32.57	256	P	P	03 44 45.4	-1.8
1.0nm,0.9s,baz=86,slow=9.5,SNR=12							
1.0nm,0.9s							
ASAR	Alice Springs	33.39	249	P	P	03 44 53.1	-1.2
2.3nm,0.5s,baz=78,slow=8.8,SNR=33							
2.3nm,0.5s							
BBOO	Buckleboo	34.20	233	P	P	03 45 02.1	+0.9
BBOO	Buckleboo	34.20	233	P	P	03 45 02.0	+0.9
22nm,0.7s							
KNRA	Kununurra	37.90	263	P	P	03 45 32.3	-0.7
KNRA				IAmb	IAmb	03 46 03.8	
comp=Z,23nm,1.3s							
WRKA	Warakurna	38.65	248	P	P	03 45 38.7	-0.6
comp=Z,10nm,0.7s							
FORT	Forrest	39.96	239	P	P	03 45 50.3	+0.2
FORT				IAmb	IAmb	03 45 57.5	
comp=Z,15nm,0.8s							
FORT	Forrest	39.96	239	P	P	03 45 50.1	0.0
comp=Z,27nm,1.0s							
MORW	Morawa	49.96	244	P	P	03 47 09.8	0.0
MORW				IAmb	IAmb	03 47 29.9	
comp=Z,21nm,1.4s							
KSRS	Korea Array	64.15	325	P	P	03 48 49.5	-0.3
comp=Z,

PTEO	**Sao Teotonio**	**1.49**	**41**	*eP*	**Pn**	**04 05 41.1**	**+1.8**
PTEO				*eS*	**Sn**	**04 05 57.5**	**-0.2**
PTEO				*i* AML	AML	04 05 58.6	
PTEO				*i* AML	AML	04 05 58.9	
PTEO				*i* AML	AML	04 06 04.1	
PBDV	**Barranco-do-Ve**	**1.81**	**62**	*eP*	**Pn**	**04 05 45.8**	**+2.1**
PBDV				*eS*	**Sn**	**04 06 06.0**	**+0.3**
PBDV				*i* AML	AML	04 06 06.8	
PBDV				*i* AML	AML	04 06 08.4	
PBDV				*i* AML	AML	04 06 08.7	
PCVE	**Castro Verde**	**1.94**	**51**	*eP*	**Pn**	**04 05 47.8**	**+2.2**
PCVE				*eS*	**Sn**	**04 06 09.3**	**+0.3**
PCVE				*i* AML	AML	04 06 10.0	
PCVE				*i* AML	AML	04 06 11.2	
PCVE				*i* AML	AML	04 06 13.4	
PCVE	**Castro Verde**	**1.94**	**51**	Pn	**Pn**	**04 05 47.7**	**+2.2**
PCVE				Sn	**Sn**	**04 06 08.7**	**-0.3**
MESJ	**Messejana**	**1.98**	**44**	*eP*	**Pn**	**04 05 47.8**	**+1.8**
MESJ				*eS*	**Sn**	**04 06 08.4**	**-1.4**
MESJ				IAML		04 06 09.6	
	comp=N,2.9nm,0.1s						
MESJ	**Messejana**	**1.98**	**44**	*eP*	**Pn**	**04 05 48.0**	**+2.0**
MESJ				*eS*	**Sn**	**04 06 09.2**	**-0.5**
MESJ				*i* AML	AML	04 06 12.4	
MESJ				*i* AML	AML	04 06 13.5	
MESJ				*i* AML	AML	04 06 18.0	
PVAQ	**Vaqueiros**	**2.03**	**60**	*eP*	**Pn**	**04 05 48.8**	**+2.0**
PVAQ				*eS*	**Sn**	**04 06 11.2**	**0.0**
PVAQ				*i* AML	AML	04 06 14.4	
PVAQ	**Vaqueiros**	**2.03**	**60**	Pn	**Pn**	**04 05 48.8**	**+2.0**
EGRO	**El Granado**	**2.26**	**60**	Pn	**Pn**	**04 05 51.8**	**+1.9**
EGRO				Sn	**Sn**	**04 06 15.9**	**-0.9**
EGRO	**El Granado**	**2.26**	**60**	P	**Pn**	**04 05 51.5**	**+1.6**
EGRO				S	**Sn**	**04 06 16.2**	**-0.6**
EGRO				*i* Vmb_Lg		04 06 19.3	
PBEJ	**Beja**	**2.31**	**45**	*eP*	**Pn**	**04 05 52.4**	**+1.9**
PBEJ				*eS*	**Sn**	**04 06 17.3**	**-0.6**
PBEJ				*i* AML	AML	04 06 19.2	
PBEJ				*i* AML	AML	04 06 19.8	
PBEJ				*i* AML	AML	04 06 22.0	
PMAFR	**Mafra**	**2.58**	**11**	*eP*	**Pn**	**04 05 56.0**	**+1.6**
PMAFR				*eS*	**Sn**	**04 06 23.6**	**-1.2**
PMAFR				*i* AML	AML	04 06 28.4	
PMAFR				*i* AML	AML	04 06 29.6	
PMAFR				*i* AML	AML	04 06 30.1	
PMAFR	**Mafra**	**2.58**	**11**	Pn	**Pn**	**04 05 56.0**	**+1.6**
PMAFR				Sn	**Sn**	**04 06 23.5**	**-1.3**
EVO	**Evora**	**2.61**	**35**	*eP*	**Pn**	**04 05 55.8**	**+1.1**
EVO				*eS*	**Sn**	**04 06 24.1**	**-1.2**
EVO				*i* AML	AML	04 06 24.8	
EVO				*i* AML	AML	04 06 25.7	
EVO				*i* AML	AML	04 06 25.9	
EVO	**Evora**	**2.61**	**35**	Pn	**Pn**	**04 05 55.1**	**+0.5**
EVO				Sn	**Sn**	**04 06 23.8**	**-1.5**
PBAR	**Barrancos**	**2.90**	**52**	*eP*	**Pn**	**04 06 00.6**	**+1.9**
PBAR				*eS*	**Sn**	**04 06 31.9**	**-0.7**
PBAR				*i* AML	AML	04 06 33.5	
PBAR				*i* AML	AML	04 06 33.6	
PBAR				*i* AML	AML	04 06 34.1	
PBAR	**Barrancos**	**2.90**	**52**	Pn	**Pn**	**04 06 00.4**	**+1.6**
PBAR				Sn	**Sn**	**04 06 31.7**	**-0.9**
EMIN	**Mina Concepcio**	**2.94**	**62**	Pn	**Pn**	**04 06 00.6**	**+1.4**
EMIN	**Mina Concepcio**	**2.94**	**62**	P	**Pn**	**04 06 00.6**	**+1.4**
EMIN				S	**Sn**	**04 06 33.0**	**-0.5**
EMIN				*i* Vmb_Lg		04 06 35.2	
PMTG	**Montargil**	**2.97**	**27**	*eP*	**Pn**	**04 06 01.4**	**+1.7**
PMTG				*eS*	**Sn**	**04 06 33.0**	**-1.4**
PMTG				*i* AML	AML	04 06 33.6	
PMTG				*i* AML	AML	04 06 34.8	
PMTG				*i* AML	AML	04 06 36.2	
PESTR	**Estremoz**	**3.07**	**37**	*eP*	**Pn**	**04 06 03.5**	**+2.3**
PESTR				*eS*	**Sn**	**04 06 35.7**	**-1.2**
PESTR				*i* AML	AML	04 06 37.0	
PESTR				*i* AML	AML	04 06 37.8	
PESTR				*i* AML	AML	04 06 38.4	
PESTR	**Estremoz**	**3.07**	**37**	Pn	**Pn**	**04 06 03.2**	**+2.1**
PESTR				Sn	**Sn**	**04 06 35.0**	**-1.8**
PSBE	**So Bento**	**3.22**	**16**	*eP*	**Pn**	**04 06 05.2**	**+2.0**
PSBE				*eS*	**Sn**	**04 06 38.7**	**-1.8**
PSBE				*i* AML	AML	04 06 41.4	
EBAD	**Badajoz**	**3.29**	**44**	Pn	**Pn**	**04 06 05.5**	**+1.4**
EBAD				Sn	**Sn**	**04 06 40.0**	**-2.3**
EBAD	**Badajoz**	**3.29**	**44**	P	**Pn**	**04 06 05.0**	**+0.9**
EBAD				S	**Sn**	**04 06 40.4**	**-1.8**
EBAD				*i* Vmb_Lg		04 06 43.9	
ESPR	**Espera**	**3.31**	**81**	Pn	**Pn**	**04 06 06.6**	**+2.2**
ESPR				Sn	**Sn**	**04 06 41.9**	**-0.9**
ESPR	**Espera**	**3.31**	**81**	P	**Pn**	**04 06 06.8**	**+2.4**
ESPR				S	**Sn**	**04 06 41.9**	**-0.9**
ESPR				*i* Vmb_Lg		04 06 46.2	
PMRV	**Marv??o**	**3.62**	**33**	*eP*	**Pn**	**04 06 10.0**	**+1.4**
PMRV				*eS*	**Sn**	**04 06 48.3**	**-1.9**
PMRV				*i* AML	AML	04 06 49.5	
PMRV				*i* AML	AML	04 06 49.9	
PMRV				*i* AML	AML	04 06 50.5	
PCAS	**Casmilo, Conde**	**3.80**	**17**	*eP*	**Pn**	**04 06 12.8**	**+1.7**
PCAS				*eS*	**Sn**	**04 06 53.4**	**-1.4**
PCAS				*i* AML	AML	04 06 56.8	
PCAS				*i* AML	AML	04 06 58.5	
PCAS				*i* AML	AML	04 06 59.5	
PCBR	**Castelo Branco**	**3.93**	**29**	*eS*	**Sn**	**04 06 56.0**	**-1.9**
PCBR				*i* AML	AML	04 06 57.9	
PCBR				*i* AML	AML	04 06 58.0	
PCBR				*i* AML	AML	04 07 07.4	
ECAB	**El Cabril**	**3.97**	**64**	Pn	**Pn**	**04 06 15.5**	**+2.0**
ECAB				Sn	**Sn**	**04 06 57.4**	**-1.5**
ECAB	**El Cabril**	**3.97**	**64**	P	**Pn**	**04 06 15.4**	**+2.0**
ECAB				S	**Sn**	**04 06 57.1**	**-1.9**
ECAB				*i* Vmb_Lg		04 06 59.9	
ZHG	**ZHG**	**4.02**	**137**	P	**Pn**	**04 06 17.0**	**+2.8**
ZHG	**ZHG**	**4.02**	**137**	S	**Sn**	**04 06 56.3**	**-3.9**
MTE	**Manteigas**	**4.40**	**25**	*eP*	**Pn**	**04 06 20.9**	**+1.5**
MTE				*eS*	**Sn**	**04 07 07.3**	**-2.3**
MTE				*i* AML	AML	04 07 10.3	
MTE				*i* AML	AML	04 07 11.0	
MTE				*i* AML	AML	04 07 11.5	
PVIS	**Viseu**	**4.58**	**20**	*eP*	**Pn**	**04 06 23.7**	**+1.8**
PVIS				*eS*	**Sn**	**04 07 11.3**	**-2.8**
EADA	**Adamuz**	**4.62**	**66**	P	**Pn**	**04 06 24.4**	**+2.1**
EADA				S	**Sn**	**04 07 13.5**	**-1.5**
EADA				*i* Vmb_Lg		04 07 16.0	
EPLA	**Plasencia**	**4.74**	**39**	P	**Pn**	**04 06 25.5**	**+1.5**
EPLA				S	**Sn**	**04 07 15.8**	**-2.2**
EPLA				*i* Vmb_Lg		04 07 18.3	
PVRL	**Vila Real**	**5.15**	**19**	*eP*	**Pn**	**04 06 31.9**	**+2.2**
PVRL				*eS*	**Sn**	**04 07 24.4**	**-3.7**
POLO	**Lamas de Olo**	**5.22**	**18**	*eP*	**Pn**	**04 06 32.1**	**+1.4**
POLO				*eS*	**Sn**	**04 07 27.2**	**-2.8**
MVO	**Moncorvo**	**5.25**	**25**	*eP*	**Pn**	**04 06 32.6**	**+1.5**
MVO				*eS*	**Sn**	**04 07 27.4**	**-3.3**
MVO				*i* AML	AML	04 07 29.6	
MVO				*i* AML	AML	04 07 32.4	
MVO				*i* AML	AML	04 07 40.5	
PAB	**San Pablo**	**5.41**	**53**	P	**Pn**	**04 06 34.0**	**+0.7**
PAB				S	**Sn**	**04 07 30.7**	**-3.8**
PAB				*i* Vmb_Lg		04 07 36.3	
PSIM	**Granatula de C**	**5.46**	**62**	P	**Pn**	**04 06 35.3**	**+1.4**
PSIM				S	**Sn**	**04 07 33.0**	**-2.9**
PCAB	**Cabril**	**5.49**	**15**	*eP*	**Pn**	**04 06 35.9**	**+1.5**
PCAB				*eS*	**Sn**	**04 07 34.6**	**-1.8**
MD31	**MD31**	**5.55**	**128**	P	**Pn**	**04 06 37.2**	**+2.0**
MD31	**MD31**	**5.55**	**128**	S	**Sn**	**04 07 33.5**	**-4.5**
ELOB	**Lobios**	**5.63**	**14**	P	**Pn**	**04 06 37.8**	**+1.4**
ELOB				S	**Sn**	**04 07 36.0**	**-4.1**
ELOB				*i* Vmb_Lg		04 07 42.3	
EQES	**Quesada**	**5.66**	**74**	P	**Pn**	**04 06 38.4**	**+1.6**
EQES				S	**Sn**	**04 07 39.2**	**-1.6**
EQES				*i* Vmb_Lg		04 07 50.9	
MDT	**Midelt**	**5.68**	**128**	P	**Pn**	**04 06 39.2**	**+2.2**
MDT	**Midelt**	**5.68**	**128**	S	**Sn**	**04 07 38.1**	**-3.2**
PGAV	**Gavieira, Arco**	**5.69**	**13**	*eP*	**Pn**	**04 06 39.0**	**+1.9**
PGAV				*eS*	**Sn**	**04 07 39.7**	**-1.8**
TIO	**Tiouine**	**5.92**	**157**	P	**Pn**	**04 06 43.1**	**+2.8**
TIO	**Tiouine**	**5.92**	**157**	S	Sn	04 07 41.0	-6.2
TTIG	**Tnine Tigouga,**	**5.99**	**168**	P	**Pn**	**04 06 42.4**	**+1.0**
TTIG	**Tnine Tigouga,**	**5.99**	**168**	S	Sn	04 07 42.5	-6.5
OUZM	**OUZ**	**6.10**	**153**	P	**Pn**	**04 06 45.3**	**+2.4**
OUZM	**OUZ**	**6.10**	**153**	S	**Sn**	**04 07 47.2**	**-4.5**
GUD	**Guadarrama**	**6.19**	**45**	P	**Pn**	**04 06 43.9**	**-0.2**
GUD				S	**Sn**	**04 07 50.6**	**-3.3**
GUD				*i* Vmb_Lg		04 08 01.9	

*NEIC **15** 04:07:01.6±0.5, 37.°072N±0.°004×97.°97W±0.°02, h5km±1km, mb_Lg2.3/19, ML2.4/12, ML2.7/38, Error ellipse: s-maj=2.6km s-min=2.4km az=112.0*

NEIC 15 04:07:01.8±0.2, 37.°072N±0.°010×97.°98W±0.°02, h7km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=102.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.09**	**67**		Pg	04 07 04.2	+0.2
KAN05				Sg	Sg	04 07 05.8	+0.2
KAN05				IAML		04 07 06.1	
	comp=E,5μm,0.4s						
KAN10	**Anthony SW Sta**	**0.10**	**299**		Pg	04 07 06.2	+2.0
KAN14	**Manchester OK**	**0.12**	**173**		Pg	04 07 04.6	+0.2
KAN14				Sg	Sg	04 07 06.6	+0.5
KAN14				IAML		04 07 06.7	
	comp=N,2μm,0.3s						
KAN14				IAML		04 07 06.7	
	comp=E,3μm,0.2s						
KAN08	**Anthony NE Sta**	**0.15**	**3**		Pg	04 07 05.3	+0.3
KAN17	**Caldwell West**	**0.17**	**99**		Pg	04 07 05.6	+0.3
KAN17				IAML		04 07 08.5	
	comp=E,1μm,0.3s						
KAN01	**Argonia South**	**0.20**	**65**		Pg	04 07 06.0	+0.2
KAN01				Sg	Sg	04 07 08.9	+0.4
KAN01				IAML		04 07 09.0	
	comp=E,2μm,0.2s						
KAN06	**Argonia West S**	**0.20**	**29**		Pg	04 07 06.1	+0.3
KAN12	**Harper NE Stat**	**0.23**	**357**		Pg	04 07 06.6	+0.3
KAN12				Sg	Sg	04 07 09.9	+0.5
KAN12				IAML		04 07 10.1	
	comp=E,1μm,0.3s						
GC02	**Grant County #**	**0.24**	**156**		Pg	04 07 06.8	+0.3
GC02				Sg	Sg	04 07 10.4	+0.6
KAN09	**Caldwell North**	**0.30**	**77**		Pg	04 07 07.9	+0.2
KAN09				Sg	Sg	04 07 12.1	+0.5
OK032	**Salt Plains WL**	**0.33**	**215**		Pg	04 07 08.4	+0.2
KAN13	**South Haven SW**	**0.41**	**98**		Pg	04 07 09.8	+0.1
KAN13					Sg	04 07 15.4	+0.3
KAN13				IAML		04 07 19.2	
	comp=E,485nm,0.3s						
CROK	**Carrier**	**0.57**	**180**		Pg	04 07 12.6	-0.1
CROK					Sg	04 07 20.8	+0.7
CROK				IAML		04 07 24.7	
	comp=E,419nm,0.3s						
BLOK	**Blackwell**	**0.69**	**117**		Pg	04 07 14.8	-0.3
BLOK				IAML		04 07 24.8	
	comp=N,414nm,0.2s						
BLOK				IAML		04 07 32.8	
	comp=E,318nm,0.2s						
OK038	**West end E0370**	**0.85**	**226**		Pg	04 07 17.9	-0.3
OK048	**Pawnee Station**	**1.06**	**128**		Pg	04 07 21.6	-0.5
OK048				IAML		04 07 36.1	
	comp=E,158nm,0.3s						
OK048				IAML		04 07 41.2	
	comp=E,208nm,0.2s						
T35A	**Sooner Cattle**	**1.19**	**97**		Pg	04 07 23.9	-0.6
T35A				IAML		04 07 45.1	
	comp=E,114nm,0.2s						
T35A				IAML		04 07 45.5	
	comp=E,106nm,0.1s						
OK029	**Liberty Lake**	**1.34**	**161**		Pn	04 07 26.5	-0.4
OK029				IAML		04 07 45.8	
	comp=E,171nm,0.3s						
OK029				IAML		04 07 47.9	
	comp=E,142nm,0.2s						
CSTR	**Hydro, Custer**	**1.53**	**202**		Pn	04 07 30.0	+0.4
DEOK	**Depew**	**1.71**	**135**		Pn	04 07 32.4	+0.4
TUL3	**Leonard**	**2.11**	**123**		Pn	04 07 38.5	+1.0
W35A	**Tecumseh**	**2.11**	**155**		Pn	04 07 38.1	+0.6
CBKS	**Cedar Bluff**	**2.23**	**322**	IAmb_Lg		04 08 14.7	
	comp=Z,19nm,0.9s						
KSU1	**Kansas State U**	**2.30**	**28**		Pn	04 07 40.3	+0.2
KSU1				IAmb_Lg		04 08 16.3	
	comp=Z,16nm,0.7s						
WMOK	**Wichita Mounta**	**2.42**	**196**		Pn	04 07 42.7	+1.0
SMWD	**Samnorwood**	**2.69**	**224**	Pn	Pn	04 07 46.8	+1.4
SMWD				IAmb_Lg		04 08 31.6	
	comp=Z,10nm,1.0s						
U38A	**Gravette**	**2.96**	**101**		Pn	04 07 50.0	+0.9
HHAR	**Hobbs**	**3.34**	**102**		Pn	04 07 54.8	+0.4
RTBA	**Rita Blanca**	**3.87**	**262**	Pn	Pn	04 08 03.3	+1.5
DKNS	**Dickens**	**4.16**	**216**	IAmb_Lg		04 09 21.2	
	comp=Z,5.2nm,0.9s						
P38A	**Dawn**	**4.33**	**53**	IAmb_Lg		04 09 17.3	
	comp=Z,5.6nm,0.8s						
MGMO	**Mountain Grove**	**4.57**	**87**	IAmb_Lg		04 09 29.5	
	comp=Z,6.1nm,0.9s						
R40A	**Maddies Statio**	**4.69**	**73**	IAmb_Lg		04 09 40.8	
	comp=Z,6.1nm,0.8s						
X40A	**Basin Creek Fa**	**4.92**	**120**	IAmb_Lg		04 09 38.1	
	comp=Z,5.6nm,0.8s						
P40A	**Paris**	**5.27**	**60**	IAmb_Lg		04 09 52.4	
	comp=Z,9.0nm,1.0s						
CCM	**Cathedral Cave**	**5.44**	**78**	IAmb_Lg		04 10 04.8	
	comp=Z,4.6nm,1.0s						

*ISK **15** 04:09:31.9, 34.°33N×32.°05E, h10km, ML2.7/9*
*NIC **15** 04:09:36.2, 34.°42N×32.°17E, h32km±29km, Ml2.1/7*
*ATH **15** 04:09:39.1, 34.°61N×32.°42E, h33km±5km, ML1.9/6,*
Manual Solution by A.Plessa First location: 2019/03/15 04:10:49, This location: 2019/03/15 09:50:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 10 km

ISC 15 04:09:33.7±2.3, 34.°34N±0.°09×32.°14E±0.°06, h17km±11km, n22, σ1°20/37, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.57**	**39**	P	**Pb**	**04 09 46.3**	**+1.1**
NATA				S	**Sb**	**04 09 54.3**	**+1.3**
NATA				AML	AML	04 10 00.2	
	0.8nm,0.3s						
NATA				AML	AML	04 10 02.3	
	0.7nm,0.5s						
NATA	**Nata**	**0.57**	**39**	P	**Pb**	**04 09 46.1**	**+0.9**
NATA				S	**Sg**	**04 09 50.4**	**-2.2**
APOL	**The Sanctuary**	**0.68**	**61**	P	**Pb**	**04 09 48.1**	**+0.9**
APOL				S	**Sn**	**04 09 58.2**	**-0.6**
APOL				AML	AML	04 09 59.9	
	0.4nm,0.4s						
APOL				AML	AML	04 10 00.0	
	0.4nm,0.5s						
AKMS	**Akamas**	**0.70**	**13**	P	**Pb**	**04 09 47.8**	**+0.4**
AKMS				S	**Sb**	**04 09 58.0**	**+1.3**
AKMS				AML	AML	04 10 01.8	
	0.5nm,0.3s						
AKMS				AML	AML	04 10 01.8	
	0.5nm,0.5s						
AKMS	**Akamas**	**0.70**	**13**	P	**Pg**	**04 09 47.6**	**+0.2**
AKMS				S	**Sg**	**04 09 56.1**	**-0.6**
ALFC	**Alefka**	**0.90**	**25**	P	**Pg**	**04 09 51.5**	**+0.3**
ALFC				S	**Sb**	**04 10 02.6**	**0.0**
ALFC				AML	AML	04 10 06.5	
	0.2nm,0.2s						
ALFC				AML	AML	04 10 08.9	
	0.2nm,0.3s						
ALFC	**Alefka**	**0.90**	**25**	P	**Pb**	**04 09 50.6**	**-0.2**
ALFC				S	**Sb**	**04 09 60.0**	**-2.6**
LEF	**Lefka**	**0.99**	**38**	Pg	**Pb**	**04 09 52.3**	**-0.2**
LEF				Sg	**Sg**	**04 10 06.4**	**+0.3**
ASGA	**Asgata**	**1.02**	**64**	P	**Pb**	**04 09 53.2**	**+0.3**
ASGA				S	**Sb**	**04 10 06.0**	**0.0**
ASGA				AML	AML	04 10 08.1	
	0.2nm,0.3s						
ASGA				AML	AML	04 10 08.3	
	0.1nm,0.3s						
ASGA	**Asgata**	**1.02**	**64**	P	**Pb**	**04 09 52.6**	**-0.3**
CSS	**Mathiatis**	**1.16**	**57**	Pn	**Pn**	**04 09 55.3**	**+0.1**
CSS				Sn	**Sg**	**04 10 13.0**	**+1.6**
CSS	**Mathiatis**	**1.16**	**57**	P	**Pn**	**04 09 55.2**	**0.0**
CSS				S	**Sb**	**04 10 10.5**	**+0.3**
CSS				AML	AML	04 10 14.5	
	0.1nm,0.2s						
CSS				AML	AML	04 10 18.9	
	0.1nm,0.4s						
CSS	**Mathiatis**	**1.16**	**57**	P	**Pn**	**04 09 54.6**	**-0.6**
CSS				S	**Sb**	**04 10 05.7**	**-4.4**
MVOU	**Mavrovouni**	**1.40**	**61**	P	**Pn**	**04 09 59.2**	**+0.7**
MVOU				S	**Sb**	**04 10 17.4**	**+0.3**
MVOU				AML	AML	04 10 24.7	
	0.1nm,0.7s						
MVOU				AML	AML	04 10 26.6	
	0.1nm,0.6s						
MVOU	**Mavrovouni**	**1.40**	**61**	P	**Pb**	**04 09 59.3**	**-0.1**
LFK	**Lefkose**	**1.48**	**50**	Pn	**Pb**	**04 10 00.6**	**-0.2**
LFK				Sn	**Sg**	**04 10 21.0**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.97**	**24**	Pn	**Pn**	**04 10 06.9**	**+0.6**
TEKE				Sn	**Sb**	**04 10 32.4**	**-0.9**
BERE	**Bereket-Mersin**	**2.19**	**24**	Pn	**Pn**	**04 10 10.5**	**+1.0**
IKL	**Isikli**	**2.28**	**33**	Pn	**Pn**	**04 10 11.5**	**+1.0**
KEBE	**Keben-Mersin**	**2.47**	**31**	Pn	**Pn**	**04 10 14.2**	**+1.0**
FETY	**Fethiye**	**3.39**	**313**	Pn	**Pn**	**04 10 25.6**	**-0.2**
CAME	**Cameli-Denizli**	**3.48**	**319**	Pn	**Pn**	**04 10 27.1**	**0.0**

*RSNC **15** 04:13:08.9±0.0, 10.°N±2.°×7.°1W±.°, h91km±7km, M2.2, mb3.2, ML2.1, MLv2.9*
*FUNV **15** 04:13:09.7, 10.°21N×71.°03W, h11km, MW3.2*

ISC 15 04:13:11.0±1.6, 10.°19N±0.°04×70.°99W±0.°05, h65km±35km, n22, σ0°98/28, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.34**	**165**	P	**Pn**	**04 13 32.9**	**-0.9**
SDV				S	**Sn**	**04 13 51.3**	**+0.4**
SDV	**Santo Domingo**	**1.34**	**165**	P	**Pn**	**04 13 32.9**	**-0.9**
SDV				S	**Sn**	**04 13 51.3**	**+0.4**
MCQV	**Machiques**	**1.53**	**265**	*eP*	Pn	04 13 36.5	+0.4
MCQV				*eS*	**Sn**	**04 13 56.2**	**+1.1**
TEPV	**Terepaima**	**1.78**	**97**	*eP*	Pn	04 13 40.4	+0.7
TEPV				*eS*	**Sn**	**04 14 02.8**	**+1.4**
URIC	**Uribia, Colomb**	**1.80**	**327**	P	**Pn**	**04 13 38.2**	**-1.6**
URIC				S	**Sn**	**04 14 02.6**	**+0.9**
URIC	**Uribia, Colomb**	**1.80**	**327**	P	**Pn**	**04 13 38.2**	**-1.6**
URIC				S	**Sn**	**04 14 02.6**	**+0.9**
SOCV	**Socops**	**1.89**	**176**	*eP*	Pn	04 13 42.1	+1.0
SOCV				*eS*	**Sn**	**04 14 06.0**	**+2.0**
CRJC	**Cerrejon, Guaj**	**2.04**	**294**	P	**Pn**	**04 13 42.4**	**-0.7**
CRJC				S	**Sn**	**04 14 08.8**	**+1.2**
CRJC	**Cerrejon, Guaj**	**2.04**	**294**	P	**Pn**	**04 13 42.4**	**-0.7**
CRJC				S	**Sn**	**04 14 08.8**	**+1.2**
CAPV	**Capacho**	**2.65**	**210**	*eP*	**Pn**	**04 13 51.1**	**-0.5**
CAPV				*eS*	**Sn**	**04 14 22.8**	**+0.1**
OCAC	**Ocana**	**3.00**	**230**	P	Pn	04 13 57.2	+0.8
OCAC				S	Sn	04 14 41.6	+10
OCAC	**Ocana**	**3.00**	**230**	P	Pn	04 13 57.2	+0.8
OCAC				S	Sn	04 14 41.6	+10
BAUV	**El Baul**	**3.16**	**113**	*eP*	Pn	04 13 58.9	+0.6
BAUV				*eS*	**Sn**	**04 14 36.0**	**+1.1**
PAMC	**Pamplona, Colo**	**3.29**	**211**	P	**Pn**	**04 13 59.9**	**-0.7**
PAMC				S	**Sn**	**04 14 39.1**	**+0.3**
PAMC	**Pamplona, Colo**	**3.29**	**211**	P	**Pn**	**04 13 59.9**	**-0.7**
PAMC				S	**Sn**	**04 14 39.1**	**+0.3**
BENV	**Beln**	**3.35**	**94**	*eP*	Pn	04 14 02.1	+1.2
TACV	**Tcata**	**3.90**	**90**	*eP*	Pn	04 14 09.5	+1.0
SJCC	**San Jacinto, C**	**4.14**	**266**	P	**Pn**	**04 14 12.0**	**+0.3**
SJCC	**San Jacinto, C**	**4.14**	**266**	P	**Pn**	**04 14 12.0**	**+0.3**
PTBC	**PUERTO BERRIO,**	**4.99**	**224**	P	**Pn**	**04 14 22.9**	**-0.5**
PTBC				S	**Sn**	**04 15 19.6**	**-0.2**
PTBC	**PUERTO BERRIO,**	**4.99**	**224**	P	**Pn**	**04 14 22.9**	**-0.5**
PTBC				S	**Sn**	**04 15 19.6**	**-0.2**
CACV	**CAICARA DEL OR**	**5.11**	**120**	*eP*	Pn	04 14 32.3	+7.3

*IDC **15** 04:17:36.5±2.6, 31.°35S×177.°32W, h0km, mb3.7/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=68.3km s-min=36.5km az=120.0*

ISC 15 04:17:39.4±2.2, 31.°15S±0.°08×177.°2W±0.°3, h35km, n10, σ1°54/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.98**	**342**	P	**Pn**	**04 18 09.5**	**-0.9**
GLKZ				S	**Sn**	**04 18 32.8**	**-1.1**
MXZ	**Matakaoa Point**	**7.39**	**209**	P	**Pn**	**04 19 23.4**	**-1.3**
MXZ				S	**Sn**	**04 20 46.9**	**-0.4**
HAZ	**Te Kaha**	**7.78**	**211**	P	**Pn**	**04 19 29.9**	**-0.1**
HAZ				S	**Sn**	**04 20 58.0**	**+1.2**
MWZ	**Matawai**	**8.37**	**210**	P	**Pn**	**04 19 36.6**	**-1.6**
MWZ				S	**Sn**	**04 21 12.0**	**+0.5**
URZ	**Urewera**	**8.49**	**212**	Pn	**Pn**	**04 19 38.1**	**-1.7**
	0.2nm,0.3s,baz=31,slow=16,SNR=1.8						
URZ				Sn	**Sn**	**04 21 11.6**	**-2.8**
	1.1nm,0.3s,baz=248,slow=18,SNR=6.9 1.8nm,0.5s						
URZ	**Urewera**	**8.49**	**212**	P	**Pn**	**04 19 40.9**	**+1.1**
URZ				S	**Sn**	**04 21 14.3**	**-0.1**
KNZ	**Kokohu**	**8.90**	**207**	S	**Sn**	**04 21 22.9**	**-1.5**
ASAR	**Alice Springs**	**43.75**	**267**	P	**P**	**04 25 43.2**	**+1.6**
	0.3nm,0.4s,baz=108,slow=7.4,SNR=6.3						
ASAR				PcP	**PcP**	**04 27 30.4**	**+2.3**
	0.7nm,1.0s,baz=102,slow=4.3,SNR=3.0 0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.81**	**272**	P	**P**	**04 25 51.6**	**+1.5**
	0.6nm,0.3s,baz=112,slow=8.0,SNR=19 0.6nm,0.3s						
FINES	**FINESS Array B**	**146.08**	**340**	PKPbc	**PKiKP**	**04 37 17.2**	**-0.9**
	0.8nm,0.5s,baz=53,slow=4.2,SNR=8.

RIM	**Rim**	**0.45 146**		Pg	04 34 15.2	-1.0
RIM				Sg	04 34 21.2	-1.2
KKO	**Keanakako'i**	**0.45 145**		Pg	04 34 15.2	-1.1
KKO				Sg	04 34 21.5	-0.9
CPH	**Captain Cook**	**0.45 232**		Pg	04 34 15.6	-0.7
KKH	**Kailua Kona**	**0.46 257**		Pg	04 34 15.5	-1.0
PUH	**Pauahi**	**0.49 142**		Pg	04 34 15.7	-1.5
PUH				Sg	04 34 22.3	-1.5
HLP	**Hilina Pali**	**0.52 155**		Pg	04 34 16.2	-1.3
HLP				Sg	04 34 23.0	-1.4
HLP	**Hilina Pali**	**0.52 155**	IAML		04 34 24.5	
	comp=E,480nm,1.8s					
HLP			IAML		04 34 36.4	
	comp=N,520nm,0.7s					
KNHH	**Kane Nui o Ham**	**0.52 138**		Pg	04 34 16.2	-1.4
KHU	**Kahuku**	**0.52 188**		Pg	04 34 16.2	-1.5
KHU			IAML		04 34 26.0	
	comp=N,268nm,3.5s					
KHU	**Kahuku**	**0.52 188**		Sg	04 34 23.1	-1.6
MHA	**Mahukona**	**0.54 321**		Pg	04 34 16.7	-1.3
MHA				Sg	04 34 23.8	-1.4
HTC	**Hot Caves**	**0.54 166**		Pg	04 34 16.6	-1.4
STCH	**Steam Cracks**	**0.54 134**		Pg	04 34 16.4	-1.6
STCH				Sg	04 34 23.0	-2.3
STCH	**Steam Cracks**	**0.54 134**	IAML		04 34 23.4	
	comp=E,532nm,0.1s					
STCH			IAML		04 34 23.9	
	comp=N,416nm,0.1s					
NPOC	**North of Pu'u**	**0.55 132**		Pg	04 34 16.5	-1.7
NPOC				Sg	04 34 23.4	-2.2
JCUZ	**Jacuzzi**	**0.56 132**		Pg	04 34 16.7	-1.7
JCUZ				Sg	04 34 23.5	-2.4
JOKA	**Jonika Flow**	**0.60 123**		Pg	04 34 17.2	-2.0
JOKA				Sg	04 34 25.2	-2.0
JOKA	**Jonika Flow**	**0.60 123**	IAML		04 34 30.5	
	comp=E,232nm,0.5s					
JOKA			IAML		04 34 35.6	
	comp=N,452nm,0.9s					
HPO	**Honuapo**	**0.67 181**		Pg	04 34 18.4	-2.1
HPO				Sg	04 34 27.1	-2.2
HLK	**Haleakala**	**1.19 326**		Pn	04 34 25.5	-4.0
HLK	**Haleakala**	**1.19 326**		Sb	04 34 39.7	-5.2

VAO ***15*** *04:35:24.0±1.6, 18°.56S×72°.14W, h10km, mb4.4*
IDC ***15*** *04:36:00.2±3.2, 18°.30S×69°.54W, h130km±23km, mb3.9/4, mbtmp4.2/8, MS2.4/1, Error ellipse: s-maj=34.9km s-min=22.3km az=21.0*
NEIC ***15*** *04:36:01.6±1.1, 18°.18S±0°.04×69°.71W±0°.07, h147km±6km, mb4.2/6, Error ellipse: s-maj=9.5km s-min=5.6km az=97.0*
GUC ***15*** *04:36:02.9±0.6, 18°.18S×69°.66W, h139km±3km, ML3.8*
ISC 15 04:36:00.9±0.7, 18°.20S±0°.04×69°.55W±0°.07, h138km±6km, n54, σ1°48/58, mb4.4/3, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.61**	**6**	Pn	**Pn**	**04 36 24.0**	**+1.8**
PB18				Sn	**Sn**	**04 36 40.5**	**+2.1**
PB18	**Visviri**	**0.61**	**6**	⇓*i*P	**Pn**	**04 36 24.0**	**+1.8**
PB18				*i* S	**Sn**	**04 36 40.8**	**+2.4**
AP01	**Chacalluta**	**0.77 257**			**Pn**	**04 36 23.2**	**+0.5**
AP01				Sn	**Sn**	**04 36 39.5**	**+0.4**
AP01	**Chacalluta**	**0.77 257**		*e*P	**Pn**	**04 36 23.1**	**+0.5**
AP01				*i* S	**Sn**	**04 36 39.6**	**+0.4**
PB12	**IPOC Station P**	**0.85 241**		Pn	**Pn**	**04 36 23.6**	**+0.3**
PB12				Sn	**Sn**	**04 36 39.9**	**-0.6**
PB12	**IPOC Station P**	**0.85 241**	⇑	*i*P	**Pn**	**04 36 23.7**	**+0.3**
PB12				*i* S	**Sn**	**04 36 40.6**	**+0.2**
PB12				IAML		04 36 41.6	
	comp=N,2μm,0.1s						
PX02	**IPOC Station P**	**0.98 219**		*e*P	**Pn**	**04 36 24.2**	**-0.3**
PX02				*i* S	**Sn**	**04 36 41.8**	**-0.7**
PB11	**IPOC Station P**	**1.56 184**		Pn	**Pn**	**04 36 31.9**	**+1.5**
PB11	**IPOC Station P**	**1.56 184**	⇑	*i*P	**Pn**	**04 36 31.9**	**+1.5**
PB11				*e*S	**Sn**	**04 36 54.1**	**+1.2**
PB11				IAML		04 36 56.2	
	comp=N,1μm,0.5s						
PB08	**IPOC Station P**	**1.97 169**			**Pn**	**04 36 37.6**	**+2.3**
PB08	**IPOC Station P**	**1.97 169**		*e*P	**Pn**	**04 36 37.7**	**+2.3**
PB08				*i* S	**Sn**	**04 37 04.1**	**+2.4**
PB08				IAML		04 37 08.3	
	comp=E,396nm,0.2s						
TA02	**Huaiquique**	**2.13 195**			**Pn**	**04 36 37.8**	**+0.8**
TA02	**Huaiquique**	**2.13 195**		*e*P	**Pn**	**04 36 37.8**	**+0.8**
TA02				*i* S	**Sn**	**04 37 03.9**	**-0.7**
LPAZ	**La Paz**	**2.33**	**36**	Pn	**Pn**	**04 36 42.1**	**+2.0**
LPAZ	**La Paz**	**2.33**	**36**	P	**Pn**	**04 36 41.9**	**+1.9**
	comp=E,124nm,0.3s,baz=207,slow=2.7,SNR=999						
LPAZ				S	**Sn**	**04 37 10.7**	**+0.6**
	comp=E,37nm,0.4s,baz=79,slow=10,SNR=8.0						
LPAZ				LR	LR	04 37 57.1	
	comp=E,66nm,18.1s,baz=332,slow=48						
TA01	**Diego Aracena**	**2.43 194**			**Pn**	**04 36 41.0**	**+0.5**
TA01	**Diego Aracena**	**2.43 194**	⇓	*i*P	**Pn**	**04 36 41.1**	**+0.6**
TA01				*i* S	**Sn**	**04 37 09.7**	**-1.4**
TA01				IAML		04 37 10.9	
	comp=N,355nm,0.2s						
PB01	**IPOC Station P**	**2.83 179**			**Pn**	**04 36 47.2**	**+1.4**
PB09	**IPOC Station P**	**3.59 175**			**Pn**	**04 36 58.6**	**+2.9**
PB09	**IPOC Station P**	**3.59 175**		*e*P	**Pn**	**04 36 58.0**	**+2.4**
PB05	**IPOC Station P**	**4.67 187**			**Pn**	**04 37 10.4**	**+0.5**
PB10	**IPOC Station P**	**5.37 190**		Pn	**Pn**	**04 37 19.1**	**0.0**
SIV	**San Ignacio**	**8.40**	**76**	P	**Pn**	**04 37 58.1**	**-1.7**
	comp=N,3.0nm,0.3s,baz=261,slow=9.1,SNR=25						
SIV				S	**Sn**	**04 39 28.7**	**-4.4**
	comp=N,3.4nm,0.6s,baz=166,slow=23,SNR=8.4						
NNA	**Nana**	**9.36 310**		Pn	**Pn**	**04 38 12.1**	**-0.7**
NNA	**Nana**	**9.36 310**		P	**Pn**	**04 38 11.6**	**-1.1**
	comp=N,8.2nm,0.3s,baz=145,slow=12,SNR=6.1						
PTLB	**Pontes e Lacer**	**10.34**	**76**	*e*P	**Pn**	**04 38 27.1**	**+1.4**
VILB	**Vilhena**	**10.41**	**61**		**Pn**	**04 38 26.3**	**-0.3**
VILB	**Vilhena**	**10.41**	**61**	*e*P	**Pn**	**04 38 25.1**	**-1.6**
MURT	**Porto Murtinho**	**11.74 109**		*e*P	**Pn**	**04 38 43.3**	**-1.0**
BDQN	**Bodoquena, MS**	**12.29 103**		*e*P	**Pn**	**04 38 49.6**	**-1.8**
SALV	**Santo Antonio**	**13.45**	**82**	*e*P	**P**	**04 39 09.1**	**-1.7**
CPUP	**Villa Florida**	**13.90 128**		P	**Pn**	**04 39 11.2**	**-0.9**
	comp=N,0.5nm,0.5s,baz=311,slow=8.5,SNR=2.0						
PDRB	**Porto dos Gac**	**14.01**	**64**	*e*P	**Pn**	**04 39 14.5**	**+0.9**
H03N1	**Juan Fernandez**	**17.34 207**		T	T	04 57 24.2	
	baz=29,slow=73,SNR=12						
H03N2	**Juan Fernandez**	**17.35 207**		T	T	04 57 34.5	
	baz=29,slow=73,SNR=13						
H03N3	**Juan Fernandez**	**17.36 207**		T	T	04 57 35.4	
	baz=29,slow=73,SNR=14						
ITAB	**Concordia**	**18.40 122**		P	**Pn**	**04 40 06.7**	**-0.4**
ITAB				IAmb	IAmb	04 40 32.9	
	comp=Z,21nm,1.4s						
SNDB	**Serra Nova Dou**	**18.68**	**73**	*e*P	**P**	**04 40 09.0**	**+0.5**
PLTB	**Pedras Altas**	**19.75 136**		P	**P**	**04 40 21.0**	**+1.0**
PLTB				IAmb	IAmb	04 40 22.2	
	comp=Z,14nm,1.0s						
BDFB	**Brasilia**	**20.76**	**86**	P	**P**	**04 40 30.9**	**-0.2**
BDFB				IAmb	IAmb	04 40 34.8	
	comp=Z,11nm,1.5s						
BDFB	**Brasilia**	**20.76**	**86**	P	**P**	**04 40 30.7**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=251,slow=11,SNR=6.9						
	comp=Z,1.9nm,0.5s						
TRQA	**Tornquist**	**20.86 163**		P	Pn	04 40 34.6	-1.5
TRQA				IAmb	IAmb	04 40 46.7	
	comp=Z,12nm,1.2s						
MAL2	**Monte Alegre,**	**22.04**	**45**	P	**P**	**04 40 43.5**	**-1.1**
BOAV	**Boa Vista**	**22.31**	**24**	P	**P**	**04 40 48.1**	**+0.8**
JANB	**Januaria**	**24.38**	**86**	*e*P	**P**	**04 41 05.0**	**-1.5**
DBIC	**Dimbokro**	**68.42**	**75**	P	**P**	**04 46 48.6**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=239,slow=5.6,SNR=7.5						
	comp=Z,3.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.85**	**71**	P	**P**	**04 47 38.3**	**+0.1**
	comp=Z,7.9nm,0.4s,baz=248,slow=5.7,SNR=1.1						
	comp=Z,7.9nm,0.4s						
YKA	**Yellowknife Ar**	**87.89 341**		P	**P**	**04 48 35.5**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=139,slow=4.6,SNR=5.1						
YKA				pP	**pP**	**04 49 09.2**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=140,slow=4.4,SNR=3.0						
	comp=Z,0.2nm,0.4s						
H11N3	**WAKE ISLAND Hy**	**26.79 281**		T	T	07 14 32.3	
	baz=101						
H11S2	**WAKE ISLAND Hy**	**26.80 280**		T	T	07 14 23.2	
	baz=101,slow=75,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**26.80 280**		T	T	07 14 26.1	
	baz=101,slow=75,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**26.81 281**		T	T	07 14 33.5	
	baz=101						
H11N1	**WAKE ISLAND Hy**	**26.81 281**		T	T	07 14 34.4	
	baz=101						
H11S3	**WAKE ISLAND Hy**	**26.81 280**		T	T	07 14 30.0	
	baz=101,slow=75,SNR=5.5						

NEIC ***15*** *04:39:17.4±1.0, 19°.3N±0°.1×64°.78W±0°.09, h10km±2km, ML2.1/14, Md3.1/6(RSPR), Error ellipse: s-maj=24.9km s-min=4.6km az=326.0*
RSPR ***15*** *04:39:18.7, 19°.25N×64°.62W, h78km±14km, MD3.1/6*
ISC 15 04:39:15.0±2.9, 19°.4N±0°.2×64°.51W±0°.07, h27km, n21, σ1°00/23, 3C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.76 226**			**Pn**	**04 39 44.7**	**+0.9**
HUMP					**Sn**	**04 40 05.1**	**-0.3**
HUMP	**Col San Antoni**	**1.76 226**	⇑	*e*P	**Pn**	**04 39 44.7**	**+0.9**
HUMP	**Col San Antoni**	**1.76 226**		*e*S	**Sn**	**04 40 05.1**	**-0.3**
GCPR	**Guaynabo City**	**1.83 235**			**Pn**	**04 39 45.2**	**+0.5**
GCPR	**Guaynabo City**	**1.83 235**	IAML			04 39 58.0	
	comp=N,15nm,2.7s						
GCPR			IAML			04 40 21.4	
	comp=E,15nm,2.8s						
GCPR	**Guaynabo City**	**1.83 235**	⇑	*e*P	**Pn**	**04 39 45.2**	**+0.5**
SJG	**San Juan**	**2.00 231**	Pn		**Pn**	**04 39 48.1**	**+1.1**
SJG			IAML			04 40 06.5	
	comp=E,13nm,3.1s						
ECPR	**Experimental S**	**2.04 239**	⇓	*e*P	**Pn**	**04 39 48.4**	**+0.7**
ECPR	**Experimental S**	**2.04 239**		*e*S	**Sn**	**04 40 12.2**	**-0.2**
CELP	**Cerrillos**	**2.35 237**			**Pn**	**04 39 53.0**	**+1.1**
CELP					**Sn**	**04 40 18.8**	**-1.0**
CELP	**Cerrillos**	**2.35 237**	IAML			04 40 26.4	
	comp=E,16nm,3.8s						
CELP			IAML			04 40 27.4	
	comp=N,18nm,2.6s						
CELP	**Cerrillos**	**2.35 237**	⇓	*e*P	**Pn**	**04 39 53.0**	**+1.1**
CELP	**Cerrillos**	**2.35 237**		*e*S	**Sn**	**04 40 18.8**	**-1.0**
UUPR	**Utuado, UPR, P**	**2.37 242**	Pn		**Pn**	**04 39 52.2**	**+0.1**
UUPR			IAML			04 40 27.7	
	comp=E,25nm,0.3s						
OBIP	**Obispado Ponce**	**2.39 237**	Pn		**Pn**	**04 39 52.3**	**-0.1**
OBIP			IAML			04 40 18.6	
	comp=N,18nm,2.8s						
OBIP			IAML			04 40 53.8	
	comp=E,17nm,2.2s						
LSP	**Las Mesas**	**2.72 244**			**Pn**	**04 39 58.0**	**+1.1**
LSP					**Sn**	**04 40 28.1**	**-0.8**
LSP	**Las Mesas**	**2.72 244**	⇑	*e*P	**Pn**	**04 39 58.0**	**+1.1**
LSP	**Las Mesas**	**2.72 244**		*e*S	**Sn**	**04 40 28.1**	**-0.8**
CRPR	**Cabo Rojo, PR**	**2.81 242**			**Pn**	**04 39 59.2**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.81 242**	⇓	*e*P	**Pn**	**04 40 00.2**	**+1.9**
ANBD	**Bethesda, Anti**	**3.48 131**		*e*P	**Pb**	**04 40 14.8**	**-1.3**
ANBD				*e*S	**Sb**	**04 40 59.2**	**+1.2**

MOS ***15*** *04:51:08.6±1.1, 37°.17N×141°.31E, h37km, mb4.5/7, Error ellipse: s-maj=12.6km s-min=9.7km az=102.0*
NIED ***15*** *04:51:10.2, 37°.15N×141°.24E, h21km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.54; $M_{\theta\theta}$6.77; $M_{\phi\phi}$0.78; $M_{r\theta}$1.48; $M_{\theta\phi}$5.76; $M_{\phi r}$-0.02; Fault plane solution: $M_0$9.05000×10^{14} NP1:ϕ_s50.00000°, δ42.00000°, λ-103.00000°. NP2:ϕ_s247.00000°, δ50.00000°, λ-78.00000°.*
JMA ***15*** *04:51:10.2±0.1, 37°.2N±0°.2×141°.2E±0°.7, h21km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*
NEIC ***15*** *04:51:14.4±2.6, 37°.22N±0°.04×141°.2E±0°.1, h35km±2km, mb4.5/19, Error ellipse: s-maj=13.6km s-min=6.3km az=273.0*
IDC ***15*** *04:51:15.4±2.4, 37°.10N×141°.08E, h56km±22km, mb3.6/19, mbtmp3.9/23, ML3.5/3, MS2.9/6, Error ellipse: s-maj=19.4km s-min=12.4km az=71.0*
ISC 15 04:51:10.7±1.4, 37°.23N±0°.04×141°.21E±0°.05, h15km±8km, n98, σ1°37/94, mb4.3/36, 5C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.30 298**		*i* P	**Pb**	**04 51 17.6**	**-0.3**
JFK				S	**Sb**	**04 51 23.1**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.35 249**		*i* P	**Pg**	**04 51 17.5**	**-0.5**
JFFD	**Fukushimafurud**	**0.53 255**		*i* P	**Pg**	**04 51 20.8**	**-0.5**
JMST	**Minamisoumatoc**	**0.56 333**		P	**Pb**	**04 51 22.4**	**+0.1**
JMST				S	**Sn**	**04 51 31.5**	**-1.7**
JMM	**Marumori**	**0.72 333**			**Pn**	**04 51 25.1**	**-1.3**
JMM	**Marumori**	**0.72 333**		P	**Pn**	**04 51 25.0**	**-1.3**
JMM	**Marumori**	**0.72 333**		S	**Sn**	**04 51 36.4**	**-0.8**
JMM	**Marumori**	**0.72 333**		*i* P	**Pn**	**04 51 25.0**	**-1.3**
JMM				S	**Sn**	**04 51 36.3**	**-0.8**
JOTO	**OTAMA OYAMA**	**0.77 296**		*i* P	**Pb**	**04 51 26.1**	**+0.3**
JOTO				S	**Sb**	**04 51 37.6**	**+1.4**
JHO	**Hitachi**	**0.80 220**		*i* P	**Pg**	**04 51 24.1**	**-2.2**
JSB	**Shiboa**	**1.06 256**		P	**Pb**	**04 51 31.0**	**+0.1**
JSB				S	**Sb**	**04 51 45.5**	**+0.9**
JFY	**Yanaizu**	**1.21 279**		*i* P	**Pn**	**04 51 33.4**	**+0.3**
JFY				S	**Sb**	**04 51 50.2**	**+1.4**
JSD	**Sado**	**2.48 290**			**Pb**	**04 51 54.3**	**-0.6**
JSD	**Sado**	**2.48 290**		P	**Pb**	**04 51 54.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.50 255**		P	**Pn**	**04 51 51.4**	**+0.5**
	24nm,0.9s,baz=60,slow=10,SNR=20						
MJAR				S	**Sg**	**04 52 30.6**	**-0.5**
	27nm,0.7s,baz=80,slow=23,SNR=3.5						
MJAR				LR	LR	04 52 42.8	
	comp=Z,53nm,18.9s,baz=230,slow=37						
MAJO	**Matsushiro**	**2.50 255**			**Pn**	**04 51 52.2**	**+1.3**
MAJO	**Matsushiro**	**2.50 255**		P	**Pb**	**04 51 55.0**	**-0.4**
MAJO	**Matsushiro**	**2.50 255**		*i* P	**Pn**	**04 51 52.1**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.50 255**			**Pn**	**04 51 52.8**	**+1.9**
JGF	**Kuroka**	**3.50 244**			**Pn**	**04 52 06.2**	**+1.5**
JGF	**Kuroka**	**3.50 244**		P	**Pn**	**04 52 05.9**	**+1.2**
JTM	**Tenmabayashi**	**3.56 358**			**Pn**	**04 52 07.0**	**+1.6**
JTM	**Tenmabayashi**	**3.56 358**		P	**Pn**	**04 52 06.6**	**+1.2**
JHJ2	**Mitsune**	**4.26 196**		Pn	**Pn**	**04 52 16.5**	**+1.4**
JHJ	**Hachijo jima 2**	**4.26 196**		P	**Pn**	**04 52 15.2**	**+0.1**
	27nm,0.3s,baz=12,slow=23,SNR=9.3						
JHJ				S	**Sn**	**04 53 02.8**	**-1.8**
	85nm,0.5s,baz=35,slow=23,SNR=1.5						
	55nm,0.3s						
ERM	**Erimo**	**5.01**	**17**	Pn	**Pn**	**04 52 25.5**	**+0.1**
ERM	**Erimo**	**5.01**	**17**	*i* P	**Pn**	**04 52 24.0**	**-1.4**
ASAJ	**Asahikawa**	**6.96**	**8**	P	**Pn**	**04 52 52.7**	**+0.5**
	3.5nm,0.3s,baz=226,slow=13,SNR=2.3						
TEY	**Ternei**	**8.54 337**		*e*P	**Pn**	**04 53 10.5**	**-3.3**
YSS	**Yuzhno-Sakhali**	**9.79**	**6**	*e*P	**Pn**	**04 53 27.4**	**-3.5**
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,16.0s						
USRK	**Ussuriysk Ar.**	**9.87 318**		LR	LR	04 57 05.5	
	comp=N,121nm,19.8s,baz=183,slow=35						
KSRS	**Korea Array**	**10.58 275**		P	**Pn**	**04 53 45.2**	**+3.4**
	comp=N,0.2nm,0.3s,baz=78,slow=13,SNR=4.8						
KSRS				LR	LR	04 57 15.6	
	comp=N,52nm,19.9s,baz=90,slow=34						
	comp=N,1.8nm,0.9s						
BNX	**BinXian**	**13.38 314**		⇓P	**Pn**	**04 54 21.5**	**+1.5**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TYV	**Tymovskoe**	**13.67**	**4**	*e*P	**P**	**04 54 34.5**	**+1.8**
TYV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,3.4s						
KLR	**Kul'dur**	**13.82 333**		P	**P**	**04 54 30.9**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=2.1						
KLR				LR	LR	04 59 40.4	
	comp=Z,89nm,18.6s,baz=140,slow=36						
	comp=Z,0.3nm,0.3s						
KLR	**Kul'dur**	**13.82 333**		*e*P	**P**	**04 54 31.4**	**-3.0**
KLR				pmax	pmax		
	comp=Z,4.0nm,2.1s						
XLT	**XiLinHaoTe**	**20.18 297**		*e*P	**P**	**04 55 42.8**	**-1.9**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MA2	**Magadan**	**23.20**	**12**	LR	LR	05 06 47.1	
	comp=Z,22nm,18.9s,baz=335,slow=40						
MA2	**Magadan**	**23.20**	**12**	*c*e*P	**P**	**04 56 16.6**	**-0.2**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.25 288**		*e*P	**P**	**04 56 17.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,50nm,5.2s						
YAK	**Yakutsk**	**25.85 348**		*i* P	**P**	**04 56 41.3**	**0.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
SEY	**Seymchan**	**26.63**	**11**	*c*e*P*	**P**	**04 56 50.5**	**+2.1**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	**Songino Array**	**27.54 304**		P	**P**	**04 56 56.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=101,slow=10.0,SNR=3.0						
SONM				LR	LR	05 07 19.8	
	comp=Z,51nm,20.5s,baz=64,slow=35						
	comp=Z,0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.39 121**		T	T	05 26 35.2	
	baz=313,slow=75,SNR=746						
H11N1	**WAKE ISLAND Hy**	**28.40 121**		T	T	05 26 37.5	
	baz=313,slow=75,SNR=1049						
H11N3	**WAKE ISLAND Hy**	**28.41 121**		T	T	05 26 36.5	
	baz=313,slow=75,SNR=1132						
H11S1	**WAKE ISLAND Hy**	**29.10 123**		T	T	05 27 30.9	
	baz=315,slow=76,SNR=182						
H11S3	**WAKE ISLAND Hy**	**29.10 123**		T	T	05 27 28.1	
	baz=315,slow=76,SNR=179						
H11S2	**WAKE ISLAND Hy**	**29.12 123**		T	T	05 27 30.3	
	baz=315,slow=76,SNR=166						
PZH	**PanZhiHua**	**34.96 264**		P	**P**	**04 58 05.0**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,190nm,4.4s						
ZALV	**Zalesovo Beam**	**41.66 312**		P	**P**	**04 58 57.9**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=92,slow=8.7,SNR=7.2						
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**41.66 312**		*i* P	**P**	**04 58 58.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**43.88 302**		*c*e*P*	**P**	**04 59 17.1**	**+0.6**
MKAR	**Makanchi Array**	**43.88 302**		P	**P**	**04 59 16.5**	**+0.1**
MKAR	**Makanchi Array**	**43.88 302**		P	**P**	**04 59 16.0**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=88,slow=9.4,SNR=12						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**43.88 302**		*c*e*P*	**P**	**04 59 16.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
C18K	**Utukok River**	**44.18**	**26**	P	**P**	**04 59 20.0**	**+1.4**
C18K				IAmb	IAmb	04 59 20.7	
	comp=Z,6.2nm,0.7s						
D19K	**Kuna River**	**45.24**	**27**	P	**P**	**04 59 28.7**	**+1.6**
D19K				IAmb	IAmb	04 59 29.5	
	comp=Z,6.3nm,0.8s						
E19K	**Redstone River**	**45.38**	**28**	P	**P**	**04 59 29.6**	**+1.4**
KURK	**Kurchatov**	**45.68 308**		P	**P**	**04 59 30.7**	**-0.1**
KURK				IAmb	IAmb	04 59 31.8	
	comp=Z,5.1nm,1.0s						
KURK	**Kurchatov**	**45.68 308**		*c*e*P*	**P**	**04 59 31.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.75 308**		P	**P**	**04 59 31.3**	**0.0**
	comp=Z,2.4nm,0.8s,baz=83,slow=8.4,SNR=21						
	comp=Z,2.4nm,0.8s						
B21K	**Ikpikpuk River**	**46.68**	**26**	P	**P**	**04 59 40.0**	**+1.6**
PMG	**Port Moresby**	**46.72 172**		P	**P**	**04 59 38.5**	**-0.7**
	comp=Z,7.3nm,0.6s,baz=160,slow=20,SNR=1.7						
	comp=Z,7.3nm,0.6s						
CAST	**Castle Rocks**	**47.16**	**34**	P	**P**	**04 59 43.9**	**+1.7**
D22K	**Ayikyak River**	**47.27**	**27**	P	**P**	**04 59 44.6**	**+1.7**
D22K				IAmb	IAmb	04 59 45.5	
	comp=Z,6.2nm,1.0s						
E22K	**Anaktuvuk Pass**	**47.51**	**28**	P	**P**	**04 59 46.4**	**+1.5**
E22K				IAmb	IAmb	04 59 47.4	
	comp=Z,4.3nm,1.1s						
C23K	**Itkillik River**	**48.09**	**26**	P	**P**	**04 59 51.3**	**+1.9**
E23K	**Chandalar**	**48.33**	**28**	IAmb	IAmb	04 59 53.9	
	comp=Z,5.6nm,0.9s						
D24K	**Happy Valley**	**48.67**	**27**	IAmb	IAmb	04 59 55.9	
	comp=Z,4.0nm,0.7s						
C24K	**Franklin Bluff**	**48.75**	**26**	IAmb	IAmb	04 59 56.6	
	comp=Z,7.6nm,0.8s						
IL31		**49.42**	**32**	P	**P**	**05 00 00.5**	**+0.9**
IL31				IAmb	IAmb	05 00 21.4	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**05 00 00.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=268,slow=6.0,SNR=25						
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**50.32 312**		P	**P**	**05 00 06.3**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=86,slow=5.9,SNR=2.2						
BVAR				PcP	**PcP**	**05 01 24.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=62,slow=7.2,SNR=3.6						
	comp=Z,0.5nm,0.6s						

BOJS IAML 04 52 04.8
comp=Z,1.7nm,0.1s
CEY Cerknica 0.64 351 *e*Pg **Pb 04 51 55.3 -0.3**
CEY IAML 04 52 07.3
comp=Z,1.7nm,0.1s
VISS Visnje 0.72 15 *e*Pg **Pb 04 51 56.7 -0.2**
VISS IAML 04 52 10.5
comp=Z,1.9nm,0.2s
VIRC Vir 0.89 157 *e*Pg **Pg 04 51 59.5 +0.1**
VIRC Sg **Sg 04 52 11.6 +0.6**
DUGI Dugi Otok 1.17 163 *e*Pn **Pg 04 52 05.2 +0.3**

SCB ***15*** *05:03:47.8±1.0, 17°.98S×66°.05W, h398km±11km, ML6.8/3, MW5.9, Error ellipse: s-maj=5.4km s-min=4.2km az=1.0*
BJI ***15*** *05:03:47.8, 17°.85S×65°.95W, h350km, mB5.8/57*
SJA ***15*** *05:03:47.6±0.6, 17°.95S×66°.10W, h418km±5km, ML6.4, MW5.8*
CATAC ***15*** *05:03:49.0±1.2, 17°.5±27°.×6°.4W±3°.4, h394km±34km, M5.5/19, mb5.9/19, mB6.0/18, Mw(mB)5.6/18, MwMwp5.3/9, Mwp5.5/9, Error ellipse: s-maj=86.2km s-min=33.6km az=126.4, confirmed*
MOS ***15*** *05:03:49.8±1.0, 17°.60S×65°.71W, h356km, mb5.8/59, MS5.4/4, Error ellipse: s-maj=7.7km s-min=5.4km az=78.1*
VAO ***15*** *05:03:50.2±0.2, 17°.87S×65°.88W, h372km±1km, mb6.0*
NEIC ***15*** *05:03:50, 17°.84S×65°.88W, h380km*
NEIC ***15*** *05:03:50.1±1.9, 17°.87S±0°.06×65°.91W±0°.07, h359km±1km, mb6.0/96, Mwb6.3/64, Mww6.3/108, Error ellipse: s-maj=12.5km s-min=8.7km az=294.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}1.88; $M_{\theta\theta}$-1.99; $M_{\phi\phi}$0.12; $M_{r\theta}$-1.99; $M_{\theta\phi}$2.83; $M_{\phi r}$-1.20; Fault plane solution: $M_0$4.15000×10^18^ NP1:ϕ_s268.79000°, δ68.42000°, λ41.61000°. NP2:ϕ_s160.70000°, δ51.87000°, λ152.12000°. Principal axes: T 4.1605, Plg44.0000°, Azm131.0000°; N -0.0309, Plg44.0000°, Azm291.0000°; P -4.1296, Plg10.0000°, Azm31.0000°;*
NEIC ***15*** *05:03:50.1, 17°.85S×65°.88W, h359km*
IPGP ***15*** *05:03:50.0, 17°.86S×65°.89W, h376km, Mw6.3, Fault plane solution: NP1:ϕ_s154.00000°, δ49.00000°, λ151.00000°. NP2:ϕ_s264.00000°, δ68.00000°, λ45.00000°.*
NEIC ***15*** *05:03:50, 17°.84S×65°.88W, h380km, Moment Tensor Solution. Duration: 7s4 Moment tensor: Scale 10^18^Nm; M_{rr}1.80; $M_{\theta\theta}$-2.23; $M_{\phi\phi}$0.42; $M_{r\theta}$-2.01; $M_{\theta\phi}$2.50; $M_{\phi r}$-1.16; Fault plane solution: $M_0$3.98000×10^18^ NP1: ϕ_s156.78000°, δ49.37000°, λ152.72000°. NP2: ϕ_s265.34000°, δ69.64000°, λ43.99000°. Principal axes: T 3.9775, Plg45.0000°, Azm129.0000°; N 0.0060, Plg42.0000°, Azm285.0000°; P -3.9835, Plg12.0000°, Azm27.0000°;*
OSUNB ***15*** *05:03:50.9±0.2, 17°.85S×65°.85W, h381km±1km, mb5.9/70 Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
GUC ***15*** *05:03:51.0, 17°.85S×65°.91W, h353km, MW6.3*
IDC ***15*** *05:03:51.8±0.3, 17°.68S×65°.73W, h373km±2km, mb5.3/26, mbtmp6.1/31, Error ellipse: s-maj=7.7km s-min=6.3km az=70.0*
GCMT ***15*** *05:03:56.1±0.1, 17°.74S±0°.01×65°.90W±0°.01, h380km, MW6.3/176, Moment Tensor Solution. s176,c433; s168,c296; Duration: 3s6 Moment tensor: Scale 10^18^ Nm; M_{rr}2.06±.02; $M_{\theta\theta}$-2.34±.03; $M_{\phi\phi}$0.28±.03; $M_{r\theta}$-1.87±.02; $M_{\theta\phi}$2.70±.03; $M_{\phi r}$-1.36±.02; Best double couple: $M_0$4.18800×10^18^ NP1:ϕ_s157.00000°, δ52.00000°, λ150.00000°. NP2:ϕ_s267.00000°, δ67.00000°, λ42.00000°. Principal axes: T 4.2100, Plg46.0000°, Azm128.0000°; N -0.0370, Plg43.0000°, Azm291.0000°; P -4.1650, Plg9.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
ISC 15 05:03:50.5±0.2, 17°.87S±0°.02×65°.85W±0°.03, h368km±1km, h368km:pP-P, n1451, σ1s70/1907, mb5.8/202, 66C-53D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOET	**ToroToro**	**0.25**	**171**	Pg	**Pn**	**05 04 37.6**	**+0.7**
AOEA	**Aiquile**	**0.67**	**118**	Pg	**Pn**	**05 04 38.8**	**+1.3**
AOEA	**Aiquile**	**0.67**	**118**	Pg	**Pn**	**05 04 38.9**	**+1.4**
SOEO	**Opoqueri**	**2.05**	**250**	Pg	**Pn**	**05 04 44.4**	**0.0**
SOEJ	**Jacaque**	**2.40**	**291**	Pg	**Pn**	**05 04 47.5**	**+0.5**
BS00	**La Paz**	**2.58**	**302**	Pg	**Pn**	**05 04 49.2**	**+0.9**
LPAZ	**La Paz**	**2.69**	**305**		**Pn**	**05 04 48.9**	**-0.5**
LPAZ	**La Paz**	**2.69**	**305**	P	**Pn**	**05 04 49.4**	**0.0**
	74μm,0.7s,baz=114,slow=5.6						
LPAZ				S	**S**	**05 05 35.4**	**-1.3**
	12μm,0.6s,baz=259,slow=5.6,SNR=4.3						
LPAZ	**La Paz**	**2.69**	**305**	*i* P	**Pn**	**05 04 49.4**	**0.0**
LPAZ				*i* S	**S**	**05 05 36.5**	**-0.1**
LPAZ	**La Paz**	**2.69**	**305**	P	**Pn**	**05 04 48.9**	**-0.5**
LPAZ	**La Paz**	**2.69**	**305**	P	**Pn**	**05 04 49.4**	**0.0**
LPAZ				S	**S**	**05 05 35.5**	**-1.3**
LPAZ	**La Paz**	**2.69**	**305**	Pg	**Pn**	**05 04 49.6**	**+0.2**
LPAZ	**La Paz**	**2.69**	**305**	*e*P	**Pn**	**05 04 49.5**	**0.0**
LPAZ				*e*S	**S**	**05 05 35.3**	**-1.3**
BBOD	**La Paz, Gloria**	**2.90**	**295**	Pg	**Pn**	**05 04 51.1**	**+0.1**
I08BO	**LAS PENAS INFR**	**2.98**	**303**	P	**Pn**	**05 04 52.3**	**+0.5**
	baz=112,slow=6.4,SNR=67						
MOCB	**Mochara**	**3.37**	**177**	Pg	**Pn**	**05 04 55.7**	**+0.7**
PB18	**Visviri**	**3.47**	**274**		**Pn**	**05 04 56.8**	**+0.7**
PB18	**Visviri**	**3.47**	**274⇑**	*i* P	**Pn**	**05 04 56.4**	**+0.2**
PB18				*e*S	**S**	**05 05 47.0**	**-1.9**
AOVT	**TarijaAcel**	**3.80**	**164**	Pg	**Pn**	**05 05 00.0**	**+1.1**
PB08	**IPOC Station P**	**3.85**	**234**		**Pn**	**05 04 59.6**	**0.0**
PB08	**IPOC Station P**	**3.85**	**234**	P	**Pn**	**05 04 59.0**	**-0.6**
PB08				S	**S**	**05 05 49.5**	**-5.8**
PB08	**IPOC Station P**	**3.85**	**234⇓**	*i* P	**Pn**	**05 04 58.4**	**-1.2**
PB08				*e*S	**S**	**05 05 52.0**	**-3.3**
PB08	**IPOC Station P**	**3.85**	**234**	*i* P	**Pn**	**05 04 58.9**	**-0.7**
PB08				*i* S	**S**	**05 05 51.1**	**-4.2**
PB08				IAML		05 05 57.6	
	comp=Z,34μm,0.8s						
PB08	**IPOC Station P**	**3.85**	**234**	Pg	**Pn**	**05 04 58.6**	**-1.0**
PB08				Sg	**S**	**05 05 52.5**	**-2.8**
PB08				IAML		05 05 56.1	
	comp=Z,28μm,0.3s						
PB11	**IPOC Station P**	**4.06**	**242**		**Pn**	**05 05 00.7**	**-0.7**
PB11	**IPOC Station P**	**4.06**	**242**	*e*P	**Pn**	**05 04 59.8**	**-1.6**
PB11	**IPOC Station P**	**4.06**	**242**	*i* P	**Pn**	**05 05 00.4**	**-1.0**
PB11				*i* S	**S**	**05 05 53.8**	**-4.8**
PB11	**IPOC Station P**	**4.06**	**242**	Pg	**Pn**	**05 05 00.2**	**-1.2**
YJA	**Yavi**	**4.30**	**176**	*i* P	**Pn**	**05 05 05.2**	**+1.1**
YJA				*i* S	**S**	**05 06 02.9**	**-0.5**
YJA				IAML		05 06 06.0	
	comp=Z,3μm,2.2s						
YJA	**Yavi**	**4.30**	**176**	Pg	**Pn**	**05 05 04.7**	**+0.6**
AP01	**Chacalluta**	**4.30**	**263**		**Pn**	**05 05 01.7**	**-1.9**
AP01	**Chacalluta**	**4.30**	**263**	*e*P	**Pn**	**05 05 01.8**	**-1.9**
AP01	**Chacalluta**	**4.30**	**263**	*i* P	**Pn**	**05 05 02.3**	**-1.3**
AP01				*i* S	**S**	**05 05 57.6**	**-5.2**
PB12	**IPOC Station P**	**4.32**	**259**		**Pn**	**05 05 02.0**	**-1.9**
PB12	**IPOC Station P**	**4.32**	**259⇑**	*e*P	**Pn**	**05 05 01.7**	**-2.2**
PB12	**IPOC Station P**	**4.32**	**259**	*i* P	**Pn**	**05 05 02.8**	**-1.2**
PB12				*i* S	**S**	**05 05 57.9**	**-5.4**
PB12				IAML		05 05 59.9	
	comp=Z,44μm,0.3s						
PB12	**IPOC Station P**	**4.32**	**259**	Pg	**Pn**	**05 05 02.8**	**-1.2**
PB01	**IPOC Station P**	**4.66**	**227**		**Pn**	**05 05 06.5**	**-1.0**
PB01	**IPOC Station P**	**4.66**	**227**	*i* P	**Pn**	**05 05 06.0**	**-1.5**
PB01				*i* S	**S**	**05 06 04.0**	**-5.7**
PB01	**IPOC Station P**	**4.66**	**227**	Pg	**Pn**	**05 05 06.2**	**-1.3**
PB01				Sg	**S**	**05 06 05.0**	**-4.7**
PB01				IAML		05 06 07.5	
	comp=Z,73μm,0.4s						
TA02	**Huaiquique**	**4.70**	**239**		**Pn**	**05 05 06.5**	**-1.3**
TA02	**Huaiquique**	**4.70**	**239**	*e*P	**Pn**	**05 05 05.8**	**-1.9**
TA01	**Diego Aracena**	**4.89**	**236**		**Pn**	**05 05 08.1**	**-1.7**
TA01	**Diego Aracena**	**4.89**	**236**	*i* P	**Pn**	**05 05 08.4**	**-1.4**
TA01				*i* S	**S**	**05 06 07.9**	**-6.1**
SIV	**San Ignacio**	**4.94**	**68**	P	**Pn**	**05 05 10.6**	**+0.1**
	comp=Z,2μm,0.5s,baz=258,slow=9.0,SNR=3094						
SIV				S	**S**	**05 06 14.8**	**-0.4**
	comp=Z,704nm,0.7s,baz=246,slow=16,SNR=6.4						
PB09	**IPOC Station P**	**5.04**	**219**		**Pn**	**05 05 11.5**	**-0.1**
PB09	**IPOC Station P**	**5.04**	**219**	*i* P	**Pn**	**05 05 10.5**	**-1.1**
PB09				*i* S	**S**	**05 06 11.6**	**-5.7**
PB09	**IPOC Station P**	**5.04**	**219**	Pg	**Pn**	**05 05 10.9**	**-0.7**
PB09				Sg	**S**	**05 06 13.3**	**-4.0**
PB09				IAML		05 06 16.8	
	comp=Z,28μm,0.5s						
AF01	**San Pedro de A**	**5.51**	**203**		**Pn**	**05 05 16.7**	**-0.1**
PB05	**IPOC Station P**	**6.42**	**219**		**Pn**	**05 05 25.0**	**-1.8**
PTLB	**Pontes e Lacer**	**6.87**	**70**	Pn	**Pn**	**05 05 32.1**	**+0.1**
PTLB	**Pontes e Lacer**	**6.87**	**70**	P	**P**	**05 05 32.5**	**-0.5**
PTLB	**Pontes e Lacer**	**6.87**	**70**	*e*P	**P**	**05 05 32.6**	**-0.5**
PTLB				*e*S	**S**	**05 06 54.3**	**-0.2**
PB10	**IPOC Station P**	**7.13**	**217**	Pn	**Pn**	**05 05 32.0**	**-2.9**
VILB	**Vilhena**	**7.32**	**49**	Pn	**Pn**	**05 05 36.4**	**-0.8**
VILB	**Vilhena**	**7.32**	**49**	P	**Pn**	**05 05 37.5**	**+0.3**
VILB				S	**S**	**05 06 59.8**	**-4.4**
VILB	**Vilhena**	**7.32**	**49**	*e*P	**Pn**	**05 05 37.5**	**+0.3**
VILB				*e*S	**S**	**05 07 04.3**	**+0.2**
PB14	**IPOC Station P**	**7.95**	**211**	Pn	**Pn**	**05 05 43.2**	**-1.5**
PB14	**IPOC Station P**	**7.95**	**211**	P	**Pn**	**05 05 41.1**	**-3.6**
PB14				S	S	05 07 00.9	-17
GO02	**Mina Guanaco**	**8.05**	**205**	Pn	**Pn**	**05 05 44.3**	**-1.5**
MURT	**Porto Murtinho**	**8.63**	**117**	P	**P**	**05 05 53.3**	**-0.6**
MURT				S	**S**	**05 07 32.6**	**+0.6**
MURT	**Porto Murtinho**	**8.63**	**117**	*e*P	**P**	**05 05 53.3**	**-0.6**
MURT				*e*S	**S**	**05 07 33.0**	**+0.9**
BDQN	**Bodoquena, MS**	**8.98**	**108**	P	**P**	**05 05 57.5**	**-0.4**
BDQN				S	**S**	**05 07 39.8**	**+0.2**
BDQN	**Bodoquena, MS**	**8.98**	**108**	*e*P	**P**	**05 05 57.5**	**-0.4**
BDQN				*e*S	**S**	**05 07 40.3**	**+0.6**
AC01	**Pan de Azucar**	**9.34**	**207**	Pn	**Pn**	**05 05 59.0**	**-1.6**
AC02	**Maricunga**	**9.42**	**198**		**Pn**	**05 06 01.6**	**-0.5**
SALV	**Santo Antonio**	**9.92**	**80**	P	**P**	**05 06 08.2**	**-0.2**
SALV				S	**S**	**05 07 58.9**	**-1.2**
SALV	**Santo Antonio**	**9.92**	**80**	*e*P	**P**	**05 06 08.4**	**0.0**
SALV				*e*S	**S**	**05 07 59.5**	**-0.6**
AQDB	**Aquidauana**	**9.94**	**107**		**Pn**	**05 06 08.0**	**+0.2**
AQDB	**Aquidauana**	**9.94**	**107**	P	**P**	**05 06 09.0**	**+0.5**
AQDB				S	**S**	**05 08 00.6**	**+0.2**
AQDB	**Aquidauana**	**9.94**	**107**	*e*P	**P**	**05 06 09.0**	**+0.5**
AQDB				*e*S	**S**	**05 07 59.4**	**-1.0**
AC06	**Mina Casimiro**	**10.32**	**203**		**Pn**	**05 06 09.4**	**-2.8**
PDRB	**Porto dos Gac**	**10.79**	**56**	P	**P**	**05 06 18.2**	**+0.1**
PDRB				S	**S**	**05 08 17.2**	**-1.7**
PDRB	**Porto dos Gac**	**10.79**	**56**	*e*P	**P**	**05 06 18.3**	**+0.1**
AC04	**Llanos de Chal**	**11.35**	**204**	P	**P**	**05 06 22.5**	**-1.6**
SJPY	**San Joaquin**	**11.52**	**130**	*e*P	**Pn**	**05 06 27.3**	**+0.9**
SJPY				*e*S	**S**	**05 08 33.8**	**-0.5**
CPUP	**Villa Florida**	**11.54**	**138**	P	**P**	**05 06 26.3**	**+0.1**
CPUP	**Villa Florida**	**11.54**	**138**	P	**Pn**	**05 06 26.7**	**0.0**
	comp=Z,1μm,1.0s,baz=314,slow=10,SNR=546						
CPUP				S	**S**	**05 08 36.0**	**+1.3**
	comp=Z,96nm,0.7s,baz=25,slow=17,SNR=1.3						
CPUP	**Villa Florida**	**11.54**	**138**	P	**Pn**	**05 06 26.6**	**0.0**
CPUP				S	**S**	**05 08 34.3**	**-0.5**
RPRD	**Ribas do Rio P**	**11.77**	**105**	P	**Pn**	**05 06 30.5**	**+1.0**
RPRD				S	**S**	**05 08 41.4**	**+1.5**
RPRD	**Ribas do Rio P**	**11.77**	**105**	*e*P	**Pn**	**05 06 29.3**	**-0.2**
LCO	**Las Campanas**	**11.95**	**201**	P	**P**	**05 06 30.3**	**-0.8**
LCO	**Las Campanas**	**11.95**	**201**	P	**P**	**05 06 30.3**	**-0.8**
CLDB	**Colider**	**11.97**	**56**	P	**Pn**	**05 06 32.1**	**+0.2**
CLDB				S	**S**	**05 08 44.3**	**+0.2**
CZSB	**Cruzeiro do Su**	**12.09**	**326**	P	**P**	**05 06 30.8**	**-1.7**
CZSB	**Cruzeiro do Su**	**12.09**	**326**	P	**P**	**05 06 29.9**	**-2.6**
CZSB				S	**S**	**05 08 38.9**	**-7.8**
CZSB	**Cruzeiro do Su**	**12.09**	**326**	*e*P	**P**	**05 06 29.6**	**-2.9**
NNA	**Nana**	**12.12**	**297**	P	**P**	**05 06 32.3**	**-0.5**
NNA	**Nana**	**12.12**	**297**	P	**P**	**05 06 33.0**	**+0.1**
	comp=Z,1μm,0.7s,baz=135,slow=9.2,SNR=172						
NNA				S	**S**	**05 08 45.7**	**-1.7**
	comp=Z,3μm,1.0s,baz=346,slow=10,SNR=14						
NNA	**Nana**	**12.12**	**297**	*i* P	**P**	**05 06 32.4**	**-0.5**
C2SB	**Chapadao do Su**	**12.39**	**96**	*e*P	**P**	**05 06 35.9**	**+0.1**
CO01	**Juntas del Tor**	**12.66**	**197**		**Pn**	**05 06 40.5**	**+0.5**
GO04	**Tololo Observa**	**13.05**	**199**		**Pn**	**05 06 44.1**	**-0.5**
ARAG	**Araguaiana, MT**	**13.62**	**83**	P	**Pn**	**05 06 51.0**	**-0.1**
ARAG				S	**S**	**05 09 18.4**	**+0.9**
ARAG	**Araguaiana, MT**	**13.62**	**83**	*e*P	**Pn**	**05 06 50.2**	**-0.9**
CO03	**El Pedregal**	**13.64**	**198**	P	**P**	**05 06 50.2**	**+0.7**
CO06	**Fray Jorge**	**13.79**	**201**	P	**P**	**05 06 51.4**	**+0.4**
CFA	**Coronel Fontan**	**13.85**	**189**	P	**Pn**	**05 06 53.5**	**-0.2**
	comp=Z,2μm,0.5s,baz=5.3,slow=11,SNR=609						
CFA				S	**S**	**05 09 19.8**	**-2.0**
	comp=Z,760nm,0.4s,baz=129,slow=22,SNR=12						
ZON	**Zonda**	**13.86**	**190**	P	**P**	**05 06 52.7**	**+0.9**
ZON	**Zonda**	**13.86**	**190**	P	**P**	**05 06 52.7**	**+0.9**
TBTG	**Tabatinga, AM**	**14.17**	**343**	P	**P**	**05 06 55.0**	**-0.4**
TBTG	**Tabatinga, AM**	**14.17**	**343**	P	**P**	**05 06 55.0**	**-0.4**
TBTG				S	**S**	**05 09 26.3**	**-2.2**
TBTG	**Tabatinga, AM**	**14.17**	**343**	*e*P	**P**	**05 06 55.6**	**+0.2**
TEFE	**Tefe**	**14.32**	**5**	P	**P**	**05 06 56.7**	**-0.3**
TEFE				S	**S**	**05 09 31.8**	**+0.2**
TEFE	**Tefe**	**14.32**	**5**	*e*P	**P**	**05 06 56.8**	**-0.3**
TEFE				*e*S	**S**	**05 09 32.1**	**+0.5**
PTGB	**Pitanga**	**14.54**	**120**	P	**Pn**	**05 07 00.8**	**-0.9**
PTGB				S	**S**	**05 09 38.2**	**+2.3**
PTGB	**Pitanga**	**14.54**	**120**	*e*P	**P**	**05 06 59.7**	**+0.3**
PTGB				*e*S	**S**	**05 09 37.5**	**+1.6**
ITRB	**Iturama**	**14.79**	**100**	P	**Pn**	**05 07 03.5**	**-1.1**
ITRB				S	**S**	**05 09 41.7**	**+0.8**
ITRB	**Iturama**	**14.79**	**100**	*e*P	**P**	**05 07 02.3**	**+0.2**
LDASE	**Londrina, Braz**	**14.84**	**114**	*e*P	**P**	**05 07 02.8**	**+0.1**
LDASE				*e*S	**S**	**05 09 42.8**	**+0.8**
NPGB	**Novo Progresso**	**14.85**	**45**	P	**P**	**05 07 02.4**	**-0.4**
NPGB				S	**S**	**05 09 39.4**	**-2.8**
NPGB	**Novo Progresso**	**14.85**	**45**	*e*P	**P**	**05 07 02.5**	**-0.3**
SNDB	**Serra Nova Dou**	**15.24**	**69**	P	**P**	**05 07 08.8**	**+0.7**
SNDB				S	**S**	**05 09 47.5**	**-2.4**
SNDB	**Serra Nova Dou**	**15.24**	**69**	*e*P	**P**	**05 07 07.2**	**+0.1**
SNDB				*e*S	**S**	**05 09 49.8**	**-0.1**
VA03	**San Esteban**	**15.42**	**195**	P	**P**	**05 07 09.1**	**+0.2**
VA06	**Catapilco**	**15.43**	**198**	P	**P**	**05 07 08.0**	**-0.9**
MACA	**Manacapuru-AM**	**15.47**	**20**	P	**P**	**05 07 09.2**	**-0.4**
MACA	**Manacapuru-AM**	**15.47**	**20**	P	**P**	**05 07 09.5**	**-0.2**
MACA				S	**S**	**05 09 53.4**	**-1.2**
MACA	**Manacapuru-AM**	**15.47**	**20**	*e*P	**P**	**05 07 09.4**	**-0.2**
ITAB	**Concordia**	**15.72**	**129**	P	**P**	**05 07 11.7**	**-0.4**
ITAB	**Concordia**	**15.72**	**129**	P	**P**	**05 07 12.4**	**+0.2**
ITAB				S	**S**	**05 09 58.6**	**-0.7**
ITAB	**Concordia**	**15.72**	**129**	*e*P	**P**	**05 07 12.4**	**+0.2**
PEL	**Peldehue**	**15.82**	**195**	P	**P**	**05 07 12.8**	**-0.3**
PEL	**Peldehue**	**15.82**	**195**	P	**P**	**05 07 12.9**	**-0.3**
MT08	**Bocatoma Ro**	**15.96**	**193**	P	**P**	**05 07 14.4**	**-0.5**
VA01	**Torpederas**	**15.96**	**198**	P	**P**	**05 07 14.4**	**-0.3**
MT02	**Curacav**	**16.04**	**196**	P	**P**	**05 07 14.5**	**-1.1**
MT16	**CCHEN**	**16.05**	**194**	P	**P**	**05 07 15.8**	**+0.1**
MT05	**Renca**	**16.07**	**195**	P	**P**	**05 07 15.3**	**-0.6**
MT03	**Universidad Ad**	**16.11**	**194**	P	**P**	**05 07 16.7**	**+0.3**
ITU3	**Corumbazu**	**16.16**	**94**	P	**P**	**05 07 16.6**	**-0.4**
ITU3				S	**S**	**05 10 08.9**	**+0.8**
FRTB	**Fartura**	**16.19**	**112**	P	**P**	**05 07 18.0**	**+0.7**
FRTB				S	**S**	**05 10 09.7**	**+1.0**
FRTB	**Fartura**	**16.19**	**112**	*e*P	**P**	**05 07 17.4**	**+0.1**
FRTB				*e*S	**S**	**05 10 09.3**	**+0.6**
ATAH	**Atahualpa**	**16.23**	**310**	P	**P**	**05 07 19.2**	**+0.9**
	comp=Z,58nm,0.5s,baz=65,slow=5.3,SNR=64						
ATAH				S	**S**	**05 10 06.2**	**-4.0**
	comp=Z,85nm,0.8s,baz=88,slow=16,SNR=1.1						
MT13	**San Alfonso**	**16.30**	**193**	P	**P**	**05 07 18.9**	**+0.4**
LMEL	**Las Melosas**	**16.38**	**193**	P	**P**	**05 07 19.4**	**0.0**
TBOT	**Tacuaremb**	**16.42**	**149**	*e*P	**P**	**05 07 19.0**	**-0.7**
MT09	**Talagante**	**16.50**	**195**	P	**P**	**05 07 20.2**	**-0.4**
VA05	**Santo Domingo**	**16.55**	**197**	P	**P**	**05 07 20.1**	**-0.9**
BO04	**La Punta**	**16.61**	**194**	P	**P**	**05 07 21.0**	**-0.7**
BB19B	**Bebedouro**	**16.64**	**104**	P	**P**	**05 07 22.8**	**+0.6**
BB19B				S	**S**	**05 10 17.7**	**0.0**
BB19B	**Bebedouro**	**16.64**	**104**	*e*P	**P**	**05 07 22.2**	**0.0**
MT01	**Popeta**	**16.65**	**196**	P	**P**	**05 07 21.5**	**-0.5**
IPMB	**Ipameri, GO**	**16.79**	**93**	P	**P**	**05 07 23.9**	**+0.1**
IPMB				S	**S**	**05 10 21.4**	**+0.8**
IPMB	**Ipameri, GO**	**16.79**	**93**	*e*P	**P**	**05 07 23.7**	**-0.2**
CPSB	**Cacapava Do Su**	**16.84**	**140**	P	**P**	**05 07 23.1**	**-1.1**
CPSB				S	**S**	**05 10 17.6**	**-3.6**
CPSB	**Cacapava Do Su**	**16.84**	**140**	*e*P	**P**	**05 07 23.1**	**-1.1**
BO01	**Tunca**	**17.11**	**195**	P	**P**	**05 07 26.1**	**-0.9**
BDFB	**Brasilia**	**17.23**	**85**	P	**P**	**05 07 28.7**	**+0.1**
BDFB	**Brasilia**	**17.23**	**85**	P	**P**	**05 07 28.1**	**-0.6**
	comp=Z,354nm,0.9s,baz=263,slow=11,SNR=62						
BDFB				S	**S**	**05 10 24.8**	**-4.5**
	comp=Z,86nm,0.8s,baz=217,slow=20,SNR=1.4						
BDFB	**Brasilia**	**17.23**	**85**	P	**P**	**05 07 28.7**	**+0.1**
BO02	**Sierra Bellavi**	**17.42**	**194**	P	**P**	**05 07 30.1**	**-0.3**
BAT3	**Ipameri**	**17.46**	**91**	P	**P**	**05 07 30.8**	**-0.3**
BAT3				S	**S**	**05 10 34.6**	**+0.8**
BAT2	**UHE Batalha**	**17.53**	**91**	P	**P**	**05 07 32.7**	**+0.9**
CAN3	**Cana Brava**	**17.57**	**77**	P	**P**	**05 07 33.3**	**+1.1**
SSV2	**Sao Salvador**	**17.72**	**76**	P	**P**	**05 07 34.8**	**+1.0**
PLTB	**Pedras Altas**	**17.73**	**144**		**P**	**05 07 32.0**	**-1.7**
PLTB	**Pedras Altas**	**17.73**	**144**	P	**P**	**05 07 31.8**	**-1.8**
PLTB				S	**S**	**05 10 33.7**	**-4.8**
PLTB	**Pedras Altas**	**17.73**	**144**	*e*P	**P**	**05 07 31.9**	**-1.7**
PLTB				*e*S	**S**	**05 10 36.5**	**-2.0**
CNLB	**Canela**	**17.83**	**132**	P	**P**	**05 07 33.4**	**-1.4**
CNLB				S	**S**	**05 10 35.1**	**-5.7**
CNLB	**Canela**	**17.83**	**132**	*e*P	**P**	**05 07 32.1**	**-2.7**
CNLB				*e*S	**S**	**05 10 41.5**	**+0.8**
SPB	**Sao Paulo**	**18.14**	**111**	P	**P**	**05 07 37.1**	**-1.0**
SPB	**Sao Paulo**	**18.14**	**111**	*e*P	**P**	**05 07 37.7**	**-0.4**
SPB				*e*S	**S**	**05 10 47.1**	**+0.4**
MAJ01	**Sao Joao Batis**	**18.19**	**124**	*e*P	**P**	**05 07 37.4**	**-1.2**
VABB	**Valinhos**	**18.41**	**109**	P	**P**	**05 07 40.2**	**-1.0**
VABB				S	**S**	**05 10 51.0**	**-1.2**
VAO	**Valinhos**	**18.42**	**109**	P	**P**	**05 07 39.9**	**-1.3**
VAO	**Valinhos**	**18.42**	**109**	*e*P	**P**	**05 07 40.4**	**-0.8**
PMNB	**Patos De Minas**	**18.46**	**95**	P	**P**	**05 07 41.3**	**-0.4**
PMNB				S	**S**	**05 10 52.2**	**-0.9**
PMNB	**Patos De Minas**	**18.46**	**95**	*e*P	**P**	**05 07 41.4**	**-0.3**
ML02	**Panimavida**	**18.49**	**194**	P	**P**	**05 07 41.2**	**-0.5**
TER01	**Tubaro-SC**	**18.66**	**128**	P	**P**	**05 07 41.2**	**-2.4**
TER01				S	**S**	**05 10 54.1**	**-2.4**
TER01	**Tubaro-SC**	**18.66**	**128**	*e*P	**P**	**05 07 41.5**	**-2.0**
TER01				*e*S	**S**	**05 10 56.6**	**+0.1**
LAJE	**UHE Lajeado**	**18.73**	**68**	P	**P**	**05 07 44.6**	**+0.1**
BI02	**San Fabin de**	**19.32**	**193**	P	**P**	**05 07 50.1**	**-0.5**
H03N1	**Juan Fernandez**	**19.44**	**215**	P	**P**	**05 07 53.9**	**+2.6**
	baz=110,slow=16,SNR=1783						
H03N2	**Juan Fernandez**	**19.45**	**215**	P	**P**	**05 07 53.9**	**+2.5**
	baz=110,slow=16,SNR=1300						
H03N3	**Juan Fernandez**	**19.45**	**215**	P	**P**	**05 07 53.5**	**+1.9**
	baz=110,slow=16,SNR=1914						
MAL2	**Monte Alegre,**	**19.48**	**37**	P	**P**	**05 07 51.0**	**-1.3**
MAL2	**Monte Alegre,**	**19.48**	**37**	P	**P**	**05 07 51.4**	**-0.9**
MAL2				S	**S**	**05 11 09.3**	**-1.7**
PRPB	**Parauapebas**	**19.50**	**55**	P	**P**	**05 07 51.4**	**-1.2**
PRPB				S	**S**	**05 11 09.9**	**-1.5**
PRPB	**Parauapebas**	**19.50**	**55**	*e*P	**P**	**05 07 51.4**	**-1.2**
PRPB				*e*S	**S**	**05 11 11.2**	**-0.2**
VA04	**Juan Fernndez**	**19.55**	**214**	P	**P**	**05 07 52.2**	**-0.5**
PARB	**Paraibuna**	**19.70**	**109**	P	**P**	**05 07 53.4**	**-1.1**
PARB				S	**S**	**05 11 13.5**	**-1.0**
PARB	**Paraibuna**	**19.70**	**109**	*e*P	**P**	**05 07 53.2**	**-1.2**
H03S3	**Juan Fernandez**	**19.73**	**214**	P	**P**	**05 07 56.0**	**+1.7**
	baz=30,slow=19,SNR=523						
H03S1	**Juan Fernandez**	**19.74**	**214**	P	**P**	**05 07 51.6**	**-2.8**
	baz=30,slow=19,SNR=269						
H03S2	**Juan Fernandez**	**19.75**	**214**	P

comp=Z,570nm,0.6s
RUSC La Rusia 24.67 343 S **S** 05 12 37.8 +3.0
RUSC La Rusia 24.67 343 P **P** 05 08 39.2 -1.0
RUSC La Rusia 24.67 343 S S 05 12 23.4 -11
GUA01 Guaratinga, BA 24.91 91 P **P** 05 08 42.0 +0.2
GUA01 S **S** 05 12 36.0 -1.7
GUA01 Guaratinga, BA 24.91 91 *e*P **P** 05 08 42.2 +0.3
GUA01 *e*S **S** 05 12 38.0 +0.3
LL01 San Ignacio de 25.06 192 P **P** 05 08 42.2 -0.7
LL01 IAmb IAmb 05 08 43.7
comp=Z,486nm,1.0s
CMC01 Camacan, BA 25.35 88 P **P** 05 08 45.7 -0.1
CMC01 Camacan, BA 25.35 88 *e*P **P** 05 08 45.9 0.0
HELC Santa Helena 25.75 337 P **P** 05 08 48.4 -1.3
HELC S **S** 05 12 51.7 +0.2
HELC Santa Helena 25.75 337 S **S** 05 12 49.9 -1.7
ABR01 Abrolhos, BA 25.83 94 P **P** 05 08 48.7 -1.4
ABR01 S **S** 05 12 49.9 -2.4
ABR01 Abrolhos, BA 25.83 94 *e*P **P** 05 08 49.0 -1.1
ABR01 *e*S **S** 05 12 52.6 +0.3
MDP Montagnes des 26.29 31 P **P** 05 08 53.9 -0.3
comp=Z,199nm,0.8s,baz=203,slow=10,SNR=71
comp=Z,199nm,0.8s
SDV Santo Domingo 27.00 350 P **P** 05 08 58.1 -2.6
SDV Santo Domingo 27.00 350 P **P** 05 08 59.7 -0.9
comp=Z,77nm,0.4s,baz=184,slow=9.3,SNR=59
SDV pP **pP** 05 10 07.1 0.0
comp=Z,902nm,1.2s,baz=146,slow=3.6,SNR=3.3
SDV S **S** 05 13 05.4 -5.5
comp=Z,41nm,0.6s,baz=252,slow=24,SNR=1.2
comp=Z,77nm,0.4s
SDV Santo Domingo 27.00 350 P **P** 05 08 58.7 -1.9
SDV Santo Domingo 27.00 350 *e*P **P** 05 08 59.8 -0.9
NBPS Pedro II - PI 27.38 64 P **P** 05 09 04.0 0.0
NBPS S **S** 05 13 15.2 -1.7
PCRV Puerto La Cruz 27.89 3 P **P** 05 09 07.1 -1.2
comp=Z,180nm,0.5s,baz=176,slow=5.9,SNR=63
PCRV pP **pP** 05 10 15.6 -0.4
comp=Z,61nm,0.7s,baz=181,slow=4.6,SNR=1.3
PCRV S **S** 05 13 17.0 -7.7
comp=Z,66nm,1.0s,baz=200,slow=21,SNR=1.3
comp=Z,180nm,0.5s
NBLA Lagarto - SE 28.00 80 P **P** 05 09 08.6 -0.7
NBLA S **S** 05 13 21.5 -4.9
COYC Coyhaique 28.11 189 P **P** 05 09 09.4 -0.5
NBMA Muriti-CE 28.38 72 P **P** 05 09 12.8 +0.1
NBMA S **S** 05 13 31.8 -0.6
NBPB Pedra_Branca-C 28.44 68 P **P** 05 09 13.9 +0.6
NBPB S **S** 05 13 32.4 -0.9
NBPB Pedra_Branca-C 28.44 68 *e*P **P** 05 09 13.8 +0.6
NBPB *e*S **S** 05 13 33.4 +0.1
LCBC Los crdobas, 28.52 338 *i*S pP 05 10 25.4 +3.6
SBBR Sobral 28.72 64 P **P** 05 09 15.0 -0.7
SBBR S **S** 05 13 35.8 -1.8
ACHO3 Achotines, Los 28.83 329 *e*P **P** 05 09 16.9 +0.3
ACHO3 *i*S **pP** 05 10 26.6 +1.9
ACHO3 *e*S **pP** 05 10 26.8 +2.1
UPD2 Meteti 28.87 334 *e*P **P** 05 09 18.2 +1.3
UPD2 *i*S **pP** 05 10 28.7 +3.7
PCRI3 Pocri, Los San 29.02 330 *e*P **P** 05 09 19.4 +1.1
PCRI3 *i*S **pP** 05 10 28.7 +2.3
CACAO El Cacao, Vera 29.11 328 *e*P **P** 05 09 17.7 -1.4
CACAO *e*S **pP** 05 10 30.3 +3.0
NBMO Morrinhos-CE 29.14 63 P **P** 05 09 19.4 0.0
NBMO S **S** 05 13 42.9 -1.3
AZU Azuero 29.21 330 *e*P **P** 05 09 20.6 +0.7
AZU *i*S **pP** 05 10 30.0 +1.8
CHIT3 Chitre 29.42 330 *e*P **P** 05 09 22.5 +0.7
CHIT3 *e* **pP** 05 10 33.4 +3.3
CHIT3 *i*S **pP** 05 10 33.4 +3.3
PAYG Puerto Ayora 29.48 303 P **P** 05 09 23.9 +1.6
GMAL Guarumal, Vera 29.66 328 ⇓*i*P **P** 05 09 24.9 +1.1
GMAL *i*S **pP** 05 10 33.7 +1.5
CRIS3 El Cristo, Coc 29.77 329 *e*P **P** 05 09 24.9 +0.1
CRIS3 *i*S **pP** 05 10 36.1 +2.9
AY03 Cochrane 29.82 189 P **P** 05 09 25.1 +0.2
NBAN Anadia - AL 29.83 78 P **P** 05 09 25.2 -0.2
NBAN S **S** 05 13 51.9 -3.1
NBAN Anadia - AL 29.83 78 *e*P **P** 05 09 25.3 -0.2
NBAN *e*S **S** 05 13 54.8 -0.2
PNME Penonome 29.84 330 *e*P **P** 05 09 25.9 +0.4
PNME *i*S **pP** 05 10 36.0 +2.0
CNTA3 Canitas, Panam 29.84 333 *e*P **P** 05 09 25.9 +0.4
CNTA3 *e* 05 10 35.8
UPA Univ. de Panam 29.91 332 *e*P **P** 05 09 26.5 +0.4
UPA *i*S **pP** 05 10 35.8 +1.4
CHOR3 La Chorrera 29.94 332 *e*P **P** 05 09 24.6 -1.7
CHOR3 *e*S **pP** 05 10 37.4 +2.6
CALO3 Calobre, Verag 29.94 329 *e*P **P** 05 09 27.1 +0.8
CALO3 *e*S **pP** 05 10 36.8 +1.9
MESA3 La Mesa, Verag 29.96 328 *e*P **P** 05 09 25.7 -0.8
MESA3 *e*S **pP** 05 10 37.4 +2.4
URI Uribia 30.00 348 P **P** 05 09 22.7 -4.2
URI S **S** 05 13 50.4 -7.0
URI Uribia 30.00 348 S S 05 13 47.7 -10
GRFF Grenada Fort F 30.00 8 *e*P **P** 05 09 26.0 -0.9
SMRC Santa Marta, M 30.01 343 P **P** 05 09 23.8 -3.2
HATO Hato, Curacao 30.02 354 P **P** 05 09 25.6 -1.3
HATO IAmb IAmb 05 09 28.2
comp=Z,475nm,0.7s
NBLV Livramento - P 30.06 73 P **P** 05 09 27.9 +0.4
NBLV S **S** 05 13 58.5 -0.1
GRGR Grenville 30.10 8 P **P** 05 09 26.9 -0.8
GRW Mount Saint Ca 30.12 8 *e*P **P** 05 09 27.5 -0.5
NBCL Cascavel-CE 30.19 67 P **P** 05 09 29.7 +1.1
NBCL S **S** 05 14 01.1 +0.5
BCIP Isla Barro Col 30.21 332 P **P** 05 09 28.4 -0.3
BCIP IAmb IAmb 05 10 42.1
comp=Z,1μm,1.3s
BCIP Isla Barro Col 30.21 332 P **P** 05 09 28.4 -0.3
BCIP pmax pmax
comp=Z,1μm,1.3s
BCIP Isla Barro Col 30.21 332 *e*P **P** 05 09 30.2 +1.5
BCIP *i*S **pP** 05 10 41.7 +4.5
NBPA Parau_RN 30.54 70 P **P** 05 09 31.7 +0.1
NBPA S **S** 05 14 04.9 -1.1
PTPM Petroterminale 30.89 326 *e*P **P** 05 09 30.3 -4.3
PTPM *e*S **pP** 05 10 44.1 +0.9
NBBL Bica de Lurdes 31.20 77 P **P** 05 09 37.7 +0.3
NBBL S **S** 05 14 15.3 -0.9
BRU2 Volcan 31.28 327 P **P** 05 09 38.3 +0.1
BRU2 IAmb IAmb 05 09 42.5
comp=Z,842nm,1.7s
BRU2 Volcan 31.28 327 ⇓*i*P **P** 05 09 39.6 +1.4
BRU2 *e*S pP 05 10 57.4 +10
RCBR Riachuelo 31.60 71 P **P** 05 09 41.4 +0.5
RCBR IAmb IAmb 05 09 43.6
comp=Z,394nm,0.8s
RCBR Riachuelo 31.60 71 P **P** 05 09 41.4 +0.5
RCBR pmax pmax
comp=Z,394nm,0.8s
RCBR Riachuelo 31.60 71 P **P** 05 09 41.8 +0.9
RCBR S **S** 05 14 24.8 +2.3
RCBR Riachuelo 31.60 71 *e*P **P** 05 09 41.6 +0.7
RCBR *e*S **S** 05 14 22.4 -0.1
RCBR Riachuelo 31.60 71 P **P** 05 09 42.0 +1.1
CNI2 El Empalme, Bo 31.70 328 *e*P P 05 09 36.1 -5.5
CNI2 *e*S pP 05 10 53.4 +2.9
NBPV Pedro Velho 31.91 73 P **P** 05 09 44.0 +0.5
NBPV S **S** 05 14 27.0 -0.3
BRIBI Bribri 32.06 327 *e*P **P** 05 09 46.1 +1.4
H05S1 Guadeloupe/Mar 32.47 9 P **P** 05 09 47.9 -0.3
SNR=108
RAZU San Marcos de 32.72 325 *e*P **P** 05 09 53.4 +2.7
FDF Fort de France 32.73 8 P **P** 05 09 48.1 -2.4
FDF Fort de France 32.73 8 P **P** 05 09 48.1 -2.4
FDF pmax pmax
comp=Z,1μm,1.0s
FDF Fort de France 32.73 8 P **P** 05 09 49.0 -1.6
FDF ScP **ScP** 05 15 37.8 +3.1
PISJ San Jernim 32.75 325 *e*P **P** 05 09 52.3 +1.4
VINA Juan Vinas 32.76 326 *e*P **P** 05 09 53.2 +2.2
ABE2 San Pablo 32.77 325 *e*P **P** 05 09 52.4 +1.2
REPA Paraso 32.77 326 *e*P **P** 05 09 52.3 +1.2
LCR2 La Lucha 2 32.77 325 *e*P **P** 05 09 52.7 +1.5
VERB Verbena 32.78 326 *e*P **P** 05 09 52.8 +1.7
RVSTA Santa Teresita 32.78 326 *e*P **P** 05 09 53.2 +2.1
PICV PH. Pirrs 32.78 325 *e*P **P** 05 09 52.7 +1.6
IRES Siquirres 32.80 327 *e*P **P** 05 09 53.4 +2.2
ILAM Ilet Lapin Mar 32.81 9 P **P** 05 09 49.6 -1.5
ILAM IAmb IAmb 05 09 56.1
comp=Z,901nm,1.1s
PCAYA Pacayas 32.82 326 *e*P **P** 05 09 53.4 +1.8
VTCV VTCV, Calle Va 32.83 326 *e*P **P** 05 09 53.5 +1.9
SVN Savane Anatole 32.83 8 P **P** 05 09 49.6 -1.8
RAFA San Farael, Vo 32.85 326 *e*P **P** 05 09 54.1 +2.1
CVTV Tajo 32.86 326 *e*P **P** 05 09 54.2 +2.3
RVLA Villa Bonita 32.86 326 *e*P **P** 05 09 53.1 +1.5
CVTQ Turrialba Volc 32.87 326 *e*P **P** 05 09 53.7 +1.6
VTLA Turrialba Volc 32.87 326 *e*P **P** 05 09 54.4 +2.3
CVTR Volcan Turrial 32.88 326 *e*P **P** 05 09 54.1 +1.8
VICA Volcano Irazu 32.89 326 *e*P **P** 05 09 54.2 +1.8
TRIO Tres Rios 32.91 326 *e*P **P** 05 09 54.2 +2.0
AMPA Desamparados 32.93 326 *e*P **P** 05 09 54.1 +1.6
SJS3 Mercedes San J 32.96 326 *e*P **P** 05 09 55.0 +2.2
SJS Escuela Geolog 32.97 326 *e*P **P** 05 09 54.8 +2.1
CVIMO Finca Echandi 32.98 326 *e*P **P** 05 09 54.4 +1.5
MEXI Barrio Mexico 32.98 326 *e*P **P** 05 09 55.5 +2.6
SANTA Santa Ana 33.03 325 *e*P **P** 05 09 55.1 +1.9
HDC Heredia 33.05 326 P **P** 05 09 54.4 +1.0
HDC IAmb IAmb 05 10 00.5
comp=Z,636nm,0.9s
HDC Heredia 33.05 326 *e*P **P** 05 09 53.4 -0.1
HDC Heredia 33.05 326 *e*P **P** 05 09 55.7 +2.2
BELE Belen 33.07 325 *e*P **P** 05 09 56.0 +2.5
VBV1 V. Barva 33.13 326 *e*P **P** 05 09 56.2 +1.8
SOCE Pocosol 33.64 325 P **P** 05 09 58.8 +0.4
SOCE IAmb IAmb 05 10 02.4
comp=Z,659nm,0.5s
SOCE Pocosol 33.64 325 P **P** 05 09 59.9 +1.5
INDI Punta indio, G 33.71 323 P **P** 05 10 00.9 +2.0
JTS Las Juntas de 33.75 325 P **P** 05 09 59.6 +0.3
JTS Las Juntas de 33.75 325 P **P** 05 09 59.6 +0.3
JTS pmax pmax
comp=Z,227nm,0.9s
JTS Las Juntas de 33.75 325 ⇓*i*P **P** 05 10 01.3 +2.0
JTS Las Juntas de 33.75 325 P **P** 05 10 00.4 +1.1
JTS pP **pP** 05 11 11.7 +3.0
JTS ScP **ScP** 05 15 38.4 +0.1
COVE Coope Vega, Sa 33.80 326 P **P** 05 10 02.1 +2.4
MG05 Puerto Natales 34.14 187 P **P** 05 10 02.2 +0.1
GDHS Morne Mazeau, 34.16 7 P **P** 05 10 00.3 -2.5
EFI East Falkland 34.29 171 P **P** 05 10 03.9 +0.5
EFI IAmb IAmb 05 10 07.9
comp=Z,392nm,0.8s
EFI East Falkland 34.29 171 *c e*P **P** 05 10 04.8 +1.4
EFI pmax pmax
comp=Z,317nm,1.3s
EFI East Falkland 34.29 171 P **P** 05 10 04.1 +0.7
EFI PcP **PcP** 05 12 31.9 +1.8
EFI ScP **ScP** 05 15 42.0 +2.4
GDSD La Dsirade Is 34.29 8 P **P** 05 10 01.2 -2.6
H05N1 Guadeloupe/Mar 34.30 8 P **P** 05 10 04.2 +0.3
SNR=165
BLUN Bluefields 34.56 328 P **S** 05 15 07.5 -0.2
BLUN Bluefields 34.56 328 S S 05 15 09.6 +1.9
BLUN Bluefields 34.56 328 P **P** 05 10 05.0 -1.1
BLUN Bluefields 34.56 328 P **P** 05 10 07.6 +1.5
PRVC Isla de Provid 34.62 333 P **P** 05 10 04.9 -1.7
PRVC Isla de Provid 34.62 333 *e*P **P** 05 10 05.0 -1.6
PRVC *i*S **pP** 05 11 17.1 +0.8
PRVC Isla de Provid 34.62 333 P **P** 05 10 06.8 +0.2
PRVC Isla de Provid 34.62 333 P **S** 05 15 07.5 -1.0
CARN Rivas 34.80 325 P **P** 05 10 11.1 +2.9
MG02 Cerro Sombrero 34.94 184 P **P** 05 10 10.0 +1.1
ESPN Las Esperanzas 34.99 327 P **S** 05 15 17.3 +3.2
ESPN Las Esperanzas 34.99 327 P **P** 05 10 07.6 -2.1
ESPN Las Esperanzas 34.99 327 P **P** 05 10 13.0 +3.3
CONN Concepcion 35.16 325 P **P** 05 10 11.8 +0.5
ACON Acoyapa 35.26 326 P **S** 05 10 11.7 -0.4
ACON Acoyapa 35.26 326 S S 05 15 30.1 +12
ACON Acoyapa 35.26 326 P **S** 05 15 21.5 +3.2
ACON Acoyapa 35.26 326 P **P** 05 10 13.0 +1.0
ACON Acoyapa 35.26 326 P **P** 05 10 13.3 +1.2
GO10 Punta Arenas 35.45 185 P **P** 05 10 14.7 +1.5
GO10 IAmb IAmb 05 10 17.1
comp=Z,1μm,0.9s
ANWB Willy Bob 35.54 7 P **P** 05 10 10.6 -3.8
OBIP Obispado Ponce 35.70 359 P **P** 05 10 13.7 -2.0
CELP Cerrillos 35.73 359 P **P** 05 10 13.6 -2.4
NANN Nandasmo 35.75 325 P **P** 05 10 18.2 +2.0
SJG San Juan 35.76 360 P **P** 05 10 13.2 -2.9
SJG IAmb IAmb 05 10 19.5
comp=Z,790nm,0.8s
SJG San Juan 35.76 360 P **P** 05 10 13.6 -2.5
comp=Z,644nm,0.8s,baz=158,slow=5.8,SNR=134
SJG pP **pP** 05 11 26.3 +0.1
comp=Z,428nm,0.8s,baz=162,slow=5.5,SNR=5.6
SJG S S 05 15 16.3 -9.3
comp=Z,51nm,0.7s,baz=357,slow=20,SNR=6.3
SJG ScS **ScS** 05 19 50.9 -0.8
comp=Z,20nm,0.2s,baz=11,slow=19,SNR=15
comp=Z,644nm,0.8s
SJG San Juan 35.76 360 P **P** 05 10 13.5 -2.6
SJG pP **pP** 05 11 25.1 -1.1
SJG PcP **PcP** 05 12 35.1 +0.6
SABN Sabanita 35.78 324 P **P** 05 10 17.1 +0.6
SMRT St. Maarten 35.80 5 P **P** 05 10 13.3 -3.2
SMRT IAmb IAmb 05 10 15.9
comp=Z,408nm,0.6s
PRSN Puerto Rico Se 35.88 358 P **P** 05 10 15.1 -2.1
PRSN IAmb IAmb 05 10 19.2
comp=Z,729nm,0.7s
BOAB BOACO BROADBAN 35.92 326 P **P** 05 10 16.3 -1.3
BOAB BOACO BROADBAN 35.92 326 P **P** 05 10 17.0 -0.6
BOAB S **S** 05 15 28.8 +0.5
BOAB BOACO BROADBAN 35.92 326 S **S** 05 15 30.4 +2.1
BOAB BOACO BROADBAN 35.92 326 P **S** 05 15 29.1 +0.9
BOAB BOACO BROADBAN 35.92 326 S **S** 05 15 29.4 +1.2
BOAB BOACO BROADBAN 35.92 326 P **P** 05 10 18.6 +0.9
BOAB BOACO BROADBAN 35.92 326 P **P** 05 10 17.9 +0.3
TISN Laguna Tiscapa 35.99 325 P **S** 05 15 32.7 +3.2
TISN Laguna Tiscapa 35.99 325 P **P** 05 10 19.5 +1.2
TISN Laguna Tiscapa 35.99 325 P **P** 05 10 19.3 +1.0
MG03 Isla Dawson 36.09 185 P **P** 05 10 19.4 +0.9
MG03 IAmb IAmb 05 10 21.3
comp=Z,483nm,0.8s
EMPR Esperanza - Ma 36.13 359 P **P** 05 10 16.4 -2.8
EMPR IAmb IAmb 05 10 19.1
comp=Z,557nm,0.5s
PAPH Port-au-Prince 36.72 350 *e*P **P** 05 10 23.6 -0.6
SDDR Presa de Saban 37.01 351 *e*P **P** 05 10 27.1 +0.4
RCPN Sur Rio San Ju 37.04 326 P **S** 05 15 48.8 +3.4
RCPN Sur Rio San Ju 37.04 326 P **P** 05 15 29.2 +2.1
STH Stony Hill 37.31 343 *e*P **P** 05 10 28.2 -1.0
MTDJ Mount Denham 37.66 342 *e*P **P** 05 10 31.3 -0.9
CNCH Conchagua 37.79 324 P **S** 05 15 57.6 +0.9
CNCH Conchagua 37.79 324 S **S** 05 15 58.4 +1.7
CNCH Conchagua 37.79 324 P **P** 05 10 33.6 +0.3
CNCH Conchagua 37.79 324 P **P** 05 10 34.1 +0.7
LCND La Caada 37.85 323 P **P** 05 10 34.2 +0.5
LCND La Caada 37.85 323 P **P** 05 10 33.8 0.0
RANC El Ranchito 38.18 323 S **S** 05 16 05.1 +2.6
RANC El Ranchito 38.18 323 P **P** 05 10 37.4 +0.8
RANC El Ranchito 38.18 323 P **P** 05 10 37.8 +1.2
PACA Pacayal 38.23 323 S **S** 05 16 05.3 +2.2
PACA Pacayal 38.23 323 P **P** 05 10 38.1 +1.1
PACA Pacayal 38.23 323 P **P** 05 10 38.6 +1.6
ALJI Alcalda de J 38.26 323 P **P** 05 10 38.1 +1.0
ALJI Alcalda de J 38.26 323 P P 05 10 42.0 +4.9
TECO Alcaldia de Te 38.55 323 P **P** 05 10 40.3 +0.8
TECO Alcaldia de Te 38.55 323 P **P** 05 10 41.5 +2.0
UESV Universidad de 38.63 323 P **P** 05 10 42.2 +2.0
UESV Universidad de 38.63 323 P **P** 05 10 42.9 +2.7
GTBY Guantanamo Bay 38.65 346 *e*P **P** 05 10 38.3 -1.8
SCLA Alcaldia de Sa 38.65 323 P **P** 05 10 41.3 +0.9
SCLA Alcaldia de Sa 38.65 323 P **P** 05 10 40.8 +0.4
COEG Centro de Oper 38.67 323 P **P** 05 10 41.9 +1.3
COEG Centro de Oper 38.67 323 P **P** 05 10 42.6 +2.1
MASC Masc 38.69 347 *e*P **P** 05 10 39.0 -1.5
QMBU Quimbuelo 38.84 347 *e*P **P** 05 10 39.8 -2.0
RCC Rio Carpintero 38.85 345 *e*P **P** 05 10 38.9 -2.9
LOMA Loma Larga 38.86 322 P **P** 05 10 45.7 +3.5
LOMA Loma Larga 38.86 322 P **P** 05 10 44.7 +2.5
MARVS Santiago de Cu 38.91 345 *e*P **P** 05 10 40.5 -1.8
PMON Piamonte 38.99 322 P **P** 05 10 45.4 +2.1
PMON Piamonte 38.99 322 P **P** 05 10 46.6 +3.3
CHIV Chivirico 39.01 344 P **P** 05 10 41.6 -1.6
CHIV IAmb IAmb 05 11 59.0
comp=Z,689nm,1.6s
CHIV Chivirico 39.01 344 *e*P **P** 05 10 39.7 -3.5
JAYA Jayaque - finc 39.03 322 S **S** 05 16 17.0 +1.9
JAYA Jayaque - finc 39.03 322 P **P** 05 10 45.1 +1.5
CEDA San Andres 39.11 322 S **S** 05 16 24.6 +8.5
CEDA San Andres 39.11 322 P **P** 05 10 45.6 +1.5
CEDA San Andres 39.11 322 P P 05 10 58.3 +14
LLGN La Laguna 39.14 323 P **P** 05 10 45.4 +1.0
LLGN La Laguna 39.14 323 P **P** 05 10 46.0 +1.5
PILO Pilon 39.22 343 *e*P **P** 05 10 43.1 -1.8
LMGC Las Mercedes 39.26 343 *e*P **P** 05 10 43.4 -1.8
CEVE Cerro Verde 39.27 322 P **P** 05 10 48.5 +2.8
CEVE Cerro Verde 39.27 322 P **P** 05 10 49.4 +3.7
NUBE Las Nubes 39.42 322 S S 05 16 31.7 +11
NUBE Las Nubes 39.42 322 P **P** 05 10 48.5 +1.7
NUBE Las Nubes 39.42 322 P **P** 05 10 48.6 +1.8
GRTK Grand Turk 39.48 352 P **P** 05 10 44.7 -2.3
SLOZ Alcaldia de Sa 39.52 322 P **P** 05 10 48.2 +0.7
SLOZ Alcaldia de Sa 39.52 322 P **P** 05 10 49.1 +1.6
MTO3 Montecristo 39.57 323 S **S** 05 16 20.4 -2.9
MTO3 Montecristo 39.57 323 P **P** 05 10 47.2 -0.9
MTO3 Montecristo 39.57 323 P **P** 05 10 48.4 +0.3
HLGC Holguin 39.80 345 *e*P **P** 05 10 49.8 +0.2
HOPE Hope Point 42.80 155 P **P** 05 11 14.6 +1.3
HOPE Hope Point 42.80 155 P **P** 05 11 14.6 +1.3
HOPE pmax pmax
comp=Z,1μm,0.8s
HOPE Hope Point 42.80 155 P **P** 05 11 14.6 +1.3
HOPE ScP **ScP** 05 16 13.4 +1.3
SOR Soroa 43.76 337 P **P** 05 11 20.1 -1.2
SOR IAmb IAmb 05 11 23.1
comp=Z,578nm,0.8s
SOR Soroa 43.76 337 P **P** 05 11 20.1 -1.2
SOR pmax pmax
comp=Z,579nm,0.8s
TEIG Tepich 43.79 329 P **P** 05 11 20.3 -1.3
TEIG pP **pP** 05 12 34.3 -0.3
TEIG ScP **ScP** 05 16 17.2 +0.4
ESPZ Base Esperanza 45.90 174 P **P** 05 11 37.5 +0.1
ESPZ IAmb IAmb 05 11 40.3
comp=Z,2μm,1.9s
PMSA Palmer Station 46.88 179 P **P** 05 11 46.7 +1.8
PMSA Palmer Station 46.88 179 P **P** 05 11 47.1 +2.1
comp=Z,187nm,0.7s,baz=13,slow=6.4,SNR=37
comp=Z,187nm,0.7s
TLIG Tlapa 47.71 316 P **P** 05 11 52.8 +0.7
DWPF Disney Wildern 48.13 341 P **P** 05 11 54.1 -0.9
DWPF pP **pP** 05 13 10.4 +0.8
656A Willston 49.65 341 P **P** 05 12 05.3 -1.0
BBSR BB Station 49.97 1 P **P** 05 12 08.0 -0.6
BBSR pP **pP** 05 13 23.5 -0.4
H10S3 ASCENSION HYDR 50.44 87 P P 05 12 18.6 +6.3
baz=226,slow=74,SNR=7.1
H10S2 ASCENSION HYDR 50.46 87 P **P** 05 12 14.6 +2.2
baz=354,slow=74,SNR=5.9
H09N1 TRISTAN DA CUN 50.52 124 P **P** 05 12 13.9 +1.1
SNR=6.8
456A Hilliard 50.76 342 P **P** 05 12 13.8 -0.7
H10N3 ASCENSION HYDR 50.90 86 P **P** 05 12 17.9 +2.2
baz=247,slow=6.0,SNR=14
H10N2 ASCENSION HYDR 50.92 86 P **P** 05 12 17.6 +1.8
baz=247,slow=6.0,SNR=12
H10N1 ASCENSION HYDR 50.92 86 P **P** 05 12 18.0 +2.1
baz=247,slow=6.0,SNR=16
553A Crawfordville 51.02 339 P **P** 05 12 15.8 -0.7
SAOV Santiago Islan 52.91 55 P **P** 05 12 29.9 -0.7
X58A Rowland 53.69 346 P **P** 05 12 34.4 -1.4
X58A IAmb IAmb 05 12 37.7
comp=Z,630nm,0.9s
346A Big Creek Wild 53.97 335 P **P** 05 12 36.7 -1.2
346A IAmb IAmb 05 13 57.5
comp=Z,1μm,1.2s
W59A Clinton 54.08 347 P **P** 05 12 38.0 -0.6
W59A IAmb IAmb 05 12 40.5
comp=Z,420nm,0.8s
V61A Roper 54.33 349 P **P** 05 12 39.2 -1.1
HKT Hockley 55.64 328 P **P** 05 12 49.8 +0.2
HKT IAmb IAmb 05 14 09.9
comp=Z,905nm,1.4s
HKT Hockley 55.64 328 *i*P **P** 05 12 49.9 +0.2
HKT pmax pmax
comp=Z,318nm,1.9s
U56A King 55.65 346 P **P** 05 12 48.5 -1.2
HNVL Huntsville, TX 56.11 329 P **P** 05 12 53.1 0.0
SWET Sewanee 56.13 340 P **P** 05 12 51.8 -1.4
SWET IAmb IAmb 05 12 54.7
comp=Z,469nm,0.9s
WVT Waverly 57.59 339 P **P** 05 13 01.1 -2.2
WVT pmax pmax
comp=Z,1μm,1.1s
WVT Waverly 57.59 339 P **P** 05 13 01.5 -1.8
WVT pP **pP** 05 14 20.7 -0.6
Q56A Snyder Ridge, 57.97 348 P **P** 05 13 05.3 -0.6
Q56A IAmb IAmb 05 13 08.8
comp=Z,568nm,0.8s
WHTX Lake Whitney, 58.10 328 P **P** 05 13 07.1 +0.3
WHTX IAmb IAmb 05 14 27.9
comp=Z,1μm,1.1s
GLAT Glass 58.23 338 P **P** 05 13 07.0 -0.6
BBTS Babate 58.39 60 P **P** 05 13 09.6 +0.5
comp=Z,108nm,0.7s,baz=130,slow=0.4,SNR=32
BBTS pP **pP** 05 14 28.1 +0.9
comp=Z,47nm,1.0s,baz=95,slow=0.9,SNR=2.3
comp=Z,108nm,0.7s
MVL Millersville 58.40 351 P **P** 05 13 07.2 -1.4
MVL IAmb IAmb 05 13 11.1
comp=Z,359nm,0.8s
MIAR Mount Ida 58.42 333 P **P** 05 13 08.4 -0.6
WCI Wyandotte Cave 59.01 341 P **P** 05 13 11.4 -1.5
WCI pP **pP** 05 14 30.6 -0.6
SSPA Standing Stone 59.27 349 P **P** 05 13 13.9 -0.8
SSPA pP **pP** 05 14 33.7 +0.7
M65A Busby, Falmout 59.30 356 P **P** 05 13 15.1 +0.3
baz=175
TXAR Lajitas Array 59.45 322 P **P** 05 13 16.5 +0.3
comp=Z,25nm,0.7s,baz=149,slow=7.4,SNR=109
TXAR pP **pP** 05 14 35.1 0.0
comp=Z,85nm,1.1s,baz=141,slow=6.4,SNR=6.7
TXAR PKPPKP **P'P'df** 05 42 36.8 -4.5
comp=Z,2.1nm,0.9s,baz=236,slow=1.4,SNR=7.2
comp=Z,25nm,0.7s
SLBS Sierra La Lagu 59.65 312 P **P** 05 13 18.6 +0.9
SLBS Sierra La Lagu 59.65 312 P **P** 05 13 19.6 +2.0
SLBS pP **pP** 05 14 38.2 +1.7
HRV Adam Dziewonsk 60.30 355 P **P** 05 13 21.9 +0.4
HRV Adam Dziewonsk 60.30 355 P **P** 05 13 20.9 -0.7
HRV pP **pP** 05 14 40.8 +0.6
CCM Cathedral Cave 60.53 337 P **P** 05 13 21.9 -1.3
CCM PcP **PcP** 05 14 05.4 +1.8
CCM pP **pP** 05 14 40.9 -1.2
OK052 Battle Ridge R 61.06 332 P **P** 05 13 26.1 -0.7
OK052 IAmb IAmb 05 14 47.4
comp=Z,748nm,1.2s
K57A Scipio Center 61.09 351 P **P** 05 13 26.4 -0.5
DKNS Dickens 61.20 327 P **P** 05 13 27.5 -0.3
DKNS IAmb IAmb 05 14 49.4
comp=Z,366nm,1.0s
HAL Halifax 62.24 2 P **P** 05 13 33.8 -0.5
HAL pmax pmax
comp=Z,600nm,0.9s
VNA3 Neumayer Olymp 62.61 162 ⇑P **P** 05 13 37.5 +1.0
comp=Z,491nm,0.8s
VNA3 ⇑sP **sP** 05 15 37.5 +0.4
VNA3 ⇑S **S** 05 21 39.4 +5.0
VNA1 Neumayer--Stat 62.76 162 ⇑P **P** 05 13 38.9 +1.5
comp=Z,754nm,1.0s
VNA1 ⇓pP **pP** 05 14 54.0 -3.8
FRNY Flat Rock 62.80 354 P **P** 05 13 36.7 -1.3
VNA2 Neumayer--Watz 63.14 162 ⇑P **P** 05 13 40.9 +1.0
comp=Z,647nm,0.8s,baz=294,slow=8.0
VNA2 ⇓sP **sP** 05 15 40.5 -0.1
baz=279,slow=9.2
VNA2 ⇑S **S** 05 21 45.5 +4.6
baz=146,slow=11
J47A Sunmer 63.26 345 P **P** 05 13 40.0 -1.0
I49A Point Hope 63.44 346 P **P** 05 13 41.4 -0.8
I49A IAmb IAmb 05 13 44.4
comp=Z,503nm,0.7s
OTT Ottawa 63.60 352 P **P** 05 13 42.1 -1.1
GAC Glen Almond 63.87 352 P **P** 05 13 45.0 +0.1
SNAA Sanae 64.78 162 P **P** 05 13 51.9 +1.3
SNAA Sanae 64.78 162 ⇑P **P** 05 13 51.5 +0.8
comp=Z,11μm,0.7s
SNAA ⇑sP **sP** 05 15 50.6 -1.0
SNAA ⇓S **S** 05 22 04.8 +3.8
SNAA ⇓SKSac **SKSac** 05 23 07.6 -0.4
SNAA Sanae 64.78 162 P **P** 05 13 51.4 +0.8

comp=Z,503nm,0.9s,baz=295,slow=5.8,SNR=247
SNAA S **S** **05 22 03.0 +1.9**
comp=Z,9.0nm,1.1s,baz=47,slow=21,SNR=7.0
SNAA PKP2bc 05 42 34.4
comp=Z,4.9nm,1.0s,baz=74,slow=5.6,SNR=5.3
comp=Z,503nm,0.9s
SNAA Sanae 64.78 162 *ce*P **P** **05 13 51.7 +1.1**
SNAA pmax pmax
comp=Z,772nm,1.0s
Y22D IRIS PASSCAL I 64.79 323 P **P** **05 13 53.2 +1.8**
baz=136
DBIC Dimbokro 64.94 74 P **P** **05 13 51.4 -1.2**
comp=Z,251nm,0.8s,baz=233,slow=4.8,SNR=239
DBIC S **S** **05 22 02.5 -2.1**
comp=Z,22nm,0.9s,baz=144,slow=22,SNR=10
DBIC PKP2bc 05 42 34.6
comp=Z,4.9nm,0.9s,baz=164,slow=6.6,SNR=3.3
comp=Z,251nm,0.8s
DBIC Dimbokro 64.94 74 P **P** **05 13 51.3 -1.3**
DBIC S **S** **05 22 00.2 -4.4**
DBIC Dimbokro 64.94 74 P **P** **05 13 51.5 -1.0**
ANMO Albuquerque 65.16 324 *i* P **P** **05 13 54.2 +0.5**
ANMO pmax pmax
comp=Z,85nm,1.5s
ANMO Albuquerque 65.16 324 P **P** **05 13 54.6 +0.9**
ANMO PcP **PcP** **05 14 25.1 +2.1**
ANMO pP **pP** **05 15 14.2 -0.2**
TUC Tucson 65.88 319 P **P** **05 13 58.0 -0.2**
TUC pmax pmax
comp=Z,213nm,0.9s
TUC Tucson 65.88 319 P **P** **05 13 59.4 +1.2**
TUC pP **pP** **05 15 19.7 +0.7**
PCAN Candelaria 66.09 31 *e*P **P** **05 13 59.4 +0.1**
PCAN *i* Amb 05 14 00.9
comp=Z,254nm,1.3s
PCED Cedros 66.11 31 *e*P **P** **05 13 59.3 -0.1**
PCED *i* Amb 05 14 03.0
comp=Z,164nm,1.2s
PICO Pico 66.15 31 *e*P **P** **05 13 59.9 +0.2**
PICO *i* Amb 05 14 03.3
comp=Z,252nm,1.4s
PPNO Prainha do Nor 66.21 32 *e*P **P** **05 13 60.0 -0.1**
PPNO *i* Amb 05 14 05.1
comp=Z,227nm,1.5s
PID Ribeirinha 66.26 32 *e*P **P** **05 14 00.4 +0.1**
PID *i* Amb 05 14 04.0
comp=Z,361nm,1.4s
ROSA Rosais 66.41 31 *e*P **P** **05 14 01.3 0.0**
ROSA *i* Amb 05 14 03.3
comp=Z,182nm,1.5s
PMAN Manadas 66.42 32 *e*P **P** **05 14 02.5 +1.1**
PMAN *i* Amb 05 14 04.9
comp=Z,288nm,1.4s
TROLL Troll, Antarti 66.49 162 ⇑P **P** **05 14 02.8 +1.3**
comp=Z,23μm,0.7s
TROLL ⇓sP **sP** **05 16 02.7 -0.2**
TROLL ⇑S **S** **05 22 25.9 +4.3**
PSMA Santa Maria 66.73 35 *e*P **P** **05 14 03.1 -0.2**
PSMA *i* Amb 05 14 04.3
comp=Z,135nm,1.5s
EOSO Osorio 66.75 48 P **P** **05 14 03.3 -0.4**
PSMN Pico do Norte, 66.77 35 *e*P **P** **05 14 02.9 -0.6**
PSMN *i* Amb 05 14 06.5
comp=Z,160nm,0.9s
ADH Angra Heroismo 66.87 32 *e*P **P** **05 14 03.2 -0.9**
ADH *i* Amb 05 14 12.9
comp=Z,331nm,1.2s
PSBA Serra de Santa 66.91 32 *e*P **P** **05 14 04.1 -0.3**
PSBA *i* Amb 05 14 07.5
comp=Z,294nm,1.3s
PSCM Serra do Cume 66.96 32 *e*P **P** **05 14 04.0 -0.8**
PSCM *i* Amb 05 14 05.1
comp=Z,115nm,1.2s
PAGU Agualva, Azore 66.98 32 *e*P **P** **05 14 03.8 -1.0**
PAGU *i* Amb 05 14 08.6
comp=Z,288nm,1.6s
PDA Ponta Delgada 67.00 34 *e*P **P** **05 14 05.0 +0.1**
PDA *i* Amb 05 14 07.7
comp=Z,276nm,1.8s
COWI Conover 67.07 343 P **P** **05 14 03.9 -1.4**
CMLA Cha da Macela 67.08 34 *e*P **P** **05 14 05.0 -0.6**
CMLA *i* Amb 05 14 08.8
comp=Z,254nm,1.4s
ICQ Pointe Anglais 67.10 359 P **P** **05 14 03.9 -1.4**
PGRON Lagoa das Cont 67.17 34 *e*P **P** **05 14 06.4 +0.3**
PGRON *i* Amb 05 14 10.3
comp=Z,284nm,1.6s
BART Pico Bartolome 67.28 34 *e*P **P** **05 14 06.4 -0.5**
BART *i* Amb 05 14 10.3
comp=Z,232nm,0.8s
ISCO Idaho Springs 68.31 328 P **P** **05 14 13.9 +0.5**
ISCO Idaho Springs 68.31 328 P **P** **05 14 14.0 +0.5**
ISCO pmax pmax
comp=Z,106nm,0.9s
PMOZ Porto Moniz, M 68.58 43 *e*P **P** **05 14 16.2 +1.2**
PMOZ *i* Amb 05 14 18.2
comp=Z,309nm,1.9s
PMOZ Porto Moniz, M 68.58 43 P **P** **05 14 14.8 -0.2**
PMAR Madeira 68.70 43 *e*P **P** **05 14 16.7 +0.9**
PMAR *i* Amb 05 14 22.8
comp=Z,270nm,1.3s
NVL N'lazarevskaya 69.20 160 *e*P **P** **05 14 17.4 -0.6**
NVL *e*S **S** **05 22 50.5 -2.7**
NVL pmax pmax
comp=Z,956nm,0.9s
PMPST Porto Santo, M 69.30 43 *e*P **P** **05 14 18.2 -1.1**
U15A North Rim 69.58 321 P **P** **05 14 21.9 +0.7**
U15A IAmb IAmb 05 14 25.3
comp=Z,346nm,1.1s
PFO Pinyon Flats O 70.35 317 *i* P **P** **05 14 27.5 +1.8**
PFO pmax pmax
comp=Z,377nm,1.1s
PFO Pinyon Flats O 70.35 317 P **P** **05 14 26.9 +1.2**
PFO pP **pP** **05 15 50.5 +2.6**
MTPU Mount Pierson 70.61 323 P **P** **05 14 28.4 +0.9**
BSUT Blindstream Ca 71.54 325 P **P** **05 14 33.3 +0.3**
BSUT IAmb IAmb 05 16 00.4
comp=Z,224nm,1.0s
QSPA South Pole Qui 72.31 180 P **P** **05 14 37.6 +0.8**
QSPA IAmb IAmb 05 14 40.2
comp=Z,208nm,0.8s
QSPA South Pole Qui 72.31 180 P **P** **05 14 38.0 +1.2**
comp=Z,193nm,0.7s,baz=162,slow=1.5,SNR=382
QSPA pP **pP** **05 16 01.0 +1.1**
comp=Z,28nm,0.8s,baz=229,slow=12,SNR=1.3
QSPA S **S** **05 23 29.8 +0.7**
comp=Z,6.6nm,1.2s,baz=140,slow=12,SNR=4.0
QSPA PKPPKP P'P'df 05 42 12.4 -13
comp=Z,2.5nm,0.9s,baz=262,slow=3.0,SNR=4.3
comp=Z,193nm,0.7s
SCHQ Schefferville 72.41 359 P **P** **05 14 36.2 -1.1**
comp=Z,250nm,0.6s,baz=187,slow=5.0,SNR=415
SCHQ pP **pP** **05 15 58.6 -0.7**
comp=Z,261nm,0.9s,baz=173,slow=5.5,SNR=9.8
SCHQ S **S** **05 23 27.6 -2.5**
comp=Z,18nm,0.9s,baz=334,slow=17,SNR=6.4
SCHQ PKPPKP **P'P'df** **05 42 18.8 -0.8**
comp=Z,4.7nm,0.9s,baz=32,slow=4.5,SNR=5.7
comp=Z,250nm,0.6s
DUG Dugway, Tooele 72.43 324 P **P** **05 14 38.7 +0.7**
PDAR Pinedale Array 72.50 328 P **P** **05 14 38.7 +0.2**
PDAR Pinedale Array 72.50 328 P **P** **05 14 38.3 -0.1**
comp=Z,26nm,0.5s,baz=126,slow=8.3,SNR=210
PDAR pP **pP** **05 16 00.6 -0.4**
comp=Z,32nm,0.8s,baz=110,slow=8.5,SNR=3.6
PDAR S **SKiKP** **05 23 34.6 +0.8**
comp=Z,0.8nm,0.8s,baz=237,slow=12,SNR=6.4
PDAR PKKP **PKKPdf** **05 34 03.4 -2.1**
comp=Z,0.4nm,0.3s,baz=230,slow=4.2,SNR=17
PDAR PKPPKP **P'P'df** **05 42 16.2 -3.5**
comp=Z,0.9nm,0.9s,baz=252,slow=0.5,SNR=4.5
comp=Z,26nm,0.5s
ULM Lac du Bonnet 72.81 340 P **P** **05 14 38.5 -1.2**
comp=Z,144nm,0.6s,baz=149,slow=6.2,SNR=160
ULM pP **pP** **05 16 01.6 -0.6**
comp=Z,274nm,1.0s,baz=151,slow=5.8,SNR=9.3
ULM S **SKiKP** **05 23 32.4 -1.3**
comp=Z,12nm,1.0s,baz=307,slow=18,SNR=5.8
ULM PKPPKP P'P'df 05 42 10.4 -8.4
comp=Z,3.3nm,1.0s,baz=8.9,slow=5.3,SNR=6.1
comp=Z,144nm,0.6s
ULM Lac du Bonnet 72.81 340 *i* P **P** **05 14 37.8 -1.9**
ELIB Princess Elisa 72.91 161 *d*P **P** **05 14 41.6 +1.4**
ELIB *d*PcP **PcP** **05 14 55.0 0.0**
ELIB *d*pP **pP** **05 16 06.0 +2.8**
TORD Torodi Ar. Bea 73.42 70 P **P** **05 14 43.9 -0.1**
comp=Z,324nm,0.8s,baz=275,slow=5.1,SNR=38
TORD pP **pP** **05 16 05.8 -0.4**
comp=Z,26nm,0.6s,baz=269,slow=5.7,SNR=1.6
TORD S **S** **05 23 40.2 -2.7**
comp=Z,21nm,0.7s,baz=256,slow=10,SNR=4.2
comp=Z,324nm,0.8s
LAO LASA Array 73.84 332 P **P** **05 14 45.5 -0.4**
LAO IAmb IAmb 05 16 13.3
comp=Z,336nm,1.4s
ELK Elko 74.17 323 P **P** **05 14 48.6 +0.5**
TIO Tiouine 74.30 50 P **P** **05 14 48.1 -0.8**
YNE Yellowstone No 74.35 329 P **P** **05 14 49.2 +0.1**
YNE IAmb IAmb 05 14 52.8
comp=Z,279nm,0.9s
NVAR Mina Array Bea 74.51 320 P **P** **05 14 51.1 +1.1**
comp=Z,129nm,0.9s,baz=137,slow=5.9,SNR=332
NVAR pP **pP** **05 16 13.7 +0.3**
comp=Z,17nm,0.8s,baz=147,slow=5.8,SNR=2.4
NVAR PKPPKP **P'P'df** **05 42 10.7 -5.5**
comp=Z,1.6nm,0.9s,baz=292,slow=3.2,SNR=5.0
comp=Z,129nm,0.9s
YMR Madison River 74.58 328 P **P** **05 14 50.8 +0.4**
YMR IAmb IAmb 05 14 55.2
comp=Z,540nm,1.1s
AVE Averroes 75.47 47 P **P** **05 14 55.8 +0.5**
AVE IAmb IAmb 05 14 58.0
comp=Z,442nm,0.9s
AVE Averroes 75.47 47 S **S** **05 24 05.0 0.0**
AVE P **P** **05 14 56.2 +0.9**
SAO San Andreas Ge 75.50 317 P **P** **05 14 57.8 +2.3**
CMB Columbia Colle 75.57 318 P **P** **05 14 57.5 +1.6**
RTC Rabat Centre 76.24 47 P **P** **05 14 59.9 +0.3**
HRY Holter Researc 76.46 329 P **P** **05 15 01.0 +0.2**
PFVI Vila Bisbo 76.65 44 *e*P **P** **05 15 03.5 +1.7**
PFVI *i* Amb 05 15 06.1
comp=Z,352nm,1.7s
PFVI *e*pP **pP** **05 16 29.9 +5.1**
PFVI Vila Bisbo 76.65 44 P **P** **05 15 02.9 +1.1**
MORF Marmelete 76.86 43 *e*P **P** **05 15 03.6 +0.5**
MORF IAmb IAmb 05 15 06.6
comp=Z,194nm,0.8s
MORF *e*S **S** **05 24 21.6 +1.7**
MORF Marmelete 76.86 43 *e*P **P** **05 15 04.7 +1.7**
MORF *i* Amb 05 15 07.5
comp=Z,371nm,1.4s
MORF *e*pP **pP** **05 16 27.9 +1.8**
MORF Marmelete 76.86 43 *e*P **P** **05 15 03.6 +0.5**
MORF *e*S **S** **05 24 21.5 +1.7**
PTEO Sao Teotonio 76.95 43 *e*P **P** **05 15 05.0 +1.5**
PTEO *i* Amb 05 15 08.1
comp=Z,679nm,1.4s
PTEO *e*pP **pP** **05 16 30.1 +3.5**
IFR Ifrane 77.21 48 S **S** **05 24 22.4 -1.6**
IFR P **P** **05 15 06.0 +0.7**
WVOR Wild Horse Val 77.21 323 P **P** **05 15 06.3 +1.3**
WVOR Wild Horse Val 77.21 323 P **P** **05 15 06.3 +1.3**
WVOR pmax pmax
comp=Z,117nm,1.3s
PBDV Barranco-do-Ve 77.30 44 *e*P **P** **05 15 06.5 +1.0**
PBDV *i* Amb 05 15 10.0
comp=Z,354nm,1.8s
PBDV *e*pP **pP** **05 16 32.0 +3.3**
LIS Lisbon 77.35 42 *e*P **P** **05 15 06.2 +0.6**
LIS IAmb IAmb 05 15 08.6
comp=Z,195nm,1.1s
LIS *e*S **S** **05 24 26.8 +1.9**
LIS Lisbon 77.35 42 *e*P **P** **05 15 07.2 +1.5**
LIS *i* Amb 05 15 12.2
comp=Z,268nm,1.7s
LIS *e*pP **pP** **05 16 33.6 +4.8**
LIS Lisbon 77.35 42 *e*P **P** **05 15 06.1 +0.4**
LIS Lisbon 77.35 42 *e*P **P** **05 15 06.2 +0.6**
LIS *e*S **S** **05 24 26.8 +1.9**
MESJ Messejana 77.45 43 P **P** **05 15 06.9 +0.7**
MESJ Messejana 77.45 43 *e*P **P** **05 15 06.8 +0.5**
MESJ IAmb IAmb 05 15 10.2
comp=Z,125nm,0.9s
MESJ *e*S **S** **05 24 27.8 +1.8**
MESJ Messejana 77.45 43 *e*P **P** **05 15 07.6 +1.4**
MESJ *i* Amb 05 15 10.7
comp=Z,263nm,2.0s
MESJ *e*pP **pP** **05 16 33.4 +4.0**
MESJ Messejana 77.45 43 P **P** **05 15 06.9 +0.7**
MESJ pmax pmax
comp=Z,134nm,0.9s
PCVE Castro Verde 77.45 44 *e*P **P** **05 15 07.1 +0.8**
PCVE *i* Amb 05 15 10.8
comp=Z,202nm,1.7s
PCVE *e*pP **pP** **05 16 32.3 +2.9**
PCVE Castro Verde 77.45 44 P **P** **05 15 07.0 +0.8**
PCVE S **S** **05 24 24.6 -1.4**
PVAQ Vaqueiros 77.53 44 *e*P **P** **05 15 07.9 +1.2**
PVAQ *i* Amb 05 15 11.2
comp=Z,262nm,1.7s
PVAQ *e*pP **pP** **05 16 33.1 +3.2**
PVAQ Vaqueiros 77.53 44 P **P** **05 15 07.1 +0.4**
EGRO El Granado 77.76 44 P **P** **05 15 09.4 +1.5**
EGRO S **S** **05 24 26.6 -2.7**
PBEJ Beja 77.78 43 *e*P **P** **05 15 09.1 +1.0**
PBEJ *i* Amb 05 15 10.8
comp=Z,137nm,2.0s
PBEJ *e*pP **pP** **05 16 35.8 +4.5**
EVO Evora 77.97 43 *e*P **P** **05 15 10.1 +1.0**
EVO *i* Amb 05 15 13.3
comp=Z,238nm,1.8s
EVO *e*pP **pP** **05 16 36.2 +3.8**
ARNO Arenosillo 78.02 45 P **P** **05 15 10.9 +1.5**
PSBE So Bento 78.03 42 *e*P **P** **05 15 10.5 +1.1**
PSBE *i* Amb 05 15 13.8
comp=Z,335nm,1.8s
PSBE *e*pP **pP** **05 16 36.4 +3.6**
PMTG Montargil 78.14 42 *e*P **P** **05 15 10.8 +0.8**
PMTG *i* Amb 05 15 14.1
comp=Z,408nm,1.6s
PMTG *e*pP **pP** **05 16 36.9 +3.6**
TARIF Tarifa 78.22 46 P **P** **05 15 12.0 +1.5**
CEU Ceuta 78.29 46 P **P** **05 15 12.3 +1.5**
CEU S **S** **05 24 36.0 +1.1**
PBAR Barrancos 78.41 43 *e*P **P** **05 15 12.4 +1.0**
PBAR *i* Amb 05 15 15.7
comp=Z,237nm,1.5s
PBAR *e*pP **pP** **05 16 38.0 +3.2**
PBAR Barrancos 78.41 43 P **P** **05 15 12.4 +1.0**
PBAR S **S** **05 24 35.3 -0.8**
EMIN Mina Concepcio 78.42 44 P **P** **05 15 12.3 +0.8**
EMIN S **S** **05 24 33.8 -2.6**
PESTR Estremoz 78.44 43 *e*P **P** **05 15 12.3 +0.6**
PESTR *i* Amb 05 15 15.9
comp=Z,328nm,1.5s
PESTR *e*pP **pP** **05 16 38.8 +3.8**
PESTR Estremoz 78.44 43 P **P** **05 15 12.4 +0.8**
ESPR Espera 78.48 45 P **P** **05 15 12.8 +0.9**
ESPR S **S** **05 24 36.7 -0.2**
PCAS Casmilo, Conde 78.53 41 *e*P **P** **05 15 12.8 +0.7**
PCAS *i* Amb 05 15 16.1
comp=Z,218nm,1.9s
PCAS *e*pP **pP** **05 16 40.1 +4.6**
FFC Flin Flon 78.59 340 P **P** **05 15 12.2 +0.1**
FFC IAmb IAmb 05 16 39.9
comp=Z,421nm,1.9s
FFC Flin Flon 78.59 340 P **P** **05 15 12.2 +0.1**
FFC pmax pmax
comp=Z,421nm,1.9s
PVLZ Pen de Vlez 78.65 47 P **P** **05 15 13.9 +1.1**
COI Coimbra 78.67 41 *e*P **P** **05 15 14.8 +2.0**
COI *i* Amb 05 15 16.8
comp=Z,357nm,1.8s
COI *e*pP **pP** **05 16 41.1 +4.8**
EBAD Badajoz 78.75 43 P **P** **05 15 14.2 +0.9**
EBAD S **S** **05 24 36.0 -3.7**
LIJA Lijar 78.81 45 P **P** **05 15 14.8 +1.0**
SYO Syowa Base 78.86 159 ⇑*i*P **P** **05 15 14.4 +1.0**
SYO Syowa Base 78.86 159 ⇓*i*PcP **PcP** **05 15 19.0 -1.7**
PMRV Marv??o 78.88 42 *e*P **P** **05 15 14.6 +0.6**
PMRV *i* Amb 05 15 16.8
comp=Z,105nm,1.5s
PPT Papeete 79.00 255 P **P** **05 15 18.0 +2.9**
comp=Z,31nm,0.7s,baz=85,slow=7.4,SNR=4.2
PPT pP **pP** **05 16 42.8 +3.0**
comp=Z,72nm,1.2s,baz=83,slow=9.6,SNR=2.8
comp=Z,31nm,0.7s
PCBR Castelo Branco 79.06 42 *e*P **P** **05 15 15.6 +0.7**
PCBR *i* Amb 05 15 18.7
comp=Z,121nm,1.3s
PCBR *e*pP **pP** **05 16 41.4 +2.9**
PTO Porto 79.09 40 *e*P **P** **05 15 13.0 -2.0**
PTO *i* Amb 05 15 15.9
comp=Z,282nm,1.8s
PVIS Viseu 79.29 41 *e*P **P** **05 15 16.8 +0.5**
MTE Manteigas 79.33 41 *e*P **P** **05 15 17.1 +0.6**
MTE *i* Amb 05 15 19.1
comp=Z,174nm,2.0s
MTE *e*pP **pP** **05 16 43.4 +3.3**
EMAL Malaga-Limoner 79.39 46 P **P** **05 15 17.4 +0.6**
ECAB El Cabril 79.42 44 P **P** **05 15 16.9 -0.1**
ECAB S **S** **05 24 43.6 -3.3**
WMELI Melilla 79.67 48 P **P** **05 15 18.2 -0.1**
PVRL Vila Real 79.72 41 *e*P **P** **05 15 19.2 +0.7**
PVRL *i* Amb 05 15 22.0
comp=Z,226nm,1.8s
PVRL *e*pP **pP** **05 16 46.8 +4.6**
POLO Lamas de Olo 79.72 40 *e*P **P** **05 15 19.2 +0.6**
POLO *i* Amb 05 15 22.1
comp=Z,84nm,2.3s
POLO *e*pP **pP** **05 16 46.5 +4.2**
PGAV Gavieira, Arco 79.77 40 *e*P **P** **05 15 19.7 +0.8**
PGAV *i* Amb 05 15 22.5
comp=Z,141nm,1.7s
PGAV *e*pP **pP** **05 16 46.5 +4.0**
PCAB Cabril 79.77 40 *e*P **P** **05 15 19.4 +0.6**
PCAB *i* Amb 05 15 22.2
comp=Z,235nm,1.4s
PCAB *e*pP **pP** **05 16 45.9 +3.4**
SBA Scott Base 79.89 190 P **P** **05 15 19.4 +0.6**
CHAS Isla Isabel II 79.97 48 P **P** **05 15 20.4 +0.5**
EADA Adamuz 80.03 45 P **P** **05 15 20.7 +0.4**
EADA S **S** **05 24 48.7 -4.5**
MVO Moncorvo 80.08 41 *e*P **P** **05 15 21.4 +0.9**
MVO *i* Amb 05 15 24.2
comp=Z,192nm,1.4s
MVO *e*pP **pP** **05 16 48.1 +3.8**
NEW Newport 80.14 328 P **P** **05 15 21.1 +0.5**
EQTA Presa de Quent 80.30 46 P **P** **05 15 21.9 +0.1**
EQTA S **S** **05 24 52.2 -4.0**
NRS Narsarsuaq 80.45 10 P **P** **05 15 21.6 -0.2**
NRS Narsarsuaq 80.45 10 *i* P **P** **05 15 21.7 -0.1**
NRS IAmb IAmb 05 15 24.5
comp=Z,256nm,0.8s
TAM Tamanrasset 80.61 62 P **P** **05 15 23.4 -0.3**
TAM pmax pmax
comp=Z,131nm,1.2s
PBRG Braganca 80.62 41 *e*P **P** **05 15 23.9 +0.6**
PBRG *i* Amb 05 15 27.1
comp=Z,186nm,1.8s
VNDA Vanda 80.89 189 P **P** **05 15 25.8 +1.7**
comp=Z,74nm,0.7s,baz=129,slow=4.9,SNR=130
comp=Z,74nm,0.7s
PAB San Pablo 80.91 43 P **P** **05 15 25.2 +0.3**
PAB IAmb IAmb 05 15 33.4
comp=Z,113nm,0.7s
ESDC Sonseca Array 81.23 44 P **P** **05 15 27.1 +0.6**
comp=Z,52nm,0.8s,baz=247,slow=5.8,SNR=188
ESDC pP **pP** **05 16 51.2 +0.6**
comp=Z,59nm,1.0s,baz=244,slow=4.5,SNR=8.6
ESDC S **S** **05 25 03.0 -2.6**
comp=Z,0.5nm,0.5s,baz=25,slow=39,SNR=1.6
ESDC PKKPbc **PKKPbc** **05 33 59.2 -1.8**
comp=Z,0.6nm,0.6s,baz=50,slow=1.6,SNR=5.2
comp=Z,52nm,0.8s
FRB Frobisher Bay 81.38 359 P **P** **05 15 25.1 -1.5**
GUD Guadarrama 81.62 43 P **P** **05 15 28.5 -0.1**
D05A Enumclaw 82.02 325 P **P** **05 15 30.7 +0.4**
UCM Universidad Co 82.04 43 P **P** **05 15 31.1 +0.4**
CART Cartagena 82.17 47 P **P** **05 15 30.3 -1.0**
GRHM Grahamstown, E 82.21 122 P **P** **05 15 31.1 -0.8**
NUUK Nuuk 82.52 6 *i* P **P** **05 15 32.8 +0.3**
NUUK IAmb IAmb 05 15 35.8
comp=Z,255nm,0.9s
BOSA Boshof 82.58 118 P **P** **05 15 33.2 -0.8**
comp=Z,132nm,0.7s,baz=260,slow=4.0,SNR=141
BOSA S **S** **05 25 17.8 -2.2**
comp=Z,4.3nm,0.9s,baz=29,slow=21,SNR=5.9
comp=Z,132nm,0.7s
VAL Valentia 84.64 31 P **P** **05 15 44.3 +0.9**
VAL Valentia 84.64 31 P **P** **05 15 44.7 +1.3**
SJPF Ste Jean 84.77 42 *e*P **P** **05 15 45.5 +1.2**
SJPF pmax pmax
comp=Z,226nm,0.9s
ETSF Etsaut 85.09 42 *e*P **P** **05 15 47.0 +1.0**
ETSF pmax pmax
comp=Z,256nm,1.6s
SFJD Kangerlussuaq 85.37 6 *i* P **P** **05 15 46.1 -0.6**
SFJD IAmb IAmb 05 15 49.2
comp=Z,149nm,0.8s
ISOG Isortoq, Green 85.63 11 *i* P **P** **05 15 47.5 -0.4**
ISOG IAmb IAmb 05 15 50.4
comp=Z,225nm,0.9s
EPF Esparros 85.73 42 *e*P **P** **05 15 49.1 0.0**
EPF pmax pmax
comp=Z,173nm,1.6s
ANGG Ammassalik, Gr 85.93 11 *i* P **P** **05 15 49.2 -0.2**
ANGG IAmb IAmb 05 15 52.2
comp=Z,277nm,0.9s
IGLA Glengowla, Co 85.96 30 P **P** **05 15 50.1 +0.3**
QUIF Quistinic 86.08 37 *e*P **P** **05 15 50.0 -0.6**
QUIF pmax pmax
comp=Z,43nm,0.7s
SET Setif 86.09 50 P **P** **05 15 52.0 +0.9**
IWEX Carrickbyrne, 86.61 32 *e*P **P** **05 15 52.6 -0.4**
IWEX Carrickbyrne, 86.61 32 P **P** **05 15 53.6 +0.6**
SBD Saint Breward 86.68 34 *e*P **P** **05 15 53.3 -0.1**
LFF La Frestale 86.91 41 *e*P **P** **05 15 54.4 -0.2**
LFF pmax pmax
comp=Z,70nm,0.7s
MAW Mawson 86.94 163 P **P** **05 15 54.9 +0.5**
MAW Mawson 86.94 163 P **P** **05 15 56.0 +1.6**
comp=Z,292nm,0.8s,baz=248,slow=7.0,SNR=37
comp=Z,292nm,0.8s
MAW Mawson 86.94 163 P **P** **05 15 56.0 +1.6**
HTL Hartland 87.02 34 *e*P **P** **05 15 54.6 -0.3**
HTL IAmb IAmb 05 15 57.0
comp=Z,82nm,0.8s
MTLF Montolieu 87.08 43 *e*P **P** **05 15 56.1 +0.6**
MTLF pmax pmax
comp=Z,30nm,0.7s
MFF Saint Martin d 87.18 39 *e*P **P** **05 15 55.7 -0.2**
MFF pmax pmax
comp=Z,143nm,0.8s
RAR Rarotonga 87.19 249 P **P** **05 15 57.9 +1.3**
comp=Z,14nm,0.7s,baz=123,slow=7.0,SNR=3.7
DSB Dublin 87.31 31 P **P** **05 15 56.5 +0.2**
RSBS Rosebush, Pemb 87.41 33 *e*P **P** **05 15 56.2 -0.6**
RSBS IAmb IAmb 05 15 58.0
comp=Z,117nm,0.7s
ILULI Ilulissat 87.48 5 *i* P **P** **05 15 56.2 -0.5**
ILULI IAmb IAmb 05 15 59.6
comp=Z,196nm,1.0s
RJF Les Rejaudoux 87.56 41 *e*P **P** **05 15 56.7 -1.0**
RJF pmax pmax
comp=Z,61nm,1.0s
GRR Gorron 87.65 37 *e*P **P** **05 15 57.3 -0.7**
GRR pmax pmax
comp=Z,102nm,0.6s
CAF Calviac 87.72 41 *e*P **P** **05 15 57.6 -0.9**
CAF pmax pmax
comp=Z,26nm,0.6s
ILTH Belurgan, Co L 87.78 31 P **P** **05 15 58.5 0.0**
IDGL Inch Island, C 87.83 29 *e*P **P** **05 15 58.8 +0.1**
IDGL Inch Island, C 87.83 29 P **P** **05 15 58.9 +0.2**
FLN La Foliniere 88.06 37 *e*P **P** **05 15 59.3 -0.6**
FLN pmax pmax
comp=Z,152nm,1.2s
LDF La Druitiere 88.18 37 *e*P **P** **05 15 59.9 -0.6**
LDF pmax pmax
comp=Z,88nm,0.8s
WLF1 Llynfaes 88.32 32 *e*P **P** **05 16 00.9 -0.2**
WLF1 IAmb IAmb 05 16 02.4
comp=Z,248nm,0.9s
MCH1 Michaelchurch 88.34 33 *e*P **P** **05 16 00.3 -0.9**
MCH1 IAmb IAmb 05 16 01.9
comp=Z,135nm,0.7s
MONM Monmouth 88.36 34 *e*P **P** **05 16 00.3 -0.9**
MONM IAmb IAmb 05 16 02.6
comp=Z,297nm,0.9s
WME Myndd Eilian 88.43 32 *e*P **P** **05 16 01.3 -0.2**
LLW Llanuwychllyn 88.45 32 *e*P **P** **05 16 01.2 -0.5**
TCF Toulx Ste Croi 88.45 40 *e*P **P** **05 16 01.3 -0.6**
TCF pmax pmax

comp=Z,46nm,0.6s
CLGH Cloghs, Cushen 88.49 30 *e*P **P 05 16 01.1 -0.7**
CLGH IAmb IAmb 05 16 03.5
comp=Z,188nm,1.1s
STRD Stroud 88.67 34 *e*P **P 05 16 02.3 -0.4**
STRD IAmb IAmb 05 16 03.8
comp=Z,262nm,0.7s
HLM1 Long Mynd 88.68 33 *e*P **P 05 16 02.1 -0.7**
HLM1 IAmb IAmb 05 16 04.0
comp=Z,194nm,0.9s
FOEL Foel Wylfa 88.71 33 *e*P **P 05 16 02.1 -0.9**
FOEL IAmb IAmb 05 16 03.8
comp=Z,105nm,0.7s
ICESG Greenland Ices 88.73 9 *i*P **P 05 16 02.9 -0.2**
ICESG IAmb IAmb 05 16 06.3
comp=Z,357nm,0.8s
IOMK Kirk Michael 88.77 31 *e*P **P 05 16 03.1 0.0**
IOMK IAmb IAmb 05 16 04.4
comp=Z,60nm,0.8s
YKA Yellowknife Ar 88.77 340 P **P 05 16 03.1 +0.1**
comp=Z,366nm,0.9s,baz=131,slow=4.3,SNR=731
YKA pP **pP 05 17 30.1 +0.8**
comp=Z,121nm,0.8s,baz=132,slow=4.5,SNR=6.9
YKA S **SKSac 05 25 52.6 -3.4**
comp=Z,0.9nm,0.9s,baz=336,slow=43,SNR=1.6
YKA ScS **S 05 26 18.1 +0.4**
comp=Z,4.0nm,0.9s,baz=127,slow=9.3,SNR=6.0
YKA PKPPKP **P'P'df 05 41 46.1 -3.6**
comp=Z,0.7nm,0.9s,baz=310,slow=2.4,SNR=4.3
comp=Z,366nm,0.9s
KEST Kesra 88.82 52 P **P 05 16 04.8 +0.9**
comp=Z,48nm,0.8s,baz=307,slow=2.2,SNR=19
KEST pP **pP 05 17 31.6 +1.9**
comp=Z,24nm,1.0s,baz=345,slow=6.9,SNR=2.3
comp=Z,48nm,0.8s
UMMG Uummannaq 88.83 5 *i*P **P 05 16 02.6 -0.4**
UMMG IAmb IAmb 05 16 05.2
comp=Z,831nm,2.0s
BGF Bois d'Agland 88.97 40 *e*P **P 05 16 03.9 -0.4**
BGF pmax pmax
comp=Z,96nm,0.8s
GAL1 Galloway 89.03 30 *e*P **P 05 16 04.1 -0.3**
GAL1 IAmb IAmb 05 16 05.3
comp=Z,126nm,0.7s
STNC Stoke 89.33 33 *e*P **P 05 16 05.4 -0.4**
STNC IAmb IAmb 05 16 07.6
comp=Z,456nm,1.1s
VIVF Saint-Julien-l 89.34 42 *e*P **P 05 16 06.2 +0.1**
VIVF pmax pmax
comp=Z,30nm,1.0s
AVF Avril sur Loir 89.39 40 *e*P **P 05 16 04.9 -1.3**
AVF pmax pmax
comp=Z,50nm,0.8s
NEWG New Galloway 89.41 30 *e*P **P 05 16 05.9 -0.1**
NEWG IAmb IAmb 05 16 07.1
comp=Z,107nm,0.7s
SSB Saint Sauveur 89.45 42 P **P 05 16 07.9 +1.3**
SSB pmax pmax
comp=Z,68nm,0.9s
LAWE Loch Awe, Argy 89.49 29 *e*P **P 05 16 05.7 -0.7**
LAWE IAmb IAmb 05 16 07.9
comp=Z,157nm,0.9s
HMNX Herstmonceux 89.56 35 *e*P **P 05 16 06.9 0.0**
HMNX IAmb IAmb 05 16 09.8
comp=Z,264nm,1.0s
SSF Saint Saulge 89.60 40 *e*P **P 05 16 06.4 -0.8**
SSF pmax pmax
comp=Z,74nm,0.7s
NUUG Nuugaatsiaq 89.60 4 *i*P **P 05 16 07.0 +0.4**
NUUG IAmb IAmb 05 16 08.5
comp=Z,152nm,1.4s
CWF Charnwood Fore 89.61 33 *e*P **P 05 16 06.2 -0.9**
CWF IAmb IAmb 05 16 08.4
comp=Z,329nm,1.5s
SMF Signal de Mont 89.62 40 *e*P **P 05 16 07.0 -0.3**
SMF pmax pmax
comp=Z,101nm,0.7s
PGBU Glenifferbraes 89.67 30 *e*P **P 05 16 06.7 -0.6**
PGBU IAmb IAmb 05 16 08.9
comp=Z,422nm,0.8s
KESW Keswick, Cumbr 89.67 31 *e*P **P 05 16 05.8 -1.5**
KESW IAmb IAmb 05 16 08.6
comp=Z,159nm,0.7s
LBWR Ladybower, Pea 89.74 33 *e*P **P 05 16 07.7 0.0**
LBWR IAmb IAmb 05 16 09.4
comp=Z,220nm,0.9s
LMR La Mourre 89.89 44 *e*P **P 05 16 08.5 -0.1**
LMR pmax pmax
comp=Z,136nm,1.4s
LEWI Lewis, Hebride 89.90 27 *e*P **P 05 16 07.5 -0.8**
LEWI IAmb IAmb 05 16 10.1
comp=Z,134nm,0.9s
LOR Lormes 89.91 40 *e*P **P 05 16 07.9 -0.8**
LOR pmax pmax
comp=Z,70nm,0.7s
KPL Plockton 89.98 28 *e*P **P 05 16 07.8 -0.9**
KPL IAmb IAmb 05 16 10.1
comp=Z,112nm,0.8s
ESK Eskdalemuir 90.01 31 *e*P **P 05 16 07.4 -1.5**
ESK IAmb IAmb 05 16 10.2
comp=Z,105nm,1.0s
ESK Eskdalemuir 90.01 31 P **P 05 16 09.6 +0.7**
ESK pmax pmax
comp=Z,135nm,1.2s
EKA Eskdalemuir Ar 90.04 31 P **P 05 16 08.6 -0.4**
comp=Z,47nm,0.8s,baz=241,slow=6.5,SNR=49
comp=Z,47nm,0.8s
HPK Haverah Park 90.08 32 *e*P **P 05 16 09.2 0.0**
HPK IAmb IAmb 05 16 11.2
comp=Z,102nm,0.7s
ELSH Elham, Standar 90.14 35 *e*P **P 05 16 09.6 0.0**
ELSH IAmb IAmb 05 16 12.5
comp=Z,314nm,0.7s
ORIF Oris-en-Rattie 90.14 42 *e*P **P 05 16 11.2 +1.3**
ORIF pmax pmax
comp=Z,46nm,0.8s
INVG Invergeldie, C 90.21 29 *e*P **P 05 16 08.8 -1.0**
INVG IAmb IAmb 05 16 11.2
comp=Z,64nm,0.8s
EDMD Edmundbyers 90.36 31 *e*P **P 05 16 10.4 -0.1**
EDMD IAmb IAmb 05 16 12.1
comp=Z,99nm,0.8s
TOAD Toad River Com 90.48 333 P **P 05 16 12.6 +1.5**
baz=125
LMK Market Rasen 90.49 33 *e*P **P 05 16 11.3 +0.2**
LMK IAmb IAmb 05 16 12.8
comp=Z,559nm,1.1s
WACR West Acre 90.63 34 *e*P **P 05 16 10.4 -1.4**
WACR IAmb IAmb 05 16 12.9
comp=Z,396nm,1.1s
LINV Loch Inver, As 90.64 28 *e*P **P 05 16 11.0 -0.7**
LINV IAmb IAmb 05 16 13.3
comp=Z,153nm,1.1s
MBDF Montbardon 90.64 43 *e*P **P 05 16 12.5 +0.2**
MBDF pmax pmax
comp=Z,51nm,1.3s
UPNV Upernavik 90.67 3 *i*P **P 05 16 11.0 -0.5**
UPNV IAmb IAmb 05 16 15.9
comp=Z,97nm,0.9s
BNI Bardonecchia 90.72 43 P **P 05 16 17.2 +4.6**
BNI pmax pmax
comp=Z,100nm,1.6s
KOTAN Kotaneelee Air 90.74 335 P **P 05 16 14.7 +2.5**
baz=126
LPL La Plagne 90.94 42 *e*P **P 05 16 14.1 +0.3**
LPL pmax pmax
comp=Z,28nm,0.7s
LPG La Plagne 90.95 42 *e*P **P 05 16 14.3 +0.4**
LPG pmax pmax
comp=Z,28nm,0.8s
CABF La Chapelle 91.00 41 *e*P **P 05 16 14.3 +0.5**
CABF pmax pmax
comp=Z,36nm,0.9s
U35K Hyder 91.06 330 P **P 05 16 15.2 +1.5**
baz=121
DRUM Mains of Drumt 91.19 29 *e*P **P 05 16 13.5 -0.8**
DRUM IAmb IAmb 05 16 15.4
comp=Z,83nm,0.8s
MCD Coleburn Disti 91.20 29 *e*P **P 05 16 14.2 -0.1**
MCD IAmb IAmb 05 16 15.8
comp=Z,193nm,1.2s
PGF Pioggiola 91.24 46 *e*P **P 05 16 14.8 -0.2**
PGF pmax pmax
comp=Z,25nm,0.6s
BAIF Baives 91.37 37 *e*P **P 05 16 14.6 -0.7**
BAIF pmax pmax
comp=Z,61nm,1.2s
BIGH Upper Bighouse 91.39 28 *e*P **P 05 16 13.8 -1.4**
BIGH IAmb IAmb 05 16 17.0
comp=Z,161nm,1.1s
V35K Ketchikan 91.54 329 P **P 05 16 18.0 +2.0**
baz=120
DOU Dourbes 91.61 37 *d*P **P 05 16 16.2 -0.2**
comp=Z,34nm,1.1s
DOU *d*pP **pP 05 17 43.3 +1.0**
T35M Bob Quinn 91.71 330 P **P 05 16 19.0 +2.2**
baz=121
GIVF Givet 91.74 37 *e*P **P 05 16 16.6 -0.4**
GIVF pmax pmax
comp=Z,206nm,1.4s
HAU Haudompre 91.75 40 *e*P **P 05 16 16.5 -0.7**
HAU pmax pmax
comp=Z,46nm,0.8s
UCC Uccle 91.78 37 *d*P **P 05 16 17.1 0.0**
UCC *d*pP **pP 05 17 42.4 -0.8**
BMRD Maredsous 91.80 37 *d*P **P 05 16 17.3 0.0**
comp=Z,45nm,1.3s
BMRD *d*pP **pP 05 17 44.4 +1.1**
HINF Hinteralfeld 91.98 40 *e*P **P 05 16 17.4 -0.9**
HINF pmax pmax
comp=Z,29nm,0.7s
RCHB Rochefort 92.00 38 *d*P **P 05 16 18.2 0.0**
RCHB *d*pP **pP 05 17 45.8 +1.6**
BGES Gesves 92.02 37 *d*P **P 05 16 18.3 0.0**
comp=Z,39nm,1.0s
BGES *d*pP **pP 05 17 45.4 +1.1**
SUMG Summit 92.07 8 P **P 05 16 19.5 +0.9**
SUMG pmax pmax
comp=Z,222nm,0.9s
SUMG Summit 92.07 8 *i*P **P 05 16 19.0 +0.4**
SUMG IAmb IAmb 05 16 22.4
comp=Z,217nm,1.0s
BCLA Clavier 92.16 37 *d*P **P 05 16 18.7 -0.3**
comp=Z,23nm,1.2s
BCLA *d*pP **pP 05 17 45.2 +0.3**
ECH Echery 92.33 40 P **P 05 16 19.9 +0.1**
ECH pmax pmax
comp=Z,414nm,1.1s
WLF Walferdange 92.33 38 P **P 05 16 20.8 +1.0**
WLF Walferdange 92.33 38 *d*P **P 05 16 20.5 +0.7**
comp=Z,84nm,1.2s
WLF *d*pP **pP 05 17 46.4 +0.6**
WLF Walferdange 92.33 38 P **P 05 16 21.3 +1.5**
WLF pmax pmax
comp=Z,151nm,1.1s
WRGLY Wrigley 92.34 337 P **P 05 16 21.1 +1.7**
baz=126
CRAG Craig 92.36 328 P **P 05 16 21.4 +1.6**
baz=118
DLBC Dease Lake 92.36 332 P **P 05 16 21.9 +2.1**
baz=121,SNR=42
BSTI Sart Tilman 92.38 37 *d*P **P 05 16 20.8 +0.8**
KULLO Kullorsuaq 92.41 2 *i*P **P 05 16 19.3 -0.3**
KULLO IAmb IAmb 05 16 20.8
comp=Z,81nm,0.9s
WRAK Wrangell Islan 92.44 329 P **P 05 16 21.8 +1.8**
baz=119
CDF Champ du Feu 92.48 40 *e*P **P 05 16 20.0 -0.6**
CDF pmax pmax
comp=Z,102nm,1.2s
BEBN Eben Emael 92.53 37 *d*P **P 05 16 20.8 +0.1**
BHOU Houvegnez 92.53 38 *d*P **P 05 16 20.9 +0.2**
comp=Z,39nm,1.1s
S34M Telegraph Cree 92.60 331 P **P 05 16 23.0 +2.2**
baz=120,SNR=23
MEM Membach 92.65 37 *d*P **P 05 16 21.1 -0.1**
comp=Z,33nm,1.1s
MEM *d*pP **pP 05 17 48.3 +1.1**
U33K Whale Pass 92.67 329 P **P 05 16 22.9 +1.8**
baz=118
WTLY Watson Lake, Y 92.70 333 P **P 05 16 23.4 +2.1**
baz=122
BTNL Ternell 92.71 37 *d*P **P 05 16 21.4 -0.1**
comp=Z,26nm,1.2s
T33K Petersburg 92.92 330 P **P 05 16 24.1 +1.8**
baz=119
SLE Schleitheim 92.97 41 P **P 05 16 22.4 -0.4**
BFO Black Forest 93.09 40 P **P 05 16 24.1 +0.8**
BFO pmax pmax
comp=Z,37nm,1.6s
SCO Scoresbysund 93.25 13 P **P 05 16 24.0 +0.5**
SCO Scoresbysund 93.25 13 *i*P **P 05 16 24.0 +0.5**
SCO IAmb IAmb 05 16 26.5
comp=Z,81nm,1.0s
R33M Jennings River 93.27 332 P **P 05 16 25.8 +1.7**
baz=120
DAVOX Davos/Dischmat 93.45 42 PKKPbc PKKPbc 05 33 31.7 -0.1
comp=Z,8.0nm,0.6s,baz=87,slow=1.1,SNR=12
DRV Dumont d'Urvil 93.53 190 P **P 05 16 27.7 +2.6**
DRV pmax pmax
comp=Z,130nm,1.6s
Q32M Nakina River 93.64 332 P **P 05 16 27.2 +1.4**
baz=119
DAVA Damuels 93.65 41 *i*P **P 05 16 26.6 +0.5**
comp=Z,218nm,2.0s,SNR=8.1
DAVA *e*pP **pP 05 17 55.4 +3.3**
comp=Z,41nm,1.6s
STU Stuttgart 93.79 40 P **P 05 16 27.3 +0.8**
STU pmax pmax
comp=Z,105nm,0.8s
S32K Killisnoo 94.01 330 P **P 05 16 29.0 +1.7**
baz=117
FETA Feichten 94.08 42 *i*P **P 05 16 28.4 +0.3**
comp=Z,524nm,3.3s,SNR=17
FETA *e*pP **pP 05 17 57.2 +3.1**
comp=Z,27nm,1.5s
FETA *e*PKKP **PKKPbc 05 33 30.5 +0.4**
comp=Z,3.0nm,0.6s
RES Resolute Bay 94.17 353 P **P 05 16 27.7 0.0**
SIT Sitka 94.19 329 P **P 05 16 29.4 +1.4**
baz=117
AQU L'Aquila 94.19 47 P **P 05 16 29.4 +0.8**
AQU L'Aquila 94.19 47 P **P 05 16 30.8 +2.2**
AQU pmax pmax
comp=Z,60nm,1.8s
TULEG Thule 94.22 359 *i*P **P 05 16 28.2 +0.4**
TULEG IAmb IAmb 05 16 30.3
comp=Z,53nm,0.9s
RETA Reutte 94.28 41 *i*P **P 05 16 29.3 +0.4**
comp=Z,77nm,1.5s,SNR=12
RETA *e*pP **pP 05 17 58.1 +3.2**
comp=Z,26nm,0.9s
R32K Eaglecrest 94.35 330 P **P 05 16 30.6 +1.7**
baz=117,SNR=7.1
SQTA Sankt Quirin 94.46 42 *i*P **P 05 16 30.3 +0.5**
comp=Z,100nm,0.7s,SNR=27
SQTA *i*pP **pP 05 17 55.9 0.0**
comp=Z,71nm,1.0s,SNR=4.7
SQTA *e*PP **PP 05 20 19.0 -4.3**
comp=Z,13nm,0.9s
SQTA *e*PKKP **PKKPbc 05 33 29.4 +0.4**
comp=Z,15nm,0.8s
P33M Teslin, Yukon 94.48 333 P **P 05 16 31.4 +1.9**
baz=118
P32M Atlin 94.59 332 P **P 05 16 31.4 +1.4**
baz=118,SNR=13
WATA Walderalm 94.74 42 *e*P **P 05 16 31.3 +0.2**
comp=Z,198nm,1.5s,SNR=14
WATA *e*pP **pP 05 18 00.1 +3.0**
comp=Z,40nm,0.9s
WTTA Wattenberg 94.75 42 *i*P **P 05 16 31.3 +0.2**
comp=Z,333nm,1.6s,SNR=25
WTTA *e*pP **pP 05 17 58.2 +1.0**
comp=Z,67nm,1.0s
WTTA *e*PP **PP 05 20 21.3 -4.3**
comp=Z,12nm,0.8s
WTTA *e*PKKP **PKKPbc 05 33 29.0 +0.7**
comp=Z,6.1nm,0.6s
S31K Pelican 95.03 330 P **P 05 16 33.4 +1.6**
baz=116
N32M Quiet Lake 95.05 333 P **P 05 16 33.8 +1.8**
baz=118
ABTA Abfaltersbach 95.13 43 *i*P **P 05 16 33.0 +0.2**
comp=Z,77nm,0.9s,SNR=21
ABTA *e*pP **pP 05 17 59.7 +0.9**
comp=Z,22nm,0.9s
ABTA *e*PKKP **PKKPdf 05 33 26.7 -0.2**
comp=Z,3.6nm,0.6s
SKAG Skagway 95.26 331 P **P 05 16 34.9 +1.9**
baz=116
LESA Schwarzleotal 95.47 42 *i*P **P 05 16 34.2 -0.1**
comp=Z,149nm,1.5s,SNR=19
LESA *i*pP **pP 05 18 01.9 +1.4**
comp=Z,30nm,0.9s,SNR=8.3
LESA *e*PKKP **PKKPbc 05 33 26.3 0.0**
comp=Z,3.7nm,0.5s
NEEM North Greenlan 95.52 3 *i*P **P 05 16 34.0 -0.1**
NEEM IAmb IAmb 05 16 37.2
comp=Z,84nm,0.7s
TIP Timpagrande 95.55 51 ⇑P **P 05 16 34.6 -0.2**
WHY Whitehorse 95.60 332 P **P 05 16 36.1 +1.4**
baz=117
FARO Faro, Yukon 95.67 334 P **P 05 16 36.5 +1.7**
baz=118
PLBC Pleasant Camp 95.74 331 P **P 05 16 37.0 +1.9**
baz=116,SNR=7.4
CADS Cadrg 95.74 43 *i*P **P 05 16 35.9 +0.4**
KBA Koelnbreinsper 95.78 42 *i*P **P 05 16 35.5 -0.3**
comp=Z,50nm,0.8s,SNR=16
KBA *i*pP **pP 05 18 03.1 +1.2**
comp=Z,20nm,0.9s,SNR=6.8
KBA *e*PP **PP 05 20 28.5 -5.0**
comp=Z,6.8nm,0.9s
MYKA Terra Mystica 95.82 43 *i*P **P 05 16 36.3 +0.5**
comp=Z,92nm,0.7s,SNR=25
MYKA *i*pP **pP 05 18 03.6 +1.6**
comp=Z,16nm,0.7s,SNR=7.4
KMY Karmoy 95.90 29 *e*P **P 05 16 36.1 +0.3**
KMY IVmBBB 05 16 37.9
comp=Z,2μm,1.2s
KMY *e*pP **pP 05 17 59.7 -2.3**
KMY *e*SKSac **SKSac 05 26 36.2 +0.7**
KMY *e*SP **SP 05 28 44.4 +1.6**
KMY *e*SS **SS 05 34 04.3 +2.7**
MATE Matera 95.97 49 ⇑P **P 05 16 35.5 -1.1**
CEY Cerknica 96.03 44 ⇑*i*P **P 05 16 37.1 +0.3**
M31M Drury Creek, Y 96.09 334 P **P 05 16 38.3 +1.7**
baz=117
MBAR Mbarara 96.09 93 *i*P **P 05 16 38.4 +0.4**
MBAR pmax pmax
comp=Z,16nm,1.6s
C36M Paulatuk 96.15 342 P **P 05 16 38.3 +1.6**
baz=126
BIOA Bad Ischl, Aus 96.17 42 *e*P **P 05 16 37.4 0.0**
comp=Z,59nm,1.2s,SNR=13
O30N Mendenhall 96.18 332 P **P 05 16 38.9 +1.7**
baz=116,SNR=10
LJU Ljubljana 96.20 44 *i*P **P 05 16 38.6 +1.1**
LJU *i*pP **pP 05 18 06.3 +2.6**
LJU *e*PP **PP 05 20 33.6 -2.9**
LJU *i*SKSac **SKSac 05 26 43.0 +5.1**
LJU *e*S **S 05 27 24.0 -0.1**
LJU *e* 05 29 34.6
LJU *i* 05 33 25.0
P30M Million Dollar 96.29 332 P **P 05 16 39.3 +1.6**
baz=115
NKC Novy Kostel 96.30 39 P **P 05 16 39.0 +1.1**
N31M Braeburn, Yuko 96.36 333 P **P 05 16 39.0 +1.0**
baz=116,SNR=10.0
OBKA Obir 96.37 43 *i*P **P 05 16 38.7 +0.3**
comp=Z,99nm,0.8s,SNR=20
OBKA *e*pP **pP 05 18 06.4 +1.9**
comp=Z,40nm,0.8s
OBKA PP **PP 05 20 34.7 -3.2**
comp=Z,15nm,1.2s
OBKA Obir 96.37 43 *e*P **P 05 16 38.2 -0.2**
ASK Askoy 96.42 28 *e*P **P 05 16 39.0 +0.9**
ASK IVmBBB 05 16 40.6
comp=Z,642nm,0.8s
ASK *e*SKSac **SKSac 05 26 38.7 +0.5**
ASK *e*SP **SP 05 28 47.5 -0.8**
ASK *e*SS **SS 05 34 10.2 +1.3**
BER Bergen 96.44 28 *e*P **P 05 16 39.2 +1.0**
BER IVmBBB 05 16 39.7
comp=Z,1μm,1.1s
BER *e*pP **pP 05 18 01.9 -2.6**
BER *e*SKSac **SKSac 05 26 38.2 -0.1**
BER *e*SP SP 05 28 52.8 +4.3
BER *e*SS **SS 05 34 11.7 +2.6**
DBG Daneborg 96.44 11 *i*P **P 05 16 37.7 -0.3**
DBG IAmb IAmb 05 16 43.9
comp=Z,22nm,1.2s
SUE Sulen 96.47 28 *e*P **P 05 16 39.2 +0.9**
SUE IVmBBB 05 16 41.2
comp=Z,1μm,2.1s
SUE *e*pP **pP 05 18 02.8 -1.7**
SUE *e*SKSac **SKSac 05 26 39.3 +0.9**
SUE *e*SS **SS 05 34 09.6 +0.1**
SNART Snartemo 96.47 31 *e*P **P 05 16 39.0 +0.5**
SNART *e*pP **pP 05 18 03.4 -1.2**
SNART *e*SKSac **SKSac 05 26 40.7 +2.1**
BOJS Bojanci 96.50 44 *e*P **P 05 16 39.4 +0.5**
BLS5 Blasjo 96.56 29 *e*P **P 05 16 39.7 +0.8**
BLS5 *e*SKSac **SKSac 05 26 38.3 -0.8**
BLS5 *e*SP **SP 05 28 51.6 +1.7**
SSRD Sdr. Stenderup 96.59 34 *i*P **P 05 16 39.6 +0.6**
SSRD IAmb IAmb 05 16 41.3
comp=Z,167nm,0.9s
GERES GERESS Array B 96.60 41 P **P 05 16 39.0 -0.4**
comp=Z,11nm,0.8s,baz=226,slow=3.5,SNR=32
GERES pP **pP 05 18 04.7 -0.9**
comp=Z,11nm,0.8s,baz=225,slow=3.6,SNR=8.9
GERES PKIKP **PKiKP 05 21 16.4 +2.1**
comp=Z,5.1nm,0.9s,baz=199,slow=3.7,SNR=4.3
GERES PKKPbc **PKKPbc 05 33 23.1 -0.2**
comp=Z,4.0nm,0.7s,baz=52,slow=2.2,SNR=12
comp=Z,11nm,0.8s
KHC Kasperske Hory 96.62 41 *e*P **P 05 16 39.3 -0.1**
KHC *e*pP **pP 05 18 07.2 +1.6**
KHC *e*SKS **SKSac 05 26 40.3 +0.4**
KHC *e*SP **SP 05 28 49.3 -1.8**
KHC Kasperske Hory 96.62 41 *e*P **P 05 16 39.3 -0.1**
KHC *e**PP **pP 05 18 07.2 +1.6**
KHC *e* 05 26 40.3
KHC *e*SP SP 05 28 49.3 -1.8
MOA Molln 96.62 42 *i*P **P 05 16 39.6 +0.2**
comp=Z,91nm,1.6s,SNR=14
MOA *e*pP **pP 05 18 06.9 +1.3**
comp=Z,27nm,1.1s
MUD Monsted U'grnd 96.72 33 P **P 05 16 39.6 0.0**
MUD Monsted U'grnd 96.72 33 *i*P **P 05 16 40.1 +0.6**
MUD IAmb IAmb 05 16 42.1
comp=Z,84nm,0.8s
SOKA Soboth 96.74 43 *i*P **P 05 16 39.9 -0.2**
comp=Z,61nm,1.5s,SNR=9.4
SOKA *e*pP **pP 05 18 06.9 +0.7**
comp=Z,16nm,1.0s
FOO Floro 96.83 27 *e*P **P 05 16 40.3 +0.4**
FOO IVmBBB 05 16 44.3
comp=Z,1μm,3.2s
FOO *e*SKSac **SKSac 05 26 41.6 +1.4**
FOO *e*SP **SP 05 28 55.3 +2.6**
FOO *e*SS **SS 05 34 17.4 +3.0**
HYT Haines Junctio 96.83 332 P **P 05 16 41.8 +1.6**
baz=114,SNR=6.6
ODD1 Odda 96.83 29 *e*P **P 05 16 40.4 +0.2**
ODD1 IVmB_BB 05 16 42.2
comp=Z,2μm,4.0s
ODD1 *e*pP **pP 05 18 06.9 +0.5**
ODD1 *e*SKSac **SKSac 05 26 40.9 +0.3**
ODD1 *e*ScS **ScS 05 27 30.9 +1.8**
ODD1 *e*SP **SP 05 28 52.3 -0.6**
ODD1 *e*SS **SS 05 34 15.6 +0.8**
N30M Aishikik Lake 96.92 333 P **P 05 16 42.5 +2.0**
baz=115,SNR=22
GOET G??ttrup 96.97 32 *i*P **P 05 16 42.0 +1.4**
GOET IAmb IAmb 05 16 43.2
comp=Z,207nm,1.0s
CKRC Cesky Krumlov 96.97 41 *e*P **P 05 16 41.1 +0.1**
CKRC *e*pP **pP 05 18 08.4 +1.2**
CKRC *e*SKS **SKSac 05 26 43.0 +1.3**
CKRC Cesky Krumlov 96.97 41 *e*P **P 05 16 42.1 +1.1**
CKRC *e**PP **pP 05 18 09.8 +2.6**
CLL Collm 97.00 38 *i**PP **pP 05 18 08.9 +1.7**
CLL *i*P **P 05 16 41.7 +0.7**
CLL *e* 05 26 45.0
CLL *e*S **ScS 05 27 33.0 +2.3**
CLL pmax pmax
comp=Z,41nm,0.9s
CLL Collm 97.00 38 *e*pP **pP 05 18 04.0 -3.2**
CLL *i*Pdif **P 05 16 41.7 +0.7**
comp=Z,41nm,0.9s
CLL *i*pPmax 05 18 08.9
CLL *e*SP **sP 05 18 48.0 +2.8**
CLL *e*PP **PP 05 20 44.0 +1.5**
CLL *e*SPP 05 22 34.0
CLL *e*SKSac **SKSac 05 26 45.0 +3.4**

CLL				e(SKKSac)		05 27 15.0	
CLL				eSdif	ScS	05 27 33.0	+2.3
CLL				eSP	SP	05 28 52.0	-3.1
CLL				ePS	PS	05 29 44.0	+1.5
CLL				epSP		05 30 33.0	
CLL				esSP		05 31 26.0	
CLL				ex	x	05 33 48.0	
CLL				eSS	SS	05 34 11.0	-6.5
CLL				ex	x	05 35 42.0	
CLL				esSS		05 36 34.0	
CLL				ex	x	05 39 00.0	
CLL				ex	x	05 43 36.0	
HSKC	Hora Svate Kat	97.02	39	eP	Pdif	05 16 41.7	+0.5
HSKC				eSKS	SKSac	05 26 45.8	+3.9
A050A	Klekovaca	97.04	46	eP	P	05 16 41.3	-0.2
HOMB	Homborsund	97.08	31	eP	Pdif	05 16 42.4	+1.3
HOMB				IVmBBB		05 16 43.6	
	comp=Z,501nm,2.0s						
HOMB				epP	pP	05 18 09.5	+2.1
HOMB				eSKSac	SKSac	05 26 43.5	+1.8
HOMB				eSP	SP	05 28 58.0	+2.5
HOMB				eSS	SS	05 34 18.8	+0.6
ZVC	Zvikov	97.10	40	eP	Pdif	05 16 42.1	+0.6
ZVC				epP	pP	05 18 09.8	+2.1
O29M	Mount Kennedy	97.10	331	Pdiff	Pdif	05 16 42.6	+1.1
	baz=114						
HYA	Hoyanger	97.15	28	eP	Pdif	05 16 42.4	+1.0
HYA				IVmBBB		05 16 43.9	
	comp=Z,612nm,1.0s						
HYA				epP	pP	05 18 07.1	-0.5
HYA				eSKSac	SKSac	05 26 45.3	+3.4
HYA				eSP	SP	05 28 58.9	+2.8
PNL	Peninsula	97.23	331	Pdiff	Pdif	05 16 43.1	+1.2
	baz=113						
ARSA	Arzberg	97.24	43	i Pdiff	Pdif	05 16 42.4	+0.2
	comp=Z,59nm,1.6s,SNR=12						
ARSA				epP	pP	05 18 09.9	+1.4
	comp=Z,20nm,1.3s						
M30M	Minto, Yukon	97.26	334	Pdiff	Pdif	05 16 43.0	+1.0
	baz=115						
YUK6	Outpost Mounta	97.27	332	Pdiff	Pdif	05 16 43.8	+1.5
	baz=114						
MAYO	Mayo, Yukon	97.32	335	Pdiff	Pdif	05 16 43.8	+1.6
	baz=116						
STON	Ston	97.36	47⇑	iP	Pdif	05 16 43.1	+0.3
BRG	Berggiesshubel	97.42	39⇓	ePif		05 16 43.9	
BRG				Amp		05 16 45.5	
	comp=Z,14nm,0.8s						
BRG	Berggiesshubel	97.42	39	P	Pdif	05 16 47.7	+4.8
BRG				Amp		05 16 48.3	
	comp=Z,8.8nm,0.7s						
BRG				pP	pP	05 18 10.8	+1.7
BRG				Amp		05 18 13.8	
	comp=Z,12nm,1.0s						
BRG	Berggiesshubel	97.42	39	PP	PKiKP	05 20 45.0	-31
BRG				Amp		05 20 48.8	
	comp=Z,14nm,1.2s						
BRG	Berggiesshubel	97.42	39	SP	SP	05 29 02.0	+2.4
BRG	Berggiesshubel	97.42	39	Amp		05 33 26.7	
	comp=Z,8.7nm,1.1s						
BRG	Berggiesshubel	97.42	39	SS	SS	05 34 21.0	-2.3
BRG	Berggiesshubel	97.42	39	sS	sS	05 30 05.0	-3.7
BRG	Berggiesshubel	97.42	39	PKKP	PKKPbc	05 33 21.8	+0.8
A051A	Mrakovica	97.46	45	eP	P	05 16 42.6	-0.7
KOGS	Kog	97.46	44	i P	Pdif	05 16 43.9	+0.7
PRU	Pruhonice	97.49	40	eP	Pdif	05 16 44.1	+0.9
PRU				epP	pP	05 18 09.5	0.0
PRU				eSKS	SKSac	05 26 46.5	+2.3
PRU	Pruhonice	97.49	40	eP	Pdif	05 16 44.1	+0.9
PRU				e*PP	pP	05 18 09.5	0.0
PRU				e		05 26 46.5	
YUK4	Talbot Arm	97.55	332	Pdiff	Pdif	05 16 45.1	+1.6
	baz=114						
BLY	Banja Luka	97.57	46⇑	iP	Pdif	05 16 44.2	+0.5
OVD	Ostervraa, Den	97.57	32	i P	Pdif	05 16 44.6	+1.2
GOPC	GO Pecny, Ondr	97.62	40	eP	Pdif	05 16 44.7	+0.9
GOPC				epP	pP	05 18 12.2	+2.1
GOPC	GO Pecny, Ondr	97.62	40	eP	Pdif	05 16 44.7	+0.9
GOPC				e*PP	pP	05 18 12.2	+2.1
CONA	Conrad Observa	97.67	42	i Pdiff	Pdif	05 16 45.2	+1.0
	comp=Z,179nm,2.1s,SNR=11						
CONA				epP	pP	05 18 12.4	+2.0
	comp=Z,20nm,1.6s						
PVCC	Panska Ves	97.68	39	eP	Pdif	05 16 45.0	+0.9
PVCC	Panska Ves	97.68	39	eP	Pdif	05 16 45.0	+0.9
H31M	Peel River	97.70	337	Pdiff	Pdif	05 16 45.2	+1.3
	baz=117						
TREB	Trebinje	97.77	48⇑	iP	P	05 16 44.3	-0.4
PINM	Pinnacle	97.79	331	Pdiff	Pdif	05 16 45.6	+1.2
	baz=112						
HCY	Herceg Novi	97.80	48	eP	Pdif	05 16 45.2	+0.4
TREC	Trest	97.86	41	eSKS	SKSac	05 26 49.5	+3.3
RONA	Rosalia, Austr	97.88	42	i Pdiff	Pdif	05 16 46.3	+1.2
	comp=Z,266nm,3.1s,SNR=5.4						
RONA				epP	pP	05 18 12.4	+1.0
	comp=Z,17nm,1.0s						
SKAR	Skarslia	97.91	29	eP	Pdif	05 16 45.9	+1.0
SKAR				IVmBBB		05 16 47.7	
	comp=Z,578nm,1.1s						
SKAR				epP	pP	05 18 09.7	-1.5
SKAR				eSKSac	SKSac	05 26 46.1	+0.1
SKAR				eSP	SP	05 29 06.7	+2.3
SKAR				eSS	SS	05 34 29.3	-0.5
AKN	Aaknes	97.91	27	eP	Pdif	05 16 46.8	+2.0
AKN				IVmB_BB		05 17 03.4	
	comp=Z,1μm,3.9s						
AKN				ePP	PP	05 20 48.9	-0.3
AKN				eSKSac	SKSac	05 26 48.3	+2.4
AKN				eSP	SP	05 29 06.4	+2.0
AKN				eSS	SS	05 34 32.4	+2.7
M29M	Somme Creek	97.91	333	Pdiff	Pdif	05 16 46.6	+1.6
	baz=114						
J30M	Hart River	97.92	336	Pdiff	Pdif	05 16 46.6	+1.6
	baz=115						
BRY	Bratogost	97.96	48⇑	iP	Pdif	05 16 46.4	+0.7
A36M	Sachs Harbour	97.99	344	Pdiff	Pdif	05 16 45.7	+0.7
	baz=124						
O28M	Mount Upton	98.02	331	Pdiff	Pdif	05 16 47.1	+1.4
	baz=112						
YUK8	Steele Glacier	98.03	332	Pdiff	Pdif	05 16 46.7	+1.0
	baz=112						
L29M	L29M	98.04	334	Pdiff	Pdif	05 16 47.0	+1.5
	baz=114						
K29M	Barlow Dome	98.08	335	Pdiff	P	05 16 47.2	+1.5
	baz=114						
KONO	Kongsberg	98.12	30	IVmB_BB		05 16 46.9	
	comp=Z,1μm,3.8s						
KONO				eP	P	05 16 47.0	+1.2
KONO				eSKSac	SKSac	05 26 47.3	+0.3
KONO				eSP	SP	05 29 09.0	+2.3
KONO	Kongsberg	98.12	30	i P	P	05 16 45.8	0.0
KONO				pmax	pmax		
	comp=Z,39nm,1.2s						
I30M	Mount Dempster	98.21	336	Pdiff	P	05 16 48.0	+1.7
	baz=115						
DRME	Dracevica, Mon	98.21	48	eP	Pdif	05 16 46.3	-0.4
F31M	Tsiigehtchic	98.23	339	Pdiff	P	05 16 47.1	+1.1
	baz=117						
MOL	Molde	98.30	27	eP	P	05 16 46.6	+0.1
UPM	Unac-Piva	98.30	47⇑	iP	P	05 16 48.1	+0.8
PDG	Podgorica	98.33	48⇑	iP	P	05 16 48.1	+1.0
PDG	Podgorica	98.33	48	⇓P	P	05 16 47.3	+0.2
KRUC	Moravsky	98.35	41	ePDIFF	P	05 16 47.4	+0.3
KRUC				e		05 18 14.7	
DAG	Danmarks Havn	98.50	10	i P	Pdif	05 16 46.0	-1.1
YUK3	Moose Creek	98.52	332	Pdiff	P	05 16 49.0	+1.1
	baz=112						
INK	Inuvik	98.55	340	P	Pdif	05 16 47.3	-0.2
INK	Inuvik	98.55	340	Pdiff	P	05 16 48.7	+1.2
	baz=117						
VRAC	Vranov	98.55	41	ePDIFF	P	05 16 48.5	+0.5
VRAC				e		05 18 15.8	
VRAC	Vranov	98.55	41	⇓P	Pdif	05 16 47.0	-1.0
VRAC	Vranov	98.55	41	⇓P	Pdif	05 16 47.0	-1.0
UPC	Upice	98.55	40	eP	P	05 16 49.3	+1.3
UPC				eSKS	SKSac	05 26 52.0	+2.5
UPC	Upice	98.55	40	eP	P	05 16 49.3	+1.3
UPC				e		05 26 52.0	
CHVC	Chvalec	98.60	40	eP	P	05 16 49.3	+1.1
CHVC	Chvalec	98.60	40	eP	P	05 16 49.3	+1.1
J29N	Klondike Camp	98.61	335	Pdiff	P	05 16 49.6	+1.6
	baz=113						
MESA	MESA	98.61	331	Pdiff	P	05 16 49.3	+1.0
	baz=111						
OSTC	Ostas	98.69	40	eP	P	05 16 49.5	+0.9
OSTC				epP	pP	05 18 16.8	+1.9
OSTC	Ostas	98.69	40	eP	P	05 16 49.5	+0.9
OSTC				e*PP	pP	05 18 16.8	+1.9
DPC	Dobruska-Polom	98.69	40	eP	P	05 16 49.6	+0.9
DPC				epP	pP	05 18 16.7	+1.7
DPC				eSKS	SKSac	05 26 53.6	+3.2
DPC	Dobruska-Polom	98.69	40	eP	P	05 16 49.6	+0.9
DPC				e*PP	pP	05 18 16.7	+1.7
DPC				e		05 26 53.6	
MODS	Modra-Piesok	98.70	42	eP	P	05 16 49.0	+0.3
MODS				e		05 18 13.2	
MODS	Modra-Piesok	98.70	42	ePDIFF	P	05 16 49.0	+0.3
MODS				e		05 18 13.2	
RUDO	Rudo	98.75	47⇑	iP	Pdif	05 16 47.5	-1.5
OSL	Oslo	98.75	30	eP	P	05 16 49.6	+1.0
OSL				eSKSac	SKSac	05 26 52.6	+2.6
DOMB	Dombas	98.75	27	eP	P	05 16 49.1	+0.5
DOMB				IVmBBB		05 16 51.5	
	comp=Z,444nm,1.1s						
DOMB				eSKSac	SKSac	05 26 52.6	+2.5
DOMB				eSP	SP	05 29 13.7	+0.2
DOMB				eSS	SS	05 34 41.8	+0.3
URZ	Urewera	98.78	225	PKKPbc	PKKPbc	05 33 14.4	-1.9
	comp=Z,8.5nm,0.6s,baz=47,slow=0.8,SNR=12						
KSP	Ksiaz	98.82	39	eP	P	05 16 50.1	+0.9
KSP				epP	pP	05 18 17.4	+1.9
KSP				ePP	PP	05 20 52.5	-3.8
KSP	Ksiaz	98.82	39	P	P	05 16 49.7	+0.5
BBLS	Lazi&#263i	98.84	47⇑	iP	Pdif	05 16 48.8	-0.7
G30M	tAoh Zraii Nji	98.89	338	Pdiff	P	05 16 50.1	+1.0
	baz=115						
BVCY	Beaver Creek	98.93	333	Pdiff	P	05 16 50.7	+1.2
	baz=111						
DAWY	Dawson	98.93	335	Pdiff	P	05 16 50.8	+1.4
	baz=112						
MORH	Mrgy, Hungar	98.98	44	⇑P	Pdif	05 16 49.6	-0.3
I29M	Ogilvie Camp,	99.01	336	Pdiff	Pdif	05 16 50.8	+1.1
	baz=113						
F30M	Barrier River	99.01	339	Pdiff	Pdif	05 16 50.6	+1.0
	baz=115						
SJES	Sjenica	99.07	48⇑	iP	Pdif	05 16 51.3	+0.7
OHR	Ohrid	99.08	50	i P	Pdif	05 16 53.2	+2.6
JAVC	Velka Javorina	99.09	42	ePDIFF	Pdif	05 16 51.8	+1.3
TEKS	Tekeris	99.11	46	eP	Pdif	05 16 48.5	-2.1
BGLC	Bering Glacier	99.22	330	Pdiff	Pdif	05 16 52.1	+1.4
	baz=110						
MORC	Moravsky Berou	99.28	41	ePDIFF	Pdif	05 16 52.1	+0.8
MORC				e		05 18 19.4	
MORC	Moravsky Berou	99.28	41	⇑P	Pdif	05 16 51.8	+0.5
MORC	Moravsky Berou	99.28	41	P	Pdif	05 16 52.3	+1.0
BSD	Bornholm Skovb	99.31	35	i P	Pdif	05 16 52.0	+0.9
MAUC	Maruska	99.34	41	eP	Pdif	05 16 53.4	+1.9
MAUC				epP	pP	05 18 20.1	+2.2
MAUC				eSKS	SKSac	05 26 58.0	+4.4
M27K	Edge Creek, AK	99.35	333	Pdiff	Pdif	05 16 52.5	+1.1
	baz=111						
NB2	NORSAR Subarra	99.36	29	P	Pdif	05 16 52.0	+0.6
	comp=Z,67nm,1.1s,baz=251,slow=4.3						
NB2				pP	pP	05 18 18.9	+1.1
	comp=Z,38nm,1.7s,baz=251,slow=4.3						
NB2				PKKP	PKKPbc	05 33 14.7	-1.4
	comp=Z,1.5nm,0.6s,baz=75,slow=4.1						
NB2				P5KP		05 59 16.9	
	comp=Z,6.8nm,1.0s,baz=252,slow=4.3						
NB2	NORSAR Subarra	99.36	29	P	Pdif	05 16 52.0	+0.6
	baz=251,slow=4.3						
NB2	NORSAR Subarra	99.36	29	P	Pdif	05 16 52.8	+1.4
NB2				pmax	pmax		
	comp=Z,24nm,1.1s						
NOA	NORSAR Array B	99.36	29	P	Pdif	05 16 51.2	-0.2
	comp=Z,17nm,0.9s,baz=250,slow=4.2,SNR=53						
NOA				pP	pP	05 18 16.8	-0.9
	comp=Z,5.9nm,0.9s,baz=250,slow=4.2,SNR=7.9						
NOA				PKKPbc	PKKPbc	05 33 14.5	-1.6
	comp=Z,1.5nm,0.6s,baz=261,slow=2.9,SNR=10						
NOA				PKPPKP	P'P'df	05 41 25.8	-4.2
	comp=Z,1.1nm,0.9s,baz=75,slow=1.9,SNR=4.1						
	comp=Z,17nm,0.9s						
H29M	Whitestone	99.37	337	Pdiff	Pdif	05 16 52.6	+1.4
	baz=113						
NC602	NORSAR Array S	99.41	29	eP	Pdif	05 16 52.8	+1.3
NC602				IVmB_BB		05 16 55.9	
	comp=Z,448nm,2.6s						
NC602				epP	pP	05 18 17.8	-0.1
NC602				eSKSac	SKSac	05 26 52.3	-1.0
NC602				eSP	SP	05 29 18.9	-1.6
NC602				eSS	SS	05 34 47.0	-3.6
NORES	NORESS Array B	99.41	29	P	Pdif	05 16 52.9	+1.4
NORES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
STEB	Steborice	99.46	41	eP	Pdif	05 16 53.1	+1.1
G29M	Pine Creek	99.51	338	Pdiff	Pdif	05 16 53.2	+1.3
	baz=113						
L27K	Beaver Creek,	99.58	333	Pdiff	Pdif	05 16 53.5	+1.2
	baz=110						
I28M	Miner Creek	99.67	336	Pdiff	Pdif	05 16 53.6	+0.9
	baz=112						
KAIM	Kayak Island	99.70	330	Pdiff	Pdif	05 16 53.9	+1.1
	baz=109						
M26K	Nabesna, AK	99.86	333	Pdiff	Pdif	05 16 54.7	+1.1
	baz=110						
K27K	Chicken	100.02	334	Pdiff	Pdif	05 16 55.9	+1.8
	baz=110						
E29M	Blow River	100.05	339	Pdiff	Pdif	05 16 55.3	+1.1
	baz=113						
BMRM	Bremner River	100.12	331	Pdiff	Pdif	05 16 55.9	+1.2
	baz=108						
L26K	Log Cabin Wild	100.22	333	Pdiff	Pdif	05 16 56.4	+1.2
	baz=109						
HFS	Hagfors	100.23	30	P	Pdif	05 16 55.5	+0.3
	comp=Z,15nm,0.8s,baz=202,slow=1.6,SNR=23						
HFS				pP	pPdif	05 18 21.3	-0.1
	comp=Z,9.1nm,0.8s,baz=215,slow=1.8,SNR=7.1						
HFS				PP	PP	05 21 01.3	-5.4
	comp=Z,6.5nm,0.8s,baz=205,slow=6.6,SNR=4.5						
HFS				PKKPbc	PKKPbc	05 33 11.2	-2.4
	comp=Z,2.3nm,0.6s,baz=111,slow=2.1,SNR=5.1						
PSZ	Piszkesteto	100.26	43	⇓P	Pdif	05 16 56.1	+0.3
PSZ	Piszkesteto	100.26	43	P	Pdif	05 16 56.1	+0.3
LANS	Liptovska Anna	100.31	42	eP	Pdif	05 16 57.8	+1.9
LANS	Liptovska Anna	100.31	42	ePDIFF	Pdif	05 16 57.8	+1.9
LANS				e		05 18 25.3	
N25K	Chitina, Valde	100.31	332	Pdiff	Pdif	05 16 56.4	+0.8
	baz=108						
I27K	Kandik River	100.38	336	Pdiff	Pdif	05 16 56.9	+1.1
	baz=110						
BOVS	Bovan	100.39	48	⇑P	Pdif	05 16 55.8	-0.5
VAY	Valandovo	100.42	50	i P	Pdif	05 16 58.5	+2.1
Q23K	Middleton Isla	100.47	329	Pdiff	Pdif	05 16 57.2	+1.0
	baz=107						
EYAK	Cordova Ski Ar	100.52	330	Pdiff	Pdif	05 16 57.3	+0.9
	baz=108						
H27K	Steamboat Moun	100.56	336	Pdiff	Pdif	05 16 57.8	+1.2
	baz=110						
MDVR	Moldovita	100.68	46	⇑P	Pdif	05 16 57.8	+0.2
E28M	Babbage River	100.69	339	Pdiff	Pdif	05 16 57.8	+0.7
	baz=112						
D28M	Stokes Point	100.70	340	Pdiff	Pdif	05 16 58.6	+1.6
	baz=112						
J26L	Joseph Creek	100.79	334	Pdiff	Pdif	05 16 58.9	+1.2
	baz=109						
SCRK	Sand Creek	100.80	334	Pdiff	Pdif	05 16 58.6	+0.8
	baz=108						
OJC	Ojcow	100.80	41	eP	Pdif	05 16 58.8	+0.8
OJC				epP	pP	05 18 26.3	+1.9
G27K	Doyon Strip	100.81	337	Pdiff	Pdif	05 16 58.9	+1.2
	baz=110						
HARP	HAARP	100.81	332	Pdiff	Pdif	05 16 58.7	+1.0
	baz=108						
BZS	Buzias	100.82	46	⇑P	Pdif	05 16 57.6	-0.6
BZS	Buzias	100.82	46	⇑P	Pdif	05 16 57.6	-0.6
NSS	Namsos	100.84	25	eP	Pdif	05 16 58.8	+1.0
NSS				IVmBBB		05 17 00.2	
	comp=Z,408nm,1.0s						
NSS				eSKSac	SKSac	05 27 00.5	+0.5
NSS				eSP	SP	05 29 37.1	+1.6
NSS				eSS	SS	05 35 04.9	-5.3
KLU	Klutina	100.88	331	Pdiff	Pdif	05 16 59.0	+0.9
	baz=107						
I26K	Coal Creek Min	100.89	335	Pdiff	Pdif	05 16 59.1	+1.1
	baz=109						
NIE	Niedzica	100.91	42	eP	Pdif	05 17 00.3	+1.8
NIE				epP	pP	05 18 27.9	+2.9
SIRR	Siria	101.01	45	⇑P	Pdif	05 17 04.1	+5.1
RIDG	Independent Ri	101.09	334	Pdiff	Pdif	05 17 00.4	+1.4
	baz=108						
PAX	Paxson	101.12	333	Pdiff	Pdif	05 17 00.3	+1.1
	baz=107						
P23K	Montague Islan	101.15	330	Pdiff	Pdif	05 17 00.5	+1.2
	baz=106						
M24K	Tolsona, Glenn	101.18	332	Pdiff	Pdif	05 17 00.7	+1.3
	baz=107						
HERR	Herculane	101.19	46	⇑P	Pdif	05 16 59.6	-0.2
SURR	Surduc	101.20	46	⇓P	Pdif	05 16 59.4	-0.5
GLI	Glacier Island	101.25	330	Pdiff	Pdif	05 17 01.1	+1.4
	baz=106						
E27K	Coleen River	101.26	338	Pdiff	Pdif	05 17 01.2	+1.6
	baz=110						
D27M	Malcolm River	101.40	339	Pdiff	Pdif	05 17 02.0	+1.7
	baz=110						
K24K	Donnelly Dome	101.50	334	Pdiff	Pdif	05 17 02.3	+1.4
	baz=107						
GZR	Gura Zlata	101.56	46	⇑P	Pdif	05 17 00.9	-0.6
GZR	Gura Zlata	101.56	46	⇑P	Pdif	05 17 00.9	-0.6
J25K	Salcha River,	101.57	334	Pdiff	Pdif	05 17 02.4	+1.3
	baz=107						
SCM	Sheep Creek Mo	101.62	331	Pdiff	Pdif	05 17 02.9	+1.4
	baz=106						
G26K	Porcupine Rive	101.65	337	Pdiff	Pdif	05 17 02.8	+1.5
	baz=108						
LEIR	Leirfjorden	101.79	24	eP	Pdif	05 17 03.7	+1.8
LEIR				IVmBBB		05 17 04.7	
	comp=Z,794nm,3.1s						
LEIR				ePP	PKiKP	05 21 22.6	-0.3
LEIR				eSKSac	SKSac	05 27 06.5	+2.0
LEIR				eSP	SP	05 29 41.0	-4.5
LEIR				eSS	SS	05 35 24.8	+1.7
M23K	Glacier View	101.80	331	Pdiff	Pdif	05 17 03.4	+1.2
	baz=106						
STOK	Stokkvaagen	101.82	24	eSKSac	SKSac	05 27 04.0	-0.6
STOK				eSP	SP	05 29 41.1	-4.6
STOK				ePS	PS	05 30 32.3	-0.2
STOK				eSS	SS	05 35 22.7	-0.7
PWL	Port Wells	101.83	330	Pdiff	Pdif	05 17 03.8	+1.5
	baz=105						
DRGR		101.84	45	⇑P	Pdif	05 17 02.6	-0.2
DRGR		101.84	45	⇑P	Pdif	05 17 02.6	-0.2
PRP	Porcupine Dome	101.89	335	Pdiff	Pdif	05 17 04.0	+1.3
	baz=107						
F26K	Sheenjek River	102.01	338	Pdiff	Pdif	05 17 04.4	+1.4
	baz=108						
KNK	Knik Glacier	102.03	331	Pdiff	Pdif	05 17 04.0	+0.8
	baz=105						
SML	Sawmill	102.08	331	Pdiff	Pdif	05 17 04.6	+1.1
	baz=105						
MARR	Marisel-Cluj	102.09	45	⇑P	Pdif	05 17 04.0	+0.1
KMBO	Kilima Mbogo	102.12	95	P	Pdif	05 17 06.7	+1.7
	comp=Z,1.2nm,0.4s,baz=24,slow=2.1,SNR=5.2						
NOR	Nord	102.13	7	i P	Pdif	05 17 03.2	0.0
HDA	Harding Lake	102.16	334	Pdiff	Pdif	05 17 04.6	+0.9
	baz=106						
SEW	Seward	102.17	329	Pdiff	Pdif	05 17 04.8	+1.1
	baz=104						
H25L	Birch Creek	102.22	336	Pdiff	Pdif	05 17 05.7	+1.8
	baz=106						
ILAR	Eielson Array	102.24	334	P	Pdif	05 17 04.8	+0.8
	comp=Z,6.8nm,1.0s,baz=154,slow=5.5,SNR=35						
ILAR				pP	pPdif	05 18 30.1	-1.1
	comp=Z,10nm,1.3s,baz=90,slow=3.5,SNR=2.4						
ILAR				PKKPbc	PKKPbc	05 33 04.6	-3.3
	comp=Z,2.4nm,0.7s,baz=298,slow=2.9,SNR=9.9						
MOR8	Moi Rana	102.33	24	eP	Pdif	05 17 05.5	+1.1
MOR8				IVmB_BB		05 17 32.6	
	comp=Z,1μm,3.6s						
MOR8				ePP	PP	05 21 23.2	+1.0
MOR8				eSKSac	SKSac	05 27 07.9	+0.8
MOR8				eSP	SP	05 29 52.4	+1.3
MOR8				eSS	SS	05 35 32.8	+2.3
PMR	Palmer	102.39	331	Pdiff	Pdif	05 17 05.9	+1.2
	baz=104						
O22K	Cooper Landing	102.39	330	Pdiff	Pdif	05 17 06.4	+1.6
	baz=104						
C27K	Jago River	102.45	339	Pdiff	Pdif	05 17 06.7	+1.8
	baz=108						
G25K	Bearman Lake	102.47	336	Pdiff	Pdif	05 17 06.6	+1.6
	baz=106						
F25K	Christian Rive	102.53	337	Pdiff	Pdif	05 17 07.2	+1.8
	baz=106						
LOF	Lofoten	102.54	22	ePP	PP	05 21 24.5	+0.8
LOF				eSKSac	SKSac	05 27 07.5	-0.5
LOF				eSP	SP	05 29 54.6	+1.4
LOF				ePS	PS	05 30 43.4	+3.5
LOF				eSS	SS	05 35 36.3	+3.0
RC01	Rabbit Creek A	102.55	330	Pdiff	Pdif	05 17 06.5	+1.0
	baz=104						
POKR	Poker Plat Res	102.55	335	Pdiff	Pdif	05 17 07.0	+1.5
	baz=105						
E25K	Arctic Village	102.65	338	Pdiff	Pdif	05 17 07.7	+1.9
	baz=106						
COLA	College	102.66	334	i P	Pdif	05 17 06.5	+0.6
COLA				pmax	pmax		
	comp=Z,60nm,1.2s						
COLA	College	102.66	334	Pdiff	Pdif	05 17 07.2	+1.3
	baz=105						
BRSE	Bradley Lake S	102.71	329	Pdiff	Pdif	05 17 07.2	+1.0
	baz=104						
ARR	Arges	102.83	46	⇓P	Pdif	05 17 07.1	-0.1
MCK	McKinley	102.83	333	Pdiff	Pdif	05 17 08.4	+1.6
	baz=104						
M22K	Willow	102.89	331	Pdiff	Pdif	05 17 08.8	+1.9
	baz=104						
H24K	Noodor Dome	102.92	335	Pdiff	Pdif	05 17 08.8	+1.6
	baz=105						
C26K	Camden Bay	102.93	340	Pdiff	Pdif	05 17 08.9	+2.0
	baz=106						
FAUS	Fauske	102.97	23	eSKSac	SKSac	05 27 10.8	+0.8
FAUS				eSP	SP	05 29 59.1	+1.3
FAUS				e		05 31 43.2	
FAUS				eSS	SS	05 35 40.

baz=102
SII Sitkinak Islan 103.81 325 Pdiff Pdif 05 17 12.5 +1.3
baz=102
P19K Oil Pt 103.92 328 Pdiff Pdif 05 17 12.9 +1.3
baz=102
G23K Bananza Creek 103.97 336 Pdiff Pdif 05 17 13.6 +1.9
baz=102
Q19K Cape Douglas, 103.99 328 Pdiff Pdif 05 17 12.8 +0.8
baz=101
COVR Voineasa-Covas 104.00 46 ⇑P Pdif 05 17 11.7 -0.7
D24K Happy Valley 104.07 339 Pdiff Pdif 05 17 13.6 +1.5
baz=103
PPLA Purkeypile 104.08 332 Pdiff Pdif 05 17 13.4 +0.9
baz=102
E23K Chandalar 104.11 337 Pdiff Pdif 05 17 14.0 +1.6
baz=103
CAST Castle Rocks 104.14 332 Pdiff Pdif 05 17 13.4 +0.9
baz=102
R18K Karluk 104.14 326 Pdiff Pdif 05 17 14.0 +1.4
baz=101
BIZ Bicaz 104.15 45 ⇓P Pdif 05 17 15.3 +2.4
COLD Coldfoot 104.15 336 Pdiff Pdif 05 17 14.5 +2.1
baz=102
C24K Franklin Bluff 104.15 339 Pdiff Pdif 05 17 14.2 +1.8
baz=103
TOLK Toolik Lake Re 104.22 338 Pdiff Pdif 05 17 14.4 +1.6
baz=102
M20K Styx River 104.31 331 Pdiff Pdif 05 17 14.2 +0.7
baz=101
PLOR Plostina 104.31 46 ⇓P Pdif 05 17 14.2 +0.4
PLOR Plostina 104.31 46 ⇓P Pdif 05 17 14.2 +0.4
CHUM Lake Minchumin 104.33 333 Pdiff Pdif 05 17 14.3 +1.0
baz=101
H22K Ishtalitna Cre 104.33 335 Pdiff Pdif 05 17 14.5 +1.2
baz=102
VRI Vrincioaia 104.37 46 ⇓P Pdif 05 17 14.0 +0.1
VRI Vrincioaia 104.37 46 ⇓P Pdif 05 17 14.0 +0.1
I21K Tanana 104.44 334 Pdiff Pdif 05 17 15.1 +1.3
baz=101
CHIR Chirikof Islan 104.45 324 Pdiff Pdif 05 17 15.3 +1.2
baz=100
O19K Port Alsworth 104.57 329 Pdiff Pdif 05 17 15.2 +0.8
baz=100
Q18K Katmai Hardscr 104.64 327 Pdiff Pdif 05 17 15.9 +1.0
baz=100
D23K Nanushuk River 104.68 338 Pdiff Pdif 05 17 16.7 +1.8
baz=101
N19K Bonanza Creek 104.76 330 Pdiff Pdif 05 17 16.8 +1.4
baz=100
L20K Farewell, AK 104.77 331 Pdiff Pdif 05 17 16.2 +0.8
baz=100
RNPP8 Varash 104.79 40 P Pdif 05 17 16.6 +0.9
RNPP5 Staryi Chortor 104.79 41 P Pdif 05 17 16.6 +0.9
TRO Tromso 104.80 21 eSKSac SKSac 05 27 19.0 +0.8
TRO eSP SP 05 30 16.3 -0.2
TRO e 05 32 02.6
C23K Itkillik River 104.83 339 Pdiff Pdif 05 17 17.2 +1.8
baz=101
H21K Melozitna Rive 104.87 335 Pdiff Pdif 05 17 16.9 +1.2
baz=100
P18K Big Mountain, 104.88 328 Pdiff Pdif 05 17 17.0 +1.1
baz=100
M19K Big River Lodg 104.90 331 Pdiff Pdif 05 17 17.2 +1.2
baz=100
E22K Anaktuvuk Pass 104.93 337 Pdiff Pdif 05 17 17.7 +1.6
baz=101
O18K Koktuh Hills 104.94 329 Pdiff Pdif 05 17 17.7 +1.5
baz=100
K20K Telida 105.00 332 Pdiff Pdif 05 17 17.2 +0.8
baz=100
KBS Kingsbay 105.09 11 ePP PP 05 21 44.0 +1.7
KBS eSKSac SKSac 05 27 21.9 +2.6
KBS eSP SP 05 30 21.5 +2.2
KBS eSS SKKPbc 05 36 08.2 +0.2
KBS Kingsbay 105.09 11 i P Pdif 05 17 18.8 +2.3
L19K White Mountain 105.16 331 Pdiff Pdif 05 17 18.7 +1.6
baz=100
J20K Nowinta River 105.17 333 Pdiff Pdif 05 17 18.8 +1.7
baz=100
JETT Jettan, Norway 105.29 21 ePP PP 05 21 43.5 -0.5
JETT eSKSac SKSac 05 27 23.8 +3.2
JETT eSP SP 05 30 23.3 +1.5
JETT e 05 32 04.5
G21K Allakaket 105.30 335 Pdiff Pdif 05 17 19.2 +1.6
baz=100
TPGR Topolog 105.36 47 ⇑P Pdif 05 17 18.9 +0.5
D22K Ayikyak River 105.38 338 Pdiff Pdif 05 17 19.3 +1.3
baz=100
F21K Alatna River 105.40 336 Pdiff Pdif 05 17 19.6 +1.5
baz=99
N18K Kilae Creek 105.41 329 Pdiff Pdif 05 17 19.8 +1.6
baz=99
I20K Naaghedeneel 105.42 334 Pdiff Pdif 05 17 20.0 +1.9
baz=99
P17K Kvichak River 105.46 328 Pdiff Pdif 05 17 19.9 +1.5
baz=99
Q16K King Salmon 105.49 327 Pdiff Pdif 05 17 19.9 +1.4
baz=99
M18K Stony River 105.51 330 Pdiff Pdif 05 17 19.7 +1.1
baz=99
H20K Anotleneega Mo 105.69 334 Pdiff Pdif 05 17 20.7 +1.3
baz=98
BJO1 Bjornoya 105.71 16 eSKSac SKSac 05 27 25.3 +3.2
BJO1 eSP SP 05 30 27.1 +1.3
BJO1 e 05 32 16.1
E21K Killik River 105.77 337 Pdiff Pdif 05 17 20.7 +1.0
baz=98
SPA0 Spitsbergen Ar 105.78 12 eSKSac SKSac 05 27 24.6 +2.1
SPA0 eSP SP 05 30 27.9 +1.5
SPITS Spitsbergen Ar 105.78 12 Pdiff Pdif 05 17 20.2 +0.6
comp=Z,4.4nm,0.8s,baz=197,slow=0.9,SNR=4.5
SPITS PKKPbc PKKPbc 05 32 55.9 -1.7
comp=Z,2.2nm,0.4s,baz=90,slow=7.7,SNR=19
J19K Poorman 105.79 333 Pdiff Pdif 05 17 21.2 +1.4
baz=98
R16K Pilot Point 105.80 326 Pdiff Pdif 05 17 20.8 +0.8
baz=98
MI28 Mi28,Pidlybu 105.85 41 P Pdif 05 17 21.3 +0.9
SORM Soroca 105.86 44 ⇑P Pdif 05 17 20.7 +0.2
SORM Soroca 105.86 44 P Pdif 05 17 20.7 +0.2
B22K Teshekpuk Lake 105.86 339 Pdiff Pdif 05 17 21.5 +1.5
baz=98
O17K Koliganek Bris 105.87 328 Pdiff Pdif 05 17 21.1 +0.9
baz=98
L18K Granite Mounta 106.02 331 Pdiff Pdif 05 17 21.3 +0.4
baz=98
N17K Nushagak Hills 106.03 329 Pdiff Pdif 05 17 21.6 +0.7
baz=98
CHGN Chignik 106.08 325 Pdiff Pdif 05 17 22.2 +1.0
baz=98
C21K Knifeblade Rid 106.17 338 Pdiff Pdif 05 17 22.3 +0.9
baz=98
B21K Ikpikpuk River 106.17 339 Pdiff Pdif 05 17 22.7 +1.3
baz=98
J18K Innoko River 106.20 332 Pdiff Pdif 05 17 23.2 +1.5
baz=98
KTK1 Kautokeino 106.20 22 ePP PP 05 21 54.3 +3.6
KTK1 eSKSac SKSac 05 27 26.0 +1.4
KTK1 eSP SP 05 30 32.1 +1.1
KTK1 e 05 32 18.7
KTK1 eSS SS 05 36 24.9 +1.9
P16K Nushagak River 106.23 327 Pdiff Pdif 05 17 22.6 +0.7
baz=98
F20K Avaraart Lake 106.24 336 Pdiff Pdif 05 17 22.9 +1.2
baz=97
M17K Holitna River 106.26 330 Pdiff Pdif 05 17 22.9 +0.9
baz=97
H19K Roundabout Mou 106.34 334 Pdiff Pdif 05 17 23.7 +1.5
baz=97
O16K Kokwok River B 106.35 328 Pdiff Pdif 05 17 23.7 +1.3
baz=97
GCSA Galena City Sc 106.43 333 Pdiff Pdif 05 17 24.5 +1.9
baz=97
FINES FINESS Array B 106.43 30 Pdiff Pdif 05 17 23.7 +1.0
comp=Z,1.9nm,0.6s,baz=283,slow=3.3,SNR=8.3
FINES PKiKP PKiKP 05 21 32.4 +0.9
comp=Z,3.1nm,0.8s,baz=297,slow=0.9,SNR=2.4
FINES S SKSac 05 27 24.7 -1.1
comp=Z,3.3nm,0.8s,baz=284,slow=7.7,SNR=4.2
FINES PKKPbc PKKPbc 05 32 52.5 -2.7
comp=Z,5.5nm,0.5s,baz=84,slow=3.2,SNR=25
A22K Sinclair Lake 106.46 340 Pdiff Pdif 05 17 24.4 +1.8
baz=97
MNK Minsk 106.50 37 i P Pdif 05 17 23.0 -0.2
MNK i P Pdif 05 17 23.0 -0.2
MNK i P Pdif 05 17 23.0 -0.2
baz=262
MNK i pP pPdif 05 18 45.0 -4.5
MNK i PP PP 05 21 52.2 -0.9
MNK i PPP PPP 05 24 10.2
MNK i SKS SKSdf 05 28 09.6 +1.7
MNK i SS SS 05 36 28.6 +1.0
MNK i SSS SSS 05 40 34.2
MNK i LRM MLR 06 01 38.6
comp=N,807nm,18.0s
MNK i LRM MLR 06 02 23.2
comp=E,1μm,21.5s
MNK i LRM MLR 06 03 19.4
comp=Z,591nm,16.3s
MNK Minsk 106.50 37 i P Pdif 05 17 23.0 -0.2
MNK i 05 21 52.1
MNK i PPP PPP 05 24 10.2
MNK i 05 28 09.5
MNK i SS SS 05 36 28.6 +0.9
MNK i SSS SSS 05 40 34.2
CHNA Chernabura Isl 106.54 323 Pdiff Pdif 05 17 24.5 +1.2
baz=98
HAMF Hammerfest 106.56 20 ePP PP 05 21 52.8 -0.3
HAMF eSKSac SKSac 05 27 27.5 +1.5
HAMF eSP SP 05 30 38.1 +3.6
HAMF e 05 32 24.7
HAMF eSS SS 05 36 32.4 +4.7
E20K Nigu River 106.57 337 Pdiff Pdif 05 17 25.0 +1.7
baz=96
G19K Purcell Mounta 106.68 335 Pdiff Pdif 05 17 25.3 +1.5
baz=96
S14K Fog Glacier 106.70 324 Pdiff Pdif 05 17 25.5 +1.3
baz=97
L17K Donlin 106.76 331 Pdiff Pdif 05 17 25.4 +1.2
baz=96
D20K Ettivluk River 106.77 338 Pdiff Pdif 05 17 25.9 +1.8
baz=96
KIEV Kiev 106.78 41 PKiKP PKiKP 05 21 31.8 -0.7
N16K Nishlik Lake 106.80 329 Pdiff Pdif 05 17 26.2 +1.8
baz=97
AKASG Malin Array Be 106.80 41 Pdiff Pdif 05 17 24.4 -0.2
comp=Z,0.8nm,0.6s,baz=271,slow=3.9,SNR=6.5
AKASG PKiKP PKiKP 05 21 31.2 -1.3
comp=Z,3.3nm,0.4s,baz=274,slow=2.7,SNR=23
AKASG S SKSac 05 27 27.4 -0.5
comp=Z,0.1nm,0.3s,baz=282,slow=4.8,SNR=4.1
AKASG PKKPbc PKKPbc 05 32 53.3 -0.3
comp=Z,2.6nm,0.5s,baz=68,slow=3.7,SNR=14
AK08 Malin Array Si 106.81 41 P Pdif 05 17 25.7 +1.1
K17K Iditarod 106.82 331 Pdiff Pdif 05 17 25.8 +1.4
baz=96
E19K Redstone River 106.87 336 Pdiff Pdif 05 17 25.9 +1.3
baz=96
M16K Timber Creek 106.95 329 Pdiff Pdif 05 17 26.4 +1.3
baz=96
F19K Shaleruckik Mo 107.02 336 Pdiff Pdif 05 17 26.5 +1.3
baz=96
ARA0 ARCESS Array S 107.06 22 ePP PP 05 21 54.3 -2.6
ARA0 eSKSac SKSac 05 27 24.5 -3.8
ARA0 eSP SP 05 30 38.1 -1.7
ARA0 eSS SS 05 36 36.9 +2.3
ARCES ARCESS Array B 107.06 22 Pdiff Pdif 05 17 25.3 -0.1
comp=Z,5.5nm,0.9s,baz=282,slow=2.4,SNR=8.3
ARCES PKKPbc PKKPbc 05 32 50.7 -2.7
comp=Z,6.3nm,0.7s,baz=64,slow=2.8,SNR=7.6
ARCES PKKPab PKKPab 05 33 07.6 +1.7
comp=Z,6.7nm,0.6s,baz=91,slow=5.3,SNR=10.0
B20K Meade River 107.09 339 Pdiff Pdif 05 17 27.1 +1.7
baz=95
H18K Honhosa River 107.10 334 Pdiff Pdif 05 17 26.6 +0.9
baz=96
SDPT Sand Point 107.11 323 Pdiff Pdif 05 17 27.1 +1.3
baz=97
O15K Ungalikthiuk R 107.18 327 Pdiff Pdif 05 17 27.9 +1.8
baz=96
J17K VABM Dome 107.25 332 Pdiff Pdif 05 17 27.8 +1.5
baz=95
G18K Tagagawik 107.29 335 Pdiff Pdif 05 17 28.1 +1.6
baz=95
D19K Kuna River 107.30 337 Pdiff Pdif 05 17 28.2 +1.7
baz=95
N15K Kwethluk River 107.42 328 Pdiff Pdif 05 17 28.5 +1.3
baz=96
HOPEN Hopen 107.45 14 ePP PP 05 21 57.3 -2.2
HOPEN eSKSac SKSac 05 27 33.5 +3.8
HOPEN eSP SP 05 30 44.1 +0.8
HOPEN eSS SS 05 36 42.9 +3.5
H17K Granite Mounta 107.74 334 Pdiff Pdif 05 17 30.2 +1.7
baz=94
F18K Selawik 107.75 335 Pdiff Pdif 05 17 29.7 +1.3
baz=94
M15K Kasigluk River 107.76 329 Pdiff Pdif 05 17 29.8 +1.2
baz=95
J16K Anvik River 107.92 332 Pdiff Pdif 05 17 30.4 +1.1
baz=94
O14K Tigyukauivet M 107.93 327 Pdiff Pdif 05 17 30.9 +1.5
baz=95
I17K Unalakleet 108.00 332 Pdiff Pdif 05 17 31.1 +1.4
baz=94
G17K Kiwalik Mounta 108.09 334 Pdiff Pdif 05 17 32.0 +2.0
baz=93
E18K Tukpahlearik C 108.17 336 Pdiff Pdif 05 17 32.2 +1.8
baz=93
N14K Kuskokwak Cree 108.19 328 Pdiff Pdif 05 17 32.0 +1.4
baz=94
L15K Ungalak Mounta 108.22 330 Pdiff Pdif 05 17 32.4 +1.7
baz=94
K15K Wolf Creek Mou 108.28 331 Pdiff Pdif 05 17 32.4 +1.4
baz=94
BRTR Keskin Array B 108.38 53 Pdiff Pdif 05 17 33.9 +1.8
comp=Z,0.1nm,0.3s,baz=248,slow=7.6,SNR=1.7
BRTR PKiKP PKiKP 05 21 36.1 0.0
comp=Z,9.1nm,0.7s,baz=189,slow=2.3,SNR=27
BRTR PKKPbc PKKPbc 05 32 47.8 -0.6
comp=Z,0.8nm,0.5s,baz=144,slow=4.5,SNR=7.2
F17K Baldwin Pennin 108.38 335 Pdiff Pdif 05 17 32.8 +1.5
baz=92
M14K Bethel 108.39 329 Pdiff Pdif 05 17 33.3 +1.9
baz=94
VADS Vadso 108.43 21 ePP PP 05 22 07.8 +1.1
VADS eSKSac SKSac 05 27 35.0 +0.9
VADS eSP SP 05 30 56.2 +2.7
VADS e 05 32 39.7
VADS eSS SS 05 36 54.9 +2.1
A19K Wainwright 108.44 339 Pdiff Pdif 05 17 33.1 +1.7
baz=91
C18K Utukok River 108.44 337 Pdiff Pdif 05 17 33.3 +1.7
baz=92
B18K Kokolik River 108.67 338 Pdiff Pdif 05 17 33.6 +1.1
baz=91
H16K Elim 108.72 333 Pdiff Pdif 05 17 34.1 +1.3
baz=92
FALS False Pass 108.74 323 Pdiff Pdif 05 17 34.3 +1.2
baz=94
MMAI Mount Meron Ar 108.76 60 Pdiff Pdif 05 17 34.2 +0.3
comp=Z,2.9nm,0.7s,baz=266,slow=40,SNR=1.7
MMAI PKiKP PKiKP 05 21 37.3 +0.4
comp=Z,14nm,0.7s,baz=17,slow=0.9,SNR=12
MMAI PKKPbc PKKPbc 05 32 47.4 +0.5
comp=Z,3.1nm,0.5s,baz=89,slow=4.4,SNR=6.8
L14K Kuka Creek 108.77 330 Pdiff Pdif 05 17 34.2 +1.1
baz=93
G16K Koyuk River 108.79 334 Pdiff Pdif 05 17 34.3 +1.2
baz=92
M13K Dall Lake 109.05 329 Pdiff Pdif 05 17 35.8 +1.4
baz=93
RDOG Red Dog Mine 109.06 337 Pdiff Pdif 05 17 36.0 +1.7
baz=90
D17K Noatak River 109.13 336 Pdiff Pdif 05 17 35.9 +1.3
baz=90
C17K DeLong Mountai 109.16 337 Pdiff Pdif 05 17 36.0 +1.2
baz=90
J14K Nanvaranak Lak 109.24 331 Pdiff Pdif 05 17 36.5 +1.4
baz=92
G15K Niukluk 109.49 333 Pdiff Pdif 05 17 37.3 +1.1
baz=90
K13K Kusilvak Mount 109.73 330 Pdiff Pdif 05 17 37.4 0.0
baz=91
F15K North Star Dit 109.75 334 Pdiff Pdif 05 17 38.1 +0.7
baz=90
C16K Lisburne Hills 109.97 337 Pdiff Pdif 05 17 38.9 +0.6
baz=88
ANM Nome 110.07 333 Pdiff Pdif 05 17 39.3 +0.5
baz=89
F14K Arctic Creek 110.45 334 Pdiff Pdif 05 17 41.1 +0.6
baz=88
M11K Mekoryuk 110.47 329 Pdiff Pdif 05 17 41.8 +1.1
baz=90
UNV Unalaska Valle 110.49 322 Pdiff Pdif 05 17 42.2 +1.3
baz=92
TNA Tin City 111.11 334 Pdiff Pdif 05 17 44.7 +1.3
baz=87
OBN Obninsk 111.55 37 ⇓i PKIKP PKiKP 05 21 42.5 +1.2
OBN e 05 22 25.7
OBN ePPP PPP 05 24 48.5
OBN pmax pmax
comp=Z,32nm,0.8s
ANN Anapa 111.72 48 i PKIKP PKiKP 05 21 42.9 +0.9
ANN e 05 22 28.8
ANN e 05 23 08.2
ANN e 05 27 51.0
ANN pmax pmax
comp=Z,25nm,1.0s
MOS Moscow 112.15 36 i PKIKP PKiKP 05 21 42.1 -0.4
MOS e 05 23 06.3
MOS e 05 27 49.0
MOS eSP SP 05 31 23.2 -5.4
MOS pmax pmax
comp=Z,41nm,0.8s
KLMR Klimovskoe 112.92 31 i PKIKP PKiKP 05 21 44.7 +0.9
KLMR 05 27 54.9
KLMR SP SP 05 31 38.2 +2.8
LPSR Galich'ya Gora 112.95 40 ePKIKP PKiKP 05 21 44.6 +0.5
LPSR pmax pmax
comp=Z,52nm,0.8s
VSR Storozhevoye 113.10 41 ePKIKP PKiKP 05 21 43.9 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 113.12 41 ePKIKP PKiKP 05 21 45.5 +1.0
VORR pmax pmax
comp=Z,19nm,0.6s
SOC Sochi 113.28 50 i PKIKP PKiKP 05 21 45.7 +0.6
SOC e 05 22 39.7
SOC ePPP PPP 05 25 08.4
SOC ePS PS 05 32 18.6 -4.8
SOC eSS SS 05 37 51.2 -7.4
VSLR Vesyoloye 113.51 50 i PKIKP PKiKP 05 21 47.4 +1.9
ERBR Yeremizino-Bor 113.91 47 i PKIKP PKiKP 05 21 46.2 0.0
ERBR pmax pmax
comp=Z,50nm,1.0s
LABN Labinsk 114.05 49 i PKIKP PKiKP 05 21 47.0 +0.5
LABN e 05 23 13.3
LABN pmax pmax
comp=Z,31nm,0.6s
VRH Novokhopyorsk 114.71 41 ePKIKP PKPdf 05 21 47.4 -0.1
VRH pmax pmax
comp=Z,20nm,0.8s
SHA1 Shidzhatmaz 115.42 50 i PKIKP PKPdf 05 21 49.3 -0.2
KIV Kislovodsk 115.44 49 i PKIKP PKiKP 05 21 50.2 +0.8
KIV e 05 22 55.5
KIV ePS PS 05 32 38.8 -4.4
KIV eSS SS 05 38 26.2 -0.8
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 115.44 49 PKiKP PKiKP 05 21 49.5 +0.2
KBZ Khabaz 115.59 50 PKP PKPdf 05 21 49.5 0.0
comp=Z,43nm,0.8s,baz=217,slow=2.7,SNR=51
KBZ SKP 05 24 48.2
comp=Z,34nm,0.9s,baz=314,slow=1.6,SNR=7.4
KBZ Khabaz 115.59 50c i PKIKP PKiKP 05 21 49.6 +0.1
RAYN Ar Rayn 116.06 72 i PKiKP PKiKP 05 21 51.5 +0.4
SNR=16
GNI Garni 116.91 54 PKP PKPdf 05 21 52.4 0.0
comp=Z,44nm,0.7s,baz=287,slow=1.3,SNR=14
GNI Garni 116.91 54 i PKIKP PKiKP 05 21 53.6 +1.2
GNI Garni 116.91 54 PKiKP PKiKP 05 21 54.3 +1.9
KIRV Kirov 118.21 33c i PKIKP PKiKP 05 21 55.2 +1.1
MAK Makhachkala 118.97 50 i P Pdif 05 18 19.9 +1.0
MAK i 05 21 56.6
MAK e 05 23 21.1
MAK e 05 29 23.8
MAK e 05 28 10.4
MAK ePS PS 05 33 10.7 -3.8
MAK eSS SS 05 39 09.6 -2.6
MAK pmax pmax
comp=Z,401nm,1.3s
BILL Bilibino 120.17 340c i PKIKP PKiKP 05 21 58.7 +1.0
BILL pmax pmax
comp=Z,23nm,1.3s
MZR Muzera 123.26 74 i PKiKP PKiKP 05 22 05.2 +0.1
SNR=8.7
ARTI Arti 123.47 33 PKP PKiKP 05 22 04.6 0.0
comp=Z,65nm,0.5s,baz=263,slow=1.7,SNR=71
ARTI pPKP pPKPdf 05 23 36.6 +0.4
comp=Z,29nm,0.9s,baz=260,slow=2.4,SNR=2.9
ARTI Arti 123.47 33 i PKIKP PKPdf 05 22 04.4 +0.1
ARTI 05 23 48.6
ARTI 05 28 39.9
ARTI SP SP 05 33 08.4 -1.7
ARTI SSS SSS 05 44 55.3
STKA Stephens Creek 123.97 208 PKP PKiKP 05 22 06.6 +0.2
comp=Z,42nm,0.7s,baz=98,slow=1.3,SNR=78
STKA pPKP pPKPdf 05 23 39.3 +1.3
comp=Z,9.8nm,0.7s,baz=153,slow=2.9,SNR=3.7
STKA SKP 05 25 04.0
comp=Z,11nm,0.8s,baz=104,slow=5.2,SNR=3.2
STKA PKKPbc PKKPbc 05 31 54.5 +0.3
comp=Z,14nm,0.9s,baz=342,slow=5.3,SNR=15
STKA Stephens Creek 123.97 208 i PKIKP PKiKP 05 22 06.5 +0.1
SVE Sverdlovsk 124.48 32 ePKIKP PKiKP 05 22 07.8 +1.3
SVE pmax pmax
comp=Z,51nm,1.0s
AJN Ajban 124.79 72 i PKiKP PKiKP 05 22 09.2 +1.1
SNR=11
AKTO Aktyubinsk 125.02 40 PKP PKiKP 05 22 07.9 +0.1
comp=Z,53nm,0.7s,baz=314,slow=0.6,SNR=81
AKTO pPKP pPKPdf 05 23 40.4 +1.0
comp=Z,24nm,0.8s,baz=293,slow=2.8,SNR=5.0
AKTO SKP 05 25 07.8
comp=Z,14nm,0.9s,baz=319,slow=4.0,SNR=5.1
ASUD Al Ashush, Dub 125.11 72 i PKiKP PKiKP 05 22 08.8 +0.1
SNR=7.2
FAQ Al Faqa, Dubai 125.36 72 i PKiKP PKPdf 05 22 08.8 -0.1
SNR=17
ALNE Al Ain 125.44 73 i PKiKP PKPdf 05 22 09.2 +0.1
SNR=26
NAZ Nazwa, Dubai 125.44 72 i PKiKP PKPdf 05 22 08.8 -0.2
SNR=17
TIXI Tiksi 125.52 354 i PKIKP PKiKP 05 22 08.2 0.0
ASHO Ashiyiah 125.78 72 i PKiKP PKPdf 05 22 09.2 -0.5
SNR=8.2
HATD Hatta, Dubai 125.85 72 i PKiKP PKPdf 05 22 09.5 -0.3
SNR=13
MSFE Esma-Masafi 125.92 71 i PKiKP PKPdf 05 22 09.6 -0.3
SNR=9.0
UOSS Minazif 125.93 72 i PKPdf PKPdf 05 22 09.4 -0.6
SNR=8.8
SHME Shamm 125.95 70 i PKiKP PKPdf 05 22 09.7 -0.3
SNR=27
NRIK Noril'sk 125.97 11 PKP PKiKP 05 22 09.3 +0.2
comp=Z,6.0nm,0.5s,baz=22,slow=1.1,SNR=17
NRIK pPKP pPKPdf 05 23 40.6 0.0
comp=Z,2.3nm,0.5s,baz=151,slow=1.0,SNR=1.8
NRIK SKKP 05 35 29.9
comp=Z,3.5nm,0.7s,baz=176,slow=3.0,SNR=2.4
MDH Madha 126.04 71 PKPdf PKPdf 05 22 09.1 -1.0
BANOM Banah 126.09 71 i PKiKP PKPdf 05 22 10.2 0.0
SNR=9.1
SOHO SOHO 126.16 73 i PKiKP PKPdf 05 22 10.6 +0.2
SNR=22
AB31 Akbulak array 126.54 41 i PKIKP PKPdf 05 22 10.3 0.0
SEY Seymchan 127.84 339 PKP PKiKP 05 22 13.0 0.0
comp=Z,73nm,0.7s,baz=105,slow=2.7,SNR=90
SEY pPKP pPKPdf 05 23 43.6 -0.7
comp=Z,79nm,1.1s,baz=85,slow=1.9,SNR=10
SEY Seymchan 127.84 339c i PKIKP PKiKP 05 22 13.5 +0.5
SEY pmax pmax
comp=Z,94nm,0.8s
WSAR Wadi Sarin 128.00 74 PKP PKPdf 05 22 13.9 -0.1
comp=Z,80nm,0.8s,baz=260,slow=2.6,SNR=46
MA2 Magadan 130.66 336 PKP PKiKP 05 22 18.6 -0.2
comp=Z,12nm,0.8s,baz=90,slow=2.8,SNR=23
MA2 pPKP pPKPdf 05 23 48.6 -0.9
comp=Z,35nm,1.1s,baz=63,slow=3.0,SNR=6.7
MA2 PP PP 05 24 35.4 -2.5
comp=Z,25nm,0.9s,baz=64,slow=8.1,SNR=5.8
MA2 SKPbc SKPbc 05 25 06.8 +0.2
comp=Z,107nm,0.8s,baz=71,slow=6.4,SNR=28
MA2 Magadan 130.66 336c i PKIKP PKiKP 05 22 19.4 +0.6
MA2 pmax pmax
comp=Z,45nm,1.3s
PET Petropavlovsk 130.79 326 eP Pdif 05 19 21.5 +10
PET i 05 22 19.7

PET *e*PPP PPP 05 27 41.5
PET *e*SP SP 05 34 09.0 -4.8
PET *e*PS **PS** **05 34 50.2 -7.0**
PET *e*SPP SPP 05 35 51.0
PET *e*SS SS 05 42 01.1 +23
PET pmax pmax
comp=Z,49nm,0.8s
PET MLR MLR
comp=Z,700nm,21.0s
BRVK Borovoye 131.12 34*c i* PKIKP **PKiKP 05 22 20.4 +0.5**
BRVK pmax pmax
comp=Z,109nm,1.7s
BVA0 Borovoye Array 131.19 34 *i* PKIKP **PKPdf 05 22 19.3 +0.2**
BVAR Borovoye Array 131.19 34 PKhKP PKPpre 05 22 06.0
comp=Z,1.0nm,0.5s,baz=272,slow=4.3,SNR=4.8
BVAR PKP **PKiKP 05 22 20.6 +0.5**
comp=Z,30nm,0.7s,baz=296,slow=2.3,SNR=54
BVAR pPKP pPKPdf 05 23 52.4 +1.3
comp=Z,30nm,0.9s,baz=300,slow=2.9,SNR=3.8
BVAR SKPbc **SKPab 05 25 09.3 -0.2**
comp=Z,196nm,0.9s,baz=276,slow=2.8,SNR=33
BVAR SKKP 05 35 18.3
comp=Z,9.7nm,1.0s,baz=123,slow=5.3,SNR=4.5
PEA0B Petropavlovsk- 131.26 326*c i* PKIKP **PKiKP 05 22 21.5 +1.3**
PETK Petropavlovsk- 131.26 326 PKhKP PKPpre 05 22 05.9
comp=Z,2.8nm,0.8s,baz=92,slow=4.5,SNR=2.4
PETK PKP **PKiKP 05 22 21.0 +0.7**
comp=Z,38nm,0.9s,baz=64,slow=3.4,SNR=26
PETK pPKP pPKPdf 05 23 50.4 -0.4
comp=Z,56nm,0.9s,baz=90,slow=5.0,SNR=14
PETK SKPbc **SKPbc 05 25 08.7 -0.4**
comp=Z,38nm,0.9s,baz=70,slow=6.0,SNR=8.0
SKR Severo-Kuril's 133.30 324 *i* PKIKP **PKPdf 05 22 19.2 -3.9**
SKR pmax pmax
comp=Z,400nm,4.6s
SKR MLR MLR
comp=Z,1μm,17.0s
BRZS Berezniki 133.92 36 *e*PKIKP **PKiKP 05 22 26.7 +1.0**
BRZS pmax pmax
comp=Z,46nm,2.2s
ASAR Alice Springs 134.43 206 PKhKP PKPpre 05 22 10.3
comp=Z,7.1nm,0.7s,baz=145,slow=3.2,SNR=21
ASAR PKP **PKiKP 05 22 27.4 -0.3**
comp=Z,48nm,0.7s,baz=131,slow=2.0,SNR=36
ASAR pPKP pPKPdf 05 23 58.2 +0.4
comp=Z,14nm,0.9s,baz=138,slow=1.9,SNR=3.3
ASAR SKPbc **SKPbc 05 25 21.4 +0.5**
comp=Z,43nm,0.7s,baz=145,slow=3.8,SNR=16
ASAR PKKP **PKKPdf 05 32 11.9 +0.4**
comp=Z,3.2nm,0.7s,baz=333,slow=1.5,SNR=7.6
ASAR SKKPbc **SKKPbc 05 34 29.1 -0.4**
comp=Z,5.9nm,1.1s,baz=350,slow=4.5,SNR=4.6
OTUK Ortayu 134.53 39 PKIKP **PKPdf 05 22 24.3 -1.3**
YAK Yakutsk 134.55 350 PKP **PKiKP 05 22 26.6 +0.1**
comp=Z,55nm,0.7s,baz=233,slow=0.7,SNR=3.3
YAK pPKP **pPKPdf 05 23 56.1 -0.9**
comp=Z,14nm,0.3s,baz=5.9,slow=1.9,SNR=1.7
YAK SKPbc **SKPbc 05 25 19.6 -0.2**
comp=Z,156nm,0.8s,baz=180,slow=0.4,SNR=12
YAK Yakutsk 134.55 350 *i* PKIKP **PKiKP 05 22 26.1 -0.5**
YAK *e* 05 25 01.6
YAK pmax pmax
comp=Z,46nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,234nm,1.5s
YAK pmax pmax
comp=E,50nm,1.4s
YAK pmax pmax
comp=N,187nm,1.6s
BRLS Borolday 135.00 46 *e*PKIKP **PKiKP 05 22 28.0 -0.2**
BRLS pmax pmax
comp=Z,117nm,3.4s
KK31 Karatay Array 135.44 46 *i* PKIKP **PKPdf 05 22 27.4 0.0**
KURK Kurchatov 136.73 33 *i* PKIKP **PKPdf 05 22 29.9 +0.4**
KURBB Kurchatov Arra 136.74 33 PKhKP PKPpre 05 22 19.0
comp=Z,4.0nm,0.6s,baz=311,slow=2.5,SNR=22
KURBB PKP **PKPdf 05 22 29.4 -0.1**
comp=Z,49nm,0.7s,baz=308,slow=2.6,SNR=50
KURBB pPKP pPKPdf 05 24 01.4 -0.2
comp=Z,31nm,0.9s,baz=301,slow=2.6,SNR=4.7
KURBB SKPbc **SKPbc 05 25 27.1 +0.2**
comp=Z,86nm,0.9s,baz=306,slow=3.6,SNR=20
KURBB SKKPbc **SKKPbc 05 34 23.9 +0.3**
comp=Z,1.8nm,0.8s,baz=127,slow=3.9,SNR=4.0
BTLS Baital 137.02 42 *e*PKIKP **PKiKP 05 22 31.9 -0.3**
BTLS pmax pmax
comp=Z,59nm,2.2s
ZALV Zalesovo Beam 137.46 25 PKhKP PKPpre 05 22 20.8
comp=Z,13nm,0.8s,baz=312,slow=4.2,SNR=33
ZALV PKP **PKPdf 05 22 29.8 -0.9**
comp=Z,112nm,0.6s,baz=277,slow=1.7,SNR=27
ZALV pPKP pPKPdf 05 24 03.5 +0.7
comp=Z,153nm,1.0s,baz=295,slow=3.1,SNR=9.9
ZALV SKPbc **SKPbc 05 25 28.8 -0.2**
comp=Z,281nm,0.9s,baz=301,slow=2.9,SNR=18
ZALV SKKPbc **SKKPbc 05 34 21.1 0.0**
comp=Z,2.0nm,0.8s,baz=114,slow=3.5,SNR=2.7
WRA Warramunga Arr 137.52 209 PKhKP PKPpre 05 22 19.9
comp=Z,13nm,0.6s,baz=148,slow=3.0,SNR=69
WRA PKP **PKPdf 05 22 31.6 -0.4**
comp=Z,71nm,0.7s,baz=167,slow=1.9,SNR=29
WRA pPKP pPKPdf 05 24 04.5 +0.5
comp=Z,34nm,1.0s,baz=158,slow=1.9,SNR=6.6
WRA SKPbc **SKPbc 05 25 29.4 -0.9**
comp=Z,33nm,0.7s,baz=155,slow=2.2,SNR=9.2
WRA SKKPbc **SKKPbc 05 34 16.9 -1.1**
comp=Z,12nm,1.1s,baz=335,slow=4.0,SNR=6.0
WRAB Tennant Creek 137.52 209 *i* PKIKP **PKPdf 05 22 31.3 -0.7**
EKS2 Erkin-Say 137.83 45 P **SKPbc 05 25 33.7 +3.1**
SNR=8.1
AML Almayashu 137.98 46 P **SKPbc 05 25 34.5 +3.1**
SNR=8.9
USP Ospenovka 138.07 44 P **SKPbc 05 25 33.5 +2.4**
SNR=14
AAK Ala-Archa 138.32 45 PKhKP PKPpre 05 22 25.1
comp=Z,7.6nm,0.8s,baz=146,slow=3.6,SNR=12
AAK PKP **PKPdf 05 22 32.4 -0.6**
comp=Z,56nm,0.7s,baz=186,slow=2.7,SNR=27
AAK pPKP pPKPdf 05 24 03.5 -1.3
comp=Z,16nm,1.0s,baz=115,slow=2.9,SNR=1.3
AAK Ala-Archa 138.32 45 P **SKPbc 05 25 35.1 +3.1**
SNR=12
AAK Ala-Archa 138.32 45 *i* PKIKP **PKiKP 05 22 35.0 -0.1**
AAK Ala-Archa 138.32 45 *i* PKPdf PKPpre 05 22 24.5
SNR=12
CHMS Chumysh 138.35 44 P **SKPbc 05 25 34.5 +2.6**
SNR=14
UCH Uchtor 138.50 46 P **SKPbc 05 25 36.0 +3.1**
SNR=5.5
KBK Karagaybulak 138.62 45 P **SKPbc 05 25 35.8 +2.9**
SNR=9.1
TKM2 Tokmak 2 138.94 44 P **SKPbc 05 25 36.4 +2.6**
SNR=11
TKM2 Tokmak 2 138.94 44 PKHKP PKPpre 05 22 29.0
NKL Nikolayevsk 139.17 336 *i* PKIKP **PKiKP 05 22 35.5 -0.8**
NKL *e* 05 25 31.9
JASL Jaisalmer 139.18 69 *e*P **PKPdf 05 22 35.4 +0.6**
ULHL Ulahol 139.66 45 P **SKPbc 05 25 37.4 +1.6**
SNR=7.3
ARXS Arharly 139.79 41 *e*PKIKP **PKPdf 05 22 36.3 +0.8**
TYV Tymovskoe 140.02 332 *e*PKHKP PKPpre 05 22 29.9
TYV pmax pmax
comp=Z,26nm,0.9s
TYV pmax pmax
comp=Z,500nm,3.5s
BOD Bodaibo 140.11 0 *e*PKHKP PKPpre 05 22 27.0
BOD pmax pmax
comp=Z,55nm,1.4s
KSH Kashi 140.57 49 PKP **PKPdf 05 22 33.5 -3.6**
KSH PP **PP** **05 25 39.1 -1.7**
KSH SKKS 05 31 54.3
KSH AMB AMB
comp=Z,630nm,8.9s
ZHN Zhinishke 140.68 42 *e*PKHKP PKPpre 05 22 30.6
ZHN pmax pmax
comp=Z,15nm,1.7s
KPKS Kokpek 140.70 42 *e*PKIKP **PKPdf 05 22 34.0 -3.2**
KPKS pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 141.02 35 *i* PKIKP **PKPdf 05 22 34.6 -2.9**
MKAR Makanchi Array 141.02 35 PKhKP PKPpre 05 22 31.9
comp=Z,14nm,0.6s,baz=322,slow=2.6,SNR=81
MKAR PKP **PKPdf 05 22 35.5 -2.0**
comp=Z,14nm,0.6s,baz=312,slow=2.6,SNR=76
MKAR pPKP pPKPdf 05 24 09.8 +0.1
comp=Z,18nm,0.8s,baz=323,slow=3.0,SNR=2.4
MKAR SKPbc **SKPbc 05 25 38.5 -0.5**
comp=Z,99nm,0.9s,baz=323,slow=3.0,SNR=12
MKAR SKKPbc **SKKPbc 05 34 08.4 +1.5**
comp=Z,3.4nm,0.7s,baz=121,slow=5.0,SNR=8.4
UZB Uzynbulak 141.07 42 *e*PKHKP PKPpre 05 22 29.6
SHLS Shalkode 141.34 42 *e*PKIKP **PKPdf 05 22 36.4 -2.0**
SHLS pmax pmax
comp=Z,47nm,1.5s
POO Poona 141.77 83 *e*P **PKPdf 05 22 38.9 -0.8**
POO IAmb IAmb 05 22 49.0
comp=Z,66nm,0.6s
KAD Karad 141.95 85 *e*P **PKPdf 05 22 39.4 -0.6**
KAD IAmb IAmb 05 22 45.6
comp=Z,59nm,0.8s
FITZ Fitzroy Crossi 142.51 198 SKKPbc SKKPbc 05 33 59.3 +0.8
comp=Z,7.2nm,1.0s,baz=12,slow=9.3,SNR=3.9
THN Thein Dam 142.53 60 *e*P **PKPdf 05 22 39.2 -1.3**
THN IAmb IAmb 05 22 47.1
comp=Z,156nm,0.7s
AJM Ajmer 142.55 70 *e*P **PKPdf 05 22 39.8 -1.1**
YSS Yuzhno-Sakhali 142.65 327 *e*PKHKP PKPpre 05 22 37.6
YSS *i* 05 22 42.7
YSS *e* 05 24 04.2
YSS *e* 05 24 41.9
YSS pmax pmax
comp=Z,700nm,6.2s
YSS pmax pmax
comp=Z,90nm,0.9s
YSS pmax pmax
comp=Z,700nm,7.3s
YSS MLR MLR
comp=Z,700nm,14.0s
GRNR Gornyy 142.68 337⇑ *i* PKHKP PKPpre 05 22 37.6
GRNR pmax pmax
comp=Z,70nm,1.0s
TRD Trivandrum 142.68 100 *e*P **PKPdf 05 22 39.9 -1.5**
TRD IAmb IAmb 05 22 49.2
comp=Z,129nm,0.9s
ZEA Zeya 142.78 347 *e*PKHKP PKPpre 05 22 37.7
ZEA *e* 05 25 50.2
ZEA pmax pmax
comp=Z,700nm,2.4s
ZEA pmax pmax
comp=Z,120nm,1.1s
ZEA pmax pmax
comp=E,200nm,7.2s
ZEA pmax pmax
comp=N,400nm,4.6s
ZEA pmax pmax
comp=Z,1μm,7.6s
ZEA MLR MLR
comp=N,400nm,16.0s
DHRM DHARAMSHALA 143.05 60 *e*P PKPbc 05 22 39.5 -0.1
BHK Bhakra 143.34 61 *e*P PKPbc 05 22 40.7 +0.4
BHK IAmb IAmb 05 22 49.5
comp=Z,187nm,1.3s
KOD Kodaikanal 143.67 97 *e*P PKPab 05 22 41.4 0.0
KOD IAmb IAmb 05 22 48.3
comp=Z,180nm,0.9s
RTK Rohtak 143.79 65 *e*P **PKPdf 05 22 42.6 -0.3**
RTK IAmb IAmb 05 22 47.6
comp=Z,489nm,1.0s
KUDL Kundal 143.99 67 *e*P PKPab 05 22 41.0 -0.9
KUDL IAmb IAmb 05 22 48.4
comp=Z,312nm,0.4s
SMLA Simla 144.03 61 *e*P **PKPab 05 22 41.7 -0.3**
SMLA IAmb IAmb 05 22 46.2
comp=Z,222nm,0.7s
BHGR Bahadurgarh 144.30 66 *e*P **PKPdf 05 22 44.4 +0.6**
BHGR IAmb IAmb 05 22 49.8
comp=Z,1μm,1.0s
SONA Sohna 144.49 66 *e*P PKPbc 05 22 42.6 -1.2
SONA IAmb IAmb 05 22 49.5
comp=Z,362nm,1.0s
AYAN Aya Nagar 144.49 66 *e*P PKPbc 05 22 43.2 -0.5
NPLP NPLP New Delhi 144.51 66 *e*P PKPbc 05 22 42.9 -0.9
NPLP IAmb IAmb 05 22 49.9
comp=Z,423nm,0.8s
NDI New Delhi 144.54 66 *e*P PKPbc 05 22 43.2 -0.7
NDI IAmb IAmb 05 22 45.9
comp=Z,661nm,0.9s
ASAJ Asahikawa 144.56 324 PKP **PKPab 05 22 43.6 +0.1**
comp=Z,324nm,0.8s,baz=0.0,slow=2.0,SNR=32
LDR Lodi Road 144.56 66 *e*P **PKPdf 05 22 44.7 +0.4**
LDR IAmb IAmb 05 22 50.0
comp=Z,688nm,0.9s
MOY Mondy 144.70 14 *e*PKIKP **PKPab 05 22 44.5 +0.5**
MOY pmax pmax
comp=Z,1μm,1.8s
SALM Salem 144.74 95 *e*P PKPbc 05 22 44.3 -0.6
SALM IAmb IAmb 05 22 51.3
comp=Z,499nm,0.9s
IRK Irkutsk 144.83 11 *e*PKIKP **PKPab 05 22 44.8 +0.5**
IRK pmax pmax
comp=Z,2μm,1.5s
AKL Akola 144.89 79 *e*P **PKPdf 05 22 44.7 -0.4**
AKL IAmb IAmb 05 22 47.4
comp=Z,629nm,0.9s
DDI Dehra Dun 144.95 62 *e*P **PKPdf 05 22 45.0 0.0**
DDI IAmb IAmb 05 22 52.3
comp=Z,1μm,1.1s
NRDN NARMADA NAGAR 145.04 76 *e*P **PKPdf 05 22 44.0 -1.3**
NRDN IAmb IAmb 05 22 49.0
comp=Z,154nm,0.5s
HNLY HANLEY 145.10 58 *e*P **PKPbc 05 22 46.3 +0.2**
HNLY IAmb IAmb 05 22 53.5
comp=Z,670nm,1.2s
GUNA GUNA 145.11 72 *e*P **PKPdf 05 22 44.8 -0.6**
GUNA IAmb IAmb 05 22 47.7
comp=Z,632nm,0.8s
BHPL Bhopal 145.26 75 *e*P **PKPdf 05 22 44.9 -0.8**
BHPL IAmb IAmb 05 22 52.3
comp=Z,281nm,0.7s
ERM Erimo 145.49 320*c i* PKP2 **PKiKP 05 22 48.5 -1.1**
ERM pmax pmax
comp=Z,497nm,1.3s
KLR Kul'dur 145.63 339 PKPbc **PKPbc 05 22 46.4 -0.2**
comp=Z,86nm,0.6s,baz=61,slow=2.7,SNR=144
KLR pPKP pPKPab 05 24 16.1 -0.3
comp=Z,100nm,0.9s,baz=35,slow=2.2,SNR=9.6
KLR Kul'dur 145.63 339 *i* PKIKP **PKPdf 05 22 45.3 -0.2**
KLR pmax pmax
comp=Z,227nm,1.4s
PALK Pallekele 145.76 104 PKPbc **PKPbc 05 22 48.1 +0.1**
comp=Z,57nm,0.8s,baz=277,slow=4.2,SNR=29
PALK pPKP pPKPab 05 24 17.2 -0.3
comp=Z,94nm,1.0s,baz=249,slow=4.1,SNR=5.0
WMQ Urumqi 145.85 35 *e*PKPbc **PKPdf 05 22 46.5 +0.4**
WMQ PKPab **PKiKP** **05 22 52.3 +1.9**
WMQ SKKS 05 32 30.5
WMQ SS **SS** **05 44 42.3 +7.1**
WMQ AMB AMB
comp=Z,550nm,5.3s
WMQ LR LR
comp=Z,970nm,19.9s
WMQ LR LR
comp=Z,800nm,23.8s
WMQ LR LR
comp=Z,610nm,23.9s
CIT Chita 145.92 1 *e*PKP2 **PKPab 05 22 49.4 +0.8**
CIT pmax pmax
comp=Z,1μm,2.2s
HEH HeiHe 145.99 345 PKPbc **PKPdf 05 22 46.3 +0.3**
HEH pPKP pPKPab 05 24 16.8 -0.9
MALK Mahakanadarawa 146.00 102 PKP **PKPdf 05 22 45.2 -2.0**
HYB Hyderabad 146.11 85 *e*PKPbc **PKPbc 05 22 48.2 -0.7**
HYB *e*PKiKP **PKPab** **05 22 50.6 +0.2**
HYB *ep*PKiKP pPKPbc 05 24 21.0 +2.0
HYB *es*PKiKP sPKPbc 05 24 56.3 -0.3
JHNI Jhansi 146.13 71 *e*P **PKPdf 05 22 46.9 -0.2**
JHNI IAmb IAmb 05 22 50.6
comp=Z,374nm,0.8s
JOSI Joshimath 146.16 62 *e*P **PKPdf 05 22 47.8 +0.5**
JOSI IAmb IAmb 05 22 53.2
comp=Z,485nm,0.9s
ZAK Zakamensk 146.41 13 *e*PKIKP **PKPbc 05 22 48.2 -0.7**
ZAK *e* 05 24 18.4
ZAK pmax pmax
comp=Z,206nm,1.2s
ZAK pmax pmax
comp=Z,75nm,1.4s
NGP Nagpur 146.80 79 *e*P **PKPdf 05 22 48.4 +0.1**
NGP IAmb IAmb 05 22 57.0
comp=Z,299nm,1.0s
PTH Pithoragarh 146.95 63 *e*P **PKPdf 05 22 49.0 +0.5**
PTH IAmb IAmb 05 22 53.8
comp=Z,315nm,1.0s
LGTI Lohaghat 147.00 63 *e*P **PKPdf 05 22 48.8 +0.5**
LGTI IAmb IAmb 05 22 57.4
comp=Z,246nm,0.5s
MDRS Chennai 147.01 93 *e*P **PKPdf 05 22 49.1 +0.3**
MDRS IAmb IAmb 05 23 00.7
comp=Z,152nm,1.0s
TEY Ternei 147.05 330 *e*PKIKP **PKPdf 05 22 49.3 +1.3**
TEY *e* 05 22 50.8
TEY *e* 05 24 17.7
ALBI Allahabad 149.09 70 *e*P **PKPdf 05 22 51.9 0.0**
ALBI IAmb IAmb 05 23 02.9
comp=Z,889nm,1.3s
SONM Songino Array 149.45 10 PKP **PKPdf 05 22 52.8 +0.8**
comp=Z,22nm,0.8s,baz=284,slow=1.1,SNR=81
SONM PKPbc **PKiKP** **05 22 57.4 -0.4**
comp=Z,74nm,0.6s,baz=305,slow=1.6,SNR=61
SONM pPKPbc **pPKPbc** **05 24 27.1 -0.7**
comp=Z,72nm,0.8s,baz=313,slow=1.1,SNR=7.1
ULN Ulaanbaatar 149.53 9 *i* PKHKP PKPpre 05 22 53.2
BLSP Bilaspur 149.65 77 *e*P **PKPdf 05 22 53.0 0.0**
BLSP IAmb IAmb 05 23 04.7
comp=Z,420nm,1.0s
USA0B Ussuriysk Arra 149.76 334 *i* PKHKP PKPpre 05 22 53.9
USRK Ussuriysk Ar. 149.76 334 PKPbc **PKiKP 05 22 58.0 -0.3**
comp=Z,201nm,0.6s,baz=42,slow=1.1,SNR=103
USRK pPKPbc **pPKPbc** **05 24 29.5 +0.6**
comp=Z,360nm,0.8s,baz=12,slow=1.3,SNR=36
BNX BinXian 150.10 341⇓ PKPbc **PKPdf 05 22 52.4 -0.5**
BNX PP **PP** **05 26 35.9 +0.2**
BNX AMB AMB
comp=Z,530nm,7.7s
BNX LR LR
comp=Z,630nm,20.8s
BNX LR LR
comp=Z,560nm,20.3s
BNX LR LR
comp=Z,1μm,25.1s
GUMO Guam 150.15 266 PKPbc **PKPbc 05 22 59.2 -0.1**
comp=Z,502nm,0.7s,baz=182,slow=8.7,SNR=5.4
GUMO pPKPbc **pPKPbc** **05 24 32.4 +1.8**
comp=Z,534nm,1.0s,baz=194,slow=2.3,SNR=4.9
MDJ Mudanjiang 150.35 337 PKPbc **PKPdf 05 22 55.3 +2.0**
MDJ SKKS 05 32 53.0
MDJ SS **SS** **05 45 22.9 -1.5**
MDJ AMB AMB
comp=Z,2μm,11.7s
VIS Vishakhapatnam 150.67 85 *e*P **PKPdf 05 22 54.7 +0.2**
VIS IAmb IAmb 05 23 07.5
comp=Z,411nm,1.1s
SOEI Soe 150.79 201 PKP **PKPdf 05 22 53.1 -2.0**
RAGD RAYAGADA 150.89 82 *e*P **PKPdf 05 22 55.2 +0.3**
RAGD IAmb IAmb 05 23 03.5
comp=Z,456nm,0.8s
JHSG JHARSUGUGA 151.19 77 *e*P **PKPdf 05 22 56.2 +1.0**
JHSG IAmb IAmb 05 23 08.5
comp=Z,892nm,0.7s
MJAR Matsushiro Arr 151.78 316 PKP **PKPdf 05 22 56.3 +0.5**
comp=Z,14nm,0.8s,baz=61,slow=1.0,SNR=22
MJAR PKPbc **PKPbc** **05 23 02.1 -0.4**
comp=Z,56nm,0.6s,baz=84,slow=1.2,SNR=44
MJAR pPKPbc **pPKPbc** **05 24 35.2 +1.5**
comp=Z,83nm,0.9s,baz=81,slow=1.7,SNR=12
CN2 Changchun 152.44 342 PKPbc **PKPdf 05 22 57.8 +1.3**
CN2 pPKP pPKPdf 05 24 25.5 -2.9
CN2 PP **PP** **05 26 53.9 +4.9**
CN2 SKKS 05 33 05.3
CN2 AMB AMB
comp=Z,500nm,4.0s
BOK Bokaro 152.96 73 *e*P **PKPdf 05 22 58.4 +0.5**
BOK IAmb IAmb 05 23 08.2
comp=Z,352nm,0.9s
XLT XiLinHaoTe 154.00 357 *e*PKPbc **PKPdf 05 23 00.3 +1.4**
XLT PKPab **PKPab** **05 23 23.3 +1.1**
XLT pPKP pPKPdf 05 24 28.0 -2.9
XLT PP **PP** **05 26 56.3 -1.3**
XLT SKKS 05 33 11.1
XLT AMB AMB
comp=Z,960nm,14.2s
XLT LR LR
comp=Z,73nm,19.2s
XLT LR LR
comp=Z,510nm,16.3s
XLT LR LR
comp=Z,1μm,18.0s
GTK Tadong 154.65 64 *e*P **PKPdf 05 23 02.5 +2.1**
GTK IAmb IAmb 05 23 27.6
comp=Z,182nm,1.1s
SNY Shenyang 154.79 343⇑ PKPbc **PKPdf 05 23 00.0 +0.1**
SNY pPKP **pPKPdf** **05 24 31.3 -0.6**
SNY PP **PP** **05 27 00.1 -1.9**
SNY SKKS 05 33 16.8
SNY AMB AMB
comp=Z,510nm,13.2s
SNY LR LR
comp=Z,1μm,26.7s
SNY LR LR
comp=Z,520nm,22.0s
SNY LR LR
comp=Z,940nm,19.4s
GOMU GeErMu 154.99 39 PKPbc **PKPdf 05 23 01.8 +1.0**
GOMU pPKP pPKPdf 05 24 29.0 -4.2
GOMU PP **PP** **05 27 03.8 -0.6**
GOMU SKKS 05 33 14.5
GOMU SS **SS** **05 46 14.8 -1.9**
GOMU LR LR
comp=Z,1μm,19.1s
GOMU LR LR
comp=Z,550nm,19.0s
GOMU LR LR
comp=Z,880nm,18.8s
GTA Gaotai 155.19 27 PKP **PKPdf 05 23 00.9 +0.2**
GTA PKPab **PKPab** **05 23 27.8 +0.3**
GTA pPKP pPKPdf 05 24 31.3 -1.6
GTA PP **PP** **05 27 05.1 +0.4**
GTA SKKS 05 33 17.6
GTA SS **SS** **05 46 14.5 -3.0**
GTA LR LR
comp=Z,680nm,21.1s
GTA LR LR
comp=Z,300nm,21.1s
GTA LR LR
comp=Z,880nm,22.3s
LSA Lhasa 155.94 56 PKP **PKPdf 05 23 03.8 +1.4**
LSA LR LR
comp=Z,400nm,23.0s
LSA LR LR
comp=Z,860nm,43.8s
HHC Hu-ho-hao-te 156.99 5⇑ *i* PKP **PKPdf 05 23 04.8 +1.8**
HHC pPKP pPKPdf 05 24 34.5 -0.7
HHC sPKP 05 25 03.0
HHC PP **PP** **05 27 19.0 +4.9**
HHC SKS **SKSdf** **05 29 36.5 +2.9**
HHC SKKS **SKKSac** **05 33 29.8 +2.6**
HHC SS **SS** **05 46 38.9 +3.0**
HHC LR LR
comp=Z,740nm,16.5s
HHC LR LR
comp=Z,450nm,18.6s
HHC LR LR
comp=Z,1μm,18.0s
SANI Sanana 157.02 212 PKP **PKPdf 05 22 59.9 -3.8**
KSRS Korea Array 157.04 331 PKP **PKPdf 05 23 03.7 +0.7**
comp=Z,9.0nm,0.8s,baz=36,slow=2.3,SNR=23
KSRS PKPab **PKPab** **05 23 36.0 +0.7**
comp=Z,76nm,1.0s,baz=42,slow=3.9,SNR=42
KSRS pPKP **pPKPdf** **05 24 36.4 +1.2**
comp=Z,21nm,1.0s,baz=58,slow=1.3,SNR=3.8
BTO Baotou 157.06 8 *e*PKP **PKPdf 05 23 04.5 +1.4**
BTO PKPab **PKPab** **05 23 35.1 -0.4**
BTO SKKS 05 33 24.8
BTO AMB AMB
comp=Z,580nm,3.7s
BTO LR LR
comp=Z,2μm,16.1s
BTO LR LR
comp=Z,940nm,19.9s
BTO LR LR
comp=Z,2μm,15.7s
TAWA Tawang 157.32 61 *e*P **PKPdf 05 23 05.2 +1.1**
GUWA GUWAHATI 157.62 64 *e*P **PKPdf 05 23 03.6 -0.4**

GUWA					IAmb	IAmb	05 23 10.2	
	comp=Z,54nm,0.7s							
BJI	**Beijing**	**157.84**	**356**		PKP	**PKPdf**	**05 23 05.5**	**+1.6**
BJI					pPKP	**pPKPdf**	**05 24 32.6**	**-3.4**
BJI					sPKP		05 25 05.4	
BJI					PP	**PP**	**05 27 19.5**	**+1.0**
BJI					SKKS		05 33 34.8	
BJI					LR	LR		
	comp=Z,610nm,16.5s							
BJI					LR	LR		
	comp=Z,360nm,18.2s							
BJI					LR	LR		
	comp=Z,560nm,22.2s							
SHL	**Shillong**	**157.96**	**66**	*eP*		**PKPdf**	**05 23 04.4**	**-0.4**
DL2	**Dalian**	**158.05**	**344**		PKP	**PKPdf**	**05 23 03.9**	**-0.3**
DL2					PKPab	**PKPab**	**05 23 40.3**	**+0.7**
DL2					sPKP		05 25 07.3	
DL2					AMB	AMB		
	comp=Z,490nm,7.5s							
BKNI	**Bangkinang**	**158.32**	**142**		PKP	**PKPdf**	**05 22 58.8**	**-6.5**
BRDH	**Bariadhala**	**158.36**	**73**		PKP	**PKPdf**	**05 23 05.4**	**+0.4**
	comp=Z,97nm,0.3s,baz=78,slow=0.7,SNR=12							
BRDH					PKPab	**PKPab**	**05 23 41.6**	**-0.1**
	comp=Z,90nm,0.3s,baz=101,slow=7.6,SNR=4.8							
BRDH					pPKP	**pPKPdf**	**05 24 37.0**	**-0.3**
	comp=Z,71nm,0.3s,baz=87,slow=7.6,SNR=1.7							
PBA	**Port Blair**	**158.41**	**104**	*eP*		**PKPdf**	**05 23 05.9**	**+0.6**
ZIRO	**ZIRO**	**158.98**	**59**	*eP*		**PKPdf**	**05 23 06.6**	**+0.7**
ITAN	**ITANAGAR**	**159.02**	**60**	*eP*		**PKPdf**	**05 23 06.6**	**+0.9**
DGPR	**DIGLIPUR**	**159.04**	**100**	*eP*		**PKPdf**	**05 23 06.2**	**+0.2**
DGPR					IAmb	IAmb	05 23 13.1	
	comp=Z,139nm,1.1s							
AZL	**Aizawl**	**159.12**	**70**	⇑*eP*		**PKPdf**	**05 23 07.1**	**+1.0**
AZL					IAmb	IAmb	05 23 10.7	
	comp=Z,146nm,1.1s							
LZH	**Lanzhou**	**159.69**	**25**	⇑	PKP	**PKPdf**	**05 23 08.5**	**+2.1**
LZH					PP	**PP**	**05 27 27.8**	**-1.4**
LZH					SKKS		05 33 41.3	
LZH					SS	**SS**	**05 47 03.6**	**-1.6**
LZH					AMB	AMB		
	comp=Z,590nm,7.2s							
LZH					LR	LR		
	comp=Z,790nm,19.2s							
LZH					LR	LR		
	comp=Z,660nm,19.2s							
LZH					LR	LR		
	comp=Z,2μm,20.3s							
KOHI	**KOHIMA**	**159.84**	**64**	⇑*eP*		**PKPdf**	**05 23 06.6**	**-0.2**
DIBR	**DIBRUGARH**	**159.87**	**58**	⇑*eP*		**PKPdf**	**05 23 08.2**	**+1.6**
IMP	**Imphal**	**159.96**	**66**	*eP*		**PKPdf**	**05 23 07.3**	**+0.4**
IMP					IAmb	IAmb	05 23 14.2	
	comp=Z,71nm,1.1s							
TIY	**Taiyuan**	**160.17**	**4**		PKP	**PKPdf**	**05 23 06.5**	**-0.3**
TIY					PKPab	**PKPab**	**05 23 49.8**	**+0.8**
TIY					SKKS		05 33 44.8	
TIY					AMB	AMB		
	comp=Z,1μm,9.6s							
HNS	**HongShan**	**160.54**	**359**	⇑	PKP	**PKPdf**	**05 23 08.6**	**+1.5**
HNS					PKPab	**PKPab**	**05 23 51.4**	**+0.9**
HNS					PP	**PP**	**05 27 33.1**	**0.0**
HNS					SKKS		05 33 44.1	
HNS					SS	**SS**	**05 47 09.8**	**-3.1**
HNS					AMB	AMB		
	comp=Z,580nm,5.5s							
HNS					LR	LR		
	comp=Z,770nm,21.2s							
HNS					LR	LR		
	comp=Z,400nm,22.0s							
HNS					LR	LR		
	comp=Z,800nm,22.0s							
LKP	**Lekhapani**	**160.68**	**58**	⇑*eP*		**PKPdf**	**05 23 10.8**	**+3.2**
TIA	**Tai'an**	**161.54**	**352**		PKP	**PKPdf**	**05 23 08.9**	**+0.7**
TIA					sPKP		05 25 13.4	
TIA					PP	**PP**	**05 27 36.8**	**-1.7**
TIA					SKKS		05 33 50.8	
TIA					AMB	AMB		
	comp=Z,750nm,5.7s							
TIA					LR	LR		
	comp=Z,680nm,21.2s							
TIA					LR	LR		
	comp=Z,560nm,20.4s							
TIA					LR	LR		
	comp=Z,1μm,19.4s							
XAN	**Xi'an**	**163.23**	**15**	⇑	PKP	**PKPdf**	**05 23 10.5**	**+0.5**
XAN					PKPab	**PKPab**	**05 24 02.9**	**+0.4**
XAN					PP	**PP**	**05 27 46.6**	**-0.9**
XAN					SKKS		05 34 01.3	
XAN					SS	**SS**	**05 47 38.3**	**-2.8**
XAN					AMB	AMB		
	comp=Z,700nm,6.2s							
XAN					LR	LR		
	comp=Z,1μm,22.8s							
XAN					LR	LR		
	comp=Z,1μm,23.4s							
XAN					LR	LR		
	comp=Z,840nm,23.4s							
LYN	**LuoYang**	**163.32**	**5**		PKP	**PKPdf**	**05 23 11.3**	**+1.3**
LYN					PKPab	**PKPab**	**05 24 03.3**	**+0.5**
LYN					PP	**PP**	**05 27 49.8**	**+2.0**
TNCH	**TengChong**	**163.81**	**61**		PKP	**PKPdf**	**05 23 11.1**	**+0.1**
TNCH					PKPab	**PKPab**	**05 24 05.9**	**+0.2**
TNCH					pPKP	pPKPdf	05 24 41.8	-1.7
TNCH					PP	**PP**	**05 27 50.4**	**-2.0**
TNCH					SS	SS	05 47 46.9	-3.5
TNCH					AMB	AMB		
	comp=Z,550nm,5.0s							
TNCH					LR	LR		
	comp=Z,910nm,21.8s							
TNCH					LR	LR		
	comp=Z,1μm,20.7s							
TNCH					LR	LR		
	comp=Z,970nm,23.9s							
CD2	**Chengdu**	**163.95**	**34**		PKP	**PKPdf**	**05 23 12.4**	**+1.6**
CD2					PKPab	**PKPab**	**05 24 07.1**	**+1.2**
CD2					pPKP	pPKPdf	05 24 40.5	-2.8
CD2					SKKS		05 34 04.0	
CD2					LR	LR		
	comp=Z,620nm,15.2s							
CD2					LR	LR		
	comp=Z,760nm,22.2s							
NJ2	**Nanjing**	**165.25**	**344**	⇑	PKP	**PKPdf**	**05 23 13.0**	**+1.3**
NJ2					PKPab	**PKPab**	**05 24 11.6**	**+0.2**
NJ2					SKKS		05 34 10.1	
NJ2					SS	**SS**	**05 48 00.9**	**-0.7**
NJ2					AMB	AMB		
	comp=Z,610nm,6.5s							
SSE	**Sheshan**	**165.36**	**335**		PKP	**PKPdf**	**05 23 11.6**	**-0.3**
SSE					PP	**PP**	**05 27 59.8**	**+1.0**
SSE					SS	SS	05 48 00.3	-2.8
SSE					AMB	AMB		
	comp=Z,430nm,4.5s							
SSE					LR	LR		
	comp=Z,220nm,23.5s							
SSE					LR	LR		
	comp=Z,470nm,23.0s							
CMAR	**Chiang Mai Arr**	**165.54**	**85**		PKP	**PKPdf**	**05 23 13.1**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=260,slow=1.7,SNR=28							
CMAR					PKPab	**PKPab**	**05 24 12.9**	**-0.4**
	comp=Z,18nm,0.8s,baz=269,slow=6.1,SNR=18							
CMAR					pPKP	**pPKPdf**	**05 24 46.5**	**+1.6**
	comp=Z,12nm,1.0s,baz=266,slow=1.7,SNR=2.8							
CMAR					pPKPab	**pPKPab**	**05 25 40.9**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=280,slow=5.9,SNR=3.4							
PZH	**PanZhiHua**	**165.66**	**51**		PKP	**PKPdf**	**05 23 13.5**	**+1.1**
PZH					PKPab	**PKPab**	**05 24 14.4**	**+0.7**
PZH					pPKP	**pPKPdf**	**05 24 42.8**	**-2.2**
PZH					PP	**PP**	**05 28 03.3**	**+1.8**
PZH					SKKS		05 34 15.6	
PZH					SS	**SS**	**05 48 10.8**	**+2.5**
PZH					AMB	AMB		
	comp=Z,550nm,7.1s							
PZH					LR	LR		
	comp=Z,490nm,28.9s							
PZH					LR	LR		
	comp=Z,620nm,27.5s							
PZH					LR	LR		
	comp=Z,630nm,25.5s							
KMI	**Kunming**	**167.17**	**54**	⇑	PKP	**PKPdf**	**05 23 13.8**	**0.0**
WHN	**Wuhan**	**167.38**	**359**		PKP	**PKPdf**	**05 23 16.1**	**+2.7**
WHN					PKPab	**PKPab**	**05 24 20.8**	**0.0**
WHN					PP	**PP**	**05 28 13.6**	**+4.9**
WHN					SKKS		05 34 20.3	
GYA	**Guiyang**	**169.00**	**38**		PKP	**PKPdf**	**05 23 15.8**	**+1.0**
CNSH	**ChangSha**	**169.68**	**6**		PKP	**PKPdf**	**05 23 15.3**	**+0.3**
CNSH					PKPab	**PKPab**	**05 24 32.3**	**+1.3**
CNSH					PP	**PP**	**05 28 17.3**	**-2.9**
CNSH					SKS	**SKSdf**	**05 29 44.8**	**+1.5**
CNSH					SKKS	**SKKSac**	**05 34 32.3**	**+0.8**
CNSH					AMB	AMB		
	comp=Z,980nm,6.9s							
CNSH					LR	LR		
	comp=Z,1μm,17.3s							
CNSH					LR	LR		
	comp=Z,760nm,16.7s							
CNSH					LR	LR		
	comp=Z,1μm,29.0s							
GULI	**GuiLin**	**171.82**	**25**	⇓	PKP	**PKPdf**	**05 23 19.3**	**+3.1**
GULI					SKKS		05 34 44.3	
QZH	**Quanzhou**	**171.84**	**330**		PKP	**PKPdf**	**05 23 18.3**	**+2.1**
QZH					PKPab	**PKPab**	**05 24 42.3**	**+1.6**
QZH					pPKP	**pPKPdf**	**05 24 45.8**	**-3.0**
QZH					PP	**PP**	**05 28 32.3**	**+0.8**
QZH					SKKS		05 34 41.6	
QZH					LR	LR		
	comp=Z,850nm,21.1s							
QZH					LR	LR		
	comp=Z,1μm,20.2s							
QZH					LR	LR		
	comp=Z,1μm,23.7s							
GZH	**Guangzhou**	**174.75**	**8**		PKP	**PKPdf**	**05 23 18.5**	**+1.1**
GZH					pPKP	**pPKPdf**	**05 24 46.9**	**-3.0**
GZH					PKPab	**PKPab**	**05 24 52.5**	**-1.1**
GZH					PP	**PP**	**05 28 43.6**	**-1.4**
GZH					SKKS		05 34 54.9	
GZH					SS	**SS**	**05 49 33.3**	**-1.3**
GZH					AMB	AMB		
	comp=Z,1μm,4.3s							
QIZ	**Qiongzhong**	**175.75**	**74**		PKP	**PKPdf**	**05 23 18.8**	**+1.0**
QIZ					pPKP	**pPKPdf**	**05 24 48.6**	**-1.7**
QIZ					PP	**PP**	**05 28 53.6**	**+1.6**
QIZ					SKS	**SKSdf**	**05 29 45.3**	**-0.4**
QIZ					SKKS	**SKKSac**	**05 35 04.6**	**+2.9**
QIZ					SS	**SS**	**05 49 42.1**	**-6.1**
QIZ					AMB	AMB		
	comp=Z,660nm,4.4s							

*NNC **15** 05:15:13.0±6.9, 36°.74N×70°.57E, h81km±153km, mb3.9, mpv4.2, Error ellipse: s-maj=51.9km s-min=43.0km az=168.0*
*IDC **15** 05:15:14.3±8.8, 36°.81N×70°.89E, h133km±63km, mb3.2/1, mbtmp3.8/7, Error ellipse: s-maj=80.1km s-min=47.4km az=168.0*
ISC 15 05:15:11.0±2.1, 36°.6N±0°.1×70°.8E±0°.1, h100km, n18, σ1§57/23, 2C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.95**	**22**	P	**Pn**	**05 16 38.0**	**+1.1**
	SNR=81						
EKS2	**Erkin-Say**	**6.46**	**20**	P	**Pn**	**05 16 44.9**	**+1.3**
	SNR=12						
KK31	**Karatay Array**	**6.47**	**358**	⇓P	**Pn**	**05 16 45.9**	**+2.2**
	11nm,0.3s,baz=175,slow=12,SNR=184						
KK31				⇑S	**Sn**	**05 17 57.9**	**+1.9**
	2.7nm,0.3s,baz=186,slow=24,SNR=5.2						
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**05 16 47.4**	**+1.0**
	18nm,0.5s,baz=197,slow=7.0,SNR=34						
AAK				S	**Sn**	**05 17 59.2**	**-1.6**
	4.0nm,0.4s,baz=348,slow=20,SNR=7.0						
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**05 16 47.7**	**+1.3**
	SNR=20						
AAK	**Ala-Archa**	**6.66**	**25**	P	**Pn**	**05 16 47.3**	**+1.0**
	11nm,0.5s						
AAK				S	**Sn**	**05 18 00.9**	**+0.1**
	4.0nm,0.3s						
ULHL	**Ulahol**	**7.04**	**35**	P	Pn	05 16 45.7	-5.9
	SNR=5.9						
USP	**Ospenovka**	**7.23**	**22**	P	**Pn**	**05 16 55.2**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**7.31**	**29**	P	**Pn**	**05 16 55.9**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**7.31**	**29**	⇓P	**Pn**	**05 16 55.4**	**+0.2**
	6.0nm,0.6s						
TKM2				⇑S	**Sn**	**05 18 18.0**	**+1.3**
	3.4nm,0.7s						
MKAR	**Makanchi Array**	**13.31**	**37**	P	**Pn**	**05 18 14.1**	**-1.7**
	0.3nm,0.6s,baz=217,slow=13,SNR=4.2						
AB31	**Akbulak array**	**14.88**	**331**	⇓P	**Pn**	**05 18 37.3**	**+1.4**
	0.9nm,0.3s,baz=143,slow=13,SNR=60						
AB31				⇓S	**Sn**	**05 21 17.0**	**-2.9**
	1.7nm,0.7s,baz=151,slow=23,SNR=4.7						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**Pn**	**05 18 38.5**	**+0.1**
	0.8nm,0.6s,baz=208,slow=11,SNR=8.6						
BVAR	**Borovoye Array**	**16.40**	**359**	P	**Pn**	**05 18 55.4**	**+0.4**
	1.5nm,0.4s,baz=187,slow=11,SNR=7.4						
AKTO	**Aktyubinsk**	**16.57**	**330**	P	**P**	**05 18 57.7**	**-0.2**
	4.4nm,0.7s,baz=139,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**16.57**	**330**	⇓P	**P**	**05 18 59.9**	**+2.0**
	1.8nm,0.6s						
AKTO				⇓S	**Sn**	**05 21 58.0**	**-2.8**
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**05 19 33.3**	**-0.9**
	1.7nm,0.3s,baz=213,slow=9.6,SNR=9.9						
NOA	**NORSAR Array B**	**44.16**	**323**	P	**P**	**05 23 08.2**	**-1.2**
	0.7nm,0.7s,baz=97,slow=7.9,SNR=3.6						
	0.7nm,0.7s						

*IDC **15** 05:24:16.2±0.9, 29°.38N×142°.61E, h0km, mb4.0/9, mbtmp4.0/10, ML3.0/1, MS4.6/1, Error ellipse: s-maj=28.0km s-min=25.4km az=57.0*
ISC 15 05:24:19.0±0.7, 29°.14N±0°.08×142°.4E±0°.2, h27km, n14, σ1§61/14, mb4.2/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.05**	**186**	Pn	**Pn**	**05 24 49.6**	**-2.0**
	5.9nm,0.3s,baz=76,slow=22,SNR=3.3						
JCJ				Sn	**Sn**	**05 25 15.1**	**-1.3**
	30nm,0.3s,baz=263,slow=23,SNR=8.9						
MJAR	**Matsushiro Arr**	**8.19**	**335**	Pn	**Pn**	**05 26 14.2**	**-1.9**
	0.2nm,0.3s,baz=161,slow=11,SNR=1.5						
	3.0nm,0.4s						
PMG	**Port Moresby**	**38.59**	**173**	LR	LR	05 46 01.5	
	comp=Z,837nm,20.1s,baz=32,slow=34						
MKAR	**Makanchi Array**	**49.37**	**308**	P	**P**	**05 33 07.1**	**+1.0**
	2.4nm,1.0s,baz=92,slow=9.2,SNR=2.0						
	2.4nm,1.0s						
WRA	**Warramunga Arr**	**49.42**	**190**	P	**P**	**05 33 09.5**	**+2.9**
	2.9nm,0.7s,baz=9.4,slow=7.6,SNR=8.4						
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**51.79**	**313**	P	**P**	**05 33 25.0**	**+0.8**
	2.2nm,0.6s,baz=91,slow=7.3,SNR=8.6						
	2.2nm,0.6s						
ILAR	**Eielson Array**	**55.82**	**29**	P	**P**	**05 33 51.2**	**-2.4**
	1.4nm,1.0s,baz=270,slow=7.5,SNR=5.2						
	1.4nm,1.0s						
BVAR	**Borovoye Array**	**56.71**	**317**	P	**P**	**05 34 01.2**	**+1.2**
	2.4nm,0.6s,baz=94,slow=7.4,SNR=4.2						
	2.4nm,0.6s						
YKA	**Yellowknife Ar**	**70.25**	**29**	P	**P**	**05 35 29.2**	**-0.1**
	0.5nm,0.7s,baz=299,slow=6.5,SNR=3.1						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**79.09**	**52**	P	**P**	**05 36 22.2**	**+0.8**
	1.2nm,0.8s,baz=291,slow=6.5,SNR=3.8						
	1.2nm,0.8s						
PDAR	**Pinedale Array**	**82.61**	**45**	P	**P**	**05 36 41.0**	**+0.8**
	0.7nm,0.9s,baz=284,slow=6.2,SNR=2.8						
	0.7nm,0.9s						
TXAR	**Lajitas Array**	**94.20**	**53**	P	**P**	**05 37 36.7**	**+0.7**
	0.6nm,0.7s,baz=258,slow=2.4,SNR=4.1						
	0.6nm,0.7s						
LPAZ	**La Paz**	**149.14**	**72**	PKPbc	**PKiKP**	**05 44 07.5**	**0.0**
	3.0nm,1.0s,baz=317,slow=3.4,SNR=2.6						
SIV	**San Ignacio**	**154.71**	**64**	PKPbc	**PKiKP**	**05 44 18.9**	**+0.6**
	2.8nm,1.1s,baz=315,slow=1.4,SNR=3.3						

*IDC **15** 05:32:44.2±3.1, 31°.87S×177°.90W, h0km, mb3.7/2, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=72.2km s-min=37.1km az=116.0*
*WEL **15** 05:32:46.0±1.2, 32°.5±6°.×17°.8W±2°.2, h33km, mB4.5/2, ML4.6/7, MLv4.2/5, Mw(mB)3.7/2, Error ellipse: s-maj=29.1km s-min=4.4km az=104.0, confirmed*
ISC 15 05:32:47.9±1.8, 31°.6S±0°.1×178°.1W±0°.3, h35km, n16, σ1§87/23, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.34**	**3**	P	**Pn**	**05 33 24.0**	**+0.1**
GLKZ				S	**Sn**	**05 33 49.4**	**-2.1**
WMGZ	**Waiomatatini S**	**6.84**	**204**	P	**Pn**	**05 34 24.6**	**-1.0**
WMGZ				S	**Sn**	**05 35 42.6**	**+0.5**
PKGZ	**Pakihiroa**	**7.00**	**206**	P	**Pn**	**05 34 26.4**	**-1.4**
PKGZ				S	**Sn**	**05 35 45.1**	**-1.1**
HAZ	**Te Kaha**	**7.02**	**208**	P	**Pn**	**05 34 28.1**	**+0.1**
HAZ				S	**Sn**	**05 35 47.9**	**+1.3**
RUGZ	**Raukumara Rang**	**7.24**	**208**	P	**Pn**	**05 34 31.3**	**0.0**
RUGZ				S	**Sn**	**05 35 52.6**	**+0.3**
TWGZ	**Tauwhareparae**	**7.31**	**205**	S	**Sn**	**05 35 53.6**	**-0.3**
URZ	**Urewera**	**7.72**	**209**	Pn	**Pn**	**05 34 35.6**	**-2.1**
	0.2nm,0.3s,baz=55,slow=9.9,SNR=1.8						
URZ				Sn	**Sn**	**05 36 02.6**	**-1.4**
	1.4nm,0.3s,baz=157,slow=21,SNR=8.9						
	5.1nm,1.0s						
URZ	**Urewera**	**7.72**	**209**	P	**Pn**	**05 34 35.3**	**-2.5**
URZ				S	**Sn**	**05 36 02.5**	**-1.4**
OUZ	**Omahuta**	**7.84**	**240**	P	Pn	05 34 46.5	+7.1
RIGZ	**Rimuhau**	**7.86**	**205**	P	**Pn**	**05 34 42.8**	**+3.1**
RIGZ				S	**Sn**	**05 36 06.5**	**-0.9**
PRGZ	**Paritu Road**	**8.01**	**203**	P	**Pn**	**05 34 43.2**	**+1.4**
OTVZ	**Oturere**	**9.10**	**212**	P	**Pn**	**05 34 54.3**	**-2.6**
KAHZ	**Kahuranaki**	**9.14**	**205**	S	**Sn**	**05 36 35.8**	**-3.0**
ASAR	**Alice Springs**	**43.00**	**268**	P	**P**	**05 40 47.4**	**+3.3**
	0.4nm,0.5s,baz=105,slow=7.5,SNR=6.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.10**	**273**	P	**P**	**05 40 55.1**	**+2.2**
	0.9nm,0.5s,baz=111,slow=8.0,SNR=14						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**146.26**	**339**	PKPbc	**PKiKP**	**05 52 26.0**	**-1.0**
	1.3nm,0.6s,baz=50,slow=4.4,SNR=6.4						

IDC 15 05:38:09.0±1.6, 15°.58S×69°.17W, h250km±27km, mb2.6/1, mbtmp3.2/2, Error ellipse: s-maj=113.7km s-min=46.6km az=6.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.22**	**125**	P	Pn	05 38 47.7	+1.6
	43nm,0.4s,baz=304,slow=5.7,SNR=494						
LPAZ				S	S	05 39 15.4	+0.1
	48nm,0.5s,baz=330,slow=20,SNR=28						
SIV	**San Ignacio**	**7.81**	**94**	P	Pn	05 40 00.4	+0.4
	1.0nm,0.5s,baz=284,slow=10,SNR=8.6						
YKA	**Yellowknife Ar**	**85.55**	**341**	P	P	05 50 18.6	-0.1
	0.1nm,0.5s,baz=136,slow=5.0,SNR=4.0						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**137.81**	**214**	PKP	PKPdf	05 57 03.5	-1.0
	0.2nm,0.3s,baz=140,slow=1.9,SNR=8.7						
SONM	**Songino Array**	**147.63**	**6**	PKPbc	PKPbc	05 57 23.0	-1.1
	0.3nm,0.4s,baz=336,slow=3.2,SNR=2.5						

*IDC **15** 05:58:35.4±0.6, 63°.30N×151°.30W, h0km, mb3.8/16, mbtmp3.8/21, ML3.6/5, MS3.7/1, Error ellipse: s-maj=12.5km s-min=10.1km az=132.0*
*AEIC **15** 05:58:36.0±1.8, 63°.28N±0°.01×151°.13W±0°.04, h9km±5km, ML3.9, mb4.2/11(NEIC), ML4.1/200(NEIC), Error ellipse: s-maj=2.7km s-min=2.1km az=112.0*
*NEIC **15** 05:58:36.2±1.7, 63°.27N±0°.02×151°.15W±0°.04, h10km±1km, Error ellipse: s-maj=3.1km s-min=2.9km az=292.0*
ISC 15 05:58:36.4±0.4, 63°.27N±0°.02×151°.15W±0°.02, h10km, n300, σ1§02/284, mb4.0/22, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.30**	**20**		**Pg**	**05 58 42.6**	**0.0**
TRF	**Thorofare Moun**	**0.43**	**64**		**Sg**	**05 58 50.8**	**+0.3**
TRF	**Thorofare Moun**	**0.43**	**64**	Pg	**Pg**	**05 58 44.6**	**-0.2**
TRF				IAML		05 58 54.7	
	comp=E,8μm,1.0s						
TRF				IAML		05 58 55.2	
	comp=N,10μm,0.6s						
CAST	**Castle Rocks**	**0.45**	**290**	Pg	**Pg**	**05 58 44.5**	**-0.6**
CAST				IAML		05 58 51.9	
	comp=E,13μm,0.5s						
PPLA	**Purkeypile**	**0.60**	**232**	Pg	**Pg**	**05 58 47.4**	**-0.7**
PPLA	**Purkeypile**	**0.60**	**232**		**Sg**	**05 58 55.8**	**-0.2**
CHUM	**Lake Minchumin**	**0.81**	**320**		**Pb**	**05 58 52.0**	**-0.5**
CHUM					**Sb**	**05 59 02.4**	**-1.0**
BPAW	**Bear Paw Mtn.**	**0.84**	**5**		**Pg**	**05 58 51.8**	**-0.7**
BPAW				IAML		05 59 06.7	
	comp=E,7μm,0.5s						
BPAW	**Bear Paw Mtn.**	**0.84**	**5**		**Sg**	**05 59 03.2**	**-0.3**
CUT	**Chulitna**	**0.96**	**155**		**Pg**	**05 58 54.0**	**-0.7**
CUT				IAML		05 59 07.0	
	comp=E,5μm,0.8s						
CUT				IAML		05 59 17.6	
	comp=N,4μm,0.7s						
CUT	**Chulitna**	**0.96**	**155**		**Sg**	**05 59 06.8**	**-0.3**
RND	**Reindeer**	**1.05**	**81**		**Pg**	**05 58 55.2**	**-1.3**
RND	**Reindeer**	**1.05**	**81**		**Sg**	**05 59 09.4**	**-0.7**
MCK	**McKinley**	**1.10**	**64**		**Pg**	**05 58 55.9**	**-1.5**
MCK	**McKinley**	**1.10**	**64**		**Sb**	**05 59 11.4**	**-0.4**
BWN	**Browne**	**1.18**	**39**		**Pb**	**05 58 58.2**	**-0.6**
SKT	**Skwentna**	**1.30**	**188**		**Sb**	**05 59 16.6**	**-1.1**
SKT	**Skwentna**	**1.30**	**188**		**Pn**	**05 58 59.5**	**-1.1**
SKT				IAML		05 59 19.6	
	comp=E,3μm,0.7s						
SKT				IAML		05 59 19.9	
	comp=N,3μm,0.7s						
K20K	**Telida**	**1.32**	**275**		**Pn**	**05 58 60.0**	**-0.9**
K20K				IAML		05 59 19.8	
	comp=N,3μm,0.6s						
K20K				IAML		05 59 20.5	
	comp=E,3μm,0.8s						
L20K	**Farewell, AK**	**1.48**	**239**		**Pn**	**05 59 02.3**	**-0.8**
M22K	**Willow**	**1.59**	**162**		**Sb**	**05 59 26.8**	**+0.8**
M22K	**Willow**	**1.59**	**162**		**Pn**	**05 59 03.7**	**-0.9**
J20K	**Nowinta River**	**1.61**	**306**	Pn	**Pn**	**05 59 04.7**	**-0.3**
NEA2	**Nenana**	**1.62**	**34**		**Sg**	**05 59 27.9**	**-0.5**
NEA2	**Nenana**	**1.62**	**34**		**Pn**	**05 59 03.5**	**-1.5**
M20K	**Styx River**	**1.67**	**214**		**Pn**	**05 59 05.7**	**0.0**
M20K				IAML		05 59 30.7	
	comp=E,3μm,0.9s						
STLK	**Strandline Lak**	**1.80**	**190**		**Pn**	**05 59 07.5**	**-0.1**
STLK				IAML		05 59 36.4	
	comp=N,2μm,0.6s						
WRH	**Wood River Hil**	**1.82**	**47**	Pn	**Pn**	**05 59 06.1**	**-1.5**
SUA	**Susitna One**	**1.82**	**174**	Pn

J19K Poorman 2.12 292 IAML 05 59 45.5
comp=N,2μm,0.9s
J19K IAML 05 59 52.3
comp=E,1μm,0.8s
I53US FAIRBANKS INFR 2.17 40 I I 06 12 20.0
baz=212,slow=318,SNR=0.6
COLA College 2.17 41 Pn 05 59 11.3 -1.2
COLA College 2.17 41 P **Pn 05 59 12.1 -0.4**
COLA College 2.17 41 S **Sb 05 59 42.9 +0.3**
M23K Glacier View 2.17 131 Pn 05 59 11.9 -0.7
FIS Fire Island 2.17 168 Pn 05 59 13.4 +0.9
HDA Harding Lake 2.19 57 Pn 05 59 11.5 -1.3
HDA IAML 05 59 48.6
comp=E,1μm,0.5s
KNK Knik Glacier 2.25 145 Pn 05 59 13.7 +0.2
KNK IAML 05 59 48.6
comp=N,1μm,0.6s
SCM Sheep Creek Mo 2.28 127 Pn 05 59 13.3 -0.8
SCM IAML 05 59 53.1
comp=N,2μm,1.0s
RC01 Rabbit Creek A 2.29 162 Pn **Pn 05 59 14.6 +0.5**
IL31 2.41 49 Pn 05 59 14.7 -1.1
ILAR Eielson Array 2.41 49 Pn 05 59 15.2 -0.6
ILAR Eielson Array 2.41 49 Pn **Pn 05 59 15.0 -0.8**
comp=N,5.6nm,0.3s,baz=233,slow=14,SNR=73
ILAR Sn **Sn 05 59 45.0 -0.4**
comp=N,24nm,0.3s,baz=262,slow=17,SNR=3.4
ILAR Lg Lg 05 59 54.1
comp=N,61nm,0.3s,baz=104,slow=9.9,SNR=2.8
ILAR LR LR 06 00 16.0
comp=N,2μm,19.4s,baz=106,slow=41
comp=N,14nm,0.3s
POKR Poker Plat Res 2.47 40 Pn 05 59 15.9 -0.8
POKR IAML 06 00 00.2
comp=E,1μm,0.6s
H21K Melozitna Rive 2.50 344 Pn 05 59 17.4 +0.3
J18K Innoko River 2.51 277 Pn **Pn 05 59 17.1 -0.2**
J18K IAML 05 59 57.8
comp=N,973nm,1.1s
J18K IAML 05 59 58.9
comp=E,657nm,0.7s
M24K Tolsona, Glenn 2.57 115 Pn 05 59 18.3 +0.1
PAX Paxson 2.60 94 Pn **Pn 05 59 18.6 +0.1**
H22K Ishtalitna Cre 2.64 358 Pn 05 59 19.2 +0.2
H23K Yukon River 2.66 14 Pn 05 59 19.4 +0.1
L18K Granite Mounta 2.76 250 Pn **Pn 05 59 19.9 -0.7**
L18K IAML 06 00 08.5
comp=N,552nm,0.8s
PWL Port Wells 2.76 150 Pn 05 59 20.8 +0.2
PWL IAML 06 00 03.7
comp=E,848nm,0.4s
RDT Redoubt 2.77 193 Pn 05 59 21.3 +0.5
DFR Drift River 2.78 196 Pn 05 59 21.8 +0.8
RDJH Redoubt Jeurge 2.80 197 Pn 05 59 22.5 +1.2
SLKM Skilak Lake 2.81 171 Pn **Pn 05 59 21.9 +0.6**
SLKM IAML 06 00 02.9
comp=E,594nm,0.6s
SLKM IAML 06 00 09.5
comp=N,491nm,0.7s
M18K Stony River 2.81 233 Pn 05 59 20.2 -1.1
RIDG Independent Ri 2.87 78 Pn 05 59 22.3 +0.1
RIDG IAML 06 00 16.1
comp=E,858nm,0.8s
O22K Cooper Landing 2.88 166 Pn 05 59 24.0 +1.8
HARP HAARP 2.89 105 Pn 05 59 23.6 +1.2
J25K Salcha River, 2.89 60 Pn 05 59 22.0 -0.4
J25K Salcha River, 2.89 60 IAML 06 00 10.2
comp=N,512nm,0.8s
RDWB Redoubt West 2.90 197 Pn 05 59 23.6 +0.9
N19K Bonanza Creek 2.92 214 Pn 05 59 23.2 +0.3
N19K Bonanza Creek 2.92 214 IAML 06 00 08.9
comp=E,585nm,1.0s
N19K IAML 06 00 11.9
comp=N,499nm,0.8s
GCSA Galena City Sc 2.93 303 Pn 05 59 24.2 +1.3
H24K Noodor Dome 2.94 27 Pn 05 59 22.4 -0.8
RED Redoubt Volcan 2.96 196 Pn 05 59 24.6 +1.1
GLI Glacier Island 3.06 140 Pn 05 59 25.8 +1.0
GLI IAML 06 00 13.7
comp=N,689nm,0.5s
DOT Dot Lake 3.21 80 Pn **Pn 05 59 26.6 -0.2**
H19K Roundabout Mou 3.23 317 Pn **Pn 05 59 27.9 +0.9**
H19K IAML 06 00 22.1
comp=E,719nm,1.4s
H19K IAML 06 00 28.2
comp=N,487nm,1.2s
O20K Slope Mountain 3.27 193 Pn 05 59 29.1 +1.4
SEW Seward 3.28 165 Pn 05 59 29.0 +1.4
SCRK Sand Creek 3.28 74 Pn 05 59 27.2 -0.6
SCRK IAML 06 00 26.6
comp=N,326nm,0.8s
K17K Iditarod 3.31 264 Pn 05 59 27.4 -0.7
K17K Iditarod 3.31 264 IAML 06 00 25.3
comp=E,532nm,0.9s
K17K IAML 06 00 39.1
comp=N,603nm,1.0s
DIV Divide 3.31 128 Pn 05 59 28.8 +0.6
PRP Porcupine Dome 3.33 45 Pn **Pn 05 59 27.8 -0.8**
PRP IAML 06 00 25.4
comp=N,401nm,0.9s
MENT Mentasta 3.40 92 P **Pn 05 59 31.5 +2.1**
MENT Mentasta 3.40 92 S **Sb 06 00 14.3 -3.6**
G21K Allakaket 3.41 344 Pn 05 59 29.9 +0.3
N18K Kilae Creek 3.43 223 Pn 05 59 29.6 -0.2
N18K Kilae Creek 3.43 223 IAML 06 00 24.9
comp=E,313nm,0.8s
N18K IAML 06 00 26.4
comp=N,510nm,0.8s
ILSW Iliamna Southw 3.43 197 Pn 05 59 31.3 +1.3
O19K Port Alsworth 3.43 207 Pn 05 59 30.5 +0.7
ILS Iliamna Low So 3.44 196 Pn 05 59 31.8 +1.7
N25K Chitina, Valde 3.47 116 Pn 05 59 31.9 +1.4
N25K IAML 06 00 24.8
comp=N,280nm,0.5s
L17K Donlin 3.48 254 Pn 05 59 29.6 -1.0
G23K Bananza Creek 3.49 7 Pn 05 59 31.1 +0.4
G23K Bananza Creek 3.49 7 IAML 06 00 27.8
comp=E,340nm,0.8s
BRLK Bradley Lake 3.52 178 Pn 05 59 33.3 +2.2
BRSE Bradley Lake S 3.54 177 Pn 05 59 33.3 +1.8
L26K Log Cabin Wild 3.55 90 Pn 05 59 32.7 +1.2
J26L Joseph Creek 3.58 66 Pn 05 59 31.9 0.0
J26L Joseph Creek 3.58 66 IAML 06 00 34.0
comp=E,282nm,0.6s
J26L IAML 06 00 38.7
comp=N,348nm,0.6s
HIN Hinchinbrook I 3.63 140 Pn 05 59 32.9 +0.3
HIN IAML 06 00 29.3
comp=N,428nm,0.7s
HIN IAML 06 00 32.5
comp=E,458nm,1.1s
HOM Homer 3.63 184 Pn **Pn 05 59 33.5 +1.0**
H18K Honhosa River 3.68 304 Pn **Pn 05 59 34.0 +0.7**
H18K IAML 06 00 34.8
comp=E,284nm,0.8s
H18K IAML 06 00 39.4
comp=N,270nm,1.1s
EYAK Cordova Ski Ar 3.74 134 Pn 05 59 34.9 +0.9
EYAK Cordova Ski Ar 3.74 134 P **Pn 05 59 35.6 +1.6**
EYAK Cordova Ski Ar 3.74 134 S **Sn 06 00 22.4 +4.4**
P23K Montague Islan 3.74 150 Pn 05 59 34.1 +0.1
CNPM China Poot 3.75 181 Pn **Pn 05 59 35.6 +1.3**
CNPM IAML 06 00 38.6
comp=E,302nm,0.9s
P19K Oil Pt 3.76 196 Pn 05 59 36.5 +2.0
P19K IAML 06 00 36.4
comp=E,301nm,0.8s
P19K IAML 06 00 46.0
comp=N,274nm,0.7s
H25L Birch Creek 3.78 35 Pn 05 59 34.6 0.0
G24K Hadweenzic Riv 3.78 23 Pn **Pn 05 59 34.0 -0.7**
BMRM Bremner River 3.84 124 Pn 05 59 36.1 +0.5
G19K Purcell Mounta 3.85 321 Pn **Pn 05 59 35.6 0.0**
G19K IAML 06 00 43.6
comp=E,293nm,0.7s
G19K IAML 06 00 44.6
comp=N,329nm,0.8s
GLB Gilahina Butte 3.88 115 Pn 05 59 37.3 +1.3
GLB IAML 06 00 39.6
comp=N,266nm,0.7s
O18K Koktuh Hills 3.94 211 Pn 05 59 37.5 +0.7
O18K IAML 06 00 53.5
comp=N,351nm,1.2s
O18K IAML 06 00 54.0
comp=E,285nm,1.1s
N17K Nushagak Hills 3.96 229 Pn 05 59 36.6 -0.6
COLD Coldfoot 4.00 5 Pn 05 59 37.8 +0.2
I26K Coal Creek Min 4.04 56 Pn 05 59 38.2 0.0
I26K Coal Creek Min 4.04 56 IAML 06 00 56.4
comp=N,345nm,0.7s
GOAT Goat Mountain 4.06 129 Pn 05 59 39.4 +0.8
F21K Alatna River 4.09 347 Pn 05 59 39.8 +0.8
F21K IAML 06 00 50.3
comp=N,192nm,0.7s
F21K IAML 06 00 50.6
comp=E,235nm,0.7s
G25K Bearman Lake 4.11 29 Pn 05 59 39.2 0.0
K27K Chicken 4.12 75 Pn 05 59 39.0 -0.3
K27K Chicken 4.12 75 IAML 06 00 54.7
comp=N,185nm,1.2s
VRDI Verde Repeater 4.14 116 Pn 05 59 40.4 +0.6
VRDI IAML 06 00 45.7
comp=N,211nm,1.0s
FYU Fort Yukon 4.16 35 Pn 05 59 40.0 +0.2
FYU IAML 06 00 57.5
comp=E,263nm,1.0s
FYU IAML 06 00 58.3
comp=N,224nm,1.4s
H17K Granite Mounta 4.19 297 Pn 05 59 40.5 +0.2
H17K Granite Mounta 4.19 297 IAML 06 00 57.8
comp=N,306nm,1.1s
L27K Beaver Creek, 4.23 89 Pn 05 59 41.2 +0.3
BCAR Beaver Creek A 4.25 89 Pn 05 59 41.3 +0.1
F20K Avaraart Lake 4.26 335 Pn 05 59 41.5 +0.3
F20K IAML 06 00 54.5
comp=N,184nm,0.6s
F20K IAML 06 00 57.2
comp=E,158nm,0.7s
M16K Timber Creek 4.30 242 Pn **Pn 05 59 41.5 -0.3**
M16K IAML 06 00 59.1
comp=N,226nm,0.7s
M16K IAML 06 01 05.4
comp=E,168nm,0.7s
I17K Unalakleet 4.31 283 Pn 05 59 42.4 +0.5
I17K IAML 06 00 59.5
comp=N,145nm,0.9s
I17K IAML 06 01 05.8
comp=E,181nm,0.8s
P18K Big Mountain, 4.36 209 Pn 05 59 43.3 +0.8
P18K IAML 06 00 58.7
comp=E,162nm,0.7s
HMT Hamilton 4.40 129 Pn 05 59 43.4 +0.2
F24K Squaw Lake 4.48 16 Pn 05 59 44.5 +0.2
F24K Squaw Lake 4.48 16 IAML 06 01 03.0
comp=E,131nm,0.7s
F24K IAML 06 01 04.2
comp=N,135nm,0.7s
O17K Koliganek Bris 4.51 222 Pn 05 59 44.2 -0.5
Q19K Cape Douglas, 4.52 197 Pn 05 59 46.0 +1.2
F19K Shaleruckik Mo 4.55 325 Pn 05 59 45.6 +0.5
F19K Shaleruckik Mo 4.55 325 IAML 06 01 06.3
comp=E,133nm,0.9s
F19K IAML 06 01 14.1
comp=N,126nm,0.8s
N16K Nishlik Lake 4.57 236 Pn 05 59 45.5 0.0
BALM Baldy 4.70 114 Pn 05 59 48.2 +0.8
SYI Shuyak Island 4.71 188 Pn 05 59 48.0 +0.5
SYI IAML 06 01 04.4
comp=E,132nm,1.2s
P17K Kvichak River 4.82 214 Pn 05 59 49.7 +0.8
G26K Porcupine Rive 4.83 37 Pn 05 59 48.6 -0.4
E23K Chandalar 4.85 7 Pn 05 59 50.2 +0.8
E23K Chandalar 4.85 7 IAML 06 01 10.0
comp=E,153nm,0.9s
E23K IAML 06 01 10.6
comp=N,128nm,0.7s
K15K Wolf Creek Mou 4.87 263 Pn 05 59 49.1 -0.4
K15K Wolf Creek Mou 4.87 263 IAML 06 01 23.5
comp=N,116nm,1.2s
E22K Anaktuvuk Pass 4.90 357 Pn 05 59 50.8 +0.8
F25K Christian Rive 4.91 25 Pn 05 59 49.7 -0.5
E19K Redstone River 4.92 332 Pn **Pn 05 59 51.3 +1.1**
E19K IAML 06 01 14.6
comp=E,174nm,1.1s
F18K Selawik 4.92 317 Pn 05 59 51.2 +0.9
E24K Your Creek 4.95 12 Pn **Pn 05 59 51.1 +0.3**
E24K IAML 06 01 18.6
comp=N,97nm,0.7s
E24K IAML 06 01 29.4
comp=E,126nm,0.9s
O16K Kokwok River B 4.97 225 Pn **Pn 05 59 50.6 -0.3**
O16K IAML 06 01 14.4
comp=N,138nm,1.3s
O16K IAML 06 01 19.4
comp=E,175nm,0.8s
KAHC Katmai Hardscr 5.00 204 Pn 05 59 52.5 +1.0
BMAR Burnt Mountain 5.00 30 Pn 05 59 51.0 -0.4
YUK2 White River 5.00 103 Pn 05 59 53.7 +2.2
BARK Barkley Ridge 5.01 121 Pn 05 59 53.0 +1.4
L15K Ungalak Mounta 5.05 256 Pn 05 59 51.3 -0.8
H16K Elim 5.08 291 Pn 05 59 52.8 +0.4
H27K Steamboat Moun 5.08 50 Pn 05 59 52.0 -0.5
YUK3 Moose Creek 5.17 102 Pn 05 59 56.2 +2.3
M15K Kasigluk River 5.18 244 Pn 05 59 53.5 -0.4
DAWY Dawson 5.30 76 Pn **Pn 05 59 56.1 +0.6**
F26K Sheenjek River 5.32 30 Pn **Pn 05 59 56.0 +0.3**
Q16K Koyuk River 5.32 299 Pn 05 59 56.4 +0.7
G16K Koyuk River 5.32 299 IAML 06 01 29.3
comp=N,148nm,1.1s
E21K Killik River 5.32 349 Pn 05 59 56.8 +1.0
E21K Killik River 5.32 349 IAML 06 01 32.3
comp=E,88nm,0.8s
E21K IAML 06 01 33.4
comp=N,101nm,0.8s
Q16K King Salmon 5.33 213 Pn 05 59 56.6 +0.8
I28M Miner Creek 5.34 61 Pn **Pn 05 59 56.2 +0.1**
I28M IAML 06 01 29.2
comp=N,133nm,0.9s
I28M IAML 06 01 33.8
comp=E,144nm,0.9s
F17K Baldwin Pennin 5.36 311 Pn 05 59 57.1 +0.9
F17K Baldwin Pennin 5.36 311 IAML 06 01 33.0
comp=N,121nm,1.3s
G27K Doyon Strip 5.37 44 Pn 05 59 55.8 -0.6
P16K Nushagak River 5.39 221 Pn 05 59 56.5 -0.2
E25K Arctic Village 5.39 23 Pn 05 59 56.5 -0.2
E20K Nigu River 5.42 340 Pn 05 59 59.2 +2.0
TOLK Toolik Lake Re 5.44 6 Pn 05 59 58.7 +1.3
ACHA Angle Creek He 5.47 204 Pn **Pn 05 59 58.9 +1.0**
ANCK Angle Creek 5.51 205 Pn 06 00 00.2 +1.7
RKAV Rock Avalanche 5.52 118 Pn 05 59 59.7 +1.0
KDAK Kodiak Island 5.55 188 Pn **Pn 05 59 57.8 -1.1**
comp=N,1.2nm,0.3s,baz=256,slow=4.7,SNR=14
KDAK Sn **Sn 06 00 59.6 -3.0**
comp=N,2.3nm,0.3s,baz=163,slow=15,SNR=1.0
comp=N,3.2nm,0.5s
D22K Ayikyak River 5.67 354 Pn **Pn 06 00 00.9 +0.3**
J14K Nanvaranak Lak 5.67 270 Pn 06 00 00.3 -0.2
YUK8 Steele Glacier 5.68 105 Pn 06 00 03.0 +2.1
M14K Bethel 5.68 248 Pn **Pn 05 59 59.8 -0.8**
L14K Kuka Creek 5.71 255 Pn **Pn 06 00 00.9 -0.2**
D28K Nanushuk River 5.73 2 Pn **Pn 06 00 02.6 +1.2**
O28M Mount Upton 5.74 111 Pn 06 00 03.4 +1.6
E18K Tukpahlearik C 5.74 321 Pn **Pn 06 00 02.3 +0.8**
SAMH Samovar Hills 5.85 118 Pn 06 00 05.1 +1.9
O15K Ungalikthiuk R 5.86 229 Pn 06 00 03.1 -0.1
M29M Somme Creek 5.87 92 Pn 06 00 04.5 +1.1
L29M L29M 5.90 86 Pn 06 00 04.5 +0.8
G15K Niukluk 5.90 293 Pn 06 00 04.0 +0.3
D20K Etivluk River 5.90 340 Pn 06 00 05.1 +1.3
D19K Kuna River 5.97 335 Pn 06 00 05.8 +1.1
D24K Happy Valley 5.99 8 Pn 06 00 06.5 +1.6
PCA Pinnacle 6.08 117 Pn 06 00 07.1 +0.8
C21K Knifeblade Rid 6.09 348 Pn 06 00 08.3 +1.9
K29M Barlow Dome 6.12 79 Pn **Pn 06 00 07.7 +0.9**
OHAK Old Harbor 6.16 191 Pn **Pn 06 00 08.3 +1.1**
OHAK Old Harbor 6.16 191 P **Pn 06 00 07.9 +0.7**
H29M Whitestone 6.22 56 Pn 06 00 08.0 -0.1
E27K Coleen River 6.31 34 Pn 06 00 09.1 -0.3
K13K Kusilvak Mount 6.38 264 Pn 06 00 09.4 -0.8
D25K Kavik River 6.38 15 Pn 06 00 11.1 +0.8
ANM Nome 6.41 288 Pn 06 00 11.1 +0.4
BCPM Bancas Point 6.42 116 Pn **Pn 06 00 11.7 +0.9**
M13K Dall Lake 6.44 249 Pn **Pn 06 00 10.9 -0.2**
B21K Ikpikpuk River 6.53 349 Pn 06 00 13.3 +1.0
C24K Franklin Bluff 6.55 8 Pn 06 00 13.9 +1.3
YUK5 Granite Creek 6.58 103 Pn 06 00 14.7 +1.5
M30M Minto, Yukon 6.59 90 Pn **Pn 06 00 13.0 -0.3**
C23K Itkillik River 6.60 2 Pn **Pn 06 00 14.6 +1.3**
G29M Pine Creek 6.64 51 Pn 06 00 13.9 0.0
O29M Mount Kennedy 6.66 111 Pn 06 00 14.7 +0.4
PNL Peninsula 6.69 117 Pn 06 00 15.8 +1.3
PNL Peninsula 6.69 117 P **Pn 06 00 16.0 +1.5**
PNL Peninsula 6.69 117 S **Sn 06 01 34.0 +3.3**
I30M Mount Dempster 6.73 67 Pn **Pn 06 00 15.6 +0.4**
C18K Utukok River 6.78 327 Pn 06 00 16.2 +0.5
N30M Aishikik Lake 6.79 99 Pn 06 00 17.4 +1.4
RDOG Red Dog Mine 6.82 320 Pn **Pn 06 00 17.9 +1.5**
HYT Haines Junctio 6.87 105 Pn **Pn 06 00 18.5 +1.4**
SII Sitkinak Islan 6.90 194 P **Pn 06 00 19.8 +2.3**
SII Sitkinak Islan 6.90 194 S **Sn 06 01 38.8 +2.9**
F14K Arctic Creek 6.94 295 Pn 06 00 18.6 +0.6
C27K Jago River 7.04 22 Pn 06 00 20.7 +1.3
C26K Camden Bay 7.12 18 Pn 06 00 21.8 +1.3
E28M Babbage River 7.15 36 Pn 06 00 20.1 -0.7
B22K Teshekpuk Lake 7.16 354 Pn 06 00 21.9 +1.0
B20K Meade River 7.17 343 Pn 06 00 21.5 +0.4
D27M Malcolm River 7.26 30 Pn 06 00 23.5 +1.0
G30M tAoh Zraii Nji 7.31 53 Pn 06 00 21.8 -1.3
P30M Million Dollar 7.44 109 Pn 06 00 26.4 +1.4
B18K Kokolik River 7.46 330 Pn 06 00 26.3 +1.2
E29M Blow River 7.47 41 Pn **Pn 06 00 24.9 -0.4**
O30N Mendenhall 7.51 103 Pn 06 00 26.8 +0.9
TNA Tin City 7.61 295 Pn 06 00 28.0 +0.9
H31M Peel River 7.67 63 Pn 06 00 27.2 -0.9
C16K Lisburne Hills 7.69 317 Pn 06 00 29.8 +1.6
F30M Barrier River 7.73 49 Pn 06 00 28.2 -0.7
D28M Stokes Point 7.86 34 Pn 06 00 31.6 +1.0
A22K Sinclair Lake 7.91 351 Pn 06 00 31.3 +0.1
WHY Whitehorse 8.10 101 Pn **Pn 06 00 34.1 +0.2**
F31M Tsiigehtchic 8.38 52 Pn **Pn 06 00 37.6 0.0**
SKAG Skagway 8.50 110 Pn **Pn 06 00 39.9 +0.6**
SKAG Skagway 8.50 110 P **Pn 06 00 40.5 +1.2**
INK Inuvik 8.81 47 Pn 06 00 43.8 +0.2
INK Inuvik 8.81 47 Pn **Pn 06 00 43.3 -0.2**
comp=N,0.8nm,0.3s,baz=241,slow=19,SNR=23
INK Sn **Sn 06 02 20.6 -2.1**
comp=N,0.2nm,0.3s,baz=228,slow=3.6,SNR=3.6
INK Lg Lg 06 03 08.6
comp=N,0.3nm,0.3s,baz=104,slow=32,SNR=3.6
comp=N,6.4nm,0.6s
P32M Atlin 9.12 106 Pn 06 00 48.7 +0.8
BESE Bessie Mountai 9.21 113 Pn **Pn 06 00 48.9 -0.2**
JIS Juneau Island 9.59 114 Pn 06 00 54.4 +0.2
JIS Juneau Island 9.59 114 P **Pn 06 00 54.5 +0.2**
SIT Sitka 10.03 121 Pn **Pn 06 01 00.4 +0.2**
SIT Sitka 10.03 121 P **Pn 06 01 02.9 +2.6**
comp=N,72nm,2.1s
DLBC Dease Lake 11.35 106 Pn **Pn 06 01 19.3 +0.8**
comp=N,0.2nm,0.3s,baz=285,slow=10.0,SNR=4.5
DLBC Lg Lg 06 04 31.7
comp=N,0.1nm,0.3s,baz=47,slow=20,SNR=1.7
comp=N,1.3nm,0.6s
T35M Bob Quinn 12.14 112 Pn 06 01 29.0 -0.1
A36M Sachs Harbour 13.04 37 Pn 06 01 40.7 -0.7
YKA Yellowknife Ar 16.54 76 Pn **Pn 06 02 27.6 -0.4**
comp=N,0.3nm,0.3s,baz=289,slow=10,SNR=12
comp=N,0.6nm,0.8s
CLRS Cowichan Lake 20.68 122 P **P 06 03 16.1 -0.1**
CLRS IAmb IAmb 06 03 31.0
comp=Z,30nm,1.5s
PGC Sidney 21.08 121 P **P 06 03 20.4 0.0**
PGC IAmb IAmb 06 03 34.9
comp=Z,18nm,1.2s
RES Resolute Bay 22.09 36 P **P 06 03 31.2 +0.1**
RES Resolute Bay 22.09 36 P **P 06 03 32.2 +1.1**
comp=Z,1.0nm,0.5s,baz=231,slow=8.1,SNR=12
comp=Z,1.0nm,0.5s
MXC Moxie City 24.00 120 P **P 06 03 52.0 +1.1**
MXC IAmb IAmb 06 03 59.5
comp=Z,5.5nm,1.1s
D08A Wollman Farm, 24.16 117 P **P 06 03 53.3 +1.0**
D08A IAmb IAmb 06 03 57.2
comp=Z,4.9nm,1.0s
BMO Blue Mountains 26.61 118 P **P 06 04 15.0 +0.3**
BMO IAmb IAmb 06 04 20.0
comp=Z,3.2nm,1.2s
YNE Yellowstone No 29.52 109 P **P 06 04 40.4 -0.4**
YNE IAmb IAmb 06 04 55.6
comp=Z,3.3nm,1.0s
LOHW Long Hollow 30.39 111 P **P 06 04 49.4 +0.9**
PDAR Pinedale Array 31.52 111 P **P 06 05 00.1 +1.5**
comp=Z,0.8nm,0.7s,baz=314,slow=8.2,SNR=8.4
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 31.74 126 P **P 06 04 59.9 -0.5**
comp=Z,0.2nm,0.6s,baz=322,slow=6.7,SNR=3.6
comp=Z,0.2nm,0.6s
EYMN Ely 35.53 87 P **P 06 05 32.7 -0.3**
EYMN IAmb IAmb 06 05 44.5
comp=Z,5.7nm,0.9s
TXAR Lajitas Array 45.45 115 P **P 06 06 56.8 +1.5**
comp=Z,1.1nm,0.6s,baz=332,slow=5.7,SNR=9.2
comp=Z,1.1nm,0.6s
JCT Junction City 46.05 111 P **P 06 06 58.9 -1.1**
DRIO Del Rio 46.63 112 P **P 06 07 03.9 -0.7**
ARCES ARCESS Array B 47.46 2 P **P 06 07 10.4 -0.1**
comp=Z,6.0nm,1.1s,baz=1.9,slow=8.1,SNR=2.4
comp=Z,6.0nm,1.1s
KSRS Korea Array 53.35 282 P **P 06 07 55.6 +0.2**
comp=Z,1.6nm,0.7s,baz=34,slow=8.3,SNR=4.4
comp=Z,1.6nm,0.7s
SONM Songjino Array 53.60 305 P **P 06 07 57.7 +0.3**
comp=Z,2.4nm,0.8s,baz=30,slow=6.5,SNR=11
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 55.26 323 P **P 06 08 08.7 -0.5**
comp=Z,0.7nm,0.6s,baz=32,slow=8.5,SNR=2.3
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 55.29 10 P **P 06 08 09.7 +0.4**
comp=Z,0.3nm,0.6s,baz=350,slow=7.2,SNR=3.4
comp=Z,0.3nm,0.6s
FINES FINESS Array B 55.59 2 P **P 06 08 11.6 +0.2**
comp=Z,2.1nm,0.9s,baz=2.3,slow=9.5,SNR=3.9
comp=Z,2.1nm,0.9s
HFS Hagfors 56.38 9 P **P 06 08 17.3 +0.2**
comp=Z,0.9nm,0.6s,baz=7.0,slow=13,SNR=1.6
comp=Z,0.9nm,0.6s
EKA Eskdalemuir Ar 59.15 21 P **P 06 08 36.9 +0.3**
comp=Z,2.4nm,0.7s,baz=334,slow=5.1,SNR=4.8
comp=Z,2.4nm,0.7s
BVAR Borovoye Array 59.58 332 P **P 06 08 40.4 +0.8**
comp=Z,0.6nm,0.4s,baz=358,slow=7.2,SNR=3.2
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 62.42 321 P **P 06 08 60.0 +0.9**
comp=Z,0.2nm,0.6s,baz=46,slow=4.6,SNR=1.9
comp=Z,0.2nm,0.6s
AKASG Malin Array Be 66.38 360 P **P 06 09 25.4 +0.6**
comp=Z,0.6nm,0.5s,baz=6.0,slow=6.3,SNR=3.2
comp=Z,0.6nm,0.5s
ESDC Sonseca Array 74.11 26 P **P 06 10 11.7 -0.7**
comp=Z,0.8nm,0.5s,baz=342,slow=5.8,SNR=5.8
comp=Z,0.8nm,0.5s
QSPA South Pole Qui 153.08 180 PKPbc **PKPbc 06 18 31.1 -1.3**
comp=Z,1.2nm,0.8s,baz=201,slow=2.7,SNR=6.2

ASRS 15 05:58:48.0±1.0, 54°38N×86°73E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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ASRS 15 05:59:36.0±0.5, 55°77N×86°12E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

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IDC 15 06:09:03.1±1.7, 51°63N×82°45E, h0km, mbtmp2.1/3, ML1.7/3, Error ellipse: s-maj=20.3km s-min=16.4km az=137.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.66**	**249**	Pn	Pn	06 09 46.9	-0.3
	0.1nm,0.3s,baz=76,slow=16,SNR=4.5						
KURBB				Lg	Lg	06 10 28.4	
	0.2nm,0.3s,baz=76,slow=36,SNR=7.7						
	0.2nm,0.4s						
I46RU	**ZALESOVO INFRA**	**2.74**	**31**	I	I	06 23 41.1	
	0.1nm,1.0s,baz=213,slow=328,SNR=74						
ZALV	**Zalesovo Beam**	**2.74**	**31**	Pn	Pn	06 09 48.7	+0.4
	0.7nm,0.3s,baz=216,slow=16,SNR=8.0						
ZALV				Sn	Sn	06 10 22.1	+0.1
	0.6nm,0.3s,baz=222,slow=27,SNR=4.6						

1.5nm,0.3s
MKAR Makanchi Array 4.84 181 Pn Pn 06 10 18.8 +1.7
0.1nm,0.3s,baz=3.3,slow=11,SNR=2.2
MKAR Lg Lg 06 11 34.2
0.2nm,0.3s,baz=5.3,slow=27,SNR=7.7
0.2nm,0.5s

IDC 15 06:10:00.8±3.1,32°.17S×177°.94W,h0km,mb3.8/2, mbtmp3.7/3,ML3.5/1,Error ellipse: s-maj=71.4km s-min=36.4km az=116.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.30**	**212**	Pn	Pn	06 11 48.0	-0.6
	0.9nm,0.3s,baz=347,slow=7.5,SNR=7.2						
URZ				Sn	Sn	06 13 12.6	+0.4
	1.4nm,0.3s,baz=320,slow=23,SNR=7.7						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**43.09**	**269**	P	P	06 18 03.0	+0.1
	0.8nm,0.7s,baz=108,slow=7.3,SNR=10						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**44.24**	**274**	P	P	06 18 12.1	-0.1
	1.2nm,0.7s,baz=113,slow=7.9,SNR=12						
	1.2nm,0.7s						
FINES	**FINESS Array B**	**146.82**	**339**	PKPbc	PKPbc	06 29 43.3	-0.9
	2.4nm,0.9s,baz=28,slow=4.5,SNR=6.1						

*IDC **15** 06:45:14.5±1.0,55°.23S×30°.56W,h0km,mb4.0/5, mbtmp4.1/5,Error ellipse: s-maj=44.7km s-min=22.2km az=63.0*
*NEIC **15** 06:45:16.4±1.2,55°.3S±0°.1×30°.9W±0°.1,h10km±1km, mb4.5/14,Error ellipse: s-maj=22.3km s-min=13.1km az=196.0*

ISC 15 06:45:16.1±0.6,55°.3S±0°.1×30°.9W±0°.1,h10km,n24, σ0:95/23,mb4.5/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.42**	**285**	Pn	Pn	06 46 08.8	-0.5
SNAA	**Sanae**	**20.29**	**155**	P	P	06 49 48.7	-2.9
SNAA	**Sanae**	**20.29**	**155**	P	P	06 49 50.6	-1.0
	2.3nm,0.9s,baz=307,slow=14,SNR=4.9						
	2.3nm,0.9s						
SMAI	**San Martin Ant**	**21.03**	**218**	P	P	06 49 59.8	+0.3
MG02	**Cerro Sombrero**	**22.48**	**260**	P	P	06 50 14.9	-0.3
BELA	**Belgrano 2**	**22.71**	**182**	P	P	06 50 17.6	+0.1
MG03	**Isla Dawson**	**22.79**	**257**	P	P	06 50 17.7	-0.9
MG03				IAmb	IAmb	06 50 37.1	
	comp=Z,30nm,1.3s						
MG05	**Puerto Natales**	**24.77**	**261**	P	P	06 50 37.2	-0.4
MG05				IAmb	IAmb	06 50 40.0	
	comp=Z,22nm,1.1s						
PLTB	**Pedras Altas**	**28.48**	**316**	P	P	06 51 10.5	-0.8
PLTB				IAmb	IAmb	06 51 13.4	
	comp=Z,26nm,1.4s						
CPUP	**Villa Florida**	**34.79**	**315**	P	P	06 52 06.7	+0.1
CPUP				IAmb	IAmb	06 52 12.9	
	comp=Z,8.4nm,1.3s						
CPUP	**Villa Florida**	**34.79**	**315**	P	P	06 52 06.9	+0.3
	comp=Z,1.2nm,0.6s,baz=153,slow=8.5,SNR=8.3						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**34.95**	**180**	P	P	06 52 08.9	+1.0
QSPA				IAmb	IAmb	06 52 23.1	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**34.95**	**180**	P	P	06 52 09.2	+1.3
	comp=Z,1.8nm,0.9s,baz=158,slow=5.4,SNR=7.8						
	comp=Z,1.8nm,0.9s						
PTLB	**Pontes e Lacer**	**45.35**	**320**	P	P	06 53 34.0	-0.3
VNDA	**Vanda**	**47.20**	**184**	P	P	06 53 48.8	+0.6
LPAZ	**La Paz**	**48.27**	**309**	P	P	06 53 58.5	+0.6
LPAZ				IAmb	IAmb	06 54 02.2	
	comp=Z,2.3nm,0.7s						
LPAZ	**La Paz**	**48.27**	**309**	P	P	06 53 59.0	+1.0
	comp=Z,2.2nm,0.6s,baz=160,slow=6.1,SNR=12						
	comp=Z,2.2nm,0.6s						
CRZF	**Crozet Islands**	**50.01**	**116**	P	P	06 54 10.1	-0.1
LBTB	**Lobatse**	**50.83**	**77**	P	P	06 54 17.0	+0.2
LBTB				IAmb	IAmb	06 54 29.4	
	comp=Z,6.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.50**	**33**	P	P	06 56 48.9	+0.2
TORD				IAmb	IAmb	06 57 06.2	
	comp=Z,4.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.50**	**33**	P	P	06 56 48.8	+0.1
	comp=Z,2.1nm,0.3s,baz=198,slow=7.1,SNR=3.1						
	comp=Z,2.1nm,0.3s						
ZALV	**Zalesovo Beam**	**143.92**	**65**	PKP	PKPbc	07 04 48.1	-0.1
	comp=Z,0.6nm,0.5s,baz=254,slow=3.1,SNR=2.3						
ILAR	**Eielson Array**	**148.08**	**313**	PKPbc	**PKPdf**	**07 04 58.3**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=100,slow=1.0,SNR=2.8						
SONM	**Songino Array**	**152.77**	**88**	PKPbc	**PKPbc**	**07 05 11.7**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=333,slow=0.6,SNR=2.5						

*SNET **15** 06:47:37.0±0.5, 14°.44N×90°.78W,h160km±5km,ML3.0*
*GCG **15** 06:47:37.1±0.6, 14°.46N×90°.80W,h155km±5km,MD3.9, ML2.7,MW2.9*
*CATAC **15** 06:47:39.6±1.1, 14°N±5°×9°.3W±°,h0km,M3.9/4,mb4.1/2, mB5.3/1,MLv3.8/4,Mw(mB)4.8/1,Error ellipse: s-maj=15.7km s-min=10.2km az=82.8,confirmed*

ISC 15 06:47:38.8±1.3,14°.45N±0°.08×90°.78W±0°.06,h150km,n17, σ0:97/20,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.54**	**268**	*i* P		06 48 01.4	
STG8	**El Palmar, Qui**	**0.55**	**270**	*i* P		06 48 01.5	
APG	**El Apazote**	**0.63**	**29**	*i* P	**Pn**	**06 48 01.0**	**-0.2**
APG				*i* S	**Sn**	**06 48 19.1**	**+0.8**
APG	**El Apazote**	**0.63**	**29**	*i* P		06 48 01.0	
APG				*i* S		06 48 19.1	
SOKI	**Kika Raxquin**	**0.70**	**302**	*e*P	**Pn**	**06 48 01.6**	**-0.2**
SOKI	**Kika Raxquin**	**0.70**	**302**	*e*P		06 48 01.6	
RTAL	**Retalhuleu**	**0.89**	**275**	*e*S	**Sn**	**06 48 21.6**	**+0.8**
RTAL	**Retalhuleu**	**0.89**	**275**	P	**Pn**	**06 48 01.6**	**-1.0**
RTAL	**Retalhuleu**	**0.89**	**275**	S	**Sn**	**06 48 21.9**	**+1.2**
SLOZ	**Alcaldia de Sa**	**1.06**	**113**	*e*P	**Pn**	**06 48 03.4**	**-0.7**
HUEH	**Huehuetenango**	**1.11**	**321**	*e*P	**Pn**	**06 48 04.7**	**-0.1**
HUEH				*e*S	**Sn**	**06 48 26.5**	**+1.9**
HUEH	**Huehuetenango**	**1.11**	**321**	*i* P	**Pn**	**06 48 04.5**	**-0.3**
HUEH				IAML		06 48 31.6	
	comp=Z,126nm,0.6s						
HUEH	**Huehuetenango**	**1.11**	**321**	*i* P		06 48 04.5	
HUEH				IAML		06 48 31.6	
	comp=Z,126nm,0.6s						
NUBE	**Las Nubes**	**1.11**	**119**	P	Pn	06 48 14.2	+9.4
CEVE	**Cerro Verde**	**1.28**	**119**	*e*S	**Sn**	**06 48 29.1**	**+1.6**
CEVE				IAML		06 48 39.5	
	comp=Z,137nm,0.1s						
SMCA	**Catarina**	**1.31**	**288**	*e*P	**Pn**	**06 48 05.2**	**-1.2**
SMCA	**Catarina**	**1.31**	**288**	*e*P		06 48 05.2	
THIG		**1.50**	**288**	*i* P	**Pn**	**06 48 07.7**	**-0.7**
THIG				IAML		06 48 35.0	
	comp=Z,103nm,1.4s						
THIG		**1.50**	**288**	*i* P		06 48 07.7	
THIG				IAML		06 48 35.0	
	comp=Z,103nm,1.4s						
JAYA	**Jayaque - finc**	**1.52**	**121**	*e*P	**Pn**	**06 48 07.9**	**-0.8**
JAYA				*e*S	**Sn**	**06 48 31.8**	**+0.3**
CCIG	**Comitan**	**2.24**	**325**	P	**Pn**	**06 48 16.3**	**-0.7**
CCIG	**Comitan**	**2.24**	**325**	S	**Sn**	**06 48 46.1**	**-0.3**
CCIG	**Comitan**	**2.24**	**325**	*i* P	**Pn**	**06 48 16.3**	**-0.7**
CCIG				*i* S	**Sn**	**06 48 47.1**	**+0.7**
CCIG				IAML		06 48 48.7	
	comp=Z,27nm,2.1s						
CCIG	**Comitan**	**2.24**	**325**	*i* P		06 48 16.3	
CCIG				*i* S		06 48 47.1	
CCIG				IAML		06 48 48.7	
	comp=Z,27nm,2.1s						
PETF	**Flores**	**2.61**	**20**	*i* P	**Pn**	**06 48 20.1**	**-1.2**
PETF	**Flores**	**2.61**	**20**	*i* P		06 48 20.1	

*IDC **15** 07:00:10.7±1.1,55°.91N×149°.68W,h0km,mb3.9/10, mbtmp3.8/15,ML3.5/5,MS3.6/3,Error ellipse: s-maj=29.5km s-min=15.0km az=32.0*
*NEIC **15** 07:00:12.1±1.9,56°.01N±0°.07×149°.69W±0°.07,h21km±7km, mb4.0/16,ML4.0/58,ML3.8(AEIC),Error ellipse: s-maj=11.0km s-min=5.0km az=166.0*
*AEIC **15** 07:00:16.0±1.7,56°.07N±0°.05×149°.63W±0°.09,h11km±6km, Error ellipse: s-maj=10.0km s-min=1.1km az=135.0*

ISC 15 07:00:14.9±0.7,56°.10N±0°.07×149°.63W±0°.05,h35km,
n236,σ1:26/230,mb3.9/14,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.31**	**301**	Pn	**Pn**	**07 00 48.4**	**-1.9**
OHAK	**Old Harbor**	**2.31**	**301**		**Sn**	**07 01 14.8**	**-2.7**
OHAK	**Old Harbor**	**2.31**	**301**	P	**Pn**	**07 00 48.6**	**-1.7**
KDAK	**Kodiak Island**	**2.33**	**317**	Pn	**Pn**	**07 00 49.2**	**-1.5**
KDAK	**Kodiak Island**	**2.33**	**317**		**Sn**	**07 01 16.0**	**-2.1**
KDAK	**Kodiak Island**	**2.33**	**317**	Pn	**Pn**	**07 00 49.8**	**-0.9**
	24nm,0.3s,baz=205,slow=0.7,SNR=709						
KDAK				Sn	**Sn**	**07 01 16.3**	**-1.9**
	16nm,0.3s,baz=204,slow=21,SNR=14						
KDAK				LR	LR	07 02 02.4	
	comp=Z,377nm,21.3s,baz=125,slow=45						
	55nm,0.3s						
SII	**Sitkinak Islan**	**2.58**	**282**	Pn	**Pn**	**07 00 51.7**	**-2.3**
SII				IAML		07 01 24.4	
	comp=N,732nm,0.6s						
SII	**Sitkinak Islan**	**2.58**	**282**		**Sn**	**07 01 20.4**	**-3.8**
SII	**Sitkinak Islan**	**2.58**	**282**	P	**Pn**	**07 00 51.9**	**-2.2**
SYI	**Shuyak Island**	**2.92**	**330**		**Sn**	**07 01 32.5**	**-0.2**
SYI	**Shuyak Island**	**2.92**	**330**	Pn	**Pn**	**07 00 57.9**	**-0.9**
R18K	**Karluk**	**3.03**	**301**		**Pn**	**07 00 59.5**	**-0.7**
R18K					**Sn**	**07 01 32.8**	**-2.4**
R18K	**Karluk**	**3.03**	**301**	IAML		07 01 39.5	
	comp=N,453nm,0.5s						
R18K				IAML		07 01 40.2	
	comp=E,542nm,0.4s						
CHIR	**Chirikof Islan**	**3.38**	**268**	Pn	**Pn**	**07 01 02.6**	**-2.4**
CHIR				IAML		07 01 40.5	
	comp=N,551nm,0.4s						
CHIR	**Chirikof Islan**	**3.38**	**268**	P	**Pn**	**07 01 02.8**	**-2.3**
CNPM	**China Poot**	**3.54**	**347**		**Sn**	**07 01 47.1**	**-0.8**
CNPM	**China Poot**	**3.54**	**347**		**Pn**	**07 01 06.0**	**-1.2**
CNPM				IAML		07 01 48.8	
	comp=E,213nm,0.7s						
Q19K	**Cape Douglas,**	**3.56**	**324**		**Pn**	**07 01 07.4**	**-0.2**
KAHG	**Katmai Hook Gl**	**3.58**	**314**		**Pn**	**07 01 08.4**	**+0.4**
BRSE	**Bradley Lake S**	**3.70**	**351**		**Pn**	**07 01 08.2**	**-1.3**
HOM	**Homer**	**3.72**	**344**		**Pn**	**07 01 09.0**	**-0.8**
HOM				IAML		07 01 57.4	
	comp=N,387nm,0.7s						
HOM				IAML		07 01 57.9	
	comp=E,424nm,0.7s						
BRLK	**Bradley Lake**	**3.73**	**350**		**Pn**	**07 01 08.4**	**-1.5**
BRLK				IAML		07 01 56.3	
	comp=E,143nm,0.6s						
ACHA	**Angle Creek He**	**3.75**	**307**		**Pn**	**07 01 09.3**	**-1.0**
Q23K	**Middleton Isla**	**3.77**	**26**	Pn	**Pn**	**07 01 09.0**	**-1.4**
Q23K				IAML		07 02 12.0	
	comp=N,197nm,1.4s						
Q23K				IAML		07 02 52.4	
	comp=E,256nm,1.4s						
ANCK	**Angle Creek**	**3.82**	**306**		**Pn**	**07 01 11.1**	**-0.1**
AUCH	**Augustine Cone**	**3.85**	**330**		**Pn**	**07 01 11.5**	**-0.1**
KAHC	**Katmai Hardscr**	**3.87**	**313**		**Pn**	**07 01 12.0**	**+0.1**
SEW	**Seward**	**4.01**	**1**		**Pn**	**07 01 12.1**	**-1.7**
P19K	**Oil Pt**	**4.04**	**333**		**Pn**	**07 01 13.4**	**-0.8**
P19K				IAML		07 02 05.5	
	comp=E,353nm,0.6s						
P19K				IAML		07 02 11.5	
	comp=N,239nm,0.6s						
P23K	**Montague Islan**	**4.08**	**16**		**Pn**	**07 01 13.9**	**-0.8**
PLK1	**Peulik 1**	**4.18**	**297**		**Pn**	**07 01 15.8**	**-0.2**
ILS	**Iliamna Low So**	**4.28**	**336**		**Pn**	**07 01 16.6**	**-0.8**
ILSW	**Iliamna Southw**	**4.32**	**336**		**Pn**	**07 01 16.3**	**-1.7**
ILSW				IAML		07 02 11.7	
	comp=N,92nm,0.6s						
O22K	**Cooper Landing**	**4.39**	**359**		**Pn**	**07 01 18.2**	**-0.7**
SLKM	**Skilak Lake**	**4.43**	**356**		**Pn**	**07 01 18.4**	**-1.1**
SLKM				IAML		07 02 10.1	
	comp=N,131nm,0.5s						
SLKM				IAML		07 02 10.4	
	comp=E,108nm,0.4s						
P18K	**Big Mountain,**	**4.46**	**320**		**Pn**	**07 01 18.4**	**-1.4**
Q16K	**King Salmon**	**4.59**	**307**		**Pn**	**07 01 21.0**	**-0.7**
HIN	**Hinchinbrook I**	**4.61**	**20**	Pn	**Pn**	**07 01 21.1**	**-0.9**
HIN				IAML		07 02 13.7	
	comp=E,172nm,0.8s						
HIN				IAML		07 02 17.1	
	comp=N,150nm,1.3s						
RED	**Redoubt Volcan**	**4.63**	**340**		**Pn**	**07 01 20.6**	**-1.8**
RDWB	**Redoubt West**	**4.71**	**340**		**Pn**	**07 01 22.1**	**-1.4**
KAIM	**Kayak Island**	**4.73**	**34**		**Pn**	**07 01 23.1**	**-0.5**
KAIM	**Kayak Island**	**4.73**	**34**	IAML		07 02 19.6	
	comp=E,164nm,1.1s						
CAPN	**Captain Cook N**	**4.75**	**351**		**Pn**	**07 01 23.0**	**-0.8**
O18K	**Koktuh Hills**	**4.79**	**324**		**Pn**	**07 01 23.3**	**-1.1**
O18K				IAML		07 02 32.6	
	comp=N,85nm,0.7s						
P17K	**Kvichak River**	**4.79**	**313**		**Pn**	**07 01 24.4**	**0.0**
O19K	**Port Alsworth**	**4.80**	**331**		**Pn**	**07 01 22.5**	**-2.0**
PWL	**Port Wells**	**4.82**	**8**	Pn	**Pn**	**07 01 23.9**	**-0.9**
PWL				IAML		07 02 19.1	
	comp=E,132nm,0.5s						
PWL				IAML		07 02 19.2	
	comp=N,91nm,0.4s						
ANNW	**Aniakchak Nort**	**4.83**	**284**		**Pn**	**07 01 25.3**	**+0.3**
AZAC	**Aniakchak**	**4.83**	**283**		**Pn**	**07 01 24.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.91**	**23**		**Pn**	**07 01 24.7**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.91**	**23**	P	**Pn**	**07 01 25.5**	**-0.5**
CHGN	**Chignik**	**4.91**	**276**		**Pn**	**07 01 24.5**	**-1.5**
CHGN				IAML		07 02 21.5	
	comp=N,154nm,0.1s						
GLI	**Glacier Island**	**4.97**	**14**		**Pn**	**07 01 26.8**	**-0.1**
GLI				IAML		07 02 27.1	
	comp=E,74nm,0.6s						
GLI				IAML		07 02 45.9	
	comp=N,63nm,1.3s						
RC01	**Rabbit Creek A**	**5.00**	**359**		**Pn**	**07 01 26.2**	**-1.2**
RC01				IAML		07 02 23.9	
	comp=E,94nm,0.6s						
RC01				IAML		07 02 28.9	
	comp=N,97nm,0.5s						
SUCK	**Suckling Hills**	**5.05**	**36**	Pn	**Pn**	**07 01 28.1**	**+0.1**
SUCK				IAML		07 02 25.6	
	comp=N,124nm,0.5s						
SUCK				IAML		07 02 25.8	
	comp=E,127nm,1.3s						
HMT	**Hamilton**	**5.11**	**32**		**Pn**	**07 01 28.0**	**-0.8**
NICHA	**Nichawak Mount**	**5.11**	**34**		**Pn**	**07 01 28.7**	**-0.2**
GOAT	**Goat Mountain**	**5.18**	**28**		**Pn**	**07 01 29.4**	**-0.4**
BGLC	**Bering Glacier**	**5.25**	**37**		**Pn**	**07 01 30.7**	**0.0**
BERG	**Berg Lake**	**5.32**	**34**		**Pn**	**07 01 31.2**	**-0.5**
SPCG	**Spurr Capps Gl**	**5.35**	**348**		**Pn**	**07 01 31.9**	**-0.4**
KNK	**Knik Glacier**	**5.36**	**6**		**Pn**	**07 01 32.4**	**+0.2**
N19K	**Bonanza Creek**	**5.37**	**334**		**Pn**	**07 01 31.0**	**-1.4**
P16K	**Nushagak River**	**5.37**	**307**		**Pn**	**07 01 32.3**	**0.0**
SUA	**Susitna One**	**5.41**	**354**		**Pn**	**07 01 31.8**	**-1.2**
O17K	**Koliganek Bris**	**5.42**	**316**		**Pn**	**07 01 32.4**	**-0.6**
DIV	**Divide**	**5.43**	**20**		**Pn**	**07 01 32.5**	**-0.8**
SNH	**Sunshine Point**	**5.44**	**39**		**Pn**	**07 01 32.9**	**-0.6**
PMR	**Palmer**	**5.51**	**2**		**Pn**	**07 01 33.2**	**-1.1**
PMR	**Palmer**	**5.51**	**2**	P	**Pn**	**07 01 34.7**	**+0.4**
STLK	**Strandline Lak**	**5.53**	**349**		**Pn**	**07 01 33.2**	**-1.5**
BMRM	**Bremner River**	**5.54**	**26**		**Pn**	**07 01 33.8**	**-1.0**
N18K	**Kilae Creek**	**5.65**	**327**		**Pn**	**07 01 35.1**	**-1.1**
GHO	**Glory Hole Cre**	**5.70**	**3**		**Pn**	**07 01 36.7**	**-0.2**
O16K	**Kokwok River B**	**5.71**	**311**	Pn	**Pn**	**07 01 36.2**	**-0.9**
KLU	**Klutina**	**5.74**	**18**		**Pn**	**07 01 37.0**	**-0.5**
SML	**Sawmill**	**5.76**	**6**		**Pn**	**07 01 37.7**	**-0.1**
MESA	**MESA**	**5.76**	**42**		**Pn**	**07 01 38.5**	**+0.5**
M23K	**Glacier View**	**5.79**	**9**		**Pn**	**07 01 38.2**	**0.0**
CHNA	**Chernabura Isl**	**5.81**	**261**	P	**Pn**	**07 01 36.2**	**-2.2**
CNBA	**Chernabura Isl**	**5.81**	**261**	Pn	**Pn**	**07 01 36.3**	**-2.1**
SCM	**Sheep Creek Mo**	**5.87**	**11**		**Pn**	**07 01 39.2**	**-0.1**
N17K	**Nushagak Hills**	**5.96**	**321**	Pn	**Pn**	**07 01 39.2**	**-1.2**
YAH	**Yahtse**	**5.96**	**41**		**Pn**	**07 01 40.8**	**+0.1**
SKT	**Skwentna**	**5.98**	**351**		**Pn**	**07 01 39.9**	**-0.9**
CHX	**Chaix Hills**	**6.01**	**45**		**Pn**	**07 01 41.1**	**-0.2**
VRDI	**Verde Repeater**	**6.07**	**30**		**Pn**	**07 01 41.0**	**-1.1**
RKAV	**Rock Avalanche**	**6.07**	**43**		**Pn**	**07 01 41.9**	**-0.3**
M20K	**Styx River**	**6.07**	**344**		**Pn**	**07 01 40.9**	**-1.2**
N25K	**Chitina, Valde**	**6.10**	**23**		**Pn**	**07 01 42.0**	**-0.6**
GLB	**Gilahina Butte**	**6.15**	**27**		**Pn**	**07 01 41.5**	**-1.6**
KIAG	**Kiagna River**	**6.15**	**35**		**Pn**	**07 01 42.6**	**-0.7**
SDPT	**Sand Point**	**6.17**	**267**	Pn	**Pn**	**07 01 42.0**	**-1.5**
SDPT	**Sand Point**	**6.17**	**267**	P	**Pn**	**07 01 41.9**	**-1.5**
SAMH	**Samovar Hills**	**6.19**	**46**		**Pn**	**07 01 43.6**	**-0.1**
BALM	**Baldy**	**6.24**	**35**		**Pn**	**07 01 43.9**	**-0.5**
M24K	**Tolsona, Glenn**	**6.28**	**15**		**Pn**	**07 01 45.5**	**+0.5**
O15K	**Ungalikthiuk R**	**6.28**	**304**		**Pn**	**07 01 44.4**	**-0.4**
M18K	**Stony River**	**6.29**	**332**		**Pn**	**07 01 43.5**	**-1.5**
CUT	**Chulitna**	**6.33**	**357**	Pn	**Pn**	**07 01 47.8**	**+2.3**
PCA	**Pinnacle**	**6.38**	**47**		**Pn**	**07 01 46.7**	**+0.4**
WACK	**Wrangell Chich**	**6.50**	**23**		**Pn**	**07 01 47.9**	**-0.2**
N16K	**Nishlik Lake**	**6.51**	**316**		**Pn**	**07 01 47.7**	**-0.3**
PNL	**Peninsula**	**6.52**	**53**		**Pn**	**07 01 47.7**	**-0.5**
PNL	**Peninsula**	**6.52**	**53**	P	**Pn**	**07 01 48.1**	**-0.1**
BCPM	**Bancas Point**	**6.56**	**50**		**Pn**	**07 01 48.6**	**-0.2**
L19K	**White Mountain**	**6.66**	**338**		**Pn**	**07 01 48.4**	**-1.7**
M17K	**Holitna River**	**6.68**	**326**	Pn	**Pn**	**07 01 49.3**	**-1.1**
HARP	**HAARP**	**6.72**	**18**		**Pn**	**07 01 51.5**	**+0.6**
L20K	**Farewell, AK**	**6.75**	**343**		**Pn**	**07 01 50.1**	**-1.3**
O28M	**Mount Upton**	**6.81**	**43**		**Pn**	**07 01 52.0**	**-0.4**
N15K	**Kwethluk River**	**6.87**	**311**		**Pn**	**07 01 53.3**	**+0.3**
M16K	**Timber Creek**	**6.93**	**319**	Pn	**Pn**	**07 01 53.2**	**-0.6**
PS4A	**Pavlof South-4**	**6.95**	**269**		**Pn**	**07 01 52.2**	**-1.8**
HAG	**Hague Volcano**	**6.98**	**269**		**Pn**	**07 01 53.0**	**-1.5**
O14K	**Tigyukauivet M**	**6.99**	**302**		**Pn**	**07 01 54.3**	**-0.3**
L18K	**Granite Mounta**	**7.12**	**332**	Pn	**Pn**	**07 01 54.6**	**-1.8**
O29M	**Mount Kennedy**	**7.20**	**50**		**Pn**	**07 01 57.6**	**0.0**
PAX	**Paxson**	**7.20**	**15**		**Pn**	**07 01 57.8**	**+0.1**
YUK2	**White River**	**7.29**	**35**		**Pn**	**07 01 59.5**	**+0.7**
YUK8	**Steele Glacier**	**7.30**	**41**		**Pn**	**07 02 00.0**	**+0.9**
RND	**Reindeer**	**7.34**	**3**		**Pn**	**07 01 59.0**	**-0.5**
TRF	**Thorofare Moun**	**7.38**	**358**		**Pn**	**07 01 59.2**	**-0.9**
YUK3	**Moose Creek**	**7.40**	**36**		**Pn**	**07 02 01.2**	**+0.8**
M15K	**Kasigluk River**	**7.41**	**313**		**Pn**	**07 02 00.3**	**0.0**
CAST	**Castle Rocks**	**7.44**	**351**		**Pn**	**07 02 00.0**	**-0.8**
N14K	**Kuskokwak Cree**	**7.46**	**306**		**Pn**	**07 02 00.9**	**-0.1**
MENT	**Mentasta**	**7.48**	**21**	Pn	**Pn**	**07 02 01.0**	**-0.4**
KTH	**Kantishna Hill**	**7.50**	**356**		**Pn**	**07 02 01.0**	**-0.7**
L17K	**Donlin**	**7.51**	**327**		**Pn**	**07 02 01.2**	**-0.5**
S31K	**Pelican**	**7.54**	**70**		**Pn**	**07 01 58.8**	**-3.4**
K20K	**Telida**	**7.61**	**345**		**Pn**	**07 02 01.4**	**-1.7**
YUK6	**Outpost Mounta**	**7.63**	**46**		**Pn**	**07 02 04.2**	**+0.6**
L26K	**Log Cabin Wild**	**7.64**	**22**		**Pn**	**07 02 03.0**	**-0.5**
MCK	**McKinley**	**7.66**	**2**		**Pn**	**07 02 03.3**	**-0.5**
BVCY	**Beaver Creek**	**7.76**	**32**		**Pn**	**07 02 05.8**	**+0.6**
P30M	**Million Dollar**	**7.82**	**54**		**Pn**	**07 02 06.1**	**+0.1**
PLBC	**Pleasant Camp**	**7.84**	**59**		**Pn**	**07 02 06.1**	**-0.3**
HYT	**Haines Junctio**	**7.92**	**48**	Pn	**Pn**	**07 02 07.6**	**+0.1**
FALS	**False Pass**	**7.93**	**267**	P	**Pn**	**07 02 06.3**	**-1.2**
YUK5	**Granite Creek**	**7.94**	**46**		**Pn**	**07 02 08.7**	**+0.9**
K17K	**Iditarod**	**7.96**	**330**		**Pn**	**07 02 06.5**	**-1.4**
M14K	**Bethel**	**7.97**	**311**		**Pn**	**07 02 06.9**	**-1.1**
L27K	**Beaver Creek,**	**8.02**	**26**		**Pn**	**07 02 08.4**	**-0.3**
RIDG	**Independent Ri**	**8.03**	**15**		**Pn**	**07 02 09.2**	**+0.3**
BPAW	**Bear Paw Mtn.**	**8.05**	**356**		**Pn**	**07 02 07.3**	**-1.9**
DOT	**Dot Lake**	**8.07**	**18**		**Pn**	**07 02 11.1**	**+1.7**
ISLZ	**Isanotski Laza**	**8.13**	**266**		**Pn**	**07 02 08.6**	**-1.7**
ISNN	**Isanotski Nort**	**8.14**	**267**		**Pn**	**07 02 09.1**	**-1.3**
J18K	**Innoko River**	**8.20**	**337**	Pn	**Pn**	**07 02 09.7**	**-1.4**
SSLS	**Shishaldin Sou**	**8.30**	**266**		**Pn**	**07 02 11.2**	**-1.4**
SKAG	**Skagway**	**8.35**	**60**	P	**Pn**	**07 02 12.3**	**-0.9**
BESE	**Bessie Mountai**	**8.37**	**67**		**Pn**	**07 02 12.5**	**-1.1**
SCRK	**Sand Creek**	**8.38**	**17**	Pn	**Pn**	**07 02 14.5**	**+0.7**
M13K	**Dall Lake**	**8.42**	**307**	Pn	**Pn**	**07 02 13.8**	**-0.4**
WRH	**Wood River Hil**	**8.43**	**5**		**Pn**	**07 02 14.0**	**-0.3**
N30M	**Aishikik Lake**	**8.43**	**45**		**Pn**	**07 02 14.2**	**-0.2**
HDA	**Harding Lake**	**8.44**	**8**		**Pn**	**07 02 15.5**	**+1.1**
O30N	**Mendenhall**	**8.50**	**51**		**Pn**	**07 02 14.5**	**-0.8**
NEA2	**Nenana**	**8.52**	**2**		**Pn**	**07 02 14.9**	**-0.7**
JIS	**Juneau Island**	**8.56**	**69**	P	**Pn**	**07 02 15.5**	**-0.6**
L14K	**Kuka Creek**	**8.58**	**313**	Pn	**Pn**	**07 02 16.0**	**-0.3**
CCB	**Clear Creek Bu**	**8.62**	**5**		**Pn**	**07 02 16.

H11N1	**WAKE ISLAND Hy**	**48.64**	**240**	T	T	08 01 17.4	
	baz=31,slow=76,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**49.77**	**239**	T	T	08 02 37.3	
	baz=30						
H11S2	**WAKE ISLAND Hy**	**49.78**	**239**	T	T	08 02 40.5	
	baz=30,slow=74						
H11S3	**WAKE ISLAND Hy**	**49.78**	**239**	T	T	08 02 40.3	
	baz=30,slow=74						
ARCES	**ARCESS Array B**	**54.62**	**2**	P	**P**	**07 09 43.1**	**+3.9**
	comp=Z,2.6nm,0.9s,baz=17,slow=8.9,SNR=3.9						
	comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**58.60**	**310**	P	**P**	**07 10 10.0**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=47,slow=7.5,SNR=5.5						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**62.74**	**2**	P	**P**	**07 10 37.7**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=347,slow=5.7,SNR=3.5						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**66.36**	**335**	P	**P**	**07 11 02.2**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=37,slow=7.6,SNR=5.1						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**66.39**	**329**	P	**P**	**07 11 02.0**	**+2.3**
	comp=Z,1.6nm,0.2s,baz=30,slow=6.4,SNR=2.2						
	comp=Z,1.6nm,0.2s						
MKAR	**Makanchi Array**	**68.63**	**324**	P	**P**	**07 11 14.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=26,slow=5.5,SNR=8.7						
	comp=Z,0.8nm,0.6s						
ROSC	**El Rosal**	**77.82**	**100**	LR	LR	07 50 29.6	
	comp=Z,86nm,18.6s,baz=28,slow=39						
PZH	**PanZhiHua**	**78.04**	**300**	P	**P**	**07 12 09.6**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,5.2s						

*PDG **15** 07:24:50.9±0.2, 42°.97N×17°.98E, h6km, MD2.8/1,*
ML2.7/13, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0
*BEO **15** 07:24:51.1±0.3, 42°.98N×17°.93E, h8km±2km, ML2.3/8*
*RHSSO **15** 07:24:51.2±0.2, 43°.00N×18°.00E, h3km±2km, ML2.6/9*

ISC 15 07:24:51.0±1.1, 43°.00N±0°.02×17°.99E±0°.02, h4km±9km, n51, σ0§90/94, 9C-9D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.25**	**240**	*i*Pg	**Pg**	**07 24 55.4**	**-0.3**
STON				*e*Sg	**Sg**	**07 24 59.5**	**+0.5**
STON	**Ston**	**0.25**	**240**	*i* Pg	**Pg**	**07 24 55.5**	**-0.3**
STON				Sg	**Sg**	**07 24 59.4**	**+0.5**
STON	**Ston**	**0.25**	**240**	*e*Pg	**Pg**	**07 24 10.5**	**-0.3**
STON				*e*Sg	**Sg**	**07 24 59.3**	**+0.3**
DBRK	**Dubrovnik**	**0.35**	**161**	*e*Pg	**Pg**	**07 24 57.2**	**-0.5**
DBRK				Sg	**Sg**	**07 25 03.2**	**+1.0**
TREB	**Trebinje**	**0.39**	**136**	⇑*i*Pg	**Pg**	**07 24 57.7**	**-0.7**
TREB				*e*Sg	**Sg**	**07 25 03.8**	**+0.4**
TREB	**Trebinje**	**0.39**	**136**	*e*Pg	**Pg**	**07 24 57.9**	**-0.5**
TREB				*e*Sg	**Sg**	**07 25 04.0**	**+0.6**
BRY	**Bratogost**	**0.41**	**103**	⇓*i*Pg	**Pg**	**07 24 58.4**	**-0.5**
BRY				*e*Sg	**Sg**	**07 25 04.8**	**+0.4**
BRY	**Bratogost**	**0.41**	**103**	⇓*i*Pg	**Pg**	**07 24 58.5**	**-0.5**
BRY				*e*Sg	**Sg**	**07 25 05.6**	**+1.2**
HCY	**Herceg Novi**	**0.66**	**146**	⇑*i*Pg	**Pg**	**07 25 02.8**	**-0.9**
HCY				*e*Sg	**Sg**	**07 25 13.2**	**+0.9**
HCY	**Herceg Novi**	**0.66**	**146**	⇑*i*Pg	**Pg**	**07 25 02.8**	**-0.9**
HCY				*i* Sg	**Sg**	**07 25 12.9**	**+0.6**
UPM	**Unac-Piva**	**0.70**	**73**	⇑*i*Pg	**Pg**	**07 25 03.1**	**-1.4**
UPM				*e*Sg	**Sg**	**07 25 13.9**	**+0.3**
UPM	**Unac-Piva**	**0.70**	**73**	⇓*i*Pg	**Pg**	**07 25 03.3**	**-1.2**
UPM				*e*Sg	**Sb**	**07 25 15.3**	**-0.6**
NKME	**Niksic**	**0.74**	**108**	⇓*i*Pg	**Pg**	**07 25 04.6**	**-0.6**
NKME				*e*Sg	**Sb**	**07 25 16.6**	**-0.4**
MAKA	**Makarska**	**0.77**	**293**	*e*Pg	**Pg**	**07 25 04.9**	**-0.8**
CEME	**Cevo**	**0.82**	**123**	⇓*i*Pg	**Pg**	**07 25 05.6**	**-1.1**
CEME				*i* Sg	**Sb**	**07 25 18.5**	**-0.6**
LSTV	**Lastovo**	**0.84**	**255**	*e*Pg	**Pg**	**07 25 05.3**	**-1.7**
BUM	**Brajici-Budva**	**0.96**	**136**	⇓*i*Pg	**Pg**	**07 25 08.6**	**-0.8**
BUM				*i* Sg	**Sb**	**07 25 23.6**	**+0.3**
PLE	**Pljevlja**	**1.08**	**71**	⇑*i*Pg	**Pg**	**07 25 11.4**	**-0.2**
PLE				*i* Sg	**Sn**	**07 25 28.7**	**+0.4**
PDG	**Podgorica**	**1.09**	**121**	*e*Pg	**Pg**	**07 25 10.5**	**-1.4**
PDG				*e*Sg	**Sg**	**07 25 26.3**	**+0.3**
PDG	**Podgorica**	**1.09**	**121**	*e*Pg	**Pn**	**07 25 13.0**	**0.0**
PDG				*e*Sg	**Sn**	**07 25 27.8**	**-0.7**
PDG	**Podgorica**	**1.09**	**121**	⇓*i*Pg	**Pg**	**07 25 10.9**	**-1.0**
PDG				*e*Sg	**Sn**	**07 25 28.1**	**-0.4**
KOME	**Kolasin**	**1.13**	**97**	⇓*i*Pg	**Pg**	**07 25 12.0**	**-0.6**
KOME				*i* Sg	**Sn**	**07 25 29.9**	**+0.3**
HVAR	**Hvar**	**1.14**	**280**	*e*Pg	**Pg**	**07 25 11.3**	**-1.5**
RUDO	**Rudo**	**1.18**	**58**	⇑*i*Pg	**Pg**	**07 25 12.4**	**-1.3**
RUDO				*e*Sg	**Sg**	**07 25 28.5**	**-0.5**
RUDO	**Rudo**	**1.18**	**58**	*e*Pg	**Pg**	**07 25 12.4**	**-1.3**
RUDO				*e*Sg	**Sg**	**07 25 28.5**	**-0.5**
DRME	**Dracevica, Mon**	**1.20**	**132**	*e*Pg	**Pg**	**07 25 12.7**	**-1.2**
DRME				*e*Sg	**Sb**	**07 25 29.7**	**-0.3**
DRME	**Dracevica, Mon**	**1.20**	**132**	⇓*i*Pg	**Pg**	**07 25 12.6**	**-1.3**
DRME				*e*Sg	**Sn**	**07 25 31.5**	**+0.4**
HAPS	**Han Pijesak,BI**	**1.29**	**32**	*e*Pg	**Pn**	**07 25 15.2**	**-0.7**
HAPS				*e*Sg	**Sn**	**07 25 35.5**	**+1.8**
BBLS	**Lazi&#263i**	**1.35**	**49**	*e*Pg	**Pn**	**07 25 15.9**	**-0.7**
BBLS				*e*Sg	**Sb**	**07 25 34.3**	**-0.1**
BBLS	**Lazi&#263i**	**1.35**	**49**	*e*Pg	**Pn**	**07 25 16.2**	**-0.4**
BBLS				*e*Sg	**Sn**	**07 25 36.3**	**+1.3**
ULC	**Ulcinj**	**1.39**	**138**	⇑*i*Pg	**Pn**	**07 25 15.7**	**-1.4**
ULC				*i* Sg	**Sn**	**07 25 37.3**	**+1.4**
IVA	**Berane**	**1.40**	**94**	*e*Pg	**Pn**	**07 25 17.0**	**-0.4**
IVA				*i* Sg	**Sg**	**07 25 39.2**	**+3.1**
SJES	**Sjenica**	**1.48**	**79**	⇑*i*Pg	**Pn**	**07 25 17.6**	**-0.8**
SJES				*e*Sg	**Sn**	**07 25 38.1**	**-0.1**
SJES	**Sjenica**	**1.48**	**79**	*e*Pg	**Pb**	**07 25 19.2**	**+0.2**
SJES				*e*Sg	**Sg**	**07 25 40.2**	**+1.8**
PVY	**Plav**	**1.50**	**105**	*e*Pg	**Pn**	**07 25 18.7**	**-0.1**
PVY				*e*Sg	**Sg**	**07 25 42.1**	**+2.8**
KIJV	**Kijevo**	**1.53**	**312**	*e*Pn	**Pn**	**07 25 18.9**	**-0.1**
A050A	**Klekovaca**	**1.82**	**325**	*e*Pn	**Pn**	**07 25 24.1**	**+1.0**
A050A				*e*Sn	**Sn**	**07 25 47.4**	**+0.7**
DIVS	**Divibare**	**1.82**	**52**	*e*Pg	**Pn**	**07 25 23.4**	**+0.2**
DIVS				*e*Sg	**Sg**	**07 25 50.5**	**+0.9**
ZIRJ	**Zirje**	**1.83**	**292**	*e*Pn	**Pn**	**07 25 23.4**	**+0.3**
BLY	**Banja Luka**	**1.85**	**342**	*e*Pn	**Pn**	**07 25 23.9**	**+0.5**
BLY				*e*Sn	**Sn**	**07 25 46.9**	**-0.3**
MORI	**Morici**	**1.88**	**298**	*e*Pn	**Pn**	**07 25 24.6**	**+0.8**
TEKS	**Tekeris**	**1.91**	**35**	*e*Pn	**Pn**	**07 25 23.9**	**-0.4**
TEKS				*e*Sn	**Sn**	**07 25 49.0**	**+0.2**
TEKS	**Tekeris**	**1.91**	**35**	*e*Pg	**Pn**	**07 25 24.1**	**-0.2**
TEKS				*e*Sg	**Sg**	**07 25 53.2**	**+0.8**
TRUS	**Trudelj**	**2.14**	**54**	*e*Pn	**Pn**	**07 25 27.6**	**+0.2**
TRUS				*e*Sn	**Sn**	**07 25 55.9**	**+1.5**
A051A	**Mrakovica**	**2.16**	**339**	*e*Pn	**Pn**	**07 25 28.3**	**+0.5**
A051A				*e*Sn	**Sn**	**07 25 54.8**	**-0.2**
GRUS	**Gruza**	**2.18**	**65**	*e*Pn	**Pn**	**07 25 28.3**	**+0.4**
GRUS				*e*Sn	**Sn**	**07 25 55.1**	**-0.2**
GOCS	**Kraljevo Serbi**	**2.18**	**74**	*e*Pn	**Pn**	**07 25 28.2**	**+0.1**
GOCS				*e*Sn	**Sn**	**07 25 54.7**	**-0.8**
SELS	**Selova**	**2.30**	**83**	*e*Pn	**Pn**	**07 25 30.2**	**+0.5**
SELS				*e*Sn	**Sn**	**07 25 58.1**	**-0.3**
FRGS	**Fruska Gora**	**2.53**	**31**	*e*Sn	**Sn**	**07 26 03.7**	**-0.3**
BOJS	**Bojanci**	**3.19**	**323**	*e*Pn	**Pn**	**07 25 42.5**	**+0.7**
BOJS				*e*Sn	**Sn**	**07 26 20.4**	**+0.2**
CEY	**Cerknica**	**3.75**	**318**	*e*Sn	**Sn**	**07 26 34.0**	**-0.1**

*SOME **15** 07:25:05.4, 42°.85N×83°.07E, h5km*

NNC 15 07:25:08.7±4.2, 42°.76N×82.91E, h0km, mb3.0, mpv2.9, 2C-2D, Error ellipse: s-maj=31.3km s-min=16.5km az=148.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.56**	**280**	*e*P	Pn	07 25 43.8	-7.9
	1.0nm,0.1s						
SHLS				*e*S	Sn	07 26 22.1	-1.6
	23nm,0.2s						
SHLS	**Shalkode**	**2.56**	**280**	*e*P	Pn	07 25 49.9	-1.8
	2.0nm,0.1s						
SHLS				*e*S	Sn	07 26 22.8	-0.9
	23nm,0.3s						
DJR	**Jarkent**	**2.76**	**306**	Pg	Pb	07 25 57.8	-1.2
	0.9nm,0.4s						
DJR				Lg	Lg	07 26 36.6	
	4.0nm,0.4s						
DJR	**Jarkent**	**2.76**	**306**	*e*P	Pn	07 25 52.2	-2.1
	0.3nm,0.1s						
DJR				*e*S	Sg	07 26 36.8	-0.7
	3.8nm,0.2s						
DJR	**Jarkent**	**2.76**	**306**	*e*P	Pb	07 25 57.8	-1.2
	0.3nm,0.1s						
DJR				*e*S	Sg	07 26 36.9	-0.6
	3.9nm,0.3s						
UZB	**Uzynbulak**	**2.88**	**279**	*e*P	Pn	07 25 54.7	-1.4
	1.5nm,0.2s						
UZB				*e*S	Sg	07 26 41.0	-0.4
	8.3nm,0.2s						
UZB	**Uzymbulak**	**2.88**	**279**	*e*P	Pb	07 26 00.7	-0.4
	2.3nm,0.1s						
UZB				*e*S	Sg	07 26 41.5	+0.2
	6.3nm,0.2s						
KNOS	**Konyrlen**	**3.15**	**302**	Pg	Pb	07 26 04.8	-0.9
	0.9nm,0.1s						
KNOS				Lg	Lg	07 26 48.6	
	2.1nm,0.2s						
BLB	**Baldybastay**	**3.50**	**294**	Pg	Pn	07 26 07.4	+2.9
	5.6nm,0.3s						
BLB				Lg	Lg	07 26 53.5	
	7.8nm,0.4s						
KURS	**Kuram**	**3.55**	**283**	Pg	Pb	07 26 13.4	+1.0
	1.4nm,0.4s						
KURS				Lg	Lg	07 27 02.9	
	2.6nm,0.5s						
MK31	**Makanchi Array**	**4.06**	**354**	⇑Pg	Pg	07 26 25.6	-0.9
	0.4nm,0.5s,baz=179,slow=17,SNR=6.0						
MK31				⇑Lg	Lg	07 27 15.4	
	0.9nm,0.5s,baz=168,slow=31,SNR=4.8						
MAKZ	**Makanchi**	**4.10**	**351**	⇓Pg	Pb	07 26 24.5	+2.7
	0.4nm,0.5s						
MAKZ				⇓Lg	Lg	07 27 18.0	
	1.2nm,0.6s						
KTBS	**Karatobe**	**4.65**	**284**	Pg	Pb	07 26 33.2	+2.0
	0.7nm,0.5s						
KTBS				Lg	Lg	07 27 36.9	
	4.4nm,0.4s						
KST	**Kastek**	**5.11**	**276**	Pg	Pb	07 26 42.9	+3.8
	0.9nm,0.5s						
KST				Lg	Lg	07 27 53.6	
	2.7nm,0.4s						

*KRSC **15** 07:41:42.0±0.9, 53°.42N×161°.65E, h46km±16km, Ml4.7*
*IDC **15** 07:41:41.7±0.6, 53°.73N×161°.19E, h0km, mb4.1/29,*
mbtmp4.2/35, ML4.2/4, MS3.7/5, Error ellipse:
s-maj=14.1km s-min=10.6km az=167.0
*MOS **15** 07:41:45.2±1.1, 53°.49N×161°.40E, h49km, mb4.7/14, Error ellipse: s-maj=6.3km s-min=3.6km az=89.2*
*NEIC **15** 07:41:46.0±1.7, 53°.5N±0°.1×161°.2E±0°.2, h39km±8km, mb4.3/33, Error ellipse: s-maj=16.1km s-min=12.2km az=146.0*

ISC 15 07:41:44.8±1.0, 53°.54N±0°.04×161°.42E±0°.04, h27km±6km, n250, σ1§43/273, mb4.3/58, MS3.8/6, 17C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.95**	**243**	PN	**Pn**	**07 42 01.3**	**-1.0**
SPN				S	**Sn**	**07 42 13.8**	**-1.1**
SPN	**Mys Shipunski**	**0.95**	**243**	*e*P	**Pn**	**07 42 01.4**	**-1.0**
SPN				*e*S	**Sn**	**07 42 13.9**	**-1.1**
MKZ	**Mys Kozlova**	**1.03**	**10**	PN	**Pn**	**07 42 02.6**	**-0.9**
MKZ	**Mys Kozlova**	**1.03**	**10**	*e*P	**Pn**	**07 42 02.6**	**-0.9**
KII	**Karymskiy**	**1.27**	**294**	PN	**Pn**	**07 42 06.5**	**-0.3**
KII	**Karymskiy**	**1.27**	**294**	*e*P	**Pn**	**07 42 06.5**	**-0.3**
NLC	**Nalytchevo**	**1.30**	**254**	PN	**Pn**	**07 42 06.7**	**-0.4**
NLC				S	**Sn**	**07 42 23.3**	**-0.2**
NLC	**Nalytchevo**	**1.30**	**254**	*e*P	**Pn**	**07 42 06.8**	**-0.4**
NLC				*e*S	**Sn**	**07 42 23.4**	**-0.2**
SDLR	**Sedlovina**	**1.54**	**261**	PN	**Pn**	**07 42 10.6**	**0.0**
SDLR	**Sedlovina**	**1.54**	**261**	*e*P	**Pn**	**07 42 10.6**	**0.0**
UGLR	**Uglovaya**	**1.59**	**259**	PN	**Pn**	**07 42 11.5**	**+0.3**
UGLR				S	**Sn**	**07 42 31.4**	**+0.5**
UGLR	**Uglovaya**	**1.59**	**259**	*e*P	**Pn**	**07 42 11.6**	**+0.3**
UGLR				*e*S	**Sn**	**07 42 31.4**	**+0.5**
KRER	**Koryakskii**	**1.61**	**263**	PN	**Pn**	**07 42 11.9**	**+0.2**
KRER	**Koryakskii**	**1.61**	**263**	*e*P	**Pn**	**07 42 12.0**	**+0.2**
AVH	**Avacha**	**1.63**	**261**	PN	**Pn**	**07 42 12.1**	**+0.4**
AVH	**Avacha**	**1.63**	**261**	*e*P	**Pn**	**07 42 12.1**	**+0.4**
KRX	**Arik**	**1.67**	**265**	PN	**Pn**	**07 42 12.2**	**-0.1**
KRX	**Arik**	**1.67**	**265**	*e*P	**Pn**	**07 42 12.3**	**-0.1**
DALK	**Dalny**	**1.68**	**253**	PN	**Pn**	**07 42 12.3**	**0.0**
DALK				S	**Sn**	**07 42 33.1**	**+0.1**
DALK	**Dalny**	**1.68**	**253**	*e*P	**Pn**	**07 42 12.3**	**0.0**
DALK				*e*S	**Sn**	**07 42 33.1**	**+0.1**
KOK	**Koryaka**	**1.68**	**263**	PN	**Pn**	**07 42 12.5**	**0.0**
KOK	**Koryaka**	**1.68**	**263**	*e*P	**Pn**	**07 42 12.6**	**0.0**
PET	**Petropavlovsk**	**1.74**	**254**		**Pn**	**07 42 13.4**	**+0.2**
PET	**Petropavlovsk**	**1.74**	**254**	*e*PN	**Pn**	**07 42 13.5**	**+0.3**
PET				*e*S	**Sb**	**07 42 37.0**	**-0.4**
PET				pmax	pmax		
	comp=Z,191nm,0.3s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.4s						
PET	**Petropavlovsk**	**1.74**	**254**	*e*P	**Pn**	**07 42 13.3**	**+0.2**
PET				*e*S	**Sn**	**07 42 34.7**	**+0.2**
PET	**Petropavlovsk**	**1.74**	**254**	Pn	**Pn**	**07 42 12.2**	**-1.0**
INSR	**Institute**	**1.75**	**255**	PN	**Pn**	**07 42 13.9**	**+0.5**
INSR	**Institute**	**1.75**	**255**	*e*P	**Pn**	**07 42 14.0**	**+0.5**
TUMD	**Tumrok D**	**1.77**	**341**	PN	**Pn**	**07 42 14.0**	**+0.4**
TUMD				S	**Sb**	**07 42 37.1**	**-1.2**
TUMD	**Tumrok D**	**1.77**	**341**	*e*P	**Pn**	**07 42 14.0**	**+0.4**
TUMD				*e*S	**Sb**	**07 42 37.1**	**-1.2**
GNL	**Ganaly**	**2.08**	**276**	PN	**Pn**	**07 42 18.8**	**+0.9**
GNL	**Ganaly**	**2.08**	**276**	*e*P	**Pn**	**07 42 18.9**	**+0.9**
RUS	**Russkaya**	**2.08**	**239**	PN	**Pn**	**07 42 18.3**	**+0.5**
RUS	**Russkaya**	**2.08**	**239**	*e*P	**Pn**	**07 42 18.4**	**+0.5**
KRMR	**Karymshinskiy**	**2.10**	**251**	PN	**Pn**	**07 42 19.4**	**+1.2**
KRMR				S	**Sn**	**07 42 45.1**	**+1.7**
KRMR	**Karymshinskiy**	**2.10**	**251**	*e*P	**Pn**	**07 42 19.4**	**+1.2**
KRMR				*e*S	**Sn**	**07 42 45.1**	**+1.7**
GRL	**Gorelyy**	**2.25**	**245**	PN	**Pn**	**07 42 20.8**	**+0.5**
GRL	**Gorelyy**	**2.25**	**245**	*e*P	**Pn**	**07 42 20.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.27**	**260**		**Pn**	**07 42 21.5**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.27**	**260**	*ce*PN	**Pn**	**07 42 21.8**	**+1.2**
PETK	**Petropavlovsk-**	**2.27**	**260**		**Pn**	**07 42 21.1**	**+0.5**
PETK	**Petropavlovsk-**	**2.27**	**260**	Pn	**Pn**	**07 42 21.0**	**+0.4**
	comp=E,59nm,0.4s,baz=81,slow=20,SNR=406						
PETK				Sn	**Sn**	**07 42 47.6**	**-0.1**
	comp=E,47nm,0.3s,baz=281,slow=26,SNR=5.9						
PETK				LR	LR	07 42 55.5	
	comp=E,70nm,21.6s,baz=45,slow=34						
KMNR	**Kamenistaya**	**2.32**	**343**	PN	**Pn**	**07 42 23.5**	**+2.2**
KMNR	**Kamenistaya**	**2.32**	**343**	*e*P	**Pn**	**07 42 23.6**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**2.44**	**350**	PN	**Pn**	**07 42 24.7**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**2.44**	**350**	*e*P	**Pn**	**07 42 24.8**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.48**	**348**	PN	**Pn**	**07 42 26.0**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.48**	**348**	*e*P	**Pn**	**07 42 26.0**	**+2.4**
KIRR	**Kirishev**	**2.50**	**346**	PN	**Pn**	**07 42 25.7**	**+1.9**
KIRR				S	**Sb**	**07 42 57.1**	**-2.2**
KIRR	**Kirishev**	**2.50**	**346**	*e*P	**Pn**	**07 42 25.7**	**+1.9**
KIRR				*e*S	**Sb**	**07 42 57.2**	**-2.2**
ZLN	**Zelenaya**	**2.51**	**352**	PN	**Pn**	**07 42 26.0**	**+2.2**
ZLN	**Zelenaya**	**2.51**	**352**	*e*P	**Pn**	**07 42 26.1**	**+2.2**
KPT	**Kopyto**	**2.53**	**345**	PN	**Pn**	**07 42 26.0**	**+1.9**
KPT	**Kopyto**	**2.53**	**345**	*e*P	**Pn**	**07 42 26.1**	**+1.9**
LGNR	**Loginova**	**2.58**	**351**	PN	**Pn**	**07 42 27.6**	**+2.6**
LGNR	**Loginova**	**2.58**	**351**	*e*P	**Pn**	**07 42 27.7**	**+2.6**
CIRR	**Tsirk**	**2.61**	**352**	PN	**Pn**	**07 42 28.3**	**+3.1**
CIRR	**Tsirk**	**2.61**	**352**	*e*P	**Pn**	**07 42 28.4**	**+3.1**
APC	**Apacha**	**2.63**	**258**	PN	**Pn**	**07 42 27.4**	**+1.9**
APC				S	**Sn**	**07 42 59.1**	**+2.6**
APC	**Apacha**	**2.63**	**258**	*e*P	**Pn**	**07 42 27.4**	**+1.9**
APC				*e*S	**Sn**	**07 42 59.1**	**+2.6**
KDTR	**Khodutka, Kamc**	**2.67**	**231**	PN	**Pn**	**07 42 25.7**	**-0.3**
KDTR	**Khodutka, Kamc**	**2.67**	**231**	*e*P	**Pn**	**07 42 25.8**	**-0.3**
KOZ	**Kozyrevsk**	**2.67**	**341**	PN	**Pn**	**07 42 28.2**	**+2.1**
KOZ	**Kozyrevsk**	**2.67**	**341**	*e*P	**Pn**	**07 42 28.2**	**+2.1**
KRSR	**Krestovskiy**	**2.73**	**350**	PN	**Pn**	**07 42 28.7**	**+1.8**
KRSR	**Krestovskiy**	**2.73**	**350**	*e*P	**Pn**	**07 42 28.7**	**+1.8**
KBTR	**Krutoberegovo**	**2.79**	**16**	PN	**Pn**	**07 42 28.7**	**+1.1**
KBTR	**Krutoberegovo**	**2.79**	**16**	*e*P	**Pn**	**07 42 28.8**	**+1.1**
KLY	**Klyuchi**	**2.81**	**351**	PN	**Pn**	**07 42 29.4**	**+1.5**
KLY	**Klyuchi**	**2.81**	**351**	*e*P	**Pn**	**07 42 29.5**	**+1.5**
KBG	**Krutoberegovo**	**2.82**	**15**	PN	**Pn**	**07 42 29.1**	**+1.1**
KBG				S	**Sn**	**07 43 03.1**	**+2.1**
KBG	**Krutoberegovo**	**2.82**	**15**	*e*P	**Pn**	**07 42 29.2**	**+1.1**
KBG				*e*S	**Sn**	**07 43 03.1**	**+2.1**
ESO	**Esso**	**2.86**	**328**	PN	**Pn**	**07 42 30.1**	**+1.5**
ESO	**Esso**	**2.86**	**328**	*e*P	**Pn**	**07 42 30.2**	**+1.5**
SRDR	**Sredinnyy**	**2.95**	**341**	PN	**Pn**	**07 42 31.7**	**+1.8**
SRDR	**Sredinnyy**	**2.95**	**341**	*e*P	**Pn**	**07 42 31.8**	**+1.8**
SMKR	**Semkarok**	**3.05**	**1**	PN	**Pn**	**07 42 33.5**	**+2.3**
SMKR	**Semkarok**	**3.05**	**1**	*e*P	**Pn**	**07 42 33.5**	**+2.3**
BKI	**Bering**	**3.14**	**56**	PN	**Pn**	**07 42 32.2**	**-0.2**
BKI	**Bering**	**3.14**	**56**	*e*P	**Pn**	**07 42 32.2**	**-0.2**
BKI				*e*S	**Sn**	**07 43 05.9**	**-3.1**
PAU	**Pauzhetka**	**3.50**	**235**	PN	**Pn**	**07 42 38.8**	**+1.5**
PAU				S	**Sn**	**07 43 19.1**	**+1.3**
PAU	**Pauzhetka**	**3.50**	**235**	*e*P	**Pn**	**07 42 38.9**	**+1.5**
PAU				*e*S	**Sn**	**07 43 19.1**	**+1.3**
SKR	**Severo-Kuril's**	**4.34**	**231**	*e*PN	**Pn**	**07 42 51.8**	**+2.8**
SKR				*e*S	**Sn**	**07 43 41.8**	**+3.1**
SKR				pmax	pmax		
	comp=Z,46nm,0.6s						
SKR				smax	smax		
	comp=N,214nm,0.8s						
SKR				smax	smax		
	comp=E,292nm,0.6s						
SKR				MLR	MLR		
	comp=Z,600nm,14.0s						
SKR	**Severo-Kuril's**	**4.34**	**231**	*e*P	**Pn**	**07 42 50.4**	**+1.4**
PALN	**Palana**	**5.62**	**352**	PN	**Pn**	**07 43 09.1**	**+2.7**
PALN	**Palana**	**5.62**	**352**	*e*P	**Pn**	**07 43 09.1**	**+2.7**
OSSR	**Ossora**	**5.79**	**8**	PN	**Pn**	**07 43 10.5**	**+1.7**
OSSR	**Ossora**	**5.79**	**8**	*e*P	**Pn**	**07 43 10.5**	**+1.7**
TILK	**Tilichiki**	**7.39**	**19**	PN	**Pn**	**07 43 32.3**	**+1.7**
TILK	**Tilichiki**	**7.39**	**19**	*e*P	**Pn**	**07 43 32.4**	**+1.7**
SHEM	**Shemya Is, Ala**	**7.67**	**91**	Pn	**Pn**	**07 43 35.0**	**+0.4**
	comp=Z,3.0nm,0.3s,baz=251,slow=15,SNR=2.3						
SHEM				Sn	**Sn**	**07 44 54.8**	**-5.8**
	comp=Z,2.0nm,0.3s,baz=276,slow=21,SNR=1.5						
	comp=Z,53nm,1.0s						
MA2	**Magadan**	**8.43**	**320**	Pn	**Pn**	**07 43 47.3**	**+2.3**
MA2	**Magadan**	**8.43**	**320**	Pn	**Pn**	**07 43 46.6**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=124,slow=10.0,SNR=14						
MA2				LR	LR	07 47 23.8	
	comp=Z,224nm,19.3s,baz=124,slow=42						
	comp=Z,8.1nm,0.6s						
MA2	**Magadan**	**8.43**	**320**	⇑*e*PN	**Pn**	**07 43 49.0**	**+4.0**
MA2	**Magadan**	**8.43**	**320**	Pn	**Pn**	**07 43 45.2**	**+0.2**
	comp=Z,16nm,0.8s						
SEY	**Seymchan**	**10.54**	**337**	Pn	**Pn**	**07 44 11.9**	**-1.9**
	baz=132,slow=15						
SEY	**Seymchan**	**10.54**	**337**	*e*PN	**Pn**	**07 44 16.5**	**+2.6**
SEY				pmax	pmax		
	comp=Z,3.0nm,1.2s						
YUK	**Yuzh-Kuril'sk**	**13.96**	**233**	⇓*e*P	**Pn**	**07 44 59.7**	**-0.9**
BILL	**Bilibino**	**14.73**	**7**	Pn	**Pn**	**07 45 13.3**	**+2.2**
BILL	**Bilibino**	**14.73**	**7**	⇓*e*P	**Pn**	**07 45 13.4**	**+2.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
JKA	**Kamikawa-asahi**	**15.53

baz=358
HHC Hu-ho-hao-te 35.44 270 eP P 07 48 36.6 -2.0
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.6s
C36M Paulatuk 36.22 35 P P 07 48 45.0 +0.2
C36M IAmb IAmb 07 49 16.5
comp=Z,6.2nm,1.3s
YKA Yellowknife Ar 42.29 43 P P 07 49 36.4 +0.8
comp=Z,0.7nm,0.6s,baz=300,slow=8.4,SNR=9.9
comp=Z,0.7nm,0.6s
RES Resolute Bay 42.61 22 P P 07 49 38.6 +0.6
RES Resolute Bay 42.61 22 P P 07 49 38.6 +0.6
RES pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 43.20 303 P P 07 49 40.6 -2.4
comp=Z,0.8nm,0.4s,baz=59,slow=6.9,SNR=1.5
comp=Z,0.8nm,0.4s
GTA Gaotai 43.34 277 eP P 07 49 45.3 +0.8
GTA pP sP 07 49 56.4 +2.2
GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA LR LR
comp=N,120nm,17.9s
GTA LR LR
comp=E,86nm,16.7s
GTA LR LR
comp=Z,74nm,15.9s
KBS Kingsbay 46.54 352 *i* P **P 07 50 10.9 +1.6**
SPITS Spitsbergen Ar 46.82 351 P P 07 50 11.4 -0.1
comp=Z,7.7nm,0.6s,baz=63,slow=9.5,SNR=23
comp=Z,7.7nm,0.6s
WMQ Urumqi 47.57 290 *eP* **P 07 50 18.9 +1.0**
WMQ pP pwP 07 50 30.6 +0.9
WMQ pmax pmax
comp=Z,14nm,0.7s
NEEM North Greenlan 47.72 9 *i* P **P 07 50 18.4 -0.5**
NEEM IAmb IAmb 07 50 20.7
comp=Z,7.9nm,0.7s
KURK Kurchatov 48.17 302 *deP* **P 07 50 20.9 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURBB Kurchatov Arra 48.27 302 P P 07 50 20.5 -2.6
comp=Z,3.4nm,0.5s,baz=57,slow=7.7,SNR=14
comp=Z,3.4nm,0.5s
MK31 Makanchi Array 48.67 296 P P 07 50 24.8 -1.5
MK31 Makanchi Array 48.67 296⇑ *eP* **P 07 50 24.1 -2.2**
MKAR Makanchi Array 48.67 296 P P 07 50 23.7 -2.6
comp=Z,1.1nm,0.6s,baz=60,slow=7.2,SNR=11
comp=Z,1.1nm,0.6s
MKAR Makanchi Array 48.67 296 *i* P **P 07 50 24.7 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KULLO Kullorsuaq 49.58 13 *i* P **P 07 50 32.4 -0.4**
KULLO IAmb IAmb 07 50 35.5
comp=Z,9.1nm,0.6s
DAG Danmarks Havn 49.96 0 P P 07 50 35.1 -0.5
DAG Danmarks Havn 49.96 0 *i* P **P 07 50 34.6 -1.0**
DAG IAmb IAmb 07 50 37.2
comp=Z,3.7nm,0.7s
BVAR Borovoye Array 50.73 309 P P 07 50 39.3 -2.5
comp=Z,1.2nm,0.4s,baz=61,slow=7.9,SNR=7.1
comp=Z,1.2nm,0.4s
PZH PanZhiHua 51.23 263 P P 07 50 45.3 -0.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.7s
ARCES ARCESS Array B 53.10 342 P P 07 50 58.5 -0.8
comp=Z,3.1nm,0.8s,baz=39,slow=2.7,SNR=7.4
comp=Z,3.1nm,0.8s
SUMG Summit 53.42 7 P P 07 51 04.6 +2.6
SUMG Summit 53.42 7 *i* P **P 07 51 02.2 +0.2**
ARTI Arti 53.70 318 *d i* P **P 07 51 02.6 -1.2**
ARTI 07 52 11.0
ARTI 07 53 01.9
ARTI S **S 07 58 33.9 -1.9**
ARTI SS **SS 08 02 15.7 -0.1**
ARTI pmax pmax
comp=Z,2.0nm,0.7s
KDJ Kajisay 54.49 295 P P 07 51 08.2 -1.8
NVAR Mina Array Bea 54.84 71 P P 07 51 14.8 +2.1
comp=Z,1.1nm,0.7s,baz=300,slow=7.8,SNR=12
comp=Z,1.1nm,0.7s
ELK Elko 54.95 67 P P 07 51 13.3 -0.2
AAK Ala-Archa 55.59 297 P P 07 51 16.7 -1.2
AAK IAmb IAmb 07 51 21.5
comp=Z,1.8nm,0.6s
AAK Ala-Archa 55.59 297⇓ *eP* **P 07 51 18.4 +0.5**
AAK pmax pmax
comp=Z,5.0nm,1.9s
PDAR Pinedale Array 56.61 62 P P 07 51 26.8 +1.5
comp=Z,0.9nm,0.6s,baz=316,slow=2.3,SNR=15
comp=Z,0.9nm,0.6s
KLMR Klimovskoe 56.96 330 *eP* **P 07 51 25.6 -1.6**
KLMR pmax pmax
comp=Z,7.0nm,0.6s
TMUT Trail Mountain 58.17 66 P P 07 51 38.0 +1.5
TMUT IAmb IAmb 07 51 39.3
comp=Z,2.1nm,0.9s
CMAR Chiang Mai Arr 59.05 259 P P 07 51 43.9 +1.4
comp=Z,1.7nm,0.4s,baz=24,slow=6.5,SNR=12
comp=Z,1.7nm,0.4s
BTK Batken 59.37 297 P P 07 51 42.5 -2.0
FINES FINESS Array B 60.02 337 P P 07 51 48.7 +0.2
comp=Z,3.5nm,0.6s,baz=39,slow=7.4,SNR=20
FINES LR LR 08 21 28.1
comp=Z,45nm,20.1s,baz=217,slow=40
comp=Z,3.5nm,0.6s
OBN Obninsk 62.56 328 LR LR 08 21 44.4
comp=Z,119nm,18.2s,baz=31,slow=39
NC204 NORSAR Array S 63.18 345 P P 07 52 09.7 -0.2
NB2 NORSAR Subarra 63.33 344 P P 07 52 10.4 -0.5
comp=Z,2.5nm,0.5s,baz=23,slow=6.9
NOA NORSAR Array B 63.33 344 P P 07 52 10.7 -0.2
comp=Z,3.9nm,0.7s,baz=20,slow=6.6,SNR=18
comp=Z,3.9nm,0.7s
NORES NORESS Array B 63.56 344 P P 07 52 12.4 0.0
HFS Hagfors 63.76 343 P P 07 52 13.5 -0.2
comp=Z,2.6nm,0.5s,baz=44,slow=4.5,SNR=21
comp=Z,2.6nm,0.5s
SCHQ Schefferville 64.88 28 P P 07 52 20.6 -0.5
comp=Z,0.8nm,0.6s,baz=319,slow=8.6,SNR=1.6
comp=Z,0.8nm,0.6s
NACGM Naroch 65.61 333 *eP* **P 07 52 25.0 -0.8**
baz=28
AK03 Malin Array Si 68.61 330 P P 07 52 43.9 -1.0
AK22 Malin Array Si 68.63 330 P P 07 52 43.8 -1.2
AKASG Malin Array Be 68.63 330 P P 07 52 44.3 -0.8
comp=Z,1.4nm,0.4s,baz=30,slow=6.2,SNR=11
comp=Z,1.4nm,0.4s
AKASG Malin Array Be 68.63 330 *i* P **P 07 52 44.2 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 68.63 330 P P 07 52 44.5 -0.5
AKBB Malin Array Si 68.63 330⇓ *eP* **P 07 52 44.6 -0.5**
AKBB pmax pmax
comp=Z,11nm,1.9s
KIEV Kiev 68.64 330 P P 07 52 44.9 -0.2
KIEV Kiev 68.64 330 ⇓P **P 07 52 45.1 0.0**
KIEV Kiev 68.64 330 P P 07 52 44.9 -0.2
KIEV pmax pmax
comp=Z,8.0nm,1.1s
AK01 Malin Array Si 68.64 330 P P 07 52 44.2 -0.9
AK20 Malin Array Si 68.66 330 P P 07 52 44.3 -0.9
AK12 Malin Array Si 68.70 330 P P 07 52 44.5 -1.0
RNPP9 Sopachiv 68.97 332 P P 07 52 46.4 -0.7
KIV Kislovodsk 69.65 318 *eP* **P 07 52 49.5 -2.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,36nm,17.0s
TX31 Lajitas Ar. Si 69.73 68 P P 07 52 53.2 +0.9
TX31 IAmb IAmb 07 52 54.2
comp=Z,1.8nm,0.6s
TXAR Lajitas Array 69.73 68 P P 07 52 53.6 +1.2
comp=Z,1.5nm,0.6s,baz=298,slow=4.4,SNR=16
comp=Z,1.5nm,0.6s
KBZ Khabaz 69.75 317 P P 07 52 50.9 -1.2
comp=Z,3.4nm,0.8s,baz=69,slow=8.5,SNR=6.6
comp=Z,3.4nm,0.8s
KBZ Khabaz 69.75 317⇑ *eP* **P 07 52 52.4 +0.3**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
LUBAR Lubar, Ukraine 69.76 330 P P 07 52 51.1 -1.0
SHA1 Shidzhatmaz 69.84 317⇑ *eP* **P 07 52 53.9 +0.9**

EKA Eskdalemuir Ar 70.75 351 P P 07 52 58.0 0.0
comp=Z,2.5nm,0.7s,baz=22,slow=5.2,SNR=5.6
comp=Z,2.5nm,0.7s
NDNU Novodnistrovsk 71.06 330 P P 07 52 59.6 -0.4
KMPD K-Podol'skiy 71.36 330 P P 07 53 00.8 -1.0
CHRU Chernivtsi 71.76 330 P P 07 53 02.9 -1.3
GNI Garni 71.94 314⇑ *eP* **P 07 53 07.2 +1.5**
GNI pmax pmax
comp=Z,6.0nm,0.7s
KSV Kosov 71.99 331 P P 07 53 04.6 -1.1
CLL Collm 72.21 340 *i* P **P 07 53 07.7 +0.8**
CLL *i* *PP **pwP 07 53 19.8 +0.7**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 72.21 340 *i* P **P 07 53 07.7 +0.8**
comp=Z,9.0nm,1.1s
CLL *i* pP **pwP 07 53 19.8 +0.7**
BUR08 Bucovina Ar. S 72.56 331 P P 07 53 09.8 +0.6
BUR08 IAmb IAmb 07 53 10.1
comp=Z,2.8nm,0.7s
BURAR Bucovina Array 72.58 331 P P 07 53 08.7 -0.6
BURAR Bucovina Array 72.58 331 ⇓P **P 07 53 09.6 +0.3**
BURAR Bucovina Array 72.58 331 ⇓P **P 07 53 09.6 +0.3**
MORC Moravsky Berou 72.64 336 ⇑P **P 07 53 09.9 +0.4**
MORC Moravsky Berou 72.64 336 ⇑P **P 07 53 09.9 +0.4**
LANS Liptovska Anna 72.75 335 *eP* **P 07 53 12.3 +2.1**
LANS Liptovska Anna 72.75 335 *eP* **P 07 53 12.3 +2.1**
TPGR Topolog 74.06 327 ⇑P **P 07 53 18.7 +0.7**
KHC Kasperske Hory 74.15 339 *eP* **P 07 53 19.8 +1.4**
KHC Kasperske Hory 74.15 339 *eP* **P 07 53 19.8 +1.4**
MLR Muntele Rosu 74.28 329 P P 07 53 19.8 +0.4
MLR Muntele Rosu 74.28 329 ⇑P **P 07 53 20.8 +1.4**
MLR Muntele Rosu 74.28 329 P P 07 53 19.8 +0.4
MLR pmax pmax
comp=Z,8.0nm,0.6s
GERES GERESS Array B 74.39 339 P P 07 53 19.9 -0.1
comp=Z,1.5nm,0.5s,baz=46,slow=5.8,SNR=5.9
comp=Z,1.5nm,0.5s
VOIR 74.59 330 ⇑P **P 07 53 22.5 +1.4**
VOIR 74.59 330 ⇑P **P 07 53 22.5 +1.4**
ARR Arges 74.78 330 ⇑P **P 07 53 23.7 +1.5**
GZR Gura Zlata 75.30 331 ⇓P **P 07 53 26.0 +0.8**
GZR Gura Zlata 75.30 331 ⇓P **P 07 53 26.0 +0.8**
BZS Buzias 75.43 332 ⇑P **P 07 53 26.8 +1.0**
BZS Buzias 75.43 332 ⇑P **P 07 53 26.8 +1.0**
ILGA Ilgaz 75.59 322 P P 07 53 28.1 +0.9
HERR Herculane 75.88 331 ⇑P **P 07 53 28.6 +0.2**
BR131 Keskin Array S 76.77 321⇓ *eP* **P 07 53 34.8 +1.0**
BRTR Keskin Array B 76.77 321 P P 07 53 32.8 -1.0
BRTR Keskin Array B 76.77 321 P P 07 53 33.8 0.0
comp=Z,0.5nm,0.5s,baz=5.7,slow=1.2,SNR=6.1
comp=Z,0.5nm,0.5s
BOVS Bovan 77.22 331 ⇑P **P 07 53 36.5 +0.5**
RDO Rodhopi 78.32 328 P P 07 53 41.5 -0.7
NRCA Norcia 80.21 337 P P 07 53 52.6 0.0
ASAR Alice Springs 80.50 205 P P 07 53 57.0 +2.9
comp=Z,0.8nm,0.6s,baz=22,slow=5.2,SNR=2.7
comp=Z,0.8nm,0.6s
ESDC Sonseca Array 86.30 349 P P 07 54 24.5 +0.5
comp=Z,0.9nm,0.6s,baz=360,slow=4.8,SNR=6.2
comp=Z,0.9nm,0.6s
STKA Stephens Creek 86.79 197 P P 07 54 28.3 +2.2
comp=Z,1.9nm,1.0s,baz=55,slow=3.0,SNR=2.6
comp=Z,1.9nm,1.0s
KEST Kesra 87.85 338 LR LR 08 37 59.0
comp=Z,41nm,21.6s,baz=12,slow=38

*IDC **15** 07:45:21.4±8.1, 8°.34S×129°.45E, h181km±68km, mb3.3/1, mbtmp3.9/4, MS2.8/1, Error ellipse: s-maj=64.4km s-min=50.4km az=16.0*
ISC 15 07:45:14.2±2.3, 8°.0S±0°.2×129°.6E±0°.1, h100km, n20, σ1°79/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**90**	P	Pn	07 45 39.8	-3.3
SAUI	**Saumlaki**	**1.71**	**90**	S	**Sn**	**07 46 04.5**	**-0.6**
DRS	**Darwin Rock St**	**4.61**	**164**	P	Pn	07 46 27.0	+5.4
DRS	**Darwin Rock St**	**4.61**	**164**	S	Sn	07 47 26.9	+13
MTN	**Manton Dam**	**5.07**	**162**	P	**Pn**	**07 46 31.3**	**+3.4**
KDU	**Kakadu**	**5.47**	**149**	P	**Pn**	**07 46 35.8**	**+2.4**
FITZ	**Fitzroy Crossi**	**10.76**	**200**	P	**Pn**	**07 47 46.5**	**+1.2**
1.7nm,0.3s,baz=30,slow=12,SNR=37							
FITZ				S	**Sn**	**07 49 42.9**	**-0.8**
12nm,0.7s,baz=128,slow=20,SNR=12							
FITZ	**Fitzroy Crossi**	**10.76**	**200**	P	**Pn**	**07 47 47.2**	**+2.0**
WRA	**Warramunga Arr**	**12.75**	**159**	P	**Pn**	**07 48 11.1**	**-0.8**
1.5nm,0.6s,baz=324,slow=13,SNR=25							
WRA				S	**Sn**	**07 50 32.4**	**+0.1**
3.2nm,0.5s,baz=335,slow=23,SNR=11							
COEN	**Coen**	**14.61**	**115**	P	Pn	07 48 31.9	-4.2
QIS	**Mount Isa**	**15.82**	**143**	P	**Pn**	**07 48 51.5**	**+0.1**
ASAR	**Alice Springs**	**16.14**	**166**	P	**Pn**	**07 48 56.1**	**+0.8**
1.6nm,0.5s,baz=347,slow=11,SNR=44							
ASAR				S	**Sn**	**07 51 51.5**	**-2.6**
1.2nm,0.5s,baz=344,slow=24,SNR=6.6							
AS01	**Alice Springs**	**16.15**	**165**	P	**P**	**07 48 57.5**	**+0.7**
WRKA	**Warakurna**	**17.00**	**184**	P	**P**	**07 49 08.0**	**+1.8**
OOD	**Oodnadatta**	**20.54**	**164**	P	**P**	**07 49 45.3**	**+0.6**
FORT	**Forrest**	**22.72**	**183**	P	**P**	**07 50 07.6**	**-0.2**
TGY	**Tagaytay City**	**23.56**	**339**	LR	LR	08 01 33.7	
comp=Z,22nm,18.3s,baz=0.5,slow=41							
LCRK	**Leigh Creek**	**23.77**	**161**	P	**P**	**07 50 15.8**	**-1.8**
BBOO	**Buckleboo**	**25.43**	**167**	P	**P**	**07 50 32.4**	**-0.2**
STKA	**Stephens Creek**	**26.28**	**156**	P	**P**	**07 50 37.4**	**-3.0**
0.7nm,0.4s,baz=340,slow=9.3,SNR=3.9							
0.7nm,0.4s							

*NNC **15** 08:19:25.7±1.1, 50°.16N×76°.11E, h4km±10km, mb3.3, mpv3.0, Error ellipse: s-maj=10.1km s-min=6.9km az=7.0, Suspected Mining explosion.*
*IDC **15** 08:19:27.1±1.2, 50°.11N×76°.27E, h0km, mbtmp2.7/3, ML2.1/1, Error ellipse: s-maj=16.2km s-min=8.4km az=25.0*
ISC 15 08:19:25.9±0.9, 50°.17N±0°.05×76°.18E±0°.04, h0km, n17, σ1°72/23, 10C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.57**	**72**	Pg	**Pn**	**08 19 55.6**	**+0.6**
0.3nm,0.3s,baz=255,slow=15,SNR=46							
KURBB				Lg	Lg	08 20 16.8	
0.1nm,0.3s,baz=260,slow=30,SNR=5.7							
KURBB	**Kurchatov Arra**	**1.57**	**72**	⇑Pn	**Pb**	**08 19 55.9**	**0.0**
14nm,0.8s							
KURBB				⇑Sn	**Sg**	**08 20 16.7**	**+0.4**
77nm,0.8s							
KURK	**Kurchatov**	**1.66**	**70**	⇑Pn	**Pb**	**08 19 57.1**	**-0.1**
18nm,0.9s							
KURK				⇑Sn	**Sn**	**08 20 18.6**	**+0.5**
56nm,0.9s							
BRZS	**Berezniki**	**2.26**	**267**	Pg	**Pn**	**08 20 04.5**	**0.0**
16nm,0.6s							
BRZS				Lg	Lg	08 20 34.5	
44nm,0.7s							
SEM	**Semipalatinsk**	**2.62**	**83**	Pg	**Pb**	**08 20 15.2**	**+1.3**
2.8nm,0.2s							
SEM				Lg	Lg	08 20 52.4	
31nm,0.2s							
OTUK	**Ortayu**	**3.17**	**234**	Pg	**Pn**	**08 20 18.6**	**+1.6**
0.5nm,0.9s							
OTUK				Lg	Lg	08 20 58.4	
9.3nm,0.7s							
OTUK	**Ortayu**	**3.17**	**234**	⇓Pg	**Pb**	**08 20 21.6**	**-1.4**
2.7nm,0.8s							
OTUK				⇓Lg	Lg	08 21 09.8	
17nm,0.8s							
BVA0	**Borovoye Array**	**4.60**	**311**	⇑Pn	**Pn**	**08 20 36.8**	**+0.1**
2.4nm,0.8s,baz=128,slow=14,SNR=8.4							
BVA0				⇓Lg	Lg	08 21 49.8	
5.6nm,1.1s,baz=127,slow=24,SNR=4.0							
BVAR	**Borovoye Array**	**4.60**	**311**	Pn	**Pn**	**08 20 38.6**	**+1.9**
1.8nm,0.7s,baz=125,slow=13,SNR=6.5							
BVAR				Sn	**Sn**	**08 21 33.3**	**+2.4**
baz=135,slow=21,SNR=4.3							
BVAR				Lg	Lg	08 21 52.8	
0.1nm,0.3s,baz=121,slow=23,SNR=5.6							
BRVK	**Borovoye**	**4.67**	**310**	⇓Pn	**Pn**	**08 20 38.3**	**+0.7**
2.1nm,0.8s							
BRVK				⇓Lg	Lg	08 21 51.8	
5.9nm,0.8s							
MAKZ	**Makanchi**	**5.12**	**129**	⇑Pg	**Pg**	**08 21 00.2**	**-3.7**
0.9nm,0.7s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ				⇑Sn	**Sn**	**08 21 43.9**	**+0.4**
3.2nm,0.8s							
MAKZ				⇓Lg	Lg	08 22 10.7	
9.7nm,0.8s							
MK31	**Makanchi Array**	**5.28**	**127**	⇑Pg	**Pb**	**08 21 01.1**	**+2.0**
0.4nm,0.6s							
MK31				⇑Sn	**Sn**	**08 21 50.6**	**+3.0**
2.3nm,0.8s,baz=320,slow=22,SNR=5.5							
MK31				⇑Lg	Lg	08 22 14.3	
4.7nm,0.7s,baz=312,slow=23,SNR=6.1							
MKAR	**Makanchi Array**	**5.28**	**127**	Pn	**Pn**	**08 20 46.2**	**+0.1**
0.1nm,0.3s,baz=306,slow=12,SNR=2.1							
MKAR				Sn	**Sn**	**08 21 45.2**	**-2.4**
0.2nm,0.3s,baz=320,slow=22,SNR=8.0							
MKAR				Lg	Lg	08 22 10.3	
0.2nm,0.3s,baz=311,slow=24,SNR=8.9							
KAPS	**Kapalarasan**	**5.34**	**155**	Pg	**Pb**	**08 21 00.8**	**+0.9**
1.0nm,0.1s							
KAPS				Lg	Lg	08 22 10.6	
5.4nm,0.1s							
DJR	**Jarkent**	**6.33**	**156**	Pg	**Pb**	**08 21 18.8**	**+1.8**
0.4nm,0.1s							
DJR				Lg	Lg	08 22 41.3	
2.5nm,0.2s							
ZALV	**Zalesovo Beam**	**6.54**	**51**	Pn	**Pn**	**08 21 04.1**	**+1.0**
0.2nm,0.3s,baz=239,slow=15,SNR=5.0							
ZALV				Sn	**Sn**	**08 22 16.1**	**-2.3**
0.2nm,0.3s,baz=236,slow=21,SNR=5.7							
ZALV				Lg	Lg	08 22 50.8	
0.2nm,0.3s,baz=241,slow=26,SNR=5.3							
1.2nm,0.6s							
I46RU	**ZALESOVO INFRA**	**6.54**	**51**	I	I	08 57 20.0	
baz=236,slow=310,SNR=3.4							

*NEIC **15** 08:23:49.5±1.1, 61°.14N±0°.02×149°.56W±0°.05, h38km±7km, Error ellipse: s-maj=3.7km s-min=2.1km az=107.0*
AEIC 15 08:23:50.3±1.3, 61°.12N±0°.02×149°.52W±0°.05, h35km±6km, ML2.5, ML2.7/130(NEIC), **Error ellipse: s-maj=3.5km s-min=2.8km az=107.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.11**	**254**		Pn	08 23 56.3	-2.4
RC01					Sn	08 24 00.8	-4.6
RC01				IAML		08 24 01.8	
comp=E,713nm,0.3s							
FIS	**Fire Island**	**0.34**	**274**		Pn	08 23 58.3	-0.4
FIS	**Fire Island**	**0.34**	**274**	IAML		08 24 06.4	
comp=E,722nm,0.9s							
FIS				IAML		08 24 12.1	
comp=N,647nm,0.4s							
PMR	**Palmer**	**0.51**	**21**		Pn	08 23 59.0	-2.0
PMR				Sn	Sn	08 24 07.2	-1.3
PMR				IAML		08 24 07.9	
comp=N,281nm,0.3s							
KNK	**Knik Glacier**	**0.59**	**60**		Pn	08 24 00.6	-1.7
KNK				Sn	Sn	08 24 09.8	-0.9
PWL	**Port Wells**	**0.63**	**114**		Pn	08 24 01.9	-1.0
PWL	**Port Wells**	**0.63**	**114**		Sn	08 24 11.9	+0.2
O22K	**Cooper Landing**	**0.65**	**189**		Pn	08 24 01.9	-1.2
O22K				Sn	Sn	08 24 11.8	-0.3
SUA	**Susitna One**	**0.69**	**301**		Pn	08 24 01.4	-2.2
M22K	**Willow**	**0.70**	**336**		Pn	08 24 01.6	-2.1
M22K	**Willow**	**0.70**	**336**		Sn	08 24 11.2	-2.0
SLKM	**Skilak Lake**	**0.70**	**210**		Pn	08 24 02.2	-1.6
SLKM				IAML		08 24 14.1	
comp=N,386nm,0.2s							
SLKM	**Skilak Lake**	**0.70**	**210**		Sn	08 24 13.0	-0.4
GHO	**Glory Hole Cre**	**0.71**	**23**		Pn	08 24 02.5	-1.5
GHO				IAML		08 24 13.6	
comp=E,346nm,0.6s							
GHO				IAML		08 24 15.8	
comp=N,354nm,0.5s							
GHO	**Glory Hole Cre**	**0.71**	**23**		Sn	08 24 13.1	-0.7
CAPN	**Captain Cook N**	**0.87**	**247**	Pn	Pn	08 24 05.2	-0.8
SML	**Sawmill**	**0.90**	**39**		Pn	08 24 05.1	-1.4
SML				IAML		08 24 19.0	
comp=N,249nm,0.9s							
SML				IAML		08 24 19.6	
comp=E,131nm,0.3s							
SML	**Sawmill**	**0.90**	**39**		Sn	08 24 17.9	-0.3
SEW	**Seward**	**1.02**	**178**		Pn	08 24 06.3	-1.8
M23K	**Glacier View**	**1.09**	**51**		Pn	08 24 08.4	-0.7
M23K					Sn	08 24 23.4	+0.4
STLK	**Strandline Lak**	**1.18**	**290**		Pn	08 24 08.9	-1.4
STLK				IAML		08 24 25.9	
comp=N,251nm,0.3s							
GLI	**Glacier Island**	**1.21**	**101**		Pn	08 24 09.7	-0.9
GLI				IAML		08 24 27.9	
comp=N,220nm,0.4s							
GLI				IAML		08 24 28.2	
comp=E,253nm,0.6s							
GLI	**Glacier Island**	**1.21**	**101**		Sn	08 24 25.8	0.0
SPCG	**Spurr Capps Gl**	**1.22**	**279**		Pn	08 24 09.7	-1.3
SCM	**Sheep Creek Mo**	**1.27**	**55**		Pn	08 24 11.1	-0.6
SCM				IAML		08 24 29.6	
comp=E,209nm,0.8s							
SCM				IAML		08 24 29.8	
comp=N,213nm,0.6s							
SKT	**Skwentna**	**1.29**	**313**	Pn	Pn	08 24 10.4	-1.5
SKT				IAML		08 24 30.1	
comp=E,216nm,0.4s							
CUT	**Chulitna**	**1.34**	**345**	Pn	Pn	08 24 11.5	-0.9
CKL	**Chakachamna La**	**1.37**	**274**		Pn	08 24 11.7	-1.3
SPBG	**Spurr Blockage**	**1.39**	**277**		Pn	08 24 12.2	-1.1
BRSE	**Bradley Lake S**	**1.51**	**204**		Pn	08 24 13.9	-0.9
RDT	**Redoubt**	**1.52**	**250**		Pn	08 24 14.0	-1.0
BRLK	**Bradley Lake**	**1.52**	**207**		Pn	08 24 13.9	-1.1
BRLK				IAML		08 24 37.4	
comp=E,93nm,0.4s							
BRLK				IAML		08 24 38.5	
comp=N,86nm,0.5s							
P23K	**Montague Islan**	**1.54**	**136**		Pn	08 24 14.1	-1.1
HIN	**Hinchinbrook I**	**1.65**	**115**	Pn	Pn	08 24 16.4	-0.4
HIN				IAML		08 24 43.7	
comp=N,116nm,1.1s							
HIN				IAML		08 24 44.0	
comp=E,139nm,1.0s							
RDJH	**Redoubt Jeurge**	**1.69**	**253**		Pn	08 24 16.6	-0.8
RED	**Redoubt Volcan**	**1.74**	**248**		Pn	08 24 17.4	-0.7
RDWB	**Redoubt West**	**1.75**	**250**		Pn	08 24 17.4	-0.9
KLU	**Klutina**	**1.77**	**76**		Pn	08 24 17.9	-0.7
KLU				IAML		08 24 45.7	
comp=E,90nm,0.5s							
KLU				IAML		08 24 47.6	
comp=N,81nm,0.4s							
HOM	**Homer**	**1.81**	**217**	Pn	Pn	08 24 18.1	-0.8
CNPM	**China Poot**	**1.81**	**209**	Pn	Pn	08 24 17.9	-1.1
CNPM				IAML		08 24 44.6	
comp=E,65nm,1.3s							
CNPM				IAML		08 24 45.5	
comp=N,73nm,0.5s							
DIV	**Divide**	**1.82**	**88**		Pn	08 24 19.2	+0.1
O20K	**Slope Mountain**	**1.85**	**237**		Pn	08 24 19.4	-0.2
M24K	**Tolsona, Glenn**	**1.88**	**57**		Pn	08 24 20.1	+0.1
M20K	**Styx River**	**1.89**	**295**		Pn	08 24 19.5	-0.7
M20K				IAML		08 24 47.0	
comp=N,45nm,1.1s							
EYAK	**Cordova Ski Ar**	**1.93**	**106**	Pn	Pn	08 24 19.8	-0.8
ILSW	**Iliamna Southw**	**2.12**	**239**	Pn	Pn	08 24 22.4	-1.0
ILSW				IAML		08 24 52.6	
comp=E,33nm,0.7s							
ILSW				IAML		08 24 58.8	
comp=N,27nm,1.5s							
PPLA	**Purkeypile**	**2.18**	**326**		Pn	08 24 23.3	-0.9
RND	**Reindeer**	**2.32**	**7**		Pn	08 24 25.9	-0.1
P19K	**Oil Pt**	**2.36**	**233**	Pn	Pn	08 24 25.6	-1.0
P19K				IAML		08 25 01.2	
comp=E,66nm,0.5s							
P19K				IAML		08 25 10.6	
comp=N,65nm,0.6s							
TRF	**Thorofare Moun**	**2.37**	**352**		Pn	08 24 26.4	-0.4
TRF				IAML		08 25 01.3	
comp=N,32nm,0.4s							
TRF				IAML		08 25 08.0	
comp=E,24nm,1.2s							
BMRM	**Bremner River**	**2.40**	**92**		Pn	08 24 26.4	-0.7
GOAT	**Goat Mountain**	**2.41**	**101**		Pn	08 24 26.4	-0.9
N25K	**Chitina, Valde**	**2.42**	**76**		Pn	08 24 26.7	-0.7
N25K				IAML		08 25 04.9	
comp=N,40nm,0.7s							
N25K				IAML		08 25 09.1	
comp=E,30nm,0.5s							
N19K	**Bonanza Creek**	**2.44**	**265**		Pn	08 24 26.1	-1.6

N19K			IAML		08 25 03.0		
	comp=N,25nm,1.2s						
M19K	**Big River Lodg**	**2.46 291**		Pn	08 24 27.2	-0.7	
M19K	**Big River Lodg**	**2.46 291**	IAML		08 25 05.7		
	comp=E,21nm,0.2s						
L20K	**Farewell, AK**	**2.48 305**		Pn	08 24 27.2	-0.9	
RAGM	**Ragged Mountai**	**2.49 105**		Pn	08 24 26.9	-1.4	
KTH	**Kantishna Hill**	**2.53 346**	Pn	Pn	08 24 28.7	-0.2	
KTH			IAML		08 25 03.5		
	comp=N,38nm,0.5s						
KTH			IAML		08 25 05.1		
	comp=E,32nm,0.8s						
O19K	**Port Alsworth**	**2.54 251**	Pn	Pn	08 24 27.8	-1.1	
CAST	**Castle Rocks**	**2.60 334**		Pn	08 24 28.9	-0.9	
MCK	**McKinley**	**2.64 6**		Pn	08 24 29.4	-0.9	
PAX	**Paxson**	**2.66 44**		Pn	08 24 30.8	+0.1	
L19K	**White Mountain**	**2.76 295**		Pn	08 24 31.3	-0.7	
GLB	**Gilahina Butte**	**2.78 81**		Pn	08 24 31.4	-0.9	
GLB			IAML		08 25 15.2		
	comp=N,34nm,0.6s						
GLB			IAML		08 25 16.1		
	comp=E,19nm,0.7s						
SYI	**Shuyak Island**	**2.91 211**	Pn	Pn	08 24 32.9	-1.1	
SYI			IAML		08 25 37.3		
	comp=N,18nm,1.4s						
SYI			IAML		08 25 37.8		
	comp=E,21nm,1.2s						
VRDI	**Verde Repeater**	**2.94 85**	Pn	Pn	08 24 33.3	-1.3	
VRDI			IAML		08 25 21.1		
	comp=N,19nm,1.1s						
Q19K	**Cape Douglas,**	**3.02 225**	Pn	Pn	08 24 34.5	-1.2	
M18K	**Stony River**	**3.06 280**		Pn	08 24 35.2	-1.0	
BPAW	**Bear Paw Mtn.**	**3.07 348**		Pn	08 24 35.0	-1.3	
BPAW			IAML		08 25 25.9		
	comp=N,15nm,1.1s						
BPAW			IAML		08 25 32.9		
	comp=E,14nm,1.5s						
O18K	**Koktuh Hills**	**3.09 248**	Pn	Pn	08 24 35.5	-1.1	
O18K			IAML		08 25 29.4		
	comp=N,16nm,0.9s						
K20K	**Telida**	**3.09 318**		Pn	08 24 35.4	-1.2	
K20K	**Telida**	**3.09 318**	IAML		08 25 33.3		
	comp=E,13nm,0.9s						
N18K	**Kilae Creek**	**3.14 265**	Pn	Pn	08 24 35.9	-1.4	
N18K			IAML		08 25 29.4		
	comp=N,12nm,1.4s						
M26K	**Nabesna, AK**	**3.36 65**	Pn	Pn	08 24 39.8	-0.5	
M26K			IAML		08 25 40.2		
	comp=E,12nm,1.3s						
M26K			IAML		08 25 44.5		
	comp=N,13nm,1.2s						
WRH	**Wood River Hil**	**3.43 10**		Pn	08 24 41.1	0.0	
BALM	**Baldy**	**3.49 88**		Pn	08 24 41.4	-0.7	
KIAG	**Kiagna River**	**3.49 90**		Pn	08 24 41.4	-0.8	
NEA2	**Nenana**	**3.49 3**		Pn	08 24 41.8	-0.3	
HDA	**Harding Lake**	**3.51 19**		Pn	08 24 43.1	+0.9	
HDA			IAML		08 25 41.5		
	comp=N,11nm,0.4s						
HDA			IAML		08 25 42.1		
	comp=E,10nm,1.3s						
L18K	**Granite Mounta**	**3.59 291**		Pn	08 24 42.4	-1.0	
CCB	**Clear Creek Bu**	**3.63 12**		Pn	08 24 43.7	-0.2	
CCB			IAML		08 25 48.7		
	comp=E,7.6nm,1.2s						
KDAK	**Kodiak Island**	**3.69 206**	Pn	Pn	08 24 42.5	-2.3	
KDAK			IAML		08 26 42.2		
	comp=E,16nm,1.4s						
KDAK			IAML		08 26 56.2		
	comp=E,7.6nm,1.4s						
J20K	**Nowinta River**	**3.74 327**	Pn	Pn	08 24 45.1	-0.3	
J20K			IAML		08 25 49.1		
	comp=N,12nm,0.9s						
J20K			IAML		08 25 51.4		
	comp=E,12nm,0.7s						
M17K	**Holitna River**	**3.83 278**	Pn	Pn	08 24 45.4	-1.4	
M17K			IAML		08 25 50.6		
	comp=E,14nm,1.4s						
M17K			IAML		08 25 51.0		
	comp=N,18nm,1.4s						
COLA	**College**	**3.84 11**		Pn	08 24 47.2	+0.4	
COLA			IAML		08 25 37.0		
	comp=N,16nm,0.6s						
COLA			IAML		08 26 00.2		
	comp=N,16nm,0.5s						
SCRK	**Sand Creek**	**3.84 39**		Pn	08 24 47.1	+0.1	
SCRK			IAML		08 25 47.1		
	comp=E,10nm,1.3s						
SCRK			IAML		08 25 48.7		
	comp=N,9.4nm,0.7s						
IL31		**3.86 17**		Pn	08 24 46.2	-0.8	
ILAR	**Eielson Array**	**3.86 17**	Pn	Pn	08 24 47.2	+0.2	
J25K	**Salcha River,**	**3.99 27**	Pn	Pn	08 24 48.9	-0.1	
I23K	**Minto, Yukon-K**	**4.04 1**		Pn	08 24 49.5	-0.1	
I23K			IAML		08 26 06.5		
	comp=N,5.6nm,1.3s						
J18K	**Innoko River**	**4.10 308**	Pn	Pn	08 24 49.2	-1.3	
POKR	**Poker Plat Res**	**4.12 12**	Pn	Pn	08 24 51.0	+0.2	
L17K	**Donlin**	**4.31 287**		Pn	08 24 52.5	-0.8	
J26L	**Joseph Creek**	**4.36 36**	Pn	Pn	08 24 54.4	+0.4	
J26L			IAML		08 25 51.7		
	comp=N,4.5nm,1.4s						
J26L			IAML		08 26 09.0		
	comp=E,7.6nm,1.4s						
K17K	**Iditarod**	**4.45 295**	Pn	Pn	08 24 53.8	-1.3	
K17K			IAML		08 26 22.4		
	comp=E,10nm,1.4s						
K17K			IAML		08 26 23.4		
	comp=N,5.5nm,1.2s						
FYU	**Fort Yukon**	**5.79 17**	Pn	Pn	08 25 13.6	+0.2	

DJA 15 08:46:56.4±0.2, 8°S±4°×11°6E±°, h10km, M4.2/18, mb4.5/4, MLv4.0/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.69**	**143**	P	Pg	08 47 09.7	-0.2
SRBI	**Singaraja**	**1.24**	**274**	P	Pn	08 47 18.2	-1.6
DNP	**Denpasar**	**1.33**	**248**	P	Pn	08 47 21.0	-0.1
PLAI	**Plampang**	**1.45**	**116**	P	Pb	08 47 23.4	-0.2
PLAI				S	Sg	08 47 42.9	-0.3
ABJI	**Asem Bagus**	**2.24**	**280**	P	Pn	08 47 33.6	+0.1
ABJI				S	Sn	08 48 01.9	+0.7
JAGI	**Jajag, Banyuwa**	**2.30**	**263**	P	Pn	08 47 33.5	-0.9
KMMI	**Kalianget**	**2.71**	**294**	P	Pn	08 47 40.1	0.0
GMJI	**Gumukmas**	**2.99**	**268**	P	Pn	08 47 44.0	+0.1
WBSI	**Waikabubak, Su**	**3.24**	**117**	P	Pn	08 47 47.0	-0.4
BSSI	**Bau Bau, Buton**	**4.48**	**63**	P	Pn	08 48 04.6	+0.2
BASI	**Baing, Sumba**	**4.54**	**117**	P	Pn	08 48 04.3	-1.0
BKSI	**Bulukumba**	**4.61**	**52**	P	Pn	08 48 05.9	-0.3
PCJI	**Pacitan**	**5.23**	**269**	P	Pn	08 48 14.4	-0.3
	0.4nm69nm,1.3s						
UGM	**Wanagama**	**5.88**	**272**	P	Pn	08 48 22.9	-0.9
	69nm,1.3s						

*IDC **15** 09:01:10.7±6.5, 6°29S×148°33E, h0km, mb4.1/3, mbtmp4.0/5, ML3.3/2, Error ellipse: s-maj=96.7km s-min=56.5km az=49.0*
*NEIC **15** 09:01:14.9±1.1, 6°2S±0°1×148°4E±0°3, h35km±2km, mb4.4/7, Error ellipse: s-maj=52.5km s-min=10.7km az=289.0*

ISC 15 09:01:18.2±1.8, 6°4S±0°1×148°1E±0°2, h51km, n15, σ1§05/18, mb4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.16**	**196**	Pn	**Pn**	**09 02 05.6**	**+0.2**
PMG				Sn	**Sn**	**09 02 42.6**	**+0.6**
PMG	**Port Moresby**	**3.16**	**196**	Pn	**Pn**	**09 02 05.6**	**+0.2**
	54nm,0.3s,baz=18,slow=9.6,SNR=65						
PMG				Sn	**Sn**	**09 02 41.2**	**-0.7**
	33nm,0.3s,baz=351,slow=19,SNR=13						
	196nm,0.5s						
COEN	**Coen**	**8.95**	**212**	Pn	**Pn**	**09 03 24.8**	**-0.1**
WR8	**Warramunga Arr**	**18.88**	**223**	P	**Pn**	**09 05 35.1**	**-0.3**
WR8				IAmb	IAmb	09 05 49.7	
	comp=Z,10.0nm,1.0s						
WRA	**Warramunga Arr**	**18.98**	**223**	P	**Pn**	**09 05 35.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=52,slow=11,SNR=6.1						
	comp=Z,0.6nm,0.4s						
KNRA	**Kununurra**	**21.07**	**242**	P	**P**	**09 05 59.0**	**+0.7**
KNRA				IAmb	IAmb	09 06 05.2	
	comp=Z,26nm,1.3s						

AS31	**Alice Springs**	**21.94**	**217**	P	**P**	**09 06 08.4**	**+0.8**
ASAR	**Alice Springs**	**21.95**	**217**	P	**P**	**09 06 09.9**	**+2.3**
ASAR	**Alice Springs**	**21.95**	**217**	P	**P**	**09 06 08.4**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=50,slow=9.4,SNR=23						
ASAR				S	**S**	**09 10 05.5**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=35,slow=21,SNR=5.1						
	comp=Z,1.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.79**	**240**	P	**P**	**09 06 37.0**	**+1.5**
FITZ				IAmb	IAmb	09 07 06.9	
	comp=Z,5.5nm,1.3s						
FITZ	**Fitzroy Crossi**	**24.79**	**240**	P	**P**	**09 06 36.6**	**+1.1**
	comp=Z,4.6nm,0.3s,baz=59,slow=8.6,SNR=28						
	comp=Z,4.6nm,0.3s						
STKA	**Stephens Creek**	**26.10**	**193**	P	**P**	**09 06 47.4**	**+0.2**
STKA				IAmb	IAmb	09 07 15.9	
	comp=Z,36nm,1.5s						
STKA	**Stephens Creek**	**26.10**	**193**	P	**P**	**09 06 47.5**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=42,slow=8.2,SNR=4.8						
	comp=Z,1.3nm,0.4s						
DGAR	**Diego Garcia**	**74.98**	**264**	P	**P**	**09 12 53.9**	**-0.9**
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**09 13 40.3**	**-0.7**
QSPA				IAmb	IAmb	09 13 41.6	
	comp=Z,8.9nm,1.5s						

IDC 15 09:11:24.2±3.1, 31°89S×178°01W, h0km, mb3.4/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=72.0km s-min=36.5km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.50**	**211**	Pn	Pn	09 13 14.9	0.0
	0.3nm,0.3s,baz=19,slow=9.0,SNR=6.3						
URZ				Sn	Sn	09 14 40.4	-0.2
	0.9nm,0.3s,baz=146,slow=21,SNR=11						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**43.04**	**269**	P	P	09 19 25.7	-0.2
	0.3nm,0.6s,baz=106,slow=8.1,SNR=4.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	P	09 19 34.9	0.0
	0.3nm,0.3s,baz=112,slow=8.0,SNR=11						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.54**	**339**	PKPbc	PKPdf	09 31 05.9	+0.6
	2.3nm,0.9s,baz=46,slow=4.0,SNR=6.3						

*IDC **15** 09:24:40.6±1.5, 12°79N×87°33W, h0km, mb3.5/4, mbtmp3.4/6, ML2.5/3, MS2.7/1, Error ellipse: s-maj=51.2km s-min=16.1km az=45.0*
*SNET **15** 09:24:42.8±1.1, 12°21N×88°02W, h14km±8km, ML3.5*
*CATAC **15** 09:24:45.0±0.3, 12°N±3°×8°8W±°, h58km±6km, Error ellipse: s-maj=6.5km s-min=2.2km az=29.9, confirmed*

ISC 15 09:24:39.7±1.2, 12°17N±0°04×87°84W±0°03, h14km±8km, n127, σ1§46/140, mb3.5/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.85**	**19**	P	**Pn**	**09 24 58.5**	**+1.1**
CSGN				S	**Sn**	**09 25 11.5**	**+1.7**
CSGN	**Cosiguina Volc**	**0.85**	**19**	P	**Pn**	**09 24 58.4**	**+1.0**
POTN	**Potosi Cosigui**	**0.89**	**22**	P	**Pn**	**09 24 59.2**	**+1.3**
POTN	**Potosi Cosigui**	**0.89**	**22**	P	**Pn**	**09 24 59.1**	**+1.2**
POTN	**Potosi Cosigui**	**0.89**	**22**	P	**Pn**	**09 24 59.1**	**+1.2**
CRIN	**San Cristobal**	**0.94**	**55**	P	**Pn**	**09 25 00.4**	**+1.9**
CRIN	**San Cristobal**	**0.94**	**55**	P	**Pn**	**09 25 00.5**	**+1.9**
QUEN	**Al S del Volca**	**1.06**	**66**	P	**Pn**	**09 25 01.3**	**+1.1**
TELN	**Telica**	**1.08**	**66**	P	**Pn**	**09 25 01.7**	**+1.2**
HERN	**Volcan Telica**	**1.08**	**66**	P	**Pn**	**09 25 01.7**	**+1.1**
HERN	**Volcan Telica**	**1.08**	**66**	P	**Pn**	**09 25 02.2**	**+1.7**
CNCH	**Conchagua**	**1.10**	**0**	*e*P	**Pn**	**09 25 01.9**	**+1.0**
CNCH				*e*S	**Sn**	**09 25 17.9**	**+1.9**
CNCH	**Conchagua**	**1.10**	**0**	S	**Sn**	**09 25 18.9**	**+2.9**
CNCH	**Conchagua**	**1.10**	**0**	P	**Pn**	**09 25 02.2**	**+1.3**
CNCH	**Conchagua**	**1.10**	**0**	P	**Pn**	**09 25 01.9**	**+1.0**
POLN	**Al Sur del Vol**	**1.11**	**64**	P	**Pn**	**09 25 01.9**	**+0.9**
POLN	**Al Sur del Vol**	**1.11**	**64**	P	**Pn**	**09 25 01.9**	**+0.9**
PLRN	**Geotermica Pol**	**1.13**	**68**	P	**Pn**	**09 25 01.4**	**+0.2**
ROCN	**Rota Cerro Neg**	**1.13**	**72**	P	**Pn**	**09 25 01.2**	**+0.1**
LCND	**La Caada**	**1.14**	**358**	*e*P	**Pn**	**09 25 02.2**	**+1.0**
LCND				*e*S	**Sn**	**09 25 17.2**	**+0.5**
LCND				IAML		09 25 24.0	
	comp=Z,1µm,0.3s						
LCND	**La Caada**	**1.14**	**358**	S	**Sn**	**09 25 18.7**	**+2.0**
LCND	**La Caada**	**1.14**	**358**	P	**Pn**	**09 25 02.2**	**+1.0**
LCND	**La Caada**	**1.14**	**358**	S	**Sn**	**09 25 18.5**	**+1.9**
LCND	**La Caada**	**1.14**	**358**	P	**Pn**	**09 25 02.2**	**+1.0**
CNGA	**Al SSO del Vol**	**1.16**	**73**	P	**Pg**	**09 25 04.2**	**+2.1**
CNGN	**Cerro Negro**	**1.17**	**73**	P	**Pg**	09 25 07.5	+5.2
CNGN	**Cerro Negro**	**1.17**	**73**	P	**Pg**	**09 25 03.8**	**+1.6**
MACN	**El Madrono**	**1.18**	**75**	P	**Pg**	**09 25 03.4**	**+1.0**
ILCN	**San Idelfonso**	**1.19**	**70**	P	**Pg**	**09 25 02.9**	**+0.3**
ILCN	**San Idelfonso**	**1.19**	**70**	P	**Pg**	**09 25 02.7**	**0.0**
LEVN	**Ruinas Leon Vi**	**1.22**	**79**	P	**Pg**	**09 25 03.7**	**+0.4**
MOMN	**Momotombo**	**1.30**	**79**	P	**Pg**	**09 25 04.7**	**0.0**
MOMN	**Momotombo**	**1.30**	**79**	P	**Pg**	**09 25 04.9**	**+0.2**
MOMN				S	**Sg**	**09 25 22.4**	**+0.8**
VSM	**San Miguel**	**1.32**	**341**	*e*P	**Pg**	**09 25 05.1**	**-0.2**
BLLM	**Bellamira**	**1.33**	**343**	*e*P	**Pg**	**09 25 05.7**	**+0.4**
RANC	**El Ranchito**	**1.33**	**341**	*e*P	**Pb**	**09 25 04.8**	**+0.2**
RANC	**El Ranchito**	**1.33**	**341**	P	**Pg**	**09 25 05.3**	**-0.1**
RANC	**El Ranchito**	**1.33**	**341**	S	**Sg**	**09 25 22.3**	**-0.6**
RANC	**El Ranchito**	**1.33**	**341**	P	**Pg**	**09 25 05.3**	**-0.1**
ALJI	**Alcalda de J**	**1.36**	**328**	P	**Pb**	**09 25 05.1**	**+0.2**
ALJI	**Alcalda de J**	**1.36**	**328**	S	**Sn**	**09 25 22.8**	**+0.7**
ALJI	**Alcalda de J**	**1.36**	**328**	P	**Pn**	**09 25 04.7**	**+0.5**
PACA	**Pacayal**	**1.38**	**340**	*e*P	**Pg**	**09 25 06.1**	**-0.2**
PACA	**Pacayal**	**1.38**	**340**	P	**Pg**	**09 25 06.0**	**-0.2**
PACA	**Pacayal**	**1.38**	**340**	P	**Pg**	**09 25 06.3**	**0.0**
PACA	**Pacayal**	**1.38**	**340**	S	**Sg**	**09 25 24.2**	**-0.1**
CHOHN	**Orocuina**	**1.47**	**27**	P	**Pg**	**09 25 07.3**	**-0.6**
TECA	**Tecapa**	**1.47**	**334**	*e*P	**Pb**	**09 25 07.2**	**+0.3**
APQ2	**Apoyeque**	**1.48**	**89**	P	**Pg**	**09 25 08.2**	**-0.1**
APQ2	**Apoyeque**	**1.48**	**89**	P	**Pg**	**09 25 07.9**	**-0.4**
ABCN	**Banco Central**	**1.50**	**91**	P	**Pg**	**09 25 09.0**	**+0.5**
TISN	**Laguna Tiscapa**	**1.54**	**91**	P	**Pg**	**09 25 08.6**	**-0.7**
TISN	**Laguna Tiscapa**	**1.54**	**91**	P	**Pb**	**09 25 08.3**	**+0.3**
UNAN	**Cigeo UNAN**	**1.54**	**92**	P	**Pg**	**09 25 08.8**	**-0.5**
UNAN	**Cigeo UNAN**	**1.54**	**92**	P	**Pb**	**09 25 08.3**	**+0.3**
UNAN				S	**Sg**	**09 25 28.0**	**-1.3**
R4DEC	**Barrio San Lui**	**1.56**	**90**	P	**Pb**	**09 25 08.8**	**+0.4**
R4DEC	**Barrio San Lui**	**1.56**	**90**	P	**Pb**	**09 25 08.4**	**+0.1**
MGAN	**Managua**	**1.56**	**90**	P	**Pb**	**09 25 08.8**	**+0.4**
MGAN	**Managua**	**1.56**	**90**	P	**Pb**	**09 25 08.7**	**+0.4**
CAHU	**Cacacuatique**	**1.64**	**347**	*e*P	**Pg**	**09 25 10.7**	**-0.5**
MAS3	**Al N del Volca**	**1.64**	**95**	P	**Pb**	**09 25 10.2**	**+0.5**
MAS3	**Al N del Volca**	**1.64**	**95**	P	**Pb**	**09 25 10.3**	**+0.5**
MAS3				S	**Sn**	**09 25 28.3**	**-0.7**
TECO	**Alcaldia de Te**	**1.64**	**326**	*e*S	**Sn**	**09 25 29.5**	**+0.3**
TECO	**Alcaldia de Te**	**1.64**	**326**	P	**Pn**	**09 25 09.2**	**+1.0**
TECO	**Alcaldia de Te**	**1.64**	**326**	P	**Pn**	**09 25 09.4**	**+1.2**
TECO	**Alcaldia de Te**	**1.64**	**326**	S	**Sn**	**09 25 29.4**	**+0.2**
LIMN	**Finca el Limon**	**1.69**	**58**	P	**Pb**	**09 25 10.4**	**-0.4**
LIMN	**Finca el Limon**	**1.69**	**58**	P	**Pb**	**09 25 10.2**	**-0.6**
NANN	**Nandasmo**	**1.70**	**97**	P	**Pg**	**09 25 11.9**	**-0.5**
NANN	**Nandasmo**	**1.70**	**97**	P	**Pg**	**09 25 11.6**	**-0.7**
UESV	**Universidad de**	**1.73**	**328**	*e*P	**Pn**	**09 25 10.4**	**+1.0**
UESV	**Universidad de**	**1.73**	**328**	P	**Pn**	**09 25 10.6**	**+1.2**
UESV	**Universidad de**	**1.73**	**328**	P	**Pn**	**09 25 10.6**	**+1.2**
UESV	**Universidad de**	**1.73**	**328**	S	**Sn**	**09 25 31.9**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.75**	**331**	*e*P	**Pn**	**09 25 10.7**	**+1.0**
SCLA				*e*S	**Sb**	**09 25 33.7**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.75**	**331**	P	**Pn**	**09 25 10.8**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.75**	**331**	P	**Pn**	**09 25 10.8**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.75**	**331**	S	**Sb**	**09 25 34.0**	**+0.3**
COEG	**Centro de Oper**	**1.77**	**325**	*e*P	**Pn**	**09 25 10.8**	**+0.9**
COEG				*e*S	**Sn**	**09 25 32.8**	**+0.5**
COEG				IAML		09 25 38.8	
	comp=Z,552nm,0.5s						
COEG	**Centro de Oper**	**1.77**	**325**	P	**Pn**	**09 25 11.0**	**+1.0**
COEG	**Centro de Oper**	**1.77**	**325**	P	**Pb**	**09 25 11.5**	**-0.4**
NADN	**Granada**	**1.82**	**103**	P	**Pb**	**09 25 12.5**	**-0.3**
NADN				S	**Sb**	**09 25 34.9**	**-0.5**
LFRS	**El Faro**	**1.88**	**321**	*e*P	**Pb**	**09 25 13.3**	**-0.5**
LOMA	**Loma Larga**	**1.96**	**319**	*e*P	**Pn**	**09 25 13.1**	**+0.4**
LOMA				IAML		09 25 46.3	
	comp=Z,353nm,0.5s						
LOMA	**Loma Larga**	**1.96**	**319**	P	**Pb**	**09 25 14.8**	**-0.5**
LOMA	**Loma Larga**	**1.96**	**319**	S	**Sn**	**09 25 38.3**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.96**	**16**	P	**Pb**	**09 25 14.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.96**	**16**	P	**Pn**	**09 25 13.4**	**+0.7**
UTEC	**Universidad Te**	**2.02**	**319**	P	**Pn**	**09 25 14.9**	**+1.5**
UTEC	**Universidad Te**	**2.02**	**319**	S	**Sn**	**09 25 38.9**	**+0.3**

YUSH	**Yuscaran**	**2.03**	**29**	P	**Pb**	**09 25 15.6**	**-0.8**
UEES	**Universidad Ev**	**2.06**	**319**	P	**Pg**	**09 25 18.8**	**-0.5**
RCFN	**Al S de San Ju**	**2.09**	**49**	P	**Pb**	**09 25 16.6**	**-1.0**
RCFN				S	**Sb**	**09 25 43.5**	**0.0**
BOQS	**Boqueron**	**2.10**	**318**	*e*S	**Sn**	**09 25 41.6**	**+0.9**
RCON	**San Juan de Ri**	**2.10**	**51**	P	**Pg**	**09 25 19.4**	**-0.7**
RCON	**San Juan de Ri**	**2.10**	**51**	P	**Pb**	**09 25 16.4**	**-1.3**
PMON	**Piamonte**	**2.10**	**317**	*e*P	**Pn**	**09 25 15.4**	**+0.8**
PMON	**Piamonte**	**2.10**	**317**	P	**Pn**	**09 25 16.2**	**+1.6**
RCVN	**Varillal2**	**2.14**	**49**	P	**Pb**	**09 25 17.2**	**-1.2**
RCVN	**Varillal2**	**2.14**	**49**	S	**Sb**	**09 25 44.2**	**-0.7**
BOAB	**BOACO BROADBAN**	**2.15**	**82**	P	**Pb**	**09 25 17.0**	**-1.4**
BOAB	**BOACO BROADBAN**	**2.15**	**82**	P	**Pn**	**09 25 16.6**	**+1.5**
INTHN	**La Esperanza I**	**2.15**	**353**	P	**Pb**	**09 25 17.5**	**-1.2**
JAYA	**Jayaque - finc**	**2.16**	**314**	*e*P	**Pn**	**09 25 15.8**	**+0.5**
JAYA	**Jayaque - finc**	**2.16**	**314**	P	**Pn**	**09 25 15.7**	**+0.3**
JAYA	**Jayaque - finc**	**2.16**	**314**	P	**Pn**	**09 25 17.1**	**+1.7**
RCPN	**Sur Rio San Ju**	**2.18**	**51**	P	**Pb**	**09 25 17.6**	**-1.4**
JAPN	**Al SSO del Vol**	**2.21**	**106**	P	**Pn**	**09 25 17.8**	**+1.8**
JAPN	**Al SSO del Vol**	**2.21**	**106**	P	**Pn**	**09 25 17.6**	**+1.6**
CONN	**Concepcion**	**2.25**	**105**	P	**Pb**	**09 25 20.8**	**+0.6**
COMHN	**El Horno**	**2.28**	**7**	P	**Pn**	**09 25 18.5**	**+1.3**
COMHN	**El Horno**	**2.28**	**7**	P	**Pb**	**09 25 19.8**	**-1.0**
CEVE	**Cerro Verde**	**2.40**	**314**	*e*P	**Pn**	**09 25 20.0**	**+1.2**
CEVE				IAML		09 26 04.3	
	comp=Z,314nm,0.3s						
SNJE	**San Jose**	**2.41**	**315**	*e*P	**Pn**	**09 25 19.6**	**+0.7**
NUBE	**Las Nubes**	**2.56**	**313**	*e*P	**Pn**	**09 25 21.6**	**+0.7**
NUBE				*e*S	**Sn**	**09 25 51.9**	**-0.1**
NUBE	**Las Nubes**	**2.56**	**313**	P	**Pn**	**09 25 21.5**	**+0.6**
ACON	**Acoyapa**	**2.62**	**94**	P	**Pn**	**09 25 22.4**	**+0.8**
MTO3	**Montecristo**	**2.67**	**327**	*e*P	**Pn**	**09 25 24.5**	**+2.0**
MTO3	**Montecristo**	**2.67**	**327**	P	**Pb**	**09 25 25.8**	**-1.6**
ESQI	**Esquipulas**	**2.79**	**329**	*e*P	**Pn**	**09 25 26.2**	**+2.1**
JTS	**Las Juntas de**	**3.39**	**123**	Pn	**Pn**	**09 25 34.3**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=313,slow=18,SNR=6.3						
JTS				Sn	**Sn**	**09 26 12.1**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=311,slow=19,SNR=1.8						
JTS				Lg	Lg	09 26 29.8	
	comp=Z,1.4nm,0.3s,baz=273,slow=23,SNR=4.9						
	comp=Z,3.8nm,0.4s						
APG	**El Apazote**	**3.80**	**318**	Pn	**Pn**	**09 25 42.3**	**+4.2**
	baz=127,slow=10,SNR=1.7						
APG				Sn	**Sn**	**09 26 15.1**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=85,slow=18,SNR=4.2						
CMIG	**Matias Romero**	**8.39**	**307**	Pn	**Pn**	**09 26 43.8**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=153,slow=16,SNR=1.6						
CMIG				Sn	**Sn**	**09 28 23.2**	**+7.6**
	comp=Z,0.2nm,0.3s,baz=111,slow=17,SNR=3.9						
CMIG				LR	LR	09 29 15.6	
	comp=Z,51nm,21.8s,baz=136,slow=32						
	comp=Z,0.6nm,0.3s						
TXAR	**Lajitas Array**	**22.55**	**322**	P	**P**	**09 29 40.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=146,slow=7.8,SNR=8.2						
	comp=Z,1.3nm,0.7s						
PDAR	**Pinedale Array**	**35.84**	**332**	P	**P**	**09 31 39.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=123,slow=11,SNR=5.3						
	comp=Z,0.3nm,0.5s						
SCHQ	**Schefferville**	**45.66**	**17**	P	**P**	**09 32 57.7**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=212,slow=15,SNR=4.7						
	comp=Z,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**53.79**	**345**	P	**P**	**09 33 59.8**	**-1.7**
	comp=Z,0.3nm,0.9s,baz=150,slow=7.4,SNR=4.9						
	comp=Z,0.3nm,0.9s						

**IDC 15 09:25:33.0±8.1, 30°55S×177°86W, h0km, mb3.3/2, mbtm

KNRA	**Kununurra**	**21.97 171**	P	**P**	**10 00 18.5**	**+0.1**
KNRA			IAmb	IAmb	10 00 20.8	
comp=Z,28nm,0.6s						
PMBI	**Palembang**	**22.47 247**	P	**P**	**10 00 23.5**	**-0.2**
CGJI	**Cibinong**	**23.39 237**	P	**P**	**10 00 32.0**	**-0.5**
comp=Z,963nmcomp=Z,30nm,1.4s						
MDSI	**Maura Dua**	**23.66 244**	P	**P**	**10 00 34.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.12 179**	P	**P**	**10 00 39.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.12 179**	P	**P**	**10 00 39.6**	**+0.6**
comp=Z,12nm,0.4s,baz=6.4,slow=7.9,SNR=46						
comp=Z,12nm,0.4s						
PSI	**Prapat**	**26.57 264**	LR	LR	10 12 23.4	
comp=Z,37nm,18.3s,baz=140,slow=38						
COEN	**Coen**	**26.69 139**	P	**P**	**10 01 03.2**	**+0.8**
COEN			IAmb	IAmb	10 01 08.4	
comp=Z,8.7nm,0.6s						
WB0	**Warramunga Arr**	**27.27 161**	P	**P**	**10 01 07.0**	**-0.5**
WB0			IAmb	IAmb	10 01 30.5	
comp=Z,9.2nm,1.1s						
WRAB	**Tennant Creek**	**27.41 161**	P	**P**	**10 01 08.4**	**-0.3**
WRA	**Warramunga Arr**	**27.41 161**	P	**P**	**10 01 09.0**	**+0.2**
WRA	**Warramunga Arr**	**27.41 161**	P	**P**	**10 01 08.5**	**-0.3**
comp=Z,4.6nm,0.7s,baz=329,slow=11,SNR=37						
WRA			PcP	**PcP**	**10 04 24.8**	**-0.4**
comp=Z,0.3nm,0.4s,baz=342,slow=2.6,SNR=1.8						
comp=Z,4.6nm,0.7s						
WB2	**Warramunga Arr**	**27.42 161**	P	**P**	**10 01 08.8**	**-0.1**
WB2			IAmb	IAmb	10 01 09.4	
comp=Z,9.2nm,0.8s						
WR8	**Warramunga Arr**	**27.48 161**	P	**P**	**10 01 09.4**	**0.0**
WR0	**Warramunga Arr**	**27.49 161**	P	**P**	**10 01 09.4**	**-0.1**
PSA00	**Pilbara Seismi**	**28.10 191**	P	**P**	**10 01 15.1**	**+0.2**
PSA00			IAmb	IAmb	10 01 36.1	
comp=Z,32nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.51 298**	LR	LR	10 13 20.8	
comp=Z,18nm,19.9s,baz=75,slow=38						
JMN	**Monobe**	**28.53 15**	P	**P**	**10 01 18.1**	**-0.6**
AS31	**Alice Springs**	**30.81 165**	P	**P**	**10 01 39.1**	**+0.2**
ASAR	**Alice Springs**	**30.81 165**	P	**P**	**10 01 39.3**	**+0.4**
ASAR	**Alice Springs**	**30.81 165**	P	**P**	**10 01 39.1**	**+0.3**
comp=Z,3.3nm,0.6s,baz=342,slow=7.1,SNR=115						
ASAR			PcP	**PcP**	**10 04 33.8**	**+0.1**
comp=Z,1.2nm,0.5s,baz=344,slow=2.6,SNR=5.3						
ASAR			S	**S**	**10 06 33.5**	**-0.9**
comp=Z,0.8nm,0.9s,baz=340,slow=11,SNR=4.2						
comp=Z,3.3nm,0.6s						
KSRS	**Korea Array**	**31.22 4**	LR	LR	10 16 56.6	
comp=Z,13nm,18.1s,baz=340,slow=41						
MJAR	**Matsushiro Arr**	**32.43 19**	P	**P**	**10 01 55.6**	**+2.6**
comp=Z,1.4nm,0.7s,baz=191,slow=10,SNR=4.3						
MJAR			LR	LR	10 15 30.2	
comp=Z,14nm,19.9s,baz=148,slow=37						
comp=Z,1.4nm,0.7s						
MORW	**Morawa**	**36.17 194**	P	**P**	**10 02 25.5**	**+0.2**
MORW			IAmb	IAmb	10 02 25.8	
comp=Z,10nm,0.9s						
FORT	**Forrest**	**36.83 176**	P	**P**	**10 02 31.4**	**+0.5**
HNR	**Honiara**	**37.78 114**	P	**P**	**10 02 39.2**	**0.0**
NWAO	**Narrogin (SRO)**	**39.65 191**	P	**P**	**10 02 55.1**	**+0.7**
BBOO	**Buckleboo**	**40.08 166**	P	**P**	**10 02 59.3**	**+1.3**
STKA	**Stephens Creek**	**40.88 159**	P	**P**	**10 03 06.0**	**+1.3**
STKA	**Stephens Creek**	**40.88 159**	P	**P**	**10 03 05.5**	**+0.8**
comp=Z,7.2nm,0.5s,baz=332,slow=8.0,SNR=18						
comp=Z,7.2nm,0.5s						
KLR	**Kul'dur**	**43.24 6**	P	**P**	**10 03 23.8**	**+0.2**
comp=Z,0.7nm,0.5s,baz=191,slow=3.4,SNR=3.6						
comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**44.57 342**	P	**P**	**10 03 33.8**	**-0.6**
comp=Z,0.4nm,0.8s,baz=142,slow=7.3,SNR=1.7						
SONM			LR	LR	10 22 15.3	
comp=Z,27nm,21.9s,baz=195,slow=36						
comp=Z,0.4nm,0.8s						
CAN	**Canberra**	**46.89 153**	P	**P**	**10 03 53.0**	**+0.3**
CAN			IAmb	IAmb	10 03 55.8	
comp=Z,14nm,0.9s						
TOO	**Toolangi**	**47.40 158**	P	**P**	**10 03 58.8**	**+2.1**
TOO			IAmb	IAmb	10 03 59.4	
comp=Z,2.9nm,0.7s						
DZM	**Mont Dzumac**	**49.05 126**	P	**P**	**10 04 10.7**	**+1.0**
comp=Z,2.6nm,0.7s,baz=287,slow=14,SNR=1.4						
comp=Z,2.6nm,0.7s						
PETK	**Petropavlovsk-**	**53.72 24**	P	**P**	**10 04 45.1**	**+1.2**
comp=Z,2.2nm,0.8s,baz=209,slow=9.2,SNR=2.4						
comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**54.79 325**	P	**P**	**10 04 52.1**	**+0.2**
MKAR	**Makanchi Array**	**54.79 325**	P	**P**	**10 04 51.4**	**-0.5**
comp=Z,0.8nm,0.7s,baz=132,slow=7.1,SNR=4.4						
comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**58.96 327**	P	**P**	**10 05 20.2**	**-0.9**
comp=Z,0.7nm,0.7s,baz=127,slow=6.0,SNR=4.7						
comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**58.97 327**	P	**P**	**10 05 20.8**	**-0.4**
KURK			IAmb	IAmb	10 05 25.2	
comp=Z,3.5nm,1.2s						
GAR	**Garm**	**59.29 312**	P	**P**	**10 05 22.6**	**-1.2**
GAR			IAmb	IAmb	10 05 25.2	
comp=Z,8.5nm,1.1s						
LBZ	**Lake Benmore**	**64.45 146**	P	**P**	**10 05 59.8**	**+1.6**
BKZ	**Black Stump Fm**	**65.30 138**	P	**P**	**10 06 05.0**	**+1.3**
BKZ			IAmb	IAmb	10 06 26.1	
comp=Z,22nm,1.4s						
RTZ	**Ruatahuna**	**65.33 137**	P	**P**	**10 06 04.9**	**+0.9**
RTZ			IAmb	IAmb	10 06 32.5	
comp=Z,16nm,1.4s						
C18K	**Utukok River**	**78.27 21**	P	**P**	**10 07 21.9**	**+1.0**
D19K	**Kuna River**	**79.35 21**	P	**P**	**10 07 27.9**	**+1.2**
D19K			IAmb	IAmb	10 07 33.2	
comp=Z,6.2nm,1.3s						
H19K	**Roundabout Mou**	**79.52 24**	P	**P**	**10 07 29.6**	**+2.0**
C23K	**Itkillik River**	**82.17 20**	P	**P**	**10 07 43.4**	**+1.8**
ILAR	**Eielson Array**	**83.49 26**	P	**P**	**10 07 48.7**	**+0.1**
comp=Z,0.5nm,0.6s,baz=275,slow=5.6,SNR=2.6						
comp=Z,0.5nm,0.6s						
BMAR	**Burnt Mountain**	**84.36 23**	P	**P**	**10 07 54.1**	**+1.0**
C27K	**Jago River**	**84.58 21**	P	**P**	**10 07 54.9**	**+0.9**
QSPA	**South Pole Qui**	**96.06 180**	P	**P**	**10 08 49.2**	**+1.0**
TXAR	**Lajitas Array**	**121.14 50**	PKP	**PKiKP**	**10 14 16.9**	**+2.7**
comp=Z,0.5nm,0.7s,baz=208,slow=2.4,SNR=4.0						

*IDC **15** 10:03:36.7±3.0,4°.05S×126°.59E,h201^{km}±29^{km},mb3.5/5,mbtmp4.1/7,Error ellipse: s-maj=46.9km s-min=10.2km az=68.0*

*NEIC **15** 10:03:42.9±1.1,4°.0S±0°.2×126°.47E±0°.06,h298^{km}±22^{km},mb4.3/11,Error ellipse: s-maj=32.3km s-min=8.9km az=179.0*

*DJA **15** 10:03:47.9±0.3,4°S±4°×12°7E±°,h273^{km}±6^{km},M4.2/14,mB4.9/1,mb4.1/10,MLv4.2/14,Mw(mB)4.2/1*

ISC 15 10:03:44.9±0.6,4°.17S±0°.08×126°.61E±0°.08,h300^{km},n36,$_{\sigma}$2°11/35,mb3.8/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.04**	**28**	P	**Pn**	**10 04 24.7**	**-0.8**
AAI	**Ambon**	**1.65**	**73**	P	**Pn**	**10 04 28.4**	**-0.7**
SANI	**Sanana**	**2.19**	**344**	P	**Pn**	**10 04 34.3**	**+1.1**
MSAI	**Masohi**	**2.46**	**71**	P	**Pn**	**10 04 35.5**	**0.0**
BNDI	**Bandanaira**	**3.31**	**96**	P	**Pn**	**10 04 43.4**	**-0.3**
LUWI	**Luwuk**	**4.93**	**309**	P	Pn	10 05 06.0	+4.4
0.2nm2μm43nm,1.0s							
SWI	**Sorong**	**5.69**	**55**	P	**Pn**	**10 05 09.9**	**-0.6**
0.4nm34nm,0.8s							
FAKI	**Fak Fak**	**5.76**	**78**	Pn	**Pn**	**10 05 10.5**	**-0.9**
FAKI	**Fak Fak**	**5.76**	**78**	P	**Pn**	**10 05 10.3**	**-1.1**
0.4nm27nm,0.6s							
SOEI	**Soe**	**6.02**	**203**	P	Pn	10 05 19.3	+4.7
0.1nm20nm,1.3s							
KMPI	**Kaimana, Papua**	**7.10**	**86**	P	**Pn**	**10 05 28.3**	**+0.8**
WBSI	**Waikabubak, Su**	**8.99**	**232**	P	**P**	**10 05 56.6**	**+1.1**
30nm,1.3s							
PLAI	**Plampang**	**9.92**	**242**	P	**P**	**10 06 06.5**	**+0.7**
42nm,1.3s							
TWSI	**Taliwang, Sumb**	**10.68**	**244**	P	P	10 06 17.1	+2.9
KNRA	**Kununurra**	**11.63**	**170**		**P**	**10 06 25.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**13.88**	**184**		**Pn**	**10 06 49.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**13.88**	**184**	P	**P**	**10 06 47.8**	**-1.9**
5.1nm,0.6s,baz=11,slow=11,SNR=24							
WB0	**Warramunga Arr**	**17.27**	**155**	P	**P**	**10 07 25.9**	**-0.9**
WB0				IAmb	IAmb	10 07 26.3	
comp=Z,7.8nm,0.7s							
WRAB	**Tennant Creek**	**17.39**	**155**	P	**P**	**10 07 27.4**	**-0.7**
WRAB				IAmb	IAmb	10 07 28.5	
comp=Z,14nm,1.3s							
WRA	**Warramunga Arr**	**17.40**	**155**	P	**P**	**10 07 26.1**	**-2.1**
WRA	**Warramunga Arr**	**17.40**	**155**	P	**P**	**10 07 27.3**	**-0.9**
comp=Z,7.2nm,0.6s,baz=334,slow=11,SNR=64							
WRA				S	**S**	**10 10 32.3**	**-1.3**
comp=Z,2.6nm,0.9s,baz=335,slow=21,SNR=11							
WR8	**Warramunga Arr**	**17.48**	**155**	P	**P**	**10 07 28.3**	**-0.7**
WR8				IAmb	IAmb	10 07 28.6	
comp=Z,11nm,0.7s							
WR0	**Warramunga Arr**	**17.50**	**154**	P	**P**	**10 07 28.4**	**-0.9**
WR0				IAmb	IAmb	10 07 28.8	
comp=Z,5.3nm,0.7s							
COEN	**Coen**	**19.02**	**122**	P	**P**	**10 07 44.8**	**-0.8**
COEN				IAmb	IAmb	10 08 08.7	
comp=Z,14nm,1.4s							
AS31	**Alice Springs**	**20.63**	**161**	P	**P**	**10 08 01.7**	**-0.5**
ASAR	**Alice Springs**	**20.63**	**161**	P	**P**	**10 08 01.5**	**-0.8**
ASAR	**Alice Springs**	**20.63**	**161**	P	**P**	**10 08 01.6**	**-0.7**
comp=Z,3.2nm,0.5s,baz=348,slow=12,SNR=40							
ASAR				S	**S**	**10 11 43.6**	**+10**
comp=Z,0.7nm,0.7s,baz=341,slow=25,SNR=8.5							
comp=Z,3.2nm,0.5s							
GSI	**Gunungsitoli**	**29.52**	**280**	P	**P**	**10 09 18.6**	**-3.8**
BBOO	**Buckleboo**	**29.84**	**164**	P	**P**	**10 09 25.1**	**+0.1**
BBOO				IAmb	IAmb	10 09 28.9	
comp=Z,17nm,1.2s							
ARMA	**Armidale**	**35.21**	**141**	P	**P**	**10 10 11.3**	**-0.2**
ARMA				IAmb	IAmb	10 10 46.5	
comp=Z,19nm,1.4s							
CMAR	**Chiang Mai Arr**	**35.34**	**310**	P	**P**	**10 10 13.4**	**+0.7**
comp=Z,0.7nm,0.3s,baz=128,slow=8.4,SNR=1.6							
comp=Z,0.7nm,0.3s							
CAN	**Canberra**	**37.28**	**149**	P	**P**	**10 10 29.6**	**+0.8**
TOO	**Toolangi**	**37.47**	**155**	P	**P**	**10 10 28.5**	**-1.9**
USRK	**Ussuriysk Ar.**	**48.39**	**5**	P	**P**	**10 11 58.4**	**+1.3**
comp=Z,1.0nm,0.5s,baz=184,slow=7.3,SNR=4.9							
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**64.03**	**328**	P	**P**	**10 13 48.0**	**+1.0**
comp=Z,1.0nm,0.4s,baz=128,slow=6.6,SNR=24							
comp=Z,1.0nm,0.4s							
KURBB	**Kurchatov Arra**	**68.36**	**329**	P	**P**	**10 14 14.8**	**+0.5**
comp=Z,0.6nm,0.5s,baz=135,slow=5.5,SNR=8.2							
comp=Z,0.6nm,0.5s							

*NEIC **15** 10:04:39.9±0.5,60°.19N±0°.04×152°.77W±0°.08,h96^{km}±2^{km},Error ellipse: s-maj=5.5km s-min=5.3km az=104.0*

AEIC 15 10:04:41.0±0.9,60°.18N±0°.04×152°.84W±0°.08,h93^{km}±3^{km},ML2.4,ML2.7/144(NEIC),**Error ellipse: s-maj=5.6km s-min=5.2km az=113.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.15**	**133**		Pn	10 04 53.7	-0.6
O20K					Sn	10 05 04.1	0.0
RED	**Redoubt Volcan**	**0.24**	**8**		Pn	10 04 53.7	-0.9
RED					Sn	10 05 04.0	-0.7
ILSW	**Iliamna Southw**	**0.25**	**217**		Pn	10 04 53.9	-0.8
ILS	**Iliamna Low So**	**0.25**	**207**		Pn	10 04 53.9	-0.7
ILS					Sn	10 05 04.8	0.0
RDWB	**Redoubt West**	**0.31**	**360**		Pn	10 04 54.0	-1.0
RDWB					Sn	10 05 04.7	-0.7
RDJH	**Redoubt Jeurge**	**0.41**	**2**		Pn	10 04 54.6	-1.0
RDJH					Sn	10 05 05.9	-0.5
RDT	**Redoubt**	**0.45**	**28**		Pn	10 04 54.7	-1.1
RDT					Sn	10 05 05.7	-1.0
P19K	**Oil Pt**	**0.57**	**201**	Pn	Pn	10 04 56.2	-0.4
O19K	**Port Alsworth**	**0.74**	**272**		Pn	10 04 57.5	-0.6
O19K				IAML		10 05 11.8	
comp=E,401nm,0.4s							
O19K				IAML		10 05 11.9	
comp=N,247nm,0.5s							
O19K					Sn	10 05 11.0	+0.1
HOM	**Homer**	**0.80**	**131**		Pn	10 04 58.0	-0.7
AUCH	**Augustine Cone**	**0.88**	**201**		Pn	10 04 59.1	-0.5
CAPN	**Captain Cook N**	**1.02**	**54**	Pn	Pn	10 05 01.2	+0.2
N19K	**Bonanza Creek**	**1.03**	**309**		Pn	10 05 00.6	-0.7
N19K					Sn	10 05 16.2	-0.4
N19K				IAML		10 05 16.7	
comp=E,70nm,0.8s							
N19K				IAML		10 05 17.1	
comp=N,75nm,0.7s							
CNPM	**China Poot**	**1.04**	**128**		Pn	10 05 00.2	-1.1
CKL	**Chakachamna La**	**1.05**	**13**		Pn	10 05 00.4	-1.1
BRLK	**Bradley Lake**	**1.07**	**112**		Pn	10 05 00.2	-1.4
BRLK				IAML		10 05 20.1	
comp=E,271nm,0.1s							
SPBG	**Spurr Blockage**	**1.10**	**12**		Pn	10 05 01.3	-0.9
BRSE	**Bradley Lake S**	**1.14**	**112**		Pn	10 05 01.3	-1.2
SPCG	**Spurr Capps Gl**	**1.18**	**19**		Pn	10 05 02.0	-1.1
O18K	**Koktuh Hills**	**1.23**	**256**	Pn	Pn	10 05 03.0	-0.6
O18K				IAML		10 05 21.1	
comp=E,40nm,0.7s							
Q19K	**Cape Douglas,**	**1.32**	**198**		Pn	10 05 03.8	-0.9
Q19K				IAML		10 05 25.9	
comp=E,157nm,0.7s							
Q19K				IAML		10 05 29.5	
comp=N,112nm,0.6s							
Q19K	**Cape Douglas,**	**1.32**	**198**		Sn	10 05 22.1	-0.5
SLKM	**Skilak Lake**	**1.34**	**75**		Pn	10 05 03.5	-1.4
STLK	**Strandline Lak**	**1.41**	**20**		Pn	10 05 04.8	-1.0
STLK				IAML		10 05 27.6	
comp=E,31nm,0.3s							
P18K	**Big Mountain,**	**1.45**	**238**	Pn	Pn	10 05 05.5	-0.8
O22K	**Cooper Landing**	**1.58**	**78**	Pn	Pn	10 05 06.2	-1.6
N18K	**Kilae Creek**	**1.59**	**290**	Pn	Pn	10 05 07.2	-0.8
SYI	**Shuyak Island**	**1.59**	**172**	Pn	Pn	10 05 07.2	-0.9
SYI				IAML		10 05 30.8	
comp=N,154nm,0.5s							
SYI				IAML		10 05 33.1	
comp=E,128nm,0.4s							
SUA	**Susitna One**	**1.64**	**38**		Pn	10 05 07.7	-1.1
SUA				IAML		10 05 30.8	
comp=N,73nm,0.7s							
SUA				IAML		10 05 32.4	
comp=E,84nm,0.4s							
SEW	**Seward**	**1.70**	**91**		Pn	10 05 08.0	-1.2
RC01	**Rabbit Creek A**	**1.78**	**58**	Pn	Pn	10 05 09.2	-1.2
RC01				IAML		10 05 32.3	
comp=N,145nm,0.2s							
M19K	**Big River Lodg**	**1.89**	**337**		Pn	10 05 10.9	-0.9
KAHC	**Katmai Hardscr**	**1.90**	**217**		Pn	10 05 11.4	-0.7
KAHG	**Katmai Hook Gl**	**1.91**	**208**		Pn	10 05 11.7	-0.4
SKT	**Skwentna**	**1.91**	**19**		Pn	10 05 10.8	-1.3
SKT				IAML		10 05 41.1	
comp=E,20nm,0.4s							
M18K	**Stony River**	**1.96**	**313**		Pn	10 05 11.7	-1.1
M22K	**Willow**	**2.06**	**39**	Pn	Pn	10 05 13.4	-0.6
P17K	**Kvichak River**	**2.08**	**243**		Pn	10 05 13.9	-0.4
O17K	**Koliganek Bris**	**2.18**	**261**		Pn	10 05 15.0	-0.6
N17K	**Nushagak Hills**	**2.19**	**281**		Pn	10 05 15.0	-0.7
N17K	**Nushagak Hills**	**2.19**	**281**	IAML		10 05 42.7	
comp=E,15nm,0.9s							
L19K	**White Mountain**	**2.23**	**335**		Pn	10 05 15.4	-0.9
L19K				IAML		10 05 43.1	
comp=E,14nm,0.8s							
PMR	**Palmer**	**2.30**	**50**	Pn	Pn	10 05 14.9	-2.2
PMR				IAML		10 05 43.2	
comp=N,30nm,0.5s							
PMR				IAML		10 05 49.4	
comp=E,34nm,0.6s							
PWL	**Port Wells**	**2.33**	**71**	Pn	Pn	10 05 14.8	-2.8
PWL				IAML		10 05 44.9	
comp=N,86nm,0.4s							
PWL				IAML		10 05 56.8	
comp=E,79nm,0.9s							
ACHA	**Angle Creek He**	**2.36**	**214**	Pn	Pn	10 05 17.5	-0.5
L20K	**Farewell, AK**	**2.36**	**348**		Pn	10 05 17.1	-0.9
KDAK	**Kodiak Island**	**2.41**	**177**	Pn	Pn	10 05 16.4	-2.2
KDAK				IAML		10 05 53.2	
comp=E,30nm,0.5s							
KDAK				IAML		10 05 53.7	
comp=E,34nm,0.8s							
ANCK	**Angle Creek**	**2.41**	**216**		Pn	10 05 18.3	-0.5
KNK	**Knik Glacier**	**2.48**	**58**	Pn	Pn	10 05 17.3	-2.2
GHO	**Glory Hole Cre**	**2.49**	**48**		Pn	10 05 17.6	-2.1
GHO				IAML		10 05 49.7	
comp=N,52nm,0.4s							
CUT	**Chulitna**	**2.55**	**28**		Pn	10 05 19.6	-0.9
CUT	**Chulitna**	**2.55**	**28**	IAML		10 05 54.4	
comp=N,48nm,0.4s							
CUT				IAML		10 05 55.1	
comp=E,58nm,0.4s							
M17K	**Holitna River**	**2.56**	**300**		Pn	10 05 19.9	-0.8
M17K	**Holitna River**	**2.56**	**300**	IAML		10 06 05.0	
comp=E,12nm,0.8s							
M17K				IAML		10 06 06.0	
comp=N,18nm,1.0s							
O16K	**Kokwok River B**	**2.71**	**260**		Pn	10 05 22.1	-0.6
SML	**Sawmill**	**2.73**	**51**	Pn	Pn	10 05 20.6	-2.4
SML				IAML		10 06 01.6	
comp=E,48nm,0.9s							
SML				IAML		10 06 02.5	
comp=N,53nm,0.6s							
PPLA	**Purkeypile**	**2.74**	**6**	Pn	Pn	10 05 23.2	0.0
R18K	**Karluk**	**2.75**	**198**		Pn	10 05 21.8	-1.4
R18K	**Karluk**	**2.75**	**198**	IAML		10 06 00.2	
comp=N,33nm,0.5s							
R18K				IAML		10 06 06.4	
comp=E,24nm,1.1s							
L18K	**Granite Mounta**	**2.77**	**319**	Pn	Pn	10 05 22.3	-1.0
GLI	**Glacier Island**	**2.92**	**74**	Pn	Pn	10 05 24.4	-1.1
GLI				IAML		10 05 58.4	
comp=N,40nm,1.2s							
GLI				IAML		10 06 08.1	
comp=E,39nm,0.9s							
M23K	**Glacier View**	**2.97**	**55**		Pn	10 05 23.7	-2.4
OHAK	**Old Harbor**	**2.98**	**185**	Pn	Pn	10 05 24.3	-1.9
OHAK				IAML		10 05 58.7	
comp=E,14nm,1.2s							
OHAK				IAML		10 06 04.4	
comp=N,15nm,0.9s							
M16K	**Timber Creek**	**3.13**	**288**	Pn	Pn	10 05 27.7	-0.6
M16K				IAML		10 06 21.7	
comp=N,6.3nm,1.1s							
SCM	**Sheep Creek Mo**	**3.15**	**56**	Pn	Pn	10 05 26.3	-2.3
SCM				IAML		10 06 06.3	
comp=N,36nm,0.6s							
K20K	**Telida**	**3.24**	**350**	Pn	Pn	10 05 29.0	-0.8
CAST	**Castle Rocks**	**3.27**	**6**	Pn	Pn	10 05 29.4	-0.7
L17K	**Donlin**	**3.29**	**309**		Pn	10 05 29.3	-1.1
Q23K	**Middleton Isla**	**3.36**	**100**	Pn	Pn	10 05 29.9	-1.5
TRF	**Thorofare Moun**	**3.50**	**19**	Pn	Pn	10 05 32.2	-1.1
TRF				IAML		10 06 16.0	
comp=E,15nm,0.7s							
TRF				IAML		10 06 16.2	
comp=N,12nm,1.0s							
KTH	**Kantishna Hill**	**3.50**	**14**		Pn	10 05 32.0	-1.3
KTH				IAML		10 06 17.6	
comp=E,6.7nm,0.9s							
KTH				IAML		10 06 21.7	
comp=N,8.0nm,0.5s							
N15K	**Kwethluk River**	**3.62**	**273**	Pn	Pn	10 05 35.3	+0.4
N15K				IAML		10 06 44.7	
comp=N,5.3nm,1.0s							
N15K				IAML		10 06 46.7	
comp=E,6.9nm,1.1s							
KLU	**Klutina**	**3.63**	**66**	Pn	Pn	10 05 32.3	-2.7
K17K	**Iditarod**	**3.65**	**316**		Pn	10 05 34.5	-0.8
K17K				IAML		10 06 18.6	
comp=E,7.2nm,0.9s							
O15K	**Ungalikthiuk R**	**3.68**	**257**		Pn	10 05 35.7	0.0
RND	**Reindeer**	**3.75**	**29**	Pn	Pn	10 05 35.0	-1.6
RND				IAML		10 06 36.2	
comp=E,7.6nm,0.8s							
RND				IAML		10 06 38.6	
comp=N,6.3nm,1.1s							
M24K	**Tolsona, Glenn**	**3.76**	**56**	Pn	Pn	10 05 35.0	-1.9
MCK	**McKinley**	**4.01**	**26**		Pn	10 05 38.8	-1.3
BPAW	**Bear Paw Mtn.**	**4.03**	**12**	Pn	Pn	10 05 38.5	-1.8
BPAW				IAML		10 06 26.9	
comp=N,4.9nm,0.8s							
BPAW				IAML		10 06 28.2	
comp=E,5.0nm,0.9s							
J20K	**Nowinta River**	**4.06**	**352**	Pn	Pn	10 05 39.9	-0.8
BMRM	**Bremner River**	**4.14**	**75**	Pn	Pn	10 05 40.3	-1.6
N25K	**Chitina, Valde**	**4.27**	**67**	Pn	Pn	10 05 40.4	-3.4
N25K				IAML		10 06 29.2	
comp=N,10nm,0.7s							
N25K				IAML		10 06 29.9	
comp=E,10nm,1.2s							
BWN	**Browne**	**4.30**	**20**	Pn	Pn	10 05 42.9	-1.2
BWN				IAML		10 07 08.9	
comp=E,7.4nm,1.1s							
BWN				IAML		10 08 01.2	
comp=N,15nm,1.2s							
J17K	**VABM Dome**	**4.38**	**320**	Pn	Pn	10 05 44.0	-1.0
PAX	**Paxson**	**4.50**	**48**	Pn	Pn	10 05 45.1	-1.7
GLB	**Gilahina Butte**	**4.60**	**70**	Pn	Pn	10 05 46.8	-1.4
GLB				IAML		10 06 37.3	
comp=E,6.5nm,1.2s							
GLB				IAML		10 07 02.6	
comp=N,6.6nm,0.6s							
K15K	**Wolf Creek Mou**	**4.70**	**301**	Pn	Pn	10 05 48.9	-0.6
K15K				IAML		10 08 56.7	
comp=E,2.2nm,1.1s							
VRDI	**Verde Repeater**	**4.73**	**73**	Pn	Pn	10 05 48.5	-1.5
VRDI				IAML		10 06 40.0	
comp=N,6.9nm,1.0s							
VRDI				IAML		10 06 43.1	
comp=E,4.3nm,0.9s							
NEA2	**Nenana**	**4.76**	**20**	Pn	Pn	10 05 49.0	-1.3
J16K	**Anvik River**	**4.83**	**313**	Pn	Pn	10 05 50.2	-1.0
J16K				IAML		10 07 20.2	
comp=E,2.1nm,0.9s							
WRH	**Wood River Hil**	**4.84**	**25**		Pn	10 05 49.7	-1.7
WRH				IAML		10 07 15.4

E25K	**Arctic Village**	**8.57**	**19**	Pn	Pn	10 06 40.1	-2.0
E29M	**Blow River**	**10.45**	**32**	Pn	Pn	10 07 05.6	-2.0
DLBC	**Dease Lake**	**11.77**	**89**	Pn	Pn	10 07 22.7	-2.9

*KRNET **15** 10:17:11.1±0.1, 43.°65N×69.°48E, mb3.0*
*NNC **15** 10:17:12.4±1.4, 43.°75N×69.°62E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=8.2km s-min=5.0km az=137.0, Suspected Mining explosion.*
*SOME **15** 10:17:13.4, 43.°65N×69.°70E*
ISC 15 10:17:15.1±2.5, 43.°58N±0.°09×69.°6E±0.°1, h0km, n17, σ1§29/28, 11C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.59**	**160**	P	**Pn**	**10 17 30.2**	**-0.5**
	4.5nm,0.2s						
BRLS				S	**Sn**	**10 17 43.2**	**+2.2**
	10nm,0.3s						
KK31	**Karatay Array**	**0.84**	**124**	⇑P	**Pg**	**10 17 29.5**	**-1.6**
	0.9nm,0.2s,baz=318,slow=17,SNR=69						
KK31				⇑S	**Sg**	**10 17 43.0**	**+0.9**
	39nm,0.6s,baz=316,slow=29,SNR=9.3						
KKAR	**Karatay Array**	**0.84**	**124**	⇓*i*P	**Pg**	**10 17 29.0**	**-2.2**
KKAR				⇓*i*S	**Sg**	**10 17 42.2**	**+0.1**
IUG	**Iuzhnay**	**1.48**	**166**	P	**Pb**	**10 17 43.7**	**+0.3**
	12nm,0.2s						
IUG				S	**Sn**	**10 18 04.4**	**+1.3**
	24nm,0.5s						
TRKS	**Terek-Say**	**2.36**	**150**	⇓*e*P	**Pn**	**10 17 55.5**	**+0.3**
TRKS				⇓*e*S	**Sb**	**10 18 28.3**	**0.0**
MNAS	**Manas**	**2.42**	**116**	⇑*e*P	**Pn**	**10 17 55.4**	**-0.6**
MNAS				⇑*i*S	**Sn**	**10 18 27.9**	**+1.5**
ARK	**Arkit**	**2.51**	**134**	⇑*e*P	**Pn**	**10 17 57.0**	**-0.3**
ARK				⇑*e*S	**Sn**	**10 18 30.1**	**+1.5**
EKS2	**Erkin-Say**	**3.22**	**105**	⇓*i*P	**Pn**	**10 18 07.1**	**+0.1**
EKS2				⇓*i*S	**Sn**	**10 18 48.0**	**+1.9**
AML	**Almayashu**	**3.37**	**114**	⇓*i*P	**Pn**	**10 18 08.9**	**-0.3**
AML				⇓*i*S	**Sn**	**10 18 51.2**	**+1.1**
AAK	**Ala-Archa**	**3.73**	**103**	⇑Pg	**Pb**	**10 18 20.6**	**-1.3**
	3.7nm,0.5s						
AAK				⇓Lg	Lg	10 19 10.3	
	6.7nm,1.2s						
AAK	**Ala-Archa**	**3.73**	**103**	⇓*i*P	**Pn**	**10 18 14.3**	**+0.2**
AAK				⇓*i*S	**Sn**	**10 19 00.5**	**+1.7**
ARLS	**Aral**	**3.91**	**115**	⇑*e*P	**Pn**	**10 18 16.6**	**+0.1**
ARLS				⇑*e*S	**Sn**	**10 19 03.6**	**+0.5**
KRBS	**Karabastau**	**4.44**	**86**	Pg	**Pb**	**10 18 33.4**	**-0.5**
	3.7nm,0.5s						
KRBS				Lg	Lg	10 19 29.2	
	3.2nm,0.5s						
TKM2	**Tokmak 2**	**4.46**	**96**	⇑Pg	**Pb**	**10 18 32.0**	**-2.3**
	2.1nm,0.6s						
TKM2				⇑Lg	Lg	10 19 34.1	
	3.4nm,0.8s						
DGS	**Degeres**	**4.54**	**92**	Pg	**Pb**	**10 18 36.8**	**+1.2**
	2.7nm,0.6s						
DGS				Lg	Lg	10 19 34.9	
	6.6nm,0.5s						
KST	**Kastek**	**4.70**	**94**	Pg	**Pb**	**10 18 38.5**	**+0.1**
	2.1nm,0.9s						
KST				Lg	Lg	10 19 39.2	
	5.3nm,0.7s						
KTBS	**Karatobe**	**5.17**	**86**	Pg	**Pb**	**10 18 48.5**	**+2.1**
	2.9nm,0.5s						
KTBS				Lg	Lg	10 19 54.3	
	6.1nm,0.5s						

*IDC **15** 10:40:50.1±0.8, 38.°64N×90.°94E, h0km, mb3.6/13, mbtmp3.7/17, ML3.5/4, MS3.2/8, Error ellipse: s-maj=24.7km s-min=13.6km az=48.0*
*BJI **15** 10:40:51.2, 38.°72N×91.°11E, h11km, mb4.6/3, ML4.3/13, Ms3.9/4, Ms7 3.7/2*
*NEIC **15** 10:40:53.4±1.6, 38.°9N±0.°1×90.°9E±0.°1, h10km±2km, mb4.4/50, Error ellipse: s-maj=18.7km s-min=15.3km az=183.0*
ISC 15 10:40:51.9±0.6, 38.°73N±0.°08×90.°88E±0.°06, h10km, n89, σ1§37/89, mb4.3/35, MS3.2/4, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**4.02**	**128**	Pn	Pn	10 41 50.5	-3.4
GOMU				Pg	**Pb**	**10 42 03.8**	**+0.7**
GOMU				smax	smax		
	comp=N,2μm,0.6s						
GOMU				smax	smax		
	comp=E,1μm,0.6s						
WMQ	**Urumqi**	**5.63**	**336**	*e*Pn	**Pn**	**10 42 19.8**	**+4.2**
WMQ				Sn	**Sn**	**10 43 23.0**	**+2.7**
WMQ				smax	smax		
	comp=N,440nm,0.9s						
WMQ				smax	smax		
	comp=E,370nm,0.9s						
GTA	**Gaotai**	**6.99**	**82**	Pn	**Pn**	**10 42 31.9**	**-2.5**
GTA				Sg	**Sb**	**10 44 22.6**	**+5.6**
GTA				smax	smax		
	comp=N,74nm,0.6s						
GTA				smax	smax		
	comp=E,65nm,0.7s						
WUS	**Wushi**	**9.29**	**289**	Pn	**Pn**	**10 43 07.1**	**+1.2**
MK31	**Makanchi Array**	**10.23**	**325**	Pn	**Pn**	**10 43 19.2**	**+0.4**
MKAR	**Makanchi Array**	**10.23**	**325**	Pn	**Pn**	**10 43 18.8**	**0.0**
MKAR	**Makanchi Array**	**10.23**	**325**	Pn	**Pn**	**10 43 19.1**	**+0.3**
	8.2nm,0.3s,baz=130,slow=14,SNR=241						
MKAR				Sn	**Sn**	**10 45 10.6**	**-3.0**
	1.5nm,0.3s,baz=138,slow=25,SNR=2.8						
MKAR				Lg	Lg	10 46 17.6	
	0.3nm,0.3s,baz=148,slow=29,SNR=2.4						
MKAR				LR	LR	10 47 07.9	
	comp=Z,29nm,18.2s,baz=164,slow=37						
MAKZ	**Makanchi**	**10.39**	**324**	Pn	**Pn**	**10 43 21.4**	**+0.5**
TARG	**Taragay, Kyrgy**	**10.44**	**291**	Pn	**Pn**	**10 43 23.1**	**+1.2**
KDJ	**Kajisay**	**10.98**	**292**	Pn	**Pn**	**10 43 31.0**	**+1.8**
BOOM	**Boomskoye usch**	**11.96**	**293**	Pn	**Pn**	**10 43 43.1**	**+0.6**
AAK	**Ala-Archa**	**13.03**	**293**		**Pn**	**10 43 58.7**	**+1.5**
AAK	**Ala-Archa**	**13.03**	**293**	Pn	**Pn**	**10 43 58.0**	**+0.8**
	0.6nm,0.3s,baz=117,slow=12,SNR=5.7						
AAK				Lg	Lg	10 47 45.7	
	0.2nm,0.3s,baz=331,slow=19,SNR=1.2						
AAK				LR	LR	10 50 10.3	
	comp=Z,160nm,18.8s,baz=102,slow=43						
	2.5nm,0.5s						
ARSB	**Arslanbob**	**13.96**	**286**	Pn	**Pn**	**10 44 11.8**	**+2.0**
SONM	**Songino Array**	**14.49**	**46**	Pn	**Pn**	**10 44 15.6**	**-1.5**
SONM	**Songino Array**	**14.49**	**46**	Pn	**Pn**	**10 44 16.0**	**-1.1**
	0.5nm,0.3s,baz=237,slow=15,SNR=7.9						
SONM				Lg	Lg	10 48 22.7	
	0.3nm,0.3s,baz=229,slow=28,SNR=3.6						
SONM				LR	LR	10 50 00.8	
	comp=Z,62nm,19.5s,baz=222,slow=38						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**14.76**	**328**	Pn	**Pn**	**10 44 17.9**	**-2.7**
	0.2nm,0.3s,baz=135,slow=13,SNR=43						
KURBB				Lg	Lg	10 48 40.2	
	baz=145,slow=26						
	2.4nm,0.6s						
KURK	**Kurchatov**	**14.79**	**328**	Pn	**Pn**	**10 44 18.9**	**-2.1**
ULN	**Ulaanbaatar**	**14.88**	**47**	Pn	**Pn**	**10 44 20.0**	**-2.4**
BTK	**Batken**	**15.57**	**281**	Pn	**Pn**	**10 44 32.4**	**+1.0**
ZAA0	**Zalesovo Array**	**15.78**	**347**	Pn	**Pn**	**10 44 32.5**	**-1.6**
ZALV	**Zalesovo Array**	**15.78**	**347**	Pn	**Pn**	**10 44 33.0**	**-1.0**
ZALV	**Zalesovo Beam**	**15.78**	**347**	Pn	**Pn**	**10 44 32.9**	**-1.2**
	0.1nm,0.3s,baz=164,slow=12,SNR=7.5						
ZALV				Lg	Lg	10 49 11.6	
	0.1nm,0.3s,baz=162,slow=20,SNR=1.8						
ZALV				LR	LR	10 51 08.1	
	comp=Z,36nm,21.1s,baz=216,slow=39						
	1.5nm,0.5s						
KK31	**Karatay Array**	**16.00**	**292**	Pn	**Pn**	**10 44 37.3**	**+0.4**
KKAR	**Karatay Array**	**16.00**	**292**	Pn	**Pn**	**10 44 36.9**	**-0.1**
GAR	**Garm**	**16.02**	**277**	Pn	**Pn**	**10 44 36.7**	**-0.7**
SIMJ	**Simiganj**	**17.07**	**277**		**Pn**	**10 44 53.2**	**+2.5**
KBL	**Kabul**	**18.00**	**263**	Pn	**Pn**	**10 45 02.8**	**+0.4**
BVAR	**Borovoye Array**	**20.10**	**322**	P	**P**	**10 45 26.3**	**+0.8**
	1.8nm,0.5s,baz=119,slow=11,SNR=9.2						
BVAR				LR	LR	10 53 26.2	
	comp=Z,49nm,20.3s,baz=140,slow=37						
	1.8nm,0.5s						
BRVK	**Borovoye**	**20.17**	**322**		**P**	**10 45 25.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.38**	**159**	P	**P**	**10 45 38.8**	**-0.8**
	1.9nm,0.7s,baz=333,slow=11,SNR=13						
	1.9nm,0.7s						
HIA	**Hailar**	**23.15**	**54**	P	**P**	**10 45 57.5**	**-0.8**

AB31	**Akbulak array**	**24.46**	**306**	P	**P**	**10 46 12.0**	**+1.2**
ABKAR	**Akbulak array**	**24.46**	**306**	P	**P**	**10 46 12.0**	**+1.2**
KSRS	**Korea Array**	**29.06**	**81**	LR	LR	10 59 31.8	
	comp=Z,29nm,18.4s,baz=65,slow=39						
TGY	**Tagaytay City**	**36.13**	**124**	LR	LR	11 03 25.4	
	comp=Z,133nm,19.6s,baz=272,slow=38						
KVAR	**Kislovodsk Arr**	**36.14**	**294**	LR	LR	11 05 37.5	
	comp=Z,88nm,19.0s,baz=262,slow=41						
SEY	**Seymchan**	**43.55**	**36**	P	**P**	**10 48 55.2**	**-0.3**
	0.2nm,0.3s,baz=247,slow=11,SNR=6.1						
	0.2nm,0.3s						
BR131	**Keskin Array S**	**43.69**	**290**	P	**P**	**10 48 57.6**	**+0.5**
BRTR	**Keskin Array B**	**43.69**	**290**	P	**P**	**10 48 57.5**	**+0.4**
	0.5nm,0.6s,baz=127,slow=7.9,SNR=4.1						
	0.5nm,0.6s						
AKASG	**Malin Array Be**	**44.19**	**307**	P	**P**	**10 49 01.1**	**+0.3**
	0.2nm,0.3s,baz=72,slow=7.0,SNR=1.4						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**45.05**	**322**	P	**P**	**10 49 08.0**	**+0.5**
FINES	**FINESS Array B**	**45.05**	**322**	P	**P**	**10 49 07.5**	**-0.1**
	1.8nm,0.8s,baz=87,slow=8.2,SNR=8.3						
	1.8nm,0.8s						
ARCES	**ARCESS Array B**	**45.74**	**333**	P	**P**	**10 49 13.6**	**+0.7**
	0.5nm,0.3s,baz=86,slow=7.7,SNR=11						
	0.5nm,0.3s						
HFS	**Hagfors**	**51.23**	**321**	P	**P**	**10 49 55.0**	**-0.3**
	1.0nm,0.8s,baz=88,slow=14,SNR=5.2						
	1.0nm,0.8s						
NC602	**NORSAR Array S**	**52.14**	**322**	P	**P**	**10 50 02.9**	**+0.9**
NB201	**NORSAR Array S**	**52.18**	**323**	P	**P**	**10 50 03.8**	**+1.3**
NB2	**NORSAR Subarra**	**52.22**	**323**	P	**P**	**10 50 02.7**	**0.0**
	comp=Z,1.5nm,0.6s,baz=76,slow=7.4						
NOA	**NORSAR Array B**	**52.22**	**323**	P	**P**	**10 50 03.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=77,slow=7.8,SNR=5.2						
	comp=Z,0.7nm,0.5s						
C18K	**Utukok River**	**60.56**	**24**	P	**P**	**10 51 03.4**	**+1.3**
C18K				IAmb	IAmb	10 51 11.8	
	comp=Z,6.2nm,1.4s						
D19K	**Kuna River**	**61.59**	**23**	P	**P**	**10 51 09.1**	**0.0**
F17K	**Baldwin Pennin**	**61.71**	**26**	P	**P**	**10 51 09.7**	**0.0**
F17K				IAmb	IAmb	10 51 32.6	
	comp=Z,2.5nm,1.1s						
B21K	**Ikpikpuk River**	**61.97**	**21**	P	**P**	**10 51 11.2**	**-0.3**
B21K				IAmb	IAmb	10 51 13.6	
	comp=Z,4.2nm,1.1s						
F19K	**Shaleruckik Mo**	**62.64**	**25**	P	**P**	**10 51 16.4**	**+0.4**
D22K	**Ayikyak River**	**62.97**	**21**	P	**P**	**10 51 18.4**	**+0.2**
D22K				IAmb	IAmb	10 51 31.8	
	comp=Z,1.8nm,1.1s						
H17K	**Granite Mounta**	**63.00**	**27**	P	**P**	**10 51 19.3**	**+0.9**
H17K				IAmb	IAmb	10 51 25.6	
	comp=Z,1.7nm,0.8s						
F21K	**Alatna River**	**63.77**	**23**	P	**P**	**10 51 23.6**	**+0.1**
F21K				IAmb	IAmb	10 51 43.9	
	comp=Z,1.8nm,1.1s						
TOLK	**Toolik Lake Re**	**64.00**	**21**	P	**P**	**10 51 26.3**	**+1.2**
E23K	**Chandalar**	**64.37**	**21**	P	**P**	**10 51 28.4**	**+0.8**
E23K				IAmb	IAmb	10 51 41.0	
	comp=Z,2.6nm,1.4s						
E24K	**Your Creek**	**64.68**	**21**	P	**P**	**10 51 30.9**	**+1.4**
E24K				IAmb	IAmb	10 51 55.6	
	comp=Z,2.9nm,1.4s						
C27K	**Jago River**	**64.86**	**18**	P	**P**	**10 51 31.9**	**+1.2**
C27K				IAmb	IAmb	10 51 35.4	
	comp=Z,1.4nm,0.8s						
J18K	**Innoko River**	**64.99**	**27**	P	**P**	**10 51 33.3**	**+1.7**
J18K				IAmb	IAmb	10 51 37.8	
	comp=Z,2.4nm,0.9s						
E25K	**Arctic Village**	**65.45**	**20**	P	**P**	**10 51 36.2**	**+1.7**
E25K				IAmb	IAmb	10 51 57.5	
	comp=Z,5.3nm,1.4s						
D27M	**Malcolm River**	**65.81**	**18**	P	**P**	**10 51 37.3**	**+0.5**
D27M				IAmb	IAmb	10 51 53.0	
	comp=Z,2.3nm,1.3s						
H23K	**Yukon River**	**65.88**	**23**	P	**P**	**10 51 37.8**	**+0.5**
H23K				IAmb	IAmb	10 51 45.9	
	comp=Z,4.4nm,1.2s						
G24K	**Hadweenzic Riv**	**65.90**	**22**	P	**P**	**10 51 37.8**	**+0.4**
G24K				IAmb	IAmb	10 51 48.1	
	comp=Z,2.0nm,0.9s						
BMAR	**Burnt Mountain**	**66.20**	**20**	P	**P**	**10 51 40.6**	**+1.1**
H24K	**Noodor Dome**	**66.37**	**23**	P	**P**	**10 51 41.9**	**+1.4**
H24K				IAmb	IAmb	10 51 46.0	
	comp=Z,5.5nm,1.5s						
PPLA	**Purkeypile**	**66.95**	**26**	P	**P**	**10 51 44.5**	**+0.1**
E29M	**Blow River**	**67.19**	**18**	P	**P**	**10 51 45.9**	**+0.3**
E29M				IAmb	IAmb	10 51 52.9	
	comp=Z,3.8nm,1.4s						
ILAR	**Eielson Array**	**67.41**	**23**	P	**P**	**10 51 48.7**	**+1.6**
ILAR	**Eielson Array**	**67.41**	**23**	P	**P**	**10 51 48.1**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=310,slow=4.8,SNR=14						
	comp=Z,1.0nm,0.6s						
SKT	**Skwentna**	**67.78**	**27**	P	**P**	**10 51 48.4**	**-1.2**
I26K	**Coal Creek Min**	**68.14**	**21**	P	**P**	**10 51 52.4**	**+0.8**
J26L	**Joseph Creek**	**68.61**	**22**	P	**P**	**10 51 55.1**	**+0.4**
J26L				IAmb	IAmb	10 52 00.5	
	comp=Z,2.0nm,0.6s						
G30M	**tAoh Zraii Nji**	**68.69**	**18**	P	**P**	**10 51 56.1**	**+0.9**
G30M				IAmb	IAmb	10 52 05.8	
	comp=Z,4.2nm,1.4s						
H29M	**Whitestone**	**68.75**	**19**	P	**P**	**10 51 55.8**	**+0.3**
H29M				IAmb	IAmb	10 52 08.3	
	comp=Z,3.9nm,1.1s						
PMR	**Palmer**	**68.89**	**26**	P	**P**	**10 51 56.7**	**+0.4**
I28M	**Miner Creek**	**68.93**	**20**	P	**P**	**10 51 56.9**	**+0.1**
I28M				IAmb	IAmb	10 51 58.1	
	comp=Z,4.8nm,1.5s						
SML	**Sawmill**	**69.02**	**26**	P	**P**	**10 51 56.0**	**-1.3**
C36M	**Paulatuk**	**69.20**	**13**	P	**P**	**10 51 58.3**	**+0.1**
C36M				IAmb	IAmb	10 52 01.6	
	comp=Z,4.8nm,1.4s						
K27K	**Chicken**	**69.40**	**22**	P	**P**	**10 51 59.5**	**0.0**
K27K				IAmb	IAmb	10 52 02.0	
	comp=Z,3.9nm,1.3s						
N25K	**Chitina, Valde**	**70.41**	**25**	P	**P**	**10 52 07.5**	**+1.6**
BMRM	**Bremner River**	**70.87**	**25**	P	**P**	**10 52 08.8**	**+0.1**
VRDI	**Verde Repeater**	**71.06**	**25**	P	**P**	**10 52 10.3**	**+0.3**
WRA	**Warramunga Arr**	**71.16**	**137**	P	**P**	**10 52 09.5**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=324,slow=5.6,SNR=2.2						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**74.00**	**139**	P	**P**	**10 52 26.8**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=334,slow=6.7,SNR=4.1						
	comp=Z,0.5nm,1.0s						
YKA	**Yellowknife Ar**	**77.06**	**12**	P	**P**	**10 52 45.0**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=336,slow=6.0,SNR=3.1						
	comp=Z,0.2nm,0.8s						
KUQ	**Kuujjuuaa**	**81.98**	**349**	P	**P**	**10 53 11.5**	**-0.1**
KUQ				IAmb	IAmb	10 53 26.1	
	comp=Z,6.2nm,1.4s						

*SOF **15** 10:45:13.6, 41.°48N±0.°01×24.°92E±0.°01, h10km±2km, MD2.5/6*
*ATH **15** 10:45:14.5, 41.°46N×24.°93E, h12km±5km, ML2.2/7, Manual Solution by K.Orfanogiannaki First location: 2019/03/15 10:46:25, This location: 2019/03/15 16:25:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 3 km*
*BEO **15** 10:45:15.4±1.0, 41.°51N×24.°91E, h0km, ML2.2/2*
ISC 15 10:45:14.1±1.3, 41.°52N±0.°05×24.°92E±0.°04, h15km±11km, n13, σ0§67/23, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.23**	**322**	Pg	**Pg**	**10 45 19.3**	**+0.1**
RZN				Sg	**Sg**	**10 45 22.7**	**-0.1**
KDZ	**Kurdzhali**	**0.33**	**70**	Pg	**Pg**	**10 45 20.8**	**-0.1**
KDZ				Sg	**Sg**	**10 45 25.3**	**-0.3**
PLD	**Plovdiv**	**0.64**	**348**	Pg	**Pg**	**10 45 26.8**	**+0.1**
PLD	**Plovdiv**	**0.64**	**348**	*e*Pg	**Pg**	**10 45 26.7**	**+0.1**
PLD				*e*Sg	**Sg**	**10 45 33.9**	**-1.3**
MMB	**Musomishta**	**0.88**	**272**	Pg	**Pg**	**10 45 30.8**	**-0.4**
MMB				Sg	**Sg**	**10 45 42.8**	**0.0**
SRS	**Serrai**	**1.08**	**249**	*e*Pg	**Pg**	**10 45 34.3**	**-0.6**
SRS				*e*Sg	**Sb**	**10 45 48.7**	**+0.3**
KKB	**Krupnik**	**1.38**	**284**	P	**Pb**	**10 45 40.1**	**+0.5**
KKB				Sg	**Sg**	**10 45 58.9**	**+0.2**
PLNA	**Plana**	**1.47**	**311**	*e*P	**Pg**	**10 45 42.2**	**-0.2**
VTS	**Vitosha**	**1.67**	**312**	P	**Pb**	**10 45 45.2**	**+0.6**
VTS				S	**Sg**	**10 46 08.5**	**+0.6**
VTS	**Vitosha**	**1.67**	**312**	*e*Pg	**Pb**	**10 45 45.0**	**+0.4**
VTS				*e*Sg	**Sg**	**10 46 07.9**	**0.0**
MPEP	**Malo Peshtene**	**2.04**	**335**	P	**Pg**	**10 45 52.4**	**-0.7**

ZAPS	**Zavoj**	**2.44**	**317**	*e*Pg	**Pg**	**10 45 59.8**	**-1.1**
ZAPS				*e*Sg	**Sg**	**10 46 33.2**	**+0.7**
BARS	**Barje**	**2.65**	**300**	*e*Pg	**Pg**	**10 46 03.3**	**-1.6**
BARS				*e*Sg	**Sg**	**10 46 39.9**	**+0.7**

*MOS **15** 10:49:13.6±1.0, 42.°21N×143.°01E, h59km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=8.1km az=80.5*
*SKHL **15** 10:49:13.7±0.4, 42.°10N×143.°00E, h64km±5km, mb4.9/3*
*JMA **15** 10:49:15.7±0.1, 42.°3N±0.°5×143.°1E±0.°6, h52km±1km, MV3.8/40, HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .
*NIED **15** 10:49:15.7, 42.°31N×143.°05E, h52km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.17; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$-1.94; $M_{r\theta}$1.91; $M_{\theta\phi}$-1.73; $M_{\phi r}$3.00; Fault plane solution: $M_0$4.83000×10^{14} NP1: ϕ_s225.00000°, δ22.00000°, λ100.00000°. NP2: ϕ_s34.00000°, δ69.00000°, λ86.00000°.*
*NEIC **15** 10:49:15.8±1.6, 42.°23N±0.°06×142.°9E±0.°1, h57km±7km, mb4.2/26 Error ellipse: s-maj=13.2km s-min=7.6km az=105.0*
*IDC **15** 10:49:17.0±2.0, 42.°37N×143.°12E, h76km±14km, mb3.5/14, mbtmp3.7/17, MS2.8/4, Error ellipse: s-maj=23.3km s-min=13.2km az=101.0*
ISC 15 10:49:15.3±0.7, 42.°24N±0.°04×143.°08E±0.°03, h59km±5km, n108, σ1§24/123, mb4.1/30, 1C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.17**	**73**	*i* P	**Pn**	**10 49 24.1**	**-0.4**
JTHR				S	**Sn**	**10 49 30.6**	**-0.5**
JEM	**Erimo**	**0.23**	**166**	*i* P	**Pn**	**10 49 25.1**	**+0.3**
ERM	**Erimo**	**0.23**	**166**		**Pn**	**10 49 25.2**	**+0.3**
ERM				Sn	**Sn**	**10 49 32.9**	**+1.2**
ERM	**Erimo**	**0.23**	**166**	PN	**Pn**	**10 49 25.2**	**+0.3**
ERM						10 49 32.9	
JNBK	**Urakawa-nobuka**	**0.25**	**279**	⇓*i*P	**Pn**	**10 49 24.1**	**-0.8**
JNBK				⇓S	**Sn**	**10 49 31.2**	**-0.7**
JCH	**Churui**	**0.42**	**29**	*i* P	**Pn**	**10 49 25.7**	**-0.7**
JCH				S	**Sn**	**10 49 33.6**	**-0.8**
JSHD	**Hidakashinhida**	**0.49**	**290**	⇓*i*P	**Pn**	**10 49 26.6**	**-0.5**
JBT2	**Biratori 2**	**0.75**	**315**	⇓*i*P	**Pn**	**10 49 29.5**	**-0.7**
JOB	**Onbets**	**0.86**	**40**	*i* P	**Pn**	**10 49 31.8**	**+0.3**
JOB				S	**Sn**	**10 49 44.4**	**+0.9**
JIAM	**Iburiatsuma**	**0.94**	**294**	⇓P	**Pn**	**10 49 33.3**	**+0.8**
JFR	**Furan**	**0.99**	**339**	⇓*i*P	**Pn**	**10 49 31.5**	**-1.7**
JAR	**Ashorobuto**	**1.17**	**25**	*i* P	**Pn**	**10 49 34.9**	**-0.6**
JAR				*e*S	**Sn**	**10 49 49.5**	**-1.1**
JEW	**Eniwo**	**1.35**	**297**	⇓*i*P	**Pn**	**10 49 38.0**	**+0.1**
JEW				⇓S	**Sn**	**10 49 55.7**	**+0.9**
JAK	**Akkeshi**	**1.41**	**57**	*i* P	**Pn**	**10 49 38.4**	**-0.3**
JAB	**Ashibetsu**	**1.41**	**334**	⇓*i*P	**Pn**	**10 49 38.8**	**+0.1**
AKK	**Akkeshi**	**1.51**	**59**	*i* P	**Pn**	**10 49 39.7**	**-0.4**
AKK				AMB	AMB	10 49 40.2	
	150nm,0.4s						
AKK				*e*S	**Sn**	**10 49 58.7**	**-0.1**
AKK				A	A	10 49 59.6	
	1μm,0.5s						
AKK				A	A	10 49 59.6	
	800nm,0.5s						
JKA	**Kamikawa-asahi**	**1.91**	**349**	Pn	**Pn**	**10 49 45.4**	**0.0**
JKA	**Kamikawa-asahi**	**1.91**	**349**	*e*P	**Pn**	**10 49 45.7**	**+0.3**
JKA				*e*S	**Sn**	**10 50 08.3**	**0.0**
ASAJ	**Asahikawa**	**1.91**	**349**	P	**Pn**	**10 49 45.7**	**+0.2**
	108nm,0.4s,baz=206,slow=12,SNR=121						
ASAJ				S	**Sn**	**10 50 08.3**	**-0.1**
	146nm,0.5s,baz=233,slow=20,SNR=8.8						
JTM	**Tenmabayashi**	**2.10**	**227**	Pn	**Pn**	**10 49 48.0**	**-0.1**
JTM				Sn	**Sn**	**10 50 13.2**	**+0.2**
NMR	**Nemuro--Hokkai**	**2.25**	**59**	⇑*i*PN	**Pn**	**10 49 48.9**	**-1.1**
NMR				*i* S	**Sn**	**10 50 14.9**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.25**	**59**	*i* P	**Pn**	**10 49 49.0**	**-1.1**
NMR				*i* S	**Sn**	**10 50 15.1**	**-1.6**
RUSJ	**Misakicho**	**2.44**	**40**	⇓*i*PN	**Pn**	**10 49 53.7**	**+1.0**
RUSJ				*e*S	**Sn**	**10 50 24.2**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**2.71**	**48**	*d i*PN	**Pn**	**10 49 56.9**	**+0.5**
YUK				*i* S	**Sn**	**10 50 28.3**	**+0.4**
YUK				pmax	pmax		
	comp=N,30nm,0.1s						
YUK				pmax	pmax		
	comp=Z,251nm,0.1s						
YUK				smax	smax		
	comp=E,490nm,0.3s						
YUK				smax	smax		
	comp=N,480nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.71**	**48**	*i* P	**Pn**	**10 49 56.9**	**+0.5**
YUK				AMB	AMB	10 50 00.1	
	comp=N,30nm,0.2s						
YUK				AMB	AMB	10 50 00.1	

H11N1	WAKE ISLAND Hy	30.16	131	T		T		11 26 54.3	
	baz=324,slow=75								
H11N3	WAKE ISLAND Hy	30.17	131	T		T		11 26 52.1	
	baz=324,slow=75								
H11S1	WAKE ISLAND Hy	31.03	132	T		T		11 28 11.9	
	baz=326,slow=76								
H11S3	WAKE ISLAND Hy	31.03	133	T		T		11 28 10.8	
	baz=326,slow=76								
H11S2	WAKE ISLAND Hy	31.04	132	T		T		11 28 10.7	
	baz=326,slow=76								
J14K	Nanvaranak Lak	37.00	38	P		P		10 56 21.0	+2.3
E18K	Tukpahlearik C	39.02	31	P		P		10 56 38.0	+2.4
E18K				IAmb		IAmb		10 57 22.0	
	comp=Z,6.2nm,1.4s								
C18K	Utukok River	39.07	29	P		P		10 56 37.5	+1.4
C18K				IAmb		IAmb		10 57 11.8	
	comp=Z,3.7nm,1.4s								
ZAA0	Zalesovo Array	39.54	308	P		P		10 56 40.9	+0.7
ZALV	Zalesovo Beam	39.54	308	P		P		10 56 40.4	+0.2
ZALV	Zalesovo Beam	39.54	308	P		P		10 56 39.6	-0.6
	comp=Z,1.1nm,0.4s,baz=98,slow=8.4,SNR=6.3								
ZALV				PcP		PcP		10 58 46.7	+0.2
	comp=Z,0.7nm,0.5s,baz=96,slow=2.9,SNR=2.4								
	comp=Z,1.1nm,0.4s								
ZALV	Zalesovo Beam	39.54	308	P		P		10 56 40.4	+0.2
L18K	Granite Mounta	40.14	39	P		P		10 56 46.5	+1.4
L18K				IAmb		IAmb		10 57 15.2	
	comp=Z,10nm,1.5s								
MK31	Makanchi Array	42.64	298	P		P		10 57 05.6	-0.1
MK31	Makanchi Array	42.64	298	P		P		10 57 05.6	-0.1
MK31				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MKAR	Makanchi Array	42.64	298	P		P		10 57 05.8	+0.1
MKAR	Makanchi Array	42.64	298	P		P		10 57 05.4	-0.4
	comp=Z,1.0nm,0.6s,baz=82,slow=10,SNR=12								
	comp=Z,1.0nm,0.6s								
MKAR	Makanchi Array	42.64	298	P		P		10 57 05.8	+0.1
MKAR	Makanchi Array	42.64	298	eP		P		10 57 05.8	+0.1
E23K	Chandalar	43.25	30	P		P		10 57 10.6	+0.1
TOLK	Toolik Lake Re	43.28	30	P		P		10 57 11.7	+1.0
TOLK				IAmb		IAmb		10 57 14.0	
	comp=Z,6.0nm,1.4s								
H23K	Yukon River	43.28	34	P		P		10 57 12.7	+2.0
H23K				IAmb		IAmb		10 57 44.1	
	comp=Z,11nm,1.5s								
KURK	Kurchatov	43.90	304	P		P		10 57 15.2	-0.6
KURK				IAmb		IAmb		10 57 16.2	
	comp=Z,2.2nm,0.7s								
KURK	Kurchatov	43.90	304	P		P		10 57 15.9	+0.1
KURK	Kurchatov	43.90	304	eP		P		10 57 15.9	+0.1
KURBB	Kurchatov Arra	43.98	304	P		P		10 57 15.9	-0.5
	comp=Z,1.3nm,0.4s,baz=75,slow=8.7,SNR=18								
	comp=Z,1.3nm,0.4s								
ILAR	Eielson Array	44.45	35	P		P		10 57 20.4	+0.3
ILAR	Eielson Array	44.45	35	P		P		10 57 19.6	-0.5
	comp=Z,0.5nm,1.0s,baz=258,slow=5.3,SNR=5.0								
	comp=Z,0.5nm,1.0s								
ILAR	Eielson Array	44.45	35	P		P		10 57 20.4	+0.3
BMAR	Burnt Mountain	45.18	31	P		P		10 57 27.4	+1.6
K27K	Chicken	46.62	36	P		P		10 57 37.5	+0.4
K27K				IAmb		IAmb		10 57 51.9	
	comp=Z,6.7nm,1.4s								
L27K	Beaver Creek,	46.90	37	P		P		10 57 40.5	+1.1
BCAR	Beaver Creek A	46.91	37	P		P		10 57 40.7	+1.1
I28M	Miner Creek	47.28	34	P		P		10 57 43.3	+0.9
I28M				IAmb		IAmb		10 58 01.3	
	comp=Z,2.7nm,1.2s								
BVAR	Borovoye Array	48.15	309	P		P		10 57 48.8	-0.4
	comp=Z,1.3nm,0.4s,baz=81,slow=9.6,SNR=9.0								
	comp=Z,1.3nm,0.4s								
BOOM	Boomskoye usch	48.39	294	P		P		10 57 51.2	-0.2
BOOM	Boomskoye usch	48.39	294	P		P		10 57 51.2	-0.2
BOOM				pmax		pmax			
	comp=Z,8.0nm,1.4s								
G30M	tAoh Zraii Nji	48.47	31	P		P		10 57 52.0	+0.5
G30M				IAmb		IAmb		10 58 11.3	
	comp=Z,3.3nm,1.4s								
M29M	Somme Creek	48.54	37	P		P		10 57 53.2	+1.0
K29M	Barlow Dome	48.62	35	P		P		10 57 54.1	+1.3
K29M				IAmb		IAmb		10 58 20.6	
	comp=Z,3.8nm,1.5s								
F31M	Tsiigehtchic	49.31	30	P		P		10 57 59.4	+1.6
F31M				IAmb		IAmb		10 58 27.6	
	comp=Z,3.0nm,1.2s								
HYT	Haines Junctio	49.40	39	P		P		10 58 00.2	+1.3
H31M	Peel River	49.47	33	P		P		10 57 59.5	+0.3
H31M				IAmb		IAmb		10 58 24.8	
	comp=Z,5.8nm,1.2s								
KK31	Karatay Array	51.76	297	P		P		10 58 16.4	-0.3
KK31				IAmb		IAmb		10 58 28.2	
	comp=Z,4.5nm,1.4s								
KK31	Karatay Array	51.76	297	P		P		10 58 16.4	-0.3
KK31				pmax		pmax			
	comp=Z,4.0nm,1.5s								
KKAR	Karatay Array	51.76	297	P		P		10 58 15.9	-0.8
KKAR	Karatay Array	51.76	297	P		P		10 58 16.0	-0.8
ABKAR	Akbulak array	55.66	308	P		P		10 58 44.9	-0.1
ABKAR				IAmb		IAmb		10 58 45.9	
	comp=Z,1.5nm,1.0s								
ARCES	ARCESS Array B	59.59	339	P		P		10 59 11.6	-0.8
	comp=Z,2.5nm,1.0s,baz=59,slow=5.8,SNR=4.1								
	comp=Z,2.5nm,1.0s								
WB2	Warramunga Arr	62.40	189	P		P		10 59 31.9	0.0
WRA	Warramunga Arr	62.40	189	P		P		10 59 32.3	+0.4
WRA	Warramunga Arr	62.40	189	P		P		10 59 31.8	-0.1
	comp=Z,0.3nm,0.6s,baz=7.2,slow=6.7,SNR=2.8								
	comp=Z,0.3nm,0.6s								
WRA	Warramunga Arr	62.40	189	P		P		10 59 32.3	+0.4
FIA1	FINESS Array S	64.82	332	P		P		10 59 46.8	-0.7
FINES	FINESS Array B	64.82	332	P		P		10 59 46.5	-1.0
FINES	FINESS Array B	64.82	332	P		P		10 59 46.3	-1.2
	comp=Z,1.0nm,0.4s,baz=52,slow=6.9,SNR=20								
	comp=Z,1.0nm,0.4s								
FINES	FINESS Array B	64.82	332	P		P		10 59 46.5	-1.0
ASAR	Alice Springs	66.12	189	P		P		10 59 58.4	+2.2
	comp=Z,0.2nm,0.8s,baz=8.7,slow=7.7,SNR=1.3								
	comp=Z,0.2nm,0.8s								
HFS	Hagfors	69.88	336	P		P		11 00 18.5	-1.0
	comp=Z,1.1nm,0.4s,baz=39,slow=5.9,SNR=12								
	comp=Z,1.1nm,0.4s								
NOA	NORSAR Array B	69.88	337	P		P		11 00 18.2	-1.4
	comp=Z,0.2nm,0.5s,baz=34,slow=6.5,SNR=2.2								
	comp=Z,0.2nm,0.5s								
AKASG	Malin Array Be	70.98	322	P		P		11 00 25.1	-1.2
	comp=Z,0.2nm,0.2s,baz=42,slow=7.4,SNR=4.2								
	comp=Z,0.2nm,0.2s								
PDAR	Pinedale Array	73.14	47	P		P		11 00 40.4	+0.7
STKA	Stephens Creek	73.77	181	LR		LR		11 33 42.0	
	comp=Z,25nm,21.4s,baz=203,slow=36								

*MEX **15** 10:53:30.8±1.4, 15°.53N×93°.63W, h68km±24km, MD4.1*
*GCG **15** 10:53:30.5±0.8, 15°.63N×93°.43W, h77km±15km, MD4.3*
ISC 15 10:53:27.4±1.3, 15°.44N±0°.05×93°.66W±0°.03, h77km±13km, n25, σ2°16/44, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.49	58	eP	Pn	10 53 40.8	0.0
PCIG				eS	Sn	10 53 50.6	0.0
PATR	El Naranjo	1.41	103	eP	Pn	10 53 52.5	+0.9
PATR				eS	Sn	10 54 10.3	+0.4
TGIG		1.42	21	eP	Pn	10 53 52.0	+0.3
TGIG				eS	Sn	10 54 08.7	-1.2
TGIG		1.42	21	eP	Pn	10 53 51.6	-0.1
TGIG				eS	Sn	10 54 08.7	-1.2
TGIG		1.42	21	eP		10 53 51.6	
TGIG				eS		10 54 08.7	
TGBT	Tuxtla Gutierr	1.43	22	eP	Pn	10 53 52.0	+0.3
TGBT				eS	Sn	10 54 09.1	-0.9
THIG		1.45	111	eP	Pn	10 53 54.7	+2.9
THIG				eS	Sn	10 54 11.2	+0.9
THIG		1.45	111	i S	Sn	10 54 11.6	+1.3
THIG		1.45	111	i S		10 54 11.6	
NILT	Santiago Nilte	1.45	320	eP	Pn	10 53 53.3	+1.4
NILT				eS	Sn	10 54 11.1	+0.7
PAVE	Pavencul	1.45	100	eP	Pn	10 53 53.5	+1.3
PAVE				eS	Sn	10 54 12.2	+1.5
CCIG	Comitan	1.68	60	eP	Pn	10 53 55.8	+0.6
CCIG				i S	Sn	10 54 14.0	-2.2
CCIG	Comitan	1.68	60	eP		10 53 55.8	
CCIG				i S		10 54 14.0	
UXUV	UXUV	1.92	346	eP	Pn	10 53 59.8	+1.6
UXUV				eS	Sn	10 54 17.9	-3.6
CMIG	Matias Romero	2.02	324	eP	Pn	10 54 00.3	+0.8
CMIG				eS	Sn	10 54 20.1	-3.8
HUEH	Huehuetenango	2.08	93	eP	Pn	10 53 56.7	-3.8
HUEH				eS	Sn	10 54 27.0	+1.3
RTAL	Retalhuleu	2.10	116	eP	Pn	10 53 58.6	-2.0
RTAL				eS	Sn	10 54 24.0	-2.0
HUIG	Huatulco	2.38	278	eP	Pn	10 54 02.0	-2.3
HUIG				eS	Sn	10 54 30.4	-2.3
STG8	El Palmar, Qui	2.44	114	eP		10 54 02.7	
STG0	El Palmar, Qui	2.45	114	eP		10 54 03.3	
STG0				i S		10 54 28.8	
NEUV	Arroyo Zacate	3.05	318	eP	Pn	10 54 15.1	+1.7
NEUV				eS	Sn	10 54 49.5	+0.6
APG	El Apazote	3.11	98	eP	Pn	10 54 16.1	+1.7
APG				eS	Sn	10 54 51.5	+0.8
APG	El Apazote	3.11	98	eP		10 54 16.1	
APG				eS		10 54 51.5	
PEIG	Puerto Escondi	3.41	280	eS	Sn	10 54 53.5	-4.1
PETF	Flores	3.92	68	eP	Pn	10 54 25.6	+0.3
PETF				eS	Sn	10 55 07.4	-2.7
YOIG	Yosondua	3.99	291	eS	Sn	10 55 15.9	+3.7
TOIG	Toxpalan	4.20	309	eP	Pn	10 54 32.2	+3.1
TOIG				eS	Sn	10 55 19.2	+2.3
TXIG	Tlaxiaco	4.34	295	eP	Pn	10 54 38.5	+7.3
TXIG				eS	Sn	10 55 22.9	+2.3
PNIG	Pinotepa	4.40	283	eS	Sn	10 55 20.1	-1.8
HLIG	Huajuapan de L	4.63	301	eP	Pn	10 54 32.2	-2.9
HLIG				eS	Sn	10 55 31.8	+4.1
FTIG	Fresnillo de T	4.94	300	eP	Pn	10 54 44.8	+5.5
FTIG				eS	Sn	10 55 36.0	+0.8

*NAO **15** 10:56:04.6±1.0, 77°.93N×20°.40E, h22km±12km, ML2.5*
*KOLA **15** 10:56:04.5, 77°.89N×21°.38E, h0km, ML2.2, Spitsbergen,Barentz Sea*
*FCIAR **15** 10:56:04.0, 78°.41N×22°.06E, h10km, station OMEGA has station magnitude of 3.30 station ZFI2 has station magnitude of 3.30*
BER 15 10:56:05.7±3.4, 78°.01N×20°.76E, h22km±10km, ML2.3, ML2.5(NAO), Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	0.93	283	Pg	Pb	10 56 20.9	-2.1
	baz=105,slow=18						
SPA0				Sg	Sb	10 56 32.2	-2.7
	baz=105,slow=28						
SPA0	Spitsbergen Ar	0.93	283	Pg	Pb	10 56 20.9	-2.1
	baz=105,slow=18						
SPA0				Lg	Lg	10 56 32.2	
	baz=105,slow=28						
SPA0	Spitsbergen Ar	0.93	283	eP	Pb	10 56 21.7	-1.3
SPA0				eS	Sb	10 56 31.5	-3.4
SPITS	Spitsbergen Ar	0.93	283	P	Pb	10 56 20.8	-2.2
SPITS				S	Sb	10 56 32.1	-2.8
BRBA	Barentsburg A	1.36	275	ePg	Pn	10 56 29.4	+0.1
BRBA				eS	Sn	10 56 45.3	-1.4
BRBA				eSg	Sb	10 56 47.2	-0.2
BRBA				IAML		10 56 47.7	
	comp=Z,130nm,0.5s						
BRBA	Barentsburg A	1.36	275	Pg	Pn	10 56 29.4	0.0
BRBA				Lg	Lg	10 56 47.0	
BRBB	Barentsburg B	1.37	277	ePg	Pn	10 56 29.1	-0.2
BRBB				eS	Sn	10 56 45.2	-1.5
BRBB				eSg	Sb	10 56 47.3	-0.2
BRBB	Barentsburg B	1.37	277	Pn	Pn	10 56 27.7	-1.6
BRBB				Pg	Pb	10 56 29.4	-1.1
BRBB				Lg	Lg	10 56 47.0	
BRBB	Barentsburg B	1.37	277	P	Pn	10 56 29.1	-0.3
BRBB				S	Sn	10 56 44.9	-1.8
HSPB	Hornsund (broa	1.52	231	eP	Pn	10 56 30.0	-1.4
HSPB				ePg	Pb	10 56 31.8	-1.4
HSPB				eSg	Sb	10 56 51.5	-0.5
HSPB				IAML		10 56 52.1	
	comp=Z,51nm,0.5s						
HSPB	Hornsund (broa	1.52	231	Pn	Pn	10 56 29.9	-1.6
HSPB				Pg	Pb	10 56 31.6	-1.5
HSPB				Lg	Lg	10 56 51.5	
HSPB	Hornsund (broa	1.52	231	P	Pn	10 56 30.0	-1.5
HSPB				S	Sn	10 56 50.6	+0.1
HOPEN	Hopen	1.78	146	eP	Pn	10 56 33.2	-1.8
HOPEN				ePg	Pb	10 56 36.8	-0.8
HOPEN				eSg	Sb	10 57 00.2	+0.9
HOPEN				IAML		10 57 03.3	
	comp=Z,49nm,0.3s						
HOPEN	Hopen	1.78	146	Pn	Pn	10 56 33.2	-1.8
HOPEN				Pg	Pb	10 56 36.8	-0.7
HOPEN				Lg	Lg	10 57 00.5	
HOPEN	Hopen	1.78	146	eP	Pb	10 56 36.7	-0.8
HOPEN				eS	Sb	10 57 01.0	+1.7
KBS	Kingsbay	2.00	302	eP	Pn	10 56 37.9	-0.1
KBS				ePg	Pb	10 56 40.6	-0.7
KBS				eSg	Sb	10 57 04.5	-1.1
KBS				IAML		10 57 08.3	
	comp=Z,45nm,0.5s						
KBS	Kingsbay	2.00	302	Pn	Pn	10 56 36.6	-1.4
KBS				Pg	Pb	10 56 39.6	-1.6
KBS				Lg	Lg	10 57 04.7	
KBS	Kingsbay	2.00	302	P	Pn	10 56 38.5	+0.5
KBS				S	Sn	10 57 02.9	+0.6
KBS	Kingsbay	2.00	302	eP	Pb	10 56 39.8	-1.4
KBS				eS	Sb	10 57 05.2	-0.4
BJO1	Bjornoya	3.55	188	eP	Pn	10 56 58.7	-0.6
BJO1				eS	Sn	10 57 38.1	-2.4
BJO1				eSg	Sb	10 57 53.0	+2.7
BJO1				IAML		10 58 03.5	
	comp=Z,12nm,0.9s						
BJO1	Bjornoya	3.55	188	Pn	Pn	10 56 57.8	-1.6
BJO1				Sn	Sn	10 57 37.3	-3.2
BJO1				Lg	Lg	10 57 53.3	
BJO1	Bjornoya	3.55	188	eP	Pb	10 57 07.6	-0.1
BJO1				eS	Sb	10 57 53.7	+3.4
ZFI2	Zemlya Franca-	5.64	48	eP	Pn	10 57 27.6	-0.5
ZFI2				eS	Sn	10 58 25.1	-6.9
	comp=Z,19nm,2.0s						
OMEGA	Omega	5.65	48	eP	Pn	10 57 27.6	-0.5
OMEGA				eS	Sn	10 58 25.1	-7.1
	comp=Z,17nm,2.0s						
VADS	Vadso	8.26	159	Pn	Pn	10 58 01.9	-2.0
VADS				Sn	Sn	10 59 29.2	-7.1
VADS	Vadso	8.26	159	Pn	Sn	10 58 01.9	-2.0
VADS				Sn	Sn	10 59 29.2	-7.1
VADS	Vadso	8.26	159	P	Pn	10 58 01.8	-2.1
VADS				S	Sn	10 59 29.2	-7.1
ARA0	ARCESS Array S	8.62	169	Pn	Pn	10 58 07.8	-1.1
	baz=2.7,slow=10						
ARA0				Sn	Sn	10 59 34.6	-11
	baz=359,slow=22						
ARA0	ARCESS Array S	8.62	169	Pn	Pn	10 58 07.8	-1.1
	baz=2.7,slow=10						
ARA0				Sn	Sn	10 59 34.6	-11
	baz=359,slow=22						
ARCES	ARCESS Array B	8.62	169	P	Pn	10 58 07.2	-1.6
ARCES				S	Sn	10 59 34.3	-11
APA0	Apatity Array	11.02	155	S	Sn	11 00 33.4	-11

IDC 15 11:17:50.1±999.0, 51°.42N×46°.27E, h0km, Error ellipse: s-maj=1169.0km s-min=160.1km az=90.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	7.51	93	I	I	12 05 00.0	
	0.3nm,0.6s,baz=282,slow=307,SNR=1.7						
I46RU	ZALESOVO INFRA	23.31	69	I	I	13 40 50.0	
	baz=278,slow=313,SNR=2.2						
I34MN	SONGINO INFRAS	38.18	71	I	I	15 09 10.0	
	baz=298,slow=322,SNR=1.7						

*BER **15** 11:18:55.9±3.0, 71°.20N×10°.64W, h1km±16km, mb(Pn)3.8, ML2.9, ML2.0(DNK), Confirmed Earthquake*
*DNK **15** 11:18:56.6±4.2, 71°.18N×10°.19W, h28km±113km, ML2.0*
ISC 15 11:18:54.6±2.2, 71°.3N±0°.2×10°.3W±0°.1, h12km±21km, n21, σ1°70/29, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	0.65	127	eP	Pg	11 19 08.3	+1.1
JMI				eS	Sg	11 19 15.4	-0.3
JMI				IAML		11 19 16.5	
	comp=Z,471nm,0.2s						
JMIC	Jan Mayen	0.68	119	eP	Pg	11 19 08.2	+0.4
JMIC				eS	Sg	11 19 15.0	-1.6
JMIC				IAML		11 19 19.7	
	comp=Z,445nm,0.5s						
JMIC	Jan Mayen	0.68	119⇑	i P	Pg	11 19 08.1	+0.4
JMIC				i S	Sg	11 19 14.9	-1.7
JNW	Jan Mayen West	0.68	115	eP	Pg	11 19 08.1	+0.4
JNW				eS	Sg	11 19 15.6	-1.1
JNW				IAML		11 19 16.7	
	comp=Z,585nm,0.3s						
JNE	Jan Mayen East	0.73	116	eP	Pg	11 19 08.8	0.0
JNE				eS	Sg	11 19 16.4	-2.0
JNE				IAML		11 19 19.6	
	comp=Z,590nm,0.2s						
DBG	Daneborg	4.20	320	i P	Pn	11 20 00.7	+2.4
DBG				i S	Sn	11 20 44.1	-3.0
DBG				IAML		11 20 48.4	
	comp=Z,5.9nm,0.2s						
DBG	Daneborg	4.20	320	i P	Pn	11 20 00.7	+2.4
DBG				i S	Sn	11 20 44.1	-3.0
DBG				IAML		11 20 48.4	
	comp=Z,5.9nm,0.2s						
DAG	Danmarks Havn	5.93	341	i P	Pn	11 20 24.0	+2.0
DAG				i S	Sn	11 21 26.1	-3.6
DAG				IAML		11 21 28.1	
	comp=Z,4.8nm,0.3s						
DAG	Danmarks Havn	5.93	341	i P	Pn	11 20 24.0	+2.0
DAG				i P	Pn	11 20 24.0	+2.0
DAG				i S	Sn	11 21 26.1	-3.6
DAG				IAML		11 21 28.1	
	comp=Z,4.8nm,0.3s						
HSPB	Hornsund (broa	8.98	39	eP	Pn	11 21 04.5	+0.7
BJO1	Bjornoya	9.12	56	eP	Pn	11 21 08.0	+2.3
BRBA	Barentsburg A	9.26	32	eP	Pn	11 21 09.0	+1.4
BRBB	Barentsburg B	9.28	32	eP	Pn	11 21 08.6	+0.7
KBS	Kingsbay	9.43	27	eP	Pn	11 21 10.5	+0.5
KBS				eS	Sn	11 22 46.7	-9.1
KBS	Kingsbay	9.43	27	eP	Pn	11 21 10.5	+0.5
KBS				i S	Sn	11 22 45.7	-10
KONS	Konsvik	9.68	108	eP	Pn	11 21 12.7	-0.6
SPA0	Spitsbergen Ar	9.70	33	eP	Pn	11 21 15.7	+2.0
STOK	Stokkvaagen	9.75	109	eP	Pn	11 21 14.2	-0.3
STOK				eS	Sn	11 22 53.9	-10
LEIR	Leirfjorden	9.93	110	eP	Pn	11 21 17.3	+0.4
NOR	Nord	10.43	355	i P	Pn	11 21 25.0	+1.4
NOR				i S	Sn	11 23 11.7	-8.4
NOR				IAML		11 23 22.0	
	comp=Z,3.3nm,0.3s						
HOPEN	Hopen	10.90	46	eP	Pn	11 21 32.1	+2.0

*GCG **15** 11:42:00.1±1.7, 13°.92N×92°.71W, h24km±30km, MD4.5*
*MEX **15** 11:42:00.4±1.2, 13°.88N×92°.76W, h15km±239km, MD4.1*
ISC 15 11:42:00.1±1.8, 13°.85N±0°.10×92°.89W±0°.04, h37km, n24, σ1°73/34, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	Catarina	1.27	38	eP	Pn	11 42 20.0	-1.4
SMCA	Catarina	1.27	38	eP		11 42 20.0	
RTAL	Retalhuleu	1.34	60	eP	Pn	11 42 20.8	-1.4
RTAL				eS	Sn	11 42 39.3	+0.6
PATR	El Naranjo	1.41	27	eP	Pn	11 42 21.0	-2.5
PATR				eS	Sn	11 42 39.4	-1.5
PAVE	Pavencul	1.50	27	eP	Pn	11 42 22.5	-2.2
PAVE				eS	Sn	11 42 42.2	-0.9
STG0	El Palmar, Qui	1.60	69	eP		11 42 23.1	
STG8	El Palmar, Qui	1.60	68	eP		11 42 23.3	
STG8				i S		11 42 43.3	
PCIG		1.87	350	eP	Pn	11 42 27.7	-1.9
PCIG				eS	Sn	11 42 51.5	-0.4
HUEH	Huehuetenango	1.98	42	eP	Pn	11 42 30.0	-1.3
HUEH				eS	Sn	11 42 56.7	+1.7
CCIG	Comitan	2.52	17	eP	Pn	11 42 39.5	+0.7
CCIG				eS	Sn	11 43 10.7	+2.4
CCIG	Comitan	2.52	17	i P	Pn	11 42 39.8	+1.1
CCIG	Comitan	2.52	17	i P		11 42 39.8	
APG	El Apazote	2.61	64	i P	Pn	11 42 39.7	-0.3
APG	El Apazote	2.61	64	i P		11 42 39.7	
TGIG		2.92	356	eP	Pn	11 42 44.1	+0.1
TGIG		2.92	356	eP	Pn	11 42 44.2	+0.1
TGIG		2.92	356	eP		11 42 44.2	
NUBE	Las Nubes	3.02	89	eP	Pn	11 42 44.9	-0.6
NUBE	Las Nubes	3.02	89	eP		11 42 44.9	
NILT	Santiago Nilte	3.17	328	eP	Pn	11 42 47.1	-0.4
NILT				eS	Sn	11 43 21.2	-2.8
HUIG	Huatulco	3.65	302	eP	Pn	11 42 51.2	-2.9
HUIG				eS	Sn	11 43 29.2	-6.8
UXUV	UXUV	3.65	341	eP	Pn	11 42 54.7	+0.6
UXUV				eS	Sn	11 43 36.2	+0.3
CMIG	Matias Romero	3.75	329	eP	Pn	11 42 54.3	-1.2
CMIG				eS	Sn	11 43 39.2	+0.7
PETF	Flores	4.21	43	eP	Pn	11 43 04.7	+2.8
PEIG	Puerto Escondi	4.64	298	eP	Pn	11 43 05.8	-1.8
PEIG				eS	Sn	11 43 51.8	-8.5
NEUV	Arroyo Zacate	4.75	324	eP	Pn	11 43 09.5	+0.3
NEUV				eS	Sn	11 44 03.9	+0.8
YOIG	Yosondua	5.40	304	eP	Pn	11 43 19.4	+1.1
YOIG				eS	Sn	11 44 13.4	-6.0
PNIG	Pinotepa	5.66	297	eP	Pn	11 43 20.9	-0.8
PNIG				eS	Sn	11 44 19.7	-6.5
TXIG	Tlaxiaco	5.79	306	eP	Pn	11 43 25.6	+1.8
TXIG				eS	Sn	11 44 25.6	-3.6
TOIG	Toxpalan	5.83	317	eP	Pn	11 43 24.9	+0.8
TOIG				eS	Sn	11 44 34.0	+4.3
JAUV	Jalcomulco	6.64	326	eP	Pn	11 43 34.0	-1.3

*IDC **15** 11:59:37.6±1.7, 23°.56S×179°.92W, h527km±17km, mb3.5/13, mbtmp4.4/15, Error ellipse: s-maj=16.1km s-min=15.6km az=68.0*
*NOU **15** 11:59:39.3, 23°.77S×179°.73W, h514km, mb4.2/16, South of Fiji Islands*
*NEIC **15** 11:59:39.8±1.8,

STKA	Stephens Creek	34.81	248	P		P		12 05 45.8 +1.3
STKA	Stephens Creek	34.81	248	P		P		12 05 45.5 +1.0
	comp=Z,2.1nm,0.6s,baz=91,slow=9.5,SNR=5.0							
	comp=Z,2.1nm,0.6s							
COEN	Coen	36.16	279	P		P		12 05 56.6 +0.6
BBOO	Buckleboo	39.54	247	P		P		12 06 23.4 +0.1
AS31	Alice Springs	42.11	261	P		P		12 06 44.1 +0.1
ASAR	Alice Springs	42.11	261	P		P		12 06 44.3 +0.3
ASAR	Alice Springs	42.11	261	P		P		12 06 43.9 -0.1
	comp=Z,3.7nm,0.7s,baz=98,slow=7.1,SNR=43							
ASAR				ScP		ScP		12 11 27.8 -0.1
	comp=Z,1.6nm,0.8s,baz=110,slow=4.9,SNR=12							
ASAR				S		S		12 12 21.9 -4.2
	comp=Z,0.3nm,0.8s,baz=97,slow=14,SNR=2.9							
	comp=Z,3.7nm,0.7s							
WR8	Warramunga Arr	42.32	266	P		P		12 06 45.2 -0.5
WB2	Warramunga Arr	42.46	266			P		12 06 46.1 -0.6
WB2				IAmb		IAmb		12 06 46.8
	comp=Z,6.2nm,0.6s							
WRAB	Tennant Creek	42.47	266	P		P		12 06 46.2 -0.6
WRAB				IAmb		IAmb		12 06 46.7
	comp=Z,7.8nm,0.9s							
WB0	Warramunga Arr	42.47	266	P		P		12 06 46.1 -0.7
WB0				IAmb		IAmb		12 06 46.8
	comp=Z,7.5nm,0.7s							
WRA	Warramunga Arr	42.47	266	P		P		12 06 46.4 -0.5
	comp=Z,5.1nm,0.5s,baz=105,slow=7.9,SNR=165							
WRA				ScP		ScP		12 11 29.4 +0.1
	comp=Z,1.3nm,0.9s,baz=99,slow=3.6,SNR=8.0							
WRA				S		S		12 12 25.3 -6.0
	comp=Z,0.5nm,0.9s,baz=98,slow=14,SNR=4.6							
	comp=Z,5.1nm,0.5s							
JAY	Jayapura	43.54	293	P		P		12 06 54.4 -0.9
	comp=Z,14nm,0.5s,baz=207,slow=1.5,SNR=5.3							
	comp=Z,14nm,0.5s							
MTN	Manton Dam	47.51	274	P		P		12 07 24.6 -0.9
MTN				IAmb		IAmb		12 07 49.3
	comp=Z,14nm,1.3s							
KNRA	Kununurra	48.75	270	P		P		12 07 34.6 -0.2
QSPA	South Pole Qui	66.27	180	P		P		12 09 35.6 +1.9
QSPA				IAmb		IAmb		12 09 35.7
	comp=Z,4.2nm,0.7s							
QSPA	South Pole Qui	66.27	180	P		P		12 09 35.2 +1.5
	comp=Z,4.6nm,0.6s,baz=355,slow=3.2,SNR=40							
	comp=Z,4.6nm,0.6s							
JKA	Kamikawa-asahi	75.81	333	P		P		12 10 30.3 +0.4
JKA				IAmb		IAmb		12 10 43.2
	comp=Z,19nm,1.4s							
BELA	Belgrano 2	76.52	173	P		P		12 10 33.7 +0.4
PETK	Petropavlovsk-	79.03	346	P		P		12 10 45.5 -1.5
	comp=Z,3.6nm,0.8s,baz=152,slow=6.0,SNR=4.1							
	comp=Z,3.6nm,0.8s							
SRIG	Santa Rosalia	82.76	56	P		P		12 11 07.5 +0.5
O02D	Mt. Diablo Mer	82.95	40	P		P		12 11 08.1 +0.3
O02D				IAmb		IAmb		12 11 45.0
	comp=Z,13nm,1.4s							
CMB	Columbia Colle	83.09	43	P		P		12 11 08.8 +0.2
AFDM	Forest Hills D	83.28	42	P		P		12 11 09.4 0.0
GSC	Goldstone, Bar	83.82	47	P		P		12 11 12.3 0.0
WAKR	Walker	83.97	43	P		P		12 11 13.4 +0.3
PNTR	Pine Nut	84.22	43	P		P		12 11 13.8 -0.5
PNTR				IAmb		IAmb		12 11 15.0
	comp=Z,6.3nm,0.9s							
TROLL	Troll, Antarti	84.42	181	⇓P		P		12 11 14.5 -0.2
	comp=Z,89nm,0.2s							
NVAR	Mina Array Bea	84.64	44	P		P		12 11 15.8 -0.6
	comp=Z,1.2nm,0.9s,baz=227,slow=7.9,SNR=6.7							
	comp=Z,1.2nm,0.9s							
SNAA	Sanae	84.75	179	⇓P		P		12 11 15.7 -0.6
	comp=Z,6.3nm,0.3s							
SNAA	Sanae	84.75	179	P		P		12 11 15.5 -0.7
	comp=Z,0.9nm,0.4s,baz=200,slow=11,SNR=14							
	comp=Z,0.9nm,0.4s							
VNA3	Neumayer Olymp	84.96	177	⇓P		P		12 11 16.7 -0.5
	comp=Z,0.6nm,0.3s							
J05D	Fort Rock, OR	85.80	39	P		P		12 11 22.2 +0.5
J05D				IAmb		IAmb		12 11 22.7
	comp=Z,6.0nm,0.9s							
PINE	Pine Mountain	86.28	38			P		12 11 24.4 +0.2
PINE				IAmb		IAmb		12 11 25.2
	comp=Z,8.7nm,1.2s							
TUC	Tucson	86.42	52	P		P		12 11 25.9 +1.0
G08A	Pilot Rock	88.32	38			P		12 11 33.1 -0.4
G08A				IAmb		IAmb		12 11 34.8
	comp=Z,5.4nm,1.2s							
MFID	Camas Ranch	89.05	41	P		P		12 11 36.7 -0.4
MFID				IAmb		IAmb		12 11 38.1
	comp=Z,5.3nm,1.1s							
PPLA	Purkeypile	89.17	12	P		P		12 11 37.1 0.0
TMUT	Trail Mountain	89.73	46	P		P		12 11 40.3 -0.2
TMUT				IAmb		IAmb		12 11 41.6
	comp=Z,5.1nm,1.0s							
HLID	Hailey	89.99	41	P		P		12 11 40.3 -1.1
HLID				IAmb		IAmb		12 12 01.6
	comp=Z,4.6nm,1.4s							
HVU	Hansel Valley	90.03	44	P		P		12 11 40.8 -0.9
HVU				IAmb		IAmb		12 11 41.7
	comp=Z,2.5nm,0.9s							
SRU	San Rafael Swe	90.09	47	P		P		12 11 41.0 -1.1
SRU				IAmb		IAmb		12 11 43.1
	comp=Z,5.3nm,1.1s							
TXAR	Lajitas Array	90.33	58	P		P		12 11 43.2 -0.1
	comp=Z,1.2nm,0.8s,baz=194,slow=4.6,SNR=7.0							
	comp=Z,1.2nm,0.8s							
ILAR	Eielson Array	91.93	14	P		P		12 11 47.3 -2.4
	comp=Z,0.4nm,1.0s,baz=209,slow=7.2,SNR=1.6							
	comp=Z,0.4nm,1.0s							
PDAR	Pinedale Array	92.58	44	P		P		12 11 51.8 -1.7
	comp=Z,0.5nm,0.8s,baz=224,slow=4.1,SNR=4.8							
	comp=Z,0.5nm,0.8s							
NIL	Nilore	116.26	297			PKPdf		12 17 19.8 -2.2
WBO	Williamsburg	116.57	50	PKPdf		PKiKP		12 17 22.6 +0.5
BVAR	Borovoye Array	120.41	319	PKP		PKPdf		12 17 27.3 -2.0
	comp=Z,0.5nm,0.4s,baz=116,slow=2.1,SNR=2.2							
ARCES	ARCESS Array B	131.81	348	PKP		PKPdf		12 17 48.5 -2.1
	comp=Z,2.6nm,0.9s,baz=45,slow=2.3,SNR=5.4							
FINES	FINESS Array B	138.38	342	PKP		PKPdf		12 18 02.4 -0.6
	comp=Z,1.3nm,0.8s,baz=45,slow=1.7,SNR=1.7							
HFS	Hagfors	142.47	349	PKnKP		PKPpre		12 18 05.2
	comp=Z,3.1nm,0.4s,baz=61,slow=3.9,SNR=29							
KONO	Kongsberg	143.56	352	PKPbc		PKPab		12 18 09.2 -1.7
PABE	Paberze	143.76	337	PKPbc		PKPab		12 18 10.5 -1.2
AKASG	Malin Array Be	144.93	327	PKPdf		PKPdf		12 18 14.2 -0.8
AKASG	Malin Array Be	144.93	327	PKP		PKPdf		12 18 11.9 -3.1
	comp=Z,0.7nm,0.3s,baz=42,slow=3.9,SNR=13							
AKASG				SKPbc		SKPbc		12 21 02.0 -3.4
	comp=Z,0.7nm,0.5s,baz=61,slow=1.8,SNR=4.2							
AKBB	Malin Array Si	144.93	327	PKPdf		PKPdf		12 18 13.9 -1.1
KIEV	Kiev	144.94	327	PKPdf		PKPdf		12 18 13.9 -1.1
BRTR	Keskin Array B	147.57	307	PKPbc		PKPbc		12 18 22.1 -1.4
	comp=Z,1.1nm,0.6s,baz=75,slow=1.6,SNR=1.0							
EKA	Eskdalemuir Ar	148.43	4	PKPbc		PKPbc		12 18 23.0 -1.9
	comp=Z,0.6nm,0.3s,baz=329,slow=2.4,SNR=5.7							
BUR08	Bucovina Ar. S	148.92	326	PKPbc		PKPbc		12 18 26.1 -0.5
BURAR	Bucovina Array	148.93	326	PKPbc		PKPbc		12 18 26.8 +0.2
BORA	Eskisehir	149.81	309	PKPbc		PKPbc		12 18 26.8 -2.1

*IDC **15** 12:05:07.2±0.8, 53.°70N×163.°69W, h0km, mb4.3/28, mbtmp4.2/31, ML3.5/3, MS3.6/13, Error ellipse: s-maj=22.3km s-min=11.5km az=175.0*
*ANF **15** 12:05:09.3±0.8, 53.°23N×163.°46W, h73km±5km, ML4.4/7, Error ellipse: s-maj=8.9km s-min=2.9km az=18.0*
*AEIC **15** 12:05:09.2±2.2, 53.°40N±0.°05×163.°57W±0.°05, h27km±4km, Error ellipse: s-maj=7.1km s-min=4.4km az=191.0*
*NEIC **15** 12:05:10.0±1.8, 53.°49N±0.°05×163.°61W±0.°06, h24km±5km, mb4.3/127, ML4.1/12, ML3.9(AEIC), Error ellipse: s-maj=7.6km s-min=4.5km az=202.0*

ISC 15 12:05:08.3±1.0, 53.°46N±0.°06×163.°54W±0.°03, h15km±5km, n504, σ1§21/503, mb4.5/64, MS3.6/12, 1C, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.19	329		Pn	12 05 30.4	-0.1
ISLZ	Isanotski Laza	1.27	355		Pn	12 05 31.6	0.0
ISLZ					Sg	12 05 48.6	-0.7
SSLS	Shishaldin Sou	1.28	348		Pb	12 05 32.1	-0.1
WEBT	Westdahl Beart	1.34	328		Pn	12 05 32.7	+0.1
WEBT					Sg	12 05 52.6	+1.2
ISNN	Isanotski Nort	1.38	354		Pb	12 05 34.2	+0.4
FALS	False Pass	1.40	3		Pb	12 05 33.9	-0.2
FALS	False Pass	1.40	3	P	Pb	12 05 33.9	-0.2
FALS	False Pass	1.40	3	P	Pb	12 05 33.9	-0.2
	baz=184,SNR=95						
FALS				S	Sb	12 05 51.2	-0.5
	baz=184						
AKSA	Akutan Strait	1.45	299		Pn	12 05 33.7	-0.3
AKSA					Sn	12 05 52.9	+0.2
ZRO	Akutan Zero	1.58	294		Pn	12 05 35.9	+0.1
ZRO					Sn	12 05 57.1	+1.1
AKGG	Akutan Green G	1.63	298		Pn	12 05 36.7	+0.2
LVA	Lava Point	1.64	296		Pn	12 05 36.9	+0.2
LVA				IAML		12 06 04.7	
	comp=E,1μm,1.1s						
LVA				IAML		12 06 06.4	
	comp=N,2μm,1.1s						
AKRB	Akutan Reef Bi	1.64	295		Pn	12 05 36.7	+0.1
UNV	Unalaska Valle	1.81	283		Pn	12 05 38.3	-0.6
UNV	Unalaska Valle	1.81	283		Sn	12 06 00.6	-0.9
UNV					Sb	12 06 02.7	-0.8
UNV	Unalaska Valle	1.81	283	P	Pn	12 05 38.1	-0.8
UNV	Unalaska Valle	1.81	283	P	Pn	12 05 38.5	-0.4
	baz=103,SNR=35						
UNV				S	Sb	12 06 03.7	+0.2
	baz=103						
MTBL	Makushin Table	1.93	286		Pn	12 05 40.7	0.0
MSW	Makushin Switc	1.98	284		Pn	12 05 41.0	-0.3
MGOD	Makushin Gods	2.01	281		Pn	12 05 41.7	-0.1
MAPS	Pakushin South	2.06	281		Pn	12 05 42.3	-0.1
PS4A	Pavlof South-4	2.13	27		Pb	12 05 44.6	-1.9
PS1A	Pavlof South-1	2.22	27		Pn	12 05 46.0	+1.3
SDPT	Sand Point	2.60	42		Pn	12 05 50.9	+1.1
SDPT	Sand Point	2.60	42	IAML		12 06 32.2	
	comp=N,849nm,0.9s						
SDPT				IAML		12 06 46.2	
	comp=E,735nm,1.0s						
SDPT	Sand Point	2.60	42	P	Pn	12 05 50.9	+1.1
SDPT	Sand Point	2.60	42	S	Sn	12 06 22.3	+1.2
SDPT	Sand Point	2.60	42	P	Pn	12 05 50.9	+1.1
	baz=224,SNR=14						
SDPT				S	Sn	12 06 22.4	+1.2
	baz=224						
OKFG	Magazine Ridge	2.62	271		Pn	12 05 50.0	0.0
CNBA	Chernabura Isl	2.69	58		Pn	12 05 51.3	+0.2
CHNA	Chernabura Isl	2.70	58	P	Pn	12 05 51.2	+0.1
CHNA	Chernabura Isl	2.70	58	P	Pn	12 05 51.4	+0.2
	baz=240						
CHNA				S	Sn	12 06 23.7	+0.3
	baz=240						
OKTU	Okmok Mt. Tuli	2.70	270		Pn	12 05 51.3	+0.1
OKWE	Okmok W'ng Wal	2.81	272		Pn	12 05 53.1	+0.4
VNKR	Veniaminof 5	3.53	42		Pn	12 06 04.0	+1.4
S14K	Fog Glacier	3.65	38	P	Pn	12 06 05.7	+1.5
	baz=220						
S14K				S	Sn	12 06 48.8	+1.8
	baz=220						
VNFG	Fog Glacier, M	3.65	38		Pn	12 06 05.9	+1.6
VNSG	Veniaminof 6	3.71	42		Pn	12 06 06.6	+1.4
VNHG	Veniaminof 1	3.75	41		Pn	12 06 07.4	+1.8
CHGN	Chignik	4.10	44		Pn	12 06 11.5	+1.0
CHGN				IAML		12 07 06.1	
	comp=E,187nm,0.6s						
CHGN	Chignik	4.10	44	P	Pn	12 06 11.9	+1.4
	baz=228,SNR=5.1						
CHGN				S	Sn	12 06 58.3	+0.2
	baz=228						
ANPB	Aniakchak Plen	4.50	40		Pn	12 06 17.4	+1.3
AZAC	Aniakchak	4.59	39		Pn	12 06 18.6	+1.4
CHIR	Chirikof Islan	5.17	60	S	Sn	12 07 22.0	-2.4
	baz=246						
R16K	Pilot Point	5.33	37	Pn	Pn	12 06 28.9	+1.6
R16K				IAML		12 09 53.8	
	comp=E,136nm,1.2s						
R16K	Pilot Point	5.33	37	P	Pn	12 06 29.3	+2.0
	baz=222						
PLBL	Peulik Blue Cr	5.70	39		Pn	12 06 33.7	+1.3
PLK1	Peulik 1	5.86	39		Pn	12 06 35.8	+1.3
O14K	Tigyukauivet M	5.94	11	Pn	Pn	12 06 37.8	+2.1
O14K	Tigyukauivet M	5.94	11	P	Pn	12 06 37.6	+1.9
	baz=193						
O15K	Ungalikthiuk R	6.09	18		Pn	12 06 38.9	+1.2
O15K	Ungalikthiuk R	6.09	18	P	Pn	12 06 39.5	+1.8
	baz=201						
SII	Sitkinak Islan	6.21	56	S	Sn	12 07 47.6	-2.5
	baz=244						
P16K	Nushagak River	6.38	27		Pn	12 06 42.9	+1.2
P16K	Nushagak River	6.38	27	P	Pn	12 06 43.2	+1.5
	baz=211						
Q16K	King Salmon	6.49	34	P	Pn	12 06 44.7	+1.5
	baz=219						
N14K	Kuskokwak Cree	6.56	8		Pn	12 06 45.7	+1.6
N14K	Kuskokwak Cree	6.56	8	P	Pn	12 06 46.0	+2.0
	baz=190						
ANCK	Angle Creek	6.56	40		Pn	12 06 45.1	+0.9
ATKA	Atka Island	6.58	263	P	Pn	12 06 42.6	-1.9
R18K	Karluk	6.59	48	P	Pn	12 06 45.5	+0.8
	baz=235						
ACHA	Angle Creek He	6.63	41		Pn	12 06 46.0	+0.8
O16K	Kokwok River B	6.84	24	Pn	Pn	12 06 48.4	+0.3
O16K	Kokwok River B	6.84	24	P	Pn	12 06 49.4	+1.4
	baz=208						
OHAK	Old Harbor	6.95	53	Pn	Pn	12 06 49.0	-0.6
OHAK	Old Harbor	6.95	53	P	Pn	12 06 49.0	-0.6
	baz=241						
P17K	Kvichak River	6.97	32	P	Pn	12 06 51.3	+1.6
	baz=217						
M13K	Dall Lake	6.97	1		Pn	12 06 51.5	+1.7
M13K	Dall Lake	6.97	1	P	Pn	12 06 52.2	+2.5
	baz=181						
N15K	Kwethluk River	6.98	14	Pn	Pn	12 06 50.8	+0.8
N15K	Kwethluk River	6.98	14	P	Pn	12 06 52.2	+2.2
	baz=197						
Q18K	Katmai Hardscr	7.05	39	P	Pn	12 06 52.5	+1.4
	baz=226						
M11K	Mekoryuk	7.09	349	P	Pn	12 06 53.7	+2.3
	baz=167						
O17K	Koliganek Bris	7.25	27		Pn	12 06 54.8	+1.2
O17K	Koliganek Bris	7.25	27	P	Pn	12 06 54.6	+1.0
	baz=212,SNR=8.9						
M14K	Bethel	7.36	6	Pn	Pn	12 06 55.0	-0.1
M14K	Bethel	7.36	6	P	Pn	12 06 57.1	+2.1
	baz=188,SNR=7.4						
M15K	Kasigluk River	7.41	11		Pn	12 06 56.9	+1.1
M15K	Kasigluk River	7.41	11	P	Pn	12 06 57.2	+1.4
	baz=193						
N16K	Nishlik Lake	7.49	18	P	Pn	12 06 58.8	+1.8
	baz=202						
P18K	Big Mountain,	7.51	34		Pn	12 06 59.0	+1.7
P18K	Big Mountain,	7.51	34	P	Pn	12 06 58.4	+1.1
	baz=221						
KDAK	Kodiak Island	7.56	51	Pn	Pn	12 06 57.3	-0.5
	comp=E,0.6nm,0.3s,baz=313,slow=2.1,SNR=6.0						
KDAK				Sn	Sn	12 08 18.1	-5.1
	comp=E,0.7nm,0.3s,baz=234,slow=19,SNR=1.1						
	comp=E,4.5nm,0.4s						
KDAK	Kodiak Island	7.56	51	P	Pn	12 06 58.4	+0.5
	baz=239						
Q19K	Cape Douglas,	7.77	41	Pn	Pn	12 07 01.3	+0.5
Q19K	Cape Douglas,	7.77	41	P	Pn	12 07 01.7	+0.9
	baz=229						
O18K	Koktuh Hills	7.88	32		Pn	12 07 03.8	+1.6
O18K	Koktuh Hills	7.88	32	P	Pn	12 07 03.9	+1.6
	baz=219,SNR=9.9						
N17K	Nushagak Hills	7.88	24	Pn	Pn	12 07 01.6	-0.7
N17K	Nushagak Hills	7.88	24	P	Pn	12 07 03.5	+1.2
	baz=209						
L14K	Kuka Creek	7.91	3	Pn	Pn	12 07 04.6	+1.9
L14K	Kuka Creek	7.91	3	P	Pn	12 07 05.2	+2.5
	baz=184						
M16K	Timber Creek	7.97	16	Pn	Pn	12 07 05.4	+1.9
M16K	Timber Creek	7.97	16	P	Pn	12 07 04.9	+1.3
	baz=200						
Q20K	Shuyak Island	8.09	46	P	Pn	12 07 06.3	+1.1
	baz=235						
SYI	Shuyak Island	8.09	46	Pn	Pn	12 07 06.4	+1.2
ADK	Adak	8.15	264	Pn	Pn	12 07 07.2	+1.3
L15K	Ungalak Mounta	8.31	7		Pn	12 07 09.2	+1.1
L15K	Ungalak Mounta	8.31	7	P	Pn	12 07 10.1	+2.0
	baz=189						
N18K	Kilae Creek	8.34	27	Pn	Pn	12 07 09.3	+0.6
N18K	Kilae Creek	8.34	27	P	Pn	12 07 09.8	+1.1
	baz=213						
P19K	Oil Pt	8.41	38	P	Pn	12 07 11.9	+2.3
	baz=227						
O19K	Port Alsworth	8.42	33		Pn	12 07 12.2	+2.5
O19K	Port Alsworth	8.42	33	P	Pn	12 07 11.2	+1.5
	baz=221						
K13K	Kusilvak Mount	8.51	356		Pn	12 07 13.2	+2.2
K13K	Kusilvak Mount	8.51	356	P	Pn	12 07 12.2	+1.2
	baz=176						
M17K	Holitna River	8.61	20	Pn	Pn	12 07 13.5	+1.3
M17K	Holitna River	8.61	20	P	Pn	12 07 14.0	+1.7
	baz=205						
ILSW	Iliamna Southw	8.67	37	Pn	Pn	12 07 15.3	+2.0
N19K	Bonanza Creek	8.85	30	Pn	Pn	12 07 18.5	+2.8
N19K	Bonanza Creek	8.85	30	P	Pn	12 07 17.5	+1.8
	baz=218						
K15K	Wolf Creek Mou	8.92	6		Pn	12 07 18.3	+1.8
K15K	Wolf Creek Mou	8.92	6	P	Pn	12 07 18.3	+1.8
	baz=188						
O20K	Slope Mountain	8.93	38	P	Pn	12 07 18.5	+1.7
	baz=227						
HOM	Homer	9.03	42	P	Pn	12 07 19.5	+1.5
	baz=232						
M18K	Stony River	9.05	24		Pn	12 07 19.0	+0.7
M18K	Stony River	9.05	24	P	Pn	12 07 19.0	+0.7
	baz=211						
L17K	Donlin	9.13	16	P	Pn	12 07 21.4	+2.0
	baz=200						
J14K	Nanvaranak Lak	9.31	360	Pn	Pn	12 07 23.7	+1.9
J14K	Nanvaranak Lak	9.31	360	P	Pn	12 07 24.2	+2.4
	baz=180						
L18K	Granite Mounta	9.50	20	Pn	Pn	12 07 25.6	+1.1
L18K	Granite Mounta	9.50	20	P	Pn	12 07 25.6	+1.1
	baz=206						
K17K	Iditarod	9.68	14		Pn	12 07 28.6	+1.7
K17K	Iditarod	9.68	14	P	Pn	12 07 28.2	+1.3
	baz=199						
M19K	Big River Lodg	9.77	26		Pn	12 07 29.4	+1.3
M19K	Big River Lodg	9.77	26	P	Pn	12 07 29.4	+1.3
	baz=214						
L19K	White Mountain	9.88	24	Pn	Pn	12 07 30.6	+0.9
L19K	White Mountain	9.88	24	P	Pn	12 07 30.8	+1.0
	baz=212						
J16K	Anvik River	9.97	8	P	Pn	12 07 32.4	+1.5
	baz=190						
M20K	Styx River	10.10	29	P	Pn	12 07 34.0	+1.3
	baz=218						
SEW	Seward	10.18	44	P	Pn	12 07 33.9	+0.1
	baz=235						
J17K	VABM Dome	10.23	11	P	Pn	12 07 36.3	+1.9
	baz=195						
L20K	Farewell, AK	10.38	26	P	Pn	12 07 38.3	+1.8
	baz=214						
SUA	Susitna One	10.55	35	P	Pn	12 07 38.8	-0.2
	baz=226						
I17K	Unalakleet	10.56	7	P	Pn	12 07 39.7	+0.9
	baz=189						
J18K	Innoko River	10.64	17	P	Pn	12 07 42.2	+2.1
	baz=203						
SKT	Skwentna	10.66	32	P	Pn	12 07 41.6	+1.2
	baz=222,SNR=6.8						
PWL	Port Wells	11.07	42	P	Pn	12 07 45.5	-0.5
	baz=235						
K20K	Telida	11.08	23		Pn	12 07 48.0	+1.9
K20K	Telida	11.08	23	P	Pn	12 07 47.3	+1.3
	baz=211						
GAMB	Gambell	11.17	341	P	Pn	12 07 49.1	+1.8
	baz=154						
PPLA	Purkeypile	11.17	28	P	Pn	12 07 49.0	+1.5
	baz=217						
ANM	Nome	11.17	356	P	Pn	12 07 49.4	+2.0
	baz=174						
Q23K	Middleton Isla	11.21	51	P	Pn	12 07 48.1	+0.3
	baz=245						
PMR	Palmer	11.21	38	P	Pn	12 07 47.8	-0.1
	baz=230						
H16K	Elim	11.23	3	P	Pn	12 07 49.3	+1.2
	baz=184						
J19K	Poorman	11.32	18	P	Pn	12 07 50.3	+1.0
	baz=205						
KNK	Knik Glacier	11.35	39	P	Pn	12 07 49.5	-0.4
	baz=232						
CUT	Chulitna	11.38	33	P	Pn	12 07 50.9	+0.8
	baz=224						
G15K	Niukluk	11.57	359	P	Pn	12 07 54.5	+1.8
	baz=179						
GLI	Glacier Island	11.58	44	P	Pn	12 07 52.5	-0.5
	baz=237						
CAST	Castle Rocks	11.62	26	P	Pn	12 07 54.8	+1.3
	baz=216						
SML	Sawmill	11.65	38	P	Pn	12 07 53.9	0.0
	baz=231						
H17K	Granite Mounta	11.65	8	P	Pn	12 07 55.0	+1.1
	baz=191						
J20K	Nowinta River	11.78	20	P	Pn	12 07 56.3	+0.8
	baz=208						
GCSA	Galena City Sc	11.81	14	P	Pn	12 07 56.5	+0.5
	baz=200,SNR=8.1						
M23K	Glacier View	11.86	39	P	Pn	12 07 56.4	-0.4
	baz=232						
CHUM	Lake Minchumin	11.94	25	P	Pn	12 07 59.0	+1.1
	baz=214						
G16K	Koyuk River	11.98	2	P	Pn	12 07 59.6	+1.3
	baz=184						
EYAK	Cordova Ski Ar	11.99	47	Pn	Pn	12 07 57.3	-1.2
EYAK	Cordova Ski Ar	11.99	47	P	Pn	12 07 59.5	+1.1
EYAK	Cordova Ski Ar	11.99	47	P	Pn	12 07 58.0	-0.5
	baz=241						
H18K	Honhosa River	12.01	11	P	Pn	12 07 59.4	+0.6
	baz=195						
SCM	Sheep Creek Mo	12.04	39	P	Pn	12 07 58.6	-0.6
	baz=233						
F14K	Arctic Creek	12.13	354	P	Pn	12 08 01.9	+1.5
	baz=172						
TRF	Thorofare Moun	12.15	29	Pn	Pn	12 07 59.8	-1.0
TRF	Thorofare Moun	12.15	29	P	Pn	12 08 01.9	+1.0
	baz=220						
F15K	North Star Dit

RIDG	Independent Ri	14.11	36	P		Pn	12 08 27.0	-0.5
	baz=232							
ILAR	Eielson Array	14.13	30	Pn		Pn	12 08 24.1	-3.7
	comp=E,0.1nm,0.3s,baz=219,slow=12,SNR=8.3							
ILAR				LR		LR	12 14 27.0	
	comp=E,328nm,18.7s,baz=222,slow=40							
	comp=E,0.3nm,0.5s							
F20K	Avaraart Lake	14.15	13	P		Pn	12 08 29.1	+1.2
	baz=199							
H23K	Yukon River	14.22	24	P		Pn	12 08 29.2	+0.2
	baz=216							
L26K	Log Cabin Wild	14.24	40	P		Pn	12 08 29.2	-0.1
	baz=237							
D17K	Noatak River	14.29	1	P		Pn	12 08 30.5	+0.7
	baz=181							
E19K	Redstone River	14.37	10	P		Pn	12 08 31.5	+0.6
	baz=195							
M27K	Edge Creek, AK	14.48	43	P		Pn	12 08 32.7	0.0
	baz=242							
J25K	Salcha River,	14.50	32	P		Pn	12 08 30.7	-2.1
	baz=228							
SCRK	Sand Creek	14.56	36	Pn		Pn	12 08 32.1	-1.6
SCRK	Sand Creek	14.56	36	P		Pn	12 08 33.2	-0.5
	baz=233,SNR=8.4							
PNL	Peninsula	14.63	55	P		Pn	12 08 36.5	+1.9
PNL	Peninsula	14.63	55	P		Pn	12 08 33.6	-1.0
	baz=255							
F21K	Alatna River	14.64	16	P		Pn	12 08 35.2	+0.6
	baz=204							
H24K	Noodor Dome	14.65	26	P		Pn	12 08 32.0	-2.9
	baz=220							
YUK3	Moose Creek	14.83	47	P		Pn	12 08 35.7	-1.8
	baz=246							
G23K	Bananza Creek	14.84	21	P		Pn	12 08 37.5	+0.1
	baz=213							
L27K	Beaver Creek,	14.85	41			Pn	12 08 36.4	-1.2
L27K	Beaver Creek,	14.85	41	P		Pn	12 08 35.4	-2.1
	baz=240							
BCAR	Beaver Creek A	14.87	41	Pn		Pn	12 08 36.3	-1.5
C16K	Lisburne Hills	14.89	357	P		Pn	12 08 37.7	-0.2
	baz=176							
BVCY	Beaver Creek	14.93	44	P		Pn	12 08 37.9	-0.8
	baz=243,SNR=6.5							
YUK8	Steele Glacier	14.95	49	P		Pn	12 08 37.8	-1.3
	baz=249							
J26L	Joseph Creek	15.02	35	Pn		Pn	12 08 38.1	-1.9
J26L				IAmb		IAmb	12 08 55.3	
	comp=Z,9.6nm,0.8s							
J26L	Joseph Creek	15.02	35	P		Pn	12 08 39.5	-0.5
	baz=232,SNR=8.7							
C17K	DeLong Mountai	15.06	1	P		Pn	12 08 41.1	+0.7
	baz=181							
PRP	Porcupine Dome	15.07	30	Pn		Pn	12 08 38.4	-2.2
PRP	Porcupine Dome	15.07	30	P		Pn	12 08 40.0	-0.6
	baz=225							
F22K	John River	15.12	17	P		Pn	12 08 40.8	-0.3
	baz=207							
O29M	Mount Kennedy	15.20	53			Pn	12 08 43.8	+1.5
O29M				IAmb		IAmb	12 09 01.2	
	comp=Z,9.7nm,0.7s							
O29M	Mount Kennedy	15.20	53	P		Pn	12 08 40.9	-1.4
	baz=254							
COLD	Coldfoot	15.24	20	Pn		Pn	12 08 43.8	+1.1
COLD				IAmb		IAmb	12 08 49.4	
	comp=Z,14nm,0.8s							
COLD	Coldfoot	15.24	20	P		Pn	12 08 43.0	+0.3
	baz=212,SNR=22							
E20K	Nigu River	15.25	10	P		Pn	12 08 43.5	+0.7
	baz=197							
K27K	Chicken	15.27	38	Pn		Pn	12 08 41.8	-1.3
K27K	Chicken	15.27	38	P		Pn	12 08 42.1	-1.0
	baz=236							
C18K	Utukok River	15.28	3	Pn		Pn	12 08 43.4	+0.1
C18K	Utukok River	15.28	3	P		Pn	12 08 43.8	+0.5
	baz=185							
D19K	Kuna River	15.30	8	Pn		Pn	12 08 42.2	-1.3
D19K	Kuna River	15.30	8	P		Pn	12 08 43.6	+0.1
	baz=192							
G24K	Hadweenzic Riv	15.43	24	Pn		Pn	12 08 43.1	-2.1
G24K				IAmb		IAmb	12 09 03.2	
	comp=Z,25nm,1.5s							
G24K	Hadweenzic Riv	15.43	24	P		Pn	12 08 43.4	-1.8
	baz=218							
YUK4	Talbot Arm	15.48	49	P		Pn	12 08 45.4	-0.7
	baz=250							
YUK6	Outpost Mounta	15.48	51	P		Pn	12 08 45.8	-0.3
	baz=252							
H25L	Birch Creek	15.53	27	P		Pn	12 08 44.6	-1.8
	baz=223							
D20K	Etivluk River	15.64	9	P		Pn	12 08 47.8	-0.2
	baz=196							
I26K	Coal Creek Min	15.67	33	Pn		Pn	12 08 47.4	-0.9
I26K	Coal Creek Min	15.67	33	P		Pn	12 08 46.7	-1.6
	baz=230							
E21K	Killik River	15.69	13	P		Pn	12 08 48.0	-0.7
	baz=202							
E22K	Anaktuvuk Pass	15.74	16	Pn		Pn	12 08 50.9	+1.6
E22K				IAmb		IAmb	12 08 58.3	
	comp=Z,14nm,0.9s							
E22K	Anaktuvuk Pass	15.74	16	P		Pn	12 08 49.6	+0.4
	baz=207,SNR=14							
G25K	Bearman Lake	15.83	26	P		Pn	12 08 49.8	-0.5
	baz=221							
HYT	Haines Junctio	15.85	52	Pn		Pn	12 08 50.9	+0.1
HYT				IAmb		IAmb	12 09 02.8	
	comp=Z,29nm,1.5s							
HYT	Haines Junctio	15.85	52	P		Pn	12 08 48.9	-1.9
	baz=254							
FYU	Fort Yukon	15.91	27	Pn		Pn	12 08 50.1	-1.3
P30M	Million Dollar	15.93	55	P		Pn	12 08 50.1	-1.7
	baz=257							
M29M	Somme Creek	15.96	46			Pn	12 08 52.1	-0.1
M29M				IAmb		IAmb	12 08 59.9	
	comp=Z,37nm,0.8s							
M29M	Somme Creek	15.96	46	P		Pn	12 08 51.9	-0.3
	baz=247							
S31K	Pelican	15.97	63	P		Pn	12 08 50.7	-1.5
	baz=265							
B18K	Kokolik River	15.98	2	P		Pn	12 08 53.1	+0.8
	baz=184							
F24K	Squaw Lake	15.98	22	Pn		Pn	12 08 51.1	-1.3
F24K	Squaw Lake	15.98	22	P		Pn	12 08 52.2	-0.2
	baz=216							
E23K	Chandalar	16.07	19			Pn	12 08 54.1	+0.5
E23K	Chandalar	16.07	19	P		Pn	12 08 54.3	+0.7
	baz=211							
PLBC	Pleasant Camp	16.09	57	P		Pn	12 08 52.6	-1.2
	baz=260,SNR=5.7							
N30M	Aishikik Lake	16.23	50			Pn	12 08 55.9	+0.3
N30M				IAmb		IAmb	12 09 03.1	
	comp=Z,11nm,0.7s							
N30M	Aishikik Lake	16.23	50	P		Pn	12 08 55.0	-0.6
	baz=252							
C21K	Knifeblade Rid	16.27	11	P		Pn	12 08 56.2	+0.2
	baz=199							
D22K	Ayikyak River	16.28	14	P		P	12 08 57.8	-1.3
D22K	Ayikyak River	16.28	14	P		Pn	12 08 56.6	+0.4
	baz=204							
DAWY	Dawson	16.30	40	Pn		Pn	12 08 55.5	-0.9
DAWY				IAmb		IAmb	12 09 02.2	
	comp=Z,12nm,0.6s							
DAWY	Dawson	16.30	40	P		Pn	12 08 56.4	0.0
	baz=240,SNR=13							
E24K	Your Creek	16.31	20			Pn	12 08 57.3	+0.7
E24K				IAmb		IAmb	12 09 01.3	
	comp=Z,24nm,1.0s							
E24K	Your Creek	16.31	20	P		Pn	12 08 56.6	0.0
	baz=214							
I27K	Kandik River	16.36	33	P		Pn	12 08 56.9	-0.3
	baz=232							
L29M	L29M	16.37	44	Pn		Pn	12 08 57.9	+0.5
L29M	L29M	16.37	44	P		Pn	12 08 57.7	+0.4
	baz=245,SNR=36							
O30N	Mendenhall	16.50	53	Pn		Pn	12 08 59.1	0.0
O30N	Mendenhall	16.50	53	P		Pn	12 08 57.0	-2.1
	baz=256							
F25K	Christian Rive	16.57	24			Pn	12 08 58.0	-2.0
F25K	Christian Rive	16.57	24	P		Pn	12 08 56.8	-3.2
	baz=220							
TOLK	Toolik Lake Re	16.58	18	Pn		Pn	12 08 59.1	-1.0
TOLK				IAmb		IAmb	12 09 17.9	
	comp=Z,28nm,1.4s							
TOLK	Toolik Lake Re	16.58	18	P		Pn	12 08 59.0	-1.0
	baz=210,SNR=12							
G26K	Porcupine Rive	16.59	28	P		Pn	12 08 55.2	-4.8
	baz=225							
D23K	Nanushuk River	16.67	16	Pn		Pn	12 09 01.9	+0.8
D23K	Nanushuk River	16.67	16	P		Pn	12 09 01.7	+0.6
	baz=208							
BMAR	Burnt Mountain	16.72	26			P	12 09 03.4	-0.6
M30M	Minto, Yukon	16.73	46			Pn	12 09 02.7	+0.8
M30M	Minto, Yukon	16.73	46	P		Pn	12 09 00.7	-1.2
	baz=249							
B21K	Ikpikpuk River	16.73	11			Pn	12 09 01.6	-0.2
B21K	Ikpikpuk River	16.73	11	P		Pn	12 09 01.8	0.0
	baz=199							
BESE	Bessie Mountai	16.75	61	Pn		P	12 09 03.5	-1.0
BESE				IAmb		IAmb	12 09 10.9	
	comp=Z,20nm,1.0s							
H27K	Steamboat Moun	16.77	32	P		Pn	12 09 02.0	-0.5
	baz=231							
I28M	Miner Creek	16.83	35	Pn		Pn	12 09 03.1	-0.1
I28M	Miner Creek	16.83	35	P		Pn	12 09 02.6	-0.6
	baz=236							
N31M	Braeburn, Yuko	16.84	51	P		P	12 09 05.5	+0.1
N31M				IAmb		IAmb	12 09 24.1	
	comp=Z,16nm,0.8s							
N31M	Braeburn, Yuko	16.84	51	P		Pn	12 09 01.9	-1.3
	baz=254							
S32K	Killisnoo	16.84	65	Pn		P	12 09 04.4	-0.9
S32K				IAmb		IAmb	12 09 20.5	
	comp=Z,46nm,1.4s							
S32K	Killisnoo	16.84	65	P		Pn	12 09 02.7	-0.5
	baz=268							
B20K	Meade River	16.86	8			P	12 09 04.5	-0.9
B20K				IAmb		IAmb	12 09 30.5	
	comp=Z,28nm,1.4s							
R32K	Eaglecrest	16.90	62			P	12 09 05.7	-0.4
R32K				IAmb		IAmb	12 09 34.8	
	comp=Z,23nm,1.4s							
K29M	Barlow Dome	16.93	42			Pn	12 09 05.0	+0.5
K29M				IAmb		IAmb	12 09 10.5	
	comp=Z,23nm,0.8s							
K29M	Barlow Dome	16.93	42	P		Pn	12 09 03.5	-1.0
	baz=244							
J29N	Klondike Camp	16.93	40			Pn	12 09 05.2	+0.6
J29N				IAmb		IAmb	12 09 11.2	
	comp=Z,17nm,0.6s							
J29N	Klondike Camp	16.93	40	P		Pn	12 09 04.6	+0.1
	baz=241,SNR=9.1							
E25K	Arctic Village	17.00	23			Pn	12 09 04.7	-0.6
E25K	Arctic Village	17.00	23	P		Pn	12 09 04.8	-0.6
	baz=219							
F26K	Sheenjek River	17.03	26	Pn		Pn	12 09 05.3	-0.3
F26K	Sheenjek River	17.03	26	P		Pn	12 09 05.4	-0.3
	baz=223							
WHY	Whitehorse	17.06	54			Pn	12 09 06.6	+0.5
WHY				IAmb		IAmb	12 09 26.1	
	comp=Z,29nm,1.1s							
WHY	Whitehorse	17.06	54	P		Pn	12 09 03.9	-2.3
	baz=258							
G27K	Doyon Strip	17.11	30	Pn		Pn	12 09 07.1	+0.4
G27K	Doyon Strip	17.11	30	P		Pn	12 09 06.0	-0.6
	baz=229							
D24K	Happy Valley	17.16	18	P		P	12 09 08.3	-0.5
D24K	Happy Valley	17.16	18	P		Pn	12 09 07.2	-0.1
	baz=211,SNR=13							
I29M	Ogilvie Camp,	17.36	37			P	12 09 10.9	-0.2
I29M	Ogilvie Camp,	17.36	37	P		Pn	12 09 09.7	-0.1
	baz=239							
P32M	Atlin	17.45	58			P	12 09 11.7	-0.5
P32M				IAmb		IAmb	12 09 17.6	
	comp=Z,13nm,0.8s							
P32M	Atlin	17.45	58	P		Pn	12 09 09.7	-1.3
	baz=262							
C23K	Itkillik River	17.46	15			P	12 09 11.5	-0.7
C23K	Itkillik River	17.46	15	P		P	12 09 11.5	-0.7
	baz=206,SNR=8.1							
MAYO	Mayo, Yukon	17.49	44	P		P	12 09 11.7	-0.8
MAYO	Mayo, Yukon	17.49	44	P		Pn	12 09 10.3	-1.1
	baz=247							
B22K	Teshekpuk Lake	17.55	11	Pn		Pn	12 09 11.5	-0.5
B22K				IAmb		IAmb	12 09 13.0	
	comp=Z,15nm,1.1s							
B22K	Teshekpuk Lake	17.55	11	P		Pn	12 09 12.0	0.0
	baz=200							
M31M	Drury Creek, Y	17.67	49	P		P	12 09 14.0	-0.5
M31M				IAmb		IAmb	12 09 19.6	
	comp=Z,22nm,0.9s							
M31M	Drury Creek, Y	17.67	49	P		Pn	12 09 13.8	+0.1
	baz=254,SNR=13							
C24K	Franklin Bluff	17.68	17	P		P	12 09 14.2	-0.3
C24K				IAmb		IAmb	12 09 27.2	
	comp=Z,15nm,1.1s							
C24K	Franklin Bluff	17.68	17	P		Pn	12 09 13.9	+0.2
	baz=210							
J30M	Hart River	17.71	40			Pn	12 09 13.8	-0.5
J30M	Hart River	17.71	40	P		Pn	12 09 13.5	-0.8
	baz=244							
D25K	Kavik River	17.78	20	P		Pn	12 09 14.7	-0.3
D25K	Kavik River	17.78	20	P		Pn	12 09 14.7	-0.3
	baz=215							
H29M	Whitestone	17.80	34			Pn	12 09 14.5	-0.7
H29M	Whitestone	17.80	34	P		Pn	12 09 14.6	-0.6
	baz=236							
P33M	Teslin, Yukon	17.98	56	P		P	12 09 17.8	-0.3
P33M				IAmb		IAmb	12 09 23.9	
	comp=Z,19nm,0.8s							
P33M	Teslin, Yukon	17.98	56	P		Pn	12 09 16.5	-1.1
	baz=261,SNR=11							
I30M	Mount Dempster	17.99	39	Pn		Pn	12 09 17.1	-0.6
I30M				IAmb		IAmb	12 09 23.6	
	comp=Z,19nm,0.7s							
I30M	Mount Dempster	17.99	39	P		Pn	12 09 17.0	-0.7
	baz=242,SNR=23							
A22K	Sinclair Lake	18.01	9	P		Pn	12 09 17.2	-0.6
	baz=197							
N32M	Quiet Lake	18.02	53	P		Pn	12 09 17.9	-0.1
N32M				IAmb		IAmb	12 09 35.3	
	comp=Z,26nm,0.8s							
N32M	Quiet Lake	18.02	53	P		Pn	12 09 16.7	-1.3
	baz=258							
E27K	Coleen River	18.06	27	P		Pn	12 09 17.5	-0.9
	baz=226							
Q32M	Nakina River	18.13	60			Pn	12 09 18.9	-0.6
FARO	Faro, Yukon	18.15	49	P		P	12 09 19.9	+0.1
FARO				IAmb		IAmb	12 09 24.7	
	comp=Z,20nm,0.7s							
FARO	Faro, Yukon	18.15	49	P		Pn	12 09 19.2	-0.4
	baz=255,SNR=17							
G29M	Pine Creek	18.30	33	P		Pn	12 09 20.3	-1.1
G29M				IAmb		IAmb	12 09 23.3	
	comp=Z,14nm,0.9s							
G29M	Pine Creek	18.30	33	P		Pn	12 09 19.3	-2.1
	baz=235,SNR=12							
C26K	Camden Bay	18.57	20	P		Pn	12 09 24.7	+0.1
	baz=217,SNR=45							
C27K	Jago River	18.60	22	P		P	12 09 24.6	-0.1
C27K	Jago River	18.60	22	P		P	12 09 23.9	-0.8
	baz=219							
R33M	Jennings River	18.82	59			Pn	12 09 27.6	-0.3
R33M				IAmb		IAmb	12 09 33.8	
	comp=Z,17nm,1.1s							
R33M	Jennings River	18.82	59	P		P	12 09 27.0	-0.4
	baz=266							
E28M	Babbage River	18.90	27	P		P	12 09 28.0	0.0
E28M	Babbage River	18.90	27	P		Pn	12 09 28.4	-0.2
	baz=229							
G30M	tAoh Zraii Nji	18.93	34	P		P	12 09 27.7	-0.8
G30M	tAoh Zraii Nji	18.93	34	P		P	12 09 26.8	-1.6
	baz=238							
H31M	Peel River	19.01	38	P		P	12 09 29.0	-0.3
H31M				IAmb		IAmb	12 09 46.1	
	comp=Z,32nm,1.1s							
H31M	Peel River	19.01	38	P		P	12 09 28.7	-0.6
	baz=243							
T35M	Bob Quinn	19.20	66	P		P	12 09 30.5	-0.9
	baz=273							
E29M	Blow River	19.23	29	P		P	12 09 31.2	-0.4
E29M	Blow River	19.23	29	P		P	12 09 29.0	-2.6
	baz=232							
DLBC	Dease Lake	19.28	62	P		Pn	12 09 33.0	-0.3
DLBC				IAmb		IAmb	12 09 37.2	
	comp=Z,24nm,1.5s							
DLBC	Dease Lake	19.28	62	P		Pn	12 09 33.8	+0.5
	comp=Z,0.1nm,0.3s,baz=257,slow=7.8,SNR=5.9							
	comp=Z,3.9nm,0.9s							
DLBC	Dease Lake	19.28	62	P		P	12 09 28.5	-3.8
	baz=269							
F30M	Barrier River	19.42	32	P		P	12 09 32.3	-1.3
	baz=237							
D28M	Stokes Point	19.60	26	P		P	12 09 33.7	-1.9
	baz=228							
WTLY	Watson Lake, Y	19.97	57	P		P	12 09 40.4	+0.6
WTLY				IAmb		IAmb	12 09 46.1	
	comp=Z,27nm,1.4s							
WTLY	Watson Lake, Y	19.97	57	P		P	12 09 37.8	-2.0
	baz=266							
F31M	Tsiigehtchic	20.00	34	P		P	12 09 38.8	-1.2
F31M	Tsiigehtchic	20.00	34	P		P	12 09 38.1	-1.8
	baz=240							
BILL	Bilibino	20.43	327			P	12 09 43.2	-1.5
BILL				IAmb		IAmb	12 09 49.7	
	comp=Z,21nm,1.1s							
INK	Inuvik	20.51	32	P		P	12 09 43.9	-1.6
INK				IAmb		IAmb	12 09 52.6	
	comp=Z,9.6nm,0.8s							
INK	Inuvik	20.51	32	P		P	12 09 43.8	-1.8
	comp=Z,4.9nm,0.9s,baz=237,slow=8.4,SNR=13							
	comp=Z,4.9nm,0.9s							
INK	Inuvik	20.51	32	P		P	12 09 43.9	-1.6
	baz=238							
TOAD	Toad River Com	21.77	60	P		P	12 09 58.5	-0.8
	baz=272							
WRGLY	Wrigley	22.80	49	P		P	12 10 10.6	+0.4
WRGLY				IAmb		IAmb	12 10 19.9	
	comp=Z,14nm,0.8s							
WRGLY	Wrigley	22.80	49	P		P	12 10 10.4	+0.3
	baz=263							
PETK	Petropavlovsk-	22.99	285	P		P	12 10 09.6	-2.6
PETK	Petropavlovsk-	22.99	285	P		P	12 10 11.6	-0.7
	comp=Z,5.3nm,0.6s,baz=80,slow=14,SNR=33							
PETK				LR		LR	12 18 47.8	
	comp=Z,108nm,21.6s,baz=88,slow=36							
	comp=Z,5.3nm,0.6s							
C36M	Paulatuk	24.05	34	P		P	12 10 22.2	-0.3
C36M				IAmb		IAmb	12 10 24.4	
	comp=Z,9.7nm,1.2s							
C36M	Paulatuk	24.05	34	P		P	12 10 21.0	-1.4
	baz=249,SNR=7.2							
A36M	Sachs Harbour	24.80	27	P		P	12 10 29.6	+0.4
A36M	Sachs Harbour	24.80	27	P		P	12 10 29.7	+0.4
	baz=242,SNR=20							
C03A	Quillayute Air	25.05	87	P		P	12 10 29.6	-2.2
MA2	Magadan	25.51	302	P		P	12 10 34.1	-1.7
YKAW3	Yellowknife Wh	26.83	51	P		P	12 10 48.8	+1.1
YKAW3				IAmb		IAmb	12 10 50.8	
	comp=Z,4.9nm,0.8s							
YKA	Yellowknife Ar	26.84	51	P		P	12 10 49.1	+1.3
	comp=Z,3.2nm,0.8s,baz=272,slow=7.5,SNR=51							
YKA				PcP		PcP	12 14 09.8	-0.1
	comp=Z,0.6nm,0.7s,baz=278,slow=2.4,SNR=5.0							
YKA				LR		LR	12 23 44.1	
	comp=Z,194nm,18.1s,baz=268,slow=42							
	comp=Z,3.2nm,0.8s							
YKAW1	Yellowknife Wh	26.89	51	P		P	12 10 49.8	+1.5
YKAW1				IAmb		IAmb	12 10 51.4	
	comp=Z,6.3nm,0.8s							
YBH	Yreka Blue Hor	29.52	97	LR		LR	12 20 13.8	
	comp=Z,68nm,19.2s,baz=296,slow=31							
I07A	Izee	30.06	90	P		P	12 11 15.9	-1.0
I07A				IAmb		IAmb	12 11 29.8	
	comp=Z,4.3nm,1.1s							
TIXI	Tiksi	33.65	328	P		P	12 11 47.5	-0.4
TIXI				IAmb		IAmb	12 11 48.9	
	comp=Z,6.0nm,0.8s							
TIXI	Tiksi	33.65	328	LR		LR	12 27 23.8	
	comp=Z,139nm,18.9s,baz=25,slow=40							
RES	Resolute Bay	33.84	26	P		P	12 11 49.7	+0.2
RES				IAmb		IAmb	12 11 50.6	
	comp=Z,12nm,1.5s							
RES	Resolute Bay	33.84	26	LR		LR	12 27 15.8	
	comp=Z,96nm,18.3s,baz=272,slow=40							
NVAR	Mina Array Bea	34.22	97	P		P	12 11 56.1	+2.6
	comp=Z,0.6nm,0.6s,baz=312,slow=7.3,SNR=6.2							
NVAR				LR		LR	12 22 18.3	
	comp=Z,52nm,21.4s,baz=122,slow=30							
	comp=Z,0.6nm,0.6s							
ELK	Elko	34.58	92	LR		LR	12 24 29.2	
	comp=Z,54nm,19.1s,baz=318,slow=34							
JKA	Kamikawa-asahi	35.90	277	P		P	12 12 07.9	+0.3
DUG	Dugway, Tooele	36.37	90	P		P	12 12 11.1	-0.8
DUG				IAmb		IAmb	12 12 27.4	
	comp=Z,2.4nm,0.8s							
PDAR	Pinedale Array	36.75	84	P		P	12 12 16.8	+1.5
PDAR	Pinedale Array	36.75	84	P		P	12 12 16.6	+1.3
	comp=Z,0.4nm,0.8s,baz=308,slow=7.9,SNR=4.3							
	comp=Z,0.4nm,0.8s							
ERM	Erimo	36.80	274	P		P	12 12 15.3	0.0
BSUT	Blindstream Ca	37.38	88	P		P	12 12 22.4	+1.7
BSUT				IAmb		IAmb	12 12 38.8	
	comp=Z,4.3nm,1.3s							
FCC	Fort Churchill	37.49	53	P		P	12 12 23.1	+2.1
FCC				IAmb		IAmb	12 12 34.7	
	comp=Z,5.3nm,1.0s							
ILON	Igloolik, Nuna	38.73	34	P		P	12 12 32.4	+1.0
ILON				IAmb		IAmb	12 12 33.1	
	comp=Z,9.2nm,1.0s							
PV23	Carpenter Ridg	39.75	90	P		P	12 12 41.3	+0.8
PV23				IAmb		IAmb	12 12 45.9	
	comp=Z,3.9nm,0.8s							
PV11	David Mesa, Pa	39.93	90	P		P	12 12 43.8	+1.8
PV11				IAmb		IAmb	12 12 50.8	
	comp=Z,3.8nm,0.8s							
PV13	Radium Mtn., P	40.05	90	P		P	12 12 44.8	+1.8
PV13				IAmb		IAmb	12 13 14.1	
	comp=Z,7.6nm,1.1s							
ULM	Lac du Bonnet	40.49	66	P		P	12 12 46.9	+0.6
	comp=Z,1.8nm,0.6s,baz=296,slow=7.8,SNR=4.8							
	comp=Z,1.8nm,0.6s							
H11N2	WAKE ISLAND Hy	40.63	226	T		T	12 56 35.1	
	baz=26,slow=76,SNR=68							
H11N3	WAKE ISLAND Hy	40.64	226	T		T	12 56 35.8	
	baz=26,slow=76,SNR=64							
H11N1	WAKE ISLAND Hy	40.65	226	T		T	12 56 26.1	
	baz=26,slow=76,SNR=64							
AGMN	Agassiz Nation	41.55	69	P		P	12 12 55.7	+0.7
AGMN				IAmb		IAmb	12 12 56.5	
	comp=Z,5.6nm,0.9s							
H11S1	WAKE ISLAND Hy	41.80	225	T		T	12 57 54.5	
	baz=26,slow=76,SNR=90							
H11S2	WAKE ISLAND Hy	41.82	225	T		T	12 57 53.6	
	baz=26,slow=76,SNR=61							
H11S3	WAKE ISLAND Hy	41.82	225	T		T	12 57 52.7	
	baz=26,slow=76,SNR=70							
EPLO	Experimental L	41.98	66	P		P	12 12 59.3	+0.8
EPLO				IAmb		IAmb	12 13 13

comp=Z,0.5nm,0.6s,baz=310,slow=6.5,SNR=4.6
comp=Z,0.5nm,0.6s
SFJD Kangerlussuaq 49.79 28 *i* P **P 12 13 59.7 -0.1**
SFJD IAmb IAmb 12 14 02.0
comp=Z,17nm,1.0s
JNU Nakatsue 49.96 274 LR LR 12 33 57.4
comp=Z,165nm,21.5s,baz=152,slow=35
HDIL Hopedale 49.99 73 P **P 12 14 01.9 +0.2**
DBG Daneborg 50.15 12 *i* P **P 12 14 01.0 -1.5**
DBG IAmb IAmb 12 14 03.5
comp=Z,4.0nm,0.7s
ICESG Greenland Ices 51.06 23 *i* P **P 12 14 09.7 -0.2**
ICESG IAmb IAmb 12 14 11.7
comp=Z,40nm,1.4s
XLT XiLinHaoTe 51.24 294 *e*P **P 12 14 09.8 -1.4**
XLT pmax pmax
comp=Z,11nm,0.9s
XLT LR LR
comp=N,21nm,16.9s
XLT LR LR
comp=E,210nm,15.7s
XLT LR LR
comp=Z,280nm,16.4s
SCHQ Schefferville 52.16 47 P **P 12 14 17.7 -0.2**
SCHQ IAmb IAmb 12 14 19.0
comp=Z,7.0nm,1.1s
SCHQ Schefferville 52.16 47 P **P 12 14 18.2 +0.3**
comp=Z,3.8nm,0.9s,baz=337,slow=9.5,SNR=4.4
comp=Z,3.8nm,0.9s
O48B Farmland 52.55 71 P **P 12 14 20.3 -0.6**
SCO Scoresbysund 53.31 15 P **P 12 14 27.9 +1.8**
ULN Ulaanbaatar 53.36 303 P **P 12 14 27.3 +0.4**
SONM Songino Array 53.71 303 P **P 12 14 29.2 -0.3**
SONM IAmb IAmb 12 14 30.6
comp=Z,8.6nm,1.0s
SONM Songino Array 53.71 303 P **P 12 14 29.5 0.0**
comp=Z,7.1nm,0.9s,baz=52,slow=6.9,SNR=30
comp=Z,7.1nm,0.9s
ISOG Isortoq, Green 54.01 25 *i* P **P 12 14 30.0 -1.2**
ANGG Ammassalik, Gr 54.29 24 *i* P **P 12 14 32.0 -1.2**
SSFO Shawnee State 54.72 71 P **P 12 14 37.2 +0.3**
J59A Piesco 56.17 61 P **P 12 14 48.9 +1.7**
D62A Allapoint, All 56.41 55 P **P 12 14 50.2 +1.4**
KEV Kevo 56.85 356 P **P 12 14 51.3 -0.3**
ARCES ARCESS Array B 57.13 356 P **P 12 14 52.7 -1.0**
comp=Z,3.7nm,1.0s,baz=7.5,slow=7.2,SNR=6.3
comp=Z,3.7nm,1.0s
BATG Bathurst New B 57.72 53 P **P 12 14 58.5 +0.4**
LVZ Lovozero 58.20 352 P **P 12 15 01.3 +0.1**
ZALV Zalesovo Beam 58.92 320 P **P 12 15 07.3 +0.9**
ZALV Zalesovo Beam 58.92 320 P **P 12 15 06.0 -0.4**
comp=Z,2.8nm,0.7s,baz=37,slow=8.4,SNR=12
ZALV PcP **PcP 12 15 56.2 +0.7**
comp=Z,2.1nm,0.7s,baz=43,slow=4.2,SNR=5.5
comp=Z,2.8nm,0.7s
DRLN Deer Lake 60.17 47 P **P 12 15 15.8 +0.7**
DRLN IAmb IAmb 12 15 26.4
comp=Z,7.8nm,1.2s
GBN Guysborough 61.24 52 P **P 12 15 23.0 +0.6**
GTA Gaotai 63.05 300 *e*P **P 12 15 34.8 0.0**
GTA pP sP 12 15 40.5 +0.9
GTA pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 63.82 321 P **P 12 15 40.0 +0.4**
KURBB Kurchatov Arra 63.93 321 P **P 12 15 39.3 -0.9**
comp=Z,4.7nm,0.8s,baz=38,slow=6.8,SNR=14
comp=Z,4.7nm,0.8s
BVAR Borovoye Array 64.78 327 P **P 12 15 46.1 +0.3**
comp=Z,8.5nm,0.8s,baz=45,slow=7.1,SNR=37
comp=Z,8.5nm,0.8s
BRVK Borovoye 64.78 327 P **P 12 15 46.5 +0.7**
FIA1 FINESS Array S 65.18 355 P **P 12 15 48.5 +0.2**
FINES FINESS Array B 65.18 355 P **P 12 15 48.3 0.0**
FINES FINESS Array B 65.18 355 P **P 12 15 47.8 -0.5**
comp=Z,5.8nm,0.7s,baz=7.7,slow=6.4,SNR=13
comp=Z,5.8nm,0.7s
ARTI Arti 65.24 336 P **P 12 15 49.7 +1.0**
MKAR Makanchi Array 65.53 316 P **P 12 15 50.5 -0.4**
MKAR Makanchi Array 65.53 316 P **P 12 15 49.9 -0.9**
comp=Z,2.4nm,0.8s,baz=48,slow=5.8,SNR=20
comp=Z,2.4nm,0.8s
NC303 NORSAR Array S 65.59 3 P **P 12 15 51.9 +0.9**
NC405 NORSAR Array S 65.71 3 P **P 12 15 52.2 +0.4**
NB2 NORSAR Subarra 65.77 3 P **P 12 15 52.9 +0.7**
comp=Z,1.6nm,0.7s,baz=359,slow=6.9
NOA NORSAR Array B 65.77 3 P **P 12 15 51.8 -0.3**
comp=Z,4.3nm,0.9s,baz=357,slow=6.6,SNR=11
comp=Z,4.3nm,0.9s
HFS Hagfors 66.73 2 P **P 12 15 57.4 -0.9**
comp=Z,6.7nm,0.7s,baz=3.5,slow=6.7,SNR=15
comp=Z,6.7nm,0.7s
EKA Eskdalemuir Ar 70.36 12 P **P 12 16 21.2 +0.2**
comp=Z,2.7nm,0.7s,baz=339,slow=3.9,SNR=6.8
comp=Z,2.7nm,0.7s
AB31 Akbulak array 71.26 332 P **P 12 16 26.8 +0.2**
ABKAR Akbulak array 71.26 332 P **P 12 16 27.6 +1.1**
KDJ Kajisay 71.45 317 P **P 12 16 28.3 +0.2**
KDJ IAmb IAmb 12 16 29.6
comp=Z,3.3nm,0.8s
BOOM Boomskoye usch 71.65 318 P **P 12 16 28.8 -0.5**
BOOM IAmb IAmb 12 17 00.9
comp=Z,6.4nm,1.2s
PPT Papeete 71.76 166 LR LR 12 45 10.0
comp=Z,43nm,19.4s,baz=272,slow=33
ARSB Arslanbob 73.81 319 P **P 12 16 42.5 +0.4**
ARSB IAmb IAmb 12 16 44.4
comp=Z,5.3nm,0.8s
KSH Kashi 74.14 316 P **P 12 16 47.4 +3.4**
KSH sP pwP 12 16 54.3 +1.5
KSH pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 75.56 2 *e*P **P 12 16 52.0 +0.1**
CLL *e*(pP) **sP 12 16 57.0 +0.4**
AKASG Malin Array Be 75.65 352 P **P 12 16 51.6 -0.8**
AKASG IAmb IAmb 12 17 31.2
comp=Z,3.4nm,1.3s
AKASG Malin Array Be 75.65 352 P **P 12 16 51.5 -0.8**
comp=Z,3.7nm,0.6s,baz=10,slow=5.5,SNR=16
comp=Z,3.7nm,0.6s
AKBB Malin Array Si 75.65 352 P **P 12 16 52.4 0.0**
KIEV Kiev 75.66 352 P **P 12 16 52.4 -0.1**
BTK Batken 75.73 320 P **P 12 16 53.4 +0.2**
BTK IAmb IAmb 12 16 58.3
comp=Z,5.0nm,0.9s
GAR Garm 76.84 320 P **P 12 16 59.7 +0.1**
GRA1 Grafenberg Arr 77.12 3 P **P 12 17 00.9 +0.1**
SIMJ Simiganj 77.64 320 P **P 12 17 03.9 -0.2**
SIMJ IAmb IAmb 12 17 16.3
comp=Z,5.9nm,0.8s
KHC Kasperske Hory 77.75 2 *e*P **P 12 17 05.0 +0.6**
GERES GERESS Array B 78.04 2 P **P 12 17 07.1 +1.1**
GERES GERESS Array B 78.04 2 P **P 12 17 06.6 +0.5**
comp=Z,1.4nm,0.7s,baz=2.0,slow=5.6,SNR=5.0
comp=Z,1.4nm,0.7s
BUR08 Bucovina Ar. S 78.99 354 P **P 12 17 10.2 -1.2**
BUR08 IAmb IAmb 12 17 12.7
comp=Z,3.6nm,1.0s
BURAR Bucovina Array 79.02 354 P **P 12 17 12.1 +0.6**
CMAR Chiang Mai Arr 79.75 287 P **P 12 17 15.5 -0.3**
CMAR Chiang Mai Arr 79.75 287 P **P 12 17 15.9 +0.2**
comp=Z,2.8nm,0.9s,baz=16,slow=5.5,SNR=20
comp=Z,2.8nm,0.9s
KBZ Khabaz 80.56 341 P **P 12 17 21.1 +1.3**
comp=Z,5.9nm,0.9s,baz=344,slow=4.8,SNR=10
comp=Z,5.9nm,0.9s
KBL Kabul 81.23 318 P **P 12 17 22.6 -1.2**
KBL IAmb IAmb 12 17 24.7
comp=Z,5.8nm,1.0s
ESDC Sonseca Array 85.57 16 P **P 12 17 47.0 +1.2**
comp=Z,0.2nm,0.4s,baz=347,slow=4.7,SNR=1.0
comp=Z,0.2nm,0.4s
BRTR Keskin Array B 86.00 347 P **P 12 17 49.0 +0.9**
comp=Z,3.8nm,0.9s,baz=12,slow=4.8,SNR=16
comp=Z,3.8nm,0.9s
TSUM Tsumeb 145.79 358 PKPbc **PKPdf 12 24 45.0 -1.4**
comp=Z,1.2nm,0.4s,baz=16,slow=16,SNR=4.9
LBTB Lobatse 150.77 343 PKPbc **PKiKP 12 25 01.0 +0.4**
comp=Z,12nm,1.0s,baz=16,slow=0.7,SNR=12

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*BJI **15** 12:08:33.8, 6°.45S×149°.31E, h46km, mB5.3/17, mb4.8/41, Ms4.7/20, Ms7 4.5/23*
*MOS **15** 12:08:36.8±1.1, 6°.13S×148°.89E, h42km, mb5.1/22, Error ellipse: s-maj=10.2km s-min=6.8km az=95.7*
*NEIC **15** 12:08:38.1±1.7, 6°.07S±0°.06×148°.81E±0°.07, h33km±4km, mb5.0/162, Mww5.1/12, Error ellipse: s-maj=10.5km s-min=8.5km az=116.0*
*NEIC **15** 12:08:39.2, 6°.28S×149°.00E, h36km, Moment Tensor Solution. Duration: 1†7 Moment tensor: Scale 10^{16}Nm; M_{rr}4.66; $M_{\theta\theta}$-4.54; $M_{\phi\phi}$-0.12; $M_{r\theta}$0.49; $M_{\theta\phi}$1.03; $M_{\phi r}$-0.49; Fault plane solution: $M_0$4.76000×10^{16} NP1: ϕ_s277.88000°, δ41.64000°, λ83.12000°. NP2: ϕ_s107.04000°, δ48.72000°, λ96.08000°. Principal axes: T 4.7257, Plg84.0000°, Azm65.0000°; N 0.0778, Plg5.0000°, Azm283.0000°; P -4.8035, Plg4.0000°, Azm193.0000°;*
*IDC **15** 12:08:39.5±1.7, 6°.12S×148°.93E, h55km±14km, mb4.3/21, mbtmp4.5/23, MS4.2/53 Error ellipse: s-maj=18.6km s-min=11.2km az=86.0*
*NEIC **15** 12:08:39.2, 6°.08S×148°.81E, h36km*
*DJA **15** 12:08:41.6±0.5, 6°S±3°×14°9E±°, h73km±4km, M4.9/39, mb5.2/39, mB5.4/11, Mw(mB)4.9/11, MwMwp5.4/2, Mwp5.6/2*
*GCMT **15** 12:08:41.1±0.2, 6°.41S±0°.01×148°.98E±0°.02, h40km±1km, MW5.1/92, Moment Tensor Solution. s92,c133; s78,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.21±.20; $M_{\theta\theta}$-6.53±.13; $M_{\phi\phi}$1.32±.16; $M_{r\theta}$1.23±.20; $M_{\theta\phi}$0.35±.14; $M_{\phi r}$-0.50±.22; Best double couple: $M_0$6.03300×10^{16} NP1:ϕ_s266.00000°, δ39.00000°, λ80.00000°. NP2:ϕ_s98.00000°, δ51.00000°, λ98.00000°. Principal axes: T 5.3900, Plg81.0000°, Azm49.0000°; N 1.2870, Plg6.0000°, Azm274.0000°; P -6.6770, Plg6.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 12:08:38.7±0.4, **6°.19S**±0°.03×**148°.85E**±0°.04, **h46**km±3km, **h115**km:**pP-P, n624**, σ1†**22**/585, **mb5.0**/150, **MS4.3**/57, **13C-11D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**3.61**	**208**	P		**Pn**	**12 09 34.3**	**+2.2**
	2μm,0.5s,baz=47,slow=5.8,SNR=644							
PMG				S		**Sn**	**12 10 16.4**	**+2.8**
	2μm,0.6s,baz=55,slow=21,SNR=12							
PMG				LR		LR	12 11 06.7	
	comp=Z,4μm,21.5s,baz=6.0,slow=40							
RABL	**Rabaul**	**3.85**	**59**	Pn		**Pn**	**12 09 36.0**	**+0.5**
RABL				Sn		**Sn**	**12 10 19.8**	**+0.2**
MANU	**Manus Island**	**4.37**	**340**	Pn		**Pn**	**12 09 39.9**	**-2.8**
JAY	**Jayapura**	**8.90**	**294**	P		**Pn**	**12 10 46.6**	**+1.7**
	22nm,1.0s,baz=205,slow=9.6,SNR=7.1							
JAY				LR		LR	12 15 12.1	
	comp=Z,2μm,18.4s,baz=74,slow=44							
JAY	**Jayapura**	**8.90**	**294**	P		**Pn**	**12 10 47.5**	**+2.6**
GENI	**Genyem**	**9.36**	**292**	P		Pn	12 10 59.9	+8.8
	77nm,0.7s							
COEN	**Coen**	**9.53**	**215**	Pn		**Pn**	**12 10 53.8**	**+0.4**
COEN	**Coen**	**9.53**	**215**	P		**Pn**	**12 10 54.0**	**+0.6**
	comp=Z,0.0nmcomp=Z,38nm,0.8s							
COEN	**Coen**	**9.53**	**215**	P		**Pn**	**12 10 53.7**	**+0.3**
SMPI	**Sarmi**	**10.94**	**292**	P		**Pn**	**12 11 09.7**	**-3.0**
	comp=Z,45nm,1.1s							
TATA	**Tatamba Isabel**	**11.09**	**102**	P		**Pn**	**12 11 19.3**	**+4.6**
TATA	**Tatamba Isabel**	**11.09**	**102**	S		**Sn**	**12 13 21.3**	**+3.9**
HNR	**Honiara**	**11.46**	**107**	Pn		**Pn**	**12 11 19.6**	**-0.3**
HNR	**Honiara**	**11.46**	**107**	P		**Pn**	**12 11 21.0**	**+1.2**
	comp=Z,37nm,0.8s,baz=239,slow=5.9,SNR=6.8							
HNR				LR		LR	12 15 18.0	
	comp=Z,780nm,21.2s,baz=268,slow=35							
HNR	**Honiara**	**11.46**	**107**	P		**Pn**	**12 11 19.6**	**-0.3**
ALEG	**Aligegeo Malai**	**12.02**	**103**	P		**Pn**	**12 11 32.0**	**+4.5**
ALEG	**Aligegeo Malai**	**12.02**	**103**	S		**Sn**	**12 13 45.6**	**+5.3**
NGOA	**Tingoa Renbel**	**12.29**	**116**	P		**Pn**	**12 11 34.6**	**+3.3**
NGOA	**Tingoa Renbel**	**12.29**	**116**	S		**Sn**	**12 13 51.8**	**+4.8**
MTSU	**Mount Surprise**	**12.67**	**200**	P		**Pn**	**12 11 37.6**	**+1.2**
	comp=Z,71nm,0.7s							
MTSU	**Mount Surprise**	**12.67**	**200**	P		**Pn**	**12 11 38.4**	**+2.0**
SRPI	**Serui, Papua**	**13.29**	**288**	P		**Pn**	**12 11 46.7**	**+1.9**
KMPI	**Kaimana, Papua**	**15.29**	**279**	P		**Pn**	**12 12 13.4**	**+1.7**
	comp=Z,180nm,0.8s							
FAKI	**Fak Fak**	**16.86**	**280**	P		**Pn**	**12 12 32.5**	**+0.8**
QIS	**Mount Isa**	**16.87**	**211**	P		**Pn**	**12 12 31.7**	**-0.1**
	comp=Z,70nm,0.9s							
QIS	**Mount Isa**	**16.87**	**211**	P		**Pn**	**12 12 32.0**	**+0.3**
RK1H	**Rockhampton Ha**	**17.18**	**175**	P		**P**	**12 12 37.6**	**+1.0**
KDU	**Kakadu**	**17.39**	**247**	P		**Pn**	**12 12 38.5**	**+0.3**
	comp=Z,43nm,0.8s							
KDU	**Kakadu**	**17.39**	**247**	P		**Pn**	**12 12 38.4**	**+0.2**
MTN	**Manton Dam**	**18.67**	**248**			**P**	**12 12 53.7**	**+0.5**
MTN	**Manton Dam**	**18.67**	**248**	P		**Pn**	**12 12 54.2**	**+0.3**
	comp=Z,55nm,0.7s							
DRS	**Darwin Rock St**	**18.76**	**249**	P		**Pn**	**12 12 55.7**	**+0.7**
BNDI	**Bandanaira**	**18.93**	**274**	P		**Pn**	**12 12 57.2**	**+0.1**
	comp=Z,211nm,1.2s							
EIDS	**Eidsvold**	**19.20**	**174**			**Pn**	**12 12 59.7**	**-0.4**
EIDS				IAmb		IAmb	12 13 01.4	
	comp=Z,54nm,0.7s							
EIDS	**Eidsvold**	**19.20**	**174**	P		**P**	**12 12 59.0**	**+0.2**
	comp=Z,87nm,0.7s							
EIDS	**Eidsvold**	**19.20**	**174**	P		**Pn**	**12 12 59.7**	**-0.4**
WB0	**Warramunga Arr**	**19.48**	**225**			**Pn**	**12 13 03.2**	**-0.4**
WB0				IAmb		IAmb	12 13 05.6	
	comp=Z,56nm,0.5s							
WR0	**Warramunga Arr**	**19.51**	**224**	P		**Pn**	**12 13 03.7**	**-0.2**
WR0				IAmb		IAmb	12 13 05.1	
	comp=Z,44nm,0.8s							
WR8	**Warramunga Arr**	**19.54**	**224**	P		**P**	**12 13 03.4**	**+0.7**
WRAB	**Tennant Creek**	**19.63**	**225**	P		**P**	**12 13 04.4**	**+0.8**
WRAB	**Tennant Creek**	**19.63**	**225**	*d* P		**P**	**12 13 04.5**	**+0.9**
WRAB				pmax		pmax		
	comp=Z,56nm,0.5s							
WB2	**Warramunga Arr**	**19.63**	**225**	P		**P**	**12 13 04.5**	**+0.8**
WRA	**Warramunga Arr**	**19.64**	**225**	P		**P**	**12 13 04.3**	**+0.6**
WRA	**Warramunga Arr**	**19.64**	**225**	P		**P**	**12 13 04.6**	**+0.8**
	comp=Z,74nm,0.4s,baz=51,slow=11,SNR=674							
WRA				S		**S**	**12 16 34.7**	**-8.4**
	comp=Z,20nm,1.2s,baz=55,slow=22,SNR=14							
WRA				PcP		**PcP**	**12 17 22.0**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=28,slow=1.6,SNR=5.2							
WRA				ScP		**ScP**	**12 20 53.2**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=36,slow=2.5,SNR=4.9							
WRA				LR		LR	12 21 40.4	
	comp=Z,1μm,18.4s,baz=46,slow=40							
WRA	**Warramunga Arr**	**19.64**	**225**	*i* P		**P**	**12 13 04.5**	**+0.7**
WRA				pmax		pmax		
	comp=Z,75nm,0.4s							
GUMO	**Guam**	**20.04**	**349**	LR		LR	12 20 09.6	
	comp=Z,600nm,20.8s,baz=161,slow=34							
QLP	**Quilpie**	**20.75**	**192**	P		**P**	**12 13 17.3**	**+1.5**
	comp=Z,290nm,0.9s							
QLP	**Quilpie**	**20.75**	**192**	P		Pn	12 13 17.7	-0.9
KNRA	**Kununurra**	**21.84**	**243**	P		**P**	**12 13 27.7**	**+0.2**
KNRA				IAmb		IAmb	12 13 47.8	
	comp=Z,47nm,0.8s							
KNRA	**Kununurra**	**21.84**	**243**	P		**P**	**12 13 27.7**	**+0.2**
	comp=Z,81nm,0.8s							
NLAI	**Namlea**	**21.87**	**277**	P		**P**	**12 13 27.5**	**-0.4**
AS06	**Alice Springs**	**22.50**	**218**	P		**P**	**12 13 35.6**	**+0.9**
	comp=Z,134nm,0.8s							
AS01	**Alice Springs**	**22.52**	**218**	P		**P**	**12 13 35.8**	**+0.9**
AS01	**Alice Springs**	**22.52**	**218**	S		**S**	**12 17 39.3**	**+0.2**
AS19	**Alice Springs**	**22.55**	**218**	P		**P**	**12 13 35.9**	**+0.7**
	comp=Z,90nm,0.6s							
AS31	**Alice Springs**	**22.55**	**218**	P		**P**	**12 13 35.7**	**+0.5**
AS31				IAmb		IAmb	12 13 53.4	
	comp=Z,26nm,0.7s							
AS31	**Alice Springs**	**22.55**	**218**	P		**P**	**12 13 35.9**	**+0.7**
	comp=Z,38nm,0.6s							
ASAR	**Alice Springs**	**22.55**	**218**	P		**P**	**12 13 35.2**	**0.0**
ASAR	**Alice Springs**	**22.55**	**218**	P		**P**	**12 13 36.0**	**+0.7**
	comp=Z,18nm,0.6s,baz=57,slow=9.8,SNR=239							
ASAR				PcP		**PcP**	**12 17 27.6**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=49,slow=2.1,SNR=5.9							
ASAR				S		**S**	**12 17 38.0**	**-1.7**
	comp=Z,24nm,0.8s,baz=43,slow=18,SNR=17							
ASAR				ScP		**ScP**	**12 21 01.1**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=56,slow=3.1,SNR=5.5							
ASAR				LR		LR	12 23 08.8	
	comp=Z,970nm,19.6s,baz=48,slow=38							
	comp=Z,18nm,0.6s							
ASAR	**Alice Springs**	**22.55**	**218**	P		**P**	**12 13 35.2**	**0.0**
INKA	**Innaminka**	**22.78**	**199**	P		**P**	**12 13 39.2**	**+1.8**
INKA	**Innaminka**	**22.78**	**199**	S		**S**	**12 17 44.8**	**+1.6**
SANI	**Sanana**	**23.16**	**279**	P		**P**	**12 13 39.9**	**-1.6**
	comp=Z,37nm,0.7s							
DZM	**Mont Dzumac**	**23.20**	**135**	*e*P		**P**	**12 13 40.0**	**-1.9**
	comp=Z,101nm,0.9s							
DZM				*e*S		**S**	**12 17 48.4**	**-2.3**
	comp=Z,944nm,24.4s							
DZM				*e*LR		LR	12 19 25.2	
	comp=Z,3μm,23.2s							
DZM	**Mont Dzumac**	**23.20**	**135**	LR		LR	12 19 53.2	
	comp=Z,278nm,19.1s,baz=294,slow=29							
YATNC	**Mamie plateau,**	**23.52**	**134**	P		**P**	**12 13 45.0**	**+0.2**
ARMA	**Armidale**	**24.25**	**174**	P		**P**	**12 13 51.4**	**-0.3**
ARMA				IAmb		IAmb	12 13 57.2	
	comp=Z,53nm,1.2s							
ARMA	**Armidale**	**24.25**	**174**	P		**P**	**12 13 51.6**	**0.0**
	comp=Z,31nm,1.0s							
ARMA	**Armidale**	**24.25**	**174**	P		**P**	**12 13 53.0**	**+1.3**
ARMA	**Armidale**	**24.25**	**174**	S		**S**	**12 18 08.6**	**+1.2**
SOEI	**Soe**	**24.60**	**260**	P		**P**	**12 13 54.3**	**-0.8**
SOEI	**Soe**	**24.60**	**260**	P		**P**	**12 13 54.7**	**-0.3**
	comp=Z,2μmcomp=Z,95nm,1.1s							
OOD	**Oodnadatta**	**24.86**	**209**	P		**P**	**12 13 58.4**	**+1.3**
OOD	**Oodnadatta**	**24.86**	**209**	S		**S**	**12 18 17.8**	**+0.7**
CMSA	**Cobar Meteorol**	**25.39**	**186**	P		**P**	**12 14 02.1**	**+0.1**
CMSA	**Cobar Meteorol**	**25.39**	**186**	P		**P**	**12 14 01.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.55**	**240**	P		**P**	**12 14 04.5**	**+1.0**
FITZ				IAmb		IAmb	12 14 18.4	
	comp=Z,25nm,0.7s							
FITZ	**Fitzroy Crossi**	**25.55**	**240**	P		**P**	**12 14 04.2**	**+0.7**
	comp=Z,37nm,0.7s							
FITZ	**Fitzroy Crossi**	**25.55**	**240**	LR		LR	12 24 59.6	
	comp=Z,964nm,21.4s,baz=69,slow=38							
FITZ	**Fitzroy Crossi**	**25.55**	**240**	P		**P**	**12 14 04.2**	**+0.7**
LCRK	**Leigh Creek**	**26.12**	**201**	P		**P**	**12 14 09.8**	**+1.2**
STKA	**Stephens Creek**	**26.44**	**194**	P		**P**	**12 14 11.9**	**+0.4**
STKA	**Stephens Creek**	**26.44**	**194**	P		**P**	**12 14 12.2**	**+0.8**
	comp=Z,123nm,1.0s							
STKA	**Stephens Creek**	**26.44**	**194**	P		**P**	**12 14 12.1**	**+0.6**
	comp=Z,12nm,0.7s,baz=340,slow=7.9,SNR=12							
STKA				ScP		**ScP**	**12 21 10.8**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=297,slow=2.3,SNR=3.1							
STKA				LR		LR	12 25 32.4	
	comp=Z,898nm,18.7s,baz=13,slow=38							
	comp=Z,12nm,0.7s							
STKA	**Stephens Creek**	**26.44**	**194**	P		**P**	**12 14 13.6**	**+2.1**
STKA	**Stephens Creek**	**26.44**	**194**	‖*e*P		**P**	**12 14 13.0**	**+1.5**
MMRI	**Maumere**	**26.50**	**263**	P		**P**	**12 14 11.3**	**-0.8**
MMRI	**Maumere**	**26.50**	**263**	P		**P**	**12 14 11.4**	**-0.8**
LUWI	**Luwuk**	**26.51**	**280**	P		**P**	**12 14 12.5**	**+0.2**
DAV	**Davao City (W)**	**26.69**	**299**	LR		LR	12 24 41.1	
	comp=Z,177nm,20.3s,baz=130,slow=36							
LHI	**Lord Howe Isla**	**26.96**	**160**	P		**P**	**12 14 15.8**	**-0.2**
LHI				IAmb		IAmb	12 14 50.3	
	comp=Z,41nm,1.1s							
WRKA	**Warakurna**	**27.18**	**224**	P		**P**	**12 14 18.7**	**+0.5**
	comp=Z,91nm,0.6s							
WRKA	**Warakurna**	**27.18**	**224**	P		**P**	**12 14 19.0**	**+0.7**
BASI	**Baing, Sumba**	**28.26**	**260**	P		**P**	**12 14 28.1**	**+0.2**
BKSI	**Bulukumba**	**28.59**	**270**	P		**P**	**12 14 32.3**	**+1.4**
	comp=Z,26nm,1.4s							
HTT	**Hallett**	**28.63**	**198**	P		**P**	**12 14 31.6**	**+0.5**
	comp=Z,36nm,0.9s							
HTT	**Hallett**	**28.63**	**198**	P		**P**	**12 14 32.6**	**+1.5**
KAPI	**Kappang**	**28.98**	**271**	LR		LR	12 27 42.1	
	comp=Z,346nm,21.5s,baz=80,slow=39							
CNB	**Canberra Magne**	**28.99**	**179**	P		**P**	**12 14 36.6**	**+2.3**
BBOO	**Buckleboo**	**29.05**	**203**	P		**P**	**12 14 34.4**	**-0.3**
BBOO				IAmb		IAmb	12 15 38.0	
	comp=Z,101nm,1.8s							
BBOO	**Buckleboo**	**29.05**	**203**	P		**P**	**12 14 36.0**	**+1.3**
WBSI	**Waikabubak, Su**	**29.37**	**261**	P		**P**	**12 14 37.7**	**-0.2**
MSVF	**Nonsavu**	**30.73**	**115**	P		**P**	**12 14 50.2**	**+0.3**
MSVF				IAmb		IAmb	12 14 57.0	
	comp=Z,60nm,1.3s							
MSVF	**Nonsavu**	**30.73**	**115**	LR		LR	12 26 15.5	
	comp=Z,273nm,19.6s,baz=288,slow=34							
MSVF	**Nonsavu**	**30.73**	**115**	P		**P**	**12 14 50.3**	**+0.4**
MSVF	**Nonsavu**	**30.73**	**115**	*ce*P		**P**	**12 14 49.5**	**-0.4**
MSVF				pmax		pmax		
	comp=Z,58nm,1.4s							
MSVF	**Nonsavu**	**30.73**	**115**	P		**P**	**12 14 50.0**	**+0.1**
PLAI	**Plampang**	**30.91**	**263**	P		**P**	**12 14 51.8**	**+0.3**
PLAI	**Plampang**	**30.91**	**263**	P		**P**	**12 14 48.2**	**-3.3**
	comp=Z,65nm,0.7s							
ARPS	**Mount Arapiles**	**31.11**	**191**	P		**P**	**12 14 53.3**	**+0.4**
	comp=Z,21nm,0.7s							
FORT	**Forrest**	**31.30**	**216**	P		**P**	**12 14 55.5**	**+0.8**
FORT	**Forrest**	**31.30**	**216**	P		**P**	**12 14 55.2**	**+0.5**
	comp=Z,67nm,0.7s							
FORT	**Forrest**	**31.30**	**216**	P		**P**	**12 14 56.1**	**+1.5**
TOO	**Toolangi**	**31.39**	**185**	P		**P**	**12 14 56.6**	**+1.2**
TOO	**Toolangi**	**31.39**	**185**	P		**P**	**12 14 55.8**	**+0.3**
	comp=Z,6.3nm,1.0s							
TOO	**Toolangi**	**31.39**	**185**	P		**P**	**12 14 56.6**	**+1.2**
TOO				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TWSI	**Taliwang, Sumb**	**31.79**	**263**	P		**P**	**12 14 58.5**	**-0.7**
DGTI	**Dogotuki**	**31.87**	**111**	P		**P**	**12 15 00.0**	**+0.1**
MBWA	**Marble Bar**	**31.88**	**239**	P		**P**	**12 15 00.4**	**+0.5**
MBWA				IAmb		IAmb	12 15 01.3	
	comp=Z,22nm,0.8s							
MBWA	**Marble Bar**	**31.88**	**239**	P		**P**	**12 15 00.6**	**+0.7**
	comp=Z,26nm,0.8s							
MBWA	**Marble Bar**	**31.88**	**239**	P		**P**	**12 15 00.2**	**+0.3**
MBWA	**Marble Bar**	**31.88**	**239**	P		**P**	**12 15 00.5**	**+0.5**
MBWA				pP		**pP**	**12 15 10.4**	**-1.1**
PSA00	**Pilbara Seismi**	**31.95**	**239**	P		**P**	**12 15 01.2**	**+0.7**
PSA00				IAmb		IAmb	12 15 20.8	
	comp=Z,25nm,0.8s							
PSA00	**Pilbara Seismi**	**31.95**	**239**	P		**P**	**12 15 01.1**	**+0.6**
BKB	**Balikpapan**	**32.25**	**277**	P		**P**	**12 15 05.5**	**+2.3**
JCJ	**Chichijima**	**33.71**	**349**	LR		LR	12 27 53.9	
	comp=Z,223nm,21.0s,baz=159,

TOZ	Tahuroa Road	39.66	146	P	P	12 16 06.3 0.0
MUN	Mundaring	39.83	226	P	P	12 16 08.5 +0.6
	comp=Z,35nm,1.1s					
MUN	Mundaring	39.83	226	P	P	12 16 08.7 +0.8
YULB	Yu-li	39.86	318	P	P	12 16 08.8 +0.6
JHJ	Hachijo jima 2	40.03	348	LR	LR	12 32 32.0
	comp=Z,452nm,18.0s,baz=141,slow=36					
NACB	Ninganchiao	40.21	320	P	P	12 16 09.9 -1.1
NACB				IAmb	IAmb	12 16 30.9
	comp=Z,44nm,1.1s					
TPUB	Ta-pu	40.24	318	P	P	12 16 12.1 +0.8
SSLB	Suanglung	40.36	319	P	P	12 16 10.2 -2.2
QRZ	Quartz Range	40.48	152	P	P	12 16 12.4 -0.6
QRZ				IAmb	IAmb	12 16 52.8
	comp=Z,28nm,1.1s					
QRZ	Quartz Range	40.48	152	P	P	12 16 15.1 +2.0
QRZ	Quartz Range	40.48	152	P	P	12 16 12.5 -0.5
TKNZ	Takaka Hill	40.84	152	P	P	12 16 17.0 +0.9
DSZ	Denniston Nort	40.88	154	P	P	12 16 17.1 +0.7
DSZ	Denniston Nort	40.88	154	P	P	12 16 17.8 +1.4
BBJI	Bungbulang	40.92	266	P	P	12 16 16.6 -0.6
URZ	Urewera	40.94	145	LR	LR	12 30 50.7
	comp=Z,491nm,21.2s,baz=34,slow=32					
URZ	Urewera	40.94	145	P	P	12 16 16.5 -0.4
LEM	Lembang	40.96	267	LR	LR	12 37 39.7
	comp=Z,220nm,19.8s,baz=24,slow=42					
HAZ	Te Kaha	40.98	144	P	P	12 16 17.6 +0.4
RTZ	Ruatahuna	41.11	146	P	P	12 16 18.4 -0.1
RTZ				IAmb	IAmb	12 16 36.5
	comp=Z,17nm,0.8s					
NNZ	Nelson	41.18	152	P	P	12 16 20.6 +1.7
MWZ	Matawai	41.23	145	P	P	12 16 20.0 +0.6
THZ	Tophouse	41.39	153	P	P	12 16 21.1 +0.5
THZ	Tophouse	41.39	153	P	P	12 16 20.8 +0.2
CNJI	Cibinong	41.44	266	P	P	12 16 19.8 -1.5
	comp=Z,61nm,1.1s					
PUZ	Puketiti	41.47	144	P	P	12 16 21.2 -0.1
JCZ	Jackson Bay	41.59	158	P	P	12 16 22.9 +0.6
TSZ	Takapari Road	41.59	148	P	P	12 16 22.1 -0.2
TCW	Tory Channel	41.60	151	P	P	12 16 22.6 +0.2
TUWZ	Tuamarina	41.61	151	P	P	12 16 23.0 +0.6
MRZ	Mangatainoka R	41.84	149	P	P	12 16 23.8 -0.5
LTZ	Lake Taylor	41.92	154	P	P	12 16 25.8 +0.9
LTZ				IAmb	IAmb	12 16 51.6
	comp=Z,29nm,1.1s					
LTZ	Lake Taylor	41.92	154	P	P	12 16 23.4 -1.5
JMN	Monobe	42.16	341	P	P	12 16 27.5 +0.5
RPZ	Rata Peaks	42.17	156	P	P	12 16 26.8 -0.1
	comp=Z,7.2nm,0.5s,baz=1.2,slow=8.7,SNR=2.5					
RPZ				LR	LR	12 32 20.0
	comp=Z,631nm,20.4s,baz=321,slow=34					
	comp=Z,7.2nm,0.5s					
RPZ	Rata Peaks	42.17	156	P	P	12 16 29.0 +2.1
KHZ	Kahutara	42.19	153	P	P	12 16 26.3 -0.8
BFZ	Birch Farm	42.20	149	P	P	12 16 29.4 +2.2
BFZ	Birch Farm	42.20	149	P	P	12 16 26.8 -0.4
GVZ	Greta Valley S	42.40	154	P	P	12 16 27.3 -1.5
MLZ	Mavora Lakes	42.48	160	P	P	12 16 29.9 +0.5
JNU	Nakatsue	42.66	338	P	P	12 16 30.6 -0.5
JNU				IAmb	IAmb	12 16 45.7
	comp=Z,40nm,0.8s					
JNU	Nakatsue	42.66	338	P	P	12 16 32.0 +1.0
MQZ	McQueen's Vall	42.83	154	P	P	12 16 32.9 +0.7
CGJI	Cibinong	42.88	267	P	P	12 16 32.2 -0.9
	comp=Z,16µmcomp=Z,51nm,1.1s					
WHZ	Wether Hill Ro	42.88	160	P	P	12 16 33.3 +0.6
WHZ				IAmb	IAmb	12 16 51.7
	comp=Z,64nm,1.6s					
JGF	Kuroka	42.95	346	P	P	12 16 32.7 -0.7
TUZ	Tuapeka	43.52	159	P	P	12 16 38.3 +0.5
MJAR	Matsushiro Arr	43.66	348	P	P	12 16 38.7 -0.3
	comp=Z,5.4nm,1.0s,baz=167,slow=6.5,SNR=7.6					
MJAR				LR	LR	12 34 29.8
	comp=Z,374nm,18.1s,baz=176,slow=36					
	comp=Z,5.4nm,1.0s					
MAJO	Matsushiro	43.66	348	P	P	12 16 38.0 -1.0
MAJO				IAmb	IAmb	12 17 00.4
	comp=Z,94nm,1.9s					
MAJO	Matsushiro	43.66	348⇑	*e*P	P	12 16 38.7 -0.4
MAJO				pmax	pmax	
	comp=Z,30nm,1.3s					
MAJO	Matsushiro	43.66	348	P	P	12 16 38.6 -0.5
MJB9	Matsu-Tunnel	43.66	348	P	P	12 16 39.0 -0.1
MJB9				IAmb	IAmb	12 16 53.0
	comp=Z,32nm,1.3s					
MDSI	Maura Dua	44.50	270	P	P	12 16 43.2 -3.0
	comp=Z,14nm,1.2s					
QIZ	Qiongzhong	45.88	304	P	P	12 16 57.1 +0.1
QIZ				S	S	12 23 39.8 +1.4
QIZ				LR	LR	
	comp=Z,210nm,9.0s					
QIZ				LR	LR	
	comp=Z,160nm,8.4s					
QIZ				LR	LR	
	comp=Z,280nm,17.2s					
JTM	Tenmabayashi	47.29	352	P	P	12 17 06.6 -1.0
NJ2	Nanjing	47.57	325	*e*P	P	12 17 10.8 +0.8
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
NJ2				LR	LR	
	comp=Z,310nm,16.1s					
NJ2				LR	LR	
	comp=Z,290nm,18.0s					
NJ2				LR	LR	
	comp=Z,700nm,21.4s					
KSRS	Korea Array	47.61	337	P	P	12 17 10.2 0.0
	comp=Z,5.5nm,0.7s,baz=155,slow=9.1,SNR=14					
	comp=Z,5.5nm,0.7s					
KSAR	Wonju Array Be	47.61	337	P	P	12 17 08.6 -1.6
KSAR	Wonju Array Be	47.61	337	P	P	12 17 08.6 -1.6
ERM	Erimo	48.25	354	P	P	12 17 13.0 -2.1
ERM				IAmb	IAmb	12 17 41.1
	comp=Z,36nm,1.4s					
ERM	Erimo	48.25	354	P	P	12 17 13.0 -2.1
ERM				pmax	pmax	
	comp=Z,36nm,1.4s					
JKA	Kamikawa-asahi	50.39	354	P	P	12 17 30.3 -1.1
ASAJ	Asahikawa	50.39	354	LR	LR	12 39 19.4
	comp=Z,122nm,19.0s,baz=184,slow=37					
ASAJ	Asahikawa	50.39	354	P	P	12 17 30.3 -1.1
ASAJ				pmax	pmax	
	comp=Z,51nm,1.6s					
PSI	Prapat	50.64	279	LR	LR	12 41 35.3
	comp=Z,175nm,21.2s,baz=158,slow=39					
RAR	Rarotonga	51.86	112	LR	LR	12 35 47.4
	comp=Z,50nm,20.4s,baz=282,slow=31					
USA0B	Ussuriysk Arra	52.41	345⇑	*e*P	P	12 17 47.7 +1.2
USRK	Ussuriysk Ar.	52.41	345	P	P	12 17 46.2 -0.3
	comp=Z,7.3nm,0.8s,baz=176,slow=8.1,SNR=13					
USRK				LR	LR	12 37 46.1
	comp=Z,286nm,21.3s,baz=146,slow=33					
	comp=Z,7.3nm,0.8s					
YSS	Yuzhno-Sakhali	53.18	355	*e*P	P	12 17 55.1 +2.9
YSS				pmax	pmax	
	comp=Z,10.0nm,1.1s					
MDJ	Mudanjiang	53.46	343	P	P	12 17 55.1 +0.8
MDJ				pmax	pmax	
	comp=Z,9.0nm,1.0s					
HNS	HongShan	53.80	326	⇑P	P	12 17 58.4 +1.5
HNS				S	S	12 25 27.3 -1.1
HNS				pmax	pmax	
	comp=Z,11nm,0.9s					
HNS				LR	LR	
	comp=Z,320nm,20.0s					
HNS				LR	LR	
	comp=Z,390nm,18.2s					
HNS				LR	LR	
	comp=Z,600nm,22.2s					
CMAR	Chiang Mai Arr	54.96	298	P	P	12 18 06.3 +0.6
	comp=Z,1.0nm,0.8s,baz=111,slow=5.9,SNR=5.6					
	comp=Z,1.0nm,0.8s					
CMAR	Chiang Mai Arr	54.96	298	*i*P	P	12 18 09.0 +3.3
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
BNX	BinXian	55.13	342	⇑P	P	12 18 07.6 +1.2
BNX				pmax	pmax	
	comp=Z,15nm,1.2s					
PZH	PanZhiHua	56.02	308	P	P	12 18 15.8 +2.5
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,220nm,5.5s					
CD2	Chengdu	56.73	313	P	P	12 18 21.3 +3.1
CD2				pmax	pmax	
	comp=Z,10.0nm,0.4s					
CD2				LR	LR	
	comp=Z,160nm,14.6s					
TYV	Tymovskoe	57.07	355	*e*P	P	12 18 21.8 +1.7
TYV				*e*S	S	12 26 15.5 +3.9
TYV				pmax	pmax	
	comp=Z,12nm,1.1s					
TYV				pmax	pmax	
	comp=Z,100nm,4.4s					
TYV				smax	smax	
	comp=N,200nm,5.4s					
TYV				smax	smax	
	comp=E,200nm,5.4s					
KLR	Kul'dur	57.17	347	LR	LR	12 41 10.5
	comp=E,227nm,20.0s,baz=165,slow=34					
KLR	Kul'dur	57.17	347	*d i*P	P	12 18 22.2 +1.3
KLR				pmax	pmax	
	comp=Z,19nm,1.2s					
HHC	Hu-ho-hao-te	57.97	327	*e*P	P	12 18 30.1 +3.2
HHC				pmax	pmax	
	comp=Z,22nm,0.7s					
HHC				pmax	pmax	
	comp=Z,120nm,4.0s					
HHC				LR	LR	
	comp=Z,290nm,19.4s					
HHC				LR	LR	
	comp=Z,320nm,19.1s					
HHC				LR	LR	
	comp=Z,510nm,21.1s					
HEH	HeiHe	59.20	344	*e*P	P	12 18 34.3 -0.8
HEH				pmax	pmax	
	comp=Z,12nm,0.8s					
PEA0B	Petropavlovsk-	59.54	6	P	P	12 18 37.8 +0.4
PEA0B	Petropavlovsk-	59.54	6	*d i*P	P	12 18 38.3 +0.9
PETK	Petropavlovsk-	59.54	6	P	P	12 18 37.5 +0.1
PETK	Petropavlovsk-	59.54	6	P	P	12 18 37.0 -0.4
	comp=Z,38nm,1.0s,baz=167,slow=4.5,SNR=32					
PETK				LR	LR	12 40 17.7
	comp=Z,314nm,21.8s,baz=198,slow=32					
	comp=Z,38nm,1.0s					
PETK	Petropavlovsk-	59.54	6	P	P	12 18 37.5 +0.1
PET	Petropavlovsk	59.57	7	P	P	12 18 38.2 +0.7
PET	Petropavlovsk	59.57	7	*e*P	P	12 18 38.0 +0.5
PET				*e**SP	sP	12 18 58.0 +2.3
PET				*e*S	S	12 26 42.7 -1.4
PET				pmax	pmax	
	comp=Z,34nm,1.0s					
PET				MLR	MLR	
	comp=Z,200nm,18.0s					
PET	Petropavlovsk	59.57	7	P	P	12 18 36.6 -0.9
	comp=Z,31nm,0.9s					
PET	Petropavlovsk	59.57	7	P	P	12 18 38.3 +0.7
PET				pP	pP	12 18 48.7 -1.7
DRV	Dumont d'Urvil	60.69	184	P	P	12 18 45.4 +0.4
PPT2	Papeete2	61.08	107	*e*PKIKP	P	12 18 46.3 -2.4
	comp=Z,83nm,24.8s					
PPT2				*e*S	S	12 26 58.2 -6.8
	comp=Z,181nm,25.0s					
PPT2				*e*S	S	12 27 01.6 -3.4
	comp=Z,68nm,25.8s					
PPT2				*e*LQ	LQ	12 34 14.5
	comp=Z,408nm,32.0s					
PPT2				*e*LR	LR	12 36 58.9
	comp=Z,229nm,25.2s					
PPT2				*e*LR	LR	12 37 00.9
	comp=Z,110nm,22.8s					
TBI	Tubuai	61.61	113	*e*S	S	12 27 07.8 -3.5
	comp=Z,1µm,27.0s					
TBI				*e*SS	SS	12 31 05.7 -7.6
	comp=Z,443nm,29.0s					
TBI				*e*LR	LR	12 37 12.4
	comp=Z,2µm,33.5s					
ZEA	Zeya	62.41	346	*e*P	P	12 18 58.6 +1.7
ZEA				*e*		12 19 10.0
ZEA				pmax	pmax	
	comp=N,20nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,40nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,100nm,4.5s					
SHEM	Shemya Is, Ala	62.49	17	LR	LR	12 41 39.8
	comp=Z,206nm,21.8s,baz=165,slow=32					
BRDH	Bariadhala	62.85	299	LR	LR	12 48 51.4
	comp=Z,36nm,18.0s,baz=137,slow=38					
GTA	Gaotai	64.07	319	*e*P	P	12 19 11.0 +2.7
GTA				pP	pP	12 19 23.9 +2.6
GTA				pmax	pmax	
	comp=Z,3.0nm,0.8s					
GTA				LR	LR	
	comp=Z,120nm,14.7s					
GTA				LR	LR	
	comp=Z,73nm,16.7s					
GTA				LR	LR	
	comp=Z,160nm,22.7s					
KIWB	Kanaga Island	64.70	23	P	P	12 19 12.2 +0.2
ULN	Ulaanbaatar	65.17	330	P	P	12 19 15.8 +0.4
ULN	Ulaanbaatar	65.17	330⇑	*e*P	P	12 19 15.5 +0.2
ULN				pmax	pmax	
	comp=Z,9.0nm,1.5s					
SONM	Songino Array	65.47	330	P	P	12 19 16.8 -0.5
SONM	Songino Array	65.47	330	P	P	12 19 16.8 -0.5
	comp=Z,1.4nm,0.6s,baz=137,slow=7.2,SNR=9.2					
SONM				LR	LR	12 47 00.2
	comp=Z,347nm,21.0s,baz=124,slow=35					
SONM				PKP2bc		12 48 02.1
	comp=Z,1.8nm,1.1s,baz=302,slow=2.4,SNR=6.0					
	comp=Z,1.4nm,0.6s					
SONM	Songino Array	65.47	330	P	P	12 19 16.8 -0.5
SONM				pmax	pmax	
	comp=Z,8.0nm,1.3s					
MA2	Magadan	65.57	1	P	P	12 19 17.9 +0.5
MA2	Magadan	65.57	1	LR	LR	12 49 33.1
	comp=Z,125nm,18.5s,baz=193,slow=38					
MA2	Magadan	65.57	1	*d i*P	P	12 19 18.3 +0.8
MA2				pmax	pmax	
	comp=Z,28nm,1.0s					
MA2	Magadan	65.57	1	P	P	12 19 17.2 -0.3
	comp=Z,28nm,1.0s					
MA2	Magadan	65.57	1	P	P	12 19 18.3 +0.8
MA2				pP	pP	12 19 28.7 -1.9
MA2				sP	sP	12 19 33.3 -2.4
ZAK	Zakamensk	68.69	331	*e*P	P	12 19 37.6 0.0
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.3s					
SEY	Seymchan	68.97	2⇓	*e*P	P	12 19 39.8 +0.8
SEY				pmax	pmax	
	comp=Z,11nm,1.0s					
PALK	Pallekele	69.29	280	LR	LR	12 52 43.8
	comp=Z,66nm,21.7s,baz=106,slow=38					
PALK	Pallekele	69.29	280	P	P	12 19 42.9 +0.9
YAK	Yakutsk	69.61	350	LR	LR	12 53 08.5
	comp=Z,86nm,18.2s,baz=129,slow=38					
YAK	Yakutsk	69.61	350⇑	*e*P	P	12 19 45.4 +2.5
YAK				pmax	pmax	
	comp=Z,8.0nm,0.6s					
CCD	Concordia, Ant	70.40	187	P	P	12 19 48.1 -0.1
CCD				pP	pP	12 19 58.3 -1.6
UNV	Unalaska Valle	70.55	26	P	P	12 19 48.3 -0.5
	baz=228					
MOY	Mondy	70.62	331	*e*P	P	12 19 50.4 +0.9
MOY				pmax	pmax	
	comp=Z,17nm,2.8s					
VNDA	Vanda	71.63	177	P	P	12 19 55.6 +0.6
VNDA	Vanda	71.63	177	P	P	12 19 55.5 +0.4
	comp=Z,10nm,1.0s,baz=354,slow=9.2,SNR=5.4					
	comp=Z,10nm,1.0s					
VNDA	Vanda	71.63	177	P	P	12 19 55.6 +0.6
VNDA				pmax	pmax	
	comp=Z,78nm,2.0s					
VNDA	Vanda	71.63	177	P	P	12 19 55.5 +0.4
VNDA				pP	pP	12 20 05.6 -1.5
VNDA				sP	sP	12 20 10.4 -1.4
VNDA				PcP	PcP	12 20 14.8 +0.8
WMQ	Urumqi	74.14	319	*e*P	P	12 20 10.8 +0.2
WMQ				pmax	pmax	
	comp=Z,18nm,0.9s					
RKT	Rikitea	74.90	112	*e*LR	LR	12 43 20.0
	comp=Z,2µm,33.0s					
BILL	Bilibino	75.07	7	*ce*P	P	12 20 17.0 +1.6
BILL				pmax	pmax	
	comp=Z,14nm,1.0s					
M11K	Mekoryuk	75.13	21	P	P	12 20 15.9 +0.1
	baz=227					
GAMB	Gambell	75.81	17	P	P	12 20 20.0 +0.4
	baz=221					
M13K	Dall Lake	76.20	22	P	P	12 20 22.1 +0.2
	baz=229					
O14K	Tigyukauivet M	76.27	24	P	P	12 20 23.1 +0.7
O14K				IAmb	IAmb	12 20 24.2
	comp=Z,19nm,0.8s					
O14K	Tigyukauivet M	76.27	24	P	P	12 20 22.1 -0.3
	baz=232					
K13K	Kusilvak Mount	76.74	21	P	P	12 20 24.8 -0.2
	baz=228					
O15K	Ungalikthiuk R	76.81	24	P	P	12 20 25.3 -0.1
	baz=233					
M14K	Bethel	76.95	22	P	P	12 20 27.0 +0.8
M14K	Bethel	76.95	22	P	P	12 20 26.4 +0.3
	baz=231,SNR=7.0					
L14K	Kuka Creek	77.06	22	P	P	12 20 27.5 +0.7
	baz=230					
N15K	Kwethluk River	77.31	23	IAmb	IAmb	12 20 30.6
	comp=Z,18nm,1.0s					
N15K	Kwethluk River	77.31	23	P	P	12 20 28.7 +0.4
	baz=232					
M15K	Kasigluk River	77.40	23	P	P	12 20 29.1 +0.3
	baz=232					
P16K	Nushagak River	77.49	25	P	P	12 20 29.2 0.0
	baz=235					
J14K	Nanvaranak Lak	77.67	20	P	P	12 20 30.4 +0.3
	baz=229					
L15K	Ungalak Mounta	77.71	22	P	P	12 20 30.8 +0.4
	baz=231					
O16K	Kokwok River B	77.77	25	P	P	12 20 30.9 +0.1
	baz=234					
N16K	Nishlik Lake	78.02	24	P	P	12 20 32.5 +0.2
	baz=234					
K15K	Wolf Creek Mou	78.09	21	P	P	12 20 33.7 +1.1
K15K				IAmb	IAmb	12 20 34.6
	comp=Z,21nm,0.9s					
K15K	Wolf Creek Mou	78.09	21	P	P	12 20 32.6 +0.1
	baz=231					
TNA	Tin City	78.23	17	P	P	12 20 34.0 +0.8
	baz=224					
M16K	Timber Creek	78.27	23	IAmb	IAmb	12 20 35.7
	comp=Z,20nm,1.0s					
M16K	Timber Creek	78.27	23	P	P	12 20 34.0 +0.4
	baz=233					
O17K	Koliganek Bris	78.29	25	P	P	12 20 33.9 +0.2
	baz=235					
ANM	Nome	78.29	18	P	P	12 20 34.1 +0.5
	baz=227					
Q18K	Katmai Hardscr	78.56	26	P	P	12 20 35.3 0.0
	baz=237					
OHAK	Old Harbor	78.59	28	P	P	12 20 35.6 +0.2
	baz=239					
F14K	Arctic Creek	78.63	17	P	P	12 20 36.3 +0.8
	baz=226					
N17K	Nushagak Hills	78.69	24	P	P	12 20 36.5 +0.6
	baz=235					
TIXI	Tiksi	78.79	354	P	P	12 20 36.1 -0.1
TIXI	Tiksi	78.79	354⇓	*e*P	P	12 20 37.2 +1.0
TIXI				pmax	pmax	
	comp=Z,3.0nm,0.8s					
MK31	Makanchi Array	78.81	320	P	P	12 20 35.4 -1.6
MK31	Makanchi Array	78.81	320⇑	*e*P	P	12 20 36.7 -0.2
MKAR	Makanchi Array	78.81	320	P	P	12 20 35.5 -1.5
MKAR	Makanchi Array	78.81	320	P	P	12 20 36.5 -0.5
	comp=Z,1.0nm,0.6s,baz=111,slow=5.6,SNR=16					
MKAR				PKKPbc	PKKPbc	12 39 30.3 -2.6
	comp=Z,0.3nm,0.6s,baz=274,slow=1.8,SNR=3.5					
MKAR				LR	LR	12 54 03.7
	comp=Z,84nm,21.9s,baz=81,slow=35					
	comp=Z,1.0nm,0.6s					
MKAR	Makanchi Array	78.81	320	*i*P	P	12 20 36.7 -0.3
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
G15K	Niukluk	79.01	18	P	P	12 20 37.2 -0.3
	baz=228					
MAKZ	Makanchi	79.02	320	P	P	12 20 36.9 -1.2
MAKZ	Makanchi	79.02	320	P	P	12 20 36.9 -1.2
MAKZ				pmax	pmax	
	comp=Z,7.0nm,1.3s					
J16K	Anvik River	79.04	21	P	P	12 20 38.0 +0.2
	baz=231					
M17K	Holitna River	79.09	23	P	P	12 20 38.3 +0.3
	baz=235					
O18K	Koktuh Hills	79.13	25	P	P	12 20 38.4 +0.1
	baz=237					
L17K	Donlin	79.19	22	P	P	12 20 39.5 +0.9
	baz=234					
KDAK	Kodiak Island	79.20	28	LR	LR	12 49 35.8
	comp=Z,137nm,21.3s,baz=102,slow=31					
F15K	North Star Dit	79.30	18	P	P	12 20 39.2 0.0
	baz=227					
H16K	Elim	79.35	19	P	P	12 20 40.0 +0.6
	baz=230					
I17K	Unalakleet	79.39	20	P	P	12 20 40.1 +0.5
	baz=231					
K17K	Iditarod	79.53	22	IAmb	IAmb	12 20 43.0
	comp=Z,20nm,0.9s					
K17K	Iditarod	79.53	22	P	P	12 20 40.9 +0.4
	baz=234					
J17K	VABM Dome	79.66	21	P	P	12 20 41.9 +0.8
	baz=233					
O19K	Port Alsworth	79.69	25	P	P	12 20 41.5 +0.2
O19K				IAmb	IAmb	12 21 36.8
	comp=Z,53nm,1.8s					
O19K	Port Alsworth	79.69	25	P	P	12 20 41.5 +0.2
	baz=238					
M18K	Stony River	79.78	24	P	P	12 20 42.3 +0.5
	baz=236					
G16K	Koyuk River	79.80	19	P	P	12 20 42.2 +0.3
	baz=230					
L18K	Granite Mounta	79.85	23	IAmb	IAmb	12 20 44.4
	comp=Z,15nm,0.9s					
L18K	Granite Mounta	79.85	23	P	P	12 20 42.5 +0.3
	baz=235					
ZAA0	Zalesovo Array	80.15	327	P	P	12 20 43.5 -0.5
ZALV	Zalesovo Beam	80.15	327	P	P	12 20 43.0 -1.0
ZALV	Zalesovo Beam	80.15	327	P	P	12 20 42.8 -1.2
	comp=Z,1.7nm,0.5s,baz=114,slow=6.7,SNR=7.1					
ZALV				PKPPKP	P'P'df	12 47 32.7 +2.0
	comp=Z,0.3nm,0.4s,baz=199,slow=4.1,SNR=4.3					
ZALV				LR	LR	12 54 57.5
	comp=Z,320nm,21.7s,baz=100,slow=35					
	comp=Z,1.7nm,0.5s					
ZALV	Zalesovo Beam	80.15	327	*i*P	P	12 20 45.0 +1.0
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.6s					
H17K	Granite Mounta	80.31	20	P	P	12 20 44.6 0.0
	baz=232					
L19K	White Mountain	80.55	23	P	P	12 20 46.6 +0.7
L19K				IAmb	IAmb	12 20 48.2
	comp=Z,14nm,1.1s					
L19K	White Mountain	80.55	23	P	P	12 20 46.2 +0.2
	baz=237					
J18K	Innoko River	80.56	22	P	P	12 20 46.6 +0.6
	baz=235					
M19K	Big River Lodg	80.58	24	P	P	12 20 46.2 +0.1
	baz=236					
CNPM	China Poot	80.68	27	P	P	12 20 46.9 +0.1
KDJ	Kajisay	80.73	314	P	P	12 20 47.0 -0.6
KDJ				pmax	pmax	
	comp=Z,8.0nm,0.9s					
F17K	Baldwin Pennin	80.83	18	P	P	12 20 47.4 0.0
	baz=230					
C16K	Lisburne Hills	80.87	16	P	P	12 20 47.8 +0.3
	baz=226					
H18K	Honhosa River	80.97	20	P	P	12 20 47.6 -0.5
	baz=233					
BRSE	Bradley Lake S	81.01	26	P	P	12 20 48.0 -0.4
	baz=241					
E17K	Hotham Inlet	81.07	17	P	P	12 20 49.2 +0.6
	baz=230					
M20K	Styx River	81.07	24	P	P	12 20 49.0 +0.1
	baz=239					
L20K	Farewell, AK	81.09	23	P	P	12 20 48.7 -0.2
	baz=238					
D17K	Noatak River	81.11	17	P	P	12 20 49.5 +0.7
	baz=228					
GCSA	Galena City Sc	81.24	21	P	P	12 20 49.4 -0.1
	baz=235					
J19K	Poorman	81.26	22	P	P	12 20 49.4 -0.3
	baz=236					
G18K	Tagagawik	81.32	19	P	P	12 20 50.1 +0.1
	baz=233					
RDOG	Red Dog Mine	81.39	16	P	P	12 20 50.3 0.0
RDOG	Red Dog Mine	81.39	16	P	P	12 20 50.1 -0.3
	baz=229					
F18K	Selawik	81.43	18	P	P	12 20 50.4 -0.1
	baz=232					
K20K	Telida	81.49	22	IAmb	IAmb	12 20 52.7
	comp=Z,15nm,1.0s					

K20K	Telida	81.49	22	P	P	12 20 50.6	-0.4
	baz=238						
NIL	Nilore	81.53	305	P	P	12 20 50.5	-1.4
C17K	DeLong Mountai	81.60	16	P	P	12 20 51.5	+0.1
	baz=228						
E18K	Tukpahlearik C	81.65	18	IAmb	IAmb	12 21 29.5	
	comp=Z,22nm,1.8s						
E18K	Tukpahlearik C	81.65	18	P	P	12 20 52.3	+0.6
	baz=231						
BOOM	Boomskoye usch	81.72	314	P	P	12 20 51.8	-1.1
H19K	Roundabout Mou	81.84	20	P	P	12 20 53.0	+0.3
	baz=235						
SUA	Susitna One	81.84	25	P	P	12 20 52.7	-0.3
	baz=241						
J20K	Nowinta River	81.90	22	P	P	12 20 53.3	+0.2
	baz=237						
PPLA	Purkeypile	81.97	23	P	P	12 20 53.3	-0.4
PPLA	Purkeypile	81.97	23	P	P	12 20 53.6	-0.1
	baz=239						
G19K	Purcell Mounta	81.98	19	IAmb	IAmb	12 20 55.4	
	comp=Z,12nm,1.1s						
G19K	Purcell Mounta	81.98	19	P	P	12 20 53.7	+0.3
	baz=234						
I20K	Naaghedeneel	82.12	21	P	P	12 20 54.9	+0.7
	baz=237						
F19K	Shaleruckik Mo	82.16	19	P	P	12 20 54.6	+0.2
	baz=234						
M22K	Willow	82.25	25	P	P	12 20 55.2	+0.3
	baz=241						
C18K	Utukok River	82.26	16	P	P	12 20 54.8	-0.2
	baz=230						
CAST	Castle Rocks	82.28	23	IAmb	IAmb	12 20 55.7	
	comp=Z,14nm,0.9s						
CAST	Castle Rocks	82.28	23	P	P	12 20 54.9	-0.2
	baz=239						
H20K	Anotleneega Mo	82.36	20	P	P	12 20 55.6	+0.1
	baz=237						
CHUM	Lake Minchumin	82.43	22	P	P	12 20 55.6	-0.2
	baz=239						
KURK	Kurchatov	82.46	323	P	P	12 20 56.0	-0.3
KURK	Kurchatov	82.46	323	⇓*e*P	P	12 20 55.4	-0.9
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KURBB	Kurchatov Arra	82.49	323	P	P	12 20 55.8	-0.7
	comp=Z,0.9nm,0.2s,baz=113,slow=4.2,SNR=5.3						
	comp=Z,0.9nm,0.2s						
B18K	Kokolik River	82.56	16	P	P	12 20 56.3	-0.1
	baz=230						
PMR	Palmer	82.58	25	P	P	12 20 56.2	-0.5
	baz=242						
PWL	Port Wells	82.59	26	P	P	12 20 56.6	-0.3
	baz=243						
E19K	Redstone River	82.70	18	P	P	12 20 57.4	+0.1
	baz=234,SNR=10						
AAK	Ala-Archa	82.78	314	P	P	12 20 58.0	-0.4
AAK	Ala-Archa	82.78	314	LR	LR	12 57 29.4	
	comp=Z,83nm,20.7s,baz=91,slow=35						
AAK	Ala-Archa	82.78	314	⇑*i*P	P	12 20 58.4	0.0
AAK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
MAW	Mawson	82.78	203	LR	LR	12 55 19.4	
	comp=Z,182nm,21.0s,baz=96,slow=34						
KNK	Knik Glacier	82.79	26	P	P	12 20 57.8	0.0
	baz=243						
KTH	Kantishna Hill	82.80	23	P	P	12 20 56.9	-1.0
KTH				IAmb	IAmb	12 20 58.5	
	comp=Z,17nm,1.1s						
Q23K	Middleton Isla	82.86	28	P	P	12 20 57.7	-0.4
	baz=245						
F20K	Avaraart Lake	82.95	19	P	P	12 20 58.5	0.0
	baz=236						
TRF	Thorofare Moun	83.00	23	P	P	12 20 58.5	-0.6
TRF				IAmb	IAmb	12 20 58.9	
	comp=Z,9.0nm,1.0s						
TRF	Thorofare Moun	83.00	23	P	P	12 20 57.9	-1.2
	baz=241						
SML	Sawmill	83.02	25	P	P	12 20 58.8	-0.3
SML	Sawmill	83.02	25	P	P	12 20 58.8	-0.3
SML	Sawmill	83.02	25	P	P	12 20 58.1	-1.0
	baz=243						
BPAW	Bear Paw Mtn.	83.05	23	P	P	12 20 58.2	-0.9
	baz=240						
D19K	Kuna River	83.05	17	P	P	12 20 58.2	-0.9
	baz=233						
H21K	Melozitna Rive	83.17	21	IAmb	IAmb	12 21 22.2	
	comp=Z,16nm,1.8s						
H21K	Melozitna Rive	83.17	21	P	P	12 20 58.7	-1.1
	baz=238						
I21K	Tanana	83.22	21	P	P	12 21 00.4	+0.5
I21K				IAmb	IAmb	12 21 02.2	
	comp=Z,12nm,1.1s						
I21K	Tanana	83.22	21	P	P	12 20 59.9	0.0
	baz=239						
M23K	Glacier View	83.27	25	P	P	12 21 00.3	0.0
	baz=244						
G21K	Allakaket	83.39	20	P	P	12 21 01.1	+0.3
	baz=238						
SCM	Sheep Creek Mo	83.46	25	P	P	12 21 01.0	-0.3
	baz=244						
E20K	Nigu River	83.49	18	P	P	12 21 01.2	-0.2
	baz=235						
RND	Reindeer	83.55	24	P	P	12 21 01.1	-0.7
RND				IAmb	IAmb	12 21 02.2	
	comp=Z,20nm,0.9s						
RND	Reindeer	83.55	24	P	P	12 21 01.1	-0.7
RND				pmax	pmax		
	comp=Z,20nm,0.9s						
EYAK	Cordova Ski Ar	83.60	27	P	P	12 21 01.8	-0.1
	baz=246						
D20K	Etivluk River	83.63	17	P	P	12 21 01.4	-0.6
	baz=235						
BWN	Browne	83.67	23	P	P	12 21 02.5	+0.2
BWN				IAmb	IAmb	12 21 03.4	
	comp=Z,18nm,0.8s						
MCK	McKinley	83.67	23	P	P	12 21 01.9	-0.4
MCK	McKinley	83.67	23	P	P	12 21 01.9	-0.4
MCK				pmax	pmax		
	comp=Z,33nm,1.0s						
MCK	McKinley	83.67	23	P	P	12 21 01.5	-0.8
	baz=242						
F21K	Alatna River	83.77	19	P	P	12 21 02.3	-0.5
	baz=238						
QSPA	South Pole Qui	83.78	180	P	P	12 21 03.0	-0.1
QSPA	South Pole Qui	83.78	180	P	P	12 21 02.8	-0.3
	comp=Z,9.7nm,0.6s,baz=307,slow=1.3,SNR=72						
QSPA				LR	LR	12 57 02.8	
	comp=Z,242nm,20.4s,baz=14,slow=35						
	comp=Z,9.7nm,0.6s						
H22K	Ishtalitna Cre	83.80	21	P	P	12 21 02.3	-0.7
	baz=240						
KLU	Klutina	83.92	26	P	P	12 21 03.2	-0.5
KLU				IAmb	IAmb	12 21 05.5	
	comp=Z,14nm,1.0s						
KLU	Klutina	83.92	26	P	P	12 21 02.9	-0.8
	baz=245						
NEA2	Nenana	84.02	23	P	P	12 21 04.0	-0.1
NEA2				IAmb	IAmb	12 21 04.1	
	comp=Z,9.8nm,0.9s						
NEA2	Nenana	84.02	23	P	P	12 21 03.2	-0.9
	baz=242						
M24K	Tolsona, Glenn	84.07	25	P	P	12 21 03.9	-0.6
	baz=245						
I23K	Minto, Yukon-K	84.17	22	P	P	12 21 04.4	-0.4
	baz=242						
B20K	Meade River	84.23	16	P	P	12 21 04.7	-0.3
B20K	Meade River	84.23	16	P	P	12 21 04.9	-0.1
	baz=234						
BMRM	Bremner River	84.28	27	P	P	12 21 04.5	-1.1
	baz=246						
WRH	Wood River Hil	84.33	23	P	P	12 21 05.0	-0.6
WRH				IAmb	IAmb	12 21 05.7	
	comp=Z,14nm,1.0s						
H23K	Yukon River	84.42	21	P	P	12 21 06.6	+0.5
H23K				IAmb	IAmb	12 21 08.1	
	comp=Z,18nm,1.7s						
H23K	Yukon River	84.42	21	P	P	12 21 05.9	-0.2
	baz=242						
C21K	Knifeblade Rid	84.43	17	P	P	12 21 05.6	-0.5
	baz=236						
BERG	Berg Lake	84.47	27	P	P	12 21 06.7	+0.3
CCB	Clear Creek Bu	84.53	23	P	P	12 21 05.8	-0.8
CCB				IAmb	IAmb	12 21 06.5	
	comp=Z,14nm,1.1s						
COLA	College	84.61	23	P	P	12 21 06.7	-0.3
COLA				IAmb	IAmb	12 21 06.8	
	comp=Z,15nm,0.9s						
COLA	College	84.61	23	*c i*P	P	12 21 05.7	-1.3
COLA				pmax	pmax		
	comp=Z,18nm,0.9s						
COLA	College	84.61	23	P	P	12 21 06.0	-1.0
	baz=243						
HARP	HAARP	84.63	25	P	P	12 21 06.2	-1.0
	baz=246						
G23K	Bananza Creek	84.68	20	P	P	12 21 08.5	+1.0
G23K	Bananza Creek	84.68	20	P	P	12 21 06.9	-0.6
	baz=241						
PAX	Paxson	84.73	25	P	P	12 21 06.8	-1.1
	baz=246						
B21K	Ikpikpuk River	84.73	17	P	P	12 21 08.4	+0.9
B21K				IAmb	IAmb	12 22 17.0	
	comp=Z,20nm,1.6s						
B21K	Ikpikpuk River	84.73	17	P	P	12 21 07.3	-0.2
	baz=236						
HDA	Harding Lake	84.75	23	P	P	12 21 07.3	-0.5
HDA				IAmb	IAmb	12 21 09.4	
	comp=Z,8.4nm,0.8s						
HDA	Harding Lake	84.75	23	P	P	12 21 07.1	-0.7
	baz=244						
E22K	Anaktuvuk Pass	84.80	19	P	P	12 21 08.8	+0.8
E22K	Anaktuvuk Pass	84.80	19	P	P	12 21 07.7	-0.3
	baz=239,SNR=5.1						
COLD	Coldfoot	84.88	20	IAmb	IAmb	12 21 10.1	
	comp=Z,8.9nm,1.2s						
COLD	Coldfoot	84.88	20	P	P	12 21 08.0	-0.3
	baz=241,SNR=8.3						
POKR	Poker Plat Res	84.88	22	P	P	12 21 08.1	-0.4
	baz=244						
D22K	Ayikyak River	84.91	18	IAmb	IAmb	12 21 10.6	
	comp=Z,8.3nm,1.0s						
D22K	Ayikyak River	84.91	18	P	P	12 21 08.7	+0.2
	baz=238						
IL31		84.93	23	IAmb	IAmb	12 21 08.2	
	comp=Z,11nm,0.8s						
ILAR	Eielson Array	84.93	23	P	P	12 21 07.3	-1.4
ILAR	Eielson Array	84.93	23	P	P	12 21 07.0	-1.7
	comp=Z,9.1nm,0.9s,baz=248,slow=5.2,SNR=74						
ILAR				LR	LR	12 56 12.7	
	comp=Z,128nm,19.3s,baz=245,slow=34						
	comp=Z,9.1nm,0.9s						
ILAR	Eielson Array	84.93	23	P	P	12 21 07.3	-1.4
H24K	Noodor Dome	85.04	22	P	P	12 21 09.0	-0.3
H24K	Noodor Dome	85.04	22	P	P	12 21 09.7	+0.4
	baz=243						
MESA	MESA	85.20	28	P	P	12 21 09.9	-0.5
	baz=249						
RIDG	Independent Ri	85.30	24	P	P	12 21 10.1	-0.6
	baz=246						
A22K	Sinclair Lake	85.41	16	P	P	12 21 11.3	+0.4
	baz=236						
J25K	Salcha River,	85.46	23	P	P	12 21 10.7	-0.7
	baz=246						
E23K	Chandalar	85.47	19	P	P	12 21 12.7	+1.3
E23K				IAmb	IAmb	12 21 31.8	
	comp=Z,12nm,1.4s						
E23K	Chandalar	85.47	19	P	P	12 21 11.4	-0.1
	baz=241						
G24K	Hadweenzic Riv	85.57	21	IAmb	IAmb	12 21 13.2	
	comp=Z,7.1nm,0.9s						
G24K	Hadweenzic Riv	85.57	21	P	P	12 21 11.7	-0.1
	baz=243						
D23K	Nanushuk River	85.58	18	IAmb	IAmb	12 21 13.7	
	comp=Z,10nm,0.7s						
D23K	Nanushuk River	85.58	18	P	P	12 21 12.0	+0.2
	baz=240						
DOT	Dot Lake	85.59	24	IAmb	IAmb	12 21 13.0	
	comp=Z,12nm,1.0s						
L26K	Log Cabin Wild	85.64	25	IAmb	IAmb	12 21 13.4	
	comp=Z,9.0nm,1.0s						
L26K	Log Cabin Wild	85.64	25	P	P	12 21 11.8	-0.5
	baz=247						
KKAR	Karatay Array	85.74	314	P	P	12 21 11.4	-1.8
KKAR	Karatay Array	85.74	314	P	P	12 21 11.4	-1.8
SCRK	Sand Creek	85.75	24	P	P	12 21 12.4	-0.6
	baz=247						
TOLK	Toolik Lake Re	85.77	19	P	P	12 21 13.0	+0.1
TOLK	Toolik Lake Re	85.77	19	P	P	12 21 12.7	-0.1
	baz=241,SNR=5.9						
F24K	Squaw Lake	85.80	20	IAmb	IAmb	12 21 14.9	
	comp=Z,7.7nm,0.9s						
F24K	Squaw Lake	85.80	20	P	P	12 21 13.1	+0.1
	baz=243						
E24K	Your Creek	85.86	20	P	P	12 21 13.5	+0.2
	baz=242						
H25L	Birch Creek	85.98	22	P	P	12 21 13.6	-0.2
	baz=245						
M27K	Edge Creek, AK	86.02	26	IAmb	IAmb	12 21 15.5	
	comp=Z,14nm,0.9s						
M27K	Edge Creek, AK	86.02	26	P	P	12 21 13.8	-0.5
	baz=249						
NRIK	Noril'sk	86.02	342	P	P	12 21 12.9	-1.0
	comp=Z,1.7nm,0.4s,baz=100,slow=4.2,SNR=5.0						
NRIK				LR	LR	12 58 36.7	
	comp=Z,98nm,21.6s,baz=121,slow=35						
	comp=Z,1.7nm,0.4s						
NRIK	Noril'sk	86.02	342	*de*P	P	12 21 14.6	+0.6
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
C23K	Itkillik River	86.03	18	P	P	12 21 14.5	+0.4
C23K				IAmb	IAmb	12 21 28.5	
	comp=Z,6.8nm,0.8s						
C23K	Itkillik River	86.03	18	P	P	12 21 14.2	+0.2
	baz=240						
G25K	Bearman Lake	86.09	21	P	P	12 21 14.2	-0.2
	baz=245						
J26L	Joseph Creek	86.12	24	P	P	12 21 14.2	-0.5
	baz=247						
O28M	Mount Upton	86.22	28	P	P	12 21 14.6	-1.0
	baz=250						
PNL	Peninsula	86.23	29	P	P	12 21 14.3	-1.0
	baz=251						
D24K	Happy Valley	86.25	19	IAmb	IAmb	12 21 17.1	
	comp=Z,18nm,1.6s						
D24K	Happy Valley	86.25	19	P	P	12 21 15.4	+0.3
	baz=242						
L27K	Beaver Creek,	86.30	25	IAmb	IAmb	12 21 17.3	
	comp=Z,9.6nm,1.1s						
L27K	Beaver Creek,	86.30	25	P	P	12 21 15.2	-0.4
	baz=249						
BCAR	Beaver Creek A	86.32	25	P	P	12 21 15.5	-0.1
FYU	Fort Yukon	86.32	21	P	P	12 21 15.8	+0.3
FYU				IAmb	IAmb	12 21 17.0	
	comp=Z,15nm,1.2s						
YUK3	Moose Creek	86.44	27	P	P	12 21 15.8	-0.8
	baz=250						
BVCY	Beaver Creek	86.48	26	P	P	12 21 16.1	-0.3
	baz=250						
K27K	Chicken	86.55	24	IAmb	IAmb	12 21 18.8	
	comp=Z,12nm,1.1s						
K27K	Chicken	86.55	24	P	P	12 21 17.0	+0.3
	baz=248						
C24K	Franklin Bluff	86.56	18	IAmb	IAmb	12 21 18.1	
	comp=Z,9.0nm,0.8s						
C24K	Franklin Bluff	86.56	18	P	P	12 21 16.5	-0.2
	baz=242						
YUK8	Steele Glacier	86.59	27	P	P	12 21 16.7	-0.6
	baz=251						
I26K	Coal Creek Min	86.60	23	P	P	12 21 16.3	-0.6
	baz=248						
F25K	Christian Rive	86.61	20	P	P	12 21 16.9	-0.1
	baz=245						
O29M	Mount Kennedy	86.82	28	IAmb	IAmb	12 21 20.6	
	comp=Z,23nm,1.3s						
O29M	Mount Kennedy	86.82	28	P	P	12 21 18.3	0.0
	baz=252						
E25K	Arctic Village	86.86	20	P	P	12 21 18.0	-0.2
	baz=245						
BMAR	Burnt Mountain	86.91	21	P	P	12 21 19.0	+0.5
G26K	Porcupine Rive	87.00	21	P	P	12 21 19.7	+0.9
	baz=247						
D25K	Kavik River	87.11	19	IAmb	IAmb	12 21 20.7	
	comp=Z,9.8nm,1.2s						
D25K	Kavik River	87.11	19	P	P	12 21 19.6	+0.1
	baz=244						
YUK4	Talbot Arm	87.12	27	P	P	12 21 20.3	+0.5
	baz=252,SNR=7.2						
F26K	Sheenjek River	87.17	21	P	P	12 21 20.8	+1.0
F26K				IAmb	IAmb	12 21 22.5	
	comp=Z,16nm,1.6s						
F26K	Sheenjek River	87.17	21	P	P	12 21 20.0	+0.2
	baz=246						
I27K	Kandik River	87.31	23	P	P	12 21 20.7	+0.3
	baz=249						
HYT	Haines Junctio	87.49	28	IAmb	IAmb	12 21 23.3	
	comp=Z,16nm,0.9s						
HYT	Haines Junctio	87.49	28	P	P	12 21 21.6	+0.1
	baz=253,SNR=8.7						
P30M	Million Dollar	87.54	29	P	P	12 21 22.1	+0.4
	baz=253						
M29M	Somme Creek	87.55	26	IAmb	IAmb	12 21 22.9	
	comp=Z,7.7nm,0.8s						
M29M	Somme Creek	87.55	26	P	P	12 21 22.0	+0.3
	baz=252						
H27K	Steamboat Moun	87.57	22	P	P	12 21 22.1	+0.4
	baz=249						
PLBC	Pleasant Camp	87.64	30	P	P	12 21 22.5	+0.5
	baz=254						
DAWY	Dawson	87.67	25	IAmb	IAmb	12 21 24.0	
	comp=Z,15nm,1.2s						
DAWY	Dawson	87.67	25	P	P	12 21 22.6	+0.4
	baz=251,SNR=8.8						
G27K	Doyon Strip	87.73	22	P	P	12 21 22.6	+0.2
	baz=249						
C26K	Camden Bay	87.83	18	P	P	12 21 23.2	+0.5
	baz=246						
N30M	Aishikik Lake	87.87	28	P	P	12 21 23.1	-0.2
	baz=253						
L29M	L29M	87.90	26	P	P	12 21 23.2	-0.1
	baz=252						
I28M	Miner Creek	87.91	23	IAmb	IAmb	12 21 24.5	
	comp=Z,5.1nm,0.8s						
I28M	Miner Creek	87.91	23	P	P	12 21 23.0	-0.4
	baz=250						
BVAR	Borovoye Array	88.00	324	P	P	12 21 22.4	-1.6
	comp=Z,1.0nm,0.6s,baz=97,slow=4.6,SNR=4.4						
BVAR				LR	LR	13 02 29.0	
	comp=Z,94nm,19.2s,baz=86,slow=37						
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	88.07	324	P	P	12 21 23.2	-1.1
C27K	Jago River	88.09	19	IAmb	IAmb	12 21 25.5	
	comp=Z,7.2nm,0.8s						
C27K	Jago River	88.09	19	P	P	12 21 24.6	+0.5
	baz=247						
O30N	Mendenhall	88.14	28	P	P	12 21 24.8	+0.3
O30N				IAmb	IAmb	12 21 25.6	
	comp=Z,11nm,1.0s						
O30N	Mendenhall	88.14	28	P	P	12 21 24.5	0.0
	baz=254						
E27K	Coleen River	88.25	21	P	P	12 21 25.5	+0.6
E27K				IAmb	IAmb	12 21 26.3	
	comp=Z,5.9nm,0.8s						
E27K	Coleen River	88.25	21	P	P	12 21 25.0	+0.1
	baz=249						
J29N	Klondike Camp	88.28	25	IAmb	IAmb	12 21 27.2	
	comp=Z,11nm,1.0s						
J29N	Klondike Camp	88.28	25	P	P	12 21 25.3	+0.2
	baz=252,SNR=7.0						
CRAG	Craig	88.31	34	P	P	12 21 25.4	+0.1
	baz=257						
M30M	Minto, Yukon	88.33	26	IAmb	IAmb	12 21 27.6	
	comp=Z,12nm,1.4s						
M30M	Minto, Yukon	88.33	26	P	P	12 21 25.5	+0.2
	baz=253						
K29M	Barlow Dome	88.38	25	P	P	12 21 25.8	+0.1
	baz=253,SNR=12						
N31M	Braeburn, Yuko	88.48	28	P	P	12 21 26.1	+0.1
	baz=254						
I29M	Ogilvie Camp,	88.53	24	P	P	12 21 26.4	+0.1
	baz=252,SNR=6.2						
WHY	Whitehorse	88.68	29	P	P	12 21 26.7	-0.5
	baz=255						
D27M	Malcolm River	88.85	20	P	P	12 21 28.3	+0.6
	baz=249						
P32M	Atlin	88.98	30	P	P	12 21 28.7	+0.2
	baz=256						
MAYO	Mayo, Yukon	89.01	26	P	P	12 21 28.4	-0.1
	baz=254						
J30M	Hart River	89.09	25	P	P	12 21 28.9	-0.1
J30M				IAmb	IAmb	12 21 32.5	
	comp=Z,5.2nm,0.7s						
J30M	Hart River	89.09	25	P	P	12 21 29.0	-0.1
	baz=254						
E28M	Babbage River	89.11	20	IAmb	IAmb	12 21 31.5	
	comp=Z,11nm,1.4s						
E28M	Babbage River	89.11	20	P	P	12 21 29.2	+0.3
	baz=251						
G29M	Pine Creek	89.12	22	P	P	12 21 29.6	+0.7
G29M				IAmb	IAmb	12 21 29.9	
	comp=Z,12nm,1.2s						
G29M	Pine Creek	89.12	22	P	P	12 21 28.7	-0.3
	baz=252						
V35K	Ketchikan	89.12	34	P	P	12 21 28.7	-0.4
	baz=258						
I30M	Mount Dempster	89.26	24	P	P	12 21 29.1	-0.7
	baz=254						
M31M	Drury Creek, Y	89.30	27	P	P	12 21 29.3	-0.6
	baz=256						
P33M	Teslin, Yukon	89.56	29	P	P	12 21 31.1	-0.2
	baz=257						
D28M	Stokes Point	89.62	20	P	P	12 21 30.5	-0.7
	baz=251						
N32M	Quiet Lake	89.65	28	P	P	12 21 31.0	-0.7
	baz=257						
FARO	Faro, Yukon	89.78	27	P	P	12 21 31.7	-0.5
	baz=256						
G30M	tAoh Zraii Nji	89.81	22	IAmb	IAmb	12 21 33.8	
	comp=Z,8.5nm,1.2s						
G30M	tAoh Zraii Nji	89.81	22	P	P	12 21 31.7	-0.6
	baz=254						
F30M	Barrier River	90.15	22	P	P	12 21 33.3	-0.5
	baz=254						
T35M	Bob Quinn	90.20	33	P	P	12 21 33.3	-1.0
	baz=259						
H31M	Peel River	90.23	24	P	P	12 21 33.3	-0.9
	baz=256						
BBB	Bella Bella	90.58	38	LR	LR	12 57 31.4	
	comp=Z,188nm,18.8s,baz=282,slow=32						
DLBC	Dease Lake	90.59	31	P	P	12 21 33.8	-2.3
	comp=Z,2.0nm,0.9s,baz=169,slow=5.2,SNR=2.6						
DLBC				LR	LR	13 04 53.6	
	comp=Z,159nm,18.2s,baz=284,slow=37						
	comp=Z,2.0nm,0.9s						
DLBC	Dease Lake	90.59	31	P	P	12 21 35.4	-0.7
	baz=259						
F31M	Tsiigehtchic	90.87	22	P	P	12 21 36.4	-0.6
	baz=256						
SYO	Syowa Base	91.05	200	⇑*e*P	P	12 21 38.6	+0.7
SYO	Syowa Base	91.05	200	⇑*e*pP	pP	12 21 50.1	-0.6
SYO	Syowa Base	91.05	200	⇓*e*PP	PP	12 25 16.8	+2.4
INK	Inuvik	91.16	21	P	P	12 21 37.8	-0.6
INK				IAmb	IAmb	12 21 39.5	
	comp=Z,6.3nm,1.1s						
INK	Inuvik	91.16	21	P	P	12 21 37.8	-0.6
	comp=Z,4.4nm,1.0s,baz=247,slow=4.7,SNR=10						
INK				LR	LR	12 58 37.7	
	comp=Z,85nm,21.8s,baz=241,slow=33						
	comp=Z,4.4nm,1.0s						
INK	Inuvik	91.16	21	P	P	12 21 37.8	-0.6
INK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
INK	Inuvik	91.16	21	P	P	12 21 38.0	-0.4
	baz=256						
WTLY	Watson Lake, Y	91.51	30	P	P	12 21 39.6	-0.7
	baz=260						
KMPM	Mount Pierce	91.71	50	P	P	12 21 40.8	-0.9
YBH	Yreka Blue Hor	92.91	49	LR	LR	12 56 09.2	
	comp=Z,296nm,21.9s,baz=267,slow=31						
TOAD	Toad River Com	93.13	31	P	P	12 21 47.1	-0.7
	baz=263						
WRGLY	Wrigley	94.44	27	P	P	12 21 53.0	-0.6
	baz=265						
ELIB	Princess Elisa	94.49	195	*d*P	P	12 21 53.8	-0.2
A36M	Sachs Harbour	94.57	18	P	P	12 21 53.8	-0.2
	baz=264						
AKTO	Aktyubinsk	95.25	320	LR	LR	13 04 48.7	
	comp=Z,171nm,21.5s,baz=35,slow=35						
ARTI	Arti	95.36	326	LR	LR	13 04 47.5	
	comp=Z,176nm,22.0s,baz=73,slow=35						
NVAR	Mina Array Bea	96.03	52	P	P	12 22 01.2	-0.7
	comp=Z,0.4nm,0.7s,baz=265,slow=4.3,SNR=3.1						
NVAR				LR	LR	12 57 36.2	
	comp=Z,164nm,21.5s,baz=276,slow=31						
	comp=Z,0.4nm,0.7s						
BELA	Belgrano 2	96.04	179	P	P	12 22 00.4	-0.4
NEW	Newport	97.26	42	LR	LR	13 00 46.5	
	comp=Z,135nm,19.7s,baz=267,slow=32

YKA LR LR 13 04 07.4
comp=Z,180nm,19.5s,baz=296,slow=34
comp=Z,0.6nm,1.0s
PDAR Pinedale Array 102.68 48 P **Pdif 12 22 30.7 -0.8**
comp=Z,0.3nm,0.7s,baz=267,slow=6.8,SNR=2.6
ARCES ARCESS Array B 107.00 342 PKKPbc PKKPbc 12 38 16.1 -3.4
comp=Z,2.3nm,1.0s,baz=264,slow=2.4,SNR=5.3
PLCA Paso Flores 120.95 146 PKP **PKPdf 12 27 26.4 -0.3**
comp=Z,4.5nm,0.9s,baz=265,slow=2.0,SNR=9.4
CLL Collm 122.08 329 *e*pPKPdf **pPKPdf 12 27 38.0 -4.4**
CLL AMS AMS 13 20 00.0
comp=Z,300nm,20.1s
Q54A Coxs Mills 124.64 46 PKPdf PKiKP 12 27 32.8 -0.9
BO02 Sierra Bellavi 124.71 140 PKPdf **PKiKP 12 27 34.4 0.0**
MT01 Popeta 124.99 139 PKPdf **PKPdf 12 27 34.7 +0.1**
LCO Las Campanas 128.31 135 PKPdf **PKPdf 12 27 40.5 -0.9**
LCO Las Campanas 128.31 135 PKIKP **PKPdf 12 27 40.5 -0.9**
PB01 IPOC Station P 133.65 127 PKPdf PKPdf 12 27 49.0 -2.5
PB11 IPOC Station P 134.17 125 PKPdf **PKPdf 12 27 51.8 -0.8**
PB08 IPOC Station P 134.39 126 PKPdf **PKPdf 12 27 53.0 -0.2**
CZSB Cruzeiro do Su 136.31 108 PKPdf **PKPdf 12 27 56.1 -0.4**
SMRC Santa Marta, M 137.16 80 PKPdf **PKPdf 12 27 58.3 +0.3**
CPUP Villa Florida 138.90 143 PKPdf **PKPdf 12 28 01.6 +0.7**
CPUP Villa Florida 138.90 143 PKP **PKPdf 12 27 59.9 -1.1**
comp=Z,6.6nm,0.9s,baz=236,slow=2.6,SNR=7.7
CPUP Villa Florida 138.90 143 PKIKP **PKPdf 12 28 01.6 +0.7**
SDV Santo Domingo 140.78 84 PKPdf **PKPdf 12 28 03.0 -1.9**
TORD Torodi Ar. Bea 146.92 285 PKPbc **PKPbc 12 28 17.9 +0.6**
comp=Z,3.1nm,0.4s,baz=86,slow=3.0,SNR=4.0
BDFB Brasilia 152.63 143 PKP **PKPdf 12 28 23.7 -0.8**
BDFB comp=Z,7.9nm,0.9s,baz=291,slow=1.4,SNR=7.5 PKPbc **PKPbc 12 28 31.2 -0.4**
comp=Z,12nm,0.5s,baz=200,slow=1.7,SNR=15
BDFB PKPab **PKPab 12 28 41.1 -1.0**
comp=Z,15nm,0.8s,baz=216,slow=4.0,SNR=3.0

IDC 15 12:22:33.4±999.0, 51°33N×46°45E, h0km, Error ellipse: s-maj=1135.0km s-min=154.3km az=90.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.39**	**93**	I	I	13 09 02.3	
	0.5nm,0.7s,baz=281,slow=312,SNR=2.9						
I46RU	**ZALESOVO INFRA**	**23.24**	**68**	I	I	14 45 10.0	
	baz=278,slow=313,SNR=1.3						
I34MN	**SONGINO INFRAS**	**38.11**	**71**	I	I	16 12 50.0	
	baz=298,slow=324,SNR=0.9						

MEX 15 12:25:51.4±1.1, 15°14N×94°27W, h23km±52km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.15**	**61**	*e*P	Pn	12 26 09.0	-3.1
PCIG				*e*S	Sb	12 26 22.8	-4.5
NILT	**Santiago Nilte**	**1.45**	**347**	*e*P	Pn	12 26 13.2	-3.2
NILT				*e*S	Sn	12 26 29.5	-5.2
HUIG	**Huatulco**	**1.88**	**290**	*e*P	Pn	12 26 20.3	-2.0
HUIG				*e*S	Sn	12 26 40.4	-4.9
PATR	**El Naranjo**	**1.96**	**90**	*e*P	Pn	12 26 21.4	-2.2
PATR				*e*S	Sn	12 26 43.4	-4.2
TGIG		**1.96**	**34**	*e*P	Pn	12 26 21.2	-2.2
TGIG				*e*S	Sn	12 26 44.3	-3.1
PAVE	**Pavencul**	**2.02**	**88**	*e*P	Pn	12 26 22.5	-1.8
PAVE				*e*S	Sn	12 26 45.3	-3.7
CMIG	**Matias Romero**	**2.03**	**343**	*e*P	Pn	12 26 21.8	-2.4
CMIG				*e*S	Sn	12 26 44.6	-4.3
UXUV	**UXUV**	**2.17**	**3**	*e*P	Pn	12 26 24.9	-1.2
UXUV				*e*S	Sn	12 26 48.8	-3.5
CCIG	**Comitan**	**2.34**	**61**	*e*P	Pn	12 26 29.4	+0.7
CCIG				*e*S	Sn	12 26 56.5	-0.4
PEIG	**Puerto Escondi**	**2.90**	**287**	*e*P	Pn	12 26 34.3	-2.0
PEIG				*e*S	Sn	12 27 04.2	-6.4
NEUV	**Arroyo Zacate**	**2.95**	**330**	*e*P	Pn	12 26 34.3	-2.6
NEUV				*e*S	Sn	12 27 09.3	-2.4
TXIG	**Tlaxiaco**	**3.96**	**302**	*e*P	Pn	12 26 50.4	-0.7
HLIG	**Huajuapan de L**	**4.32**	**309**	*e*P	Pn	12 26 55.9	0.0
FTIG	**Fresnillo de T**	**4.62**	**307**	*e*P	Pn	12 27 00.6	+0.6

NNC 15 12:26:15.9±2.9, 37°75N×71°94E, h220km±31km, mb2.4, mpv3.5, 3C-7D, Error ellipse: s-maj=27.5km s-min=18.9km az=22.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.26**	**21**	⇓P	Pn	12 27 34.0	-0.2
	5.5nm,0.5s						
AAK				⇓S	S	12 28 36.5	+0.4
	2.9nm,0.5s						
KK31	**Karatay Array**	**5.46**	**349**	⇓P	Pn	12 27 37.3	+0.8
	0.5nm,0.2s,baz=155,slow=11,SNR=22						
KK31				⇓S	S	12 28 40.9	+0.5
	8.5nm,0.3s,baz=163,slow=18,SNR=30						
TKM2	**Tokmak 2**	**5.87**	**27**	⇓P	Pn	12 27 40.7	-1.2
	5.0nm,0.5s						
TKM2				⇑S	S	12 28 51.6	+1.4
	1.4nm,0.4s						
AB31	**Akbulak array**	**14.40**	**327**	⇓P	P	12 29 30.3	-0.4
	0.4nm,0.5s,baz=129,slow=12,SNR=13						
AB31				⇓S	S	12 32 07.4	-1.7
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**16.11**	**326**	⇑P	Pn	12 29 50.7	+0.2
	0.8nm,0.5s						
AKTO				⇑S	S	12 32 48.8	+1.4
	0.3nm,0.6s						

DJA 15 12:26:46.5±3.1, 9°S±3°×11°9E±°, h26km±34km, M3.9/11, mb4.7/1, MLv3.6/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.01**	**258**	P	Pb	12 27 05.4	0.0
WBSI	**Waikabubak, Su**	**1.18**	**149**	P	Pn	12 27 06.9	-0.5
WBSI				S	Sb	12 27 23.4	+0.2
TWSI	**Taliwang, Sumb**	**1.88**	**266**	P	Pn	12 27 16.1	-0.9
TWSI				S	Sn	12 27 39.7	-0.2
BASI	**Baing, Sumba**	**2.38**	**132**	P	Pn	12 27 23.6	-0.3
BSSI	**Bau Bau, Buton**	**2.99**	**35**	P	Pn	12 27 32.2	-0.1
MMRI	**Maumere**	**3.42**	**91**	P	Pn	12 27 37.8	-0.4
DNP	**Denpasar**	**3.53**	**269**	P	Pn	12 27 40.2	+0.5
BKSI	**Bulukumba**	**3.54**	**22**	P	Pn	12 27 40.4	+0.6
SRBI	**Singaraja**	**3.57**	**278**	P	Pn	12 27 39.3	-0.9
JAGI	**Jajag, Banyuwa**	**4.58**	**272**	P	Pn	12 27 54.1	0.0

SKHL ***15*** *12:27:27.8±0.6, 48°90N×155°50E, h33km±5km, mb4.4/4*
KRSC ***15*** *12:27:28.7±2.2, 48°95N×156°82E, h16km±22km, Ml4.0*
ISC 15 12:27:26.9±1.6, 48°7N±0°1×155°8E±0°2, h35km, n26, σ1°95/36, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.01**	**5**	*e*P	**Pn**	**12 27 58.4**	**+0.1**
SKR				*e*S	**Sn**	**12 28 20.2**	**-1.9**
SKR	**Severo-Kuril's**	**2.01**	**5**	*e*P	**Pn**	**12 27 57.4**	**-0.9**
SKR				AMB	AMB	12 27 59.3	
	120nm,0.4s						
SKR				*e*S	**Sn**	**12 28 20.1**	**-2.0**
SKR				A	A	12 28 21.6	
	290nm,0.4s						
SKR				A	A	12 28 21.6	
	390nm,0.4s						
PAU	**Pauzhetka**	**2.86**	**12**	*e*P	**Pn**	**12 28 10.0**	**0.0**
PAU				*e*S	**Sn**	**12 28 41.1**	**-1.9**
PAU	**Pauzhetka**	**2.86**	**12**	*e*P	**Pn**	**12 28 10.1**	**+0.2**
PAU				*e*S	**Sn**	**12 28 41.4**	**-1.7**
KDTR	**Khodutka, Kamc**	**3.44**	**24**	*e*P	**Pn**	**12 28 17.8**	**-0.2**
KDTR				*e*S	**Sn**	**12 28 54.8**	**-2.7**
RUS	**Russkaya**	**4.12**	**24**	*e*P	**Pn**	**12 28 28.4**	**+1.1**
RUS				*e*S	**Sn**	**12 29 12.0**	**-2.3**
GRL	**Gorelyy**	**4.13**	**19**	*e*P	**Pn**	**12 28 28.6**	**+1.1**
APC	**Apacha**	**4.33**	**11**	*e*P	**Pn**	**12 28 33.1**	**+2.9**
KRMR	**Karymshinskiy**	**4.40**	**19**	*e*P	**Pn**	**12 28 33.6**	**+2.4**
PET	**Petropavlovsk**	**4.70**	**21**	*e*P	**Pn**	**12 28 36.9**	**+1.6**
PET				*e*S	**Sn**	**12 29 27.5**	**-0.9**
PET	**Petropavlovsk**	**4.70**	**21**	*e*P	**Pn**	**12 28 37.5**	**+2.3**
PET				AMB	AMB	12 28 39.5	
	40nm,0.5s						
PET				*e*S	**Sn**	**12 29 29.6**	**+1.2**
PET				A	A	12 29 40.1	
	40nm,0.5s						
PET				A	A	12 29 40.1	
	60nm,0.5s						
DALK	**Dalny**	**4.73**	**22**	*e*P	**Pn**	**12 28 37.3**	**+1.6**
UGLR	**Uglovaya**	**4.91**	**22**	*e*P	**Pn**	**12 28 40.6**	**+2.4**
AVH	**Avacha**	**4.94**	**21**	*e*P	**Pn**	**12 28 41.6**	**+2.9**
KOK	**Koryaka**	**4.94**	**20**	*e*P	**Pn**	**12 28 41.6**	**+2.9**
SDLR	**Sedlovina**	**4.99**	**22**	*e*P	**Pn**	**12 28 41.0**	**+1.7**
KRX	**Arik**	**5.01**	**20**	*e*P	**Pn**	**12 28 42.1**	**+2.5**
SPN	**Mys Shipunski**	**5.15**	**29**	*e*P	**Pn**	**12 28 42.4**	**+0.9**
GNL	**Ganaly**	**5.19**	**14**	*e*P	**Pn**	**12 28 44.6**	**+2.5**
KUR	**Kuril'sk**	**6.45**	**241**	*e*P	**Pn**	**12 29 01.0**	**+1.7**
KUR				AMB	AMB	12 29 03.3	
	20nm,0.6s						
KUR				*e*S	**Sn**	**12 30 08.8**	**-2.8**
KUR				A	A	12 30 21.6	
	30nm,0.4s						
KUR				A	A	12 30 21.6	
	20nm,0.4s						
MKZ	**Mys Kozlova**	**6.93**	**30**	*e*P	**Pn**	**12 29 05.6**	**-0.3**
TUMD	**Tumrok D**	**7.11**	**22**	*e*P	**Pn**	**12 29 10.5**	**+2.1**
KMNR	**Kamenistaya**	**7.58**	**19**	*e*P	**Pn**	**12 29 16.7**	**+1.8**
SHO	**Shikotan**	**7.87**	**236**	*e*P	**Pn**	**12 29 18.9**	**+0.1**
KBTR	**Krutoberegovo**	**8.66**	**27**	*e*P	**Pn**	**12 29 29.7**	**+0.1**
NMR	**Nemuro--Hokkai**	**8.81**	**237**	*e*P	**Pn**	**12 29 33.5**	**+1.9**
NMR				*e*S	**Sn**	**12 31 06.9**	**-2.7**

DJA ***15*** *12:31:27.3±1.0, 3°S±9°×14°0E±°, h55km±12km, M3.8/7, MLv3.8/7*
IDC ***15*** *12:31:29.1±1.5, 2°63S×140°25E, h0km, mb3.3/2, mbtmp3.4/3, ML3.6/1, MS3.2/1, Error ellipse: s-maj=20.7km s-min=10.0km az=159.0*
ISC 15 12:31:26.6±1.8, 2°6S±0°1×140°4E±0°1, h71km±17km, n12, σ0°94/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.19**	**275**	P	**Pn**	**12 31 37.5**	**+0.2**
JAY	**Jayapura**	**0.36**	**75**	Pg	**Pn**	**12 31 38.5**	**+0.1**
	157nm,0.3s,baz=259,slow=13,SNR=1506						
JAY				Lg	Lg	12 31 44.1	
	1μm,0.3s,baz=65,slow=15,SNR=94						
JAY				LR	LR	12 31 58.2	
	comp=Z,223nm,18.7s,baz=356,slow=62						
JAY	**Jayapura**	**0.36**	**75**	P	**Pn**	**12 31 38.7**	**+0.3**
SMPI	**Sarmi**	**1.76**	**290**	P	**Pn**	**12 31 55.7**	**+0.6**
WAMI	**Wamena**	**2.08**	**232**	P	**Pn**	**12 32 00.1**	**+0.8**
SRPI	**Serui, Papua**	**4.18**	**280**	P	**Pn**	**12 32 28.5**	**+0.5**
BAKI	**Biak**	**4.48**	**288**	P	**Pn**	**12 32 32.1**	**0.0**
RKPI	**Ransiki, Papua**	**6.28**	**280**	P	**Pn**	**12 32 55.9**	**-0.7**
PMG	**Port Moresby**	**9.55**	**135**	LR	LR	12 38 17.6	
	comp=Z,126nm,19.3s,baz=290,slow=42						
WRA	**Warramunga Arr**	**18.20**	**198**	P	Pn	12 35 42.8	+8.2
	0.2nm,0.3s,baz=20,slow=12,SNR=15						
WRA				S	**Sn**	**12 38 55.8**	**-1.6**
	0.2nm,0.5s,baz=18,slow=25,SNR=1.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**21.84**	**196**	P	P	12 36 22.3	+8.9
	0.5nm,0.5s,baz=27,slow=10,SNR=14						
ASAR				S	**S**	**12 40 12.0**	**+0.9**
	0.2nm,0.6s,baz=13,slow=24,SNR=1.8						
	0.5nm,0.5s						
SONM	**Songino Array**	**58.35**	**334**	P	P	12 41 25.8	+11
	0.3nm,0.5s,baz=136,slow=8.0,SNR=2.7						
	0.3nm,0.5s						

NEIC ***15*** *12:33:57.1±0.6, 39°04N±0°02×110°96W±0°03, h10km±2km, Error ellipse: s-maj=4.1km s-min=3.1km az=319.0*
UUSS 15 12:33:57.0±0.8, 39°05N±0°02×110°96W±0°03, h17km±7km, ML2.7/11, ML2.8/82(NEIC), Error ellipse: s-maj=3.5km s-min=2.0km az=132.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q16A	**Castle Valley**	**0.21**	**232**		Pg	12 34 01.9	-0.3
Q16A					Sg	12 34 05.3	-0.4
DBD	**Des Bee Dove**	**0.28**	**339**		Pg	12 34 03.2	-0.2
TMUT	**Trail Mountain**	**0.31**	**322**		Pg	12 34 03.8	-0.2
TMUT					Sg	12 34 08.7	0.0
TMUT				IAML		12 34 08.9	
	comp=E,3μm,0.5s						
TMUT				IAML		12 34 09.7	
	comp=N,3μm,0.6s						
SRU	**San Rafael Swe**	**0.34**	**79**		Pg	12 34 03.9	-0.5
SRU				IAML		12 34 09.0	
	comp=N,2μm,0.4s						
OWUT	**Old Woman Plat**	**0.45**	**234**		Pg	12 34 06.3	+0.1
SNO	**Snow College**	**0.52**	**301**		Pg	12 34 07.6	0.0
SGU	**Sterling**	**0.55**	**284**		Pg	12 34 08.0	-0.1
ELU	**Electric Lake**	**0.62**	**342**		Pg	12 34 09.5	0.0
BCE	**Book Cliffs Ea**	**0.71**	**37**		Pg	12 34 10.7	-0.3
DCM	**Dugout Coal Mi**	**0.71**	**24**		Pg	12 34 10.6	-0.4
ROA	**Roan Cliffs**	**0.77**	**37**		Pg	12 34 11.9	-0.2
EMUT	**Emma Park**	**0.77**	**8**		Pb	12 34 11.9	-0.3
P18A	**Preston Nutter**	**0.80**	**44**		Pb	12 34 12.5	-0.2
P18A				IAML		12 34 23.6	
	comp=E,862nm,0.4s						
P18A				IAML		12 34 23.6	
	comp=N,425nm,0.4s						
LEVU	**Levan**	**0.81**	**305**		Pb	12 34 12.2	-0.6
ARGU	**Argyle Ridge**	**0.84**	**22**		Pb	12 34 13.2	-0.2
WCU	**Willow Creek**	**0.89**	**265**		Pb	12 34 13.9	-0.2
FLU	**Fool Peak**	**1.00**	**290**		Pb	12 34 15.7	-0.2
MSU	**Marysvale**	**1.09**	**241**		Pb	12 34 17.5	-0.1
MPU	**Maple Canyon**	**1.10**	**332**		Pb	12 34 17.4	-0.3
TCRU	**Three Creeks R**	**1.24**	**250**		Pb	12 34 20.2	0.0
TCRU				IAML		12 34 42.5	
	comp=N,127nm,0.8s						
TCRU				IAML		12 34 47.9	
	comp=E,127nm,0.8s						
MTPU	**Mount Pierson**	**1.39**	**224**		Pb	12 34 23.2	+0.4
MTPU				IAML		12 34 42.7	
	comp=E,122nm,0.6s						
MTPU				IAML		12 34 45.4	
	comp=N,102nm,0.9s						
BSUT	**Blindstream Ca**	**1.49**	**6**		Pb	12 34 25.1	+0.5
R19A	**Curley Farm, L**	**1.53**	**119**		Pb	12 34 25.0	-0.1
PV21	**Cone Mtn., Par**	**1.62**	**107**		Pb	12 34 26.7	-0.1
PV21				IAML		12 34 50.2	
	comp=E,227nm,0.3s						
PV23	**Carpenter Ridg**	**1.64**	**111**		Pb	12 34 27.1	+0.2
PV10	**Paradox Valley**	**1.65**	**113**		Pb	12 34 27.7	+0.6
PV11	**David Mesa, Pa**	**1.80**	**114**		Pb	12 34 29.7	+0.1
DUG	**Dugway, Tooele**	**1.83**	**309**		Pb	12 34 30.6	+0.3
PV13	**Radium Mtn., P**	**1.90**	**117**		Pb	12 34 30.8	-0.5
PV07	**Paradox Valley**	**1.91**	**108**		Pb	12 34 31.6	0.0
PV07				IAML		12 34 57.4	
	comp=E,104nm,0.6s						
PV07				IAML		12 34 57.6	
	comp=N,133nm,1.1s						
PKCU	**Pink Cliffs**	**1.92**	**214**		Pb	12 34 32.3	+0.4
PKCU				IAML		12 35 00.3	
	comp=N,81nm,0.4s						
PKCU				IAML		12 35 02.2	
	comp=E,142nm,0.3s						
PV15	**Paradox Valley**	**2.06**	**109**		Pb	12 34 33.6	-0.6
PV15				IAML		12 35 05.3	
	comp=N,140nm,0.5s						
PV15				IAML		12 35 09.4	
	comp=E,153nm,0.8s						
TCUT	**Toone Canyon**	**2.10**	**351**	Pn	Pb	12 34 34.3	-0.4
TCUT				IAML		12 35 10.7	
	comp=E,57nm,0.7s						
TCUT				IAML		12 35 19.7	
	comp=N,65nm,0.6s						
PSUT	**Pine Spring**	**2.32**	**258**		Pb	12 34 37.4	-1.1
O20A	**White River Ci**	**2.36**	**62**	Pn	Pb	12 34 38.4	-0.9
BGU	**Big Grassy Mou**	**2.46**	**320**		Pn	12 34 37.8	+1.3
HWUT	**Hardware Ranch**	**2.60**	**350**	Pn	Pn	12 34 40.6	+2.2
SPR3	**Spring Creek 3**	**2.63**	**270**	Pn	Pb	12 34 41.7	-2.1
MVCO	**Mesa Verde**	**2.67**	**133**		Pn	12 34 41.9	+2.4
HVU	**Hansel Valley**	**3.06**	**334**		Pn	12 34 46.0	+1.2
WUAZ	**Wupatki**	**3.54**	**185**		Pn	12 34 55.0	+3.6
R11B	**Troy Canyon, C**	**3.69**	**261**	Pn	Pn	12 34 56.5	+3.1
PD31	**Pinedale Array**	**3.86**	**16**	Pn	Pn	12 34 57.8	+1.9
S11A	**Rachel**	**4.02**	**251**	Pn	Pn	12 35 01.3	+3.4
S11A				IAML		12 35 58.2	
	comp=E,18nm,4.8s						
S11A				IAML		12 36 08.5	
	comp=N,19nm,0.7s						
SHPR	**Sheep Range**	**4.18**	**234**	Pn	Pn	12 35 03.0	+2.8
ISCO	**Idaho Springs**	**4.21**	**78**	Pn	Pn	12 35 02.6	+1.9
ISCO				IAML		12 36 15.2	
	comp=N,4.7nm,0.7s						
ISCO				IAML		12 37 34.3	
	comp=N,21nm,2.9s						
Q24A	**Divide**	**4.53**	**89**	Pn	Pn	12 35 04.3	-0.8
Q24A				IAML		12 36 15.2	
	comp=E,6.7nm,4.1s						
Q24A				IAML		12 36 21.3	
	comp=N,6.3nm,0.7s						
LOHW	**Long Hollow**	**4.57**	**3**	Pn	Pn	12 35 08.0	+2.5
LOHW				IAML		12 36 29.5	
	comp=N,6.6nm,1.5s						
LOHW				IAML		12 36 50.0	
	comp=N,4.9nm,4.6s						
X16A	**Lo Mia Camp, P**	**4.64**	**185**	Pn	Pn	12 35 05.4	-1.1
X16A				IAML		12 36 22.3	
	comp=N,11nm,0.8s						
X16A				IAML		12 36 24.5	
	comp=E,14nm,1.4s						
TPNV	**Topopah Spring**	**4.67**	**245**	Pn	Pn	12 35 10.7	+3.8
TPNV				IAML		12 36 27.7	
	comp=E,6.4nm,3.0s						
TPNV				IAML		12 36 34.4	
	comp=E,10nm,5.0s						

IDC ***15*** *12:55:17.5±13.0, 36°32N×71°04E, h154km±104km, mb2.9/5, mbtmp3.3/8, Error ellipse: s-maj=101.4km s-min=29.5km az=52.0*
NNC ***15*** *12:55:21.6±3.6, 36°93N×70°65E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=28.9km s-min=26.6km az=141.0*
ISC 15 12:55:21.6±1.3, 36°6N±0°1×70°9E±0°2, h188km, n17, σ1°40/20, mb3.0/4, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.97**	**21**	P	**Pn**	**12 56 49.7**	**+1.0**
	SNR=198						
EKS2	**Erkin-Say**	**6.49**	**19**	P	**Pn**	**12 56 56.2**	**+1.1**
	SNR=23						
KK31	**Karatay Array**	**6.54**	**358**	⇑P	**Pn**	**12 56 54.0**	**-1.6**
	2.0nm,0.3s,baz=182,slow=14,SNR=34						
KK31				⇑S	**Sn**	**12 58 06.7**	**-3.3**
	2.9nm,0.4s,baz=190,slow=26,SNR=4.6						
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**12 56 58.9**	**+1.2**
	SNR=9.0						
AAK	**Ala-Archa**	**6.68**	**24**	⇓P	**Pn**	**12 56 58.4**	**+0.7**
	2.4nm,0.4s						
AAK				⇓S	**Sn**	**12 58 12.3**	**-1.3**
	6.2nm,0.5s						
KBK	**Karagaybulak**	**6.85**	**26**	P	**Pn**	**12 57 01.4**	**+1.5**
	SNR=5.5						
USP	**Ospenovka**	**7.25**	**22**	P	**Pn**	**12 57 05.8**	**+0.7**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.32**	**28**	P	**Pn**	**12 57 06.8**	**+0.8**
	SNR=18						
TKM2	**Tokmak 2**	**7.32**	**28**	⇑P	**Pn**	**12 57 06.1**	**0.0**
	9.6nm,0.5s						
TKM2				⇓S	**Sn**	**12 58 29.6**	**+0.9**
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**12 58 21.7**	**-1.5**
	0.2nm,0.5s,baz=222,slow=13,SNR=3.2						
KURBB	**Kurchatov Arra**	**15.10**	**19**	P	**Pn**	**12 58 44.7**	**-0.6**
	0.1nm,0.3s,baz=207,slow=10,SNR=2.3						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**12 59 02.1**	**+0.3**
	0.9nm,0.6s,baz=169,slow=9.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**12 59 38.8**	**+0.3**
	0.6nm,0.6s,baz=223,slow=12,SNR=3.8						
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**13 02 47.5**	**+1.4**
	0.8nm,0.6s,baz=119,slow=8.0,SNR=1.6						
	0.8nm,0.6s						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**13 07 16.8**	**+0.9**
	0.1nm,0.5s,baz=351,slow=5.3,SNR=6.0						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**82.11**	**122**	P	**P**	**13 07 20.1**	**-1.3**
	0.1nm,0.5s,baz=321,slow=5.4,SNR=4.6						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**84.38**	**125**	P	**P**	**13 07 31.2**	**-1.7**
	0.2nm,0.6s,baz=304,slow=4.4,SNR=4.7						
	0.2nm,0.6s						

WEL 15 13:05:07.0±0.7, 31°S±5°×17°9E±°, h33km, M4.1/13, mB4.7/12, ML4.5/19, MLv4.6/13, Mw(mB)3.9/12, Error ellipse: s-maj=13.1km s-min=3.5km az=116.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.61**	**53**	S	Sn	13 06 44.6	+2.6
RIZ	**Raoul Island**	**3.61**	**53**	S	Sn	13 06 44.2	+2.1
MXZ	**Matakaoa Point**	**6.08**	**184**	P	Pn	13 06 34.7	+0.2
MXZ				S	Sn	13 07 45.7	+2.9
HAZ	**Te Kaha**	**6.31**	**187**	P	Pn	13 06 37.6	-0.1
HAZ				S	Sn	13 07 53.9	+5.3
WMGZ	**Waiomatatini S**	**6.33**	**183**	P	Pn	13 06 37.5	-0.4
WMGZ				S	Sn	13 07 50.8	+1.7
RUGZ	**Raukumara Rang**	**6.53**	**188**	P	Pn	13 06 40.7	-0.1
RUGZ				S	Sn	13 07 57.7	+3.5
PUZ	**Puketiti**	**6.59**	**184**	P	Pn	13 06 40.0	-1.5
PUZ				S	Sn	13 07 55.8	+0.4
OPRZ	**Ohinepanea**	**6.61**	**196**	P	Pn	13 06 45.4	+3.7
TWGZ	**Tauwhareparae**	**6.71**	**185**	P	Pn	13 06 42.0	-1.3
TWGZ				S	Sn	13 08 01.6	+3.0
TOZ	**Tahuroa Road**	**6.79**	**203**	P	Pn	13 06 50.0	+5.7
URZ	**Urewera**	**6.90**	**191**	P	Pn	13 06 43.5	-2.2
URZ				S	Sn	13 08 05.8	+2.8
MWZ	**Matawai**	**6.91**	**188**	P	Pn	13 06 44.9	-1.1
MWZ				S	Sn	13 08 06.3	+2.8
TKGZ	**Te Karaka**	**6.98**	**186**	P	Pn	13 06 45.7	-1.2
TKGZ				S	Sn	13 08 06.5	+1.4
RAGZ	**Rawiri**	**7.09**	**189**	P	Pn	13 06 48.4	0.0
RAGZ				S	Sn	13 08 10.1	+2.3
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	Mangatainoka R	9.52	195	P	Pn	13 07 13.1	-8.5
HOWZ	Holdsworth Sta	9.76	195	P	Pn	13 07 16.7	-8.3
CAW	Cannon Point	10.06	196	P	Pn	13 07 20.2	-8.9

BJI ***15*** *13:38:19.1,37.°45N×71.°63E,h190km,mb4.1/10*
MOS ***15*** *13:38:21.9±0.9,37.°31N×72.°06E,h205km,mb4.2/6,Error ellipse: s-maj=10.4km s-min=4.7km az=87.9*
IDC ***15*** *13:38:21.6±2.0,37.°23N×72.°16E,h201km±18km,mb3.3/17, mbtmp4.0/23,Error ellipse: s-maj=14.2km s-min=11.6km az=15.0*
NEIC ***15*** *13:38:22.7±1.2,37.°31N±0.°06×71.°90E±0.°10,h202km±4km, mb4.2/20,Error ellipse: s-maj=11.5km s-min=9.3km az=97.0*
NNC ***15*** *13:38:27.1±2.4,37.°74N×71.°76E,h210km±30km,mb3.4, mpv4.3,Error ellipse: s-maj=22.9km s-min=16.2km az=23.0*
ISC 15 13:38:21.8±0.4,**37.°26N**±0.°04×**72.°00E**±0.°05,**h200**km,**n147,** σ1§**72**/164,**mb3.8**/30,**13C-7D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.19	323	Pn	Pn	13 39 02.5	+0.1
DRK	Karamyk	2.22	356	Pn	Pn	13 39 03.7	+0.8
DRK	Karamyk	2.22	356	PN	Pn	13 39 03.7	+0.8
SIMJ	Simiganj	2.75	301	Pn	Pn	13 39 08.2	-0.4
BTK	Batken	2.94	342	Pn	Pn	13 39 12.0	+1.2
BTK	Batken	2.94	342	PN	Pn	13 39 12.0	+1.2
KBL	Kabul	3.62	222	Pn	Pn	13 39 19.8	+0.6
KBL	Kabul	3.62	222	PN	Pn	13 39 19.8	+0.6
NIL	Nilore	3.75	164	Pn	Pn	13 39 22.5	+2.0
NIL	Nilore	3.75	164	PN	Pn	13 39 22.5	+2.0
KSH	Kashi	3.85	53	P	Pn	13 39 18.5	-3.3
KSH				S	Sn	13 39 57.8	-11
KSH				smax	smax		
	comp=N,920nm,0.5s						
KSH				smax	smax		
	comp=E,730nm,0.6s						
SRNI	Srinagar	3.91	143	eP	Pn	13 39 23.9	+1.3
SRNI				eS	Sn	13 40 11.1	+1.0
SRNI				IAML		13 40 15.1	
	comp=E,758nm,0.2s						
SRNI				IAML		13 40 17.1	
	comp=N,516nm,0.2s						
ARSB	Arslanbob	4.13	10	Pn	Pn	13 39 25.6	+0.3
ARSB	Arslanbob	4.13	10	PN	Pn	13 39 25.6	+0.3
AML	Almayashu	5.04	14	P	Pn	13 39 37.4	+0.4
	SNR=483						
IUG	Iuzhnay	5.11	343	ePN	Pn	13 39 38.1	+0.4
UCH	Uchtor	5.32	21	P	Pn	13 39 41.0	+0.2
	SNR=20						
EKS2	Erkin-Say	5.56	14	P	Pn	13 39 44.1	+0.6
	SNR=40						
AAK	Ala-Archa	5.70	19	Pn	Pn	13 39 46.1	+0.8
AAK	Ala-Archa	5.70	19	P	Pn	13 39 45.5	+0.2
	comp=N,27nm,0.3s,baz=183,slow=6.3,SNR=131						
AAK				S	Sn	13 40 49.7	-1.6
	comp=N,130nm,0.7s,baz=162,slow=20,SNR=27						
AAK	Ala-Archa	5.70	19	P	Pn	13 39 46.1	+0.8
	SNR=51						
AAK	Ala-Archa	5.70	19	⇑P	Pn	13 39 46.0	+0.7
	comp=N,24nm,0.5s						
AAK				⇓S	Sn	13 40 49.5	-1.8
	comp=N,235nm,0.7s						
AAK	Ala-Archa	5.70	19	PN	Pn	13 39 46.1	+0.8
THN	Thein Dam	5.70	147	eP	Pn	13 39 46.4	+1.1
THN				eS	Sn	13 40 49.1	-2.1
THN				IAML		13 40 51.9	
	comp=E,449nm,0.6s						
THN				IAML		13 40 52.2	
	comp=N,551nm,0.5s						
KBK	Karagaybulak	5.84	22	P	Pn	13 39 48.5	+1.4
	SNR=26						
FRU1	Bishkek	5.90	19		Pn	13 39 49.2	+1.5
FRU1	Bishkek	5.90	19	PN	Pn	13 39 49.2	+1.5
KK31	Karatay Array	5.95	349	Pn	Pn	13 39 48.2	-0.1
KK31	Karatay Array	5.95	349	⇓P	Pn	13 39 48.1	-0.2
	comp=N,14nm,0.3s,baz=165,slow=11,SNR=147						
KK31				⇓S	Sn	13 40 51.4	-5.4
	comp=N,55nm,0.3s,baz=170,slow=18,SNR=20						
KK31	Karatay Array	5.95	349	PN	Pn	13 39 48.2	-0.1
KKAR	Karatay Array	5.95	349	Pn	Pn	13 39 48.2	-0.1
KKAR	Karatay Array	5.95	349	PN	Pn	13 39 48.2	-0.1
ULHL	Ulahol	5.95	32	P	Pn	13 39 48.8	+0.2
	SNR=17						
BRLS	Borolday	6.00	345	ePN	Pn	13 39 45.7	-3.3
BOOM	Boomskoye usch	6.04	29	Pn	Pn	13 39 50.2	+0.5
BOOM	Boomskoye usch	6.04	29	PN	Pn	13 39 50.2	+0.5
CHMS	Chumysh	6.11	19	P	Pn	13 39 50.9	+0.5
	SNR=21						
CHMS	Chumysh	6.11	19	⇑P	Pn	13 39 50.7	+0.3
	comp=N,16nm,0.6s						
CHMS				⇑S	Sn	13 40 58.0	-2.6
	comp=N,96nm,0.8s						
CHMS	Chumysh	6.11	19	PN	Pn	13 39 50.7	+0.3
CHMS				S	Sn	13 40 57.9	-2.6
DHRM	DHARAMSHALA	6.12	143	eP	Pn	13 39 51.5	+0.6
DHRM				eS	Sn	13 40 58.0	-3.4
DHRM				IAML		13 41 03.8	
	comp=E,492nm,0.4s						
DHRM				IAML		13 41 04.3	
	comp=N,493nm,0.5s						
TKM2	Tokmak 2	6.29	25	P	Pn	13 39 53.5	+0.5
	SNR=32						
TKM2	Tokmak 2	6.29	25	⇑P	Pn	13 39 53.0	+0.1
	comp=N,20nm,0.6s						
TKM2				⇑S	Sn	13 41 03.3	-1.8
	comp=N,70nm,1.1s						
TKM2	Tokmak 2	6.29	25	PN	Pn	13 39 53.1	+0.2
KDJ	Kajisay	6.29	38	Pn	Pn	13 39 53.8	+0.8
KDJ	Kajisay	6.29	38	PN	Pn	13 39 53.8	+0.8
USP	Ospenovka	6.29	17	P	Pn	13 39 52.6	-0.2
	SNR=12						
TARG	Taragay, Kyrgy	6.33	43		Pn	13 39 54.0	+0.4
TARG	Taragay, Kyrgy	6.33	43	PN	Pn	13 39 54.0	+0.4
WUS	Wushi	6.84	53	Pn	Pn	13 40 00.8	+0.8
BHK	Bhakra	6.88	147	eP	Pn	13 40 00.3	-0.2
BHK				eS	Sn	13 41 15.7	-3.1
BHK				IAML		13 41 19.2	
	comp=N,224nm,0.5s						
BHK				IAML		13 41 19.3	
	comp=E,311nm,0.7s						
SMLA	Simla	7.46	144	eP	Pn	13 40 08.2	+0.2
SMLA				eS	Sn	13 41 27.5	-5.1
SMLA				IAML		13 41 33.5	
	comp=N,289nm,0.3s						
SMLA				IAML		13 41 33.6	
	comp=E,317nm,0.5s						
SHLS	Shalkode	8.20	42	ePN	Pn	13 40 24.1	+6.4
ARXS	Arharly	8.23	31	ePN	Pn	13 40 18.1	+0.1
HRA	Herat	8.43	253	Pn	Pn	13 40 20.9	+0.1
JOSI	Joshimath	9.17	135	eP	Pn	13 40 30.4	-0.1
JOSI				eS	Sn	13 42 05.8	-7.7
JOSI				IAML		13 42 14.6	
	comp=N,127nm,0.6s						
JOSI				IAML		13 42 16.8	
	comp=E,103nm,0.6s						
BKNR	BIKANER	9.28	173	eS	Sn	13 42 08.0	-7.7
NDI	New Delhi	9.61	151	eP	Pn	13 40 34.7	-1.4
NDI				IAML		13 42 21.3	
	comp=E,43nm,0.7s						
NDI				ex	x	13 42 26.6	
NDI				IAML		13 42 31.3	
	comp=E,42nm,0.7s						
AYAN	Aya Nagar	9.76	152	eP	Pn	13 40 36.0	-1.9
AYAN				eS	Sn	13 42 15.3	-12
KUDL	Kundal	9.84	156	eP	Pn	13 40 37.5	-1.6
KUDL				eS	Sn	13 42 18.9	-10
KUDL				IAML		13 42 22.2	
	comp=E,56nm,0.7s						
KUDL				IAML		13 42 34.3	
	comp=E,29nm,0.5s						
SONA	Sohna	9.95	153	eP	Pn	13 40 39.0	-1.4
SONA				eS	Sn	13 42 22.3	-9.4
SONA				IAML		13 42 26.8	
	comp=N,56nm,0.4s						
SONA				IAML		13 42 27.1	
	comp=E,108nm,0.4s						
PTH	Pithoragarh	10.30	136	eP	Pn	13 40 42.6	-2.6
PTH				eS	Sn	13 42 34.1	-6.3
PTH				IAML		13 42 36.7	
	comp=N,19nm,0.3s						
LGTI	Lohaghat	10.40	136	eP	Pn	13 40 44.3	-1.9
LGTI				eS	Sn	13 42 33.7	-8.6
LGTI				IAML		13 42 39.2	
	comp=N,30nm,0.3s						
LGTI				IAML		13 42 39.8	
	comp=E,26nm,0.1s						
AJM	Ajmer	10.98	167	eP	Pn	13 40 52.9	-0.9
MAKZ	Makanchi	12.07	35	Pn	Pn	13 41 07.1	-0.4
MAKZ	Makanchi	12.07	35	P	Pn	13 41 07.1	-0.4
MK31	Makanchi Array	12.21	35	Pn	Pn	13 41 09.9	+0.8
MK31	Makanchi Array	12.21	35	deP	Pn	13 41 08.7	-0.5
MKAR	Makanchi Array	12.21	35	Pn	Pn	13 41 09.9	+0.7
MKAR	Makanchi Array	12.21	35	P	Pn	13 41 07.2	-2.0
	comp=E,2.1nm,0.9s,baz=204,slow=11,SNR=21						
MKAR	Makanchi Array	12.21	35	eP	Pn	13 41 11.9	+2.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JHNI	Jhansi	13.01	153	eP	Pn	13 41 18.5	-1.0
JHNI				eS	S	13 43 35.2	-9.5
WMQ	Urumqi	13.61	56	eP	P	13 41 31.3	+2.1
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
KURBB	Kurchatov Arra	14.15	17	P	Pn	13 41 31.8	-1.6
	comp=Z,1.6nm,0.4s,baz=205,slow=10,SNR=11						
KURK	Kurchatov	14.26	17		Pn	13 41 35.3	+0.6
KURK	Kurchatov	14.26	17	c iP	P	13 41 37.3	+1.0
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BHPL	Bhopal	14.73	160	eP	Pn	13 41 43.0	+2.2
BHPL				eS	S	13 44 13.6	-11
AB31	Akbulak array	14.84	328	Pn	Pn	13 41 40.6	-1.3
AB31	Akbulak array	14.84	328	⇑P	Pn	13 41 40.9	-0.9
	comp=Z,7.6nm,0.5s,baz=268,slow=31,SNR=185						
AB31				S	S	13 44 16.1	-10
	comp=Z,6.5nm,0.6s,baz=156,slow=22,SNR=6.8						
AB31	Akbulak array	14.84	328	P	Pn	13 41 40.6	-1.3
ABKAR	Akbulak array	14.84	328	Pn	Pn	13 41 40.6	-1.3
BVA0	Borovoye Array	15.80	356	i P	Pn	13 41 54.2	+0.6
BVAR	Borovoye Array	15.80	356	P	P	13 41 53.2	-0.2
	comp=Z,7.0nm,0.5s,baz=163,slow=10,SNR=31						
BVAR				S	S	13 44 41.2	-7.4
	comp=Z,2.9nm,0.7s,baz=167,slow=27,SNR=6.2						
BRVK	Borovoye	15.84	356		S	13 41 53.6	-0.1
BRVK				IAmb	IAmb	13 41 57.2	
	comp=Z,8.4nm,0.4s						
BRVK	Borovoye	15.84	356	c iP	Pn	13 41 54.9	+0.9
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKTO	Aktyubinsk	16.55	327	P	Pn	13 42 02.5	0.0
	comp=Z,41nm,0.3s,baz=130,slow=7.6,SNR=102						
AKTO				S	S	13 45 00.2	-4.1
	comp=Z,7.8nm,0.7s,baz=45,slow=11,SNR=5.5						
AKTO	Aktyubinsk	16.55	327	⇑P	Pn	13 42 02.3	-0.2
	comp=Z,20nm,0.5s						
AKTO				⇑S	S	13 45 00.8	-3.5
	comp=Z,4.5nm,0.7s						
BOK	Bokaro	17.95	135	eP	P	13 42 18.8	+1.7
BOK				eS	S	13 45 27.8	-5.0
WSAR	Wadi Sarin	18.10	223	P	P	13 42 19.8	+1.0
	comp=Z,6.7nm,0.6s,baz=20,slow=6.9,SNR=7.4						
UOSS	Minazif	18.24	232	P	P	13 42 20.5	+0.3
ZAA0	Zalesovo Array	18.89	24	P	P	13 42 27.9	+0.9
ZALV	Zalesovo Beam	18.89	24	P	P	13 42 27.6	+0.5
	comp=Z,9.7nm,0.3s,baz=207,slow=9.9,SNR=34						
ZALV				PcP	PcP	13 46 43.1	-0.9
	comp=Z,0.5nm,0.3s,baz=221,slow=3.5,SNR=2.5						
ZALV	Zalesovo Beam	18.89	24	eP	P	13 42 27.9	+0.9
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ARTI	Arti	21.21	339	P	P	13 42 51.5	-0.2
ARTI				IAmb	IAmb	13 42 53.0	
	comp=Z,9.6nm,1.3s						
ARTI	Arti	21.21	339	P	P	13 42 52.0	+0.3
	comp=Z,2.6nm,0.5s,baz=125,slow=4.7,SNR=4.0						
	comp=Z,2.6nm,0.5s						
ARTI	Arti	21.21	339	d iP	P	13 42 51.0	-0.7
ARTI						13 43 30.8	
ARTI				S	S	13 46 34.7	-0.2
ARTI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GNI	Garni	21.44	286	⇓eP	P	13 42 59.6	+5.1
GNI				pmax	pmax		
	comp=Z,25nm,1.2s						
NCK	Nalchik	22.45	295	⇓eP	P	13 43 07.2	+3.1
NCK				pmax	pmax		
	comp=Z,23nm,0.4s						
KBZ	Khabaz	22.98	295	P	P	13 43 09.6	+0.8
	comp=Z,1.1nm,0.8s,baz=126,slow=14,SNR=1.8						
	comp=Z,1.1nm,0.8s						
KIV	Kislovodsk	23.16	296	eP	P	13 43 11.3	+0.7
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	Songino Array	27.24	56	P	P	13 43 46.6	-0.8
	comp=Z,0.6nm,0.7s,baz=263,slow=8.9,SNR=3.2						
	comp=Z,0.6nm,0.7s						
BR131	Keskin Array S	29.98	287	⇑eP	P	13 44 13.4	+1.7
BRTR	Keskin Array B	29.98	287	P	P	13 44 13.9	+2.2
	comp=Z,1.0nm,0.6s,baz=103,slow=9.3,SNR=7.4						
BRTR				PcP	PcP	13 47 06.6	-2.2
	comp=Z,0.6nm,0.6s,baz=148,slow=4.0,SNR=3.6						
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	29.98	287	eP	P	13 44 15.3	+3.6
MMAI	Mount Meron Ar	30.11	273	P	P	13 44 11.9	-0.9
	comp=Z,0.5nm,0.4s,baz=73,slow=10,SNR=1.3						
	comp=Z,0.5nm,0.4s						
CMAR	Chiang Mai Arr	30.14	121	P	P	13 44 13.3	+0.2
	comp=Z,0.4nm,0.4s,baz=318,slow=11,SNR=1.6						
	comp=Z,0.4nm,0.4s						
AKASG	Malin Array Be	33.10	308	P	P	13 44 39.3	+0.7
	comp=Z,0.6nm,0.4s,baz=107,slow=8.4,SNR=9.0						
	comp=Z,0.6nm,0.4s						
AKASG	Malin Array Be	33.10	308	eP	P	13 44 42.5	+3.8
FINES	FINESS Array B	37.31	325	P	P	13 45 14.9	+0.6
	comp=Z,1.5nm,0.7s,baz=142,slow=9.6,SNR=5.9						
	comp=Z,1.5nm,0.7s						
ARCES	ARCESS Array B	40.75	337	P	P	13 45 43.6	+0.8
	comp=Z,1.5nm,0.9s,baz=119,slow=8.5,SNR=7.6						
	comp=Z,1.5nm,0.9s						
ARCES	ARCESS Array B	40.75	337	eP	P	13 45 43.9	+1.1
MODS	Modra-Piesok	40.84	304	eP	P	13 45 46.5	+2.7
MODS				e		13 47 25.8	
MODS	Modra-Piesok	40.84	304	eP	P	13 45 46.5	+2.7
MODS				ePP	PnPn	13 47 25.8	-2.5
HEH	HeiHe	41.15	53	eP	P	13 45 48.1	+1.8
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GSI	Gunungsitoli	42.85	141	P	P	13 46 02.3	+1.9
HFS	Hagfors	42.97	321	P	P	13 46 01.8	+0.9
	comp=Z,2.3nm,0.5s,baz=105,slow=9.3,SNR=12						
	comp=Z,2.3nm,0.5s						
NB2	NORSAR Subarra	44.26	323	P	P	13 46 11.7	+0.5
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.26	323	P	P	13 46 10.9	-0.3
	comp=Z,0.6nm,0.6s,baz=96,slow=7.6,SNR=7.6						
	comp=Z,0.6nm,0.6s						
NOA	NORSAR Array B	44.26	323	eP	P	13 46 14.0	+2.8
TIXI	Tiksi	44.77	22	P	P	13 46 16.0	+1.1
TIXI	Tiksi	44.77	22	⇑eP	P	13 46 15.6	+0.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SPITS	Spitsbergen Ar	46.94	347	P	P	13 46 33.4	+1.6
	comp=Z,6.5nm,1.0s,baz=128,slow=9.6,SNR=5.2						
	comp=Z,6.5nm,1.0s						
LODK	Lodwar	47.56	234	P	P	13 46 35.5	-2.0
LODK				IAmb	IAmb	13 46 35.8	
	comp=Z,9.5nm,1.0s						
BILL	Bilibino	57.57	26	⇑eP	P	13 47 51.2	+1.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ESDC	Sonseca Array	57.81	298	P	P	13 47 52.3	0.0
	comp=Z,0.5nm,0.5s,baz=52,slow=7.4,SNR=6.8						
	comp=Z,0.5nm,0.5s						
E25K	Arctic Village	71.22	14	P	P	13 49 19.6	+1.0
SAUI	Saumlaki	71.32	116	P	P	13 49 19.3	-0.7
E27K	Coleen River	71.89	13	P	P	13 49 23.8	+1.2
BMAR	Burnt Mountain	72.01	14	P	P	13 49 25.1	+1.7
G24K	Hadweenzic Riv	72.05	15	P	P	13 49 24.7	+1.1
G24K				IAmb	IAmb	13 49 47.8	
	comp=Z,6.4nm,1.5s						
J19K	Poorman	72.30	20	P	P	13 49 26.4	+1.4
J19K				IAmb	IAmb	13 50 00.2	
	comp=Z,6.9nm,1.5s						
H23K	Yukon River	72.33	17	P	P	13 49 26.6	+1.4
J18K	Innoko River	72.41	21	P	P	13 49 26.9	+1.2
ILAR	Eielson Array	73.83	16	P	P	13 49 33.6	-0.3
	comp=Z,0.7nm,0.9s,baz=326,slow=5.4,SNR=7.6						
	comp=Z,0.7nm,0.9s						
G30M	tAoh Zraii Nji	73.87	11	P	P	13 49 35.0	+0.7
G30M				IAmb	IAmb	13 49 39.1	
	comp=Z,2.4nm,0.8s						
KTH	Kantishna Hill	73.89	19	P	P	13 49 35.1	+0.6
KTH				IAmb	IAmb	13 50 04.9	
	comp=Z,12nm,1.4s						
L19K	White Mountain	73.95	21	P	P	13 49 35.3	+0.5
L19K				IAmb	IAmb	13 50 18.7	
	comp=Z,9.7nm,1.5s						
PPLA	Purkeypile	74.10	19	P	P	13 49 36.2	+0.4
PPLA				IAmb	IAmb	13 50 01.5	
	comp=Z,14nm,1.3s						
H29M	Whitestone	74.22	12	P	P	13 49 37.5	+1.2
H29M				IAmb	IAmb	13 49 37.5	
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	80.45	3	P	P	13 50 10.4	-0.4
	comp=Z,1.0nm,0.8s,baz=347,slow=5.2,SNR=20						
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	80.45	3	eP	P	13 50 11.2	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	81.72	123	P	P	13 50 16.5	-1.7
	comp=Z,0.3nm,0.5s,baz=324,slow=5.1,SNR=13						
	comp=Z,0.3nm,0.5s						
WRA	Warramunga Arr	81.72	123	eP	P	13 50 19.1	+1.0
S34M	Telegraph Cree	83.21	12	P	P	13 50 26.3	+1.0
ASAR	Alice Springs	84.04	126	P	P	13 50 30.1	+0.1
ASAR	Alice Springs	84.04	126	P	P	13 50 29.2	-0.8
	comp=Z,0.3nm,0.8s,baz=313,slow=4.7,SNR=5.6						
	comp=Z,0.3nm,0.8s						
ASAR	Alice Springs	84.04	126	P	P	13 50 30.1	+0.1
PLCA	Paso Flores	150.84	251	PKPbc	PKPbc	13 57 50.1	-0.2
	comp=Z,1.3nm,0.8s,baz=34,slow=10.0,SNR=5.2						

IDC ***15*** *13:39:22.8±0.7,51.°75N×175.°34W,h0km,mb3.9/15, mbtmp3.9/19,ML3.6/4,MS3.1/9,Error ellipse: s-maj=25.4km s-min=13.3km az=172.0*
NEIC ***15*** *13:39:28.8±2.0,51.°65N±0.°09×175.°18W±0.°07,h28km±4km, mb4.0/122,ML3.9(AEIC),Error ellipse: s-maj=14.4km s-min=2.4km az=157.0*
AEIC ***15*** *13:39:28.4±2.1,51.°54N±0.°09×175.°18W±0.°07,h26km±4km, Error ellipse: s-maj=13.1km s-min=5.4km az=161.0*
ISC 15 13:39:29.6±0.5,**51.°67N**±0.°09×**175.°23W**±0.°04,**h40**km, **n217,**σ1§**09**/209,**mb4.0**/46,**MS3.1**/7,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	Great Sitkin T	0.66	310		Pn	13 39 43.2	+0.7
GSCK	Great Sitkin C	0.67	301		Pn	13 39 42.8	+0.2
ATKA	Atka Island	0.83	50		Pn	13 39 44.6	-0.1
ATKA				Sn	Sn	13 39 56.0	+0.1
ADK	Adak	0.93	284		Pn	13 39 45.8	-0.3
KIRH	Kanaga Island	1.18	282		Pn	13 39 49.6	+0.1
KIWB	Kanaga Island	1.21	279		Pn	13 39 49.7	-0.3
KICM	Kanaga Island	1.24	282		Pn	13 39 50.6	+0.1
TAFP	Tanaga Falls P	1.73	279		Pn	13 39 57.5	+0.4
TAFP					Sn	13 40 19.1	+1.2
TASE	Tanaga Southea	1.75	276		Pn	13 39 57.8	+0.4
GALAA	Gareloi Lava P	2.20	274		Pn	13 40 04.9	+1.2
GANE	Gareloi Northe	2.21	275		Pn	13 40 04.5	+0.8
GANO	Gareloi North	2.23	275		Pn	13 40 05.0	+1.1
GANO					Sn	13 40 32.0	+1.8
OKTU	Okmok Mt. Tuli	4.71	66		Pn	13 40 40.3	+2.2
MAPS	Pakushin South	5.47	64		Pn	13 40 50.5	+2.1
MGOD	Makushin Gods	5.50	64		Pn	13 40 51.3	+2.3
UNV	Unalaska Valle	5.73	64	Pn	Pn	13 40 50.8	-1.2
P08K	Saint George I	5.96	32	Pn	Pn	13 40 54.0	-1.1
LVA	Lava Point	6.09	62	Pn	Pn	13 40 55.4	-1.6
SHEM	Shemya Is, Ala	6.64	283	Pn	Pn	13 41 02.2	-2.3
	2.6nm,0.3s,baz=106,slow=20,SNR=1.9						
SHEM				LR	LR	13 43 38.7	
	comp=Z,119nm,20.6s,baz=34,slow=39						
	33nm,0.8s						
SDPT	Sand Point	9.53	62	Pn	Pn	13 41 46.0	+1.9
CNBA	Chernabura Isl	9.89	65	Pn	Pn	13 41 49.3	+0.3
M13K	Dall Lake	10.97	32	Pn	Pn	13 42 05.1	+1.3
M14K	Bethel	11.69	34	Pn	Pn	13 42 13.8	+0.2
K13K	Kusilvak Mount	11.78	25	Pn	Pn	13 42 15.5	+0.7
L14K	Kuka Creek	11.89	31	Pn	Pn	13 42 14.9	-1.4
GAMB	Gambell	12.28	7	Pn	Pn	13 42 21.4	-0.1
J14K	Nanvaranak Lak	12.75	25	Pn	Pn	13 42 25.8	-2.2
M16K	Timber Creek	12.96	37	Pn	Pn	13 42 29.5	-1.5
ACHA	Angle Creek He	13.15	52	Pn	Pn	13 42 32.5	-1.0
N17K	Nushagak Hills	13.37	41	Pn	Pn	13 42 38.6	+2.1
M17K	Holitna River	13.78	38	Pn	Pn	13 42 40.5	-1.5
O18K	Koktuh Hills	13.88	46	Pn	Pn	13 42 43.9	+0.4
ANM	Nome	13.91	18	Pn	Pn	13 42 44.1	+0.3
N18K	Kilae Creek	14.00	42	Pn	Pn	13 42 44.8	-0.3
J16K	Anvik River	14.00	28	Pn	Pn	13 42 44.0	-1.0
Q19K	Cape Douglas,	14.23	51	Pn	Pn	13 42 49.4	+1.1
K17K	Iditarod	14.31	33	Pn	Pn	13 42 50.1	+0.7
KDAK	Kodiak Island	14.40	56	Pn	Pn	13 42 49.3	-1.2
KDAK	Kodiak Island	14.40	56	Pn	Pn	13 42 48.8	-1.7
	0.3nm,0.3s,baz=299,slow=19,SNR=10						
	7.6nm,1.0s						
TNA	Tin City	14.42	12	Pn	Pn	13 42 49.7	-1.0
J17K	VABM Dome	14.54	30	Pn	Pn	13 42 51.4	-1.0
L18K	Granite Mounta	14.56	36	Pn	Pn	13 42 52.0	-0.6
N19K	Bonanza Creek	14.66	43	Pn	Pn	13 42 53.2	-0.9
F15K	North Star Dit	15.07	17	Pn	Pn	13 42 59.0	-0.5
F15K				IAmb	IAmb	13 43 23.4	
	comp=Z,12nm,1.4s		

SCM	Sheep Creek Mo	18.21	45	P	P	13 43 38.0	-1.0
RND	Reindeer	18.23	40	P	Pn	13 43 39.8	+0.5
RND				IAmb	IAmb	13 44 14.0	
comp=Z,10nm,1.3s							
C18K	Utukok River	18.32	16	P	Pn	13 43 40.8	+0.5
MCK	McKinley	18.35	39	P	P	13 43 40.6	+0.2
MCK				IAmb	IAmb	13 44 05.1	
comp=Z,13nm,1.3s							
BWN	Browne	18.37	37	P	P	13 43 40.5	0.0
G21K	Allakaket	18.43	28	P	Pn	13 43 42.4	+0.9
BILL	Biiibino	18.72	338		P	13 43 45.0	+0.7
KLU	Klutina	18.73	47	P	P	13 43 44.9	+0.2
NEA2	Nenana	18.73	36	P	Pn	13 43 45.2	-0.1
NEA2				IAmb	IAmb	13 43 48.8	
comp=Z,3.8nm,0.5s							
D19K	Kuna River	18.78	20	P	Pn	13 43 47.8	+2.0
D19K				IAmb	IAmb	13 44 00.9	
comp=Z,12nm,1.5s							
M24K	Tolsona, Glenn	18.82	45	P	P	13 43 45.5	-0.1
I23K	Minto, Yukon-K	18.93	35	P	Pn	13 43 48.7	+1.2
F21K	Alatna River	18.93	26	P	Pn	13 43 49.2	+1.6
WRH	Wood River Hil	19.04	37	P	P	13 43 47.6	-0.3
BMRM	Bremner River	19.19	49	P	Pn	13 43 50.9	0.0
CCB	Clear Creek Bu	19.23	37	P	P	13 43 49.3	-0.7
H23K	Yukon River	19.24	33	P	Pn	13 43 52.4	+1.0
N25K	Chitina, Valde	19.37	47	P	P	13 43 50.7	-0.9
N25K				IAmb	IAmb	13 44 00.4	
comp=Z,16nm,1.4s							
PAX	Paxson	19.44	43	P	P	13 43 51.2	-1.2
HDA	Harding Lake	19.44	38	P	P	13 43 52.5	+0.1
POKR	Poker Flat Res	19.60	36	P	P	13 43 52.3	-1.8
POKR				IAmb	IAmb	13 44 09.5	
comp=Z,6.0nm,1.1s							
G23K	Bananza Creek	19.61	30	P	Pn	13 43 55.5	-0.3
IL31		19.64	37	P	P	13 43 53.2	-1.1
IL31				IAmb	IAmb	13 44 11.3	
comp=Z,14nm,1.5s							
ILAR	Eielson Array	19.64	37	P	P	13 43 53.9	-0.5
ILAR	Eielson Array	19.64	37	P	P	13 43 52.5	-2.0
comp=Z,0.6nm,0.3s,baz=220,slow=9.2,SNR=43							
comp=Z,0.9nm,0.6s							
GLB	Gilahina Butte	19.69	48	P	P	13 43 55.0	-0.1
GLB				IAmb	IAmb	13 43 59.0	
comp=Z,10nm,1.2s							
VRDI	Verde Repeater	19.80	49	P	P	13 43 55.9	-0.5
H24K	Noodor Dome	19.82	34	P	Pn	13 43 57.6	-0.6
H24K				IAmb	IAmb	13 44 14.1	
comp=Z,5.4nm,0.9s							
COLD	Coldfoot	19.88	29	P	Pn	13 43 58.5	-0.5
COLD				IAmb	IAmb	13 44 04.7	
comp=Z,6.6nm,0.9s							
RIDG	Independent Ri	19.99	41	P	P	13 43 58.4	+0.1
RIDG				IAmb	IAmb	13 44 19.2	
comp=Z,13nm,1.2s							
E22K	Anaktuvuk Pass	20.03	26	P	P	13 43 59.5	+0.8
J25K	Salcha River,	20.14	39	P	P	13 43 60.0	-0.1
DOT	Dot Lake	20.28	42	P	P	13 44 01.6	+0.1
DOT				IAmb	IAmb	13 44 04.7	
comp=Z,5.0nm,0.7s							
D22K	Ayikyak River	20.33	24	P	P	13 44 02.7	+0.7
D22K				IAmb	IAmb	13 44 10.0	
comp=Z,4.2nm,0.7s							
G24K	Hadweenzic Riv	20.43	32	P	P	13 44 03.2	+0.1
G24K				IAmb	IAmb	13 44 20.7	
comp=Z,17nm,1.4s							
SCRK	Sand Creek	20.44	41	P	P	13 44 02.6	-0.7
B21K	Ikpikpuk River	20.44	21	P	P	13 44 04.1	+1.0
SEY	Seymchan	20.55	316	P	P	13 44 04.8	+0.4
comp=Z,4.1nm,0.9s,baz=113,slow=9.2,SNR=20							
MA2	Magadan	20.57	306	P	P	13 44 05.7	+1.2
comp=Z,3.6nm,0.8s,baz=97,slow=9.6,SNR=12							
MA2				LR	LR	13 51 37.2	
comp=Z,39nm,18.1s,baz=112,slow=36							
F24K	Squaw Lake	20.77	30	P	Pn	13 44 08.7	-0.7
F24K				IAmb	IAmb	13 44 10.7	
comp=Z,5.7nm,0.8s							
J26L	Joseph Creek	20.81	40	P	P	13 44 06.9	-0.4
D23K	Nanushuk River	20.90	25	P	Pn	13 44 10.1	-0.8
D23K				IAmb	IAmb	13 44 16.9	
comp=Z,12nm,1.2s							
E24K	Your Creek	20.93	28	P	P	13 44 09.7	+1.2
E24K				IAmb	IAmb	13 44 15.3	
comp=Z,4.0nm,0.8s							
TOLK	Toolik Lake Re	20.98	26	P	P	13 44 10.1	+1.1
TOLK				IAmb	IAmb	13 44 21.9	
comp=Z,5.6nm,0.8s							
L27K	Beaver Creek,	21.04	44	P	P	13 44 08.0	-1.7
BCAR	Beaver Creek A	21.05	44	P	P	13 44 09.3	-0.6
K27K	Chicken	21.24	42	P	P	13 44 12.4	+0.6
K27K				IAmb	IAmb	13 44 29.1	
comp=Z,11nm,1.1s							
B22K	Teshekpuk Lake	21.26	20	P	P	13 44 12.9	+1.0
B22K				IAmb	IAmb	13 44 15.9	
comp=Z,8.3nm,1.1s							
I26K	Coal Creek Min	21.30	38	P	P	13 44 11.8	-0.5
I26K				IAmb	IAmb	13 44 36.6	
comp=Z,7.1nm,1.1s							
F25K	Christian Rive	21.52	31	P	P	13 44 15.4	+0.5
D24K	Happy Valley	21.52	26	P	P	13 44 16.2	+1.4
D24K				IAmb	IAmb	13 44 18.4	
comp=Z,6.5nm,0.8s							
C23K	Itkillik River	21.53	23	P	P	13 44 15.5	+0.7
BMAR	Burnt Mountain	21.78	32	P	P	13 44 18.8	+1.2
E25K	Arctic Village	21.84	30	P	P	13 44 18.8	+0.6
E25K				IAmb	IAmb	13 44 21.8	
comp=Z,5.1nm,0.9s							
C24K	Franklin Bluff	21.93	25	P	P	13 44 20.3	+1.2
F26K	Sheenjek River	22.06	32	P	P	13 44 19.9	-0.7
F26K				IAmb	IAmb	13 44 23.3	
comp=Z,6.0nm,1.3s							
D25K	Kavik River	22.31	27	P	P	13 44 23.5	+0.3
D25K				IAmb	IAmb	13 44 25.7	
comp=Z,3.8nm,0.7s							
I28M	Miner Creek	22.59	39	P	P	13 44 26.5	+0.1
I28M				IAmb	IAmb	13 45 01.3	
comp=Z,11nm,1.5s							
K29M	Barlow Dome	23.11	44	P	P	13 44 32.7	+0.9
K29M				IAmb	IAmb	13 44 34.6	
comp=Z,4.6nm,0.8s							
E27K	Coleen River	23.14	32	P	P	13 44 32.3	+0.4
E27K				IAmb	IAmb	13 44 34.2	
comp=Z,4.0nm,1.0s							
C27K	Jago River	23.25	28	P	P	13 44 33.1	+0.2
C27K				IAmb	IAmb	13 44 34.3	
comp=Z,2.3nm,0.6s							
H29M	Whitestone	23.47	38	P	P	13 44 34.5	-0.6
H29M				IAmb	IAmb	13 44 42.6	
comp=Z,12nm,1.5s							
J30M	Hart River	23.79	42	P	P	13 44 39.4	+1.1
J30M				IAmb	IAmb	13 44 44.0	
comp=Z,9.0nm,1.4s							
G29M	Pine Creek	23.85	36	P	P	13 44 38.7	0.0
G29M				IAmb	IAmb	13 44 48.4	
comp=Z,8.9nm,1.5s							
D27M	Malcolm River	23.86	30	P	P	13 44 39.4	+0.5
D27M				IAmb	IAmb	13 45 03.2	
comp=Z,8.3nm,1.4s							
I30M	Mount Dempster	23.94	41	P	P	13 44 39.7	0.0
I30M				IAmb	IAmb	13 44 53.6	
comp=Z,3.4nm,0.8s							
E28M	Babbage River	24.01	32	P	P	13 44 41.6	+1.4
E28M				IAmb	IAmb	13 44 45.1	
comp=Z,2.7nm,0.8s							
E29M	Blow River	24.47	33	P	P	13 44 44.5	+0.1
E29M				IAmb	IAmb	13 44 47.5	
comp=Z,3.5nm,0.7s							
G30M	tAoh Zraii Nji	24.54	37	P	P	13 44 45.4	+0.3
G30M				IAmb	IAmb	13 44 57.6	
comp=Z,6.5nm,1.4s							
H31M	Peel River	24.91	40	P	P	13 44 49.2	+0.7
H31M				IAmb	IAmb	13 44 59.8	
comp=Z,8.9nm,1.3s							
F31M	Tsiigehtchic	25.60	36	P	P	13 44 55.4	+0.8
F31M				IAmb	IAmb	13 45 14.1	
comp=Z,8.8nm,1.4s							
INK	Inuvik	25.95	34	P	P	13 44 56.9	-0.8
INK				IAmb	IAmb	13 45 09.1	
comp=Z,4.5nm,1.5s							
JKA	Kamikawa-asahi	28.93	272	P	P	13 45 26.0	+1.3
YAK	Yakutsk	30.90	311	LR	LR	13 57 23.4	
comp=Z,51nm,21.6s,baz=85,slow=35							
YKAW3	Yellowknife Wh	33.39	47	P	P	13 46 04.4	+0.8
YKAW3				IAmb	IAmb	13 46 20.7	
comp=Z,2.0nm,1.4s							
YKA	Yellowknife Ar	33.40	47	P	P	13 46 01.8	-2.0
comp=Z,0.2nm,0.6s,baz=280,slow=9.1,SNR=5.3							
YKA				PcP	PcP	13 48 43.9	-0.4
comp=Z,0.2nm,0.5s,baz=282,slow=3.4,SNR=4.2							
YKA				LR	LR	13 59 43.0	
comp=Z,51nm,18.4s,baz=52,slow=36							
comp=Z,0.2nm,0.6s							
YKAW1	Yellowknife Wh	33.46	47	P	P	13 46 05.2	+0.9
YKAW1				IAmb	IAmb	13 46 09.8	
comp=Z,1.9nm,1.4s							
H11N2	WAKE ISLAND Hy	34.83	210	T	T	14 23 44.3	
baz=20,slow=76,SNR=78							
H11N3	WAKE ISLAND Hy	34.84	210	T	T	14 23 38.0	
baz=20,slow=76,SNR=93							
H11N1	WAKE ISLAND Hy	34.85	210	T	T	14 23 45.7	
baz=20,slow=76,SNR=97							
USRK	Ussuriysk Ar.	35.46	279	LR	LR	14 01 40.5	
comp=Z,22nm,18.9s,baz=27,slow=38							
H11S1	WAKE ISLAND Hy	36.04	210	T	T	14 25 03.2	
baz=19,slow=76,SNR=208							
H11S2	WAKE ISLAND Hy	36.05	210	T	T	14 25 14.8	
baz=19,slow=76,SNR=102							
H11S3	WAKE ISLAND Hy	36.05	210	T	T	14 25 12.1	
baz=19,slow=76,SNR=38							
YBH	Yreka Blue Hor	36.63	85	LR	LR	13 57 44.6	
comp=Z,49nm,18.7s,baz=260,slow=30							
LYMT	Lyon Mountain	40.17	71	P	P	13 47 02.9	+1.1
MCMT	McKenzie Canyo	40.96	74	P	P	13 47 09.1	+0.7
BOZ	Bozeman (W)	41.27	72	P	P	13 47 11.8	+1.0
NVAR	Mina Array Bea	41.30	86	P	P	13 47 10.0	-1.2
comp=Z,0.2nm,0.5s,baz=313,slow=8.3,SNR=2.2							
comp=Z,0.2nm,0.5s							
ELK	Elko	41.81	81	P	P	13 47 14.9	-0.5
comp=Z,0.6nm,0.8s,baz=260,slow=12,SNR=2.0							
comp=Z,0.6nm,0.8s							
KSRS	Korea Array	41.86	273	P	P	13 47 14.8	-0.6
comp=Z,2.8nm,1.0s,baz=49,slow=8.2,SNR=4.4							
KSRS				LR	LR	14 04 23.5	
comp=Z,7.4nm,21.5s,baz=185,slow=36							
comp=Z,2.8nm,1.0s							
KSAR	Wonju Array Be	41.89	273	P	P	13 47 14.5	-1.2
YHL	Hebgen Lake	41.94	73	P	P	13 47 17.5	+1.0
YHL				IAmb	IAmb	13 47 27.2	
comp=Z,2.3nm,1.0s							
FFC	Flin Flon	42.15	56	P	P	13 47 16.7	-0.9
FFC				IAmb	IAmb	13 47 18.3	
comp=Z,3.1nm,1.4s							
YNE	Yellowstone No	42.55	72	P	P	13 47 20.7	-0.7
YNE				IAmb	IAmb	13 47 22.7	
comp=Z,3.7nm,1.4s							
RLMT	Red Lodge	42.93	72	P	P	13 47 25.5	+1.1
RLMT				IAmb	IAmb	13 47 27.0	
comp=Z,5.1nm,1.3s							
PD31	Pinedale Array	44.09	75	P	P	13 47 34.5	+0.7
PDAR	Pinedale Array	44.09	75	P	P	13 47 34.2	+0.4
PDAR	Pinedale Array	44.09	75	P	P	13 47 34.1	+0.3
comp=Z,2.4nm,0.6s,baz=306,slow=4.1,SNR=29							
comp=Z,2.0nm,0.6s							
MPU	Maple Canyon	44.46	79	P	P	13 47 36.3	-0.4
BSUT	Blindstream Ca	44.67	78	P	P	13 47 40.3	+1.6
BSUT				IAmb	IAmb	13 47 59.8	
comp=Z,4.8nm,1.5s							
O20A	White River Ci	46.45	77	P	P	13 47 53.2	+0.7
PV13	Radium Mtn., P	47.32	79	P	P	13 47 58.3	-1.1
ULM	Lac du Bonnet	47.64	59	P	P	13 48 01.1	-0.2
comp=Z,1.2nm,0.5s,baz=296,slow=5.5,SNR=2.0							
comp=Z,1.2nm,0.5s							
EPLO	Experimental L	49.11	58	P	P	13 48 12.9	+0.2
SPITS	Spitsbergen Ar	50.22	357	P	P	13 48 19.6	-1.2
comp=Z,7.7nm,0.9s,baz=321,slow=0.9,SNR=1.9							
comp=Z,7.7nm,0.9s							
EYMN	Ely	51.32	59	P	P	13 48 29.8	+0.3
SFJD	Kangerlussuaq	54.52	23	LR	LR	14 13 28.4	
comp=Z,53nm,21.8s,baz=167,slow=38							
JFWS	Jewell Farm	55.19	63	P	P	13 48 58.3	+0.4
YULB	Yu-li	55.64	265	S	S	13 56 48.0	+3.4
YULB	Yu-li	55.64	265	S	S	13 56 47.7	+3.1
TXAR	Lajitas Array	56.41	84	P	P	13 49 07.8	+0.8
TXAR	Lajitas Array	56.41	84	P	P	13 49 06.0	-1.0
comp=Z,2.0nm,0.4s,baz=325,slow=8.5,SNR=2.8							
comp=Z,0.2nm,0.4s							
P40A	Paris	56.41	67	P	P	13 49 06.3	-0.5
KURBB	Kurchatov Arra	60.51	315	P	P	13 49 33.3	-1.8
comp=Z,1.0nm,0.4s,baz=43,slow=6.8,SNR=13							
comp=Z,1.0nm,0.4s							
MKAR	Makanchi Array	61.57	310	P	P	13 49 42.7	+0.2
MKAR	Makanchi Array	61.57	310	P	P	13 49 40.3	-2.2
comp=Z,0.4nm,0.6s,baz=54,slow=6.8,SNR=5.2							
comp=Z,0.4nm,0.6s							
BVAR	Borovoye Array	62.08	321	P	P	13 49 43.9	-1.8
comp=Z,1.1nm,0.4s,baz=55,slow=6.5,SNR=8.3							
comp=Z,1.1nm,0.4s							
HFS	Hagfors	68.31	355	P	P	13 50 24.5	-1.5
comp=Z,0.7nm,0.5s,baz=49,slow=4.5,SNR=5.3							
comp=Z,0.7nm,0.5s							
AB31	Akbulak array	69.02	325	P	P	13 50 30.0	-0.5
AB31				IAmb	IAmb	13 50 31.8	
comp=Z,1.0nm,0.8s							
ABKAR	Akbulak array	69.02	325	P	P	13 50 29.9	-0.6
ABKAR				IAmb	IAmb	13 50 31.9	
comp=Z,1.0nm,0.8s							
KKAR	Karatay Array	69.80	315	P	P	13 50 36.0	+0.5
GAR	Garm	73.17	312	P	P	13 50 56.5	+0.5
CMAR	Chiang Mai Arr	73.19	279	P	P	13 50 54.8	-1.5
comp=Z,1.0nm,0.6s,baz=21,slow=6.7,SNR=8.8							
comp=Z,1.0nm,0.6s							
CLL	Collm	77.16	355	eP	P	13 51 22.0	+3.4
MTN	Manton Dam	79.21	233	P	P	13 51 30.4	+0.1
BURAR	Bucovina Array	79.55	346	P	P	13 51 32.0	0.0
WB0	Warramunga Arr	83.63	227	P	P	13 51 52.6	-1.1
WR8	Warramunga Arr	83.75	227	P	P	13 51 53.5	-0.8
WRA	Warramunga Arr	83.81	227	P	P	13 51 53.4	-1.2
comp=Z,0.5nm,0.5s,baz=34,slow=5.8,SNR=6.1							
comp=Z,0.5nm,0.5s							
DR12	Loma Pena Alta	84.87	66	P	P	13 52 00.6	+0.4
BNN	Bunyan	85.85	336	P	P	13 52 05.6	+0.7
ASAR	Alice Springs	87.25	225	P	P	13 52 11.9	+0.3
ASAR	Alice Springs	87.25	225	P	P	13 52 10.8	-0.8
comp=Z,0.9nm,0.8s,baz=25,slow=5.8,SNR=10							
comp=Z,0.9nm,0.8s							
TORD	Torodi Ar. Bea	115.39	3	PKiKP	PKiKP	13 58 06.3	-0.8
FOMA	Nahampoana Res	138.34	293	PKPdf	PKPdf	13 58 50.2	-0.1
POGA	Pongola	148.36	310	PKPbc	PKPbc	13 59 11.4	+0.1
LBTB	Lobatse	148.99	321	PKPbc	PKPbc	13 59 13.3	+0.2
WIN	Windhoek	149.41	337	PKPbc	PKPbc	13 59 14.9	+0.6
BOSA	Boshof	152.33	318	PKPbc	PKPbc	13 59 20.8	-0.2
BOSA	Boshof	152.33	318	PKPbc	PKPbc	13 59 20.3	-0.6
comp=Z,3.0nm,0.5s,baz=21,slow=2.6,SNR=10							

*BJI **15** 13:55:19.3,24°.88N×124°.59E,h116km,mB4.5/5,mb4.5/30*
*IDC **15** 13:55:21.9±0.8,25°.32N×124°.40E,h98km±7km,mb4.1/22,*
mbtmp4.4/24,MS3.0/4,Error ellipse: s-maj=16.3km
s-min=10.8km az=73.0
*NEIC **15** 13:55:22.8±1.7,25°.22N±0°.08×124°.36E±0°.07,h98km±7km,*
mb4.6/131,Mwr4.3/11,Error ellipse: s-maj=12.3km
s-min=8.2km az=150.0,Moment Tensor Solution.
Moment tensor: Scale 10^15Nm; Mrr0.24; Mθθ-3.05;
Mφφ2.81; Mrθ-2.29; Mθφ-0.31; Mφr-1.69; Fault plane
solution: Mo4.11000×10^15 NP1:φs133.93000°,δ46.05000°,
λ179.10000°. NP2:φs224.56000°,δ89.35000°,λ43.95000°.
Principal axes: T 3.7476, Plg30.0000°, Azm99.0000°; N
0.6404, Plg46.0000°, Azm225.0000°; P -4.3881,
Plg29.0000°, Azm350.0000°;
*MOS **15** 13:55:22.8±1.1,25°.26N×124°.37E,h120km,mb4.7/33*
Error ellipse: s-maj=8.3km s-min=5.1km az=114.1
*NEIC **15** 13:55:23.1,25°.22N×124°.35E,h101km*
*NIED **15** 13:55:24.4,25°.08N×124°.28E,h105km,MW4.4,Moment*
Tensor Solution. s2 Moment tensor: Scale 10^15Nm;
Mrr-0.54; Mθθ-1.17; Mφφ1.71; Mrθ-2.46; Mθφ0.54; Mφr-3.16;
Fault plane solution: Mo4.29000×10^15 NP1:
φs146.00000°,δ18.00000°,λ-163.00000°. NP2:
φs40.00000°,δ85.00000°,λ-72.00000°.
*JMA **15** 13:55:24.4±0.1,25°.N±1°×124°.3E±0°.6,h105km±2km,*
MD4.3/14,MV4.4/14,NW OFF ISHIGAKIJIMA IS
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .
ISC 15 13:55:23.5±0.4,25°.15N±0°.04×124°.33E±0°.03,h113km±4km,
h117km:pP-P,n527,σ1925/517,mb4.6/118,10C-9D,
Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	Time	ISC	Res
JISG	Ishigakijimahi	0.56	182	*i* P		Pn	13 55 40.8	-0.3
JISG				S		Sn	13 55 53.2	-1.2
JISG	Ishigakijimahi	0.56	182	A		A	13 55 40.8	
comp=N,59nm,0.4s,comp=E,42nm,0.6s								
JTJ	Tarama	0.61	147	*i* P		Pn	13 55 41.6	+0.1
JTJ				S		Sn	13 55 54.5	-0.5
JTJ	Tarama	0.61	147	A		A	13 55 41.6	
comp=N,24nm,0.3s,comp=E,31nm,0.7s								
JIJ	Ishigaki jima	0.81	193	*i* P		Pn	13 55 42.4	-0.7
JIJ				S		Sn	13 55 55.9	-2.0
JIJ	Ishigaki jima	0.81	193	A		A	13 55 42.4	
comp=N,24nm,0.4s,comp=E,20nm,0.5s								
JIRB	Irabujima	0.83	113	*i* P		Pn	13 55 43.5	+0.3
JIRB				S		Sn	13 55 57.7	-0.5
JIRB	Irabujima	0.83	113	A		A	13 55 43.5	
comp=N,18nm,1.1s,comp=E,16nm,0.5s								
JIKM	Ikemajima	0.86	105	*i* P		Pn	13 55 44.2	+0.6
JIKM				*e*S		Sn	13 55 59.2	+0.5
JIKM	Ikemajima	0.86	105	A		A	13 55 44.2	
comp=N,33nm,0.8s,comp=E,23nm,1.3s								
JMJ	Miyako jima 2	0.93	111	P		Pn	13 55 45.8	+1.5
JMJ	Miyako jima 2	0.93	111	S		Sn	13 56 01.7	+1.7
JMJ	Miyako jima 2	0.93	111	P		Pn	13 55 45.6	+1.3
JKRS	Kuro-shima	0.96	198	*i* P		Pn	13 55 44.2	-0.4
JKRS				S		Sn	13 55 59.2	-1.3
JKRS	Kuro-shima	0.96	198	A		A	13 55 44.2	
comp=N,24nm,1.8s,comp=E,30nm,1.9s								
IRIF	Iriomote-Funau	0.98	214	*i* P		Pn	13 55 44.2	-0.6
IRIF				S		Sn	13 55 59.3	-1.6
IRIF	Iriomote-Funau	0.98	214	A		A	13 55 44.2	
comp=N,35nm,0.8s,comp=E,33nm,1.4s								
JMJ2	Miyako jima3	0.99	114	*i* P		Pn	13 55 45.6	+0.7
JMJ2				*e*S		Sn	13 56 01.6	+0.5
JOGS	Gusukube	1.05	112	*i* P		Pn	13 55 46.3	+0.8
JOGS				S		Sn	13 56 02.7	+0.6
JOGS	Gusukube	1.05	112	A		A	13 55 46.3	
comp=N,31nm,1.1s,comp=E,16nm,0.7s								
HATJ	Hateruma jima	1.19	204	*i* P		Pn	13 55 46.5	-0.6
HATJ				S		Sn	13 56 03.6	-1.2
HATJ	Hateruma jima	1.19	204	A		A	13 55 46.5	
comp=N,28nm,1.6s,comp=E,28nm,2.0s								
YOJ	Yonaguni jima	1.39	240			Pn	13 55 49.1	-0.1
YOJ				Sn		Sn	13 56 07.0	-1.6
YOJ	Yonaguni jima	1.39	240	P		Pn	13 55 49.4	+0.2
YOJ	Yonaguni jima	1.39	240	P		Pn	13 55 49.2	0.0
YOJ	Yonaguni jima	1.39	240	S		Sn	13 56 07.1	-1.6
YOJ	Yonaguni jima	1.39	240	P		Pn	13 55 49.0	-0.1
YOJ				S		Sn	13 56 06.9	-1.6
YOJ	Yonaguni jima	1.39	240	A		A	13 55 49.0	
comp=N,10.0nm,1.6s,comp=E,6.0nm,0.8s								
JYNG	Yonagunijimaku	1.44	241	*e*P		Pn	13 55 49.6	-0.2
JYNG				S		Sn	13 56 08.4	-1.4
JYNG	Yonagunijimaku	1.44	241	A		A	13 55 49.6	
comp=N,11nm,1.4s,comp=E,6.0nm,1.2s								
TATO	Taipei	2.59	267			Pn	13 56 05.3	+1.1
TATO				Sn		Sn	13 56 37.8	+2.4
TATO	Taipei	2.59	267	P		Pn	13 56 05.4	+1.3
TATO	Taipei	2.59	267	S		Sn	13 56 39.8	+4.4
TATO	Taipei	2.59	267	P		Pn	13 56 05.5	+1.3
TATO	Taipei	2.59	267	S		Sn	13 56 36.4	+1.0
NACB	Ninganchiao	2.68	249			Pn	13 56 04.6	-0.8
NACB				Sn		Sn	13 56 34.8	-2.8
NACB	Ninganchiao	2.68	249	P		Pn	13 56 04.7	-0.7
NACB	Ninganchiao	2.68	249	S		Sn	13 56 35.7	-1.8
NACB	Ninganchiao	2.68	249	P		Pn	13 56 04.5	-0.8
NACB	Ninganchiao	2.68	249	S		Sn	13 56 34.8	-2.8
YHNB	Yeheng	2.73	260			Pn	13 56 06.3	+0.1
YHNB	Yeheng	2.73	260	S		Sn	13 56 40.8	+1.9
YHNB	Yeheng	2.73	260	P		Pn	13 56 07.3	+1.2
YHNB	Yeheng	2.73	260	S		Sn	13 56 40.1	+1.2
YULB	Yu-li	3.28	238			Pn	13 56 11.5	-1.8
YULB	Yu-li	3.28	238	P		Pn	13 56 11.6	-1.8
SSLB	Suanglung	3.37	247			Pn	13 56 13.9	-0.6
SSLB	Suanglung	3.37	247	P		Pn	13 56 14.0	-0.6
SSLB	Suanglung	3.37	247	P		Pn	13 56 13.8	-0.7
SSLB	Suanglung	3.37	247	S		Sn	13 56 51.7	-2.2
TWGBT	Beinan	3.78	233	P		Pn	13 56 18.3	-1.7
TWGBT	Beinan	3.78	233	S		Sn	13 56 59.5	-4.2
TWG	Pinlang	3.78	233			Pn	13 56 18.0	-2.0
TPUB	Ta-pu	3.85	242			Pn	13 56 21.3	+0.3
TPUB	Ta-pu	3.85	242	P		Pn	13 56 21.4	+0.4
TPUB	Ta-pu	3.85	242	P		Pn	13 56 21.0	0.0
TPUB	Ta-pu	3.85	242	S		Sn	13 57 05.1	-0.4
JOW	Kunigami	3.92	64			Pn	13 56 21.4	-0.5
JOW	Kunigami	3.92	64	P		Pn	13 56 21.2	-0.7
comp=E,518nm,0.3s,baz=160,slow=13,SNR=527								
JOW				S		Sn	13 57 03.3	-3.8
comp=E,91nm,0.3s,baz=114,slow=19,SNR=1.5								
JOW	Kunigami	3.92	64	P		Pn	13 56 21.2	-0.7
JOW	Kunigami	3.92	64	S		Sn	13 57 04.0	-3.1
KNMB	Chin-men Tao	5.45	264	Pn		Pn	13 56 42.2	-0.2

comp=Z,2.0nm,0.9s,baz=58,slow=8.0,SNR=15
CMAR LR LR 14 11 06.0
comp=Z,8.9nm,21.0s,baz=95,slow=38
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 24.47 259 *e*P **P 14 00 34.8 +2.6**
KLR Kul'dur 24.72 12 LR LR 14 09 40.7
comp=Z,16nm,20.2s,baz=169,slow=35
KLR Kul'dur 24.72 12⇓ *e*P **P 14 00 33.1 -1.0**
KLR pmax pmax
comp=Z,8.0nm,1.5s
GTA Gaotai 25.03 311 *e*P **P 14 00 37.4 +2.0**
GTA pmax pmax
comp=Z,18nm,0.8s
HEH HeiHe 25.17 5 *e*P **P 14 00 38.9 +0.7**
HEH pmax pmax
comp=Z,9.0nm,0.8s
YSS Yuzhno-Sakhali 26.24 29 *e*P **P 14 00 49.1 +1.3**
YSS pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 26.46 333 P **P 14 00 48.7 -1.4**
ULN Ulaanbaatar 26.46 333⇑ *e*P **P 14 00 49.8 -0.3**
ULN pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 26.71 333 P **P 14 00 52.0 -0.3**
SONM Songino Array 26.71 333 P **P 14 00 50.7 -1.6**
comp=Z,1.4nm,0.5s,baz=147,slow=10,SNR=8.4
SONM PcP **PcP 14 04 13.6 +0.8**
comp=Z,0.5nm,0.6s,baz=162,slow=3.9,SNR=2.2
comp=Z,1.4nm,0.5s
SONM Songino Array 26.71 333 *e*P **P 14 00 52.0 -0.3**
ZEA Zeya 28.63 4 *e*P **P 14 01 08.8 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
SHL Shillong 29.29 278 P **P 14 01 15.4 -0.1**
SHL Shillong 29.29 278 P **P 14 01 15.4 -0.1**
SHL pmax pmax
comp=Z,4.0nm,0.5s
LSA Lhasa 29.74 286 P **P 14 01 20.6 +0.8**
LSA IAmb IAmb 14 01 22.4
comp=Z,6.9nm,0.7s
LSA Lhasa 29.74 286 P **P 14 01 20.6 +0.8**
LSA pmax pmax
comp=Z,7.0nm,0.7s
MOY Mondy 31.90 332 *e*P **P 14 01 36.8 -1.3**
MOY pmax pmax
comp=Z,11nm,1.6s
WBSI Waikabubak, Su 34.92 189 P **P 14 02 06.9 +2.4**
YAK Yakutsk 37.04 4⇓ *e*P **P 14 02 21.0 -1.1**
YAK pmax pmax
comp=Z,16nm,1.7s
PETK Petropavlovsk- 37.48 33 P **P 14 02 25.1 -0.9**
PETK Petropavlovsk- 37.48 33 P **P 14 02 24.4 -1.5**
comp=Z,1.8nm,0.5s,baz=191,slow=3.3,SNR=18
comp=Z,1.8nm,0.5s
PETK Petropavlovsk- 37.48 33 P **P 14 02 25.1 -0.9**
PET Petropavlovsk 37.91 34 P **P 14 02 29.3 -0.2**
PET Petropavlovsk 37.91 34 P **P 14 02 29.5 0.0**
MTN Manton Dam 38.34 169 P **P 14 02 33.0 -0.5**
MTN IAmb IAmb 14 02 33.2
comp=Z,5.0nm,0.7s
KDU Kakadu 38.44 167 P **P 14 02 34.3 0.0**
MK31 Makanchi Array 39.69 314 P **P 14 02 43.9 -0.6**
MK31 Makanchi Array 39.69 314 *d i*P **P 14 02 43.7 -0.8**
MKAR Makanchi Array 39.69 314 P **P 14 02 43.7 -0.8**
MKAR Makanchi Array 39.69 314 P **P 14 02 43.9 -0.7**
comp=Z,4.6nm,0.5s,baz=101,slow=9.9,SNR=93
MKAR PcP **PcP 14 04 49.0 -0.1**
comp=Z,1.0nm,0.7s,baz=83,slow=5.1,SNR=4.7
comp=Z,4.6nm,0.5s
MAKZ Makanchi 39.90 314 P **P 14 02 45.7 -0.6**
MAKZ IAmb IAmb 14 02 46.9
comp=Z,11nm,1.1s
MAKZ Makanchi 39.90 314 P **P 14 02 45.7 -0.6**
MAKZ pmax pmax
comp=Z,11nm,1.1s
WUS Wushi 40.54 305 P **P 14 02 51.7 -0.1**
WUS IAmb IAmb 14 02 54.7
comp=Z,10nm,1.3s
KNRA Kununurra 40.81 173 P **P 14 02 54.4 +0.4**
ZAA0 Zalesovo Array 41.04 325 P **P 14 02 54.9 -0.6**
ZALV Zalesovo Beam 41.04 325 P **P 14 02 54.3 -1.3**
ZALV Zalesovo Beam 41.04 325 P **P 14 02 53.9 -1.6**
comp=Z,22nm,0.4s,baz=115,slow=8.7,SNR=109
comp=Z,22nm,0.4s
ZALV Zalesovo Beam 41.04 325 *e*P **P 14 02 54.3 -1.3**
ZALV pmax pmax
comp=Z,22nm,0.4s
TARG Taragay, Kyrgy 41.67 305 P **P 14 03 02.5 +1.2**
TARG IAmb IAmb 14 03 03.7
comp=Z,7.7nm,0.9s
TARG Taragay, Kyrgy 41.67 305 P **P 14 03 02.5 +1.2**
TARG pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 42.12 19⇓ *e*P **P 14 03 04.2 0.0**
KDJ Kajisay 42.19 306 P **P 14 03 06.1 +0.8**
KDJ IAmb IAmb 14 03 06.9
comp=Z,14nm,0.9s
KDJ Kajisay 42.19 306 P **P 14 03 06.1 +0.8**
KDJ pmax pmax
comp=Z,14nm,0.9s
KSH Kashi 42.80 302 P **P 14 03 13.4 +3.1**
KSH pmax pmax
comp=Z,6.0nm,0.9s
ULHL Ulahol 42.90 306 P **P 14 03 11.4 +0.3**
SNR=8.8
COEN Coen 43.00 153 P **P 14 03 13.0 +1.1**
COEN Coen 43.00 153 P **P 14 03 12.9 +1.1**
FITZ Fitzroy Crossi 43.01 178 P **P 14 03 12.1 +0.3**
BOOM Boomskoye usch 43.15 306 P **P 14 03 13.6 +0.5**
BOOM Boomskoye usch 43.15 306 P **P 14 03 13.6 +0.5**
KURK Kurchatov 43.23 318 P **P 14 03 12.7 -0.7**
KURK IAmb IAmb 14 03 13.6
comp=Z,13nm,0.9s
KURK Kurchatov 43.23 318 P **P 14 03 12.7 -0.7**
KURK pmax pmax
comp=Z,13nm,1.0s
KURBB Kurchatov Arra 43.26 318 P **P 14 03 12.4 -1.2**
comp=Z,5.6nm,0.6s,baz=108,slow=8.2,SNR=44
KURBB PcP **PcP 14 05 00.1 -0.6**
comp=Z,1.0nm,1.0s,baz=111,slow=12,SNR=4.8
comp=Z,5.6nm,0.6s
TKM2 Tokmak 2 43.46 307 P **P 14 03 16.3 +0.7**
SNR=32
TKM2 Tokmak 2 43.46 307 P **P 14 03 16.1 +0.5**
KBK Karagaybulak 43.90 306 P **P 14 03 20.2 +1.1**
SNR=6.9
AAK Ala-Archa 44.23 306 P **P 14 03 22.4 +0.7**
AAK Ala-Archa 44.23 306 P **P 14 03 22.2 +0.6**
SNR=6.6
AAK Ala-Archa 44.23 306 *d i*P **P 14 03 21.8 +0.1**
USP Ospenovka 44.30 307 P **P 14 03 22.6 +0.4**
SNR=5.7
EKS2 Erkin-Say 44.76 306 P **P 14 03 26.6 +0.8**
SNR=6.2
AML Almayashu 44.76 305 P **P 14 03 27.4 +1.2**
SNR=10
NIL Nilore 44.92 293 P **P 14 03 27.5 +0.3**
NIL Nilore 44.92 293 P **P 14 03 27.5 +0.3**
NIL pmax pmax
comp=Z,19nm,0.8s
ARSB Arslanbob 45.22 304 P **P 14 03 30.1 +0.6**
ARSB IAmb IAmb 14 03 30.8
comp=Z,10nm,1.0s
ARSB Arslanbob 45.22 304 P **P 14 03 30.2 +0.6**
ARSB pmax pmax
comp=Z,10.0nm,1.0s
WB0 Warramunga Arr 45.71 167 P **P 14 03 33.8 +0.5**
WB0 IAmb IAmb 14 03 34.6
comp=Z,8.4nm,0.9s
WRAB Tennant Creek 45.86 167 P **P 14 03 34.9 +0.4**
WRAB IAmb IAmb 14 04 02.3
comp=Z,16nm,1.1s
WRAB Tennant Creek 45.86 167 *ce*P **P 14 03 35.0 +0.4**
WRAB pmax pmax
comp=Z,11nm,0.9s
WRA Warramunga Arr 45.87 167 P **P 14 03 35.2 +0.6**
WRA Warramunga Arr 45.87 167 P **P 14 03 34.9 +0.3**
comp=Z,8.5nm,0.7s,baz=349,slow=8.5,SNR=92
WRA pP **pP 14 03 59.7 -1.2**
comp=Z,5.5nm,0.8s,baz=346,slow=7.8,SNR=11
comp=Z,8.5nm,0.7s
WRA Warramunga Arr 45.87 167 *e*P **P 14 03 35.0 +0.4**
WRA pmax pmax
comp=Z,8.0nm,0.6s
WB2 Warramunga Arr 45.87 167 P **P 14 03 35.2 +0.5**
WB2 IAmb IAmb 14 03 36.0
comp=Z,10nm,0.8s
WR8 Warramunga Arr 45.91 167 P **P 14 03 35.5 +0.5**
WR8 IAmb IAmb 14 03 36.2
comp=Z,11nm,0.8s
WR0 Warramunga Arr 45.93 167 P **P 14 03 35.6 +0.5**
WR0 IAmb IAmb 14 03 36.4
comp=Z,8.4nm,0.8s
DRK Karamyk 46.03 301 P **P 14 03 36.9 +0.8**
DRK IAmb IAmb 14 03 37.8
comp=Z,7.5nm,0.8s
DRK Karamyk 46.03 301 P **P 14 03 36.9 +0.8**
DRK pmax pmax
comp=Z,8.0nm,0.8s
OTUK Ortayu 46.58 314 P **P 14 03 39.7 -0.3**
TIXI Tiksi 46.60 2 P **P 14 03 38.7 -1.0**
TIXI Tiksi 46.60 2⇑ *i*P **P 14 03 37.9 -1.8**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
BTK Batken 46.80 302 P **P 14 03 41.9 0.0**
BTK Batken 46.80 302 P **P 14 03 41.9 0.0**
GAR Garm 47.17 301 P **P 14 03 45.5 +0.6**
KK31 Karatay Array 47.19 306 P **P 14 03 45.0 +0.2**
KK31 IAmb IAmb 14 03 46.0
comp=Z,5.5nm,0.4s
KK31 PcP **PcP 14 05 14.7 +0.2**
KK31 Karatay Array 47.19 306 *e*P **P 14 03 44.4 -0.4**
KKAR Karatay Array 47.19 306 P **P 14 03 45.0 +0.2**
KKAR IAmb IAmb 14 03 45.9
comp=Z,3.7nm,0.4s
KKAR PcP **PcP 14 05 14.6 +0.1**
KKAR Karatay Array 47.19 306 P **P 14 03 44.6 -0.1**
KKAR PcP **PcP 14 05 14.7 +0.2**
KKAR Karatay Array 47.19 306 P **P 14 03 45.0 +0.2**
KKAR 14 05 14.6
KKAR pmax pmax
comp=Z,4.0nm,0.4s
MTSU Mount Surprise 47.22 154 P **P 14 03 46.5 +1.3**
QIS Mount Isa 47.80 161 P **P 14 03 50.8 +1.1**
SIMJ Simiganj 48.19 300 P **P 14 03 52.7 -0.1**
SIMJ IAmb IAmb 14 03 54.5
comp=Z,7.1nm,0.8s
KBL Kabul 48.35 295 P **P 14 03 54.7 +0.6**
KBL Kabul 48.35 295 P **P 14 03 54.7 +0.6**
KBL pmax pmax
comp=Z,18nm,0.8s
BVA0 Borovoye Array 48.77 320 *e*P **P 14 03 56.1 -0.7**
BVAR Borovoye Array 48.77 320 P **P 14 03 56.1 -0.6**
comp=Z,3.5nm,0.3s,baz=103,slow=8.9,SNR=51
BVAR PcP **PcP 14 05 19.9 0.0**
comp=Z,3.4nm,0.5s,baz=117,slow=2.9,SNR=12
comp=Z,3.5nm,0.3s
BRVK Borovoye 48.84 320 P **P 14 03 56.7 -0.6**
BRVK IAmb IAmb 14 03 57.9
comp=Z,13nm,0.9s
BRVK Borovoye 48.84 320 *d i*P **P 14 03 56.7 -0.6**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
NRIK Noril'sk 49.25 344 P **P 14 03 59.4 -0.8**
comp=Z,9.3nm,0.7s,baz=119,slow=8.8,SNR=21
comp=Z,9.3nm,0.7s
NRIK Noril'sk 49.25 344 *c i*P **P 14 03 59.1 -1.0**
NRIK pmax pmax
comp=Z,12nm,0.8s
AS31 Alice Springs 49.41 168 P **P 14 04 03.0 +1.0**
AS31 IAmb IAmb 14 04 04.8
comp=Z,3.0nm,0.5s
ASAR Alice Springs 49.41 168 P **P 14 04 03.0 +1.1**
ASAR Alice Springs 49.41 168 P **P 14 04 02.7 +0.8**
comp=Z,4.1nm,0.5s,baz=352,slow=8.4,SNR=178
ASAR pP **pP 14 04 27.8 -0.7**
comp=Z,1.1nm,0.5s,baz=351,slow=8.0,SNR=3.0
ASAR PcP **PcP 14 05 23.1 +0.4**
comp=Z,0.8nm,0.7s,baz=339,slow=3.2,SNR=2.9
comp=Z,4.1nm,0.5s
ASAR Alice Springs 49.41 168 P **P 14 04 03.0 +1.1**
AS01 Alice Springs 49.42 168 P **P 14 04 02.1 +0.1**
WRKA Warakurna 50.04 175 P **P 14 04 07.8 +1.1**
OOD Oodnadatta 53.77 168 P **P 14 04 35.4 +1.2**
AB31 Akbulak array 54.83 314 *i* P **P 14 04 41.7 -0.1**
ABKAR Akbulak array 54.83 314 P **P 14 04 41.7 -0.1**
INKA Innaminka 54.91 162 P **P 14 04 44.7 +2.2**
SVE Sverdlovsk 54.98 323 *e*P **P 14 04 42.5 -0.3**
SVE pmax pmax
comp=Z,30nm,0.9s
AKTO Aktyubinsk 56.10 315 P **P 14 04 50.4 -0.5**
ARTI Arti 56.17 322 P **P 14 04 50.2 -1.1**
ARTI Arti 56.17 322 *d i*P **P 14 04 50.4 -0.9**
ARTI 14 05 44.0
ARTI S **S 14 12 32.1 +0.4**
ARTI SS **SS 14 16 16.2 -3.2**
ARTI pmax pmax
comp=Z,19nm,0.6s
LCRK Leigh Creek 56.86 166 P **P 14 04 54.1 -2.3**
TNA Tin City 58.18 27 P **P 14 05 05.3 +0.1**
baz=261
BBOO Buckleboo 58.71 168 P **P 14 05 08.7 -0.6**
F14K Arctic Creek 58.83 27 P **P 14 05 10.7 +0.9**
baz=262
STKA Stephens Creek 59.06 163 P **P 14 05 11.9 +0.2**
comp=Z,2.1nm,0.6s,baz=327,slow=5.4,SNR=5.0
comp=Z,2.1nm,0.6s
STKA Stephens Creek 59.06 163 *e*P **P 14 05 10.9 -0.8**
STKA pmax pmax
comp=Z,2.0nm,0.6s
C16K Lisburne Hills 59.61 24 P **P 14 05 14.9 -0.1**
baz=262
G15K Niukluk 59.73 28 P **P 14 05 17.1 +1.1**
baz=265
J14K Nanvaranak Lak 59.77 30 P **P 14 05 17.1 +0.9**
baz=266
L14K Kuka Creek 60.12 32 P **P 14 05 20.3 +1.7**
baz=268
D17K Noatak River 60.38 25 P **P 14 05 20.8 +0.4**
baz=264
M14K Bethel 60.46 33 P **P 14 05 22.0 +1.0**
baz=269
H16K Elim 60.47 28 P **P 14 05 21.8 +0.8**
baz=267
K15K Wolf Creek Mou 60.69 31 P **P 14 05 22.7 +0.1**
baz=269
E17K Hotham Inlet 60.81 26 P **P 14 05 24.0 +0.7**
baz=266
F17K Baldwin Pennin 60.99 26 P **P 14 05 26.0 +1.5**
baz=266
B18K Kokolik River 61.02 23 P **P 14 05 25.2 +0.5**
baz=264
KIRV Kirov 61.08 325 *de*P **P 14 05 24.5 -0.7**
I17K Unalakleet 61.12 29 P **P 14 05 27.4 +2.0**
baz=268
C18K Utukok River 61.17 24 P **P 14 05 25.8 0.0**
baz=265
E18K Tukpahlearik C 61.31 25 P **P 14 05 27.8 +1.2**
baz=267
A19K Wainwright 61.35 22 P **P 14 05 29.0 +2.2**
baz=265
N15K Kwethluk River 61.38 33 P **P 14 05 27.4 +0.1**
baz=271
H17K Granite Mounta 61.48 28 P **P 14 05 28.7 +0.8**
baz=269
O15K Ungalikthiuk R 61.54 35 P **P 14 05 28.6 +0.2**
baz=272
F18K Selawik 61.64 26 P **P 14 05 30.1 +1.2**
baz=268
J17K VABM Dome 61.83 30 P **P 14 05 30.9 +0.7**
baz=270
M16K Timber Creek 61.92 32 P **P 14 05 31.9 +0.9**
baz=272
G18K Tagagawik 62.03 27 P **P 14 05 32.2 +0.6**
baz=269
N16K Nishlik Lake 62.03 33 P **P 14 05 32.5 +0.8**
baz=272
H18K Honhosa River 62.14 28 P **P 14 05 33.2 +0.9**
baz=270
K17K Iditarod 62.19 31 P **P 14 05 33.3 +0.6**
baz=271
L17K Donlin 62.21 31 P **P 14 05 33.7 +0.9**
baz=272
D19K Kuna River 62.29 24 P **P 14 05 34.1 +0.8**
baz=268
F19K Shaleruckik Mo 62.39 26 P **P 14 05 34.3 +0.4**
baz=270
O16K Kokwok River B 62.41 34 P **P 14 05 34.7 +0.5**
baz=273
E19K Redstone River 62.61 25 P **P 14 05 35.9 +0.5**
baz=270
M17K Holitna River 62.64 32 P **P 14 05 37.8 +2.1**
M17K Holitna River 62.64 32 P **P 14 05 37.0 +1.3**
baz=273
G19K Purcell Mounta 62.67 27 P **P 14 05 37.5 +1.7**
baz=270
N17K Nushagak Hills 62.81 33 P **P 14 05 38.4 +1.6**
baz=273
D20K Etivluk River 62.85 24 P **P 14 05 38.3 +1.3**
baz=270
J18K Innoko River 62.89 30 P **P 14 05 38.4 +1.1**
baz=272
O17K Koliganek Bris 62.91 34 P **P 14 05 37.9 +0.4**
baz=274
H19K Roundabout Mou 62.94 27 IAmb IAmb 14 05 40.7
comp=Z,6.0nm,1.1s
H19K Roundabout Mou 62.94 27 P **P 14 05 38.8 +1.3**
baz=271
L18K Granite Mounta 62.96 31 P **P 14 05 38.9 +1.1**
baz=273
E20K Nigu River 63.00 24 P **P 14 05 38.6 +0.5**
baz=270
F20K Avaraart Lake 63.20 26 P **P 14 05 40.7 +1.4**
baz=271
Q16K King Salmon 63.21 35 P **P 14 05 40.0 +0.6**
baz=275
P17K Kvichak River 63.28 34 P **P 14 05 40.8 +0.8**
baz=275
J19K Poorman 63.35 29 IAmb IAmb 14 05 42.5
comp=Z,5.0nm,0.7s
J19K Poorman 63.35 29 P **P 14 05 41.8 +1.4**
baz=273
M18K Stony River 63.41 32 P **P 14 05 42.2 +1.5**
baz=274
A22K Sinclair Lake 63.42 21 P **P 14 05 42.3 +1.6**
baz=270
C21K Knifebiade Rid 63.51 23 P **P 14 05 42.8 +1.5**
baz=271
B21K Ikpikpuk River 63.56 23 P **P 14 05 42.7 +1.1**
baz=271
H20K Anotleneega Mo 63.59 27 P **P 14 05 42.6 +0.7**
baz=273
SYDH Sydney Hard Ro 63.74 156 P **P 14 05 43.7 +0.5**
I20K Naaghedeneel 63.80 28 P **P 14 05 44.2 +1.0**
baz=274
L19K White Mountain 63.82 31 P **P 14 05 44.6 +1.1**
baz=274
E21K Killik River 63.82 24 IAmb IAmb 14 05 44.6
comp=Z,5.9nm,0.6s
O18K Koktuh Hills 63.85 34 P **P 14 05 44.2 +0.5**
baz=275
P18K Big Mountain, 63.88 34 P **P 14 05 44.9 +0.9**
baz=276
B22K Teshekpuk Lake 63.95 22 P **P 14 05 45.6 +1.5**
baz=272
J20K Nowinta River 63.99 29 P **P 14 05 45.8 +1.3**
J20K IAmb IAmb 14 05 47.0
comp=Z,6.7nm,0.6s
J20K Nowinta River 63.99 29 P **P 14 05 46.3 +1.8**
baz=274
M19K Big River Lodg 64.06 31 P **P 14 05 46.6 +1.5**
baz=275
F21K Alatna River 64.07 25 P **P 14 05 46.4 +1.3**
baz=273
Q18K Katmai Hardscr 64.07 35 P **P 14 05 44.7 -0.6**
baz=276
K20K Telida 64.09 30 IAmb IAmb 14 05 47.7
comp=Z,5.3nm,0.7s
K20K Telida 64.09 30 P **P 14 05 46.2 +1.0**
baz=275
G21K Allakaket 64.10 26 P **P 14 05 46.4 +1.2**
baz=274
N19K Bonanza Creek 64.12 33 P **P 14 05 46.9 +1.3**
baz=276
L20K Farewell, AK 64.25 31 P **P 14 05 47.2 +0.9**
baz=275
O19K Port Alsworth 64.26 33 P **P 14 05 47.1 +0.8**
baz=276
D22K Ayikyak River 64.27 24 P **P 14 05 47.2 +0.9**
baz=273,SNR=7.0
H21K Melozitna Rive 64.45 27 P **P 14 05 49.1 +1.6**
baz=275
F22K John River 64.55 25 P **P 14 05 49.4 +1.3**
baz=274
E22K Anaktuvuk Pass 64.64 24 IAmb IAmb 14 05 51.8
comp=Z,12nm,1.4s
E22K Anaktuvuk Pass 64.64 24 P **P 14 05 49.9 +1.2**
baz=274,SNR=6.6
M20K Styx River 64.66 31 P **P 14 05 50.1 +1.1**
baz=276
CHUM Lake Minchumin 64.82 29 P **P 14 05 51.5 +1.6**
baz=276
I21K Tanana 64.83 28 P **P 14 05 51.4 +1.4**
baz=276
C23K Itkillik River 64.94 22 IAmb IAmb 14 05 53.3
comp=Z,8.4nm,1.1s
C23K Itkillik River 64.94 22 P **P 14 05 52.3 +1.7**
baz=275
CAST Castle Rocks 64.97 30 P **P 14 05 52.3 +1.3**
CAST IAmb IAmb 14 05 53.5
comp=Z,5.5nm,0.8s
PPLA Purkeypile 64.98 30 P **P 14 05 52.1 +0.9**
PPLA Purkeypile 64.98 30 P **P 14 05 52.1 +0.9**
baz=276
D23K Nanushuk River 64.99 23 P **P 14 05 51.9 +0.9**
D23K IAmb IAmb 14 05 53.9
comp=Z,12nm,1.1s
D23K Nanushuk River 64.99 23 P **P 14 05 52.4 +1.4**
baz=275
H22K Ishtalitna Cre 65.01 27 P **P 14 05 52.7 +1.5**
baz=276
SPCR Spurr Chakacha 65.17 32 P **P 14 05 53.0 +0.6**
baz=277
COLD Coldfoot 65.34 25 P **P 14 05 55.0 +1.8**
baz=276
BPAW Bear Paw Mtn. 65.38 29 P **P 14 05 55.0 +1.4**
baz=277
SKT Skwentna 65.40 31 P **P 14 05 54.3 +0.6**
baz=278
TOLK Toolik Lake Re 65.42 24 IAmb IAmb 14 05 56.2
comp=Z,3.5nm,0.6s
TOLK Toolik Lake Re 65.42 24 P **P 14 05 54.4 +0.6**
baz=276,SNR=5.1
G23K Bananza Creek 65.47 26 P **P 14 05 55.8 +1.7**
baz=277
E23K Chandalar 65.47 24 IAmb IAmb 14 05 56.8
comp=Z,5.7nm,0.9s
E23K Chandalar 65.47 24 P **P 14 05 56.5 +2.4**
baz=276
C24K Franklin Bluff 65.61 22 P **P 14 05 55.9 +1.0**
baz=276
D24K Happy Valley 65.63 23 P **P 14 05 56.5 +1.4**
baz=277
H23K Yukon River 65.77 27 IAmb IAmb 14 05 59.6
comp=Z,8.4nm,1.1s
H23K Yukon River 65.77 27 P **P 14 05 57.3 +1.3**
baz=278
SUA Susitna One 65.84 32 P **P 14 05 57.6 +0.9**
SUA Susitna One 65.84 32 P **P 14 05 57.9 +1.2**
baz=278
E24K Your Creek 65.89 24 P **P 14 05 58.8 +1.9**
baz=277
CUT Chulitna 65.92 31 P **P 14 05 57.2 +0.2**
CUT Chulitna 65.92 31 P **P 14 05 57.5 +0.4**
baz=278
I23K Minto, Yukon-K 65.94 28 P **P 14 05 58.2 +1.1**
baz=278
M22K Willow 66.09 31 P **P 14 05 58.8 +0.7**
baz=279
NEA2 Nenana 66.14 28 IAmb IAmb 14 06 00.3
comp=Z,6.9nm,0.6s
NEA2 Nenana 66.14 28 P **P 14 05 59.6 +1.2**
baz=278
F24K Squaw Lake 66.19 25 IAmb IAmb 14 06 01.7
comp=Z,8.9nm,0.8s
F24K Squaw Lake 66.19 25 P **P 14 06 00.5 +1.8**
baz=278
VRH Novokhopyorsk 66.30 317 *e*P **P 14 05 57.4 -2.3**
VRH pmax pmax
comp=Z,16nm,1.5s
MCK McKinley 66.33 29 P **P 14 06 00.5 +0.8**
baz=279
RND Reindeer 66.41 29 P **P 14 06 00.2 -0.1**
H24K Noodor Dome 66.44 27 P **P 14 06 01.7 +1.3**
baz=279
G24K Hadweenzic Riv 66.47 26 IAmb IAmb 14 06 03.2
comp=Z,5.0nm,0.7s
G24K Hadweenzic Riv 66.47 26 P **P 14 06 02.3 +1.7**
baz=279

D25K	Kavik River	66.48	23	IAmb	IAmb	14 06 02.8
	comp=Z,5.2nm,0.8s					
D25K	Kavik River	66.48	23	P	P	14 06 02.3 +1.8
	baz=279					
PMR	Palmer	66.58	31	P	P	14 06 01.8 +0.6
	baz=280					
COLA	College	66.61	28⇑	eP	P	14 06 02.5 +1.1
COLA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
SEW	Seward	66.68	33	P	P	14 06 02.3 +0.4
	baz=280					
POKR	Poker Plat Res	66.75	27	P	P	14 06 03.8 +1.5
	baz=280					
C26K	Camden Bay	66.89	22	P	P	14 06 05.2 +2.2
	baz=280					
SML	Sawmill	66.92	31	P	P	14 06 04.3 +0.8
	baz=280					
KNK	Knik Glacier	66.93	31	P	P	14 06 03.8 +0.2
	baz=280					
E25K	Arctic Village	66.96	24	P	P	14 06 05.3 +1.7
	baz=280					
G25K	Bearman Lake	67.00	26	P	P	14 06 05.6 +1.8
	baz=280					
F25K	Christian Rive	67.03	25	IAmb	IAmb	14 06 07.1
	comp=Z,6.2nm,0.7s					
F25K	Christian Rive	67.03	25	P	P	14 06 06.1 +2.0
	baz=280					
IL31		67.03	28	P	P	14 06 03.9 -0.2
IL31				IAmb	IAmb	14 06 04.3
	comp=Z,7.9nm,1.4s					
ILAR	Eielson Array	67.03	28	P	P	14 06 03.2 -0.9
	comp=Z,0.9nm,0.5s,baz=254,slow=5.0,SNR=40					
	comp=Z,0.9nm,0.5s					
HDA	Harding Lake	67.07	28	P	P	14 06 04.8 +0.5
	baz=280					
PWL	Port Wells	67.09	32	P	P	14 06 04.6 0.0
	baz=281					
KBZ	Khabaz	67.11	309	P	P	14 06 05.1 +0.2
	comp=Z,5.8nm,0.8s,baz=106,slow=4.3,SNR=11					
	comp=Z,5.8nm,0.8s					
KBZ	Khabaz	67.11	309	ceP	P	14 06 05.4 +0.5
KBZ				pmax	pmax	
	comp=Z,8.0nm,0.9s					
H25L	Birch Creek	67.20	26	P	P	14 06 06.9 +1.8
	baz=281					
KIV	Kislovodsk	67.20	309	P	P	14 06 06.4 +0.7
KIV	Kislovodsk	67.20	309	eP	P	14 06 06.6 +0.9
KIV				pmax	pmax	
	comp=Z,15nm,1.1s					
KIV	Kislovodsk	67.20	309	P	P	14 06 06.1 +0.4
	comp=Z,21nm,1.0s					
SHA1	Shidzhatmaz	67.28	309	c iP	P	14 06 07.2 +0.9
C27K	Jago River	67.35	22	P	P	14 06 07.1 +1.0
C27K				IAmb	IAmb	14 06 08.6
	comp=Z,4.9nm,0.5s					
C27K	Jago River	67.35	22	P	P	14 06 08.0 +2.0
	baz=281					
SCM	Sheep Creek Mo	67.38	31	P	P	14 06 07.1 +0.7
	baz=281					
BMAR	Burnt Mountain	67.46	25	P	P	14 06 07.9 +1.1
PRP	Porcupine Dome	67.46	27	P	P	14 06 07.8 +0.8
	baz=281					
F26K	Sheenjek River	67.57	24	IAmb	IAmb	14 06 10.4
	comp=Z,6.3nm,0.9s					
F26K	Sheenjek River	67.57	24	P	P	14 06 09.6 +2.1
	baz=282					
K24K	Donnelly Dome	67.69	29	P	P	14 06 08.6 +0.3
	baz=282					
J25K	Salcha River,	67.70	28	P	P	14 06 08.6 +0.1
	baz=282					
LPSR	Galich'ya Gora	67.71	319	eP	P	14 06 07.1 -1.5
LPSR				pmax	pmax	
	comp=Z,21nm,1.6s					
VORR	Voronezh	67.75	318	eP	P	14 06 07.1 -1.7
VORR				pmax	pmax	
	comp=Z,15nm,1.4s					
G26K	Porcupine Rive	67.86	25	P	P	14 06 11.1 +1.9
	baz=282					
M24K	Tolsona, Glenn	67.86	31	P	P	14 06 10.8 +1.3
	baz=282					
PAX	Paxson	68.00	30	P	P	14 06 10.5 +0.2
	baz=282					
KLU	Klutina	68.11	31	P	P	14 06 11.9 +0.8
	baz=282					
RIDG	Independent Ri	68.11	29	P	P	14 06 12.0 +1.0
	baz=283					
HARP	HAARP	68.27	30	P	P	14 06 12.6 +0.7
	baz=283					
D27M	Malcolm River	68.38	22	IAmb	IAmb	14 06 14.9
	comp=Z,5.8nm,0.5s					
D27M	Malcolm River	68.38	22	P	P	14 06 14.4 +1.9
	baz=284					
EYAK	Cordova Ski Ar	68.40	32	P	P	14 06 13.3 +0.6
EYAK	Cordova Ski Ar	68.40	32	P	P	14 06 13.5 +0.8
	baz=283					
E27K	Coleen River	68.41	24	IAmb	IAmb	14 06 15.1
	comp=Z,3.3nm,0.6s					
E27K	Coleen River	68.41	24	P	P	14 06 14.2 +1.5
	baz=284					
SCRK	Sand Creek	68.43	28	P	P	14 06 13.6 +0.6
	baz=283					
DOT	Dot Lake	68.47	29	P	P	14 06 13.6 +0.4
I26K	Coal Creek Min	68.47	27	P	P	14 06 13.1 -0.1
	baz=283					
J26L	Joseph Creek	68.49	28	P	P	14 06 13.2 -0.2
J26L				IAmb	IAmb	14 06 14.8
	comp=Z,6.1nm,0.8s					
J26L	Joseph Creek	68.49	28	P	P	14 06 12.7 -0.7
	baz=283,SNR=7.3					
OBN	Obninsk	68.51	322	P	P	14 06 14.1 +0.6
	comp=Z,21nm,0.6s					
G27K	Doyon Strip	68.71	25	P	P	14 06 16.0 +1.3
	baz=284					
BMRM	Bremner River	68.85	32	P	P	14 06 15.8 +0.2
	baz=284					
H27K	Steamboat Moun	68.91	26	P	P	14 06 17.8 +1.9
	baz=284					
L26K	Log Cabin Wild	68.93	29	P	P	14 06 17.8 +1.8
	baz=284					
I27K	Kandik River	69.03	26	P	P	14 06 18.2 +1.6
	baz=284					
E28M	Babbage River	69.04	23	IAmb	IAmb	14 06 18.9
	comp=Z,5.3nm,0.6s					
E28M	Babbage River	69.04	23	P	P	14 06 18.4 +1.8
	baz=285					
D28M	Stokes Point	69.12	22	P	P	14 06 18.8 +1.8
	baz=286					
KAIM	Kayak Island	69.19	33	P	P	14 06 18.1 +0.5
	baz=284					
K27K	Chicken	69.23	28	IAmb	IAmb	14 06 20.3
	comp=Z,5.7nm,0.8s					
K27K	Chicken	69.23	28	P	P	14 06 19.2 +1.3
	baz=285					
M26K	Nabesna, AK	69.24	30	P	P	14 06 19.0 +1.0
M26K	Nabesna, AK	69.24	30	P	P	14 06 19.3 +1.3
	baz=284					
L27K	Beaver Creek,	69.59	29	P	P	14 06 21.6 +1.5
	baz=285					
E29M	Blow River	69.68	23	P	P	14 06 22.4 +1.9
	baz=287					
ARCES	ARCESS Array B	69.71	338	P	P	14 06 20.2 -0.5
	comp=Z,0.8nm,0.4s,baz=69,slow=7.3,SNR=17					
ARCES				pP	PcP	14 06 42.9 +0.1
	comp=Z,0.8nm,0.3s,baz=79,slow=5.6,SNR=2.1					
	comp=Z,0.8nm,0.4s					
ARCES	ARCESS Array B	69.71	338	eP	P	14 06 20.5 -0.2
I28M	Miner Creek	69.74	26	IAmb	IAmb	14 06 23.6
	comp=Z,9.0nm,0.8s					
I28M	Miner Creek	69.74	26	P	P	14 06 22.8 +1.7
	baz=286					
M27K	Edge Creek, AK	69.76	30	P	P	14 06 22.9 +1.6
	baz=286					
G29M	Pine Creek	70.07	25	P	P	14 06 23.6 +0.6
G29M				IAmb	IAmb	14 06 25.2
	comp=Z,10.0nm,0.7s					
G29M	Pine Creek	70.07	25	P	P	14 06 24.5 +1.6
	baz=287,SNR=9.3					
H29M	Whitestone	70.14	25	P	P	14 06 24.9 +1.5
	baz=287					
BVCY	Beaver Creek	70.20	30	P	P	14 06 24.5 +0.7
	baz=286					
MESA	MESA	70.32	32	P	P	14 06 26.1 +1.3
	baz=286					
MARD	Mardin	70.35	303	P	P	14 06 26.1 +0.7
DAWY	Dawson	70.36	28	P	P	14 06 25.7 +0.8
DAWY				IAmb	IAmb	14 06 26.7
	comp=Z,8.4nm,0.7s					
DAWY	Dawson	70.36	28	P	P	14 06 26.0 +1.2
	baz=287,SNR=7.3					
I29M	Ogilvie Camp,	70.42	26	P	P	14 06 25.7 +0.6
I29M	Ogilvie Camp,	70.42	26	P	P	14 06 25.8 +0.7
	baz=288					
YUK3	Moose Creek	70.56	30	P	P	14 06 27.3 +1.0
	baz=287					
F30M	Barrier River	70.68	24	P	P	14 06 27.7 +1.1
	baz=289					
G30M	tAoh Zraii Nji	70.72	24	IAmb	IAmb	14 06 28.2
	comp=Z,5.4nm,0.7s					
G30M	tAoh Zraii Nji	70.72	24	P	P	14 06 27.9 +0.9
	baz=289					
J29N	Klondike Camp	70.73	27	P	P	14 06 28.8 +1.7
	baz=288,SNR=15					
O28M	Mount Upton	70.98	31	P	P	14 06 30.7 +1.8
	baz=287					
YUK8	Steele Glacier	71.03	31	P	P	14 06 30.0 +0.8
	baz=288					
L29M	L29M	71.19	28	P	P	14 06 32.1 +2.2
	baz=288,SNR=9.4					
K29M	Barlow Dome	71.22	28	P	P	14 06 31.4 +1.3
K29M				IAmb	IAmb	14 06 32.5
	comp=Z,6.8nm,0.8s					
K29M	Barlow Dome	71.22	28	P	P	14 06 31.8 +1.7
	baz=289					
I30M	Mount Dempster	71.23	26	IAmb	IAmb	14 06 32.0
	comp=Z,8.9nm,0.6s					
I30M	Mount Dempster	71.23	26	P	P	14 06 31.4 +1.2
	baz=289,SNR=12					
INK	Inuvik	71.24	23	IAmb	IAmb	14 06 31.4
	comp=Z,4.9nm,0.7s					
INK	Inuvik	71.24	23	P	P	14 06 30.4 +0.4
INK	Inuvik	71.24	23	P	P	14 06 31.0 +1.0
	baz=291					
M29M	Somme Creek	71.25	29	IAmb	IAmb	14 06 33.2
	comp=Z,1.0nm,0.8s					
M29M	Somme Creek	71.25	29	P	P	14 06 31.9 +1.6
	baz=288					
J30M	Hart River	71.47	27	P	P	14 06 33.1 +1.5
	baz=289					
F31M	Tsiigehtchic	71.47	23	P	P	14 06 31.8 +0.4
F31M				IAmb	IAmb	14 06 32.5
	comp=Z,7.0nm,0.7s					
F31M	Tsiigehtchic	71.47	23	P	P	14 06 32.0 +0.6
	baz=291					
YUK4	Talbot Arm	71.52	30	P	P	14 06 33.0 +0.9
	baz=289					
YUK6	Outpost Mounta	71.78	31	P	P	14 06 35.4 +1.8
	baz=289					
H31M	Peel River	71.83	25	P	P	14 06 34.2 +0.5
H31M				IAmb	IAmb	14 06 35.0
	comp=Z,7.4nm,0.6s					
H31M	Peel River	71.83	25	P	P	14 06 34.6 +0.9
	baz=291					
O29M	Mount Kennedy	71.89	31	P	P	14 06 36.0 +1.8
	baz=289					
M30M	Minto, Yukon	71.94	29	IAmb	IAmb	14 06 37.0
	comp=Z,7.0nm,0.7s					
M30M	Minto, Yukon	71.94	29	P	P	14 06 36.4 +2.0
	baz=290,SNR=5.2					
MAYO	Mayo, Yukon	71.98	28	P	P	14 06 36.6 +2.0
	baz=290,SNR=6.7					
FINES	FINESS Array B	72.05	330	P	P	14 06 34.4 -0.6
	comp=Z,2.9nm,0.5s,baz=52,slow=6.1,SNR=44					
	comp=Z,2.9nm,0.5s					
FINES	FINESS Array B	72.05	330	eP	P	14 06 34.7 -0.2
FINES				pmax	pmax	
	comp=Z,3.0nm,0.4s					
N30M	Aishikik Lake	72.19	30	P	P	14 06 37.6 +1.7
	baz=290					
HYT	Haines Junctio	72.22	31	IAmb	IAmb	14 06 39.2
	comp=Z,9.5nm,0.9s					
HYT	Haines Junctio	72.22	31	P	P	14 06 38.1 +2.0
	baz=290					
P30M	Million Dollar	72.71	31	P	P	14 06 41.0 +2.0
	baz=290					
N31M	Braeburn, Yuko	72.77	30	P	P	14 06 41.6 +2.2
	baz=291					
O30N	Mendenhall	72.89	30	P	P	14 06 41.6 +1.6
	baz=291					
M31M	Drury Creek, Y	73.12	29	P	P	14 06 42.6 +1.2
M31M	Drury Creek, Y	73.12	29	P	P	14 06 42.9 +1.5
	baz=292,SNR=9.6					
PLBC	Pleasant Camp	73.22	32	P	P	14 06 44.0 +2.0
	baz=291					
WHY	Whitehorse	73.48	30	P	P	14 06 45.5 +1.9
	baz=292,SNR=5.8					
MNK	Minsk	73.50	323	i P	P	14 06 44.1 +0.4
MNK				i *PP	pwP	14 07 14.9 +1.1
MNK				i		14 09 27.7
MNK				i PPP	PPP	14 11 13.4
MNK				i S	SKiKP	14 16 03.5 +0.7
MNK				i SS	SS	14 20 47.8 -0.5
MNK				pmax	pmax	
	comp=Z,8.0nm,0.7s					
MNK				pmax	pmax	
	comp=E,21nm,1.3s					
MNK				pmax	pmax	
	comp=N,22nm,1.0s					
MNK				MLR	MLR	
	comp=N,2μm,21.0s					
MNK				MLR	MLR	
	comp=E,3μm,20.0s					
MNK				MLR	MLR	
	comp=Z,192nm,19.0s					
FARO	Faro, Yukon	73.57	28	IAmb	IAmb	14 06 46.2
	comp=Z,11nm,0.8s					
FARO	Faro, Yukon	73.57	28	P	P	14 06 45.6 +1.6
	baz=293,SNR=9.3					
SKAG	Skagway	73.72	32	P	P	14 06 46.8 +1.9
	baz=292					
C36M	Paulatuk	73.93	20	IAmb	IAmb	14 06 46.5
	comp=Z,6.8nm,0.6s					
C36M	Paulatuk	73.93	20	P	P	14 06 45.7 -0.2
	baz=299					
AKASG	Malin Array Be	74.04	319	P	P	14 06 45.8 -1.1
	comp=Z,2.0nm,0.5s,baz=59,slow=6.6,SNR=14					
	comp=Z,2.0nm,0.5s					
AKASG	Malin Array Be	74.04	319	eP	P	14 06 46.0 -0.9
AKASG				pmax	pmax	
	comp=Z,4.0nm,0.6s					
AKBB	Malin Array Si	74.04	319	IAmb	IAmb	14 06 47.2
	comp=Z,4.6nm,0.7s					
AKBB	Malin Array Si	74.04	319⇑	iP	P	14 06 46.0 -0.9
AKBB				pmax	pmax	
	comp=Z,13nm,1.8s					
AKBB	Malin Array Si	74.04	319	P	P	14 06 46.0 -0.9
KIEV	Kiev	74.06	319	P	P	14 06 46.2 -0.8
KIEV	Kiev	74.06	319	P	P	14 06 46.2 -0.8
KIEV				pmax	pmax	
	comp=Z,4.0nm,0.7s					
KIEV	Kiev	74.06	319	P	P	14 06 46.0 -1.0
	comp=Z,23nm,0.6s					
AK10	Malin Array Si	74.06	319	P	P	14 06 47.6 +0.6
N32M	Quiet Lake	74.10	29	P	P	14 06 48.5 +1.3
N32M				IAmb	IAmb	14 06 49.4
	comp=Z,12nm,0.8s					
N32M	Quiet Lake	74.10	29	P	P	14 06 48.7 +1.5
	baz=293					
AK18	Malin Array Si	74.13	319	P	P	14 06 46.2 -1.2
P32M	Atlin	74.43	31	P	P	14 06 51.1 +2.1
	baz=293					
R32K	Eaglecrest	74.56	33	P	P	14 06 52.0 +2.3
	baz=293					
P33M	Teslin, Yukon	74.60	30	IAmb	IAmb	14 06 52.4
	comp=Z,8.6nm,0.8s					
P33M	Teslin, Yukon	74.60	30	P	P	14 06 51.9 +1.8
	baz=294,SNR=5.4					
S32K	Killisnoo	74.84	33	P	P	14 06 52.8 +1.5
	baz=293					
BR131	Keskin Array S	74.89	307	P	P	14 06 52.4 +0.1
BR131	Keskin Array S	74.89	307	c iP	P	14 06 52.3 +0.1
BRTR	Keskin Array B	74.89	307	P	P	14 06 51.5 -0.8
BRTR	Keskin Array B	74.89	307	P	P	14 06 52.4 +0.1
	comp=Z,2.1nm,0.6s,baz=87,slow=4.9,SNR=18					
	comp=Z,2.1nm,0.6s					
BR104	Keskin Array S	74.90	307	P	P	14 06 51.9 -0.4
	comp=Z,3.0nm,0.8s					
BR106	Keskin Array S	74.91	307	P	P	14 06 51.9 -0.4
	comp=Z,4.4nm,1.2s					
BR105	Keskin Array S	74.91	307	P	P	14 06 52.6 +0.2
	comp=Z,4.6nm,0.9s					
ANTO	Ankara	75.45	307	P	P	14 06 55.3 -0.1
ANTO	Ankara	75.45	307	P	P	14 06 55.3 -0.1
	comp=Z,6.2nm,0.6s					
R33M	Jennings River	75.79	31	P	P	14 06 59.1 +2.1
R33M				IAmb	IAmb	14 06 59.7
	comp=Z,5.7nm,0.7s					
R33M	Jennings River	75.79	31	P	P	14 06 58.6 +1.6
	baz=295					
U33K	Whale Pass	76.12	34	P	P	14 07 00.8 +2.1
	baz=294					
S34M	Telegraph Cree	76.35	32	P	P	14 07 01.7 +1.7
	baz=296					
CRAG	Craig	76.39	35	P	P	14 07 01.8 +1.6
DLBC	Dease Lake	76.64	31	P	P	14 07 03.5 +1.7
	baz=296					
T35M	Bob Quinn	77.18	33	P	P	14 07 06.0 +1.3
	baz=296					
VRI	Vrincioaia	77.38	315	P	P	14 07 06.3 +0.3
VRI	Vrincioaia	77.38	315	P	P	14 07 06.3 +0.3
	comp=Z,7.5nm,1.5s					
BUR08	Bucovina Ar. S	77.64	317	P	P	14 07 07.3 -0.3
BURAR	Bucovina Array	77.64	317	P	P	14 07 07.3 -0.3
MLR	Muntele Rosu	78.03	315	P	P	14 07 10.0 +0.2
MLR	Muntele Rosu	78.03	315	P	P	14 07 10.0 +0.2
HFS	Hagfors	78.11	331	P	P	14 07 09.2 -0.6
	comp=Z,3.0nm,0.6s,baz=90,slow=6.4,SNR=14					
	comp=Z,3.0nm,0.6s					
TOAD	Toad River Com	78.66	30	P	P	14 07 14.3 +1.4
	baz=300					
NB2	NORSAR Subarra	78.69	333	P	P	14 07 12.2 -0.8
	comp=Z,0.5nm,0.4s,baz=54,slow=6.2					
NB2	NORSAR Subarra	78.69	333	P	P	14 07 12.8 -0.2
NOA	NORSAR Array B	78.69	333	P	P	14 07 12.0 -1.0
	comp=Z,2.2nm,0.9s,baz=73,slow=6.0,SNR=6.9					
NOA				LR	LR	14 47 57.1
	comp=Z,8.7nm,19.6s,baz=305,slow=40					
	comp=Z,2.2nm,0.9s					
NOA	NORSAR Array B	78.69	333	eP	P	14 07 12.6 -0.4
NORES	NORESS Array B	78.72	332	P	P	14 07 12.5 -0.6
LANS	Liptovska Anna	80.44	320	eP	P	14 07 23.5 +0.8
LANS	Liptovska Anna	80.44	320	eP	P	14 07 23.5 +0.8
YKA	Yellowknife Ar	80.95	24	P	P	14 07 24.2 -0.8
	comp=Z,4.4nm,0.6s,baz=305,slow=5.4,SNR=82					
	comp=Z,4.4nm,0.6s					
YKA	Yellowknife Ar	80.95	24	eP	P	14 07 25.7 +0.6
YKA				pmax	pmax	
	comp=Z,5.0nm,0.6s					
MODS	Modra-Piesok	82.08	320	eP	P	14 07 34.6 +3.2
MODS	Modra-Piesok	82.08	320	eP	P	14 07 34.6 +3.2
CLL	Collm	82.98	324	i Px	Px	14 07 34.5
GERES	GERESS Array B	83.89	322	P	P	14 07 39.7 -1.1
	comp=Z,2.9nm,0.8s,baz=69,slow=4.4,SNR=5.7					
	comp=Z,2.9nm,0.8s					
GERES	GERESS Array B	83.89	322	eP	P	14 07 41.1 +0.3
GERES				pmax	pmax	
	comp=Z,3.0nm,0.8s					
B08A	Colville Reser	87.32	37	P	P	14 07 59.1 +1.4
B08A				IAmb	IAmb	14 08 00.8
	comp=Z,5.3nm,1.2s					
LODK	Lodwar	87.63	273	P	P	14 07 59.4 -0.5
EKA	Eskdalemuir Ar	88.18	333	P	P	14 08 00.8 -0.8
	comp=Z,3.0nm,0.8s,baz=58,slow=4.4,SNR=1.7					
	comp=Z,3.0nm,0.8s					
BNI	Bardonecchia	90.00	321	P	P	14 08 10.9 +0.4
BNI				IAmb	IAmb	14 08 26.0
	comp=Z,9.6nm,1.2s					
BNI	Bardonecchia	90.00	321	P	P	14 08 10.9 +0.4
BNI				pmax	pmax	
	comp=Z,10.0nm,1.3s					
FCC	Fort Churchill	90.53	19	P	P	14 08 12.5 0.0
FCC				IAmb	IAmb	14 08 13.8
	comp=Z,4.5nm,0.8s					
FCC	Fort Churchill	90.53	19	P	P	14 08 12.5 0.0
FCC				pmax	pmax	
	comp=Z,4.0nm,0.9s					
FFC	Flin Flon	91.08	25	P	P	14 08 16.1 +1.0
FFC				IAmb	IAmb	14 08 17.4
	comp=Z,3.7nm,0.7s					
FFC	Flin Flon	91.08	25	P	P	14 08 16.1 +1.0
FFC				pmax	pmax	
	comp=Z,4.0nm,0.7s					
NVAR	Mina Array Bea	93.76	44	P	P	14 08 30.1 +1.9
	comp=Z,0.5nm,0.6s,baz=285,slow=6.0,SNR=3.7					
ESDC	Sonseca Array	99.48	322	LR	LR	14 59 44.2
	comp=Z,49nm,19.1s,baz=90,slow=39					

*IDC **15** 14:02:00.7±0.8, 15°.04S×167°.40E, h120km±7km, mb3.9/14, mbtmp4.3/16, MS3.4/4, Error ellipse: s-maj=16.0km s-min=13.3km az=115.0*

*NOU **15** 14:02:01.4, 15°.04S×167°.35E, h106km, mb4.7/37, Vanuatu Islands*

*NEIC **15** 14:02:01.7±1.5, 14°.99S±0°.07×167°.5E±0°.1, h122km±8km, mb4.6/34, Error ellipse: s-maj=17.0km s-min=9.5km az=76.0*

ISC 15 14:02:01.8±0.4, 15°.01S±0°.05×167°.38E±0°.06, h129km, n95, σ1°.08/105, mb4.3/29, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	4.55	341	P	Pn	14 03 07.8	-1.1
KOUNC	Koumac, New Ca	6.27	208	P	Pn	14 03 31.1	-0.6
MARNC	Mare, Loyalty	6.47	175	P	Pn	14 03 32.5	-2.2
HURO	Huro Makira	7.00	310	P	Pn	14 03 41.3	-0.5
YATNC	Mamie plateau,	7.03	184	P	Pn	14 03 40.2	-2.0
DZM	Mont Dzumac	7.08	187		Pn	14 03 42.4	-0.6
DZM				Sn	Sn	14 04 60.0	-2.2
DZM	Mont Dzumac	7.08	187	P	Pn	14 03 42.2	-0.8
	260nm,0.4s,baz=32,slow=13,SNR=415						
DZM				S	Sn	14 05 00.7	-1.5
	321nm,0.4s,baz=348,slow=23,SNR=12						
ONTNC	Ouen Toro	7.32	187		Pn	14 03 45.9	-0.1
ONTNC				Sn	Sn	14 05 08.5	+0.8
PINNC	Pines Island,	7.57	180		Pn	14 03 49.4	-0.1
PINNC				Sn	Sn	14 05 14.0	+0.3
NGOA	Tingoa Renbel	7.91	295	P	Pn	14 03 53.8	-0.3
HNR	Honiara	9.14	306		Pn	14 04 10.7	0.0
HNR				Sn	Sn	14 05 51.2	-0.7
HNR	Honiara	9.14	306	P	Pn	14 04 09.7	-0.9
	91nm,0.5s,baz=188,slow=6.6,SNR=8.1						
HNR				S	Sn	14 05 50.8	-1.0
	64nm,0.4s,baz=195,slow=23,SNR=5.9						
HNR	Honiara	9.14	306	P	Pn	14 04 11.1	+0.4
SAVO	Savo Central	9.41	307	P	Pn	14 04 15.4	+1.0
TATA	Tatamba Isabel	9.91	311	P	Pn	14 04 20.6	-0.5
MSVF	Nonsavu	10.59	106	P	Pn	14 04 29.4	-0.9
	4.5nm,0.8s,baz=238,slow=15,SNR=2.0						
MSVF	Nonsavu	10.59	106	P	Pn	14 04 31.9	+1.6
RK1H	Rockhampton Ha	17.98	240	P	Pn	14 06 05.0	+1.3
EIDS	Eidsvold	18.43	233		Pn	14 06 09.6	+0.6
EIDS				IAmb	IAmb	14 06 10.5	
	comp=Z,38nm,0.7s						
EIDS	Eidsvold	18.43	233	P	Pn	14 06 09.6	+0.6
PMG	Port Moresby	20.53	283	P	P	14 06 31.5	+1.3
PMG				IAmb	IAmb	14 06 33.8	
	comp=Z,27nm,0.9s						
PMG	Port Moresby	20.53	283	P	P	14 06 31.5	+1.3
	comp=Z,27nm,0.9s,baz=120,slow=6.7,SNR=5.1						
	comp=Z,27nm,0.9s						
OUZ	Omahuta	20.89	166	P	P	14 06 35.6	+1.8
ARMA	Armidale	21.09	221	P	P	14 06 38.3	+2.1
ARMA				IAmb	IAmb	14 06 39.8	
	comp=Z,46nm,1.2s						
ARMA	Armidale	21.09	221	P	P	14 06 38.3	+2.1
MTSU	Mount Surprise	22.32	259	P	P	14 06 49.7	+0.6
COEN	Coen	23.46	269	P	P	14 06 59.8	-0.1
COEN	Coen	23.46	269	P	P	14 07 01.2	+1.3
TOZ	Tahuroa Road	23.75	164	P	P	14 07 02.9	+0.6
TOZ				IAmb	IAmb	14 07 05.0	
	comp=Z,13nm,0.6s						
QLP	Quilpie	24.47	238	P	P	14 07 10.2	+1.2
URZ	Urewera	24.71	161	LR	LR	14 15 46.9	
	comp=Z,66nm,18.0s,baz=86,slow=34						
URZ	Urewera	24.71	161	P	P	14 07 12.3	+1.3
RTZ	Ruatahuna	25.00	162	P	P	14 07 13.7	0.0
RTZ				IAmb	IAmb	14 07 17.1	
	comp=Z,27nm,1.4s						
BKZ	Black Stump Fm	25.36	163	P	P	14 07 17.2	+0.2
BKZ				IAmb	IAmb	14 07 28.4	
	comp=Z,13nm,1.3s						
BKZ	Black Stump Fm	25.

STKA	Stephens Creek	28.90	230	P	P	14 07 49.9 +1.2
STKA	Stephens Creek	28.90	230	P	P	14 07 49.4 +0.7
	comp=Z,21nm,0.8s,baz=43,slow=8.1,SNR=32					
	comp=Z,21nm,0.8s					
STKA	Stephens Creek	28.90	230	P	P	14 07 50.0 +1.3
TOO	Toolangi	29.69	217	P	P	14 07 56.1 +0.4
TOO				IAmb	IAmb	14 08 16.9
	comp=Z,9.3nm,1.4s					
LCRK	Leigh Creek	30.86	235	P	P	14 08 07.6 +1.6
HTT	Hallett	31.62	229	P	P	14 08 13.9 +1.2
WR8	Warramunga Arr	31.71	256	P	P	14 08 12.7 -1.0
WB0	Warramunga Arr	31.80	257	P	P	14 08 13.5 -1.0
WB2	Warramunga Arr	31.85	256	P	P	14 08 13.5 -1.4
WRA	Warramunga Arr	31.86	256	P	P	14 08 13.3 -1.6
WRA	Warramunga Arr	31.86	256	P	P	14 08 13.4 -1.5
	comp=Z,1.1nm,0.6s,baz=85,slow=8.9,SNR=20					
WRA				pP	pP	14 08 40.5 -1.8
	comp=Z,1.3nm,0.6s,baz=86,slow=9.1,SNR=4.3					
WRA				PcP	PcP	14 11 03.0 +0.1
	comp=Z,0.3nm,0.5s,baz=89,slow=3.1,SNR=2.4					
	comp=Z,1.1nm,0.6s					
OOD	Oodnadatta	32.03	241	P	P	14 08 17.5 +1.2
AS01	Alice Springs	32.63	250	P	P	14 08 21.5 -0.2
AS31	Alice Springs	32.67	250	P	P	14 08 21.4 -0.7
ASAR	Alice Springs	32.68	250	P	P	14 08 21.0 -1.0
	comp=Z,3.2nm,0.5s,baz=77,slow=9.4,SNR=59					
ASAR				pP	pP	14 08 47.8 -2.0
	comp=Z,3.1nm,0.7s,baz=77,slow=9.1,SNR=6.1					
ASAR				PcP	PcP	14 11 04.2 -0.8
	comp=Z,0.6nm,0.6s,baz=94,slow=1.9,SNR=4.5					
ASAR				S	S	14 13 26.2 -2.9
	comp=Z,1.1nm,0.9s,baz=80,slow=15,SNR=6.2					
ASAR				LR	LR	14 21 33.8
	comp=Z,71nm,18.3s,baz=88,slow=36					
	comp=Z,3.2nm,0.5s					
BBOO	Buckleboo	33.50	232	P	P	14 08 29.6 +0.5
BBOO	Buckleboo	33.50	232	P	P	14 08 29.9 +0.9
MTN	Manton Dam	35.23	269	P	P	14 08 43.1 -1.0
MTN				IAmb	IAmb	14 08 54.1
	comp=Z,8.8nm,1.2s					
KNRA	Kununurra	37.22	264	P	P	14 09 00.3 -0.7
KNRA				IAmb	IAmb	14 09 28.6
	comp=Z,16nm,1.4s					
WRKA	Warakurna	37.94	248	P	P	14 09 07.1 0.0
FORT	Forrest	39.25	240	P	P	14 09 18.4 +0.5
FORT				IAmb	IAmb	14 09 24.8
	comp=Z,16nm,0.9s					
FORT	Forrest	39.25	240	P	P	14 09 19.2 +1.3
MCQ	Macquarie Isla	39.95	188	P	P	14 09 23.5 +0.2
FITZ	Fitzroy Crossi	40.07	260	P	P	14 09 23.9 -1.0
FITZ	Fitzroy Crossi	40.07	260	P	P	14 09 26.3 +1.4
MMRI	Maumere	44.58	273	P	P	14 10 01.4 0.0
MBWA	Marble Bar	45.58	255	P	P	14 10 09.2 -0.1
MEEK	Meekatharra	46.78	247	P	P	14 10 19.4 +0.8
TOLI2	Tolitoli	48.79	285	P	P	14 10 33.9 -0.4
TOLI2				IAmb	IAmb	14 10 37.8
	comp=Z,4.6nm,0.8s					
MORW	Morawa	49.25	244	P	P	14 10 37.5 0.0
MORW				IAmb	IAmb	14 11 07.1
	comp=Z,5.9nm,0.8s					
JGF	Kuroka	57.81	331	P	P	14 11 40.1 +0.3
JGF				IAmb	IAmb	14 11 56.3
	comp=Z,17nm,1.3s					
MJAR	Matsushiro Arr	58.20	332	P	P	14 11 41.9 -0.6
	comp=Z,2.2nm,0.9s,baz=151,slow=5.7,SNR=4.4					
	comp=Z,2.2nm,0.9s					
JNU	Nakatsue	59.21	324	P	P	14 11 49.8 +0.2
TPUB	Ta-pu	59.50	309	P	P	14 11 51.6 -0.2
YHNB	Yeheng	59.75	311	P	P	14 11 53.9 +0.4
JKA	Kamikawa-asahi	63.04	340	P	P	14 12 15.4 +0.3
JKA				IAmb	IAmb	14 12 24.8
	comp=Z,18nm,1.3s					
USRK	Ussuriysk Ar.	67.18	333	P	P	14 12 42.8 +0.9
	comp=Z,1.5nm,0.6s,baz=147,slow=5.6,SNR=4.5					
	comp=Z,1.5nm,0.6s					
SHEM	Shemya Is, Ala	67.70	4	LR	LR	14 35 11.0
	comp=Z,20nm,20.7s,baz=25,slow=29					
PET	Petropavlovsk	68.17	354	P	P	14 12 48.4 +0.6
PET				IAmb	IAmb	14 12 49.3
	comp=Z,18nm,1.1s					
PEA0B	Petropavlovsk-	68.35	354	P	P	14 12 50.1 +1.1
PEA0B				IAmb	IAmb	14 13 01.9
	comp=Z,20nm,1.3s					
PETK	Petropavlovsk-	68.35	354	P	P	14 12 50.5 +1.5
PETK	Petropavlovsk-	68.35	354	P	P	14 12 49.8 +0.8
	comp=Z,1.1nm,0.6s,baz=142,slow=7.5,SNR=6.0					
	comp=Z,1.1nm,0.6s					
QSPA	South Pole Qui	75.02	180	P	P	14 13 29.1 +0.1
QSPA				IAmb	IAmb	14 13 30.4
	comp=Z,23nm,1.4s					
CMAR	Chiang Mai Arr	75.16	294	P	P	14 13 31.6 +1.1
	comp=Z,0.8nm,0.3s,baz=123,slow=3.5,SNR=9.0					
	comp=Z,0.8nm,0.3s					
SONM	Songino Array	82.78	324	P	P	14 14 11.8 +0.2
	comp=Z,1.3nm,0.8s,baz=142,slow=6.0,SNR=8.5					
	comp=Z,1.3nm,0.8s					
BILL	Bilibino	82.82	360	P	P	14 14 12.5 +1.3
ILAR	Eielson Array	86.75	18	P	P	14 14 30.6 -0.5
	comp=Z,0.5nm,0.7s,baz=242,slow=5.3,SNR=8.2					
	comp=Z,0.5nm,0.7s					
NVAR	Mina Array Bea	87.37	49	P	P	14 14 33.5 -1.4
	comp=Z,0.2nm,0.6s,baz=232,slow=2.0,SNR=1.9					
NVAR				pP	pP	14 15 05.7 -1.1
	comp=Z,0.4nm,0.8s,baz=255,slow=5.1,SNR=2.2					
	comp=Z,0.2nm,0.6s					
SYO	Syowa Base	88.47	197	eP	P	14 14 40.8 +1.6
ELIB	Princess Elisa	89.96	191	dP	P	14 14 45.3 -1.1
MK31	Makanchi Array	97.48	316	P	P	14 15 21.7 +0.6
MKAR	Makanchi Array	97.48	316	P	P	14 15 21.0 -0.1
	comp=Z,0.8nm,0.7s,baz=92,slow=6.3,SNR=12					
	comp=Z,0.8nm,0.7s					
ZALV	Zalesovo Beam	97.68	324	P	P	14 15 21.2 -0.6
	comp=Z,0.3nm,0.3s,baz=155,slow=7.8,SNR=3.7					
	comp=Z,0.3nm,0.3s					
YKA	Yellowknife Ar	97.74	27	P	P	14 15 21.6 -0.3
	comp=Z,0.1nm,0.3s,baz=261,slow=4.2,SNR=1.7					
	comp=Z,0.1nm,0.3s					
ARCES	ARCESS Array B	120.55	345	PKP	PKPdf	14 20 36.5 -1.2
	comp=Z,0.6nm,0.5s,baz=72,slow=2.9,SNR=6.1					
ARCES				pPKP	pPKPdf	14 21 10.3 -1.2
	comp=Z,0.8nm,0.5s,baz=353,slow=1.0,SNR=1.7					

*AEIC **15** 14:06:20.3±2.5, 53°.45N±0°.07×163°.64W±0°.08, h38km±7km, Error ellipse: s-maj=11.0km s-min=6.4km az=157.0*
NEIC 15 14:06:18.3±1.2, 53°.34N±0°.07×163°.48W±0°.07, h24km±8km, mb3.5/13, ML3.0/8, ML2.9(AEIC), Error ellipse: s-maj=10.2km s-min=5.6km az=162.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.31	330		Pn	14 06 40.7	-0.4
ISLZ	Isanotski Laza	1.40	354		Pn	14 06 42.1	-0.1
ISLZ					Sn	14 07 00.1	+0.3
SSLS	Shishaldin Sou	1.41	348		Pn	14 06 42.5	0.0
WEBT	Westdahl Beart	1.46	329		Pn	14 06 42.9	-0.2
WEBT					Sn	14 07 01.6	+0.1
ISNN	Isanotski Nort	1.50	353		Pn	14 06 44.3	+0.6
ISNN					Sn	14 07 02.3	-0.3
FALS	False Pass	1.52	1		Pn	14 06 44.1	+0.2
AKSA	Akutan Strait	1.54	302		Pn	14 06 43.9	-0.2
AKBBA	Akutan Broad B	1.65	298		Pn	14 06 45.6	0.0
AKBBA					Sn	14 07 05.9	-0.1
ZRO	Akutan Zero	1.67	298		Pn	14 06 45.9	0.0
ZRO					Sn	14 07 06.6	+0.1
AKGG	Akutan Green G	1.72	301		Pn	14 06 46.6	0.0
LVA	Lava Point	1.73	299	Pn	Pn	14 06 46.8	+0.1
LVA				Sn	Sn	14 07 08.3	+0.3
LVA				IAML		14 07 16.2	
	comp=E,138nm,0.8s						
AKRB	Akutan Reef Bi	1.73	298		Pn	14 06 46.9	+0.1
UNV	Unalaska Valle	1.87	287		Sn	14 07 11.3	-0.3
UNV	Unalaska Valle	1.87	287	Pn	Pn	14 06 48.4	-0.3
MTBL	Makushin Table	2.01	290		Pn	14 06 50.8	+0.2
MSW	Makushin Switc	2.05	288		Pn	14 06 51.2	0.0
MSW					Sn	14 07 15.5	-0.5
MGOD	Makushin Gods	2.08	284		Pn	14 06 51.9	+0.3
MAPS	Pakushin South	2.12	284		Pn	14 06 52.4	+0.3
PS1A	Pavlof South-1	2.32	25		Pn	14 06 56.1	+1.2
SDPT	Sand Point	2.67	40	Pn	Pn	14 06 59.4	-0.2
SDPT				Sn	Sn	14 07 31.3	+0.1
SDPT				IAML		14 07 33.5	
	comp=N,56nm,0.3s						
CNBA	Chernabura Isl	2.73	56	Pn	Pn	14 07 01.0	+0.5
CNBA				Sn	Sn	14 07 31.9	-0.7
CNBA				IAML		14 07 34.3	
	comp=E,45nm,1.0s						
OKTU	Okmok Mt. Tuli	2.74	273		Pn	14 07 01.5	+0.9
CHGN	Chignik	4.17	43	Pn	Pn	14 07 20.6	+0.3
CHGN				Sn	Sn	14 08 08.5	+0.4
CHGN				IAML		14 09 45.6	
	comp=N,19nm,1.2s						
R16K	Pilot Point	5.40	36	Pn	Pn	14 07 36.1	-1.1
O14K	Tigyukauivet M	6.05	11	Pn	Pn	14 07 44.8	-1.3
O16K	Kokwok River B	6.94	23	Pn	Pn	14 07 57.1	-1.1
OHAK	Old Harbor	7.00	52	Pn	Pn	14 07 58.0	-1.0
M13K	Dall Lake	7.09	1	Pn	Pn	14 08 00.3	0.0
N15K	Kwethluk River	7.09	14	Pn	Pn	14 07 59.4	-1.0
M14K	Bethel	7.48	6	Pn	Pn	14 08 05.1	-0.5
KDAK	Kodiak Island	7.61	50	Pn	Pn	14 08 06.4	-1.0
N17K	Nushagak Hills	7.98	23	Pn	Pn	14 08 13.2	+0.6
L14K	Kuka Creek	8.03	3	Pn	Pn	14 08 13.6	+0.3
M16K	Timber Creek	8.08	16	Pn	Pn	14 08 13.4	-0.6
ADK	Adak	8.17	265	Pn	Pn	14 08 15.0	-0.2
M17K	Holitna River	8.71	20	Pn	Pn	14 08 20.4	-2.2
N19K	Bonanza Creek	8.94	30	Pn	Pn	14 08 25.1	-0.7
L18K	Granite Mounta	9.61	19	Pn	Pn	14 08 33.9	-0.9
M19K	Big River Lodg	9.86	26	Pn	Pn	14 08 36.7	-1.6
M20K	Styx River	10.19	29	Pn	Pn	14 08 41.2	-1.7
PPLA	Purkeypile	11.27	27	Pn	Pn	14 08 57.5	-0.1
CUT	Chulitna	11.46	32	Pn	Pn	14 08 58.4	-1.8
GHO	Glory Hole Cre	11.48	37	Pn	Pn	14 08 59.1	-1.4
HIN	Hinchinbrook I	11.64	46	Pn	Pn	14 09 02.1	-0.6
SCM	Sheep Creek Mo	12.11	39	Pn	Pn	14 09 09.3	+0.2
KLU	Klutina	12.46	42	Pn	Pn	14 09 13.4	-0.5
M26K	Nabesna, AK	14.12	42	Pn	Pn	14 09 35.1	-1.4
H23K	Yukon River	14.32	24	Pn	Pn	14 09 39.3	+0.1
PCA	Pinnacle	14.38	53	Pn	Pn	14 09 39.8	-0.2
YKU2	Yakutat	14.50	55	Pn	Pn	14 09 42.8	+1.3
M27K	Edge Creek, AK	14.55	43	Pn	Pn	14 09 41.4	-1.1
SCRK	Sand Creek	14.63	36	Pn	Pn	14 09 44.0	+0.5
O29M	Mount Kennedy	15.24	53	Pn	Pn	14 09 51.5	-0.2
M29M	Somme Creek	16.02	45	Pn	Pn	14 10 02.4	+0.6
F24K	Squaw Lake	16.09	22	Pn	Pn	14 10 03.6	+1.1
F24K				IAmb	IAmb	14 10 12.8	
	comp=Z,4.7nm,1.4s						
E23K	Chandalar	16.18	19	Pn	Pn	14 10 04.1	+0.3
E23K				IAmb	IAmb	14 10 24.0	
	comp=Z,6.7nm,1.4s						
DAWY	Dawson	16.37	40	Pn	Pn	14 10 05.8	-0.3
DAWY				IAmb	IAmb	14 10 15.2	
	comp=Z,4.4nm,1.3s						
D22K	Ayikyak River	16.39	14	Pn	Pn	14 10 07.0	+0.6
L29M	L29M	16.43	43	Pn	Pn	14 10 07.7	+0.7
F25K	Christian Rive	16.67	24	Pn	Pn	14 10 10.5	+0.5
TOLK	Toolik Lake Re	16.69	18	Pn	Pn	14 10 09.2	-0.9
TOLK				IAmb	IAmb	14 10 20.7	
	comp=Z,7.8nm,1.5s						
BMAR	Burnt Mountain	16.82	26		Pn	14 10 12.4	+0.6
I28M	Miner Creek	16.91	35	Pn	Pn	14 10 11.7	-1.3
I28M				IAmb	IAmb	14 10 29.1	
	comp=Z,4.2nm,1.4s						
H29M	Whitestone	17.88	34		P	14 10 25.7	+0.2
H29M				IAmb	IAmb	14 11 05.5	
	comp=Z,5.7nm,1.4s						
I30M	Mount Dempster	18.07	38		Pn	14 10 27.1	-0.3
FARO	Faro, Yukon	18.20	49		Pn	14 10 28.8	-0.2
FARO				IAmb	IAmb	14 11 10.4	
	comp=Z,5.9nm,1.4s						
TXAR	Lajitas Array	49.20	94	P	P	14 15 04.0	-0.5
ABKAR	Akbulak array	71.39	332	P	P	14 17 36.5	+0.8

*IDC **15** 14:23:38.0±1.8, 5°.20N×76°.49W, h0km, mb3.4/1, mbtmp3.5/2, ML2.4/1, Error ellipse: s-maj=62.4km s-min=26.5km az=20.0*
*RSNC **15** 14:23:48.1±0.0, 5°.N±1°.×7°.6W±°, h41km±3km, M2.9, mb4.2, ML2.7*
ISC 15 14:23:44.7±1.1, 5°.22N±0°.02×76°.05W±0°.02, h16km±8km, n45, σ1s65/85, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	San Jos del P	0.39	216	P	Pn	14 23 56.6	+1.0
PLMC				S	Sb	14 24 04.9	+6.0
CMAN1	Manizales, Cal	0.55	106	P	Pn	14 23 59.1	+1.1
CMAN1				S	Sn	14 24 07.7	+0.7
NIZA	Niza - Manizal	0.60	105	P	Pn	14 23 58.9	+0.1
NIZA				S	Sn	14 24 08.7	+0.4
CBOC	Ciudad Bolivar	0.64	4	P	Pn	14 23 59.9	+0.7
CBOC				S	Sn	14 24 10.5	+1.4
GUY2C	Guyana, Caldas	0.69	90	P	Pn	14 24 00.1	0.0
GUY2C				S	Sn	14 24 10.9	+0.3
RECRC	Villamaria, Ca	0.74	110	P	Pn	14 24 01.0	0.0
RECRC				S	Sn	14 24 12.4	+0.2
ANIL	Santa Ana	0.97	138	P	Pb	14 24 03.2	-0.1
ANIL				S	Sb	14 24 16.3	+0.3
HELC	Santa Helena	1.10	28	P	Pg	14 24 06.0	0.0
HELC				S	Sg	14 24 20.8	+0.4
NORC	Norcasia	1.23	74	P	Pg	14 24 07.8	-0.6
NORC				S	Sg	14 24 23.8	-0.7
YOTC	Yotoco, Valle	1.26	193	P	Pg	14 24 07.2	-1.9
YOTC				S	Sn	14 24 25.0	+0.6
PIZC	Pizarro, Choco	1.32	259	P	Pg	14 24 09.7	-0.5
PIZC				S	Sn	14 24 28.3	+2.5
ORTC	Ortega, Tolima	1.53	148	P	Pn	14 24 11.8	+0.5
ORTC				S	Sn	14 24 31.5	+0.6
SOLC	Bahia Solano	1.68	307	P	Pn	14 24 13.9	+0.6
SOLC				S	Sn	14 24 35.0	+0.5
MALC	Bahia Malaga	1.75	227	P	Pn	14 24 15.3	+1.0
MALC				S	Sg	14 24 40.2	-0.9
ROSC	El Rosal	1.77	102	Pn	Pb	14 24 16.9	0.0
	26nm,0.3s,baz=351,slow=4.5,SNR=19						
ROSC				Sn	Sg	14 24 43.2	+1.4
	20nm,0.3s,baz=345,slow=16,SNR=6.8						
	83nm,0.4s						
ROSC	El Rosal	1.77	102	P	Pb	14 24 16.6	-0.3
ROSC				S	Sg	14 24 42.6	+0.8
DBBC	Dabeiba	1.79	355	P	Pn	14 24 16.5	+1.5
DBBC				S	Sb	14 24 40.6	+1.2
PRAC	Prado	1.90	142	P	Pn	14 24 16.7	+0.3
PRAC				S	Sn	14 24 41.3	+1.4
SPBC	San Pablo de B	2.02	78	P	Pn	14 24 18.9	+0.8
SPBC				S	Sn	14 24 42.9	-0.2
PTBC	PUERTO BERRIO,	2.06	50	P	Pn	14 24 19.7	+1.1
PTBC				S	Sn	14 24 44.6	+0.6
JAMC	Jamundi, Valle	2.08	197	P	Pn	14 24 19.2	+0.1
JAMC				S	Sb	14 24 49.0	+1.0
CVER	Cruz Verde, Cu	2.09	109	P	Pn	14 24 21.2	+1.8
CVER				S	Sn	14 24 46.6	+1.2
CHIC	Chingaza	2.39	104	P	Pn	14 24 25.4	+2.0
ZARC	Zaragoza, Cauc	2.55	28	P	Pn	14 24 27.2	+1.8
ZARC				S	Sn	14 24 58.2	+2.1
URMC	La Uribe, Meta	2.58	139	P	Pn	14 24 25.6	-0.1
URMC				S	Sn	14 24 57.2	+0.4
PTAC	Punta Ardita,	2.59	318	P	Pn	14 24 26.1	+0.2
PTAC				S	Sn	14 24 56.4	-0.6
BETC	Betania	2.59	166	P	Pn	14 24 27.0	+1.0
VILC	Villavicencio,	2.60	115	P	Pn	14 24 27.6	+1.5
VILC				S	Sn	14 24 57.8	+0.4
POPC	Popayan, Colom	2.73	193	P	Pn	14 24 29.6	+1.5
POPC				S	Sn	14 25 02.4	+1.5
BRJC	Barrancabermej	2.88	53	P	Pn	14 24 30.2	+0.3
BRJC				S	Sn	14 25 05.2	+0.9
RUSC	La Rusia	3.03	77	P	Pn	14 24 34.3	+1.9
RUSC				S	Sn	14 25 08.5	-0.1
GR1C	Gorgona, Isla	3.05	224	P	Pn	14 24 31.2	-1.0
GR1C				S	Sn	14 25 07.5	-0.8
GARC	Garzon, Huila	3.06	169	P	Pn	14 24 33.6	+1.0
GARC				S	Sn	14 25 08.9	-0.2
BARC	Barichara	3.17	64	P	Pn	14 24 35.1	+1.1
BARC				S	Sn	14 25 10.8	-0.8
BBAC	Balboa, Cauca	3.39	201	P	Pn	14 24 39.5	+2.4
BBAC				S	Sn	14 25 18.1	+1.0
FLOC	Florencia	3.63	174	P	Pn	14 24 43.7	+3.4
FLOC				S	Sn	14 25 25.5	+2.6
PAMC	Pamplona, Colo	3.94	58	P	Pn	14 24 46.4	+1.5
PAMC				S	Sn	14 25 31.4	+0.3
OCAC	Ocana	4.05	42	P	Pn	14 24 46.7	+0.6
OCAC				S	Sn	14 25 34.0	+0.8
SJCC	San Jacinto, C	4.73	11	P	Pn	14 24 56.7	+1.4
SJCC				S	Sn	14 25 50.2	+0.3
BCIP	Isla Barro Col	5.43	316	P	Pn	14 25 05.9	+1.0
	43nm,1.6s						
BCIP				S	Sn	14 26 06.1	-1.0
	43nm,1.6s						
PAC1	Pacto, Paraso	5.63	209	P	Pn	14 25 07.7	-0.1
PAC1				S	Sn	14 26 06.1	-6.2
SDV	Santo Domingo	6.50	56	P	Pn	14 25 21.2	+1.4
SDV				S	Sn	14 26 32.0	-1.7
CRJC	Cerrejon, Guaj	6.56	28	P	Pn	14 25 20.5	-0.1
CRJC				S	Sn	14 26 31.4	-3.8
YKA	Yellowknife Ar	63.79	341	P	P	14 34 10.8	-4.9
	0.2nm,0.5s,baz=140,slow=6.1,SNR=6.4						
	0.2nm,0.5s						
ASAR	Alice Springs	145.81	235	PKPbc	PKPdf	14 43 18.1	-5.5
	0.2nm,0.7s,baz=121,slow=3.6,SNR=5.0						

*SJA **15** 14:27:55.4±0.8, 29°.59S×71°.42W, h30km±3km, ML3.6, MW3.8*
*GUC **15** 14:27:57.9±0.6, 29°.59S×71°.15W, h55km±2km, ML3.7*
ISC 15 14:27:54.8±1.5, 29°.57S±0°.03×71°.32W±0°.06, h3km±12km, n32, σ1s23/45, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	Tololo Observa	0.75	143	eP	Pn	14 28 13.0	+0.5
GO04				eS	Sn	14 28 24.3	-0.2
GO04	Tololo Observa	0.75	143	eP	Pb	14 28 10.9	+0.2
LCO	Las Campanas	0.77	44	eP	Pn	14 28 13.5	+0.7
LCO				eS	Sn	14 28 25.2	+0.1
LCO	Las Campanas	0.77	44	eP	Pn	14 28 13.0	+0.2
LCO				eS	Sn	14 28 25.2	+0.1
LCO				IAML		14 28 25.9	
	comp=Z,6μm,0.3s						
CO01	Juntas del Tor	1.14	111	eP	Pn	14 28 18.3	+0.5
CO01				eS	Sb	14 28 32.9	+0.4
CO01				IAML		14 28 34.9	
	comp=E,3μm,0.2s						
CO01	Juntas del Tor	1.14	111	eP	Pn	14 28 18.5	+0.6
CO01				eS	Sb	14 28 33.3	+0.8
CO01				IAML		14 28 34.3	
	comp=Z,3μm,0.1s						
AC04	Llanos de Chal	1.38	9	eP	Pb	14 28 22.0	+0.8
AC04				IAML		14 28 41.4	
	comp=E,1μm,0.1s						
AC04	Llanos de Chal	1.38	9	eP	Pn	14 28 21.1	+0.2
AC04				eS	Sb	14 28 39.8	+0.6
AC04				IAML		14 28 44.0	
	comp=Z,581nm,0.2s						
CO03	El Pedregal	1.38	157	eP	Pg	14 28 21.2	-0.1
CO03				IAML		14 28 38.4	
	comp=N,2μm,0.1s						
CO03	El Pedregal	1.38	157	eP	Pg	14 28 20.9	-0.3
CO03				eS	Sg	14 28 38.6	-0.5
CO03				IAML		14 28 40.6	
	comp=Z,562nm,0.2s						
AROD	Rodeo	1.71	111	eP	Pb	14 28 27.1	+0.1
AROD				eS	Sg	14 28 50.5	+0.8
ACCO	Cerro Coronel	2.20	118	eP	Pb	14 28 35.1	-0.2
DOCA	Reserva Natura	2.37	126	eP	Pn	14 28 36.5	+1.6
AGUA	GUANDACOL	2.46	89	eP	Pb	14 28 38.9	-0.9
AGUA				IAML		14 29 32.1	
	comp=Z,145nm,0.4s						
RTLS	Leoncito	2.82	142	eP	Pn	14 28 43.3	+2.3
RTLS				eS	Sb	14 29 18.9	-2.2
RTLS				IAML		14 29 35.9	
	comp=Z,322nm,0.5s						
VCA	Vinchina	2.84	74	eP	Pb	14 28 44.1	-2.2
VCA				eS	Sn	14 29 01.5	-15
VCA				IAML		14 29 08.7	
	comp=Z,314nm,0.3s						
VA06	Catapilco	2.98	180	eP	Pn	14 28 43.8	+0.8
ZON	Zonda	3.01	132	eP	Pn	14 28 44.5	+1.1
ZON				eS	Sn	14 29 06.9	-13
ZON				IAML		14 29 08.6	
	comp=Z,78nm,0.3s						
VA03	San Esteban	3.25	169	eP	Pn	14 28 47.8	+1.0
VA03				IAML		14 29 40.6	
	comp=E,280nm,0.2s						
VA03	San Esteban	3.25	169	eP	Pn	14 28 47.5	+0.7
VA03				IAML		14 29 49.2	
	comp=Z,197nm,0.3s						
AC02	Maricunga	3.34	36	eP	Pn	14 28 49.3	+0.9
AC02				eS	Sg	14 29 41.0	-1.1
AC02				IAML		14 30 19.1	
	comp=Z,276nm,0.8s						
ROCH	El Roble	3.40	176	eP	Pn	14 28 50.8	+1.8
ROCH				IAML		14 29 52.4	
	comp=N,130nm,0.4s						
AVFE	Valle Fertil	3.52	109	eP	Pn	14 28 51.5	+1.1
AVFE				eS	Sn	14 29 31.9	-0.6
AVFE				IAML		14 29 55.3	
	comp=Z,157nm,0.7s						
MT02	Curacav	3.68	178	eP	Pn	14 28 52.4	-0.2
MT02				eS	Sn	14 29 34.0	-2.5
MT02				IAML		14 29 55.5	
	comp=Z,72nm,0.9s						
ASAL	Salagasta	3.69	145	eP	Pn	14 28 55.0	+2.2
ASAL				eS	Sg	14 29 54.0	+0.7
ASAL				IAML		14 30 01.8	
	comp=Z,97nm,0.9s						
MT10	Hacienda Santa	3.75	170	eP	Pn	14 28 54.2	+0.5
FCH	Farellones	3.85	167	eP	Pn	14 28 56.8	+1.6
MT04	Ro Olivares	3.95	166	eP	Pn	14 28 58.1	+1.6
MT04	Ro Olivares	3.95	166	eP	Pn	14 28 58.2	+1.6
MT04				IAML		14 30 03.6	
	comp=Z,

comp=N,44nm,1.1s
CHGN IAML 14 31 26.9
comp=E,47nm,0.7s
P08K Saint George I 4.64 314 Pn **Pn 14 30 37.8 -1.9**
O14K Tigyukauivet M 5.91 11 Pn **Pn 14 30 59.0 +2.0**
ACHA Angle Creek He 6.61 41 Pn **Pn 14 31 05.0 -1.7**
O16K Kokwok River B 6.81 24 Pn **Pn 14 31 10.2 +0.8**
M13K Dall Lake 6.94 1 Pn **Pn 14 31 12.1 +1.0**
OHAK Old Harbor 6.94 53 Pn **Pn 14 31 09.7 -1.4**
N15K Kwethluk River 6.95 14 Pn **Pn 14 31 11.3 0.0**
M11K Mekoryuk 7.06 349 Pn **Pn 14 31 11.9 -0.7**
M14K Bethel 7.33 6 Pn **Pn 14 31 16.7 +0.3**
P18K Big Mountain, 7.49 35 Pn **Pn 14 31 19.3 +0.5**
KDAK Kodiak Island 7.54 51 Pn **Pn 14 31 19.7 +0.3**
KDAK Kodiak Island 7.54 51 Pn **Pn 14 31 17.8 -1.5**
comp=E,0.2nm,0.3s,baz=297,slow=2.1,SNR=11
KDAK Sn **Sn 14 32 38.1 -5.7**
baz=196,slow=19
comp=E,14nm,1.1s
Q19K Cape Douglas, 7.75 41 Pn **Pn 14 31 23.0 +0.7**
O18K Koktuh Hills 7.85 32 Pn **Pn 14 31 25.0 +1.3**
N17K Nushagak Hills 7.85 24 Pn **Pn 14 31 24.6 +0.9**
L14K Kuka Creek 7.88 3 Pn **Pn 14 31 25.3 +1.3**
M16K Timber Creek 7.94 16 Pn **Pn 14 31 25.2 +0.3**
SYI Shuyak Island 8.07 46 Pn **Pn 14 31 27.6 +1.0**
N18K Kilae Creek 8.32 27 Pn **Pn 14 31 30.0 0.0**
K13K Kusilvak Mount 8.48 356 Pn **Pn 14 31 30.5 -1.7**
M17K Holitna River 8.58 20 Pn **Pn 14 31 34.2 +0.6**
N19K Bonanza Creek 8.83 30 Pn **Pn 14 31 36.8 -0.3**
K15K Wolf Creek Mou 8.89 6 Pn **Pn 14 31 37.4 -0.4**
J14K Nanvaranak Lak 9.28 360 **Pn 14 31 42.1 -1.1**
L18K Granite Mounta 9.47 20 Pn **Pn 14 31 46.9 +1.0**
K17K Iditarod 9.65 15 Pn **Pn 14 31 48.7 +0.4**
M19K Big River Lodg 9.74 26 Pn **Pn 14 31 50.2 +0.7**
L19K White Mountain 9.85 24 Pn **Pn 14 31 51.6 +0.5**
J16K Anvik River 9.94 8 Pn **Pn 14 31 53.3 +1.1**
M20K Styx River 10.07 29 Pn **Pn 14 31 54.8 +0.6**
SLKM Skilak Lake 10.10 41 Pn **Pn 14 31 55.1 +0.7**
J17K VABM Dome 10.20 11 Pn **Pn 14 31 56.3 +0.5**
J20K Nowinta River 11.75 21 Pn **Pn 14 32 18.2 +1.3**
G16K Koyuk River 11.95 2 **Pn 14 32 21.1 +1.4**
EYAK Cordova Ski Ar 11.97 47 Pn **Pn 14 32 19.3 -0.6**
SCM Sheep Creek Mo 12.02 40 Pn **Pn 14 32 20.1 -0.6**
KLU Klutina 12.38 43 Pn **Pn 14 32 24.1 -1.5**
RND Reindeer 12.53 32 Pn **Pn 14 32 27.2 -0.5**
SUCK Suckling Hills 12.65 51 Pn **Pn 14 32 31.4 +2.1**
N25K Chitina, Valde 12.98 44 **Pn 14 32 32.9 -0.9**
WRH Wood River Hil 13.53 30 Pn **Pn 14 32 40.0 -1.3**
CCB Clear Creek Bu 13.75 29 Pn **Pn 14 32 43.5 -0.7**
MENT Mentasta 14.03 40 Pn **Pn 14 32 46.6 -1.5**
M26K Nabesna, AK 14.03 42 Pn **Pn 14 32 46.5 -1.6**
RIDG Independent Ri 14.09 36 Pn **Pn 14 32 48.7 -0.2**
H23K Yukon River 14.19 24 Pn **Pn 14 32 49.8 -0.5**
M27K Edge Creek, AK 14.46 44 Pn **Pn 14 32 52.6 -1.6**
G23K Bananza Creek 14.81 21 Pn **Pn 14 32 57.8 -1.0**
BCAR Beaver Creek A 14.85 41 Pn **Pn 14 32 58.0 -1.2**
J26L Joseph Creek 15.00 35 Pn **Pn 14 33 02.9 +1.6**
J26L IAmb IAmb 14 33 16.6
comp=Z,3.0nm,0.9s
O29M Mount Kennedy 15.18 53 Pn **Pn 14 33 04.5 +0.8**
COLD Coldfoot 15.22 20 Pn **Pn 14 33 03.7 -0.3**
COLD IAmb IAmb 14 33 16.7
comp=Z,5.3nm,1.3s
I26K Coal Creek Min 15.64 33 Pn **Pn 14 33 08.9 -0.7**
I26K IAmb IAmb 14 33 09.0
comp=Z,5.6nm,1.4s
M29M Somme Creek 15.94 46 Pn **Pn 14 33 14.3 +0.8**
M29M IAmb IAmb 14 33 25.6
comp=Z,6.6nm,0.8s
E23K Chandalar 16.04 19 Pn **Pn 14 33 14.9 +0.1**
N30M Aishikik Lake 16.21 50 Pn **Pn 14 33 17.4 +0.5**
D22K Ayikyak River 16.25 14 Pn **Pn 14 33 18.2 +0.8**
DAWY Dawson 16.28 40 Pn **Pn 14 33 18.7 +1.0**
E24K Your Creek 16.29 20 Pn **Pn 14 33 18.7 +0.8**
L29M L29M 16.35 44 Pn **Pn 14 33 19.4 +0.7**
L29M IAmb IAmb 14 33 25.3
comp=Z,6.0nm,0.9s
TOLK Toolik Lake Re 16.55 18 P **P 14 33 25.2 +1.6**
TOLK IAmb IAmb 14 33 35.6
comp=Z,6.2nm,1.2s
D23K Nanushuk River 16.64 16 **P 14 33 25.1 +0.6**
BMAR Burnt Mountain 16.69 26 **Pn 14 33 24.4 +1.3**
B21K Ikpikpuk River 16.70 11 Pn **Pn 14 33 23.3 +0.4**
B21K IAmb IAmb 14 33 42.5
comp=Z,4.6nm,1.2s
I28M Miner Creek 16.81 35 **P 14 33 26.1 -0.4**
K29M Barlow Dome 16.91 42 **P 14 33 27.1 -0.6**
K29M IAmb IAmb 14 33 45.1
comp=Z,9.7nm,1.5s
C23K Itkillik River 17.43 15 **Pn 14 33 32.9 +0.7**
C23K IAmb IAmb 14 34 04.1
comp=Z,4.2nm,1.1s
B22K Teshekpuk Lake 17.52 11 **P 14 33 34.7 +0.6**
B22K IAmb IAmb 14 33 35.0
comp=Z,6.4nm,1.2s
H29M Whitestone 17.77 34 **Pn 14 33 36.0 -0.5**
H29M IAmb IAmb 14 34 03.3
comp=Z,5.5nm,1.2s
I30M Mount Dempster 17.97 39 **P 14 33 39.6 +0.3**
P33M Teslin, Yukon 17.97 56 **Pn 14 33 38.5 -0.4**
Q32M Nakina River 18.11 60 **Pn 14 33 40.9 0.0**
G29M Pine Creek 18.28 33 P **Pn 14 33 43.0 +0.3**
R33M Jennings River 18.81 59 P **P 14 33 48.8 +0.1**
R33M IAmb IAmb 14 34 25.4
comp=Z,4.8nm,1.1s
H31M Peel River 18.99 38 P **P 14 33 50.9 +0.4**
DLBC Dease Lake 19.27 62 P **P 14 33 53.3 -0.3**
comp=Z,0.2nm,0.3s,baz=299,slow=3.9,SNR=1.9
comp=Z,0.6nm,0.3s
G31M Satah River 19.54 35 P **P 14 33 56.2 -0.2**
G31M IAmb IAmb 14 34 18.8
comp=Z,7.5nm,1.4s
INK Inuvik 20.49 32 P **P 14 34 07.0 +0.4**
INK IAmb IAmb 14 34 21.4
comp=Z,6.9nm,1.5s
INK Inuvik 20.49 32 P **P 14 34 05.4 -1.2**
comp=Z,0.5nm,0.8s,baz=242,slow=10,SNR=5.1
comp=Z,0.5nm,0.8s
PETK Petropavlovsk- 22.97 285 P **P 14 34 32.2 -1.2**
comp=Z,0.7nm,0.6s,baz=85,slow=13,SNR=5.6
comp=Z,0.7nm,0.6s
SEY Seymchan 24.57 310 P **P 14 34 45.6 -2.9**
comp=Z,0.4nm,0.6s,baz=69,slow=17,SNR=1.8
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 26.82 51 P **P 14 35 10.4 +1.6**
comp=Z,0.3nm,0.7s,baz=274,slow=9.0,SNR=5.2
comp=Z,0.3nm,0.7s
TIXI Tiksi 33.62 328 LR LR 14 51 43.1
comp=Z,30nm,19.1s,baz=23,slow=40
NVAR Mina Array Bea 34.23 98 P **P 14 36 18.6 +3.8**
comp=Z,0.5nm,0.8s,baz=308,slow=11,SNR=2.2
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 36.76 85 P P 14 36 41.9 +5.4
comp=Z,0.1nm,0.3s,baz=308,slow=8.7,SNR=1.4
comp=Z,0.1nm,0.3s
H11N2 WAKE ISLAND Hy 40.65 226 T T 15 20 56.8
baz=26,slow=76,SNR=9.1
H11N3 WAKE ISLAND Hy 40.66 225 T T 15 20 49.6
baz=26,slow=76,SNR=9.6
H11N1 WAKE ISLAND Hy 40.67 225 T T 15 20 59.3
baz=26,slow=76,SNR=7.7
H11S1 WAKE ISLAND Hy 41.82 225 T T 15 22 20.5
baz=26,slow=76,SNR=12
H11S2 WAKE ISLAND Hy 41.84 225 T T 15 22 14.2
baz=26,slow=76,SNR=8.6
H11S3 WAKE ISLAND Hy 41.84 225 T T 15 22 17.2
baz=26,slow=76,SNR=7.2
SONM Songino Array 53.69 303 P **P 14 38 49.7 -0.7**
comp=Z,0.8nm,0.8s,baz=92,slow=7.4,SNR=5.2
comp=Z,0.8nm,0.8s
KURBB Kurchatov Arra 63.90 321 P **P 14 40 01.2 +0.1**
comp=Z,0.7nm,0.8s,baz=36,slow=6.6,SNR=5.0
comp=Z,0.7nm,0.8s
BVAR Borovoye Array 64.75 327 P **P 14 40 06.5 -0.2**
comp=Z,1.1nm,0.7s,baz=46,slow=8.5,SNR=6.9
comp=Z,1.1nm,0.7s
MKAR Makanchi Array 65.50 316 P **P 14 40 11.0 -0.7**
comp=Z,0.4nm,0.8s,baz=57,slow=8.8,SNR=4.0
comp=Z,0.4nm,0.8s
HFS Hagfors 66.70 2 P **P 14 40 18.6 -0.5**
comp=Z,0.9nm,0.7s,baz=17,slow=5.4,SNR=4.2
comp=Z,0.9nm,0.7s
AB31 Akbulak array 71.23 332 P **P 14 40 47.7 +0.3**
ABKAR Akbulak array 71.23 332 P **P 14 40 47.9 +0.4**

*BER **15** 14:33:26.9±3.2, 73°.21N×5°.98E, h10km, mb(Pn)3.7, ML3.2(NAO), Confirmed Earthquake*
*NAO **15** 14:33:26.1±5.4, 73°.17N×6°.95E, ML3.2*
ISC 15 14:33:27.1±1.8, 73°.12N±0°.07×7°.0E±0°.1, h12km, n28,
σ1§22/31, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.63**	**62**	*e*P		**Pn**	**14 34 23.5**	**+0.5**
BJO1				IAML			14 34 24.1	
comp=Z,20nm,0.5s								
BJO1	**Bjornoya**	**3.63**	**62**	Pn		**Pn**	**14 34 23.5**	**+0.5**
HSPB	**Hornsund (broa**	**4.48**	**25**	*e*P		**Pn**	**14 34 34.2**	**-0.5**
HSPB				IAML			14 34 34.8	
comp=Z,2.5nm,0.5s								
HSPB	**Hornsund (broa**	**4.48**	**25**	Pn		**Pn**	**14 34 33.7**	**-1.0**
TRO	**Tromso**	**5.17**	**127**	*e*P		**Pn**	**14 34 45.9**	**+1.8**
TRO				IAML			14 34 48.1	
comp=Z,2.5nm,0.7s								
TRO	**Tromso**	**5.17**	**127**	Pn		**Pn**	**14 34 45.2**	**+1.0**
TRO				Sn		**Sn**	**14 35 41.0**	**-2.7**
BRBB	**Barentsburg B**	**5.31**	**16**	*e*P		**Pn**	**14 34 46.6**	**+0.6**
LOF	**Lofoten**	**5.46**	**153**	*e*P		**Pn**	**14 34 49.4**	**+1.3**
LOF	**Lofoten**	**5.46**	**153**	Pn		**Pn**	**14 34 48.9**	**+0.8**
SPA0	**Spitsbergen Ar**	**5.58**	**20**	Pn		**Pn**	**14 34 50.4**	**+0.5**
baz=212,slow=16								
SPA0	**Spitsbergen Ar**	**5.58**	**20**	Pn		**Pn**	**14 34 50.4**	**+0.5**
baz=212,slow=16								
JETT	**Jettan, Norway**	**5.59**	**123**	Pn		**Pn**	**14 34 51.5**	**+1.7**
JETT				*e*S		**Sn**	**14 35 54.3**	**+0.4**
JETT				IAML			14 36 01.6	
comp=Z,2.0nm,0.7s								
JETT	**Jettan, Norway**	**5.59**	**123**	Pn		**Pn**	**14 34 51.5**	**+1.7**
STEI	**Steigen**	**5.89**	**148**	*e*P		**Pn**	**14 34 55.0**	**+1.0**
STEI				*e*S		**Sn**	**14 35 58.9**	**-2.3**
STEI				IAML			14 36 03.0	
comp=Z,1.3nm,0.7s								
KBS	**Kingsbay**	**5.96**	**9**	*e*P		**Pn**	**14 34 54.8**	**-0.1**
KIF	**Kilpisjarvi**	**6.09**	**126**	*e*P		**Pn**	**14 34 57.9**	**+1.2**
KIF				*e*S		**Sn**	**14 36 06.2**	**0.0**
KIF	**Kilpisjarvi**	**6.09**	**126**	Pn		**Pn**	**14 34 58.3**	**+1.6**
FAUS	**Fauske**	**6.40**	**150**	*e*P		**Pn**	**14 35 02.2**	**+1.2**
FAUS				IAML			14 36 21.6	
comp=Z,1.3nm,0.8s								
KTK1	**Kautokeino**	**6.68**	**120**	*e*P		**Pn**	**14 35 07.0**	**+2.1**
ARA0	**ARCESS Array S**	**6.92**	**112**	Pn		**Pn**	**14 35 09.0**	**+0.9**
baz=322,slow=11								
ARA0	**ARCESS Array S**	**6.92**	**112**	Pn		**Pn**	**14 35 09.0**	**+0.9**
baz=322,slow=11								
KONS	**Konsvik**	**6.97**	**159**	*e*P		**Pn**	**14 35 09.3**	**+0.5**
STOK	**Stokkvaagen**	**7.12**	**160**	*e*P		**Pn**	**14 35 11.6**	**+0.7**
KEV	**Kevo**	**7.20**	**108**	Pn		**Pn**	**14 35 11.7**	**-0.2**
KEV	**Kevo**	**7.20**	**108**	Pn		**Pn**	**14 35 11.7**	**-0.2**
LEIR	**Leirfjorden**	**7.35**	**160**	*e*P		**Pn**	**14 35 15.1**	**+1.1**
MOR8	**Moi Rana**	**7.44**	**156**	*e*P		**Pn**	**14 35 15.3**	**0.0**
DAG	**Danmarks Havn**	**7.56**	**311**	*e*P		Pn	14 35 11.6	-5.3
DAG				*e*S		Sn	14 36 23.9	-18

*IDC **15** 14:42:59.8±2.8, 54°.61S×159°.25E, h0km, mb4.4/3, mbtmp4.4/3, MS3.5/3, Error ellipse: s-maj=137.1km s-min=39.1km az=70.0*
*NEIC **15** 14:43:03.0±1.2, 54°.60S±0°.09×158°.9E±0°.3, h10km±2km, mb4.3/8, Error ellipse: s-maj=26.3km s-min=15.6km az=99.0*
ISC 15 14:43:02.3±2.1, 54°.6S±0°.1×158°.8E±0°.2, h11km±13km, n39,
σ0§87/23, mb4.3/7, MS3.4/3, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.15**	**54**			**Pg**	**14 43 05.7**	**+0.1**
PYZ	**Puysegur Point**	**9.82**	**34**	Pn		**Pn**	**14 45 22.1**	**-1.4**
WHZ	**Wether Hill Ro**	**10.50**	**38**			**Pn**	**14 45 33.0**	**+0.4**
DCZ	**Deep Cove**	**10.60**	**34**	Pn		**Pn**	**14 45 34.0**	**0.0**
MLZ	**Mavora Lakes**	**11.01**	**37**	Pn		**Pn**	**14 45 40.4**	**+0.7**
WKZ	**Wanaka**	**11.80**	**38**	Pn		**Pn**	**14 45 50.5**	**0.0**
ODZ	**Otahua Downs**	**12.23**	**44**	Pn		**Pn**	**14 45 56.3**	**-0.1**
TAU	**Tasmania Unive**	**13.88**	**323**	Pn		**Pn**	**14 46 18.1**	**-0.8**
URZ	**Urewera**	**20.55**	**45**	LR		LR	14 55 03.9	
comp=Z,97nm,19.8s,baz=282,slow=36								
QSPA	**South Pole Qui**	**35.53**	**180**	P		**P**	**14 49 59.1**	**+0.1**
QSPA				IAmb		IAmb	14 50 04.3	
comp=Z,6.5nm,1.4s								
ASAR	**Alice Springs**	**36.02**	**319**	P		**P**	**14 50 04.3**	**+0.9**
ASAR	**Alice Springs**	**36.02**	**319**	P		**P**	**14 50 04.5**	**+1.1**
comp=Z,6.5nm,0.7s,baz=155,slow=8.6,SNR=97								
ASAR				PcP		**PcP**	**14 52 29.2**	**-0.5**
comp=Z,0.2nm,0.5s,baz=144,slow=4.0,SNR=5.6								
comp=Z,6.5nm,0.7s								
AS31	**Alice Springs**	**36.02**	**319**	P		**P**	**14 50 04.9**	**+1.5**
H01W1	**Cape Leeuwin H**	**36.51**	**284**	T		T	15 28 46.6	
baz=136,slow=76,SNR=3271								
H01W2	**Cape Leeuwin H**	**36.52**	**284**	T		T	15 28 47.2	
baz=136,slow=76,SNR=3668								
H01W3	**Cape Leeuwin H**	**36.53**	**284**	T		T	15 28 47.9	
baz=136,slow=76,SNR=3935								
WR8	**Warramunga Arr**	**39.19**	**322**	P		**P**	**14 50 30.9**	**+0.6**
WR8				IAmb		IAmb	14 50 31.5	
comp=Z,6.2nm,0.8s								
WB2	**Warramunga Arr**	**39.25**	**322**	P		**P**	**14 50 31.5**	**+0.7**
WB2				IAmb		IAmb	14 50 31.6	
comp=Z,4.4nm,0.8s								
WRA	**Warramunga Arr**	**39.25**	**322**	P		**P**	**14 50 31.2**	**+0.4**
comp=Z,3.3nm,0.7s,baz=156,slow=7.9,SNR=34								
WRA				PcP		**PcP**	**14 52 39.4**	**-0.3**
comp=Z,1.1nm,1.2s,baz=162,slow=2.8,SNR=3.7								
comp=Z,3.3nm,0.7s								
WB0	**Warramunga Arr**	**39.40**	**322**	P		**P**	**14 50 32.4**	**+0.3**
WB0				IAmb		IAmb	14 50 33.1	
comp=Z,4.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P		**P**	**14 51 14.0**	**+1.3**
KNRA	**Kununurra**	**45.25**	**317**	P		**P**	**14 51 21.2**	**+1.5**
MTN	**Manton Dam**	**46.95**	**322**	P		**P**	**14 51 34.2**	**+1.1**
PPT	**Papeete**	**53.96**	**68**	LR		LR	15 09 50.2	
comp=Z,36nm,20.8s,baz=270,slow=30								
H04S2	**CROZET ISLANDS**	**61.61**	**228**	T		T	16 00 54.1	
baz=140,slow=75,SNR=62								
H04S1	**CROZET ISLANDS**	**61.61**	**228**	T		T	16 00 51.3	
baz=140,slow=75,SNR=54								
H04S3	**CROZET ISLANDS**	**61.62**	**228**	T		T	16 00 49.8	
baz=140,slow=75,SNR=53								
LEM	**Lembang**	**62.70**	**300**	LR		LR	15 19 26.7	
comp=Z,46nm,19.1s,baz=136,slow=35								
H03S2	**Juan Fernandez**	**78.95**	**134**	T		T	16 22 21.5	
baz=208,slow=74,SNR=669								
H03S1	**Juan Fernandez**	**78.95**	**134**	T		T	16 22 22.9	
baz=208,slow=74,SNR=667								
H03S3	**Juan Fernandez**	**78.97**	**134**	T		T	16 22 22.3	
baz=208,slow=74,SNR=636								
H03N3	**Juan Fernandez**	**79.28**	**134**	T		T	16 22 37.2	
baz=206,slow=72,SNR=419								
H03N2	**Juan Fernandez**	**79.29**	**134**	T		T	16 22 44.7	
baz=206,slow=72,SNR=257								
H03N1	**Juan Fernandez**	**79.30**	**134**	T		T	16 22 43.2	
baz=206,slow=72,SNR=360								
H08S2	**Diego Garcia H**	**81.66**	**269**	T		T	16 25 17.6	
baz=143,slow=76,SNR=266								
H08S1	**Diego Garcia H**	**81.67**	**269**	T		T	16 25 16.9	
baz=143,slow=76,SNR=231								
H08S3	**Diego Garcia H**	**81.68**	**269**	T		T	16 25 19.2	
baz=143,slow=76,SNR=362								
BOSA	**Boshof**	**87.99**	**220**	P		**P**	**14 55 52.2**	**-0.3**
comp=Z,1.6nm,0.9s,baz=180,slow=6.1,SNR=1.6								
comp=Z,1.6nm,0.9s								
AKASG	**Malin Array Be**	**149.67**	**284**	PKPbc		**PKPbc**	**15 02 50.5**	**-0.4**
comp=Z,0.8nm,0.5s,baz=88,slow=2.6,SNR=5.9								

*IDC **15** 15:00:37.6±7.7, 35°.89N×72°.03E, h0km, mb3.8/5, mbtmp3.6/8, ML2.7/3, Error ellipse: s-maj=133.0km s-min=31.7km az=152.0*
*NNC **15** 15:01:07.4±3.4, 37°.68N×71°.88E, h197km±42km, mb3.0, mpv4.1, Error ellipse: s-maj=31.3km s-min=21.5km az=16.0*
ISC 15 15:01:05.5±1.7, 37°.6N±0°.1×71°.70E±0°.10, h150km, n23,
σ1§34/29, mb3.6/4, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.82**	**18**	P		**Pn**	**15 02 17.3**	**+0.4**
SNR=244								
UCH	**Uchtor**	**5.14**	**24**	P		**Pn**	**15 02 21.4**	**+0.2**
SNR=10								
EKS2	**Erkin-Say**	**5.34**	**17**	P		**Pn**	**15 02 24.3**	**+0.8**
SNR=23								
AAK	**Ala-Archa**	**5.51**	**22**	P		**Pn**	**15 02 26.5**	**+0.8**
SNR=52								
AAK	**Ala-Archa**	**5.51**	**22**	P		**Pn**	**15 02 25.7**	**0.0**
13nm,0.5s								
AAK				S		**Sn**	**15 03 29.1**	**+0.7**
18nm,0.7s								
KK31	**Karatay Array**	**5.61**	**351**	P		**Pn**	**15 02 27.9**	**+0.9**
18nm,0.6s,baz=171,slow=17,SNR=144								
KK31				⇑S		**Sn**	**15 03 31.9**	**+1.2**
124nm,0.6s,baz=165,slow=22,SNR=42								
KBK	**Karagaybulak**	**5.67**	**25**	P		**Pn**	**15 02 28.4**	**+0.5**
SNR=9.0								
ULHL	**Ulahol**	**5.84**	**35**	P		**Pn**	**15 02 29.3**	**-1.0**
SNR=6.4								
CHMS	**Chumysh**	**5.91**	**22**	P		**Pn**	**15 02 30.8**	**-0.3**
SNR=7.3								
CHMS	**Chumysh**	**5.91**	**22**	⇓P		**Pn**	**15 02 30.7**	**-0.3**
11nm,0.5s								
CHMS				⇓S		**Sn**	**15 03 39.0**	**+1.0**
9.4nm,0.7s								
USP	**Ospenovka**	**6.09**	**20**	P		**Pn**	**15 02 33.5**	**+0.1**
SNR=7.1								
TKM2	**Tokmak 2**	**6.13**	**28**	P		**Pn**	**15 02 34.1**	**0.0**
SNR=16								
TKM2	**Tokmak 2**	**6.13**	**28**	⇓P		**Pn**	**15 02 33.8**	**-0.3**
13nm,0.7s								
TKM2				⇑S		**Sn**	**15 03 44.2**	**+0.8**
5.7nm,0.8s								
MKAR	**Makanchi Array**	**12.11**	**37**	Pn		**Pn**	**15 03 51.0**	**-2.0**
0.1nm,0.3s,baz=226,slow=15,SNR=8.0								
0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**13.94**	**18**	Pn		**Pn**	**15 04 13.3**	**-3.2**
baz=205,slow=12,SNR=4.2								
0.2nm,0.6s								
AB31	**Akbulak array**	**14.46**	**328**	P		**P**	**15 04 24.2**	**-1.3**
0.5nm,0.3s,baz=139,slow=14,SNR=61								
AB31				⇓S		**Sn**	**15 07 03.5**	**+0.2**
5.9nm,0.6s,baz=153,slow=23,SNR=12								
BVAR	**Borovoye Array**	**15.49**	**357**	Pn		**Pn**	**15 04 35.8**	**0.0**
baz=168,slow=17,SNR=4.4								
1.2nm,0.7s								
AKTO	**Aktyubinsk**	**16.17**	**327**	⇑P		**P**	**15 04 45.8**	**+1.3**
4.4nm,1.1s								
AKTO				⇓S		**S**	**15 07 39.3**	**-4.4**
6.2nm,1.1s								
ZALV	**Zalesovo Beam**	**18.72**	**25**	P		**P**	**15 05 12.6**	**+0.2**
1.3nm,0.5s,baz=211,slow=11,SNR=7.3								
1.3nm,0.5s								
AKASG	**Malin Array Be**	**32.73**	**307**	P		**P**	**15 07 24.3**	**+0.6**
0.5nm,0.4s,baz=111,slow=8.1,SNR=4.7								
0.5nm,0.4s								
FINES	**FINESS Array B**	**36.93**	**325**	P		**P**	**15 07 59.9**	**+0.3**
1.8nm,0.9s,baz=109,slow=9.0,SNR=1.8								
1.8nm,0.9s								
ARCES	**ARCESS Array B**	**40.39**	**337**	P		**P**	**15 08 29.6**	**+1.3**
0.8nm,0.6s,baz=112,slow=9.4,SNR=5.5								
0.8nm,0.6s								
HFS	**Hagfors**	**42.59**	**321**	P		**P**	**15 08 46.1**	**-0.2**
1.6nm,0.9s,baz=97,slow=8.6,SNR=1.8								
1.6nm,0.9s								

*ISK **15** 15:02:22.1, 33°.29N×28°.45E, h74km, ML3.4/9*
*GII **15** 15:02:23.9±0.0, 33°.269N±0°.003×28°.500E±0°.001, h80km, Mws3.0, confirmed*
ISC 15 15:02:22.7±1.5, 33°.21N±0°.08×28°.45E±0°.08, h35km, n56,
σ0§57/58, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**2.56**	**336**	Pn		**Pn**	**15 03 01.9**	**+0.1**
ZKR	**Zakros**	**2.65**	**316**	Pn		**Pn**	**15 03 03.5**	**+0.5**
ZKR				Sn		**Sn**	**15 03 33.7**	**-0.2**
ARG	**Arkhangelos**	**3.01**	**355**	Pn		**Pn**	**15 03 08.2**	**+0.3**
FETY	**Fethiye**	**3.46**	**8**	Pn		**Pn**	**15 03 14.6**	**+0.6**
TURN	**Turunc**	**3.56**	**357**	Pn		**Pn**	**15 03 15.9**	**+0.5**
TURN				Sn		**Sn**	**15 03 55.4**	**-0.8**
DAT	**Datca**	**3.58**	**349**	Pn		**Pn**	**15 03 16.4**	**+0.6**
DALY	**Dalyan (Mula)**	**3.60**	**3**	Pn		**Pn**	**15 03 16.5**	**+0.5**
CAME	**Cameli-Denizli**	**3.79**	**10**	Pn		**Pn**	**15 03 19.5**	**+0.8**
YER	**Yerkesik**	**3.92**	**358**	Pn		**Pn**	**15 03 20.9**	**+0.5**
BODT	**Bodrum**	**3.95**	**347**	Pn		**Pn**	**15 03 21.4**	**+0.5**
CSS	**Mathiatis**	**4.41**	**65**	P		**Pn**	**15 03 27.1**	**-0.1**
APE	**Apeiranthos**	**4.53**	**329**	P		**Pn**	**15 03 27.4**	**-1.4**
OFRI	**Ofer**	**5.53**	**94**	P		**Pn**	**15 03 42.6**	**+0.1**
KZIT	**Kziot**	**5.55**	**113**	P		**Pn**	**15 03 43.1**	**+0.3**
KZIT	**Kziot**	**5.55**	**113**	S		**Sn**	**15 04 45.4**	**+0.1**
SLTI	**Sal'it**	**5.64**	**98**	P		**Pn**	**15 03 44.3**	**+0.3**
SLTI	**Sal'it**	**5.64**	**98**	S		**Sn**	**15 04 47.6**	**+0.1**
HNTI	**Hanita**	**5.64**	**89**	P		**Pn**	**15 03 43.8**	**-0.2**
HNTI	**Hanita**	**5.64**	**89**	S		**Sn**	**15 04 47.4**	**-0.2**
AMAZ	**Amatzia**	**5.72**	**105**	P		**Pn**	**15 03 45.8**	**+0.7**
AMAZ	**Amatzia**	**5.72**	**105**	S		**Sn**	**15 04 49.6**	**0.0**
SALP	**Salfit**	**5.80**	**100**	P		**Pn**	**15 03 46.8**	**+0.6**
SALP	**Salfit**	**5.80**	**100**	S		**Sn**	**15 04 51.9**	**+0.3**
MMC7	**Mount Meron ar**	**5.83**	**90**	P		**Pn**	**15 03 46.8**	**+0.2**
MMA0B	**Mount Meron ar**	**5.84**	**90**	P		**Pn**	**15 03 46.8**	**0.0**
MMA0B	**Mount Meron ar**	**5.84**	**90**	S		**Sn**	**15 04 52.1**	**-0.4**
MMLI	**Mount Malkishu**	**5.92**	**96**	P		**Pn**	**15 03 48.1**	**+0.2**
MMLI	**Mount Malkishu**	**5.92**	**96**	S		**Sn**	**15 04 53.9**	**-0.6**
YTIR	**Yattir**	**5.94**	**106**	P		**Pn**	**15 03 48.1**	**-0.1**
YTIR	**Yattir**	**5.94**	**106**	S		**Sn**	**15 04 55.2**	**+0.1**
HMDT	**Nahal Hemdat**	**6.04**	**97**	P		**Pn**	**15 03 49.3**	**-0.2**
HMDT	**Nahal Hemdat**	**6.04**	**97**	S		**Sn**	**15 04 57.4**	**0.0**
GEM	**Giv'at Ha'Em**	**6.05**	**88**	P		**Pn**	**15 03 49.

OLKF eSB Sb 15 29 52.7 +0.4
OLKF MSG 15 29 54.4
comp=Z,73nm,0.2s
KU6 Riekki 2.30 228 eP Pn **15 29 23.1 +1.6**
KU6 eSB Sb **15 29 53.9 +0.3**
KU6 MSG 15 29 55.1
comp=Z,38nm,0.2s
RAJF Raja-Jooseppi 2.32 294 ePB Pn **15 29 22.8 +0.9**
RAJF eS Sn **15 29 51.9 +0.9**
MSF Maaselka 2.63 232 ePB Pn **15 29 28.2 +2.2**
MSF eSB Sb **15 30 02.5 -0.6**
MSF MSG 15 30 06.7
comp=Z,77nm,0.2s
KU1 Kurvinen 2.74 223 eP Pn **15 29 29.1 +1.6**
KU1 eS Sn **15 30 04.0 +2.7**
SGF Sodankyl 2.90 270 eP Pn **15 29 30.6 +0.9**
KU2 Taivalkoski 3.01 233 eP Pn **15 29 33.4 +2.1**
KU2 eSG Sb **15 30 17.0 +2.8**
VADS Vadso 3.03 328 eP Pn **15 29 32.4 +0.8**
VADS Vadso 3.03 328 P Pn **15 29 32.2 +0.6**
VADS S Sn **15 30 07.5 -1.0**
RANF Ranua 3.30 244 eP Pn **15 29 36.4 +1.1**
RANF eSB Sb **15 30 23.0 +0.7**
RNF Rovaniemi 3.31 256 eP Pn **15 29 36.0 +0.7**
RNF eS Sn **15 30 17.0 +1.8**
KEV Kevo 3.35 313 eP Pn **15 29 36.6 +0.8**
KEV Kevo 3.35 313 eP Pn **15 29 36.1 +0.2**
KEV eS Sn **15 30 17.0 +0.7**
ARA0 ARCESS Array S 3.68 305 eP Pn **15 29 40.8 +0.3**
ARCES ARCESS Array B 3.68 305 Pn Pn **15 29 41.3 +0.9**
comp=Z,3.6nm,0.3s,baz=121,slow=15,SNR=310
ARCES Pg Pb **15 29 49.0 +0.9**
comp=Z,4.3nm,0.3s,baz=119,slow=19,SNR=14
ARCES Sn Sn **15 30 23.2 -1.3**
comp=Z,3.5nm,0.3s,baz=120,slow=23,SNR=15
ARCES Lg Lg 15 30 35.3
comp=Z,5.3nm,0.3s,baz=117,slow=36,SNR=4.0
comp=Z,9.9nm,0.3s
ARCES ARCESS Array B 3.68 305 P Pn **15 29 40.9 +0.4**
ARCES S Sn **15 30 24.1 -0.4**
RMF Romuvaara 3.81 208 eP Pn **15 29 43.3 +1.0**
RMF eS Sn **15 30 28.6 +0.8**
KLF Kolari 3.91 269 eP Pn **15 29 43.6 0.0**
HEF Hetta 3.99 286 eP Pn **15 29 45.0 +0.3**
HEF eS Sn **15 30 31.9 -0.3**
TOF Tornio 4.14 253 eP Pn **15 29 46.7 -0.1**
OUL Oulu 4.16 236 ePB Pb **15 29 54.3 -2.0**
KTK1 Kautokeino 4.25 294 eP Pn **15 29 49.1 +0.8**
KTK1 eS Sn **15 30 38.1 -0.5**
PAJU Pajala 4.28 267 eP Pn **15 29 48.6 -0.1**
PAJU eS Sn **15 30 39.3 0.0**
LANU Lannavaara 4.59 281 eP Pn **15 29 52.3 -0.7**
OBF4 Vikkela, Lumij 4.59 236 eP Pn **15 29 54.3 +1.4**
OBF4 eS Sn **15 30 48.4 +1.5**
KALU Kalix 4.60 252 eP Pn **15 29 53.9 +0.9**
KALU eS Sn **15 30 47.5 +0.4**
ERTU Ertsjaerv 4.76 263 eP Pn **15 29 55.3 0.0**
ERTU eS Sn **15 30 51.2 +0.1**
FINES FINESS Array B 7.09 213 Pn Pn **15 30 27.6 +0.4**
comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=15
FINES Pg Pb **15 30 43.6 -2.6**
comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=5.5
FINES Sn Sn **15 31 43.9 -4.4**
comp=Z,0.7nm,0.3s,baz=19,slow=18,SNR=7.9
comp=Z,0.6nm,0.3s
FAUS Fauske 7.20 277 S Sn **15 31 47.1 -4.0**
HFS Hagfors 11.64 240 Pn Pn **15 31 27.2 -2.4**
comp=Z,0.1nm,0.3s,baz=47,slow=11,SNR=5.0
HFS Sn Sn 15 33 25.1 -15
comp=Z,0.1nm,0.3s,baz=58,slow=17,SNR=2.6
HFS Lg Lg 15 34 43.0
comp=Z,0.6nm,0.3s,baz=46,slow=27,SNR=6.3
comp=Z,0.7nm,0.4s
SPITS Spitsbergen Ar 11.72 342 Pn Pn **15 31 28.3 -2.3**
baz=144,slow=16
SPITS Sn Sn 15 33 25.0 -17
baz=158,slow=28
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 11.84 247 Pn Pn **15 31 28.3 -3.9**
baz=46,slow=11,SNR=5.2
NOA Sn Sn 15 33 27.7 -17
baz=330,slow=3.5,SNR=1.4
NOA Lg Lg 15 34 48.9
baz=42,slow=26,SNR=4.6
comp=Z,0.1nm,0.4s

IDC 15 15:31:17.7±2.3, 32°.23S×177°.90W, h37km±8km, mb3.4/2, mbtmp3.6/3, ML2.7/1, Error ellipse: s-maj=57.1km s-min=32.7km az=128.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.27 213**		Pn	Pn	15 32 59.8	-1.5
	0.1nm,0.3s,baz=330,slow=9.0,SNR=1.3						
URZ				Sn	Sn	15 34 23.9	+1.4
	0.6nm,0.3s,baz=75,slow=13,SNR=8.8						
	4.1nm,1.1s						
ASAR	**Alice Springs**	**43.13 269**		P	P	15 39 14.7	0.0
	0.4nm,0.6s,baz=109,slow=7.4,SNR=8.9						
ASAR				pP	pP	15 39 25.6	+1.7
	0.4nm,0.6s,baz=103,slow=7.4,SNR=5.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.28 274**		P	P	15 39 23.5	-0.4
	0.5nm,0.3s,baz=115,slow=8.1,SNR=23						
WRA				pP	pP	15 39 35.0	+1.8
	0.8nm,0.3s,baz=115,slow=8.0,SNR=8.4						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**146.88 339**		PKPbc	PKPbc	15 50 55.0	-0.2
	1.6nm,0.9s,baz=53,slow=3.2,SNR=1.6						
FINES				pPKPbc	pPKPab	15 51 06.2	-0.5
	2.5nm,1.0s,baz=29,slow=3.2,SNR=2.2						

*NEIC **15** 15:33:37.2±0.6, 19°.47N±0°.06×154°.86W±0°.04, h41km±4km, Error ellipse: s-maj=9.2km s-min=4.7km az=149.0*
HVO 15 15:33:37.9±0.9, 19°.38N±0°.04×154°.81W±0°.06, h40km±4km, ML3.1/45, ML3.3/46(NEIC), Error ellipse: s-maj=9.3km s-min=4.2km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.19 286**			Pn	15 33 44.4	-0.8
JOKA				IAML		15 33 49.7	
	comp=N,3μm,0.4s						
JCUZ	**Jacuzzi**	**0.27 270**			Pn	15 33 45.2	-0.8
JCUZ					Sn	15 33 50.5	-1.2
NPOC	**North of Pu'u**	**0.28 272**			Pn	15 33 45.2	-0.9
NPOC					Sn	15 33 50.7	-1.1
STCH	**Steam Cracks**	**0.30 271**			Sn	15 33 50.8	-1.3
STCH	**Steam Cracks**	**0.30 271**			Pn	15 33 45.3	-0.9
STCH				IAML		15 33 50.9	
	comp=E,4μm,0.2s						
STCH				IAML		15 33 51.3	
	comp=N,2μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.34 270**			Pn	15 33 45.5	-1.2
PUH	**Pauahi**	**0.38 269**			Sn	15 33 52.0	-1.8
PUH	**Pauahi**	**0.38 269**			Pn	15 33 46.1	-1.2
PUH				IAML		15 33 52.2	
	comp=E,2μm,0.1s						
PUH				IAML		15 33 52.9	
	comp=N,2μm,0.5s						
BYL	**Byron's Ledge**	**0.42 274**			Sn	15 33 53.1	-1.6
BYL	**Byron's Ledge**	**0.42 274**			Pn	15 33 46.3	-1.4
BYL				IAML		15 33 53.2	
	comp=E,2μm,0.1s						
BYL				IAML		15 33 53.3	
	comp=N,3μm,0.5s						
HATHI	**Halema'uma'u T**	**0.43 276**			Pn	15 33 46.5	-1.3
HATHI					Sn	15 33 53.0	-1.8
HATHI	**Halema'uma'u T**	**0.43 276**		IAML		15 33 53.2	
	comp=E,4μm,0.2s						
HATHI				IAML		15 33 53.2	
	comp=N,7μm,0.1s						
KKO	**Keanakako'i**	**0.43 272**			Pn	15 33 46.6	-1.3
KKO					Sn	15 33 53.2	-1.6
SBLHI	**Steaming Bluff**	**0.43 276**			Pn	15 33 46.5	-1.4
SBLHI					Sn	15 33 53.2	-1.8
RIM	**Rim**	**0.44 272**			Pn	15 33 46.6	-1.3
RIM					Sn	15 33 53.4	-1.6
UWB	**Uwekahuna Bluf**	**0.44 276**			Pn	15 33 46.6	-1.4
UWB					Sn	15 33 53.4	-1.8
OBL	**Observatory Le**	**0.45 275**			Pn	15 33 46.7	-1.4
OBL					Sn	15 33 54.0	-1.3
RSD	**Rainshed**	**0.45 280**			Pn	15 33 47.0	-1.2
RSD					Sn	15 33 53.8	-1.5
SDHHI	**Sand Hill**	**0.46 271**			Pn	15 33 46.8	-1.4
SDHHI					Sn	15 33 53.8	-1.6
UWE	**Uwekahuna**	**0.46 275**			Sn	15 33 53.7	-1.8
UWE	**Uwekahuna**	**0.46 275**			Pn	15 33 46.8	-1.4
UWE				IAML		15 33 54.3	
	comp=E,3μm,0.4s						
UWE				IAML		15 33 54.3	
	comp=N,2μm,0.3s						
WRMHI	**West Rim**	**0.46 273**			Pn	15 33 46.8	-1.4
WRMHI					Sn	15 33 54.0	-1.6
HLP	**Hilina Pali**	**0.48 260**			Pn	15 33 47.3	-1.1
MLH	**Mauna Loa**	**0.55 282**			Sn	15 33 55.7	-2.2
MLH	**Mauna Loa**	**0.55 282**			Pn	15 33 48.1	-1.5
MLH				IAML		15 33 58.3	
	comp=E,845nm,0.1s						
MLH				IAML		15 33 59.0	
	comp=N,1μm,0.1s						
HTC	**Hot Caves**	**0.57 255**			Pn	15 33 48.5	-1.2
HMH	**Humu'ula Sheep**	**0.67 289**			Pn	15 33 49.8	-1.4
HMH					Sn	15 33 59.1	-1.7
HMH	**Humu'ula Sheep**	**0.67 289**		IAML		15 33 59.6	
	comp=N,744nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.74 282**			Pn	15 33 50.7	-1.5
MLOA	**Mauna Loa Obse**	**0.74 282**			Sn	15 34 00.2	-2.4
MLOA	**Mauna Loa Obse**	**0.74 282**		IAML		15 33 56.4	
	comp=E,26nm,4.6s						
MWH	**Mokuaweoweo**	**0.75 278**			Pn	15 33 50.7	-1.8
MWH					Sn	15 34 00.7	-2.2
MWH	**Mokuaweoweo**	**0.75 278**		IAML		15 34 01.1	
	comp=E,1μm,0.5s						
MWH				IAML		15 34 01.3	
	comp=N,963nm,0.3s						
HPO	**Honuapo**	**0.76 248**			Pn	15 33 50.5	-1.6
HPO					Sn	15 34 00.2	-2.3
KHU	**Kahuku**	**0.77 260**			Pn	15 33 50.8	-1.8
KHU	**Kahuku**	**0.77 260**		IAML		15 34 00.6	
	comp=N,638nm,0.1s						
KHU				IAML		15 34 00.8	
	comp=E,996nm,0.6s						
POHA	**Pohakuloa**	**0.78 299**			Sn	15 34 00.1	-3.1
POHA	**Pohakuloa**	**0.78 299**			Pn	15 33 50.7	-1.9
ALEP	**Alea Permanent**	**0.80 282**			Pn	15 33 51.2	-1.9
ALEP					Sn	15 34 01.5	-2.5
HUH	**Hualalai**	**1.01 287**			Pn	15 33 54.3	-1.6
HUH					Sn	15 34 07.5	-1.6
HUH	**Hualalai**	**1.01 287**		IAML		15 34 11.1	
	comp=E,536nm,0.4s						
HUH				IAML		15 34 23.6	
	comp=N,590nm,0.3s						
CPH	**Captain Cook**	**1.05 276**			Pn	15 33 54.1	-2.0
HPAH	**Hawaii Prepara**	**1.05 308**			Pn	15 33 54.2	-2.1
KKH	**Kailua Kona**	**1.17 284**			Pn	15 33 55.7	-2.1
KKH					Sn	15 34 09.1	-3.5
MHA	**Mahukona**	**1.30 308**		Pn	Pn	15 33 57.6	-2.0
MHA	**Mahukona**	**1.30 308**			Sn	15 34 13.3	-2.5
HLK	**Haleakala**	**1.92 316**			Sn	15 34 27.5	-4.0
HLK	**Haleakala**	**1.92 316**			Pn	15 34 05.8	-2.5
KHLH	**Kahului Airpor**	**2.14 315**		Pn	Pn	15 34 09.3	-1.8
KHLH	**Kahului Airpor**	**2.14 315**			Sn	15 34 34.3	-2.1
WMR	**Waimanalo Ridg**	**3.31 306**			Pn	15 34 24.9	-2.3
WMR					Sn	15 35 01.8	-3.6
DHH	**Diamond Head**	**3.37 304**			Pn	15 34 25.5	-2.5
HON	**Honolulu**	**3.56 303**		Pn	Pn	15 34 28.2	-2.4
HON	**Honolulu**	**3.56 303**			Sn	15 35 08.5	-3.0
KIP	**Kipapa**	**3.63 305**			Pn	15 34 29.5	-2.1
KEKH	**Kekaha**	**5.27 300**		Pn	Pn	15 34 50.8	-3.3

*WEL **15** 15:47:50.4±1.1, 32°.5S×17°.8W±1°.7, h12km, mB4.9/3, ML5.1/12, MLv5.0/11, Mw(mB)4.2/3, Error ellipse: s-maj=22.9km s-min=4.0km az=102.9, confirmed*
*NEIC **15** 15:47:52.5±2.7, 32°.61S±0°.09×177°.8W±0°.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=28.5km s-min=13.5km az=108.0*
*IDC **15** 15:47:52.8±0.8, 32°.18S×178°.06W, h0km, mb4.3/6, mbtmp4.4/7, ML4.6/1, MS3.4/5, Error ellipse: s-maj=29.2km s-min=22.3km az=132.0*
*NOU **15** 15:48:10.8, 33°.62S×178°.60W, h6km, mb4.3/14, South of Kermadec Islands*
ISC 15 15:47:54.6±0.7, 32°.43S±0°.06×177°.8W±0°.1, h20km, n73, σ2§00/75, mb4.4/11, MS3.4/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.16 359**		P	**Pn**	**15 48 41.1**	**-2.1**
GLKZ				S	**Sn**	**15 49 14.7**	**-5.6**
RAO	**Raoul Island**	**3.17 359**		Pn	**Pn**	**15 48 43.8**	**+0.4**
RAO	**Raoul Island**	**3.17 359**		Pn	**Pn**	**15 48 40.5**	**-2.8**
	93nm,0.3s,baz=84,slow=19,SNR=2.9						
RAO				Sn	**Sn**	**15 49 16.3**	**-4.2**
	189nm,0.3s,baz=89,slow=23,SNR=6.6						
	232nm,0.2s						
RIZ	**Raoul Island**	**3.18 358**		P	**Pn**	**15 48 41.1**	**-2.3**
RIZ				S	**Sn**	**15 49 18.2**	**-2.5**
MXZ	**Matakaoa Point**	**6.02 211**		Pn	**Pn**	**15 49 18.6**	**-3.9**
MXZ	**Matakaoa Point**	**6.02 211**		P	**Pn**	**15 49 21.8**	**-0.7**
MXZ	**Matakaoa Point**	**6.02 211**		P	**Pn**	**15 49 21.5**	**-1.0**
HAZ	**Te Kaha**	**6.41 213**		S	**Pn**	**15 49 26.7**	**-1.2**
PUZ	**Puketiti**	**6.47 209**		S	**Pn**	**15 49 25.9**	**-2.8**
RUGZ	**Raukumara Rang**	**6.63 212**		P	**Pn**	**15 49 29.8**	**-1.2**
TWGZ	**Tauwhareparae**	**6.68 210**		P	**Pn**	**15 49 30.0**	**-1.6**
CNGZ	**Carnagh Statio**	**6.85 207**		P	**Pn**	**15 49 31.9**	**-2.0**
MWZ	**Matawai**	**7.00 211**		S	**Pn**	**15 49 34.3**	**-1.7**
MWZ				S	**Sn**	**15 50 53.2**	**-1.9**
OPRZ	**Ohinepanea**	**7.09 219**		P	**Pn**	**15 49 35.5**	**-1.7**
URZ	**Urewera**	**7.13 214**		Pn	**Pn**	**15 49 35.5**	**-2.2**
	3.3nm,0.3s,baz=133,slow=7.0,SNR=38						
URZ				Sn	**Sn**	**15 50 56.3**	**-1.9**
	19nm,0.3s,baz=354,slow=3.1,SNR=18						
URZ	**Urewera**	**7.13 214**		P	**Pn**	**15 49 37.3**	**-0.5**
URZ	**Urewera**	**7.13 214**		P	**Pn**	**15 49 36.3**	**-1.5**
URZ				S	**Sn**	**15 50 55.3**	**-2.9**
WCZ	**Waipu Caves**	**7.37 240**		P	**Pn**	**15 49 43.3**	**+2.4**
MKAZ	**Moumakai**	**7.41 229**		P	**Pn**	**15 49 43.0**	**+1.4**
RTZ	**Ruatahuna**	**7.48 213**			**Pn**	**15 49 38.7**	**-4.0**
RTZ	**Ruatahuna**	**7.48 213**		P	**Pn**	**15 49 41.6**	**-1.0**
RTZ				S	**Sn**	**15 51 03.8**	**-3.1**
KNZ	**Kokohu**	**7.52 208**		S	**Pn**	**15 49 40.7**	**-2.5**
KNZ				S	**Sn**	**15 51 04.7**	**-3.1**
TOZ	**Tahuroa Road**	**7.60 224**			**Pn**	**15 49 40.4**	**-3.8**
TOZ	**Tahuroa Road**	**7.60 224**		S	**Pn**	**15 49 45.0**	**+0.8**
OUZ	**Omahuta**	**7.66 246**		P	**Pn**	**15 49 48.7**	**+3.7**
OUZ	**Omahuta**	**7.66 246**		S	**Pn**	**15 49 48.6**	**+3.7**
BKZ	**Black Stump Fm**	**8.15 213**			Pn	15 49 46.9	-4.8
BKZ	**Black Stump Fm**	**8.15 213**		P	**Pn**	**15 49 50.4**	**-1.4**
BKZ	**Black Stump Fm**	**8.15 213**		P	**Pn**	**15 49 50.3**	**-1.4**
HIZ	**Hauiti**	**8.51 222**		P	**Pn**	**15 49 56.7**	**+0.1**
HIZ	**Hauiti**	**8.51 222**		P	**Pn**	**15 49 56.2**	**-0.4**
NGZ	**Ngauruhoe**	**8.59 217**		S	**Pn**	**15 49 56.6**	**-1.3**
VRZ	**Vera Road**	**8.99 220**		P	**Pn**	**15 50 02.1**	**-1.1**
BFZ	**Birch Farm**	**9.51 208**		P	**Pn**	**15 50 09.7**	**-0.7**
CTZ	**Chatham Island**	**11.33 176**		P	**Pn**	**15 50 37.9**	**+2.7**
KHZ	**Kahutara**	**12.09 212**		P	**Pn**	**15 50 44.3**	**-1.4**
RPZ	**Rata Peaks**	**14.25 215**		Pn	Pn	15 51 03.7	-12
	0.6nm,0.3s,baz=1.4,slow=21,SNR=1.5						
RPZ				Sn	Sn	15 53 36.5	-16
	1.9nm,0.3s,baz=347,slow=20,SNR=8.8						
RPZ	**Rata Peaks**	**14.25 215**		P	**Pn**	**15 51 14.8**	**-0.4**
ODZ	**Otahua Downs**	**15.45 212**		P	**Pn**	**15 51 30.1**	**-1.2**
JCZ	**Jackson Bay**	**15.65 218**		P	**Pn**	**15 51 35.2**	**+1.2**
DZM	**Mont Dzumac**	**17.36 303**		P	**P**	**15 51 58.9**	**+1.8**
	12nm,1.0s,baz=103,slow=17,SNR=4.8						
RAR	**Rarotonga**	**19.58 60**		LR	LR	16 00 08.1	
	comp=Z,103nm,18.4s,baz=318,slow=38						
PPT	**Papeete**	**29.46 67**		LR	LR	16 05 39.0	
	comp=Z,76nm,18.2s,baz=234,slow=36						
HNR	**Honiara**	**30.76 313**		LR	LR	16 04 46.1	
	comp=Z,59nm,19.0s,baz=240,slow=33						
STKA	**Stephens Creek**	**34.21 260**		P	**P**	**15 54 39.5**	**+0.5**
	2.2nm,0.7s,baz=99,slow=12,SNR=4.4						
	2.2nm,0.7s						
MTSU	**Mount Surprise**	**36.86 283**		P	**P**	**15 55 04.0**	**+2.2**
COEN	**Coen**	**40.00 288**		P	**P**	**15 55 28.4**	**+0.2**
COEN				IAmb	IAmb	15 55 33.0	
	comp=Z,9.7nm,1.1s						
AS31	**Alice Springs**	**43.18 269**		P	**P**	**15 55 54.2**	**-0.1**
AS31				IAmb	IAmb	15 55 54.9	
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**43.18 269**		P	**P**	**15 55 53.6**	**-0.7**
ASAR	**Alice Springs**	**43.18 269**		P	**P**	**15 55 54.1**	**-0.2**
	comp=Z,4.1nm,0.7s,baz=106,slow=7.3,SNR=48						
WR0	**Warramunga Arr**	**44.17 274**		P	**P**	**15 56 00.7**	**-1.6**
WR0				IAmb	IAmb	15 56 17.7	
	comp=Z,7.8nm,1.1s						
WB2	**Warramunga Arr**	**44.34 274**		P	**P**	**15 56 03.1**	**-0.5**
WB2				IAmb	IAmb	15 56 19.0	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**44.35 274**		P	**P**	**15 56 02.6**	**-1.1**
WRA	**Warramunga Arr**	**44.35 274**		P	**P**	**15 56 03.5**	**-0.3**
	comp=Z,7.0nm,0.5s,baz=115,slow=7.6,SNR=99						
WRA				PcP	**PcP**	**15 57 48.7**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=118,slow=2.3,SNR=2.3						
WRA				LR	LR	16 14 13.3	
	comp=Z,88nm,18.1s,baz=21,slow=36						
	comp=Z,7.0nm,0.5s						
WB0	**Warramunga Arr**	**44.38 274**		P	**P**	**15 56 03.7**	**-0.3**
FORT	**Forrest**	**45.70 257**		P	**P**	**15 56 13.1**	**-1.2**
KNRA	**Kununurra**	**51.03 276**		P	**P**	**15 56 56.2**	**+0.6**
KNRA				IAmb	IAmb	15 56 57.0	
	comp=Z,9.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.52 271**		P	**P**	**15 57 05.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**52.52 271**		P	**P**	**15 57 06.0**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=152,slow=8.4,SNR=6.7						
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**57.69 180**		P	**P**	**15 57 46.3**	**+2.8**
	comp=Z,2.3nm,1.0s,baz=87,slow=11,SNR=5.8						
	comp=Z,2.3nm,1.0s						
NVAR	**Mina Array Bea**	**89.63 43**		P	**P**	**16 00 54.0**	**+2.9**
	comp=Z,1.0nm,0.8s,baz=222,slow=6.0,SNR=4.6						
	comp=Z,1.0nm,0.8s						
MA2	**Magadan**	**95.28 345**		LR	LR	16 37 05.6	
	comp=Z,14nm,21.7s,baz=167,slow=31						
MKAR	**Makanchi Array**	**119.17 309**		PKP	**PKPdf**	**16 06 42.0**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=51,slow=0.8,SNR=3.9						
KURBB	**Kurchatov Arra**	**122.58 313**		PKP	**PKPdf**	**16 06 48.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=106,slow=2.2,SNR=7.5						
BVAR	**Borovoye Array**	**127.34 315**		PKP	**PKPdf**	**16 06 58.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=69,slow=8.5,SNR=3.4						
ARCES	**ARCESS Array B**	**140.60 347**		PKhKP	PKPpre	16 07 17.4	
	comp=Z,3.1nm,0.9s,baz=49,slow=17,SNR=2.0						
FINES	**FINESS Array B**	**147.09 339**		PKPbc	**PKPbc**	**16 07 36.0**	**+0.7**
	comp=Z,13nm,0.9s,baz=66,slow=4.6,SNR=20						
NB2	**NORSAR Subarra**	**150.77 351**		PKP	**PKiKP**	**16 07 46.1**	**+0.7**
	comp=Z,7.3nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.77 351**		PKPbc	**PKPbc**	**16 07 44.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=16,slow=4.1,SNR=5.3						
HFS	**Hagfors**	**151.26 348**		PKPbc	**PKPbc**	**16 07 45.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=106,slow=5.3,SNR=7.9						
MMAI	**Mount Meron Ar**	**152.10 280**		PKPbc	**PKiKP**	**16 07 50.9**	**+1.8**
	comp=Z,6.6nm,0.7s,baz=95,slow=6.8,SNR=7.8						
AKASG	**Malin Array Be**	**152.98 320**		PKPbc	**PKiKP**	**16 07 50.4**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=67,slow=2.1,SNR=8.6						
BRTR	**Keskin Array B**	**153.64 295**		PKPbc	**PKiKP**	**16 07 53.2**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=95,slow=5.2,SNR=8.5						

*IDC **15** 15:49:10.6±1.7, 0°.15S×124°.65E, h0km, mb3.5/3, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=150.0km s-min=26.4km az=73.0*
ISC 15 15:49:12.3±1.4, 0°.1S±0°.2×124°.9E±0°.6, h10km, n10, σ1§82/7, mb3.6/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**8.91 197**		P	Pg	15 52 06.8	+3.8
MTN	**Manton Dam**	**14.10 154**		P	P	15 52 48.0	+7.9
FITZ	**Fitzroy Crossi**	**17.92 178**		P	**Pn**	**15 53 20.1**	**-1.7**
	0.5nm,0.3s,baz=11,slow=11,SNR=21						
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**21.79 155**		P	**P**	**15 54 05.3**	**+0.7**
	0.9nm,0.7s,baz=337,slow=8.4,SNR=23						
	0.9nm,0.7s						
QIS	**Mount Isa**	**24.91 146**		P	P	15 54 43.6	+7.8
ASAR	**Alice Springs**	**25.02 160**		P	**P**	**15 54 36.6**	**-0.1**
	0.7nm,0.3s,baz=329,slow=8.4,SNR=69						
	0.7nm,0.3s						
WRKA	**Warakurna**	**25.02 173**		P	**P**	**15 54 34.4**	**-2.4**
MEEK	**Meekatharra**	**27.09 192**		P	**P**	**15 54 57.5**	**+2.0**
OOD	**Oodnadatta**	**29.43 160**		P	**P**	**15 55 16.3**	**0.0**
SONM	**Songino Array**	**50.37 344**		P	**P**	**15 58 09.5**	**-0.3**
	0.3nm,0.4s,baz=146,slow=2.8,SNR=2.9						
	0.3nm,0.4s						

*JMA **15** 15:55:27.6±0.1, 23°.2N±0°.9×12°.1E±°, h46km±1km, TAIWAN REGION*
*ASIES **15** 15:55:28.1, 23°.24N×121°.41E, h46km, ML3.7, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}=0.79; $M_{\theta\theta}$9.66; $M_{\phi\phi}$=8.87; $M_{r\theta}$=5.83; $M_{\theta\phi}$3.71; $M_{\phi r}$3.99; Fault plane solution: $M_0$12.24650×10^{20} NP1: ϕ_s214.73000°, δ54.57000°, λ=176.93000°. NP2: ϕ_s122.95000°, δ87.50000°, λ=35.46000°. Principal axes: T Plg22.2750°, Azm174.4630°; N Plg54.4550°, Azm299.4440°; P Plg26.1530°, Azm72.8590°;*
*TAP **15** 15:55:28.1, 23°.24N×121°.41E, h46km, ML3.7, C*
ISC 15 15:55:28.6±0.9, 23°.22N±0°.02×121°.47E±0°.02, h34km±1km, n149, σ1§03/268, 25C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong**	**0.07 245**		*eP*	**Pb**	**15 55 35.3**	**+1.0**
CHKH				*eS*	**Sb**	**15 55 40.9**	**+2.6**
ECBN	**Changbin**	**0.10 352**		⇓*iP*	**Pb**	**15 55 35.9**	**+1.4**
ECBN				*eS*	**Sb**	**15 55 41.0**	**+2.5**
CHKT	**Chengkung**	**0.15 217**		*eP*	**Pb**	**15 55 35.7**	**+0.8**
CHKT				*i* S	**Sb**	**15 55 41.8**	**+2.6**
FULB	**Fuli**	**0.16 262**		⇓*iP*	**Pb**	**15 55 35.9**	**+0.9**
FULB				S	**Sb**	**15 55 41.9**	**+2.6**

HWA				eS	Sn	15 55 53.5	+0.2
TPUB	**Ta-pu**	**0.77**	**276**	⇓P	Pn	15 55 43.0	-0.2
TPUB				i S	Sb	15 55 54.5	+0.4
OWD	**Renai**	**0.78**	**340**	⇑iP	Pn	15 55 42.7	-0.6
OWD				eS	Sn	15 55 52.1	-1.7
ECL	**Taimali**	**0.78**	**217**	⇓P	Pn	15 55 41.3	-1.9
ECL				S	Sn	15 55 51.3	-2.4
WTP	**Ta-pu**	**0.78**	**272**	⇓iP	Pn	15 55 43.1	-0.2
WTP				eS	Sn	15 55 54.5	+0.6
LXIB	**Xiulin Townshi**	**0.80**	**357**	⇑iP	Pn	15 55 42.4	-1.2
LXIB				i S	Sn	15 55 52.6	-1.8
CHN4	**Tsaushan**	**0.81**	**279**	⇓eP	Pn	15 55 43.7	+0.1
CHN4				i S	Sb	15 55 56.1	+1.0
CHN5	**Tsauling**	**0.81**	**297**	⇓iP	Pn	15 55 44.0	+0.2
CHN5				S	Sn	15 55 55.4	+0.7
WCKO	**Fanlu**	**0.82**	**285**	⇓eP	Pn	15 55 43.8	0.0
WCKO				i S	Sn	15 55 55.5	+0.7
SGST	**Jiashian**	**0.82**	**260**	eP	Pn	15 55 43.0	-0.8
SGST				eS	Sn	15 55 55.1	+0.3
WUSB	**Renai**	**0.83**	**337**	⇑iP	Pn	15 55 43.7	-0.3
WUSB				S	Sn	15 55 53.8	-1.3
SMLT	**Sun Moon Lake**	**0.84**	**322**	⇑iP	Pn	15 55 43.3	-0.8
SMLT				eS	Sn	15 55 54.3	-1.1
TWD	**Chiawan**	**0.86**	**8**	⇑P	Pn	15 55 43.4	-1.0
TWD				i S	Sn	15 55 54.5	-1.3
CHN1	**Nanshi**	**0.86**	**268**	⇓P	Pn	15 55 44.5	+0.1
CHN1				i S	Sn	15 55 56.7	+0.9
TYC	**Yuchr**	**0.88**	**321**	⇑P	Pn	15 55 44.9	+0.3
TYC				eS	Sn	15 55 56.1	-0.1
SNST	**Tainan City**	**0.89**	**270**	eP	Pn	15 55 44.9	+0.2
SNST				eS	Sn	15 55 57.3	+0.9
TWK	**Hsinying**	**0.90**	**273**	P	Pn	15 55 44.8	-0.1
TWK				eS	Sn	15 55 57.4	+0.3
WJS	**Zhushan**	**0.90**	**312**	eP	Pn	15 55 45.4	+0.5
WJS				S	Sb	15 55 57.9	+0.2
TSMG	**Majia**	**0.92**	**236**	eP	Pn	15 55 44.5	-0.5
TSMG				eS	Sn	15 55 57.1	+0.1
WHF	**Hehuan Shan**	**0.94**	**349**	⇑P	Pn	15 55 45.0	-0.8
WHF				S	Sn	15 55 56.8	-1.5
ETL	**Fush Village**	**0.94**	**9**	eP	Pn	15 55 44.4	-1.1
ETL				S	Sn	15 55 56.7	-1.2
WGK	**Gukeng**	**0.95**	**299**	⇓iP	Pn	15 55 46.1	+0.5
WGK				i S	Sb	15 55 59.1	+0.1
NACB	**Ninganchiao**	**0.95**	**7**	⇑iP	Pn	15 55 44.3	-1.3
NACB				S	Sn	15 55 56.1	-1.9
SCST	**Cishan**	**0.96**	**250**	eP	Pn	15 55 46.5	+0.9
SCST				eS	Sb	15 56 00.3	+1.1
CHN2	**Minshiung**	**0.96**	**289**	eP	Pn	15 55 46.1	+0.4
CHN2				eS	Sb	15 55 59.4	+0.1
WDLH	**Douliu**	**0.97**	**299**	eP	Pn	15 55 46.4	+0.5
WDLH				S	Sn	15 55 59.4	+1.0
WNT	**Mingjian**	**0.97**	**312**	eP	Pn	15 55 46.4	+0.5
WNT				i S	Sb	15 55 59.7	+0.1
WCS	**Beigang Elemen**	**0.97**	**329**	⇑P	Pn	15 55 46.3	+0.4
WCS				i S	Sn	15 55 59.1	+0.5
MASBT	**Mashibuluo**	**0.98**	**232**	eP	Pn	15 55 45.5	-0.4
ETLH	**Xiulin Townshi**	**0.98**	**1**	⇑P	Pn	15 55 44.8	-1.2
ETLH				i S	Sn	15 55 56.6	-2.3
WDL	**Douliou City**	**0.98**	**300**	eP	Pn	15 55 46.8	+0.8
CHY	**Chiayi**	**1.00**	**286**	eP	Pn	15 55 46.2	+0.1
CHY				i S	Sn	15 55 59.8	+0.7
TAW	**Tawu**	**1.01**	**212**	eP	Pn	15 55 46.5	+0.2
TAW				eS	Sn	15 55 57.2	-2.2
CHN3	**Shinhua**	**1.02**	**262**	P	Pb	15 55 48.1	+0.2
CHN3				eS	Sb	15 56 01.7	+0.7
SGLT	**Jiouru**	**1.02**	**241**	eP	Pb	15 55 48.1	+0.2
SGLT				eS	Sb	15 56 02.1	+1.0
TAWH	**Dawu Township**	**1.03**	**211**	eP	Pn	15 55 45.3	-1.4
TAWH				i S	Sn	15 55 57.6	-2.2
TWM1	**Shoushan**	**1.04**	**248**	eP	Pb	15 55 48.2	+0.1
TWM1				eS	Sb	15 56 04.1	+2.5
FUSS	**Fushou**	**1.04**	**349**	⇑iP	Pn	15 55 46.9	-0.2
FUSS				eS	Sn	15 55 59.6	-1.0
SHHT	**Tainan City**	**1.05**	**259**	eP	Pb	15 55 48.1	-0.1
SHHT				eS	Sb	15 56 03.7	+1.9
TWT	**Tachien**	**1.06**	**346**	eP	Pn	15 55 47.3	0.0
TWT				S	Sn	15 56 00.4	-0.6
TDCB	**Techi**	**1.06**	**345**	⇑iP	Pn	15 55 47.2	-0.1
TDCB				i S	Sn	15 56 00.5	-0.6
SSHA	**Shanhua**	**1.09**	**266**	i P	Pn	15 55 48.3	+0.9
SSHA				eS	Sn	15 56 02.5	+1.1
WTK	**Tuku**	**1.09**	**295**	eP	Pn	15 55 47.5	0.0
WTK				eS	Sn	15 56 02.3	+0.9
ICHU	**Yijhu**	**1.10**	**277**	eP	Pn	15 55 47.6	0.0
ICHU				i S	Sn	15 56 01.9	+0.3
EAHA	**Aohua**	**1.13**	**13**	eP	Pn	15 55 47.8	-0.5
EAHA				eS	Sn	15 56 02.2	-0.2
SNJT	**Kaohsiung City**	**1.14**	**246**	i P	Pb	15 55 49.5	-0.3
SNJT				eS	Sb	15 56 05.3	+0.9
SCZT	**Fangliau**	**1.15**	**223**	eP	Pn	15 55 48.3	0.0
SCZT				eS	Sn	15 56 03.7	+0.8
WHP	**Taichung City**	**1.15**	**336**	eP	Pn	15 55 49.3	+0.8
WHP				eS	Sn	15 56 03.8	+0.7
CHN8	**Yiju**	**1.16**	**276**	i P	Pn	15 55 48.4	0.0
CHN8				S	Sn	15 56 03.8	+0.7
SCLT	**Jiali**	**1.17**	**268**	P	Pn	15 55 48.8	+0.2
SCLT				eS	Sn	15 56 03.9	+0.5
TCU	**Taichung**	**1.17**	**322**	eP	Pn	15 55 49.7	+1.1
TCU				eS	Sn	15 56 04.7	+1.2
SLIU	**Shizi**	**1.18**	**212**	eP	Pn	15 55 47.2	-1.4
SLIU				eS	Sn	15 56 04.3	+0.8
WSL	**Shuilin Townsh**	**1.18**	**285**	eP	Pn	15 55 48.6	0.0
WSL				i S	Sn	15 56 03.9	+0.4
LAY	**Lan-yu**	**1.18**	**176**	P	Pn	15 55 47.8	-0.9
EOS4	**EOS4**	**1.19**	**41**	eP	Pn	15 55 48.5	0.0
WCHH	**Zhanghua**	**1.19**	**316**	eP	Pn	15 55 49.6	+0.7
WCHH				S	Sb	15 56 05.5	-0.3
NNSB	**Datong**	**1.20**	**356**	⇑P	Pn	15 55 48.6	-0.5
NNSB				eS	Sn	15 56 03.2	-1.2
WSF	**Szhu**	**1.22**	**290**	eP	Pn	15 55 48.9	-0.3
WSF				S	Sn	15 56 04.5	0.0
NNS	**Nan Shan**	**1.22**	**356**	eP	Pn	15 55 48.9	-0.4
NNS				eS	Sn	15 56 03.5	-1.2
LYUB	**Lan-yu**	**1.22**	**175**	eP	Pn	15 55 47.6	-1.7
ENA	**Nanau**	**1.23**	**12**	eP	Pn	15 55 48.5	-0.9
ENA				eS	Sn	15 56 03.0	-1.8
EWUT	**Wuta**	**1.25**	**13**	eP	Pn	15 55 48.9	-0.8
EWUT				eS	Sn	15 56 03.9	-1.4
WSSB	**Gushan**	**1.25**	**243**	eP	Pn	15 55 50.9	+1.1
WSSB				eS	Sb	15 56 07.7	+0.1
WTCT	**Ta-ch'eng**	**1.26**	**301**	P	Pn	15 55 49.8	-0.2
WTCT				i S	Sn	15 56 05.5	-0.1
TSCK	**Chigu Township**	**1.27**	**267**	eP	Pn	15 55 50.0	+0.1
TSCK				eS	Sn	15 56 06.9	+1.0
TWQ1	**Liyutan**	**1.29**	**331**	⇑P	Pn	15 55 51.3	+1.0
TWQ1				i S	Sb	15 56 08.4	-0.3
LATG	**Datong**	**1.31**	**2**	eP	Pn	15 55 49.6	-1.0
EOS3	**EOS3**	**1.32**	**36**	eP	Pn	15 55 51.1	+0.7
WLCH	**Liuqiu**	**1.33**	**229**	eP	Pb	15 55 53.6	+0.6
TWP	**Hsiaoliuchiu**	**1.34**	**230**	eP	Pb	15 55 53.8	+0.6
WDJ	**Dajia District**	**1.35**	**326**	eP	Pn	15 55 52.5	+1.3
EOS2	**EOS2**	**1.38**	**30**	eP	Pn	15 55 51.0	-0.4
ESAO	**Su ao**	**1.39**	**14**	eP	Pn	15 55 52.1	+0.5
TWK1	**Hengchun**	**1.41**	**206**	eP	Pn	15 55 51.5	-0.4
TWK1				eS	Sn	15 56 08.6	-0.8
TWKBT	**Hengchun**	**1.41**	**205**	P	Pn	15 55 51.6	-0.3
TWKBT				eS	Sn	15 56 08.6	-0.7
ENTT	**Nioudou**	**1.42**	**4**	eP	Pn	15 55 51.5	-0.5
ENTT				eS	Sn	15 56 08.8	-0.7
TSEB	**Hengchuen, Pin**	**1.42**	**202**	eP	Pn	15 55 52.0	0.0
NDS	**Dongshan**	**1.42**	**9**	eP	Pn	15 55 51.2	-0.9
TWC	**Suao**	**1.43**	**14**	eP	Pn	15 55 51.9	-0.2
TWC				eS	Sn	15 56 09.4	-0.2
NFF	**Wufeng Townshi**	**1.44**	**347**	P	Pn	15 55 53.3	+0.9
NFF				S	Sn	15 56 11.8	+1.7
YHNB	**Yeheng**	**1.44**	**357**	i P	Pn	15 55 52.6	+0.2
YHNB				i S	Sn	15 56 09.8	-0.4
NMLH	**Miaoli**	**1.45**	**335**	P	Pn	15 55 53.4	+1.0
NMLH				eS	Sn	15 56 11.7	+1.5
NSK	**Sanguang**	**1.45**	**356**	i P	Pn	15 55 52.7	+0.2
NSK				eS	Sn	15 56 09.7	-0.7
NSTT	**Nanjuang**	**1.47**	**343**	eP	Pn	15 55 53.5	+0.8
NSTT				eS	Sn	15 56 11.7	+1.0
LIOB	**Emei**	**1.48**	**344**	P	Pn	15 55 53.6	+0.8
LIOB				eS	Sn	15 56 12.6	+1.6
TWE	**Neicheng**	**1.50**	**7**	eP	Pn	15 55 52.7	-0.4
FUSB	**Fushanzhiwuyua**	**1.54**	**4**	eP	Pn	15 55 53.2	-0.5
FUSB				eS	Sn	15 56 12.5	0.0
NWLT	**Wulai**	**1.55**	**1**	eP	Pn	15 55 53.8	0.0
NWLT				eS	Sn	15 56 11.8	-1.0
KSHI	**Guanxi Townshi**	**1.57**	**350**	P	Pn	15 55 55.7	+1.6
KSHI				S	Sb	15 56 15.8	-0.8
WDGT	**Dungji**	**1.66**	**272**	i P	Pn	15 55 54.5	-0.9
WDGT				eS	Sn	15 56 12.4	-3.1
EGS		**1.67**	**15**	eP	Pn	15 55 56.0	+0.5
TWA	**Mucha**	**1.75**	**3**	eP	Pn	15 55 57.8	+1.1
TWA				eS	Sn	15 56 18.4	+0.6
NCUH	**Zhongli**	**1.76**	**352**	eP	Pn	15 55 58.2	+1.5
PHUB	**P'eng-hu**	**1.77**	**280**	eP	Pn	15 55 55.8	-0.9
PHUB				eS	Sn	15 56 15.5	-2.6
TIPB	**Shuangxi**	**1.77**	**11**	eP	Pn	15 55 56.9	0.0
TIPB				eS	Sn	15 56 16.2	-2.1
PNG	**Penghu**	**1.79**	**281**	eP	Pn	15 55 56.2	-0.9
PNG				S	Sn	15 56 16.7	-1.9
JYNG	**Yonagunijimaku**	**1.83**	**48**	eP	Pn	15 55 58.5	+0.9
JYNG				S	Sn	15 56 20.9	+1.3
TWB1	**Santiao Chiao**	**1.84**	**15**	i P	Pn	15 55 59.1	+1.3
TWB1				eS	Sn	15 56 21.2	+1.2
NWF	**Wu-fen Shan**	**1.86**	**9**	eP	Pn	15 55 58.6	+0.4
WFSB	**Wu-fen Shan**	**1.86**	**9**	eP	Pn	15 55 58.4	+0.2
TWS1	**Kuangyinshan**	**1.87**	**359**	eP	Pn	15 55 59.0	+0.7
TWS1				eS	Sn	15 56 22.4	+1.7
VCHM	**Qimei**	**1.87**	**270**	eP	Pn	15 55 57.4	-0.9
YOJ	**Yonaguni jima**	**1.88**	**49**	eP	Pn	15 55 59.2	+0.9
YOJ				eS	Sn	15 56 21.8	+1.0
YOJ	**Yonaguni jima**	**1.88**	**49**	P	Pn	15 55 59.4	+1.0
YOJ				eS	Sn	15 56 22.4	+1.5
SXI1	**Grass Mountain**	**1.90**	**11**	eP	Pn	15 55 59.5	+0.8
SXI1				eS	Sn	15 56 22.1	+0.5
YM01	**YM01**	**1.92**	**3**	eP	Pn	15 55 58.7	-0.2
YM01				S	Sn	15 56 21.7	-0.3
ZUZH	**Zhuzihu**	**1.93**	**2**	eP	Pn	15 55 59.2	0.0
ZUZH				eS	Sn	15 56 21.8	-0.5
NTST	**Danshui**	**1.93**	**360**	eP	Pn	15 55 59.1	0.0
NTST				eS	Sn	15 56 24.0	+1.7
HATJ	**Hateruma jima**	**2.30**	**68**	P	Pn	15 56 04.7	+0.5
HATJ				S	Sn	15 56 31.7	+0.4
VWUC	**VWUC**	**2.55**	**314**	eP	Pn	15 56 06.2	-1.4
PTMZ	**Houxiangcun**	**2.81**	**311**	eP	Pn	15 56 09.5	-1.5
KNM	**Kinmen**	**3.02**	**294**	eP	Pn	15 56 13.9	-0.1
KNMB	**Chin-men Tao**	**3.08**	**294**	eP	Pn	15 56 12.9	-1.9
MATB	**Ma-tsu**	**3.23**	**335**	eP	Pn	15 56 15.4	-1.4
AXDP	**Jialang**	**3.61**	**298**	eP	Pn	15 56 20.7	-1.4
MHZQ	**Yeshan**	**3.62**	**323**	eP	Pn	15 56 20.8	-1.6
DSXP	**Dongshan**	**3.74**	**278**	eP	Pn	15 56 23.1	-0.8
XPSS	**Dashiqiu**	**3.87**	**343**	eP	Pn	15 56 24.5	-1.2

IDC 15 16:20:30.5±999.0, 57°.21N×33°.46E, h0km, Error ellipse: s-maj=909.9km s-min=62.3km az=101.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.11**	**102**	I	I	16 35 00.0	
	0.4nm,0.7s,baz=284,slow=301,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**15.97**	**105**	I	I	17 52 53.3	
	baz=309,slow=321,SNR=5.0						
I46RU	**ZALESOVO INFRA**	**28.65**	**74**	I	I	19 15 10.0	
	baz=296,slow=323,SNR=1.8						

*OSPL **15** 16:21:28.3±0.4, 18°.66N×71°.62W, h0km±44km, ML1.5*
*SDD **15** 16:21:29.4±1.3, 18°.63N×71°.48W, h14km±11km, MD2.5, ML2.2, MW2.2*

ISC 15 16:21:25.9±1.9, 18°.73N±0°.07×71°.53W±0°.08, h15km±11km, n9, σ0°.45/16, 2C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.14**	**151**	i P	**Pb**	**16 21 31.1**	**+0.7**
LONE3				eS	**Sb**	**16 21 33.4**	**+0.1**
LONE3				IAML		16 21 33.5	
	comp=Z,137nm,0.1s						
NEDR	**Neiba UASD**	**0.27**	**156**	eSg	**Sg**	**16 21 35.4**	**-0.3**
NEDR				IAML		16 21 37.5	
	comp=N,595nm,0.3s						
SDDR	**Presa de Saban**	**0.34**	**43**	ePg	**Pn**	**16 21 36.3**	**0.0**
SDDR				⇑eSg	**Sn**	**16 21 42.4**	**-0.6**
SDDR				IAML		16 21 44.8	
	comp=N,204nm,0.3s						
SDDR	**Presa de Saban**	**0.34**	**43**	i P	**Pn**	**16 21 36.3**	**0.0**
SDDR				eS	**Sn**	**16 21 42.4**	**-0.6**
SDDR				IAML		16 21 43.6	
	comp=Z,7.0nm,0.7s						
LODU1	**El Espartillar**	**0.38**	**172**	i P	**Pb**	**16 21 34.5**	**+0.1**
LODU1				eS	**Sg**	**16 21 38.9**	**-0.1**
LODU1				IAML		16 21 40.1	
	comp=Z,72nm,0.3s						
JIDR	**Jimani**	**0.39**	**232**	ePg	**Pn**	**16 21 37.1**	**+0.2**
JIDR				IAML		16 21 44.7	
	comp=N,471nm,0.3s						
PODR	**Polo**	**0.61**	**157**	⇑ePg	**Pg**	**16 21 38.0**	**-0.1**
PODR				⇓eSg	**Sg**	**16 21 45.9**	**-0.3**
PODR				IAML		16 21 48.5	
	comp=N,177nm,0.2s						
PODR	**Polo**	**0.61**	**157**	i P	**Pg**	**16 21 38.0**	**-0.1**
PODR				eS	**Sg**	**16 21 45.9**	**-0.3**
ABDR	**Alto Bandera**	**0.86**	**85**	ePg	**Pb**	**16 21 43.6**	**+0.9**
ABDR				eSg	**Sn**	**16 21 55.8**	**-0.5**
ABDR				IAML		16 21 59.1	
	comp=N,37nm,0.3s						

*NEIC **15** 16:22:04.5±0.7, 36°.03N±0°.01×97°.91W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.4km az=186.0*

NEIC 15 16:22:04.5±0.7, 36°.024N±0°.008×97°.91W±0°.01, h4km±3km, mb_Lg2.0/3, ML2.0/21, ML2.2/50, Error ellipse: s-maj=1.5km s-min=1.0km az=130.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.43**	**121**		Pg	16 22 13.3	+0.4
OK029					Sg	16 22 19.6	+1.1
OK029				IAML		16 22 19.8	
	144nm,0.2s						
CROK	**Carrier**	**0.48**	**353**		Pg	16 22 14.2	+0.4
CROK					Sg	16 22 21.1	+0.9
CROK				IAML		16 22 23.0	
	comp=N,204nm,0.2s						
CSTR	**Hydro, Custer**	**0.74**	**239**		Pg	16 22 19.0	+0.3
CSTR					Sg	16 22 29.3	+1.1
OK038	**West end E0370**	**0.81**	**304**		Pg	16 22 19.9	-0.2
OK038					Sg	16 22 31.2	+0.6
OK032	**Salt Plains WL**	**0.81**	**343**		Pg	16 22 20.0	-0.1
OK032					Sg	16 22 31.2	+0.5
GC02	**Grant County #**	**0.83**	**3**		Pg	16 22 20.3	-0.1
GC02					Sg	16 22 31.5	+0.4
FNO	**Franklin**	**0.87**	**151**		Pg	16 22 21.0	-0.2
FNO					Sg	16 22 33.2	+0.8
OK031	**S. Brethren Rd**	**0.87**	**94**		Pg	16 22 21.3	0.0
OK031					Sg	16 22 33.2	+0.6
OK031				IAML		16 22 33.6	
	comp=N,88nm,0.1s						
OK031				IAML		16 22 35.4	
	comp=N,48nm,0.8s						
OK048	**Pawnee Station**	**0.88**	**63**		Pg	16 22 21.2	-0.1
OK048					Sg	16 22 33.4	+0.7
OK048				IAML		16 22 37.5	
	comp=N,41nm,0.1s						
OK052	**Battle Ridge R**	**0.90**	**92**		Sg	16 22 34.0	+0.5
BLOK	**Blackwell**	**0.93**	**37**		Pg	16 22 21.6	-0.7
BLOK				IAML		16 22 41.0	
	comp=E,94nm,0.2s						
BLOK				IAML		16 22 41.4	
	comp=N,92nm,0.2s						
KAN14	**Manchester OK**	**0.93**	**357**		Pg	16 22 22.3	-0.1
KAN14					Sg	16 22 34.7	+0.1
KAN14				IAML		16 22 36.6	
	comp=N,72nm,0.1s						
KAN14				IAML		16 22 36.8	
	comp=E,104nm,0.1s						
QUOK	**Quay**	**0.98**	**81**		Pg	16 22 23.2	-0.2
QUOK					Sg	16 22 36.6	+0.4
QUOK				IAML		16 22 40.2	
	comp=E,75nm,0.2s						
NOKA	**Waynoka**	**1.03**	**307**		Pg	16 22 23.8	-0.4
NOKA				IAML		16 22 43.1	
	comp=N,60nm,0.3s						
NOKA				IAML		16 22 48.7	
	comp=E,79nm,0.3s						
KAN09	**Caldwell North**	**1.14**	**12**		Pg	16 22 26.0	-0.3
KAN09					Sg	16 22 41.3	+0.3
DEOK	**Depew**	**1.16**	**99**		Pg	16 22 26.3	-0.4
DEOK					Sg	16 22 42.1	+0.3
DEOK				IAML		16 22 43.3	
	comp=E,44nm,0.1s						
DEOK				IAML		16 22 44.9	
	comp=N,60nm,0.3s						
W35A	**Tecumseh**	**1.21**	**136**		Pg	16 22 26.9	-0.8
W35A					Sb	16 22 44.0	-0.1
W35A				IAML		16 22 47.6	
	comp=E,37nm,0.6s						
W35A				IAML		16 22 47.8	
	comp=N,30nm,0.4s						
T35A	**Sooner Cattle**	**1.44**	**51**		Pn	16 22 31.3	-0.1
WMOK	**Wichita Mounta**	**1.47**	**209**		Pn	16 22 31.5	-0.3
MGMO	**Mountain Grove**	**4.68**	**74**	IAmb_Lg		16 24 34.1	
	comp=Z,3.1nm,0.7s						
P40A	**Paris**	**5.81**	**51**	IAmb_Lg		16 25 18.1	
	comp=Z,9.3nm,0.9s						

*IDC **15** 16:29:15.3±4.6, 6°.70S×128°.60E, h259km±49km, mb2.7/2, mbtmp3.8/5, Error ellipse: s-maj=76.2km s-min=18.4km az=70.0*

ISC 15 16:29:14.5±0.8, 6°.81S±0°.07×128°.65E±0°.09, h250km, n17, σ1°.34/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.24**	**236**	P	**Pn**	**16 30 34.2**	**+0.9**
FAKI	**Fak Fak**	**5.27**	**43**	P	**Pn**	**16 30 33.5**	**-0.2**
SANI	**Sanana**	**5.42**	**331**	P	**Pn**	**16 30 37.2**	**+1.7**
DRS	**Darwin Rock St**	**6.01**	**159**	P	**Pn**	**16 30 44.1**	**+1.3**
DRS	**Darwin Rock St**	**6.01**	**159**	S	**S**	**16 31 52.1**	**-1.4**
MTN	**Manton Dam**	**6.48**	**158**	P	**Pn**	**16 30 49.9**	**+1.3**
MTN	**Manton Dam**	**6.48**	**158**	S	**S**	**16 32 02.8**	**-1.3**
KDU	**Kakadu**	**6.95**	**147**	P	**Pn**	**16 30 55.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.60**	**194**	P	**Pn**	**16 31 54.5**	**+1.4**
	2.4nm,0.4s,baz=24,slow=13,SNR=13						
FITZ				S	**S**	**16 34 00.9**	**-1.9**
	2.3nm,0.4s,baz=84,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**14.18**	**158**	P	**P**	**16 32 25.3**	**0.0**
	1.8nm,0.5s,baz=341,slow=12,SNR=41						
WRA				S	**S**	**16 34 59.8**	**-2.1**
	1.2nm,0.6s,baz=337,slow=22,SNR=7.8						
COEN	**Coen**	**15.95**	**118**	P	**Pn**	**16 32 48.0**	**+1.9**
QIS	**Mount Isa**	**17.31**	**143**	P	**Pn**	**16 33 02.8**	**+0.7**
ASAR	**Alice Springs**	**17.51**	**164**	P	**Pn**	**16 33 05.0**	**+0.7**
	3.4nm,0.4s,baz=344,slow=12,SNR=102						
ASAR				S	**S**	**16 36 12.1**	**+1.3**
	0.7nm,0.9s,baz=344,slow=18,SNR=4.8						
WRKA	**Warakurna**	**18.13**	**181**	P	**Pn**	**16 33 11.9**	**+0.2**
MTSU	**Mount Surprise**	**18.97**	**128**	P	**Pn**	**16 33 20.7**	**-1.0**
SONM	**Songino Array**	**57.85**	**342**	P	**P**	**16 38 39.6**	**-0.7**
	0.3nm,0.7s,baz=142,slow=7.3,SNR=1.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.34**	**327**	P	**P**	**16 39 41.3**	**-1.4**
	0.1nm,0.3s,baz=126,slow=7.3,SNR=2.3						
	0.1nm,0.3s						

*NOU **15** 16:34:41.7, 38°.87S×178°.01E, h24km, MLv3.6/15, Off E. Coast of N. Island, N.Z.*
*WEL **15** 16:34:43.0±0.4, 39°.5±3°.×17°.8E±°, h25km±3km, M3.4/75, ML3.9/19, MLv3.4/75, Error ellipse: s-maj=5.1km s-min=3.3km az=113.2, confirmed*

ISC 15 16:34:42.2±1.1, 38°.87S±0°.03×178°.01E±0°.04, h32km±2km, n129, σ1°.14/136, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**0.11**	**240**	P	**Pb**	**16 34 48.6**	**+0.7**
GKBS	**Kaiti Beach**	**0.19**	**6**	P	**Pn**	**16 34 49.4**	**+0.7**
GKBS				S	**Sb**	**16 34 55.5**	**+2.8**
RIGZ	**Rimuhau**	**0.25**	**310**	P	**Pb**	**16 34 48.7**	**-0.5**
RIGZ				S	**Sb**	**16 34 53.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**0.29**	**195**	P	**Pn**	**16 34 52.0**	**+1.7**
KNZ	**Kokohu**	**0.30**	**239**	P	**Pn**	**16 34 50.5**	**+0.2**
KNZ				S	**Sn**	**16 34 56.5**	**+0.8**
CNGZ	**Carnagh Statio**	**0.41**	**22**	P	**Pn**	**16 34 53.2**	**+1.3**
TKGZ	**Te Karaka**	**0.45**	**344**	P	**Pn**	**16 34 51.8**	**-0.5**
TKGZ				S	**Sn**	**16 34 58.8**	**-0.4**
SNGZ	**Shannon Statio**	**0.53**	**279**	P	**Pn**	**16 34 52.8**	**-0.6**
RAGZ	**Rawiri**	**0.59**	**309**	P	**Pb**	**16 34 53.5**	**-0.8**
RAGZ				S	**Sb**	**16 35 01.4**	**-1.2**
WHHZ	**Waihua**	**0.64**	**251**	P	**Pn**	**16 34 55.6**	**+0.6**
MWZ	**Matawai**	**0.65**	**325**	P	**Pb**	**16 34 54.4**	**-0.8**
MWZ				S	**Sb**	**16 35 03.0**	**-1.1**
TWGZ	**Tauwhareparae**	**0.69**	**358**	P	**Pn**	**16 34 56.2**	**+0.4**
TWGZ				S	**Sn**	**16 35 07.1**	**+1.8**

TSZ	Takapari Road	1.98 232	P	Pn	16 35 13.3	-0.2
ANWZ	Angora Road	1.98 216	P	Pn	16 35 14.7	+1.3
TLZ	Tolley Road	2.01 285	P	Pn	16 35 14.5	+0.6
TWVZ	Taurewa	2.01 263	P	Pb	16 35 18.4	+0.2
DVHZ	Dannevirke	2.02 224	P	Pn	16 35 13.8	-0.1
MTVZ	Mangateitei	2.04 255	P	Pn	16 35 15.6	+1.3
PKVZ	Pokaka	2.11 258	P	Pn	16 35 16.6	+1.3
BFZ	Birch Farm	2.26 216	P	Pn	16 35 16.3	-1.1
BFZ	Birch Farm	2.26 216	S	Sn	16 35 44.7	+0.6
BFZ	Birch Farm	2.26 216	P	Pn	16 35 16.2	-1.1
TOZ	Tahuroa Road	2.27 299	P	Pb	16 35 24.6	+2.1
POWZ	Post Office Ro	2.30 228	P	Pn	16 35 19.4	+1.5
PRWZ	Pori Road	2.30 222	P	Pn	16 35 18.7	+0.8
HIZ	Hauiti	2.49 277	P	Pn	16 35 21.2	+0.8
HIZ	Hauiti	2.49 277	S	Sn	16 35 51.1	+1.4
HIZ	Hauiti	2.49 277	P	Pn	16 35 21.8	+1.4
WAZ	Wanganui	2.50 248	P	Pn	16 35 22.9	+2.3
VRZ	Vera Road	2.54 263	P	Pn	16 35 22.4	+1.2
MRZ	Mangatainoka R	2.59 225	P	Pn	16 35 21.2	-0.6
TMWZ	Te Maipa	2.77 215	P	Pn	16 35 22.5	-1.7
KUZ	Kuaotunu	2.79 319	P	Pn	16 35 23.6	-0.9
KUZ	Kuaotunu	2.79 319	P	Pn	16 35 23.6	-0.9
HOWZ	Holdsworth Sta	2.79 223	P	Pn	16 35 24.4	-0.2
MKAZ	Moumakai	2.85 307	P	Pn	16 35 27.8	+2.4
LREZ	Lake Rotokare	2.86 257	P	Pn	16 35 27.2	+1.7
OGWZ	Otaki Gorge	2.92 227	P	Pn	16 35 25.3	-1.1
MTW	Mount Morrison	2.99 219	P	Pn	16 35 26.0	-1.3
NEZ	North Egmont	3.07 261	P	Pn	16 35 30.9	+2.4
KIW	Kapiti Island	3.10 229	P	Pn	16 35 28.7	-0.2
KHEZ	Kahui Hut	3.13 261	P	Pn	16 35 30.8	+1.4
KHEZ	Kahui Hut	3.13 261	P	Pn	16 35 31.9	+2.5
PKE	Pukeiti	3.15 263	P	Pn	16 35 32.0	+2.5
CAW	Cannon Point	3.18 224	P	Pn	16 35 28.8	-1.1
DUWZ	D'Urville Isla	3.69 237	P	Pn	16 35 36.6	-0.4
TCW	Tory Channel	3.70 230	P	Pn	16 35 35.6	-1.4
WCZ	Waipu Caves	4.13 314	P	Pn	16 35 43.3	+0.3
NNZ	Nelson	4.26 235	P	Pn	16 35 44.1	-0.6
TKNZ	Takaka Hill	4.44 239	P	Pn	16 35 45.9	-1.4
QRZ	Quartz Range	4.65 243	P	Pn	16 35 50.6	+0.5
THZ	Tophouse	4.85 232	P	Pn	16 35 52.7	-0.3
KHZ	Kahutara	4.91 222	P	Pn	16 35 54.8	+1.1
OUZ	Omahuta	5.07 315	P	Pn	16 35 56.3	+0.4
OUZ	Omahuta	5.07 315	P	Pn	16 35 56.7	+0.8
OKCZ	Okains Bay	6.12 216	P	Pn	16 36 09.0	-1.3
CTZ	Chatham Island	6.33 142	P	Pn	16 36 15.8	+2.6
LBZ	Lake Benmore	8.04 224	P	Pn	16 36 36.3	-0.4

*SOF **15** 16:46:34.4, 43.°30N±0.°01×27.°91E±0.°01, h17km±1km, MD3.0/7*
*CFUSG **15** 16:46:34.9, 43.°32N×28.°09E, h5km, mb2.1/1, Black Sea Magtype MSH 3.5 from 1 stations*
*AFAD **15** 16:46:34.7, 43.°20N×28.°10E, h5km±1km, ML2.4*
*ISK **15** 16:46:35.8, 43.°34N×28.°18E, h76km, ML3.0/26*
*BEO **15** 16:46:36.1±0.5, 43.°39N×27.°59E, h0km, ML3.1/9*

ISC 15 16:46:33.5±1.2, 43.°29N±0.°02×28.°01E±0.°02, h3km±10km, n101, σ1§30/140, 24C-28D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVR	AVREN	0.30	237	*i* Pg	Pg	16 46 39.8	+0.5
AVR				Sg	Sg	16 46 44.0	+0.8
PSN	Preselentsi	0.36	14	P	Pb	16 46 42.1	-0.5
PSN				S	Sb	16 46 47.7	-1.0
PRD	Provadia	0.46	254	⇓*i* Pg	Pg	16 46 42.3	0.0
PRD				Sg	Sg	16 46 47.8	-0.5
ROIA	ROIAK	0.50	248	P	Pg	16 46 43.6	+0.4
NEF	NEVSHA	0.54	268	Pg	Pg	16 46 43.6	-0.3
NEF				Sg	Sg	16 46 50.0	-0.9
TSMN	Mangalia Port-	0.67	39	⇑P	Pb	16 46 48.2	+0.5
TSMN				⇑S	Sb	16 46 58.0	+0.6
MANR	Mangalia	0.68	38	⇓P	Pb	16 46 48.1	+0.2
MANR				⇓S	Sb	16 46 59.1	+1.4
ICOR	Ion Corvin	0.84	350	⇓P	Pb	16 46 51.6	+0.7
ICOR				⇑S	Sb	16 47 03.1	+0.6
EFOR	EFORIE	0.91	29	⇓P	Pb	16 46 52.4	+0.4
EFOR				⇑S	Sn	16 47 07.3	+0.5
MFTR	Murfatlar	0.94	18	⇓P	Pb	16 46 52.7	+0.2
MFTR				⇑S	Sn	16 47 06.8	-0.7
TSCT	Constanta Port	0.99	28	⇓P	Pn	16 46 54.4	+0.1
TSCT				⇑S	Sn	16 47 09.9	+1.1
LOZB	Loznitsa	1.04	275	⇓P	Pg	16 46 52.3	-1.1
LOZB				⇑S	Sb	16 47 07.9	-0.3
CVDA	Cernavoda	1.05	1	⇑P	Pb	16 46 54.4	+0.1
RAZG	Razgrad	1.13	285	⇓P	Pg	16 46 54.3	-0.9
RAZG				⇑S	Sb	16 47 11.7	+0.8
TIRR	Tirgusor	1.21	14	Pn	Pb	16 46 57.1	+0.1
TIRR				Sn	Sg	16 47 12.5	+0.2
TIRR	Tirgusor	1.21	14	⇑P	Pb	16 46 57.1	+0.1
TLBR	Topalu	1.26	1	⇑P	Pb	16 46 58.0	+0.1
TLBR				⇑S	Sn	16 47 16.7	+1.3
JMB	Yambol	1.35	234	P	Pn	16 46 58.6	-0.6
JMB				S	Sg	16 47 15.8	-1.0
HARR	Harsova	1.41	358	⇓P	Pn	16 46 60.0	0.0
AMRR	Amara	1.41	340	⇓P	Pn	16 46 59.9	-0.1
LEHL	Lehliu	1.47	324	⇑P	Pb	16 47 01.4	0.0
ARMN	Kirklareli, Me	1.48	197	P	Pn	16 47 00.6	-0.5
ARMN				S	Sn	16 47 19.3	-1.7
ARMN				*i* AML	AML	16 47 22.0	
	comp=E,57nm,0.3s						
SZH	Strazhitsa	1.49	270	P	Pn	16 47 00.2	-0.9
SZH				S	Sb	16 47 18.7	-2.4
TPGR	Topolog	1.60	10	⇓P	Pn	16 47 02.8	+0.1
JURR	Jurilovca	1.61	23	⇓P	Pn	16 47 02.6	-0.1
KIRK	Kırklareli	1.65	205	P	Pn	16 47 03.0	-0.3
KIRK				S	Sn	16 47 23.5	-1.5
KIRK				*i* AML	AML	16 47 33.0	
	comp=E,44nm,0.7s						
PHSR	Pinarhisar	1.69	193	Pn	Pn	16 47 05.7	+1.8
VIZE	Kirklareli, Vi	1.71	184	P	Pn	16 47 03.7	-0.5
VIZE				S	Sn	16 47 25.3	-1.2
VIZE				*i* AML	AML	16 47 29.0	
	comp=N,46nm,0.3s						
VIZE				*i* AML	AML	16 47 32.0	
	comp=E,46nm,0.4s						
SGRR	Singureni	1.75	303	⇓P	Pn	16 47 04.7	0.0
CTYL	Yalikoy Yolu	1.82	173	Pn	Pn	16 47 06.9	+1.2
CTYL				Sn	Sn	16 47 29.4	+0.2
SULR		1.89	318	⇓P	Pn	16 47 06.5	0.0
CFR	Carcaliu	1.89	3	⇑P	Pn	16 47 06.7	0.0
CFR				⇓S	Sb	16 47 32.7	0.0
ZIMR		1.96	282	⇑S	Sn	16 47 33.9	+1.2
TLCR		1.99	17	⇑P	Pn	16 47 08.3	+0.3
TLCR				⇑S	Sg	16 47 37.1	-0.1
SLVT	Silivri	2.06	176	Pn	Pn	16 47 10.2	+1.2
SLVT				Sn	Sn	16 47 35.7	+0.6
CTKS	Kestanelik-??a	2.08	170	Pn	Pn	16 47 10.4	+1.2
PVL	Pavlikeni	2.08	266	P	Pn	16 47 10.6	+1.3
PVL				S	Sn	16 47 37.1	+1.4
ISR	Istrita	2.12	331	⇓P	Pn	16 47 09.9	+0.1
CRLT	Corlu	2.17	186	Pn	Pn	16 47 12.0	+1.6
KLYT	Kilyos	2.17	159	Pn	Pn	16 47 11.3	+0.8
BGKT	Bogazkoy	2.18	165	Pn	Pn	16 47 11.5	+0.9
DIM	Dimitrovgrad	2.18	236	S	Sb	16 47 40.7	-0.3
SCHLR	Schela	2.19	357	⇓S	Sb	16 47 41.8	+0.6
NEGRR	Negrea	2.25	358	⇓S	Sb	16 47 43.3	+0.2
ISK	Istanbul-Kandi	2.35	160	Pn	Pn	16 47 13.9	+0.9
KAVV	Kandilli-Istan	2.35	160	Pn	Pn	16 47 13.9	+0.9
UKOP	Uzunkopru-Edir	2.39	206	Pn	Pn	16 47 15.6	+2.1
SILT	Sile	2.45	150	Pn	Pn	16 47 14.9	+0.6
HUMR	Humele	2.52	301	⇑P	Pn	16 47 14.5	-0.9
VLDR	Vladesti	2.56	1	⇑P	Pn	16 47 16.2	+0.3
KDZ	Kurdzhali	2.58	231	Pn	Pn	16 47 18.7	+2.6
SPBR	Spulber	2.62	340	⇓P	Pn	16 47 17.5	+0.7
MLR	Muntele Rosu	2.66	327	⇑P	Pn	16 47 17.7	+0.4
PLD	Plovdiv	2.66	246	Pb	Pb	16 47 20.7	-1.1
PLD	Plovdiv	2.66	246	*e*Pn	Pn	16 47 17.5	+0.2
PLD				*e*Sg	Sb	16 47 54.7	-0.1
RKY	Sarkoy-Tekirda	2.67	194	Pn	Pn	16 47 19.3	+1.9
KAND	Kocaeli-Kandir	2.72	143	P	Pn	16 47 17.6	-0.5
KAND				S	Sn	16 47 50.1	-1.4
SEMS	Kocaeli-K¶lrfe	2.73	151	P	Pn	16 47 18.0	-0.2
SEMS				S	Sn	16 47 50.1	-1.7
VRI	Vrincioaia	2.74	341	⇑P	Pn	16 47 18.6	+0.3
PLOR	Plostina	2.74	340	⇑P	Pn	16 47 19.1	+0.6
HRT	Hereke	2.75	153	Pn	Pn	16 47 19.5	+0.9
ARMT	Armutlu	2.79	167	Pn	Pn	16 47 20.4	+1.3
ALN	Alexandroupoli	2.80	212	Pn	Pn	16 47 21.6	+2.5
RDO	Rodhopi	2.82	222	Pn	Pn	16 47 21.9	+2.5
ERIK	Erikli-Kesan	2.84	204	Pn	Pn	16 47 21.9	+2.2
COVR	Voineasa-Covas	2.87	334	⇑P	Pn	16 47 21.3	+1.1
KAYN	Sakarya, Kayna	2.89	142	P	Pn	16 47 19.9	-0.5
KAYN				S	Sn	16 47 52.8	-2.9
KAYN				*i* AML	AML	16 47 54.0	
	comp=E,17nm,0.3s						
KAYN				*i* AML	AML	16 47 57.0	
	comp=N,20nm,0.6s						
ENEZ	Enez	2.90	209	Pn	Pn	16 47 22.8	+2.3
YLV	Yalova	2.90	159	Pn	Pn	16 47 21.6	+1.0
VOIR		3.02	316	⇓P	Pn	16 47 22.8	+0.5
GELI	Tayfur-Gelibol	3.11	202	Pn	Pn	16 47 25.7	+2.3
MPEP	Malo Peshtene	3.12	273	P	Pb	16 47 29.6	0.0
HISA	Bilecik-Osmane	3.16	153	P	Pn	16 47 25.8	+1.6
HISA				S	Sn	16 48 01.0	-1.3
HISA				*i* AML	AML	16 48 06.0	
	comp=E,13nm,0.3s						
HISA				*i* AML	AML	16 48 07.0	
	comp=N,16nm,1.0s						
ARR	Arges	3.20	312	⇓P	Pn	16 47 24.1	-0.6
KDZE	Karadeniz Ereo	3.22	127	Pn	Pn	16 47 25.1	+0.2
OZUR		3.23	331	⇓P	Pn	16 47 26.0	+0.9
DOPR	Dopca	3.27	326	⇑P	Pn	16 47 25.3	-0.4
GULT	Gulveren	3.41	146	Pn	Pn	16 47 28.4	+0.8
YIGI	Dzce	3.45	131	P	Pn	16 47 27.8	-0.3
YIGI				*i* AML	AML	16 48 07.0	
	comp=E,16nm,1.0s						
YIGI				S	Sn	16 48 07.3	-2.2
GADA	Gvkgeada	3.47	208	Pn	Pn	16 47 30.9	+2.5
VTS	Vitosha	3.57	261	*e*Pn	Pn	16 47 29.8	-0.1
VTS				*e*Sg	Sb	16 48 20.4	-0.8
LOT	Lotru	3.73	307	⇓P	Pn	16 47 32.3	+0.2
TVSB	Tavsanli	3.98	164	Pn	Pn	16 47 37.2	+1.7
BOSS	Bosilegrad	4.14	261	*e*Pn	Pn	16 47 36.8	-0.8
BOSS				*e*Sg	Sb	16 48 39.0	+1.5
ZAGS	Zajecar	4.24	279	*e*Pn	Pn	16 47 36.6	-2.3
ZAGS				*e*Sg	Sb	16 48 41.2	+1.1
SEV	Sevastopol'	4.28	71	*e*P	Pn	16 47 40.4	+1.0
SEV				Pm		16 47 47.3	
	comp=Z,2.0nm,0.2s						
SEV				*e*S	Sn	16 48 28.8	-0.9
SEV				Sm		16 48 35.3	
	comp=N,2.0nm,0.2s						
SEV				Sm		16 48 35.3	
	comp=E,5.0nm,0.4s						
DNZ2	Donuzlav2	4.28	59	*e*S	Sn	16 48 29.2	-0.6
DNZ2				Sm		16 48 30.9	
	comp=N,9.0nm,0.1s						
DNZ2				Sm		16 48 30.9	
	comp=E,10.0nm,0.2s						
GZR	Gura Zlata	4.31	301	⇓P	Pn	16 47 39.5	-0.4
BORS2	Bor- Borsko je	4.42	283	*e*Pn	Pn	16 47 41.9	+0.4
BORS2				*e*Sg	Sb	16 48 44.6	-0.9
BARS	Barje	4.57	266	*e*Pn	Pn	16 47 38.3	-5.2
BARS				*e*Sg	Sb	16 48 52.4	+2.7
KUBS	Kucevo	4.72	286	*e*Pn	Pn	16 47 41.9	-3.7
MDVR	Moldovita	4.78	290	*e*Pn	Pn	16 47 44.4	-2.1
MARR	Marisel-Cluj	4.85	316	⇓P	Pn	16 47 46.9	-0.6
SURR	Surduc	4.88	302	⇓P	Pn	16 47 47.0	-0.7
SELS	Selova	5.04	272	*e*Pn	Pn	16 47 49.0	-0.9
SELS				*e*Sg	Sb	16 49 07.1	+3.9
BZS	Buzias	5.14	299	⇓P	Pn	16 47 49.7	-1.6
BZS	Buzias	5.14	299	*e*Pn	Pn	16 47 49.8	-1.5
BZS				*e*Sg	Sb	16 49 07.2	+1.1
VRSS	Vrsac	5.15	293	*e*Pn	Pn	16 47 49.9	-1.5
VRSS				*e*Sg	Sb	16 49 10.5	+4.1
GOCS	Kraljevo Serbi	5.21	275	*e*Pn	Pn	16 47 50.8	-1.6
GOCS				*e*Sg	Sb	16 49 11.4	+3.2
SUDU	Sudak	5.28	70	*e*S	Sn	16 48 54.1	-0.5
SUDU				Sm		16 48 55.8	
	comp=N,13nm,0.4s						
SUDU				Sm		16 48 55.8	
	comp=E,4.0nm,0.5s						
TRUS	Trudelj	5.59	282	*e*Pn	Pn	16 47 56.3	-1.2

*SOME **15** 17:09:29.2, 48.°00N×84.°45E, h0km*
*NNC **15** 17:09:36.5±2.3, 47.°05N×84.°20E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=14.3km s-min=11.7km az=118.0*

ISC 15 17:09:34.5±5.1, 47.°1N±0.°5×84.°6E±0.°3, h35km, n5, σ0§66/6, 2C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	0.38	25	*e*P	Pn	17 09 43.1	-0.3
	9.3nm,0.1s						
ZSN				*e*S	Sn	17 09 50.1	+0.5
	123nm,0.2s						
MK31	Makanchi Array	1.64	260	⇑P	Pn	17 10 00.8	0.0
	1.3nm,0.3s,baz=82,slow=16,SNR=131						
MK31				⇓S	Sn	17 10 19.8	-0.9
	16nm,0.4s,baz=76,slow=30,SNR=59						
MAKZ	Makanchi	1.84	262	⇓P	Pn	17 10 04.1	+0.5
	2.9nm,0.3s						
MAKZ				⇑S	Sn	17 10 25.9	+0.1
	32nm,0.6s						
KURBB	Kurchatov Arra	5.35	313	⇓Pn	Pn	17 10 57.5	+5.8
	0.5nm,0.5s						
KURBB				⇓Lg	Lg	17 12 18.7	
	9.8nm,0.6s						
KURK	Kurchatov	5.36	315	⇓Pn	Pn	17 10 57.3	+5.4
	0.2nm,0.5s						
KURK				⇓Lg	Lg	17 12 19.4	
	4.6nm,0.5s						

*IDC **15** 17:12:03.8±0.8, 25.°01S×69.°72E, h0km, mb3.9/11, mbtmp3.9/11, MS3.5/8, Error ellipse: s-maj=30.2km s-min=21.6km az=62.0*

ISC 15 17:12:05.3±0.9, 25.°0S±0.°2×69.°7E±0.°2, h10km, n26, σ1§17/14, mb4.0/11, MS3.5/8, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	17.46	9	T	T	17 33 58.2	
	baz=189,slow=76,SNR=36						
H08S2	Diego Garcia H	17.46	9	T	T	17 33 55.5	
	baz=189,slow=76,SNR=47						
H08S3	Diego Garcia H	17.48	9	T	T	17 33 58.0	
	baz=189,slow=76,SNR=31						
H04N2	CROZET ISLANDS	25.54	210	T	T	17 44 25.5	
	baz=41,slow=75,SNR=1824						
H04N1	CROZET ISLANDS	25.55	210	T	T	17 44 24.9	
	baz=41,slow=75,SNR=831						
H04N3	CROZET ISLANDS	25.56	210	T	T	17 44 21.3	
	baz=41,slow=75,SNR=880						
PALK	Pallekele	33.82	20	LR	LR	17 29 36.3	
	comp=Z,98nm,18.5s,baz=196,slow=31						
BOSA	Boshof	39.69	255	LR	LR	17 32 27.0	
	comp=Z,66nm,18.3s,baz=154,slow=31						
LBTB	Lobatse	39.86	260	LR	LR	17 33 43.0	
	comp=Z,91nm,18.5s,baz=100,slow=33						
LSZ	Lusaka	40.05	276	LR	LR	17 34 35.3	
	comp=Z,80nm,18.6s,baz=134,slow=34						
SUR	Sutherland	43.23	249	LR	LR	17 35 21.3	
	comp=Z,62nm,18.2s,baz=122,slow=32						
TSUM	Tsumeb	48.42	266	LR	LR	17 38 36.0	
	comp=Z,34nm,18.1s,baz=152,slow=33						
CMAR	Chiang Mai Arr	51.73	36	P	P	17 21 13.9	+0.8
	0.5nm,0.9s,baz=222,slow=5.4,SNR=4.1						
CMAR				LR	LR	17 40 46.3	
	comp=Z,16nm,19.1s,baz=205,slow=33						
	0.5nm,0.9s						
KAPI	Kappang	51.89	76	LR	LR	17 42 36.8	
	comp=Z,25nm,18.4s,baz=266,slow=35						
ASAR	Alice Springs	57.98	103	P	P	17 21 58.6	+0.1
	0.5nm,0.7s,baz=249,slow=5.5,SNR=8.9						
ASAR				PcP	PcP	17 22 50.7	+0.1
	0.4nm,0.8s,baz=249,slow=2.6,SNR=2.6						
	0.5nm,0.7s						
WRA	Warramunga Arr	59.44	99	P	P	17 22 08.8	+0.1
	1.0nm,0.8s,baz=255,slow=6.7,SNR=6.5						
	1.0nm,0.8s						
QSPA	South Pole Qui	65.12	180	P	P	17 22 47.0	+0.8
	3.2nm,1.0s,baz=275,slow=2.2,SNR=6.4						
	3.2nm,1.0s						
MKAR	Makanchi Array	72.36	9	P	P	17 23 31.9	+0.7
	1.8nm,0.8s,baz=191,slow=5.8,SNR=20						
	1.8nm,0.8s						
BRTR	Keskin Array B	72.67	332	P	P	17 23 35.0	+1.6
	0.3nm,0.5s,baz=154,slow=12,SNR=3.9						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	75.69	6	P	P	17 23 51.3	+0.7
	1.7nm,0.9s,baz=201,slow=6.3,SNR=12						
	1.7nm,0.9s						
TORD	Torodi Ar. Bea	76.37	292	P	P	17 23 55.1	-0.2
	0.8nm,0.9s,baz=126,slow=7.5,SNR=3.8						
	0.8nm,0.9s						
BVAR	Borovoye Array	77.70	0	P	P	17 24 01.1	-0.8
	1.4nm,0.9s,baz=165,slow=6.0,SNR=4.4						
	1.4nm,0.9s						
SONM	Songino Array	79.65	24	P	P	17 24 11.6	-1.3
	0.5nm,0.8s,baz=224,slow=5.3,SNR=3.9						
	0.5nm,0.8s						
ZALV	Zalesovo Beam	79.70	9	P	P	17 24 13.4	+0.5
	1.6nm,0.8s,baz=197,slow=4.6,SNR=7.5						
	1.6nm,0.8s						
YKA	Yellowknife Ar	142.41	3	PKP	PKPdf	17 31 35.8	-1.9
	0.1nm,0.3s,baz=355,slow=3.4,SNR=4.3						
ULM	Lac du Bonnet	152.44	340	PKPbc	PKPbc	17 31 59.6	-1.9
	1.8nm,0.8s,baz=44,slow=5.1,SNR=3.9						

IDC 15 17:21:49.3±12.0, 55.°97N×161.°47E, h0km, mbtmp2.4/1, ML1.0/1, Error ellipse: s-maj=120.8km s-min=80.6km az=35.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	PETROPAVLOVSK-	3.61	219	I	I	17 44 06.9	
	0.2nm,1.4s,baz=35,slow=334,SNR=3.1						
PETK	Petropavlovsk-	3.62	219	Pn	Pn	17 22 46.5	0.0
	0.1nm,0.3s,baz=51,slow=15,SNR=1.8						
	1.4nm,1.0s						
I30JP	ISUMI INFRASON	25.22	224	I	I	20 08 41.8	
	0.1nm,4.1s,baz=32,slow=316,SNR=3.3						
I53US	FAIRBANKS INFR	25.84	49	I	I	19 59 25.0	
	baz=273,slow=327						

*SJA **15** 17:40:10.6±0.7, 24.°29S×67.°17W, h186km±5km, ML3.7, MW3.7*
*GUC **15** 17:40:11.8±0.7, 24.°25S×67.°39W, h210km±6km, ML4.0*

ISC 15 17:40:10.2±2.1, 24.°30S±0.°05×67.°19W±0.°05, h192km±17km, n22, σ1§04/41, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.78	84	*e*P	Pn	17 40 38.4	-0.1
SALTA				*e*S	Sn	17 40 58.8	-1.3
SLA	San Lorenzo	1.59	106	*e*P	Pn	17 40 44.8	+0.5
SLA				*e*S	Sn	17 41 10.3	-0.3
AF01	San Pedro de A	1.62	326	*e*P	Pn	17 40 46.1	+1.3
AF01				*i* S	Sn	17 41 12.1	+0.5
AF01				IAML		17 41 14.4	
	comp=E,244nm,0.5s						
AZAP	Zapla	1.94	88	*e*P	Pn	17 40 47.8	0.0
FSA	Cafayete	2.11	149	*e*P	Pn	17 40 50.3	+0.8
FSA				*e*S	Sn	17 41 19.3	-0.9
GO02	Mina Guanaco	2.35	248	⇓*i*P	Pn	17 40 53.4	+1.1
GO02				*i* S	Sn	17 41 25.6	+0.7
GO02				IAML		17 41 26.7	
	comp=N,905nm,0.2s						
GO02	Mina Guanaco	2.35	248	*e*P	Pn	17 40 53.4	+1.1
GO02				*e*S	Sn	17 41 25.9	+0.9
YJA	Yavi	2.61	36	*e*P	Pn	17 40 56.1	+0.7
YJA				*e*S	Sn	17 41 30.4	-0.2
PB06	IPOC Station P	2.71	305	⇑*i*P	Pn	17 40 57.1	+0.9
PB06				*i* S	Sn	17 41 31.1	-0.9
PB06				IAML		17 41 33.6	
	comp=N,865nm,0.1s						
PB06	IPOC Station P	2.71	305	*e*P	Pn	17 40 57.1	+0.9
PB06				*e*S	Sn	17 41 31.2	-0.8
PB06				IAML		17 41 32.8	
	comp=Z,566nm,0.1s						
PB14	IPOC Station P	2.95	263	*e*P	Pn	17 40 60.0	+0.7
PB14				*i* S	Sn	17 41 36.1	-1.3
PB14				IAML		17 41 37.9	
	comp=E,154nm,0.5s						
PB14	IPOC Station P	2.95	263	*e*P	Pn	17 41 00.1	+0.9
PB14				*e*S	Sn	17 41 36.3	-1.1
PB14				IAML		17 41 37.7	
	comp=Z,157nm,0.1s						
AC02	Maricunga	3.07	214	*e*P	Pn	17 41 02.2	+1.4
AC02				IAML		17 41 59.9	
	comp=Z,28nm,0.2s						
PB05	IPOC Station P	3.12	297	⇑*i*P	Pn	17 41 01.5	+0.4
PB05				*i* S	Sn	17 41 38.3	-2.5
PB05				IAML		17 41 41.7	
	comp=N,219nm,0.3s						
PB05	IPOC Station P	3.12	297	*e*P	Pn	17 41 01.6	+0.5
PB05				*e*S	Sn	17 41 39.8	-1.0
PB05				IAML		17 41 41.7	
	comp=Z,134nm,0.7s						
PB09	IPOC Station P	3.13	322	⇑*i*P	Pn	17 41 02.4	+1.1
PB09				*i* S	Sn	17 41 40.6	-0.5
PB09				IAML		17 41 42.4	
	comp=N,148nm,0.5s						
PB09	IPOC Station P	3.13	322	*e*P	Pn	17 41 02.4	+1.1
PB09				*e*S	Sn	17 41 41.0	-0.1
PB09				IAML		17 41 43.1	
	comp=Z,94nm,0.1s						
PB10	IPOC Station P	3.18	284	*e*P	Pn	17 41 02.3	+0.6
PB10				*i* S	Sn	17 41 40.0	-1.9
PB10				IAML

Plg35.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 17:53:34.5±0.4,27.52S±0.03×176.33W±0.04,h14km±2km, h14km:pP-P,n1440,σ1±81/1246,mb5.4/235,MS5.4/326, 34C-49D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**219**		Pn		**Pg**	**17 54 16.3**	**-0.8**
	7μm,0.3s,baz=301,slow=12,SNR=126								
RAO					Sn		**Sb**	**17 54 43.0**	**+1.2**
	21μm,0.3s,baz=98,slow=19,SNR=23								
RAO	**Raoul Island**	**2.22**	**219**		P		**Pb**	**17 54 13.9**	**-0.6**
RAO	**Raoul Island**	**2.22**	**219**		S		**Sb**	**17 54 43.1**	**+1.3**
RIZ	**Raoul Island**	**2.22**	**219**		P		**Pg**	**17 54 16.6**	**-0.5**
RIZ					S		**Sg**	**17 54 43.9**	**-2.1**
GLKZ	**Green Lake**	**2.23**	**219**		P		**Pg**	**17 54 16.1**	**-1.2**
GLKZ					S		**Sb**	**17 54 42.9**	**+0.8**
LKBA	**Tubou, Lakemba**	**9.53**	**346**		P		**Pn**	**17 55 51.0**	**-0.3**
NIUE	**Niue**	**10.26**	**36**				**Pn**	**17 55 57.9**	**-3.5**
NIUE					Sn		Sn	17 57 40.9	-15
NIUE	**Niue**	**10.26**	**36**		P		**Pn**	**17 55 57.8**	**-3.5**
	comp=Z,638nm,0.6s								
NIUE	**Niue**	**10.26**	**36**		P		**Pn**	**17 56 00.0**	**-1.4**
MXZ	**Matakaoa Point**	**10.98**	**203**		Pn		**Pn**	**17 56 08.5**	**-2.7**
MXZ	**Matakaoa Point**	**10.98**	**203**		P		**Pn**	**17 56 08.4**	**-2.9**
MXZ					S		**Sn**	**17 58 13.5**	**-0.4**
MSVF	**Nonsavu**	**11.04**	**331**				**Pn**	**17 56 08.6**	**-3.5**
MSVF	**Nonsavu**	**11.04**	**331**		Pn		**Pn**	**17 56 10.8**	**-1.4**
	comp=Z,5.9nm,0.3s,baz=156,slow=12,SNR=27								
MSVF					LR		LR	17 59 44.2	
	comp=Z,26μm,19.4s,baz=138,slow=35								
MSVF	**Nonsavu**	**11.04**	**331**		P		**Pn**	**17 56 12.3**	**+0.2**
MSVF	**Nonsavu**	**11.04**	**331**	*d*	*iP*		**Pn**	**17 56 12.8**	**+0.7**
WMGZ	**Waiomatatini S**	**11.18**	**202**		P		**Pn**	**17 56 11.4**	**-2.5**
WMGZ					S		**Sn**	**17 58 18.1**	**-0.6**
TAVE	**Taveuni**	**11.26**	**342**		P		**Pn**	**17 56 15.7**	**+0.6**
PKGZ	**Pakihiroa**	**11.34**	**203**		P		**Pn**	**17 56 12.8**	**-3.2**
PKGZ					S		**Sn**	**17 58 23.0**	**+0.5**
HAZ	**Te Kaha**	**11.34**	**204**		P		**Pn**	**17 56 14.2**	**-1.9**
HAZ					S		**Sn**	**17 58 23.7**	**+1.1**
PUZ	**Puketiti**	**11.46**	**202**		P		**Pn**	**17 56 14.5**	**-3.2**
PUZ					S		**Sn**	**17 58 22.8**	**-2.8**
OUZ	**Omahuta**	**11.53**	**226**		P		**Pn**	**17 56 20.6**	**+1.9**
OUZ	**Omahuta**	**11.53**	**226**		P		Pn	17 56 24.2	+5.5
WCZ	**Waipu Caves**	**11.55**	**221**		P		Pn	17 56 24.1	+5.2
RUGZ	**Raukumara Rang**	**11.57**	**204**		P		**Pn**	**17 56 17.4**	**-1.9**
RUGZ					S		**Sn**	**17 58 28.2**	**-0.2**
TWGZ	**Tauwhareparae**	**11.65**	**203**		P		**Pn**	**17 56 15.8**	**-4.5**
TWGZ					S		**Sn**	**17 58 30.7**	**+0.5**
WIAZ	**Waiheke Island**	**11.73**	**216**		P		Pn	17 56 27.3	+5.8
DGTI	**Dogotuki**	**11.75**	**341**		P		**Pn**	**17 56 21.7**	**-0.1**
MBAZ	**Motutapu North**	**11.84**	**217**		P		**Pn**	**17 56 25.0**	**+2.1**
CNGZ	**Carnagh Statio**	**11.85**	**201**		P		**Pn**	**17 56 20.6**	**-2.5**
CNGZ					S		**Sn**	**17 58 36.4**	**+1.3**
OPRZ	**Ohinepanea**	**11.90**	**208**		P		**Pn**	**17 56 23.5**	**-0.3**
TKGZ	**Te Karaka**	**11.93**	**203**		P		**Pn**	**17 56 20.6**	**-3.5**
TKGZ					S		**Sn**	**17 58 36.1**	**-0.9**
MWZ	**Matawai**	**11.95**	**204**		P		**Pn**	**17 56 20.7**	**-3.8**
MWZ					S		**Sn**	**17 58 36.2**	**-1.4**
MKAZ	**Moumakai**	**11.96**	**215**		P		**Pn**	**17 56 27.7**	**+3.2**
URZ	**Urewera**	**12.04**	**206**		Pn		**Pn**	**17 56 22.1**	**-3.5**
	comp=Z,2.3nm,0.3s,baz=344,slow=4.0,SNR=19								
URZ					Sn		**Sn**	**17 58 37.0**	**-2.7**
	comp=Z,12nm,0.3s,baz=50,slow=15,SNR=11								
URZ	**Urewera**	**12.04**	**206**		P		**Pn**	**17 56 22.2**	**-3.5**
URZ					S		**Sn**	**17 58 38.6**	**-1.1**
YSA	**Yasawairara**	**12.16**	**331**		P		**Pn**	**17 56 29.9**	**+2.5**
KMRZ	**Kaimai**	**12.17**	**210**		P		**Pn**	**17 56 29.1**	**+1.5**
RIGZ	**Rimuhau**	**12.20**	**202**		P		**Pn**	**17 56 24.9**	**-3.0**
OMRZ	**Omania**	**12.20**	**208**		P		**Pn**	**17 56 30.6**	**+2.6**
TOZ	**Tahuroa Road**	**12.28**	**212**				**Pn**	**17 56 25.2**	**-3.8**
TOZ	**Tahuroa Road**	**12.28**	**212**		P		**Pn**	**17 56 31.5**	**+2.5**
MUGZ	**Murupara**	**12.36**	**206**		P		**Pn**	**17 56 27.7**	**-2.4**
RTZ	**Ruatahuna**	**12.40**	**205**		Pn		**Pn**	**17 56 26.6**	**-4.1**
RTZ	**Ruatahuna**	**12.40**	**205**		P		**Pn**	**17 56 27.2**	**-3.5**
KNZ	**Kokohu**	**12.51**	**202**		P		**Pn**	**17 56 29.8**	**-2.4**
MHGZ	**Mahia Peninsul**	**12.55**	**201**		P		**Pn**	**17 56 29.2**	**-3.5**
ALRZ	**Allen Road**	**12.60**	**207**		P		**Pn**	**17 56 34.6**	**+1.2**
RAHZ	**Arahi**	**12.62**	**204**		P		**Pn**	**17 56 31.2**	**-2.5**
MTHZ	**Maungataniwha**	**12.66**	**205**		P		**Pn**	**17 56 31.3**	**-2.9**
WHHZ	**Waihua**	**12.71**	**203**		P		**Pn**	**17 56 33.4**	**-1.4**
TLZ	**Tolley Road**	**12.75**	**210**		P		**Pn**	**17 56 38.8**	**+3.3**
ARHZ	**Aropaoanui**	**12.96**	**204**		P		**Pn**	**17 56 35.4**	**-2.9**
BKZ	**Black Stump Fm**	**13.06**	**205**				**Pn**	**17 56 35.8**	**-3.9**
BKZ	**Black Stump Fm**	**13.06**	**205**		P		**Pn**	**17 56 41.9**	**+2.2**
BKZ	**Black Stump Fm**	**13.06**	**205**		S		**Sn**	**17 59 05.2**	**+0.3**
BKZ	**Black Stump Fm**	**13.06**	**205**		P		**Pn**	**17 56 36.9**	**-2.8**
HIZ	**Hauiti**	**13.21**	**212**				**Pn**	**17 56 38.9**	**-2.8**
HIZ	**Hauiti**	**13.21**	**212**		P		**Pn**	**17 56 44.5**	**+2.8**
HIZ	**Hauiti**	**13.21**	**212**		P		**Pn**	**17 56 44.3**	**+2.6**
KATZ	**Kakaramea**	**13.22**	**208**		P		**Pn**	**17 56 41.9**	**-0.1**
MCHZ	**McNeill Hill**	**13.23**	**204**		P		**Pn**	**17 56 40.0**	**-2.0**
CKHZ	**Cape Kidnapper**	**13.29**	**203**		P		**Pn**	**17 56 43.7**	**+1.0**
KWHZ	**Kaweka Forest**	**13.31**	**205**		P		**Pn**	**17 56 43.7**	**+0.5**
NTVZ	**North Tongarir**	**13.33**	**208**		P		**Pn**	**17 56 42.0**	**-1.5**
TMVZ	**Te Maari**	**13.34**	**208**		P		**Pn**	**17 56 41.1**	**-2.4**
KRVZ	**Karewarewa**	**13.34**	**208**		P		**Pn**	**17 56 43.2**	**-0.5**
ETVZ	**East Tongariro**	**13.35**	**208**		P		**Pn**	**17 56 41.4**	**-2.3**
NNVZ	**North Ngauruho**	**13.39**	**208**		P		**Pn**	**17 56 47.6**	**+3.3**
OTVZ	**Oturere**	**13.39**	**208**		P		**Pn**	**17 56 40.7**	**-3.6**
SNVZ	**South Ngauruho**	**13.42**	**208**		P		**Pn**	**17 56 42.5**	**-2.2**
NGZ	**Ngauruhoe**	**13.43**	**208**		P		**Pn**	**17 56 45.2**	**+0.4**
KAHZ	**Kahuranaki**	**13.48**	**203**		P		**Pn**	**17 56 40.6**	**-4.7**
FWVZ	**Far West T-bar**	**13.52**	**208**		P		**Pn**	**17 56 45.7**	**-0.3**
KRHZ	**Kereru**	**13.53**	**205**		P		**Pn**	**17 56 41.7**	**-4.3**
WNVZ	**Wahianoa**	**13.56**	**208**		P		**Pn**	**17 56 45.9**	**-0.7**
MOVZ	**Moawhango**	**13.56**	**207**		P		**Pn**	**17 56 46.2**	**-0.4**
PKVZ	**Pokaka**	**13.63**	**208**		P		**Pn**	**17 56 49.8**	**+2.3**
PXZ	**Pawanui**	**13.69**	**203**		P		**Pn**	**17 56 45.4**	**-2.8**
VRZ	**Vera Road**	**13.75**	**210**		P		**Pn**	**17 56 51.4**	**+2.4**
PNHZ	**Pukenui**	**13.83**	**205**		P		Pn	17 56 45.2	-4.9
WPHZ	**Waipukurau**	**13.87**	**204**		P		**Pn**	**17 56 50.0**	**-0.7**
PRHZ	**Porangahau**	**13.98**	**203**		P		**Pn**	**17 56 49.4**	**-2.8**
NEZ	**North Egmont**	**14.17**	**212**		P		**Pn**	**17 56 56.7**	**+1.8**
DVHZ	**Dannevirke**	**14.18**	**204**		P		**Pn**	**17 56 54.1**	**-0.8**
AFI	**Afiamalu**	**14.20**	**18**		Pn		Pn	17 56 48.0	-7.3
AFI	**Afiamalu**	**14.20**	**18**		P		Pn	17 56 48.0	-7.3
ANWZ	**Angora Road**	**14.21**	**203**		P		**Pn**	**17 56 55.1**	**+0.2**
PRWZ	**Pori Road**	**14.47**	**204**		P		**Pn**	**17 56 57.1**	**-1.8**
BFZ	**Birch Farm**	**14.49**	**203**				Pn	17 56 52.8	-6.4
BFZ	**Birch Farm**	**14.49**	**203**		P		**Pn**	**17 56 58.1**	**-1.0**
BFZ	**Birch Farm**	**14.49**	**203**		P		Pn	17 56 53.3	-5.8
MRZ	**Mangatainoka R**	**14.71**	**205**		Pn		Pn	17 56 54.9	-7.3
TMWZ	**Te Maipa**	**14.99**	**203**		P		**Pn**	**17 57 03.1**	**-2.9**
MARNC	**Mare, Loyalty**	**15.45**	**290**		P		**Pn**	**17 57 13.4**	**+1.2**
MSWZ	**Moikau Station**	**15.49**	**204**				**Pn**	**17 57 06.0**	**-6.6**
PINNC	**Pines Island,**	**15.49**	**285**				**Pn**	**17 57 12.0**	**-0.6**
PINNC	**Pines Island,**	**15.49**	**285**		P		**Pn**	**17 57 13.6**	**+0.9**
SNZO	**South Karori**	**15.60**	**206**				Pn	17 57 06.5	-7.4
SNZO	**South Karori**	**15.60**	**206**		P		**Pn**	**17 57 15.2**	**+1.2**
BHW	**Baring Head**	**15.62**	**205**				Pn	17 57 06.5	-7.7
TCW	**Tory Channel**	**15.69**	**207**				Pn	17 57 07.7	-7.4
NNZ	**Nelson**	**16.07**	**209**				**Pn**	**17 57 15.0**	**-5.0**
OUENC	**Ouen Island, N**	**16.08**	**285**		P		**Pn**	**17 57 21.3**	**+1.0**
TKNZ	**Takaka Hill**	**16.11**	**210**				**Pn**	**17 57 15.3**	**-5.2**
QRZ	**Quartz Range**	**16.14**	**212**		P		**P**	**17 57 21.3**	**-1.7**
CMWZ	**Cape Campbell**	**16.17**	**206**				**Pn**	**17 57 17.0**	**-4.4**
YATNC	**Mamie plateau,**	**16.18**	**286**		P		**P**	**17 57 23.5**	**-1.2**
CTZ	**Chatham Island**	**16.18**	**181**				**Pn**	**17 57 16.7**	**-4.7**
CTZ	**Chatham Island**	**16.18**	**181**		P		**P**	**17 57 24.6**	**+0.1**
BSWZ	**Blackbirch Sta**	**16.27**	**207**				**Pn**	**17 57 17.6**	**-5.1**
RAR	**Rarotonga**	**16.33**	**71**		Pn		**Pn**	**17 57 19.9**	**-3.6**
RAR					IAmb		IAmb	17 57 30.5	
	comp=Z,186nm,0.8s								
RAR	**Rarotonga**	**16.33**	**71**		Pn		**Pn**	**17 57 24.6**	**+1.1**
	comp=Z,14nm,0.3s,baz=256,slow=8.2,SNR=13								
RAR					LR		LR	18 02 29.4	
	comp=Z,4μm,19.1s,baz=256,slow=32								
RAR	**Rarotonga**	**16.33**	**71**		P		**P**	**17 57 25.6**	**-0.8**
RAR	**Rarotonga**	**16.33**	**71**		P		**Pn**	**17 57 19.9**	**-3.6**
RAR					pmax		pmax		
	comp=Z,186nm,0.8s								
ONTNC	**Ouen Toro**	**16.46**	**285**				**Pn**	**17 57 22.4**	**-2.7**
ONTNC	**Ouen Toro**	**16.46**	**285**		P		**P**	**17 57 26.0**	**-1.8**
MRNZ	**Matariki Terra**	**16.49**	**210**				**Pn**	**17 57 20.4**	**-5.0**
DZM	**Mont Dzumac**	**16.55**	**285**	*e*	LR		LR	18 00 55.5	
	comp=Z,3μm,25.7s								
DZM	**Mont Dzumac**	**16.55**	**285**		LR		LR	18 02 03.6	
	comp=Z,2μm,20.4s,baz=98,slow=32								
THZ	**Tophouse**	**16.72**	**209**				**Pn**	**17 57 23.4**	**-4.9**
KHZ	**Kahutara**	**17.00**	**206**		P		**Pn**	**17 57 26.1**	**-5.8**
KHZ					IAmb		IAmb	17 57 38.2	
	comp=Z,370nm,1.0s								
DVP	**Devils Point**	**17.29**	**301**		P		**P**	**17 57 36.8**	**-0.2**
LTZ	**Lake Taylor**	**17.82**	**208**				**Pn**	**17 57 36.2**	**-5.9**
INZ	**Inchbonnie**	**18.14**	**210**		P		**Pn**	**17 57 40.0**	**-5.9**
OXZ	**Oxford**	**18.37**	**208**		P		**Pn**	**17 57 43.2**	**-5.5**
KOUNC	**Koumac, New Ca**	**19.01**	**287**		P		**Pn**	**17 57 59.2**	**+2.5**
RPZ	**Rata Peaks**	**19.10**	**209**				**P**	**17 57 53.3**	**-3.6**
RPZ	**Rata Peaks**	**19.10**	**209**		P		**P**	**17 57 56.5**	**-0.4**
	comp=Z,20nm,0.3s,baz=52,slow=4.1,SNR=18								
RPZ					S		Sn	18 01 16.0	-15
	comp=Z,21nm,0.6s,baz=93,slow=12,SNR=6.2								
RPZ					LR		LR	18 05 16.5	
	comp=Z,16μm,21.3s,baz=37,slow=36								
RPZ	**Rata Peaks**	**19.10**	**209**		P		**P**	**17 57 56.5**	**-0.4**
FUNA	**Funafuti**	**19.36**	**347**		P		**P**	**17 57 54.4**	**-5.5**
FOZ	**Fox Glacier**	**19.51**	**211**		P		**P**	**17 57 58.6**	**-2.6**
LBZ	**Lake Benmore**	**20.01**	**209**		IAms_20		IAms_20	18 07 06.8	
	comp=Z,20μm,18.0s								
ODZ	**Otahua Downs**	**20.35**	**207**		P		**P**	**17 58 11.2**	**+0.8**
JCZ	**Jackson Bay**	**20.40**	**212**		P		**P**	**17 58 09.8**	**-1.4**
WKZ	**Wanaka**	**20.88**	**210**		IAms_20		IAms_20	18 07 20.5	
	comp=Z,20μm,18.0s								
MLZ	**Mavora Lakes**	**21.70**	**211**		IAms_20		IAms_20	18 07 35.6	
	comp=Z,19μm,18.0s								
LHI	**Lord Howe Isla**	**21.77**	**254**		P		**P**	**17 58 24.6**	**-1.3**
LHI					IAmb		IAmb	17 58 31.6	
	comp=Z,130nm,1.1s								
LHI	**Lord Howe Isla**	**21.77**	**254**		P		**P**	**17 58 30.0**	**+4.2**
	comp=Z,0.0nmcomp=Z,131nm,0.9s								
WHZ	**Wether Hill Ro**	**22.18**	**210**		P		**P**	**17 58 27.2**	**-2.9**
WHZ					IAMs_20		IAMs_20	18 08 01.0	
	comp=Z,18μm,18.0s								
DCZ	**Deep Cove**	**22.22**	**212**		P		**P**	**17 58 28.7**	**-1.9**
DCZ					IAMs_20		IAMs_20	18 07 40.3	
	comp=Z,14μm,19.0s								
PYZ	**Puysegur Point**	**22.96**	**211**		IAMs_20		IAMs_20	18 08 13.0	
	comp=Z,16μm,19.0s								
LUES	**Luesalemba Tem**	**23.67**	**312**		P		**P**	**17 58 46.4**	**+0.6**
TBI	**Tubuai**	**24.59**	**86**	*eP*			**P**	**17 58 50.5**	**-3.9**
	comp=Z,809nm,28.0s								
TBI				*eS*			**S**	**18 03 15.7**	**+0.6**
	comp=Z,4μm,30.5s								
TBI				*e*LQ			LQ	18 03 56.4	
	comp=Z,26μm,25.5s								
TBI				*e*LR			LR	18 04 55.2	
	comp=Z,19μm,27.2s								
TBI				*e*LR			LR	18 04 58.5	
	comp=Z,4μm,27.5s								
PPT2	**Papeete2**	**26.56**	**74**	*eP*			**P**	**17 59 11.9**	**-0.4**
	comp=Z,204nm,27.2s								
PPT2				*eS*			**S**	**18 03 47.3**	**+0.8**
	comp=Z,674nm,24.8s								
PPT2				*e*LQ			LQ	18 04 38.8	
	comp=Z,5μm,23.2s								
PPT2				*e*LR			LR	18 05 53.1	
	comp=Z,9μm,26.5s								
PPT2				*e*LR			LR	18 05 53.2	
	comp=Z,6μm,25.2s								
PPT	**Papeete**	**26.57**	**74**		LR		LR	18 07 14.7	
	comp=Z,2μm,21.0s,baz=252,slow=30								
HURO	**Huro Makira**	**26.60**	**305**		P		**P**	**17 59 13.3**	**+0.7**
NGOA	**Tingoa Renbel**	**27.26**	**301**		P		**P**	**17 59 18.8**	**+0.3**
TW1H	**Toowoomba 1 Ha**	**28.07**	**263**		P		**P**	**17 59 28.6**	**+2.8**
ARMA	**Armidale**	**28.13**	**256**		P		**P**	**17 59 23.7**	**-2.7**
ARMA	**Armidale**	**28.13**	**256**		P		**P**	**17 59 27.8**	**+1.4**
	comp=Z,37nm,1.0s								
ARMA	**Armidale**	**28.13**	**256**		P		**P**	**17 59 28.3**	**+1.9**
ALEG	**Aligegeo Malai**	**28.63**	**306**		P		**P**	**17 59 29.2**	**-1.6**
HNR	**Honiara**	**28.72**	**304**		P		**P**	**17 59 28.3**	**-3.2**
HNR	**Honiara**	**28.72**	**304**		P		**P**	**17 59 27.7**	**-3.8**
	comp=Z,88nm,0.8s,baz=199,slow=4.6,SNR=7.9								
HNR					LR		LR	18 09 42.8	
	comp=Z,2μm,18.3s,baz=168,slow=34								
	comp=Z,88nm,0.8s								
HNR	**Honiara**	**28.72**	**304**		P		**P**	**17 59 29.2**	**-2.3**
HNR	**Honiara**	**28.72**	**304**		P		**P**	**17 59 28.3**	**-3.2**
HNR					pmax		pmax		
	comp=Z,188nm,1.2s								
HNR					MLR		MLR		
	comp=Z,2μm,21.0s								
EIDS	**Eidsvold**	**29.22**	**267**		P		**P**	**17 59 33.5**	**-2.4**
RK1H	**Rockhampton Ha**	**30.19**	**270**		P		**P**	**17 59 45.3**	**+0.7**
CAN	**Canberra**	**30.48**	**247**		P		**P**	**17 59 45.3**	**-1.8**
CAN	**Canberra**	**30.48**	**247**		P		**P**	**17 59 45.3**	**-1.8**
CAN					pmax		pmax		
	comp=Z,44nm,1.2s								
CAN					MLR		MLR		
	comp=Z,5μm,18.0s								
MILA	**Mila**	**30.55**	**243**		P		**P**	**17 59 50.1**	**+2.3**
	comp=Z,26nm,1.0s								
CORO	**Coronation Par**	**32.90**	**235**		P		**P**	**18 00 10.6**	**+2.4**
MOO	**Moorlands**	**33.11**	**234**		P		**P**	**18 00 11.1**	**+1.0**
	comp=Z,36nm,1.2s								
MOO	**Moorlands**	**33.11**	**234**		P		**P**	**18 00 12.4**	**+2.3**
TAU	**Tasmania Unive**	**33.14**	**233**		P		**P**	**18 00 08.6**	**-1.7**
TAU	**Tasmania Unive**	**33.14**	**233**		P		**P**	**18 00 12.6**	**+2.3**
TAU	**Tasmania Unive**	**33.14**	**233**		P		**P**	**18 00 08.6**	**-1.7**
TAU					pmax		pmax		
	comp=Z,175nm,2.0s								
CMSA	**Cobar Meteorol**	**33.18**	**254**		P		**P**	**18 00 11.4**	**+0.6**
CMSA	**Cobar Meteorol**	**33.18**	**254**		P		**P**	**18 00 12.0**	**+1.2**
TOO	**Toolangi**	**33.51**	**243**		P		**P**	**18 00 13.0**	**-0.7**
TOO	**Toolangi**	**33.51**	**243**		P		**P**	**18 00 15.2**	**+1.5**
	comp=Z,16nm,1.0s								
TOO	**Toolangi**	**33.51**	**243**		P		**P**	**18 00 13.0**	**-0.7**
TOO					pmax		pmax		
	comp=Z,15nm,1.0s								
TV1H	**Townsville Har**	**34.73**	**276**		P		**P**	**18 00 26.2**	**+1.8**
QLP	**Quilpie**	**35.04**	**262**		P		**P**	**18 00 27.4**	**+0.4**
	comp=Z,37nm,1.7s								
QLP	**Quilpie**	**35.04**	**262**		P		**P**	**18 00 27.2**	**+0.2**
ARPS	**Mount Arapiles**	**36.36**	**245**		P		**P**	**18 00 39.5**	**+1.2**
	comp=Z,80nm,0.9s								
ARPS	**Mount Arapiles**	**36.36**	**245**		P		**P**	**18 00 39.4**	**+1.2**
STKA	**Stephens Creek**	**36.64**	**253**		P		**P**	**18 00 39.4**	**-1.3**
STKA	**Stephens Creek**	**36.64**	**253**		P		**P**	**18 00 41.2**	**+0.5**
	comp=Z,25nm,1.0s,baz=82,slow=9.3,SNR=23								
STKA					ScP		**ScP**	**18 06 52.5**	**+2.5**
	comp=Z,6.9nm,1.0s,baz=115,slow=4.5,SNR=4.3								
STKA					LR		LR	18 14 00.3	
	comp=Z,4μm,20.1s,baz=86,slow=34								
	comp=Z,25nm,1.0s								
STKA	**Stephens Creek**	**36.64**	**253**		P		**P**	**18 00 41.6**	**+0.9**
STKA	**Stephens Creek**	**36.64**	**253**	*i*	*iP*		**P**	**18 00 41.6**	**+0.9**
MTSU	**Mount Surprise**	**37.33**	**276**		P		**P**	**18 00 46.9**	**+0.2**
	comp=Z,46nm,0.9s								
MTSU	**Mount Surprise**	**37.33**	**276**		P		**P**	**18 00 47.2**	**+0.5**
RKT	**Rikitea**	**37.51**	**93**	*eS*			**S**	**18 06 35.7**	**-1.2**
	comp=Z,654nm,26.0s								
RKT				*e*SS			**SS**	**18 09 20.4**	**-1.0**
	comp=Z,2μm,24.5s								
RKT				*e*LR			LR	18 10 54.7	
	comp=Z,7μm,29.0s								
INKA	**Innaminka**	**37.89**	**259**		P		**P**	**18 00 52.1**	**+0.8**
HTT	**Hallett**	**38.79**	**250**		P		**P**	**18 00 59.2**	**+0.3**
PMG	**Port Moresby**	**38.84**	**291**		LR		LR	18 14 11.1	
	comp=Z,1μm,18.8s,baz=127,slow=32								
TAOE	**Nuku Hiva Isla**	**38.86**	**68**	*eS*			**S**	**18 06 53.4**	**-4.1**
	comp=Z,637nm,26.6s								
TAOE				*e*LR			LR	18 11 35.4	
	comp=Z,4μm,25.9s								
LCRK	**Leigh Creek**	**39.67**	**255**		P		**P**	**18 01 06.4**	**+0.1**
WHYH	**Whyalla**	**39.94**	**251**		P		**P**	**18 01 08.8**	**+0.3**
COEN	**Coen**	**40.02**	**281**		P		**P**	**18 01 07.3**	**-2.1**
COEN					IAmb		IAmb	18 01 22.8	
	comp=Z,130nm,1.8s								
COEN	**Coen**	**40.02**	**281**		P		**P**	**18 01 10.5**	**+1.2**
QIS	**Mount Isa**	**40.67**	**270**		P		**P**	**18 01 14.7**	**0.0**
BBOO	**Buckleboo**	**41.23**	**251**		P		**P**	**18 01 17.6**	**-1.6**
BBOO					IAmb		IAmb	18 01 19.5	
	comp=Z,54nm,1.0s								
BBOO	**Buckleboo**	**41.23**	**251**		P		**P**	**18 01 18.4**	**-0.7**
	comp=Z,58nm,1.0s								
BBOO	**Buckleboo**	**41.23**	**251**		P		**P**	**18 01 18.7**	**-0.5**
OOD	**Oodnadatta**	**42.28**	**258**		P		**P**	**18 01 27.9**	**+0.1**
JOHN	**Johnston Islan**	**44.48**	**9**		IAMs_20		IAMs_20	18 18 39.7	
	comp=Z,4μm,20.0s								
AS17	**Alice Springs**	**44.74**	**263**		P		**P**	**18 01 47.0**	**-0.7**
	comp=Z,31nm,0.6s								
AS19	**Alice Springs**	**44.75**	**263**		P		**P**	**18 01 47.2**	**-0.6**
	comp=Z,29nm,0.9s								
AS01	**Alice Springs**	**44.77**	**263**		P		**P**	**18 01 47.4**	**-0.6**
AS31	**Alice Springs**	**44.81**	**263**		P		**P**	**18 01 46.8**	**-1.6**
ASAR	**Alice Springs**	**44.81**	**263**		P		**P**	**18 01 46.8**	**-1.5**
ASAR	**Alice Springs**	**44.81**	**263**		P		**P**	**18 01 47.5**	**-0.9**
	comp=Z,13nm,0.6s,baz=84,slow=6.4,SNR=174								
ASAR					PcP		**PP**	**18 03 32.6**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=98,slow=5.7,SNR=2.8								
ASAR					ScP		**ScP**	**18 07 21.5**	**-0.8**
	comp=Z,6.8nm,0.9s,baz=103,slow=3.8,SNR=10.0								
ASAR					S		S	18 08 13.8	-12
	comp=Z,3.8nm,0.9s,baz=97,slow=16,SNR=9.3								
ASAR					LR		LR	18 19 56.3	
	comp=Z,1μm,19.0s,baz=113,slow=36								
	comp=Z,13nm,0.6s								
WR0	**Warramunga Arr**	**45.37**	**269**		P		**P**	**18 01 50.9**	**-1.8**
WR0	**Warramunga Arr**	**45.37**	**269**		P		**P**	**18 01 51.5**	**-1.2**
	comp=Z,27nm,0.9s								
WB1	**Warramunga Ar.**	**45.54**	**268**		P		**P**	**18 01 53.0**	**-1.1**
WB2	**Warramunga Arr**	**45.54**	**268**		P		**P**	**18 01 52.8**	**-1.3**
WB2					IAmb		IAmb	18 01 55.4	
	comp=Z,31nm,0.7s								
WB2							**S**	**18 08 27.8**	**-8.2**
WRAB	**Tennant Creek**	**45.54**	**268**		P		**P**	**18 01 52.6**	**-1.5**
WRAB					IAmb		IAmb	18 02 06.1	
	comp=Z,42nm,1.1s								
WRAB							**S**	**18 08 32.2**	**-3.8**
WRAB	**Tennant Creek**	**45.54**	**268**	*c*	*iP*		**P**	**18 01 53.0**	**-1.1**
WRAB					pmax		pmax		
	comp=Z,24nm,0.7s								
WRA	**Warramunga Arr**	**45.55**	**268**		P		**P**	**18 01 52.4**	**-1.8**
WRA	**Warramunga Arr**	**45.55**	**268**		P		**P**	**18 01 53.0**	**-1.1**
	comp=Z,29nm,0.6s,baz=107,slow=7.5,SNR=220								
WRA					PcP		**PcP**	**18 03 34.4**	**+1.6**
	comp=Z,8.3nm,0.9s,baz=108,slow=7.4,SNR=2.9								
WRA					ScP		**ScP**	**18 07 25.3**	**0.0**
	comp=Z,7.4nm,1.0s,baz=108,slow=4.5,SNR=6.8								
WRA					S		S	18 08 22.3	-14
	comp=Z,4.1nm,1.0s,baz=109,slow=14,SNR=6.7								
WRA					LR		LR	18 20 18.5	
	comp=Z,902nm,19.9s,baz=126

BBJI	Bungbulang	74.22	270	P	P	18 05 10.9	-0.7
PMSA	Palmer Station	74.27	156	LR	LR	18 34 45.1	
	comp=Z,1μm,18.2s,baz=255,slow=33						
STKI	Sintang	74.28	278	P	P	18 05 12.9	+1.1
	comp=Z,66nm,0.9s						
LEM	Lembang	74.53	270	LR	LR	18 37 43.1	
	comp=Z,1μm,20.3s,baz=139,slow=36						
LEM	Lembang	74.53	270	P	P	18 05 14.2	+0.7
	comp=Z,101nm,0.8s						
XMI	Christmas Isla	74.65	266	P	P	18 05 15.0	+1.0
XMIS	Christmas Isla	74.67	266	P	P	18 05 13.1	-1.0
XMIS	Christmas Isla	74.67	266	P	P	18 05 14.6	+0.5
SBUM	Sibu	74.77	281	P	P	18 05 13.3	-1.3
SBUM				IAmb	IAmb	18 05 28.2	
	comp=Z,58nm,2.0s						
SBUM	Sibu	74.77	281	P	P	18 05 16.5	+1.8
MAW	Mawson	75.50	200	P	P	18 05 16.2	-1.7
MAW				IAmb	IAmb	18 05 24.1	
	comp=Z,23nm,0.9s						
MAW	Mawson	75.50	200	P	P	18 05 23.3	+5.3
	comp=Z,91nm,0.8s,baz=132,slow=5.6,SNR=9.8						
MAW				LR	LR	18 38 30.4	
	comp=Z,3μm,19.3s,baz=120,slow=36						
	comp=Z,91nm,0.8s						
JOW	Kunigami	75.86	311	P	P	18 05 19.0	-1.6
JOW				IAmb	IAmb	18 05 22.2	
	comp=Z,41nm,0.8s						
JOW	Kunigami	75.86	311	LR	LR	18 34 59.7	
	comp=Z,460nm,20.0s,baz=112,slow=33						
KSM	Kuching	75.97	279	P	P	18 05 19.7	-1.9
KSM				IAmb	IAmb	18 05 28.5	
	comp=Z,36nm,0.9s						
KSM	Kuching	75.97	279	P	P	18 05 23.0	+1.4
CGJI	Cibinong	76.33	270	P	P	18 05 25.4	+1.8
	comp=Z,52μmcomp=Z,1μmcomp=Z,100nm,0.8s						
TPI	Tanjungpandan	76.33	274	P	P	18 05 23.7	0.0
	comp=Z,43nm,1.0s						
INU	Inuyama	76.50	322	P	P	18 05 22.1	-1.9
INU				IAmb	IAmb	18 05 25.4	
	comp=Z,21nm,0.9s						
INU	Inuyama	76.50	322	P	P	18 05 24.1	+0.1
JGF	Kuroka	76.50	323	P	P	18 05 21.8	-2.3
JGF				IAmb	IAmb	18 06 03.0	
	comp=Z,76nm,1.6s						
JGF	Kuroka	76.50	323	P	P	18 05 24.2	+0.1
MJAR	Matsushiro Arr	76.76	324	P	P	18 05 24.2	-1.3
	comp=Z,16nm,0.9s,baz=159,slow=5.8,SNR=26						
MJAR				LR	LR	18 33 39.9	
	comp=Z,688nm,21.8s,baz=144,slow=32						
	comp=Z,16nm,0.9s						
MAJO	Matsushiro	76.76	324	P	P	18 05 23.8	-1.7
MAJO				IAmb	IAmb	18 05 33.9	
	comp=Z,26nm,1.0s						
MAJO	Matsushiro	76.76	324	P	P	18 05 25.1	-0.4
MAJO	Matsushiro	76.76	324	*de*P	P	18 05 24.8	-0.7
MAJO				pmax	pmax		
	comp=Z,26nm,1.0s						
MG03	Isla Dawson	76.91	144	P	P	18 05 26.3	+0.1
MG03				IAmb	IAmb	18 05 34.0	
	comp=Z,48nm,0.9s						
H06S1	SOCORRO T	78.23	62	T	T	19 31 26.5	
	SNR=27						
JNU	Nakatsue	78.43	317	LR	LR	18 37 47.0	
	comp=Z,209nm,18.6s,baz=112,slow=34						
JTM	Tenmabayashi	78.63	328	P	P	18 05 33.4	-2.4
JTM	Tenmabayashi	78.63	328	P	P	18 05 36.7	+0.9
MDSI	Maura Dua	78.63	271	P	P	18 05 37.1	+0.6
ERM	Erimo	78.66	330	P	P	18 05 34.9	-1.0
ERM				IAmb	IAmb	18 05 48.2	
	comp=Z,60nm,1.1s						
ERM	Erimo	78.66	330	P	P	18 05 37.5	+1.6
ERM	Erimo	78.66	330	⇑*i*P	P	18 05 37.6	+1.6
ERM				pmax	pmax		
	comp=Z,62nm,1.1s						
JEM	Erimo	78.66	330	P	P	18 05 37.7	+1.8
PMBI	Palembang	78.81	273	IAMs_20	IAMs_20	18 45 10.5	
	comp=Z,2μm,19.0s						
KIWB	Kanaga Island	79.04	359	P	P	18 05 36.9	-0.9
ADK	Adak	79.06	360	P	P	18 05 37.6	-0.3
ADK				IAMs_20	IAMs_20	18 34 50.5	
	comp=Z,2μm,20.0s						
ADK	Adak	79.06	360	P	P	18 05 37.6	-0.3
ADK				pmax	pmax		
	comp=Z,105nm,0.8s						
ADK				MLR	MLR		
	comp=Z,2μm,20.0s						
YUK	Yuzh-Kuril'sk	79.19	333	‖*e*P	P	18 05 40.2	+1.4
ATKA	Atka Island	79.40	1	P	P	18 05 39.0	-0.7
ATKA				IAMs_20	IAMs_20	18 34 56.5	
	comp=Z,2μm,21.0s						
ATKA	Atka Island	79.40	1	P	P	18 05 40.5	+0.8
ELIB	Princess Elisa	79.86	186	*d*P	P	18 05 46.6	+4.2
	comp=Z,51nm,0.8s						
COYC	Coyhaique	80.00	136	P	P	18 05 43.9	+0.4
COYC				IAmb	IAmb	18 05 52.1	
	comp=Z,45nm,0.8s						
AY01	Puyuhuapi	80.20	135	P	P	18 05 44.6	0.0
SYO	Syowa Base	80.23	192	⇑*e*P	P	18 05 42.6	-1.7
SYO	Syowa Base	80.23	192	‖*i*pP	pP	18 05 46.4	-0.9
SYO	Syowa Base	80.23	192	⇑*es*P	sP	18 05 48.3	-0.1
SHEM	Shemya Is, Ala	80.35	354	LR	LR	18 36 55.8	
	comp=Z,2μm,19.9s,baz=136,slow=32						
KSI	Kapahiang	80.42	271	P	P	18 05 48.1	+1.8
JKA	Kamikawa-asahi	80.60	331	P	P	18 05 46.6	+0.1
ASAJ	Asahikawa	80.60	331	LR	LR	18 35 12.8	
	comp=Z,2μm,22.0s,baz=164,slow=31						
ASAJ	Asahikawa	80.60	331	P	P	18 05 46.6	+0.1
ASAJ				pmax	pmax		
	comp=Z,82nm,0.9s						
TROLL	Troll, Antarti	80.74	180	⇑P	P	18 05 52.0	+4.8
	comp=Z,3μm,0.6s						
TPRI	Tanjung Pinang	80.80	276	P	P	18 05 49.2	+0.9
	comp=Z,42nm,0.9s						
H03S2	Juan Fernandez	80.82	123	T	T	19 36 07.1	
	baz=241,slow=74,SNR=69						
H03S1	Juan Fernandez	80.83	123	T	T	19 36 10.0	
	baz=241,slow=74,SNR=67						
H03S3	Juan Fernandez	80.83	123	T	T	19 36 15.1	
	baz=241,slow=74,SNR=87						
SNAA	Sanae	80.97	178	P	P	18 05 48.9	+0.5
SNAA				IAmb	IAmb	18 05 55.9	
	comp=Z,32nm,0.9s						
SNAA	Sanae	80.97	178	⇑P	P	18 05 52.7	+4.4
	comp=Z,709nm,0.9s						
SNAA	Sanae	80.97	178	P	P	18 05 52.8	+4.4
	comp=Z,21nm,0.7s,baz=183,slow=3.5,SNR=24						
SNAA				LR	LR	18 39 25.3	
	comp=Z,1μm,20.0s,baz=198,slow=34						
	comp=Z,21nm,0.7s						
SNAA	Sanae	80.97	178	⇑*e*P	P	18 05 51.8	+3.5
SNAA				pmax	pmax		
	comp=Z,36nm,0.9s						
VNA3	Neumayer Olymp	81.06	176	⇑P	P	18 05 53.0	+4.3
	comp=Z,73nm,0.8s						
LL02	Futaleuf	81.31	134	P	P	18 05 50.4	-0.2
LL02				IAmb	IAmb	18 05 58.9	
	comp=Z,29nm,0.8s						
UNV	Unalaska Valle	81.47	6	P	P	18 05 49.6	-1.2
UNV				IAmb	IAmb	18 05 52.8	
	comp=Z,44nm,0.8s						
UNV	Unalaska Valle	81.47	6	P	P	18 05 51.9	+1.1
UNV	Unalaska Valle	81.47	6	P	P	18 05 51.7	+0.9
	baz=189						
VNA2	Neumayer--Watz	81.51	176	⇑P	P	18 05 55.8	+4.7
	comp=Z,52nm,0.6s,baz=170,slow=5.2						
VNA1	Neumayer--Stat	81.73	176	⇑P	P	18 05 57.0	+4.8
	comp=Z,32nm,0.8s						
LPIG	La Paz	81.77	58	LR	LR	18 34 46.0	
	comp=Z,2μm,20.5s,baz=216,slow=30						
MYKOM	Kota Tinggi	81.80	276	P	P	18 05 51.4	-2.2
MYKOM				IAmb	IAmb	18 06 06.0	
	comp=Z,37nm,0.8s						
MYKOM	Kota Tinggi	81.80	276	P	P	18 05 55.5	+1.9
NVL	N'lazarevskaya	81.81	183	*e*P	P	18 05 57.1	+4.4
NVL				pmax	pmax		
	comp=Z,25nm,1.0s						
NVL				MLR	MLR		
	comp=Z,836nm,16.0s						
LL03	Petrohue	81.96	132	P	P	18 05 51.9	-2.1
LL03				IAmb	IAmb	18 06 04.5	
	comp=Z,34nm,0.8s						
SAO	San Andreas Ge	82.16	42	P	P	18 05 54.0	-1.0
SAO				IAmb	IAmb	18 06 00.7	
	comp=Z,32nm,1.1s						
SAO	San Andreas Ge	82.16	42	P	P	18 05 54.0	-1.0
SAO				pmax	pmax		
	comp=Z,32nm,1.2s						
SAO				MLR	MLR		
	comp=Z,3μm,20.0s						
PMPB	Monarch Peak	82.18	42	P	P	18 05 55.1	0.0
PMPB				IAmb	IAmb	18 06 01.2	
	comp=Z,42nm,1.3s						
BBGB	Big Mountain B	82.28	42	P	P	18 05 54.9	-0.7
BBGB				IAmb	IAmb	18 06 15.3	
	comp=Z,43nm,1.1s						
PASC	Pasadena Art C	82.44	45	IAMs_20	IAMs_20	18 33 50.8	
	comp=Z,2μm,21.0s						
ELS	Elsinore Mount	82.58	46	P	P	18 05 57.5	+0.3
ELS				IAmb	IAmb	18 06 02.9	
	comp=Z,22nm,1.1s						
LR05	Currie	82.67	132	P	P	18 05 59.1	+1.4
LR05				IAmb	IAmb	18 06 04.7	
	comp=Z,46nm,1.2s						
YSS	Yuzhno-Sakhali	82.83	333	P	P	18 05 57.6	-0.5
YSS	Yuzhno-Sakhali	82.83	333	P	P	18 05 59.7	+1.6
YSS	Yuzhno-Sakhali	82.83	333	*ke*P	P	18 05 59.7	+1.6
YSS				*e**SP	pwP	18 06 07.5	+0.8
YSS				*e*S	S	18 16 15.9	0.0
YSS				pmax	pmax		
	comp=Z,400nm,6.2s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=N,200nm,4.9s						
YUH	Yuha Desert	82.92	48	P	P	18 05 58.1	-0.9
PET	Petropavlovsk	83.12	345	IAMs_20	IAMs_20	18 37 07.7	
	comp=Z,2μm,21.0s						
PET	Petropavlovsk	83.12	345	*e*P	P	18 06 00.5	+1.0
PET				*e*S	SKSac	18 16 20.1	-0.5
PET				pmax	pmax		
	comp=Z,300nm,13.7s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s						
PET	Petropavlovsk	83.12	345	P	P	18 05 59.1	-0.4
	comp=Z,30nm,1.1s						
KSRS	Korea Array	83.14	319	P	P	18 06 00.7	+0.7
	comp=Z,12nm,0.6s,baz=132,slow=5.5,SNR=43						
KSRS				LR	LR	18 41 12.9	
	comp=Z,307nm,18.7s,baz=115,slow=35						
	comp=Z,12nm,0.6s						
KSAR	Wonju Array Be	83.16	318	P	P	18 05 58.0	-2.1
KSAR	Wonju Array Be	83.16	318	P	P	18 05 58.0	-2.1
PFO	Pinyon Flats O	83.18	47	P	P	18 05 59.5	-0.9
PFO				IAmb	IAmb	18 06 06.2	
	comp=Z,20nm,1.1s						
PFO	Pinyon Flats O	83.18	47	LR	LR	18 34 26.5	
	comp=Z,2μm,21.8s,baz=252,slow=29						
PFO	Pinyon Flats O	83.18	47	P	P	18 05 59.6	-0.9
PFO				pmax	pmax		
	comp=Z,19nm,1.2s						
KMPM	Mount Pierce	83.19	37	P	P	18 05 59.0	-1.3
KS19	Wonju Array Si	83.21	319	P	P	18 05 59.8	-0.6
ISA	Isabella, Lake	83.22	44	P	P	18 06 01.2	+0.6
ISA				IAmb	IAmb	18 06 06.5	
	comp=Z,31nm,1.1s						
ISA	Isabella, Lake	83.22	44	P	P	18 06 01.2	+0.6
ISA				pmax	pmax		
	comp=Z,31nm,1.1s						
KMRM	Mail Ridge	83.27	38	P	P	18 05 59.2	-1.5
CHNA	Chernabura Isl	83.27	10	P	P	18 06 02.2	+2.0
	baz=195						
SSE	Sheshan	83.36	310	P	P	18 06 01.3	0.0
SSE				S	SKSac	18 16 25.1	+1.8
SSE				pmax	pmax		
	comp=Z,130nm,3.5s						
SSE				LR	LR		
	comp=Z,140nm,23.5s						
SSE				LR	LR		
	comp=Z,240nm,24.1s						
PLCA	Paso Flores	83.38	133	P	P	18 06 01.9	+0.4
PLCA	Paso Flores	83.38	133	P	P	18 06 07.5	+5.9
	comp=Z,12nm,0.8s,baz=224,slow=5.6,SNR=31						
	comp=Z,12nm,0.8s						
PLCA	Paso Flores	83.38	133	P	P	18 06 01.9	+0.4
PLCA				pmax	pmax		
	comp=Z,89nm,1.9s						
PEA0B	Petropavlovsk-	83.42	345	P	P	18 05 59.2	-1.8
PEA0B	Petropavlovsk-	83.42	345	*d*i P	P	18 06 01.7	+0.6
PETK	Petropavlovsk-	83.42	345	P	P	18 05 59.6	-1.5
PETK	Petropavlovsk-	83.42	345	P	P	18 06 01.1	+0.1
	comp=Z,41nm,0.9s,baz=126,slow=6.4,SNR=48						
PETK				LR	LR	18 38 58.5	
	comp=Z,1μm,19.6s,baz=149,slow=33						
	comp=Z,41nm,0.9s						
CMB	Columbia Colle	83.64	41	P	P	18 06 04.7	+2.0
CMB				IAmb	IAmb	18 06 08.1	
	comp=Z,38nm,1.4s						
CMB				IAMs_20	IAMs_20	18 35 11.1	
	comp=Z,2μm,21.0s						
CMB	Columbia Colle	83.64	41	P	P	18 06 04.7	+2.0
CMB				pmax	pmax		
	comp=Z,38nm,1.4s						
CMB				MLR	MLR		
	comp=Z,2μm,21.0s						
SDPT	Sand Point	83.65	9	P	P	18 06 03.5	+1.4
	baz=194						
KHMM	Horse Mountain	83.72	37	P	P	18 06 03.2	+0.1
KHMM				IAmb	IAmb	18 06 08.9	
	comp=Z,32nm,1.1s						
O02D	Mt. Diablo Mer	83.74	38	P	P	18 06 04.2	+1.1
O02D				IAMs_20	IAMs_20	18 34 11.0	
	comp=Z,2μm,21.0s						
KRPM	Rodgers	83.76	37	P	P	18 06 04.4	+1.2
AFDM	Forest Hills D	83.92	40	P	P	18 06 03.5	-0.5
AFDM				IAmb	IAmb	18 06 09.3	
	comp=Z,24nm,1.2s						
P08K	Saint George I	83.99	4	IAMs_20	IAMs_20	18 37 33.8	
	comp=Z,2μm,20.0s						
P08K	Saint George I	83.99	4	P	P	18 06 04.7	+0.9
	baz=186						
TEY	Ternei	83.99	329	*e*P	P	18 06 02.1	-2.0
TEY				*e*		18 16 26.2	
GSC	Goldstone, Bar	84.03	45	P	P	18 06 03.9	-0.9
GSC				IAmb	IAmb	18 06 10.5	
	comp=Z,38nm,1.2s						
GSC	Goldstone, Bar	84.03	45	P	P	18 06 03.9	-0.9
GSC				pmax	pmax		
	comp=Z,38nm,1.3s						
HSIG		84.13	53	P	P	18 06 06.2	+0.9
HSIG				IAmb	IAmb	18 06 22.9	
	comp=Z,16nm,0.8s						
EFI	East Falkland	84.39	147	P	P	18 06 06.9	+0.6
EFI	East Falkland	84.39	147	P	P	18 06 06.9	+0.6
EFI				pmax	pmax		
	comp=Z,61nm,0.8s						
WAKR	Walker	84.51	41	P	P	18 06 07.2	-0.1
BLYC	Blythe	84.52	48	P	P	18 06 10.9	+3.7
BLYC				IAmb	IAmb	18 06 13.4	
	comp=Z,30nm,1.4s						
SPIA	Saint Paul Isl	84.52	3	P	P	18 06 08.1	+1.6
	baz=185						
SISI	Saibi	84.59	271	P	P	18 06 08.3	+0.3
	comp=Z,48nm,0.6s						
DSP	Deep Springs	84.64	43	P	P	18 06 07.5	-0.2
DSP				IAmb	IAmb	18 06 13.6	
	comp=Z,24nm,1.3s						
GWY	Greenwater Val	84.68	45	P	P	18 06 07.3	-0.9
GWY				IAmb	IAmb	18 06 13.6	
	comp=Z,38nm,1.5s						
L02F	Cave Junction	84.68	36	P	P	18 06 09.1	+1.3
L02F				IAmb	IAmb	18 06 13.6	
	comp=Z,27nm,1.2s						
S14K	Fog Glacier	84.69	9	P	P	18 06 09.2	+1.7
	baz=195						
PNTR	Pine Nut	84.81	41	P	P	18 06 08.8	0.0
PNTR				IAmb	IAmb	18 06 14.1	
	comp=Z,33nm,0.9s						
UGL	Uglegorsk	84.82	334	*e*P	P	18 06 09.2	+1.0
UGL				*e*S	S	18 16 38.8	+3.0
UGL				pmax	pmax		
	comp=Z,100nm,0.9s						
YBH	Yreka Blue Hor	84.87	37	P	P	18 06 08.3	-0.5
YBH				IAmb	IAmb	18 06 29.9	
	comp=Z,20nm,0.9s						
YBH	Yreka Blue Hor	84.87	37	LR	LR	18 35 30.2	
	comp=Z,698nm,21.8s,baz=228,slow=30						
YBH	Yreka Blue Hor	84.87	37	P	P	18 06 08.3	-0.5
YBH				pmax	pmax		
	comp=Z,20nm,1.0s						
CHGN	Chignik	84.87	10	P	P	18 06 09.6	+1.2
	baz=196						
CHIR	Chirikof Islan	84.87	12	P	P	18 06 09.9	+1.5
	baz=198						
MSHR	Mys Shultsa	84.88	324	*d*i P	P	18 06 06.5	-2.2
MSHR				pmax	pmax		
	comp=Z,57nm,0.9s						
VLA	Vladivostok	84.89	325	‖*i*P	P	18 06 09.9	+1.2
VLA				pmax	pmax		
	comp=Z,16nm,0.9s						
LHV	Little Huntoon	84.90	42	P	P	18 06 07.8	-1.1
HATC	Hat Creek Radi	84.92	39	P	P	18 06 08.3	-0.8
K02D	Willamette Mer	85.03	36	P	P	18 06 08.9	-0.7
K02D				IAmb	IAmb	18 06 15.2	
	comp=Z,33nm,1.2s						
WCT	Wildcat Mounta	85.09	44	P	P	18 06 08.5	-1.6
PSTR	Posyet	85.11	324	‖*i*P	P	18 06 11.7	+1.8
MNSI	Mandailing Nat	85.12	273	P	P	18 06 11.0	+0.3
	comp=Z,73nm,0.8s						
QIZ	Qiongzhong	85.13	294	P	P	18 06 10.8	+0.3
QIZ				S	S	18 16 42.1	+1.9
QIZ				LR	LR		
	comp=Z,210nm,7.9s						
QIZ				LR	LR		
	comp=Z,330nm,7.8s						
QIZ				LR	LR		
	comp=Z,250nm,18.6s						
NVAR	Mina Array Bea	85.13	42	P	P	18 06 09.5	-1.0
NVAR	Mina Array Bea	85.13	42	P	P	18 06 14.6	+4.1
	comp=Z,11nm,0.9s,baz=222,slow=8.5,SNR=55						
NVAR				PKKPbc	PKKPbc	18 24 20.5	+2.4
	comp=Z,0.4nm,0.7s,baz=77,slow=6.6,SNR=3.3						
NVAR				PKPPKP	P'P'df	18 32 27.5	+7.9
	comp=Z,1.4nm,1.0s,baz=109,slow=2.3,SNR=4.1						
NVAR				LR	LR	18 36 25.1	
	comp=Z,3μm,21.6s,baz=200,slow=30						
	comp=Z,11nm,0.9s						
RYN	Ryan	85.13	42	P	P	18 06 09.1	-1.2
RYN				IAmb	IAmb	18 06 15.8	
	comp=Z,39nm,1.6s						
MZP	Montezuma Peak	85.21	43	P	P	18 06 09.8	-1.1
J01E	Myrtle Point	85.23	36	P	P	18 06 08.3	-2.2
J01E				IAmb	IAmb	18 06 20.3	
	comp=Z,39nm,1.0s						
PAHR	Pah Rah Range	85.34	40	P	P	18 06 09.3	-2.1
PAHR				IAmb	IAmb	18 06 16.6	
	comp=Z,24nm,1.2s						
L04D	Klamath Falls	85.42	37	P	P	18 06 08.8	-2.8
TPNV	Topopah Spring	85.42	44	P	P	18 06 10.2	-1.7
TPNV				IAmb	IAmb	18 06 17.7	
	comp=Z,19nm,1.0s						
TPNV	Topopah Spring	85.42	44	P	P	18 06 10.2	-1.7
TPNV				pmax	pmax		
	comp=Z,19nm,1.0s						
TPNV				MLR	MLR		
	comp=Z,2μm,22.0s						
NJ2	Nanjing	85.52	310	*e*P	P	18 06 13.3	+1.1
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
V12A	Nelson	85.53	46	P	P	18 06 10.4	-2.0
V12A				IAmb	IAmb	18 06 18.3	
	comp=Z,23nm,1.3s						
DBO	Dodson Butte	85.55	36	P	P	18 06 10.4	-1.8
DBO				IAmb	IAmb	18 06 30.1	
	comp=Z,25nm,1.1s						
USA0B	Ussuriysk Arra	85.60	326	P	P	18 06 09.9	-2.4
USA0B				IAmb	IAmb	18 06 16.2	
	comp=Z,38nm,0.9s						
USA0B	Ussuriysk Arra	85.60	326	*d*i P	P	18 06 13.4	+1.1
USRK	Ussuriysk Ar.	85.60	326	P	P	18 06 13.5	+1.2
	comp=Z,32nm,0.9s,baz=132,slow=3.4,SNR=44						
USRK				LR	LR	18 38 15.1	
	comp=Z,1μm,21.6s,baz=134,slow=32						
	comp=Z,32nm,0.9s						
Y14A	Wickenburg	85.64	48	P	P	18 06 11.7	-1.2
Y14A				IAmb	IAmb	18 06 18.8	
	comp=Z,23nm,1.1s						
W13A	Hualapai Mount	85.77	47	P	P	18 06 12.5	-1.1
SHPR	Sheep Range	85.82	45	P	P	18 06 11.9	-2.0
SII	Sitkinak Islan	85.83	12	P	P	18 06 14.7	+1.5
	baz=200						
I03D	Drain, OR	85.91	35	P	P	18 06 13.6	-0.2
I03D				IAmb	IAmb	18 06 29.9	
	comp=Z,24nm,1.1s						
K04D	Chiloquin, OR	86.00	37	P	P	18 06 13.2	-1.3
K04D				IAmb	IAmb	18 06 31.9	
	comp=Z,28nm,0.8s						
TYV	Tymovskoe	86.04	335	*e*P	P	18 06 15.7	+1.4
TYV				*e*S	S	18 16 46.2	-1.6
TYV				pmax	pmax		
	comp=Z,300nm,3.0s						
TYV				pmax	pmax		
	comp=Z,49nm,0.9s						
TYV				smax	smax		
	comp=N,500nm,5.7s						
TYV				smax	smax		
	comp=E,300nm,5.7s						
TUC	Tucson	86.17	51	P	P	18 06 14.8	-0.8
TUC				IAmb	IAmb	18 06 22.2	
	comp=Z,51nm,1.6s						
TUC	Tucson	86.17	51	IAMs_20	IAMs_20	18 46 39.0	
	comp=Z,2μm,19.0s						
TUC	Tucson	86.17	51	P	P	18 06 14.8	-0.8
TUC				pmax	pmax		
	comp=Z,51nm,1.6s						
TUC				MLR	MLR		
	comp=Z,2μm,19.0s						
R16K	Pilot Point	86.22	10	P	P	18 06 16.4	+1.4
	baz=196						
BO02	Sierra Bellavi	86.26	127	P	P	18 06 15.2	-1.0
BO02				IAmb	IAmb	18 06 23.6	
	comp=Z,24nm,0.8s						
MT01	Popeta	86.40	126	P	P	18 06 19.0	+2.2
BUCK	Buck Mountain	86.44	35	P	P	18 06 16.9	+0.3
BUCK				IAmb	IAmb	18 06 22.0	
	comp=Z,43nm,1.2s						
PRN	Pahroc Range	86.45	44	P	P	18 06 15.2	-1.7
PRN				IAmb	IAmb	18 06 23.0	
	comp=Z,36nm,1.1s						
RPSI	Rantau Prapat	86.58	275	P	P	18 06 16.3	-1.6
RPSI				IAmb	IAmb	18 06 29.7	
	comp=Z,18nm,0.7s						
PSI	Prapat	86.63	275	LR	LR	18 48 07.2	
	comp=Z,554nm,18.4s,baz=124,slow=38						
PSI	Prapat	86.63	275	P	P	18 06 19.6	+1.3
PSI	Prapat	86.63	275	P	P	18 06 16.3	-2.0
PSI				pmax	pmax		
	comp=Z,18nm,0.7s						
PSI				MLR	MLR		
	comp=Z,900nm,20.0s						
OHAK	Old Harbor	86.63	12	P	P	18 06 18.5	+1.5
	baz=200						
MT09	Talagante	86.63	126	P	P	18 06 15.8	-2.3
MT09				IAmb	IAmb	18 06 25.8	
	comp=Z,44nm,1.2s						
319A	Douglas	86.67	52	P	P	18 06 18.4	+0.3
319A				IAmb	IAmb	18 06 42.5	
	comp=Z,22nm,1.1s						
R11B	Troy Canyon, C	86.72	43	P	P	18 06 17.0	-1.2
J05D	Fort Rock, OR	86.73	37	P	P	18 06 18.0	-0.1
J05D				IAmb	IAmb	18 06 23.5	
	comp=Z,45nm,1.5s						
R18K	Karluk	86.74	12	P	P	18 06 19.0	+1.5
	baz=199						
UBPT	Khong Chiam	86.86	289	P	P	18 06 17.5	-1.7
X16A	Lo Mia Camp, P	86.96	49	P	P	18 06 18.8	-0.7
X16A	

MT13	**San Alfonso**	**87.15**	**127**	P	**P**	**18 06 18.9**	**-1.8**
MT13				IAmb	IAmb	18 06 28.3	
	comp=Z,23nm,0.8s						
LMEL	**Las Melosas**	**87.16**	**127**	P	P	18 06 25.6	+5.0
LMEL				IAmb	IAmb	18 06 38.5	
	comp=Z,13nm,0.8s						
PEL	**Peldehue**	**87.18**	**126**	P	**P**	**18 06 20.1**	**-0.6**
PEL				IAmb	IAmb	18 06 28.1	
	comp=Z,27nm,0.9s						
PEL	**Peldehue**	**87.18**	**126**	P	**P**	**18 06 20.1**	**-0.6**
PEL				pmax	pmax		
	comp=Z,27nm,0.9s						
H04A	**Detroit Lake**	**87.19**	**35**	P	**P**	**18 06 20.1**	**0.0**
H04A				IAmb	IAmb	18 06 25.0	
	comp=Z,27nm,1.3s						
PINE	**Pine Mountain**	**87.23**	**37**	P	**P**	**18 06 20.2**	**-0.4**
PINE				IAmb	IAmb	18 06 26.1	
	comp=Z,57nm,1.5s						
KDAK	**Kodiak Island**	**87.29**	**12**	LR	LR	18 38 13.2	
	comp=Z,μm,21.8s,baz=62,slow=31						
KDAK	**Kodiak Island**	**87.29**	**12**	P	**P**	**18 06 21.8**	**+1.5**
	baz=201						
LCMT	**Little Creek M**	**87.35**	**46**	P	**P**	**18 06 20.3**	**-1.0**
O14K	**Tigyukauivet M**	**87.35**	**8**	IAms_20	IAms_20	18 46 13.8	
	comp=Z,2μm,21.0s						
O14K	**Tigyukauivet M**	**87.35**	**8**	P	**P**	**18 06 22.1**	**+1.6**
	baz=193						
I05D	**Terrebonne, OR**	**87.39**	**36**	P	**P**	**18 06 20.6**	**-0.6**
I05D				IAmb	IAmb	18 06 25.7	
	comp=Z,20nm,1.2s						
Q16K	**King Salmon**	**87.43**	**10**	P	**P**	**18 06 22.9**	**+2.0**
	baz=197						
O15K	**Ungalikthiuk R**	**87.45**	**8**	P	**P**	**18 06 22.7**	**+1.7**
	baz=194						
MT08	**Bocatoma Ro**	**87.50**	**127**	P	**P**	**18 06 20.3**	**-2.1**
MT08				IAmb	IAmb	18 06 30.5	
	comp=Z,18nm,0.9s						
CNSH	**ChangSha**	**87.56**	**303**	P	**P**	**18 06 21.8**	**-0.5**
CNSH				pmax	pmax		
	comp=Z,13nm,1.2s						
P16K	**Nushagak River**	**87.56**	**9**	P	**P**	**18 06 23.1**	**+1.6**
	baz=196						
WVOR	**Wild Horse Val**	**87.57**	**39**	P	**P**	**18 06 22.1**	**-0.1**
WVOR				IAmb	IAmb	18 06 38.0	
	comp=Z,15nm,1.1s						
WVOR	**Wild Horse Val**	**87.57**	**39**	P	**P**	**18 06 22.1**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,15nm,1.1s						
WVOR				MLR	MLR		
	comp=Z,1μm,20.0s						
U15A	**North Rim**	**87.60**	**47**	P	**P**	**18 06 22.7**	**0.0**
U15A				IAmb	IAmb	18 06 28.8	
	comp=Z,23nm,0.9s						
KNB	**Kanab**	**87.62**	**46**	P	**P**	**18 06 22.9**	**+0.2**
KNB				IAmb	IAmb	18 06 43.0	
	comp=Z,28nm,1.1s						
KNB	**Kanab**	**87.62**	**46**	P	**P**	**18 06 22.9**	**+0.2**
KNB				pmax	pmax		
	comp=Z,28nm,1.1s						
WUAZ	**Wupatki**	**87.66**	**48**	P	**P**	**18 06 22.4**	**-0.5**
WUAZ				IAmb	IAmb	18 06 28.9	
	comp=Z,17nm,1.0s						
WUAZ				IAms_20	IAms_20	18 36 13.3	
	comp=Z,2μm,22.0s						
Q18K	**Katmai Hardscr**	**87.67**	**11**	P	**P**	**18 06 23.6**	**+1.4**
	baz=199,SNR=8.5						
WHN	**Wuhan**	**87.82**	**306**	P	**P**	**18 06 24.8**	**+1.3**
WHN				pmax	pmax		
	comp=Z,150nm,1.6s						
DL2	**Dalian**	**87.86**	**316**	P	**P**	**18 06 24.3**	**+0.8**
DL2				S	S	18 16 56.8	-9.1
DL2				pmax	pmax		
	comp=Z,47nm,1.2s						
DL2				LR	LR		
	comp=Z,460nm,19.8s						
DL2				LR	LR		
	comp=Z,600nm,18.2s						
N14K	**Kuskokwak Cree**	**87.96**	**7**	P	**P**	**18 06 25.9**	**+2.5**
	baz=193						
P17K	**Kvichak River**	**87.96**	**10**	P	**P**	**18 06 25.1**	**+1.7**
	baz=198,SNR=6.1						
UNM	**Universidad Na**	**87.98**	**67**	IAms_20	IAms_20	18 35 34.2	
	comp=Z,1μm,20.0s						
M11K	**Mekoryuk**	**87.98**	**5**	IAms_20	IAms_20	18 48 05.4	
	comp=Z,1μm,19.0s						
M11K	**Mekoryuk**	**87.98**	**5**	P	**P**	**18 06 26.0**	**+2.6**
	baz=189						
X18A	**Snowflake**	**88.03**	**49**	P	**P**	**18 06 23.2**	**-1.5**
X18A				IAmb	IAmb	18 06 48.9	
	comp=Z,13nm,1.0s						
O16K	**Kokwok River B**	**88.09**	**9**	P	**P**	**18 06 24.8**	**+0.8**
O16K				IAmb	IAmb	18 06 26.1	
	comp=Z,25nm,1.2s						
O16K				IAms_20	IAms_20	18 40 44.5	
	comp=Z,2μm,21.0s						
O16K	**Kokwok River B**	**88.09**	**9**	P	**P**	**18 06 25.3**	**+1.2**
	baz=196						
Q20K	**Shuyak Island**	**88.10**	**12**	P	**P**	**18 06 26.3**	**+2.2**
	baz=201						
Q19K	**Cape Douglas,**	**88.17**	**12**	P	**P**	**18 06 26.1**	**+1.5**
	baz=200						
PKCU	**Pink Cliffs**	**88.20**	**46**	P	**P**	**18 06 25.2**	**-0.4**
NLWA	**Neilton Lookou**	**88.26**	**33**	P	**P**	**18 06 24.5**	**-0.8**
M13K	**Dall Lake**	**88.26**	**6**	IAms_20	IAms_20	18 46 44.8	
	comp=Z,2μm,20.0s						
M13K	**Dall Lake**	**88.26**	**6**	P	**P**	**18 06 26.3**	**+1.5**
	baz=191						
J08A	**Circle Bar Ran**	**88.27**	**38**	P	**P**	**18 06 25.1**	**-0.4**
J08A				IAmb	IAmb	18 06 30.5	
	comp=Z,16nm,1.1s						
P18K	**Big Mountain,**	**88.34**	**11**	P	**P**	**18 06 25.0**	**-0.3**
P18K				IAms_20	IAms_20	18 41 01.0	
	comp=Z,2μm,20.0s						
P18K	**Big Mountain,**	**88.34**	**11**	P	**P**	**18 06 26.6**	**+1.3**
	baz=198,SNR=6.5						
G06A	**Carlson Farm,**	**88.37**	**36**	P	**P**	**18 06 25.6**	**-0.3**
G06A				IAmb	IAmb	18 06 30.1	
	comp=Z,26nm,1.1s						
N15K	**Kwethluk River**	**88.38**	**8**	P	**P**	**18 06 25.6**	**+0.2**
N15K				IAms_20	IAms_20	18 47 05.2	
	comp=Z,2μm,20.0s						
N15K	**Kwethluk River**	**88.38**	**8**	P	**P**	**18 06 27.2**	**+1.7**
	baz=194						
O17K	**Koliganek Bris**	**88.41**	**10**	P	**P**	**18 06 27.7**	**+2.1**
	baz=197						
ELK	**Elko**	**88.43**	**42**	P	**P**	**18 06 25.6**	**-0.9**
ELK	**Elko**	**88.43**	**42**	LR	LR	18 38 37.6	
	comp=Z,2μm,21.2s,baz=221,slow=30						
ELK	**Elko**	**88.43**	**42**	P	**P**	**18 06 25.6**	**-0.9**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ELK				MLR	MLR		
	comp=Z,2μm,20.0s						
NKL	**Nikolayevsk**	**88.61**	**336**	*e*P	**P**	**18 06 26.0**	**-0.6**
NKL				*e*S	**SKSac**	**18 16 53.8**	**-1.2**
NKL				pmax	pmax		
	comp=N,72nm,1.1s						
NKL				pmax	pmax		
	comp=E,72nm,1.2s						
NKL				pmax	pmax		
	comp=Z,288nm,1.2s						
NKL				smax	smax		
	comp=E,89nm,3.1s						
NKL				smax	smax		
	comp=N,123nm,4.2s						
MTPU	**Mount Pierson**	**88.64**	**45**	P	**P**	**18 06 26.8**	**-0.9**
MTPU				IAmb	IAmb	18 06 53.1	
	comp=Z,34nm,1.4s						
SRIT	**Nakonsritamara**	**88.71**	**280**	P	**P**	**18 06 29.2**	**+1.1**
M14K	**Bethel**	**88.73**	**7**	P	**P**	**18 06 28.1**	**+1.0**
M14K				IAms_20	IAms_20	18 50 17.4	
	comp=Z,1μm,20.0s						
M14K	**Bethel**	**88.73**	**7**	P	**P**	**18 06 29.3**	**+2.3**
	baz=193						
CN2	**Changchun**	**88.77**	**322**	P	**P**	**18 06 28.1**	**+0.4**
CN2				S	**S**	**18 17 14.1**	**-0.2**
CN2				pmax	pmax		
	comp=Z,30nm,1.1s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=Z,400nm,26.0s						
CN2				LR	LR		
	comp=Z,700nm,26.0s						
CN2				LR	LR		
	comp=Z,700nm,26.0s						
O18K	**Koktuh Hills**	**88.78**	**10**	P	**P**	**18 06 26.8**	**-0.6**
O18K				IAms_20	IAms_20	18 41 25.7	
	comp=Z,2μm,21.0s						
O18K	**Koktuh Hills**	**88.78**	**10**	P	**P**	**18 06 28.7**	**+1.3**
	baz=199,SNR=16						
LON	**Longmire**	**88.81**	**34**	P	**P**	**18 06 27.4**	**-0.5**
LON				IAmb	IAmb	18 06 32.5	
	comp=Z,49nm,1.8s						
LON	**Longmire**	**88.81**	**34**	P	**P**	**18 06 27.4**	**-0.5**
LON				pmax	pmax		
	comp=Z,49nm,1.8s						
M15K	**Kasigluk River**	**88.82**	**8**	P	**P**	**18 06 29.4**	**+1.9**
	baz=194						
N16K	**Nishlik Lake**	**88.85**	**9**	P	**P**	**18 06 30.1**	**+2.4**
	baz=195						
GNW	**Green Mountain**	**88.88**	**33**	P	**P**	**18 06 28.9**	**+0.8**
P19K	**Oil Pt**	**88.92**	**11**	P	**P**	**18 06 30.2**	**+2.1**
	baz=200						
BNX	**BinXian**	**89.01**	**324**	⇓P	**P**	**18 06 28.8**	**0.0**
BNX				SKS	**SKSac**	**18 16 58.8**	**+0.9**
BNX				S	**S**	**18 17 17.0**	**+0.4**
BNX				pmax	pmax		
	comp=Z,36nm,0.9s						
BNX				pmax	pmax		
	comp=Z,410nm,5.4s						
BNX				LR	LR		
	comp=Z,470nm,19.8s						
BNX				LR	LR		
	comp=Z,670nm,21.3s						
BNX				LR	LR		
	comp=Z,1μm,20.8s						
D05A	**Enumclaw**	**89.03**	**34**	P	**P**	**18 06 29.3**	**+0.5**
TIA	**Tai'an**	**89.11**	**312**	P	**P**	**18 06 30.3**	**+0.8**
TIA				pmax	pmax		
	comp=Z,27nm,1.2s						
TIA				pmax	pmax		
	comp=Z,360nm,5.4s						
TIA				LR	LR		
	comp=Z,190nm,10.4s						
TIA				LR	LR		
	comp=Z,400nm,18.6s						
TIA				LR	LR		
	comp=Z,490nm,20.9s						
N17K	**Nushagak Hills**	**89.12**	**9**	IAms_20	IAms_20	18 41 03.6	
	comp=Z,2μm,21.0s						
N17K	**Nushagak Hills**	**89.12**	**9**	P	**P**	**18 06 31.0**	**+2.1**
	baz=197						
CLRS	**Cowichan Lake**	**89.15**	**31**	P	**P**	**18 06 29.3**	**0.0**
HOM	**Homer**	**89.22**	**12**	P	**P**	**18 06 31.2**	**+1.8**
	baz=202						
L14K	**Kuka Creek**	**89.24**	**7**	P	**P**	**18 06 28.9**	**-0.5**
L14K				IAms_20	IAms_20	18 47 56.7	
	comp=Z,1μm,20.0s						
L14K	**Kuka Creek**	**89.24**	**7**	P	**P**	**18 06 31.0**	**+1.6**
	baz=192						
O19K	**Port Alsworth**	**89.25**	**11**	IAms_20	IAms_20	18 41 29.1	
	comp=Z,2μm,21.0s						
O19K	**Port Alsworth**	**89.25**	**11**	P	**P**	**18 06 31.1**	**+1.6**
	baz=199						
ILSW	**Iliamna Southw**	**89.25**	**11**	P	**P**	**18 06 29.9**	**+0.2**
KLR	**Kul'dur**	**89.32**	**329**	LR	LR	18 43 32.2	
	comp=Z,739nm,18.9s,baz=134,slow=34						
KLR	**Kul'dur**	**89.32**	**329**	*d*P	**P**	**18 06 31.5**	**+1.4**
KLR				pmax	pmax		
	comp=Z,87nm,1.7s						
PGC	**Sidney**	**89.35**	**32**	P	**P**	**18 06 30.9**	**+0.7**
M16K	**Timber Creek**	**89.36**	**8**	IAms_20	IAms_20	18 47 34.8	
	comp=Z,2μm,20.0s						
M16K	**Timber Creek**	**89.36**	**8**	P	**P**	**18 06 31.6**	**+1.6**
	baz=195						
VHRN	**Van Horn**	**89.40**	**55**	P	**P**	**18 06 30.0**	**-1.2**
O20K	**Slope Mountain**	**89.43**	**12**	P	**P**	**18 06 31.8**	**+1.4**
	baz=201						
ZON	**Zonda**	**89.46**	**126**	P	**P**	**18 06 29.1**	**-2.4**
ZON				IAmb	IAmb	18 06 48.2	
	comp=Z,20nm,1.3s						
ZON	**Zonda**	**89.46**	**126**	P	**P**	**18 06 29.1**	**-2.4**
ZON				pmax	pmax		
	comp=Z,20nm,1.3s						
N18K	**Kilae Creek**	**89.46**	**10**	IAms_20	IAms_20	18 41 25.6	
	comp=Z,2μm,21.0s						
N18K	**Kilae Creek**	**89.46**	**10**	P	**P**	**18 06 31.9**	**+1.3**
	baz=198						
BRLK	**Bradley Lake**	**89.46**	**13**	P	**P**	**18 06 30.7**	**+0.1**
BRSE	**Bradley Lake S**	**89.47**	**13**	P	**P**	**18 06 32.2**	**+1.6**
	baz=202						
DUG	**Dugway, Tooele**	**89.55**	**43**	IAms_20	IAms_20	18 38 34.3	
	comp=Z,2μm,21.0s						
TX31	**Lajitas Ar. Si**	**89.59**	**56**	P	**P**	**18 06 31.9**	**-0.2**
TX31				IAmb	IAmb	18 06 53.6	
	comp=Z,41nm,1.6s						
TXAR	**Lajitas Array**	**89.59**	**56**	P	**P**	**18 06 32.0**	**-0.1**
TXAR	**Lajitas Array**	**89.59**	**56**	P	**P**	**18 06 36.6**	**+4.6**
	comp=Z,3.5nm,0.9s,baz=210,slow=7.2,SNR=18						
TXAR				LR	LR	18 39 33.2	
	comp=Z,530nm,20.7s,baz=229,slow=31						
	comp=Z,3.5nm,0.9s						
TXAR	**Lajitas Array**	**89.59**	**56**	P	**P**	**18 06 32.0**	**-0.1**
K13K	**Kusilvak Mount**	**89.64**	**5**	P	**P**	**18 06 33.2**	**+1.9**
	baz=190						
L15K	**Ungalak Mounta**	**89.69**	**7**	P	**P**	**18 06 33.1**	**+1.6**
	baz=193						
HAWA	**Hanford**	**89.72**	**35**	IAms_20	IAms_20	18 38 20.3	
	comp=Z,2μm,22.0s						
LTY	**Liberty**	**89.73**	**34**	P	**P**	**18 06 32.5**	**+0.3**
LTY				IAmb	IAmb	18 06 36.9	
	comp=Z,27nm,1.1s						
CFA	**Coronel Fontan**	**89.75**	**126**	LR	LR	18 37 56.1	
	comp=Z,289nm,21.9s,baz=206,slow=29						
N19K	**Bonanza Creek**	**89.81**	**11**	P	**P**	**18 06 33.0**	**+0.8**
N19K				IAmb	IAmb	18 06 34.5	
	comp=Z,22nm,0.8s						
N19K				IAms_20	IAms_20	18 41 57.8	
	comp=Z,2μm,21.0s						
N19K	**Bonanza Creek**	**89.81**	**11**	P	**P**	**18 06 33.7**	**+1.5**
	baz=199						
LENM	**Lemitar**	**89.84**	**51**	P	**P**	**18 06 36.4**	**+3.2**
BGU	**Big Grassy Mou**	**89.86**	**43**	P	**P**	**18 06 32.5**	**-0.6**
BBB	**Bella Bella**	**89.88**	**27**	LR	LR	18 38 25.3	
	comp=Z,1μm,21.8s,baz=228,slow=30						
NAYO	**Nakonayok**	**89.91**	**286**	P	**P**	**18 06 35.5**	**+1.8**
M17K	**Holitna River**	**89.92**	**9**	IAms_20	IAms_20	18 41 40.9	
	comp=Z,2μm,22.0s						
M17K	**Holitna River**	**89.92**	**9**	P	**P**	**18 06 35.3**	**+2.6**
	baz=197						
SEW	**Seward**	**90.06**	**13**	P	**P**	**18 06 35.1**	**+1.9**
	baz=204						
BNM	**Barren Site**	**90.08**	**51**	P	**P**	**18 06 34.0**	**-0.3**
Q23K	**Middleton Isla**	**90.11**	**15**	P	**P**	**18 06 35.1**	**+1.6**
	baz=206						
NONG	**Nongkai**	**90.15**	**290**	P	**P**	**18 06 36.5**	**+1.8**
ALPN	**Alpine**	**90.17**	**56**	P	**P**	**18 06 34.0**	**-0.7**
M18K	**Stony River**	**90.24**	**10**	P	**P**	**18 06 35.7**	**+1.6**
	baz=198						
K15K	**Wolf Creek Mou**	**90.29**	**7**	P	**P**	**18 06 36.0**	**+1.6**
K15K				IAms_20	IAms_20	18 47 58.5	
	comp=Z,2μm,20.0s						
K15K	**Wolf Creek Mou**	**90.29**	**7**	P	**P**	**18 06 36.6**	**+2.2**
	baz=193						
CAPN	**Captain Cook N**	**90.34**	**12**	P	**P**	**18 06 36.1**	**+1.5**
	baz=202						
O22K	**Cooper Landing**	**90.35**	**13**	IAms_20	IAms_20	18 42 17.3	
	comp=Z,2μm,20.0s						
O22K	**Cooper Landing**	**90.35**	**13**	P	**P**	**18 06 36.3**	**+1.7**
	baz=203						
P23K	**Montague Islan**	**90.39**	**14**	P	**P**	**18 06 36.4**	**+1.5**
	baz=205						
TRQA	**Tornquist**	**90.39**	**134**	IAms_20	IAms_20	18 50 26.8	
	comp=Z,2μm,20.0s						
CMIG	**Matias Romero**	**90.45**	**71**	LR	LR	18 39 14.8	
	comp=Z,434nm,19.9s,baz=185,slow=30						
L17K	**Donlin**	**90.52**	**8**	P	**P**	**18 06 37.7**	**+2.3**
	baz=196						
E09A	**Wood Farm, Sta**	**90.52**	**36**	P	**P**	**18 06 36.4**	**+0.6**
MVCO	**Mesa Verde**	**90.53**	**48**	IAms_20	IAms_20	18 38 38.2	
	comp=Z,2μm,21.0s						
CRAG	**Craig**	**90.53**	**23**	P	**P**	**18 06 36.9**	**+1.3**
	baz=217						
HVU	**Hansel Valley**	**90.53**	**42**	P	**P**	**18 06 36.7**	**+0.5**
HVU	**Hansel Valley**	**90.53**	**42**	P	**P**	**18 06 36.7**	**+0.5**
HVU				pmax	pmax		
	comp=Z,57nm,1.7s						
J14K	**Nanvaranak Lak**	**90.54**	**6**	P	**P**	**18 06 36.7**	**+1.2**
	baz=191						
SPCR	**Spurr Chakacha**	**90.56**	**11**	P	**P**	**18 06 36.5**	**+0.8**
	baz=201						
ANMO	**Albuquerque**	**90.63**	**50**	P	**P**	**18 06 36.1**	**-0.8**
ANMO				IAmb	IAmb	18 06 42.6	
	comp=Z,15nm,1.1s						
ANMO	**Albuquerque**	**90.63**	**50**	IAms_20	IAms_20	18 40 53.2	
	comp=Z,1μm,20.0s						
ANMO	**Albuquerque**	**90.63**	**50**	IAms_20	IAms_20	18 40 52.7	
	comp=Z,1μm,20.0s						
ANMO	**Albuquerque**	**90.63**	**50**	IAms_20	IAms_20	18 40 52.7	
	comp=Z,1μm,20.0s						
ANMO	**Albuquerque**	**90.63**	**50**	LR	LR	18 38 57.8	
	comp=Z,1μm,21.4s,baz=33,slow=30						
ANMO	**Albuquerque**	**90.63**	**50**	⇓*e*P	**P**	**18 06 40.1**	**+3.2**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PLID	**Pearl Lake**	**90.74**	**38**	P	**P**	**18 06 37.3**	**+0.1**
PLID				IAms_20	IAms_20	18 50 26.3	
	comp=Z,1μm,19.0s						
L18K	**Granite Mounta**	**90.81**	**9**	P	**P**	**18 06 38.5**	**+1.7**
L18K				IAmb	IAmb	18 06 40.3	
	comp=Z,18nm,0.9s						
L18K				IAms_20	IAms_20	18 42 18.4	
	comp=Z,2μm,21.0s						
L18K	**Granite Mounta**	**90.81**	**9**	P	**P**	**18 06 38.3**	**+1.5**
	baz=197						
M19K	**Big River Lodg**	**90.85**	**10**	P	**P**	**18 06 37.6**	**+0.6**
M19K				IAmb	IAmb	18 06 39.6	
	comp=Z,14nm,0.8s						
M19K				IAms_20	IAms_20	18 42 30.0	
	comp=Z,2μm,21.0s						
M19K	**Big River Lodg**	**90.85**	**10**	P	**P**	**18 06 38.7**	**+1.7**
	baz=199						
PV13	**Radium Mtn., P**	**90.86**	**47**	P	**P**	**18 06 37.4**	**-0.6**
STLK	**Strandline Lak**	**90.90**	**11**	P	**P**	**18 06 37.0**	**-0.4**
STLK				IAmb	IAmb	18 06 39.2	
	comp=Z,17nm,0.8s						
PV11	**David Mesa, Pa**	**90.90**	**47**	P	**P**	**18 06 37.2**	**-0.9**
PV11				IAmb	IAmb	18 06 43.3	
	comp=Z,21nm,1.3s						
RC01	**Rabbit Creek A**	**90.91**	**13**	IAms_20	IAms_20	18 42 26.0	
	comp=Z,2μm,20.0s						
RC01	**Rabbit Creek A**	**90.91**	**13**	P	**P**	**18 06 39.0**	**+1.7**
	baz=203						
MA2	**Magadan**	**90.93**	**344**	P	**P**	**18 06 37.4**	**0.0**
MA2				IAmb	IAmb	18 06 39.2	
	comp=Z,26nm,0.9s						
MA2	**Magadan**	**90.93**	**344**	LR	LR	18 44 03.7	
	comp=Z,770nm,19.6s,baz=152,slow=34						
MA2	**Magadan**	**90.93**	**344**	P	**P**	**18 06 37.9**	**+0.5**
MA2	**Magadan**	**90.93**	**344**	*d*P	**P**	**18 06 37.8**	**+0.4**
MA2				pmax	pmax		
	comp=Z,26nm,0.9s						
MA2	**Magadan**	**90.93**	**344**	P	**P**	**18 06 36.8**	**-0.6**
	comp=Z,36nm,1.3s						
V35K	**Ketchikan**	**90.95**	**24**	P	**P**	**18 06 38.4**	**+0.8**
	baz=218						
PWL	**Port Wells**	**90.97**	**13**	P	**P**	**18 06 38.6**	**+1.0**
	baz=204						
KAIM	**Kayak Island**	**91.00**	**15**	P	**P**	**18 06 38.4**	**+0.7**
	baz=208						
BSUT	**Blindstream Ca**	**91.01**	**44**	P	**P**	**18 06 39.8**	**+1.1**
M20K	**Styx River**	**91.04**	**11**	IAmb	IAmb	18 07 05.4	
	comp=Z,18nm,1.2s						
M20K	**Styx River**	**91.04**	**11**	P	**P**	**18 06 39.7**	**+1.7**
	baz=200						
U33K	**Whale Pass**	**91.04**	**23**	P	**P**	**18 06 39.9**	**+1.9**
	baz=217						
L19K	**White Mountain**	**91.05**	**10**	IAms_20	IAms_20	18 42 24.6	
	comp=Z,2μm,21.0s						
L19K	**White Mountain**	**91.05**	**10**	P	**P**	**18 06 39.6**	**+1.6**
	baz=199						
GAMB	**Gambell**	**91.06**	**2**	P	**P**	**18 06 39.3**	**+1.5**
GAMB				IAmb	IAmb	18 06 41.3	
	comp=Z,34nm,1.2s						
GAMB	**Gambell**	**91.06**	**2**	P	**P**	**18 06 39.8**	**+2.0**
	baz=184						
SUA	**Susitna One**	**91.06**	**12**	P	**P**	**18 06 38.0**	**-0.1**
SUA	**Susitna One**	**91.06**	**12**	P	**P**	**18 06 39.8**	**+1.7**
	baz=202						
K17K	**Iditarod**	**91.08**	**8**	IAms_20	IAms_20	18 48 29.3	
	comp=Z,2μm,20.0s						
K17K	**Iditarod**	**91.08**	**8**	P	**P**	**18 06 40.1**	**+2.1**
	baz=196						
SIT	**Sitka**	**91.08**	**21**	P	**P**	**18 06 39.9**	**+1.8**
	baz=216						
ENH	**Enshi**	**91.22**	**304**	P	**P**	**18 06 38.4**	**-1.1**
EYAK	**Cordova Ski Ar**	**91.25**	**15**	P	**P**	**18 06 40.7**	**+1.9**
	baz=207						
GLI	**Glacier Island**	**91.25**	**14**	P	**P**	**18 06 40.8**	**+1.9**
	baz=206,SNR=5.8						
C09A	**Chrisman Ranch**	**91.30**	**35**	P	**P**	**18 06 40.2**	**+0.8**
C09A				IAmb	IAmb	18 06 44.0	
	comp=Z,31nm,1.2s						
LYN	**LuoYang**	**91.34**	**309**	*e*P	**P**	**18 06 41.3**	**+1.4**
LYN				pmax	pmax		
	comp=Z,24nm,0.6s						
J16K	**Anvik River**	**91.36**	**7**	IAms_20	IAms_20	18 45 49.7	
	comp=Z,1μm,21.0s						
J16K	**Anvik River**	**91.36**	**7**	P	**P**	**18 06 41.6**	**+2.3**
	baz=194						
HNS	**HongShan**	**91.39**	**312**	⇓P	**P**	**18 06 41.3**	**+1.3**
HNS				SKS	**SKSac**	**18 17 08.1**	**-3.9**
HNS				S	**S**	**18 17 35.8**	**-3.0**
HNS				pmax	pmax		
	comp=Z,25nm,1.2s						
HNS				LR	LR		
	comp=Z,310nm,14.9s						
HNS				LR	LR		
	comp=Z,300nm,14.9s						
HNS				LR	LR		
	comp=Z,440nm,18.9s						
SKT	**Skwentna**	**91.40**	**11**	P	**P**	**18 06 39.8**	**+0.2**
SKT	**Skwentna**	**91.40**	**11**	P	**P**	**18 06 41.1**	**+1.5**
	baz=202						
BGLC	**Bering Glacier**	**91.44**	**16**	P	**P**	**18 06 41.4**	**+1.7**
	baz=209						
M22K	**Willow**	**91.45**	**12**	P	**P**	**18 06 41.3**	**+1.6**
	baz=203						
KNK	**Knik Glacier**	**91.46**	**13**	IAms_20	IAms_20	18 42 49.5	
	comp=Z,2μm,20.0s						
KNK	**Knik Glacier**	**91.46**	**13**	P	**P**	**18 06 41.3**	**+1.5**
	baz=204						
L20K	**Farewell, AK**	**91.48**	**10**	P	**P**	**18 06 41.4**	**+1.5**
	baz=200						
PMR	**Palmer**	**91.49**	**13**	P	**P**	**18 06 40.5**	**+0.6**
PMR				IAmb	IAmb	18 06 42.9	
	comp=Z,20nm,0.9s						
PMR	**Palmer**	**91.49**	**13**	P	**P**	**18 06 42.0**	**+2.1**
PMR	**Palmer**	**91.49**	**13**	P	**P**	**18 06 40.5**	**+0.6**
PMR				pmax	pmax		
	comp=Z,20nm,0.9s						
PMR	**Palmer**	**91.49**	**13**	P	**P**	**18 06 41.6**	**+1.7**
	baz=204						
S31K	**Pelican**	**91.53**	**20**	P	**P**	**18 06 41.7**	**+1.5**
	baz=215						
WRAK	**Wrangell Islan**	**91.55**	**23**	P	**P**	**18 06 41.4**	**+1.1**
	baz=218						
J17K	**VABM Dome**	**91.64

S22A	4UR Ranch, Cre	91.93	48	IAMs_20	IAMs_20	18 39 02.8
	comp=Z,2μm,22.0s					
BJI	Beijing	91.93	315	P	P	18 06 43.6 +1.1
BJI				pP	pwP	18 06 48.8 -2.7
BJI				sP	sP	18 06 50.8 +3.9
BJI				SKS	SKSac	18 17 13.8 -1.2
BJI				S	S	18 17 42.6 -1.0
BJI				pmax	pmax	
	comp=Z,9.0nm,0.9s					
BJI				LR	LR	
	comp=Z,180nm,19.7s					
BJI				LR	LR	
	comp=Z,130nm,18.7s					
BJI				LR	LR	
	comp=Z,220nm,18.6s					
I17K	Unalakleet	91.93	7	IAMs_20	IAMs_20	18 48 49.0
	comp=Z,1μm,20.0s					
I17K	Unalakleet	91.93	7	P	P	18 06 43.9 +2.0
	baz=194					
M23K	Glacier View	91.95	13	P	P	18 06 43.4 +1.3
	baz=205					
U35K	Hyder	91.97	24	P	P	18 06 43.3 +1.0
	baz=220					
J18K	Innoko River	92.00	9	P	P	18 06 42.9 +0.6
J18K				IAmb	IAmb	18 06 45.4
	comp=Z,23nm,1.0s					
J18K				IAMs_20	IAMs_20	18 48 46.9
	comp=Z,1μm,20.0s					
J18K	Innoko River	92.00	9	P	P	18 06 43.2 +0.9
	baz=197					
CUT	Chulitna	92.02	12	P	P	18 06 44.2 +1.9
	baz=203					
PNL	Peninsula	92.05	18	P	P	18 06 44.7 +2.1
	baz=212					
HEH	HeiHe	92.05	328	eP	P	18 06 43.0 +0.2
HEH				pP	pP	18 06 45.9 -0.2
HEH				SKS	SKSac	18 17 10.6 -4.6
HEH				S	ScS	18 17 46.3 -0.4
HEH				pmax	pmax	
	comp=Z,21nm,1.4s					
HEH				pmax	pmax	
	comp=Z,270nm,5.4s					
HEH				LR	LR	
	comp=Z,460nm,20.2s					
HEH				LR	LR	
	comp=Z,610nm,19.4s					
HEH				LR	LR	
	comp=Z,1μm,18.5s					
KLU	Klutina	92.05	14	P	P	18 06 44.1 +1.5
	baz=207					
SCM	Sheep Creek Mo	92.07	13	IAMs_20	IAMs_20	18 43 44.7
	comp=Z,2μm,21.0s					
SCM	Sheep Creek Mo	92.07	13	P	P	18 06 44.7 +2.0
	baz=205					
AHID	Auburn Hatcher	92.12	42	IAMs_20	IAMs_20	18 40 45.5
	comp=Z,2μm,20.0s					
GO02	Mina Guanaco	92.14	120	P	P	18 06 43.8 -0.6
GO02				IAmb	IAmb	18 06 51.9
	comp=Z,23nm,0.9s					
PPLA	Purkeypile	92.14	11	P	P	18 06 44.8 +1.7
	baz=201					
ANM	Nome	92.18	5	IAMs_20	IAMs_20	18 43 21.5
	comp=Z,1μm,21.0s					
ANM	Nome	92.18	5	P	P	18 06 44.9 +1.8
	baz=190					
PINM	Pinnacle	92.19	17	P	P	18 06 44.6 +1.3
	baz=211					
NEW	Newport	92.19	35	P	P	18 06 43.9 +0.3
NEW	Newport	92.19	35	LR	LR	18 40 05.7
	comp=Z,3μm,21.8s,baz=222,slow=30					
NEW	Newport	92.19	35	P	P	18 06 43.9 +0.3
NEW				pmax	pmax	
	comp=Z,6.0nm,1.0s					
NEW				MLR	MLR	
	comp=Z,3μm,22.0s					
K20K	Telida	92.28	10	P	P	18 06 43.2 -0.4
K20K	Telida	92.28	10	P	P	18 06 44.8 +1.2
	baz=200					
R32K	Eaglecrest	92.32	21	P	P	18 06 45.2 +1.3
	baz=216					
N25K	Chitina, Valde	92.45	15	IAMs_20	IAMs_20	18 42 40.8
	comp=Z,2μm,20.0s					
N25K	Chitina, Valde	92.45	15	P	P	18 06 46.7 +2.2
	baz=208,SNR=6.0					
GLB	Gilahina Butte	92.48	15	P	P	18 06 45.5 +0.9
GLB				IAmb	IAmb	18 06 48.1
	comp=Z,21nm,1.1s					
GLB				IAMs_20	IAMs_20	18 40 06.7
	comp=Z,2μm,22.0s					
H16K	Elim	92.51	6	P	P	18 06 46.2 +1.6
	baz=192					
M24K	Tolsona, Glenn	92.55	14	P	P	18 06 46.1 +1.1
	baz=206					
TPAW	Teton Pass	92.63	41	P	P	18 06 45.4 -0.6
TPAW				IAmb	IAmb	18 06 50.2
	comp=Z,32nm,1.5s					
TPAW				IAMs_20	IAMs_20	18 40 17.0
	comp=Z,1μm,21.0s					
CAST	Castle Rocks	92.65	11	P	P	18 06 45.0 -0.3
CAST				IAmb	IAmb	18 06 46.8
	comp=Z,14nm,0.9s					
CAST	Castle Rocks	92.65	11	P	P	18 06 45.9 +0.6
	baz=201,SNR=8.5					
J19K	Poorman	92.66	9	P	P	18 06 45.5 +0.2
J19K				IAMs_20	IAMs_20	18 43 15.2
	comp=Z,2μm,21.0s					
J19K	Poorman	92.66	9	P	P	18 06 47.2 +1.9
	baz=198					
FXWY	Fox Creek	92.67	41	IAMs_20	IAMs_20	18 41 25.2
	comp=Z,1μm,21.0s					
MSTX	Muleshoe	92.68	53	P	P	18 06 45.5 -0.8
MSTX				IAmb	IAmb	18 06 51.2
	comp=Z,12nm,0.9s					
G15K	Niukluk	92.71	5	P	P	18 06 47.7 +2.2
	baz=191					
T35M	Bob Quinn	92.72	23	P	P	18 06 46.9 +1.2
	baz=220					
PLBC	Pleasant Camp	92.73	19	P	P	18 06 47.0 +1.3
	baz=215					
SNOW	Snow King Moun	92.73	42	IAMs_20	IAMs_20	18 41 14.7
	comp=Z,1μm,21.0s					
NNA	Nana	92.77	105	LR	LR	18 43 21.5
	comp=Z,170nm,18.4s,baz=236,slow=32					
O28M	Mount Upton	92.78	17	P	P	18 06 47.2 +0.9
	baz=212					
SDCO	Great Sand Dun	92.81	49	IAMs_20	IAMs_20	18 39 40.7
	comp=Z,1μm,22.0s					
PB05	IPOC Station P	92.86	117	P	P	18 06 52.7 +5.2
PB05				IAmb	IAmb	18 06 56.0
	comp=Z,21nm,1.0s					
MOOW	Moose Ponds	92.91	41	IAMs_20	IAMs_20	18 41 09.3
	comp=Z,1μm,20.0s					
LOHW	Long Hollow	92.91	42	P	P	18 06 47.6 +0.3
LOHW				IAmb	IAmb	18 06 52.4
	comp=Z,25nm,1.4s					
LOHW				IAMs_20	IAMs_20	18 41 11.4
	comp=Z,1μm,20.0s					
MSO	Missoula	92.95	38	IAMs_20	IAMs_20	18 43 15.8
	comp=Z,1μm,20.0s					
KTH	Kantishna Hill	92.97	11	IAmb	IAmb	18 06 48.6
	comp=Z,14nm,0.9s					
TRF	Thorofare Moun	92.98	11	P	P	18 06 47.0 -0.1
TRF	Thorofare Moun	92.98	11	P	P	18 06 48.3 +1.3
	baz=203,SNR=10					
TNA	Tin City	93.01	3	P	P	18 06 48.4 +1.5
	baz=187,SNR=19					
F14K	Arctic Creek	93.02	4	P	P	18 06 48.5 +1.6
	baz=189,SNR=8.5					
HARP	HAARP	93.03	14	P	P	18 06 48.2 +1.1
	baz=207					
H17K	Granite Mounta	93.04	7	P	P	18 06 47.7 +0.7
H17K				IAmb	IAmb	18 06 49.8
	comp=Z,32nm,1.6s					
H17K				IAMs_20	IAMs_20	18 50 03.2
	comp=Z,2μm,19.0s					
H17K	Granite Mounta	93.04	7	P	P	18 06 48.0 +1.0
	baz=194					
PD31	Pinedale Array	93.04	43	P	P	18 06 49.2 +1.3
PDAR	Pinedale Array	93.04	43	P	P	18 06 49.3 +1.4
PDAR	Pinedale Array	93.04	43	P	P	18 06 51.1 +3.2
	comp=Z,5.5nm,0.9s,baz=204,slow=3.3,SNR=41					
PDAR				PP	PP	18 10 32.4 +1.0
	comp=Z,1.7nm,1.0s,baz=248,slow=7.8,SNR=7.3					
PDAR				PKKPbc	PKKPdf	18 23 57.7 +0.3
	comp=Z,0.4nm,0.6s,baz=97,slow=7.8,SNR=3.8					
PDAR				LR	LR	18 41 18.3
	comp=Z,1μm,21.2s,baz=228,slow=31					
	comp=Z,5.5nm,0.9s					
J20K	Nowinta River	93.04	10	P	P	18 06 47.6 +0.5
J20K				IAmb	IAmb	18 06 49.9
	comp=Z,13nm,0.8s					
J20K				IAMs_20	IAMs_20	18 43 39.3
	comp=Z,2μm,21.0s					
J20K	Nowinta River	93.04	10	P	P	18 06 48.5 +1.4
	baz=200					
CHUM	Lake Minchumin	93.05	10	P	P	18 06 48.0 +1.0
	baz=201					
JCT	Junction City	93.06	57	IAMs_20	IAMs_20	18 46 03.2
	comp=Z,1μm,18.0s					
TIY	Taiyuan	93.07	311	P	P	18 06 49.5 +1.6
TIY				SKS	SKSac	18 17 19.9 -1.8
TIY				S	S	18 17 53.5 -0.6
TIY				pmax	pmax	
	comp=Z,15nm,0.7s					
TIY				LR	LR	
	comp=Z,200nm,15.1s					
TIY				LR	LR	
	comp=Z,290nm,19.9s					
TIY				LR	LR	
	comp=Z,420nm,19.9s					
P30M	Million Dollar	93.10	19	P	P	18 06 49.0 +1.5
	baz=214					
S34M	Telegraph Cree	93.13	22	P	P	18 06 49.7 +2.0
	baz=219					
QLMT	Earthquake Lak	93.15	40	P	P	18 06 51.2 +2.9
RND	Reindeer	93.20	12	P	P	18 06 48.7 +0.8
RND	Reindeer	93.20	12	P	P	18 06 48.7 +0.8
RND				pmax	pmax	
	comp=Z,33nm,1.0s					
RND				MLR	MLR	
	comp=Z,3μm,20.0s					
GCSA	Galena City Sc	93.21	8	P	P	18 06 49.4 +1.6
	baz=197					
YHB	Horse Butte	93.23	40	P	P	18 06 50.0 +1.2
YHB				IAmb	IAmb	18 06 54.3
	comp=Z,14nm,1.2s					
G16K	Koyuk River	93.25	6	IAmb	IAmb	18 06 51.0
	comp=Z,13nm,1.1s					
G16K				IAMs_20	IAMs_20	18 50 03.6
	comp=Z,1μm,20.0s					
G16K	Koyuk River	93.25	6	P	P	18 06 49.3 +1.4
	baz=192,SNR=5.6					
YHL	Hebgen Lake	93.30	40	P	P	18 06 50.5 +1.4
YMR	Madison River	93.32	41	P	P	18 06 49.6 +0.5
YUK8	Steele Glacier	93.33	17	P	P	18 06 51.1 +2.3
	baz=212					
F15K	North Star Dit	93.37	5	IAmb	IAmb	18 06 51.3
	comp=Z,18nm,1.3s					
F15K				IAMs_20	IAMs_20	18 43 56.8
	comp=Z,1μm,20.0s					
F15K	North Star Dit	93.37	5	P	P	18 06 50.2 +1.7
	baz=190					
H17A	Grant Village	93.38	41	P	P	18 06 51.3 +1.8
YUK6	Outpost Mounta	93.40	18	P	P	18 06 50.2 +1.0
	baz=213					
H18K	Honhosa River	93.42	8	IAMs_20	IAMs_20	18 47 01.6
	comp=Z,1μm,20.0s					
H18K	Honhosa River	93.42	8	P	P	18 06 50.7 +1.8
	baz=196					
YHH	Holmes Hill	93.45	40	P	P	18 06 50.0 +0.1
BPAW	Bear Paw Mtn.	93.47	11	IAMs_20	IAMs_20	18 44 25.6
	comp=Z,2μm,21.0s					
BPAW	Bear Paw Mtn.	93.47	11	P	P	18 06 50.8 +1.7
	baz=202					
MCK	McKinley	93.49	12	P	P	18 06 49.8 +0.6
MCK				IAmb	IAmb	18 06 52.2
	comp=Z,18nm,1.0s					
MCK	McKinley	93.49	12	P	P	18 06 49.8 +0.6
MCK				pmax	pmax	
	comp=Z,18nm,1.0s					
MCK	McKinley	93.49	12	P	P	18 06 50.9 +1.8
	baz=204,SNR=6.4					
BOZ	Bozeman (W)	93.49	39	P	P	18 06 51.0 +1.2
BOZ				IAmb	IAmb	18 06 54.8
	comp=Z,14nm,1.0s					
BOZ	Bozeman (W)	93.49	39	P	P	18 06 51.0 +1.2
BOZ				pmax	pmax	
	comp=Z,14nm,1.0s					
BOZ				MLR	MLR	
	comp=Z,900nm,20.0s					
M26K	Nabesna, AK	93.51	15	IAMs_20	IAMs_20	18 41 04.9
	comp=Z,2μm,22.0s					
M26K	Nabesna, AK	93.51	15	P	P	18 06 50.8 +1.4
	baz=209					
YNR	Norris Junctio	93.51	41	P	P	18 06 51.0 +0.9
YNR				IAmb	IAmb	18 06 56.9
	comp=Z,18nm,1.4s					
SEY	Seymchan	93.53	346	LR	LR	18 44 07.0
	comp=Z,1μm,21.0s,baz=150,slow=33					
SEY	Seymchan	93.53	346	i/P	P	18 06 50.3 +1.0
SEY				pmax	pmax	
	comp=Z,35nm,1.2s					
XAN	Xi'an	93.56	307	⇓P	P	18 06 53.0 +2.7
XAN				SKS	SKSac	18 17 23.3 -1.2
XAN				S	ScS	18 18 04.4 +4.2
XAN				pmax	pmax	
	comp=Z,17nm,0.8s					
XAN				LR	LR	
	comp=Z,470nm,21.3s					
XAN				LR	LR	
	comp=Z,590nm,23.4s					
XAN				LR	LR	
	comp=Z,900nm,23.7s					
YUK3	Moose Creek	93.57	16	P	P	18 06 51.9 +2.0
	baz=211,SNR=5.8					
Q32M	Nakina River	93.58	21	P	P	18 06 50.3 +0.4
	baz=218					
I20K	Naaghedeneel	93.58	9	IAMs_20	IAMs_20	18 44 03.6
	comp=Z,1μm,20.0s					
I20K	Naaghedeneel	93.58	9	P	P	18 06 50.8 +1.3
	baz=199					
LKWY	Lake	93.58	41	IAMs_20	IAMs_20	18 42 36.2
	comp=Z,2μm,20.0s					
OVMT	Ovando	93.61	38	P	P	18 06 50.3 0.0
YUK4	Talbot Arm	93.67	17	P	P	18 06 52.5 +2.2
	baz=213					
ATAH	Atahualpa	93.72	100	LR	LR	18 39 56.0
	comp=Z,736nm,20.8s,baz=232,slow=30					
M27K	Edge Creek, AK	93.73	15	P	P	18 06 52.0 +1.5
	baz=210					
MENT	Mentasta	93.82	14	P	P	18 06 52.3 +1.6
MENT				IAmb	IAmb	18 06 54.0
	comp=Z,12nm,0.8s					
MENT	Mentasta	93.82	14	P	P	18 06 52.4 +1.7
DKNS	Dickens	93.84	54	P	P	18 06 51.8 +0.2
ISCO	Idaho Springs	93.85	47	IAMs_20	IAMs_20	18 40 40.1
	comp=Z,1μm,21.0s					
CMAR	Chiang Mai Arr	93.86	289	P	P	18 06 50.9 -1.1
CMAR	Chiang Mai Arr	93.86	289	P	P	18 06 52.7 +0.8
	comp=Z,1.7nm,0.8s,baz=138,slow=3.4,SNR=15					
CMAR				PP	PP	18 10 35.5 -2.4
	comp=Z,0.2nm,0.4s,baz=118,slow=6.9,SNR=3.5					
CMAR				PKKPbc	PKKPdf	18 23 54.3 -0.1
	comp=Z,0.1nm,0.3s,baz=231,slow=5.5,SNR=3.1					
CMAR				PKPPKP		18 32 10.0
	comp=Z,0.3nm,0.4s,baz=298,slow=1.3,SNR=4.3					
	comp=Z,1.7nm,0.8s					
CMAR	Chiang Mai Arr	93.86	289	i P	P	18 06 53.9 +2.0
CMAR				pmax	pmax	
	comp=Z,3.0nm,0.9s					
O30N	Mendenhall	93.89	19	P	P	18 06 52.7 +1.6
	baz=215					
DLBC	Dease Lake	93.91	22	LR	LR	18 43 51.7
	comp=Z,666nm,19.8s,baz=238,slow=32					
DLBC	Dease Lake	93.91	22	P	P	18 06 51.8 +0.5
	baz=220					
L26K	Log Cabin Wild	93.98	14	P	P	18 06 52.6 +1.1
	baz=209					
H19K	Roundabout Mou	94.01	8	IAMs_20	IAMs_20	18 50 19.0
	comp=Z,1μm,20.0s					
H19K	Roundabout Mou	94.01	8	P	P	18 06 52.9 +1.5
	baz=198					
CHTO	Chiang Mai	94.02	289	P	P	18 06 51.8 -0.9
CHTO				IAmb	IAmb	18 07 07.4
	comp=Z,28nm,1.8s					
CHTO	Chiang Mai	94.02	289	P	P	18 06 51.8 -0.9
CHTO				pmax	pmax	
	comp=Z,28nm,1.8s					
CHTO				MLR	MLR	
	comp=Z,400nm,19.0s					
BVCY	Beaver Creek	94.02	16	P	P	18 06 52.9 +1.2
	baz=211					
G18K	Tagagawik	94.11	7	IAMs_20	IAMs_20	18 50 37.4
	comp=Z,1μm,20.0s					
G18K	Tagagawik	94.11	7	P	P	18 06 53.2 +1.3
	baz=196					
WHY	Whitehorse	94.14	19	P	P	18 06 53.8 +1.5
	baz=216					
K24K	Donnelly Dome	94.16	13	P	P	18 06 54.2 +1.9
	baz=207,SNR=9.7					
N30M	Aishikik Lake	94.18	18	IAMs_20	IAMs_20	18 43 42.7
	comp=Z,2μm,20.0s					
N30M	Aishikik Lake	94.18	18	P	P	18 06 53.9 +1.5
	baz=214					
XLT	XiLinHaoTe	94.18	318	eP	P	18 06 53.8 +0.9
XLT				SKS	SKSac	18 17 23.1 -4.4
XLT				S	ScS	18 18 04.3 -0.7
XLT				pmax	pmax	
	comp=Z,12nm,1.3s					
XLT				LR	LR	
	comp=Z,190nm,14.2s					
XLT				LR	LR	
	comp=Z,210nm,18.3s					
H20K	Anotleneega Mo	94.19	9	P	P	18 06 53.9 +1.6
	baz=199					
ABTX	Abilene, Hawle	94.25	55	IAMs_20	IAMs_20	18 42 20.3
	comp=Z,2μm,20.0s					
NEA2	Nenana	94.25	11	P	P	18 06 54.2 +1.6
	baz=204					
RIDG	Independent Ri	94.29	13	P	P	18 06 54.0 +1.2
RIDG				IAmb	IAmb	18 06 55.9
	comp=Z,20nm,1.0s					
RIDG	Independent Ri	94.29	13	P	P	18 06 54.1 +1.2
	baz=208,SNR=5.6					
I21K	Tanana	94.31	10	IAMs_20	IAMs_20	18 44 49.9
	comp=Z,2μm,21.0s					
I21K	Tanana	94.31	10	P	P	18 06 54.4 +1.5
	baz=201,SNR=5.7					
WRH	Wood River Hil	94.31	12	P	P	18 06 53.7 +0.8
WRH				IAmb	IAmb	18 06 55.4
	comp=Z,20nm,0.9s					
R33M	Jennings River	94.34	21	P	P	18 06 53.7 +0.4
	baz=219					
L27K	Beaver Creek,	94.35	15	IAMs_20	IAMs_20	18 41 52.2
	comp=Z,2μm,21.0s					
L27K	Beaver Creek,	94.35	15	P	P	18 06 54.5 +1.3
	baz=210					
BCAR	Beaver Creek A	94.36	15	P	P	18 06 54.8 +1.5
DOT	Dot Lake	94.37	14	IAmb	IAmb	18 06 56.3
	comp=Z,14nm,0.9s					
F17K	Baldwin Pennin	94.37	6	IAMs_20	IAMs_20	18 50 28.4
	comp=Z,1μm,20.0s					
F17K	Baldwin Pennin	94.37	6	P	P	18 06 54.4 +1.3
	baz=193					
P33M	Teslin, Yukon	94.40	20	P	P	18 06 54.6 +1.1
	baz=218					
HDA	Harding Lake	94.47	12	P	P	18 06 54.1 +0.4
HDA				IAmb	IAmb	18 06 56.1
	comp=Z,19nm,0.7s					
HDA				IAMs_20	IAMs_20	18 44 49.2
	comp=Z,1μm,20.0s					
HDA	Harding Lake	94.47	12	P	P	18 06 54.6 +1.0
	baz=206,SNR=9.1					
ZEA	Zeya	94.47	330	eP	P	18 06 54.7 +0.8
ZEA				eS	S	18 18 08.0 +2.5
ZEA				eSP	SP	18 19 21.7 +0.8
ZEA				ePS	PS	18 19 25.0 +1.9
ZEA				pmax	pmax	
	comp=N,10.0nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
G19K	Purcell Mounta	94.53	8	IAMs_20	IAMs_20	18 44 36.5
	comp=Z,1μm,21.0s					
G19K	Purcell Mounta	94.53	8	P	P	18 06 55.5 +1.6
	baz=197,SNR=8.4					
CCB	Clear Creek Bu	94.53	12	IAmb	IAmb	18 06 56.0
	comp=Z,10nm,0.7s					
CCB				IAMs_20	IAMs_20	18 44 34.6
	comp=Z,2μm,21.0s					
N31M	Braeburn, Yuko	94.56	18	P	P	18 06 56.2 +2.0
	baz=215					
RLMT	Red Lodge	94.56	41	P	P	18 06 54.2 -0.6
RLMT				IAMs_20	IAMs_20	18 43 15.1
	comp=Z,1μm,20.0s					
H21K	Melozitna Rive	94.64	10	IAmb	IAmb	18 10 42.3
	comp=Z,22nm,1.7s					
H21K				IAMs_20	IAMs_20	18 44 49.4
	comp=Z,1μm,21.0s					
H21K	Melozitna Rive	94.64	10	P	P	18 06 56.3 +1.9
	baz=201					
M29M	Somme Creek	94.64	17	P	P	18 06 57.2 +2.5
	baz=213					
SCRK	Sand Creek	94.68	14	P	P	18 06 56.0 +1.2
SCRK				IAMs_20	IAMs_20	18 44 25.7
	comp=Z,2μm,20.0s					
SCRK	Sand Creek	94.68	14	P	P	18 06 56.9 +2.1
	baz=208,SNR=8.1					
F18K	Selawik	94.68	7	P	P	18 06 56.1 +1.6
	baz=195					
I23K	Minto, Yukon-K	94.71	11	P	P	18 06 56.3 +1.6
	baz=204					
COLA	College	94.72	12	P	P	18 06 55.4 +0.6
COLA				IAmb	IAmb	18 06 59.2
	comp=Z,15nm,0.7s					
COLA	College	94.72	12	P	P	18 06 55.9 +1.1
COLA	College	94.72	12	c i P	P	18 06 56.4 +1.6
COLA				pmax	pmax	
	comp=Z,17nm,0.8s					
COLA	College	94.72	12	P	P	18 06 56.3 +1.6
	baz=205					
ILAR	Eielson Array	94.81	12	P	P	18 06 56.0 +0.8
ILAR	Eielson Array	94.81	12	P	P	18 06 56.3 +1.1
	comp=Z,5.7nm,0.7s,baz=218,slow=5.3,SNR=64					
ILAR				PP	PP	18 10 41.1 -3.2
	comp=Z,2.5nm,0.9s,baz=223,slow=7.5,SNR=5.7					
ILAR				LR	LR	18 44 30.4
	comp=Z,598nm,20.1s,baz=198,slow=32					
	comp=Z,5.7nm,0.7s					
J25K	Salcha River,	94.96	13	P	P	18 06 57.1 +1.1
J25K				IAmb	IAmb	18 06 58.8
	comp=Z,14nm,0.8s					
J25K				IAMs_20	IAMs_20	18 45 07.2
	comp=Z,1μm,20.0s					
J25K	Salcha River,	94.96	13	P	P	18 06 58.1 +2.1
	baz=207,SNR=15					
POKR	Poker Plat Res	95.02	12	P	P	18 06 56.9 +0.7
	baz=205					
N32M	Quiet Lake	95.06	19	IAMs_20	IAMs_20	18 44 17.2
	comp=Z,1μm,18.0s					
H22K	Ishtalitna Cre	95.07	10	P	P	18 06 57.9 +1.5
	baz=202					
F19K	Shaleruckik Mo	95.11	7	P	P	18 06 56.7 +0.2
F19K				IAMs_20	IAMs_20	18 51 06.2
	comp=Z,1μm,20.0s					
F19K	Shaleruckik Mo	95.11	7	P	P	18 06 57.7 +1.2
	baz=196,SNR=8.4					
K27K	Chicken	95.14	14	IAMs_20	IAMs_20	18 44 27.9
	comp=Z,2μm,20.0s					
K27K	Chicken	95.14	14	P	P	18 06 58.6 +1.9
	baz=210					
M30M	Minto, Yukon	95.18	17	P	P	18 06 58.9 +1.9
	baz=214					
J26L	Joseph Creek	95.23	14	IAMs_20	IAMs_20	18 44 45.3
	comp=Z,2μm,20.0s					
J26L	Joseph Creek	95.23	14	P	P	18 06 59.1 +1.8
	baz=209					
L29M	L29M	95.28	16	P	P	18 06 57.4 -0.1
L29M				IAmb	IAmb	18 07 01.4
	comp=Z,13nm,1.1s					
L29M	L29M	95.28	16	P	P	18 06 59.6 +2.1
	baz=213					
PZH	PanZhiHua	95.30	297	P	P	18 06 59.1 +0.6
PZH				S	S	18 18 14.6 +0.3
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,260nm,5.3s					
PZH				LR	LR	
	comp=Z,300nm,16.5s					
PZH				LR	LR	
	comp=Z,210nm,16.7s					
PZH				LR	LR	
	comp=Z,350nm,17.3s					
HHC	Hu-ho-hao-te	95.31	314	eP	P	18 07 00.0 +1.8
HHC				sP	pwP	18 07 06.4 -0.9
HHC				SKS	SKSac	18 17 33.8 0.0
HHC				S	ScS	18 18 14.3 -0.3
HHC				pmax	pmax	
	comp=Z,13nm,0.7s					
HHC				pmax	pmax	
	comp=Z,190nm,4.3s					

HHC				LR	LR		
	comp=Z,190nm,14.3s						
HHC				LR	LR		
	comp=Z,180nm,14.1s						
HHC				LR	LR		
	comp=Z,230nm,15.2s						
G21K	**Allakaket**	**95.34**	**9**	P	**P**	**18 06 58.2**	**+0.6**
G21K				IAMs_20	IAMs_20	18 45 20.6	
	comp=Z,1µm,21.0s						
G21K	**Allakaket**	**95.34**	**9**	P	**P**	**18 06 58.6**	**+1.0**
	baz=200						
E18K	**Tukpahlearik C**	**95.39**	**6**	IAmb	IAmb	18 07 00.6	
	comp=Z,9.6nm,0.9s						
E18K				IAMs_20	IAMs_20	18 51 09.3	
	comp=Z,1µm,20.0s						
E18K	**Tukpahlearik C**	**95.39**	**6**	P	**P**	**18 06 59.1**	**+1.3**
	baz=194,SNR=9.9						
D17K	**Noatak River**	**95.45**	**5**	P	**P**	**18 06 59.8**	**+1.8**
	baz=192,SNR=6.8						
M31M	**Drury Creek, Y**	**95.53**	**18**	P	**P**	**18 07 00.1**	**+1.5**
	baz=216						
WHTX	**Lake Whitney,**	**95.55**	**57**	IAMs_20	IAMs_20	18 46 11.2	
	comp=Z,1µm,19.0s						
F20K	**Avaraart Lake**	**95.56**	**8**	IAMs_20	IAMs_20	18 45 08.8	
	comp=Z,2µm,21.0s						
F20K	**Avaraart Lake**	**95.56**	**8**	P	**P**	**18 06 59.9**	**+1.4**
	baz=198,SNR=5.6						
WTLY	**Watson Lake, Y**	**95.60**	**22**	P	**P**	**18 06 59.6**	**+0.6**
	baz=221						
PRP	**Porcupine Dome**	**95.74**	**12**	P	**P**	**18 07 00.6**	**+1.0**
PRP				IAmb	IAmb	18 07 02.7	
	comp=Z,14nm,1.0s						
PRP	**Porcupine Dome**	**95.74**	**12**	P	**P**	**18 07 01.4**	**+1.8**
	baz=207,SNR=9.8						
E19K	**Redstone River**	**95.77**	**7**	P	**P**	**18 07 00.3**	**+0.8**
E19K				IAMs_20	IAMs_20	18 48 47.4	
	comp=Z,1µm,20.0s						
E19K	**Redstone River**	**95.77**	**7**	P	**P**	**18 07 01.0**	**+1.5**
	baz=197						
DAWY	**Dawson**	**95.78**	**15**	P	**P**	**18 07 01.2**	**+1.5**
	baz=212						
HKT	**Hockley**	**95.80**	**59**	IAMs_20	IAMs_20	18 43 18.8	
	comp=Z,1µm,20.0s						
RDOG	**Red Dog Mine**	**95.81**	**5**	IAMs_20	IAMs_20	18 55 06.4	
	comp=Z,1µm,19.0s						
RDOG	**Red Dog Mine**	**95.81**	**5**	P	**P**	**18 07 01.4**	**+1.7**
	baz=192						
CD2	**Chengdu**	**95.81**	**302**	P	**P**	**18 07 02.5**	**+1.8**
CD2				S	**S**	**18 18 21.6**	**+3.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,280nm,15.2s						
FARO	**Faro, Yukon**	**95.84**	**19**	P	**P**	**18 07 01.5**	**+1.5**
	baz=217						
C16K	**Lisburne Hills**	**95.86**	**4**	P	**P**	**18 07 01.2**	**+1.4**
C16K				IAMs_20	IAMs_20	18 44 53.6	
	comp=Z,2µm,21.0s						
C16K	**Lisburne Hills**	**95.86**	**4**	P	**P**	**18 07 01.7**	**+1.9**
	baz=190						
TOAD	**Toad River Com**	**95.90**	**24**	P	**P**	**18 07 01.7**	**+1.4**
	baz=224						
EGMT	**Eagleton**	**95.95**	**38**	IAMs_20	IAMs_20	18 46 06.0	
	comp=Z,1µm,20.0s						
F21K	**Alatna River**	**96.01**	**9**	IAMs_20	IAMs_20	18 51 11.8	
	comp=Z,1µm,20.0s						
F21K	**Alatna River**	**96.01**	**9**	P	**P**	**18 07 01.9**	**+1.3**
	baz=200						
I26K	**Coal Creek Min**	**96.02**	**13**	IAMs_20	IAMs_20	18 45 39.2	
	comp=Z,2µm,20.0s						
I26K	**Coal Creek Min**	**96.02**	**13**	P	**P**	**18 07 02.3**	**+1.6**
	baz=209						
G23K	**Bananza Creek**	**96.04**	**10**	P	**P**	**18 07 02.9**	**+2.0**
	baz=203						
K29M	**Barlow Dome**	**96.05**	**16**	P	**P**	**18 07 02.8**	**+1.8**
	baz=214						
BILL	**Bilibino**	**96.15**	**354**	P	**P**	**18 07 01.8**	**+0.5**
BILL	**Bilibino**	**96.15**	**354**	*d iP*	**P**	**18 07 02.5**	**+1.3**
BILL				pmax	pmax		
	comp=Z,26nm,1.1s						
BTO	**Baotou**	**96.18**	**313**	*e*P	**P**	**18 07 02.1**	**-0.1**
BTO				sP	**pwP**	**18 07 09.4**	**-1.8**
BTO				SKS	**SKSac**	**18 17 36.6**	**-1.8**
BTO				S	**ScS**	**18 18 23.0**	**+1.2**
BTO				pmax	pmax		
	comp=Z,25nm,0.5s						
BTO				pmax	pmax		
	comp=Z,220nm,3.8s						
BTO				LR	LR		
	comp=Z,500nm,6.4s						
BTO				LR	LR		
	comp=Z,620nm,10.6s						
BTO				LR	LR		
	comp=Z,420nm,5.8s						
C17K	**DeLong Mountai**	**96.20**	**5**	P	**P**	**18 07 02.8**	**+1.3**
	baz=192						
BOAB	**BOACO BROADBA**	**96.23**	**79**	IAMs_20	IAMs_20	18 40 17.9	
	comp=Z,2µm,21.0s						
Z35A	**Perchaven, San**	**96.34**	**56**	IAMs_20	IAMs_20	18 43 46.8	
	comp=Z,1µm,20.0s						
J29N	**Klondike Camp**	**96.39**	**16**	IAMs_20	IAMs_20	18 42 32.0	
	comp=Z,2µm,22.0s						
J29N	**Klondike Camp**	**96.39**	**16**	P	**P**	**18 07 04.6**	**+2.1**
	baz=213						
G24K	**Hadweenzic Riv**	**96.45**	**11**	P	**P**	**18 07 04.5**	**+1.8**
	baz=205						
F22K	**John River**	**96.46**	**9**	P	**P**	**18 07 04.0**	**+1.3**
	baz=201						
COLD	**Coldfoot**	**96.49**	**10**	P	**P**	**18 07 05.1**	**+2.3**
	baz=203						
C18K	**Utukok River**	**96.53**	**6**	IAMs_20	IAMs_20	18 51 49.5	
	comp=Z,1µm,19.0s						
C18K	**Utukok River**	**96.53**	**6**	P	**P**	**18 07 04.6**	**+1.5**
	baz=193						
I27K	**Kandik River**	**96.60**	**14**	P	**P**	**18 07 05.7**	**+2.3**
	baz=210						
E20K	**Nigu River**	**96.66**	**7**	P	**P**	**18 07 05.2**	**+1.6**
	baz=198,SNR=6.3						
D19K	**Kuna River**	**96.67**	**7**	IAMs_20	IAMs_20	18 55 07.3	
	comp=Z,1µm,20.0s						
D19K	**Kuna River**	**96.67**	**7**	P	**P**	**18 07 05.4**	**+1.7**
	baz=196						
FYU	**Fort Yukon**	**96.73**	**12**	IAMs_20	IAMs_20	18 45 51.9	
	comp=Z,2µm,21.0s						
G25K	**Bearman Lake**	**96.75**	**12**	P	**P**	**18 07 05.8**	**+1.8**
	baz=207						
MMPY	**Sheldon Lake,**	**96.75**	**19**	P	**P**	**18 07 05.7**	**+1.5**
	baz=219						
OGNE	**Ogallala**	**96.78**	**47**	IAMs_20	IAMs_20	18 42 33.6	
	comp=Z,2µm,21.0s						
I28M	**Miner Creek**	**96.83**	**14**	P	**P**	**18 07 06.0**	**+1.5**
	baz=212						
J30M	**Hart River**	**96.95**	**16**	P	**P**	**18 07 07.1**	**+2.0**
	baz=215						
D20K	**Etivluk River**	**97.05**	**7**	P	Pdif	18 07 06.8	+1.4
	baz=198						
E22K	**Anaktuvuk Pass**	**97.09**	**9**	P	Pdif	18 07 06.3	+0.7
E22K				IAMs_20	IAMs_20	18 52 28.5	
	comp=Z,2µm,20.0s						
E22K	**Anaktuvuk Pass**	**97.09**	**9**	P	Pdif	18 07 07.2	+1.6
	baz=202						
E21K	**Killik River**	**97.10**	**8**	IAMs_20	IAMs_20	18 46 18.5	
	comp=Z,2µm,21.0s						
F24K	**Squaw Lake**	**97.12**	**11**	P	Pdif	18 07 07.6	+1.8
	baz=205						
I29M	**Ogilvie Camp,**	**97.12**	**15**	P	Pdif	18 07 07.5	+1.7
	baz=213						
H27K	**Steamboat Moun**	**97.16**	**13**	P	Pdif	18 07 08.1	+2.0
	baz=211						
B18K	**Kokolik River**	**97.18**	**5**	P	Pdif	18 07 07.9	+2.0
	baz=193						
LAO	**LASA Array**	**97.20**	**41**	IAMs_20	IAMs_20	18 44 37.9	
	comp=Z,1µm,21.0s						
CBKS	**Cedar Bluff**	**97.24**	**50**	IAMs_20	IAMs_20	18 42 11.1	
	comp=Z,2µm,22.0s						
G26K	**Porcupine Rive**	**97.34**	**12**	P	Pdif	18 07 08.8	+2.1
	baz=209						
E23K	**Chandalar**	**97.34**	**10**	P	Pdif	18 07 08.4	+1.5
E23K				IAMs_20	IAMs_20	18 45 19.1	
	comp=Z,1µm,22.0s						
E23K	**Chandalar**	**97.34**	**10**	P	Pdif	18 07 08.9	+2.1
	baz=204						
I30M	**Mount Dempster**	**97.47**	**16**	P	Pdif	18 07 09.1	+1.6
	baz=215						
E24K	**Your Creek**	**97.53**	**10**	P	Pdif	18 07 09.3	+1.6
	baz=205						
NATX	**Nacogdoches**	**97.53**	**58**	IAMs_20	IAMs_20	18 48 09.6	
	comp=Z,1µm,19.0s						
F25K	**Christian Rive**	**97.57**	**11**	P	Pdif	18 07 09.9	+2.1
	baz=207						
BMAR	**Burnt Mountain**	**97.61**	**12**	P	Pdif	18 07 09.6	+1.6
G27K	**Doyon Strip**	**97.63**	**13**	IAmb	IAmb	18 10 14.7	
	comp=Z,22nm,2.0s						
G27K				IAMs_20	IAMs_20	18 46 30.8	
	comp=Z,2µm,20.0s						
G27K	**Doyon Strip**	**97.63**	**13**	P	Pdif	18 07 10.2	+2.1
	baz=210						
C21K	**Knifeblade Rid**	**97.68**	**8**	P	Pdif	18 07 10.3	+2.1
	baz=199						
D22K	**Ayikyak River**	**97.68**	**8**	IAMs_20	IAMs_20	18 46 25.8	
	comp=Z,1µm,22.0s						
D22K	**Ayikyak River**	**97.68**	**8**	P	Pdif	18 07 10.3	+2.0
	baz=201						
H29M	**Whitestone**	**97.83**	**15**	P	Pdif	18 07 10.7	+1.8
	baz=213						
TOLK	**Toolik Lake Re**	**97.89**	**10**	IAMs_20	IAMs_20	18 45 48.4	
	comp=Z,1µm,21.0s						
TOLK	**Toolik Lake Re**	**97.89**	**10**	P	Pdif	18 07 11.0	+1.8
	baz=204						
OK031	**S. Brethren Rd**	**97.89**	**54**	IAMs_20	IAMs_20	18 53 56.6	
	comp=Z,1µm,19.0s						
F26K	**Sheenjek River**	**97.93**	**12**	IAMs_20	IAMs_20	18 46 49.6	
	comp=Z,2µm,21.0s						
F26K	**Sheenjek River**	**97.93**	**12**	P	Pdif	18 07 11.1	+1.7
	baz=208						
OK052	**Battle Ridge R**	**97.93**	**54**	IAMs_20	IAMs_20	18 53 56.8	
	comp=Z,1µm,19.0s						
Z38A	**Mt. Pleasant**	**97.98**	**57**	IAMs_20	IAMs_20	18 47 57.6	
	comp=Z,2µm,18.0s						
D23K	**Nanushuk River**	**98.03**	**9**	P	Pdif	18 07 11.5	+1.7
	baz=203						
E25K	**Arctic Village**	**98.06**	**11**	P	Pdif	18 07 11.7	+1.8
	baz=207						
B21K	**Ikpikpuk River**	**98.14**	**8**	P	Pdif	18 07 11.9	+1.7
	baz=199						
LZH	**Lanzhou**	**98.20**	**306**	*e*P	Pdif	18 07 18.6	+7.1
LZH	**Lanzhou**	**98.20**	**306**	S	**S**	**18 18 38.5**	**-0.4**
LZH				pmax	pmax		
	comp=Z,30nm,1.3s						
LZH				LR	LR		
	comp=N,310nm,20.6s						
LZH				LR	LR		
	comp=E,570nm,17.2s						
LZH				LR	LR		
	comp=Z,880nm,20.3s						
B20K	**Meade River**	**98.23**	**7**	IAMs_20	IAMs_20	18 53 04.4	
	comp=Z,1µm,19.0s						
B20K	**Meade River**	**98.23**	**7**	P	Pdif	18 07 12.2	+1.6
	baz=197						
H31M	**Peel River**	**98.44**	**16**	P	Pdif	18 07 13.8	+2.1
	baz=217						
D24K	**Happy Valley**	**98.47**	**10**	P	Pdif	18 07 12.6	+0.9
D24K				IAmb	IAmb	18 08 06.1	
	comp=Z,26nm,2.0s						
D24K				IAMs_20	IAMs_20	18 48 55.7	
	comp=Z,1µm,20.0s						
D24K	**Happy Valley**	**98.47**	**10**	P	Pdif	18 07 13.4	+1.7
	baz=204						
G29M	**Pine Creek**	**98.49**	**14**	IAMs_20	IAMs_20	18 44 23.4	
	comp=Z,2µm,22.0s						
G29M	**Pine Creek**	**98.49**	**14**	P	Pdif	18 07 13.8	+1.9
	baz=214						
T35A	**Sooner Cattle**	**98.57**	**53**	IAMs_20	IAMs_20	18 54 12.6	
	comp=Z,995nm,18.0s						
E27K	**Coleen River**	**98.83**	**12**	IAMs_20	IAMs_20	18 53 20.6	
	comp=Z,1µm,20.0s						
E27K	**Coleen River**	**98.83**	**12**	P	Pdif	18 07 15.1	+1.7
	baz=211						
C23K	**Itkillik River**	**98.84**	**9**	IAmb	IAmb	18 07 58.4	
	comp=Z,12nm,1.4s						
C23K	**Itkillik River**	**98.84**	**9**	P	Pdif	18 07 14.9	+1.5
	baz=203						
G30M	**tAoh Zraii Nji**	**98.95**	**15**	P	Pdif	18 07 15.0	+1.0
G30M				IAmb	IAmb	18 07 16.9	
	comp=Z,7.2nm,0.9s						
G30M				IAMs_20	IAMs_20	18 44 12.6	
	comp=Z,2µm,22.0s						
G30M	**tAoh Zraii Nji**	**98.95**	**15**	P	Pdif	18 07 15.7	+1.8
	baz=215						
B22K	**Teshekpuk Lake**	**98.96**	**8**	IAMs_20	IAMs_20	18 53 41.9	
	comp=Z,1µm,20.0s						
B22K	**Teshekpuk Lake**	**98.96**	**8**	P	Pdif	18 07 15.8	+2.0
	baz=200						
D25K	**Kavik River**	**99.00**	**10**	P	Pdif	18 07 15.6	+1.5
	baz=207						
C24K	**Franklin Bluff**	**99.00**	**9**	IAmb	IAmb	18 11 17.9	
	comp=Z,20nm,1.4s						
C24K				IAMs_20	IAMs_20	18 49 23.9	
	comp=Z,1µm,21.0s						
C24K	**Franklin Bluff**	**99.00**	**9**	P	**Pdif**	**18 07 16.0**	**+1.9**
	baz=205						
YAK	**Yakutsk**	**99.16**	**337**	P	**Pdif**	**18 07 14.5**	**-0.4**
YAK	**Yakutsk**	**99.16**	**337**	LR	LR	18 53 32.6	
	comp=Z,308nm,18.2s,baz=122,slow=36						
YAK	**Yakutsk**	**99.16**	**337**	*e*P	**Pdif**	**18 07 14.6**	**-0.3**
YAK				*e**PP	**pP**	**18 07 17.8**	**-0.4**
YAK				*e*		18 11 14.1	
YAK				*e*S	**SKSac**	**18 17 52.7**	**+0.4**
YAK				*e**SS	**ScS**	**18 18 41.1**	**-4.3**
YAK				*e*SS	**SS**	**18 25 42.5**	**+7.9**
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,115nm,3.7s						
YAK				pmax	pmax		
	comp=N,15nm,1.8s						
YAK				pmax	pmax		
	comp=E,64nm,3.8s						
YAK				smax	smax		
	comp=N,112nm,13.5s						
YAK				smax	smax		
	comp=E,87nm,12.7s						
K30B	**Basset**	**99.20**	**47**	IAMs_20	IAMs_20	18 43 41.5	
	comp=Z,2µm,22.0s						
G31M	**Satah River**	**99.35**	**16**	IAmb	IAmb	18 07 18.6	
	comp=Z,10nm,0.9s						
G31M	**Satah River**	**99.35**	**16**	P	**Pdif**	**18 07 17.4**	**+1.8**
	baz=217						
A22K	**Sinclair Lake**	**99.41**	**7**	P	**Pdif**	**18 07 17.5**	**+1.7**
	baz=199						
KSU1	**Kansas State U**	**99.52**	**51**	IAMs_20	IAMs_20	18 49 05.5	
	comp=Z,1µm,20.0s						
E28M	**Babbage River**	**99.59**	**13**	IAMs_20	IAMs_20	18 48 20.6	
	comp=Z,2µm,20.0s						
E28M	**Babbage River**	**99.59**	**13**	P	**Pdif**	**18 07 18.7**	**+2.0**
	baz=212						
MIAR	**Mount Ida**	**99.61**	**56**	IAMs_20	IAMs_20	18 45 48.7	
	comp=Z,1µm,20.0s						
WRGLY	**Wrigley**	**99.62**	**21**	P	**Pdif**	**18 07 18.5**	**+1.6**
	baz=226						
C27K	**Jago River**	**99.71**	**11**		**Pdif**	**18 07 18.2**	**+1.0**
C27K	**Jago River**	**99.71**	**11**	P	**Pdif**	**18 07 19.6**	**+2.3**
	baz=209						
E29M	**Blow River**	**99.74**	**14**	P	**Pdif**	**18 07 19.0**	**+1.6**
	baz=214						
C26K	**Camden Bay**	**99.76**	**11**	P	**Pdif**	**18 07 19.1**	**+1.7**
	baz=208						
D27M	**Malcolm River**	**99.86**	**12**	P	**Pdif**	**18 07 20.0**	**+2.0**
	baz=211						
F31M	**Tsiigehtchic**	**99.89**	**15**	P	**Pdif**	**18 07 19.8**	**+1.7**
	baz=218						
D28M	**Stokes Point**	**100.36**	**13**	P	**Pdif**	**18 07 22.0**	**+1.9**
	baz=213						
INK	**Inuvik**	**100.63**	**15**	P	**Pdif**	**18 07 22.8**	**+1.5**
	baz=218						
L34A	**Svendsen Farm,**	**100.99**	**48**	IAMs_20	IAMs_20	18 44 33.3	
	comp=Z,2µm,22.0s						
ULN	**Ulaanbaatar**	**101.62**	**318**	*e*P	**Pdif**	**18 07 27.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ECSD	**EROS Data Cent**	**101.64**	**47**	IAMs_20	IAMs_20	18 45 49.2	
	comp=Z,1µm,21.0s						
MDND	**Maddock**	**101.68**	**42**	IAMs_20	IAMs_20	18 46 37.4	
	comp=Z,2µm,22.0s						
P38A	**Dawn**	**101.89**	**52**	IAMs_20	IAMs_20	18 49 42.2	
	comp=Z,1µm,20.0s						
SONM	**Songino Array**	**102.00**	**318**	Pdif	**Pdif**	**18 07 27.2**	**-0.9**
SONM	**Songino Array**	**102.00**	**318**	Pdiff	**Pdif**	**18 07 28.1**	**0.0**
	comp=Z,1.2nm,1.0s,baz=134,slow=5.9,SNR=4.8						
SONM				PKKPbc	**PKKPbc**	**18 23 36.4**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=279,slow=3.0,SNR=9.3						
SONM	**Songino Array**	**102.00**	**318**	*i* P	**Pdif**	**18 07 27.2**	**-0.9**
YKA	**Yellowknife Ar**	**102.23**	**25**	Pdiff	**Pdif**	**18 07 30.8**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=238,slow=4.3,SNR=9.1						
YKA				PP	**PP**	**18 11 37.8**	**-3.3**
	comp=Z,0.4nm,1.0s,baz=232,slow=8.0,SNR=5.4						
YKA				PKKPbc	**PKKPbc**	**18 23 32.9**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=37,slow=2.5,SNR=8.5						
GTA	**Gaotai**	**102.54**	**308**	*e*P	**Pdif**	**18 07 32.9**	**+2.2**
GTA				pP	sPdif	18 07 40.4	+5.3
GTA				SKS	**SKSac**	**18 18 06.0**	**-4.1**
GTA				S	SKKSac	18 19 14.1	+25
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				LR	LR		
	comp=Z,200nm,20.3s						
GTA				LR	LR		
	comp=Z,290nm,21.9s						
GTA				LR	LR		
	comp=Z,480nm,23.9s						
N38A	**Joes South For**	**102.59**	**51**	IAMs_20	IAMs_20	18 48 09.9	
	comp=Z,1µm,20.0s						
F33A	**5 Mile Ranch,**	**102.78**	**45**	IAMs_20	IAMs_20	18 47 09.4	
	comp=Z,1µm,21.0s						
CCM	**Cathedral Cave**	**102.83**	**54**	IAMs_20	IAMs_20	18 51 23.4	
	comp=Z,1µm,18.0s						
SCIA	**State Center**	**103.08**	**50**	IAMs_20	IAMs_20	18 45 35.8	
	comp=Z,1µm,22.0s						
Z47A	**Carrollton**	**103.17**	**59**	IAMs_20	IAMs_20	18 52 00.9	
	comp=Z,1µm,20.0s						
C36M	**Paulatuk**	**103.70**	**17**	P	**Pdif**	**18 07 36.5**	**+1.5**
	baz=226						
I37A	**Lemond, Waseca**	**103.85**	**48**	IAMs_20	IAMs_20	18 47 25.9	
	comp=Z,1µm,20.0s						
PLAL	**Pickwick Lake**	**103.89**	**58**	IAMs_20	IAMs_20	18 48 10.1	
	comp=Z,1µm,21.0s						
LRAL	**Lakeview Retre**	**103.93**	**60**	IAMs_20	IAMs_20	18 52 38.0	
	comp=Z,1µm,20.0s						
S44A	**Carbondale**	**104.12**	**55**	IAMs_20	IAMs_20	18 48 50.6	
	comp=Z,943nm,20.0s						
N41A	**Harden Midland**	**104.20**	**51**	IAMs_20	IAMs_20	18 51 03.5	
	comp=Z,1µm,20.0s						
T45A	**Paducah**	**104.29**	**56**	IAMs_20	IAMs_20	18 53 32.2	
	comp=Z,1µm,18.0s						
L40A	**Anamosa**	**104.50**	**50**	IAMs_20	IAMs_20	18 48 58.3	
	comp=Z,1µm,19.0s						
Y49A	**Blount Mountai**	**104.70**	**59**	IAMs_20	IAMs_20	18 49 07.5	
	comp=Z,1µm,21.0s						
P43A	**Skaggs, Pawnee**	**104.71**	**53**	IAMs_20	IAMs_20	18 58 02.0	
	comp=Z,1µm,18.0s						
Q44A	**Meyer Farm, Va**	**104.77**	**54**	IAMs_20	IAMs_20	18 58 22.8	
	comp=Z,1µm,20.0s						
HDIL	**Hopedale**	**105.23**	**52**	IAMs_20	IAMs_20	18 52 34.8	
	comp=Z,1µm,20.0s						
A36M	**Sachs Harbour**	**105.27**	**15**	IAMs_20	IAMs_20	18 54 15.6	
	comp=Z,1µm,20.0s						
T47A	**Sharon Grove**	**105.41**	**56**	IAMs_20	IAMs_20	18 49 48.2	
	comp=Z,1µm,20.0s						
L42A	**Oliver, Polo**	**105.54**	**51**	IAMs_20	IAMs_20	18 50 10.8	
	comp=Z,1µm,20.0s						
I40A	**Norwalk**	**105.64**	**48**	IAMs_20	IAMs_20	18 47 51.2	
	comp=Z,2µm,22.0s						
TIXI	**Tiksi**	**105.90**	**344**	IAMs_20	IAMs_20	18 50 16.5	
	comp=Z,1µm,21.0s						
W50A	**Signal Mountai**	**106.06**	**58**	IAMs_20	IAMs_20	18 48 57.3	
	comp=Z,996nm,21.0s						
P46A	**Rosedale**	**106.34**	**54**	IAMs_20	IAMs_20	18 53 32.4	
	comp=Z,1µm,19.0s						
WCI	**Wyandotte Cave**	**106.48**	**55**	IAMs_20	IAMs_20	18 49 52.1	
	comp=Z,1µm,21.0s						
EYMN	**Ely**	**106.65**	**44**	IAMs_20	IAMs_20	18 48 50.8	
	comp=Z,1µm,22.0s						
HQIL	**Hanson Quary C**	**106.71**	**51**	IAMs_20	IAMs_20	18 49 34.9	
	comp=Z,1µm,22.0s						
K43A	**Burlington**	**106.72**	**50**	IAMs_20	IAMs_20	18 50 38.1	
	comp=Z,996nm,20.0s						
I42A	**Draeger Farm,**	**106.77**	**49**	IAMs_20	IAMs_20	18 47 51.4	
	comp=Z,2µm,22.0s						
L44A	**Lake County Fo**	**106.81**	**51**	IAMs_20	IAMs_20	18 50 20.6	
	comp=Z,1µm,20.0s						
W52A	**Murphy**	**107.07**	**59**	IAMs_20	IAMs_20	18 55 40.1	
	comp=Z,983nm,18.0s						
T50A	**Nancy**	**107.10**	**57**	IAMs_20	IAMs_20	18 50 01.0	
	comp=Z,1µm,21.0s						
R49A	**Shelbyville**	**107.32**	**55**	IAMs_20	IAMs_20	18 50 08.5	
	comp=Z,1µm,20.0s						
P48A	**Milroy**	**107.56**	**54**	IAMs_20	IAMs_20	18 50 37.8	
	comp=Z,1µm,20.0s						
H43A	**Windswept, Lux**	**107.75**	**49**	IAMs_20	IAMs_20	18 48 32.2	
	comp=Z,2µm,22.0s						
N47A	**Urbana**	**107.89**	**53**	IAMs_20	IAMs_20	18 50 55.2	
	comp=Z,1µm,21.0s						
R50A	**Paris**	**107.94**	**56**	IAMs_20	IAMs_20	18 50 57.8	
	comp=Z,1µm,20.0s						
F42A	**Maple Grove Fa**	**107.98**	**47**	IAMs_20	IAMs_20	18 50 33.0	
	comp=Z,2µm,21.0s						
O48B	**Farmland**	**108.05**	**54**	IAMs_20	IAMs_20	18 59 49.5	
	comp=Z,898nm,18.0s						
V53A	**Saluda**	**108.13**	**59**	IAMs_20	IAMs_20	18 50 23.1	
	comp=Z,955nm,21.0s						
S51A	**Beattyville**	**108.25**	**57**	IAMs_20	IAMs_20	18 54 17.4	
	comp=Z,1µm,20.0s						
O49A	**Covington**	**108.61**	**54**	IAMs_20	IAMs_20	19 00 25.4	
	comp=Z,1µm,18.0s						
I45A	**Fountain**	**108.63**	**50**	IAMs_20	IAMs_20	18 49 40.5	
	comp=Z,1µm,21.0s						
N49A	**Columbus Grove**	**108.97**	**53**	IAMs_20	IAMs_20	18 50 54.0	
	comp=Z,907nm,20.0s						
J47A	**Sunmer**	**109.32**	**51**	IAMs_20	IAMs_20	18 51 54.9	
	comp=Z,1µm,20.0s						
Q52A	**Bidwell**	**109.69**	**56**	IAMs_20	IAMs_20	18 51 09.1	
	comp=Z,1µm,20.0s						
AAM	**Ann Arbor**	**109.81**	**52**	IAMs_20	IAMs_20	19 01 08.0	
	comp=Z,1µm,18.0s						
M50A	**Fremont**	**109.94**	**53**	IAMs_20	IAMs_20	18 51 21.7	
	comp=Z,1µm,21.0s						
O52A	**Adamsville**	**110.39**	**55**	IAMs_20	IAMs_20	18 52 33.8	
	comp=Z,1µm,20.0s						
P53A	**Whipple**	**110.50**	**55**	IAMs_20	IAMs_20	18 52 18.7	
	comp=Z,1µm,21.0s						

MKAR PKKPab **PKKPab 18 22 51.8 +5.5**
comp=Z,0.9nm,0.8s,baz=276,slow=4.3,SNR=8.6
MAKZ Makanchi 117.24 311 PKPdf **PKPdf 18 12 18.1 -1.1**
MAKZ Makanchi 117.24 311 PKIKP **PKPdf 18 12 18.1 -1.1**
MAKZ MLR MLR
comp=Z,500nm,20.0s
NRIK Noril'sk 117.60 337 **PKPdf 18 12 18.9 -0.3**
NRIK Noril'sk 117.60 337 PKP **PKiKP 18 12 20.4 +1.2**
comp=Z,2.1nm,0.6s,baz=118,slow=2.2,SNR=5.7
NRIK Noril'sk 117.60 337⇑*i*PKIKP **PKiKP 18 12 20.6 +1.4**
J61A Chester 117.95 53 IAMs_20 IAMs_20 19 06 00.4
comp=Z,1μm,18.0s
WUS Wushi 117.97 304 **PKPdf 18 12 20.8 -0.2**
VT1 Waterbury 118.01 52 IAMs_20 IAMs_20 18 57 34.1
comp=Z,852nm,20.0s
SHLS Shalkode 118.22 306 *e*PKIKP **PKiKP 18 12 21.9 +0.5**
SHLS Shalkode 118.22 306 *e*PKP **PKiKP 18 12 21.9 +0.5**
UZB Uzynbulak 118.53 306 *e*PKIKP **PKiKP 18 12 23.0 +1.0**
UZB Uzynbulak 118.53 306 *e*PKP **PKiKP 18 12 23.0 +1.0**
KPKS Kokpek 118.84 307 *e*PKIKP **PKiKP 18 12 23.6 +1.0**
KPKS Kokpek 118.84 307 *e*PKP **PKiKP 18 12 23.6 +1.0**
I62A Tamworth 118.92 53 IAMs_20 IAMs_20 19 05 12.2
comp=Z,828nm,18.0s
SATY Saty 118.95 306 *e*PKIKP **PKiKP 18 12 24.0 +1.2**
SATY *e* 18 13 42.7
SATY Saty 118.95 306 *e*PKP **PKiKP 18 12 24.1 +1.2**
SATY *e*PP **PP 18 13 42.8 +0.2**
H62A Milan 119.18 52 IAMs_20 IAMs_20 19 02 07.1
comp=Z,1μm,20.0s
TDK Taldyqorghan 119.33 308 *e*PKIKP **PKiKP 18 12 24.2 +0.8**
TDK Taldyqorghan 119.33 308 *e*PKP **PKiKP 18 12 24.2 +0.8**
I63A Otisfield 119.49 53 IAMs_20 IAMs_20 19 05 56.2
comp=Z,1μm,18.0s
G62A West of Eustis 119.74 52 IAMs_20 IAMs_20 19 06 53.7
comp=Z,1μm,18.0s
TNSS Tian-Shan 120.00 306 *e*PKIKP **PKiKP 18 12 26.0 +0.8**
TNSS Tian-Shan 120.00 306 *e*PKP **PKiKP 18 12 26.1 +0.8**
KSH Kashi 120.01 302 PKP **PKiKP 18 12 27.3 +2.3**
KSH LR LR
comp=Z,330nm,19.9s
KSH LR LR
comp=Z,290nm,19.2s
KSH LR LR
comp=Z,470nm,25.4s
KURK Kurchatov 120.10 315 PKPdf **PKPdf 18 12 23.6 -1.0**
KURK Kurchatov 120.10 315*d i*PKIKP **PKiKP 18 12 25.1 +0.5**
KURK pmax pmax
comp=Z,14nm,1.7s
KURBB Kurchatov Arra 120.14 315 PKP **PKiKP 18 12 25.5 +0.8**
comp=Z,4.0nm,0.6s,baz=98,slow=1.8,SNR=34
KURBB PKKPbc **PKKPbc 18 22 37.3 +3.9**
comp=Z,0.8nm,0.8s,baz=279,slow=4.6,SNR=7.0
WVL Waterville 120.23 52 IAMs_20 IAMs_20 19 02 56.8
comp=Z,1μm,20.0s
ULHL Ulahol 120.36 305 P **PKiKP 18 12 27.3 +1.5**
SNR=5.5
BOSA Boshof 120.47 202 PKP **PKiKP 18 12 29.3 +2.9**
comp=Z,5.4nm,0.9s,baz=172,slow=3.9,SNR=6.4
PKME Peaks-Kenny Pk 120.61 52 IAMs_20 IAMs_20 18 58 23.7
comp=Z,1μm,20.0s
BOOM Boomskoye usch 120.63 305 PKPdf **PKPdf 18 12 25.2 -0.9**
BOOM Boomskoye usch 120.63 305 PKIKP **PKPdf 18 12 25.2 -0.9**
TKM2 Tokmak 2 120.95 305 P **PKiKP 18 12 27.6 +0.7**
SNR=7.4
CHMS Chumysh 121.58 305 P **PKiKP 18 12 28.8 +0.9**
SNR=5.4
AAK Ala-Archa 121.70 305 PKPdf **PKPdf 18 12 27.3 -0.9**
AAK Ala-Archa 121.70 305⇑*i*PKIKP **PKiKP 18 12 29.6 +1.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s
SGDS Sogindy 121.74 306 *e*PKIKP **PKiKP 18 12 29.1 +0.9**
SGDS Sogindy 121.74 306 *e*PKP **PKiKP 18 12 29.1 +0.9**
USP Ospenovka 121.80 306 P **PKiKP 18 12 29.3 +1.0**
SNR=8.1
AML Almayashu 122.20 304 P **PKiKP 18 12 31.1 +1.5**
SNR=11
BTLS Baital 122.39 308 *e*PKIKP **PKiKP 18 12 30.3 +1.0**
BTLS Baital 122.39 308 *e*PKP **PKiKP 18 12 30.4 +1.0**
BRZS Berezniki 123.81 313 *e*PKIKP **PKiKP 18 12 32.6 +0.6**
BRZS *e* 18 14 15.4
BRZS Berezniki 123.81 313 *e*PKP **PKiKP 18 12 32.6 +0.6**
BRZS *e*PP **PP 18 14 15.5 +0.2**
KULLO Kullorsuaq 123.95 16 *i* P **PKiKP 18 12 32.1 +0.6**
BTK Batken 124.02 301 PKPdf **PKPdf 18 12 31.5 -1.1**
BTK Batken 124.02 301 PKIKP **PKPdf 18 12 31.5 -1.1**
DZA Taraz 124.05 305 *e*PKIKP **PKiKP 18 12 33.7 +1.0**
DZA Taraz 124.05 305 *e*PKP **PKiKP 18 12 33.8 +1.0**
NEEM North Greenlan 124.11 12 *i* P **PKiKP 18 12 33.0 +0.8**
KBL Kabul 124.40 295 PKPdf **PKPdf 18 12 33.4 -0.3**
KBL Kabul 124.40 295 PKIKP **PKPdf 18 12 33.4 -0.3**
KK31 Karatay Array 124.67 305 PKPdf **PKPdf 18 12 33.0 -0.6**
KK31 Karatay Array 124.67 305 PKIKP **PKPdf 18 12 33.0 -0.6**
KKAR Karatay Array 124.67 305 PKPdf **PKiKP 18 12 34.0 0.0**
KKAR Karatay Array 124.67 305 PKIKP **PKiKP 18 12 34.0 0.0**
UPNV Upernavik 124.88 18 *i* P **PKPdf 18 12 33.3 +0.2**
IUG luzhnay 124.90 304 *e*PKIKP **PKiKP 18 12 35.3 +0.7**
IUG *e* 18 14 23.1
IUG luzhnay 124.90 304 *e*PKP **PKiKP 18 12 35.3 +0.7**
IUG *e*PP **PP 18 14 23.2 +0.2**
BRLS Borolday 125.15 305 *e*PKIKP **PKiKP 18 12 36.0 +1.1**
BRLS Borolday 125.15 305 *e*PKP **PKiKP 18 12 36.1 +1.1**
SIMJ Simiganj 125.18 299 PKPdf **PKPdf 18 12 34.0 -0.9**
BVAR Borovoye Array 125.34 317 PKP **PKiKP 18 12 35.9 +1.0**
comp=Z,8.1nm,0.6s,baz=91,slow=1.3,SNR=52
BRVK Borovoye 125.40 317 PKPdf **PKPdf 18 12 32.8 -1.9**
BRVK Borovoye 125.40 317⇓*e*PKIKP **PKPdf 18 12 33.9 -0.8**
UMMG Uummannaq 126.84 20 *i* P **PKPdf 18 12 36.6 -0.3**
SPA0 Spitsbergen Ar 128.94 357 *e*PKPdf **PKPdf 18 12 41.0 +0.2**
SPITS Spitsbergen Ar 128.94 357 PKP **PKiKP 18 12 42.0 +0.5**
comp=Z,2.3nm,0.5s,baz=45,slow=3.7,SNR=7.0
SPITS Spitsbergen Ar 128.94 357 PKIKP **PKiKP 18 12 42.0 +0.5**
RCBR Riachuelo 129.40 125 IAMs_20 IAMs_20 19 10 47.9
comp=Z,782nm,19.0s
DAG Danmarks Havn 129.53 7 *i* P **PKPdf 18 12 41.2 -0.7**
SUMG Summit 129.55 15 *i* P **PKPdf 18 12 42.7 +0.1**
HOPEN Hopen 129.87 354 *e*PKPdf **PKPdf 18 12 40.8 -1.7**
SVE Sverdlovsk 130.55 323 *i*PKIKP **PKiKP 18 12 46.7 +1.5**
SVE pmax pmax
comp=Z,15nm,0.8s
SVE MLR MLR
comp=Z,1μm,23.0s
LSZ Lusaka 131.26 212 PKPdf **PKPdf 18 12 44.9 -2.3**
LSZ Lusaka 131.26 212 PKIKP **PKPdf 18 12 44.9 -2.3**
LSZ MLR MLR
comp=Z,2μm,20.0s
ICESG Greenland Ices 131.37 19 *i* P **PKPdf 18 12 45.4 -0.7**
ARTI Arti 131.86 322 PKPdf **PKPdf 18 12 45.6 -1.3**
ARTI Arti 131.86 322 *i*PKIKP **PKiKP 18 12 49.1 +1.2**
ARTI SS SS 18 33 11.7 +28
ARTI MLR MLR
comp=Z,1μm,20.0s
ABKAR Akbulak array 132.10 313 PKPdf **PKPdf 18 12 46.0 -1.5**
ABKAR Akbulak array 132.10 313 PKPpre 18 12 31.1
BJO1 Bjornoya 132.30 354 *e*SKPdf **SKPdf 18 16 20.0 -2.0**
VADS Vadso 134.89 348 *e*PP **PP 18 15 27.8 +1.3**
VADS *e*SKPdf **SKPab 18 16 26.4 +0.5**
HAMF Hammerfest 135.37 351 *e*PKPdf **PKPdf 18 12 51.9 -1.2**
HAMF *e*PP **PP 18 15 30.9 +1.4**
HAMF *e*SKPdf **SKPab 18 16 28.2 +0.3**
KIRV Kirov 135.74 327*de*PKIKP **PKiKP 18 12 55.2 -0.4**
ARA0 ARCESS Array S 136.07 349 *e*PKPdf **PKPdf 18 12 53.8 -0.6**
ARA0 *e*SKPdf **SKPdf 18 16 28.6 -0.5**
ARCES ARCESS Array B 136.07 349 **PKPdf 18 12 54.1 -0.3**
ARCES ARCESS Array B 136.07 349 PKP **PKPdf 18 12 55.1 +0.7**
comp=Z,4.7nm,0.7s,baz=42,slow=2.0,SNR=10
ARCES SKPbc **SKPbc 18 16 26.4 +0.4**
comp=Z,5.5nm,0.9s,baz=37,slow=6.5,SNR=4.4
APA Apatity 136.09 344⇓*i*PKIKP **PKPdf 18 12 52.6 -1.9**
APA pmax pmax
comp=Z,5.0nm,1.0s
JETT Jettan, Norway 136.82 351 *e*PKPdf **PKPdf 18 12 56.2 +0.3**
JETT *e*SKPdf **SKPdf 18 16 30.0 -0.5**
KTK1 Kautokeino 136.91 350 *e*PKPdf **PKPdf 18 12 56.2 +0.2**
KTK1 *e*PP **PP 18 15 39.0 -0.2**
KTK1 *e*SKPdf **SKPdf 18 16 31.3 +0.7**
TRO Tromso 136.93 352 *e*PKPdf **PKPdf 18 12 55.9 0.0**
TRO *e*PP **PP 18 15 39.7 +0.4**
TRO *e*SKPdf **SKPdf 18 16 31.0 +0.4**
KMBO Kilima Mbogo 136.95 234 PKP **PKiKP 18 12 59.5 -0.4**
comp=Z,0.8nm,0.3s,baz=56,slow=1.8,SNR=7.3
KMBO SKPbc **SKPbc 18 16 31.7 +1.0**
comp=Z,6.2nm,0.9s,baz=81,slow=2.5,SNR=11
KLMR Klimovskoe 138.87 334 *e*PKIKP **PKPdf 18 12 59.0 -0.8**
KLMR *e* 18 15 49.6
KLMR pmax pmax
comp=Z,21nm,1.1s
LOF Lofoten 138.94 354 *e*PKPdf **PKPdf 18 12 58.8 -0.9**
STEI Steigen 138.97 353 *e*PKPdf **PKPdf 18 12 59.9 +0.1**
FAUS Fauske 139.50 353 *e*PKPdf **PKPdf 18 13 00.7 -0.1**
VAGH Vaagaholmen 140.33 354 *e*PKPdf **PKPdf 18 13 00.9 -1.4**
KONS Konsvik 140.57 354 *e*PKPdf **PKPdf 18 13 00.7 -2.0**
STOK Stokkvaagen 140.74 354 *e*PKPdf **PKPdf 18 13 02.2 -0.8**
MOR8 Moi Rana 140.76 353 *e*PKPdf **PKPdf 18 13 02.3 -0.8**
LKRN Lenkeran, Azer 140.96 298 PKIKP **PKPdf 18 13 03.1 -1.2**
MAK Makhachkala 141.49 305 *i* P **Pdif 18 10 23.2 -0.4**
MAK *i* 18 13 02.6
MAK *e*PPP PPP 18 19 12.8
MAK *e* 18 20 16.4
MAK pmax pmax
comp=Z,351nm,1.3s
MAK MLR MLR
comp=Z,720nm,19.0s
AKT Akhty 141.53 303 *e*PKIKP **PKiKP 18 13 15.9 +7.7**
AKT pmax pmax
comp=Z,39nm,1.7s
SEKA Sheki 141.96 303 PKIKP **PKPdf 18 13 04.7 -1.4**
MNGR Mingechevir, A 142.09 302 PKIKP **PKPdf 18 13 05.1 -1.2**
RAYN Ar Rayn 142.17 274 PKPdf **PKPdf 18 13 04.4 -2.6**
RAYN Ar Rayn 142.17 274 PKIKP **PKPdf 18 13 04.4 -2.6**
NSS Namsos 142.61 354 *e*PKPdf **PKPdf 18 13 06.0 -0.4**
GANJ Ganja 142.68 302 PKIKP **PKPdf 18 13 06.1 -1.3**
MOS Moscow 142.72 329 *e*PKHKP PKPpre 18 13 01.0
MOS MLR MLR
comp=Z,700nm,22.0s
VRH Novokhopyorsk 142.87 320 *e*PKHKP PKPpre 18 13 02.2
VRH pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 142.91 342 PKPpre 18 13 02.4
FINES FINESS Array B 142.91 342 PKhKP PKPpre 18 13 03.5
comp=Z,5.8nm,0.7s,baz=36,slow=3.9,SNR=20
FINES FINESS Array B 142.91 342 PKHKP PKPpre 18 13 02.4
DGRG David-gareji 143.28 303 PKIKP **PKPdf 18 13 07.2 -1.2**
NAX Nakhchivan 143.48 299 PKIKP PKPbc 18 13 07.5 +1.3
OBN Obninsk 143.58 328 PKP **PKPdf 18 13 07.1 -1.2**
comp=Z,11nm,0.4s,baz=334,slow=4.3,SNR=4.3
OBN Obninsk 143.58 328*de*PKIKP **PKPdf 18 13 07.2 -1.2**
OBN *e* 18 16 17.6
OBN *e*SS SS 18 35 04.3 +2.7
OBN pmax pmax
comp=Z,21nm,0.8s
OBN MLR MLR
comp=Z,620nm,20.0s
OBN Obninsk 143.58 328 PKP **PKPdf 18 13 07.2 -1.2**
LPSR Galich'ya Gora 143.76 323 *e*PKHKP PKPpre 18 13 04.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 143.94 301 PKPdf PKPab 18 13 06.7 -0.3
GNI Garni 143.94 301 PKP PKPbc 18 13 08.5 +0.9
comp=Z,2.6nm,0.6s,baz=130,slow=7.9,SNR=3.5
GNI Garni 143.94 301*de*PKIKP PKPbc 18 13 08.2 +0.6
VORR Voronezh 144.07 322 *e*PKIKP PKPbc 18 13 08.4 +1.0
VORR pmax pmax
comp=Z,44nm,1.0s
VSR Storozhevoye 144.31 321 *e*PKHKP PKPpre 18 13 06.5
VSR pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 144.62 308 PKP **PKPdf 18 13 10.2 -0.5**
comp=Z,9.5nm,0.8s,baz=117,slow=3.3,SNR=16
KIV Kislovodsk 144.72 308 PKPdf **PKPab 18 13 07.6 -2.2**
KIV Kislovodsk 144.72 308 *i* PKIKP PKPbc 18 13 10.2 +0.4
KIV pmax pmax
comp=Z,18nm,1.1s
SHA1 Shidzhatmaz 144.79 308*c i*PKIKP **PKPdf 18 13 11.2 -0.1**
MOL Molde 144.86 357 *e*PKPab **PKPab 18 13 08.9 -0.6**
KARS Kars 145.13 302 **PKPbc 18 13 08.1 -3.3**
KARS Kars 145.13 302 PKHKP PKPpre 18 13 08.1
VSU Vasula 145.14 339*d i*PKIKP **PKPbc 18 13 10.0 -0.6**
AKN Aaknes 145.28 357 *e*PKPdf **PKPdf 18 13 11.3 +0.1**
DOMB Dombas 145.30 356 *e*PKPdf **PKPab 18 13 11.3 +0.1**
ERBR Yeremizino-Bor 145.71 312 *i* PKIKP **PKPab 18 13 14.7 +1.5**
ERBR *e* 18 13 18.2
ERBR pmax pmax
comp=Z,184nm,1.0s
LABN Labinsk 145.88 310 *i* PKP2 **PKiKP 18 13 15.5 -1.4**
LABN pmax pmax
comp=Z,56nm,0.7s
NC303 NORSAR Array S 145.91 353 **PKPdf 18 13 09.9 -2.4**
FOO Floro 145.92 359 *e*PKPdf **PKPdf 18 13 11.5 -0.7**
NB2 NORSAR Subarra 146.10 353 PKP **PKPab 18 13 14.5 +0.3**
comp=Z,142nm,1.4s,baz=6.7,slow=3.2
NB2 NORSAR Subarra 146.10 353 PKP **PKPab 18 13 14.5 +0.3**
baz=6.7,slow=3.2
NOA NORSAR Array B 146.10 353 PKPbc **PKPbc 18 13 13.8 +0.2**
comp=Z,14nm,0.7s,baz=15,slow=4.5,SNR=42
NBO00 NORSAR Array S 146.16 354 **PKPdf 18 13 09.0 -3.8**
HYA Hoyanger 146.32 358 *e*PKPdf **PKPdf 18 13 12.1 -0.8**
NAO01 NORSAR Array S 146.33 354 **PKPdf 18 13 10.1 -2.9**
NC602 NORSAR Array S 146.37 353 **PKPdf 18 13 10.2 -2.9**
NC602 NORSAR Array S 146.37 353 *e*PKPab **PKPbc 18 13 14.6 +0.3**
SUE Sulen 146.47 359 *e*PKPdf **PKPdf 18 13 12.6 -0.6**
HFS Hagfors 146.69 351 PKPbc **PKPbc 18 13 15.6 +0.3**
comp=Z,36nm,0.8s,baz=64,slow=3.4,SNR=54
SKAR Skarslia 146.70 356 *ep*PKPdf **PKPab 18 13 16.6 +0.1**
VSLR Vesyoloye 146.70 308*c i*PKP2 **PKPab 18 13 17.1 0.0**
SOC Sochi 146.89 308 *e*PKIKP **PKPdf 18 13 13.0 -1.5**
SOC *e* 18 16 37.3
SOC *e*PPP PPP 18 19 54.4
SOC *e*SSS SSS 18 41 10.8
SOC 19 10 50.8
SOC MLR MLR
comp=Z,438nm,20.0s
ASK Askoy 147.03 359 *e*PKPab **PKPab 18 13 17.2 -0.5**
BER Bergen 147.13 358 *e*PKPab **PKPab 18 13 17.9 -0.2**
OSL Oslo 147.24 353 *e*PKPab **PKPab 18 13 18.2 -0.3**
MARD Mardin 147.37 297 **PKPbc 18 13 18.1 -0.1**
ODD1 Odda 147.56 357 *e*PKPab **PKPab 18 13 19.3 -0.6**
KONO Kongsberg 147.63 354 PKPdf **PKPdf 18 13 13.8 -1.4**
KONO **PKiKP 18 13 19.5 -0.5**
KONO Kongsberg 147.63 354 *e*PKPab **PKiKP 18 13 19.3 -0.7**
KONO Kongsberg 147.63 354 PKP2 **PKiKP 18 13 19.5 -0.5**
MNK Minsk 147.76 333 *i* PKiKP **PKiKP 18 13 20.3 -0.1**
comp=E,26nm,1.0s
MNK *i* PPP PPP 18 20 01.5
MNK *i* SSS SSS 18 41 25.9
MNK *i* LQ LQ 19 01 52.1
MNK *i* LR LR 19 07 02.2
MNK *i* LRM MLR 19 13 15.5
comp=Z,1μm,24.2s
MNK *i* LRM MLR 19 14 08.5
comp=N,1μm,21.4s
MNK *i* LRM MLR 19 15 56.6
comp=E,1μm,21.9s
MNK Minsk 147.76 333 *i* PKP2 **PKiKP 18 13 20.2 -0.2**
MNK *i* 18 16 49.9
MNK *i* PPP PPP 18 20 01.5
MNK *i* 18 20 23.7
MNK *i* 18 29 23.6
MNK *i* SS SS 18 35 51.2 +2.2
MNK *i* SSS SSS 18 41 25.9
MNK pmax pmax
comp=N,23nm,1.0s
MNK pmax pmax
comp=E,26nm,1.0s
MNK pmax pmax
comp=Z,62nm,0.8s
MNK MLR MLR
comp=E,1μm,22.0s
NACGM Naroch 147.89 335⇑*i*PKiKP **PKiKP 18 13 20.4 -0.3**
comp=Z,72μm,23.1s
ANN Anapa 148.04 312 *i* PKP2 **PKiKP 18 13 20.5 -0.8**
ANN pmax pmax
comp=Z,90nm,0.8s
BLS5 Blasjo 148.05 357 *e*PKPab **PKiKP 18 13 20.7 -0.3**
STRU Stroemstad 148.07 353 *i* P **PKPbc 18 13 19.4 +0.3**
KMY Karmoy 148.31 358 *e*PKPab **PKiKP 18 13 21.9 +0.5**
TJOU Tjoern 149.00 352 *i* P **PKPbc 18 13 21.9 +0.4**
HOMB Homborsund 149.08 355 *i* P **PKPbc 18 13 22.4 +0.6**
SNART Snartemo 149.10 356 *i* P **PKiKP 18 13 23.0 -0.1**
BORU Boraas 149.23 350 *i* P **PKPbc 18 13 22.4 +0.2**
ONAU Onsala 149.58 351 *i* P **PKPbc 18 13 22.9 0.0**
AKASG Malin Array Be 149.80 327 PKPbc **PKiKP 18 13 24.4 -0.4**
comp=Z,12nm,0.6s,baz=42,slow=2.6,SNR=39
AKBB Malin Array Si 149.80 327 **PKPbc 18 13 23.1 -0.6**
AKBB Malin Array Si 149.80 327*d i*PKP2 **PKiKP 18 13 24.4 -0.4**
KIEV Kiev 149.81 327 **PKPbc 18 13 23.9 +0.1**
KIEV Kiev 149.81 327 IAMs_20 IAMs_20 19 19 04.2
comp=Z,750nm,20.0s
KIEV Kiev 149.81 327⇓*i* P **PKiKP 18 13 24.8 0.0**
KIEV Kiev 149.81 327⇓*i*PKP2 **PKiKP 18 13 24.8 0.0**
FABU Falkenberg 149.84 350 *i* P **PKPbc 18 13 23.8 +0.1**
SUW Suwalki 149.90 337 *e*PKP **PKiKP 18 13 25.2 +0.4**
BLEU Blekinge 149.95 346 *i* P **PKPbc 18 13 23.9 -0.1**
TOKA Tokat 150.11 304 **PKPdf 18 13 15.9 -4.0**
SIM Simferopol' 150.15 314 *i* PKP2 **PKiKP 18 13 26.8 +1.1**
DEL Delary 150.16 349 *i* P **PKiKP 18 13 25.1 -0.3**
GAZ Gaziantep 150.21 297 **PKPbc 18 13 24.3 -1.1**
BJUU Bjuv 150.69 349 *i* P **PKiKP 18 13 26.4 0.0**
MUD Monsted U'grnd 150.82 354 *i* P **PKiKP 18 13 27.2 +0.5**
ASF Jabal al Asfar 150.88 287 PKPbc **PKiKP 18 13 28.9 +1.2**
comp=Z,18nm,0.8s,baz=162,slow=3.5,SNR=20
LUNU Lund 151.04 349 *i* P **PKiKP 18 13 27.1 -0.1**
BSD Bornholm Skovb 151.25 347 *i* P **PKPbc 18 13 25.9 -1.2**
BEIL Beino 151.36 292 *e*P **PKiKP 18 13 30.2 +1.6**
ZAHL Zahle 151.67 291 *e*P **PKiKP 18 13 31.2 +1.8**
RCY Rachaya 151.73 290 *e*P **PKiKP 18 13 31.4 +1.9**
EKA Eskdalemuir Ar 151.77 8 PKPbc **PKiKP 18 13 29.8 +1.1**
comp=Z,3.4nm,0.6s,baz=327,slow=0.9,SNR=12
SHBL Chebaa 151.82 290 *e*P **PKiKP 18 13 31.5 +1.8**
BHL Bhannes 151.85 291 *e*P **PKiKP 18 13 31.1 +1.4**
QRWL Qaraoun 151.86 290 *e*P **PKiKP 18 13 31.5 +1.8**
SORM Soroca 151.87 324 ⇓P **PKiKP 18 13 29.9 +0.8**
SORM Soroca 151.87 324 ⇓PKIKP **PKiKP 18 13 29.9 +0.8**
DQRL Deir Qamar 151.94 291 *e*P **PKiKP 18 13 31.8 +1.9**
GHAJ Ghor Haditha 152.02 285 IAMs_20 IAMs_20 19 21 16.3
comp=Z,621nm,20.0s
MMAI Mount Meron Ar 152.12 289 PKPbc **PKiKP 18 13 31.9 +1.7**
comp=Z,14nm,0.5s,baz=78,slow=7.8,SNR=43
KIRS Kirsehir-Merke 152.33 302 ⇑P **PKiKP 18 13 31.7 +1.1**
MILM Milestii Mici 152.35 321 ⇓P **PKiKP 18 13 30.8 +0.7**
MILM Milestii Mici 152.35 321 ⇓PKIKP **PKiKP 18 13 30.8 +0.7**
BR131 Keskin Array S 152.37 304 PKPdf **PKPdf 18 13 19.0 -4.5**
BR131 Keskin Array S 152.37 304 PKIKP **PKPdf 18 13 19.0 -4.5**
BRTR Keskin Array B 152.37 304 PKPdf **PKPdf 18 13 18.8 -4.8**
BRTR PKPbc **PKiKP 18 13 30.6 -0.1**
BRTR Keskin Array B 152.37 304 PKPbc **PKiKP 18 13 30.9 +0.3**
comp=Z,5.6nm,0.6s,baz=141,slow=3.5,SNR=32
BRTR Keskin Array B 152.37 304 PKIKP **PKPdf 18 13 18.8 -4.8**
GKP Gorka Klasztor 152.38 342 *e*PKP **PKiKP 18 13 32.0 +2.0**
BEL Belsk 152.51 337 *e*PKP **PKiKP 18 13 32.3 +2.0**
ANTO Ankara 152.95 305 **PKPdf 18 13 18.5 -5.8**
ANTO Ankara 152.95 305 ⇑P **PKiKP 18 13 33.6 +1.9**
ANTO Ankara 152.95 305 PKIKP **PKPdf 18 13 18.5 -5.8**
ANTO MLR MLR
comp=Z,400nm,19.0s
TLCR 153.32 318 ⇑P **PKiKP 18 13 35.2 +3.0**
VLDR Vladesti 153.38 320 ⇓P **PKiKP 18 13 34.9 +2.6**
KWP Kalwaria Pacla 153.52 332 *e*PKP **PKiKP 18 13 33.4 +0.8**
CSS Mathiatis 153.65 294 IAMs_20 IAMs_20 19 25 11.0
comp=Z,628nm,19.0s
CFR Carcaliu 153.73 319 ⇓P **PKiKP 18 13 34.7 +1.6**
TPGR Topolog 153.74 318 ⇑P **PKiKP 18 13 35.8 +2.6**
TESR Tescani 153.78 322 ⇓P **PKiKP 18 13 34.3 +1.2**
BUR08 Bucovina Ar. S 153.80 326 PKPdf **PKPdf 18 13 21.7 -3.6**
BUR08 **sPKPdf 18 13 30.5 +0.9**
BURAR Bucovina Array 153.82 326 **PKPdf 18 13 25.5 +0.2**
BURAR PKPbc **PKiKP 18 13 33.8 +0.5**
BURAR Bucovina Array 153.82 326 ⇓P **PKiKP 18 13 36.2 +2.9**
PANC Panciu 153.90 321 ⇓P **PKPab 18 13 48.6 +2.1**
MDUB Mudurnu 153.90 307 PKPdf **PKPdf 18 13 22.8 -2.9**
MDUB **sPKPdf 18 13 29.9 -0.1**
TIRR Tirgusor 153.96 317 PKPdf **PKPdf 18 13 22.4 -3.0**
TIRR PKPab **PKPab 18 13 45.1 -1.6**
TIRR IAMs_20 IAMs_20 19 23 14.2
comp=Z,822nm,22.0s
TIRR Tirgusor 153.96 317 PKIKP **PKPdf 18 13 22.4 -3.0**
TIRR 18 13 45.1
TIRR MLR MLR
comp=Z,800nm,22.0s
ONER Baraj Valea Uz 154.03 322 ⇓P **PKiKP 18 13 36.4 +2.7**
TLBR Topalu 154.13 317 ⇑P **PKiKP 18 13 36.6 +2.7**
VRI Vrincioaia 154.14 321 ⇓P **PKiKP 18 13 36.2 +2.3**
PLOR Plostina 154.19 321 ⇓P **PKPab 18 13 49.1 +1.3**
PLOR Plostina 154.19 321 ⇓PKP2 **PKPab 18 13 49.1 +1.3**
OJC Ojcow 154.20 336 *e*PKP **PKiKP 18 13 34.9 +1.0**
KOLS Kolonicke sedl 154.24 331 *e*PKP **PKPbc 18 13 34.0 0.0**
KOLS *e* 18 13 49.2
STHS Stebnicka Huta 154.29 333 *e*PKP **PKiKP 18 13 34.4 +0.3**
STHS *e* 18 13 48.7
BISRR Bisoca 154.34 321 ⇓P **PKPbc 18 13 33.4 -1.0**
NIE Niedzica 154.67 334 *e*PKP **PKPdf 18 13 28.8 +2.4**
ISR Istrita 154.69 320 ⇑P **PKPab 18 13 51.0 +1.1**
ISR Istrita 154.69 320 ⇑PKP2 **PKPab 18 13 51.0 +1.1**
MLR Muntele Rosu 154.80 321 PKPdf **PKPdf 18 13 24.8 -2.0**
MLR PKPbc **PKPbc 18 13 33.9 -1.5**
MLR **PKPab 18 13 50.4 -0.2**
MLR Muntele Rosu 154.80 321 PKPbc **PKiKP 18 13 36.6 +1.2**
comp=Z,3.7nm,0.6s,baz=334,slow=2.8,SNR=8.5
MLR PKPab **PKPab 18 13 50.9 +0.4**
comp=Z,6.3nm,0.7s,baz=9.3,slow=6.0,SNR=8.8
MLR Muntele Rosu 154.80 321 ⇓P **PKiKP 18 13 37.6 +2.2**
MLR Muntele Rosu 154.80 321 PKIKP **PKPdf 18 13 24.8 -2.0**
MLR 18 13 33.9
MLR 18 13 50.4
MLR MLR MLR
comp=Z,900nm,20.0s
DOPR Dopca 154.81 323 ⇑P **PKiKP 18 13 37.8 +2.5**
KSP Ksiaz 154.81 341 *e*PKP **PKiKP 18 13 37.7 +2.6**
OSTC Ostas 155.09 341 AMS AMS 19 24 40.0
comp=Z,800nm,16.5s
CHVC Chvalec 155.11 341 *e*PKPAB **PKPab 18 13 52.8 +1.3**
CHVC Chvalec 155.11 341 *e*PKP2 **PKPab 18 13 52.8 +1.3**
STEB Steborice 155.15 338⇑*e*PKP PKPdf 18 13 37.8 +11
STEB *e*PKPAB **PKPab 18 13 52.7 +1.0**
UPC Upice 155.19 341 *e*PKPAB **PKPab 18 13 52.1 +0.3**
UPC AMS AMS 19 18 40.0
comp=Z,900nm,19.2s
UPC Upice 155.19 341 *e*PKP2 **PKPab 18 13 52.1 +0.3**
UPC MLR MLR
comp=Z,900nm,19.2s
LANS Liptovska Anna 155.20 335 *e*PKP PKPdf 18 13 39.0 +12
CLL Collm 155.22 346 *e*PKIKP **PKPdf 18 13 29.0 +2.0**
CLL *i* 18 13 52.4
CLL pmax pmax
comp=Z,14nm,0.9s
CLL pmax pmax
comp=Z,32nm,1.1s
CLL MLR MLR
comp=Z,1μm,22.0s
CLL Collm 155.22 346 *e*PKPdf **PKPdf 18 13 29.0 +2.0**
CLL *i* PKPdif pPKPbc 18 13 37.6 -1.5
comp=Z,14nm,0.9s
CLL *i* PKPab **PKPab 18 13 52.4 +0.5**
comp=Z,32nm,1.1s
CLL *ep*PKPab **pPKPab 18 13 55.0 0.0**
CLL *e*PP **PP 18 17 23.0 -4.6**
CLL AMS AMS 19 21 00.0
comp=Z,1μm,22.0s
DPC Dobruska-Polom 155.24 340 *e*PKPAB **PKPab 18 13 53.7 +1.6**
DPC AMS AMS 19 24 50.0
comp=Z,800nm,19.5s
DPC Dobruska-Polom 155.24 340 *e*PKP2 **PKPab 18 13 53.7 +1.6**
DPC MLR MLR
comp=Z,800nm,19.5s
ISP Isparta 155.25 301 IAMs_20 IAMs_20 19 29 58.0
comp=Z,830nm,20.0s
KECS Kecovo 155.34 333 *e*PKP2 **PKPab 18 13 53.6 +1.1**
KECS Kecovo 155.34 333 *e*PKP **PKPab 18 13 53.6 +1.1**
KRLC Kraliky 155.35 339 AMS AMS 19 27 40.0
comp=Z,700nm,18.7s
MORC Moravsky Berou 155.36 338 PKPdf **PKPdf 18 13 25.4 -2.0**
MORC PKPab **PKPab 18 13 51.3 -1.3**
MORC Moravsky Berou 155.36 338 *e*PKP **PKPab 18 13 52.5 -0.1**
MORC Moravsky Berou 155.36 338 PKP2 **PKPab 18 13 51.3 -1.3**
MORC 19 13 25.4
BRG Berggiesshubel 155.41 344 *e*PKP PKPdf 18 13 38.7 +11
BRG Amp 18 13 39.6
comp=Z,9.2nm,1.1s
BRG Berggiesshubel 155.41 344 P **PKPab 18 13 53.9 +1.1**
BRG Amp 18 13 54.6
comp=Z,17nm,0.9s
BRG Berggiesshubel 155.41 344 P PKPab 18 14 05.3 +13
BRG Amp 18 14 06.1
comp=Z,11nm,0.7s
MARR Marisel-Cluj 155.50 326 ⇑P PKPdf 18 13 39.5 +12
PVCC Panska Ves 155.57 343 AMS AMS 19 24 10.0
comp=Z,800nm,22.0s
DRGR 155.62 327 ⇑P PKPdf 18 13 38.6 +11
HSKC Hora Svate Kat 155.78 345 AMS AMS 19 22 10.0
comp=Z,1μm,20.2s

*ISK **15** 18:03:12.1, 34°.43N×25°.78E, h85km, ML3.2/10*
*ATH **15** 18:03:16.9, 34°.50N×26°.15E, h36km±7km, ML3.5/7,*
Manual Solution by N.Liadopoulou First location:
2019/03/15 18:04:02, This location: 2019/03/15 18:22:42
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty:
11 km; Longitude uncertainty: 5 km
*HLW **15** 18:03:16.1, 34°.43N×26°.27E, h13km±9km, Ml3.6*
*AFAD **15** 18:03:19.5, 34°.77N×26°.36E, h10km±4km, ML3.0*
*IDC **15** 18:03:21.7±2.0, 34°.72N×25°.91E, h89km±16km, mb3.6/9,*
mbtmp3.9/11, Error ellipse: s-maj=32.4km s-min=20.1km
az=152.0
*THE **15** 18:03:23.7, 34°.98N×26°.02E, h23km±2km, ML3.0/1, Error*
ellipse: s-maj=5.3km s-min=1.6km az=169.0

ISC 15 18:03:16.7±1.0, 34°.52N±0°.04×26°.14E±0°.04, h45km±11km, n93, σ1.48/117, mb3.9/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.60	6	Pg	Pn	18 03 29.6	+0.6
ZKR	Zakros	0.60	6	P	Pn	18 03 29.5	+0.6
ZKR				S	Sn	18 03 33.4	-4.3
ZKR	Zakros	0.60	6	P	Pn	18 03 29.7	+0.6
ZKR				S	Sn	18 03 37.8	0.0
IACM	Heraklion	1.18	312	P	Pn	18 03 37.2	+0.4
TMBK	Timbaki Herakl	1.26	296	P	Pn	18 03 42.6	+4.8
TMBK	Timbaki Herakl	1.26	296	P	Pn	18 03 38.4	+0.6
IDI	Anoyia	1.29	307	P	Pn	18 03 39.5	+1.2
IDI	Anoyia	1.29	307	P	Pn	18 03 40.3	+2.0
	31nm,0.4s,baz=132,slow=12,SNR=36						
IDI				S	Sn	18 03 57.2	+2.8
	82nm,0.6s,baz=22,slow=21,SNR=8.6						
IDI	Anoyia	1.29	307	P	Pn	18 03 39.4	+1.2
IDI				S	Sn	18 03 55.4	+1.1
KARP	Karpathos	1.32	39	Pn	Pn	18 03 39.9	+1.1
KARP				Sn	Sn	18 04 00.1	+4.8
KARP	Karpathos	1.32	39	P	Pn	18 03 41.2	+2.4
KARP				S	Sn	18 03 57.7	+2.4
	760nm,0.8s						
KARP	Karpathos	1.32	39	P	Pn	18 03 40.5	+1.7
PRNS	Prines Rethymn	1.59	303	P	Pn	18 03 44.0	+1.6
THR6	Thira Island,	1.93	342	P	Pn	18 03 47.5	+0.4
THR8	Santorini-Mono	1.96	344	P	Pn	18 03 47.6	+0.1
THR3	Thira Island,	1.98	342	P	Pn	18 03 48.3	+0.6
THR5	Thira Island,	2.00	341	P	Pn	18 03 48.5	+0.5
THR2	Thira island,	2.01	344	P	Pn	18 03 48.5	+0.4
ARG	Arkhangelos	2.35	43	Pn	Pn	18 03 54.1	+1.4
ARG	Arkhangelos	2.35	43	P	Pn	18 03 56.0	+3.3
ARG				S	Sn	18 04 21.4	+1.1
ARG	Arkhangelos	2.35	43	P	Pn	18 03 53.4	+0.7
YAZI	Mula-Dat§a-	2.41	26	P	Pn	18 03 53.9	+0.3
DAT	Datca	2.50	27	Pn	Pn	18 03 55.4	+0.5
APE	Apeiranthos	2.59	349	Pn	Pn	18 03 54.4	-1.8
APE	Apeiranthos	2.59	349	P	Pn	18 03 56.3	+0.1
APE	Apeiranthos	2.59	349	P	Pn	18 03 56.3	+0.1
TURN	Turunc	2.83	37	Pn	Pn	18 04 00.3	+1.0
TURN				Sn	Sn	18 04 34.5	+2.3
TURN	Turunc	2.83	37	P	Pn	18 04 00.4	+1.0
TURN				S	Sn	18 04 31.0	-1.2
MLSB	Milas	3.07	25	Pn	Pn	18 04 02.9	+0.2
DALY	Dalyan (Mula)	3.07	41	Pn	Pn	18 04 03.7	+1.0
SLUM	Salum	3.12	195	P	Pn	18 04 03.6	+0.3
SLUM				S	Sn	18 04 38.5	-0.8
YER	Yerkesik	3.14	33	Pn	Pn	18 04 04.2	+0.5
IZZE	Mula-Seydike	3.16	52	P	Pn	18 04 04.7	+0.8
IZZE				S	Sn	18 04 40.2	-0.2
IZZE				*i* AML	AML	18 04 42.0	
	comp=E,75nm,0.4s						
FETY	Fethiye	3.20	48	Pn	Pn	18 04 05.5	+1.1
FETY	Fethiye	3.20	48	P	Pn	18 04 06.9	+2.5
FETY				S	Sn	18 04 41.6	+0.3
SABU	Mula-Dalaman	3.25	44	P	Pn	18 04 05.7	+0.4
SABU				S	Sn	18 04 41.8	-1.0
AKAS	Kas	3.31	58	Pn	Pn	18 04 07.3	+1.3
AKAS	Kas	3.31	58	P	Pn	18 04 06.9	+0.8
AKAS				S	Sn	18 04 43.0	-1.1
AKAS				*i* AML	AML	18 04 46.0	
	comp=E,64nm,0.9s						
AKAS				*i* AML	AML	18 04 52.0	
	comp=N,101nm,0.7s						
VLI	Veliai	3.41	311	P	Pn	18 04 07.4	+0.1
AYDN	Tasoluk	3.44	24	P	Pn	18 04 08.6	+0.9
CAME	Cameli-Denizli	3.53	46	Pn	Pn	18 04 09.9	+0.8
DNZT	Denizli-Tavas-	3.62	39	P	Pn	18 04 11.0	+0.8
DNZT				S	Sn	18 04 50.5	-1.2
KNIK	Mula-Seydike	3.63	49	P	Pn	18 04 11.8	+1.3
CAEL	Denizli, Camel	3.66	44	P	Pn	18 04 12.3	+1.4
CAEL				S	Sn	18 04 49.8	-3.2
CAEL				*i* AML	AML	18 05 01.0	
	comp=N,42nm,1.2s						
CAEL				*i* AML	AML	18 05 05.0	
	comp=E,74nm,0.6s						
TAVA	DENIZLI_Tavas	3.70	37	P	Pn	18 04 12.4	+1.0
TAVA				S	Sn	18 04 54.2	+0.4
AYDB	Zeytinkoy-Aydi	3.70	22	Pn	Pn	18 04 11.4	-0.1
ESEN	Aydn-Nazilli	3.73	28	P	Pn	18 04 13.4	+1.7
ESEN				S	Sn	18 04 52.4	-2.0
KRND	KRANIDI	3.75	321	P	Pn	18 04 11.8	-0.2
MET5	Makryloggos,Me	3.83	325	P	Pn	18 04 13.7	+0.5
VLY	Voula,Athens	3.83	331	P	Pn	18 04 13.5	+0.4
AKUM	Antalya-Kumluc	3.87	61	P	Pn	18 04 14.7	+1.0
AKUM				S	Sn	18 04 56.6	-1.3
AKUM				*i* AML	AML	18 04 59.0	
	comp=N,26nm,1.0s						
AKUM				*i* AML	AML	18 05 01.0	
	comp=E,38nm,0.5s						
GOLH	Golhisar	3.88	45	P	Pn	18 04 15.6	+1.7
GOLH				S	Sn	18 04 59.0	+0.7
GOLH				*i* AML	AML	18 05 00.0	
	comp=N,30nm,0.5s						
GOLH				*i* AML	AML	18 05 09.0	
	comp=E,28nm,0.5s						
DNIZ	Denizli-Tavas-	3.89	36	P	Pn	18 04 17.2	+3.2
DNIZ				S	Sn	18 04 56.6	-1.9
DNIZ				*i* AML	AML	18 05 04.0	
	comp=N,40nm,0.4s						
DNIZ				*i* AML	AML	18 05 07.0	
	comp=E,40nm,0.3s						
ATHU	Athens Univers	3.94	332	P	Pn	18 04 15.1	+0.5
DION	Dionisos Attik	3.98	334	P	Pn	18 04 15.6	+0.5
DB3	El Dabaa	4.02	149	P	Pn	18 04 15.0	-0.6
KIRA	zmir-Kiraz	4.10	26	P	Pn	18 04 18.5	+1.7
KORT	Korkueli	4.22	53	P	Pn	18 04 21.3	+2.7
KORT				S	Sn	18 05 08.6	+1.8
KORT				*i* AML	AML	18 05 13.0	
	comp=N,32nm,0.8s						
KORT				*i* AML	AML	18 05 13.0	
	comp=E,41nm,0.5s						
INCE	Denizli-Bozkur	4.23	40	P	Pn	18 04 19.2	+0.5
INCE				S	Sn	18 05 05.0	-1.8
ITM	Ithomi	4.33	309	P	Pn	18 04 20.8	+0.8
LTK	Loutraki	4.34	325	P	Pn	18 04 20.3	+0.2
VIL2	Platees	4.36	329	P	Pn	18 04 19.9	-0.4
GUR	Goura	4.59	319	P	Pn	18 04 23.4	-0.2
KLV	Kalavryta, Ach	4.77	319	P	Pn	18 04 26.0	-0.1
DRO	Drossia	4.96	315	P	Pn	18 04 29.9	+1.3
SWA2		5.29	187	P	Pn	18 04 34.0	+0.9
ANX	Ano Chora	5.30	321	P	Pn	18 04 33.9	+0.5
NATA	Nata	5.30	85	P	Pn	18 04 33.4	0.0
SEDI	Konya, Seydise	5.41	56	P	Pn	18 04 38.3	+3.3
SEDI				S	Sn	18 05 37.0	+1.1
SEDI				*i* AML	AML	18 05 39.0	
	comp=E,12nm,1.0s						
PVO	Paravola	5.53	319	P	Pn	18 04 37.0	+0.6
ASGA	Asgata	5.86	85	P	Pn	18 04 40.7	-0.3
MVOU	Mavrovouni	6.18	83	P	Pn	18 04 45.5	+0.1
RYAN	Fayoum	6.46	146	P	Pn	18 04 49.7	+0.5
KOT	Kottamia	6.64	132	P	Pn	18 04 52.0	+0.2
NBNS	Bani Suef	7.34	142	P	Pn	18 05 01.5	+0.3
ZAF	Zafarana	7.54	132	P	Pn	18 05 03.8	-0.2
MMAI	Mount Meron Ar	7.86	98	P	Pn	18 05 07.3	-1.1
	0.4nm,0.3s,baz=271,slow=13,SNR=8.3						
MMAI				S	Sn	18 06 31.3	-4.7
	1.8nm,0.4s,baz=307,slow=24,SNR=7.4						
TAMRE	El Minia	7.95	148	P	Pn	18 05 09.9	+0.2
EIL	Elat	8.90	120	P	Pn	18 05 25.4	+2.8
	1.8nm,0.5s,baz=160,slow=8.7,SNR=4.3						
EIL				S	Sn	18 06 53.8	-7.7
	3.6nm,0.3s,baz=115,slow=2.3,SNR=8.6						
HDK1	Dakhla	9.38	162	P	Pn	18 05 29.8	+0.5
AKRG	Al Kharijah	9.74	156	P	Pn	18 05 34.6	+0.4
GTR	Jabal at Tayr	9.76	156	P	Pn	18 05 35.1	+0.7
KBZ	Khabaz	15.90	50	P	P	18 07 00.3	+0.1
	5.9nm,0.9s,baz=239,slow=8.6,SNR=12						
AKASG	Malin Array Be	16.33	7	P	P	18 07 04.1	-0.8
	0.5nm,0.5s,baz=198,slow=11,SNR=4.8						
FINES	FINESS Array B	26.95	360	P	P	18 08 51.7	-1.8
	2.9nm,1.0s,baz=187,slow=11,SNR=2.7						
	2.9nm,1.0s						
TORD	Torodi Ar. Bea	30.71	232	P	P	18 09 28.3	+0.8
	0.3nm,0.4s,baz=36,slow=8.7,SNR=4.0						
	0.3nm,0.4s						
ARCES	ARCESS Array B	35.07	360	P	P	18 10 03.1	-1.8
	2.3nm,0.9s,baz=181,slow=8.4,SNR=5.5						
	2.3nm,0.9s						
BVAR	Borovoye Array	36.21	46	P	P	18 10 16.1	+1.1
	0.4nm,0.5s,baz=268,slow=9.5,SNR=3.6						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	40.90	50	P	P	18 10 54.5	+0.2
	2.0nm,0.2s,baz=282,slow=9.7,SNR=6.3						
	2.0nm,0.2s						
MKAR	Makanchi Array	43.46	56	P	P	18 11 16.7	+1.5
	0.6nm,0.5s,baz=272,slow=7.3,SNR=14						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	44.87	46	P	P	18 11 26.8	+0.5
	1.5nm,0.5s,baz=272,slow=8.5,SNR=6.4						
	1.5nm,0.5s						
SONM	Songino Array	59.27	51	P	P	18 13 14.3	+0.7
	0.3nm,0.5s,baz=294,slow=4.6,SNR=1.7						
	0.3nm,0.5s						
SCHQ	Schefferville	64.20	320	P	P	18 13 45.4	-1.2
	2.0nm,0.6s,baz=48,slow=6.9,SNR=2.5						
	2.0nm,0.6s						

*SDD **15** 18:19:32.3±1.7, 18°.57N×68°.88W, h130km±9km, MD3.2,*
ML3.5, MW3.2
*OSPL **15** 18:19:33.8±1.0, 18°.10N×68°.96W, h111km±10km, ML2.6*

ISC 15 18:19:31.9±1.9, 18°.5N±0°.1×68°.96W±0°.05, h122km±12km, n19, σ0°.93/28, 4C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	Isla Saona	0.33	149	↑*e*Pg	Pn	18 19 49.2	+0.1
SADR				↓*e*Sg	Sn	18 20 03.1	+1.0
SADR				IAML		18 20 03.9	
	comp=N,2μm,0.3s						
HATOM	Hato Mayor del	0.50	308	*e*Pg	Pn	18 19 49.5	-0.6
HATOM				↑*e*Sg	Sn	18 20 04.0	+0.2
HATOM				IAML		18 20 05.0	
	comp=N,1μm,0.3s						
MIDR	Miches	0.51	350	↑*e*Pg	Pn	18 19 50.0	0.0
MIDR				↑*e*Sg	Sn	18 20 03.7	-0.1
MIDR				IAML		18 20 05.6	
	comp=N,498nm,0.3s						
PCDR	Punta Cana, DR	0.55	86	*e*Pg	Pn	18 19 50.1	-0.1
PCDR				IAML		18 20 07.9	
	comp=N,2μm,0.3s						
PCDR	Punta Cana, DR	0.55	86	*i* P	Pn	18 19 50.4	+0.2
PCDR				*e*S	Sn	18 20 04.3	+0.2
PCDR				IAML		18 20 06.5	
	comp=Z,130nm,1.4s						
SMDR	Samana, DR	0.84	345	*e*Pg	Pn	18 19 51.9	-0.6
SMDR				IAML		18 20 12.9	
	comp=N,171nm,0.4s						
SMDR				IAML		18 20 15.8	
	comp=N,2μm,0.3s						
DR08	Loma La Naviza	1.11	296	*e*Pg	Pn	18 19 55.7	+0.4
DR08				IAML		18 20 15.0	
	comp=N,2μm,0.2s						
DR08				IAML		18 20 15.3	
	comp=N,6μm,0.2s						
BANI	BANI	1.33	267	*e*Pg	Pn	18 19 58.4	+0.8
BANI				*e*Sg	Sn	18 20 17.7	+0.6
BANI				IAML		18 20 20.3	
	comp=N,848nm,0.3s						
BANI				IAML		18 20 25.9	
	comp=N,99nm,0.2s						
ABDR	Alto Bandera	1.61	282	↓*e*Pg	Pn	18 20 01.0	-0.1
ABDR				↓*e*Sg	Sn	18 20 22.9	-0.4
ABDR				IAML		18 20 29.3	
	comp=N,384nm,0.3s						
ABDR				IAML		18 20 30.6	
	comp=N,44nm,0.2s						
AGPR	Aguadilla, PR	1.75	90	*i* P	Pn	18 20 03.1	+0.7
AGPR				IAML		18 20 37.8	
	comp=Z,63nm,1.1s						
CRPR	Cabo Rojo, PR	1.82	105	↓*e*Pg	Pn	18 20 02.8	-0.4
CRPR				IAML		18 20 52.8	
	comp=N,54nm,2.7s						
CRPR	Cabo Rojo, PR	1.82	105	*i* P	Pn	18 20 02.8	-0.4
CRPR				IAML		18 20 41.7	
	comp=Z,66nm,3.1s						
LOBA2	Hotel Casa Bon	2.06	259	*e*Pg	Pn	18 20 05.4	-0.8
PODR	Polo	2.23	262	*e*Pg	Pn	18 20 10.1	+1.6
PODR				IAML		18 20 43.2	
	comp=N,378nm,0.3s						
PODR	Polo	2.23	262	*i* P	Pn	18 20 08.1	-0.4
PODR				*e*S	Sn	18 20 33.5	-2.9
SDDR	Presa de Saban	2.26	283	*e*Pg	Pn	18 20 09.8	+1.1
SDDR				IAML		18 20 44.4	
	comp=N,32nm,0.5s						
SDDR				IAML		18 20 45.3	
	comp=N,955nm,0.3s						
SDDR	Presa de Saban	2.26	283	*i* P	Pn	18 20 09.8	+1.1
SDDR				*e*S	Sn	18 20 37.2	+0.2
SDDR				IAML		18 20 46.6	
	comp=Z,18nm,2.0s						
LONE3	El Aguacate, B	2.37	273	*i* P	Pn	18 20 11.4	+1.2
LONE3				*e*S	Sn	18 20 38.5	-1.1
LONE3				IAML		18 20 41.3	
	comp=Z,13nm,1.9s						
LODU1	El Espartillar	2.39	267	*i* P	Pn	18 20 10.9	+0.6
LODU1				IAML		18 20 46.0	
	comp=Z,47nm,1.4s						

*CATAC **15** 18:22:17.9±1.4, 13°N±7°×8°9W±°, h24km±11km, Error*
ellipse: s-maj=16.8km s-min=4.2km az=30.9, confirmed
*SNET **15** 18:22:19.1±1.0, 12°.66N×88°.61W, h51km, ML3.8*

ISC 15 18:22:17.8±1.7, 12°.59N±0°.07×88°.63W±0°.04, h26km±13km, n95, σ0°.52/104, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.74	5	*e*P	Pn	18 22 32.7	+0.2
ALJI				*e*S	Sn	18 22 42.4	-0.5
ALJI	Alcalda de J	0.74	5	P	Pn	18 22 32.8	+0.3
ALJI	Alcalda de J	0.74	5	P	Sb	18 22 42.6	+0.9
LCY	Lacayo	0.90	22	*e*P	Pb	18 22 34.7	0.0
RANC	El Ranchito	0.91	22	*e*P	Pb	18 22 34.9	-0.1
RANC	El Ranchito	0.91	22	P	Pb	18 22 34.9	-0.1
RANC	El Ranchito	0.91	22	P	Pn	18 22 35.1	+0.2
VSM	San Miguel	0.91	23	*e*P	Pn	18 22 35.5	+0.4
TECA	Tecapa	0.91	8	*e*P	Pb	18 22 34.9	-0.2
PACA	Pacayal	0.93	19	*e*P	Pn	18 22 35.6	+0.4
PACA				*e*S	Sb	18 22 47.2	-0.1
PACA	Pacayal	0.93	19	P	Pn	18 22 35.4	+0.2
PACA	Pacayal	0.93	19	P	Pn	18 22 35.6	+0.4
BLLM	Bellamira	0.93	24	*e*P	Pb	18 22 35.4	0.0
TECO	Alcaldia de Te	0.96	351	*e*P	Pn	18 22 35.4	-0.2
TECO				*e*S	Sb	18 22 47.8	-0.2
TECO	Alcaldia de Te	0.96	351	P	Pn	18 22 35.6	+0.2
TECO	Alcaldia de Te	0.96	351	P	Pn	18 22 35.7	+0.2
CNRM	Centro Naciona	0.99	27	*e*P	Pn	18 22 35.8	-0.2
CNRM	Centro Naciona	0.99	27	P	Pb	18 22 36.3	-0.1
LCND	La Caada	1.02	45	*e*P	Pn	18 22 35.8	-0.5
LCND	La Caada	1.02	45	P	Pn	18 22 36.1	-0.3
LCND	La Caada	1.02	45	P	Pn	18 22 36.1	-0.3
CNCH	Conchagua	1.04	49	*e*P	Pn	18 22 36.3	-0.4
CNCH	Conchagua	1.04	49	P	Pn	18 22 36.3	-0.4
CNCH	Conchagua	1.04	49	P	Pn	18 22 36.3	-0.4
UESV	Universidad de	1.05	352	*e*P	Pn	18 22 37.1	+0.3
UESV	Universidad de	1.05	352	P	Pn	18 22 37.2	+0.3
UESV	Universidad de	1.05	352	P	Pn	18 22 37.2	+0.3
COEG	Centro de Oper	1.06	347	*e*P	Pn	18 22 37.0	+0.1
COEG	Centro de Oper	1.06	347	P	Pn	18 22 37.1	+0.1
COEG	Centro de Oper	1.06	347	P	Pb	18 22 37.3	-0.2
LFRS	El Faro	1.11	338	*e*P	Pn	18 22 37.6	-0.2
SCLA	Alcaldia de Sa	1.11	355	*e*P	Pn	18 22 38.0	+0.3
SCLA				*e*S	Sn	18 22 51.5	-0.7
SCLA	Alcaldia de Sa	1.11	355	P	Pn	18 22 38.1	+0.3
SCLA	Alcaldia de Sa	1.11	355	P	Pb	18 22 38.2	-0.2
CSGN	Cosiguina Volc	1.12	70	P	Pn	18 22 37.5	-0.3

CSGN	Cosiguina Volc	1.12	70	P	Pn	18 22 37.5	-0.3
LALI	Alcalda de L	1.12	323	P	Sn	18 22 50.9	-1.4
PANCS	Alcalda de	1.15	332	S	Sn	18 22 53.0	-0.2
PANCS	Alcalda de	1.15	332	P	Sn	18 22 52.9	-0.2
PAVA	Las Pavas	1.16	345	P	Pn	18 22 38.8	+0.4
PAVA	Las Pavas	1.16	345	P	Pb	18 22 39.0	-0.3
POTN	Potosi Cosigui	1.17	69	P	Pn	18 22 38.3	-0.2
POTN	Potosi Cosigui	1.17	69	P	Pn	18 22 38.5	0.0
LOMA	Loma Larga	1.18	334	*eP*	Pn	18 22 38.4	-0.2
LOMA	Loma Larga	1.18	334	P	Pb	18 22 39.3	-0.3
IGN	Direccin Gen	1.24	335	*eP*	Pn	18 22 39.8	+0.4
IGN	Direccin Gen	1.24	335	P	Sn	18 22 56.0	+0.7
CAHU	Cacacuatique	1.25	19	*eP*	Pn	18 22 39.8	+0.1
PMON	Piamonte	1.30	329	P	Pn	18 22 40.7	+0.3
PMON	Piamonte	1.30	329	P	Pn	18 22 40.7	+0.3
BOQS	Boqueron	1.30	331	*eP*	Pn	18 22 41.0	+0.5
JAYA	Jayaque - finc	1.33	323	*eP*	Pn	18 22 40.8	+0.1
JAYA				*eS*	Sn	18 22 57.2	-0.4
JAYA	Jayaque - finc	1.33	323	P	Pn	18 22 40.9	+0.1
JAYA	Jayaque - finc	1.33	323	P	Pn	18 22 40.9	+0.2
CRIN	San Cristobal	1.55	86	P	Pn	18 22 44.6	+0.9
CRIN	San Cristobal	1.55	86	P	Pn	18 22 44.6	+0.9
CEVE	Cerro Verde	1.57	322	*eP*	Pn	18 22 45.1	+0.9
CEVE				*eS*	Sb	18 23 05.2	-0.6
SBLS	San Blas	1.58	322	*eP*	Pn	18 22 45.4	+1.1
SNJE	San Jose	1.59	323	*eP*	Pn	18 22 44.9	+0.5
SNJE				*eS*	Sn	18 23 04.3	+0.1
LLGN	La Laguna	1.60	349	P	Sb	18 23 06.3	-0.2
NUBE	Las Nubes	1.72	320	*eP*	Pn	18 22 46.7	+0.6
NUBE	Las Nubes	1.72	320	P	Pn	18 22 46.8	+0.6
NUBE	Las Nubes	1.72	320	P	Pn	18 22 46.9	+0.7
QUEN	Al S del Volca	1.74	90	P	Pn	18 22 47.0	+0.7
QUEN	Al S del Volca	1.74	90	P	Pn	18 22 47.0	+0.7
TEL3	Telica 3	1.75	90	P	Pn	18 22 45.8	-0.5
TEL3	Telica 3	1.75	90	P	Pn	18 22 45.9	-0.5
HERN	Volcan Telica	1.76	89	P	Pn	18 22 47.1	+0.5
HERN	Volcan Telica	1.76	89	P	Pn	18 22 47.2	+0.5
POLN	Al Sur del Vol	1.78	88	P	Pn	18 22 47.1	+0.4
POLN	Al Sur del Vol	1.78	88	P	Pn	18 22 47.2	+0.4
PACN	Al O del Volca	1.80	92	P	Pn	18 22 47.4	+0.3
PACN	Al O del Volca	1.80	92	P	Pn	18 22 47.5	+0.3
CNGA	Al SSO del Vol	1.89	93	P	Pn	18 22 47.3	-1.1
CNGA	Al SSO del Vol	1.89	93	P	Pn	18 22 48.7	+0.4
CNGN	Cerro Negro	1.89	92	P	Pn	18 22 47.5	-0.9
CNGN	Cerro Negro	1.89	92	P	Pn	18 22 49.2	+0.8
MTO3	Montecristo	1.94	339	P	Pn	18 22 50.1	+0.9
MTO3	Montecristo	1.94	339	P	Pn	18 22 50.2	+1.0
TGUH	Tegucigalpa,Un	1.97	42	P	Pn	18 22 50.2	+0.6
TGUH	Tegucigalpa,Un	1.97	42	P	Pn	18 22 50.8	+1.2
MOMN	Momotombo	2.05	95	P	Pn	18 22 50.6	0.0
MOMN	Momotombo	2.05	95	P	Pn	18 22 51.0	+0.4
LIMN	Finca el Limon	2.26	78	P	Pn	18 22 53.6	0.0
LIMN	Finca el Limon	2.26	78	P	Pn	18 22 53.8	+0.3
RCON	San Juan de Ri	2.57	69	P	Pn	18 22 58.5	+0.7
RCON	San Juan de Ri	2.57	69	P	Pn	18 22 58.7	+0.9
RCON	San Juan de Ri	2.57	69	P	Pn	18 22 58.6	+0.7
RCON				S	Sn	18 23 28.4	-0.1
RCON	San Juan de Ri	2.57	69	P	Pn	18 22 58.6	+0.7
RCON				S	Sn	18 23 28.6	+0.1
RCVN	Varilla|2	2.58	67	P	Pn	18 22 58.4	+0.5
RCVN	Varilla|2	2.58	67	P	Pn	18 22 58.7	+0.8
RCPN	Sur Rio San Ju	2.64	69	P	Pn	18 22 59.7	+0.9
RCPN	Sur Rio San Ju	2.64	69	P	Pn	18 22 59.8	+0.9
BOAB	BOACO BROADBAN	2.90	92	P	Pn	18 23 02.3	+0.2
BOAB	BOACO BROADBAN	2.90	92	P	Pn	18 23 02.4	+0.2

IDC ***15*** *18:42:48.7±0.4, 44°.34S×76°.34W, h0km, mb4.7/15, mbtmp4.7/16, ML5.3/1, MS4.3/14, Error ellipse: s-maj=19.1km s-min=13.8km az=101.0*

MOS ***15*** *18:42:50.3±1.3, 44°.19S×76°.06W, h16km, mb5.1/16, Error ellipse: s-maj=14.8km s-min=8.6km az=86.1*

GUC ***15*** *18:42:50.3±0.6, 44°.32S×76°.17W, h6km±5km, ML4.4*

NEIC ***15*** *18:42:51.2±1.9, 44°.26S±0°.05×76°.2W±0°.1, h14km±3km, mb5.1/172, Mwr4.7/22, Error ellipse: s-maj=10.5km s-min=7.4km az=93.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 0.37; Mθθ -1.43; Mφφ 1.07; Mrθ 0.02; Mθφ 0.22; Mφr -0.89; Fault plane solution: M0 1.58000×10^16 NP1:φs 134.97000°, δ69.46000°, λ 152.05000°. NP2:φs 235.52000°, δ63.96000°, λ 22.99000°. Principal axes: T 1.6815, Plg 34.0000°, Azm 94.0000°; N -0.2223, Plg 56.0000°, Azm 281.0000°; P -1.4592, Plg 4.0000°, Azm 186.0000°;*

NEIC ***15*** *18:42:52.4, 44°.28S×76°.05W, h20km*

GCMT ***15*** *18:42:53.2±0.2, 44°.38S±0°.02×76°.42W±0°.02, h13km, MW5.0/96, Moment Tensor Solution. s33, c38; s96, c145; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr -3.99±.21; Mθθ -0.31±.13; Mφφ 4.30±.14; Mrθ 1.26±.41; Mθφ 0.44±.08; Mφr 1.29±.29; Best double couple: M0 4.54900×10^16 NP1:φs 351.00000°, δ38.00000°, λ -114.00000°. NP2: φs 200.00000°, δ56.00000°, λ -73.00000°. Principal axes: T 4.5780, Plg 10.0000°, Azm 278.0000°; N -0.0550, Plg 14.0000°, Azm 10.0000°; P -4.5200, Plg 73.0000°, Azm 155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

VAO ***15*** *18:43:01.6±0.7, 43°.34S×75°.40W, h10km, mb5.2*

ISC 15 18:42:50.9±0.7, 44°.31S±0°.04×76°.28W±0°.05, h14km±4km, h14km:pP-P, n391, σ1°.34/372, mb5.0/107, MS4.2/13, 23C-16D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	2.24	59		Pn	18 43 26.6	-1.0
GO07	Milladeo Hill,	2.24	59	⇑*i*P	Pn	18 43 26.7	-0.8
GO07				IAML		18 44 16.4	
comp=N,2μm,1.0s							
USPA	Uspallante	2.35	107	⇑*i*P	Pn	18 43 28.2	-0.8
MGDN	Magdalena	2.42	99	⇑*i*P	Pn	18 43 29.3	-0.7
MGDN				*i* S	Sn	18 43 59.2	-0.2
CUEV	Cuervo	2.42	112	⇑*i*P	Pn	18 43 29.7	-0.5
CUEV				*i* S	Sn	18 44 00.6	+0.9
CUEV				IAML		18 44 03.4	
comp=E,7μm,0.8s							
RMBA	Ra^g^l Marn B	2.46	81	⇑*i*P	Pn	18 43 29.6	-1.0
RMBA				*i* S	Sn	18 44 00.5	0.0
RMBA				IAML		18 44 05.4	
comp=N,1μm,0.2s							
LL07	Hotel Espejo d	2.52	55		Pn	18 43 30.9	-0.4
LL07				Sn	Sn	18 43 58.6	-3.2
LL07	Hotel Espejo d	2.52	55	⇑*i*P	Pn	18 43 31.0	-0.4
LL07				*i* S	Sn	18 43 59.7	-2.0
LL07				IAML		18 44 07.8	
comp=N,2μm,0.4s							
LL07				IAML		18 44 08.2	
comp=E,1μm,0.7s							
AY01	Puyuhuapi	2.60	94		Pn	18 43 31.7	-0.8
AY01				Sn	Sn	18 44 02.7	-1.2
AY01	Puyuhuapi	2.60	94	⇑*i*P	Pn	18 43 31.9	-0.7
AY01				*i* S	Sn	18 44 04.0	0.0
AY01				IAML		18 44 07.9	
comp=N,3μm,0.4s							
CHAC	Puerto Chacabu	2.74	115	⇑*i*P	Pn	18 43 34.0	-0.3
CHAC				*i* S	Sn	18 44 06.6	-0.6
CHAC				IAML		18 44 09.8	
comp=N,2μm,0.4s							
LJUN	La Junta	2.76	85	⇑*i*P	Pn	18 43 34.4	-0.4
AYSN	Puerto Aysn	2.77	114	⇑*i*P	Pn	18 43 34.3	-0.4
AYSN				*i* S	Sn	18 44 07.7	-0.2
AYSN				IAML		18 44 09.8	
comp=E,2μm,0.5s							
LL06	Loncomilla	2.85	44		Pn	18 43 35.9	-0.1
LL06				Sn	Sn	18 44 08.8	-1.3
LL06	Loncomilla	2.85	44	*eP*	Pn	18 43 35.9	-0.1
LL06				*i* S	Sn	18 44 10.3	+0.3
LL06				IAML		18 44 13.7	
comp=E,2μm,0.3s							
COYC	Coyhaique	3.23	114	Pn	Pn	18 43 41.2	0.0
CYQE	Coyhaique	3.24	114	⇑*i*P	Pn	18 43 41.4	+0.1
CYQE				*i* S	Sn	18 44 21.6	+1.9
CYQE				IAML		18 44 27.8	
comp=E,933nm,0.5s							
LL02	Futaleuf	3.40	72	Pn	Pn	18 43 43.4	-0.1
LL02	Futaleuf	3.40	72	⇑*i*P	Pn	18 43 43.7	+0.2
LL01	San Ignacio de	3.42	57		Pn	18 43 43.2	-0.5
LL01	San Ignacio de	3.42	57	⇑*i*P	Pn	18 43 43.4	-0.3
LL05	Los Muermos	3.56	36		Pn	18 43 45.7	0.0
LL05	Los Muermos	3.56	36	*eP*	Pn	18 43 46.5	+0.8
AY03	Cochrane	3.91	140		Pn	18 43 50.4	-0.1
AY03	Cochrane	3.91	140	*eP*	Pn	18 43 50.6	+0.1
AY03				*eS*	Sn	18 44 35.3	-0.9
LL03	Petrohue	4.27	43		Pn	18 43 55.4	0.0
LL04	Puerto Octay	4.44	41		Pn	18 43 57.6	-0.2
LR04	Corral	4.91	27	Pn	Pn	18 44 04.2	0.0
LR05	Currie	5.17	39	Pn	Pn	18 44 08.4	+0.6
LR03	Panguipulli	5.52	33		Pn	18 44 12.1	-0.5
PLCA	Paso Flores	5.54	52	Pn	Pn	18 44 12.6	-0.4
PLCA	Paso Flores	5.54	52	Pn	Pn	18 44 14.7	+1.7
comp=E,22nm,0.3s,baz=225,slow=9.8,SNR=889							
PLCA				Sn	Sn	18 45 19.7	+3.2
baz=169,slow=13							
PLCA				LR	LR	18 46 41.1	
comp=E,3μm,18.1s,baz=231,slow=42							
comp=E,398nm,1.0s							
PLCA	Paso Flores	5.54	52	P	Pn	18 44 13.3	+0.3
PLCA	Paso Flores	5.54	52	*eP*	Pn	18 44 10.1	-2.9
LC02	Puerto Saavedr	5.93	22		Pn	18 44 17.4	-0.8
MG05	Puerto Natales	7.79	162	Pn	Pn	18 44 44.9	+1.2
BI05	Punta Hualpn	7.91	18	Pn	Pn	18 44 44.6	-0.8
BI02	San Fabin de	8.54	28	Pn	Pn	18 44 54.0	-0.1
ML02	Panimavida	9.31	25		Pn	18 45 04.0	-0.7
MG02	Cerro Sombrero	9.67	154	Pn	Pn	18 45 11.4	+1.9
MG03	Isla Dawson	10.27	160	Pn	Pn	18 45 19.0	+1.2
BO02	Sierra Bellavi	10.41	26	Pn	Pn	18 45 19.2	-0.5
H03S1	Juan Fernandez	10.65	348	T	T	18 57 09.8	
baz=163,slow=74,SNR=106							
H03S2	Juan Fernandez	10.66	348	T	T	18 57 02.2	
baz=163,slow=74,SNR=130							
H03S3	Juan Fernandez	10.67	348	T	T	18 57 05.7	
baz=163,slow=74,SNR=102							
BO01	Tunca	10.69	24	Pn	Pn	18 45 22.2	-1.3
MT01	Popeta	11.14	22		Pn	18 45 27.6	-2.0
BO04	La Punta	11.20	25		Pn	18 45 28.9	-1.8
VA05	Santo Domingo	11.24	20		Pn	18 45 29.3	-1.7
MT09	Talagante	11.29	23		Pn	18 45 29.4	-2.6
LMEL	Las Melosas	11.46	26		Pn	18 45 33.2	-1.1
MT13	San Alfonso	11.53	26		Pn	18 45 33.7	-1.5
MT03	Universidad Ad	11.70	24		Pn	18 45 34.8	-2.6
MT05	Renca	11.72	23		Pn	18 45 34.9	-2.9
MT02	Curacav	11.74	22		Pn	18 45 35.9	-2.0
MT16	CCHEN	11.75	24	Pn	Pn	18 45 36.2	-1.9
VA01	Torpederas	11.84	19		Pn	18 45 37.2	-2.0
MT08	Bocatoma Ro	11.89	26		Pn	18 45 39.2	-1.0
PEL	Peldehue	11.97	23		Pn	18 45 38.8	-2.3
PEL	Peldehue	11.97	23	P	Pn	18 45 38.8	-2.3
VA06	Catapilco	12.36	20	Pn	Pn	18 45 44.1	-2.3
VA03	San Esteban	12.37	23		Pn	18 45 44.6	-2.0
TRQA	Tornquist	12.45	65		Pn	18 45 45.2	-2.3
TRQA	Tornquist	12.45	65	P	Pn	18 45 45.3	-2.3
ZON	Zonda	14.07	28		Pn	18 46 05.4	-4.5
ZON	Zonda	14.07	28	P	Pn	18 46 05.4	-4.5
CO05	Fray Jorge	14.10	17		Pn	18 46 08.2	-2.0
CO03	El Pedregal	14.15	20		Pn	18 46 08.4	-2.6
CFA	Coronel Fontan	14.17	29	Pn	Pn	18 46 08.1	-3.1
comp=E,5.1nm,0.3s,baz=205,slow=13,SNR=6.0							
EFI	East Falkland	14.22	128	Pn	Pn	18 46 12.2	+0.5
EFI	East Falkland	14.22	128	P	Pn	18 46 12.2	+0.5
GO04	Tololo Observa	14.77	19		Pn	18 46 17.4	-2.1
CO01	Juntas del Tor	15.13	21		Pn	18 46 22.1	-2.2
LCO	Las Campanas	15.91	18		Pn	18 46 31.1	-3.5
LCO	Las Campanas	15.91	18	P	Pn	18 46 31.1	-3.5
LCO				pmax	pmax		
comp=Z,27nm,0.9s							
AC04	Llanos de Chal	16.61	16	Pn	Pn	18 46 42.6	-0.6
AC06	Mina Casimiro	17.58	18		Pn	18 46 53.6	-1.9
AC02	Maricunga	18.37	21	P	Pn	18 47 04.6	-1.1
AC01	Pan de Azucar	18.70	16	P	Pn	18 47 09.3	+0.1
GO02	Mina Guanaco	19.86	18	P	P	18 47 21.9	0.0
PB14	IPOC Station P	20.22	16	P	P	18 47 25.2	-0.6
TBOT	Tacuaremb	20.33	59	*eP*	P	18 47 26.7	+0.2
PB10	IPOC Station P	21.27	15		P	18 47 36.9	+0.1
PB10				IAmb	IAmb	18 47 44.8	
comp=Z,49nm,0.9s							
PMSA	Palmer Station	21.62	166	LR	LR	18 54 11.6	
comp=Z,360nm,18.7s,baz=330,slow=32							
PLTB	Pedras Altas	21.73	62		P	18 47 40.0	-1.7
PLTB				IAmb	IAmb	18 47 41.7	
comp=Z,37nm,0.6s							
PLTB	Pedras Altas	21.73	62	*eP*	P	18 47 40.9	-0.8
PB05	IPOC Station P	21.98	15	P	P	18 47 44.8	+0.2
PB05				IAmb	IAmb	18 47 56.6	
comp=Z,112nm,1.3s							
AF01	San Pedro de A	22.32	20	P	P	18 47 48.9	+0.5
CPSB	Cacapava Do Su	22.75	60	*eP*	P	18 47 52.8	+0.1
PB09	IPOC Station P	23.20	17	P	P	18 47 57.0	-0.5
PB09				IAmb	IAmb	18 48 32.4	
comp=Z,49nm,1.1s							
CPUP	Villa Florida	23.59	47	P	P	18 48 00.8	-0.3
CPUP				IAmb	IAmb	18 48 06.1	
comp=Z,38nm,0.7s							
CPUP	Villa Florida	23.59	47	P	P	18 48 01.3	+0.2
comp=Z,29nm,0.6s,baz=221,slow=11,SNR=27							
CPUP				S	S	18 52 14.9	0.0
comp=Z,1.0nm,0.5s,baz=98,slow=18,SNR=1.2							
CPUP				LR	LR	18 56 20.7	
comp=Z,636nm,20.4s,baz=220,slow=34							
comp=Z,29nm,0.6s							
CPUP	Villa Florida	23.59	47	*eP*	P	18 48 01.1	0.0
PB01	IPOC Station P	23.88	16	P	P	18 48 03.8	-0.3
TA01	Diego Aracena	24.22	14	P	P	18 48 05.7	-1.4
CNLB	Canela	25.13	62	*eP*	P	18 48 16.6	+1.1
SJPY	San Joaquin	25.31	47	*eP*	P	18 48 18.2	+1.2
ITAB	Concordia	25.82	57	P	P	18 48 19.0	-2.6
ITAB				IAmb	IAmb	18 48 25.2	
comp=Z,65nm,1.1s							
ITAB	Concordia	25.82	57	*eP*	P	18 48 22.8	+1.1
PB12	IPOC Station P	26.10	13	P	P	18 48 24.2	-0.1
PB12				IAmb	IAmb	18 48 50.5	
comp=Z,61nm,1.5s							
TER01	Tubaro-SC	26.76	63	*eP*	P	18 48 31.5	+1.3
PB18	Visviri	27.25	14	P	P	18 48 34.1	-1.1
PB18				IAmb	IAmb	18 49 11.4	
comp=Z,48nm,1.1s							
MURT	Porto Murtinho	27.36	40	*eP*	P	18 48 36.9	+1.3
MAJ01	Sao Joao Batis	27.62	61	*eP*	P	18 48 39.9	+1.9
PTGB	Pitanga	27.76	53	*eP*	P	18 48 42.2	+2.9
BDQN	Bodoquena, MS	28.81	41	*eP*	P	18 48 48.7	+0.2
AQDB	Aquidauana	29.28	42	P	P	18 48 51.5	-1.2
AQDB	Aquidauana	29.28	42	*eP*	P	18 48 53.2	+0.6
LDASE	Londrina, Braz	29.33	53	*eP*	P	18 48 56.3	+3.2
RPRD	Ribas do Rio P	30.27	46	*eP*	P	18 49 02.5	+0.9
SIV	San Ignacio	31.03	29	P	P	18 49 07.7	-0.6
comp=Z,3.6nm,0.9s,baz=214,slow=8.9,SNR=7.1							
SIV				PcP	PcP	18 52 04.8	+0.9
comp=Z,1.6nm,0.6s,baz=207,slow=4.5,SNR=2.9							
SIV				LR	LR	19 00 49.3	
comp=Z,201nm,21.4s,baz=238,slow=35							
comp=Z,3.6nm,0.9s							
SPB	Sao Paulo	31.36	58	P	P	18 49 09.8	-1.2
SPB				IAmb	IAmb	18 49 14.9	
comp=Z,11nm,0.7s							
SPB	Sao Paulo	31.36	58	*eP*	P	18 49 12.8	+1.8
RPN	Rapa Nui	31.57	292	P	P	18 49 15.0	+2.1
RPN	Rapa Nui	31.57	292	P	P	18 49 15.0	+2.1
RPN				pmax	pmax		
comp=Z,183nm,1.3s							
VAO	Valinhos	32.08	58	P	P	18 49 14.7	-2.9
VAO				IAmb	IAmb	18 49 21.5	
comp=Z,18nm,0.7s							
VAO	Valinhos	32.08	58	*eP*	P	18 49 19.7	+2.2
C2SB	Chapadao do Su	32.15	45	*eP*	P	18 49 19.9	+1.9
PTLB	Pontes e Lacer	32.24	32	*eP*	P	18 49 20.0	+1.2
BB19B	Bebedouro	32.63	54	*eP*	P	18 49 23.4	+1.0
PARB	Paraibuna	32.66	60	*eP*	P	18 49 25.1	+2.5
ITRB	Iturama	32.68	50	*eP*	P	18 49 25.4	+2.7
SALV	Santo Antonio	33.26	38	*eP*	P	18 49 29.2	+1.4
MAN01	Angra dos Reis	34.05	62	*eP*	P	18 49 38.0	+3.3
VILB	Vilhena	34.15	29	P	P	18 49 33.1	-2.5
VILB				IAmb	IAmb	18 49 43.8	
comp=Z,27nm,1.2s							
VILB	Vilhena	34.15	29	*eP*	P	18 49 36.6	+1.0
ARAG	Araguaiana, MT	35.25	44	*eP*	P	18 49 45.6	+0.6
IPMB	Ipameri, GO	35.26	51	*eP*	P	18 49 47.0	+1.8
DUB01	Friburgo-RJ	35.62	63	*eP*	P	18 49 52.3	+4.0
PMNB	Patos De Minas	35.83	54	*eP*	P	18 49 52.7	+2.6
CAM01	Campos-RJ	36.27	63	*eP*	P	18 49 57.1	+3.4
CZSB	Cruzeiro do Su	36.57	6	P	P	18 49 55.0	-1.4
CZSB				IAmb	IAmb	18 49 59.4	
comp=Z,23nm,0.9s							
CZSB	Cruzeiro do Su	36.57	6	*eP*	P	18 49 59.0	+2.6
ATAH	Atahualpa	37.08	357	P	P	18 50 03.0	+1.9
comp=Z,6.2nm,0.8s,baz=144,slow=8.3,SNR=4.4							
ATAH				LR	LR	19 01 40.1	
comp=Z,305nm,18.3s,baz=212,slow=30							
comp=Z,6.2nm,0.8s							
BDFB	Brasilia	37.28	49	P	P	18 50 00.5	-2.0
BDFB				IAmb	IAmb	18 50 08.3	
comp=Z,39nm,0.8s							
BDFB	Brasilia	37.28	49	P	P	18 50 02.6	+0.1
comp=Z,48nm,1.0s,baz=205,slow=6.7,SNR=22							
BDFB				LR	LR	19 06 48.1	
comp=Z,2μm,18.3s,baz=210,slow=39							
comp=Z,48nm,1.0s							
BELA	Belgrano 2	37.45	167	P	P	18 50 03.0	-0.3
DIAM	Diamantina, MG	37.65	57	*eP*	P	18 50 07.7	+2.0
SNDB	Serra Nova Dou	38.72	41	*eP*	P	18 50 15.5	+1.0
SJMB	Sao Joao De Ma	38.86	60	*eP*	P	18 50 16.9	+1.2
RIB01	Linhares ES	38.91	62	*eP*	P	18 50 17.9	+1.8
BSFB	Barra de Sao F	38.98	61	*eP*	P	18 50 17.9	+1.2
JANB	Januaria	39.82	53	*eP*	P	18 50 24.6	+0.8
TBTG	Tabatinga, AM	40.35	10	*eP*	P	18 50 30.9	+2.8
GUA01	Guaratinga, BA	41.32	60	*eP*	P	18 50 38.2	+2.1
VNA3	Neumayer Olymp	41.33	153	⇓P	P	18 50 35.2	-0.5
comp=Z,3.4nm,0.7s							
VNA3				⇑PcP	PcP	18 52 34.6	+0.9
NPGB	Novo Progresso	41.38	32	*eP*	P	18 50 38.8	+2.2
SDBA	SAO DESIDERIO	41.63	50	*eP*	P	18 50 39.4	+0.6
COHC	Cochancay	41.75	356	P	P	18 50 39.0	-0.7
VNA1	Neumayer--Stat	41.76	152	⇓P	P	18 50 39.4	+0.3
comp=Z,11nm,1.1s							
TEFE	Tefe	41.91	18	*eP*	P	18 50 43.6	+2.7
VNA2	Neumayer--Watz	42.06	153	⇓P	P	18 50 42.1	+0.5
comp=Z,15nm,0.7s,baz=280,slow=8.7							
VNA2				⇑PcP	PcP	18 52 35.5	-0.6
baz=334,slow=12							
CMC01	Camacan, BA	42.43	59	*eP*	P	18 50 47.3	+2.1
MACA	Manacapuru-AM	43.23	23	*eP*	P	18 50 54.5	+2.8
SNAA	Sanae	43.52	154	P	P	18 50 53.7	+0.2
SNAA	Sanae	43.52	154	⇓P	P	18 50 54.0	+0.5
comp=Z,147nm,0.8s							
SNAA				⇑PcP	PcP	18 52 41.0	-0.1
SNAA	Sanae	43.52	154	P	P	18 50 53.8	+0.3
comp=Z,7.9nm,0.9s,baz=256,slow=6.6,SNR=9.6							
SNAA				PcP	PcP	18 52 41.3	+0.2
comp=Z,3.9nm,0.9s,baz=291,slow=1.0,SNR=3.1							
SNAA				LR	LR	19 07 22.3	
comp=Z,186nm,19.1s,baz=242,slow=34							
comp=Z,7.9nm,0.9s							
SNAA	Sanae	43.52	154	⇓*i*P	P	18 50 53.6	+0.1
SNAA				pmax	pmax		
comp=Z,18nm,1.3s							
OTAV	Otavalo	44.40	357		P	18 51 01.0	-0.6
OTAV	Otavalo	44.40	357	P	P	18 51 01.0	-0.6
OTAV				pmax	pmax		
comp=Z,10.0nm,1.0s							
OTAV	Otavalo	44.40	357	*eP*	P	18 51 04.2	+2.6
PRPB	Parauapebas	44.49	39	*eP*	P	18 51 04.1	+2.2
TROLL	Troll, Antarti	45.17	155	⇓P	P	18 51 07.2	+0.4
comp=Z,343nm,0.7s							
QSPA	South Pole Qui	45.94	180	P	P	18 51 12.4	-0.6
QSPA				IAmb	IAmb	18 51 14.2	
comp=Z,22nm,1.1s							
QSPA					PcP	18 52 49.4	-0.2
QSPA	South Pole Qui	45.94	180	P	P	18 51 13.2	+0.2
comp=Z,14nm,0.9s,baz=143,slow=3.1,SNR=25							
QSPA				PcP	PcP	18 52 50.0	+0.4
comp=Z,5.7nm,0.6s,baz=216,slow=0.6,SNR=15							
comp=Z,14nm,0.9s							
MAL2	Monte Alegre,	46.44	31	P	P	18 51 15.5	-1.8
MAL2				IAmb	IAmb	18 51 20.7	
comp=Z,20nm,0.8s							
NVL	N'lazarevskaya	48.34	154	*eP*	P	18 51 30.6	-0.8
NVL				pmax	pmax		
comp=Z,9.0nm,0.9s							
BOAV	Boa Vista	48.59	21	P	P	18 51 32.7	-1.3
BOAV				IAmb	IAmb	18 51 36.9	
comp=Z,15nm,1.0s							
BOAV	Boa Vista	48.59	21	*eP*	P	18 51 36.4	+2.5
TMAB	Tom-Au,PA,Br

PAULI Pauline 78.92 355 IAmb IAmb 18 55 01.6
comp=Z,21nm,1.0s
FPAL Fort Paine 78.94 352 IAmb IAmb 18 54 55.2
comp=Z,12nm,0.9s
X48A Hartselle 79.00 351 P **P** **18 54 54.0 0.0**
X48A IAmb IAmb 18 54 55.7
comp=Z,19nm,0.7s
BG3 Lake Jocassee 79.16 354 IAmb IAmb 18 54 58.3
comp=Z,19nm,1.3s
SGCY Sterling City 79.18 339 IAmb IAmb 18 54 56.6
comp=Z,15nm,1.0s
W50A Signal Mountai 79.56 352 P **P** **18 54 56.9 -0.2**
W50A IAmb IAmb 18 54 58.7
comp=Z,20nm,0.9s
SWET Sewanee 79.64 352 P **P** **18 54 57.5 0.0**
ODSA Odessa 79.75 338 IAmb IAmb 18 55 00.1
comp=Z,21nm,1.0s
V53A Saluda 79.83 355 IAmb IAmb 18 54 59.8
comp=Z,13nm,1.0s
V55A Taylorsville 79.92 356 IAmb IAmb 18 55 06.8
comp=Z,22nm,1.1s
MIAR Mount Ida 80.05 346 P **P** **18 55 00.0 +0.3**
APMT Aspermont 80.27 340 P **P** **18 55 00.7 -0.2**
APMT IAmb IAmb 18 55 10.1
comp=Z,15nm,0.8s
GRTLG Ghanzi 80.51 110 *i* P **P** **18 55 03.8 +0.9**
CLTN Cedars of Leba 80.55 352 IAmb IAmb 18 55 03.6
comp=Z,10nm,0.9s
WHAR Wooly Hollow 80.56 347 IAmb IAmb 18 55 03.9
comp=Z,6nm,0.8s
U54A Nelsons Funny 80.61 355 IAmb IAmb 18 55 05.8
comp=Z,15nm,0.8s
WVT Waverly 80.75 351 P **P** **18 55 02.6 -0.7**
WVT IAmb IAmb 18 55 04.5
comp=Z,15nm,0.7s
WVT Waverly 80.75 351 P **P** **18 55 02.7 -0.7**
WVT pmax pmax
comp=Z,15nm,0.7s
LBTB Lobatse 80.87 116 P **P** **18 55 04.4 -0.3**
LBTB Lobatse 80.87 116 P **P** **18 55 04.4 -0.3**
LBTB pmax pmax
comp=Z,40nm,0.7s
U49A Red Boiling Sp 80.91 352 P **P** **18 55 03.7 -0.5**
T57A Hurt 80.98 358 IAmb IAmb 18 55 13.1
comp=Z,27nm,1.3s
FCAR Ozark Folk Cen 81.11 347 IAmb IAmb 18 55 06.5
comp=Z,11nm,0.8s
319A Douglas 81.13 332 P **P** **18 55 05.1 -0.6**
319A IAmb IAmb 18 55 15.2
comp=Z,20nm,0.9s
LCAR Lake Charles 81.14 348 IAmb IAmb 18 55 06.6
comp=Z,16nm,0.8s
W35A Tecumseh 81.28 343 P **P** **18 55 05.9 -0.3**
W35A IAmb IAmb 18 55 06.8
comp=Z,9.9nm,0.7s
WMOK Wichita Mounta 81.30 341 IAmb IAmb 18 55 08.0
comp=Z,17nm,1.2s
WMOK Wichita Mounta 81.30 341 P **P** **18 55 06.9 +0.5**
WMOK pmax pmax
comp=Z,12nm,1.4s
T47A Sharon Grove 81.52 351 P **P** **18 55 06.7 -0.7**
DBIC Dimbokro 81.55 72 P **P** **18 55 06.9 -1.3**
DBIC Dimbokro 81.55 72 P **P** **18 55 08.4 +0.2**
comp=Z,8.8nm,1.1s,baz=224,slow=4.4,SNR=5.2
comp=Z,8.8nm,1.1s
MSTX Muleshoe 81.56 338 P **P** **18 55 07.6 -0.3**
MSTX IAmb IAmb 18 55 09.7
comp=Z,14nm,1.0s
PBMO Poplar Bluff 81.73 349 P **P** **18 55 08.0 -0.6**
PBMO IAmb IAmb 18 55 09.8
comp=Z,18nm,1.0s
S57A Dark Hollow, R 81.73 358 IAmb IAmb 18 55 16.6
comp=Z,22nm,1.2s
QNGWA Qangwa 81.75 109 *i* P **P** **18 55 10.6 +1.2**
HHAR Hobbs 81.81 346 IAmb IAmb 18 55 10.4
comp=Z,18nm,1.1s
S51A Beattyville 81.84 354 IAmb IAmb 18 55 10.5
comp=Z,17nm,0.9s
SMWD Samnorwood 81.99 340 P **P** **18 55 10.3 +0.2**
SMWD IAmb IAmb 18 55 11.9
comp=Z,15nm,1.0s
U38A Gravette 82.04 345 IAmb IAmb 18 55 11.7
comp=Z,18nm,1.3s
T42A Van Buren 82.07 348 IAmb IAmb 18 55 11.5
comp=Z,13nm,0.8s
CGM3 Cape Girardeau 82.13 349 P **P** **18 55 10.0 -0.7**
SIUC Southern Illin 82.48 350 P **P** **18 55 12.1 -0.4**
TUC Tucson 82.49 331 P **P** **18 55 12.6 -0.2**
TUC Tucson 82.49 331 P **P** **18 55 12.6 -0.2**
TUC pmax pmax
comp=Z,5.0nm,1.0s
R50A Paris 82.54 354 IAmb IAmb 18 55 15.6
comp=Z,25nm,1.3s
R49A Shelbyville 82.62 353 IAmb IAmb 18 55 14.1
comp=Z,20nm,1.0s
SBM South Baldy 82.84 335 P **P** **18 55 14.6 -0.3**
FVM French Village 82.91 349 IAmb IAmb 18 55 16.2
comp=Z,14nm,0.8s
CCM Cathedral Cave 83.10 348 P **P** **18 55 15.5 -0.2**
CCM Cathedral Cave 83.10 348 P **P** **18 55 15.5 -0.2**
CCM pmax pmax
comp=Z,51nm,0.8s
R40A Maddies Statio 83.49 347 IAmb IAmb 18 55 20.3
comp=Z,14nm,1.0s
ANMO Albuquerque 83.52 335 P **P** **18 55 18.7 +0.5**
ANMO IAmb IAmb 18 55 20.8
comp=Z,12nm,0.9s
ANMO Albuquerque 83.52 335 ⇑*i* P **P** **18 55 19.3 +1.1**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
P40A Paris 84.67 348 P **P** **18 55 23.4 -0.2**
T25A Trinidad 84.99 338 IAmb IAmb 18 55 28.4
comp=Z,12nm,0.9s
P38A Dawn 84.99 347 P **P** **18 55 24.8 -0.5**
WUAZ Wupatki 85.61 332 IAmb IAmb 18 55 32.6
comp=Z,12nm,1.2s
PFO Pinyon Flats O 85.75 327⇑*e*P **P** **18 55 32.0 +2.6**
PFO pmax pmax
comp=Z,10.0nm,1.0s
U15A North Rim 86.75 332 IAmb IAmb 18 55 37.5
comp=Z,8.1nm,1.0s
Q24A Divide 86.90 338 IAmb IAmb 18 55 37.6
comp=Z,16nm,1.3s
PV13 Radium Mtn., P 87.21 335 P **P** **18 55 37.2 +0.6**
PV13 IAmb IAmb 18 55 38.9
comp=Z,13nm,1.3s
PV11 David Mesa, Pa 87.35 335 IAmb IAmb 18 55 40.9
comp=Z,5.9nm,0.8s
GSC Goldstone, Bar 87.37 328 IAmb IAmb 18 55 40.5
comp=Z,8.0nm,1.1s
KNB Kanab 87.46 332 IAmb IAmb 18 55 52.1
comp=Z,7.5nm,0.9s
PV10 Paradox Valley 87.47 335 IAmb IAmb 18 55 39.8
comp=Z,14nm,1.0s
PV23 Carpenter Ridg 87.53 335 IAmb IAmb 18 55 46.4
comp=Z,14nm,1.0s
JFWS Jewell Farm 87.74 350 P **P** **18 55 38.2 -0.5**
JFWS Jewell Farm 87.74 350 P **P** **18 55 38.2 -0.5**
JFWS pmax pmax
comp=Z,35nm,0.9s
SHPR Sheep Range 87.83 330 IAmb IAmb 18 55 42.9
comp=Z,6.6nm,1.1s
GWY Greenwater Val 88.10 328 IAmb IAmb 18 55 43.7
comp=Z,7.9nm,0.9s
ISA Isabella, Lake 88.34 327 IAmb IAmb 18 55 45.2
comp=Z,7.9nm,0.9s
MSVF Nonsavu 88.52 247 LR LR 19 25 46.1
comp=Z,108nm,21.9s,baz=187,slow=29
TPNV Topopah Spring 88.62 329 P **P** **18 55 44.0 +0.8**
TPNV IAmb IAmb 18 55 46.6
comp=Z,13nm,1.1s
TPNV Topopah Spring 88.62 329 P **P** **18 55 44.1 +0.8**
TPNV pmax pmax
comp=Z,13nm,1.1s
WCT Wildcat Mounta 88.62 329 IAmb IAmb 18 55 46.7
comp=Z,12nm,1.0s
GRAC Grapevine Rang 89.08 328 P **P** **18 55 46.4 +1.1**
GRAC IAmb IAmb 18 55 48.7
comp=Z,13nm,1.0s
PSUT Pine Spring 89.18 331 IAmb IAmb 18 55 48.9
comp=Z,9.3nm,1.1s
GMN Gold Mountain 89.31 328 IAmb IAmb 18 55 49.7
comp=Z,7.5nm,1.0s
R11B Troy Canyon, C 89.62 330 IAmb IAmb 18 55 51.1
comp=Z,7.3nm,1.0s
DSP Deep Springs 89.64 328 P **P** **18 55 48.3 +0.5**
DSP IAmb IAmb 18 55 53.1
comp=Z,8.6nm,1.2s
SPR3 Spring Creek 3 89.76 331 IAmb IAmb 18 55 51.2
comp=Z,15nm,1.1s
DUG Dugway, Tooele 90.33 333 P **P** **18 55 52.6 +1.4**
DUG pmax pmax
comp=Z,6.0nm,0.9s
LHV Little Huntoon 90.61 328 IAmb IAmb 18 56 03.3
comp=Z,5.6nm,0.9s
TORD Torodi Ar. Bea 90.67 72 P **P** **18 55 53.3 +0.1**
TORD IAmb IAmb 18 56 05.8
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 90.67 72 P **P** **18 55 53.7 +0.5**
comp=Z,2.6nm,0.8s,baz=212,slow=3.9,SNR=4.2
comp=Z,2.6nm,0.8s
NVAR Mina Array Bea 90.69 328 P **P** **18 55 53.6 +0.6**
NVAR Mina Array Bea 90.69 328 P **P** **18 55 54.7 +1.7**
comp=Z,1.7nm,0.7s,baz=166,slow=6.0,SNR=11
comp=Z,1.7nm,0.7s
ELK Elko 91.63 331 P **P** **18 55 58.0 +0.6**
PDAR Pinedale Array 91.67 336 P **P** **18 55 57.9 +0.4**
comp=Z,0.4nm,0.3s,baz=141,slow=5.0,SNR=7.9
comp=Z,0.4nm,0.3s
HVU Hansel Valley 91.75 334 P **P** **18 55 56.3 -1.5**
HVU Hansel Valley 91.75 334 P **P** **18 55 56.3 -1.5**
HVU pmax pmax
comp=Z,4.0nm,1.1s
DZM Mont Dzumac 92.59 236 *e*LR LR 19 25 29.0
comp=Z,243nm,31.9s
FXWY Fox Creek 92.89 336 P **P** **18 56 01.7 -1.4**
ULM Lac du Bonnet 95.72 348 P **P** **18 56 14.7 -0.9**
comp=Z,2.9nm,0.8s,baz=118,slow=2.7,SNR=5.7
comp=Z,2.9nm,0.8s
STKA Stephens Creek 96.68 212‖*e*P **P** **18 56 22.3 +1.6**
ASAR Alice Springs 106.92 209 PKiKP **PKiKP** **19 01 15.4 -1.0**
comp=Z,0.7nm,0.9s,baz=142,slow=1.6,SNR=5.7
ASAR PKKPbc **PKKPbc** **19 12 30.8 -1.7**
comp=Z,0.5nm,0.7s,baz=354,slow=3.3,SNR=6.5
WRA Warramunga Arr 110.19 211 PKiKP **PKiKP** **19 01 21.8 -0.8**
comp=Z,1.0nm,0.7s,baz=179,slow=1.2,SNR=11
YKA Yellowknife Ar 110.80 342 PKKPbc PKKPbc 19 12 19.9 -1.4
comp=Z,0.1nm,0.3s,baz=286,slow=5.0,SNR=4.1
GERES GERESS Array B 121.50 51 PKP **PKPdf** **19 01 42.6 -0.7**
comp=Z,1.1nm,0.6s,baz=193,slow=4.0,SNR=2.1
ILAR Eielson Array 121.79 332 PKP **PKPdf** **19 01 43.2 0.0**
comp=Z,1.9nm,0.8s,baz=160,slow=1.9,SNR=18
H11S2 WAKE ISLAND Hyl 21.93 265 T T 21 15 16.3
baz=133
H11S1 WAKE ISLAND Hyl 21.95 265 T T 21 15 20.9
baz=133
H11S3 WAKE ISLAND Hyl 21.95 265 T T 21 15 11.4
baz=133
NOA NORSAR Array B 126.36 37 PKP **PKPdf** **19 01 51.6 -0.5**
comp=Z,1.0nm,0.8s,baz=242,slow=1.8,SNR=4.0
BR105 Keskin Array S 129.16 69 PKP **PKPdf** **19 01 58.4 +0.1**
BR106 Keskin Array S 129.17 69 PKP **PKPdf** **19 01 58.4 +0.1**
BR104 Keskin Array S 129.17 69 PKP **PKPdf** **19 01 58.4 +0.1**
BRTR Keskin Array B 129.18 69 PKP **PKPdf** **19 01 58.7 +0.4**
comp=Z,1.4nm,0.8s,baz=201,slow=2.3,SNR=12
BR131 Keskin Array S 129.18 69‖*e*PKiKP **PKPdf** **19 01 58.1 -0.2**
RNPP9 Sopachiv 129.60 53 PKP **PKPdf** **19 01 58.7 +0.2**
SORM Soroca 129.67 57 PKP **PKPdf** **19 01 58.8 +0.1**
LUBAR Lubar, Ukraine 130.07 55 PKP **PKPdf** **19 01 59.6 +0.1**
AKASG Malin Array Be 131.25 55 PKP **PKPdf** **19 02 00.4 -1.2**
comp=Z,0.3nm,0.3s,baz=274,slow=2.1,SNR=3.2
OBN Obninsk 136.88 51‖*i*PKiKP **PKiKP** **19 02 14.7 +0.8**
OBN *e* 19 04 50.8
OBN *e*SS SS 19 23 27.9 +28
OBN pmax pmax
comp=Z,25nm,1.5s
KIV Kislovodsk 137.10 68 *e*PKiKP **PKPdf** **19 02 12.7 -0.3**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 137.16 69‖*i*PKiKP **PKiKP** **19 02 14.8 0.0**
NCK Nalchik 137.53 69‖*i*PKiKP **PKiKP** **19 02 15.2 -0.5**
KLMR Klimovskoe 139.46 43 *e*PKHKP PKPpre 19 02 08.6
KLMR pmax pmax
comp=Z,8.0nm,1.1s
BILL Bilibino 140.31 328⇑*i*PKiKP **PKiKP** **19 02 21.2 +0.7**
PEA0B Petropavlovsk- 144.09 304 **PKPab** **19 02 23.1 +0.3**
PEA0B Petropavlovsk- 144.09 304‖*e*PKiKP PKPbc 19 02 23.9 +0.6
PETK Petropavlovsk- 144.09 304 **PKPab** **19 02 22.5 -0.3**
PETK Petropavlovsk- 144.09 304 PKP **PKPab** **19 02 23.4 +0.6**
comp=Z,4.9nm,0.7s,baz=98,slow=11,SNR=14
PETK Petropavlovsk- 144.09 304 PKiKP **PKPab** **19 02 22.5 -0.3**
SRIT Nakonsritamara 144.24 173 **PKPab** **19 02 23.9 -0.6**
KIRV Kirov 144.33 47*d*i PKiKP **PKPab** **19 02 23.5 0.0**
HYB Hyderabad 145.83 134 *e*PKPab **PKPdf** **19 02 29.7 +0.3**
PBA Port Blair 146.11 160 **PKPbc** **19 02 30.9 +0.2**
SEY Seymchan 146.72 321 PKPbc **PKPbc** **19 02 31.1 0.0**
comp=Z,43nm,1.0s,baz=92,slow=4.0,SNR=122
SEY Seymchan 146.72 321⇑*e*PKP2 **PKPdf** **19 02 30.6 +1.2**
MA2 Magadan 148.02 315 PKPdf **PKPdf** **19 02 30.2 -1.5**
MA2 PKPbc **PKPbc** **19 02 34.6 -0.2**
MA2 Magadan 148.02 315 PKPbc **PKPdf** **19 02 33.7 +2.0**
comp=Z,13nm,0.7s,baz=104,slow=4.0,SNR=53
MA2 Magadan 148.02 315*d*i PKP2 **PKPbc** **19 02 34.6 -0.2**
ARTI Arti 149.23 51 PKPdf **PKPdf** **19 02 32.0 -1.8**
ARTI **PKPbc** **19 02 38.4 +0.3**
ARTI Arti 149.23 51 *i* PKP2 **PKPbc** **19 02 38.7 +0.7**
ARTI 19 06 06.1
ABKAR Akbulak array 149.94 65 PKPdf **PKPdf** **19 02 33.2 -1.9**
ABKAR PKPbc **sPKPdf** **19 02 39.6 -0.6**
ABKAR Akbulak array 149.94 65 PKPdf **PKPdf** **19 02 33.9 -1.2**
ABKAR **pPKPdf** **19 02 38.7 -0.2**
TIXI Tiksi 150.01 344 PKPdf **PKPdf** **19 02 32.8 -1.7**
TIXI PKPbc **pPKPdf** **19 02 38.0 -0.2**
TIXI Tiksi 150.01 344 PKP **PKPdf** **19 02 32.4 -2.2**
comp=Z,4.2nm,0.7s,baz=26,slow=1.5,SNR=7.2
TIXI PKPbc **pPKPdf** **19 02 38.5 +0.2**
comp=Z,3.3nm,0.6s,baz=54,slow=2.9,SNR=23
TIXI PKPab **sPKPbc** **19 02 44.5 0.0**
comp=Z,7.3nm,0.6s,baz=51,slow=5.6,SNR=32
TIXI Tiksi 150.01 344‖*e*PKiKP **PKPdf** **19 02 32.5 -2.0**
UBPT Khong Chiam 151.02 183 **PKPbc** **19 02 42.7 -0.9**
ERM Erimo 151.33 279 PKPbc **PKPbc** **19 02 43.9 +0.4**
ERM Erimo 151.33 279 PKiKP **PKPbc** **19 02 43.9 +0.4**
KBL Kabul 151.67 98 **PKPbc** **19 02 44.4 -0.5**
KBL Kabul 151.67 98 PKiKP **PKPbc** **19 02 44.4 -0.5**
JKA Kamikawa-asahi 152.31 283 **PKPbc** **19 02 45.5 -0.2**
ASAJ Asahikawa 152.31 283 PKiKP **PKPbc** **19 02 45.5 -0.2**
YSS Yuzhno-Sakhali 152.77 289 **PKPbc** **19 02 45.5 -1.1**
YSS Yuzhno-Sakhali 152.77 289 *e*PKiKP **PKPbc** **19 02 46.3 -0.3**
YSS *e* 19 02 53.7
YSS pmax pmax
comp=Z,20nm,0.8s
MJAR Matsushiro Arr 152.78 265 PKPbc **PKPbc** **19 02 46.6 -0.4**
comp=Z,3.4nm,0.6s,baz=159,slow=7.0,SNR=15
MAJO Matsushiro 152.78 265 **PKPbc** **19 02 46.0 -1.1**
MAJO Matsushiro 152.78 265 PKiKP **PKPbc** **19 02 46.0 -1.1**
CM31 Chiang Mai Arr 153.91 170 PKPdf **PKPdf** **19 02 40.9 -1.2**
CM31 **PKPbc** **19 02 49.5 -0.5**
CMAR Chiang Mai Arr 153.91 170 PKPdf **PKPdf** **19 02 40.5 -1.6**
CMAR PKPbc **PKPbc** **19 02 49.4 -0.6**
CMAR PKPab **PKPab** **19 03 01.8 -1.2**
CMAR Chiang Mai Arr 153.91 170 PKP **PKPdf** **19 02 42.5 +0.4**
comp=Z,3.6nm,1.0s,baz=229,slow=3.0,SNR=23
CMAR PKPbc **PKPbc** **19 02 50.0 -0.1**
comp=Z,7.1nm,0.7s,baz=216,slow=3.6,SNR=31
NIL Nilore 154.17 104 PKPdf **PKPdf** **19 02 41.5 -0.5**
NIL **PKPbc** **19 02 49.4 -0.8**
NIL PKPab **PKPab** **19 03 03.8 -0.2**
NIL Nilore 154.17 104 PKiKP **PKPbc** **19 02 49.4 -0.8**
NIL 19 03 03.8
CHTO Chiang Mai 154.26 170 PKPdf **PKPdf** **19 02 40.6 -1.9**
CHTO PKPbc **PKPbc** **19 02 50.1 -0.6**
CHTO PKPab **PKPab** **19 03 03.8 -0.8**
CHTO Chiang Mai 154.26 170 PKP2 **PKPab** **19 03 03.8 -0.8**
CHTO 20 02 40.6
CHTO 20 02 50.2
GAR Garm 154.59 90 PKPdf **PKPdf** **19 02 42.0 -0.5**
BVAR Borovoye Array 156.51 56 PKP **PKPdf** **19 02 45.0 +0.5**
comp=Z,1.5nm,0.7s,baz=266,slow=4.0,SNR=8.8
BVAR PKPab **PKPab** **19 03 14.5 +1.1**
comp=Z,0.9nm,0.7s,baz=270,slow=3.7,SNR=2.0
BVAR Borovoye Array 156.51 56 PKiKP **PKPdf** **19 02 45.0 +0.5**
YAK Yakutsk 156.67 329 PKP **PKPdf** **19 02 43.0 -1.3**
comp=Z,2.6nm,0.7s,baz=94,slow=6.3,SNR=4.1
YAK PKPab **PKPab** **19 03 11.9 -1.8**
comp=Z,14nm,0.8s,baz=99,slow=0.7,SNR=7.1
KSH Kashi 158.85 93 PKP **PKPdf** **19 02 48.4 +0.4**
KLR Kul'dur 160.24 294 *e*PKiKP **PKPdf** **19 02 45.8 -3.3**
KLR pmax pmax
comp=Z,2.0nm,1.4s
KSRS Korea Array 160.50 258 PKP **PKPdf** **19 02 48.9 -0.9**
comp=Z,2.4nm,1.0s,baz=59,slow=0.5,SNR=5.3
KURBB Kurchatov Arra 161.89 61 PKP **PKPdf** **19 02 51.3 +0.5**
comp=Z,0.7nm,0.2s,baz=236,slow=1.4,SNR=4.2
KURBB PKPab **PKPab** **19 03 37.4 +0.6**
comp=Z,0.8nm,0.2s,baz=284,slow=5.0,SNR=4.2
KURBB PP **PP** **19 07 22.6 +1.4**
comp=Z,3.0nm,0.7s,baz=274,slow=6.2,SNR=19
KURK Kurchatov 161.93 60 PKiKP **PKPdf** **19 02 51.3 +0.5**
ZEA Zeya 161.99 310 *e*PKP2 **PKPab** **19 03 37.8 +0.6**
PZH PanZhiHua 162.16 174 PKP **PKPdf** **19 02 51.4 -0.7**
NJ2 Nanjing 162.97 229 *e*P **PKPdf** **19 02 53.3 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ZALV Zalesovo Beam 164.36 45 PKP **PKPdf** **19 02 52.3 -0.8**
comp=Z,2.5nm,0.7s,baz=265,slow=2.6,SNR=14
ZALV PKPab **PKPab** **19 03 47.6 +0.1**
comp=Z,1.1nm,0.7s,baz=305,slow=5.1,SNR=1.8
MKAR Makanchi Array 164.79 73 PKP **PKPdf** **19 02 53.5 -0.3**
comp=Z,0.8nm,0.8s,baz=288,slow=1.9,SNR=6.3
MKAR PKPab **PKPab** **19 03 50.2 +0.4**
comp=Z,1.0nm,0.7s,baz=280,slow=2.4,SNR=5.2
MKAR PP **PP** **19 07 38.5 +1.7**
comp=Z,0.6nm,0.9s,baz=275,slow=4.0,SNR=3.0
LZH Lanzhou 171.78 181 *e*PKP **PKPdf** **19 03 00.3 +1.3**
LZH pPKP sPKPdf 19 03 06.8 +2.8
MOY Mondy 172.42 13 *e*PKIKP **PKPdf** **19 02 58.2 -0.5**
MOY pmax pmax
comp=Z,25nm,3.0s
HHC Hu-ho-hao-te 173.26 242 *e*P **PKPdf** **19 02 56.5 -2.9**
GTA Gaotai 174.30 148 PKP **PKPdf** **19 03 00.1 +0.3**
GTA PKPab **PKPab** **19 04 31.8 -0.3**
SONM Songino Array 176.02 333 PKP **PKPdf** **19 02 59.4 -0.6**
comp=Z,1.3nm,1.1s,baz=197,slow=2.5,SNR=5.9
SONM PKPab **PKPab** **19 04 40.1 +0.6**
comp=Z,0.8nm,0.9s,baz=26,slow=3.1,SNR=4.7

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*NEIC **15** 19:00:15.0±1.2,5°.52N±0°.06×127°.16E±0°.06,h110km±8km, mb4.4/35, Error ellipse: s-maj=10.1km s-min=6.8km az=129.0*
*IDC **15** 19:00:16.8±1.5,5°.51N×127°.17E,h132km±12km,mb3.7/14, mbtmp4.1/15, Error ellipse: s-maj=32.4km s-min=10.6km az=66.0*
*DJA **15** 19:00:19.4±1.0,5°N±10°×12°7E±°,h120km±7km,M4.5/11, mB4.8/2,mb4.3/11,MLv4.5/11,Mw(mB)4.0/2*
ISC 15 19:00:13.9±0.5,5°.42N±0°.05×127°.16E±0°.07,h100km,n73, σ2S06/82,mb4.3/34,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.27**	**316**	Pn	**Pn**	**19 00 48.9**	**-1.1**
DAV	**Davao City (W)**	**2.27**	**316**	P	**Pn**	**19 00 54.3**	**+4.3**
139nm,0.4s,baz=352,slow=17,SNR=1.2							
DAV				S	**Sn**	**19 01 22.2**	**+4.5**
259nm,0.4s,baz=276,slow=22,SNR=10							
SGSI	**Sangihe**	**2.37**	**223**	P	**Pn**	**19 00 54.7**	**+3.4**
TNTI	**Ternate**	**4.62**	**177**	Pn	**Pn**	**19 01 22.2**	**+0.7**
TNTI				Sn	**Sn**	**19 02 13.9**	**-0.2**
TNTI	**Ternate**	**4.62**	**177**	P	**Pn**	**19 01 25.5**	**+3.9**
MRSI	**Marisa**	**7.16**	**227**	P	**Pn**	**19 01 59.6**	**+3.6**
SWI	**Sorong**	**7.46**	**147**	P	**Pn**	**19 02 04.5**	**+4.3**
0.1nm24nm,0.7s							
SANI	**Sanana**	**7.51**	**189**	P	**Pn**	**19 02 00.9**	**+0.1**
0.2nm19nm,1.0s							
TOLI2	**Tolitoli**	**7.67**	**236**		**Pn**	**19 02 02.9**	**-0.1**
TOLI2				Sn	**Sn**	**19 03 22.3**	**-6.0**
LUWI	**Luwuk**	**7.77**	**214**	Pn	**Pn**	**19 02 07.2**	**+2.8**
LUWI	**Luwuk**	**7.77**	**214**	P	**Pn**	**19 02 08.1**	**+3.7**
APSI	**Ampana**	**8.36**	**221**	P	**Pn**	**19 02 15.4**	**+3.1**
36nm,1.0s							
MYLDM	**Lahad Datu**	**8.63**	**269**	Pn	**Pn**	**19 02 17.5**	**+1.5**
FAKI	**Fak Fak**	**9.72**	**148**	P	**Pn**	**19 02 34.2**	**+3.3**
32nm,1.2s							
KKM	**Kota Kinabalu**	**10.91**	**274**	Pn	**Pn**	**19 02 47.6**	**+0.5**
SBUM	**Sibu**	**15.19**	**259**	P	**P**	**19 03 45.9**	**0.0**
SOEI	**Soe**	**15.35**	**191**	P	**Pn**	**19 03 48.1**	**+2.8**
SOEI				IAmb	IAmb	19 04 09.3	
comp=Z,51nm,1.5s							
WBSI	**Waikabubak, Su**	**16.85**	**207**	P	**Pn**	**19 04 05.5**	**+1.7**
comp=Z,25nm,1.0s							
PLAI	**Plampang**	**16.97**	**214**	P	**P**	**19 04 07.8**	**+2.3**
comp=Z,44nm,1.3s							
KSM	**Kuching**	**17.27**	**257**	P	**P**	**19 04 09.5**	**+0.6**
KSM				IAmb	IAmb	19 04 20.8	
comp=Z,14nm,1.0s							
MTN	**Manton Dam**	**18.57**	**168**		**P**	**19 04 24.6**	**+1.5**
MTN				IAmb	IAmb	19 04 32.4	
comp=Z,8.4nm,0.5s							
KNRA	**Kununurra**	**21.02**	**176**		**P**	**19 04 51.1**	**+1.4**
KNRA				IAmb	IAmb	19 04 53.0	
comp=Z,20nm,1.3s							
QIZ	**Qiongzhong**	**21.63**	**310**	P	**P**	**19 04 57.0**	**+0.7**
QIZ				S	**S**	**19 08 51.6**	**+1.3**
QIZ				sS	**sS**	**19 09 23.9**	**+3.3**
QIZ				pmax	pmax		
comp=Z,660nm,2.8s							
QIZ				LR	LR		
comp=N,250nm,13.7s							
QIZ				LR	LR		
comp=E,340nm,11.7s							
QIZ				LR	LR		
comp=Z,360nm,16.5s							
FITZ	**Fitzroy Crossi**	**23.42**	**184**	P	**P**	**19 05 13.7**	**-0.6**
MYKOM	**Kota Tinggi**	**23.54**	**262**	P	**P**	**19 05 13.7**	**-1.8**
MYKOM				IAmb	IAmb	19 05 16.0	
comp=Z,9.2nm,0.9s							
COEN	**Coen**	**24.96**	**141**	P	**P**	**19 05 27.9**	**-0.4**
WB0	**Warramunga Arr**	**26.02**	**164**	P	**P**	**19 05 37.8**	**-0.1**
WB0				IAmb	IAmb	19 05 41.9	
comp=Z,8.3nm,0.4s							
WRA	**Warramunga Arr**	**26.17**	**165**	P	**P**	**19 05 39.4**	**+0.2**
WRA	**Warramunga Arr**	**26.17**	**165**	P	**P**	**19 05 39.4**	**+0.2**
comp=Z,1.9nm,0.6s,baz=343,slow=10,SNR=41							
WRA				PcP	**PcP**	**19 09 04.1**	**0.0**
comp=Z,0.3nm,0.5s,baz=323,slow=3.2,SNR=2.2							
WRA				ScP	**ScP**	**19 12 30.1**	**-4.8**
comp=Z,0.4nm,0.6s,baz=342,slow=3.2,SNR=5.1							
comp=Z,1.9nm,0.6s							
WB2	**Warramunga Arr**	**26.18**	**165**	P	**P**	**19 05 39.2**	**-0.1**
WB2				IAmb	IAmb	19 05 43.8	
comp=Z,4.5nm,0.8s							
AS31	**Alice Springs**	**29.65**	**167**	P	**P**	**19 06 10.7**	**+0.5**
ASAR	**Alice Springs**	**29.65**	**167**	P	**P**	**19 06 10.6**	**+0.4**
comp=Z,0.8nm,0.4s,baz=342,slow=7.2,SNR=48							
ASAR				PcP	**PcP**	**19 09 12.4**	**-0.1**
comp=Z,0.7nm,0.4s,baz=341,slow=2.6,SNR=12							
ASAR				ScP	**ScP**	**19 12 39.9**	**-5.7**
comp=Z,0.3nm,0.6s,baz=346,slow=2.9,SNR=4.4							
comp=Z,0.8nm,0.4s							
CMAR	**Chiang Mai Arr**	**30.43**	**298**	P	**P**	**19 06 16.5**	**-0.7**
comp=Z,0.8nm,0.3s,baz=108,slow=7.0,SNR=12							
comp=Z,0.8nm,0.3s							
CHTO	**Chiang Mai**	**30.56**	**298**	P	**P**	**19 06 17.1**	**-1.2**
PZH	**PanZhiHua**	**32.07**	**314**	P	**P**	**19 06 33.3**	**+1.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
MORW	**Morawa**	**35.92**	**197**	P	**P**	**19 07 05.2**	**+0.5**
MORW				IAmb	IAmb	19 07 35.8	
comp=Z,12nm,1.2s							
FORT	**Forrest**	**36.01**	**179**	P	**P**	**19 07 06.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**37.95**	**341**	*e*P	**P**	**19 07 23.8**	**+1.9**
HHC				pmax	pmax		
comp=Z,20nm,0.5s							
HHC				pmax	pmax		
comp=Z,150nm,5.7s							
EIDS	**Eidsvold**	**38.43**	**144**	P	**P**	**19 07 26.6**	**+0.6**
BBOO	**Buckleboo**	**38.95**	**168**	P	**P**	**19 07 31.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.28**	**193**	P	**P**	**19 07 33.6**	**+0.5**
STKA	**Stephens Creek**	**39.56**	**161**	P	**P**	**19 07 36.2**	**+0.9**
STKA	**Stephens Creek**	**39.56**	**161**	P	**P**	**19 07 35.5**	**+0.1**
comp=Z,1.2nm,0.3s,baz=337,slow=7.2,SNR=9.8							
comp=Z,1.2nm,0.3s							
ARMA	**Armidale**	**42.65**	**148**	P	**P**	**19 08 01.3**	**+0.5**
ARMA				IAmb	IAmb	19 08 20.3	
comp=Z,20nm,1.4s							
CAN	**Canberra**	**45.44**	**155**	P	**P**	**19 08 23.8**	**+0.9**
SONM	**Songino Array**	**45.85**	**341**	P	**P**	**19 08 25.8**	**-0.3**
comp=Z,0.2nm,0.3s,baz=155,slow=8.6,SNR=2.7							
comp=Z,0.2nm,0.3s							
TOO	**Toolangi**	**46.06**	**160**	P	**P**	**19 08 28.1**	**+0.3**
TOO				IAmb	IAmb	19 08 53.1	
comp=Z,11nm,1.4s							
WMQ	**Urumqi**	**51.60**	**324**	*e*P	**P**	**19 09 10.8**	**+0.6**
WMQ				pmax	pmax	

comp=Z,11nm,0.6s
PETK Petropavlovsk- 53.71 22 P P 19 09 24.3 -1.2
PETK Petropavlovsk- 53.71 22 P P 19 09 24.5 -1.0
comp=Z,1.3nm,0.8s,baz=226,slow=7.8,SNR=1.8
comp=Z,1.3nm,0.8s
MK31 Makanchi Array 56.43 324 P P 19 09 44.2 -1.0
MK31 IAmb IAmb 19 09 45.1
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 56.43 324 P P 19 09 44.5 -0.7
MKAR Makanchi Array 56.43 324 P P 19 09 44.7 -0.5
comp=Z,1.6nm,0.4s,baz=114,slow=7.5,SNR=44
comp=Z,1.6nm,0.4s
MAKZ Makanchi 56.62 324 P P 19 09 45.4 -1.1
MAKZ IAmb IAmb 19 09 46.8
comp=Z,2.9nm,1.0s
KDJ Kajisay 57.39 317 P P 19 09 51.0 -1.2
KDJ IAmb IAmb 19 09 52.6
comp=Z,4.3nm,1.2s
ZALV Zalesovo Beam 59.29 332 P P 19 10 03.8 -1.2
comp=Z,0.8nm,0.3s,baz=128,slow=6.7,SNR=6.0
comp=Z,0.8nm,0.3s
DRK Karamyk 60.17 313 P P 19 10 10.7 -1.0
DRK IAmb IAmb 19 10 13.4
comp=Z,3.5nm,0.5s
KURK Kurchatov 60.56 327 P P 19 10 12.8 -1.0
KURK IAmb IAmb 19 10 14.0
comp=Z,5.5nm,0.7s
KURBB Kurchatov Arra 60.56 327 P P 19 10 12.9 -0.8
comp=Z,2.4nm,0.5s,baz=126,slow=6.4,SNR=17
comp=Z,2.4nm,0.5s
KBL Kabul 60.85 307 P P 19 10 15.0 -1.4
KBL IAmb IAmb 19 10 16.0
comp=Z,2.5nm,0.6s
GAR Garm 61.11 312 P P 19 10 16.3 -1.6
KK31 Karatay Array 62.30 316 P P 19 10 24.2 -1.5
KK31 IAmb IAmb 19 10 25.5
comp=Z,1.7nm,0.7s
KKAR Karatay Array 62.30 316 P P 19 10 24.2 -1.5
KKAR Karatay Array 62.30 316 P P 19 10 24.4 -1.4
KKAR IAmb IAmb 19 10 25.4
comp=Z,1.1nm,0.7s
BVAR Borovoye Array 66.15 326 P P 19 10 49.5 -1.1
comp=Z,1.6nm,0.5s,baz=126,slow=7.5,SNR=12
comp=Z,1.6nm,0.5s
BRVK Borovoye 66.22 326 P P 19 10 49.9 -1.1
BRVK IAmb IAmb 19 10 51.3
comp=Z,4.6nm,1.1s
ABKAR Akbulak array 71.13 320 P P 19 11 20.2 -1.4
ABKAR Akbulak array 71.13 320 P P 19 11 20.4 -1.2
ABKAR IAmb IAmb 19 11 21.5
comp=Z,1.9nm,0.7s
RAYN Ar Rayn 80.22 293 P P 19 12 11.4 -2.7
RAYN IAmb IAmb 19 12 13.3
comp=Z,4.9nm,0.9s
ILAR Eielson Array 83.40 25 P P 19 12 28.0 -1.9
comp=Z,0.2nm,0.6s,baz=247,slow=4.6,SNR=5.1
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 89.02 340 P P 19 12 55.0 -2.4
comp=Z,4.8nm,1.0s,baz=98,slow=4.4,SNR=4.6
comp=Z,4.8nm,1.0s
FINES FINESS Array B 90.55 332 P P 19 13 02.4 -2.2
comp=Z,2.2nm,0.9s,baz=64,slow=6.0,SNR=1.8
comp=Z,2.2nm,0.9s
QSPA South Pole Qui 95.31 180 P P 19 13 26.5 -0.1
comp=Z,0.7nm,0.8s,baz=335,slow=3.2,SNR=1.5
comp=Z,0.7nm,0.8s

*IDC **15** 19:06:15.7±0.7, 6°.79N×72°.98W, h153km±7km, mb3.4/5, mbtmp4.0/8, Error ellipse: s-maj=20.8km s-min=7.0km az=133.0*
*RSNC **15** 19:06:17.1±0.0, 7°N±1°×7°3W±°, h145km±2km, M3.7, mB4.9, mb4.2, ML3.5, Mw(mB)4.2*
ISC 15 19:06:15.6±0.7, 6°.85N±0°.03×73°.08W±0°.04, h151km±5km, n54, σ1°56/99, mb3.6/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**201**	P	**Pn**	**19 06 36.8**	**+0.2**
BARC				S	**Sn**	**19 06 51.7**	**-0.8**
PAMC	**Pamplona, Colo**	**0.62**	**38**	P	**Pn**	**19 06 39.6**	**+1.2**
PAMC				S	**Sn**	**19 06 56.4**	**+0.8**
BRJC	**Barrancabermej**	**0.67**	**281**	P	**Pn**	**19 06 38.5**	**+0.4**
BRJC				S	**Sn**	**19 06 55.2**	**+0.1**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**19 06 40.7**	**0.0**
RUSC				S	**Sn**	**19 06 58.9**	**-0.9**
TAMC	**Tame, Arauca**	**1.35**	**108**	P	**Pn**	**19 06 45.2**	**+1.4**
TAMC				S	**Sn**	**19 07 05.9**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.40**	**257**	P	**Pn**	**19 06 43.3**	**-1.0**
PTBC				S	**Sn**	**19 07 04.1**	**-2.0**
OCAC	**Ocana**	**1.40**	**350**	P	**Pn**	**19 06 45.1**	**+0.6**
OCAC				S	**Sn**	**19 07 06.7**	**+0.1**
SPBC	**San Pablo de B**	**1.54**	**220**	P	**Pn**	**19 06 45.8**	**-0.1**
SPBC				S	**Sn**	**19 07 07.6**	**-1.4**
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	P	**Pn**	**19 06 49.5**	**+0.1**
ZARC				S	**Sn**	**19 07 14.8**	**-0.5**
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**19 06 52.6**	**-0.5**
NORC				S	**Sn**	**19 07 20.4**	**-1.6**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**19 06 54.8**	**0.0**
CHIC				S	**Sn**	**19 07 24.1**	**-0.8**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**19 06 56.7**	**+1.4**
ROSC	145nm,0.3s,baz=16,slow=3.9,SNR=101			S	**Sn**	**19 07 26.4**	**+0.5**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**19 06 56.7**	**+1.4**
ROSC				S	**Sn**	**19 07 28.0**	**+2.1**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**19 06 58.5**	**+1.0**
CVER				S	**Sn**	**19 07 30.2**	**+0.5**
HELC	**Santa Helena**	**2.52**	**255**	P	**Pn**	**19 06 57.6**	**+0.2**
HELC				S	**Sn**	**19 07 26.8**	**-2.7**
GUY2C	**Guyana, Caldas**	**2.79**	**235**	P	**Pn**	**19 07 01.5**	**+0.7**
GUY2C				S	**Sn**	**19 07 36.5**	**+0.8**
RECRC	**Villamaria, Ca**	**2.94**	**230**	P	**Pn**	**19 07 04.7**	**+1.9**
RECRC				S	**Sn**	**19 07 41.2**	**+2.1**
NIZA	**Niza - Manizal**	**2.97**	**233**	P	**Pn**	**19 07 00.9**	**-2.1**
NIZA				S	**Sn**	**19 07 41.1**	**+1.6**
CBOC	**Ciudad Bolivar**	**3.07**	**252**	P	**Pn**	**19 07 04.9**	**+0.8**
CBOC				S	**Sn**	**19 07 40.4**	**-1.2**
DBBC	**Dabeiba**	**3.11**	**273**	P	**Pn**	**19 07 05.3**	**+0.8**
DBBC				S	**Sn**	**19 07 41.0**	**-1.3**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**19 07 06.5**	**+1.2**
SDV	152nm,0.3s,baz=232,slow=9.4,SNR=177			S	**Sn**	**19 07 42.8**	**-0.9**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**19 07 06.4**	**+1.1**
SDV	300nm,0.7s,baz=243,slow=22,SNR=25			S	**Sn**	**19 07 43.7**	**0.0**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**19 07 07.5**	**+1.8**
ARGC				S	**Sn**	**19 07 44.6**	**+0.2**
ANIL	**Santa Ana**	**3.29**	**225**	P	**Pn**	**19 07 08.1**	**+1.0**
ANIL				S	**Sn**	**19 07 49.2**	**+2.4**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**19 07 10.7**	**-0.1**
PRAC				S	**Sn**	**19 07 52.4**	**-1.1**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**19 07 11.3**	**+0.3**
APAC				S	**Sn**	**19 07 52.8**	**-1.2**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**19 07 11.3**	**+0.1**
ORTC				S	**Sn**	**19 07 53.2**	**-1.1**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**19 07 11.2**	**-0.5**
SJCC				S	**Sn**	**19 07 52.4**	**-2.9**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**19 07 12.7**	**+0.3**
PLMC				S	**Sn**	**19 07 54.9**	**-1.6**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**19 07 14.0**	**+0.5**
URMC				S	**Sn**	**19 07 57.4**	**-1.1**
LCBC	**Los crdobas,**	**3.82**	**302**	P	**Pn**	**19 07 13.4**	**-0.2**
LCBC				S	**Sn**	**19 07 56.8**	**-1.7**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**19 07 17.3**	**-0.7**
CRJC				S	**Sn**	**19 08 03.8**	**-2.7**
GUVC	**San Jose del G**	**4.30**	**174**	P	**Pn**	**19 07 19.6**	**-0.3**
GUVC				S	**Sn**	**19 08 05.6**	**-4.4**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**19 07 19.9**	**-0.4**
YOTC				S	**Sn**	**19 08 10.9**	**+0.4**
SMRC	**Santa Marta, M**	**4.43**	**345**	P	**Pn**	**19 07 22.1**	**+0.5**
SMRC				S	**Sn**	**19 08 10.3**	**-2.7**
CAPC	**Capurgana**	**4.59**	**293**	P	**Pn**	**19 07 24.4**	**+0.8**
CAPC				S	**Sn**	**19 08 13.9**	**-2.7**
PIZC	**Pizarro, Choco**	**4.65**	**246**	P	**Pn**	**19 07 25.5**	**+1.0**
PIZC				S	**Sn**	**19 08 17.2**	**-0.9**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**19 07 23.5**	**-2.2**
MACC				S	**Sn**	**19 08 14.2**	**-6.1**
BETC	**Betania**	**4.76**	**210**	P	**Pn**	**19 07 25.5**	**-0.5**
BETC				S	**Sn**	**19 08 18.6**	**-2.3**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**19 07 27.6**	**-0.7**
URIC				S	**Sn**	**19 08 21.3**	**-3.7**
MALC	**Bahia Malaga**	**5.08**	**237**	P	**Pn**	**19 07 31.4**	**+1.2**
MALC				S	**Sn**	**19 08 28.1**	**-0.4**
GARC	**Garzon, Huila**	**5.22**	**208**	P	**Pn**	**19 07 31.2**	**-1.1**
GARC				S	**Sn**	**19 08 28.0**	**-4.0**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**19 07 36.9**	**-0.2**
POPC				S	**Sn**	**19 08 37.9**	**-2.7**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**19 08 23.5**	**+1.2**
PCRV	11nm,0.5s,baz=284,slow=2.9,SNR=11			S	**Sn**	**19 10 00.4**	**-1.7**
BDFB	**Brasilia**	**33.41**	**132**	P	**P**	**19 12 39.5**	**-0.7**
	7.1nm,0.8s,baz=122,slow=14,SNR=1.2 1.6nm,0.4s,baz=319,slow=9.3,SNR=3.0 1.6nm,0.4s						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**19 13 07.3**	**+0.9**
	0.4nm,0.6s,baz=108,slow=8.0,SNR=3.7 0.4nm,0.6s						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**19 14 41.0**	**+0.7**
	0.2nm,0.3s,baz=142,slow=8.1,SNR=1.8 0.2nm,0.3s						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**19 14 41.3**	**+1.3**
	2.3nm,0.6s,baz=200,slow=4.6,SNR=5.4 2.3nm,0.6s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**19 16 27.8**	**+0.1**
	0.4nm,0.5s,baz=137,slow=6.5,SNR=8.6						
YKA				pP	**PcP**	**19 17 03.8**	**+0.1**
	0.4nm,0.7s,baz=135,slow=7.2,SNR=3.9 0.4nm,0.5s						
MKAR	**Makanchi Array**	**122.28**	**20**	PKP	**PKPdf**	**19 24 52.4**	**-0.6**
	0.1nm,0.3s,baz=316,slow=2.2,SNR=4.6						
SONM	**Songino Array**	**125.55**	**0**	PKP	**PKiKP**	**19 24 60.0**	**+0.2**
	0.2nm,0.5s,baz=340,slow=2.4,SNR=2.2						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**19 25 45.6**	**-1.5**
	0.9nm,0.6s,baz=119,slow=3.4,SNR=16						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**19 25 49.7**	**-0.5**
	0.6nm,0.4s,baz=110,slow=2.7,SNR=8.8						
CMAR	**Chiang Mai Arr**	**153.65**	**17**	PKPbc	**PKiKP**	**19 25 57.8**	**+0.1**
	0.4nm,0.5s,baz=318,slow=3.6,SNR=5.1						

IDC 15 19:08:35.9±1.8, 53°.32S×137°.17W, h0km, mb3.7/3, mbtmp3.7/3, MS4.0/6, Error ellipse: s-maj=60.7km s-min=44.8km az=27.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**36.43**	**323**	LR	LR	19 27 02.0	
	comp=Z,174nm,18.7s,baz=90,slow=30						
QSPA	**South Pole Qui**	**36.85**	**180**	P	P	19 15 45.5	-0.1
	0.5nm,0.7s,baz=100,slow=6.1,SNR=1.4						
QSPA				LR	LR	19 28 36.2	
	comp=Z,164nm,18.1s,baz=62,slow=33 0.5nm,0.7s						
PMSA	**Palmer Station**	**37.11**	**137**	LR	LR	19 27 10.7	
	comp=Z,157nm,18.4s,baz=302,slow=30						
H03N3	**Juan Fernandez**	**45.34**	**88**	T	T	20 05 03.1	
	baz=226,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**45.34**	**88**	T	T	20 05 03.9	
	baz=226,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**45.35**	**88**	T	T	20 05 09.2	
	baz=226,slow=72,SNR=28						
SNAA	**Sanae**	**51.22**	**163**	LR	LR	19 37 22.9	
	comp=Z,102nm,19.1s,baz=191,slow=34						
ASAR	**Alice Springs**	**70.75**	**256**	P	P	19 19 53.9	-0.1
	1.2nm,1.1s,baz=147,slow=6.5,SNR=5.8						
ASAR				LR	LR	19 47 03.7	
	comp=Z,118nm,19.2s,baz=25,slow=33 1.2nm,1.1s						
H01W1	**Cape Leeuwin H**	**72.68**	**235**	T	T	20 39 56.7	
	baz=143,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**72.69**	**235**	T	T	20 39 58.4	
	baz=143,slow=76,SNR=6.8						
H01W3	**Cape Leeuwin H**	**72.70**	**235**	T	T	20 39 59.6	
	baz=143,slow=76,SNR=4.2						
WRA	**Warramunga Arr**	**73.37**	**259**	P	P	19 20 10.1	+0.4
	0.7nm,1.0s,baz=138,slow=5.6,SNR=7.3						
WRA				LR	LR	19 49 43.5	
	comp=Z,105nm,18.4s,baz=344,slow=34 0.7nm,1.0s						
ESDC	**Sonseca Array**	**145.66**	**94**	PKPbc	PKPdf	19 28 15.3	-0.2
	0.3nm,0.7s,baz=242,slow=2.8,SNR=2.5						
MKAR	**Makanchi Array**	**154.10**	**272**	PKPbc	PKPbc	19 28 36.1	-0.7
	0.3nm,0.8s,baz=56,slow=0.5,SNR=2.2						

IDC 15 19:10:14.8±9.4, 12°.88N×92°.39E, h0km, mb3.2/2, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=192.2km s-min=37.8km az=113.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.40**	**48**	Pn	Pn	19 12 16.4	-1.4
	0.1nm,0.3s,baz=230,slow=13,SNR=4.5						
CMAR				Sn	Sn	19 13 55.6	+2.1
	0.2nm,0.3s,baz=209,slow=31,SNR=3.1 0.3nm,0.4s						
WRA	**Warramunga Arr**	**52.61**	**128**	P	P	19 19 30.6	-0.3
	0.2nm,0.5s,baz=297,slow=8.4,SNR=2.6 0.2nm,0.5s						
ASAR	**Alice Springs**	**54.47**	**132**	P	P	19 19 44.8	+0.3
	0.1nm,0.5s,baz=314,slow=6.7,SNR=6.9 0.1nm,0.5s						

*IDC **15** 19:11:52.7±1.2, 12°.83N×87°.42W, h0km, mb3.7/7, mbtmp3.6/9, ML3.2/2, MS3.3/2, Error ellipse: s-maj=47.2km s-min=15.8km az=45.0*
*CATAC **15** 19:11:53.4±0.3, 12°N±1°×88°.1W±0°.9, h18km±2km, M4.2/48, MLv4.2/48, Error ellipse: s-maj=3.4km s-min=1.3km az=29.1, confirmed*
*SNET **15** 19:11:56.4±1.0, 12°.38N×88°.05W, h54km, ML3.8*
*GCG **15** 19:11:59.9±2.0, 12°.30N×88°.98W, h0km±32km, MD4.5*
ISC 15 19:11:51.1±1.3, 12°.24N±0°.03×88°.03W±0°.02, h4km±8km, n191, σ1°25/222, mb3.5/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.86**	**32**	P	**Pn**	**19 12 10.8**	**+0.7**
CSGN				S	**Sn**	**19 12 24.4**	**+1.1**
CSGN	**Cosiguina Volc**	**0.86**	**32**	P	**Pn**	**19 12 11.0**	**+0.9**
POTN	**Potosi Cosigui**	**0.91**	**34**	P	**Pn**	**19 12 11.5**	**+0.9**
POTN				S	**Sn**	**19 12 26.3**	**+2.1**
POTN	**Potosi Cosigui**	**0.91**	**34**	S	**Sn**	**19 12 26.7**	**+2.4**
POTN	**Potosi Cosigui**	**0.91**	**34**	P	**Pn**	**19 12 11.5**	**+0.9**
CNCH	**Conchagua**	**1.05**	**10**	*eP*	**Pn**	**19 12 13.1**	**+0.5**
CNCH				*eS*	**Sn**	**19 12 27.4**	**-0.4**
CNCH	**Conchagua**	**1.05**	**10**	P	**Pn**	**19 12 13.1**	**+0.5**
CNCH	**Conchagua**	**1.05**	**10**	S	**Sn**	**19 12 28.5**	**+0.7**
CNCH	**Conchagua**	**1.05**	**10**	S	**Sn**	**19 12 29.9**	**+2.1**
CNCH	**Conchagua**	**1.05**	**10**	P	**Pn**	**19 12 13.7**	**+1.0**
CRIN	**San Cristobal**	**1.06**	**64**	P	**Pn**	**19 12 13.9**	**+1.2**
CRIN	**San Cristobal**	**1.06**	**64**	S	**Sn**	**19 12 30.1**	**+2.1**
CRIN	**San Cristobal**	**1.06**	**64**	P	**Pn**	**19 12 14.3**	**+1.6**
LCND	**La Caada**	**1.07**	**7**	*eP*	**Pn**	**19 12 13.4**	**+0.5**
LCND	**La Caada**	**1.07**	**7**	P	**Pn**	**19 12 13.6**	**+0.7**
LCND	**La Caada**	**1.07**	**7**	P	**Pn**	**19 12 13.7**	**+0.8**
QUEN	**Al S del Volca**	**1.20**	**73**	P	**Pn**	**19 12 15.8**	**+1.2**
QUEN				S	**Sn**	**19 12 33.1**	**+1.7**
QUEN	**Al S del Volca**	**1.20**	**73**	P	**Pn**	**19 12 15.8**	**+1.2**
TEL3	**Telica 3**	**1.20**	**74**	P	**Pn**	**19 12 14.8**	**+0.1**
TEL3	**Telica 3**	**1.20**	**74**	P	**Pn**	**19 12 14.8**	**+0.1**
ALJI	**Alcalda de J**	**1.21**	**334**	*eP*	**Pg**	**19 12 15.1**	**+0.9**
ALJI	**Alcalda de J**	**1.21**	**334**	P	**Pg**	**19 12 15.1**	**+0.9**
ALJI	**Alcalda de J**	**1.21**	**334**	S	**Sg**	**19 12 30.7**	**+0.7**
LCY	**Lacayo**	**1.21**	**347**	*eP*	**Pb**	**19 12 15.4**	**+0.8**
LCY				*eS*	**Sb**	**19 12 30.7**	**+0.1**
VSM	**San Miguel**	**1.21**	**348**	*eP*	**Pn**	**19 12 16.1**	**+1.1**
VSM				*eS*	**Sb**	**19 12 31.6**	**+0.9**
BLLM	**Bellamira**	**1.22**	**350**	*eP*	**Pb**	**19 12 15.4**	**+0.7**
BLLM				*eS*	**Sb**	**19 12 30.8**	**0.0**
RANC	**El Ranchito**	**1.22**	**348**	*eP*	**Pb**	**19 12 15.3**	**+0.6**
RANC	**El Ranchito**	**1.22**	**348**	P	**Pb**	**19 12 15.6**	**+0.8**
RANC	**El Ranchito**	**1.22**	**348**	S	**Sn**	**19 12 32.5**	**+0.5**
RANC	**El Ranchito**	**1.22**	**348**	P	**Pb**	**19 12 15.7**	**+0.8**
PACN	**Al O del Volca**	**1.23**	**78**	P	**Pn**	**19 12 16.2**	**+1.1**
PACN				S	**Sn**	**19 12 33.9**	**+1.7**
PACN	**Al O del Volca**	**1.23**	**78**	P	**Pn**	**19 12 16.2**	**+1.1**
CNRM	**Centro Naciona**	**1.24**	**353**	P	**Pn**	**19 12 16.5**	**+1.3**
CNRM	**Centro Naciona**	**1.24**	**353**	S	**Sn**	**19 12 33.7**	**+1.4**
POLN	**Al Sur del Vol**	**1.25**	**71**	P	**Pn**	**19 12 16.2**	**+0.8**
POLN				S	**Sn**	**19 12 32.9**	**+0.2**
POLN	**Al Sur del Vol**	**1.25**	**71**	P	**Pn**	**19 12 16.3**	**+1.0**
PACA	**Pacayal**	**1.26**	**347**	*eP*	**Pn**	**19 12 16.6**	**+1.0**
PACA				*eS*	**Sb**	**19 12 32.9**	**+0.8**
PACA	**Pacayal**	**1.26**	**347**	P	**Pn**	**19 12 16.4**	**+0.8**
PACA	**Pacayal**	**1.26**	**347**	S	**Sb**	**19 12 32.2**	**+0.2**
PACA	**Pacayal**	**1.26**	**347**	P	**Pn**	**19 12 16.4**	**+0.8**
PLRN	**Geotermica Pol**	**1.27**	**74**	P	**Pn**	**19 12 16.5**	**+0.8**
PLRN				S	**Sn**	**19 12 33.0**	**-0.3**
ROCN	**Rota Cerro Neg**	**1.28**	**77**	P	**Pn**	**19 12 16.9**	**+1.1**
ROCN				S	**Sn**	**19 12 34.8**	**+1.3**
CNGA	**AI SSO del Vol**	**1.32**	**79**	P	**Pn**	**19 12 16.9**	**+0.6**
CNGA				S	**Sn**	**19 12 35.0**	**+0.6**
CNGA	**AI SSO del Vol**	**1.32**	**79**	P	**Pn**	**19 12 17.4**	**+1.1**
CNGN	**Cerro Negro**	**1.32**	**78**	P	**Pn**	**19 12 17.4**	**+1.1**
CNGN	**Cerro Negro**	**1.32**	**78**	S	**Sn**	**19 12 36.6**	**+2.1**
CNGN	**Cerro Negro**	**1.32**	**78**	P	**Pn**	**19 12 17.4**	**+1.1**
TECA	**Tecapa**	**1.33**	**340**	*eP*	**Pg**	**19 12 17.0**	**+0.3**
TECA				*eS*	**Sb**	**19 12 34.8**	**+0.5**
ILCN	**San Idelfonso**	**1.34**	**75**	P	**Pn**	**19 12 17.2**	**+0.7**
ILCN				S	**Sn**	**19 12 35.3**	**+0.5**
ILCN	**San Idelfonso**	**1.34**	**75**	P	**Pn**	**19 12 17.5**	**+1.0**
LEVN	**Ruinas Leon Vi**	**1.39**	**83**	P	**Pb**	**19 12 18.3**	**+0.7**
LEVN				S	**Sn**	**19 12 37.1**	**+1.2**
LEVN	**Ruinas Leon Vi**	**1.39**	**83**	P	**Pb**	**19 12 19.1**	**+1.5**
BC86	**Nagarote**	**1.43**	**89**	P	**Pg**	**19 12 19.4**	**+0.9**
BC86	**Nagarote**	**1.43**	**89**	S	**Sn**	**19 12 37.6**	**+0.6**
BC84	**Volcan Momotom**	**1.46**	**84**	S	**Sn**	**19 12 38.2**	**+0.4**
MOMN	**Momotombo**	**1.46**	**83**	P	**Pn**	**19 12 18.7**	**+0.5**
MOMN				S	**Sn**	**19 12 37.6**	**-0.3**
MOMN	**Momotombo**	**1.46**	**83**	P	**Pb**	**19 12 18.8**	**0.0**
TECO	**Alcaldia de Te**	**1.49**	**330**	*eP*	**Pn**	**19 12 19.4**	**+0.7**
TECO				*eS*	**Sn**	**19 12 36.3**	**-2.2**
TECO	**Alcaldia de Te**	**1.49**	**330**	P	**Pn**	**19 12 19.5**	**+0.9**
TECO	**Alcaldia de Te**	**1.49**	**330**	S	**Sn**	**19 12 37.5**	**-1.0**
TECO	**Alcaldia de Te**	**1.49**	**330**	P	**Pn**	**19 12 19.5**	**+0.9**
CHOHN	**Orocuina**	**1.50**	**34**	P	**Pg**	**19 12 20.1**	**+0.3**
CHOHN	**Orocuina**	**1.50**	**34**	S	**Sn**	**19 12 40.9**	**+2.1**
CAHU	**Cacacuatique**	**1.54**	**353**	*eP*	**Pg**	**19 12 21.0**	**+0.5**
AMTN	**Mateare**	**1.56**	**90**	P	**Pg**	**19 12 21.1**	**+0.2**
AMTN	**Mateare**	**1.56**	**90**	S	**Sg**	**19 12 41.3**	**+0.1**
UESV	**Universidad de**	**1.58**	**332**	*eP*	**Pn**	**19 12 20.3**	**+0.5**
UESV	**Universidad de**	**1.58**	**332**	P	**Pn**	**19 12 21.0**	**+1.1**
UESV	**Universidad de**	**1.58**	**332**	S	**Sn**	**19 12 40.6**	**-0.2**
UESV	**Universidad de**	**1.58**	**332**	P	**Pn**	**19 12 21.0**	**+1.1**
SAPS	**Ciudad Sandino**	**1.59**	**92**	P	**Pn**	**19 12 20.7**	**+0.8**
SAPS	**Ciudad Sandino**	**1.59**	**92**	S	**Sg**	**19 12 41.5**	**-0.5**
COEG	**Centro de Oper**	**1.61**	**329**	*eP*	**Pn**	**19 12 21.3**	**+1.0**
COEG	**Centro de Oper**	**1.61**	**329**	P	**Pn**	**19 12 21.7**	**+1.4**
COEG	**Centro de Oper**	**1.61**	**329**	S	**Sn**	**19 12 42.2**	**+0.6**
COEG	**Centro de Oper**	**1.61**	**329**	P	**Pn**	**19 12 21.7**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.61**	**335**	*eP*	**Pn**	**19 12 21.1**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.61**	**335**	P	**Pn**	**19 12 21.4**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.61**	**335**	S	**Sg**	**19 12 43.7**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.61**	**335**	P	**Pn**	**19 12 21.3**	**+1.0**
APYN	**Apoyeque**	**1.64**	**90**	P	**Pg**	**19 12 22.4**	**-0.1**
APYN				S	**Sg**	**19 12 43.4**	**-0.3**
APYN	**Apoyeque**	**1.64**	**90**	P	**Pg**	**19 12 23.4**	**+0.9**
APQ2	**Apoyeque**	**1.66**	**91**	P	**Pg**	**19 12 23.0**	**0.0**
APQ2				S	**Sg**	**19 12 43.5**	**-1.0**
ABCN	**Banco Central**	**1.68**	**94**	S	**Sg**	**19 12 44.1**	**-1.1**
ABCN	**Banco Central**	**1.68**	**94**	P	**Pn**	**19 12 21.5**	**+0.3**
LFRS	**El Faro**	**1.71**	**324**	*eP*	**Pn**	**19 12 22.6**	**+0.8**
LFRS				*eS*	**Sn**	**19 12 42.9**	**-1.2**
ALLN	**Telcor Managua**	**1.71**	**93**	S	**Sg**	**19 12 45.7**	**-0.5**
BC87	**San Francisco**	**1.72**	**81**	S	**Sg**	**19 12 46.0**	**-0.3**
PAVA	**Las Pavas**	**1.72**	**329**	P	**Pn**	**19 12 23.6**	**+1.7**
USIM	**UNAN**	**1.72**	**94**	S	**Sg**	**19 12 45.2**	**-1.1**
TISN	**Laguna Tiscapa**	**1.72**	**93**	P	**Pb**	**19 12 23.0**	**-0.2**
TISN	**Laguna Tiscapa**	**1.72**	**93**	P	**Pb**	**19 12 23.6**	**+0.3**
UNAN	**Cigeo UNAN**	**1.72**	**94**	P	**Pb**	**19 12 23.4**	**+0.1**
UNAN				S	**Sg**	**19 12 45.5**	**-0.9**
UNAN	**Cigeo UNAN**	**1.72**	**94**	P	**Pb**	**19 12 23.7**	**+0.5**
ENAN	**Enatrel Managu**	**1.73**	**94**	S	**Sg**	**19 12 46.2**	**-0.5**
R4DEC	**Barrio San Lui**	**1.74**	**93**	P	**Pb**	**19 12 23.6**	**+0.1**
R4DEC	**Barrio San Lui**	**1.74**	**93**	S	**Sb**	**19 12 45.6**	**-0.2**
MGAN	**Managua**	**1.74**	**93**	S	**Sb**	**19 12 45.3**	**-0.5**
MGAN	**Managua**	**1.74**	**93**	P	**Pb**	**19 12 23.7**	**+0.1**
MGAN	**Managua**	**1.74**	**93**	S	**Sb**	**19 12 45.6**	**-0.2**
MAFN	**Magfor**	**1.75**	**94**	S	**Sg**	**19 12 46.

INDI	Punta indio, G	3.42 133		P	Pn	19 12 47.1	+2.0
NISHN	Nisperales Com	3.52	2	P	Pb	19 12 51.0	-3.0
JTS	Las Juntas de	3.58 122		Pn	Pn	19 12 49.2	+1.7
	2.0nm,0.3s,baz=107,slow=22,SNR=9.5						
JTS				Sn	Sn	19 13 25.5	-4.7
	4.4nm,0.3s,baz=24,slow=21,SNR=4.6						
JTS				Lg	Lg	19 13 42.8	
	7.4nm,0.3s,baz=216,slow=18,SNR=4.3						
JTS				LR	LR	19 14 04.2	
	comp=Z,134nm,18.1s,baz=294,slow=38						
	4.5nm,0.3s						
APG	El Apazote	3.63 320		Pn	Pn	19 12 51.4	+3.0
	0.1nm,0.3s,baz=89,slow=22,SNR=1.9						
APG				Sn	Sn	19 13 30.2	-1.5
	0.1nm,0.3s,baz=125,slow=11,SNR=4.0						
ESPN	Las Esperanzas	3.64	90	S	Sn	19 13 33.0	+1.4
SOCE	Pocosol	3.82 119		P	Pn	19 12 52.3	+1.6
SOCE	Pocosol	3.82 119		S	Sn	19 13 36.8	+0.8
CMIG	Matias Romero	8.21 307		Pn	Pn	19 13 55.9	+4.9
	0.4nm,0.3s,baz=126,slow=14,SNR=2.4						
CMIG				Sn	Sn	19 15 30.4	+6.2
	0.2nm,0.3s,baz=190,slow=18,SNR=1.6						
	2.4nm,0.6s						
TXAR	Lajitas Array	22.39 322		P	P	19 16 52.0	+1.3
	6.5nm,0.7s,baz=140,slow=9.2,SNR=40						
	6.5nm,0.7s						
LPAZ	La Paz	34.50 145		LR	LR	19 33 51.0	
	comp=Z,120nm,18.3s,baz=324,slow=38						
PDAR	Pinedale Array	35.70 332		P	P	19 18 51.5	+0.6
	0.3nm,0.4s,baz=140,slow=8.2,SNR=4.7						
	0.3nm,0.4s						
NVAR	Mina Array Bea	37.49 319		P	P	19 19 08.5	+2.2
	0.4nm,0.7s,baz=105,slow=4.6,SNR=2.6						
	0.4nm,0.7s						
ULM	Lac du Bonnet	38.45 352		P	P	19 19 12.1	-1.8
	1.6nm,0.6s,baz=158,slow=9.1,SNR=3.9						
	1.6nm,0.6s						
SCHQ	Schefferville	45.64	17	P	P	19 20 09.7	-2.9
	0.9nm,0.5s,baz=212,slow=9.5,SNR=1.9						
	0.9nm,0.5s						
YKA	Yellowknife Ar	53.67 345		P	P	19 21 11.8	-1.9
	0.2nm,0.7s,baz=142,slow=7.7,SNR=4.0						
	0.2nm,0.7s						
ILAR	Eielson Array	65.99 336		P	P	19 22 37.7	-0.7
	0.2nm,0.6s,baz=89,slow=7.3,SNR=4.6						
	0.2nm,0.6s						
ASAR	Alice Springs	138.67 248		PKP	PKiKP	19 31 23.1	+1.7
	0.6nm,1.1s,baz=90,slow=1.9,SNR=2.9						
WRA	Warramunga Arr	138.67 254		PKP	PKiKP	19 31 22.1	+0.7
	0.1nm,0.4s,baz=88,slow=1.9,SNR=1.2						
CMAR	Chiang Mai Arr	148.74 347		PKPbc	PKPbc	19 31 41.4	+0.7
	0.2nm,0.4s,baz=91,slow=1.4,SNR=1.1						

RSNC ***15*** *19:20:35.7±1.0, 11°N±6°×6°8W±°, h10km, M2.8, mb4.1, mB5.3, ML2.8, Mw(mB)4.7*
FUNV ***15*** *19:20:38.3, 10°.75N×68°.05W, h6km, MW3.6*

ISC 15 19:20:35.8±1.4, 10°.82N±0°.05×68°.08W±0°.03, h9km±11km, n29, σ2°06/48, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACV	Jacura	0.78	290	eP	Pn	19 20 54.3	+1.2
JACV				eS	Sn	19 21 05.9	+0.9
BENV	Beln	0.97	151	eP	Pn	19 20 56.5	+0.6
BENV				eS	Sb	19 21 07.6	-0.4
MAPV	Macapo	1.05	201	eP	Pn	19 20 56.9	+0.1
MAPV				eS	Sg	19 21 10.4	+0.7
TACV	Tcata	1.24	123	eP	Pb	19 20 59.6	+0.1
TACV				eS	Sb	19 21 15.4	-0.2
FUNV	FUNVISIS	1.30	105	eP	Pg	19 21 01.3	+0.5
FUNV				eS	Sg	19 21 18.4	+0.8
TEPV	Terepaima	1.38	232	eP	Pb	19 21 01.7	-0.2
BAUV	El Baul	1.86	179	eP	Pn	19 21 08.7	+0.7
BAUV				eS	Sn	19 21 31.2	-0.5
SDV	Santo Domingo	3.17	233	P	Pn	19 21 27.2	+1.1
SDV				S	Sg	19 22 17.2	-0.4
SDV	Santo Domingo	3.17	233	P	Pn	19 21 27.2	+1.1
SDV				S	Sg	19 22 17.2	-0.4
PCRV	Puerto La Cruz	3.45	100	eP	Pn	19 21 31.4	+1.6
PCRV				eS	Sn	19 22 10.7	-0.2
CACV	CAICARA DEL OR	3.57	155	eP	Pb	19 21 36.3	-3.0
CACV				eS	Sb	19 22 19.4	-3.4
SOCV	Socops	3.72	228	eP	Pn	19 21 34.7	+1.1
SOCV				eS	Sn	19 22 16.4	-1.2
URIC	Uribia, Colomb	3.94	283	P	Pn	19 21 36.8	+0.3
URIC				S	Sn	19 22 12.9	-10
URIC	Uribia, Colomb	3.94	283	P	Pn	19 21 36.8	+0.3
URIC				S	Sn	19 22 12.9	-10
CRJC	Cerrejon, Guaj	4.72	273	P	Pn	19 21 47.7	+0.3
CRJC				S	Sn	19 22 41.2	-1.1
CRJC	Cerrejon, Guaj	4.72	273	P	Pn	19 21 47.7	+0.3
CRJC				S	Sn	19 22 41.2	-1.1
CAPV	Capacho	5.11	235	eP	Pn	19 21 54.2	+1.4
TAMC	Tame, Arauca	5.69	220	P	Pn	19 22 01.9	+1.2
	27nm,0.5s						
TAMC				S	Sn	19 23 14.0	+7.7
	27nm,0.5s						
TAMC	Tame, Arauca	5.69	220	P	Pn	19 22 01.9	+1.2
	27nm,0.5s						
TAMC				S	Sn	19 23 14.0	+7.7
	27nm,0.5s						
PAMC	Pamplona, Colo	5.72	233	P	Pn	19 22 02.4	+0.9
PAMC				S	Sn	19 23 04.4	-3.2
PAMC	Pamplona, Colo	5.72	233	P	Pn	19 22 02.4	+0.9
PAMC				S	Sn	19 23 04.4	-3.2
RUSC	La Rusia	6.96	226	P	Pn	19 22 19.6	+1.1
	9.8nm,0.9s						
RUSC	La Rusia	6.96	226	P	Pn	19 22 19.6	+1.1
	9.8nm,0.9s						
SJCC	San Jacinto, C	7.04	263	P	Pn	19 22 20.3	+1.0
	10nm,1.3s						
SJCC				S	Sn	19 23 39.7	+0.1
	10nm,1.3s						
SJCC	San Jacinto, C	7.04	263	P	Pn	19 22 20.3	+1.0
	10nm,1.3s						
SJCC				S	Sn	19 23 39.7	+0.1
	10nm,1.3s						
PTBC	PUERTO BERRIO,	7.60	237	P	Pn	19 22 26.5	-0.4
PTBC	PUERTO BERRIO,	7.60	237	P	Pn	19 22 26.5	-0.4
CHIC	Chingaza	8.32	223	P	Pn	19 22 37.6	+0.5
CHIC	Chingaza	8.32	223	P	Pn	19 22 37.6	+0.5

MEX ***15*** *19:32:22.1±1.6, 14°.10N×93°.10W, h9km±122km, MD4.0*
GCG ***15*** *19:32:24.6±2.3, 14°.21N×92°.88W, h50km±621km, MD4.1*

ISC 15 19:32:22.1±3.5, 14°.1N±0°.2×93°.07W±0°.06, h37km, n12, σ1°74/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATR	El Naranjo	1.29	39	eP	Pn	19 32 42.4	-1.5
PATR				eS	Sn	19 32 59.6	-0.4
PAVE	Pavencul	1.38	38	eP	Pn	19 32 44.1	-1.0
PAVE				eS	Sn	19 33 01.9	-0.4
PCIG		1.60	355	eP	Pn	19 32 45.7	-2.2
PCIG				i S	Sn	19 33 02.4	-4.9
STG8	El Palmar, Qui	1.70	78	eP		19 32 47.9	
STG0	El Palmar, Qui	1.70	79	eP		19 32 47.2	
CARR	Arriaga	2.28	339	eP	Pn	19 32 57.9	+0.6
CARR				eS	Sn	19 33 23.8	-0.4
CCIG	Comitan	2.34	22	eP	Pn	19 33 00.1	+1.8
CCIG				eS	Sn	19 33 27.1	+1.2
CCIG	Comitan	2.34	22	i P	Pn	19 33 01.1	+2.8
CCIG	Comitan	2.34	22	i P		19 33 01.1	
TGIG		2.66	359	eP		19 33 03.5	
TGIG				i S		19 33 34.2	
TGIG		2.66	359	eP	Pn	19 33 03.7	+1.2
TGIG				eS	Sn	19 33 33.4	-0.1
TGIG		2.66	359	eP	Pn	19 33 03.5	+1.0
TGIG				i S	Sn	19 33 34.2	+0.7
NILT	Santiago Nilte	2.87	329	eP	Pn	19 33 06.3	+1.0
NILT				i S	Sn	19 33 39.6	+1.0
UXUV	UXUV	3.36	342	eP	Pn	19 33 14.0	+1.9
UXUV				eS	Sn	19 33 51.9	+1.1
CMIG	Matias Romero	3.45	330	eP	Pn	19 33 13.4	+0.1
CMIG				eS	Sn	19 33 50.5	-2.4
NEUV	Arroyo Zacate	4.45	324	eP	Pn	19 33 27.0	-0.1
NEUV				eS	Sn	19 34 17.5	-0.2

BJI ***15*** *19:35:13.2, 8°.05S×128°.61E, h147km, mB5.0/17, mb5.2/79*
MOS ***15*** *19:35:18.1±1.0, 7°.39S×128°.10E, h139km, mb5.1/40, Error ellipse: s-maj=9.3km s-min=4.9km az=111.7*
NEIC ***15*** *19:35:19.1±1.8, 7°.46S±0°.07×128°.14E±0°.07, h132km±5km, mb5.1/111, Error ellipse: s-maj=10.7km s-min=10.3km az=83.0*
DJA ***15*** *19:35:20.2±0.2, 8°S±2°×12°8E±°, h142km±2km, M4.9/71, mb5.0/71, mB5.4/26, MLv5.3/19, Mw(mB)4.8/26, MwMwp4.6/3, Mwp5.0/3*
IDC ***15*** *19:35:20.0±1.9, 7°.42S×128°.13E, h141km±16km, mb4.6/23, mbtmp5.0/27, MS3.5/6, Error ellipse: s-maj=15.6km s-min=9.5km az=69.0*
GCMT ***15*** *19:35:21.1±0.4, 7°.52S±0°.03×128°.14E±0°.04, h155km±5km, MW4.9/81, Moment Tensor Solution. s11,c11; s81,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.99±.12; $M_{\theta\theta}$-1.28±.17; $M_{\phi\phi}$-0.70±.18; $M_{r\theta}$1.03±.11; $M_{\theta\phi}$1.84±.14; $M_{\phi r}$0.32±.12; Best double couple: $M_0$2.73600×10^{16} NP1:ϕ_s106.00000°, δ58.00000°, λ56.00000°. Principal axes: T 2.5480, Plg61.0000°, Azm322.0000°; N 0.3820, Plg28.0000°, Azm125.0000°; P -2.9250, Plg7.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 19:35:19.5±0.6, 7°.47S±0°.04×128°.15E±0°.04, h141km±5km, n489, σ1°26/509, mb5.0/134, 28C-12D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	3.41	31	P	Pn	19 36 13.6	+1.7
BNDI	Bandanaira	3.41	31	P	Pn	19 36 13.5	+1.7
AAI	Ambon	3.75	1	P	Pn	19 36 18.5	+2.1
MSAI	Masohi	4.17	11	P	Pn	19 36 24.5	+2.7
NLAI	Namlea	4.33	346	P	Pn	19 36 27.1	+3.2
SOEI	Soe	4.46	239	Pn	Pn	19 36 25.1	-0.7
SOEI	Soe	4.46	239	P	Pn	19 36 27.4	+1.6
SOEI	Soe	4.46	239	S	Sn	19 37 19.3	+2.1
SOEI	Soe	4.46	239	P	Pn	19 36 26.8	+1.0
DRS	Darwin Rock St	5.63	151	P	Pn	19 36 41.3	+0.1
SANI	Sanana	5.79	338	P	Pn	19 36 46.4	+3.0
SANI	Sanana	5.79	338	P	Pn	19 36 47.2	+3.8
	80nm,0.9s						
BBSI	Bau Bau	5.88	289	P	Pn	19 36 47.7	+3.1
	79nm,0.8s						
MMRI	Maumere	5.96	258	Pn	Pn	19 36 45.4	-0.3
MMRI	Maumere	5.96	258	P	Pn	19 36 47.3	+1.6
MMRI	Maumere	5.96	258	S	Sn	19 37 53.8	+0.8
MMRI	Maumere	5.96	258	P	Pn	19 36 46.3	+0.6
	1.5nm4μm409nm,1.0s						
FAKI	Fak Fak	6.09	42	Pn	Pn	19 36 46.7	-0.7
FAKI	Fak Fak	6.09	42	P	Pn	19 36 47.7	+0.3
FAKI	Fak Fak	6.09	42	S	Sn	19 37 56.0	-0.1
FAKI	Fak Fak	6.09	42	P	Pn	19 36 47.4	0.0
MTN	Manton Dam	6.10	151	Pn	Pn	19 36 46.6	-0.9
MTN	Manton Dam	6.10	151	P	Pn	19 36 47.6	+0.1
KDI	Kendari	6.51	302	P	Pn	19 36 54.9	+1.9
	1.2nm4μm248nm,1.0s						
KMPI	Kaimana, Papua	6.70	56	P	Pn	19 36 55.9	+0.3
KDU	Kakadu	6.71	141	P	Pn	19 36 55.6	-0.1
SWI	Sorong	7.26	25	P	Pn	19 37 04.3	+1.3
	1.1nm2μm4μm271nm,0.7s						
BSSI	Bau Bau, Buton	7.71	279	P	Pn	19 37 11.5	+2.3
	0.4nm123nm,1.3s						
BASI	Baing, Sumba	7.96	249	P	Pn	19 37 11.3	-1.2
	4μm237nm,1.2s						
KNRA	Kununurra	8.18	176	Pn	Pn	19 37 13.8	-1.6
TNTI	Ternate	8.22	355	Pn	Pn	19 37 16.5	+0.5
TNTI	Ternate	8.22	355	P	Pn	19 37 18.0	+2.0
TNTI	Ternate	8.22	355	P	Pn	19 37 18.5	+2.5
BKSI	Bulukumba	8.25	284	P	Pn	19 37 18.6	+2.2
LUWI	Luwuk	8.33	320	Pn	Pn	19 37 15.6	-1.8
LUWI	Luwuk	8.33	320	P	Pn	19 37 20.1	+2.6
LUWI	Luwuk	8.33	320	P	Pn	19 37 19.9	+2.4
	77nm,1.2s						
RKPI	Ransiki, Papua	8.43	46	P	Pn	19 37 19.2	+0.4
WBSI	Waikabubak, Su	8.92	255	P	Pn	19 37 24.1	-1.3
	3μm269nm,0.7s						
KMSI	Cibinong	9.00	332	P	Pn	19 37 28.6	+2.2
	226nm,1.0s						
SPSI	Sidrap Palu	9.03	292	P	Pn	19 37 27.3	+0.5
APSI	Ampana	9.18	315	P	Pn	19 37 30.8	+1.9
	67nm,1.3s						
TTSI	Tana Toraja	9.38	297	P	Pn	19 37 33.2	+1.7
SRPI	Serui, Papua	9.79	56	P	Pn	19 37 35.8	-1.2
	54nm,0.5s						
MRSI	Marisa	10.03	322	P	Pn	19 37 43.0	+2.9
	36nm,0.8s						
BAKI	Biak	10.09	52	P	Pn	19 37 42.5	+1.5
	237nm,0.6s						
PLAI	Plampang	10.35	262	P	Pn	19 37 44.2	-0.3
PLAI	Plampang	10.35	262	P	Pn	19 37 43.1	-1.4
	2μm96nm,0.8s						
PCI	Palu	10.54	308	P	Pn	19 37 49.3	+2.4
	69nm,1.0s						
FITZ	Fitzroy Crossi	10.85	193	Pn	Pn	19 37 47.5	-3.5
FITZ	Fitzroy Crossi	10.85	193	P	Pn	19 37 47.9	-3.1
	116nm,0.4s,baz=26,slow=11,SNR=1074						
FITZ				S	Sn	19 39 40.0	-11
	337nm,0.5s,baz=91,slow=23,SNR=9.9						
FITZ				LR	LR	19 42 51.8	
	comp=Z,264nm,20.3s,baz=10,slow=42						
WAMI	Wamena	11.10	72	P	Pn	19 37 58.6	+4.2
	3μm271nm,0.7s						
TOLI2	Tolitoli	11.25	319	Pn	Pn	19 37 56.6	+0.3
TOLI2	Tolitoli	11.25	319	P	Pn	19 37 59.3	+3.0
SGSI	Sangihe	11.38	347	P	Pn	19 38 01.0	+2.9
SMPI	Sarmi	11.85	63	P	Pn	19 38 04.0	-0.2
	59nm,1.1s						
MMPI	Merauke	12.16	96	P	Pn	19 38 06.9	-1.4
JAY	Jayapura	13.44	69	P	Pn	19 38 24.9	0.0
	18nm,0.7s,baz=198,slow=11,SNR=9.6						
JAY				S	Sn	19 40 40.5	-13
	6.6nm,0.6s,baz=253,slow=7.5,SNR=6.2						
JAY				LR	LR	19 44 57.0	
	comp=Z,187nm,19.2s,baz=308,slow=43						
JAY	Jayapura	13.44	69	P	Pn	19 38 25.8	+0.9
	32nm,0.8s						
WB0	Warramunga Arr	13.65	154		Pn	19 38 23.9	-3.5
WRAB	Tennant Creek	13.78	155		Pn	19 38 25.6	-3.5
WRAB	Tennant Creek	13.78	155	ceP	Pn	19 38 26.0	-3.1
WRA	Warramunga Arr	13.78	155	P	Pn	19 38 26.3	-2.8
	39nm,0.6s,baz=329,slow=13,SNR=131						
WRA				S	Sn	19 40 49.6	-12
	178nm,0.8s,baz=328,slow=23,SNR=13						
WRA	Warramunga Arr	13.78	155	i P	Pn	19 38 25.3	-3.8
WRA				pmax	pmax		
	comp=Z,39nm,0.6s						
WB2	Warramunga Arr	13.79	155		Pn	19 38 25.7	-3.5
WR0	Warramunga Arr	13.88	154		Pn	19 38 27.0	-3.4
JAGI	Jajag, Banyuwa	13.89	265	P	Pn	19 38 28.6	-2.0
GMJI	Gumukmas	14.59	266	P	Pn	19 38 39.1	-0.2
DAV	Davao City (W)	14.66	350	P	Pn	19 38 41.4	+1.1
	comp=Z,135nm,0.3s,baz=57,slow=7.2,SNR=5.0						
MTKI	Muara Teweh, K	14.71	296	P	P	19 38 43.4	+0.1
	comp=Z,113nm,0.6s						
MYLDM	Lahad Datu	15.82	322	P	P	19 38 56.1	+0.5
MYLDM	Lahad Datu	15.82	322	P	P	19 38 56.1	+0.5
MYLDM	Lahad Datu	15.82	322	S	S	19 41 53.3	+0.6
MBWA	Marble Bar	15.86	210	P	Pn	19 38 53.8	-1.3
MBWA	Marble Bar	15.86	210	P	Pn	19 38 54.8	-0.3
COEN	Coen	16.11	115	P	Pn	19 38 58.4	+0.1
COEN	Coen	16.11	115	P	Pn	19 38 58.9	+0.7
PSA00	Pilbara Seismi	16.15	209		Pn	19 38 57.5	-1.1
PSA00	Pilbara Seismi	16.15	209	P	Pn	19 38 57.0	-1.6
PSA00	Pilbara Seismi	16.15	209	P	Pn	19 38 58.5	-0.2
PCJI	Pacitan	16.83	266	P	P	19 39 05.5	-1.2
	comp=Z,69nm,1.5s						
AS31	Alice Springs	17.03	162	P	P	19 39 07.2	-1.7
ASAR	Alice Springs	17.03	162	P	P	19 39 07.5	-1.4
ASAR	Alice Springs	17.03	162	P	P	19 39 08.2	-0.7
	comp=Z,97nm,0.7s,baz=335,slow=9.6,SNR=302						
ASAR				S	S	19 42 04.8	-15
	comp=Z,30nm,0.6s,baz=346,slow=26,SNR=7.6						
AS01	Alice Springs	17.05	162	P	P	19 39 09.2	+0.1
QIS	Mount Isa	17.10	141	P	Pn	19 39 11.0	+0.7
UGM	Wanagama	17.47	267	P	P	19 39 10.7	-3.1
UGM	Wanagama	17.47	267	P	P	19 39 13.0	-0.8
	comp=Z,132nm,1.4s						
WRKA	Warakurna	17.48	180	P	Pn	19 39 15.1	+0.4
KKM	Kota Kinabalu	17.94	318	P	P	19 39 19.5	+0.5
KKM	Kota Kinabalu	17.94	318	P	Pn	19 39 20.6	+0.2
STKI	Sintang	18.23	294	P	Pn	19 39 24.8	+1.1
	comp=Z,181nm,0.9s						
SBUM	Sibu	18.70	301	P	P	19 39 27.7	+0.5
SBUM	Sibu	18.70	301	P	Pn	19 39 30.3	+1.1
PMG	Port Moresby	18.91	97	P	P	19 39 30.4	+0.9
	comp=Z,44nm,0.9s,baz=281,slow=7.5,SNR=22						
PMG				S	S	19 42 54.8	-2.3
	comp=Z,13nm,0.7s,baz=6.7,slow=24,SNR=1.6						
MTSU	Mount Surprise	18.98	125	P	Pn	19 39 32.4	-0.2
KSM	Kuching	19.89	296	P	P	19 39 40.7	+0.6
KSM	Kuching	19.89	296	P	Pn	19 39 42.3	-0.9
MANU	Manus Island	19.89	75	P	P	19 39 40.3	+0.1
GIRL	Giralia	20.18	220	P	P	19 39 44.6	+1.5
BBJI	Bungbulang	20.32	269	P	P	19 39 46.9	+2.0
LEM	Lembang	20.38	270	P	P	19 39 45.5	0.0
	comp=Z,18nm,0.6s,baz=75,slow=9.2,SNR=4.2						
	comp=Z,18nm,0.6s						
CNJI	Cibinong	20.84	269	P	P	19 39 50.3	0.0
	comp=Z,54nm,1.3s						
TPI	Tanjungpandan	20.93	282	P	P	19 39 53.2	+1.9
MEEK	Meekatharra	21.11	204	P	P	19 39 54.5	+1.3
OOD	Oodnadatta	21.45	161	P	P	19 39 58.1	+1.4
TGY	Tagaytay City	22.59	342	P	P	19 40 08.5	0.0
	comp=Z,136nm,0.3s,baz=185,slow=5.9,SNR=7.6						
	comp=Z,136nm,0.3s						
FORT	Forrest	23.20	180	P	P	19 40 14.8	+0.9
FORT				IAmb	IAmb	19 40 27.9	
	comp=Z,75nm,0.7s						
FORT	Forrest	23.20	180	P	P	19 40 16.3	+2.4
INKA	Innaminka	23.43	151	P	P	19 40 16.8	+0.7
MORW	Morawa	24.33	206	P	P	19 40 24.5	+0.2
MORW				IAmb	IAmb	19 40 27.1	
	comp=Z,44nm,0.8s						
MORW	Morawa	24.33	206	P	P	19 40 26.1	+1.8
QLP	Quilpie	24.40	143	P	P	19 40 26.2	+1.2
KMBL	Kambalda	24.49	193	P	P	19 40 27.5	+1.8
LCRK	Leigh Creek	24.74	159	P	P	19 40 29.8	+1.8
TPRI	Tanjung Pinang	24.99	288	P	P	19 40 31.1	+0.7
	comp=Z,64nm,0.8s						
BLDU	Ballidu	25.40	203	P	P	19 40 35.4	+1.4
KLBR	Kellerberrin	25.89	201	P	P	19 40 39.9	+1.5
MYKOM	Kota Tinggi	25.92	290	P	P	19 40 38.6	-0.3
MYKOM	Kota Tinggi	25.92	290	P	P	19 40 39.7	+0.8
BBOO	Buckleboo	26.27	165	P	P	19 40 41.8	0.0
BBOO				IAmb	IAmb	19 41 27.4	
	comp=Z,26nm,0.8s						
NWAO	Narrogin (SRO)	27.29	200	P	P	19 40 50.8	-0.1
NWAO				IAmb	IAmb	19 41 32.9	
	comp=Z,43nm,1.1s						
NWAO	Narrogin (SRO)	27.29	200	LR	LR	19 51 23.3	
	comp=Z,138nm,19.4s,baz=280,slow=35						
NWAO	Narrogin (SRO)	27.29	200	P	P	19 40 50.8	-0.1
NWAO				pmax	pmax		
	comp=Z,43nm,1.2s						
STKA	Stephens Creek	27.33	154	P	P	19 40 52.3	+1.0
STKA	Stephens Creek	27.33	154	P	P	19 40 52.2	+1.0
	comp=Z,3.1nm,0.4s,baz=342,slow=9.3,SNR=25						
	comp=Z,3.1nm,0.4s						
STKA	Stephens Creek	27.33	154	P	P	19 40 52.7	+1.4
STKA	Stephens Creek	27.33	154	deP	P	19 40 53.0	+1.7
EIDS	Eidsvold	28.22	132	P	P	19 40 58.3	-1.0
EIDS				IAmb	IAmb	19 41 50.2	
	comp=Z,50nm,1.6s						
CMSA	Cobar Meteorol	29.01	148	P	P	19 41 07.9	+1.6
MNSI	Mandailing Nat	29.65	285	P	P	19 41 11.2	-0.9
	comp=Z,24nm,0.5s						
KULM	Kulim	30.22	294	P	P	19 41 16.6	-0.5
KULM				IAmb	IAmb	19 41 18.3	
	comp=Z,20nm,0.7s						
KULM	Kulim	30.22	294	P	P	19 41 17.5	+0.4
RPSI	Rantau Prapat	30.86	288	P	P	19 41 21.8	-0.9
RPSI				IAmb	IAmb	19 41 26.3	
	comp=Z,28nm,0.8s						
PSI	Prapat	30.89	288	LR	LR	19 56 14.8	
	comp=Z,123nm,18.3s,baz=159,slow=41						
PSI	Prapat	30.89	288	P	P	19 41 22.9	-0.3
PSI	Prapat	30.89	288	P	P	19 41 21.8	-1.4
PSI				pmax	pmax		
	comp=Z,28nm,0.8s						
YULB	Yu-li	31.39	348	P	P	19 41 24.1	-3.1
YULB				IAmb	IAmb	19 41 41.5	
	comp=Z,58nm,1.5s						
TPUB	Ta-pu	31.45	347	P	P	19 41 26.4	-1.4
HNR	Honiara	31.51	96	LR	LR	19 54 12.8	
	comp=Z,58nm,18.9s,baz=196,slow=36						
ARMA	Armidale	31.71	139	P	P	19 41 28.2	-2.0
ARMA				IAmb	IAmb	19 42 30.0	
	comp=Z,49nm,1.7s						
GSI	Gunungsitoli	31.71	285	P	P	19 41 29.1	-1.2
GSI				IAmb	IAmb	19 41 32.0	
	comp=Z,29nm,0.8s						
GSI	Gunungsitoli	31.71	285	P	P	19 41 30.2	-0.1
	comp=Z,1μmcomp=Z,39nm,0.7s						
ARPS	Mount Arapiles	31.73	159	P	P	19 41 31.5	+1.4
SSLB	Suanglung	31.85	347	P	P	19 41 29.0	-2.3
SSLB				IAmb	IAmb	19 41 34.0	
	comp=Z,77nm,1.7s						
UBPT	Khong Chiam	31.87	315	P	P	19 41 31.9	+0.4
UBPT				IAmb	IAmb	19 41 33.8	
	comp=Z,24nm,0.6s						
UBPT	Khong Chiam	31.87	315	P	P	19 41 33.3	+1.7
QIZ	Qiongzhong	31.92	326	P	P	19 41 31.9	0.0
NACB	Ninganchiao	32.09	349	P	P	19 41 30.9	-2.5
NACB				IAmb	IAmb	19

comp=Z,5.4nm,0.8s
GYA Guiyang 39.65 329 P P 19 42 39.0 +1.1
GYA pmax pmax
comp=Z,39nm,0.8s
WHN Wuhan 40.04 341 P P 19 42 42.0 +1.1
WHN pmax pmax
comp=Z,130nm,0.8s
NJ2 Nanjing 40.28 348 ⇓P P 19 42 43.9 +1.0
NJ2 pmax pmax
comp=Z,27nm,1.0s
JNU Nakatsue 40.45 4 P P 19 42 43.8 -0.5
comp=Z,18nm,0.7s,baz=86,slow=2.0,SNR=15
comp=Z,18nm,0.7s
KMI Kunming 40.76 323 ⇑P P 19 42 48.9 +1.7
KMI pmax pmax
comp=Z,27nm,1.0s
JMN Monobe 41.33 7 P P 19 42 51.6 +0.1
JMN IAmb IAmb 19 42 52.8
comp=Z,24nm,0.6s
ENH Enshi 41.58 335 P P 19 42 53.3 -0.3
ENH IAmb IAmb 19 42 54.7
comp=Z,30nm,0.6s
ENH Enshi 41.58 335 P P 19 42 54.1 +0.5
ENH Enshi 41.58 335 P P 19 42 54.0 +0.4
PZH PanZhiHua 42.38 324 P P 19 43 00.8 +0.5
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,80nm,4.5s
JSG Sagara 42.97 12 P P 19 43 04.0 -0.8
TNCH TengChong 43.31 319⇑*i*P P 19 43 08.9 +1.0
TNCH pP pwP 19 43 41.5 -2.1
TNCH sP sP 19 43 53.0 -0.5
TNCH S **S 19 49 25.3 +0.2**
TNCH sS sS 19 50 23.8 +5.7
TNCH SS **SS 19 52 39.1 -5.3**
TNCH pmax pmax
comp=Z,46nm,0.8s
TNCH pmax pmax
comp=Z,110nm,2.9s
INU Inuyama 43.40 11 P P 19 43 08.6 +0.5
TJN Taejon 43.62 359 P P 19 43 09.5 -0.4
TJN Taejon 43.62 359 P P 19 43 11.1 +1.2
TJN Taejon 43.62 359⇑*i*P P 19 43 10.5 +0.6
JGF Kuroka 43.71 11 P P 19 43 09.4 -1.2
JGF IAmb IAmb 19 44 10.6
comp=Z,72nm,2.0s
LYN LuoYang 44.34 341 *e*P P 19 43 19.8 +4.1
LYN pmax pmax
comp=Z,38nm,0.8s
TIA Tai'an 44.66 347 P P 19 43 17.9 -0.4
TIA pmax pmax
comp=Z,23nm,0.8s
KSAR Wonju Array Be 44.67 360 P P 19 43 18.6 +0.3
KSAR PcP **PcP 19 44 59.0 +0.6**
KSAR Wonju Array Be 44.67 360 P P 19 43 18.6 +0.3
KSRS Korea Array 44.68 360 P P 19 43 19.4 +1.1
comp=Z,36nm,0.5s,baz=179,slow=9.3,SNR=212
KSRS PcP **PcP 19 44 58.6 +0.1**
comp=Z,2.2nm,0.6s,baz=181,slow=3.4,SNR=4.6
KSRS LR LR 20 00 54.7
comp=Z,26nm,21.9s,baz=265,slow=34
comp=Z,36nm,0.5s
KS19 Wonju Array Si 44.73 360 P P 19 43 19.1 +0.3
KS19 IAmb IAmb 19 43 20.1
comp=Z,46nm,0.7s
CD2 Chengdu 44.74 330 P P 19 43 19.1 +0.1
CD2 pmax pmax
comp=Z,50nm,0.7s
MAJO Matsushiro 44.78 12 P P 19 43 17.9 -1.3
MAJO IAmb IAmb 19 43 18.9
comp=Z,26nm,0.7s
MAJO Matsushiro 44.78 12 P P 19 43 18.8 -0.4
MAJO Matsushiro 44.78 12 *i* P P 19 43 17.9 -1.3
MAJO pmax pmax
comp=Z,22nm,0.6s
MAJO Matsushiro 44.78 12 P P 19 43 18.1 -1.1
MJAR Matsushiro Arr 44.78 12 P P 19 43 18.2 -1.0
comp=Z,15nm,0.6s,baz=190,slow=9.2,SNR=37
comp=Z,15nm,0.6s
MJB9 Matsu-Tunnel 44.78 12 P P 19 43 18.6 -0.6
MJB9 IAmb IAmb 19 43 19.9
comp=Z,25nm,0.7s
XAN Xi'an 45.12 337 ⇑P P 19 43 21.8 -0.2
XAN pmax pmax
comp=Z,110nm,0.8s
XAN Xi'an 45.12 337 P P 19 43 21.7 -0.3
JSD Sado 46.24 11 P P 19 43 30.0 -0.7
JSD IAmb IAmb 19 43 55.5
comp=Z,30nm,1.1s
WAKE Wake Island 46.32 54 P P 19 43 31.8 +0.2
HNS HongShan 46.37 345 ⇑P P 19 43 31.6 0.0
HNS pmax pmax
comp=Z,90nm,0.9s
DL2 Dalian 46.53 353 P P 19 43 33.1 +0.3
DL2 pmax pmax
comp=Z,57nm,0.9s
JMM Marumori 46.62 14 P P 19 43 33.6 +0.1
JMM IAmb IAmb 19 43 34.4
comp=Z,32nm,0.6s
TIY Taiyuan 47.28 343 P P 19 43 39.0 +0.2
TIY pmax pmax
comp=Z,72nm,0.7s
SHL Shillong 48.18 314 P P 19 43 45.4 -0.7
SHL Shillong 48.18 314 P P 19 43 45.4 -0.7
SHL pmax pmax
comp=Z,42nm,0.6s
BJT Baijiatuau 48.52 348 P P 19 43 47.8 -0.5
BJT IAmb IAmb 19 43 49.4
comp=Z,38nm,0.9s
BJT Baijiatuau 48.52 348 P P 19 43 49.6 +1.3
BJT Baijiatuau 48.52 348 P P 19 43 47.8 -0.5
BJT pmax pmax
comp=Z,38nm,0.9s
BJT Baijiatuau 48.52 348 P P 19 43 48.4 +0.1
BJI Beijing 48.55 348 P P 19 43 48.5 +0.1
BJI pmax pmax
comp=Z,22nm,0.8s
LZH Lanzhou 48.98 334 ⇑P P 19 43 52.8 +0.8
LZH pP pwP 19 44 31.8 +3.2
LZH pmax pmax
comp=Z,100nm,1.3s
JTM Tenmabayashi 49.47 13 P P 19 43 55.3 -0.1
JTM IAmb IAmb 19 43 56.9
comp=Z,62nm,1.3s
MSHR Mys Shultsa 49.88 3*c i*P P 19 43 59.0 +0.5
MSHR pmax pmax
comp=Z,45nm,0.6s
HHC Hu-ho-hao-te 50.44 344⇑*i*P P 19 44 03.4 +0.5
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,73nm,3.6s
VLA Vladivostok 50.46 4*ce*P P 19 44 04.0 +1.2
VLA pmax pmax
comp=Z,23nm,0.7s
BTO Baotou 50.66 342 *e*P P 19 44 05.8 +1.2
BTO PP **PP 19 45 59.3 -2.8**
BTO S **S 19 51 10.0 +1.1**
BTO pmax pmax
comp=Z,21nm,0.8s
BTO pmax pmax
comp=Z,220nm,4.7s
BTO LR LR
comp=Z,260nm,10.5s
BTO LR LR
comp=Z,150nm,4.9s
BTO LR LR
comp=Z,160nm,5.5s
JCZ Jackson Bay 50.81 143 P P 19 44 07.4 +1.6
CN2 Changchun 51.08 357 P P 19 44 07.4 -0.1
CN2 pmax pmax
comp=Z,30nm,0.5s
ERM Erimo 51.12 14 P P 19 44 07.8 0.0
ERM IAmb IAmb 19 45 09.6
comp=Z,47nm,1.4s
ERM Erimo 51.12 14 P P 19 44 07.8 0.0
ERM pmax pmax
comp=Z,47nm,1.4s
FOZ Fox Glacier 51.15 142 P P 19 44 07.3 -0.8
FOZ Fox Glacier 51.15 142 P P 19 44 09.9 +1.9
MLZ Mavora Lakes 51.15 144 P P 19 44 07.1 -1.1
MLZ Mavora Lakes 51.15 144 P P 19 44 10.0 +1.9
LSA Lhasa 51.28 318 P P 19 44 10.5 +0.6
LSA Lhasa 51.28 318 P P 19 44 10.9 +1.0
LSA pmax pmax
comp=Z,91nm,0.7s
LSA Lhasa 51.28 318 P P 19 44 10.5 +0.6
LSA pmax pmax
comp=Z,67nm,0.6s
LSA Lhasa 51.28 318 P P 19 44 11.2 +1.3
USA0B Ussuriysk Arra 51.54 4 P P 19 44 11.0 +0.1
USA0B Ussuriysk Arra 51.54 4*c i*P P 19 44 11.3 +0.4
USRK Ussuriysk Ar. 51.54 4 P P 19 44 10.8 -0.1
comp=Z,38nm,0.4s,baz=187,slow=7.3,SNR=338
comp=Z,38nm,0.4s
QRZ Quartz Range 51.55 137 P P 19 44 12.9 +1.8
QRZ IAmb IAmb 19 45 20.8
comp=Z,36nm,1.2s
QRZ Quartz Range 51.55 137 P P 19 44 13.4 +2.3
GRZ Great Barrier 51.72 131 P P 19 44 12.9 +0.4
LBZ Lake Benmore 51.83 142 P P 19 44 13.4 +0.2
LBZ Lake Benmore 51.83 142 P P 19 44 14.9 +1.7
MDJ Mudanjiang 51.86 1 P P 19 44 13.7 +0.4
MDJ IAmb IAmb 19 44 14.8
comp=Z,22nm,0.7s
MDJ Mudanjiang 51.86 1 P P 19 44 14.4 +1.2
MDJ pmax pmax
comp=Z,34nm,0.6s
MDJ Mudanjiang 51.86 1 P P 19 44 14.5 +1.2
MDJ Mudanjiang 51.86 1 P P 19 44 13.9 +0.6
MRNZ Matariki Terra 51.97 138 P P 19 44 15.5 +1.3
RPZ Rata Peaks 52.01 141 P P 19 44 16.0 +1.4
RPZ IAmb IAmb 19 44 17.9
comp=Z,31nm,1.0s
RPZ Rata Peaks 52.01 141 P P 19 44 16.3 +1.7
THZ Tophouse 52.24 138 P P 19 44 18.1 +1.8
THZ Tophouse 52.24 138 P P 19 44 17.7 +1.4
XLT XiLinHaoTe 52.28 349 *e*P P 19 44 16.6 +0.1
XLT pP pP 19 44 49.1 +1.4
XLT pmax pmax
comp=Z,77nm,0.8s
LTZ Lake Taylor 52.31 140 P P 19 44 17.1 +0.2
LTZ IAmb IAmb 19 44 17.3
comp=Z,41nm,1.4s
TUWZ Tuamarina 52.77 137 P P 19 44 20.8 +0.7
TCW Tory Channel 52.90 137 P P 19 44 22.2 +1.0
KHZ Kahutara 52.96 139 P P 19 44 22.7 +1.2
KHZ Kahutara 52.96 139 P P 19 44 22.7 +1.2
BNX BinXian 52.97 359 ⇓P P 19 44 21.3 -0.1
BNX pmax pmax
comp=Z,17nm,0.6s
ASAJ Asahikawa 52.98 13 P P 19 44 21.6 0.0
ASAJ pmax pmax
comp=Z,9.0nm,0.6s
JKA Kamikawa-asahi 52.98 13 P P 19 44 21.6 0.0
GTA Gaotai 53.52 333 P P 19 44 27.1 +1.3
GTA pmax pmax
comp=Z,65nm,0.8s
GOMU GeErMu 53.54 326 P P 19 44 28.1 +1.8
GOMU pmax pmax
comp=Z,8.0nm,0.9s
BKZ Black Stump Fm 53.59 134 P P 19 44 27.0 +0.7
BKZ Black Stump Fm 53.59 134 P P 19 44 27.5 +1.2
HAZ Te Kaha 54.01 132 P P 19 44 30.0 +0.7
BFZ Birch Farm 54.02 136 P P 19 44 30.8 +1.5
MWZ Matawai 54.03 132 P P 19 44 31.0 +1.5
MXZ Matakaoa Point 54.33 131 P P 19 44 32.1 +0.5
HYB Hyderabad 54.88 297 *e*P P 19 44 35.6 -0.3
HYB IVmB_BB 19 44 35.8
comp=Z,312nm,1.3s
KAAM Kaadhehdhoo 55.56 276 P P 19 44 40.4 -0.5
YSS Yuzhno-Sakhali 55.72 12 P P 19 44 40.8 -0.5
YSS IAmb IAmb 19 44 42.1
comp=Z,11nm,0.6s
YSS Yuzhno-Sakhali 55.72 12 P P 19 44 41.8 +0.5
YSS Yuzhno-Sakhali 55.72 12 *e*P P 19 44 41.6 +0.4
YSS pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzhno-Sakhali 55.72 12 P P 19 44 41.6 +0.4
KLR Kul'dur 56.54 3*c i*P P 19 44 47.5 +0.4
KLR pmax pmax
comp=Z,25nm,1.6s
HIA Hailar 56.97 353 P P 19 44 50.4 +0.2
HIA IAmb IAmb 19 44 52.6
comp=Z,34nm,1.5s
HIA Hailar 56.97 353 P P 19 44 51.4 +1.2
HIA Hailar 56.97 353 P P 19 44 50.4 +0.2
HIA pmax pmax
comp=Z,34nm,1.5s
HEH HeiHe 57.48 359 *e*P P 19 44 53.6 -0.1
HEH pmax pmax
comp=Z,33nm,0.8s
ULN Ulaanbaatar 58.16 343 P P 19 44 59.2 +0.5
ULN Ulaanbaatar 58.16 343*c i*P P 19 44 59.6 +0.9
ULN pmax pmax
comp=Z,71nm,1.1s
ULN Ulaanbaatar 58.16 343 P P 19 44 59.7 +0.9
ULN PcP **PcP 19 45 48.8 +0.2**
SONM Songino Array 58.32 343 P P 19 45 00.2 +0.4
SONM Songino Array 58.32 343 P P 19 45 00.7 +0.9
comp=Z,36nm,0.7s,baz=167,slow=7.6,SNR=242
comp=Z,36nm,0.7s
TYV Tymovskoe 59.43 11 *e*P P 19 45 08.3 +1.1
TYV pmax pmax
comp=Z,200nm,4.4s
TYV pmax pmax
comp=Z,10.0nm,0.7s
CASY Casey 59.97 188 P P 19 45 11.1 +0.4
ZEA Zeya 60.98 359 *e*P P 19 45 18.4 +0.7
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZAK Zakamensk 61.52 342 *e*P P 19 45 21.7 +0.1
ZAK pmax pmax
comp=Z,9.0nm,1.0s
WMQ Urumqi 62.80 328 *e*P P 19 45 31.3 +1.1
WMQ pP pwP 19 46 08.6 +0.7
WMQ pmax pmax
comp=Z,24nm,1.1s
MOY Mondy 63.35 341 *e*P P 19 45 34.8 +1.1
MOY pmax pmax
comp=Z,35nm,1.6s
PEA0B Petropavlovsk- 65.35 19 P P 19 45 46.7 +0.2
PEA0B IAmb IAmb 19 46 51.4
comp=Z,64nm,1.6s
PEA0B Petropavlovsk- 65.35 19⇓*e*P P 19 45 47.1 +0.6
PETK Petropavlovsk- 65.35 19 P P 19 45 46.6 +0.1
PETK Petropavlovsk- 65.35 19 P P 19 45 46.8 +0.3
comp=Z,5.1nm,0.5s,baz=182,slow=4.4,SNR=49
comp=Z,5.1nm,0.5s
WUS Wushi 65.99 321 P P 19 45 51.2 +0.1
WUS IAmb IAmb 19 45 52.8
comp=Z,24nm,1.4s
WUS Wushi 65.99 321 P P 19 45 51.6 +0.6
NIL Nilore 66.14 312 P P 19 45 52.3 +0.2
NIL Nilore 66.14 312 P P 19 45 52.3 +0.2
NIL pmax pmax
comp=Z,41nm,0.6s
NIL Nilore 66.14 312 P P 19 45 51.8 -0.3
NIL PcP **PcP 19 46 21.6 +0.3**
ZSN Zaisan 66.72 330 *e*P P 19 45 55.5 0.0
ZSN Zaisan 66.72 330 *e*P P 19 45 55.5 0.0
SHLS Shalkode 66.97 323 *e*P P 19 45 55.7 -1.6
SHLS Shalkode 66.97 323 *e*P P 19 45 55.8 -1.6
KSH Kashi 67.13 318 P P 19 45 59.4 +1.0
KSH PcP **PcP 19 46 27.0 +1.6**
KSH pmax pmax
comp=Z,26nm,0.8s
TARG Taragay, Kyrgy 67.16 321 P P 19 45 58.9 0.0
TARG PcP **PcP 19 46 25.7 -0.2**
TARG Taragay, Kyrgy 67.16 321 P P 19 45 58.9 0.0
TARG 19 46 25.7
TARG pmax pmax
comp=Z,8.0nm,0.9s
UZB Uzynbulak 67.23 323 *e*P P 19 45 59.1 +0.2
UZB Uzynbulak 67.23 323 *e*P P 19 45 59.1 +0.2
SATY Saty 67.55 323 *e*P P 19 46 01.1 +0.2
SATY Saty 67.55 323 *e*P P 19 46 01.2 +0.2
KPKS Kokpek 67.62 323 *e*P P 19 46 01.5 +0.2
KPKS Kokpek 67.62 323 *e*P P 19 46 01.6 +0.2
MK31 Makanchi Array 67.62 328 P P 19 46 00.9 -0.2
MK31 PcP **PcP 19 46 26.0 -1.2**
MK31 Makanchi Array 67.62 328*ce*P P 19 46 01.2 0.0
MKAR Makanchi Array 67.62 328 P P 19 46 01.2 0.0
MKAR PcP **PcP 19 46 26.1 -1.1**
MKAR Makanchi Array 67.62 328 P P 19 46 01.4 +0.2
comp=Z,5.1nm,0.5s,baz=116,slow=8.5,SNR=150
MKAR PcP **PcP 19 46 27.7 +0.5**
comp=Z,3.1nm,0.5s,baz=115,slow=6.9,SNR=7.6
comp=Z,5.1nm,0.5s
MKAR Makanchi Array 67.62 328 *i* P P 19 46 01.3 +0.2
MKAR pmax pmax
comp=Z,6.0nm,0.5s
CCD Concordia, Ant 67.65 181 P P 19 46 03.0 +1.6
CCD PcP **PcP 19 46 28.3 +0.9**
KDJ Kajisay 67.77 321 P P 19 46 01.4 -1.0
KDJ Kajisay 67.77 321 P P 19 46 01.4 -1.0
KDJ pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 67.80 328 P P 19 46 02.5 +0.3
MAKZ Makanchi 67.80 328 P P 19 46 02.5 +0.3
MAKZ pmax pmax
comp=Z,15nm,1.3s
MAKZ Makanchi 67.80 328 P P 19 46 02.4 +0.1
MAKZ PcP **PcP 19 46 27.6 -0.3**
TNSS Tian-Shan 68.42 322 *e*P P 19 46 06.3 -0.4
TNSS Tian-Shan 68.42 322 *e*P P 19 46 06.4 -0.4
AAA Alma-Ata 68.53 322 *e*P P 19 46 06.9 -0.1
AAA Alma-Ata 68.53 322 *e*P P 19 46 06.9 -0.1
TDK Taldyqorghan 68.67 324 *e*P P 19 46 08.0 +0.3
TDK pmax pmax
comp=Z,31nm,1.2s
TDK Taldyqorghan 68.67 324 *e*P P 19 46 08.0 +0.3
comp=Z,31nm,1.2s
BOOM Boomskoye usch 68.74 321 P P 19 46 09.2 +0.8
BOOM PcP **PcP 19 46 33.5 +1.4**
BOOM Boomskoye usch 68.74 321 P P 19 46 08.6 +0.2
TKM2 Tokmak 2 69.18 321 P P 19 46 12.1 +0.9
SNR=9.3
MA2 Magadan 69.22 12 P P 19 46 10.5 -0.3
MA2 Magadan 69.22 12 P P 19 46 12.3 +1.5
MA2 Magadan 69.22 12⇑*i*P P 19 46 10.9 +0.1
MA2 pmax pmax
comp=Z,9.0nm,1.8s
YAK Yakutsk 69.30 1 P P 19 46 10.4 -0.8
YAK Yakutsk 69.30 1 *e*P P 19 46 10.7 -0.4
YAK *e**PP **pwP 19 46 48.6 -0.8**
YAK *e* 19 48 45.1
YAK *e*S **S 19 55 06.4 +0.4**
YAK *e*SS **SS 19 59 38.1 +2.2**
YAK pmax pmax
comp=Z,50nm,0.8s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,137nm,4.2s
YAK pmax pmax
comp=N,84nm,5.3s
YAK pmax pmax
comp=E,135nm,4.7s
YAK smax smax
comp=N,94nm,4.0s
YAK smax smax
comp=E,58nm,3.8s
YAK Yakutsk 69.30 1 P P 19 46 10.8 -0.4
KBK Karagaybulak 69.45 321 P P 19 46 13.7 +0.9
SNR=6.7
KBL Kabul 69.67 311 P P 19 46 13.3 -1.0
KBL Kabul 69.67 311 P P 19 46 13.3 -1.0
KBL pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 69.72 321 P P 19 46 14.4 -0.1
AAK Ala-Archa 69.72 321 P P 19 46 15.3 +0.8
SNR=18
AAK Ala-Archa 69.72 321*c i*P P 19 46 15.1 +0.6
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 69.72 321 P P 19 46 15.0 +0.6
AAK PcP **PcP 19 46 37.9 +1.6**
DRK Karamyk 69.90 317 P P 19 46 15.3 -0.5
DRK Karamyk 69.90 317 P P 19 46 15.3 -0.5
DRK pmax pmax
comp=Z,12nm,0.7s
AML Almayashu 69.97 320 P P 19 46 16.7 +0.4
SNR=22
ARSB Arslanbob 70.02 319 IAmb IAmb 19 46 17.9
comp=Z,26nm,1.0s
USP Ospenovka 70.05 321 P P 19 46 16.7 +0.4
SNR=19
SGDS Sogindy 70.06 321 *e*P P 19 46 16.4 0.0
SGDS Sogindy 70.06 321 *e*P P 19 46 16.4 0.0
EKS2 Erkin-Say 70.19 320 P P 19 46 18.2 +0.9
SNR=18
GAR Garm 70.70 316 IAmb IAmb 19 46 22.3
comp=Z,39nm,0.9s
BTK Batken 70.84 317 P P 19 46 21.1 -0.2
ZAA0 Zalesovo Array 71.20 335 IAmb IAmb 19 46 23.6
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 71.20 335 P P 19 46 22.3 -0.6
ZALV Zalesovo Beam 71.20 335 P P 19 46 22.9 0.0
comp=Z,27nm,0.8s,baz=127,slow=5.1,SNR=99
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 71.20 335 *i* P P 19 46 22.8 -0.1
ZALV pmax pmax
comp=Z,27nm,0.8s
BTLS Baital 71.26 323 *e*P P 19 46 23.5 0.0
BTLS Baital 71.26 323 *e*P P 19 46 23.6 0.0
SIMJ Simiganj 71.46 315 P P 19 46 24.2 -0.9
SIMJ IAmb IAmb 19 46 26.0
comp=Z,22nm,1.0s
SIMJ Simiganj 71.46 315 P P 19 46 24.9 -0.1
DZA Taraz 71.86 320 *e*P P 19 46 27.2 0.0
DZA Taraz 71.86 320 *e*P P 19 46 27.3 0.0
KURBB Kurchatov Arra 71.95 329 P P 19 46 28.2 +0.7
comp=Z,15nm,0.5s,baz=128,slow=5.1,SNR=243
comp=Z,15nm,0.5s
KURK Kurchatov 71.97 329 P P 19 46 27.6 0.0
KURK IAmb IAmb 19 46 29.6
comp=Z,56nm,1.1s
KURK Kurchatov 71.97 329*c i*P P 19 46 27.9 +0.3
KURK pmax pmax
comp=Z,61nm,1.3s
KURK Kurchatov 71.97 329 P P 19 46 27.7 +0.1
IUG Iuzhnay 72.35 318 *e*P P 19 46 30.1 -0.1
IUG pmax pmax
comp=Z,23nm,1.2s
IUG Iuzhnay 72.35 318 *e*P P 19 46 30.1 -0.1
comp=Z,23nm,1.2s
KK31 Karatay Array 72.49 320 P P 19 46 30.7 -0.2
KK31 Karatay Array 72.49 320 P P 19 46 30.7 -0.2
KK31 pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 72.49 320 P P 19 46 30.6 -0.3
KKAR Karatay Array 72.49 320 IAmb IAmb 19 46 32.8
comp=Z,7.2nm,1.2s
KKAR Karatay Array 72.49 320 P P 19 46 30.6 -0.3
SEY Seymchan 72.61 11⇑*e*P P 19 46 31.4 +0.2
SEY pmax pmax
comp=Z,8.0nm,0.6s
BRLS Borolday 72.89 319 *e*P P 19 46 33.2 -0.1
BRLS Borolday 72.89 319 *e*P P 19 46 33.2 -0.1
BRZS Berezniki 74.67 327 *e*P P 19 46 43.7 +0.2
BRZS Berezniki 74.67 327 *e*P P 19 46 43.7 +0.2
HRA Herat 74.79 309 P P 19 46 44.1 -0.8
KIWB Kanaga Island 75.28 32 P P 19 46 47.1 +0.2
BVAR Borovoye Array 77.48 328 P P 19 46 59.8 +0.4
comp=Z,8.7nm,0.5s,baz=133,slow=6.3,SNR=70
comp=Z,8.7nm,0.5s
BRVK Borovoye 77.56 328 P P 19 46 59.4 -0.3
BRVK IAmb IAmb 19 47 01.7
comp=Z,27nm,1.1s
BRVK Borovoye 77.56 328*c i*P P 19 46 59.8 0.0
BRVK pmax pmax
comp=Z,26nm,1.0s
TIXI Tiksi 78.95 0 P P 19 47 05.8 -1.2
TIXI IAmb IAmb 19 47 08.3
comp=Z,16nm,0.5s
TIXI Tiksi 78.95 0⇓*e*P P 19 47 06.1 -0.9
TIXI pmax pmax
comp=Z,10.0nm,0.5s
BILL Bilibino 79.99 14⇑*e*P P 19 47 14.1 +1.4
BILL pmax pmax
comp=Z,14nm,4.0s
NRIK Noril'sk 81.57 346 P P 19 47 21.1 0.0
NRIK IAmb IAmb 19 47 23.1
comp=Z,27nm,1.2s
NRIK Noril'sk 81.57 346 P P 19 47 21.5 +0.4
comp=Z,14nm,0.9s,baz=136,slow=5.1,SNR=21
comp=Z,14nm,0.9s

NRIK	**Noril'sk**	**81.57 346**	*c iP*	**P**	**19 47 21.3**	**+0.2**
NRIK			pmax	pmax		
comp=Z,26nm,1.3s						
ABKAR	**Akbulak array**	**81.73 322**	P	**P**	**19 47 21.9**	**-0.4**
ABKAR	**Akbulak array**	**81.73 322**	P	**P**	**19 47 22.1**	**-0.4**
ABKAR			IAmb	IAmb	19 47 23.2	
comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**82.52 180**	P	**P**	**19 47 26.7**	**+0.4**
QSPA	**South Pole Qui**	**82.52 180**	P	**P**	**19 47 27.1**	**+0.8**
comp=Z,4.5nm,0.7s,baz=312,slow=1.1,SNR=43						
comp=Z,4.5nm,0.7s						
SYO	**Syowa Base**	**82.56 201⇑**	*eP*	**P**	**19 47 27.8**	**+1.4**
SYO	**Syowa Base**	**82.56 201⇓**	*e*PcP	**PcP**	**19 47 30.2**	**-0.9**
GAMB	**Gambell**	**84.05 23**	P	**P**	**19 47 33.9**	**-0.1**
SVE	**Sverdlovsk**	**84.22 329**	*eP*	**P**	**19 47 34.8**	**-0.2**
SVE			pmax	pmax		
comp=Z,26nm,1.1s						
ARTI	**Arti**	**85.21 328**	P	**P**	**19 47 39.1**	**-0.9**
ARTI			IAmb	IAmb	19 47 40.6	
comp=Z,18nm,0.7s						
ARTI	**Arti**	**85.21 328**	*d iP*	**P**	**19 47 39.3**	**-0.7**
ARTI					19 50 55.3	
ARTI			S	**SKSac**	**19 57 52.4**	**+0.9**
ARTI			SS	**SS**	**20 03 36.6**	**+0.9**
ARTI			pmax	pmax		
comp=Z,18nm,0.7s						
RAYN	**Ar Rayn**	**86.25 294**	P	**P**	**19 47 44.9**	**-1.1**
RAYN	**Ar Rayn**	**86.25 294**	P	**P**	**19 47 44.9**	**-1.1**
RAYN			pmax	pmax		
comp=Z,9.0nm,0.7s						
LKRN	**Lenkeran, Azer**	**86.40 310**	P	**P**	**19 47 46.8**	**+0.5**
ELIB	**Princess Elisa**	**87.50 198**	*dP*	**P**	**19 47 53.3**	**+2.2**
comp=Z,13nm,0.7s						
AKT	**Akhty**	**87.77 312**	*eP*	**P**	**19 47 51.5**	**-1.5**
AKT			pmax	pmax		
comp=Z,26nm,1.7s						
MNGR	**Mingechevir, A**	**88.11 311**	P	**P**	**19 47 54.7**	**+0.3**
SEKA	**Sheki**	**88.11 312**	P	**P**	**19 47 54.4**	**-0.1**
C16K	**Lisburne Hills**	**88.43 20**	P	**P**	**19 47 54.6**	**-0.7**
GANJ	**Ganja**	**88.65 311**	P	**P**	**19 47 57.4**	**+0.4**
NAX	**Nakhchivan**	**89.00 310**	P	**P**	**19 47 59.2**	**+0.4**
DGRG	**David-gareji**	**89.50 312**	P	**P**	**19 48 01.3**	**+0.3**
E18K	**Tukpahlearik C**	**89.77 21**	P	**P**	**19 48 00.6**	**-1.0**
C18K	**Utukok River**	**89.99 20**	P	**P**	**19 48 01.8**	**-0.9**
GEVA	**Gevas**	**90.74 308**	IAmb	IAmb	19 48 08.2	
comp=Z,11nm,0.9s						
NVL	**N'lazarevskaya**	**91.37 197**	*eP*	**P**	**19 48 10.8**	**+1.7**
NVL			pmax	pmax		
comp=Z,9.0nm,0.7s						
GURO	**Guroymak-BITLI**	**91.57 309**	P	**P**	**19 48 10.8**	**-0.1**
GURO			IAmb	IAmb	19 48 12.2	
comp=Z,7.9nm,0.9s						
KBZ	**Khabaz**	**91.68 314**	P	**P**	**19 48 10.6**	**-0.4**
comp=Z,2.0nm,0.9s,baz=79,slow=5.9,SNR=4.7						
comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**91.68 314**	*⇓iP*	**P**	**19 48 10.9**	**-0.1**
KBZ			pmax	pmax		
comp=Z,10.0nm,2.2s						
B22K	**Teshekpuk Lake**	**93.11 19**	P	**P**	**19 48 16.2**	**-0.8**
B22K			IAmb	IAmb	19 49 22.3	
comp=Z,32nm,1.8s						
TROLL	**Troll, Antarti**	**93.25 195**	⇑P	**P**	**19 48 20.0**	**+2.0**
comp=Z,580nm,0.6s						
RND	**Reindeer**	**93.49 27**	P	**P**	**19 48 16.9**	**-2.1**
I23K	**Minto, Yukon-K**	**93.57 25**	IAmb	IAmb	19 50 28.2	
comp=Z,37nm,2.0s						
C23K	**Itkillik River**	**93.94 20**	P	**P**	**19 48 20.2**	**-0.7**
C23K			IAmb	IAmb	19 48 23.4	
comp=Z,25nm,1.7s						
E23K	**Chandalar**	**93.97 22**	P	**P**	**19 48 20.3**	**-0.9**
E23K			IAmb	IAmb	19 51 04.5	
comp=Z,11nm,1.7s						
COLA	**College**	**94.16 25**	P	**P**	**19 48 19.8**	**-2.1**
ILAR	**Eielson Array**	**94.55 25**	P	**P**	**19 48 21.6**	**-2.2**
comp=Z,0.6nm,0.6s,baz=255,slow=4.9,SNR=13						
SNAA	**Sanae**	**94.78 194**	⇑P	**P**	**19 48 26.1**	**+1.2**
comp=Z,90nm,0.5s						
SNAA	**Sanae**	**94.78 194**	P	**P**	**19 48 25.4**	**+0.5**
comp=Z,5.2nm,0.7s,baz=153,slow=3.2,SNR=18						
comp=Z,5.2nm,0.7s						
SNAA	**Sanae**	**94.78 194**	⇑*eP*	**P**	**19 48 26.7**	**+1.8**
SNAA			pmax	pmax		
comp=Z,11nm,1.1s						
VNA3	**Neumayer Olymp**	**96.64 193**	⇓P	**P**	**19 48 36.3**	**+3.0**
OBN	**Obninsk**	**96.97 325**	⇑*eP*	**P**	**19 48 33.8**	**-1.1**
OBN			*e**PP	**pP**	**19 49 09.3**	**-0.1**
OBN			*e*		19 52 31.0	
OBN			*e*PPP	PPP	19 54 36.7	
OBN			pmax	pmax		
comp=Z,26nm,2.6s						
BOSA	**Boshof**	**97.64 240**	P	**P**	**19 48 37.6**	**-1.2**
comp=Z,2.8nm,1.0s,baz=81,slow=3.5,SNR=3.5						
comp=Z,2.8nm,1.0s						
BRTR	**Keskin Array B**	**98.18 309**	P	**P**	**19 48 39.8**	**-1.2**
comp=Z,0.4nm,0.7s,baz=90,slow=5.8,SNR=2.7						
comp=Z,0.4nm,0.7s						
INK	**Inuvik**	**99.97 22**	P	**Pdif**	**19 48 47.1**	**-1.0**
comp=Z,0.3nm,0.4s,baz=271,slow=5.0,SNR=3.7						
comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**101.37 340**	P	**Pdif**	**19 48 53.0**	**-1.4**
comp=Z,1.3nm,0.6s,baz=82,slow=6.2,SNR=12						
ARCES			PKiKP	**PKiKP**	**19 53 18.0**	**+0.2**
comp=Z,0.4nm,0.4s,baz=90,slow=2.1,SNR=8.7						
ARCES			PKKPbc	**PKKPbc**	**20 05 03.1**	**-2.8**
comp=Z,4.4nm,1.1s,baz=258,slow=2.7,SNR=5.6						
ARCES	**ARCESS Array B**	**101.37 340**	P	**Pdif**	**19 48 53.0**	**-1.4**
AKASG	**Malin Array Be**	**101.38 320**	P	**Pdif**	**19 48 52.9**	**-1.9**
comp=Z,0.6nm,0.6s,baz=68,slow=4.8,SNR=3.3						
AKASG			PKiKP	**PKiKP**	**19 53 19.2**	**+0.8**
comp=Z,0.2nm,0.4s,baz=70,slow=2.6,SNR=1.8						
SPITS	**Spitsbergen Ar**	**101.66 349**	P	**Pdif**	**19 48 54.7**	**-0.8**
comp=Z,5.7nm,0.7s,baz=91,slow=5.8,SNR=14						
FINES	**FINESS Array B**	**102.29 331**	P	**Pdif**	**19 48 56.6**	**-1.9**
comp=Z,2.8nm,1.1s,baz=65,slow=4.7,SNR=4.3						
FINES			PKiKP	**PKiKP**	**19 53 19.8**	**+0.2**
comp=Z,0.7nm,0.5s,baz=85,slow=2.1,SNR=5.8						
FINES	**FINESS Array B**	**102.29 331**	*i P*	**Pdif**	**19 48 59.2**	**+0.7**
FINES			pmax	pmax		
comp=Z,3.0nm,1.0s						
VRI	**Vrincioaia**	**103.27 315**	⇑P	**PP**	**19 53 21.1**	**+0.8**
PLOR	**Plostina**	**103.32 315**	⇑P	**PKiKP**	**19 53 24.2**	**+2.1**
MLR	**Muntele Rosu**	**103.84 315**	⇓P	**PP**	**19 53 27.3**	**+2.6**
MARR	**Marisel-Cluj**	**105.70 316**	⇓P	**PP**	**19 53 33.4**	**-5.0**
HFS	**Hagfors**	**108.49 331**	Pdiff	**Pdif**	**19 49 24.3**	**-1.9**
comp=Z,0.6nm,0.5s,baz=142,slow=5.1,SNR=4.2						
YKA	**Yellowknife Ar**	**108.97 26**	PKiKP	**PKiKP**	**19 53 31.6**	**-0.4**
comp=Z,0.8nm,0.7s,baz=286,slow=2.1,SNR=13						
YKA			PKKPbc	**PKKPbc**	**20 04 40.2**	**-2.3**
comp=Z,0.3nm,0.5s,baz=113,slow=2.6,SNR=5.7						
YKA			PKKPab	**PKKPab**	**20 04 51.6**	**-1.2**
comp=Z,0.3nm,0.7s,baz=108,slow=4.2,SNR=3.9						
NOA	**NORSAR Array B**	**109.35 333**	PKiKP	**PKiKP**	**19 53 32.2**	**-0.6**
comp=Z,0.6nm,0.8s,baz=81,slow=2.3,SNR=1.8						
NVAR	**Mina Array Bea**	**113.02 51**	PKiKP	**PKiKP**	**19 53 42.0**	**+1.3**
comp=Z,0.8nm,0.7s,baz=259,slow=2.4,SNR=4.6						
ELK	**Elko**	**114.93 49**	PKP	PKPdf	19 53 44.8	+0.4
comp=Z,0.7nm,0.5s,baz=162,slow=5.2,SNR=2.9						
PFO	**Pinyon Flats O**	**115.22 56**	PKP	**PKPdf**	**19 53 45.8**	**+0.8**
comp=Z,1.1nm,0.5s,baz=232,slow=5.7,SNR=3.6						
PRN	**Pahroc Range**	**115.73 52**		**PKiKP**	**19 53 46.8**	**+0.9**
PD31	**Pinedale Array**	**118.52 45**	PKPdf	**PKPdf**	**19 53 50.3**	**-0.9**
PDAR	**Pinedale Array**	**118.52 45**	PKPdf	**PKPdf**	**19 53 50.9**	**-0.3**
PDAR	**Pinedale Array**	**118.52 45**	PKP	**PKPdf**	**19 53 51.5**	**+0.3**
comp=Z,1.7nm,0.7s,baz=243,slow=0.6,SNR=18						
EKA	**Eskdalemuir Ar**	**118.68 331**	PKP	**PKPdf**	**19 53 50.1**	**-0.6**
comp=Z,0.9nm,0.5s,baz=30,slow=3.7,SNR=6.6						
S22A	**4UR Ranch, Cre**	**122.00 50**	PKPdf	**PKiKP**	**19 53 58.7**	**+0.4**
ANMO	**Albuquerque**	**123.06 53**	PKP	**PKiKP**	**19 54 00.6**	**+0.3**
comp=Z,0.9nm,0.6s,baz=64,slow=4.1,SNR=4.1						
ULM	**Lac du Bonnet**	**123.83 32**	PKP	**PKPdf**	**19 54 00.2**	**-0.6**
comp=Z,2.0nm,0.5s,baz=315,slow=4.9,SNR=4.8						
ESDC	**Sonseca Array**	**126.53 315**	PKP	**PKPdf**	**19 54 06.0**	**-0.4**
comp=Z,0.6nm,1.0s,baz=17,slow=2.0,SNR=4.5						
TXAR	**Lajitas Array**	**126.74 59**	PKP	**PKiKP**	**19 54 08.0**	**+0.3**
comp=Z,0.8nm,0.4s,baz=210,slow=4.1,SNR=8.4						
TORD	**Torodi Ar. Bea**	**127.09 281**	PKPdf	**PKPdf**	**19 54 07.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**127.09 281**	PKP	**PKPdf**	**19 54 07.7**	**-0.4**
comp=Z,3.9nm,0.5s,baz=69,slow=2.0,SNR=6.3						
PLCA	**Paso Flores**	**129.04 162**	PKP	**PKPdf**	**19 54 11.2**	**-0.1**
comp=Z,2.1nm,0.8s,baz=112,slow=3.0,SNR=4.3						
SCHQ	**Schefferville**	**131.26 11**	PKP	**PKPdf**	**19 54 14.3**	**-0.6**
comp=Z,1.4nm,0.4s,baz=7.8,slow=2.0,SNR=6.3						
SCHQ			SKPbc	**SKPbc**	**19 57 26.0**	**-0.9**
comp=Z,4.2nm,0.8s,baz=324,slow=4.3,SNR=8.1						
DBIC	**Dimbokro**	**133.37 272**	PKP	**PKiKP**	**19 54 21.0**	**-0.2**
comp=Z,2.7nm,0.5s,baz=158,slow=2.1,SNR=6.0						
Q56A	**Snyder Ridge,**	**140.09 34**		**PKPdf**	**19 54 29.7**	**-2.1**
TGUH	**Tegucigalpa,Un**	**144.63 76**	PKPdf	PKPbc	19 54 40.4	+0.6
CRIN	**San Cristobal**	**144.98 79**		PKPbc	19 54 39.3	-1.5
DWPF	**Disney Wildern**	**145.32 50**	PKPdf	**PKPdf**	**19 54 41.2**	**-0.1**
CPUP	**Villa Florida**	**145.99 171**		**PKPbc**	**19 54 43.9**	**+0.4**
CPUP	**Villa Florida**	**145.99 171**	PKPbc	**PKPab**	**19 54 44.5**	**+0.3**
comp=Z,5.9nm,0.4s,baz=202,slow=2.3,SNR=17						
CPUP	**Villa Florida**	**145.99 171**	PKP2	**PKPbc**	**19 54 43.9**	**+0.4**
BOAB	**BOACO BROADBAN**	**146.35 79**		**PKPdf**	**19 54 44.3**	**+0.9**
LPAZ	**La Paz**	**151.43 146**	PKPbc	**PKiKP**	**19 54 59.9**	**+0.9**
comp=Z,7.4nm,0.4s,baz=32,slow=2.1,SNR=21						
CZSB	**Cruzeiro do Su**	**154.31 126**	PKPdf	**PKPdf**	**19 54 55.1**	**-0.8**
BDFB	**Brasilia**	**156.73 189**	PKP	**PKPdf**	**19 54 60.0**	**+0.8**
comp=Z,7.1nm,0.8s,baz=354,slow=9.7,SNR=6.4						
BDFB	**Brasilia**	**156.73 189**	PKIKP	**PKPdf**	**19 55 00.0**	**+0.8**

*NAO **15** 19:40:10.5±2.1,73°.14N×6°.01E,ML2.5*
*BER **15** 19:40:13.9±2.7,73°.14N×6°.25E,h10km,mb(Pn)3.8,*
ML2.5(NAO),Confirmed Earthquake

ISC 15 19:40:11.5±1.3,**73°.11N**±0°.10×**6°.48E**±0°.09,**h11**km,**n21,**
σ1$**93**/23,**Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.77**	**62**	*eP*	**Pn**	**19 41 10.1**	**+0.6**
BJO1				IAML		19 41 16.0	
comp=Z,24nm,0.8s							
BJO1	**Bjornoya**	**3.77**	**62**	Pn	**Pn**	**19 41 10.1**	**+0.6**
HSPB	**Hornsund (broa**	**4.55**	**27**	*eP*	**Pn**	**19 41 20.4**	**+0.2**
HSPB				IAML		19 41 23.8	
comp=Z,3.5nm,0.7s							
HSPB	**Hornsund (broa**	**4.55**	**27**	Pn	**Pn**	**19 41 20.1**	**-0.1**
BRBA	**Barentsburg A**	**5.33**	**18**	*eP*	**Pn**	**19 41 32.7**	**+1.9**
BRBA	**Barentsburg A**	**5.33**	**18**	Pn	**Pn**	**19 41 33.3**	**+2.4**
BRBB	**Barentsburg B**	**5.36**	**17**	*eP*	**Pn**	**19 41 33.0**	**+1.8**
SPA0	**Spitsbergen Ar**	**5.65**	**21**	Pn	**Pn**	**19 41 35.9**	**+0.8**
baz=212,slow=16							
SPA0	**Spitsbergen Ar**	**5.65**	**21**	Pn	**Pn**	**19 41 35.9**	**+0.8**
baz=212,slow=16							
JETT	**Jettan, Norway**	**5.71**	**122**	Pn	**Pn**	**19 41 38.9**	**+2.7**
JETT	**Jettan, Norway**	**5.71**	**122**	Pn	**Pn**	**19 41 38.9**	**+2.7**
HOPEN	**Hopen**	**5.92**	**46**	*eP*	**Pn**	**19 41 39.1**	**+0.2**
HOPEN				IAML		19 41 39.7	
comp=Z,3.5nm,0.9s							
KBS	**Kingsbay**	**5.99**	**10**	*eP*	**Pn**	**19 41 40.9**	**+1.0**
KIF	**Kilpisjarvi**	**6.21**	**125**	Pn	**Pn**	**19 41 44.5**	**+1.6**
KIF	**Kilpisjarvi**	**6.21**	**125**	Pn	**Pn**	**19 41 44.5**	**+1.6**
ARA0	**ARCESS Array S**	**7.06**	**111**	Pn	**Pn**	**19 41 57.4**	**+2.8**
baz=324,slow=12							
ARA0				Sn	**Sn**	**19 43 11.9**	**-2.7**
baz=310,slow=22							
ARA0	**ARCESS Array S**	**7.06**	**111**	Pn	**Pn**	**19 41 57.4**	**+2.8**
baz=324,slow=12							
ARA0				Sn	**Sn**	**19 43 11.9**	**-2.7**
baz=310,slow=22							
KEV	**Kevo**	**7.34**	**107**	Pn	**Pn**	**19 41 59.9**	**+1.5**
KEV	**Kevo**	**7.34**	**107**	Pn	**Pn**	**19 41 59.9**	**+1.5**
DAG	**Danmarks Havn**	**7.45**	**311**	*eP*	**Pn**	**19 41 58.8**	**-1.1**
DAG				*e*S	Sn	19 43 10.5	-14
DBG	**Daneborg**	**7.57**	**292**	*eP*	**Pn**	**19 42 00.1**	**-1.4**

*IDC **15** 19:41:42.9±2.3,20°.78S×178°.38W,h607km±20km,mb3.6/4,*
mbtmp4.5/6,Error ellipse: s-maj=32.9km s-min=28.4km
az=99.0
*NEIC **15** 19:41:42.2±1.2,20°.72S±0°.08×178°.3W±0°.2,h600km±15km,*
mb4.5/14,Error ellipse: s-maj=26.2km s-min=8.2km
az=68.0

ISC 15 19:41:41.5±0.7,**20°.8S**±0°.1×**178°.2W**±0°.1,**h600**km,**n35,**
σ1$**04**/32,**mb4.5**/12,**1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**310**	P	**P**	**19 43 11.2**	**-1.0**
MSVF	**Nonsavu**	**4.70**	**310**	P	**P**	**19 43 13.0**	**+0.8**
19nm,0.5s,baz=148,slow=3.0,SNR=21							
FUTU	**Fugatoga**	**6.49**	**1**	P	**P**	**19 43 26.6**	**-0.4**
NIUE	**Niue**	**7.98**	**79**	P	**P**	**19 43 41.3**	**+0.7**
URZ	**Urewera**	**17.83**	**192**	P	**P**	**19 45 16.6**	**+1.3**
3.8nm,0.3s,baz=31,slow=12,SNR=7.3							
URZ				S	**S**	**19 48 06.5**	**-2.5**
2.1nm,0.4s,baz=68,slow=23,SNR=2.6							
THZ	**Tophouse**	**22.18**	**198**	P	**P**	**19 45 56.6**	**+2.1**
THZ				IAmb	IAmb	19 46 00.1	
comp=Z,26nm,1.3s							
EIDS	**Eidsvold**	**28.58**	**255**	P	**P**	**19 46 50.6**	**-0.4**
EIDS				IAmb	IAmb	19 46 59.4	
comp=Z,26nm,1.5s							
ARMA	**Armidale**	**28.75**	**244**	P	**P**	**19 46 53.4**	**+0.8**
ARMA				IAmb	IAmb	19 46 54.9	
comp=Z,16nm,1.2s							
TOO	**Toolangi**	**35.55**	**234**	P	**P**	**19 47 51.0**	**+1.2**
BBOO	**Buckleboo**	**42.23**	**244**	P	**P**	**19 48 43.6**	**+0.1**
JAY	**Jayapura**	**43.97**	**289**	P	**P**	**19 48 56.6**	**-0.8**
comp=Z,7.9nm,0.4s,baz=113,slow=8.2,SNR=5.2							
comp=Z,7.9nm,0.4s							
AS31	**Alice Springs**	**44.26**	**257**	P	**P**	**19 48 59.1**	**-0.3**
ASAR	**Alice Springs**	**44.26**	**257**	P	**P**	**19 48 59.1**	**-0.3**
ASAR	**Alice Springs**	**44.26**	**257**	P	**P**	**19 48 59.2**	**-0.2**
comp=Z,7.3nm,0.5s,baz=88,slow=8.2,SNR=12							
comp=Z,7.3nm,0.5s							
WB0	**Warramunga Arr**	**44.35**	**263**	P	**P**	**19 48 59.3**	**-0.8**
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**19 48 59.5**	**-0.8**
comp=Z,4.7nm,0.4s,baz=97,slow=7.6,SNR=22							
comp=Z,4.7nm,0.4s							
MTN	**Manton Dam**	**48.98**	**271**	P	**P**	**19 49 33.8**	**-1.1**
MTN				IAmb	IAmb	19 49 41.0	
comp=Z,8.7nm,0.8s							
KNRA	**Kununurra**	**50.45**	**267**	P	**P**	**19 49 44.8**	**-0.9**
KNRA				IAmb	IAmb	19 50 07.2	
comp=Z,14nm,0.9s							
FAKI	**Fak Fak**	**51.39**	**283**	P	**P**	**19 49 53.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.80**	**263**	P	**P**	**19 50 02.1**	**-0.4**
SOEI	**Soe**	**56.32**	**272**	P	**P**	**19 50 28.2**	**+0.9**
SOEI				IAmb	IAmb	19 50 29.0	
comp=Z,21nm,0.8s							
PSA00	**Pilbara Seismi**	**57.41**	**257**	P	**P**	**19 50 33.7**	**-0.8**
PSA00				IAmb	IAmb	19 50 43.1	
comp=Z,16nm,1.1s							
MBWA	**Marble Bar**	**57.60**	**258**	P	**P**	**19 50 35.1**	**-0.7**
MBWA				IAmb	IAmb	19 51 03.1	
comp=Z,64nm,1.5s							
SYO	**Syowa Base**	**86.36**	**193⇓**	*eP*	**P**	**19 53 19.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**90.05**	**290**	P	**P**	**19 53 39.9**	**+1.0**
comp=Z,0.7nm,0.8s,baz=96,slow=2.7,SNR=5.9							
comp=Z,0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**114.16**	**317**	PKP	PKPdf	19 59 12.8	-0.5
comp=Z,0.3nm,0.7s,baz=86,slow=1.6,SNR=4.1							
BVAR	**Borovoye Array**	**119.21**	**320**	PKP	**PKPdf**	**19 59 23.0**	**-0.1**
comp=Z,0.6nm,0.4s,baz=101,slow=1.9,SNR=4.7							
AKASG	**Malin Array Be**	**143.21**	**331**	PKP	PKPab	20 00 05.9	-0.4
comp=Z,1.7nm,0.4s,baz=44,slow=4.1,SNR=16							
AKBB	**Malin Array Si**	**143.22**	**331**	PKPdf	PKPab	20 00 05.7	-0.6
KIEV	**Kiev**	**143.23**	**331**	PKPdf	PKPab	20 00 05.7	-0.6
BRTR	**Keskin Array B**	**146.92**	**312**		**PKPdf**	**20 00 13.5**	**-1.5**
BRTR	**Keskin Array B**	**146.92**	**312**	PKPbc	**PKPbc**	**20 00 18.1**	**+0.2**
comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=4.5							
BUR08	**Bucovina Ar. S**	**147.25**	**330**		**PKPdf**	**20 00 14.3**	**-0.9**
BURAR	**Bucovina Array**	**147.26**	**330**		**PKPdf**	**20 00 14.8**	**-0.4**
MMAI	**Mount Meron Ar**	**147.81**	**299**	PKPbc	**PKPbc**	**20 00 21.3**	**+0.9**
comp=Z,0.8nm,0.4s,baz=70,slow=7.2,SNR=7.0							

*IDC **15** 19:43:44.2±3.2,42°.56N×104°.88W,h0km,mbtmp3.3/2,*
ML3.1/2,Error ellipse: s-maj=53.8km s-min=11.3km
az=160.0
*NEIC **15** 19:43:47.7±2.1,43°.68N±0°.05×105°.28W±0°.08,h0km±1km,*
ML3.3/68,Error ellipse: s-maj=10.0km s-min=8.0km
az=117.0

ISC 15 19:43:48.7±1.2,**43°.66N**±0°.06×**105°.36W**±0°.06,**h0**km,**n48,**
σ1$**77**/47,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.32**	**220**	Pg	**Pg**	**19 44 13.3**	**-0.7**
LAO	**LASA Array**	**3.08**	**349**		**Pn**	**19 44 38.1**	**-0.6**
LAO				IAML		19 45 40.9	
85nm,0.8s							
RLMT	**Red Lodge**	**3.16**	**299**		**Pn**	**19 44 41.1**	**+1.3**
RLMT				IAML		19 45 40.0	
52nm,0.8s							
BRIGG	**Briggsdale**	**3.18**	**166**		**Pn**	**19 44 41.4**	**+1.3**
BRIGG				IAML		19 45 28.5	
comp=N,91nm,0.9s							
BRIGG				IAML		19 45 30.9	
comp=E,82nm,0.4s							
PD31	**Pinedale Array**	**3.19**	**255**		**Pn**	**19 44 42.6**	**+2.3**
PDAR	**Pinedale Array**	**3.19**	**255**		**Pn**	**19 44 42.8**	**+2.4**
PDAR	**Pinedale Array**	**3.19**	**255**	Pn	**Pn**	**19 44 42.2**	**+1.9**
comp=E,1.3nm,0.3s,baz=76,slow=11,SNR=27							
PDAR				Pg	**Pg**	**19 44 50.2**	**+0.3**
comp=E,5.0nm,0.3s,baz=68,slow=18,SNR=24							
PDAR				Lg	Lg	19 45 32.1	
comp=E,12nm,0.3s,baz=64,slow=34,SNR=2.0							
comp=E,1.1nm,0.4s							
BW06	**Boulder Array**	**3.20**	**255**	Pn	**Pn**	**19 44 42.5**	**+2.1**
YNE	**Yellowstone No**	**3.59**	**294**		**Pn**	**19 44 47.7**	**+1.8**
YNE				IAML		19 45 57.7	
comp=N,50nm,0.8s							
YNE				IAML		19 45 59.5	
comp=E,46nm,0.7s							
YMP	**Mirror Lake Pl**	**3.61**	**289**		**Pn**	**19 44 46.5**	**+0.4**
YMP				IAML		19 46 06.9	
comp=E,51nm,1.4s							
OGNE	**Ogallala**	**3.67**	**137**		**Pn**	**19 44 46.1**	**-0.6**
GCMT	**Greycliff**	**3.73**	**306**		**Pn**	**19 44 48.9**	**+1.2**
LKWY	**Lake**	**3.74**	**286**		**Pn**	**19 44 49.5**	**+1.7**
LKWY				IAML		19 45 57.9	
comp=E,48nm,1.1s							
LKWY				IAML		19 46 03.6	
comp=E,31nm,1.4s							
LOHW	**Long Hollow**	**3.81**	**271**		**Pn**	**19 44 52.5**	**+3.7**
H17A	**Grant Village**	**3.83**	**283**		**Pn**	**19 44 52.5**	**+3.4**
H17A				IAML		19 45 57.8	
comp=N,32nm,1.2s							
ISCO	**Idaho Springs**	**3.87**	**183**		**Pn**	**19 44 51.3**	**+1.6**
ISCO				IAML		19 46 35.7	
comp=N,33nm,0.9s							
MOOW	**Moose Ponds**	**3.90**	**273**		**Pn**	**19 44 51.6**	**+1.5**
SNOW	**Snow King Moun**	**3.92**	**269**		**Pn**	**19 44 52.1**	**+1.7**
SNOW				IAML		19 46 06.7	
comp=N,42nm,1.2s							
SNOW				IAML		19 46 13.1	
comp=N,44nm,0.9s							
YNR	**Norris Junctio**	**3.97**	**287**		**Pb**	**19 44 57.8**	**-1.8**
YNR				IAML		19 46 09.6	
comp=E,24nm,1.6s							
TPAW	**Teton Pass**	**4.06**	**269**		**Pn**	**19 44 54.5**	**+2.1**
TPAW				IAML		19 46 33.4	
comp=E,35nm,1.1s							
FXWY	**Fox Creek**	**4.11**	**272**		**Pn**	**19 44 55.6**	**+2.6**
YMR	**Madison River**	**4.15**	**286**		**Pn**	**19 44 55.8**	**+2.2**
YMR				IAML		19 46 31.8	
comp=E,39nm,1.0s							
YMR				IAML		19 46 32.9	
comp=N,41nm,0.9s							
AHID	**Auburn Hatcher**	**4.29**	**260**		**Pb**	**19 45 03.3**	**-1.7**
AHID				IAML		19 46 26.8	
comp=N,30nm,0.9s							
YHB	**Horse Butte**	**4.33**	**287**		**Pn**	**19 44 56.6**	**+0.6**
YHB				IAML		19 47 49.2	
comp=E,19nm,4.1s							
YHL	**Hebgen Lake**	**4.35**	**288**		**Pn**	**19 44 57.9**	**+1.7**
YHL				IAML		19 46 22.6	
comp=N,31nm,1.1s							
YHL				IAML		19 46 33.1	
comp=E,37nm,1.1s							
RDMU	**Red Mountain**	**4.40**	**227**		**Pn**	**19 44 58.2**	**+1.3**
RDMU				IAML		19 46 15.3	
comp=N,22nm,1.1s							
RDMU				IAML		19 46 26.1	
comp=E,30nm,1.0s	

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YMP                                  IAML                20 00 43.0
      comp=N,44nm,0.6s
YMP                                  IAML                20 00 46.9
      comp=E,34nm,0.8s
LKWY Lake          3.43 281  Pn      Pn                  19 59 38.2 +0.1
LKWY                                 IAML                20 00 49.9
      comp=E,20nm,0.8s
H17A Grant Village 3.54 278          Pn                  19 59 38.6 -1.0
BRIGG Briggsdale   3.57 163  Pn      Pn                  19 59 39.4 -0.5
LOHW Long Hollow   3.58 265          Pn                  19 59 39.5 -0.7
MOOW Moose Ponds   3.66 268  Pn      Pn                  19 59 44.9 +3.6
SNOW Snow King Moun 3.71 263         Pn                  19 59 43.6 +1.6
SNOW                                 IAML                20 01 03.7
      comp=E,31nm,0.9s
SNOW                                 IAML                20 01 14.5
      comp=E,24nm,1.0s
YMR  Madison River 3.84 282  Pn      Pn                  19 59 44.8 +1.0
YMR                                  IAML                20 01 00.6
      comp=E,15nm,1.2s
YMR                                  IAML                20 01 15.9
      comp=N,20nm,0.8s
TPAW Teton Pass    3.85 264          Pn                  19 59 46.1 +2.2
TPAW                                 IAML                20 01 00.7
      comp=N,16nm,1.5s
FXWY Fox Creek     3.88 266          Pn                  19 59 45.6 +1.3
YHL  Hebgen Lake   4.03 284          Pn                  19 59 47.7 +1.3
YHL                                  IAML                20 01 02.4
      comp=N,13nm,1.9s
YHL                                  IAML                20 01 17.6
      comp=E,16nm,0.9s
AHID Auburn Hatcher 4.13 254         Pn                  19 59 48.0 +0.3
AHID                                 IAML                20 01 06.4
      comp=E,21nm,0.9s
AHID                                 IAML                20 01 08.5
      comp=E,12nm,1.5s
O20A White River Ci 4.31 207  Pn     Pn                  19 59 51.5 +1.4
O20A                                 IAML                20 01 05.5
      comp=E,26nm,0.8s
O20A                                 IAML                20 01 12.5
      comp=E,26nm,1.0s
RDMU Red Mountain  4.48 221  Pn      Pn                  19 59 52.8 +0.3
RDMU                                 IAML                20 01 22.5
      comp=N,18nm,0.8s
BOZ  Bozeman (W)   4.52 293          Pn                  19 59 53.4 +0.4
BOZ                                  IAML                20 01 18.6
      comp=N,10.0nm,2.3s
DGMT Dagmar        4.59  13          Pn                  19 59 54.7 +0.9
EGMT Eagleton      4.92 326          Pn                  19 59 59.2 +0.8
HWUT Hardware Ranch 4.94 243         Pn                  19 59 59.8 +1.0
HWUT                                 IAML                20 01 56.6
      comp=N,9.9nm,0.9s
HWUT                                 IAML                20 02 23.3
      comp=N,12nm,4.2s
BSUT Blindstream Ca 5.11 229  Pn     Pn                  20 00 02.7 +1.3
BSUT                                 IAML                20 01 37.7
      comp=E,8.2nm,0.8s
BSUT                                 IAML                20 01 40.5
      comp=N,11nm,4.5s
TCUT Toone Canyon  5.11 238          Pn                  20 00 00.9 -0.4
PV07 Paradox Valley 5.99 203         Pn                  20 00 15.0 +1.7
PV23 Carpenter Ridg 6.08 205         Pn                  20 00 16.9 +2.2
T25A Trinidad      6.93 171          Pn                  20 00 30.0 +3.8
I10CA LAC DU BONNET 9.04  43  I      I                   20 53 50.0
      baz=222,slow=264,SNR=2.0
ULM  Lac du Bonnet 9.15  43  Pg      Pn                  20 01 27.2  +31
      comp=N,0.2nm,0.3s,baz=232,slow=18,SNR=3.3
ULM                                  Lg      Lg          20 03 22.3
      comp=N,0.2nm,0.3s,baz=327,slow=18,SNR=5.9
```

*IDC **15** 19:59:39.2±2.1, 22°.83N×94°.21E, h84km±24km, mb3.4/8, mbtmp3.7/10, Error ellipse: s-maj=30.8km s-min=11.2km az=37.0*

ISC 15 19:59:39.3±0.8, 22°.9N±0°.1×94°.12E±0°.10, h100km, n19, σ2s55/28, mb3.6/8, Myanmar

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Code Station Name        Δ°   AZ°   Phase ID  Time      Res
                                   Op    ISC h m s     ISC
BRDH Bariadhala    2.30 265          P     Pn  20 00 16.6 +0.8
     69nm,0.3s,baz=256,slow=21,SNR=1.0
BRDH                                 S     Sn  20 00 45.4 +1.7
     92nm,0.3s,baz=252,slow=23,SNR=1.3
CMAR Chiang Mai Arr 6.32 134         P     Pn  20 01 08.0 -2.1
     0.4nm,0.3s,baz=318,slow=13,SNR=4.3
CMAR                                 S     Sn  20 02 17.7 -3.2
     0.4nm,0.4s,baz=211,slow=32,SNR=1.2
ODAN Odare         7.27 304          Pn    Pn  20 01 23.1  0.0
     baz=312,slow=0.0
ODAN                                 Sn    Sn  20 02 42.2 -2.1
     34nm,0.2s,baz=312,slow=0.0
RAMN Ramite        7.93 302          Pn    Pn  20 01 31.4 -0.7
     baz=309,slow=0.0
RAMN                                 Sn    Sn  20 02 56.3 -4.0
     14nm,0.3s,baz=309,slow=0.0
GUN  Gumba         8.96 305          Pn    Pn  20 01 46.7 +0.4
     baz=312,slow=0.0
GUN                                  Sn    Sn  20 03 22.3 -3.4
     23nm,0.3s,baz=312,slow=0.0
PKI  Pulchoki      9.15 302          Pn    Pn  20 01 48.1 -0.7
     baz=309,slow=0.0
PKI                                  Sn    Sn  20 03 25.8 -4.4
     10nm,0.4s,baz=309,slow=0.0
PKIN Phulchoki     9.17 302          Pn    Pn  20 01 48.3 -0.7
     baz=309,slow=0.0
PKIN                                 Sn    Sn  20 03 26.3 -4.2
     15nm,0.3s,baz=309,slow=0.0
KKN  Kakani        9.36 303          Pn    Pn  20 01 51.3 -0.2
     baz=309,slow=0.0
KKN                                  Sn    Sn  20 03 31.3 -3.8
     9.9nm,0.2s,baz=309,slow=0.0
DMN  Daman         9.41 302          Pn    Pn  20 01 51.4 -0.8
     baz=308,slow=0.0
DMN                                  Sn    Sn  20 03 31.7 -4.6
     18nm,0.4s,baz=308,slow=0.0
KOLN Koldanda     10.68 299          Pn    Pn  20 02 07.8 -1.7
     baz=304,slow=0.0
KOLN                                 Sn    Sn  20 04 00.4 -6.7
     16nm,0.4s,baz=304,slow=0.0
PYUN Piuthan      11.30 300          Pn    Pn  20 02 16.3 -1.6
     baz=305,slow=0.0
PYUN                                 Sn    Sn  20 04 15.2 -7.2
     9.6nm,0.4s,baz=305,slow=0.0
MKAR Makanchi Array 25.68 341        P     P   20 05 02.4 +2.5
     1.4nm,0.6s,baz=146,slow=11,SNR=18
     1.4nm,0.6s
KURBB Kurchatov Arra 30.23 340       P     P   20 05 42.5 +2.2
     0.5nm,0.6s,baz=147,slow=9.4,SNR=4.9
     0.5nm,0.6s
ZALV Zalesovo Beam 31.79 350         P     P   20 05 57.2 +3.2
     0.3nm,0.3s,baz=166,slow=7.0,SNR=2.3
     0.3nm,0.3s
AKASG Malin Array Be 56.81 317       P     P   20 09 14.5 +1.3
     0.2nm,0.3s,baz=84,slow=5.8,SNR=3.9
     0.2nm,0.3s
WRA  Warramunga Arr 57.91 134        P     P   20 09 22.3 +1.0
     0.3nm,0.4s,baz=322,slow=7.4,SNR=6.5
     0.3nm,0.4s
FINES FINESS Array B 59.67 329       P     P   20 09 35.1 +2.3
     1.3nm,0.7s,baz=147,slow=32,SNR=1.9
     1.3nm,0.7s
ASAR Alice Springs 60.31 138         P     P   20 09 39.4 +1.5
     0.2nm,0.4s,baz=316,slow=6.4,SNR=4.7
     0.2nm,0.4s
HFS  Hagfors       65.69 327         P     P   20 10 14.2 +1.3
     5.1nm,1.1s,baz=120,slow=5.5,SNR=1.4
     5.1nm,1.1s
```

*IDC **15** 20:06:26.9±0.9, 6°.85N×73°.02W, h162km±12km, mb2.8/1, mbtmp3.8/4, Error ellipse: s-maj=56.9km s-min=7.9km az=132.0*

*RSNC **15** 20:06:28.6±0.0, 7°N±1°×7°3W±°, h148km±2km, M3.2, mb3.6, mB4.9, ML3.0, Mw(mB)4.2*

ISC 15 20:06:26.6±0.9, 6°.85N±0°.03×73°.09W±0°.04, h155km±6km, n42, σ1s63/80, Northern Colombia

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Code Station Name        Δ°   AZ°   Phase ID  Time      Res
                                   Op    ISC h m s     ISC
BARC Barichara     0.28 200          P     Pn  20 06 48.1  0.0
BARC                                 S     Sn  20 07 03.9 -0.5
PAMC Pamplona, Colo 0.62  39         P     Pn  20 06 51.2 +1.4
PAMC                                 S     Sn  20 07 08.5 +1.0
BRJC Barrancabermej 0.66 280         P     Pn  20 06 50.2 +0.7
BRJC                                 S     Sn  20 07 07.5 +0.6
RUSC La Rusia      0.95 180          P     Sn  20 06 52.4 +0.3
RUSC                                 S     Sn  20 07 10.4 -1.2
TAMC Tame, Arauca  1.35 108          P     Pn  20 06 56.7 +1.5
TAMC                                 S     Sn  20 07 18.4 +1.4
OCAC Ocana         1.40 351          P     Pn  20 06 56.7 +1.0
OCAC                                 S     Sn  20 07 18.6 +0.5
PTBC PUERTO BERRIO, 1.40 257         P     Pn  20 06 55.2 -0.4
PTBC                                 S     Sn  20 07 16.3 -1.4
SPBC San Pablo de B 1.54 219         P     Pn  20 06 57.3 +0.1
SPBC                                 S     Sn  20 07 19.2 -1.4
ZARC Zaragoza, Cauc 1.87 290         P     Pn  20 07 01.0 +0.4
ZARC                                 S     Sn  20 07 26.4 -0.3
NORC Norcasia      2.19 234          P     Pn  20 07 04.1 -0.2
NORC                                 S     Sn  20 07 32.1 -1.3
CHIC Chingaza      2.30 196          P     Pn  20 07 06.2 +0.1
CHIC                                 S     Sn  20 07 36.1 -0.3
ROSC El Rosal      2.35 212          P     Pn  20 07 08.0 +1.4
     111nm,0.3s,baz=84,slow=18,SNR=84
ROSC                                 S     Sn  20 07 39.2 +1.9
     209nm,0.3s,baz=74,slow=18,SNR=7.1
ROSC El Rosal      2.35 212          P     Pn  20 07 08.0 +1.4
ROSC                                 S     Sn  20 07 39.2 +1.9
HELC Santa Helena  2.51 255          P     Pn  20 07 10.0 +1.5
HELC                                 S     Sn  20 07 39.9 -0.9
CVER Cruz Verde, Cu 2.52 203         P     Pn  20 07 09.6 +0.9
CVER                                 S     Sn  20 07 43.8 +2.6
GUY2C Guyana, Caldas 2.78 235        P     Pn  20 07 12.7 +0.7
GUY2C                                S     Sn  20 07 47.8 +0.8
VILC Villavicencio, 2.79 193         P     Pn  20 07 12.0 +0.2
VILC                                 S     Sn  20 07 46.7  0.0
RECRC Villamaria, Ca 2.94 230        P     Pn  20 07 16.3 +2.4
RECRC                                S     Sn  20 07 53.9 +3.4
CBOC Ciudad Bolivar 3.07 251         P     Pn  20 07 16.3 +1.0
CBOC                                 S     Sn  20 07 52.6 -0.3
DBBC Dabeiba       3.10 273          P     Pn  20 07 15.9 +0.3
DBBC                                 S     Sn  20 07 51.5 -2.0
SDV  Santo Domingo 3.16  50          P     Pn  20 07 18.0 +1.6
     36nm,0.3s,baz=240,slow=12,SNR=51
SDV                                  S     Sn  20 07 54.6 -0.4
     35nm,0.3s,baz=257,slow=22,SNR=17
SDV  Santo Domingo 3.16  50          P     Pn  20 07 17.9 +1.4
SDV                                  S     Sn  20 07 55.1 +0.1
ARGC Ariguani, Magd 3.20 339         P     Pn  20 07 18.6 +1.9
ARGC                                 S     Sn  20 07 59.4 +3.8
ANIL Santa Ana     3.29 225          P     Pn  20 07 19.7 +1.5
ANIL                                 S     Sn  20 07 59.8 +1.7
PRAC Prado         3.60 210          P     Pn  20 07 22.0 +0.1
PRAC                                 S     Sn  20 08 03.9 -0.9
APAC Apartado, Choc 3.62 287         P     Pn  20 07 22.3 +0.2
APAC                                 S     Sn  20 08 04.6 -0.5
ORTC Ortega, Tolima 3.63 216         P     Pn  20 07 22.5 +0.2
ORTC                                 S     Sn  20 08 06.3 +0.7
SJCC San Jacinto, C 3.66 326         P     Pn  20 07 22.5 -0.3
SJCC                                 S     Sn  20 08 03.7 -2.7
PLMC San Jos del P 3.72 239          P     Pn  20 07 23.9 +0.4
PLMC                                 S     Sn  20 08 07.7  0.0
URMC La Uribe, Meta 3.81 200         P     Pn  20 07 25.3 +0.6
URMC                                 S     Sn  20 08 09.7 -0.1
CRJC Cerrejon, Guaj 4.14  3          P     Pn  20 07 28.8 -0.2
CRJC                                 S     Sn  20 08 15.6 -2.0
YOTC Yotoco, Valle 4.32 229          P     Pn  20 07 32.6 +1.3
YOTC                                 S     Sn  20 08 26.3 +4.6
SMRC Santa Marta, M 4.43 345         P     Pn  20 07 32.9 +0.3
SMRC                                 S     Sn  20 08 22.0 -2.1
MACC Macarena, Meta 4.74 189         P     Pn  20 07 35.1 -1.7
MACC                                 S     Sn  20 08 26.9 -4.6
BETC Betania       4.76 210          P     Pn  20 07 35.2 -1.9
BETC                                 S     Sn  20 08 29.2 -2.9
URIC Uribia, Colomb 4.94  13         P     Pn  20 07 39.0 -0.3
     16nm,1.4s
URIC                                 S     Sn  20 08 33.3 -2.8
     16nm,1.4s
MALC Bahia Malaga  5.08 236          P     Pn  20 07 42.7 +1.4
MALC                                 S     Sn  20 08 41.5 +1.9
GARC Garzon, Huila 5.22 207          P     Pn  20 07 42.3 -1.0
GARC                                 S     Sn  20 08 39.3 -3.9
PCRV Puerto La Cruz 8.99  68         P     Pn  20 08 34.1 +0.9
     9.1nm,0.8s,baz=15,slow=12,SNR=1.9
YKA  Yellowknife Ar 63.24 340        P     P   20 16 38.2 -0.1
     0.2nm,0.8s,baz=129,slow=6.2,SNR=2.5
     0.2nm,0.8s
ASAR Alice Springs 149.16 234        PKPbc PKPbc 20 25 56.5 -1.1
     0.5nm,0.7s,baz=127,slow=3.5,SNR=7.2
WRA  Warramunga Arr 150.38 241       PKPbc PKPbc 20 25 59.6 -1.0
     0.3nm,0.5s,baz=107,slow=2.8,SNR=7.9
```

*NEIC **15** 20:09:37.5±2.1, 43°.69N±0°.06×105°.29W±0°.09, h0km±1km, ML3.4/60, Error ellipse: s-maj=11.1km s-min=9.6km az=62.0*

*IDC **15** 20:09:41.0±1.8, 43°.72N×105°.53W, h0km, mb3.7/3, mbtmp3.4/9, ML2.8/5, MS2.4/1, Error ellipse: s-maj=49.5km s-min=8.5km az=149.0*

ISC 15 20:09:39.7±0.8, 43°.69N±0°.06×105°.38W±0°.07, h0km, n69, σ1s59/67, mb3.8/3, Wyoming

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Code Station Name        Δ°   AZ°   Phase ID  Time      Res
                                   Op    ISC h m s     ISC
LAO  LASA Array    3.06 349          P     Pn  20 10 29.5 +0.1
LAO                                  IAML                20 11 33.0
     134nm,1.1s
RLMT Red Lodge     3.14 299          P     Pn  20 10 30.7 +0.1
RLMT                                 IAML                20 11 26.9
     60nm,0.4s
RLMT                                 IAML                20 11 32.0
     60nm,0.5s
PD31 Pinedale Array 3.19 255  Pn     Pn  20 10 32.5 +1.1
PDAR Pinedale Array 3.19 255  Pn     Pn  20 10 31.5 +0.1
PDAR Pinedale Array 3.19 255  Pn     Pb  20 10 34.8 -2.6
     7.3nm,0.5s,baz=60,slow=14,SNR=37
PDAR                                 Lg      Lg          20 11 17.0
     15nm,0.3s,baz=74,slow=32,SNR=15
PDAR                                 LR      LR          20 11 21.4
     comp=Z,64nm,20.6s,baz=36,slow=32
BRIGG Briggsdale   3.20 165          P     Pn  20 10 30.9 -0.4
BRIGG                                IAML                20 11 28.5
     comp=E,95nm,0.8s
BRIGG                                IAML                20 11 31.3
     comp=N,95nm,0.6s
YNE  Yellowstone No 3.58 293  Pn     Pn  20 10 38.6 +2.0
YNE                                  IAML                20 11 39.0
     comp=N,66nm,0.7s
YNE                                  IAML                20 11 41.4
     comp=E,69nm,0.7s
YMP  Mirror Lake Pl 3.59 289         Pn  20 10 38.3 +1.3
OGNE Ogallala      3.69 137          Pn  20 10 38.7 +0.6
GCMT Greycliff     3.71 306          Pn  20 10 38.4 -0.1
LKWY Lake          3.72 285          Pn  20 10 40.3 +1.7
LKWY                                 IAML                20 11 07.7
     comp=E,72nm,0.6s
LOHW Long Hollow   3.79 271          Pn  20 10 41.4 +1.8
H17A Grant Village 3.82 283          Pn  20 10 40.2 +0.3
ISCO Idaho Springs 3.89 183  Pn      Pn  20 10 42.7 +1.7
MOOW Moose Ponds   3.89 273  Pn      Pn  20 10 42.8 +1.8
SNOW Snow King Moun 3.92 269         Pn  20 10 43.4 +2.1
SNOW                                 IAML                20 12 05.5
     comp=E,41nm,0.8s
SNOW                                 IAML                20 12 27.1
     comp=E,48nm,1.5s
YNR  Norris Junctio 3.95 287         Pn  20 10 43.0 +1.2
TPAW Teton Pass    4.05 269          Pn  20 10 43.4 +0.2
TPAW                                 IAML                20 12 04.9
     comp=E,26nm,0.7s
TPAW                                 IAML                20 12 25.4
     comp=E,39nm,1.2s
YHH  Holmes Hill   4.08 288          Pn  20 10 48.2 +4.5
FXWY Fox Creek     4.10 271          Pn  20 10 44.5 +0.7
YMR  Madison River 4.14 286          Pn  20 10 44.7 +0.4
YMR                                  IAML                20 12 12.3
     comp=E,53nm,1.1s
YMR                                  IAML                20 12 19.7
     comp=N,50nm,0.8s
AHID Auburn Hatcher 4.28 260         Pn  20 10 47.0 +0.7
AHID                                 IAML                20 12 03.7
     comp=N,46nm,0.9s
AHID                                 IAML                20 12 07.8
     comp=N,35nm,1.4s
YHB  Horse Butte   4.32 286  Pn      Pn  20 10 47.9 +1.1
YHB                                  IAML                20 12 15.5
     comp=N,22nm,0.8s
YHL  Hebgen Lake   4.33 288          Pn  20 10 49.1 +2.0
YHL                                  IAML                20 12 12.1
     comp=E,37nm,0.9s
YHL                                  IAML                20 12 30.6
     comp=N,32nm,0.9s
RDMU Red Mountain  4.41 226          Pn  20 10 49.3 +1.3
RDMU                                 IAML                20 12 09.7
     comp=E,42nm,1.0s
QLMT Earthquake Lak 4.50 287         Pn  20 10 48.0 -1.2
Q24A Divide        4.72 178          Pn  20 10 51.6 -0.8
Q24A                                 IAML                20 12 18.9
     comp=N,18nm,0.4s
Q24A                                 IAML                20 12 20.9
     comp=E,35nm,1.0s
BOZ  Bozeman (W)   4.85 295          Pn  20 10 53.8 -0.3
BOZ                                  IAML                20 12 18.7
     comp=E,20nm,0.6s
DGMT Dagmar        4.86  9           Pn  20 10 52.4 -1.6
HWUT Hardware Ranch 5.01 248  Pn     Pn  20 10 56.3 -0.1
BSUT Blindstream Ca 5.09 234  Pn     Pn  20 10 56.9 -0.7
BSUT                                 IAML                20 12 30.0
     comp=N,17nm,1.2s
BSUT                                 IAML                20 12 46.2
     comp=E,16nm,1.3s
TCUT Toone Canyon  5.15 242          Pn  20 10 58.0 -0.3
EGMT Eagleton      5.31 326          Pn  20 10 59.6 -1.3
DLMT Dillon        5.43 290          Pn  20 11 01.5 -0.5
P18A Preston Nutter 5.45 224         Pn  20 11 02.5  0.0
LRM  Limekiln Ridge 5.47 295         Pn  20 11 03.0 +0.3
HRY  Holter Researc 5.47 306         Pn  20 11 02.5  0.0
MCMT McKenzie Canyo 5.49 285         Pn  20 11 03.0 +0.1
HVU  Hansel Valley 5.77 253          Pn  20 11 06.1 -0.7
PV07 Paradox Valley 5.80 206  Pn     Pn  20 11 07.3 +0.2
PV15 Paradox Valley 5.83 205  Pn     Pn  20 11 07.2 -0.4
LYMT Lyon Mountain 5.88 306          Pn  20 11 08.8 +0.6
SDCO Great Sand Dun 5.94 181         Pn  20 11 10.7 +1.6
PV10 Paradox Valley 5.98 209         Pn  20 11 10.2 +0.5
SRU  San Rafael Swe 5.99 222         Pn  20 11 09.8 +0.1
PV11 David Mesa, Pa 6.00 207         Pn  20 11 09.4 -0.5
S22A 4UR Ranch, Cre 6.04 191         Pn  20 11 14.7 +4.2
PV13 Radium Mtn., P 6.11 206         Pn  20 11 11.3 -0.1
TMUT Trail Mountain 6.20 227         Pn  20 11 12.5 -0.2
OVMT Ovando        6.34 305          Pn  20 11 14.4 -0.1
BPMT Black Pine Rid 6.34 299  Pn     Pn  20 11 14.5 -0.1
ECSD EROS Data Cent 6.35  87         Pn  20 11 13.5 -1.1
CBKS Cedar Bluff   6.46 137          Pn  20 11 19.4 +3.4
DUG  Dugway, Tooele 6.55 240  Pn     Pn  20 11 17.4  0.0
T25A Trinidad      6.58 173          Pn  20 11 18.0 +0.1
MVCO Mesa Verde    6.89 201          Pn  20 11 20.7 -1.5
MSU  Marysvale     7.28 227          Pn  20 11 25.6 -1.9
TCRU Three Creeks R 7.36 229         Pn  20 11 26.2 -2.4
ELK  Elko          7.89 251  Pn     Pn  20 11 36.9 +1.0
     comp=E,0.1nm,0.3s,baz=64,slow=4.5,SNR=2.1
     comp=E,0.3nm,0.4s
PSUT Pine Spring   8.21 234  Pn     Pn  20 11 38.1 -2.1
I10CA LAC DU BONNET 9.13  41  I      I   21 05 50.0
     comp=E,0.1nm,1.7s,baz=224,slow=325,SNR=8.9
ULM  Lac du Bonnet 9.23  41  Pn     Pn  20 11 54.0  0.0
     comp=E,0.5nm,0.3s,baz=229,slow=13,SNR=4.4
ULM                                  Pg      20 12 24.9
     comp=E,0.5nm,0.3s,baz=224,slow=16,SNR=6.2
ULM                                  Lg      Lg  20 14 28.1
     comp=E,0.3nm,0.3s,baz=135,slow=18,SNR=3.7
     comp=E,1.1nm,0.3s
NVAR Mina Array Bea 11.08 246        Pn  Pn  20 12 23.7 +4.1
     comp=E,0.1nm,0.3s,baz=59,slow=12,SNR=4.1
     comp=E,0.8nm,0.8s
YBH  Yreka Blue Hor 12.90 267        Pn  Pn  20 12 48.8 +4.4
     comp=E,0.1nm,0.3s,baz=79,slow=10,SNR=2.6
     comp=E,1.1nm,0.6s
TXAR Lajitas Array 14.39 174         Lg      Lg  20 17 14.2
     comp=E,0.1nm,0.3s,baz=130,slow=47,SNR=1.5
YKA  Yellowknife Ar 19.60 347        P   P   20 14 09.4 +0.2
     comp=E,0.1nm,0.3s,baz=166,slow=13,SNR=4.4
     comp=E,0.2nm,0.5s
BVAR Borovoye Array 83.60  3         P   P   20 22 10.9 +1.4
     comp=E,0.5nm,0.7s,baz=2.7,slow=3.0,SNR=2.1
     comp=E,0.5nm,0.7s
SONM Songino Array 84.66 339         P   P   20 22 16.9 +1.6
     comp=E,0.3nm,0.6s,baz=27,slow=4.8,SNR=2.7
     comp=E,0.3nm,0.6s
MKAR Makanchi Array 89.65 355        P   P   20 22 38.5 -0.8
     comp=E,0.4nm,0.6s,baz=14,slow=5.9,SNR=5.3
     comp=E,0.4nm,0.6s
```

*AEIC **15** 20:21:26.1±4.0, 52°.8N±0°.1×174°.6W±0°.2, h235km±7km, Error ellipse: s-maj=20.8km s-min=10.6km az=154.0*

NEIC 15 20:21:26.9±1.3, 52°.8N±0°.1×174°.7W±0°.1, h223km±9km, mb4.0/19, ML3.6/6, ML3.1(AEIC), Error ellipse: s-maj=22.4km s-min=6.5km az=156.0, Andreanof Islands

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Code Station Name        Δ°   AZ°   Phase ID  Time      Res
                                   Op    ISC h m s     ISC
ATKA Atka Island   0.66 152          Pn  20 21 57.0 -0.2
ATKA                                 S   20 22 20.7 -0.1
ATKA Atka Island   0.66 152          IAML                20 22 22.9
     comp=N,108nm,0.5s
GSTR Great Sitkin T 1.08 231         Pn  20 21 59.6 +0.1
GSTR Great Sitkin T 1.08 231         S   20 22 25.3 +0.3
GSMY Great Sitkin M 1.12 229         Pn  20 21 59.6 -0.1
GSCK Great Sitkin C 1.19 230         Pn  20 22 00.3  0.0
GSCK                                 S   20 22 26.4 +0.3
ADAG Mount Adagdak 1.42 236          Pn  20 22 02.1 +0.1
ADK  Adak          1.52 234          Pn  20 22 02.5 -0.2
ADK                                  Sn  S   20 22 29.4 -1.1
ADK                                  IAML                20 22 31.4
     comp=N,243nm,0.2s
ADK                                  IAML                20 22 32.3
     comp=N,246nm,0.2s
KIRH Kanaga Island 1.72 240          Pn  20 22 04.5  0.0
KICM Kanaga Island 1.76 241          Pn  20 22 05.0 +0.2
KIWB Kanaga Island 1.77 239          Pn  20 22 04.8 -0.2
KIWB Kanaga Island 1.77 239          S   20 22 35.8 +1.3
TAFP Tanaga Falls P 2.20 248         Pn  20 22 08.9 -0.2
TAFP                                 S   20 22 41.3 -0.7
TASE Tanaga Southea 2.26 246         Pn  20 22 09.5 -0.2
GANE Gareloi Northe 2.69 250         Pn  20 22 14.0 -0.2
GANO Gareloi North 2.70 251          Pn  20 22 14.2 -0.2
OKTU Okmok Mt. Tuli 4.06  79         Pn  20 22 30.2  0.0
MAPS Pakushin South 4.76  75         Pn  20 22 39.1 +0.3
MAPS                                 S   20 23 32.9 -2.7
MGOD Makushin Gods 4.80  75          Pn  20 22 39.6 +0.3
UNV  Unalaska Valle 5.03  75  Pn     Pn  20 22 41.9 -0.2
SPIA Saint Paul Isl 5.09  28  Pn     Pn  20 22 42.8  0.0
LVA  Lava Point    5.35  72  Pn     Pn  20 22 45.7 -0.5
LVA                                  IAML                20 24 04.0
     comp=E,91nm,2.3s
CHGN Chignik       10.09  63  Pn     Pn  20 23 46.7  0.0
M14K Bethel        10.59  36  Pn     Pn  20 23 53.4 +0.4
L14K Kuka Creek    10.77  32  Pn     Pn  20 23 54.4 -0.9
R16K Pilot Point   10.89  57  Pn     Pn  20 23 56.6 -0.2
N15K Kwethluk River 10.93  42  Pn     Pn  20 23 58.6 +1.2
J14K Nanvaranak Lak 11.60  26  Pn     Pn  20 24 05.8  0.0
M16K Timber Creek  11.89  40  Pn     Pn  20 24 08.9 -0.6
ACHA Angle Creek He 12.23  56  Pn     Pn  20 24 13.4 -0.5
J16K Anvik River   12.87  30          P   20 24 23.2 -1.1
O18K Koktuh Hills  12.89  49  Pn     Pn  20 24 22.5 +0.4
J17K VABM Dome     13.42  31  Pn     Pn  20 24 28.4 -0.1
L18K Granite Mounta 13.48  38  Pn     Pn  20 24 28.3 -0.9
KDAK Kodiak Island 13.53  60  Pn     Pn  20 24 27.8 -2.1
N19K Bonanza Creek 13.63  46  P      Pn  20 24 31.5 +0.2
CNPM China Poot    14.66  53  P      Pn  20 24 43.5 -0.1
BRLK Bradley Lake  14.90  53  P      Pn  20 24 45.4 -1.3
K20K Telida        15.12  38  P      Pn  20 24 48.2 -1.1
K20K                                 IAmb IAmb 20 24 49.6
     comp=Z,5.7nm,1.2s
SLKM Skilak Lake   15.45  50  P      P   20 24 52.2 -0.8
PPLA Purkeypile    15.59  41  P      Pn  20 24 55.4 +0.3
PPLA                                 IAmb IAmb 20 25 38.0
     comp=Z,16nm,1.4s
SEW  Seward        15.69  52  P      P   20 24 54.3 -1.2
CAST Castle Rocks  15.90  39  P      Pn  20 24 58.8 +0.1
CAST                                 IAmb IAmb 20 25 26.6
     comp=Z,7.6nm,1.4s
F19K Shaleruckik Mo 16.36  24  P      P   20 25 03.0 +0.1
KTH  Kantishna Hill 16.42  40  P      Pn  20 25 04.7 -0.2
KNK  Knik Glacier  16.56  48  P      Pn  20 25 06.9 +0.4
TRF  Thorofare Moun 16.62  40  P      P   20 25 06.4 +0.4
E19K Redstone River 16.98  23  P      P   20 25 10.3 +0.6
E19K                                 IAmb IAmb 20 25 12.2
     comp=Z,6.9nm,1.4s
RND  Reindeer      17.17  42  P      P   20 25 12.2 +0.3
RND                                  IAmb IAmb 20 25 14.4
     comp=Z,6.9nm,1.2s
I23K Minto, Yukon-K 17.83  36  P      P   20 25 18.3 -0.7
I23K                                 IAmb IAmb 20 25 31.2
```

comp=Z,8.9nm,1.5s
CCB Clear Creek Bu 18.15 39 P P 20 25 20.7 -1.8
RIDG Independent Ri 18.95 43 P P 20 25 30.2 -0.9
RIDG IAmb IAmb 20 25 39.9
comp=Z,13nm,1.4s
D22K Ayikyak River 19.18 24 P P 20 25 33.6 +0.1
D23K Nanushuk River 19.76 26 P P 20 25 40.1 +0.5
C23K Itkillik River 20.38 24 P P 20 25 46.1 -0.1
C23K IAmb IAmb 20 26 29.1
comp=Z,7.3nm,1.4s
BMAR Burnt Mountain 20.67 33 P P 20 25 50.1 +0.7
K29M Barlow Dome 22.09 45 P P 20 26 03.4 -0.3
K29M IAmb IAmb 20 26 05.1
comp=Z,3.2nm,0.6s
MMPY Sheldon Lake, 24.72 49 P P 20 26 28.5 +1.0
MMPY IAmb IAmb 20 26 34.3
comp=Z,9.7nm,1.5s
YKAW3 Yellowknife Wh 32.40 49 P P 20 27 36.0 +0.7
YKAW3 IAmb IAmb 20 28 00.5
comp=Z,1.7nm,1.4s

ISC 15 20:31:29.6±1.2, 28°.02N±0°.05×112°.23W±0°.04, h26km±16km, n6, σ0§42/12, 3C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	**San Francisqui**	**0.68**	**305**	*eP*	**Pb**	**20 31 42.7**	**-0.2**
SFQB				*eS*	**Sb**	**20 31 51.9**	**0.0**
SFQB				*e*		20 31 53.8	
SFQB				IAML		20 31 53.8	
comp=E,222nm,0.3s							
SFQB				IAML		20 31 54.4	
comp=N,200nm,0.3s							
SFQB				⇑*e*		20 31 54.4	
SRIG	**Santa Rosalia**	**0.69**	**181**	*eP*	**Pb**	**20 31 43.4**	**+0.2**
SRIG				*eS*	**Sn**	**20 31 53.7**	**-0.1**
GUYB	**Guaymas**	**1.20**	**95**	*eP*	**Pn**	**20 31 50.9**	**0.0**
GUYB				*eS*	**Sb**	**20 32 06.5**	**-0.4**
GUYB				⇑*e*		20 32 07.8	
GUYB				IAML		20 32 07.8	
comp=E,105nm,0.2s							
BAHB	**Baha de los**	**1.49**	**308**	*eP*	**Pn**	**20 31 54.4**	**-0.4**
BAHB				*eS*	**Sb**	**20 32 16.0**	**+0.8**
HSIG		**1.50**	**48**	*eP*	**Pn**	**20 31 55.2**	**+0.2**
HSIG				*eS*	**Sn**	**20 32 14.0**	**+0.2**
HSIG				⇑*e*		20 32 15.4	
HSIG				IAML		20 32 15.4	
comp=E,45nm,0.5s							
NOVRB	**El Novillo Son**	**2.45**	**67**	*eP*	**Pb**	**20 32 13.2**	**+0.2**
NOVRB				*eS*	**Sb**	**20 32 42.3**	**-0.5**

*BJI **15** 21:17:25.4, 12°.61N×142°.66E, h137km, mB5.0/16, mb4.6/46*
*IDC **15** 21:17:26.3±0.5, 12°.61N×142°.54E, h128km±4km, mb4.3/25, mbtmp4.7/28, MS3.4/21, Error ellipse: s-maj=9.4km s-min=7.9km az=157.0*
*GCMT **15** 21:17:28.9±0.3, 12°.36N±0°.02×142°.50E±0°.02, h120km±4km, MW4.9/99, Moment Tensor Solution. s16,c16; s99,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.57±.10; $M_{\theta\theta}$-0.11±.11; $M_{\phi\phi}$0.67±.11; $M_{r\theta}$1.87±.06; $M_{\theta\phi}$-1.66±.10; $M_{\phi r}$-0.02±.06; Best double couple: $M_0$2.57800×10^{16} NP1:ϕ_s181.00000°, δ43.00000°, λ-13.00000°. NP2:ϕ_s281.00000°, δ81.00000°, λ-132.00000°. Principal axes: T 2.5280, Plg24.0000°, Azm42.0000°; N 0.0990, Plg41.0000°, Azm289.0000°; P -2.6270, Plg39.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 21:17:28.9±1.5, 12°.60N±0°.08×142°.56E±0°.09, h149km±6km, mb4.9/277 Error ellipse: s-maj=13.2km s-min=11.6km az=107.0*
*DJA **15** 21:17:37.0±1.2, 12°N±5°×14°2E±°, h229km±12km, M4.7/32, mb4.9/32, mB5.2/12, Mw(mB)4.6/12*
ISC 15 21:17:26.4±0.4, 12°.62N±0°.04×142°.56E±0°.05, h128km±3km, h128km:pP-P, n682, σ0§83/659, mb4.9/195, 2C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.44**	**67**	P	**Pn**	**21 18 07.5**	**+1.6**
1μm,0.3s,baz=228,slow=2.6,SNR=134							
GUMO				S	**Sn**	**21 18 37.6**	**+1.4**
2μm,0.3s,baz=256,slow=23,SNR=21							
JCJ	**Chichijima**	**14.40**	**359**		**P**	**21 20 47.1**	**-0.5**
JCJ	**Chichijima**	**14.40**	**359**	P	**Pn**	**21 20 40.4**	**-4.0**
109nm,0.6s,baz=258,slow=23,SNR=6.2							
JCJ	**Chichijima**	**14.40**	**359**	P	**P**	**21 20 47.2**	**-0.4**
SMPI	**Sarmi**	**15.01**	**195**	P	**P**	**21 20 56.3**	**+1.9**
2μm76nm,1.0s							
JAY	**Jayapura**	**15.15**	**187**	P	**P**	**21 20 55.3**	**-0.7**
55nm,0.9s,baz=346,slow=3.9,SNR=5.9							
JAY				S	**Sn**	**21 23 42.7**	**+0.7**
24nm,0.8s,baz=129,slow=18,SNR=4.1							
JAY	**Jayapura**	**15.15**	**187**	P	**P**	**21 20 57.4**	**+1.4**
68nm,1.0s							
GENI	**Genyem**	**15.30**	**189**	P	**P**	**21 20 57.4**	**-0.2**
GENI	**Genyem**	**15.30**	**189**	S	**Sn**	**21 23 47.6**	**+2.1**
GENI	**Genyem**	**15.30**	**189**	P	**P**	**21 20 59.8**	**+2.2**
190nm,1.1s							
MANU	**Manus Island**	**15.33**	**162**	P	**P**	**21 20 57.2**	**-0.8**
PATS	**Pohnpei**	**16.55**	**109**		**P**	**21 21 12.9**	**+1.4**
PATS	**Pohnpei**	**16.55**	**109**	P	**P**	**21 21 13.3**	**+1.9**
comp=Z,169nm,1.6s							
WAMI	**Wamena**	**16.84**	**193**	P	Pn	21 21 34.0	+19
SWI	**Sorong**	**17.47**	**221**	P	**Pn**	**21 21 26.9**	**+4.6**
comp=Z,45nm,0.7s							
FAKI	**Fak Fak**	**18.53**	**214**	P	**P**	**21 21 32.2**	**-1.0**
FAKI	**Fak Fak**	**18.53**	**214**	S	**S**	**21 24 56.3**	**-1.8**
FAKI	**Fak Fak**	**18.53**	**214**	P	**Pn**	**21 21 35.1**	**+0.2**
comp=Z,1μmcomp=Z,118nm,0.8s							
RABL	**Rabaul**	**19.24**	**150**	P	**Pn**	**21 21 42.0**	**-1.3**
JOW	**Kunigami**	**19.48**	**319**	P	**P**	**21 21 44.2**	**+0.7**
JOW	**Kunigami**	**19.48**	**319**	P	**P**	**21 21 44.0**	**+0.5**
comp=Z,33nm,0.7s,baz=122,slow=13,SNR=5.3							
JHJ2	**Mitsune**	**20.55**	**353**	P	**P**	**21 21 54.4**	**-0.5**
JHJ	**Hachijo jima 2**	**20.56**	**353**	P	**P**	**21 21 55.0**	**0.0**
comp=Z,68nm,0.8s,baz=149,slow=12,SNR=2.0							
JHJ				LR	LR	21 27 42.6	
comp=Z,106nm,20.6s,baz=142,slow=30							
comp=Z,68nm,0.8s							
MSAI	**Masohi**	**20.86**	**221**	P	**P**	**21 21 59.3**	**+0.9**
TGY	**Tagaytay City**	**21.09**	**276**	P	**P**	**21 22 01.4**	**+0.4**
comp=Z,163nm,0.4s,baz=156,slow=8.5,SNR=5.0							
JMN	**Monobe**	**22.45**	**341**	P	**P**	**21 22 15.2**	**+0.3**
JMN				IAmb	IAmb	21 22 19.6	
comp=Z,75nm,1.3s							
JNU	**Nakatsue**	**23.03**	**334**	P	**P**	**21 22 21.0**	**+0.5**
JNU				IAmb	IAmb	21 22 23.7	
comp=Z,40nm,0.9s							
JNU	**Nakatsue**	**23.03**	**334**	LR	LR	21 31 16.2	
comp=Z,47nm,18.6s,baz=157,slow=36							
INU	**Inuyama**	**23.18**	**348**	P	**P**	**21 22 22.1**	**+0.3**
INU				IAmb	IAmb	21 22 23.4	
comp=Z,47nm,1.2s							
INU	**Inuyama**	**23.18**	**348**	P	**P**	**21 22 22.6**	**+0.8**
SSLB	**Suanglung**	**23.30**	**301**	P	**P**	**21 22 24.1**	**+1.0**
SSLB				IAmb	IAmb	21 22 26.4	
comp=Z,111nm,1.7s							
YHNB	**Yeheng**	**23.34**	**304**	P	**P**	**21 22 23.5**	**0.0**
YHNB				IAmb	IAmb	21 22 43.0	
comp=Z,113nm,1.7s							
JGF	**Kuroka**	**23.36**	**349**	P	**P**	**21 22 23.2**	**-0.3**
TPUB	**Ta-pu**	**23.38**	**300**	P	**P**	**21 22 24.2**	**+0.4**
TPUB				IAmb	IAmb	21 22 49.8	
comp=Z,75nm,1.4s							
MRSI	**Marisa**	**23.74**	**241**	P	**P**	**21 22 25.9**	**-1.3**
comp=Z,1μmcomp=Z,55nm,0.9s							
LUWI	**Luwuk**	**23.88**	**237**	P	**P**	**21 22 27.1**	**-1.2**
LUWI	**Luwuk**	**23.88**	**237**	P	**P**	**21 22 28.5**	**+0.1**
comp=Z,2μmcomp=Z,143nm,1.3s							
H11S3	**WAKE ISLAND Hy**	**23.95**	**73**	T	T	21 47 09.4	
baz=252							
H11S1	**WAKE ISLAND Hy**	**23.97**	**73**	T	T	21 47 00.9	
baz=252,slow=74							
H11S2	**WAKE ISLAND Hy**	**23.97**	**73**	T	T	21 47 23.1	
baz=252,slow=74							
MJAR	**Matsushiro Arr**	**24.14**	**351**	P	**P**	**21 22 29.6**	**-0.9**
comp=Z,8.7nm,0.6s,baz=161,slow=6.6,SNR=25							
comp=Z,8.7nm,0.6s							
MAJO	**Matsushiro**	**24.14**	**351**	P	**P**	**21 22 30.1**	**-0.4**
MAJO				IAmb	IAmb	21 22 35.5	
comp=Z,20nm,0.7s							
MAJO	**Matsushiro**	**24.14**	**351**	P	**P**	**21 22 31.6**	**+1.1**
MJB9	**Matsu-Tunnel**	**24.14**	**351**	P	**P**	**21 22 31.2**	**+0.6**
MJB9				IAmb	IAmb	21 22 36.5	
comp=Z,19nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**24.39**	**70**	T	T	21 46 50.1	
baz=255,slow=74							
H11N2	**WAKE ISLAND Hy**	**24.40**	**70**	T	T	21 46 50.7	
baz=255,slow=74							
H11N3	**WAKE ISLAND Hy**	**24.41**	**70**	T	T	21 47 48.6	
baz=255							
TOLI2	**Tolitoli**	**24.43**	**244**	P	**P**	**21 22 32.8**	**-0.6**
TOLI2				IAmb	IAmb	21 23 12.7	
comp=Z,28nm,1.0s							
JMM	**Marumori**	**25.19**	**357**	P	**P**	**21 22 40.3**	**+0.3**
JMM	**Marumori**	**25.19**	**357**	P	**P**	**21 22 42.1**	**+2.1**
JSD	**Sado**	**25.60**	**352**	P	**P**	**21 22 43.8**	**0.0**
JSD				IAmb	IAmb	21 22 49.8	
comp=Z,53nm,1.4s							
COEN	**Coen**	**26.42**	**179**	P	**P**	**21 22 51.1**	**-0.2**
COEN				IAmb	IAmb	21 22 52.1	
comp=Z,36nm,0.9s							
COEN	**Coen**	**26.42**	**179**	P	**P**	**21 22 50.6**	**-0.7**
comp=Z,47nm,1.0s							
COEN	**Coen**	**26.42**	**179**	P	**P**	**21 22 50.9**	**-0.4**
COEN	**Coen**	**26.42**	**179**	S	**S**	**21 27 15.1**	**-0.5**
TATA	**Tatamba Isabel**	**27.01**	**140**	P	**P**	**21 22 56.5**	**-0.1**
KDU	**Kakadu**	**27.06**	**202**	P	**P**	**21 22 55.6**	**-1.5**
comp=Z,12nm,0.4s							
KDU	**Kakadu**	**27.06**	**202**	P	**P**	**21 22 56.0**	**-1.1**
SAVO	**Savo Central**	**27.60**	**141**	P	**P**	**21 23 01.8**	**-0.2**
MTN	**Manton Dam**	**27.73**	**205**	P	P	21 22 52.9	-10
MTN	**Manton Dam**	**27.73**	**205**	P	**P**	**21 23 01.9**	**-1.1**
ALEG	**Aligegeo Malai**	**27.85**	**139**	P	**P**	**21 23 03.7**	**-0.5**
KSRS	**Korea Array**	**27.98**	**335**	P	**P**	**21 23 05.2**	**+0.2**
comp=Z,3.4nm,0.7s,baz=148,slow=9.1,SNR=8.9							
KSRS				LR	LR	21 32 05.8	
comp=Z,40nm,21.3s,baz=140,slow=31							
comp=Z,3.4nm,0.7s							
JTM	**Tenmabayashi**	**28.09**	**358**	P	**P**	**21 23 06.4**	**+0.4**
JTM				IAmb	IAmb	21 24 02.7	
comp=Z,51nm,1.2s							
NJ2	**Nanjing**	**29.11**	**315**	*eP*	**P**	**21 23 16.3**	**+1.1**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
MTSU	**Mount Surprise**	**30.61**	**177**	P	**P**	**21 23 28.5**	**-0.1**
comp=Z,8.4nm,0.7s							
MTSU	**Mount Surprise**	**30.61**	**177**	P	**P**	**21 23 28.7**	**+0.1**
KNRA	**Kununurra**	**31.26**	**206**	P	**P**	**21 23 33.5**	**-0.7**
KNRA				IAmb	IAmb	21 23 34.5	
comp=Z,14nm,0.7s							
JKA	**Kamikawa-asahi**	**31.38**	**0**	P	**P**	**21 23 35.8**	**+0.7**
JKA				IAmb	IAmb	21 23 57.1	
comp=Z,24nm,1.5s							
ASAJ	**Asahikawa**	**31.38**	**0**	LR	LR	21 36 05.7	
comp=Z,70nm,21.8s,baz=194,slow=36							
USA0B	**Ussuriysk Arra**	**32.75**	**346**	P	**P**	**21 23 47.9**	**+0.9**
USA0B				IAmb	IAmb	21 23 49.1	
comp=Z,24nm,0.7s							
USRK	**Ussuriysk Ar.**	**32.75**	**346**	P	**P**	**21 23 48.1**	**+1.1**
comp=Z,20nm,0.6s,baz=176,slow=8.8,SNR=43							
comp=Z,20nm,0.6s							
QIS	**Mount Isa**	**33.10**	**185**	P	**P**	**21 23 49.7**	**-0.7**
comp=Z,67nm,1.2s							
QIS	**Mount Isa**	**33.10**	**185**	P	**P**	**21 23 49.9**	**-0.5**
WB0	**Warramunga Arr**	**33.18**	**194**	P	**P**	**21 23 50.1**	**-0.9**
WR0	**Warramunga Arr**	**33.33**	**194**	P	**P**	**21 23 51.4**	**-0.9**
WR0				IAmb	IAmb	21 23 52.7	
comp=Z,36nm,0.9s							
WRAB	**Tennant Creek**	**33.35**	**194**	P	**P**	**21 23 50.9**	**-1.6**
WB2	**Warramunga Arr**	**33.35**	**194**	P	**P**	**21 23 51.7**	**-0.9**
WRA	**Warramunga Arr**	**33.36**	**194**	P	**P**	**21 23 52.0**	**-0.6**
WRA	**Warramunga Arr**	**33.36**	**194**	P	**P**	**21 23 51.8**	**-0.8**
comp=Z,43nm,0.6s,baz=12,slow=9.5,SNR=364							
WRA				PcP	**PcP**	**21 26 31.4**	**-0.2**
comp=Z,2.1nm,0.9s,baz=9.2,slow=2.3,SNR=4.6							
WRA				ScP	**ScP**	**21 30 03.2**	**-1.1**
comp=Z,1.7nm,1.0s,baz=16,slow=3.7,SNR=4.9							
WRA				LR	LR	21 37 44.4	
comp=Z,78nm,21.3s,baz=12,slow=36							
WB1	**Warramunga Ar.**	**33.37**	**194**	P	**P**	**21 23 52.5**	**-0.2**
MDJ	**Mudanjiang**	**33.76**	**343**	P	**P**	**21 23 57.9**	**+2.1**
MDJ				pmax	pmax		
comp=Z,11nm,1.2s							
MDJ				pmax	pmax		
comp=Z,250nm,3.5s							
MDJ	**Mudanjiang**	**33.76**	**343**	P	**P**	**21 23 57.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**34.79**	**209**	P	**P**	**21 24 03.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**34.79**	**209**	P	**P**	**21 24 03.8**	**-1.1**
comp=Z,6.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**34.79**	**209**	P	**P**	**21 24 04.0**	**-1.1**
HNS	**HongShan**	**35.05**	**320**	⇑P	**P**	**21 24 08.0**	**+1.0**
HNS				pmax	pmax		
comp=Z,19nm,1.1s							
JAGI	**Jajag, Banyuwa**	**35.16**	**235**	P	**P**	**21 24 05.6**	**-2.6**
JAGI				IAmb	IAmb	21 25 09.6	
comp=Z,60nm,1.5s							
ENH	**Enshi**	**35.26**	**305**	P	**P**	**21 24 10.3**	**+1.3**
BNX	**BinXian**	**35.43**	**342**	⇑P	**P**	**21 24 10.9**	**+0.8**
BNX				pmax	pmax		
comp=Z,56nm,1.0s							
BJT	**Baijiatuau**	**35.85**	**324**	P	**P**	**21 24 14.6**	**+0.8**
BJT				IAmb	IAmb	21 24 15.9	
comp=Z,55nm,1.7s							
BJT	**Baijiatuau**	**35.85**	**324**	P	**P**	**21 24 15.0**	**+1.2**
BJT	**Baijiatuau**	**35.85**	**324**	P	**P**	**21 24 14.3**	**+0.5**
BJI	**Beijing**	**35.86**	**324**	P	**P**	**21 24 14.6**	**+0.7**
BJI				pP	**pwP**	**21 24 46.3**	**+1.2**
BJI				pmax	pmax		
comp=Z,7.0nm,0.8s							
RK1H	**Rockhampton Ha**	**36.62**	**168**	P	**P**	**21 24 20.4**	**-0.1**
AS06	**Alice Springs**	**37.01**	**193**	P	**P**	**21 24 23.3**	**-0.6**
comp=Z,34nm,1.0s							
AS01	**Alice Springs**	**37.03**	**193**	P	**P**	**21 24 24.0**	**-0.1**
AS31	**Alice Springs**	**37.05**	**193**	P	**P**	**21 24 23.9**	**-0.3**
AS31				IAmb	IAmb	21 24 25.1	
comp=Z,11nm,0.5s							
AS31	**Alice Springs**	**37.05**	**193**	P	**P**	**21 24 23.7**	**-0.5**
comp=Z,12nm,0.5s							
ASAR	**Alice Springs**	**37.05**	**193**	P	**P**	**21 24 24.2**	**0.0**
ASAR	**Alice Springs**	**37.05**	**193**	P	**P**	**21 24 23.8**	**-0.5**
comp=Z,14nm,0.7s,baz=19,slow=12,SNR=243							
ASAR				PP	**PP**	**21 25 52.7**	**+1.3**
comp=Z,3.4nm,1.1s,baz=18,slow=10,SNR=4.2							
ASAR				PcP	**PcP**	**21 26 42.4**	**0.0**
comp=Z,3.0nm,0.9s,baz=10,slow=4.6,SNR=4.2							
ASAR				ScP	**ScP**	**21 30 16.8**	**-0.8**
comp=Z,1.0nm,0.8s,baz=15,slow=3.7,SNR=5.4							
ASAR				LR	LR	21 38 26.3	
comp=Z,65nm,21.6s,baz=24,slow=34							
comp=Z,14nm,0.7s							
SANVU	**Saraoutou**	**37.05**	**138**	P	**P**	**21 24 24.4**	**+0.2**
AS19	**Alice Springs**	**37.07**	**193**	P	**P**	**21 24 23.6**	**-0.7**
comp=Z,27nm,0.8s							
XLT	**XiLinHaoTe**	**38.59**	**329**	*eP*	**P**	**21 24 37.6**	**+0.6**
XLT				pmax	pmax		
comp=Z,29nm,0.7s							
EIDS	**Eidsvold**	**38.66**	**168**	P	**P**	**21 24 37.4**	**-0.3**
EIDS				IAmb	IAmb	21 24 38.2	
comp=Z,56nm,1.1s							
EIDS	**Eidsvold**	**38.66**	**168**	P	**P**	**21 24 36.8**	**-0.9**
comp=Z,46nm,1.0s							
EIDS	**Eidsvold**	**38.66**	**168**	P	**P**	**21 24 37.4**	**-0.3**
QLP	**Quilpie**	**39.00**	**178**	P	**P**	**21 24 39.4**	**-1.1**
comp=Z,60nm,1.3s							
QLP	**Quilpie**	**39.00**	**178**	P	**P**	**21 24 39.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**39.08**	**322**	*eP*	**P**	**21 24 42.8**	**+1.6**
HHC				pmax	pmax		
comp=Z,11nm,0.6s							
HHC				pmax	pmax		
comp=Z,140nm,4.4s							
KOUNC	**Koumac, New Ca**	**39.28**	**147**	P	**P**	**21 24 44.6**	**+1.7**
DVP	**Devils Point**	**39.36**	**139**	P	**P**	**21 24 43.6**	**0.0**
HEH	**HeiHe**	**39.52**	**345**	*eP*	**P**	**21 24 45.3**	**+0.7**
HEH				pmax	pmax		
comp=Z,47nm,0.9s							
WRKA	**Warakurna**	**39.93**	**200**	P	**P**	**21 24 47.8**	**-0.5**
comp=Z,98nm,1.0s							
WRKA	**Warakurna**	**39.93**	**200**	P	**P**	**21 24 47.8**	**-0.5**
CD2	**Chengdu**	**40.11**	**303**	P	**P**	**21 24 50.1**	**+0.3**
CD2				pmax	pmax		
comp=Z,10.0nm,0.6s							
INKA	**Innaminka**	**40.16**	**182**	P	**P**	**21 24 49.2**	**-0.9**
PSAC1	**Pilbara Seismi**	**40.63**	**214**	P	**P**	**21 24 52.4**	**-1.7**
comp=Z,57nm,1.4s							
PSA00	**Pilbara Seismi**	**40.65**	**213**	P	**P**	**21 24 52.9**	**-1.3**
PZH	**PanZhiHua**	**40.68**	**296**	P	**P**	**21 24 55.3**	**+0.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,5.3s							
OOD	**Oodnadatta**	**40.73**	**189**	P	**P**	**21 24 54.1**	**-0.6**
TW1H	**Toowoomba 1 Ha**	**40.96**	**167**	P	**P**	**21 24 56.6**	**-0.1**
AUWSH	**Wavell State H**	**41.06**	**166**	P	**P**	**21 24 57.6**	**+0.1**
NOUC	**Port Laguerre**	**41.63**	**146**	P	**P**	**21 25 03.3**	**+1.1**
DZM	**Mont Dzumac**	**41.69**	**146**	P	**P**	**21 25 03.8**	**+1.0**
DZM	**Mont Dzumac**	**41.69**	**146**	P	**P**	**21 25 04.0**	**+1.2**
DZM	**Mont Dzumac**	**41.69**	**146**	P	**P**	**21 25 03.9**	**+1.0**
ONTNC	**Ouen Toro**	**41.88**	**146**	P	**P**	**21 25 05.7**	**+1.4**
LZH	**Lanzhou**	**41.90**	**311**	*eP*	**P**	**21 25 07.1**	**+2.5**
LZH				pP	pwP	21 25 35.3	-1.3
LZH				sP	sP	21 25 52.8	+6.3
LZH				pmax	pmax		
comp=Z,23nm,1.3s							
YATNC	**Mamie plateau,**	**41.92**	**145**	P	**P**	**21 25 05.1**	**+0.5**
KULM	**Kulim**	**41.99**	**264**	P	**P**	**21 25 05.7**	**+0.4**
PEA0B	**Petropavlovsk-**	**42.16**	**14**	P	**P**	**21 25 06.1**	**0.0**
PEA0B				IAmb	IAmb	21 25 28.4	
comp=Z,73nm,1.9s							
PETK	**Petropavlovsk-**	**42.16**	**14**	P	**P**	**21 25 07.1**	**+1.0**
PETK	**Petropavlovsk-**	**42.16**	**14**	P	**P**	**21 25 06.5**	**+0.4**
comp=Z,5.0nm,0.9s,baz=187,slow=8.5,SNR=7.7							
PETK				LR	LR	21 44 01.3	
comp=Z,30nm,19.4s,baz=191,slow=38							
comp=Z,5.0nm,0.9s							
OUENC	**Ouen Island, N**	**42.18**	**145**	P	**P**	**21 25 08.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**42.34**	**284**	P	**P**	**21 25 08.4**	**+0.3**
comp=Z,1.7nm,0.8s,baz=82,slow=6.4,SNR=14							
CMAR				pP	**pwP**	**21 25 37.9**	**-1.2**
comp=Z,1.2nm,0.6s,baz=86,slow=7.1,SNR=2.1							
comp=Z,1.7nm,0.8s							
SRIT	**Nakonsritamara**	**42.38**	**269**	P	**P**	**21 25 09.0**	**+0.5**
PINNC	**Pines Island,**	**42.67**	**145**	P	**P**	**21 25 12.4**	**+1.7**
PINNC				IAmb	IAmb	21 25 13.0	
comp=Z,28nm,0.9s							
LCRK	**Leigh Creek**	**43.02**	**186**	P	**P**	**21 25 12.9**	**-0.5**
ARMA	**Armidale**	**43.67**	**169**	P	**P**	**21 25 18.6**	**-0.2**
ARMA				IAmb	IAmb	21 25 19.5	
comp=Z,29nm,0.9s							
ARMA	**Armidale**	**43.67**	**169**	P	**P**	**21 25 18.2**	**-0.5**
comp=Z,41nm,0.9s							
ARMA	**Armidale**	**43.67**	**169**	P	**P**	**21 25 18.7**	**0.0**
CMSA	**Cobar Meteorol**	**44.01**	**176**	P	**P**	**21 25 20.8**	**-0.5**
comp=Z,39nm,1.0s							
CMSA	**Cobar Meteorol**	**44.01**	**176**	P	**P**	**21 25 21.2**	**-0.1**
STKA	**Stephens Creek**	**44.26**	**181**	P	**P**	**21 25 22.5**	**-0.7**
STKA	**Stephens Creek**	**44.26**	**181**	P	**P**	**21 25 22.1**	**-1.2**
comp=Z,160nm,0.9s							
STKA	**Stephens Creek**	**44.26**	**181**	P	**P**	**21 25 21.9**	**-1.4**
comp=Z,26nm,0.8s,baz=356,slow=8.0,SNR=48							
comp=Z,26nm,0.8s							
STKA	**Stephens Creek**	**44.26**	**181**	P	**P**	**21 25 22.4**	**-0.8**
GIRL	**Giralia**	**44.71**	**219**	P	**P**	**21 25 27.2**	**+0.2**
FORT	**Forrest**	**45.35**	**198**	P	**P**	**21 25 31.8**	**-0.2**
FORT	**Forrest**	**45.35**	**198**	P	**P**	**21 25 31.7**	**-0.2**
comp=Z,287nm,0.8s							
FORT	**Forrest**	**45.35**	**198**	P	**P**	**21 25 32.1**	**+0.2**
MEEK	**Meekatharra**	**45.44**	**211**	P	**P**	**21 25 29.8**	**-2.9**
comp=Z,32nm,1.6s							
BBOO	**Buckleboo**	**45.60**	**188**	P	**P**	**21 25 33.0**	**-0.9**
BBOO	**Buckleboo**	**45.60**	**188**	P	**P**	**21 25 33.0**	**-0.9**
comp=Z,81nm,0.8s							
BBOO	**Buckleboo**	**45.60**	**188**	P	**P**	**21 25 33.6**	**-0.3**
ULN	**Ulaanbaatar**	**45.92**	**327**	P	**P**	**21 25 36.6**	**+0.1**
ULN	**Ulaanbaatar**	**45.92**	**327**	P	**P**	**21 25 37.5**	**+1.0**
ULN				pP	**pP**	**21 26 06.5**	**+1.6**
HTT	**Hallett**	**45.93**	**184**	P	**P**	**21 25 35.6**	**-0.9**
comp=Z,30nm,1.1s							
HTT	**Hallett**	**45.93**	**184**	P	**P**	**21 25 36.5**	**0.0**
GTA	**Gaotai**	**46.16**	**313**	*eP*	**P**	**21 25 39.9**	**+1.5**
GTA				pP	pwP	21 26 09.6	-1.4
GTA				pmax	pmax		
comp=Z,5.0nm,1.0s							
MSVF	**Nonsavu**	**46.23**	**130**	P	**P**	**21 25 39.9**	**+0.7**
MSVF	**Nonsavu**	**46.23**	**130**	P	**P**	**21 25 39.8**	**+0.7**
MSVF	**Nonsavu**	**46.23**	**130**	P	**P**	**21 25 40.5**	**+1.3**
SONM	**Songino Array**	**46.26**	**327**	P	**P**	**21 25 39.8**	**+0.7**
SONM	**Songino Array**	**46.26**	**327**	P	**P**	**21 25 39.5**	**+0.4**
comp=Z,1.9nm,0.6s,baz=146,slow=7.0,SNR=22							
SONM				pP	**pwP**	**21 26 09.3**	**-2.0**
comp=Z,3.6nm,1.2s,baz=138,slow=12,SNR=3.4							
SONM				ScP	**ScP**	**21 30 55.2**	**+1.1**
comp=Z,0.4nm,0.7s,baz=143,slow=5.0,SNR=2.7							
SONM				LR	LR	21 45 29.5	
comp=Z,52nm,19.9s,baz=128,slow=36							
comp=Z,1.9nm,0.6s							
DGTI	**Dogotuki**	**46.66**	**127**	P	**P**	**21 25 43.3**	**+0.9**
MA2	**Magadan**	**47.26**	**6**	P	**P**	**21 25 45.9**	**-0.6**
MA2

comp=Z,36nm,20.1s,baz=195,slow=35
HMH Humu'ula Sheep 59.66 75 P P 21 27 19.0 +0.9
MLH Mauna Loa 59.76 75 P P 21 27 19.5 +0.8
RSD Rainshed 59.87 75 P P 21 27 18.1 -1.2
KNHH Kane Nui o Ham 59.97 75 P P 21 27 20.5 +0.5
QRZ Quartz Range 59.98 154 P P 21 27 19.8 +0.4
STCH Steam Cracks 60.02 75 P P 21 27 20.2 0.0
JOKA Jonika Flow 60.12 75 P P 21 27 21.4 +0.5
GAMB Gambell 60.18 22 P P 21 27 19.3 -1.2
GAMB IAmb IAmb 21 27 21.9
comp=Z,13nm,1.1s
GAMB Gambell 60.18 22 P P 21 27 20.9 +0.5
baz=234
RTZ Ruatahuna 60.27 149 P P 21 27 20.9 -0.7
XMAS Kiritimati 60.29 95 P P 21 27 19.6 -2.5
TKNZ Takaka Hill 60.34 154 P P 21 27 22.0 +0.2
DSZ Denniston Nort 60.44 155 P P 21 27 22.1 -0.5
BKZ Black Stump Fm 60.46 150 P P 21 27 22.4 -0.4
M11K Mekoryuk 60.53 26 P P 21 27 22.6 -0.2
baz=241
MRNZ Matariki Terra 60.55 154 P P 21 27 23.2 -0.1
MK31 Makanchi Array 60.63 317 P P 21 27 24.6 +0.6
MKAR Makanchi Array 60.63 317 P P 21 27 24.5 +0.6
MKAR Makanchi Array 60.63 317 P P 21 27 24.1 +0.1
comp=Z,2.6nm,0.8s,baz=94,slow=8.0,SNR=20
MKAR pP **pP 21 27 54.9 +1.0**
comp=Z,2.2nm,0.8s,baz=90,slow=8.8,SNR=4.6
MKAR LR LR 21 55 37.3
comp=Z,26nm,19.8s,baz=98,slow=38
comp=Z,2.6nm,0.8s
NNZ Nelson 60.67 154 P P 21 27 23.4 -0.7
MAKZ Makanchi 60.85 317 P P 21 27 26.1 +0.8
MAKZ Makanchi 60.85 317 P P 21 27 25.8 +0.4
MAKZ pP **pP 21 27 55.6 +0.2**
THZ Tophouse 60.91 154 P P 21 27 25.8 -0.1
THZ IAmb IAmb 21 27 50.0
comp=Z,33nm,1.3s
TUWZ Tuamarina 61.09 153 P P 21 27 26.4 -0.5
ZALV Zalesovo Beam 61.11 325 P P 21 27 26.7 -0.2
ZALV Zalesovo Beam 61.11 325 P P 21 27 26.9 -0.1
comp=Z,1.8nm,0.5s,baz=105,slow=6.9,SNR=10
ZALV LR LR 21 53 06.9
comp=Z,54nm,21.1s,baz=89,slow=35
comp=Z,1.8nm,0.5s
INZ Inchbonnie 61.12 156 P P 21 27 26.1 -0.9
SDPT Sand Point 61.17 33 P P 21 27 27.4 +0.1
SDPT Sand Point 61.17 33 P P 21 27 26.6 -0.7
baz=249
MRZ Mangatainoka R 61.20 152 P P 21 27 27.0 -0.7
MRZ IAmb IAmb 21 27 27.9
comp=Z,20nm,0.9s
BSWZ Blackbirch Sta 61.29 154 P P 21 27 27.7 -0.5
CNBA Chernabura Isl 61.47 34 P P 21 27 29.2 0.0
CHNA Chernabura Isl 61.47 34 P P 21 27 29.0 -0.3
baz=250
BHW Baring Head 61.48 153 P P 21 27 27.3 -2.2
BHW IAmb IAmb 21 29 42.1
comp=Z,23nm,1.1s
LTZ Lake Taylor 61.50 155 P P 21 27 29.4 -0.3
LTZ IAmb IAmb 21 27 30.9
comp=Z,21nm,0.7s
BFZ Birch Farm 61.53 151 P P 21 27 29.2 -0.7
MSWZ Moikau Station 61.65 153 P P 21 27 30.9 +0.1
KHZ Kahutara 61.72 154 P P 21 27 29.9 -1.2
PLWZ Palliser 61.78 153 P P 21 27 31.0 -0.6
M13K Dall Lake 61.79 27 P P 21 27 31.0 -0.4
baz=244
RPZ Rata Peaks 61.80 157 P P 21 27 31.4 -0.3
OXZ Oxford 61.86 156 P P 21 27 30.3 -1.7
K13K Kusilvak Mount 61.93 25 P P 21 27 32.6 +0.3
baz=242
DCZ Deep Cove 61.94 161 P P 21 27 32.2 -0.3
GVZ Greta Valley S 61.96 155 P P 21 27 32.4 -0.4
S14K Fog Glacier 61.99 32 P P 21 27 33.1 +0.2
baz=249
LBZ Lake Benmore 62.05 158 P P 21 27 32.5 -0.9
MLZ Mavora Lakes 62.17 160 P P 21 27 33.8 -0.4
O14K Tigyukauivet M 62.26 29 P P 21 27 35.1 +0.6
baz=246
N14K Kuskokwak Cree 62.34 28 P P 21 27 35.2 +0.2
baz=246
MQZ McQueen's Vall 62.42 156 P P 21 27 36.3 +0.5
L14K Kuka Creek 62.50 26 IAmb IAmb 21 27 37.8
comp=Z,15nm,0.8s
L14K Kuka Creek 62.50 26 P P 21 27 37.1 +1.0
baz=244
TNA Tin City 62.54 21 P P 21 27 37.0 +0.7
TNA Tin City 62.54 21 P P 21 27 36.7 +0.4
baz=237,SNR=7.2
M14K Bethel 62.56 27 P P 21 27 36.9 +0.4
baz=245
WHZ Wether Hill Ro 62.58 160 P P 21 27 35.7 -1.2
CHGN Chignik 62.59 33 P P 21 27 35.6 -1.2
CHGN Chignik 62.59 33 P P 21 27 37.0 +0.2
baz=250
J14K Nanvaranak Lak 62.77 25 P P 21 27 38.7 +0.9
baz=242
ODZ Otahua Downs 62.78 158 P P 21 27 37.8 -0.3
O15K Ungalikthiuk R 62.91 29 P P 21 27 39.4 +0.5
baz=248
ANM Nome 62.94 22 P P 21 27 39.4 +0.4
ANM Nome 62.94 22 P P 21 27 39.4 +0.4
baz=240
F14K Arctic Creek 63.05 21 P P 21 27 40.4 +0.7
baz=238
M15K Kasigluk River 63.11 27 P P 21 27 40.6 +0.5
baz=246
L15K Ungalak Mounta 63.16 26 P P 21 27 41.0 +0.5
baz=245
N15K Kwethluk River 63.17 28 IAmb IAmb 21 27 43.5
comp=Z,23nm,1.1s
N15K Kwethluk River 63.17 28 P P 21 27 41.2 +0.7
baz=247
K15K Wolf Creek Mou 63.40 26 P P 21 27 42.7 +0.6
baz=245
G15K Niukluk 63.65 22 P P 21 27 44.2 +0.5
baz=241
P16K Nushagak River 63.74 30 P P 21 27 44.3 0.0
baz=250
F15K North Star Dit 63.77 22 IAmb IAmb 21 27 46.2
comp=Z,12nm,0.9s
F15K North Star Dit 63.77 22 P P 21 27 44.8 +0.3
baz=240
KURK Kurchatov 63.88 321 P P 21 27 45.2 -0.2
KURK IAmb IAmb 21 28 25.1
comp=Z,14nm,1.0s
KURK Kurchatov 63.88 321 P P 21 27 45.5 0.0
KURK pP **pwP 21 28 17.0 -1.3**
O16K Kokwok River B 63.89 29 P P 21 27 45.3 0.0
baz=249
N16K Nishlik Lake 63.89 28 P P 21 27 45.4 0.0
baz=248
KURBB Kurchatov Arra 63.92 320 P P 21 27 45.4 -0.3
comp=Z,6.8nm,0.8s,baz=103,slow=6.6,SNR=54
KURBB pP **pwP 21 28 17.3 -1.2**
comp=Z,8.0nm,0.9s,baz=101,slow=6.8,SNR=5.7
comp=Z,6.8nm,0.8s
CHIR Chirikof Islan 63.93 34 P P 21 27 46.0 +0.3
baz=253
M16K Timber Creek 64.01 28 P P 21 27 46.1 0.0
baz=248
KSH Kashi 64.05 308 P P 21 27 49.9 +3.0
KSH pmax pmax
comp=Z,3.0nm,0.9s
H16K Elim 64.16 23 P P 21 27 46.8 -0.2
baz=243
J16K Anvik River 64.21 25 P P 21 27 47.8 +0.5
baz=245
Q16K King Salmon 64.27 30 P P 21 27 48.1 +0.3
baz=251
O17K Koliganek Bris 64.43 29 P P 21 27 49.0 +0.2
baz=250
I17K Unalakleet 64.43 24 P P 21 27 49.0 +0.3
baz=245
G16K Koyuk River 64.46 22 P P 21 27 49.6 +0.7
baz=242
P17K Kvichak River 64.55 30 P P 21 27 50.3 +0.7
baz=251
N17K Nushagak Hills 64.64 28 P P 21 27 51.1 +0.8
baz=250
L17K Donlin 64.73 26 P P 21 27 51.9 +1.1
baz=248
ACHA Angle Creek He 64.79 31 P P 21 27 50.5 -0.9
ACHA IAmb IAmb 21 28 31.3
comp=Z,39nm,1.7s
M17K Holitna River 64.84 27 P P 21 27 52.0 +0.5
baz=249
C16K Lisburne Hills 64.86 19 IAmb IAmb 21 27 52.9
comp=Z,17nm,1.0s
C16K Lisburne Hills 64.86 19 P P 21 27 51.7 +0.2
baz=238,SNR=15
J17K VABM Dome 64.89 25 P P 21 27 52.2 +0.5
baz=247
SII Sitkinak Islan 64.91 33 P P 21 27 52.9 +0.9
SII Sitkinak Islan 64.91 33 P P 21 27 52.7 +0.6
baz=254
K17K Iditarod 64.95 26 P P 21 27 52.8 +0.7
baz=248
Q18K Katmai Hardscr 65.08 31 P P 21 27 53.3 +0.1
baz=253
G17K Kiwalik Mounta 65.15 23 P P 21 27 53.9 +0.5
baz=244
H17K Granite Mounta 65.18 23 IAmb IAmb 21 27 55.4
comp=Z,12nm,0.9s
H17K Granite Mounta 65.18 23 P P 21 27 54.1 +0.5
baz=245
P18K Big Mountain, 65.20 30 P P 21 27 53.7 -0.2
P18K Big Mountain, 65.20 30 P P 21 27 54.4 +0.5
baz=252
N18K Kilae Creek 65.30 28 P P 21 27 55.1 +0.6
baz=251
D17K Noatak River 65.30 20 P P 21 27 55.0 +0.7
baz=241
F17K Baldwin Pennin 65.34 22 P P 21 27 55.2 +0.5
baz=243
O18K Koktuh Hills 65.36 29 P P 21 27 55.5 +0.6
O18K Koktuh Hills 65.36 29 P P 21 27 55.3 +0.4
baz=252
E17K Hotham Inlet 65.44 21 P P 21 27 55.9 +0.6
baz=242
L18K Granite Mounta 65.46 27 P P 21 27 56.0 +0.5
baz=249
RDOG Red Dog Mine 65.53 20 P P 21 27 56.5 +0.6
RDOG IAmb IAmb 21 27 57.6
comp=Z,21nm,0.9s
RDOG Red Dog Mine 65.53 20 P P 21 27 56.3 +0.4
baz=241,SNR=12
OHAK Old Harbor 65.56 33 P P 21 27 56.5 +0.3
baz=255
M18K Stony River 65.60 28 P P 21 27 57.2 +0.8
baz=251
C17K DeLong Mountai 65.66 19 P P 21 27 57.4 +0.7
baz=240
Q19K Cape Douglas, 65.84 31 P P 21 27 58.3 +0.3
baz=254
H18K Honhosa River 65.87 23 P P 21 27 58.2 +0.1
baz=247
O19K Port Alsworth 65.88 29 P P 21 27 59.0 +0.8
baz=252
J18K Innoko River 65.89 25 P P 21 27 58.7 +0.4
baz=249
F18K Selawik 65.99 22 P P 21 27 59.2 +0.5
baz=245,SNR=7.9
N19K Bonanza Creek 66.00 29 P P 21 27 59.4 +0.3
baz=252
E18K Tukpahlearik C 66.02 21 P P 21 27 59.5 +0.6
baz=243
G18K Tagagawik 66.06 23 IAmb IAmb 21 28 00.7
comp=Z,23nm,0.9s
G18K Tagagawik 66.06 23 P P 21 27 59.8 +0.5
baz=246,SNR=18
KDAK Kodiak Island 66.08 32 P P 21 27 60.0 +0.5
KDAK Kodiak Island 66.08 32 P P 21 27 59.4 -0.1
comp=Z,9.8nm,0.7s,baz=138,slow=12,SNR=6.2
comp=Z,9.8nm,0.7s
KDAK Kodiak Island 66.08 32 P P 21 28 00.5 +1.0
baz=255
P19K Oil Pt 66.25 30 P P 21 28 00.9 +0.3
baz=254
L19K White Mountain 66.26 27 P P 21 28 01.1 +0.4
baz=251
GCSA Galena City Sc 66.30 24 P P 21 28 01.0 +0.2
baz=248
NRIK Noril'sk 66.32 341 P P 21 28 02.0 +1.2
NRIK IAmb IAmb 21 28 05.3
comp=Z,20nm,1.4s
NRIK Noril'sk 66.32 341 P P 21 28 01.0 +0.2
comp=Z,3.7nm,0.6s,baz=111,slow=8.6,SNR=6.5
NRIK pP **pP 21 28 30.9 -0.3**
comp=Z,2.9nm,0.7s,baz=130,slow=6.8,SNR=2.7
NRIK LR LR 21 57 03.8
comp=Z,52nm,18.7s,baz=100,slow=36
comp=Z,3.7nm,0.6s
M19K Big River Lodg 66.38 27 P P 21 28 01.6 +0.2
baz=252
C18K Utukok River 66.38 19 P P 21 28 01.7 +0.4
baz=242
Q20K Shuyak Island 66.39 31 P P 21 28 01.8 +0.3
baz=255
SYI Shuyak Island 66.39 31 P P 21 28 01.4 0.0
ARSB Arslanbob 66.46 310 P P 21 28 02.9 +0.4
B18K Kokolik River 66.52 19 P P 21 28 02.7 +0.5
baz=242
J19K Poorman 66.54 25 IAmb IAmb 21 28 03.9
comp=Z,12nm,0.9s
J19K Poorman 66.54 25 P P 21 28 02.6 +0.3
baz=250
O20K Slope Mountain 66.66 30 P P 21 28 03.2 -0.1
baz=254
G19K Purcell Mounta 66.75 23 P P 21 28 04.0 +0.3
baz=247
H19K Roundabout Mou 66.76 23 IAmb IAmb 21 28 05.5
comp=Z,22nm,0.9s
H19K pP pP 21 28 35.0 +1.2
H19K Roundabout Mou 66.76 23 P P 21 28 04.1 +0.5
baz=248
F19K Shaleruckik Mo 66.77 22 P P 21 28 04.2 +0.5
baz=246
L20K Farewell, AK 66.78 27 P P 21 28 04.3 +0.3
baz=252
M20K Styx River 66.94 28 P P 21 28 05.5 +0.4
baz=253
K20K Telida 66.98 26 P P 21 28 05.5 +0.3
baz=252
A19K Wainwright 67.15 18 P P 21 28 06.3 +0.2
baz=242
CNPM China Poot 67.20 30 P P 21 28 06.7 +0.1
E19K Redstone River 67.21 21 P P 21 28 07.0 +0.4
baz=247
J20K Nowinta River 67.21 25 IAmb IAmb 21 28 08.6
comp=Z,14nm,0.9s
J20K Nowinta River 67.21 25 P P 21 28 07.1 +0.5
baz=251,SNR=9.0
I20K Naaghedeneel 67.28 24 P P 21 28 07.4 +0.4
baz=250
D19K Kuna River 67.33 20 P P 21 28 07.8 +0.5
baz=246
H20K Anotleneega Mo 67.36 24 P P 21 28 08.0 +0.5
baz=250
STLK Strandline Lak 67.42 28 P P 21 28 07.4 -0.7
BRLK Bradley Lake 67.43 30 P P 21 28 07.5 -0.6
BRSE Bradley Lake S 67.49 30 P P 21 28 08.7 +0.2
baz=256
CAPN Captain Cook N 67.55 29 P P 21 28 08.7 0.0
baz=255
F20K Avaraart Lake 67.59 22 P P 21 28 09.6 +0.7
baz=248
PPLA Purkeypile 67.65 27 P P 21 28 10.0 +0.4
PPLA IAmb IAmb 21 28 41.3
comp=Z,41nm,1.5s
PPLA Purkeypile 67.65 27 P P 21 28 09.6 0.0
baz=253
SKT Skwentna 67.69 28 P P 21 28 09.8 +0.1
SKT IAmb IAmb 21 28 56.9
comp=Z,21nm,1.4s
SKT Skwentna 67.69 28 P P 21 28 09.5 -0.2
baz=254
CAST Castle Rocks 67.85 26 IAmb IAmb 21 28 11.9
comp=Z,15nm,0.8s
CAST Castle Rocks 67.85 26 P P 21 28 11.0 +0.4
baz=253,SNR=7.6
CHUM Lake Minchumin 67.89 26 P P 21 28 11.2 +0.4
baz=253,SNR=5.5
E20K Nigu River 67.89 21 P P 21 28 11.4 +0.6
baz=248
SUA Susitna One 67.92 28 P P 21 28 11.4 +0.1
SUA Susitna One 67.92 28 P P 21 28 11.0 -0.2
baz=255
D20K Etivluk River 67.92 20 P P 21 28 11.6 +0.6
baz=247
SLKM Skilak Lake 67.93 29 P P 21 28 12.0 +0.8
O22K Cooper Landing 68.16 30 P P 21 28 12.9 +0.3
baz=257
SEW Seward 68.21 30 P P 21 28 12.6 -0.3
SEW Seward 68.21 30 P P 21 28 13.2 +0.3
baz=257
H21K Melozitna Rive 68.23 24 IAmb IAmb 21 28 14.7
comp=Z,18nm,0.9s
H21K pP 21 28 43.9 +0.7
H21K Melozitna Rive 68.23 24 P P 21 28 13.8 +0.8
baz=252
G21K Allakaket 68.23 23 P P 21 28 13.8 +0.8
baz=251
B20K Meade River 68.26 19 P P 21 28 13.5 +0.5
baz=246
M22K Willow 68.28 28 P P 21 28 13.2 -0.1
baz=256
RC01 Rabbit Creek A 68.30 29 P P 21 28 13.1 -0.4
baz=256
CUT Chulitna 68.38 27 P P 21 28 13.6 -0.3
baz=255
KTH Kantishna Hill 68.39 26 IAmb IAmb 21 28 14.8
comp=Z,16nm,0.9s
I21K Tanana 68.41 24 IAmb IAmb 21 28 15.9
comp=Z,18nm,0.9s
I21K Tanana 68.41 24 P P 21 28 14.3 +0.3
baz=253,SNR=12
F21K Alatna River 68.48 22 P P 21 28 14.7 +0.2
baz=250
BPAW Bear Paw Mtn. 68.51 26 IAmb IAmb 21 28 15.9
comp=Z,15nm,0.9s
BPAW Bear Paw Mtn. 68.51 26 P P 21 28 14.7 -0.1
baz=254,SNR=7.6
TRF Thorofare Moun 68.63 26 P P 21 28 15.1 -0.7
TRF IAmb IAmb 21 28 46.5
comp=Z,16nm,1.1s
TRF Thorofare Moun 68.63 26 P P 21 28 15.0 -0.7
baz=255
C21K Knifeblade Rid 68.70 20 P P 21 28 16.2 +0.4
baz=248
PMR Palmer 68.70 28 P P 21 28 15.4 -0.5
baz=257
E21K Killik River 68.72 21 P P 21 28 16.2 +0.2
baz=250
H22K Ishtalitna Cre 68.86 24 P P 21 28 17.3 +0.4
baz=253
PWL Port Wells 68.91 29 P P 21 28 17.6 +0.2
baz=258
B21K Ikpikpuk River 68.93 20 P P 21 28 17.5 +0.3
baz=248
A21K Barrow 68.97 18 P P 21 28 17.8 +0.4
baz=246
KNK Knik Glacier 68.97 29 P P 21 28 17.6 -0.1
KNK IAmb IAmb 21 30 28.6
comp=Z,38nm,1.4s
KNK Knik Glacier 68.97 29 P P 21 28 17.9 +0.2
baz=258
F22K John River 69.05 22 P P 21 28 18.6 +0.6
baz=252
SML Sawmill 69.12 28 P P 21 28 18.3 -0.4
SML Sawmill 69.12 28 P P 21 28 18.7 +0.1
baz=257
P23K Montague Islan 69.19 30 P P 21 28 18.9 -0.1
baz=259
RND Reindeer 69.25 27 P P 21 28 19.2 -0.2
RND IAmb IAmb 21 29 29.5
comp=Z,53nm,1.9s
MCK McKinley 69.29 26 P P 21 28 19.6 0.0
MCK McKinley 69.29 26 P P 21 28 19.7 +0.1
baz=256
BVAR Borovoye Array 69.29 322 P P 21 28 19.6 -0.2
comp=Z,5.9nm,0.8s,baz=106,slow=7.3,SNR=25
BVAR pP **pP 21 28 50.1 -0.6**
comp=Z,5.8nm,0.8s,baz=106,slow=7.9,SNR=4.4
comp=Z,5.9nm,0.8s
D22K Ayikyak River 69.31 21 IAmb IAmb 21 28 21.8
comp=Z,24nm,0.9s
D22K Ayikyak River 69.31 21 P P 21 28 20.6 +0.9
baz=251,SNR=21
A22K Sinclair Lake 69.33 18 P P 21 28 20.0 +0.4
baz=248,SNR=11
BRVK Borovoye 69.36 322 P P 21 28 20.7 +0.5
BRVK Borovoye 69.36 322 P P 21 28 20.3 +0.1
BRVK pP **pwP 21 28 52.6 -1.1**
E22K Anaktuvuk Pass 69.38 21 IAmb IAmb 21 28 22.1
comp=Z,26nm,1.1s
E22K Anaktuvuk Pass 69.38 21 P P 21 28 20.5 +0.4
baz=252,SNR=22
M23K Glacier View 69.40 28 P P 21 28 20.1 -0.2
baz=258
NEA2 Nenana 69.44 25 P P 21 28 20.6 +0.1
baz=256
I23K Minto, Yukon-K 69.46 25 P P 21 28 20.8 +0.2
I23K IAmb IAmb 21 28 22.2
comp=Z,20nm,1.0s
I23K Minto, Yukon-K 69.46 25 P P 21 28 20.9 +0.3
baz=255,SNR=12
H23K Yukon River 69.56 24 IAmb IAmb 21 28 23.0
comp=Z,17nm,0.9s
H23K Yukon River 69.56 24 P P 21 28 21.3 +0.1
baz=255,SNR=12
B22K Teshekpuk Lake 69.57 19 P P 21 28 21.6 +0.4
baz=250
SCM Sheep Creek Mo 69.59 28 P P 21 28 21.7 +0.1
baz=258
Q23K Middleton Isla 69.61 31 P P 21 28 22.2 +0.6
baz=260
G23K Bananza Creek 69.62 23 IAmb IAmb 21 28 23.6
comp=Z,22nm,0.9s
G23K Bananza Creek 69.62 23 P P 21 28 21.9 +0.3
baz=254
COLD Coldfoot 69.69 23 IAmb IAmb 21 28 24.5
comp=Z,24nm,0.8s
COLD Coldfoot 69.69 23 P P 21 28 21.8 -0.2
baz=254,SNR=27
WRH Wood River Hil 69.83 26 IAmb IAmb 21 28 23.2
comp=Z,17nm,1.0s
COLA College 70.02 25 P P 21 28 24.0 +0.1
baz=257
D23K Nanushuk River 70.03 21 IAmb IAmb 21 28 26.5
comp=Z,38nm,1.2s
D23K Nanushuk River 70.03 21 P P 21 28 24.5 +0.5
baz=253
EYAK Cordova Ski Ar 70.10 30 P P 21 28 25.0 +0.5
baz=260
E23K Chandalar 70.14 22 P P 21 28 25.3 +0.4
baz=254
M24K Tolsona, Glenn 70.18 28 P P 21 28 25.9 +0.7
M24K Tolsona, Glenn 70.18 28 P P 21 28 25.5 +0.4
baz=259
KLU Klutina 70.19 29 P P 21 28 25.5 +0.3
KLU IAmb IAmb 21 28 31.4
comp=Z,19nm,1.1s
KLU Klutina 70.19 29 P P 21 28 25.8 +0.6
baz=260
DIV Divide 70.19 29 P P 21 28 25.5 +0.3
H24K Noodor Dome 70.23 24 IAmb IAmb 21 28 27.0
comp=Z,16nm,1.0s
H24K Noodor Dome 70.23 24 P P 21 28 26.1 +0.7
baz=256
POKR Poker Plat Res 70.25 25 P P 21 28 25.5 0.0
baz=257
HDA Harding Lake 70.30 26 IAmb IAmb 21 28 26.7
comp=Z,12nm,0.8s
HDA Harding Lake 70.30 26 P P 21 28 25.8 0.0
baz=258,SNR=7.9
C23K Itkillik River 70.31 20 P P 21 28 26.2 +0.5
baz=252
TOLK Toolik Lake Re 70.32 21 P P 21 28 26.7 +0.9
TOLK IAmb IAmb 21 28 27.9
comp=Z,23nm,1.1s
TOLK Toolik Lake Re 70.32 21 P P 21 28 26.4 +0.5
baz=254,SNR=17
ILAR Eielson Array 70.40 25 P P 21 28 25.2 -1.1
ILAR Eielson Array 70.40 25 P P 21 28 24.9 -1.4
comp=Z,7.4nm,0.8s,baz=253,slow=5.4,SNR=72
ILAR pP **pP 21 28 55.9 -0.8**
comp=Z,3.8nm,0.8s,baz=261,slow=5.0,SNR=4.7
ILAR LR LR 21 57 56.5
comp=Z,20nm,19.9s,baz=264,slow=34
comp=Z,7.4nm,0.8s
E24K Your Creek 70.56 22 P P 21 28 27.7 +0.4
baz=255
G24K Hadweenzic Riv 70.59 23 P P 21 28 28.5 +1.0
baz=256
F24K Squaw Lake 70.64 22 IAmb IAmb 21 28 29.9
comp=Z,16nm,0.9s
F24K Squaw Lake 70.64 22 P P 21 28 28.6 +0.8
baz=256,SNR=21
KAIM Kayak Island 70.66 31 P P 21 28 28.5 +0.5
baz=262
K24K Donnelly Dome 70.68 27 P P 21 28 28.2 +0.1

baz=259
HARP HAARP 70.70 28 P P 21 28 28.6 +0.4
baz=260
D24K Happy Valley 70.72 21 P P 21 28 28.8 +0.6
baz=254
N25K Chitina, Valde 70.83 29 P P 21 28 28.6 -0.6
N25K IAmb IAmb 21 30 38.5
comp=Z,48nm,1.8s
C24K Franklin Bluff 70.92 20 P P 21 28 30.0 +0.6
baz=254
J25K Salcha River, 71.00 26 P P 21 28 29.8 -0.3
baz=259
RIDG Independent Ri 71.07 27 IAmb IAmb 21 28 31.4
comp=Z,20nm,1.0s
RIDG Independent Ri 71.07 27 P P 21 28 30.3 -0.2
baz=260,SNR=6.8
PRP Porcupine Dome 71.11 25 P P 21 28 30.6 -0.3
baz=259
G25K Bearman Lake 71.14 23 P P 21 28 31.1 +0.3
baz=258
H25L Birch Creek 71.15 24 P P 21 28 31.2 +0.4
baz=258
GLB Gilahina Butte 71.18 29 P P 21 28 31.1 -0.1
GLB IAmb IAmb 21 29 57.5
comp=Z,42nm,1.6s
BGLC Bering Glacier 71.25 31 P P 21 28 31.5 0.0
baz=263
VRDI Verde Repeater 71.32 29 P P 21 28 32.5 +0.3
VRDI IAmb IAmb 21 30 58.9
comp=Z,63nm,1.8s
DOT Dot Lake 71.40 27 IAmb IAmb 21 28 33.3
comp=Z,18nm,0.8s
FYU Fort Yukon 71.44 24 P P 21 28 32.4 -0.2
FYU IAmb IAmb 21 28 35.1
comp=Z,56nm,1.3s
MENT Mentasta 71.44 28 P P 21 28 33.2 +0.5
SCRK Sand Creek 71.49 26 P P 21 28 33.3 +0.2
baz=261,SNR=8.3
F25K Christian Rive 71.49 23 P P 21 28 33.8 +0.9
baz=258
D25K Kavik River 71.61 21 P P 21 28 34.2 +0.6
baz=257
L26K Log Cabin Wild 71.62 28 P P 21 28 33.9 +0.1
baz=262
E25K Arctic Village 71.63 22 P P 21 28 34.4 +0.7
baz=258,SNR=12
M26K Nabesna, AK 71.69 28 P P 21 28 34.6 +0.3
baz=262
J26L Joseph Creek 71.75 26 P P 21 28 34.5 -0.1
baz=261
BMAR Burnt Mountain 71.86 23 P P 21 28 35.9 +0.8
MESA MESA 71.92 31 P P 21 28 35.5 -0.3
baz=264
I26K Coal Creek Min 72.05 25 P P 21 28 36.1 -0.2
baz=261
F26K Sheenjek River 72.07 23 P P 21 28 37.0 +0.5
baz=259
G26K Porcupine Rive 72.08 23 P P 21 28 37.1 +0.7
baz=260
M27K Edge Creek, AK 72.21 28 P P 21 28 37.6 +0.2
baz=263
C26K Camden Bay 72.24 20 P P 21 28 38.2 +0.9
baz=258
L27K Beaver Creek, 72.31 28 P P 21 28 38.3 +0.3
baz=263
K27K Chicken 72.33 27 P P 21 28 38.4 +0.4
baz=262
BCAR Beaver Creek A 72.33 28 P P 21 28 38.7 +0.6
C27K Jago River 72.59 21 P P 21 28 40.0 +0.6
baz=259
BVCY Beaver Creek 72.68 28 P P 21 28 40.8 +0.7
baz=264
I27K Kandik River 72.73 25 P P 21 28 40.7 +0.3
baz=262
PINM Pinnacle 72.76 31 P P 21 28 40.8 +0.1
baz=265
YUK3 Moose Creek 72.81 29 P P 21 28 41.7 +0.6
baz=265
O28M Mount Upton 72.85 30 P P 21 28 41.7 +0.3
baz=265
H27K Steamboat Moun 72.85 24 P P 21 28 41.4 +0.4
baz=262
G27K Doyon Strip 72.88 24 P P 21 28 42.0 +0.7
baz=262
YUK8 Steele Glacier 73.10 30 P P 21 28 43.1 +0.2
baz=265
E27K Coleen River 73.10 22 P P 21 28 43.3 +0.8
baz=262
PNL Peninsula 73.16 31 P P 21 28 43.8 +0.8
baz=266
I28M Miner Creek 73.41 25 P P 21 28 45.0 +0.6
baz=264,SNR=8.0
D27M Malcolm River 73.48 21 P P 21 28 45.6 +0.8
baz=262
DAWY Dawson 73.51 27 P P 21 28 45.0 +0.1
baz=265,SNR=10
O29M Mount Kennedy 73.61 31 P P 21 28 45.7 0.0
baz=267
YUK4 Talbot Arm 73.64 30 P P 21 28 46.0 0.0
baz=266
YUK6 Outpost Mounta 73.75 30 P P 21 28 46.6 -0.1
baz=267
M29M Somme Creek 73.80 28 P P 21 28 46.8 +0.1
baz=266
E28M Babbage River 73.92 22 IAmb IAmb 21 28 49.5
comp=Z,27nm,1.1s
E28M Babbage River 73.92 22 P P 21 28 47.6 +0.4
baz=263,SNR=20
L29M L29M 74.00 28 P P 21 28 48.4 +0.6
baz=266
J29N Klondike Camp 74.05 26 P P 21 28 47.8 -0.4
J29N Klondike Camp 74.05 26 P P 21 28 49.1 +0.9
baz=266
I29M Ogilvie Camp, 74.08 25 P P 21 28 48.7 +0.4
I29M Ogilvie Camp, 74.08 25 P P 21 28 49.0 +0.8
baz=266,SNR=8.3
H29M Whitestone 74.12 24 P P 21 28 49.5 +1.1
baz=265
HYT Haines Junctio 74.16 30 P P 21 28 49.4 +0.5
HYT Haines Junctio 74.16 30 P P 21 28 49.6 +0.7
baz=268
D28M Stokes Point 74.28 21 P P 21 28 50.0 +0.8
baz=264,SNR=6.9
K29M Barlow Dome 74.31 27 P P 21 28 49.5 -0.3
K29M IAmb IAmb 21 28 51.7
comp=Z,16nm,0.8s
K29M Barlow Dome 74.31 27 P P 21 28 50.4 +0.6
baz=267,SNR=13
G29M Pine Creek 74.32 24 P P 21 28 50.0 +0.4
baz=265
N30M Aishikik Lake 74.39 29 P P 21 28 50.8 +0.7
baz=268
P30M Million Dollar 74.41 31 P P 21 28 50.9 +0.7
baz=268
E29M Blow River 74.50 22 P P 21 28 50.5 0.0
E29M Blow River 74.50 22 P P 21 28 51.4 +0.8
baz=265,SNR=6.9
M30M Minto, Yukon 74.58 28 P P 21 28 51.9 +0.7
baz=268,SNR=7.5
PLBC Pleasant Camp 74.69 32 P P 21 28 52.2 +0.4
baz=269
S31K Pelican 74.74 33 P P 21 28 52.5 +0.4
baz=269
O30N Mendenhall 74.86 30 P P 21 28 52.8 0.0
baz=269
J30M Hart River 74.87 26 P P 21 28 53.7 +0.7
baz=268
I30M Mount Dempster 74.88 26 P P 21 28 53.0 0.0
baz=267
N31M Braeburn, Yuko 75.02 29 P P 21 28 53.8 0.0
baz=269
G30M tAoh Zraii Nji 75.03 24 P P 21 28 54.3 +0.5
baz=267
SKAG Skagway 75.22 32 P P 21 28 55.0 +0.2
baz=270
F30M Barrier River 75.23 23 P P 21 28 55.1 +0.3
baz=267
WHY Whitehorse 75.45 30 P P 21 28 56.3 0.0
baz=270
S32K Killisnoo 75.63 34 P P 21 28 57.4 +0.2
baz=271
R32K Eaglecrest 75.65 33 P P 21 28 57.7 +0.3
baz=271
M31M Drury Creek, Y 75.69 29 P P 21 28 58.0 +0.5
baz=270,SNR=5.1
H31M Peel River 75.75 25 P P 21 28 58.3 +0.5
baz=269
G31M Satah River 75.80 24 IAmb IAmb 21 28 59.2
comp=Z,39nm,1.2s
G31M Satah River 75.80 24 P P 21 28 58.1 +0.1
baz=269,SNR=18
F31M Tsiigehtchic 76.01 23 P P 21 28 59.2 -0.1
baz=269
P32M Atlin 76.04 31 P P 21 28 59.8 +0.1
baz=271
INK Inuvik 76.11 22 P P 21 28 58.9 -0.8
comp=Z,8.7nm,1.0s,baz=246,slow=5.1,SNR=19
INK pP pP 21 29 29.5 -1.1
comp=Z,2.7nm,0.9s,baz=271,slow=11,SNR=2.6
comp=Z,8.7nm,1.0s
INK Inuvik 76.11 22 P P 21 29 00.2 +0.4
baz=269
FARO Faro, Yukon 76.18 29 P P 21 29 00.7 +0.3
FARO IAmb IAmb 21 29 01.9
comp=Z,36nm,1.8s
FARO Faro, Yukon 76.18 29 P P 21 29 01.0 +0.7
baz=271
N32M Quiet Lake 76.32 30 P P 21 29 02.0 +0.8
baz=271
ARTI Arti 76.38 325 P P 21 29 00.4 -1.1
P33M Teslin, Yukon 76.48 31 IAmb IAmb 21 30 29.5
comp=Z,38nm,1.9s
P33M Teslin, Yukon 76.48 31 P P 21 29 02.7 +0.6
baz=272
MMPY Sheldon Lake, 77.14 28 P P 21 29 06.4 +0.6
baz=272
R33M Jennings River 77.45 32 P P 21 29 07.9 +0.2
baz=274
S34M Telegraph Cree 77.46 33 P P 21 29 08.4 +0.8
baz=274
T35M Bob Quinn 78.00 34 P P 21 29 10.8 +0.2
baz=275
DLBC Dease Lake 78.00 32 P P 21 29 11.2 +0.5
comp=Z,5.1nm,0.9s,baz=292,slow=7.9,SNR=6.2
comp=Z,5.1nm,0.9s
DLBC Dease Lake 78.00 32 P P 21 29 11.2 +0.5
baz=274
WTLY Watson Lake, Y 78.49 31 IAmb IAmb 21 29 15.2
comp=Z,16nm,0.8s
WTLY Watson Lake, Y 78.49 31 P P 21 29 14.2 +0.9
baz=275,SNR=7.8
TGTN Hyland Airport 78.62 29 P P 21 29 14.8 +0.9
baz=275
A36M Sachs Harbour 78.77 18 P P 21 29 15.0 +0.5
baz=276
C36M Paulatuk 79.47 21 P P 21 29 18.7 +0.3
baz=278
WRGLY Wrigley 80.62 27 P P 21 29 24.6 0.0
WRGLY Wrigley 80.62 27 P P 21 29 25.6 +0.9
baz=279
NLWA Neilton Lookou 83.22 43 P P 21 29 37.9 -0.7
NLWA IAmb IAmb 21 29 40.8
comp=Z,24nm,1.1s
E03A Lebam 83.59 44 P P 21 29 41.1 +0.6
E03A IAmb IAmb 21 29 43.9
comp=Z,24nm,1.0s
GNW Green Mountain 83.88 43 P P 21 29 41.9 -0.1
I02E Swisshome, OR 83.88 46 P P 21 29 42.4 +0.4
EUNU Eureka 84.12 8 P P 21 29 42.6 0.0
I03D Drain, OR 84.32 47 P P 21 29 43.9 -0.3
I03D IAmb IAmb 21 29 46.1
comp=Z,14nm,0.9s
BUCK Buck Mountain 84.47 46 P P 21 29 44.6 -0.6
BUCK IAmb IAmb 21 29 47.3
comp=Z,36nm,1.0s
L02F Cave Junction 84.48 48 P P 21 29 45.2 0.0
H04D Lebanon 84.58 46 P P 21 29 45.4 -0.2
KHMM Horse Mountain 84.62 49 P P 21 29 47.1 +1.0
KHMM IAmb IAmb 21 29 48.2
comp=Z,14nm,0.8s
LON Longmire 84.73 43 P P 21 29 44.4 -1.9
YKA Yellowknife Ar 84.74 27 P P 21 29 45.8 -0.2
comp=Z,3.4nm,0.8s,baz=289,slow=5.5,SNR=41
YKA pP pP 21 30 17.2 -0.2
comp=Z,0.7nm,0.8s,baz=290,slow=5.5,SNR=2.2
comp=Z,3.4nm,0.8s
H04A Detroit Lake 84.93 45 P P 21 29 48.0 +0.6
H04A IAmb IAmb 21 29 48.6
comp=Z,19nm,1.1s
KCPM Cahto Peak 84.98 51 P P 21 29 47.1 -0.7
KCPM IAmb IAmb 21 29 49.7
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 85.19 48 P P 21 29 49.7 +0.9
YBH IAmb IAmb 21 29 51.3
comp=Z,30nm,1.6s
YBH Yreka Blue Hor 85.19 48 LR LR 22 08 11.6
comp=Z,12nm,18.4s,baz=274,slow=36
J04A Umpqua Nationa 85.30 47 P P 21 29 49.2 -0.2
J04A IAmb IAmb 21 29 51.1
comp=Z,26nm,1.0s
LTY Liberty 85.38 43 P P 21 29 49.1 -0.5
LTY IAmb IAmb 21 29 50.8
comp=Z,12nm,0.8s
L04D Klamath Falls 85.38 48 P P 21 29 49.0 -0.9
L04D IAmb IAmb 21 29 51.2
comp=Z,18nm,1.2s
O02D Mt. Diablo Mer 85.47 50 P P 21 29 49.9 -0.4
O02D IAmb IAmb 21 29 52.4
comp=Z,27nm,1.7s
I05D Terrebonne, OR 85.59 46 P P 21 29 49.6 -1.2
K04D Chiloquin, OR 85.69 47 P P 21 29 50.5 -0.9
K04D IAmb IAmb 21 29 53.0
comp=Z,20nm,0.8s
MXC Moxie City 85.79 43 P P 21 29 51.4 -0.2
MXC IAmb IAmb 21 29 53.2
comp=Z,18nm,1.1s
J05D Fort Rock, OR 85.91 47 P P 21 29 53.0 +0.5
J05D IAmb IAmb 21 29 54.2
comp=Z,19nm,0.9s
B08A Colville Reser 85.99 41 P P 21 29 52.1 -0.5
B08A IAmb IAmb 21 29 54.4
comp=Z,24nm,1.1s
RES Resolute Bay 86.00 13 P P 21 29 52.0 0.0
RES Resolute Bay 86.00 13 P P 21 29 52.3 +0.3
comp=Z,4.2nm,0.5s,baz=306,slow=6.5,SNR=26
RES pP pP 21 30 23.3 -0.3
comp=Z,5.8nm,1.0s,baz=339,slow=8.1,SNR=4.5
RES LR LR 22 06 38.2
comp=Z,17nm,22.0s,baz=20,slow=34
comp=Z,4.2nm,0.5s
PINE Pine Mountain 86.00 46 P P 21 29 53.1 +0.2
E07A Sunnyside 86.09 43 P P 21 29 51.9 -1.2
E07A IAmb IAmb 21 29 54.7
comp=Z,19nm,1.1s
F07A Phinny Hill Vi 86.20 44 P P 21 29 52.8 -0.8
F07A IAmb IAmb 21 29 55.2
comp=Z,20nm,1.3s
HATC Hat Creek Radi 86.32 49 P P 21 29 52.8 -1.6
HATC IAmb IAmb 21 29 56.0
comp=Z,16nm,0.9s
HAWA Hanford 86.34 43 P P 21 29 53.0 -1.3
HAWA IAmb IAmb 21 29 55.8
comp=Z,11nm,0.8s
D08A Wollman Farm, 86.58 43 P P 21 29 54.4 -1.0
D08A IAmb IAmb 21 29 56.9
comp=Z,20nm,1.2s
E08A Dider Farm, El 86.64 43 P P 21 29 56.2 +0.5
I07A Izee 86.94 46 P P 21 29 55.7 -1.7
G08A Pilot Rock 87.01 44 P P 21 29 56.9 -0.8
AFDM Forest Hills D 87.12 51 P P 21 29 56.9 -1.4
E09A Wood Farm, Sta 87.24 43 P P 21 29 57.0 -1.6
E09A IAmb IAmb 21 30 00.2
comp=Z,42nm,1.6s
ARCES ARCESS Array B 87.30 342 P P 21 29 56.7 -1.7
comp=Z,5.1nm,1.0s,baz=55,slow=3.3,SNR=10
comp=Z,5.1nm,1.0s
NEW Newport 87.44 41 P P 21 29 59.5 -0.1
NEW Newport 87.44 41 LR LR 22 02 01.8
comp=Z,7.4nm,21.1s,baz=288,slow=31
CMB Columbia Colle 87.79 52 P P 21 30 00.2 -1.3
J08A Circle Bar Ran 87.84 46 P P 21 30 02.0 +0.3
J08A IAmb IAmb 21 30 03.3
comp=Z,19nm,0.9s
WVOR Wild Horse Val 87.97 47 P P 21 30 02.6 +0.2
WVOR IAmb IAmb 21 30 03.9
comp=Z,16nm,0.9s
PNTR Pine Nut 88.12 50 P P 21 30 02.8 -0.5
PNTR IAmb IAmb 21 30 05.2
comp=Z,14nm,0.9s
PAHR Pah Rah Range 88.13 50 P P 21 30 01.8 -1.4
PAHR IAmb IAmb 21 30 04.7
comp=Z,12nm,1.0s
BMO Blue Mountains 88.25 44 IAmb IAmb 21 30 05.0
comp=Z,14nm,0.8s
WAKR Walker 88.39 51 P P 21 30 04.6 0.0
RYN Ryan 89.06 51 P P 21 30 07.7 +0.1
RYN IAmb IAmb 21 30 09.3
comp=Z,12nm,0.9s
PLID Pearl Lake 89.08 44 P P 21 30 06.5 -1.1
LHV Little Huntoon 89.17 51 P P 21 30 07.2 -0.6
LHV IAmb IAmb 21 30 10.1
comp=Z,11nm,1.0s
NVAR Mina Array Bea 89.27 51 P P 21 30 08.7 0.0
NVAR Mina Array Bea 89.27 51 P P 21 30 09.5 +0.8
comp=Z,10.0nm,0.7s,baz=268,slow=5.5,SNR=66
comp=Z,10.0nm,0.7s
BCW Bitter Crk WRg 89.32 54 P P 21 30 07.3 -1.6
BCW IAmb IAmb 21 30 10.6
comp=Z,28nm,1.3s
NV11 Mina Array Sit 89.39 51 P P 21 30 08.7 -0.5
NV11 IAmb IAmb 21 30 10.8
comp=Z,9.3nm,0.9s
MFID Camas Ranch 89.68 46 P P 21 30 10.6 +0.2
MFID IAmb IAmb 21 30 12.0
comp=Z,25nm,1.2s
DSP Deep Springs 89.81 52 P P 21 30 11.2 +0.3
ISA Isabella, Lake 89.88 54 P P 21 30 11.1 -0.3
MZP Montezuma Peak 90.17 51 P P 21 30 11.9 -1.1
GMN Gold Mountain 90.38 52 P P 21 30 13.3 -0.6
HLID Hailey 90.62 45 P P 21 30 14.3 -0.5
HLID IAmb IAmb 21 30 16.5
comp=Z,8.4nm,1.1s
VNDA Vanda 90.66 176 P P 21 30 15.5 +1.6
comp=Z,3.0nm,0.7s,baz=342,slow=6.4,SNR=4.7
VNDA LR LR 22 10 59.5
comp=Z,65nm,18.1s,baz=289,slow=35
comp=Z,3.0nm,0.7s
ELK Elko 90.89 48 P P 21 30 15.0 -1.3
ELK IAmb IAmb 21 30 17.8
comp=Z,14nm,1.4s
WCT Wildcat Mounta 91.00 52 P P 21 30 15.6 -1.0
WCT IAmb IAmb 21 30 18.3
comp=Z,7.4nm,0.9s
FINES FINESS Array B 91.07 335 P P 21 30 14.4 -1.9
comp=Z,2.7nm,0.8s,baz=50,slow=4.3,SNR=14
comp=Z,2.7nm,0.8s
GWY Greenwater Val 91.14 53 P P 21 30 16.1 -1.2
GWY IAmb IAmb 21 30 18.9
comp=Z,7.9nm,1.0s
LRM Limekiln Ridge 91.22 43 P P 21 30 16.7 -1.0
TPNV Topopah Spring 91.25 52 P P 21 30 16.1 -1.8
TPNV IAmb IAmb 21 30 19.5
comp=Z,7.0nm,0.8s
ELS Elsinore Mount 91.25 55 P P 21 30 16.9 -0.9
DLMT Dillon 91.28 43 P P 21 30 15.8 -2.0
GSC Goldstone, Bar 91.28 54 P P 21 30 17.6 -0.3
GSC IAmb IAmb 21 30 19.7
comp=Z,8.6nm,0.9s
MCMT McKenzie Canyo 91.28 44 P P 21 30 16.5 -1.4
R11B Troy Canyon, C 91.35 50 P P 21 30 17.4 -1.0
BOZ Bozeman (W) 91.84 43 P P 21 30 19.1 -1.3
PRN Pahroc Range 92.03 51 P P 21 30 19.6 -1.9
PRN IAmb IAmb 21 30 22.3
comp=Z,16nm,1.8s
PFO Pinyon Flats O 92.03 55 P P 21 30 20.6 -1.0
PFO IAmb IAmb 21 30 23.6
comp=Z,17nm,1.2s
SPR3 Spring Creek 3 92.09 49 P P 21 30 20.2 -1.7
EGMT Eagleton 92.19 40 P P 21 30 21.0 -0.9
EGMT IAmb IAmb 21 32 06.4
comp=Z,31nm,2.0s
SHPR Sheep Range 92.22 52 P P 21 30 21.4 -1.0
QLMT Earthquake Lak 92.23 43 P P 21 30 21.9 -0.4
HVU Hansel Valley 92.33 46 P P 21 30 21.9 -0.8
HVU IAmb IAmb 21 30 24.4
comp=Z,7.6nm,1.1s
YHL Hebgen Lake 92.39 43 P P 21 30 23.2 0.0
YHL IAmb IAmb 21 30 25.9
comp=Z,15nm,1.1s
YHB Horse Butte 92.42 43 P P 21 30 21.8 -1.4
YHB IAmb IAmb 21 30 25.3
comp=Z,11nm,1.0s
BGU Big Grassy Mou 92.43 47 P P 21 30 21.4 -1.8
PSUT Pine Spring 92.58 50 P P 21 30 22.4 -1.7
V12A Nelson 92.69 53 P P 21 30 24.0 -0.5
V12A IAmb IAmb 21 30 27.0
comp=Z,9.4nm,1.1s
YUH Yuha Desert 92.74 56 P P 21 30 23.9 -0.7
YUH IAmb IAmb 21 30 26.6
comp=Z,8.2nm,0.9s
YNR Norris Junctio 92.78 43 P P 21 30 25.4 +0.5
DUG Dugway, Tooele 92.82 48 P P 21 30 24.2 -0.9
DUG IAmb IAmb 21 30 26.3
comp=Z,9.9nm,1.4s
ESJX Sierra Juarez 92.91 56 P P 21 30 24.4 -1.2
ESJX IAmb IAmb 21 33 48.9
comp=Z,9.5nm,0.8s
FXWY Fox Creek 92.92 44 P P 21 30 23.5 -2.0
H17A Grant Village 92.96 43 P P 21 30 27.3 +1.6
H17A IAmb IAmb 21 30 29.5
comp=Z,11nm,1.1s
GCMT Greycliff 93.06 42 P P 21 30 24.8 -1.2
MOOW Moose Ponds 93.07 44 P P 21 30 24.6 -1.6
YMP Mirror Lake Pl 93.12 43 P P 21 30 25.7 -0.8
HWUT Hardware Ranch 93.24 46 P P 21 30 26.1 -0.9
HWUT IAmb IAmb 21 30 28.1
comp=Z,12nm,1.3s
RLMT Red Lodge 93.56 42 P P 21 30 26.9 -1.5
RLMT IAmb IAmb 21 30 30.5
comp=Z,9.4nm,1.3s
W13A Hualapai Mount 93.63 53 P P 21 30 27.6 -1.3
FFC Flin Flon 93.82 32 P P 21 30 27.8 -1.3
FFC IAmb IAmb 21 31 27.6
comp=Z,16nm,2.0s
KNB Kanab 93.84 51 P P 21 30 28.4 -1.5
KNB IAmb IAmb 21 30 32.4
comp=Z,8.6nm,1.1s
PDAR Pinedale Array 94.23 45 P P 21 30 31.0 -0.6
comp=Z,0.2nm,0.4s,baz=270,slow=1.5,SNR=4.3
PDAR LR LR 22 14 56.3
comp=Z,11nm,18.8s,baz=321,slow=37
comp=Z,0.2nm,0.4s
CLL Collm 102.78 330 *e*PP **PKiKP 21 35 27.0 -2.4**
PLCA Paso Flores 139.68 140 PKP **PKPdf 21 36 39.4 -0.2**
comp=Z,1.3nm,0.7s,baz=317,slow=1.3,SNR=3.9
ZON Zonda 145.65 128 PKPab **PKPab 21 36 52.0 +0.6**
LPAZ La Paz 150.07 101 PKPab **PKiKP 21 37 04.9 +0.3**
LPAZ La Paz 150.07 101 PKPbc **PKiKP 21 37 04.5 -0.1**
comp=Z,3.1nm,0.4s,baz=341,slow=2.7,SNR=15

BEO ***15*** *21:17:45.4±0.4, 43°.55N×17°.51E, h0km, ML2.3/8*
RHSSO ***15*** *21:17:47.7±0.2, 43°.43N×17°.69E, h6km±2km, ML2.4/12*
PDG ***15*** *21:17:47.7±0.2, 43°.42N×17°.71E, h8km, ML2.6/13, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
ISC 15 21:17:47.3±1.1, 43.44N±0.02×17.70E±0.02, h3km±10km, n57, σ0.90/90/100, 11C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAKA	**Makarska**	**0.52**	**253**	*e*Pg		**Pg**		**21 17 57.2**	**0.0**
STON	**Ston**	**0.57**	**180**	⇑*i*Pg		**Pg**		**21 17 57.5**	**-0.7**
STON				*e*Sg		**Sg**		**21 18 06.3**	**+0.7**
STON	**Ston**	**0.57**	**180**	*e*Pg		**Pg**		**21 17 57.7**	**-0.5**
STON	**Ston**	**0.57**	**180**	*e*Pg		**Pg**		**21 17 57.9**	**-0.3**
STON				*e*Sg		**Sb**		**21 18 08.7**	**+0.3**
BRY	**Bratogost**	**0.82**	**131**	*e*Pg		**Pg**		**21 18 02.2**	**-0.8**
BRY				*e*Sg		**Sg**		**21 18 14.3**	**+0.7**
BRY	**Bratogost**	**0.82**	**131**	⇓*i*Pg		**Pg**		**21 18 02.3**	**-0.8**
BRY				*i* Sg		**Sb**		**21 18 15.3**	**-0.5**
DBRK	**Dubrovnik**	**0.84**	**157**	*e*Pg		**Pg**		**21 18 03.3**	**-0.1**
TREB	**Trebinje**	**0.87**	**146**	⇓*i*Pg		**Pg**		**21 18 03.1**	**-0.8**
TREB				*e*Sg		**Sg**		**21 18 15.5**	**+0.3**
TREB	**Trebinje**	**0.87**	**146**	*e*Pg		**Pg**		**21 18 03.4**	**-0.6**
TREB				*e*Sg		**Sb**		**21 18 16.3**	**-0.8**
LSTV	**Lastovo**	**0.90**	**221**	*i* Pg		**Pg**		**21 18 03.5**	**-1.0**
UPM	**Unac-Piva**	**0.91**	**105**	⇑*i*Pg		**Pg**		**21 18 04.4**	**-0.4**
UPM				*e*Sg		**Sg**		**21 18 17.2**	**+0.5**
UPM	**Unac-Piva**	**0.91**	**105**	⇓*i*Pg		**Pg**		**21 18 04.3**	**-0.5**
UPM				*i* Sg		**Sb**		**21 18 18.7**	**+0.2**
HVAR	**Hvar**	**0.95**	**254**	*e*Pg		**Pg**		**21 18 04.7**	**-0.7**
KIJV	**Kijevo**	**1.09**	**301**	*e*Pg		**Pg**		**21 18 08.6**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.11**	**54**	*e*Pg		**Pg**		**21 18 08.3**	**-0.3**
HAPS				*e*Sg		**Sg**		**21 18 22.8**	**-0.2**
NKME	**Niksic**	**1.14**	**126**	⇓*i*Pg		**Pg**		**21 18 08.0**	**-1.2**
NKME				*i* Sg		**Sn**		**21 18 25.7**	**-0.7**

HCY	**Herceg Novi**	**1.16**	**149**	⇑*i*Pg	**Pg**	**21 18 07.9**	**-1.5**
HCY				*e*Sg	**Sg**	**21 18 23.9**	**-0.5**
HCY	**Herceg Novi**	**1.16**	**149**	⇓*i*Pg	**Pg**	**21 18 08.1**	**-1.3**
HCY				*i* Sg	**Sn**	**21 18 26.4**	**-0.3**
RUDO	**Rudo**	**1.23**	**81**	*e*Pg	**Pg**	**21 18 09.2**	**-1.6**
RUDO				*e*Sg	**Sg**	**21 18 26.9**	**+0.1**
RUDO	**Rudo**	**1.23**	**81**	*e*Pg	**Pg**	**21 18 10.1**	**-0.7**
RUDO				*e*Sg	**Sg**	**21 18 27.3**	**+0.5**
PLE	**Pljevlja**	**1.24**	**95**	⇑*i*Pg	**Pg**	**21 18 10.1**	**-0.9**
PLE				*i* Sg	**Sn**	**21 18 29.6**	**+0.7**
CEME	**Cevo**	**1.27**	**135**	⇑*i*Pg	**Pg**	**21 18 10.4**	**-1.2**
CEME				*i* Sg	**Sn**	**21 18 30.5**	**+1.0**
BBLS	**Lazi&#263i**	**1.31**	**71**	⇑*i*Pg	**Pn**	**21 18 11.9**	**-0.7**
BBLS				*e*Sg	**Sg**	**21 18 29.6**	**+0.2**
BBLS	**Lazi&#263i**	**1.31**	**71**	*e*Pg	**Pn**	**21 18 11.9**	**-0.7**
BBLS				*e*Sg	**Sn**	**21 18 30.8**	**+0.2**
A050A	**Klekovaca**	**1.34**	**321**	⇑*i*Pg	**Pn**	**21 18 12.4**	**-0.5**
A050A				*e*Sg	**Sg**	**21 18 30.9**	**+0.7**
BLY	**Banja Luka**	**1.36**	**344**	⇓*i*Pg	**Pn**	**21 18 12.0**	**-1.1**
BLY				*e*Sg	**Sb**	**21 18 31.4**	**+0.3**
BLY	**Banja Luka**	**1.36**	**344**	*e*Pn	**Pn**	**21 18 11.0**	**-2.1**
BUM	**Brajici-Budva**	**1.44**	**142**	⇑*i*Pg	**Pn**	**21 18 14.1**	**-0.3**
BUM				*i* Sg	**Sg**	**21 18 35.9**	**+2.3**
KOME	**Kolasin**	**1.46**	**113**	⇑*i*Pg	**Pn**	**21 18 14.4**	**-0.2**
KOME				*i* Sg	**Sg**	**21 18 36.5**	**+2.4**
MORI	**Morici**	**1.50**	**287**	*e*Pg	**Pn**	**21 18 15.4**	**+0.2**
ZIRJ	**Zirje**	**1.51**	**279**	*e*Pg	**Pn**	**21 18 15.0**	**-0.2**
PDG	**Podgorica**	**1.53**	**131**	⇓*i*Pn	**Pn**	**21 18 15.1**	**-0.4**
PDG				*e*Sn	**Sg**	**21 18 36.5**	**+0.1**
PDG	**Podgorica**	**1.53**	**131**	*e*Pg	**Pb**	**21 18 16.2**	**0.0**
PDG				*e*Sg	**Sg**	**21 18 37.9**	**+1.5**
PDG	**Podgorica**	**1.53**	**131**	⇑*i*Pg	**Pn**	**21 18 15.7**	**+0.2**
PDG				*i* Sg	**Sg**	**21 18 38.7**	**+2.3**
DRME	**Dracevica, Mon**	**1.67**	**138**	*e*Pn	**Pn**	**21 18 17.6**	**+0.2**
DRME				*e*Sn	**Sn**	**21 18 38.8**	**-0.5**
DRME	**Dracevica, Mon**	**1.67**	**138**	⇓*i*Pn	**Pn**	**21 18 18.0**	**+0.6**
DRME				*i* Sn	**Sg**	**21 18 42.1**	**+1.3**
A051A	**Mrakovica**	**1.67**	**340**	*e*Pn	**Pn**	**21 18 17.1**	**-0.4**
A051A				*e*Sn	**Sn**	**21 18 39.3**	**-0.1**
SJES	**Sjenica**	**1.67**	**96**	⇓*i*Pn	**Pn**	**21 18 17.7**	**+0.2**
SJES				*e*Sn	**Sn**	**21 18 39.7**	**+0.2**
SJES	**Sjenica**	**1.67**	**96**	*e*Pg	**Pn**	**21 18 18.0**	**+0.5**
SJES				*e*Sg	**Sg**	**21 18 42.9**	**+2.0**
IVA	**Berane**	**1.71**	**109**	⇓*i*Pn	**Pn**	**21 18 18.3**	**+0.3**
IVA				*i* Sn	**Sg**	**21 18 42.9**	**+0.8**
TEKS	**Tekeris**	**1.72**	**49**	*e*Pn	**Pn**	**21 18 18.3**	**+0.1**
TEKS				*e*Sn	**Sb**	**21 18 41.6**	**-0.1**
TEKS	**Tekeris**	**1.72**	**49**	*e*Pg	**Pn**	**21 18 18.0**	**-0.2**
TEKS				*e*Sg	**Sb**	**21 18 42.1**	**+0.4**
UDBI	**Udbina**	**1.77**	**309**	*e*Pn	**Pg**	**21 18 21.5**	**+0.4**
DIVS	**Divibare**	**1.79**	**68**	*e*Pg	**Pn**	**21 18 20.1**	**+1.0**
DIVS				*e*Sg	**Sg**	**21 18 45.6**	**+0.9**
PVY	**Plav**	**1.86**	**116**	*e*Pn	**Pn**	**21 18 20.5**	**+0.3**
PVY				*i* Sn	**Sb**	**21 18 46.6**	**+0.8**
ULC	**Ulcinj**	**1.87**	**142**	⇑*i*Pn	**Pn**	**21 18 20.3**	**+0.1**
ULC				*i* Sn	**Sg**	**21 18 46.7**	**-0.6**
DUGI	**Dugi Otok**	**1.99**	**287**	*e*Pn	**Pb**	**21 18 23.7**	**-0.5**
VIRC	**Vir**	**2.09**	**295**	*e*Pn	**Pb**	**21 18 25.5**	**-0.3**
TRUS	**Trudelj**	**2.11**	**67**	*e*Pg	**Pn**	**21 18 22.9**	**-0.6**
TRUS				*e*Sg	**Sg**	**21 18 55.4**	**+0.4**
GRUS	**Gruza**	**2.23**	**78**	*e*Pg	**Pn**	**21 18 27.0**	**+1.8**
GRUS				*e*Sg	**Sg**	**21 19 00.4**	**+1.3**
FRGS	**Fruska Gora**	**2.29**	**41**	*e*Pn	**Pn**	**21 18 25.5**	**-0.5**
FRGS				*e*Sn	**Sn**	**21 18 55.0**	**+0.3**
FRGS	**Fruska Gora**	**2.29**	**41**	*e*Pn	**Pn**	**21 18 24.5**	**-1.5**
FRGS				*e*Sg	**Sb**	**21 18 58.7**	**+0.8**
GOCS	**Kraljevo Serbi**	**2.31**	**86**	*e*Pg	**Pn**	**21 18 27.7**	**+1.3**
GOCS				*e*Sg	**Sg**	**21 19 04.2**	**+2.6**
SELS	**Selova**	**2.51**	**94**	*e*Pn	**Pn**	**21 18 29.2**	**+0.2**
BOJS	**Bojanci**	**2.70**	**320**	*e*Pn	**Pn**	**21 18 31.8**	**+0.2**
BOJS				*e*Sn	**Sn**	**21 19 05.3**	**+0.5**
MORH	**Mrgy, Hungar**	**2.85**	**13**	*e*Pn	**Pn**	**21 18 33.3**	**-0.4**
MORH				*e*Sn	**Sn**	**21 19 08.6**	**+0.1**
BZS	**Buzias**	**3.55**	**51**	*e*Pg	**Pb**	**21 18 49.6**	**-1.0**

TAP 15 21:36:37.6, 23°.67N×121°.47E, h43km, ML2.7, 2C-8D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.04**	**275**	P	Pn	21 36 44.0	-0.4
EGFH				*e*S	Sn	21 36 48.6	-0.5
TEGC	**Jichi Village**	**0.08**	**58**	*e*P	Pn	21 36 44.7	+0.2
TEGC				*i* S	Sn	21 36 50.6	+1.3
WARBT	**Fenglin Townsh**	**0.09**	**305**	⇓*i*P	Pn	21 36 44.2	-0.4
WARBT				S	Sn	21 36 48.6	-0.9
ESL	**Shilin**	**0.15**	**348**	⇓*i*P	Pn	21 36 44.5	-0.3
ESL				*i* S	Sn	21 36 49.4	-0.5
SHUL	**Shoufeng**	**0.15**	**36**	*e*P	Pn	21 36 45.0	+0.2
SHUL				*e*S	Sn	21 36 50.8	+0.9
HGSD	**Ruisui**	**0.18**	**193**	⇓*i*P	Pn	21 36 45.4	+0.4
HGSD				S	Sn	21 36 51.2	+1.0
EHYH	**Wanrong**	**0.20**	**213**	⇓P	Pn	21 36 44.7	-0.5
EHYH				*e*S	Sn	21 36 49.6	-0.9
EHY	**Hungye**	**0.21**	**220**	⇓P	Pn	21 36 44.6	-0.6
EHY				S	Sn	21 36 49.4	-1.2
TEYL	**Yanliau Villag**	**0.23**	**31**	*e*S	Sn	21 36 50.9	-0.1
ETM	**Tongmen**	**0.30**	**5**	P	Pn	21 36 45.8	-0.3
ETM				*e*S	Sn	21 36 51.6	-0.5
VWDT	**VWDT**	**0.31**	**286**	⇓P	Pn	21 36 47.0	+0.9
VWDT				*e*S	Sn	21 36 53.2	+1.0
YULB	**Yu-li**	**0.31**	**210**	P	Pn	21 36 45.2	-1.0
YULB	**Yu-li**	**0.31**	**210**	S	Sn	21 36 50.3	-2.0
YULB	**Yu-li**	**0.31**	**210**	P	Pn	21 36 45.3	-0.9
YULB	**Yu-li**	**0.31**	**210**	P	Pn	21 36 51.3	+5.1
YULB	**Yu-li**	**0.31**	**210**	P	Pn	21 36 45.4	-0.8
YULB				S	Sn	21 36 50.9	-1.5
HWA	**Hwalien**	**0.34**	**22**	*e*P	Pn	21 36 46.8	+0.4
HWA				*e*S	Sn	21 36 52.6	0.0
EYUL	**Yuli**	**0.34**	**203**	*e*P	Pn	21 36 45.9	-0.7
EYUL				*e*S	Sn	21 36 52.0	-0.9
ECBN	**Changbin**	**0.35**	**182**	P	Pn	21 36 46.8	+0.2
ECBN				S	Sn	21 36 53.2	+0.3
TWF1	**Yuli**	**0.35**	**206**	P	Pn	21 36 45.8	-0.8
TWF1				S	Sn	21 36 51.9	-1.1
LXIB	**Xiulin Townshi**	**0.36**	**352**	⇑*i*P	Pn	21 36 46.5	-0.3
LXIB				S	Sn	21 36 52.9	-0.5
OWD	**Renai**	**0.39**	**317**	*e*P	Pn	21 36 47.8	+0.6
OWD				*e*S	Sn	21 36 54.5	+0.4
TWD	**Chiawan**	**0.43**	**16**	P	Pn	21 36 47.2	-0.3
TWD				S	Sn	21 36 54.1	-0.5
WUSB	**Renai**	**0.46**	**316**	⇓P	Pn	21 36 48.8	+0.8
WUSB				S	Sn	21 36 56.1	+0.7
CHKH	**Chenggong**	**0.48**	**188**	*e*P	Pn	21 36 47.5	-0.6
CHKH				*e*S	Sn	21 36 55.0	-0.5
SSLB	**Suanglung**	**0.48**	**285**	P	Pn	21 36 48.6	+0.3
SSLB	**Suanglung**	**0.48**	**285**	S	Sn	21 36 54.9	-1.0
SSLB	**Suanglung**	**0.48**	**285**	P	Pn	21 36 48.8	+0.5
SSLB	**Suanglung**	**0.48**	**285**	⇓P	Pn	21 36 48.8	+0.5
SSLB				*e*S	Sn	21 36 57.1	+1.2
FULB	**Fuli**	**0.49**	**199**	*e*P	Pn	21 36 47.8	-0.6
FULB				*e*S	Sn	21 36 55.8	-0.2
YUS	**Yu-Shan**	**0.50**	**250**	*e*P	Pn	21 36 47.0	-2.0
YUS				*e*S	Sn	21 36 55.1	-1.9
ETL	**Fush Village**	**0.51**	**16**	*e*P	Pn	21 36 48.4	-0.3
ETL				*e*S	Sn	21 36 55.5	-0.9
WHF	**Hehuan Shan**	**0.51**	**339**	*e*P	Pn	21 36 49.3	+0.3
WHF				S	Sn	21 36 57.5	+0.4
NACB	**Ninganchiao**	**0.52**	**13**	P	Pn	21 36 47.9	-0.8
NACB	**Ninganchiao**	**0.52**	**13**	S	Sn	21 36 54.7	-1.9
NACB	**Ninganchiao**	**0.52**	**13**	P	Pn	21 36 48.0	-0.7
NACB	**Ninganchiao**	**0.52**	**13**	*e*P	Pn	21 36 48.0	-0.7
NACB				*e*S	Sn	21 36 55.2	-1.3
ETLH	**Xiulin Townshi**	**0.54**	**2**	*e*P	Pn	21 36 48.7	-0.3
ETLH				*e*S	Sn	21 36 56.7	-0.5
SMLT	**Sun Moon Lake**	**0.56**	**293**	*e*P	Pn	21 36 49.4	0.0
SMLT				*e*S	Sn	21 36 58.5	+0.7
WHYT	**Xinyi Township**	**0.56**	**273**	*e*P	Pn	21 36 50.5	+1.2
WHYT				*e*S	Sn	21 36 60.0	+2.3
CHKT	**Chengkung**	**0.57**	**189**	*e*P	Pn	21 36 48.5	-0.9
CHKT				*e*S	Sn	21 36 57.2	-0.5
TYC	**Yuchr**	**0.61**	**293**	*e*P	Pn	21 36 50.9	+1.1
TYC				*e*S	Sn	21 37 00.5	+2.0
FUSS	**Fushou**	**0.61**	**341**	*e*P	Pn	21 36 50.9	+0.7
FUSS				*e*S	Sn	21 36 59.7	+0.6
ALS	**Alishan**	**0.63**	**256**	*e*P	Pn	21 36 51.2	+0.9
ALS				*e*S	Sn	21 37 01.1	+1.6
ELDTW	**Lidau**	**0.63**	**221**	⇑*i*P	Pn	21 36 49.5	-0.8
ELDTW				S	Sn	21 36 58.2	-1.1
WCS	**Beigang Elemen**	**0.64**	**308**	*e*P	Pn	21 36 51.5	+1.3
WCS				*e*S	Sn	21 37 01.3	+1.9
TWT	**Tachien**	**0.64**	**336**	*e*P	Pn	21 36 51.5	+1.0
TWT				*e*S	Sn	21 37 00.4	+0.7
TDCB	**Techi**	**0.65**	**334**	*e*P	Pn	21 36 51.5	+1.0
TDCB				*e*S	Sn	21 36 60.0	+0.1
WJS	**Zhushan**	**0.69**	**283**	*e*P	Pn	21 36 52.5	+1.5
EDH	**Donghe**	**0.71**	**192**	*e*P	Pn	21 36 50.1	-1.1
EDH				*e*S	Sn	21 37 00.2	-0.7
CHN5	**Tsauling**	**0.73**	**265**	*e*P	Pn	21 36 52.6	+1.1
CHN5				*e*S	Sn	21 37 04.2	+2.6
WNT	**Mingjian**	**0.75**	**287**	*e*P	Pn	21 36 53.5	+1.8
WNT				*e*S	Sn	21 37 05.3	+3.3
NNSB	**Datong**	**0.76**	**354**	*e*P	Pn	21 36 52.4	+0.3
NNSB				*e*S	Sn	21 37 02.2	-0.3
WHP	**Taichung City**	**0.77**	**322**	*e*P	Pn	21 36 54.0	+1.8
WHP				*e*S	Sn	21 37 05.1	+2.4
NNS	**Nan Shan**	**0.78**	**354**	*e*P	Pn	21 36 52.7	+0.5
NNS				*e*S	Sn	21 37 03.4	+0.5
ENA	**Nanau**	**0.80**	**18**	*e*P	Pn	21 36 52.0	-0.5
STYH	**Taoyuan**	**0.80**	**232**	*e*P	Pn	21 36 53.1	+0.6
STYH				*e*S	Sn	21 37 04.1	+0.8
LONT	**Longtian**	**0.82**	**202**	*e*P	Pn	21 36 51.0	-1.7
LONT				*e*S	Sn	21 37 01.2	-2.4
WCKO	**Fanlu**	**0.82**	**254**	*e*P	Pn	21 36 54.5	+1.7
WCKO				*e*S	Sn	21 37 06.4	+2.6
EWUT	**Wuta**	**0.83**	**20**	*e*P	Pn	21 36 52.5	-0.3
WGK	**Gukeng**	**0.83**	**272**	*e*P	Pn	21 36 54.7	+1.9
TPUB	**Ta-pu**	**0.85**	**245**	P	Pn	21 36 54.3	+1.2
TPUB	**Ta-pu**	**0.85**	**245**	S	Sn	21 37 06.7	+2.2
TPUB	**Ta-pu**	**0.85**	**245**	P	Pn	21 36 56.2	+3.1
TPUB	**Ta-pu**	**0.85**	**245**	S	Sn	21 37 06.3	+1.8
TPUB	**Ta-pu**	**0.85**	**245**	*e*P	Pn	21 36 54.3	+1.1
TPUB				*e*S	Sn	21 37 06.7	+2.3
WDLH	**Douliu**	**0.85**	**272**	*e*P	Pn	21 36 54.8	+1.7
WDLH				*e*S	Sn	21 37 07.2	+2.8
CHN4	**Tsaushan**	**0.86**	**249**	*e*P	Pn	21 36 54.6	+1.4
CHN4				*e*S	Sn	21 37 08.0	+3.3
LATG	**Datong**	**0.87**	**4**	*e*P	Pn	21 36 53.4	-0.1
TCU	**Taichung**	**0.87**	**304**	*e*P	Pn	21 36 55.5	+2.2
TCU				*e*S	Sn	21 37 08.2	+3.4
WTP	**Ta-pu**	**0.89**	**242**	*e*P	Pn	21 36 54.5	+0.9
WTP				*e*S	Sn	21 37 08.0	+2.6
EOS4	**EOS4**	**0.90**	**60**	*e*P	Pn	21 36 53.2	-0.3
EOS4				*e*S	Sn	21 37 04.9	-0.3
TWG	**Pinlang**	**0.92**	**203**	*e*P	Pn	21 36 51.9	-2.1
TWG				*e*S	Sn	21 37 03.3	-2.8
TWGBT	**Beinan**	**0.92**	**203**	*e*P	Pn	21 36 52.4	-1.6
TWGBT				*e*S	Sn	21 37 03.4	-2.7
WCHH	**Zhanghua**	**0.93**	**297**	*e*P	Pn	21 36 56.0	+1.9
WCHH				*e*S	Sn	21 37 10.4	+4.1
TWQ1	**Liyutan**	**0.93**	**317**	*e*P	Pn	21 36 56.1	+1.9
TWQ1				*e*S	Sn	21 37 10.1	+3.7
CHY	**Chiayi**	**0.97**	**260**	*e*P	Pn	21 36 56.2	+1.4
CHY				*e*S	Sn	21 37 10.1	+2.7
ENTT	**Nioudou**	**0.97**	**5**	*e*P	Pn	21 36 55.0	+0.1
ENTT				*e*S	Sn	21 37 08.0	+0.5
TWK	**Hsinying**	**0.98**	**246**	*e*P	Pn	21 36 56.4	+1.5
TWK				*e*S	Sn	21 37 10.3	+2.6
CHN1	**Nanshi**	**0.99**	**241**	*e*P	Pn	21 36 56.2	+1.2
CHN1				*e*S	Sn	21 37 09.8	+2.0
NSY	**Sanyi**	**0.99**	**319**	*e*P	Pn	21 36 56.1	+1.1
NSY				*e*S	Sn	21 37 10.3	+2.5
LDUT	**Ludao**	**0.99**	**180**	*e*S	Sn	21 37 06.5	-1.2
WTK	**Tuku**	**0.99**	**271**	*e*S	Sn	21 37 10.8	+3.0
EOS3	**EOS3**	**0.99**	**51**	*e*P	Pn	21 36 55.2	+0.3
EOS3				*e*S	Sn	21 37 08.7	+1.0
SNST	**Tainan City**	**0.99**	**244**	*e*P	Pn	21 36 56.8	+1.7
SNST				*e*S	Sn	21 37 10.6	+2.7
SGST	**Jiashian**	**1.00**	**235**	*e*P	Pn	21 36 55.9	+0.7
SGST				*e*S	Sn	21 37 10.0	+1.9
TWC	**Suao**	**1.00**	**20**	*e*P	Pn	21 36 55.4	+0.2
YHNB	**Yeheng**	**1.00**	**355**	P	Pn	21 36 56.1	+0.8
YHNB	**Yeheng**	**1.00**	**355**	S	Sn	21 37 09.3	+1.0
YHNB	**Yeheng**	**1.00**	**355**	*e*P	Pn	21 36 56.1	+0.8
YHNB				*e*S	Sn	21 37 09.0	+0.7
NSK	**Sanguang**	**1.01**	**354**	*e*P	Pn	21 36 56.2	+0.8
NSK				*e*S	Sn	21 37 09.0	+0.5
NFF	**Wufeng Townshi**	**1.01**	**342**	*e*P	Pn	21 36 57.1	+1.7
NFF				*e*S	Sn	21 37 10.8	+2.2
EOS2	**EOS2**	**1.03**	**43**	*e*P	Pn	21 36 56.4	+1.0
EOS2				*e*S	Sn	21 37 10.4	+1.9
NSTT	**Nanjuang**	**1.05**	**336**	*e*P	Pn	21 36 57.2	+1.4
NSTT				*e*S	Sn	21 37 12.0	+2.7
LIOB	**Emei**	**1.06**	**337**	*e*P	Pn	21 36 57.6	+1.7
LIOB				*e*S	Sn	21 37 11.9	+2.3
NMLH	**Miaoli**	**1.06**	**325**	*e*P	Pn	21 36 58.1	+2.1
NMLH				*e*S	Sn	21 37 12.6	+2.9
TWE	**Neicheng**	**1.07**	**10**	*e*P	Pn	21 36 56.2	+0.2
FUSB	**Fushanzhiwuyua**	**1.09**	**6**	*e*P	Pn	21 36 56.7	+0.2
NWLT	**Wulai**	**1.11**	**2**	*e*P	Pn	21 36 57.3	+0.6
NWLT				*e*S	Sn	21 37 11.3	+0.5
KSHI	**Guanxi Townshi**	**1.14**	**347**	*e*P	Pn	21 36 59.2	+2.2
KSHI				*e*S	Sn	21 37 14.9	+3.4
WSL	**Shuilin Townsh**	**1.15**	**263**	*e*P	Pn	21 36 58.4	+1.3
WSL				*e*S	Sn	21 37 14.6	+3.0
ECL	**Taimali**	**1.16**	**204**	*e*P	Pn	21 36 55.3	-2.1
SCST	**Cishan**	**1.18**	**229**	*e*P	Pn	21 36 59.8	+2.1
SCST				*e*S	Sn	21 37 16.5	+3.9
MASBT	**Mashibuluo**	**1.30**	**216**	*e*P	Pn	21 36 59.3	+0.1
MASBT				*e*S	Sn	21 37 16.8	+1.3
TIPB	**Shuangxi**	**1.34**	**14**	*e*P	Pn	21 37 00.5	+0.6
SXI1	**Grass Mountain**	**1.47**	**15**	*e*P	Pn	21 37 02.4	+0.7

CATAC 15 21:42:37.7±2.3, 12°N±7°×8°8W±°, h20km±28km, M3.5/10, MLv3.5/10, Error ellipse: s-maj=16.4km s-min=10.3km az=38.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.21**	**20**	P	Pn	21 42 59.1	-0.5
CSGN	**Cosiguina Volc**	**1.21**	**20**	P	Pn	21 42 59.3	-0.3
POTN	**Potosi Cosigui**	**1.25**	**22**	S	Sn	21 43 01.5	-1.5
POTN	**Potosi Cosigui**	**1.25**	**22**	P	Pn	21 42 59.6	-0.5
POTN				S	Sb	21 43 16.7	+0.2
POTN	**Potosi Cosigui**	**1.25**	**22**	P	Pn	21 42 59.8	-0.4
CRIN	**San Cristobal**	**1.26**	**47**	P	Pn	21 43 00.4	+0.1
CRIN	**San Cristobal**	**1.26**	**47**	P	Pn	21 43 00.6	+0.3
CNGA	**AI SSO del Vol**	**1.42**	**62**	P	Pn	21 43 02.9	+0.4
CNGA	**AI SSO del Vol**	**1.42**	**62**	P	Pn	21 43 02.9	+0.4
CNGN	**Cerro Negro**	**1.43**	**62**	P	Pn	21 43 02.9	+0.3
CNGN	**Cerro Negro**	**1.43**	**62**	P	Pb	21 43 03.7	0.0
CNCH	**Conchagua**	**1.44**	**6**	P	Pn	21 43 02.7	-0.1
CNCH	**Conchagua**	**1.44**	**6**	P	Pn	21 43 02.8	-0.1
LCND	**La Caada**	**1.47**	**4**	P	Pn	21 43 03.0	-0.1
LCND	**La Caada**	**1.47**	**4**	P	Pn	21 43 03.1	0.0
MOMN	**Momotombo**	**1.53**	**68**	P	Pn	21 43 04.1	+0.1
MOMN	**Momotombo**	**1.53**	**68**	P	Pn	21 43 04.0	0.0
PACA	**Pacayal**	**1.66**	**349**	P	Pn	21 43 06.2	+0.4
PACA	**Pacayal**	**1.66**	**349**	P	Pn	21 43 06.2	+0.4
CHOHN	**Orocuina**	**1.83**	**26**	P	Pn	21 43 07.9	-0.3
CHOHN	**Orocuina**	**1.83**	**26**	P	Pn	21 43 07.9	-0.3
LIMN	**Finca el Limon**	**2.00**	**52**	P	Pn	21 43 10.3	-0.2
LIMN	**Finca el Limon**	**2.00**	**52**	P	Pn	21 43 10.5	0.0
BOAB	**BOACO BROADBAN**	**2.36**	**75**	P	Pn	21 43 14.8	-0.5
BOAB	**BOACO BROADBAN**	**2.36**	**75**	P	Pn	21 43 15.4	+0.1
RCVN	**Varillal2**	**2.47**	**45**	P	Pn	21 43 17.6	+0.5

THE ***15*** *21:51:33.4, 37°.47N×20°.55E, h0km±6km, ML2.5/3, Error ellipse: s-maj=7.4km s-min=1.3km az=216.0*
ATH ***15*** *21:51:35.9, 37°.60N×20°.65E, h6km±2km, ML2.5/11, Manual Solution by A.Agalos First location: 2019/03/15 21:52:40, This location: 2019/03/15 23:04:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 3 km*

ISC 15 21:51:34.8±1.9, 37°.52N±0°.09×20°.60E±0°.07, h15km, n31, σ0°.88/34, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.22**	**49**	P	**Pg**	**21 51 38.7**	**-1.1**
KRI1				S	**Sg**	**21 51 43.5**	**+0.3**
LTHK	**Lithakia**	**0.27**	**44**	P	**Pg**	**21 51 39.7**	**-0.9**
LTHK				S	**Sg**	**21 51 45.2**	**+0.7**
	2μm,0.4s						
LTHK	**Lithakia**	**0.27**	**44**	P	**Pg**	**21 51 39.6**	**-0.9**
ORTH	**Orthonies,Zaky**	**0.34**	**12**	P	**Pg**	**21 51 41.1**	**-0.7**
KYPS	**Kipseli, Zakin**	**0.35**	**30**	P	**Pg**	**21 51 41.4**	**-0.6**
CLEM	**Kyllini,Ilia,G**	**0.56**	**48**	P	**Pg**	**21 51 45.3**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.60**	**359**	P	**Pg**	**21 51 46.2**	**-0.3**
PSDA				S	**Sg**	**21 51 54.9**	**+0.4**
	798nm,0.4s						
PSDA	**Pessada-Kefalo**	**0.60**	**359**	P	**Pg**	**21 51 45.3**	**-1.2**
VLS	**Valsamata**	**0.66**	**359**	P	**Pg**	**21 51 46.4**	**-1.3**
DMLN	**Damoulianata-K**	**0.74**	**346**	P	**Pg**	**21 51 48.9**	**-0.4**
RLS	**Riolos of Patr**	**0.87**	**51**	P	**Pb**	**21 51 50.5**	**-1.1**
RLS	**Riolos of Patr**	**0.87**	**51**	P	**Pb**	**21 51 50.6**	**-1.0**
AMT	**Artemida-Makis**	**0.88**	**89**	P	**Pb**	**21 51 51.9**	**+0.1**
AXS	**Araxos**	**0.91**	**42**	P	**Pb**	**21 51 51.4**	**-1.0**
FSK	**Fiskardo**	**0.94**	**358**	P	**Pb**	**21 51 52.1**	**-0.7**
DRO	**Drossia**	**0.98**	**63**	P	**Pb**	**21 51 53.2**	**-0.3**
EVGI	**Lefkada island**	**1.10**	**2**	P	**Pb**	**21 51 55.4**	**-0.2**
ITM	**Ithomi**	**1.11**	**107**	P	**Pb**	**21 51 54.8**	**-0.8**
LKD2	**Lefkada island**	**1.27**	**2**	P	**Pn**	**21 51 58.6**	**+0.5**
TSLK	**Tsoukalades, L**	**1.31**	**2**	P	**Pn**	**21 51 59.3**	**+0.8**
PVO	**Paravola**	**1.32**	**33**	P	**Pn**	**21 51 59.2**	**+0.5**
KLV	**Kalavryta, Ach**	**1.33**	**66**	P	**Pn**	**21 51 59.5**	**+0.5**
EFP	**Efpalio**	**1.37**	**48**	P	**Pn**	**21 52 00.0**	**+0.6**
GUR	**Goura**	**1.44**	**73**	P	**Pn**	**21 52 01.5**	**+1.1**
ANX	**Ano Chora**	**1.50**	**44**	P	**Pn**	**21 52 02.4**	**+1.1**
KALE	**Kalithea**	**1.50**	**54**	P	**Pb**	**21 52 02.9**	**+0.6**
EVR	**Evrytania**	**1.69**	**34**	P	**Pn**	**21 52 05.2**	**+1.3**
TETR	**Tetrakomo, Epi**	**1.90**	**16**	P	**Pn**	**21 52 07.3**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.92**	**38**	P	**Pn**	**21 52 07.7**	**+0.8**
IGT	**Igoumenitsa**	**2.02**	**354**	P	**Pn**	**21 52 09.9**	**+1.5**
AXAR	**Ágios Charalam**	**2.05**	**52**	P	**Pn**	**21 52 09.9**	**+1.2**

SOF ***15*** *21:54:14.6, 39°.59N±0°.03×25°.72E±0°.02, h2km±2km, MD4.1/3*
ISK ***15*** *21:54:18.2, 39°.74N×25°.58E, h7km, ML4.6/27*
PDG ***15*** *21:54:18.2±1.2, 39°.77N×25°.59E, h10km±2km, ML4.5/12, Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*
MED_RC ***15*** *21:54:18.0±0.4, 39°.72N×25°.57E, h10km±3km, MW4.3/19, Moment Tensor Solution.Mantle waves: s19,c21; Duration: 1*^{9}*0 Moment tensor: Scale* 10^{15}*Nm; Mrr-0.11±.23; Mθθ3.03±.40; Mφφ-2.92±.32; Mrθ-0.69±.59; Mθφ0.11±.32;

7µm,0.6s
ALN Alexandroupoli 1.23 17 Pg 21 54 41.6 -0.2
ALN Alexandroupoli 1.23 17 P Pg 21 54 41.6 -0.2
KARB zmir-Karabur 1.24 148 P Pg 21 54 42.2 +0.1
KARB S Sg 21 54 57.0 -1.1
EAG2 Marmaro, Chios 1.25 160 P Pg 21 54 42.4 +0.3
IZMD zmir-Dikili- 1.28 125 P Pg 21 54 43.0 +0.1
IZMD P Pb 21 54 43.2 -0.1
IZMD S Sg 21 54 58.5 -1.0
YENI Yenice-Canakka 1.30 80 Pn Pg 21 54 42.9 -0.3
XANC Avdira 1.34 340 P Pn 21 54 43.6 -0.6
FOCM Foa 1.35 138 Pn Pn 21 54 44.3 0.0
OUR Ouranopolis 1.37 297 Pn Pn 21 54 44.0 -0.6
OUR Ouranopolis 1.37 297 P Pn 21 54 44.2 -0.4
OUR Ouranopolis 1.37 297 P Pn 21 54 44.0 -0.6
OUR Ouranopolis 1.37 297 P Pn 21 54 44.4 -0.2
OUR S Sg 21 55 02.1 -0.1
ZEDA zmir-Bergama 1.39 122 P Pn 21 54 44.5 -0.3
ZEDA S Sn 21 55 03.4 -0.5
AOS Alonnisos 1.42 248 P Pn 21 54 45.1 -0.2
RDO Rodhopi 1.42 359 Pn Pn 21 54 44.7 -0.6
RDO Rodhopi 1.42 359 P Pn 21 54 44.6 -0.7
RDO S Sn 21 55 04.4 -0.4
4µm,0.6s
RDO Rodhopi 1.42 359 Pn 21 54 44.6 -0.7
RDO Rodhopi 1.42 359 P Pn 21 54 45.0 -0.4
PAIG Paliouri 1.47 279 Pn Pn 21 54 45.4 -0.6
PAIG Paliouri 1.47 279 P Pn 21 54 45.4 -0.6
PAIG Paliouri 1.47 279 P Pn 21 54 45.4 -0.6
KRBG Karabiga-Canak 1.48 63 Pn Pn 21 54 45.9 -0.3
KAVA Kavala 1.51 328 P Pn 21 54 46.0 -0.5
KAVA Kavala 1.51 328 P Pn 21 54 46.1 -0.5
KVLA Kavala 1.52 324 P Pn 21 54 46.4 -0.2
RKY Sarkoy-Tekirda 1.56 51 Pn Pn 21 54 46.5 -0.8
SART Tekirdag 1.56 51 P Pb 21 54 47.5 -0.6
SART S Sb 21 55 08.0 -0.5
URLA Izmir 1.57 149 P Pn 21 54 46.7 -0.7
URLA S Sn 21 55 06.2 -2.3
BALY Balya 1.58 89 P Pn 21 54 47.3 -0.2
BALY S Sb 21 55 08.1 -0.7
KYMI Kymi, Euboea I 1.58 227 P Pn 21 54 46.5 -1.0
KYMI Kymi, Euboea I 1.58 227 P Pn 21 54 46.5 -1.0
UKOP Uzunkopru-Edir 1.62 30 Pn Pn 21 54 47.7 -0.4
KOKK Kokkinochori, 1.63 313 P Pn 21 54 47.5 -0.7
KOKK S Sn 21 55 09.5 -0.3
KOKK Kokkinochori, 1.63 313 P Pn 21 54 47.8 -0.3
ZEYE Izmir, Urla-Ze 1.65 154 P Pn 21 54 47.7 -0.7
GONE Gonen-Balikesi 1.66 78 Pn Pn 21 54 48.3 -0.3
STEP BALIKESIR_Sava 1.69 101 P Pn 21 54 49.3 +0.2
STEP S Sn 21 55 10.3 -1.2
PLG Polygyros 1.76 292 P Pn 21 54 49.5 -0.5
PLG Polygyros 1.76 292 P Pn 21 54 49.0 -1.0
PLG Polygyros 1.76 292 P Pn 21 54 50.0 0.0
BKES Balkesir-Mer 1.82 89 P Pn 21 54 50.7 -0.1
BKES S Sn 21 55 14.3 -0.1
NEO Neokhori 1.86 258 P Pn 21 54 50.7 -0.7
NEO Neokhori 1.86 258 P Pn 21 54 50.9 -0.5
EDC Edincik 1.87 70 Pn Pn 21 54 51.2 -0.2
EDC Edincik 1.87 70 P Pn 21 54 51.5 +0.1
XOR Xorichti 1.88 260 P Pn 21 54 50.7 -0.9
XOR Xorichti 1.88 260 P Pn 21 54 50.8 -0.8
KARY Karystos 1.91 208 P Pn 21 54 50.9 -1.1
KARY Karystos 1.91 208 P Pn 21 54 50.9 -1.1
KDZ Kurdzhali 1.92 355 Pn Pn 21 54 51.5 -0.6
KDZ Kurdzhali 1.92 355⇑ i P Pn 21 54 51.9 -0.2
KDZ S Sg 21 55 19.9 +0.1
KDZ Kurdzhali 1.92 355 P Pn 21 54 51.9 -0.2
AKHS Akhisar 1.93 115 P Pn 21 54 52.0 -0.4
SUSR Susurluk-Balik 1.95 82 Pn Pn 21 54 52.3 -0.3
DGB zmir 1.96 148 P Pn 21 54 52.1 -0.6
TKR Tekirdag 1.96 49 Pn Pn 21 54 52.8 0.0
NGRA Nigrita 1.98 307 P Pn 21 54 53.0 0.0
BAND Balkesir-Ban 2.04 71 P Pn 21 54 54.1 +0.3
BAND S Sb 21 55 22.4 +0.3
BAND Balkesir-Ban 2.04 71 ⇑P Pn 21 54 53.8 0.0
BAND ⇓S Sg 21 55 22.7 -1.1
TRGA Dikaia 2.06 15 P Pn 21 54 53.9 -0.2
SRS Serrai 2.06 313 P Pn 21 54 53.7 -0.4
SRS Serrai 2.06 313 P Pn 21 54 53.4 -0.7
SRS Serrai 2.06 313 ePn Pn 21 54 54.1 0.0
SRS eSg Sg 21 55 24.2 -0.2
SRS Serrai 2.06 313 P Pn 21 54 54.0 -0.1
RZN Rozhen 2.07 342 i P Pn 21 54 54.6 +0.2
RZN S Sg 21 55 25.0 +0.2
RZN Rozhen 2.07 342 P Pn 21 54 54.6 +0.2
DION Dionisos Attik 2.08 218 P Pn 21 54 52.8 -1.6
DION Dionisos Attik 2.08 218 P Pn 21 54 53.6 -0.8
NVR Nevrokopi 2.08 322 P Pn 21 54 54.9 +0.4
HORT Hortiatis 2.09 296 P Pn 21 54 54.7 +0.1
HORT Hortiatis 2.09 296 P Pn 21 54 54.6 0.0
PTL Penteli 2.14 219 P Pn 21 54 54.3 -0.9
PTL Penteli 2.14 219 P Pn 21 54 54.6 -0.6
AIDA Aidipsos 2.14 247 P Pn 21 54 54.9 -0.3
CRLT Corlu 2.17 49 Pn Pn 21 54 55.0 -0.6
THE Thessaloniki 2.20 295 P Pn 21 54 56.1 +0.1
THE Thessaloniki 2.20 295 P Pn 21 54 56.3 +0.3
TNSA Tinos 2.20 189 P Pn 21 54 55.0 -1.0
ATHU Athens Univers 2.24 219 P Pn 21 54 56.3 -0.3
DURS Dursunbey 2.24 92 P Pn 21 54 57.0 +0.3
DURS S Sn 21 55 23.0 -2.1
LKR Lokris 2.27 243 P Pn 21 54 56.3 -0.7
LKR Lokris 2.27 243 P Pn 21 54 56.5 -0.4
ATH Athens Observa 2.27 220 P Pn 21 54 56.4 -0.6
ATH Athens Observa 2.27 220 P Pb 21 54 59.6 -0.5
ATH Athens Observa 2.27 220 P Pn 21 54 56.2 -0.8
MMB Musomishta 2.29 323 i P Pn 21 54 57.7 +0.4
MMB S Sb 21 55 29.6 +0.2
MMB Musomishta 2.29 323 P Pn 21 54 57.7 +0.4
EDRB Edirne 2.30 22 Pn Pn 21 54 57.5 +0.1
EDRB Edirne 2.30 22 P Pn 21 54 56.2 -1.2
DIM Dimitrovgrad 2.32 0 i P Pn 21 54 57.7 0.0
DIM Dimitrovgrad 2.32 0 P Pn 21 54 57.7 0.0
VLY Voula,Athens 2.33 217 P Pn 21 54 57.1 -0.7
VIL2 Platees 2.35 231 P Pn 21 54 57.4 -0.7
VILL Villia 2.35 229 P Pn 21 54 57.4 -0.8
KIRK Kırklareli 2.36 29 P Pn 21 54 57.5 -0.7
KIRK S Sb 21 55 30.3 -1.1
LIT Litokhoron 2.40 280 P Pn 21 54 58.5 -0.3
LIT Litokhoron 2.40 280 Pn 21 54 58.7 -0.1
LIT Litokhoron 2.40 280 P Pn 21 54 58.7 -0.1
LIT Litokhoron 2.40 280 P Pn 21 54 58.8 -0.1
IZMR zmir-demi 2.44 130 P Pn 21 54 59.4 +0.1
IZMR S Sb 21 55 32.7 -0.8
AXAR Agios Charalam 2.46 248 P Pn 21 54 59.5 -0.1
AXAR Agios Charalam 2.46 248 P Pn 21 54 59.7 +0.2
KNT Kendrikon 2.50 306 P Pn 21 55 00.6 +0.4
KNT S Sn 21 55 31.9 +0.6
2µm,0.6s
KNT Kendrikon 2.50 306 P Pn 21 55 01.0 +0.9
KNT Kendrikon 2.50 306 P Pn 21 55 00.5 +0.4
PLD Plovdiv 2.50 346 i P Pn 21 55 00.5 +0.4
PLD S Sg 21 55 38.9 +0.2
PLD Plovdiv 2.50 346 P Pn 21 55 00.8 +0.6
PLD Plovdiv 2.50 346 ePn Pn 21 55 00.6 +0.4
PLD eSg Sb 21 55 36.3 +0.9
DEMI Demirci 2.53 105 P Pn 21 55 01.3 +0.6
VIZE Kirklareli, Vi 2.53 42 P Pn 21 55 00.3 -0.3
VIZE S Sb 21 55 35.2 -1.1
YYLC Yaylacik 2.56 76 S Sg 21 55 39.6 -0.8
ARMN Kirklareli, Me 2.56 33 P Pn 21 55 00.1 -0.9
ARMN S Sb 21 55 37.2 +0.1
TYRN Tyrnavos 2.58 271 P Pn 21 55 01.4 +0.2
TYRN Tyrnavos 2.58 271 P Pn 21 55 01.0 -0.2
ELBA Catalca 2.60 56 P Pn 21 55 01.9 +0.3
DDIM Aydin, Didim 2.61 149 P Pn 21 55 01.5 -0.1
DDIM S Sb 21 55 38.2 -0.3
MANT Manisa 2.63 117 Pn Pn 21 55 02.2 +0.1
MANT Manisa 2.63 117 P Pn 21 55 02.6 +0.5
MANT S Sb 21 55 39.5 +0.3
APE Apeiranthos 2.65 181 P Pn 21 55 00.7 -1.5
APE Apeiranthos 2.65 181 ⇑P Pn 21 55 03.7 +1.5
APE Apeiranthos 2.65 181 P Pn 21 55 03.7 +1.5
APE Apeiranthos 2.65 181 P Pn 21 55 00.8 -1.5
LTK Loutraki 2.65 231 P Pn 21 55 02.3 0.0
KIRA zmir-Kiraz 2.68 124 P Pn 21 55 02.9 +0.1
MET4 Agioi Theodoro 2.70 220 P Pn 21 55 02.3 -0.6
GRG Griva 2.72 298 P Pn 21 55 05.2 +2.0
MET5 Makryloggos,Me 2.72 220 P Pn 21 55 02.5 -0.7
AYDN Tasoluk 2.74 138 P Pn 21 55 03.5 +0.1

KTI Kastanea 2.74 285 P Pn 21 55 03.6 +0.1
THL Klokotos Trika 2.75 268 P Pn 21 55 03.7 +0.1
THL Klokotos Trika 2.75 268 P Pn 21 55 03.2 -0.4
MAKR Makrakomi, Fth 2.76 256 P Pn 21 55 04.2 +0.4
MAKR Makrakomi, Fth 2.76 256 P Pn 21 55 03.9 +0.1
ULDT Uludag 2.77 80 P Pn 21 55 04.1 0.0
ULDT S Sg 21 55 45.8 -1.5
VAY Valandovo 2.79 306 i Pn Pn 21 55 06.8 +2.7
VAY i Sn Sg 21 55 51.2 +3.2
VAY Valandovo 2.79 306 P Pb 21 55 07.7 -1.3
VAY Valandovo 2.79 306 ePn Pb 21 55 07.0 -2.0
VAY eSg Sg 21 55 50.8 +2.8
AVDN Avdancik/Bursa 2.82 77 P Pn 21 55 04.7 +0.1
AVDN S Sb 21 55 45.5 +1.0
KKB Krupnik 2.82 320 P Pn 21 55 05.4 +0.9
IGD Bursa 2.84 78 P Pn 21 55 04.4 -0.4
IGD S Sb 21 55 46.2 +1.2
USAK Uak-Merkez 2.86 110 P Pn 21 55 05.1 0.0
JMB Yambol 2.86 14⇑ i P Pn 21 55 04.8 -0.3
JMB Yambol 2.86 14 P Pn 21 55 04.4 -0.7
ESEN Aydn-Nazilli 2.90 131 P Pn 21 55 05.8 +0.2
ESEN S Sb 21 55 47.5 +0.8
KRSK Karsak 2.91 75 S Sg 21 55 50.2 -1.5
EMET Ktahya-Emet 2.92 96 P Pn 21 55 06.3 +0.3
KURT Yalova, Merkez 2.92 72 P Pn 21 55 05.2 -0.7
KURT S Sb 21 55 48.8 +1.5
KZN Kozani 2.98 283 P Pn 21 55 09.0 +2.2
ISK Istanbul-Kandi 2.98 62 P Pn 21 55 06.0 -0.8
ISK Istanbul-Kandi 2.98 62 P Pn 21 55 07.1 +0.3
PGB Panagyurishte 2.98 340 P Pn 21 55 07.3 +0.5
KALE Kalithea 2.98 245 P Pn 21 55 06.9 0.0
KALE Kalithea 2.98 245 P Pn 21 55 06.4 -0.5
KRND KRANIDI 3.01 220 P Pn 21 55 06.5 -0.7
KRND KRANIDI 3.01 220 P Pn 21 55 06.5 -0.7
ANX Ano Chora 3.06 250 P Pn 21 55 08.3 +0.4
ANX Ano Chora 3.06 250 P Pn 21 55 08.1 +0.2
GUR Goura 3.09 236 P Pn 21 55 08.3 -0.1
GUR Goura 3.09 236 P Pn 21 55 07.9 -0.5
EFP Efpalio 3.13 247 P Pn 21 55 09.1 +0.2
EFP Efpalio 3.13 247 P Pn 21 55 08.8 0.0
KLV Kalavryta, Ach 3.15 239 P Pn 21 55 09.0 -0.2
KLV Kalavryta, Ach 3.15 239 P Pn 21 55 09.0 -0.2
PLNA Plana 3.19 330 i P Pn 21 55 10.9 +1.1
KPRO Kipourio 3.25 275 P Pn 21 55 10.4 -0.1
PVO Paravola 3.33 252 P Pn 21 55 11.8 +0.1
YER Yerkesik 3.35 140 P Pn 21 55 12.3 +0.5
FNA Florina 3.38 290 Pn 21 55 13.6 +1.2
FNA Florina 3.38 290 P Pn 21 55 13.6 +1.2
FNA Florina 3.38 290 ePn Pn 21 55 13.4 +1.0
FNA Florina 3.38 290 P Pn 21 55 12.0 -0.4
VTS Vitosha 3.39 329 P Pn 21 55 12.9 +0.4
VTS Vitosha 3.39 329 ePn Pn 21 55 15.3 +2.8
VTS eSg Sb 21 56 04.4 +3.3
PENT Pentalofos 3.44 279 P Pn 21 55 13.2 0.0
DRO Drossia 3.50 241 P Pn 21 55 14.3 +0.4
DRO Drossia 3.50 241 P Pn 21 55 13.3 -0.6
NEST Nestorio 3.54 283 P Pn 21 55 14.9 +0.4
SZH Strazhitsa 3.55 5⇑ i P Pn 21 55 14.5 -0.1
AXS Araxos 3.61 246 P Pn 21 55 15.1 -0.3
RLS Riolos of Patr 3.61 244 P Pn 21 55 15.4 0.0
BOSS Bosilegrad 3.63 321 ePn Pn 21 55 17.4 +1.7
VLI Veliai 3.65 216 P Pn 21 55 15.3 -0.6
VLI Veliai 3.65 216 P Pn 21 55 15.7 -0.2
PRD Provadia 3.70 21 i P Pn 21 55 16.6 -0.1
PRD Provadia 3.70 21 P Pn 21 55 15.8 -0.9
LOZB Loznitsa 3.73 12 ⇓P Pn 21 55 16.9 -0.1
AMT Artemida-Makis 3.73 235 P Pn 21 55 17.2 0.0
BORA Eskisehir 3.76 86 Pn 21 55 17.4 -0.1
KBN Korca 3.78 285 Pn Pn 21 55 18.5 +0.7
KBN Korca 3.78 285 P Pn 21 55 18.5 +0.7
ITM Ithomi 3.83 230 Pn 21 55 20.7 +2.3
MPEP Malo Peshtene 3.88 340 i P Pn 21 55 19.9 +0.7
OHR Ohrid 3.90 292 i Pn Pn 21 55 21.6 +2.1
OHR i Sn Sn 21 56 04.2 -1.7
OHR Ohrid 3.90 292 P Pb 21 55 24.1 -3.8
OHR Ohrid 3.90 292 ePn Pn 21 55 21.4 +1.9
RAZG Razgrad 3.91 10 ⇑P Pn 21 55 19.3 -0.2
ARG Arkhangelos 4.04 149 Pn 21 55 21.8 +0.5
ARG Arkhangelos 4.04 149 P Pn 21 55 21.8 +0.5
ARG Arkhangelos 4.04 149 P Pn 21 55 20.7 -0.6
IGT Igoumenitsa 4.05 269 P Pn 21 55 25.6 +4.1
VLS Valsamata 4.18 250 P Pn 21 55 23.6 +0.3
ZAPS Zavoj 4.18 329 ePn Pn 21 55 24.9 +1.6
BARS Barje 4.19 319 ePn Pn 21 55 24.8 +1.4
VALD Valchedram 4.28 339 i P Pn 21 55 25.3 +0.8
ISP Isparta 4.31 115 Pn 21 55 25.2 +0.1
ISP Isparta 4.31 115⇑ i P Pn 21 55 25.9 +0.8
ISP Isparta 4.31 115 P Pn 21 55 24.3 -0.8
KARP Karpathos 4.35 163 P Pn 21 55 24.7 -1.0
KARP Karpathos 4.35 163 Pn 21 55 25.2 -0.5
KARP Karpathos 4.35 163 P Pn 21 55 25.1 -0.5
PSN Preselentsi 4.36 25 i P Pn 21 55 25.8 +0.1
PSN Preselentsi 4.36 25 P Pn 21 55 26.3 +0.6
PHP Peshkopia 4.37 298 P Pn 21 55 27.6 +1.7
MDUB Mudurnu 4.38 78 Pn 21 55 25.9 -0.2
KEK Kerkira 4.45 272 Pn 21 55 29.3 +2.3
IDI Anoyia 4.46 187 Pn 21 55 27.0 -0.2
IDI Anoyia 4.46 187 Pn Pn 21 55 25.9 -1.2
11nm,0.6s,baz=351,slow=14,SNR=11
IDI i Sn Sn 21 56 17.1 -2.6
3.8nm,0.3s,baz=36,slow=19,SNR=3.5
IDI Anoyia 4.46 187 P Pn 21 55 25.9 -1.2
SGRR Singureni 4.51 4 ⇑P Pn 21 55 27.4 -0.3
ELL Elmali 4.52 130 Pn 21 55 29.3 +1.2
ELL Elmali 4.52 130 P Pn 21 55 29.3 +1.2
TIR Tirane 4.64 292 Pn 21 55 30.4 +0.7
TIR Tirane 4.64 292 ⇑P Pn 21 55 30.3 +0.7
TIR Tirane 4.64 292 P Pn 21 55 30.4 +0.7
TIR Tirane 4.64 292 ePn Pn 21 55 33.1 +3.5
MANR Mangalia 4.67 28 ⇑P Pn 21 55 30.2 +0.2
AKAS Kas 4.72 136 Pn 21 55 32.7 +1.9
KSL Kastellorizon 4.77 137 P Pn 21 55 31.3 0.0
ZAGS Zajecar 4.79 330 ePn Pn 21 55 31.9 +0.3
HUMR Humele 4.82 355 ⇑P Pn 21 55 32.0 -0.1
SELS Selova 4.84 318 ePn Pn 21 55 34.6 +2.3
SELS Selova 4.84 318 ePn Pn 21 55 35.3 +3.0
LEHL Lehliu 4.84 11 ⇑P Pn 21 55 33.1 +0.9
BOVS Bovan 4.87 325 ⇑P Pn 21 55 33.4 +0.7
BOVS Bovan 4.87 325 ePn Pn 21 55 33.5 +0.8
PUK Puka 4.89 300 Pn 21 55 34.9 +1.9
MFTR Murfatlar 4.93 25 ⇓P Pn 21 55 33.5 0.0
SULR 4.98 6 ⇑P Pn 21 55 34.4 +0.2
AMRR Amara 5.06 14 ⇓P Pn 21 55 35.9 +0.6
AMRR Amara 5.06 14 P Pn 21 55 35.8 +0.6
BORS2 Bor- Borsko je 5.11 330 ePn Pn 21 55 34.9 -1.1
PVY Plav 5.12 306 ⇓ i Pn Pn 21 55 38.0 +1.7
PVY i Sn Sn 21 56 37.5 +1.4
TLBR Topalu 5.16 20 ⇑P Pn 21 55 37.1 +0.4
TIRR Tirgusor 5.18 23 Pn 21 55 36.6 -0.4
TIRR Tirgusor 5.18 23 ⇑P Pn 21 55 37.3 +0.3
TIRR Tirgusor 5.18 23 P Pn 21 55 37.3 +0.3
TIRR Tirgusor 5.18 23 P Pn 21 55 36.4 -0.6
0.8nm985nm138nm,0.8s
GOCS Kraljevo Serbi 5.21 319 ePn Pn 21 55 39.9 +2.4
SRE Strehaia 5.24 341 ⇓P Pn 21 55 38.4 +0.6
SRE Strehaia 5.24 341 P Pn 21 55 38.4 +0.6
HARR Harsova 5.26 19 ⇑P Pn 21 55 38.6 +0.4
HARR Harsova 5.26 19 P Pn 21 55 38.5 +0.4
ULC Ulcinj 5.30 297⇑ i Pn Pn 21 55 41.4 +2.8
ULC i Sn Sn 21 56 40.8 +0.5
IVA Berane 5.31 308 ⇓ i Pn Pn 21 55 41.0 +2.1
RMGR Halanga-Turnu 5.38 338 ⇑P Pn 21 55 40.3 +0.5
DRME Dracevica, Mon 5.43 299 ePn Pn 21 55 43.5 +3.1
DRME Dracevica, Mon 5.43 299 ⇓ i Pn Pn 21 55 40.7 +0.3
DRME i Sn Sn 21 56 43.9 +0.4
ISR Istrita 5.44 7 ⇓P Pn 21 55 42.3 +1.7
ISR Istrita 5.44 7 P Pn 21 55 42.3 +1.7
ISR Istrita 5.44 7 P Pn 21 55 40.5 -0.1
1.6nm2µm135nm,0.8s
SCTE Santa Cesarea 5.48 276 Pn Pn 21 55 42.4 +1.4
PDG Podgorica 5.49 302 Pn 21 55 43.1 +1.9
PDG Podgorica 5.49 302 ePn Pn 21 55 43.9 +2.8
PDG Podgorica 5.49 302 ePn Pn 21 55 44.6 +3.4
PDG Podgorica 5.49 302 ⇓ i Pn Pn 21 55 44.0 +2.8
PDG i Sn Sn 21 56 45.8 +0.8
SJES Sjenica 5.49 312 ePn Pn 21 55 43.1 +1.7
SJES Sjenica 5.49 312 ePn Pn 21 55 43.7 +2.3
KUBS Kucevo 5.51 330 ePn Pn 21 55 41.3 -0.3
MTUR Matau 5.51 356 ⇓P Pn 21 55 42.8 +1.2
MTUR Matau 5.51 356 P Pn 21 55 42.8 +1.2

GRUS Gruza 5.52 320 ePn Pn 21 55 42.7 +1.0
KOME Kolasin 5.53 306 ⇓ i Pn Pn 21 55 42.3 +0.4
KOME i Sn Sn 21 56 46.7 +0.5
ANTO Ankara 5.56 86 Pn 21 55 42.1 -0.2
ANTO Ankara 5.56 86 ⇓P Pn 21 55 42.7 +0.4
ANTO Ankara 5.56 86 P Pn 21 55 42.7 +0.4
ANTO Ankara 5.56 86 P Pn 21 55 42.1 -0.2
0.4nm918nm98nm,1.0s
SVIS Svilajnac 5.58 326 eSg Sg 21 57 13.5 -4.0
JURR Jurilovca 5.61 25 ⇑P Pn 21 55 43.9 +1.1
HERR Herculane 5.66 337 ⇓P Pn 21 55 43.4 -0.2
BUM Brajici-Budva 5.67 299 ⇑ i Pn Pn 21 55 44.3 +0.5
BUM i Sn Sn 21 56 49.7 +0.1
ARR Arges 5.69 353 ⇑P Pn 21 55 43.9 -0.1
VOIR 5.72 356 ⇓P Pn 21 55 44.8 +0.3
VOIR 5.72 356 P Pn 21 55 44.8 +0.3
VOIR 5.72 356 P Pn 21 55 43.4 -1.2
0.4nm666nm54nm,0.6s
NEHR Nehoiu 5.73 5 ⇓P Pn 21 55 46.0 +1.4
GRER 5.75 10 ⇓P Pn 21 55 45.6 +0.8
CEME Cevo 5.76 301 ⇑ i Pn Pn 21 55 47.4 +2.3
CEME i Sn Sn 21 56 51.9 0.0
MLR Muntele Rosu 5.77 3 Pn Pn 21 55 46.2 +1.0
MLR Muntele Rosu 5.77 3 Pn Pn 21 55 45.7 +0.4
7.3nm,0.3s,baz=207,slow=3.3,SNR=76
MLR Lg Lg 21 57 22.1
5.7nm,0.3s,baz=170,slow=18,SNR=4.8
MLR LR LR 21 58 31.7
comp=Z,756nm,18.9s,baz=178,slow=44
MLR Muntele Rosu 5.77 3 ⇓P Pn 21 55 46.5 +1.3
MLR Muntele Rosu 5.77 3 P Pn 21 55 46.5 +1.3
MLR Muntele Rosu 5.77 3 P Pn 21 55 45.3 +0.1
0.7nm2µm161nm,0.6s
MDVR Moldovita 5.81 332 ⇑P Pn 21 55 45.9 +0.2
MDVR Moldovita 5.81 332 ePn Pn 21 55 46.2 +0.5
NKME Niksic 5.84 304 ⇓ i Pn Pn 21 55 47.9 +1.7
NKME i Sn Sn 21 56 53.8 -0.1
LOT Lotru 5.88 347 ⇑P Pn 21 55 46.6 -0.1
BISRR Bisoca 5.88 8 ⇑P Pn 21 55 48.3 +1.6
BISRR Bisoca 5.88 8 P Pn 21 55 47.4 +0.7
1.8nm4µm418nm,0.8s
TRUS Trudelj 5.92 321 ePn Pn 21 55 47.6 +0.4
CIDE Kastamonu/Cide 6.00 67 ⇑P Pn 21 55 49.7 +1.5
HCY Herceg Novi 6.00 299 ePn Pn 21 55 49.3 +1.0
HCY i Sn Sn 21 56 58.1 +0.4
TNR Turnu Rosu 6.00 351 ⇓P Pn 21 55 49.7 +1.4
TNR Turnu Rosu 6.00 351 P Pn 21 55 49.7 +1.4
GZR Gura Zlata 6.03 341 ⇑P Pn 21 55 48.6 -0.1
GZR Gura Zlata 6.03 341 P Pn 21 55 48.6 -0.1
DIVS Divibare 6.04 318 ePn Pn 21 55 52.0 +3.2
RUDO Rudo 6.06 312 ePn Pn 21 55 50.5 +1.4
TUDR 6.07 14 ⇑P Pn 21 55 49.5 +0.4
UPM Unac-Piva 6.10 307 ⇑ i Pn Pn 21 55 52.3 +2.5
UPM i Sn Sn 21 56 59.1 -1.2
ODBI Odobesti 6.14 10 ⇓P Pn 21 55 51.9 +1.8
ODBI Odobesti 6.14 10 P Pn 21 55 50.9 +0.8
COVR Voineasa-Covas 6.14 4 ⇓P Pn 21 55 51.8 +1.6
TATR Tatarca 6.15 16 ⇓P Pn 21 55 50.5 +0.2
PLOR5 Plostina Array 6.17 7 P Pn 21 55 50.8 +0.1
0.5nm2µm139nm,0.6s
BRY Bratogost 6.18 303 ePn Pn 21 55 52.5 +1.7
BRY Bratogost 6.18 303 ⇑ i Pn Pn 21 55 51.6 +0.8
BRY i Sn Sn 21 57 01.7 -0.5
PLOR Plostina 6.18 7 ⇑P Pn 21 55 51.8 +1.1
PLOR Plostina 6.18 7 P Pn 21 55 51.8 +1.1
PLOR3 Plostina Array 6.18 7 P Pn 21 55 50.3 -0.5
0.5nm1µm115nm,0.7s
BBLS Lazi&#263i 6.20 314 ePn Pg 21 56 13.2 -3.8
BBLS Lazi&#263i 6.20 314 ePn Pn 21 55 54.1 +3.1
VRI Vrincioaia 6.20 7 ⇑P Pn 21 55 51.9 +0.9
VRI Vrincioaia 6.20 7 P Pn 21 55 51.9 +0.9
VRI Vrincioaia 6.20 7 P Pn 21 55 51.2 +0.2
0.5nm1µm149nm,0.7s
BR105 Keskin Array S 6.20 87 P Pn 21 55 50.3 -0.9
0.3nm632nm74nm,0.8s
BR106 Keskin Array S 6.20 87 P Pn 21 55 50.2 -1.0
0.3nm470nm52nm,0.8s
TREB Trebinje 6.21 301 ePn Pn 21 55 55.9 +4.7
TREB Trebinje 6.21 301 ePn Pn 21 55 55.2 +4.0
BR131 Keskin Array S 6.22 87 Pn Pn 21 55 51.9 +0.4
BR131 Keskin Array S 6.22 87 eP Pn 21 55 51.9 +0.4
BRTR Keskin Array B 6.22 87 Pn Pn 21 55 51.7 +0.3
BRTR Keskin Array B 6.22 87 Pn Pn 21 55 51.9 +0.4
9.5nm,0.3s,baz=261,slow=12,SNR=302
BRTR Sn Sn 21 57 01.1 -2.1
1.3nm,0.3s,baz=261,slow=21,SNR=1.5
BRTR Lg Lg 21 57 38.9
0.2nm,0.3s,baz=273,slow=28,SNR=8.9
BRTR LR LR 21 58 34.1
comp=Z,353nm,19.2s,baz=276,slow=41
31nm,0.5s
BR104 Keskin Array S 6.22 88 P Pn 21 55 50.4 -1.0
0.3nm629nm56nm,0.6s
AVAS Avala Beograd 6.23 325 ePn Pn 21 55 51.7 +0.3
DOPR Dopca 6.24 359 ⇑P Pn 21 55 52.8 +1.2
VRSS Vrsac 6.25 331 ePn Pn 21 55 51.7 +0.1
PANC Panciu 6.25 10 ⇑P Pn 21 55 53.0 +1.2
ILGA Ilgaz 6.36 75 Pn 21 55 53.7 +0.3
OZUR 6.37 1 ⇑P Pn 21 55 54.4 +1.0
VLDR Vladesti 6.39 16 ⇑P Pn 21 55 54.1 +0.5
VARL Varlezi 6.40 14 ⇑P Pn 21 55 54.5 +0.9
DEV Deva 6.46 343 ⇑P Pn 21 55 55.0 +0.3
DEV Deva 6.46 343 P Pn 21 55 54.9 +0.3
MDB Medias 6.48 353 ⇑P Pn 21 55 54.6 -0.2
MDB Medias 6.48 353 P Pn 21 55 54.6 -0.2
GHRR 6.48 11 ⇑P Pn 21 55 55.4 +0.6
GHRR 6.48 11 P Pn 21 55 54.2 -0.6
KIRS Kirsehir-Merke 6.49 93 ⇑P Pn 21 55 56.3 +1.3
BZS Buzias 6.57 335 ⇑P Pn 21 55 56.0 -0.2
BZS Buzias 6.57 335 P Pn 21 55 55.9 -0.2
BZS Buzias 6.57 335 ePn Pn 21 55 56.0 -0.2
HAPS Han Pijesak,Bl 6.59 314 ePn Pn 21 55 58.0 +1.6
TEKS Tekeris 6.59 319 ePn Pn 21 55 57.2 +0.8
TEKS Tekeris 6.59 319 ePn Pn 21 55 56.5 +0.1
ONER Baraj Valea Uz 6.64 5 ⇓P Pn 21 55 58.6 +1.6
BIR Birlad 6.71 12 ⇑P Pn 21 55 58.9 +0.9
BIR Birlad 6.71 12 P Pn 21 55 58.9 +0.9
STON Ston 6.71 300 ePn Pn 21 56 01.0 +3.0
STON Ston 6.71 300 ePn Pn 21 56 00.6 +2.6
BZK Bozkurt 6.77 68 Pn Pn 21 55 58.4 -0.5
TESR Tescani 6.83 6 ⇑P Pn 21 56 00.6 +0.9
TESR Tescani 6.83 6 P Pn 21 55 58.8 -0.9
0.7nm2µm188nm,0.8s
TIP Timpagrande 6.84 268 Pn Pn 21 56 00.6 +0.7
TIP Timpagrande 6.84 268 ⇓P Pn 21 56 00.0 +0.1
TIP Timpagrande 6.84 268 P Pn 21 55 59.8 -0.1
0.2nm514nm69nm,0.9s
MATE Matera 6.85 281 ⇓P Pn 21 56 00.4 +0.4
FRGS Fruska Gora 6.90 324 ePn Pn 21 55 54.3 -6.4
CJR Cluj-Napoca 7.14 349 P Pn 21 56 04.3 +0.4
MARR Marisel-Cluj 7.18 346 ⇓P Pn 21 56 04.4 -0.1
CBBR Cluj-Babes-Bol 7.20 349 ⇓P Pn 21 56 05.4 +0.7
DRGR 7.37 344 ⇓P Pn 21 56 06.7 -0.5
DRGR 7.37 344 P Pn 21 56 06.6 -0.5
DRGR 7.37 344 ePn Pn 21 56 06.5 -0.6
ARCR ARCALIA 7.41 354 ⇑P Pn 21 56 08.7 +1.0
PURM Purcari 7.49 23 ⇑P Pn 21 56 09.0 +0.2
PURM Purcari 7.49 23 P Pn 21 56 07.8 -0.9
0.4nm143nm,0.8s
CUC Castrocucco 7.51 275 Pn 21 56 11.2 +2.1
TARU Tarkhankut 7.63 40 eS Sn 21 57 32.2 -5.6
TARU Sm 21 57 41.8
comp=N,30nm,0.5s
TARU Sm 21 57 41.8
comp=E,1.0nm,0.2s
KIS Kishinev 7.65 17 P Pn 21 56 09.7 -1.1
KIS Kishinev 7.65 17 P Pn 21 56 09.7 -1.1
comp=E,0.3nmcomp=E,80nm,0.7s
PRAR RASCA 7.65 3 ⇓P Pn 21 56 12.3 +1.3
MESR Meseseni 7.67 346 ⇑P Pn 21 56 12.0 +0.9
CEL Celeste 7.68 262 Pn 21 56 12.3 +0.9
CEL Celeste 7.68 262 P Pn 21 56 11.9 +0.5
comp=E,0.2nmcomp=E,50nm,0.9s
SEV Sevastopol' 7.71 49 eP Pn 21 56 11.8 +0.2
SEV Pm 21 56 18.6
comp=Z,9.0nm,0.5s
SEV eS Sn 21 57 36.9 -2.7
SEV Sm 21 57 42.8
comp=E,15nm,0.6s
SEV Sm 21 57 42.9
comp=N,2.0nm,0.3s
SGRT San Giovanni R 7.74 288 Pn 21 56 11.9 -0.2

CSS Mathiatis 7.79 125 Pn **Pn 21 56 13.3 +0.4**
BURAR Bucovina Array 7.89 358 **Pn 21 56 15.4 +1.1**
BURAR Bucovina Array 7.89 358 ⇑P **Pn 21 56 16.2 +1.8**
BURAR Bucovina Array 7.89 358 P **Pn 21 56 16.1 +1.8**
BUR08 Bucovina Ar. S 7.92 358 Pn **Pn 21 56 15.4 +0.7**
YAL Yalta 7.96 50 *e*P **Pn 21 56 14.9 -0.2**
YAL *e*S **Sn 21 57 42.8 -3.0**
YAL Yalta 7.96 50 *e*P **Pn 21 56 14.9 -0.2**
YAL Pm 21 56 24.0
comp=Z,8.0nm,0.4s
YAL *e*S **Sn 21 57 42.8 -3.0**
YAL Sm 21 57 49.2
comp=N,7.0nm,0.8s
YAL Sm 21 57 49.3
comp=E,12nm,0.5s
DNZ2 Donuzlav2 7.98 42 *e*P **Pn 21 56 16.1 +0.7**
DNZ2 Pm 21 56 25.9
comp=Z,10.0nm,0.4s
DNZ2 *e*S **Sn 21 57 44.9 -1.4**
DNZ2 Sm 21 57 49.6
comp=N,14nm,0.7s
DNZ2 Sm 21 57 49.6
comp=E,22nm,0.7s
BLY Banja Luka 8.00 312 *e*Pn **Pn 21 56 18.3 +2.7**
BLY Banja Luka 8.00 312 *e*Pn **Pn 21 56 17.7 +2.1**
BMR Baia Mare 8.09 350 ⇓P **Pn 21 56 18.0 +1.0**
BMR Baia Mare 8.09 350 P **Pn 21 56 17.9 +1.0**
SIM Simferopol' 8.20 48 *e*P **Pn 21 56 21.3 +2.8**
SIM Simferopol' 8.20 48 *e*P **Pn 21 56 21.3 +2.8**
SIM Pm 21 56 24.2
comp=Z,50nm,0.5s
ALU Alushta 8.21 50 *e*P **Pn 21 56 17.8 -0.8**
ALU *e*S **Sn 21 57 48.7 -3.4**
ALU Alushta 8.21 50 *e*P **Pn 21 56 17.8 -0.8**
ALU Pm 21 56 23.2
comp=Z,8.0nm,0.4s
ALU *e*S **Sn 21 57 48.7 -3.4**
ALU Sm 21 57 53.9
comp=E,41nm,0.8s
ALU Sm 21 57 54.1
comp=N,5.0nm,0.6s
A050A Klekovaca 8.23 308 *e*Pn **Pn 21 56 21.2 +2.2**
MORH Mrgy, Hungar 8.24 324 ⇓P **Pn 21 56 18.9 -0.1**
MORH Mrgy, Hungar 8.24 324 P **Pn 21 56 18.3 -0.6**
comp=N,12nm,1.0s
A051A Mrakovica 8.31 312 *e*Pn **Pn 21 56 21.7 +1.7**
RAKU Rahkiv 8.36 353 P **Pn 21 56 20.9 +0.2**
TOKA Tokat 8.39 82 Pn **Pn 21 56 22.2 +1.1**
PAOL Paolisi 8.50 282 **Pn 21 56 24.1 +1.5**
NSLU Nyzhne Selyshc 8.51 355 P **Pn 21 56 23.3 +0.6**
KSV Kosov 8.60 358 P **Pn 21 56 24.0 +0.1**
KSV Kosov 8.60 358 P **Pn 21 56 24.0 +0.1**
KORU Korolevo 8.61 349 P **Pn 21 56 23.1 -1.0**
SORM Soroca 8.65 12 P **Pn 21 56 22.2 -2.3**
SORM Soroca 8.65 12 P **Pn 21 56 22.2 -2.3**
comp=N,39nm,0.8s
SUDU Sudak 8.68 50 *e*P **Pn 21 56 25.9 +0.8**
SUDU *e*S **Sn 21 58 02.6 -1.0**
SUDU Sudak 8.68 50 *e*P **Pn 21 56 25.9 +0.8**
SUDU Pm 21 56 33.7
comp=Z,28nm,0.5s
SUDU *e*S **Sn 21 58 02.6 -1.0**
SUDU Sm 21 58 09.7
comp=N,96nm,0.8s
SUDU Sm 21 58 09.8
comp=E,6.0nm,0.4s
BAL3X Bal3x, Balta 8.71 18 P **Pn 21 56 24.6 -0.8**
BERU Beregovo 8.77 347 P **Pn 21 56 25.2 -1.0**
BRIU Brid 8.81 349 P **Pn 21 56 27.4 +0.7**
KMPD K-Podol'skiy 8.86 4 P **Pn 21 56 27.9 +0.4**
NDNU Novodnistrovsk 8.96 8 P **Pn 21 56 27.2 -1.7**
MUKU Mukachevo 8.97 348 P **Pn 21 56 28.4 -0.6**
VAE Valguarnera 9.02 259 Pn **Pn 21 56 30.9 +1.1**
comp=E,4.0nm,0.7s,baz=37,slow=5.1,SNR=1.1
HOLU Holmets 9.10 346 P **Pn 21 56 29.0 -1.7**
INTR Introdacqua 9.13 288 **Pn 21 56 32.3 +1.0**
PSZ Piszkesteto 9.16 335 **Pn 21 56 30.5 -1.2**
PSZ Piszkesteto 9.16 335 P **Pn 21 56 30.5 -1.2**
MPLH Magyarpolny 9.46 325 P **Pn 21 56 35.9 +0.2**
comp=E,44nm,0.8s
KECS Kecovo 9.49 339 *e*P **Pn 21 56 36.3 +0.2**
KECS Kecovo 9.49 339 *e*PN **Pn 21 56 36.3 +0.2**
KOLS Kolonicke sedl 9.51 347 *e*P **Pn 21 56 38.1 +1.7**
KOLS Kolonicke sedl 9.51 347 *e*PN **Pn 21 56 38.1 +1.7**
HORU Horodok 9.51 3 P **Pn 21 56 36.0 -0.4**
HORU Horodok 9.51 3 P **Pn 21 56 36.0 -0.4**
BOJS Bojanci 9.55 311 *e*Pn **Pn 21 56 39.3 +2.4**
NRCA Norcia 9.88 292 Pn **Pn 21 56 41.0 -0.5**
FDMO Fiordimonte 9.95 293 **Pn 21 56 42.8 +0.3**
ANN Anapa 10.15 56 *e*P **Pn 21 56 43.5 -1.6**
ANN *e*S **Sn 21 58 37.7 -1.8**
ANN pmax pmax
comp=Z,7.0nm,0.8s
CEY Cerknica 10.16 310 *e*Pn **Pn 21 56 48.0 +2.6**
LUBAR Lubar, Ukraine 10.31 8 P **Pn 21 56 45.3 -2.1**
MMAI Mount Meron Ar 10.37 127 Pn **Pn 21 56 47.1 -1.1**
comp=Z,5.2nm,0.4s,baz=322,slow=12,SNR=32
MMAI Sn **Sn 21 58 39.0 -6.2**
comp=Z,0.7nm,0.3s,baz=326,slow=33,SNR=1.7
MMAI LR LR 22 01 52.4
comp=Z,130nm,18.4s,baz=332,slow=44
LANS Liptovska Anna 10.38 337 *e*P **Pn 21 56 52.0 +3.6**
LANS Liptovska Anna 10.38 337 *e*PN **Pn 21 56 52.0 +3.6**
NIE Niedzica 10.40 341 P **Pn 21 56 50.8 +2.2**
NIE Niedzica 10.40 341 P **Pn 21 56 49.5 +0.9**
comp=Z,6.5nm,0.9s
ARSA Arzberg 10.48 319 *e*Pn **Pn 21 56 50.8 +1.1**
comp=Z,2.7nm,0.6s
ARSA *i* Sn **Sn 21 58 43.3 -4.4**
comp=Z,2.0nm,0.4s
ARSA Arzberg 10.48 319 Pn **Pn 21 56 49.3 -0.4**
MODS Modra-Piesok 10.50 328 *e*P **Pn 21 56 51.2 +1.2**
MODS Modra-Piesok 10.50 328 *e*PN **Pn 21 56 51.2 +1.2**
OBKA Obir 10.53 314 *e*Pn **Pn 21 56 52.8 +2.4**
comp=Z,1.4nm,0.4s
OBKA Obir 10.53 314 *e*Pn **Pn 21 56 54.4 +4.0**
SABO M.te Sabotino 10.78 309 **Pn 21 56 54.3 +0.5**
CONA Conrad Observa 10.79 323 *i* Pn **Pn 21 56 57.4 +3.4**
comp=Z,0.8nm,0.3s
CONA *i* Sn **Sn 21 58 55.3 0.0**
comp=Z,3.6nm,0.5s
PRED Cave del Predi 11.05 311 Pn **Pn 21 56 57.9 +0.4**
MAUC Maruska 11.11 333 *e*P **Pn 21 57 01.4 +3.1**
AK07 Malin Array Si 11.13 12 P **Pn 21 56 56.4 -2.1**
AK14 Malin Array Si 11.19 12 P **Pn 21 56 56.5 -2.8**
OJC Ojcow 11.26 341 Pn **Pn 21 56 60.0 -0.4**
OJC Ojcow 11.26 341 P **Pn 21 57 00.0 -0.4**
OJC Ojcow 11.26 341 P **Pn 21 57 00.3 -0.1**
comp=Z,7.6nm,1.1s
SOC Sochi 11.26 65 *e*P **Pn 21 57 00.8 +0.4**
SOC *e* 21 59 08.0
SOC MLR MLR
comp=Z,70nm,18.0s
KIEV Kiev 11.27 12 **Pn 21 57 00.3 -0.1**
KIEV Kiev 11.27 12 P **Pn 21 57 00.3 -0.1**
AKASG Malin Array Be 11.28 12 **Pn 21 56 58.9 -1.6**
AKASG Malin Array Be 11.28 12 Pn **Pn 21 56 59.2 -1.3**
comp=Z,1.6nm,0.3s,baz=196,slow=13,SNR=11
AKASG LR LR 22 01 26.9
comp=Z,175nm,19.2s,baz=184,slow=38
comp=Z,4.6nm,0.7s
AKASG Malin Array Be 11.28 12 *i* P **Pn 21 56 59.5 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 11.28 12 **Pn 21 57 00.6 +0.1**
AKBB Malin Array Si 11.28 12 P **Pn 21 57 00.6 +0.1**
AKBB Malin Array Si 11.28 12 P **Pn 21 56 58.4 -2.1**
MI28 Mi28,Pidlybu 11.30 7 P **Pn 21 56 58.6 -2.3**
RNPP5 Staryi Chortor 11.51 1 P **Pn 21 57 02.2 -1.5**
MOA Molln 11.51 319 *i* Pn **Pn 21 57 05.3 +1.5**
comp=Z,0.4nm,0.2s
MOA *i* Sn **Sn 21 59 09.0 -4.1**
comp=Z,2.9nm,0.5s
VRAC Vranov 11.52 329 Pn **Pn 21 57 02.5 -1.4**
comp=Z,0.1nm,0.3s,baz=142,slow=14,SNR=1.6
VRAC LR LR 22 02 31.4
comp=Z,185nm,19.3s,baz=144,slow=43
comp=Z,1.6nm,0.8s
KBA Koelnbreinsper 11.53 314 *e*Pn **Pn 21 57 03.5 -0.7**
comp=Z,1.5nm,0.5s
KBA *i* Sn **Sn 21 59 14.1 +0.3**
comp=Z,0.9nm,0.5s
RNPP8 Varash 11.62 1 P **Pn 21 57 03.8 -1.4**
CIMO Cimolais 11.64 309 **Pn 21 57 06.2 +0.5**

GHAJ Ghor Haditha 11.69 133 Pn **Pn 21 57 07.9 +1.6**
RNPP9 Sopachiv 11.69 1 P **Pn 21 57 05.3 -0.9**
TEOL Teolo 11.70 303 Pn **Pn 21 57 05.7 -0.6**
ABTA Abfaltersbach 11.82 311 *e*Pn **Pn 21 57 10.3 +2.1**
comp=Z,5.1nm,0.6s
ASF Jabal al Asfar 11.87 126 Pn **Pn 21 57 09.3 +0.6**
comp=Z,0.1nm,0.3s,baz=329,slow=18,SNR=2.0
comp=Z,1.0nm,0.4s
CTI Castel Tesino 12.00 306 **Pn 21 57 10.5 -0.2**
CTI Castel Tesino 12.00 306 P **Pn 21 57 10.5 -0.2**
LESA Schwarzleotal 12.10 314 *i* Pn Pn 21 57 17.1 +5.1
comp=Z,2.5nm,0.5s
LESA *i* Sn **Sn 21 59 26.4 -1.2**
comp=Z,7.5nm,0.9s
CKRC Cesky Krumlov 12.15 322 *e*P **Pn 21 57 15.4 +2.9**
CKRC Cesky Krumlov 12.15 322 *e*P **Pn 21 57 15.4 +2.9**
GERES GERESS Array B 12.46 321 Pn **Pn 21 57 15.1 -1.7**
comp=Z,0.4nm,0.3s,baz=126,slow=20,SNR=1.4
GERES LR LR 22 02 51.9
comp=Z,170nm,20.8s,baz=227,slow=41
comp=Z,1.8nm,0.7s
DPC Dobruska-Polom 12.47 332 *e*P Pn 21 57 28.3 +11
EIL Elat 12.64 140 Pn **Pn 21 57 18.4 -1.0**
comp=Z,0.5nm,0.3s,baz=307,slow=5.1,SNR=7.1
EIL Sn **Sn 21 59 33.6 -7.2**
comp=Z,0.1nm,0.3s,baz=262,slow=21,SNR=1.4
comp=Z,1.2nm,0.3s
WATA Walderalm 12.68 311 *i* Pn **Pn 21 57 22.3 +2.4**
comp=Z,1.9nm,0.5s
KHC Kasperske Hory 12.71 322 *e*P Pn 21 57 26.0 +5.8
KHC Kasperske Hory 12.71 322 *e*P Pn 21 57 26.0 +5.8
KSP Ksiaz 12.88 333 P **Pn 21 57 24.4 +1.9**
KSP pmax pmax
comp=Z,8.0nm,1.9s
FETA Feichten 13.02 309 *e*Pn **Pn 21 57 28.8 +4.2**
comp=Z,5.0nm,0.7s
SHA1 Shidzhatmaz 13.37 67⇑*e*P **Pn 21 57 31.7 +2.2**
DAVOX Davos/Dischmat 13.43 307 Pn **Pn 21 57 30.2 0.0**
comp=Z,0.2nm,0.3s,baz=154,slow=15,SNR=9.3
DAVOX LR LR 22 02 47.2
comp=Z,162nm,19.5s,baz=115,slow=38
comp=Z,4.2nm,0.8s
KIV Kislovodsk 13.44 66 *e*P **Pn 21 57 29.5 -0.7**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,31nm,13.0s
KEST Kesra 13.45 258 Pn **Pn 21 57 28.1 -2.2**
comp=Z,0.1nm,0.3s,baz=37,slow=15,SNR=1.8
KEST LR LR 22 04 05.3
comp=Z,150nm,18.1s,baz=341,slow=44
comp=Z,9.1nm,1.1s
KBZ Khabaz 13.54 67 Pn **Pn 21 57 34.7 +3.2**
baz=255,slow=12,SNR=1.5
comp=Z,1.1nm,1.0s
TUE Stuetta 13.63 305 Pn **Pn 21 57 33.1 +0.2**
DAVA Damuels 13.66 309 *e*Pn **P 21 57 38.0 -4.3**
comp=Z,3.1nm,0.6s
GNI Garni 14.72 82 **Pn 21 57 48.4 +0.6**
GNI Garni 14.72 82 Pn **Pn 21 57 50.6 +2.8**
comp=Z,0.1nm,0.3s,baz=167,slow=17,SNR=5.6
GNI LR LR 22 04 23.1
comp=Z,112nm,19.2s,baz=304,slow=41
comp=Z,2.6nm,0.5s
GNI Garni 14.72 82⇓*e*P **Pn 21 57 50.4 +2.6**
GNI pmax pmax
comp=Z,21nm,0.9s
SENIN Lac Senin/Sane 14.90 302 Pn **Pn 21 57 49.0 -1.3**
VSR Storozhevoye 14.90 35 *e*P **Pn 21 57 50.7 +0.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 14.94 297 Pn **Pn 21 57 51.7 +1.0**
BNI Bardonecchia 14.94 297 P **Pn 21 57 51.7 +1.0**
BFO Black Forest 15.07 310 Pn **Pn 21 57 53.2 +0.8**
BFO Black Forest 15.07 310 P **Pn 21 57 53.2 +0.8**
BFO pmax pmax
comp=Z,5.0nm,0.9s
NACGM Naroch 15.21 3 *e*P **Pn 21 57 55.4 +1.2**
comp=Z,1µm,0.8s
VORR Voronezh 15.25 34 *e*P **Pn 21 57 51.3 -3.4**
VORR pmax pmax
comp=Z,6.0nm,0.8s
LPSR Galich'ya Gora 15.82 31 *e*P **Pn 21 58 02.7 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
PABE Paberze 15.83 357 **Pn 21 58 00.2 -2.0**
PABE lAmb lAmb 21 58 08.9
comp=Z,38nm,1.1s
VRH Novokhopyorsk 16.09 39 *e*P **Pn 21 58 03.3 -2.3**
VRH pmax pmax
comp=Z,23nm,1.3s
SSB Saint Sauveur 16.46 297 P **Pn 21 58 10.3 -0.2**
OBN Obninsk 17.07 22 LR LR 22 05 00.2
comp=Z,176nm,19.4s,baz=164,slow=38
OBN Obninsk 17.07 22⇑*e*P **P 21 58 19.4 -0.5**
OBN pmax pmax
comp=Z,12nm,0.8s
MOS Moscow 17.91 23 *e*P **Pn 21 58 28.1 -0.5**
MOS pmax pmax
comp=Z,35nm,1.1s
VSU Vasula 18.77 2⇓*e*P **P 21 58 37.5 -1.2**
VSU pmax pmax
comp=Z,30nm,0.9s
HFS Hagfors 21.75 344 P **P 21 59 10.0 -1.0**
comp=Z,2.5nm,0.7s,baz=151,slow=10,SNR=5.7
HFS LR LR 22 09 16.6
comp=Z,205nm,18.1s,baz=160,slow=41
comp=Z,2.5nm,0.7s
HFS Hagfors 21.75 344 P **P 21 59 10.0 -1.0**
FIA1 FINESS Array S 21.75 1 P **P 21 59 10.6 -0.4**
FINES FINESS Array B 21.75 1 P **P 21 59 10.7 -0.3**
FINES FINESS Array B 21.75 1 P **P 21 59 09.9 -1.1**
comp=Z,3.1nm,0.7s,baz=190,slow=7.7,SNR=9.9
FINES LR LR 22 08 03.8
comp=Z,221nm,19.3s,baz=209,slow=38
comp=Z,3.1nm,0.7s
FINES FINESS Array B 21.75 1 P **P 21 59 10.7 -0.3**
KONO Kongsberg 22.35 338 P **P 21 59 16.4 -1.1**
KONO lAmb lAmb 21 59 20.3
comp=Z,18nm,1.1s
KONO Kongsberg 22.35 338 P **P 21 59 16.4 -1.1**
KONO pmax pmax
comp=Z,19nm,1.1s
ESBB Sonseca Array 22.68 279 P **P 21 59 20.8 -0.5**
ESDC Sonseca Array 22.68 279 P **P 21 59 23.2 +1.9**
ESDC Sonseca Array 22.68 279 P **P 21 59 20.5 -0.8**
comp=Z,0.5nm,0.6s,baz=75,slow=10,SNR=7.6
ESDC LR LR 22 08 29.5
comp=Z,66nm,18.3s,baz=64,slow=38
comp=Z,0.5nm,0.6s
NC602 NORSAR Array S 22.77 342 P **P 21 59 18.9 -3.1**
NC602 lAmb lAmb 21 59 24.3
comp=Z,16nm,1.3s
KLMR Klimovskoe 22.86 18 *e*P **P 21 59 19.9 -2.9**
KLMR pmax pmax
comp=Z,27nm,1.2s
PAB San Pablo 23.00 279 P **P 21 59 24.0 -0.7**
PAB lAmb lAmb 21 59 41.6
comp=Z,8.1nm,1.1s
PAB San Pablo 23.00 279 P **P 21 59 24.0 -0.7**
PAB pmax pmax
comp=Z,8.0nm,1.2s
NAO01 NORSAR Array S 23.03 341 P **P 21 59 23.4 -1.2**
NC405 NORSAR Array S 23.07 343 P **P 21 59 25.4 +0.3**
NB201 NORSAR Array S 23.11 342 P **P 21 59 21.5 -4.0**
NB201 lAmb lAmb 21 59 41.1
comp=Z,40nm,1.4s
NB2 NORSAR Subarra 23.12 342 P **P 21 59 24.7 -0.9**
comp=Z,3.8nm,0.8s,baz=153,slow=10
NOA NORSAR Array B 23.12 342 P **P 21 59 24.5 -1.1**
comp=Z,2.3nm,0.8s,baz=151,slow=9.0,SNR=8.0
NOA LR LR 22 09 08.8
comp=Z,71nm,18.3s,baz=160,slow=38
comp=Z,2.3nm,0.8s
NBO00 NORSAR Array S 23.22 342 P **P 21 59 25.8 -0.8**
NBO00 lAmb lAmb 21 59 32.4
comp=Z,22nm,0.9s
NC303 NORSAR Array S 23.25 342 P **P 21 59 25.9 -1.0**
NC303 lAmb lAmb 21 59 31.9
comp=Z,8.3nm,0.9s
NC204 NORSAR Array S 23.43 342 P **P 21 59 28.4 -0.5**
NC204 lAmb lAmb 21 59 34.4
comp=Z,15nm,0.9s
KIRV Kirov 24.26 31 LR LR 22 09 35.4
comp=Z,163nm,19.0s,baz=225,slow=38
KIRV Kirov 24.26 31⇓*e*P **P 21 59 36.0 -0.7**

EKA Eskdalemuir Ar 24.66 319 P **P 21 59 40.3 -0.1**
comp=Z,3.7nm,0.9s,baz=124,slow=9.2,SNR=4.2
comp=Z,3.7nm,0.9s
MDT Midelt 25.21 264 LR LR 22 10 40.0
comp=Z,11nm,20.7s,baz=74,slow=39
ARTI Arti 27.19 41 P **P 22 00 03.5 +0.2**
ARTI lAmb lAmb 22 00 17.7
comp=Z,5.5nm,0.9s
ARTI Arti 27.19 41 LR LR 22 10 44.2
comp=Z,45nm,19.2s,baz=254,slow=36
ARTI Arti 27.19 41*d i*P **P 22 00 05.5 +2.2**
ARTI 22 00 46.2
ARTI S **S 22 04 47.0 +4.3**
ARTI SS **SnSn 22 05 53.2 +3.9**
ARTI pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 29.88 360 P **P 22 00 27.7 +0.6**
ARCES ARCESS Array B 29.88 360 P **P 22 00 28.3 +1.2**
comp=Z,1.7nm,0.8s,baz=172,slow=4.3,SNR=4.8
ARCES LR LR 22 12 54.4
comp=Z,140nm,18.0s,baz=178,slow=37
comp=Z,1.7nm,0.8s
BRVK Borovoye 33.03 51⇓*e*P **P 22 00 57.5 +2.5**
BRVK pmax pmax
comp=Z,9.0nm,2.7s
BVAR Borovoye Array 33.10 51 P **P 22 00 57.1 +1.5**
comp=Z,0.7nm,0.7s,baz=272,slow=7.1,SNR=4.1
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 33.81 225 P **P 22 01 02.1 0.0**
comp=Z,0.9nm,0.3s,baz=37,slow=9.8,SNR=3.0
comp=Z,0.9nm,0.3s
GAR Garm 34.33 77 P **P 22 01 08.0 +1.3**
AAK Ala-Archa 36.53 69 LR LR 22 19 31.6
comp=Z,49nm,19.1s,baz=276,slow=41
AAK Ala-Archa 36.53 69⇓*e*P **P 22 01 28.8 +3.2**
AAK pmax pmax
comp=Z,5.0nm,2.2s
BOOM Boomskoye usch 37.60 69 P **P 22 01 36.5 +1.8**
BOOM Boomskoye usch 37.60 69 P **P 22 01 36.5 +1.8**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 38.13 55 P **P 22 01 39.1 +0.3**
comp=Z,2.0nm,0.9s,baz=281,slow=8.9,SNR=13
comp=Z,2.0nm,0.9s
KURK Kurchatov 38.18 55⇓*e*P **P 22 01 41.9 +2.7**
KURK pmax pmax
comp=Z,7.0nm,2.0s
MK31 Makanchi Array 41.12 61 P **P 22 02 03.9 +0.1**
MK31 Makanchi Array 41.12 61*de*P **P 22 02 04.2 +0.3**
MKAR Makanchi Array 41.12 61 P **P 22 02 04.1 +0.2**
MKAR Makanchi Array 41.12 61 P **P 22 02 03.7 -0.1**
comp=Z,2.5nm,0.6s,baz=281,slow=6.8,SNR=26
MKAR LR LR 22 21 55.0
comp=Z,42nm,19.6s,baz=261,slow=40
comp=Z,2.5nm,0.6s
MKAR Makanchi Array 41.12 61*ce*P **P 22 02 06.3 +2.4**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 41.71 50 P **P 22 02 08.6 +0.1**
comp=Z,2.1nm,0.7s,baz=264,slow=8.8,SNR=8.8
ZALV LR LR 22 21 56.8
comp=Z,32nm,18.4s,baz=311,slow=40
comp=Z,2.1nm,0.7s
ZALV Zalesovo Beam 41.71 50 *i* P **P 22 02 12.1 +3.6**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 43.64 27 LR LR 22 22 31.7
comp=Z,73nm,19.2s,baz=244,slow=39
NRIK Noril'sk 43.64 27⇓*e*P **P 22 02 24.5 +0.5**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
NRS Narsarsuaq 47.27 321 P **P 22 02 53.4 +0.5**
NRS Narsarsuaq 47.27 321 P **P 22 02 53.4 +0.5**
NRS pmax pmax
comp=Z,68nm,1.5s
SFJD Kangerlussuaq 48.88 330 P **P 22 03 05.5 +0.3**
SFJD lAmb lAmb 22 03 07.7
comp=Z,6.1nm,1.2s
SFJD Kangerlussuaq 48.88 330 P **P 22 03 05.5 +0.3**
SFJD pmax pmax
comp=Z,6.0nm,1.2s
EUNU Eureka 54.79 349 P **P 22 03 50.2 +1.0**
EUNU lAmb lAmb 22 04 01.6
comp=Z,4.8nm,1.1s
SONM Songino Array 56.41 53 P **P 22 04 02.1 +0.7**
comp=Z,0.6nm,0.8s,baz=297,slow=6.5,SNR=4.6
SONM LR LR 22 30 07.9
comp=Z,19nm,18.6s,baz=310,slow=38
comp=Z,0.6nm,0.8s
TIXI Tiksi 56.80 22 LR LR 22 31 25.9
comp=Z,121nm,18.5s,baz=348,slow=39
TIXI Tiksi 56.80 22⇓*e*P **P 22 04 05.0 +1.3**
TIXI pmax pmax
comp=Z,14nm,3.3s
ULN Ulaanbaatar 56.80 53⇑*e*P **P 22 04 07.8 +3.5**
ULN pmax pmax
comp=Z,6.0nm,2.5s
FRB Frobisher Bay 56.94 328 LR LR 22 28 57.3
comp=Z,40nm,19.9s,baz=98,slow=36
TSUM Tsumeb 59.09 189 LR LR 22 31 29.5
comp=Z,53nm,18.9s,baz=77,slow=38
YAK Yakutsk 61.79 31 LR LR 22 34 00.3
comp=Z,47nm,18.1s,baz=266,slow=38
HHC Hu-ho-hao-te 62.89 58 *e*P **P 22 04 46.3 0.0**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,45nm,5.3s
PZH PanZhiHua 63.40 77 P **P 22 04 50.3 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.7s
CMAR Chiang Mai Arr 65.81 86 P **P 22 05 04.4 -1.1**
comp=Z,0.6nm,0.4s,baz=301,slow=8.0,SNR=6.2
CMAR LR LR 22 38 45.2
comp=Z,13nm,20.7s,baz=195,slow=40
comp=Z,0.6nm,0.4s
CMAR Chiang Mai Arr 65.81 86*ce*P **P 22 05 08.1 +2.6**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KLR Kul'dur 70.13 42 LR LR 22 38 40.5
comp=Z,47nm,19.6s,baz=331,slow=38
INK Inuvik 71.16 352 LR LR 22 39 16.5
comp=Z,23nm,18.0s,baz=243,slow=38
MA2 Magadan 71.23 26 LR LR 22 40 16.8
comp=Z,48nm,18.2s,baz=282,slow=39
SUR Sutherland 71.87 184 LR LR 22 40 21.8
comp=Z,64nm,18.3s,baz=60,slow=38
SADO Sadowa 72.11 314 LR LR 22 38 13.7
comp=Z,28nm,18.2s,baz=224,slow=37
NJ2 Nanjing 72.62 63 *e*P **P 22 05 46.8 -0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
YKA Yellowknife Ar 73.22 342 P **P 22 05 51.8 +1.2**
comp=Z,0.3nm,0.6s,baz=30,slow=5.0,SNR=6.4
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 73.22 342*ce*P **P 22 05 52.9 +2.3**
KSRS Korea Array 75.28 53 LR LR 22 43 07.4
comp=Z,33nm,18.8s,baz=0.0,slow=39
ILAR Eielson Array 75.68 357 P **P 22 06 05.5 +0.7**
comp=Z,0.2nm,0.5s,baz=338,slow=4.6,SNR=4.3
comp=Z,0.2nm,0.5s
ULM Lac du Bonnet 76.72 326 P **P 22 06 10.2 -0.9**
comp=Z,2.3nm,0.7s,baz=37,slow=4.2,SNR=2.9
comp=Z,2.3nm,0.7s
PETK Petropavlovsk- 78.70 27 LR LR 22 46 50.9
comp=Z,34nm,18.1s,baz=49,slow=40
ASAJ Asahikawa 79.10 41 P **P 22 06 25.6 +1.2**
comp=Z,4.1nm,0.7s,baz=243,slow=2.3,SNR=7.5
comp=Z,4.1nm,0.7s
JSC Jenkinsville 80.10 306 P **P 22 06 30.8 +0.8**
JSC Jenkinsville 80.10 306 P **P 22 06 30.8 +0.8**
TKL Tuckaleechee C 80.72 309 LR LR 22 43 36.2
comp=Z,24nm,18.0s,baz=12,slow=37
PDAR Pinedale Array 88.39 329 LR LR 22 50 57.0
comp=Z,25nm,19.6s,baz=60,slow=38
ELK Elko 92.31 331 LR LR 22 52 38.9
comp=Z,58nm,20.9s,baz=285,slow=38

IDC ***15*** *21:58:22.6±1.4, 0.42S×135.49E, h0km, mb3.5/3, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=69.6km s-min=25.2km az=87.0*
DJA ***15*** *21:58:30.5±0.5, 1.5±4.3×13.4E±, h10km, M3.5/5, MLv3.5/5*
ISC 15 21:58:33.7±1.2,**0.87S**±0.09×**133.96E**±0.06,**h35km**,**n8,**

σ1°62/9, **mb3.5**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.68**	**161**	P	**Pn**	**21 58 45.5**	**-1.3**
RKPI				S	**Sn**	**21 58 58.1**	**+2.0**
BAKI	**Biak**	**2.17**	**99**	P	**Pn**	**21 59 07.4**	**0.0**
BAKI				S	**Sn**	**21 59 35.5**	**+2.4**
FAKI	**Fak Fak**	**2.66**	**220**	P	**Pn**	**21 59 15.2**	**+1.1**
SWI	**Sorong**	**2.70**	**270**	P	**Pn**	**21 59 14.8**	**+0.2**
WRA	**Warramunga Arr**	**18.96**	**179**	P	**P**	**22 02 50.6**	**-1.5**
	0.5nm,0.3s,baz=358,slow=11,SNR=39						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**22.66**	**180**	P	**P**	**22 03 31.3**	**-0.8**
	0.7nm,0.5s,baz=9.3,slow=12,SNR=13						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**65.47**	**324**	P	**P**	**22 09 12.7**	**-0.6**
	0.2nm,0.5s,baz=120,slow=7.9,SNR=4.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**86.16**	**25**	P	P	22 10 58.5	-13
	0.2nm,0.5s,baz=273,slow=5.6,SNR=5.0						
	0.2nm,0.5s						

*IDC **15** 22:11:45.4±0.7, 13°.64S×45°.57E, h0km, mb3.9/10, mbtmp3.9/11, ML4.6/1, MS3.5/9, Error ellipse: s-maj=26.2km s-min=19.5km az=125.0*
*NEIC **15** 22:11:49.8±1.6, 13°.34S±0°.10×45°.2E±0°.1, h10km±1km, mb4.5/9, Error ellipse: s-maj=22.8km s-min=16.1km az=255.0*
ISC 15 22:11:46.4±0.6, **13°.78S**±0°.06×**45°.58E**±0°.06, **h10**km, **n41**, σ2°52/38, **mb4.1**/11, **MS3.5**/8, **1D, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.24**	**86**	P	**Pn**	**22 12 51.9**	**+0.9**
SBV				S	**Sn**	**22 13 37.2**	**-3.4**
OPO	**Ambohidratompo**	**5.01**	**162**	Pn	**Pb**	**22 13 13.1**	**-1.3**
	2.9nm,0.3s,baz=320,slow=17,SNR=280						
OPO				Sn	**Sb**	**22 14 15.1**	**+0.4**
	1.3nm,0.3s,baz=328,slow=15,SNR=5.1						
OPO	**Ambohidratompo**	**5.01**	**162**	P	**Pb**	**22 13 14.1**	**-0.3**
OPO				S	**Sb**	**22 14 15.7**	**+1.0**
FIRM	**Firavahana**	**5.05**	**166**	P	**Pb**	**22 13 14.8**	**-0.3**
FIRM				S	**Sb**	**22 14 16.6**	**+0.6**
ATG	**Ambohiby**	**5.11**	**173**	P	**Pb**	**22 13 15.3**	**-0.7**
ATG				S	**Sb**	**22 14 17.4**	**-0.2**
ABPO	**Ambohimpanom**	**5.45**	**163**		**Pb**	**22 13 19.1**	**-2.6**
ABPO				Sn	**Sb**	**22 14 26.8**	**-0.5**
MDSM	**Mandiavato**	**5.46**	**165**	P	**Pb**	**22 13 20.4**	**-1.6**
MDSM				S	**Sb**	**22 14 26.1**	**-1.6**
DGRM	**Ambatolahisoa**	**5.51**	**172**	P	**Pb**	**22 13 21.1**	**-1.7**
DGRM				S	**Sb**	**22 14 27.1**	**-2.0**
AVY	**Angavokely**	**5.53**	**158**	P	**Pb**	**22 13 20.3**	**-2.8**
AVY				S	**Sb**	**22 14 24.0**	**-5.6**
ABM	**Ambohimiarambe**	**6.21**	**164**	P	Pb	22 13 30.5	-4.3
ZOMB	**Zomba**	**10.03**	**260**	*e*PN	**Pn**	**22 14 10.9**	**+0.3**
ZOMB				*e*SN	**Sn**	**22 15 55.6**	**-7.8**
RER	**Riviere de l'E**	**12.16**	**129**	Pn	Pn	22 14 47.7	+7.8
KMBO	**Kilima Mbogo**	**15.03**	**326**	Pn	Pn	22 14 56.2	-23
	0.3nm,0.3s,baz=145,slow=13,SNR=6.4						
KMBO				Sn	Sn	22 17 34.9	-31
	0.4nm,0.3s,baz=145,slow=16,SNR=2.6						
LSZ	**Lusaka**	**16.90**	**263**		**Pn**	**22 15 42.4**	**-0.9**
LSZ	**Lusaka**	**16.90**	**263**	Pn	**Pn**	**22 15 41.8**	**-1.5**
	0.4nm,0.3s,baz=90,slow=11,SNR=12						
LSZ				LR	LR	22 21 56.3	
	comp=Z,160nm,20.1s,baz=96,slow=36						
	7.9nm,1.0s						
POGA	**Pongola**	**18.71**	**222**		**Pn**	**22 16 10.1**	**+4.7**
POGA				IAmb	IAmb	22 16 51.2	
	comp=Z,32nm,1.5s						
LODK	**Lodwar**	**19.86**	**329**	P	**P**	**22 16 13.8**	**-4.1**
LBTB	**Lobatse**	**21.88**	**236**	P	**P**	**22 16 42.2**	**+2.6**
LBTB				IAmb	IAmb	22 16 46.6	
	comp=Z,10nm,0.9s						
LBTB	**Lobatse**	**21.88**	**236**	P	**P**	**22 16 39.9**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=53,slow=9.2,SNR=12						
	comp=Z,4.4nm,0.7s						
BOSA	**Boshof**	**23.96**	**229**	P	**P**	**22 17 04.0**	**+2.8**
BOSA				IAmb	IAmb	22 17 40.4	
	comp=Z,16nm,1.4s						
BOSA	**Boshof**	**23.96**	**229**	P	**P**	**22 17 02.5**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=45,slow=9.8,SNR=7.9						
	comp=Z,3.6nm,0.7s						
SUR	**Sutherland**	**29.24**	**227**	P	**P**	**22 17 52.8**	**+4.0**
SUR				IAmb	IAmb	22 17 56.3	
	comp=Z,28nm,1.4s						
ASF	**Jabal al Asfar**	**46.44**	**350**	LR	LR	22 36 56.4	
	comp=Z,60nm,21.2s,baz=335,slow=33						
MMAI	**Mount Meron Ar**	**47.53**	**348**	LR	LR	22 38 38.0	
	comp=Z,23nm,19.6s,baz=174,slow=34						
SHEL	**Horse Pasture**	**49.55**	**261**	P	**P**	**22 20 38.2**	**+0.2**
GNI	**Garni**	**53.65**	**359**	LR	LR	22 43 38.6	
	comp=Z,42nm,20.9s,baz=190,slow=36						
DBIC	**Dimbokro**	**54.02**	**289**	LR	LR	22 44 12.7	
	comp=Z,44nm,18.3s,baz=104,slow=36						
BRTR	**Keskin Array B**	**54.37**	**349**	P	**P**	**22 21 13.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=168,slow=7.4,SNR=2.3						
	comp=Z,0.5nm,0.8s						
SYO	**Syowa Base**	**55.33**	**183**	⇓*e*pP	pP	22 21 31.2	+9.2
PSI	**Prapat**	**55.40**	**77**	LR	LR	22 41 59.9	
	comp=Z,42nm,19.0s,baz=236,slow=33						
MDT	**Midelt**	**66.65**	**315**	LR	LR	22 51 15.3	
	comp=Z,39nm,18.6s,baz=148,slow=36						
BBTS	**Babate**	**67.64**	**292**	LR	LR	22 52 10.6	
	comp=Z,40nm,19.1s,baz=325,slow=36						
MKAR	**Makanchi Array**	**68.70**	**26**	P	**P**	**22 22 48.8**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=217,slow=7.0,SNR=4.9						
	comp=Z,0.6nm,1.0s						
BVAR	**Borovoye Array**	**69.87**	**16**	P	**P**	**22 22 57.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=207,slow=6.1,SNR=3.7						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**70.31**	**22**	P	**P**	**22 23 00.6**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=224,slow=6.6,SNR=1.8						
	comp=Z,0.3nm,0.8s						
ESDC	**Sonseca Array**	**70.36**	**321**	P	**P**	**22 23 02.4**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=127,slow=5.1,SNR=2.3						
	comp=Z,1.1nm,1.0s						
ARTI	**Arti**	**70.72**	**8**	LR	LR	22 57 14.7	
	comp=Z,18nm,19.9s,baz=257,slow=39						
QSPA	**South Pole Qui**	**76.33**	**180**	P	P	22 23 41.1	+5.6
QSPA				IAmb	IAmb	22 23 41.8	
	comp=Z,7.9nm,1.1s						
QSPA	**South Pole Qui**	**76.33**	**180**	P	**P**	**22 23 38.0**	**+2.5**
	comp=Z,5.5nm,1.0s,baz=252,slow=2.7,SNR=7.6						
	comp=Z,5.5nm,1.0s						
ASAR	**Alice Springs**	**83.08**	**113**	P	**P**	**22 24 14.1**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=264,slow=4.8,SNR=14						
	comp=Z,1.5nm,0.8s						
WRA	**Warramunga Arr**	**84.26**	**109**	P	**P**	**22 24 19.6**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=260,slow=3.1,SNR=12						
	comp=Z,2.4nm,1.0s						

IDC 15 22:19:27.6±2.0, **8°.19S**×**127°.87E**, **h0**km, **mb3.5**/1, **mbtmp3.4**/4, **ML3.3**/3, **Error ellipse: s-maj=66.8km s-min=25.0km az=76.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.08**	**192**	Pn	Pn	22 21 56.0	+2.2
	0.2nm,0.3s,baz=18,slow=12,SNR=6.0						
FITZ				Sn	Sn	22 23 51.1	+3.4
	0.2nm,0.3s,baz=75,slow=13,SNR=3.2						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**13.25**	**152**	Pn	Pn	22 22 36.3	-0.9
	0.1nm,0.3s,baz=327,slow=12,SNR=9.3						
WRA				Sn	Sn	22 24 59.8	-5.6
	0.1nm,0.3s,baz=335,slow=21,SNR=2.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**16.43**	**160**	Pn	Pn	22 23 18.6	-1.2
	0.1nm,0.3s,baz=333,slow=11,SNR=6.5						
ASAR				Sn	Sn	22 26 21.3	-1.7
	baz=338,slow=31,SNR=1.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.09**	**328**	P	P	22 30 29.2	-0.1
	0.5nm,0.9s,baz=117,slow=5.2,SNR=3.9						
	0.5nm,0.9s						

*AFAD **15** 22:23:42.2, 40°.57N×36°.81E, h14km±2km, ML2.6*
*ISK **15** 22:23:42.3, 40°.60N×36°.81E, h8km, ML2.6/14*
ISC 15 22:23:42.5±1.1, **40°.58N**±0°.03×**36°.81E**±0°.02, **h8**km±10km, **n28**, σ0°86/46, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.33**	**218**	Pg	**Pb**	**22 23 49.7**	**-1.0**
TOKT				Sg	**Sb**	**22 23 54.9**	**-1.2**
TOKA	**Tokat**	**0.36**	**225**	P	**Pg**	**22 23 50.1**	**+0.4**
TOKA				S	**Sg**	**22 23 55.2**	**+0.8**
TOKA				*i* AML	AML	22 23 56.0	
	comp=E,587nm,0.2s						
RSDY	**Resadiye-TOKAT**	**0.43**	**115**	Pg	**Pb**	**22 23 51.5**	**-0.9**
RSDY				Sg	**Sb**	**22 23 58.1**	**-1.0**
SVSK	**Karacayir**	**0.68**	**168**	Pg	**Pg**	**22 23 55.8**	**+0.2**
SVSK				Sg	**Sb**	**22 24 06.1**	**+0.1**
KIZO	**Buyukkizoglu-L**	**0.74**	**296**	Pg	**Pg**	**22 23 56.7**	**-0.1**
KIZO				Sg	**Sb**	**22 24 07.4**	**-0.6**
AMSY	**Amasya-Merkez**	**0.74**	**275**	P	**Pn**	**22 24 01.8**	**+2.5**
AMSY				S	**Sn**	**22 24 11.7**	**+0.8**
AMSY				*i* AML	AML	22 24 17.0	
	comp=N,233nm,0.3s						
AMSY				*i* AML	AML	22 24 17.0	
	comp=E,242nm,0.7s						
KVT	**Kavak**	**0.77**	**311**	Pg	**Pg**	**22 23 57.2**	**-0.1**
YARM	**Yarimca-Ladik(**	**0.82**	**295**	Pg	**Pg**	**22 23 58.1**	**-0.3**
ORDU	**Ordu-Boztepe**	**0.89**	**62**	P	**Pb**	**22 23 59.8**	**-0.5**
ORDU				S	**Sb**	**22 24 12.1**	**-0.2**
HAVZ	**Havza**	**0.96**	**301**	P	**Pg**	**22 24 00.8**	**-0.3**
HAVZ				S	**Sb**	**22 24 13.9**	**-0.5**
CUZAR	**Zara_SIVAS**	**1.01**	**133**	P	**Pg**	**22 24 01.8**	**-0.2**
CUZAR				S	**Sb**	**22 24 15.7**	**-0.1**
CKRK	**Yozgat, Cekere**	**1.12**	**244**	P	**Pb**	**22 24 03.4**	**-0.8**
CKRK				S	**Sn**	**22 24 19.5**	**-0.8**
SUSE	**Susehri**	**1.13**	**109**	P	**Pb**	**22 24 03.7**	**-0.6**
SUSE				S	**Sg**	**22 24 18.8**	**0.0**
HACI	**Hacifakili, Ak**	**1.21**	**224**	P	**Pg**	**22 24 05.7**	**0.0**
HACI				S	**Sn**	**22 24 22.0**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.36**	**158**	P	**Pg**	**22 24 08.5**	**-0.2**
CUKAN				S	**Sg**	**22 24 27.8**	**+1.5**
COAL	**Corum-Alaca**	**1.43**	**257**	P	**Pb**	**22 24 08.9**	**-0.6**
COAL				S	**Sg**	**22 24 28.5**	**0.0**
YOZ	**Yozgat**	**1.48**	**231**	Pn	**Pb**	**22 24 10.1**	**-0.2**
AYAZ	**Ayas K¶ly, M**	**1.49**	**274**	P	**Pb**	**22 24 09.9**	**-0.6**
AYAZ				S	**Sg**	**22 24 30.5**	**0.0**
ESPY	**Espiye-Giresun**	**1.49**	**76**	Pn	**Pb**	**22 24 09.6**	**-0.9**
DIKM	**Dikmen**	**1.59**	**313**	Pn	**Pb**	**22 24 11.6**	**-0.5**
CORM	**Corum**	**1.71**	**257**	Pn	**Pb**	**22 24 13.2**	**-1.1**
YOZG	**Bozok Univ. Me**	**1.74**	**243**	P	**Pb**	**22 24 14.3**	**-0.4**
YOZG				S	**Sg**	**22 24 37.6**	**-0.8**
KAGI	**orum-Kargı**	**1.85**	**288**	P	**Pb**	**22 24 15.6**	**-1.1**
KAGI				S	**Sg**	**22 24 41.0**	**-1.1**
BOYA	**Sinop/Boyabat-**	**1.87**	**301**	P	**Pb**	**22 24 16.4**	**-0.5**
BOYA				S	**Sb**	**22 24 40.7**	**+0.3**
SNOP	**Sinop**	**1.88**	**320**	Pn	**Pb**	**22 24 15.7**	**-1.3**
BNN	**Bunyan**	**1.88**	**204**	Pn	**Pb**	**22 24 15.9**	**-1.2**
DARE	**Darende-Malaty**	**2.07**	**165**	Pn	**Pb**	**22 24 18.6**	**-1.8**
SARI	**SarD1z-Kayseri**	**2.19**	**188**	Pn	**Pn**	**22 24 20.2**	**+0.8**

*MOS **15** 22:31:52.0±0.9, 36°.70N×71°.10E, h232km, mb4.3/20, Error ellipse: s-maj=7.7km s-min=3.9km az=80.9*
*NEIC **15** 22:31:53.3±1.7, 36°.69N±0°.05×70°.92E±0°.08, h233km±5km, mb4.4/152, Error ellipse: s-maj=9.2km s-min=7.8km az=105.0*
*IDC **15** 22:31:53.8±0.7, 36°.65N×71°.17E, h238km±6km, mb3.6/23, mbtmp4.2/30, Error ellipse: s-maj=9.5km s-min=8.8km az=105.0*
*NNC **15** 22:31:54.7±2.8, 36°.83N×71°.05E, h151km±47km, mb3.8, mpv4.8, Error ellipse: s-maj=23.9km s-min=19.4km az=41.0*
ISC 15 22:31:52.0±0.4, **36°.60N**±0°.03×**71°.08E**±0°.04, **h222**km±4km, **h222**km:**pP-P**, **n337**, σ1°70/393, **mb4.3**/114, **11C-18D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.47**	**346**		**Pn**	**22 32 37.6**	**+0.5**
GAR					**S**	**22 33 10.7**	**-1.7**
CHGR	**Chuyangaron**	**2.56**	**324**	Pn	**Pn**	**22 32 38.1**	**+0.1**
CHGR				Sn	**S**	**22 33 12.8**	**-1.2**
CHGR	**Chuyangaron**	**2.56**	**324**	PN	**Pn**	**22 32 38.1**	**+0.1**
CHGR						22 33 12.8	
SIMJ	**Simiganj**	**2.63**	**322**		**Pn**	**22 32 38.9**	**+0.1**
SIMJ				Sn	**S**	**22 33 13.5**	**-2.0**
KBL	**Kabul**	**2.64**	**220**		**Pn**	**22 32 40.6**	**+1.5**
KBL				Sn	**S**	**22 33 16.4**	**+0.6**
KBL	**Kabul**	**2.64**	**220**	PN	**Pn**	**22 32 40.6**	**+1.5**
KBL				S	**S**	**22 33 16.4**	**+0.6**
DRK	**Karamyk**	**2.93**	**11**		**Pn**	**22 32 43.3**	**+1.0**
DRK				Sn	**S**	**22 33 20.3**	**-1.4**
DRK	**Karamyk**	**2.93**	**11**	PN	**Pn**	**22 32 43.3**	**+1.0**
DRK				S	**S**	**22 33 20.3**	**-1.4**
NIL	**Nilore**	**3.44**	**148**		**Pn**	**22 32 51.0**	**+3.0**
NIL	**Nilore**	**3.44**	**148**	PN	**Pn**	**22 32 51.0**	**+3.0**
SRNI	**Srinagar**	**3.96**	**128**	*e*P	**Pn**	**22 32 56.7**	**+2.5**
SRNI				*e*S	**S**	**22 33 44.6**	**+1.6**
SRNI				IAML		22 33 49.6	
	comp=E,884nm,0.3s						
SRNI				IAML		22 33 59.9	
	comp=E,717nm,0.3s						
KSH	**Kashi**	**4.84**	**51**	Pn	**Pn**	**22 33 01.1**	**-3.9**
KSH				Sn	S	22 33 52.3	-10
KSH				smax	smax		
	comp=N,520nm,0.7s						
KSH				smax	smax		
	comp=E,390nm,0.6s						
ARSB	**Arslanbob**	**4.95**	**17**	Pn	**Pn**	**22 33 06.2**	**-0.2**
ARSB				Sn	**S**	**22 34 02.5**	**-2.7**
ARSB	**Arslanbob**	**4.95**	**17**	PN	**Pn**	**22 33 06.2**	**-0.2**
ARSB				S	**S**	**22 34 02.5**	**-2.7**
JMU	**Jammu**	**4.99**	**140**	*e*P	**Pn**	**22 33 06.7**	**-0.1**
JMU				*e*S	**S**	**22 34 04.4**	**-1.5**
JMU				IAML		22 34 06.5	
	comp=E,479nm,0.7s						
JMU				IAML		22 34 16.0	
	comp=E,806nm,0.8s						
IUG	**Iuzhnay**	**5.60**	**352**	*e*PN	**Pn**	**22 33 14.2**	**-0.4**
IUG				*e*S	**S**	**22 34 19.7**	**-0.3**
IUG	**Iuzhnay**	**5.60**	**352**	*e*P	**Pn**	**22 33 14.2**	**-0.4**
IUG				*e*S	**S**	**22 34 19.8**	**-0.3**
THN	**Thein Dam**	**5.65**	**136**	*e*P	**Pn**	**22 33 17.3**	**+2.1**
THN				*e*S	**S**	**22 34 21.0**	**0.0**
THN				IAML		22 34 22.1	
	comp=E,528nm,0.5s						
THN				IAML		22 34 32.2	
	comp=E,481nm,0.2s						
AML	**Almayashu**	**5.88**	**19**	P	**Pn**	**22 33 18.3**	**-0.1**
	SNR=431						
DHRM	**DHARAMSHALA**	**6.12**	**134**	*e*P	**Pn**	**22 33 22.5**	**+1.1**
DHRM				*e*S	**S**	**22 34 31.6**	**-0.7**
DHRM				IAML		22 34 33.1	
	comp=N,474nm,0.3s						
DHRM				IAML		22 34 33.9	
	comp=E,591nm,0.5s						
UCH	**Uchtor**	**6.22**	**24**	P	**Pn**	**22 33 23.3**	**+0.5**
	SNR=60						
DZA	**Taraz**	**6.29**	**2**	*e*PN	**Pn**	**22 33 22.8**	**-0.4**
DZA	**Taraz**	**6.29**	**2**	*e*P	**Pn**	**22 33 22.9**	**-0.4**
EKS2	**Erkin-Say**	**6.40**	**18**	P	**Pn**	**22 33 24.9**	**+0.1**
	SNR=123						
BRLS	**Boroldoy**	**6.50**	**352**	*e*PN	**Pn**	**22 33 22.6**	**-3.3**
BRLS	**Boroldoy**	**6.50**	**352**	*e*P	**Pn**	**22 33 22.6**	**-3.3**
KK31	**Karatay Array**	**6.51**	**356**	Pn	**Pn**	**22 33 25.6**	**-0.4**
KK31	**Karatay Array**	**6.51**	**356**	⇑P	**Pn**	**22 33 25.2**	**-0.9**
	comp=E,7.2nm,0.3s,baz=172,slow=11						
KK31				⇑S	**S**	**22 34 36.0**	**-5.0**
	comp=E,161nm,0.8s,baz=182,slow=22,SNR=8.4						
KK31	**Karatay Array**	**6.51**	**356**	PN	**Pn**	**22 33 25.7**	**-0.4**
KKAR	**Karatay Array**	**6.51**	**356**	Pn	**Pn**	**22 33 25.2**	**-0.9**
KKAR				Sn	**S**	**22 34 36.1**	**-4.9**
KKAR	**Karatay Array**	**6.51**	**356**	Pn	**Pn**	**22 33 25.4**	**-0.7**
KKAR				Sn	**S**	**22 34 35.4**	**-5.6**
KKAR	**Karatay Array**	**6.51**	**356**	PN	**Pn**	**22 33 25.4**	**-0.7**
AAK	**Ala-Archa**	**6.58**	**23**	Pn	**Pn**	**22 33 27.3**	**+0.2**
AAK				Sn	**S**	**22 34 41.4**	**-1.4**
AAK	**Ala-Archa**	**6.58**	**23**	P	**Pn**	**22 33 27.4**	**+0.2**
	comp=E,97nm,0.5s,baz=205,slow=8.5,SNR=546						
AAK				S	**S**	**22 34 40.8**	**-2.0**
	comp=E,19nm,0.4s,baz=181,slow=9.5,SNR=3.8						
AAK	**Ala-Archa**	**6.58**	**23**	P	**Pn**	**22 33 27.5**	**+0.4**
	SNR=68						
AAK	**Ala-Archa**	**6.58**	**23**	⇑P	**Pn**	**22 33 27.3**	**+0.2**
	comp=E,92nm,0.6s						
AAK				⇓S	**S**	**22 34 40.1**	**-2.7**
	comp=E,220nm,1.0s						
AAK	**Ala-Archa**	**6.58**	**23**	*d* iPN	**Pn**	**22 33 27.2**	**+0.1**
KBK	**Karagaybulak**	**6.75**	**25**	P	**Pn**	**22 33 29.9**	**+0.6**
	SNR=111						
FRU1	**Bishkek**	**6.78**	**23**	Pn	**Pn**	**22 33 30.1**	**+0.5**
FRU1	**Bishkek**	**6.78**	**23**	PN	**Pn**	**22 33 30.1**	**+0.5**
BHK	**Bhakra**	**6.81**	**138**	*e*P	**Pn**	**22 33 30.8**	**+0.8**
BHK				*e*S	**S**	**22 34 45.9**	**-2.1**
BHK				IAML		22 34 49.4	
	comp=E,228nm,0.4s						
BHK				IAML		22 35 01.3	
	comp=E,198nm,0.3s						
ULHL	**Ulahol**	**6.91**	**34**	P	**Pn**	**22 33 31.6**	**+0.2**
	SNR=72						
BOOM	**Boomskoye usch**	**6.98**	**31**	Pn	**Pn**	**22 33 32.2**	**0.0**
BOOM	**Boomskoye usch**	**6.98**	**31**	PN	**Pn**	**22 33 32.2**	**0.0**
CHMS	**Chumysh**	**6.99**	**23**	P	**Pn**	**22 33 32.9**	**+0.7**
	SNR=17						
CHMS	**Chumysh**	**6.99**	**23**	⇓P	**Pn**	**22 33 31.6**	**-0.6**
	comp=E,25nm,0.4s						
CHMS				⇑S	**S**	**22 34 47.6**	**-4.5**
	comp=E,59nm,1.0s						
CHMS	**Chumysh**	**6.99**	**23**	PN	**Pn**	**22 33 31.6**	**-0.6**
CHMS				S	**S**	**22 34 47.6**	**-4.5**
USP	**Ospenovka**	**7.16**	**20**	P	**Pn**	**22 33 34.5**	**+0.1**
	SNR=17						
TKM2	**Tokmak 2**	**7.21**	**27**	P	**Pn**	**22 33 36.0**	**+0.8**
	SNR=34						
TKM2	**Tokmak 2**	**7.21**	**27**	⇑P	**Pn**	**22 33 35.1**	**-0.1**
	comp=E,76nm,0.5s						
TKM2				⇓S	**S**	**22 34 54.3**	**-3.2**
	comp=E,142nm,0.8s						
TKM2	**Tokmak 2**	**7.21**	**27**	*i* PN	**Pn**	**22 33 35.0**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,76nm,0.4s						
KDJ	**Kajisay**	**7.27**	**39**	Pn	**Pn**	**22 33 35.9**	**-0.1**
KDJ	**Kajisay**	**7.27**	**39**	PN	**Pn**	**22 33 35.9**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.31**	**43**	Pn	**Pn**	**22 33 36.5**	**-0.3**
TARG	**Taragay, Kyrgy**	**7.31**	**43**	PN	**Pn**	**22 33 36.5**	**-0.3**
SGDS	**Sogindy**	**7.37**	**21**	*e*PN	**Pn**	**22 33 36.2**	**-0.8**
SGDS	**Sogindy**	**7.37**	**21**	*e*P	**Pn**	**22 33 36.3**	**-0.8**
SMLA	**Simla**	**7.44**	**135**	*e*P	**Pn**	**22 33 39.1**	**+1.0**
SMLA				*e*S	**S**	**22 34 58.4**	**-4.3**
SMLA				IAML		22 35 01.8	
	comp=E,256nm,0.4s						
SMLA				IAML		22 35 03.8	
	comp=N,264nm,0.4s						
HRA	**Herat**	**7.54**	**256**	Pn	**Pn**	**22 33 39.1**	**-0.5**
WUS	**Wushi**	**7.83**	**52**	Pn	**Pn**	**22 33 43.0**	**-0.1**
TNSS	**Tian-Shan**	**7.85**	**33**	*e*PN	**Pn**	**22 33 43.1**	**-0.6**
TNSS	**Tian-Shan**	**7.85**	**33**	*e*P	**Pn**	**22 33 43.2**	**-0.6**
DDI	**Dehra Dun**	**8.55**	**135**	*e*P	**Pn**	**22 33 53.7**	**+1.3**
DDI				*e*S	**S**	**22 35 24.7**	**-4.3**
DDI				IAML		22 35 29.8	
	comp=E,310nm,0.5s						
DDI				IAML		22 35 32.4	
	comp=N,308nm,0.4s						
SATY	**Saty**	**8.56**	**39**	*e*PN	**Pn**	**22 33 51.9**	**-0.6**
SATY	**Saty**	**8.56**	**39**	*e*P	**Pn**	**22 33 52.0**	**-0.6**
ZHN	**Zhinishke**	**8.66**	**38**	*e*PN	**Pn**	**22 33 53.4**	**-0.3**
ZHN	**Zhinishke**	**8.66**	**38**	*e*P	**Pn**	**22 33 53.4**	**-0.3**
BTLS	**Baital**	**8.73**	**14**	*e*PN	**Pn**	**22 33 53.8**	**-0.7**
BTLS				*e*S	**S**	**22 35 32.6**	**-0.3**
BTLS	**Baital**	**8.73**	**14**	*e*P	**Pn**	**22 33 53.9**	**-0.7**
BTLS				*e*S	**S**	**22 35 32.6**	**-0.3**
UZB	**Uzynbulak**	**8.94**	**41**	*e*PN	**Pn**	**22 33 56.9**	**-0.5**
UZB	**Uzynbulak**	**8.94**	**41**	*e*P	**Pn**	**22 33 56.1**	**-1.3**
SHLS	**Shalkode**	**9.18**	**42**	*e*P	**Pn**	**22 34 02.9**	**+2.4**
SHLS	**Shalkode**	**9.18**	**42**	*e*P	**Pn**	**22 34 03.0**	**+2.4**
JOSI	**Joshimath**	**9.29**	**128**	*e*P	**Pn**	**22 34 02.9**	**+0.8**
JOSI				*e*S	**S**	**22 35 42.3**	**-4.4**
JOSI				IAML		22 35 49.4	
	comp=E,140nm,0.6s						
JOSI				IAML		22 35 58.3	
	comp=E,157nm,0.8s						
NDI	**New Delhi**	**9.43**	**145**	*e*S	**S**	**22 35 42.8**	**-7.0**
NDI				IAML		22 35 47.1	
	comp=E,46nm,0.5s						
NDI				IAML		22 35 48.9	
	comp=N,40nm,0.3s						
KUDL	**Kundal**	**9.59**	**150**	*e*P	**Pn**	**22 34 04.3**	**-1.4**
KUDL				*e*S	**S**	**22 35 46.1**	**-7.3**
KUDL				IAML		22 35 50.4	
	comp=E,40nm,0.6s						
KUDL				IAML		22 36 03.4	
	comp=E,36nm,0.4s						
SONA	**Sohna**	**9.74**	**147**	*e*S	**S**	**22 35 50.2**	**-7.0**
SONA			

AKT Akhty 18.76 292 *e*P **Pn 22 35 57.3 -0.6**
AKT pmax pmax
comp=Z,28nm,1.3s
SEKA Sheki 19.13 291 P **Pn 22 36 01.4 -0.8**
MNGR Mingechevir, A 19.17 290 P **Pn 22 36 02.7 +0.1**
TAWA Tawang 19.73 111 *e*P **Pn 22 36 08.3 -1.5**
GANJ Ganja 19.74 289 P **Pn 22 36 08.8 -0.7**
ZAA0 Zalesovo Array 19.80 24 P **P 22 36 05.2 -0.3**
ZAA0 IAmb IAmb 22 36 08.2
comp=Z,6.8nm,0.8s
ZALV Zalesovo Beam 19.80 24 P **P 22 36 04.7 -0.8**
ZALV Zalesovo Beam 19.80 24 P **P 22 36 05.2 -0.2**
comp=Z,5.0nm,0.4s,baz=216,slow=11,SNR=26
ZALV S **S 22 39 34.0 -2.1**
comp=Z,2.3nm,0.8s,baz=204,slow=12,SNR=2.7
ZALV Zalesovo Beam 19.80 24 *i* P **P 22 36 05.5 0.0**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
NAX Nakhchivan 20.34 285 P Pn 22 36 15.4 -1.4
DGRG David-gareji 20.52 292 P Pn 22 36 17.3 -1.7
SHL Shillong 20.89 116 P **P 22 36 18.6 +1.0**
SHL Shillong 20.89 116 P **P 22 36 18.6 +1.0**
SHL pmax pmax
comp=Z,22nm,0.8s
GNI Garni 20.93 288 P **P 22 36 19.2 +1.4**
comp=Z,2.3nm,0.6s,baz=94,slow=16,SNR=2.8
comp=Z,2.3nm,0.6s
ARTI Arti 21.57 341 P **P 22 36 23.1 -0.9**
ARTI Arti 21.57 341 P **P 22 36 24.1 +0.1**
comp=Z,2.0nm,0.4s,baz=148,slow=6.3,SNR=5.9
comp=Z,2.0nm,0.4s
ARTI Arti 21.57 341 *c i* P **P 22 36 25.7 +1.7**
ARTI S **S 22 40 12.0 +4.5**
ARTI pmax pmax
comp=Z,9.0nm,1.2s
AZL Aizawl 22.59 119 *e*P **P 22 36 34.8 +0.8**
KBZ Khabaz 22.61 297 P **P 22 36 34.3 +0.4**
comp=Z,1.5nm,0.8s,baz=104,slow=8.3,SNR=2.4
comp=Z,1.5nm,0.8s
GTA Gaotai 22.77 74 *e*P **P 22 36 37.3 +1.8**
GTA pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 22.80 298 *e*P **P 22 36 33.9 -1.8**
KIV *e*S **S 22 40 28.0 +0.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,25nm,14.0s
KIRV Kirov 26.18 334 P **P 22 37 06.0 +0.2**
comp=Z,5.9nm,0.6s,baz=322,slow=1.3,SNR=3.6
comp=Z,5.9nm,0.6s
KIRV Kirov 26.18 334 *de*P **P 22 37 06.4 +0.6**
LZH Lanzhou 26.33 81 *e*P **P 22 37 05.4 -2.3**
LZH pmax pmax
comp=Z,21nm,1.4s
TOKA Tokat 27.25 288 P **P 22 37 12.0 -3.7**
TOKA IAmb IAmb 22 37 16.0
comp=Z,4.8nm,0.4s
BNN Bunyan 27.86 285 P **P 22 37 19.6 -1.6**
PZH PanZhiHua 27.90 102 P **P 22 37 25.3 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.9s
SONM Songino Array 28.23 55 P **P 22 37 24.8 +0.5**
comp=Z,1.5nm,0.8s,baz=252,slow=9.8,SNR=12
SONM pP **pP 22 38 12.2 +2.1**
comp=Z,1.9nm,0.8s,baz=246,slow=12,SNR=8.5
comp=Z,1.5nm,0.8s
ULN Ulaanbaatar 28.67 56⇓ *e*P **P 22 37 24.8 -3.5**
ULN pmax pmax
comp=Z,5.0nm,2.0s
BRTR Keskin Array B 29.47 288 P **P 22 37 36.2 +0.7**
comp=Z,0.3nm,0.6s,baz=97,slow=12,SNR=2.1
comp=Z,0.3nm,0.6s
OBN Obninsk 29.91 319⇑ *e*P **P 22 37 39.7 +0.8**
OBN *e* 22 38 49.5
OBN *e*S **S 22 42 11.2 -8.1**
OBN pmax pmax
comp=Z,32nm,2.1s
CMAR Chiang Mai Arr 30.44 119 P **P 22 37 44.6 +0.5**
comp=Z,1.1nm,0.3s,baz=302,slow=8.6,SNR=13
CMAR pP **pP 22 38 32.7 +2.6**
comp=Z,0.9nm,0.3s,baz=306,slow=10,SNR=1.3
CMAR PcP **PcP 22 40 37.5 -0.4**
comp=Z,0.4nm,0.3s,baz=286,slow=4.2,SNR=4.8
comp=Z,1.1nm,0.3s
PALK Pallekele 30.48 161 P **P 22 37 46.2 +1.7**
PALK IAmb IAmb 22 37 46.9
comp=Z,6.5nm,0.8s
PALK Pallekele 30.48 161 P **P 22 37 46.2 +1.7**
PALK pmax pmax
comp=Z,7.0nm,0.8s
XAN Xi'an 30.85 83 ⇑P **P 22 37 49.0 +1.4**
XAN pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 31.67 70 *e*P **P 22 37 57.0 +2.3**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,76nm,4.3s
AKASG Malin Array Be 32.94 309 P **P 22 38 07.0 +1.6**
comp=Z,0.4nm,0.6s,baz=85,slow=6.6,SNR=2.5
comp=Z,0.4nm,0.6s
AKASG Malin Array Be 32.94 309 P **P 22 38 07.0 +1.6**
NRIK Noril'sk 34.02 10 P **P 22 38 15.0 +0.4**
NRIK IAmb IAmb 22 38 16.5
comp=Z,8.8nm,0.7s
NRIK Noril'sk 34.02 10 P **P 22 38 15.6 +1.1**
comp=Z,7.9nm,0.6s,baz=194,slow=5.0,SNR=7.6
comp=Z,7.9nm,0.6s
MNK Minsk 34.48 315 *i* P **P 22 38 16.6 -2.1**
comp=E,12nm,1.0s
MNK *i* P **P 22 38 16.6 -2.1**
comp=N,6.0nm,0.9s
MNK *i* P **P 22 38 16.6 -2.1**
comp=Z,7.0nm,0.9s,baz=103
MNK *i* pP **pP 22 38 59.7 -4.4**
MNK *i* PP **PP 22 39 34.2 -7.4**
MNK *i* S **S 22 43 30.2 0.0**
MNK *i* SS **SS 22 46 07.6 -0.7**
MNK *i* LRM MLR 22 53 59.7
comp=E,381nm,22.9s
MNK *i* LRM MLR 22 53 59.7
comp=N,603nm,29.6s
MNK *i* LRM MLR 22 54 02.5
comp=Z,62nm,18.4s
MNK Minsk 34.48 315 *i* P **P 22 38 16.5 -2.1**
MNK *i* *PP **pP 22 38 59.7 -4.4**
MNK *i* 22 39 34.1
MNK *i* S **S 22 43 30.1 0.0**
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=E,12nm,1.0s
MNK MLR MLR
comp=E,381nm,23.0s
MNK MLR MLR
comp=N,603nm,30.0s
MNK MLR MLR
comp=Z,62nm,18.0s
VSU Vasula 36.15 321⇓ *e*P **P 22 38 31.1 -1.7**
VSU pmax pmax
comp=Z,17nm,1.1s
LVZ Lovozero 37.39 338 P **P 22 38 43.0 -0.2**
LVZ IAmb IAmb 22 39 01.0
comp=Z,14nm,1.3s
LVZ Lovozero 37.39 338 P **P 22 38 43.0 -0.2**
LVZ pmax pmax
comp=Z,15nm,1.3s
FIA1 FINESS Array S 37.44 326 P **P 22 38 43.7 +0.1**
FINES FINESS Array B 37.44 326 P **P 22 38 43.8 +0.2**
FINES FINESS Array B 37.44 326 P **P 22 38 44.0 +0.3**
comp=Z,1.9nm,0.4s,baz=121,slow=9.8,SNR=28
comp=Z,1.9nm,0.4s
FINES FINESS Array B 37.44 326 P **P 22 38 44.0 +0.3**
ARCES ARCESS Array B 41.08 338 P **P 22 39 14.1 +0.4**
ARCES ARCESS Array B 41.08 338 P **P 22 39 14.1 +0.4**
comp=Z,3.0nm,0.6s,baz=109,slow=7.7,SNR=29
comp=Z,3.0nm,0.6s
ZEA Zeya 41.95 48 *e*P **P 22 39 23.2 +2.3**
HEH HeiHe 42.13 53 *e*P **P 22 39 23.8 +1.4**
HEH pmax pmax
comp=Z,12nm,0.8s

GSI Gunungsitoli 42.82 139 P **P 22 39 30.1 +1.8**
HFS Hagfors 43.03 322 P **P 22 39 29.4 -0.1**
comp=Z,3.2nm,0.6s,baz=111,slow=8.1,SNR=9.8
HFS pP **pP 22 40 18.8 +1.8**
comp=Z,1.8nm,0.6s,baz=83,slow=12,SNR=2.9
comp=Z,3.2nm,0.6s
YAK Yakutsk 43.85 36 *de*P **P 22 39 35.8 -0.1**
YAK pmax pmax
comp=Z,7.0nm,0.6s
NC405 NORSAR Array S 44.11 323 P **P 22 39 37.6 -0.4**
NORES NORESS Array B 44.15 323 P **P 22 39 37.8 -0.6**
NC303 NORSAR Array S 44.28 323 P **P 22 39 39.1 -0.3**
NB201 NORSAR Array S 44.30 323 P **P 22 39 39.0 -0.7**
NB201 IAmb IAmb 22 39 49.3
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 44.34 323 P **P 22 39 39.3 -0.7**
comp=Z,1.8nm,0.7s,baz=96,slow=7.9
NB2 pP **pP 22 40 29.3 +1.6**
comp=Z,0.9nm,0.7s,baz=94,slow=8.6
NB2 NORSAR Subarra 44.34 323 P **P 22 39 40.1 +0.2**
NOA NORSAR Array B 44.34 323 P **P 22 39 39.2 -0.7**
comp=Z,1.7nm,0.7s,baz=97,slow=7.7,SNR=8.2
NOA pP **pP 22 40 29.3 +1.6**
comp=Z,1.9nm,0.8s,baz=96,slow=8.1,SNR=4.6
comp=Z,1.7nm,0.7s
NBO00 NORSAR Array S 44.55 323 P **P 22 39 40.5 -1.0**
NBO00 IAmb IAmb 22 39 56.0
comp=Z,20nm,1.4s
NC204 NORSAR Array S 44.58 323 P **P 22 39 41.6 -0.2**
KLR Kul'dur 45.03 54⇓ *e*P **P 22 39 44.6 -0.9**
KLR pmax pmax
comp=Z,5.0nm,2.0s
TIXI Tiksi 45.66 22 P **P 22 39 50.4 +0.3**
TIXI IAmb IAmb 22 39 51.0
comp=Z,8.4nm,0.8s
TIXI Tiksi 45.66 22 P **P 22 39 50.0 0.0**
comp=Z,4.6nm,0.3s,baz=281,slow=4.6,SNR=31
comp=Z,4.6nm,0.3s
TIXI Tiksi 45.66 22⇑ *e*P **P 22 39 50.2 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
SPITS Spitsbergen Ar 47.41 347 P **P 22 40 04.3 +0.7**
comp=Z,6.5nm,0.8s,baz=127,slow=11,SNR=6.9
comp=Z,6.5nm,0.8s
KMBO Kilima Mbogo 48.95 228 P **P 22 40 18.6 +2.3**
comp=Z,0.5nm,0.4s,baz=34,slow=14,SNR=4.0
comp=Z,0.5nm,0.4s
MA2 Magadan 54.24 38⇓ *e*P **P 22 40 55.4 +0.7**
SEY Seymchan 54.30 34 P **P 22 40 55.6 +0.6**
comp=Z,1.6nm,0.6s,baz=271,slow=9.9,SNR=6.4
comp=Z,1.6nm,0.6s
SEY Seymchan 54.30 34 *ce*P **P 22 40 55.9 +0.9**
SEY pmax pmax
comp=Z,17nm,4.0s
BILL Bilibino 58.49 26⇓ *e*P **P 22 41 25.3 +0.8**
BILL pmax pmax
comp=Z,7.0nm,1.7s
ABPO Ambohimpanom 59.73 206 *i* P **P 22 41 30.0 -3.8**
C16K Lisburne Hills 67.34 20 **P 22 42 22.7 +0.1**
C16K IAmb IAmb 22 42 23.6
comp=Z,6.1nm,0.8s
B20K Meade River 68.09 16 P **P 22 42 27.7 +0.4**
C18K Utukok River 68.16 18 P **P 22 42 27.7 -0.1**
C18K IAmb IAmb 22 42 28.9
comp=Z,5.0nm,0.8s
TNA Tin City 68.44 23 P **P 22 42 30.1 +0.6**
TNA IAmb IAmb 22 42 47.0
comp=Z,10.0nm,1.4s
RES Resolute Bay 68.61 356 P **P 22 42 31.7 +1.3**
RES Resolute Bay 68.61 356 P **P 22 42 31.7 +1.3**
RES pmax pmax
comp=Z,1.0nm,0.8s
B22K Teshekpuk Lake 68.63 15 P **P 22 42 31.0 +0.4**
B22K IAmb IAmb 22 42 32.1
comp=Z,10nm,1.1s
B21K Ikpikpuk River 68.95 16 P **P 22 42 33.2 +0.5**
B21K IAmb IAmb 22 42 34.6
comp=Z,8.2nm,1.1s
D19K Kuna River 69.03 17 P **P 22 42 33.6 +0.5**
E18K Tukpahlearik C 69.21 19 P **P 22 42 34.8 +0.5**
E18K IAmb IAmb 22 42 35.4
comp=Z,5.6nm,0.8s
F15K North Star Dit 69.33 21 P **P 22 42 35.7 +0.7**
C23K Itkillik River 69.61 14 P **P 22 42 37.8 +1.1**
F17K Baldwin Pennin 69.76 20 P **P 22 42 38.2 +0.6**
F17K IAmb IAmb 22 42 39.5
comp=Z,8.4nm,1.0s
ANM Nome 69.92 23 P **P 22 42 39.0 +0.4**
ANM Nome 69.92 23 P **P 22 42 39.0 +0.4**
ANM pmax pmax
comp=Z,37nm,1.4s
D22K Ayikyak River 69.96 15 P **P 22 42 39.2 +0.3**
E19K Redstone River 70.04 18 P **P 22 42 39.1 -0.2**
G16K Koyuk River 70.22 21 P **P 22 42 40.9 +0.4**
D23K Nanushuk River 70.31 15 P **P 22 42 41.1 +0.2**
D23K IAmb IAmb 22 42 42.4
comp=Z,5.1nm,0.9s
F19K Shaleruckik Mo 70.39 18 P **P 22 42 40.7 -0.7**
D24K Happy Valley 70.53 14 P **P 22 42 42.7 +0.5**
F20K Avaraart Lake 70.73 18 P **P 22 42 43.1 -0.3**
E22K Anaktuvuk Pass 70.76 16 P **P 22 42 43.9 +0.1**
E22K IAmb IAmb 22 42 44.8
comp=Z,5.8nm,1.1s
TOLK Toolik Lake Re 70.81 15 P **P 22 42 44.6 +0.6**
D25K Kavik River 70.85 13 P **P 22 42 45.4 +1.1**
D25K IAmb IAmb 22 42 45.9
comp=Z,4.3nm,0.8s
G18K Tagagawik 70.88 19 P **P 22 42 44.0 -0.4**
C27K Jago River 71.06 12 P **P 22 42 46.6 +1.1**
C27K IAmb IAmb 22 42 47.4
comp=Z,5.5nm,0.8s
G19K Purcell Mounta 71.09 19 P **P 22 42 45.9 +0.2**
G19K IAmb IAmb 22 42 46.6
comp=Z,6.1nm,0.7s
A36M Sachs Harbour 71.10 5 P **P 22 42 46.1 +0.5**
A36M IAmb IAmb 22 42 47.3
comp=Z,9.3nm,0.9s
F21K Alatna River 71.12 17 P **P 22 42 46.2 +0.3**
F21K IAmb IAmb 22 42 48.0
comp=Z,4.9nm,0.8s
H17K Granite Mounta 71.26 20 P **P 22 42 47.2 +0.5**
E24K Your Creek 71.51 15 P **P 22 42 48.5 +0.2**
E24K IAmb IAmb 22 42 49.6
comp=Z,7.8nm,1.3s
H18K Honhosa River 71.52 20 P **P 22 42 48.2 -0.1**
H18K IAmb IAmb 22 42 53.0
comp=Z,7.7nm,1.3s
G21K Allakaket 71.69 17 P **P 22 42 48.3 -0.9**
H19K Roundabout Mou 71.74 19 P **P 22 42 50.1 +0.5**
H19K IAmb IAmb 22 42 50.7
comp=Z,4.0nm,0.7s
J14K Nanvaranak Lak 71.78 23 P **P 22 42 50.7 +0.9**
J14K IAmb IAmb 22 42 53.6
comp=Z,13nm,1.3s
D27M Malcolm River 71.85 11 P **P 22 42 50.9 +0.6**
COLD Coldfoot 71.86 16 P **P 22 42 50.2 0.0**
COLD IAmb IAmb 22 42 52.0
comp=Z,5.0nm,0.9s
E25K Arctic Village 72.04 14 P **P 22 42 51.2 -0.2**
F24K Squaw Lake 72.10 15 P **P 22 42 51.7 0.0**
J16K Anvik River 72.30 22 P **P 22 42 54.0 +1.1**
J16K IAmb IAmb 22 42 55.3
comp=Z,6.3nm,0.9s
G23K Bananza Creek 72.33 16 P **P 22 42 54.0 +1.0**
F25K Christian Rive 72.48 14 **P 22 42 52.3 -1.7**
H21K Melozitna Rive 72.55 18 P **P 22 42 54.6 +0.2**
E28M Babbage River 72.66 11 P **P 22 42 55.5 +0.5**
E28M IAmb IAmb 22 42 56.7
comp=Z,9.2nm,1.4s
J17K VABM Dome 72.67 21 P **P 22 42 56.0 +0.9**
J17K IAmb IAmb 22 43 13.2
comp=Z,7.0nm,1.2s
F26K Sheenjek River 72.68 13 P **P 22 42 55.1 0.0**
E27K Coleen River 72.70 12 P **P 22 42 55.8 +0.5**
K15K Wolf Creek Mou 72.76 23 P **P 22 42 56.7 +1.1**
K15K IAmb IAmb 22 43 10.7
comp=Z,9.2nm,1.3s
BMAR Burnt Mountain 72.83 14 P **P 22 42 57.2 +1.2**
G24K Hadweenzic Riv 72.88 15 P **P 22 42 57.2 +0.8**
G24K IAmb IAmb 22 42 57.9
comp=Z,5.7nm,0.8s
L14K Kuka Creek 73.09 24 P **P 22 42 58.4 +0.8**
L14K IAmb IAmb 22 43 15.4
comp=Z,13nm,1.2s
E29M Blow River 73.11 11 P **P 22 42 58.5 +1.0**

E29M IAmb IAmb 22 42 59.4
comp=Z,6.2nm,1.2s
J19K Poorman 73.17 20 P **P 22 42 58.4 +0.3**
J19K IAmb IAmb 22 42 59.1
comp=Z,14nm,1.4s
H23K Yukon River 73.18 16 P **P 22 42 58.5 +0.4**
J18K Innoko River 73.29 20 P **P 22 42 58.6 -0.1**
J18K IAmb IAmb 22 42 59.9
comp=Z,5.0nm,0.8s
J20K Nowinta River 73.42 19 P **P 22 42 59.8 +0.3**
J20K IAmb IAmb 22 43 00.8
comp=Z,4.8nm,0.7s
K17K Iditarod 73.42 21 P **P 22 42 59.8 +0.3**
FYU Fort Yukon 73.46 14 P **P 22 42 59.1 -0.6**
FYU IAmb IAmb 22 43 01.6
comp=Z,11nm,1.1s
H24K Noodor Dome 73.53 16 P **P 22 43 00.8 +0.7**
M13K Dall Lake 73.56 25 P **P 22 43 01.0 +0.7**
POGA Pongola 73.61 216 P **P 22 43 00.5 -0.6**
POGA IAmb IAmb 22 43 03.6
comp=Z,11nm,1.1s
M14K Bethel 73.77 24 P **P 22 43 02.8 +1.3**
C36M Paulatuk 73.77 6 P **P 22 43 01.2 -0.2**
I23K Minto, Yukon-K 73.79 17 P **P 22 43 02.4 +0.9**
INK Inuvik 73.80 9 P **P 22 43 02.2 +0.7**
INK IAmb IAmb 22 43 02.9
comp=Z,6.0nm,0.7s
INK Inuvik 73.80 9 P **P 22 43 01.6 0.0**
comp=Z,5.2nm,0.6s,baz=354,slow=6.7,SNR=19
comp=Z,5.2nm,0.6s
INK Inuvik 73.80 9 P **P 22 43 02.2 +0.7**
INK pmax pmax
comp=Z,6.0nm,0.7s
G27K Doyon Strip 73.92 13 P **P 22 43 03.2 +0.8**
G27K IAmb IAmb 22 43 04.2
comp=Z,4.3nm,0.8s
PSA00 Pilbara Seismi 73.93 133 P **P 22 43 02.3 -0.7**
PSA00 IAmb IAmb 22 43 03.6
comp=Z,6.6nm,0.8s
PSA00 Pilbara Seismi 73.93 133 P **P 22 43 02.4 -0.6**
PSA00 IAmb IAmb 22 43 03.0
comp=Z,53nm,1.5s
K20K Telida 74.10 19 P **P 22 43 03.4 0.0**
K20K IAmb IAmb 22 43 04.8
comp=Z,6.0nm,0.7s
POKR Poker Plat Res 74.25 16 P **P 22 43 04.4 +0.1**
POKR IAmb IAmb 22 43 20.4
comp=Z,6.2nm,0.9s
L18K Granite Mounta 74.28 21 P **P 22 43 04.5 +0.1**
L18K IAmb IAmb 22 43 19.1
comp=Z,11nm,1.5s
BPAW Bear Paw Mtn. 74.28 18 P **P 22 43 04.3 -0.2**
PRP Porcupine Dome 74.31 15 P **P 22 43 04.3 -0.5**
NEA2 Nenana 74.33 17 P **P 22 43 04.9 +0.2**
NEA2 IAmb IAmb 22 43 05.5
comp=Z,7.1nm,0.8s
COLA College 74.36 16 *de*P **P 22 43 05.2 +0.3**
COLA pmax pmax
comp=Z,8.0nm,0.8s
G29M Pine Creek 74.44 11 P **P 22 43 05.9 +0.5**
G29M IAmb IAmb 22 43 06.4
comp=Z,5.7nm,1.1s
M16K Timber Creek 74.53 23 P **P 22 43 06.2 +0.3**
CAST Castle Rocks 74.57 19 P **P 22 43 06.7 +0.5**
CAST IAmb IAmb 22 43 07.3
comp=Z,8.6nm,0.9s
CCB Clear Creek Bu 74.57 16 P **P 22 43 05.1 -1.0**
F31M Tsiigehtchic 74.58 10 P **P 22 43 05.8 -0.3**
F31M IAmb IAmb 22 43 07.3
comp=Z,6.9nm,0.9s
WRH Wood River Hil 74.65 16 P **P 22 43 06.2 -0.4**
G30M tAoh Zraii Nji 74.66 11 P **P 22 43 07.1 +0.4**
G30M IAmb IAmb 22 43 08.3
comp=Z,8.5nm,1.1s
ILAR Eielson Array 74.67 16 P **P 22 43 05.7 -1.0**
ILAR Eielson Array 74.67 16 P **P 22 43 06.0 -0.7**
comp=Z,1.5nm,0.8s,baz=324,slow=4.5,SNR=9.7
comp=Z,1.5nm,0.8s
ILAR Eielson Array 74.67 16 P **P 22 43 06.0 -0.7**
M17K Holitna River 74.70 22 P **P 22 43 07.2 +0.3**
M17K IAmb IAmb 22 43 09.4
comp=Z,6.6nm,0.8s
KTH Kantishna Hill 74.75 18 P **P 22 43 07.4 +0.2**
KTH IAmb IAmb 22 43 21.6
comp=Z,8.5nm,1.2s
LBTB Lobatse 74.80 222 P **P 22 43 08.0 0.0**
LBTB Lobatse 74.80 222 P **P 22 43 08.0 0.0**
LBTB pmax pmax
comp=Z,4.0nm,1.3s
N15K Kwethluk River 74.82 24 P **P 22 43 09.1 +1.4**
L19K White Mountain 74.83 20 P **P 22 43 07.1 -0.6**
PPLA Purkeypile 74.97 19 P **P 22 43 08.3 -0.3**
I26K Coal Creek Min 74.98 14 P **P 22 43 08.1 -0.3**
I26K IAmb IAmb 22 43 18.0
comp=Z,6.0nm,1.3s
G31M Satah River 75.00 10 P **P 22 43 08.3 -0.2**
G31M IAmb IAmb 22 43 09.1
comp=Z,5.1nm,0.8s
H29M Whitestone 75.02 12 P **P 22 43 09.6 +0.9**
H29M IAmb IAmb 22 43 10.1
comp=Z,7.4nm,0.7s
MCK McKinley 75.08 17 P **P 22 43 08.6 -0.5**
MCK IAmb IAmb 22 43 16.5
comp=Z,14nm,1.4s
MCK McKinley 75.08 17 P **P 22 43 08.6 -0.5**
MCK pmax pmax
comp=Z,14nm,1.4s
J25K Salcha River, 75.13 15 P **P 22 43 09.0 -0.4**
J25K IAmb IAmb 22 43 09.4
comp=Z,7.4nm,1.5s
KNRA Kununurra 75.22 123 P **P 22 43 10.5 0.0**
RND Reindeer 75.38 17 P **P 22 43 10.3 -0.6**
RND IAmb IAmb 22 43 10.9
comp=Z,12nm,1.4s
RND Reindeer 75.38 17 P **P 22 43 10.3 -0.6**
RND pmax pmax
comp=Z,12nm,1.4s
I28M Miner Creek 75.45 13 P **P 22 43 11.1 -0.2**
I28M IAmb IAmb 22 43 12.1
comp=Z,4.2nm,0.7s
M20K Styx River 75.55 20 P **P 22 43 11.6 -0.3**
M20K IAmb IAmb 22 43 31.4
comp=Z,13nm,1.4s
J26L Joseph Creek 75.61 15 P **P 22 43 12.0 -0.2**
J26L IAmb IAmb 22 43 13.1
comp=Z,4.7nm,0.7s
SKT Skwentna 75.90 19 P **P 22 43 13.4 -0.3**
SKT IAmb IAmb 22 43 15.0
comp=Z,8.2nm,1.1s
SCRK Sand Creek 75.98 15 P **P 22 43 14.8 +0.5**
SCRK IAmb IAmb 22 43 15.3
comp=Z,4.1nm,0.6s
RIDG Independent Ri 76.01 16 P **P 22 43 13.9 -0.5**
RIDG IAmb IAmb 22 43 14.2
comp=Z,7.1nm,1.3s
H31M Peel River 76.04 11 P **P 22 43 14.4 -0.1**
H31M IAmb IAmb 22 43 15.3
comp=Z,5.2nm,0.7s
STLK Strandline Lak 76.22 20 P **P 22 43 15.5 -0.1**
DOT Dot Lake 76.26 15 P **P 22 43 15.4 -0.4**
DOT IAmb IAmb 22 43 24.4
comp=Z,7.1nm,1.5s
I30M Mount Dempster 76.27 12 P **P 22 43 15.7 -0.2**
I30M IAmb IAmb 22 43 17.2
comp=Z,4.1nm,0.8s
K27K Chicken 76.33 14 P **P 22 43 16.4 +0.2**
O18K Koktuh Hills 76.60 22 P **P 22 43 17.8 +0.1**
GHO Glory Hole Cre 76.75 18 P **P 22 43 18.5 -0.1**
SML Sawmill 76.87 18 P **P 22 43 18.6 -0.7**
SML Sawmill 76.87 18 P **P 22 43 18.6 -0.7**
SML pmax pmax
comp=Z,25nm,1.4s
SCM Sheep Creek Mo 77.10 18 P **P 22 43 20.7 +0.1**
SCM Sheep Creek Mo 77.10 18 P **P 22 43 20.7 +0.1**
SCM pmax pmax
comp=Z,46nm,1.5s
M24K Tolsona, Glenn 77.14 17 P **P 22 43 20.6 -0.1**
L27K Beaver Creek, 77.25 15 P **P 22 43 21.3 0.0**
BCAR Beaver Creek A 77.25 15 P **P 22 43 22.2 +0.8**
K29M Barlow Dome 77.35 13 P **P 22 43 21.9 -0.1**
K29M IAmb IAmb 22 43 23.2
comp=Z,4.2nm,0.8s
KLU Klutina 77.73 17 P **P 22 43 24.0 0.0**
KLU IAmb IAmb 22 43 25.0

comp=Z,12nm,1.1s
MORW Morawa 77.78 141 P P 22 43 23.6 -1.1
BOSA Boshof 77.86 220 P P 22 43 23.7 -1.5
BOSA IAmb IAmb 22 43 41.0
comp=Z,12nm,1.5s
BOSA Boshof 77.86 220 P P 22 43 24.2 -1.0
comp=Z,2.7nm,0.9s,baz=28,slow=6.9,SNR=3.9
comp=Z,2.7nm,0.9s
M27K Edge Creek, AK 77.87 15 P P 22 43 25.3 +0.4
M27K IAmb IAmb 22 43 27.0
comp=Z,6.0nm,1.0s
L29M L29M 77.92 13 P P 22 43 25.7 +0.7
L29M IAmb IAmb 22 43 27.0
comp=Z,9.9nm,1.3s
N25K Chitina, Valde 77.94 17 P P 22 43 24.8 -0.5
GLB Gilahina Butte 78.26 16 P P 22 43 26.7 -0.3
BMRM Bremner River 78.50 17 P P 22 43 28.8 +0.5
KDAK Kodiak Island 79.08 22 P P 22 43 31.2 -0.2
KDAK Kodiak Island 79.08 22 P P 22 43 31.2 -0.2
KDAK pmax pmax
comp=Z,66nm,1.5s
OHAK Old Harbor 79.33 23 P P 22 43 31.9 -0.8
Q23K Middleton Isla 79.42 18 P P 22 43 32.5 -0.7
HYT Haines Junctio 80.14 14 P P 22 43 36.8 -0.4
HYT IAmb IAmb 22 43 38.7
comp=Z,4.8nm,0.9s
YKA Yellowknife Ar 81.14 3 P P 22 43 42.0 -0.3
comp=Z,2.0nm,0.8s,baz=348,slow=5.3,SNR=26
YKA pP **pP 22 44 38.7 +2.1**
comp=Z,1.2nm,0.8s,baz=349,slow=5.1,SNR=6.5
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 81.14 3 *i* P **P 22 43 42.5 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
P33M Teslin, Yukon 81.55 12 P P 22 43 44.6 0.0
P33M IAmb IAmb 22 43 52.0
comp=Z,12nm,1.3s
WB0 Warramunga Arr 81.90 122 P P 22 43 45.9 -1.1
WRA Warramunga Arr 81.99 122 P P 22 43 46.3 -1.1
WRA Warramunga Arr 81.99 122 P P 22 43 45.9 -1.4
comp=Z,3.6nm,0.8s,baz=323,slow=5.0,SNR=32
comp=Z,3.6nm,0.8s
WRA Warramunga Arr 81.99 122 *i* P **P 22 43 46.2 -1.1**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 81.99 122 *i* P **P 22 43 46.3 -1.1**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 82.00 122 P P 22 43 46.5 -0.9
WB2 IAmb IAmb 22 43 47.0
comp=Z,5.0nm,0.8s
Q32M Nakina River 82.83 12 P P 22 43 51.5 +0.1
SUR Sutherland 83.17 221 P P 22 43 52.0 -1.4
ASAR Alice Springs 84.26 125 P P 22 43 58.4 -0.5
ASAR Alice Springs 84.26 125 P P 22 43 57.6 -1.3
comp=Z,3.3nm,0.7s,baz=308,slow=5.1,SNR=35
comp=Z,3.3nm,0.7s
ASAR Alice Springs 84.26 125 P P 22 43 58.4 -0.5
FORT Forrest 85.69 134 P P 22 44 04.9 -0.9

IDC ***15*** *22:33:12.4±0.7,52°.31N×176°.39E,h115km±4km,mb3.8/30, mbtmp4.2/34,MS3.9/1,Error ellipse: s-maj=14.9km s-min=7.4km az=177.0*
NEIC ***15*** *22:33:13.3±1.8,52°.3N±0°.1×176°.36E±0°.09,h121km±7km, mb4.3/209,ML3.6(AEIC),Error ellipse: s-maj=15.7km s-min=8.1km az=188.0*
AEIC ***15*** *22:33:15.3±1.9,52°.2N±0°.1×176°.46E±0°.09,h120km±6km, Error ellipse: s-maj=14.4km s-min=8.0km az=188.0*
ISC 15 22:33:13.1±0.4,52°.25N±0°.08×176°.37E±0°.04,h121km, n542,σ0674/550,mb4.3/101,Rat Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.47**	**290**	P	**Pn**	**22 33 39.3**	**-0.7**
	2μm,0.4s,baz=59,slow=3.9,SNR=316						
SHEM				LR	LR	22 33 46.9	
	comp=Z,53nm,18.3s,baz=104,slow=24						
SHEM				S	**Sn**	**22 33 58.7**	**-2.0**
	361nm,0.3s,baz=208,slow=4.9,SNR=5.2						
GASW	**Gareloi Southw**	**2.99**	**97**		**Pn**	**22 33 60.0**	**+0.8**
GANO	**Gareloi North**	**3.01**	**96**		**Pn**	**22 33 59.6**	**+0.1**
GANE	**Gareloi Northe**	**3.03**	**96**		**Pn**	**22 33 59.7**	**0.0**
TASE	**Tanaga Southea**	**3.48**	**95**		**Pn**	**22 34 05.8**	**+0.1**
TAFP	**Tanaga Falls P**	**3.50**	**94**		**Pn**	**22 34 06.1**	**+0.2**
TAPA	**Tanaga Point A**	**3.62**	**95**		**Pn**	**22 34 07.6**	**+0.1**
KIWB	**Kanaga Island**	**4.02**	**93**	Pn	**Pn**	**22 34 12.7**	**-0.1**
KIWB				Sn	**Sn**	**22 34 59.7**	**+0.5**
KINC	**Kanaga Island**	**4.03**	**92**		**Pn**	**22 34 12.9**	**0.0**
KIRH	**Kanaga Island**	**4.05**	**92**		**Pn**	**22 34 13.1**	**-0.1**
ADK	**Adak**	**4.30**	**92**	Pn	**Pn**	**22 34 16.1**	**-0.5**
GSCK	**Great Sitkin C**	**4.61**	**90**		**Pn**	**22 34 21.0**	**+0.3**
GSTR	**Great Sitkin T**	**4.67**	**89**	Pn	**Pn**	**22 34 20.5**	**-1.0**
ATKA	**Atka Island**	**5.80**	**87**	Pn	**Pn**	**22 34 36.6**	**-0.1**
SPIA	**Saint Paul Isl**	**9.18**	**52**	Pn	**Pn**	**22 35 24.2**	**+2.0**
SPIA	**Saint Paul Isl**	**9.18**	**52**	P	**Pn**	**22 35 23.3**	**+1.1**
	baz=243						
P08K	**Saint George I**	**9.29**	**56**	Pn	**Pn**	**22 35 24.7**	**+1.0**
P08K	**Saint George I**	**9.29**	**56**	P	**Pn**	**22 35 25.0**	**+1.3**
	baz=247						
UNV	**Unalaska Valle**	**10.44**	**74**	Pn	**Pn**	**22 35 40.8**	**+1.6**
UNV	**Unalaska Valle**	**10.44**	**74**	P	**Pn**	**22 35 39.3**	**+0.2**
	baz=268						
LVA	**Lava Point**	**10.73**	**73**	Pn	**Pn**	**22 35 44.2**	**+1.1**
PET	**Petropavlovsk**	**10.79**	**281**	Pn	**Pn**	**22 35 45.6**	**+1.6**
PEA0B	**Petropavlovsk-**	**11.37**	**282**	Pn	**Pn**	**22 35 53.9**	**+2.3**
PETK	**Petropavlovsk-**	**11.37**	**282**	Pn	**Pn**	**22 35 53.4**	**+1.7**
PETK	**Petropavlovsk-**	**11.37**	**282**	P	**Pn**	**22 35 52.8**	**+1.2**
	11nm,0.5s,baz=248,slow=3.0,SNR=146						
FALS	**False Pass**	**12.29**	**70**	P	**Pn**	**22 36 04.8**	**+1.0**
	baz=266						
M11K	**Mekoryuk**	**12.61**	**43**	P	**Pn**	**22 36 08.8**	**+0.9**
	baz=237						
GAMB	**Gambell**	**13.14**	**24**	Pn	**Pn**	**22 36 17.3**	**+2.7**
GAMB	**Gambell**	**13.14**	**24**	P	**Pn**	**22 36 15.8**	**+1.1**
	baz=214						
M13K	**Dall Lake**	**13.86**	**46**	P	**P**	**22 36 29.9**	**+1.6**
M13K	**Dall Lake**	**13.86**	**46**	P	**Pn**	**22 36 24.7**	**+0.7**
	baz=242						
SDPT	**Sand Point**	**14.01**	**68**	P	**Pn**	**22 36 25.7**	**-0.3**
	baz=266						
K13K	**Kusilvak Mount**	**14.10**	**39**	P	**P**	**22 36 31.7**	**+0.8**
K13K	**Kusilvak Mount**	**14.10**	**39**	P	**Pn**	**22 36 27.7**	**+0.6**
	baz=235						
O14K	**Tigyukauivet M**	**14.36**	**52**	P	**P**	**22 36 34.8**	**+0.9**
O14K	**Tigyukauivet M**	**14.36**	**52**	P	**Pn**	**22 36 30.6**	**+0.1**
	baz=250						
N14K	**Kuskokwak Cree**	**14.40**	**49**	P	**Pn**	**22 36 31.6**	**+0.7**
	baz=247						
CHNA	**Chernabura Isl**	**14.51**	**70**	P	**Pn**	**22 36 33.0**	**+0.7**
	baz=269						
CNBA	**Chernabura Isl**	**14.51**	**70**	Pn	**Pn**	**22 36 30.8**	**-1.5**
L14K	**Kuka Creek**	**14.58**	**43**	P	**P**	**22 36 36.5**	**+0.2**
L14K	**Kuka Creek**	**14.58**	**43**	P	**Pn**	**22 36 33.8**	**+0.6**
	baz=240,SNR=11						
S14K	**Fog Glacier**	**14.61**	**64**	P	**Pn**	**22 36 33.6**	**0.0**
	baz=264						
M14K	**Bethel**	**14.62**	**46**	P	**P**	**22 36 37.0**	**+0.3**
M14K	**Bethel**	**14.62**	**46**	P	**Pn**	**22 36 34.8**	**+1.1**
	baz=244,SNR=8.8						
J14K	**Nanvaranak Lak**	**14.99**	**38**		**P**	**22 36 41.4**	**+0.6**
J14K	**Nanvaranak Lak**	**14.99**	**38**	P	**Pn**	**22 36 39.1**	**+0.8**
	baz=234						
O15K	**Ungalikthiuk R**	**15.04**	**53**	P	**Pn**	**22 36 39.5**	**+0.5**
	baz=253						
M15K	**Kasigluk River**	**15.16**	**47**	P	**Pn**	**22 36 41.5**	**+1.0**
	baz=246						
N15K	**Kwethluk River**	**15.24**	**49**	P	**P**	**22 36 45.1**	**+1.4**
N15K	**Kwethluk River**	**15.24**	**49**	P	**Pn**	**22 36 41.9**	**+0.4**
	baz=249,SNR=13						
CHGN	**Chignik**	**15.24**	**65**		**Pn**	**22 36 42.3**	**+0.8**
CHGN	**Chignik**	**15.24**	**65**	P	**Pn**	**22 36 41.3**	**-0.2**
	baz=265						
L15K	**Ungalak Mounta**	**15.25**	**43**	P	**Pn**	**22 36 42.2**	**+0.6**
	baz=241						
ANM	**Nome**	**15.53**	**30**		**P**	**22 36 47.4**	**+0.6**
ANM				IAmb	IAmb	22 36 49.7	
	comp=Z,16nm,0.9s						
ANM	**Nome**	**15.53**	**30**	P	**Pn**	**22 36 45.2**	**+0.2**
	baz=226						
K15K	**Wolf Creek Mou**	**15.53**	**41**	P	**P**	**22 36 48.3**	**+1.4**
K15K	**Wolf Creek Mou**	**15.53**	**41**	P	**Pn**	**22 36 45.1**	**-0.1**
	baz=239						
TNA	**Tin City**	**15.54**	**25**	P	**P**	**22 36 47.9**	**+1.0**
TNA	**Tin City**	**15.54**	**25**	P	**Pn**	**22 36 45.7**	**+0.5**
	baz=218,SNR=5.1						
R16K	**Pilot Point**	**15.85**	**60**	P	**Pn**	**22 36 48.6**	**-0.4**
	baz=261						
F14K	**Arctic Creek**	**15.91**	**27**	P	**Pn**	**22 36 50.2**	**+0.4**
	baz=222						
N16K	**Nishlik Lake**	**15.96**	**49**	P	**Pn**	**22 36 50.5**	**0.0**
	baz=250						
O16K	**Kokwok River B**	**16.01**	**53**		**P**	**22 36 52.3**	**+0.2**
O16K				IAmb	IAmb	22 37 01.2	
	comp=Z,14nm,1.1s						
O16K	**Kokwok River B**	**16.01**	**53**	P	**Pn**	**22 36 51.0**	**-0.1**
	baz=254						
MA2	**Magadan**	**16.04**	**307**	P	**Pn**	**22 36 52.0**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=113,slow=8.6,SNR=4.0						
M16K	**Timber Creek**	**16.07**	**47**	P	**P**	**22 36 53.5**	**+0.6**
M16K				IAmb	IAmb	22 36 56.0	
	comp=Z,17nm,0.8s						
M16K	**Timber Creek**	**16.07**	**47**	P	**Pn**	**22 36 52.1**	**+0.3**
	baz=248						
G15K	**Niukluk**	**16.24**	**31**	P	**Pn**	**22 36 53.9**	**0.0**
	baz=227						
J16K	**Anvik River**	**16.41**	**39**	P	**P**	**22 36 57.9**	**+1.4**
J16K				IAmb	IAmb	22 37 00.7	
	comp=Z,11nm,0.8s						
J16K	**Anvik River**	**16.41**	**39**	P	**Pn**	**22 36 55.6**	**-0.3**
	baz=238						
Q16K	**King Salmon**	**16.52**	**56**	P	**Pn**	**22 36 56.5**	**-0.8**
	baz=259						
O17K	**Koliganek Bris**	**16.55**	**53**	P	**Pn**	**22 36 57.2**	**-0.5**
	baz=254						
F15K	**North Star Dit**	**16.55**	**28**	P	**P**	**22 37 00.1**	**+1.9**
F15K	**North Star Dit**	**16.55**	**28**	P	**Pn**	**22 36 57.4**	**-0.3**
	baz=224						
H16K	**Elim**	**16.60**	**33**	P	**Pn**	**22 36 58.1**	**-0.1**
	baz=231						
SEY	**Seymchan**	**16.61**	**319**	P	**Pn**	**22 36 58.6**	**+0.3**
	comp=Z,0.9nm,0.2s,baz=296,slow=23,SNR=5.4						
I17K	**Unalakleet**	**16.70**	**37**	P	**P**	**22 37 01.6**	**+1.9**
I17K				IAmb	IAmb	22 37 02.8	
	comp=Z,22nm,1.0s						
I17K	**Unalakleet**	**16.70**	**37**	P	**Pn**	**22 36 58.7**	**-0.7**
	baz=236						
N17K	**Nushagak Hills**	**16.72**	**50**	P	**P**	**22 37 01.0**	**+1.0**
N17K				IAmb	IAmb	22 37 01.6	
	comp=Z,8.8nm,0.7s						
N17K	**Nushagak Hills**	**16.72**	**50**	P	**Pn**	**22 36 59.0**	**-0.8**
	baz=252						
P17K	**Kvichak River**	**16.73**	**55**	P	**Pn**	**22 36 58.3**	**-1.6**
	baz=257						
CHIR	**Chirikof Islan**	**16.78**	**67**	P	**Pn**	**22 36 59.5**	**-1.0**
CHIR	**Chirikof Islan**	**16.78**	**67**	P	**Pn**	**22 36 59.8**	**-0.7**
	baz=269						
L17K	**Donlin**	**16.80**	**44**	P	**P**	**22 37 01.3**	**+0.4**
	baz=245						
M17K	**Holitna River**	**16.90**	**47**	P	**P**	**22 37 03.1**	**+1.2**
M17K				IAmb	IAmb	22 37 12.1	
	comp=Z,12nm,0.9s						
M17K	**Holitna River**	**16.90**	**47**	P	**P**	**22 37 02.3**	**+0.4**
	baz=249						
G16K	**Koyuk River**	**17.04**	**31**	P	**Pn**	**22 37 04.5**	**+0.9**
G16K				IAmb	IAmb	22 37 05.8	
	comp=Z,11nm,0.7s						
G16K	**Koyuk River**	**17.04**	**31**	P	**P**	**22 37 03.7**	**+0.3**
	baz=229						
K17K	**Iditarod**	**17.05**	**42**	P	**Pn**	**22 37 04.8**	**+1.0**
K17K				IAmb	IAmb	22 37 05.8	
	comp=Z,23nm,0.7s						
K17K	**Iditarod**	**17.05**	**42**	P	**P**	**22 37 03.9**	**+0.3**
	baz=243						
J17K	**VABM Dome**	**17.06**	**40**	P	**Pn**	**22 37 05.2**	**+1.3**
J17K				IAmb	IAmb	22 37 08.3	
	comp=Z,15nm,0.8s						
J17K	**VABM Dome**	**17.06**	**40**	P	**P**	**22 37 04.0**	**+0.3**
	baz=240						
ACHA	**Angle Creek He**	**17.13**	**58**	P	**Pn**	**22 37 05.5**	**+0.7**
ACHA				IAmb	IAmb	22 37 08.6	
	comp=Z,18nm,0.7s						
Q18K	**Katmai Hardscr**	**17.36**	**57**	P	**P**	**22 37 06.7**	**-0.4**
	baz=260,SNR=5.4						
N18K	**Kilae Creek**	**17.38**	**50**	P	**Pn**	**22 37 08.3**	**+0.6**
N18K				IAmb	IAmb	22 37 16.8	
	comp=Z,13nm,0.7s						
N18K	**Kilae Creek**	**17.38**	**50**	P	**P**	**22 37 07.3**	**+0.1**
	baz=253						
P18K	**Big Mountain,**	**17.38**	**55**	P	**Pn**	**22 37 08.3**	**+0.5**
P18K				IAmb	IAmb	22 37 09.7	
	comp=Z,28nm,1.0s						
P18K	**Big Mountain,**	**17.38**	**55**	P	**P**	**22 37 07.2**	**-0.2**
	baz=258						
O18K	**Koktuh Hills**	**17.49**	**53**	P	**Pn**	**22 37 09.8**	**+0.7**
O18K	**Koktuh Hills**	**17.49**	**53**	P	**P**	**22 37 08.3**	**-0.2**
	baz=256,SNR=5.5						
R18K	**Karluk**	**17.52**	**61**	P	**P**	**22 37 08.9**	**+0.2**
	baz=265						
L18K	**Granite Mounta**	**17.53**	**45**	P	**Pn**	**22 37 10.3**	**+0.7**
L18K	**Granite Mounta**	**17.53**	**45**	P	**P**	**22 37 09.4**	**+0.5**
	baz=247						
H17K	**Granite Mounta**	**17.57**	**35**	P	**Pn**	**22 37 10.5**	**+0.4**
H17K				IAmb	IAmb	22 37 13.9	
	comp=Z,10nm,0.8s						
H17K	**Granite Mounta**	**17.57**	**35**	P	**P**	**22 37 09.8**	**+0.4**
	baz=235						
SII	**Sitkinak Islan**	**17.60**	**64**	P	**P**	**22 37 09.2**	**-0.6**
SII	**Sitkinak Islan**	**17.60**	**64**	P	**P**	**22 37 09.4**	**-0.3**
	baz=268						
M18K	**Stony River**	**17.66**	**48**	P	**P**	**22 37 10.4**	**+0.1**
	baz=251						
G17K	**Kiwalik Mounta**	**17.66**	**32**	P	**P**	**22 37 10.8**	**+0.6**
	baz=232						
O19K	**Port Alsworth**	**18.00**	**52**	P	**Pn**	**22 37 15.9**	**+0.7**
O19K	**Port Alsworth**	**18.00**	**52**	P	**P**	**22 37 14.7**	**+0.6**
	baz=257						
J18K	**Innoko River**	**18.03**	**41**	P	**Pn**	**22 37 15.4**	**-0.1**
J18K				IAmb	IAmb	22 37 17.4	
	comp=Z,15nm,0.8s						
J18K	**Innoko River**	**18.03**	**41**	P	**P**	**22 37 15.0**	**+0.6**
	baz=244						
F17K	**Baldwin Pennin**	**18.07**	**30**	P	**Pn**	**22 37 15.9**	**0.0**
F17K				IAmb	IAmb	22 37 19.8	
	comp=Z,25nm,0.8s						
F17K	**Baldwin Pennin**	**18.07**	**30**	P	**Pn**	**22 37 15.7**	**-0.2**
	baz=229						
N19K	**Bonanza Creek**	**18.08**	**50**	P	**Pn**	**22 37 16.9**	**+0.7**
N19K	**Bonanza Creek**	**18.08**	**50**	P	**P**	**22 37 15.5**	**+0.5**
	baz=254						
Q19K	**Cape Douglas,**	**18.10**	**57**	P	**P**	**22 37 15.9**	**+0.7**
Q19K	**Cape Douglas,**	**18.10**	**57**	P	**P**	**22 37 15.0**	**-0.2**
	baz=261						
OHAK	**Old Harbor**	**18.12**	**62**	P	**P**	**22 37 14.2**	**-1.2**
OHAK	**Old Harbor**	**18.12**	**62**	P	**P**	**22 37 14.2**	**-1.2**
	baz=267,SNR=6.1						
H18K	**Honhosa River**	**18.24**	**35**	P	**P**	**22 37 17.3**	**+0.7**
	baz=237						
C16K	**Lisburne Hills**	**18.32**	**22**	P	**P**	**22 37 18.4**	**+1.0**
C16K	**Lisburne Hills**	**18.32**	**22**	P	**P**	**22 37 17.9**	**+0.5**
	baz=218						
L19K	**White Mountain**	**18.32**	**46**	P	**Pn**	**22 37 18.8**	**-0.2**
L19K				IAmb	IAmb	22 37 20.4	
	comp=Z,14nm,1.1s						
L19K	**White Mountain**	**18.32**	**46**	P	**P**	**22 37 17.6**	**0.0**
	baz=250						
E17K	**Hotham Inlet**	**18.33**	**28**	P	**P**	**22 37 18.1**	**+0.5**
	baz=226						
D17K	**Noatak River**	**18.43**	**25**	P	**P**	**22 37 19.6**	**+0.9**
	baz=223,SNR=20						
P19K	**Oil Pt**	**18.43**	**54**	P	**P**	**22 37 19.7**	**+0.9**
P19K	**Oil Pt**	**18.43**	**54**	P	**P**	**22 37 19.2**	**+0.4**
	baz=260						
M19K	**Big River Lodg**	**18.44**	**47**	P	**Pn**	**22 37 20.0**	**-0.3**
M19K				IAmb	IAmb	22 37 31.9	
	comp=Z,9.8nm,0.6s						
M19K	**Big River Lodg**	**18.44**	**47**	P	**P**	**22 37 19.0**	**+0.2**
	baz=251						
KDAK	**Kodiak Island**	**18.53**	**60**	P	**P**	**22 37 19.2**	**-0.6**
KDAK	**Kodiak Island**	**18.53**	**60**	P	**P**	**22 37 18.7**	**-1.2**
	comp=Z,47nm,0.5s,baz=67,slow=2.0,SNR=50						
KDAK	**Kodiak Island**	**18.53**	**60**	P	**P**	**22 37 19.3**	**-0.6**
	baz=266						
ILSW	**Iliamna Southw**	**18.54**	**53**	P	**P**	**22 37 21.1**	**+1.1**
G18K	**Tagagawik**	**18.56**	**33**	P	**P**	**22 37 21.2**	**+1.1**
	baz=234						
GCSA	**Galena City Sc**	**18.57**	**37**	P	**P**	**22 37 20.3**	**+0.1**
	baz=240						
F18K	**Selawik**	**18.66**	**30**	P	**P**	**22 37 22.0**	**+0.8**
	baz=231,SNR=13						
J19K	**Poorman**	**18.70**	**40**	P	**P**	**22 37 22.8**	**+1.1**
J19K				IAmb	IAmb	22 37 23.7	
	comp=Z,17nm,0.8s						
J19K	**Poorman**	**18.70**	**40**	P	**P**	**22 37 22.3**	**+0.6**
	baz=244,SNR=13						
Q20K	**Shuyak Island**	**18.71**	**58**	P	**P**	**22 37 21.8**	**0.0**
	baz=264						
SYI	**Shuyak Island**	**18.71**	**58**	P	**P**	**22 37 22.2**	**+0.4**
RDOG	**Red Dog Mine**	**18.74**	**24**	P	**P**	**22 37 23.1**	**+1.1**
RDOG	**Red Dog Mine**	**18.74**	**24**	P	**P**	**22 37 22.8**	**+0.8**
	baz=222,SNR=10						
O20K	**Slope Mountain**	**18.81**	**53**	P	**P**	**22 37 23.0**	**0.0**
	baz=259						
L20K	**Farewell, AK**	**18.85**	**46**	P	**P**	**22 37 23.6**	**+0.3**
	baz=250						
E18K	**Tukpahlearik C**	**18.91**	**28**	P	**P**	**22 37 23.9**	**-0.1**
E18K				IAmb	IAmb	22 37 27.1	
	comp=Z,18nm,0.9s						
E18K	**Tukpahlearik C**	**18.91**	**28**	P	**P**	**22 37 25.1**	**+1.2**
	baz=228						
C17K	**DeLong Mountai**	**18.98**	**23**	P	**P**	**22 37 26.1**	**+1.3**
	baz=221						
M20K	**Styx River**	**19.00**	**48**	IAmb	IAmb	22 37 33.8	
	comp=Z,12nm,0.8s						
M20K	**Styx River**	**19.00**	**48**	P	**P**	**22 37 25.7**	**+0.6**
	baz=253						
K20K	**Telida**	**19.08**	**43**	P	**P**	**22 37 26.7**	**+0.9**
K20K	**Telida**	**19.08**	**43**	P	**P**	**22 37 26.7**	**+0.9**
	baz=248						
H19K	**Roundabout Mou**	**19.12**	**36**	P	**P**	**22 37 26.9**	**+0.7**
	baz=239						
HOM	**Homer**	**19.23**	**55**	P	**P**	**22 37 28.7**	**+1.3**
HOM	**Homer**	**19.23**	**55**	P	**P**	**22 37 27.4**	**0.0**
	baz=261						
SPCR	**Spurr Chakacha**	**19.25**	**50**	P	**P**	**22 37 27.4**	**-0.3**
	baz=256,SNR=7.9						
J20K	**Nowinta River**	**19.37**	**41**	P	**P**	**22 37 29.7**	**+0.8**
J20K	**Nowinta River**	**19.37**	**41**	P	**P**	**22 37 29.2**	**+0.3**
	baz=246,SNR=26						
F19K	**Shaleruckik Mo**	**19.40**	**31**	P	**P**	**22 37 29.5**	**+0.3**
F19K				IAmb	IAmb	22 37 30.9	
	comp=Z,12nm,0.8s						
F19K	**Shaleruckik Mo**	**19.40**	**31**	P	**P**	**22 37 29.7**	**+0.5**
	baz=234						
CNPM	**China Poot**	**19.41**	**55**	P	**P**	**22 37 29.7**	**+0.2**
STLK	**Strandline Lak**	**19.50**	**49**	P	**P**	**22 37 31.0**	**+0.6**
STLK				IAmb	IAmb	22 37 35.6	
	comp=Z,12nm,0.7s						
I20K	**Naaghedeneel**	**19.50**	**39**	P	**P**	**22 37 30.7**	**+0.4**
	baz=244						
C18K	**Utukok River**	**19.61**	**25**	P	**P**	**22 37 32.5**	**+1.0**
C18K				IAmb	IAmb	22 37 33.3	
	comp=Z,14nm,0.8s						
C18K	**Utukok River**	**19.61**	**25**	P	**P**	**22 37 32.3**	**+0.8**
	baz=224						
BRLK	**Bradley Lake**	**19.62**	**55**	P	**P**	**22 37 31.8**	**+0.1**
CAPN	**Captain Cook N**	**19.66**	**52**	P	**P**	**22 37 32.2**	**+0.1**
	baz=259						
H20K	**Anotleneega Mo**	**19.67**	**37**	P	**P**	**22 37 32.4**	**+0.2**
	baz=241,SNR=8.7						
BRSE	**Bradley Lake S**	**19.69**	**55**	P	**P**	**22 37 32.8**	**+0.3**
	baz=262,SNR=5.4						
PPLA	**Purkeypile**	**19.72**	**45**	P	**P**	**22 37 32.8**	**-0.1**
	baz=252						
SKT	**Skwentna**	**19.75**	**48**	P	**P**	**22 37 34.6**	**+1.5**
SKT				IAmb	IAmb	22 37 37.3	
	comp=Z,12nm,1.0s						
SKT	**Skwentna**	**19.75**	**48**	P	**P**	**22 37 33.7**	**+0.6**
	baz=255						
CAST	**Castle Rocks**	**19.93**	**44**	P	**P**	**22 37 36.1**	**+1.0**
CAST				IAmb	IAmb	22 37 37.1	
	comp=Z,16nm,0.8s						
CAST	**Castle Rocks**	**19.93**	**44**	P	**P**	**22 37 35.3**	**+0.2**
	baz=250,SNR=10.0						
E19K	**Redstone River**	**19.94**	**30**	P	**P**	**22 37 35.8**	**+0.7**
	baz=233						
B18K	**Kokolik River**	**19.98**	**23**	P	**P**	**22 37 36.5**	**+1.0**
	baz=222						
SUA	**Susitna One**	**19.99**	**50**	P	**P**	**22 37 36.5**	**+0.7**
SUA	**Susitna One**	**19.99**	**50**	P	**P**	**22 37 35.7**	**-0.1**
	baz=257						
CHUM	**Lake Minchumin**	**20.00**	**42**	P	**P**	**22 37 36.1**	**+0.4**
	baz=249,SNR=12						
SLKM	**Skilak Lake**	**20.06**	**53**	P	**P**	**22 37 36.9**	**+0.4**
SLKM				IAmb	IAmb	22 37 37.6	
	comp=Z,21nm,0.9s						
F20K	**Avaraart Lake**	**20.18**	**32**	P	**P**	**22 37 38.4**	**+0.7**
	baz=236						
O22K	**Cooper Landing**	**20.30**	**53**	P	**P**	**22 37 39.2**	**+0.2**
O22K	**Cooper Landing**	**20.30**	**53**	P	**P**	**22 37 38.9**	**0.0**
	baz=261						
D19K	**Kuna River**	**20.33**	**27**	P	**P**	**22 37 39.4**	**+0.1**
D19K				IAmb	IAmb	22 37 41.2	
	comp=Z,9.2nm,0.8s						
D19K	**Kuna River**	**20.33**	**27**	P	**P**	**22 37 39.3**	**0.0**
	baz=229						
M22K	**Willow**	**20.35**	**49**	P	**P**	**22 37 39.5**	**0.0**
	baz=257						
SEW	**Seward**	**20.38**	**54**	P	**P**	**22 37 39.3**	**-0.6**
SEW	**Seward**	**20.38**	**54**	P	**P**	**22 37 39.6**	**-0.3**
	baz=262						
RC01	**Rabbit Creek A**	**20.40**	**51**	P	**P**	**22 37 40.6**	**+0.6**
RC01				IAmb	IAmb	22 37 44.8	
	comp=Z,32nm,1.2s						
RC01	**Rabbit Creek A**	**20.40**	**51**	P	**P**	**22 37 40.3**	**+0.3**
	baz=259						
KTH	**Kantishna Hill**	**20.47**	**44**	P	**P**	**22 37 42.3**	**+1.4**
KTH				IAmb	IAmb	22 37 44.3	
	comp=Z,19nm,1.2s						
H21K	**Melozitna Rive**	**20.52**	**37**	P	Pn	22 37 43.6	-1.0
H21K	**Melozitna Rive**	**20.52**	**37**	P	**P**	**22 37 41.7**	**+0.4**
	baz=244						
BPAW	**Bear Paw Mtn.**	**20.62**	**42**	P	**P**	**22 37 43.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**20.62**	**42**	P	**P**	**22 37 42.8**	**+0.3**
	baz=250						
I21K	**Tanana**	**20.63**	**39**	P	**P**	**22 37 43.6**	**+1.2**
**I

	baz=228							
F22K	John River	21.60	33	P	P	22 37 52.5	-0.4	
	baz=240							
GLI	Glacier Island	21.64	52	P	P	22 37 52.8	-0.5	
GLI	Glacier Island	21.64	52	P	P	22 37 52.1	-1.2	
	baz=263							
I23K	Minto, Yukon-K	21.64	40	P	P	22 37 54.2	+0.9	
I23K	Minto, Yukon-K	21.64	40	P	P	22 37 52.4	-0.8	
	baz=250							
SCM	Sheep Creek Mo	21.67	50	P	P	22 37 53.0	-0.7	
SCM	Sheep Creek Mo	21.67	50	P	P	22 37 52.9	-0.8	
	baz=260							
C21K	Knifeblade Rid	21.69	28	P	P	22 37 53.3	-0.5	
	baz=233							
H23K	Yukon River	21.82	38	P	P	22 37 54.8	-0.4	
	baz=248							
HIN	Hinchinbrook I	21.88	54	P	P	22 37 55.3	-0.6	
Q23K	Middleton Isla	21.89	56	P	P	22 37 55.1	-0.8	
	baz=267							
WRH	Wood River Hil	21.94	42	P	P	22 37 55.7	-0.8	
G23K	Bananza Creek	21.99	36	P	P	22 37 57.0	+0.1	
G23K	Bananza Creek	21.99	36	P	P	22 37 57.1	+0.1	
	baz=245							
B21K	Ikpikpuk River	22.02	27	P	P	22 37 56.6	-0.6	
B21K	Ikpikpuk River	22.02	27	P	P	22 37 57.1	-0.1	
	baz=232							
E22K	Anaktuvuk Pass	22.03	32	P	P	22 37 57.5	+0.1	
E22K	Anaktuvuk Pass	22.03	32	P	P	22 37 56.8	-0.6	
	baz=240,SNR=20							
COLD	Coldfoot	22.15	35	P	P	22 37 59.0	+0.4	
COLD	Coldfoot	22.15	35	P	P	22 37 58.3	-0.3	
	baz=244							
D22K	Ayikyak River	22.15	30	P	P	22 37 58.8	+0.1	
D22K	Ayikyak River	22.15	30	P	P	22 37 58.3	-0.3	
	baz=237							
COLA	College	22.16	41	P	P	22 37 58.4	-0.3	
	baz=252							
M24K	Tolsona, Glenn	22.25	49	P	P	22 37 59.8	+0.1	
M24K				IAmb	IAmb	22 38 02.6		
	comp=Z,12nm,0.7s							
M24K	Tolsona, Glenn	22.25	49	P	P	22 37 59.5	-0.3	
	baz=261							
EYAK	Cordova Ski Ar	22.26	53	P	P	22 38 00.1	+0.3	
EYAK				IAmb	IAmb	22 38 00.5		
	comp=Z,8.5nm,0.8s							
EYAK	Cordova Ski Ar	22.26	53	P	P	22 37 59.6	-0.2	
	baz=265							
KLU	Klutina	22.28	51	P	P	22 37 60.0	-0.1	
KLU				IAmb	IAmb	22 38 08.0		
	comp=Z,22nm,1.2s							
KLU	Klutina	22.28	51	P	P	22 37 59.5	-0.5	
	baz=262							
DIV	Divide	22.31	52	P	P	22 38 00.5	+0.2	
DIV				IAmb	IAmb	22 38 09.0		
	comp=Z,11nm,1.0s							
HDA	Harding Lake	22.40	43	P	P	22 38 01.4	+0.2	
	baz=254							
POKR	Poker Plat Res	22.40	41	P	P	22 38 02.1	+0.9	
POKR	Poker Plat Res	22.40	41	P	P	22 38 01.0	-0.2	
	baz=252							
H24K	Noodor Dome	22.46	39	P	P	22 38 02.0	+0.2	
H24K				IAmb	IAmb	22 38 05.9		
	comp=Z,7.3nm,0.7s							
H24K	Noodor Dome	22.46	39	P	P	22 38 01.4	-0.4	
	baz=250,SNR=9.2							
IL31		22.52	42	P	P	22 38 02.3	0.0	
ILAR	Eielson Array	22.52	42	P	P	22 38 01.8	-0.6	
ILAR	Eielson Array	22.52	42	P	P	22 38 00.4	-1.9	
	comp=Z,1.8nm,0.6s,baz=244,slow=9.5,SNR=33							
ILAR				pP	pP	22 38 24.8	+0.6	
	comp=Z,6.0nm,1.0s,baz=263,slow=12,SNR=6.6							
	comp=Z,1.8nm,0.6s							
E23K	Chandalar	22.72	33	P	P	22 38 04.8	+0.4	
E23K				IAmb	IAmb	22 38 06.0		
	comp=Z,10nm,0.6s							
E23K	Chandalar	22.72	33	P	P	22 38 04.1	-0.3	
	baz=243,SNR=11							
K24K	Donnelly Dome	22.75	45	P	P	22 38 04.0	-0.7	
	baz=257							
HARP	HAARP	22.77	48	P	P	22 38 03.9	-0.9	
	baz=261							
B22K	Teshekpuk Lake	22.79	26	P	P	22 38 04.3	-0.6	
B22K	Teshekpuk Lake	22.79	26	P	P	22 38 04.2	-0.6	
	baz=233							
A22K	Sinclair Lake	22.80	24	P	P	22 38 04.5	-0.5	
	baz=229							
D23K	Nanushuk River	22.82	30	P	P	22 38 05.3	+0.2	
D23K				IAmb	IAmb	22 38 06.7		
	comp=Z,8.6nm,0.5s							
D23K	Nanushuk River	22.82	30	P	P	22 38 04.5	-0.7	
	baz=239							
BMRM	Bremner River	22.86	52	P	P	22 38 05.3	-0.5	
BMRM				IAmb	IAmb	22 38 07.4		
	comp=Z,15nm,0.9s							
BMRM	Bremner River	22.86	52	P	P	22 38 05.0	-0.8	
	baz=265							
G24K	Hadweenzic Riv	22.92	37	P	P	22 38 06.4	+0.1	
G24K	Hadweenzic Riv	22.92	37	P	P	22 38 06.3	+0.1	
	baz=248							
N25K	Chitina, Valde	22.92	51	P	P	22 38 06.0	-0.4	
N25K				IAmb	IAmb	22 38 07.7		
	comp=Z,5.5nm,0.5s							
N25K	Chitina, Valde	22.92	51	P	P	22 38 05.6	-0.8	
	baz=264							
TOLK	Toolik Lake Re	23.01	32	P	P	22 38 07.5	+0.5	
TOLK	Toolik Lake Re	23.01	32	P	P	22 38 06.7	-0.4	
	baz=242,SNR=32							
F24K	Squaw Lake	23.08	35	P	P	22 38 07.9	+0.1	
F24K	Squaw Lake	23.08	35	P	P	22 38 07.7	-0.1	
	baz=246							
E24K	Your Creek	23.11	33	P	P	22 38 08.0	0.0	
E24K	Your Creek	23.11	33	P	P	22 38 07.6	-0.4	
	baz=244							
J25K	Salcha River,	23.11	43	P	P	22 38 06.5	-1.6	
J25K	Salcha River,	23.11	43	P	P	22 38 06.7	-1.4	
	baz=256							
RIDG	Independent Ri	23.14	45	P	P	22 38 07.7	-0.7	
RIDG	Independent Ri	23.14	45	P	P	22 38 07.4	-1.0	
	baz=258							
GLB	Gilahina Butte	23.28	51	P	P	22 38 09.2	-0.5	
GLB				IAmb	IAmb	22 38 10.8		
	comp=Z,18nm,1.1s							
PRP	Porcupine Dome	23.29	41	P	P	22 38 09.2	-0.6	
PRP	Porcupine Dome	23.29	41	P	P	22 38 09.1	-0.6	
	baz=253							
C23K	Itkillik River	23.29	29	P	P	22 38 09.2	-0.4	
C23K				IAmb	IAmb	22 38 11.4		
	comp=Z,12nm,0.8s							
C23K	Itkillik River	23.29	29	P	P	22 38 09.6	0.0	
	baz=238							
H25L	Birch Creek	23.39	39	P	P	22 38 10.7	+0.1	
	baz=251							
VRDI	Verde Repeater	23.44	52	P	P	22 38 10.8	-0.5	
VRDI				IAmb	IAmb	22 38 24.6		
	comp=Z,15nm,1.1s							
G25K	Bearman Lake	23.45	37	P	P	22 38 10.0	-1.1	
	baz=250							
BGLC	Bering Glacier	23.46	55	P	P	22 38 10.9	-0.4	
	baz=268							
DOT	Dot Lake	23.47	46	P	P	22 38 10.7	-0.7	
D24K	Happy Valley	23.49	31	P	P	22 38 11.3	-0.2	
D24K				IAmb	IAmb	22 38 13.4		
	comp=Z,12nm,0.8s							
D24K	Happy Valley	23.49	31	P	P	22 38 10.8	-0.7	
	baz=242							
MENT	Mentasta	23.50	47	P	P	22 38 12.3	+0.6	
MENT				IAmb	IAmb	22 38 13.8		
	comp=Z,6.7nm,0.5s							
SCRK	Sand Creek	23.56	45	P	P	22 38 11.4	-0.8	
SCRK				IAmb	IAmb	22 38 12.1		
	comp=Z,16nm,1.1s							
SCRK	Sand Creek	23.56	45	P	P	22 38 11.5	-0.8	
	baz=259,SNR=6.3							
L26K	Log Cabin Wild	23.68	47	P	P	22 38 12.6	-0.7	
	baz=262							
FYU	Fort Yukon	23.71	38	P	P	22 38 14.2	+0.8	
JKA	Kamikawa-asahi	23.76	263	P	P	22 38 15.0	+0.9	
JKA				IAmb	IAmb	22 38 16.6		
	comp=Z,7.7nm,0.9s							
M26K	Nabesna, AK	23.76	49	P	P	22 38 13.3	-0.7	
	baz=263							
ASAJ	Asahikawa	23.76	263	P	P	22 38 15.4	+1.2	
	comp=Z,7.5nm,0.7s,baz=66,slow=9.6,SNR=6.9							
	comp=Z,7.5nm,0.7s							
C24K	Franklin Bluff	23.80	30	P	P	22 38 14.5	+0.3	
C24K				IAmb	IAmb	22 38 15.7		
	comp=Z,6.5nm,0.7s							
C24K	Franklin Bluff	23.80	30	P	P	22 38 14.4	+0.2	
	baz=240							
J26L	Joseph Creek	23.85	44	P	P	22 38 14.1	-0.8	
J26L				IAmb	IAmb	22 38 15.6		
	comp=Z,7.5nm,0.8s							
J26L	Joseph Creek	23.85	44	P	P	22 38 14.2	-0.7	
	baz=258							
F25K	Christian Rive	23.91	36	P	P	22 38 15.6	+0.3	
F25K	Christian Rive	23.91	36	P	P	22 38 15.1	-0.2	
	baz=249							
E25K	Arctic Village	24.13	34	P	P	22 38 17.3	0.0	
E25K	Arctic Village	24.13	34	P	P	22 38 17.3	0.0	
	baz=248,SNR=7.1							
MESA	MESA	24.13	54	P	P	22 38 18.2	+0.6	
MESA	MESA	24.13	54	P	P	22 38 17.3	-0.3	
	baz=269							
I26K	Coal Creek Min	24.19	42	P	P	22 38 16.9	-0.9	
	baz=257							
BMAR	Burnt Mountain	24.23	36	P	P	22 38 18.5	+0.2	
YAH	Yahtse	24.24	54	P	P	22 38 19.6	+1.1	
M27K	Edge Creek, AK	24.28	49	P	P	22 38 18.2	-0.6	
	baz=264							
D25K	Kavik River	24.34	31	P	P	22 38 19.6	+0.4	
D25K				IAmb	IAmb	22 38 21.4		
	comp=Z,5.7nm,0.6s							
D25K	Kavik River	24.34	31	P	P	22 38 19.0	-0.3	
	baz=244							
L27K	Beaver Creek,	24.37	47	P	P	22 38 19.8	+0.2	
L27K				IAmb	IAmb	22 38 22.4		
	comp=Z,5.6nm,0.8s							
L27K	Beaver Creek,	24.37	47	P	P	22 38 18.7	-0.9	
	baz=263							
G26K	Porcupine Rive	24.38	38	P	P	22 38 18.9	-0.5	
	baz=252,SNR=6.7							
BCAR	Beaver Creek A	24.39	47	P	P	22 38 20.7	+0.9	
K27K	Chicken	24.40	45	P	P	22 38 20.0	+0.3	
K27K				IAmb	IAmb	22 38 21.1		
	comp=Z,6.9nm,0.8s							
K27K	Chicken	24.40	45	P	P	22 38 19.1	-0.6	
	baz=261							
F26K	Sheenjek River	24.48	36	P	P	22 38 20.9	+0.4	
F26K	Sheenjek River	24.48	36	P	P	22 38 20.2	-0.2	
	baz=250							
ERM	Erimo	24.60	259	P	P	22 38 23.0	+1.3	
ERM				IAmb	IAmb	22 38 31.9		
	comp=Z,22nm,1.1s							
BVCY	Beaver Creek	24.75	49	P	P	22 38 22.4	-0.6	
	baz=265							
I27K	Kandik River	24.88	41	P	P	22 38 23.1	-1.1	
	baz=258							
YUK3	Moose Creek	24.90	51	P	P	22 38 23.6	-0.9	
	baz=267							
PCA	Pinnacle	24.98	55	P	P	22 38 26.0	+0.9	
PINM	Pinnacle	24.98	55	P	P	22 38 24.4	-0.7	
	baz=271							
O28M	Mount Upton	25.01	53	P	P	22 38 24.6	-1.0	
	baz=270							
H27K	Steamboat Moun	25.06	40	P	P	22 38 25.4	-0.3	
	baz=256							
C26K	Camden Bay	25.06	31	P	P	22 38 25.3	-0.3	
	baz=245							
G27K	Doyon Strip	25.15	39	P	P	22 38 26.8	+0.3	
G27K	Doyon Strip	25.15	39	P	P	22 38 26.0	-0.5	
	baz=255							
YUK8	Steele Glacier	25.22	52	P	P	22 38 26.5	-1.0	
	baz=269							
C27K	Jago River	25.33	32	P	P	22 38 27.8	-0.3	
	baz=247							
PNL	Peninsula	25.43	56	P	P	22 38 28.6	-0.5	
	baz=273							
I28M	Miner Creek	25.54	42	P	P	22 38 29.6	-0.5	
I28M	Miner Creek	25.54	42	P	P	22 38 29.9	-0.2	
	baz=260							
E27K	Coleen River	25.55	35	P	P	22 38 30.1	-0.1	
E27K	Coleen River	25.55	35	P	P	22 38 30.3	+0.2	
	baz=252							
DAWY	Dawson	25.57	45	P	P	22 38 31.1	+0.7	
DAWY				IAmb	IAmb	22 38 31.5		
	comp=Z,8.0nm,0.8s							
DAWY	Dawson	25.57	45	P	P	22 38 30.1	-0.4	
	baz=263,SNR=8.3							
YUK4	Talbot Arm	25.76	52	P	P	22 38 32.1	-0.2	
	baz=270							
O29M	Mount Kennedy	25.81	54	P	P	22 38 33.2	+0.5	
O29M				IAmb	IAmb	22 38 51.3		
	comp=Z,8.3nm,1.1s							
O29M	Mount Kennedy	25.81	54	P	P	22 38 32.6	-0.1	
	baz=272							
M29M	Somme Creek	25.87	49	P	P	22 38 33.3	+0.1	
M29M				IAmb	IAmb	22 38 43.3		
	comp=Z,4.2nm,0.6s							
M29M	Somme Creek	25.87	49	P	P	22 38 32.3	-0.8	
	baz=268							
YUK6	Outpost Mounta	25.90	53	P	P	22 38 32.8	-0.8	
	baz=271							
L29M	L29M	26.05	48	P	P	22 38 33.8	-1.0	
	baz=266							
D27M	Malcolm River	26.10	33	P	P	22 38 35.5	+0.3	
D27M	Malcolm River	26.10	33	P	P	22 38 34.5	-0.6	
	baz=251							
J29N	Klondike Camp	26.13	45	P	P	22 38 36.1	+0.7	
J29N	Klondike Camp	26.13	45	P	P	22 38 34.9	-0.5	
	baz=264							
I29M	Ogilvie Camp,	26.20	42	P	P	22 38 35.5	-0.5	
	baz=262							
H29M	Whitestone	26.31	41	P	P	22 38 36.5	-0.5	
	baz=260							
HYT	Haines Junctio	26.32	53	P	P	22 38 37.1	-0.2	
HYT				IAmb	IAmb	22 38 44.1		
	comp=Z,16nm,1.2s							
HYT	Haines Junctio	26.32	53	P	P	22 38 36.6	-0.7	
	baz=272							
K29M	Barlow Dome	26.38	46	P	P	22 38 37.6	-0.1	
K29M				IAmb	IAmb	22 38 38.9		
	comp=Z,5.4nm,0.9s							
K29M	Barlow Dome	26.38	46	P	P	22 38 37.3	-0.5	
	baz=266							
E28M	Babbage River	26.40	35	P	P	22 38 37.8	0.0	
E28M	Babbage River	26.40	35	P	P	22 38 37.9	0.0	
	baz=254							
N30M	Aishikik Lake	26.51	51	P	P	22 38 38.8	-0.1	
	baz=271							
G29M	Pine Creek	26.57	39	P	P	22 38 39.4	+0.1	
G29M	Pine Creek	26.57	39	P	P	22 38 39.2	-0.1	
	baz=259							
P30M	Million Dollar	26.63	54	P	P	22 38 39.4	-0.6	
	baz=274							
M30M	Minto, Yukon	26.65	49	P	P	22 38 38.9	-1.2	
M30M	Minto, Yukon	26.65	49	P	P	22 38 39.3	-0.8	
	baz=269							
D28M	Stokes Point	26.88	34	P	P	22 38 42.4	+0.4	
	baz=254							
E29M	Blow River	26.93	36	P	P	22 38 41.9	-0.6	
E29M	Blow River	26.93	36	P	P	22 38 42.0	-0.5	
	baz=256							
J30M	Hart River	26.95	44	P	P	22 38 42.1	-0.8	
	baz=265							
I30M	Mount Dempster	26.99	43	P	P	22 38 42.4	-0.8	
	baz=264							
O30N	Mendenhall	27.02	53	P	P	22 38 43.4	-0.1	
O30N	Mendenhall	27.02	53	P	P	22 38 42.3	-1.1	
	baz=273							
S31K	Pelican	27.24	59	P	P	22 38 43.8	-1.5	
	baz=278							
G30M	tAoh Zraii Nji	27.28	39	P	P	22 38 45.1	-0.6	
G30M	tAoh Zraii Nji	27.28	39	P	P	22 38 44.8	-0.9	
	baz=261							
SKAG	Skagway	27.51	56	P	P	22 38 46.8	-0.9	
	baz=276							
F30M	Barrier River	27.55	38	P	P	22 38 47.4	-0.7	
	baz=260							
WHY	Whitehorse	27.62	53	P	P	22 38 48.0	-0.9	
	baz=274							
M31M	Drury Creek, Y	27.77	50	P	P	22 38 50.3	+0.2	
M31M	Drury Creek, Y	27.77	50	P	P	22 38 48.8	-1.3	
	baz=272							
SIT	Sitka	27.87	61	P	P	22 38 49.5	-1.5	
	baz=281							
H31M	Peel River	27.89	42	P	P	22 38 50.8	-0.3	
H31M	Peel River	27.89	42	P	P	22 38 50.9	-0.3	
	baz=265							
G31M	Satah River	28.03	40	P	P	22 38 52.5	+0.2	
G31M				IAmb	IAmb	22 38 52.9		
	comp=Z,3.9nm,0.7s							
G31M	Satah River	28.03	40	P	P	22 38 51.8	-0.5	
	baz=263							
KLR	Kul'dur	28.06	282	P	P	22 38 51.3	-1.4	
	comp=Z,0.4nm,0.4s,baz=84,slow=10,SNR=1.9							
	comp=Z,0.4nm,0.4s							
R32K	Eaglecrest	28.09	58	P	P	22 38 54.2	+1.3	
R32K	Eaglecrest	28.09	58	P	P	22 38 52.1	-0.8	
	baz=279							
S32K	Killisnoo	28.20	60	P	P	22 38 52.9	-0.9	
	baz=280							
FARO	Faro, Yukon	28.26	50	P	P	22 38 54.4	0.0	
	baz=272							
F31M	Tsiigehtchic	28.30	38	P	P	22 38 54.2	-0.4	
	baz=262							
P32M	Atlin	28.31	55	P	P	22 38 56.1	+1.2	
P32M				IAmb	IAmb	22 38 56.8		
	comp=Z,9.4nm,0.8s							
P32M	Atlin	28.31	55	P	P	22 38 54.1	-0.8	
	baz=277							
N32M	Quiet Lake	28.46	52	P	P	22 38 55.8	-0.4	
	baz=275							
INK	Inuvik	28.51	37	P	P	22 38 56.5	0.0	
INK	Inuvik	28.51	37	P	P	22 38 55.2	-1.2	
	comp=Z,0.9nm,0.4s,baz=290,slow=7.7,SNR=5.4							
	comp=Z,0.9nm,0.4s							
INK	Inuvik	28.51	37	P	P	22 38 56.6	+0.1	
	baz=261							
P33M	Teslin, Yukon	28.68	54	P	P	22 38 59.3	+1.0	
P33M				IAmb	IAmb	22 39 00.1		
	comp=Z,8.1nm,0.9s							
P33M	Teslin, Yukon	28.68	54	P	P	22 38 58.6	+0.4	
	baz=277							
Q32M	Nakina River	29.14	56	P	P	22 39 02.5	+0.1	
	baz=279							
MMPY	Sheldon Lake,	29.20	49	P	P	22 39 03.9	+1.0	
MMPY				IAmb	IAmb	22 39 04.8		
	comp=Z,2.3nm,0.4s							
MMPY	Sheldon Lake,	29.20	49	P	P	22 39 02.7	-0.1	
	baz=274							
U33K	Whale Pass	29.27	62	P	P	22 39 02.3	-1.1	
	baz=284							
CRAG	Craig	29.43	63	P	P	22 39 03.9	-0.9	
	baz=285							
WRAK	Wrangell Islan	29.61	61	P	P	22 39 05.8	-0.6	
	baz=284							
R33M	Jennings River	29.73	55	P	P	22 39 09.0	+1.4	
R33M	Jennings River	29.73	55	P	P	22 39 07.7	+0.1	
	baz=280,SNR=5.5							
S34M	Telegraph Cree	29.92	58	P	P	22 39 10.8	+1.7	
S34M				IAmb	IAmb	22 39 12.1		
	comp=Z,5.4nm,0.9s							
S34M	Telegraph Cree	29.92	58	P	P	22 39 09.2	0.0	
	baz=282							
USRK	Ussuriysk Ar.	30.23	272	P	P	22 39 11.9	-0.1	
	comp=Z,0.9nm,0.5s,baz=55,slow=9.9,SNR=6.8							
	comp=Z,0.9nm,0.5s							
V35K	Ketchikan	30.30	63	P	P	22 39 12.2	-0.2	
	baz=286							
DLBC	Dease Lake	30.39	57	P	P	22 39 14.2	+1.0	
DLBC				IAmb	IAmb	22 39 15.9		
	comp=Z,7.5nm,1.1s							
DLBC	Dease Lake	30.39	57	P	P	22 39 14.3	+1.0	
	comp=Z,4.0nm,0.8s,baz=259,slow=7.2,SNR=7.3							
	comp=Z,4.0nm,0.8s							
DLBC	Dease Lake	30.39	57	P	P	22 39 12.7	-0.6	
	baz=282							
T35M	Bob Quinn	30.60	60	P	P	22 39 14.5	-0.6	
	baz=284							
WTLY	Watson Lake, Y	30.68	53	P	P	22 39 15.8	-0.1	
	baz=280							
TGTN	Hyland Airport	30.72	51	P	P	22 39 15.5	-0.7	
	baz=278							
U35K	Hyder	31.00	62	P	P	22 39 18.0	-0.6	
	baz=286							
A36M	Sachs Harbour	31.81	30	P	P	22 39 25.7	+0.2	
	baz=263							
C36M	Paulatuk	32.02	35	P	P	22 39 27.1	-0.2	
	baz=269							
WRGLY	Wrigley	32.68	47	P	P	22 39 33.3	0.0	
	baz=279							
TOAD	Toad River Com	32.73	55	P	P	22 39 34.2	+0.3	
	baz=284,SNR=5.5							
KOTAN	Kotaneelee Air	33.01	52	P	P	22 39 35.9	-0.3	
	baz=283							
H11N2	WAKE ISLAND Hy	33.29	196	T	T	23 15 17.0		
	baz=10,slow=76,SNR=63							
H11N3	WAKE ISLAND Hy	33.30	196	T	T	23 15 17.9		
	baz=10,slow=76,SNR=90							
H11N1	WAKE ISLAND Hy	33.31	196	T	T	23 15 18.6		
	baz=10,slow=76,SNR=88							
H11S1	WAKE ISLAND Hy	34.52	196	T	T	23 16 46.4		
	baz=10,slow=76,SNR=89							
H11S3	WAKE ISLAND Hy	34.53	196	T	T	23 16 44.8		
	baz=10,slow=76,SNR=66							
H11S2	WAKE ISLAND Hy	34.54	196	T	T	23 16 33.7		
	baz=10,slow=76,SNR=38							
KSRS	Korea Array	36.66	266	P	P	22 40 09.6	+1.8	
	comp=Z,1.2nm,0.6s,baz=46,slow=7.0,SNR=3.1							
	comp=Z,1.2nm,0.6s							
YKA	Yellowknife Ar	36.80	46	P	P	22 40 08.7	+0.1	
	comp=Z,1.9nm,0.6s,baz=282,slow=8.3,SNR=24							
YKA				pP	pP	22 40 34.8	+0.5	
	comp=Z,0.5nm,0.8s,baz=286,slow=8.7,SNR=1.3							
YKA				PcP	PcP	22 42 28.1	+0.2	
	comp=Z,0.4nm,0.8s,baz=278,slow=3.9,SNR=4.5							
	comp=Z,1.9nm,0.6s							
MLOA	Mauna Loa Obse	39.30	136	P	P	22 40 31.9	+1.3	
RES	Resolute Bay	40.19	24	P	P	22 40 37.6	+0.9	
SONM	Songino Array	43.56	293	P	P	22 41 05.3	+0.6	
	comp=Z,0.6nm,0.5s,baz=67,slow=8.7,SNR=5.5							
SONM				pP	pP	22 41 31.4	-0.2	
	comp=Z,0.8nm,0.7s,baz=62,slow=8.3,SNR=4.1							
SONM				PcP	PcP	22 42 50.0	-0.1	
	comp=Z,0.3nm,0.5s,baz=41,slow=2.8,SNR=2.7							
	comp=Z,0.6nm,0.5s							
BPMT	Black Pine Rid	44.45	68	P	P	22 41 13.4	+1.4	
HHC	Hu-ho-hao-te	44.57	282	eP	P	22 41 13.5	+0.7	
HHC				pmax	pmax			
	comp=Z,8.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,170nm,4.7s							
LYMT	Lyon Mountain	44.81	67	P	P	22 41 14.1	-0.8	
PNTR	Pine Nut	45.19	80	P	P	22 41 17.9	0.0	
PNTR				IAmb	IAmb	22 41 19.9		
	comp=Z,6.4nm,0.7s							
EGMT	Eagleton	45.64	64	P	P	22 41 19.9	-1.2	
EGMT				IAmb	IAmb	22 41 21.1		
	comp=Z,4.9nm,0.7s							
WAKR	Walker	45.66	81	P	P	22 41 21.5	-0.1	
WAKR				IAmb	IAmb	22 41 22.2		
	comp=Z,2.4nm,0.5s							
MCMT	McKenzie Canyo	45.72	70	P	P	22 41 21.2	-0.9	
NJ2	Nanjing	45.82	267	eP	P	22 41 21.9	-0.7	
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
BBGB	Big Mountain B	45.91	84	P	P	22 41 22.6	-0.8	
BBGB				IAmb	IAmb	22 41 26.1		
	comp=Z,8.7nm,0.9s							
B

SPR3	Spring Creek 3	48.42	77	P	P	22 41 42.7	-0.4
DUG	Dugway, Tooele	48.57	75	P	P	22 41 43.6	-0.5
DUG				IAmb	IAmb	22 41 48.1	
	comp=Z,3.1nm,0.8s						
TPNV	Topopah Spring	48.59	80	P	P	22 41 43.4	-0.8
TPNV				IAmb	IAmb	22 41 44.6	
	comp=Z,5.2nm,0.8s						
GWY	Greenwater Val	48.84	81	P	P	22 41 45.2	-1.0
GWY				IAmb	IAmb	22 41 46.7	
	comp=Z,2.3nm,0.6s						
PD31	Pinedale Array	48.87	70	P	P	22 41 45.8	-0.6
PDAR	Pinedale Array	48.87	70	P	P	22 41 45.6	-0.8
PDAR	Pinedale Array	48.87	70	P	P	22 41 45.5	-1.0
	comp=Z,2.4nm,0.6s,baz=310,slow=3.4,SNR=28						
PDAR				PcP	PcP	22 43 08.7	-0.3
	comp=Z,0.7nm,0.7s,baz=298,slow=3.2,SNR=4.2						
	comp=Z,2.4nm,0.6s						
PSUT	Pine Spring	49.01	77	P	P	22 41 47.1	-0.4
PSUT				IAmb	IAmb	22 41 47.5	
	comp=Z,2.4nm,0.6s						
PRN	Pahroc Range	49.02	79	P	P	22 41 47.7	+0.2
PRN				IAmb	IAmb	22 41 48.1	
	comp=Z,2.8nm,0.7s						
SPITS	Spitsbergen Ar	49.26	355	P	P	22 41 48.0	-0.6
	comp=Z,3.6nm,0.4s,baz=20,slow=4.6,SNR=26						
	comp=Z,3.6nm,0.4s						
GSC	Goldstone, Bar	49.34	82	P	P	22 41 50.0	+0.1
GSC				IAmb	IAmb	22 41 50.1	
	comp=Z,4.0nm,0.5s						
MSU	Marysvale	50.02	76	P	P	22 41 55.3	+0.1
TMUT	Trail Mountain	50.09	75	P	P	22 41 55.1	-0.8
TMUT				IAmb	IAmb	22 41 56.3	
	comp=Z,3.1nm,0.7s						
RDMU	Red Mountain	50.24	72	P	P	22 41 56.4	-0.5
RDMU				IAmb	IAmb	22 41 57.2	
	comp=Z,5.1nm,0.8s						
KNB	Kanab	50.62	78	P	P	22 41 59.2	-0.4
SRU	San Rafael Swe	50.62	74	P	P	22 41 59.7	+0.1
SRU				IAmb	IAmb	22 42 00.2	
	comp=Z,3.4nm,0.6s						
ZALV	Zalesovo Beam	51.22	311	PcP	PcP	22 43 17.2	0.0
	comp=Z,0.9nm,0.6s,baz=28,slow=3.4,SNR=4.0						
U15A	North Rim	51.32	78		P	22 42 04.4	-0.7
ULM	Lac du Bonnet	51.67	55	P	P	22 42 06.6	-0.5
ULM	Lac du Bonnet	51.67	55	P	P	22 42 06.4	-0.7
	comp=Z,3.7nm,0.3s,baz=300,slow=7.2,SNR=12						
	comp=Z,3.7nm,0.3s						
PV23	Carpenter Ridg	51.94	74	P	P	22 42 08.8	-0.9
PV23				IAmb	IAmb	22 42 14.8	
	comp=Z,4.6nm,0.9s						
PV10	Paradox Valley	51.98	74	P	P	22 42 09.8	-0.1
PV10				IAmb	IAmb	22 42 10.5	
	comp=Z,4.8nm,0.6s						
PV11	David Mesa, Pa	52.13	74	P	P	22 42 10.2	-0.7
PV13	Radium Mtn., P	52.25	74	P	P	22 42 11.2	-0.7
GTA	Gaotai	52.45	288	eP	P	22 42 14.1	+0.9
GTA				pP	pP	22 42 40.8	-0.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ISCO	Idaho Springs	53.05	71	P	P	22 42 21.3	+3.5
MVCO	Mesa Verde	53.07	75	P	P	22 42 15.4	-2.5
SUMG	Summit	53.13	12	P	P	22 42 18.2	+0.2
EYMN	Ely	55.36	55	P	P	22 42 34.1	0.0
ECSD	EROS Data Cent	55.49	61	P	P	22 42 34.1	-0.9
ECSD				IAmb	IAmb	22 42 34.5	
	comp=Z,6.0nm,1.1s						
SFJD	Kangerlussuaq	55.91	20	P	P	22 42 37.1	-0.5
SFJD				IAmb	IAmb	22 42 55.3	
	comp=Z,5.2nm,1.1s						
KURK	Kurchatov	56.21	311	P	P	22 42 40.2	+0.2
KURK				IAmb	IAmb	22 42 41.0	
	comp=Z,4.9nm,0.9s						
E38A	The Farm, Brul	56.23	56	P	P	22 42 39.9	-0.3
BNM	Barren Site	56.27	76	P	P	22 42 41.5	+0.5
KURBB	Kurchatov Arra	56.31	311	P	P	22 42 40.8	0.0
	comp=Z,2.7nm,0.8s,baz=41,slow=7.1,SNR=13						
KURBB				pP	pP	22 43 07.9	-0.6
	comp=Z,1.7nm,0.7s,baz=40,slow=7.0,SNR=6.8						
KURBB				LR	LR	23 07 52.4	
	comp=Z,111nm,18.8s,baz=80,slow=37						
	comp=Z,2.7nm,0.8s						
ARCES	ARCESS Array B	56.67	348	P	P	22 42 42.0	-1.0
	comp=Z,1.0nm,0.5s,baz=28,slow=7.9,SNR=14						
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	57.11	305	P	P	22 42 45.6	-0.9
	comp=Z,0.7nm,0.5s,baz=50,slow=6.4,SNR=11						
MKAR				pP	pP	22 43 13.4	-0.7
	comp=Z,0.4nm,0.4s,baz=51,slow=6.2,SNR=4.7						
	comp=Z,0.7nm,0.5s						
BVAR	Borovoye Array	58.24	317	P	P	22 42 54.3	0.0
	comp=Z,3.2nm,0.4s,baz=51,slow=7.1,SNR=24						
BVAR				pP	pP	22 43 21.6	-0.2
	comp=Z,1.3nm,0.7s,baz=39,slow=9.6,SNR=2.1						
	comp=Z,3.2nm,0.4s						
PZH	PanZhiHua	60.26	276	P	P	22 43 09.4	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
ARTI	Arti	60.33	326	P	P	22 43 09.1	+0.6
	comp=Z,2.0nm,0.3s,baz=22,slow=7.1,SNR=5.3						
ARTI				pP	pP	22 43 36.8	+0.6
	comp=Z,2.0nm,0.6s,baz=32,slow=9.5,SNR=2.5						
	comp=Z,2.0nm,0.3s						
WMOK	Wichita Mounta	60.47	71	P	P	22 43 09.9	-0.1
P40A	Paris	60.87	62	P	P	22 43 11.6	-0.9
SGCY	Sterling City	61.11	74	P	P	22 43 14.0	-0.3
SCHQ	Schefferville	61.12	36	P	P	22 43 13.8	-0.2
SCHQ	Schefferville	61.12	36	P	P	22 43 13.5	-0.5
	comp=Z,7.1nm,0.7s,baz=315,slow=8.6,SNR=21						
	comp=Z,7.1nm,0.7s						
W35A	Tecumseh	61.28	69	P	P	22 43 15.2	-0.2
TX31	Lajitas Ar. Si	61.45	78	P	P	22 43 15.8	-0.9
TX31				IAmb	IAmb	22 43 17.0	
	comp=Z,2.1nm,0.6s						
TXAR	Lajitas Array	61.45	78	P	P	22 43 16.8	+0.1
TXAR	Lajitas Array	61.45	78	P	P	22 43 16.4	-0.3
	comp=Z,1.4nm,0.5s,baz=307,slow=5.3,SNR=21						
	comp=Z,1.4nm,0.5s						
R40A	Maddies Statio	61.63	63	P	P	22 43 16.4	-1.3
BRDY	Brady	62.82	73	P	P	22 43 25.1	-0.6
BRDY				IAmb	IAmb	22 43 26.3	
	comp=Z,3.4nm,0.8s						
SFIN	Lafayette	62.90	58	P	P	22 43 25.6	-0.5
BOOM	Boomskoye usch	63.35	306	P	P	22 43 29.9	+0.7
FINES	FINESS Array B	64.21	345	P	P	22 43 33.6	-0.7
	comp=Z,2.3nm,0.7s,baz=40,slow=5.6,SNR=12						
	comp=Z,2.3nm,0.7s						
AKTO	Aktyubinsk	65.19	322	P	P	22 43 41.2	+0.4
	comp=Z,3.0nm,0.7s,baz=41,slow=5.6,SNR=6.6						
	comp=Z,3.0nm,0.7s						
ABKAR	Akbulak array	65.38	320	P	P	22 43 42.5	+0.4
T47A	Sharon Grove	65.38	61	P	P	22 43 41.9	-0.5
NB2	NORSAR Subarra	66.44	352	P	P	22 43 48.4	-0.3
	comp=Z,1.0nm,0.5s,baz=8.6,slow=6.5						
NOA	NORSAR Array B	66.44	352	P	P	22 43 48.5	-0.2
	comp=Z,2.4nm,0.7s,baz=10.0,slow=6.3,SNR=9.6						
	comp=Z,2.4nm,0.7s						
HFS	Hagfors	67.10	351	P	P	22 43 52.3	-0.6
	comp=Z,2.7nm,0.5s,baz=32,slow=5.8,SNR=14						
	comp=Z,2.7nm,0.5s						
EKA	Eskdalemuir Ar	72.78	360	P	P	22 44 27.9	+0.2
	comp=Z,1.3nm,0.6s,baz=357,slow=5.1,SNR=6.0						
	comp=Z,1.3nm,0.6s						
AKASG	Malin Array Be	73.72	339	P	P	22 44 33.1	-0.2
AKASG	Malin Array Be	73.72	339	P	P	22 44 33.0	-0.2
	comp=Z,2.0nm,0.4s,baz=23,slow=5.9,SNR=28						
	comp=Z,2.0nm,0.4s						
AKBB	Malin Array Si	73.72	339	P	P	22 44 33.1	-0.2
AKBB				IAmb	IAmb	22 44 33.8	
	comp=Z,3.6nm,0.5s						
KIEV	Kiev	73.73	339	P	P	22 44 33.2	-0.1
KIEV				IAmb	IAmb	22 44 33.6	
	comp=Z,2.8nm,0.6s						
DSB	Dublin	74.85	2	P	P	22 44 39.8	0.0
DSB				IAmb	IAmb	22 44 50.2	
	comp=Z,7.5nm,0.9s						
RAR	Rarotonga	76.06	157	P	P	22 44 47.1	+0.2
KOLS	Kolonicke sedl	76.81	343	eP	P	22 44 52.3	+1.3
LANS	Liptovska Anna	77.08	345	eP	P	22 44 54.0	+1.4
BUR08	Bucovina Ar. S	77.47	340	P	P	22 44 55.6	+0.7
BURAR	Bucovina Array	77.50	340	P	P	22 44 56.0	+1.0
WRA	Warramunga Arr	80.67	220	P	P	22 45 12.1	-0.3
	comp=Z,0.6nm,0.6s,baz=31,slow=6.3,SNR=6.1						
WRA				pP	pP	22 45 40.9	-2.1
	comp=Z,0.6nm,0.6s,baz=31,slow=6.0,SNR=3.4						
	comp=Z,0.6nm,0.6s						
DAVOX	Davos/Dischmat	80.67	351	P	P	22 45 12.2	-0.2
	comp=Z,2.1nm,0.7s,baz=40,slow=3.7,SNR=4.1						
	comp=Z,2.1nm,0.7s						
BRTR	Keskin Array B	82.83	332	P	P	22 45 23.9	+0.1
	comp=Z,0.6nm,0.6s,baz=38,slow=3.6,SNR=6.9						
BRTR				pP	pP	22 45 52.9	-0.5
	comp=Z,0.7nm,0.8s,baz=54,slow=2.6,SNR=3.4						
	comp=Z,0.6nm,0.6s						
ASAR	Alice Springs	84.20	218	P	P	22 45 31.0	+0.3
	comp=Z,0.5nm,0.7s,baz=15,slow=7.8,SNR=2.3						
ASAR				pP	pP	22 46 01.1	-0.4
	comp=Z,0.1nm,0.4s,baz=147,slow=20,SNR=1.4						
	comp=Z,0.5nm,0.7s						
DBIC	Dimbokro	121.30	1	PKP	PKPdf	22 51 50.7	-1.2
	comp=Z,0.6nm,0.3s,baz=346,slow=1.6,SNR=5.3						
QSPA	South Pole Qui	142.00	180	PKP	PKPdf	22 52 28.5	-0.7
	comp=Z,0.9nm,0.5s,baz=135,slow=1.4,SNR=10.0						
BOSA	Boshof	148.10	306	PKPbc	PKPbc	22 52 43.8	-0.5
	comp=Z,2.9nm,1.0s,baz=42,slow=1.2,SNR=5.8						

ISK ***15*** *22:35:28.7, 39.°73N×25.°60E, h11km, ML2.5/20*
THE ***15*** *22:35:29.8, 39.°71N×25.°61E, h10km, ML2.5/4, Error ellipse: s-maj=1.0km s-min=0.3km az=106.0*
AFAD ***15*** *22:35:30.2, 39.°73N×25.°67E, h7km±2km, ML2.1*

ISC 15 22:35:29.0±1.1, 39.°72N±0.°02×25.°61E±0.°02, h14km±8km, n45, σ0s45/67, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	71	Pg	Pg	22 35 36.5	+0.1
BOZC				Sg	Sb	22 35 42.2	-0.6
BOZC	Bozcaada	0.36	71	P	Pg	22 35 36.4	0.0
BOZC				P	Pb	22 35 36.7	-0.6
BOZC				S	Sg	22 35 41.7	+0.3
BOZC				i AML	AML	22 35 42.0	
	comp=N,226nm,0.6s						
BOZC				i AML	AML	22 35 42.0	
	comp=N,219nm,0.6s						
KOCA	Canakkale, Ayv	0.47	118	P	Pg	22 35 38.4	+0.1
KOCA				S	Sb	22 35 45.4	-0.4
KOCA				i AML	AML	22 35 46.0	
	comp=N,157nm,0.2s						
KOCA				i AML	AML	22 35 47.0	
	comp=E,214nm,0.3s						
GOAD	anakkale-G¶	0.50	28	P	Pb	22 35 39.3	-0.2
GOAD				S	Sb	22 35 46.4	-0.3
GADA	Gvkgeada	0.52	25	Pg	Pg	22 35 39.4	+0.1
GADA				Sg	Sb	22 35 46.8	-0.5
ECEA	Canakkale, Ece	0.54	53	P	Pb	22 35 40.3	0.0
ECEA				S	Sb	22 35 47.9	0.0
ECEA				i AML	AML	22 35 48.0	
	comp=N,145nm,0.3s						
ECEA				i AML	AML	22 35 52.0	
	comp=E,106nm,0.2s						
SIGR	SIGRI	0.55	159	Pg	Pb	22 35 40.0	-0.4
SIGR				Sg	Sb	22 35 48.1	0.0
SIGR	SIGRI	0.55	159	P	Pb	22 35 39.9	-0.4
SIGR				S	Sb	22 35 48.2	+0.1
	902nm,0.5s						
EZNE	Ezine-Canakkal	0.58	87	Pg	Pg	22 35 40.4	-0.1
CNKL	anakkale-Mer	0.69	60	P	Pb	22 35 42.8	-0.1
CNKL				S	Sg	22 35 51.5	-0.1
CNKL				i AML	AML	22 35 54.0	
	comp=N,73nm,0.5s						
PRK	Paraskevi	0.70	133	P	Pb	22 35 43.1	+0.1
PRK				S	Sb	22 35 53.2	+0.7
	340nm,0.5s						
BAYC	CANAKKALE_Bayr	0.72	88	P	Pb	22 35 43.2	-0.3
BAYC				S	Sb	22 35 52.9	-0.3
BAYC				i AML	AML	22 35 57.0	
	comp=N,80nm,0.2s						
BAYC				i AML	AML	22 35 57.0	
	comp=E,72nm,0.4s						
SMTH	Samothraki Isl	0.75	355	P	Pb	22 35 44.0	+0.1
SMTH				S	Sn	22 35 55.3	-1.2
COMU	Canakkale	0.76	60	Pg	Pn	22 35 44.9	-0.6
AYVA	Ayvalik	0.93	116	P	Pn	22 35 47.7	-0.1
AYVA				S	Sn	22 36 01.4	+0.5
AYVA				i AML	AML	22 36 03.0	
	comp=E,82nm,0.3s						
GELI	Tayfur-Gelibol	0.95	44	Pg	Pg	22 35 47.4	+0.1
GELI				Sg	Sn	22 36 01.3	0.0
ENZZ	Sultanice-Enez	0.97	25	Pg	Pb	22 35 47.6	-0.1
CAVK	Edirne/Enez-Ca	1.06	24	P	Pn	22 35 49.7	+0.2
CAVK				S	Sn	22 36 03.5	-0.5
CAVK				i AML	AML	22 36 06.0	
	comp=E,79nm,0.6s						
ENEZ	Enez	1.09	22	Pn	Pg	22 35 50.4	+0.2
ENEZ				Sn	Sn	22 36 05.9	+1.0
ENEZ	Enez	1.09	22	P	Pg	22 35 50.1	-0.1
ENEZ				S	Sn	22 36 05.7	+0.8
	178nm,0.3s						
LPK	Lapseki	1.10	53	Pn	Pg	22 35 50.2	0.0
THAS	Thassos island	1.11	323	P	Pg	22 35 50.4	-0.1
CANM	Can-anakkale	1.15	75	Pn	Pg	22 35 51.1	-0.1
BUHA	Balikesir, Bur	1.16	101	P	Pg	22 35 51.5	+0.2
BUHA				S	Sn	22 36 06.9	+0.4
BUHA				i AML	AML	22 36 09.0	
	comp=N,52nm,0.4s						
BUHA				i AML	AML	22 36 13.0	
	comp=E,62nm,0.4s						
ERIK	Erikli-Kesan	1.17	36	Pn	Pg	22 35 51.5	-0.1
ERIK				Sn	Sn	22 36 08.0	+1.2
SKY	Skiros Island	1.18	225	P	Pn	22 35 50.9	-0.2
SKY				S	Sn	22 36 07.2	+0.2
	240nm,0.2s						
DKL	Dikili	1.20	123	Pn	Pg	22 35 51.8	-0.3
ALN	Alexandroupoli	1.22	16	Pn	Pg	22 35 52.4	-0.1
ALN	Alexandroupoli	1.22	16	P	Pb	22 35 51.9	0.0
ALN				S	Sg	22 36 08.8	+0.4
YENI	Yenice-Canakka	1.28	80	Pn	Pb	22 35 52.6	-0.2
OUR	Ouranopolis	1.39	297	Pn	Pn	22 35 54.2	+0.2
OUR	Ouranopolis	1.39	297	P	Pb	22 35 54.4	-0.4
RDO	Rodhopi	1.42	358	Pn	Pb	22 35 54.9	-0.5
RDO	Rodhopi	1.42	358	P	Pb	22 35 55.1	-0.3
AOS	Alonnisos	1.45	248	P	Pb	22 35 55.6	-0.2
KRBG	Karabiga-Canak	1.46	62	Pn	Pn	22 35 55.1	+0.1
PAIG	Paliouri	1.50	278	P	Pn	22 35 55.8	+0.3
KAVA	Kavala	1.52	327	P	Pb	22 35 56.5	-0.6
RKY	Sarkoy-Tekirda	1.54	51	Pn	Pn	22 35 56.5	+0.3
UKOP	Uzunkopru-Edir	1.61	29	Pn	Pb	22 35 58.1	-0.4
GONE	Gonen-Balikesi	1.63	78	Pn	Pb	22 35 58.0	-0.9
KOKK	Kokkinochori,	1.65	312	P	Pn	22 35 58.0	+0.4
EDC	Edincik	1.84	69	Pn	Pn	22 36 01.1	+0.9
SUSR	Susurluk-Balik	1.92	82	Pn	Pb	22 36 02.7	-1.2
KCTX	Karacabey (Bur	2.18	75	Pn	Pn	22 36 05.2	+0.3

IDC ***15*** *22:43:59.0±1.6, 48.°85N×155.°64E, h0km, mb3.5/7, mbtmp3.5/8, ML2.4/1, MS2.6/1, Error ellipse: s-maj=49.4km s-min=24.0km az=94.0*
KRSC ***15*** *22:44:01.4±1.9, 48.°81N×156.°80E, h41km±31km, Ml4.0*
SKHL ***15*** *22:44:02.1±0.1, 48.°70N×156.°40E, h62km±3km, mb4.5/4*
MOS ***15*** *22:44:03.5±1.2, 48.°91N×156.°10E, h37km, mb3.9/1, Error ellipse: s-maj=28.9km s-min=5.3km az=79.4*

ISC 15 22:44:02.8±1.0, 48.°76N±0.°08×156.°3E±0.°1, h34km, n53, σ1s39/63, mb3.5/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.93	357	ePN	Pn	22 44 32.3	-0.8
SKR				eS	Sn	22 44 55.4	-0.7
SKR				pmax	pmax		
	comp=Z,102nm,1.0s						
SKR				smax	smax		
	comp=N,421nm,0.5s						
SKR				smax	smax		
	comp=E,347nm,0.9s						
SKR	Severo-Kuril's	1.93	357	eP	Pn	22 44 32.8	-0.3
SKR				eS	Sn	22 44 56.5	+0.4
SKR	Severo-Kuril's	1.93	357	eP	Pn	22 44 33.0	-0.1
SKR				AMB	AMB	22 44 34.4	
	comp=E,60nm,0.3s						
SKR				eS	Sn	22 44 55.3	-0.8
SKR				A	A	22 45 01.0	
	comp=E,420nm,0.5s						
SKR				A	A	22 45 01.0	
	comp=E,350nm,0.5s						
PAU	Pauzhetka	2.73	7	PN	Pn	22 44 45.0	+0.8
PAU				S	Sn	22 45 16.1	+0.2
PAU	Pauzhetka	2.73	7	eP	Pn	22 44 45.0	+0.8
PAU				eS	Sn	22 45 16.2	+0.2
PAU	Pauzhetka	2.73	7	eP	Pn	22 44 45.0	+0.8
PAU				AMB	AMB	22 44 51.5	
	comp=E,50nm,0.3s						
PAU				eS	Sn	22 45 16.1	+0.2
PAU				A	A	22 45 18.3	
	comp=E,340nm,0.2s						
PAU				A	A	22 45 18.3	
	comp=E,140nm,0.2s						
KDTR	Khodutka, Kamc	3.26	20	PN	Pn	22 44 52.7	+1.2
KDTR				S	Sn	22 45 28.9	-0.2
KDTR	Khodutka, Kamc	3.26	20	eP	Pn	22 44 52.7	+1.2
KDTR				eS	Sn	22 45 29.0	-0.2
RUS	Russkaya	3.94	20	PN	Pn	22 45 00.8	0.0
RUS	Russkaya	3.94	20	eP	Pn	22 45 00.8	0.0
RUS	Russkaya	3.94	20	eP	Pn	22 45 00.8	0.0
GRL	Gorelyy	3.96	16	PN	Pn	22 45 02.3	+1.1
GRL	Gorelyy	3.96	16	eP	Pn	22 45 02.4	+1.1
APC	Apacha	4.21	7	PN	Pn	22 45 06.9	+2.5
APC	Apacha	4.21	7	eP	Pn	22 45 06.9	+2.5
KRMR	Karymshinskiy	4.24	15	PN	Pn	22 45 04.4	-0.5
KRMR	Karymshinskiy	4.24	15	eP	Pn	22 45 04.4	-0.5
PEA0B	Petropavlovsk-	4.45	11	PN	Pn	22 45 09.1	+1.4
PETK	Petropavlovsk-	4.45	11	Pn	Pn	22 45 08.5	+0.7
	comp=E,1.0nm,0.3s,baz=98,slow=26,SNR=17						
PETK				Sn	Sn	22 46 02.1	+3.9
	comp=E,0.5nm,0.3s,baz=97,slow=24,SNR=1.8						
	comp=E,2.2nm,0.4s						
PET	Petropavlovsk	4.53	19	ePN	Pn	22 45 10.5	+1.7
PET				eS	Sn	22 46 02.1	+1.9
PET				smax	smax		
	comp=E,51nm,0.5s						
PET				smax	smax		
	comp=N,53nm,0.6s						
PET	Petropavlovsk	4.53	19	eP	Pn	22 45 10.0	+1.2
PET				AMB	AMB	22 45 11.3	
	comp=N,10.0nm,0.8s						
PET				eS	Sn	22 45 59.2	-1.0
PET				A	A	22 46 14.6	
	comp=N,50nm,0.6s						
PET				A	A	22 46 14.6	
	comp=N,40nm,0.6s						
DALK	Dalny	4.55	19	PN	Pn	22 45 10.6	+1.4
DALK	Dalny	4.55	19	eP	Pn	22 45 10.7	+1.4
UGLR	Uglovaya	4.74	19	PN	Pn	22 45 13.2	+1.4
UGLR	Uglovaya	4.74	19	eP	Pn	22 45 13.3	+1.4
AVH	Avacha	4.77	18	PN	Pn	22 45 14.7	+2.4
AVH	Avacha	4.77	18	eP	Pn	22 45 14.7	+2.4
AVH	Avacha	4.77	18	eP	Pn	22 45 14.7	+2.4
KOK	Koryaka	4.78	17	PN	Pn	22 45 14.7	+2.3
KOK	Koryaka	4.78	17	eP	Pn	22 45 14.7	+2.3
KOK	Koryaka	4.78	17	eP	Pn	22 45 14.7	+2.3
SDLR	Sedlovina	4.81	19	PN	Pn	22 45 13.9	+1.0
SDLR	Sedlovina	4.81	19	eP	Pn	22 45 14.0	+1.0
SPN	Mys Shipunski	4.95	27	PN	Pn	22 45 14.7	+0.1
SPN	Mys Shipunski	4.95	27	eP	Pn	22 45 14.8	+0.1
GNL	Ganaly	5.05	11	PN	Pn	22 45 16.1	0.0
GNL	Ganaly	5.05	11	eP	Pn	22 45 16.1	0.0
MKZ	Mys Kozlova	6.72	28	PN	Pn	22 45 38.4	-0.5
MKZ	Mys Kozlova	6.72	28	eP	Pn	22 45 38.5	-0.5
KUR	Kuril'sk	6.74	242	eP	Pn	22 45 40.0	+0.7
KUR				AMB	AMB	22 45 45.6	
	comp=N,60nm,0.7s						
TUMD	Tumrok D	6.94	20	eS	Sn	22 46 58.8	-0.8
SHO	Shikotan	8.16	237	eP	Pn	22 45 59.0	+0.3
SHO				AMB	AMB	22 46 01.6	
	comp=N,10.0nm,0.3s						
NMR	Nemuro--Hokkai	9.09	238	eP	Pn	22 46 11.1	-0.4
ASAJ	Asahikawa	10.51	249	Pn	Pn	22 46 33.0	+2.0
	comp=N,1.4nm,0.3s,baz=63,slow=11,SNR=15						
KLR	Kul'dur	16.08	281	LR	LR	22 53 12.7	
	comp=N,23nm,19.2s,baz=3.0,slow=35						
MKAR	Makanchi Array	47.91	297	P	P	22 52 36.1	-1.4
	comp=N,0.2nm,0.6s,baz=68,slow=7.0,SNR=3.6						
	comp=N,0.2nm,0.6s						
KURK	Kurchatov	48.03	303	P	P	22 52 37.1	-1.2
KURBB	Kurchatov Arra	48.12	303	P	P	22 52 37.1	-1.9
	comp=N,0.4nm,0.8s,baz=67,slow=8.1,SNR=3.8						
	comp=N,0.4nm,0.8s						
BVAR	Borovoye Array	51.23	309	P	P	22 53 00.7	-2.0
	comp=N,0.6nm,0.7s,baz=47,slow=8.9,SNR=3.6						
	comp=N,0.6nm,0.7s						
FINES	FINESS Array B	63.10	336	P	P	22 54 24.9	-1.5
	comp=N,1.6nm,0.8s,baz=14,slow=8.8,SNR=3.6						
	comp=N,1.6nm,0.8s						
WRA	Warramunga Arr	71.14	202	P	P	22 55 18.7	+0.9
	comp=N,0.3nm,0.8s,baz=12,slow=6.4,SNR=2.0						
	comp=N,0.3nm,0.8s						
ASAR	Alice Springs	74.82	201	P	P	22 55 40.9	+1.3
	comp=N,0.1nm,0.3s,baz=13,slow=5.6,SNR=1.5						
	comp=N,0.1nm,0.3s						
BRTR	Keskin Array B	78.34	318	P	P	22 56 00.3	+0.7
	comp=N,0.5nm,0.9s,baz=28,slow=3.4,SNR=3.5						
	comp=N,0.5nm,0.9s						

ATH ***15*** *23:03:56.2, 37.°70N×20.°66E, h9km±2km, ML2.6/12, Manual Solution by A.Agalos First location: 2019/03/15 23:04:51, This location: 2019/03/16 01:00:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***15*** *23:03:57.4, 37.°75N×20.°71E, h0km±2km, ML2.6/4, Error ellipse: s-maj=3.0km s-min=0.4km az=239.0*

**ISC 15

MAN INTENSITY V - MALUNGON SARANGANI; KORONADAL CITY SOUTH COTABATO; DON MARCELINO AND MALITA DAVAO OCCIDENTAL; INTENSITY IV - ALABEL KIAMBA AND MALAPATAN SARANGANI; GENERAL SANTOS CITY; POLOMOLOK AND TUPI SOUTH COTABATO; DIGOS CITY AND HAGONOY DAVAO DEL SUR; INTENSITY III - DAVAO CITY; GLAN SARANGANI; TACURONG CITY SULTAN KUDARAT; INTENSITY II - KIDAPAWAN CITY MAGPET AND MAKILALA COTABATO; SURALLAH SOUTH COTABATO; KIBAWE AND QUEZON BUKIDNON; INTENSITY I - CAGAYAN DE ORO CITY.

*BJI **15** 23:07:55.0, 6.21N×125.54E, h90km, mB5.4/46, mb5.0/89, Ms4.9/85, Ms7 4.6/83*

*NEIC **15** 23:07:56.6±1.7, 6.25N±0.05×125.37E±0.04, h90km±3km, mb5.7/395, Mww5.5/31, Error ellipse: s-maj=8.1km s-min=5.1km az=148.0*

*IPGP **15** 23:07:56.0, 6.25N×125.44E, h86km, Mw5.5, Fault plane solution: NP1:φs239.00000°, δ44.00000°, λ-143.00000°. NP2:φs120.00000°, δ65.00000°, λ-52.00000°.*

*NEIC **15** 23:07:56.6, 6.15N×126.00E, h90km, Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 1017Nm; Mrr-0.28; Mθθ1.89; Mφφ-1.60; Mrθ-0.84; Mrφ-1.20; Mθφ1.05; Fault plane solution: M0 2.50000×1017 NP1: φs241.52000°, δ57.73000°, λ-178.55000°. NP2: φs150.74000°, δ88.77000°, λ-32.28000°. Principal axes: T 2.6959, Plg21.0000°, Azm201.0000°; N -0.3963, Plg58.0000°, Azm329.0000°; P -2.2996, Plg23.0000°, Azm101.0000°;*

*MOS **15** 23:07:56.2±1.1, 6.26N×125.31E, h110km, mb5.4/53 Error ellipse: s-maj=6.4km s-min=3.8km az=113.5*

*IDC **15** 23:07:56.5±0.4, 6.19N×125.43E, h102km±3km, mb4.8/37, mbtmp5.2/39, MS4.3/63, Error ellipse: s-maj=9.8km s-min=6.1km az=78.0*

*NEIC **15** 23:07:56.6, 6.25N×125.37E, h90km*

*GCMT **15** 23:07:57.6±0.1, 6.14N±0.01×125.37E±0.01, h82km, MW5.6/159, Moment Tensor Solution. s138, c239; s159, c288; Duration: 1s5 Moment tensor: Scale 1017 Nm; Mrr-0.59±.03; Mθθ3.04±.03; Mφφ-2.46±.04; Mrθ-1.02±.02; Mrφ-0.53±.03; Mθφ1.12±.03; Best double couple: M0 3.20100×1017 NP1:φs231.00000°, δ60.00000°, λ-173.00000°. NP2:φs138.00000°, δ84.00000°, λ-30.00000°. Principal axes: T 3.4180, Plg16.0000°, Azm188.0000°; N -0.4430, Plg60.0000°, Azm308.0000°; P -2.9840, Plg25.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **15** 23:07:57.5±0.2, 6.1N±2.1×12.5E±.1, h93km±2km, M5.7/124, mB6.2/108, mb5.9/124, MLv6.7/12, Mw(mB)5.8/108, MwMwp5.3/55, Mwp5.5/55*

ISC 15 23:07:56.2±0.2, 6.22N±0.02×125.37E±0.03, h97km±1km, h98km:pP-P, n1572, σ1.50/1675, mb5.6/378, 22C-34D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.87**	**14**	Pn	**Pn**	**23 08 14.6**	**-0.5**
DAV	**Davao City (W)**	**0.87**	**14**	P	**Pn**	**23 08 15.8**	**+0.7**
	192μm,0.6s,baz=165,slow=1.1,SNR=3626						
DAV	**Davao City (W)**	**0.87**	**14**	P	**Pn**	**23 08 15.6**	**+0.5**
DAV	**Davao City (W)**	**0.87**	**14**	P	Pn	23 08 06.0	-9.1
SGSI	**Sangihe**	**2.52**	**176**	P	**Pn**	**23 08 35.6**	**+0.1**
TNTI	**Ternate**	**5.76**	**160**	Pn	**Pn**	**23 09 18.8**	**-0.6**
TNTI				Sn	**Sn**	**23 10 24.5**	**+0.4**
TNTI	**Ternate**	**5.76**	**160**	P	**Pn**	**23 09 19.7**	**+0.4**
TNTI	**Ternate**	**5.76**	**160**	S	**Sn**	**23 10 23.5**	**-0.6**
TNTI	**Ternate**	**5.76**	**160**	P	**Pn**	**23 09 19.5**	**+0.2**
KMSI	**Cibinong**	**5.77**	**194**	P	**Pn**	**23 09 19.8**	**+0.3**
MRSI	**Marisa**	**6.65**	**211**	P	**Pn**	**23 09 31.7**	**+0.3**
TOLI2	**Tolitoli**	**6.83**	**222**	Pn	**Pn**	**23 09 32.8**	**-1.1**
TOLI2				Sn	**Sn**	**23 10 45.0**	**-5.2**
TOLI2	**Tolitoli**	**6.83**	**222**	P	**Pn**	**23 09 32.4**	**-1.5**
MYLDM	**Lahad Datu**	**6.92**	**262**	Pn	**Pn**	**23 09 36.0**	**+1.0**
MYLDM	**Lahad Datu**	**6.92**	**262**	P	**Pn**	**23 09 37.5**	**+2.5**
LUWI	**Luwuk**	**7.66**	**200**	Pn	**Pn**	**23 09 46.9**	**+1.8**
LUWI	**Luwuk**	**7.66**	**200**	P	**Pn**	**23 09 47.1**	**+1.9**
LUWI	**Luwuk**	**7.66**	**200**	S	**Sn**	**23 11 13.6**	**+3.2**
LUWI	**Luwuk**	**7.66**	**200**	P	**Pn**	**23 09 47.8**	**+2.6**
APSI	**Ampana**	**8.00**	**208**	P	**Pn**	**23 09 52.7**	**+3.0**
SANI	**Sanana**	**8.23**	**176**	P	**Pn**	**23 09 51.1**	**-1.9**
SANI	**Sanana**	**8.23**	**176**	P	**Pn**	**23 09 50.9**	**-2.1**
TGY	**Tagaytay City**	**8.97**	**331**	P	**Pn**	**23 10 05.7**	**+2.7**
	826nm,1.0s,baz=173,slow=1.4,SNR=20						
TGY				LR	LR	23 14 04.9	
	comp=Z,3μm,18.8s,baz=160,slow=41						
PCI	**Palu**	**8.98**	**218**	P	**Pn**	**23 10 04.9**	**+1.8**
	8μm13μm1μm,0.9s						
KKM	**Kota Kinabalu**	**9.11**	**269**	Pn	**Pn**	**23 10 07.3**	**+2.3**
KKM	**Kota Kinabalu**	**9.11**	**269**	P	**Pn**	**23 10 08.2**	**+3.2**
SWI	**Sorong**	**9.16**	**140**	P	**Pn**	**23 10 06.1**	**+0.5**
	8μm365nm,0.6s						
I39PW	**PALAU INFRASON**	**9.20**	**81**	P	**Pn**	**23 10 06.5**	**+0.3**
	baz=208,slow=23,SNR=1.2						
I39PW				I	I	23 54 30.0	
	baz=270,slow=298,SNR=0.9						
NLAI	**Namlea**	**9.55**	**170**	P	**Pn**	**23 10 09.2**	**-1.7**
MSAI	**Masohi**	**10.14**	**159**	P	**Pn**	**23 10 19.2**	**+0.3**
	10μm1μm,0.8s						
AAI	**Ambon**	**10.23**	**164**	P	**Pn**	**23 10 18.8**	**-1.4**
KDI	**Kendari**	**10.47**	**195**	P	**Pn**	**23 10 25.8**	**+2.3**
	9μm917nm,0.7s						
SMKI	**Samarinda**	**10.50**	**231**	P	**Pn**	**23 10 26.1**	**+2.3**
	6μm18μm927nm,1.2s						
TTSI	**Tana Toraja**	**10.74**	**211**	P	**Pn**	**23 10 29.3**	**+2.2**
	6μm15μm2μm,0.9s						
BKB	**Balikpapan**	**11.26**	**229**	Pn	**Pn**	**23 10 34.6**	**+0.5**
BKB	**Balikpapan**	**11.26**	**229**	P	**Pn**	**23 10 35.5**	**+1.4**
BKB	**Balikpapan**	**11.26**	**229**	P	**Pn**	**23 10 35.3**	**+1.2**
	7μm9μm846nm,1.3s						
FAKI	**Fak Fak**	**11.38**	**143**	Pn	**Pn**	**23 10 36.3**	**+0.5**
FAKI	**Fak Fak**	**11.38**	**143**	P	**Pn**	**23 10 36.3**	**+0.5**
FAKI	**Fak Fak**	**11.38**	**143**	S	**Sn**	**23 12 40.8**	**-0.2**
FAKI	**Fak Fak**	**11.38**	**143**	P	**Pn**	**23 10 36.7**	**+0.9**
	9μm699nm,1.2s						
SPSI	**Sidrap Palu**	**11.56**	**209**	P	**Pn**	**23 10 40.9**	**+2.8**
	10μm10μm1μm,1.0s						
BNDI	**Bandanaira**	**11.59**	**157**	P	**Pn**	**23 10 38.5**	**0.0**
BNDI	**Bandanaira**	**11.59**	**157**	P	**Pn**	**23 10 39.2**	**+0.7**
	5μm17μm1μm,1.1s						
RKPI	**Ransiki, Papua**	**11.67**	**131**	P	**Pn**	**23 10 41.9**	**+2.3**
	14μm944nm,1.6s						
BBSI	**Bau Bau**	**11.96**	**194**	P	**Pn**	**23 10 44.3**	**+0.8**
	7μm12μm1μm,0.9s						
SZP	**Santa**	**12.25**	**337**	P	**Pn**	**23 10 50.6**	**+3.3**
KAPI	**Kappang**	**12.49**	**207**		**Pn**	**23 10 51.7**	**+1.2**
KAPI	**Kappang**	**12.49**	**207**	P	**Pn**	**23 10 52.2**	**+1.6**
	1μm,1.0s,baz=25,slow=8.5,SNR=153						
KAPI				S	**Sn**	**23 13 09.6**	**+1.8**
	73nm,0.7s,baz=37,slow=20,SNR=1.8						
KAPI				LR	LR	23 15 27.9	
	comp=Z,3μm,21.3s,baz=37,slow=36						
KAPI	**Kappang**	**12.49**	**207**	P	**Pn**	**23 10 52.1**	**+1.6**
KAPI	**Kappang**	**12.49**	**207**	S	**Sn**	**23 13 06.3**	**-1.6**
KAPI	**Kappang**	**12.49**	**207**	*c iP*	**Pn**	**23 10 53.5**	**+3.0**
BKSI	**Bulukumba**	**12.60**	**205**	P	**Pn**	**23 10 54.4**	**+2.4**
KMPI	**Kaimana, Papua**	**12.86**	**139**	P	**Pn**	**23 10 56.5**	**+1.0**
	7μm556nm,0.8s						
BAKI	**Biak**	**13.00**	**124**	P	**Pn**	**23 10 58.2**	**+0.9**
	4μm8μm922nm,1.0s						
BSSI	**Bau Bau, Buton**	**13.21**	**202**	P	**Pn**	**23 11 02.0**	**+2.0**
	1μm,2.0s						
SRPI	**Serui, Papua**	**13.50**	**126**	P	**Pn**	**23 11 06.4**	**+2.5**
	7μm1μm,0.9s						
SBUM	**Sibu**	**13.64**	**255**	Pn	**Pn**	**23 11 07.2**	**+1.5**
SBUM	**Sibu**	**13.64**	**255**	P	**Pn**	**23 11 08.4**	**+2.7**
MMRI	**Maumere**	**15.08**	**192**		**Pn**	**23 11 24.5**	**+0.3**
MMRI	**Maumere**	**15.08**	**192**	P	**P**	**23 11 25.8**	**-1.4**
MMRI	**Maumere**	**15.08**	**192**	P	**P**	**23 11 25.7**	**-1.4**
	7μm25μm1μm,0.9s						
STKI	**Sintang**	**15.15**	**247**	P	**P**	**23 11 28.5**	**+0.5**
SMPI	**Sarmi**	**15.61**	**121**	P	**P**	**23 11 32.9**	**-0.2**
	316nm,1.0s						
KSM	**Kuching**	**15.75**	**253**		**Pn**	**23 11 32.7**	**+0.1**
KSM	**Kuching**	**15.75**	**253**	P	**P**	**23 11 34.7**	**+0.1**
SOEI	**Soe**	**15.90**	**184**	Pn	**Pn**	**23 11 35.0**	**+0.3**
SOEI	**Soe**	**15.90**	**184**	P	**P**	**23 11 36.2**	**-0.2**
SOEI	**Soe**	**15.90**	**184**	P	**P**	**23 11 36.0**	**-0.4**
	22μm2μm,1.1s						
PLAI	**Plampang**	**16.75**	**207**	P	**P**	**23 11 46.7**	**+1.0**
PLAI	**Plampang**	**16.75**	**207**	P	**P**	**23 11 47.2**	**+1.5**
	21μm2μm,0.9s						
WBSI	**Waikabubak, Su**	**16.84**	**201**	P	**P**	**23 11 48.4**	**+1.7**
	7μm9μm813nm,0.9s						
BASI	**Baing, Sumba**	**17.01**	**196**	P	**P**	**23 11 49.5**	**+1.0**
	12μm1μm,1.4s						
TWGBT	**Beinan**	**17.02**	**346**	P	**P**	**23 11 49.4**	**+0.8**
TWG	**Pinlang**	**17.02**	**346**		**Pn**	**23 11 46.7**	**-1.6**
GENI	**Genyem**	**17.17**	**120**	P	**P**	**23 11 52.7**	**+2.4**
GENI	**Genyem**	**17.17**	**120**	P	**P**	**23 11 53.1**	**+2.8**
	4μm13μm2μm,0.9s						
KMMI	**Kalianget**	**17.41**	**221**	P	**Pn**	**23 11 56.4**	**+3.3**
	13μm1μm,1.1s						
SRBI	**Singaraja**	**17.45**	**216**	P	**Pn**	**23 11 56.8**	**+3.2**
	9μm24μm2μm,1.5s						
YULB	**Yu-li**	**17.52**	**347**	P	**P**	**23 11 53.8**	**-0.4**
YULB	**Yu-li**	**17.52**	**347**	P	**P**	**23 11 54.0**	**-0.2**
TPUB	**Ta-pu**	**17.59**	**345**	P	**P**	**23 11 54.3**	**-0.6**
TPUB	**Ta-pu**	**17.59**	**345**	P	**Pn**	**23 11 55.3**	**0.0**
JAY	**Jayapura**	**17.59**	**119**	P	**P**	**23 11 55.3**	**+0.2**
	166nm,0.7s,baz=276,slow=4.8,SNR=61						
JAY				S	**S**	**23 15 12.5**	**-0.4**
	44nm,1.0s,baz=312,slow=18,SNR=3.1						
JAY				LR	LR	23 17 41.4	
	comp=Z,2μm,22.0s,baz=307,slow=33						
JAY	**Jayapura**	**17.59**	**119**	P	**Pn**	**23 11 57.1**	**+1.7**
	314nm,0.9s						
DLV	**Lat**	**17.61**	**290**	P	**Pn**	**23 11 55.8**	**0.0**
DLV	**Lat**	**17.61**	**290**	P	**Pn**	**23 11 58.2**	**+2.4**
ABJI	**Asem Bagus**	**17.81**	**219**	P	**Pn**	**23 11 59.8**	**+1.9**
	8μm9μm310nm,0.9s						
DNP	**Denpasar**	**17.93**	**215**	P	**Pn**	**23 12 01.1**	**+1.7**
SSLB	**Suanglung**	**17.98**	**347**	P	**P**	**23 11 59.1**	**-0.1**
SSLB	**Suanglung**	**17.98**	**347**	P	**Pn**	**23 12 00.3**	**+0.3**
NACB	**Ninganchiao**	**18.22**	**349**	P	**Pn**	**23 12 02.5**	**-0.4**
NACB	**Ninganchiao**	**18.22**	**349**	P	**Pn**	**23 12 04.2**	**+1.4**
YOJ	**Yonaguni jima**	**18.28**	**353**	P	**P**	**23 12 02.5**	**0.0**
YOJ	**Yonaguni jima**	**18.28**	**353**	P	**Pn**	**23 12 03.2**	**-0.3**
YOJ	**Yonaguni jima**	**18.28**	**353**	P	**P**	**23 12 02.5**	**0.0**
GRJI	**Gresik**	**18.32**	**225**	P	**Pn**	**23 12 05.9**	**+1.8**
	8μm21μm2μm,1.1s						
JAGI	**Jajag, Banyuwa**	**18.38**	**218**	P	**Pn**	**23 12 04.8**	**-0.1**
JAGI	**Jajag, Banyuwa**	**18.38**	**218**	P	**Pn**	**23 12 05.8**	**+0.9**
JAGI	**Jajag, Banyuwa**	**18.38**	**218**	P	**Pn**	**23 12 06.1**	**+1.2**
	7μm9μm763nm,0.9s						
GMJI	**Gumukmas**	**18.67**	**220**	P	**Pn**	**23 12 09.1**	**+0.8**
	453nm,1.2s						
TBJI	**Tambak Boyo**	**18.70**	**226**	P	**Pn**	**23 12 10.1**	**+1.5**
	7μm20μm1μm,1.1s						
YHNB	**Yeheng**	**18.75**	**349**	P	**P**	**23 12 07.6**	**0.0**
YHNB	**Yeheng**	**18.75**	**349**	P	**Pn**	**23 12 09.7**	**+0.5**
TATO	**Taipei**	**19.02**	**349**	P	**Pn**	**23 12 11.8**	**-0.5**
TATO	**Taipei**	**19.02**	**349**	P	**Pn**	**23 12 12.7**	**+0.4**
HKPS	**Hong Kong Po S**	**19.30**	**327**	P	**P**	**23 12 14.1**	**+0.4**
HKPS	**Hong Kong Po S**	**19.30**	**327**	P	**Pn**	**23 12 16.3**	**+0.6**
DRS	**Darwin Rock St**	**19.32**	**163**	P	**Pn**	**23 12 15.0**	**-0.9**
KNMB	**Chin-men Tao**	**19.34**	**340**	P	**Pn**	**23 12 15.5**	**-0.6**
NGJI	**Ngawi**	**19.36**	**226**	P	**Pn**	**23 12 18.5**	**+2.2**
	12μm793nm,1.1s						
QZH	**Quanzhou**	**19.72**	**341**	⇑*iP*	**Pn**	**23 12 20.0**	**-0.5**
QZH				pP	**pP**	**23 12 39.8**	**+3.0**
QZH				sP	**sP**	**23 12 51.3**	**+2.2**
QZH				S	**S**	**23 15 56.3**	**+0.9**
QZH				pmax	pmax		
	comp=Z,290nm,1.0s						
QZH				pmax	pmax		
	comp=Z,920nm,4.5s						
QZH				LR	LR		
	comp=N,1μm,14.3s						
QZH				LR	LR		
	comp=E,2μm,22.5s						
QZH				LR	LR		
	comp=Z,3μm,15.8s						
QIZ	**Qiongzhong**	**19.77**	**312**	P	**Pn**	**23 12 20.9**	**-0.3**
QIZ	**Qiongzhong**	**19.77**	**312**	P	**Pn**	**23 12 20.3**	**-0.9**
QIZ				pP	**pP**	**23 12 37.4**	**+0.1**
QIZ				sP	**sP**	**23 12 47.1**	**-2.5**
QIZ				S	**S**	**23 15 59.3**	**+2.8**
QIZ				pmax	pmax		
	comp=Z,66nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,670nm,6.4s						
QIZ				LR	LR		
	comp=N,1μm,11.0s						
QIZ				LR	LR		
	comp=E,800nm,12.4s						
QIZ				LR	LR		
	comp=Z,1μm,16.5s						
MTN	**Manton Dam**	**19.78**	**163**	P	**P**	**23 12 19.3**	**+0.4**
MTN	**Manton Dam**	**19.78**	**163**	P	**P**	**23 12 19.4**	**+0.5**
	comp=Z,0.0nmcomp=Z,1μm,1.0s						
MTN	**Manton Dam**	**19.78**	**163**	P	**P**	**23 12 19.2**	**+0.4**
TPI	**Tanjungpandan**	**19.81**	**244**	P	**Pn**	**23 12 21.7**	**0.0**
SMRI	**Semarang**	**19.89**	**229**	P	**Pn**	**23 12 22.3**	**-0.3**
SMRI	**Semarang**	**19.89**	**229**	P	**Pn**	**23 12 22.9**	**+0.3**
SMRI	**Semarang**	**19.89**	**229**	P	**Pn**	**23 12 23.4**	**+0.8**
	comp=Z,5μmcomp=Z,373nm,0.9s						
KDU	**Kakadu**	**20.06**	**159**	P	**P**	**23 12 22.8**	**+0.9**
	comp=Z,0.0nmcomp=Z,2μm,0.8s						
KDU	**Kakadu**	**20.06**	**159**	P	**P**	**23 12 22.4**	**+0.5**
PCJI	**Pacitan**	**20.13**	**225**	P	Pn	23 12 26.4	+1.0
	comp=Z,5μmcomp=Z,440nm,1.3s						
GZH	**Guangzhou**	**20.39**	**327**	P	Pn	23 12 31.3	+3.0
GZH				sP	sP	23 13 01.3	+5.0
GZH				S	Sn	23 16 15.6	-2.7
GZH				SS	**SnSn**	**23 16 48.9**	**+14**
GZH				pmax	pmax		
	comp=Z,160nm,1.0s						
GZH				LR	LR		
	comp=Z,2μm,11.1s						
GZH				LR	LR		
	comp=Z,1μm,12.5s						
GZH				LR	LR		
	comp=Z,2μm,17.6s						
UGM	**Wanagama**	**20.40**	**227**	P	**P**	**23 12 26.5**	**+0.9**
UGM	**Wanagama**	**20.40**	**227**	P	Pn	23 12 27.5	-1.1
UGM	**Wanagama**	**20.40**	**227**	P	Pn	23 12 27.7	-0.9
YOGI	**Yogyakarta**	**20.50**	**227**	P	Pn	23 12 29.5	-0.3
	comp=Z,6μcomp=Z,506nm,1.4s						
GUMO	**Guam**	**20.54**	**68**	P	**P**	**23 12 26.7**	**-0.4**
	comp=Z,342nm,0.8s,baz=208,slow=7.1,SNR=10						
GUMO				LR	LR	23 19 05.9	
	comp=Z,527nm,19.6s,baz=256,slow=33						
	comp=Z,342nm,0.8s						
JOW	**Kunigami**	**20.69**	**7**	P	**P**	**23 12 30.2**	**+1.6**
JOW	**Kunigami**	**20.69**	**7**	P	**P**	**23 12 29.4**	**+0.8**
	comp=Z,244nm,0.9s,baz=196,slow=8.6,SNR=21						
JOW				LR	LR	23 20 44.9	
	comp=Z,806nm,20.4s,baz=164,slow=37						
	comp=Z,244nm,0.9s						
PPBI	**Pangkal Pinang**	**20.93**	**247**	P	Pn	23 12 34.1	-0.7
JCJI	**Jatiwangi**	**21.23**	**234**	P	**P**	**23 12 38.7**	**+4.2**
	comp=Z,17μmcomp=Z,1μm,1.3s						
CMJI	**Cimerak**	**21.87**	**231**	P	**P**	**23 12 45.0**	**+3.7**
	comp=Z,3μmcomp=Z,5μmcomp=Z,519nm,1.0s						
MYKOM	**Kota Tinggi**	**21.91**	**259**	P	**P**	**23 12 43.6**	**+1.8**
MYKOM	**Kota Tinggi**	**21.91**	**259**	P	**P**	**23 12 44.1**	**+2.3**
LEM	**Lembang**	**21.95**	**234**	P	**P**	**23 12 44.6**	**+2.3**
	comp=Z,2μm,0.8s,baz=53,slow=8.4,SNR=157						
LEM	**Lembang**	**21.95**	**234**	P	**P**	**23 12 46.1**	**+3.8**
KNRA	**Kununurra**	**22.01**	**171**	P	**P**	**23 12 42.8**	**+0.1**
KNRA	**Kununurra**	**22.01**	**171**	P	**P**	**23 12 42.7**	**0.0**
	comp=Z,0.0nmcomp=Z,2μm,0.8s						
BBJI	**Bungbulang**	**22.30**	**233**	P	**P**	**23 12 46.9**	**+1.0**
PMBI	**Palembang**	**22.49**	**247**	P	**P**	**23 12 50.7**	**+2.9**
PMBI	**Palembang**	**22.49**	**247**	P	**P**	**23 12 50.8**	**+2.9**
PMBI	**Palembang**	**22.49**	**247**	P	**P**	**23 12 50.9**	**+3.1**
	comp=Z,10μcomp=Z,1μm,1.1s						
CNJI	**Cibinong**	**22.62**	**234**	P	**P**	**23 12 49.4**	**+0.2**
	comp=Z,5μcomp=Z,559nm,1.0s						
SBJI	**Serang**	**22.78**	**238**	P	**P**	**23 12 53.4**	**+2.6**
	comp=Z,2μm,1.3s						
SKJI	**Sukabumi**	**22.91**	**235**	P	**P**	**23 12 53.9**	**+1.8**
	comp=Z,5μcomp=Z,11μcomp=Z,1μm,1.2s						
BLSI	**Bandar Lampung**	**23.15**	**241**	P	**P**	**23 12 56.2**	**+1.7**
	comp=Z,8μcomp=Z,877nm,0.7s						
CGJI	**Cibinong**	**23.41**	**237**	P	**P**	**23 12 57.8**	**+1.0**
	comp=Z,11μcomp=Z,928nm,1.4s						
MANU	**Manus Island**	**23.44**	**110**	P	**P**	**23 12 57.3**	**+0.2**
MDSI	**Maura Dua**	**23.68**	**244**	P	**P**	**23 13 01.0**	**+1.7**
	comp=Z,3μcomp=Z,7μcomp=Z,575nm,1.1s						
GULI	**GuiLin**	**23.79**	**324**	P	**P**	**23 13 03.4**	**+3.2**
GULI				S	**S**	**23 17 12.9**	**+4.1**
GULI				pmax	pmax		
	comp=Z,100nm,1.4s						
GULI				LR	LR		
	comp=Z,2μm,18.2s						
GULI				LR	LR		
	comp=Z,3μm,16.4s						
GULI				LR	LR		
	comp=Z,2μm,16.3s						
LWLI	**Liwa**	**24.03**	**243**	P	**P**	**23 13 04.4**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.16**	**179**	P	**P**	**23 13 02.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.16**	**179**	P	**P**	**23 13 03.8**	**+0.3**
	comp=Z,130nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.16**	**179**	P	**P**	**23 13 03.8**	**+0.3**
	comp=Z,355nm,0.9s,baz=8.1,slow=9.1,SNR=292						
	comp=Z,355nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.16**	**179**	P	**P**	**23 13 03.7**	**+0.2**
KULM	**Kulim**	**24.61**	**269**	P	**P**	**23 13 09.6**	**+1.9**
KULM	**Kulim**	**24.61**	**269**	P	**P**	**23 13 09.9**	**+2.2**
NONG	**Nongkai**	**24.68**	**300**	P	**P**	**23 13 10.4**	**+2.1**
MNAI	**Manna**	**24.73**	**245**	P	**P**	**23 13 09.7**	**+0.9**
MNAI	**Manna**	**24.73**	**245**	P	**P**	**23 13 10.4**	**+1.6**
MNAI	**Manna**	**24.73**	**245**	P	**P**	**23 13 11.3**	**+2.5**
	comp=Z,14μmcomp=Z,1μm,1.4s						
KSI	**Kapahiang**	**24.77**	**247**	P	**P**	**23 13 11.3**	**+2.1**
	comp=Z,4μmcomp=Z,10μmcomp=Z,650nm,0.9s						
CNSH	**ChangSha**	**24.83**	**333**	P	**P**	**23 13 10.8**	**+1.3**
CNSH				S	**S**	**23 17 28.1**	**+2.8**
CNSH				pmax	pmax		
	comp=Z,15nm,1.5s						
CNSH				LR	LR		
	comp=Z,2μm,20.3s						
CNSH				LR	LR		
	comp=Z,2μm,18.5s						
CNSH				LR	LR		
	comp=Z,2μm,18.9s						
BKNI	**Bangkinang**	**24.98**	**257**	P	**P**	**23 13 12.5**	**+1.5**
BKNI	**Bangkinang**	**24.98**	**257**	P	**P**	**23 13 13.3**	**+2.2**
BKNI	**Bangkinang**	**24.98**	**257**	P	**P**	**23 13 14.2**	**+3.1**
	comp=Z,4μmcomp=Z,5μmcomp=Z,343nm,1.1s						
NAYO	**Nakonayok**	**24.98**	**291**	P	**P**	**23 13 12.8**	**+1.8**
SSE	**Sheshan**	**25.06**	**351**	P	**P**	**23 13 12.3**	**+0.7**
SSE				S	**S**	**23 17 30.3**	**+1.4**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SSE				pmax	pmax		
	comp=Z,600nm,5.3s						
SSE				LR	LR		
	comp=Z,380nm,15.9s						
SSE				LR	LR		
	comp=Z,400nm,16.2s						
SLVN	**Son La**	**25.65**	**308**	P	**P**	**23 13 17.9**	**+0.8**
SLVN				IAmb	IAmb	23 13 41.9	
	comp=Z,513nm,2.0s						
SLVN	**Son La**	**25.65**	**308**	P	**P**	**23 13 19.6**	**+2.5**
XMI	**Christmas Isla**	**25.66**	**230**	P	**P**	**23 13 19.6**	**+2.4**
SRIT	**Nakonsritamara**	**25.66**	**277**	P	**P**	**23 13 18.4**	**+1.2**
SRIT				IAmb	IAmb	23 13 41.1	
	comp=Z,311nm,1.2s						
SRIT	**Nakonsritamara**	**25.66**	**277**	P	**P**	**23 13 19.6**	**+2.3**
XMIS	**Christmas Isla**	**25.70**	**230**	P	**P**	**23 13 19.1**	**+1.5**
XMIS	**Christmas Isla**	**25.70**	**230**	P	**P**	**23 13 20.0**	**+2.4**
PPI	**Padang Panjang**	**25.80**	**256**	P	**P**	**23 13 20.1**	**+1.6**
	comp=Z,3μcomp=Z,3μcomp=Z,236nm,0.8s						
JCJ	**Chichijima**	**26.21**	**36**	P	**P**	**23 13 21.5**	**-0.6**
JCJ	**Chichijima**	**26.21**	**36**	P	**P**	**23 13 15.6**	**-6.5**
	comp=Z,501nm,0.8s,baz=202,slow=3.1,SNR=21						
JCJ				LR	LR	23 24 38.1	
	comp=Z,338nm,19.4s,baz=208,slow=38						
JCJ	**Chichijima**	**26.21**	**36**	P	**P**	**23 13 21.8**	**-0.3**
MNSI	**Mandailing Nat**	**26.29**	**259**	P	**P**	**23 13 25.8**	**+2.9**
	comp=Z,182nm,1.2s						
WHN	**Wuhan**	**26.33**	**338**	P	**P**	**23 13 24.9**	**+1.9**
WHN				S	**S**	**23 17 45.5**	**-3.4**
WHN				LR	LR		
	comp=Z,4μm,24.3s						
NJ2	**Nanjing**	**26.42**	**347**	*e*P	**P**	**23 13 28.1**	**+4.3**
NJ2				pP	**pP**	**23 13 47.3**	**+1.7**
NJ2				sP	**sP**	**23 13 56.4**	**-0.7**
NJ2				ScP	**ScP**	**23 20 18.6**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,30nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,370nm,3.5s						
NJ2				LR	LR		
	comp=Z,540nm,11.4s						
NJ2				LR	LR		
	comp=Z,990nm,15.6s						
NJ2				LR	LR		
	comp=Z,970nm,19.1s						
PSI	**Prapat**	**26.58**	**264**	P	**P**	**23 13 27.8**	**+2.1**
	comp=Z,9.5nm,0.7s,baz=82,slow=5.0,SNR=21						
PSI				pP	**pP**

PSA00	**Pilbara Seismi**	**28.14 191**	P	**P**	**23 13 38.7 -0.7**
PSA00			IAmb	IAmb	23 13 40.4
	comp=Z,528nm,1.1s				
PSA00	**Pilbara Seismi**	**28.14 191**	P	**P**	**23 13 39.2 -0.1**
	comp=Z,417nm,1.1s				
PSA00	**Pilbara Seismi**	**28.14 191**	P	**P**	**23 13 39.4 0.0**
GSI	**Gunungsitoli**	**28.15 261**	P	**P**	**23 13 39.3 -0.3**
GSI			IAmb	IAmb	23 14 20.8
	comp=Z,279nm,1.1s				
GSI	**Gunungsitoli**	**28.15 261**	P	**P**	**23 13 40.4 +0.8**
GSI	**Gunungsitoli**	**28.15 261**	P	**P**	**23 13 41.8 +2.2**
	comp=Z,3μmcomp=Z,221nm,0.7s				
ENH	**Enshi**	**28.21 330**	P	**P**	**23 13 39.8 -0.2**
LHMI	**Lhok Sumawe**	**28.30 269**	P	**P**	**23 13 40.8 -0.1**
LHMI	**Lhok Sumawe**	**28.30 269**	P	**P**	**23 13 43.9 +3.0**
	comp=Z,3μmcomp=Z,7μmcomp=Z,352nm,1.9s				
CM31	**Chiang Mai Arr**	**28.49 298**	P	**P**	**23 13 44.4 +1.8**
CMAR	**Chiang Mai Arr**	**28.49 298**	P	**P**	**23 13 42.9 +0.3**
CMAR	**Chiang Mai Arr**	**28.49 298**	P	**P**	**23 13 44.5 +1.9**
	comp=Z,9.2nm,0.9s,baz=121,slow=7.3,SNR=49				
CMAR			pP	**pP**	**23 14 05.1 +0.7**
	comp=Z,8.8nm,0.8s,baz=116,slow=8.5,SNR=3.5				
CMAR			ScP	**ScP**	**23 20 23.3 -1.6**
	comp=Z,7.7nm,0.9s,baz=125,slow=1.2,SNR=9.9				
CMAR			LR	LR	23 25 56.2
	comp=Z,496nm,20.8s,baz=105,slow=38				
	comp=Z,9.2nm,0.9s				
JMN	**Monobe**	**28.49 15**	P	**P**	**23 13 42.2 -0.2**
JMN			IAmb	IAmb	23 13 52.2
	comp=Z,152nm,0.8s				
JMN	**Monobe**	**28.49 15**	P	**P**	**23 13 44.1 +1.7**
CHTO	**Chiang Mai**	**28.62 298**	P	**P**	**23 13 44.4 +0.7**
CHTO	**Chiang Mai**	**28.62 298**	P	**P**	**23 13 44.4 +0.7**
CHTO			pmax	pmax	
	comp=Z,143nm,1.6s				
RABL	**Rabaul**	**28.68 110**	P	**P**	**23 13 44.2 -0.1**
KMI	**Kunming**	**28.69 313**	⇓P	**P**	**23 13 47.1 +2.6**
KMI			pP	pP	23 14 08.6 +2.2
KMI			sP	sP	23 14 19.5 +1.8
KMI			S	**S**	**23 18 31.8 +5.0**
KMI			sS	sS	23 19 04.4 -0.5
KMI			pmax	pmax	
	comp=Z,29nm,2.1s				
KMI			pmax	pmax	
	comp=Z,260nm,3.4s				
KMI			LR	LR	
	comp=Z,640nm,21.3s				
KMI			LR	LR	
	comp=Z,770nm,14.7s				
KMI			LR	LR	
	comp=Z,1μm,22.2s				
MLSI	**Meulaboh, Aceh**	**28.91 268**	P	**P**	**23 13 49.6 +3.3**
	comp=Z,88nm,0.7s				
SNSI	**Sinabang, Aceh**	**29.20 264**	P	**P**	**23 13 52.1 +3.2**
	comp=Z,134nm,1.1s				
BSI	**Banda Aceh**	**29.93 270**	P	**P**	**23 13 57.4 +2.0**
JHJ	**Hachijo jima 2**	**29.94 25**	P	**P**	**23 13 53.4 -1.8**
	comp=Z,137nm,0.8s,baz=194,slow=12,SNR=5.5				
JHJ			LR	LR	23 25 07.3
	comp=Z,484nm,21.4s,baz=287,slow=34				
	comp=Z,137nm,0.8s				
QIS	**Mount Isa**	**30.06 153**	P	**P**	**23 13 57.2 +0.7**
	comp=Z,175nm,1.0s				
QIS	**Mount Isa**	**30.06 153**	P	**P**	**23 13 57.1 +0.7**
PZH	**PanZhiHua**	**30.24 315**	P	**P**	**23 13 59.5 +1.4**
PZH			S	**S**	**23 18 51.9 +1.0**
PZH			sS	**sS**	**23 19 25.9 -3.2**
PZH			pmax	pmax	
	comp=Z,70nm,1.1s				
PZH			pmax	pmax	
	comp=Z,290nm,3.7s				
MTSU	**Mount Surprise**	**30.58 143**	P	**P**	**23 14 02.4 +1.4**
	comp=Z,79nm,0.7s				
MTSU	**Mount Surprise**	**30.58 143**	P	**P**	**23 14 02.6 +1.6**
LYN	**LuoYang**	**30.62 339**	*e*P	**P**	**23 14 02.3 +1.1**
LYN			pP	pP	23 14 24.4 +1.2
LYN			S	**S**	**23 19 03.8 +7.5**
LYN			pmax	pmax	
	comp=Z,24nm,0.5s				
GIRL	**Giralia**	**30.68 200**	P	**P**	**23 14 02.4 +0.6**
GIRL	**Giralia**	**30.68 200**	P	**P**	**23 14 02.6 +0.8**
	comp=Z,403nm,1.1s				
GIRL	**Giralia**	**30.68 200**	P	**P**	**23 14 03.0 +1.2**
JSG	**Sagara**	**30.69 21**	P	**P**	**23 14 02.2 +0.4**
JSG	**Sagara**	**30.69 21**	P	**P**	**23 14 03.5 +1.7**
TIA	**Tai'an**	**30.80 347**	P	**P**	**23 14 01.9 -0.9**
TIA			pP	**pP**	**23 14 23.6 -1.3**
TIA			sP	**sP**	**23 14 34.5 -1.8**
TIA			S	S	23 19 08.3 +9.1
TIA			sS	**sS**	**23 19 39.6 +2.2**
TIA			pmax	pmax	
	comp=Z,8.0nm,1.2s				
TIA			pmax	pmax	
	comp=Z,210nm,5.1s				
TIA			LR	LR	
	comp=Z,560nm,17.8s				
TIA			LR	LR	
	comp=Z,1μm,23.5s				
TIA			LR	LR	
	comp=Z,2μm,23.3s				
AS06	**Alice Springs**	**30.84 164**	P	**P**	**23 14 03.9 +0.5**
	comp=Z,96nm,0.7s				
AS31	**Alice Springs**	**30.84 165**	P	**P**	**23 14 03.2 -0.1**
AS31	**Alice Springs**	**30.84 165**	P	**P**	**23 14 03.8 +0.5**
	comp=Z,37nm,0.7s				
ASAR	**Alice Springs**	**30.85 165**	P	**P**	**23 14 03.4 +0.1**
ASAR	**Alice Springs**	**30.85 165**	P	**P**	**23 14 03.9 +0.5**
	comp=Z,49nm,0.6s,baz=344,slow=7.4,SNR=648				
ASAR			pP	**pP**	**23 14 26.9 +1.8**
	comp=Z,59nm,0.7s,baz=348,slow=11,SNR=6.6				
ASAR			sP	**sP**	**23 14 37.1 +0.8**
	comp=Z,56nm,0.9s,baz=338,slow=8.8,SNR=2.6				
ASAR			S	**S**	**23 18 58.6 -1.5**
	comp=Z,34nm,0.8s,baz=352,slow=21,SNR=8.6				
ASAR			ScP	**ScP**	**23 20 31.1 -1.3**
	comp=Z,25nm,0.8s,baz=352,slow=3.2,SNR=8.6				
ASAR			LR	LR	23 28 40.0
	comp=Z,405nm,19.9s,baz=354,slow=40				
	comp=Z,49nm,0.6s				
AS01	**Alice Springs**	**30.86 165**	P	**P**	**23 14 03.7 +0.3**
AS19	**Alice Springs**	**30.90 165**	P	**P**	**23 14 04.3 +0.5**
	comp=Z,165nm,0.8s				
INU	**Inuyama**	**30.91 19**	P	**P**	**23 14 03.7 0.0**
INU			IAmb	IAmb	23 14 06.2
	comp=Z,170nm,1.1s				
INU	**Inuyama**	**30.91 19**	P	**P**	**23 14 04.4 +0.6**
INU	**Inuyama**	**30.91 19**	P	**P**	**23 14 04.0 +0.3**
KSRS	**Korea Array**	**31.18 4**	P	**P**	**23 14 06.8 +0.8**
	comp=Z,23nm,0.8s,baz=184,slow=10.0,SNR=55				
KSRS			pP	**pP**	**23 14 29.6 +1.8**
	comp=Z,25nm,1.1s,baz=187,slow=9.3,SNR=3.9				
KSRS			sP	**sP**	**23 14 40.5 +1.4**
	comp=Z,6.7nm,0.6s,baz=187,slow=8.2,SNR=1.7				
KSRS			PcP	**PcP**	**23 16 57.4 -1.5**
	comp=Z,5.6nm,0.8s,baz=182,slow=2.4,SNR=4.6				
KSRS			ScP	**ScP**	**23 20 31.6 -1.6**
	comp=Z,12nm,0.9s,baz=191,slow=3.4,SNR=16				
KSRS			LR	LR	23 30 07.6
	comp=Z,199nm,18.1s,baz=185,slow=43				
	comp=Z,23nm,0.8s				
WRKA	**Warakurna**	**31.19 175**	P	**P**	**23 14 06.8 +0.4**
	comp=Z,0.0nmcomp=Z,169nm,0.8s				
WRKA	**Warakurna**	**31.19 175**	P	**P**	**23 14 06.8 +0.4**
KS19	**Wonju Array Si**	**31.23 4**	P	**P**	**23 14 06.2 -0.2**
JGF	**Kuroka**	**31.25 19**	P	**P**	**23 14 05.8 -1.0**
JGF	**Kuroka**	**31.25 19**	P	**P**	**23 14 07.6 +0.8**
XAN	**Xi'an**	**31.60 333**	⇓P	**P**	**23 14 10.3 +0.4**
XAN			pP	pP	23 14 32.0 0.0
XAN			sP	sP	23 14 41.8 -1.5
XAN			S	**S**	**23 19 12.5 +0.6**
XAN			sS	sS	23 19 47.6 -2.6
XAN			SS	**SnSn**	**23 21 07.8 -0.4**
XAN			pmax	pmax	
	comp=Z,84nm,1.3s				
XAN			LR	LR	
	comp=Z,1μm,18.6s				
XAN			LR	LR	
	comp=Z,810nm,14.4s				
XAN			LR	LR	
	comp=Z,2μm,18.5s				
XAN	**Xi'an**	**31.60 333**	P	**P**	**23 14 10.0 +0.1**
XAN			pP	**pP**	**23 14 31.7 -0.3**
TNCH	**TengChong**	**31.80 309**	⇓*i*P	**P**	**23 14 13.3 +1.4**
TNCH			pP	pP	23 14 34.5 +0.6
TNCH			sP	sP	23 14 45.0 -0.2
TNCH			PP	**PnPn**	**23 15 18.9 -1.3**
TNCH			S	**S**	**23 19 18.8 +3.4**
TNCH			sS	sS	23 19 55.4 +1.7
TNCH			pmax	pmax	
	comp=Z,34nm,0.9s				
TNCH			pmax	pmax	
	comp=Z,120nm,2.7s				
TNCH			LR	LR	
	comp=Z,420nm,11.1s				
TNCH			LR	LR	
	comp=Z,280nm,9.5s				
TNCH			LR	LR	
	comp=Z,660nm,18.6s				
CD2	**Chengdu**	**31.86 323**	P	**P**	**23 14 13.6 +1.4**
CD2			pP	pP	23 14 34.8 +0.6
CD2			sP	sP	23 14 45.5 0.0
CD2			S	**S**	**23 19 18.5 +2.6**
CD2			sS	sS	23 19 56.3 +2.1
CD2			pmax	pmax	
	comp=Z,140nm,1.1s				
CD2			LR	LR	
	comp=Z,970nm,15.2s				
CD2			LR	LR	
	comp=Z,1μm,14.0s				
MAJO	**Matsushiro**	**32.39 20**	P	**P**	**23 14 15.2 -1.5**
MAJO	**Matsushiro**	**32.39 20**	P	**P**	**23 14 16.9 +0.1**
MAJO	**Matsushiro**	**32.39 20***d i*P		**P**	**23 14 16.1 -0.7**
MAJO			pmax	pmax	
	comp=Z,78nm,1.0s				
MJAR	**Matsushiro Arr**	**32.39 20**	P	**P**	**23 14 16.1 -0.7**
	comp=Z,46nm,0.9s,baz=195,slow=8.9,SNR=68				
MJAR			pP	**pP**	**23 14 39.2 +0.7**
	comp=Z,12nm,0.8s,baz=193,slow=8.9,SNR=2.7				
MJAR			PcP	**PcP**	**23 17 02.8 +0.5**
	comp=Z,20nm,0.9s,baz=198,slow=4.1,SNR=7.4				
MJAR			ScP	**ScP**	**23 20 36.5 -0.8**
	comp=Z,15nm,1.1s,baz=207,slow=4.1,SNR=9.3				
MJAR			LR	LR	23 27 35.4
	comp=Z,445nm,19.8s,baz=211,slow=36				
	comp=Z,46nm,0.9s				
MJB9	**Matsu-Tunnel**	**32.39 20**	P	**P**	**23 14 16.3 -0.5**
HNS	**HongShan**	**32.53 344**	⇓P	**P**	**23 14 17.9 0.0**
HNS			pP	**pP**	**23 14 39.6 -0.6**
HNS			sP	**sP**	**23 14 50.8 -0.8**
HNS			PP	**PP**	**23 15 31.3 -1.9**
HNS			PcP	**PcP**	**23 17 04.9 +2.4**
HNS			S	**S**	**23 19 30.4 +4.4**
HNS			sS	**sS**	**23 20 02.4 -2.0**
HNS			ScP	**ScP**	**23 20 38.6 +0.8**
HNS			PcS	**PcS**	**23 20 49.5 +1.8**
HNS			pmax	pmax	
	comp=Z,17nm,1.5s				
HNS			LR	LR	
	comp=Z,710nm,20.6s				
HNS			LR	LR	
	comp=Z,1μm,19.8s				
HNS			LR	LR	
	comp=Z,1μm,24.7s				
DL2	**Dalian**	**32.72 355**	P	**P**	**23 14 20.3 +0.8**
DL2			pP	**pP**	**23 14 42.3 +0.4**
DL2			sP	**sP**	**23 14 51.6 -1.7**
DL2			sS	**sS**	**23 20 06.0 -1.4**
DL2			SS	**SnSn**	**23 21 35.1 +0.1**
DL2			pmax	pmax	
	comp=Z,40nm,0.9s				
PATS	**Pohnpei**	**32.73 87**	P	**P**	**23 14 21.2 +1.2**
TV1H	**Townsville Har**	**32.96 141**	P	**P**	**23 14 23.5 +1.7**
MEEK	**Meekatharra**	**33.31 191**	P	**P**	**23 14 24.5 -0.4**
	comp=Z,359nm,0.9s				
MEEK	**Meekatharra**	**33.31 191**	P	**P**	**23 14 24.0 -0.9**
COCO	**West Island**	**33.76 237**	P	**P**	**23 14 29.3 +0.4**
JSD	**Sado**	**33.77 18**	P	**P**	**23 14 27.9 -0.8**
JSD	**Sado**	**33.77 18**	P	**P**	**23 14 29.2 +0.5**
JMM	**Marumori**	**34.49 22**	P	**P**	**23 14 35.2 +0.3**
JMM	**Marumori**	**34.49 22**	P	**P**	**23 14 35.8 +0.9**
BJT	**Baijiatuau**	**34.66 348**	P	**P**	**23 14 36.6 +0.2**
BJT	**Baijiatuau**	**34.66 348**	P	**P**	**23 14 36.6 +0.2**
BJT			pmax	pmax	
	comp=Z,362nm,1.3s				
BJT	**Baijiatuau**	**34.66 348**	P	**P**	**23 14 36.5 +0.2**
BJT			pP	**pP**	**23 14 58.4 -0.4**
BJT			sP	**sP**	**23 15 08.9 -1.2**
BJI	**Beijing**	**34.68 348**	P	**P**	**23 14 36.5 0.0**
BJI			pP	**pP**	**23 14 57.5 -1.4**
BJI			sP	**sP**	**23 15 07.9 -2.3**
BJI			PP	**PnPn**	**23 15 55.9 +0.2**
BJI			S	**S**	**23 20 02.3 +3.1**
BJI			ScP	**ScP**	**23 20 45.9 +0.6**
BJI			pmax	pmax	
	comp=Z,16nm,1.2s				
BJI			LR	LR	
	comp=Z,250nm,22.9s				
BJI			LR	LR	
	comp=Z,500nm,23.5s				
BJI			LR	LR	
	comp=Z,520nm,30.6s				
OOD	**Oodnadatta**	**35.25 164**	P	**P**	**23 14 42.2 +0.6**
SNY	**Shenyang**	**35.50 358**	⇑P	**P**	**23 14 44.4 +0.9**
SNY			S	**S**	**23 20 19.1 +7.3**
SNY			sS	**sS**	**23 20 50.4 0.0**
SNY			pmax	pmax	
	comp=Z,38nm,1.3s				
SNY			pmax	pmax	
	comp=Z,250nm,2.8s				
SNY			LR	LR	
	comp=Z,710nm,18.1s				
SNY			LR	LR	
	comp=Z,680nm,14.7s				
SNY			LR	LR	
	comp=Z,870nm,14.8s				
LZH	**Lanzhou**	**35.69 329**	⇓P	**P**	**23 14 47.3 +1.8**
LZH			pP	pP	23 15 09.3 +1.5
LZH			sP	sP	23 15 21.9 +2.8
LZH			S	**S**	**23 20 17.0 +1.7**
LZH			sS	sS	23 20 53.8 -0.1
LZH			pmax	pmax	
	comp=Z,60nm,1.2s				
LZH			pmax	pmax	
	comp=Z,280nm,5.8s				
LZH			LR	LR	
	comp=Z,4μm,15.8s				
LZH			LR	LR	
	comp=Z,3μm,15.8s				
LZH			LR	LR	
	comp=Z,1μm,15.8s				
MORW	**Morawa**	**36.21 194**	P	**P**	**23 14 49.2 -0.6**
MORW	**Morawa**	**36.21 194**	P	**P**	**23 14 49.7 -0.2**
	comp=Z,254nm,1.1s				
MORW	**Morawa**	**36.21 194**	P	**P**	**23 14 49.6 -0.2**
BRDH	**Bariadhala**	**36.40 300**	P	**P**	**23 14 53.4 +1.9**
	comp=Z,90nm,0.4s,baz=80,slow=17,SNR=12				
	comp=Z,90nm,0.4s				
MSHR	**Mys Shultsa**	**36.58 7***d i*P		**P**	**23 14 54.1 +1.4**
MSHR			pmax	pmax	
	comp=Z,93nm,1.1s				
PSTR	**Posyet**	**36.60 7***de*P		**P**	**23 14 54.3 +1.4**
HHC	**Hu-ho-hao-te**	**36.63 342**⇑*i*P		**P**	**23 14 54.6 +1.2**
HHC			pP	pP	23 15 16.8 +1.0
HHC			sP	sP	23 15 28.9 +1.9
HHC			S	**S**	**23 20 31.8 +2.4**
HHC			sS	sS	23 21 09.4 +1.2
HHC			SS	**SnSn**	**23 23 05.1 -4.5**
HHC			pmax	pmax	
	comp=Z,14nm,0.8s				
HHC			pmax	pmax	
	comp=Z,170nm,4.3s				
HHC			LR	LR	
	comp=Z,620nm,18.8s				
HHC			LR	LR	
	comp=Z,420nm,18.0s				
HHC			LR	LR	
	comp=Z,960nm,21.1s				
FORT	**Forrest**	**36.87 176**	P	**P**	**23 14 55.2 -0.2**
FORT	**Forrest**	**36.87 176**	P	**P**	**23 14 56.1 +0.7**
	comp=Z,550nm,0.9s				
FORT	**Forrest**	**36.87 176**	P	**P**	**23 14 56.4 +1.0**
INKA	**Innaminka**	**36.88 157**	P	**P**	**23 14 56.8 +1.3**
JTM	**Tenmabayashi**	**37.18 20**	P	**P**	**23 14 58.5 +0.6**
JTM			IAmb	IAmb	23 15 06.9
	comp=Z,114nm,0.9s				
JTM	**Tenmabayashi**	**37.18 20**	P	**P**	**23 14 59.4 +1.5**
VLA	**Vladivostok**	**37.20 8***c i*P		**P**	**23 14 59.8 +1.8**
VLA			pmax	pmax	
	comp=Z,72nm,1.1s				
TATA	**Tatamba Isabel**	**37.27 113**	P	**P**	**23 15 00.0 +1.0**
SHL	**Shillong**	**37.34 305**	P	**P**	**23 15 00.6 +0.9**
SHL	**Shillong**	**37.34 305**	P	**P**	**23 15 00.6 +0.9**
SHL			pmax	pmax	
	comp=Z,140nm,0.8s				
QLP	**Quilpie**	**37.38 152**	P	**P**	**23 15 00.4 +0.6**
	comp=Z,200nm,1.4s				
QLP	**Quilpie**	**37.38 152**	P	**P**	**23 15 00.3 +0.6**
CN2	**Changchun**	**37.44 0**	P	**P**	**23 14 59.6 -0.4**
CN2			sP	sP	23 15 31.9 -2.0
CN2			S	**S**	**23 20 42.8 +1.5**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.8s				
CN2			pmax	pmax	
	comp=Z,200nm,3.0s				
KMBL	**Kambalda**	**37.52 185**	P	**P**	**23 15 01.1 +0.2**
	comp=Z,751nm,0.9s				
KMBL	**Kambalda**	**37.52 185**	P	**P**	**23 15 01.5 +0.6**
BLDU	**Ballidu**	**37.55 192**	P	**P**	**23 15 01.0 -0.1**
	comp=Z,312nm,0.9s				
BLDU	**Ballidu**	**37.55 192**	P	**P**	**23 15 00.8 -0.3**
SAVO	**Savo Central**	**37.57 114**	P	**P**	**23 15 01.7 +0.2**
HNR	**Honiara**	**37.80 114**	P	**P**	**23 15 03.0 -0.4**
HNR	**Honiara**	**37.80 114**	LR	LR	23 28 58.5
	comp=Z,472nm,20.7s,baz=298,slow=33				
HNR	**Honiara**	**37.80 114**	P	**P**	**23 15 04.7 +1.2**
HNR	**Honiara**	**37.80 114**	P	**P**	**23 15 03.1 -0.4**
HNR			pmax	pmax	
	comp=Z,384nm,1.0s				
ALEG	**Aligegeo Malai**	**38.23 113**	P	**P**	**23 15 07.8 +0.7**
USA0B	**Ussuriysk Arra**	**38.28 8**	P	**P**	**23 15 07.8 +0.7**
USA0B			IAmb	IAmb	23 15 40.6
	comp=Z,116nm,0.9s				
USA0B	**Ussuriysk Arra**	**38.28 8**	P	**P**	**23 15 07.8 +0.7**
USA0B			pmax	pmax	
	comp=Z,116nm,1.0s				
USRK	**Ussuriysk Ar.**	**38.28 8**	P	**P**	**23 15 08.3 +1.2**
	comp=Z,31nm,0.8s,baz=196,slow=7.7,SNR=52				
USRK			pP	**pP**	**23 15 30.6 +1.3**
	comp=Z,44nm,0.9s,baz=184,slow=6.7,SNR=5.9				
USRK			ScP	**ScP**	**23 20 56.9 -1.7**
	comp=Z,2.6nm,0.8s,baz=193,slow=5.9,SNR=5.6				
USRK			LR	LR	23 30 55.1
	comp=Z,436nm,20.9s,baz=177,slow=36				
	comp=Z,31nm,0.8s				
KLBR	**Kellerberrin**	**38.29 191**	P	**P**	**23 15 07.4 0.0**
	comp=Z,600nm,1.0s				
KLBR	**Kellerberrin**	**38.29 191**	P	**P**	**23 15 07.6 +0.2**
RK1H	**Rockhampton Ha**	**38.31 141**	P	**P**	**23 15 08.9 +1.3**
XLT	**XiLinHaoTe**	**38.41 349**	*e*P	**P**	**23 15 08.3 0.0**
XLT			pP	pP	23 15 30.8 0.0
XLT			sP	sP	23 15 41.1 -0.9
XLT			ScP	**ScP**	**23 20 59.8 +0.6**
XLT			S	**S**	**23 21 02.9 +6.7**
XLT			sS	sS	23 21 31.0 -4.2
XLT			pmax	pmax	
	comp=Z,22nm,1.1s				
XLT			LR	LR	
	comp=Z,1μm,16.1s				
XLT			LR	LR	
	comp=Z,480nm,17.6s				
MDJ	**Mudanjiang**	**38.43 5**	P	**P**	**23 15 08.6 +0.2**
MDJ			IAmb	IAmb	23 15 42.8
	comp=Z,184nm,1.1s				
MDJ	**Mudanjiang**	**38.43 5**	P	**P**	**23 15 09.8 +1.5**
MDJ			pP	pP	23 15 31.0 +0.5
MDJ			sP	sP	23 15 40.3 -1.2
MDJ			S	**S**	**23 21 01.1 +4.9**
MDJ			sS	sS	23 21 37.4 +2.2
MDJ			pmax	pmax	
	comp=Z,110nm,1.1s				
MDJ			LR	LR	
	comp=Z,530nm,20.6s				
MDJ			LR	LR	
	comp=Z,890nm,19.9s				
MDJ			LR	LR	
	comp=Z,1μm,24.5s				
MDJ	**Mudanjiang**	**38.43 5**	P	**P**	**23 15 09.4 +1.1**
MDJ			sP	**sP**	**23 15 41.1 -0.5**
LCRK	**Leigh Creek**	**38.48 162**	P	**P**	**23 15 10.3 +1.4**
NGOA	**Tingoa Renbel**	**38.77 117**	P	**P**	**23 15 12.9 +1.3**
MUN	**Mundaring**	**38.97 192**	P	**P**	**23 15 13.1 +0.1**
	comp=Z,312nm,1.2s				
MUN	**Mundaring**	**38.97 192**	P	**P**	**23 15 13.2 +0.1**
MUN	**Mundaring**	**38.97 192**	P	**P**	**23 15 12.2 -0.8**
ERM	**Erimo**	**39.00 21**	P	**P**	**23 15 13.4 +0.3**
ERM	**Erimo**	**39.00 21**	P	**P**	**23 15 14.9 +1.8**
ERM	**Erimo**	**39.00 21***d i*P		**P**	**23 15 15.0 +1.8**
ERM			pmax	pmax	
	comp=Z,127nm,1.0s				
ERM	**Erimo**	**39.00 21**	P	**P**	**23 15 15.0 +1.9**
JEM	**Erimo**	**39.00 21**	P	**P**	**23 15 14.7 +1.6**
MTKN	**Mount Kenneth**	**39.02 193**	P	**P**	**23 15 15.2 +1.8**
	comp=Z,309nm,1.0s				
MTKN	**Mount Kenneth**	**39.02 193**	P	**P**	**23 15 15.3 +1.8**
BNX	**BinXian**	**39.41 2**	⇓P	**P**	**23 15 16.5 0.0**
BNX			pP	**pP**	**23 15 39.3 +0.2**
BNX			sP	**sP**	**23 15 49.1 -1.1**
BNX			PcP	**PcP**	**23 17 20.4 -2.5**
BNX			S	**S**	**23 21 10.8 -0.2**
BNX			sS	**sS**	**23 21 47.6 -2.5**
BNX			pmax	pmax	
	comp=Z,33nm,1.1s				
BNX			LR	LR	
	comp=Z,500nm,15.9s				
BNX			LR	LR	
	comp=Z,840nm,14.1s				
BNX			LR	LR	
	comp=Z,640nm,28.7s				
NWAO	**Narrogin (SRO)**	**39.69 191**	P	**P**	**23 15 19.0 0.0**
NWAO	**Narrogin (SRO)**	**39.69 191**	P	**P**	**23 15 19.5 +0.5**
	comp=Z,818nm,1.2s				
NWAO	**Narrogin (SRO)**	**39.69 191**	P	**P**	**23 15 19.5 +0.5**
NWAO	**Narrogin (SRO)**	**39.69 191**	P	**P**	**23 15 19.4 +0.4**
NWAO	**Narrogin (SRO)**	**39.69 191**	P	**P**	**23 15 19.0 0.0**
NWAO			pmax	pmax	
	comp=Z,621nm,1.2s				
NWAO	**Narrogin (SRO)**	**39.69 191**	⇑P	**P**	**23 15 19.3 +0.3**
LSA	**Lhasa**	**39.80 310**	P	**P**	**23 15 21.8 +1.2**
LSA			IAmb	IAmb	23 15 47.4
	comp=Z,243nm,1.4s				
LSA	**Lhasa**	**39.80 310**	P	**P**	**23 15 22.8 +2.2**
LSA			S	**S**	**23 21 18.3 +0.1**
LSA			pmax	pmax	
	comp=Z,31nm,1.3s				
LSA			LR	LR	
	comp=Z,400nm,20.8s				
LSA			LR	LR	
	comp=Z,510nm,21.6s				
LSA	**Lhasa**	**39.80 310**	P	**P**	**23 15 21.8 +1.2**
LSA			pmax	pmax	
	comp=Z,243nm,1.4s				
TEY	**Ternei**	**39.89 12**⇑*e*P		**P**	**23 15 21.2 +0.7**
TEY			pmax	pmax	
	comp=N,40nm,1.1s				
TEY			pmax	pmax	
	comp=Z,70nm,1.0s				
BBOO	**Buckleboo**	**40.12 166**	P	**P**	**23 15 22.4 -0.2**
BBOO	**Buckleboo**	**40.12 166**	P	**P**	**23 15 23.7 +1.1**
	comp=Z,810nm,0.9s				
BBOO	**Buckleboo**	**40.12 166**	P	**P**	**23 15 23.8 +1.2**
EIDS	**Eidsvold**	**40.13 142**	P	**P**	**23 15 22.8 0.0**
EIDS			IAmb	IAmb	23 15 29.3
	comp=Z,79nm,0.8s				
EIDS	**Eidsvold**	**40.13 142**	P	**P**	**23 15 23.1 +0.3**
	comp=Z,119nm,0.9s				
EIDS	**Eidsvold**	**40.13 142**	P	**P**	**23 15 23.7 +0.9**
GTA	**Gaotai**	**40.28 329**	P	**P**	**23 15 25.6 +1.6**
GTA			pP	pP	23 15 48.3 +1.6
GTA			PP	**PnPn**	**23 17 07.8 +4.6**
GTA			S	**S**	**23 21 29.3 +4.8**
GTA			sS	sS	23 22 07.4 +3.7
GTA			SS	**SS**	**23 24 25.6 -1.1**
GTA			ScS	**ScS**	**23 25 17.3 -3.4**
GTA			pmax	pmax	
	comp=Z,26nm,1.0s				
GTA			pmax	pmax	
	comp=Z,160nm,4.0s				
GTA			LR	LR	
	comp=Z,1μm,18.7s				
GTA			LR	LR	
	comp=Z,1μm,19.1s				
GTA			LR	LR	
	comp=Z,1μm,18.3s				

ASAJ Asahikawa 40.66 19 P **P** **23 15 27.8 +0.9**
comp=Z,85nm,0.9s,baz=228,slow=13,SNR=52
ASAJ LR LR 23 31 47.2
comp=Z,531nm,20.6s,baz=196,slow=35
comp=Z,85nm,0.9s
JKA Kamikawa-asahi 40.66 19 P **P** **23 15 27.2 +0.3**
JKA IAmb IAmb 23 15 29.9
comp=Z,112nm,1.0s
WHYH Whyalla 40.72 164 P **P** **23 15 28.9 +1.5**
GOMU GeErMu 40.91 321 P **P** **23 15 31.5 +2.0**
GOMU pmax pmax
comp=Z,65nm,1.3s
GOMU LR LR
comp=Z,660nm,16.4s
GOMU LR LR
comp=Z,930nm,16.6s
GOMU LR LR
comp=Z,2μm,16.4s
STKA Stephens Creek 40.92 159 P **P** **23 15 29.9 +0.7**
STKA Stephens Creek 40.92 159 P **P** **23 15 30.4 +1.2**
comp=Z,752nm,0.9s
STKA Stephens Creek 40.92 159 P **P** **23 15 29.6 +0.4**
comp=Z,118nm,0.9s,baz=332,slow=8.2,SNR=169
STKA ScP **ScP** **23 21 07.3 -1.7**
comp=Z,30nm,0.8s,baz=325,slow=5.0,SNR=6.6
STKA S **S** **23 21 32.7 -1.1**
comp=Z,23nm,1.0s,baz=226,slow=22,SNR=10
STKA LR LR 23 33 55.4
comp=Z,531nm,20.2s,baz=329,slow=38
comp=Z,118nm,0.9s
STKA Stephens Creek 40.92 159 P **P** **23 15 30.3 +1.1**
STKA Stephens Creek 40.92 159 P **P** **23 15 29.9 +0.7**
STKA pmax pmax
comp=Z,1μm,1.2s
HTT Hallett 41.47 163 P **P** **23 15 35.3 +1.6**
comp=Z,222nm,1.2s
HTT Hallett 41.47 163 P **P** **23 15 35.1 +1.4**
YUK Yuzh-Kuril'sk 41.74 22⍰ *i*P **P** **23 15 37.6 +1.9**
H11S3 WAKE ISLAND Hy 42.05 69 T T 23 59 59.2
baz=260,slow=75,SNR=75
H11S1 WAKE ISLAND Hy 42.06 69 T T 00 00 00.4
baz=260,slow=75,SNR=54
H11S2 WAKE ISLAND Hy 42.07 69 T T 23 59 56.9
baz=260,slow=75,SNR=101
CMSA Cobar Meteorol 42.26 154 P **P** **23 15 41.4 +1.2**
comp=Z,112nm,0.9s
CMSA Cobar Meteorol 42.26 154 P **P** **23 15 41.3 +1.2**
TW1H Toowoomba 1 Ha 42.28 144 P **P** **23 15 41.6 +1.2**
GHSS Government Hou 42.77 164 P **P** **23 15 46.0 +1.8**
AUWSH Wavell State H 42.81 143 P **P** **23 15 45.9 +1.3**
HIA Hailar 43.17 355 P **P** **23 15 47.6 +0.4**
HIA IAmb IAmb 23 16 21.0
comp=Z,136nm,1.1s
HIA Hailar 43.17 355 P **P** **23 15 47.6 +0.4**
HIA pmax pmax
comp=Z,136nm,1.1s
HIA Hailar 43.17 355 P **P** **23 15 47.7 +0.4**
HIA pP **pP** **23 16 09.4 -0.8**
HIA sP **sP** **23 16 20.1 -1.2**
KLR Kul'dur 43.20 6 P **P** **23 15 48.1 +0.6**
comp=Z,22nm,0.9s,baz=207,slow=4.6,SNR=52
KLR ScP **ScP** **23 21 16.9 -0.9**
comp=Z,5.1nm,0.9s,baz=167,slow=6.7,SNR=4.1
KLR LR LR 23 33 31.0
comp=Z,450nm,21.9s,baz=198,slow=36
comp=Z,22nm,0.9s
KLR Kul'dur 43.20 6*d i*P **P** **23 15 47.9 +0.4**
KLR pmax pmax
comp=Z,65nm,1.5s
YSS Yuzhno-Sakhali 43.26 17 P **P** **23 15 48.3 +0.3**
YSS Yuzhno-Sakhali 43.26 17 P **P** **23 15 49.3 +1.4**
YSS Yuzhno-Sakhali 43.26 17 *e*P **P** **23 15 48.7 +0.8**
YSS *e**PP **pP** **23 16 13.2 +2.7**
YSS *e**SP **sP** **23 16 25.0 +3.6**
YSS *e* 23 17 35.4
YSS *e*S **S** **23 22 09.9 +2.1**
YSS *e*SS **SS** **23 25 26.9 +2.2**
YSS pmax pmax
comp=Z,200nm,3.5s
YSS pmax pmax
comp=Z,70nm,0.9s
GC1S Gold Coast 1 S 43.65 143 P **P** **23 15 52.7 +1.3**
LUES Luesalemba Tem 43.71 112 P **P** **23 15 53.5 +1.4**
HEH HeiHe 43.92 2 *e*P **P** **23 15 53.3 0.0**
HEH sP **sP** **23 16 25.1 -2.2**
HEH PP **PcP** **23 17 40.3 +2.7**
HEH S **S** **23 22 19.8 +2.3**
HEH sS **sS** **23 22 56.6 -0.5**
HEH pmax pmax
comp=Z,53nm,1.1s
HEH pmax pmax
comp=Z,1μm,3.7s
ARMA Armidale 44.27 147 P **P** **23 15 56.6 +0.2**
ARMA IAmb IAmb 23 16 05.0
comp=Z,128nm,0.8s
ARMA Armidale 44.27 147 P **P** **23 15 57.3 +0.8**
comp=Z,198nm,0.8s
ARMA Armidale 44.27 147 P **P** **23 15 57.9 +1.4**
ULN Ulaanbaatar 44.35 342 P **P** **23 15 56.3 -0.7**
ULN Ulaanbaatar 44.35 342*d i*P **P** **23 15 57.0 +0.1**
ULN pmax pmax
comp=Z,39nm,1.2s
ULN Ulaanbaatar 44.35 342 P **P** **23 15 57.0 +0.1**
ULN pP **pP** **23 16 20.3 +0.3**
ULN sP **sP** **23 16 30.8 -0.3**
PALK Pallekele 44.36 274 P **P** **23 15 57.1 -0.3**
PALK IAmb IAmb 23 16 22.1
comp=Z,146nm,1.5s
PALK Pallekele 44.36 274 LR LR 23 37 57.2
comp=Z,350nm,18.1s,baz=92,slow=40
PALK Pallekele 44.36 274 P **P** **23 15 57.1 -0.3**
PALK pmax pmax
comp=Z,146nm,1.5s
SONM Songino Array 44.53 342 P **P** **23 15 57.7 -0.6**
SONM Songino Array 44.53 342 P **P** **23 15 58.1 -0.2**
comp=Z,10.0nm,1.0s,baz=165,slow=8.7,SNR=44
SONM pP **pP** **23 16 22.6 +1.2**
comp=Z,17nm,0.8s,baz=162,slow=8.4,SNR=9.7
SONM ScP **ScP** **23 21 21.3 -2.2**
comp=Z,2.5nm,0.9s,baz=145,slow=5.3,SNR=2.3
SONM LR LR 23 35 51.5
comp=Z,529nm,21.8s,baz=152,slow=38
comp=Z,10.0nm,1.0s
UGL Uglegorsk 44.99 15 *e*P **P** **23 16 03.4 +1.6**
UGL *e*S **S** **23 22 37.3 +4.4**
UGL pmax pmax
comp=Z,100nm,0.8s
ARPS Mount Arapiles 45.45 161 P **P** **23 16 06.8 +1.2**
MGBR Mount Gambier 45.95 163 P **P** **23 16 10.8 +1.3**
MGCD Mangrove Creek 46.20 150 P **P** **23 16 12.9 +1.4**
SYDH Sydney Hard Ro 46.46 151 P **P** **23 16 16.3 +2.8**
KOUNC Koumac, New Ca 46.57 126 P **P** **23 16 15.9 +1.2**
SANVU Saraoutou 46.69 118 P **P** **23 16 17.6 +2.0**
TYV Tymovskoe 46.78 15 *e*P **P** **23 16 17.7 +1.9**
TYV *e*S **S** **23 22 59.9 +1.3**
TYV pmax pmax
comp=Z,17nm,1.4s
TYV pmax pmax
comp=Z,300nm,5.8s
TYV smax smax
comp=N,400nm,6.2s
TYV smax smax
comp=E,500nm,6.2s
CAN Canberra 46.92 153 P **P** **23 16 17.8 +0.6**
CAN IAmb IAmb 23 16 23.4
comp=Z,110nm,0.8s
CAN Canberra 46.92 153 P **P** **23 16 19.3 +2.1**
comp=Z,150nm,1.2s
CAN Canberra 46.92 153 P **P** **23 16 18.8 +1.6**
CAN Canberra 46.92 153 P **P** **23 16 17.8 +0.6**
CAN pmax pmax
comp=Z,110nm,0.8s
HYB Hyderabad 47.04 288 *e*P **P** **23 16 20.8 +2.4**
HYB *e*pP **pP** **23 16 41.3 -0.4**
HYB IVmB_BB 23 16 41.7
comp=Z,1μm,1.3s
HYB *e*S **S** **23 23 04.3 +1.0**
HYB *e*sS **sS** **23 23 44.7 +1.5**
WOLH Wollongong Har 47.04 151 P **P** **23 16 19.6 +1.5**
CNB Canberra Magne 47.08 153 P **P** **23 16 19.9 +1.4**
ZEA Zeya 47.41 2 *e*P **P** **23 16 20.5 -0.1**
ZEA *e**PP **pP** **23 16 42.2 -1.7**
ZEA *e*S **S** **23 23 08.4 +1.0**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA smax smax
comp=N,200nm,6.3s
TOO Toolangi 47.43 158 P **P** **23 16 22.7 +1.6**
TOO IAmb IAmb 23 16 25.2
comp=Z,127nm,1.8s
TOO Toolangi 47.43 158 P **P** **23 16 22.7 +1.6**
TOO pmax pmax
comp=Z,127nm,1.8s
MLBS Spotswood, Mel 47.45 159 P **P** **23 16 23.1 +2.0**
GEXS Deakin Univers 47.56 160 P **P** **23 16 25.0 +2.9**
ZAK Zakamensk 47.75 341 *e*P **P** **23 16 22.3 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
NKL Nikolayevsk 48.44 12 *e*P **P** **23 16 28.2 -0.4**
NKL *e*S **S** **23 23 23.0 +1.1**
NKL pmax pmax
comp=E,106nm,1.1s
NKL pmax pmax
comp=N,127nm,1.0s
NKL pmax pmax
comp=Z,402nm,1.0s
NKL smax smax
comp=E,293nm,3.4s
NKL smax smax
comp=N,147nm,3.9s
DVP Devils Point 48.50 120 P **P** **23 16 29.8 +0.2**
IRK Irkutsk 49.07 343 *e*P **P** **23 16 31.5 -2.0**
IRK pmax pmax
comp=Z,114nm,2.5s
DZM Mont Dzumac 49.08 126 P **P** **23 16 35.0 +1.0**
DZM Mont Dzumac 49.08 126 *e*P **P** **23 16 35.2 +1.2**
comp=Z,391nm,1.1s
DZM *e*S **S** **23 23 29.2 -2.8**
comp=Z,278nm,27.9s
DZM *e*SS **SS** **23 27 05.6 +1.1**
comp=Z,464nm,25.8s
DZM *e*LR LR 23 30 39.8
comp=Z,917nm,25.1s
DZM Mont Dzumac 49.08 126 LR LR 23 35 39.0
comp=Z,359nm,22.0s,baz=340,slow=34
DZM Mont Dzumac 49.08 126 P **P** **23 16 35.3 +1.2**
DZM Mont Dzumac 49.08 126 P **P** **23 16 35.4 +1.4**
ONTNC Ouen Toro 49.20 126 P **P** **23 16 34.6 -0.3**
ONTNC IAmb IAmb 23 16 39.9
comp=Z,110nm,0.9s
ONTNC Ouen Toro 49.20 126 P **P** **23 16 36.2 +1.3**
LHI Lord Howe Isla 49.42 141 P **P** **23 16 36.8 +0.4**
LHI IAmb IAmb 23 16 44.0
comp=Z,88nm,1.0s
LHI Lord Howe Isla 49.42 141 P **P** **23 16 37.6 +1.2**
comp=Z,92nm,1.0s
YATNC Mamie plateau, 49.43 126 P **P** **23 16 38.6 +1.9**
OUENC Ouen Island, N 49.57 126 P **P** **23 16 39.5 +1.8**
MOY Mondy 49.60 340 *e*P **P** **23 16 37.9 +0.2**
MOY *e* 23 17 03.7
MOY pmax pmax
comp=Z,41nm,1.7s
WMQ Urumqi 49.93 325 *e*P **P** **23 16 41.4 +1.2**
WMQ pP pP 23 17 03.9 +0.1
WMQ sP sP 23 17 14.1 -0.6
WMQ sS sS 23 24 21.1 -2.5
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ LR LR
comp=Z,3μm,16.1s
WMQ LR LR
comp=Z,2μm,15.9s
WMQ LR LR
comp=Z,930nm,15.9s
PINNC Pines Island, 50.15 126 P **P** **23 16 41.8 -0.3**
PINNC Pines Island, 50.15 126 P **P** **23 16 43.5 +1.4**
CORO Coronation Par 51.46 159 P **P** **23 16 53.2 +1.6**
MOO Moorlands 52.34 160 P **P** **23 17 00.2 +2.0**
comp=Z,62nm,0.8s
MOO Moorlands 52.34 160 P **P** **23 16 59.8 +1.6**
KAAM Kaadhehdhoo 52.57 266 P **P** **23 16 59.9 -0.4**
KAAM IAmb IAmb 23 17 28.8
comp=Z,58nm,0.8s
TAU Tasmania Unive 52.80 160 P **P** **23 17 02.3 +0.8**
TAU Tasmania Unive 52.80 160 P **P** **23 17 03.5 +1.9**
TAU Tasmania Unive 52.80 160 P **P** **23 17 02.3 +0.8**
TAU pmax pmax
comp=Z,43nm,1.0s
TAU Tasmania Unive 52.80 160 P **P** **23 17 03.5 +1.9**
TAU pP **pP** **23 17 26.1 +1.3**
PEA0B Petropavlovsk- 53.68 24 P **P** **23 17 08.2 +0.4**
PEA0B Petropavlovsk- 53.68 24 P **P** **23 17 08.2 +0.4**
PEA0B pmax pmax
comp=Z,134nm,1.0s
PETK Petropavlovsk- 53.68 24 P **P** **23 17 08.8 +0.9**
PETK Petropavlovsk- 53.68 24 P **P** **23 17 08.7 +0.8**
comp=Z,81nm,0.8s,baz=207,slow=6.0,SNR=111
PETK pP **pP** **23 17 31.5 +0.3**
comp=Z,19nm,1.0s,baz=214,slow=6.8,SNR=3.1
PETK ScP **ScP** **23 22 02.0 -0.1**
comp=Z,10nm,1.0s,baz=174,slow=1.5,SNR=4.4
PETK LR LR 23 39 49.5
comp=Z,327nm,20.8s,baz=209,slow=36
comp=Z,81nm,0.8s
ZSN Zaisan 53.70 327 *e*P **P** **23 17 08.1 0.0**
ZSN Zaisan 53.70 327 *e*P **P** **23 17 08.1 0.0**
WUS Wushi 53.82 318 P **P** **23 17 09.7 +0.3**
WUS Wushi 53.82 318 P **P** **23 17 10.2 +0.8**
WUS pP **pP** **23 17 32.9 -0.2**
PET Petropavlovsk 54.00 24 P **P** **23 17 10.6 +0.4**
PET Petropavlovsk 54.00 24 P **P** **23 17 12.0 +1.8**
PET Petropavlovsk 54.00 24 *e*P **P** **23 17 10.5 +0.4**
PET *e**PP **pP** **23 17 34.2 +0.7**
PET *e*S **S** **23 24 39.5 +0.9**
PET pmax pmax
comp=Z,124nm,1.2s
PET pmax pmax
comp=Z,100nm,17.4s
PET Petropavlovsk 54.00 24 P **P** **23 17 10.0 -0.2**
comp=Z,5μmcomp=Z,124nm,1.3s
DGAR Diego Garcia 54.50 256 P **P** **23 17 12.8 -1.7**
DGAR Diego Garcia 54.50 256 P **P** **23 17 12.8 -1.7**
DGAR pmax pmax
comp=Z,153nm,1.1s
SHLS Shalkode 54.59 320 *e*P **P** **23 17 12.6 -2.2**
SHLS pmax pmax
comp=Z,35nm,1.4s
SHLS Shalkode 54.59 320 *e*P **P** **23 17 12.7 -2.2**
comp=Z,35nm,1.4s
MK31 Makanchi Array 54.76 325 P **P** **23 17 15.8 -0.1**
MK31 IAmb IAmb 23 17 43.0
comp=Z,58nm,0.9s
MK31 Makanchi Array 54.76 325 P **P** **23 17 15.8 -0.1**
MK31 pmax pmax
comp=Z,58nm,0.9s
MKAR Makanchi Array 54.76 325 P **P** **23 17 15.8 -0.1**
MKAR Makanchi Array 54.76 325 P **P** **23 17 16.0 +0.2**
comp=Z,12nm,0.7s,baz=123,slow=8.1,SNR=142
MKAR pP **pP** **23 17 39.3 -0.3**
comp=Z,56nm,0.8s,baz=127,slow=7.9,SNR=18
MKAR PKP2bc 23 47 36.5
comp=Z,0.6nm,0.8s,baz=318,slow=1.9,SNR=3.7
MKAR PKP2ab 23 47 56.9
comp=Z,0.7nm,0.8s,baz=298,slow=3.1,SNR=4.1
comp=Z,12nm,0.7s
UZB Uzynbulak 54.86 320 *e*P **P** **23 17 16.8 0.0**
UZB pmax pmax
comp=Z,34nm,1.5s
UZB Uzynbulak 54.86 320 *e*P **P** **23 17 16.8 0.0**
comp=Z,34nm,1.5s
MAKZ Makanchi 54.94 325 P **P** **23 17 16.9 -0.3**
MAKZ IAmb IAmb 23 17 44.3
comp=Z,89nm,0.9s
MAKZ Makanchi 54.94 325 P **P** **23 17 17.3 +0.1**
MAKZ Makanchi 54.94 325 P **P** **23 17 17.4 +0.2**
MAKZ pP **pP** **23 17 41.3 +0.2**
TARG Taragay, Kyrgy 55.01 318 P **P** **23 17 19.7 +1.4**
TARG pmax pmax
comp=Z,37nm,1.9s
SATY Saty 55.22 319 *e*P **P** **23 17 19.3 0.0**
SATY *e*S **S** **23 24 54.5 -1.1**
SATY Saty 55.22 319 *e*P **P** **23 17 19.4 0.0**
SATY *e*S **S** **23 24 54.6 -1.1**
ZHN Zhinishke 55.25 319 *e*P **P** **23 17 19.5 -0.1**
ZHN Zhinishke 55.25 319 *e*P **P** **23 17 19.5 -0.1**
KSH Kashi 55.34 314 P **P** **23 17 22.4 +2.1**
KSH pP pP 23 17 46.4 +2.0
KSH sS sS 23 25 39.8 +1.6
KSH pmax pmax
comp=Z,36nm,1.3s
KSH LR LR
comp=Z,740nm,14.4s
KSH LR LR
comp=Z,550nm,15.8s
KSH LR LR
comp=Z,650nm,15.8s
NIL Nilore 55.35 307 P **P** **23 17 20.9 +0.5**
NIL Nilore 55.35 307 P **P** **23 17 20.9 +0.5**
NIL pmax pmax
comp=Z,150nm,0.9s
NIL Nilore 55.35 307 P **P** **23 17 21.0 +0.6**
NIL pP **pP** **23 17 43.9 -0.3**
NIL sP **sP** **23 17 54.7 -0.4**
ANVS Anan'yevo 55.58 319 P **P** **23 17 23.4 +1.4**
ANVS pmax pmax
comp=Z,50nm,0.9s
KDJ Kajisay 55.61 318 P **P** **23 17 22.2 0.0**
KDJ IAmb IAmb 23 17 49.3
comp=Z,61nm,0.9s
KDJ Kajisay 55.61 318 P **P** **23 17 22.3 0.0**
KDJ pmax pmax
comp=Z,61nm,0.9s
FUNA Funafuti 55.62 105 P **P** **23 17 23.3 +0.7**
FUNA Funafuti 55.62 105 P **P** **23 17 24.9 +2.3**
YAK Yakutsk 55.79 2 P **P** **23 17 22.9 0.0**
YAK Yakutsk 55.79 2 LR LR 23 41 50.3
comp=Z,293nm,21.1s,baz=177,slow=36
YAK Yakutsk 55.79 2*d i*P **P** **23 17 22.9 0.0**
YAK *e**PP **pP** **23 17 47.6 +0.9**
YAK *e* 23 20 45.3
YAK *e*S **S** **23 25 00.7 -1.5**
YAK *e*SS **SS** **23 28 44.8 -4.3**
YAK pmax pmax
comp=Z,231nm,0.9s
YAK pmax pmax
comp=N,93nm,1.2s
YAK pmax pmax
comp=E,28nm,1.3s
YAK smax smax
comp=E,183nm,3.5s
YAK smax smax
comp=N,40nm,1.4s
TDK Taldyqorghan 56.14 321 *e*P **P** **23 17 25.8 0.0**
TDK pmax pmax
comp=Z,52nm,1.3s
TDK Taldyqorghan 56.14 321 *e*P **P** **23 17 25.9 0.0**
comp=Z,52nm,1.3s
TNSS Tian-Shan 56.16 319 *e*P **P** **23 17 26.0 -0.4**
TNSS Tian-Shan 56.16 319 *e*P **P** **23 17 26.0 -0.4**
AAA Alma-Ata 56.26 319 *e*P **P** **23 17 26.7 0.0**
AAA Alma-Ata 56.26 319 *e*P **P** **23 17 26.8 0.0**
ULHL Ulahol 56.28 318 P **P** **23 17 27.9 +0.8**
SNR=19
YSA Yasawairara 56.41 115 P **P** **23 17 30.4 +2.3**
CHKK Chushkaly 56.50 320 *e*P **P** **23 17 28.4 0.0**
CHKK Chushkaly 56.50 320 *e*P **P** **23 17 28.4 0.0**
BOOM Boomskoye usch 56.59 318 P **P** **23 17 28.9 -0.3**
BOOM IAmb IAmb 23 17 56.8
comp=Z,69nm,1.5s
BOOM Boomskoye usch 56.59 318 P **P** **23 17 28.9 -0.3**
BOOM pmax pmax
comp=Z,69nm,1.5s
MA2 Magadan 56.66 15 P **P** **23 17 29.7 +0.5**
MA2 IAmb IAmb 23 18 26.3
comp=Z,60nm,1.1s
MA2 Magadan 56.66 15 LR LR 23 42 14.7
comp=Z,134nm,21.0s,baz=212,slow=36
MA2 Magadan 56.66 15 P **P** **23 17 30.2 +1.1**
MA2 Magadan 56.66 15*d i*P **P** **23 17 30.0 +0.9**
MA2 pmax pmax
comp=Z,95nm,1.7s
MA2 Magadan 56.66 15 P **P** **23 17 29.0 -0.1**
comp=Z,1μmcomp=Z,46nm,0.9s
MA2 Magadan 56.66 15 P **P** **23 17 30.0 +0.9**
TKM2 Tokmak 2 57.00 318 P **P** **23 17 32.9 +0.7**
SNR=13
MSVF Nonsavu 57.18 116 P **P** **23 17 33.4 -0.3**
MSVF Nonsavu 57.18 116 LR LR 23 39 09.7
comp=Z,512nm,21.2s,baz=279,slow=33
MSVF Nonsavu 57.18 116 P **P** **23 17 35.9 +2.2**
MSVF Nonsavu 57.18 116 P **P** **23 17 33.4 -0.3**
MSVF pmax pmax
comp=Z,127nm,0.9s
MSVF Nonsavu 57.18 116 P **P** **23 17 36.0 +2.4**
KBK Karagaybulak 57.33 318 P **P** **23 17 35.3 +0.9**
SNR=14
UCH Uchtor 57.44 317 P **P** **23 17 37.3 +1.7**
SNR=5.6
CHMS Chumysh 57.60 318 P **P** **23 17 36.5 +0.3**
SNR=9.0
FRU1 Bishkek 57.60 318 P **P** **23 17 36.5 +0.3**
FRU1 IAmb IAmb 23 18 29.1
comp=Z,115nm,1.8s
FRU1 Bishkek 57.60 318 P **P** **23 17 36.5 +0.3**
FRU1 pmax pmax
comp=Z,115nm,1.8s
AAK Ala-Archa 57.62 317 P **P** **23 17 36.2 -0.3**
AAK IAmb IAmb 23 18 07.1
comp=Z,153nm,1.9s
AAK Ala-Archa 57.62 317 P **P** **23 17 37.9 +1.4**
SNR=5.4
AAK Ala-Archa 57.62 317*de*P **P** **23 17 37.4 +0.9**
AAK pmax pmax
comp=Z,24nm,1.7s
ZAA0 Zalesovo Array 57.77 333 P **P** **23 17 35.6 -1.5**
ZAA0 IAmb IAmb 23 18 03.8
comp=Z,40nm,0.8s
ZALV Zalesovo Beam 57.77 333 P **P** **23 17 35.6 -1.5**
ZALV Zalesovo Beam 57.77 333 P **P** **23 17 36.3 -0.8**
comp=Z,6.8nm,0.7s,baz=124,slow=6.7,SNR=29
ZALV pP **pP** **23 18 02.2 +0.9**
comp=Z,42nm,0.9s,baz=134,slow=7.4,SNR=20
ZALV LR LR 23 44 28.1
comp=Z,346nm,18.8s,baz=128,slow=38
ZALV PKP2bc 23 47 28.9
comp=Z,1.6nm,0.8s,baz=328,slow=5.1,SNR=7.1
ZALV PKP2ab 23 47 45.5
comp=Z,1.1nm,0.7s,baz=289,slow=4.4,SNR=4.3
comp=Z,6.8nm,0.7s
ZALV Zalesovo Beam 57.77 333 *i* P **P** **23 17 36.2 -0.9**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
SGDS Sogindy 57.87 318 *e*P **P** **23 17 37.9 -0.2**
SGDS Sogindy 57.87 318 *e*P **P** **23 17 38.0 -0.2**
USP Ospenovka 57.88 318 P **P** **23 17 38.6 +0.4**
SNR=19
AML Almayashu 57.97 316 P **P** **23 17 40.1 +0.9**
SNR=36
OHH Osh 57.99 314 P **P** **23 17 39.0 0.0**
OHH pmax pmax
comp=Z,92nm,1.6s
EKS2 Erkin-Say 58.12 317 P **P** **23 17 40.7 +0.8**
SNR=21
ARSB Arslanbob 58.15 315 P **P** **23 17 40.3 +0.1**
ARSB Arslanbob 58.15 315 P **P** **23 17 40.3 +0.1**
ARSB pmax pmax
comp=Z,206nm,1.6s
DGTI Dogotuki 58.25 113 P **P** **23 17 42.9 +1.9**
MIDW Midway 58.32 61 P **P** **23 17 41.9 +0.5**
MIDW IAmb IAmb 23 18 33.5
comp=Z,78nm,0.8s
DRK Karamyk 58.33 313 P **P** **23 17 42.6 +0.9**
DRK Karamyk 58.33 313 P **P** **23 17 42.6 +0.9**
DRK pmax pmax
comp=Z,117nm,1.0s
TAVE Taveuni 58.70 114 P **P** **23 17 46.8 +2.6**
BTLS Baital 58.92 320 *e*P **P** **23 17 45.2 0.0**
BTLS Baital 58.92 320 *e*P **P** **23 17 45.2 0.0**
KURBB Kurchatov Arra 58.93 327 P **P** **23 17 44.8 -0.4**
comp=Z,11nm,0.6s,baz=127,slow=6.0,SNR=131
KURBB pP **pP** **23 18 08.6 -0.7**
comp=Z,31nm,0.8s,baz=125,slow=6.2,SNR=9.4
KURBB PKPPKP **P'P'df** **23 47 14.5 -5.0**
comp=Z,0.9nm,0.9s,baz=269,slow=3.9,SNR=5.2
KURBB PKP2bc 23 47 26.8
comp=Z,1.0nm,0.8s,baz=279,slow=3.3,SNR=4.3
KURBB PKP2ab 23 47 41.7
comp=Z,1.2nm,0.9s,baz=279,slow=3.3,SNR=4.4
comp=Z,11nm,0.6s
KURK Kurchatov 58.93 327 P **P** **23 17 45.2 0.0**
KURK Kurchatov 58.93 327 P **P** **23 17 45.2 0.0**
KURK pmax pmax
comp=Z,596nm,2.0s

KURK Kurchatov 58.93 327 P **P** **23 17 45.0 -0.2**
KURK pP **pP** **23 18 08.1 -1.3**
KBL Kabul 58.95 307 P **P** **23 17 46.2 +0.3**
KBL IAmb IAmb 23 18 15.0
comp=Z,77nm,1.0s
KBL Kabul 58.95 307 P pP 23 18 10.6 +0.5
SNR=24
KBL Kabul 58.95 307 P **P** **23 17 46.3 +0.3**
KBL pmax pmax
comp=Z,77nm,1.0s
ARK Arkit 59.03 316 P **P** **23 17 47.2 +0.9**
ARK pmax pmax
comp=Z,107nm,1.2s
GAR Garm 59.26 312 P **P** **23 17 48.3 +0.4**
TRKS Terek-Say 59.51 315 P **P** **23 17 50.1 +0.4**
TRKS pmax pmax
comp=Z,25nm,1.5s
FUTU Fugatoga 59.64 110 P **P** **23 17 51.0 +0.3**
FUTU Fugatoga 59.64 110 P **P** **23 17 53.4 +2.7**
DZA Taraz 59.87 317 *e*P **P** **23 17 52.0 +0.1**
DZA pmax pmax
comp=Z,41nm,1.3s
DZA Taraz 59.87 317 *e*P **P** **23 17 52.0 +0.1**
comp=Z,41nm,1.3s
SEY Seymchan 59.95 14 LR LR 23 43 07.4
comp=Z,251nm,21.0s,baz=174,slow=35
SEY Seymchan 59.95 14 *e*P **P** **23 17 49.8 -2.2**
SEY pmax pmax
comp=Z,68nm,1.6s
CHGR Chuyangaron 60.02 311 P **P** **23 17 52.9 -0.2**
CHGR Chuyangaron 60.02 311 P **P** **23 17 52.9 -0.2**
SIMJ Simiganj 60.13 311 P **P** **23 17 53.6 -0.3**
SIMJ Simiganj 60.13 311 P **P** **23 17 54.1 +0.2**
SIMJ pP **pP** **23 18 18.2 -0.1**
LKBA Tubou, Lakemba 60.17 115 P **P** **23 17 55.9 +1.7**
DZET Dzherino 60.31 311 P **P** **23 17 55.5 +0.4**
DZET pmax pmax
comp=Z,98nm,1.0s
IUG Iuzhnay 60.50 315 *e*P **P** **23 17 56.3 0.0**
IUG *e*S **S** **23 26 03.6 -1.0**
IUG pmax pmax
comp=Z,47nm,1.5s
IUG Iuzhnay 60.50 315 *e*P **P** **23 17 56.4 0.0**
comp=Z,47nm,1.5s
IUG *e*S **S** **23 26 03.7 -1.0**
KK31 Karatay Array 60.51 317 P **P** **23 17 55.8 -0.4**
KK31 IAmb IAmb 23 18 22.9
comp=Z,59nm,0.9s
KK31 Karatay Array 60.51 317 P **P** **23 17 55.8 -0.4**
KK31 pmax pmax
comp=Z,59nm,1.0s
KKAR Karatay Array 60.51 317 P **P** **23 17 55.8 -0.4**
KKAR IAmb IAmb 23 18 22.9
comp=Z,62nm,0.9s
KKAR Karatay Array 60.51 317 P **P** **23 17 56.1 -0.1**
KKAR Karatay Array 60.51 317 P **P** **23 17 56.1 -0.1**
KKAR pmax pmax
comp=Z,62nm,1.0s
BRLS Borolday 60.94 316 *e*P **P** **23 17 59.4 +0.2**
BRLS Borolday 60.94 316 *e*P **P** **23 17 59.4 +0.2**
SHEM Shemya Is, Ala 61.04 31 LR LR 23 40 22.4
comp=Z,73nm,21.5s,baz=289,slow=32
OUZ Omahuta 61.28 136 P **P** **23 18 03.6 +2.1**
OUZ Omahuta 61.28 136 P **P** **23 18 04.6 +3.1**
BRZS Berezniki 61.89 324 *e*P **P** **23 18 05.2 -0.2**
BRZS Berezniki 61.89 324 *e*P **P** **23 18 05.3 -0.2**
AIS Amsterdam Isla 62.40 221 P **P** **23 18 09.1 +0.2**
JCZ Jackson Bay 63.51 146 P **P** **23 18 17.9 +1.6**
JCZ Jackson Bay 63.51 146 P **P** **23 18 18.4 +2.1**
DCZ Deep Cove 63.56 148 P **P** **23 18 17.1 +0.6**
DCZ IAmb IAmb 23 18 25.8
comp=Z,65nm,0.9s
DCZ Deep Cove 63.56 148 P **P** **23 18 18.8 +2.4**
QRZ Quartz Range 63.70 142 P **P** **23 18 17.7 +0.1**
QRZ IAmb IAmb 23 18 46.4
comp=Z,78nm,1.0s
QRZ Quartz Range 63.70 142 P **P** **23 18 19.3 +1.8**
QRZ Quartz Range 63.70 142 P **P** **23 18 19.3 +1.8**
HIZ Hauiti 63.90 138 P **P** **23 18 19.4 +0.5**
HIZ Hauiti 63.90 138 P **P** **23 18 21.8 +2.9**
TOZ Tahuroa Road 63.91 137 P **P** **23 18 19.2 +0.3**
MLZ Mavora Lakes 64.00 148 P **P** **23 18 20.7 +1.3**
TKNZ Takaka Hill 64.09 142 P **P** **23 18 20.7 +0.6**
INZ Inchbonnie 64.18 144 P **P** **23 18 21.9 +1.2**
INZ IAmb IAmb 23 19 44.1
comp=Z,149nm,1.7s
MRNZ Matariki Terra 64.18 142 P **P** **23 18 21.6 +1.0**
WHZ Wether Hill Ro 64.26 148 P **P** **23 18 22.2 +1.2**
JOHN Johnston Islan 64.41 74 P **P** **23 18 22.3 -0.4**
NNZ Nelson 64.46 142 P **P** **23 18 22.1 -0.3**
NNZ Nelson 64.46 142 P **P** **23 18 25.4 +2.9**
THZ Tophouse 64.48 142 P **P** **23 18 22.7 0.0**
THZ IAmb IAmb 23 18 33.1
comp=Z,55nm,0.7s
THZ Tophouse 64.48 142 P **P** **23 18 23.7 +1.1**
LBZ Lake Benmore 64.49 146 P **P** **23 18 23.4 +0.8**
LBZ IAmb IAmb 23 18 50.2
comp=Z,97nm,0.9s
LBZ Lake Benmore 64.49 146 P **P** **23 18 23.6 +1.0**
BVAR Borovoye Array 64.51 327 P **P** **23 18 22.4 -0.3**
comp=Z,8.1nm,0.9s,baz=130,slow=8.0,SNR=31
BVAR pP **pP** **23 18 47.7 +0.3**
comp=Z,55nm,0.9s,baz=121,slow=7.0,SNR=15
BVAR PKP2ab 23 47 18.8
comp=Z,0.5nm,0.7s,baz=299,slow=3.0,SNR=4.5
comp=Z,8.1nm,0.9s
EAZ Earnscleugh 64.55 147 P **P** **23 18 24.6 +1.7**
RPZ Rata Peaks 64.56 145 P **P** **23 18 23.7 +0.6**
RPZ IAmb IAmb 23 18 50.5
comp=Z,82nm,0.9s
RPZ Rata Peaks 64.56 145 LR LR 23 47 11.7
comp=Z,377nm,19.3s,baz=308,slow=36
RPZ Rata Peaks 64.56 145 P **P** **23 18 24.5 +1.4**
RPZ Rata Peaks 64.56 145 P **P** **23 18 24.1 +1.0**
BRVK Borovoye 64.58 327 P **P** **23 18 22.1 -1.1**
BRVK IAmb IAmb 23 18 50.7
comp=Z,95nm,1.1s
BRVK Borovoye 64.58 327 P pP 23 18 49.3 +1.5
BRVK Borovoye 64.58 327 *d i*P **P** **23 18 22.4 -0.7**
BRVK pmax pmax
comp=Z,31nm,1.3s
BRVK Borovoye 64.58 327 P **P** **23 18 22.8 -0.3**
BRVK pP **pP** **23 18 47.5 -0.4**
LTZ Lake Taylor 64.70 144 P **P** **23 18 23.2 -0.9**
LTZ Lake Taylor 64.70 144 P **P** **23 18 26.6 +2.5**
NGZ Ngauruhoe 64.74 139 P **P** **23 18 26.8 +2.2**
OXZ Oxford 64.89 144 P **P** **23 18 25.2 -0.1**
TUWZ Tuamarina 64.92 142 P **P** **23 18 25.7 +0.2**
TCW Tory Channel 65.01 141 P **P** **23 18 25.6 -0.4**
BSWZ Blackbirch Sta 65.05 142 P **P** **23 18 26.3 0.0**
ODZ Otahua Downs 65.16 146 P **P** **23 18 28.5 +1.6**
ODZ Otahua Downs 65.16 146 P **P** **23 18 28.1 +1.2**
TUZ Tuapeka 65.18 148 P **P** **23 18 29.0 +1.9**
KHZ Kahutara 65.24 143 P **P** **23 18 27.4 -0.1**
KHZ Kahutara 65.24 143 P **P** **23 18 28.9 +1.4**
KHZ Kahutara 65.24 143 P **P** **23 18 28.4 +0.9**
GVZ Greta Valley S 65.26 143 P **P** **23 18 30.3 +2.6**
URZ Urewera 65.27 137 LR LR 23 48 19.2
comp=Z,215nm,18.4s,baz=30,slow=37
URZ Urewera 65.27 137 P **P** **23 18 29.1 +1.3**
URZ Urewera 65.27 137 P **P** **23 18 30.1 +2.3**
BKZ Black Stump Fm 65.32 138 P **P** **23 18 27.8 -0.5**
BKZ IAmb IAmb 23 18 40.2
comp=Z,72nm,0.8s
BKZ Black Stump Fm 65.32 138 P **P** **23 18 29.4 +1.2**
BKZ Black Stump Fm 65.32 138 P **P** **23 18 29.6 +1.4**
SNZO South Karori 65.33 141 P **P** **23 18 27.2 -0.9**
SNZO IAmb IAmb 23 19 06.8
comp=Z,89nm,1.2s
SNZO South Karori 65.33 141 P **P** **23 18 29.1 +1.0**
RTZ Ruatahuna 65.36 138 P **P** **23 18 28.7 +0.2**
RTZ IAmb IAmb 23 18 32.3
comp=Z,96nm,0.8s
RTZ Ruatahuna 65.36 138 P **P** **23 18 29.8 +1.3**
TIXI Tiksi 65.40 1 P **P** **23 18 27.3 -0.7**
TIXI IAmb IAmb 23 19 07.7
comp=Z,182nm,1.4s
TIXI Tiksi 65.40 1 LR LR 23 46 56.8
comp=Z,482nm,22.0s,baz=199,slow=36
TIXI Tiksi 65.40 1 *i* P **P** **23 18 27.3 -0.7**
TIXI pmax pmax
comp=Z,82nm,1.5s
TIXI Tiksi 65.40 1 P **P** **23 18 27.5 -0.6**

TIXI sP **PcP** **23 19 00.8 +1.6**
KIWB Kanaga Island 65.42 35 P **P** **23 18 28.2 -0.3**
JLN Jalan Bani Buh 65.43 291 P pP 23 18 53.2 -0.5
SNR=6.8
HAZ Te Kaha 65.47 136 P **P** **23 18 30.9 +1.8**
MQZ McQueen's Vall 65.48 144 P **P** **23 18 30.6 +1.6**
AFI Afiamalu 65.49 108 P **P** **23 18 29.4 -0.4**
AFI IAmb IAmb 23 18 33.3
comp=Z,132nm,1.1s
AFI Afiamalu 65.49 108 P **P** **23 18 32.1 +2.4**
AFI Afiamalu 65.49 108 P **P** **23 18 29.4 -0.4**
AFI pmax pmax
comp=Z,132nm,1.1s
BHW Baring Head 65.49 141 P **P** **23 18 29.7 +0.5**
BHW Baring Head 65.49 141 P **P** **23 18 29.5 +0.3**
MRZ Mangatainoka R 65.53 140 P **P** **23 18 29.4 -0.1**
MWZ Matawai 65.59 137 P **P** **23 18 31.5 +1.6**
ADK Adak 65.70 35 P **P** **23 18 31.1 +0.8**
ADK IAmb IAmb 23 18 38.3
comp=Z,114nm,0.8s
ADK Adak 65.70 35 P **P** **23 18 31.2 +0.8**
ADK pmax pmax
comp=Z,114nm,0.9s
MSWZ Moikau Station 65.73 141 P **P** **23 18 31.1 +0.3**
MXZ Matakaoa Point 65.74 136 P **P** **23 18 30.6 -0.3**
MXZ Matakaoa Point 65.74 136 P **P** **23 18 31.6 +0.8**
PLWZ Palliser 65.82 141 P **P** **23 18 31.1 -0.2**
WBK Wadi Bani Khal 65.87 292 P pP 23 18 56.0 -0.6
PUZ Puketiti 65.96 136 P **P** **23 18 33.8 +1.5**
BFZ Birch Farm 65.97 140 P **P** **23 18 32.3 +0.1**
BFZ IAmb IAmb 23 18 38.4
comp=Z,147nm,1.6s
BFZ Birch Farm 65.97 140 P **P** **23 18 33.7 +1.5**
BFZ Birch Farm 65.97 140 P **P** **23 18 33.5 +1.2**
PXZ Pawanui 66.02 139 P **P** **23 18 34.2 +1.7**
GSTR Great Sitkin T 66.14 35 P **P** **23 18 33.7 +0.4**
WSAR Wadi Sarin 66.22 293 LR LR 23 52 07.0
comp=Z,105nm,18.5s,baz=98,slow=40
JMDO Jabal Madar 66.65 292 P pP 23 19 01.5 -0.1
SNR=5.1
BIDO Bidbid 66.69 293 P pP 23 19 02.6 +0.8
SNR=5.7
MHTO MHTO 66.72 290 P pP 23 19 00.8 -1.3
SNR=8.0
SMDO Samad 66.74 292 P pP 23 19 01.0 -1.3
DQM DQM 67.08 289 P pP 23 19 04.1 -0.4
JASK Jask - Hormozg 67.09 295 P pP 23 19 05.4 +1.1
ATKA Atka Island 67.25 35 P **P** **23 18 40.2 0.0**
ATKA Atka Island 67.25 35 P **P** **23 18 41.0 +0.8**
HOQ Hoqain 67.44 293 P pP 23 19 05.3 -1.4
BSY Bisya 67.51 292 P pP 23 19 06.1 -1.0
BILL Bilibino 67.52 15 P **P** **23 18 41.7 +0.1**
BILL IAmb IAmb 23 19 16.5
comp=Z,221nm,2.0s
BILL Bilibino 67.52 15 *d i*P **P** **23 18 41.8 +0.1**
BILL pmax pmax
comp=Z,66nm,1.4s
NRIK Noril'sk 67.71 346 P **P** **23 18 42.2 -0.6**
NRIK Noril'sk 67.71 346 P **P** **23 18 42.2 -0.6**
comp=Z,14nm,0.7s,baz=122,slow=6.8,SNR=20
NRIK pP **PcP** **23 19 08.5 -0.5**
comp=Z,22nm,0.6s,baz=137,slow=6.4,SNR=6.9
NRIK LR LR 23 49 55.0
comp=Z,495nm,18.8s,baz=146,slow=37
comp=Z,14nm,0.7s
NRIK Noril'sk 67.71 346 *d i*P **P** **23 18 42.0 -0.8**
NRIK pmax pmax
comp=Z,33nm,1.3s
ARQ Araqi 68.16 293 P pP 23 19 11.3 +0.1
SOHO SOHO 68.18 293 P pP 23 19 10.3 -1.1
NIUE Niue 68.48 113 P **P** **23 18 48.9 +0.4**
NIUE Niue 68.48 113 P **P** **23 18 49.7 +1.2**
comp=Z,320nm,0.9s
NIUE Niue 68.48 113 P **P** **23 18 51.0 +2.5**
UOSS Minazif 68.53 294 P pP 23 19 12.8 -0.7
HATD Hatta, Dubai 68.59 294 P pP 23 19 14.2 +0.3
MASF Masafi 68.59 295 P pP 23 19 15.2 +1.3
ASHO Ashiyiah 68.64 294 P pP 23 19 15.4 +1.1
ALNE Al Ain 68.89 293 P pP 23 19 15.8 -0.1
ASUD Al Ashush, Dub 69.31 294 P pP 23 19 18.5 -0.1
ABKAR Abkulak array 69.38 320 P **P** **23 18 53.2 -0.4**
ABKAR Abkulak array 69.38 320 P **P** **23 18 53.1 -0.5**
UMZA Um Al Zommool 69.39 292 P pP 23 19 18.9 0.0
DMTO DMTO 69.51 287 P pP 23 19 19.6 -0.2
AJN Ajban 69.61 294 P pP 23 19 20.4 -0.1
RBK Rabkut 70.22 286 P pP 23 19 23.5 -0.8
SNR=5.6
DOK Doka 70.29 287 P pP 23 19 23.9 -0.6
SNR=6.6
MZWR Madinat Zayed 70.59 293 P pP 23 19 26.2 -0.4
WHFO Wadi Hawf 70.63 287 P pP 23 19 26.1 -0.7
SNR=6.1
MZR Muzera 70.94 292 P pP 23 19 28.7 -0.1
SPIA Saint Paul Isl 71.08 31 P **P** **23 19 04.3 +0.5**
SPIA IAmb IAmb 23 19 06.8
comp=Z,165nm,1.0s
SPIA Saint Paul Isl 71.08 31 P **P** **23 19 05.4 +1.6**
baz=251
ABTO Aybut 71.09 286 P pP 23 19 29.4 -0.2
SNR=8.4
SVE Sverdlovsk 71.15 328 *e*P **P** **23 19 03.8 -0.4**
SVE *e*S **S** **23 28 09.7 -3.5**
SVE pmax pmax
comp=Z,77nm,1.1s
P08K Saint George I 71.26 32 P **P** **23 19 05.8 +0.9**
P08K Saint George I 71.26 32 P **P** **23 19 06.3 +1.5**
baz=252
GHWR Ruwais 71.52 293 P pP 23 19 32.0 -0.2
JRN Qarnain Island 71.57 294 P pP 23 19 32.0 -0.5
CTZ Chatham Island 72.08 140 P **P** **23 19 11.8 +1.8**
UNV Unalaska Valle 72.17 35 P **P** **23 19 10.6 +0.2**
UNV Unalaska Valle 72.17 35 P **P** **23 19 11.2 +0.8**
UNV Unalaska Valle 72.17 35 P **P** **23 19 11.1 +0.7**
baz=256,SNR=16
ARTI Arti 72.21 327 P **P** **23 19 09.4 -1.2**
ARTI Arti 72.21 327 LR LR 23 53 24.2
comp=Z,296nm,21.2s,baz=104,slow=38
ARTI Arti 72.21 327 *d i*P **P** **23 19 09.0 -1.6**
ARTI *PP **pP** **23 19 34.1 -1.7**
ARTI S S **23 28 23.3 -2.1**
ARTI SS **SS** **23 33 01.7 -3.1**
ARTI pmax pmax
comp=Z,22nm,1.4s
LVA Lava Point 72.52 35 P **P** **23 19 11.7 -0.9**
SLWR Sila 72.61 293 P pP 23 19 38.5 -0.2
GAMB Gambell 72.70 24 P **P** **23 19 14.0 +0.7**
GAMB IAmb IAmb 23 19 15.8
comp=Z,76nm,1.0s
GAMB Gambell 72.70 24 P **P** **23 19 14.8 +1.5**
baz=248
TRNA Turayna 73.05 294 P pP 23 19 40.8 -0.6
CASY Casey 73.12 186 P **P** **23 19 16.3 +0.6**
CASY IAmb IAmb 23 19 17.5
comp=Z,59nm,0.8s
SMRA Abu-Samra 73.41 294 P pP 23 19 43.0 -0.4
SAKB Bahrain 73.68 295 P pP 23 19 44.5 -0.6
KEKH Kekaha 73.73 69 P **P** **23 19 19.9 -0.3**
M11K Mekoryuk 74.04 29 **P** **23 19 21.6 +0.3**
M11K IAmb IAmb 23 19 24.6
comp=Z,157nm,1.2s
M11K Mekoryuk 74.04 29 P **P** **23 19 23.2 +1.9**
baz=254
FALS False Pass 74.16 35 P **P** **23 19 22.3 +0.2**
FALS False Pass 74.16 35 P **P** **23 19 23.1 +1.0**
FALS False Pass 74.16 35 P **P** **23 19 22.7 +0.6**
baz=258
TNA Tin City 74.85 23 P **P** **23 19 26.2 +0.3**
TNA Tin City 74.85 23 P **P** **23 19 27.0 +1.1**
baz=251,SNR=8.6
K13K Kusilvak Mount 75.18 27 P **P** **23 19 28.3 +0.5**
K13K IAmb IAmb 23 19 30.6
comp=Z,83nm,1.0s
K13K Kusilvak Mount 75.18 27 P **P** **23 19 29.4 +1.5**
baz=255
KIP Kipapa 75.31 70 P **P** **23 19 29.2 -0.2**
KIP IAmb IAmb 23 19 33.8
comp=Z,134nm,0.8s
KIP Kipapa 75.31 70 P **P** **23 19 32.1 +2.7**
KIP Kipapa 75.31 70 P **P** **23 19 31.6 +2.2**
KIP Kipapa 75.31 70 P **P** **23 19 29.2 -0.2**
KIP pmax pmax
comp=Z,134nm,0.9s
HON Honolulu 75.33 70 P **P** **23 19 30.0 +0.5**
HON Honolulu 75.33 70 P **P** **23 19 30.0 +0.5**

HON pmax pmax
comp=Z,361nm,1.1s
M13K Dall Lake 75.42 29 P **P** **23 19 31.2 +2.0**
baz=257
F14K Arctic Creek 75.45 24 P **P** **23 19 31.0 +1.6**
baz=253
DHH Diamond Head 75.52 70 P **P** **23 19 31.4 +0.8**
DHH Diamond Head 75.52 70 P **P** **23 19 31.4 +0.8**
ANM Nome 75.58 25 P **P** **23 19 30.3 +0.2**
ANM Nome 75.58 25 P **P** **23 19 30.3 +0.2**
ANM pmax pmax
comp=Z,39nm,1.0s
ANM Nome 75.58 25 P **P** **23 19 31.6 +1.5**
baz=254
LKRN Lenkeran, Azer 75.68 308 P **P** **23 19 32.0 +0.8**
J14K Nanvaranak Lak 75.88 27 P **P** **23 19 32.2 +0.4**
J14K Nanvaranak Lak 75.88 27 P **P** **23 19 33.1 +1.3**
baz=256
SDPT Sand Point 75.92 35 P **P** **23 19 32.5 +0.3**
SDPT Sand Point 75.92 35 P **P** **23 19 33.2 +1.0**
SDPT Sand Point 75.92 35 P **P** **23 19 32.8 +0.7**
baz=260
L14K Kuka Creek 75.95 28 P **P** **23 19 32.5 +0.2**
L14K IAmb IAmb 23 19 35.2
comp=Z,146nm,1.0s
L14K Kuka Creek 75.95 28 P **P** **23 19 34.2 +1.9**
baz=257
N14K Kuskokwak Cree 76.12 30 P **P** **23 19 34.7 +1.5**
baz=258
M14K Bethel 76.16 29 P **P** **23 19 34.4 +0.9**
M14K IAmb IAmb 23 19 36.2
comp=Z,135nm,0.8s
M14K Bethel 76.16 29 P **P** **23 19 35.1 +1.6**
baz=258
F15K North Star Dit 76.19 24 P **P** **23 19 34.1 +0.6**
F15K North Star Dit 76.19 24 P **P** **23 19 35.1 +1.6**
baz=254
O14K Tigyukauivet M 76.20 30 P **P** **23 19 34.2 +0.5**
O14K IAmb IAmb 23 19 36.2
comp=Z,107nm,1.0s
O14K Tigyukauivet M 76.20 30 P **P** **23 19 35.0 +1.3**
baz=259
G15K Niukluk 76.24 24 P **P** **23 19 34.9 +1.0**
baz=255
KBD Kabd 76.25 298 P pP 23 19 59.1 -0.8
CNBA Chernabura Isl 76.33 35 P **P** **23 19 34.6 +0.1**
CNBA IAmb IAmb 23 19 36.9
comp=Z,93nm,0.9s
CHNA Chernabura Isl 76.34 35 P **P** **23 19 35.9 +1.3**
CHNA Chernabura Isl 76.34 35 P **P** **23 19 35.3 +0.8**
baz=261,SNR=5.9
S14K Fog Glacier 76.58 34 P **P** **23 19 36.8 +0.8**
baz=261
L15K Ungalak Mounta 76.58 28 P **P** **23 19 37.0 +1.2**
baz=258,SNR=14
AKT Akhty 76.65 311 *e*P **P** **23 19 34.3 -2.5**
AKT *e* 23 19 45.1
AKT *e**PP **pP** **23 19 59.6 -2.6**
AKT *e**SP **sP** **23 20 11.3 -1.5**
AKT *e* 23 22 30.4
AKT *e*S **S** **23 29 12.5 -3.4**
AKT *e**SS **sS** **23 29 55.5 -3.4**
AKT pmax pmax
comp=Z,22nm,1.0s
C16K Lisburne Hills 76.66 21 P **P** **23 19 36.8 +0.7**
C16K IAmb IAmb 23 19 38.5
comp=Z,92nm,1.1s
C16K Lisburne Hills 76.66 21 P **P** **23 19 37.2 +1.1**
baz=253,SNR=70
K15K Wolf Creek Mou 76.69 27 P **P** **23 19 37.4 +0.9**
K15K IAmb IAmb 23 19 39.5
comp=Z,81nm,1.0s
K15K Wolf Creek Mou 76.69 27 P **P** **23 19 38.1 +1.6**
baz=258
M15K Kasigluk River 76.77 29 P **P** **23 19 38.2 +1.3**
baz=259,SNR=25
KHLH Kahului Airpor 76.81 70 P **P** **23 19 36.9 -1.1**
KHLH IAmb IAmb 23 19 43.5
comp=Z,168nm,1.2s
H16K Elim 76.90 25 P **P** **23 19 38.7 +1.1**
baz=257,SNR=29
MAK Makhachkala 76.91 313 *e*P **P** **23 19 34.7 -3.4**
MAK *e**PP **pP** **23 20 00.8 -2.6**
MAK *e**SP **sP** **23 20 11.4 -2.7**
MAK *e*S **S** **23 29 14.3 -4.1**
MAK *e**SS **sS** **23 29 59.5 -1.9**
MAK *e*SS **SS** **23 34 12.3 -4.5**
MAK *e*SSS SSS 23 37 38.4
MAK pmax pmax
comp=Z,177nm,1.2s
MAK MLR MLR
comp=Z,256nm,17.0s
O15K Ungalikthiuk R 76.92 31 P **P** **23 19 39.0 +1.2**
baz=260,SNR=6.3
N15K Kwethluk River 76.96 30 P **P** **23 19 38.6 +0.6**
N15K IAmb IAmb 23 19 40.7
comp=Z,134nm,0.9s
N15K Kwethluk River 76.96 30 P **P** **23 19 39.5 +1.5**
baz=260,SNR=21
G16K Koyuk River 77.03 24 P **P** **23 19 38.7 +0.4**
G16K Koyuk River 77.03 24 P **P** **23 19 39.4 +1.1**
baz=256
SEKA Sheki 77.04 311 P **P** **23 19 39.3 +0.4**
XMAS Kiritimati 77.04 89 P **P** **23 19 38.4 -0.9**
XMAS IAmb IAmb 23 19 44.3
comp=Z,130nm,0.9s
XMAS Kiritimati 77.04 89 P **P** **23 19 41.2 +1.8**
MNGR Mingechevir, A 77.10 310 P **P** **23 19 40.1 +0.9**
CHGN Chignik 77.21 34 P **P** **23 19 39.1 -0.3**
CHGN IAmb IAmb 23 19 40.9
comp=Z,170nm,1.0s
CHGN Chignik 77.21 34 P **P** **23 19 40.1 +0.6**
baz=262,SNR=5.6
J16K Anvik River 77.31 26 P **P** **23 19 40.2 +0.2**
J16K IAmb IAmb 23 19 43.0
comp=Z,80nm,1.1s
J16K Anvik River 77.31 26 P **P** **23 19 41.5 +1.6**
baz=258
D17K Noatak River 77.32 22 P **P** **23 19 41.5 +1.7**
baz=255,SNR=116
MHA Mahukona 77.32 71 P **P** **23 19 42.0 +1.2**
MHA Mahukona 77.32 71 P **P** **23 19 42.0 +1.2**
I17K Unalakleet 77.40 26 P **P** **23 19 41.1 +0.8**
I17K IAmb IAmb 23 19 43.5
comp=Z,104nm,1.1s
I17K Unalakleet 77.40 26 P **P** **23 19 42.2 +1.9**
baz=258,SNR=6.4
HUH Hualalai 77.40 71 P **P** **23 19 41.7 +0.1**
HUH IAmb IAmb 23 19 44.9
comp=Z,126nm,1.1s
KIRV Kirov 77.41 329 LR LR 23 56 51.0
comp=Z,396nm,21.0s,baz=100,slow=38
KIRV Kirov 77.41 329 *c i*P **P** **23 19 39.7 -0.8**
RDOG Red Dog Mine 77.47 21 P **P** **23 19 41.8 +1.0**
RDOG IAmb IAmb 23 19 43.4
comp=Z,105nm,1.3s
RDOG Red Dog Mine 77.47 21 P **P** **23 19 42.1 +1.3**
baz=255,SNR=23
C17K DeLong Mountai 77.49 21 P **P** **23 19 42.3 +1.4**
baz=255
MWH Mokuaweoweo 77.64 71 P **P** **23 19 42.7 -0.5**
E17K Hotham Inlet 77.64 23 P **P** **23 19 43.2 +1.6**
baz=256
M16K Timber Creek 77.66 29 P **P** **23 19 42.1 +0.2**
M16K IAmb IAmb 23 19 44.6
comp=Z,129nm,0.9s
M16K Timber Creek 77.66 29 P **P** **23 19 43.7 +1.8**
baz=260,SNR=32
N16K Nishlik Lake 77.66 29 P **P** **23 19 43.8 +1.9**
baz=261
GANJ Ganja 77.67 310 P **P** **23 19 43.2 +0.7**
POHA Pohakuloa 77.69 71 P **P** **23 19 43.6 +0.4**
POHA IAmb IAmb 23 19 47.6
comp=Z,168nm,0.9s
POHA Pohakuloa 77.69 71 P **P** **23 19 44.9 +1.7**
F17K Baldwin Pennin 77.71 23 P **P** **23 19 42.7 +0.6**
F17K Baldwin Pennin 77.71 23 P **P** **23 19 43.6 +1.6**
baz=257,SNR=19
HMH Humu'ula Sheep 77.74 71 P **P** **23 19 43.9 +0.4**
HMH IAmb IAmb 23 19 55.1
comp=Z,184nm,1.1s
G17K Kiwalik Mounta 77.75 24 P **P** **23 19 43.9 +1.6**
baz=258
P16K Nushagak River 77.83 31 P **P** **23 19 44.3 +1.5**
baz=262

MLH	Mauna Loa	77.83	71	P	P	23 19 43.6	-0.4
R16K	Pilot Point	77.84	32	P	P	23 19 44.1	+1.2
	baz=262						
O16K	Kokwok River B	77.86	30	P	P	23 19 43.5	+0.5
O16K				IAmb	IAmb	23 19 45.6	
	comp=Z,113nm,1.1s						
O16K	Kokwok River B	77.86	30	P	P	23 19 44.5	+1.5
	baz=262,SNR=20						
UWE	Uwekahuna	77.92	72	P	P	23 19 44.1	-0.3
RSD	Rainshed	77.94	71	P	P	23 19 44.3	-0.1
H17K	Granite Mounta	77.94	25	P	P	23 19 43.8	+0.4
H17K				IAmb	IAmb	23 19 46.2	
	comp=Z,91nm,1.1s						
H17K	Granite Mounta	77.94	25	P	P	23 19 45.1	+1.7
	baz=259						
HATHI	Halema'uma'u T	77.95	72	P	P	23 19 44.8	+0.3
BYL	Byron's Ledge	77.96	72	P	P	23 19 45.4	+0.9
BYL				IAmb	IAmb	23 19 48.8	
	comp=Z,174nm,1.0s						
PUH	Pauahi	78.00	72	P	P	23 19 46.0	+1.3
J17K	VABM Dome	78.01	26	P	P	23 19 44.0	+0.2
J17K				IAmb	IAmb	23 19 46.8	
	comp=Z,74nm,1.1s						
J17K	VABM Dome	78.01	26	P	P	23 19 45.7	+1.9
	baz=260						
KNHH	Kane Nui o Ham	78.04	72	P	P	23 19 45.3	+0.3
STCH	Steam Cracks	78.08	72	P	P	23 19 46.4	+1.2
L17K	Donlin	78.15	28	P	P	23 19 46.7	+2.1
	baz=261						
E18K	Tukpahlearik C	78.18	22	P	P	23 19 45.8	+1.2
E18K				IAmb	IAmb	23 19 47.5	
	comp=Z,80nm,1.1s						
E18K	Tukpahlearik C	78.18	22	P	P	23 19 46.3	+1.7
	baz=258						
B18K	Kokolik River	78.19	20	P	P	23 19 46.6	+1.9
	baz=256,SNR=24						
JOKA	Jonika Flow	78.20	72	P	P	23 19 46.1	+0.4
JOKA				IAmb	IAmb	23 19 49.9	
	comp=Z,122nm,1.0s						
C18K	Utukok River	78.23	21	P	P	23 19 45.7	+0.7
C18K	Utukok River	78.23	21	P	P	23 19 46.2	+1.2
	baz=257,SNR=33						
K17K	Iditarod	78.24	27	P	P	23 19 46.2	+1.1
K17K				IAmb	IAmb	23 19 48.3	
	comp=Z,154nm,1.1s						
K17K	Iditarod	78.24	27	P	P	23 19 47.0	+1.9
	baz=261						
RAR	Rarotonga	78.25	113	LR	LR	23 50 32.3	
	comp=Z,128nm,20.7s,baz=312,slow=33						
NAX	Nakhchivan	78.26	309	P	P	23 19 46.7	+0.9
RAYN	Ar Rayn	78.28	293	P	P	23 19 45.4	-0.7
RAYN				IAmb	IAmb	23 20 12.4	
	comp=Z,67nm,0.8s						
RAYN	Ar Rayn	78.28	293	P	P	23 19 46.4	+0.2
F18K	Selawik	78.37	23	P	P	23 19 47.0	+1.3
	baz=259,SNR=30						
O17K	Koliganek Bris	78.38	30	P	P	23 19 47.3	+1.4
	baz=262,SNR=17						
DGRG	David-gareji	78.42	311	P	P	23 19 47.5	+0.9
N17K	Nushagak Hills	78.44	30	P	P	23 19 46.8	+0.6
N17K				IAmb	IAmb	23 19 49.5	
	comp=Z,98nm,1.0s						
N17K	Nushagak Hills	78.44	30	P	P	23 19 48.1	+1.9
	baz=262,SNR=19						
M17K	Holitna River	78.44	29	P	P	23 19 47.3	+1.0
M17K				IAmb	IAmb	23 19 49.5	
	comp=Z,108nm,1.0s						
M17K	Holitna River	78.44	29	P	P	23 19 48.3	+2.0
	baz=262,SNR=19						
Q16K	King Salmon	78.47	31	P	P	23 19 46.9	+0.6
	baz=263						
H18K	Honhosa River	78.63	25	P	P	23 19 48.1	+1.0
H18K	Honhosa River	78.63	25	P	P	23 19 48.4	+1.2
	baz=260						
G18K	Tagagawik	78.64	24	P	P	23 19 47.1	-0.1
G18K	Tagagawik	78.64	24	P	P	23 19 48.2	+1.0
	baz=260,SNR=26						
A19K	Wainwright	78.64	19	P	P	23 19 49.3	+2.2
	baz=257						
P17K	Kvichak River	78.64	31	P	P	23 19 48.7	+1.4
	baz=263,SNR=9.0						
CHIR	Chirikof Islan	78.71	34	P	P	23 19 48.5	+0.7
CHIR	Chirikof Islan	78.71	34	P	P	23 19 49.4	+1.6
CHIR	Chirikof Islan	78.71	34	P	P	23 19 49.4	+1.6
	baz=264						
GNI	Garni	78.86	310	P	P	23 19 49.5	+0.3
GNI				IAmb	IAmb	23 20 35.5	
	comp=Z,146nm,1.6s						
GNI	Garni	78.86	310	*d iP*	P	23 19 49.7	+0.5
GNI				pmax	pmax		
	comp=Z,47nm,1.7s						
GNI	Garni	78.86	310	P	P	23 19 49.5	+0.3
	comp=Z,700nmcomp=Z,46nm,1.7s						
L18K	Granite Mounta	78.91	28	P	P	23 19 49.5	+0.8
L18K				IAmb	IAmb	23 19 51.9	
	comp=Z,82nm,1.1s						
L18K	Granite Mounta	78.91	28	P	P	23 19 50.7	+2.0
	baz=262						
J18K	Innoko River	79.07	27	P	P	23 19 49.7	+0.1
J18K	Innoko River	79.07	27	P	P	23 19 51.0	+1.3
	baz=262,SNR=25						
N18K	Kilae Creek	79.09	29	P	P	23 19 50.8	+1.0
N18K	Kilae Creek	79.09	29	P	P	23 19 51.6	+1.8
	baz=263,SNR=11						
ACHA	Angle Creek He	79.11	32	P	P	23 19 49.2	-0.8
F19K	Shaleruckik Mo	79.15	23	P	P	23 19 50.3	+0.3
F19K	Shaleruckik Mo	79.15	23	P	P	23 19 51.1	+1.2
	baz=260						
GCSA	Galena City Sc	79.18	25	P	P	23 19 51.7	+1.5
	baz=262,SNR=26						
M18K	Stony River	79.22	29	P	P	23 19 52.2	+1.8
	baz=263,SNR=34						
P18K	Big Mountain,	79.28	31	P	P	23 19 51.4	+0.5
P18K	Big Mountain,	79.28	31	P	P	23 19 51.5	+0.6
	baz=264,SNR=6.5						
G19K	Purcell Mounta	79.31	24	P	P	23 19 52.2	+1.3
G19K	Purcell Mounta	79.31	24	P	P	23 19 52.2	+1.3
	baz=261,SNR=29						
D19K	Kuna River	79.31	21	P	P	23 19 51.4	+0.5
D19K	Kuna River	79.31	21	P	P	23 19 52.2	+1.3
	baz=260						
Q18K	Katmai Hardscr	79.32	32	P	P	23 19 51.3	+0.1
	baz=264,SNR=7.5						
O18K	Koktuh Hills	79.34	30	P	P	23 19 52.1	+0.9
O18K				IAmb	IAmb	23 19 54.0	
	comp=Z,151nm,0.8s						
O18K	Koktuh Hills	79.34	30	P	P	23 19 52.9	+1.7
	baz=264,SNR=27						
E19K	Redstone River	79.46	23	P	P	23 19 52.6	+0.9
E19K				IAmb	IAmb	23 19 54.5	
	comp=Z,110nm,1.1s						
E19K	Redstone River	79.46	23	P	P	23 19 53.4	+1.7
	baz=261						
H19K	Roundabout Mou	79.48	25	P	P	23 19 53.4	+1.6
H19K				IAmb	IAmb	23 19 54.8	
	comp=Z,127nm,1.1s						
H19K	Roundabout Mou	79.48	25	P	P	23 19 53.5	+1.8
	baz=262,SNR=80						
R18K	Karluk	79.51	33	P	P	23 19 53.5	+1.4
	baz=265						
SII	Sitkinak Islan	79.58	34	P	P	23 19 53.7	+1.1
SII				IAmb	IAmb	23 19 54.8	
	comp=Z,152nm,0.9s						
SII	Sitkinak Islan	79.58	34	P	P	23 19 54.3	+1.8
SII	Sitkinak Islan	79.58	34	P	P	23 19 54.1	+1.6
	baz=266						
J19K	Poorman	79.62	26	P	P	23 19 53.4	+0.8
J19K				IAmb	IAmb	23 19 55.5	
	comp=Z,90nm,1.1s						
J19K	Poorman	79.62	26	P	P	23 19 54.1	+1.5
	baz=263						
L19K	White Mountain	79.76	28	P	P	23 19 54.3	+0.9
L19K				IAmb	IAmb	23 19 56.3	
	comp=Z,97nm,1.1s						
L19K	White Mountain	79.76	28	P	P	23 19 55.2	+1.8
	baz=264,SNR=29						
NCK	Nalchik	79.79	313	⇓ *eP*	P	23 19 53.5	-0.5
NCK				pmax	pmax		
	comp=Z,44nm,2.2s						
N19K	Bonanza Creek	79.80	29	P	P	23 19 54.5	+0.8
N19K	Bonanza Creek	79.80	29	P	P	23 19 55.5	+1.8
	baz=264,SNR=22						
O19K	Port Alsworth	79.82	30	P	P	23 19 54.6	+0.9
O19K				IAmb	IAmb	23 19 56.1	
	comp=Z,120nm,1.2s						
O19K	Port Alsworth	79.82	30	P	P	23 19 54.9	+1.2
	baz=265,SNR=7.1						
D20K	Etivluk River	79.89	21	P	P	23 19 55.3	+1.2
	baz=261						
B20K	Meade River	79.91	20	P	P	23 19 55.0	+1.0
B20K				IAmb	IAmb	23 19 56.8	
	comp=Z,83nm,0.9s						
B20K	Meade River	79.91	20	P	P	23 19 55.5	+1.5
	baz=260,SNR=18						
M19K	Big River Lodg	79.95	28	P	P	23 19 55.2	+0.8
M19K	Big River Lodg	79.95	28	P	P	23 19 56.2	+1.7
	baz=264,SNR=21						
E20K	Nigu River	79.98	22	P	P	23 19 55.9	+1.4
	baz=262						
F20K	Avaraart Lake	79.98	23	P	P	23 19 55.4	+0.9
F20K	Avaraart Lake	79.98	23	P	P	23 19 56.1	+1.6
	baz=262,SNR=44						
Q19K	Cape Douglas,	80.05	31	P	P	23 19 56.7	+1.7
	baz=266						
OHAK	Old Harbor	80.11	33	P	P	23 19 56.2	+0.8
OHAK				IAmb	IAmb	23 19 57.7	
	comp=Z,114nm,0.9s						
OHAK	Old Harbor	80.11	33	P	P	23 19 56.9	+1.5
OHAK	Old Harbor	80.11	33	P	P	23 19 56.7	+1.4
	baz=266,SNR=11						
H20K	Anotleneega Mo	80.12	25	P	P	23 19 56.8	+1.5
	baz=263,SNR=52						
KARS	Kars	80.14	310	P	P	23 19 57.1	+1.0
KARS				IAmb	IAmb	23 20 30.6	
	comp=Z,206nm,1.2s						
KARS	Kars	80.14	310	P	P	23 19 57.1	+1.0
KARS				pmax	pmax		
	comp=Z,206nm,1.2s						
GEVA	Gevas	80.15	308	P	P	23 19 56.4	+0.2
GEVA				IAmb	IAmb	23 20 22.9	
	comp=Z,99nm,1.3s						
I20K	Naaghedeneel	80.21	25	P	P	23 19 56.9	+1.2
I20K	Naaghedeneel	80.21	25	P	P	23 19 57.5	+1.8
	baz=264						
K20K	Telida	80.24	27	P	P	23 19 56.2	+0.2
K20K				IAmb	IAmb	23 19 59.1	
	comp=Z,104nm,1.1s						
K20K	Telida	80.24	27	P	P	23 19 57.7	+1.7
	baz=264						
L20K	Farewell, AK	80.24	28	P	P	23 19 57.8	+1.8
	baz=265						
J20K	Nowinta River	80.29	26	P	P	23 19 57.3	+1.1
J20K				IAmb	IAmb	23 20 00.1	
	comp=Z,298nm,1.7s						
J20K	Nowinta River	80.29	26	P	P	23 19 58.1	+1.9
	baz=264,SNR=54						
KBZ	Khabaz	80.30	313	P	P	23 19 56.1	-0.5
	comp=Z,5.7nm,1.1s,baz=102,slow=7.6,SNR=10						
KBZ				LR	LR	00 01 09.3	
	comp=Z,131nm,19.8s,baz=74,slow=40						
	comp=Z,5.7nm,1.1s						
KBZ	Khabaz	80.30	313	*i* P	P	23 19 56.1	-0.5
KBZ				pmax	pmax		
	comp=Z,21nm,1.6s						
A21K	Barrow	80.31	19	P	P	23 19 57.5	+1.4
	baz=261						
P19K	Oil Pt	80.32	31	P	P	23 19 57.3	+0.8
	baz=266						
ILSW	Iliamna Southw	80.39	30	P	P	23 19 56.8	-0.1
KIV	Kislovodsk	80.46	313	P	P	23 19 57.7	+0.1
KIV	Kislovodsk	80.46	313	⇓P	P	23 19 58.3	+0.6
KIV	Kislovodsk	80.46	313	*e*P	P	23 19 57.0	-0.7
KIV				*e*S	S	23 29 55.0	-1.4
KIV				*e*SS	SS	23 35 09.3	-0.9
KIV				*e*SSS	SSS	23 38 36.2	
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV	Kislovodsk	80.46	313	P	P	23 19 58.0	+0.3
	comp=Z,438nmcomp=Z,27nm,1.4s						
SHA1	Shidzhatmaz	80.48	313	*de*P	P	23 19 57.0	-0.9
KDAK	Kodiak Island	80.53	33	P	P	23 19 57.5	0.0
KDAK				IAmb	IAmb	23 19 59.9	
	comp=Z,120nm,0.8s						
KDAK	Kodiak Island	80.53	33	LR	LR	23 52 54.8	
	comp=Z,79nm,21.2s,baz=92,slow=34						
KDAK	Kodiak Island	80.53	33	P	P	23 19 57.6	0.0
KDAK				pmax	pmax		
	comp=Z,120nm,0.8s						
KDAK	Kodiak Island	80.53	33	P	P	23 19 58.9	+1.3
	baz=267						
M20K	Styx River	80.54	28	P	P	23 19 58.4	+0.7
M20K				IAmb	IAmb	23 20 00.7	
	comp=Z,132nm,0.9s						
M20K	Styx River	80.54	28	P	P	23 19 59.5	+1.7
	baz=265						
C21K	Knifeblade Rid	80.61	21	P	P	23 19 59.4	+1.5
	baz=263						
O20K	Slope Mountain	80.65	30	P	P	23 19 59.5	+1.2
	baz=266						
SYI	Shuyak Island	80.68	32	P	P	23 19 59.9	+1.6
B21K	Ikpikpuk River	80.73	20	P	P	23 19 59.7	+1.3
B21K				IAmb	IAmb	23 20 01.1	
	comp=Z,98nm,0.9s						
B21K	Ikpikpuk River	80.73	20	P	P	23 19 59.9	+1.5
	baz=263						
A22K	Sinclair Lake	80.79	19	P	P	23 20 00.4	+1.7
	baz=262						
G21K	Allakaket	80.79	24	P	P	23 19 59.6	+0.7
G21K				IAmb	IAmb	23 20 01.7	
	comp=Z,107nm,1.1s						
G21K	Allakaket	80.79	24	P	P	23 20 00.2	+1.4
	baz=264						
E21K	Killik River	80.82	22	P	P	23 19 59.6	+0.6
E21K				IAmb	IAmb	23 20 01.5	
	comp=Z,89nm,1.1s						
E21K	Killik River	80.82	22	P	P	23 19 60.0	+1.0
	baz=264,SNR=18						
F21K	Alatna River	80.87	23	P	P	23 20 00.0	+0.7
F21K	Alatna River	80.87	23	P	P	23 20 00.5	+1.2
	baz=264						
ABPO	Ambohimpanom	80.89	250	P	P	23 20 00.8	+0.4
ABPO	Ambohimpanom	80.89	250	*i* P	P	23 20 00.2	-0.3
SPCR	Spurr Chakacha	80.93	29	P	P	23 20 00.7	+0.9
	baz=266,SNR=13						
H21K	Melozitna Rive	81.00	25	P	P	23 20 00.8	+0.8
H21K				IAmb	IAmb	23 20 02.9	
	comp=Z,107nm,1.1s						
H21K	Melozitna Rive	81.00	25	P	P	23 20 01.7	+1.7
	baz=265,SNR=85						
PPLA	Purkeypile	81.05	27	P	P	23 20 00.8	+0.3
PPLA				IAmb	IAmb	23 20 02.9	
	comp=Z,82nm,0.9s						
PPLA	Purkeypile	81.05	27	P	P	23 20 01.8	+1.4
	baz=266,SNR=18						
CHUM	Lake Minchumin	81.07	26	P	P	23 20 02.1	+1.8
	baz=266,SNR=28						
HOM	Homer	81.12	31	P	P	23 20 01.5	+0.8
	baz=267						
STLK	Strandline Lak	81.13	29	P	P	23 20 00.9	+0.1
CAST	Castle Rocks	81.14	27	P	P	23 20 01.7	+0.9
CAST				IAmb	IAmb	23 20 03.2	
	comp=Z,146nm,1.0s						
CAST	Castle Rocks	81.14	27	P	P	23 20 02.0	+1.2
	baz=266,SNR=87						
VRH	Novokhopyorsk	81.21	321	*e*P	P	23 19 58.5	-2.9
VRH				pmax	pmax		
	comp=Z,87nm,1.7s						
B22K	Teshekpuk Lake	81.22	20	P	P	23 20 01.2	+0.2
B22K				IAmb	IAmb	23 20 05.1	
	comp=Z,112nm,1.1s						
B22K	Teshekpuk Lake	81.22	20	P	P	23 20 02.3	+1.3
	baz=264						
SKT	Skwentna	81.30	28	P	P	23 20 01.9	+0.3
SKT				IAmb	IAmb	23 20 03.1	
	comp=Z,100nm,1.0s						
SKT	Skwentna	81.30	28	P	P	23 20 01.9	+0.3
	baz=267,SNR=24						
I21K	Tanana	81.30	25	P	P	23 20 03.2	+1.7
I21K				IAmb	IAmb	23 20 05.1	
	comp=Z,120nm,0.9s						
I21K	Tanana	81.30	25	P	P	23 20 03.4	+1.8
	baz=266,SNR=90						
CNPM	China Poot	81.32	31	P	P	23 20 01.8	-0.1
CNPM				IAmb	IAmb	23 20 03.5	
	comp=Z,119nm,0.8s						
D22K	Ayikyak River	81.33	21	P	P	23 20 02.6	+0.9
D22K				IAmb	IAmb	23 20 04.7	
	comp=Z,176nm,1.9s						
D22K	Ayikyak River	81.33	21	P	P	23 20 03.3	+1.6
	baz=265,SNR=29						
F22K	John River	81.40	23	P	P	23 20 03.9	+1.9
	baz=265						
CAPN	Captain Cook N	81.42	30	P	P	23 20 02.8	+0.6
	baz=267						
BRLK	Bradley Lake	81.51	31	P	P	23 20 02.1	-0.8
BRLK				IAmb	IAmb	23 20 04.2	
	comp=Z,115nm,0.9s						
BRSE	Bradley Lake S	81.58	31	P	P	23 20 03.7	+0.5
	baz=268,SNR=13						
E22K	Anaktuvuk Pass	81.59	22	P	P	23 20 03.7	+0.6
E22K				IAmb	IAmb	23 20 06.0	
	comp=Z,96nm,1.1s						
E22K	Anaktuvuk Pass	81.59	22	P	P	23 20 04.8	+1.7
	baz=266,SNR=77						
H22K	Ishtalitna Cre	81.60	24	P	P	23 20 05.2	+2.0
	baz=266,SNR=62						
SUA	Susitna One	81.65	29	P	P	23 20 03.8	+0.1
SUA	Susitna One	81.65	29	P	P	23 20 04.1	+0.4
	baz=268,SNR=32						
BPAW	Bear Paw Mtn.	81.66	26	P	P	23 20 04.2	+0.6
BPAW				IAmb	IAmb	23 20 06.0	
	comp=Z,183nm,1.0s						
BPAW	Bear Paw Mtn.	81.66	26	P	P	23 20 04.9	+1.3
	baz=267,SNR=86						
KTH	Kantishna Hill	81.66	27	P	P	23 20 04.0	+0.4
KTH				IAmb	IAmb	23 20 06.5	
	comp=Z,111nm,1.1s						
VOI	Vohitsoka	81.78	247	P	P	23 20 04.6	-0.6
LABN	Labinsk	81.86	314	*eP*	P	23 20 02.7	-2.3
LABN				*e**PP	pP	23 20 28.2	-2.4
LABN				*eS*	S	23 30 07.4	-3.3
LABN				pmax	pmax		
	comp=Z,14nm,0.6s						
SLKM	Skilak Lake	81.87	30	P	P	23 20 04.5	-0.2
SLKM				IAmb	IAmb	23 20 06.2	
	comp=Z,130nm,0.8s						
CUT	Chulitna	81.91	28	P	P	23 20 04.7	-0.1
CUT				IAmb	IAmb	23 20 08.0	
	comp=Z,192nm,1.2s						
CUT	Chulitna	81.91	28	P	P	23 20 05.3	+0.5
	baz=268,SNR=11						
TRF	Thorofare Moun	81.94	27	P	P	23 20 05.2	0.0
TRF				IAmb	IAmb	23 20 07.1	
	comp=Z,145nm,1.1s						
TRF	Thorofare Moun	81.94	27	P	P	23 20 06.0	+0.8
	baz=268,SNR=43						
M22K	Willow	81.96	29	P	P	23 20 05.5	+0.4
	baz=268						
ERBR	Yeremizino-Bor	82.02	315	*eP*	P	23 20 04.4	-1.4
ERBR				*e**PP	pP	23 20 30.1	-1.4
ERBR				*eS*	S	23 30 09.4	-2.9
ERBR				pmax	pmax		
	comp=Z,17nm,0.9s						
D23K	Nanushuk River	82.06	21	P	P	23 20 06.3	+0.8
D23K				IAmb	IAmb	23 20 08.8	
	comp=Z,92nm,1.1s						
D23K	Nanushuk River	82.06	21	P	P	23 20 07.5	+2.0
	baz=267						
O22K	Cooper Landing	82.12	30	P	P	23 20 06.3	+0.4
O22K	Cooper Landing	82.12	30	P	P	23 20 06.6	+0.7
	baz=269,SNR=6.1						
KOPT	Kop Dagi	82.12	309	P	P	23 20 07.4	+0.6
RC01	Rabbit Creek A	82.12	29	P	P	23 20 05.4	-0.6
RC01				IAmb	IAmb	23 20 07.6	
	comp=Z,62nm,0.8s						
RC01	Rabbit Creek A	82.12	29	P	P	23 20 06.6	+0.6
	baz=269						
C23K	Itkillik River	82.14	20	P	P	23 20 06.8	+1.0
C23K				IAmb	IAmb	23 20 08.6	
	comp=Z,141nm,1.1s						
C23K	Itkillik River	82.14	20	P	P	23 20 07.4	+1.6
	baz=266,SNR=93						
COLD	Coldfoot	82.15	23	P	P	23 20 06.3	+0.3
COLD				IAmb	IAmb	23 20 10.2	
	comp=Z,66nm,0.9s						
COLD	Coldfoot	82.15	23	P	P	23 20 07.9	+1.9
	baz=267,SNR=82						
G23K	Bananza Creek	82.19	24	P	P	23 20 07.4	+1.1
G23K				IAmb	IAmb	23 20 10.6	
	comp=Z,65nm,0.9s						
G23K	Bananza Creek	82.19	24	P	P	23 20 08.2	+1.9
	baz=268,SNR=70						
SEW	Seward	82.24	30	P	P	23 20 07.2	+0.6
SEW				IAmb	IAmb	23 20 08.5	
	comp=Z,243nm,1.5s						
SEW	Seward	82.24	30	P	P	23 20 07.4	+0.8
	baz=269,SNR=6.1						
BWN	Browne	82.33	26	P	P	23 20 08.2	+1.2
H23K	Yukon River	82.35	24	P	P	23 20 08.4	+1.2
H23K				IAmb	IAmb	23 20 11.2	
	comp=Z,113nm,1.0s						
H23K	Yukon River	82.35	24	P	P	23 20 08.8	+1.7
	baz=268						
VSLR	Vesyoloye	82.38	313	*de*P	P	23 20 06.9	-0.8
E23K	Chandalar	82.41	22	P	P	23 20 09.1	+1.6
E23K				IAmb	IAmb	23 20 10.7	
	comp=Z,92nm,1.1s						
E23K	Chandalar	82.41	22	P	P	23 20 09.4	+2.0
	baz=268,SNR=65						
I23K	Minto, Yukon-K	82.41	25	P	P	23 20 08.2	+0.9
I23K	Minto, Yukon-K	82.41	25	P	P	23 20 08.9	+1.5
	baz=268,SNR=71						
PMR	Palmer	82.43	29	P	P	23 20 07.9	+0.4
PMR				IAmb	IAmb	23 20 09.2	
	comp=Z,141nm,1.0s						
PMR	Palmer	82.43	29	P	P	23 20 08.2	+0.7
PMR	Palmer	82.43	29	P	P	23 20 07.9	+0.4
PMR				pmax	pmax		
	comp=Z,141nm,1.0s						
PMR	Palmer	82.43	29	P	P	23 20 08.0	+0.5
	baz=269,SNR=18						
TOLK	Toolik Lake Re	82.45	22	P	P	23 20 08.7	+1.1
TOLK	Toolik Lake Re	82.45	22	P	P	23 20 09.2	+1.6
	baz=268,SNR=46						
NEA2	Nenana	82.52	26	P	P	23 20 08.2	+0.3
NEA2				IAmb	IAmb	23 20 11.1	
	comp=Z,123nm,1.3s						
NEA2	Nenana	82.52	26	P	P	23 20 08.4	+0.5
	baz=269,SNR=30						
GHO	Glory Hole Cre	82.53	29	P	P	23 20 08.8	+0.6
GHO				IAmb	IAmb	23 20 10.2	
	comp=Z,107nm,1.2s						
MCK	McKinley	82.56	27	P	P	23 20 08.2	+0.1
MCK	McKinley	82.56	27	P	P	23 20 08.3	+0.1
MCK				pmax	pmax		
	comp=Z,341nm,1.2s						
MCK	McKinley	82.56	27	P	P	23 20 08.9	+0.7
	baz=269,SNR=65						
RND	Reindeer	82.59	27	P	P	23 20 08.4	0.0
RND	Reindeer	82.59	27	P	P	23 20 08.4	0.0
RND				pmax	pmax		
	comp=Z,238nm,1.4s						
KLMR	Klimovskoe	82.59	331	*eP*	P	23 20 05.1	-3.3
KLMR				*e**PP	pP	23 20 29.2	-4.6
KLMR				pmax	pmax		
	comp=Z,34nm,1.3s						
SOC	Sochi	82.61	313	*eP*	P	23 20 06.3	-2.6
SOC				*e*		23 23 15.6	
SOC				*eS*	S	23 30 14.9	-3.5
SOC				*e*SS	SS	23 35 33.3	-8.7
SOC				*e*SSS	SSS	23 39 09.5	
SOC				MLR	MLR		
	comp=Z,223nm,19.0s						
D24K	Happy Valley	82.73	21	P	P	23 20 09.9	+0.9
D24K				IAmb	IAmb	23 20 13.1	
	comp=Z,83nm,0.8s						
D24K	Happy Valley	82.73	21	P	P	23 20 10.8	+1.8
	baz=268						
KNK	Knik Glacier	82.75	29	P	P	23 20 10.2	+1.0
KNK	Knik Glacier	82.75	29	P	P	23 20 10.4	+1.1
	baz=270,SNR=30						
VORR	Voronezh	82.79	321	*eP*	P	23 20 07.2

baz=270,SNR=34
VSR Storozhevoye 82.82 321 *e*P **P** **23 20 06.8 -3.0**
VSR pmax pmax
comp=Z,8.0nm,0.8s
E24K Your Creek 82.83 22 P **P** **23 20 10.4 +0.8**
E24K Your Creek 82.83 22 P **P** **23 20 11.2 +1.6**
baz=269,SNR=45
WRH Wood River Hil 82.94 26 P **P** **23 20 10.6 +0.4**
WRH IAmb IAmb 23 20 11.9
comp=Z,145nm,1.0s
LPSR Galich'ya Gora 82.94 322 *e*P **P** **23 20 09.2 -1.2**
LPSR pmax pmax
comp=Z,51nm,1.4s
H24K Noodor Dome 83.04 24 P **P** **23 20 11.5 +0.8**
H24K IAmb IAmb 23 20 14.8
comp=Z,184nm,1.1s
H24K Noodor Dome 83.04 24 P **P** **23 20 12.4 +1.7**
baz=270,SNR=105
COLA College 83.04 25 P **P** **23 20 10.8 +0.2**
COLA IAmb IAmb 23 20 13.2
comp=Z,59nm,0.8s
COLA College 83.04 25 P **P** **23 20 11.1 +0.4**
COLA College 83.04 25 P **P** **23 20 11.3 +0.7**
COLA College 83.04 25 P **P** **23 20 11.0 +0.4**
baz=270
F24K Squaw Lake 83.05 23 P **P** **23 20 12.0 +1.3**
F24K IAmb IAmb 23 20 14.0
comp=Z,259nm,1.9s
F24K Squaw Lake 83.05 23 P **P** **23 20 12.5 +1.8**
baz=269,SNR=61
CCB Clear Creek Bu 83.06 26 P **P** **23 20 11.2 +0.4**
CCB IAmb IAmb 23 20 12.9
comp=Z,148nm,1.2s
M23K Glacier View 83.10 29 P **P** **23 20 12.0 +0.9**
baz=270,SNR=16
G24K Hadweenzic Riv 83.20 24 P **P** **23 20 12.6 +1.1**
G24K IAmb IAmb 23 20 14.7
comp=Z,143nm,1.1s
G24K Hadweenzic Riv 83.20 24 P **P** **23 20 13.5 +2.0**
baz=270,SNR=80
POKR Poker Plat Res 83.22 25 P **P** **23 20 11.7 +0.1**
POKR IAmb IAmb 23 20 15.2
comp=Z,62nm,1.1s
POKR Poker Plat Res 83.22 25 P **P** **23 20 11.8 +0.2**
baz=270,SNR=30
P23K Montague Islan 83.27 30 P **P** **23 20 13.3 +1.4**
baz=271,SNR=7.0
SCM Sheep Creek Mo 83.29 29 P **P** **23 20 12.9 +0.8**
SCM Sheep Creek Mo 83.29 29 P **P** **23 20 12.9 +0.8**
SCM pmax pmax
comp=Z,313nm,1.3s
SCM Sheep Creek Mo 83.29 29 P **P** **23 20 13.3 +1.2**
baz=271,SNR=18
GLI Glacier Island 83.41 29 P **P** **23 20 13.3 +0.7**
GLI IAmb IAmb 23 20 14.8
comp=Z,115nm,1.0s
GLI Glacier Island 83.41 29 P **P** **23 20 13.8 +1.1**
baz=271,SNR=5.5
HDA Harding Lake 83.43 26 P **P** **23 20 12.4 -0.3**
HDA IAmb IAmb 23 20 13.7
comp=Z,113nm,0.8s
HDA Harding Lake 83.43 26 P **P** **23 20 12.7 0.0**
baz=271,SNR=33
IL31 83.46 26 P **P** **23 20 12.4 -0.4**
IL31 IAmb IAmb 23 20 14.3
comp=Z,65nm,0.9s
ILAR Eielson Array 83.46 26 P **P** **23 20 12.0 -0.8**
ILAR Eielson Array 83.46 26 P **P** **23 20 12.2 -0.6**
comp=Z,37nm,0.9s,baz=250,slow=5.3,SNR=203
ILAR LR LR 23 57 26.6
comp=Z,80nm,21.0s,baz=256,slow=36
comp=Z,37nm,0.9s
IL03 Eielson Array 83.47 26 P **P** **23 20 12.3 -0.6**
D25K Kavik River 83.61 21 P **P** **23 20 14.3 +0.7**
D25K IAmb IAmb 23 20 16.3
comp=Z,110nm,1.1s
D25K Kavik River 83.61 21 P **P** **23 20 15.0 +1.4**
baz=271,SNR=83
MOS Moscow 83.64 325 *e*P **P** **23 20 11.0 -2.9**
MOS *e**PP **pP** **23 20 35.1 -4.3**
MOS *e*S **SKSac** **23 30 20.3 -7.4**
MOS *e* 23 30 26.5
MOS pmax pmax
comp=Z,49nm,1.6s
HIN Hinchinbrook I 83.71 30 P **P** **23 20 14.2 -0.1**
G25K Bearman Lake 83.75 24 P **P** **23 20 16.3 +2.0**
baz=271,SNR=59
Q23K Middleton Isla 83.82 31 P **P** **23 20 16.1 +1.4**
baz=272
M24K Tolsona, Glenn 83.83 28 P **P** **23 20 15.5 +0.7**
M24K Tolsona, Glenn 83.83 28 P **P** **23 20 16.6 +1.8**
baz=272,SNR=14
H25L Birch Creek 83.87 24 P **P** **23 20 17.1 +2.3**
baz=271
F25K Christian Rive 83.91 23 P **P** **23 20 16.1 +1.0**
F25K IAmb IAmb 23 20 18.5
comp=Z,83nm,1.1s
F25K Christian Rive 83.91 23 P **P** **23 20 17.2 +2.0**
baz=271
E25K Arctic Village 83.92 22 P **P** **23 20 16.8 +1.6**
E25K IAmb IAmb 23 20 18.5
comp=Z,187nm,1.2s
E25K Arctic Village 83.92 22 P **P** **23 20 17.2 +2.0**
baz=272,SNR=82
K24K Donnelly Dome 83.96 27 P **P** **23 20 16.1 +0.7**
baz=272,SNR=30
KLU Klutina 83.97 29 P **P** **23 20 16.1 +0.5**
KLU IAmb IAmb 23 20 30.1
comp=Z,82nm,1.2s
KLU Klutina 83.97 29 P **P** **23 20 16.9 +1.4**
baz=272,SNR=8.3
PRP Porcupine Dome 84.02 25 P **P** **23 20 14.8 -1.0**
PRP Porcupine Dome 84.02 25 P **P** **23 20 15.6 -0.2**
baz=272,SNR=25
DIV Divide 84.05 29 P **P** **23 20 16.4 +0.4**
EYAK Cordova Ski Ar 84.08 30 P **P** **23 20 17.0 +0.9**
EYAK Cordova Ski Ar 84.08 30 P **P** **23 20 17.8 +1.8**
EYAK Cordova Ski Ar 84.08 30 P **P** **23 20 17.6 +1.5**
baz=272,SNR=5.5
FYU Fort Yukon 84.10 24 P **P** **23 20 17.6 +1.6**
C26K Camden Bay 84.11 20 P **P** **23 20 18.4 +2.4**
baz=272,SNR=154
J25K Salcha River, 84.11 26 P **P** **23 20 15.4 -0.8**
J25K IAmb IAmb 23 20 17.2
comp=Z,48nm,0.8s
J25K Salcha River, 84.11 26 P **P** **23 20 16.2 0.0**
baz=272
ANN Anapa 84.20 314 *e*P **P** **23 20 15.0 -2.0**
ANN *e**PP **pP** **23 20 40.4 -2.4**
ANN *e*S **SKSac** **23 30 27.9 -3.9**
ANN pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 84.26 325 P **P** **23 20 16.1 -1.0**
OBN IAmb IAmb 23 21 06.0
comp=Z,115nm,1.4s
OBN Obninsk 84.26 325 LR LR 00 00 25.9
comp=Z,399nm,21.3s,baz=87,slow=37
OBN Obninsk 84.26 325 *e*P **P** **23 20 16.2 -0.8**
OBN *e**PP **pP** **23 20 45.6 +3.0**
OBN *e* 23 23 38.1
OBN pmax pmax
comp=Z,64nm,1.9s
HARP HAARP 84.29 28 P **P** **23 20 18.6 +1.4**
baz=272,SNR=8.4
BMAR Burnt Mountain 84.32 23 P **P** **23 20 18.8 +1.5**
RIDG Independent Ri 84.38 27 P **P** **23 20 17.9 +0.3**
RIDG Independent Ri 84.38 27 P **P** **23 20 18.3 +0.7**
baz=273,SNR=67
F26K Sheenjek River 84.48 23 P **P** **23 20 19.6 +1.6**
F26K IAmb IAmb 23 20 21.3
comp=Z,65nm,1.1s
F26K Sheenjek River 84.48 23 P **P** **23 20 20.0 +2.0**
baz=273,SNR=64
C27K Jago River 84.54 21 P **P** **23 20 19.6 +1.4**
C27K Jago River 84.54 21 P **P** **23 20 20.3 +2.1**
baz=273
N25K Chitina, Valde 84.59 29 P **P** **23 20 19.8 +1.1**
N25K IAmb IAmb 23 20 21.4
comp=Z,119nm,1.2s
N25K Chitina, Valde 84.59 29 P **P** **23 20 20.1 +1.3**
baz=273,SNR=16
BMRM Bremner River 84.62 29 P **P** **23 20 17.9 -1.0**
BMRM IAmb IAmb 23 20 21.3
comp=Z,128nm,1.1s
BMRM Bremner River 84.62 29 P **P** **23 20 20.1 +1.2**
baz=273,SNR=9.8

G26K Porcupine Rive 84.66 23 P **P** **23 20 21.0 +2.1**
baz=273
DOT Dot Lake 84.73 27 P **P** **23 20 19.7 +0.3**
DOT IAmb IAmb 23 20 21.4
comp=Z,84nm,1.0s
SCRK Sand Creek 84.74 26 P **P** **23 20 19.8 +0.3**
SCRK IAmb IAmb 23 20 21.7
comp=Z,163nm,1.6s
SCRK Sand Creek 84.74 26 P **P** **23 20 20.4 +0.9**
baz=273,SNR=27
KAIM Kayak Island 84.77 30 P **P** **23 20 20.8 +1.2**
KAIM Kayak Island 84.77 30 P **P** **23 20 21.3 +1.7**
baz=273
GAZ Gaziantep 84.83 307 P **P** **23 20 20.7 +0.3**
GAZ IAmb IAmb 23 20 46.1
comp=Z,118nm,1.5s
HMT Hamilton 84.83 30 P **P** **23 20 21.1 +1.2**
HMT IAmb IAmb 23 21 15.8
comp=Z,103nm,0.9s
J26L Joseph Creek 84.90 26 P **P** **23 20 20.7 +0.4**
J26L IAmb IAmb 23 20 22.2
comp=Z,78nm,0.9s
J26L Joseph Creek 84.90 26 P **P** **23 20 21.1 +0.9**
baz=274,SNR=64
MENT Mentasta 84.93 27 P **P** **23 20 21.1 +0.8**
MENT Mentasta 84.93 27 P **P** **23 20 22.1 +1.8**
GLB Gilahina Butte 84.98 29 P **P** **23 20 21.6 +1.0**
GLB IAmb IAmb 23 20 57.6
comp=Z,107nm,1.0s
I26K Coal Creek Min 85.02 25 P **P** **23 20 20.7 0.0**
I26K Coal Creek Min 85.02 25 P **P** **23 20 21.7 +1.0**
baz=274
SUCK Suckling Hills 85.09 30 P **P** **23 20 21.2 0.0**
L26K Log Cabin Wild 85.09 27 P **P** **23 20 22.1 +0.9**
L26K Log Cabin Wild 85.09 27 P **P** **23 20 22.4 +1.3**
baz=274,SNR=16
VRDI Verde Repeater 85.17 29 P **P** **23 20 21.9 +0.1**
TOKA Tokat 85.18 310 P **P** **23 20 22.2 +0.1**
M26K Nabesna, AK 85.30 28 P **P** **23 20 22.4 +0.2**
M26K IAmb IAmb 23 20 58.6
comp=Z,73nm,1.2s
M26K Nabesna, AK 85.30 28 P **P** **23 20 23.3 +1.0**
baz=274
E27K Coleen River 85.41 22 P **P** **23 20 23.2 +0.6**
E27K IAmb IAmb 23 20 25.5
comp=Z,94nm,1.2s
E27K Coleen River 85.41 22 P **P** **23 20 24.2 +1.6**
baz=275
ASF Jabal al Asfar 85.44 302 LR LR 00 03 41.7
comp=Z,196nm,19.9s,baz=147,slow=39
G27K Doyon Strip 85.51 23 P **P** **23 20 23.6 +0.4**
G27K IAmb IAmb 23 20 26.2
comp=Z,71nm,1.3s
G27K Doyon Strip 85.51 23 P **P** **23 20 24.9 +1.8**
baz=275
D27M Malcolm River 85.54 21 P **P** **23 20 23.9 +0.6**
D27M IAmb IAmb 23 21 00.4
comp=Z,65nm,1.2s
D27M Malcolm River 85.54 21 P **P** **23 20 24.8 +1.6**
baz=276
K27K Chicken 85.58 26 P **P** **23 20 24.6 +1.1**
K27K Chicken 85.58 26 P **P** **23 20 25.4 +1.9**
baz=275
MAW Mawson 85.61 200 LR LR 23 57 30.6
comp=Z,118nm,20.4s,baz=49,slow=35
H27K Steamboat Moun 85.61 24 P **P** **23 20 25.6 +1.9**
baz=275
I27K Kandik River 85.63 25 P **P** **23 20 25.4 +1.6**
baz=275
L27K Beaver Creek, 85.78 27 P **P** **23 20 25.2 +0.6**
L27K IAmb IAmb 23 21 01.6
comp=Z,58nm,1.1s
L27K Beaver Creek, 85.78 27 P **P** **23 20 25.9 +1.4**
baz=275,SNR=27
BNN Bunyan 85.78 308 P **P** **23 20 23.2 -2.0**
BCAR Beaver Creek A 85.80 27 P **P** **23 20 25.2 +0.5**
M27K Edge Creek, AK 85.82 28 P **P** **23 20 25.6 +0.6**
M27K Edge Creek, AK 85.82 28 P **P** **23 20 26.3 +1.4**
baz=275
MESA MESA 85.99 30 P **P** **23 20 26.1 +0.2**
MESA IAmb IAmb 23 21 03.4
comp=Z,137nm,1.1s
MESA MESA 85.99 30 P **P** **23 20 27.0 +1.1**
baz=275
VNDA Vanda 86.05 173 P **P** **23 20 27.4 +1.9**
VNDA Vanda 86.05 173 P **P** **23 20 25.4 -0.1**
comp=Z,2.2nm,0.5s,baz=314,slow=5.8,SNR=11
VNDA LR LR 00 00 16.4
comp=Z,126nm,18.0s,baz=336,slow=36
comp=Z,2.2nm,0.5s
VNDA Vanda 86.05 173 P **P** **23 20 27.4 +1.9**
VNDA pmax pmax
comp=Z,32nm,1.1s
YAH Yahtse 86.07 30 P **P** **23 20 26.6 +0.3**
E28M Babbage River 86.12 21 P **P** **23 20 26.8 +0.6**
E28M IAmb IAmb 23 21 03.1
comp=Z,209nm,1.9s
E28M Babbage River 86.12 21 P **P** **23 20 27.3 +1.2**
baz=277
BVCY Beaver Creek 86.29 28 P **P** **23 20 28.4 +1.3**
baz=276
D28M Stokes Point 86.31 21 P **P** **23 20 28.4 +1.4**
baz=278,SNR=17
I28M Miner Creek 86.35 25 P **P** **23 20 28.1 +0.7**
I28M Miner Creek 86.35 25 P **P** **23 20 28.7 +1.3**
baz=277
YUK3 Moose Creek 86.55 28 P **P** **23 20 29.5 +0.9**
baz=277
SIM Simferopol' 86.55 315 *e*P **P** **23 20 29.0 +0.3**
SIM *e*SS SS 23 36 43.0 +3.1
MMAI Mount Meron Ar 86.63 303 P **P** **23 20 30.1 +0.6**
comp=Z,14nm,1.0s,baz=78,slow=6.6,SNR=7.6
MMAI pP **pP** **23 20 55.7 +0.4**
comp=Z,13nm,0.7s,baz=79,slow=7.5,SNR=8.7
MMAI LR LR 00 03 50.6
comp=Z,203nm,21.6s,baz=76,slow=39
comp=Z,14nm,1.0s
GHAJ Ghor Haditha 86.65 301 P **P** **23 20 29.6 +0.2**
GHAJ IAmb IAmb 23 21 06.3
comp=Z,86nm,1.1s
E29M Blow River 86.75 22 P **P** **23 20 29.1 0.0**
E29M Blow River 86.75 22 P **P** **23 20 30.0 +0.8**
baz=279
DAWY Dawson 86.75 26 P **P** **23 20 30.2 +0.9**
DAWY Dawson 86.75 26 P **P** **23 20 30.2 +0.9**
baz=277,SNR=17
O28M Mount Upton 86.79 29 P **P** **23 20 30.2 +0.3**
baz=277
PCA Pinnacle 86.84 30 P **P** **23 20 29.7 -0.2**
PINM Pinnacle 86.84 30 P **P** **23 20 30.8 +0.9**
baz=277
H29M Whitestone 86.88 24 P **P** **23 20 29.8 -0.1**
H29M IAmb IAmb 23 20 31.9
comp=Z,55nm,0.9s
H29M Whitestone 86.88 24 P **P** **23 20 30.9 +1.0**
baz=278
G29M Pine Creek 86.92 23 P **P** **23 20 30.5 +0.5**
G29M Pine Creek 86.92 23 P **P** **23 20 31.0 +0.9**
baz=278
YUK8 Steele Glacier 86.94 29 P **P** **23 20 31.6 +1.1**
baz=277,SNR=6.2
I29M Ogilvie Camp, 87.03 25 P **P** **23 20 30.6 0.0**
I29M IAmb IAmb 23 20 33.0
comp=Z,46nm,0.9s
I29M Ogilvie Camp, 87.03 25 P **P** **23 20 31.4 +0.7**
baz=278,SNR=44
PPT Papeete 87.16 108 LR LR 23 54 05.4
comp=Z,199nm,20.0s,baz=304,slow=32
PPT2 Papeete2 87.16 108 *e*P **P** **23 20 30.2 -2.1**
comp=Z,64nm,24.8s
PPT2 Papeete2 87.16 108 *e*PP **PP** **23 23 52.2 -5.2**
comp=Z,52nm,22.8s
PPT2 *e*S **S** **23 31 03.3 -1.1**
comp=Z,177nm,28.5s
PPT2 *e*SS **SS** **23 36 48.3 -2.2**
comp=Z,322nm,24.8s
PPT2 *e*LQ LQ 23 44 33.8
comp=Z,1μm,43.5s
PPT2 *e*LR LR 23 48 12.9
comp=Z,474nm,29.5s
PPT2 *e*LR LR 23 48 19.6
comp=Z,713nm,26.0s
J29N Klondike Camp 87.20 26 P **P** **23 20 32.3 +0.8**
J29N Klondike Camp 87.20 26 P **P** **23 20 32.8 +1.2**
baz=278
KIRS Kirsehir-Merke 87.25 309 ⇓P **P** **23 20 32.0 -0.3**

PNL Peninsula 87.33 30 P **P** **23 20 33.2 +1.0**
baz=278
EIL Elat 87.33 299 LR LR 00 06 38.1
comp=Z,48nm,18.2s,baz=142,slow=40
M29M Somme Creek 87.39 28 P **P** **23 20 32.9 +0.4**
M29M Somme Creek 87.39 28 P **P** **23 20 33.9 +1.3**
baz=278
BR104 Keskin Array S 87.41 309 P **P** **23 20 33.7 +0.6**
comp=Z,59nmcomp=Z,7.0nm,0.8s
BR131 Keskin Array S 87.41 309 P **P** **23 20 32.2 -0.9**
BR131 Keskin Array S 87.41 309 P **P** **23 20 32.3 -0.9**
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 87.41 309 P **P** **23 20 32.5 -0.6**
BRTR Keskin Array B 87.41 309 P **P** **23 20 32.3 -0.9**
comp=Z,3.6nm,0.8s,baz=106,slow=3.8,SNR=23
BRTR LR LR 00 04 26.6
comp=Z,85nm,18.4s,baz=76,slow=39
comp=Z,3.6nm,0.8s
BRTR Keskin Array B 87.41 309 *i* P **P** **23 20 33.9 +0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR106 Keskin Array S 87.42 310 P **P** **23 20 33.8 +0.6**
comp=Z,65nmcomp=Z,7.8nm,0.9s
BR105 Keskin Array S 87.42 309 P **P** **23 20 33.8 +0.6**
comp=Z,82nmcomp=Z,11nm,1.1s
L29M L29M 87.44 27 P **P** **23 20 33.0 +0.3**
L29M IAmb IAmb 23 20 35.4
comp=Z,45nm,0.9s
L29M L29M 87.44 27 P **P** **23 20 34.1 +1.4**
baz=279
YUK4 Talbot Arm 87.46 29 P **P** **23 20 34.2 +1.2**
baz=278,SNR=5.4
KIBK Kibwezi 87.59 267 P **P** **23 20 34.5 0.0**
KIBK Kibwezi 87.59 267 P pP 23 20 58.2 -2.1
SNR=8.5
K29M Barlow Dome 87.60 26 P **P** **23 20 32.7 -0.8**
K29M Barlow Dome 87.60 26 P **P** **23 20 34.4 +0.9**
baz=279
G30M tAoh Zraii Nji 87.61 23 P **P** **23 20 33.3 -0.1**
G30M IAmb IAmb 23 20 34.5
comp=Z,61nm,1.1s
G30M tAoh Zraii Nji 87.61 23 P **P** **23 20 33.4 0.0**
baz=280
O29M Mount Kennedy 87.65 30 P **P** **23 20 34.8 +1.0**
baz=278
YUK6 Outpost Mounta 87.66 29 P **P** **23 20 34.5 +0.6**
baz=278
F30M Barrier River 87.66 22 P **P** **23 20 34.1 +0.5**
baz=280
ARCES ARCESS Array B 87.66 340 P **P** **23 20 32.4 -1.2**
comp=Z,6.4nm,0.8s,baz=84,slow=5.0,SNR=15
ARCES PKKPbc **PKKPdf** **23 38 20.5 +3.4**
comp=Z,2.6nm,0.9s,baz=254,slow=3.4,SNR=3.7
ARCES LR LR 00 05 24.1
comp=Z,267nm,18.3s,baz=78,slow=39
comp=Z,6.4nm,0.8s
SPITS Spitsbergen Ar 87.80 349 P **P** **23 20 32.0 -2.1**
comp=Z,9.3nm,1.0s,baz=72,slow=4.7,SNR=12
SPITS LR LR 00 05 21.6
comp=Z,160nm,19.1s,baz=36,slow=39
comp=Z,9.3nm,1.0s
SPITS Spitsbergen Ar 87.80 349 P **P** **23 20 32.0 -2.1**
I30M Mount Dempster 87.86 25 P **P** **23 20 34.6 -0.1**
I30M Mount Dempster 87.86 25 P **P** **23 20 35.1 +0.4**
baz=280
J30M Hart River 87.99 25 P **P** **23 20 35.2 -0.2**
J30M Hart River 87.99 25 P **P** **23 20 35.7 +0.3**
baz=280
TBI Tubuai 88.02 114 *e*S **S** **23 31 04.4 -7.8**
comp=Z,997nm,31.0s
TBI *e*SS **SS** **23 36 57.4 -5.2**
comp=Z,2μm,26.0s
TBI *e*LQ LQ 23 44 50.4
comp=Z,2μm,28.5s
TBI *e*LR LR 23 48 39.7
comp=Z,1μm,26.8s
TBI *e*LR LR 23 48 39.8
comp=Z,3μm,28.5s
HYT Haines Junctio 88.09 29 P **P** **23 20 35.9 0.0**
HYT Haines Junctio 88.09 29 P **P** **23 20 37.1 +1.1**
baz=279,SNR=12
M30M Minto, Yukon 88.13 27 P **P** **23 20 36.7 +0.7**
M30M Minto, Yukon 88.13 27 P **P** **23 20 37.1 +1.2**
baz=280,SNR=21
N30M Aishikik Lake 88.18 28 P **P** **23 20 36.2 -0.1**
N30M Aishikik Lake 88.18 28 P **P** **23 20 37.2 +0.9**
baz=280,SNR=13
KMBO Kilima Mbogo 88.25 269 P **P** **23 20 37.8 0.0**
KMBO Kilima Mbogo 88.25 269 P **P** **23 20 37.9 +0.1**
comp=Z,2.1nm,0.8s,baz=56,slow=4.2,SNR=9.3
comp=Z,2.1nm,0.8s
MAYO Mayo, Yukon 88.36 26 P **P** **23 20 37.5 +0.5**
MAYO IAmb IAmb 23 20 40.1
comp=Z,58nm,0.8s
MAYO Mayo, Yukon 88.36 26 P **P** **23 20 37.4 +0.5**
baz=281
INK Inuvik 88.36 21 P **P** **23 20 36.8 0.0**
INK IAmb IAmb 23 20 38.1
comp=Z,58nm,1.1s
INK Inuvik 88.36 21 P **P** **23 20 36.8 0.0**
INK pmax pmax
comp=Z,58nm,1.1s
INK Inuvik 88.36 21 P **P** **23 20 37.1 +0.3**
baz=283,SNR=54
G31M Satah River 88.37 23 P **P** **23 20 36.3 -0.6**
G31M IAmb IAmb 23 20 38.2
comp=Z,80nm,0.9s
G31M Satah River 88.37 23 P **P** **23 20 37.1 +0.1**
baz=282,SNR=58
F31M Tsiigehtchic 88.47 22 P **P** **23 20 36.9 -0.5**
F31M IAmb IAmb 23 20 38.5
comp=Z,83nm,1.1s
F31M Tsiigehtchic 88.47 22 P **P** **23 20 37.5 +0.1**
baz=282,SNR=50
P30M Million Dollar 88.47 30 P **P** **23 20 37.7 +0.1**
baz=280
H31M Peel River 88.58 24 P **P** **23 20 37.5 -0.5**
H31M IAmb IAmb 23 20 40.0
comp=Z,67nm,1.1s
H31M Peel River 88.58 24 P **P** **23 20 38.2 +0.2**
baz=282
O30N Mendenhall 88.78 29 P **P** **23 20 39.2 +0.1**
O30N Mendenhall 88.78 29 P **P** **23 20 40.1 +1.1**
baz=280,SNR=5.2
N31M Braeburn, Yuko 88.80 28 P **P** **23 20 39.1 0.0**
N31M IAmb IAmb 23 20 42.0
comp=Z,57nm,0.9s
N31M Braeburn, Yuko 88.80 28 P **P** **23 20 40.3 +1.2**
baz=281,SNR=15
PLBC Pleasant Camp 88.88 30 P **P** **23 20 40.4 +0.9**
baz=280
FIA1 FINESS Array S 89.02 332 **P** **23 20 39.1 -1.0**
FINES FINESS Array B 89.02 332 P **P** **23 20 38.4 -1.6**
FINES FINESS Array B 89.02 332 P **P** **23 20 38.1 -2.0**
comp=Z,3.3nm,0.6s,baz=92,slow=3.6,SNR=18
FINES LR LR 00 02 55.6
comp=Z,350nm,22.0s,baz=72,slow=37
comp=Z,3.3nm,0.6s
FINES FINESS Array B 89.02 332 *i* P **P** **23 20 38.5 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 89.12 321 P **P** **23 20 38.9 -1.9**
AKASG Malin Array Be 89.12 321 P **P** **23 20 39.1 -1.7**
comp=Z,2.6nm,0.8s,baz=70,slow=4.4,SNR=11
AKASG LR LR 00 04 59.6
comp=Z,115nm,18.2s,baz=71,slow=38
comp=Z,2.6nm,0.8s
AKBB Malin Array Si 89.12 321 P **P** **23 20 39.2 -1.6**
AKBB Malin Array Si 89.12 321 P **P** **23 20 39.2 -1.6**
AKBB pmax pmax
comp=Z,16nm,1.1s
KIEV Kiev 89.14 321 P **P** **23 20 39.1 -1.8**
KIEV Kiev 89.14 321 ⇓P **P** **23 20 39.6 -1.2**
KIEV Kiev 89.14 321 P **P** **23 20 39.6 -1.2**
AK05 Malin Array Si 89.15 321 P **P** **23 20 39.5 -1.5**
S31K Pelican 89.22 32 P **P** **23 20 42.0 +1.0**
baz=280
M31M Drury Creek, Y 89.30 27 P **P** **23 20 40.8 -0.7**
M31M Drury Creek, Y 89.30 27 P **P** **23 20 42.2 +0.8**
baz=282,SNR=8.3
MNK Minsk 89.33 325 *i* P **P** **23 20 39.4 -2.3**
MNK *i* *PP **pP** **23 21 06.3 -1.2**
MNK *i* 23 24 17.4
MNK *i* S **SKSac** **23 30 59.4 -3.5**
MNK *i* SS **SS** **23 37 12.2 -7.5**

MNK *i* SSS SSS 23 40 55.1
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=E,612nm,25.0s
MNK MLR MLR
comp=Z,418nm,21.0s
MNK MLR MLR
comp=N,407nm,23.0s
WHY Whitehorse 89.39 29 P **P 23 20 42.6 +0.6**
WHY Whitehorse 89.39 29 P **P 23 20 43.0 +1.0**
baz=282,SNR=16
SKAG Skagway 89.40 30 P **P 23 20 41.7 -0.2**
SKAG Skagway 89.40 30 P **P 23 20 43.6 +1.7**
SKAG Skagway 89.40 30 P **P 23 20 43.1 +1.2**
baz=281,SNR=6.5
LODK Lodwar 89.65 273 **P 23 20 44.0 -0.1**
LODK Lodwar 89.65 273 P pP 23 21 08.1 -1.9
SNR=6.0
FARO Faro, Yukon 89.77 27 P **P 23 20 43.8 +0.1**
FARO IAmb IAmb 23 20 45.7
comp=Z,72nm,0.9s
FARO Faro, Yukon 89.77 27 P **P 23 20 44.8 +1.1**
baz=283,SNR=36
BESE Bessie Mountai 89.82 31 P **P 23 20 42.8 -1.2**
BESE IAmb IAmb 23 20 47.0
comp=Z,76nm,1.5s
BORA Eskisehir 89.82 310 P **P 23 20 43.2 -1.3**
SIT Sitka 89.87 33 P **P 23 20 45.2 +1.1**
baz=281
A36M Sachs Harbour 90.03 17 P **P 23 20 43.7 -0.8**
A36M Sachs Harbour 90.03 17 P **P 23 20 44.8 +0.2**
baz=290
R32K Eaglecrest 90.05 31 P **P 23 20 45.8 +0.8**
baz=282
JIS Juneau Island 90.12 31 P **P 23 20 46.5 +1.2**
N32M Quiet Lake 90.14 28 P **P 23 20 45.9 +0.5**
N32M Quiet Lake 90.14 28 P **P 23 20 46.4 +1.0**
baz=283
P32M Atlin 90.18 30 P **P 23 20 46.0 +0.3**
P32M Atlin 90.18 30 P **P 23 20 46.5 +0.9**
baz=283
S32K Killisnoo 90.19 32 P **P 23 20 46.9 +1.3**
baz=282
P33M Teslin, Yukon 90.48 29 P **P 23 20 47.1 0.0**
P33M Teslin, Yukon 90.48 29 P **P 23 20 48.1 +1.0**
baz=283,SNR=9.5
NOR Nord 90.51 355 P **P 23 20 46.3 -0.4**
NOR pmax pmax
comp=Z,12nm,1.1s
NOR Nord 90.51 355 *e*P P 23 20 36.9 -10
NOR IAmb IAmb 23 20 46.7
comp=Z,38nm,1.7s
MMPY Sheldon Lake, 90.62 27 P **P 23 20 47.9 +0.2**
MMPY IAmb IAmb 23 20 50.0
comp=Z,38nm,1.0s
MMPY Sheldon Lake, 90.62 27 P **P 23 20 48.9 +1.2**
baz=285,SNR=17
NDNU Novodnistrovsk 90.66 319 P **P 23 20 48.4 +0.4**
ELL Elmali 90.69 307 P **P 23 20 48.4 -0.2**
ELL Elmali 90.69 307 P **P 23 20 48.4 -0.2**
ELL pmax pmax
comp=Z,104nm,1.2s
CFR Carcaliu 90.72 315 ⇑P **P 23 20 48.6 +0.2**
CFR Carcaliu 90.72 315 P **P 23 20 48.5 +0.2**
Q32M Nakina River 91.05 30 P **P 23 20 48.6 -1.3**
Q32M IAmb IAmb 23 20 53.3
comp=Z,103nm,1.9s
Q32M Nakina River 91.05 30 P **P 23 20 50.9 +1.0**
baz=284
RNPP5 Staryi Chortor 91.11 322 P **P 23 20 49.7 -0.4**
U33K Whale Pass 91.26 33 P **P 23 20 50.7 +0.1**
U33K Whale Pass 91.26 33 P **P 23 20 50.7 +0.1**
baz=283
C36M Paulatuk 91.33 19 P **P 23 20 50.0 -0.7**
C36M IAmb IAmb 23 20 52.0
comp=Z,62nm,1.4s
C36M Paulatuk 91.33 19 P **P 23 20 50.7 0.0**
baz=291
PABE Paberze 91.34 326 P **P 23 20 50.4 -0.7**
ODBI Odobesti 91.37 316 P **P 23 20 51.6 +0.2**
comp=Z,7.2nm,0.8s
CRAG Craig 91.40 34 P **P 23 20 52.5 +1.2**
baz=283
MANT Manisa 91.48 309 P **P 23 20 51.0 -1.4**
TESR Tescani 91.51 317 ⇑P **P 23 20 51.6 -0.4**
VRI Vrincioaia 91.58 316 ⇑P **P 23 20 52.0 -0.5**
VRI Vrincioaia 91.58 316 P **P 23 20 51.9 -0.5**
VRI Vrincioaia 91.58 316 P **P 23 20 52.5 +0.1**
comp=Z,16nm,1.1s
R33M Jennings River 91.59 30 P **P 23 20 51.7 -0.6**
R33M Jennings River 91.59 30 P **P 23 20 53.6 +1.3**
baz=285
WRAK Wrangell Islan 91.61 33 P **P 23 20 51.8 -0.5**
WRAK IAmb IAmb 23 21 09.5
comp=Z,38nm,0.9s
WRAK Wrangell Islan 91.61 33 P **P 23 20 53.3 +1.1**
baz=284
PLOR Plostina 91.63 316 ⇑P **P 23 20 52.8 +0.1**
PLOR Plostina 91.63 316 P **P 23 20 52.7 +0.1**
PLOR3 Plostina Array 91.63 316 P **P 23 20 52.7 0.0**
comp=Z,7.2nm,1.9s
BISRR Bisoca 91.64 316 ⇓P **P 23 20 52.5 -0.3**
BISRR Bisoca 91.64 316 P **P 23 20 52.7 -0.1**
S34M Telegraph Cree 91.89 31 P **P 23 20 53.2 -0.3**
S34M IAmb IAmb 23 20 56.0
comp=Z,29nm,1.1s
S34M Telegraph Cree 91.89 31 P **P 23 20 55.1 +1.5**
baz=285,SNR=7.6
SUW Suwalki 92.13 325 **P 23 20 54.8 +0.1**
SUW Suwalki 92.13 325 P **P 23 20 54.8 +0.1**
SUW pmax pmax
comp=Z,66nm,1.0s
MLR Muntele Rosu 92.18 316 P **P 23 20 53.7 -1.6**
MLR Muntele Rosu 92.18 316 LR LR 00 07 42.6
comp=Z,277nm,20.8s,baz=62,slow=39
MLR Muntele Rosu 92.18 316 ⇑P **P 23 20 54.7 -0.6**
MLR Muntele Rosu 92.18 316 P **P 23 20 54.7 -0.6**
BURAR Bucovina Array 92.26 318 P **P 23 20 54.9 -0.7**
BURAR Bucovina Array 92.26 318 ⇓P **P 23 20 54.4 -1.3**
BURAR Bucovina Array 92.26 318 P **P 23 20 54.3 -1.3**
V35K Ketchikan 92.27 34 P **P 23 20 56.6 +1.3**
baz=284
TGTN Hyland Airport 92.28 27 P **P 23 20 56.5 +1.1**
baz=287
DLBC Dease Lake 92.31 31 P **P 23 20 54.0 -1.5**
DLBC IAmb IAmb 23 20 58.2
comp=Z,42nm,1.2s
DLBC Dease Lake 92.31 31 LR LR 23 57 58.7
comp=Z,142nm,21.2s,baz=289,slow=32
DLBC Dease Lake 92.31 31 P **P 23 20 56.9 +1.3**
baz=286,SNR=7.5
EUNU Eureka 92.35 5 P **P 23 20 54.4 -1.0**
EUNU IAmb IAmb 23 21 29.5
comp=Z,26nm,1.1s
WTLY Watson Lake, Y 92.45 29 P **P 23 20 56.1 -0.1**
WTLY Watson Lake, Y 92.45 29 P **P 23 20 57.5 +1.4**
baz=287
T35M Bob Quinn 92.59 32 P **P 23 20 55.3 -1.5**
T35M IAmb IAmb 23 20 59.3
comp=Z,53nm,1.4s
T35M Bob Quinn 92.59 32 P **P 23 20 58.1 +1.3**
baz=286,SNR=6.0
VOIR 92.81 316 ⇑P **P 23 20 57.5 -0.8**
VOIR 92.81 316 P **P 23 20 57.4 -0.8**
ALN Alexandroupoli 92.98 311 P **P 23 20 57.8 -1.1**
ALN Alexandroupoli 92.98 311 P **P 23 20 57.8 -1.1**
ALN pmax pmax
comp=Z,24nm,1.7s
U35K Hyder 92.99 33 P **P 23 21 00.1 +1.4**
baz=286
ARR Arges 93.11 316 ⇑P **P 23 20 59.8 +0.2**
LOT Lotru 93.69 316 ⇓P **P 23 21 01.6 -0.7**
WRGLY Wrigley 93.82 25 P **P 23 21 01.7 -0.6**
WRGLY IAmb IAmb 23 21 04.2
comp=Z,47nm,1.0s
WRGLY Wrigley 93.82 25 P **P 23 21 03.0 -0.7**
baz=292
KOLS Kolonicke sedl 93.88 320 *e*P P 23 21 09.8 +6.8
KOLS *e* 23 24 52.5
KOLS Kolonicke sedl 93.88 320 *e*P P 23 21 09.8 +6.8
KOLS *e*PP **PP 23 24 52.5 +2.9**
DRGR 94.11 318 ⇓P **P 23 21 03.0 -1.2**
DRGR 94.11 318 P **P 23 21 02.9 -1.2**
SYO Syowa Base 94.24 201 ⇑*e*P **P 23 21 04.0 0.0**
SYO Syowa Base 94.24 201 ⇓*e*PcP **PcP 23 21 06.0 +1.6**
GZR Gura Zlata 94.39 316 ⇓P **P 23 21 04.6 -0.9**
GZR Gura Zlata 94.39 316 P **P 23 21 04.5 -0.9**
TOAD Toad River Com 94.57 29 P **P 23 21 06.4 +0.5**
baz=290
DAG Danmarks Havn 94.63 352 P **P 23 21 04.3 -1.5**
DAG pmax pmax
comp=Z,17nm,1.5s
DAG Danmarks Havn 94.63 352 *i*P **P 23 21 03.4 -2.3**
DAG IAmb IAmb 23 21 06.7
comp=Z,26nm,1.5s
KOTAN Kotaneelee Air 94.69 28 P **P 23 21 06.8 +0.4**
baz=291
SURR Surduc 94.75 317 ⇓P **P 23 21 07.2 +0.2**
SIRR Siria 94.94 317 ⇑P **P 23 21 06.8 -1.0**
IDI Anoyia 94.94 306 LR LR 00 12 17.8
comp=Z,50nm,18.0s,baz=80,slow=41
BBB Bella Bella 95.12 36 LR LR 23 58 16.9
comp=Z,73nm,21.3s,baz=294,slow=32
HFS Hagfors 95.20 332 P **P 23 21 06.8 -1.9**
comp=Z,2.9nm,0.9s,baz=90,slow=12,SNR=5.6
HFS LR LR 00 07 21.4
comp=Z,309nm,19.6s,baz=64,slow=37
comp=Z,2.9nm,0.9s
MDVR Moldovita 95.26 316 ⇑P **P 23 21 08.1 -1.3**
TAOE Nuku Hiva Isla 95.35 98 *e*LR LR 23 52 01.3
comp=Z,816nm,25.0s
RES Resolute Bay 95.62 10 P **P 23 21 09.8 -0.5**
RES Resolute Bay 95.62 10 LR LR 00 04 59.5
comp=Z,86nm,21.8s,baz=3.0,slow=36
RES Resolute Bay 95.62 10 P **P 23 21 09.8 -0.5**
RES pmax pmax
comp=Z,14nm,1.1s
PSZ Piszkesteto 95.68 319 P **P 23 21 10.7 -0.6**
PSZ Piszkesteto 95.68 319 P **P 23 21 10.7 -0.6**
PSZ pmax pmax
comp=Z,12nm,1.3s
NC405 NORSAR Array S 95.72 333 P **P 23 21 10.3 -0.8**
LIT Litokhoron 95.80 311 P **P 23 21 09.8 -2.2**
LIT Litokhoron 95.80 311 P **P 23 21 09.8 -2.2**
LIT pmax pmax
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 95.97 333 P **P 23 21 09.6 -2.7**
comp=Z,5.7nm,0.9s,baz=66,slow=4.6
NB2 NORSAR Subarra 95.97 333 P **P 23 21 09.6 -2.7**
baz=66,slow=4.6
NOA NORSAR Array B 95.97 333 P **P 23 21 10.3 -2.0**
comp=Z,2.1nm,0.7s,baz=65,slow=4.6,SNR=9.4
NOA LR LR 00 07 17.8
comp=Z,330nm,21.2s,baz=60,slow=37
comp=Z,2.1nm,0.7s
QSPA South Pole Qui 96.11 180 P **P 23 21 12.7 -0.1**
QSPA IAmb IAmb 23 22 00.1
comp=Z,19nm,1.1s
QSPA South Pole Qui 96.11 180 P **P 23 21 13.1 +0.3**
comp=Z,4.8nm,0.9s,baz=330,slow=3.3,SNR=17
QSPA LR LR 00 04 28.1
comp=Z,196nm,20.4s,baz=348,slow=35
comp=Z,4.8nm,0.9s
NEEM North Greenlan 96.44 359 *i*P P 23 21 07.2 -7.2
NEEM IAmb IAmb 23 21 16.4
comp=Z,21nm,1.1s
DBG Daneborg 96.88 351 *i*P P 23 21 21.2 +5.1
DBG IAmb IAmb 23 21 24.6
comp=Z,8.3nm,0.9s
JMIC Jan Mayen 97.14 346 LR LR 00 09 35.5
comp=Z,116nm,19.6s,baz=30,slow=38
YKA Yellowknife Ar 97.80 24 P Pdif 23 21 20.8 +0.3
comp=Z,17nm,0.9s,baz=300,slow=4.9,SNR=167
YKA pP pP 23 21 47.1 +0.8
comp=Z,5.5nm,0.8s,baz=298,slow=4.9,SNR=3.8
YKA PKKPbc **PKKPbc 23 37 53.8 -3.7**
comp=Z,0.5nm,0.8s,baz=126,slow=2.1,SNR=6.3
YKA LR LR 00 08 55.3
comp=Z,50nm,19.9s,baz=286,slow=37
comp=Z,17nm,0.9s
BRG Berggiesshubel 98.45 323 P PKiKP 23 26 05.4 +10
BRG Amp 23 26 07.0
comp=Z,12nm,1.3s
LSZ Lusaka 98.52 256 LR LR 00 05 27.2
comp=Z,72nm,18.5s,baz=106,slow=35
PGC Sidney 99.07 39 P **Pdif 23 21 25.5 -0.9**
PGC IAmb IAmb 23 21 28.0
comp=Z,19nm,1.3s
NLWA Neilton Lookou 99.24 40 P **Pdif 23 21 26.2 -1.0**
NLWA IAmb IAmb 23 21 29.8
comp=Z,21nm,1.1s
LLLB Lillooet 99.33 37 P **Pdif 23 21 27.8 +0.2**
LLLB IAmb IAmb 23 21 29.8
comp=Z,16nm,1.0s
ELIB Princess Elisa 99.60 198 *d*Pdif **Pdif 23 21 28.3 -0.1**
GNW Green Mountain 99.84 40 Pdif **Pdif 23 21 30.1 +0.2**
GNW IAmb IAmb 23 21 32.3
comp=Z,15nm,1.1s
SUMG Summit 100.67 355 *i*P **Pdif 23 21 33.5 0.0**
SUMG IAmb IAmb 23 21 34.6
comp=Z,12nm,1.4s
RKT Rikitea 101.27 112 *e*LR LR 23 54 46.5
comp=Z,1μm,28.2s
B08A Colville Reser 101.72 38 Pdif **Pdif 23 21 38.3 0.0**
MXC Moxie City 101.81 40 Pdif **Pdif 23 21 39.2 +0.5**
J04A Umpqua Nationa 101.82 44 Pdif **Pdif 23 21 38.1 -1.0**
L04D Klamath Falls 102.03 45 Pdif **Pdif 23 21 39.2 -0.7**
J05D Fort Rock, OR 102.40 43 Pdif **Pdif 23 21 42.2 +0.6**
PINE Pine Mountain 102.42 43 Pdif **Pdif 23 21 42.1 +0.3**
D08A Wollman Farm, 102.50 39 Pdif **Pdif 23 21 42.4 +0.7**
NEW Newport 103.11 37 Pdif **Pdif 23 21 45.0 +0.6**
NEW Newport 103.11 37 P **Pdif 23 21 45.7 +1.2**
NEW pmax pmax
comp=Z,10.0nm,1.3s
E09A Wood Farm, Sta 103.20 39 Pdif **Pdif 23 21 45.2 +0.4**
NVAR Mina Array Bea 106.24 47 Pdiff **Pdif 23 21 59.0 +0.1**
comp=Z,2.4nm,0.9s,baz=289,slow=5.6,SNR=7.6
NVAR PKKPab **PKKPdf 23 37 45.3 +1.7**
comp=Z,0.8nm,0.7s,baz=109,slow=3.8,SNR=4.4
PDAR Pinedale Array 110.36 40 Pdiff **Pdif 23 22 18.9 +1.7**
comp=Z,0.6nm,1.0s,baz=298,slow=8.8,SNR=2.6
PDAR PKiKP **PKiKP 23 26 17.5 -0.2**
comp=Z,1.0nm,0.9s,baz=289,slow=2.4,SNR=3.9
PDAR PKKPab **PKKPab 23 37 26.6 -3.9**
comp=Z,1.1nm,0.8s,baz=98,slow=2.2,SNR=10
ULM Lac du Bonnet 113.42 27 PKiKP **PKiKP 23 26 22.1 -0.9**
comp=Z,7.0nm,0.9s,baz=268,slow=2.0,SNR=9.9
ESDC Sonseca Array 114.71 319 PKKPab PKKPab 23 37 09.8 -1.2
comp=Z,0.5nm,0.7s,baz=244,slow=3.3,SNR=7.0
ANMO Albuquerque 116.32 46 PKPdf **PKiKP 23 26 30.7 +1.5**
ANMO Albuquerque 116.32 46 PKIKP **PKiKP 23 26 30.7 +1.5**
Y22D IRIS PASSCAL I 116.41 47 P **PKiKP 23 26 29.7 +0.3**
baz=299
BNM Barren Site 116.58 47 PKPdf **PKiKP 23 26 30.1 +0.3**
T25A Trinidad 116.64 43 **PKiKP 23 26 30.8 +0.9**
SCHQ Schefferville 118.33 8 PKP **PKPdf 23 26 31.9 -0.3**
comp=Z,5.8nm,0.5s,baz=326,slow=1.7,SNR=28
TORD Torodi Ar. Bea 120.85 289 PKPdf **PKPdf 23 26 37.1 -1.1**
TORD Torodi Ar. Bea 120.85 289 PKP **PKPdf 23 26 35.9 -2.3**
comp=Z,2.8nm,0.8s,baz=61,slow=2.0,SNR=4.2
TORD PKKPab **PKKPab 23 36 43.4 -0.5**
comp=Z,2.8nm,0.9s,baz=256,slow=3.0,SNR=3.9
TXAR Lajitas Array 121.11 50 PKP **PKiKP 23 26 38.9 +0.3**
comp=Z,4.0nm,0.8s,baz=304,slow=2.6,SNR=24
TXAR PKKPab **PKKPbc 23 36 41.4 -0.3**
comp=Z,0.3nm,0.7s,baz=116,slow=8.0,SNR=3.5
TXAR Lajitas Array 121.11 50 PKIKP **PKiKP 23 26 39.0 +0.4**
CSTR Hydro, Custer 121.30 42 PKPdf **PKiKP 23 26 38.9 +0.2**
SN05 Snyder 5 121.36 45 PKPdf **PKiKP 23 26 39.0 +0.1**
E46A Sault Ste Mari 121.37 24 PKPdf **PKPdf 23 26 38.5 +0.1**
BLOK Blackwell 121.58 40 **PKiKP 23 26 39.7 +0.5**
APMT Aspermont 121.65 45 PKPdf **PKiKP 23 26 39.9 +0.4**
SGCY Sterling City 121.70 46 PKPdf **PKPdf 23 26 39.2 -0.3**
WMOK Wichita Mounta 121.77 42 **PKPdf 23 26 39.4 -0.1**
WMOK Wichita Mounta 121.77 42 PKIKP **PKPdf 23 26 39.4 -0.1**
T35A Sooner Cattle 121.93 39 PKPdf **PKiKP 23 26 40.4 +0.5**
OK048 Pawnee Station 121.97 40 PKPdf **PKPdf 23 26 39.6 -0.2**
SAND Sanderson 121.97 49 PKPdf **PKiKP 23 26 40.5 +0.2**
OK051 E0350 and S346 121.98 40 PKPdf **PKPdf 23 26 39.4 -0.5**
OZNA Ozona 122.22 47 PKPdf **PKPdf 23 26 40.2 -0.3**
OKCSW OKLAHOMA CITY 122.26 41 PKPdf **PKiKP 23 26 40.6 0.0**
QUOK Quay 122.27 40 **PKiKP 23 26 40.6 0.0**
OK052 Battle Ridge R 122.31 40 **PKiKP 23 26 41.1 +0.5**
OK031 S. Brethren Rd 122.32 40 PKPdf **PKPdf 23 26 40.3 -0.2**
ABTX Abilene, Hawle 122.37 45 PKPdf **PKPdf 23 26 40.4 -0.3**
FNO Franklin 122.38 41 PKPdf **PKiKP 23 26 41.4 +0.6**
X34A Smith Ranch, M 122.48 42 PKPdf **PKiKP 23 26 41.4 +0.4**
WTFS Witchita Falls 122.54 43 PKPdf **PKiKP 23 26 41.8 +0.7**
WTFS pPKPdf **pPKPdf 23 27 05.2 -2.8**
DEOK Depew 122.60 40 **PKiKP 23 26 41.7 +0.4**
DEOK pPKPdf **pPKPdf 23 27 05.9 -2.2**
W35A Tecumseh 122.78 41 pPKPdf pPKPdf 23 27 06.3 -2.2
P40A Paris 122.85 34 pPKPdf pPKPdf 23 27 06.0 -2.5
TUL3 Leonard 123.01 40 pPKPdf pPKPdf 23 27 06.7 -2.2
PLPT Palo Pinto 123.19 44 PKPdf **PKiKP 23 26 42.5 0.0**
PLPT pPKPdf **pPKPdf 23 27 07.2 -2.2**
U38A Gravette 123.55 38 pPKPdf pPKPdf 23 27 06.8 -3.2
BRDY Brady 123.56 46 PKPdf **PKPdf 23 26 43.0 -0.1**
BRDY pPKPdf **pPKPdf 23 27 07.6 -2.5**
R40A Maddies Statio 123.58 35 pPKPdf pPKPdf 23 27 06.8 -3.1
HDIL Hopedale 123.60 31 pPKPdf pPKPdf 23 27 06.6 -3.4
M44A Midewin, Midew 123.61 30 pPKPdf pPKPdf 23 27 06.6 -3.3
Z35A Perchaven, San 123.62 43 PKPdf **PKiKP 23 26 43.5 +0.2**
FW07 Weatherford 123.62 44 PKPdf **PKiKP 23 26 44.9 +0.7**
J47A Sumner 123.68 26 pPKPdf pPKPdf 23 27 07.1 -2.9
HHAR Hobbs 123.93 38 pPKPdf pPKPdf 23 27 07.1 -3.6
P43A Skaggs, Pawnee 124.15 32 pPKPdf pPKPdf 23 27 08.6 -2.4
WHTX Lake Whitney, 124.25 44 PKPdf **PKiKP 23 26 45.5 +0.9**
HNDO Hondo 124.31 48 PKPdf **PKiKP 23 26 45.5 +0.7**
CCM Cathedral Cave 124.33 35 PKPdf **PKiKP 23 26 44.7 +0.1**
CCM Cathedral Cave 124.33 35 PKIKP **PKiKP 23 26 44.7 +0.1**
SADO Sadowa 124.67 21 PKPdf **PKPdf 23 26 44.1 -0.6**
LMQ La Malbaie 124.70 13 PKPdf **PKPdf 23 26 44.7 0.0**
FVM French Village 124.84 34 pPKPdf pPKPdf 23 27 09.5 -2.9
SFIN Lafayette 124.84 30 pPKPdf pPKPdf 23 27 09.8 -2.5
435B Jarrell 124.85 46 PKPdf **PKiKP 23 26 46.0 +0.1**
TRQ Mont Tremblant 124.86 17 **PKPdf 23 26 44.9 -0.3**
833A Chaparral WMA, 124.86 49 PKPdf **PKiKP 23 26 46.0 +0.1**
AAM Ann Arbor 124.94 26 PKPdf **PKPdf 23 26 45.3 0.0**
AAM Ann Arbor 124.94 26 PKIKP **PKPdf 23 26 45.3 0.0**
Q44A Meyer Farm, Va 124.95 33 PKPdf **PKPdf 23 26 45.2 -0.2**
ZAIG Zacatecas 124.98 57 PKPdf **PKiKP 23 26 46.8 +0.1**
T42A Van Buren 125.12 36 pPKPdf pPKPdf 23 27 10.2 -2.7
N47A Urbana 125.14 29 pPKPdf pPKPdf 23 27 09.5 -3.4
OTT Ottawa 125.26 18 PKIKP **PKPdf 23 26 44.6 -1.2**
MIAR Mount Ida 125.28 39 pPKPdf pPKPdf 23 27 10.9 -2.4
FCAR Ozark Folk Cen 125.29 37 pPKPdf pPKPdf 23 27 10.4 -2.9
P46A Rosedale 125.37 31 pPKPdf pPKPdf 23 27 10.8 -2.6
D62A Allapoint, All 125.42 12 pPKPdf pPKPdf 23 27 09.8 -3.2
OLIL Olney 125.56 32 pPKPdf pPKPdf 23 27 11.0 -2.7
PBMO Poplar Bluff 125.68 35 pPKPdf pPKPdf 23 27 11.5 -2.5
SIUC Southern Illin 125.70 34 **PKiKP 23 26 47.6 +0.3**
SIUC pPKPdf **pPKPdf 23 27 11.7 -2.3**
WBO Williamsburg 125.75 18 **PKPdf 23 26 46.9 +0.1**
WBO pPKPdf **pPKPdf 23 27 11.4 -2.3**
CGM3 Cape Girardeau 125.75 34 **PKPdf 23 26 47.0 0.0**
CGM3 pPKPdf **pPKPdf 23 27 11.5 -2.6**
HKT Hockley 126.57 45 PKIKP **PKPdf 23 26 48.5 -0.2**
WCI Wyandotte Cave 126.88 31 PKPdf **PKiKP 23 26 49.8 +0.1**
WCI Wyandotte Cave 126.88 31 PKIKP **PKiKP 23 26 49.8 +0.1**
WVT Waverly 127.61 34 PKPdf **PKPdf 23 26 50.9 +0.3**
WVT Waverly 127.61 34 PKIKP **PKPdf 23 26 50.9 +0.3**
R50A Paris 127.83 30 **PKPdf 23 26 51.0 0.0**
R50A pPKPdf **pPKPdf 23 27 15.3 -2.8**
143A Socs Landing, 127.85 40 PKPdf **PKiKP 23 26 51.6 -0.1**
143A pPKPdf **pPKPdf 23 27 15.8 -2.4**
BINY Binghamton 128.03 20 pPKPdf pPKPdf 23 27 15.9 -2.2
SSFO Shawnee State 128.05 28 **PKPdf 23 26 51.0 -0.4**
SSFO pPKPdf **pPKPdf 23 27 16.3 -2.3**
J61A Chester 128.06 17 PKPdf **PKPdf 23 26 51.5 +0.2**
Y45A Yeager Farm, C 128.22 37 PKPdf **PKiKP 23 26 53.2 +0.7**
P53A Whipple 128.23 26 pPKPdf pPKPdf 23 27 16.8 -2.1
GBN Guysborough 128.24 6 PKPdf **PKiKP 23 26 52.1 0.0**
Q52A Bidwell 128.26 27 pPKPdf pPKPdf 23 27 16.3 -2.7
TRY Troy 128.30 18 **PKiKP 23 26 52.8 +0.5**
PLAL Pickwick Lake 128.30 35 PKPdf **PKiKP 23 26 52.4 -0.2**
PLAL pPKPdf **pPKPdf 23 27 16.8 -2.3**
U49A Red Boiling Sp 128.44 32 **PKPdf 23 26 52.1 -0.1**
U49A pPKPdf **pPKPdf 23 27 16.6 -2.7**
T50A Nancy 128.55 31 **PKiKP 23 26 53.1 +0.1**
T50A pPKPdf **pPKPdf 23 27 16.9 -2.6**
KSPA Keystone Colle 128.67 20 pPKPdf pPKPdf 23 27 16.3 -3.1
S51A Beattyville 128.69 30 **PKPdf 23 26 52.7 0.0**
S51A pPKPdf **pPKPdf 23 27 17.1 -2.7**
SSPA Standing Stone 128.71 23 PKPdf **PKiKP 23 26 53.2 -0.1**
SSPA pPKPdf **pPKPdf 23 27 17.2 -2.2**
DBIC Dimbokro 128.71 284 PKP **PKiKP 23 26 54.0 0.0**
comp=Z,5.8nm,1.0s,baz=59,slow=5.9,SNR=4.3
DBIC Dimbokro 128.71 284 PKIKP **PKiKP 23 26 54.0 0.0**
MCWV Mont Chateau 128.75 25 **PKPdf 23 26 53.1 +0.4**
KSCT Kent School, K 129.27 18 PKPdf **PKiKP 23 26 54.2 -0.1**
X48A Hartselle 129.27 35 **PKPdf 23 26 53.9 +0.1**
SWET Sewanee 129.33 33 **PKPdf 23 26 53.6 -0.4**
SWET pPKPdf **pPKPdf 23 27 18.1 -3.0**
146A Union 129.36 38 PKPdf **PKPdf 23 26 53.7 -0.4**
146A pPKPdf **pPKPdf 23 27 19.9 -1.3**
ODNJ Ogdensburg 129.49 20 **PKPdf 23 26 53.8 -0.2**
Q56A Snyder Ridge, 129.55 25 **PKPdf 23 26 54.5 +0.2**
Q56A pPKPdf **pPKPdf 23 27 18.1 -3.3**
Z47A Carrollton 129.57 37 PKPdf **PKPdf 23 26 54.4 -0.1**
TZTN Tazewell 129.57 30 **PKPdf 23 26 54.4 0.0**
TZTN pPKPdf **pPKPdf 23 27 19.3 -2.2**
S54A Dingess, Beckl 129.65 28 PKPdf **PKPdf 23 26 54.4 -0.1**
P57A Homestead Farm 129.65 24 PKPdf **PKPdf 23 26 54.5 +0.1**
P57A pPKPdf **pPKPdf 23 27 18.8 -2.8**
W50A Signal Mountai 129.68 33 **PKPdf 23 26 54.4 -0.2**
W50A pPKPdf **pPKPdf 23 27 19.4 -2.4**
R55A Marlinton 129.78 26 PKPdf **PKiKP 23 26 55.9 +0.3**
PAL Palisades 129.79 19 PKPdf **PKiKP 23 26 55.4 0.0**
PAL Palisades 129.79 19 PKIKP **PKiKP 23 26 55.4 0.0**
MVL Millersville 129.84 22 PKPdf **PKiKP 23 26 55.5 -0.1**
MVL pPKPdf **pPKPdf 23 27 19.5 -2.1**
FPAL Fort Paine 130.01 34 **PKPdf 23 26 55.2 -0.1**
LRAL Lakeview Retre 130.32 36 PKPdf **PKiKP 23 26 56.5 -0.2**
W52A Murphy 130.50 32 PKPdf **PKPdf 23 26 56.4 +0.2**
BLA Blacksburg 130.53 27 PKPdf **PKPdf 23 26 55.8 -0.4**
BLA Blacksburg 130.53 27 PKIKP **PKPdf 23 26 55.8 -0.4**
V53A Saluda 130.62 30 PKPdf **PKPdf 23 26 56.1 -0.4**
CBN Corbin Frederi 131.00 24 PKPdf **PKPdf 23 26 57.4 +0.4**
BG3 Lake Jocassee 131.09 31 PKPdf **PKiKP 23 26 58.0 -0.3**
T57A Hurt 131.23 26 PKPdf **PKPdf 23 26 57.5 0.0**
U56A King 131.26 28 PKPdf **PKPdf 23 26 56.6 -1.0**
Y52A Lilburn 131.36 33 PKPdf **PKiKP 23 26 59.6 +0.8**
Y52A pPKPdf **pPKPdf 23 27 23.3 -1.7**
250A Grady 131.50 37 PKPdf **PKiKP 23 26 59.0 -0.1**
250A pPKPdf **pPKPdf 23 27 23.5 -1.7**
PAULI Pauline 131.79 30 pPKPdf pPKPdf 23 27 23.8 -1.9
GOGA Godfrey 132.03 33 PKPdf **PKPdf 23 26 59.6 +0.5**
GOGA pPKPdf **pPKPdf 23 27 24.1 -2.1**
GOGA Godfrey 132.03 33 PKIKP **PKPdf 23 26 59.6 +0.5**
PLCA Paso Flores 142.79 160 PKP **PKPdf 23 27 16.6 -2.2**
comp=Z,7.3nm,0.8s,baz=248,slow=3.8,SNR=11
PLCA SKPbc **SKPbc 23 30 47.9 -0.3**
comp=Z,20nm,0.8s,baz=200,slow=5.7,SNR=13
PLCA Paso Flores 142.79 160 PKIKP **PKPdf 23 27 17.2 -1.6**
JTS Las Juntas de 145.63 62 PKIKP **PKPdf 23 27 22.9 -1.5**
HDC Heredia 146.50 61 *e*P **PKPbc 23 27 27.9 +0.4**
TRQA Tornquist 147.61 169 **PKPbc 23 27 30.2 +0.4**
TRQA Tornquist 147.61 169 PKP2 **PKPbc 23 27 30.2 +0.4**
PEL Peldehue 149.33 153 PKHKP PKPpre 23 27 30.5
CFA Coronel Fontan 151.71 155 PKPbc **PKPbc 23 27 40.4 +0.2**
comp=Z,15nm,0.7s,baz=201,slow=2.5,SNR=32
LCO Las Campanas 152.71 148 PKPdf **PKPdf 23 27 36.6 +1.0**
LCO **PKiKP 23 27 43.6 +0.6**
LCO Las Campanas 152.71 148 PKIKP **PKPdf 23 27 33.6 -2.0**
UUPR Utuado, UPR, P 152.92 26 PKPdf **PKPdf 23 27 35.7 -0.1**
CELP Cerrillos 153.14 26 PKPdf **PKPdf 23 27 36.2 0.0**
GCPR Guaynabo City 153.14 25 PKPbc **PKPbc 23 27 42.5 -1.1**
OBIP Obispado Ponce 153.15 26 PKPdf **PKPdf 23 27 36.3 +0.2**
OBIP PKPab **PKPab 23 27 55.1 -0.3**
PDPR Patillas Dam, 153.42 25 **PKiKP 23 27 44.5 +0.1**
IGPR InterUniversit 153.44 25 PKPdf **PKPdf 23 27 35.9 -0.7**
IGPR **PKiKP 23 27 44.4 +0.1**
IGPR PKPab **PKPab 23 27 57.0 +0.5**
SMRC Santa Marta, M 153.95 49 PKPdf **PKPdf 23 27 36.5 -0.9**
SMRC **PKiKP 23 27 46.0 +0.4**
PLTB Pedras Altas 154.56 182 PKPdf **PKPdf 23 27 37.6 -0.3**
PLTB PKPbc **PKPbc 23 27 46.2 -0.1**
OTAV Otavalo 155.37 76 PKIKP **PKPdf 23 27 41.2 +1.2**
GO02 Mina Guanaco 156.33 144 PKPdf **PKPdf 23 27 41.0 +0.2**
ATAH Atahualpa 156.38 94 PKP **PKPdf 23 27 39.5 -1.8**
comp=Z,5.3nm,0.8s,baz=313,slow=4.6,SNR=5.3
ATAH PKPab **PKPab 23 28 11.0 +0.9**
comp=Z,22nm,0.9s,baz=290,slow=2.7,SNR=8.4
GDSD La Dsirade Is 156.73 16 PKPdf **PKPdf 23 27 40.2 -0.9**
ROSC El Rosal 157.48 61 PKP **PKPdf 23 27 43.3 +0.6**
comp=Z,9.6nm,0.5s,baz=319,slow=11,SNR=8.8
RUSC La Rusia 158.00 57 pPKPdf pPKPdf 23 28 08.2 -2.4
ITAB Concordia 158.96 186 PKPdf **PKPdf 23 27 43.9 +0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	159.83	173	PKP	**PKPdf**	23 27 45.1	+0.5
	comp=Z,1.1nm,0.5s,baz=121,slow=3.7,SNR=4.0						
BAUV	**El Baul**	159.86	42	PKPdf	**PKPdf**	23 27 44.5	-0.4
LPAZ	**La Paz**	163.41	128	PKP	**PKPdf**	23 27 50.2	+0.9
	comp=Z,5.6nm,1.0s,baz=25,slow=1.6,SNR=12						
LPAZ	**La Paz**	163.41	128	PKIKP	**PKPdf**	23 27 49.3	-0.1
LPAZ	**La Paz**	163.41	128	*eP*	**PKPdf**	23 27 51.2	+1.9
AQDB	**Aquidauana**	165.79	176	*eP*	**PKPdf**	23 27 53.6	+3.0
SIV	**San Ignacio**	168.41	147	PKP	**PKPdf**	23 27 52.8	+0.1
	comp=Z,3.3nm,1.0s,baz=250,slow=2.0,SNR=8.3						
BDFB	**Brasilia**	168.61	214	PKP	**PKPdf**	23 27 51.6	-1.3
	comp=Z,3.9nm,0.9s,baz=156,slow=3.3,SNR=6.6						

*IDC **15** 23:35:58.4±1.0, 19°.16N×121°.39E, h0km, mb3.6/10, mbtmp3.6/10, Error ellipse: s-maj=43.2km s-min=19.5km az=65.0*

ISC 15 23:36:04.6±1.0, 19°.1N±0°.2×121°.3E±0°.2, h46km, n16, σ0s75/10, mb3.5/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	21.17	272	P	**P**	23 40 45.8	-0.4
	0.6nm,0.3s,baz=82,slow=12,SNR=4.0						
	0.6nm,0.3s						
SONM	**Songino Array**	31.11	340	P	**P**	23 42 19.1	+0.3
	0.5nm,0.8s,baz=169,slow=8.8,SNR=3.7						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	40.87	161	P	**P**	23 43 42.0	-0.3
	0.3nm,0.6s,baz=341,slow=8.9,SNR=2.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	42.15	320	P	**P**	23 43 53.5	+1.0
	0.7nm,0.7s,baz=112,slow=8.0,SNR=8.6						
	0.7nm,0.7s						
H11S3	**WAKE ISLAND Hy**	42.88	83	T	T	00 29 34.3	
	baz=276,slow=74,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	42.90	83	T	T	00 29 35.4	
	baz=276,slow=74,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	42.90	83	T	T	00 29 35.7	
	baz=276,slow=74,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	42.91	81	T	T	00 29 41.4	
	baz=278,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	42.91	81	T	T	00 29 55.7	
	baz=278,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	42.93	81	T	T	00 29 55.7	
	baz=278,slow=75,SNR=15						
ASAR	**Alice Springs**	44.27	163	P	**P**	23 44 10.3	+0.5
	0.2nm,0.4s,baz=342,slow=6.8,SNR=4.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	44.60	330	P	**P**	23 44 10.9	-1.2
	0.3nm,0.3s,baz=127,slow=9.3,SNR=2.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	46.12	323	P	**P**	23 44 24.4	+0.1
	1.0nm,0.6s,baz=118,slow=7.9,SNR=8.6						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	51.71	323	P	**P**	23 45 08.0	+0.9
	0.3nm,0.5s,baz=101,slow=4.6,SNR=2.2						
	0.3nm,0.5s						
NRIK	**Noril'sk**	54.31	346	P	**P**	23 45 25.6	-0.3
	3.3nm,1.0s,baz=130,slow=6.5,SNR=4.5						
	3.3nm,1.0s						
YKA	**Yellowknife Ar**	87.58	23	P	**P**	23 48 47.5	-0.1
	0.3nm,0.8s,baz=314,slow=5.0,SNR=3.7						
	0.3nm,0.8s						

IDC 15 23:56:42.1±1.4, 1°.11N×125°.20E, h0km, mb3.6/5, mbtmp3.6/5, MS3.3/2, Error ellipse: s-maj=195.7km s-min=20.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.76	157	P	P	00 01 46.6	+0.4
	0.6nm,0.5s,baz=335,slow=11,SNR=6.7						
	0.6nm,0.5s						
JOW	**Kunigami**	25.75	6	LR	LR	00 10 55.8	
	comp=Z,55nm,20.8s,baz=40,slow=33						
ASAR	**Alice Springs**	26.04	162	P	P	00 02 17.2	-0.1
	0.3nm,0.6s,baz=346,slow=11,SNR=6.6						
ASAR				PcP	PcP	00 05 44.4	-1.2
	0.2nm,0.6s,baz=339,slow=3.1,SNR=1.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	58.87	327	P	P	00 06 43.1	+0.3
	0.5nm,0.6s,baz=120,slow=8.5,SNR=13						
	0.5nm,0.6s						
YAK	**Yakutsk**	60.87	2	LR	LR	00 32 25.9	
	comp=Z,34nm,21.8s,baz=258,slow=35						
KURBB	**Kurchatov Arra**	63.14	329	P	P	00 07 11.6	-0.1
	0.4nm,0.4s,baz=127,slow=6.2,SNR=6.3						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	68.70	328	P	P	00 07 47.3	-0.1
	0.9nm,0.9s,baz=111,slow=3.2,SNR=2.7						
	0.9nm,0.9s						

*NEIC **16** 00:10:05.7±1.2, 18°.52N±0°.09×145°.5E±0°.1, h183km±8km, mb4.4/155, Error ellipse: s-maj=20.4km s-min=13.0km az=83.0*

*IDC **16** 00:10:05.8±0.8, 18°.55N×145°.45E, h193km±7km, mb3.6/18, mbtmp4.2/21, Error ellipse: s-maj=16.6km s-min=8.5km az=89.0*

ISC 16 00:10:06.4±0.4, 18°.51N±0°.06×145°.5E±0°.1, h200km, n192, σ0s86/191, mb4.3/97, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	4.93	187	P	**Pn**	00 11 20.1	+0.1
	29nm,0.3s,baz=40,slow=17,SNR=1.5						
GUMO				S	**Sn**	00 12 19.6	+1.6
	85nm,0.3s,baz=342,slow=20,SNR=4.9						
JCJ	**Chichijima**	9.06	341	P	**Pn**	00 12 14.1	+0.6
	43nm,0.4s,baz=176,slow=19,SNR=1.2						
JCJ				S	Sn	00 13 44.1	-11
	41nm,0.4s,baz=180,slow=19,SNR=2.1						
MJAR	**Matsushiro Arr**	19.07	342	P	**P**	00 14 13.0	-0.8
	0.7nm,0.3s,baz=160,slow=14,SNR=1.4						
H11S3	**WAKE ISLAND Hy**	20.12	87	T	T	00 35 43.5	
	baz=275						
H11S1	**WAKE ISLAND Hy**	20.13	87	T	T	00 35 51.0	
	baz=275,slow=74,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	20.14	87	T	T	00 35 51.1	
	baz=275,slow=74						
H11N1	**WAKE ISLAND Hy**	20.28	83	T	T	00 36 03.4	
	baz=271						
H11N2	**WAKE ISLAND Hy**	20.28	83	T	T	00 36 01.5	
	baz=271						
H11N3	**WAKE ISLAND Hy**	20.29	83	T	T	00 35 57.4	
	baz=271						
KSRS	**Korea Array**	24.34	324	P	**P**	00 15 06.6	+0.7
	0.5nm,0.4s,baz=147,slow=9.0,SNR=2.1						
	0.5nm,0.4s						
MTN	**Manton Dam**	34.22	205	P	**P**	00 16 34.2	+0.9
MTN				IAmb	IAmb	00 16 36.0	
	comp=Z,16nm,1.1s						
PETK	**Petropavlovsk-**	35.82	13	P	**P**	00 16 47.1	+0.5
	comp=Z,1.8nm,0.7s,baz=190,slow=7.3,SNR=4.7						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	39.56	197	P	**P**	00 17 18.7	+0.4
WB0				IAmb	IAmb	00 17 21.9	
	comp=Z,6.2nm,0.7s						
WB2	**Warramunga Arr**	39.74	196	P	**P**	00 17 20.5	+0.7
WB2				IAmb	IAmb	00 17 21.2	
	comp=Z,7.5nm,0.6s						
WRA	**Warramunga Arr**	39.75	197	P	**P**	00 17 19.9	+0.1
WRA	**Warramunga Arr**	39.75	197	P	**P**	00 17 20.2	+0.4
	comp=Z,3.0nm,0.4s,baz=17,slow=8.1,SNR=36						
WRA				PcP	**PcP**	00 19 21.9	-0.4
	comp=Z,0.2nm,0.4s,baz=17,slow=3.1,SNR=1.7						
	comp=Z,3.0nm,0.4s						
MA2	**Magadan**	41.19	4	P	**P**	00 17 33.2	+2.0
MA2				IAmb	IAmb	00 18 09.4	
	comp=Z,10nm,1.5s						
FITZ	**Fitzroy Crossi**	41.27	209	P	**P**	00 17 33.9	+1.6
JOHN	**Johnston Islan**	42.84	85	P	**P**	00 17 44.2	-1.0
SONM	**Songino Array**	43.15	322	P	**P**	00 17 47.2	-0.2
	comp=Z,0.3nm,0.5s,baz=137,slow=6.0,SNR=2.7						
	comp=Z,0.3nm,0.5s						
AS31	**Alice Springs**	43.41	196	P	**P**	00 17 50.0	+0.3
AS31				IAmb	IAmb	00 17 52.6	
	comp=Z,2.4nm,0.3s						
ASAR	**Alice Springs**	43.41	196	P	**P**	00 17 49.9	+0.2
	comp=Z,1.3nm,0.5s,baz=19,slow=9.2,SNR=33						
	comp=Z,1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	44.03	278	P	**P**	00 17 54.5	-0.1
	comp=Z,1.0nm,0.3s,baz=83,slow=8.1,SNR=2.4						
	comp=Z,1.0nm,0.3s						
DZM	**Mont Dzumac**	45.25	152	P	**P**	00 18 04.1	-0.1
DZM				IAmb	IAmb	00 18 05.3	
	comp=Z,17nm,1.0s						
STKA	**Stephens Creek**	50.24	184	P	**P**	00 18 41.6	-0.7
	comp=Z,1.5nm,0.4s,baz=3.8,slow=9.3,SNR=11						
	comp=Z,1.5nm,0.4s						
LVA	**Lava Point**	51.31	34	P	**P**	00 18 50.2	+0.1
ZALV	**Zalesovo Beam**	58.03	323	P	**P**	00 19 37.2	-1.1
	comp=Z,0.4nm,0.4s,baz=102,slow=4.9,SNR=2.9						
	comp=Z,0.4nm,0.4s						
C16K	**Lisburne Hills**	58.41	19	P	**P**	00 19 41.2	+0.5
MK31	**Makanchi Array**	58.44	314	P	**P**	00 19 41.8	+0.5
MKAR	**Makanchi Array**	58.44	314	P	**P**	00 19 41.9	+0.5
MKAR	**Makanchi Array**	58.44	314	P	**P**	00 19 40.5	-0.8
	comp=Z,0.3nm,0.4s,baz=93,slow=7.4,SNR=8.6						
MKAR				pP	**pP**	00 20 25.3	-0.2
	comp=Z,1.0nm,0.9s,baz=96,slow=7.8,SNR=3.6						
	comp=Z,0.3nm,0.4s						
K17K	**Iditarod**	58.45	27	P	**P**	00 19 41.7	+0.6
K17K				IAmb	IAmb	00 19 51.8	
	comp=Z,15nm,1.4s						
MAKZ	**Makanchi**	58.65	314	P	**P**	00 19 43.5	+0.7
H17K	**Granite Mounta**	58.70	24	P	**P**	00 19 43.7	+1.0
H17K				IAmb	IAmb	00 19 44.9	
	comp=Z,6.2nm,1.1s						
N18K	**Kilae Creek**	58.82	29	P	**P**	00 19 44.7	+1.1
F17K	**Baldwin Pennin**	58.87	22	P	**P**	00 19 44.8	+0.9
F17K				IAmb	IAmb	00 19 45.9	
	comp=Z,4.3nm,0.7s						
O18K	**Koktuh Hills**	58.88	30	P	**P**	00 19 44.9	+0.8
L18K	**Granite Mounta**	58.97	28	P	**P**	00 19 45.4	+0.7
L18K				IAmb	IAmb	00 20 28.6	
	comp=Z,17nm,1.5s						
OHAK	**Old Harbor**	59.13	34	P	**P**	00 19 46.3	+0.5
H18K	**Honhosa River**	59.38	24	P	**P**	00 19 48.0	+0.6
H18K				IAmb	IAmb	00 20 26.8	
	comp=Z,14nm,1.4s						
J18K	**Innoko River**	59.40	26	P	**P**	00 19 48.5	+0.8
J18K				IAmb	IAmb	00 19 50.4	
	comp=Z,9.3nm,1.5s						
N19K	**Bonanza Creek**	59.52	30	P	**P**	00 19 49.1	+0.5
E18K	**Tukpahlearik C**	59.55	21	P	**P**	00 19 49.8	+1.3
E18K				IAmb	IAmb	00 19 50.7	
	comp=Z,8.8nm,1.2s						
L19K	**White Mountain**	59.77	28	P	**P**	00 19 50.3	+0.1
L19K				IAmb	IAmb	00 19 51.3	
	comp=Z,14nm,1.5s						
M19K	**Big River Lodg**	59.89	28	P	**P**	00 19 50.8	-0.2
M19K				IAmb	IAmb	00 20 15.5	
	comp=Z,14nm,1.5s						
C18K	**Utukok River**	59.92	20	P	**P**	00 19 51.5	+0.4
C18K				IAmb	IAmb	00 19 52.5	
	comp=Z,8.5nm,1.3s						
SYI	**Shuyak Island**	59.93	32	P	**P**	00 19 51.2	0.0
J19K	**Poorman**	60.05	26	P	**P**	00 19 52.4	+0.4
J19K				IAmb	IAmb	00 20 35.5	
	comp=Z,7.8nm,1.5s						
H19K	**Roundabout Mou**	60.27	24	P	**P**	00 19 54.5	+1.1
M20K	**Styx River**	60.45	29	P	**P**	00 19 56.2	+1.3
K20K	**Telida**	60.49	27	P	**P**	00 19 56.1	+1.1
K20K				IAmb	IAmb	00 20 37.3	
	comp=Z,12nm,1.5s						
J20K	**Nowinta River**	60.72	26	P	**P**	00 19 58.0	+1.4
CNPM	**China Poot**	60.73	31	P	**P**	00 19 56.1	-0.6
D19K	**Kuna River**	60.86	21	P	**P**	00 19 58.1	+0.6
D19K				IAmb	IAmb	00 19 59.3	
	comp=Z,11nm,1.5s						
STLK	**Strandline Lak**	60.94	29	P	**P**	00 19 57.6	-0.5
STLK				IAmb	IAmb	00 20 16.3	
	comp=Z,5.6nm,1.2s						
PPLA	**Purkeypile**	61.16	28	P	**P**	00 20 00.5	+0.8
SKT	**Skwentna**	61.21	29	P	**P**	00 19 59.9	0.0
SKT				IAmb	IAmb	00 20 33.7	
	comp=Z,14nm,1.5s						
KURBB	**Kurchatov Arra**	61.31	318	P	**P**	00 20 01.0	+0.2
	comp=Z,0.8nm,0.3s,baz=92,slow=7.6,SNR=9.7						
KURBB				pP	**pP**	00 20 44.2	-1.3
	comp=Z,1.4nm,0.8s,baz=91,slow=7.3,SNR=2.4						
	comp=Z,0.8nm,0.3s						
CAST	**Castle Rocks**	61.36	27	P	**P**	00 20 01.7	+0.8
CAST				IAmb	IAmb	00 20 03.1	
	comp=Z,8.6nm,1.1s						
SUA	**Susitna One**	61.44	29	P	**P**	00 20 01.4	-0.2
SLKM	**Skilak Lake**	61.46	31	P	**P**	00 20 01.1	-0.5
NRIK	**Noril'sk**	61.71	340	P	**P**	00 20 03.4	+0.3
	comp=Z,1.9nm,0.3s,baz=108,slow=7.6,SNR=5.2						
	comp=Z,1.9nm,0.3s						
B20K	**Meade River**	61.82	19	P	**P**	00 20 05.1	+1.4
RC01	**Rabbit Creek A**	61.82	30	P	**P**	00 20 04.5	+0.5
KDJ	**Kajisay**	61.84	308	P	**P**	00 20 05.6	+0.9
KTH	**Kantishna Hill**	61.90	27	P	**P**	00 20 05.2	+0.6
I21K	**Tanana**	61.92	25	P	**P**	00 20 05.3	+0.8
I21K				IAmb	IAmb	00 20 06.7	
	comp=Z,5.7nm,1.0s						
F21K	**Alatna River**	61.99	23	P	**P**	00 20 05.9	+0.9
BPAW	**Bear Paw Mtn.**	62.02	26	P	**P**	00 20 06.0	+0.7
BPAW				IAmb	IAmb	00 20 06.8	
	comp=Z,6.3nm,0.7s						
TRF	**Thorofare Moun**	62.14	27	P	**P**	00 20 06.0	-0.3
GHO	**Glory Hole Cre**	62.36	29	P	**P**	00 20 07.7	0.0
GHO				IAmb	IAmb	00 20 17.4	
	comp=Z,10nm,1.1s						
PWL	**Port Wells**	62.44	30	P	**P**	00 20 07.4	-0.7
B21K	**Ikpikpuk River**	62.47	20	P	**P**	00 20 09.1	+1.0
B21K				IAmb	IAmb	00 20 09.5	
	comp=Z,2.4nm,0.6s						
KNK	**Knik Glacier**	62.50	30	P	**P**	00 20 09.3	+0.8
SML	**Sawmill**	62.64	29	P	**P**	00 20 09.2	-0.2
BOOM	**Boomskoye usch**	62.75	309	P	**P**	00 20 10.9	+0.1
D22K	**Ayikyak River**	62.84	21	P	**P**	00 20 12.0	+1.4
E22K	**Anaktuvuk Pass**	62.90	22	P	**P**	00 20 12.0	+1.0
E22K				IAmb	IAmb	00 20 13.1	
	comp=Z,3.2nm,0.8s						
I23K	**Minto, Yukon-K**	62.97	26	P	**P**	00 20 12.3	+0.8
I23K				IAmb	IAmb	00 20 13.4	
	comp=Z,4.6nm,0.5s						
H23K	**Yukon River**	63.08	25	P	**P**	00 20 13.4	+1.1
H23K				IAmb	IAmb	00 20 14.2	
	comp=Z,2.9nm,0.7s						
SCM	**Sheep Creek Mo**	63.11	29	P	**P**	00 20 13.1	+0.4
B22K	**Teshekpuk Lake**	63.12	19	P	**P**	00 20 13.2	+0.8
B22K				IAmb	IAmb	00 20 16.0	
	comp=Z,8.4nm,1.3s						
G23K	**Bananza Creek**	63.13	24	P	**P**	00 20 13.4	+0.8
WRH	**Wood River Hil**	63.34	26	P	**P**	00 20 13.7	-0.2
WRH				IAmb	IAmb	00 20 15.8	
	comp=Z,9.1nm,1.4s						
CCB	**Clear Creek Bu**	63.49	26	P	**P**	00 20 14.6	-0.4
D23K	**Nanushuk River**	63.56	21	P	**P**	00 20 16.5	+1.2
D23K				IAmb	IAmb	00 20 17.4	
	comp=Z,3.1nm,0.8s						
E23K	**Chandalar**	63.66	22	P	**P**	00 20 17.4	+1.2
E23K				IAmb	IAmb	00 20 18.8	
	comp=Z,7.2nm,1.2s						
KLU	**Klutina**	63.71	30	P	**P**	00 20 16.6	0.0
H24K	**Noodor Dome**	63.74	25	P	**P**	00 20 17.2	+0.5
H24K				IAmb	IAmb	00 20 53.8	
	comp=Z,4.6nm,1.3s						
TOLK	**Toolik Lake Re**	63.84	22	P	**P**	00 20 18.4	+1.1
TOLK				IAmb	IAmb	00 20 19.0	
	comp=Z,3.7nm,0.6s						
C23K	**Itkillik River**	63.85	20	P	**P**	00 20 17.9	+0.7
C23K				IAmb	IAmb	00 20 19.2	
	comp=Z,10nm,1.2s						
IL31		63.91	26	P	**P**	00 20 16.9	-0.7
IL31				IAmb	IAmb	00 20 18.0	
	comp=Z,9.3nm,1.4s						
ILAR	**Eielson Array**	63.91	26	P	**P**	00 20 16.8	-0.9
	comp=Z,2.8nm,0.8s,baz=259,slow=5.1,SNR=34						
	comp=Z,2.8nm,0.8s						
E24K	**Your Creek**	64.08	22	P	**P**	00 20 20.2	+1.4
G24K	**Hadweenzic Riv**	64.11	24	P	**P**	00 20 20.1	+1.2
F24K	**Squaw Lake**	64.15	23	P	**P**	00 20 20.4	+1.1
D24K	**Happy Valley**	64.25	21	P	**P**	00 20 21.1	+1.2
BMRM	**Bremner River**	64.25	31	P	**P**	00 20 21.2	+1.2
BKZ	**Black Stump Fm**	64.30	154	P	**P**	00 20 19.5	-1.1
N25K	**Chitina, Valde**	64.35	30	P	**P**	00 20 21.0	+0.3
C24K	**Franklin Bluff**	64.45	21	P	**P**	00 20 22.2	+1.1
C24K				IAmb	IAmb	00 20 23.3	
	comp=Z,6.5nm,1.2s						
J25K	**Salcha River,**	64.51	27	P	**P**	00 20 20.9	-0.8
J25K				IAmb	IAmb	00 20 22.0	
	comp=Z,1.9nm,0.6s						
RIDG	**Independent Ri**	64.58	28	P	**P**	00 20 23.1	+0.9
GLB	**Gilahina Butte**	64.70	30	P	**P**	00 20 23.9	+0.9
NNZ	**Nelson**	64.82	157	P	**P**	00 20 23.6	-0.3
VRDI	**Verde Repeater**	64.84	30	P	**P**	00 20 24.6	+0.6
DOT	**Dot Lake**	64.91	28	P	**P**	00 20 24.4	+0.1
DOT				IAmb	IAmb	00 20 25.2	
	comp=Z,4.3nm,0.7s						
FYU	**Fort Yukon**	64.95	24	P	**P**	00 20 24.7	+0.4
FYU				IAmb	IAmb	00 20 44.2	
	comp=Z,12nm,1.4s						
SCRK	**Sand Creek**	65.00	27	P	**P**	00 20 25.3	+0.4
SCRK				IAmb	IAmb	00 20 42.6	
	comp=Z,8.7nm,1.4s						
F25K	**Christian Rive**	65.01	23	P	**P**	00 20 25.5	+0.7
F25K				IAmb	IAmb	00 20 26.8	
	comp=Z,2.2nm,0.6s						
D25K	**Kavik River**	65.14	21	P	**P**	00 20 26.4	+0.7
D25K				IAmb	IAmb	00 20 27.5	
	comp=Z,3.6nm,0.6s						
TCW	**Tory Channel**	65.15	156	P	**P**	00 20 26.1	+0.1
J26L	**Joseph Creek**	65.26	27	P	**P**	00 20 26.5	-0.1
J26L				IAmb	IAmb	00 20 27.2	
	comp=Z,3.0nm,0.6s						
BMAR	**Burnt Mountain**	65.37	24	P	**P**	00 20 28.9	+1.7
I26K	**Coal Creek Min**	65.56	26	P	**P**	00 20 27.7	-0.6
I26K				IAmb	IAmb	00 20 56.0	
	comp=Z,8.3nm,1.4s						
F26K	**Sheenjek River**	65.59	23	P	**P**	00 20 29.8	+1.3
F26K				IAmb	IAmb	00 20 30.9	
	comp=Z,3.2nm,0.7s						
M27K	**Edge Creek, AK**	65.72	29	P	**P**	00 20 30.3	+0.7
M27K				IAmb	IAmb	00 20 56.6	
	comp=Z,14nm,1.4s						
LTZ	**Lake Taylor**	65.80	159	P	**P**	00 20 28.7	-1.4
L27K	**Beaver Creek,**	65.83	28	P	**P**	00 20 30.1	0.0
L27K				IAmb	IAmb	00 20 31.5	
	comp=Z,2.5nm,0.7s						
BCAR	**Beaver Creek A**	65.85	28	P	**P**	00 20 30.4	+0.1
C27K	**Jago River**	66.12	21	P	**P**	00 20 32.9	+1.0
C27K				IAmb	IAmb	00 20 33.5	
	comp=Z,2.8nm,0.5s						
G27K	**Doyon Strip**	66.39	24	P	**P**	00 20 34.5	+0.9
BVAR	**Borovoye Array**	66.48	320	P	**P**	00 20 34.7	+0.2
	comp=Z,1.7nm,0.4s,baz=90,slow=7.7,SNR=17						
BVAR				pP	**pP**	00 21 18.9	-1.0
	comp=Z,1.9nm,0.7s,baz=87,slow=9.0,SNR=3.2						
	comp=Z,1.7nm,0.4s						
BRVK	**Borovoye**	66.54	320	P	**P**	00 20 35.8	+1.0
E27K	**Coleen River**	66.62	23	P	**P**	00 20 35.5	+0.5
I28M	**Miner Creek**	66.92	26	P	**P**	00 20 37.1	+0.1
D27M	**Malcolm River**	67.01	22	P	**P**	00 20 38.4	+0.9
M29M	**Somme Creek**	67.32	29	P	**P**	00 20 41.2	+1.6
M29M				IAmb	IAmb	00 21 07.7	
	comp=Z,7.4nm,1.2s						
E28M	**Babbage River**	67.44	23	P	**P**	00 20 41.2	+1.1
L29M	**L29M**	67.51	29	P	**P**	00 20 42.6	+1.8
L29M				IAmb	IAmb	00 20 52.8	
	comp=Z,15nm,1.4s						
H29M	**Whitestone**	67.63	25	P	**P**	00 20 42.2	+0.8
H29M				IAmb	IAmb	00 21 00.3	
	comp=Z,12nm,1.5s						
HYT	**Haines Junctio**	67.70	31	P	**P**	00 20 43.7	+1.6
K29M	**Barlow Dome**	67.83	28	P	**P**	00 20 44.2	+1.4
K29M				IAmb	IAmb	00 20 44.8	
	comp=Z,3.3nm,0.8s						
G29M	**Pine Creek**	67.83	24	P	**P**	00 20 44.1	+1.4
N30M	**Aishikik Lake**	67.92	30	P	**P**	00 20 44.7	+1.3
N30M				IAmb	IAmb	00 21 24.0	
	comp=Z,7.2nm,1.2s						
E29M	**Blow River**	68.01	23	P	**P**	00 20 44.3	+0.5
M30M	**Minto, Yukon**	68.10	29	P	**P**	00 20 45.1	+0.7
M30M				IAmb	IAmb	00 20 48.8	
	comp=Z,7.8nm,1.4s						
I30M	**Mount Dempster**	68.39	26	P	**P**	00 20 46.5	+0.2
G30M	**tAoh Zraii Nji**	68.54	24	P	**P**	00 20 47.7	+0.6
G30M				IAmb	IAmb	00 20 49.4	
	comp=Z,10nm,1.4s						
SKAG	**Skagway**	68.77	33	P	**P**	00 20 49.7	+1.1
H31M	**Peel River**	69.26	26	P	**P**	00 20 52.7	+1.1
H31M				IAmb	IAmb	00 20 53.2	
	comp=Z,4.2nm,0.8s						
G31M	**Satah River**	69.31	25	P	**P**	00 20 52.0	+0.3
G31M				IAmb	IAmb	00 20 53.0	
	comp=Z,6.6nm,0.6s						
F31M	**Tsiigehtchic**	69.53	24	P	**P**	00 20 52.7	-0.4
F31M				IAmb	IAmb	00 21 02.4	
	comp=Z,9.5nm,1.5s						
P32M	**Atlin**	69.59	32	P	**P**	00 20 54.6	+0.9
P32M				IAmb	IAmb	00 21 17.9	
	comp=Z,14nm,1.3s						
INK	**Inuvik**	69.63	23	P	**P**	00 20 53.6	0.0
P33M	**Teslin, Yukon**	70.02	32	P	**P**	00 20 56.4	0.0
P33M				IAmb	IAmb	00 21 35.0	
	comp=Z,6.1nm,1.1s						
Q32M	**Nakina River**	70.36	33	P	**P**	00 20 59.0	+0.4
MMPY	**Sheldon Lake,**	70.65	29	P	**P**	00 21 01.5	+1.4
S34M	**Telegraph Cree**	71.03	34	P	**P**	00 21 03.2	+0.8
DLBC	**Dease Lake

YHL				IAmb	IAmb	00 22 27.5	
	comp=Z,2.8nm,0.6s						
PSUT	**Pine Spring**	**86.68**	**51**	P	**P**	**00 22 28.9**	**+0.8**
PSUT				IAmb	IAmb	00 22 29.5	
	comp=Z,3.0nm,0.8s						
DUG	**Dugway, Tooele**	**86.83**	**49**	P	**P**	**00 22 29.5**	**+0.7**
DUG				IAmb	IAmb	00 22 30.2	
	comp=Z,2.8nm,0.7s						
FINES	**FINESS Array B**	**86.96**	**335**	P	**P**	**00 22 27.2**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=68,slow=5.9,SNR=4.8						
	comp=Z,1.4nm,0.7s						
RLMT	**Red Lodge**	**87.36**	**43**	P	**P**	**00 22 32.7**	**+1.4**
FFC	**Flin Flon**	**87.37**	**32**		**P**	**00 22 31.0**	**+0.2**
FFC				IAmb	IAmb	00 22 31.9	
	comp=Z,4.3nm,0.8s						
PDAR	**Pinedale Array**	**88.11**	**45**	P	**P**	**00 22 34.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=291,slow=4.2,SNR=11						
	comp=Z,0.3nm,0.4s						
LPAZ	**La Paz**	**147.88**	**91**	PKPbc	**PKiKP**	**00 29 30.3**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=240,slow=1.6,SNR=9.9						

NEIC 16 00:28:01.1±2.5, 35°.35N±0°.02×98°.03W±0°.02, h5km±1km, mb_Lg2.4/46, ML2.6/48, Error ellipse: s-maj=3.2km s-min=2.9km az=275.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.48**	**83**	Pg	Pb	00 28 12.2	+0.1
OKCSW				IAML		00 28 25.8	
	comp=E,275nm,0.2s						
FNO	**Franklin**	**0.52**	**100**		Pb	00 28 12.8	+0.1
ADOK	**Arcadia Dam**	**0.61**	**60**		Pb	00 28 13.9	-0.4
CSTR	**Hydro, Custer**	**0.61**	**299**		Pb	00 28 15.2	+0.8
OK029	**Liberty Lake**	**0.65**	**46**		Pb	00 28 15.3	+0.4
OK029				IAML		00 28 28.6	
	comp=E,250nm,0.6s						
OK029				IAML		00 28 31.3	
	comp=E,266nm,0.3s						
X34A	**Smith Ranch, M**	**0.76**	**168**		Pb	00 28 16.6	-0.3
X34A				IAmb_Lg		00 28 24.8	
	comp=Z,46nm,1.0s						
X34A				IAML		00 28 39.7	
	comp=N,164nm,0.7s						
X34A				IAML		00 28 43.0	
	comp=E,193nm,0.6s						
WMOK	**Wichita Mounta**	**0.87**	**226**		Pg	00 28 17.7	-0.1
WMOK	**Wichita Mounta**	**0.87**	**226**		Pn	00 28 19.4	-0.6
WMOK				IAML		00 28 37.4	
	comp=E,55nm,0.4s						
WMOK				IAML		00 28 39.8	
	comp=E,60nm,0.6s						
W35A	**Tecumseh**	**0.96**	**101**		Pb	00 28 20.7	+0.4
W35A				IAML		00 28 42.9	
	comp=E,127nm,0.3s						
OK031	**S. Brethren Rd**	**1.14**	**58**		Pb	00 28 23.4	+0.1
OK031				IAML		00 28 45.3	
	comp=E,168nm,0.3s						
OK031				IAML		00 28 45.3	
	comp=E,203nm,0.2s						
CROK	**Carrier**	**1.15**	**2**		Pn	00 28 23.9	0.0
OK052	**Battle Ridge R**	**1.19**	**57**		Pb	00 28 24.0	0.0
OK052				IAML		00 28 46.4	
	comp=E,262nm,0.4s						
OK038	**West end E0370**	**1.27**	**333**		Pn	00 28 25.5	0.0
ELIS	**Ellis County**	**1.34**	**303**		Pg	00 28 26.9	+0.2
DEOK	**Depew**	**1.34**	**68**		Pn	00 28 25.5	-0.9
QUOK	**Quay**	**1.35**	**52**		Pn	00 28 25.9	-0.7
OK048	**Pawnee Station**	**1.38**	**39**		Pn	00 28 26.7	-0.3
OK032	**Salt Plains WL**	**1.46**	**354**		Pn	00 28 28.2	+0.2
NOKA	**Waynoka**	**1.48**	**331**		Pb	00 28 28.7	-0.3
GC02	**Grant County #**	**1.50**	**5**		Pg	00 28 30.3	+0.4
OK051	**E0350 and S346**	**1.50**	**40**		Pb	00 28 29.5	0.0
LOOK	**Love County**	**1.52**	**152**		Pn	00 28 28.9	-0.1
BLOK	**Blackwell**	**1.55**	**25**		Pb	00 28 30.6	+0.2
KAN14	**Manchester OK**	**1.60**	**2**		Pn	00 28 30.2	+0.1
WTFS	**Witchita Falls**	**1.62**	**193**		Pn	00 28 30.4	+0.1
KAN17	**Caldwell West**	**1.70**	**7**		Pb	00 28 32.8	-0.1
KAN13	**South Haven SW**	**1.72**	**15**		Pb	00 28 32.8	-0.3
KAN05	**Bluff City Nor**	**1.76**	**4**		Pb	00 28 33.1	-0.7
KAN05				Sg	Sg	00 28 59.1	+1.4
KAN01	**Argonia South**	**1.81**	**7**		Pb	00 28 34.4	-0.3
KAN01					Sg	00 29 00.5	+1.1
KAN01				IAmb_Lg		00 29 03.0	
	comp=Z,14nm,0.7s						
KAN09	**Caldwell North**	**1.81**	**10**		Pb	00 28 34.6	-0.2
KAN09					Sg	00 29 00.4	+1.1
SMWD	**Samnorwood**	**1.83**	**263**		Pn	00 28 34.1	+0.9
KAN08	**Anthony NE Sta**	**1.87**	**1**		Pn	00 28 34.2	+0.4
KAN08					Sg	00 29 02.7	+1.4
TUL3	**Leonard**	**1.91**	**72**		Pn	00 28 34.9	+0.7
TUL3					Sg	00 29 02.8	+0.5
KAN12	**Harper NE Stat**	**1.94**	**1**		Pn	00 28 35.7	+0.9
T35A	**Sooner Cattle**	**1.99**	**38**		Pn	00 28 36.3	+1.0
Z35A	**Perchaven, San**	**2.11**	**162**	Pn	Pn	00 28 37.9	+0.8
Z35A				IAmb_Lg		00 29 08.9	
	comp=Z,13nm,0.7s						
FW06	**Azle**	**2.40**	**171**		Pn	00 28 42.4	+1.4
FW06				IAmb_Lg		00 29 18.7	
	comp=Z,15nm,0.7s						
PLPT	**Palo Pinto**	**2.54**	**185**		Pn	00 28 44.2	+1.2
PLPT				IAmb_Lg		00 29 26.0	
	comp=Z,15nm,0.8s						
FW07	**Weatherford**	**2.65**	**176**	Pn	Pn	00 28 44.7	+0.2
APMT	**Aspermont**	**2.66**	**221**		Pn	00 28 46.0	+1.3
DKNS	**Dickens**	**2.92**	**236**		Pn	00 28 48.9	+0.7
FW14	**Alvarado**	**3.02**	**166**	Pn	Pn	00 28 48.9	-0.7
FW14				IAmb_Lg		00 29 45.6	
	comp=Z,14nm,0.8s						
FW13	**Cleburne**	**3.03**	**170**		Pn	00 28 50.0	+0.2
FW13				IAmb_Lg		00 29 43.7	
	comp=Z,9.1nm,0.8s						
ABTX	**Abilene, Hawle**	**3.03**	**207**	IAmb_Lg		00 29 44.7	
	comp=Z,10.0nm,0.7s						
SN07	**Snyder 07**	**3.27**	**227**	IAmb_Lg		00 29 50.1	
	comp=Z,7.9nm,1.0s						
HHAR	**Hobbs**	**3.45**	**73**	IAmb_Lg		00 29 55.4	
	comp=Z,14nm,0.8s						
CBKS	**Cedar Bluff**	**3.72**	**339**	IAmb_Lg		00 29 58.6	
	comp=Z,8.4nm,0.9s						
KSU1	**Kansas State U**	**3.91**	**16**	IAmb_Lg		00 30 14.9	
	comp=Z,6.9nm,0.7s						
BRDY	**Brady**	**4.13**	**192**	IAmb_Lg		00 30 17.8	
	comp=Z,10.0nm,0.8s						
435B	**Jarrell**	**4.57**	**175**	IAmb_Lg		00 30 35.6	
	comp=Z,9.7nm,0.7s						
MGMO	**Mountain Grove**	**4.99**	**67**	IAmb_Lg		00 30 49.4	
	comp=Z,9.9nm,0.7s						
T25A	**Trinidad**	**5.46**	**291**	IAmb_Lg		00 31 04.4	
	comp=Z,6.8nm,1.1s						
R40A	**Maddies Statio**	**5.47**	**56**	IAmb_Lg		00 30 59.4	
	comp=Z,8.5nm,0.9s						
MNHN	**Monahans**	**5.63**	**226**	IAmb_Lg		00 31 05.5	
	comp=Z,5.6nm,0.9s						
T42A	**Van Buren**	**5.85**	**71**	IAmb_Lg		00 31 15.7	
	comp=Z,5.5nm,0.7s						
HNDO	**Hondo**	**5.90**	**191**	IAmb_Lg		00 31 21.4	
	comp=Z,7.9nm,0.8s						
CCM	**Cathedral Cave**	**6.08**	**62**	IAmb_Lg		00 31 27.8	
	comp=Z,7.9nm,0.7s						
DRIO	**Del Rio**	**6.30**	**201**	IAmb_Lg		00 31 38.3	
	comp=Z,4.3nm,0.7s						
Q24A	**Divide**	**6.73**	**304**	IAmb_Lg		00 31 41.7	
	comp=Z,7.1nm,1.1s						
ISCO	**Idaho Springs**	**7.48**	**309**	IAmb_Lg		00 31 55.4	
	comp=Z,5.6nm,1.1s						

IDC 16 00:42:28.6±2.0, 31°.46S×178°.07W, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=49.5km s-min=34.2km az=60.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.85**	**209**	Pn	Pn	00 44 22.6	-1.4
	0.5nm,0.3s,baz=59,slow=19,SNR=2.1						
URZ				Sn	Sn	00 45 47.1	-6.6
	1.2nm,0.3s,baz=350,slow=19,SNR=12						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**43.00**	**268**	P	P	00 50 29.9	0.0
	0.5nm,0.6s,baz=114,slow=8.4,SNR=4.2						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.09**	**273**	P	P	00 50 38.8	+0.1
	0.5nm,0.4s,baz=114,slow=8.1,SNR=8.6						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**58.65**	**180**	P	P	00 52 27.7	+0.2
	0.7nm,0.9s,baz=22,slow=11,SNR=9.0						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**146.11**	**339**	PKPbc	PKPdf	01 02 08.7	-0.3
	1.3nm,0.6s,baz=64,slow=4.4,SNR=6.1						

IDC ***16*** *00:45:47.8±0.6, 23°.05N×121°.33E, h0km, mb3.9/16, mbtmp3.9/19, ML3.8/2, MS3.2/10, Error ellipse: s-maj=23.8km s-min=14.0km az=69.0*

ASIES ***16*** *00:45:52.0, 23°.22N×121°.39E, h19km, ML4.6, Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.99; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$-1.25; $M_{r\theta}$-0.10; $M_{\theta\phi}$-0.76; $M_{\phi r}$0.77; Fault plane solution: $M_0$2.05638×10^{22} NP1: ϕ_s227.11000°, δ37.87000°, λ109.60000°. NP2: ϕ_s22.84000°, δ54.67000°, λ75.38000°. Principal axes: T Plg75.2660°, Azm248.2630°; N Plg11.8840°, Azm31.4100°; P Plg8.5850°, Azm123.2300°;*

JMA ***16*** *00:45:51.4±0.1, 23°.2N±0°.7×12°1E±°, h28km±2km, MV4.0/15, TAIWAN REGION*

TAP ***16*** *00:45:52.0, 23°.22N×121°.39E, h19km, ML4.6, C*

NIED ***16*** *00:45:51.4, 23°.22N×121°.42E, h28km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}1.04; $M_{\theta\theta}$0.63; $M_{\phi\phi}$-1.67; $M_{r\theta}$0.10; $M_{\theta\phi}$0.21; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.39000×10^{15} NP1: ϕ_s160.00000°, δ44.00000°, λ68.00000°. NP2:ϕ_s9.00000°, δ50.00000°, λ110.00000°.*

BJI ***16*** *00:45:52.4, 23°.09N×121°.22E, h11km, mB4.9/4, mb3.9/8, ML4.0/5, Ms4.2/6, Ms7 4.0/8*

ISC 16 00:45:51.4±0.6, 23°.18N±0°.01×121°.49E±0°.02, h18km±1km, n196, σ1$17/285, mb3.9/17, MS3.2/9, 11C-24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong**	**0.09**	**281**	⇑iP	**Pg**	**00 45 55.5**	**+0.5**
CHKH				S	**Sg**	**00 45 58.1**	**+0.7**
CHKT	**Chengkung**	**0.14**	**236**	⇑iP	**Pg**	**00 45 56.4**	**+0.9**
CHKT				*i* S	**Sg**	**00 45 59.7**	**+1.4**
ECBN	**Changbin**	**0.14**	**347**	⇑iP	**Pg**	**00 45 56.4**	**+0.7**
ECBN				S	**Sg**	**00 45 59.5**	**+1.0**
FULB	**Fuli**	**0.18**	**278**	⇑*i*P	**Pb**	**00 45 56.0**	**+0.6**
FULB				S	**Sg**	**00 45 59.4**	**0.0**
EYUL	**Yuli**	**0.23**	**318**	⇑P	**Pb**	**00 45 56.9**	**+0.1**
EYUL				S	**Sg**	**00 46 01.1**	**+0.5**
TWF1	**Yuli**	**0.25**	**315**	⇓*i*P	**Pb**	**00 45 56.9**	**-0.3**
TWF1				S	**Sb**	**00 46 00.6**	**-0.4**
ECS	**Chishang**	**0.26**	**252**	*e*P	**Pg**	**00 45 58.0**	**+0.7**
ECS				S	**Sg**	**00 46 03.0**	**+1.6**
EHD	**Haiduan**	**0.26**	**264**	⇓*i*P	**Pb**	**00 45 56.5**	**-0.9**
EHD				S	**Sb**	**00 46 00.3**	**-1.1**
EDH	**Donghe**	**0.26**	**220**	⇓P	**Pg**	**00 45 58.3**	**+0.9**
EDH				*e*S	**Sg**	**00 46 02.9**	**+1.4**
YULB	**Yu-li**	**0.28**	**321**	P	**Pb**	**00 45 57.2**	**-0.6**
YULB	**Yu-li**	**0.28**	**321**	S	**Sb**	**00 46 01.4**	**-0.7**
YULB	**Yu-li**	**0.28**	**321**	⇓*i*P	**Pb**	**00 45 57.3**	**-0.6**
YULB				S	**Sb**	**00 46 01.4**	**-0.7**
HGSD	**Ruisui**	**0.32**	**350**	⇑*i*P	**Pg**	**00 45 58.3**	**-0.1**
HGSD				S	**Sn**	**00 46 06.4**	**-1.0**
EHYH	**Wanrong**	**0.34**	**338**	⇓P	**Pg**	**00 45 58.7**	**-0.1**
EHYH				*i* S	**Sg**	**00 46 03.7**	**-0.1**
EHY	**Hungye**	**0.36**	**335**	*e*P	**Pg**	**00 45 58.7**	**-0.4**
EHY				S	**Sg**	**00 46 03.7**	**-0.6**
LONT	**Longtian**	**0.42**	**231**	⇑*i*P	**Pg**	**00 46 00.4**	**+0.3**
LONT				*e*S	**Sb**	**00 46 06.9**	**+0.4**
ELDTW	**Lidau**	**0.43**	**272**	⇓*i*P	**Pg**	**00 45 59.1**	**-1.3**
ELDTW				S	**Sg**	**00 46 04.2**	**-2.2**
LDUT	**Ludao**	**0.50**	**182**	⇓*i*P	**Pg**	**00 46 02.4**	**+0.9**
LDUT				S	**Sn**	**00 46 10.7**	**-1.1**
TWGBT	**Beinan**	**0.52**	**227**	P	**Pb**	**00 46 01.6**	**-0.3**
TWGBT	**Beinan**	**0.52**	**227**	S	**Sb**	**00 46 09.0**	**0.0**
TWGBT	**Beinan**	**0.52**	**227**	⇑*i*P	**Pb**	**00 46 01.6**	**-0.3**
TWGBT				S	**Sb**	**00 46 08.8**	**-0.2**
TWG	**Pinlang**	**0.52**	**227**	⇑*i*P	**Pb**	**00 46 01.6**	**-0.4**
TWG				S	**Sb**	**00 46 08.9**	**-0.2**
TEGC	**Jichi Village**	**0.53**	**5**	*e*P	**Pg**	**00 46 02.4**	**+0.3**
TEGC				*e*S	**Sg**	**00 46 10.9**	**+1.5**
WARBT	**Fenglin Townsh**	**0.55**	**350**	P	**Pb**	**00 46 01.2**	**-1.2**
WARBT				*e*S	**Sb**	**00 46 09.1**	**-0.9**
SHUL	**Shoufeng**	**0.61**	**6**	*e*P	**Pg**	**00 46 03.9**	**+0.3**
SHUL				*e*S	**Sg**	**00 46 12.9**	**+1.1**
ESL	**Shilin**	**0.64**	**356**	*e*P	**Pb**	**00 46 03.5**	**-0.4**
STYH	**Taoyuan**	**0.66**	**270**	⇓*i*P	**Pb**	**00 46 03.2**	**-1.0**
STYH				*i* S	**Sb**	**00 46 11.1**	**-1.8**
VWDT	**VWDT**	**0.66**	**331**	P	**Pb**	**00 46 03.4**	**-0.8**
VWDT				*i* S	**Sb**	**00 46 12.0**	**-1.0**
TEYL	**Yanliau Villag**	**0.70**	**8**	*e*P	**Pb**	**00 46 04.1**	**-0.9**
ALS	**Alishan**	**0.71**	**298**	⇓*i*P	**Pb**	**00 46 04.5**	**-0.9**
ALS				*e*S	**Sb**	**00 46 13.5**	**-1.4**
ECL	**Taimali**	**0.76**	**221**	*e*P	**Pb**	**00 46 04.7**	**-1.3**
ECL				*e*S	**Sb**	**00 46 14.1**	**-1.9**
WHYT	**Xinyi Township**	**0.78**	**312**	⇓*i*P	**Pb**	**00 46 05.8**	**-0.7**
SSLB	**Suanglung**	**0.78**	**321**	P	**Pb**	**00 46 05.4**	**-1.1**
SSLB	**Suanglung**	**0.78**	**321**	S	**Sb**	**00 46 14.7**	**-2.1**
SSLB	**Suanglung**	**0.78**	**321**	⇓*i*P	**Pb**	**00 46 05.2**	**-1.3**
SSLB				*e*S	**Sb**	**00 46 14.4**	**-2.7**
ETM	**Tongmen**	**0.79**	**0**	*e*P	**Pb**	**00 46 05.3**	**-1.2**
TPUB	**Ta-pu**	**0.80**	**279**	⇓*i*P	**Pb**	**00 46 06.1**	**-0.6**
TPUB				*e*S	**Sb**	**00 46 16.2**	**-1.0**
HWA	**Hwalien**	**0.81**	**8**	*e*P	**Pg**	**00 46 07.2**	**0.0**
HWA				*e*S	**Sg**	**00 46 18.0**	**+0.1**
WTP	**Ta-pu**	**0.81**	**275**	⇓*i*P	**Pb**	**00 46 06.4**	**-0.5**
WTP				*i* S	**Sb**	**00 46 16.8**	**-0.7**
OWD	**Renai**	**0.83**	**340**	*e*P	**Pb**	**00 46 06.0**	**-1.3**
SGST	**Jiashian**	**0.84**	**264**	⇓*i*P	**Pb**	**00 46 06.1**	**-1.3**
SGST				*e*S	**Sb**	**00 46 17.4**	**-0.9**
LXIB	**Xiulin Townshi**	**0.84**	**355**	⇓P	**Pb**	**00 46 06.1**	**-1.5**
LXIB				*e*S	**Sb**	**00 46 17.5**	**-1.2**
WCKO	**Fanlu**	**0.85**	**288**	*e*P	**Pb**	**00 46 07.2**	**-0.4**
WCKO				*e*S	**Sb**	**00 46 18.3**	**-0.5**
CHN5	**Tsauling**	**0.85**	**300**	⇓*i*P	**Pb**	**00 46 07.4**	**-0.4**
CHN5				*e*S	**Sb**	**00 46 18.4**	**-0.4**
WUSB	**Renai**	**0.88**	**337**	P	**Pb**	**00 46 07.0**	**-1.2**
WUSB				*e*S	**Sb**	**00 46 18.3**	**-1.4**
CHN1	**Nanshi**	**0.88**	**271**	⇓P	**Pb**	**00 46 08.0**	**-0.2**
CHN1				S	**Sb**	**00 46 20.0**	**+0.4**
SMLT	**Sun Moon Lake**	**0.89**	**323**	⇓P	**Pb**	**00 46 06.4**	**-1.9**
TWD	**Chiawan**	**0.91**	**6**	*e*P	**Pb**	**00 46 07.4**	**-1.1**
TWD				*e*S	**Sb**	**00 46 20.0**	**-0.3**
TSMG	**Majia**	**0.91**	**239**	*e*P	**Pb**	**00 46 06.9**	**-1.6**
SNST	**Tainan City**	**0.91**	**273**	P	**Pb**	**00 46 08.4**	**-0.3**
SNST				*e*S	**Sb**	**00 46 20.1**	**-0.3**
TWK	**Hsinying**	**0.92**	**276**	⇓*i*P	**Pb**	**00 46 08.5**	**-0.4**
TWK				*i* S	**Sb**	**00 46 20.7**	**-0.1**
TYC	**Yuchr**	**0.93**	**322**	⇓P	**Pb**	**00 46 08.1**	**-0.9**
TYC				*i* S	**Sb**	**00 46 20.7**	**-0.2**
WJS	**Zhushan**	**0.95**	**313**	⇓P	**Pb**	**00 46 09.5**	**+0.2**
WJS				*i* S	**Sg**	**00 46 22.4**	**0.0**
SCST	**Cishan**	**0.96**	**253**	*i* P	**Pn**	**00 46 09.9**	**0.0**
SCST				*e*S	**Sn**	**00 46 23.6**	**+0.6**
MASBT	**Mashibuluo**	**0.97**	**235**	⇑*i*P	**Pb**	**00 46 08.6**	**-1.0**
MASBT				*e*S	**Sb**	**00 46 21.4**	**-0.7**
TAW	**Tawu**	**0.98**	**214**	*e*P	**Pb**	**00 46 08.6**	**-1.2**
ETL	**Fush Village**	**0.99**	**7**	*e*P	**Pb**	**00 46 10.1**	**+0.1**
WHF	**Hehuan Shan**	**0.99**	**348**	*e*P	**Pb**	**00 46 09.1**	**-1.1**
WHF				*e*S	**Sb**	**00 46 22.0**	**-1.0**
WGK	**Gukeng**	**0.99**	**301**	*e*P	**Pb**	**00 46 10.1**	**+0.1**
WGK				*e*S	**Sb**	**00 46 23.0**	**+0.3**
CHN2	**Minshiung**	**1.00**	**291**	*e*P	**Pn**	**00 46 10.5**	**+0.1**
NACB	**Ninganchiao**	**1.00**	**6**	P	**Pb**	**00 46 09.7**	**-0.5**
NACB	**Ninganchiao**	**1.00**	**6**	*e*P	**Pb**	**00 46 08.4**	**-1.8**
NACB				*e*S	**Sb**	**00 46 21.2**	**-1.7**
TAWH	**Dawu Township**	**1.00**	**214**	*e*P	**Pb**	**00 46 09.0**	**-1.2**
TAWH				*i* S	**Sb**	**00 46 21.8**	**-1.1**
WDLH	**Douliu**	**1.01**	**301**	⇓*e*P	**Pb**	**00 46 10.4**	**+0.1**
WDLH				S	**Sg**	**00 46 24.8**	**+0.4**
WNT	**Mingjian**	**1.02**	**314**	*i* P	**Pn**	**00 46 10.8**	**+0.1**
WNT				*i* S	**Sn**	**00 46 24.0**	**-0.5**
SGLT	**Jiouru**	**1.02**	**244**	*e*P	**Pg**	**00 46 11.4**	**+0.1**
WDL	**Douliou City**	**1.02**	**302**	*e*P	**Pb**	**00 46 10.6**	**+0.1**
WDL				*e*S	**Sn**	**00 46 24.8**	**+0.1**
WCS	**Beigang Elemen**	**1.02**	**329**	*e*P	**Pb**	**00 46 10.0**	**-0.6**
WCS				S	**Sb**	**00 46 22.9**	**-0.8**
ETLH	**Xiulin Townshi**	**1.03**	**360**	*e*P	**Pb**	**00 46 09.0**	**-1.7**
CHY	**Chiayi**	**1.03**	**288**	*e*P	**Pb**	**00 46 10.8**	**+0.1**
CHY				*i* S	**Sb**	**00 46 24.3**	**+0.5**
CHN3	**Shinhua**	**1.04**	**265**	*e*P	**Pg**	**00 46 12.2**	**+0.6**
CHN3				*e*S	**Sg**	**00 46 26.6**	**+1.3**
TWM1	**Shoushan**	**1.04**	**251**	⇓*i*P	**Pg**	**00 46 12.3**	**+0.7**
TWM1				*e*S	**Sg**	**00 46 26.7**	**+1.3**
SHHT	**Tainan City**	**1.06**	**262**	P	**Pg**	**00 46 12.7**	**+0.7**
SHHT				*e*S	**Sg**	**00 46 27.9**	**+1.9**
SSHA	**Shanhua**	**1.10**	**268**	*e*P	**Pg**	**00 46 13.0**	**+0.1**
SSHA				*e*S	**Sg**	**00 46 27.8**	**+0.4**
TWT	**Tachien**	**1.11**	**345**	*e*P	**Pb**	**00 46 11.3**	**-0.9**
TWT				*e*S	**Sb**	**00 46 25.1**	**-1.3**
TDCB	**Techi**	**1.11**	**344**	*e*P	**Pn**	**00 46 11.2**	**-1.0**
TDCB				*e*S	**Sb**	**00 46 24.3**	**-2.1**
ICHU	**Yijhu**	**1.13**	**280**	*i* P	**Pn**	**00 46 12.4**	**+0.1**
ICHU				*i* S	**Sn**	**00 46 27.5**	**+0.3**
SCZT	**Fangliau**	**1.13**	**225**	P	**Pn**	**00 46 11.6**	**-0.7**
SCZT				*e*S	**Sb**	**00 46 27.1**	**+0.3**
WTK	**Tuku**	**1.13**	**297**	*e*P	**Pb**	**00 46 12.5**	**+0.1**
WTK				*e*S	**Sn**	**00 46 27.3**	**-0.1**
LAY	**Lan-yu**	**1.13**	**177**	⇓P	**Pn**	**00 46 11.2**	**-1.2**
LAY				*e*S	**Sb**	**00 46 26.6**	**-0.2**
SNJT	**Kaohsiung City**	**1.14**	**249**	*e*P	**Pg**	**00 46 14.4**	**+0.8**
SNJT				S	**Sg**	**00 46 31.8**	**+3.2**
SLIU	**Shizi**	**1.15**	**214**	*e*P	**Pn**	**00 46 11.1**	**-1.4**
LYUB	**Lan-yu**	**1.17**	**176**	*e*P	**Pn**	**00 46 10.9**	**-1.9**
LYUB				*e*S	**Sb**	**00 46 26.8**	**-1.0**
EAHA	**Aohua**	**1.17**	**11**	*e*P	**Pn**	**00 46 12.4**	**-0.4**
CHN8	**Yiju**	**1.19**	**279**	*e*P	**Pn**	**00 46 12.7**	**-0.3**
CHN8				*i* S	**Sg**	**00 46 29.7**	**-0.2**
SCLT	**Jiali**	**1.19**	**270**	*e*P	**Pb**	**00 46 13.7**	**+0.3**
SCLT				*i* S	**Sg**	**00 46 30.2**	**+0.1**
WSL	**Shuilin Townsh**	**1.21**	**287**	*e*P	**Pn**	**00 46 13.7**	**+0.3**
WSL				*i* S	**Sn**	**00 46 29.9**	**+0.7**
EOS4	**EOS4**	**1.21**	**39**	*e*P	**Pn**	**00 46 12.9**	**-0.1**
EOS4				*i* S	**Sb**	**00 46 28.3**	**-0.4**
TCU	**Taichung**	**1.22**	**323**	*e*P	**Pb**	**00 46 14.5**	**+0.6**
TCU				*e*S	**Sg**	**00 46 30.3**	**-0.7**
WCHH	**Zhanghua**	**1.24**	**317**	*e*P	**Pb**	**00 46 14.4**	**+0.1**
WCHH				S	**Sb**	**00 46 29.8**	**-0.1**
WSSB	**Gushan**	**1.25**	**245**	*e*P	**Pg**	**00 46 15.7**	**+0.1**
WSSB				*e*S	**Sg**	**00 46 32.5**	**+0.5**
NNSB	**Datong**	**1.25**	**356**	P	**Pn**	**00 46 12.9**	**-1.2**
NNSB				*e*S	**Sb**	**00 46 28.1**	**-2.2**
WSF	**Szhu**	**1.25**	**292**	P	**Pn**	**00 46 14.0**	**0.0**
WSF				*i* S	**Sb**	**00 46 30.2**	**0.0**
NNS	**Nan Shan**	**1.26**	**355**	*e*P	**Pn**	**00 46 13.5**	**-0.7**
NNS				*e*S	**Sb**	**00 46 28.9**	**-1.8**
ENA	**Nanau**	**1.27**	**10**	*e*P	**Pn**	**00 46 14.1**	**-0.1**
TSCK	**Chigu Township**	**1.29**	**269**	*e*P	**Pb**	**00 46 15.0**	**-0.1**
TSCK				*e*S	**Sg**	**00 46 33.1**	**-0.2**
EWUT	**Wuta**	**1.29**	**12**	*e*P	**Pn**	**00 46 14.3**	**-0.2**
SMST	**Manzhou Townsh**	**1.30**	**208**	*e*P	**Pn**	**00 46 15.1**	**+0.6**
TWP	**Hsiaoliuchiu**	**1.33**	**232**	*e*P	**Pg**	**00 46 18.8**	**+1.8**
TWQ1	**Liyutan**	**1.34**	**331**	*e*P	**Pb**	**00 46 16.3**	**+0.3**
TWQ1				*e*S	**Sb**	**00 46 33.3**	**+0.5**
EOS3	**EOS3**	**1.34**	**34**	*e*P	**Pn**	**00 46 15.2**	**+0.1**
EOS3				*e*S	**Sn**	**00 46 31.4**	**-0.9**
HEN	**Hengchun**	**1.35**	**211**	*e*P	**Pb**	**00 46 16.7**	**+0.5**
LATG	**Datong**	**1.35**	**1**	*e*P	**Pn**	**00 46 14.6**	**-0.8**
TWKBT	**Hengchun**	**1.38**	**207**	*e*P	**Pn**	**00 46 14.9**	**-0.7**
TWK1	**Hengchun**	**1.38**	**207**	*e*P	**Pn**	**00 46 14.9**	**-0.8**
TSEB	**Hengchuen, Pin**	**1.38**	**203**	*e*P	**Pn**	**00 46 16.0**	**+

BTO				pmax	pmax		
	comp=Z,240nm,5.3s						
BTO				LR	LR		
	comp=N,800nm,13.6s						
BTO				LR	LR		
	comp=E,600nm,15.2s						
BTO				LR	LR		
	comp=Z,1μm,13.0s						
CMAR	**Chiang Mai Arr**	**21.58**	**262**	P	**P**	**00 50 41.6**	**+1.3**
	1.1nm,0.3s,baz=73,slow=9.9,SNR=7.0						
USRK	**Ussuriysk Ar.**	**22.68**	**20**	P	**P**	**00 50 53.6**	**+1.8**
	1.0nm,0.6s,baz=193,slow=12,SNR=4.7						
	1.0nm,0.6s						
ASAJ	**Asahikawa**	**27.15**	**35**	LR	LR	01 02 47.6	
	comp=Z,37nm,20.3s,baz=178,slow=37						
SONM	**Songino Array**	**27.40**	**338**	P	**P**	**00 51 35.3**	**-0.6**
	0.5nm,0.7s,baz=152,slow=9.6,SNR=5.0						
SONM				LR	LR	01 03 58.4	
	comp=Z,104nm,19.1s,baz=146,slow=40						
	0.5nm,0.7s						
BRDH	**Bariadhala**	**27.47**	**275**	LR	LR	01 04 06.2	
	comp=Z,36nm,20.8s,baz=194,slow=40						
MKAR	**Makanchi Array**	**39.26**	**317**	P	**P**	**00 53 18.3**	**-0.6**
	0.7nm,0.5s,baz=114,slow=9.6,SNR=14						
MKAR				PcP	**PcP**	**00 55 27.5**	**-0.1**
	0.2nm,0.5s,baz=104,slow=4.8,SNR=3.6						
MKAR				LR	LR	01 09 47.0	
	comp=Z,31nm,19.5s,baz=75,slow=37						
	0.7nm,0.5s						
PETK	**Petropavlovsk-**	**40.55**	**33**	LR	LR	01 11 49.4	
	comp=Z,28nm,18.7s,baz=223,slow=38						
FITZ	**Fitzroy Crossi**	**41.22**	**174**	LR	LR	01 13 33.3	
	comp=Z,30nm,18.9s,baz=126,slow=40						
ZALV	**Zalesovo Beam**	**41.24**	**328**	P	**P**	**00 53 33.4**	**-1.7**
	1.0nm,0.4s,baz=114,slow=7.8,SNR=9.6						
ZALV				LR	LR	01 12 42.7	
	comp=Z,44nm,18.3s,baz=150,slow=39						
	1.0nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**42.27**	**86**	T	T	01 38 55.5	
	baz=283,slow=74,SNR=159						
H11N2	**WAKE ISLAND Hy**	**42.28**	**86**	T	T	01 38 56.6	
	baz=283,slow=74,SNR=148						
H11N3	**WAKE ISLAND Hy**	**42.29**	**86**	T	T	01 38 56.4	
	baz=283,slow=74,SNR=95						
H11S3	**WAKE ISLAND Hy**	**42.38**	**88**	T	T	01 39 02.1	
	baz=284,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy**	**42.38**	**88**	T	T	01 39 02.7	
	baz=284,slow=75,SNR=192						
H11S2	**WAKE ISLAND Hy**	**42.39**	**88**	T	T	01 39 03.0	
	baz=284,slow=75,SNR=36						
KURBB	**Kurchatov Arra**	**43.06**	**321**	P	**P**	**00 53 49.5**	**-0.5**
	0.5nm,0.3s,baz=119,slow=7.6,SNR=4.5						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.65**	**163**	P	**P**	**00 54 01.3**	**-1.8**
	1.0nm,0.5s,baz=343,slow=7.8,SNR=7.8						
WRA				PcP	**PcP**	**00 55 44.3**	**-1.4**
	0.3nm,0.6s,baz=341,slow=4.0,SNR=2.0						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**48.10**	**165**	P	**P**	**00 54 29.7**	**-0.5**
	0.4nm,0.3s,baz=346,slow=9.1,SNR=12						
ASAR				PcP	**PcP**	**00 55 57.1**	**-0.7**
	0.3nm,0.5s,baz=342,slow=3.4,SNR=4.1						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**48.63**	**321**	P	**P**	**00 54 34.2**	**+0.2**
	0.8nm,0.4s,baz=102,slow=9.1,SNR=7.9						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**58.02**	**160**	P	**P**	**00 55 41.2**	**-1.9**
	2.5nm,0.8s,baz=334,slow=15,SNR=5.6						
	2.5nm,0.8s						
ILAR	**Eielson Array**	**69.98**	**27**	P	**P**	**00 57 03.0**	**+1.6**
	0.3nm,0.7s,baz=309,slow=8.1,SNR=2.4						
	0.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**70.52**	**348**	LR	LR	01 31 41.0	
	comp=Z,34nm,18.1s,baz=130,slow=39						
FINES	**FINESS Array B**	**72.45**	**330**	P	**P**	**00 57 15.6**	**-0.9**
	2.8nm,0.8s,baz=49,slow=7.1,SNR=9.2						
	2.8nm,0.8s						
BRTR	**Keskin Array B**	**73.99**	**307**	P	**P**	**00 57 26.2**	**0.0**
	0.5nm,0.7s,baz=119,slow=4.3,SNR=4.3						
	0.5nm,0.7s						
HFS	**Hagfors**	**78.58**	**331**	P	**P**	**00 57 50.5**	**-1.1**
	1.2nm,0.7s,baz=46,slow=4.8,SNR=4.4						
	1.2nm,0.7s						
NB2	**NORSAR Subarra**	**79.24**	**332**	P	**P**	**00 57 53.6**	**-1.7**
	comp=Z,5.4nm,1.1s,baz=57,slow=6.2						
NOA	**NORSAR Array B**	**79.24**	**332**	P	**P**	**00 57 53.3**	**-2.0**
	comp=Z,1.3nm,0.9s,baz=56,slow=5.8,SNR=3.9						
NOA				LR	LR	01 34 19.1	
	comp=Z,11nm,19.7s,baz=260,slow=37						
	comp=Z,1.3nm,0.9s						
YKA	**Yellowknife Ar**	**83.79**	**23**	P	**P**	**00 58 19.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=309,slow=5.1,SNR=6.5						
	comp=Z,0.4nm,0.8s						
GERES	**GERESS Array B**	**83.80**	**321**	P	**P**	**00 58 19.3**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=55,slow=12,SNR=1.4						
	comp=Z,1.1nm,0.5s						

*IDC **16** 00:48:41.2±1.2, 52°.52S×12°.44E, h0km, mb4.1/6, mbtmp4.1/6, MS3.8/18, Error ellipse: s-maj=44.5km s-min=28.7km az=67.0*
*NEIC **16** 00:48:44.4±1.9, 52°.6S±0°.1×12°.6E±0°.2, h10km±1km, mb5.1/25, Error ellipse: s-maj=21.9km s-min=18.5km az=121.0*
ISC 16 00:48:43.7±0.4,**52°.67S**±0°.07×**12°.5E**±0°.1,**h10**km,**n66,**
σ1$**39**/47,**mb4.9**/18,**MS3.8**/18,**6C, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti**	**19.89**	**189**	⇑P	**Pn**	**00 53 18.1**	**+1.4**
	comp=Z,1μm,0.8s						
SNAA	**Sanae**	**20.24**	**194**		**P**	**00 53 18.8**	**+0.2**
SNAA	**Sanae**	**20.24**	**194**	⇑P	**P**	**00 53 19.4**	**+0.8**
	comp=Z,322nm,1.1s						
SNAA	**Sanae**	**20.24**	**194**	P	**P**	**00 53 19.5**	**+0.8**
	comp=Z,11nm,0.8s,baz=15,slow=13,SNR=32						
SNAA				S	**S**	**00 56 58.7**	**-6.7**
	comp=Z,2.3nm,0.9s,baz=24,slow=11,SNR=1.5						
SNAA				LR	LR	00 59 31.4	
	comp=Z,158nm,21.3s,baz=90,slow=32						
	comp=Z,11nm,0.8s						
VNA2	**Neumayer--Watz**	**20.38**	**199**	⇑P	**P**	**00 53 19.1**	**-1.1**
	comp=Z,16nm,0.6s,baz=26,slow=14						
SYO	**Syowa Base**	**20.74**	**152**	⇑*e*Pn	**P**	**00 53 24.8**	**+0.8**
SYO	**Syowa Base**	**20.74**	**152**	⇑*es*Pn	Pn	00 53 28.2	+1.8
VNA3	**Neumayer Olymp**	**21.09**	**200**	⇑P	**P**	**00 53 28.5**	**+0.7**
	comp=Z,18nm,0.7s						
SUR	**Sutherland**	**21.16**	**20**	LR	LR	01 00 15.6	
	comp=Z,157nm,18.1s,baz=186,slow=33						
BOSA	**Boshof**	**25.84**	**27**	P	**P**	**00 54 13.4**	**-1.9**
BOSA				IAmb	IAmb	00 54 14.4	
	comp=Z,41nm,1.9s						
BOSA	**Boshof**	**25.84**	**27**	LR	LR	01 02 54.3	
	comp=Z,148nm,18.5s,baz=208,slow=33						
H04S2	**CROZET ISLANDS**	**25.88**	**93**	T	T	01 21 31.5	
	baz=243,slow=75,SNR=5.4						
H04S3	**CROZET ISLANDS**	**25.88**	**93**	T	T	01 21 36.6	
	baz=243,slow=75,SNR=5.4						
H04S1	**CROZET ISLANDS**	**25.90**	**93**	T	T	01 21 30.3	
	baz=243,slow=75,SNR=5.7						
MAW	**Mawson**	**28.19**	**141**	LR	LR	01 04 31.0	
	comp=Z,117nm,19.1s,baz=284,slow=34						
LBTB	**Lobatse**	**29.35**	**25**	LR	LR	01 05 08.5	
	comp=Z,131nm,18.2s,baz=210,slow=34						
BELA	**Belgrano 2**	**30.36**	**198**	P	**P**	**00 54 55.2**	**+0.2**
TSUM	**Tsumeb**	**33.64**	**9**	LR	LR	01 06 37.0	
	comp=Z,291nm,22.0s,baz=172,slow=32						
QSPA	**South Pole Qui**	**37.56**	**180**	P	**P**	**00 55 58.2**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=234,slow=9.7,SNR=20						
QSPA				LR	LR	01 10 18.4	
	comp=Z,232nm,21.4s,baz=210,slow=34						
	comp=Z,3.9nm,0.9s						
LSZ	**Lusaka**	**39.34**	**24**	P	**P**	**00 56 12.4**	**-0.8**
LSZ	**Lusaka**	**39.34**	**24**	LR	LR	01 10 31.3	
	comp=Z,136nm,19.8s,baz=186,slow=33						
VOI	**Vohitsoka**	**40.42**	**54**	P	**P**	**00 56 21.1**	**-1.1**
VOI				IAmb	IAmb	00 57 14.0	
	comp=Z,41nm,1.7s						
CASY	**Casey**	**46.31**	**146**	P	**P**	**00 57 10.2**	**+1.2**
CASY				IAmb	IAmb	00 57 15.9	
	comp=Z,94nm,1.5s						
VNDA	**Vanda**	**48.69**	**172**	P	**P**	**00 57 29.0**	**+1.6**
VNDA	**Vanda**	**48.69**	**172**	P	**P**	**00 57 27.3**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=211,slow=5.9,SNR=6.3						
VNDA				LR	LR	01 16 33.9	
	comp=Z,189nm,21.8s,baz=203,slow=34						
	comp=Z,1.9nm,0.7s						
PLTB	**Pedras Altas**	**51.25**	**267**	P	**P**	**00 57 49.2**	**+1.8**
PLTB				IAmb	IAmb	00 57 51.9	
	comp=Z,61nm,1.8s						
KIBK	**Kibwezi**	**54.48**	**32**	P	**P**	**00 58 11.8**	**+0.3**
KMBO	**Kilima Mbogo**	**55.37**	**31**	LR	LR	01 20 52.6	
	comp=Z,82nm,19.1s,baz=94,slow=35						
BI02	**San Fabin de**	**58.33**	**250**	P	**P**	**00 58 40.4**	**+1.6**
BI02				IAmb	IAmb	01 00 12.5	
	comp=Z,20nm,1.6s						
LODK	**Lodwar**	**59.14**	**27**	P	**P**	**00 58 44.6**	**+0.1**
MT08	**Bocatoma Ro**	**59.89**	**253**	P	**P**	**00 58 50.0**	**+0.2**
MT08				IAmb	IAmb	01 00 27.9	
	comp=Z,32nm,1.8s						
BDFB	**Brasilia**	**59.89**	**284**	P	**P**	**00 58 49.2**	**-0.7**
BDFB				IAmb	IAmb	00 58 49.5	
	comp=Z,20nm,1.7s						
DBIC	**Dimbokro**	**60.92**	**340**	LR	LR	01 20 30.0	
	comp=Z,70nm,18.8s,baz=187,slow=31						
PB05	**IPOC Station P**	**67.79**	**261**	P	**P**	**00 59 42.6**	**+0.7**
PB05				IAmb	IAmb	00 59 46.8	
	comp=Z,28nm,1.3s						
PB11	**IPOC Station P**	**69.81**	**264**	P	**P**	**00 59 54.0**	**-0.5**
PB11				IAmb	IAmb	00 59 55.0	
	comp=Z,23nm,1.5s						
LPAZ	**La Paz**	**71.54**	**267**	P	**P**	**01 00 05.5**	**-0.1**
LPAZ	**La Paz**	**71.54**	**267**	P	**P**	**01 00 04.3**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=135,slow=7.1,SNR=4.8						
	comp=Z,1.4nm,0.9s						
WHZ	**Wether Hill Ro**	**79.59**	**163**	P	**P**	**01 00 50.4**	**-0.3**
WHZ				IAmb	IAmb	01 01 30.6	
	comp=Z,92nm,1.7s						
PALK	**Pallekele**	**82.86**	**68**	LR	LR	01 29 42.0	
	comp=Z,19nm,18.9s,baz=228,slow=30						
MBWA	**Marble Bar**	**83.34**	**116**	P	**P**	**01 01 11.1**	**+0.2**
MDT	**Midelt**	**86.42**	**346**	LR	LR	01 35 29.8	
	comp=Z,29nm,18.4s,baz=190,slow=33						
ASF	**Jabal al Asfar**	**87.14**	**21**	LR	LR	01 39 19.7	
	comp=Z,58nm,19.8s,baz=328,slow=35						
MMAI	**Mount Meron Ar**	**87.65**	**19**	LR	LR	01 40 06.0	
	comp=Z,74nm,19.2s,baz=225,slow=35						
URZ	**Urewera**	**88.46**	**168**	LR	LR	01 38 07.6	
	comp=Z,53nm,21.2s,baz=264,slow=34						
ASAR	**Alice Springs**	**88.55**	**129**	P	**P**	**01 01 35.5**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=209,slow=5.4,SNR=5.7						
	comp=Z,0.6nm,0.8s						
BBGH	**Gun Hill**	**89.78**	**292**	P	**P**	**01 01 42.9**	**+0.6**
HYB	**Hyderabad**	**90.02**	**61**	*e*P	**P**	**01 01 44.9**	**+1.4**
MPOM	**Morne Pois Mar**	**91.56**	**292**	P	**P**	**01 01 51.1**	**+0.5**
WRA	**Warramunga Arr**	**91.92**	**127**	P	**P**	**01 01 52.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=223,slow=5.7,SNR=1.9						
	comp=Z,0.1nm,0.3s						
GAZ	**Gaziantep**	**92.03**	**20**	P	**P**	**01 01 52.2**	**-0.1**
GAZ				IAmb	IAmb	01 04 37.1	
	comp=Z,17nm,1.4s						
KEK	**Kerkira**	**92.23**	**6**	P	**P**	**01 01 54.7**	**+1.6**
TOKA	**Tokat**	**94.93**	**18**	P	**P**	**01 02 06.4**	**+0.8**
TOKA				IAmb	IAmb	01 04 32.7	
	comp=Z,2.3nm,0.7s						
KSM	**Kuching**	**95.93**	**95**	P	**P**	**01 02 11.2**	**+0.4**
GNI	**Garni**	**96.59**	**24**	LR	LR	01 46 30.0	
	comp=Z,53nm,18.8s,baz=227,slow=36						
SSB	**Saint Sauveur**	**97.81**	**354**	P	Pdif	01 02 19.3	+0.7
KBZ	**Khabaz**	**99.54**	**22**	LR	LR	01 47 14.2	
	comp=Z,42nm,20.3s,baz=184,slow=35						
TXAR	**Lajitas Array**	**128.38**	**269**	PKPdf	**PKPdf**	**01 07 49.5**	**-0.8**
TXAR	**Lajitas Array**	**128.38**	**269**	PKP	**PKPdf**	**01 07 49.1**	**-1.2**
	comp=Z,1.1nm,1.1s,baz=101,slow=3.2,SNR=4.2						
P40A	**Paris**	**128.38**	**287**	PKPdf	**PKPdf**	**01 07 48.9**	**-0.9**
RES	**Resolute Bay**	**144.39**	**334**		**PKPdf**	**01 08 17.1**	**-1.2**
LYMT	**Lyon Mountain**	**144.66**	**283**		**PKPdf**	**01 08 19.1**	**-0.9**
MSO	**Missoula**	**145.57**	**282**		**PKPab**	**01 08 21.6**	**-0.3**
PLID	**Pearl Lake**	**145.91**	**278**		**PKPbc**	**01 08 22.5**	**-0.4**
TIXI	**Tiksi**	**146.94**	**31**		**PKPbc**	**01 08 23.3**	**-1.4**
J05D	**Fort Rock, OR**	**148.12**	**272**		**PKPbc**	**01 08 29.4**	**+0.3**
YKA	**Yellowknife Ar**	**150.80**	**311**	PKPbc	**PKPbc**	**01 08 33.9**	**-1.0**
	comp=Z,7.8nm,0.9s,baz=97,slow=2.2,SNR=81						

*ISK **16** 00:58:23.1, 39°.73N×25°.63E, h9km, ML3.5/22*
*ATH **16** 00:58:23.5, 39°.73N×25°.62E, h15km±2km, ML3.1/19, Manual Solution by A.Agalos First location: 2019/03/16 00:59:26, This location: 2019/03/16 01:23:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **16** 00:58:24.2, 39°.73N×25°.65E, h7km±2km, MW3.1*
*THE **16** 00:58:24.4, 39°.70N×25°.64E, h20km±1km, ML3.1/15, Error ellipse: s-maj=1.6km s-min=0.4km az=112.0*
*BEO **16** 00:58:25.7±4.8, 39°.86N×25°.53E, h0km±5km, ML3.2/11*
ISC 16 00:58:22.9±1.0,**39°.70N**±0°.02×**25°.59E**±0°.01,**h9**km±9km,
n148,σ1$**01**/199,**11C-16D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.38**	**69**	Pg	**Pg**	**00 58 30.4**	**0.0**
BOZC				Sg	**Sg**	**00 58 35.8**	**+0.3**
BOZC	**Bozcaada**	**0.38**	**69**	P	**Pg**	**00 58 30.6**	**+0.2**
BOZC				P	**Pb**	**00 58 31.0**	**-0.9**
BOZC				S	**Sg**	**00 58 35.8**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.47**	**115**	P	**Pb**	**00 58 32.9**	**-0.4**
KOCA				S	**Sb**	**00 58 40.1**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.49**	**120**	Pg	**Pb**	**00 58 33.2**	**-0.4**
GPNR				Sg	**Sb**	**00 58 39.9**	**-0.9**
EFSA	**Agios Efstrati**	**0.49**	**251**	P	**Pb**	**00 58 33.9**	**+0.2**
EFSA				S	**Sb**	**00 58 40.8**	**-0.1**
GOAD	**anakkale-G¶**	**0.52**	**28**	P	**Pg**	**00 58 33.2**	**+0.2**
GOAD				S	**Sb**	**00 58 41.0**	**-0.8**
SIGR	**SIGRI**	**0.53**	**157**	Pg	**Pb**	**00 58 34.3**	**-0.1**
SIGR				Sg	**Sb**	**00 58 42.5**	**+0.4**
SIGR	**SIGRI**	**0.53**	**157**	P	**Pb**	**00 58 34.2**	**-0.1**
SIGR				S	**Sb**	**00 58 41.9**	**-0.2**
	8μm,0.5s						
SIGR	**SIGRI**	**0.53**	**157**	P	**Pb**	**00 58 34.3**	**-0.1**
SIGR				S	**Sb**	**00 58 41.7**	**-0.4**
GADA	**Gvkgeada**	**0.54**	**26**	Pg	**Pg**	**00 58 33.4**	**0.0**
GADA				Sg	**Sg**	**00 58 41.1**	**+0.6**
ECEA	**Canakkale, Ece**	**0.56**	**53**	P	**Pg**	**00 58 34.2**	**+0.4**
ECEA				S	**Sg**	**00 58 41.6**	**+0.4**
PRK	**Paraskevi**	**0.70**	**131**	P	**Pb**	**00 58 37.3**	**+0.1**
PRK				S	**Sb**	**00 58 46.6**	**-0.3**
	3μm,0.6s						
PRK	**Paraskevi**	**0.70**	**131**	P	**Pb**	**00 58 37.0**	**-0.2**
PRK				S	**Sb**	**00 58 46.9**	**0.0**
CNKL	**anakkale-Mer**	**0.71**	**59**	P	**Pb**	**00 58 37.0**	**-0.5**
CNKL				P	**Pb**	**00 58 37.0**	**-0.5**
CNKL				S	**Sg**	**00 58 46.4**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.74**	**87**	P	**Pb**	**00 58 37.5**	**-0.5**
BAYC				S	**Sg**	**00 58 47.1**	**+0.3**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**00 58 38.1**	**-0.4**
SMTH				S	**Sb**	**00 58 49.5**	**+0.5**
	1μm,0.3s						
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**00 58 38.0**	**-0.4**
COMU	**Canakkale**	**0.79**	**60**	Pg	**Pg**	**00 58 37.8**	**-0.2**
AYVA	**Ayvalik**	**0.94**	**114**	P	**Pn**	**00 58 41.6**	**-0.6**
AYVA				S	**Sn**	**00 58 56.0**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.97**	**44**	Pg	**Pg**	**00 58 41.5**	**-0.1**
GELI				Sg	**Sg**	**00 58 54.4**	**+0.2**
ENZZ	**Sultanice-Enez**	**1.00**	**25**	Pg	**Pg**	**00 58 41.8**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**1.08**	**24**	⇑P	**Pb**	**00 58 43.9**	**+0.1**
ENEZ	**Enez**	**1.12**	**23**	Pg	**Pg**	**00 58 44.2**	**-0.2**
ENEZ				Sg	**Sn**	**00 58 59.9**	**-0.3**
ENEZ	**Enez**	**1.12**	**23**	P	**Pg**	**00 58 44.2**	**-0.2**
ENEZ				S	**Sb**	**00 58 59.1**	**+0.1**
	2μm,0.4s						
LPK	**Lapseki**	**1.12**	**53**	Pg	**Pg**	**00 58 44.1**	**-0.3**
THAS	**Thassos island**	**1.12**	**324**	P	**Pg**	**00 58 44.3**	**-0.1**
THAS				S	**Sb**	**00 58 59.5**	**+0.4**
	1μm,0.4s						
THAS	**Thassos island**	**1.12**	**324**	P	**Pn**	**00 58 44.8**	**0.0**
THAS				S	**Sg**	**00 58 58.7**	**-0.3**
SKY	**Skiros Island**	**1.15**	**225**	P	**Pn**	**00 58 45.1**	**-0.1**
SKY				S	**Sn**	**00 59 00.6**	**-0.5**
	1μm,0.4s						
SKY	**Skiros Island**	**1.15**	**225**	P	**Pn**	**00 58 45.1**	**-0.1**
CANM	**Can-anakkale**	**1.17**	**74**	Pn	**Pg**	**00 58 44.6**	**-0.7**
ALEX	**Alexandroupoli**	**1.18**	**12**	P	**Pn**	**00 58 45.5**	**0.0**
ALEX				S	**Sg**	**00 58 59.8**	**-0.9**
ERIK	**Erikli-Kesan**	**1.20**	**36**	Pn	**Pb**	**00 58 45.5**	**-0.2**
ERIK				Sn	**Sn**	**00 59 02.2**	**0.0**
DKL	**Dikili**	**1.20**	**121**	Pn	**Pn**	**00 58 46.3**	**+0.5**
DKL				Sn	**Sn**	**00 59 03.2**	**+1.0**
DKL	**Dikili**	**1.20**	**121**	P	**Pn**	**00 58 46.1**	**+0.3**
CAND	**Candarli**	**1.20**	**128**	Pn	**Pn**	**00 58 46.5**	**+0.7**
ALN	**Alexandroupoli**	**1.24**	**16**	Pn	**Pn**	**00 58 46.1**	**-0.3**
ALN	**Alexandroupoli**	**1.24**	**16**	P	**Pn**	**00 58 45.9**	**-0.5**
ALN				S	**Sb**	**00 59 01.7**	**-0.9**
	530nm,0.5s						
YENI	**Yenice-Canakka**	**1.29**	**79**	Pn	**Pg**	**00 58 47.8**	**+0.1**
FOCM	**Foa**	**1.33**	**138**	Pn	**Pg**	**00 58 48.2**	**-0.2**
OUR	**Ouranopolis**	**1.39**	**298**	P	**Pn**	**00 58 48.5**	**+0.1**
OUR				S	**Sg**	**00 59 07.2**	**-0.3**
	558nm,0.5s						
OUR	**Ouranopolis**	**1.39**	**298**	P	**Pn**	**00 58 48.5**	**+0.1**
OUR				S	**Sb**	**00 59 06.2**	**-0.5**
AOS	**Alonnisos**	**1.43**	**249**	P	**Pg**	**00 58 49.8**	**-0.4**
AOS				S	**Sg**	**00 59 08.6**	**-0.1**
	708nm,0.6s						
RDO	**Rodhopi**	**1.44**	**358**	Pn	**Pn**	**00 58 49.3**	**+0.2**
RDO	**Rodhopi**	**1.44**	**358**	P	**Pn**	**00 58 48.7**	**-0.4**
RDO				S	**Sn**	**00 59 07.0**	**-1.2**
	285nm,0.6s						
RDO	**Rodhopi**	**1.44**	**358**	P	**Pn**	**00 58 49.4**	**+0.2**
RDO				S	**Sn**	**00 59 07.0**	**-1.2**
KRBG	**Karabiga-Canak**	**1.48**	**62**	Pn	**Pn**	**00 58 49.7**	**0.0**
PAIG	**Paliouri**	**1.49**	**279**	P	**Pn**	**00 58 49.5**	**-0.3**
PAIG				S	**Sb**	**00 59 09.5**	**-0.1**
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**00 58 50.4**	**0.0**
KAVA				S	**Sn**	**00 59 09.6**	**-0.8**
	1μm,0.2s						
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**00 58 50.5**	**+0.1**
KAVA				S	**Sn**	**00 59 09.1**	**-1.3**
KVLA	**Kavala**	**1.54**	**324**	P	**Pn**	**00 58 50.6**	**+0.1**
KVLA				S	**Sn**	**00 59 09.3**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.56**	**51**	Pn	**Pn**	**00 58 50.9**	**0.0**
KYMI	**Kymi, Euboea I**	**1.57**	**228**	P	**Pn**	**00 58 51.4**	**+0.4**
KYMI				S	**Sn**	**00 59 11.2**	**-0.3**
	360nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.57**	**228**	P	**Pn**	**00 58 51.4**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.63**	**29**	Pn	**Pn**	**00 58 52.0**	**+0.2**
KOKK	**Kokkinochori,**	**1.65**	**313**	P	**Pn**	**00 58 52.3**	**+0.3**
KOKK				S	**Sn**	**00 59 12.9**	**-0.4**
KOKK	**Kokkinochori,**	**1.65**	**313**	P	**Pn**	**00 58 52.1**	**+0.1**
KOKK				S	**Sn**	**00 59 13.7**	**+0.4**
GONE	**Gonen-Balikesi**	**1.65**	**77**	Pn	**Pn**	**00 58 52.4**	**+0.4**
BLCB	**Balcova**	**1.73**	**139**	Pn	**Pb**	**00 58 53.9**	**-1.0**
PLG	**Polygyros**	**1.78**	**293**	P	**Pn**	**00 58 54.2**	**+0.4**
PLG				S	**Sn**	**00 59 16.6**	**+0.1**
	228nm,0.5s						
PLG	**Polygyros**	**1.78**	**293**	P	**Pn**	**00 58 54.4**	**+0.6**
PLG				S	**Sn**	**00 59 16.8**	**+0.3**
EDC	**Edincik**	**1.86**	**69**	Pn	**Pn**	**00 58 55.2**	**+0.3**
NEO	**Neokhori**	**1.87**	**259**	P	**Pn**	**00 58 55.1**	**0.0**
NEO	**Neokhori**	**1.87**	**259**	P	**Pn**	**00 58 55.7**	**+0.6**
XOR	**Xorichti**	**1.88**	**260**	P	**Pn**	**00 58 55.6**	**+0.3**
XOR	**Xorichti**	**1.88**	**260**	P	**Pb**	**00 58 56.3**	**-1.1**
KARY	**Karystos**	**1.90**	**209**	P	**Pn**	**00 58 55.3**	**-0.1**
KARY	**Karystos**	**1.90**	**209**	P	**Pn**	**00 58 55.2**	**-0.2**
KDZ	**Kurdzhali**	**1.93**	**354**	P	**Pn**	**00 58 56.1**	**+0.2**
SUSR	**Susurluk-Balik**	**1.94**	**82**	Pn	**Pn**	**00 58 56.3**	**+0.3**
BAND	**Balkesir-Ban**	**2.03**	**71**	⇓P	**Pb**	**00 58 58.7**	**-1.3**
SRS	**Serrai**	**2.08**	**313**	P	**Pn**	**00 58 58.4**	**+0.5**
SRS				S	**Sn**	**00 59 23.4**	**-0.5**
	195nm,0.5s						
SRS	**Serrai**	**2.08**	**313**	*e*Pn	**Pn**	**00 58 58.5**	**+0.5**
SRS				*e*Sg	**Sg**	**00 59 28.5**	**-1.2**
SRS	**Serrai**	**2.08**	**313**	P	**Pn**	**00 58 58.4**	**+0.5**
RZN	**Rozhen**	**2.09**	**342**	P	**Pn**	**00 58 58.9**	**+0.6**
HORT	**Hortiatis**	**2.11**	**296**	P	**Pn**	**00 58 58.9**	**+0.5**
HORT	**Hortiatis**	**2.11**	**296**	P	**Pn**	**00 58 58.8**	**+0.5**
NVR	**Nevrokopi**	**2.11**	**322**	P	**Pn**	**00 58 58.6**	**+0.3**
NVR				S	**Sn**	**00 59 24.4**	**-0.3**
	142nm,0.6s		

GRW					eS		Sn	01 22 16.8	+0.3
GRGR	**Grenville**	**2.45**	**82**		eP		Pn	01 21 48.7	+1.0
GRGR					eS		Sn	01 22 16.6	+0.2
GRSS	**Sisters**	**2.52**	**78**		eP		Pn	01 21 49.8	+1.2
GRSS					eS		Sn	01 22 17.8	-0.3
GCMP	**Grenada, Carri**	**2.73**	**75**		eP		Pn	01 21 52.5	+0.9
GCMP					eS		Sn	01 22 22.9	-0.5
PSMG	**Mucurapo Girls**	**2.79**	**113**		eP		Pn	01 21 53.8	+1.4
PSKH	**Kent House, Po**	**2.79**	**113**		eP		Pn	01 21 54.3	+1.9
PSGH	**Port of Spain**	**2.81**	**113**		eP		Pn	01 21 54.2	+1.5
PSGH					eS		Sn	01 22 24.9	-0.5
TRN	**Trinidad (W)**	**2.91**	**113**		eP		Pn	01 21 55.2	+1.1
TRN					eS		Sn	01 22 27.0	-0.9
FUNV	**FUNVISIS**	**2.94**	**244**		eP		Pn	01 21 55.7	+1.1
FUNV					eS		Sn	01 22 28.8	0.0
SVT	**Saint Vincent**	**3.13**	**64**		eP		Pn	01 21 58.2	+1.1
SVT					eS		Sn	01 22 32.6	-0.8
SVOC	**Richmond Hill,**	**3.15**	**64**		eP		Pn	01 21 58.6	+1.3
SVB	**Belmont**	**3.17**	**62**		eP		Pn	01 21 59.1	+1.4
SVB					eS		Sn	01 22 33.0	-1.3
SVV	**Soufriere Volc**	**3.22**	**62**		eP		Pn	01 22 00.4	+2.0
SSV	**Crater Summit**	**3.25**	**62**		eP		Pn	01 22 00.9	+2.2
TACV	**Tcata**	**3.29**	**240**		eP		Pn	01 22 00.9	+1.6
TACV					eS		Sn	01 22 37.8	+0.6
TOSP	**Speyside**	**3.56**	**98**		eP		Pn	01 22 04.0	+1.1
SLAC	**Saint Lucia, A**	**3.78**	**56**		eP		Pn	01 22 07.3	+1.3
SLAC					eS		Sn	01 22 48.2	-1.2
SLBI	**Saint Lucia, B**	**3.79**	**54**		eP		Pn	01 22 06.6	+0.5
SLBI					eS		Sn	01 22 49.7	+0.2
BENV	**Beln**	**3.86**	**242**		eP		Pn	01 22 10.3	+3.1
BENV					eS		Sn	01 22 50.8	-0.7
BIM	**Bigot**	**4.02**	**48**		eP		Pn	01 22 10.6	+1.2
BIM					eS		Sn	01 22 54.0	-1.3
SVN	**Savane Anatole**	**4.18**	**43**		eP		Pn	01 22 12.9	+1.3
SVN					eS		Sn	01 22 57.6	-1.6
ILAM	**Ilet Lapin Mar**	**4.34**	**47**		eP		Pn	01 22 15.6	+1.9
MDN	**Morne-Daniel**	**4.40**	**37**		eP		Pn	01 22 15.8	+1.3
MDN					eS		Sn	01 23 03.2	-1.3
DSLB	**Salisbury**	**4.47**	**36**		eP		Pn	01 22 17.3	+1.7
DSLB					eS		Sn	01 23 05.5	-1.0
JACV	**Jacura**	**4.66**	**262**		eP		Pn	01 22 18.7	+0.6
JACV					eS		Sn	01 23 09.3	-1.7
TBG	**Guadaloupe-3**	**4.70**	**31**		eP		Pn	01 22 20.1	+1.5
TBG					eS		Sn	01 23 10.2	-1.7
BAUV	**El Baul**	**4.78**	**234**		eP		Pn	01 22 20.3	+0.6
BAUV					eS		Sn	01 23 11.8	-2.2
BAUV	**El Baul**	**4.78**	**234**		eP		Pn	01 22 20.6	+0.9
BAUV					eS		Sn	01 23 12.7	-1.3
CACV	**CAICARA DEL OR**	**4.83**	**210**		eP		Pn	01 22 18.5	-2.0
CACV					eS		Sn	01 23 08.1	-7.2
MBFL	**Flemmings, Mon**	**5.26**	**21**		eP		Pn	01 22 28.1	+1.7
MBFL					eS		Sn	01 23 24.9	-0.9
MBWH		**5.26**	**21**		eP		Pn	01 22 28.1	+1.7
MBWH					eS		Sn	01 23 24.5	-1.3
TEPV	**Terepaima**	**5.29**	**250**		eP		Pn	01 22 27.6	+0.8
TEPV					eS		Sn	01 23 25.0	-1.8
SKI	**Saint Kitts**	**5.66**	**14**		eP		Pn	01 22 33.8	+1.9
SKI					eS		Sn	01 23 35.0	-0.8
ANBD	**Bethesda, Anti**	**5.70**	**23**		eP		Pn	01 22 34.1	+1.7
ANBD					eS		Sn	01 23 35.2	-1.4
ANWB	**Willy Bob**	**6.26**	**21**		eP		Pn	01 22 41.6	+1.5
ANWB					eS		Sn	01 23 49.3	-1.2
AOPR	**Arecibo Observ**	**6.98**	**339**		eP		Pn	01 22 50.7	+0.6
AOPR					eS		Sn	01 24 04.5	-3.8
SOCV	**Socops**	**7.49**	**243**		eP		Pn	01 22 57.9	+0.9

*IDC **16** 01:27:35.1±2.9, 51.°91N×177.°98E, h172km±14km, mb2.9/7, mbtmp3.4/8, Error ellipse: s-maj=75.0km s-min=17.3km az=5.0*
*NEIC **16** 01:27:36.5±1.7, 52.°2N±0.°2×178.°1E±0.°2, h174km±12km, mb3.9/15, Error ellipse: s-maj=25.1km s-min=13.7km az=171.0*

ISC 16 01:27:33.4±1.1, 52.°0N±0.°2×178.°02E±0.°05, h150km, n36, σ1§65/41, mb3.8/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.51**	**288**	P		**Pn**	**01 28 17.6**	**+3.0**
	94nm,0.9s,baz=108,slow=19,SNR=5.6							
SHEM				S		**Sn**	**01 28 51.0**	**+4.7**
	47nm,0.3s,baz=117,slow=4.5,SNR=11							
KIWB	**Kanaga Island**	**3.00**	**91**	Pn		**Pn**	**01 28 22.7**	**+2.1**
KIWB				Sn		**Sn**	**01 28 59.5**	**+2.4**
ADK	**Adak**	**3.28**	**90**	Pn		**Pn**	**01 28 27.4**	**+3.1**
ADK				Sn		**Sn**	**01 29 06.1**	**+2.4**
ATKA	**Atka Island**	**4.81**	**85**	Pn		**Pn**	**01 28 47.1**	**+3.0**
ATKA				Sn		**Sn**	**01 29 39.6**	**+0.4**
UNV	**Unalaska Valle**	**9.53**	**73**	Pn		**Pn**	**01 29 50.7**	**+3.7**
PETK	**Petropavlovsk-**	**12.41**	**283**	P		**P**	**01 30 28.4**	**-2.2**
	3.4nm,1.1s,baz=86,slow=19,SNR=2.2							
PETK				S		**Sn**	**01 32 40.3**	**-1.6**
	0.5nm,0.6s,baz=86,slow=20,SNR=0.8							
N15K	**Kwethluk River**	**14.64**	**48**	P		**P**	**01 30 55.2**	**-0.1**
K15K	**Wolf Creek Mou**	**15.07**	**39**			**P**	**01 31 00.5**	**+0.4**
F19K	**Shaleruckik Mo**	**19.10**	**30**	P		**P**	**01 31 44.1**	**0.0**
F19K				IAmb		IAmb	01 31 57.5	
	comp=Z,6.9nm,1.5s							
C18K	**Utukok River**	**19.43**	**23**	P		**P**	**01 31 46.7**	**-1.1**
C18K				IAmb		IAmb	01 31 50.5	
	comp=Z,5.7nm,1.4s							
E19K	**Redstone River**	**19.66**	**29**	P		**P**	**01 31 51.1**	**+0.8**
E22K	**Anaktuvuk Pass**	**21.72**	**31**	P		**P**	**01 32 12.0**	**-0.3**
L27K	**Beaver Creek,**	**23.80**	**47**	P		**P**	**01 32 32.5**	**+0.5**
L27K				IAmb		IAmb	01 32 33.8	
	comp=Z,4.1nm,0.8s							
BCAR	**Beaver Creek A**	**23.82**	**47**	P		**P**	**01 32 31.9**	**-0.3**
K27K	**Chicken**	**23.86**	**44**	P		**P**	**01 32 31.4**	**-1.2**
K27K				IAmb		IAmb	01 32 54.3	
	comp=Z,5.8nm,1.1s							
DAWY	**Dawson**	**25.03**	**45**	P		**P**	**01 32 43.1**	**-0.1**
DAWY				IAmb		IAmb	01 32 51.5	
	comp=Z,6.4nm,1.3s							
I28M	**Miner Creek**	**25.05**	**41**	P		**P**	**01 32 42.5**	**-1.0**
I28M				IAmb		IAmb	01 33 12.7	
	comp=Z,4.4nm,1.4s							
M29M	**Somme Creek**	**25.27**	**49**	P		**P**	**01 32 45.1**	**-0.3**
L29M	**L29M**	**25.48**	**47**	P		**P**	**01 32 46.6**	**-0.7**
YKAW3	**Yellowknife Wh**	**36.22**	**46**	P		**P**	**01 34 21.2**	**-0.1**
YKAW3				IAmb		IAmb	01 34 22.3	
	comp=Z,3.0nm,1.2s							
YKA	**Yellowknife Ar**	**36.24**	**46**	P		**P**	**01 34 20.7**	**-0.7**
YKA	**Yellowknife Ar**	**36.24**	**46**	P		**P**	**01 34 21.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=282,slow=8.8,SNR=6.7							
	comp=Z,0.4nm,0.6s							
SONM	**Songino Array**	**44.59**	**294**	P		**P**	**01 35 29.3**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=65,slow=8.1,SNR=2.0							
	comp=Z,0.3nm,0.6s							
NVAR	**Mina Array Bea**	**45.43**	**81**	P		**P**	**01 35 37.5**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=316,slow=7.9,SNR=2.4							
	comp=Z,0.3nm,0.7s							
ILON	**Igloolik, Nuna**	**45.87**	**29**	P		**P**	**01 35 39.1**	**-0.8**
R11B	**Troy Canyon, C**	**47.13**	**79**	P		**P**	**01 35 50.6**	**+0.1**
PDAR	**Pinedale Array**	**47.99**	**71**	P		**P**	**01 35 56.4**	**-0.7**
PDAR	**Pinedale Array**	**47.99**	**71**	P		**P**	**01 35 56.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=315,slow=7.7,SNR=3.5							
	comp=Z,0.2nm,0.5s							
EPLO	**Experimental L**	**52.43**	**55**	P		**P**	**01 36 29.0**	**-1.0**
EPLO				IAmb		IAmb	01 36 42.4	
	comp=Z,1.8nm,1.0s							
KURBB	**Kurchatov Arra**	**57.25**	**312**	P		**P**	**01 37 04.2**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=44,slow=6.3,SNR=6.7							
	comp=Z,0.3nm,0.6s							
MKAR	**Makanchi Array**	**58.08**	**306**	P		**P**	**01 37 10.0**	**-0.6**
MKAR	**Makanchi Array**	**58.08**	**306**	P		**P**	**01 37 10.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=48,slow=7.1,SNR=2.5							
	comp=Z,0.2nm,0.4s							
BVAR	**Borovoye Array**	**59.12**	**318**	P		**P**	**01 37 18.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=43,slow=8.5,SNR=2.2							
	comp=Z,0.6nm,0.5s							
FIA1	**FINESS Array S**	**64.71**	**346**	P		**P**	**01 37 53.0**	**-1.8**
FINES	**FINESS Array B**	**64.71**	**346**	P		**P**	**01 37 53.0**	**-1.7**
ABKAR	**Akbulak array**	**66.22**	**321**	P		**P**	**01 38 04.8**	**0.0**
ABKAR				IAmb		IAmb	01 38 09.5	
	comp=Z,2.7nm,1.5s							

*SJA **16** 01:31:13.5±0.6, 20.°66S×66.°73W, h266km±5km, ML4.5, MW4.2*
*IDC **16** 01:31:15.9±0.9, 20.°66S×66.°57W, h232km±8km, mb3.7/12, mbtmp4.3/18, Error ellipse: s-maj=12.6km s-min=9.4km az=74.0*
*SCB **16** 01:31:16.2±1.4, 20.°70S×66.°74W, h236km±13km, ML4.5/3, MW4.0, Error ellipse: s-maj=7.1km s-min=4.4km az=0.0*
*NEIC **16** 01:31:16.5±1.9, 20.°73S±0.°07×66.°75W±0.°09, h230km±8km, mb4.4/19, Error ellipse: s-maj=12.4km s-min=9.9km az=94.0*
*VAO **16** 01:31:19.2±0.4, 20.°42S×66.°26W, h230km, mb4.5*

ISC 16 01:31:15.3±0.5, 20.°68S±0.°04×66.°72W±0.°04, h230km±5km, n135, σ1§64/169, mb4.3/19, 7C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.16**	**119**	Pg		**Pn**	**01 31 52.3**	**+2.6**
MOCB				Sg		**S**	**01 32 18.6**	**+2.0**
MOCB				IAML			01 32 18.9	
	3μm,0.4s							
YJA	**Yavi**	**1.86**	**143**	eP		**Pn**	**01 31 57.4**	**+2.1**
YJA				eS		**S**	**01 32 30.2**	**+3.6**
YJA	**Yavi**	**1.86**	**143**	Pg		**Pn**	**01 31 57.1**	**+1.8**
AOVT	**TarijaAcel**	**2.06**	**115**	Pg		**Pn**	**01 31 58.6**	**+1.6**
PB08	**IPOC Station P**	**2.35**	**283**			**Pn**	**01 32 01.8**	**+1.9**
PB08	**IPOC Station P**	**2.35**	**283**	eP		**Pn**	**01 32 01.8**	**+1.9**
PB08				eS		**S**	**01 32 36.8**	**+2.0**
PB08				IAML			01 32 40.4	
	comp=E,267nm,0.3s							
PB08	**IPOC Station P**	**2.35**	**283**	eP		**Pn**	**01 32 01.1**	**+1.1**
PB08				eS		S	01 32 16.9	-18
PB08	**IPOC Station P**	**2.35**	**283**	Pg		**Pn**	**01 32 01.9**	**+1.9**
SOEO	**Opoqueri**	**2.38**	**332**	Pg		**Pn**	**01 32 03.2**	**+2.7**
PB09	**IPOC Station P**	**2.60**	**244**			**Pn**	**01 32 03.9**	**+1.5**
PB09	**IPOC Station P**	**2.60**	**244**	eP		**Pn**	**01 32 04.0**	**+1.5**
PB09				*i* S		**S**	**01 32 40.0**	**+0.7**
PB09				IAML			01 32 45.9	
	comp=E,383nm,0.3s							
PB09	**IPOC Station P**	**2.60**	**244**	eP		**Pn**	**01 32 03.4**	**+1.0**
PB09				eS		**S**	**01 32 41.5**	**+2.2**
PB09				IAML			01 32 43.4	
	comp=Z,495nm,0.7s							
PB09	**IPOC Station P**	**2.60**	**244**	Pg		**Pn**	**01 32 04.4**	**+2.0**
PB01	**IPOC Station P**	**2.62**	**262**			**Pn**	**01 32 03.3**	**+0.8**
PB01	**IPOC Station P**	**2.62**	**262**	eP		**Pn**	**01 32 03.2**	**+0.8**
PB01				eS		**S**	**01 32 39.1**	**-0.2**
PB01				IAML			01 32 41.0	
	comp=N,1μm,0.2s							
PB01	**IPOC Station P**	**2.62**	**262**	eP		**Pn**	**01 32 03.3**	**+0.8**
PB01				eS		**S**	**01 32 40.4**	**+1.0**
PB01				IAML			01 32 45.3	
	comp=Z,503nm,0.2s							
PB01	**IPOC Station P**	**2.62**	**262**	Pg		**Pn**	**01 32 03.9**	**+1.5**
PB01				Sg		**S**	**01 32 39.6**	**+0.2**
PB01				IAML			01 32 41.0	
	comp=Z,761nm,0.2s							
AF01	**San Pedro de A**	**2.64**	**211**			**Pn**	**01 32 05.5**	**+2.6**
SOET	**ToroToro**	**2.69**	**19**	Pg		**Pn**	**01 32 04.8**	**+1.2**
AOEA	**Aiquile**	**2.85**	**30**	Pg		**Pn**	**01 32 06.9**	**+1.6**
AOEA	**Aiquile**	**2.85**	**30**	Pg		**Pn**	**01 32 07.2**	**+1.9**
PB11	**IPOC Station P**	**2.91**	**288**			**Pn**	**01 32 06.6**	**+0.9**
PB11	**IPOC Station P**	**2.91**	**288**	eP		**Pn**	**01 32 06.7**	**+0.9**
PB11				eS		**S**	**01 32 44.6**	**-0.6**
PB11				IAML			01 32 47.9	
	comp=E,1μm,0.2s							
PB11	**IPOC Station P**	**2.91**	**288**	eP		**Pn**	**01 32 06.7**	**+0.9**
PB11				eS		**S**	**01 32 46.4**	**+1.2**
PB11				IAML			01 32 48.2	
	comp=Z,348nm,0.2s							
PB11	**IPOC Station P**	**2.91**	**288**	Pg		**Pn**	**01 32 06.9**	**+1.2**
PB11				Sg		**S**	**01 32 45.5**	**+0.3**
PB11				IAML			01 32 47.8	
	comp=Z,1μm,0.2s							
PB03	**IPOC Station P**	**3.14**	**244**	eP		**Pn**	**01 32 08.8**	**+0.5**
PB03				eS		**S**	**01 32 48.7**	**-1.2**
PB03	**IPOC Station P**	**3.14**	**244**	eP		**Pn**	**01 32 08.9**	**+0.6**
PB03				eS		**S**	**01 32 49.2**	**-0.7**
PB03				IAML			01 32 50.6	
	comp=Z,1μm,0.3s							
TA02	**Huaiquique**	**3.23**	**277**			**Pn**	**01 32 09.6**	**+0.5**
TA02	**Huaiquique**	**3.23**	**277**	eP		**Pn**	**01 32 09.7**	**+0.6**
TA02				eS		**S**	**01 32 50.5**	**-0.9**
TA02				IAML			01 32 51.7	
	comp=Z,1μm,0.1s							
TA01	**Diego Aracena**	**3.25**	**271**			**Pn**	**01 32 09.5**	**+0.2**
TA01	**Diego Aracena**	**3.25**	**271**	eP		**Pn**	**01 32 09.7**	**+0.3**
TA01				eS		**S**	**01 32 50.4**	**-1.4**
TA01				IAML			01 32 53.4	
	comp=Z,348nm,0.3s							
PB06	**IPOC Station P**	**3.33**	**232**	eP		**Pn**	**01 32 11.1**	**+0.7**
PB06				eS		**S**	**01 32 53.3**	**-0.7**
PB06	**IPOC Station P**	**3.33**	**232**	eP		**Pn**	**01 32 11.2**	**+0.7**
PB06				eS		**S**	**01 32 53.6**	**-0.3**
PB06				IAML			01 32 57.0	
	comp=Z,633nm,0.3s							
PB05	**IPOC Station P**	**3.89**	**236**	Pn		**Pn**	**01 32 17.7**	**+0.6**
PB05	**IPOC Station P**	**3.89**	**236**	eP		**Pn**	**01 32 17.6**	**+0.6**
PB05				eS		**S**	**01 33 02.8**	**-3.0**
PB05	**IPOC Station P**	**3.89**	**236**	eP		**Pn**	**01 32 17.6**	**+0.6**
PB05				eS		**S**	**01 33 03.5**	**-2.2**
PB05				IAML			01 33 10.1	
	comp=Z,387nm,0.4s							
SOEJ	**Jacaque**	**3.94**	**339**	Pg		**Pn**	**01 32 20.9**	**+2.8**
PB12	**IPOC Station P**	**3.98**	**301**	Pn		**Pn**	**01 32 17.9**	**-0.1**
PB12	**IPOC Station P**	**3.98**	**301**	eP		**Pn**	**01 32 17.9**	**-0.1**
PB12				eS		**S**	**01 33 05.4**	**-2.2**
PB12	**IPOC Station P**	**3.98**	**301**	eP		**Pn**	**01 32 17.9**	**-0.1**
PB12				eS		**S**	**01 33 05.6**	**-2.0**
PB12				IAML			01 33 10.5	
	comp=Z,340nm,0.2s							
PB18	**Visviri**	**4.03**	**319**	Pn		**Pn**	**01 32 22.2**	**+2.9**
AP01	**Chacalluta**	**4.12**	**303**			**Pn**	**01 32 19.7**	**0.0**
AP01	**Chacalluta**	**4.12**	**303**	eP		**Pn**	**01 32 19.6**	**0.0**
AP01				eS		**S**	**01 33 11.5**	**+1.1**
AP01				IAML			01 33 16.9	
	comp=Z,663nm,0.5s							
SLA	**San Lorenzo**	**4.17**	**165**	eP		**Pn**	**01 32 22.4**	**+2.0**
SLA				eS		**S**	**01 33 16.0**	**+4.0**
BBOD	**La Paz, Gloria**	**4.40**	**336**	Pg		**Pn**	**01 32 25.6**	**+1.9**
PB10	**IPOC Station P**	**4.54**	**231**	Pn		**Pn**	**01 32 24.6**	**-0.1**
PB10	**IPOC Station P**	**4.54**	**231**	eP		**Pn**	**01 32 24.7**	**0.0**
PB10				eS		**S**	**01 33 15.9**	**-3.8**
PB10				IAML			01 33 19.9	
	comp=Z,198nm,0.2s							
LPAZ	**La Paz**	**4.57**	**343**	P		**Pn**	**01 32 28.0**	**+2.1**
	comp=Z,32nm,0.5s,baz=161,slow=6.4,SNR=130							
LPAZ				S		**S**	**01 33 22.6**	**+1.1**
	comp=Z,90nm,1.0s,baz=204,slow=20,SNR=16							
LPAZ	**La Paz**	**4.57**	**343**	eP		**Pn**	**01 32 28.0**	**+2.1**
LPAZ				eS		**S**	**01 33 18.6**	**-2.9**
LPAZ	**La Paz**	**4.57**	**343**	Pg		**Pn**	**01 32 28.1**	**+2.3**
LPAZ	**La Paz**	**4.57**	**343**	eP		**Pn**	**01 32 27.7**	**+1.8**
LPAZ				eS		**S**	**01 33 22.8**	**+1.3**
GO02	**Mina Guanaco**	**5.19**	**210**	Pn		**Pn**	**01 32 33.5**	**+0.4**
GO02	**Mina Guanaco**	**5.19**	**210**	eP		**Pn**	**01 32 32.7**	**-0.4**
GO02				eS		**S**	**01 33 31.9**	**-2.8**
GO02				IAML			01 33 33.9	
	comp=Z,504nm,0.8s							
PB14	**IPOC Station P**	**5.20**	**220**	Pn		**Pn**	**01 32 32.9**	**-0.3**
PB14	**IPOC Station P**	**5.20**	**220**	eP		**Pn**	**01 32 33.0**	**-0.2**
PB14				eS		**S**	**01 33 30.7**	**-4.3**
PB14				IAML			01 33 33.1	
	comp=Z,301nm,0.3s							
AC01	**Pan de Azucar**	**6.50**	**212**	Pn		**Pn**	**01 32 48.3**	**-1.1**
AC02	**Maricunga**	**6.51**	**199**	Pn		**Pn**	**01 32 50.1**	**+0.1**
SIV	**San Ignacio**	**7.11**	**50**	P		**Pn**	**01 32 57.3**	**+0.1**
	comp=Z,91nm,0.7s,baz=232,slow=13,SNR=453							
SIV				S		**S**	**01 34 16.2**	**-2.5**
	comp=Z,4.4nm,0.6s,baz=183,slow=19,SNR=5.2							
AC06	**Mina Casimiro**	**7.43**	**206**			**Pn**	**01 32 59.5**	**-1.8**
MURT	**Porto Murtinho**	**8.55**	**98**	eP		**Pn**	**01 33 15.0**	**-0.6**
MURT				eS		**S**	**01 34 47.0**	**-5.5**
PTLB	**Pontes e Lacer**	**8.89**	**55**	Pn		**Pn**	**01 33 19.9**	**-0.1**
PTLB	**Pontes e Lacer**	**8.89**	**55**	eP		**Pn**	**01 33 17.8**	**-2.2**
PTLB				eS		S	01 34 52.2	-8.2
LCO	**Las Campanas**	**9.05**	**203**	Pn		**Pn**	**01 33 20.3**	**-1.8**
BDQN	**Bodoquena, MS**	**9.34**	**90**	eP		**Pn**	**01 33 24.4**	**-1.3**
BDQN				eS		**S**	**01 35 05.0**	**-5.9**
CO01	**Juntas del Tor**	**9.75**	**198**			**Pn**	**01 33 31.6**	**+0.5**
VILB	**Vilhena**	**9.90**	**40**	Pn		**Pn**	**01 33 35.4**	**+2.5**
VILB	**Vilhena**	**9.90**	**40**	eP		**Pn**	**01 33 31.1**	**-1.8**
GO04	**Tololo Observa**	**10.14**	**200**			**Pn**	**01 33 37.1**	**+1.0**
CPUP	**Villa Florida**	**10.29**	**125**	P		**Pn**	**01 33 37.8**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=304,slow=12,SNR=8.3							
AQDB	**Aquidauana**	**10.32**	**91**	Pn		**Pn**	**01 33 39.3**	**+1.1**
AQDB	**Aquidauana**	**10.32**	**91**	eP		**Pn**	**01 33 37.0**	**-1.3**
SJPY	**San Joaquin**	**10.69**	**116**	eP		**Pn**	**01 33 43.3**	**+0.5**
CO03	**El Pedregal**	**10.73**	**199**			**Pn**	**01 33 43.3**	**-0.1**
CFA	**Coronel Fontan**	**10.96**	**187**	P		**Pn**	**01 33 45.9**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=9.9,slow=11,SNR=8.3							
CFA				S		S	01 35 39.4	-10
	comp=Z,2.6nm,0.3s,baz=26,slow=14,SNR=9.2							
SALV	**Santo Antonio**	**11.50**	**67**	eP		**Pn**	**01 33 51.2**	**-2.0**
RPRD	**Ribas do Rio P**	**12.20**	**91**	eP		**Pn**	**01 34 01.0**	**-0.8**
VA03	**San Esteban**	**12.51**	**195**	P		**Pn**	**01 34 07.5**	**+1.7**
NNA	**Nana**	**13.00**	**310**	P		**P**	**01 34 14.5**	**+0.2**
	comp=Z,6.8nm,0.3s,baz=132,slow=14,SNR=2.5							
NNA				S		**S**	**01 36 29.0**	**-7.0**
	comp=Z,3.2nm,0.3s,baz=126,slow=18,SNR=1.2							
PDRB	**Porto dos Gac**	**13.16**	**48**	eP		**Pn**	**01 34 12.0**	**-1.9**
PTGB	**Pitanga**	**14.11**	**109**	eP		**Pn**	**01 34 26.8**	**+1.2**
BO02	**Sierra Bellavi**	**14.51**	**193**			**Pn**	**01 34 31.2**	**+0.9**
LDASE	**Londrina, Braz**	**14.72**	**103**	eP		**Pn**	**01 34 33.8**	**+0.9**
ITAB	**Concordia**	**14.84**	**119**			**Pn**	**01 34 35.4**	**+1.0**
ITAB	**Concordia**	**14.84**	**119**	eP		**Pn**	**01 34 35.3**	**+1.0**
ARAG	**Araguaiana, MT**	**15.00**	**73**	eP		**P**	**01 34 34.6**	**-1.8**
ITRB	**Iturama**	**15.39**	**89**	eP		**P**	**01 34 39.6**	**-1.0**
CPSB	**Cacapava Do Su**	**15.39**	**132**	eP		**Pn**	**01 34 42.3**	**+1.3**
BI02	**San Fabin de**	**16.41**	**193**	IAmb		IAmb	01 35 02.9	
	comp=Z,18nm,1.4s							
BB19B	**Bebedouro**	**17.01**	**95**	eP		**P**	**01 34 58.1**	**-0.4**
SNDB	**Serra Nova Dou**	**17.14**	**62**	eP		**P**	**01 34 58.5**	**-1.4**
NPGB	**Novo Progresso**	**17.46**	**41**	eP		**P**	**01 35 02.1**	**-1.3**
MAJ01	**Sao Joao Batis**	**17.49**	**116**	eP		**P**	**01 35 03.8**	**+0.2**
IPMB	**Ipameri, GO**	**17.67**	**84**	eP		**P**	**01 35 04.9**	**-0.8**
TER01	**Tubaro-SC**	**17.79**	**120**	eP		**P**	**01 35 06.5**	**-0.3**
SPB	**Sao Paulo**	**18.10**	**103**	eP		**P**	**01 35 10.4**	**+0.2**
MACA	**Manacapuru-AM**	**18.38**	**19**	P		**P**	**01 35 13.1**	**-0.3**
BDFB	**Brasilia**	**18.46**	**77**	P		**P**	**01 35 14.9**	**+0.5**
BDFB	**Brasilia**	**18.46**	**77**	P		**P**	**01 35 14.5**	**+0.1**
	comp=Z,17nm,0.6s,baz=253,slow=12,SNR=28							
VAO	**Valinhos**	**18.48**	**101**	P		**P**	**01 35 14.4**	**-0.1**
VAO	**Valinhos**	**18.48**	**101**	eP		**P**	**01 35 14.1**	**-0.4**
PLCA	**Paso Flores**	**20.25**	**188**	P		**P**	**01 35 34.0**	**+0.7**
PLCA				IAmb		IAmb	01 35 36.5	
	comp=Z,8.5nm,0.7s							
PLCA	**Paso Flores**	**20.25**	**188**	P		**P**	**01 35 33.8**	**+0.5**
	comp=Z,6.8nm,0.6s,baz=9.0,slow=12,SNR=35							
	comp=Z,6.8nm,0.6s							
PRPB	**Parauapebas**	**21.84**	**51**	eP		**P**	**01 35 48.2**	**-1.3**
DIAM	**Diamantina, MG**	**21.85**	**88**	eP		**P**	**01 35 49.6**	**-0.2**
JANB	**Januaria**	**22.04**	**79**	eP		**P**	**01 35 50.8**	**-0.7**
LL01	**San Ignacio de**	**22.16**	**191**	P		**P**	**01 35 51.3**	**-0.9**
LL01				IAmb		IAmb	01 35 53.2	
	comp=Z,6.7nm,0.8s							
SDBA	**SAO DESIDERIO**	**22.45**	**72**	eP		**P**	**01 35 54.7**	**-0.6**
RIB01	**Linhares ES**	**24.77**	**91**	eP		**P**	**01 36 15.6**	**-0.6**
GUA01	**Guaratinga, BA**	**25.81**	**85**	eP		**P**	**01 36 25.7**	**+0.1**
HNDO

ellipse: s-maj=7.3km s-min=2.7km az=82.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos
*CNRM **16** 01:38:59.7, 35°.29N×8°.73W, h36km*
ISC 16 01:38:55.2±1.5, 35°.84N±0°.04×8°.35W±0°.05, h16km±10km, n40, σ1°.68/61, 1C-3D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.35**	**344**	*eP*	**Pn**	**01 39 19.8**	**+0.5**
PFVI				*eS*	**Sb**	**01 39 36.0**	**-1.1**
PFVI				*i* AML	AML	01 39 37.7	
PFVI				*i* AML	AML	01 39 43.0	
PFVI				*i* AML	AML	01 39 45.2	
PFVI	**Vila Bisbo**	**1.35**	**344**	Pn	**Pn**	**01 39 19.8**	**+0.5**
PBDV	**Barranco-do-Ve**	**1.44**	**13**	*eP*	**Pg**	**01 39 23.9**	**+0.9**
PBDV				*eS*	**Sg**	**01 39 43.0**	**+1.2**
PBDV				*i* AML	AML	01 39 44.4	
PBDV				*i* AML	AML	01 39 47.5	
PBDV				*i* AML	AML	01 39 49.6	
MORF	**Marmelete**	**1.48**	**351**	*eP*	**Pn**	**01 39 22.2**	**+1.0**
MORF				*eS*	**Sn**	**01 39 40.4**	**+0.1**
MORF				IAML		01 39 42.2	
	comp=N,2.9nm,0.1s						
MORF	**Marmelete**	**1.48**	**351⇓**	*eP*	**Pn**	**01 39 22.2**	**+1.0**
MORF				*eS*	**Sb**	**01 39 41.0**	**0.0**
MORF				*i* AML	AML	01 39 43.4	
MORF				*i* AML	AML	01 39 44.1	
MORF				*i* AML	AML	01 39 44.2	
PVAQ	**Vaqueiros**	**1.64**	**18**	*eP*	**Pg**	**01 39 26.8**	**-0.1**
PVAQ				*eS*	**Sg**	**01 39 49.2**	**+1.0**
PVAQ				*i* AML	AML	01 39 51.7	
PVAQ	**Vaqueiros**	**1.64**	**18**	Pn	**Pg**	**01 39 26.8**	**-0.1**
PTEO	**Sao Teotonio**	**1.73**	**350⇓**	*eP*	**Pn**	**01 39 25.6**	**+1.0**
PTEO				*eS*	**Sn**	**01 39 46.6**	**+0.3**
PTEO				*i* AML	AML	01 39 52.2	
PTEO				*i* AML	AML	01 39 52.4	
PTEO				*i* AML	AML	01 39 59.6	
PCVE	**Castro Verde**	**1.81**	**8⇓**	*eP*	**Pb**	**01 39 28.6**	**+0.6**
PCVE				*eS*	**Sg**	**01 39 51.3**	**-2.1**
PCVE				*i* AML	AML	01 39 52.0	
PCVE				*i* AML	AML	01 39 52.0	
PCVE				*i* AML	AML	01 39 53.2	
PCVE	**Castro Verde**	**1.81**	**8**	Pn	**Pb**	**01 39 28.5**	**+0.6**
PCVE				Sn	**Sb**	**01 39 50.8**	**+0.5**
EGRO	**El Granado**	**1.83**	**22**	Pn	**Pg**	**01 39 29.8**	**-0.6**
EGRO				Sn	**Sg**	**01 39 52.2**	**-1.9**
EGRO	**El Granado**	**1.83**	**22**	Pg	**Pg**	**01 39 29.8**	**-0.6**
EGRO				Sn	**Sn**	**01 39 47.9**	**-0.9**
EGRO				*i* Vmb_Lg		01 39 54.2	
MESJ	**Messejana**	**2.00**	**3**	*eP*	**Pn**	**01 39 30.4**	**+2.2**
MESJ				*eS*	**Sb**	**01 39 54.2**	**-1.6**
MESJ				IAML		01 39 56.2	
	comp=N,2.0nm,0.1s						
MESJ	**Messejana**	**2.00**	**3**	*eP*	**Pn**	**01 39 30.5**	**+2.2**
MESJ				*eS*	**Sb**	**01 39 54.9**	**-0.9**
MESJ				*i* AML	AML	01 39 56.3	
MESJ				*i* AML	AML	01 39 56.8	
MESJ				*i* AML	AML	01 39 57.3	
PBEJ	**Beja**	**2.22**	**10**	*eS*	**Sb**	**01 40 00.8**	**-1.4**
PBEJ				*i* AML	AML	01 40 00.9	
PBEJ				*i* AML	AML	01 40 02.3	
PBEJ				*i* AML	AML	01 40 02.6	
ESPR	**Espera**	**2.26**	**62**	Sn	**Sg**	**01 40 06.3**	**-1.7**
ESPR	**Espera**	**2.26**	**62**	Pn	**Pn**	**01 39 32.8**	**+0.9**
ESPR				Sn	**Sb**	**01 40 00.6**	**-2.7**
ESPR				*i* Vmb_Lg		01 40 08.8	
EMIN	**Mina Concepcio**	**2.35**	**35**	Sn	**Sn**	**01 39 59.7**	**-1.9**
EMIN				*i* Vmb_Lg		01 40 06.7	
SMIR	**Smir Dam**	**2.42**	**93**	P	**Pb**	**01 39 40.8**	**+2.4**
PBAR	**Barrancos**	**2.56**	**24**	*eP*	**Pb**	**01 39 39.8**	**-0.9**
PBAR				*eS*	**Sb**	**01 40 10.8**	**-1.1**
PBAR				*i* AML	AML	01 40 12.7	
PBAR				*i* AML	AML	01 40 13.2	
PBAR				*i* AML	AML	01 40 13.3	
PBAR	**Barrancos**	**2.56**	**24**	Pn	**Pb**	**01 39 38.9**	**-1.8**
PBAR				Sn	**Sb**	**01 40 10.7**	**-1.2**
EVO	**Evora**	**2.70**	**6**	*eP*	**Pn**	**01 39 39.9**	**+1.9**
EVO				*eS*	**Sn**	**01 40 12.3**	**+2.0**
EVO	**Evora**	**2.70**	**6**	Pn	**Pn**	**01 39 39.5**	**+1.5**
EVO				Sn	**Sn**	**01 40 11.2**	**+0.8**
ZHG	**ZHG**	**2.77**	**149**	P	**Pn**	**01 39 39.1**	**+0.1**
ZHG	**ZHG**	**2.77**	**149**	S	**Sn**	**01 40 08.7**	**-3.5**
EBAD	**Badajoz**	**3.10**	**20**	Pn	**Pn**	**01 39 43.7**	**+0.2**
EBAD				Sn	**Sn**	**01 40 17.9**	**-2.3**
EBAD				*i* Vmb_Lg		01 40 25.7	
PMAFR	**Mafra**	**3.20**	**347**	*eP*	**Pn**	**01 39 45.8**	**+1.0**
PMAFR				*eS*	**Sn**	**01 40 21.5**	**-1.1**
PMTG	**Montargil**	**3.23**	**2**	*eP*	**Pn**	**01 39 46.9**	**+1.7**
PMTG				*eS*	**Sn**	**01 40 24.0**	**+0.8**
PMTG				*i* AML	AML	01 40 26.7	
PMTG				*i* AML	AML	01 40 27.1	
PMTG				*i* AML	AML	01 40 29.1	
ECAB	**El Cabril**	**3.24**	**46**	Pn	**Pn**	**01 39 48.8**	**+3.4**
ECAB				Sn	**Sn**	**01 40 21.6**	**-2.1**
ECAB				*i* Vmb_Lg		01 40 30.4	
LCRM	**LCR**	**3.59**	**126**	P	**Pn**	**01 39 52.7**	**+2.4**
EGOR	**Sierra Gorda,**	**3.65**	**68**	Pn	**Pn**	**01 39 51.4**	**+0.3**
EGOR				Sn	**Sn**	**01 40 34.4**	**+0.6**
EGOR				*i* Vmb_Lg		01 40 37.5	
PMRV	**Marv??o**	**3.66**	**12⇑**	*eP*	**Pn**	**01 39 53.6**	**+2.4**
PMRV				*eS*	**Sn**	**01 40 35.6**	**+1.5**
PMRV				*i* AML	AML	01 40 36.9	
PMRV				*i* AML	AML	01 40 42.1	
PMRV				*i* AML	AML	01 40 42.7	
EADA	**Adamuz**	**3.81**	**51**	Pn	**Pn**	**01 39 56.7**	**+3.5**
EADA				Sn	**Sn**	**01 40 38.0**	**+0.2**
EADA				*i* Vmb_Lg		01 40 45.4	
AKLM	**AKL**	**3.91**	**109**	P	**Pn**	**01 39 58.4**	**+3.8**
MD31	**MD31**	**4.20**	**134**	P	**Pn**	**01 39 59.6**	**+1.0**
MDT	**Midelt**	**4.33**	**133**	P	**Pn**	**01 40 01.7**	**+1.4**
EPLA	**Plasencia**	**4.58**	**22**	Sn	**Sn**	**01 40 54.2**	**-2.6**
EPLA				*i* Vmb_Lg		01 41 02.5	
TIO	**Tiouine**	**4.98**	**169**	P	Pn	01 40 06.3	-3.2
OUZM	**OUZ**	**5.09**	**164**	P	Pn	01 40 08.1	-2.9
TTIG	**Tnine Tigouga,**	**5.28**	**181**	P	Pn	01 40 08.4	-5.1

DNK 16 02:24:26.9±4.9, 65°.56N×37°.14W, h29km±9km, ML3.5, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**0.22**	**286**	*i* P	Pb	02 24 33.2	+0.1
ANGG				*i* S	Sb	02 24 37.2	-0.1
ANGG				IAML		02 24 37.4	
	comp=Z,5μm,0.3s						
ISOG	**Isortoq, Green**	**0.77**	**270**	*i* P	Pb	02 24 41.6	0.0
ISOG				*i* S	Sb	02 24 51.8	+0.1
ISOG				IAML		02 24 54.1	
	comp=Z,1μm,0.5s						
SOEG	**Soedalen**	**3.50**	**38**	*i* P	Pn	02 25 18.7	-0.5
SOEG				*eS*	Sn	02 25 58.9	-0.7
SOEG				IAML		02 26 10.7	
	comp=Z,239nm,0.6s						
ICESG	**Greenland Ices**	**3.68**	**346**	*i* P	Pn	02 25 21.5	-0.6
ICESG				*eS*	Sn	02 26 06.8	+2.2
SFJD	**Kangerlussuaq**	**5.63**	**291**	*i* P	Pn	02 25 50.3	+1.8
SFJD				IAML		02 27 12.4	
	comp=Z,163nm,0.9s						
NRS	**Narsarsuaq**	**5.77**	**224**	*i* P	Pn	02 25 48.2	-2.3
NRS				*eS*	Sn	02 26 49.1	-6.5
NUUK	**Nuuk**	**6.37**	**264**	*i* P	Pn	02 25 58.3	-0.3
NUUK				*eS*	Sn	02 27 08.4	-1.8
NUUK				IAML		02 27 41.9	
	comp=Z,204nm,0.8s						
ILULI	**Ilulissat**	**6.51**	**311**	*i* P	Pn	02 25 59.6	-0.9
ILULI				*i* S	Sn	02 27 06.7	-6.9
ILULI				IAML		02 27 42.6	
	comp=Z,92nm,0.9s						
SUMG	**Summit**	**7.07**	**357**	*i* P	Pn	02 26 05.8	-2.8
SUMG				*i* S	Sn	02 27 18.6	-9.4
UMMG	**Uummannaq**	**7.58**	**319**	*i* P	Pn	02 26 11.6	-3.6
UMMG				*i* S	Sn	02 27 29.7	-10
NUUG	**Nuugaatsiaq**	**8.38**	**323**	*i* P	Pn	02 26 24.9	-1.2
NUUG				*i* S	Sn	02 27 49.3	-10
UPNV	**Upernavik**	**9.86**	**326**	*i* P	Pn	02 26 43.0	-3.4
UPNV				*i* S	Sn	02 28 24.4	-12

*GCG **16** 02:28:40.2±1.4, 13°.93N×92°.30W, h13km±21km, MD4.2,*
MW3.4
*MEX **16** 02:28:41.8±1.2, 13°.99N×92°.49W, h13km±25km, MD4.3*
*CATAC **16** 02:28:42.6±0.6, 14°.N±3°.×9°.2W±°, h7km±2km, M3.8/12, MLv3.8/12, Error ellipse: s-maj=7.3km s-min=5.0km az=51.9, confirmed*
ISC 16 02:28:36.9±1.7, 13°.96N±0°.05×92°.40W±0°.03, h4km±11km, n65, σ1°.72/93, 2C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.88**	**51**	*eP*	**Pn**	**02 28 56.9**	**+0.7**
RTAL				*eS*	**Sn**	**02 29 08.2**	**-1.2**
RTAL	**Retalhuleu**	**0.88**	**51**	P	**Pn**	**02 28 56.1**	**0.0**
RTAL				S	**Sb**	**02 29 05.8**	**-1.1**
RTAL	**Retalhuleu**	**0.88**	**51**	P	**Pn**	**02 28 57.0**	**+0.9**
SMCA	**Catarina**	**0.94**	**20**	*eP*	**Pn**	**02 28 56.9**	**0.0**
SMCA				*eS*	**Sn**	**02 29 09.9**	**-1.0**
SMCA	**Catarina**	**0.94**	**20**	*eP*		02 28 56.9	
SMCA				*eS*		02 29 09.9	
THIG		**0.95**	**8**	*eP*	**Pb**	**02 28 56.8**	**+0.9**
THIG				*eS*	**Sn**	**02 29 09.5**	**-1.4**
THIG		**0.95**	**8⇓**	*eP*	**Pn**	**02 28 57.3**	**+0.3**
THIG				*eS*	**Sn**	**02 29 10.5**	**-0.5**
THIG		**0.95**	**8⇓**	*eP*		02 28 57.3	
THIG				*eS*		02 29 10.5	
STG0	**El Palmar, Qui**	**1.13**	**66**	*eP*		02 28 59.1	
STG8	**El Palmar, Qui**	**1.13**	**65**	*eP*		02 28 59.3	
STG8				*eS*		02 29 13.8	
PATR	**El Naranjo**	**1.16**	**8**	*eP*	**Pb**	**02 28 59.8**	**+0.2**
PATR				*eS*	**Sg**	**02 29 13.1**	**-1.0**
PAVE	**Pavencul**	**1.24**	**10**	*eP*	**Pg**	**02 29 01.1**	**+0.4**
PAVE				*eS*	**Sg**	**02 29 15.7**	**-1.2**
ESSG	**Sabana Grande**	**1.58**	**74**	*eP*	**Pn**	**02 29 06.0**	**+0.3**
ESSG				*eS*	**Sn**	**02 29 25.1**	**-1.6**
ESSG	**Sabana Grande**	**1.58**	**74**	*eP*		02 29 06.0	
ESSG				*eS*		02 29 25.1	
HUEH	**Huehuetenango**	**1.60**	**33**	*eP*	**Pg**	**02 29 07.7**	**0.0**
HUEH	**Huehuetenango**	**1.60**	**33**	P	**Pg**	**02 29 08.4**	**+0.7**
HUEH	**Huehuetenango**	**1.60**	**33**	S	**Sg**	**02 29 27.5**	**-1.0**
HUEH	**Huehuetenango**	**1.60**	**33**	P	**Pg**	**02 29 08.4**	**+0.7**
HUEH	**Huehuetenango**	**1.60**	**33**	*eP*	**Pg**	**02 29 08.4**	**+0.7**
HUEH	**Huehuetenango**	**1.60**	**33**	*eP*		02 29 08.4	
FG8	**Yepocapa, Chim**	**1.81**	**80**	*eP*		02 29 05.4	
FG8				*eS*		02 29 24.2	
PCIG		**1.90**	**336**	*eP*	**Pn**	**02 29 09.7**	**-0.4**
PCIG				*eS*	**Sn**	**02 29 31.4**	**-3.1**
APG	**El Apazote**	**2.14**	**61⇑**	*eP*	**Pb**	**02 29 15.9**	**-0.5**
APG				*eS*	**Sg**	**02 29 43.3**	**-2.5**
APG	**El Apazote**	**2.14**	**61⇑**	*eP*		02 29 15.9	
APG				*eS*		02 29 43.3	
CCIG	**Comitan**	**2.32**	**6**	*eP*	**Pb**	**02 29 19.8**	**+0.4**
CCIG				*eS*	**Sg**	**02 29 49.7**	**-1.7**
CCIG	**Comitan**	**2.32**	**6**	P	**Pb**	**02 29 20.1**	**+0.8**
CCIG	**Comitan**	**2.32**	**6**	P	**Pb**	**02 29 20.2**	**+0.8**
CCIG	**Comitan**	**2.32**	**6**	*eP*	**Pb**	**02 29 19.9**	**+0.5**
CCIG				*eS*	**Sb**	**02 29 48.5**	**0.0**
CCIG	**Comitan**	**2.32**	**6**	*eP*		02 29 19.9	
CCIG				*eS*		02 29 48.5	
SLOZ	**Alcaldia de Sa**	**2.54**	**88**	P	**Pn**	**02 29 21.1**	**+2.1**
SLOZ	**Alcaldia de Sa**	**2.54**	**88**	S	**Sn**	**02 29 50.3**	**-0.2**
NUBE	**Las Nubes**	**2.55**	**91**	P	**Pn**	**02 29 21.4**	**+2.3**
NUBE	**Las Nubes**	**2.55**	**91**	S	**Sn**	**02 29 49.9**	**-0.7**
NUBE	**Las Nubes**	**2.55**	**91**	P	**Pn**	**02 29 19.6**	**+0.4**
CARR	**Arriaga**	**2.70**	**327**	*eP*	**Pn**	**02 29 22.1**	**+1.0**
CARR				*i* S	**Sn**	**02 29 55.4**	**+1.2**
CEVE	**Cerro Verde**	**2.70**	**93**	P	**Pn**	**02 29 23.3**	**+1.9**
CEVE	**Cerro Verde**	**2.70**	**93**	S	**Sn**	**02 29 54.3**	**-0.4**
TGIG		**2.88**	**346**	*eP*	**Pn**	**02 29 24.9**	**+1.2**
TGIG				*eS*	**Sn**	**02 29 56.7**	**-2.1**
TGIG		**2.88**	**346**	*eP*	**Pn**	**02 29 25.2**	**+1.5**
TGIG				*eS*	**Sn**	**02 30 01.6**	**+2.7**
TGIG		**2.88**	**346**	*eP*		02 29 25.2	
TGIG				*eS*		02 30 01.6	
JAYA	**Jayaque - finc**	**2.88**	**96**	S	**Sn**	**02 29 58.9**	**-0.1**
JAYA	**Jayaque - finc**	**2.88**	**96**	P	**Pn**	**02 29 25.6**	**+1.8**
JAYA	**Jayaque - finc**	**2.88**	**96**	P	**Pn**	**02 29 25.6**	**+1.8**
MTO3	**Montecristo**	**2.98**	**81**	P	**Pn**	**02 29 27.6**	**+2.4**
MTO3	**Montecristo**	**2.98**	**81**	S	**Sn**	**02 30 01.0**	**-0.5**
MTO3	**Montecristo**	**2.98**	**81**	P	**Pb**	**02 29 29.5**	**-1.2**
PMON	**Piamonte**	**3.01**	**94**	P	**Pn**	**02 29 27.5**	**+2.0**
PMON	**Piamonte**	**3.01**	**94**	S	**Sn**	**02 30 02.0**	**-0.1**
PMON	**Piamonte**	**3.01**	**94**	P	**Pb**	**02 29 30.9**	**-0.2**
ESQI	**Esquipulas**	**3.03**	**78**	P	**Pn**	**02 29 27.6**	**+1.9**
ESQI	**Esquipulas**	**3.03**	**78**	S	**Sn**	**02 30 01.7**	**-0.8**
UEES	**Universidad Ev**	**3.08**	**94**	P	**Pn**	**02 29 28.1**	**+1.7**
UEES	**Universidad Ev**	**3.08**	**94**	S	**Sn**	**02 30 02.8**	**-1.0**
LOMA	**Loma Larga**	**3.15**	**95**	P	**Pn**	**02 29 29.6**	**+2.2**
LOMA	**Loma Larga**	**3.15**	**95**	S	**Sn**	**02 30 05.4**	**-0.2**
NILT	**Santiago Nilte**	**3.35**	**321**	*eP*	**Pn**	**02 29 30.1**	**0.0**
NILT				*eS*	**Sn**	**02 30 09.0**	**-1.4**
UXUV	**UXUV**	**3.73**	**333**	*eP*	**Pn**	**02 29 36.9**	**+1.6**
UXUV				*eS*	Sn	02 30 10.3	-9.5
PETF	**Flores**	**3.82**	**39**	*eP*	**Pn**	**02 29 39.7**	**+3.2**
CMIG	**Matias Romero**	**3.92**	**323**	*eP*	**Pn**	**02 29 38.5**	**+0.6**
CMIG				*eS*	**Sn**	**02 30 22.1**	**-2.4**
HUIG	**Huatulco**	**4.01**	**297**	*eP*	**Pn**	**02 29 39.0**	**-0.1**
HUIG				*eS*	**Sn**	**02 30 22.7**	**-3.9**
NEUV	**Arroyo Zacate**	**4.96**	**319**	*eP*	**Pn**	**02 29 53.1**	**+0.9**
NEUV				*eS*	**Sn**	**02 30 45.8**	**-4.3**
PEIG	**Puerto Escondi**	**5.01**	**294**	*eP*	**Pn**	**02 29 54.5**	**+1.4**
PEIG				*eS*	**Sn**	**02 30 47.5**	**-3.8**
SCIG	**Sabancuy**	**5.11**	**13**	*eP*	**Pn**	**02 29 57.3**	**+3.0**
SCIG				*eS*	**Sn**	**02 30 52.4**	**-1.3**
VHO	**Vista Hermosa**	**5.19**	**307**	*eP*	**Pn**	**02 29 57.5**	**+1.9**
VHO				*eS*	**Sn**	**02 30 55.2**	**-0.9**
YOIG	**Yosondua**	**5.73**	**301**	*eP*	**Pn**	**02 30 06.1**	**+3.0**
YOIG				*eS*	**Sn**	**02 31 13.4**	**+3.8**
PNIG	**Pinotepa**	**6.03**	**294**	*eP*	**Pn**	**02 30 08.4**	**+1.5**
TOIG	**Toxpalan**	**6.08**	**313**	*eP*	**Pn**	**02 30 09.0**	**+1.3**
TOIG				*eS*	**Sn**	**02 31 15.3**	**-2.5**
TXIG	**Tlaxiaco**	**6.12**	**303**	*eP*	**Pn**	**02 30 09.9**	**+1.5**
TXIG				*eS*	**Sn**	**02 31 20.3**	**+1.3**
HLIG	**Huajuapan de L**	**6.46**	**307**	*eP*	**Pn**	**02 30 14.0**	**+0.9**
HLIG				*eS*	**Sn**	**02 31 24.8**	**-2.7**
TPIG	**Tehuac#an**	**6.51**	**314**	*eS*	**Sn**	**02 31 28.2**	**-0.2**
FTIG	**Fresnillo de T**	**6.76**	**306**	*eP*	**Pn**	**02 30 20.3**	**+3.2**
FTIG				*eS*	**Sn**	**02 31 33.5**	**-1.3**
MGIG	**Malinaltepec**	**6.83**	**299**	*eP*	**Pn**	**02 30 19.3**	**+1.3**
JAUV	**Jalcomulco**	**6.83**	**322**	*eP*	**Pn**	**02 30 19.2**	**+1.3**
JAUV				*eS*	**Sn**	**02 31 35.4**	**-0.8**
TLIG	**Tlapa**	**6.93**	**302**	*eP*	**Pn**	**02 30 21.9**	**+2.5**
PPM	**Popocatepetl**	**7.83**	**311**	*eP*	**Pn**	**02 30 34.8**	**+2.7**

*IDC **16** 02:39:41.4±3.2, 14°.20N×92°.38W, h0km, mb3.5/2, mbtmp3.4/5, ML3.0/3, Error ellipse: s-maj=64.4km s-min=23.5km az=9.0*
*MEX **16** 02:39:41.2±0.6, 13°.89N×92°.50W, h4km±19km, MD4.3*
*GCG **16** 02:39:43.8±2.1, 14°.03N×92°.24W, h22km±11km, MD4.2*
ISC 16 02:39:39.2±1.7, 14°.05N±0°.06×92°.38W±0°.03, h2km±11km, n42, σ2°.09/70, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.82**	**54**	*eP*	**Pn**	**02 39 58.3**	**+0.4**
RTAL				*eS*	**Sn**	**02 40 11.1**	**+0.5**
SMCA	**Catarina**	**0.86**	**20**	*i* P	**Pn**	**02 39 58.9**	**+0.5**
SMCA	**Catarina**	**0.86**	**20**	*i* P		02 39 58.9	
THIG		**0.86**	**8**	*eP*	**Pn**	**02 39 58.7**	**+0.3**
THIG				*eS*	**Sn**	**02 40 11.3**	**-0.3**
THIG		**0.86**	**8**	*i* P	**Pn**	**02 39 59.1**	**+0.6**
THIG				*i* S	**Sn**	**02 40 11.0**	**-0.7**
THIG		**0.86**	**8**	*i* P		02 39 59.1	
THIG				*i* S		02 40 11.0	
PATR	**El Naranjo**	**1.07**	**8**	*eP*	**Pn**	**02 40 01.5**	**-0.1**
PATR				*eS*	**Sn**	**02 40 15.7**	**-1.5**
STG0	**El Palmar, Qui**	**1.08**	**69**	*i* P		02 40 01.2	
STG0				*i* S		02 40 16.4	
STG8	**El Palmar, Qui**	**1.08**	**68**	*i* P		02 40 01.3	
PAVE	**Pavencul**	**1.16**	**10**	*eP*	**Pn**	**02 40 02.6**	**-0.1**
PAVE				*eS*	**Sn**	**02 40 17.5**	**-1.8**
SOKI	**Kika Raxquin**	**1.22**	**51**	*i* P	**Pn**	**02 40 04.6**	**+0.8**
SOKI	**Kika Raxquin**	**1.22**	**51**	*i* P		02 40 04.6	
HUEH	**Huehuetenango**	**1.52**	**34**	*eP*	**Pg**	**02 40 07.8**	**-0.7**
HUEH	**Huehuetenango**	**1.52**	**34**	*i* P	**Pg**	**02 40 10.1**	**+1.6**
HUEH	**Huehuetenango**	**1.52**	**34**	*i* P		02 40 10.1	
ESSG	**Sabana Grande**	**1.54**	**77**	*i* P	**Pn**	**02 40 07.8**	**-0.1**
ESSG				*i* S	**Sg**	**02 40 27.8**	**-1.0**
ESSG	**Sabana Grande**	**1.54**	**77**	*i* P		02 40 07.8	
ESSG				*i* S		02 40 27.8	
FG8	**Yepocapa, Chim**	**1.78**	**83**	*i* P		02 40 07.0	
PCIG		**1.84**	**334**	*eP*	**Pn**	**02 40 11.3**	**-0.5**
PCIG				*eS*	**Sn**	**02 40 35.0**	**-0.7**
APG	**El Apazote**	**2.09**	**63**	Pn	**Pb**	**02 40 17.7**	**-0.3**
	0.8nm,0.3s,baz=203,slow=14,SNR=131						
APG				Sn	**Sb**	**02 40 43.7**	**-0.8**
	0.7nm,0.3s,baz=74,slow=19,SNR=4.8 14nm,0.7s						
APG	**El Apazote**	**2.09**	**63**	*i* P	**Pb**	**02 40 17.8**	**-0.3**
APG	**El Apazote**	**2.09**	**63**	*i* P		02 40 17.8	
CCIG	**Comitan**	**2.23**	**6**	*eP*	**Pg**	**02 40 21.6**	**-0.5**
CCIG				*eS*	**Sg**	**02 40 50.9**	**-0.2**
CCIG	**Comitan**	**2.23**	**6**	*i* P	**Pg**	**02 40 22.1**	**0.0**
CCIG	**Comitan**	**2.23**	**6**	*i* P		02 40 22.1	
NUBE	**Las Nubes**	**2.53**	**93**	*i* P	**Pn**	**02 40 22.5**	**+0.9**
NUBE				*i* S	**Sn**	**02 40 48.9**	**-4.2**
NUBE	**Las Nubes**	**2.53**	**93**	*i* P		02 40 22.5	
NUBE				*i* S		02 40 48.9	
CARR	**Arriaga**	**2.64**	**326**	*eP*	**Pn**	**02 40 25.5**	**+2.6**
CARR				*eS*	**Sn**	**02 40 57.0**	**+1.4**
TGIG		**2.81**	**345**	*eP*	**Pn**	**02 40 26.1**	**+0.9**
TGIG				*eS*	**Sb**	**02 41 01.5**	**-3.6**
TGIG		**2.81**	**345**	*i* P	**Pn**	**02 40 27.7**	**+2.4**
TGIG				*i* S	**Sb**	**02 41 01.9**	**-3.2**
TGIG		**2.81**	**345**	*i* P		02 40 27.7	
TGIG				*i* S		02 41 01.9	
JAYA	**Jayaque - finc**	**2.88**	**97**	*i* P	**Pn**	**02 40 27.4**	**+1.1**
JAYA				*i* S	**Sn**	**02 40 59.2**	**-2.5**
JAYA	**Jayaque - finc**	**2.88**	**97**	*i* P		02 40 27.4	
JAYA				*i* S		02 40 59.2	
NILT	**Santiago Nilte**	**3.30**	**320**	*eP*	**Pn**	**02 40 32.6**	**+0.6**
NILT				*eS*	**Sb**	**02 41 17.4**	**-1.9**
UXUV	**UXUV**	**3.67**	**333**	*eP*	**Pn**	**02 40 38.2**	**+1.2**
UXUV				*eS*	**Sn**	**02 41 21.2**	**+0.2**
PETF	**Flores**	**3.75**	**40**	*eP*	**Pn**	**02 40 36.7**	**-1.5**
CMIG	**Matias Romero**	**3.87**	**322**	Pn	**Pn**	**02 40 41.0**	**+1.2**
	1.3nm,0.3s,baz=166,slow=14,SNR=15						
CMIG				Sn	**Sn**	**02 41 24.8**	**-1.1**
	3.0nm,0.3s,baz=123,slow=9.2,SNR=5.1 3.5nm,0.2s						
CMIG	**Matias Romero**	**3.87**	**322**	*eP*	**Pn**	**02 40 40.3**	**+0.5**
CMIG				*eS*	**Sn**	**02 41 27.0**	**+1.1**
HUIG	**Huatulco**	**3.99**	**296**	*eP*	**Pn**	**02 40 40.6**	**-0.9**
HUIG				*eS*	**Sn**	**02 41 24.3**	**-4.5**
NEUV	**Arroyo Zacate**	**4.91**	**318**	*eP*	**Pn**	**02 40 54.6**	**+0.5**
NEUV				*eS*	**Sn**	**02 41 48.3**	**-3.3**
PEIG	**Puerto Escondi**	**5.00**	**293**	*eP*	**Pn**	**02 40 56.2**	**+0.9**
PEIG				*eS*	**Sn**	**02 41 47.5**	**-6.3**
VHO	**Vista Hermosa**	**5.16**	**306**	*eS*	**Sn**	**02 41 59.2**	**+1.2**
YOIG	**Yosondua**	**5.71**	**300**	*eP*	**Pn**	**02 41 08.7**	**+3.3**
YOIG				*eS*	**Sn**	**02 42 08.5**	**-3.2**
PNIG	**Pinotepa**	**6.01**	**294**	*eP*	**Pn**	**02 41 10.8**	**+1.4**
PNIG				*eS*	**Sn**	**02 42 12.3**	**-6.6**
TOIG	**Toxpalan**	**6.04**	**312**	*eP*	**Pn**	**02 41 10.5**	**+0.8**
TOIG				*eS*	**Sn**	**02 42 18.6**	**-1.0**
TXIG	**Tlaxiaco**	**6.09**	**302**	*eP*	**Pn**	**02 41 13.9**	**+3.3**
TXIG				*eS*	**Sn**	**02 42 22.3**	**+1.2**
HLIG	**Huajuapan de L**	**6.43**	**307**	*eP*	**Pn**	**02 41 17.3**	**+2.1**
FTIG	**Fresnillo de T**	**6.73**	**306**	*eP*	**Pn**	**02 41 21.4**	**+2.1**
FTIG				*eS*	**Sn**	**02 42 33.8**	**-2.9**
JAUV	**Jalcomulco**	**6.78**	**322**	*eP*	**Pn**	**02 41 19.2**	**-0.7**
JAUV				*eS*	**Sn**	**02 42 40.6**	**+2.9**
TLIG	**Tlapa**	**6.90**	**301**	*eP*	**Pn**	**02 41 21.2**	**-0.4**
TLIG				*eS*	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.07**	**67**		**Pg**	**02 52 24.4**	**+0.1**
WHZ	**Wether Hill Ro**	**10.42**	**38**		**Pn**	**02 54 51.3**	**-0.6**
MLZ	**Mavora Lakes**	**10.94**	**37**		**Pn**	**02 54 59.2**	**+0.3**
TAU	**Tasmania Unive**	**13.87**	**322**	Pn	**Pn**	**02 55 37.6**	**-1.3**
URZ	**Urewera**	**20.48**	**45**	LR	LR	03 04 02.4	
	comp=Z,163nm,18.6s,baz=290,slow=35						
STKA	**Stephens Creek**	**25.76**	**325**	P	**P**	**02 57 55.0**	**+1.7**
STKA	**Stephens Creek**	**25.76**	**325**	P	**P**	**02 57 54.9**	**+1.6**
	1.8nm,0.7s,baz=138,slow=12,SNR=4.7						
	1.8nm,0.7s						
QSPA	**South Pole Qui**	**35.58**	**180**	P	**P**	**02 59 20.4**	**+0.6**
QSPA				IAmb	IAmb	02 59 23.4	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**35.58**	**180**	P	**P**	**02 59 20.0**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=5.4,slow=1.8,SNR=6.8						
	comp=Z,3.6nm,1.0s						
ASAR	**Alice Springs**	**36.01**	**319**	P	**P**	**02 59 24.4**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=156,slow=8.5,SNR=79						
ASAR				LR	LR	03 12 06.3	
	comp=Z,66nm,18.6s,baz=147,slow=33						
	comp=Z,6.7nm,0.7s						
AS31	**Alice Springs**	**36.01**	**319**	P	**P**	**02 59 24.1**	**+0.4**
AS31				IAmb	IAmb	02 59 25.2	
	comp=Z,2.4nm,0.7s						
H01W1	**Cape Leeuwin H**	**36.55**	**284**	T	T	03 38 01.4	
	baz=136,slow=75,SNR=2290						
H01W2	**Cape Leeuwin H**	**36.55**	**284**	T	T	03 38 02.0	
	baz=136,slow=75,SNR=1922						
H01W3	**Cape Leeuwin H**	**36.56**	**284**	T	T	03 38 02.7	
	baz=136,slow=75,SNR=1558						
WB2	**Warramunga Arr**	**39.24**	**322**	P	**P**	**02 59 51.2**	**+0.2**
WRA	**Warramunga Arr**	**39.24**	**322**	P	**P**	**02 59 50.8**	**-0.2**
	comp=Z,5.5nm,1.0s,baz=158,slow=7.2,SNR=25						
WRA				LR	LR	03 16 14.8	
	comp=Z,46nm,18.5s,baz=109,slow=36						
	comp=Z,5.5nm,1.0s						
WB0	**Warramunga Arr**	**39.38**	**322**	P	**P**	**02 59 52.1**	**-0.2**
WB0				IAmb	IAmb	02 59 55.4	
	comp=Z,5.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P	**P**	**03 00 33.9**	**+0.8**
KNRA	**Kununurra**	**45.24**	**317**	P	**P**	**03 00 40.9**	**+0.9**
BELA	**Belgrano 2**	**47.60**	**176**	P	**P**	**03 00 57.5**	**-0.3**
BELA				IAmb	IAmb	03 01 00.7	
	comp=Z,6.3nm,1.2s						
SNAA	**Sanae**	**53.44**	**187**	P	**P**	**03 01 41.7**	**-0.3**
SNAA				IAmb	IAmb	03 02 18.9	
	comp=Z,9.2nm,1.5s						
PPT	**Papeete**	**53.90**	**68**	LR	LR	03 20 39.4	
	comp=Z,72nm,18.8s,baz=174,slow=32						
H04S2	**CROZET ISLANDS**	**61.68**	**228**	T	T	04 10 14.8	
	baz=140,slow=75,SNR=41						
H04S1	**CROZET ISLANDS**	**61.68**	**228**	T	T	04 10 16.2	
	baz=140,slow=75,SNR=74						
H04S3	**CROZET ISLANDS**	**61.70**	**228**	T	T	04 10 14.3	
	baz=140,slow=75,SNR=76						
H03S2	**Juan Fernandez**	**78.96**	**134**	T	T	04 31 44.6	
	baz=208,slow=74,SNR=410						
H03S1	**Juan Fernandez**	**78.96**	**134**	T	T	04 31 46.0	
	baz=208,slow=74,SNR=412						
H03S3	**Juan Fernandez**	**78.97**	**134**	T	T	04 31 45.4	
	baz=208,slow=74,SNR=480						
H03N3	**Juan Fernandez**	**79.29**	**134**	T	T	04 31 58.8	
	baz=216,slow=76,SNR=385						
H03N2	**Juan Fernandez**	**79.30**	**134**	T	T	04 32 04.7	
	baz=216,slow=76,SNR=257						
H03N1	**Juan Fernandez**	**79.30**	**134**	T	T	04 32 04.6	
	baz=216,slow=76,SNR=304						
H08S2	**Diego Garcia H**	**81.71**	**269**	T	T	04 34 37.4	
	baz=144,slow=76,SNR=432						
H08S1	**Diego Garcia H**	**81.72**	**268**	T	T	04 34 36.8	
	baz=144,slow=76,SNR=390						
H08S3	**Diego Garcia H**	**81.73**	**269**	T	T	04 34 38.9	
	baz=144,slow=76,SNR=493						
BOSA	**Boshof**	**88.06**	**220**	P	**P**	**03 05 13.3**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=165,slow=1.7,SNR=5.3						
	comp=Z,1.5nm,0.7s						
AKASG	**Malin Array Be**	**149.71**	**284**	PKPbc	**PKPbc**	**03 12 10.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=99,slow=2.7,SNR=6.3						
FINES	**FINESS Array B**	**154.52**	**305**	PKPbc	**PKPbc**	**03 12 21.2**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=132,slow=2.8,SNR=6.8						

IDC 16 02:52:54.5±7.8, 3°.66N×94°.05E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/1, Error ellipse: s-maj=361.9km s-min=25.8km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.16**	**348**	P	P	03 01 04.7	-0.4
	0.3nm,0.6s,baz=168,slow=8.2,SNR=4.9						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**46.00**	**122**	P	P	03 01 20.2	+0.1
	0.7nm,0.6s,baz=299,slow=8.6,SNR=5.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**47.38**	**127**	P	P	03 01 30.5	-0.4
	0.3nm,0.6s,baz=306,slow=8.4,SNR=3.4						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**50.70**	**353**	P	P	03 01 56.0	+0.2
	0.8nm,0.5s,baz=160,slow=8.8,SNR=3.7						
ZALV				LR	LR	03 27 20.9	
	comp=Z,17nm,18.5s,baz=119,slow=41						
	0.8nm,0.5s						

IDC 16 02:55:24.1±1.8, 2°.02N×125°.23E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=191.2km s-min=23.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.58**	**158**	P	P	03 00 36.3	-0.5
	0.5nm,0.5s,baz=336,slow=11,SNR=4.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.89**	**162**	P	P	03 01 07.7	+0.6
	0.2nm,0.5s,baz=344,slow=9.7,SNR=2.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.12**	**327**	P	P	03 05 19.7	+0.1
	0.2nm,0.3s,baz=122,slow=7.5,SNR=5.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**62.38**	**328**	P	P	03 05 48.4	-0.3
	0.2nm,0.2s,baz=134,slow=6.4,SNR=1.5						
	0.2nm,0.2s						

*ISK **16** 03:26:55.5, 41°.73N×24°.31E, h8km, ML2.8/16*
*ATH **16** 03:26:57.2, 41°.63N×24°.40E, h17km±4km, ML2.7/17, Manual Solution by M.Kolligri First location: 2019/03/16 03:28:00, This location: 2019/03/18 08:46:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 4 km*
*THE **16** 03:26:57.4, 41°.63N×24°.41E, h8km, ML2.6/14, Error ellipse: s-maj=0.9km s-min=0.4km az=178.0*
*BEO **16** 03:26:58.0±0.4, 41°.79N×24°.38E, h9km±2km, ML2.7/13*

ISC 16 03:26:55.7±1.1, 41°.70N±0°.02×24°.40E±0°.02, h5km±10km, n85, σ0=82/121, 7C-7D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.52**	**30**	Pg	**Pg**	**03 27 05.3**	**-0.3**
PLD				Sg	**Sg**	**03 27 12.3**	**-0.1**
PLD	**Plovdiv**	**0.52**	**30**	*e*Pg	**Pg**	**03 27 05.3**	**-0.3**
PLD				*e*Sg	**Sg**	**03 27 11.9**	**-0.5**
NVR	**Nevrokopi**	**0.54**	**230**	P	**Pb**	**03 27 07.2**	**-0.4**
NVR				S	**Sb**	**03 27 14.5**	**-1.1**
	430nm,0.2s						
NVR	**Nevrokopi**	**0.54**	**230**	P	**Pb**	**03 27 07.2**	**-0.4**
NVR				S	**Sb**	**03 27 14.7**	**-0.9**
KDZ	**Kurdzhali**	**0.70**	**95**	Pg	**Pb**	**03 27 11.1**	**+0.6**
KDZ				Sg	**Sn**	**03 27 22.6**	**-1.0**
KAVA	**Kavala**	**0.71**	**173**	P	**Pg**	**03 27 09.5**	**+0.3**
KAVA				S	**Sg**	**03 27 18.9**	**+0.5**
	970nm,0.2s						
KAVA	**Kavala**	**0.71**	**173**	P	**Pg**	**03 27 09.5**	**+0.3**
KAVA				S	**Sg**	**03 27 19.3**	**+0.9**
KVLA	**Kavala**	**0.76**	**181**	P	**Pg**	**03 27 10.6**	**+0.3**
KVLA				S	**Sg**	**03 27 20.7**	**+0.6**
XANC	**Avdira**	**0.83**	**150**	P	**Pb**	**03 27 12.2**	**-0.4**
XANC				S	**Sb**	**03 27 23.3**	**-0.7**
SRS	**Serrai**	**0.84**	**227**	P	**Pg**	**03 27 12.1**	**+0.3**
SRS				S	**Sb**	**03 27 24.1**	**-0.3**
	532nm,0.4s						
SRS	**Serrai**	**0.84**	**227**	*e*Pg	**Pg**	**03 27 12.2**	**+0.3**
SRS				*e*Sg	**Sn**	**03 27 27.2**	**+0.2**
SRS	**Serrai**	**0.84**	**227**	P	**Pg**	**03 27 12.1**	**+0.3**
SRS				S	**Sb**	**03 27 23.6**	**-0.9**
KOKK	**Kokkinochori,**	**0.93**	**199**	P	**Pg**	**03 27 13.5**	**0.0**
KOKK				S	**Sb**	**03 27 26.5**	**-0.5**
	302nm,0.2s						
KOKK	**Kokkinochori,**	**0.93**	**199**	P	**Pg**	**03 27 13.7**	**+0.1**
RDO	**Rodhopi**	**1.02**	**123**	Pn	**Pg**	**03 27 15.5**	**+0.3**
RDO	**Rodhopi**	**1.02**	**123**	P	**Pg**	**03 27 15.4**	**+0.3**
RDO				S	**Sb**	**03 27 29.9**	**+0.5**
	798nm,0.3s						
RDO	**Rodhopi**	**1.02**	**123**	P	**Pg**	**03 27 15.3**	**+0.1**
NGRA	**Nigrita**	**1.04**	**221**	P	**Pg**	**03 27 15.6**	**-0.1**
THAS	**Thassos island**	**1.12**	**168**	P	**Pg**	**03 27 17.1**	**0.0**
THAS				S	**Sb**	**03 27 32.1**	**-0.2**
	438nm,0.3s						
THAS	**Thassos island**	**1.12**	**168**	P	**Pg**	**03 27 16.9**	**-0.1**
KNT	**Kendrikon**	**1.25**	**245**	Pn	**Pg**	**03 27 19.0**	**-0.7**
KNT	**Kendrikon**	**1.25**	**245**	P	**Pg**	**03 27 19.4**	**-0.3**
KNT				S	**Sn**	**03 27 37.0**	**-0.1**
	322nm,0.6s						
KNT	**Kendrikon**	**1.25**	**245**	P	**Pg**	**03 27 19.4**	**-0.3**
VTS	**Vitosha**	**1.26**	**317**	*e*Pg	**Pg**	**03 27 18.8**	**-1.2**
VTS				*e*Sg	**Sn**	**03 27 38.2**	**+0.5**
STCV	**Stivos**	**1.34**	**219**	P	**Pn**	**03 27 20.6**	**-0.4**
OUR	**Ouranopolis**	**1.40**	**193**	Pn	**Pn**	**03 27 21.8**	**-0.1**
OUR				Sn	**Sn**	**03 27 41.7**	**+1.0**
OUR	**Ouranopolis**	**1.40**	**193**	P	**Pn**	**03 27 21.3**	**-0.6**
OUR				S	**Sb**	**03 27 40.0**	**-0.4**
	482nm,0.3s						
OUR	**Ouranopolis**	**1.40**	**193**	P	**Pn**	**03 27 21.5**	**-0.4**
TRGA	**Dikaia**	**1.42**	**89**	P	**Pn**	**03 27 22.1**	**0.0**
VAY	**Valandovo**	**1.43**	**255**	*i* Pn	**Pg**	**03 27 23.2**	**+0.2**
VAY				*i* Sn	**Sg**	**03 27 43.1**	**+1.5**
VAY	**Valandovo**	**1.43**	**255**	*e*Pg	**Pg**	**03 27 26.4**	**+3.3**
VAY				*e*Sg	**Sg**	**03 27 42.6**	**+1.0**
ALN	**Alexandroupoli**	**1.47**	**122**	Pn	**Pb**	**03 27 23.4**	**-0.2**
ALN	**Alexandroupoli**	**1.47**	**122**	P	**Pn**	**03 27 23.0**	**+0.1**
ALN				S	**Sg**	**03 27 43.0**	**0.0**
	130nm,0.5s						
HORT	**Hortiatis**	**1.48**	**222**	Pn	**Pn**	**03 27 22.9**	**-0.1**
HORT	**Hortiatis**	**1.48**	**222**	P	**Pn**	**03 27 23.0**	**-0.1**
HORT				S	**Sn**	**03 27 42.8**	**+0.1**
	130nm,0.7s						
HORT	**Hortiatis**	**1.48**	**222**	P	**Pn**	**03 27 23.3**	**+0.3**
SMTH	**Samothraki Isl**	**1.49**	**145**	P	**Pn**	**03 27 23.0**	**-0.2**
SMTH				S	**Sn**	**03 27 42.7**	**-0.4**
	102nm,0.3s						
SMTH	**Samothraki Isl**	**1.49**	**145**	P	**Pn**	**03 27 23.1**	**-0.2**
PLG	**Polygyros**	**1.51**	**209**	P	**Pn**	**03 27 23.5**	**0.0**
PLG				S	**Sb**	**03 27 43.5**	**-0.1**
	195nm,0.3s						
PLG	**Polygyros**	**1.51**	**209**	P	**Pn**	**03 27 23.4**	**0.0**
THE	**Thessaloniki**	**1.52**	**226**	P	**Pn**	**03 27 23.4**	**-0.1**
THE				S	**Sn**	**03 27 43.6**	**-0.1**
	138nm,0.6s						
THE	**Thessaloniki**	**1.52**	**226**	P	**Pn**	**03 27 23.6**	**+0.1**
ENEZ	**Enez**	**1.63**	**125**	Pn	**Pg**	**03 27 26.9**	**-0.1**
ENEZ	**Enez**	**1.63**	**125**	P	**Pn**	**03 27 25.3**	**+0.2**
ENEZ				S	**Sb**	**03 27 47.0**	**-0.2**
	158nm,0.3s						
BOSS	**Bosilegrad**	**1.64**	**300**	*e*Pg	**Pb**	**03 27 26.3**	**-0.1**
BOSS				*e*Sg	**Sg**	**03 27 48.3**	**0.0**
EDRB	**Edirne**	**1.76**	**84**	Pn	**Pb**	**03 27 28.4**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.77**	**108**	Pn	**Pb**	**03 27 28.8**	**+0.2**
PAIG	**Paliouri**	**1.85**	**197**	Pn	**Pn**	**03 27 27.8**	**-0.4**
PAIG	**Paliouri**	**1.85**	**197**	P	**Pn**	**03 27 27.7**	**-0.4**
PAIG				S	**Sn**	**03 27 51.2**	**-0.7**
PAIG	**Paliouri**	**1.85**	**197**	P	**Pn**	**03 27 27.8**	**-0.4**
GADA	**Gvkgeada**	**1.88**	**143**	Pn	**Pn**	**03 27 28.9**	**+0.4**
ERIK	**Erikli-Kesan**	**1.90**	**122**	Pn	**Pn**	**03 27 29.6**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.04**	**129**	Pn	**Pb**	**03 27 32.6**	**-0.5**
ZAPS	**Zavoj**	**2.05**	**321**	*e*Pg	**Pg**	**03 27 34.7**	**-0.2**
ZAPS				*e*Sg	**Sg**	**03 28 01.9**	**+0.4**
ZIMR		**2.08**	**20**	⇓P	**Pb**	**03 27 33.4**	**-0.5**
LIT	**Litokhoron**	**2.16**	**223**	P	**Pn**	**03 27 32.1**	**-0.2**
LPK	**Lapseki**	**2.22**	**126**	Pn	**Pb**	**03 27 35.0**	**-1.3**
BARS	**Barje**	**2.22**	**301**	*e*Pg	**Pb**	**03 27 37.4**	**+1.0**
BARS				*e*Sg	**Sb**	**03 28 04.5**	**+0.3**
COMU	**Canakkale**	**2.24**	**135**	Pn	**Pn**	**03 27 34.3**	**+0.8**
LOZB	**Loznitsa**	**2.33**	**43**	⇓P	**Pb**	**03 27 38.3**	**+0.2**
RAZG	**Razgrad**	**2.43**	**39**	⇑P	**Pb**	**03 27 40.1**	**+0.2**
XOR	**Xorichti**	**2.51**	**202**	P	**Pn**	**03 27 36.8**	**-0.4**
NEO	**Neokhori**	**2.55**	**201**	P	**Pn**	**03 27 37.2**	**-0.5**
TYRN	**Tyrnavos**	**2.58**	**220**	P	**Pn**	**03 27 38.2**	**+0.1**
ZAGS	**Zajecar**	**2.65**	**324**	*e*Pg	**Pb**	**03 27 43.6**	**0.0**
ZAGS				*e*Sg	**Sg**	**03 28 19.8**	**-1.0**
SIGR	**SIGRI**	**2.72**	**155**	P	**Pn**	**03 27 40.2**	**+0.2**
BOVS	**Bovan**	**2.77**	**315**	⇓P	**Pn**	**03 27 41.3**	**+0.5**
BOVS	**Bovan**	**2.77**	**315**	*e*Pn	**Pn**	**03 27 41.1**	**+0.3**
BOVS				*e*Sg	**Sb**	**03 28 22.6**	**+2.5**
SELS	**Selova**	**2.87**	**303**	*e*Pn	**Pb**	**03 27 46.2**	**-1.1**
SELS				*e*Sg	**Sg**	**03 28 25.6**	**-2.2**
BORS2	**Bor- Borsko je**	**2.96**	**325**	*e*Pn	**Pn**	**03 27 41.7**	**-1.7**
BORS2				*e*Sg	**Sb**	**03 28 28.1**	**+2.6**
KUBS	**Kucevo**	**3.37**	**325**	*e*Pn	**Pn**	**03 27 49.0**	**0.0**
GRUS	**Gruza**	**3.49**	**310**	*e*Pn	**Pn**	**03 27 50.7**	**+0.1**
GRUS				*e*Sg	**Sg**	**03 28 45.9**	**-1.8**
HERR	**Herculane**	**3.50**	**336**	⇑P	**Pn**	**03 27 50.3**	**-0.4**
SJES	**Sjenica**	**3.63**	**297**	*e*Pn	**Pn**	**03 27 55.3**	**+2.6**
MDVR	**Moldovita**	**3.66**	**328**	⇓P	**Pn**	**03 27 52.1**	**-0.9**
ARR	**Arges**	**3.67**	**3**	⇓P	**Pn**	**03 27 52.3**	**-0.9**
VOIR		**3.77**	**7**	⇑P	**Pn**	**03 27 53.5**	**-1.0**
GZR	**Gura Zlata**	**3.88**	**343**	⇑P	**Pn**	**03 27 55.5**	**-0.6**
MLR	**Muntele Rosu**	**3.95**	**16**	⇓P	**Pn**	**03 27 58.2**	**+1.1**
VRSS	**Vrsac**	**4.09**	**328**	*e*Pn	**Pn**	**03 27 58.3**	**-0.6**
BZS	**Buzias**	**4.41**	**334**	⇑P	**Pn**	**03 28 02.7**	**-0.5**
BZS	**Buzias**	**4.41**	**334**	*e*Pn	**Pn**	**03 28 02.6**	**-0.6**
CFR	**Carcaliu**	**4.41**	**37**	⇑P	**Pn**	**03 28 05.5**	**+2.2**
PLOR	**Plostina**	**4.46**	**21**	⇑P	**Pn**	**03 28 03.9**	**-0.1**
VRI	**Vrincioaia**	**4.49**	**21**	⇓P	**Pn**	**03 28 04.8**	**+0.4**

IDC 16 03:40:48.3±2.3, 7°.04S×129°.28E, h0km, mb3.3/1, mbtmp3.1/3, ML3.4/2, Error ellipse: s-maj=115.5km s-min=34.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.73**	**160**	Pn	Pn	03 44 04.2	-0.2
	0.2nm,0.3s,baz=338,slow=13,SNR=5.6						
WRA				Sn	Sn	03 46 25.7	-12
	0.4nm,0.3s,baz=334,slow=21,SNR=7.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**17.12**	**165**	P	Pn	03 44 49.3	+0.2
	0.1nm,0.3s,baz=339,slow=9.2,SNR=4.6						
ASAR				S	Sn	03 47 48.0	-12
	0.3nm,0.5s,baz=325,slow=16,SNR=4.7						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	03 51 48.6	0.0
	0.1nm,0.3s,baz=110,slow=8.2,SNR=1.9						
	0.1nm,0.3s						

*ISK **16** 03:44:35.3, 39°.73N×25°.60E, h9km, ML3.5/17*
*ATH **16** 03:44:36.3, 39°.71N×25°.62E, h16km±2km, ML3.3/18, Manual Solution by A.Agalos First location: 2019/03/16 03:45:06, This location: 2019/03/16 03:55:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **16** 03:44:36.7, 39°.71N×25°.66E, h19km±1km, ML3.2/20, Error ellipse: s-maj=1.5km s-min=0.4km az=107.0*
*AFAD **16** 03:44:37.0, 39°.73N×25°.70E, h7km±1km, MW3.4*
*BEO **16** 03:44:39.1±0.5, 39°.93N×25°.48E, h0km, ML3.4/10*

ISC 16 03:44:35.1±1.2, 39°.71N±0°.02×25°.64E±0°.02, h6km±10km, n148, σ1=93/202, 12C-15D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.34**	**67**	P	**Pb**	**03 44 43.0**	**-0.6**
BOZC				P	**Pb**	**03 44 43.0**	**-0.6**
BOZC				S	**Sb**	**03 44 47.8**	**-1.5**
KOCA	**Canakkale, Ayv**	**0.44**	**118**	P	**Pb**	**03 44 45.4**	**+0.2**
KOCA				S	**Sb**	**03 44 51.5**	**-0.5**
GOAD	**anakkale-G¶**	**0.49**	**24**	P	**Pb**	**03 44 46.0**	**-0.3**
GOAD				S	**Sb**	**03 44 53.0**	**-0.7**
GADA	**Gvkgeada**	**0.52**	**22**	Pg	**Pb**	**03 44 45.9**	**-0.7**
SIGR	**SIGRI**	**0.53**	**162**	P	**Pb**	**03 44 46.7**	**0.0**
SIGR				S	**Sb**	**03 44 54.8**	**+0.3**
	13μm,0.5s						
SIGR	**SIGRI**	**0.53**	**162**	P	**Pb**	**03 44 46.6**	**-0.1**
SIGR				S	**Sb**	**03 44 54.1**	**-0.4**
ECEA	**Canakkale, Ece**	**0.53**	**51**	P	**Pb**	**03 44 46.6**	**-0.1**
ECEA				S	**Sb**	**03 44 53.9**	**-0.7**
EFSA	**Agios Efstrati**	**0.53**	**252**	P	**Pb**	**03 44 46.6**	**-0.2**
EFSA				S	**Sb**	**03 44 54.0**	**-0.8**
EZNE	**Ezine-Canakkal**	**0.56**	**85**	Pg	**Pb**	**03 44 47.3**	**0.0**
EZNE				Sg	**Sb**	**03 44 55.9**	**+0.4**
PRK	**Paraskevi**	**0.67**	**133**	P	**Pn**	**03 44 49.7**	**-1.4**
PRK				S	**Sb**	**03 44 58.8**	**0.0**
	4μm,0.8s						
PRK	**Paraskevi**	**0.67**	**133**	P	**Pn**	**03 44 49.7**	**-1.4**
PRK				S	**Sb**	**03 44 59.0**	**+0.2**
CNKL	**anakkale-Mer**	**0.67**	**58**	P	**Pb**	**03 44 49.0**	**-0.3**
CNKL				P	**Pb**	**03 44 49.0**	**-0.3**
CNKL				S	**Sb**	**03 44 58.1**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.70**	**87**	P	**Pb**	**03 44 49.8**	**+0.1**
BAYC				S	**Sb**	**03 44 59.0**	**-0.6**
COMU	**Canakkale**	**0.75**	**59**	Pg	**Pb**	**03 44 50.4**	**-0.1**
SMTH	**Samothraki Isl**	**0.76**	**354**	P	**Pb**	**03 44 50.5**	**-0.3**
SMTH				S	**Sb**	**03 45 01.6**	**+0.1**
	2μm,0.5s						
SMTH	**Samothraki Isl**	**0.76**	**354**	P	**Pb**	**03 44 50.6**	**-0.3**
SMTH				S	**Sb**	**03 45 01.1**	**-0.4**
AYVA	**Ayvalik**	**0.91**	**116**	P	**Pn**	**03 44 53.8**	**-0.5**
AYVA				S	**Sn**	**03 45 07.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.94**	**43**	Pg	**Pb**	**03 44 53.8**	**0.0**
GELI				Sg	**Sn**	**03 45 07.7**	**-0.8**
CAVK	**Edirne/Enez-Ca**	**1.06**	**22**	P	**Pn**	**03 44 55.9**	**-0.6**
CAVK				S	**Sb**	**03 45 09.2**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**1.06**	**22**	⇓P	**Pn**	**03 44 56.4**	**-0.1**
LPK	**Lapseki**	**1.08**	**52**	Pn	**Pn**	**03 44 56.6**	**-0.2**
ENEZ	**Enez**	**1.10**	**21**	Pn	**Pn**	**03 44 56.7**	**-0.3**
ENEZ	**Enez**	**1.10**	**21**	P	**Pn**	**03 44 56.6**	**-0.4**
ENEZ				S	**Sb**	**03 45 10.8**	**-0.2**
	3μm,0.5s						
CANM	**Can-anakkale**	**1.13**	**74**	Pn	**Pn**	**03 44 58.2**	**+0.8**
BUHA	**Balikesir, Bur**	**1.13**	**100**	P	**Pn**	**03 44 57.9**	**+0.5**
BUHA				S	**Sn**	**03 45 13.1**	**-0.1**
THAS	**Thassos island**	**1.14**	**322**	P	**Pg**	**03 44 56.7**	**-0.3**
THAS				S	**Sg**	**03 45 12.0**	**+0.2**
	2μm,0.5s						
THAS	**Thassos island**	**1.14**	**322**	P	**Pb**	**03 44 57.2**	**0.0**
THAS				S	**Sg**	**03 45 12.0**	**+0.2**
ALEX	**Alexandroupoli**	**1.16**	**10**	P	**Pn**	**03 44 58.0**	**+0.2**
ALEX				S	**Sn**	**03 45 13.8**	**-0.1**
ERIK	**Erikli-Kesan**	**1.17**	**35**	Pn	**Pn**	**03 44 57.9**	**-0.1**
DKL	**Dikili**	**1.17**	**123**	P	**Pn**	**03 44 58.5**	**+0.6**
DKL				S	**Sn**	**03 45 14.1**	**-0.1**
SKY	**Skiros Island**	**1.19**	**226**	P	**Pg**	**03 44 57.4**	**-0.5**
SKY				S	**Sg**	**03 45 13.5**	**+0.2**
	2μm,0.2s						
SKY	**Skiros Island**	**1.19**	**226**	P	**Pg**	**03 44 57.5**	**-0.5**
SKY				S	**Sb**	**03 45 14.0**	**+0.4**
ALN	**Alexandroupoli**	**1.22**	**14**	Pn	**Pn**	**03 44 58.5**	**-0.2**
ALN	**Alexandroupoli**	**1.22**	**14**	P	**Pg**	**03 44 58.3**	**-0.3**
ALN				S	**Sg**	**03 45 14.1**	**-0.4**
	662nm,0.4s						
IZMD	**zmir-Dikili-**	**1.23**	**126**	P	**Pn**	**03 44 59.9**	**+0.9**
IZMD				P	**Pb**	**03 45 00.1**	**+1.2**
IZMD				S	**Sn**	**03 45 15.0**	**-0.9**
YENI	**Yenice-Canakka**	**1.25**	**79**	Pn	**Pn**	**03 44 59.6**	**+0.5**
XANC	**Avdira**	**1.37**	**338**	P	**Pn**	**03 45 00.3**	**-0.5**
OUR	**Ouranopolis**	**1.42**	**297**	Pn	**Pn**	**03 45 01.1**	**-0.3**
OUR	**Ouranopolis**	**1.42**	**297**	P	**Pn**	**03 45 00.9**	**-0.5**
OUR				S	**Sb**	**03 45 20.0**	**-0.3**
	1μm,0.4s						
OUR	**Ouranopolis**	**1.42**	**297**	P	**Pn**	**03 45 01.1**	**-0.3**
OUR				S	**Sb**	**03 45 20.0**	**-0.3**
RDO	**Rodhopi**	**1.44**	**357**	Pn	**Pn**	**03 45 01.6**	**0.0**
RDO	**Rodhopi**	**1.44**	**357**	P	**Pn**	**03 45 01.3**	**-0.3**
RDO				S	**Sb**	**03 45 19.7**	**-1.1**
	380nm,0.5s						
RDO	**Rodhopi**	**1.44**	**357**	P	**Pn**	**03 45 01.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.44**	**61**	Pn	**Pg**	**03 45 02.5**	**-0.3**
AOS

JMB	Yambol	2.86	13	*e*P	Pn	03 45 22.2	+1.0
KKB	Krupnik	2.86	319	*e*P	Pb	03 45 24.9	-1.6
PLNA	Plana	3.23	329	*e*P	Pb	03 45 30.1	-2.8
VTS	Vitosha	3.43	329	*e*P	Pn	03 45 32.2	+3.0
VTS	Vitosha	3.43	329	*e*Pn	Pn	03 45 30.1	+0.9
VTS				*e*Sg	Sb	03 46 19.5	+1.3
FNA	Florina	3.44	290	*e*Pn	Pn	03 45 30.4	+1.2
BOSS	Bosilegrad	3.67	320	*e*Pn	Pn	03 45 33.9	+1.5
BOSS				*e*Sn	Sn	03 46 14.6	-1.3
LOZB	Loznitsa	3.73	11	⇑P	Pn	03 45 35.3	+2.1
RAZG	Razgrad	3.91	9	⇑P	Pn	03 45 36.9	+1.3
MPEP	Malo Peshtene	3.91	339	P	Pn	03 45 36.8	+1.1
OHR	Ohrid	3.95	292	*i* Pn	Pn	03 45 39.6	+3.3
ZAPS	Zavoj	4.22	329	*e*Pn	Pn	03 45 41.6	+1.7
ZAPS				*e*Sg	Sb	03 46 45.0	+4.2
BARS	Barje	4.24	318	*e*Pn	Pn	03 45 41.7	+1.5
BARS				*e*Sg	Sb	03 46 45.4	+4.0
ZAGS	Zajecar	4.83	329	*e*Pn	Pn	03 45 48.7	+0.5
SELS	Selova	4.88	317	*e*Pn	Pn	03 45 51.2	+2.1
SELS				*e*Sn	Sn	03 46 45.0	-0.9
BOVS	Bovan	4.91	324	*e*Pn	Pn	03 45 50.3	+1.0
KUBS	Kucevo	5.55	329	*e*Pn	Pn	03 45 59.1	+0.9
GRUS	Gruza	5.56	320	*e*Pn	Pn	03 45 59.2	+0.8
HERR	Herculane	5.69	336	⇓P	Pn	03 46 00.6	+0.5
ARR	Arges	5.70	353	⇑P	Pn	03 46 01.1	+0.7
VOIR		5.74	356	⇑P	Pn	03 46 01.7	+0.8
CFR	Carcaliu	5.77	18	⇓P	Pn	03 46 02.2	+1.1
MLR	Muntele Rosu	5.78	2	⇑P	Pn	03 46 03.5	+2.0
MDVR	Moldovita	5.84	331	⇑P	Pn	03 46 02.7	+0.4
MDVR	Moldovita	5.84	331	*e*Pn	Pn	03 46 02.1	-0.2
LOT	Lotru	5.90	347	⇑P	Pn	03 46 03.4	+0.3
TRUS	Trudelj	5.96	321	*e*Pn	Pn	03 46 03.2	-0.7
GZR	Gura Zlata	6.06	341	⇓P	Pn	03 46 05.3	0.0
SPBR	Spulber	6.09	7	⇑P	Pn	03 46 08.3	+2.6
ODBI	Odobesti	6.14	9	⇓P	Pn	03 46 08.5	+2.3
COVR	Voineasa-Covas	6.14	4	⇓P	Pn	03 46 07.4	+1.0
PLOR	Plostina	6.18	7	⇓P	Pn	03 46 09.5	+2.6
VRI	Vrincioaia	6.20	7	⇑P	Pn	03 46 09.8	+2.6
DOPR	Dopca	6.26	358	⇓P	Pn	03 46 08.7	+0.8
VRSS	Vrsac	6.28	331	*e*Pn	Pn	03 46 08.6	+0.4
OZUR		6.38	1	⇓P	Pn	03 46 10.9	+1.2
VLDR	Vladesti	6.39	16	⇑P	Pn	03 46 10.9	+1.3
VARL	Varlezi	6.39	14	⇓P	Pn	03 46 11.6	+1.9
KIRS	Kirsehir-Merke	6.43	93	⇓P	Pn	03 46 13.1	+2.7
MDB	Medias	6.49	352	⇓P	Pn	03 46 12.9	+1.8
SURR	Surduc	6.57	338	⇑P	Pn	03 46 12.3	+0.1
BZS	Buzias	6.61	335	⇓P	Pn	03 46 13.1	+0.4
BZS	Buzias	6.61	335	*e*Pn	Pn	03 46 12.9	+0.2
TESR	Tescani	6.84	6	⇓P	Pn	03 46 17.4	+1.5
BURAR	Bucovina Array	7.91	358	⇑P	Pn	03 46 33.0	+2.3
MODS	Modra-Piesok	10.54	328	*e*PN	Pn	03 46 59.8	-6.8

NDI ***16*** *04:12:57.6±2.6, 7°.53N×95°.54E, h200km, ML4.0, MW3.9, mb4.1(NEIC)*
IDC ***16*** *04:13:00.2±2.0, 7°.34N×94°.81E, h212km±20km, mb3.6/14, mbtmp4.1/17, Error ellipse: s-maj=20.6km s-min=11.2km az=64.0*
DJA ***16*** *04:13:00.7±0.4, 7°N±5°×9°5E±°, h216km±7km, M4.7/7, mb4.5/7, mB5.5/4, MLv4.6/7, Mw(mB)4.9/4*
NEIC ***16*** *04:13:00.5±1.6, 7°.34N±0°.08×94°.67E±0°.10, h206km±7km, mb4.1/19, Error ellipse: s-maj=18.3km s-min=4.7km az=49.0*

ISC 16 04:12:59.7±0.5, 7°.40N±0°.05×94°.81E±0°.06, h200km, n67, σ1°68/72, mb4.0/25, 8C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.96	246	*e*P	Pn	04 13 33.8	+4.6
CMBY				*e*S	Sn	04 13 55.9	+3.9
CMBY				*e*S		04 13 58.7	
CMBY				IAML		04 13 58.7	
	comp=E,3μm,0.3s						
CMBY				IAML		04 14 02.2	
	comp=E,4μm,0.3s						
BSI	Banda Aceh	1.96	166	P	Pn	04 13 40.6	+2.8
LHMI	Lhok Sumawe	3.03	135		Pn	04 13 54.1	+4.3
LHMI	Lhok Sumawe	3.03	135	P	Pn	04 13 53.6	+3.9
MLSI	Meulaboh, Aceh	3.50	153	P	Pn	04 13 57.0	+1.6
PBA	Port Blair	4.69	334		Pn	04 14 10.6	+0.4
PBA	Port Blair	4.69	334	*e*P	Pn	04 14 10.6	+0.4
PBA				*e*S	Sn	04 15 06.6	+0.8
PBA				IAML		04 15 10.7	
	comp=E,230nm,0.4s						
PBA				IAML		04 15 15.8	
	comp=E,291nm,0.1s						
SRIT	Nakonsritamara	4.89	76		Pn	04 14 15.8	+3.1
SNSI	Sinabang, Aceh	5.19	163	P	Pn	04 14 16.5	-0.1
DGPR	DIGLIPUR	6.03	342	*ex*	Pn	04 14 31.9	+4.5
DGPR				*e*S	Sn	04 15 32.3	-4.5
DGPR				IAML		04 15 38.4	
	comp=E,124nm,0.2s						
DGPR				IAML		04 15 39.8	
	comp=E,76nm,0.2s						
PSI	Prapat	6.14	138	P	Pn	04 14 30.6	+1.7
	comp=E,12nm,0.3s,baz=280,slow=13,SNR=11						
PSI				S	Sn	04 15 38.8	-0.8
	comp=E,4.3nm,0.4s,baz=299,slow=23,SNR=1.5						
KULM	Kulim	6.17	110	Pn	Pn	04 14 32.0	+2.7
RPSI	Rantau Prapat	6.22	139		Pn	04 14 30.6	+0.8
RPSI					Sn	04 15 38.8	-2.4
RPSI	Rantau Prapat	6.22	139		Pn	04 14 31.0	+1.1
GSI	Gunungsitoli	6.66	155	Pn	Pn	04 14 35.0	-0.5
MNSI	Mandailing Nat	8.11	144	P	Pn	04 14 54.4	0.0
CMAR	Chiang Mai Arr	11.70	20	P	Pn	04 15 43.2	+2.3
	comp=E,4.4nm,0.7s,baz=215,slow=14,SNR=27						
PALK	Pallekele	13.99	270	P	Pn	04 16 11.2	+1.5
	comp=E,5.0nm,0.6s,baz=78,slow=9.3,SNR=1.9						
PALK				S	S	04 18 42.7	-3.0
	comp=E,4.9nm,0.6s,baz=186,slow=22,SNR=4.5						
RAGD	RAYAGADA	16.13	318	*e*P	Pn	04 16 43.9	+8.2
WUS	Wushi	36.40	340	P	P	04 19 45.2	0.0
KDJ	Kajisay	37.94	339	P	P	04 19 58.3	+0.1
KDJ				IAmb	IAmb	04 19 59.6	
	comp=Z,7.5nm,0.7s						
DRK	Karamyk	38.04	331	P	P	04 19 59.8	+0.6
GAR	Garm	38.42	329	P	P	04 20 01.7	-0.4
GAR				IAmb	IAmb	04 20 03.4	
	comp=Z,9.8nm,1.2s						
BOOM	Boomskoye usch	38.71	338	P	P	04 20 04.7	+0.1
BOOM				IAmb	IAmb	04 20 05.4	
	comp=Z,4.0nm,0.8s						
ARSB	Arslanbob	38.95	334	P	P	04 20 07.2	+0.6
MK31	Makanchi Array	40.69	347	P	P	04 20 20.3	-0.4
MKAR	Makanchi Array	40.69	347	P	P	04 20 20.0	-0.7
MKAR	Makanchi Array	40.69	347	P	P	04 20 20.4	-0.3
	comp=Z,1.9nm,0.4s,baz=167,slow=8.1,SNR=32						
	comp=Z,1.9nm,0.4s						
MAKZ	Makanchi	40.78	346	P	P	04 20 20.9	-0.5
MAKZ				IAmb	IAmb	04 20 21.6	
	comp=Z,4.1nm,0.5s						
KK31	Karatay Array	41.48	333	P	P	04 20 27.2	0.0
KK31				IAmb	IAmb	04 20 28.4	
	comp=Z,4.2nm,1.1s						
KKAR	Karatay Array	41.48	333	P	P	04 20 27.3	+0.1
KKAR	Karatay Array	41.48	333	P	P	04 20 27.1	0.0
KKAR				IAmb	IAmb	04 20 28.4	
	comp=Z,2.7nm,1.1s						
SONM	Songino Array	41.48	12	P	P	04 20 27.8	+0.6
SONM	Songino Array	41.48	12	P	P	04 20 27.2	+0.1
	comp=Z,2.9nm,0.7s,baz=192,slow=8.5,SNR=22						
	comp=Z,2.9nm,0.7s						
KURBB	Kurchatov Arra	45.16	345	P	P	04 20 56.4	0.0
	comp=Z,1.7nm,0.5s,baz=167,slow=6.8,SNR=21						
	comp=Z,1.7nm,0.5s						
KURK	Kurchatov	45.23	346	P	P	04 20 56.9	0.0
KURK				IAmb	IAmb	04 20 58.0	
	comp=Z,6.4nm,1.3s						
NWAO	Narrogin (SRO)	45.43	153	P	P	04 20 59.8	+1.0
NWAO				IAmb	IAmb	04 21 37.1	
	comp=Z,27nm,1.2s						
ZAA0	Zalesovo Array	47.11	352	P	P	04 21 11.6	+0.1
ZAA0				IAmb	IAmb	04 21 12.4	
	comp=Z,5.6nm,0.6s						
ZALV	Zalesovo Beam	47.11	352	P	P	04 21 11.0	-0.5
ZALV	Zalesovo Beam	47.11	352	P	P	04 21 11.6	+0.1
	comp=Z,5.2nm,0.5s,baz=172,slow=7.1,SNR=22						
	comp=Z,5.2nm,0.5s						
WB0	Warramunga Arr	47.40	125	P	P	04 21 13.4	-0.9
WB0				IAmb	IAmb	04 21 46.3	
	comp=Z,7.4nm,1.4s						
WRA	Warramunga Arr	47.45	126	P	P	04 21 13.8	-0.9
	comp=Z,0.3nm,0.5s,baz=304,slow=8.7,SNR=13						
	comp=Z,0.3nm,0.5s						
WB2	Warramunga Arr	47.46	126	P	P	04 21 14.0	-0.7
WB2				IAmb	IAmb	04 21 39.7	
	comp=Z,10nm,1.4s						
ASAR	Alice Springs	49.11	130	P	P	04 21 26.4	-1.0
	comp=Z,0.2nm,0.3s,baz=304,slow=7.8,SNR=6.3						
	comp=Z,0.2nm,0.3s						
BVAR	Borovoye Array	49.65	341	P	P	04 21 30.3	-0.6
	comp=Z,1.2nm,0.6s,baz=134,slow=8.5,SNR=7.0						
	comp=Z,1.2nm,0.6s						
RAYN	Ar Rayn	49.88	294	P	P	04 21 31.3	-2.0
RAYN				IAmb	IAmb	04 21 34.6	
	comp=Z,3.8nm,0.8s						
ABKAR	Akbulak array	50.96	331	P	P	04 21 40.3	-0.5
ABKAR	Akbulak array	50.96	331	P	P	04 21 41.1	+0.3
ABKAR				IAmb	IAmb	04 21 42.0	
	comp=Z,4.1nm,1.1s						
BRTR	Keskin Array B	63.24	311	P	P	04 23 05.8	-1.4
	comp=Z,1.1nm,0.6s,baz=129,slow=7.9,SNR=9.9						
	comp=Z,1.1nm,0.6s						
CFR	Carcaliu	68.39	316	⇑P	P	04 23 38.9	-0.9
SORM	Soroca	68.88	319	⇑P	P	04 23 41.5	-1.2
AKASG	Malin Array Be	68.93	322	P	P	04 23 41.5	-1.5
	comp=Z,0.8nm,0.4s,baz=90,slow=5.2,SNR=8.5						
	comp=Z,0.8nm,0.4s						
VRI	Vrincioaia	69.50	316	⇑P	P	04 23 46.7	+0.1
PLOR	Plostina	69.55	316	⇑P	P	04 23 47.0	-0.1
TESR	Tescani	69.67	317	⇑P	P	04 23 46.8	-1.0
MLR	Muntele Rosu	69.97	316	⇑P	P	04 23 49.4	-0.4
BURAR	Bucovina Array	70.84	318	⇑P	P	04 23 54.9	0.0
DRGR		72.39	317	⇑P	P	04 24 04.1	-0.1
FINES	FINESS Array B	73.43	332	P	P	04 24 08.9	-0.9
FINES	FINESS Array B	73.43	332	P	P	04 24 09.0	-0.9
	comp=Z,2.8nm,0.8s,baz=100,slow=5.2,SNR=12						
	comp=Z,2.8nm,0.8s						
MORH	Mrgy, Hungar	75.12	316	⇓P	P	04 24 19.0	-0.9
BOSA	Boshof	75.90	238	P	P	04 24 25.2	+0.4
	comp=Z,1.3nm,0.5s,baz=106,slow=3.0,SNR=6.9						
	comp=Z,1.3nm,0.5s						
ARCES	ARCESS Array B	75.93	340	P	P	04 24 23.6	-0.5
	comp=Z,5.3nm,1.1s,baz=95,slow=7.3,SNR=5.6						
	comp=Z,5.3nm,1.1s						
GERES	GERESS Array B	78.62	318	P	P	04 24 39.6	+0.1
	comp=Z,0.4nm,0.4s,baz=131,slow=6.1,SNR=2.3						
	comp=Z,0.4nm,0.4s						
HFS	Hagfors	79.19	330	P	P	04 24 41.2	-1.1
	comp=Z,2.7nm,0.9s,baz=108,slow=4.8,SNR=5.1						
	comp=Z,2.7nm,0.9s						
LL04	Puerto Octay	144.74	197	PKPbc	PKPab	04 32 11.6	-0.7
TDBA	Terre de Bas,	147.17	315	PKPbc	PKPdf	04 32 19.8	+2.0

IDC 16 04:22:23.0±13.0, 21°.73S×174°.05E, h0km, mb3.6/2, mbtmp3.5/2, MS3.1/4, Error ellipse: s-maj=662.3km s-min=43.0km az=148.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.07	266	LR	LR	04 25 54.5	
	comp=Z,122nm,19.0s,baz=150,slow=30						
HNR	Honiara	18.25	310	LR	LR	04 32 28.0	
	comp=Z,30nm,19.4s,baz=311,slow=33						
ASAR	Alice Springs	37.00	259	P	P	04 29 34.4	-0.3
	0.3nm,0.7s,baz=92,slow=8.1,SNR=7.0						
ASAR				LR	LR	04 45 18.9	
	comp=Z,36nm,18.6s,baz=150,slow=37						
	0.3nm,0.7s						
ASAJ	Asahikawa	71.58	337	LR	LR	05 01 07.2	
	comp=Z,18nm,20.1s,baz=150,slow=32						
ILAR	Eielson Array	91.33	16	P	P	04 35 29.4	-0.7
	0.4nm,0.7s,baz=214,slow=6.2,SNR=4.1						
	0.4nm,0.7s						
GERES	GERESS Array B	148.73	335	PKPbc	PKPbc	04 42 12.6	+0.2
	1.5nm,0.8s,baz=20,slow=3.3,SNR=4.8						

TEH ***16*** *04:34:13.8, 40°.21N×47°.89E, h10km±83km*
NSSP ***16*** *04:34:15.7, 40°.07N×47°.60E, h10km, Ms3.4*
TIF ***16*** *04:34:15.7, 40°.61N×48°.09E, h11km±3km*
MOS ***16*** *04:34:16.3, 40°.36N×47°.54E, h10km, MPVA3.8*
AZER ***16*** *04:34:16.3, 40°.21N×47°.68E, h29km, ml3.3*
DRS ***16*** *04:34:19.8, 40°.52N×47°.45E, h48km*

ISC 16 04:34:18.7±0.9, 40°.20N±0°.02×47°.73E±0°.02, h28km±6km, n87, σ1°60/159, 8C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRD	Zardab	0.09	338	P	Pb	04 34 22.8	-0.8
ZRD				S	Sb	04 34 28.5	+1.5
KDMR	Kurdemir	0.39	63	P	Pb	04 34 26.4	-0.9
KDMR				S	Sn	04 34 34.7	-0.3
BRDA	Brd	0.42	279	P	Pb	04 34 27.0	-0.8
BRDA				S	Sb	04 34 33.5	-0.5
AGDM	Agdam	0.48	260	P	Pb	04 34 27.1	-1.6
AGDM				S	Sb	04 34 35.6	+0.1
BLQ	Beylaqan	0.49	195	P	Pb	04 34 27.7	-1.2
BLQ				S	Sb	04 34 36.2	+0.4
SAAT	Saatly	0.63	122	P	Pb	04 34 28.7	-2.4
SAAT				S	Sb	04 34 38.9	-0.7
IML	Ismayilli	0.69	30	P	Pb	04 34 30.5	-1.8
IML				S	Sb	04 34 42.2	+0.7
QBL	Gabala	0.75	6	P	Pb	04 34 31.7	-1.6
QBL				S	Sb	04 34 42.6	-0.6
MNGR	Mingechevir, A	0.76	320	P	Pb	04 34 31.4	-1.9
MNGR				S	Sb	04 34 40.6	-2.6
QRD	Qoradiz	0.80	203	P	Pb	04 34 32.3	-1.7
QRD				S	Sb	04 34 44.0	-0.4
PQL	Pirkuli	0.89	48	P	Pb	04 34 34.2	-1.4
PQL				S	Sn	04 34 47.9	+0.4
GBS	Qobustan	0.99	70	P	Pn	04 34 37.2	+0.5
GBS				S	Sn	04 34 50.4	+0.6
ALIB	&Aumlli-Bayram	1.01	103	P	Pn	04 34 38.0	+1.1
ALIB				S	Sn	04 34 56.0	+5.8
XNQ	Khinaliq	1.02	18	P	Pn	04 34 35.3	-2.1
XNQ				S	Sb	04 34 49.3	-1.8
GLBA	Clilabad	1.08	151	P	Pn	04 34 37.4	-0.6
GLBA				S	Sb	04 34 53.6	+1.1
SEKA	Sheki	1.09	338	P	Pn	04 34 36.0	-2.2
SEKA				S	Sn	04 34 51.3	-1.1
ATGJ	Altiaghaj	1.14	54	P	Pn	04 34 39.1	+0.2
ATGJ				S	Sb	04 34 57.8	+3.6
GANJ	Ganja	1.16	293	P	Pn	04 34 36.6	-2.6
GANJ				S	Sn	04 34 51.9	-2.2
SIZA	Siyzn	1.25	45	Pn	Pn	04 34 40.8	+0.3
SIZA				Sn	Sb	04 34 59.4	+1.9
AKT	Akhty	1.28	0	*e*Pg	Pn	04 34 39.7	-1.2
	58nm,0.2s						
AKT				*e*Sg	Sn	04 34 56.4	-0.8
	284nm,0.2s						
QUBA	Quba, Azerbaij	1.30	26	Pn	Pn	04 34 40.9	-0.1
QUBA				Sn	Sb	04 34 58.8	+0.1
EGVZ	Egvard	1.33	224	⇓*i*P	Pn	04 34 40.4	-1.2
YRD	Yardimli	1.34	163	Pn	Pn	04 34 41.0	-0.7
YRD				Sn	Sn	04 34 58.7	+0.1
QSAR	Qusar	1.38	17	Pn	Pn	04 34 41.6	-0.5
QSAR				Sn	Sn	04 34 59.9	+0.4
GRMI	Germi	1.39	175	Pg	Pn	04 34 40.7	-1.7
KSMR	Kasumkent	1.44	12	*e*Pg	Pn	04 34 42.9	-0.1
	87nm,0.2s						
KSMR				*e*Sg	Sn	04 35 01.8	+0.8
	595nm,0.3s						
VSHL	Vashlovani	1.44	316	P	Pn	04 34 42.4	-0.6
VSHL				S	Sn	04 35 03.0	+1.9
VSHL	Vashlovani	1.44	316	*e*Pg	Pn	04 34 42.4	-0.6
VSHL				*e*Sg	Sn	04 35 03.0	+1.9
AYRK	Ayrk	1.49	268	⇑*i*P	Pn	04 34 42.7	-1.1
AYRK				⇑*i*S	Sn	04 35 02.0	-0.5
GDB	GEDABAY	1.59	290	Pn	Pn	04 34 43.1	-2.1
GDB				Sn	Sn	04 35 04.5	-0.5
LRK	Lerik	1.62	163	Pn	Pn	04 34 45.2	-0.4
LRK				Sn	Sn	04 35 06.4	+0.7
ZKTA	Zakatala	1.67	330	Pn	Pn	04 34 45.3	-0.7
ZKTA				Sn	Sn	04 35 06.9	+0.3
LKRN	Lenkeran, Azer	1.69	151	Pn	Pn	04 34 46.8	+0.4
LKRN				Sn	Sn	04 35 07.6	+0.5
ASTR	Astara	1.83	153	Pn	Pn	04 34 47.9	-0.4
ASTR				Sn	Sn	04 35 11.7	+1.2
VAYK	Vayk	1.84	255	*i* P	Pn	04 34 48.3	-0.2
VAYK				*i* S	Sn	04 35 11.6	+0.7
ORD	Ordubad	1.84	227	Pn	Pn	04 34 48.4	-0.2
ORD				Sn	Sn	04 35 11.6	+0.6
SBZ	Shahbuz	1.85	245	Pn	Pn	04 34 49.3	+0.5
SBZ				Sn	Sn	04 35 13.5	+2.2
DRN	Derbent	1.89	14	*e*Pg	Pn	04 34 50.5	+1.4
	35nm,0.1s						
DRN				*e*Sg	Sn	04 35 13.5	+1.5
	231nm,0.4s						
IHRS	Heris	1.95	196	Pn	Pn	04 34 50.0	-0.1
URKR	Urkarakh	1.97	358	*e*Pg	Pn	04 34 50.7	+0.3
	24nm,0.2s						
URKR				*e*Sg	Sn	04 35 16.2	+2.0
	131nm,0.2s						
LGD	Lagodekhi	1.99	326	P	Pn	04 34 50.0	-0.4
LGD				S	Sn	04 35 14.8	+0.4
LGD	Lagodekhi	1.99	326	*e*Pg	Pn	04 34 50.0	-0.4
LGD				*e*Sg	Sn	04 35 14.8	+0.4
QZX	Qazax, Azerbai	1.99	296	Pn	Pn	04 34 49.8	-0.7
QZX				Sn	Sn	04 35 15.5	+1.0
KMKR	Kumukh	1.99	346	*e*Pg	Pn	04 34 50.6	-0.1
	26nm,0.2s						
KMKR				*e*Sg	Sn	04 35 16.1	+1.3
	307nm,0.4s						
NAX	Nakhchivan	2.00	240	Pg	Pn	04 34 52.1	+1.3
NAX				Sg	Sb	04 35 19.1	+0.1
GAS1	Astara - Iran	2.00	154	Pn	Pn	04 34 49.5	-1.2
LSVT	Lusahovit	2.06	291	⇑*i*P	Pn	04 34 51.2	-0.3
LSVT				⇑*i*S	Sn	04 35 17.2	+0.8
IMRD	Marand	2.16	227	Pn	Pn	04 34 53.5	+0.5
DGRG	David-gareji	2.18	306	P	Pn	04 34 53.0	-0.1
DGRG				S	Sb	04 35 23.9	-0.2
DGRG	David-gareji	2.18	306	Pg	Pn	04 34 53.2	0.0
DGRG				Sg	Sb	04 35 23.9	-0.2
DGRG	David-gareji	2.18	306	*e*Pg	Pn	04 34 53.0	-0.1
DGRG				*e*Sg	Sb	04 35 23.9	-0.2
HYR	Heyderabad	2.26	259	Pg	Pn	04 34 56.9	+2.7
HYR				Sg	Sb	04 35 27.2	+0.8
SGKR	Sergokala	2.26	359	*e*Pg	Pn	04 34 55.2	+1.0
SGKR				*e*Sg	Sn	04 35 23.1	+1.9
GNBR	Gunib	2.27	346	*e*Pg	Pn	04 34 53.9	-0.5
	9.0nm,0.4s						
GNBR				*e*Sg	Sn	04 35 22.2	+0.8
	70nm,0.4s						
GNI	Garni	2.29	270	⇑*i*P	Pn	04 34 56.9	+2.2
GNI				⇑*i*S	Sb	04 35 27.7	+0.4
GNI	Garni	2.29	270	*e*Pg	Pn	04 34 54.9	+0.2
GNI				*e*Sg	Sn	04 35 22.4	+0.3
ITBZ	Tabriz	2.31	213	Pn	Pn	04 34 54.6	-0.4
KAPZ	Kaputan	2.32	274	*e*P	Pn	04 34 57.2	+2.0
KAPZ				*e*S	Sb	04 35 27.9	-0.4
NRKZ	NAREK	2.36	266	*e*P	Pn	04 34 58.2	+2.5
NRKZ				*e*S	Sb	04 35 29.2	-0.1
ISRB	Sarab	2.37	181	Pn	Pn	04 34 55.3	-0.6
ARKR	Arakani	2.47	347	*e*Pg	Pn	04 34 58.2	+1.1
	6.0nm,0.3s						
ARKR				*e*Sg	Sn	04 35 28.7	+2.3
	69nm,0.4s						
XNZR	Khunzakh	2.47	342	*e*Pn	Pn	04 34 57.7	+0.5
XNZR				*e*Sn	Sn	04 35 26.7	+0.2
UNCR	Uncukul	2.61	345	*e*Pn	Pn	04 34 58.9	-0.2
	6.0nm,0.4s						
UNCR				*e*Sn	Sn	04 35 30.6	+0.7
	51nm,0.4s						
AMBZ	Amberd	2.66	275	*e*P	Pn	04 35 03.1	+3.2
AMBZ				*e*S	Sb	04 35 38.0	0.0
BUJR	Buynaksk	2.67	350	*e*Pn	Pn	04 35 00.0	+0.2
	30nm,0.3s						
BUJR				*e*Sn	Sn	04 35 33.0	+1.7
	196nm,0.4s						
KRNR	Karanay	2.70	347	*e*Pn	Pn	04 35 00.6	+0.2
	4.0nm,0.4s						
KRNR				*e*Sn	Sn	04 35 33.9	+1.7
	43nm,0.4s						
BTLR	Botlikh	2.71	336	*e*Pn	Pn	04 35 00.1	-0.4
	14nm,0.1s						
BTLR				*e*Sn	Sn	04 35 33.2	+0.8
	31nm,0.4s						
SRTK	Saratovka	2.73	290	⇑*i*P	Pn	04 35 02.3	+1.5
SRTK				⇑*i*S	Sn	04 35 37.0	+3.9
TBLG	Delisi	2.73	305	P	Pn	04 35 01.3	+0.6
TBLG				S	Sn	04 35 36.9	+4.0
TBLG	Delisi	2.73	305	*e*Pn	Pn	04 35 01.3	+0.6
TBLG				*e*Sn	Sn	04 35 36.9	+4.0
ARUZ	Aruch	2.79	273	*e*P	Pn	04 35 05.6	+4.0
ARUZ				*e*S	Sb	04 35 42.0	+0.5
IGDI	IGDIR	2.82	265	Pg	Pb	04 35 06.9	-1.5
DBC	Dubki	2.90	347	*e*Pn	Pn	04 35 02.5	-0.6
	5.0nm,0.3s						
DBC				*e*Sn	Sn	04 35 37.4	+0.4
	65nm,0.3s						
KMOZ	Kamo	2.95	283	*e*P	Pn	04 35 07.0	+3.2
KMOZ				*e*S	Sb	04 35 44.6	-1.7
DLMR	Dylym	2.99	344	*e*Pn	Pn	04 35 05.8	+1.6

PMON	Piamonte	1.50	81	S		Sn	04 47 36.0	+0.5
PMON	Piamonte	1.50	81	P		Pn	04 47 17.0	+0.2
APG	El Apazote	1.55	14	*i* P		Pn	04 47 19.1	+1.5
APG				*i* S		Sb	04 47 39.8	+0.5
APG	El Apazote	1.55	14	*i* P			04 47 19.1	
APG				*i* S			04 47 39.8	
MTO3	Montecristo	1.70	58	*e*P		Pn	04 47 20.9	+1.3
MTO3	Montecristo	1.70	58	S		Sb	04 47 43.3	-0.3
MTO3	Montecristo	1.70	58	S		Sb	04 47 43.2	-0.3
MTO3	Montecristo	1.70	58	P		Pn	04 47 20.9	+1.3
MTO3	Montecristo	1.70	58	P		Pn	04 47 21.0	+1.3
PAVA	Las Pavas	1.86	83	P		Pn	04 47 23.2	+1.3
PAVA	Las Pavas	1.86	83	S		Sn	04 47 46.1	+1.6
PAVA	Las Pavas	1.86	83	P		Pn	04 47 23.0	+1.2
COEG	Centro de Oper	1.91	86	*e*P		Pn	04 47 22.2	-0.2
COEG	Centro de Oper	1.91	86	S		Sn	04 47 48.1	+2.6
COEG	Centro de Oper	1.91	86	S		Sn	04 47 47.1	+1.5
COEG	Centro de Oper	1.91	86	P		Pn	04 47 23.2	+0.8
COEG	Centro de Oper	1.91	86	P		Pn	04 47 23.2	+0.8
SCLA	Alcaldia de Sa	2.06	84	P		Pn	04 47 26.3	+1.7
SCLA	Alcaldia de Sa	2.06	84	S		Sn	04 47 51.0	+1.6
SCLA	Alcaldia de Sa	2.06	84	P		Pn	04 47 25.8	+1.3
PACA	Pacayal	2.45	90	P		Pn	04 47 31.6	+1.7
PACA	Pacayal	2.45	90	S		Sn	04 47 59.7	+0.7
PACA	Pacayal	2.45	90	P		Pb	04 47 33.2	-2.0

IDC ***16*** *04:47:41.6±0.8, 37°.85N×139°.22E, h167km±8km, mb3.3/14, mbtmp3.8/18, Error ellipse: s-maj=15.6km s-min=10.3km az=75.0*

JMA ***16*** *04:47:41.3±0.2, 37°.9N±0°.6×139°.3E±0°.7, h156km±1km, MV3.6/39, NE NIIGATA PREF*

NIED ***16*** *04:47:41.3, 37°.92N×139°.25E, h156km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr4.96; Mθθ0.49; Mφφ-5.45; Mrθ-0.97; Mφθ-0.06; Mφr-3.02; Fault plane solution: M0 6.11000×10^14 NP1: φs=350.00000°, δ31.00000°, λ73.00000°. NP2: φs=190.00000°, δ61.00000°, λ100.00000°.*

ISC 16 04:47:41.1±0.7, 37°.90N±0°.05×139°.25E±0°.05, h160km±5km, n37, σ0°82/52, mb3.5/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	Sasagawa	0.10	146	P	Pn	04 48 01.9	-0.6
JAW	Awa shima	0.56	360	*i* P	Pn	04 48 03.5	-0.3
JAW				S	Sn	04 48 20.7	-0.7
JFY	Yanaizu	0.61	143	*i* P	Pn	04 48 04.0	-0.2
JUON	Uonuma	0.70	193	P	Pn	04 48 04.6	-0.1
JUON				S	Sn	04 48 23.3	+0.6
JYS	Shiratake	0.72	63	P	Pn	04 48 04.8	0.0
JYS				*e*S	Sn	04 48 22.9	0.0
JYA	Atsumi	0.79	28	P	Pn	04 48 05.1	-0.1
JYA				*e*S	Sn	04 48 23.6	-0.1
JSD	Sado	0.79	280	*i* P	Pn	04 48 04.9	-0.3
JSD				S	Sn	04 48 22.8	-1.0
JOTO	OTAMA OYAMA	0.92	111	P	Pn	04 48 06.2	0.0
JOTO				*e*S	Sn	04 48 26.0	+0.6
JYK	Kaneyama	1.34	40	P	Pn	04 48 09.6	-0.2
JYK				S	Sn	04 48 31.9	-0.1
JAG	Ashikaga	1.48	174	*i* P	Pn	04 48 11.5	+0.3
JSZ	Suzu	1.56	254	*e*P	Pn	04 48 12.1	+0.1
JSZ				S	Sn	04 48 35.9	+0.1
MAT	Matsushiro	1.59	212	*i* P	Pn	04 48 12.7	+0.4
MAT				S	Sn	04 48 36.9	+0.5
MJAR	Matsushiro Arr	1.59	212	P	Pn	04 48 12.8	+0.4
	120nm,0.4s,baz=17,slow=12,SNR=304						
MJAR				S	Sn	04 48 37.4	+1.0
	27nm,0.8s,baz=349,slow=20,SNR=7.3						
MJAR				LR	LR	04 48 54.4	
	comp=Z,40nm,18.4s,baz=96,slow=48						
JHG	Hegura jima	1.84	269	P	Pn	04 48 15.2	+0.2
JHG				*e*S	Sn	04 48 41.2	0.0
JMK	Ichinoseki	1.87	55	P	Pn	04 48 15.5	+0.2
JRY	Ryogami san	1.90	189	*i* P	Pn	04 48 16.2	+0.5
JRY				*e*S	Sn	04 48 43.5	+1.1
JOM	Ohasama	2.24	45	P	Pn	04 48 20.4	+0.8
JHJ	Hachijo jima 2	4.79	175	P	Pn	04 48 52.0	+0.1
	56nm,0.3s,baz=328,slow=3.0,SNR=6.9						
JHJ				S	Sn	04 49 43.9	-3.3
	81nm,0.3s,baz=86,slow=22,SNR=6.3						
ASAJ	Asahikawa	6.71	21	P	Pn	04 49 15.2	-2.0
	2.4nm,0.3s,baz=243,slow=15,SNR=5.2						
ASAJ				S	Sn	04 50 24.1	-8.5
	2.0nm,0.4s,baz=320,slow=29,SNR=1.3						
USRK	Ussuriysk Ar.	8.35	321	P	Pn	04 49 40.4	+1.4
	2.9nm,0.5s,baz=143,slow=14,SNR=4.7						
KSRS	Korea Array	8.99	271	P	Pn	04 49 48.0	+0.5
	2.6nm,0.8s,baz=87,slow=14,SNR=6.7						
PETK	Petropavlovsk-	19.87	34	P	P	04 51 59.5	-0.2
	0.7nm,0.5s,baz=216,slow=10,SNR=4.6						
SONM	Songino Array	25.87	303	P	P	04 52 57.7	-0.3
	0.5nm,0.6s,baz=103,slow=9.3,SNR=3.6						
	0.5nm,0.6s						
MKAR	Makanchi Array	42.20	301	P	P	04 55 17.1	-0.9
	0.3nm,0.6s,baz=79,slow=11,SNR=4.4						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	44.11	307	P	P	04 55 32.9	-0.4
	1.3nm,0.5s,baz=81,slow=7.9,SNR=15						
	1.3nm,0.5s						
BVAR	Borovoye Array	48.72	311	P	P	04 56 09.7	+0.6
	0.4nm,0.3s,baz=102,slow=8.1,SNR=1.8						
	0.4nm,0.3s						
ILAR	Eielson Array	49.69	33	P	P	04 56 16.4	+0.1
	0.6nm,0.7s,baz=278,slow=5.0,SNR=8.2						
	0.6nm,0.7s						
WRA	Warramunga Arr	57.72	185	P	P	04 57 13.7	-1.4
	0.7nm,0.5s,baz=2.8,slow=7.6,SNR=18						
WRA				PcP	PcP	04 58 07.2	+1.0
	0.6nm,0.7s,baz=358,slow=4.5,SNR=6.4						
	0.7nm,0.5s						
ASAR	Alice Springs	61.44	186	P	P	04 57 40.7	+0.1
	0.3nm,0.4s,baz=1.4,slow=7.7,SNR=8.2						
ASAR				PcP	PcP	04 58 21.9	+0.9
	0.2nm,0.6s,baz=355,slow=4.5,SNR=1.8						
	0.3nm,0.4s						
ARCES	ARCESS Array B	62.58	339	P	P	04 57 47.5	-0.1
	1.7nm,0.8s,baz=59,slow=6.8,SNR=7.0						
	1.7nm,0.8s						
YKA	Yellowknife Ar	63.92	30	P	P	04 57 56.6	+0.2
	0.3nm,0.6s,baz=304,slow=6.7,SNR=8.1						
	0.3nm,0.6s						
FINES	FINESS Array B	67.24	331	P	P	04 58 17.0	-0.8
	0.4nm,0.2s,baz=45,slow=7.8,SNR=13						
	0.4nm,0.2s						
HFS	Hagfors	72.58	335	P	P	04 58 50.0	-0.5
	1.1nm,0.5s,baz=73,slow=4.7,SNR=12						
	1.1nm,0.5s						
NB2	NORSAR Subarra	72.72	336	P	P	04 58 51.0	-0.2
	comp=Z,0.6nm,0.5s,baz=42,slow=6.2						
NOA	NORSAR Array B	72.72	336	P	P	04 58 50.7	-0.6
	comp=Z,1.0nm,0.6s,baz=41,slow=6.0,SNR=7.2						
	comp=Z,1.0nm,0.6s						
NVAR	Mina Array Bea	75.83	52	P	P	04 59 11.0	+1.1
	comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=3.9						
	comp=Z,0.5nm,0.7s						
PDAR	Pinedale Array	78.27	45	P	P	04 59 24.1	+0.6
	comp=Z,0.5nm,0.5s,baz=33,slow=0.7,SNR=8.6						
	comp=Z,0.5nm,0.5s						

BJI ***16*** *04:54:53.8, 44°.68N×146°.37E, h170km, mB4.7/8, mb4.5/33*

MOS ***16*** *04:54:55.0±1.0, 44°.71N×146°.38E, h185km, mb4.3/5, Error ellipse: s-maj=8.5km s-min=6.7km az=79.1*

SKHL ***16*** *04:54:55.5±0.1, 44°.70N×146°.40E, h168km±3km, mb5.5/7, mbv4.6/2, msha6.2/2*

JMA ***16*** *04:54:56.9±0.3, 45°.N±1°×14°.6E±°, h181km±2km, MV4.4/39, NEAR KUNASHIRI ISLAND*

NEIC ***16*** *04:54:56.2±2.2, 44°.65N±0°.09×146°.4E±0°.1, h182km±9km, mb4.3/66, Error ellipse: s-maj=14.7km s-min=11.9km az=122.0*

NIED ***16*** *04:54:56.9, 44°.50N×146°.38E, h181km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.58; Mθθ0.21; Mφφ-0.80; Mrθ0.49; Mφθ-1.47; Mφr-0.52; Fault plane solution: M0 1.78000×10^15 NP1: φs76.00000°, δ65.00000°, λ158.00000°. NP2: φs175.00000°, δ71.00000°, λ26.00000°.*

IDC ***16*** *04:54:57.0±1.0, 44°.88N×146°.19E, h182km±9km, mb3.6/27, mbtmp4.1/34, MS3.1/2 Error ellipse: s-maj=14.2km s-min=9.5km az=158.0*

ISC 16 04:54:55.6±0.6, 44°.63N±0°.04×146°.43E±0°.04, h180km±5km,

n422, σ0°90/412, mb4.2/68, 8C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.72	215	*c i* PN	Pn	04 55 22.2	+0.8
YUK				*i* S	Sn	04 55 42.1	+0.8
YUK				pmax	pmax		
	comp=N,842nm,0.2s						
YUK				pmax	pmax		
	comp=E,676nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax	smax		
	comp=N,4μm,1.0s						
YUK				smax	smax		
	comp=E,4μm,1.3s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
YUK				smax	smax		
	comp=E,4μm,0.5s						
YUK	Yuzh-Kuril'sk	0.72	215	*i* P	Pn	04 55 22.2	+0.8
YUK				AMB	AMB	04 55 23.5	
	comp=E,840nm,0.2s						
YUK				AMB	AMB	04 55 23.5	
	comp=E,680nm,0.2s						
YUK				AMB	AMB	04 55 23.5	
	comp=E,3μm,0.2s						
YUK				*i* S	Sn	04 55 42.1	+0.8
YUK				A	A	04 55 44.0	
	comp=E,4μm,1.0s						
YUK				A	A	04 55 44.0	
	comp=E,4μm,1.0s						
YUK				A	A	04 55 46.4	
	comp=E,3μm,0.5s						
YUK				A	A	04 55 46.4	
	comp=E,4μm,0.5s						
SHO	Shikotan	0.81	159	*i* P	Pn	04 55 22.5	+0.5
SHO				AMB	AMB	04 55 22.9	
	comp=E,2μm,0.3s						
SHO				*e*S	Sn	04 55 41.8	-0.5
SHO				A	A	04 55 42.8	
	comp=E,9μm,0.4s						
SHO				A	A	04 55 42.8	
	comp=E,11μm,0.4s						
RUSJ	Misakicho	0.99	239	⇑ *i* PN	Pn	04 55 24.0	+0.8
RUSJ				S	Sn	04 55 45.1	+0.6
JRA	Rausu	1.16	234	P	Pn	04 55 25.2	+0.7
KUR	Kuril'sk	1.19	59	*d i* PN	Pn	04 55 25.4	+0.7
KUR				*i* S	Sn	04 55 47.9	+0.6
KUR	Kuril'sk	1.19	59	*e*P	Pn	04 55 25.4	+0.7
KUR				AMB	AMB	04 55 25.9	
	comp=E,110nm,0.3s						
KUR				AMB	AMB	04 55 25.9	
	comp=E,150nm,0.3s						
KUR				AMB	AMB	04 55 25.9	
	comp=E,550nm,0.3s						
KUR				*i* S	Sn	04 55 47.7	+0.4
KUR				A	A	04 55 48.8	
	comp=E,670nm,0.7s						
KUR				A	A	04 55 48.8	
	comp=E,610nm,0.7s						
JNSB	Nemuroshibetsu	1.33	231	*i* P	Pn	04 55 26.9	+0.9
NEM2	Nemuro 2	1.35	202	P	Pn	04 55 26.2	0.0
NEM2				*e*S	Sn	04 55 48.5	-1.3
NMR	Nemuro--Hokkai	1.35	202	⇑ *i* PN	Pn	04 55 26.2	+0.1
NMR				*i* S	Sn	04 55 48.3	-1.5
NMR	Nemuro--Hokkai	1.35	202	*i* P	Pn	04 55 26.3	+0.1
NMR				*i* S	Sn	04 55 48.9	-0.9
JNK	Nakash	1.61	230	*i* P	Pn	04 55 29.4	+0.7
JKHN	Kushirohamanak	1.79	211	*i* P	Pn	04 55 30.7	+0.3
JKHN				*e*S	Sn	04 55 56.6	-0.8
JTKR	Abashiri--Toko	1.92	251	P	Pn	04 55 32.4	+0.7
JTKR				*e*S	Sn	04 56 00.0	+0.2
AKK	Akkeshi	1.98	216	*i* P	Pn	04 55 32.5	+0.1
JAK	Akkeshi	2.06	218	P	Pn	04 55 33.5	+0.3
JAK				*e*S	Sn	04 56 01.2	-1.1
JMP	Maruseppu	2.29	255	*i* P	Pn	04 55 36.5	+0.7
JMP				*e*S	Sn	04 56 07.1	+0.1
JAR	Ashorobuto	2.33	236	*i* P	Pn	04 55 37.4	+1.1
JOB	Onbets	2.55	228	*i* P	Pn	04 55 39.5	+0.8
JOB				S	Sn	04 56 11.7	-0.7
JKK2	Kamakawa 2	2.75	255	P	Pn	04 55 42.2	+1.0
JKK2				*e*S	Sn	04 56 17.1	+0.4
JSE	Soyaes	2.76	278	⇓ P	Pn	04 55 42.0	+0.8
JSE				⇓ *e*S	Sn	04 56 15.7	-1.0
JKA	Kamikawa-asahi	2.79	261	Pn	Pn	04 55 42.8	+1.1
JKA	Kamikawa-asahi	2.79	261	*e*P	Pn	04 55 42.8	+1.1
ASAJ	Asahikawa	2.79	261	P	Pn	04 55 42.5	+0.8
	comp=E,49nm,0.5s,baz=74,slow=11,SNR=55						
ASAJ				S	Sn	04 56 17.1	-0.5
	comp=E,105nm,0.9s,baz=97,slow=31,SNR=16						
ASAJ	Asahikawa	2.79	261	PN	Pn	04 55 42.8	+1.1
ASAJ	Asahikawa	2.79	261	P	Pn	04 55 43.0	+1.3
ASAJ				S	Sn	04 56 18.6	+1.0
JCH	Churui	3.00	229	P	Pn	04 55 44.4	+0.2
JCH				S	Sn	04 56 19.6	-2.4
JWK2	Keihoku	3.29	284	⇓ *e*P	Pn	04 55 49.0	+1.3
YSS	Yuzhno-Sakhali	3.47	313	Pn	Pn	04 55 50.2	+0.3
YSS	Yuzhno-Sakhali	3.47	313	⇓ *e*PN	Pn	04 55 50.0	+0.2
YSS				*e*S	Sn	04 56 31.7	-0.6
YSS				pmax	pmax		
	comp=Z,210nm,0.5s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				smax	smax		
	comp=E,100nm,1.2s						
YSS	Yuzhno-Sakhali	3.47	313	*i* P	Pn	04 55 50.5	+0.7
YSS				AMB	AMB	04 55 50.7	
	comp=E,340nm,0.3s						
YSS				AMB	AMB	04 55 52.1	
	comp=E,200nm,3.7s						
YSS				*e*S	Sn	04 56 32.0	-0.3
YSS				A	A	04 56 33.9	
	comp=E,100nm,2.3s						
YSS				A	A	04 56 33.9	
	comp=E,200nm,2.3s						
YSS				A	A	04 56 34.6	
	comp=E,70nm,0.8s						
YSS				A	A	04 56 34.6	
	comp=E,30nm,0.8s						
JHR	Hokuryu	3.50	257	P	Pn	04 55 52.1	+1.8
ERM	Erimo	3.54	224	Pn	Pn	04 55 50.4	-0.4
ERM	Erimo	3.54	224	*de*PN	Pn	04 55 50.6	-0.2
JNBK	Urakawa-nobuka	3.56	230	*i* P	Pn	04 55 50.4	-0.7
JNBK				*e*S	Sn	04 56 31.2	-3.2
JRBN	Rebuntou	3.88	284	⇓ P	Pn	04 55 55.8	+0.7
JEW	Eniwo	4.03	245	P	Pn	04 55 58.3	+1.3
JEW				*e*S	Sn	04 56 45.2	+0.3
JTM	Tenmabayashi	5.50	228	Pn	Pn	04 56 14.4	-1.7
TYV	Tymovskoe	6.74	339	*e*PN	Pn	04 56 30.9	-1.2
TYV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,400nm,5.7s						
TYV	Tymovskoe	6.74	339	*e*P	Pn	04 56 32.1	0.0
TYV				AMB	AMB	04 56 33.3	
	comp=Z,30nm,0.5s						
TYV				AMB	AMB	04 56 36.9	
	comp=Z,400nm,5.7s						
TYV				*e*S	Sn	04 57 46.6	-1.7
TEY	Ternei	7.00	277	*e*PN	Pn	04 56 31.1	-4.5
TEY	Ternei	7.00	277	*i* P	Pn	04 56 36.4	+0.8
TEY				AMB	AMB	04 56 40.3	
	comp=Z,10.0nm,0.5s						
JMM	Marumori	7.97	214		Pn	04 56 46.5	-2.0
SKR	Severo-Kuril's	8.91	44	⇓ *e*PN	Pn	04 57 00.4	-0.2
SKR	Severo-Kuril's	8.91	44	*e*P	Pn	04 57 01.5	+0.9
SKR				AMB	AMB	04 57 03.0	
	comp=Z,30nm,0.3s						
SKR				*e*S	Sn	04 58 38.0	-2.0
OKH	Okha	9.22	347	*e*P	Pn	04 57 06.6	+1.9
OKH				AMB	AMB	04 57 15.5	
	comp=Z,50nm,0.4s						
PAU	Pauzhetka	9.75	42	*e*P	Pn	04 57 12.5	+0.9
PAU				AMB	AMB	04 57 12.8	
	comp=Z,20nm,0.3s						
MJAR	Matsushiro Arr	10.21	221	P	Pn	04 57 17.4	-0.4
	comp=Z,7.3nm,0.7s,baz=32,slow=12,SNR=14						
MAJO	Matsushiro	10.21	221	Pn	Pn	04 57 17.2	-0.6
MAJO	Matsushiro	10.21	221	*d i* PN	Pn	04 57 17.4	-0.4
USA0B	Ussuriysk Arra	10.34	273		Pn	04 57 19.4	-0.1
USA0B	Ussuriysk Arra	10.34	273	*d i* PN	Pn	04 57 19.0	-0.5
USRK	Ussuriysk Ar.	10.34	273	P	Pn	04 57 19.2	-0.3
	comp=Z,34nm,0.6s,baz=81,slow=14,SNR=41						
VLA	Vladivostok	10.61	267	⇓ *e*PN	Pn	04 57 23.2	+0.3
VLA	Vladivostok	10.61	267	*e*P	Pn	04 57 23.2	+0.3
KLR	Kul'dur	11.04	300	P	Pn	04 57 27.1	-1.3
	comp=Z,2.9nm,0.7s,baz=104,slow=14,SNR=8.8						
KLR				LR	LR	05 01 31.6	
	comp=Z,27nm,18.1s,baz=306,slow=37						
KLR	Kul'dur	11.04	300	*de*PN	Pn	04 57 28.5	0.0
KLR	Kul'dur	11.04	300	*e*P	Pn	04 57 28.5	0.0
MSHR	Mys Shultsa	11.26	265	⇓ *i* PN	Pn	04 57 31.1	-0.3
PEA0B	Petropavlovsk-	11.26	37	Pn	Pn	04 57 30.4	-0.9
PEA0B	Petropavlovsk-	11.26	37	*de*PN	Pn	04 57 30.9	-0.4
PETK	Petropavlovsk-	11.26	37	Pn	Pn	04 57 30.3	-1.0
PETK	Petropavlovsk-	11.26	37	P	Pn	04 57 29.6	-1.7
	comp=Z,6.0nm,0.6s,baz=228,slow=10,SNR=22						
PETK	Petropavlovsk-	11.26	37	PN	Pn	04 57 30.3	-1.0
PET	Petropavlovsk	11.63	39	*e*P	Pn	04 57 36.6	+0.6
PET				AMB	AMB	04 57 39.0	
	comp=Z,10.0nm,0.4s						
MDJ	Mudanjiang	12.00	276	Pn	Pn	04 57 39.8	-1.1
EKMR	Ekimchan	12.24	318	*e*P	Pn	04 57 43.7	-0.1
EKMR				AMB	AMB	04 57 44.1	
	comp=Z,10.0nm,0.8s						
BNX	BinXian	13.47	281	⇑ P	Pn	04 57 58.3	-1.2
BNX				pmax	pmax		
	comp=Z,22nm,0.7s						
MA2	Magadan	15.20	8		Pn	04 58 20.4	-0.4
MA2				IAmb	IAmb	04 58 22.4	
	comp=Z,9.2nm,0.8s						
MA2	Magadan	15.20	8	P	Pn	04 58 19.6	-1.2
	comp=Z,7.7nm,0.7s,baz=184,slow=9.1,SNR=16						
MA2	Magadan	15.20	8	*d i* P	P	04 58 21.1	-0.6
MA2				pmax	pmax		
	comp=Z,23nm,2.0s						
MA2	Magadan	15.20	8	*e*P	P	04 58 21.1	-0.6
ZEA	Zeya	15.46	313	*e*P	P	04 58 24.3	-0.3
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA	Zeya	15.46	313	*e*P	Pn	04 58 22.9	-1.1
KSRS	Korea Array	15.68	249	P	P	04 58 27.9	+0.9
	comp=Z,1.9nm,0.6s,baz=55,slow=11,SNR=6.2						
SEY	Seymchan	18.66	9	P	P	04 58 58.1	-1.5
	comp=Z,3.6nm,0.4s,baz=180,slow=8.6,SNR=25						
SEY	Seymchan	18.66	9	⇑ *i* P	P	04 58 58.0	-1.5
SEY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT	XiLinHaoTe	21.69	279	*e*P	P	04 59 31.0	-1.2
XLT				pmax	pmax		
	comp=Z,24nm,0.7s						
TIA	Tai'an	23.74	259	P	P	04 59 52.6	+1.3
TIA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BILL	Bilibino	25.67	17	⇑ *e*P	P	05 00 09.0	+0.6
BILL				pmax	pmax		
	comp=Z,13nm,2.8s						
BILL	Bilibino	25.67	17	*e*P	P	05 00 09.0	+0.6
HHC	Hu-ho-hao-te	25.76	274	*e*P	P	05 00 12.0	+2.4
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
ULN	Ulaanbaatar	27.22	291	⇓ *i* P	P	05 00 23.7	+1.0
ULN				pmax	pmax		
	comp=Z,10.0nm,2.1s						
SONM	Songino Array	27.66	291	P	P	05 00 26.8	+0.2
SONM	Songino Array	27.66	291	P	P	05 00 26.6	0.0
	comp=Z,2.1nm,0.4s,baz=81,slow=8.7,SNR=16						
	comp=Z,2.1nm,0.4s						
SONM	Songino Array	27.66	291	P	P	05 00 26.8	+0.2
SPIA	Saint Paul Isl	29.53	49	P	P	05 00 42.7	-0.1
	baz=264						
P08K	Saint George I	29.86	51	P	P	05 00 45.9	+0.2
	baz=265						
H11N2	WAKE ISLAND Hy	30.10	139	T	T	05 32 16.6	
	baz=329,slow=75,SNR=110						
H11N1	WAKE ISLAND Hy	30.12	139	T	T	05 32 17.5	
	baz=329,slow=75,SNR=93						
H11N3	WAKE ISLAND Hy	30.12	139	T	T	05 32 18.0	
	baz=329,slow=75,SNR=100						
GAMB	Gambell	30.30	36	P	P	05 00 49.4	0.0
GAMB	Gambell	30.30	36	P	P	05 00 49.7	+0.3
	baz=251						
H11S1	WAKE ISLAND Hy	31.07	140	T	T	05 33 18.8	
	baz=330,slow=76,SNR=161						
H11S3	WAKE ISLAND Hy	31.08	140	T	T	05 33 27.1	
	baz=330,slow=76,SNR=147						
H11S2	WAKE ISLAND Hy	31.09	140	T	T	05 33 20.1	
	baz=330,slow=76,SNR=114						
UNV	Unalaska Valle	31.55	56	P	P	05 00 60.0	-0.7
	baz=272						
M11K	Mekoryuk	32.02	44	P	P	05 01 04.9	+0.3
	baz=262						
TNA	Tin City	32.40	34	P	P	05 01 08.2	+0.3
TNA	Tin City	32.40	34	P	P	05 01 07.8	0.0
	baz=252						
K13K	Kusilvak Mount	32.99	41	P	P	05 01 13.2	+0.2
	baz=261						
F14K	Arctic Creek	33.02	34	P	P	05 01 13.2	0.0
	baz=254						
ANM	Nome	33.18	36	P	P	05 01 14.8	+0.2
	baz=256						
M13K	Dall Lake	33.43	44	P	P	05 01 16.6	-0.2
	baz=265						
J14K	Nanvaranak Lak	33.62	40	P	P	05 01 18.1	-0.4
	baz=261						
F15K	North Star Dit	33.75	34	P	P	05 01 19.3	-0.3
	baz=256						
G15K	Niukluk	33.83	36	P	P	05 01 19.8	-0.5
	baz=257						
L14K	Kuka Creek	33.85	42	P	P	05 01 20.1	-0.3
	baz=264						
M14K	Bethel	34.15	43	P	P	05 01 22.5	-0.5
	baz=266						
C16K	Lisburne Hills	34.22	30	P	P	05 01 22.9	-0.7
	baz=251						
N14K	Kuskokwak Cree	34.23	45	P	P	05 01 22.9	-0.8
	baz=267						
O14K	Tigyukauivet M	34.42	46	P	P	05 01 24.3	-1.1
	baz=268						
L15K	Ungalak Mounta	34.45	42	P	P	05 01 24.5	-1.2
	baz=265						
K15K	Wolf Creek Mou	34.49	41	P	P	05 01 24.8	-1.2
	baz=264						
H16K	Elim	34.52	36	P	P	05 01 25.7	-0.4
	baz=260						
G16

J17K	VABM Dome baz=264	35.73	39	P	P	05 01 35.7	-0.9
B18K	Kokolik River baz=254	35.78	28	P	P	05 01 35.9	-1.0
C18K	Utukok River baz=255	35.80	30	P	P	05 01 36.1	-1.0
F18K	Selawik baz=260	35.93	33	P	P	05 01 37.4	-0.7
L17K	Donlin baz=267	35.99	41	P	P	05 01 37.9	-0.9
K17K	Iditarod baz=266	36.02	40	P	P	05 01 37.8	-1.2
CHGN	Chignik baz=275	36.04	51	P	P	05 01 38.0	-1.2
O16K	Kokwok River B baz=271	36.04	45	P	P	05 01 38.4	-0.8
G18K	Tagagawik baz=262,SNR=10	36.21	35	P	P	05 01 39.9	-0.7
H18K	Honhosa River baz=263,SNR=9.6	36.23	36	P	P	05 01 40.3	-0.5
M17K	Holitna River baz=269	36.37	42	P	P	05 01 41.4	-0.6
R16K	Pilot Point baz=274	36.40	49	P	P	05 01 42.4	+0.2
N17K	Nushagak Hills baz=270	36.49	44	P	P	05 01 42.6	-0.4
O17K	Koliganek Bris baz=271	36.55	45	P	P	05 01 43.1	-0.4
F19K	Shaleruckik Mo baz=261	36.70	33	P	P	05 01 43.9	-0.8
L18K	Granite Mounta baz=268	36.75	41	P	P	05 01 44.7	-0.5
J18K	Innoko River comp=Z,5.1nm,0.9s	36.79	39	IAmb	IAmb	05 01 47.5	
J18K	Innoko River baz=267	36.79	39	P	P	05 01 44.6	-0.9
GCSA	Galena City Sc baz=265	36.81	37	P	P	05 01 44.7	-0.9
D19K	Kuna River comp=Z,10nm,1.2s	36.87	30	IAmb	IAmb	05 01 50.1	
D19K	Kuna River baz=259	36.87	30	P	P	05 01 45.0	-1.2
G19K	Purcell Mounta comp=Z,5.1nm,0.7s	36.88	34	IAmb	IAmb	05 01 47.0	
G19K	Purcell Mounta baz=263	36.88	34	P	P	05 01 45.2	-1.1
P17K	Kvichak River baz=273	36.90	46	P	P	05 01 44.9	-1.5
E19K	Redstone River baz=261,SNR=5.5	37.01	32	P	P	05 01 46.6	-0.7
H19K	Roundabout Mou baz=264,SNR=13	37.07	35	P	P	05 01 47.8	0.0
N18K	Kilae Creek baz=271	37.13	44	P	P	05 01 47.7	-0.8
M18K	Stony River baz=270	37.15	42	P	P	05 01 47.6	-1.0
J19K	Poorman baz=267	37.30	38	P	P	05 01 48.6	-1.3
D20K	Etivluk River baz=260,SNR=6.0	37.45	30	P	P	05 01 50.0	-1.1
O18K	Koktuh Hills baz=273	37.49	45	P	P	05 01 50.5	-1.0
P18K	Big Mountain, baz=273	37.51	46	P	P	05 01 50.7	-1.0
B20K	Meade River baz=258	37.51	28	P	P	05 01 50.3	-1.2
E20K	Nigu River baz=261	37.52	31	P	P	05 01 51.3	-0.4
F20K	Avaraart Lake baz=263	37.53	33	P	P	05 01 51.8	+0.1
L19K	White Mountain baz=270	37.61	41	P	P	05 01 51.8	-0.7
CHIR	Chirikof Islan baz=278	37.65	52	P	P	05 01 52.1	-0.7
Q18K	Katmai Hardscr baz=274	37.67	47	P	P	05 01 53.1	0.0
H20K	Anotleneega Mo baz=266,SNR=7.8	37.72	36	P	P	05 01 53.4	+0.1
N19K	Bonanza Creek baz=272	37.81	43	P	P	05 01 54.3	0.0
M19K	Big River Lodg baz=271	37.83	42	P	P	05 01 53.4	-0.9
I20K	Naaghedeneel baz=267	37.84	37	P	P	05 01 53.7	-0.6
O19K	Port Alsworth baz=273	37.92	44	P	P	05 01 54.4	-0.6
J20K	Nowinta River baz=268,SNR=7.1	37.96	38	P	P	05 01 55.5	+0.1
K20K	Telida baz=269	37.98	39	P	P	05 01 54.5	-1.0
L20K	Farewell, AK baz=270	38.06	41	P	P	05 01 56.2	-0.1
R18K	Karluk baz=276	38.07	49	P	P	05 01 55.4	-0.9
C21K	Knifeblade Rid baz=261	38.17	30	P	P	05 01 56.7	-0.4
B21K	Ikpikpuk River comp=Z,8.5nm,0.9s	38.31	29	IAmb	IAmb	05 01 59.3	
B21K	Ikpikpuk River baz=261	38.31	29	P	P	05 01 57.4	-0.8
SII	Sitkinak Islan baz=278	38.34	50	P	P	05 01 57.8	-0.9
G21K	Allakaket comp=Z,6.6nm,0.8s	38.35	34	IAmb	IAmb	05 02 00.9	
G21K	Allakaket baz=266,SNR=6.1	38.35	34	P	P	05 01 57.7	-0.9
Q19K	Cape Douglas, baz=275	38.36	46	P	P	05 01 57.9	-0.9
E21K	Killik River baz=263	38.37	31	P	P	05 01 58.2	-0.5
F21K	Alatna River baz=265	38.42	33	P	P	05 01 58.9	-0.3
M20K	Styx River baz=272	38.42	42	P	P	05 01 58.7	-0.7
A22K	Sinclair Lake baz=259	38.43	27	P	P	05 01 58.7	-0.5
P19K	Oil Pt baz=275	38.51	45	P	P	05 01 59.0	-1.0
H21K	Melozitna Rive comp=Z,4.9nm,0.7s	38.59	35	IAmb	IAmb	05 02 02.1	
H21K	Melozitna Rive baz=267	38.59	35	P	P	05 01 59.9	-0.7
OHAK	Old Harbor baz=278	38.74	49	P	P	05 02 01.0	-0.9
CHUM	Lake Minchumin baz=270	38.76	38	P	P	05 02 02.0	0.0
O20K	Slope Mountain baz=275	38.78	44	P	P	05 02 01.9	-0.4
B22K	Teshekpuk Lake baz=261	38.83	28	P	P	05 02 01.9	-0.5
PPLA	Purkeypile baz=271	38.83	40	P	P	05 02 01.5	-1.3
CAST	Castle Rocks baz=271,SNR=8.4	38.87	39	P	P	05 02 03.1	+0.1
D22K D22K	Ayikyak River comp=Z,12nm,1.4s	38.89	30	P IAmb	P IAmb	05 02 03.0 05 02 07.0	-0.1
D22K	Ayikyak River baz=264	38.89	30	P	P	05 02 03.5	+0.5
SPCR	Spurr Chakacha baz=274	38.90	43	P	P	05 02 03.6	+0.2
I21K	Tanana baz=269	38.92	36	P	P	05 02 02.5	-0.8
F22K	John River baz=266,SNR=5.8	38.95	33	P	P	05 02 03.6	0.0
Q20K	Shuyak Island baz=277	39.04	47	P	P	05 02 04.2	-0.1
KDAK	Kodiak Island comp=Z,13nm,0.6s,baz=247,slow=7.7,SNR=5.6 comp=Z,13nm,0.6s	39.04	48	P	P	05 02 04.7	+0.3
KDAK	Kodiak Island baz=278	39.04	48	P	P	05 02 04.5	+0.1
E22K	Anaktuvuk Pass comp=Z,9.6nm,1.1s	39.13	32	IAmb	IAmb	05 02 06.4	
E22K	Anaktuvuk Pass baz=265,SNR=6.7	39.13	32	P	P	05 02 05.2	+0.1
SKT	Skwentna baz=273	39.18	41	P	P	05 02 05.9	+0.3
H22K	Ishtalitna Cre baz=268	39.18	35	P	P	05 02 05.8	+0.3
HOM	Homer baz=276	39.31	45	P	P	05 02 06.7	+0.1
BPAW	Bear Paw Mtn. comp=Z,5.7nm,1.2s	39.34	38	IAmb	IAmb	05 02 12.4	
BPAW	Bear Paw Mtn. baz=271	39.34	38	P	P	05 02 06.7	-0.2
CAPN	Captain Cook N baz=275	39.45	43	P	P	05 02 06.9	-0.8
SUA	Susitna One baz=274	39.58	42	P	P	05 02 09.3	+0.3
SUA	Susitna One baz=274	39.58	42	P	P	05 02 07.6	-1.4
D23K	Nanushuk River baz=265	39.62	30	P	P	05 02 09.0	-0.1
TRF	Thorofare Moun baz=272	39.67	39	P	P	05 02 09.3	-0.5
COLD	Coldfoot baz=268	39.70	33	P	P	05 02 08.9	-0.8
C23K	Itkillik River baz=264	39.72	29	P	P	05 02 08.9	-0.9
CUT	Chulitna baz=274	39.74	41	P	P	05 02 09.5	-0.6
G23K	Bananza Creek comp=Z,4.8nm,0.8s	39.75	34	IAmb	IAmb	05 02 11.6	
G23K	Bananza Creek baz=269,SNR=6.0	39.75	34	P	P	05 02 09.6	-0.6
BRSE	Bradley Lake S baz=276	39.75	45	P	P	05 02 09.3	-1.0
M22K	Willow baz=275	39.86	42	P	P	05 02 10.1	-1.0
H23K	Yukon River comp=Z,6.2nm,0.6s	39.94	35	IAmb	IAmb	05 02 13.9	
H23K	Yukon River baz=270	39.94	35	P	P	05 02 11.7	-0.1
E23K	Chandalar comp=Z,3.2nm,0.5s	39.95	32	IAmb	IAmb	05 02 13.4	
E23K	Chandalar baz=268	39.95	32	P	P	05 02 11.4	-0.6
TOLK	Toolik Lake Re baz=267	40.00	31	P	P	05 02 12.0	-0.3
I23K	Minto, Yukon-K baz=271	40.02	36	P	P	05 02 12.6	+0.2
PZH PZH	PanZhiHua comp=Z,10.0nm,0.8s	40.03	258	P pmax	P pmax	05 02 13.9	+0.7
PZH	comp=Z,90nm,5.9s			pmax	pmax		
ZALV	Zalesovo Beam comp=Z,0.4nm,0.4s,baz=76,slow=7.8,SNR=2.4 comp=Z,0.4nm,0.4s	40.06	306	P	P	05 02 11.7	-1.1
RC01	Rabbit Creek A baz=276	40.10	43	P	P	05 02 13.6	+0.4
NEA2	Nenana baz=272	40.16	37	P	P	05 02 13.3	-0.3
O22K	Cooper Landing baz=276	40.18	44	P	P	05 02 13.4	-0.4
MCK	McKinley comp=Z,8.0nm,0.8s	40.27	38	IAmb	IAmb	05 02 16.7	
MCK	McKinley baz=273	40.27	38	P	P	05 02 14.2	-0.3
D24K	Happy Valley baz=267	40.29	30	P	P	05 02 14.0	-0.7
RND	Reindeer comp=Z,8.3nm,0.9s	40.32	39	IAmb	IAmb	05 02 16.5	
PMR	Palmer baz=276	40.34	42	P	P	05 02 14.3	-0.8
SEW	Seward baz=277	40.35	44	P	P	05 02 13.7	-1.5
C24K	Franklin Bluff comp=Z,6.1nm,0.8s	40.37	29	IAmb	IAmb	05 02 16.1	
C24K	Franklin Bluff baz=266	40.37	29	P	P	05 02 14.9	-0.3
E24K	Your Creek comp=Z,4.4nm,0.7s	40.38	32	IAmb	IAmb	05 02 17.0	
E24K	Your Creek baz=268,SNR=6.8	40.38	32	P	P	05 02 15.0	-0.4
F24K	Squaw Lake baz=270,SNR=5.2	40.60	33	P	P	05 02 17.1	-0.1
H24K	Noodor Dome comp=Z,4.1nm,0.8s	40.62	35	IAmb	IAmb	05 02 19.3	
H24K	Noodor Dome baz=272	40.62	35	P	P	05 02 17.2	-0.2
COLA COLA	College comp=Z,12nm,0.9s	40.67	37	⇓i P pmax	P pmax	05 02 18.9	+1.1
COLA	College baz=273	40.67	37	P	P	05 02 17.3	-0.4
KNK	Knik Glacier baz=276	40.68	42	P	P	05 02 17.2	-0.8
SML	Sawmill baz=276	40.70	41	P	P	05 02 17.0	-1.1
G24K	Hadweenzic Riv comp=Z,12nm,1.4s	40.76	34	IAmb	IAmb	05 02 20.8	
G24K	Hadweenzic Riv baz=271	40.76	34	P	P	05 02 18.5	-0.1
PWL	Port Wells baz=277	40.81	43	P	P	05 02 18.3	-0.6
POKR	Poker Plat Res comp=Z,7.5nm,0.6s	40.84	36	IAmb	IAmb	05 02 21.9	
POKR	Poker Plat Res baz=273	40.84	36	P	P	05 02 18.9	-0.2
M23K	Glacier View baz=277	40.99	41	P	P	05 02 20.1	-0.3
HDA	Harding Lake baz=274,SNR=5.7	41.09	37	P	P	05 02 21.6	+0.3
IL31	comp=Z,5.3nm,0.8s	41.09	37	IAmb	IAmb	05 02 23.4	
ILAR	Eielson Array comp=Z,4.0nm,0.7s,baz=255,slow=5.6,SNR=126 comp=Z,4.0nm,0.7s	41.09	37	P	P	05 02 21.8	+0.5
SCM	Sheep Creek Mo baz=277	41.17	41	P	P	05 02 21.3	-0.7
D25K	Kavik River baz=269	41.17	30	P	P	05 02 20.8	-1.1
G25K	Bearman Lake baz=272	41.31	34	P	P	05 02 22.1	-0.8
P23K	Montague Islan baz=279	41.39	44	P	P	05 02 23.1	-0.5
H25L	Birch Creek baz=273	41.44	34	P	P	05 02 23.8	-0.3
F25K	Christian Rive baz=272	41.46	32	P	P	05 02 23.6	-0.6
E25K	Arctic Village baz=271	41.47	32	P	P	05 02 23.6	-0.7
PRP	Porcupine Dome	41.61	36	P	P	05 02 26.7	+1.1
PRP	Porcupine Dome baz=274	41.61	36	P	P	05 02 24.1	-1.5
K24K	Donnelly Dome baz=276	41.66	38	P	P	05 02 25.1	-0.8
M24K	Tolsona, Glenn baz=278	41.68	41	P	P	05 02 25.0	-1.1
C26K	Camden Bay baz=270	41.69	29	P	P	05 02 25.3	-0.7
J25K	Salcha River, comp=Z,9.7nm,1.4s	41.76	37	IAmb	IAmb	05 03 06.5	
J25K	Salcha River, baz=275	41.76	37	P	P	05 02 26.1	-0.6
KLU	Klutina baz=278	41.88	42	P	P	05 02 27.1	-0.6
Q23K	Middleton Isla baz=280	42.01	45	P	P	05 02 28.1	-0.6
F26K	Sheenjek River baz=273,SNR=7.8	42.02	32	P	P	05 02 28.6	-0.2
RIDG	Independent Ri baz=277	42.08	38	P	P	05 02 28.9	-0.3
C27K	Jago River baz=271,SNR=5.0	42.11	29	P	P	05 02 29.7	+0.3
HARP	HAARP baz=278	42.11	40	P	P	05 02 29.7	+0.1
EYAK	Cordova Ski Ar baz=280	42.11	43	P	P	05 02 29.3	-0.2
G26K	Porcupine Rive baz=274,SNR=6.9	42.21	33	P	P	05 02 29.9	-0.3
SCRK SCRK	Sand Creek comp=Z,9.2nm,0.8s	42.42	38	P IAmb	P IAmb	05 02 32.8 05 02 33.7	+0.6
SCRK	Sand Creek baz=277,SNR=6.4	42.42	38	P	P	05 02 31.7	-0.4
DOT	Dot Lake comp=Z,10nm,1.1s	42.43	38	IAmb	IAmb	05 02 34.3	
N25K	Chitina, Valde baz=279	42.49	41	P	P	05 02 31.8	-0.9
J26L	Joseph Creek baz=277	42.54	37	P	P	05 02 32.5	-0.6
BMRM	Bremner River baz=280	42.59	42	P	P	05 02 31.7	-1.8
I26K	Coal Creek Min baz=276	42.62	36	P	P	05 02 32.2	-1.4
L26K	Log Cabin Wild baz=279	42.84	39	P	P	05 02 35.4	0.0
KAIM	Kayak Island baz=281	42.88	44	P	P	05 02 35.5	-0.2
E27K	Coleen River baz=275	42.95	31	P	P	05 02 36.2	0.0
G27K	Doyon Strip baz=276	43.06	33	P	P	05 02 36.5	-0.6
D27M	Malcolm River baz=274	43.10	30	P	P	05 02 37.8	+0.3
M26K	Nabesna, AK baz=280,SNR=5.8	43.10	40	P	P	05 02 36.7	-0.8
H27K	Steamboat Moun baz=277	43.18	34	P	P	05 02 37.7	-0.4
I27K	Kandik River baz=278	43.22	35	P	P	05 02 38.1	-0.3
K27K	Chicken baz=279	43.25	38	P	P	05 02 38.1	-0.5
L27K	Beaver Creek, baz=280,SNR=8.9	43.52	39	P	P	05 02 40.4	-0.5
BCAR	Beaver Creek A	43.54	39	P	P	05 02 43.0	+2.0
M27K	Edge Creek, AK baz=281,SNR=5.3	43.62	40	P	P	05 02 41.6	-0.3
E28M	Babbage River baz=276	43.67	31	P	P	05 02 42.3	+0.3
MK31	Makanchi Array	43.72	297	P	P	05 02 43.1	+0.4
MK31	Makanchi Array	43.72	297	*de*P	P	05 02 42.4	-0.3
MKAR	Makanchi Array	43.72	297	P	P	05 02 42.8	+0.1
MKAR	Makanchi Array comp=Z,2.2nm,0.6s,baz=78,slow=8.7,SNR=21 comp=Z,2.2nm,0.6s	43.72	297	P	P	05 02 42.6	-0.1
MKAR MKAR	Makanchi Array comp=Z,2.0nm,0.6s	43.72	297	*i* P pmax	P pmax	05 02 42.5	-0.2
MKAR	Makanchi Array	43.72	297	*e*P	P	05 02 42.5	-0.2
D28M	Stokes Point baz=276	43.88	30	P	P	05 02 43.1	-0.5
MAKZ	Makanchi	43.92	297	P	P	05 02 44.4	+0.2
MAKZ MAKZ	Makanchi comp=Z,3.0nm,0.9s	43.92	297	P pmax	P pmax	05 02 44.4	+0.2
I28M	Miner Creek comp=Z,3.5nm,0.6s	43.94	35	IAmb	IAmb	05 02 49.3	
I28M	Miner Creek baz=279	43.94	35	P	P	05 02 43.7	-0.5
MESA	MESA baz=283	44.04	43	P	P	05 02 44.5	-0.7
BVCY	Beaver Creek baz=281	44.08	40	P	P	05 02 44.6	-0.7
E29M	Blow River baz=278	44.30	31	P	P	05 02 46.8	-0.1
YUK3	Moose Creek baz=282	44.40	41	P	P	05 02 46.9	-1.2
H29M	Whitestone baz=280	44.45	34	P	P	05 02 47.9	-0.3
G29M	Pine Creek baz=279	44.47	33	P	P	05 02 47.8	-0.5
KURK	Kurchatov	44.61	303	*ce*P	P	05 02 48.1	-1.5
I29M	Ogilvie Camp, comp=Z,10nm,1.1s	44.62	35	IAmb	IAmb	05 02 52.6	
I29M	Ogilvie Camp, baz=280	44.62	35	P	P	05 02 49.7	+0.1
KURBB	Kurchatov Arra comp=Z,0.7nm,0.3s,baz=74,slow=8.4,SNR=13 comp=Z,0.7nm,0.3s	44.70	303	P	P	05 02 48.7	-1.6
O28M	Mount Upton baz=284	44.75	42	P	P	05 02 50.6	-0.4
YUK8	Steele Glacier baz=283	44.83	41	P	P	05 02 50.2	-1.4
PINM	Pinnacle baz=284	44.88	43	P	P	05 02 50.7	-1.1
G30M	tAoh Zraii Nji comp=Z,6.1nm,0.9s	45.16	33	IAmb	IAmb	05 02 56.2	
G30M	tAoh Zraii Nji baz=281	45.16	33	P	P	05 02 53.3	-0.4
L29M	L29M baz=283,SNR=9.3	45.16	38	P	P	05 02 53.5	-0.4
M29M	Somme Creek baz=283	45.16	39	P	P	05 02 52.5	-1.5
F30M	Barrier River baz=280	45.21	32	P	P	05 02 53.4	-0.7
K29M	Barlow Dome baz=283	45.26	37	P	P	05 02 53.9	-0.8
YUK4	Talbot Arm baz=284	45.34	41	P	P	05 02 54.3	-1.2
PNL	Peninsula baz=285	45.41	43	P	P	05 02 55.6	-0.2
I30M	Mount Dempster comp=Z,6.7nm,0.7s	45.45	35	IAmb	IAmb	05 02 59.2	
I30M	Mount Dempster baz=282,SNR=6.8	45.45	35	P	P	05 02 56.2	0.0
YUK6	Outpost Mounta baz=285	45.57	41	P	P	05 02 56.9	-0.5
J30M	Hart River baz=283	45.61	36	P	P	05 02 56.4	-1.1
O29M	Mount Kennedy baz=285	45.64	42	P	P	05 02 58.1	+0.3
M30M	Minto, Yukon baz=284	45.88	39	P	P	05 02 59.8	+0.3
INK	Inuvik baz=282	45.91	31	P	P	05 02 59.9	+0.4
G31M	Satah River baz=282	45.92	33	P	P	05 02 59.9	+0.2
HYT	Haines Junctio baz=286	46.01	41	P	P	05 02 59.5	-1.1
F31M	Tsiigehtchic baz=282	46.01	32	P	P	05 03 00.7	+0.3
MAYO	Mayo, Yukon baz=284	46.03	37	P	P	05 03 00.6	0.0
N30M	Aishikik Lake baz=285	46.03	40	P	P	05 02 59.6	-1.2
H31M	Peel River comp=Z,6.1nm,0.7s	46.14	34	IAmb	IAmb	05 03 04.0	
H31M	Peel River baz=283	46.14	34	P	P	05 03 01.0	-0.5
P30M	Million Dollar baz=287	46.47	42	P	P	05 03 03.0	-1.2
N31M	Braeburn, Yuko baz=286	46.63	40	P	P	05 03 04.4	-1.0
O30N	Mendenhall baz=287	46.69	41	P	P	05 03 04.8	-1.0
PLBC	Pleasant Camp baz=288	46.95	43	P	P	05 03 07.3	-0.5
M31M	Drury Creek, Y baz=287	47.06	39	P	P	05 03 08.6	-0.1
CMAR	Chiang Mai Arr comp=Z,0.9nm,0.3s,baz=41,slow=7.3,SNR=6.6 comp=Z,0.9nm,0.3s	47.28	252	P	P	05 03 11.8	+0.9
CMAR	Chiang Mai Arr	47.28	252	*i* P	P	05 03 12.6	+1.7
WHY	Whitehorse baz=286	47.29	41	P	P	05 03 08.8	-1.8
SKAG	Skagway baz=288	47.45	43	P	P	05 03 11.1	-0.5
S31K	Pelican baz=289	47.49	45	P	P	05 03 11.2	-0.8
FARO	Faro, Yukon baz=287	47.52	39	P	P	05 03 11.3	-0.9
A36M	Sachs Harbour baz=286	47.79	25	P	P	05 03 14.0	-0.1
N32M	Quiet Lake baz=288	47.98	40	P	P	05 03 13.9	-1.9
WUS	Wushi comp=Z,7.9nm,0.6s	48.08	291	IAmb	IAmb	05 03 18.4	
P32M	Atlin baz=289	48.19	42	P	P	05 03 16.9	-0.5
R32K	Eaglecrest baz=290	48.24	44	P	P	05 03 16.5	-1.3
SIT	Sitka baz=290	48.26	46	P	P	05 03 16.8	-1.0
P33M	Teslin, Yukon baz=290	48.41	41	P	P	05 03 19.0	-0.1
S32K	Killisnoo baz=291	48.49	45	P	P	05 03 18.8	-0.9
BVAR	Borovoye Array comp=Z,0.7nm,0.3s,baz=68,slow=10,SNR=3.7 comp=Z,0.7nm,0.3s	48.55	309	P	P	05 03 19.9	-0.3
C36M	Paulatuk baz=289	48.95	28	P	P	05 03 22.9	0.0
Q32M	Nakina River baz=291	49.10	43	P	P	05 03 22.9	-1.6
R33M	Jennings River baz=292	49.57	42	P	P	05 03 27.7	-0.3
BOOM	Boomskoye usch	49.64	294	P	P	05 03 30.2	+1.3
BOOM	Boomskoye usch	49.64	294	P	P	05 03 30.2	+1.3
U33K	Whale Pass baz=293	49.74	46	P	P	05 03 29.1	0.0
CRAG	Craig baz=293	49.99	47	P	P	05 03 30.4	-0.6
WRAK	Wrangell Islan baz=293	50.02	46	P	P	05 03 31.0	-0.2
DLBC	Dease Lake baz=293	50.38	43	P	P	05 03 34.3	+0.2
V35K	Ketchikan baz=294	50.83	47	P	P	05 03 37.1	-0.2
T35M	Bob Quinn baz=294	50.85	45	P	P	05 03 37.5	-0.1
U35K	Hyder	51.41	46	P	P	05 03 41.1	-0.5

baz=295
WRGLY **Wrigley** 51.42 35 P P 05 03 40.3 -1.3
baz=294
KOTAN **Kotaneelee Air** 52.48 39 P P 05 03 49.6 +0.1
baz=296
TOAD **Toad River Com** 52.49 41 P P 05 03 50.2 +0.5
baz=296
KKAR **Karatay Array** 52.85 297 P P 05 03 53.3 +0.8
KKAR **Karatay Array** 52.85 297 P P 05 03 53.3 +0.8
SPITS **Spitsbergen Ar** 53.82 349 P P 05 03 57.2 -1.9
comp=Z,25nm,1.1s,baz=55,slow=7.2,SNR=6.1
comp=Z,25nm,1.1s
RES **Resolute Bay** 54.28 17 IAmb IAmb 05 04 03.5
comp=Z,3.5nm,0.5s
YKA **Yellowknife Ar** 55.36 34 P P 05 04 11.4 +1.1
comp=Z,3.1nm,0.7s,baz=303,slow=7.1,SNR=57
comp=Z,3.1nm,0.7s
ABKAR **Akbulak array** 56.11 308 P P 05 04 16.0 +0.2
ABKAR IAmb IAmb 05 04 16.8
comp=Z,2.0nm,0.5s
ABKAR **Akbulak array** 56.11 308 P P 05 04 15.4 -0.4
ARCES **ARCESS Array B** 58.24 339 P P 05 04 28.9 -1.6
comp=Z,1.3nm,0.7s,baz=50,slow=4.1,SNR=1.3
comp=Z,1.3nm,0.7s
FINES **FINESS Array B** 63.86 332 P P 05 05 06.8 -1.5
comp=Z,1.1nm,0.4s,baz=64,slow=4.4,SNR=11
comp=Z,1.1nm,0.4s
WRA **Warramunga Arr** 65.20 193 P P 05 05 17.6 +0.1
WRA **Warramunga Arr** 65.20 193 P P 05 05 18.7 +1.2
comp=Z,0.4nm,0.6s,baz=8.5,slow=6.8,SNR=6.0
comp=Z,0.4nm,0.6s
BPMT **Black Pine Rid** 65.24 49 P P 05 05 19.1 +1.2
NVAR **Mina Array Bea** 67.55 58 P P 05 05 34.7 +2.0
comp=Z,1.3nm,0.8s,baz=296,slow=6.8,SNR=11
comp=Z,1.3nm,0.8s
NB2 **NORSAR Subarra** 68.60 338 P P 05 05 37.4 -1.1
comp=Z,4.3nm,0.9s,baz=32,slow=6.9
NOA **NORSAR Array B** 68.60 338 P P 05 05 37.6 -0.9
comp=Z,1.1nm,0.7s,baz=34,slow=4.6,SNR=9.4
comp=Z,1.1nm,0.7s
HFS **Hagfors** 68.68 337 P P 05 05 37.2 -1.8
comp=Z,1.1nm,0.3s,baz=35,slow=5.4,SNR=12
comp=Z,1.1nm,0.3s
KBZ **Khabaz** 68.83 311 P P 05 05 39.6 -0.5
comp=Z,1.1nm,0.7s,baz=53,slow=5.1,SNR=2.9
comp=Z,1.1nm,0.7s
ASAR **Alice Springs** 68.92 192 P P 05 05 43.0 +2.1
comp=Z,0.1nm,0.6s,baz=8.4,slow=8.0,SNR=1.2
comp=Z,0.1nm,0.6s
PDAR **Pinedale Array** 69.74 50 P P 05 05 47.6 +1.5
comp=Z,1.7nm,0.6s,baz=267,slow=1.5,SNR=20
comp=Z,1.7nm,0.6s
AKASG **Malin Array Be** 70.56 323 P P 05 05 49.9 -0.8
comp=Z,0.4nm,0.4s,baz=38,slow=6.9,SNR=5.4
comp=Z,0.4nm,0.4s
AKASG **Malin Array Be** 70.56 323 *i* P P 05 05 52.0 +1.3
ULM **Lac du Bonnet** 71.11 37 P P 05 05 54.3 +0.3
comp=Z,1.9nm,0.4s,baz=312,slow=8.3,SNR=6.1
comp=Z,1.9nm,0.4s
SCHQ **Schefferville** 76.96 19 P P 05 06 28.4 +0.6
comp=Z,4.1nm,0.5s,baz=340,slow=5.1,SNR=22
SCHQ LR LR 05 42 34.4
comp=Z,31nm,18.6s,baz=70,slow=37
comp=Z,4.1nm,0.5s
EKA **Eskdalemuir Ar** 77.13 343 P P 05 06 28.8 0.0
comp=Z,0.3nm,0.3s,baz=21,slow=4.8,SNR=3.4
comp=Z,0.3nm,0.3s
Y22D **IRIS PASSCAL I** 77.26 55 P P 05 06 29.1 -0.9
baz=316
GERES **GERESS Array B** 78.14 330 P P 05 06 34.9 +0.4
comp=Z,0.6nm,0.6s,baz=1.5,slow=4.8,SNR=1.8
comp=Z,0.6nm,0.6s
MMAI **Mount Meron Ar** 80.54 307 P P 05 06 47.8 0.0
comp=Z,1.2nm,0.5s,baz=17,slow=6.0,SNR=1.5
comp=Z,1.2nm,0.5s
TXAR **Lajitas Array** 82.59 56 P P 05 07 00.3 +1.7
comp=Z,0.8nm,0.5s,baz=288,slow=3.8,SNR=24
comp=Z,0.8nm,0.5s
ESDC **Sonseca Array** 91.94 338 P P 05 07 43.3 -0.3
comp=Z,0.3nm,0.7s,baz=12,slow=4.5,SNR=2.0
comp=Z,0.3nm,0.7s
BDFB **Brasilia** 148.63 27 PKPbc PKPbc 05 14 22.3 +0.6
comp=Z,2.6nm,0.9s,baz=270,slow=2.0,SNR=3.8
PLCA **Paso Flores** 152.69 95 PKPbc PKiKP 05 14 32.2 +1.5
comp=Z,1.4nm,1.1s,baz=228,slow=2.0,SNR=3.6

HEL 16 04:59:54.1±1.1, 69°.41N×30°.66E, h0km, ML1.0, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	Raja-Jooseppi	1.27	223	SN	Sn	05 00 36.9	+0.3
KEV	Kevo	1.33	287	PG	Pg	05 00 18.1	-1.4
KEV				MSG		05 00 34.3	
KEV	comp=Z,0.8nm,0.2s			SG	Sg	05 00 36.0	-0.7
VRF	Varrio	1.71	193	MSG		05 00 45.2	
VRF	comp=Z,1.1nm,0.2s			SN	Sn	05 00 47.2	-0.5
ARA0	ARCESS Array S	1.82	276	PG	Pn	05 00 26.7	+0.1
ARA0				SN	Sb	05 00 51.1	-0.4
KTK1	Kautokeino	2.68	265	PN	Pn	05 00 38.5	+0.1
KTK1				SG	Sb	05 01 14.7	-1.5
HEF	Hetta	2.72	252	PN	Pn	05 00 38.2	-0.8
HEF				MSG		05 01 14.4	
HEF	comp=Z,0.4nm,0.2s						
KU2	Taivalkoski	3.83	195	SB	Sb	05 01 47.0	-2.3
ERTU	Ertsjaerv	4.29	232	PG	Pb	05 01 11.3	+1.1
OUL	Oulu	4.72	205	PG	Pb	05 01 16.8	-0.8

*NEIC **16** 05:28:05.2±1.2, 39°.06N±0°.01×110°.96W±0°.02, h9km±11km, Error ellipse: s-maj=2.1km s-min=1.4km az=119.0*

UUSS 16 05:28:05.7±1.1, 39°.04N±0°.01×110°.94W±0°.01, h5km±5km, ML2.8/15, ML3.0/82(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=187.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q16A	Castle Valley	0.22	236		Pg	05 28 09.9	0.0
Q16A				Sg	Sg	05 28 13.1	+0.2
Q16A				IAML		05 28 13.9	
	comp=E,6μm,0.6s						
DBD	Des Bee Dove	0.30	337		Pg	05 28 11.7	+0.1
TMUT	Trail Mountain	0.33	321		Pg	05 28 12.1	-0.1
TMUT				Sg	Sg	05 28 16.0	-0.6
SRU	San Rafael Swe	0.33	78		Pg	05 28 12.2	0.0
SRU				Sg	Sg	05 28 16.1	-0.6
SRU				IAML		05 28 17.4	
	comp=N,2μm,0.2s						
OWUT	Old Woman Plat	0.46	236		Pg	05 28 14.7	+0.1
SNO	Snow College	0.54	301		Pg	05 28 16.0	-0.1
SGU	Sterling	0.56	285		Pg	05 28 16.4	-0.2
ELU	Electric Lake	0.63	341		Pg	05 28 17.7	-0.2
BCE	Book Cliffs Ea	0.71	36		Pg	05 28 19.1	-0.2
DCM	Dugout Coal Mi	0.71	23		Pg	05 28 18.9	-0.4
ROA	Roan Cliffs	0.77	36		Pg	05 28 20.3	-0.1
EMUT	Emma Park	0.78	7		Pg	05 28 20.2	-0.4
EMUT					Sg	05 28 30.4	-0.4
P18A	Preston Nutter	0.80	42		Pg	05 28 20.8	-0.3
P18A				Sg	Sg	05 28 30.6	-0.8
P18A				IAML		05 28 32.0	
	comp=N,852nm,0.3s						
P18A				IAML		05 28 32.2	
	comp=E,1μm,0.3s						
ARGU	Argyle Ridge	0.84	21		Pg	05 28 21.5	-0.3
WCU	Willow Creek	0.90	266		Pg	05 28 22.3	-0.7
MSU	Marysvale	1.10	242		Pg	05 28 25.7	-1.0
MPU	Maple Canyon	1.11	331		Pg	05 28 25.3	-1.7
MPU				Sg	Sg	05 28 39.2	-2.2
WMUT	West Mountain	1.24	327		Pg	05 28 29.7	+0.1
TCRU	Three Creeks R	1.25	250		Pg	05 28 28.5	-1.2
TCRU				IAML		05 28 50.9	
	comp=N,216nm,0.8s						
TCRU				IAML		05 28 54.1	
	comp=E,202nm,0.8s						
DAU	Daniels Canyon	1.39	350		Pn	05 28 32.2	+0.1
MTPU	Mount Pierson	1.39	225		Pn	05 28 31.3	-0.8
MTPU					Sg	05 28 48.7	-1.8
MTPU				IAML		05 28 51.1	
	comp=E,164nm,0.6s						
MTPU				IAML		05 28 53.8	
	comp=N,154nm,0.9s						
BTU	Barney Top	1.48	210		Pn	05 28 33.3	0.0
BSUT	Blindstream Ca	1.50	5	Pg	Pn	05 28 32.9	-0.7
R19A	Curley Farm, L	1.51	119		Pn	05 28 33.3	-0.4
PV21	Cone Mtn., Par	1.61	107		Pn	05 28 35.0	0.0
PV21	Cone Mtn., Par	1.61	107	IAML		05 28 58.0	
	comp=E,334nm,0.2s						
PV21				IAML		05 29 03.1	
	comp=N,371nm,0.5s						
PV23	Carpenter Ridg	1.62	111		Pn	05 28 34.8	-0.4
PV23					Sn	05 28 56.5	-0.1
PV10	Paradox Valley	1.63	113		Pb	05 28 35.9	-0.4
HTU	Hoyt Peak	1.65	353		Pn	05 28 35.9	+0.4
PV11	David Mesa, Pa	1.78	114		Pn	05 28 37.5	+0.2
DUG	Dugway, Tooele	1.85	309	Pn	Pn	05 28 37.0	-1.2
DUG				IAML		05 29 15.7	
	comp=N,63nm,0.7s						
RDMU	Red Mountain	1.86	34		Pb	05 28 39.4	-0.9
RDMU				IAML		05 29 04.5	
	comp=E,115nm,0.6s						
RDMU				IAML		05 29 04.5	
	comp=N,151nm,0.9s						
PV13	Radium Mtn., P	1.88	117		Pn	05 28 39.5	+0.8
PV07	Paradox Valley	1.89	108	Pn	Pb	05 28 39.9	-1.0
PV07				IAML		05 29 06.0	
	comp=N,186nm,1.1s						
PV07				IAML		05 29 08.0	
	comp=E,183nm,1.1s						
PKCU	Pink Cliffs	1.92	215	Pn	Pn	05 28 39.5	+0.1
PKCU				IAML		05 29 15.2	
	comp=N,103nm,0.8s						
PKCU				IAML		05 29 17.0	
	comp=E,156nm,0.8s						
PV15	Paradox Valley	2.05	109	Pn	Pn	05 28 42.0	+1.0
PV15				IAML		05 29 11.0	
	comp=E,230nm,1.0s						
PV15				IAML		05 29 24.4	
	comp=N,228nm,0.6s						
TCUT	Toone Canyon	2.11	350		Pn	05 28 41.0	-0.8
TCUT				IAML		05 29 19.1	
	comp=E,92nm,0.7s						
TCUT				IAML		05 29 28.1	
	comp=N,98nm,0.6s						
PSUT	Pine Spring	2.33	258	Pn	Pn	05 28 45.2	+0.3
BGU	Big Grassy Mou	2.47	320	Pn	Pn	05 28 45.6	-1.2
HWUT	Hardware Ranch	2.61	350		Pn	05 28 48.4	-0.2
SPR3	Spring Creek 3	2.64	270		Pn	05 28 49.0	-0.3
MVCO	Mesa Verde	2.66	133	Pn	Pn	05 28 50.4	+1.0
HVU	Hansel Valley	3.07	333		Pn	05 28 54.5	-0.6
WUAZ	Wupatki	3.53	186	Pn	Pn	05 29 03.0	+1.7
WUAZ				IAML		05 30 07.1	
	comp=N,49nm,0.4s						
AHID	Auburn Hatcher	3.72	358	Pn	Pn	05 29 04.8	+0.8
AHID				IAML		05 30 12.6	
	comp=N,27nm,0.9s						
AHID				IAML		05 30 13.8	
	comp=N,22nm,1.1s						
PD31	Pinedale Array	3.87	15		Pn	05 29 06.2	+0.1
PDAR	Pinedale Array	3.87	15		Pn	05 29 05.8	-0.3
TPAW	Teton Pass	4.45	360		Pn	05 29 14.7	+0.7
TPAW				IAML		05 30 37.1	
	comp=N,12nm,1.4s						
TPAW				IAML		05 30 43.7	
	comp=N,11nm,1.9s						
SDCO	Great Sand Dun	4.46	105		Pn	05 29 15.1	+0.8
LOHW	Long Hollow	4.58	3		Pn	05 29 15.1	-0.6
LOHW				IAML		05 30 44.8	
	comp=N,9.1nm,4.2s						
LOHW				IAML		05 30 46.8	
	comp=N,12nm,4.2s						
FXWY	Fox Creek	4.59	359		Pn	05 29 18.5	+2.5
FXWY				IAML		05 30 38.7	
	comp=N,6.7nm,4.2s						
FXWY				IAML		05 30 42.2	
	comp=N,6.4nm,4.5s						
X16A	Lo Mia Camp, P	4.63	185		Pn	05 29 18.0	+1.5
X16A				IAML		05 30 32.6	
	comp=E,20nm,1.0s						
X16A				IAML		05 30 34.9	
	comp=N,16nm,1.1s						
TPNV	Topopah Spring	4.68	245		Pn	05 29 17.5	+0.3
TPNV				IAML		05 30 39.6	
	comp=N,7.4nm,2.4s						
TPNV				IAML		05 31 00.1	
	comp=N,7.0nm,4.0s						
MOOW	Moose Ponds	4.71	2		Pn	05 29 17.1	-0.5
MOOW				IAML		05 31 00.6	
	comp=N,5.5nm,4.2s						
ANMO	Albuquerque	5.44	137	Pn	Pn	05 29 28.2	+0.6
RYN	Ryan	5.93	268	Pn	Pn	05 29 36.0	+1.6

*IDC **16** 05:36:39.1±1.6, 20°.12S×179°.06W, h668km±21km, mb3.3/8, mbtmp4.3/11, Error ellipse: s-maj=29.6km s-min=16.1km az=149.0*

*NEIC **16** 05:36:39.3±1.1, 20°.2S±0°.2×179°.0W±0°.1, h664km±12km, mb4.3/19, Error ellipse: s-maj=23.1km s-min=18.5km az=155.0*

ISC 16 05:36:38.8±0.6, 20°.1S±0°.1×179°.03W±0°.09, h665km, n61, σ1§12/61, mb4.3/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.61	310	P	P	05 38 07.1	+0.2
MSVF	Nonsavu	3.61	310	P	P	05 38 07.4	+0.5
	15nm,0.5s,baz=172,slow=3.5,SNR=15						
FUTU	Fugatoga	5.80	9	P	P	05 38 21.2	-0.8
NIUE	Niue	8.64	85	P	P	05 38 45.8	-0.4
PINNC	Pines Island,	12.85	256	P	P	05 39 25.2	+0.1
DZM	Mont Dzumac	13.70	259	P	P	05 39 33.7	+0.7
DZM	Mont Dzumac	13.70	259	P	P	05 39 34.5	+1.4
	5.4nm,0.5s,baz=93,slow=17,SNR=13						
ONTNC	Ouen Toro	13.72	258	P	P	05 39 32.3	-0.8
OUZ	Omahuta	16.43	202	P	P	05 40 00.7	+3.1
GRZ	Great Barrier	16.82	196	P	P	05 40 03.2	+2.0
HAZ	Te Kaha	17.84	188	P	P	05 40 09.6	-0.7
URZ	Urewera	18.43	190	P	P	05 40 14.9	-0.7
	3.5nm,0.3s,baz=27,slow=4.5,SNR=8.7						
URZ	Urewera	18.43	190	P	P	05 40 11.5	-4.1
MWZ	Matawai	18.44	189	P	P	05 40 15.4	-0.4
RTZ	Ruatahuna	18.80	190	P	P	05 40 18.1	-0.9
RTZ				IAmb	IAmb	05 40 43.8	
	comp=Z,17nm,1.4s						
BFZ	Birch Farm	20.93	190	P	P	05 40 36.7	-1.4
MRZ	Mangatainoka R	21.03	191	P	P	05 40 38.4	-0.5
TKNZ	Takaka Hill	21.98	196	P	P	05 40 46.9	-0.5
NNZ	Nelson	22.04	195	P	P	05 40 45.2	-2.7
THZ	Tophouse	22.68	196	P	P	05 40 53.9	+0.3
LTZ	Lake Taylor	23.80	196	P	P	05 41 03.0	-0.5
INZ	Inchbonnie	23.97	197	P	P	05 41 05.5	+0.6
WVZ	Waitaha Valley	24.49	198	P	P	05 41 09.8	+0.3
FOZ	Fox Glacier	25.19	199	P	P	05 41 15.4	-0.2
TMZ	Timaru	25.62	197	P	P	05 41 19.6	+0.3
LBZ	Lake Benmore	25.85	198	P	P	05 41 20.3	-1.1
JCZ	Jackson Bay	26.00	200	P	P	05 41 22.8	0.0
ODZ	Otahua Downs	26.33	197	P	P	05 41 25.3	-0.3
WKZ	Wanaka	26.60	199	P	P	05 41 25.8	-2.2
EAZ	Earnscleugh	26.88	198	P	P	05 41 30.4	+0.1
MLZ	Mavora Lakes	27.37	200	P	P	05 41 35.5	+0.8
TUZ	Tuapeka	27.45	197	P	P	05 41 35.5	+0.3
WHZ	Wether Hill Ro	27.89	200	P	P	05 41 39.5	+0.5
APZ	The Paps	28.72	199	P	P	05 41 46.7	+0.4
PMG	Port Moresby	34.30	283	P	P	05 42 33.8	+0.1
	comp=Z,20nm,0.6s,baz=73,slow=9.5,SNR=2.9						
	comp=Z,20nm,0.6s						
COEN	Coen	36.59	274	P	P	05 42 52.6	+0.2
STKA	Stephens Creek	37.11	243	P	P	05 42 57.2	+0.8
STKA	Stephens Creek	37.11	243	P	P	05 42 56.6	+0.2
	comp=Z,2.4nm,0.6s,baz=38,slow=7.1,SNR=5.5						
	comp=Z,2.4nm,0.6s						
BBOO	Buckleboo	41.87	243	P	P	05 43 33.8	-0.5
BBOO				IAmb	IAmb	05 44 08.3	
	comp=Z,16nm,1.4s						
AS31	Alice Springs	43.67	256	P	P	05 43 48.2	-0.1
AS31				IAmb	IAmb	05 43 50.0	
	comp=Z,6.0nm,0.4s						
ASAR	Alice Springs	43.67	256	P	P	05 43 48.0	-0.3
ASAR	Alice Springs	43.67	256	P	P	05 43 48.5	+0.2
	comp=Z,8.9nm,0.4s,baz=86,slow=8.4,SNR=150						
	comp=Z,8.9nm,0.4s						
WB0	Warramunga Arr	43.68	262	P	P	05 43 47.8	-0.5
WB2	Warramunga Arr	43.69	262	P	P	05 43 47.6	-0.8
WB2				IAmb	IAmb	05 43 48.7	
	comp=Z,21nm,1.3s						
WRAB	Tennant Creek	43.69	262	P	P	05 43 48.0	-0.5
WRAB				IAmb	IAmb	05 43 48.3	
	comp=Z,9.3nm,0.6s						
WRA	Warramunga Arr	43.70	262	P	P	05 43 47.5	-1.1
WRA	Warramunga Arr	43.70	262	P	P	05 43 48.1	-0.4
	comp=Z,6.6nm,0.4s,baz=98,slow=8.3,SNR=66						
	comp=Z,6.6nm,0.4s						
MTN	Manton Dam	48.19	271	P	P	05 44 21.3	-1.0
KNRA	Kununurra	49.72	266	P	P	05 44 32.5	-1.0
KNRA				IAmb	IAmb	05 44 34.0	
	comp=Z,7.1nm,0.7s						
PSA00	Pilbara Seismi	56.82	257	P	P	05 45 21.6	-1.6
MBWA	Marble Bar	57.00	257	P	P	05 45 23.9	-0.5
MBWA				IAmb	IAmb	05 45 24.8	
	comp=Z,30nm,1.2s						
QSPA	South Pole Qui	69.99	180	P	P	05 46 46.5	+0.6
QSPA				IAmb	IAmb	05 46 47.7	
	comp=Z,6.6nm,0.9s						
BELA	Belgrano 2	80.10	173	P	P	05 47 41.2	-0.3
PNTR	Pine Nut	80.92	43	P	P	05 47 48.2	+1.6
L04D	Klamath Falls	81.10	39	P	P	05 47 48.4	+1.1
L04D				IAmb	IAmb	05 48 11.4	
	comp=Z,22nm,1.4s						
NVAR	Mina Array Bea	81.39	44	P	P	05 47 50.0	+1.1
	comp=Z,0.6nm,0.6s,baz=223,slow=8.8,SNR=6.9						
	comp=Z,0.6nm,0.6s						
J05D	Fort Rock, OR	82.38	39	P	P	05 47 54.7	+0.9
J05D				IAmb	IAmb	05 47 55.5	
	comp=Z,2.9nm,0.6s						
PGC	Sidney	84.44	33	P	P	05 48 04.6	+1.1
PGC				IAmb	IAmb	05 48 15.6	
	comp=Z,11nm,1.5s						
TXAR	Lajitas Array	87.65	58	P	P	05 48 20.4	+1.1
	comp=Z,0.6nm,0.7s,baz=226,slow=6.7,SNR=6.5						
	comp=Z,0.6nm,0.7s						
ILAR	Eielson Array	88.12	13	P	P	05 48 19.3	-1.2
	comp=Z,0.6nm,0.8s,baz=216,slow=5.8,SNR=6.4						
	comp=Z,0.6nm,0.8s						
PDAR	Pinedale Array	89.32	44	P	P	05 48 26.9	-0.1
	comp=Z,0.4nm,0.7s,baz=207,slow=2.7,SNR=5.3						
	comp=Z,0.4nm,0.7s						

*BJI **16** 05:39:58.6, 30°.86N×142°.18E, h12km, mB4.7/21, mb4.4/47, Ms4.1/20, Ms7.3/20*

*IDC **16** 05:40:00.3±0.6, 30°.85N×142°.03E, h0km, mb4.2/21, mbtmp4.2/25, ML3.7/4, MS3.5/11, Error ellipse: s-maj=18.6km s-min=14.8km az=67.0*

*MOS **16** 05:40:00.8±1.1, 30°.89N×142°.07E, h16km, mb4.9/27, MS4.8/4, Error ellipse: s-maj=12.5km s-min=5.3km az=111.8*

*NIED **16** 05:40:02.0, 30°.89N×142°.25E, h47km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.45; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-4.05; $M_{r\theta}$-2.46; $M_{\phi\phi}$0.87; $M_{\phi r}$4.14; Fault plane solution: $M_0$6.48000×10^{15} NP1: ϕ_s178.00000°, δ22.00000°, λ112.00000°. NP2: ϕ_s334.00000°, δ69.00000°, λ81.00000°.*

*JMA **16** 05:40:02.0±0.2, 30°.9N±0°.8×14°.2E±°, h47km, MV4.3/22, NEAR TORISHIMA IS*

*NEIC **16** 05:40:01.9±1.2, 30°.83N±0°.05×142°.1E±0°.1, h10km±1km, mb4.9/56, Error ellipse: s-maj=17.7km s-min=4.3km az=62.0*

ISC 16 05:40:03.5±0.4, 30°.85N±0°.04×142°.07E±0°.06, h24km, n200, σ1§68/207, mb4.7/76, MS3.9/14, 13C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.96	320	Pn	Pn	05 40 48.9	-0.1
JHJ2	Mitsune	2.96	320	*e*P	Pn	05 40 48.7	-0.3
JHJ2				S	Sn	05 41 22.8	-1.0
JHJ	Hachijo jima 2	2.99	320	Pn	Pn	05 40 48.8	-0.5
	10nm,0.3s,baz=94,slow=22,SNR=6.8						
JHJ				Sn	Sn	05 41 17.4	-6.9
	17nm,0.3s,baz=94,slow=18,SNR=1.5						
JHJ				LR	LR	05 41 54.4	
	comp=Z,653nm,20.1s,baz=18,slow=39						
	123nm,0.7s						
CBIJ	Chichi jima	3.74	178	P	Pn	05 40 59.7	0.0
CBIJ				*e*S	Sn	05 41 41.3	-1.7
JCJ	Chichijima	3.74	178	Pn	Pn	05 40 57.6	-2.1
JCJ	Chichijima	3.74	178	Pn	Pn	05 40 53.5	-6.3
	35nm,0.3s,baz=275,slow=19,SNR=10						
JCJ				Sn	Sn	05 41 35.9	-7.1
	46nm,0.3s,baz=305,slow=22,SNR=6.6						
JCJ				LR	LR	05 42 37.7	
	comp=Z,695nm,19.3s,baz=38,slow=42						
BSO1	Boso 1	3.91	347	P	Pn	05 41 00.7	-0.8
BSO3	Boso 3	4.16	342	P	Pn	05 41 05.0	-0.2
JOD2	Odawara 2	5.07	331	*e*P	Pn	05 41 18.6	+0.7
JRY	Ryogami san	5.80	334	P	Pn	05 41 28.6	+0.6
JRY				S	Sn	05 42 33.1	-0.6
JAG	Ashikaga	5.98	339	P	Pn	05 41 30.1	-0.4
JGF	Kuroka	6.17	321		Pn	05 41 35.7	+2.5
JGF	Kuroka	6.17	321	P	Pn	05 41 37.9	+4.7
INU	Inuyama	6.18	318	Pn	Pn	05 41 34.1	+0.9
MJAR	Matsushiro Arr	6.53	331	Pn	Pn	05 41 38.3	+0.3
	1.1nm,0.3s,baz=150,slow=10,SNR=65						
MJAR				Sn	Sn	05 42 51.3	-0.5
	0.1nm,0.3s,baz=158,slow=17,SNR=4.3						
MJAR				LR	LR	05 44 24.4	
	comp=Z,368nm,18.0s,baz=150,slow=40						
	22nm,0.8s						
MAJO	Matsushiro	6.53	331		Pn	05 41 38.7	+0.6
MAJO	Matsushiro	6.53	331	P	Pn	05 41 39.1	+1.0
MAJO	Matsushiro	6.53	331	*i* P	Pn	05 41 38.6	+0.6
MJB9	Matsu-Tunnel	6.53	331		Pn	05 41 39.6	+1.5
JMM	Marumori	7.08	352		Pn	05 41 44.8	-0.8
JMM	Marumori	7.08	352	P	Pn	05 41 45.2	-0.4
JSD	Sado	7.83	337	Pn	Pn	05 41 55.1	-0.8
JMK	Ichinoseki	8.12	355	*e*P	Pn	05 41 58.6	-1.1
JMK				*e*S	Sn	05 43 23.0	-7.7
JNU	Nakatsue	9.78	286	Pn	Pn	05 42 24.8	+2.2
	0.1nm,0.3s,baz=42,slow=23,SNR=2.3						
JNU				LR	LR	05 46 00.5	
	comp=Z,254nm,18.3s,baz=102,slow=37						
ERM	Erimo	11.18	4	*i* P	Pn	05 42 40.4	-1.3
JOW	Kunigami	12.74	255	LR	LR	05 47 24.7	
	comp=Z,167nm,18.1s,baz=308,slow=35						
ASAJ	Asahikawa	13.25	2	Pn	Pn	05 43 07.8	-2.3
	0.8nm,0.3s,baz=257,slow=16,SNR=4.6						
ASAJ				Sn	Sn	05 45 24.2	-12
	baz=7.8,slow=28						
ASAJ				LR	LR	05 48 58.0	
	comp=Z,193nm,21.2s,baz=163,slow=41						
	2.3nm,0.3s						
JKA	Kamikawa-asahi	13.25	2	Pn	Pn	05 43 07.6	-2.5
KSRS	Korea Array	13.44	303	Pn	Pn	05 43 16.9	+4.3
	0.3nm,0.3s,baz=112,slow=13,SNR=8.8						
KSRS				LR	LR	05 48 36.3	
	comp=Z,207nm,18.1s,baz=110,slow=38						
VLA	Vladivostok	14.69	329	*i* P	Pn	05 43 31.8	+2.1
VLA				pmax	pmax		
	comp=Z,11nm,0.7s						
TEY	Ternei	14.80	345	*e*P	Pn	05 43 28.4	-2.8
YSS	Yuzhno-Sakhali	16.09	2	P	Pn	05 43 47.8	-0.2
YSS	Yuzhno-Sakhali	16.09	2	*e*P	Pn	05 43 46.8	-1.2
YSS				*e*S	Sn

NJ2 Nanjing 19.84 280 *e*P **P** **05 44 32.3 -0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
YULB Yu-li 19.91 253 P **P** **05 44 33.0 -0.5**
YULB IAmb IAmb 05 44 47.9
comp=Z,46nm,1.1s
YULB Yu-li 19.91 253 P **Pn** **05 44 35.1 -0.1**
KLR Kul'dur 19.95 340 P **P** **05 44 33.9 +0.1**
comp=Z,0.3nm,0.3s,baz=166,slow=4.9,SNR=13
comp=Z,3.7nm,0.7s
KLR Kul'dur 19.95 340*ce*P **P** **05 44 33.8 +0.1**
KLR pmax pmax
comp=Z,12nm,1.7s
SSLB Suanglung 20.02 255 **P** **05 44 34.2 -0.5**
SSLB IAmb IAmb 05 44 36.6
comp=Z,88nm,1.1s
SSLB Suanglung 20.02 255 P **P** **05 44 35.9 +1.2**
HEH HeiHe 22.28 335 *e*P **P** **05 44 57.8 -1.0**
HEH pmax pmax
comp=Z,7.0nm,0.9s
BJI Beijing 22.94 301 P **P** **05 45 04.1 -1.8**
BJI S **S** **05 49 08.9 -5.7**
BJI pmax pmax
comp=Z,9.0nm,1.5s
BJI LR LR
comp=Z,79nm,13.6s
BJI LR LR
comp=Z,97nm,16.3s
BJI LR LR
comp=Z,120nm,17.8s
HNS HongShan 23.53 294 ⇓P **P** **05 45 08.8 -3.0**
HNS S **S** **05 49 21.9 -2.5**
HNS pmax pmax
comp=Z,7.0nm,1.6s
HNS LR LR
comp=Z,220nm,16.3s
HNS LR LR
comp=Z,280nm,17.1s
XLT XiLinHaoTe 24.31 310 *e*P **P** **05 45 19.3 +0.1**
XLT sP pwP 05 45 30.5 -2.0
XLT pmax pmax
comp=Z,10.0nm,0.5s
XLT pmax pmax
comp=Z,120nm,5.1s
HIA Hailar 24.96 324 P **P** **05 45 25.6 +0.7**
H11N2 WAKE ISLAND Hy 24.97 110 T T 06 11 29.3
baz=305
H11N1 WAKE ISLAND Hy 24.97 111 T T 06 11 35.4
baz=305
H11N3 WAKE ISLAND Hy 24.98 110 T T 06 11 31.0
baz=305
PETK Petropavlovsk- 24.99 23 LR LR 05 55 25.5
comp=Z,95nm,21.3s,baz=224,slow=37
ZEA Zeya 25.27 339 *e*P **P** **05 45 28.0 +0.4**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,1.0s
H11S3 WAKE ISLAND Hy 25.46 113 T T 06 11 58.2
baz=304,slow=75,SNR=4.2
H11S1 WAKE ISLAND Hy 25.46 113 T T 06 11 56.0
baz=304,slow=75,SNR=5.4
H11S2 WAKE ISLAND Hy 25.48 113 T T 06 11 56.8
baz=304,slow=75,SNR=3.7
HHC Hu-ho-hao-te 26.55 301 *e*P **P** **05 45 40.8 +1.2**
HHC S **S** **05 50 13.0 +0.3**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,62nm,6.7s
HHC LR LR
comp=Z,200nm,11.1s
HHC LR LR
comp=Z,170nm,10.3s
HHC LR LR
comp=Z,260nm,15.4s
BTO Baotou 27.65 299 *e*P **P** **05 45 50.1 +0.6**
BTO pP **pP** **05 45 53.9 -0.8**
BTO sP **sP** **05 45 56.8 -0.2**
BTO PP **PnPn** **05 46 36.3 +1.0**
BTO S **S** **05 50 34.3 +4.2**
BTO SS **SnSn** **05 51 49.8 +7.5**
BTO pmax pmax
comp=Z,27nm,0.5s
BTO pmax pmax
comp=Z,160nm,4.3s
BTO LR LR
comp=Z,570nm,15.7s
BTO LR LR
comp=Z,460nm,11.2s
BTO LR LR
comp=Z,770nm,16.3s
ULN Ulaanbaatar 31.63 313 P **P** **05 46 24.5 -0.2**
ULN IAmb IAmb 05 46 27.6
comp=Z,40nm,1.6s
ULN Ulaanbaatar 31.63 313 *i* P **P** **05 46 25.4 +0.7**
ULN pmax pmax
comp=Z,25nm,1.5s
SONM Songino Array 32.04 312 P **P** **05 46 28.4 +0.1**
SONM Songino Array 32.04 312 P **P** **05 46 29.5 +1.3**
comp=Z,4.1nm,0.7s,baz=119,slow=8.6,SNR=31
SONM LR LR 06 00 04.9
comp=Z,144nm,19.2s,baz=91,slow=38
comp=Z,4.1nm,0.7s
SEY Seymchan 32.78 9*ce*P **P** **05 46 35.4 +1.0**
SEY pmax pmax
comp=Z,6.0nm,1.7s
ZAK Zakamensk 34.80 315 *e*P **P** **05 46 52.9 +0.6**
ZAK pmax pmax
comp=Z,14nm,1.4s
IRK Irkutsk 34.90 319 *e*P **P** **05 46 54.0 +1.0**
IRK pmax pmax
comp=Z,27nm,1.6s
GTA Gaotai 35.34 296 *e*P **P** **05 46 56.5 -0.6**
GTA sP pwP 05 47 08.6 -2.2
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA LR LR
comp=Z,80nm,11.9s
GTA LR LR
comp=Z,150nm,15.9s
GTA LR LR
comp=Z,140nm,15.5s
PZH PanZhiHua 35.52 273 P **P** **05 47 00.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.2s
MOY Mondy 36.59 317 *e*P **P** **05 47 08.4 +0.8**
MOY pmax pmax
comp=Z,18nm,1.5s
GOMU GeErMu 39.45 291 P **P** **05 47 31.1 -1.2**
GOMU pP pP 05 47 35.3 -2.3
GOMU pmax pmax
comp=Z,18nm,0.9s
BILL Bilibino 39.84 14 *i* P **P** **05 47 35.9 +1.3**
BILL pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 40.86 263 P **P** **05 47 42.5 -1.1**
comp=Z,1.2nm,0.3s,baz=61,slow=8.6,SNR=2.1
comp=Z,1.2nm,0.3s
TIXI Tiksi 41.48 354 P **P** **05 47 47.0 -1.1**
comp=Z,1.6nm,0.3s,baz=262,slow=0.6,SNR=3.6
comp=Z,1.6nm,0.3s
TIXI Tiksi 41.48 354 *i* P **P** **05 47 49.3 +1.2**
TIXI pmax pmax
comp=Z,5.0nm,1.8s
WMQ Urumqi 44.39 303 *e*P **P** **05 48 13.8 +1.6**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,590nm,17.7s
MTN Manton Dam 44.70 195 P **P** **05 48 13.8 -0.9**
MTN IAmb IAmb 05 48 43.4
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 46.65 317 P **P** **05 48 29.5 -0.3**
ZALV Zalesovo Beam 46.65 317 P **P** **05 48 29.3 -0.5**
ZALV Zalesovo Beam 46.65 317 P **P** **05 48 29.9 +0.2**
comp=Z,2.4nm,0.7s,baz=98,slow=7.6,SNR=11
comp=Z,2.4nm,0.7s
ZALV Zalesovo Beam 46.65 317 *i* P **P** **05 48 30.1 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
KNRA Kununurra 48.00 197 P **P** **05 48 40.6 0.0**

MK31 Makanchi Array 48.08 307 P **P** **05 48 41.5 +0.4**
MK31 IAmb IAmb 05 48 42.4
comp=Z,7.2nm,0.8s
MK31 Makanchi Array 48.08 307*ce*P **P** **05 48 41.5 +0.4**
MKAR Makanchi Array 48.08 307 P **P** **05 48 41.3 +0.2**
MKAR Makanchi Array 48.08 307 P **P** **05 48 41.5 +0.4**
comp=Z,5.9nm,0.7s,baz=91,slow=9.6,SNR=83
comp=Z,5.9nm,0.7s
MAKZ Makanchi 48.29 307 P **P** **05 48 43.0 +0.3**
MAKZ Makanchi 48.29 307 P **P** **05 48 43.0 +0.3**
MAKZ pmax pmax
comp=Z,30nm,1.7s
NRIK Noril'sk 49.14 338 P **P** **05 48 48.7 -0.2**
NRIK Noril'sk 49.14 338 P **P** **05 48 49.5 +0.6**
comp=Z,2.3nm,0.6s,baz=122,slow=8.7,SNR=5.1
comp=Z,2.3nm,0.6s
NRIK Noril'sk 49.14 338*ce*P **P** **05 48 49.9 +1.0**
NRIK pmax pmax
comp=Z,7.0nm,1.2s
O18K Koktuh Hills 50.25 36 P **P** **05 48 59.0 +1.5**
KURK Kurchatov 50.34 312 P **P** **05 48 58.4 +0.1**
KURK IAmb IAmb 05 49 10.8
comp=Z,12nm,0.9s
KURK Kurchatov 50.34 312*ce*P **P** **05 48 57.7 -0.6**
KURK pmax pmax
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 50.40 312 P **P** **05 48 58.8 +0.1**
comp=Z,4.5nm,0.7s,baz=87,slow=7.3,SNR=53
comp=Z,4.5nm,0.7s
E19K Redstone River 50.72 26 P **P** **05 49 01.9 +1.0**
WB0 Warramunga Arr 50.86 189 P **P** **05 49 02.0 -0.4**
WB0 IAmb IAmb 05 49 25.4
comp=Z,40nm,1.7s
WR0 Warramunga Arr 51.03 189 P **P** **05 49 02.8 -1.0**
WRAB Tennant Creek 51.03 189 P **P** **05 49 03.6 -0.1**
WRAB IAmb IAmb 05 49 16.2
comp=Z,8.9nm,0.9s
WRAB Tennant Creek 51.03 189 P **P** **05 49 03.6 -0.1**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WB2 Warramunga Arr 51.04 189 P **P** **05 49 03.0 -0.8**
WB2 IAmb IAmb 05 49 16.8
comp=Z,15nm,1.2s
WRA Warramunga Arr 51.04 189 P **P** **05 49 03.1 -0.7**
WRA Warramunga Arr 51.04 189 P **P** **05 49 04.0 +0.2**
comp=Z,3.1nm,0.4s,baz=5.2,slow=7.5,SNR=71
comp=Z,3.1nm,0.4s
FITZ Fitzroy Crossi 51.17 200 P **P** **05 49 05.1 +0.3**
PPLA Purkeypile 52.02 32 P **P** **05 49 10.5 -0.3**
CAST Castle Rocks 52.12 31 P **P** **05 49 12.0 +0.5**
CAST IAmb IAmb 05 49 13.9
comp=Z,30nm,1.8s
KDJ Kajisay 52.23 302 P **P** **05 49 13.3 +0.4**
SKT Skwentna 52.24 33 P **P** **05 49 12.4 +0.1**
E22K Anaktuvuk Pass 52.88 25 P **P** **05 49 17.8 +0.7**
E22K IAmb IAmb 05 51 02.4
comp=Z,25nm,2.0s
BOOM Boomskoye usch 53.08 302 P **P** **05 49 19.8 +0.7**
BWN Browne 53.35 31 P **P** **05 49 21.2 +0.7**
RND Reindeer 53.57 32 P **P** **05 49 21.9 -0.2**
RND Reindeer 53.57 32 P **P** **05 49 22.0 -0.2**
RND pmax pmax
comp=Z,42nm,1.9s
KSH Kashi 53.64 299 P **P** **05 49 27.3 +4.1**
KSH pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 54.10 30 P **P** **05 49 25.6 -0.4**
CCB IAmb IAmb 05 50 54.4
comp=Z,22nm,1.8s
AAK Ala-Archa 54.10 303*ce*P **P** **05 49 27.7 +1.2**
AAK pmax pmax
comp=Z,5.0nm,1.7s
ILAR Eielson Array 54.50 30 P **P** **05 49 28.6 -0.3**
ILAR Eielson Array 54.50 30 P **P** **05 49 29.4 +0.5**
comp=Z,2.1nm,1.0s,baz=265,slow=6.0,SNR=11
comp=Z,2.1nm,1.0s
AS31 Alice Springs 54.77 189 P **P** **05 49 31.0 -0.3**
M24K Tolsona, Glenn 54.77 33 P **P** **05 49 32.2 +1.2**
ASAR Alice Springs 54.77 189 P **P** **05 49 30.8 -0.5**
ASAR Alice Springs 54.77 189 P **P** **05 49 31.8 +0.5**
comp=Z,1.5nm,0.6s,baz=4.7,slow=7.0,SNR=24
comp=Z,1.5nm,0.6s
KLU Klutina 54.89 34 P **P** **05 49 31.9 0.0**
E25K Arctic Village 55.20 26 P **P** **05 49 34.8 +0.9**
BVAR Borovoye Array 55.26 316 P **P** **05 49 35.2 +0.7**
comp=Z,2.9nm,0.6s,baz=81,slow=9.2,SNR=15
comp=Z,2.9nm,0.6s
BRVK Borovoye 55.32 316 P **P** **05 49 35.5 +0.5**
BRVK Borovoye 55.32 316*ce*P **P** **05 49 36.1 +1.1**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BCAR Beaver Creek A 56.77 32 P **P** **05 49 46.4 +1.1**
KK31 Karatay Array 56.87 304 P **P** **05 49 46.8 +0.6**
KK31 IAmb IAmb 05 49 47.8
comp=Z,10nm,0.8s
KK31 Karatay Array 56.87 304 P **P** **05 49 46.8 +0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 56.87 304 P **P** **05 49 46.8 +0.6**
KKAR IAmb IAmb 05 49 47.8
comp=Z,11nm,0.8s
KKAR Karatay Array 56.87 304 P **P** **05 49 46.6 +0.3**
KKAR Karatay Array 56.87 304 P **P** **05 49 46.6 +0.3**
KKAR 05 49 46.8
KKAR pmax pmax
comp=Z,11nm,0.9s
NIL Nilore 57.28 292 P **P** **05 49 50.2 +0.9**
DZM Mont Dzumac 57.58 153 *e*LR LR 06 06 36.1
comp=Z,64nm,22.0s
GAR Garm 58.02 299 P **P** **05 49 54.7 +0.1**
GAR IAmb IAmb 05 49 56.0
comp=Z,22nm,1.3s
SIMJ Simiganj 59.10 299 P **P** **05 50 02.5 +0.3**
SIMJ IAmb IAmb 05 50 03.6
comp=Z,9.0nm,0.9s
G31M Satah River 59.58 27 P **P** **05 50 05.3 +0.5**
INK Inuvik 59.68 25 P **P** **05 50 06.0 +0.6**
INK IAmb IAmb 05 51 57.1
comp=Z,14nm,1.9s
INK Inuvik 59.68 25 P **P** **05 50 06.0 +0.6**
INK pmax pmax
comp=Z,14nm,1.9s
F31M Tsiigehtchic 59.71 26 P **P** **05 50 06.4 +0.7**
F31M IAmb IAmb 05 51 33.1
comp=Z,23nm,1.9s
SVE Sverdlovsk 60.23 321 *e*P **P** **05 50 10.2 +0.8**
SVE pmax pmax
comp=Z,15nm,1.1s
SVE MLR MLR
comp=Z,1μm,15.0s
KBL Kabul 60.32 295 P **P** **05 50 10.2 -0.5**
KBL IAmb IAmb 05 50 23.8
comp=Z,8.7nm,1.1s
KBL Kabul 60.32 295 P **P** **05 50 10.2 -0.5**
KBL pmax pmax
comp=Z,9.0nm,1.1s
ARTI Arti 61.54 321 P **P** **05 50 18.6 +0.3**
ARTI IAmb IAmb 05 50 31.2
comp=Z,8.8nm,0.8s
ARTI Arti 61.54 321 P **P** **05 50 18.4 +0.1**
comp=Z,6.6nm,0.7s,baz=91,slow=3.1,SNR=10
comp=Z,6.6nm,0.7s
ARTI Arti 61.54 321⇑*e*P **P** **05 50 19.1 +0.8**
ARTI pmax pmax
comp=Z,7.0nm,0.6s
A36M Sachs Harbour 61.81 21 P **P** **05 50 21.4 +1.5**
ABKAR Abkulak array 62.45 313 P **P** **05 50 24.6 +0.1**
ABKAR Abkulak array 62.45 313 P **P** **05 50 24.7 +0.2**
ABKAR IAmb IAmb 05 50 37.4
comp=Z,6.8nm,0.8s
C36M Paulatuk 62.84 23 P **P** **05 50 26.9 +0.1**
BBB Bella Bella 66.19 42 LR LR 06 17 01.8
comp=Z,49nm,20.3s,baz=214,slow=34
RES Resolute Bay 68.45 14 P **P** **05 51 03.1 +0.2**
RES IAmb IAmb 05 52 36.2
comp=Z,11nm,1.6s
RES Resolute Bay 68.45 14 P **P** **05 51 03.2 +0.2**
RES pmax pmax
comp=Z,11nm,1.7s
YKA Yellowknife Ar 68.91 29 P **P** **05 51 06.7 +0.7**
comp=Z,1.1nm,0.9s,baz=293,slow=6.1,SNR=9.5
comp=Z,1.1nm,0.9s
YKA Yellowknife Ar 68.91 29*ce*P **P** **05 51 08.1 +2.1**
YKA pmax pmax
comp=Z,1.0nm,0.9s

DAG Danmarks Havn 71.97 355 P **P** **05 51 27.3 +2.8**
VRH Novokhopyorsk 72.58 320 *e*P **P** **05 51 26.6 -1.9**
VRH pmax pmax
comp=Z,6.0nm,0.9s
MAK Makhachkala 72.77 310 *e*P **P** **05 51 25.5 -4.3**
MAK *e*PPP PPP 05 55 53.0
MAK *e*S **S** **06 00 50.3 -3.9**
MAK pmax pmax
comp=Z,164nm,0.9s
MAK MLR MLR
comp=Z,364nm,13.0s
OBN Obninsk 73.41 325⇑ *e*P **P** **05 51 33.4 0.0**
OBN *e*S **SKiKP** **06 01 04.5 +1.8**
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,484nm,14.0s
VORR Voronezh 73.74 321 *e*P **P** **05 51 34.3 -1.1**
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 73.99 320 *e*P **P** **05 51 35.8 -1.1**
VSR pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 74.22 43 LR LR 06 21 54.5
comp=Z,18nm,20.0s,baz=252,slow=34
FINES FINESS Array B 74.56 333 P **P** **05 51 40.2 +0.3**
comp=Z,1.6nm,0.7s,baz=69,slow=5.3,SNR=8.0
comp=Z,1.6nm,0.7s
KBZ Khabaz 75.40 312 P **P** **05 51 46.0 +0.8**
comp=Z,6.3nm,0.9s,baz=78,slow=3.8,SNR=14
comp=Z,6.3nm,0.9s
KBZ Khabaz 75.40 312*ce*P **P** **05 51 45.4 +0.2**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 75.43 313 *e*P **P** **05 51 45.2 -0.3**
KIV pmax pmax
comp=Z,8.0nm,1.0s
MNK Minsk 77.94 327 *i* P **P** **05 51 57.0 -2.3**
MNK *i* 05 52 06.4
MNK *i* 05 54 52.9
MNK *i* PPP PPP 05 56 40.5
MNK *i* S **S** **06 01 51.5 +0.4**
MNK *i* 06 02 16.5
MNK *i* SS **SS** **06 06 53.6 +2.4**
MNK *i* SSS SSS 06 10 18.1
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK MLR MLR
comp=Z,235nm,14.0s
MNK MLR MLR
comp=N,2μm,22.0s
MNK MLR MLR
comp=E,1μm,21.0s
LRM Limekiln Ridge 78.21 44 P **P** **05 52 01.2 -0.2**
NVAR Mina Array Bea 78.29 52 P **P** **05 52 03.2 +1.3**
comp=E,0.4nm,0.6s,baz=281,slow=6.3,SNR=4.9
comp=E,0.4nm,0.6s
AKASG Malin Array Be 79.55 323 P **P** **05 52 08.5 +0.2**
comp=E,0.9nm,0.4s,baz=50,slow=5.9,SNR=14
comp=E,0.9nm,0.4s
AKASG Malin Array Be 79.55 323 *i* P **P** **05 52 08.5 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 79.55 323 P **P** **05 52 08.5 +0.2**
AKBB IAmb IAmb 05 52 20.7
comp=Z,7.3nm,0.8s
AKBB Malin Array Si 79.55 323*ce*P **P** **05 52 08.8 +0.6**
KIEV Kiev 79.56 323 P **P** **05 52 08.2 -0.1**
KIEV Kiev 79.56 323 P **P** **05 52 08.2 -0.1**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
NOA NORSAR Array B 80.10 338 P **P** **05 52 11.0 -0.1**
comp=Z,0.9nm,0.8s,baz=42,slow=4.8,SNR=3.4
comp=Z,0.9nm,0.8s
PPT2 Papeete2 81.41 116 *e*LR LR 06 17 35.9
comp=Z,50nm,23.0s
PDAR Pinedale Array 81.63 45 P **P** **05 52 20.9 +1.0**
comp=Z,0.4nm,0.6s,baz=275,slow=1.0,SNR=5.2
comp=Z,0.4nm,0.6s
RDMU Red Mountain 82.86 47 P **P** **05 52 26.2 -0.2**
BR131 Keskin Array S 83.39 313 P **P** **05 52 29.2 +0.2**
BR131 IAmb IAmb 05 52 42.7
comp=Z,7.0nm,1.1s
BR131 Keskin Array S 83.39 313 P **P** **05 52 29.2 +0.2**
BR131 pmax pmax
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 83.39 313 P **P** **05 52 29.4 +0.3**
BRTR Keskin Array B 83.39 313 P **P** **05 52 30.2 +1.1**
comp=Z,1.6nm,0.9s,baz=100,slow=4.4,SNR=9.4
comp=Z,1.6nm,0.9s
BUR08 Bucovina Ar. S 83.51 323 P **P** **05 52 29.9 +0.4**
RAYN Ar Rayn 83.56 293 P **P** **05 52 30.3 +0.3**
RAYN Ar Rayn 83.56 293 P **P** **05 52 30.3 +0.3**
RAYN pmax pmax
comp=Z,19nm,1.3s
TAOE Nuku Hiva Isla 84.15 104 *e*LR LR 06 18 40.5
comp=Z,200nm,24.5s
KOLS Kolonicke sedl 84.16 325 *e*P **P** **05 52 35.4 +2.8**
KOLS Kolonicke sedl 84.16 325 *e*P **P** **05 52 35.4 +2.8**
STHS Stebnicka Huta 84.35 326 *e*P **P** **05 52 34.6 +1.0**
STHS Stebnicka Huta 84.35 326 *e*P **P** **05 52 34.6 +1.0**
PV23 Carpenter Ridg 84.43 48 P **P** **05 52 36.0 +1.5**
PV23 IAmb IAmb 05 52 49.3
comp=Z,10nm,1.0s
PV10 Paradox Valley 84.45 48 P **P** **05 52 35.7 +1.1**
PV10 IAmb IAmb 05 52 58.4
comp=Z,12nm,1.0s
OJC Ojcow 84.49 327 P **P** **05 52 34.8 +0.6**
OJC Ojcow 84.49 327 P **P** **05 52 34.8 +0.6**
OJC pmax pmax
comp=Z,23nm,1.6s
TX31 Lajitas Ar. Si 93.43 53 P **P** **05 53 18.5 +1.1**
TX31 IAmb IAmb 05 53 31.5
comp=Z,4.9nm,1.1s
TXAR Lajitas Array 93.43 53 P **P** **05 53 18.8 +1.4**
comp=Z,0.9nm,0.8s,baz=315,slow=2.0,SNR=8.8
comp=Z,0.9nm,0.8s
LPAZ La Paz 148.87 69 PKPbc **PKiKP** **05 59 50.9 -1.0**
comp=Z,1.4nm,0.8s,baz=335,slow=3.6,SNR=5.4

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*CNRM **16** 05:44:06.9, 35.°17N×3.°46W, h14km, ML2.3*
*MDD **16** 05:44:07.8±0.5, 35.°15N×3.°49W, h10km±4km, mb_Lg2.3/9,*
Error ellipse: s-maj=5.0km s-min=3.2km az=153.0
*SFS **16** 05:44:07.9, 35.°19N×3.°50W, h4km, ML2.7/6, ML2.4/9,*
MLv2.2/9

ISC 16 05:44:06.8±1.0, 35.°20N±0.°02×3.°48W±0.°02, h14km±8km,
n43, σ0°83/62, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**273**	P	**Pg**	**05 44 14.4**	**0.0**
PALE	**Palemas**	**0.37**	**273**	S	**Sb**	**05 44 20.8**	**-0.1**
GOG	**Mont Gurugu**	**0.40**	**86**	P	**Pg**	**05 44 15.0**	**0.0**
GOG	**Mont Gurugu**	**0.40**	**86**	S	**Sg**	**05 44 20.5**	**+0.1**
EMEL	**Melilla**	**0.44**	**77**	Pg	**Pg**	**05 44 15.8**	**+0.1**
EMEL				Sg	**Sb**	**05 44 23.0**	**+0.1**
EMLI	**Melilla**	**0.45**	**77**	Pg	**Pg**	**05 44 15.9**	**+0.1**
EMLI				Sg	**Sb**	**05 44 23.1**	**0.0**
WMELI	**Melilla**	**0.45**	**75**	Pg	**Pg**	**05 44 16.0**	**+0.2**
WMELI				Sg	**Sb**	**05 44 23.7**	**+0.6**
PVLZ	**Pen de Vlez**	**0.67**	**268**	Pg	**Pg**	**05 44 19.6**	**-0.3**
AKLM	**AKL**	**0.75**	**205**	P	**Pb**	**05 44 20.7**	**-1.1**
AKLM	**AKL**	**0.75**	**205**	S	**Sg**	**05 44 31.1**	**-0.3**
EALB	**Alboran**	**0.83**	**26**	Pg	**Pn**	**05 44 23.5**	**-0.6**
EALB				Sg	**Sn**	**05 44 36.3**	**+0.2**
EALB	**Alboran**	**0.83**	**26**	Pg	**Pn**	**05 44 23.8**	**-0.3**
EALB				Sg	**Sn**	**05 44 36.2**	**+0.2**
EALB				*i* Vmb_Lg		05 44 37.5	
CHAS	**Isla Isabel II**	**0.86**	**91**	Pg	**Pb**	**05 44 23.1**	**-0.5**
CHAS				Sg	**Sg**	**05 44 35.6**	**+0.8**
TAF	**Taforalt**	**0.96**	**113**	P	**Pb**	**05 44 24.7**	**-0.5**
TAF	**Taforalt**	**0.96**	**113**	S	**Sb**	**05 44 37.8**	**-0.1**
JBK	**JBK**	**1.15**	**138**	P	**Pn**	**05 44 27.3**	**-1.3**
JBK	**JBK**	**1.15**	**138**	S	**Sb**	**05 44 42.9**	**-0.5**
CHEFC	**Chefchaouen**	**1.52**	**267**	P	**Pb**	**05 44 34.6**	**-0.4**
CHEFC	**Chefchaouen**	**1.52**	**267**	S	**Sb**	**05 44 54.4**	**+0.3**
SMIR	**Smir Dam**	**1.62**	**288**	P	**Pb**	**05 44 35.8**	**-0.8**
SMIR	**Smir Dam**	**1.62**	**288**	S	**Sb**	**05 44 57.8**	**+0.9**
ELGU	**Los Guajares,**	**1.67**	**356**	Pn	**Pn**	**05 44 34.9**	**-0.9**

ELGU	**Los Guajares,**	**1.67**	**356**	Pn	**Pn**	**05 44 35.4**	**-0.4**
ELGU				Sn	**Sn**	**05 44 56.0**	**-1.0**
ELGU				*i* Vmb_Lg		05 44 57.2	
LCRM	**LCR**	**1.89**	**217**	P	**Pb**	**05 44 40.6**	**-0.6**
LCRM	**LCR**	**1.89**	**217**	S	**Sb**	**05 45 05.9**	**+1.2**
EGOR	**Sierra Gorda,**	**1.98**	**345**	Pn	**Pn**	**05 44 40.1**	**+0.1**
EGOR				*i* Vmb_Lg		05 45 04.1	
EGOR				Sn	**Sn**	**05 45 05.2**	**+0.5**
EQUE	**Quentar**	**2.00**	**1**	Pn	**Pn**	**05 44 41.0**	**+0.6**
EQUE				Sn	**Sn**	**05 45 04.8**	**-0.5**
EQUE				*i* Vmb_Lg		05 45 12.7	
EQTA	**Presa de Quent**	**2.01**	**1**	Pn	**Pn**	**05 44 41.4**	**+1.0**
EQTA				Sn	**Sb**	**05 45 06.6**	**-1.5**
EJIF	**Jimena Fronter**	**2.04**	**308**	Pn	**Pn**	**05 44 40.8**	**0.0**
EJIF				Sn	**Sn**	**05 45 06.3**	**+0.2**
IFR	**Ifrane**	**2.16**	**220**	Sn	**Sn**	**05 45 10.0**	**+0.8**
IFR				Pn	**Pn**	**05 44 44.2**	**+1.7**
MDT	**Midelt**	**2.55**	**202**	P	**Pn**	**05 44 47.9**	**0.0**
MDT	**Midelt**	**2.55**	**202**	S	**Sn**	**05 45 19.5**	**+0.6**
MD31	**MD31**	**2.56**	**205**	P	**Pn**	**05 44 47.9**	**0.0**
MD31	**MD31**	**2.56**	**205**	S	**Sn**	**05 45 19.5**	**+0.7**
EQES	**Quesada**	**2.62**	**7**	Pn	**Pn**	**05 44 50.6**	**+1.8**
EQES				Sn	**Sn**	**05 45 22.0**	**+1.4**
EQES				*i* Vmb_Lg		05 45 25.5	
EADA	**Adamuz**	**3.09**	**344**	Pn	**Pn**	**05 44 55.7**	**+0.4**
EADA				Sn	**Sn**	**05 45 32.7**	**+0.7**
EADA				*i* Vmb_Lg		05 45 44.7	
ECAB	**El Cabril**	**3.27**	**332**	Pn	**Pn**	**05 44 58.7**	**+1.0**
ECAB				Sn	**Sn**	**05 45 37.3**	**+0.9**
ECAB				*i* Vmb_Lg		05 45 47.3	
EGRO	**El Granado**	**3.98**	**307**	Pn	**Pn**	**05 45 08.3**	**+0.8**
EGRO				Sn	**Sn**	**05 45 51.5**	**-2.5**
EGRO				*i* Vmb_Lg		05 45 55.1	
PVAQ	**Vaqueiros**	**4.07**	**304**	*e*P	**Pn**	**05 45 08.6**	**0.0**
PVAQ				*e*S	**Sn**	**05 45 55.1**	**-1.0**
PVAQ				IAML		05 45 55.1	
PBAR	**Barrancos**	**4.12**	**317**	*e*S	**Sn**	**05 45 57.2**	**-0.2**
PBAR				IAML		05 45 58.7	
PBAR				IAML		05 45 58.9	
PBAR				IAML		05 45 59.8	
PBDV	**Barranco-do-Ve**	**4.13**	**301**	*e*P	**Pn**	**05 45 09.6**	**0.0**
PBDV				*e*S	**Sn**	**05 45 56.3**	**-1.4**
PBDV				IAML		05 45 56.5	
PBDV				IAML		05 45 59.9	
PBDV				IAML		05 46 05.2	
PAB	**San Pablo**	**4.39**	**351**	Pn	**Pn**	**05 45 14.6**	**+1.4**
PAB				Sn	**Sn**	**05 46 04.2**	**0.0**
MESJ	**Messejana**	**4.64**	**306**	*e*P	**Pn**	**05 45 17.8**	**+1.3**

*IDC **16** 06:00:02.4±0.5, 29°.64N×67°.43E, h0km, mb4.6/44, mbtmp4.6/45, ML2.8/1, MS4.2/65, Error ellipse: s-maj=12.1km s-min=9.4km az=178.0*
*BJI **16** 06:00:03.0, 29°.86N×67°.37E, h12km, mB5.0/32, mb4.7/65, Ms4.7/57, Ms7 4.5/57*
*MOS **16** 06:00:03.8±1.1, 29°.78N×67°.53E, h17km, mb5.2/82, MS4.3/10, Error ellipse: s-maj=4.3km s-min=2.9km az=102.4*
*NEIC **16** 06:00:04.8±1.2, 29°.72N±0°.07×67°.43E±0°.08, h10km±1km, mb5.0/110, Error ellipse: s-maj=12.5km s-min=11.6km az=280.0*
*GCMT **16** 06:00:05.8±0.3, 29°.62N±0°.02×67°.68E±0°.02, h23km, MW4.9/81, Moment Tensor Solution. s40,c51; s81,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r2.22±.12; $M_{\theta\theta}$-0.38±.08; $M_{\phi\phi}$-1.85±.09; $M_{r\theta}$0.90±.13; $M_{\theta\phi}$-0.78±.06; $M_{r\phi}$1.62±.12; Best double couple: $M_0$2.87700×10^{16} NP1:ϕ_s200.00000°, δ25.00000°, λ84.00000°. NP2: ϕ_s27.00000°, δ65.00000°, λ93.00000°. Principal axes: T 2.8990, Plg70.0000°, Azm303.0000°; N -0.0500, Plg3.0000°, Azm206.0000°; P -2.8540, Plg20.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 06:00:05.6±0.6, 29°.69N±0°.03×67°.50E±0°.03, h19km±2km, n907, σ1§53/964, mb5.0/210, MS4.3/92, 38C-29D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**4.08**	**132**	*e*P		**Pn**		**06 01 08.5**	**+1.5**
JASL				*e*S		**Sn**		**06 01 55.6**	**+1.4**
JASL				IAML				06 01 59.6	
	comp=E,4μm,0.5s								
JASL				IAML				06 02 02.4	
	comp=N,4μm,0.5s								
KBL	**Kabul**	**5.01**	**15**			**Pn**		**06 01 21.8**	**+1.8**
KBL	**Kabul**	**5.01**	**15**	P		**Pn**		**06 01 22.8**	**+2.8**
	SNR=19								
KBL				S		**Sn**		**06 02 24.0**	**+6.5**
KBL	**Kabul**	**5.01**	**15**	P		**Pn**		**06 01 21.8**	**+1.8**
BKNR	**BIKANER**	**5.34**	**107**	*e*P		**Pn**		**06 01 25.5**	**+1.2**
BKNR				*e*S		**Sn**		**06 02 25.5**	**+0.3**
BKNR				IAML				06 02 43.4	
	comp=N,3μm,1.1s								
BKNR				IAML				06 02 49.9	
	comp=E,2μm,0.6s								
NIL	**Nilore**	**6.29**	**50**	Pn		**Pn**		**06 01 39.0**	**+1.5**
NIL	**Nilore**	**6.29**	**50**	P		**Pn**		**06 01 39.7**	**+2.3**
NIL	**Nilore**	**6.29**	**50**	P		**Pn**		**06 01 39.0**	**+1.5**
HRA	**Herat**	**6.47**	**318**			**Pn**		**06 01 39.7**	**-0.3**
BHUJ	**Bhuj**	**6.70**	**163**	*e*P		**Pn**		**06 01 42.9**	**-0.1**
BHUJ				*e*S		**Sn**		**06 02 55.8**	**-3.0**
BHUJ				IAML				06 03 01.1	
	comp=E,1μm,0.6s								
BHUJ				IAML				06 03 02.1	
	comp=N,1000nm,0.6s								
JMU	**Jammu**	**7.02**	**63**	*e*P		**Pn**		**06 01 49.6**	**+2.2**
JMU				*e*S		**Sn**		**06 03 04.1**	**-2.6**
AJM	**Ajmer**	**7.08**	**115**	*e*P		**Pn**		**06 01 48.5**	**+0.3**
AJM				*e*S		**Sn**		**06 03 06.3**	**-1.9**
AJM				IAML				06 03 24.7	
	comp=E,772nm,0.6s								
AJM				IAML				06 03 36.1	
	comp=E,845nm,0.8s								
NGCH	**Negor - Chabah**	**7.11**	**234**	P		**Pn**		**06 01 48.9**	**+0.3**
	SNR=19								
NGCH				S		**Sn**		**06 03 08.7**	**-0.2**
THN	**Thein Dam**	**7.56**	**67**	*e*P		**Pn**		**06 01 56.5**	**+1.6**
THN				*e*S		**Sn**		**06 03 18.8**	**-1.2**
THN				IAML				06 03 48.4	
	comp=E,673nm,0.8s								
THN				IAML				06 03 49.2	
	comp=E,497nm,0.3s								
RTK	**Rohtak**	**7.81**	**93**	*e*S		**Sn**		**06 03 18.5**	**-7.6**
BHK	**Bhakra**	**7.88**	**75**	*e*P		**Pn**		**06 01 58.9**	**-0.4**
BHK				*e*S		**Sn**		**06 03 25.7**	**-2.2**
BHK				IAML				06 03 33.8	
	comp=E,682nm,0.8s								
BHK				IAML				06 03 36.4	
	comp=E,795nm,0.3s								
DHRM	**DHARAMSHALA**	**7.98**	**69**	*e*P		**Pn**		**06 02 01.6**	**+0.9**
DHRM				*e*S		**Sn**		**06 03 30.3**	**-0.3**
DHRM				IAML				06 03 43.2	
	comp=N,1μm,0.5s								
DHRM				IAML				06 03 48.0	
	comp=E,1μm,1.0s								
KUDL	**Kundal**	**8.03**	**99**	*e*P		**Pn**		**06 01 59.8**	**-1.5**
KUDL				IAML				06 03 33.8	
	comp=E,1μm,0.4s								
KUDL				*e*S		**Sn**		**06 03 34.2**	**+2.6**
KUDL				IAML				06 03 47.3	
	comp=E,1μm,0.7s								
BHGR	**Bahadurgarh**	**8.31**	**95**	*e*S		**Sn**		**06 03 33.5**	**-5.0**
SMLA	**Simla**	**8.47**	**78**	*e*P		**Pn**		**06 02 07.7**	**+0.4**
SMLA				*e*S		**Sn**		**06 03 40.4**	**-2.1**
SMLA				IAML				06 03 43.8	
	comp=E,882nm,0.6s								
SMLA				IAML				06 03 45.2	
	comp=N,1μm,1.3s								
AYAN	**Aya Nagar**	**8.51**	**96**	*e*P		**Pn**		**06 02 07.8**	**0.0**
AYAN				*e*S		**Sn**		**06 03 38.7**	**-4.7**
SONA	**Sohna**	**8.52**	**97**	*e*P		**Pn**		**06 02 07.1**	**-0.8**
SONA				*e*S		**Sn**		**06 03 36.5**	**-7.1**
SONA				IAML				06 03 44.7	
	comp=E,530nm,0.5s								
SONA				IAML				06 03 46.8	
	comp=N,313nm,0.7s								
NPLP	**NPLP New Delhi**	**8.52**	**95**	*e*P		**Pn**		**06 02 07.0**	**-1.0**
NPLP				*e*S		**Sn**		**06 03 38.3**	**-5.4**
NDI	**New Delhi**	**8.55**	**94**	*e*P		**Pn**		**06 02 07.6**	**-0.9**
NDI				*e*S		**Sn**		**06 03 39.2**	**-5.3**
NDI				IAML				06 03 53.5	
	comp=E,785nm,0.6s								
NDI				IAML				06 04 03.3	
	comp=E,822nm,0.6s								
LDR	**Lodi Road**	**8.57**	**95**	*e*P		**Pn**		**06 02 08.7**	**0.0**
LDR				*e*S		**Sn**		**06 03 38.9**	**-6.0**
JMIU	**JAMIA UNIVERSI**	**8.64**	**95**	*e*P		**Pn**		**06 02 09.4**	**-0.2**
JMIU				*e*S		**Sn**		**06 03 40.3**	**-6.3**
BHV	**Bhavnagar**	**8.95**	**151**	*e*P		**Pn**		**06 02 13.4**	**-0.4**
BHV				IAML				06 04 20.0	
	comp=N,232nm,0.8s								
SIMJ	**Simiganj**	**9.03**	**8**	Pn		**Pn**		**06 02 15.1**	**-0.1**
DZET	**Dzherino**	**9.16**	**7**	P		**Pn**		**06 02 17.3**	**+0.5**
DZET				pmax		pmax			
	comp=Z,48nm,0.9s								
DDI	**Dehra Dun**	**9.18**	**83**	*e*P		**Pn**		**06 02 16.6**	**-0.5**
DDI				*e*S		**Sn**		**06 03 56.9**	**-3.0**
JASK	**Jask - Hormozg**	**9.34**	**248**	P		**Pn**		**06 02 19.8**	**+0.5**
GAR	**Garm**	**9.57**	**13**	Pn		**Pn**		**06 02 22.7**	**+0.2**
TKRD	**Thakurdwara**	**9.92**	**90**	*e*P		**Pn**		**06 02 30.4**	**+3.2**
TKRD				*e*S		**Sn**		**06 04 14.2**	**-3.9**
GUNA	**GUNA**	**10.09**	**118**	*e*P		**Pn**		**06 02 28.0**	**-1.6**
GUNA				*e*S		**Sn**		**06 04 14.3**	**-8.0**
GUNA				IAML				06 04 41.8	
	comp=N,480nm,0.8s								
WSAR	**Wadi Sarin**	**10.21**	**233**	Pn		**Pn**		**06 02 29.2**	**-2.1**
	comp=N,0.1nm,0.3s,baz=92,slow=24,SNR=31								
WSAR				Sn		Sn		06 04 13.2	-12
	comp=N,0.2nm,0.3s,baz=212,slow=24,SNR=10								
HNLY	**HANLEY**	**10.29**	**70**	*e*P		**Pn**		**06 02 32.6**	**-0.2**
HNLY				*e*S		Sn		06 04 18.1	-10
HNLY				IAML				06 04 30.9	
	comp=N,599nm,1.2s								
HNLY				IAML				06 04 31.3	
	comp=E,662nm,1.1s								
DRK	**Karamyk**	**10.39**	**19**			**Pn**		**06 02 34.1**	**+0.3**
DRK	**Karamyk**	**10.39**	**19**	P		**Pn**		**06 02 34.1**	**+0.3**
BIDO	**Bidbid**	**10.39**	**236**	P		**Pn**		**06 02 33.0**	**-0.7**
BIDO				P		**Pn**		**06 02 33.0**	**-0.7**
WBK	**Wadi Bani Khal**	**10.41**	**229**	P		**Pn**		**06 02 32.1**	**-1.8**
	SNR=18								
JLN	**Jalan Bani Buh**	**10.45**	**226**	P		**Pn**		**06 02 33.0**	**-1.6**
	SNR=47								
JOSI	**Joshimath**	**10.48**	**82**	*e*P		**Pn**		**06 02 35.0**	**-0.1**
JOSI				*e*S		**Sn**		**06 04 27.4**	**-4.7**
JOSI				IAML				06 04 47.3	
	comp=E,821nm,0.9s								
JOSI				IAML				06 04 49.3	
	comp=E,959nm,0.9s								
BANOM	**Banah**	**10.60**	**252**	P		**Pn**		**06 02 36.5**	**-0.1**
BANOM				P		**Pn**		**06 02 36.5**	**-0.1**
BANOM	**Banah**	**10.60**	**252**	Pn		**Pn**		**06 02 35.8**	**-0.7**
JHNI	**Jhansi**	**10.66**	**111**	*e*P		**Pn**		**06 02 35.9**	**-1.5**
JHNI				*e*S		**Sn**		**06 04 38.5**	**+2.2**
JHNI				IAML				06 04 38.8	
	comp=E,238nm,1.1s								
JHNI				IAML				06 04 46.7	
	comp=E,124nm,0.9s								
SHME	**Shamm**	**10.68**	**253**	P		**Pn**		**06 02 37.5**	**-0.2**
SHME				P		**Pn**		**06 02 37.5**	**-0.2**
SHME	**Shamm**	**10.68**	**253**	Pn		**Pn**		**06 02 37.1**	**-0.6**
SMDO	**Samad**	**10.74**	**234**	P		**Pn**		**06 02 37.4**	**-1.2**
MDH	**Madha**	**10.86**	**249**	P		**Pn**		**06 02 38.2**	**-2.0**
MDH				P		**Pn**		**06 02 38.2**	**-2.0**
MASF	**Masafi**	**10.94**	**250**	P		**Pn**		**06 02 41.2**	**-0.1**
	SNR=12								
MASF				P		**Pn**		**06 02 41.2**	**-0.1**
	SNR=12								
MSFE	**Esma-Masafi**	**10.95**	**249**	Pn		**Pn**		**06 02 42.6**	**+1.3**
HOQ	**Hoqain**	**10.95**	**239**	P		**Pn**		**06 02 39.8**	**-1.7**
BHPL	**Bhopal**	**10.97**	**124**	*e*P		**Pn**		**06 02 40.3**	**-1.3**
BHPL				*e*S		**Sn**		**06 04 36.5**	**-7.4**
BHPL				IAML				06 04 43.1	
	comp=N,348nm,0.8s								
PTH	**Pithoragarh**	**11.07**	**88**	*e*P		**Pn**		**06 02 41.0**	**-2.2**
PTH				*e*S		**Sn**		**06 04 41.9**	**-4.7**
PTH				IAML				06 05 10.2	
	comp=E,123nm,0.7s								
PTH				IAML				06 05 14.4	
	comp=E,214nm,0.7s								
UOSS	**Minazif**	**11.10**	**247**	Pn		**Pn**		**06 02 41.0**	**-2.3**
UOSS	**Minazif**	**11.10**	**247**	P		**Pn**		**06 02 42.2**	**-1.2**
UOSS				P		**Pn**		**06 02 42.2**	**-1.2**
UOSS	**Minazif**	**11.10**	**247**	Pn		**Pn**		**06 02 41.6**	**-1.8**
LGTI	**Lohaghat**	**11.10**	**88**	*e*P		**Pn**		**06 02 40.3**	**-3.2**
LGTI				*e*S		Sn		06 04 36.7	-10
LGTI				IAML				06 04 49.0	
	comp=E,188nm,1.2s								
LGTI				IAML				06 04 50.0	
	comp=E,225nm,1.4s								
NRDN	**NARMADA NAGARI**	**11.11**	**126**	*e*P		**Pn**		**06 02 40.4**	**-3.2**
NRDN				*e*S		**Sn**		**06 04 38.8**	**-8.5**
NRDN				IAML				06 05 30.1	
	comp=N,256nm,0.9s								
NRDN				IAML				06 05 30.8	
	comp=E,256nm,0.7s								
JMDO	**Jabal Madar**	**11.15**	**231**	P		**Pn**		**06 02 44.1**	**-0.1**
	SNR=29								
HATD	**Hatta, Dubai**	**11.21**	**247**	P		**Pn**		**06 02 44.3**	**-0.7**
HATD				P		**Pn**		**06 02 44.3**	**-0.7**
HATD	**Hatta, Dubai**	**11.21**	**247**	Pn		**Pn**		**06 02 43.4**	**-1.5**
SOHO	**SOHO**	**11.24**	**243**	P		**Pn**		**06 02 43.4**	**-1.9**
SOHO				P		**Pn**		**06 02 43.4**	**-1.9**
SOHO	**SOHO**	**11.24**	**243**	Pn		**Pn**		**06 02 43.2**	**-2.1**
ASHO	**Ashiyiah**	**11.34**	**247**	P		**Pn**		**06 02 46.5**	**-0.1**
	SNR=13								
ASHO				P		**Pn**		**06 02 46.5**	**-0.1**
	SNR=13								
ASHO	**Ashiyiah**	**11.34**	**247**	Pn		**Pn**		**06 02 46.3**	**-0.4**
NAZ	**Nazwa, Dubai**	**11.52**	**249**	P		**Pn**		**06 02 50.6**	**+1.5**
NAZ				P		**Pn**		**06 02 50.6**	**+1.5**
BSY	**Bisya**	**11.54**	**236**	P		**Pn**		**06 02 49.2**	**-0.2**
	SNR=16								
OHH	**Osh**	**11.64**	**20**	P		**Pn**		**06 02 52.1**	**+1.3**
OHH				pmax		pmax			
	comp=Z,60nm,0.9s								
FAQ	**Al Faqa, Dubai**	**11.68**	**248**	P		**Pn**		**06 02 50.9**	**-0.5**
FAQ				P		**Pn**		**06 02 50.9**	**-0.5**
FAQ				S		**Sn**		**06 05 02.0**	**+0.7**
FAQ				S		**Sn**		**06 05 02.0**	**+0.7**
ARQ	**Araqi**	**11.69**	**240**	P		**Pn**		**06 02 53.0**	**+1.5**
	SNR=15								
ARQ				S		**Sn**		**06 05 01.6**	**+0.2**
ALNE	**Al Ain**	**11.89**	**245**	P		**Pn**		**06 02 55.4**	**+1.1**
	SNR=8.3								
ALNE				P		**Pn**		**06 02 55.4**	**+1.1**
	SNR=8.3								
ALNE				S		**Sn**		**06 05 03.3**	**-3.1**
ALNE				S		**Sn**		**06 05 03.3**	**-3.1**
ALNE	**Al Ain**	**11.89**	**245**	Pn		**Pn**		**06 02 54.9**	**+0.7**
ASUD	**Al Ashush, Dub**	**11.95**	**248**	Pn		**Pn**		**06 02 54.1**	**-0.9**
KSH	**Kashi**	**12.03**	**33**	P		Pn		06 02 50.8	-5.3
KSH				S		Sn		06 04 55.6	-14
KSH				pmax		pmax			
	comp=Z,110nm,0.8s								
TRKS	**Terek-Say**	**12.18**	**13**	P		**Pn**		**06 02 56.7**	**-1.5**
TRKS				pmax		pmax			
	comp=Z,33nm,0.8s								
MHTO	**MHTO**	**12.22**	**227**	P		**Pn**		**06 02 58.0**	**-0.7**
	SNR=19								
AKL	**Akola**	**12.42**	**134**	*e*P		**Pn**		**06 03 01.2**	**-0.3**
AKL				IAML				06 05 19.9	
	comp=E,149nm,0.7s								
AKL				IAML				06 05 28.4	
	comp=E,153nm,0.7s								
ARSB	**Arslanbob**	**12.43**	**20**			**Pn**		**06 03 01.1**	**-0.5**
ARSB	**Arslanbob**	**12.43**	**20**	P		**Pn**		**06 03 01.2**	**-0.5**
POO	**Poona**	**12.53**	**151**	*e*P		**Pn**		**06 03 02.6**	**-0.4**
IUG	**Iuzhnay**	**12.60**	**9**	*e*P		**Pn**		**06 03 02.5**	**-1.4**
IUG	**Iuzhnay**	**12.60**	**9**	*e*P		**Pn**		**06 03 02.5**	**-1.4**
ARK	**Arkit**	**12.61**	**15**	P		**Pn**		**06 03 03.6**	**-0.5**
ARK				pmax		pmax			
	comp=Z,132nm,1.0s								
CHM	**Chimkent**	**12.72**	**7**	*e*P		**Pn**		**06 03 04.3**	**-1.1**
CHM	**Chimkent**	**12.72**	**7**	*e*P		**Pn**		**06 03 04.4**	**-1.1**
UMZA	**Um Al Zommool**	**13.07**	**241**	P		**Pn**		**06 03 08.9**	**-1.4**
UMZA				P		**Pn**		**06 03 08.9**	**-1.4**
DQM	**DQM**	**13.27**	**225**	P		**Pn**		**06 03 12.5**	**-0.5**
DQM				P		**Pn**		**06 03 12.5**	**-0.5**
AML	**Almayashu**	**13.38**	**20**	P		**Pn**		**06 03 13.8**	**-1.2**
	SNR=187								
BRLS	**Borolday**	**13.44**	**7**	*e*P		Pn		06 03 10.0	-5.4
BRLS	**Borolday**	**13.44**	**7**	*e*P		Pn		06 03 10.1	-5.3
NGP	**Nagpur**	**13.46**	**127**	*e*P		**Pn**		**06 03 13.7**	**-1.9**
DZA	**Taraz**	**13.53**	**12**	*e*P		**Pn**		**06 03 15.2**	**-1.3**
DZA	**Taraz**	**13.53**	**12**	*e*P		**Pn**		**06 03 15.2**	**-1.3**
KK31	**Karatay Array**	**13.60**	**9**	Pn		**Pn**		**06 03 15.1**	**-2.4**
KK31	**Karatay Array**	**13.60**	**9**	*i* P		**Pn**		**06 03 15.2**	**-2.4**
KKAR	**Karatay Array**	**13.60**	**9**	Pn		**Pn**		**06 03 15.2**	**-2.3**
KKAR	**Karatay Array**	**13.60**	**9**	P		**Pn**		**06 03 15.2**	**-2.3**
UCH	**Uchtor**	**13.73**	**22**	P		**Pn**		**06 03 19.1**	**-0.6**
	SNR=6.5								
KAD	**Karad**	**13.76**	**152**	*e*P		**Pn**		**06 03 18.7**	**-1.2**
KAD				IAmb		IAmb		06 03 27.5	
	comp=Z,23nm,0.8s								
EKS2	**Erkin-Say**	**13.89**	**20**	P		**Pn**		**06 03 21.4**	**-0.2**
	SNR=18								
AAK	**Ala-Archa**	**14.09**	**22**	Pn		**Pn**		**06 03 22.8**	**-1.6**
AAK	**Ala-Archa**	**14.09**	**22**	Pn		**Pn**		**06 03 23.8**	**-0.5**
	comp=Z,29nm,0.5s,baz=220,slow=6.2,SNR=61								
AAK				Sn		**Sn**		**06 05 53.6**	**-6.7**
	comp=Z,0.8nm,0.3s,baz=244,slow=22,SNR=3.8								
AAK				LR		LR		06 08 29.5	
	comp=Z,188nm,21.8s,baz=219,slow=36								
AAK	**Ala-Archa**	**14.09**	**22**	P		**Pn**		**06 03 24.2**	**-0.2**
	SNR=38								
AAK	**Ala-Archa**	**14.09**	**22**	*ce*P		**Pn**		**06 03 23.3**	**-1.1**
AAK				pmax		pmax			
	comp=Z,30nm,0.6s								
AAK	**Ala-Archa**	**14.09**	**22**	Pn		**Pn**		**06 03 23.2**	**-1.2**
KBK	**Karagaybulak**	**14.26**	**23**	P		**Pn**		**06 03 27.4**	**+0.7**
	SNR=9.3								
ULHL	**Ulahol**	**14.38**	**27**	P		**Pn**		**06 03 27.1**	**-1.3**
	SNR=6.4								
BOOM	**Boomskoye usch**	**14.47**	**26**			**Pn**		**06 03 26.6**	**-3.0**
BOOM	**Boomskoye usch**	**14.47**	**26**	P		**Pn**		**06 03 26.6**	**-3.0**
CHMS	**Chumysh**	**14.50**	**22**	P		**Pn**		**06 03 29.4**	**-0.5**
	SNR=12								
USP	**Ospenovka**	**14.66**	**21**	P		**Pn**		**06 03 31.1**	**-1.0**
	SNR=7.5								
KDJ	**Kajisay**	**14.67**	**30**			**Pn**		**06 03 30.0**	**-2.3**
KDJ	**Kajisay**	**14.67**	**30**	P		**Pn**		**06 03 30.0**	**-2.3**
TKM2	**Tokmak 2**	**14.72**	**24**	P		**Pn**		**06 03 31.8**	**-1.2**
	SNR=44								
TKM2	**Tokmak 2**	**14.72**	**24**	*i* P		**Pn**		**06 03 31.4**	**-1.6**
TKM2				pmax		pmax			
	comp=Z,48nm,0.8s								
SGDS	**Sogindy**	**14.87**	**21**	*e*P		**Pn**		**06 03 32.7**	**-2.2**
SGDS	**Sogindy**	**14.87**	**21**	*e*P		**Pn**		**06 03 32.7**	**-2.2**
WUS	**Wushi**	**14.92**	**37**	Pn		**Pn**		**06 03 33.8**	**-1.9**
SHMA	**Al-Shehemyia**	**15.12**	**259**	P		**Pn**		**06 03 36.0**	**-2.3**
BLSP	**Bilaspur**	**15.16**	**116**	*e*P		**Pn**		**06 03 36.4**	**-2.4**
BLSP				IAmb		IAmb		06 03 46.1	
	comp=Z,105nm,1.1s								
TRNA	**Turayna**	**15.30**	**255**	P		**Pn**		**06 03 40.8**	**+0.1**
TNSS	**Tian-Shan**	**15.32**	**27**	*e*P		**Pn**		**06 03 38.6**	**-2.6**
TNSS	**Tian-Shan**	**15.32**	**27**	*e*P		**Pn**		**06 03 38.6**	**-2.6**
AAA	**Alma-Ata**	**15.46**	**27**	*e*P		**Pn**		**06 03 40.8**	**-1.8**
AAA	**Alma-Ata**	**15.46**	**27**	*e*P		**Pn**		**06 03 40.9**	**-1.8**
SMRA	**Abu-Samra**	**15.63**	**256**	P		**Pn**		**06 03 44.5**	**-0.3**
	SNR=6.0								
HYB	**Hyderabad**	**15.86**	**138**	*e*P		**Pn**		**06 03 46.1**	**-1.9**
HYB				*e*S		**Sn**		**06 06 44.4**	**+1.0**
HYB				IVMs_BB		IVMs_BB		06 11 20.3	
	comp=Z,2μm,8.0s								
SATY	**Saty**	**15.95**	**30**	*e*P		**Pn**		**06 03 47.6**	**-1.5**
SATY	**Saty**	**15.95**	**30**	*e*P		**Pn**		**06 03 47.7**	**-1.5**
BTLS	**Baital**	**16.17**	**17**	*e*P		**Pn**		**06 03 49.6**	**-2.2**
BTLS	**Baital**	**16.17**	**17**	*e*P		**Pn**		**06 03 49.6**	**-2.2**
UZB	**Uzynbulak**	**16.30**	**31**	*e*P		**Pn**		**06 03 46.8**	**-6.8**
DOK	**Doka**	**16.43**	**231**	P		**Pn**		**06 03 54.6**	**-0.6**
	SNR=14								
DOK				P		**Pn**		**06 03 54.6**	**-0.6**
	SNR=14								
SHLS	**Shalkode**	**16.51**	**32**	*e*P		**P**		**06 04 00.0**	**+1.2**
PDGK	**Podgornoye**	**16.65**	**32**	P		**Pn**		**06 03 56.7**	**-1.4**
ARXS	**Arharly**	**16.66**	**27**	*e*P		**Pn**		**06 03 55.2**	**-2.9**
WHFO	**Wadi Hawf**	**17.16**	**230**	P		**Pn**		**06 04 03.1**	**-1.3**
	SNR=7.4						

comp=Z,2μm,21.3s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,590nm,19.9s
DGRG David-gareji 21.42 309 P **P 06 04 54.3 +1.8**
TAWA Tawang 21.48 90 *e*P **P 06 04 55.3 +1.7**
TAWA IAmb IAmb 06 05 00.8
comp=Z,72nm,0.9s
KOD Kodaikanal 21.48 152 *e*P **P 06 04 55.4 +1.9**
KOD IAmb IAmb 06 05 07.4
comp=Z,109nm,1.1s
GUWA GUWAHATI 21.64 93 *e*P **P 06 04 55.3 +0.3**
GUWA IAmb IAmb 06 05 00.6
comp=Z,44nm,0.6s
AKTO Aktyubinsk 21.92 344 P **P 06 04 56.9 -0.8**
comp=Z,10nm,0.7s,baz=163,slow=12,SNR=24
AKTO LR LR 06 14 44.1
comp=Z,2μm,18.3s,baz=131,slow=40
comp=Z,10nm,0.7s
AKTO Aktyubinsk 21.92 344 P **P 06 04 57.6 -0.1**
AGT Agartala 21.96 100 *e*P **P 06 04 59.0 +0.6**
GEVA Gevas 21.96 300 P **P 06 04 56.6 -1.9**
SHL Shillong 21.98 95 P **P 06 04 57.2 -1.6**
SHL IAmb IAmb 06 05 09.8
comp=Z,65nm,1.0s
SHL Shillong 21.98 95 *e*P **P 06 04 58.3 -0.5**
SHL IAmb IAmb 06 05 10.0
comp=Z,63nm,1.2s
SHL Shillong 21.98 95 P **P 06 04 57.2 -1.6**
SHL pmax pmax
comp=Z,65nm,1.0s
ZSN Zaisan 22.25 32 *e*P **P 06 05 00.3 -1.0**
ZSN Zaisan 22.25 32 *e*P **P 06 05 00.3 -1.0**
KURBB Kurchatov Arra 22.50 19 P **P 06 05 03.1 -0.7**
comp=Z,28nm,0.9s,baz=211,slow=9.6,SNR=138
comp=Z,28nm,0.9s
KURBB Kurchatov Arra 22.50 19 P **P 06 05 02.2 -1.7**
KURK Kurchatov 22.60 19 P **P 06 05 03.8 -1.2**
KURK IAmb IAmb 06 05 13.3
comp=Z,65nm,1.1s
KURK Kurchatov 22.60 19 P **P 06 05 04.6 -0.4**
KURK P **P 06 05 04.6 -0.4**
KURK Kurchatov 22.60 19 *ce*P **P 06 05 04.2 -0.8**
KURK pmax pmax
comp=Z,55nm,1.2s
KARS Kars 22.68 305 P **P 06 05 04.8 -1.3**
KARS Kars 22.68 305 P **P 06 05 04.8 -1.3**
KARS pmax pmax
comp=Z,223nm,1.3s
BRDH Bariadhala 22.74 102 LR LR 06 16 11.5
comp=Z,892nm,18.0s,baz=289,slow=42
GURO Guroymak-BITLI 22.80 300 P **P 06 05 07.3 -0.1**
ZIRO ZIRO 23.22 89 *e*P **P 06 05 09.3 -2.6**
AZL Aizawl 23.25 99 *e*P **P 06 05 12.2 +0.1**
AZL IAmb IAmb 06 05 29.6
comp=Z,73nm,0.9s
BVA0 Borovoye Array 23.41 4 P **P 06 05 12.5 -0.8**
BVAR Borovoye Array 23.41 4 P **P 06 05 13.1 -0.3**
comp=Z,5.3nm,0.4s,baz=176,slow=8.8,SNR=44
BVAR LR LR 06 15 54.4
comp=Z,2μm,20.4s,baz=187,slow=41
comp=Z,5.3nm,0.4s
BRVK Borovoye 23.44 4 P **P 06 05 13.0 -0.5**
BRVK IAmb IAmb 06 05 25.0
comp=Z,91nm,1.4s
BRVK Borovoye 23.44 4 P **P 06 05 13.8 +0.3**
BRVK Borovoye 23.44 4 *ce*P **P 06 05 13.6 0.0**
BRVK pmax pmax
comp=Z,49nm,1.3s
MARD Mardin 23.49 296 P **P 06 05 13.6 -0.8**
MARD IAmb IAmb 06 05 15.6
comp=Z,48nm,0.7s
GOMU GeErMu 23.78 67 P **P 06 05 19.0 +1.5**
GOMU sP pP 06 05 22.8 -0.5
GOMU S **S 06 09 33.4 +1.0**
GOMU pmax pmax
comp=Z,31nm,1.0s
GOMU pmax pmax
comp=Z,540nm,5.1s
GOMU LR LR
comp=Z,490nm,13.5s
GOMU LR LR
comp=Z,1μm,14.1s
GOMU LR LR
comp=Z,2μm,14.1s
KOHI KOHIMA 23.87 93 *e*P **P 06 05 17.9 -0.3**
KOHI IAmb IAmb 06 05 36.1
comp=Z,67nm,0.8s
IMP Imphal 23.98 95 *e*P **P 06 05 19.3 +0.2**
IMP IAmb IAmb 06 05 33.7
comp=Z,68nm,1.1s
KBZ Khabaz 24.08 312 P **P 06 05 19.7 0.0**
comp=Z,5.0nm,0.6s,baz=83,slow=12,SNR=18
comp=Z,5.0nm,0.6s
KBZ Khabaz 24.08 312 *ce*P **P 06 05 19.8 0.0**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
DIBR DIBRUGARH 24.16 89 *e*P **P 06 05 20.9 +0.2**
KVAR Kislovodsk Arr 24.31 313 P **P 06 05 21.9 -0.2**
comp=Z,1.9nm,0.4s,baz=89,slow=24,SNR=1.6
comp=Z,1.9nm,0.4s
KIV Kislovodsk 24.32 313 P **P 06 05 21.7 -0.4**
KIV IAmb IAmb 06 05 45.3
comp=Z,48nm,1.1s
KIV Kislovodsk 24.32 313 *e*P **P 06 05 22.1 0.0**
KIV *e*S **S 06 09 42.2 +1.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 24.32 313 P **P 06 05 22.7 +0.6**
comp=Z,448nmcomp=Z,36nm,1.2s
KOPT Kop Dagi 24.35 302 P **P 06 05 22.4 -0.3**
GOF Gofitskoye 24.63 315 *ce*P P 06 05 40.2 +15
LKP Lekhapani 25.00 88 *e*P **P 06 05 28.9 +0.5**
PALK Pallekele 25.53 148 P **P 06 05 29.1 -4.1**
PALK P **P 06 05 29.1 -4.1**
LABN Labinsk 25.89 313 *e*P **P 06 05 34.2 -2.0**
LABN *e*S **S 06 10 05.2 0.0**
LABN *e*SS **SnSn 06 11 01.2 -0.6**
LABN pmax pmax
comp=Z,27nm,0.5s
SOC Sochi 26.11 310 *e*P **P 06 05 31.9 -6.3**
SOC *e*PPP PPP 06 06 23.7
SOC *e*S **S 06 10 01.3 -7.4**
SOC *e*SS **SnSn 06 11 05.6 -1.6**
SOC MLR MLR
comp=Z,257nm,14.0s
GAZ Gaziantep 26.28 294 P **P 06 05 38.8 -1.1**
GAZ IAmb IAmb 06 05 45.1
comp=Z,34nm,1.0s
ASF Jabal al Asfar 26.32 283 P **P 06 05 38.9 -1.5**
comp=Z,2.8nm,0.8s,baz=110,slow=5.2,SNR=20
ASF LR LR 06 18 04.8
comp=Z,920nm,19.2s,baz=144,slow=41
comp=Z,2.8nm,0.8s
ERBR Yeremizino-Bor 26.52 315 *e*P **P 06 05 42.4 +0.4**
ERBR *e*PPP PPP 06 06 27.8
ERBR *e*S **S 06 10 16.2 +1.0**
ERBR pmax pmax
comp=Z,44nm,0.9s
ERBR MLR MLR
comp=Z,533nm,14.0s
ZAA0 Zalesovo Array 27.31 23 P **P 06 05 48.0 -0.9**
ZAA0 IAmb IAmb 06 06 20.5
comp=Z,72nm,1.6s
ZALV Zalesovo Beam 27.31 23 P **P 06 05 47.9 -1.1**
ZALV Zalesovo Beam 27.31 23 P **P 06 05 48.5 -0.5**
comp=Z,5.7nm,0.7s,baz=227,slow=9.8,SNR=25
ZALV LR LR 06 17 51.3
comp=Z,353nm,19.6s,baz=222,slow=39
comp=Z,5.7nm,0.7s
ARTI Arti 27.45 349 P **P 06 05 49.7 -0.5**
ARTI Arti 27.45 349 P **P 06 05 49.8 -0.5**
comp=Z,3.8nm,0.7s,baz=172,slow=4.5,SNR=6.6
comp=Z,3.8nm,0.7s
ARTI Arti 27.45 349 *c i*P **P 06 05 50.4 +0.2**
ARTI 06 06 31.1
ARTI S **S 06 10 30.5 +0.8**
ARTI SS **SnSn 06 11 37.7 -2.2**
ARTI pmax pmax
comp=Z,12nm,1.1s
ARTI MLR MLR
comp=Z,896nm,16.0s
GHAJ Ghor Haditha 27.51 281 P **P 06 05 51.6 +0.6**
MMAI Mount Meron Ar 27.55 285 LR LR 06 18 33.2
comp=Z,801nm,20.6s,baz=90,slow=40
SVE Sverdlovsk 27.55 352 *e*P **P 06 05 51.5 +0.4**
SVE pmax pmax
comp=Z,24nm,1.6s
ANN Anapa 28.09 311 *e*P **P 06 05 57.2 +1.2**
GTA Gaotai 28.20 61 *e*P **P 06 05 59.4 +2.1**
GTA pP pP 06 06 03.1 -0.1
GTA S **S 06 10 43.8 +1.7**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,250nm,13.9s
GTA LR LR
comp=Z,410nm,14.7s
GTA LR LR
comp=Z,460nm,15.1s
EIL Elat 28.23 278 P **P 06 05 55.6 -1.9**
comp=Z,4.7nm,0.9s,baz=79,slow=10,SNR=4.7
EIL LR LR 06 19 11.6
comp=Z,1μm,18.4s,baz=81,slow=41
comp=Z,4.7nm,0.9s
DGPR DIGLIPUR 28.71 119 *e*P **P 06 06 04.3 +2.5**
DGPR IAmb IAmb 06 06 13.6
comp=Z,33nm,0.9s
VRH Novokhopyorsk 28.83 325 ⇓ *i*P **P 06 06 02.8 +0.2**
VRH pmax pmax
comp=Z,17nm,0.8s
BR131 Keskin Array S 29.43 299 P **P 06 06 06.7 -1.5**
BR131 Keskin Array S 29.43 299 P **P 06 06 06.7 -1.5**
BR131 pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 29.43 299 P **P 06 06 07.0 -1.2**
BRTR Keskin Array B 29.43 299 P **P 06 06 07.0 -1.2**
comp=Z,2.6nm,0.7s,baz=120,slow=9.0,SNR=21
BRTR PcP **PcP 06 09 14.3 +0.6**
comp=Z,1.7nm,1.0s,baz=90,slow=4.3,SNR=3.8
BRTR LR LR 06 20 33.2
comp=Z,299nm,21.8s,baz=110,slow=42
comp=Z,2.6nm,0.7s
VSR Storozhevoye 30.14 324 *e*P **P 06 06 11.6 -2.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
PZH PanZhiHua 30.31 88 P **P 06 06 17.4 +1.3**
PZH S **S 06 11 19.1 +3.6**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,170nm,6.3s
PZH LR LR
comp=Z,260nm,12.6s
PZH LR LR
comp=Z,430nm,14.1s
PZH LR LR
comp=Z,520nm,16.7s
VORR Voronezh 30.38 324 ⇓ *i*P **P 06 06 16.5 +0.3**
VORR pmax pmax
comp=Z,19nm,0.8s
CHTO Chiang Mai 30.55 104 P **P 06 06 18.1 -0.1**
CHTO Chiang Mai 30.55 104 P **P 06 06 18.1 -0.1**
CHTO pmax pmax
comp=Z,11nm,0.8s
CM31 Chiang Mai Arr 30.71 104 P **P 06 06 18.9 -0.7**
CM31 IAmb IAmb 06 07 07.2
comp=Z,37nm,1.4s
CMAR Chiang Mai Arr 30.71 104 P **P 06 06 19.9 +0.3**
CMAR Chiang Mai Arr 30.71 104 P **P 06 06 20.2 +0.6**
comp=Z,1.0nm,0.3s,baz=292,slow=7.6,SNR=13
CMAR PcP **PcP 06 09 19.1 +1.8**
comp=Z,2.7nm,0.6s,baz=293,slow=1.8,SNR=4.3
CMAR LR LR 06 22 50.9
comp=Z,377nm,18.6s,baz=290,slow=44
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 30.71 104 *i* P **P 06 06 20.2 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
LZH Lanzhou 31.05 69 *e*P **P 06 06 24.8 +2.2**
LZH sP sP 06 06 32.1 +0.9
LZH S **S 06 11 30.4 +3.4**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,480nm,13.4s
LZH LR LR
comp=Z,560nm,12.7s
LZH LR LR
comp=Z,540nm,12.7s
LPSR Galich'ya Gora 31.06 326 ⇓ *i*P **P 06 06 22.7 +0.5**
LPSR pmax pmax
comp=Z,48nm,1.0s
CD2 Chengdu 31.25 79 P **P 06 06 24.9 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 LR LR
comp=Z,890nm,12.1s
CD2 LR LR
comp=Z,750nm,14.6s
MDUB Mudurnu 31.39 300 P **P 06 06 24.4 -1.2**
KIRV Kirov 31.45 342 P **P 06 06 25.6 0.0**
comp=Z,12nm,0.4s,baz=164,slow=5.7,SNR=6.7
comp=Z,12nm,0.4s
KIRV Kirov 31.45 342 *ce*P **P 06 06 26.0 +0.4**
KMI Kunming 31.54 90 ⇑ P **P 06 06 28.5 +1.4**
KMI S **S 06 11 35.9 +1.0**
KMI pmax pmax
comp=Z,31nm,1.0s
KMI LR LR
comp=Z,690nm,21.2s
KMI LR LR
comp=Z,200nm,19.5s
KMI LR LR
comp=Z,490nm,15.1s
ISP Isparta 31.63 295 P **P 06 06 26.5 -1.1**
ISP IAmb IAmb 06 06 36.9
comp=Z,28nm,0.9s
ISP Isparta 31.63 295 P **P 06 06 26.5 -1.1**
ISP pmax pmax
comp=Z,28nm,0.9s
ELL Elmali 32.07 293 P **P 06 06 30.7 -0.8**
ELL Elmali 32.07 293 P **P 06 06 30.7 -0.8**
ELL pmax pmax
comp=Z,132nm,0.8s
MOY Mondy 33.12 39 *e*P **P 06 06 42.8 +2.2**
MOS Moscow 33.58 329 *e*P **P 06 06 41.5 -2.8**
MOS *e* 06 06 49.8
MOS *e* 06 07 54.3
MOS *e*S **S 06 12 06.9 +1.4**
MOS pmax pmax
comp=Z,65nm,1.2s
OBN Obninsk 33.68 328 P **P 06 06 45.3 +0.2**
OBN Obninsk 33.68 328 P **P 06 06 45.3 +0.2**
comp=Z,36nm,0.6s,baz=99,slow=5.3,SNR=11
OBN LR LR 06 23 06.2
comp=Z,708nm,18.6s,baz=124,slow=41
comp=Z,36nm,0.6s
OBN Obninsk 33.68 328 *c i*P **P 06 06 45.4 +0.3**
OBN *i* 06 06 52.9
OBN *e* 06 07 58.0
OBN *e* 06 09 25.6
OBN *e*SS **SnSn 06 14 10.8 -0.3**
OBN pmax pmax
comp=Z,43nm,1.0s
OBN MLR MLR
comp=Z,722nm,18.0s
OBN Obninsk 33.68 328 P **P 06 06 45.7 +0.6**
comp=Z,88nm,1.0s
ZAK Zakamensk 33.85 42 *e*P **P 06 06 48.0 +1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TIRR Tirgusor 34.14 306 ⇑ P **P 06 06 49.1 -0.2**
TIRR Tirgusor 34.14 306 ⇑ P **P 06 06 49.1 -0.2**
SONM Songino Array 34.87 48 P **P 06 06 56.5 +0.6**
SONM Songino Array 34.87 48 P **P 06 06 57.3 +1.5**
comp=Z,2.4nm,0.7s,baz=249,slow=8.9,SNR=11
SONM LR LR 06 23 51.8
comp=Z,484nm,20.6s,baz=254,slow=41
comp=Z,2.4nm,0.7s
SORM Soroca 35.12 313 ⇓ P **P 06 06 56.5 -1.2**
SORM Soroca 35.12 313 ⇓ P **P 06 06 56.5 -1.2**
IRK Irkutsk 35.19 40 *e*P **P 06 07 01.2 +2.8**
IRK pmax pmax
comp=Z,29nm,2.4s
XAN Xi'an 35.27 72 ⇑ P **P 06 07 02.1 +2.7**
XAN pP sP 06 07 08.3 +0.4
XAN S S 06 12 43.0 +11
XAN pmax pmax
comp=Z,18nm,0.7s
XAN pmax pmax
comp=Z,170nm,5.5s
XAN LR LR
comp=Z,870nm,13.7s
XAN LR LR
comp=Z,1μm,14.9s
XAN LR LR
comp=Z,2μm,19.2s
ULN Ulaanbaatar 35.30 48 P **P 06 06 59.9 +0.3**
ULN Ulaanbaatar 35.30 48 P **P 06 06 59.9 +0.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 35.44 317 P **P 06 07 00.0 -0.5**
AKASG Malin Array Be 35.44 317 P **P 06 07 00.5 0.0**
comp=Z,15nm,0.8s,baz=107,slow=7.1,SNR=97
AKASG PP **PP 06 08 21.1 +0.2**
comp=Z,3.2nm,0.8s,baz=109,slow=9.9,SNR=4.4
AKASG LR LR 06 23 41.5
comp=Z,169nm,20.2s,baz=110,slow=40
comp=Z,15nm,0.8s
AKBB Malin Array Si 35.44 317 P **P 06 07 00.3 -0.2**
AKBB Malin Array Si 35.44 317 *ce*P **P 06 07 00.6 +0.1**
KIEV Kiev 35.45 317 P **P 06 07 00.1 -0.4**
KIEV Kiev 35.45 317 ⇑ P **P 06 07 00.8 +0.3**
KIEV Kiev 35.45 317 ⇑ P **P 06 07 00.8 +0.3**
KIEV Kiev 35.45 317 P **P 06 07 00.2 -0.4**
comp=Z,300nm,1.0s
VRI Vrincioaia 35.61 308 ⇓ P **P 06 07 03.0 +0.9**
VRI Vrincioaia 35.61 308 ⇓ P **P 06 07 03.0 +0.9**
PLOR Plostina 35.66 308 ⇓ P **P 06 07 03.8 +1.3**
PLOR Plostina 35.66 308 P **P 06 07 03.8 +1.3**
RDO Rodhopi 35.74 300 P **P 06 07 03.0 -0.2**
MLR Muntele Rosu 36.07 308 P **P 06 07 06.3 +0.2**
MLR IAmb IAmb 06 07 08.8
comp=Z,26nm,0.9s
MLR Muntele Rosu 36.07 308 P **P 06 07 07.1 +1.0**
comp=Z,17nm,0.7s,baz=62,slow=3.6,SNR=40
MLR LR LR 06 24 50.5
comp=Z,275nm,20.9s,baz=93,slow=41
comp=Z,17nm,0.7s
MLR Muntele Rosu 36.07 308 ⇓ P **P 06 07 08.2 +2.1**
MLR Muntele Rosu 36.07 308 P **P 06 07 08.0 +1.9**
MLR Muntele Rosu 36.07 308 P **P 06 07 07.8 +1.7**
comp=Z,32nm,0.9s
MI30 MI30,Zelenitsa 36.07 317 P **P 06 07 05.8 -0.1**
comp=Z,93nm,1.0s
BTO Baotou 36.12 61 *e*P **P 06 07 07.3 +0.7**
BTO pP **pP 06 07 12.5 -0.1**
BTO sP **sP 06 07 14.5 -0.7**
BTO PP **PP 06 08 26.8 -2.0**
BTO S **S 06 12 48.3 +3.0**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.9s
BTO LR LR
comp=Z,640nm,13.5s
BTO LR LR
comp=Z,430nm,10.8s
BTO LR LR
comp=Z,1μm,16.9s
KLMR Klimovskoe 36.30 337 *e*P **P 06 07 04.3 -3.4**
KLMR pmax pmax
comp=Z,53nm,1.4s
KLMR MLR MLR
comp=Z,834nm,15.0s
DOPR Dopca 36.55 308 ⇑ P **P 06 07 10.8 +0.7**
SRIT Nakonsritamara 36.67 118 P **P 06 07 13.1 +1.7**
SRIT IAmb IAmb 06 07 13.6
comp=Z,22nm,0.9s
VOIR 36.68 307 ⇑ P **P 06 07 11.7 +0.4**
VOIR 36.68 307 ⇑ P **P 06 07 11.7 +0.4**
VOIR 36.68 307 P **P 06 07 11.2 -0.1**
comp=Z,10nm,0.6s
ARR Arges 36.95 307 ⇑ P **P 06 07 13.9 +0.3**
BURAR Bucovina Array 37.02 311 P **P 06 07 13.5 -0.7**
BURAR Bucovina Array 37.02 311 ⇓ P **P 06 07 15.2 +1.0**
BURAR Bucovina Array 37.02 311 ⇓ P **P 06 07 15.2 +1.0**
BUR08 Bucovina Ar. S 37.03 311 P **P 06 07 14.2 -0.1**
MLSI Meulaboh, Aceh 37.24 127 P **P 06 07 19.6 +3.3**
KSV Kosov 37.28 312 P **P 06 07 19.6 +3.3**
HHC Hu-ho-hao-te 37.31 61 *e*P **P 06 07 16.3 -0.4**
HHC S **S 06 13 01.3 -2.1**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.2s
HHC LR LR
comp=Z,370nm,13.0s
HHC LR LR
comp=Z,240nm,14.7s
HHC LR LR
comp=Z,540nm,14.6s
MNK Minsk 37.70 323 *i* P **P 06 07 18.1 -1.6**
comp=E,34nm,1.0s
MNK *i* P **P 06 07 18.1 -1.6**
comp=N,15nm,0.6s
MNK *i* P **P 06 07 18.1 -1.6**
comp=Z,44nm,0.8s,baz=115
MNK *i* PP **PP 06 08 44.3 -1.5**
MNK *i* PPP PPP 06 09 01.6
MNK *i* S **S 06 13 09.2 +0.5**
MNK *i* SS **SnSn 06 15 50.1 +1.6**
MNK *i* SSS SSS 06 16 14.1
MNK *i* LQ LQ 06 20 16.0
MNK *i* LR LR 06 22 53.2
MNK *i* LRM MLR 06 26 38.0
comp=E,597nm,17.2s
MNK *i* LRM MLR 06 27 01.0
comp=Z,456nm,16.3s
MNK *i* LRM MLR 06 27 02.9
comp=N,661nm,18.0s
MNK Minsk 37.70 323 *i* P **P 06 07 18.0 -1.6**
MNK *i* 06 08 44.2
MNK *i* 06 09 34.8
MNK *i* S **S 06 13 09.2 +0.5**
MNK *i* SSS SSS 06 16 14.1
MNK *i* 06 17 29.6
MNK pmax pmax
comp=E,34nm,1.0s
MNK pmax pmax
comp=Z,44nm,0.8s
MNK pmax pmax
comp=N,15nm,0.6s
MNK MLR MLR
comp=E,597nm,17.0s
MNK MLR MLR
comp=Z,456nm,16.0s
MNK MLR MLR
comp=N,661nm,18.0s
LYN LuoYang 38.16 71 ⇓ P **P 06 07 26.0 +2.2**
LYN S **S 06 13 18.1 +1.9**
LYN SS **SnSn 06 15 55.1 -5.1**
LYN pmax pmax
comp=N,15nm,1.0s
LYN LR LR
comp=N,840nm,13.6s
LYN LR LR
comp=N,440nm,16.8s
LYN LR LR
comp=N,1μm,17.8s
MARR Marisel-Cluj 38.22 309 ⇑ P **P 06 07 25.1 +0.7**
LVV L'vov 38.32 314 P **P 06 07 25.6 +0.6**
NACGM Naroch 38.44 323 *e*P **P 06 07 26.1 +0.2**
DRGR 38.52 309 ⇑ P **P 06 07 27.5 +0.7**
DRGR 38.52 309 P **P 06 07 27.5 +0.7**
TRSU Trosnyk 38.61 311 P **P 06 07 29.2 +1.8**
BOVS Bovan 38.80 304 ⇑ P **P 06 07 29.1 +0.1**
FNA Florina 38.86 299 P **P 06 07 28.8 -1.0**
FNA IAmb IAmb 06 07 48.6
comp=Z,48nm,1.7s
FNA Florina 38.86 299 P **P 06 07 28.8 -1.0**
FNA pmax pmax
comp=Z,48nm,1.7s
MDVR Moldovita 38.91 306 ⇑ P **P 06 07 30.2 +0.1**
IIGN Ignalina 38.92 323 *e*P **P 06 07 29.7 -0.2**
BZS Buzias 39.09 307 ⇓ P **P 06 07 32.4 +0.9**
BZS Buzias 39.09 307 ⇓ P **P 06 07 32.4 +0.9**
KWP Kalwaria Pacla 39.11 313 *e*P **P 06 07 32.3 +0.6**
KWP Kalwaria Pacla 39.11 313 P **P 06 07 32.8 +1.1**
KOLS Kolonicke sedl 39.23 312 *e*P **P 06 07 34.1 +1.4**
KOLS pmax pmax
comp=Z,21nm,0.7s
KOLS Kolonicke sedl 39.23 312 *e*P **P 06 07 34.1 +1.4**
KULM Kulim 39.59 121 P **P 06 07 36.8 +0.7**

CNSH ChangSha 39.60 81 P **P 06 07 35.9 -0.1**
CNSH S **S 06 13 38.6 +0.6**
CNSH pmax pmax
comp=Z,15nm,0.8s
CNSH LR LR
comp=Z,660nm,11.4s
CNSH LR LR
comp=Z,480nm,13.5s
CNSH LR LR
comp=Z,620nm,12.3s
HNS HongShan 39.75 66 ⇓P **P 06 07 39.5 +2.3**
HNS S **S 06 13 46.6 +6.4**
HNS pmax pmax
comp=Z,6.0nm,0.8s
HNS LR LR
comp=Z,340nm,16.1s
HNS LR LR
comp=Z,500nm,15.9s
HNS LR LR
comp=Z,590nm,18.0s
QIZ Qiongzhong 39.81 96 P **P 06 07 37.9 0.0**
QIZ S **S 06 13 42.6 +1.1**
QIZ LR LR
comp=Z,240nm,8.0s
QIZ LR LR
comp=Z,360nm,9.0s
QIZ LR LR
comp=Z,260nm,9.2s
VSU Vasula 40.03 328 *ce*P **P 06 07 38.5 -0.7**
VSU pmax pmax
comp=Z,65nm,0.6s
VSU Vasula 40.03 328 *e*P **P 06 07 38.6 -0.5**
PSI Prapat 40.04 126 LR LR 06 25 19.4
comp=Z,969nm,21.3s,baz=309,slow=38
PSI Prapat 40.04 126 P **P 06 07 40.4 +0.5**
PSI pmax pmax
comp=Z,9.0nm,0.8s
SUW Suwalki 40.07 320 *e*P **P 06 07 39.9 +0.4**
SUW Suwalki 40.07 320 *e*P **P 06 07 39.9 +0.4**
LODK Lodwar 40.12 235 P **P 06 07 40.1 -0.4**
RPSI Rantau Prapat 40.12 126 P **P 06 07 40.4 0.0**
PABE Paberze 40.16 323 P **P 06 07 40.0 -0.3**
PABE Paberze 40.16 323 *e*P **P 06 07 40.4 +0.1**
VSVD Vaisvydziai 40.36 323 *e*P **P 06 07 42.5 +0.5**
JOF Joensuu 40.57 335 *e*P **P 06 07 44.0 +0.4**
NIE Niedzica 40.60 313 *e*P **P 06 07 45.5 +1.5**
NIE Niedzica 40.60 313 P **P 06 07 45.6 +1.5**
NIE Niedzica 40.60 313 P **P 06 07 45.6 +1.5**
comp=Z,28nm,1.2s
PSZ Piszkesteto 40.60 310 P **P 06 07 44.1 0.0**
PSZ Piszkesteto 40.60 310 ⇑P **P 06 07 45.1 +1.0**
PSZ Piszkesteto 40.60 310 P **P 06 07 45.1 +1.0**
PSZ Piszkesteto 40.60 310 *e*P **P 06 07 45.5 +1.4**
ARBE Arbavere 40.84 329 *e*P **P 06 07 46.5 +0.7**
OJC Ojcow 41.07 314 *e*P **P 06 07 48.8 +0.9**
OJC Ojcow 41.07 314 P **P 06 07 47.5 -0.5**
OJC Ojcow 41.07 314 P **P 06 07 47.5 -0.5**
OJC pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 41.07 314 P **P 06 07 48.3 +0.4**
comp=Z,26nm,1.6s
LANS Liptovska Anna 41.08 312 *e*P **P 06 07 49.4 +1.3**
LANS pmax pmax
comp=Z,7.0nm,0.8s
LANS Liptovska Anna 41.08 312 *e*P **P 06 07 49.4 +1.3**
MORH Mrgy, Hungar 41.22 307 P **P 06 07 49.5 +0.3**
comp=Z,13nm,1.4s
NRIK Noril'sk 41.34 11 P **P 06 07 50.6 +0.8**
NRIK Noril'sk 41.34 11 P **P 06 07 50.8 +1.0**
comp=Z,10.0nm,1.0s,baz=199,slow=4.1,SNR=11
NRIK LR LR 06 27 53.0
comp=Z,1μm,18.2s,baz=206,slow=40
comp=Z,10.0nm,1.0s
NRIK Noril'sk 41.34 11 *ce*P **P 06 07 51.1 +1.3**
NRIK pmax pmax
comp=Z,13nm,1.0s
PBUR Paburge 41.43 323 *e*P **P 06 07 51.1 +0.4**
MTSE Matsula 41.52 327 *e*P **P 06 07 51.9 +0.5**
FINES FINESS Array B 41.78 332 P **P 06 07 53.5 0.0**
FINES FINESS Array B 41.78 332 P **P 06 07 53.8 +0.3**
comp=Z,14nm,0.6s,baz=118,slow=7.3,SNR=76
comp=Z,14nm,0.6s
TIA Tai'an 41.78 68 P **P 06 07 55.5 +1.6**
TIA pmax pmax
comp=Z,9.0nm,0.7s
SLIT Slitere, Latvi 41.82 325 *e*P **P 06 07 53.7 -0.2**
MEF Metsahovi 41.91 329 *e*P **P 06 07 54.9 +0.3**
MNSI Mandailing Nat 41.93 127 P **P 06 07 59.7 +4.4**
comp=Z,39nm,0.7s
OKC Ostrava-Krasne 42.05 313 *e*P **P 06 07 56.7 +0.8**
OKC Ostrava-Krasne 42.05 313 *e*P **P 06 07 56.7 +0.8**
KMBO Kilima Mbogo 42.10 229 P **P 06 07 56.6 -0.4**
comp=Z,1.2nm,0.3s,baz=31,slow=15,SNR=5.4
KMBO LR LR 06 28 08.3
comp=Z,124nm,18.3s,baz=90,slow=40
comp=Z,1.2nm,0.3s
KMBO Kilima Mbogo 42.10 229 *i* P **P 06 07 59.9 +2.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
JAVC Velka Javorina 42.20 311 *e*P **P 06 07 58.3 +1.0**
STEB Steborice 42.30 313 *e*P **P 06 07 58.4 +0.4**
STEB *ex* x 06 08 04.5
SMOL Smolenice 42.31 311 *e*P **P 06 07 59.3 +1.2**
SMOL pmax pmax
comp=Z,9.0nm,1.0s
MODS Modra-Piesok 42.40 311 *e*P **P 06 07 59.8 +1.0**
MODS pmax pmax
comp=Z,55nm,1.2s
MODS Modra-Piesok 42.40 311 *e*P **P 06 07 59.8 +1.0**
MORC Moravsky Berou 42.43 313 P **P 06 07 58.7 -0.4**
MORC IAmb IAmb 06 08 00.9
comp=Z,20nm,0.8s
MORC Moravsky Berou 42.43 313 *e*P **P 06 07 59.5 +0.4**
MORC Moravsky Berou 42.43 313 ⇓P **P 06 07 60.0 +0.9**
MORC Moravsky Berou 42.43 313 ⇓P **P 06 08 00.0 +0.9**
KEF Keuruu 42.64 332 *e*P **P 06 08 00.8 +0.2**
VRAC Vranov 42.97 312 P **P 06 08 03.7 +0.2**
comp=Z,4.4nm,0.7s,baz=94,slow=12,SNR=6.0
comp=Z,4.4nm,0.7s
VRAC Vranov 42.97 312 *e*P **P 06 08 03.6 +0.2**
RONA Rosalia, Austr 42.97 309 *i* pP **P 06 08 04.8 +1.2**
comp=Z,13nm,1.6s
APA Apatity 42.98 342 *i* P P 06 08 13.4 +10
KRUC Moravsky 43.06 311 *e*P **P 06 08 04.5 +0.3**
CUC Castrocucco 43.12 298 P **P 06 08 04.5 -0.4**
BKNI Bangkinang 43.28 126 P **P 06 08 09.9 +3.6**
CONA Conrad Observa 43.29 310 *i* pP **P 06 08 07.3 +1.2**
comp=Z,3.8nm,0.9s
CONA *e*PcP **PcP 06 09 53.5 -1.4**
comp=Z,4.6nm,1.0s
DPC Dobruska-Polom 43.29 313 *e*P **P 06 08 07.3 +1.2**
DPC Dobruska-Polom 43.29 313 *e*P **P 06 08 07.3 +1.2**
DPC Dobruska-Polom 43.29 313 P **P 06 08 07.3 +1.2**
comp=Z,32nm,1.7s
KSP Ksiaz 43.39 314 *e*P **P 06 08 08.0 +1.2**
KSP Ksiaz 43.39 314 P **P 06 08 07.9 +1.2**
KSP Ksiaz 43.39 314 P **P 06 08 07.9 +1.2**
comp=Z,44nm,1.2s
OSTC Ostas 43.39 314 *e*P **P 06 08 08.2 +1.4**
OSTC Ostas 43.39 314 *e*P **P 06 08 08.2 +1.4**
PPI Padang Panjang 43.39 128 P **P 06 08 10.8 +3.6**
CRES Cresnjevec Ost 43.40 307 *i* P **P 06 08 07.1 +0.1**
RAF Rauma 43.43 330 *e*P **P 06 08 06.9 -0.1**
ARSA Arzberg 43.45 309 *i* P **P 06 08 07.9 +0.5**
comp=Z,13nm,0.8s
ARSA Arzberg 43.45 309 P **P 06 08 07.6 +0.2**
ARSA IAmb IAmb 06 08 09.4
comp=Z,70nm,1.9s
CHVC Chvalec 43.50 314 *e*P **P 06 08 08.8 +1.1**
CHVC Chvalec 43.50 314 *e*P **P 06 08 08.8 +1.1**
LEGS Legarje 43.51 307 *i* P **P 06 08 08.0 +0.1**
UPC Upice 43.51 313 *e*P **P 06 08 09.2 +1.4**
UPC Upice 43.51 313 *e*P **P 06 08 09.2 +1.4**
TREC Trest 43.69 312 *e*P **P 06 08 09.9 +0.7**
TREC Trest 43.69 312 *e*P **P 06 08 09.9 +0.7**
SOKA Soboth 43.75 308 *e*P **P 06 08 10.1 +0.3**
comp=Z,2.7nm,0.7s
NJ2 Nanjing 43.81 73 *e*P **P 06 08 09.8 -0.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 LR LR
comp=Z,400nm,20.8s
NJ2 LR LR
comp=Z,550nm,19.9s
NJ2 LR LR
comp=Z,580nm,22.7s
VNDS Vrh nad Dolski 43.94 307 *i* P **P 06 08 11.7 +0.3**
VAF Ylistaro 43.95 332 *e*P **P 06 08 11.4 +0.3**
OBKA Obir 44.07 308 *i* P **P 06 08 12.5 +0.1**
comp=Z,3.9nm,0.6s
MOA Molln 44.35 309 *i* P **P 06 08 14.9 +0.3**
comp=Z,17nm,0.8s,SNR=6.3
PRU Pruhonice 44.38 313 *e*P **P 06 08 15.6 +0.9**
PRU Pruhonice 44.38 313 *e*P **P 06 08 15.6 +0.9**
CKRC Cesky Krumlov 44.40 311 *e*P **P 06 08 15.8 +0.8**
CKRC *ex* x 06 08 20.1
CKRC Cesky Krumlov 44.40 311 *e*P **P 06 08 15.8 +0.8**
CKRC *e* 06 08 20.1
VAE Valguarnera 44.41 295 P **P 06 08 16.0 +0.7**
comp=Z,7.7nm,0.7s,baz=268,slow=13,SNR=3.7
comp=Z,7.7nm,0.7s
PVCC Panska Ves 44.43 313 *e*P **P 06 08 16.6 +1.5**
PVCC AMS AMS 06 33 40.0
comp=Z,500nm,12.9s
PVCC Panska Ves 44.43 313 *e*P **P 06 08 16.6 +1.5**
PVCC MLR MLR
comp=Z,500nm,12.9s
MYKA Terra Mystica 44.70 308 *i* P **P 06 08 17.4 -0.1**
comp=Z,3.8nm,0.5s
PRED Cave del Predi 44.75 307 P **P 06 08 17.9 +0.1**
BIOA Bad Ischl, Aus 44.76 309 *i* pP **P 06 08 19.1 +1.2**
comp=Z,3.8nm,0.5s
BLEU Blekinge 44.78 322 *i* P **P 06 08 17.9 +0.1**
BLEU IAmb IAmb 06 08 18.6
comp=Z,28nm,0.7s
GEC2 GERESS Array S 44.81 311 P **P 06 08 18.4 +0.1**
GERES GERESS Array B 44.81 311 P **P 06 08 17.6 -0.8**
GERES GERESS Array B 44.81 311 P **P 06 08 18.6 +0.3**
comp=Z,8.1nm,0.7s,baz=96,slow=8.2,SNR=32
GERES PcP **PcP 06 10 00.3 +0.2**
comp=Z,3.0nm,0.8s,baz=81,slow=1.8,SNR=4.6
GERES LR LR 06 30 42.2
comp=Z,184nm,19.1s,baz=106,slow=41
comp=Z,8.1nm,0.7s
BRG Berggiesshubel 44.87 314 *i* P **P 06 08 20.0 +1.4**
BRG Amp 06 08 21.2
comp=Z,30nm,1.0s
KHC Kasperske Hory 44.91 311 *e*P **P 06 08 19.2 +0.1**
KHC AMS AMS 06 34 40.0
comp=Z,300nm,16.1s
KHC Kasperske Hory 44.91 311 *ce*P **P 06 08 19.6 +0.5**
KHC pmax pmax
comp=Z,38nm,1.3s
KHC Kasperske Hory 44.91 311 P **P 06 08 19.5 +0.5**
comp=Z,16nm,1.7s
KBA Koelnbreinsper 44.93 308 *i* P **P 06 08 19.6 +0.2**
comp=Z,8.3nm,0.7s
BSD Bornholm Skovb 45.00 320 *i* P **P 06 08 19.1 -0.5**
BSD IAmb IAmb 06 08 19.4
comp=Z,28nm,0.6s
HSKC Hora Svate Kat 45.16 313 *e*P **P 06 08 22.3 +1.3**
HSKC *ex* x 06 08 29.6
HSKC AMS AMS 06 34 10.0
comp=Z,700nm,15.6s
LESA Schwarzleotal 45.40 309 *i* P **P 06 08 23.0 0.0**
comp=Z,12nm,0.6s,SNR=9.4
CESX Cesi 45.44 302 P **P 06 08 22.8 -0.6**
CESX IAmb IAmb 06 09 17.8
comp=Z,26nm,1.4s
ABTA Abfaltersbach 45.48 308 *i* P **P 06 08 23.4 -0.3**
comp=Z,5.6nm,0.7s
CLL Collm 45.51 314 P **P 06 08 23.7 0.0**
CLL IAmb IAmb 06 08 25.5
comp=Z,17nm,1.0s
CLL Collm 45.51 314 ⇑*i* P **P 06 08 24.2 +0.5**
CLL *i* 06 08 29.0
CLL *e*S **S 06 15 07.0 +2.5**
CLL pmax pmax
comp=Z,19nm,1.1s
CLL Collm 45.51 314 P **P 06 08 24.7 +1.0**
comp=Z,19nm,1.0s
CLL Collm 45.51 314 ⇑*i* P **P 06 08 24.2 +0.5**
comp=Z,19nm,1.1s
CLL *i* pP **pP 06 08 29.0 -0.8**
CLL *i* sP **sP 06 08 31.8 -0.4**
CLL *e*PP **PP 06 10 13.0 +2.9**
CLL *e*S **S 06 15 07.0 +2.5**
CLL *e*SS **ScS 06 18 18.0 -1.0**
DEL Delary 45.87 321 *i* P **P 06 08 26.5 +0.1**
DEL IAmb IAmb 06 08 27.6
comp=Z,11nm,0.7s
LUNU Lund 45.93 320 *i* P **P 06 08 27.1 +0.2**
SSE Sheshan 45.95 74 P **P 06 08 26.4 -1.1**
SSE S **S 06 15 08.9 -2.5**
SSE pmax pmax
comp=Z,8.0nm,0.5s
SSE pmax pmax
comp=Z,100nm,6.2s
SSE LR LR
comp=Z,330nm,18.7s
SSE LR LR
comp=Z,300nm,18.7s
WTTA Wattenberg 46.10 309 *e*P **P 06 08 28.2 -0.5**
comp=Z,25nm,1.4s,SNR=5.8
WATA Walderalm 46.14 309 *e*P **P 06 08 27.8 -1.1**
comp=Z,8.6nm,0.7s
WATA *i* PcP **PcP 06 10 05.1 +0.3**
comp=Z,9.3nm,1.3s
BJUU Bjuv 46.25 321 *i* P **P 06 08 30.1 +0.6**
SQTA Sankt Quirin 46.39 308 *i* P **P 06 08 30.1 -0.8**
comp=Z,29nm,1.9s,SNR=5.0
SQTA *i* PcP **PcP 06 10 06.1 +0.5**
comp=Z,6.7nm,0.7s
ARCES ARCESS Array B 46.47 341 P **P 06 08 31.2 +0.2**
comp=Z,4.3nm,0.6s,baz=125,slow=6.5,SNR=23
ARCES LR LR 06 30 18.0
comp=Z,528nm,18.7s,baz=116,slow=39
comp=Z,4.3nm,0.6s
FABU Falkenberg 46.60 322 *i* P **P 06 08 32.3 +0.1**
RETA Reutte 46.70 309 *i* P **P 06 08 32.4 -0.9**
comp=Z,6.8nm,0.7s
RETA *i* PcP **PcP 06 10 06.7 0.0**
comp=Z,7.3nm,1.0s
BORU Boraas 46.71 323 *i* P **P 06 08 33.1 0.0**
FETA Feichten 46.71 308 *e*P **P 06 08 32.6 -0.8**
comp=Z,19nm,1.5s
FETA *i* PcP **PcP 06 10 07.2 +0.4**
comp=Z,8.4nm,0.8s
HFS Hagfors 46.86 326 P **P 06 08 33.9 -0.3**
comp=Z,16nm,0.6s,baz=111,slow=8.4,SNR=72
comp=Z,16nm,0.6s
FUORN Ofenpass-Fuorn 47.03 308 P **P 06 08 35.6 -0.5**
FUORN IAmb IAmb 06 09 01.7
comp=Z,9.5nm,0.9s
ONAU Onsala 47.11 322 *i* P **P 06 08 36.4 +0.3**
DAVOX Davos/Dischmat 47.29 308 LR LR 06 32 03.7
comp=Z,129nm,21.4s,baz=84,slow=41
DAVA Damuels 47.29 309 *i* P **P 06 08 37.4 -0.6**
comp=Z,9.1nm,0.5s
DAVA *i* PcP **PcP 06 10 10.0 +1.1**
comp=Z,10nm,0.9s
CN2 Changchun 47.60 56 P **P 06 08 40.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TUE Stuetta 47.66 307 P **P 06 08 40.2 -0.7**
TUE IAmb IAmb 06 08 51.6
comp=Z,8.4nm,0.7s
STU Stuttgart 47.78 311 P **P 06 08 41.3 -0.3**
STU Stuttgart 47.78 311 P **P 06 08 41.3 -0.3**
STU pmax pmax
comp=Z,21nm,0.8s
STU Stuttgart 47.78 311 *e*P **P 06 08 41.7 +0.1**
STRU Stroemstad 47.83 325 *i* P **P 06 08 41.3 -0.5**
NORES NORESS Array B 48.04 327 P **P 06 08 44.6 +1.2**
NB2 NORSAR Subarra 48.27 327 P **P 06 08 44.7 -0.5**
comp=Z,5.5nm,0.5s,baz=104,slow=7.9
NOA NORSAR Array B 48.27 327 P **P 06 08 44.4 -0.9**
comp=Z,9.8nm,0.6s,baz=107,slow=7.5,SNR=43
comp=Z,9.8nm,0.6s
BFO Black Forest 48.35 310 P **P 06 08 45.1 -0.9**
BFO IAmb IAmb 06 08 46.1
comp=Z,12nm,1.0s
BFO Black Forest 48.35 310 P **P 06 08 45.1 -0.9**
BFO pmax pmax
comp=Z,12nm,1.0s
KEST Kesra 48.69 293 P **P 06 08 48.2 -0.7**
KEST IAmb IAmb 06 09 16.3
comp=Z,26nm,1.1s
KEST Kesra 48.69 293 P **P 06 08 47.6 -1.3**
comp=Z,8.8nm,0.6s,baz=28,slow=3.9,SNR=13
KEST LR LR 06 33 49.3
comp=Z,100nm,18.8s,baz=353,slow=42
comp=Z,8.8nm,0.6s
HEH HeiHe 48.86 48 *e*P **P 06 08 50.0 +0.1**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH LR LR
comp=Z,300nm,12.7s
HEH LR LR
comp=Z,280nm,11.1s
HEH LR LR
comp=Z,710nm,14.1s
BNX BinXian 48.90 54 ⇓P **P 06 08 51.4 +1.1**
BNX pmax pmax
comp=Z,6.0nm,0.9s
ZEA Zeya 48.94 43 *e*P **P 06 08 51.6 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
CDF Champ du Feu 49.05 310 *e*P **P 06 08 50.5 -1.0**
CDF pmax pmax
comp=Z,24nm,1.2s
HOMB Homborsund 49.06 323 *i* P **P 06 08 51.5 +0.3**
SBF Sospel 49.13 304 *e*P **P 06 08 51.6 -0.5**
SBF pmax pmax
comp=Z,31nm,0.7s
ECH Echery 49.13 310 P **P 06 08 51.0 -1.0**
ECH IAmb IAmb 06 08 52.9
comp=Z,30nm,1.3s
ECH Echery 49.13 310 P **P 06 08 51.0 -1.0**
ECH pmax pmax
comp=Z,30nm,1.3s
HINF Hinteralfeld 49.34 309 *e*P **P 06 08 52.7 -1.0**
HINF pmax pmax
comp=Z,12nm,1.2s
LPG La Plagne 49.51 306 *e*P **P 06 08 54.7 -0.5**
LPG pmax pmax
comp=Z,15nm,1.2s
LPL La Plagne 49.52 306 *e*P **P 06 08 54.0 -1.3**
LPL pmax pmax
comp=Z,59nm,2.0s
MBDF Montbardon 49.54 305 *e*P **P 06 08 53.8 -1.6**
MBDF pmax pmax
comp=Z,8.0nm,0.9s
HAU Haudompre 49.68 310 *e*P **P 06 08 55.7 -0.5**
HAU pmax pmax
comp=Z,42nm,1.4s
SNART Snartemo 49.75 323 *e*P **P 06 08 57.2 +0.7**
WLF Walferdange 49.78 312 *d*P **P 06 08 58.2 +1.3**
comp=Z,18nm,1.1s
WLF Walferdange 49.78 312 P **P 06 08 59.1 +2.2**
WLF pmax pmax
comp=Z,43nm,2.1s
BTNL Ternell 49.80 313 *d*P **P 06 08 58.9 +1.8**
MEM Membach 49.87 313 *d*P **P 06 08 58.3 +0.7**
BHOU Houvegnez 49.88 313 *d*P **P 06 08 59.0 +1.4**
comp=Z,11nm,1.1s
CABF La Chapelle 49.91 308 *e*P **P 06 08 58.0 0.0**
CABF pmax pmax
comp=Z,45nm,1.3s
BSTI Sart Tilman 50.16 313 *d*P **P 06 09 00.5 +0.7**
KSRS Korea Array 50.19 64 P **P 06 09 00.6 +0.4**
comp=Z,3.4nm,0.7s,baz=272,slow=7.3,SNR=9.6
KSRS LR LR 06 33 38.6
comp=Z,375nm,19.4s,baz=270,slow=40
comp=Z,3.4nm,0.7s
SBUM Sibu 50.31 114 P **P 06 09 01.9 +0.6**
BCLA Clavier 50.33 313 *d*P **P 06 09 03.7 +2.7**
RCHB Rochefort 50.38 312 *d*P **P 06 09 02.4 +1.0**
comp=Z,16nm,1.0s
GIVF Givet 50.64 312 *e*P **P 06 09 04.2 +0.8**
GIVF pmax pmax
comp=Z,61nm,1.3s
BMRD Maredsous 50.67 313 *d*P **P 06 09 04.8 +1.1**
DOU Dourbes 50.78 312 *d*P **P 06 09 05.5 +1.0**
comp=Z,14nm,1.1s
VIVF Saint-Julien-l 51.02 306 *e*P **P 06 09 05.3 -1.1**
VIVF pmax pmax
comp=Z,58nm,1.9s
BAIF Baives 51.03 312 *e*P **P 06 09 07.1 +0.7**
BAIF pmax pmax
comp=Z,28nm,1.0s
STKI Sintang 51.19 117 P **P 06 09 09.1 +1.1**
YAK Yakutsk 51.24 32 LR LR 06 32 53.1
comp=Z,589nm,18.2s,baz=254,slow=38
YAK Yakutsk 51.24 32 *ce*P **P 06 09 07.6 -0.1**
YAK pmax pmax
comp=Z,19nm,0.6s
LOR Lormes 51.39 309 P **P 06 09 09.3 +0.1**
LOR pmax pmax
comp=Z,23nm,1.3s
SMF Signal de Mont 51.45 308 *e*P **P 06 09 09.0 -0.6**
SMF pmax pmax
comp=Z,28nm,1.0s
SSF Saint Saulge 51.65 308 *e*P **P 06 09 10.6 -0.4**
SSF pmax pmax
comp=Z,31nm,1.0s
KLR Kul'dur 51.69 49 LR LR 06 34 03.0
comp=Z,322nm,18.9s,baz=274,slow=39
KLR Kul'dur 51.69 49 *ce*P **P 06 09 11.3 0.0**
KLR pmax pmax
comp=Z,16nm,1.7s
AVF Avril sur Loir 51.77 308 *e*P **P 06 09 11.3 -0.7**
AVF pmax pmax
comp=Z,11nm,1.0s
OPO Ambohidratompo 51.83 205 LR LR 06 28 13.3
comp=Z,121nm,20.0s,baz=202,slow=33
USRK Ussuriysk Ar. 52.27 55 P **P 06 09 15.6 -0.1**
comp=Z,1.3nm,0.6s,baz=266,slow=8.3,SNR=5.5
USRK LR LR 06 34 45.7
comp=Z,244nm,19.4s,baz=265,slow=40
comp=Z,1.3nm,0.6s
TCF Toulx Ste Croi 52.60 308 *e*P **P 06 09 15.8 -2.4**
TCF pmax pmax
comp=Z,11nm,1.0s
CAF Calviac 52.85 306 *e*P **P 06 09 19.7 -0.4**
CAF pmax pmax
comp=Z,48nm,1.6s
LEM Lembang 52.95 127 LR LR 06 32 58.0
comp=Z,285nm,21.6s,baz=330,slow=37
MTLF Montolieu 52.95 304 *e*P **P 06 09 20.2 -0.6**
MTLF pmax pmax
comp=Z,62nm,1.7s
JOW Kunigami 53.07 77 P **P 06 09 21.9 0.0**
comp=Z,18nm,0.6s,baz=286,slow=10,SNR=2.5
JOW LR LR 06 34 53.9
comp=Z,236nm,18.6s,baz=316,slow=39
comp=Z,18nm,0.6s
TIXI Tiksi 53.17 20 P **P 06 09 21.4 -0.5**
TIXI Tiksi 53.17 20 LR LR 06 33 58.2
comp=Z,357nm,19.2s,baz=230,slow=38
TIXI Tiksi 53.17 20 *i* P **P 06 09 22.8 +0.9**
TIXI pmax pmax
comp=Z,21nm,2.3s
RJF Les Rejaudoux 53.20 306 *e*P **P 06 09 21.5 -1.1**
RJF pmax pmax
comp=Z,28nm,1.5s
JNU Nakatsue 53.47 69 LR LR 06 36 20.2
comp=Z,287nm,18.9s,baz=283,slow=41
SPITS Spitsbergen Ar 53.50 348 P **P 06 09 24.6 +0.3**
comp=Z,4.9nm,0.9s,baz=128,slow=7.8,SNR=1.1
SPITS LR LR 06 35 03.6
comp=Z,249nm,20.1s,baz=84,slow=39
comp=Z,4.9nm,0.9s
LFF La Frestale 53.79 306 *e*P **P 06 09 26.5 -0.4**
LFF pmax pmax
comp=Z,35nm,1.3s
LDF La Druitiere 53.95 311 *e*P **P 06 09 27.4 -0.6**
LDF pmax pmax
comp=Z,25nm,0.8s
FLN La Foliniere 54.17 311 *e*P **P 06 09 29.2 -0.4**
FLN pmax pmax
comp=Z,46nm,1.0s
MFF Saint Martin d 54.19 308 *e*P **P 06 09 29.0 -0.8**
MFF pmax pmax
comp=Z,39nm,1.4s
EPF Esparros 54.35 304 *e*P **P 06 09 29.7 -1.4**
EPF pmax pmax
comp=Z,5.0nm,0.9s
GRR Gorron 54.46 310 *e*P **P 06 09 32.2 +0.5**
GRR pmax pmax
comp=Z,32nm,1.1s
GRNR Gornyy 54.59 47 ⇑*i* P **P 06 09 33.4 +0.7**

GRNR pmax pmax
comp=Z,8.0nm,1.1s
GRNR MLR MLR
comp=N,160nm,14.0s
GRNR MLR MLR
comp=Z,280nm,15.0s
ETSF Etsaut 55.03 304 *e*P **P 06 09 35.5 -0.6**
ETSF pmax pmax
comp=Z,22nm,1.2s
EKA Eskdalemuir Ar 55.31 319 P **P 06 09 37.2 -0.6**
TAM Tamanrasset 55.45 278 P **P 06 09 38.4 -1.1**
TAM Tamanrasset 55.45 278 P **P 06 09 38.4 -1.1**
TAM pmax pmax
comp=Z,6.0nm,1.0s
SGMF Saint Gilles 55.60 310 *e*P **P 06 09 40.0 0.0**
SGMF pmax pmax
comp=Z,98nm,1.0s
QUIF Quistinic 56.05 310 *e*P **P 06 09 42.8 -0.4**
QUIF pmax pmax
comp=Z,62nm,1.2s
ROSF Rostrenen 56.06 311 *e*P **P 06 09 43.0 -0.3**
ROSF pmax pmax
comp=Z,36nm,0.8s
JMIC Jan Mayen 57.69 338 LR LR 06 37 34.2
comp=Z,369nm,18.4s,baz=82,slow=39
ESBB Sonseca Array 58.20 301 P **P 06 09 57.8 -0.9**
ESDC Sonseca Array 58.20 301 P **P 06 09 57.9 -0.8**
ESDC Sonseca Array 58.20 301 P **P 06 09 58.0 -0.7**
comp=Z,4.6nm,0.7s,baz=62,slow=7.1,SNR=53
ESDC LR LR 06 38 18.6
comp=Z,104nm,18.4s,baz=65,slow=40
comp=Z,4.6nm,0.7s
MJAR Matsushiro Arr 58.42 63 P **P 06 10 01.9 +1.6**
comp=Z,3.8nm,0.9s,baz=298,slow=9.6,SNR=8.8
MJAR LR LR 06 38 10.5
comp=Z,142nm,20.5s,baz=325,slow=39
comp=Z,3.8nm,0.9s
TYV Tymovskoe 58.50 46 *e*P P 06 10 06.5 +6.0
TYV pmax pmax
comp=Z,8.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,3.5s
PAB San Pablo 58.52 301 P **P 06 10 00.3 -0.7**
PAB IAmb IAmb 06 10 01.0
comp=Z,11nm,0.8s
PAB San Pablo 58.52 301 P **P 06 10 00.3 -0.7**
PAB pmax pmax
comp=Z,11nm,0.8s
LSZ Lusaka 58.62 226 LR LR 06 36 26.4
comp=Z,184nm,18.8s,baz=8.5,slow=37
YSS Yuzhno-Sakhali 59.29 50 P **P 06 10 05.9 -0.1**
YSS IAmb IAmb 06 10 14.2
comp=Z,14nm,0.9s
YSS Yuzhno-Sakhali 59.29 50 *e*P **P 06 10 06.7 +0.7**
YSS *e*S **S 06 18 09.5 -3.8**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,16.0s
PBRG Braganca 59.74 304 *e*P **P 06 10 09.4 +0.1**
ASAJ Asahikawa 59.80 54 LR LR 06 39 17.3
comp=Z,332nm,18.5s,baz=332,slow=39
MVO Moncorvo 60.10 303 *e*P **P 06 10 11.9 +0.1**
DAG Danmarks Havn 60.46 345 P **P 06 10 13.6 0.0**
DAG pmax pmax
comp=Z,17nm,1.5s
DAG Danmarks Havn 60.46 345 *i* P **P 06 10 13.0 -0.6**
PVRL Vila Real 60.58 303 *e*P **P 06 10 15.3 +0.3**
PVRL *i* Amb 06 10 17.0
comp=Z,26nm,1.5s
MDT Midelt 60.60 293 LR LR 06 42 37.8
comp=Z,79nm,19.7s,baz=92,slow=42
POLO Lamas de Olo 60.61 303 *e*P **P 06 10 15.3 0.0**
POLO *i* Amb 06 10 22.5
comp=Z,18nm,1.8s
MTE Manteigas 60.68 302 *e*P **P 06 10 15.9 +0.1**
MTE *i* Amb 06 10 24.1
comp=Z,35nm,2.1s
PCAB Cabril 60.69 304 *e*P **P 06 10 16.2 +0.4**
PCAB *i* Amb 06 10 23.4
comp=Z,42nm,1.5s
ERM Erimo 60.71 56 *ce*P **P 06 10 12.5 -3.3**
ERM pmax pmax
comp=Z,64nm,2.5s
PCBR Castelo Branco 60.78 302 *e*P **P 06 10 16.6 +0.2**
PCBR *i* Amb 06 10 17.5
comp=Z,31nm,1.9s
KAPI Kappang 60.80 116 LR LR 06 37 58.7
comp=Z,184nm,21.6s,baz=292,slow=37
PGAV Gavieira, Arco 60.80 304 *e*P **P 06 10 17.1 +0.5**
PGAV *i* Amb 06 10 24.8
comp=Z,60nm,2.1s
PMRV Marv??o 60.83 301 *e*P **P 06 10 16.5 -0.3**
PVIS Viseu 60.85 303 *e*P **P 06 10 16.7 -0.3**
PBAR Barrancos 60.91 300 *e*P **P 06 10 16.9 -0.4**
PBAR *i* Amb 06 10 26.0
comp=Z,35nm,1.4s
PESTR Estremoz 61.13 301 *e*P **P 06 10 18.5 -0.4**
PESTR *i* Amb 06 10 20.4
comp=Z,17nm,1.9s
COI Coimbra 61.37 302 *e*P **P 06 10 19.9 -0.4**
COI *i* Amb 06 10 20.7
comp=Z,32nm,1.2s
PCAS Casmilo, Conde 61.48 302 *e*P **P 06 10 20.9 -0.2**
EVO Evora 61.54 300 *e*P **P 06 10 21.4 -0.2**
EVO *i* Amb 06 10 22.6
comp=Z,32nm,2.1s
PMTG Montargil 61.55 301 *e*P **P 06 10 20.5 -1.1**
PMTG *i* Amb 06 10 29.2
comp=Z,25nm,1.8s
MA2 Magadan 61.57 35 P **P 06 10 21.4 0.0**
comp=Z,1.0nm,0.3s,baz=207,slow=6.8,SNR=5.5
MA2 LR LR 06 38 38.5
comp=Z,229nm,18.5s,baz=274,slow=38
comp=Z,1.0nm,0.3s
MA2 Magadan 61.57 35 *ce*P **P 06 10 21.6 +0.2**
MA2 pmax pmax
comp=Z,9.0nm,1.7s
MA2 Magadan 61.57 35 P **P 06 10 21.8 +0.4**
comp=Z,6.9nm,0.8s
PBEJ Beja 61.58 300 *e*P **P 06 10 21.7 -0.2**
PVAQ Vaqueiros 61.65 299 *e*P **P 06 10 19.8 -2.5**
PVAQ *i* Amb 06 10 53.2
comp=Z,36nm,1.7s
SEY Seymchan 61.72 31 P **P 06 10 22.8 +0.5**
comp=Z,5.9nm,0.7s,baz=269,slow=7.5,SNR=40
comp=Z,5.9nm,0.7s
SEY Seymchan 61.72 31 *ce*P **P 06 10 22.7 +0.3**
SEY pmax pmax
comp=Z,24nm,2.5s
PCVE Castro Verde 61.83 299 *e*P **P 06 10 22.9 -0.6**
PSBE So Bento 61.85 302 *e*P **P 06 10 21.5 -2.2**
PSBE *i* Amb 06 10 28.4
comp=Z,47nm,1.8s
PBDV Barranco-do-Ve 61.86 299 *e*P **P 06 10 23.7 0.0**
MESJ Messejana 61.90 300 P **P 06 10 23.2 -0.8**
MESJ Messejana 61.90 300 *e*P **P 06 10 23.8 -0.2**
MESJ *i* Amb 06 10 32.5
comp=Z,25nm,2.4s
MESJ Messejana 61.90 300 P **P 06 10 23.2 -0.8**
MESJ pmax pmax
comp=Z,42nm,1.7s
PTEO Sao Teotonio 62.37 299 *e*P **P 06 10 27.4 +0.2**
PFVI Vila Bisbo 62.57 299 *e*P **P 06 10 29.0 +0.5**
AVE Averroes 62.68 294 P **P 06 10 28.8 -0.5**
TORD Torodi Ar. Bea 62.69 270 P **P 06 10 28.6 -1.0**
TORD Torodi Ar. Bea 62.69 270 P **P 06 10 28.8 -0.8**
comp=Z,13nm,0.9s,baz=37,slow=7.7,SNR=7.2
comp=Z,13nm,0.9s
BORG Borgarnes 63.08 331 LR LR 06 41 32.8
comp=Z,626nm,18.2s,baz=81,slow=40
BILL Bilibino 66.00 24 P **P 06 10 51.1 +0.6**
BILL IAmb IAmb 06 11 00.8
comp=Z,16nm,1.1s
BILL Bilibino 66.00 24 *ce*P **P 06 10 50.7 +0.2**
BILL pmax pmax
comp=Z,19nm,2.5s
SUMG Summit 66.56 342 P **P 06 10 54.6 +0.2**
SUMG IAmb IAmb 06 10 55.6
comp=Z,12nm,0.8s
SUMG Summit 66.56 342 P **P 06 10 54.6 +0.2**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 66.56 342 *i* P **P 06 10 54.0 -0.4**
PETK Petropavlovsk- 66.96 41 P **P 06 10 56.0 -0.8**
comp=Z,1.0nm,0.6s,baz=302,slow=3.1,SNR=4.1
PETK LR LR 06 42 06.0
comp=Z,346nm,21.7s,baz=288,slow=38
comp=Z,1.0nm,0.6s
NEEM North Greenlan 67.05 348 *i* P **P 06 10 56.9 -0.6**
LBTB Lobatse 67.64 221 P **P 06 11 02.1 +0.5**
LBTB IAmb IAmb 06 11 03.8
comp=Z,13nm,0.8s
LBTB Lobatse 67.64 221 LR LR 06 41 07.6
comp=Z,93nm,19.0s,baz=68,slow=36
LBTB Lobatse 67.64 221 P **P 06 11 02.1 +0.5**
LBTB pmax pmax
comp=Z,13nm,0.8s
TSUM Tsumeb 68.38 231 P **P 06 11 06.5 +0.1**
TSUM IAmb IAmb 06 11 19.8
comp=Z,13nm,1.3s
TSUM Tsumeb 68.38 231 LR LR 06 44 08.9
comp=Z,166nm,18.8s,baz=151,slow=39
BOSA Boshof 70.64 219 P **P 06 11 20.2 +0.1**
BOSA IAmb IAmb 06 11 29.2
comp=Z,12nm,0.8s
BOSA Boshof 70.64 219 P **P 06 11 19.1 -1.1**
comp=Z,5.3nm,0.8s,baz=34,slow=7.2,SNR=8.4
BOSA LR LR 06 39 48.8
comp=Z,90nm,21.7s,baz=36,slow=34
comp=Z,5.3nm,0.8s
BOSA Boshof 70.64 219 P **P 06 11 20.2 +0.1**
BOSA pmax pmax
comp=Z,12nm,0.9s
DBIC Dimbokro 71.41 267 P **P 06 11 24.8 -0.2**
DBIC IAmb IAmb 06 11 25.5
comp=Z,14nm,0.8s
DBIC Dimbokro 71.41 267 P **P 06 11 24.2 -0.8**
comp=Z,14nm,0.9s,baz=67,slow=6.6,SNR=10
DBIC LR LR 06 45 24.2
comp=Z,215nm,19.2s,baz=55,slow=38
comp=Z,14nm,0.9s
DBIC Dimbokro 71.41 267 P **P 06 11 24.8 -0.2**
DBIC pmax pmax
comp=Z,14nm,0.8s
PSAA2 Pilbara Seismi 71.66 129 P **P 06 11 26.2 -0.1**
comp=Z,32nm,2.6s
GUMO Guam 72.54 84 LR LR 06 44 50.5
comp=Z,40nm,19.0s,baz=86,slow=37
SFJD Kangerlussuaq 73.02 339 LR LR 06 46 19.0
comp=Z,280nm,18.9s,baz=38,slow=38
FITZ Fitzroy Crossi 73.46 123 LR LR 06 49 06.0
comp=Z,76nm,18.3s,baz=285,slow=40
A19K Wainwright 74.50 15 P **P 06 11 43.7 +1.3**
baz=318
A21K Barrow 74.62 13 P **P 06 11 44.0 +0.9**
baz=321
C16K Lisburne Hills 74.83 18 P **P 06 11 44.4 +0.1**
C16K IAmb IAmb 06 11 53.9
comp=Z,12nm,0.9s
C16K Lisburne Hills 74.83 18 P **P 06 11 44.7 +0.3**
baz=314,SNR=8.8
B18K Kokolik River 74.95 16 P **P 06 11 46.2 +1.1**
baz=317,SNR=6.2
A22K Sinclair Lake 75.20 13 P **P 06 11 47.2 +0.8**
baz=323
RES Resolute Bay 75.25 355 LR LR 06 50 50.9
comp=Z,239nm,18.4s,baz=13,slow=40
C17K DeLong Mountai 75.25 17 P **P 06 11 47.6 +0.8**
baz=316,SNR=14
B20K Meade River 75.53 14 P **P 06 11 48.9 +0.6**
baz=321
C18K Utukok River 75.63 16 P **P 06 11 49.8 +0.8**
baz=318
RDOG Red Dog Mine 75.63 17 P **P 06 11 49.4 +0.4**
baz=316
D17K Noatak River 75.84 18 P **P 06 11 50.7 +0.6**
baz=316,SNR=10
GAMB Gambell 75.90 23 P **P 06 11 50.9 +0.4**
baz=310
TNA Tin City 75.95 21 P **P 06 11 51.3 +0.5**
baz=312
SUR Sutherland 75.97 219 LR LR 06 47 02.2
comp=Z,82nm,18.5s,baz=52,slow=37
B22K Teshekpuk Lake 76.04 13 P **P 06 11 52.0 +0.7**
B22K Teshekpuk Lake 76.04 13 P **P 06 11 52.5 +1.2**
baz=324,SNR=8.2
SHEM Shemya Is, Ala 76.11 37 LR LR 06 48 52.2
comp=Z,76nm,19.0s,baz=310,slow=38
B21K Ikpikpuk River 76.38 14 P **P 06 11 54.0 +0.8**
B21K Ikpikpuk River 76.38 14 P **P 06 11 54.0 +0.8**
baz=323
D19K Kuna River 76.49 16 P **P 06 11 54.0 0.0**
D19K Kuna River 76.49 16 P **P 06 11 54.5 +0.6**
baz=320,SNR=16
F14K Arctic Creek 76.50 20 P **P 06 11 53.7 -0.3**
baz=314
E17K Hotham Inlet 76.62 18 P **P 06 11 54.7 +0.1**
baz=317
D20K Etivluk River 76.67 15 P **P 06 11 55.5 +0.6**
baz=322,SNR=8.1
E18K Tukpahlearik C 76.69 17 P **P 06 11 55.1 +0.1**
E18K Tukpahlearik C 76.69 17 P **P 06 11 55.6 +0.5**
baz=318
C21K Knifeblade Rid 76.72 14 P **P 06 11 55.7 +0.5**
baz=323
F15K North Star Dit 76.83 20 P **P 06 11 56.4 +0.5**
baz=315,SNR=5.7
C23K Itkillik River 77.01 13 P **P 06 11 57.4 +0.7**
baz=327,SNR=11
E20K Nigu River 77.12 15 P **P 06 11 57.7 +0.2**
baz=322,SNR=7.1
F17K Baldwin Pennin 77.25 18 P **P 06 11 59.1 +0.9**
baz=318
D22K Ayikyak River 77.39 14 P **P 06 11 59.4 +0.5**
D22K IAmb IAmb 06 12 09.1
comp=Z,15nm,1.1s
D22K Ayikyak River 77.39 14 P **P 06 11 59.3 +0.4**
baz=325,SNR=6.2
ANM Nome 77.43 21 P **P 06 11 59.0 -0.2**
baz=315
C24K Franklin Bluff 77.46 12 P **P 06 11 59.8 +0.5**
baz=328
E19K Redstone River 77.50 16 P **P 06 11 59.5 -0.1**
baz=321
G15K Niukluk 77.52 20 P **P 06 12 00.0 +0.3**
baz=316
F18K Selawik 77.56 17 P **P 06 11 60.0 +0.1**
baz=319,SNR=11
G16K Koyuk River 77.72 19 P **P 06 12 01.1 +0.3**
baz=317
D23K Nanushuk River 77.72 13 P **P 06 12 01.6 +0.8**
baz=327
BBTS Babate 77.79 280 LR LR 06 50 42.2
comp=Z,257nm,18.6s,baz=310,slow=39
F19K Shaleruckik Mo 77.86 17 P **P 06 12 01.5 0.0**
baz=321,SNR=6.4
D24K Happy Valley 77.92 13 P **P 06 12 02.4 +0.5**
baz=328
C26K Camden Bay 77.95 11 P **P 06 12 02.3 +0.3**
baz=332
NWAO Narrogin (SRO) 78.09 139 LR LR 06 45 13.9
comp=Z,120nm,19.9s,baz=236,slow=35
G17K Kiwalik Mounta 78.12 19 P **P 06 12 03.6 +0.5**
baz=319,SNR=6.0
E22K Anaktuvuk Pass 78.19 14 P **P 06 12 03.4 -0.1**
E22K IAmb IAmb 06 12 13.9
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 78.19 14 P **P 06 12 03.5 +0.1**
baz=326,SNR=8.8
F20K Avaraart Lake 78.19 16 P **P 06 12 03.6 +0.2**
baz=323,SNR=5.6
A36M Sachs Harbour 78.21 4 P **P 06 12 03.6 +0.1**
A36M IAmb IAmb 06 12 30.6
comp=Z,14nm,0.8s
A36M Sachs Harbour 78.21 4 P **P 06 12 03.9 +0.5**
baz=349,SNR=9.2
TOLK Toolik Lake Re 78.22 13 P **P 06 12 04.1 +0.5**
TOLK Toolik Lake Re 78.22 13 P **P 06 12 04.2 +0.5**
baz=328,SNR=9.6
D25K Kavik River 78.22 12 P **P 06 12 05.0 +1.3**
D25K Kavik River 78.22 12 P **P 06 12 04.6 +0.9**
baz=330,SNR=14
H16K Elim 78.31 20 P **P 06 12 04.5 +0.4**
baz=317
G18K Tagagawik 78.36 18 P **P 06 12 05.2 +0.8**
baz=320
C27K Jago River 78.41 11 P **P 06 12 06.0 +1.4**
baz=333,SNR=8.5
G19K Purcell Mounta 78.57 17 P **P 06 12 06.0 +0.4**
G19K IAmb IAmb 06 12 15.3
comp=Z,18nm,0.9s
G19K Purcell Mounta 78.57 17 P **P 06 12 06.0 +0.4**
baz=322,SNR=8.3
F21K Alatna River 78.57 15 P **P 06 12 05.8 +0.2**
baz=324
F22K John River 78.63 15 P **P 06 12 06.8 +0.9**
baz=326
E23K Chandalar 78.70 13 P **P 06 12 06.6 +0.2**
baz=328,SNR=7.2
H17K Granite Mounta 78.75 19 P **P 06 12 06.8 +0.2**
baz=319
E24K Your Creek 78.91 13 P **P 06 12 07.9 +0.4**
E24K IAmb IAmb 06 12 17.8
comp=Z,14nm,1.0s
E24K Your Creek 78.91 13 P **P 06 12 08.2 +0.8**
baz=329,SNR=11
H18K Honhosa River 79.01 18 P **P 06 12 08.0 0.0**
baz=321
G21K Allakaket 79.14 16 P **P 06 12 08.8 +0.1**
baz=324
D27M Malcolm River 79.18 10 P **P 06 12 09.3 +0.4**
baz=335
H19K Roundabout Mou 79.22 17 P **P 06 12 09.5 +0.4**
baz=322
COLD Coldfoot 79.28 14 P **P 06 12 09.8 +0.4**
COLD IAmb IAmb 06 12 19.6
comp=Z,24nm,1.1s
COLD Coldfoot 79.28 14 P **P 06 12 09.8 +0.4**
baz=327,SNR=9.0
J14K Nanvaranak Lak 79.30 21 P **P 06 12 10.1 +0.5**
baz=317
I17K Unalakleet 79.33 20 P **P 06 12 10.5 +0.8**
I17K IAmb IAmb 06 12 19.5
comp=Z,20nm,1.1s
I17K Unalakleet 79.33 20 P **P 06 12 10.7 +1.0**
baz=319
E25K Arctic Village 79.42 12 P **P 06 12 10.8 +0.5**
baz=331,SNR=6.3
D28M Stokes Point 79.42 9 P **P 06 12 11.1 +1.0**
baz=337
F24K Squaw Lake 79.51 13 P **P 06 12 11.6 +0.9**
baz=329
K13K Kusilvak Mount 79.53 22 P **P 06 12 11.3 +0.5**
baz=316
H20K Anotleneega Mo 79.64 17 P **P 06 12 11.8 +0.3**
baz=324,SNR=7.7
GCSA Galena City Sc 79.72 18 P **P 06 12 12.0 +0.2**
baz=322
G23K Bananza Creek 79.76 14 P **P 06 12 12.1 0.0**
G23K IAmb IAmb 06 12 22.3
comp=Z,14nm,1.1s
G23K Bananza Creek 79.76 14 P **P 06 12 12.7 +0.6**
baz=328
J16K Anvik River 79.81 20 P **P 06 12 12.9 +0.6**
baz=319
F25K Christian Rive 79.87 12 P **P 06 12 13.1 +0.4**
F25K Christian Rive 79.87 12 P **P 06 12 13.3 +0.6**
baz=331
E28M Babbage River 79.98 10 P **P 06 12 14.2 +1.0**
baz=336
H21K Melozitna Rive 80.01 16 P **P 06 12 14.2 +0.7**
baz=325,SNR=7.1
E27K Coleen River 80.04 11 P **P 06 12 15.1 +1.5**
baz=335,SNR=5.7
F26K Sheenjek River 80.05 12 P **P 06 12 14.4 +0.7**
baz=332
M11K Mekoryuk 80.10 24 P **P 06 12 14.5 +0.5**
baz=315
H22K Ishtalitna Cre 80.15 15 P **P 06 12 14.8 +0.6**
baz=326
J17K VABM Dome 80.17 19 P **P 06 12 14.9 +0.6**
J17K IAmb IAmb 06 13 20.9
comp=Z,46nm,1.9s
J17K VABM Dome 80.17 19 P **P 06 12 14.9 +0.6**
baz=320
K15K Wolf Creek Mou 80.27 21 P **P 06 12 15.4 +0.6**
baz=318
G24K Hadweenzic Riv 80.30 13 P **P 06 12 15.8 +0.9**
baz=330,SNR=6.3
I20K Naaghedeneel 80.31 17 P **P 06 12 14.9 -0.1**
baz=324
E29M Blow River 80.41 9 P **P 06 12 16.1 +0.6**
baz=338,SNR=5.8
G25K Bearman Lake 80.51 13 P **P 06 12 17.2 +1.2**
baz=331
I21K Tanana 80.60 16 P **P 06 12 17.1 +0.5**
baz=326
L14K Kuka Creek 80.61 22 P **P 06 12 17.5 +0.8**
baz=318
H23K Yukon River 80.62 15 P **P 06 12 17.3 +0.6**
baz=328
FRB Frobisher Bay 80.63 342 LR LR 06 49 40.5
comp=Z,152nm,19.7s,baz=70,slow=37
J19K Poorman 80.66 18 P **P 06 12 17.7 +0.8**
baz=323
L15K Ungalak Mounta 80.75 21 P **P 06 12 18.1 +0.7**
baz=318
SPIA Saint Paul Isl 80.77 28 P **P 06 12 18.6 +1.0**
baz=312
J18K Innoko River 80.78 18 P **P 06 12 18.0 +0.4**
baz=322
G26K Porcupine Rive 80.78 12 P **P 06 12 18.1 +0.6**
baz=333
FYU Fort Yukon 80.86 13 P **P 06 12 17.9 0.0**
C36M Paulatuk 80.89 4 P **P 06 12 17.5 -0.5**
C36M Paulatuk 80.89 4 P **P 06 12 18.1 +0.1**
baz=350,SNR=5.7
J20K Nowinta River 80.89 17 P **P 06 12 18.4 +0.2**
baz=324
K17K Iditarod 80.92 20 P **P 06 12 18.7 +0.3**
baz=321
H24K Noodor Dome 80.96 14 P **P 06 12 19.5 +0.9**
H24K IAmb IAmb 06 12 29.1
comp=Z,13nm,1.1s
H24K Noodor Dome 80.96 14 P **P 06 12 18.8 +0.2**
baz=329
H25L Birch Creek 81.00 13 P **P 06 12 19.4 +0.7**
baz=331
WB0 Warramunga Arr 81.03 119 P **P 06 12 19.9 +0.3**
INK Inuvik 81.05 8 P **P 06 12 19.1 +0.2**
INK IAmb IAmb 06 12 29.1
comp=Z,21nm,1.4s
INK Inuvik 81.05 8 P **P 06 12 19.1 +0.2**
INK pmax pmax
comp=Z,21nm,1.4s
INK Inuvik 81.05 8 P **P 06 12 19.7 +0.8**
baz=342,SNR=8.1
M13K Dall Lake 81.07 23 P **P 06 12 20.1 +1.0**
baz=317
WRA Warramunga Arr 81.09 119 P **P 06 12 18.8 -1.1**
comp=Z,2.9nm,0.8s,baz=317,slow=5.3,SNR=24
WRA LR LR 06 54 20.3
comp=Z,75nm,18.4s,baz=268,slow=40
comp=Z,2.9nm,0.8s
WRA Warramunga Arr 81.09 119 *i* P **P 06 12 20.1 +0.2**
WRA pmax pmax
comp=Z,3.0nm,0.8s
I23K Minto, Yukon-K 81.23 15 P **P 06 12 20.7 +0.8**
baz=328
G27K Doyon Strip 81.28 11 P **P 06 12 21.0 +0.7**
baz=335,SNR=9.8
M14K Bethel 81.28 22 P **P 06 12 21.5 +1.2**
M14K Bethel 81.28 22 P **P 06 12 20.9 +0.6**
baz=318
L17K Donlin 81.38 20 P **P 06 12 21.4 +0.7**
baz=321
F30M Barrier River 81.43 9 P **P 06 12 21.4 +0.4**
baz=340
P08K Saint George I 81.44 28 P **P 06 12 21.8 +0.6**
baz=312
K20K Telida 81.58 18 P **P 06 12 22.2 +0.3**
baz=324
CHUM Lake Minchumin 81.60 17 P **P 06 12 22.5 +0.6**
baz=326
POKR Poker Plat Res 81.68 14 P **P 06 12 23.2 +0.8**
baz=330
PRP Porcupine Dome 81.72 13 P **P 06 12 23.0 +0.2**
baz=331
M15K Kasigluk River 81.74 22 P **P 06 12 23.2 +0.5**
baz=319
BPAW Bear Paw Mtn. 81.74 16 P **P 06 12 22.9 +0.2**
BPAW Bear Paw Mtn. 81.74 16 P **P 06 12 23.0 +0.2**
baz=327
G29M Pine Creek 81.77 10 P **P 06 12 23.4 +0.6**
baz=338
NEA2 Nenana 81.77 15 P **P 06 12 23.1 +0.3**
baz=328
L18K Granite Mounta 81.78 19 P **P 06 12 23.3 +0.4**
baz=322
COLA College 81.80 14 P **P 06 12 23.4 +0.4**
COLA College 81.80 14 P **P 06 12 23.4 +0.4**

COLA				pmax	pmax		
	comp=Z,40nm,1.4s						
COLA	**College**	**81.80**	**14**	P	**P**	**06 12 23.6**	**+0.7**
	baz=330						
H27K	**Steamboat Moun**	**81.83**	**11**	P	**P**	**06 12 23.9**	**+0.7**
	baz=335,SNR=6.6						
F31M	**Tsiigehtchic**	**81.85**	**8**	P	**P**	**06 12 23.6**	**+0.4**
F31M				IAmb	IAmb	06 12 35.4	
	comp=Z,30nm,1.4s						
F31M	**Tsiigehtchic**	**81.85**	**8**	P	**P**	**06 12 23.5**	**+0.4**
	baz=342,SNR=8.6						
G30M	**tAoh Zraii Nji**	**81.96**	**9**	P	**P**	**06 12 23.9**	**0.0**
	baz=339,SNR=5.3						
N14K	**Kuskokwak Cree**	**82.00**	**23**	P	**P**	**06 12 24.1**	**0.0**
	baz=318						
M16K	**Timber Creek**	**82.04**	**21**	P	**P**	**06 12 24.4**	**+0.1**
	baz=320						
CAST	**Castle Rocks**	**82.04**	**17**	P	**P**	**06 12 24.4**	**+0.1**
CAST	**Castle Rocks**	**82.04**	**17**	P	**P**	**06 12 24.2**	**-0.1**
	baz=326						
ILAR	**Eielson Array**	**82.10**	**14**	P	**P**	**06 12 24.4**	**-0.2**
ILAR	**Eielson Array**	**82.10**	**14**	P	**P**	**06 12 24.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=318,slow=3.8,SNR=20						
ILAR				LR	LR	06 53 41.6	
	comp=Z,283nm,19.7s,baz=322,slow=39						
	comp=Z,1.8nm,0.7s						
ILAR	**Eielson Array**	**82.10**	**14**	P	**P**	**06 12 24.4**	**-0.2**
M17K	**Holitna River**	**82.20**	**20**	P	**P**	**06 12 23.2**	**-2.0**
	baz=322						
G31M	**Satah River**	**82.28**	**8**	P	**P**	**06 12 25.4**	**0.0**
G31M				IAmb	IAmb	06 12 36.0	
	comp=Z,34nm,1.6s						
G31M	**Satah River**	**82.28**	**8**	P	**P**	**06 12 24.4**	**-1.0**
	baz=341						
L19K	**White Mountain**	**82.33**	**19**	P	**P**	**06 12 24.3**	**-1.6**
	baz=324						
N15K	**Kwethluk River**	**82.33**	**22**	P	**P**	**06 12 24.6**	**-1.3**
	baz=320						
L20K	**Farewell, AK**	**82.35**	**18**	P	**P**	**06 12 24.7**	**-1.2**
	baz=325						
H29M	**Whitestone**	**82.36**	**10**	P	**P**	**06 12 25.1**	**-0.8**
	baz=338						
I26K	**Coal Creek Min**	**82.37**	**12**	P	**P**	**06 12 24.7**	**-1.3**
	baz=334						
I27K	**Kandik River**	**82.38**	**12**	P	**P**	**06 12 25.1**	**-1.1**
	baz=335						
HDA	**Harding Lake**	**82.40**	**14**	P	**P**	**06 12 25.7**	**-0.5**
HDA				IAmb	IAmb	06 12 33.7	
	comp=Z,13nm,1.0s						
HDA	**Harding Lake**	**82.40**	**14**	P	**P**	**06 12 24.7**	**-1.4**
	baz=330						
PPLA	**Purkeypile**	**82.45**	**17**	P	**P**	**06 12 24.8**	**-1.8**
	baz=326						
TRF	**Thorofare Moun**	**82.46**	**16**	P	**P**	**06 12 25.4**	**-1.3**
	baz=328						
N16K	**Nishlik Lake**	**82.52**	**21**	P	**P**	**06 12 25.9**	**-1.0**
	baz=321						
MCK	**McKinley**	**82.54**	**15**	P	**P**	**06 12 25.6**	**-1.3**
	baz=329						
J25K	**Salcha River,**	**82.55**	**14**	P	**P**	**06 12 26.1**	**-0.9**
	baz=332						
M18K	**Stony River**	**82.61**	**19**	P	**P**	**06 12 26.3**	**-0.9**
	baz=323						
O14K	**Tigyukauivet M**	**82.64**	**23**	P	**P**	**06 12 26.3**	**-1.1**
	baz=319						
M19K	**Big River Lodg**	**82.68**	**19**	P	**P**	**06 12 26.3**	**-1.3**
	baz=324						
I28M	**Miner Creek**	**82.82**	**11**		**P**	**06 12 28.5**	**0.0**
I28M				IAmb	IAmb	06 12 38.1	
	comp=Z,14nm,1.1s						
I28M	**Miner Creek**	**82.82**	**11**	P	**P**	**06 12 27.0**	**-1.5**
	baz=336						
RND	**Reindeer**	**82.84**	**16**	P	**P**	**06 12 27.8**	**-0.7**
RND				IAmb	IAmb	06 12 37.4	
	comp=Z,17nm,1.1s						
RND	**Reindeer**	**82.84**	**16**	P	**P**	**06 12 27.8**	**-0.7**
RND				pmax	pmax		
	comp=Z,17nm,1.1s						
ASAR	**Alice Springs**	**82.96**	**122**	P	**P**	**06 12 29.5**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=307,slow=5.5,SNR=39						
ASAR				LR	LR	06 52 58.5	
	comp=Z,133nm,18.8s,baz=287,slow=38						
	comp=Z,2.5nm,0.7s						
N17K	**Nushagak Hills**	**82.97**	**21**	P	**P**	**06 12 27.8**	**-1.4**
	baz=322						
J26L	**Joseph Creek**	**83.02**	**13**	P	**P**	**06 12 29.6**	**+0.2**
J26L				IAmb	IAmb	06 12 39.9	
	comp=Z,20nm,1.2s						
J26L	**Joseph Creek**	**83.02**	**13**	P	**P**	**06 12 28.4**	**-1.1**
	baz=333,SNR=6.8						
M20K	**Styx River**	**83.04**	**18**	P	**P**	**06 12 28.2**	**-1.4**
	baz=325						
I29M	**Ogilvie Camp,**	**83.17**	**11**	P	**P**	**06 12 28.9**	**-1.3**
	baz=338						
K24K	**Donnelly Dome**	**83.18**	**14**	P	**P**	**06 12 29.1**	**-1.2**
	baz=331						
O15K	**Ungalikthiuk R**	**83.18**	**22**	P	**P**	**06 12 29.2**	**-1.1**
	baz=320						
N18K	**Kilae Creek**	**83.24**	**20**	P	**P**	**06 12 29.5**	**-1.1**
	baz=323						
H31M	**Peel River**	**83.33**	**9**	P	**P**	**06 12 29.3**	**-1.7**
	baz=341						
CUT	**Chulitna**	**83.35**	**17**	P	**P**	**06 12 29.8**	**-1.3**
	baz=328						
SKT	**Skwentna**	**83.39**	**17**	P	**P**	**06 12 30.1**	**-1.2**
	baz=327						
SCRK	**Sand Creek**	**83.40**	**13**	P	**P**	**06 12 30.0**	**-1.5**
	baz=333						
O16K	**Kokwok River B**	**83.42**	**21**	P	**P**	**06 12 30.4**	**-1.1**
	baz=321						
RIDG	**Independent Ri**	**83.43**	**14**	P	**P**	**06 12 30.1**	**-1.5**
	baz=332						
N19K	**Bonanza Creek**	**83.54**	**19**	P	**P**	**06 12 31.0**	**-1.2**
	baz=324						
I30M	**Mount Dempster**	**83.59**	**10**	P	**P**	**06 12 31.4**	**-1.1**
	baz=339,SNR=5.5						
O17K	**Koliganek Bris**	**83.59**	**21**	P	**P**	**06 12 31.2**	**-1.2**
	baz=322						
K27K	**Chicken**	**83.73**	**13**	P	**P**	**06 12 31.7**	**-1.3**
	baz=334						
SPCR	**Spurr Chakacha**	**83.86**	**18**	P	**P**	**06 12 32.4**	**-1.4**
	baz=326						
P16K	**Nushagak River**	**83.89**	**22**	P	**P**	**06 12 32.6**	**-1.3**
	baz=322						
M22K	**Willow**	**83.94**	**17**	P	**P**	**06 12 32.1**	**-2.0**
	baz=328						
J29N	**Klondike Camp**	**84.02**	**11**	P	**P**	**06 12 33.2**	**-1.4**
	baz=338						
SUA	**Susitna One**	**84.02**	**17**	P	**P**	**06 12 34.5**	**-0.2**
	baz=327						
O19K	**Port Alsworth**	**84.09**	**20**	P	**P**	**06 12 35.1**	**+0.2**
	baz=324						
O18K	**Koktuh Hills**	**84.11**	**20**	P	**P**	**06 12 34.1**	**-0.9**
	baz=324						
DAWY	**Dawson**	**84.18**	**12**	P	**P**	**06 12 35.8**	**+0.4**
	baz=337						
J30M	**Hart River**	**84.21**	**10**	P	**P**	**06 12 35.8**	**+0.2**
	baz=339						
P17K	**Kvichak River**	**84.26**	**21**	P	**P**	**06 12 35.4**	**-0.4**
	baz=323						
PMR	**Palmer**	**84.33**	**17**	P	**P**	**06 12 35.9**	**-0.2**
	baz=329						
SML	**Sawmill**	**84.34**	**16**	P	**P**	**06 12 36.1**	**-0.2**
	baz=329						
L26K	**Log Cabin Wild**	**84.38**	**14**	P	**P**	**06 12 36.5**	**+0.1**
	baz=333						
P18K	**Big Mountain,**	**84.47**	**20**	P	**P**	**06 12 37.1**	**+0.2**
	baz=324						
M23K	**Glacier View**	**84.50**	**16**	P	**P**	**06 12 37.3**	**+0.3**
	baz=330						
CAPN	**Captain Cook N**	**84.50**	**18**	P	**P**	**06 12 35.8**	**-1.1**
	baz=327						
HARP	**HAARP**	**84.56**	**15**	P	**P**	**06 12 36.9**	**-0.4**
	baz=332						
SCM	**Sheep Creek Mo**	**84.56**	**16**	P	**P**	**06 12 37.2**	**-0.2**
	baz=330						
M24K	**Tolsona, Glenn**	**84.58**	**15**	P	**P**	**06 12 35.9**	**-1.6**
	baz=331						
Q16K	**King Salmon**	**84.60**	**21**	P	**P**	**06 12 37.2**	**-0.3**
	baz=323						
RC01	**Rabbit Creek A**	**84.60**	**17**	P	**P**	**06 12 37.6**	**+0.1**
	baz=328						
UNV	**Unalaska Valle**	**84.61**	**29**	P	**P**	**06 12 37.6**	**0.0**
	baz=315						
KNK	**Knik Glacier**	**84.65**	**16**	P	**P**	**06 12 37.6**	**-0.1**
	baz=329						
L27K	**Beaver Creek,**	**84.65**	**13**	P	**P**	**06 12 37.6**	**-0.2**
	baz=335						
BCAR	**Beaver Creek A**	**84.66**	**13**	P	**P**	**06 12 38.0**	**+0.1**
O20K	**Slope Mountain**	**84.67**	**19**	P	**P**	**06 12 37.0**	**-1.0**
	baz=326						
K29M	**Barlow Dome**	**84.70**	**11**	P	**P**	**06 12 38.7**	**+0.5**
	baz=338						
P19K	**Oil Pt**	**84.85**	**19**	P	**P**	**06 12 37.3**	**-1.5**
	baz=325						
M26K	**Nabesna, AK**	**85.01**	**14**	P	**P**	**06 12 39.7**	**0.0**
	baz=334						
O22K	**Cooper Landing**	**85.12**	**17**	P	**P**	**06 12 37.5**	**-2.6**
	baz=328						
Q18K	**Katmai Hardscr**	**85.14**	**21**	P	**P**	**06 12 37.9**	**-2.5**
	baz=324						
PWL	**Port Wells**	**85.16**	**17**	P	**P**	**06 12 40.9**	**+0.5**
	baz=329						
R16K	**Pilot Point**	**85.18**	**23**	P	**P**	**06 12 40.1**	**-0.4**
	baz=322						
KLU	**Klutina**	**85.18**	**15**	P	**P**	**06 12 40.0**	**-0.6**
	baz=331						
M27K	**Edge Creek, AK**	**85.28**	**13**	P	**P**	**06 12 38.5**	**-2.6**
	baz=335						
L29M	**L29M**	**85.29**	**11**	P	**P**	**06 12 39.1**	**-1.9**
	baz=338						
HOM	**Homer**	**85.30**	**19**	P	**P**	**06 12 38.7**	**-2.4**
	baz=327						
Q19K	**Cape Douglas,**	**85.33**	**20**	P	**P**	**06 12 38.5**	**-2.7**
	baz=325						
N25K	**Chitina, Valde**	**85.38**	**15**	P	**P**	**06 12 40.5**	**-1.0**
	baz=332						
BVCY	**Beaver Creek**	**85.43**	**13**	P	**P**	**06 12 39.8**	**-1.9**
	baz=336						
BRSE	**Bradley Lake S**	**85.48**	**18**	P	**P**	**06 12 39.3**	**-2.7**
	baz=327						
S14K	**Fog Glacier**	**85.50**	**24**	P	**P**	**06 12 41.5**	**-0.7**
	baz=320						
SEW	**Seward**	**85.52**	**18**	P	**P**	**06 12 41.8**	**-0.3**
	baz=328						
M29M	**Somme Creek**	**85.85**	**12**	P	**P**	**06 12 43.1**	**-0.8**
	baz=338						
SDPT	**Sand Point**	**85.88**	**25**	P	**P**	**06 12 42.2**	**-1.7**
	baz=320						
CHGN	**Chignik**	**85.89**	**24**	P	**P**	**06 12 42.0**	**-2.0**
	baz=321						
BMRM	**Bremner River**	**85.95**	**15**	P	**P**	**06 12 42.7**	**-1.6**
	baz=332						
Q20K	**Shuyak Island**	**85.96**	**20**	P	**P**	**06 12 42.8**	**-1.5**
	baz=326						
M30M	**Minto, Yukon**	**86.01**	**11**	P	**P**	**06 12 42.1**	**-2.5**
	baz=339						
EYAK	**Cordova Ski Ar**	**86.06**	**16**	P	**P**	**06 12 42.7**	**-2.1**
	baz=332						
YUK3	**Moose Creek**	**86.09**	**13**	P	**P**	**06 12 41.9**	**-3.3**
	baz=336						
P23K	**Montague Islan**	**86.13**	**17**	P	**P**	**06 12 43.1**	**-2.1**
	baz=330						
R18K	**Karluk**	**86.19**	**21**	P	**P**	**06 12 44.3**	**-1.2**
	baz=324						
KDAK	**Kodiak Island**	**86.59**	**20**	LR	LR	06 55 42.6	
	comp=Z,200nm,18.9s,baz=141,slow=38						
KDAK	**Kodiak Island**	**86.59**	**20**	P	**P**	**06 12 44.2**	**-3.2**
	baz=326						
CHNA	**Chernabura Isl**	**86.61**	**25**	P	**P**	**06 12 43.5**	**-4.1**
	baz=320						
YUK8	**Steele Glacier**	**86.68**	**13**	P	P	06 12 43.3	-4.8
	baz=337						
M31M	**Drury Creek, Y**	**86.75**	**10**	P	**P**	**06 12 44.5**	**-3.6**
	baz=341						
YUK4	**Talbot Arm**	**86.83**	**12**	P	**P**	**06 12 44.7**	**-4.2**
	baz=338						
OHAK	**Old Harbor**	**86.84**	**21**	P	**P**	**06 12 45.1**	**-3.5**
	baz=325						
FARO	**Faro, Yukon**	**86.87**	**10**	P	**P**	**06 12 46.3**	**-2.5**
	baz=342						
Q23K	**Middleton Isla**	**86.89**	**17**	P	**P**	**06 12 46.5**	**-2.3**
	baz=331						
WRGLY	**Wrigley**	**86.99**	**5**	P	**P**	**06 12 49.8**	**+0.5**
WRGLY				IAmb	IAmb	06 12 58.3	
	comp=Z,11nm,0.9s						
WRGLY	**Wrigley**	**86.99**	**5**	P	**P**	**06 12 46.9**	**-2.4**
	baz=350						
SCHQ	**Schefferville**	**87.12**	**336**	LR	LR	06 53 55.5	
	comp=Z,260nm,19.1s,baz=44,slow=37						
HYT	**Haines Junctio**	**87.52**	**12**	P	**P**	**06 12 51.0**	**-1.1**
	baz=338						
YKA	**Yellowknife Ar**	**88.12**	**1**	P	**P**	**06 12 55.0**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=350,slow=4.9,SNR=32						
YKA				LR	LR	06 56 43.1	
	comp=Z,57nm,18.7s,baz=347,slow=39						
	comp=Z,2.3nm,0.9s						
YKA	**Yellowknife Ar**	**88.12**	**1**	P	**P**	**06 12 55.0**	**+0.2**
BBB	**Bella Bella**	**97.33**	**10**	LR	LR	07 04 22.9	
	comp=Z,45nm,18.2s,baz=313,slow=40						
ULM	**Lac du Bonnet**	**99.06**	**349**	LR	LR	07 02 56.5	
	comp=Z,227nm,19.8s,baz=6.0,slow=38						
SADO	**Sadowa**	**99.89**	**337**	LR	LR	07 01 17.0	
	comp=Z,154nm,19.5s,baz=85,slow=37						
SYO	**Syowa Base**	**100.52**	**190**	⇑*i*Pdiff	**Pdif**	**06 13 52.2**	**+1.2**
SYO	**Syowa Base**	**100.52**	**190**	⇓*e*PP	**PP**	**06 18 01.6**	**+3.2**
SYO	**Syowa Base**	**100.52**	**190**	⇓*e*PKiKP	**PKiKP**	**06 18 20.4**	**+3.0**
FRTB	**Fartura**	**123.92**	**261**	*eP*	**PKiKP**	**06 19 05.1**	**+1.9**
TER01	**Tubaro-SC**	**125.26**	**254**	*eP*	**PKiKP**	**06 19 08.8**	**+3.0**
PTGB	**Pitanga**	**126.54**	**260**	*eP*	**PKiKP**	**06 19 09.2**	**+0.7**
VILB	**Vilhena**	**128.94**	**277**	*eP*	**PKiKP**	**06 19 14.1**	**+0.6**
PTLB	**Pontes e Lacer**	**129.13**	**274**	*eP*	**PKiKP**	**06 19 14.6**	**+0.8**
CPUP	**Villa Florida**	**131.56**	**260**	PKP	**PKPdf**	**06 19 17.1**	**-0.3**
	comp=Z,5.0nm,1.1s,baz=42,slow=4.3,SNR=4.2						
LPAZ	**La Paz**	**137.28**	**278**	PKP	**PKPdf**	**06 19 29.1**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=303,slow=0.4,SNR=5.0						
LPAZ	**La Paz**	**137.28**	**278**	*eP*	**PKiKP**	**06 19 31.1**	**+0.1**
PLCA	**Paso Flores**	**144.30**	**241**	PKP	**PKPdf**	**06 19 40.0**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=256,slow=7.7,SNR=4.8						
PLCA	**Paso Flores**	**144.30**	**241**	*eP*	**PKiKP**	**06 19 42.7**	**-1.4**

*STR **16** 06:10:19.7±1.7, 44°N±7°×1°2E±1°2, h10km, MLv3.6/14, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7, preliminary*
*GEN **16** 06:10:22.4, 44°.31N×11°.66E, h35km, MI2.7*
*ROM **16** 06:10:23.1±0.1, 44°.426N±0°.004×11°.608E±0°.009, h36km, ML3.0/204, Error ellipse: s-maj=0.7km s-min=0.2km az=265.0*
*LDG **16** 06:10:23.1, 44°.38N×11°.61E, h35km*
*PRU **16** 06:10:25.3, 44°.61N×11°.95E, h15km*

ISC 16 06:10:23.1±0.9, 44°.42N±0°.01×11°.60E±0°.02, h34km±2km, n174, σ1$60/284, 17C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.11**	**243**	P	**Pb**	**06 10 30.1**	**+1.0**
MTRZ				S	**Sb**	**06 10 36.1**	**+2.9**
MTRZ	**Monterenzio**	**0.11**	**243**	⇓P	**Pb**	**06 10 30.1**	**+1.0**
MTRZ				S	**Sb**	**06 10 36.5**	**+3.4**
MTRZ				AML	AML		
	comp=E,2790µm,1.3s						
MTRZ				AML	AML		
	comp=N,2985µm,0.3s						
MTRZ				AML	AML		
	comp=E,2745µm,1.3s						
MTRZ				AML	AML		
	comp=E,2790µm,0.7s						
MTRZ				AML	AML		
	comp=N,2984µm,0.3s						
MTRZ				AML	AML		
	comp=N,2920µm,0.3s						
MTRZ				AML	AML		
	comp=N,2920µm,1.7s						
MTRZ				AML	AML		
	comp=N,2984µm,1.7s						
MTRZ				AML	AML		
	comp=N,2920µm,0.3s						
MTRZ				AML	AML		
	comp=E,2562µm,0.3s						
MTRZ				AML	AML		
	comp=E,2464µm,0.3s						
MTRZ				AML	AML		
	comp=E,2745µm,0.7s						
IMOL	**Imola, Italy**	**0.12**	**122**	P	**Pb**	**06 10 29.4**	**+0.3**
IMOL				S	**Sb**	**06 10 34.9**	**+1.8**
IMOL	**Imola, Italy**	**0.12**	**122**	⇑P	**Pb**	**06 10 29.4**	**+0.3**
IMOL				S	**Sb**	**06 10 35.0**	**+1.9**
IMOL				AML	AML		
	comp=E,9300µm,0.3s						
IMOL				AML	AML		
	comp=N,7320µm,0.2s						
IMOL				AML	AML		
	comp=E,9340µm,0.3s						
IMOL				AML	AML		
	comp=N,7325µm,0.2s						
IMOL				AML	AML		
	comp=E,9340µm,0.3s						
IMOL				AML	AML		
	comp=N,7325µm,0.3s						
IMOL				AML	AML		
	comp=N,7324µm,0.2s						
IMOL				AML	AML		
	comp=E,9315µm,0.3s						
CMPO	**Campotto Po**	**0.22**	**43**	⇑P	**Pb**	**06 10 30.8**	**+0.8**
CMPO				S	**Sb**	**06 10 34.0**	**-0.5**
CMPO				AML	AML		
	comp=E,5910µm,0.7s						
CMPO				AML	AML		
	comp=N,6660µm,1.1s						
CMPO				AML	AML		
	comp=E,5915µm,0.7s						
CMPO				AML	AML		
	comp=E,5910µm,0.7s						
CMPO				AML	AML		
	comp=E,5910µm,1.3s						
CMPO				AML	AML		
	comp=N,5950µm,0.3s						
FIU	**Minerbio Fiu**	**0.23**	**340**	⇑P	**Pb**	**06 10 31.2**	**+1.1**
FIU				S	**Sb**	**06 10 37.1**	**+2.3**
FIU				AML	AML		
	comp=E,14100µm,0.8s						
FIU				AML	AML		
	comp=N,21600µm,0.3s						
FIU				AML	AML		
	comp=N,21606µm,0.3s						
FIU				AML	AML		
	comp=N,21650µm,0.3s						
FIU				AML	AML		
	comp=E,14100µm,1.2s						
FIU				AML	AML		
	comp=E,12705µm,0.3s						
FAEN	**Faenza**	**0.24**	**124**	P	**Pn**	**06 10 30.7**	**+0.8**
FAEN				S	**Sb**	**06 10 37.6**	**+2.7**
A307A	**Bentivoglio (B**	**0.26**	**334**	P	**Pn**	**06 10 31.6**	**+1.2**
A307A				S	**Sb**	**06 10 39.0**	**+3.6**
BRIS	**BRISIGHELLA**	**0.28**	**193**	⇓P	**Pb**	**06 10 29.9**	**-0.8**
BRIS				S	**Sn**	**06 10 35.8**	**+0.8**
BRIS				AML	AML		
	comp=E,3090µm,0.2s						
BRIS				AML	AML		
	comp=N,1940µm,1.4s						
BRIS				AML	AML		
	comp=E,3285µm,0.2s						
BRIS				AML	AML		
	comp=N,1945µm,1.4s						
BRIS				AML	AML		
	comp=N,2040µm,1.4s						
BRIS				AML	AML		
	comp=N,1945µm,1.4s						
BRIS				AML	AML		
	comp=E,3091µm,0.2s						
BRIS				AML	AML		
	comp=N,1724µm,0.2s						
BRIS				AML	AML		
	comp=E,3288µm,0.2s						
BRIS				AML	AML		
	comp=N,1948µm,0.2s						
BRIS				AML	AML		
	comp=E,3288µm,1.8s						
BRIS				AML	AML		
	comp=E,3091µm,1.8s						
LMD	**Lutirano**	**0.35**	**167**	P	**Pb**	**06 10 30.7**	**-1.0**
LMD				S	**Sb**	**06 10 37.5**	**0.0**
LMD	**Lutirano**	**0.35**	**167**	⇑P	**Pb**	**06 10 30.8**	**-0.8**
LMD				S	**Sb**	**06 10 37.5**	**0.0**
LMD				AML	AML		
	comp=E,1220µm,0.2s						
LMD				AML	AML		
	comp=N,1300µm,0.3s						
LMD				AML	AML		
	comp=E,1217µm,0.2s						
LMD				AML	AML		
	comp=N,1301µm,0.3s						
BRSN	**Barisano**	**0.37**	**112**	P	**Pb**	**06 10 32.2**	**+0.4**
BRSN				S	**Sn**	**06 10 40.4**	**+2.4**
BRSN				AML	AML		
	comp=E,3760µm,0.4s						
BRSN				AML	AML		
	comp=N,4585µm,0.3s						
BRSN				AML	AML		
	comp=E,2415µm,1.2s						
BRSN				AML	AML		
	comp=N,5720µm,0.3s						
BRSN				AML	AML		
	comp=E,3761µm,0.4s						
BRSN				AML	AML		
	comp=N,5720µm,0.3s						
BRSN				AML	AML		
	comp=N,4583µm,0.3s						
BRSN				AML	AML		
	comp=E,2387µm,0.5s						
SEI	**Scarperia**	**0.41**	**205**	P	**Pb**	**06 10 31.7**	**-0.7**
SEI				S	**Sb**	**06 10 39.1**	**+0.3**
SEI	**Scarperia**	**0.41**	**205**	⇓P	**Pb**	**06 10 31.8**	**-0.7**
SEI				S	**Sb**	**06 10 39.0**	**+0.3**
SEI				AML	AML		
	comp=E,2815µm,0.4s						
SEI				AML	AML		
	comp=N,4010µm,0.4s						
SEI				AML	AML		
	comp=E,2814µm,0.4s						
SEI				AML	AML		
	comp=N,4014µm,0.4s						
FNVD	**Fontana Vidola**	**0.43**	**233**	⇑P	**Pb**	**06 10 32.7**	**0.0**
FNVD				S	**Sb**	**06 10 40.0**	**+0.6**
FNVD				AML	AML		
	comp=N,1265µm,0.4s						
FNVD				AML	AML		
	comp=E,844µm,0.6s						
FNVD				AML	AML		
	comp=E,844µm,0.6s						
FNVD				AML	AML		
	comp=N,1264µm,0.4s						
FNVD				AML	AML		
	comp=E,844µm,1.4s						
ZCCA	**Zocca**	**0.45**	**261**	P	**Pb**	**06 10 33.9**	**+0.8**
ZCCA				S	**Sn**	**06 10 45.5**	**+5.2**
ZCCA	**Zocca**	**0.45**	**261**	⇓P	**Pb**	**06 10 33.9**	**+0.8**
ZCCA				AML	AML		
	comp=E,474µm,0.4s						
ZCCA				AML	AML		
	comp=N,422µm,1.2s						
ZCCA				AML	AML		
	comp=N,375µm,0.5s						
ZCCA				AML	AML		
	comp=E,475µm,0.4s						
ZCCA				AML	AML		
	comp=N,422µm,1.2s						
ZCCA				AML	AML		
	comp=E,456µm,0.4s						
ZCCA				AML	AML		
	comp=E,457µm,0.4s						
ZCCA				AML	AML		
	comp=N,375µm,0.5s						
ZCCA				AML	AML		
	comp=N,366µm,0.5s						
ZCCA				AML	AML		
	comp=E,475µm,0.4s						
RAVA	**Ravarino**	**0.48**	**314**	P	**Pb**	**06 10 34.9**	**+1.5**
RAVA				S	**Sn**	**06 10 44.4**	**+3.6**
RAVA	**Ravarino**	**0.48**	**314**	⇑P	**Pn**	**06 10 35.1**	**+1.5**
RAVA				S	**Sb**	**06 10 41.6**	**+1.2**
RAVA				AML	AML		
	comp=E,5875µm,0.5s						
RAVA				AML	AML		
	comp=N,6860µm,1.4s						
RAVA				AML	AML		
	comp=E,5115µm,0.3s						
RAVA				AML	AML		
	comp=N,6761µm,0.3s						
RAVA				AML	AML		
	comp=N,6761µm,1.7s						
RAVA				AML	AML		
	comp=E,5115µm,1.7s						
FERS	**Ferrara-Casagl**	**0.48**	**355**	⇓P	**Pb**	**06 10 33.9**	**+0.5**
FERS				S	**Sn**	**06 10 42.3**	**+1.4**
FERS				AML	AML		
	comp=N,3080µm,0.6s						
FERS				AML	AML		
	comp=E,4910µm,0.5s						

FERS			AML	AML	
	comp=N,3085μm,0.6s				
FERS			AML	AML	
	comp=E,4912μm,0.5s				
FERS			AML	AML	
	comp=N,3084μm,0.6s				
MOCL	**Monte Cuccoli**	**0.52 216**	⇓P	**Pb**	**06 10 33.6 -0.4**
MOCL			S	**Sb**	**06 10 42.4 +0.9**
MOCL			AML	AML	
	comp=E,534μm,0.7s				
MOCL			AML	AML	
	comp=N,762μm,1.0s				
MOCL			AML	AML	
	comp=E,523μm,0.2s				
MOCL			AML	AML	
	comp=N,753μm,0.3s				
SFI	**Santa Sofia**	**0.55 161**	P	**Pb**	**06 10 33.6 -0.9**
SFI			S	**Sb**	**06 10 43.0 +0.6**
SFI			AML	AML	
	comp=E,1072μm,0.8s				
SFI			AML	AML	
	comp=N,1570μm,1.1s				
SFI			AML	AML	
	comp=E,1085μm,0.8s				
SFI			AML	AML	
	comp=N,1500μm,1.1s				
SFI			AML	AML	
	comp=E,1074μm,0.8s				
SFI			AML	AML	
	comp=E,1073μm,0.3s				
SFI			AML	AML	
	comp=E,1061μm,0.3s				
SFI			AML	AML	
	comp=N,1202μm,0.3s				
SFI			AML	AML	
	comp=N,1197μm,0.3s				
MTCR	**Monte La Croce**	**0.59 228**	P	**Pn**	**06 10 35.0 -0.1**
MTCR			S	**Sb**	**06 10 44.2 +0.7**
MTCR	**Monte La Croce**	**0.59 228**	⇑P	**Pn**	**06 10 35.0 -0.1**
MTCR			S	**Sb**	**06 10 44.2 +0.7**
MTCR			AML	AML	
	comp=E,982μm,1.1s				
MTCR			AML	AML	
	comp=N,1012μm,0.8s				
MTCR			AML	AML	
	comp=E,846μm,0.4s				
MTCR			AML	AML	
	comp=N,917μm,0.4s				
RUFI	**Rufina**	**0.59 186**	P	**Pn**	**06 10 34.8 -0.3**
RUFI			S	**Sb**	**06 10 44.8 +1.4**
RUFI	**Rufina**	**0.59 186**	⇑P	**Pn**	**06 10 34.8 -0.3**
RUFI			S	**Sb**	**06 10 44.6 +1.2**
RUFI			AML	AML	
	comp=E,536μm,0.6s				
RUFI			AML	AML	
	comp=N,1220μm,0.7s				
RUFI			AML	AML	
	comp=E,535μm,0.6s				
RUFI			AML	AML	
	comp=N,1219μm,0.7s				
RUFI			AML	AML	
	comp=E,535μm,1.4s				
MPPT	**Montemurlo**	**0.59 218**	P	**Pn**	**06 10 35.1 -0.1**
MPPT			S	**Sb**	**06 10 44.3 +0.7**
MPPT			AML	AML	
	comp=E,1021μm,1.1s				
MPPT			AML	AML	
	comp=N,940μm,1.1s				
MPPT			AML	AML	
	comp=E,792μm,0.6s				
MPPT			AML	AML	
	comp=N,822μm,0.6s				
CAVE	**Cavezzo**	**0.61 316**	P	**Pn**	**06 10 36.7 +1.3**
CAVE			S	**Sn**	**06 10 46.2 +2.1**
CAVE	**Cavezzo**	**0.61 316**	P	**Pn**	**06 10 36.7 +1.3**
CAVE			S	**Sn**	**06 10 46.3 +2.2**
CAVE			AML	AML	
	comp=E,3090μm,0.6s				
CAVE			AML	AML	
	comp=N,5665μm,0.5s				
CAVE			AML	AML	
	comp=N,5664μm,0.5s				
CAVE			AML	AML	
	comp=E,2362μm,0.4s				
CAVE			AML	AML	
	comp=N,5664μm,1.5s				
SERM	**Sermide**	**0.62 340**	P	**Pn**	**06 10 36.6 +1.0**
SERM			S	**Sn**	**06 10 46.9 +2.5**
SERM	**Sermide**	**0.62 340**	P	**Pn**	**06 10 36.5 +1.0**
SERM			S	**Sn**	**06 10 46.6 +2.2**
SERM			AML	AML	
	comp=E,4110μm,0.3s				
SERM			AML	AML	
	comp=N,1375μm,0.4s				
SERM			AML	AML	
	comp=E,5115μm,0.3s				
SERM			AML	AML	
	comp=N,3625μm,1.2s				
SERM			AML	AML	
	comp=E,4110μm,0.3s				
SERM			AML	AML	
	comp=N,1370μm,0.4s				
SERM			AML	AML	
	comp=E,5117μm,0.3s				
SERM			AML	AML	
	comp=N,7859μm,4.2s				
SERM			AML	AML	
	comp=E,4111μm,0.3s				
SERM			AML	AML	
	comp=N,1374μm,0.4s				
SERM			AML	AML	
	comp=E,5117μm,1.7s				
ASQU	**Asqua**	**0.64 168**	P	**Pn**	**06 10 35.2 -0.7**
ASQU			S	**Sb**	**06 10 45.2 +0.3**
ASQU	**Asqua**	**0.64 168**	⇑P	**Pn**	**06 10 35.6 -0.3**
ASQU			S	**Sb**	**06 10 45.4 +0.4**
ASQU			AML	AML	
	comp=E,1265μm,0.7s				
ASQU			AML	AML	
	comp=N,925μm,0.4s				
ASQU			AML	AML	
	comp=N,925μm,0.4s				
ASQU			AML	AML	
	comp=N,925μm,1.6s				
ASQU			AML	AML	
	comp=E,1239μm,0.3s				
ADRI	**Adria, Italy**	**0.68 26**	*e*Pg	**Pn**	**06 10 35.9 -0.5**
POPM	**Popiglio**	**0.71 238**	P	**Pn**	**06 10 37.3 +0.4**
POPM			S	**Sn**	**06 10 48.7 +2.0**
POPM	**Popiglio**	**0.71 238**	⇑P	**Pn**	**06 10 37.3 +0.4**
POPM			S	**Sn**	**06 10 48.5 +1.8**
POPM			AML	AML	
	comp=E,726μm,0.3s				
POPM			AML	AML	
	comp=N,1350μm,0.4s				
POPM			AML	AML	
	comp=E,726μm,0.3s				
POPM			AML	AML	
	comp=N,1352μm,0.4s				
GAZZ	**Gazzo Veronese**	**0.78 333**	*e*Pg	**Pn**	**06 10 39.2 +1.5**
GAZZ			*e*Sg	**Sb**	**06 10 50.8 +2.3**
BDI	**Bagni Di Lucca**	**0.81 244**	P	**Pn**	**06 10 38.6 +0.5**
BDI			S	**Sn**	**06 10 50.9 +1.9**
CARD	**Cardoso**	**0.90 244**	P	**Pn**	**06 10 40.2 +0.8**
CARD			S	**Sn**	**06 10 53.1 +1.9**
CARD			AML	AML	
	comp=E,488μm,1.2s				
CARD			AML	AML	
	comp=N,694μm,0.6s				
CARD			AML	AML	
	comp=E,463μm,0.3s				
PARC	**Parchiule**	**0.90 149**	⇑P	**Pn**	**06 10 39.6 +0.2**
PARC			S	**Sn**	**06 10 53.3 +2.0**
PARC			AML	AML	
	comp=E,558μm,0.4s				
PARC			AML	AML	
	comp=N,698μm,0.6s				
PARC			AML	AML	
	comp=E,558μm,0.4s				
PARC			AML	AML	
	comp=N,698μm,0.6s				
PARC			AML	AML	
	comp=N,698μm,1.4s				
VLC	**Villacollemand**	**0.91 254**	P	**Pn**	**06 10 41.0 +1.5**
VLC			S	**Sb**	**06 10 54.5 +2.1**
VLC			AML	AML	
	comp=E,346μm,0.6s				
VLC			AML	AML	
	comp=N,210μm,1.1s				
VLC			AML	AML	
	comp=N,218μm,0.5s				
VLC			AML	AML	
	comp=E,316μm,0.6s				
VLC			AML	AML	
	comp=E,316μm,0.6s				
VLC			AML	AML	
	comp=N,196μm,0.5s				
VLC			AML	AML	
	comp=E,347μm,0.6s				
VLC			AML	AML	
	comp=N,217μm,0.5s				
SSP9	**Sansepolcro**	**0.93 155**	P	**Pn**	**06 10 40.2 +0.3**
SSP9			S	**Sb**	**06 10 54.5 +1.5**
SSP9			AML	AML	
	comp=N,590μm,1.4s				
SSP9			AML	AML	
	comp=E,557μm,0.6s				
SSP9			AML	AML	
	comp=N,590μm,1.4s				
SSP9			AML	AML	
	comp=E,557μm,0.6s				
SSP9			AML	AML	
	comp=N,586μm,0.6s				
OPPE	**Oppeano**	**0.94 341**	P	**Pn**	**06 10 41.4 +1.5**
OPPE			S	**Sn**	**06 10 53.1 +1.0**
OPPE			AML	AML	
	comp=E,1735μm,0.7s				
OPPE			AML	AML	
	comp=N,1510μm,0.7s				
OPPE			AML	AML	
	comp=E,1321μm,0.3s				
OPPE			AML	AML	
	comp=N,1305μm,0.3s				
OSSC	**Osservatorio P**	**0.94 196**	⇑P	**Pn**	**06 10 39.9 -0.1**
OSSC			S	**Sn**	**06 10 52.1 -0.1**
OSSC			AML	AML	
	comp=E,492μm,0.4s				
OSSC			AML	AML	
	comp=E,599μm,0.4s				
OSSC			AML	AML	
	comp=N,642μm,1.6s				
OSSC			AML	AML	
	comp=N,566μm,0.3s				
OSSC			AML	AML	
	comp=E,599μm,0.4s				
OSSC			AML	AML	
	comp=N,541μm,0.5s				
OSSC			AML	AML	
	comp=E,492μm,0.4s				
OSSC			AML	AML	
	comp=N,566μm,0.3s				
TEOL	**Teolo**	**0.94 3**	*e*Pg	**Pn**	**06 10 41.3 +1.3**
TEOL			*e*Sg	**Sb**	**06 10 55.8 +2.6**
TEOL	**Teolo**	**0.94 3**	P	**Pn**	**06 10 39.3 -0.7**
TEOL			S	**Sn**	**06 10 53.5 +1.3**
TEOL			AML	AML	
	comp=E,1400μm,0.4s				
TEOL			AML	AML	
	comp=N,1260μm,0.3s				
TEOL			AML	AML	
	comp=N,1259μm,0.3s				
TEOL			AML	AML	
	comp=E,1402μm,0.4s				
PE3	**Peglio**	**0.97 138**	P	**Pn**	**06 10 41.3 +0.9**
PE3			S	**Sb**	**06 10 56.0 +1.9**
PE3			AML	AML	
	comp=E,3570μm,0.4s				
PE3			AML	AML	
	comp=N,7455μm,0.4s				
PE3			AML	AML	
	comp=E,3571μm,0.4s				
PE3			AML	AML	
	comp=N,7457μm,0.4s				
CSNT	**Castellina Chi**	**0.98 193**	⇑P	**Pn**	**06 10 40.5 0.0**
CSNT			S	**Sn**	**06 10 53.0 -0.2**
CSNT			AML	AML	
	comp=E,250μm,0.5s				
CSNT			AML	AML	
	comp=E,250μm,0.2s				
CSNT			AML	AML	
	comp=N,302μm,0.7s				
CSNT			AML	AML	
	comp=E,251μm,0.5s				
CSNT			AML	AML	
	comp=N,302μm,0.7s				
BADI	**Badiali**	**1.03 153**	P	**Pn**	**06 10 42.4 +1.2**
BADI			S	**Sn**	**06 10 56.2 +1.8**
BADI			AML	AML	
	comp=E,775μm,1.6s				
BADI			AML	AML	
	comp=N,551μm,0.7s				
BADI			AML	AML	
	comp=N,551μm,0.7s				
BADI			AML	AML	
	comp=E,678μm,0.5s				
BADI			AML	AML	
	comp=N,551μm,1.3s				
PII	**Pisa**	**1.04 228**	P	**Pn**	**06 10 41.6 +0.2**
PII			S	**Sn**	**06 10 54.6 -0.2**
PII			AML	AML	
	comp=E,910μm,1.6s				
PII			AML	AML	
	comp=N,1143μm,0.3s				
PII			AML	AML	
	comp=E,855μm,0.3s				
PII			AML	AML	
	comp=N,1145μm,0.3s				
NARO	**Abbazia di Nar**	**1.08 139**	P	**Pn**	**06 10 41.9 +0.1**
NARO			S	**Sn**	**06 10 57.8 +2.2**
NARO			AML	AML	
	comp=E,556μm,0.5s				
NARO			AML	AML	
	comp=N,375μm,0.9s				
NARO			AML	AML	
	comp=E,438μm,0.2s				
NARO			AML	AML	
	comp=N,328μm,0.3s				
NARO			AML	AML	
	comp=E,438μm,1.8s				
PIEI	**Pieia**	**1.12 142**	P	**Pn**	**06 10 43.0 +0.5**
PIEI			S	**Sn**	**06 10 59.0 +2.3**
PIEI			AML	AML	
	comp=E,571μm,0.6s				
PIEI			AML	AML	
	comp=N,490μm,0.3s				
PIEI			AML	AML	
	comp=E,526μm,0.2s				
PIEI			AML	AML	
	comp=N,491μm,0.3s				
CAFI	**Castiglion Fio**	**1.13 166**	⇓P	**Pn**	**06 10 42.8 +0.2**
CAFI			S	**Sn**	**06 10 58.5 +1.6**
CAFI			AML	AML	
	comp=E,704μm,0.5s				
CAFI			AML	AML	
	comp=N,466μm,0.6s				
CAFI			AML	AML	
	comp=E,708μm,0.5s				
CAFI			AML	AML	
	comp=N,507μm,0.6s				
CAFI			AML	AML	
	comp=N,466μm,0.6s				
CAFI			AML	AML	
	comp=E,707μm,0.5s				
CAFI			AML	AML	
	comp=E,704μm,0.5s				
CAFI			AML	AML	
	comp=N,507μm,0.6s				
ATPI	**Pietralunga -**	**1.13 149**	⇑P	**Pn**	**06 10 43.9 +1.2**
ATPI			AML	AML	
	comp=E,466μm,0.6s				
ATPI			AML	AML	
	comp=N,440μm,0.8s				
ATPI			AML	AML	
	comp=N,402μm,0.7s				
ATPI			AML	AML	
	comp=E,466μm,0.6s				
ATPI			AML	AML	
	comp=N,402μm,1.3s				
MPAG	**Monte Paganucc**	**1.15 133**	P	**Pn**	**06 10 43.7 +0.7**
MPAG			S	**Sb**	**06 11 00.5 +1.2**
MPAG			AML	AML	
	comp=E,554μm,1.0s				
MPAG			AML	AML	
	comp=N,712μm,1.4s				
MPAG			AML	AML	
	comp=N,697μm,0.4s				
MPAG			AML	AML	
	comp=E,1915μm,1.0s				
MPAG			AML	AML	
	comp=N,1911μm,1.0s				
MPAG			AML	AML	
	comp=N,697μm,1.6s				
MPAG			AML	AML	
	comp=E,482μm,0.2s				
ATMI	**Monte Miggiano**	**1.19 156**	P	**Pn**	**06 10 44.7 +1.2**
ATMI			S	**Sn**	**06 11 00.8 +2.2**
ATMI			AML	AML	
	comp=E,666μm,1.6s				
ATMI			AML	AML	
	comp=N,910μm,0.8s				
ATMI			AML	AML	
	comp=N,910μm,0.8s				
ATMI			AML	AML	
	comp=E,646μm,0.7s				
ATMI			AML	AML	
	comp=E,646μm,1.3s				
ATVO	**AVT- Monte Val**	**1.19 150**	P	**Pn**	**06 10 44.4 +0.9**
ATVO			AML	AML	
	comp=E,630μm,0.5s				
ATVO			AML	AML	
	comp=N,464μm,0.7s				
ATVO			AML	AML	
	comp=E,631μm,0.5s				
ATVO			AML	AML	
	comp=N,450μm,0.4s				
MARN	**Marana (Italy)**	**1.25 347**	*e*Pg	**Pb**	**06 10 46.6 +0.4**
MAGO	**Bibbona**	**1.34 211**	AML	AML	
	comp=N,147μm,0.3s				
MAGO			AML	AML	
	comp=E,169μm,0.7s				
MAGO			AML	AML	
	comp=N,147μm,0.3s				
MAGO			AML	AML	
	comp=E,134μm,0.4s				
ARVD	**Arcevia**	**1.34 133**	P	**Pn**	**06 10 45.9 +0.4**
ARVD			AML	AML	
	comp=E,414μm,1.0s				
ARVD			AML	AML	
	comp=N,375μm,1.3s				
ARVD			AML	AML	
	comp=N,320μm,0.2s				
ARVD			AML	AML	
	comp=E,361μm,0.7s				
MURB	**Monte Urbino**	**1.34 150**	P	**Pn**	**06 10 46.9 +1.3**
MURB			S	**Sn**	**06 11 04.8 +2.5**
MURB			AML	AML	
	comp=E,784μm,0.8s				
MURB			AML	AML	
	comp=N,874μm,0.8s				
MURB			AML	AML	
	comp=E,754μm,0.3s				
MURB			AML	AML	
	comp=N,953μm,0.4s				
MURB			AML	AML	
	comp=E,716μm,0.4s				
MURB			AML	AML	
	comp=E,755μm,0.3s				
MURB			AML	AML	
	comp=N,954μm,0.4s				
MURB			AML	AML	
	comp=N,856μm,0.5s				
SENI	**Senigallia**	**1.38 121**	P	**Pn**	**06 10 47.9 +1.9**
SENI			AML	AML	
	comp=N,1560μm,0.4s				
SENI			AML	AML	
	comp=E,1680μm,0.3s				
SENI			AML	AML	
	comp=N,244μm,1.0s				
SENI			AML	AML	
	comp=E,299μm,0.3s				
SENI			AML	AML	
	comp=E,1680μm,0.3s				
SENI			AML	AML	
	comp=N,1561μm,0.5s				
FOSV	**Fossato di Vic**	**1.41 143**	P	**Pn**	**06 10 48.1 +1.7**
FOSV			AML	AML	
	comp=E,342μm,0.4s				
FOSV			AML	AML	
	comp=N,272μm,0.4s				
FOSV			AML	AML	
	comp=E,343μm,0.4s				
FOSV			AML	AML	
	comp=N,272μm,0.4s				
CGRP	**Cima Grappa**	**1.46 6**	P	**Pn**	**06 10 46.5 -0.8**
CGRP			S	**Sn**	**06 11 05.2 -0.2**
CGRP			AML	AML	
	comp=E,312μm,0.5s				
CGRP			AML	AML	
	comp=N,287μm,0.7s				
CGRP			AML	AML	
	comp=E,296μm,0.6s				
CGRP			AML	AML	
	comp=N,256μm,0.7s				
CGRP			AML	AML	
	comp=N,287μm,0.7s				
CGRP			AML	AML	
	comp=E,279μm,0.2s				
CGRP			AML	AML	
	comp=E,269μm,0.4s				
CGRP			AML	AML	
	comp=N,249μm,0.6s				
DOSS	**Dosso del Somm**	**1.49 349**	P	**Pn**	**06 10 46.9 -0.8**
DOSS			AML	AML	
	comp=E,668μm,0.6s				
DOSS			AML	AML	
	comp=N,838μm,0.4s				
DOSS			AML	AML	
	comp=E,883μm,0.4s				
DOSS			AML	AML	
	comp=N,688μm,0.6s				
DOSS			AML	AML	
	comp=E,560μm,0.4s				
DOSS			AML	AML	
	comp=N,603μm,0.4s				
DOSS			AML	AML	
	comp=E,883μm,0.4s				
DOSS			AML	AML	
	comp=N,838μm,0.4s				
VARA	**Varagna**	**1.49 341**	P	**Pn**	**06 10 47.2 -0.5**
VARA			S	**Sn**	**06 11 06.8 +0.7**
VARA			AML	AML	
	comp=E,1045μm,0.5s				
VARA			AML	AML	
	comp=N,1385μm,0.3s				
VARA			AML	AML	
	comp=E,1435μm,0.3s				
VARA			AML	AML	
	comp=N,1110μm,0.5s				
VARA			AML	AML	
	comp=E,1438μm,0.3s				
VARA			AML	AML	
	comp=N,969μm,0.3s				
VARA			AML	AML	
	comp=E,867μm,0.4s				
VARA			AML	AML	
	comp=N,1388μm,0.3s				
MSSA	**Maissana**	**1.50 267**	P	**Pn**	**06 10 48.8 +1.1**
MSSA			AML	AML	
	comp=E,147μm,1.2s				
MSSA			AML	AML	
	comp=N,252μm,0.7s				
MSSA			AML	AML	
	comp=N,252μm,0.7s				
MSSA			AML	AML	
	comp=N,252μm,1.3s				
MSSA			AML	AML	
	comp=E,133μm,0.9s				
MAGA	**Magasa**	**1.52 333**	P	**Pn**	**06 10 48.0 0.0**
MAGA			AML	AML	
	comp=E,2370μm,0.6s				
MAGA			AML	AML	
	comp=N,1770μm,1.1s				
MAGA			AML	AML	
	comp=N,1689μm,0.4s				
MAGA			AML	AML	
	comp=E,2368μm,0.6s				
SNTG	**Esanatoglia**	**1.52 140**	P	**Pn**	**06 10 48.2 +0.2**
SNTG			S	**Sn**	**06 11 07.6 +1.0**
SNTG			AML	AML	
	comp=E,282μm,1.2s				

SNTG				AML	AML	
	comp=N,290µm,1.1s					
SNTG				AML	AML	
	comp=E,245µm,0.3s					
SNTG				AML	AML	
	comp=N,286µm,0.3s					
SNTG				AML	AML	
	comp=E,249µm,0.5s					
SNTG				AML	AML	
	comp=E,245µm,1.7s					
SNTG				AML	AML	
	comp=N,334µm,0.5s					
SNTG				AML	AML	
	comp=E,249µm,1.5s					
MGAB	**Montegabbione**	**1.56 166**	P	**Pn**	**06 10 48.7 +0.3**	
MGAB			S	**Sn**	**06 11 08.2 +0.7**	
LUSI	**Trento, Gardas**	**1.60 343**	P	**Pn**	**06 10 48.7 -0.5**	
LUSI			AML	AML		
	comp=E,728µm,0.2s					
LUSI			AML	AML		
	comp=N,1595µm,0.3s					
LUSI			AML	AML		
	comp=N,1593µm,0.3s					
LUSI			AML	AML		
	comp=E,728µm,0.2s					
BRJN	**Brijuni**	**1.61 72**	⇓P	**Pn**	**06 10 48.0 -1.2**	
BRJN			S	**Sn**	**06 11 07.1 -1.6**	
VARN	**Col Varnada, M**	**1.61 13**	⇑P	**Pn**	**06 10 48.4 -0.8**	
VARN			S	**Sn**	**06 11 08.4 -0.5**	
VARN			AML	AML		
	comp=E,440µm,0.6s					
VARN			AML	AML		
	comp=N,308µm,0.4s					
VARN			AML	AML		
	comp=E,430µm,0.6s					
VARN			AML	AML		
	comp=N,321µm,0.4s					
VARN			AML	AML		
	comp=N,321µm,0.4s					
VARN			AML	AML		
	comp=N,309µm,0.4s					
VARN			AML	AML		
	comp=E,415µm,0.5s					
VARN			AML	AML		
	comp=E,393µm,0.5s					
CTI	**Castel Tesino**	**1.62 1**	⇑P	**Pn**	**06 10 48.8 -0.7**	
CTI			S	**Sn**	**06 11 07.9 -1.4**	
CTI			AML	AML		
	comp=E,678µm,1.3s					
CTI			AML	AML		
	comp=N,668µm,0.2s					
CTI			AML	AML		
	comp=N,669µm,0.2s					
CTI			AML	AML		
	comp=E,628µm,0.2s					
PANI	**Panarotta**	**1.64 354**	P	**Pn**	**06 10 49.7 -0.1**	
PANI			AML	AML		
	comp=E,244µm,0.3s					
PANI			AML	AML		
	comp=N,289µm,1.0s					
PANI			AML	AML		
	comp=E,245µm,0.3s					
PANI			AML	AML		
	comp=N,260µm,0.2s					
PANI			AML	AML		
	comp=E,245µm,1.7s					
GORR	**Gorreto**	**1.66 277**	Pg	**Pn**	**06 10 51.4 +1.5**	
GORR	**Gorreto**	**1.66 277**	P	**Pn**	**06 10 51.5 +1.5**	
GORR			AML	AML		
	comp=E,220µm,0.6s					
GORR			AML	AML		
	comp=N,220µm,0.3s					
GORR			AML	AML		
	comp=E,220µm,0.6s					
GORR			AML	AML		
	comp=N,220µm,0.3s					
GORR			AML	AML		
	comp=E,220µm,1.4s					
RONC	**Roncone**	**1.70 336**	P	**Pn**	**06 10 51.0 +0.4**	
RONC			AML	AML		
	comp=E,972µm,1.6s					
RONC			AML	AML		
	comp=N,884µm,1.0s					
RONC			AML	AML		
	comp=E,800µm,0.2s					
RONC			AML	AML		
	comp=N,1015µm,0.9s					
RONC			AML	AML		
	comp=N,881µm,0.2s					
RONC			AML	AML		
	comp=N,635µm,0.2s					
RONC			AML	AML		
	comp=E,799µm,0.2s					
RONC			AML	AML		
	comp=E,786µm,0.3s					
ZONE	**Zone**	**1.70 322**	P	**Pn**	**06 10 51.8 +1.2**	
ZONE			S	**Sn**	**06 11 11.9 +0.8**	
ZONE			AML	AML		
	comp=E,899µm,0.2s					
ZONE			AML	AML		
	comp=E,899µm,0.2s					
ZONE			AML	AML		
	comp=N,806µm,0.2s					
ZONE			AML	AML		
	comp=E,251µm,0.2s					
ZONE			AML	AML		
	comp=N,206µm,0.2s					
CASP	**Castiglione de**	**1.72 198**	⇑P	**Pn**	**06 10 49.9 -0.8**	
CASP			S	**Sn**	**06 11 10.3 -1.2**	
CASP			AML	AML		
	comp=E,66µm,1.4s					
CASP			AML	AML		
	comp=N,103µm,0.8s					
CASP			AML	AML		
	comp=E,66µm,0.3s					
CASP			AML	AML		
	comp=N,87µm,0.2s					
CASP			AML	AML		
	comp=E,66µm,1.7s					
GAGG	**Gaggia**	**1.72 345**	P	**Pn**	**06 10 50.6 -0.2**	
GAGG			S	**Sn**	**06 11 12.2 +0.5**	
GAGG			AML	AML		
	comp=E,448µm,0.6s					
GAGG			AML	AML		
	comp=N,502µm,0.3s					
GAGG			AML	AML		
	comp=E,530µm,0.3s					
GAGG			AML	AML		
	comp=N,432µm,0.6s					
GAGG			AML	AML		
	comp=E,496µm,0.5s					
GAGG			AML	AML		
	comp=N,389µm,0.3s					
GAGG			AML	AML		
	comp=E,389µm,0.3s					
GAGG			AML	AML		
	comp=N,502µm,0.3s					
MOMA	**Monte Martano**	**1.77 156**	P	**Pn**	**06 10 51.8 +0.4**	
MOMA			S	**Sn**	**06 11 14.8 +2.1**	
MOMA			AML	AML		
	comp=E,153µm,0.5s					
MOMA			AML	AML		
	comp=N,133µm,1.3s					
MOMA			AML	AML		
	comp=E,131µm,0.2s					
MOMA			AML	AML		
	comp=N,193µm,0.4s					
MOMA			AML	AML		
	comp=E,156µm,0.5s					
MOMA			AML	AML		
	comp=E,131µm,1.8s					
MOMA			AML	AML		
	comp=N,131µm,0.3s					
MABI	**Malga Bissina**	**1.80 335**	P	**Pn**	**06 10 52.0 0.0**	
MABI			AML	AML		
	comp=E,132µm,0.2s					
MABI			AML	AML		
	comp=N,140µm,1.4s					
MABI			AML	AML		
	comp=E,131µm,0.2s					
MABI			AML	AML		
	comp=N,135µm,0.2s					
ZIAN	**Ziano**	**1.85 359**	P	**Pn**	**06 10 52.6 0.0**	
ZIAN			S	**Sn**	**06 11 13.8 -1.1**	
ZIAN			AML	AML		
	comp=E,311µm,0.5s					
ZIAN			AML	AML		
	comp=N,283µm,0.4s					
ZIAN			AML	AML		
	comp=E,280µm,0.4s					
ZIAN			AML	AML		
	comp=N,307µm,0.5s					
ZIAN			AML	AML		
	comp=E,280µm,0.4s					
ZIAN			AML	AML		
	comp=N,283µm,0.4s					
ZIAN			AML	AML		
	comp=N,307µm,0.5s					
ZIAN			AML	AML		
	comp=E,311µm,0.5s					
RNCA	**Ronca, Sant'Ol**	**1.90 272**	P	**Pn**	**06 10 53.8 +0.6**	
RNCA	**Ronca, Sant'Ol**	**1.90 272**	P	**Pn**	**06 10 53.8 +0.6**	
CELB	**S.Piero in Cam**	**1.96 212**	P	**Pn**	**06 10 53.3 -0.7**	
CELB			AML	AML		
	comp=E,96µm,1.1s					
CELB			AML	AML		
	comp=N,87µm,1.0s					
CELB			AML	AML		
	comp=E,72µm,0.1s					
CELB			AML	AML		
	comp=N,85µm,0.1s					
GAVE	**Gavelli**	**1.97 151**	P	**Pn**	**06 10 55.5 +1.3**	
GAVE			AML	AML		
	comp=E,276µm,0.3s					
GAVE			AML	AML		
	comp=N,238µm,0.5s					
GAVE			AML	AML		
	comp=E,276µm,0.3s					
GAVE			AML	AML		
	comp=E,302µm,0.4s					
GAVE			AML	AML		
	comp=N,267µm,1.0s					
GAVE			AML	AML		
	comp=E,302µm,1.6s					
GAVE			AML	AML		
	comp=N,210µm,0.3s					
MMO1	**Montemonaco**	**1.97 140**	P	**Pn**	**06 10 54.6 +0.4**	
MMO1			S	**Sn**	**06 11 18.7 +0.8**	
CIMO	**Cimolais**	**1.98 17**	P	**Pn**	**06 10 53.2 -1.1**	
CIMO			S	**Sn**	**06 11 16.9 -1.0**	
CIMO			AML	AML		
	comp=E,80µm,0.4s					
CIMO			AML	AML		
	comp=N,79µm,1.4s					
CIMO			AML	AML		
	comp=E,75µm,1.3s					
CIMO			AML	AML		
	comp=N,72µm,0.8s					
CIMO			AML	AML		
	comp=E,73µm,0.1s					
CIMO			AML	AML		
	comp=N,68µm,0.1s					
CIMO			AML	AML		
	comp=E,70µm,0.1s					
CIMO			AML	AML		
	comp=N,66µm,0.1s					
OZOL	**Ozolo**	**2.02 349**	P	**Pn**	**06 10 55.5 +0.6**	
OZOL			AML	AML		
	comp=E,714µm,0.3s					
OZOL			AML	AML		
	comp=N,354µm,0.4s					
OZOL			AML	AML		
	comp=E,667µm,0.3s					
OZOL			AML	AML		
	comp=N,1203µm,1.0s					
OZOL			AML	AML		
	comp=N,355µm,0.4s					
OZOL			AML	AML		
	comp=E,714µm,0.3s					
KOSI	**Kohlern**	**2.04 356**	P	**Pn**	**06 10 55.4 +0.1**	
KOSI			AML	AML		
	comp=E,217µm,1.6s					
KOSI			AML	AML		
	comp=N,209µm,0.3s					
KOSI			AML	AML		
	comp=E,208µm,0.4s					
KOSI			AML	AML		
	comp=N,209µm,0.3s					
DST2	**Trieste**	**2.05 27**	P	**Pn**	**06 10 54.5 -0.7**	
DST2			S	**Sn**	**06 11 19.8 +0.2**	
DST2			AML	AML		
	comp=E,345µm,0.5s					
DST2			AML	AML		
	comp=N,400µm,0.4s					
DST2			AML	AML		
	comp=N,371µm,0.1s					
DST2			AML	AML		
	comp=E,345µm,0.5s					
SKDS	**Skadanscina**	**2.05 56**	*i* Pn	**Pn**	**06 10 53.4 -1.9**	
APPI	**Appiano**	**2.07 353**	P	**Pn**	**06 10 55.8 +0.1**	
APPI			AML	AML		
	comp=E,313µm,0.3s					
APPI			AML	AML		
	comp=N,276µm,1.0s					
APPI			AML	AML		
	comp=N,261µm,0.2s					
APPI			AML	AML		
	comp=E,313µm,0.3s					
CARE	**Lago del Cares**	**2.10 343**	P	**Pn**	**06 10 56.5 +0.3**	
CARE			S	**Sn**	**06 11 21.9 +0.6**	
CARE			AML	AML		
	comp=E,96µm,0.6s					
CARE			AML	AML		
	comp=N,103µm,0.3s					
CARE			AML	AML		
	comp=N,103µm,0.3s					
CARE			AML	AML		
	comp=E,324µm,0.7s					
CARE			AML	AML		
	comp=N,146µm,0.5s					
CARE			AML	AML		
	comp=E,87µm,0.2s					
SABO	**M.te Sabotino**	**2.10 42**	⇓P	**Pn**	**06 10 55.1 -0.9**	
SABO			S	**Sn**	**06 11 20.4 -0.6**	
SABO			AML	AML		
	comp=E,1235µm,0.5s					
SABO			AML	AML		
	comp=N,1390µm,0.6s					
SABO			AML	AML		
	comp=E,318µm,0.5s					
SABO			AML	AML		
	comp=N,348µm,0.6s					
SABO			AML	AML		
	comp=E,1237µm,0.5s					
SABO			AML	AML		
	comp=E,318µm,0.5s					
SABO			AML	AML		
	comp=N,302µm,0.3s					
SABO			AML	AML		
	comp=E,318µm,1.5s					
SABO			AML	AML		
	comp=E,1237µm,1.5s					
SABO			AML	AML		
	comp=N,1144µm,0.3s					
GEPF	**Gemona**	**2.15 30**	P	**Pn**	**06 10 55.6 -0.9**	
GEPF			S	**Sn**	**06 11 20.9 -1.1**	
GEPF			AML	AML		
	comp=E,108µm,0.2s					
GEPF			AML	AML		
	comp=N,119µm,0.7s					
GEPF			AML	AML		
	comp=N,113µm,0.6s					
GEPF			AML	AML		
	comp=E,108µm,0.2s					
GEPF			AML	AML		
	comp=N,113µm,1.4s					
VINO	**Villanova**	**2.18 32**	P	**Pn**	**06 10 55.9 -1.2**	
VINO			S	**Sn**	**06 11 21.6 -1.3**	
VINO			AML	AML		
	comp=E,216µm,0.6s					
VINO			AML	AML		
	comp=N,183µm,0.5s					
VINO			AML	AML		
	comp=E,196µm,0.7s					
VINO			AML	AML		
	comp=N,176µm,0.3s					
PCP	**Piancastagn**	**2.19 274**	P	**Pn**	**06 10 57.0 -0.2**	
CLUD	**Cludinico**	**2.23 23**	P	**Pn**	**06 10 56.9 -0.8**	
CLUD			S	**Sn**	**06 11 23.0 -1.0**	
CLUD			AML	AML		
	comp=E,77µm,0.5s					
CLUD			AML	AML		
	comp=N,75µm,0.5s					
BRES	**Bressanone**	**2.28 2**	P	**Pn**	**06 10 59.2 +0.6**	
BRES			AML	AML		
	comp=E,140µm,0.2s					
BRES			AML	AML		
	comp=N,153µm,0.3s					
VOJS	**Vojsko**	**2.28 44**	*i* Pn	**Pn**	**06 10 57.0 -1.5**	
JAVS	**Javornik**	**2.28 49**	*e*Pn	**Pn**	**06 10 56.7 -1.8**	
PTCC	**Patocco-Chiusa**	**2.33 31**	P	**Pn**	**06 10 58.1 -1.1**	
PTCC			S	**Sn**	**06 11 25.3 -1.4**	
PTCC			AML	AML		
	comp=E,106µm,0.3s					
PTCC			AML	AML		
	comp=N,78µm,0.4s					
PTCC			AML	AML		
	comp=N,71µm,0.3s					
PTCC			AML	AML		
	comp=E,106µm,0.3s					
ZOU	**Zoufplan**	**2.34 24**	P	**Pn**	**06 10 59.0 -0.4**	
ZOU			S	**Sn**	**06 11 26.7 -0.5**	
ZOU			AML	AML		
	comp=E,158µm,0.9s					
ZOU			AML	AML		
	comp=N,88µm,0.5s					
ZOU			AML	AML		
	comp=N,88µm,0.5s					
ZOU			AML	AML		
	comp=E,166µm,0.3s					
ZOU			AML	AML		
	comp=N,112µm,0.4s					
ZOU			AML	AML		
	comp=E,154µm,0.3s					
MUGIO	**Muggio**	**2.35 311**	P	**Pn**	**06 10 58.9 -0.5**	
MUGIO			AML	AML		
	comp=E,106µm,0.4s					
MUGIO			AML	AML		
	comp=N,127µm,0.5s					
MUGIO			AML	AML		
	comp=E,106µm,0.3s					
MUGIO			AML	AML		
	comp=N,127µm,0.5s					
ABTA	**Abfaltersbach**	**2.41 15**	*i* Pn	**Pn**	**06 11 00.5 +0.2**	
	comp=N,2.1nm,0.1s,SNR=5.0					
ABTA			*i* Sn	**Sn**	**06 11 28.8 +0.1**	
	comp=N,11nm,0.2s					
ROSI	**Rosskopf**	**2.51 357**	P	**Pn**	**06 11 02.5 +0.8**	
ROSI			AML	AML		
	comp=E,164µm,1.2s					
ROSI			AML	AML		
	comp=N,206µm,0.3s					
ROSI			AML	AML		
	comp=E,160µm,0.4s					
ROSI			AML	AML		
	comp=N,206µm,0.3s					
ACOM	**Acomizza, Ital**	**2.52 32**	P	**Pn**	**06 11 01.8 -0.1**	
ACOM			AML	AML		
	comp=E,187µm,0.7s					
ACOM			AML	AML		
	comp=N,168µm,1.0s					
ACOM			AML	AML		
	comp=E,179µm,0.6s					
ACOM			AML	AML		
	comp=N,159µm,1.0s					
ACOM			AML	AML		
	comp=E,173µm,0.6s					
ACOM			AML	AML		
	comp=N,152µm,0.4s					
ACOM			AML	AML		
	comp=E,179µm,0.6s					
ACOM			AML	AML		
	comp=N,148µm,0.4s					
TUE	**Stuetta**	**2.59 323**	P	**Pn**	**06 11 03.9 +1.0**	
TUE			S	**Sn**	**06 11 33.2 -0.1**	
TUE			AML	AML		
	comp=E,117µm,0.3s					
TUE			AML	AML		
	comp=N,96µm,1.6s					
TUE			AML	AML		
	comp=E,143µm,0.3s					
TUE			AML	AML		
	comp=N,118µm,0.4s					
TUE			AML	AML		
	comp=E,117µm,0.3s					
TUE			AML	AML		
	comp=N,95µm,0.3s					
TUE			AML	AML		
	comp=N,119µm,0.4s					
TUE			AML	AML		
	comp=E,143µm,0.3s					
MYKA	**Terra Mystica**	**2.63 32**	*i* Pn	**Pn**	**06 11 03.4 0.0**	
	comp=E,0.3nm,0.1s					
MYKA			*i* Sn	**Sn**	**06 11 34.3 +0.1**	
	comp=E,4.2nm,0.1s					
PGF	**Pioggiola**	**2.66 226**	*e*Pn	**Pn**	**06 11 03.3 -0.5**	
PGF			*e*Sn	**Sn**	**06 11 32.6 -2.3**	
	comp=E,26nm,0.6s					
FETA	**Feichten**	**2.67 347**	*e*Pn	**Pn**	**06 11 05.3 +1.4**	
	comp=E,0.5nm,0.2s					
FETA			*e*Sn	**Sn**	**06 11 34.3 -0.9**	
	comp=E,1.1nm,0.2s					
GBOS	**Grotte di Boss**	**2.70 267**	Pg	**Pn**	**06 11 03.9 -0.4**	
BOJS	**Bojanci**	**2.81 66**	AML	AML		
	comp=E,194µm,0.4s					
BOJS			AML	AML		
	comp=E,215µm,1.2s					
BOJS			AML	AML		
	comp=N,224µm,0.7s					
BOJS			AML	AML		
	comp=N,224µm,0.7s					
SQTA	**Sankt Quirin**	**2.81 355**	*e*Pn	**Pn**	**06 11 06.8 +1.0**	
	comp=N,10nm,0.1s,SNR=21					
SQTA			*i* Sn	**Sn**	**06 11 40.6 +2.1**	
	comp=N,8.1nm,0.2s					
WTTA	**Wattenberg**	**2.84 1**	*i* Pn	**Pn**	**06 11 07.7 +1.4**	
	comp=N,1.4nm,0.1s					
WTTA			*e*Sn	**Sn**	**06 11 40.6 +1.2**	
	comp=N,7.4nm,0.2s					
PIAF	**les Granges de**	**2.88 265**	Pg	**Pn**	**06 11 06.8 +0.1**	
PIAF			S	**Sn**	**06 11 40.8 +0.7**	
WATA	**Walderalm**	**2.91 360**	*e*Pn	**Pn**	**06 11 08.9 +1.6**	
	comp=N,2.7nm,0.1s,SNR=9.9					
WATA			*i* Sn	**Sn**	**06 11 43.1 +1.9**	
	comp=N,14nm,0.3s					
KBA	**Koelnbreinsper**	**2.92 24**	*e*Pn	**Pn**	**06 11 07.6 +0.2**	
	comp=N,2.6nm,0.1s,SNR=9.6					
KBA			*e*Sn	**Sn**	**06 11 41.1 -0.3**	
	comp=N,7.3nm,0.2s					
SAOF	**Saorge**	**2.94 263**	Pg	**Pn**	**06 11 07.5 0.0**	
SAOF			S	**Sn**	**06 11 40.4 -1.3**	
OBKA	**Obir**	**2.94 44**	*e*Pn	**Pn**	**06 11 07.4 -0.2**	
	comp=N,0.3nm,0.1s					
OBKA			*e*Sn	**Sn**	**06 11 41.5 -0.3**	
	comp=N,6.0nm,0.2s					
SATI	**Passo dei Sala**	**3.01 300**	AML	AML		
	comp=E,43µm,0.6s					
SATI			AML	AML		
	comp=E,43µm,1.4s					
SATI			AML	AML		
	comp=N,48µm,0.7s					
SBF	**Sospel**	**3.05 261**	*e*Pn	**Pn**	**06 11 07.6 -1.4**	
SBF	**Sospel**	**3.05 261**	*e*P	**Pn**	**06 11 10.5 +1.5**	
SBF			*e*Sn	**Sn**	**06 11 43.6 -0.8**	
	comp=N,67nm,0.8s					
TURF	**col de Turini**	**3.06 263**	Pg	**Pn**	**06 11 09.3 0.0**	
TURF			S	**Sn**	**06 11 45.4 +0.6**	
LESA	**Schwarzleotal**	**3.09 14**	*i* Pn	**Pn**	**06 11 10.7 +1.0**	
	comp=N,4.1nm,0.2s,SNR=12					
LESA			*i* Sn	**Sn**	**06 11 47.4 +1.9**	
	comp=N,9.1nm,0.3s					
DAVA	**Damuels**	**3.10 338**	*i* Pn	**Pn**	**06 11 11.7 +1.8**	
	comp=N,1.1nm,0.2s					
DAVA			*i* Sn	**Sn**	**06 11 48.6 +2.7**	
	comp=N,3.9nm,0.3s					
RETA	**Reutte**	**3.12 350**	*i* Pn	**Pn**	**06 11 11.9 +1.8**	
	comp=N,1.9nm,0.2s					
RETA			*i* Sn	**Sn**	**06 11 48.4 +2.2**	
	comp=N,6.0nm,0.2s					
SPIF	**crte de Spivo**	**3.16 265**	Pg	**Pn**	**06 11 11.0 +0.4**	
RSP	**Reno Superiore**	**3.17 285**	Pg	**Pn**	**06 11 08.1 -2.6**	
RSP	**Reno Superiore**	**3.17 285**	S	**Sn**	**06 11 44.4 -3.1**	
SOKA	**Soboth**	**3.30 46**	*i* Pn	**Pn**	**06 11 12.8 +0.2**	
	comp=N,0.1nm,0.1s					
SOKA			*i* Sn	**Sn**	**06 11 48.5 -2.1**	
	comp=N,1.9nm,0.2s					
SURF	**Saint Ours**	**3.43 273**	Pg	**Pn**	**06 11 14.2 -0.2**	
MBDF	**Montbardon**	**3.46 277**	*e*Pn	**Pn**	**06 11 14.0 -0.8**	
MBDF			*e*Sn	**Sn**	**06 11 53.0 -1.7**	
	comp=N,3.9nm,0.3s					
JAUF	**Jausiers**	**3.47 272**	Pg	**Pn**	**06 11 14.3 -0.6**	

BIOA	**Bad Ischl, Aus**	**3.56**	**23**	*i* Pn		**Pn**		**06 11 17.0**	**+0.9**
	comp=N,1.1nm,0.1s								
BIOA				*i* Sn		**Sn**		**06 11 57.6**	**+0.6**
	comp=N,5.5nm,0.2s								
SALSA	**La sagne**	**3.58**	**263**	Pg		**Pn**		**06 11 17.7**	**+1.4**
LPG	**La Plagne**	**3.60**	**289**	*e*Pn		**Pn**		**06 11 15.2**	**-1.7**
LPL	**La Plagne**	**3.62**	**289**	*e*Pn		**Pn**		**06 11 17.1**	**0.0**
TRIGF	**Trigance**	**3.80**	**262**	Pg		**Pn**		**06 11 19.2**	**-0.2**
LMR	**La Mourre**	**3.84**	**255**	*e*Pn		**Pn**		**06 11 19.2**	**-0.6**
LMR	**La Mourre**	**3.84**	**255**	*e*P		**Pn**		**06 11 20.8**	**+1.0**
LMR				*e*Sn		**Sn**		**06 12 02.9**	**-0.8**
	comp=N,7.7nm,0.3s								
MOA	**Molln**	**3.90**	**27**	*i* Pn		**Pn**		**06 11 21.1**	**+0.4**
	comp=N,1.7nm,0.2s								
MOA				*i* Sn		**Sn**		**06 12 05.3**	**+0.1**
	comp=N,8.4nm,0.2s								
SULZ	**Cheisacher**	**3.94**	**323**	Pg		**Pn**		**06 11 21.0**	**-0.3**
SULZ	**Cheisacher**	**3.94**	**323**	S		**Sn**		**06 12 03.4**	**-3.0**
SLE	**Schleitheim**	**3.98**	**328**	Pg		**Pn**		**06 11 21.0**	**-0.8**
SLE	**Schleitheim**	**3.98**	**328**	S		**Sn**		**06 12 04.2**	**-3.0**
BALST	**Balsthal**	**3.99**	**318**	Pg		**Pn**		**06 11 21.7**	**-0.2**
ORIF	**Oris-en-Rattie**	**4.11**	**279**	*e*Pn		**Pn**		**06 11 24.1**	**+0.5**
ORIF				*e*Sn		**Sn**		**06 12 07.7**	**-2.9**
	comp=N,4.5nm,0.6s								
CAFE	**Carife**	**4.32**	**140**	AML		AML			
	comp=N,230μm,1.2s								
CAFE				AML		AML			
	comp=E,238μm,0.7s								
CAFE				AML		AML			
	comp=N,294μm,1.5s								
CAFE				AML		AML			
	comp=N,33μm,0.5s								
CAFE				AML		AML			
	comp=E,238μm,0.7s								
CAFE				AML		AML			
	comp=N,230μm,0.8s								
CAFE				AML		AML			
	comp=E,40μm,0.2s								
CAFE				AML		AML			
	comp=E,238μm,1.3s								
SMRF	**Simiane la Rot**	**4.36**	**266**	*e*P		**Pn**		**06 11 29.8**	**+2.8**
SMRF				*e*Sn		**Sn**		**06 12 13.5**	**-3.0**
	comp=E,2.3nm,0.5s								
CABF	**La Chapelle**	**4.45**	**301**	*e*Pn		**Pn**		**06 11 28.2**	**-0.1**
CABF				*e*Sn		**Sn**		**06 12 14.5**	**-4.4**
	comp=E,1.3nm,0.2s								
CONA	**Conrad Observa**	**4.59**	**39**	*i* Pn		**Pn**		**06 11 29.2**	**-1.0**
	comp=E,0.3nm,0.1s								
CONA				*i* Sn		**Sn**		**06 12 21.0**	**-1.4**
	comp=E,3.7nm,0.3s								
RONA	**Rosalia, Austr**	**4.63**	**43**	*i* Pn		**Pn**		**06 11 29.9**	**-0.8**
	comp=E,0.7nm,0.1s								
RONA				*i* Sn		**Sn**		**06 12 21.3**	**-2.0**
	comp=E,1.6nm,0.2s								
HINF	**Hinteralfeld**	**4.73**	**317**	*e*Pn		**Pn**		**06 11 32.3**	**+0.2**
HINF				*e*Sn		**Sn**		**06 12 23.4**	**-2.4**
	comp=E,2.2nm,0.2s								
RONF	**Ronchamp**	**4.76**	**315**	Pg		**Pn**		**06 11 32.4**	**-0.1**
CKRC	**Cesky Krumlov**	**4.78**	**22**	*e*PN		**Pn**		**06 11 32.3**	**-0.4**
CKRC				*e*SN		**Sn**		**06 12 24.5**	**-2.4**
ECH	**Echery**	**4.88**	**323**	Pg		**Pn**		**06 11 33.6**	**-0.6**
KHC	**Kasperske Hory**	**4.90**	**15**	*e*SN		**Sn**		**06 12 26.3**	**-3.7**
VIVF	**Saint-Julien-l**	**4.96**	**277**	*e*Pn		**Pn**		**06 11 34.0**	**-1.3**
VIVF				*e*Sn		**Sn**		**06 12 28.1**	**-3.4**
	comp=E,1.0nm,0.2s								
CDF	**Champ du Feu**	**4.98**	**325**	*e*Pn		**Pn**		**06 11 34.4**	**-1.2**
CDF				*e*Sn		**Sn**		**06 12 29.1**	**-3.0**
	comp=E,1.7nm,0.2s								
HAU	**Haudompre**	**5.11**	**316**	*e*Pn		**Pn**		**06 11 36.8**	**-0.5**
HAU				*e*Sn		**Sn**		**06 12 31.2**	**-3.9**
	comp=E,8.7nm,0.4s								
ZVC	**Zvikov**	**5.32**	**19**	*e*SN		**Sn**		**06 12 37.4**	**-2.9**
TREC	**Trest**	**5.55**	**27**	*e*SN		**Sn**		**06 12 41.1**	**-4.9**
SMF	**Signal de Mont**	**5.88**	**295**	*e*Pn		**Pn**		**06 11 47.2**	**-0.7**
SMF				*e*Sn		**Sn**		**06 12 50.5**	**-3.7**
	comp=E,2.3nm,0.3s								
SFTF	**Sexfontaines**	**5.91**	**312**	*e*Sn		**Sn**		**06 12 50.4**	**-4.4**
	comp=E,11nm,0.3s								
PRU	**Pruhonice**	**5.92**	**19**	*e*SN		**Sn**		**06 12 50.1**	**-4.8**
MEZF	**Maizieres J'vi**	**6.09**	**314**	*e*Pn		**Pn**		**06 11 48.4**	**-2.3**
MEZF				*e*Sn		**Sn**		**06 12 54.5**	**-4.7**
	comp=E,1.4nm,0.2s								
LOR	**Lormes**	**6.11**	**300**	*e*Pn		**Pn**		**06 11 50.5**	**-0.5**
	baz=117								
LOR				*e*Sn		**Sn**		**06 12 56.1**	**-3.6**
	comp=E,1.8nm,0.2s								
SSF	**Saint Saulge**	**6.25**	**298**	*e*Pn		**Pn**		**06 11 52.0**	**-0.9**
SSF				*e*Sn		**Sn**		**06 12 57.5**	**-5.6**
	comp=E,1.3nm,0.3s								
AVF	**Avril sur Loir**	**6.25**	**295**	*e*Pn		**Pn**		**06 11 52.4**	**-0.5**
AVF				*e*Sn		**Sn**		**06 13 00.6**	**-2.5**
	comp=E,0.5nm,0.2s								
BGF	**Bois d'Agland**	**6.51**	**292**	*e*Pn		**Pn**		**06 11 55.7**	**-0.8**
BGF				*e*Sn		**Sn**		**06 13 05.8**	**-3.8**
	comp=E,1.9nm,0.3s								

NEIC ***16*** *06:34:52.5, 19.°98S×71.°01W, h2km*
IDC ***16*** *06:34:53.5±0.7, 20.°00S×71.°43W, h0km, mb3.8/7, mbtmp3.8/10, ML4.2/2, MS3.7/6, Error ellipse: s-maj=31.4km s-min=19.6km az=76.0*
NEIC ***16*** *06:34:53.8±2.6, 19.°95S±0.°04×71.°03W±0.°04, h11km±4km, mb4.7/16, Mwr4.4/32, Error ellipse: s-maj=6.6km s-min=4.9km az=60.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.02; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-3.62; $M_{r\theta}$-0.25; $M_{r\phi}$1.42; $M_{\theta\phi}$-2.09; Fault plane solution: M_o4.60000×10^{15} NP1:ϕ_s327.37000°, δ33.88000°, λ69.75000°. NP2:ϕ_s171.33000°, δ58.47000°, λ103.08000°. Principal axes: T 4.6272, Plg73.0000°, Azm115.0000°; N -0.0540, Plg11.0000°, Azm344.0000°; P -4.5733, Plg13.0000°, Azm252.0000°;*
GUC ***16*** *06:34:55.3±0.9, 19.°89S×71.°04W, h10km±8km, ML4.4*
VAO ***16*** *06:35:03.5±2.0, 19.°88S×70.°58W, h91km±13km, mb4.2*

ISC 16 06:34:52.5±1.7, 19.°88S±0.°03×71.°01W±0.°05, h5km±10km, n92, σ1°74/96, mb4.4/12, MS3.6/4, 9C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.91**	**115**		**Pb**	**06 35 10.9**	**+0.2**
TA02				Sg	**Sb**	**06 35 23.4**	**+0.3**
TA02	**Huaiquique**	**0.91**	**115**	⇑*i*P	**Pn**	**06 35 11.6**	**-0.4**
TA02				*i* S	**Sb**	**06 35 24.2**	**+1.1**
TA01	**Diego Aracena**	**1.03**	**131**		**Pb**	**06 35 13.2**	**+0.4**
TA01				Sg	**Sb**	**06 35 26.5**	**-0.2**
TA01	**Diego Aracena**	**1.03**	**131**	⇑*i*P	**Pn**	**06 35 13.3**	**-0.3**
TA01				*i* S	**Sg**	**06 35 26.4**	**+0.7**
PX02	**IPOC Station P**	**1.19**	**40**	⇑*i*P	**Pg**	**06 35 15.2**	**-0.1**
PX02				*i* S	**Sb**	**06 35 31.8**	**+0.5**
PB11	**IPOC Station P**	**1.28**	**85**	Pn	**Pn**	**06 35 17.2**	**+0.1**
PB11				Sg	**Sb**	**06 35 34.8**	**+0.9**
PB11	**IPOC Station P**	**1.28**	**85**	⇓*i*P	**Pn**	**06 35 17.4**	**+0.3**
PB11				*i* S	**Sn**	**06 35 34.9**	**+0.2**
PB11				IAML		06 35 36.1	
	comp=N,14μm,0.3s						
PB12	**IPOC Station P**	**1.41**	**27**	Pn	**Pn**	**06 35 19.1**	**+0.1**
PB12	**IPOC Station P**	**1.41**	**27**	⇑*i*P	**Pn**	**06 35 19.4**	**+0.4**
PB12				*i* S	**Sb**	**06 35 38.2**	**+0.5**
PB12				IAML		06 35 44.2	
	comp=N,5μm,0.5s						
AP01	**Chacalluta**	**1.63**	**23**		**Pn**	**06 35 22.4**	**+0.6**
AP01	**Chacalluta**	**1.63**	**23**	*e*P	**Pn**	**06 35 22.6**	**+0.8**
AP01				*i* S	**Sb**	**06 35 44.4**	**+0.5**
AP01				IAML		06 35 58.1	
	comp=E,13μm,0.6s						
PB08	**IPOC Station P**	**1.76**	**99**		**Pn**	**06 35 24.1**	**+0.1**
PB08				Sn	**Sb**	**06 35 48.2**	**+0.2**
PB08	**IPOC Station P**	**1.76**	**99**	⇑*i*P	**Pn**	**06 35 24.5**	**+0.5**
PB08				*i* S	**Sb**	**06 35 48.5**	**+0.5**
PB08				IAML		06 35 52.7	
	comp=N,4μm,0.4s						
PB01	**IPOC Station P**	**1.83**	**129**		**Pn**	**06 35 25.1**	**+0.4**
PB01				Sn	**Sn**	**06 35 47.1**	**-1.3**
PB01	**IPOC Station P**	**1.83**	**129**	⇑*i*P	**Pn**	**06 35 25.1**	**+0.4**
PB01				*i* S	**Sn**	**06 35 48.3**	**-0.1**
PB01				IAML		06 35 54.8	
	comp=E,4μm,0.5s						
PB09	**IPOC Station P**	**2.52**	**139**		**Pn**	**06 35 35.3**	**+1.0**
PB09	**IPOC Station P**	**2.52**	**139**	⇑*i*P	**Pn**	**06 35 35.5**	**+1.2**
PB09				*i* S	**Sb**	**06 36 08.5**	**-1.3**
PB09				IAML		06 36 21.4	
	comp=E,2μm,0.6s						
PB18	**Visviri**	**2.70**	**33**	Pn	**Pn**	**06 35 39.6**	**+2.5**
PB18	**Visviri**	**2.70**	**33**	⇑*i*P	**Pb**	**06 35 40.3**	**-1.3**
PB18				*i* S	**Sg**	**06 36 18.6**	**-0.7**
PB18				IAML		06 36 34.5	
	comp=E,3μm,0.7s						
PB05	**IPOC Station P**	**3.05**	**166**	Pn	**Pn**	**06 35 40.5**	**-1.0**
PB06	**IPOC Station P**	**3.11**	**155**	⇑*i*P	**Pn**	**06 35 41.8**	**-0.6**
PB06				*i* S	**Sn**	**06 36 18.1**	**-1.9**
PB10	**IPOC Station P**	**3.64**	**173**		**Pn**	**06 35 47.9**	**-1.6**
AF01	**San Pedro de A**	**4.04**	**140**		**Pn**	**06 35 56.2**	**+1.0**
LPAZ	**La Paz**	**4.50**	**38**	Pn	**Pn**	**06 36 04.7**	**+2.8**
LPAZ	**La Paz**	**4.50**	**38**	Pn	**Pb**	**06 36 09.2**	**-3.1**
	comp=E,7.9nm,0.3s,baz=171,slow=2.0,SNR=35						
LPAZ				Sn	**Sb**	**06 37 01.5**	**-5.6**
	comp=E,5.1nm,0.3s,baz=57,slow=23,SNR=3.9						
	comp=E,21nm,0.4s						
LPAZ	**La Paz**	**4.50**	**38**	*e*P	**Pn**	**06 36 06.0**	**+4.1**
PB14	**IPOC Station P**	**4.75**	**173**	Pn	**Pn**	**06 36 03.2**	**-1.9**
GO02	**Mina Guanaco**	**5.42**	**166**	Pn	**Pn**	**06 36 13.1**	**-1.1**
AC02	**Maricunga**	**7.13**	**166**	Pn	**Pn**	**06 36 37.7**	**-0.3**
AC06	**Mina Casimiro**	**7.47**	**176**	Pn	**Pn**	**06 36 40.5**	**-1.7**
NNA	**Nana**	**9.65**	**324**	Sn	**Sn**	**06 38 54.8**	**-6.1**
	comp=E,1.1nm,0.3s,baz=222,slow=18,SNR=2.4						
SIV	**San Ignacio**	**10.21**	**69**	Pn	**Pn**	**06 37 21.7**	**+1.9**
	comp=E,0.5nm,0.3s,baz=256,slow=9.3,SNR=42						
CFA	**Coronel Fontan**	**11.94**	**169**	Pn	**Pn**	**06 37 43.9**	**+0.5**
	comp=E,0.6nm,0.7s,baz=48,slow=5.1,SNR=1.8						
CFA				Sn	**Sn**	**06 39 51.5**	**-5.5**
	comp=E,0.1nm,0.3s,baz=281,slow=21,SNR=2.0						
PTLB	**Pontes e Lacer**	**12.14**	**71**		**Pn**	**06 37 45.5**	**-0.6**
PTLB	**Pontes e Lacer**	**12.14**	**71**	*e*P	**Pn**	**06 37 47.9**	**+1.7**
VILB	**Vilhena**	**12.44**	**58**	Pn	**Pn**	**06 37 52.9**	**+2.5**
VILB	**Vilhena**	**12.44**	**58**	*e*P	**Pn**	**06 37 53.0**	**+2.6**
CPUP	**Villa Florida**	**14.12**	**120**	Pn	**P**	**06 38 18.8**	**-2.3**
	comp=E,0.2nm,0.3s,baz=322,slow=12,SNR=4.4						
CPUP				LR	LR	06 44 15.2	
	comp=E,206nm,18.3s,baz=300,slow=39						
	comp=E,2.0nm,0.8s						
AQDB	**Aquidauana**	**14.38**	**95**	Pn	**Pn**	**06 38 17.1**	**+0.2**
ATAH	**Atahualpa**	**14.56**	**329**	LR	LR	06 44 35.5	
	comp=E,170nm,19.8s,baz=348,slow=40						
SALV	**Santo Antonio**	**15.10**	**77**	*e*P	**Pn**	**06 38 27.9**	**+1.3**
H03N1	**Juan Fernandez**	**15.23**	**206**	T	T	06 54 22.0	
	baz=33,slow=72,SNR=24						
H03N2	**Juan Fernandez**	**15.24**	**206**	T	T	06 54 51.9	
	baz=33,slow=72,SNR=17						
H03N3	**Juan Fernandez**	**15.25**	**206**	T	T	06 54 47.7	
	baz=33,slow=72,SNR=33						
PDRB	**Porto dos Gac**	**16.00**	**61**	*e*P	**Pn**	**06 38 39.2**	**+0.8**
ARAG	**Araguaiana, MT**	**18.74**	**80**	*e*P	**P**	**06 39 09.7**	**-2.6**
ITAB	**Concordia**	**18.77**	**116**	P	**P**	**06 39 11.9**	**-0.7**
LDASE	**Londrina, Braz**	**18.81**	**104**	*e*P	**P**	**06 39 11.3**	**-1.8**
MACA	**Manacapuru-AM**	**19.43**	**33**	P	**P**	**06 39 18.6**	**-1.3**
MACA				IAmb	IAmb	06 39 29.0	
	comp=Z,23nm,0.5s						
TRQA	**Tornquist**	**19.74**	**158**	P	**P**	**06 39 23.3**	**+0.2**
NPGB	**Novo Progresso**	**19.83**	**52**	*e*P	**P**	**06 39 23.6**	**-0.7**
FRTB	**Fartura**	**20.23**	**104**	*e*P	**P**	**06 39 28.1**	**-0.5**
SNDB	**Serra Nova Dou**	**20.51**	**70**	*e*P	**P**	**06 39 29.5**	**-2.1**
PLCA	**Paso Flores**	**20.79**	**179**	P	**P**	**06 39 35.3**	**+0.8**
PLCA	**Paso Flores**	**20.79**	**179**	P	**P**	**06 39 35.2**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=360,slow=16,SNR=2.8						
	comp=Z,1.8nm,0.9s						
BB19B	**Bebedouro**	**21.09**	**97**	*e*P	**P**	**06 39 35.2**	**-2.7**
OTAV	**Otavalo**	**21.28**	**339**	P	**P**	**06 39 41.7**	**+1.2**
OTAV	**Otavalo**	**21.28**	**339**	*e*P	**P**	**06 39 44.3**	**+3.8**
IPMB	**Ipameri, GO**	**21.64**	**89**	*e*P	**P**	**06 39 43.1**	**-0.8**
FLOC	**Florencia**	**21.81**	**347**	P	**P**	**06 39 47.3**	**+1.6**
FLOC				IAmb	IAmb	06 40 13.5	
	comp=Z,15nm,1.0s						
BDFB	**Brasilia**	**22.29**	**83**	P	**P**	**06 39 47.8**	**-3.2**
	comp=Z,4.3nm,0.9s,baz=250,slow=9.0,SNR=6.2						
BDFB				LR	LR	06 49 25.1	
	comp=Z,227nm,20.3s,baz=286,slow=38						
BOAV	**Boa Vista**	**24.41**	**26**	P	**P**	**06 40 12.1**	**0.0**
BOAV				IAmb	IAmb	06 40 13.4	
	comp=Z,11nm,0.8s						
BOAV	**Boa Vista**	**24.41**	**26**	*e*P	**P**	**06 40 12.4**	**+0.3**
ROSC	**El Rosal**	**24.78**	**352**	LR	LR	06 52 06.6	
	comp=Z,231nm,18.4s,baz=188,slow=42						
RUSC	**La Rusia**	**25.69**	**355**	P	**P**	**06 40 24.7**	**+0.5**
RUSC				IAmb	IAmb	06 40 28.3	
	comp=Z,23nm,1.2s						
JANB	**Januaria**	**25.90**	**84**	*e*P	**P**	**06 40 24.1**	**-1.6**
BAUV	**El Baul**	**28.79**	**6**	P	**P**	**06 40 51.2**	**-0.3**
PCRV	**Puerto La Cruz**	**30.52**	**12**	LR	LR	06 53 58.6	
	comp=Z,131nm,20.2s,slow=37						
MDP	**Montagnes des**	**30.70**	**38**	LR	LR	06 54 10.8	
	comp=Z,271nm,19.2s,baz=187,slow=37						
RCBR	**Riachuelo**	**36.86**	**73**	P	**P**	**06 42 01.6**	**-0.6**
TEIG	**Tepich**	**43.30**	**336**	P	**P**	**06 42 56.2**	**+0.8**
TXAR	**Lajitas Array**	**58.19**	**326**	P	**P**	**06 44 49.0**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=148,slow=7.4,SNR=3.6						
	comp=Z,0.5nm,0.9s						
MIAR	**Mount Ida**	**58.23**	**338**	P	**P**	**06 44 48.3**	**+0.5**
MIAR				IAmb	IAmb	06 45 02.2	
	comp=Z,7.1nm,1.2s						
O52A	**Adamsville**	**60.53**	**350**	P	**P**	**06 45 03.5**	**-0.1**
SNAA	**Sanae**	**64.44**	**161**	P	**P**	**06 45 28.9**	**-0.6**
SNAA				IAmb	IAmb	06 45 50.8	
	comp=Z,11nm,1.5s						
DBIC	**Dimbokro**	**70.18**	**75**	P	**P**	**06 46 08.4**	**+1.6**
DBIC				IAmb	IAmb	06 46 42.8	
	comp=Z,14nm,1.4s						
DBIC	**Dimbokro**	**70.18**	**75**	P	P	06 46 12.1	+5.3
	comp=Z,3.3nm,0.7s,baz=235,slow=5.1,SNR=4.2						
	comp=Z,3.3nm,0.7s						
QSPA	**South Pole Qui**	**70.30**	**180**	P	**P**	**06 46 08.1**	**+1.3**
QSPA				IAmb	IAmb	06 46 09.4	
	comp=Z,5.8nm,1.2s						
QSPA	**South Pole Qui**	**70.30**	**180**	P	**P**	**06 46 08.5**	**+1.6**
	comp=Z,2.8nm,1.0s,baz=130,slow=2.6,SNR=13						
	comp=Z,2.8nm,1.0s						
PDAR	**Pinedale Array**	**71.74**	**331**	P	**P**	**06 46 18.1**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=224,slow=4.7,SNR=2.2						
	comp=Z,0.3nm,0.8s						
NVAR	**Mina Array Bea**	**73.02**	**323**	P	**P**	**06 46 26.0**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=154,slow=6.2,SNR=5.1						
	comp=Z,0.8nm,0.9s						
YKA	**Yellowknife Ar**	**89.02**	**341**	P	**P**	**06 47 48.7**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=143,slow=5.2,SNR=13						
	comp=Z,1.3nm,1.0s						
H11S2	**WAKE ISLAND Hyl**	**25.71**	**279**	T	T	09 13 22.2	
	baz=101,slow=74,SNR=31						
H11S1	**WAKE ISLAND Hyl**	**25.72**	**279**	T	T	09 13 20.8	
	baz=101,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hyl**	**25.73**	**279**	T	T	09 13 23.4	
	baz=101,slow=74,SNR=21						
H11N3	**WAKE ISLAND Hyl**	**25.75**	**280**	T	T	09 13 20.9	
	baz=102,slow=74						
H11N2	**WAKE ISLAND Hyl**	**25.77**	**280**	T	T	09 13 20.8	
	baz=102,slow=74						
H11N1	**WAKE ISLAND Hyl**	**25.77**	**280**	T	T	09 13 24.5	
	baz=102						
ZALV	**Zalesovo Beam**	**141.28**	**23**	PKP	**PKPdf**	**06 54 24.9**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=280,slow=0.9,SNR=4.9						
MKAR	**Makanchi Array**	**145.41**	**33**	PKPbc	**PKPab**	**06 54 32.2**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=335,slow=4.3,SNR=11						
MJAR	**Matsushiro Arr**	**149.53**	**309**	PKPbc	**PKPbc**	**06 54 43.6**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=42,slow=5.6,SNR=5.1						
SONM	**Songino Array**	**152.03**	**4**	PKPbc	**PKiKP**	**06 54 50.1**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=1.1,slow=0.7,SNR=7.4						

KRSC 16 06:36:54.7±1.8, 50.°76N×157.°77E, h55km±23km, Ml3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.93**	**320**	*e*P	Pn	06 37 12.7	+1.1
PAU				*e*S	Sn	06 37 24.3	+0.3
SKR	**Severo-Kuril's**	**1.05**	**266**	*e*S	Sn	06 37 26.0	-0.9
KDTR	**Khodutka, Kamc**	**1.07**	**10**	*i* P	Pn	06 37 15.7	+2.3
KDTR				*e*S	Sn	06 37 29.3	+2.0
RUS	**Russkaya**	**1.74**	**15**	*e*P	Pn	06 37 24.8	+2.3
RUS				*e*S	Sn	06 37 44.9	+1.4
GRL	**Gorelyy**	**1.81**	**6**	*e*P	Pn	06 37 26.4	+2.9
GRL				*e*S	Sn	06 37 47.8	+2.5
KRMR	**Karymshinskiy**	**2.08**	**6**	*e*P	Pn	06 37 28.9	+1.7
APC	**Apacha**	**2.20**	**350**	*e*P	Pn	06 37 31.4	+2.6
PET	**Petropavlovsk**	**2.33**	**13**	*e*P	Pn	06 37 32.8	+2.3
PET				*e*S	Sn	06 38 00.7	+2.7
DALK	**Dalny**	**2.35**	**15**	*e*P	Pn	06 37 33.8	+2.9
DALK				*e*S	Sn	06 38 01.8	+3.2
UGLR	**Uglovaya**	**2.54**	**15**	*e*P	Pn	06 37 36.9	+3.4
AVH	**Avacha**	**2.58**	**13**	*e*P	Pn	06 37 38.2	+4.2
KOK	**Koryaka**	**2.59**	**12**	*e*P	Pn	06 37 38.5	+4.3
NLC	**Nalytchevo**	**2.60**	**21**	*e*P	Pn	06 37 36.0	+1.7
NLC				*e*S	Sn	06 38 05.7	+1.1
SDLR	**Sedlovina**	**2.62**	**15**	*e*P	Pn	06 37 37.5	+3.0
KRX	**Arik**	**2.66**	**11**	*e*P	Pn	06 37 39.0	+3.8
SPN	**Mys Shipunski**	**2.73**	**30**	*e*P	Pn	06 37 39.3	+3.4
SPN				*e*S	Sn	06 38 10.9	+3.2
GNL	**Ganaly**	**2.94**	**2**	*e*P	Pn	06 37 42.9	+3.9
KII	**Karymskiy**	**3.44**	**17**	*e*P	Pn	06 37 50.2	+4.4
MKZ	**Mys Kozlova**	**4.50**	**31**	*e*P	Pn	06 38 02.9	+2.7
KBTR	**Krutoberegovo**	**6.23**	**27**	*e*P	Pn	06 38 26.9	+3.0

NAO ***16*** *06:42:03.8, 36.°43N×24.°76E, h10km, mb3.9*
IDC ***16*** *06:42:17.3±1.1, 37.°49N×20.°80E, h0km, mb3.9/11, mbtmp3.7/19, ML3.5/6, MS3.1/3, Error ellipse: s-maj=21.7km s-min=14.8km az=171.0*
BEO ***16*** *06:42:18.5±3.7, 36.°99N×20.°50E, h100km±3km, ML3.5/7*
THE ***16*** *06:42:18.8, 37.°38N×20.°82E, h0km±1km, ML4.0/10, Error ellipse: s-maj=2.0km s-min=0.4km az=215.0*
ATH ***16*** *06:42:19.8, 37.°40N×20.°79E, h9km±3km, ML3.7/18, Manual Solution by A.Moschou First location: 2019/03/16 06:43:16, This location: 2019/03/16 07:45:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
MCSM ***16*** *06:42:23.9±0.8, 38.°N±8.°×2.°1E±.°, h10km, mb4.0, mB5.1, MLv4.1, Mw(mB)4.5*

ISC 16 06:42:19.2±1.1, 37.°40N±0.°03×20.°79E±0.°03, h14km±7km, n158, σ1°28/191, mb3.8/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**5**	P	**Pb**	**06 42 25.2**	**-0.5**
KRI1				S	**Sb**	**06 42 29.1**	**-1.0**
	71μm,0.4s						
LTHK	**Lithakia**	**0.31**	**7**	P	**Pb**	**06 42 25.9**	**-0.6**
LTHK				S	**Sg**	**06 42 30.2**	**+0.2**
	35μm,0.5s						
LTHK	**Lithakia**	**0.31**	**7**	P	**Pb**	**06 42 26.0**	**-0.6**
LTHK				S	**Sb**	**06 42 31.0**	**-0.4**
KYPS	**Kipseli, Zakin**	**0.42**	**4**	P	**Pb**	**06 42 28.3**	**0.0**
KYPS				S	**Sb**	**06 42 33.9**	**-0.6**
ORTH	**Orthonies,Zaky**	**0.45**	**351**	P	**Pb**	**06 42 28.9**	**-0.1**
ORTH				S	**Sb**	**06 42 35.1**	**-0.6**
CLEM	**Kyllini,Ilia,G**	**0.56**	**29**	P	**Pb**	**06 42 30.3**	**-0.5**
CLEM				S	**Sb**	**06 42 38.7**	**+0.1**
LCHA	**Lechaina**	**0.65**	**35**	P	**Pb**	**06 42 32.4**	**0.0**
LCHA				S	**Sb**	**06 42 41.7**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.67**	**359**	P	**Pg**	**06 42 32.2**	**-0.2**
RTZL				S	**Sb**	**06 42 42.4**	**+0.5**
	6μm,0.7s						
ZARO	**Zacharo**	**0.69**	**83**	P	**Pb**	**06 42 33.5**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.73**	**347**	P	**Pg**	**06 42 33.3**	**-0.1**
PSDA				S	**Sb**	**06 42 44.3**	**+0.8**
	21μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.73**	**347**	P	**Pb**	**06 42 33.6**	**-0.1**
PSDA				S	**Sb**	**06 42 44.9**	**+1.4**
AMT	**Artemida-Makis**	**0.74**	**80**	P	**Pb**	**06 42 33.6**	**-0.4**
AMT				S	**Sb**	**06 42 45.5**	**+1.4**
VLS	**Valsamata**	**0.79**	**349**	P	**Pg**	**06 42 34.2**	**-0.4**
VLS				S	**Sb**	**06 42 46.3**	**+

FNA	Florina	3.41	8	*e*Pn	Pn	06 43 13.8	+1.8
OHR	Ohrid	3.70	0	*i* Pn	Pn	06 43 19.0	+3.0
OHR	Ohrid	3.70	0	*e*Pn	Pn	06 43 16.8	+0.7
IDI	Anoyia	3.93	121	Pn	Pn	06 43 21.0	+1.8
	3.7nm,0.4s,baz=259,slow=7.0,SNR=8.8						
IDI				Sn	Sn	06 44 05.0	-0.1
	2.8nm,0.3s,baz=306,slow=14,SNR=3.9						
CEL	Celeste	3.97	284	Pn	Pn	06 43 20.2	+0.5
TIR	Tirane	4.00	350	*e*Pn	Pn	06 43 20.3	+0.2
TIR	Tirane	4.00	350	Pn	Pn	06 43 22.4	+2.3
KNT	Kendrikon	4.09	23	P	Pn	06 43 22.4	+1.0
VAY	Valandovo	4.15	19	*i* Pn	Pn	06 43 26.1	+4.0
VAY	Valandovo	4.15	19	*e*Pn	Pn	06 43 24.3	+2.2
SRS	Serrai	4.30	30	P	Pn	06 43 25.3	+1.1
SRS	Serrai	4.30	30	*e*Pn	Pn	06 43 25.3	+1.1
DRME	Dracevica, Mon	4.93	346	*e*Pn	Pn	06 43 33.1	+0.2
VAE	Valguarnera	5.07	273	Pn	Pn	06 43 36.5	+1.6
	21nm,0.8s,baz=90,slow=1.0,SNR=5.6						
VAE				Sn	Sn	06 44 34.0	+0.7
	3.9nm,0.3s,baz=251,slow=16,SNR=1.9						
PDG	Podgorica	5.16	347	*e*Pn	Pn	06 43 35.4	-0.6
BOSS	Bosilegrad	5.25	14	*e*Pn	Pn	06 43 38.7	+1.4
HCY	Herceg Novi	5.34	341	*e*Pn	Pn	06 43 38.1	-0.4
BARS	Barje	5.46	8	*e*Pn	Pn	06 43 41.1	+0.9
VTS	Vitosha	5.54	19	*e*Pn	Pn	06 43 43.0	+1.7
TREB	Trebinje	5.63	341	*e*Pn	Pn	06 43 40.9	-1.5
TREB	Trebinje	5.63	341	*e*Pn	Pn	06 43 41.6	-0.8
TREB				*e*Sn	Sn	06 44 38.6	-8.2
BRY	Bratogost	5.75	343	*e*Pn	Pn	06 43 44.5	+0.2
SELS	Selova	5.81	2	*e*Pn	Pn	06 43 45.4	+0.3
SJES	Sjenica	5.88	354	*e*Pn	Pn	06 43 45.4	-0.7
SJES	Sjenica	5.88	354	*e*Pn	Pn	06 43 46.1	0.0
STON	Ston	5.95	338	*e*Pn	Pn	06 43 45.4	-1.5
STON	Ston	5.95	338	*e*Pn	Pn	06 43 46.3	-0.6
STON				*e*Sn	Sn	06 44 45.6	-9.2
UPM	Unac-Piva	5.97	347	*e*Pn	Pn	06 43 48.6	+1.3
ZAPS	Zavoj	6.03	13	*e*Pn	Pn	06 43 49.7	+1.7
BOVS	Bovan	6.26	6	*e*Pn	Pn	06 43 51.5	+0.3
RUDO	Rudo	6.30	351	*e*Pn	Pn	06 43 55.1	+3.4
GRUS	Gruza	6.48	360	*e*Pn	Pn	06 43 54.5	+0.4
ZAGS	Zajecar	6.50	9	*e*Pn	Pn	06 43 55.4	+1.0
BBLS	Lazi&#263i	6.54	351	*e*Pn	Pn	06 43 54.4	-0.7
BBLS	Lazi&#263i	6.54	351	*e*Pn	Pn	06 43 54.9	-0.1
DIVS	Divibare	6.71	355	*e*Pn	Pn	06 43 57.3	-0.2
HAPS	Han Pijesak,BI	6.82	349	*e*Pn	Pn	06 43 59.2	+0.3
A050A	Klekovaca	7.77	337	*e*Pn	Pn	06 44 12.3	+0.4
FRGS	Fruska Gora	7.78	355	*e*Pn	Pn	06 44 05.9	-6.1
A051A	Mrakovica	8.14	340	*e*Pn	Pn	06 44 16.0	-1.0
VOIR		8.64	20	Pn	Pn	06 44 25.5	+1.6
	6.8nm,0.8s						
MORH	Mrgy, Hungar	8.95	350	Pn	Pn	06 44 30.0	+2.0
	4.7nm,0.8s						
MLR	Muntele Rosu	8.96	24	Pn	Pn	06 44 29.0	+0.8
	0.2nm,0.3s,baz=188,slow=7.1,SNR=6.7						
MLR				LR	LR	06 48 06.4	
	comp=Z,117nm,20.1s,baz=210,slow=39						
	1.2nm,0.7s						
MLR	Muntele Rosu	8.96	24	Pn	Pn	06 44 33.1	+4.8
	9.2nm,1.1s						
BOJS	Bojanci	9.10	335	*e*Pn	Pn	06 44 29.8	-0.2
TIRR	Tirgusor	9.11	37	Pn	Pn	06 44 32.5	+2.4
	9.6nm,1.7s						
KEST	Kesra	9.35	263	Pn	Pn	06 44 35.4	+1.7
	0.2nm,0.3s,baz=74,slow=11,SNR=4.0						
	5.1nm,0.8s						
PLOR5	Plostina Array	9.51	26	Pn	Pn	06 44 42.0	+6.3
	15nm,1.1s						
PLOR3	Plostina Array	9.51	26	Pn	Pn	06 44 41.6	+5.8
	924nm11nm,1.5s						
VRI	Vrincioaia	9.55	26	Pn	Pn	06 44 42.3	+6.0
	12nm,1.1s						
CEY	Cerknica	9.59	332	*e*Pn	Pn	06 44 36.9	+0.1
ANTO	Ankara	9.71	72	Pn	Pn	06 44 42.3	+3.7
	3.8nm,0.6s						
MPLH	Magyarpolny	10.05	347	Pn	Pn	06 44 44.4	+1.3
SOKA	Soboth	10.20	337	*i* Pn	Pn	06 44 44.9	-0.4
	1.9nm,0.5s						
OBKA	Obir	10.21	335	*i* Pn	Pn	06 44 46.7	+1.3
	1.7nm,0.3s						
OBKA	Obir	10.21	335	*e*Pn	Pn	06 44 46.4	+1.0
BRTR	Keskin Array B	10.33	73	Pn	Pn	06 44 48.9	+1.9
	0.1nm,0.3s,baz=253,slow=12,SNR=1.6						
	0.3nm,0.5s						
BRIU	Brid	11.05	8	Pn	Pn	06 44 58.6	+1.8
NSLU	Nyzhne Selyshc	11.12	13	Pn	Pn	06 44 57.2	-0.5
MODS	Modra-Piesok	11.26	348	*e*PN	Pn	06 45 03.0	+3.3
LESA	Schwarzleotal	11.66	332	*i* Pn	Pn	06 45 06.1	+0.9
	2.1nm,0.4s						
GERES	GERESS Array B	12.54	338	Pn	Pn	06 45 17.8	+0.5
	0.2nm,0.3s,baz=153,slow=14,SNR=2.4						
GERES				LR	LR	06 50 43.8	
	comp=Z,72nm,18.4s,baz=280,slow=41						
	0.5nm,0.4s						
AKASG	Malin Array Be	14.60	22	Pn	Pn	06 45 45.0	-0.2
	0.9nm,0.3s,baz=208,slow=9.0,SNR=6.4						
AKASG				LR	LR	06 52 48.3	
	comp=Z,105nm,18.2s,baz=240,slow=44						
	0.1nm,0.2s						
NACGM	Naroch	17.98	11	*e*P	Pn	06 46 29.1	+0.5
	baz=196						
ESDC	Sonseca Array	19.48	284	P	P	06 46 46.3	+0.6
	baz=76,slow=12,SNR=14						
	1.4nm,0.8s						
MDT	Midelt	21.25	265	P	P	06 47 05.5	+0.4
	1.1nm,0.4s,baz=74,slow=9.4,SNR=4.4						
	1.1nm,0.4s						
HFS	Hagfors	23.20	351	P	P	06 47 24.6	-0.8
	2.9nm,0.7s,baz=168,slow=9.0,SNR=7.4						
	2.9nm,0.7s						
EKA	Eskdalemuir Ar	24.18	326	P	P	06 47 34.2	-0.8
	3.4nm,0.8s,baz=126,slow=9.2,SNR=6.3						
	3.4nm,0.8s						
FINES	FINESS Array B	24.29	6	P	P	06 47 35.0	-0.9
	1.3nm,0.7s,baz=170,slow=12,SNR=4.7						
	1.3nm,0.7s						
NB2	NORSAR Subarra	24.42	349	P	P	06 47 36.9	-0.2
	comp=Z,1.6nm,0.7s,baz=155,slow=9.3						
NOA	NORSAR Array B	24.42	349	P	P	06 47 36.4	-0.7
	comp=Z,1.2nm,0.8s,baz=150,slow=9.7,SNR=5.7						
	comp=Z,1.2nm,0.8s						
ARCES	ARCESS Array B	32.29	3	P	P	06 48 46.5	-0.7
	comp=Z,4.0nm,1.0s,baz=188,slow=8.4,SNR=3.1						
	comp=Z,4.0nm,1.0s						
SPITS	Spitsbergen Ar	40.92	359	P	P	06 50 00.1	-0.6
	comp=Z,12nm,1.0s,baz=149,slow=11,SNR=2.5						
	comp=Z,12nm,1.0s						
KURBB	Kurchatov Arra	42.52	53	P	P	06 50 15.0	+1.0
	comp=Z,2.8nm,0.2s,baz=280,slow=8.7,SNR=1.3						
	comp=Z,2.8nm,0.2s						
MKAR	Makanchi Array	45.53	58	P	P	06 50 37.3	-1.0
	comp=Z,0.2nm,0.5s,baz=274,slow=6.7,SNR=10.0						
	comp=Z,0.2nm,0.5s						
ZALV	Zalesovo Beam	46.05	48	P	P	06 50 40.8	-1.4
	comp=Z,0.4nm,0.3s,baz=242,slow=6.1,SNR=2.2						
	comp=Z,0.4nm,0.3s						
YKA	Yellowknife Ar	74.19	340	P	P	06 53 53.9	-1.2
	comp=Z,0.2nm,0.6s,baz=40,slow=5.4,SNR=4.4						
	comp=Z,0.2nm,0.6s						
ASAR	Alice Springs	121.88	97	PKP	PKPdf	07 01 13.1	-0.2
	comp=Z,0.3nm,0.8s,baz=279,slow=1.7,SNR=1.6						

IDC ***16*** *07:06:09.6±0.4, 1˚.05N×126˚.63E, h0km, mb4.6/26, mbtmp4.7/29, ML5.0/3, MS3.8/15, Error ellipse: s-maj=19.7km s-min=8.0km az=74.0*
BJI ***16*** *07:06:12.8, 0˚.78N×126˚.68E, h46km, mB5.0/18, mb4.8/59, Ms4.5/19, Ms7 4.1/24*
NEIC ***16*** *07:06:15.2±1.8, 1˚.17N±0˚.07×126˚.60E±0˚.06, h33km±5km, mb5.1/86, Mww4.9/10, Error ellipse: s-maj=11.3km s-min=7.4km az=202.0*
DJA ***16*** *07:06:16.4±0.2, 1˚N±2˚×12˚7E±˚, h51km±2km, M4.8/56, mb5.0/56, mB5.3/20, MLv5.0/20, Mw(mB)4.7/20, MwMwp4.7/2, Mwp5.1/2*
GCMT ***16*** *07:06:19.2±0.2, 1˚.25N±0˚.01×126˚.54E±0˚.02, h26km±1km, MW5.1/113, Moment Tensor Solution. s44,c55; s113,c159; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.06±.16; Mθθ2.86±.12; Mφφ-2.80±.13; Mrθ-1.95±.28; Mθφ-3.27±.12; Mφr-1.81±.30; Best double couple: M=5.02800×1016 NP1:φs=337.00000°, δ62.00000°, λ-8.00000°. NP2:φs=71.00000°, δ83.00000°, λ-152.00000°. Principal axes: T 4.6150, Plg14.0000°, Azm201.0000°; N 0.8210, Plg61.0000°, Azm84.0000°; P -5.4400, Plg25.0000°, Azm297.0000°; nsta1 refers to body waves,*

cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 16 07:06:16.1±0.4, 1˚.10N±0˚.04×126˚.60E±0˚.05, h41km±3km, h40km:pP-P, n290, σ1$42/291, mb4.9/108, MS3.9/24, 5C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.84	113		Pn	07 06 30.6	-0.9
TNTI	Ternate	0.84	113	P	Pn	07 06 31.0	-0.6
TNTI	Ternate	0.84	113	P	Pn	07 06 30.9	-0.6
TNTI				S	Sn	07 06 40.3	-2.4
KMSI	Cibinong	2.67	259	P	Pn	07 06 57.7	+1.1
SGSI	Sangihe	2.78	337	P	Pn	07 06 56.5	-1.7
SANI	Sanana	3.19	191	P	Pn	07 07 04.2	+0.4
SANI	Sanana	3.19	191	P	Pn	07 07 04.3	+0.4
NLAI	Namlea	4.34	173	P	Pn	07 07 20.9	+1.2
LUWI	Luwuk	4.38	241	Pn	Pn	07 07 22.2	+2.0
LUWI	Luwuk	4.38	241	P	Pn	07 07 24.5	+4.3
MRSI	Marisa	4.70	262	P	Pn	07 07 27.1	+2.6
MSAI	Masohi	5.00	152	P	Pn	07 07 32.3	+3.6
	1.1nm235nm,0.9s						
AAI	Ambon	5.02	161	P	Pn	07 07 31.6	+2.6
	0.3nm3μm193nm,0.4s						
SWI	Sorong	5.06	113	P	Pn	07 07 30.8	+1.3
	4μm2μm87nm,1.0s						
APSI	Ampana	5.34	248	P	Pn	07 07 35.5	+2.2
TOLI2	Tolitoli	5.81	270	Pn	Pn	07 07 38.5	-1.3
DAV	Davao City (W)	6.01	350	Pn	Pn	07 07 41.7	-1.0
	36nm,0.3s,baz=86,slow=6.1,SNR=1.3						
DAV				Sn	Sn	07 08 51.8	+1.5
	38nm,0.3s,baz=82,slow=21,SNR=1.0						
	201nm,0.5s						
KDI	Kendari	6.41	218	P	Pn	07 07 50.1	+2.0
	1.1nm230nm,1.0s						
BNDI	Bandanaira	6.49	149	P	Pn	07 07 52.4	+3.2
	1.1nm191nm,0.8s						
FAKI	Fak Fak	6.92	125	Pn	Pn	07 07 57.0	+1.9
FAKI	Fak Fak	6.92	125	P	Pn	07 07 56.0	+0.9
FAKI	Fak Fak	6.92	125	P	Pn	07 07 56.8	+1.7
	0.4nm1μm109nm,0.8s						
BBSI	Bau Bau	7.68	212	P	Pn	07 08 09.0	+3.4
TTSI	Tana Toraja	7.93	239	P	Pn	07 08 11.0	+2.0
	1μm128nm,0.7s						
SPSI	Sidrap Palu	8.48	234	P	Pn	07 08 19.2	+2.7
MYLDM	Lahad Datu	9.04	297	Pn	Pn	07 08 23.8	-0.4
BKSI	Bulukumba	9.09	225	P	Pn	07 08 27.5	+2.7
	1μm98nm,0.9s						
KAPI	Kappang	9.15	228	Pn	Pn	07 08 26.4	+0.7
KAPI	Kappang	9.15	228	Pn	Pn	07 08 24.7	-1.0
	17nm,0.3s,baz=38,slow=12,SNR=8.6						
KAPI				Sn	Sn	07 10 07.9	+0.6
	3.2nm,0.3s,baz=185,slow=20,SNR=1.7						
	14nm,0.3s						
KAPI	Kappang	9.15	228	P	Pn	07 08 26.4	+0.7
BSSI	Bau Bau, Buton	9.43	220	P	Pn	07 08 33.0	+3.4
	76nm,1.0s						
MMRI	Maumere	10.60	204	Pn	Pn	07 08 46.9	+1.2
SOEI	Soe	11.03	192	Pn	Pn	07 08 55.7	+4.1
SOEI	Soe	11.03	192	P	Pn	07 08 56.6	+5.0
	2μm175nm,1.0s						
KKM	Kota Kinabalu	11.46	296	Pn	Pn	07 08 57.2	-0.3
BATI	Baumata	11.61	194	P	Pn	07 09 04.3	+4.9
	1μm91nm,1.2s						
PLAI	Plampang	13.21	222	P	Pn	07 09 19.8	-1.5
PLAI	Plampang	13.21	222	P	Pn	07 09 25.4	+4.1
	1μm79nm,1.7s						
TWSI	Taliwang, Sumb	13.76	225	P	Pn	07 09 31.6	+2.8
	1μm111nm,0.8s						
TGY	Tagaytay City	14.08	337	LR	LR	07 15 33.7	
	comp=Z,450nm,19.2s,baz=146,slow=40						
DRS	Darwin Rock St	14.11	162	P	Pn	07 09 33.8	+0.3
SBUM	Sibu	14.43	276	Pn	Pn	07 09 39.5	+1.6
SBUM	Sibu	14.43	276	P	Pn	07 09 35.8	-2.1
JAY	Jayapura	14.56	104	LR	LR	07 15 36.8	
	comp=Z,855nm,19.4s,baz=282,slow=39						
MTN	Manton Dam	14.57	162	Pn	Pn	07 09 39.4	-0.4
MTN	Manton Dam	14.57	162	P	Pn	07 09 38.5	-1.2
	comp=Z,33nm,0.8s						
KDU	Kakadu	14.89	157	P	Pn	07 09 45.4	+1.4
	comp=Z,74nm,1.0s						
KMMI	Kalianget	14.98	237	P	P	07 09 49.2	-0.9
	comp=Z,150nm,0.9s						
JAGI	Jajag, Banyuwa	15.63	232		Pn	07 09 55.1	+1.3
JAGI	Jajag, Banyuwa	15.63	232	P	Pn	07 09 52.4	-1.3
JAGI	Jajag, Banyuwa	15.63	232	P	P	07 09 55.8	-1.5
	comp=Z,2μmcomp=Z,119nm,1.6s						
GMJI	Gumukmas	16.08	234	P	P	07 10 02.2	-0.2
	comp=Z,74nm,1.0s						
KSM	Kuching	16.29	271		Pn	07 10 01.4	-0.7
KNRA	Kununurra	16.81	173	Pn	Pn	07 10 08.5	-0.1
KNRA	Kununurra	16.81	173	P	Pn	07 10 08.8	+0.1
	comp=Z,84nm,1.1s						
NGJI	Ngawi	17.28	241	P	P	07 10 17.0	+1.3
	comp=Z,89nm,1.0s						
PCJI	Pacitan	17.93	239	P	P	07 10 24.5	+1.7
	comp=Z,86nm,0.6s						
UGM	Wangama	18.36	241	P	P	07 10 26.6	-1.0
FITZ	Fitzroy Crossi	19.10	183	P	Pn	07 10 36.4	-0.4
FITZ	Fitzroy Crossi	19.10	183	P	P	07 10 34.8	-0.9
	comp=Z,2.6nm,0.3s,baz=14,slow=10,SNR=34						
FITZ				LR	LR	07 20 03.1	
	comp=Z,238nm,18.3s,baz=9.0,slow=44						
	comp=Z,18nm,0.7s						
BBJI	Bungbulang	20.73	245	P	P	07 10 54.5	+1.0
DLV	Lat	20.95	302	P	P	07 10 54.6	-1.4
DLV				IAmb	IAmb	07 10 57.0	
	comp=Z,119nm,1.6s						
WB0	Warramunga Arr	22.11	160	P	P	07 11 07.5	-0.7
COEN	Coen	22.22	133	P	P	07 11 10.0	+0.5
COEN	Coen	22.22	133	P	P	07 11 10.2	+0.7
	comp=Z,20nm,0.7s						
COEN	Coen	22.22	133	P	P	07 11 10.9	+1.4
CGJI	Cibinong	22.23	250	P	P	07 11 08.1	-1.4
	comp=Z,27nm,0.5s						
WRAB	Tennant Creek	22.25	160	P	P	07 11 08.7	-1.0
WRAB				IAmb	IAmb	07 11 11.2	
	comp=Z,81nm,0.7s						
WRA	Warramunga Arr	22.25	160	P	P	07 11 08.7	-1.0
WRA	Warramunga Arr	22.25	160	P	P	07 11 09.2	-0.6
	comp=Z,82nm,0.7s,baz=339,slow=11,SNR=189						
WRA				S	S	07 15 10.0	-2.4
	comp=Z,2.7nm,0.8s,baz=342,slow=15,SNR=4.6						
	comp=Z,82nm,0.7s						
WB2	Warramunga Arr	22.25	160	P	P	07 11 08.6	-1.2
WB2	Warramunga Arr	22.25	160	P	P	07 11 09.2	-0.6
WR2	Warramunga Arr	22.26	160	P	P	07 11 09.4	-0.5
WR0	Warramunga Arr	22.34	160	P	P	07 11 09.3	-1.3
WR0				IAmb	IAmb	07 11 12.1	
	comp=Z,59nm,0.8s						
MYKOM	Kota Tinggi	22.75	272	P	P	07 11 12.8	-2.4
TPUB	Ta-pu	22.81	346	P	P	07 11 13.2	-2.6
TPUB				IAmb	IAmb	07 11 17.1	
	comp=Z,72nm,0.8s						
TPUB	Ta-pu	22.81	346	P	P	07 11 14.9	-0.8
PMG	Port Moresby	22.99	117	P	P	07 11 17.5	-0.1
	comp=Z,17nm,0.8s,baz=301,slow=7.7,SNR=3.9						
PMG				LR	LR	07 22 48.7	
	comp=Z,877nm,18.5s,baz=316,slow=44						
	comp=Z,17nm,0.8s						
MDSI	Maura Dua	23.08	256	P	P	07 11 18.4	-0.1
	comp=Z,1μmcomp=Z,23nm,0.8s						
MBWA	Marble Bar	23.12	197	P	P	07 11 17.9	-0.9
	comp=Z,50nm,1.8s						
MBWA	Marble Bar	23.12	197	P	P	07 11 18.2	-0.6
SSLB	Suanglung	23.20	347	P	P	07 11 17.4	-2.3
SSLB				IAmb	IAmb	07 11 21.1	
	comp=Z,32nm,0.8s						
SSLB	Suanglung	23.20	347	P	P	07 11 19.1	-0.6
PSAD1	Pilbara Seismi	23.37	196	P	P	07 11 21.0	-0.3
	comp=Z,0.0nmcomp=Z,25nm,0.8s						
PSAC1	Pilbara Seismi	23.45	196	P	P	07 11 21.4	-0.7
	comp=Z,33nm,0.8s						
PSAB2	Pilbara Seismi	23.46	196	P	P	07 11 21.3	-0.9
	comp=Z,43nm,0.8s						
PSA00	Pilbara Seismi	23.48	196	P	P	07 11 21.2	-1.2
PSA00				IAmb	IAmb	07 11 29.0	
	comp=Z,31nm,0.8s						
PSA00	Pilbara Seismi	23.48	196	P	P	07 11 21.5	-0.9
	comp=Z,42nm,0.8s						
XMI	Christmas Isla	23.76	241	P	P	07 11 24.7	-0.4
XMIS	Christmas Isla	23.80	241	P	P	07 11 24.7	-0.8
XMIS				IAmb	IAmb	07 11 26.1	
	comp=Z,89nm,0.9s						
XMIS	Christmas Isla	23.80	241	P	P	07 11 24.8	-0.8
YHNB	Yeheng	23.97	348	P	P	07 11 24.6	-2.4
YHNB				IAmb	IAmb	07 11 33.0	
	comp=Z,46nm,0.9s						
QIZ	Qiongzhong	24.23	318	P	P	07 11 29.3	-0.1
QIZ				S	S	07 15 46.9	+1.5
QIZ				LR	LR		
	comp=Z,300nm,17.2s						
QIZ				LR	LR		
	comp=Z,270nm,13.7s						
QIZ				LR	LR		
	comp=Z,310nm,17.2s						
QIS	Mount Isa	25.02	150	P	P	07 11 36.8	+0.2
	comp=Z,34nm,0.9s						
QIS	Mount Isa	25.02	150	P	P	07 11 37.5	+1.0
UBPT	Khong Chiam	25.17	305	P	P	07 11 36.1	-1.8
UBPT				IAmb	IAmb	07 11 38.3	
	comp=Z,74nm,1.6s						
BKNI	Bangkinang	25.57	268	P	P	07 11 42.2	+0.6
AS15	Alice Springs	25.60	164	P	P	07 11 41.7	-0.1
	comp=Z,82nm,0.9s						
AS31	Alice Springs	25.62	164	P	P	07 11 41.6	-0.4
ASAR	Alice Springs	25.62	164	P	P	07 11 41.4	-0.7
ASAR	Alice Springs	25.62	164	P	P	07 11 42.0	-0.1
	comp=Z,32nm,0.9s,baz=345,slow=7.4,SNR=45						
ASAR				S	S	07 16 08.3	+0.6
	comp=Z,5.0nm,0.8s,baz=342,slow=18,SNR=11						
ASAR				ScP	ScP	07 18 49.2	+0.5
	comp=Z,2.2nm,0.9s,baz=339,slow=2.3,SNR=7.0						
	comp=Z,32nm,0.9s						
JOW	Kunigami	25.63	3	P	P	07 11 39.4	-2.7
JOW				IAmb	IAmb	07 11 48.7	
	comp=Z,63nm,1.0s						
JOW	Kunigami	25.63	3	LR	LR	07 22 21.1	
	comp=Z,126nm,21.0s,baz=274,slow=38						
AS01	Alice Springs	25.64	164	P	P	07 11 42.3	+0.1
MTSU	Mount Surprise	25.88	138	P	P	07 11 44.3	0.0
	comp=Z,7.8nm,0.7s						
WRKA	Warakurna	26.04	176	P	P	07 11 46.1	+0.4
	comp=Z,55nm,1.1s						
WRKA	Warakurna	26.04	176	P	P	07 11 46.7	+0.9
PPI	Padang Panjang	26.24	267	P	P	07 11 47.3	-0.5
GIRL	Giralia	26.50	206	P	P	07 11 50.3	+0.4
RPSI	Rantau Prapat	27.70	274	P	P	07 11 58.6	-2.2
PSI	Prapat	27.71	274	LR	LR	07 24 31.0	
	comp=Z,261nm,20.7s,baz=89,slow=40						
MEEK	Meekatharra	28.63	195	P	P	07 12 09.5	+0.5
JCJ	Chichijima	29.87	29	LR	LR	07 22 12.2	
	comp=Z,102nm,20.2s,baz=233,slow=32						
NJ2	Nanjing	31.64	347	*e*P	P	07 12 37.0	+1.5
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
NJ2				LR	LR		
	comp=Z,590nm,23.4s						
NJ2				LR	LR		
	comp=Z,610nm,21.5s						
NJ2				LR	LR		
	comp=Z,630nm,21.5s						
MORW	Morawa	31.66	198	P	P	07 12 35.2	-0.5
MORW				IAmb	IAmb	07 12 50.2	
	comp=Z,47nm,1.6s						
MORW	Morawa	31.66	198	P	P	07 12 35.3	-0.5
	comp=Z,15nm,0.8s						
FORT	Forrest	31.74	178	P	P	07 12 35.9	-0.4
FORT	Forrest	31.74	178	P	P	07 12 36.3	0.0
	comp=Z,69nm,0.6s						
JNU	Nakatsue	32.10	7	LR	LR	07 26 12.7	
	comp=Z,101nm,21.6s,baz=177,slow=37						
CMAR	Chiang Mai Arr	32.15	304	P	P	07 12 38.4	-1.9
CMAR	Chiang Mai Arr	32.15	304	P	P	07 12 39.4	-0.9
	comp=Z,1.8nm,0.7s,baz=123,slow=7.2,SNR=15						
CMAR				LR	LR	07 25 54.0	
	comp=Z,134nm,20.2s,baz=110,slow=37						
	comp=Z,1.8nm,0.7s						
CHTO	Chiang Mai	32.33	305	P	P	07 12 39.6	-2.2
PZH	PanZhiHua	34.77	319	P	P	07 13 02.3	-0.8
PZH				S	S	07 18 35.6	+4.5
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,130nm,4.7s						
PZH				LR	LR		
	comp=Z,180nm,21.2s						
PZH				LR	LR		
	comp=Z,180nm,20.8s						
PZH				LR	LR		
	comp=Z,350nm,22.0s						
BBOO	Buckleboo	34.90	166	P	P	07 13 03.3	-0.6
BBOO				IAmb	IAmb	07 13 04.8	
	comp=Z,17nm,0.6s						
BBOO	Buckleboo	34.90	166	P	P	07 13 03.6	-0.3
	comp=Z,33nm,1.4s						
NWAO	Narrogin (SRO)	34.98	194	P	P	07 13 04.8	+0.1
	comp=Z,54nm,2.6s						
EIDS	Eidsvold	35.41	140	P	P	07 13 07.7	-0.8
INU	Inuyama	35.43	15	P	P	07 13 07.6	-0.8
STKA	Stephens Creek	35.75	158	P	P	07 13 10.9	-0.4
STKA	Stephens Creek	35.75	158	P	P	07 13 11.1	-0.2
	comp=Z,6.2nm,0.4s,baz=338,slow=8.4,SNR=33						
	comp=Z,6.2nm,

LZH			pmax	pmax		
	comp=Z,25nm,1.2s					
LZH			LR	LR		
	comp=Z,290nm,13.7s					
LZH			LR	LR		
	comp=Z,240nm,14.4s					
LZH			LR	LR		
	comp=Z,400nm,14.1s					
SHL	**Shillong**	**41.36 309**	P	**P**	**07 13 57.4**	**-1.3**
SHL			IAmb	IAmb	07 14 01.7	
	comp=Z,19nm,0.6s					
HHC	**Hu-ho-hao-te**	**41.84 343**	*e*P	**P**	**07 14 03.6**	**+1.2**
HHC			S	**S**	**07 20 22.3**	**+4.7**
HHC			pmax	pmax		
	comp=Z,14nm,0.6s					
HHC			pmax	pmax		
	comp=Z,130nm,5.3s					
HHC			LR	LR		
	comp=Z,180nm,13.5s					
HHC			LR	LR		
	comp=Z,110nm,10.1s					
HHC			LR	LR		
	comp=Z,220nm,17.7s					
CAN	**Canberra**	**41.85 152**	P	**P**	**07 14 03.5**	**+1.1**
CAN			IAmb	IAmb	07 14 14.8	
	comp=Z,59nm,1.6s					
CAN	**Canberra**	**41.85 152**	P	**P**	**07 14 03.9**	**+1.5**
BTO	**Baotou**	**42.10 341**	*e*P	**P**	**07 14 08.8**	**+4.4**
BTO			S	**S**	**07 20 29.6**	**+8.3**
BTO			pmax	pmax		
	comp=Z,10.0nm,0.7s					
BTO			pmax	pmax		
	comp=Z,280nm,4.2s					
BTO			LR	LR		
	comp=Z,260nm,5.0s					
BTO			LR	LR		
	comp=Z,230nm,5.5s					
BTO			LR	LR		
	comp=Z,370nm,15.7s					
CN2	**Changchun**	**42.53 359**	P	**P**	**07 14 09.8**	**+2.1**
CN2			pP	pwP	07 14 22.0	+0.8
CN2			S	**S**	**07 20 29.1**	**+1.8**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,100nm,4.0s					
CN2			LR	LR		
	comp=Z,400nm,17.0s					
CN2			LR	LR		
	comp=Z,500nm,17.0s					
CN2			LR	LR		
	comp=Z,400nm,16.0s					
USA0B	**Ussuriysk Arra**	**43.18 6**	P	**P**	**07 14 12.1**	**-0.9**
USA0B			IAmb	IAmb	07 14 28.6	
	comp=Z,34nm,1.4s					
USRK	**Ussuriysk Ar.**	**43.18 6**	P	**P**	**07 14 12.4**	**-0.5**
	comp=Z,9.1nm,0.7s,baz=188,slow=9.2,SNR=15					
USRK			LR	LR	07 33 43.7	
	comp=Z,30nm,21.2s,baz=205,slow=38					
	comp=Z,9.1nm,0.7s					
ERM	**Erimo**	**43.37 18**	P	P	07 14 20.0	+5.4
ERM			pP	sP	07 14 35.6	+5.8
MDJ	**Mudanjiang**	**43.41 3**	P	**P**	**07 14 13.7**	**-1.1**
MDJ	**Mudanjiang**	**43.41 3**	P	**P**	**07 14 14.3**	**-0.6**
MDJ			PP	**PP**	**07 15 57.3**	**+0.9**
MDJ			S	S	07 20 50.0	+10
MDJ			sS	sS	07 20 58.4	+0.1
MDJ			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MDJ	**Mudanjiang**	**43.41 3**	P	**P**	**07 14 15.0**	**+0.2**
MDJ			pP	**sP**	**07 14 30.3**	**+0.1**
MDJ			sP	pwP	07 14 37.1	+8.7
XLT	**XiLinHaoTe**	**43.63 349**	*e*P	**P**	**07 14 18.1**	**+1.3**
XLT			pP	sP	07 14 31.9	-0.1
XLT			pmax	pmax		
	comp=Z,13nm,1.0s					
XLT			pmax	pmax		
	comp=Z,110nm,5.2s					
BNX	**BinXian**	**44.46 1**	⇑P	**P**	**07 14 22.5**	**-0.7**
BNX			pmax	pmax		
	comp=Z,5.0nm,1.3s					
ASAJ	**Asahikawa**	**45.13 16**	LR	LR	07 31 11.4	
	comp=Z,90nm,20.8s,baz=220,slow=33					
DZM	**Mont Dzumac**	**45.18 123**	*e*P	**P**	**07 14 30.8**	**+1.3**
	comp=Z,26nm,1.3s					
DZM	**Mont Dzumac**	**45.18 123**	*e*LR	LR	07 27 05.4	
	comp=Z,206nm,22.8s					
DZM	**Mont Dzumac**	**45.18 123**	P	**P**	**07 14 30.9**	**+1.4**
DZM			pP	**sP**	**07 14 45.3**	**+0.7**
GTA	**Gaotai**	**45.29 331**	*e*P	**P**	**07 14 30.3**	**+0.2**
GTA			PcP	**PcP**	**07 16 11.1**	**+1.6**
GTA			pmax	pmax		
	comp=Z,4.0nm,0.7s					
GOMU	**GeErMu**	**45.68 323**	P	**P**	**07 14 34.3**	**+0.7**
GOMU			pP	pP	07 14 43.3	-1.5
GOMU			pmax	pmax		
	comp=Z,12nm,0.6s					
PALK	**Pallekele**	**46.15 279**	LR	LR	07 35 18.6	
	comp=Z,196nm,20.8s,baz=82,slow=38					
SONM	**Songino Array**	**49.74 342**	P	**P**	**07 15 02.4**	**-2.2**
	comp=Z,2.4nm,0.7s,baz=156,slow=9.1,SNR=9.3					
SONM			LR	LR	07 38 55.4	
	comp=Z,83nm,18.6s,baz=148,slow=40					
	comp=Z,2.4nm,0.7s					
MSVF	**Nonsavu**	**53.98 113**	P	**P**	**07 15 38.9**	**+2.2**
MSVF			pP	**sP**	**07 15 54.1**	**+2.0**
WMQ	**Urumqi**	**54.80 326**	*e*P	**P**	**07 15 43.6**	**+1.4**
WMQ			pP	pP	07 15 51.9	-1.4
WMQ			pmax	pmax		
	comp=Z,21nm,1.1s					
WMQ			LR	LR		
	comp=Z,130nm,24.0s					
PEA0B	**Petropavlovsk-**	**57.90 22**	P	**P**	**07 16 04.3**	**+0.3**
PETK	**Petropavlovsk-**	**57.90 22**	P	**P**	**07 16 04.8**	**+0.8**
PETK	**Petropavlovsk-**	**57.90 22**	P	**P**	**07 16 03.5**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=189,slow=5.4,SNR=15					
	comp=Z,4.6nm,0.8s					
WUS	**Wushi**	**58.44 319**	P	**P**	**07 16 08.4**	**+0.3**
ZSN	**Zaisan**	**58.64 328**	*e*P	**P**	**07 16 08.1**	**-1.2**
	comp=Z,6.0nm,1.0s					
SHLS	**Shalkode**	**59.29 321**	*e*P	**P**	**07 16 12.2**	**-1.9**
	comp=Z,6.7nm,0.9s					
UZB	**Uzynbulak**	**59.56 321**	*e*P	**P**	**07 16 15.8**	**-0.1**
LBZ	**Lake Benmore**	**59.61 145**	P	**P**	**07 16 15.6**	**-0.4**
LBZ	**Lake Benmore**	**59.61 145**	P	**P**	**07 16 16.3**	**+0.3**
TARG	**Taragay, Kyrgy**	**59.62 319**	P	**P**	**07 16 17.1**	**+0.4**
MK31	**Makanchi Array**	**59.64 326**	P	**P**	**07 16 14.4**	**-1.8**
MKAR	**Makanchi Array**	**59.64 326**	P	**P**	**07 16 14.8**	**-1.4**
MKAR	**Makanchi Array**	**59.64 326**	P	**P**	**07 16 15.1**	**-1.2**
	comp=Z,4.8nm,0.5s,baz=120,slow=8.3,SNR=32					
	comp=Z,4.8nm,0.5s					
THZ	**Tophouse**	**59.73 141**	P	**P**	**07 16 17.4**	**+0.3**
NNZ	**Nelson**	**59.74 140**	P	**P**	**07 16 17.2**	**+0.2**
KSH	**Kashi**	**59.82 316**	P	**P**	**07 16 19.8**	**+2.1**
KSH			pmax	pmax		
	comp=Z,8.0nm,1.1s					
MAKZ	**Makanchi**	**59.82 326**	P	**P**	**07 16 16.2**	**-1.3**
MAKZ			IAmb	IAmb	07 16 21.9	
	comp=Z,12nm,0.8s					
MAKZ	**Makanchi**	**59.82 326**	P	**P**	**07 16 17.2**	**-0.3**
SATY	**Saty**	**59.90 321**	*e*P	**P**	**07 16 18.1**	**-0.1**
	comp=Z,7.4nm,0.7s					
ZHN	**Zhinishke**	**59.94 321**	*e*P	**P**	**07 16 18.1**	**-0.4**
KDJ	**Kajisay**	**60.22 319**	P	**P**	**07 16 19.5**	**-1.0**
KDJ			IAmb	IAmb	07 16 24.3	
	comp=Z,11nm,1.0s					
GVZ	**Greta Valley S**	**60.48 142**	P	**P**	**07 16 23.0**	**+1.0**
URZ	**Urewera**	**60.74 136**	P	**P**	**07 16 23.4**	**-0.5**
BKZ	**Black Stump Fm**	**60.75 137**	P	**P**	**07 16 23.2**	**-0.8**
BKZ			IAmb	IAmb	07 16 29.9	
	comp=Z,18nm,1.0s					
BKZ	**Black Stump Fm**	**60.75 137**	P	**P**	**07 16 23.1**	**-0.9**
TNSS	**Tian-Shan**	**60.81 320**	*e*P	**P**	**07 16 24.4**	**-0.5**
KWHZ	**Kaweka Forest**	**60.83 137**	P	**P**	**07 16 25.2**	**+0.6**
MTHZ	**Maungataniwha**	**60.84 137**	P	**P**	**07 16 24.7**	**+0.1**
TDK	**Taldyqorghan**	**60.90 323**	*e*P	**P**	**07 16 24.6**	**-0.4**
	comp=Z,4.8nm,0.7s					
AAA	**Alma-Ata**	**60.92 320**	*e*P	**P**	**07 16 25.0**	**-0.1**
HAZ	**Te Kaha**	**60.98 135**	P	**P**	**07 16 24.8**	**-0.7**
MWZ	**Matawai**	**61.07 136**	P	**P**	**07 16 25.8**	**-0.4**
SNGZ	**Shannon Statio**	**61.15 136**	P	**P**	**07 16 27.1**	**+0.4**
BOOM	**Boomskoye usch**	**61.20 319**	P	**P**	**07 16 26.2**	**-1.0**
MA2	**Magadan**	**61.27 14**	P	**P**	**07 16 26.6**	**-0.5**
MA2			IAmb	IAmb	07 16 33.8	
	comp=Z,12nm,0.7s					
KAHZ	**Kahuranaki**	**61.31 138**	P	**P**	**07 16 27.7**	**-0.1**
BFZ	**Birch Farm**	**61.32 139**	P	**P**	**07 16 27.9**	**+0.1**
AAK	**Ala-Archa**	**62.22 319**	P	**P**	**07 16 34.4**	**+0.3**
SGDS	**Sogindy**	**62.50 320**	*e*P	**P**	**07 16 35.8**	**0.0**
ARSB	**Arslanbob**	**62.66 317**	P	**P**	**07 16 35.7**	**-1.3**
ARSB			IAmb	IAmb	07 16 41.2	
	comp=Z,8.6nm,0.7s					
DRK	**Karamyk**	**62.73 315**	P	**P**	**07 16 35.9**	**-1.8**
DRK			IAmb	IAmb	07 16 42.3	
	comp=Z,15nm,0.7s					
ZAA0	**Zalesovo Array**	**62.86 334**	P	**P**	**07 16 35.8**	**-2.0**
ZAA0			IAmb	IAmb	07 16 53.9	
	comp=Z,14nm,1.1s					
ZALV	**Zalesovo Beam**	**62.86 334**	P	**P**	**07 16 36.1**	**-1.8**
ZALV	**Zalesovo Beam**	**62.86 334**	P	**P**	**07 16 37.1**	**-0.8**
	comp=Z,2.9nm,0.5s,baz=133,slow=6.8,SNR=9.2					
	comp=Z,2.9nm,0.5s					
KBL	**Kabul**	**63.02 309**	P	**P**	**07 16 38.1**	**-1.6**
KBL			IAmb	IAmb	07 16 41.0	
	comp=Z,14nm,1.0s					
BTLS	**Baital**	**63.61 321**	*e*P	**P**	**07 16 43.2**	**+0.2**
GAR	**Garm**	**63.61 314**	P	**P**	**07 16 41.5**	**-1.8**
KURBB	**Kurchatov Arra**	**63.88 328**	P	**P**	**07 16 43.9**	**-0.8**
	comp=Z,18nm,0.8s,baz=126,slow=6.4,SNR=60					
	comp=Z,18nm,0.8s					
KURK	**Kurchatov**	**63.88 328**	P	**P**	**07 16 43.5**	**-1.1**
DZA	**Taraz**	**64.43 318**	*e*P	**P**	**07 16 48.3**	**-0.2**
	comp=Z,7.7nm,0.6s					
SIMJ	**Simiganj**	**64.44 313**	P	**P**	**07 16 48.2**	**-0.6**
SIMJ	**Simiganj**	**64.44 313**	P	**P**	**07 16 49.6**	**+0.8**
IUG	**Iuzhnay**	**65.01 317**	*e*P	**P**	**07 16 52.4**	**-0.1**
	comp=Z,9.7nm,0.9s					
KK31	**Karatay Array**	**65.06 318**	P	**P**	**07 16 52.2**	**-0.4**
KK31			IAmb	IAmb	07 16 56.6	
	comp=Z,15nm,1.1s					
KKAR	**Karatay Array**	**65.06 318**	P	**P**	**07 16 51.2**	**-1.4**
KKAR	**Karatay Array**	**65.06 318**	P	**P**	**07 16 51.0**	**-1.6**
KKAR			IAmb	IAmb	07 16 57.0	
	comp=Z,5.3nm,0.7s					
BRLS	**Borolday**	**65.49 318**	*e*P	**P**	**07 16 54.9**	**-0.5**
BRZS	**Berezniki**	**66.75 325**	*e*P	**P**	**07 17 03.2**	**-0.1**
BVAR	**Borovoye Array**	**69.44 328**	P	**P**	**07 17 19.8**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=133,slow=8.7,SNR=18					
	comp=Z,4.9nm,0.6s					
BRVK	**Borovoye**	**69.52 328**	P	**P**	**07 17 19.8**	**-0.8**
BRVK			IAmb	IAmb	07 17 38.1	
	comp=Z,31nm,1.0s					
BRVK	**Borovoye**	**69.52 328**	P	**P**	**07 17 20.6**	**+0.1**
BRVK			pP	**sP**	**07 17 36.3**	**0.0**
TIXI	**Tiksi**	**70.45 1**	P	**P**	**07 17 25.1**	**-0.9**
TIXI	**Tiksi**	**70.45 1**	P	**P**	**07 17 25.5**	**-0.4**
NRIK	**Noril'sk**	**72.93 346**	P	**P**	**07 17 40.1**	**-0.8**
NRIK	**Noril'sk**	**72.93 346**	P	**P**	**07 17 40.9**	**-0.1**
	comp=Z,6.8nm,0.7s,baz=142,slow=5.4,SNR=10					
	comp=Z,6.8nm,0.7s					
ABKAR	**Akbulak array**	**74.09 321**	P	**P**	**07 17 46.8**	**-1.3**
ABKAR	**Akbulak array**	**74.09 321**	P	**P**	**07 17 47.2**	**-0.9**
ABKAR			IAmb	IAmb	07 18 04.9	
	comp=Z,12nm,0.9s					
ARTI	**Arti**	**77.16 328**	P	**P**	**07 18 03.8**	**-1.8**
ARTI			IAmb	IAmb	07 18 07.7	
	comp=Z,38nm,1.5s					
VNDA	**Vanda**	**80.85 173**	P	**P**	**07 18 25.6**	**+0.2**
VNDA			IAmb	IAmb	07 18 26.8	
	comp=Z,14nm,1.0s					
VNDA	**Vanda**	**80.85 173**	P	**P**	**07 18 25.8**	**+0.4**
	comp=Z,8.5nm,0.7s,baz=300,slow=6.3,SNR=17					
	comp=Z,8.5nm,0.7s					
C16K	**Lisburne Hills**	**80.98 20**	P	**P**	**07 18 26.6**	**+0.5**
RAYN	**Ar Rayn**	**81.39 293**	P	**P**	**07 18 28.3**	**-1.1**
K17K	**Iditarod**	**82.22 27**	P	**P**	**07 18 33.5**	**+0.7**
K17K			IAmb	IAmb	07 18 59.7	
	comp=Z,24nm,1.2s					
E18K	**Tukpahlearik C**	**82.43 22**	P	**P**	**07 18 34.6**	**+0.7**
E18K			IAmb	IAmb	07 18 39.7	
	comp=Z,49nm,1.9s					
C18K	**Utukok River**	**82.55 21**	P	**P**	**07 18 34.8**	**+0.2**
C18K			IAmb	IAmb	07 19 00.3	
	comp=Z,19nm,1.4s					
D19K	**Kuna River**	**83.61 21**	P	**P**	**07 18 40.5**	**+0.5**
D19K			IAmb	IAmb	07 18 56.7	
	comp=Z,26nm,1.1s					
H19K	**Roundabout Mou**	**83.61 24**	P	**P**	**07 18 40.7**	**+0.8**
N19K	**Bonanza Creek**	**83.64 29**	P	**P**	**07 18 40.9**	**+0.5**
M19K	**Big River Lodg**	**83.86 28**	P	**P**	**07 18 41.4**	**0.0**
GEVA	**Gevas**	**84.24 308**	P	**P**	**07 18 43.4**	**-0.7**
PPT2	**Papeete2**	**84.45 108**	*e*LR	LR	07 45 23.1	
	comp=Z,200nm,24.5s					
PPT2			*e*LR	LR	07 45 30.1	
	comp=Z,131nm,35.5s					
KBZ	**Khabaz**	**84.68 314**	P	**P**	**07 18 45.8**	**-0.1**
	comp=Z,11nm,1.0s,baz=175,slow=5.1,SNR=15					
	comp=Z,11nm,1.0s					
TBI	**Tubuai**	**84.87 113**	*e*LR	LR	07 45 26.8	
	comp=Z,831nm,36.5s					
TBI			*e*LR	LR	07 45 33.3	
	comp=Z,528nm,24.8s					
E22K	**Anaktuvuk Pass**	**85.84 22**	P	**P**	**07 18 51.7**	**+0.4**
E22K			IAmb	IAmb	07 19 30.6	
	comp=Z,22nm,1.9s					
RC01	**Rabbit Creek A**	**85.97 29**	P	**P**	**07 18 51.2**	**-0.8**
COLD	**Coldfoot**	**86.35 23**	P	**P**	**07 18 52.2**	**-1.5**
COLD			IAmb	IAmb	07 19 13.0	
	comp=Z,10nm,1.1s					
I23K	**Minto, Yukon-K**	**86.49 25**	P	**P**	**07 18 53.8**	**-0.7**
I23K			IAmb	IAmb	07 19 11.3	
	comp=Z,21nm,1.6s					
RND	**Reindeer**	**86.57 27**	P	**P**	**07 18 54.4**	**-0.6**
CCB	**Clear Creek Bu**	**87.12 25**	P	**P**	**07 18 56.4**	**-1.1**
CCB			IAmb	IAmb	07 19 33.5	
	comp=Z,35nm,1.9s					
IL31		**87.52 25**	P	**P**	**07 18 59.2**	**-0.3**
IL31			IAmb	IAmb	07 22 15.2	
	comp=Z,27nm,1.8s					
ILAR	**Eielson Array**	**87.52 25**	P	**P**	**07 18 58.0**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=252,slow=4.7,SNR=11					
	comp=Z,0.3nm,0.5s					
RIDG	**Independent Ri**	**88.38 26**	P	**P**	**07 19 03.4**	**-0.3**
KIBK	**Kibwezi**	**88.60 268**	P	**P**	**07 19 04.4**	**-1.4**
KIBK			IAmb	IAmb	07 20 36.1	
	comp=Z,5.5nm,0.5s					
DOT	**Dot Lake**	**88.73 27**	P	**P**	**07 19 04.4**	**-0.9**
DOT			IAmb	IAmb	07 19 14.8	
	comp=Z,20nm,1.6s					
OBN	**Obninsk**	**89.12 325**	P	**P**	**07 19 06.5**	**-0.7**
KMBO	**Kilima Mbogo**	**89.36 269**	P	**P**	**07 19 09.1**	**-0.5**
KMBO			IAmb	IAmb	07 19 17.7	
	comp=Z,11nm,1.4s					
KMBO	**Kilima Mbogo**	**89.36 269**	P	**P**	**07 19 09.9**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=51,slow=6.0,SNR=5.4					
	comp=Z,1.5nm,0.3s					
SYO	**Syowa Base**	**89.94 201**⇑	*e*P	**P**	**07 19 12.0**	**+1.2**
SYO	**Syowa Base**	**89.94 201**⇓	*e*pP	pP	07 19 22.4	0.0
MMAI	**Mount Meron Ar**	**90.41 303**	P	**P**	**07 19 15.2**	**+1.3**
	comp=Z,9.8nm,0.8s,baz=110,slow=4.8,SNR=5.3					
	comp=Z,9.8nm,0.8s					
QSPA	**South Pole Qui**	**91.03 180**	P	**P**	**07 19 15.7**	**-0.3**
QSPA			IAmb	IAmb	07 19 54.0	
	comp=Z,13nm,1.4s					
QSPA	**South Pole Qui**	**91.03 180**	P	**P**	**07 19 16.2**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=328,slow=0.7,SNR=14					
	comp=Z,3.8nm,0.9s					
BRTR	**Keskin Array B**	**91.58 310**	P	**P**	**07 19 18.1**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=99,slow=7.8,SNR=5.4					
	comp=Z,1.0nm,0.8s					
HYT	**Haines Junctio**	**91.93 29**	P	**P**	**07 19 20.1**	**-0.3**
ARCES	**ARCESS Array B**	**92.85 340**	P	**P**	**07 19 23.0**	**-1.4**
	comp=Z,4.8nm,1.0s,baz=63,slow=5.6,SNR=4.0					
	comp=Z,4.8nm,1.0s					
SPITS	**Spitsbergen Ar**	**93.01 349**	P	**P**	**07 19 24.7**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=116,slow=6.6,SNR=1.3					
	comp=Z,4.8nm,0.8s					
TAOE	**Nuku Hiva Isla**	**93.39 99**	*e*LR	LR	07 49 27.5	
	comp=Z,213nm,25.0s					
FARO	**Faro, Yukon**	**93.72 28**	P	**P**	**07 19 28.9**	**+0.3**
FARO			IAmb	IAmb	07 19 44.4	
	comp=Z,12nm,1.1s					
AKASG	**Malin Array Be**	**93.83 321**	P	**P**	**07 19 29.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=69,slow=5.1,SNR=5.2					
	comp=Z,0.8nm,0.6s					
FINES	**FINESS Array B**	**94.07 332**	P	**P**	**07 19 29.5**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=64,slow=4.4,SNR=7.7					
	comp=Z,1.2nm,0.8s					
C36M	**Paulatuk**	**95.71 20**	P	**P**	**07 19 36.6**	**-0.8**
RKT	**Rikitea**	**98.19 113**	*e*LR	LR	07 51 40.8	
	comp=Z,2μm,38.0s					
HFS	**Hagfors**	**100.26 332**	P	**Pdif**	**07 19 58.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=60,slow=5.7,SNR=4.7					
YKA	**Yellowknife Ar**	**101.93 25**	P	**Pdif**	**07 20 05.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=294,slow=4.5,SNR=2.8					
SCHQ	**Schefferville**	**123.17 9**	PKP	**PKiKP**	**07 25 08.7**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=239,slow=10,SNR=5.4					
TXAR	**Lajitas Array**	**123.28 53**	PKP	**PKPdf**	**07 25 09.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=233,slow=0.9,SNR=9.8					
TORD	**Torodi Ar. Bea**	**123.57 286**	PKP	**PKiKP**	**07 25 11.4**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=88,slow=1.7,SNR=1.6					
PLCA	**Paso Flores**	**137.60 161**	PKP	**PKiKP**	**07 25 37.4**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=207,slow=5.2,SNR=5.6					
CPUP	**Villa Florida**	**154.63 172**	PKPbc	**PKiKP**	**07 26 14.0**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=246,slow=2.6,SNR=5.4					
LPAZ	**La Paz**	**159.06 137**	PKP	**PKPdf**	**07 26 13.0**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=108,slow=3.2,SNR=5.5					
SIV	**San Ignacio**	**163.38 153**	PKP	**PKPdf**	**07 26 16.5**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=172,slow=1.5,SNR=4.3					

IDC 16 07:09:52.7±1.6, 2°.48S×138°.61E, h0km, mb3.7/2, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=33.4km s-min=30.9km az=108.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.09**	**91**	Pn	Pn	07 10 29.7	+0.6
	29nm,0.3s,baz=209,slow=11,SNR=86						
JAY				Sn	Sn	07 10 51.4	-4.5
	33nm,0.3s,baz=41,slow=21,SNR=6.6						
	67nm,0.3s						
WRA	**Warramunga Arr**	**17.85**	**193**	P	Pn	07 14 02.9	+0.3
	0.7nm,0.3s,baz=24,slow=12,SNR=6.5						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**21.55**	**192**	P	P	07 14 43.6	-0.2
	2.2nm,0.7s,baz=27,slow=9.2,SNR=13						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**69.55**	**322**	P	P	07 21 03.4	-0.2
	0.8nm,0.9s,baz=99,slow=7.4,SNR=3.7						
	0.8nm,0.9s						

WEL 16 07:27:55.7±0.6, 33°S±6°×18°0E±1°3, h33km, M4.0/16, mB4.7/11, ML4.5/20, MLv4.4/16, Mw(mB)3.9/11, Error ellipse: s-maj=18.7km s-min=4.0km az=112.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.11**	**27**	P	Pn	07 28 49.4	-6.7
GLKZ				S	Sn	07 29 39.3	-3.8
MXZ	**Matakaoa Point**	**4.79**	**196**	P	Pn	07 29 08.0	+2.6
MXZ				S	Sn	07 30 00.2	+0.4
WMGZ	**Waiomatatini S**	**5.01**	**194**	P	Pn	07 29 10.8	+2.2
WMGZ				S	Sn	07 30 06.7	+1.4
HAZ	**Te Kaha**	**5.11**	**200**	P	Pn	07 29 13.0	+3.2
HAZ				S	Sn	07 30 11.5	+3.8
PKGZ	**Pakihiroa**	**5.13**	**197**	P	Pn	07 29 11.9	+1.7
PKGZ				S	Sn	07 30 11.1	+2.8
PUZ	**Puketiti**	**5.29**	**195**	P	Pn	07 29 12.9	+0.5
PUZ				S	Sn	07 30 13.7	+1.6
RUGZ	**Raukumara Rang**	**5.33**	**200**	P	Pn	07 29 14.6	+1.6
RUGZ				S	Sn	07 30 17.3	+3.9
TWGZ	**Tauwhareparae**	**5.45**	**196**	S	Sn	07 30 18.8	+2.6
CNGZ	**Carnagh Statio**	**5.70**	**194**	P	Pn	07 29 22.0	+4.1
MWZ	**Matawai**	**5.72**	**199**	P	Pn	07 29 19.6	+1.4
MWZ				S	Sn	07 30 25.8	+3.0
TKGZ	**Te Karaka**	**5.73**	**197**	P	Pn	07 29 20.0	+1.5
TKGZ				S	Sn	07 30 23.5	+0.5
URZ	**Urewera**	**5.78**	**203**	P	Pn	07 29 20.7	+1.7
URZ				S	Sn	07 30 26.8	+2.7
RAGZ	**Rawiri**	**5.90**	**200**	P	Pn	07 29 22.0	+1.2
RAGZ				S	Sn	07 30 29.6	+2.3
RIGZ	**Rimuhau**	**6.01**	**197**	P	Pn	07 29 22.3	+0.1
RIGZ				S	Sn	07 30 27.2	-2.7
MUGZ	**Murupara**	**6.08**	**204**	P	Pn	07 29 23.9	+0.6
MUGZ				S	Sn	07 30 36.5	+4.7
PRGZ	**Paritu Road**	**6.19**	**195**	S	Sn	07 30 34.0	-0.3
SNGZ	**Shannon Statio**	**6.19**	**199**	P	Pn	07 29 25.5	+0.8
SNGZ				S	Sn	07 30 37.0	+2.7
KNZ	**Kokohu**	**6.33**	**196**	P	Pn	07 29 26.4	-0.2
KNZ				S	Sn	07 30 37.4	-0.3
RAHZ	**Arahi**	**6.38**	**200**	P	Pn	07 29 27.9	+0.5
RAHZ				S	Sn	07 30 42.0	+2.8
MTHZ	**Maungataniwha**	**6.40**	**202**	P	Pn	07 29 29.7	+2.1
MTHZ				S	Sn	07 30 39.5	-0.1
MHGZ	**Mahia Peninsul**	**6.40**	**194**	P	Pn	07 29 27.5	-0.2
MHGZ				S	Sn	07 30 34.0	-5.6
BKZ	**Black Stump Fm**	**6.80**	**203**	P	Pn	07 29 32.7	-0.5
BKZ				S	Sn	07 30 51.2	+1.8
HIZ	**Hauiti**	**6.92**	**215**	P	Pn	07 29 41.8	+7.1
OTVZ	**Oturere**	**7.10**	**208**	P	Pn	07 29 39.5	+2.1
OTVZ				S	Sn	07 30 59.8	+2.9
NGZ	**Ngauruhoe**	**7.13**	**208**	P	Pn	07 29 41.7	+3.9
PXZ	**Pawanui**	**7.49**	**198**	P	Pn	07 29 41.1	-1.4
PXZ				S	Sn	07 31 02.3	-3.9
PNHZ	**Pukenui**	**7.57**	**202**	P	Pn	07 29 42.0	-1.8
PNHZ				S	Sn	07 31 04.7	-3.7
DVHZ	**Dannevirke**	**7.93**	**201**	P	Pn	07 29 47.4	-1.2
DVHZ				S	Sn	07 31 10.3	-7.0
BFZ	**Birch Farm**	**8.26**	**200**	P	Pn	07 29 49.7	-3.4
BFZ				S

mb5.6/102,mB5.8/72,MLv5.7/29,Mw(mB)5.4/72, MwMwp5.2/37,Mwp5.4/37

ISC 16 07:30:41.4±0.3, 1.02S±0.03×126.86E±0.03, h42km±2km, h42km:pP-P, n899, σ1§18/973, mb5.3/201, MS4.5/69, 20C-6D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.35**	**221**	P	**Pn**	**07 31 02.4**	**-1.3**
SANI	**Sanana**	**1.35**	**221**	P	**Pn**	**07 31 02.0**	**-1.7**
SANI				S	**Sn**	**07 31 18.4**	**-2.0**
TNTI	**Ternate**	**1.85**	**16**	Pn	**Pn**	**07 31 09.6**	**-1.0**
TNTI	**Ternate**	**1.85**	**16**	P	**Pn**	**07 31 09.9**	**-0.7**
TNTI	**Ternate**	**1.85**	**16**	P	**Pn**	**07 31 10.2**	**-0.4**
NLAI	**Namlea**	**2.22**	**174**	P	**Pn**	**07 31 15.7**	**0.0**
AAI	**Ambon**	**2.96**	**153**	P	**Pn**	**07 31 26.9**	**+0.9**
MSAI	**Masohi**	**3.10**	**138**	P	**Pn**	**07 31 29.4**	**+1.6**
KMSI	**Cibinong**	**3.29**	**299**	P	**Pn**	**07 31 29.6**	**-0.8**
LUWI	**Luwuk**	**4.09**	**270**	Pn	**Pn**	**07 31 40.1**	**-1.4**
LUWI	**Luwuk**	**4.09**	**270**	P	**Pn**	**07 31 40.5**	**-0.9**
LUWI	**Luwuk**	**4.09**	**270**	S	**Sn**	**07 32 29.0**	**+0.9**
LUWI	**Luwuk**	**4.09**	**270**	P	**Pn**	**07 31 40.5**	**-0.9**
SWI	**Sorong**	**4.40**	**88**	P	**Pn**	**07 31 47.0**	**+1.3**
BNDI	**Bandanaira**	**4.62**	**139**	P	**Pn**	**07 31 49.1**	**+0.4**
BNDI	**Bandanaira**	**4.62**	**139**	S	**Sn**	**07 32 42.5**	**+1.4**
BNDI	**Bandanaira**	**4.62**	**139**	P	**Pn**	**07 31 48.5**	**-0.2**
SGSI	**Sangihe**	**4.86**	**344**	P	**Pn**	**07 31 52.5**	**+0.5**
MRSI	**Marisa**	**5.14**	**287**	P	**Pn**	**07 31 55.8**	**-0.1**
2.2nm13μm7μm533nm,0.5s							
KDI	**Kendari**	**5.15**	**235**	P	**Pn**	**07 31 56.3**	**+0.3**
9μm228nm,0.6s							
APSI	**Ampana**	**5.21**	**271**	P	**Pn**	**07 31 56.7**	**-0.2**
FAKI	**Fak Fak**	**5.70**	**109**	Pn	**Pn**	**07 32 02.7**	**-0.9**
FAKI	**Fak Fak**	**5.70**	**109**	P	**Pn**	**07 32 03.3**	**-0.4**
FAKI	**Fak Fak**	**5.70**	**109**	S	**Sn**	**07 33 08.9**	**+1.0**
FAKI	**Fak Fak**	**5.70**	**109**	P	**Pn**	**07 32 03.2**	**-0.4**
11nm12μm12μm1μm,0.9s							
BBSI	**Bau Bau**	**6.17**	**224**	P	**Pn**	**07 32 11.3**	**+1.3**
TOLI2	**Tolitoli**	**6.44**	**289**	Pn	**Pn**	**07 32 13.4**	**-0.3**
TOLI2	**Tolitoli**	**6.44**	**289**	P	**Pn**	**07 32 14.8**	**+1.1**
PCI	**Palu**	**7.03**	**271**	P	**Pn**	**07 32 21.5**	**-0.3**
TTSI	**Tana Toraja**	**7.32**	**254**	P	**Pn**	**07 32 25.7**	**-0.1**
4.4nm10μm10μm1μm,1.0s							
KMPI	**Kaimana, Papua**	**7.32**	**111**	P	**Pn**	**07 32 26.1**	**+0.3**
RKPI	**Ransiki, Papua**	**7.33**	**94**	P	**Pn**	**07 32 26.9**	**+0.9**
13μm952nm,1.0s							
SPSI	**Sidrap Palu**	**7.67**	**247**	P	**Pn**	**07 32 31.6**	**+1.0**
BKSI	**Bulukumba**	**7.97**	**237**	P	**Pn**	**07 32 35.7**	**+0.9**
KAPI	**Kappang**	**8.13**	**241**	Pn	**Pn**	**07 32 38.1**	**+1.2**
KAPI	**Kappang**	**8.13**	**241**	P	**Pn**	**07 32 37.7**	**+0.7**
57nm,0.3s,baz=65,slow=5.6,SNR=204							
KAPI				LR	LR	07 36 10.1	
comp=Z,6μm,19.9s,baz=60,slow=40							
KAPI	**Kappang**	**8.13**	**241**	P	**Pn**	**07 32 38.2**	**+1.2**
KAPI	**Kappang**	**8.13**	**241**	S	**Sn**	**07 34 08.3**	**+0.6**
KAPI	**Kappang**	**8.13**	**241**	P	**Pn**	**07 32 38.2**	**+1.2**
BSSI	**Bau Bau, Buton**	**8.14**	**231**	P	**Pn**	**07 32 38.1**	**+1.0**
7μm9μm868nm,0.8s							
SAUI	**Saumlaki**	**8.21**	**148**	P	**Pn**	**07 32 39.5**	**+1.5**
SAUI	**Saumlaki**	**8.21**	**148**	S	**Sn**	**07 34 09.7**	**+0.1**
SAUI	**Saumlaki**	**8.21**	**148**	P	**Pn**	**07 32 39.6**	**+1.5**
13μm966nm,1.0s							
MMRI	**Maumere**	**8.86**	**211**	Pn	**Pn**	**07 32 47.4**	**+0.5**
MMRI	**Maumere**	**8.86**	**211**	P	**Pn**	**07 32 48.9**	**+2.0**
5μm4μm140nm,0.8s							
SOEI	**Soe**	**9.05**	**196**		**Pn**	**07 32 53.7**	**+4.0**
SOEI	**Soe**	**9.05**	**196**	P	**Pn**	**07 32 51.1**	**+1.4**
SOEI	**Soe**	**9.05**	**196**	P	**Pn**	**07 32 52.9**	**+3.2**
7μm4μm249nm,0.8s							
BAKI	**Biak**	**9.24**	**91**	P	**Pn**	**07 32 55.3**	**+3.1**
6μm659nm,1.2s							
BATI	**Baumata**	**9.66**	**199**	P	**Pn**	**07 33 00.9**	**+2.9**
2μm204nm,0.9s							
SMKI	**Samarinda**	**9.67**	**273**	P	**Pn**	**07 32 58.7**	**+0.6**
8μm273nm,0.9s							
BKB	**Balikpapan**	**9.97**	**269**	Pn	**Pn**	**07 33 01.7**	**-0.5**
BKB	**Balikpapan**	**9.97**	**269**	P	**Pn**	**07 33 03.4**	**+1.3**
BKB	**Balikpapan**	**9.97**	**269**	P	**Pn**	**07 33 02.0**	**-0.1**
8μm9μm634nm,0.8s							
MYLDM	**Lahad Datu**	**10.38**	**306**	Pn	**Pn**	**07 33 08.8**	**+1.1**
MYLDM	**Lahad Datu**	**10.38**	**306**	P	**Pn**	**07 33 08.9**	**+1.1**
BASI	**Baing, Sumba**	**11.07**	**214**	P	**Pn**	**07 33 19.1**	**+1.9**
6μm487nm,0.9s							
WBSI	**Waikabubak, Su**	**11.34**	**221**	P	**Pn**	**07 33 22.1**	**+1.1**
3μm293nm,0.7s							
SMPI	**Sarmi**	**11.88**	**95**	P	**Pn**	**07 33 31.5**	**+3.1**
6μm5μm348nm,1.3s							
PLAI	**Plampang**	**11.92**	**229**	P	**Pn**	**07 33 29.3**	**+0.5**
PLAI	**Plampang**	**11.92**	**229**	P	**Pn**	**07 33 30.2**	**+1.4**
5μm2μm123nm,0.7s							
DRS	**Darwin Rock St**	**12.02**	**161**	P	**Pn**	**07 33 30.4**	**+0.1**
MTN	**Manton Dam**	**12.49**	**160**	Pn	**Pn**	**07 33 34.5**	**-2.2**
MTN	**Manton Dam**	**12.49**	**160**	P	**Pn**	**07 33 36.5**	**-0.1**
MTN	**Manton Dam**	**12.49**	**160**	S	**Sn**	**07 35 57.0**	**+2.6**
TWSI	**Taliwang, Sumb**	**12.55**	**232**	P	**Pn**	**07 33 40.6**	**+3.1**
4μm122nm,0.9s							
KKM	**Kota Kinabalu**	**12.74**	**304**		**Pn**	**07 33 39.5**	**-0.6**
KKM	**Kota Kinabalu**	**12.74**	**304**	P	**Pn**	**07 33 41.0**	**+0.9**
KDU	**Kakadu**	**12.86**	**155**	P	**Pn**	**07 33 39.0**	**-2.6**
KDU	**Kakadu**	**12.86**	**155**	P	**Pn**	**07 33 39.2**	**-2.5**
KDU	**Kakadu**	**12.86**	**155**	S	**Sn**	**07 36 04.7**	**+1.2**
GENI	**Genyem**	**13.39**	**97**	P	**Pn**	**07 33 49.8**	**+0.8**
GENI	**Genyem**	**13.39**	**97**	P	**Pn**	**07 33 49.7**	**+0.8**
7μm572nm,1.5s							
SRBI	**Singaraja**	**13.56**	**238**	P	**Pn**	**07 33 54.0**	**+2.7**
JAY	**Jayapura**	**13.91**	**96**	P	**Pn**	**07 33 56.4**	**+0.2**
1.6nm,0.3s,baz=258,slow=7.8,SNR=7.2							
JAY				LR	LR	07 40 25.3	
comp=Z,9μm,21.8s,baz=255,slow=42							
59nm,0.9s							
JAY	**Jayapura**	**13.91**	**96**	P	**Pn**	**07 33 57.6**	**+1.4**
KMMI	**Kalianget**	**14.19**	**245**	P	**Pn**	**07 34 02.6**	**+2.8**
5μm240nm,1.5s							
ABJI	**Asem Bagus**	**14.27**	**241**	P	**Pn**	**07 34 02.9**	**+1.9**
6μm316nm,2.0s							
JAGI	**Jajag, Banyuwa**	**14.66**	**239**	Pn	**Pn**	**07 34 06.8**	**+0.5**
JAGI	**Jajag, Banyuwa**	**14.66**	**239**	P	**Pn**	**07 34 08.2**	**+2.0**
JAGI	**Jajag, Banyuwa**	**14.66**	**239**	P	**Pn**	**07 34 08.1**	**+1.9**
3μm4μm417nm,0.9s							
KNRA	**Kununurra**	**14.68**	**173**		**Pn**	**07 34 04.3**	**-2.1**
KNRA	**Kununurra**	**14.68**	**173**	P	**Pn**	**07 34 04.7**	**-1.7**
comp=Z,197nm,0.9s							
TABU	**Tabubil**	**14.94**	**107**	P	**Pn**	**07 34 11.9**	**+1.9**
SBUM	**Sibu**	**15.04**	**283**		**Pn**	**07 34 11.3**	**+0.1**
SBUM	**Sibu**	**15.04**	**283**	P	**Pn**	**07 34 12.4**	**+1.2**
GMJI	**Gumukmas**	**15.19**	**241**	P	**Pn**	**07 34 14.9**	**+1.8**
comp=Z,3μmcomp=Z,222nm,1.1s							
MMPI	**Merauke**	**15.36**	**119**	P	**Pn**	**07 34 17.1**	**+1.7**
comp=Z,1μm,1.4s							
STKI	**Sintang**	**15.42**	**274**	P	**Pn**	**07 34 16.2**	**0.0**
GRJI	**Gresik**	**15.49**	**247**	P	**Pn**	**07 34 17.3**	**+0.2**
comp=Z,4μmcomp=Z,283nm,0.9s							
TBJI	**Tambak Boyo**	**16.04**	**249**	P	**Pn**	**07 34 26.4**	**+2.2**
comp=Z,8μmcomp=Z,553nm,0.9s							
NGJI	**Ngawi**	**16.60**	**247**	P	**Pn**	**07 34 33.2**	**+2.0**
comp=Z,4μmcomp=Z,324nm,1.1s							
KSM	**Kuching**	**16.74**	**278**	Pn	**Pn**	**07 34 32.0**	**-1.0**
KSM	**Kuching**	**16.74**	**278**	P	**Pn**	**07 34 32.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**17.02**	**184**	Pn	**Pn**	**07 34 34.2**	**-2.2**
FITZ	**Fitzroy Crossi**	**17.02**	**184**	P	**Pn**	**07 34 34.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**17.02**	**184**	P	**Pn**	**07 34 34.6**	**-1.8**
comp=Z,2.5nm,0.3s,baz=8.4,slow=12,SNR=57							
FITZ				LR	LR	07 41 38.8	
comp=Z,1μm,20.0s,baz=2.5,slow=39							
comp=Z,25nm,0.6s							
PCJI	**Pacitan**	**17.17**	**245**	P	**Pn**	**07 34 39.3**	**+0.9**
comp=Z,6μmcomp=Z,6μmcomp=Z,280nm,1.2s							
SMRI	**Semarang**	**17.43**	**249**	P	**Pn**	**07 34 40.9**	**-0.8**
SMRI				IAmb	IAmb	07 34 47.9	
comp=Z,150nm,0.7s							
SMRI	**Semarang**	**17.43**	**249**	P	**Pn**	**07 34 42.7**	**+1.0**
SMRI	**Semarang**	**17.43**	**249**	P	**P**	**07 34 43.5**	**+1.0**
comp=Z,229nm,0.8s							
UGM	**Wanagama**	**17.66**	**247**	P	**Pn**	**07 34 45.4**	**+0.9**
UGM	**Wanagama**	**17.66**	**247**	P	**Pn**	**07 34 45.8**	**+1.3**
comp=Z,240nm,1.9s							
YOGI	**Yogyakarta**	**17.84**	**247**	P	**P**	**07 34 48.9**	**+1.9**
comp=Z,5μmcomp=Z,275nm,1.9s							
TPI	**Tanjungpandan**	**19.28**	**265**	P	**P**	**07 35 04.0**	**+1.2**
comp=Z,4μmcomp=Z,3μmcomp=Z,269nm,0.9s							
JCJI	**Jatiwangi**	**19.33**	**253**	P	**Pn**	**07 35 07.6**	**+2.9**
comp=Z,10μmcomp=Z,358nm,0.9s							
CMJI	**Cimerak**	**19.54**	**249**	P	**P**	**07 35 05.6**	**-0.1**
comp=Z,3μmcomp=Z,4μmcomp=Z,282nm,0.9s							
WB0	**Warramunga Arr**	**20.04**	**159**	P	**P**	**07 35 08.8**	**-2.2**
WB0				IAmb	IAmb	07 35 10.7	
comp=Z,236nm,1.1s							
LEM	**Lembang**	**20.04**	**253**	P	**P**	**07 35 10.2**	**-1.0**
comp=Z,120nm,1.0s,baz=69,slow=9.0,SNR=13							
LEM				LR	LR	07 44 29.7	
comp=Z,3μm,19.2s,baz=70,slow=41							
comp=Z,120nm,1.0s							
LEM	**Lembang**	**20.04**	**253**	P	**P**	**07 35 12.6**	**+1.3**
comp=Z,4μmcomp=Z,204nm,1.1s							
WRAB	**Tennant Creek**	**20.18**	**159**	P	**P**	**07 35 10.6**	**-1.9**
WRAB				IAmb	IAmb	07 35 12.0	
comp=Z,297nm,1.3s							
WRAB	**Tennant Creek**	**20.18**	**159**	*i* P	**P**	**07 35 10.8**	**-1.7**
WRAB				pmax	pmax		
comp=Z,122nm,0.7s							
WRA	**Warramunga Arr**	**20.18**	**159**	P	**P**	**07 35 10.2**	**-2.4**
WRA	**Warramunga Arr**	**20.18**	**159**	P	**P**	**07 35 10.9**	**-1.7**
comp=Z,90nm,0.6s,baz=340,slow=12,SNR=568							
WRA				S	**S**	**07 38 51.7**	**-5.3**
comp=Z,14nm,0.9s,baz=343,slow=22,SNR=5.3							
WRA				ScP	**ScP**	**07 42 59.5**	**+0.1**
comp=Z,2.0nm,0.6s,baz=322,slow=2.6,SNR=0.9							
comp=Z,90nm,0.6s							
WRA	**Warramunga Arr**	**20.18**	**159**	P	**P**	**07 35 10.2**	**-2.4**
WRA				pmax	pmax		
comp=Z,17nm,0.9s							
BBJI	**Bungbulang**	**20.19**	**251**	P	**P**	**07 35 13.7**	**+0.9**
MANU	**Manus Island**	**20.52**	**93**	P	**P**	**07 35 15.5**	**-0.8**
MANU				IAmb	IAmb	07 35 22.4	
comp=Z,146nm,0.7s							
COEN	**Coen**	**20.63**	**129**	P	**P**	**07 35 16.4**	**-1.1**
COEN	**Coen**	**20.63**	**129**	P	**P**	**07 35 17.4**	**-0.1**
comp=Z,0.0nmcomp=Z,1μm,0.9s							
COEN	**Coen**	**20.63**	**129**	P	**P**	**07 35 18.1**	**+0.6**
CNJI	**Cibinong**	**20.64**	**252**	P	**P**	**07 35 17.7**	**+0.1**
comp=Z,2μmcomp=Z,202nm,0.9s							
CBJI	**Citeko**	**20.67**	**254**	P	**P**	**07 35 20.2**	**+2.2**
comp=Z,442nm,0.8s							
PPBI	**Pangkal Pinang**	**20.75**	**267**	P	**P**	**07 35 20.1**	**+1.3**
SBJI	**Serang**	**21.30**	**256**	P	**P**	**07 35 25.7**	**+1.0**
comp=Z,628nm,1.0s							
PSAD1	**Pilbara Seismi**	**21.44**	**198**	P	**P**	**07 35 26.1**	**0.0**
comp=Z,161nm,1.4s							
PSA00	**Pilbara Seismi**	**21.54**	**198**	P	**P**	**07 35 26.6**	**-0.7**
PSA00				IAmb	IAmb	07 35 45.3	
comp=Z,139nm,0.8s							
PSA00	**Pilbara Seismi**	**21.54**	**198**	P	**P**	**07 35 25.7**	**-1.5**
PSA00				IAmb	IAmb	07 35 41.2	
comp=Z,141nm,1.2s							
PSA00	**Pilbara Seismi**	**21.54**	**198**	P	**P**	**07 35 27.0**	**-0.3**
comp=Z,190nm,0.9s							
PSA00	**Pilbara Seismi**	**21.54**	**198**	P	**P**	**07 35 27.9**	**+0.6**
CGJI	**Cibinong**	**21.83**	**255**	P	**P**	**07 35 31.3**	**+0.8**
comp=Z,3μmcomp=Z,203nm,1.5s							
PMG	**Port Moresby**	**21.84**	**113**	P	**P**	**07 35 30.5**	**-0.1**
comp=Z,286nm,0.8s,baz=299,slow=8.4,SNR=36							
PMG				LR	LR	07 45 22.8	
comp=Z,4μm,21.7s,baz=320,slow=40							
comp=Z,286nm,0.8s							
BLSI	**Bandar Lampung**	**22.01**	**258**	P	**P**	**07 35 33.2**	**+0.9**
comp=Z,181nm,0.4s							
DLV	**Lat**	**22.34**	**306**	P	**P**	**07 35 35.0**	**-1.1**
DLV	**Lat**	**22.34**	**306**	P	**P**	**07 35 37.2**	**+1.1**
TPRI	**Tanjung Pinang**	**22.42**	**275**	P	**P**	**07 35 37.4**	**+0.6**
MDSI	**Maura Dua**	**22.91**	**261**	P	**P**	**07 35 41.7**	**-0.3**
comp=Z,4μmcomp=Z,6μmcomp=Z,562nm,1.0s							
GUMO	**Guam**	**23.00**	**50**	LR	LR	07 44 13.0	
comp=Z,2μm,21.3s,baz=228,slow=35							
XMI	**Christmas Isla**	**23.03**	**245**	P	**P**	**07 35 44.1**	**+0.9**
QIS	**Mount Isa**	**23.07**	**148**	P	**P**	**07 35 42.3**	**-1.2**
comp=Z,0.0nmcomp=Z,676nm,0.8s							
QIS	**Mount Isa**	**23.07**	**148**	P	**P**	**07 35 42.8**	**-0.7**
XMIS	**Christmas Isla**	**23.08**	**245**	P	**P**	**07 35 41.6**	**-2.0**
XMIS				IAmb	IAmb	07 35 49.0	
comp=Z,119nm,0.8s							
XMIS	**Christmas Isla**	**23.08**	**245**	P	**P**	**07 35 43.8**	**+0.1**
LWLI	**Liwa**	**23.11**	**260**	P	**P**	**07 35 45.3**	**+1.2**
MYKOM	**Kota Tinggi**	**23.18**	**277**	P	**P**	**07 35 44.7**	**0.0**
MYKOM				IAmb	IAmb	07 35 46.6	
comp=Z,189nm,1.5s							
MYKOM	**Kota Tinggi**	**23.18**	**277**	P	**P**	**07 35 46.0**	**+1.3**
AS15	**Alice Springs**	**23.50**	**164**	P	**P**	**07 35 46.3**	**-1.4**
comp=Z,259nm,0.9s							
AS31	**Alice Springs**	**23.52**	**164**	P	**P**	**07 35 46.2**	**-1.8**
ASAR	**Alice Springs**	**23.52**	**164**	P	**P**	**07 35 46.2**	**-1.8**
ASAR	**Alice Springs**	**23.52**	**164**	P	**P**	**07 35 46.5**	**-1.5**
comp=Z,134nm,0.9s,baz=341,slow=9.7,SNR=626							
ASAR				S	**S**	**07 39 55.3**	**-3.8**
comp=Z,22nm,1.0s,baz=347,slow=22,SNR=9.5							
ASAR				ScP	**ScP**	**07 43 08.5**	**+0.6**
comp=Z,2.3nm,0.6s,baz=328,slow=2.0,SNR=4.8							
comp=Z,134nm,0.9s							
AS01	**Alice Springs**	**23.54**	**164**	P	**P**	**07 35 47.1**	**-1.0**
WRKA	**Warakurna**	**23.92**	**177**	P	**P**	**07 35 51.0**	**-0.6**
comp=Z,131nm,1.4s							
WRKA	**Warakurna**	**23.92**	**177**	P	**P**	**07 35 51.3**	**-0.3**
MNAI	**Manna**	**24.11**	**262**	P	**P**	**07 35 53.4**	**-0.1**
MNAI	**Manna**	**24.11**	**262**	P	**P**	**07 35 55.3**	**+1.8**
MNAI	**Manna**	**24.11**	**262**	P	**P**	**07 35 53.7**	**+0.2**
MTSU	**Mount Surprise**	**24.15**	**136**	P	**P**	**07 35 53.8**	**-0.1**
comp=Z,105nm,0.9s							
MTSU	**Mount Surprise**	**24.15**	**136**	P	**P**	**07 35 54.4**	**+0.6**
TWGBT	**Beinan**	**24.35**	**347**	P	**P**	**07 35 57.3**	**+1.7**
TWG	**Pinlang**	**24.36**	**347**	P	**P**	**07 35 54.1**	**-1.5**
TWG				IAmb	IAmb	07 36 11.6	
comp=Z,60nm,0.8s							
KSI	**Kapahiang**	**24.39**	**263**	P	**P**	**07 35 57.3**	**+1.2**
comp=Z,414nm,0.8s							
GIRL	**Giralia**	**24.75**	**209**	P	**P**	**07 35 59.0**	**-0.3**
GIRL				IAmb	IAmb	07 36 17.0	
comp=Z,140nm,1.0s							
GIRL	**Giralia**	**24.75**	**209**	P	**P**	**07 35 58.5**	**-0.8**
comp=Z,166nm,1.0s							
YULB	**Yu-li**	**24.86**	**348**	P	**P**	**07 35 59.7**	**-0.5**
YULB	**Yu-li**	**24.86**	**348**	P	**P**	**07 36 00.0**	**-0.2**
TPUB	**Ta-pu**	**24.92**	**346**	P	**P**	**07 36 00.4**	**-0.4**
TPUB	**Ta-pu**	**24.92**	**346**	P	**P**	**07 36 02.5**	**+1.7**
SSLB	**Suanglung**	**25.32**	**347**	P	**P**	**07 36 03.9**	**-0.5**
SSLB				IAmb	IAmb	07 36 28.7	
comp=Z,93nm,0.9s							
SSLB	**Suanglung**	**25.32**	**347**	P	**P**	**07 36 06.9**	**+2.5**
RABL	**Rabaul**	**25.47**	**98**	P	**P**	**07 36 06.4**	**+0.5**
NACB	**Ninganchiao**	**25.56**	**349**	P	**P**	**07 36 06.0**	**-0.5**
YOJ	**Yonaguni jima**	**25.60**	**352**	P	**P**	**07 36 05.8**	**-1.1**
YOJ	**Yonaguni jima**	**25.60**	**352**	P	**P**	**07 36 05.8**	**-1.1**
YOJ				pmax	pmax		
comp=Z,368nm,1.5s							
QIZ	**Qiongzhong**	**26.01**	**321**	P	**P**	**07 36 11.1**	**+0.4**
QIZ				pP	**pP**	**07 36 19.5**	**-1.1**
QIZ				S	**S**	**07 40 42.1**	**+3.3**
QIZ				sS	**sS**	**07 40 56.6**	**+1.1**
QIZ				pmax	pmax		
comp=Z,310nm,3.6s							
QIZ				LR	LR		
comp=Z,520nm,15.1s							
QIZ				LR	LR		
comp=Z,340nm,13.1s							
QIZ				LR	LR		
comp=Z,580nm,15.8s							
YHNB	**Yeheng**	**26.09**	**349**	P	**P**	**07 36 11.1**	**-0.3**
YHNB				IAmb	IAmb	07 36 14.2	
comp=Z,68nm,0.6s							
YHNB	**Yeheng**	**26.09**	**349**	P	**P**	**07 36 12.2**	**+0.8**
PPI	**Padang Panjang**	**26.47**	**271**	P	**P**	**07 36 15.1**	**+0.2**
comp=Z,2μmcomp=Z,141nm,1.0s							
UBPT	**Khong Chiam**	**26.64**	**308**	P	**P**	**07 36 15.3**	**-1.1**
UBPT	**Khong Chiam**	**26.64**	**308**	P	**P**	**07 36 17.7**	**+1.3**
TV1H	**Townsville Har**	**26.65**	**134**	P	**P**	**07 36 17.2**	**+0.8**
MEEK	**Meekatharra**	**26.68**	**197**	P	**P**	**07 36 16.0**	**-0.7**
comp=Z,42nm,0.9s							
MEEK	**Meekatharra**	**26.68**	**197**	P	**P**	**07 36 17.3**	**+0.6**
PPSI	**Pulau Pagai**	**26.89**	**266**	P	**P**	**07 36 18.7**	**0.0**
KULM	**Kulim**	**26.92**	**284**	P	**P**	**07 36 18.4**	**-0.6**
KULM	**Kulim**	**26.92**	**284**	P	**P**	**07 36 20.2**	**+1.2**
MNSI	**Mandailing Nat**	**27.34**	**274**	P	**P**	**07 36 23.2**	**+0.4**
comp=Z,78nm,1.0s							
JOW	**Kunigami**	**27.72**	**3**	P	**P**	**07 36 26.0**	**0.0**
JOW	**Kunigami**	**27.72**	**3**	P	**P**	**07 36 24.8**	**-1.2**
comp=Z,130nm,0.8s,baz=177,slow=9.2,SNR=19							
comp=Z,130nm,0.8s							
JOW	**Kunigami**	**27.72**	**3**	P	**P**	**07 36 26.7**	**+0.7**
SISI	**Saibi**	**27.77**	**269**	P	**P**	**07 36 26.2**	**-0.4**
OOD	**Oodnadatta**	**27.93**	**163**	P	**P**	**07 36 27.5**	**-0.4**
RPSI	**Rantau Prapat**	**28.17**	**278**	P	**P**	**07 36 29.6**	**-0.6**
PSI	**Prapat**	**28.19**	**278**	LR	LR	07 49 40.5	
comp=Z,2μm,21.3s,baz=111,slow=40							
PSI	**Prapat**	**28.19**	**278**	P	**P**	**07 36 30.4**	**-0.1**
PSI	**Prapat**	**28.19**	**278**	P	**P**	**07 36 29.6**	**-0.9**
PSI				pmax	pmax		
comp=Z,109nm,0.9s							
TSI	**Tuntungan**	**28.64**	**279**	P	**P**	**07 36 34.5**	**+0.2**
comp=Z,81nm,0.5s							
SRIT	**Nakonsritamara**	**28.80**	**290**	P	**P**	**07 36 35.6**	**-0.2**
SRIT	**Nakonsritamara**	**28.80**	**290**	P	**P**	**07 36 37.4**	**+1.6**
GSI	**Gunungsitoli**	**29.38**	**274**	P	**P**	**07 36 40.6**	**-0.3**
GSI	**Gunungsitoli**	**29.38**	**274**	P	**P**	**07 36 41.6**	**+0.7**
GSI	**Gunungsitoli**	**29.38**	**274**	P	**P**	**07 36 40.9**	**0.0**
comp=Z,132nm,1.0s							
NAYO	**Nakonayok**	**29.53**	**302**	P	**P**	**07 36 42.4**	**+0.2**
FORT	**Forrest**	**29.62**	**178**	P	**P**	**07 36 42.1**	**-0.7**
FORT				IAmb	IAmb	07 37 47.1	
comp=Z,66nm,0.9s							
FORT	**Forrest**	**29.62**	**178**	P	**P**	**07 36 42.1**	**-0.7**
FORT	**Forrest**	**29.62**	**178**	P	**P**	**07 36 43.3**	**+0.5**
INKA	**Innaminka**	**29.71**	**155**	P	**P**	**07 36 44.5**	**+0.8**
MORW	**Morawa**	**29.74**	**199**	P	**P**	**07 36 42.8**	**-1.2**
MORW	**Morawa**	**29.74**	**199**	P	**P**	**07 36 43.5**	**-0.5**
comp=Z,21nm,1.5s							
MORW	**Morawa**	**29.74**	**199**	P	**P**	**07 36 45.1**	**+1.1**
NONG	**Nongkai**	**30.07**	**310**	P	**P**	**07 36 46.5**	**-0.5**
QLP	**Quilpie**	**30.41**	**148**	P	**P**	**07 36 49.5**	**-0.5**
comp=Z,77nm,1.0s							
QLP	**Quilpie**	**30.41**	**148**	P	**P**	**07 36 50.9**	**+1.0**
KMBL	**Kambalda**	**30.55**	**188**	P	**P**	**07 36 51.9**	**+0.8**
SNSI	**Sinabang, Aceh**	**30.72**	**276**	P	**P**	**07 36 53.0**	**+0.2**
comp=Z,94nm,0.8s							
MLSI	**Meulaboh, Aceh**	**30.89**	**280**	P	**P**	**07 36 54.0**	**-0.3**
comp=Z,238nm,1.0s							
BLDU	**Ballidu**	**30.97**	**197**	P	**P**	**07 36 54.3**	**-0.5**
comp=Z,23nm,1.8s							
LCRK	**Leigh Creek**	**31.19**	**161**	P	**P**	**07 36 57.5**	**+0.8**
SRDT	**SRDT**	**31.43**	**300**	P	**P**	**07 36 59.8**	**+0.8**
SLVN	**Son La**	**31.58**	**316**	P	**P**	**07 37 01.0**	**+0.7**
KLBR	**Kellerberrin**	**31.60**	**195**	P	**P**	**07 37 01.1**	**+0.7**
JCJ	**Chichijima**	**31.61**	**27**	LR	LR	07 47 26.5	
comp=Z,954nm,20.3s,baz=228,slow=32							
RK1H	**Rockhampton Ha**	**31.94**	**136**	P	**P**	**07 37 04.2**	**+0.8**
SSE	**Sheshan**	**32.39**	**351**	P	**P**	**07 37 05.4**	**-1.8**
SSE				S	**S**	**07 42 19.4**	**+0.6**
SSE				pmax	pmax		
comp=Z,9.0nm,0.7s							
SSE				pmax	pmax		
comp=Z,150nm,6.3s							
SSE				LR	LR		
comp=Z,180nm,18.6s							
SSE				LR	LR		
comp=Z,260nm,18.4s							
BBOO	**Buckleboo**	**32.79**	**166**	P	**P**

ARMA	**Armidale**	37.52	144	P	**P**	**07 37 52.5 +0.9**
JGF	**Kuroka**	37.73	14	P	**P**	**07 37 51.8 -1.4**
JGF	**Kuroka**	37.73	14	P	**P**	**07 37 53.0 -0.2**
TNCH	**TengChong**	37.73	315	*e*P	**P**	**07 37 54.6 +1.0**
TNCH				pmax	pmax	
comp=Z,190nm,5.2s						
LYN	**LuoYang**	37.87	340	⇓P	**P**	**07 37 55.5 +1.1**
LYN				pP	pP	07 38 04.1 -0.7
LYN				S	**S**	**07 43 44.3 +1.3**
LYN				pmax	pmax	
comp=Z,48nm,1.2s						
LYN				pmax	pmax	
comp=Z,610nm,4.1s						
LYN				LR	LR	
comp=Z,560nm,18.5s						
LYN				LR	LR	
comp=Z,470nm,13.7s						
LYN				LR	LR	
comp=Z,990nm,25.1s						
TIA	**Tai'an**	38.13	347	P	**P**	**07 37 56.9 +0.3**
TIA				S	**S**	**07 43 45.9 -1.1**
TIA				pmax	pmax	
comp=Z,19nm,0.8s						
TIA				pmax	pmax	
comp=Z,380nm,4.5s						
ARPS	**Mount Arapiles**	38.18	160	P	**P**	**07 37 57.8 +0.9**
comp=Z,719nm,0.8s						
ARPS	**Mount Arapiles**	38.18	160	P	**P**	**07 37 57.7 +0.7**
KSRS	**Korea Array**	38.29	1	P	**P**	**07 37 57.9 0.0**
comp=Z,21nm,0.7s,baz=178,slow=9.8,SNR=96						
KSRS				PcP	**PcP**	**07 40 12.1 +0.7**
comp=Z,5.5nm,0.8s,baz=180,slow=3.3,SNR=7.5						
KSRS				ScP	**ScP**	**07 43 57.4 +1.3**
comp=Z,3.5nm,0.8s,baz=188,slow=3.7,SNR=10						
comp=Z,21nm,0.7s						
KS19	**Wonju Array Si**	38.34	1	P	**P**	**07 37 57.7 -0.6**
CD2	**Chengdu**	38.61	327	P	**P**	**07 38 01.6 +0.8**
CD2				S	**S**	**07 43 54.3 -0.1**
CD2				pmax	pmax	
comp=Z,10.0nm,0.6s						
CD2				LR	LR	
comp=Z,560nm,16.5s						
CD2				LR	LR	
comp=Z,710nm,17.8s						
MGBR	**Mount Gambier**	38.65	162	P	**P**	**07 38 01.2 +0.3**
XAN	**Xi'an**	38.74	336	⇑P	**P**	**07 38 02.3 +0.5**
XAN				pP	pP	07 38 10.3 -2.0
XAN				S	**S**	**07 43 54.0 -2.2**
XAN				pmax	pmax	
comp=Z,39nm,1.0s						
XAN				LR	LR	
comp=Z,700nm,20.4s						
XAN				LR	LR	
comp=Z,520nm,19.1s						
XAN				LR	LR	
comp=Z,660nm,22.0s						
MAJO	**Matsushiro**	38.83	15	P	**P**	**07 38 00.8 -1.7**
MAJO	**Matsushiro**	38.83	15	*i* P	**P**	**07 38 00.7 -1.7**
MAJO				pmax	pmax	
comp=Z,65nm,2.2s						
MJAR	**Matsushiro Arr**	38.83	15	P	**P**	**07 38 00.5 -2.0**
comp=Z,15nm,0.8s,baz=184,slow=9.2,SNR=35						
MJAR				PcP	**PcP**	**07 40 13.1 -0.1**
comp=Z,4.9nm,0.7s,baz=181,slow=3.6,SNR=5.5						
MJAR				ScP	**S**	**07 43 58.2 +0.7**
comp=Z,18nm,1.2s,baz=208,slow=4.8,SNR=17						
MJAR				LR	LR	07 53 58.9
comp=Z,814nm,19.1s,baz=192,slow=36						
comp=Z,15nm,0.8s						
MJB9	**Matsu-Tunnel**	38.83	15	P	**P**	**07 38 01.2 -1.3**
MGCD	**Mangrove Creek**	39.29	147	P	**P**	**07 38 07.8 +1.4**
comp=Z,53nm,0.9s						
HNS	**HongShan**	39.85	345	⇑P	**P**	**07 38 11.0 +0.1**
HNS				sP	**sP**	**07 38 25.5 -0.4**
HNS				PcP	**PcP**	**07 40 16.8 +0.5**
HNS				ScP	**ScP**	**07 44 03.5 +1.4**
HNS				S	**S**	**07 44 10.1 -2.6**
HNS				SS	**SnSn**	**07 47 12.9 -1.6**
HNS				ScS	**ScS**	**07 48 15.3 +0.3**
HNS				pmax	pmax	
comp=Z,35nm,0.9s						
HNS				LR	LR	
comp=Z,510nm,20.1s						
HNS				LR	LR	
comp=Z,390nm,20.9s						
HNS				LR	LR	
comp=Z,500nm,17.6s						
CAN	**Canberra**	39.87	151	P	**P**	**07 38 11.9 +0.7**
CAN				IAmb	IAmb	07 38 13.3
comp=Z,40nm,0.8s						
CAN	**Canberra**	39.87	151	P	**P**	**07 38 12.3 +1.1**
comp=Z,76nm,0.9s						
CAN	**Canberra**	39.87	151	P	**P**	**07 38 12.3 +1.1**
CAN	**Canberra**	39.87	151	P	**P**	**07 38 11.9 +0.7**
CAN				pmax	pmax	
comp=Z,41nm,0.8s						
LUES	**Luesalemba Tem**	39.96	105	P	**P**	**07 38 13.2 +1.0**
DL2	**Dalian**	40.02	354	P	**P**	**07 38 10.8 -1.5**
DL2				S	**S**	**07 44 11.8 -3.4**
DL2				pmax	pmax	
comp=Z,35nm,0.8s						
DL2				pmax	pmax	
comp=Z,220nm,5.8s						
DL2				LR	LR	
comp=Z,570nm,20.0s						
DL2				LR	LR	
comp=Z,370nm,26.3s						
DL2				LR	LR	
comp=Z,940nm,21.7s						
MLBS	**Spotswood, Mel**	40.22	158	P	**P**	**07 38 16.1 +2.2**
TOO	**Toolangi**	40.22	157	P	**P**	**07 38 14.9 +0.8**
TOO	**Toolangi**	40.22	157	P	**P**	**07 38 15.6 +1.5**
comp=Z,35nm,1.4s						
TOO	**Toolangi**	40.22	157	P	**P**	**07 38 14.9 +0.8**
TOO				pmax	pmax	
comp=Z,53nm,1.3s						
JSD	**Sado**	40.26	14	P	**P**	**07 38 13.2 -1.2**
JSD	**Sado**	40.26	14	P	**P**	**07 38 14.5 +0.2**
GEXS	**Deakin Univers**	40.32	159	P	**P**	**07 38 16.0 +1.2**
JMM	**Marumori**	40.78	17	P	**P**	**07 38 17.5 -1.1**
JMM				IAmb	IAmb	07 38 20.8
comp=Z,61nm,0.6s						
JMM	**Marumori**	40.78	17	P	**P**	**07 38 17.7 -0.9**
TIY	**Taiyuan**	40.78	342	P	**P**	**07 38 21.3 +2.5**
TIY				sP	**pwP**	**07 38 34.5 +0.4**
TIY				S	**S**	**07 44 27.3 +0.5**
TIY				pmax	pmax	
comp=Z,41nm,0.5s						
TIY				pmax	pmax	
comp=Z,300nm,12.0s						
TIY				LR	LR	
comp=Z,250nm,17.2s						
TIY				LR	LR	
comp=Z,350nm,26.8s						
TIY				LR	LR	
comp=Z,330nm,25.4s						
KOUNC	**Koumac, New Ca**	41.38	121	P	**P**	**07 38 24.8 +0.9**
BJT	**Baijiatuan**	42.00	348	P	**P**	**07 38 30.4 +1.8**
BJI	**Beijing**	42.02	348	P	**P**	**07 38 28.3 -0.4**
BJI				pP	**pP**	**07 38 37.8 -1.4**
BJI				sP	**pwP**	**07 38 42.0 -2.2**
BJI				PcP	**PcP**	**07 40 23.8 +0.5**
BJI				ScP	**ScP**	**07 44 11.8 +1.2**
BJI				S	**S**	**07 44 42.8 -2.0**
BJI				ScS	**ScS**	**07 48 27.3 -0.6**
BJI				pmax	pmax	
comp=Z,15nm,1.3s						
BJI				pmax	pmax	
comp=Z,66nm,6.0s						
BJI				LR	LR	
comp=Z,140nm,21.9s						
BJI				LR	LR	
comp=Z,180nm,19.8s						
BJI				LR	LR	
comp=Z,280nm,21.3s						
LZH	**Lanzhou**	42.69	332	*e*P	**P**	**07 38 36.3 +1.8**
LZH				sP	pwP	07 38 49.5 -1.2
LZH				S	**S**	**07 44 55.0 -0.3**
LZH				pmax	pmax	
comp=Z,54nm,1.2s						
LZH				pmax	pmax	
comp=Z,350nm,4.5s						
LZH				LR	LR	
comp=Z,630nm,14.1s						
LZH				LR	LR	
comp=Z,540nm,15.5s						
LZH				LR	LR	
comp=Z,730nm,14.8s						
SHL	**Shillong**	42.92	310	P	**P**	**07 38 35.9 -0.6**
SHL				IAmb	IAmb	07 38 50.1
comp=Z,35nm,0.7s						
SHL	**Shillong**	42.92	310	P	**P**	**07 38 35.9 -0.6**
SHL				pmax	pmax	
comp=Z,35nm,0.7s						
MSHR	**Mys Shultsa**	43.57	5	*i* P	**P**	**07 38 40.3 -1.0**
MSHR				pmax	pmax	
comp=Z,53nm,0.8s						
JTM	**Tenmabayashi**	43.58	16	P	**P**	**07 38 40.9 -0.4**
DZM	**Mont Dzumac**	43.83	121	P	**P**	**07 38 44.3 +0.5**
DZM				IAmb	IAmb	07 38 46.2
comp=Z,93nm,1.2s						
DZM	**Mont Dzumac**	43.83	121	*e*P	**P**	**07 38 41.6 -2.2**
comp=Z,181nm,1.4s						
DZM				*e*S	**S**	**07 45 11.8 -0.4**
comp=Z,383nm,28.2s						
DZM				*e*SS	**SS**	**07 48 31.4 +1.9**
comp=Z,453nm,26.4s						
DZM				*e*LR	LR	07 50 57.8
comp=Z,2μm,23.6s						
DZM	**Mont Dzumac**	43.83	121	P	**P**	**07 38 44.2 +0.3**
comp=Z,40nm,1.0s,baz=322,slow=7.5,SNR=15						
comp=Z,40nm,1.0s						
DZM	**Mont Dzumac**	43.83	121	P	**P**	**07 38 45.2 +1.4**
DVP	**Devils Point**	43.86	115	P	**P**	**07 38 45.4 +1.4**
ONTNC	**Ouen Toro**	43.93	122	P	**P**	**07 38 45.0 +0.5**
ONTNC				IAmb	IAmb	07 38 46.5
comp=Z,56nm,0.9s						
HHC	**Hu-ho-hao-te**	43.94	343	*e*P	P	07 38 49.3 +4.9
HHC				S	**S**	**07 45 16.8 +3.5**
HHC				SS	**SS**	**07 48 30.3 -0.8**
HHC				pmax	pmax	
comp=Z,15nm,1.1s						
HHC				pmax	pmax	
comp=Z,400nm,5.4s						
HHC				LR	LR	
comp=Z,310nm,15.1s						
HHC				LR	LR	
comp=Z,130nm,11.8s						
HHC				LR	LR	
comp=Z,520nm,20.2s						
VLA	**Vladivostok**	44.17	5	*i* P	**P**	**07 38 45.4 -0.7**
VLA				pmax	pmax	
comp=Z,14nm,1.0s						
BTO	**Baotou**	44.18	342	*e*P	**P**	**07 38 46.4 0.0**
BTO				pP	**pP**	**07 38 55.6 -1.4**
BTO				sP	**sP**	**07 39 00.3 -1.1**
BTO				S	**S**	**07 45 19.1 +2.3**
BTO				SS	**ScS**	**07 48 38.5 -3.2**
BTO				pmax	pmax	
comp=Z,8.0nm,0.5s						
BTO				pmax	pmax	
comp=Z,250nm,4.8s						
BTO				LR	LR	
comp=Z,420nm,10.1s						
BTO				LR	LR	
comp=Z,370nm,11.7s						
BTO				LR	LR	
comp=Z,1μm,18.6s						
YATNC	**Mamie plateau,**	44.21	121	P	**P**	**07 38 47.9 +1.1**
OUENC	**Ouen Island, N**	44.30	122	P	**P**	**07 38 48.4 +0.9**
CN2	**Changchun**	44.64	359	P	**P**	**07 38 52.0 +2.2**
CN2				pP	pP	07 39 02.0 +1.3
CN2				S	**S**	**07 45 26.4 +3.2**
CN2				pmax	pmax	
comp=Z,10.0nm,0.6s						
CN2				pmax	pmax	
comp=Z,200nm,6.0s						
CN2				LR	LR	
comp=Z,300nm,15.0s						
CN2				LR	LR	
comp=Z,500nm,15.0s						
CN2				LR	LR	
comp=Z,500nm,16.0s						
PINNC	**Pines Island,**	44.89	122	P	**P**	**07 38 52.8 +0.6**
MOO	**Moorlands**	45.10	159	P	**P**	**07 38 54.2 +0.7**
comp=Z,36nm,1.1s						
MOO	**Moorlands**	45.10	159	P	**P**	**07 38 54.9 +1.4**
USA0B	**Ussuriysk Arra**	45.25	5	P	**P**	**07 38 54.1 -0.6**
USA0B				IAmb	IAmb	07 38 55.5
comp=Z,37nm,0.9s						
USA0B	**Ussuriysk Arra**	45.25	5	*i* P	**P**	**07 38 54.1 -0.6**
USRK	**Ussuriysk Ar.**	45.25	5	P	**P**	**07 38 54.5 -0.2**
comp=Z,27nm,0.7s,baz=192,slow=7.4,SNR=54						
USRK				ScP	**ScP**	**07 44 24.5 +0.9**
comp=Z,4.2nm,0.9s,baz=176,slow=2.9,SNR=8.6						
USRK				LR	LR	07 57 31.6
comp=Z,170nm,21.8s,baz=185,slow=36						
comp=Z,27nm,0.7s						
ERM	**Erimo**	45.30	17	*ce*P	**P**	**07 38 53.9 -1.2**
ERM				pmax	pmax	
comp=Z,28nm,1.0s						
MDJ	**Mudanjiang**	45.50	3	P	**P**	**07 38 56.5 -0.2**
MDJ				PP	**PP**	**07 40 40.6 -3.2**
MDJ				ScP	**ScP**	**07 44 25.9 +1.2**
MDJ				S	**S**	**07 45 34.8 -0.8**
MDJ				ScS	**ScS**	**07 48 49.0 -0.7**
MDJ				pmax	pmax	
comp=Z,66nm,1.0s						
MDJ				pmax	pmax	
comp=Z,220nm,4.1s						
MDJ	**Mudanjiang**	45.50	3	P	**P**	**07 38 57.1 +0.4**
XLT	**XiLinHaoTe**	45.75	349	*e*P	**P**	**07 38 58.8 0.0**
XLT				pP	pP	07 39 07.1 -2.2
XLT				sP	pwP	07 39 12.0 -2.4
XLT				ScP	**ScP**	**07 44 27.1 +1.2**
XLT				S	**S**	**07 45 36.0 -3.4**
XLT				SS	**SS**	**07 49 03.0 -1.4**
XLT				pmax	pmax	
comp=Z,12nm,1.0s						
XLT				LR	LR	
comp=Z,35nm,19.6s						
XLT				LR	LR	
comp=Z,330nm,17.8s						
XLT				LR	LR	
comp=Z,440nm,19.0s						
BNX	**BinXian**	46.56	1	⇑P	**P**	**07 39 03.6 -1.4**
BNX				S	**S**	**07 45 53.3 +2.5**
BNX				pmax	pmax	
comp=Z,16nm,0.9s						
BNX				pmax	pmax	
comp=Z,180nm,5.7s						
BNX				LR	LR	
comp=Z,310nm,14.1s						
BNX				LR	LR	
comp=Z,310nm,16.3s						
BNX				LR	LR	
comp=Z,420nm,21.7s						
TEY	**Ternei**	46.67	9	⇑*e*P	**P**	**07 39 05.7 -0.1**
TEY				pmax	pmax	
comp=N,30nm,0.8s						
TEY				pmax	pmax	
comp=Z,50nm,0.8s						
PALK	**Pallekele**	46.78	281	P	**P**	**07 39 07.2 -0.1**
PALK				IAmb	IAmb	07 39 08.0
comp=Z,42nm,1.0s						
PALK	**Pallekele**	46.78	281	LR	LR	08 00 08.1
comp=Z,685nm,21.4s,baz=101,slow=38						
PALK	**Pallekele**	46.78	281	P	**P**	**07 39 07.2 -0.1**
PALK				pmax	pmax	
comp=Z,42nm,1.0s						
ASAJ	**Asahikawa**	47.09	15	P	**P**	**07 39 08.9 -0.2**
comp=Z,34nm,0.7s,baz=206,slow=8.2,SNR=28						
ASAJ				ScP	**ScP**	**07 44 32.0 +0.7**
comp=Z,21nm,1.1s,baz=257,slow=13,SNR=5.7						
ASAJ				LR	LR	07 57 48.5
comp=Z,646nm,21.5s,baz=200,slow=34						
comp=Z,34nm,0.7s						
JKA	**Kamikawa-asahi**	47.09	15	P	**P**	**07 39 08.6 -0.5**
GTA	**Gaotai**	47.26	331	P	**P**	**07 39 12.8 +2.1**
GTA				pP	pP	07 39 21.3 +0.1
GTA				ScP	**ScP**	**07 44 34.5 +2.1**
GTA				S	**S**	**07 46 02.6 +1.3**
GTA				pmax	pmax	
comp=Z,17nm,1.4s						
GTA				pmax	pmax	
comp=Z,87nm,7.2s						
GTA				LR	LR	
comp=Z,240nm,15.5s						
GTA				LR	LR	
comp=Z,370nm,18.7s						
GTA				LR	LR	
comp=Z,360nm,19.1s						
GOMU	**GeErMu**	47.54	324	P	**P**	**07 39 14.8 +1.5**
GOMU				pP	pP	07 39 25.6 +1.8
GOMU				PP	**PP**	**07 41 06.1 +1.0**
GOMU				S	**S**	**07 46 08.8 +3.0**
GOMU				SS	**SS**	**07 49 40.3 +6.0**
GOMU				pmax	pmax	
comp=Z,23nm,1.6s						
GOMU				pmax	pmax	
comp=Z,580nm,5.6s						
GOMU				LR	LR	
comp=Z,890nm,21.4s						
GOMU				LR	LR	
comp=Z,600nm,22.5s						
YSS	**Yuzhno-Sakhali**	49.77	14	P	**P**	**07 39 28.6 -1.1**
YSS				IAmb	IAmb	07 39 33.8
comp=Z,36nm,1.0s						
YSS	**Yuzhno-Sakhali**	49.77	14	P	**P**	**07 39 29.5 -0.2**
YSS	**Yuzhno-Sakhali**	49.77	14	⇓*e*P	**P**	**07 39 29.5 -0.2**
YSS				*e*S	**S**	**07 46 34.3 -1.8**
YSS				pmax	pmax	
comp=Z,30nm,0.8s						
YSS				pmax	pmax	
comp=N,30nm,0.7s						
KLR	**Kul'dur**	50.23	4	P	**P**	**07 39 32.7 -0.5**
comp=N,18nm,0.9s,baz=205,slow=5.1,SNR=38						
KLR				ScP	**ScP**	**07 44 43.9 -0.7**
comp=N,3.4nm,0.8s,baz=235,slow=2.1,SNR=6.1						
KLR				S	**S**	**07 46 38.5 -4.0**
comp=N,0.6nm,0.5s,baz=12,slow=18,SNR=12						
comp=N,18nm,0.9s						
KLR	**Kul'dur**	50.23	4	*ce*P	**P**	**07 39 32.0 -1.2**
KLR				pmax	pmax	
comp=Z,25nm,0.8s						
HIA	**Hailar**	50.47	354	P	**P**	**07 39 36.6 +1.6**
HYB	**Hyderabad**	50.98	293	*e*P	**P**	**07 39 39.6 +0.1**
HYB				IVmB_BB		07 39 39.9
comp=Z,1μm,1.1s						
HYB				*e*S	**S**	**07 46 55.3 +1.4**
HEH	**HeiHe**	51.08	0	*e*P	**P**	**07 39 38.9 -0.7**
HEH				S	**S**	**07 46 51.4 -2.8**
HEH				pmax	pmax	
comp=Z,32nm,0.8s						
HEH				pmax	pmax	
comp=Z,310nm,3.6s						
HEH				LR	LR	
comp=Z,240nm,16.3s						
HEH				LR	LR	
comp=Z,410nm,16.0s						
HEH				LR	LR	
comp=Z,630nm,15.6s						
UGL	**Uglegorsk**	51.60	13	*e*P	**P**	**07 39 42.3 -1.2**
UGL				*e*S	**S**	**07 46 57.4 -4.0**
UGL				pmax	pmax	
comp=Z,100nm,1.1s						
UGL				smax	smax	
comp=E,1μm,14.0s						
ULN	**Ulaanbaatar**	51.66	343	P	**P**	**07 39 44.2 0.0**
ULN	**Ulaanbaatar**	51.66	343	*i* P	**P**	**07 39 43.3 -0.9**
ULN				pmax	pmax	
comp=Z,49nm,1.5s						
SONM	**Songino Array**	51.83	343	P	**P**	**07 39 45.2 -0.2**
SONM	**Songino Array**	51.83	343	P	**P**	**07 39 45.7 +0.3**
comp=Z,10nm,0.8s,baz=159,slow=8.2,SNR=26						
SONM				ScP	**ScP**	**07 44 51.9 +0.2**
comp=Z,3.3nm,1.0s,baz=158,slow=4.6,SNR=7.4						
comp=Z,10nm,0.8s						
GRNR	**Gornyy**	52.23	8	⇑*i*P	**P**	**07 39 48.4 +0.2**
GRNR				pmax	pmax	
comp=N,20nm,0.7s						
GRNR				pmax	pmax	
comp=Z,20nm,1.0s						
YSA	**Yasawairara**	52.28	110	P	**P**	**07 39 50.4 +1.3**
FUNA	**Funafuti**	52.63	100	P	**P**	**07 39 52.1 +0.3**
FUNA	**Funafuti**	52.63	100	P	**P**	**07 39 52.9 +1.1**
MSVF	**Nonsavu**	52.94	111	P	**P**	**07 39 55.4 +1.2**
MSVF	**Nonsavu**	52.94	111	P	**P**	**07 39 55.4 +1.2**
comp=Z,81nm,0.9s,baz=266,slow=7.6,SNR=31						
MSVF				LR	LR	08 03 07.8
comp=Z,698nm,18.8s,baz=286,slow=37						
comp=Z,81nm,0.9s						
MSVF	**Nonsavu**	52.94	111	P	**P**	**07 39 56.3 +2.2**
TYV	**Tymovskoe**	53.41	12	*e*P	**P**	**07 39 57.3 +0.4**
TYV				*e*S	**S**	**07 47 27.4 +1.2**
TYV				pmax	pmax	
comp=Z,100nm,3.2s						
TYV				pmax	pmax	
comp=Z,180nm,0.8s						
TYV				smax	smax	
comp=N,300nm,4.6s						
TYV				smax	smax	
comp=E,400nm,4.6s						
CIT	**Chita**	54.03	350	*e*P	**P**	**07 39 59.5 -2.0**
CIT				*e*		07 41 01.3
CIT				pmax	pmax	
comp=Z,78nm,1.9s						
DGTI	**Dogotuki**	54.23	109	P	**P**	**07 40 04.6 +1.1**
ZEA	**Zeya**	54.57	0	*e*P	**P**	**07 40 04.5 -0.8**
ZEA				*e*		07 49 54.2
ZEA				pmax	pmax	
comp=Z,10.0nm,0.9s						
ZEA				MLR	MLR	
comp=E,200nm,16.0s						
DGAR	**Diego Garcia**	54.59	262	P	**P**	**07 40 06.4 +0.2**
DGAR	**Diego Garcia**	54.59	262	P	**P**	**07 40 06.4 +0.2**
DGAR				pmax	pmax	
comp=Z,186nm,1.3s						
TAVE	**Taveuni**	54.65	110	P	**P**	**07 40 07.7 +1.2**
ZAK	**Zakamensk**	55.03	342	*e*P	**P**	**07 40 08.3 -0.6**
ZAK				pmax	pmax	
comp=Z,12nm,1.4s						
FUTU	**Fugatoga**	55.94	107	P	**P**	**07 40 16.8 +0.9**
LKBA	**Tubou, Lakemba**	55.96	111	P	**P**	**07 40 17.6 +1.6**
IRK	**Irkutsk**	56.38	344	*e*P	**P**	**07 40 14.1 -4.3**
IRK				pmax	pmax	
comp=Z,57nm,2.6s						
MSZ	**Milford Sound**	56.62	146	P	**P**	**07 40 21.4 +1.3**
DCZ	**Deep Cove**	56.68	147	P	**P**	**07 40 20.7 +0.1**
DCZ				IAmb	IAmb	07 40 36.9
comp=Z,72nm,1.3s						
WMQ	**Urumqi**	56.71	327	*e*P	**P**	**07 40 23.8 +2.8**
WMQ				pP	pP	07 40 31.5 -0.2
WMQ				ScP	**ScP**	**07 45 14.8 +1.7**
WMQ				S	**S**	**07 48 12.4 +1.6**
WMQ				pmax	pmax	
comp=Z,40nm,1.1s						
WMQ				pmax	pmax	
comp=Z,470nm,5.3s						
WMQ				LR	LR	
comp=Z,760nm,20.7s						
WMQ				LR	LR	
comp=Z,650nm,24.0s						
WMQ				LR	LR	
comp=Z,350nm,22.1s						
JCZ	**Jackson Bay**	56.74	145	P	**P**	**07 40 22.2 +1.0**
MLZ	**Mavora Lakes**	57.15	146	P	**P**	**07 40 24.3 +0.3**
QRZ	**Quartz Range**	57.20	140	P	**P**	**07 40 25.6 +1.2**
LBZ	**Lake Benmore**	57.73	144	P	**P**	**07 40 28.2 +0.1**
LBZ				IAmb	IAmb	07 40 43.8
comp=Z,40nm,1.0s						
LBZ	**Lake Benmore**	57.73	144	P	**P**	**07 40 28.7 +0.6**
RPZ	**Rata Peaks**	57.86	143	P	**P**	**07 40 29.2 +0.2**
comp=Z,20nm,0.9s,baz=317,slow=1.0,SNR=6.0						
RPZ				LR	LR	08 06 41.3
comp=Z,1μm,20.3s,baz=314,slow=37						
comp=Z,20nm,0.9s						
THZ	**Tophouse**	57.93	141	P	**P**	**07 40 30.0 +0.4**
NNZ	**Nelson**	57.95	140	P	**P**	**07 40 29.7 0.0**
LTZ	**Lake Taylor**	58.08	142	P	**P**	**07 40 31.5 +0.9**
TMZ	**Timaru**	58.21	144	P	**P**	**07 40 32.1 +0.6**
TUZ	**Tuapeka**	58.35	146	P	**P**	**07 40 33.0 +0.7**
TUWZ	**Tuamarina**	58.42	140	P	**P**	**07 40 32.6 -0.3**
GVZ	**Greta Valley S**	58.65	142	P	**P**	**07 40 35.3 +0.7**
KHZ	**Kahutara**	58.67	141	P	**P**	**07 40 34.4 -0.3**
MQZ	**McQueen's Vall**	58.82	143	P	**P**	**07 40 36.2 +0.6**
OGWZ	**Otaki Gorge**	58.92	139	P	**P**	**07 40 36.5 +0.1**
BHW	**Baring Head**	59.02	139	P	**P**	**07 40 36.0 -1.1**
BKZ	**Black Stump Fm**	59.03	136	P	**P**	**07 40 37.2 -0.1**
BKZ				IAmb	IAmb	07 40 54.6
comp=Z,34nm,0.9s						
BKZ	**Black Stump Fm**	59.03	136	P	**P**	**07 40 38.0 +0.7**
BKZ	**Black Stump Fm**	59.03	136	P	**P**	**07 40 37.6 +0.3**
URZ	**Urewera**	59.05	135	P	**P**	**07 40 37.3 -0.1**
comp=Z,10nm,0.5s,baz=315,slow=5.3,SNR=11						
URZ				LR	LR	08 09 04.5

comp=Z,789nm,19.1s,baz=30,slow=39
comp=Z,10nm,0.5s
URZ Urewera 59.05 135 P P 07 40 38.3 +0.9
KWHZ Kaweka Forest 59.10 137 P P 07 40 38.7 +0.8
MRZ Mangatainoka R 59.11 138 P P 07 40 37.0 -0.8
MRZ IAmb IAmb 07 40 42.6
comp=Z,32nm,1.0s
MTHZ Maungataniwha 59.13 136 P P 07 40 38.6 +0.6
PNHZ Pukenui 59.18 137 P P 07 40 37.9 -0.4
MSWZ Moikau Station 59.27 139 P P 07 40 38.1 -0.8
MCHZ McNeill Hill 59.30 137 P P 07 40 39.2 +0.1
PLWZ Palliser 59.34 139 P P 07 40 38.8 -0.6
MWZ Matawai 59.38 135 P P 07 40 40.4 +0.6
BOD Bodaibo 59.55 352 *eP* **P 07 40 39.7 -0.8**
BOD pmax pmax
comp=Z,40nm,1.4s
PEA0B Petropavlovsk- 59.77 21 P **P 07 40 42.2 +0.1**
PEA0B IAmb IAmb 07 40 43.3
comp=Z,28nm,0.8s
PEA0B Petropavlovsk- 59.77 21 *ceP* **P 07 40 41.9 -0.2**
PETK Petropavlovsk- 59.77 21 P **P 07 40 41.2 -0.9**
PETK Petropavlovsk- 59.77 21 P **P 07 40 41.6 -0.4**
comp=Z,22nm,0.8s,baz=198,slow=6.6,SNR=35
PETK LR LR 08 02 40.1
comp=Z,179nm,21.8s,baz=208,slow=32
comp=Z,22nm,0.8s
KNZ Kokohu 59.79 136 P **P 07 40 44.4 +2.0**
PET Petropavlovsk 60.05 22 P **P 07 40 43.7 -0.3**
PET Petropavlovsk 60.05 22 *eP* **P 07 40 43.8 -0.1**
PET *eS* **S 07 48 55.7 +2.0**
PET MLR MLR
comp=Z,200nm,16.0s
ZSN Zaisan 60.57 329 *eP* **P 07 40 48.0 +0.3**
ZSN pmax pmax
comp=Z,20nm,1.3s
ZSN Zaisan 60.57 329 *eP* **P 07 40 48.0 +0.3**
comp=Z,20nm,1.3s
NIL Nilore 60.98 310 P **P 07 40 51.6 +0.8**
SHLS Shalkode 61.11 322 *eP* **P 07 40 50.1 -1.4**
SHLS pmax pmax
comp=Z,20nm,1.1s
SHLS Shalkode 61.11 322 *eP* **P 07 40 50.2 -1.4**
comp=Z,20nm,1.1s
PDGK Podgornoye 61.18 322 P **P 07 40 52.5 +0.4**
UZB Uzynbulak 61.37 322 *eP* **P 07 40 53.7 +0.3**
UZB pmax pmax
comp=Z,15nm,1.1s
UZB Uzynbulak 61.37 322 *eP* **P 07 40 53.7 +0.3**
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 61.40 320 P **P 07 40 55.0 +1.0**
TARG IAmb IAmb 07 41 17.7
comp=Z,40nm,1.2s
TARG Taragay, Kyrgy 61.40 320 P **P 07 40 55.0 +1.0**
TARG pmax pmax
comp=Z,40nm,1.2s
KSH Kashi 61.53 317 P **P 07 40 56.4 +1.9**
KSH S **S 07 49 17.6 +4.1**
KSH pmax pmax
comp=Z,15nm,1.2s
KSH pmax pmax
comp=Z,390nm,7.0s
MK31 Makanchi Array 61.54 327 P **P 07 40 54.1 -0.2**
MK31 IAmb IAmb 07 41 19.8
comp=Z,30nm,0.9s
MK31 Makanchi Array 61.54 327 *ceP* **P 07 40 55.0 +0.7**
MKAR Makanchi Array 61.54 327 P **P 07 40 54.3 0.0**
MKAR Makanchi Array 61.54 327 P **P 07 40 54.6 +0.3**
comp=Z,12nm,0.6s,baz=122,slow=8.1,SNR=61
MKAR ScP **ScP 07 45 35.0 +0.7**
comp=Z,4.1nm,0.8s,baz=116,slow=5.5,SNR=6.7
MKAR S **S 07 49 14.9 +1.7**
comp=Z,0.4nm,1.0s,baz=122,slow=16,SNR=1.6
MKAR LR LR 08 09 35.5
comp=Z,314nm,20.2s,baz=110,slow=38
comp=Z,12nm,0.6s
SATY Saty 61.71 321 *eP* **P 07 40 56.0 +0.4**
SATY pmax pmax
comp=Z,13nm,0.9s
SATY Saty 61.71 321 *eP* **P 07 40 56.0 +0.4**
comp=Z,12nm,0.9s
MAKZ Makanchi 61.72 327 P **P 07 40 55.4 -0.1**
MAKZ IAmb IAmb 07 41 22.0
comp=Z,26nm,0.8s
MAKZ Makanchi 61.72 327 P **P 07 40 55.4 -0.1**
MAKZ pmax pmax
comp=Z,26nm,0.9s
ZHN Zhinishke 61.75 322 *eP* **P 07 40 55.8 -0.1**
ZHN pmax pmax
comp=Z,11nm,0.9s
ZHN Zhinishke 61.75 322 *eP* **P 07 40 55.9 -0.1**
comp=Z,11nm,0.9s
AFI Afiamalu 61.99 105 P **P 07 40 59.1 +1.1**
KDJ Kajisay 62.00 320 P **P 07 40 59.1 +1.4**
KDJ pmax pmax
comp=Z,28nm,1.1s
ANVS Anan'yevo 62.03 321 P **P 07 40 59.0 +1.1**
ANVS pmax pmax
comp=Z,28nm,0.9s
TNSS Tian-Shan 62.61 321 *eP* **P 07 41 01.9 -0.1**
TNSS Tian-Shan 62.61 321 *eP* **P 07 41 01.9 -0.1**
ULHL Ulahol 62.67 320 P **P 07 41 05.0 +2.8**
SNR=12
ARXS Arharly 62.67 322 *eP* **P 07 41 01.7 -0.3**
AAA Alma-Ata 62.72 321 *eP* **P 07 41 02.3 0.0**
AAA Alma-Ata 62.72 321 *eP* **P 07 41 02.4 +0.1**
TDK Taldyqorghan 62.74 323 *eP* **P 07 41 02.5 +0.1**
TDK pmax pmax
comp=Z,16nm,0.6s
TDK Taldyqorghan 62.74 323 *eP* **P 07 41 02.5 +0.1**
comp=Z,16nm,0.6s
YAK Yakutsk 62.92 1 P **P 07 41 02.8 -0.3**
comp=Z,128nm,0.7s,baz=61,slow=0.4,SNR=21
YAK LR LR 08 12 08.7
comp=Z,118nm,19.4s,baz=178,slow=40
comp=Z,128nm,0.7s
YAK Yakutsk 62.92 1 *eP* **P 07 41 02.7 -0.5**
YAK *e**PP **pP 07 41 14.7 +0.5**
YAK *e* 07 41 40.5
YAK *e* 07 43 21.2
YAK *e*PPP PPP 07 44 49.4
YAK *e*S **S 07 49 29.8 0.0**
YAK *e**SS **sS 07 49 49.9 +1.0**
YAK *e* 07 50 51.9
YAK *e*SS **SS 07 53 33.4 -2.4**
YAK pmax pmax
comp=Z,68nm,0.9s
YAK pmax pmax
comp=N,16nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.6s
YAK pmax pmax
comp=Z,200nm,4.4s
YAK pmax pmax
comp=E,70nm,3.4s
YAK pmax pmax
comp=N,55nm,2.6s
YAK smax smax
comp=E,76nm,2.1s
YAK smax smax
comp=N,89nm,2.5s
BOOM Boomskoye usch 62.98 320 P **P 07 41 04.8 +0.5**
BOOM IAmb IAmb 07 41 28.2
comp=Z,25nm,1.1s
BOOM Boomskoye usch 62.98 320 P **P 07 41 04.8 +0.5**
BOOM pmax pmax
comp=Z,25nm,1.1s
CHKK Chushkaly 63.00 322 *eP* **P 07 41 04.1 0.0**
CHKK Chushkaly 63.00 322 *eP* **P 07 41 04.2 0.0**
MA2 Magadan 63.26 13 P **P 07 41 05.6 +0.2**
MA2 Magadan 63.26 13 P **P 07 41 05.6 +0.2**
comp=Z,33nm,0.8s,baz=194,slow=6.1,SNR=71
comp=Z,33nm,0.8s
MA2 Magadan 63.26 13 P **P 07 41 05.9 +0.4**
MA2 Magadan 63.26 13 *ceP* **P 07 41 05.8 +0.3**
MA2 pmax pmax
comp=Z,41nm,0.8s
TKM2 Tokmak 2 63.41 320 P **P 07 41 09.9 +2.8**
SNR=19
KBK Karagaybulak 63.70 320 P **P 07 41 11.6 +2.6**
SNR=6.0
AAK Ala-Archa 63.99 319 P **P 07 41 11.6 +0.7**
AAK Ala-Archa 63.99 319 P **P 07 41 12.1 +1.2**
SNR=13
AAK Ala-Archa 63.99 319 *ceP* **P 07 41 10.6 -0.3**
AAK pmax pmax
comp=Z,35nm,1.7s
OHH Osh 64.17 317 P **P 07 41 13.1 +1.1**
OHH pmax pmax
comp=Z,28nm,1.2s
AML Almayashu 64.28 319 P **P 07 41 14.2 +1.1**
SNR=45
USP Ospenovka 64.28 320 P **P 07 41 15.4 +2.8**
SNR=22
SGDS Sogindy 64.29 320 *eP* **P 07 41 12.9 +0.2**
SGDS Sogindy 64.29 320 *eP* **P 07 41 13.0 +0.2**
ARSB Arslanbob 64.39 318 P **P 07 41 13.8 +0.3**
ARSB Arslanbob 64.39 318 P **P 07 41 13.8 +0.3**
ARSB pmax pmax
comp=Z,96nm,1.4s
EKS2 Erkin-Say 64.47 319 P **P 07 41 17.2 +3.2**
SNR=20
KBL Kabul 64.56 309 P **P 07 41 14.6 -0.2**
KBL IAmb IAmb 07 41 39.9
comp=Z,41nm,0.9s
KBL Kabul 64.56 309 P **P 07 41 14.6 -0.2**
KBL pmax pmax
comp=Z,41nm,0.9s
ZAA0 Zalesovo Array 64.87 334 P **P 07 41 16.0 -0.1**
ZAA0 IAmb IAmb 07 41 42.0
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 64.87 334 P **P 07 41 15.5 -0.7**
ZALV Zalesovo Beam 64.87 334 P **P 07 41 16.6 +0.4**
comp=Z,3.6nm,0.5s,baz=108,slow=4.8,SNR=20
ZALV S **S 07 49 50.6 -3.8**
comp=Z,0.2nm,0.4s,baz=142,slow=7.2,SNR=1.3
ZALV LR LR 08 11 32.3
comp=Z,118nm,22.0s,baz=133,slow=38
comp=Z,3.6nm,0.5s
GAR Garm 65.27 314 P **P 07 41 19.4 +0.2**
ARK Arkit 65.28 318 P **P 07 41 20.5 +1.2**
ARK pmax pmax
comp=Z,62nm,1.5s
BTLS Baital 65.42 322 *eP* **P 07 41 20.0 +0.1**
BTLS Baital 65.42 322 *eP* **P 07 41 20.1 +0.1**
TRKS Terek-Say 65.72 317 P **P 07 41 23.3 +1.1**
TRKS pmax pmax
comp=Z,14nm,1.0s
KURBB Kurchatov Arra 65.81 329 P **P 07 41 22.3 0.0**
comp=Z,12nm,0.6s,baz=126,slow=6.0,SNR=34
KURBB S **S 07 50 04.3 -1.7**
comp=Z,0.1nm,0.3s,baz=106,slow=40,SNR=5.9
comp=Z,12nm,0.6s
KURBB Kurchatov Arra 65.81 329 P **P 07 41 22.0 -0.3**
KURK Kurchatov 65.82 329 P **P 07 41 22.1 -0.3**
KURK Kurchatov 65.82 329 *ceP* **P 07 41 22.4 0.0**
KURK pmax pmax
comp=Z,50nm,1.3s
SIMJ Simiganj 66.08 314 P **P 07 41 24.4 -0.1**
DZET Dzherino 66.26 314 P **P 07 41 26.2 +0.5**
DZET pmax pmax
comp=Z,41nm,1.0s
SHEM Shemya Is, Ala 66.50 29 LR LR 08 05 39.4
comp=Z,438nm,21.4s,baz=273,slow=32
SEY Seymchan 66.61 12 *ceP* **P 07 41 27.1 -0.1**
SEY pmax pmax
comp=Z,82nm,2.5s
IUG Iuzhnay 66.74 317 *eP* **P 07 41 28.7 +0.1**
IUG pmax pmax
comp=Z,21nm,0.9s
IUG Iuzhnay 66.74 317 *eP* **P 07 41 28.8 +0.1**
comp=Z,21nm,0.9s
KK31 Karatay Array 66.81 318 P **P 07 41 28.8 -0.2**
KK31 IAmb IAmb 07 41 45.8
comp=Z,36nm,1.1s
KK31 Karatay Array 66.81 318 *i* P **P 07 41 29.4 +0.4**
KKAR Karatay Array 66.81 318 P **P 07 41 28.8 -0.2**
KKAR Karatay Array 66.81 318 P **P 07 41 28.9 0.0**
KKAR IAmb IAmb 07 41 45.7
comp=Z,23nm,1.1s
KKAR Karatay Array 66.81 318 P **P 07 41 28.8 -0.2**
KKAR pmax pmax
comp=Z,23nm,1.2s
BRLS Borolday 67.23 318 *eP* **P 07 41 31.9 +0.3**
BRLS pmax pmax
comp=Z,9.0nm,1.0s
BRLS Borolday 67.23 318 *eP* **P 07 41 31.9 +0.3**
comp=Z,9.3nm,1.0s
BRZS Berezniki 68.64 326 *eP* **P 07 41 40.4 +0.1**
BRZS Berezniki 68.64 326 *eP* **P 07 41 40.5 +0.1**
BVA0 Borovoye Array 71.37 328 P **P 07 41 57.3 +0.3**
BVAR Borovoye Array 71.37 328 P **P 07 41 57.3 +0.3**
comp=Z,12nm,0.9s,baz=123,slow=7.3,SNR=27
BVAR LR LR 08 16 32.3
comp=Z,130nm,19.9s,baz=115,slow=38
comp=Z,12nm,0.9s
BRVK Borovoye 71.44 328 P **P 07 41 57.7 +0.3**
BRVK IAmb IAmb 07 42 22.2
comp=Z,24nm,0.9s
BRVK Borovoye 71.44 328 *ceP* **P 07 41 57.7 +0.3**
BRVK pmax pmax
comp=Z,17nm,1.0s
ATKA Atka Island 72.33 34 P **P 07 42 01.5 -1.2**
ATKA Atka Island 72.33 34 P **P 07 42 01.7 -1.0**
TIXI Tiksi 72.56 1 P **P 07 42 02.6 -1.1**
TIXI IAmb IAmb 07 42 03.9
comp=Z,31nm,0.8s
TIXI Tiksi 72.56 1 LR LR 08 17 23.4
comp=Z,158nm,19.2s,baz=202,slow=39
TIXI Tiksi 72.56 1 *i* P **P 07 42 03.6 -0.1**
TIXI pmax pmax
comp=Z,36nm,0.8s
UOSS Minazif 72.95 296 P **P 07 42 06.4 -0.7**
UOSS IAmb IAmb 07 42 23.3
comp=Z,26nm,1.0s
BILL Bilibino 74.09 14 P **P 07 42 12.1 -0.7**
BILL Bilibino 74.09 14 *i* P **P 07 42 12.9 +0.1**
BILL pmax pmax
comp=Z,3.0nm,0.9s
RAR Rarotonga 74.13 112 LR LR 08 14 56.5
comp=Z,68nm,22.0s,baz=280,slow=36
NRIK Noril'sk 75.05 347 P **P 07 42 18.3 0.0**
NRIK IAmb IAmb 07 42 27.0
comp=Z,22nm,0.8s
NRIK Noril'sk 75.05 347 P **P 07 42 17.7 -0.7**
comp=Z,12nm,0.7s,baz=120,slow=5.4,SNR=24
NRIK S **S 07 51 50.5 -2.6**
comp=Z,0.5nm,0.3s,baz=335,slow=21,SNR=8.0
NRIK LR LR 08 17 51.8
comp=Z,297nm,20.4s,baz=140,slow=38
comp=Z,12nm,0.7s
NRIK Noril'sk 75.05 347 *ceP* **P 07 42 17.6 -0.7**
NRIK pmax pmax
comp=Z,11nm,0.8s
AB31 Akbulak array 75.91 322 *i* P **P 07 42 22.8 -0.9**
ABKAR Akbulak array 75.91 322 P **P 07 42 23.0 -0.7**
ABKAR Akbulak array 75.91 322 P **P 07 42 22.9 -0.8**
SPIA Saint Paul Isl 76.51 30 P **P 07 42 26.6 -0.3**
baz=246
P08K Saint George I 76.63 31 P **P 07 42 27.7 +0.1**
baz=247
UNV Unalaska Valle 77.25 34 P **P 07 42 30.6 -0.6**
UNV Unalaska Valle 77.25 34 P **P 07 42 31.0 -0.1**
baz=250
AKTO Aktyubinsk 77.46 322 P **P 07 42 33.0 +0.6**
SVE Sverdlovsk 78.06 329 *eP* P 07 42 41.2 +5.5
SVE pmax pmax
comp=Z,21nm,0.8s
GAMB Gambell 78.66 23 P **P 07 42 39.0 +0.3**
GAMB IAmb IAmb 07 42 45.2
comp=Z,44nm,1.4s
GAMB Gambell 78.66 23 P **P 07 42 39.1 +0.3**
baz=244
VNDA Vanda 78.73 173 P **P 07 42 39.1 +0.1**
VNDA IAmb IAmb 07 43 03.8
comp=Z,84nm,1.9s
VNDA Vanda 78.73 173 P **P 07 42 38.8 -0.2**
comp=Z,2.3nm,0.8s,baz=320,slow=4.2,SNR=6.6
VNDA LR LR 08 18 33.8
comp=Z,386nm,18.0s,baz=338,slow=36
comp=Z,2.3nm,0.8s
VNDA Vanda 78.73 173 P **P 07 42 39.1 +0.1**
VNDA pmax pmax
comp=Z,84nm,2.0s
MLH Mauna Loa 78.80 70 P **P 07 42 40.8 0.0**
ARTI Arti 79.09 328 *c i* P P 07 42 46.7 +5.4
ARTI 07 45 40.2
ARTI S **SKSac 07 52 51.4 -2.4**
ARTI pmax pmax
comp=Z,14nm,1.0s
FALS False Pass 79.28 34 P **P 07 42 42.0 -0.3**
baz=253
MAW Mawson 79.38 201 LR LR 08 15 22.9
comp=Z,205nm,20.7s,baz=71,slow=34
M11K Mekoryuk 79.68 28 P **P 07 42 44.5 +0.2**
baz=249
VOI Vohitsoka 80.41 248 P **P 07 42 49.6 +0.2**
VOI IAmb IAmb 07 43 05.7
comp=Z,28nm,1.0s
TNA Tin City 80.89 22 P **P 07 42 51.2 +0.4**
baz=247
K13K Kusilvak Mount 80.92 26 P **P 07 42 51.7 +0.6**
K13K Kusilvak Mount 80.92 26 P **P 07 42 51.0 -0.1**
baz=250
M13K Dall Lake 81.02 28 P **P 07 42 52.3 +0.7**
baz=252
SDPT Sand Point 81.04 34 P **P 07 42 51.3 -0.5**
baz=255
CHNA Chernabura Isl 81.41 34 P **P 07 42 53.6 -0.2**
baz=256
F14K Arctic Creek 81.47 23 P **P 07 42 54.5 +0.5**
baz=248
ANM Nome 81.52 24 P **P 07 42 54.6 +0.4**
baz=249
L14K Kuka Creek 81.62 27 P **P 07 42 55.0 +0.2**
baz=252
N14K Kuskokwak Cree 81.67 29 P **P 07 42 55.2 +0.2**
baz=253
J14K Nanvaranak Lak 81.67 26 P **P 07 42 55.5 +0.5**
baz=251
O14K Tigyukauivet M 81.68 30 P **P 07 42 55.0 -0.2**
baz=254
M14K Bethel 81.78 28 P **P 07 42 55.1 -0.5**
M14K IAmb IAmb 07 43 02.8
comp=Z,25nm,0.8s
M14K Bethel 81.78 28 P **P 07 42 55.8 +0.2**
baz=253,SNR=8.2
S14K Fog Glacier 81.78 33 P **P 07 42 55.7 -0.2**
baz=256
G15K Niukluk 82.21 24 P **P 07 42 58.2 +0.4**
baz=250
F15K North Star Dit 82.21 23 P **P 07 42 58.3 +0.4**
F15K IAmb IAmb 07 42 59.9
comp=Z,38nm,1.3s
F15K North Star Dit 82.21 23 P **P 07 42 58.2 +0.4**
baz=250
L15K Ungalak Mounta 82.27 27 P **P 07 42 58.5 +0.3**
baz=253
M15K Kasigluk River 82.36 28 P **P 07 42 58.9 +0.2**
baz=254
O15K Ungalikthiuk R 82.38 30 P **P 07 42 58.8 0.0**
baz=255
CHGN Chignik 82.41 33 P **P 07 42 59.5 +0.5**
baz=257
K15K Wolf Creek Mou 82.42 27 P **P 07 42 59.8 +0.7**
baz=253
RAYN Ar Rayn 82.48 294 P **P 07 42 59.4 -0.8**
RAYN IAmb IAmb 07 43 15.7
comp=Z,29nm,1.2s
RAYN Ar Rayn 82.48 294 P **P 07 42 59.4 -0.8**
RAYN pmax pmax
comp=Z,29nm,1.2s
N15K Kwethluk River 82.50 29 P **P 07 42 59.9 +0.4**
baz=255
H16K Elim 82.82 24 P **P 07 43 01.6 +0.6**
baz=252,SNR=12
C16K Lisburne Hills 82.86 20 P **P 07 43 01.3 +0.1**
baz=249
MAK Makhachkala 82.90 313 *eP* **P 07 42 59.2 -2.7**
MAK *e* 07 46 14.5
MAK *eS* **S 07 53 16.3 -1.4**
MAK *eSS* **SS 07 58 40.4 -1.2**
MAK *eSSS* SSS 08 02 10.5
G16K Koyuk River 83.01 23 P **P 07 43 02.2 +0.3**
baz=252
J16K Anvik River 83.12 26 P **P 07 43 03.3 +0.7**
baz=254
R16K Pilot Point 83.14 32 P **P 07 43 02.7 0.0**
baz=257
N16K Nishlik Lake 83.22 29 P **P 07 43 03.5 +0.3**
baz=256,SNR=6.0
I17K Unalakleet 83.25 25 P **P 07 43 03.6 +0.4**
I17K Unalakleet 83.25 25 P **P 07 43 04.2 +1.0**
baz=254,SNR=12
P16K Nushagak River 83.26 30 P **P 07 43 03.5 +0.1**
baz=257
M16K Timber Creek 83.26 28 P **P 07 43 03.4 0.0**
baz=256
O16K Kokwok River B 83.34 30 P **P 07 43 03.0 -0.8**
O16K IAmb IAmb 07 43 05.3
comp=Z,44nm,1.4s
O16K Kokwok River B 83.34 30 P **P 07 43 03.4 -0.4**
baz=256
D17K Noatak River 83.46 21 P **P 07 43 05.2 +0.9**
baz=251,SNR=60
PPT Papeete 83.55 107 LR LR 08 20 07.1
comp=Z,187nm,19.0s,baz=282,slow=36
PPT2 Papeete2 83.55 107 *e*PKIKP P 07 43 00.3 -5.6
comp=Z,79nm,24.5s
PPT2 Papeete2 83.55 107 *e*PP PP 07 46 07.7 -11
PPT2 *eS* **S 07 53 26.4 +1.0**
comp=Z,200nm,24.5s
PPT2 Papeete2 83.55 107 *e*LR LR 08 09 18.6
comp=Z,450nm,29.0s
PPT2 *e*LR LR 08 09 19.3
comp=Z,517nm,23.8s
RDOG Red Dog Mine 83.64 21 P **P 07 43 05.7 +0.4**
RDOG IAmb IAmb 07 43 10.3
comp=Z,44nm,1.3s
RDOG Red Dog Mine 83.64 21 P **P 07 43 05.6 +0.4**
baz=251
C17K DeLong Mountai 83.68 20 P **P 07 43 05.8 +0.4**
baz=251
G17K Kiwalik Mounta 83.72 24 P **P 07 43 06.2 +0.5**
baz=254,SNR=19
E17K Hotham Inlet 83.73 22 P **P 07 43 06.4 +0.7**
baz=252
F17K Baldwin Pennin 83.76 23 P **P 07 43 06.2 +0.4**
baz=253
TBI Tubuai 83.79 113 *eP* P 07 43 11.8 +4.9
comp=Z,690nm,40.8s
TBI Tubuai 83.79 113 *e*SS SS 07 58 45.2 -10
comp=Z,788nm,31.5s
TBI Tubuai 83.79 113 *e*LR LR 08 09 27.8
comp=Z,2μm,24.0s
J17K VABM Dome 83.81 26 P **P 07 43 06.2 0.0**
J17K VABM Dome 83.81 26 P **P 07 43 06.5 +0.4**
baz=255,SNR=23
CHIR Chirikof Islan 83.83 34 P **P 07 43 06.1 -0.4**
baz=259
L17K Donlin 83.84 27 P **P 07 43 06.8 +0.4**
baz=256
Q16K King Salmon 83.86 31 P **P 07 43 06.4 -0.1**
baz=258
H17K Granite Mounta 83.86 24 P **P 07 43 06.1 -0.3**
H17K IAmb IAmb 07 43 21.3
comp=Z,30nm,1.1s
H17K Granite Mounta 83.86 24 P **P 07 43 07.0 +0.6**
baz=254,SNR=18
O17K Koliganek Bris 83.87 30 P **P 07 43 06.9 +0.4**
baz=257
K17K Iditarod 83.98 27 P **P 07 43 07.7 +0.6**
baz=256
N17K Nushagak Hills 83.99 29 P **P 07 43 07.8 +0.6**
baz=257
M17K Holitna River 84.07 28 P **P 07 43 07.3 -0.2**
M17K Holitna River 84.07 28 P **P 07 43 08.2 +0.6**
baz=257,SNR=6.3
P17K Kvichak River 84.07 30 P **P 07 43 07.7 +0.1**
baz=258
E18K Tukpahlearik C 84.28 22 P **P 07 43 08.7 +0.2**
E18K IAmb IAmb 07 43 15.5
comp=Z,22nm,1.1s
E18K Tukpahlearik C 84.28 22 P **P 07 43 08.6 +0.1**
baz=253,SNR=20
KIRV Kirov 84.33 329 *ceP* **P 07 43 09.0 +0.1**
F18K Selawik 84.42 23 P **P 07 43 09.1 -0.1**
baz=254
C18K Utukok River 84.43 20 P **P 07 43 09.3 0.0**
C18K IAmb IAmb 07 43 20.9
comp=Z,24nm,1.3s
C18K Utukok River 84.43 20 P **P 07 43 09.3 0.0**
baz=253,SNR=11
B18K Kokolik River 84.44 20 P **P 07 43 09.6 +0.4**
baz=252,SNR=12
ACHA Angle Creek He 84.45 31 P **P 07 43 09.0 -0.7**
ACHA IAmb IAmb 07 43 16.7
comp=Z,23nm,1.2s

H18K	Honhosa River	84.55	24	P	P	07 43 09.3	-0.6
H18K	Honhosa River	84.55	24	P	P	07 43 10.0	+0.1
	baz=256,SNR=5.8						
L18K	Granite Mounta	84.60	27	P	P	07 43 10.3	+0.1
L18K				IAmb	IAmb	07 43 17.0	
	comp=Z,31nm,0.9s						
L18K	Granite Mounta	84.60	27	P	P	07 43 10.3	+0.1
	baz=258,SNR=16						
G18K	Tagagawik	84.62	23	P	P	07 43 09.4	-0.9
G18K	Tagagawik	84.62	23	P	P	07 43 10.0	-0.3
	baz=255						
N18K	Kilae Creek	84.65	29	P	P	07 43 09.8	-0.8
	baz=258						
Q18K	Katmai Hardscr	84.69	31	P	P	07 43 09.7	-1.2
	baz=259						
P18K	Big Mountain,	84.72	30	P	P	07 43 10.2	-0.7
	baz=259						
SII	Sitkinak Islan	84.76	33	P	P	07 43 10.6	-0.5
	baz=260						
R18K	Karluk	84.79	32	P	P	07 43 10.5	-0.7
	baz=260						
O18K	Koktuh Hills	84.82	30	P	P	07 43 11.4	0.0
	baz=259						
M18K	Stony River	84.84	28	P	P	07 43 11.3	-0.2
	baz=258,SNR=8.6						
J18K	Innoko River	84.86	26	P	P	07 43 11.3	-0.2
	baz=257						
A19K	Wainwright	84.94	19	P	P	07 43 12.0	+0.3
	baz=253						
GCSA	Galena City Sc	85.07	25	P	P	07 43 12.1	-0.4
	baz=257						
F19K	Shaleruckik Mo	85.20	23	P	P	07 43 12.6	-0.5
	baz=256						
G19K	Purcell Mounta	85.30	23	P	P	07 43 13.3	-0.4
G19K	Purcell Mounta	85.30	23	P	P	07 43 13.6	-0.1
	baz=257,SNR=10						
O19K	Port Alsworth	85.32	29	P	P	07 43 12.8	-1.0
	baz=260						
N19K	Bonanza Creek	85.35	29	P	P	07 43 13.1	-1.1
	baz=260						
OHAK	Old Harbor	85.35	32	P	P	07 43 13.2	-0.9
	baz=261						
H19K	Roundabout Mou	85.42	24	P	P	07 43 13.2	-1.0
	baz=257						
L19K	White Mountain	85.43	27	P	P	07 43 13.5	-0.9
	baz=259						
Q19K	Cape Douglas,	85.44	31	P	P	07 43 13.5	-1.0
	baz=260						
J19K	Poorman	85.44	26	P	P	07 43 14.1	-0.3
	baz=258						
D19K	Kuna River	85.48	21	P	P	07 43 13.7	-0.8
D19K				IAmb	IAmb	07 43 19.6	
	comp=Z,12nm,0.8s						
D19K	Kuna River	85.48	21	P	P	07 43 14.6	0.0
	baz=256,SNR=12						
E19K	Redstone River	85.55	22	P	P	07 43 14.7	-0.2
E19K	Redstone River	85.55	22	P	P	07 43 14.5	-0.4
	baz=256,SNR=13						
M19K	Big River Lodg	85.59	28	P	P	07 43 14.9	-0.4
M19K				IAmb	IAmb	07 43 22.6	
	comp=Z,38nm,1.4s						
M19K	Big River Lodg	85.59	28	P	P	07 43 14.8	-0.4
	baz=260						
GEVA	Gevas	85.76	308	P	P	07 43 17.6	+0.8
P19K	Oil Pt	85.77	30	P	P	07 43 15.8	-0.4
	baz=261						
KDAK	Kodiak Island	85.81	32	LR	LR	08 16 33.2	
	comp=Z,579nm,20.7s,baz=91,slow=32						
KDAK	Kodiak Island	85.81	32	P	P	07 43 16.1	-0.2
	baz=261						
L20K	Farewell, AK	85.93	27	P	P	07 43 16.7	-0.2
	baz=260						
K20K	Telida	86.00	26	P	P	07 43 16.8	-0.4
	baz=260						
F20K	Avaraart Lake	86.03	23	P	P	07 43 16.5	-0.7
F20K	Avaraart Lake	86.03	23	P	P	07 43 17.3	+0.1
	baz=258,SNR=8.6						
Q20K	Shuyak Island	86.04	31	P	P	07 43 17.2	-0.3
	baz=262						
H20K	Anotleneega Mo	86.05	24	P	P	07 43 17.5	0.0
	baz=259						
D20K	Etivluk River	86.06	21	P	P	07 43 17.3	-0.1
	baz=257,SNR=9.0						
I20K	Naaghedeneel	86.09	25	P	P	07 43 17.2	-0.4
	baz=259						
J20K	Nowinta River	86.12	26	P	P	07 43 17.1	-0.6
	baz=260						
E20K	Nigu River	86.12	21	P	P	07 43 17.2	-0.6
	baz=257,SNR=15						
O20K	Slope Mountain	86.14	30	P	P	07 43 17.6	-0.4
	baz=261						
B20K	Meade River	86.17	20	P	P	07 43 17.4	-0.5
	baz=256						
M20K	Styx River	86.18	28	P	P	07 43 17.6	-0.6
	baz=261						
KBZ	Khabaz	86.33	314	P	P	07 43 17.8	-1.4
	comp=Z,3.6nm,1.1s,baz=148,slow=4.0,SNR=3.7						
	comp=Z,3.6nm,1.1s						
KBZ	Khabaz	86.33	314	*e*P	P	07 43 18.8	-0.4
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	Kislovodsk	86.50	314	*e*P	P	07 43 18.1	-2.1
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SPCR	Spurr Chakacha	86.51	29	P	P	07 43 18.8	-1.1
	baz=262						
HOM	Homer	86.57	30	P	P	07 43 19.0	-1.0
	baz=262						
GURO	Guroymak-BITLI	86.58	309	P	P	07 43 20.4	-0.4
GURO				IAmb	IAmb	07 43 42.7	
	comp=Z,23nm,1.1s						
A21K	Barrow	86.65	18	P	P	07 43 19.3	-0.9
	baz=257						
PPLA	Purkeypile	86.77	27	P	P	07 43 20.0	-1.2
	baz=261						
G21K	Allakaket	86.79	23	P	P	07 43 20.1	-0.9
	baz=260						
C21K	Knifeblade Rid	86.81	21	P	P	07 43 20.6	-0.4
	baz=259						
CHUM	Lake Minchumin	86.86	26	P	P	07 43 20.9	-0.5
	baz=261						
CAST	Castle Rocks	86.89	26	P	P	07 43 21.1	-0.5
CAST	Castle Rocks	86.89	26	P	P	07 43 20.8	-0.8
	baz=262						
F21K	Alatna River	86.92	23	P	P	07 43 21.1	-0.6
	baz=260						
H21K	Melozitna Rive	86.93	24	P	P	07 43 21.5	-0.3
	baz=261						
SKT	Skwentna	86.94	28	P	P	07 43 21.8	-0.1
	baz=262						
B21K	Ikpikpuk River	86.95	20	P	P	07 43 21.3	-0.4
	baz=259						
BRSE	Bradley Lake S	87.03	30	P	P	07 43 21.8	-0.5
	baz=263						
A22K	Sinclair Lake	87.11	19	P	P	07 43 22.0	-0.4
	baz=258						
I21K	Tanana	87.20	25	P	P	07 43 22.5	-0.5
	baz=262						
SUA	Susitna One	87.24	28	P	P	07 43 22.9	-0.6
	baz=263						
F22K	John River	87.47	22	P	P	07 43 23.8	-0.5
	baz=261						
BPAW	Bear Paw Mtn.	87.47	26	P	P	07 43 23.5	-0.9
	baz=262						
B22K	Teshekpuk Lake	87.49	19	P	P	07 43 23.8	-0.5
	baz=260						
D22K	Ayikyak River	87.50	21	P	P	07 43 23.9	-0.6
	baz=261						
H22K	Ishtalitna Cre	87.55	24	P	P	07 43 24.1	-0.6
	baz=262						
M22K	Willow	87.58	28	P	P	07 43 24.2	-0.7
	baz=263						
CUT	Chulitna	87.58	28	P	P	07 43 24.2	-0.6
	baz=263						
O22K	Cooper Landing	87.62	29	P	P	07 43 24.8	-0.4
	baz=264						
RC01	Rabbit Creek A	87.69	29	P	P	07 43 25.0	-0.4
	baz=264						
TRF	Thorofare Moun	87.70	27	P	P	07 43 24.9	-0.7
	baz=263						
E22K	Anaktuvuk Pass	87.70	22	P	P	07 43 24.4	-1.1
E22K				IAmb	IAmb	07 43 31.5	
	comp=Z,15nm,1.1s						
E22K	Anaktuvuk Pass	87.70	22	P	P	07 43 25.0	-0.5
	baz=262						
SEW	Seward	87.72	30	P	P	07 43 25.1	-0.4
	baz=264						
VRH	Novokhopyorsk	87.73	321	*e*P	P	07 43 24.3	-1.5
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LABN	Labinsk	87.95	315	*e*P	P	07 43 26.9	-0.2
LABN				pmax	pmax		
	comp=Z,16nm,0.4s						
PMR	Palmer	88.03	28	P	P	07 43 26.5	-0.5
	baz=264						
SYO	Syowa Base	88.07	201⇓	*e*P	P	07 43 27.8	+0.7
SYO	Syowa Base	88.07	201⇑	*e*PcP	PcP	07 43 30.0	+1.2
ERBR	Yeremizino-Bor	88.19	316	*e*P	P	07 43 26.2	-2.0
ERBR				pmax	pmax		
	comp=Z,26nm,0.5s						
COLD	Coldfoot	88.19	23	P	P	07 43 26.8	-0.9
COLD	Coldfoot	88.19	23	P	P	07 43 27.4	-0.3
	baz=263						
G23K	Bananza Creek	88.20	23	P	P	07 43 27.5	-0.3
	baz=263						
D23K	Nanushuk River	88.23	21	P	P	07 43 27.8	0.0
D23K				IAmb	IAmb	07 43 39.4	
	comp=Z,19nm,1.1s						
D23K	Nanushuk River	88.23	21	P	P	07 43 27.8	0.0
	baz=263						
H23K	Yukon River	88.29	24	P	P	07 43 28.0	-0.2
	baz=264						
I23K	Minto, Yukon-K	88.29	25	P	P	07 43 27.1	-1.1
I23K				IAmb	IAmb	07 43 28.8	
	comp=Z,23nm,1.1s						
I23K	Minto, Yukon-K	88.29	25	P	P	07 43 27.8	-0.4
	baz=264						
KNK	Knik Glacier	88.33	29	P	P	07 43 27.5	-1.1
	baz=265						
MCK	McKinley	88.33	26	P	P	07 43 27.5	-1.0
	baz=264						
RND	Reindeer	88.34	27	P	P	07 43 26.2	-2.4
RND				IAmb	IAmb	07 43 30.1	
	comp=Z,15nm,1.0s						
RND	Reindeer	88.34	27	P	P	07 43 26.2	-2.4
RND				pmax	pmax		
	comp=Z,15nm,1.0s						
PWL	Port Wells	88.34	29	P	P	07 43 28.2	-0.4
	baz=265						
NEA2	Nenana	88.36	25	P	P	07 43 28.0	-0.6
	baz=264						
C23K	Itkillik River	88.36	20	P	P	07 43 27.7	-0.8
	baz=263						
SML	Sawmill	88.43	28	P	P	07 43 27.8	-1.2
	baz=265						
E23K	Chandalar	88.51	22	P	P	07 43 28.6	-0.7
	baz=264						
TOLK	Toolik Lake Re	88.59	21	P	P	07 43 28.8	-0.9
TOLK				IAmb	IAmb	07 44 00.2	
	comp=Z,37nm,1.8s						
TOLK	Toolik Lake Re	88.59	21	P	P	07 43 29.1	-0.6
	baz=264						
SOC	Sochi	88.62	313	*e*P	P	07 43 28.6	-1.7
SOC				*e*		07 46 57.1	
SOC				*e*S	SKSac	07 53 54.7	-1.7
SOC				*e*SS	SS	08 00 05.8	+0.2
M23K	Glacier View	88.71	28	P	P	07 43 29.8	-0.5
	baz=265						
P23K	Montague Islan	88.73	30	P	P	07 43 30.0	-0.4
	baz=266						
SCM	Sheep Creek Mo	88.91	28	P	P	07 43 30.3	-1.0
	baz=266						
COLA	College	88.91	25	P	P	07 43 30.6	-0.5
	baz=265						
CCB	Clear Creek Bu	88.91	25	P	P	07 43 29.3	-1.8
CCB				IAmb	IAmb	07 43 39.0	
	comp=Z,16nm,1.2s						
D24K	Happy Valley	88.91	21	P	P	07 43 30.5	-0.6
	baz=264						
QSPA	South Pole Qui	88.92	180	P	P	07 43 31.4	+0.1
QSPA				IAmb	IAmb	07 43 58.0	
	comp=Z,20nm,1.1s						
QSPA	South Pole Qui	88.92	180	P	P	07 43 30.9	-0.5
	comp=Z,11nm,0.9s,baz=304,slow=1.3,SNR=54						
QSPA				S	SKSac	07 53 56.7	-0.8
	comp=Z,2.1nm,1.2s,baz=54,slow=22,SNR=5.7						
QSPA				PKKP	PKKPdf	08 01 09.4	+1.4
	comp=Z,1.1nm,1.0s,baz=201,slow=0.9,SNR=5.4						
	comp=Z,11nm,0.9s						
E24K	Your Creek	88.93	22	P	P	07 43 30.6	-0.6
E24K	Your Creek	88.93	22	P	P	07 43 30.8	-0.4
	baz=265						
H24K	Noodor Dome	88.97	24	P	P	07 43 30.8	-0.7
	baz=265						
C24K	Franklin Bluff	89.01	20	P	P	07 43 30.7	-0.8
	baz=264						
POKR	Poker Plat Res	89.10	25	P	P	07 43 31.5	-0.5
	baz=266						
F24K	Squaw Lake	89.11	23	P	P	07 43 31.7	-0.4
	baz=265						
G24K	Hadweenzic Riv	89.20	23	P	P	07 43 32.4	-0.1
	baz=266						
Q23K	Middleton Isla	89.23	31	P	P	07 43 32.1	-0.6
	baz=267						
HDA	Harding Lake	89.26	26	P	P	07 43 31.5	-1.3
	baz=266						
ILAR	Eielson Array	89.31	25	P	P	07 43 30.3	-2.7
	comp=Z,3.4nm,1.1s,baz=266,slow=4.2,SNR=20						
ILAR				PP	PP	07 47 04.0	-0.1
	comp=Z,2.4nm,1.0s,baz=269,slow=8.5,SNR=6.7						
ILAR				PKKP	PKKPdf	08 01 08.1	+1.1
	comp=Z,0.4nm,0.7s,baz=48,slow=2.3,SNR=5.5						
ILAR				LR	LR	08 18 12.8	
	comp=Z,165nm,22.0s,baz=257,slow=32						
VORR	Voronezh	89.33	322	P	P	07 43 38.7	+5.3
VORR				pmax	pmax		
	comp=Z,33nm,1.3s						
VSR	Storozhevoye	89.34	321	*e*P	P	07 43 31.1	-2.3
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
M24K	Tolsona, Glenn	89.47	28	P	P	07 43 32.8	-1.1
	baz=267						
LPSR	Galich'ya Gora	89.54	322	*e*P	P	07 43 32.5	-1.8
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLU	Klutina	89.55	29	P	P	07 43 32.4	-2.0
	baz=267						
KLMR	Klimovskoe	89.58	331	*e*P	P	07 43 43.2	+8.8
KLMR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
EYAK	Cordova Ski Ar	89.59	30	P	P	07 43 32.3	-2.1
	baz=267						
KMBO	Kilima Mbogo	89.59	269	P	P	07 43 35.2	-0.6
	comp=Z,1.1nm,0.3s,baz=74,slow=2.8,SNR=4.4						
KMBO				LR	LR	08 23 59.3	
	comp=Z,147nm,18.8s,baz=92,slow=36						
	comp=Z,1.1nm,0.3s						
KMBO	Kilima Mbogo	89.59	269	*i* P	P	07 43 34.8	-1.0
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
K24K	Donnelly Dome	89.74	26	P	P	07 43 33.5	-1.6
	baz=267						
G25K	Bearman Lake	89.75	23	P	P	07 43 34.8	-0.3
	baz=267						
D25K	Kavik River	89.80	21	P	P	07 43 33.9	-1.4
D25K	Kavik River	89.80	21	P	P	07 43 34.7	-0.6
	baz=267						
H25L	Birch Creek	89.84	24	P	P	07 43 34.7	-0.7
	baz=267						
PRP	Porcupine Dome	89.93	25	P	P	07 43 35.5	-0.5
	baz=267						
J25K	Salcha River,	89.95	26	P	P	07 43 35.5	-0.6
	baz=268						
HARP	HAARP	89.96	28	P	P	07 43 35.4	-0.7
	baz=268						
F25K	Christian Rive	89.97	23	P	P	07 43 35.7	-0.5
F25K	Christian Rive	89.97	23	P	P	07 43 35.2	-1.0
	baz=267						
E25K	Arctic Village	90.03	22	P	P	07 43 35.8	-0.6
E25K	Arctic Village	90.03	22	P	P	07 43 35.3	-1.1
	baz=267						
RIDG	Independent Ri	90.15	26	P	P	07 43 35.8	-1.3
RIDG				IAmb	IAmb	07 43 39.7	
	comp=Z,23nm,1.1s						
RIDG	Independent Ri	90.15	26	P	P	07 43 35.9	-1.2
	baz=268						
BMRM	Bremner River	90.17	29	P	P	07 43 35.8	-1.4
	baz=268						
N25K	Chitina, Valde	90.19	29	P	P	07 43 36.3	-1.0
	baz=268						
KAIM	Kayak Island	90.23	30	P	P	07 43 37.4	-0.1
	baz=268						
ANN	Anapa	90.31	315	*e*P	P	07 43 35.8	-2.3
ANN				*e*S	SKSac	07 54 03.9	-2.2
ANN				pmax	pmax		
	comp=Z,29nm,1.8s						
C26K	Camden Bay	90.34	20	P	P	07 43 37.2	-0.5
	baz=268						
BMAR	Burnt Mountain	90.38	23	P	P	07 43 37.7	-0.4
ASF	Jabal al Asfar	90.51	302	LR	LR	08 30 46.0	
	comp=Z,117nm,19.2s,baz=151,slow=40						
SCRK	Sand Creek	90.53	26	P	P	07 43 38.9	0.0
	baz=269						
F26K	Sheenjek River	90.55	22	P	P	07 43 38.4	-0.4
	baz=269						
G26K	Porcupine Rive	90.68	23	P	P	07 43 39.0	-0.3
	baz=269						
J26L	Joseph Creek	90.73	26	P	P	07 43 39.4	-0.4
	baz=269						
C27K	Jago River	90.75	21	P	P	07 43 39.6	0.0
	baz=269						
L26K	Log Cabin Wild	90.81	27	P	P	07 43 39.5	-0.6
	baz=269						
I26K	Coal Creek Min	90.91	25	P	P	07 43 40.1	-0.4
	baz=270						
M26K	Nabesna, AK	90.96	28	P	P	07 43 40.5	-0.4
	baz=270						
OBN	Obninsk	91.00	325	*e*P	P	07 43 40.4	-0.7
OBN				*e*		07 47 18.0	
OBN				*e*S	SKSac	07 54 12.0	+2.3
OBN				*e*SS	SS	08 00 43.0	+3.7
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,168nm,21.0s						
K27K	Chicken	91.38	26	P	P	07 43 41.7	-1.0
	baz=270						
MESA	MESA	91.47	30	P	P	07 43 42.2	-1.2
	baz=270						
M27K	Edge Creek, AK	91.48	28	P	P	07 43 42.2	-1.2
	baz=271						
L27K	Beaver Creek,	91.50	27	P	P	07 43 42.2	-1.1
	baz=271						
E27K	Coleen River	91.52	22	P	P	07 43 42.7	-0.6
E27K				IAmb	IAmb	07 43 44.2	
	comp=Z,16nm,1.4s						
E27K	Coleen River	91.52	22	P	P	07 43 42.8	-0.6
	baz=271						
G27K	Doyon Strip	91.52	23	P	P	07 43 43.0	-0.3
	baz=271						
I27K	Kandik River	91.55	25	P	P	07 43 43.1	-0.5
	baz=271						
H27K	Steamboat Moun	91.58	24	P	P	07 43 43.0	-0.6
	baz=271						
D27M	Malcolm River	91.72	21	P	P	07 43 43.8	-0.4
	baz=272						
MMAI	Mount Meron Ar	91.78	303	LR	LR	08 31 43.5	
	comp=Z,209nm,20.1s,baz=104,slow=40						
BVCY	Beaver Creek	91.96	28	P	P	07 43 45.2	-0.3
	baz=272						
EIL	Elat	92.16	299	LR	LR	08 28 44.6	
	comp=Z,265nm,21.4s,baz=80,slow=38						
YUK3	Moose Creek	92.16	28	P	P	07 43 45.4	-1.2
	baz=272						
I28M	Miner Creek	92.26	25	P	P	07 43 46.4	-0.4
	baz=272						
APA	Apatity	92.26	337⇓	*i* P	P	07 43 56.9	+10
APA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
E28M	Babbage River	92.26	22	P	P	07 43 45.5	-1.2
E28M				IAmb	IAmb	07 43 47.5	
	comp=Z,17nm,1.3s						
E28M	Babbage River	92.26	22	P	P	07 43 46.3	-0.4
	baz=273						
PINM	Pinnacle	92.32	30	P	P	07 43 46.0	-1.2
	baz=272						
O28M	Mount Upton	92.33	29	P	P	07 43 46.2	-1.3
	baz=272						
D28M	Stokes Point	92.51	21	P	P	07 43 46.9	-0.9
	baz=274						
YUK8	Steele Glacier	92.52	29	P	P	07 43 47.2	-1.2
	baz=272						
DAWY	Dawson	92.56	26	P	P	07 43 47.3	-0.9
DAWY				IAmb	IAmb	07 43 48.9	
	comp=Z,13nm,1.1s						
DAWY	Dawson	92.56	26	P	P	07 43 48.4	+0.1
	baz=273						
PNL	Peninsula	92.77	30	P	P	07 43 48.8	-0.5
	baz=273						
TAOE	Nuku Hiva Isla	92.80	99	*e*LR	LR	08 13 35.8	
	comp=Z,584nm,22.8s						
H29M	Whitestone	92.86	24	P	P	07 43 49.0	-0.5
	baz=274						
E29M	Blow River	92.88	22	P	P	07 43 48.9	-0.7
	baz=274						
I29M	Ogilvie Camp,	92.94	25	P	P	07 43 49.3	-0.6
	baz=274						
G29M	Pine Creek	92.95	23	P	P	07 43 49.0	-0.9
	baz=274						
J29N	Klondike Camp	93.05	26	P	P	07 43 50.3	-0.2
	baz=274						
YUK4	Talbot Arm	93.05	29	P	P	07 43 50.2	-0.5
	baz=274						
M29M	Somme Creek	93.07	28	P	P	07 43 50.1	-0.5
	baz=274						
BRTR	Keskin Array B	93.13	310	P	P	07 43 50.3	-1.2
	comp=Z,0.8nm,0.7s,baz=58,slow=3.1,SNR=3.7						
BRTR				PP	PP	07 47 34.1	-1.1
	comp=Z,1.5nm,0.9s,baz=115,slow=6.5,SNR=3.8						
BRTR	Keskin Array B	93.13	310	*i* P	P	07 43 51.4	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
O29M	Mount Kennedy	93.15	30	P	P	07 43 50.5	-0.6
	baz=273						
L29M	L29M	93.18	27	P	P	07 43 50.6	-0.5
	baz=274						
YUK6	Outpost Mounta	93.21	29	P	P	07 43 50.7	-0.9
	baz=274						
ELIB	Princess Elisa	93.21	198	*d*P	P	07 43 52.3	+1.1
	comp=Z,8.6nm,1.2s						
K29M	Barlow Dome	93.39	26	P	P	07 43 51.2	-1.0
	baz=275						
HYT	Haines Junctio	93.64	29	P	P	07 43 52.7	-0.6
	baz=274						
G30M	tAoh Zraii Nji	93.65	23	P	P	07 43 52.2	-0.9
	baz=276						
F30M	Barrier River	93.75	22	P	P	07 43 52.8	-0.7
	baz=276						
I30M	Mount Dempster	93.76	25	P	P	07 43 52.9	-1.0
	baz=276						
N30M	Aishikik Lake	93.79	29	P	P	07 43 53.6	-0.4
	baz=275						
M30M	Minto, Yukon	93.83	27	P	P	07 43 53.5	-0.6
	baz=275						
J30M	Hart River	93.85	25	P	P	07 43 53.1	-1.1
	baz=276						
P30M	Million Dollar	93.97	30	P	P	07 43 54.7	-0.1
	baz=275						
MAYO	Mayo, Yukon	94.14	26	P	P	07 43 55.3	-0.1
MAYO	Mayo, Yukon	94.14	26	P	P	07 43 54.7	-0.7
	baz=276						
PLBC	Pleasant Camp	94.33	31	P	P	07 43 55.3	-1.1
	baz=275						
O30N	Mendenhall	94.34	29	P	P	07 43 55.2	-1.3
	baz=276						
N31M	Braeburn, Yuko	94.41	29	P	P	07 43 56.1	-0.7
	baz=276						
G31M	Satah River	94.42	23	P	P	07 43 55.4	-1.2
G31M				IAmb	IAmb	07 43 56.5	
	comp=Z,17nm,1.1s						
G31M	Satah River	94.42	23	P	P	07 43 55.9	-0.7
	baz=278						
INK	Inuvik	94.50	22	P	P	07 43 55.0	-2.0
	comp=Z,6.5nm,1.1s,baz=283,slow=4.0,SNR=11						
INK				LR	LR	08 31 44.1	
	comp=Z,86nm,19.1s,baz=249,slow=39						
	comp=Z,6.5nm,1.1s						
INK	Inuvik	94.50	22	P	P	07 43 55.0	-2.0
INK	Inuvik	94.50	22	P	P	07 43 56.1	-0.8
	baz=278						
S31K	Pelican	94.53	32	P	P	07 43 56.1	-1.2
	baz=275						
H31M	Peel River	94.54	24	P	P	07 43 56.1	-1.1
	baz=278						
F31M	Tsiigehtchic	94.55	22	P	P	07 43 55.8	-1.4
	baz=278						
R31K	City Hall, Gus	94.75	32	P	P	07 43 57.1	-1.2
	baz=276						
SKAG	Skagway	94.85	31	P	P	07 43 57.4	-1.3
	baz=276						
ARCES	ARCESS Array B	94.92	340	P	P	07 43 57.5	-1.4
	comp=Z,3.3nm,0.9s,baz=48,slow=1.8,SNR=5.3						
ARCES				LR	LR	08 33 45.7	

comp=Z,194nm,19.9s,baz=83,slow=40
comp=Z,3.3nm,0.9s
WHY Whitehorse 94.94 29 P **P 07 43 57.9 -1.4**
baz=277
M31M Drury Creek, Y 94.98 28 P **P 07 43 58.6 -0.8**
baz=277
SIT Sitka 95.11 33 P **P 07 43 59.0 -1.0**
baz=276
SPITS Spitsbergen Ar 95.13 349 P **P 07 43 58.9 -0.9**
comp=Z,14nm,1.0s,baz=90,slow=4.3,SNR=2.3
SPITS LR LR 08 31 40.6
comp=Z,285nm,20.7s,baz=32,slow=38
comp=Z,14nm,1.0s
R32K Eaglecrest 95.40 32 P **P 07 44 00.5 -0.9**
baz=277
FARO Faro, Yukon 95.47 28 P **P 07 44 01.1 -0.5**
FARO IAmb IAmb 07 44 02.3
comp=Z,20nm,1.0s
FARO Faro, Yukon 95.47 28 P **P 07 44 01.0 -0.6**
baz=278
S32K Killisnoo 95.47 32 P **P 07 44 01.0 -0.6**
baz=277
AKASG Malin Array Be 95.63 321 P **P 07 44 03.7 +1.2**
comp=Z,0.2nm,0.3s,baz=83,slow=2.3,SNR=1.8
P32M Atlin 95.65 30 P **P 07 44 02.2 -0.4**
baz=278
N32M Quiet Lake 95.75 29 P **P 07 44 02.0 -0.9**
baz=278
P33M Teslin, Yukon 96.01 30 P **P 07 44 03.5 -0.7**
baz=278
MNK Minsk 96.05 325 *i* P **P 07 44 01.6 -2.7**
MNK *i* 07 47 53.9
MNK *i* PPP PPP 07 49 56.9
MNK *i* S **SKSac 07 54 35.0 -2.4**
MNK *i* PS **PS 07 56 41.4 -3.0**
MNK *i* SS **SS 08 01 49.8 -1.7**
MNK *i* SSS SSS 08 05 34.1
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=E,12nm,0.7s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK MLR MLR
comp=E,209nm,17.0s
MNK MLR MLR
comp=N,298nm,18.0s
MNK MLR MLR
comp=Z,215nm,22.0s
FINES FINESS Array B 96.05 332 P **P 07 44 03.3 -0.8**
comp=Z,1.2nm,0.7s,baz=115,slow=6.3,SNR=6.6
comp=Z,1.2nm,0.7s
U33K Whale Pass 96.43 34 P **P 07 44 05.7 -0.3**
baz=278
A36M Sachs Harbour 96.45 17 P **P 07 44 05.5 -0.3**
baz=287
Q32M Nakina River 96.48 31 P **P 07 44 05.2 -1.3**
baz=279
CRAG Craig 96.52 34 P **P 07 44 05.8 -0.7**
baz=278
WRAK Wrangell Islan 96.82 33 P **P 07 44 07.1 -0.7**
baz=278
R33M Jennings River 97.07 30 P **P 07 44 08.1 -1.0**
baz=280
RKT Rikitea 97.11 113 *e*LR LR 08 15 33.4
comp=Z,2μm,29.2s
S34M Telegraph Cree 97.24 32 P **P 07 44 09.1 -0.5**
baz=280
V35K Ketchikan 97.39 34 P **P 07 44 09.7 -0.7**
baz=279
C36M Paulatuk 97.61 20 P **P 07 44 09.6 -1.4**
C36M IAmb IAmb 07 44 10.9
comp=Z,11nm,0.9s
C36M Paulatuk 97.61 20 P **P 07 44 10.3 -0.7**
baz=288
DLBC Dease Lake 97.72 31 LR LR 08 23 22.0
comp=Z,295nm,21.8s,baz=276,slow=32
DLBC Dease Lake 97.72 31 P **P 07 44 11.0 -1.0**
baz=281
T35M Bob Quinn 97.87 33 P **P 07 44 11.6 -0.9**
baz=280
WTLY Watson Lake, Y 98.01 29 P **P 07 44 12.3 -0.9**
baz=282
LSZ Lusaka 98.10 255 LR LR 08 24 33.1
comp=Z,261nm,21.8s,baz=124,slow=33
U35K Hyder 98.18 34 P **P 07 44 12.9 -1.0**
baz=280
MLR Muntele Rosu 98.38 316 LR LR 08 35 46.7
comp=Z,63nm,19.0s,baz=74,slow=40
BUR08 Bucovina Ar. S 98.61 318 P **P 07 44 14.9 -1.3**
BUR08 IAmb IAmb 07 45 13.7
comp=Z,16nm,1.9s
WRGLY Wrigley 99.69 26 P **Pdif 07 44 19.9 -0.5**
baz=287
BOSA Boshof 99.70 241 LR LR 08 26 11.8
comp=Z,265nm,20.1s,baz=133,slow=33
LBTB Lobatse 99.78 245 LR LR 08 24 54.0
comp=Z,137nm,20.7s,baz=115,slow=33
BBB Bella Bella 99.99 37 LR LR 08 21 41.7
comp=Z,274nm,21.6s,baz=262,slow=31
KOTAN Kotaneelee Air 100.31 29 P **Pdif 07 44 21.7 -1.7**
baz=286
YKA Yellowknife Ar 103.73 25 Pdiff **Pdif 07 44 37.9 -0.7**
comp=Z,0.5nm,0.8s,baz=296,slow=4.6,SNR=6.2
YKA PKiKP **PP 07 48 55.5 +0.4**
comp=Z,0.3nm,0.6s,baz=294,slow=2.0,SNR=7.9
YKA PKKPbc **PKKPbc 08 00 29.4 -3.0**
comp=Z,0.4nm,0.7s,baz=126,slow=2.8,SNR=9.1
PDAR Pinedale Array 114.78 43 PKP **PKiKP 07 49 16.9 -1.3**
comp=Z,0.2nm,0.4s,baz=239,slow=4.9,SNR=4.3
PDAR PKKPbc **PKKPbc 07 59 55.6 -1.1**
comp=Z,0.4nm,0.6s,baz=130,slow=4.6,SNR=5.4
ULM Lac du Bonnet 119.01 30 PKP **PKPdf 07 49 24.1 -1.6**
comp=Z,1.3nm,0.5s,baz=350,slow=2.9,SNR=3.6
ESDC Sonseca Array 121.05 317 PKP **PKPdf 07 49 29.9 -0.1**
comp=Z,0.5nm,0.6s,baz=29,slow=3.4,SNR=4.5
ESDC PP **PP 07 51 02.4 +2.9**
comp=Z,2.5nm,1.2s,baz=59,slow=7.1,SNR=6.4
TXAR Lajitas Array 124.30 55 PKP **PKPdf 07 49 36.2 -0.4**
comp=Z,0.4nm,0.7s,baz=263,slow=0.3,SNR=4.6
TORD Torodi Ar. Bea 124.40 285 PKP **PKPdf 07 49 36.9 -0.1**
comp=Z,4.7nm,0.7s,baz=70,slow=1.7,SNR=5.1
MDT Midelt 124.55 310 PKP **PKPdf 07 49 36.1 -0.9**
comp=Z,2.0nm,0.6s,baz=352,slow=3.7,SNR=4.9
SCHQ Schefferville 125.20 10 PKP **PKPdf 07 49 36.8 -0.7**
comp=Z,4.1nm,0.8s,baz=350,slow=0.6,SNR=6.3
DBIC Dimbokro 131.53 278 PKP **PKPdf 07 49 51.0 +0.4**
comp=Z,4.7nm,1.0s,baz=7.5,slow=0.7,SNR=3.6
DBIC SKPbc **SKPbc 07 53 13.1 +0.2**
comp=Z,15nm,0.9s,baz=80,slow=3.9,SNR=11
PLCA Paso Flores 135.52 161 PKP **PKPdf 07 49 57.7 +0.1**
comp=Z,4.2nm,0.9s,baz=224,slow=5.8,SNR=7.6
CFA Coronel Fontan 144.53 157 PKP **PKPab 07 50 12.6 +0.1**
comp=Z,13nm,0.7s,baz=219,slow=2.8,SNR=41
CPUP Villa Florida 152.51 172 PKP **PKPdf 07 50 26.8 -0.3**
comp=Z,1.3nm,0.7s,baz=202,slow=7.8,SNR=3.4
CPUP PKPbc **PKPbc 07 50 34.0 0.0**
comp=Z,7.8nm,0.7s,baz=215,slow=1.4,SNR=18
OTAV Otavalo 154.68 92 *e*P **PKPdf 07 50 30.6 -0.5**
MURT Porto Murtinho 157.04 169 *e*P **PKPdf 07 50 34.7 +1.2**
LPAZ La Paz 157.31 140 PKP **PKPdf 07 50 34.4 -0.3**
comp=Z,4.0nm,1.2s,baz=212,slow=1.4,SNR=6.9
LPAZ La Paz 157.31 140 *e*P **PKPdf 07 50 35.3 +0.6**
BDQN Bodoquena, MS 158.37 171 *e*P **PKPdf 07 50 36.3 +1.1**
CZSB Cruzeiro do Su 158.64 114 *e*P **PKPdf 07 50 36.3 +0.6**
TBTG Tabatinga, AM 162.46 107 *e*P **PKPdf 07 50 39.9 +0.1**
PTLB Pontes e Lacer 162.59 160 *e*P **PKPdf 07 50 39.9 0.0**
BDFB Brasilia 162.69 197 PKP **PKPdf 07 50 39.3 -0.8**
comp=Z,2.2nm,0.8s,baz=190,slow=6.1,SNR=4.2
VILB Vilhena 164.45 153 *e*P **PKPdf 07 50 42.7 +1.0**
NPGB Novo Progresso 171.69 165 *e*P **PKPdf 07 50 46.3 -0.4**
BOAV Boa Vista 172.49 79 *e*P **PKPdf 07 50 48.3 +1.2**
TMAB Tom-Au,PA,Br 173.94 236 *e*P **PKPdf 07 50 47.0 -0.6**

IDC 16 07:37:42.9±3.3, 31°.89S×177°.91W, h0km, mb3.5/2, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=77.8km s-min=38.2km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.55**	**211**	Pn	Pn	07 39 34.6	+0.4
	0.2nm,0.3s,baz=1.6,slow=21,SNR=1.9						
URZ				Sn	Sn	07 40 59.9	-0.6
	0.9nm,0.3s,baz=204,slow=1.7,SNR=4.0						
	2.6nm,0.9s						
ASAR	**Alice Springs**	**43.13**	**268**	P	P	07 45 45.1	-0.1
	0.6nm,0.9s,baz=114,slow=8.0,SNR=1.7						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**44.25**	**274**	P	P	07 45 54.3	0.0
	0.4nm,0.4s,baz=111,slow=8.1,SNR=7.7						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	PKPdf	07 57 24.6	+0.6
	3.3nm,1.1s,baz=24,slow=6.4,SNR=3.8						

TAP ***16*** *07:39:54.6, 25°.05N×121°.67E, h136km, ML3.6, B*
JMA ***16*** *07:39:55.4±0.2, 25°.0N±0°.8×121°.7E±0°.6, h127km±1km, MV2.9/12, TAIWAN REGION*

ISC 16 07:39:54.3±1.7, 25°.04N±0°.05×121°.68E±0°.03, h136km±8km, n83, σ0¶66/152, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NHY	**Taipei**	**0.10**	**273**	*e*P	**Pn**	**07 40 13.2**	**+0.5**
NHY				*e*S	**Sn**	**07 40 26.4**	**-0.2**
TWA	**Mucha**	**0.10**	**237**	P	**Pn**	**07 40 13.8**	**+1.1**
TWA				S	**Sn**	**07 40 27.2**	**+0.5**
NWF	**Wu-fen Shan**	**0.10**	**69**	*e*P	**Pn**	**07 40 13.1**	**+0.3**
NWF				*e*S	**Sn**	**07 40 26.3**	**-0.6**
WFSB	**Wu-fen Shan**	**0.10**	**69**	*e*P	**Pn**	**07 40 12.9**	**+0.2**
WFSB				*e*S	**Sn**	**07 40 26.3**	**-0.3**
YM01	**YM01**	**0.15**	**319**	*e*P	**Pn**	**07 40 12.7**	**-0.1**
YM01				*e*S	**Sn**	**07 40 26.1**	**-0.8**
TIPB	**Shuangxi**	**0.15**	**115**	P	**Pn**	**07 40 13.2**	**+0.4**
TIPB				S	**Sn**	**07 40 26.5**	**-0.4**
TAP	**Taipei**	**0.15**	**272**	*e*S	**Sn**	**07 40 26.6**	**-0.1**
ZUZH	**Zhuzihu**	**0.17**	**317**	*e*P	**Pn**	**07 40 13.0**	**+0.1**
ZUZH				*e*S	**Sn**	**07 40 26.4**	**-0.6**
SXI1	**Grass Mountain**	**0.19**	**72**	P	**Pn**	**07 40 13.2**	**+0.3**
SXI1				S	**Sn**	**07 40 27.1**	**0.0**
ANP	**Anpu**	**0.21**	**317**	*e*P	**Pn**	**07 40 12.9**	**-0.1**
NTST	**Danshui**	**0.24**	**302**	*e*P	**Pn**	**07 40 13.3**	**+0.3**
NTST				*e*S	**Sn**	**07 40 27.4**	**+0.2**
TWS1	**Kuangyinshan**	**0.24**	**286**	P	**Pn**	**07 40 12.2**	**-0.7**
TWS1				S	**Sn**	**07 40 26.7**	**-0.5**
TWY	**Chenhua**	**0.25**	**344**	P	**Pn**	**07 40 12.3**	**-0.7**
TWY				S	**Sn**	**07 40 26.4**	**-0.9**
ILA	**Ilan**	**0.28**	**166**	*e*P	**Pn**	**07 40 13.6**	**+0.4**
ILA				*e*S	**Sn**	**07 40 27.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.28**	**196**	P	**Pn**	**07 40 13.2**	**-0.1**
FUSB				S	**Sn**	**07 40 26.4**	**-1.1**
TWB1	**Santiao Chiao**	**0.28**	**95**	*e*P	**Pn**	**07 40 13.2**	**+0.1**
TWB1				*e*S	**Sn**	**07 40 27.4**	**+0.1**
EGS		**0.30**	**129**	*e*P	**Pn**	**07 40 13.9**	**+0.8**
EGS				*e*S	**Sn**	**07 40 27.3**	**-0.2**
NWLT	**Wulai**	**0.30**	**212**	P	**Pn**	**07 40 13.2**	**-0.1**
NWLT				*e*S	**Sn**	**07 40 26.3**	**-1.2**
TWE	**Neicheng**	**0.31**	**181**	P	**Pn**	**07 40 13.5**	**+0.2**
TWE				*e*S	**Sn**	**07 40 27.2**	**-0.4**
NDS	**Dongshan**	**0.40**	**175**	*e*P	**Pn**	**07 40 14.3**	**+0.7**
NDS				*e*S	**Sn**	**07 40 28.5**	**+0.3**
ENTT	**Nioudou**	**0.41**	**194**	P	**Pn**	**07 40 13.7**	**+0.1**
ENTT				*e*S	**Sn**	**07 40 27.5**	**-0.8**
NCUH	**Zhongli**	**0.45**	**262**	*e*P	**Pn**	**07 40 14.2**	**+0.4**
NCUH				*e*S	**Sn**	**07 40 28.3**	**-0.3**
TWC	**Suao**	**0.45**	**160**	*e*P	**Pn**	**07 40 14.4**	**+0.6**
TWC				*e*S	**Sn**	**07 40 29.4**	**+0.8**
YHNB	**Yeheng**	**0.45**	**217**	P	**Pn**	**07 40 13.7**	**-0.3**
YHNB				S	**Sn**	**07 40 27.5**	**-1.3**
NSK	**Sanguang**	**0.46**	**219**	P	**Pn**	**07 40 13.9**	**-0.1**
NSK				S	**Sn**	**07 40 27.6**	**-1.2**
ESAO	**Su ao**	**0.48**	**161**	*e*P	**Pn**	**07 40 15.5**	**+1.6**
ESAO				*e*S	**Sn**	**07 40 29.6**	**+0.8**
LATG	**Datong**	**0.52**	**195**	P	**Pn**	**07 40 14.4**	**+0.1**
LATG				S	**Sn**	**07 40 29.1**	**-0.3**
KSHI	**Guanxi Townshi**	**0.52**	**241**	P	**Pn**	**07 40 14.5**	**+0.3**
KSHI				*e*S	**Sn**	**07 40 29.3**	**0.0**
EWUT	**Wuta**	**0.59**	**171**	*e*P	**Pn**	**07 40 15.3**	**+0.7**
EWUT				*e*S	**Sn**	**07 40 30.6**	**+0.6**
ENA	**Nanau**	**0.61**	**174**	*e*P	**Pn**	**07 40 15.1**	**+0.4**
ENA				*e*S	**Sn**	**07 40 30.7**	**+0.5**
NFF	**Wufeng Townshi**	**0.65**	**232**	P	**Pn**	**07 40 15.1**	**0.0**
NFF				S	**Sn**	**07 40 30.2**	**-0.5**
NNS	**Nan Shan**	**0.65**	**205**	*e*P	**Pn**	**07 40 15.6**	**+0.4**
NNS				*e*S	**Sn**	**07 40 30.5**	**-0.5**
NNSB	**Datong**	**0.66**	**204**	P	**Pn**	**07 40 15.3**	**+0.1**
NNSB				*e*S	**Sn**	**07 40 30.7**	**-0.4**
SBCB	**Hsinchu**	**0.67**	**249**	*e*P	**Pn**	**07 40 15.3**	**+0.2**
SBCB				*e*S	**Sn**	**07 40 31.4**	**+0.5**
HSN	**Hsinchu**	**0.68**	**250**	*e*S	**Sn**	**07 40 30.5**	**-0.5**
PCYT	**Pengchaiyu**	**0.69**	**31**	*e*P	**Pn**	**07 40 15.7**	**+0.4**
PCYT				*e*S	**Sn**	**07 40 31.3**	**+0.1**
LIOB	**Emei**	**0.71**	**237**	*e*P	**Pn**	**07 40 15.8**	**+0.3**
LIOB				*e*S	**Sn**	**07 40 31.6**	**+0.1**
NSTT	**Nanjuang**	**0.73**	**237**	P	**Pn**	**07 40 15.9**	**+0.4**
NSTT				*e*S	**Sn**	**07 40 31.1**	**-0.6**
EOS2	**EOS2**	**0.80**	**140**	*e*P	**Pn**	**07 40 16.8**	**+0.9**
EOS2				*e*S	**Sn**	**07 40 32.7**	**+0.4**
ETLH	**Xiulin Townshi**	**0.84**	**192**	*e*P	**Pn**	**07 40 16.6**	**0.0**
ETLH				*e*S	**Sn**	**07 40 32.6**	**-0.8**
NACB	**Ninganchiao**	**0.86**	**185**	*e*P	**Pn**	**07 40 16.1**	**-0.5**
NACB				*e*S	**Sn**	**07 40 32.1**	**-1.4**
ETL	**Fush Village**	**0.87**	**183**	*e*P	**Pn**	**07 40 16.9**	**+0.2**
FUSS	**Fushou**	**0.88**	**207**	*e*P	**Pn**	**07 40 17.7**	**+0.7**
FUSS				*e*S	**Sn**	**07 40 34.3**	**+0.1**
TWT	**Tachien**	**0.90**	**210**	P	**Pn**	**07 40 17.8**	**+0.7**
TWT				*e*S	**Sn**	**07 40 34.9**	**+0.5**
TDCB	**Techi**	**0.91**	**211**	*e*P	**Pn**	**07 40 18.3**	**+1.1**
TDCB				*e*S	**Sn**	**07 40 34.3**	**-0.2**
NMLH	**Miaoli**	**0.94**	**239**	*e*S	**Sn**	**07 40 35.2**	**+0.5**
EOS3	**EOS3**	**0.95**	**142**	*e*P	**Pn**	**07 40 18.0**	**+0.9**
EOS3				*e*S	**Sn**	**07 40 35.1**	**+0.6**
TWD	**Chiawan**	**0.95**	**184**	*e*P	**Pn**	**07 40 16.7**	**-0.6**
TWD				*e*S	**Sn**	**07 40 33.4**	**-1.4**
WHF	**Hehuan Shan**	**0.96**	**203**	*e*P	**Pn**	**07 40 18.8**	**+0.9**
WHF				*e*S	**Sn**	**07 40 36.4**	**+0.5**
WHP	**Taichung City**	**1.00**	**222**	*e*P	**Pn**	**07 40 18.0**	**+0.1**
WHP				*e*S	**Sn**	**07 40 35.6**	**-0.3**
LXIB	**Xiulin Townshi**	**1.04**	**193**	*e*P	**Pn**	**07 40 18.4**	**+0.1**
LXIB				*e*S	**Sn**	**07 40 35.7**	**-0.8**
ETM	**Tongmen**	**1.08**	**189**	*e*P	**Pn**	**07 40 18.0**	**-0.5**
ETM				*e*S	**Sn**	**07 40 35.6**	**-1.3**
EOS4	**EOS4**	**1.08**	**147**	*e*P	**Pn**	**07 40 18.4**	**+0.3**
EOS4				*e*S	**Sn**	**07 40 36.1**	**-0.2**
WUSB	**Renai**	**1.16**	**206**	*e*P	**Pn**	**07 40 19.8**	**+0.4**
WUSB				*e*S	**Sn**	**07 40 39.0**	**+0.5**
OWD	**Renai**	**1.17**	**203**	*e*P	**Pn**	**07 40 20.5**	**+0.9**
OWD				*e*S	**Sn**	**07 40 39.0**	**+0.2**
WCS	**Beigang Elemen**	**1.20**	**216**	*e*P	**Pn**	**07 40 20.4**	**+0.8**
WCS				*e*S	**Sn**	**07 40 38.9**	**-0.1**
ESL	**Shilin**	**1.23**	**190**	*e*S	**Sn**	**07 40 38.8**	**-0.9**
SHUL	**Shoufeng**	**1.25**	**185**	*e*P	**Pn**	**07 40 19.9**	**-0.2**
SHUL				*e*S	**Sn**	**07 40 39.6**	**-0.2**
JYNG	**Yonagunijimaku**	**1.29**	**116**	P	**Pn**	**07 40 20.8**	**+0.2**
JYNG				S	**Sn**	**07 40 40.1**	**-0.5**
WARBT	**Fenglin Townsh**	**1.34**	**191**	*e*P	**Pn**	**07 40 20.4**	**-0.7**
WARBT				*e*S	**Sn**	**07 40 39.3**	**-2.2**
YOJ	**Yonaguni jima**	**1.34**	**115**	P	**Pn**	**07 40 21.2**	**+0.2**
YOJ				S	**Sn**	**07 40 40.7**	**-0.8**
YOJ	**Yonaguni jima**	**1.34**	**115**	*e*P	**Pn**	**07 40 21.4**	**+0.3**
YOJ				*e*S	**Sn**	**07 40 40.8**	**-0.8**
SMLT	**Sun Moon Lake**	**1.35**	**212**	*e*P	**Pn**	**07 40 21.2**	**-0.1**
SMLT				*e*S	**Sn**	**07 40 41.5**	**-0.4**
TYC	**Yuchr**	**1.35**	**214**	*e*P	**Pn**	**07 40 22.2**	**+1.0**
TYC				*e*S	**Sn**	**07 40 41.4**	**-0.3**
VWDT	**VWDT**	**1.36**	**201**	*e*P	**Pn**	**07 40 23.1**	**+1.7**
VWDT				*e*S	**Sn**	**07 40 42.7**	**+0.7**
EGFH	**Guangfu**	**1.38**	**190**	*e*S	**Sn**	**07 40 40.3**	**-2.0**
SSLB	**Suanglung**	**1.41**	**208**	*e*P	**Pn**	**07 40 22.1**	**+0.3**
SSLB				*e*S	**Sn**	**07 40 42.6**	**-0.3**
WNT	**Mingjian**	**1.46**	**218**	*e*P	**Pn**	**07 40 22.5**	**+0.1**
WNT				*e*S	**Sn**	**07 40 44.4**	**+0.6**
WJS	**Zhushan**	**1.48**	**216**	*e*S	**Sn**	**07 40 44.4**	**+0.1**
WHYT	**Xinyi Township**	**1.53**	**210**	*e*P	**Pn**	**07 40 24.4**	**+1.1**
WHYT				*e*S	**Sn**	**07 40 46.0**	**+0.7**
HGSD	**Ruisui**	**1.55**	**189**	*e*P	**Pn**	**07 40 24.9**	**+1.5**
EHY	**Hungye**	**1.56**	**192**	*e*P	**Pn**	**07 40 23.3**	**-0.2**
EHY				*e*S	**Sn**	**07 40 45.1**	**-0.6**
YULB	**Yu-li**	**1.67**	**192**	*e*P	**Pn**	**07 40 24.7**	**-0.1**
YULB				*e*S	**Sn**	**07 40 48.1**	**0.0**
YUS	**Yu-Shan**	**1.67**	**203**	*e*P	**Pn**	**07 40 25.1**	**-0.3**
YUS				*e*S	**Sn**	**07 40 48.3**	**-0.7**
ALS	**Alishan**	**1.71**	**208**	*e*S	**Sn**	**07 40 49.7**	**+0.3**
FULB	**Fuli**	**1.86**	**191**	*e*P	**Pn**	**07 40 26.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.99**	**110**	P	**Pn**	**07 40 28.4**	**-0.1**
IRIF				*e*S	**Sn**	**07 40 53.9**	**-0.8**
VWUC	**VWUC**	**2.02**	**269**	*e*P	**Pn**	**07 40 28.9**	**+0.1**
VWUC				*e*S	**Sn**	**07 40 54.8**	**-0.5**
CHN1	**Nanshi**	**2.12**	**210**	*e*S	**Sn**	**07 40 57.4**	**-0.2**
JKRS	**Kuro-shima**	**2.27**	**110**	*e*P	**Pn**	**07 40 32.5**	**+0.6**
JKRS				*e*S	**Sn**	**07 41 00.2**	**-0.5**
JIJ	**Ishigaki jima**	**2.34**	**106**	*e*P	**Pn**	**07 40 33.0**	**+0.3**
JISG	**Ishigakijimahi**	**2.44**	**100**	P	**Pn**	**07 40 34.4**	**+0.5**
JISG				*e*S	**Sn**	**07 41 03.7**	**-0.7**
JTJ	**Tarama**	**2.78**	**97**	*e*P	**Pn**	**07 40 39.1**	**+0.8**

IDC ***16*** *08:00:57.6±0.7, 39°.86N×143°.06E, h0km, mb4.1/23, mbtmp4.1/25, ML3.6/2, MS3.5/4, Error ellipse: s-maj=17.8km s-min=13.7km az=99.0*
JMA ***16*** *08:00:59.9±0.4, 40°.0N±0°.6×14°3E±°, h20km±3km, MD4.5/31, MV4.3/31, FAR E OFF SANRIKU*
JMA Felt I J1 at FAR E OFF SANRIKU .
NIED ***16*** *08:00:59.9, 39°.97N×143°.18E, h20km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.68; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-0.81; $M_{r\theta}$1.05; $M_{\theta\phi}$-0.61; $M_{\phi r}$2.32; Fault plane solution: $M_0$2.70000×10^{15} NP1: ϕ_s210.00000°, δ10.00000°, λ96.00000°. NP2:ϕ_s24.00000°, δ80.00000°, λ89.00000°.*
MOS ***16*** *08:01:00.8±0.9, 39°.92N×143°.22E, h37km, mb4.7/23 Error ellipse: s-maj=9.5km s-min=5.4km az=97.0*
NEIC ***16*** *08:01:01.9±1.1, 39°.84N±0°.06×143°.31E±0°.02, h35km±2km, mb4.4/26, Error ellipse: s-maj=10.3km s-min=3.0km az=166.0*

ISC 16 08:00:59.1±0.5, 39°.89N±0°.05×143°.26E±0°.06, h12km, n146, σ1¶44/151, mb4.3/47, MS3.9/5, 8C-9D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.07**	**273**	‖ *i*P	**Pb**	**08 01 18.4**	**-1.1**
MIYJ	**Miyakonagasawa**	**1.15**	**255**	‖ *i*P	**Pb**	**08 01 20.3**	**-0.7**
MIYJ				‖S	**Sb**	**08 01 35.0**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.23**	**285**	‖ *i*P	**Pn**	**08 01 20.4**	**-1.6**
JANG	**Nango**	**1.42**	**290**	‖P	**Pn**	**08 01 23.4**	**-1.3**
JOM	**Ohasama**	**1.57**	**255**	‖ *i*P	**Pn**	**08 01 27.1**	**+0.3**
JOM	**Ohasama**	**1.57**	**255**	A	A	08 01 27.1	
	comp=N,6.0nm,2.1s,comp=E,7.0nm,0.4s						
JSZI	**Iwateshizukuis**	**1.78**	**266**	A	A	08 01 29.4	
	comp=N,10.0nm,5.2s,comp=E,7.0nm,2.1s						
JMK	**Ichinoseki**	**1.84**	**240**	*i* P	**Pn**	**08 01 30.9**	**+0.4**
JTM	**Tenmabayashi**	**1.90**	**299**		**Pn**	**08 01 31.5**	**+0.3**
JTM	**Tenmabayashi**	**1.90**	**299**	*i* P	**Pn**	**08 01 31.5**	**+0.3**
JAHD	**Aomorihigashid**	**2.00**	**314**	A	A	08 01 32.1	
	comp=N,8.0nm,0.6s,comp=E,8.0nm,0.9s						
JAH	**Hinai**	**2.04**	**279**	‖ *i*P	**Pn**	**08 01 33.6**	**+0.4**
JIO	**Ouri**	**2.07**	**227**	P	**Pn**	**08 01 33.4**	**-0.2**
JRG	**Rokugo**	**2.09**	**257**	P	**Pn**	**08 01 34.5**	**+0.7**
JRG	**Rokugo**	**2.09**	**257**	A	A	08 01 34.5	
	comp=N,9.0nm,2.5s,comp=E,8.0nm,0.8s						
ERM	**Erimo**	**2.12**	**358**	Pn	**Pn**	**08 01 34.9**	**+0.5**
ERM	**Erimo**	**2.12**	**358**	*i* P	**Pn**	**08 01 34.8**	**+0.5**
JEM	**Erimo**	**2.12**	**358**	P	**Pn**	**08 01 35.4**	**+1.1**
JOFO	**Osakifurukawao**	**2.23**	**235**	A	A	08 01 36.7	
	comp=N,13nm,2.1s,comp=E,13nm,1.5s						
JYW	**Yuwa**	**2.38**	**262**	A	A	08 01 38.2	
	comp=N,9.0nm,0.8s,comp=E,6.0nm,2.1s						
JNBK	**Urakawa-nobuka**	**2.41**	**351**	*e*P	**Pn**	**08 01 38.9**	**+0.5**
JMM	**Marumori**	**2.79**	**224**		**Pn**	**08 01 42.8**	**-0.8**
JYS	**Shirataka**	**3.00**	**237**	A	A	08 01 47.5	
	comp=N,6.0nm,1.6s,comp=E,4.0nm,0.8s						
JYA	**Atsumi**	**3.04**	**246**	A	A	08 01 48.0	
	comp=N,5.0nm,1.3s,comp=E,7.0nm,1.5s						
NMR	**Nemuro--Hokkai**	**3.94**	**27**	*e*P	**Pn**	**08 01 58.8**	**-0.4**
NMR				*i* S	**Sn**	**08 02 41.8**	**-3.5**
JKA	**Kamikawa-asahi**	**4.25**	**354**	Pn	**Pn**	**08 02 04.5**	**+1.0**
ASAJ	**Asahikawa**	**4.25**	**354**	Pn	**Pn**	**08 02 05.0**	**+1.4**
	comp=E,2.0nm,0.3s,baz=214,slow=10,SNR=17						
ASAJ				Sn	**Sn**	**08 02 53.3**	**+0.3**
	comp=E,3.3nm,0.3s,baz=203,slow=6.0,SNR=5.6						
	comp=E,10nm,0.6s						
JSD	**Sado**	**4.32**	**246**		**Pn**	**08 02 05.0**	**+0.5**
RUSJ	**Misakicho**	**4.46**	**19**	‖ *i*P	**Pn**	**08 02 07.4**	**+0.9**
RUSJ				*e*S	**Sn**	**08 02 56.2**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**4.57**	**24**	*e*P	**Pn**	**08 02 08.5**	**+0.5**
YUK				*e*S	**Sn**	**08 02 57.3**	**-3.7**
YUK				pmax	pmax		
	comp=N,50nm,0.2s						
YUK				pmax	pmax		
	comp=Z,119nm,0.2s						
YUK				smax	smax		
	comp=N,904nm,0.3s						
YUK				smax	smax		
	comp=E,385nm,0.3s						
MAJO	**Matsushiro**	**5.20**	**232**	Pn	**Pn**	**08 02 17.4**	**+0.8**
MAJO	**Matsushiro**	**5.20**	**232**	*i* P	**Pn**	**08 02 16.8**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,31nm,0.5s						
MJAR	**Matsushiro Arr**	**5.20**	**231**	Pn	**Pn**	**08 02 18.5**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=42,slow=12,SNR=86						
MJAR				Sn	**Sn**	**08 03 21.1**	**+4.6**
	baz=284,slow=31						
MJB9	**Matsu-Tunnel**	**5.20**	**232**	Pn	**Pn**	**08 02 18.4**	**+1.8**
KUR	**Kuril'sk**	**6.33**	**31**	*e*P	**Pn**	**08 02 32.5**	**+0.4**
KUR				*i* S	**Sn**	**08 03 40.3**	**-3.9**
KUR				pmax	pmax		
	comp=Z,44nm,0.8s						
KUR				smax	smax		
	comp=N,121nm,0.6s						

comp=E,8.2nm,0.8s,baz=194,slow=6.9,SNR=19
comp=E,8.2nm,0.8s
SEY Seymchan 23.71 10 *e*P **P 08 06 09.3 -1.3**
SEY pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 27.09 299 P **P 08 06 41.0 -0.7**
ULN IAmb IAmb 08 06 42.8
comp=Z,6.3nm,1.1s
ULN Ulaanbaatar 27.09 299 P **P 08 06 41.0 -0.7**
ULN pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 27.53 299 P **P 08 06 45.3 -0.3**
SONM Songino Array 27.53 299 P **P 08 06 45.7 +0.1**
comp=Z,3.7nm,0.8s,baz=96,slow=8.7,SNR=19
comp=Z,3.7nm,0.8s
H11N2 WAKE ISLAND Hy 28.56 128 T T 08 36 52.3
baz=317,slow=75,SNR=175
H11N1 WAKE ISLAND Hy 28.57 128 T T 08 37 48.3
baz=317
H11N3 WAKE ISLAND Hy 28.58 128 T T 08 36 59.6
baz=317,slow=75,SNR=128
H11S1 WAKE ISLAND Hy 29.38 130 T T 08 37 58.1
baz=322,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 29.39 130 T T 08 37 59.6
baz=322,slow=76,SNR=28
H11S2 WAKE ISLAND Hy 29.40 130 T T 08 38 04.0
baz=322,slow=76,SNR=27
BILL Bilibino 30.88 17 *i*P **P 08 07 15.8 +0.9**
BILL pmax pmax
comp=Z,2.0nm,1.0s
ZAA0 Zalesovo Array 41.12 310 P **P 08 08 42.1 -0.6**
ZAA0 IAmb IAmb 08 08 43.4
comp=Z,4.5nm,0.7s
ZALV Zalesovo Beam 41.12 310 P **P 08 08 42.1 -0.6**
ZALV Zalesovo Beam 41.12 310 P **P 08 08 42.8 +0.1**
comp=Z,4.3nm,0.5s,baz=90,slow=7.6,SNR=15
comp=Z,4.3nm,0.5s
ZALV Zalesovo Beam 41.12 310 *i*P **P 08 08 42.7 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
NRIK Noril'sk 41.31 334 P **P 08 08 43.1 -1.0**
comp=Z,0.9nm,0.4s,baz=130,slow=7.9,SNR=3.8
comp=Z,0.9nm,0.4s
NRIK Noril'sk 41.31 334 *i*P **P 08 08 44.3 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
P19K Oil Pt 43.56 41 P **P 08 09 02.1 -0.5**
CMAR Chiang Mai Arr 43.65 254 P **P 08 09 01.9 -1.9**
comp=Z,1.5nm,0.3s,baz=48,slow=6.7,SNR=6.9
CMAR LR LR 08 27 26.9
comp=Z,30nm,19.5s,baz=205,slow=36
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 43.65 254 *i*P **P 08 09 04.4 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 43.89 300 P **P 08 09 04.9 -0.4**
MK31 Makanchi Array 43.89 300 *ce*P **P 08 09 05.1 -0.2**
MKAR Makanchi Array 43.89 300 P **P 08 09 04.7 -0.7**
MKAR Makanchi Array 43.89 300 P **P 08 09 04.5 -0.9**
comp=Z,3.0nm,0.9s,baz=82,slow=9.4,SNR=20
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 43.89 300 *i*P **P 08 09 05.0 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 44.09 300 P **P 08 09 06.4 -0.6**
MAKZ IAmb IAmb 08 09 17.6
comp=Z,3.9nm,0.8s
MAKZ Makanchi 44.09 300 P **P 08 09 06.4 -0.6**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
E22K Anaktuvuk Pass 44.40 29 P **P 08 09 11.0 +1.8**
E22K IAmb IAmb 08 09 22.3
comp=Z,14nm,1.4s
KURK Kurchatov 45.36 306 *ce*P **P 08 09 16.6 -0.4**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURBB Kurchatov Arra 45.44 306 P **P 08 09 17.4 -0.2**
comp=Z,4.1nm,0.5s,baz=80,slow=8.8,SNR=26
comp=Z,4.1nm,0.5s
IL31 46.31 34 P **P 08 09 24.8 +0.6**
IL31 IAmb IAmb 08 09 37.4
comp=Z,5.3nm,1.0s
ILAR Eielson Array 46.31 34 P **P 08 09 26.0 +1.7**
comp=Z,0.5nm,0.8s,baz=251,slow=7.9,SNR=5.9
comp=Z,0.5nm,0.8s
WUS Wushi 47.68 293 P **P 08 09 34.8 -0.7**
BOOM Boomskoye usch 49.51 296 P **P 08 09 49.5 -0.1**
BOOM Boomskoye usch 49.51 296 P **P 08 09 49.5 -0.1**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 49.76 311 P **P 08 09 51.3 +0.2**
comp=Z,5.4nm,0.5s,baz=66,slow=8.5,SNR=26
comp=Z,5.4nm,0.5s
BRVK Borovoye 49.81 311 P **P 08 09 51.5 -0.1**
BRVK IAmb IAmb 08 10 03.1
comp=Z,5.6nm,1.0s
BRVK Borovoye 49.81 311 *ce*P **P 08 09 51.9 +0.4**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 50.45 297 P **P 08 09 56.2 -0.5**
AAK IAmb IAmb 08 10 13.2
comp=Z,3.6nm,1.0s
AAK Ala-Archa 50.45 297 *ce*P **P 08 09 56.3 -0.5**
AAK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 51.18 28 P **P 08 10 01.4 -0.2**
INK IAmb IAmb 08 10 13.6
comp=Z,2.8nm,0.8s
INK Inuvik 51.18 28 P **P 08 10 01.4 -0.2**
INK pmax pmax
comp=Z,3.0nm,0.8s
F31M Tsiigehtchic 51.28 29 P **P 08 10 03.3 +1.0**
F31M IAmb IAmb 08 10 40.2
comp=Z,10nm,1.5s
KK31 Karatay Array 52.98 299 P **P 08 10 14.6 -0.9**
KK31 IAmb IAmb 08 10 25.9
comp=Z,3.4nm,0.7s
KK31 Karatay Array 52.98 299 P **P 08 10 14.6 -0.9**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 52.98 299 P **P 08 10 15.0 -0.5**
KKAR Karatay Array 52.98 299 P **P 08 10 14.6 -0.9**
KKAR IAmb IAmb 08 10 25.9
comp=Z,3.6nm,0.7s
KKAR Karatay Array 52.98 299 P **P 08 10 15.0 -0.5**
ARTI Arti 55.31 318 P **P 08 10 31.8 -0.4**
ARTI IAmb IAmb 08 10 44.4
comp=Z,7.6nm,0.9s
ARTI Arti 55.31 318 *c i*P **P 08 10 32.3 +0.1**
ARTI 08 12 32.9
ARTI S **S 08 18 14.4 -1.3**
ARTI SS **SS 08 21 56.8 -2.7**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
EUNU Eureka 57.14 9 P **P 08 10 44.9 -0.1**
ABKAR Akbulak array 57.23 309 P **P 08 10 45.7 -0.3**
KBL Kabul 57.77 290 P **P 08 10 49.4 -0.9**
KBL Kabul 57.77 290 P **P 08 10 49.4 -0.9**
KBL pmax pmax
comp=Z,10.0nm,0.8s
WB0 Warramunga Arr 59.92 190 P **P 08 11 03.7 -1.3**
WB0 IAmb IAmb 08 11 17.9
comp=Z,7.4nm,1.2s
FITZ Fitzroy Crossl 59.99 199 P **P 08 11 05.3 -0.1**
WRA Warramunga Arr 60.10 190 P **P 08 11 04.9 -1.3**
WRA Warramunga Arr 60.10 190 P **P 08 11 05.8 -0.5**
comp=Z,2.4nm,0.9s,baz=7.3,slow=6.8,SNR=18
comp=Z,2.4nm,0.9s
YKA Yellowknife Ar 60.61 31 P **P 08 11 11.1 +1.9**
comp=Z,0.1nm,0.7s,baz=64,slow=7.6,SNR=2.0
ASAR Alice Springs 63.83 190 P **P 08 11 30.9 -0.4**
ASAR Alice Springs 63.83 190 P **P 08 11 31.4 +0.1**
comp=Z,1.1nm,0.8s,baz=3.1,slow=5.5,SNR=14
comp=Z,1.1nm,0.8s
VRH Novokhopyorsk 66.44 318 *e*P **P 08 11 46.4 -1.5**
VRH pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 66.68 323 *e*P **P 08 11 48.2 -1.2**
OBN *e* 08 14 17.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,159nm,20.0s
FINES FINESS Array B 66.96 332 P **P 08 11 51.2 +0.1**
comp=Z,2.2nm,0.6s,baz=38,slow=7.7,SNR=13
comp=Z,2.2nm,0.6s

LPSR Galich'ya Gora 67.04 320 *e*P **P 08 11 50.2 -1.6**
LPSR pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 67.74 319 *e*P **P 08 11 54.9 -1.3**
VSR pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 70.13 311 *e*P **P 08 12 12.2 +0.9**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,66nm,18.0s
KBZ Khabaz 70.14 311 P **P 08 12 12.3 +1.1**
comp=Z,4.6nm,0.9s,baz=85,slow=5.0,SNR=12
comp=Z,4.6nm,0.9s
KBZ Khabaz 70.14 311 *ce*P **P 08 12 11.0 -0.3**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
MNK Minsk 70.94 326 *i*P **P 08 12 15.9 0.0**
comp=E,19nm,0.7s
MNK *i*P **P 08 12 15.9 0.0**
comp=N,16nm,0.8s
MNK *i*P **P 08 12 15.9 0.0**
comp=Z,7.0nm,0.7s,baz=47
MNK *i* PcP **PcP 08 12 35.9 -0.5**
MNK *i* PP **PP 08 14 53.4 +0.8**
MNK *i* PPP PPP 08 16 36.7
MNK *i* S **S 08 21 30.4 -0.7**
MNK *i* ScS **SKSac 08 22 17.3 -0.8**
MNK *i* SS **SS 08 26 04.8 +2.0**
MNK *i* SSS SSS 08 29 24.2
MNK *i* LQ LQ 08 39 54.3
MNK *i* LR LR 08 44 25.6
MNK *i* LRM MLR 08 47 54.9
comp=Z,85nm,11.8s
MNK *i* LRM MLR 08 48 06.5
comp=N,1μm,20.3s
MNK *i* LRM MLR 08 48 07.4
comp=E,1μm,21.7s
MNK Minsk 70.94 326 *i*P **P 08 12 15.9 0.0**
MNK *i* 08 12 35.8
MNK *i* 08 14 53.3
MNK *i* PPP PPP 08 16 36.6
MNK *i* S **S 08 21 30.3 -0.8**
MNK *i* 08 22 17.2
MNK *i* SS **SS 08 26 04.8 +1.9**
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=E,19nm,0.7s
MNK MLR MLR
comp=Z,85nm,12.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=E,1μm,22.0s
HFS Hagfors 72.07 336 P **P 08 12 23.1 +0.4**
comp=E,1.4nm,0.5s,baz=47,slow=6.9,SNR=8.7
comp=E,1.4nm,0.5s
NB2 NORSAR Subarra 72.10 338 P **P 08 12 23.0 +0.1**
comp=Z,2.6nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.10 338 P **P 08 12 23.2 +0.3**
comp=Z,1.4nm,0.8s,baz=39,slow=5.9,SNR=5.2
comp=Z,1.4nm,0.8s
NVAR Mina Array Bea 72.14 55 P **P 08 12 25.1 +1.3**
comp=Z,0.5nm,0.9s,baz=307,slow=4.3,SNR=2.8
comp=Z,0.5nm,0.9s
AKASG Malin Array Be 72.92 323 P **P 08 12 27.6 -0.3**
comp=Z,0.8nm,0.5s,baz=46,slow=6.3,SNR=7.9
comp=Z,0.8nm,0.5s
PDAR Pinedale Array 74.64 47 P **P 08 12 41.1 +2.6**
comp=Z,0.2nm,0.7s,baz=300,slow=4.8,SNR=1.6
comp=Z,0.2nm,0.7s
BUR08 Bucovina Ar. S 76.94 322 P **P 08 12 51.2 -0.2**
BURAR Bucovina Array 76.95 322 P **P 08 12 51.4 0.0**
BURAR Bucovina Array 76.95 322 P **P 08 12 51.4 0.0**
BRTR Keskin Array B 78.03 312 P **P 08 12 58.1 +0.4**
comp=Z,0.7nm,0.7s,baz=73,slow=4.1,SNR=2.8
comp=Z,0.7nm,0.7s
LANS Liptovska Anna 78.41 326 *e*P **P 08 13 02.3 +2.8**
LANS Liptovska Anna 78.41 326 *e*P **P 08 13 02.2 +2.8**
MODS Modra-Piesok 79.94 327 *e*P **P 08 13 08.8 +1.0**
MODS Modra-Piesok 79.94 327 *e*P **P 08 13 08.8 +1.0**
EKA Eskdalemuir Ar 80.91 341 P **P 08 13 12.2 -0.7**
comp=Z,2.2nm,0.8s,baz=17,slow=5.3,SNR=3.0
comp=Z,2.2nm,0.8s
GERES GERESS Array B 81.03 329 P **P 08 13 13.9 +0.1**
comp=Z,0.6nm,0.6s,baz=69,slow=8.3,SNR=2.6
comp=Z,0.6nm,0.6s
PPT Papeete 84.66 118 LR LR 08 43 20.6
comp=Z,54nm,21.5s,baz=24,slow=30
TXAR Lajitas Array 87.24 54 P **P 08 13 47.2 +1.4**
comp=Z,0.2nm,0.6s,baz=314,slow=5.6,SNR=4.4
comp=Z,0.2nm,0.6s
ABPO Ambohimpanom 106.46 259 P **Pdif 08 15 15.5 +2.3**
ELIB Princess Élisa 136.60 203 *d*PKP **PKiKP 08 20 22.7 +0.9**

TEH ***16*** *08:29:41.6, 34.°71N×45.°53E, h8km±50km*
ISN ***16*** *08:29:42.1±0.4, 34.°69N×45.°54E, h14km±15km, ML3.2*
ISC 16 08:29:42.6±0.9, 34.°71N±0.°03×45.°52E±0.°04, h18km, n14, σ1§07/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**165**	Pg	**Pb**	**08 29 46.8**	**-0.9**
GLG1	**Gilan-e-Gharb**	**0.68**	**152**	Pg	**Pb**	**08 29 55.4**	**-0.5**
IDHR	**Dehrash**	**0.71**	**91**	Pg	**Pb**	**08 29 56.0**	**-0.6**
IDHR				Sg	**Sn**	**08 30 07.3**	**-1.3**
IGHG	**Ghaleghazi**	**0.94**	**114**	Pg	**Pg**	**08 30 00.9**	**-0.1**
IKRK	**Kirkuk**	**1.19**	**306**	*e*Pg	**Pn**	**08 30 04.5**	**+0.1**
IKRK				*e*Sg	**Sg**	**08 30 21.0**	**-0.2**
IKRK				AML	AML	08 30 26.1	
comp=E,816nm,0.3s							
IKRK				AML	AML	08 30 26.6	
comp=N,2μm,0.5s							
ILBA	**Ilam Banvizeh**	**1.22**	**152**	Pg	**Pb**	**08 30 05.3**	**0.0**
SDS1	**Sardasht. Az.**	**1.44**	**359**	Pg	**Pg**	**08 30 10.2**	**-0.1**
IBDR	**Badra**	**1.63**	**168**	*e*Pn	**Pb**	**08 30 11.8**	**-0.4**
IBDR				*e*Sn	**Sg**	**08 30 34.0**	**-1.3**
IBDR				AML	AML	08 30 48.8	
comp=E,177nm,0.5s							
IBDR				AML	AML	08 30 55.2	
comp=N,173nm,0.6s							
BHD	**Baghdad**	**1.72**	**214**	*e*Pn	**Pb**	**08 30 13.3**	**-0.4**
BHD				*e*Sn	**Sb**	**08 30 36.0**	**+1.0**
SNQR	**Sonqor, Kerman**	**1.74**	**85**	Pg	**Pb**	**08 30 14.6**	**+0.4**
MAHB	**Mahabad**	**2.06**	**4**	Pn	**Pb**	**08 30 19.4**	**-0.1**
IKFM	**Kafar-mosalman**	**2.26**	**121**	Pn	**Pb**	**08 30 21.9**	**-0.9**
HGHA	**Hamedan- Ghaye**	**2.84**	**73**	Pn	**Pb**	**08 30 31.1**	**-1.9**
IKLH	**Kolahrood**	**5.22**	**104**	Pn	**Pn**	**08 31 02.6**	**+2.6**

IDC ***16*** *08:50:10.2±0.6, 34.°33N×26.°44E, h0km, mb4.4/24, mbtmp4.4/38, ML4.5/13, MS3.4/16, Error ellipse: s-maj=14.8km s-min=11.3km az=2.0*
MOS ***16*** *08:50:12.7±1.1, 34.°31N×26.°37E, h28km, mb4.7/39, Error ellipse: s-maj=4.8km s-min=2.5km az=102.2*
NEIC ***16*** *08:50:13.8±2.5, 34.°24N±0.°07×26.°49E±0.°03, h25km±6km, mb4.6/55, Error ellipse: s-maj=11.2km s-min=2.7km az=195.0*
MED_RC ***16*** *08:50:13.0±0.6, 34.°17N×26.°44E, h30km±3km, MW4.5/16, Moment Tensor Solution.Mantle waves: s16,c20; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18±.20; $M_{\theta\theta}$-0.82±.11; $M_{\phi\phi}$0.64±.10; $M_{r\theta}$0.30±.10; $M_{\theta\phi}$-0.08±.11; $M_{\phi r}$-0.14±.11; Best double couple: $M_0$0.80000×10^{16} NP1:ϕ_s221.00000°, δ65.00000°, λ3.00000°. NP2:θ_s130.00000°, δ87.00000°, λ155.00000°. Principal axes: T 0.7000, Plg19.0000°, Azm83.0000°; N 0.2100, Plg65.0000°, Azm304.0000°; P -0.9100, Plg15.0000°, Azm178.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
HLW ***16*** *08:50:14.3, 34.°13N×26.°59E, h10km±9km, Ml3.6*
ISK ***16*** *08:50:14.1, 34.°41N×26.°46E, h13km, ML4.1/31*
ATH ***16*** *08:50:17.3, 34.°54N×26.°46E, h19km±8km, ML4.1/9, Manual Solution by A.Moschou First location: 2019/03/16 08:51:32, This location: 2019/03/16 09:24:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 4 km*

GII ***16*** *08:50:17.6±0.0, 34.°076N±0.°002×26.°884E±0.°001, h30km, Mws4.2, confirmed*
THE ***16*** *08:50:18.0, 34.°54N×26.°42E, h9km±1km, ML3.8/7, Error ellipse: s-maj=1.5km s-min=0.8km az=332.0*
AFAD ***16*** *08:50:18.5, 34.°83N×26.°79E, h8km±3km, MW4.2*
NAO ***16*** *08:50:20.0, 34.°95N×24.°51E, h10km, mb3.8*
ISC 16 08:50:13.7±0.9, 34.°27N±0.°04×26.°53E±0.°03, h25km±6km, n591, σ1§87/641, mb4.5/83, MS3.3/13, 29C-16D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.88**	**343**	Pg	**Pb**	**08 50 28.7**	**-1.6**
ZKR				Sg	**Sb**	**08 50 39.5**	**-2.2**
ZKR	**Zakros**	**0.88**	**343**	P	**Pb**	**08 50 29.0**	**-1.3**
ZKR				S	**Sb**	**08 50 39.1**	**-2.6**
8μm,0.5s							
KARP	**Karpathos**	**1.37**	**22**	Pn	**Pb**	**08 50 38.9**	**+0.1**
KARP	**Karpathos**	**1.37**	**22**	P	**Pb**	**08 50 39.1**	**+0.3**
KARP				S	**Sn**	**08 50 54.9**	**+0.2**
5μm,0.6s							
KARP	**Karpathos**	**1.37**	**22**	Pn	**Pb**	**08 50 38.6**	**-0.2**
KARP	**Karpathos**	**1.37**	**22**	P	**Pb**	**08 50 39.3**	**+0.5**
KARP				S	**Sn**	**08 50 53.1**	**-1.7**
IACM	**Heraklion**	**1.58**	**311**	P	**Pb**	**08 50 41.8**	**-0.5**
IACM	**Heraklion**	**1.58**	**311**	P	**Pb**	**08 50 42.5**	**+0.2**
IACM				S	**Sn**	**08 50 59.5**	**-0.3**
TMBK	**Timbaki Herakl**	**1.66**	**299**	P	**Pb**	**08 50 43.3**	**-0.3**
TMBK				S	**Sn**	**08 51 01.4**	**-0.2**
IDI	**Anoyia**	**1.69**	**307**	Pn	**Pn**	**08 50 42.6**	**+0.9**
IDI				Sn	**Sn**	**08 51 02.9**	**+0.4**
IDI	**Anoyia**	**1.69**	**307**	P	**Pn**	**08 50 42.9**	**+1.2**
IDI	**Anoyia**	**1.69**	**307**	Pn	**Pb**	**08 50 43.1**	**-1.0**
IDI				Sn	**Sn**	**08 51 01.3**	**-1.2**
IDI	**Anoyia**	**1.69**	**307**	Pn	**Pb**	**08 50 43.6**	**-0.5**
62nm,0.3s,baz=141,slow=15,SNR=278							
IDI				Sn	**Sn**	**08 51 01.2**	**-1.2**
52nm,0.3s,baz=128,slow=15,SNR=8.4							
IDI				LR	LR	08 51 28.8	
comp=Z,743nm,18.3s,baz=124,slow=49							
IDI	**Anoyia**	**1.69**	**307**	P	**Pb**	**08 50 43.4**	**-0.7**
PRNS	**Prines Rethymn**	**1.99**	**304**	P	**Pb**	**08 50 48.7**	**-0.6**
PRNS	**Prines Rethymn**	**1.99**	**304**	P	**Pb**	**08 50 48.5**	**-0.8**
PRNS				S	**Sn**	**08 51 10.3**	**+0.4**
GVD	**Gavdhos**	**2.09**	**286**	Pn	**Pn**	**08 50 48.4**	**+1.2**
GVD				Sn	**Sn**	**08 51 13.5**	**+1.1**
GVD	**Gavdhos**	**2.09**	**286**	P	**Pn**	**08 50 48.6**	**+1.4**
GVD				S	**Sb**	**08 51 14.6**	**-2.0**
2μm,0.7s							
GVD	**Gavdhos**	**2.09**	**286**	P	**Pn**	**08 50 48.9**	**+1.7**
GVD				S	**Sn**	**08 51 13.6**	**+1.1**
THR6	**Thira Island,**	**2.27**	**336**	P	**Pn**	**08 50 50.6**	**+0.9**
THR9	**Santorini-Faro**	**2.29**	**336**	P	**Pn**	**08 50 50.7**	**+0.8**
THR8	**Santorini-Mono**	**2.29**	**338**	P	**Pn**	**08 50 50.5**	**+0.5**
THR3	**Thira Island,**	**2.32**	**337**	P	**Pn**	**08 50 51.0**	**+0.7**
ARG	**Arkhangelos**	**2.34**	**34**	Pn	**Pn**	**08 50 53.1**	**+2.6**
ARG	**Arkhangelos**	**2.34**	**34**	P	**Pn**	**08 50 53.4**	**+2.8**
ARG				S	**Sn**	**08 51 19.9**	**+1.4**
2μm,1.3s							
ARG	**Arkhangelos**	**2.34**	**34**		**Pn**	**08 50 52.3**	**+1.7**
ARG	**Arkhangelos**	**2.34**	**34**	P	**Pn**	**08 50 52.3**	**+1.7**
ARG	**Arkhangelos**	**2.34**	**34**	P	**Pn**	**08 50 53.2**	**+2.6**
ARG				S	**Sn**	**08 51 19.5**	**+1.1**
CMBO	**Columbo, Santo**	**2.38**	**338**	P	**Pn**	**08 50 51.8**	**+0.7**
CMBO				S	**Sn**	**08 51 17.9**	**-1.5**
CMBO	**Columbo, Santo**	**2.38**	**338**	P	**Pn**	**08 50 51.8**	**+0.7**
CMBO				S	**Sn**	**08 51 17.0**	**-2.5**
CHAN	**Chania**	**2.39**	**302**	P	**Pn**	**08 50 53.7**	**+2.4**
CHAN	**Chania**	**2.39**	**302**	P	**Pn**	**08 50 53.6**	**+2.3**
CHAN				S	**Sn**	**08 51 20.1**	**+0.4**
YAZI	**Mula-Dat§a-**	**2.52**	**17**	P	**Pn**	**08 50 54.2**	**+1.2**
KNDR	**Palaiochora Ch**	**2.53**	**293**	Pn	**Pn**	**08 50 55.5**	**+2.3**
KNDR				Sn	**Sn**	**08 51 25.7**	**+2.5**
KNDR	**Palaiochora Ch**	**2.53**	**293**	P	**Pn**	**08 50 55.1**	**+1.9**
KNDR				S	**Sn**	**08 51 25.6**	**+2.4**
690nm,0.6s							
DAT	**Datca**	**2.59**	**19**	Pn	**Pn**	**08 50 55.4**	**+1.2**
AMGA	**Amorgos Island**	**2.60**	**349**	P	**Pn**	**08 50 54.4**	**+0.2**
AMGA				S	**Sn**	**08 51 24.6**	**-0.5**
BODT	**Bodrum**	**2.85**	**13**	Pn	**Pn**	**08 50 58.8**	**+1.1**
TURN	**Turunc**	**2.86**	**29**	Pn	**Pn**	**08 50 59.6**	**+1.8**
TURN	**Turunc**	**2.86**	**29**	P	**Pn**	**08 50 59.4**	**+1.7**
TURN				S	**Sn**	**08 51 30.7**	**-0.7**
BDRM	**Kayabasi**	**2.88**	**15**	P	**Pn**	**08 50 59.5**	**+1.4**
APE	**Apeiranthos**	**2.91**	**344**	Pn	**Pn**	**08 50 59.1**	**+0.7**
APE	**Apeiranthos**	**2.91**	**344**	P	**Pn**	**08 50 58.9**	**+0.5**
APE				S	**Sn**	**08 51 30.9**	**-1.7**
552nm,0.5s							
APE	**Apeiranthos**	**2.91**	**344**	⇑P	**Pn**	**08 50 59.3**	**+0.9**
APE				⇓S	**Sn**	**08 51 34.5**	**+1.9**
APE	**Apeiranthos**	**2.91**	**344**	*c i*P	**Pn**	**08 50 59.1**	**+0.7**
APE	**Apeiranthos**	**2.91**	**344**	P	**Pn**	**08 50 58.8**	**+0.4**
APE	**Apeiranthos**	**2.91**	**344**	P	**Pn**	**08 50 59.1**	**+0.7**
APE				S	**Sn**	**08 51 30.1**	**-2.5**
MHLO	**Agia Marina, M**	**2.97**	**325**	P	**Pn**	**08 51 00.0**	**+0.7**
MHLO				S	**Sn**	**08 51 31.6**	**-2.5**
SLUM	**Salum**	**2.99**	**202**	P	**Pn**	**08 50 59.8**	**+0.3**
DALY	**Dalyan (Mula)**	**3.07**	**34**	Pn	**Pn**	**08 51 02.8**	**+2.1**
IZZE	**Mula-Seydike**	**3.08**	**45**	P	**Pn**	**08 51 02.8**	**+1.9**
IZZE				S	**Sn**	**08 51 33.0**	**-4.0**
IZZE				*i* AML	AML	08 51 40.0	
comp=N,908nm,0.5s							
IZZE				*i* AML	AML	08 51 41.0	
comp=E,463nm,0.4s							
ANKY	**Antikythira Is**	**3.09**	**302**	P	**Pn**	**08 51 02.1**	**+1.2**
ANKY				S	**Sn**	**08 51 37.2**	**+0.2**
1μm,0.7s							
ANKY	**Antikythira Is**	**3.09**	**302**	P	**Pn**	**08 51 03.0**	**+2.1**
ANKY				S	**Sn**	**08 51 37.1**	**+0.2**
KSL	**Kastellorizon**	**3.12**	**52**	P	**Pn**	**08 51 02.9**	**+1.5**
KSL				S	**Sn**	**08 51 39.9**	**+2.0**
FETY	**Fethiye**	**3.15**	**41**	Pn	**Pn**	**08 51 03.9**	**+2.2**
FETY	**Fethiye**	**3.15**	**41**	P	**Pn**	**08 51 04.4**	**+2.7**
FETY				S	**Sn**	**08 51 33.0**	**-5.5**
MLSB	**Milas**	**3.18**	**18**	Pn	**Pn**	**08 51 04.1**	**+1.9**
AKAS	**Kas**	**3.19**	**51**	Pn	**Pn**	**08 51 04.2**	**+1.8**
AKAS	**Kas**	**3.19**	**51**	Pn	**Pn**	**08 51 03.9**	**+1.5**
AKAS				Sn	**Sn**	**08 51 40.8**	**+1.1**
AKAS	**Kas**	**3.19**	**51**	P	**Pn**	**08 51 03.6**	**+1.2**
AKAS				S	**Sn**	**08 51 35.4**	**-4.2**
AKAS				*i* AML	AML	08 51 48.0	
comp=E,584nm,0.4s							
AKAS				*i* AML	AML	08 51 50.0	
comp=N,741nm,0.5s							
YER	**Yerkesik**	**3.19**	**26**	Pn	**Pn**	**08 51 04.4**	**+2.0**
YER	**Yerkesik**	**3.19**	**26**	P	**Pn**	**08 51 04.4**	**+2.0**
DDIM	**Aydin, Didim**	**3.23**	**10**	P	**Pn**	**08 51 04.3**	**+1.5**
SABU	**Mula-Dalaman**	**3.23**	**37**	P	**Pn**	**08 51 04.4**	**+1.5**
SABU				S	**Sn**	**08 51 36.7**	**-3.9**
SABU				*i* AML	AML	08 51 45.0	
comp=E,324nm,0.5s							
SABU				*i* AML	AML	08 51 46.0	
comp=N,266nm,0.5s							
MULA	**Mugla, Merkez-**	**3.31**	**26**	P	**Pn**	**08 51 06.4**	**+2.3**
MULA				S	**Sn**	**08 51 39.8**	**-2.9**
DEMR	**Demre-Antalya**	**3.39**	**54**	Pn	**Pn**	**08 51 08.4**	**+3.4**
GCAM	**G?zelcaml?**	**3.47**	**9**	Pn	**Pn**	**08 51 07.9**	**+1.8**
GCAM	**G?zelcaml?**	**3.47**	**9**	P	**Pn**	**08 51 07.9**	**+1.8**
CAME	**Cameli-Denizli**	**3.49**	**40**	Pn	**Pn**	**08 51 08.7**	**+2.1**
AYDN	**Tasoluk**	**3.55**	**18**	P	**Pn**	**08 51 09.3**	**+1.9**
KNIK	**Mula-Seydike**	**3.57**	**43**	P	**Pn**	**08 51 09.3**	**+1.7**
KNIK				S	**Sn**	**08 51 48.5**	**-0.6**
KNIK				*i* AML	AML	08 51 55.0	
comp=E,247nm,0.5s							
KNIK				*i* AML	AML	08 51 58.0	
comp=N,158nm,0.5s							
DNZT	**Denizli-Tavas-**	**3.62**	**33**	P	**Pn**	**08 51 10.9**	**+2.6**
DNZT				S	**Sn**	**08 51 44.4**	**-5.9**
CAEL	**Denizli, Camel**	**3.64**	**38**	P	**Pn**	**08 51 09.3**	**+0.7**
CAEL				S	**Sn**	**08 51 49.3**	**-1.5**
CAEL				*i* AML	AML	08 52 03.0	
comp=E,901nm,0.6s							
CAEL				*i* AML	AML	08 52 08.0	
comp=N,659nm,1.1s							
ELL	**Elmali**	**3.70**	**47**	Pn	**Pn**	**08 51 12.1**	**+2.7**
ELL	**Elmali**	**3.70**	**47**	Pn	**Pn**	**08 51 11.3**	**+1.9**
ELL				Sn	**Sn**	**08 51 51.5**	**-0.8**
ELL	**Elmali**	**3.70**	**47**	P	**Pn**	**08 51 12.1**	**+2.7**
TAVA	**DENIZLI_Tavas**	**3.73**	**31**	P	**Pn**	**08 51 11.7**	**+2.0**
TAVA				S	**Sn**	**08 51 51.0**	**-2.0**
VLI	**Veliai**	**3.81**	**311**	P	**Pn**	**08 51 10.4**	**-0.4**
VLI	**Veliai**	**3.81**	**311**	P	**Pn**	**08 51 10.4**	**-0.4**

VLI S Sn 08 51 52.9 -2.0
ESEN Aydn-Nazilli 3.81 22 P Pn 08 51 11.7 +0.9
AYDB Zeytinkoy-Aydi 3.83 16 Pn Pn 08 51 12.7 +1.5
GOLH Golhisar 3.85 39 P Pn 08 51 14.2 +2.7
GOLH S Sn 08 51 53.4 -2.6
GOLH *i* AML AML 08 52 00.0
comp=N,341nm,0.5s
GOLH *i* AML AML 08 52 01.0
comp=E,321nm,0.4s
APMY Acipayam-Deniz 3.91 34 Pn Pn 08 51 13.9 +1.7
NAZL Nazilli-Aydin 3.95 21 Pn Pn 08 51 14.7 +1.9
ZEYE Izmir, Urla-Ze 3.96 360 P Pn 08 51 12.6 -0.3
IZMR zmir-demi 4.02 16 P Pn 08 51 15.8 +2.1
URLA Izmir 4.08 1 P Pn 08 51 15.0 +0.5
KARY Karystos 4.12 336 P Pn 08 51 16.1 +1.1
BLCB Balcova 4.12 6 Pn Pn 08 51 16.4 +1.3
KORT Korkueli 4.13 48 Pn Pn 08 51 18.3 +2.9
KRND KRANIDI 4.14 319 P Pn 08 51 15.8 +0.4
KRND KRANIDI 4.14 319 P Pn 08 51 15.7 +0.4
KRND S Sn 08 52 03.3 +0.3
ODEM Odemis-Izmir 4.18 17 Pn Pn 08 51 17.7 +1.7
KIRA zmir-Kiraz 4.20 21 P Pn 08 51 18.3 +2.0
MET4 Agioi Theodoro 4.20 324 P Pn 08 51 16.8 +0.7
VLY Voula,Athens 4.20 329 P Pn 08 51 17.6 +1.3
ANTB Antalya 4.26 51 Pn Pn 08 51 20.6 +3.6
ATHU Athens Univers 4.30 330 P Pn 08 51 18.4 +0.8
DION Dionisos Attik 4.34 332 P Pn 08 51 19.1 +1.0
DION Dionisos Attik 4.34 332 P Pn 08 51 19.4 +1.3
PTL Penteli 4.34 331 P Pn 08 51 19.5 +1.4
KARB zmir-Karabur 4.38 359 P Pn 08 51 19.1 +0.4
BRDR BURDUR-Merkez 4.46 39 P Pn 08 51 23.2 +3.4
MANT Manisa 4.52 21 Pn Pn 08 51 21.6 +0.9
KULA Kula-Manisa 4.57 21 Pn Pn 08 51 22.9 +1.6
BCK Bucak 4.58 45 Pn Pn 08 51 24.7 +3.2
BCK Bucak 4.58 45 P Pn 08 51 24.7 +3.2
BASM Basmaki-Afyon 4.62 37 Pn Pn 08 51 24.7 +2.6
VILL Villia 4.67 327 P Pn 08 51 23.3 +0.6
PASA Karahalli, USA 4.72 30 P Pn 08 51 24.0 +0.6
PASA S Sn 08 52 12.2 -5.1
PASA *i* AML AML 08 52 25.0
comp=E,88nm,0.5s
ITM Ithomi 4.74 309 Pn Pn 08 51 24.1 +0.6
ITM Ithomi 4.74 309 P Pn 08 51 23.7 +0.1
ITM Ithomi 4.74 309 Pn Pn 08 51 23.7 +0.1
KYMI Kymi, Euboea I 4.77 336 P Pn 08 51 24.6 +0.6
ISP Isparta 4.80 41 Pn Pn 08 51 27.2 +2.7
ISP Isparta 4.80 41 Pn Pn 08 51 25.6 +1.1
ISP Isparta 4.80 41 *i* P Pn 08 51 26.0 +1.5
ISP Isparta 4.80 41 P Pn 08 51 26.3 +1.8
DKL Dikili 4.80 4 Pn Pn 08 51 26.5 +2.1
GORD Gordes-Manisa 4.81 16 Pn Pn 08 51 26.0 +1.4
SIGR SIGRI 4.96 354 Pn Pn 08 51 27.2 +0.6
SIGR SIGRI 4.96 354 P Pn 08 51 27.2 +0.6
GUR Goura 4.98 318 P Pn 08 51 26.8 -0.2
SWA2 5.10 191 P Pn 08 51 28.6 +0.1
KLV Kalavryta, Ach 5.17 318 P Pn 08 51 29.2 -0.3
AOS Alonnisos 5.33 337 P Pn 08 51 32.8 +1.1
DRO Drossia 5.36 315 P Pn 08 51 33.1 +1.0
KALE Kalithea 5.42 321 P Pn 08 51 32.8 -0.3
AXAR Agios Charalam 5.46 326 P Pn 08 51 34.1 +0.6
CSS Mathiatis 5.65 81 Pn Pn 08 51 36.2 +0.1
CSS Mathiatis 5.65 81 P Pn 08 51 36.4 +0.3
CSS Mathiatis 5.65 81 S Sn 08 52 37.9 -2.3
NEO Neokhori 5.68 333 P Pn 08 51 38.0 +1.5
ANX Ano Chora 5.69 321 P Pn 08 51 36.8 +0.1
XOR Xorichti 5.74 333 P Pn 08 51 38.7 +1.3
MAKR Makrakomi, Fth 5.90 325 P Pn 08 51 41.8 +2.2
EVR Evrytania 5.99 322 P Pn 08 51 42.3 +1.4
RYAN Fayoum 6.08 147 P Pn 08 51 42.5 +0.5
RYAN S Sn 08 52 48.3 -2.6
BAND Balkesir-Ban 6.20 11 ⇓P Pn 08 51 44.6 +1.0
OUR Ouranopolis 6.38 342 P Pn 08 51 47.5 +1.4
OUR Ouranopolis 6.38 342 P Pn 08 51 47.5 +1.4
CAVK Edirne/Enez-Ca 6.41 358 ⇑P Pn 08 51 47.4 +0.8
ALN Alexandroupoli 6.62 357 Pn Pn 08 51 50.3 +0.9
ALN Alexandroupoli 6.62 357 P Pn 08 51 50.3 +0.9
LIT Litokhoron 6.65 332 Pn 08 51 50.3 +0.5
LIT Litokhoron 6.65 332 P Pn 08 51 50.3 +0.5
RDO Rodhopi 6.91 354 Pn 08 51 53.6 +0.3
MDUB Mudurnu 7.22 30 Pn Pn 08 51 59.8 +2.1
IGT Igoumenitsa 7.22 318 P Pn 08 51 56.6 -1.1
OFRI `Ofer 7.26 101 P Pn 08 51 57.4 -0.8
OFRI `Ofer 7.26 101 S Sn 08 53 15.2 -4.7
HFRF Wahat Farafira 7.27 167 P Pn 08 51 58.9 +0.5
HNTI Hanita 7.30 97 P Pn 08 51 57.8 -1.0
HNTI Hanita 7.30 97 S Sn 08 53 16.7 -4.3
SLTI Sal'it 7.41 104 P Pn 08 51 59.4 -0.9
SLTI Sal'it 7.41 104 S Sn 08 53 18.9 -4.7
KZIT Kziot 7.44 115 P Pn 08 52 00.1 -0.6
KZIT Kziot 7.44 115 S Sn 08 53 19.2 -5.1
MMC7 Mount Meron ar 7.50 97 P Pn 08 52 01.1 -0.5
ANTO Ankara 7.50 40 Pn Pn 08 52 03.5 +2.0
ANTO Ankara 7.50 40 P Pn 08 52 03.5 +2.0
MMA0B Mount Meron ar 7.51 97 P Pn 08 52 01.5 -0.2
MMA0B Mount Meron ar 7.51 97 S Sn 08 53 22.4 -3.6
MMAI Mount Meron Ar 7.51 97 Pn Pn 08 52 00.8 -0.8
23nm,0.3s,baz=278,slow=12,SNR=40
MMAI Sn Sn 08 53 23.1 -2.9
16nm,0.3s,baz=268,slow=22,SNR=7.7
14nm,0.4s
AMAZ Amatzia 7.56 109 P Pn 08 52 01.4 -1.1
AMAZ Amatzia 7.56 109 S Sn 08 53 23.2 -4.2
TAMRE El Minia 7.57 149 P Pn 08 52 03.0 +0.5
SALP Salfit 7.59 104 P Pn 08 52 02.1 -0.7
SALP Salfit 7.59 104 S Sn 08 53 23.2 -4.8
KEK Kerkira 7.64 317 Pn 08 52 02.6 -0.8
KIRS Kirsehir-Merke 7.66 49 ⇑P Pn 08 52 05.3 +1.5
MMLI Mount Malkishu 7.66 101 P Pn 08 52 03.4 -0.4
MMLI Mount Malkishu 7.66 101 S Sn 08 53 24.9 -4.9
FNA Florina 7.68 329 Pn 08 52 03.7 -0.3
FNA Florina 7.68 329 P Pn 08 52 03.7 -0.3
GEM Giv'at Ha'Em 7.68 95 P Pn 08 52 03.7 -0.3
GEM Giv'at Ha'Em 7.68 95 S Sn 08 53 26.7 -3.6
VAY Valandovo 7.70 337 *i* Pn Pn 08 52 06.3 +2.1
NATI Neve Ativ 7.73 95 P Pn 08 52 04.3 -0.4
NATI Neve Ativ 7.73 95 S Sn 08 53 28.4 -3.0
YTIR Yattir 7.79 110 P Pn 08 52 04.9 -0.7
YTIR Yattir 7.79 110 S Sn 08 53 28.4 -4.6
HMDT Nahal Hemdat 7.80 102 P Pn 08 52 04.4 -1.3
HMDT Nahal Hemdat 7.80 102 S Sn 08 53 28.4 -4.7
UJAP Al Uja 7.85 105 P Pn 08 52 05.2 -1.0
UJAP Al Uja 7.85 105 S Sn 08 53 29.4 -4.8
KSHT Keshet 7.85 97 P Pn 08 52 06.0 -0.4
KSHT Keshet 7.85 97 S Sn 08 53 30.9 -3.5
BR131 Keskin Array S 7.87 44 Pn 08 52 07.9 +1.2
BR131 Keskin Array S 7.87 44 *i* P Pn 08 52 08.2 +1.5
BRTR Keskin Array B 7.87 44 Pn 08 52 07.9 +1.2
BRTR Keskin Array B 7.87 44 Pn Pn 08 52 08.6 +1.8
0.9nm,0.3s,baz=218,slow=14,SNR=25
BRTR Sn Sn 08 53 28.8 -6.3
0.9nm,0.3s,baz=213,slow=27,SNR=7.1
5.9nm,0.7s
DSI Dead Sea 7.91 107 P Pn 08 52 06.6 -0.6
DSI Dead Sea 7.91 107 S Sn 08 53 31.7 -4.3
PLD Plovdiv 7.99 350 P Pn 08 52 11.5 +3.4
PLD pmax pmax
comp=Z,100nm,1.3s
MSBI Mazada 8.00 109 P Pn 08 52 07.2 -1.1
MSBI Mazada 8.00 109 S Sn 08 53 32.7 -5.3
KRMI Paran Flat 8.09 119 P Pn 08 52 08.6 -1.0
KRMI Paran Flat 8.09 119 S Sn 08 53 34.2 -6.1
GHAJ Ghor Haditha 8.16 109 Pn 08 52 11.6 +0.9
GHAJ Ghor Haditha 8.16 109 P Pn 08 52 10.4 -0.2
GHAJ Ghor Haditha 8.16 109 S Sn 08 53 37.9 -4.1
PRNI Paran 8.17 116 P Pn 08 52 09.6 -1.1
PRNI Paran 8.17 116 S Sn 08 53 37.4 -4.8
OHR Ohrid 8.20 328 *i* Pn Pn 08 52 12.1 +1.0
OHR *i* Sn Sn 08 53 44.1 +1.2
OHR Ohrid 8.20 328 P Pn 08 52 13.7 +2.6
OHR pmax pmax
comp=Z,24nm,0.8s
ZFRI Zfri 8.20 115 P Pn 08 52 09.6 -1.5
ZFRI Zfri 8.20 115 S Sn 08 53 37.7 -5.2
HRFI Mount Harif 8.36 118 P Pn 08 52 12.4 -1.0
HRFI Mount Harif 8.36 118 S Sn 08 53 42.2 -4.7
MBRI Mt Berech 8.40 120 P Pn 08 52 13.5 -0.5
MBRI Mt Berech 8.40 120 S Sn 08 53 43.4 -4.6
EIL Elat 8.50 120 Pn Pn 08 52 14.6 -0.6
comp=Z,2.7nm,0.3s,baz=288,slow=3.2,SNR=22
EIL Sn Sn 08 53 45.1 -5.2
comp=Z,3.8nm,0.3s,baz=309,slow=18,SNR=5.8
comp=Z,7.1nm,0.3s
EIL Elat 8.50 120 P Pn 08 52 14.2 -1.0
EIL Elat 8.50 120 S Sn 08 53 45.2 -5.2
SCTE Santa Cesarea 8.65 314 Pn 08 52 15.2 -2.1
BNN Bunyan 8.78 56 Pn Pn 08 52 19.7 +0.5
TIR Tirane 8.81 325 Pn 08 52 19.3 -0.2
TIR Tirane 8.81 325 P Pn 08 52 19.3 -0.2
PHP Peshkopia 8.82 329 P Pn 08 52 20.6 +1.0
ASF Jabal al Asfar 8.94 101 Pn Pn 08 52 20.8 -0.5
comp=Z,2.0nm,0.3s,baz=315,slow=7.1,SNR=10
comp=Z,4.2nm,0.3s
HDK1 Dakhla 9.05 163 P Pn 08 52 23.4 +0.5
GAZ Gaziantep 9.15 69 Pn Pn 08 52 23.7 -0.6
SOI Samo 9.28 297 P Pn 08 52 26.7 +0.8
SOI pmax pmax
comp=Z,50nm,0.5s
GTR Jabal at Tayr 9.41 157 P Pn 08 52 28.1 +0.4
CEL Celeste 9.46 298 Pn 08 52 27.0 -1.4
GMB Gambarie 9.48 297 P Pn 08 52 29.8 +1.1
GMB pmax pmax
comp=Z,243nm,0.8s
DRME Dracevica, Mon 9.78 326 *e*Pn Pn 08 52 30.0 -2.8
PDG Podgorica 9.94 327 Pn 08 52 33.8 -1.2
PDG Podgorica 9.94 327 *e*Pn Pn 08 52 33.9 -1.0
WDD Wied Dalam 9.96 282 Pn Pn 08 52 34.1 -1.1
MATE Matera 10.07 312 ⇑P Pn 08 52 34.7 -1.9
BOVS Bovan 10.07 340 ⇑P Pn 08 52 37.5 +0.8
CUC Castrocucco 10.28 307 Pn 08 52 38.9 -0.7
HCY Herceg Novi 10.31 325 *e*Pn Pn 08 52 35.3 -4.7
SJES Sjenica 10.33 332 *e*Pn Pn 08 52 38.9 -1.4
VAE Valguarnera 10.34 291 Pn Pn 08 52 40.8 +0.4
comp=Z,29nm,0.7s,baz=90,slow=18,SNR=6.8
VAE Sn Sn 08 54 26.0 -10
comp=Z,7.7nm,0.3s,baz=262,slow=2.2,SNR=4.7
TREB Trebinje 10.58 325 *e*Pn Pn 08 52 40.0 -3.8
BRY Bratogost 10.64 326 *e*Pn Pn 08 52 40.6 -4.0
UPM Unac-Piva 10.71 329 *e*Pn Pn 08 52 42.4 -3.3
RUDO Rudo 10.86 331 *e*Pn Pn 08 52 44.8 -2.8
STON Ston 11.01 324 *e*Pn Pn 08 52 45.1 -4.5
BBLS Lazi&#263i 11.06 332 *e*Pn Pn 08 52 46.6 -3.7
MDVR Moldovita 11.13 342 ⇑P Pn 08 52 52.1 +0.8
ARR Arges 11.18 353 ⇑P Pn 08 52 52.6 +0.8
VOIR 11.21 355 ⇑P Pn 08 52 52.6 +0.3
VOIR 11.21 355 P Pn 08 52 52.6 +0.3
MLR Muntele Rosu 11.21 358 Pn Pn 08 52 52.5 0.0
comp=Z,0.6nm,0.3s,baz=128,slow=19,SNR=3.1
MLR LR LR 08 57 26.1
comp=Z,191nm,21.8s,baz=224,slow=39
comp=Z,1.4nm,0.3s
HAPS Han Pijesak,Bl 11.42 331 *e*Pn Pn 08 52 50.5 -4.8
GZR Gura Zlata 11.47 347 ⇑P Pn 08 52 57.3 +1.4
GZR Gura Zlata 11.47 347 P Pn 08 52 57.3 +1.4
TEKS Tekeris 11.60 334 *e*Pn Pn 08 52 53.6 -4.0
PAOL Paolisi 11.63 309 Pn Pn 08 52 56.5 -1.6
OZUR 11.82 357 ⇑P Pn 08 53 01.1 +0.4
BZS Buzias 11.94 343 ⇑P Pn 08 53 02.7 +0.5
BZS Buzias 11.94 343 P Pn 08 53 02.7 +0.5
INTR Introdacqua 12.58 312 Pn 08 53 09.5 -1.6
CJR Cluj-Napoca 12.62 351 P Pn 08 53 16.0 +4.3
BLY Banja Luka 12.70 328 *e*Pn Pn 08 53 10.4 -2.2
A050A Klekovaca 12.78 326 *e*Pn Pn 08 53 10.4 -3.5
DRGR 12.84 348 ⇑P Pn 08 53 14.3 -0.3
DRGR 12.84 348 P Pn 08 53 14.3 -0.3
A051A Mrakovica 13.03 328 *e*Pn Pn 08 53 12.6 -4.6
CAMP Campotosto 13.18 313 Pn 08 53 18.2 -1.1
MORH Mrgy, Hungar 13.35 336 ⇑P Pn 08 53 20.1 -1.4
ANN Anapa 13.45 35 *e*P Pn 08 53 19.7 -3.2
ANN *e*S Sn 08 55 49.7 -1.8
ANN pmax pmax
comp=Z,8.0nm,0.5s
NRCA Norcia 13.52 313 Pn 08 53 21.2 -2.8
SOC Sochi 13.83 44 *e*P Pn 08 53 25.4 -2.7
SOC *e* 08 55 58.0
SOC MLR MLR
comp=Z,119nm,19.0s
SORM Soroca 13.92 5 ⇑P Pn 08 53 30.5 +1.3
SORM Soroca 13.92 5 P Pn 08 53 30.5 +1.3
BOJS Bojanci 14.15 326 *e*Pn Pn 08 53 28.7 -3.8
KEST Kesra 14.16 281 Pn Pn 08 53 32.5 -0.3
comp=Z,0.3nm,0.3s,baz=69,slow=14,SNR=2.5
KEST LR LR 08 59 35.5
comp=Z,206nm,20.8s,baz=31,slow=40
comp=Z,6.7nm,1.0s
PSZ Piszkesteto 14.51 342 Pn 08 53 37.8 +0.4
PSZ Piszkesteto 14.51 342 ⇑P Pn 08 53 37.0 -0.5
PSZ Piszkesteto 14.51 342 P Pn 08 53 37.8 +0.4
CEY Cerknica 14.71 325 *e*Pn Pn 08 53 35.3 -4.9
CASP Castiglione de 14.90 309 Pn Pn 08 53 40.6 -2.1
KOLS Kolonicke sedl 14.98 349 *e*P Pn 08 53 46.7 +2.9
KOLS Kolonicke sedl 14.98 349 *e*PN Pn 08 53 46.7 +2.9
LABN Labinsk 15.06 42 *e*P Pn 08 53 43.9 -0.9
SOKA Soboth 15.14 328 *i* Pn Pn 08 53 41.9 -4.1
comp=Z,10nm,0.6s
OBKA Obir 15.23 327 *i* Pn Pn 08 53 43.7 -3.4
comp=Z,2.8nm,0.4s
OBKA Obir 15.23 327 *e*Pn Pn 08 53 43.7 -3.4
SABO M.te Sabotino 15.29 324 Pn Pn 08 53 44.0 -3.8
SABO IAmb IAmb 08 53 53.3
comp=Z,21nm,0.6s
ARSA Arzberg 15.39 331 *i* Pn Pn 08 53 47.7 -1.5
comp=Z,3.4nm,0.3s,SNR=6.2
ARSA Arzberg 15.39 331 Pn 08 53 47.6 -1.6
RONA Rosalia, Austr 15.46 333 *e*Pn Pn 08 53 48.7 -1.3
comp=Z,22nm,0.5s,SNR=14
ERBR Yeremizino-Bor 15.62 39 *e*P Pn 08 53 50.9 -1.3
ERBR *e*S Sn 08 56 44.2 -0.2
ERBR pmax pmax
comp=Z,21nm,0.7s
STHS Stebnicka Huta 15.63 347 *e*P Pn 08 53 52.3 +0.1
STHS Stebnicka Huta 15.63 347 *e*PN Pn 08 53 52.3 +0.1
PRED Cave del Predi 15.64 325 Pn 08 53 49.6 -2.8
GNI Garni 15.64 63 Pn Pn 08 53 55.0 +2.4
comp=Z,1.3nm,0.3s,baz=357,slow=14,SNR=3.6
comp=Z,8.7nm,0.6s
GNI Garni 15.64 63 *i* P Pn 08 53 54.4 +1.8
SHA1 Shidzhatmaz 15.68 48 *i* P Pn 08 53 54.5 +1.4
MODS Modra-Piesok 15.69 337 *e*P Pn 08 53 53.5 +0.5
MODS Modra-Piesok 15.69 337 *e*PN Pn 08 53 53.5 +0.5
MYKA Terra Mystica 15.74 325 *i* Pn Pn 08 53 51.9 -1.8
comp=Z,6.2nm,0.6s
LANS Liptovska Anna 15.76 343 *e*P P 08 53 56.4 -1.3
LANS Liptovska Anna 15.76 343 *e*PN P 08 53 56.4 -1.3
KIV Kislovodsk 15.81 48 *e*P Pn 08 53 55.0 +0.3
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,32nm,13.0s
CONA Conrad Observa 15.81 333 *e*Pn Pn 08 53 53.1 -1.6
comp=Z,4.8nm,0.6s
KVAR Kislovodsk Arr 15.81 48 Pn Pn 08 53 56.6 +1.8
baz=259,slow=10
comp=Z,2.5nm,0.4s
KBZ Khabaz 15.82 49 Pn Pn 08 53 56.5 +1.8
comp=Z,0.4nm,0.3s,baz=291,slow=1.6,SNR=11
comp=Z,10nm,0.8s
KBZ Khabaz 15.82 49 *ce*P Pn 08 53 55.8 +1.1
KBZ pmax pmax
comp=Z,15nm,1.0s
TEOL Teolo 15.88 319 Pn 08 53 53.0 -2.5
TEOL IAmb IAmb 08 53 59.3
comp=Z,31nm,0.7s
JAVC Velka Javorina 15.99 338 *e*PN Pn 08 53 56.4 -0.6
KBA Koelnbreinsper 16.21 326 *e*Pn Pn 08 53 56.7 -3.1
comp=Z,11nm,0.5s,SNR=7.5
KBA Koelnbreinsper 16.21 326 P Pn 08 54 01.0 +1.2
KBA pmax pmax
comp=Z,33nm,1.1s
ABTA Abfaltersbach 16.36 324 *e*Pn Pn 08 53 58.8 -2.9
comp=Z,14nm,0.6s
MOA Molln 16.39 330 *i* Pn Pn 08 54 00.1 -1.9
comp=Z,6.7nm,0.5s
MAUC Maruska 16.40 339 *e*P Pn 08 54 01.4 -0.7
KIEV Kiev 16.53 6 ⇑P Pn 08 54 03.3 -0.4
KIEV Kiev 16.53 6 P Pn 08 54 03.3 -0.4
AKASG Malin Array Be 16.54 6 Pn Pn 08 54 03.1 -0.7
comp=Z,14nm,0.3s,baz=198,slow=11,SNR=42
AKASG LR LR 09 00 28.0
comp=Z,91nm,18.1s,baz=154,slow=38
comp=Z,3.7nm,0.4s
AKASG Malin Array Be 16.54 6 *ce*P Pn 08 54 03.0 -0.7
AKASG pmax pmax
comp=Z,17nm,0.5s
AKBB Malin Array Si 16.54 6 Pn 08 54 03.1 -0.7
AKBB IAmb IAmb 08 54 06.8
comp=Z,29nm,0.5s
AKBB Malin Array Si 16.54 6 *ce*P Pn 08 54 03.8 0.0
AKBB pmax pmax
comp=Z,10.0nm,0.7s
KRUC Moravsky 16.58 336 *e*P P 08 54 06.1 -0.6
KRUC Moravsky 16.58 336 P Pn 08 54 05.9 +1.5
KRUC pmax pmax
comp=Z,26nm,0.8s
GOF Gofitskoye 16.63 45 *ce*P P 08 54 08.4 +1.1
OJC Ojcow 16.68 345 Pn 08 54 04.1 -1.6
OJC Ojcow 16.68 345 P Pn 08 54 04.1 -1.6
OJC pmax pmax
comp=Z,7.0nm,0.8s
VRAC Vranov 16.73 337 Pn Pn 08 54 04.5 -1.8
comp=Z,4.0nm,0.3s,baz=154,slow=11,SNR=20
comp=Z,13nm,0.5s
VRAC Vranov 16.73 337 *e*P P 08 54 07.8 -0.6
VRAC Vranov 16.73 337 ⇑P Pn 08 54 04.9 -1.4
VRAC Vranov 16.73 337 P Pn 08 54 04.8 -1.4
OKC Ostrava-Krasne 16.73 341 P Pn 08 54 04.7 -1.6
OKC pmax pmax
comp=Z,27nm,0.9s
LESA Schwarzleotal 16.77 326 *e*Pn Pn 08 54 06.2 -0.7
comp=Z,18nm,0.6s,SNR=10
MORC Moravsky Berou 16.85 340 Pn Pn 08 54 06.4 -1.4
MORC Moravsky Berou 16.85 340 *e*PN Pn 08 54 06.6 -1.2
MORC Moravsky Berou 16.85 340 ⇑P Pn 08 54 06.9 -0.9
MORC Moravsky Berou 16.85 340 P Pn 08 54 06.9 -0.9
STEB Steborice 16.92 340 *e*P Pn 08 54 07.7 -1.0
TREC Trest 17.09 335 *e*P Pn 08 54 06.2 -4.6
TREC Trest 17.09 335 *e*P Pn 08 54 06.2 -4.6
CKRC Cesky Krumlov 17.14 332 *e*P Pn 08 54 09.8 -1.6
CKRC Cesky Krumlov 17.14 332 *e*P Pn 08 54 09.8 -1.6
WTTA Wattenberg 17.15 324 *i* Pn Pn 08 54 10.4 -1.4
comp=Z,16nm,0.6s,SNR=5.1
WTTA Wattenberg 17.15 324 P Pn 08 54 12.3 +0.5
WTTA pmax pmax
comp=Z,30nm,0.8s
WATA Walderalm 17.23 324 *i* Pn Pn 08 54 10.8 -2.0
comp=Z,11nm,0.6s
SQTA Sankt Quirin 17.34 323 *i* Pn Pn 08 54 13.5 -0.5
comp=Z,16nm,0.5s,SNR=5.5
KRLC Kraliky 17.34 339 P Pn 08 54 13.0 -0.9
KRLC pmax pmax
comp=Z,42nm,0.9s
GEC2 GERESS Array S 17.40 331 Pn 08 54 12.9 -1.9
GERES GERESS Array B 17.40 331 Pn Pn 08 54 12.7 -2.1
GERES GERESS Array B 17.40 331 P Pn 08 54 12.9 -1.9
comp=Z,2.1nm,0.3s,baz=148,slow=13,SNR=38
GERES LR LR 09 02 38.4
comp=Z,100nm,18.0s,baz=188,slow=43
comp=Z,17nm,0.8s
FUORN Ofenpass-Fuorn 17.43 320 P Pn 08 54 15.5 +0.2
FUORN IAmb IAmb 08 54 19.0
comp=Z,28nm,0.7s
FETA Feichten 17.45 322 *e*Pn Pn 08 54 14.9 -0.6
comp=Z,24nm,0.7s,SNR=16
SBF Sospel 17.61 309 *e*P Pn 08 54 17.9 +0.5
SBF pmax pmax
comp=Z,18nm,0.7s
KHC Kasperske Hory 17.68 331 *e*P Pn 08 54 15.9 -2.2
KHC Kasperske Hory 17.68 331 *ce*P Pn 08 54 16.1 -2.0
KHC pmax pmax
comp=Z,17nm,1.1s
ZVC Zvikov 17.68 333 *e*P Pn 08 54 16.5 -1.7
DPC Dobruska-Polom 17.72 338 *e*P Pn 08 54 17.7 -1.0
DPC Dobruska-Polom 17.72 338 *e*P Pn 08 54 17.7 -1.0
DAVOX Davos/Dischmat 17.74 320 P Pn 08 54 19.3 +0.2
comp=Z,1.9nm,0.3s,baz=146,slow=12,SNR=23
DAVOX LR LR 09 02 52.1
comp=Z,148nm,18.4s,baz=84,slow=43
comp=Z,14nm,0.7s
RETA Reutte 17.74 323 *i* Pn Pn 08 54 17.7 -1.3
comp=Z,5.7nm,0.4s
TUE Stuetta 17.84 318 P Pn 08 54 20.4 +0.1
GOPC GO Pecny, Ondr 17.86 335 *e*P Pn 08 54 18.1 -2.2
GOPC GO Pecny, Ondr 17.86 335 *e*P Pn 08 54 18.1 -2.2
UPC Upice 17.96 338 *e*P Pn 08 54 20.3 -1.2
UPC Upice 17.96 338 *e*P Pn 08 54 20.3 -1.2
WET Wettzell 17.97 330 P Pn 08 54 20.7 -1.1
WET pmax pmax
comp=Z,17nm,0.6s
ISO Isola 18.01 309 P Pn 08 54 21.6 -0.7
ISO pmax pmax
comp=Z,28nm,1.4s
PRU Pruhonice 18.01 334 *e*P Pn 08 54 20.3 -1.8
PRU Pruhonice 18.01 334 *e*P Pn 08 54 20.3 -1.8
CHVC Chvalec 18.01 338 *e*P Pn 08 54 21.2 -1.0
CHVC Chvalec 18.01 338 *e*P Pn 08 54 21.2 -1.0
DAVA Damuels 18.06 321 *i* Pn Pn 08 54 22.2 -0.8
comp=Z,10nm,0.5s
KSP Ksiaz 18.16 339 *e*P Pn 08 54 22.9 -1.1
KSP Ksiaz 18.16 339 P Pn 08 54 22.9 -1.1
KSP pmax pmax
comp=Z,22nm,0.8s
LLS Linth-Limmern 18.25 319 P P 08 54 25.9 +0.5
MBDF Montbardon 18.43 310 *e*P P 08 54 25.2 -2.2
MBDF pmax pmax
comp=Z,22nm,0.8s
PVCC Panska Ves 18.45 335 P P 08 54 25.5 -1.8
PVCC pmax pmax
comp=Z,49nm,0.8s
LPG La Plagne 18.82 312 *e*P P 08 54 31.0 -0.7
LPG pmax pmax
comp=Z,10.0nm,0.6s
LPL La Plagne 18.84 312 *e*P P 08 54 31.5 -0.4
LPL pmax pmax
comp=Z,7.0nm,0.4s
HSKC Hora Svate Kat 18.92 334 *e*P P 08 54 31.0 -1.6
SENIN Lac Senin/Sane 18.94 315 P P 08 54 31.6 -1.4
BRG Berggiesshubel 18.96 335 *e*P P 08 54 31.3 -1.5
BRG Amp 08 54 35.1
comp=Z,6.9nm,0.6s
BRG Berggiesshubel 18.96 335 P P 08 54 31.4 -1.5
BRG pmax pmax
comp=Z,11nm,0.9s
RSL Roselend 18.99 313 P Pn 08 54 34.5 +0.2
RSL pmax pmax
comp=Z,31nm,0.5s
NKC Novy Kostel 19.00 331 P P 08 54 32.0 -1.4
NKC pmax pmax
comp=Z,11nm,0.6s
ORIF Oris-en-Rattie 19.08 310 *e*P P 08 54 33.9 -0.6
ORIF pmax pmax
comp=Z,5.0nm,0.6s
SLE Schleitheim 19.09 320 P P 08 54 33.8 -0.7
SLE pmax pmax
comp=Z,14nm,1.5s
GRF Grafenberg Arr 19.09 328 P P 08 54 33.2 -1.3
GRF pmax pmax
comp=Z,36nm,0.8s
VSR Storozhevoye 19.26 25 *e*P P 08 54 36.0 -0.2
VSR pmax pmax
comp=Z,6.0nm,0.8s
STU Stuttgart 19.38 324 P P 08 54 37.4 -0.2
STU pmax pmax
comp=Z,32nm,0.7s
BFO Black Forest 19.53 321 P P 08 54 38.2 -1.0
BFO IAmb IAmb 08 54 43.8
comp=Z,14nm,0.5s
BFO Black Forest 19.53 321 P P 08 54 38.2 -1.0
BFO pmax pmax
comp=Z,14nm,0.5s
CLL Collm 19.65 334 P P 08 54 39.7 -0.8
CLL IAmb IAmb 08 54 41.1
comp=Z,27nm,0.6s
CLL Collm 19.65 334 *i* P P 08 54 40.0 -0.5
CLL pmax pmax
comp=Z,27nm,0.7s
CLL Collm 19.65 334 *i* P P 08 54 40.0 -0.5
comp=Z,27nm,0.7s
MOX Moxa 19.65 331 P P 08 54 40.6 0.0
MOX pmax pmax
comp=Z,11nm,0.7s
VORR Voronezh 19.66 24 *e*P P 08 54 41.1 +0.5
VORR pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 19.73 118 P P 08 54 40.8 -0.9
RAYN Ar Rayn 19.73 118 P P 08 54 42.8 +1.1
CABF La Chapelle 19.78 315 *e*P P 08 54 41.2 -0.8
CABF pmax pmax
comp=Z,24nm,0.8s
VIVF Saint-Julien-l 19.83 309 *e*P P 08 54 42.8 +0.2
VIVF pmax pmax
comp=Z,11nm,1.0s

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SUW  Suwalki          19.88 354 eP      P     08 54 42.1 -0.8
SUW  Suwalki          19.88 354 P       P     08 54 41.4 -1.5
SUW  Suwalki          19.88 354 P       P     08 54 41.4 -1.5
SUW                             pmax    pmax
     comp=Z,63nm,0.5s
SUW  Suwalki          19.88 354 eP      P     08 54 42.5 -0.4
HINF Hinteralfeld     20.01 318 eP      P     08 54 43.2 -1.3
HINF                            pmax    pmax
     comp=Z,18nm,1.0s
ECH  Echery           20.08 320 P       P     08 54 44.3 -0.9
ECH                             IAmb    IAmb  08 54 46.5
     comp=Z,13nm,0.7s
ECH  Echery           20.08 320 P       P     08 54 44.3 -0.9
ECH                             pmax    pmax
     comp=Z,13nm,0.7s
CDF  Champ du Feu     20.13 320 eP      P     08 54 45.7 -0.2
CDF                             pmax    pmax
     comp=Z,28nm,0.7s
VRH  Novokhopyorsk    20.20  29 eP      P     08 54 47.3 +0.9
VRH                             pmax    pmax
     comp=Z,47nm,1.4s
MNK  Minsk            20.25   2 i P     P     08 54 44.4 -2.6
     comp=E,36nm,1.1s
MNK                             i P     P     08 54 44.4 -2.6
     comp=N,7.0nm,0.5s
MNK                             i P     P     08 54 44.4 -2.6
     comp=Z,41nm,0.7s,baz=183
MNK                             i PP    pwP   08 55 00.8 +3.7
MNK                             i S     S     08 58 30.1 -2.6
MNK                             i SS    SnSn  08 58 48.7 -2.1
MNK                             i SSS   SSS   08 59 01.4
MNK                             i LQ    LQ    09 01 06.2
MNK                             i LR    LR    09 02 26.6
MNK                             i LRM   MLR   09 03 30.6
     comp=Z,101nm,15.2s
MNK                             i LRM   MLR   09 03 44.1
     comp=N,423nm,23.3s
MNK                             i LRM   MLR   09 03 57.7
     comp=E,455nm,23.1s
MNK  Minsk            20.25   2 i P     P     08 54 44.3 -2.6
MNK                             i S     S     08 58 30.1 -2.6
MNK                             i SSS   SSS   08 59 01.4
MNK                             pmax    pmax
     comp=Z,41nm,0.7s
MNK                             pmax    pmax
     comp=N,7.0nm,0.5s
MNK                             pmax    pmax
     comp=E,36nm,1.1s
MNK                             MLR     MLR
     comp=Z,101nm,15.0s
MNK                             MLR     MLR
     comp=N,423nm,23.0s
MNK                             MLR     MLR
     comp=E,455nm,23.0s
LPSR Galich'ya Gora   20.36  22 eP      P     08 54 49.3 +1.1
LPSR                            pmax    pmax
     comp=Z,59nm,1.6s
HAU  Haudompre        20.39 318 eP      P     08 54 47.7 -0.9
HAU                             pmax    pmax
     comp=Z,10.0nm,0.4s
NACGM Naroch          20.63   0 eP      P     08 54 49.4 -1.7
     baz=181
TNS  Taunus Mts       20.73 326 P       P     08 54 41.9 -10
TNS                             pmax    pmax
     comp=Z,43nm,0.8s
IIGN Ignalina         21.08 360 eP      P     08 54 54.0 -2.0
PABE Paberze          21.30 356 P       P     08 54 56.8 -1.6
PABE Paberze          21.30 356 eP      P     08 54 58.9 +0.5
CEST Esterri de Car   21.41 300 P       P     08 54 59.6 -0.2
CEST                            IAmb    IAmb  08 55 25.8
     comp=Z,18nm,1.1s
LOR  Lormes           21.43 314 eP      P     08 54 58.2 -1.6
LOR                             pmax    pmax
     comp=Z,11nm,0.7s
WLF  Walferdange      21.48 322 dP      P     08 55 00.1 -0.2
WLF  Walferdange      21.48 322 P       P     08 55 00.2 -0.2
WLF                             pmax    pmax
     comp=Z,27nm,1.1s
AVF  Avril sur Loir   21.51 312 eP      P     08 54 59.5 -1.1
AVF                             pmax    pmax
     comp=Z,10.0nm,0.7s
SSF  Saint Saulge     21.54 313 eP      P     08 54 59.6 -1.4
SSF                             pmax    pmax
     comp=Z,27nm,0.7s
CAF  Calviac          21.57 307 eP      P     08 55 03.5 +2.2
CAF                             pmax    pmax
     comp=Z,11nm,1.2s
TAM  Tamanrasset      21.67 244 P       P     08 55 01.1 -1.6
TAM                             IAmb    IAmb  08 55 17.2
     comp=Z,18nm,1.3s
TAM  Tamanrasset      21.67 244 P       P     08 55 01.1 -1.6
TAM                             pmax    pmax
     comp=Z,18nm,1.3s
BGF  Bois d'Agland    21.72 311 eP      P     08 55 04.8 +1.9
BGF                             pmax    pmax
     comp=Z,17nm,0.6s
VSVD Vaisvydziai      21.78 356 eP      P     08 55 02.7 -0.7
OBN  Obninsk          21.98  16 P       P     08 55 06.8 +1.2
OBN  Obninsk          21.98  16 P       P     08 55 06.4 +0.8
     comp=Z,29nm,0.5s,baz=192,slow=14,SNR=6.4
     comp=Z,29nm,0.5s
OBN  Obninsk          21.98  16 ⇓P      P     08 55 07.7 +2.1
OBN  Obninsk          21.98  16⇓eP      P     08 55 07.3 +1.7
OBN                             e               08 55 25.7
OBN                             eS      S     08 59 07.1 +0.3
OBN                             pmax    pmax
     comp=Z,20nm,0.8s
OBN                             MLR     MLR
     comp=Z,79nm,17.0s
BHOU Houvegnez        21.99 323 dP      P     08 55 06.3 +0.5
     comp=Z,17nm,0.7s
RJF  Les Rejaudoux    22.06 307 eP      P     08 55 08.9 +2.2
RJF                             pmax    pmax
     comp=Z,16nm,1.2s
BTNL Ternell          22.08 324 dP      P     08 55 06.9 +0.2
     comp=Z,30nm,0.8s
BUG  Bochum--Univer   22.11 327 P       P     08 55 07.0  0.0
BUG                             pmax    pmax
     comp=Z,39nm,1.0s
MEM  Membach          22.15 324 dP      P     08 55 07.7 +0.2
     comp=Z,44nm,0.8s
MEM  Membach          22.15 324 P       P     08 55 07.7 +0.2
MEM                             pmax    pmax
     comp=Z,62nm,0.8s
RCHB Rochefort        22.26 322 dP      P     08 55 07.6 -1.0
     comp=Z,14nm,0.7s
BSTI Sart Tilman      22.35 323 dP      P     08 55 10.3 +0.6
     comp=Z,6.1nm,0.8s
BSD  Bornholm Skovb   22.36 342 eP      P     08 55 07.8 -1.8
BSD  Bornholm Skovb   22.36 342 i P     P     08 55 06.8 -2.8
BCLA Clavier          22.38 323 dP      P     08 55 08.6 -1.4
GIVF Givet            22.43 321 eP      P     08 55 09.7 -0.8
GIVF                            pmax    pmax
     comp=Z,24nm,0.6s
BGES Gesves           22.47 322 dP      P     08 55 10.6 -0.3
DOU  Dourbes          22.55 321 dP      P     08 55 10.4 -1.3
     comp=Z,27nm,0.6s
BMRD Maredsous        22.58 322 dP      P     08 55 11.9 -0.2
     comp=Z,16nm,0.7s
BAIF Baives           22.73 321 eP      P     08 55 12.0 -1.7
BAIF                            pmax    pmax
     comp=Z,50nm,0.5s
CLF  Chambon-Foret    22.74 314 P       P     08 55 14.0 +0.1
CLF                             IAmb    IAmb  08 55 16.4
     comp=Z,26nm,0.7s
ETSF Etsaut           22.78 300 eP      P     08 55 14.1 -0.3
ETSF                            pmax    pmax
     comp=Z,24nm,1.6s
MOS  Moscow           22.80  16 eP      P     08 55 08.6 -5.7
MOS                             ePPP    PPP   08 55 41.8
MOS                             eS      S     08 59 15.7 -6.0
UCC  Uccle            23.09 322 P       P     08 55 17.5 +0.1
UCC                             IAmb    IAmb  08 55 18.9
     comp=Z,27nm,0.8s
UCC  Uccle            23.09 322 dP      P     08 55 18.1 +0.8
     comp=Z,25nm,0.7s
UCC  Uccle            23.09 322 P       P     08 55 17.5 +0.1
UCC                             pmax    pmax
     comp=Z,27nm,0.8s
LUNU Lund             23.20 341 i P     P     08 55 15.6 -2.9
BLEU Blekinge         23.23 345 i P     P     08 55 15.0 -3.7
SLIT Slitere, Latvi   23.54 354 eP      P     08 55 20.9 -0.8
BJUU Bjuv             23.70 341 i P     P     08 55 20.1 -3.3
DEL  Delary           23.84 342 i P     P     08 55 21.1 -3.5
VSU  Vasula           24.20   0 i P     P     08 55 29.5 +1.6
VSU                             pmax    pmax
     comp=Z,21nm,1.1s
VSU  Vasula           24.20   0 eP      P     08 55 26.5 -1.5
LDF  La Druitiere     24.42 314 eP      P     08 55 28.8 -1.3
LDF                             pmax    pmax
     comp=Z,9.0nm,0.4s
MTSE Matsula          24.52 357 eP      P     08 55 30.6 -0.2
FABU Falkenberg       24.60 342 i P     P     08 55 29.7 -2.0
FLN  La Foliniere     24.70 314 eP      P     08 55 30.8 -1.9
FLN                             pmax    pmax
     comp=Z,10.0nm,0.4s
ESBB Sonseca Array    24.88 291 P       P     08 55 34.4  0.0
ESBB                            IAmb    IAmb  08 55 44.3
     comp=Z,7.5nm,0.8s
ESDC Sonseca Array    24.88 291 P       P     08 55 34.5  0.0
ESDC                            IAmb    IAmb  08 55 59.4
     comp=Z,32nm,1.5s
ESDC Sonseca Array    24.88 291 P       P     08 55 34.5  0.0
     comp=Z,3.3nm,0.5s,baz=79,slow=9.5,SNR=36
     comp=Z,3.3nm,0.5s
BORU Boraas           25.15 342 i P     P     08 55 35.5 -1.1
ONAU Onsala           25.16 341 i P     P     08 55 36.3 -0.4
ARBE Arbavere         25.18 359 eP      P     08 55 37.1 +0.2
PUL  Pulkovo          25.63   4 eP      P     08 55 42.7 +1.7
PUL                             pmax    pmax
     comp=Z,77nm,0.8s
TJOU Tjoern           25.79 342 i P     P     08 55 41.4 -1.0
MEF  Metsahovi        25.99 358 eP      P     08 55 42.8 -1.5
QUIF Quistinic        26.01 311 eP      P     08 55 43.3 -1.3
QUIF                            pmax    pmax
     comp=Z,83nm,1.4s
ROSF Rostrenen        26.23 311 eP      P     08 55 45.1 -1.5
ROSF                            pmax    pmax
     comp=Z,54nm,1.3s
STRU Stroemstad       26.78 342 i P     P     08 55 50.7 -0.7
RAF  Rauma            26.94 355 eP      P     08 55 51.5 -1.3
PBRG Braganca         27.14 296 eP      P     08 55 54.4 -0.5
FINES FINESS Array B  27.19 360 P       P     08 55 53.4 -1.7
FINES FINESS Array B  27.19 360 P       P     08 55 53.6 -1.4
     comp=Z,7.9nm,0.4s,baz=158,slow=11,SNR=108
FINES                           LR      LR    09 08 21.0
     comp=Z,72nm,19.6s,baz=178,slow=40
     comp=Z,7.9nm,0.4s
FIA1 FINESS Array S   27.19 360 P       P     08 55 53.1 -1.9
HFS  Hagfors          27.20 346 P       P     08 55 53.1 -2.0
     comp=Z,4.3nm,0.3s,baz=144,slow=11,SNR=39
HFS                             LR      LR    09 08 55.3
     comp=Z,69nm,19.3s,baz=145,slow=42
     comp=Z,4.3nm,0.3s
PBAR Barrancos        27.27 288 eP      P     08 55 55.9 -0.2
MVO  Moncorvo         27.30 295 eP      P     08 55 56.4  0.0
PMRV Marv??o          27.52 291 eP      P     08 55 57.9 -0.4
PESTR Estremoz        27.68 290 eP      P     08 55 59.4 -0.4
PVAQ Vaqueiros        27.85 286 P       P     08 56 01.0 -0.2
PVAQ                            IAmb    IAmb  08 56 29.1
     comp=Z,11nm,1.1s
PVAQ Vaqueiros        27.85 286 eP      P     08 56 01.1 -0.1
KLMR Klimovskoe       27.89  14 eP      P     08 55 59.5 -1.8
KLMR                            pmax    pmax
     comp=Z,37nm,2.0s
KEF  Keuruu           27.93 358 eP      P     08 56 00.6 -1.0
EVO  Evora            28.02 289 eP      P     08 56 04.3 +1.5
PBDV Barranco-do-Ve   28.03 286 eP      P     08 56 02.5 -0.4
AKTO Aktyubinsk       28.05  45 LR      LR    09 09 10.4
     comp=Z,54nm,18.6s,baz=48,slow=41
PCVE Castro Verde     28.09 287 eP      P     08 56 02.9 -0.5
NORES NORESS Array B  28.20 344 P       P     08 56 02.9 -1.2
MESJ Messejana        28.22 287 eP      P     08 56 04.2 -0.3
MESJ                            IAmb    IAmb  08 56 09.3
     comp=Z,40nm,1.8s
MESJ Messejana        28.22 287 eP      P     08 56 04.3 -0.2
MESJ Messejana        28.22 287 eP      P     08 56 04.2 -0.3
NAO01 NORSAR Array S  28.45 344 P       P     08 56 04.1 -2.2
NAO01                           IAmb    IAmb  08 56 17.8
     comp=Z,13nm,1.0s
NB2  NORSAR Subarra   28.55 344 P       P     08 56 05.4 -1.8
     comp=Z,0.5nm,0.4s,baz=156,slow=9.3
NB2  NORSAR Subarra   28.55 344 P       P     08 56 03.7 -3.5
NOA  NORSAR Array B   28.55 344 P       P     08 56 03.2 -4.0
     comp=Z,0.4nm,0.4s,baz=152,slow=9.4,SNR=13
NOA                             LR      LR    09 09 01.9
     comp=Z,36nm,18.4s,baz=140,slow=40
KIRV Kirov            28.70  25 LR      LR    09 08 52.3
     comp=Z,54nm,18.9s,baz=227,slow=39
ABKAR Abkulak array   28.79  49 P       P     08 56 10.6 +1.1
ABKAR Abkulak array   28.79  49 P       P     08 56 10.6 +1.1
JOF  Joensuu          28.82   5 eP      P     08 56 08.6 -1.0
VAF  Ylistaro         28.89 356 eP      P     08 56 09.0 -1.2
EKA  Eskdalemuir Ar   29.41 325 P       P     08 56 14.7 -0.3
     comp=Z,3.4nm,0.5s,baz=118,slow=12,SNR=31
     comp=Z,3.4nm,0.5s
TORD Torodi Ar. Bea   30.82 233 P       P     08 56 27.0 -0.7
TORD                            IAmb    IAmb  08 56 43.4
     comp=Z,9.6nm,0.8s
TORD Torodi Ar. Bea   30.82 233 P       P     08 56 28.1 +0.4
     comp=Z,2.6nm,0.5s,baz=33,slow=11,SNR=3.8
     comp=Z,2.6nm,0.5s
ARTI Arti             31.01  35 P       P     08 56 29.2 +0.1
ARTI                            IAmb    IAmb  08 56 42.1
     comp=Z,6.3nm,0.9s
ARTI Arti             31.01  35 LR      LR    09 11 28.6
     comp=Z,63nm,18.4s,baz=239,slow=41
ARTI Arti             31.01  35 d i P   P     08 56 29.5 +0.4
ARTI                                            08 57 28.9
ARTI                            S       S     09 01 36.6 +4.3
ARTI                            SS      SnSn  09 03 20.2 +6.6
ARTI                            pmax    pmax
     comp=Z,8.0nm,1.6s
LVZ  Lovozero         33.99   5 P       P     08 56 53.9 -1.2
LVZ  Lovozero         33.99   5 P       P     08 56 53.9 -1.2
LVZ                             pmax    pmax
     comp=Z,53nm,1.5s
KKAR Karatay Array    35.11  62 P       P     08 57 05.9 +0.9
KKAR Karatay Array    35.11  62 P       P     08 57 05.9 +0.9
ARCES ARCESS Array B  35.32 359 P       P     08 57 04.9 -1.5
ARCES                           IAmb    IAmb  08 57 13.1
     comp=Z,13nm,1.1s
ARCES ARCESS Array B  35.32 359 P       P     08 57 05.0 -1.4
     comp=Z,5.2nm,0.4s,baz=174,slow=9.0,SNR=79
     comp=Z,5.2nm,0.4s
KEV  Kevo             35.54   0 P       P     08 57 07.2 -1.1
KEV  Kevo             35.54   0 P       P     08 57 07.2 -1.1
KEV                             pmax    pmax
     comp=Z,36nm,1.3s
BRVK Borovoye         36.10  45 eP      P     08 57 14.5 +1.1
BRVK                            pmax    pmax
     comp=Z,4.0nm,1.3s
BVAR Borovoye Array   36.16  45 P       P     08 57 15.4 +1.6
     comp=Z,2.6nm,0.6s,baz=257,slow=5.9,SNR=11
BVAR                            LR      LR    09 16 25.0
     comp=Z,72nm,18.4s,baz=262,slow=44
     comp=Z,2.6nm,0.6s
KMBO Kilima Mbogo     36.63 162 LR      LR    09 12 01.7
     comp=Z,70nm,21.0s,baz=76,slow=36
ARSB Arslanbob        37.02  65 P       P     08 57 22.9 +1.4
ARSB                            IAmb    IAmb  08 57 58.8
     comp=Z,11nm,1.2s
ARSB Arslanbob        37.02  65 P       P     08 57 23.0 +1.4
ARSB                            pmax    pmax
     comp=Z,11nm,1.2s
AAK  Ala-Archa        38.05  63 P       P     08 57 31.1 +0.8
AAK  Ala-Archa        38.05  63 eP      P     08 57 32.1 +1.8
AAK                             pmax    pmax
     comp=Z,2.0nm,0.8s
DBIC Dimbokro         39.92 234 P       P     08 57 45.4 -0.6
DBIC                            IAmb    IAmb  08 58 13.5
     comp=Z,14nm,1.2s
DBIC Dimbokro         39.92 234 P       P     08 57 44.9 -1.1
     comp=Z,3.2nm,0.6s,baz=36,slow=6.9,SNR=4.8
     comp=Z,3.2nm,0.6s
DBIC Dimbokro         39.92 234 P       P     08 57 45.4 -0.6
DBIC                            pmax    pmax
     comp=Z,14nm,1.2s
KDJ  Kajisay          40.07  63 P       P     08 57 48.7 +1.5
KDJ  Kajisay          40.07  63 P       P     08 57 48.7 +1.5
KDJ                             pmax    pmax
     comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra  40.81  50 P       P     08 57 54.4 +1.4
     comp=Z,5.4nm,0.7s,baz=277,slow=8.8,SNR=50
     comp=Z,5.4nm,0.7s
KURK Kurchatov        40.87  50 P       P     08 57 54.6 +1.2
KURK                            IAmb    IAmb  08 57 55.7
     comp=Z,6.7nm,0.8s
KURK Kurchatov        40.87  50 i P     P     08 57 54.3 +0.8
KURK                            pmax    pmax
     comp=Z,7.0nm,0.9s
MAKZ Makanchi         43.11  56 P       P     08 58 12.2 +0.3
MAKZ Makanchi         43.11  56 P       P     08 58 12.2 +0.3
MAKZ                            pmax    pmax
     comp=Z,3.0nm,0.6s
MK31 Makanchi Array   43.33  56 P       P     08 58 14.7 +1.0
MK31                            IAmb    IAmb  08 58 15.7
     comp=Z,4.4nm,0.7s
MK31 Makanchi Array   43.33  56 ceP     P     08 58 14.8 +1.2
MKAR Makanchi Array   43.33  56 P       P     08 58 14.2 +0.6
MKAR Makanchi Array   43.33  56 P       P     08 58 14.9 +1.3
     comp=Z,4.6nm,0.6s,baz=277,slow=6.6,SNR=74
     comp=Z,4.6nm,0.6s
MKAR Makanchi Array   43.33  56 P       P     08 58 14.2 +0.6
SPITS Spitsbergen Ar  44.23 357 P       P     08 58 19.7 -0.7
     comp=Z,2.4nm,0.4s,baz=134,slow=8.3,SNR=24
     comp=Z,2.4nm,0.4s
ZAA0 Zalesovo Array   44.81  46 P       P     08 58 25.8 +0.5
ZALV Zalesovo Beam    44.81  46 P       P     08 58 25.4 +0.1
ZALV Zalesovo Beam    44.81  46 P       P     08 58 26.1 +0.8
     comp=Z,8.0nm,0.5s,baz=268,slow=8.8,SNR=32
ZALV                            LR      LR    09 22 01.4
     comp=Z,44nm,19.4s,baz=258,slow=43
     comp=Z,8.0nm,0.5s
DAG  Danmarks Havn    47.16 347 P       P     08 58 44.8 +1.2
DAG                             pmax    pmax
     comp=Z,7.0nm,2.3s
DAG  Danmarks Havn    47.16 347 i P     P     08 58 41.9 -1.6
NRIK Noril'sk         48.21  25 P       P     08 58 52.4 +0.6
NRIK                            IAmb    IAmb  08 59 05.5
     comp=Z,5.1nm,1.1s
NRIK Noril'sk         48.21  25 P       P     08 58 52.3 +0.6
     comp=Z,1.9nm,0.5s,baz=228,slow=6.3,SNR=5.3
     comp=Z,1.9nm,0.5s
NRIK Noril'sk         48.21  25 i P     P     08 58 53.5 +1.7
NRIK                            pmax    pmax
     comp=Z,2.0nm,0.9s
SUMG Summit           50.21 339 P       P     08 59 07.2 -0.3
SUMG                            IAmb    IAmb  08 59 42.9
     comp=Z,16nm,1.3s
SUMG Summit           50.21 339 P       P     08 59 07.2 -0.3
SUMG                            pmax    pmax
     comp=Z,16nm,1.3s
SUMG Summit           50.21 339 i P     P     08 59 06.9 -0.6
NEEM North Greenlan   54.13 345 i P     P     08 59 35.5 -1.0
MOY  Mondy            54.78  47 eP      P     08 59 43.7 +2.3
MOY                             pmax    pmax
     comp=Z,7.0nm,1.4s
SONM Songino Array    59.18  51 P       P     09 00 14.2 +1.6
     comp=Z,1.6nm,0.6s,baz=283,slow=7.4,SNR=13
     comp=Z,1.6nm,0.6s
ULN  Ulaanbaatar      59.59  50 i P     P     09 00 16.7 +1.3
ULN                             pmax    pmax
     comp=Z,4.0nm,1.1s
EUNU Eureka           60.27 349 P       P     09 00 19.5 -0.1
EUNU                            IAmb    IAmb  09 00 45.0
     comp=Z,6.2nm,1.3s
TIXI Tiksi            61.60  21 P       P     09 00 28.4 -0.2
TIXI                            IAmb    IAmb  09 00 42.1
     comp=Z,5.2nm,1.1s
TIXI Tiksi            61.60  21 i P     P     09 00 29.0 +0.5
TIXI                            pmax    pmax
     comp=Z,2.0nm,0.9s
SCHQ Schefferville    64.59 320 P       P     09 00 48.8 +0.1
SCHQ Schefferville    64.59 320 P       P     09 00 48.3 -0.4
     comp=Z,6.1nm,0.4s,baz=65,slow=4.2,SNR=53
     comp=Z,6.1nm,0.4s
RES  Resolute Bay     64.81 345 P       P     09 00 49.5 -0.3
RES                             IAmb    IAmb  09 01 03.5
     comp=Z,5.9nm,1.4s
RES  Resolute Bay     64.81 345 P       P     09 00 49.5 -0.3
RES                             pmax    pmax
     comp=Z,6.0nm,1.5s
CMAR Chiang Mai Arr   65.55  84 P       P     09 00 56.2 +0.8
     comp=Z,2.3nm,0.7s,baz=294,slow=8.2,SNR=10
CMAR                            LR      LR    09 34 27.7
     comp=Z,21nm,18.8s,baz=305,slow=40
     comp=Z,2.3nm,0.7s
YAK  Yakutsk          66.08  30 i P     P     09 00 58.8 +0.7
YAK                             pmax    pmax
     comp=Z,7.0nm,0.7s
HIA  Hailar           66.85  45 i P     P     09 01 04.9 +1.5
HIA                             pmax    pmax
     comp=Z,5.0nm,1.0s
A36M Sachs Harbour    72.20 351 P       P     09 01 36.2 +0.2
A36M                            IAmb    IAmb  09 01 37.2
     comp=Z,5.6nm,0.8s
BILL Bilibino         73.64  15 i P     P     09 01 45.8 +1.2
BILL                            pmax    pmax
     comp=Z,1.0nm,1.0s
KLR  Kul'dur          73.69  41 i P     P     09 01 46.1 +0.9
KLR                             pmax    pmax
     comp=Z,2.0nm,1.1s
SEY  Seymchan         73.94  23 i P     P     09 01 47.6 +1.2
SEY                             pmax    pmax
     comp=Z,1.0nm,1.0s
C36M Paulatuk         74.45 350 P       P     09 01 48.9 -0.3
MA2  Magadan          75.80  26 LR      LR    09 38 09.3
     comp=Z,32nm,18.1s,baz=329,slow=38
MA2  Magadan          75.80  26 ceP     P     09 01 58.8 +1.6
MA2                             pmax    pmax
     comp=Z,7.0nm,1.3s
USRK Ussuriysk Ar.    76.66  45 P       P     09 02 03.0 +0.6
     comp=Z,3.1nm,0.8s,baz=297,slow=4.5,SNR=8.5
     comp=Z,3.1nm,0.8s
USRK Ussuriysk Ar.    76.66  45 P       P     09 02 03.0 +0.6
F31M Tsiigehtchic     77.50 352 P       P     09 02 06.5 -0.2
F31M                            IAmb    IAmb  09 02 21.0
     comp=Z,5.7nm,0.8s
KSRS Korea Array      77.92  53 P       P     09 02 10.1 +0.5
     comp=Z,1.0nm,0.6s,baz=301,slow=5.8,SNR=5.1
     comp=Z,1.0nm,0.6s
YKA  Yellowknife Ar   78.63 343 P       P     09 02 13.1  0.0
     comp=Z,0.7nm,0.6s,baz=30,slow=5.2,SNR=21
     comp=Z,0.7nm,0.6s
FFC  Flin Flon        80.94 333 P       P     09 02 25.6 -0.1
FFC  Flin Flon        80.94 333 P       P     09 02 25.6 -0.1
FFC                             pmax    pmax
     comp=Z,3.0nm,1.0s
ILAR Eielson Array    81.15 357 P       P     09 02 26.8 +0.1
     comp=Z,0.6nm,0.6s,baz=340,slow=3.3,SNR=14
     comp=Z,0.6nm,0.6s
ULM  Lac du Bonnet    81.67 327 P       P     09 02 29.5 -0.2
     comp=Z,1.6nm,0.8s,baz=11,slow=5.4,SNR=3.7
     comp=Z,1.6nm,0.8s
P32M Atlin            85.06 350 P       P     09 02 47.5 +0.4
MJAR Matsushiro Arr   85.07  49 P       P     09 02 46.5 -1.0
     comp=Z,2.0nm,0.9s,baz=299,slow=8.5,SNR=4.2
     comp=Z,2.0nm,0.9s
S34M Telegraph Cree   86.26 348 P       P     09 02 54.9 +1.9
PDAR Pinedale Array   93.44 329 P       P     09 03 27.5 +0.1
     comp=Z,0.5nm,1.0s,baz=49,slow=6.8,SNR=2.7
     comp=Z,0.5nm,1.0s
WRA  Warramunga Arr   115.36  98 PKP     PKPdf 09 08 52.9 -0.8
     comp=Z,0.4nm,0.9s,baz=308,slow=1.8,SNR=4.9
ASAR Alice Springs    116.78 101 PKIKP   PKPdf 09 08 56.0 -0.3
     comp=Z,0.3nm,0.7s,baz=313,slow=1.6,SNR=4.7
ASAR Alice Springs    116.78 101 PKIKP   PKPdf 09 08 56.0 -0.3
QSPA South Pole Qui   124.13 180 PKP     PKiKP 09 09 12.1 +2.7
     comp=Z,2.2nm,1.0s,baz=233,slow=2.8,SNR=6.2
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RSNC ***16*** *09:01:41.2±0.0, 10°N±8°×7°0W±°, h38km, M2.2, ML2.2, MLv2.9*

FUNV ***16*** *09:01:43.8, 9°82N×70°68W, h5km, MW3.1*

ISC 16 09:01:37.7±0.8, **10°06N**±0°04×**70°49W**±0°03, **h10km, n20,** σ1°**48**/33, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.17**	**187**	P	**Pn**	**09 02 00.8**	**+0.4**
SDV				S	**Sg**	**09 02 13.8**	**-1.8**
SDV	**Santo Domingo**	**1.17**	**187**	P	**Pn**	**09 02 00.8**	**+0.4**
SDV				S	**Sg**	**09 02 13.8**	**-1.8**
TEPV	**Terepaima**	**1.29**	**94**	*e*P	Pg	09 02 10.5	+8.1
TEPV				*e*S	Sg	09 02 29.9	+11
SOCV	**Socops**	**1.80**	**191**	*e*P	**Pg**	**09 02 11.2**	**-1.0**
SOCV				*e*S	**Sb**	**09 02 32.1**	**-1.3**
MCQV	**Machiques**	**2.01**	**270**	*e*P	**Pb**	**09 02 14.8**	**+0.4**
MCQV				*e*S	**Sb**	**09 02 39.7**	**+0.3**
URIC	**Uribia, Colomb**	**2.20**	**318**	P	**Pn**	**09 02 14.0**	**-0.3**
URIC				S	**Sb**	**09 02 44.5**	**-0.4**
URIC	**Uribia, Colomb**	**2.20**	**318**	P	**Pn**	**09 02 14.0**	**-0.3**
URIC				S	**Sb**	**09 02 44.5**	**-0.4**
CRJC	**Cerrejon, Guaj**	**2.54**	**292**	P	Pn	09 02 11.9	-7.1
CRJC				S	**Sn**	**09 02 49.6**	**-0.4**

CRJC	**Cerrejon, Guaj**	**2.54 292**	P	Pn	09 02 11.9	-7.1
CRJC			S	**Sn**	**09 02 49.6**	**-0.4**
BAUV	**El Baul**	**2.66 114**	*e*P	**Pg**	**09 02 27.8**	**-1.0**
BAUV			*e*S	**Sg**	**09 03 01.0**	**-2.3**
CAPV	**Capacho**	**2.83 220**	*e*P	**Pn**	**09 02 25.5**	**+2.4**
BENV	**Beln**	**2.85 92**	*e*P	**Pg**	**09 02 32.8**	**+0.3**
OCAC	**Ocana**	**3.33 237**	P	**Pn**	**09 02 31.1**	**+1.2**
OCAC			S	**Sb**	**09 03 15.9**	**-1.6**
OCAC	**Ocana**	**3.33 237**	P	**Pn**	**09 02 31.1**	**+1.2**
OCAC			S	**Sb**	**09 03 15.9**	**-1.6**
TACV	**Tcata**	**3.42 88**	*e*P	**Pb**	**09 02 39.0**	**+0.6**
SJCC	**San Jacinto, C**	**4.62 268**	P	**Pn**	**09 02 49.5**	**+1.8**
SJCC			S	**Sn**	**09 03 41.3**	**-0.1**
SJCC	**San Jacinto, C**	**4.62 268**	P	**Pn**	**09 02 49.5**	**+1.8**
SJCC			S	**Sn**	**09 03 41.3**	**-0.1**
CACV	**CAICARA DEL OR**	**4.63 122**	*e*P	**Pb**	**09 02 59.9**	**+0.8**
CACV			*e*S	**Sb**	**09 03 57.0**	**+2.2**
ZARC	**Zaragoza, Cauc**	**5.01 240**	P	**Pn**	**09 02 53.1**	**+0.1**
ZARC			S	**Sb**	**09 04 09.3**	**+3.4**
ZARC	**Zaragoza, Cauc**	**5.01 240**	P	**Pn**	**09 02 53.1**	**+0.1**
ZARC			S	**Sb**	**09 04 09.3**	**+3.4**

*NEIC **16** 09:22:33.8±1.6, 66°.24N±0°.02×157°.21W±0°.06, h10km±1km, Error ellipse: s-maj=4.6km s-min=3.2km az=245.0*

AEIC 16 09:22:33.0±1.4, 66°.26N±0°.02×157°.21W±0°.06, h4km±1km, ML3.3, ML3.5/140(NEIC), Error ellipse: s-maj=3.4km s-min=2.3km az=75.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.13**	**157**		Pg	09 22 35.9	+0.3
G19K					Sg	09 22 38.2	+0.9
G19K				IAML		09 22 38.4	
	comp=N,20μm,0.3s						
F19K	**Shaleruckik Mo**	**0.62**	**339**		Pg	09 22 44.6	-0.2
F19K					Sg	09 22 53.2	+0.4
G18K	**Tagagawik**	**0.69**	**239**		Pg	09 22 46.5	+0.2
G18K					Sb	09 22 56.7	-0.8
H19K	**Roundabout Mou**	**0.80**	**157**		Pg	09 22 48.1	-0.2
H19K				IAML		09 23 04.3	
	comp=N,2μm,0.3s						
F20K	**Avaraart Lake**	**0.99**	**36**		Pg	09 22 51.1	-0.8
F18K	**Selawik**	**1.04**	**290**		Pg	09 22 52.9	0.0
F18K					Sb	09 23 07.6	+0.1
E19K	**Redstone River**	**1.20**	**360**		Pg	09 22 55.5	-0.5
H18K	**Honhosa River**	**1.21**	**204**		Pg	09 22 55.3	-0.9
H18K					Sg	09 23 11.3	-0.5
H18K				IAML		09 23 14.8	
	comp=E,748nm,0.4s						
H18K				IAML		09 23 15.9	
	comp=N,1μm,0.5s						
H20K	**Anotleneega Mo**	**1.23**	**128**		Pg	09 22 55.8	-0.7
H20K					Sg	09 23 12.3	-0.1
G21K	**Allakaket**	**1.51**	**79**		Pn	09 23 00.3	-0.5
GCSA	**Galena City Sc**	**1.53**	**175**		Pn	09 23 01.1	+0.1
GCSA					Sb	09 23 21.5	+0.1
G17K	**Kiwalik Mounta**	**1.61**	**243**		Pn	09 23 01.5	-0.5
F17K	**Baldwin Pennin**	**1.64**	**278**		Pn	09 23 02.4	-0.1
F17K				IAML		09 23 29.9	
	comp=E,588nm,1.0s						
F17K				IAML		09 23 32.8	
	comp=N,477nm,0.9s						
H17K	**Granite Mounta**	**1.74**	**221**		Pn	09 23 03.8	-0.1
H17K				IAML		09 23 29.4	
	comp=E,564nm,0.5s						
H17K				IAML		09 23 30.1	
	comp=N,488nm,0.6s						
F21K	**Alatna River**	**1.77**	**55**		Pn	09 23 04.0	-0.3
F21K				IAML		09 23 35.3	
	comp=N,641nm,0.6s						
E18K	**Tukpahlearik C**	**1.78**	**313**	Pn	Pn	09 23 05.1	+0.7
E18K				IAML		09 23 30.6	
	comp=N,364nm,0.6s						
I20K	**Naaghedeneel**	**1.86**	**141**		Pn	09 23 06.1	+0.6
H21K	**Melozitna Rive**	**1.90**	**107**		Pn	09 23 05.8	-0.4
H21K				IAML		09 23 36.0	
	comp=N,456nm,0.5s						
E17K	**Hotham Inlet**	**2.02**	**296**		Pn	09 23 07.4	-0.3
E20K	**Nigu River**	**2.04**	**11**		Pn	09 23 08.7	+0.6
E20K					Sn	09 23 35.1	+1.0
D19K	**Kuna River**	**2.27**	**352**	Pn	Pn	09 23 12.6	+1.3
D19K				IAML		09 23 46.4	
	comp=E,400nm,0.6s						
D19K				IAML		09 23 47.7	
	comp=N,248nm,1.1s						
G16K	**Koyuk River**	**2.29**	**250**		Pn	09 23 10.6	-0.9
G16K				IAML		09 23 49.2	
	comp=E,242nm,0.6s						
F22K	**John River**	**2.35**	**55**		Pn	09 23 12.0	-0.3
J19K	**Poorman**	**2.37**	**163**		Pn	09 23 12.9	+0.3
J19K				IAML		09 23 47.0	
	comp=E,249nm,0.7s						
J19K				IAML		09 23 47.1	
	comp=N,247nm,0.7s						
I21K	**Tanana**	**2.42**	**114**		Pn	09 23 12.6	-0.6
I21K				IAML		09 23 50.3	
	comp=E,327nm,0.3s						
I21K				IAML		09 23 50.9	
	comp=N,251nm,0.5s						
D20K	**Etivluk River**	**2.47**	**5**		Pn	09 23 14.4	+0.4
E21K	**Killik River**	**2.52**	**28**		Pn	09 23 15.1	+0.4
E21K				IAML		09 24 02.5	
	comp=N,211nm,0.7s						
H16K	**Elim**	**2.66**	**235**		Pn	09 23 15.4	-1.1
D17K	**Noatak River**	**2.72**	**305**		Pn	09 23 17.6	+0.2
I17K	**Unalakleet**	**2.81**	**213**	Pn	Pn	09 23 19.1	+0.6
I17K				IAML		09 24 08.9	
	comp=N,236nm,0.7s						
J18K	**Innoko River**	**2.82**	**175**		Pn	09 23 18.7	0.0
E22K	**Anaktuvuk Pass**	**2.82**	**46**		Pn	09 23 19.7	+0.9
C18K	**Utukok River**	**2.85**	**329**		Pn	09 23 19.3	+0.1
RDOG	**Red Dog Mine**	**2.86**	**312**	Pn	Pn	09 23 20.4	+1.1
G23K	**Bananza Creek**	**2.92**	**78**	Pn	Pn	09 23 19.7	-0.4
G23K				IAML		09 24 06.1	
	comp=E,204nm,0.6s						
COLD	**Coldfoot**	**2.94**	**68**		Pn	09 23 20.0	-0.5
J17K	**VABM Dome**	**2.98**	**196**		Pn	09 23 21.2	+0.2
J17K				IAML		09 24 15.3	
	comp=E,159nm,1.0s						
J17K				IAML		09 24 17.1	
	comp=N,115nm,0.6s						
C21K	**Knifeblade Rid**	**3.05**	**17**		Pn	09 23 22.1	+0.2
F15K	**North Star Dit**	**3.09**	**263**		Pn	09 23 21.7	-0.8
F15K				IAML		09 24 14.5	
	comp=E,144nm,0.4s						
F15K				IAML		09 24 18.6	
	comp=N,132nm,0.8s						
D22K	**Ayikyak River**	**3.15**	**31**		Pn	09 23 24.0	+0.7
D22K				IAML		09 24 21.1	
	comp=N,134nm,0.8s						
D22K				IAML		09 24 22.0	
	comp=E,158nm,0.7s						
H23K	**Yukon River**	**3.16**	**94**		Pn	09 23 24.1	+0.7
CHUM	**Lake Minchumin**	**3.16**	**137**		Pn	09 23 23.7	+0.3
J16K	**Anvik River**	**3.32**	**207**		Pn	09 23 26.4	+0.7
J16K				IAML		09 24 23.3	
	comp=E,158nm,0.6s						
J16K				IAML		09 24 23.4	
	comp=N,108nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.40**	**127**		Pn	09 23 27.0	+0.2
BPAW				IAML		09 24 24.8	
	comp=N,84nm,0.7s						
I23K	**Minto, Yukon-K**	**3.43**	**105**		Pn	09 23 27.8	+0.7
E23K	**Chandalar**	**3.47**	**55**		Pn	09 23 27.9	+0.2
E23K				IAML		09 24 28.1	
	comp=E,117nm,0.7s						
E23K				IAML		09 24 31.6	
	comp=N,130nm,0.7s						
B21K	**Ikpikpuk River**	**3.52**	**15**	Pn	Pn	09 23 27.8	-0.4
B21K				IAML		09 24 31.8	
	comp=E,124nm,0.8s						
B21K				IAML		09 24 38.5	
	comp=N,136nm,0.8s						
B18K	**Kokolik River**	**3.57**	**333**		Pn	09 23 29.5	+0.5
K17K	**Iditarod**	**3.59**	**188**		Pn	09 23 29.1	-0.2
K17K				IAML		09 24 31.7	
	comp=N,77nm,1.1s						
K17K				IAML		09 24 41.4	
	comp=E,88nm,1.1s						
CAST	**Castle Rocks**	**3.60**	**140**		Pn	09 23 30.3	+0.8
D23K	**Nanushuk River**	**3.69**	**40**		Pn	09 23 31.4	+0.7
D23K				IAML		09 24 36.9	
	comp=E,107nm,1.0s						
D23K				IAML		09 24 37.2	
	comp=N,102nm,0.8s						
C16K	**Lisburne Hills**	**3.75**	**306**		Pn	09 23 32.4	+0.9
B20K	**Meade River**	**3.77**	**0**		Pn	09 23 32.0	+0.4
B20K				IAML		09 24 45.7	
	comp=N,88nm,1.1s						
TOLK	**Toolik Lake Re**	**3.79**	**47**		Pn	09 23 33.0	+0.9
TOLK				IAML		09 24 36.9	
	comp=E,92nm,1.1s						
TOLK				IAML		09 24 43.3	
	comp=N,91nm,0.9s						
NEA2	**Nenana**	**3.79**	**112**		Pn	09 23 32.3	+0.3
KTH	**Kantishna Hill**	**3.81**	**133**		Pn	09 23 33.1	+0.6
KTH				IAML		09 24 45.0	
	comp=E,59nm,1.1s						
KTH				IAML		09 24 46.6	
	comp=N,59nm,1.2s						
H24K	**Noodor Dome**	**3.83**	**92**		Pn	09 23 32.7	0.0
H24K				IAML		09 24 39.6	
	comp=N,106nm,0.6s						
E24K	**Your Creek**	**3.86**	**58**		Pn	09 23 33.4	+0.4
E24K				IAML		09 24 39.3	
	comp=N,87nm,0.7s						
E24K				IAML		09 24 48.8	
	comp=E,89nm,1.0s						
BWN	**Browne**	**3.88**	**119**	Pn	Pn	09 23 34.1	+0.9
G24K	**Hadweenzic Riv**	**3.93**	**79**		Pn	09 23 33.6	-0.4
PPLA	**Purkeypile**	**4.01**	**145**		Pn	09 23 36.0	+0.8
L20K	**Farewell, AK**	**4.06**	**158**		Pn	09 23 36.8	+0.9
L18K	**Granite Mounta**	**4.07**	**177**		Pn	09 23 36.8	+1.0
TRF	**Thorofare Moun**	**4.08**	**131**		Pn	09 23 37.0	+0.7
TRF				IAML		09 24 46.7	
	comp=N,48nm,0.9s						
COLA	**College**	**4.13**	**105**		Pn	09 23 36.9	+0.2
POKR	**Poker Plat Res**	**4.20**	**101**		Pn	09 23 38.3	+0.6
POKR				IAML		09 24 48.7	
	comp=E,80nm,0.8s						
A19K	**Wainwright**	**4.21**	**342**		Pn	09 23 38.3	+0.5
WRH	**Wood River Hil**	**4.22**	**111**		Pn	09 23 37.9	-0.1
L19K	**White Mountain**	**4.22**	**165**		Pn	09 23 38.6	+0.6
L19K				IAML		09 24 29.5	
	comp=N,46nm,0.7s						
L19K				IAML		09 24 29.5	
	comp=E,58nm,0.6s						
CCB	**Clear Creek Bu**	**4.24**	**108**		Pn	09 23 38.1	-0.1
CCB				IAML		09 24 48.9	
	comp=N,44nm,0.6s						
CCB				IAML		09 24 55.8	
	comp=E,46nm,0.6s						
B22K	**Teshekpuk Lake**	**4.33**	**17**		Pn	09 23 38.5	-1.0
B22K				IAML		09 24 55.9	
	comp=N,64nm,0.8s						
MCK	**McKinley**	**4.33**	**122**		Pn	09 23 39.8	+0.3
C23K	**Itkillik River**	**4.36**	**32**		Pn	09 23 39.8	0.0
C23K				IAML		09 25 03.4	
	comp=E,57nm,0.6s						
C23K				IAML		09 25 07.8	
	comp=N,56nm,0.7s						
K15K	**Wolf Creek Mou**	**4.41**	**207**	Pn	Pn	09 23 41.5	+1.0
K15K				IAML		09 25 01.6	
	comp=N,45nm,1.0s						
TNA	**Tin City**	**4.45**	**266**		Pn	09 23 42.0	+1.0
M19K	**Big River Lodg**	**4.55**	**163**		Pn	09 23 43.3	+0.9
M19K				IAML		09 24 56.8	
	comp=N,34nm,0.5s						
M19K				IAML		09 24 57.6	
	comp=E,34nm,0.7s						
IL31		**4.55**	**104**		Pn	09 23 42.4	0.0
ILAR	**Eielson Array**	**4.55**	**104**		Pn	09 23 42.4	0.0
IL03	**Eielson Array**	**4.56**	**104**	Pn	Pn	09 23 42.6	0.0
RND	**Reindeer**	**4.58**	**125**		Pn	09 23 43.3	+0.4
H25L	**Birch Creek**	**4.60**	**85**		Pn	09 23 43.2	0.0
HDA	**Harding Lake**	**4.68**	**109**		Pn	09 23 44.0	-0.4
HDA				IAML		09 24 39.9	
	comp=E,30nm,0.5s						
HDA				IAML		09 25 08.7	
	comp=N,46nm,0.9s						
C24K	**Franklin Bluff**	**4.72**	**39**		Pn	09 23 44.5	-0.3
C24K				IAML		09 25 11.6	
	comp=E,46nm,0.8s						
M20K	**Styx River**	**4.75**	**156**		Pn	09 23 46.6	+1.3
M20K				IAML		09 24 41.8	
	comp=E,33nm,0.7s						
FYU	**Fort Yukon**	**4.82**	**81**		Pn	09 23 46.1	-0.1
M18K	**Stony River**	**4.83**	**172**		Pn	09 23 46.8	+0.5
A22K	**Sinclair Lake**	**4.83**	**9**		Pn	09 23 46.2	-0.2
PRP	**Porcupine Dome**	**4.85**	**93**		Pn	09 23 46.7	0.0
PRP				IAML		09 25 12.5	
	comp=N,50nm,0.8s						
M17K	**Holitna River**	**4.88**	**181**		Pn	09 23 47.9	+0.9
M17K				IAML		09 25 22.3	
	comp=N,47nm,1.0s						
M17K				IAML		09 25 24.2	
	comp=E,45nm,1.0s						
E25K	**Arctic Village**	**4.90**	**62**		Pn	09 23 47.0	-0.4
E25K				IAML		09 25 21.3	
	comp=E,45nm,0.6s						
CUT	**Chulitna**	**4.91**	**139**	Pn	Pn	09 23 47.6	+0.2
CUT				IAML		09 25 21.5	
	comp=E,46nm,1.1s						
SKT	**Skwentna**	**4.96**	**147**		Pn	09 23 49.5	+1.3
SKT				IAML		09 25 18.6	
	comp=E,32nm,1.1s						
L15K	**Ungalak Mounta**	**4.97**	**204**		Pn	09 23 49.1	+0.9
A21K	**Barrow**	**5.09**	**2**		Pn	09 23 49.3	-0.6
J25K	**Salcha River,**	**5.21**	**103**		Pn	09 23 51.1	-0.5
J25K				IAML		09 25 25.7	
	comp=N,33nm,1.0s						
J25K				IAML		09 25 26.1	
	comp=E,34nm,1.2s						
M16K	**Timber Creek**	**5.32**	**189**		Pn	09 23 53.1	+0.1
STLK	**Strandline Lak**	**5.34**	**151**		Pn	09 23 54.6	+1.2
K13K	**Kusilvak Mount**	**5.43**	**220**	Pn	Pn	09 23 54.8	+0.2
K24K	**Donnelly Dome**	**5.43**	**112**		Pn	09 23 54.5	-0.2
SPBG	**Spurr Blockage**	**5.46**	**155**		Pn	09 23 56.4	+1.3
SUA	**Susitna One**	**5.60**	**146**	Pn	Pn	09 23 57.8	+0.8
N19K	**Bonanza Creek**	**5.60**	**166**		Pn	09 23 56.8	-0.3
N18K	**Kilae Creek**	**5.63**	**173**		Pn	09 23 58.4	+1.0
N17K	**Nushagak Hills**	**5.76**	**180**		Pn	09 24 00.4	+1.3
GHO	**Glory Hole Cre**	**5.79**	**137**	Pn	Pn	09 23 59.2	-0.4
I26K	**Coal Creek Min**	**5.86**	**93**		Pn	09 24 00.5	0.0
PMR	**Palmer**	**5.88**	**139**	Pn	Pn	09 24 02.0	+1.2
M14K	**Bethel**	**5.92**	**203**	Pn	Pn	09 24 01.9	+0.6
SML	**Sawmill**	**5.93**	**135**	Pn	Pn	09 24 02.1	+0.6
J26L	**Joseph Creek**	**5.97**	**101**	Pn	Pn	09 24 02.7	+0.7
SCRK	**Sand Creek**	**6.03**	**106**	Pn	Pn	09 24 03.0	+0.1
C27K	**Jago River**	**6.10**	**50**		Pn	09 24 04.6	+0.9
DOT	**Dot Lake**	**6.17**	**109**	Pn	Pn	09 24 04.4	-0.3
SCM	**Sheep Creek Mo**	**6.21**	**131**	Pn	Pn	09 24 06.1	+0.8
KNK	**Knik Glacier**	**6.21**	**137**	Pn	Pn	09 24 05.3	-0.1
M24K	**Tolsona, Glenn**	**6.37**	**126**	Pn	Pn	09 24 08.9	+1.4
O18K	**Koktuh Hills**	**6.50**	**171**	Pn	Pn	09 24 09.2	-0.1
L26K	**Log Cabin Wild**	**6.78**	**112**	Pn	Pn	09 24 12.6	-0.5
I28M	**Miner Creek**	**7.13**	**89**	Pn	Pn	09 24 17.9	-0.1
E28M	**Babbage River**	**7.19**	**63**	Pn	Pn	09 24 17.7	-1.0
L27K	**Beaver Creek,**	**7.33**	**109**	Pn	Pn	09 24 20.4	-0.3
BCAR	**Beaver Creek A**	**7.35**	**109**	Pn	Pn	09 24 20.3	-0.6
H29M	**Whitestone**	**7.61**	**82**	Pn	Pn	09 24 24.5	+0.1
G29M	**Pine Creek**	**7.66**	**76**	Pn	Pn	09 24 25.6	+0.4
M27K	**Edge Creek, AK**	**7.72**	**113**	Pn	Pn	09 24 26.5	+0.4
E29M	**Blow River**	**7.75**	**65**	Pn	Pn	09 24 26.5	+0.2
DAWY	**Dawson**	**7.81**	**98**	Pn	Pn	09 24 27.2	-0.1
L29M	**L29M**	**8.75**	**102**	Pn	Pn	09 24 39.8	-0.3
M29M	**Somme Creek**	**8.97**	**107**	Pn	Pn	09 24 43.0	-0.2
G31M	**Satah River**	**9.14**	**75**	Pn	Pn	09 24 43.6	-1.7
A36M	**Sachs Harbour**	**12.61**	**49**	Pn	Pn	09 25 31.4	-1.5

*AZER **16** 09:23:50.4, 41°.78N×48°.83E, h17km, ml2.7*
*DRS **16** 09:23:51.2, 41°.79N×48°.74E, h15km*

ISC 16 09:23:51.3±1.2, 41°.84N±0°.03×48°.84E±0°.04, h18km±3km, n38, σ1°.16/71, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.42**	**297**	*e*Pg	**Pg**	**09 23 59.8**	**-0.2**
	344nm,0.2s						
DRN				*e*Sg	**Sb**	**09 24 06.9**	**+0.6**
	3μm,0.3s						
QSAR	**Qusar**	**0.54**	**234**	P	**Pb**	**09 24 02.0**	**-0.1**
QSAR				S	**Sb**	**09 24 11.0**	**+1.5**
QUBA	**Quba, Azerbaij**	**0.55**	**208**	P	**Pb**	**09 24 02.1**	**-0.2**
QUBA				S	**Sn**	**09 24 11.6**	**-1.2**
KSMR	**Kasumkent**	**0.58**	**247**	*e*Pg	**Pg**	**09 24 02.3**	**-0.5**
	201nm,0.4s						
KSMR				*e*Sg	**Sb**	**09 24 11.1**	**+0.3**
	2μm,0.4s						
SIZA	**Siyzn**	**0.76**	**176**	P	**Pg**	**09 24 04.8**	**-1.4**
SIZA				S	**Sb**	**09 24 16.0**	**0.0**
XNQ	**Khinaliq**	**0.84**	**219**	P	**Pg**	**09 24 06.9**	**-0.9**
XNQ				S	**Sn**	**09 24 20.0**	**-0.4**
AKT	**Akhty**	**0.90**	**247**	*e*Pg	**Pg**	**09 24 07.8**	**-1.1**
	116nm,0.1s						
AKT				*e*Sg	**Sb**	**09 24 20.8**	**+0.6**
	408nm,0.2s						
URKR	**Urkarakh**	**0.96**	**291**	*e*Pg	**Pg**	**09 24 08.4**	**-1.5**
	36nm,0.2s						
URKR				*e*Sg	**Sb**	**09 24 22.2**	**+0.5**
	713nm,0.4s						
ATGJ	**Altiaghaj**	**0.98**	**176**	P	**Pg**	**09 24 08.7**	**-1.6**
ATGJ				S	**Sn**	**09 24 23.1**	**-0.4**
PQL	**Pirkuli**	**1.06**	**190**	P	**Pn**	**09 24 11.3**	**-0.1**
PQL				S	**Sn**	**09 24 27.4**	**+1.7**
SGKR	**Sergokala**	**1.08**	**306**	*e*Pg	**Pb**	**09 24 10.2**	**-1.1**
	47nm,0.2s						
SGKR				*e*Sg	**Sb**	**09 24 25.7**	**+0.6**
	157nm,0.1s						
IML	**Ismayilli**	**1.15**	**206**	P	**Pb**	**09 24 11.6**	**-1.1**
IML				S	**Sn**	**09 24 29.0**	**+1.1**
QBL	**Gabala**	**1.16**	**221**	P	**Pg**	**09 24 13.5**	**-0.3**
QBL				S	**Sn**	**09 24 28.6**	**+0.4**
GBS	**Qobustan**	**1.30**	**176**	Pn	**Pg**	**09 24 16.2**	**-0.2**
GBS				Sn	**Sg**	**09 24 38.1**	**+4.7**
KMKR	**Kumukh**	**1.33**	**283**	*e*Pg	**Pn**	**09 24 14.8**	**-0.3**
	14nm,0.2s						
KMKR				*e*Sg	**Sn**	**09 24 33.4**	**+1.0**
	308nm,0.2s						
SEKA	**Sheki**	**1.38**	**244**	Sn	**Sg**	**09 24 38.4**	**+2.4**
GNBR	**Gunib**	**1.50**	**292**	*e*Pg	**Pn**	**09 24 17.5**	**+0.2**
	10.0nm,0.1s						
GNBR				*e*Sg	**Sg**	**09 24 38.7**	**-1.0**
	107nm,0.1s						
NDR	**Nardaran**	**1.52**	**145**	Pn	**Pb**	**09 24 19.0**	**0.0**
NDR				Sn	**Sg**	**09 24 43.2**	**+2.7**
ARKR	**Arakani**	**1.57**	**300**	*e*Pg	**Pn**	**09 24 17.6**	**-0.6**
	10.0nm,0.4s						
ARKR				*e*Sg	**Sn**	**09 24 38.9**	**+0.7**
	63nm,0.3s						
GOBA	**Gobu**	**1.58**	**154**	Pn	**Pg**	**09 24 20.5**	**-1.3**
BUJR	**Buynaksk**	**1.62**	**308**	*e*Pg	**Pb**	**09 24 20.2**	**-0.4**
	54nm,0.2s						
BUJR				*e*Sg	**Sb**	**09 24 42.4**	**+1.7**
	110nm,0.4s						
ZKTA	**Zakatala**	**1.67**	**264**	Pn	**Pn**	**09 24 19.9**	**+0.3**
ZKTA				Sn	**Sb**	**09 24 43.0**	**+0.8**
XNZR	**Khunzakh**	**1.73**	**295**	*e*Pg	**Pn**	**09 24 20.9**	**+0.2**
	7.0nm,0.4s						
XNZR				*e*Sg	**Sb**	**09 24 44.7**	**+0.5**
	30nm,0.4s						
KRNR	**Karanay**	**1.74**	**305**	*e*Pg	**Pn**	**09 24 20.9**	**+0.2**
	5.0nm,0.4s						
KRNR				*e*Sg	**Sb**	**09 24 44.9**	**+0.6**
	38nm,0.3s						
UNCR	**Uncukul**	**1.75**	**301**	*e*Pg	**Pb**	**09 24 22.6**	**-0.3**
	11nm,0.2s						
UNCR				*e*Sg	**Sg**	**09 24 47.0**	**-0.7**
	37nm,0.5s						
ZRD	**Zardab**	**1.78**	**210**	Pn	**Pn**	**09 24 21.6**	**+0.5**
ZRD				Sn	**Sg**	**09 24 47.2**	**-1.5**
ALIB	**&Aumlli-Bayram**	**1.88**	**176**	Pn	**Pb**	**09 24 24.7**	**-0.4**
DBC	**Dubki**	**1.90**	**309**	*e*Pg	**Pn**	**09 24 22.7**	**-0.2**
	8.0nm,0.2s						
DBC				*e*Sg	**Sb**	**09 24 48.4**	**-0.4**
	40nm,0.4s						
BTLR	**Botlikh**	**2.11**	**294**	*e*Pg	**Pn**	**09 24 26.2**	**+0.5**
	11nm,0.6s						
BTLR				*e*Sg	**Sb**	**09 24 54.8**	**-0.1**
	34nm,0.2s						
AGDM	**Agdam**	**2.17**	**218**	Pn	**Pn**	**09 24 26.5**	**+0.1**
AGDM				Sn	**Sb**	**09 24 55.1**	**-1.4**
GANJ	**Ganja**	**2.24**	**239**	Pn	**Pn**	**09 24 27.5**	**+0.1**
GANJ				Sn	**Sn**	**09 24 55.3**	**+0.7**
DVE	**Vedeno**	**2.30**	**300**	*e*Pn	**Pn**	**09 24 30.0**	**+1.7**
	16nm,0.4s						
DVE				*e*Sn	**Sb**	**09 25 00.5**	**+0.2**
	27nm,0.5s						
BLQ	**Beylaqan**	**2.32**	**205**	Pn	**Pn**	**09 24 27.6**	**-1.0**
BLQ				Sn	**Sn**	**09 24 57.4**	**+0.7**
GDB	**GEDABAY**	**2.58**	**245**	Pn	**Pn**	**09 24 31.9**	**-0.3**
GDB				Sn	**Sn**	**09 25 04.5**	**+1.4**
DGRG	**David-gareji**	**2.62**	**263**	Pn	**Pn**	**09 24 34.5**	**+1.7**
DGRG				Sn	**Sb**	**09 25 09.3**	**-0.4**
QRD	**Qoradiz**	**2.64**	**206**	Pn	**Pn**	**09 24 31.8**	**-1.1**
QRD				Sn	**Sn**	**09 25 04.9**	**+0.5**
YRD	**Yardimli**	**2.95**	**189**	Sn	**Sn**	**09 25 11.2**	**-1.3**
LRK	**Lerik**	**3.21**	**187**	Sn	**Sn**	**09 25 16.5**	**-2.3**

NEIC 16 09:49:25.0±0.5, 37°.06N±0°.01×97°.37W±0°.02, h5km±1km, mb_Lg2.5/23, ML2.9/52, Error ellipse: s-maj=3.0km s-min=2.4km az=43.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.10**	**241**		Pg	09 49 27.6	+0.5
KAN13				Sg	Sg	09 49 29.4	+0.8
KAN09	**Caldwell North**	**0.21**	**290**		Pg	09 49 29.6	+0.4
KAN09				Sg	Sg	09 49 33.0	+0.9
KAN17	**Caldwell West**	**0.32**	**267**		Pg	09 49 31.6	+0.5
KAN17				Sg	Sg	09 49 36.3	+0.9
KAN17				IAML		09 49 42.0	
	comp=E,985nm,0.3s						
BLOK	**Blackwell**	**0.33**	**158**		Pg	09 49 31.4	+0.2
BLOK				IAML		09 49 40.1	
	comp=E,2μm,0.

NOKA			IAML		09 50 13.9	
	comp=E,227nm,0.2s					
DEOK	**Depew**	**1.40 150**		Pn	09 49 50.8	-0.4
ADOK	**Arcadia Dam**	**1.41 180**		Pb	09 49 51.7	0.0
OKCSW	**OKLAHOMA CITY**	**1.66 182**		Pb	09 49 55.4	-0.5
TUL3	**Leonard**	**1.71 132**		Pb	09 49 56.4	-0.5
CSTR	**Hydro, Custer**	**1.77 217**		Pb	09 49 57.3	-0.7
FNO	**Franklin**	**1.80 181**		Pn	09 49 57.3	+0.6
W35A	**Tecumseh**	**1.95 168**		Pn	09 49 59.4	+0.7
KSU1	**Kansas State U**	**2.12 16**		Pn	09 50 02.4	+1.3
KSU1			IAmb_Lg		09 50 31.5	
	comp=Z,13nm,0.8s					
U38A	**Gravette**	**2.47 104**	Pn	Pn	09 50 07.4	+1.4
CBKS	**Cedar Bluff**	**2.56 314**	Pn	Pn	09 50 08.3	+1.0
WMOK	**Wichita Mounta**	**2.59 207**		Pn	09 50 08.1	+0.6
WMOK	**Wichita Mounta**	**2.59 207**		Pn	09 50 08.4	+0.8
WMOK			IAmb_Lg		09 50 49.3	
	comp=Z,8.0nm,0.8s					
HHAR	**Hobbs**	**2.86 105**		Pn	09 50 12.7	+1.4
P38A	**Dawn**	**3.95 49**	IAmb_Lg		09 51 34.1	
	comp=Z,12nm,0.8s					
MIAR	**Mount Ida**	**3.97 128**	IAmb_Lg		09 51 34.5	
	comp=Z,11nm,1.0s					
N35A	**Tabor**	**4.02 19**	IAmb_Lg		09 51 42.2	
	comp=Z,20nm,0.7s					
MGMO	**Mountain Grove**	**4.08 87**	Pn	Pn	09 50 29.3	+1.3
AMTX	**Amarillo**	**4.12 239**	IAmb_Lg		09 51 37.8	
	comp=Z,9.7nm,0.8s					
R40A	**Maddies Statio**	**4.23 72**	IAmb_Lg		09 51 47.1	
	comp=Z,8.4nm,0.8s					
FCAR	**Ozark Folk Cen**	**4.38 104**	Pn	Pn	09 50 32.8	+0.6
FCAR			IAmb_Lg		09 51 41.6	
	comp=Z,11nm,0.9s					
X40A	**Basin Creek Fa**	**4.49 124**	IAmb_Lg		09 51 45.5	
	comp=Z,7.4nm,0.7s					
ABTX	**Abilene, Hawle**	**4.81 204**	IAmb_Lg		09 52 01.7	
	comp=Z,5.4nm,1.0s					
WLAR	**White Oak Lake**	**4.84 133**	IAmb_Lg		09 51 56.5	
	comp=Z,8.0nm,0.7s					
P40A	**Paris**	**4.85 58**	IAmb_Lg		09 52 07.4	
	comp=Z,13nm,1.0s					
L34A	**Svendsen Farm,**	**4.96 9**	IAmb_Lg		09 52 06.5	
	comp=Z,13nm,0.8s					

KRSC ***16*** *09:55:33.8±2.5, 49.°46N×157.°16E, h52km±48km, Ml4.0*
IDC ***16*** *09:55:33.6±8.3, 49.°68N×155.°22E, h98km±68km, mb3.2/3, mbtmp3.6/5, ML4.6/1, Error ellipse: s-maj=90.0km s-min=49.4km az=152.0*
ISC 16 09:55:33.7±1.8, 49.°3N±0.°1×156.°7E±0.°1, h57km, n29, σ1ϱ**32/29, mb3.6/3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.39**	**346**	*e*P	**Pn**	**09 55 56.8**	**0.0**
SKR				*e*S	**Sn**	**09 56 14.4**	**+0.3**
PAU	**Pauzhetka**	**2.14**	**3**	*e*P	**Pn**	**09 56 06.9**	**0.0**
PAU				*e*S	**Sn**	**09 56 31.6**	**-0.7**
KDTR	**Khodutka, Kamc**	**2.64**	**20**	*e*P	**Pn**	**09 56 15.7**	**+2.0**
KDTR				*e*S	**Sn**	**09 56 44.7**	**+0.2**
RUS	**Russkaya**	**3.32**	**20**	*e*P	**Pn**	**09 56 24.1**	**+1.1**
RUS				*e*S	**Sn**	**09 57 01.0**	**-0.2**
GRL	**Gorelyy**	**3.34**	**15**	*e*P	**Pn**	**09 56 25.1**	**+1.6**
GRL				*e*S	**Sn**	**09 57 01.7**	**-0.3**
KRMR	**Karymshinskiy**	**3.62**	**14**	*e*P	**Pn**	**09 56 28.2**	**+1.0**
PETK	**Petropavlovsk-**	**3.83**	**9**	P	**Pn**	**09 56 29.3**	**-0.8**
	9.6nm,0.7s,baz=186,slow=10,SNR=34						
PETK				S	**Sn**	**09 57 13.4**	**-0.4**
	1.5nm,0.5s,baz=183,slow=22,SNR=3.6						
DALK	**Dalny**	**3.93**	**19**	*e*P	**Pn**	**09 56 32.7**	**+1.3**
DALK				*e*S	**Sn**	**09 57 15.3**	**-0.8**
UGLR	**Uglovaya**	**4.11**	**18**	*e*P	**Pn**	**09 56 36.0**	**+2.0**
AVH	**Avacha**	**4.15**	**18**	*e*P	**Pn**	**09 56 36.2**	**+1.8**
KOK	**Koryaka**	**4.15**	**17**	*e*P	**Pn**	**09 56 36.7**	**+2.1**
SDLR	**Sedlovina**	**4.19**	**19**	*e*P	**Pn**	**09 56 36.3**	**+1.2**
NLC	**Nalytchevo**	**4.20**	**23**	*e*S	**Sn**	**09 57 19.8**	**-2.9**
KRX	**Arik**	**4.22**	**16**	*e*P	**Pn**	**09 56 36.7**	**+1.2**
SPN	**Mys Shipunski**	**4.32**	**28**	*e*P	**Pn**	**09 56 36.0**	**-0.8**
GNL	**Ganaly**	**4.44**	**10**	*e*P	**Pn**	**09 56 38.6**	**+0.2**
MKZ	**Mys Kozlova**	**6.10**	**29**	*e*P	**Pn**	**09 57 01.3**	**+0.3**
KMNR	**Kamenistaya**	**6.79**	**17**	*e*P	**Pn**	**09 57 13.5**	**+2.9**
KBTR	**Krutoberegovo**	**7.83**	**26**	*e*P	**Pn**	**09 57 24.6**	**-0.1**
MA2	**Magadan**	**10.81**	**344**	P	Pn	09 57 57.6	-7.9
	0.5nm,0.3s,baz=162,slow=14,SNR=6.9						
	1.2nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**30.66**	**161**	T	T	10 35 04.4	
	baz=346						
H11N1	**WAKE ISLAND Hy**	**30.67**	**161**	T	T	10 34 58.2	
	baz=346						
H11N3	**WAKE ISLAND Hy**	**30.67**	**161**	T	T	10 34 56.1	
	baz=346						
H11S1	**WAKE ISLAND Hy**	**31.80**	**162**	T	T	10 36 24.6	
	baz=346,slow=76,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**31.81**	**162**	T	T	10 36 01.1	
	baz=346,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**31.82**	**162**	T	T	10 36 26.0	
	baz=346,slow=76,SNR=8.5						
NVAR	**Mina Array Bea**	**59.16**	**66**	P	**P**	**10 05 29.4**	**+0.8**
	0.4nm,0.7s,baz=293,slow=6.4,SNR=3.5						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**61.32**	**57**	P	**P**	**10 05 42.7**	**-0.7**
	0.3nm,0.7s,baz=286,slow=3.4,SNR=3.0						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**74.18**	**63**	P	**P**	**10 07 03.6**	**-0.6**
	0.4nm,0.6s,baz=299,slow=5.2,SNR=8.3						
	0.4nm,0.6s						

NEIC ***16*** *09:58:17.3, 13.°56N×120.°86E, h120km*
NEIC ***16*** *09:58:17.3, 13.°66N×121.°00E, h120km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17Nm; Mrr1.45; Mθθ-0.63; Mφφ-0.83; Mrθ0.61; Mrφ0.34; Mθr-0.51; Fault plane solution: M0 1.50000×10^17 NP1: φs325.90000°, δ29.31000°, λ97.80000°. NP2: φs136.97000°, δ60.99000°, λ85.64000°. Principal axes: T 1.6875, Plg74.0000°, Azm36.0000°; N -0.3829, Plg4.0000°, Azm139.0000°; P -1.3046, Plg16.0000°, Azm230.0000°;*
BJI ***16*** *09:58:17.9, 13.°50N×121.°02E, h140km, mB5.5/66, mb5.4/94*
MOS ***16*** *09:58:18.1±0.9, 13.°60N×120.°82E, h127km, mb5.3/76, Error ellipse: s-maj=6.5km s-min=3.6km az=113.7*
IDC ***16*** *09:58:18.9±0.3, 13.°58N×120.°77E, h123km±2km, mb5.0/42, mbtmp5.3/43, MS4.1/52, Error ellipse: s-maj=10.8km s-min=7.0km az=79.0*
MAN ***16*** *09:58:19.6, 13.°70N×120.°70E, h115km, mb5.9, ML4.9, MS5.4*
MAN INTENSITY III - CALACA BATANGAS; ABRA DE ILOG OCCIDENTAL MINDORO; INTENSITY II - CITY OF MANILA; CITY OF MUNTINLUPA; CITY OF PARAAQUE; QUEZON CITY; CITY OF TAGAYTAY AND GENERAL EMILIO AGUINALDO CAVITE; BAUAN BATANGAS; ; PUERTO GALERA ORIENTAL MINDORO; MARIVELES BATAAN; INTENSITY I - PALUAN OCCIDENTAL MINDORO.
NEIC ***16*** *09:58:19.1±1.5, 13.°56N±0.°06×120.°87E±0.°08, h119km±4km, mb5.4/238, Mww5.4/66, Error ellipse: s-maj=11.7km s-min=9.3km az=89.0*
GCMT ***16*** *09:58:20.1±0.1, 13.°72N±0.°01×120.°71E±0.°01, h128km, MW5.4/162, Moment Tensor Solution. s132, c222; s162, c286; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.43±.02; Mθθ-0.33±.02; Mφφ-1.10±.02; Mrθ0.93±.01; Mrφ0.27±.02; Mθr-0.44±.02; Best double couple: M0 1.62700×10^17 NP1:φs354.00000°, δ32.00000°, λ121.00000°. NP2:φs138.00000°, δ63.00000°, λ72.00000°. Principal axes: T 1.8590, Plg67.0000°, Azm15.0000°; N -0.4600, Plg16.0000°, Azm147.0000°; P -1.3960, Plg16.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***16*** *09:58:22.8±0.4, 14.°N±2.°×12.°1E±.°, h155km±4km, M5.1/94, mB5.6/65, mb5.3/94, Mw(mB)5.0/65, MwMwp5.0/21, Mwp5.3/21*
ISC 16 09:58:19.8±0.2, 13.°57N±0.°02×120.°79E±0.°03, h129km±1km, h129km:pP-P, n1299, σ1ϱ**38**/1405**, mb5.3**/302**, 66C-19D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.55**	**15**	P	**Pn**	**09 58 38.0**	**-1.2**
	99μm,0.9s,baz=236,slow=2.0,SNR=469						
TGY				S	**Sn**	**09 58 52.8**	**-1.1**
	73μm,0.5s,baz=165,slow=21,SNR=12						
TGY				LR	LR	09 58 59.4	
	comp=Z,24μm,18.8s,baz=316,slow=75						
SZP	**Santa**	**3.98**	**355**	P	**Pn**	**09 59 20.7**	**+1.5**
SZP	**Santa**	**3.98**	**355**	S	**Sn**	**10 00 08.9**	**+3.6**
DAV	**Davao City (W)**	**7.99**	**143**	Pn	**Pn**	**10 00 08.9**	**-4.2**
DAV	**Davao City (W)**	**7.99**	**143**	P	**Pn**	**10 00 17.8**	**+4.6**
	202nm,0.3s,baz=333,slow=9.0,SNR=2.2						
DAV				S	**Sn**	**10 01 43.3**	**+1.3**
	199nm,0.4s,baz=266,slow=15,SNR=1.6						
DAV				LR	LR	10 04 14.6	
	comp=Z,2μm,18.4s,baz=332,slow=44						
MYLDM	**Lahad Datu**	**8.63**	**195**	Pn	**Pn**	**10 00 26.5**	**+4.7**
KKM	**Kota Kinabalu**	**8.73**	**212**	Pn	**Pn**	**10 00 22.8**	**-0.4**
KKM	**Kota Kinabalu**	**8.73**	**212**	P	**Pn**	**10 00 25.9**	**+2.7**
TWGBT	**Beinan**	**9.21**	**2**	P	**Pn**	**10 00 32.1**	**+2.6**
TWG	**Pinlang**	**9.21**	**2**		**Pn**	**10 00 28.4**	**-1.1**
TPUB	**Ta-pu**	**9.68**	**359**	Pn	**Pn**	**10 00 35.3**	**-0.6**
TPUB	**Ta-pu**	**9.68**	**359**	P	**Pn**	**10 00 36.1**	**+0.2**
YULB	**Yu-li**	**9.79**	**3**		**Pn**	**10 00 35.5**	**-1.8**
YULB	**Yu-li**	**9.79**	**3**	P	**Pn**	**10 00 39.0**	**+1.7**
SSLB	**Suanglung**	**10.17**	**1**	Pn	**Pn**	**10 00 42.1**	**-0.4**
SSLB	**Suanglung**	**10.17**	**1**	P	**Pn**	**10 00 43.8**	**+1.4**
NACB	**Ninganchiao**	**10.58**	**4**		**Pn**	**10 00 46.4**	**-1.5**
NACB	**Ninganchiao**	**10.58**	**4**	P	**Pn**	**10 00 48.1**	**+0.2**
HKPS	**Hong Kong Po S**	**10.73**	**325**	Pn	**Pn**	**10 00 50.0**	**+0.1**
YOJ	**Yonaguni jima**	**11.04**	**11**	Pn	**Pn**	**10 00 52.8**	**-1.2**
YOJ	**Yonaguni jima**	**11.04**	**11**	P	**Pn**	**10 00 55.0**	**+1.0**
YOJ	**Yonaguni jima**	**11.04**	**11**	P	**Pn**	**10 00 52.8**	**-1.2**
YHNB	**Yeheng**	**11.06**	**3**	Pn	**Pn**	**10 00 54.0**	**-0.3**
KNMB	**Chin-men Tao**	**11.08**	**349**	Pn	**Pn**	**10 00 54.3**	**-0.2**
QZH	**Quanzhou**	**11.51**	**350**	P	**Pn**	**10 00 59.9**	**-0.3**
QZH				S	**Sn**	**10 03 04.4**	**-2.6**
QZH				LR	LR		
	comp=N,1μm,17.5s						
QZH				LR	LR		
	comp=E,1μm,13.7s						
QZH				LR	LR		
	comp=Z,2μm,14.4s						
GZH	**Guangzhou**	**11.81**	**324**	P	**P**	**10 01 08.6**	**-3.4**
GZH				S	Sn	10 03 24.8	+10
GZH				LR	LR		
	comp=N,2μm,12.6s						
GZH				LR	LR		
	comp=E,1μm,14.5s						
QIZ	**Qiongzhong**	**11.83**	**299**	Pn	**Pn**	**10 01 05.2**	**+0.7**
QIZ	**Qiongzhong**	**11.83**	**299**	P	**Pn**	**10 01 05.3**	**+0.7**
QIZ				sP	P	10 01 37.5	+25
QIZ				S	**Sn**	**10 03 13.1**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,51nm,0.6s						
QIZ				pmax	pmax		
	comp=Z,580nm,3.6s						
QIZ				LR	LR		
	comp=N,850nm,8.3s						
QIZ				LR	LR		
	comp=E,310nm,10.6s						
QIZ				LR	LR		
	comp=Z,650nm,10.2s						
QIZ	**Qiongzhong**	**11.83**	**299**	P	**Pn**	**10 01 05.9**	**+1.4**
DLV	**Lat**	**12.11**	**264**	P	**Pn**	**10 01 11.1**	**+2.7**
TOLI2	**Tolitoli**	**12.38**	**180**	Pn	**Pn**	**10 01 09.3**	**-2.4**
TOLI2	**Tolitoli**	**12.38**	**180**	P	**Pn**	**10 01 14.0**	**+2.3**
MRSI	**Marisa**	**13.05**	**175**	P	**P**	**10 01 24.4**	**-1.5**
	2μm136nm,1.1s						
KMSI	**Cibinong**	**13.29**	**166**	P	**P**	**10 01 29.3**	**+0.8**
	513nm,0.9s						
SBUM	**Sibu**	**13.92**	**218**	Pn	**Pn**	**10 01 32.2**	**+0.5**
SMKI	**Samarinda**	**14.37**	**195**	P	**P**	**10 01 42.8**	**+2.3**
APSI	**Ampana**	**14.41**	**177**	P	**P**	**10 01 44.9**	**+4.0**
	3μm227nm,1.1s						
PCI	**Palu**	**14.41**	**184**	P	**P**	**10 01 41.9**	**+0.9**
	125nm,1.0s						
LUWI	**Luwuk**	**14.64**	**172**	Pn	**Pn**	**10 01 38.3**	**-2.5**
LUWI	**Luwuk**	**14.64**	**172**	P	**P**	**10 01 47.8**	**+4.2**
	4μm444nm,1.1s						
UBPT	**Khong Chiam**	**14.94**	**278**	P	**P**	**10 01 46.4**	**-0.5**
UBPT	**Khong Chiam**	**14.94**	**278**	P	**P**	**10 01 47.3**	**+0.5**
JOW	**Kunigami**	**14.94**	**27**		**Pn**	**10 01 43.8**	**-0.7**
JOW	**Kunigami**	**14.94**	**27**	P	**Pn**	**10 01 45.5**	**+1.0**
	512nm,1.0s,baz=219,slow=8.3,SNR=34						
JOW				LR	LR	10 06 37.6	
	comp=Z,1μm,20.2s,baz=208,slow=33						
JOW	**Kunigami**	**14.94**	**27**	P	**P**	**10 01 46.9**	**+0.1**
BKB	**Balikpapan**	**15.23**	**195**		**P**	**10 01 49.2**	**-0.8**
BKB	**Balikpapan**	**15.23**	**195**	P	**P**	**10 01 50.2**	**+0.1**
	3μm13μm168nm,1.1s						
GULI	**GuiLin**	**15.24**	**321**	P	**P**	**10 01 53.8**	**+3.6**
GULI				sP	**sP**	**10 02 22.6**	**-5.8**
GULI				S	**S**	**10 04 45.4**	**+1.2**
GULI				pmax	pmax		
	comp=Z,390nm,1.0s						
GULI				LR	LR		
	comp=N,790nm,15.2s						
GULI				LR	LR		
	comp=E,430nm,9.8s						
GULI				LR	LR		
	comp=Z,950nm,11.4s						
KSM	**Kuching**	**15.88**	**222**	P	**P**	**10 01 58.4**	**+1.1**
KSM	**Kuching**	**15.88**	**222**	P	**P**	**10 01 58.6**	**+1.4**
STKI	**Sintang**	**16.28**	**215**	P	**P**	**10 02 04.8**	**+3.1**
	119nm,0.9s						
CNSH	**ChangSha**	**16.28**	**334**	P	**Pn**	**10 02 01.1**	**+0.1**
CNSH				S	**Sn**	**10 05 01.5**	**-0.7**
CNSH				pmax	pmax		
	comp=Z,43nm,1.4s						
CNSH				LR	LR		
	comp=N,1μm,13.2s						
CNSH				LR	LR		
	comp=E,650nm,12.6s						
CNSH				LR	LR		
	comp=Z,890nm,14.3s						
SANI	**Sanana**	**16.35**	**161**	P	**P**	**10 02 02.6**	**+0.1**
SANI	**Sanana**	**16.35**	**161**	P	**Pn**	**10 02 01.6**	**-0.3**
	129nm,0.7s						
TTSI	**Tana Toraja**	**16.53**	**183**	P	**P**	**10 02 06.8**	**+2.3**
	3μm107nm,0.7s						
SPSI	**Sidrap Palu**	**17.45**	**183**	P	**Pn**	**10 02 18.8**	**+3.5**
	2μm182nm,0.6s						
SSE	**Sheshan**	**17.45**	**1**	P	**Pn**	**10 02 15.3**	**+0.1**
SSE				S	**S**	**10 05 28.3**	**-1.2**
SSE				pmax	pmax		
	comp=Z,42nm,1.3s						
SSE				pmax	pmax		
	comp=Z,810nm,3.9s						
SSE				LR	LR		
	comp=N,290nm,23.4s						
SSE				LR	LR		
	comp=E,260nm,23.4s						
NONG	**Nongkai**	**17.56**	**287**	P	**Pn**	**10 02 17.7**	**+1.1**
SWI	**Sorong**	**17.70**	**143**	P	**Pn**	**10 02 19.5**	**+1.2**
NLAI	**Namlea**	**17.83**	**159**	P	**Pn**	**10 02 21.7**	**+1.8**
	168nm,0.8s						
SLVN	**Son La**	**17.86**	**298**	P	**Pn**	**10 02 20.6**	**+0.4**
SLVN	**Son La**	**17.86**	**298**	P	**Pn**	**10 02 21.2**	**+1.0**
WHN	**Wuhan**	**17.91**	**342**	P	**Pn**	**10 02 21.4**	**+0.7**
WHN				sP	**sP**	**10 02 59.3**	**+0.3**
WHN				S	**S**	**10 05 39.0**	**+0.3**
WHN				pmax	pmax		
	comp=Z,190nm,0.9s						
WHN				pmax	pmax		
	comp=Z,4μm,6.6s						
WHN				LR	LR		
	comp=N,1μm,13.3s						
WHN				LR	LR		
	comp=E,2μm,11.7s						
WHN				LR	LR		
	comp=Z,3μm,13.4s						
GYA	**Guiyang**	**18.44**	**316**	⇑P	**Pn**	**10 02 27.9**	**+0.8**
GYA				S	**S**	**10 05 48.8**	**-0.7**
GYA				pmax	pmax		
	comp=Z,130nm,1.1s						
GYA				LR	LR		
	comp=Z,1μm,12.7s						
NJ2	**Nanjing**	**18.49**	**355**	⇑*i*P	**Pn**	**10 02 26.8**	**-0.7**
NJ2				sP	**sP**	**10 03 02.4**	**-2.8**
NJ2				S	**S**	**10 05 50.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,69nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,1μm,3.5s						
KAPI	**Kappang**	**18.49**	**183**	P	**Pn**	**10 02 28.7**	**+1.0**
KAPI	**Kappang**	**18.49**	**183**	P	**Pn**	**10 02 30.0**	**+2.3**
	188nm,0.6s,baz=336,slow=5.2,SNR=66						
KAPI				S	**S**	**10 05 51.0**	**+0.6**
	11nm,0.6s,baz=82,slow=12,SNR=1.7						
KAPI	**Kappang**	**18.49**	**183**	P	**Pn**	**10 02 29.7**	**+2.1**
KAPI				S	**Sn**	**10 05 53.4**	**-1.9**
KAPI	**Kappang**	**18.49**	**183**	P	**Pn**	**10 02 28.0**	**+0.3**
KAPI	**Kappang**	**18.49**	**183**	P	**Pn**	**10 02 28.7**	**+1.0**
BKSI	**Bulukumba**	**18.78**	**182**	P	**Pn**	**10 02 31.3**	**+0.2**
	129nm,0.9s						
NAYO	**Nakonayok**	**18.91**	**275**	P	**Pn**	**10 02 32.6**	**-0.1**
ENH	**Enshi**	**19.63**	**330**	P	**P**	**10 02 38.5**	**+0.2**
ENH	**Enshi**	**19.63**	**330**	P	**P**	**10 02 39.6**	**+1.3**
FAKI	**Fak Fak**	**19.94**	**144**	P	**P**	**10 02 41.3**	**-0.4**
FAKI	**Fak Fak**	**19.94**	**144**	P	**Pn**	**10 02 43.5**	**-1.1**
FAKI	**Fak Fak**	**19.94**	**144**	P	**P**	**10 02 42.8**	**+1.1**
	92nm,1.1s						
RKPI	**Ransiki, Papua**	**20.01**	**137**	P	Pn	10 02 46.4	+0.9
	2μm111nm,1.0s						
BNDI	**Banda naira**	**20.12**	**153**	P	Pn	10 02 45.2	-1.6
TPRI	**Tanjung Pinang**	**20.43**	**233**	P	Pn	10 02 50.1	-0.3
MYKOM	**Kota Tinggi**	**20.44**	**237**	P	**P**	**10 02 47.4**	**+0.3**
MYKOM	**Kota Tinggi**	**20.44**	**237**	P	Pn	10 02 49.3	-1.3
KMI	**Kunming**	**20.52**	**307**	⇑P	Pn	10 02 50.9	-0.8
KMI				S	**S**	**10 06 30.8**	**-0.2**
KMI				pmax	pmax		
	comp=Z,130nm,0.7s						
KMI				pmax	pmax		
	comp=Z,820nm,5.8s						
KMI				LR	LR		
	comp=N,410nm,13.7s						
KMI				LR	LR		
	comp=E,620nm,12.2s						
KMI				LR	LR		
	comp=Z,390nm,12.4s						
TPI	**Tanjungpandan**	**20.81**	**220**	P	**P**	**10 02 52.9**	**+1.9**
	2μm2μm186nm,1.0s						
SRDT	**SRDT**	**21.05**	**275**	P	**P**	**10 02 56.3**	**+2.7**
BAKI	**Biak**	**21.11**	**133**	P	**P**	**10 02 57.9**	**+3.6**
	216nm,1.0s						
PPBI	**Pangkal Pinang**	**21.34**	**224**	P	**P**	**10 03 00.2**	**+3.4**
SRIT	**Nakonsritamara**	**21.37**	**259**	P	**P**	**10 02 58.3**	**+1.2**
SRIT	**Nakonsritamara**	**21.37**	**259**	P	**P**	**10 02 58.8**	**+1.7**
KULM	**Kulim**	**21.49**	**249**	P	**P**	**10 02 58.4**	**0.0**
KULM	**Kulim**	**21.49**	**249**	P	**P**	**10 02 59.9**	**+1.5**
JNU	**Nakatsue**	**21.53**	**24**	P	**P**	**10 02 58.0**	**-0.7**
JNU	**Nakatsue**	**21.53**	**24**	P	**P**	**10 02 58.5**	**-0.2**
	144nm,0.9s,baz=202,slow=3.0,SNR=41						
JNU				PcP	**PcP**	**10 06 55.6**	**-0.6**
	8.1nm,0.8s,baz=292,slow=5.4,SNR=2.5						
	144nm,0.9s						
JNU	**Nakatsue**	**21.53**	**24**	P	**P**	**10 02 59.6**	**+0.9**
CM31	**Chiang Mai Arr**	**21.55**	**286**	P	**P**	**10 03 01.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**21.55**	**286**	P	**P**	**10 03 00.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**21.55**	**286**	P	**P**	**10 03 01.0**	**+1.9**
	98nm,0.7s,baz=94,slow=7.7,SNR=293						
CMAR				S	**S**	**10 06 50.0**	**-0.3**
	0.9nm,0.4s,baz=96,slow=25,SNR=1.8						
CMAR				PcP	**PcP**	**10 06 56.7**	**+0.3**
	11nm,0.7s,baz=95,slow=0.7,SNR=21						
CMAR				ScP	**ScP**	**10 10 21.9**	**+0.2**
	1.4nm,0.7s,baz=94,slow=1.4,SNR=4.9						
CMAR				PKiKP	**PKiKP**	**10 14 42.1**	**-1.1**
	1.0nm,0.3s,baz=280,slow=1.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**21.55**	**286**	*ce*P	**P**	**10 03 01.2**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,98nm,0.7s						
KMMI	**Kalianget**	**21.57**	**199**	P	**P**	**10 03 03.3**	**+4.0**
	comp=Z,4μmcomp=Z,270nm,1.3s						
CHTO	**Chiang Mai**	**21.61**	**287**	P	**P**	**10 03 01.0**	**+1.3**
CHTO	**Chiang Mai**	**21.61**	**287**	P	**P**	**10 03 01.0**	**+1.3**
SRPI	**Serui, Papua**	**21.68**	**134**	P	**P**	**10 03 02.2**	**+1.8**
	comp=Z,150nm,0.8s						
GRJI	**Gresik**	**21.96**	**203**	P	**P**	**10 03 07.9**	**+4.6**
	comp=Z,421nm,1.0s						
PZH	**PanZhiHua**	**22.00**	**309**	P	**P**	**10 03 05.3**	**+1.4**
PZH				S	**S**	**10 06 57.0**	**-1.3**
PZH				pmax	pmax		
	comp=Z,190nm,0.7s						
PZH				pmax	pmax		
	comp=Z,940nm,5.1s						
MMRI	**Maumere**	**22.10**	**176**	P	**P**	**10 03 03.9**	**-0.9**
MMRI	**Maumere**	**22.10**	**176**	P	**P**	**10 03 06.9**	**+2.1**
MMRI	**Maumere**	**22.10**	**176**	P	**P**	**10 03 06.7**	**+1.9**
	comp=Z,3μmcomp=Z,4μmcomp=Z,328nm,0.7s						
ABJI	**Asem Bagus**	**22.20**	**197**	P	**P**	**10 03 09.1**	**+3.3**
	comp=Z,2μmcomp=Z,219nm,1.1s						
LYN	**LuoYang**	**22.21**	**342**	⇓P	**P**	**10 03 06.4**	**+0.7**
LYN				pP	pP	10 03 35.9	+6.1
LYN				PP	**sP**	**10 03 43.9**	**-2.1**
LYN				PcP	**PcP**	**10 06 58.5**	**+1.1**
LYN				S	**S**	**10 06 59.6**	**-1.7**
LYN				sS	sS	10 07 47.0	+3.7
LYN				SS	**SnSn**	**10 07 50.1**	**+6.9**
LYN				pmax	pmax		
	comp=Z,480nm,0.9s						
LYN				pmax	pmax		
	comp=Z,2μm,4.9s						
LYN				LR	LR		
	comp=Z,800nm,17.3s						
LYN				LR	LR		
	comp=Z,1μm,13.4s						
LYN				LR	LR		
	comp=Z,850nm,15.8s						
SRBI	**Singaraja**	**22.21**	**195**	P	**P**	**10 03 08.9**	**+3.0**
	comp=Z,2μmcomp=Z,2μmcomp=Z,257nm,1.1s						
JTU	**Tsushima**	**22.27**	**19**	P	**P**	**10 03 07.9**	**+1.6**
PLAI	**Plampang**	**22.45**	**188**	P	**P**	**10 03 10.2**	**+2.0**
PLAI	**Plampang**	**22.45**	**188**	P	**P**	**10 03 10.0**	**+1.8**
TWSI	**Taliwang, Sumb**	**22.50**	**190**	P	**P**	**10 03 10.8**	**+2.1**
	comp=Z,2μmcomp=Z,177nm,0.6s						
NGJI	**Ngawi**	**22.77**	**205**	P	**P**	**10 03 15.4**	**+4.1**
	comp=Z,

SOEI	**Soe**	**23.43**	**171**	P	**P**	**10 03 19.0 +1.4**
SOEI	**Soe**	**23.43**	**171**	P	**P**	**10 03 17.8 +0.2**
comp=Z,2μmcomp=Z,191nm,0.7s						
TJN	**Taejon**	**23.47**	**13**	P	**P**	**10 03 18.4 +0.7**
TJN	**Taejon**	**23.47**	**13**	*i* P	**P**	**10 03 17.2 -0.5**
SMPI	**Sarmi**	**23.55**	**130**	P	**P**	**10 03 20.1 +1.5**
comp=Z,4μmcomp=Z,173nm,0.9s						
BKNI	**Bangkinang**	**23.57**	**238**	P	**P**	**10 03 19.1 +0.2**
BKNI	**Bangkinang**	**23.57**	**238**	P	**P**	**10 03 20.5 +1.6**
BKNI	**Bangkinang**	**23.57**	**238**	P	**P**	**10 03 20.9 +2.0**
comp=Z,293nm,0.9s						
BASI	**Baing, Sumba**	**23.63**	**181**	P	**P**	**10 03 20.2 +0.9**
PCJI	**Pacitan**	**23.63**	**204**	P	**P**	**10 03 22.9 +3.6**
comp=Z,4μmcomp=Z,160nm,0.9s						
TNCH	**TengChong**	**23.87**	**302**	⇑P	**P**	**10 03 22.4 +0.7**
TNCH				pP	pwP	10 03 51.0 +0.4
TNCH				PP	**PnPn**	**10 03 59.6 +0.9**
TNCH				sP	sP	10 04 02.8 -0.1
TNCH				S	**S**	**10 07 30.3 +1.6**
TNCH				pmax	pmax	
comp=Z,160nm,0.9s						
TNCH				pmax	pmax	
comp=Z,670nm,3.3s						
TNCH				LR	LR	
comp=Z,660nm,15.3s						
TNCH				LR	LR	
comp=Z,670nm,16.2s						
TNCH				LR	LR	
comp=Z,320nm,14.4s						
JCJ	**Chichijima**	**24.11**	**53**	P	**P**	**10 03 23.8 +0.2**
JCJ	**Chichijima**	**24.11**	**53**	P	**P**	**10 03 17.1 -6.5**
comp=Z,106nm,0.5s,baz=273,slow=7.9,SNR=8.9						
JCJ				LR	LR	10 11 56.8
comp=Z,640nm,20.9s,baz=261,slow=34						
PSI	**Prapat**	**24.11**	**246**	P	**P**	**10 03 26.3 +2.4**
PSI	**Prapat**	**24.11**	**246**	P	**P**	**10 03 24.7 +0.8**
TSI	**Tuntungan**	**24.12**	**248**	P	**P**	**10 03 26.1 +2.3**
comp=Z,300nm,1.1s						
RPSI	**Rantau Prapat**	**24.16**	**245**	P	**P**	**10 03 24.7 +0.5**
HNS	**HongShan**	**24.35**	**348**	⇑P	**P**	**10 03 24.8 -0.8**
HNS				pP	**pP**	**10 03 54.1 +1.6**
HNS				sP	**sP**	**10 04 07.3 -0.9**
HNS				S	**S**	**10 07 34.9 -0.7**
HNS				sS	**sS**	**10 08 23.4 -0.3**
HNS				pmax	pmax	
comp=Z,71nm,1.4s						
HNS				pmax	pmax	
comp=Z,810nm,6.7s						
HNS				LR	LR	
comp=Z,830nm,15.7s						
HNS				LR	LR	
comp=Z,720nm,18.4s						
MDSI	**Maura Dua**	**24.37**	**224**	P	**P**	**10 03 27.8 +1.8**
comp=Z,2μmcomp=Z,1μmcomp=Z,84nm,1.0s						
INCN	**Inchon**	**24.38**	**11**	P	**P**	**10 03 25.9 0.0**
INCN				IAmb	IAmb	10 03 29.6
comp=Z,110nm,1.2s						
INCN	**Inchon**	**24.38**	**11**	P	**P**	**10 03 26.9 +1.0**
INCN				S	**S**	**10 07 45.0 +8.8**
INCN	**Inchon**	**24.38**	**11**	P	**P**	**10 03 27.9 +1.9**
INCN	**Inchon**	**24.38**	**11**	P	**P**	**10 03 26.0 0.0**
INCN				pmax	pmax	
comp=Z,110nm,1.2s						
MNSI	**Mandailing Nat**	**24.54**	**241**	P	**P**	**10 03 28.8 +1.2**
comp=Z,3μmcomp=Z,240nm,0.8s						
PPI	**Padang Panjang**	**24.55**	**237**	P	**P**	**10 03 29.8 +2.1**
comp=Z,2μmcomp=Z,93nm,0.9s						
KSAR	**Wonju Array Be**	**24.61**	**14**	P	**P**	**10 03 27.8 -0.2**
KSAR	**Wonju Array Be**	**24.61**	**14**	P	**P**	**10 03 27.8 -0.2**
KSRS	**Korea Array**	**24.63**	**14**	P	**P**	**10 03 28.0 -0.1**
comp=Z,57nm,1.1s,baz=192,slow=10.0,SNR=67						
KSRS				PcP	**PcP**	**10 07 02.2 -0.2**
comp=Z,3.4nm,0.7s,baz=206,slow=1.9,SNR=7.9						
KSRS				PKiKP	**PKiKP**	**10 14 44.2 0.0**
comp=Z,1.6nm,0.8s,baz=255,slow=1.3,SNR=5.1						
comp=Z,57nm,1.1s						
BBJI	**Bungbulang**	**24.63**	**213**	P	**P**	**10 03 29.9 +1.4**
KS19	**Wonju Array Si**	**24.66**	**14**	P	**P**	**10 03 27.8 -0.6**
CNJI	**Cibinong**	**24.78**	**214**	P	**P**	**10 03 33.5 +3.7**
comp=Z,905nmcomp=Z,72nm,0.9s						
LWLI	**Liwa**	**24.84**	**223**	P	**P**	**10 03 33.2 +2.8**
KSI	**Kapahiang**	**24.88**	**228**	P	**P**	**10 03 33.4 +2.7**
comp=Z,184nm,0.8s						
CGJI	**Cibinong**	**25.04**	**218**	P	**P**	**10 03 35.0 +2.9**
comp=Z,67nm,0.8s						
MNAI	**Manna**	**25.11**	**226**	P	**P**	**10 03 32.3 -0.5**
MNAI	**Manna**	**25.11**	**226**	P	**P**	**10 03 34.7 +1.9**
MNAI	**Manna**	**25.11**	**226**	P	**P**	**10 03 35.8 +3.0**
comp=Z,372nm,0.9s						
TIY	**Taiyuan**	**25.18**	**344**	P	**P**	**10 03 33.8 +0.6**
TIY				S	**S**	**10 07 50.0 +1.1**
TIY				pmax	pmax	
comp=Z,86nm,0.8s						
TIY				pmax	pmax	
comp=Z,480nm,9.6s						
DL2	**Dalian**	**25.25**	**2**	P	**P**	**10 03 32.4 -1.4**
DL2				PcP	**PcP**	**10 07 07.8 +4.0**
DL2				S	**S**	**10 07 46.1 -3.8**
DL2				pmax	pmax	
comp=Z,86nm,0.8s						
DL2				pmax	pmax	
comp=Z,170nm,5.2s						
GSI	**Gunungsitoli**	**26.01**	**244**	P	**P**	**10 03 40.9 -0.1**
GSI				IAmb	IAmb	10 03 44.3
comp=Z,105nm,0.7s						
GSI	**Gunungsitoli**	**26.01**	**244**	P	**P**	**10 03 42.8 +1.9**
GSI	**Gunungsitoli**	**26.01**	**244**	P	**P**	**10 03 41.3 +0.4**
comp=Z,3μmcomp=Z,156nm,0.8s						
JHJ	**Hachijo jima 2**	**26.05**	**38**	P	**P**	**10 03 41.6 +0.5**
comp=Z,274nm,0.9s,baz=210,slow=7.8,SNR=3.9						
JHJ				LR	LR	10 11 50.9
comp=Z,673nm,21.3s,baz=294,slow=31						
comp=Z,274nm,0.9s						
SISI	**Saibi**	**26.11**	**237**	P	**P**	**10 03 42.9 +1.0**
comp=Z,187nm,0.6s						
INU	**Inuyama**	**26.16**	**31**	P	**P**	**10 03 41.9 -0.2**
INU				IAmb	IAmb	10 03 44.1
comp=Z,79nm,0.7s						
INU	**Inuyama**	**26.16**	**31**	P	**P**	**10 03 42.9 +0.8**
JGF	**Kuroka**	**26.53**	**31**	P	**P**	**10 03 44.5 -1.0**
JGF				IAmb	IAmb	10 03 52.1
comp=Z,106nm,0.9s						
JGF	**Kuroka**	**26.53**	**31**	P	**P**	**10 03 45.7 +0.2**
BJT	**Baijiatuau**	**26.66**	**352**	P	**P**	**10 03 46.0 -0.5**
BJT	**Baijiatuau**	**26.66**	**352**	P	**P**	**10 03 47.3 +0.8**
BJT	**Baijiatuau**	**26.66**	**352**	P	**P**	**10 03 46.0 -0.5**
BJT				pmax	pmax	
comp=Z,23nm,0.8s						
BJI	**Beijing**	**26.68**	**352**	P	**P**	**10 03 47.0 +0.3**
BJI				pP	**pP**	**10 04 12.3 -2.0**
BJI				S	**S**	**10 08 08.3 -4.1**
BJI				pmax	pmax	
comp=Z,16nm,1.7s						
BJI				pmax	pmax	
comp=Z,250nm,6.5s						
BJI				LR	LR	
comp=Z,390nm,18.0s						
BJI				LR	LR	
comp=Z,180nm,15.5s						
BJI				LR	LR	
comp=Z,300nm,21.1s						
LZH	**Lanzhou**	**27.11**	**329**	⇑P	**P**	**10 03 51.9 +1.1**
LZH				PcP	**PcP**	**10 07 10.3 +1.9**
LZH				S	**S**	**10 08 20.4 +0.8**
LZH				pmax	pmax	
comp=Z,600nm,1.2s						
LZH				pmax	pmax	
comp=Z,1μm,5.8s						
LZH				LR	LR	
comp=Z,1μm,13.4s						
LZH				LR	LR	
comp=Z,860nm,14.1s						
LZH				LR	LR	
comp=Z,1μm,13.4s						
TABU	**Tabubil**	**27.60**	**131**	P	**P**	**10 03 57.6 +2.4**
MAJO	**Matsushiro**	**27.70**	**31**	P	**P**	**10 03 54.7 -1.2**
MAJO	**Matsushiro**	**27.70**	**31**	P	**P**	**10 03 55.5 -0.3**
MAJO	**Matsushiro**	**27.70**	**31**	*i* P	**P**	**10 03 55.1 -0.7**
MAJO				pmax	pmax	
comp=Z,48nm,1.3s						
MJAR	**Matsushiro Arr**	**27.70**	**31**	P	**P**	**10 03 54.8 -1.1**
comp=Z,19nm,0.6s,baz=204,slow=8.2,SNR=46						
MJAR				PcP	**PcP**	**10 07 10.2 +0.5**
comp=Z,5.4nm,0.7s,baz=181,slow=2.5,SNR=7.7						
MJAR				LR	LR	10 16 25.4
comp=Z,134nm,18.4s,baz=226,slow=39						
comp=Z,19nm,0.6s						
MJB9	**Matsu-Tunnel**	**27.70**	**31**	P	**P**	**10 03 55.8 0.0**
DRS	**Darwin Rock St**	**27.70**	**158**	P	**P**	**10 03 55.9 -0.1**
MTN	**Manton Dam**	**28.17**	**158**	P	**P**	**10 03 59.3 -0.9**
MTN	**Manton Dam**	**28.17**	**158**	P	**P**	**10 03 59.8 -0.4**
XMI	**Christmas Isla**	**28.18**	**213**	P	**P**	**10 04 03.1 +2.8**
HHC	**Hu-ho-hao-te**	**28.36**	**345**	⇓*i* P	**P**	**10 04 02.9 +1.2**
HHC				pP	pP	10 04 29.8 +0.2
HHC				S	**S**	**10 08 39.5 +0.5**
HHC				SS	**SnSn**	**10 10 18.8 +6.6**
HHC				pmax	pmax	
comp=Z,24nm,1.0s						
HHC				pmax	pmax	
comp=Z,220nm,6.7s						
HHC				LR	LR	
comp=Z,470nm,14.3s						
HHC				LR	LR	
comp=Z,390nm,14.4s						
HHC				LR	LR	
comp=Z,640nm,15.6s						
KDU	**Kakadu**	**28.54**	**156**	P	**P**	**10 04 02.0 -1.4**
comp=Z,42nm,0.6s						
KDU	**Kakadu**	**28.54**	**156**	P	**P**	**10 04 02.9 -0.5**
BTO	**Baotou**	**28.54**	**343**	*e*P	**P**	**10 04 04.8 +1.4**
BTO				PP	**PnPn**	**10 05 04.4 +4.1**
BTO				S	**S**	**10 08 42.8 +0.8**
BTO				pmax	pmax	
comp=Z,44nm,0.8s						
BTO				pmax	pmax	
comp=Z,370nm,5.5s						
BTO				LR	LR	
comp=Z,810nm,12.2s						
BTO				LR	LR	
comp=Z,1μm,16.7s						
BTO				LR	LR	
comp=Z,770nm,13.1s						
JSD	**Sado**	**28.90**	**29**	P	**P**	**10 04 05.6 -0.9**
JSD				IAmb	IAmb	10 04 11.0
comp=Z,87nm,1.6s						
JSD	**Sado**	**28.90**	**29**	P	**P**	**10 04 08.3 +1.8**
BRDH	**Bariadhala**	**29.10**	**292**	LR	LR	10 16 22.4
comp=Z,526nm,18.2s,baz=168,slow=37						
SHL	**Shillong**	**29.67**	**298**	P	**P**	**10 04 13.5 -0.2**
SNR=90						
JMM	**Marumori**	**30.04**	**33**	IAmb	IAmb	10 04 19.7
comp=Z,64nm,0.6s						
JMM	**Marumori**	**30.04**	**33**	P	**P**	**10 04 18.1 +1.6**
KNRA	**Kununurra**	**30.11**	**165**	P	**P**	**10 04 16.8 -0.5**
KNRA	**Kununurra**	**30.11**	**165**	P	**P**	**10 04 16.8 -0.5**
comp=Z,35nm,0.7s						
PSTR	**Posyet**	**30.25**	**15**	*i* P	**P**	**10 04 18.9 +0.6**
MSHR	**Mys Shultsa**	**30.27**	**15**	*i* P	**P**	**10 04 18.4 -0.1**
MSHR				pmax	pmax	
comp=Z,17nm,1.0s						
CN2	**Changchun**	**30.39**	**7**	⇓P	**P**	**10 04 19.3 -0.3**
CN2				pP	pP	10 04 47.0 -0.5
CN2				S	**S**	**10 09 09.3 -1.4**
CN2				pmax	pmax	
comp=Z,10.0nm,0.7s						
CN2				pmax	pmax	
comp=Z,300nm,4.0s						
XLT	**XiLinHaoTe**	**30.50**	**353**	*e*P	**P**	**10 04 20.8 +0.2**
XLT				pP	pP	10 04 50.0 +1.4
XLT				S	**S**	**10 09 08.0 -4.5**
XLT				pmax	pmax	
comp=Z,29nm,1.3s						
XLT				LR	LR	
comp=Z,410nm,20.2s						
XLT				LR	LR	
comp=Z,320nm,17.6s						
GTA	**Gaotai**	**31.70**	**328**	⇑P	**P**	**10 04 32.6 +1.3**
GTA				PcP	**PcP**	**10 07 21.5 +1.4**
GTA				S	**S**	**10 09 26.3 -5.2**
GTA				ScP	**ScP**	**10 10 53.3 +1.7**
GTA				pmax	pmax	
comp=Z,78nm,0.6s						
GTA				pmax	pmax	
comp=Z,660nm,7.6s						
GTA				LR	LR	
comp=Z,360nm,18.7s						
GTA				LR	LR	
comp=Z,270nm,16.7s						
GTA				LR	LR	
comp=Z,660nm,15.5s						
LSA	**Lhasa**	**31.76**	**305**	P	**P**	**10 04 33.3 +0.9**
LSA	**Lhasa**	**31.76**	**305**	P	**P**	**10 04 34.0 +1.7**
LSA	**Lhasa**	**31.76**	**305**	P	**P**	**10 04 34.1 +1.7**
FITZ	**Fitzroy Crossi**	**31.82**	**171**	P	**P**	**10 04 32.2 -0.2**
FITZ	**Fitzroy Crossi**	**31.82**	**171**	P	**P**	**10 04 32.5 +0.1**
MDJ	**Mudanjiang**	**31.84**	**12**	P	**P**	**10 04 32.6 +0.3**
MDJ	**Mudanjiang**	**31.84**	**12**	P	**P**	**10 04 32.6 +0.3**
MDJ				pP	pP	10 05 00.5 +0.1
MDJ				sP	sP	10 05 15.3 0.0
MDJ				PcP	**PcP**	**10 07 21.0 +0.8**
MDJ				S	**S**	**10 09 34.1 +0.8**
MDJ				sS	sS	10 10 22.3 0.0
MDJ				pmax	pmax	
comp=Z,8.0nm,0.6s						
MDJ				pmax	pmax	
comp=Z,460nm,3.5s						
MDJ	**Mudanjiang**	**31.84**	**12**	P	**P**	**10 04 33.6 +1.3**
USA0B	**Ussuriysk Arra**	**32.00**	**15**	P	**P**	**10 04 32.3 -1.4**
USA0B	**Ussuriysk Arra**	**32.00**	**15**	*i* P	**P**	**10 04 34.2 +0.5**
USRK	**Ussuriysk Ar.**	**32.00**	**15**	P	**P**	**10 04 34.0 +0.3**
comp=Z,22nm,0.7s,baz=210,slow=7.4,SNR=41						
USRK				PcP	**PcP**	**10 07 20.0 -0.6**
comp=Z,4.9nm,0.6s,baz=245,slow=2.1,SNR=7.2						
USRK				LR	LR	10 17 42.1
comp=Z,201nm,21.9s,baz=199,slow=36						
comp=Z,22nm,0.7s						
USRK	**Ussuriysk Ar.**	**32.00**	**15**	P	**P**	**10 04 34.0 +0.3**
USRK						10 07 20.0
JTM	**Tenmabayashi**	**32.40**	**29**	IAmb	IAmb	10 04 39.7
comp=Z,149nm,1.3s						
JTM	**Tenmabayashi**	**32.40**	**29**	P	**P**	**10 04 38.2 +0.9**
GOMU	**GeErMu**	**32.42**	**319**	P	**P**	**10 04 38.9 +1.0**
GOMU				pP	pP	10 05 05.8 0.0
GOMU				PcP	**PcP**	**10 07 23.8 +1.4**
GOMU				S	**S**	**10 09 45.3 +2.1**
GOMU				pmax	pmax	
comp=Z,290nm,1.0s						
GOMU				LR	LR	
comp=Z,630nm,16.9s						
GOMU				LR	LR	
comp=Z,460nm,14.2s						
GOMU				LR	LR	
comp=Z,970nm,14.5s						
BNX	**BinXian**	**32.55**	**9**	⇑P	**P**	**10 04 38.6 +0.1**
BNX				PP	**PP**	**10 05 54.8 +0.2**
BNX				S	**S**	**10 09 48.0 +3.7**
BNX				sS	**sS**	**10 10 37.0 +3.7**
BNX				pmax	pmax	
comp=Z,94nm,1.0s						
BNX				pmax	pmax	
comp=Z,520nm,3.5s						
BNX				LR	LR	
comp=Z,190nm,12.2s						
BNX				LR	LR	
comp=Z,780nm,16.3s						
BNX				LR	LR	
comp=Z,440nm,28.2s						
TEY	**Ternei**	**34.13**	**20**	⇑*e*P	**P**	**10 04 52.6 +0.4**
TEY				*e*		10 06 11.7
TEY				*e*		10 10 08.3
TEY				*e*		10 12 48.5
TEY				pmax	pmax	
comp=E,10.0nm,1.2s						
TEY				pmax	pmax	
comp=N,20nm,1.0s						
TEY				pmax	pmax	
comp=Z,40nm,1.0s						
ERM	**Érimo**	**34.35**	**30**	P	**P**	**10 04 53.7 -0.4**
ERM	**Érimo**	**34.35**	**30**	*ce*P	**P**	**10 04 54.8 +0.7**
ERM				pmax	pmax	
comp=Z,58nm,0.9s						
PMG	**Port Moresby**	**34.73**	**130**	P	**P**	**10 04 57.0 -0.6**
PMG	**Port Moresby**	**34.73**	**130**	P	**P**	**10 04 57.1 -0.6**
PMG				pmax	pmax	
comp=Z,244nm,1.9s						
PMG	**Port Moresby**	**34.73**	**130**	P	**P**	**10 04 57.8 +0.1**
PMG				pP	**pP**	**10 05 25.8 -0.2**
PSAC1	**Pilbara Seismi**	**34.89**	**182**	P	**P**	**10 04 58.5 -0.5**
comp=Z,180nm,0.8s						
PSA00	**Pilbara Seismi**	**34.93**	**182**	P	**P**	**10 04 58.7 -0.6**
PSA00				IAmb	IAmb	10 05 00.7
comp=Z,56nm,0.8s						
PSA00	**Pilbara Seismi**	**34.93**	**182**	P	**P**	**10 04 58.6 -0.8**
comp=Z,184nm,0.8s						
PSA00	**Pilbara Seismi**	**34.93**	**182**	P	**P**	**10 04 59.6 +0.3**
COEN	**Coen**	**35.20**	**140**	P	**P**	**10 05 01.2 -0.6**
COEN				IAmb	IAmb	10 05 30.9
comp=Z,120nm,1.9s						
HIA	**Hailar**	**35.61**	**359**	P	**P**	**10 05 04.7 -0.1**
HIA	**Hailar**	**35.61**	**359**	P	**P**	**10 05 04.8 -0.1**
HIA	**Hailar**	**35.61**	**359**	*i* P	**P**	**10 05 04.2 -0.7**
HIA				pmax	pmax	
comp=Z,16nm,1.1s						
HIA	**Hailar**	**35.61**	**359**	P	**P**	**10 05 04.3 -0.6**
HIA				PcP	**PcP**	**10 07 31.1 +0.3**
ASAJ	**Asahikawa**	**35.71**	**27**	LR	LR	10 18 33.0
comp=Z,334nm,21.9s,baz=200,slow=34						
ASAJ	**Asahikawa**	**35.71**	**27**	P	**P**	**10 05 06.0 +0.2**
ASAJ				pmax	pmax	
comp=Z,171nm,1.2s						
JKA	**Kamikawa-asahi**	**35.71**	**27**	P	**P**	**10 05 06.0 +0.2**
WB0	**Warramunga Arr**	**35.73**	**158**	P	**P**	**10 05 04.9 -1.3**
WB0				IAmb	IAmb	10 05 35.4
comp=Z,102nm,1.1s						
WRAB	**Tennant Creek**	**35.86**	**158**	P	**P**	**10 05 06.5 -0.9**
WRAB	**Tennant Creek**	**35.86**	**158**	*i* P	**P**	**10 05 06.2 -1.2**
WRAB				pmax	pmax	
comp=Z,26nm,0.9s						
WRA	**Warramunga Arr**	**35.87**	**158**	P	**P**	**10 05 06.4 -1.0**
WRA	**Warramunga Arr**	**35.87**	**158**	P	**P**	**10 05 06.2 -1.2**
comp=Z,31nm,0.6s,baz=335,slow=9.7,SNR=491						
WRA				pP	**pP**	**10 05 34.1 -2.2**
comp=Z,55nm,0.9s,baz=338,slow=8.9,SNR=11						
WRA				S	**S**	**10 10 31.6 -4.3**
comp=Z,11nm,0.9s,baz=334,slow=16,SNR=14						
WRA				ScP	**ScP**	**10 11 05.7 -0.7**
comp=Z,2.9nm,0.7s,baz=345,slow=4.0,SNR=4.8						
comp=Z,31nm,0.6s						
WRA	**Warramunga Arr**	**35.87**	**158**	*i* P	**P**	**10 05 05.9 -1.5**
WRA				pmax	pmax	
comp=Z,37nm,0.5s						
WB2	**Warramunga Arr**	**35.87**	**158**	P	**P**	**10 05 06.1 -1.3**
WR0	**Warramunga Arr**	**35.96**	**158**	P	**P**	**10 05 07.0 -1.2**
WR0				IAmb	IAmb	10 05 37.6
comp=Z,74nm,1.1s						
ULN	**Ulaanbaatar**	**36.06**	**344**	P	**P**	**10 05 08.9 0.0**
ULN				IAmb	IAmb	10 05 10.1
comp=Z,39nm,0.6s						
ULN	**Ulaanbaatar**	**36.06**	**344**	P	**P**	**10 05 08.5 -0.4**
ULN	**Ulaanbaatar**	**36.06**	**344**	*c i* P	**P**	**10 05 08.4 -0.5**
ULN				pmax	pmax	
comp=Z,33nm,1.0s						
ULN	**Ulaanbaatar**	**36.06**	**344**	P	**P**	**10 05 08.5 -0.4**
ULN				PcP	**PcP**	**10 07 32.4 0.0**
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**10 05 09.9 -0.3**
SONM				IAmb	IAmb	10 05 11.2
comp=Z,50nm,0.7s						
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**10 05 09.9 -0.3**
comp=Z,47nm,0.6s,baz=165,slow=9.9,SNR=258						
SONM				PcP	**PcP**	**10 07 32.4 -0.4**
comp=Z,4.1nm,0.7s,baz=167,slow=3.0,SNR=4.7						
SONM				LR	LR	10 21 48.6
comp=Z,321nm,18.7s,baz=154,slow=39						
comp=Z,47nm,0.6s						
GIRL	**Giralia**	**36.55**	**190**	P	**P**	**10 05 13.8 +0.7**
KLR	**Kul'dur**	**36.69**	**12**	P	**P**	**10 05 14.4 +0.4**
comp=Z,62nm,0.9s,baz=231,slow=8.2,SNR=179						
KLR				PcP	**PcP**	**10 07 33.6 -0.4**
comp=Z,16nm,0.6s,baz=202,slow=3.6,SNR=13						
KLR				LR	LR	10 20 33.6
comp=Z,392nm,21.1s,baz=212,slow=36						
comp=Z,62nm,0.9s						
KLR	**Kul'dur**	**36.69**	**12**	*ce*P	**P**	**10 05 13.3 -0.8**
KLR				pmax	pmax	
comp=Z,116nm,1.3s						
HEH	**HeiHe**	**36.98**	**7**	*e*P	**P**	**10 05 16.5 0.0**
HEH				PP	**PP**	**10 06 43.4 0.0**
HEH				PcP	**PcP**	**10 07 34.6 -0.3**
HEH				S	**S**	**10 10 52.6 +0.4**
HEH				pmax	pmax	
comp=Z,110nm,1.4s						
HEH				pmax	pmax	
comp=Z,580nm,5.2s						
PATS	**Pohnpei**	**37.49**	**96**	P	**P**	**10 05 23.4 +2.1**
PATS	**Pohnpei**	**37.49**	**96**	P	**P**	**10 05 22.9 +1.6**
PATS	**Pohnpei**	**37.49**	**96**	P	**P**	**10 05 22.4 +1.1**
YSS	**Yuzhno-Sakhali**	**38.04**	**25**	P	**P**	**10 05 25.8 +0.4**
YSS				IAmb	IAmb	10 05 27.5
comp=Z,74nm,1.1s						
YSS	**Yuzhno-Sakhali**	**38.04**	**25**	P	**P**	**10 05 27.3 +1.9**
YSS	**Yuzhno-Sakhali**	**38.04**	**25**	*i* P	**P**	**10 05 26.0 +0.6**
YSS				pmax	pmax	
comp=Z,54nm,1.1s						
QIS	**Mount Isa**	**38.63**	**151**	P	**P**	**10 05 29.6 -1.1**
comp=Z,50nm,1.2s						
QIS	**Mount Isa**	**38.63**	**151**	P	**P**	**10 05 30.6 -0.1**
CIT	**Chita**	**38.80**	**353**	*e*P	**P**	**10 05 31.8 0.0**
CIT				*e*		10 06 01.0
CIT				*e*		10 06 13.6
CIT				*e*		10 07 07.4
CIT				pmax	pmax	
comp=Z,134nm,1.9s						
WRKA	**Warakurna**	**39.06**	**169**	P	**P**	**10 05 33.5 -0.7**
comp=Z,71nm,0.5s						
WRKA	**Warakurna**	**39.06**	**169**	P	**P**	**10 05 34.0 -0.3**
MTSU	**Mount Surprise**	**39.12**	**143**	P	**P**	**10 05 34.5 -0.4**
comp=Z,10nm,0.7s						
MTSU	**Mount Surprise**	**39.12**	**143**	P	**P**	**10 05 35.6 +0.7**
AS31	**Alice Springs**	**39.16**	**161**	P	**P**	**10 05 34.5 -0.7**
AS31	**Alice Springs**	**39.16**	**161**	P	**P**	**10 05 34.4 -0.7**
comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**39.16**	**161**	P	**P**	**10 05 34.2 -0.9**
ASAR	**Alice Springs**	**39.16**	**161**	P	**P**	**10 05 34.7 -0.5**
comp=Z,24nm,0.5s,baz=337,slow=6.7,SNR=504						
ASAR				pP	**pP**	**10 06 03.4 -0.8**
comp=Z,19nm,0.6s,baz=340,slow=7.5,SNR=7.1						
ASAR				PcP	**PcP**	**10 07 42.3 +0.2**
comp=Z,7.6nm,0.6s,baz=347,slow=4.8,SNR=7.2						
ASAR				ScP	**ScP**	**10 11 18.9 +0.1**
comp=Z,5.8nm,0.9s,baz=343,slow=4.0,SNR=10						
comp=Z,24nm,0.5s						
AS06	**Alice Springs**	**39.17**	**161**	P	**P**	**10 05 34.3 -0.9**
comp=Z,29nm,0.6s						
AS01	**Alice Springs**	**39.18**	**161**	P	**P**	**10 05 35.0 -0.3**
AS19	**Alice Springs**	**39.22**	**161**	P	**P**	**10 05 34.6 -1.0**
comp=Z,41nm,0.8s						
GRNR	**Gornyy**	**39.22**	**16**	⇑*i* P	**P**	**10 05 35.1 -0.2**
GRNR				pmax	pmax	
comp=E,10.0nm,0.9s						
GRNR				pmax	pmax	
comp=Z,50nm,0.9s						
GRNR				pmax	pmax	
comp=N,20nm,1.0s						
GRNR				MLR	MLR	
comp=N,160nm,14.0s						
ZAK	**Zakamensk**	**39.40**	**342**	*e*P	**P**	**10 05 35.8 -1.1**
ZAK				pmax	pmax	
comp=Z,16nm,1.0s						
UGL	**Uglegorsk**	**39.51**	**22**	*e*P	**P**	**10 05 39.3 +1.6**
UGL				*e*S	**S**	**10 11 32.3 +2.0**
UGL				pmax	pmax	
comp=Z,100nm,1.2s						
PALK	**Pallekele**	**39.88**	**265**	P	**P**	**10 05 41.6 +0.2**
PALK	**Pallekele**	**39.88**	**265**	LR	LR	10 21 31.7
comp=Z,250nm,20.8s,baz=82,slow=35						
PALK	**Pallekele**	**39.88**	**265**	P	**P**	**10 05 41.6 +0.2**
PALK	**Pallekele**	**39.88**	**265**	P	**P**	**10 05 41.6 +0.

comp=Z,100nm,6.9s
ZEA smax smax
comp=N,100nm,7.5s
IRK Irkutsk 40.79 344 *e*P **P** **10 05 47.4 -0.9**
IRK pmax pmax
comp=Z,93nm,1.4s
HYB Hyderabad 40.83 281 *e*P **P** **10 05 50.7 +1.6**
HYB IVmB_BB 10 05 50.9
comp=Z,780nm,1.0s
HYB *e*pP **pP** **10 06 16.3 -0.7**
HYB *e* 10 06 22.8
HYB *e*PcP **PcP** **10 07 48.1 +0.4**
HYB *e*ScP **ScP** **10 11 25.8 +0.3**
HYB *e*S **S** **10 11 53.0 +2.2**
HYB *e* 10 12 13.7
TYV Tymovskoe 41.22 21 *e*P **P** **10 05 53.7 +2.0**
TYV *e*S **S** **10 11 56.3 +0.7**
TYV pmax pmax
comp=Z,400nm,3.8s
TYV pmax pmax
comp=Z,22nm,1.7s
TYV smax smax
comp=N,300nm,5.2s
TYV smax smax
comp=E,300nm,5.2s
MOY Mondy 41.22 341 *e*P **P** **10 05 51.4 -0.5**
MOY pmax pmax
comp=Z,63nm,1.9s
WMQ Urumqi 41.37 323⇑ *i*P **P** **10 05 54.5 +1.3**
WMQ S **S** **10 11 59.0 +0.8**
WMQ pmax pmax
comp=Z,89nm,0.7s
WMQ pmax pmax
comp=Z,650nm,3.7s
WMQ LR LR
comp=Z,800nm,15.3s
WMQ LR LR
comp=Z,570nm,14.1s
WMQ LR LR
comp=Z,290nm,21.1s
MORW Morawa 42.63 186 P **P** **10 06 03.0 -0.4**
MORW Morawa 42.63 186 P **P** **10 06 02.9 -0.6**
comp=Z,149nm,0.9s
MORW Morawa 42.63 186 P **P** **10 06 04.0 +0.5**
OOD Oodnadatta 43.58 161 P **P** **10 06 11.1 0.0**
BLDU Ballidu 44.10 185 P **P** **10 06 15.2 -0.1**
comp=Z,56nm,1.0s
BLDU Ballidu 44.10 185 P **P** **10 06 15.5 +0.3**
TATA Tatamba Isabel 44.45 117 P **P** **10 06 20.3 +2.0**
BOD Bodaibo 44.47 355 *e*P **P** **10 06 17.7 -0.1**
BOD pmax pmax
comp=Z,43nm,1.7s
FORT Forrest 44.64 171 P **P** **10 06 18.6 -0.8**
FORT IAmb IAmb 10 06 51.1
comp=Z,90nm,0.8s
FORT Forrest 44.64 171 P **P** **10 06 18.5 -1.0**
comp=Z,108nm,1.0s
FORT Forrest 44.64 171 P **P** **10 06 20.3 +0.8**
KMBL Kambalda 44.69 179 P **P** **10 06 19.0 -0.8**
comp=Z,447nm,0.7s
KMBL Kambalda 44.69 179 P **P** **10 06 19.4 -0.5**
KLBR Kellerberrin 44.99 184 P **P** **10 06 21.5 -0.8**
comp=Z,534nm,0.7s
KLBR Kellerberrin 44.99 184 P **P** **10 06 21.8 -0.5**
ZSN Zaisan 45.12 326 *e*P **P** **10 06 23.9 +0.7**
ZSN pmax pmax
comp=Z,13nm,0.6s
ZSN Zaisan 45.12 326 *e*P **P** **10 06 24.0 +0.7**
comp=Z,13nm,0.6s
INKA Innaminka 45.39 155 P **P** **10 06 26.3 +0.8**
ALEG Aligegeo Malai 45.40 117 P **P** **10 06 27.6 +1.8**
WUS Wushi 45.42 315 P **P** **10 06 26.4 +0.6**
WUS Wushi 45.42 315 P **P** **10 06 26.7 +0.9**
MUN Mundaring 45.50 185 P **P** **10 06 25.7 -0.6**
comp=Z,91nm,1.1s
MUN Mundaring 45.50 185 P **P** **10 06 26.6 +0.3**
QLP Quilpie 45.96 150 P **P** **10 06 29.3 -0.6**
comp=Z,60nm,0.9s
QLP Quilpie 45.96 150 P **P** **10 06 30.2 +0.2**
SHLS Shalkode 46.12 318 *e*P **P** **10 06 29.6 -1.6**
SHLS pmax pmax
comp=Z,25nm,0.4s
SHLS Shalkode 46.12 318 *e*P **P** **10 06 29.7 -1.6**
comp=Z,25nm,0.4s
MK31 Makanchi Array 46.19 324 P **P** **10 06 31.9 +0.2**
MK31 IAmb IAmb 10 06 34.0
comp=Z,86nm,0.8s
MK31 Makanchi Array 46.19 324*c*e*P **P** **10 06 31.7 0.0**
MKAR Makanchi Array 46.19 324 P **P** **10 06 32.1 +0.5**
MKAR Makanchi Array 46.19 324 P **P** **10 06 31.9 +0.2**
comp=Z,64nm,0.6s,baz=131,slow=8.8,SNR=442
MKAR PcP **PcP** **10 08 05.4 +0.1**
comp=Z,8.8nm,0.6s,baz=82,slow=3.2,SNR=3.0
MKAR ScP **ScP** **10 11 46.6 -0.1**
comp=Z,2.9nm,0.9s,baz=132,slow=5.4,SNR=3.9
MKAR LR LR 10 26 41.7
comp=Z,194nm,18.4s,baz=101,slow=37
comp=Z,64nm,0.6s
MKAR Makanchi Array 46.19 324*c*e*P **P** **10 06 31.8 +0.1**
MKAR pmax pmax
comp=Z,65nm,0.6s
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 33.0 0.0**
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 32.5 -0.5**
comp=Z,363nm,1.3s
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 32.9 0.0**
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 33.2 +0.2**
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 33.1 +0.1**
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 33.0 0.0**
NWAO pmax pmax
comp=Z,141nm,0.8s
NWAO Narrogin (SRO) 46.35 184 P **P** **10 06 32.7 -0.2**
NWAO pP **pP** **10 07 01.3 -0.9**
NWAO PcP **PcP** **10 08 06.1 +0.1**
MAKZ Makanchi 46.38 324 P **P** **10 06 33.5 +0.4**
MAKZ Makanchi 46.38 324 P **P** **10 06 33.5 +0.4**
MAKZ pmax pmax
comp=Z,113nm,0.6s
MAKZ Makanchi 46.38 324 P **P** **10 06 33.3 +0.2**
MAKZ PcP **PcP** **10 08 07.7 +1.7**
UZB Uzynbulak 46.40 318 *e*P **P** **10 06 33.9 +0.4**
UZB Uzynbulak 46.40 318 *e*P **P** **10 06 33.9 +0.4**
TARG Taragay, Kyrgy 46.60 315 IAmb IAmb 10 06 38.6
comp=Z,112nm,1.4s
SATY Saty 46.76 317 *e*P **P** **10 06 36.8 +0.5**
SATY pmax pmax
comp=Z,29nm,0.7s
SATY Saty 46.76 317 *e*P **P** **10 06 36.9 +0.5**
comp=Z,29nm,0.7s
ZHN Zhinishke 46.79 317 *e*P **P** **10 06 36.8 +0.3**
ZHN pmax pmax
comp=Z,25nm,0.7s
ZHN Zhinishke 46.79 317 *e*P **P** **10 06 36.9 +0.3**
comp=Z,25nm,0.7s
SKR Severo-Kuril's 46.80 30 *i*P **P** **10 06 36.7 +0.5**
RK1H Rockhampton Ha 46.83 141 P **P** **10 06 37.2 +0.3**
LCRK Leigh Creek 46.86 159 P **P** **10 06 37.3 +0.3**
KSH Kashi 47.05 312 P **P** **10 06 41.5 +2.9**
KSH PP **PP** **10 08 35.8 +5.3**
KSH pmax pmax
comp=Z,89nm,1.0s
KDJ Kajisay 47.19 316 P **P** **10 06 40.6 +0.9**
NIL Nilore 47.46 303 P **P** **10 06 41.7 0.0**
NIL Nilore 47.46 303 P **P** **10 06 41.7 0.0**
NIL Nilore 47.46 303 P **P** **10 06 41.7 0.0**
NIL pmax pmax
comp=Z,273nm,0.7s
NIL Nilore 47.46 303 P **P** **10 06 41.6 -0.2**
TDK Taldyqorghan 47.64 320 *e*P **P** **10 06 43.5 +0.6**
TDK Taldyqorghan 47.64 320 *e*P **P** **10 06 43.6 +0.6**
ARXS Arharly 47.65 318 *e*P **P** **10 06 42.3 -0.8**
TNSS Tian-Shan 47.72 317 *e*P **P** **10 06 44.3 +0.3**
TNSS Tian-Shan 47.72 317 *e*P **P** **10 06 44.3 +0.3**
ULHL Ulahol 47.88 315 P **P** **10 06 46.0 +0.9**
SNR=48
CHKK Chushkaly 48.04 318 *e*P **P** **10 06 46.5 +0.5**
CHKK Chushkaly 48.04 318 *e*P **P** **10 06 46.6 +0.5**
BOOM Boomskoye usch 48.18 316 IAmb IAmb 10 06 49.9
comp=Z,38nm,0.6s
BOOM Boomskoye usch 48.18 316 P **P** **10 06 47.7 +0.4**
BBOO Buckleboo 48.37 163 P **P** **10 06 47.7 -0.9**
BBOO IAmb IAmb 10 07 20.5
comp=Z,97nm,1.3s
BBOO Buckleboo 48.37 163 P **P** **10 06 48.4 -0.2**
KUU Kurty 48.48 317 *e*P **P** **10 06 50.0 +0.6**
KUU Kurty 48.48 317 *e*P **P** **10 06 50.0 +0.6**
TKM2 Tokmak 2 48.58 316 P **P** **10 06 51.0 +0.5**
SNR=97
TKM2 Tokmak 2 48.58 316 *i*P **P** **10 06 50.3 -0.1**
TKM2 pmax pmax
comp=Z,57nm,0.5s
EIDS Eidsvold 48.67 143 P **P** **10 06 50.3 -0.7**
EIDS Eidsvold 48.67 143 P **P** **10 06 50.4 -0.7**
comp=Z,36nm,1.1s
EIDS Eidsvold 48.67 143 P **P** **10 06 50.8 -0.2**
YAK Yakutsk 48.81 6 P **P** **10 06 51.6 0.0**
YAK Yakutsk 48.81 6 LR LR 10 30 00.7
comp=Z,116nm,20.1s,baz=178,slow=39
YAK Yakutsk 48.81 6*c*i*P **P** **10 06 51.4 -0.2**
YAK *e**PP **pP** **10 07 23.7 +2.3**
YAK *e* 10 08 14.2
YAK *e* 10 08 45.6
YAK *e*PPP PPP 10 09 41.0
YAK *e*S **S** **10 13 43.3 -1.4**
YAK *e* 10 16 28.8
YAK *e*SS **SS** **10 17 17.1 +0.3**
YAK pmax pmax
comp=Z,84nm,0.9s
YAK pmax pmax
comp=N,44nm,0.9s
YAK pmax pmax
comp=E,12nm,0.9s
YAK pmax pmax
comp=Z,80nm,2.4s
YAK pmax pmax
comp=N,95nm,2.4s
YAK pmax pmax
comp=E,58nm,3.3s
YAK smax smax
comp=N,47nm,3.0s
YAK smax smax
comp=E,40nm,3.3s
KBK Karagaybulak 48.92 315 P **P** **10 06 53.9 +0.8**
SNR=94
UCH Uchtor 49.06 315 P **P** **10 06 55.5 +1.1**
SNR=25
PEA0B Petropavlovsk- 49.10 29 P **P** **10 06 54.8 +0.9**
PEA0B Petropavlovsk- 49.10 29*c*e*P **P** **10 06 55.1 +1.2**
PETK Petropavlovsk- 49.10 29 P **P** **10 06 54.1 +0.2**
comp=E,29nm,0.9s,baz=180,slow=3.0,SNR=30
PETK PcP **PcP** **10 08 15.2 -0.4**
comp=E,3.4nm,0.6s,baz=228,slow=6.1,SNR=1.6
PETK LR LR 10 26 00.3
comp=E,130nm,21.2s,baz=222,slow=34
comp=E,29nm,0.9s
CHMS Chumysh 49.19 316 P **P** **10 06 55.1 +0.3**
SNR=25
ZAA0 Zalesovo Array 49.22 333 P **P** **10 06 53.9 -0.9**
ZALV Zalesovo Beam 49.22 333 P **P** **10 06 54.0 -0.8**
ZALV Zalesovo Beam 49.22 333 P **P** **10 06 54.0 -0.8**
comp=E,62nm,0.4s,baz=120,slow=6.7,SNR=232
ZALV PcP **PcP** **10 08 14.9 -1.1**
comp=E,5.1nm,0.5s,baz=129,slow=3.9,SNR=2.2
ZALV LR LR 10 29 09.2
comp=E,239nm,18.6s,baz=116,slow=38
comp=E,62nm,0.4s
ZALV Zalesovo Beam 49.22 333 *i*P **P** **10 06 54.0 -0.8**
ZALV pmax pmax
comp=Z,62nm,0.4s
AAK Ala-Archa 49.23 315 P **P** **10 06 56.2 +0.9**
AAK IAmb IAmb 10 06 58.3
comp=Z,66nm,1.1s
AAK Ala-Archa 49.23 315 P **P** **10 06 56.2 +0.9**
comp=Z,27nm,0.5s,baz=123,slow=5.2,SNR=59
AAK LR LR 10 29 20.0
comp=Z,227nm,21.8s,baz=102,slow=38
comp=Z,27nm,0.5s
AAK Ala-Archa 49.23 315 P **P** **10 06 55.9 +0.6**
AAK Ala-Archa 49.23 315 P **P** **10 06 56.6 +1.3**
SNR=50
AAK Ala-Archa 49.23 315 *i*P **P** **10 06 55.3 0.0**
SNR=60
STKA Stephens Creek 49.39 157 P **P** **10 06 55.8 -0.6**
STKA Stephens Creek 49.39 157 P **P** **10 06 55.3 -1.1**
comp=Z,11nm,0.6s,baz=332,slow=7.9,SNR=40
STKA S **S** **10 13 50.0 -3.5**
comp=Z,0.9nm,0.7s,baz=269,slow=16,SNR=2.9
comp=Z,11nm,0.6s
STKA Stephens Creek 49.39 157 P **P** **10 06 56.0 -0.4**
SGDS Sogindy 49.44 316 *e*P **P** **10 06 57.1 +0.3**
SGDS Sogindy 49.44 316 *e*P **P** **10 06 57.1 +0.3**
USP Ospenovka 49.46 316 P **P** **10 06 57.2 +0.3**
SNR=58
PET Petropavlovsk 49.49 29 P **P** **10 06 57.9 +1.0**
PET IAmb IAmb 10 06 59.5
comp=Z,78nm,1.1s
PET Petropavlovsk 49.49 29 *e*P **P** **10 06 57.4 +0.5**
PET *e**PP **pP** **10 07 27.2 +0.4**
PET *e**SP **sP** **10 07 42.6 +1.3**
PET *e* 10 08 16.7
PET *e*S **S** **10 13 55.2 +0.7**
PET *e**SS **sS** **10 14 49.6 +3.5**
PET pmax pmax
comp=Z,75nm,1.2s
PET pmax pmax
comp=Z,100nm,11.5s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 49.49 29 P **P** **10 06 58.3 +1.4**
comp=Z,2μmcomp=Z,50nm,1.1s
AML Almayashu 49.59 314 P **P** **10 06 59.3 +0.9**
SNR=65
EKS2 Erkin-Say 49.73 315 P **P** **10 06 59.5 +0.5**
SNR=76
HTT Hallett 49.83 160 P **P** **10 07 00.1 +0.3**
DRK Karamyk 50.10 310 P **P** **10 07 02.9 +0.8**
KURBB Kurchatov Arra 50.35 326 P **P** **10 07 03.4 0.0**
comp=Z,124nm,0.7s,baz=135,slow=7.5,SNR=704
KURBB pP **pP** **10 07 33.2 0.0**
comp=Z,13nm,0.8s,baz=125,slow=7.8,SNR=1.7
KURBB S **S** **10 14 06.3 -0.2**
comp=Z,0.3nm,0.6s,baz=160,slow=7.9,SNR=1.8
comp=Z,124nm,0.7s
KURBB Kurchatov Arra 50.35 326 P **P** **10 07 03.1 -0.3**
KURK Kurchatov 50.35 326 P **P** **10 07 03.7 +0.3**
KURK Kurchatov 50.35 326 P **P** **10 07 03.6 +0.1**
KURK Kurchatov 50.35 326 P **P** **10 07 03.4 0.0**
KURK *PP **pP** **10 07 33.2 0.0**
KURK S **S** **10 14 06.3 -0.2**
KURK Kurchatov 50.35 326 P **P** **10 07 03.5 +0.1**
KURK pP **pP** **10 07 34.0 +0.8**
BTLS Baital 50.45 318 *e*P **P** **10 07 04.5 +0.3**
BTLS pmax pmax
comp=Z,20nm,0.6s
BTLS Baital 50.45 318 *e*P **P** **10 07 04.5 +0.3**
comp=Z,20nm,0.6s
CMSA Cobar Meteorol 50.81 152 P **P** **10 07 07.7 +0.6**
LUES Luesalemba Tem 50.83 116 P **P** **10 07 09.0 +1.5**
TW1H Toowoomba 1 Ha 50.84 144 P **P** **10 07 08.4 +0.9**
MA2 Magadan 51.00 19 P **P** **10 07 08.8 +0.7**
MA2 Magadan 51.00 19 P **P** **10 07 09.0 +0.9**
comp=Z,24nm,0.8s,baz=212,slow=7.9,SNR=42
MA2 PcP **PcP** **10 08 22.3 -0.1**
comp=Z,6.7nm,0.5s,baz=189,slow=2.8,SNR=4.2
MA2 LR LR 10 31 07.6
comp=Z,103nm,18.7s,baz=226,slow=39
comp=Z,24nm,0.8s
MA2 Magadan 51.00 19 P **P** **10 07 09.3 +1.2**
MA2 Magadan 51.00 19*c*e*P **P** **10 07 09.1 +0.9**
MA2 pmax pmax
comp=Z,120nm,1.7s
MA2 Magadan 51.00 19 P **P** **10 07 09.1 +0.9**
comp=Z,1μmcomp=Z,73nm,1.7s
MA2 Magadan 51.00 19 P **P** **10 07 08.9 +0.7**
MA2 PcP **PcP** **10 08 23.3 +0.9**
KBL Kabul 51.06 304 P **P** **10 07 09.3 0.0**
KBL Kabul 51.06 304 P **P** **10 07 09.2 0.0**
SNR=73
KBL S **S** **10 14 15.4 -1.9**
KBL Kabul 51.06 304 P **P** **10 07 09.3 0.0**
KBL pmax pmax
comp=Z,183nm,0.8s
AUWSH Wavell State H 51.35 143 P **P** **10 07 11.8 +0.6**
DZA Taraz 51.50 314 *e*P **P** **10 07 12.6 +0.4**
DZA pmax pmax
comp=Z,32nm,0.7s
DZA Taraz 51.50 314 *e*P **P** **10 07 12.6 +0.4**
comp=Z,32nm,0.7s
SIMJ Simiganj 51.98 309 P **P** **10 07 16.1 +0.1**
KK31 Karatay Array 52.13 314 P **P** **10 07 16.9 0.0**
KK31 Karatay Array 52.13 314 P **P** **10 07 16.9 0.0**
KK31 pmax pmax
comp=Z,85nm,0.7s
KKAR Karatay Array 52.13 314 P **P** **10 07 16.8 -0.1**
KKAR Karatay Array 52.13 314 P **P** **10 07 16.8 -0.1**
IUG Iuzhnay 52.17 313 *e*P **P** **10 07 17.6 +0.3**
IUG pmax pmax
comp=Z,26nm,0.5s
IUG Iuzhnay 52.17 313 *e*P **P** **10 07 17.7 +0.3**
comp=Z,26nm,0.5s
DGAR Diego Garcia 52.32 249*c*e*P **P** **10 07 18.6 -0.1**
DGAR pmax pmax
comp=Z,114nm,1.3s
BRLS Boroldy 52.58 314 *e*P **P** **10 07 20.7 +0.5**
BRLS pmax pmax
comp=Z,14nm,0.5s
BRLS Boroldy 52.58 314 *e*P **P** **10 07 20.8 +0.5**
comp=Z,14nm,0.5s
OTUK Ortayu 52.81 321 P **P** **10 07 22.0 +0.2**
ARMA Armidale 52.85 146 P **P** **10 07 22.6 +0.2**
ARMA IAmb IAmb 10 07 55.1
comp=Z,39nm,0.9s
BRZS Berezniki 53.34 323 *e*P **P** **10 07 26.2 +0.6**
BRZS pmax pmax
comp=Z,19nm,0.7s
BRZS Berezniki 53.34 323 *e*P **P** **10 07 26.2 +0.6**
comp=Z,19nm,0.7s
ARPS Mount Arapiles 53.85 159 P **P** **10 07 29.0 -0.5**
SEY Seymchan 54.11 17 P **P** **10 07 31.8 +0.8**
comp=Z,26nm,0.5s,baz=222,slow=6.5,SNR=162
SEY PcP **PcP** **10 08 34.1 0.0**
comp=Z,9.0nm,0.6s,baz=212,slow=4.6,SNR=4.5
SEY LR LR 10 32 12.5
comp=Z,153nm,18.6s,baz=162,slow=38
comp=Z,26nm,0.5s
SEY Seymchan 54.11 17 *e*P **P** **10 07 29.5 -1.5**
SEY pmax pmax
comp=Z,52nm,1.1s
SANVU Saraoutou 54.20 121 P **P** **10 07 33.1 +0.8**
KOUNC Koumac, New Ca 54.56 128 P **P** **10 07 37.4 +2.5**
CAN Canberra 55.48 152 P **P** **10 07 41.3 0.0**
CAN IAmb IAmb 10 08 19.7
comp=Z,58nm,1.3s
CAN Canberra 55.48 152 P **P** **10 07 41.3 0.0**
CAN pmax pmax
comp=Z,58nm,1.3s
CAN Canberra 55.48 152 P **P** **10 07 41.7 +0.4**
CAN pP **pP** **10 08 12.3 +0.1**
TOO Toolangi 55.91 156 P **P** **10 07 44.0 -0.3**
TOO Toolangi 55.91 156 P **P** **10 07 44.0 -0.3**
TOO pmax pmax
comp=Z,14nm,1.0s
BVA0 Borovoye Array 55.93 326 P **P** **10 07 44.2 -0.1**
BVAR Borovoye Array 55.93 326 P **P** **10 07 44.0 -0.3**
comp=Z,20nm,0.5s,baz=116,slow=10,SNR=113
BVAR PcP **PcP** **10 08 41.0 -0.3**
comp=Z,11nm,0.6s,baz=132,slow=4.4,SNR=4.5
BVAR S **S** **10 15 21.3 -0.8**
comp=Z,0.5nm,0.4s,baz=78,slow=12,SNR=1.5
comp=Z,20nm,0.5s
BRVK Borovoye 56.01 326 P **P** **10 07 45.1 +0.3**
BRVK Borovoye 56.01 326 P **P** **10 07 44.6 -0.2**
BRVK Borovoye 56.01 326*c*e*P **P** **10 07 44.9 +0.1**
BRVK pmax pmax
comp=Z,129nm,1.0s
NOUC Port Laguerre 56.99 128 P **P** **10 07 53.0 +0.8**
NOUC pP **pP** **10 08 23.9 +1.0**
NGCH Negor - Chabah 57.06 292 P **P** **10 07 53.9 +1.2**
DZM Mont Dzumac 57.08 128 P **P** **10 07 54.0 +1.1**
DZM IAmb IAmb 10 07 55.0
comp=Z,27nm,0.6s
DZM Mont Dzumac 57.08 128 *e*P **P** **10 07 53.1 +0.1**
comp=Z,37nm,0.7s
DZM *e*S **S** **10 15 32.0 -6.2**
comp=Z,136nm,29.4s
DZM *e*LR LR 10 24 49.6
comp=Z,468nm,32.6s
DZM Mont Dzumac 57.08 128 P **P** **10 07 54.6 +1.6**
DZM Mont Dzumac 57.08 128 P **P** **10 07 53.8 +0.8**
YATNC Mamie plateau, 57.42 128 P **P** **10 07 57.3 +2.1**
SHEM Shemya Is, Ala 57.42 35 LR LR 10 28 25.1
comp=Z,82nm,21.6s,baz=280,slow=32
OUENC Ouen Island, N 57.58 128 P **P** **10 07 58.3 +2.0**
TIXI Tiksi 58.26 3 P **P** **10 07 59.6 -0.7**
TIXI Tiksi 58.26 3 LR LR 10 34 33.1
comp=Z,285nm,18.7s,baz=201,slow=37
TIXI Tiksi 58.26 3*c*i*P **P** **10 07 59.1 -1.2**
TIXI pmax pmax
comp=Z,131nm,1.0s
TIXI Tiksi 58.26 3 P **P** **10 07 59.0 -1.2**
TIXI PcP **PcP** **10 08 50.3 +0.2**
JLN Jalan Bani Buh 58.72 288 P **P** **10 08 03.7 -0.7**
SNR=6.2
WBK Wadi Bani Khal 59.11 288 P **P** **10 08 06.8 -0.3**
SNR=5.5
NRIK Noril'sk 59.56 347 P **P** **10 08 08.9 -0.4**
NRIK Noril'sk 59.56 347 P **P** **10 08 08.7 -0.7**
comp=Z,53nm,0.6s,baz=128,slow=6.8,SNR=89
NRIK PcP **sP** **10 08 54.8 +0.3**
comp=Z,14nm,0.4s,baz=131,slow=9.3,SNR=4.1
NRIK LR LR 10 34 55.0
comp=Z,277nm,21.7s,baz=150,slow=37
comp=Z,53nm,0.6s
NRIK Noril'sk 59.56 347⇑ *e*P **P** **10 08 08.7 -0.7**
NRIK pmax pmax
comp=Z,64nm,0.9s
BIDO Bidbid 59.84 289 P **P** **10 08 11.8 -0.3**
JMDO Jabal Madar 59.92 288 P **P** **10 08 12.1 -0.6**
SNR=5.8
JASK Jask - Hormozg 60.01 292 P **P** **10 08 14.1 +0.9**
MHTO MHTO 60.13 287 P **P** **10 08 13.2 -0.9**
SNR=10
HOQ Hoqain 60.59 290 P **P** **10 08 17.0 -0.2**
DQM DQM 60.61 285 P **P** **10 08 17.3 0.0**
BSY Bisya 60.73 289 P **P** **10 08 18.1 -0.2**
SNR=5.9
AB31 Akbulak array 60.89 319 *i*P **P** **10 08 18.5 -0.3**
ABKAR Akbulak array 60.89 319 P **P** **10 08 18.5 -0.3**
SOHO SOHO 61.27 290 P **P** **10 08 21.5 -0.3**
SOHO SOHO 61.27 290 *i*P **P** **10 08 21.2 -0.6**
SNR=9.8
ARQ Araqi 61.33 289 P **P** **10 08 22.1 -0.1**
SNR=7.0
BANOM Banah 61.42 292 P **P** **10 08 23.1 +0.4**
BANOM Banah 61.42 292 *i*P **P** **10 08 23.5 +0.8**
SNR=5.9
MDH Madha 61.44 292 P **P** **10 08 22.4 -0.4**
UOSS Minazif 61.54 291 P **P** **10 08 23.3 -0.3**
UOSS IAmb IAmb 10 08 30.0
comp=Z,16nm,0.7s
UOSS Minazif 61.54 291 P **P** **10 08 23.3 -0.3**
UOSS Minazif 61.54 291 P **P** **10 08 22.8 -0.7**
SHME Shamm 61.55 292 P **P** **10 08 24.4 +0.7**
SHME Shamm 61.55 292 *i*P **P** **10 08 23.0 -0.7**
SNR=7.8
MASF Masafi 61.56 292 P **P** **10 08 24.7 +0.9**
MSFE Esma-Masafi 61.56 292 *i*P **P** **10 08 24.7 +1.0**
SNR=6.5
HATD Hatta, Dubai 61.61 291 P **P** **10 08 24.3 +0.3**
HATD Hatta, Dubai 61.61 291 *i*P **P** **10 08 24.0 -0.1**
SNR=8.7
ASHO Ashiyiah 61.68 291 P **P** **10 08 24.4 -0.2**
ASHO Ashiyiah 61.68 291 *i*P **P** **10 08 23.9 -0.6**
SNR=11
BILL Bilibino 61.81 18 P **P** **10 08 25.1 +0.5**
BILL Bilibino 61.81 18 *e*P **P** **10 08 24.7 +0.1**
BILL pmax pmax
comp=Z,146nm,1.7s
BILL Bilibino 61.81 18 P **P** **10 08 24.4 -0.1**
BILL PcP **PcP** **10 09 04.6 +0.2**
FUNA Funafuti 61.99 107 P **P** **10 08 28.9 +2.2**
ALNE Al Ain 61.99 290 P **P** **10 08 26.5 -0.1**
SNR=13
ALNE Al Ain 61.99 290 *i*P **P** **10 08 26.7 +0.1**
SNR=25
UMQ Umm Al-Quwin 62.00 292 P **P** **10 08 28.4 +1.7**
NAZ Nazwa, Dubai 62.03 291 P **P** **10 08 27.0 +0.2**
NAZ Nazwa, Dubai 62.03 291 *i*P **P** **10 08 26.4 -0.5**
SNR=5.5
FAQ Al Faqa, Dubai 62.10 291 P **P** **10 08 27.9 +0.6**
ASUD Al Ashush, Dub 62.35 291 P **P** **10 08 29.3 +0.3**
ASUD Al Ashush, Dub 62.35 291 *i*P **P** **10 08 28.5 -0.4**
SNR=7.6
AKTO Aktyubinsk 62.38 320 P **P** **10 08 28.1 -0.6**
comp=Z,49nm,0.8s,baz=98,slow=8.5,SNR=80

AKTO LR LR 10 37 45.7
comp=Z,182nm,18.9s,baz=100,slow=38
comp=Z,49nm,0.8s
SVE Sverdlovsk 62.56 328 *d iP* **P 10 08 30.2 +0.4**
SVE pmax pmax
comp=Z,96nm,1.1s
UMZA Um Al Zommool 62.62 289 P **P 10 08 30.3 -0.5**
AJN Ajban 62.66 291 P **P 10 08 30.6 -0.5**
DMTO DMTO 63.27 283 P **P 10 08 35.3 +0.1**
ARTI Arti 63.63 327 P **P 10 08 36.0 -0.9**
ARTI IAmb IAmb 10 08 37.6
comp=Z,62nm,1.2s
ARTI Arti 63.63 327 P **P 10 08 35.3 -1.5**
comp=Z,20nm,0.5s,baz=124,slow=6.4,SNR=31
comp=Z,20nm,0.5s
ARTI Arti 63.63 327 *c iP* **P 10 08 36.4 -0.5**
ARTI *PP **pP 10 09 06.1 -2.0**
ARTI S **S 10 17 00.2 -0.3**
ARTI SS **SS 10 21 06.6 -3.6**
ARTI pmax pmax
comp=Z,28nm,0.7s
ARTI Arti 63.63 327 P **P 10 08 35.3 -1.5**
ARTI PcP **PcP 10 09 10.8 -1.2**
MZWR Madinat Zayed 63.72 290 P **P 10 08 38.0 -0.1**
DOK Doka 63.94 284 P **P 10 08 39.2 -0.3**
RBK Rabkut 64.00 283 P **P 10 08 40.1 +0.1**
SNR=6.1
ATKA Atka Island 64.12 38 P **P 10 08 41.9 +1.8**
MZR Muzera 64.14 289 P **P 10 08 40.4 -0.4**
SNR=11
MZR Muzera 64.14 289 *i P* **P 10 08 40.6 -0.2**
SNR=6.5
WHFO Wadi Hawf 64.36 284 P **P 10 08 41.7 -0.7**
SNR=5.4
MSVF Nonsavu 64.49 117 P **P 10 08 42.4 -0.8**
MSVF IAmb IAmb 10 08 46.9
comp=Z,22nm,0.7s
MSVF Nonsavu 64.49 117 LR LR 10 33 31.4
comp=Z,119nm,21.9s,baz=188,slow=33
MSVF Nonsavu 64.49 117 P **P 10 08 44.7 +1.5**
MSVF Nonsavu 64.49 117 P **P 10 08 42.4 -0.8**
MSVF pmax pmax
comp=Z,23nm,0.7s
JRN Qarnain Island 64.58 291 P **P 10 08 43.2 -0.4**
GHWR Ruwais 64.62 290 P **P 10 08 43.7 -0.2**
DGTI Dogotuki 65.37 115 P **P 10 08 51.3 +2.5**
SLWR Sila 65.69 290 P **P 10 08 51.0 +0.2**
TRNA Turayna 66.08 291 P **P 10 08 53.4 +0.1**
SHMA Al-Shehemyia 66.22 292 P **P 10 08 54.6 +0.4**
SMRA Abu-Samra 66.43 291 P **P 10 08 55.8 +0.3**
SNR=9.2
SAKB Bahrain 66.59 293 P **P 10 08 56.7 +0.1**
MSEY Mahe Island 67.30 259 P **P 10 09 01.6 +0.3**
MSEY Mahe Island 67.30 259 P **P 10 09 02.5 +1.3**
MSEY P **P 10 09 02.8 +1.5**
MSEY Mahe Island 67.30 259 P **P 10 09 01.6 +0.3**
MSEY Mahe Island 67.30 259 *i P* **P 10 09 02.3 +1.1**
SNR=7.3
MSEY Mahe Island 67.30 259 P **P 10 09 02.6 +1.3**
MSEY PcP **PcP 10 09 29.2 +1.0**
SPIA Saint Paul Isl 67.32 33 P **P 10 09 01.5 +0.9**
baz=260
P08K Saint George I 67.60 34 P **P 10 09 03.5 +1.1**
baz=260
LKRN Lenkeran, Azer 67.66 306 P **P 10 09 04.7 +1.6**
GAMB Gambell 68.03 26 IAmb IAmb 10 09 07.9
comp=Z,44nm,1.0s
GAMB Gambell 68.03 26 P **P 10 09 06.2 +1.3**
baz=256
MAK Makhachkala 68.68 311 *e*P **P 10 09 07.1 -2.3**
MAK *e**PP **pP 10 09 39.6 -1.4**
MAK *e**SP **sP 10 09 53.9 -1.0**
MAK *e* 10 11 38.4
MAK *e*PPP PPP 10 13 21.9
MAK *e*S **S 10 17 59.5 -2.6**
MAK *e**SS **sS 10 18 54.6 -0.7**
MAK *e*SS **SS 10 22 25.3 -3.7**
MAK pmax pmax
comp=Z,150nm,1.0s
MAK MLR MLR
comp=Z,167nm,18.0s
KIRV Kirov 68.83 328 P **P 10 09 09.0 -0.9**
comp=Z,80nm,0.6s,baz=74,slow=0.9,SNR=33
KIRV LR LR 10 42 04.9
comp=Z,158nm,20.3s,baz=101,slow=38
comp=Z,80nm,0.6s
KIRV Kirov 68.83 328 *ce*P **P 10 09 09.1 -0.8**
KBD Kabd 68.88 296 P **P 10 09 10.3 -0.6**
SEKA Sheki 68.89 309 P **P 10 09 12.1 +1.3**
UNV Unalaska Valle 68.96 37 P **P 10 09 11.2 +0.4**
baz=264
MNGR Mingechevir, A 68.97 309 P **P 10 09 13.1 +1.9**
GANJ Ganja 69.55 309 P **P 10 09 16.5 +1.6**
M11K Mekoryuk 69.91 30 IAmb IAmb 10 09 20.1
comp=Z,64nm,1.1s
M11K Mekoryuk 69.91 30 P **P 10 09 17.9 +1.3**
baz=262
TNA Tin City 70.02 25 P **P 10 09 18.0 +0.9**
baz=258
NAX Nakhchivan 70.22 307 P **P 10 09 20.3 +1.3**
DGRG David-gareji 70.26 309 P **P 10 09 20.6 +1.4**
WCZ Waipu Caves 70.57 136 P **P 10 09 22.9 +1.9**
F14K Arctic Creek 70.65 25 P **P 10 09 22.2 +1.2**
baz=260
GNI Garni 70.77 308 P **P 10 09 23.7 +1.3**
GNI IAmb IAmb 10 09 30.5
comp=Z,55nm,0.8s
GNI Garni 70.77 308 P **P 10 09 23.9 +1.4**
GNI Garni 70.77 308 *c iP* **P 10 09 23.8 +1.3**
GNI pmax pmax
comp=Z,57nm,1.2s
GNI Garni 70.77 308 P **P 10 09 23.9 +1.4**
GNI Garni 70.77 308 P **P 10 09 23.8 +1.3**
K13K Kusilvak Mount 70.86 29 P **P 10 09 23.3 +1.0**
baz=263,SNR=5.6
ANM Nome 70.90 26 P **P 10 09 23.8 +1.2**
baz=261
M13K Dall Lake 71.32 31 P **P 10 09 27.1 +2.0**
baz=264
F15K North Star Dit 71.38 25 P **P 10 09 26.9 +1.5**
baz=262,SNR=14
RAYN Ar Rayn 71.39 290 P **P 10 09 26.3 0.0**
RAYN Ar Rayn 71.39 290 P **P 10 09 26.6 +0.2**
RAYN Ar Rayn 71.39 290 P **P 10 09 27.4 +1.0**
RAYN Ar Rayn 71.39 290 *i P* **P 10 09 26.4 0.0**
SNR=133
J14K Nanvaranak Lak 71.47 28 P **P 10 09 26.6 +0.7**
baz=264
C16K Lisburne Hills 71.52 22 P **P 10 09 27.2 +1.0**
baz=260
G15K Niukluk 71.53 26 P **P 10 09 27.1 +0.8**
baz=262
L14K Kuka Creek 71.73 30 P **P 10 09 29.2 +1.6**
baz=265
GOF Gofitskoye 71.90 313 *ce*P **P 10 09 28.7 -0.3**
MSZ Milford Sound 72.02 147 P **P 10 09 30.2 +0.7**
M14K Bethel 72.03 30 P **P 10 09 30.5 +1.2**
M14K IAmb IAmb 10 09 31.6
comp=Z,55nm,1.1s
M14K Bethel 72.03 30 P **P 10 09 30.8 +1.4**
baz=266
KBZ Khabaz 72.04 312 P **P 10 09 29.3 -0.5**
comp=Z,36nm,1.0s,baz=175,slow=5.5,SNR=53
KBZ LR LR 10 46 04.2
comp=Z,146nm,19.4s,baz=84,slow=40
comp=Z,36nm,1.0s
KBZ Khabaz 72.04 312 *ce*P **P 10 09 29.0 -0.8**
KBZ pmax pmax
comp=Z,41nm,0.9s
JCZ Jackson Bay 72.09 146 P **P 10 09 30.6 +0.5**
N14K Kuskokwak Cree 72.11 31 P **P 10 09 30.3 +0.5**
baz=266
GEVA Gevas 72.16 306 IAmb IAmb 10 09 33.1
comp=Z,72nm,0.9s
KIV Kislovodsk 72.18 312 P **P 10 09 30.5 -0.3**
KIV IAmb IAmb 10 09 32.5
comp=Z,79nm,0.8s
KIV Kislovodsk 72.18 312 P **P 10 09 31.2 +0.4**
KIV Kislovodsk 72.18 312 ⇑P **P 10 09 31.1 +0.3**
KIV Kislovodsk 72.18 312 *e*P **P 10 09 30.3 -0.5**
KIV *e*S **S 10 18 42.6 -0.5**
KIV pmax pmax
comp=Z,77nm,1.0s
KIV pmax pmax
comp=Z,66nm,3.5s
KIV MLR MLR
comp=Z,78nm,18.0s
KIV Kislovodsk 72.18 312 *i* P **P 10 09 30.9 +0.1**
SNR=8.4
KIV Kislovodsk 72.18 312 P **P 10 09 30.7 -0.1**
SHA1 Shidzhatmaz 72.21 312 *i* P **P 10 09 31.5 +0.4**
QRZ Quartz Range 72.23 141 P **P 10 09 30.8 -0.1**
H16K Elim 72.25 26 P **P 10 09 31.9 +1.2**
baz=264
D17K Noatak River 72.28 23 P **P 10 09 32.5 +1.8**
baz=262,SNR=68
O14K Tigyukauivet M 72.28 32 P **P 10 09 31.2 +0.3**
baz=267
G16K Koyuk River 72.28 25 P **P 10 09 32.4 +1.6**
baz=264
NEZ North Egmont 72.29 139 P **P 10 09 34.1 +2.7**
FOZ Fox Glacier 72.31 145 P **P 10 09 31.6 +0.4**
L15K Ungalak Mounta 72.33 29 P **P 10 09 32.2 +1.0**
baz=266
C17K DeLong Mountai 72.35 22 P **P 10 09 32.8 +1.6**
baz=262,SNR=23
HIZ Hauiti 72.35 138 P **P 10 09 33.7 +2.1**
K15K Wolf Creek Mou 72.36 29 P **P 10 09 32.7 +1.4**
baz=266,SNR=6.1
RDOG Red Dog Mine 72.39 23 IAmb IAmb 10 09 34.0
comp=Z,130nm,2.0s
RDOG Red Dog Mine 72.39 23 P **P 10 09 32.2 +0.8**
baz=262,SNR=7.4
WVZ Waitaha Valley 72.55 144 P **P 10 09 32.3 -0.3**
SDPT Sand Point 72.55 36 P **P 10 09 33.6 +1.0**
baz=269
MLZ Mavora Lakes 72.58 147 P **P 10 09 32.6 -0.3**
VRZ Vera Road 72.63 139 P **P 10 09 34.7 +1.5**
M15K Kasigluk River 72.65 30 P **P 10 09 34.1 +1.0**
baz=267
E17K Hotham Inlet 72.68 24 P **P 10 09 34.5 +1.4**
baz=264
WKZ Wanaka 72.71 146 P **P 10 09 36.1 +2.4**
VRH Novokhopyorsk 72.71 320 *eP* **P 10 09 32.7 -0.9**
VRH pmax pmax
comp=Z,108nm,0.6s
WHZ Wether Hill Ro 72.84 148 P **P 10 09 34.1 -0.3**
F17K Baldwin Pennin 72.84 24 P **P 10 09 34.9 +0.8**
baz=264,SNR=22
J16K Anvik River 72.86 28 P **P 10 09 35.8 +1.5**
baz=266,SNR=7.7
I17K Unalakleet 72.86 27 IAmb IAmb 10 09 37.5
comp=Z,81nm,1.1s
I17K Unalakleet 72.86 27 P **P 10 09 35.9 +1.7**
baz=266
N15K Kwethluk River 72.92 31 P **P 10 09 35.9 +1.2**
baz=267,SNR=8.2
GURO Guroymak-BITLI 72.94 306 IAmb IAmb 10 09 38.2
comp=Z,88nm,0.9s
B18K Kokolik River 72.96 21 P **P 10 09 36.1 +1.4**
baz=263,SNR=36
NNZ Nelson 72.98 141 P **P 10 09 34.3 -1.0**
G17K Kiwalik Mounta 73.00 25 P **P 10 09 36.2 +1.2**
baz=265,SNR=36
THZ Tophouse 73.02 142 P **P 10 09 34.4 -1.1**
O15K Ungalikthiuk R 73.02 32 P **P 10 09 36.7 +1.4**
baz=266
CHNA Chernabura Isl 73.05 37 P **P 10 09 36.9 +1.3**
baz=270
LBZ Lake Benmore 73.06 145 P **P 10 09 36.2 +0.5**
S14K Fog Glacier 73.09 35 P **P 10 09 37.2 +1.3**
baz=269
C18K Utukok River 73.09 22 P **P 10 09 36.6 +1.0**
baz=264,SNR=28
OMRZ Omania 73.12 137 P **P 10 09 37.8 +1.5**
EAZ Earnscleugh 73.13 146 P **P 10 09 36.5 +0.4**
RPZ Rata Peaks 73.13 144 P **P 10 09 36.5 +0.3**
RPZ Rata Peaks 73.13 144 P **P 10 09 36.1 0.0**
WTVZ West Tongariro 73.16 138 P **P 10 09 38.0 +1.4**
NNVZ North Ngauruho 73.19 138 P **P 10 09 38.0 +1.2**
E18K Tukpahlearik C 73.19 23 P **P 10 09 37.9 +1.7**
baz=265
NGZ Ngauruhoe 73.20 138 P **P 10 09 38.4 +1.5**
SNVZ South Ngauruho 73.23 138 P **P 10 09 38.5 +1.4**
TMVZ Te Maari 73.24 138 P **P 10 09 38.3 +1.3**
ETVZ East Tongariro 73.25 138 P **P 10 09 38.2 +1.1**
LTZ Lake Taylor 73.25 143 P **P 10 09 36.8 -0.1**
H17K Granite Mounta 73.27 26 P **P 10 09 38.2 +1.5**
baz=266,SNR=28
A19K Wainwright 73.31 20 P **P 10 09 37.8 +1.0**
baz=263
MOVZ Moawhango 73.43 139 P **P 10 09 38.2 +0.1**
OXZ Oxford 73.45 144 P **P 10 09 37.3 -0.7**
APZ The Paps 73.49 148 P **P 10 09 37.7 -0.5**
F18K Selawik 73.50 24 P **P 10 09 39.3 +1.4**
baz=266
M16K Timber Creek 73.51 30 P **P 10 09 39.4 +1.2**
baz=268,SNR=7.0
TMZ Timaru 73.52 145 P **P 10 09 38.5 +0.1**
J17K VABM Dome 73.55 28 P **P 10 09 40.2 +1.8**
baz=267
N16K Nishlik Lake 73.59 31 P **P 10 09 39.9 +1.3**
baz=268
ERBR Yeremizino-Bor 73.68 314 *eP* **P 10 09 38.2 -1.3**
ERBR *e* 10 12 24.8
ERBR pmax pmax
comp=Z,118nm,1.3s
URZ Urewera 73.69 137 P **P 10 09 40.3 +0.8**
CHGN Chignik 73.72 35 P **P 10 09 40.9 +1.5**
baz=270
ODZ Otahua Downs 73.73 146 P **P 10 09 39.6 0.0**
TUZ Tuapeka 73.77 147 P **P 10 09 39.3 -0.5**
BKZ Black Stump Fm 73.78 138 P **P 10 09 40.5 +0.4**
BKZ Black Stump Fm 73.78 138 P **P 10 09 40.6 +0.5**
BKZ Black Stump Fm 73.78 138 P **P 10 09 39.5 -0.6**
KHZ Kahutara 73.78 142 P **P 10 09 39.3 -0.6**
RTZ Ruatahuna 73.80 137 P **P 10 09 40.5 +0.2**
RTZ Ruatahuna 73.80 137 P **P 10 09 40.4 +0.2**
GVZ Greta Valley S 73.81 143 P **P 10 09 39.5 -0.7**
G18K Tagagawik 73.86 25 P **P 10 09 41.0 +0.9**
baz=267,SNR=25
L17K Donlin 73.86 29 P **P 10 09 42.0 +1.8**
baz=268,SNR=16
HAZ Te Kaha 73.87 136 P **P 10 09 40.4 -0.2**
KWHZ Kaweka Forest 73.87 138 P **P 10 09 41.5 +0.8**
K17K Iditarod 73.88 28 P **P 10 09 42.0 +1.7**
baz=268,SNR=20
O16K Kokwok River B 73.91 32 P **P 10 09 41.6 +1.1**
baz=269
H18K Honhosa River 73.94 26 P **P 10 09 41.9 +1.3**
baz=268,SNR=13
P16K Nushagak River 73.96 32 P **P 10 09 41.4 +0.6**
baz=270
MWZ Matawai 74.01 137 P **P 10 09 41.2 -0.2**
KLMR Klimovskoe 74.01 330 *eP* **P 10 09 38.9 -2.1**
KLMR *e* 10 12 26.9
KLMR pmax pmax
comp=Z,47nm,0.6s
MRZ Mangatainoka R 74.02 140 P **P 10 09 41.4 -0.1**
MQZ McQueen's Vall 74.03 144 P **P 10 09 41.5 +0.1**
R16K Pilot Point 74.18 34 P **P 10 09 42.5 +0.4**
baz=270
D19K Kuna River 74.21 22 P **P 10 09 42.9 +0.8**
baz=267,SNR=44
F19K Shaleruckik Mo 74.25 24 P **P 10 09 43.1 +0.8**
baz=268
M17K Holitna River 74.26 30 P **P 10 09 44.5 +2.0**
baz=269,SNR=7.8
VORR Voronezh 74.28 320 P **P 10 09 42.7 -0.1**
VORR pmax pmax
comp=Z,149nm,0.5s
VSR Storozhevoye 74.32 320 *eP* **P 10 09 39.8 -3.2**
VSR pmax pmax
comp=Z,20nm,0.8s
SOC Sochi 74.35 312 *eP* **P 10 09 42.7 -0.7**
SOC *e* 10 12 27.9
SOC *e*PPP PPP 10 14 14.2
SOC *e*S **S 10 19 05.9 -1.4**
SOC *e*SS **SS 10 23 51.0 -4.8**
SOC pmax pmax
comp=Z,38nm,0.7s
PUZ Puketiti 74.36 136 P **P 10 09 43.3 -0.1**
N17K Nushagak Hills 74.38 31 P **P 10 09 44.5 +1.3**
baz=270
LPSR Galich'ya Gora 74.42 321 *eP* **P 10 09 42.6 -1.0**
LPSR pmax pmax
comp=Z,108nm,0.6s
O17K Koliganek Bris 74.42 31 P **P 10 09 44.9 +1.4**
baz=270
BFZ Birch Farm 74.45 139 P **P 10 09 43.5 -0.4**
PXZ Pawanui 74.49 139 P **P 10 09 44.0 -0.1**
E19K Redstone River 74.49 23 P **P 10 09 45.1 +1.3**
baz=268
G19K Purcell Mounta 74.50 25 P **P 10 09 44.9 +1.1**
baz=268,SNR=23
GCSA Galena City Sc 74.56 26 P **P 10 09 45.1 +1.0**
baz=269
J18K Innoko River 74.61 28 P **P 10 09 45.8 +1.2**
baz=269
L18K Granite Mounta 74.62 29 P **P 10 09 45.7 +1.1**
baz=270,SNR=11
B20K Meade River 74.62 21 P **P 10 09 45.4 +1.0**
baz=267
Q16K King Salmon 74.66 32 P **P 10 09 44.7 -0.1**
baz=271
H19K Roundabout Mou 74.75 25 P **P 10 09 46.5 +1.2**
baz=269,SNR=24
P17K Kvichak River 74.76 32 P **P 10 09 46.4 +1.0**
baz=271,SNR=16
D20K Etivluk River 74.77 22 P **P 10 09 46.3 +1.0**
baz=268
A21K Barrow 74.87 19 P **P 10 09 46.9 +1.1**
baz=267
E20K Nigu River 74.91 23 P **P 10 09 47.1 +0.9**
baz=269
N18K Kilae Creek 75.01 30 P **P 10 09 48.2 +1.3**
baz=271
M18K Stony River 75.03 30 P **P 10 09 48.3 +1.3**
baz=271
F20K Avaraart Lake 75.07 24 P **P 10 09 48.1 +1.1**
baz=269
MOS Moscow 75.07 324 *eP* **P 10 09 45.2 -2.0**
MOS *e**PP **pP 10 10 15.6 -3.7**
MOS *e* 10 12 36.7
MOS pmax pmax
comp=Z,75nm,0.6s
J19K Poorman 75.10 27 P **P 10 09 48.8 +1.5**
baz=270
SBV Sambava 75.16 252 P **P 10 09 49.1 +0.6**
CHIR Chirikof Islan 75.30 35 P **P 10 09 50.5 +1.9**
baz=272
ACHA Angle Creek He 75.37 33 IAmb IAmb 10 09 50.2
comp=Z,56nm,1.5s
O18K Koktuh Hills 75.37 31 P **P 10 09 50.3 +1.3**
baz=272,SNR=8.9
P18K Big Mountain, 75.38 32 P **P 10 09 49.9 +0.9**
baz=272
A22K Sinclair Lake 75.39 20 P **P 10 09 50.0 +1.2**
baz=269
H20K Anotleneega Mo 75.41 25 P **P 10 09 50.4 +1.4**
baz=271,SNR=31
C21K Knifeblade Rid 75.44 22 P **P 10 09 50.1 +1.0**
baz=270,SNR=15
L19K White Mountain 75.48 29 P **P 10 09 51.3 +1.7**
baz=271
B21K Ikpikpuk River 75.50 21 P **P 10 09 50.4 +0.9**
baz=270,SNR=16
Q18K Katmai Hardscr 75.52 32 P **P 10 09 49.7 -0.3**
baz=272
I20K Naaghedeneel 75.59 26 P **P 10 09 51.8 +1.8**
baz=271
N19K Bonanza Creek 75.70 30 P **P 10 09 52.0 +1.0**
baz=272
OBN Obninsk 75.70 324 P **P 10 09 50.5 -0.4**
OBN IAmb IAmb 10 09 50.9
comp=Z,51nm,0.6s
OBN Obninsk 75.70 324 P **P 10 09 50.3 -0.6**
comp=Z,45nm,0.5s,baz=82,slow=7.1,SNR=8.6
OBN LR LR 10 45 35.2
comp=Z,114nm,19.1s,baz=0.5,slow=38
comp=Z,45nm,0.5s
OBN Obninsk 75.70 324 ⇓P **P 10 09 50.4 -0.4**
OBN Obninsk 75.70 324 ⇓*eP* **P 10 09 50.2 -0.6**
OBN *e* 10 10 01.5
OBN *i* *PP **pP 10 10 21.5 -1.5**
OBN *i* 10 12 43.4
OBN *e*S **S 10 19 21.1 -0.6**
OBN pmax pmax
comp=Z,25nm,0.5s
M19K Big River Lodg 75.71 29 P **P 10 09 52.3 +1.5**
baz=272
E21K Killik River 75.73 22 P **P 10 09 51.5 +0.6**
baz=271
J20K Nowinta River 75.75 27 P **P 10 09 51.7 +0.7**
baz=272,SNR=14
K20K Telida 75.81 28 P **P 10 09 52.6 +1.2**
baz=272
O19K Port Alsworth 75.81 31 IAmb IAmb 10 09 54.0
comp=Z,108nm,1.5s
O19K Port Alsworth 75.81 31 P **P 10 09 52.1 +0.7**
baz=272
R18K Karluk 75.86 34 P **P 10 09 51.4 -0.3**
baz=273
ANN Anapa 75.89 313 *eP* **P 10 09 51.5 -0.7**
ANN *e**PP **pP 10 10 21.8 -2.6**
ANN *e*S **S 10 19 22.2 -2.1**
ANN pmax pmax
comp=Z,64nm,0.7s
B22K Teshekpuk Lake 75.91 20 P **P 10 09 52.8 +1.1**
baz=271
L20K Farewell, AK 75.92 29 P **P 10 09 53.1 +1.0**
baz=272,SNR=5.7
F21K Alatna River 75.94 24 P **P 10 09 52.9 +0.8**
baz=271
G21K Allakaket 75.95 24 P **P 10 09 53.2 +1.0**
baz=272,SNR=52
SII Sitkinak Islan 76.07 35 P **P 10 09 52.9 -0.1**
baz=273
D22K Ayikyak River 76.20 22 P **P 10 09 54.3 +0.8**
baz=272,SNR=16
Q19K Cape Douglas, 76.21 32 P **P 10 09 54.2 +0.4**
baz=273
H21K Melozitna Rive 76.27 25 P **P 10 09 55.0 +1.1**
baz=272,SNR=28
M20K Styx River 76.30 29 P **P 10 09 55.7 +1.4**
baz=273
P19K Oil Pt 76.38 31 P **P 10 09 55.6 +0.9**
baz=274
F22K John River 76.44 23 P **P 10 09 56.0 +1.1**
baz=272
OHAK Old Harbor 76.51 34 P **P 10 09 56.0 +0.6**
baz=274
E22K Anaktuvuk Pass 76.55 23 P **P 10 09 56.4 +0.9**
baz=273,SNR=13
CHUM Lake Minchumin 76.56 27 P **P 10 09 56.5 +0.9**
baz=273,SNR=8.2
I21K Tanana 76.63 26 IAmb IAmb 10 09 59.0
comp=Z,76nm,1.2s
I21K Tanana 76.63 26 P **P 10 09 57.0 +1.0**
baz=273,SNR=15
O20K Slope Mountain 76.66 31 P **P 10 09 56.8 +0.5**
baz=274
PPLA Purkeypile 76.68 28 IAmb IAmb 10 09 58.9
comp=Z,164nm,1.7s
PPLA Purkeypile 76.68 28 P **P 10 09 57.0 +0.5**
baz=274,SNR=6.5
CAST Castle Rocks 76.70 27 IAmb IAmb 10 09 58.9
comp=Z,68nm,0.8s
CAST Castle Rocks 76.70 27 P **P 10 09 57.5 +1.0**
baz=274,SNR=36
SPCR Spurr Chakacha 76.79 30 P **P 10 09 57.4 +0.4**
baz=274
H22K Ishtalitna Cre 76.84 25 P **P 10 09 58.1 +0.9**
baz=274,SNR=25
KDAK Kodiak Island 76.85 33 LR LR 10 44 05.9
comp=Z,88nm,20.4s,baz=77,slow=36
KDAK Kodiak Island 76.85 33 P **P 10 09 57.4 +0.1**
baz=274
Q20K Shuyak Island 76.89 32 P **P 10 09 58.7 +1.2**
baz=274
C23K Itkillik River 76.89 21 P **P 10 09 58.2 +0.9**
baz=273,SNR=36
D23K Nanushuk River 76.92 22 P **P 10 09 58.7 +1.2**
baz=274,SNR=28
SKT Skwentna 77.05 29 P **P 10 09 58.6 +0.1**
SKT IAmb IAmb 10 09 59.8
comp=Z,50nm,1.2s
SKT Skwentna 77.05 29 P **P 10 09 58.5 +0.1**
baz=274,SNR=7.4
TOKA Tokat 77.06 309 IAmb IAmb 10 10 00.9
comp=Z,31nm,0.8s
KIP Kipapa 77.09 71 P **P 10 10 02.2 +2.8**
BPAW Bear Paw Mtn. 77.13 27 IAmb IAmb 10 10 01.3
comp=Z,105nm,1.2s
BPAW Bear Paw Mtn. 77.13 27 P **P 10 09 59.3 +0.5**
baz=274,SNR=31
HOM Homer 77.19 31 P **P 10 09 59.8 +0.7**
baz=275

COLD	**Coldfoot**	77.22	24	P		**P**	10 10 00.4 +1.1
	baz=274,SNR=17						
G23K	**Bananza Creek**	77.33	24	P		**P**	10 10 01.1 +1.2
	baz=275,SNR=20						
CAPN	**Captain Cook N**	77.33	30	P		**P**	10 10 00.3 +0.4
	baz=275						
TOLK	**Toolik Lake Re**	77.34	22	P		**P**	10 10 00.7 +0.8
	baz=275,SNR=20						
E23K	**Chandalar**	77.37	23	P		**P**	10 10 01.5 +1.3
	baz=275,SNR=32						
SUA	**Susitna One**	77.47	29	IAmb		IAmb	10 10 02.2
	comp=Z,35nm,0.9s						
SUA	**Susitna One**	77.47	29	P		**P**	10 10 01.2 +0.3
	baz=275						
TRF	**Thorofare Moun**	77.50	27	IAmb		IAmb	10 10 04.0
	comp=Z,121nm,1.7s						
TRF	**Thorofare Moun**	77.50	27	P		**P**	10 10 02.4 +1.3
	baz=275,SNR=7.9						
C24K	**Franklin Bluff**	77.56	21	P		**P**	10 10 02.0 +1.0
	baz=275						
D24K	**Happy Valley**	77.57	22	P		**P**	10 10 02.3 +1.2
	baz=275						
H23K	**Yukon River**	77.60	25	P		**P**	10 10 02.7 +1.3
	baz=275						
CUT	**Chulitna**	77.61	28	P		**P**	10 10 02.0 +0.5
	baz=275,SNR=5.3						
BRSE	**Bradley Lake S**	77.63	31	P		**P**	10 10 01.6 -0.1
	baz=276						
M22K	**Willow**	77.74	29	P		**P**	10 10 02.3 +0.2
	baz=276						
I23K	**Minto, Yukon-K**	77.74	26	P		**P**	10 10 02.7 +0.6
	baz=276,SNR=17						
E24K	**Your Creek**	77.79	23	P		**P**	10 10 03.6 +1.1
	baz=276						
JOF	**Joensuu**	77.80	332	*e*P		**P**	10 10 02.7 +0.2
NEA2	**Nenana**	77.92	26	P		**P**	10 10 03.8 +0.6
	baz=276,SNR=7.7						
RC01	**Rabbit Creek A**	77.99	30	P		**P**	10 10 04.9 +1.2
	baz=276						
O22K	**Cooper Landing**	78.06	30	P		**P**	10 10 04.5 +0.5
	baz=276						
MCK	**McKinley**	78.07	27	IAmb		IAmb	10 10 05.7
	comp=Z,57nm,0.8s						
MCK	**McKinley**	78.07	27	P		**P**	10 10 04.5 +0.4
	baz=276,SNR=20						
F24K	**Squaw Lake**	78.08	23	P		**P**	10 10 04.8 +0.7
	baz=276,SNR=29						
SIM	**Simferopol'**	78.22	314	*e*P		**P**	10 10 05.6 +0.4
SIM				pmax		pmax	
	comp=Z,60nm,1.2s						
PMR	**Palmer**	78.22	29	IAmb		IAmb	10 10 06.2
	comp=Z,27nm,0.7s						
PMR	**Palmer**	78.22	29	P		**P**	10 10 06.3 +1.4
PMR	**Palmer**	78.22	29	P		**P**	10 10 04.8 -0.1
	baz=277,SNR=5.2						
SEW	**Seward**	78.24	31	P		**P**	10 10 05.4 +0.5
	baz=277						
H24K	**Noodor Dome**	78.28	25	P		**P**	10 10 06.4 +1.1
	baz=277						
GHO	**Glory Hole Cre**	78.30	29	IAmb		IAmb	10 10 07.0
	comp=Z,100nm,1.6s						
G24K	**Hadweenzic Riv**	78.34	24	P		**P**	10 10 06.6 +1.1
	baz=277,SNR=22						
WRH	**Wood River Hil**	78.36	26	IAmb		IAmb	10 10 07.4
	comp=Z,84nm,1.7s						
COLA	**College**	78.41	26	P		**P**	10 10 07.0 +1.2
COLA	**College**	78.41	26	P		**P**	10 10 06.3 +0.5
COLA	**College**	78.41	26	P		**P**	10 10 06.8 +1.0
	baz=277						
D25K	**Kavik River**	78.42	21	P		**P**	10 10 06.4 +0.5
	baz=278,SNR=33						
CCB	**Clear Creek Bu**	78.46	26	P		**P**	10 10 06.0 -0.1
POKR	**Poker Plat Res**	78.55	26	P		**P**	10 10 06.9 +0.3
	baz=277,SNR=6.5						
KNK	**Knik Glacier**	78.57	29	IAmb		IAmb	10 10 08.7
	comp=Z,28nm,0.7s						
KNK	**Knik Glacier**	78.57	29	P		**P**	10 10 07.3 +0.5
	baz=277,SNR=5.6						
SML	**Sawmill**	78.58	29	IAmb		IAmb	10 10 08.7
	comp=Z,161nm,1.4s						
SML	**Sawmill**	78.58	29	P		**P**	10 10 07.3 +0.4
	baz=277,SNR=7.4						
KEV	**Kevo**	78.69	339	P		**P**	10 10 06.7 -0.6
KEV	**Kevo**	78.69	339	P		**P**	10 10 06.7 -0.6
KEV				pmax		pmax	
	comp=Z,21nm,0.7s						
PWL	**Port Wells**	78.70	30	IAmb		IAmb	10 10 09.1
	comp=Z,55nm,0.7s						
PWL	**Port Wells**	78.70	30	P		**P**	10 10 07.4 -0.2
	baz=277,SNR=7.0						
ILAR	**Eielson Array**	78.83	26	P		**P**	10 10 07.8 -0.4
ILAR	**Eielson Array**	78.83	26	P		**P**	10 10 07.0 -1.2
	comp=Z,3.9nm,0.7s,baz=265,slow=3.3,SNR=41						
ILAR				PP		**PP**	10 13 07.8 -0.2
	comp=Z,3.2nm,1.2s,baz=269,slow=6.4,SNR=4.7						
ILAR				PKKP		**PKKPdf**	10 28 49.8 -0.8
	comp=Z,0.3nm,0.6s,baz=119,slow=0.2,SNR=4.8						
ILAR				PKKPbc		**PKKPbc**	10 29 00.3 -3.1
	comp=Z,1.1nm,0.7s,baz=126,slow=2.1,SNR=15						
ILAR				LR		LR	10 48 05.8
	comp=Z,50nm,18.7s,baz=258,slow=38						
	comp=Z,3.9nm,0.7s						
ILAR	**Eielson Array**	78.83	26	P		**P**	10 10 07.8 -0.4
C26K	**Camden Bay**	78.84	21	P		**P**	10 10 09.1 +1.0
	baz=279						
HDA	**Harding Lake**	78.85	26	P		**P**	10 10 08.2 -0.1
	baz=278,SNR=11						
M23K	**Glacier View**	78.86	29	P		**P**	10 10 09.0 +0.5
	baz=278,SNR=7.2						
G25K	**Bearman Lake**	78.87	24	P		**P**	10 10 09.5 +1.1
	baz=278,SNR=17						
E25K	**Arctic Village**	78.88	22	P		**P**	10 10 09.2 +0.7
	baz=278,SNR=14						
F25K	**Christian Rive**	78.92	23	P		**P**	10 10 10.1 +1.4
	baz=278,SNR=28						
MMAI	**Mount Meron Ar**	78.93	301	P		**P**	10 10 10.8 +1.3
	comp=Z,5.3nm,0.4s,baz=72,slow=5.4,SNR=24						
	comp=Z,5.3nm,0.4s						
SCM	**Sheep Creek Mo**	79.05	29	IAmb		IAmb	10 10 11.5
	comp=Z,144nm,1.5s						
SCM	**Sheep Creek Mo**	79.05	29	P		**P**	10 10 09.2 -0.4
	baz=278						
ILGA	**Ilgaz**	79.05	310	IAmb		IAmb	10 10 12.1
	comp=Z,129nm,1.6s						
H25L	**Birch Creek**	79.06	24	P		**P**	10 10 09.9 +0.6
	baz=279,SNR=16						
KIRS	**Kirsehir-Merke**	79.18	308	⇑P		**P**	10 10 10.7 0.0
ARCES	**ARCESS Array B**	79.24	339	P		**P**	10 10 09.7 -0.6
ARCES				IAmb		IAmb	10 10 12.5
	comp=Z,28nm,0.7s						
ARCES	**ARCESS Array B**	79.24	339	P		**P**	10 10 09.5 -0.8
	comp=Z,19nm,0.5s,baz=81,slow=6.7,SNR=115						
ARCES				LR		LR	10 51 29.9
	comp=Z,127nm,18.5s,baz=84,slow=40						
	comp=Z,19nm,0.5s						
ARCES	**ARCESS Array B**	79.24	339	P		**P**	10 10 09.7 -0.6
ARCES				pmax		pmax	
	comp=Z,28nm,0.7s						
P23K	**Montague Islan**	79.27	31	P		**P**	10 10 11.0 +0.3
	baz=278						
PRP	**Porcupine Dome**	79.29	25	P		**P**	10 10 11.2 +0.4
	baz=279,SNR=11						
C27K	**Jago River**	79.30	21	P		**P**	10 10 11.6 +0.9
	baz=280						
BR131	**Keskin Array S**	79.30	308	P		**P**	10 10 11.2 -0.3
BR131	**Keskin Array S**	79.30	308	*c i*P		**P**	10 10 10.8 -0.7
BRTR	**Keskin Array B**	79.30	308	P		**P**	10 10 11.2 -0.3
BRTR	**Keskin Array B**	79.30	308	P		**P**	10 10 11.0 -0.5
	comp=Z,7.3nm,0.9s,baz=112,slow=5.5,SNR=36						
BRTR				pP		**pP**	10 10 43.5 -0.4
	comp=Z,4.0nm,0.8s,baz=117,slow=7.1,SNR=1.6						
BRTR				PP		**PP**	10 13 14.6 +1.7
	comp=Z,2.5nm,0.8s,baz=106,slow=9.1,SNR=6.0						
BRTR				LR		LR	10 48 17.2
	comp=Z,60nm,21.3s,baz=120,slow=38						
	comp=Z,7.3nm,0.9s						
BRTR	**Keskin Array B**	79.30	308	*ce*P		**P**	10 10 11.5 0.0
BRTR				pmax		pmax	
	comp=Z,6.0nm,0.7s						
ABPO	**Ambohimpanom**	79.35	247	P		**P**	10 10 13.3 +1.3
ABPO	**Ambohimpanom**	79.35	247	P		**P**	10 10 13.3 +1.3
ABPO				pmax		pmax	
	comp=Z,27nm,0.8s						
BMAR	**Burnt Mountain**	79.35	23	P		**P**	10 10 11.7 +0.7
K24K	**Donnelly Dome**	79.45	27	P		**P**	10 10 11.7 +0.1
	baz=279,SNR=8.9						
F26K	**Sheenjek River**	79.47	23	P		**P**	10 10 11.9 +0.3
	baz=280,SNR=19						
J25K	**Salcha River,**	79.50	26	P		**P**	10 10 12.1 +0.2
	baz=279						
M24K	**Tolsona, Glenn**	79.54	29	P		**P**	10 10 12.8 +0.6
	baz=279,SNR=5.1						
POHA	**Pohakuloa**	79.67	72	P		**P**	10 10 15.7 +1.8
SPITS	**Spitsbergen Ar**	79.74	348	P		**P**	10 10 12.2 -0.7
	comp=Z,12nm,0.4s,baz=84,slow=7.6,SNR=118						
SPITS				LR		LR	10 50 30.4
	comp=Z,136nm,18.8s,baz=34,slow=39						
	comp=Z,12nm,0.4s						
SPITS	**Spitsbergen Ar**	79.74	348	P		**P**	10 10 12.8 -0.1
SPITS				pmax		pmax	
	comp=Z,40nm,1.0s						
G26K	**Porcupine Rive**	79.74	23	P		**P**	10 10 14.3 +1.2
	baz=280						
KLU	**Klutina**	79.76	29	IAmb		IAmb	10 10 14.8
	comp=Z,76nm,1.5s						
KLU	**Klutina**	79.76	29	P		**P**	10 10 13.9 +0.5
	baz=279						
EIL	**Elat**	79.85	298	LR		LR	10 51 50.2
	comp=Z,92nm,18.4s,baz=63,slow=40						
RIDG	**Independent Ri**	79.87	27	IAmb		IAmb	10 10 15.5
	comp=Z,38nm,0.8s						
RIDG	**Independent Ri**	79.87	27	P		**P**	10 10 14.1 +0.1
	baz=280,SNR=16						
Q23K	**Middleton Isla**	79.89	31	P		**P**	10 10 14.3 +0.3
	baz=279						
DIV	**Divide**	79.89	29	IAmb		IAmb	10 10 16.3
	comp=Z,158nm,1.7s						
ANTO	**Ankara**	79.92	309	P		**P**	10 10 15.1 +0.4
ANTO				IAmb		IAmb	10 10 16.1
	comp=Z,93nm,1.6s						
ANTO	**Ankara**	79.92	309	P		**P**	10 10 15.1 +0.4
ANTO				pmax		pmax	
	comp=Z,93nm,1.7s						
HARP	**HAARP**	79.96	28	P		**P**	10 10 14.9 +0.5
	baz=280						
CASY	**Casey**	79.98	184	P		**P**	10 10 14.0 -0.1
CASY				IAmb		IAmb	10 13 01.1
	comp=Z,66nm,0.6s						
EYAK	**Cordova Ski Ar**	80.00	30	P		**P**	10 10 15.0 +0.4
	baz=280						
SCRK	**Sand Creek**	80.20	26	P		**P**	10 10 16.0 +0.2
SCRK				IAmb		IAmb	10 10 17.8
	comp=Z,70nm,1.7s						
SCRK	**Sand Creek**	80.20	26	P		**P**	10 10 15.5 -0.3
	baz=281,SNR=9.5						
J26L	**Joseph Creek**	80.29	26	P		**P**	10 10 16.1 -0.1
	baz=281,SNR=8.8						
I26K	**Coal Creek Min**	80.30	25	P		**P**	10 10 16.3 +0.1
	baz=281						
CSS	**Mathiatis**	80.31	304	IAmb		IAmb	10 10 18.8
	comp=Z,99nm,1.0s						
D27M	**Malcolm River**	80.33	21	P		**P**	10 10 17.2 +0.9
	baz=282						
E27K	**Coleen River**	80.33	22	P		**P**	10 10 17.3 +1.0
	baz=282						
N25K	**Chitina, Valde**	80.36	29	P		**P**	10 10 16.7 +0.1
	baz=280						
FIA1	**FINESS Array S**	80.44	331	P		**P**	10 10 16.1 -0.8
FIA1				IAmb		IAmb	10 10 19.1
	comp=Z,93nm,1.3s						
FINES	**FINESS Array B**	80.44	331	P		**P**	10 10 16.2 -0.7
FINES	**FINESS Array B**	80.44	331	P		**P**	10 10 16.0 -1.0
	comp=Z,10nm,0.6s,baz=52,slow=5.8,SNR=55						
FINES				LR		LR	10 46 37.6
	comp=Z,118nm,21.1s,baz=66,slow=36						
	comp=Z,10nm,0.6s						
FINES	**FINESS Array B**	80.44	331	P		**P**	10 10 16.2 -0.7
BMRM	**Bremner River**	80.48	30	P		**P**	10 10 17.9 +0.6
	baz=281						
MENT	**Mentasta**	80.52	27	IAmb		IAmb	10 10 20.0
	comp=Z,79nm,1.7s						
MENT	**Mentasta**	80.52	27	P		**P**	10 10 19.4 +2.0
G27K	**Doyon Strip**	80.59	23	P		**P**	10 10 18.6 +0.9
	baz=282,SNR=18						
AKASG	**Malin Array Be**	80.62	320	P		**P**	10 10 17.9 -0.2
AKASG	**Malin Array Be**	80.62	320	P		**P**	10 10 16.4 -1.7
	comp=Z,4.4nm,0.6s,baz=69,slow=5.5,SNR=26						
AKASG				PP		**PP**	10 13 24.3 +1.1
	comp=Z,1.3nm,0.6s,baz=70,slow=7.7,SNR=5.9						
AKASG				LR		LR	10 49 36.6
	comp=Z,127nm,19.1s,baz=68,slow=38						
	comp=Z,4.4nm,0.6s						
AKASG	**Malin Array Be**	80.62	320	*ce*P		**P**	10 10 17.2 -0.9
AKASG				pmax		pmax	
	comp=Z,6.0nm,0.6s						
AKBB	**Malin Array Si**	80.62	320	*ce*P		**P**	10 10 17.3 -0.8
AKBB				pmax		pmax	
	comp=Z,10.0nm,0.9s						
KIEV	**Kiev**	80.63	320	P		**P**	10 10 17.3 -0.8
KIEV	**Kiev**	80.63	320	P		**P**	10 10 17.3 -0.8
KIEV				pmax		pmax	
	comp=Z,11nm,0.8s						
KIEV	**Kiev**	80.63	320	*i* P		**P**	10 10 17.4 -0.8
	SNR=6.7						
AK05	**Malin Array Si**	80.65	320	P		**P**	10 10 17.6 -0.6
AK05				IAmb		IAmb	10 10 19.0
	comp=Z,118nm,1.9s						
VOI	**Vohitsoka**	80.65	245	IAmb		IAmb	10 10 22.9
	comp=Z,63nm,1.3s						
VOI	**Vohitsoka**	80.65	245	P		**P**	10 10 19.7 +0.8
L26K	**Log Cabin Wild**	80.67	27	P		**P**	10 10 19.1 +0.9
	baz=281						
VSU	**Vasula**	80.67	328	*ce*P		**P**	10 10 17.0 -1.2
VSU				pmax		pmax	
	comp=Z,103nm,1.3s						
VSU	**Vasula**	80.67	328	*e*P		**P**	10 10 17.0 -1.2
MNK	**Minsk**	80.76	324	*i* P		**P**	10 10 17.4 -1.4
MNK				*i* *PP		**pP**	10 10 50.2 -1.1
MNK				*i*			10 13 23.0
MNK				*i* PPP		PPP	10 15 13.4
MNK				*i* S		**S**	10 20 15.1 -0.8
MNK				*i* *SS		**sS**	10 21 12.2 +0.5
MNK				*i* SS		**SS**	10 25 32.3 +0.7
MNK				*i* SSS		SSS	10 28 59.8
MNK				pmax		pmax	
	comp=E,12nm,0.7s						
MNK				pmax		pmax	
	comp=N,14nm,0.8s						
MNK				pmax		pmax	
	comp=Z,34nm,0.7s						
MNK				MLR		MLR	
	comp=E,79nm,15.0s						
MNK				MLR		MLR	
	comp=N,103nm,16.0s						
MNK				MLR		MLR	
	comp=Z,113nm,17.0s						
KAIM	**Kayak Island**	80.77	31	P		**P**	10 10 19.1 +0.4
	baz=281						
H27K	**Steamboat Moun**	80.77	24	P		**P**	10 10 20.0 +1.3
	baz=282						
KEF	**Keuruu**	80.87	332	*e*P		**P**	10 10 18.7 -0.4
ARBE	**Arbavere**	80.87	329	*e*P		**P**	10 10 19.5 +0.2
I27K	**Kandik River**	80.87	25	P		**P**	10 10 20.2 +0.9
	baz=282,SNR=18						
M26K	**Nabesna, AK**	80.95	28	P		**P**	10 10 20.6 +0.9
	baz=282						
E28M	**Babbage River**	80.97	21	P		**P**	10 10 20.5 +0.8
	baz=284						
K27K	**Chicken**	81.02	26	P		**P**	10 10 21.2 +1.2
	baz=282						
D28M	**Stokes Point**	81.08	21	P		**P**	10 10 21.2 +1.0
	baz=284						
L27K	**Beaver Creek,**	81.34	27	P		**P**	10 10 22.5 +0.8
	baz=283						
BCAR	**Beaver Creek A**	81.36	27	P		**P**	10 10 23.4 +1.5
M27K	**Edge Creek, AK**	81.47	28	P		**P**	10 10 22.3 -0.3
	baz=283						
MEF	**Metsahovi**	81.50	330	*e*P		**P**	10 10 22.8 +0.3
IIGN	**Ignalina**	81.54	325	*e*P		**P**	10 10 22.5 -0.4
I28M	**Miner Creek**	81.59	25	P		**P**	10 10 23.8 +0.8
	baz=284						
E29M	**Blow River**	81.61	22	P		**P**	10 10 23.4 +0.4
	baz=285,SNR=43						
SORM	**Soroca**	81.64	317	⇓P		**P**	10 10 22.4 -1.2
SORM	**Soroca**	81.64	317	P		**P**	10 10 23.0 -0.6
VAF	**Ylistaro**	81.67	333	*e*P		**P**	10 10 23.5 +0.1
BORA	**Eskisehir**	81.70	309	IAmb		IAmb	10 10 25.1
	comp=Z,68nm,1.6s						
TLCR		81.89	314	⇑P		**P**	10 10 24.4 -0.5
TLCR		81.89	314	P		**P**	10 10 24.4 -0.5
BVCY	**Beaver Creek**	81.92	28	P		**P**	10 10 26.0 +1.2
	baz=284						
MESA	**MESA**	81.92	30	P		**P**	10 10 24.9 -0.1
	baz=283						
G29M	**Pine Creek**	81.96	23	P		**P**	10 10 25.7 +0.8
	baz=286						
H29M	**Whitestone**	82.02	24	P		**P**	10 10 26.0 +0.8
	baz=285						
ISP	**Isparta**	82.03	307	IAmb		IAmb	10 10 28.7
	comp=Z,49nm,0.6s						
MTSE	**Matsula**	82.12	328	*e*P		**P**	10 10 25.8 +0.1
DAWY	**Dawson**	82.16	26	P		**P**	10 10 26.7 +0.7
	baz=285,SNR=8.7						
TPGR	**Topolog**	82.23	314	⇑P		**P**	10 10 26.9 +0.2
YUK3	**Moose Creek**	82.26	28	P		**P**	10 10 27.8 +1.0
	baz=284						
I29M	**Ogilvie Camp,**	82.27	25	IAmb		IAmb	10 10 28.8
	comp=Z,50nm,1.2s						
I29M	**Ogilvie Camp,**	82.27	25	P		**P**	10 10 27.1 +0.5
	baz=286,SNR=17						
CFR	**Carcaliu**	82.36	315	⇑P		**P**	10 10 26.9 -0.5
CFR	**Carcaliu**	82.36	315	P		**P**	10 10 26.8 -0.5
ISK	**Istanbul-Kandi**	82.51	310	P		**P**	10 10 27.9 -0.4
J29N	**Klondike Camp**	82.55	25	IAmb		IAmb	10 10 31.1
	comp=Z,51nm,0.7s						
J29N	**Klondike Camp**	82.55	25	P		**P**	10 10 29.8 +1.7
	baz=286,SNR=26						
RAF	**Rauma**	82.57	331	*e*P		**P**	10 10 27.9 -0.2
F30M	**Barrier River**	82.60	22	P		**P**	10 10 28.9 +0.7
	baz=287						
G30M	**tAoh Zraii Nji**	82.62	23	P		**P**	10 10 28.7 +0.3
	baz=287						
O28M	**Mount Upton**	82.63	29	P		**P**	10 10 29.4 +0.5
	baz=284						
VSVD	**Vaisvydziai**	82.68	326	*e*P		**P**	10 10 28.8 0.0
YUK8	**Steele Glacier**	82.70	29	P		**P**	10 10 30.3 +1.1
	baz=285						
PABE	**Paberze**	82.77	325	P		**P**	10 10 29.3 +0.1
PABE				IAmb		IAmb	10 10 29.6
	comp=Z,52nm,0.7s						
PABE	**Paberze**	82.77	325	*e*P		**P**	10 10 29.5 +0.3
PINM	**Pinnacle**	82.77	30	P		**P**	10 10 29.8 +0.4
	baz=284						
NOR	**Nord**	82.81	354	*i* P		**P**	10 10 27.1 -1.9
NOR				IAmb		IAmb	10 10 29.8
	comp=Z,40nm,1.2s						
NOR	**Nord**	82.81	354	*i* P		**P**	10 10 28.1 -1.0
NOR				IAmb		IAmb	10 10 29.4
	comp=Z,11nm,0.6s						
L29M	**L29M**	82.96	27	P		**P**	10 10 32.0 +1.8
	baz=286						
M29M	**Somme Creek**	82.99	27	P		**P**	10 10 32.0 +1.6
	baz=286						
K29M	**Barlow Dome**	83.01	26	P		**P**	10 10 31.8 +1.2
	baz=286						
I30M	**Mount Dempster**	83.09	24	P		**P**	10 10 31.8 +0.9
	baz=287						
TESR	**Tescani**	83.11	316	⇑P		**P**	10 10 30.6 -0.7
SLIT	**Slitere, Latvi**	83.16	328	*e*P		**P**	10 10 30.6 -0.6
INK	**Inuvik**	83.19	21	P		**P**	10 10 30.9 -0.2
INK				IAmb		IAmb	10 10 32.8
	comp=Z,47nm,1.1s						
INK	**Inuvik**	83.19	21	LR		LR	10 50 00.2
	comp=Z,64nm,20.6s,baz=240,slow=37						
INK	**Inuvik**	83.19	21	P		**P**	10 10 30.9 -0.2
INK				pmax		pmax	
	comp=Z,47nm,1.2s						
INK	**Inuvik**	83.19	21	P		**P**	10 10 31.3 +0.2
	baz=289,SNR=35						
VRI	**Vrincioaia**	83.19	315	⇑P		**P**	10 10 32.5 +0.8
VRI	**Vrincioaia**	83.19	315	P		**P**	10 10 32.8 +1.1
YUK4	**Talbot Arm**	83.21	29	P		**P**	10 10 32.2 +0.5
	baz=286						
PLOR	**Plostina**	83.25	315	⇑P		**P**	10 10 33.1 +1.0
PLOR	**Plostina**	83.25	315	P		**P**	10 10 33.0 +1.0
PRD	**Provadia**	83.29	313	*e*P		**P**	10 10 33.0 +0.8
PNL	**Peninsula**	83.30	30	P		**P**	10 10 32.7 +0.7
	baz=285						
J30M	**Hart River**	83.30	25	P		**P**	10 10 32.9 +0.9
	baz=287						
NEF	**NEVSHA**	83.36	313	*e*P		**P**	10 10 33.0 +0.4
BAND	**Balkesir-Ban**	83.37	310	⇑P		**P**	10 10 32.3 -0.5
G31M	**Satah River**	83.37	23	P		**P**	10 10 32.0 -0.1
G31M				IAmb		IAmb	10 10 33.6
	comp=Z,47nm,1.2s						
G31M	**Satah River**	83.37	23	P		**P**	10 10 32.2 +0.1
	baz=289,SNR=17						
F31M	**Tsiigehtchic**	83.40	22	IAmb		IAmb	10 10 33.8
	comp=Z,42nm,0.8s						
F31M	**Tsiigehtchic**	83.40	22	P		**P**	10 10 32.5 +0.3
	baz=289,SNR=34						
MANT	**Manisa**	83.41	308	IAmb		IAmb	10 10 34.5
	comp=Z,98nm,1.7s						
YUK6	**Outpost Mounta**	83.45	29	P		**P**	10 10 33.9 +0.9
	baz=286						
KIBK	**Kibwezi**	83.50	266	IAmb		IAmb	10 10 37.3
	comp=Z,49nm,1.1s						
KIBK	**Kibwezi**	83.50	266	P		**P**	10 10 35.3 +1.3
	SNR=16						
O29M	**Mount Kennedy**	83.52	30	P		**P**	10 10 33.7 +0.5
	baz=286						
EDC	**Edincik**	83.55	310	P		**P**	10 10 33.2 -0.4
SUW	**Suwalki**	83.56	324	*e*P		**P**	10 10 33.3 -0.1
SUW	**Suwalki**	83.56	324	*e*P		**P**	10 10 34.2 +0.8
M30M	**Minto, Yukon**	83.70	27	IAmb		IAmb	10 10 37.2
	comp=Z,81nm,1.4s						
M30M	**Minto, Yukon**	83.70	27	P		**P**	10 10 35.6 +1.6
	baz=287						
H31M	**Peel River**	83.71	24	P		**P**	10 10 34.2 +0.2
	baz=289						
MAYO	**Mayo, Yukon**	83.78	26	IAmb		IAmb	10 10 36.9
	comp=Z,130nm,1.6s						
MAYO	**Mayo, Yukon**	83.78	26	P		**P**	10 10 35.6 +1.2
	baz=288						
MLR	**Muntele Rosu**	83.81	315	IAmb		IAmb	10 10 36.5
	comp=Z,32nm,0.7s						
MLR	**Muntele Rosu**	83.81	315	P		**P**	10 10 35.3 +0.3
	comp=Z,25nm,0.6s,baz=25,slow=4.4,SNR=35						
MLR				PP		**PP**	10 13 53.1 +3.4
	comp=Z,8.8nm,0.8s,baz=44,slow=5.0,SNR=4.8						
MLR				LR		LR	10 52 43.8
	comp=Z,128nm,18.8s,baz=77,slow=39						
	comp=Z,25nm,0.6s						
MLR	**Muntele Rosu**	83.81	315	⇓P	

LODK Lodwar 84.77 272 IAmb IAmb 10 10 43.8
comp=Z,58nm,1.5s
LODK Lodwar 84.77 272 P **P** **10 10 42.6 +2.2**
SNR=11
ALN Alexandroupoli 84.78 311 P **P** **10 10 38.5 -1.3**
ALN Alexandroupoli 84.78 311 IAmb IAmb 10 10 40.5
comp=Z,30nm,0.7s
PLBC Pleasant Camp 84.84 30 P **P** **10 10 41.1 +1.4**
baz=288
M31M Drury Creek, Y 84.88 27 IAmb IAmb 10 10 42.3
comp=Z,34nm,0.9s
M31M Drury Creek, Y 84.88 27 P **P** **10 10 41.1 +1.2**
baz=289,SNR=9.7
PVL Pavlikeni 84.89 313 *e*P **P** **10 10 40.4 +0.1**
TNR Turnu Rosu 84.91 316 ⇓P **P** **10 10 39.5 -0.9**
TNR Turnu Rosu 84.91 316 P **P** **10 10 39.5 -0.9**
KWP Kalwaria Pacla 84.94 320 *e*P **P** **10 10 41.4 +0.9**
PRK Paraskevi 84.99 309 P **P** **10 10 40.5 -0.4**
RDO Rodhopi 85.09 311 P **P** **10 10 39.7 -1.7**
RDO Rodhopi 85.09 311 IAmb IAmb 10 10 41.9
comp=Z,28nm,0.8s
CJR Cluj-Napoca 85.11 317 P **P** **10 10 42.6 +1.2**
CBBR Cluj-Babes-Bol 85.12 317 ⇑P **P** **10 10 40.2 -1.2**
KDZ Kurdzhali 85.12 311 *e*P **P** **10 10 41.5 -0.1**
KARP Karpathos 85.14 305 *e*P **P** **10 10 42.5 +0.7**
WHY Whitehorse 85.16 29 P **P** **10 10 42.2 +0.7**
baz=289,SNR=11
SMTH Samothraki Isl 85.26 310 P **P** **10 10 40.1 -2.2**
SIGR SIGRI 85.31 309 P **P** **10 10 41.1 -1.4**
FARO Faro, Yukon 85.33 27 IAmb IAmb 10 10 44.8
comp=Z,77nm,1.0s
FARO Faro, Yukon 85.33 27 P **P** **10 10 43.0 +0.8**
baz=290,SNR=25
SKAG Skagway 85.34 30 IAmb IAmb 10 10 45.3
comp=Z,29nm,0.9s
SKAG Skagway 85.34 30 P **P** **10 10 44.6 +2.4**
SKAG Skagway 85.34 30 P **P** **10 10 43.4 +1.2**
baz=289
S31K Pelican 85.36 31 P **P** **10 10 43.3 +1.0**
baz=288
KOLS Kolonicke sedl 85.40 319 *e*P **P** **10 10 43.2 +0.4**
KOLS pmax pmax
comp=Z,17nm,0.7s
KOLS Kolonicke sedl 85.40 319 *e*P **P** **10 10 43.2 +0.4**
MARR Marisel-Cluj 85.43 317 ⇓P **P** **10 10 42.6 -0.5**
EUNU Eureka 85.46 5 P **P** **10 10 42.4 -0.2**
EUNU IAmb IAmb 10 10 44.2
comp=Z,98nm,1.6s
R31K City Hall, Gus 85.47 31 P **P** **10 10 43.6 +0.7**
baz=288
BEL Belsk 85.53 322 *e*P **P** **10 10 43.0 -0.3**
RZN Rozhen 85.55 312 *e*P **P** **10 10 44.0 +0.1**
LIA Limnos Island 85.65 310 P **P** **10 10 43.0 -1.2**
DRGR 85.67 317 ⇑P **P** **10 10 43.9 -0.4**
DRGR 85.67 317 P **P** **10 10 43.8 -0.4**
DEV Deva 85.78 316 ⇑P **P** **10 10 45.5 +0.7**
DEV Deva 85.78 316 P **P** **10 10 45.4 +0.7**
N32M Quiet Lake 85.82 28 P **P** **10 10 45.9 +1.2**
baz=290
THAS Thassos island 85.83 311 P **P** **10 10 43.3 -1.7**
MPEP Malo Peshtene 85.85 313 *e*P **P** **10 10 45.6 +0.5**
KAVA Kavala 85.88 311 P **P** **10 10 44.0 -1.3**
C36M Paulatuk 85.91 19 P **P** **10 10 44.6 -0.2**
C36M Paulatuk 85.91 19 P **P** **10 10 44.6 -0.2**
baz=298,SNR=106
STHS Stebnicka Huta 85.92 320 *e*P **P** **10 10 44.9 -0.5**
STHS pmax pmax
comp=Z,11nm,0.6s
STHS Stebnicka Huta 85.92 320 *e*P **P** **10 10 44.9 -0.5**
GZR Gura Zlata 86.00 316 ⇑P **P** **10 10 45.9 0.0**
GZR Gura Zlata 86.00 316 P **P** **10 10 45.8 0.0**
P32M Atlin 86.07 29 P **P** **10 10 46.8 +0.8**
baz=290
SIT Sitka 86.12 32 P **P** **10 10 46.9 +0.8**
baz=289
R32K Eaglecrest 86.12 31 P **P** **10 10 47.0 +0.9**
baz=290
NVR Nevrokopi 86.27 311 P **P** **10 10 46.8 -0.5**
P33M Teslin, Yukon 86.28 29 IAmb IAmb 10 10 49.7
comp=Z,76nm,1.6s
P33M Teslin, Yukon 86.28 29 P **P** **10 10 47.8 +0.8**
baz=291
PLNA Plana 86.30 313 *e*P **P** **10 10 48.1 +0.6**
MMB Musomishta 86.30 312 *e*P **P** **10 10 47.1 -0.3**
SURR Surduc 86.34 316 ⇑P **P** **10 10 48.2 +0.7**
S32K Killisnoo 86.36 32 P **P** **10 10 47.9 +0.6**
baz=290
HERR Herculane 86.38 315 ⇑P **P** **10 10 48.1 +0.4**
VTS Vitosha 86.40 313 *e*P **P** **10 10 48.1 +0.1**
OUR Ouranopolis 86.44 310 P **P** **10 10 44.6 -3.4**
NIE Niedzica 86.51 320 *e*P **P** **10 10 48.5 +0.2**
NIE Niedzica 86.51 320 P **P** **10 10 49.0 +0.7**
SIRR Siria 86.51 317 ⇑P **P** **10 10 48.1 -0.3**
OJC Ojcow 86.59 321 *e*P **P** **10 10 49.2 +0.7**
OJC Ojcow 86.59 321 IAmb IAmb 10 10 51.2
comp=Z,41nm,0.9s
OJC Ojcow 86.59 321 P **P** **10 10 48.8 +0.2**
HFS Hagfors 86.64 331 P **P** **10 10 46.9 -1.6**
comp=Z,18nm,0.8s,baz=104,slow=4.7,SNR=61
HFS pP **pP** **10 11 19.1 -2.5**
comp=Z,12nm,0.9s,baz=66,slow=3.7,SNR=3.0
HFS PP **PP** **10 14 13.6 +1.7**
comp=Z,3.3nm,0.6s,baz=98,slow=11,SNR=3.4
HFS LR LR 10 52 41.5
comp=Z,117nm,18.1s,baz=78,slow=38
comp=Z,18nm,0.8s
KECS Kecovo 86.66 319 *e*P **P** **10 10 49.7 +0.7**
KECS pmax pmax
comp=Z,28nm,0.8s
KECS Kecovo 86.66 319 *e*P **P** **10 10 49.7 +0.7**
KKB Krupnik 86.67 312 *e*P **P** **10 10 49.1 -0.1**
BZS Buzias 86.72 316 ⇑P **P** **10 10 49.6 +0.3**
BZS Buzias 86.72 316 P **P** **10 10 49.6 +0.3**
DAG Danmarks Havn 86.75 351 *i* P **P** **10 10 46.0 -2.8**
DAG IAmb IAmb 10 10 50.3
comp=Z,11nm,0.7s
DAG Danmarks Havn 86.75 351 *i* P **P** **10 10 47.5 -1.3**
DAG IAmb IAmb 10 10 48.6
comp=Z,10nm,0.5s
PAIG Paliouri 86.77 310 P **P** **10 10 48.2 -1.5**
PAIG Paliouri 86.77 310 P **P** **10 10 48.6 -1.1**
KYMI Kymi, Euboea I 86.78 309 P **P** **10 10 49.0 -0.8**
MDVR Moldovita 86.89 315 ⇑P **P** **10 10 51.0 +0.7**
Q32M Nakina River 86.99 30 P **P** **10 10 50.9 +0.3**
baz=291
HORT Hortiatis 87.02 311 P **P** **10 10 49.2 -1.8**
LANS Liptovska Anna 87.11 320 *e*P **P** **10 10 52.2 +1.0**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 87.11 320 *e*P **P** **10 10 52.2 +1.0**
NC405 NORSAR Array S 87.17 333 P **P** **10 10 49.9 -1.3**
NC405 IAmb IAmb 10 10 51.4
comp=Z,44nm,0.8s
PSZ Piszkesteto 87.20 319 ⇑P **P** **10 10 51.5 -0.3**
PSZ Piszkesteto 87.20 319 P **P** **10 10 51.4 -0.3**
PSZ Piszkesteto 87.20 319 *e*P **P** **10 10 51.9 +0.1**
BOVS Bovan 87.20 314 ⇑P **P** **10 10 50.9 -0.8**
VAY Valandovo 87.22 312 *i* P **P** **10 10 51.3 -0.5**
NC303 NORSAR Array S 87.28 333 IAmb IAmb 10 10 53.2
comp=Z,42nm,1.1s
NC602 NORSAR Array S 87.39 332 IAmb IAmb 10 11 18.2
comp=Z,106nm,1.9s
NORES NORESS Array B 87.39 332 P **P** **10 10 53.5 +1.3**
NB2 NORSAR Subarra 87.42 333 P **P** **10 10 50.5 -1.9**
comp=Z,20nm,0.7s,baz=66,slow=4.6
NB2 PP **PP** **10 14 13.1 -5.2**
comp=Z,8.7nm,1.1s,baz=68,slow=7.9
NB2 NORSAR Subarra 87.42 333 P **P** **10 10 50.5 -1.9**
baz=66,slow=4.6
NOA NORSAR Array B 87.42 333 P **P** **10 10 50.6 -1.9**
comp=Z,12nm,0.7s,baz=67,slow=4.5,SNR=54
NOA pP **pP** **10 11 22.9 -2.6**
comp=Z,9.6nm,0.8s,baz=67,slow=4.7,SNR=5.7
NOA PP **PP** **10 14 12.8 -5.5**
comp=Z,2.7nm,0.8s,baz=71,slow=8.4,SNR=5.8
NOA LR LR 10 53 29.5
comp=Z,102nm,19.8s,baz=75,slow=38
comp=Z,12nm,0.7s
R33M Jennings River 87.45 29 P **P** **10 10 53.5 +0.8**
baz=292
U33K Whale Pass 87.58 33 P **P** **10 10 54.3 +1.1**
baz=291
LIT Litokhoron 87.60 311 P **P** **10 10 52.1 -1.6**
LIT Litokhoron 87.60 311 IAmb IAmb 10 10 53.5
comp=Z,56nm,1.5s
LIT Litokhoron 87.60 311 P **P** **10 10 51.9 -1.8**
NAO01 NORSAR Array S 87.64 333 IAmb IAmb 10 10 53.2
comp=Z,20nm,0.8s
CRAG Craig 87.81 33 P **P** **10 10 54.6 +0.3**
baz=291
WRAK Wrangell Islan 87.88 32 P **P** **10 10 55.6 +1.0**
baz=291
STEB Steborice 87.92 321 *e*P **P** **10 10 54.9 -0.1**
S34M Telegraph Cree 87.93 31 P **P** **10 10 56.0 +1.1**
baz=292
MAUC Maruska 88.07 320 *e*P **P** **10 10 56.5 +0.8**
THL Klokotos Trika 88.10 310 P **P** **10 10 53.2 -2.8**
MORC Moravsky Berou 88.11 321 P **P** **10 10 56.3 +0.3**
MORC IAmb IAmb 10 10 58.9
comp=Z,37nm,1.5s
MORC Moravsky Berou 88.11 321 *e*P **P** **10 10 56.0 0.0**
MORC Moravsky Berou 88.11 321 ⇑P **P** **10 10 55.5 -0.4**
MORC Moravsky Berou 88.11 321 P **P** **10 10 56.3 +0.3**
MORC pmax pmax
comp=Z,37nm,1.5s
WTLY Watson Lake, Y 88.17 28 P **P** **10 10 57.1 +1.1**
baz=294
FNA Florina 88.23 311 P **P** **10 10 55.0 -1.7**
SRO Srobarova 88.25 319 *e*P **P** **10 10 58.3 +1.7**
SRO Srobarova 88.25 319 *e*P **P** **10 10 58.3 +1.7**
DLBC Dease Lake 88.27 30 LR LR 10 53 59.1
comp=Z,48nm,19.1s,baz=270,slow=38
DLBC Dease Lake 88.27 30 P **P** **10 10 57.5 +1.0**
baz=293
JAVC Velka Javorina 88.33 320 *e*P **P** **10 10 57.9 +0.9**
KSP Ksiaz 88.52 322 *e*P **P** **10 10 57.1 -0.7**
KSP Ksiaz 88.52 322 P **P** **10 10 58.1 +0.3**
OHR Ohrid 88.56 312 *i* P **P** **10 10 54.1 -4.2**
OSTC Ostas 88.66 322 *e*P **P** **10 10 59.6 +1.1**
OSTC Ostas 88.66 322 *e*P **P** **10 10 59.6 +1.1**
V35K Ketchikan 88.66 33 P **P** **10 10 58.8 +0.5**
baz=292
DPC Dobruska-Polom 88.67 322 *e*P **P** **10 10 58.3 -0.3**
DPC Dobruska-Polom 88.67 322 *e*P **P** **10 10 58.3 -0.3**
CHVC Chvalec 88.75 322 *e*P **P** **10 10 59.4 +0.5**
CHVC Chvalec 88.75 322 *e*P **P** **10 10 59.4 +0.5**
UPC Upice 88.80 322 *e*P **P** **10 10 59.3 +0.2**
UPC Upice 88.80 322 *e*P **P** **10 10 59.3 +0.2**
ITM Ithomi 88.82 308 IAmb IAmb 10 10 59.4
comp=Z,23nm,0.6s
VRAC Vranov 88.85 321 P **P** **10 10 59.2 -0.2**
comp=Z,8.7nm,0.8s,baz=70,slow=4.5,SNR=11
VRAC LR LR 10 53 34.2
comp=Z,90nm,18.5s,baz=84,slow=37
comp=Z,8.7nm,0.8s
VRAC Vranov 88.85 321 *e*P **P** **10 10 59.7 +0.3**
VRAC Vranov 88.85 321 ⇑P **P** **10 10 59.7 +0.3**
VRAC Vranov 88.85 321 P **P** **10 10 59.7 +0.3**
DBG Daneborg 88.94 350 *e*P **P** **10 10 58.0 -1.3**
PUK Puka 88.94 313 IAmb IAmb 10 11 00.8
comp=Z,16nm,0.7s
JMIC Jan Mayen 88.95 345 LR LR 10 55 32.8
comp=Z,82nm,18.7s,baz=17,slow=39
NEEM North Greenlan 89.03 358 *i* P **P** **10 10 59.4 -0.7**
NEEM IAmb IAmb 10 11 02.4
comp=Z,148nm,1.6s
NEEM North Greenlan 89.03 358 *i* P **P** **10 11 00.3 +0.2**
NEEM IAmb IAmb 10 11 01.4
comp=Z,32nm,0.8s
KRUC Moravsky 89.05 320 *e*P **P** **10 11 00.4 +0.1**
WRGLY Wrigley 89.06 24 P **P** **10 11 01.1 +1.1**
baz=299
RES Resolute Bay 89.15 9 P **P** **10 11 00.1 -0.2**
RES IAmb IAmb 10 11 01.6
comp=Z,20nm,0.8s
RES Resolute Bay 89.15 9 LR LR 10 51 40.4
comp=Z,58nm,21.9s,baz=320,slow=36
RES Resolute Bay 89.15 9 P **P** **10 11 00.1 -0.2**
RES pmax pmax
comp=Z,21nm,0.8s
PDG Podgorica 89.27 313 IAmb IAmb 10 11 02.5
comp=Z,28nm,0.8s
PDG Podgorica 89.27 313 ⇑P **P** **10 11 01.2 -0.2**
RUE Ruedersdorf 89.41 324 *e*P **P** **10 11 02.3 +0.5**
RONA Rosalia, Austr 89.57 319 *i* P **P** **10 11 02.6 -0.2**
comp=Z,4.5nm,1.0s
RONA *i* PP **PP** **10 14 38.3 +2.4**
comp=Z,8.6nm,1.3s
KEK Kerkira 89.70 311 IAmb IAmb 10 11 08.6
comp=Z,20nm,0.6s
GOPC GO Pecny, Ondr 89.74 322 *e*P **P** **10 11 03.9 +0.3**
GOPC GO Pecny, Ondr 89.74 322 *e*P **P** **10 11 03.9 +0.3**
CONA Conrad Observa 89.77 319 *i* P **P** **10 11 04.0 +0.2**
comp=Z,4.2nm,0.9s
CONA *e*PP **PP** **10 14 39.8 +2.3**
comp=Z,15nm,1.2s
PRU Pruhonice 89.86 322 *e*P **P** **10 11 04.5 +0.4**
PRU Pruhonice 89.86 322 *e*P **P** **10 11 04.5 +0.4**
BRG Berggiesshubel 89.90 323 *i* P **P** **10 11 04.6 +0.3**
BRG Amp 10 11 05.6
comp=Z,15nm,1.0s
BRG Berggiesshubel 89.90 323 P P 10 11 12.0 +7.7
BRG Amp 10 11 12.8
comp=Z,6.4nm,0.9s
BRG pP pP 10 11 36.3 -1.0
BRG Amp 10 11 37.1
comp=Z,13nm,1.3s
MBAR Mbarara 90.19 269 P **P** **10 11 08.6 +2.0**
MBAR Mbarara 90.19 269 *i* P **P** **10 11 06.8 +0.2**
MBAR pmax pmax
comp=Z,20nm,0.9s
ARSA Arzberg 90.22 319 *i* P **P** **10 11 05.5 -0.4**
comp=Z,4.3nm,0.8s
ZVC Zvikov 90.27 321 *e*P **P** **10 11 05.6 -0.4**
CLL Collm 90.29 323 *i* P **P** **10 11 06.0 0.0**
CLL *e*S **S** **10 21 43.0 -6.4**
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 90.29 323 *i* P **P** **10 11 06.0 0.0**
comp=Z,15nm,1.2s
CLL *e*pP **pP** **10 11 37.0 -2.1**
CLL *i* x x 10 11 45.0
CLL *e*PP **PP** **10 14 38.0 -3.3**
CLL *e*S **S** **10 21 49.0 -0.4**
CLL *e*x x 10 22 24.0
CLL *e*sS **sS** **10 22 47.0 +0.7**
CLL *e*PS **PnS** **10 23 16.0 +2.6**
CLL *e*PPS PPS 10 23 50.0
CLL *e*SS SS 10 27 36.0 -15
KOTAN Kotaneelee Air 90.29 27 P **P** **10 11 06.5 +0.6**
baz=298
TOAD Toad River Com 90.36 28 P **P** **10 11 07.1 +0.9**
baz=297
CKRC Cesky Krumlov 90.43 321 *e*P **P** **10 11 06.7 -0.1**
CKRC Cesky Krumlov 90.43 321 *e*P **P** **10 11 06.7 -0.1**
SOKA Soboth 90.73 318 *i* P **P** **10 11 08.1 -0.2**
comp=Z,9.7nm,1.0s
SOKA *i* PP **PP** **10 14 47.7 +2.5**
comp=Z,13nm,1.3s
KHC Kasperske Hory 90.76 321 *e*P **P** **10 11 08.3 -0.1**
KHC Kasperske Hory 90.76 321 *e*P **P** **10 11 08.3 -0.1**
GERES GERESS Array B 90.79 321 P **P** **10 11 08.4 -0.2**
GERES GERESS Array B 90.79 321 P **P** **10 11 08.6 0.0**
comp=Z,7.2nm,0.8s,baz=72,slow=4.6,SNR=19
GERES PP **PP** **10 14 47.2 +1.7**
comp=Z,1.8nm,0.7s,baz=80,slow=9.6,SNR=4.7
GERES LR LR 10 54 05.2
comp=Z,85nm,21.1s,baz=74,slow=37
comp=Z,7.2nm,0.8s
MOA Molln 90.81 320 *e*PcP **PcP** **10 11 09.1 -0.5**
comp=Z,25nm,0.8s,SNR=10
MOA *i* pP **pP** **10 11 40.0 -1.7**
comp=Z,12nm,1.1s
MOA *e*PP **PP** **10 14 48.1 +2.6**
comp=Z,5.2nm,1.0s
MAW Mawson 91.00 199 P **P** **10 11 08.5 -0.3**
comp=Z,19nm,0.9s,baz=9.5,slow=6.1,SNR=2.0
comp=Z,19nm,0.9s
OBKA Obir 91.11 318 *i* P **P** **10 11 09.6 -0.5**
comp=Z,13nm,0.9s,SNR=6.1
OBKA *i* PP **PP** **10 14 45.3 -2.8**
comp=Z,10nm,1.5s
BIOA Bad Ischl, Aus 91.26 320 *i* P **P** **10 11 10.7 0.0**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 91.67 319 *i* P **P** **10 11 12.1 -0.7**
comp=Z,11nm,0.7s
LESA Schwarzleotal 91.96 320 *e*P **P** **10 11 13.6 -0.4**
comp=Z,16nm,0.9s,SNR=7.2
LESA *i* pP **pP** **10 11 46.2 -0.9**
comp=Z,7.0nm,0.8s
SGRT San Giovanni R 91.97 314 IAmb IAmb 10 11 14.5
comp=Z,30nm,0.8s
TIP Timpagrande 92.10 311 IAmb IAmb 10 11 16.0
comp=Z,18nm,0.9s
TIP Timpagrande 92.10 311 ⇓P **P** **10 11 15.1 +0.3**
ABTA Abfaltersbach 92.32 319 *i* P **P** **10 11 14.2 -1.5**
comp=Z,13nm,0.8s,SNR=6.3
ABTA *i* pP **pP** **10 11 46.7 -2.1**
comp=Z,11nm,1.0s
CIMO Cimolais 92.54 319 IAmb IAmb 10 11 16.8
comp=Z,14nm,1.1s
WTTA Wattenberg 92.67 320 *i* P **P** **10 11 17.1 -0.3**
comp=Z,32nm,0.9s,SNR=14
WTTA *i* pP **pP** **10 11 49.2 -1.4**
comp=Z,16nm,1.1s
WTTA *e*PP **PP** **10 15 01.7 +1.2**
comp=Z,18nm,1.0s
WATA Walderalm 92.68 320 *e*P **P** **10 11 16.9 -0.5**
comp=Z,18nm,0.9s,SNR=6.4
WATA *i* pP **pP** **10 11 49.1 -1.4**
comp=Z,16nm,1.2s
WATA *i* PP **PP** **10 14 57.9 -2.6**
comp=Z,7.7nm,1.2s
YKA Yellowknife Ar 92.86 22 P **P** **10 11 17.6 -0.1**
comp=Z,12nm,0.8s,baz=306,slow=4.6,SNR=98
YKA PKiKP **PKiKP** **10 16 04.2 -0.5**
comp=Z,0.3nm,0.5s,baz=306,slow=2.4,SNR=6.7
YKA PKKP **PKKPdf** **10 28 25.4 -1.4**
comp=Z,1.6nm,0.7s,baz=136,slow=2.4,SNR=27
YKA LR LR 10 55 45.7
comp=Z,47nm,20.9s,baz=320,slow=37
comp=Z,12nm,0.8s
SQTA Sankt Quirin 92.96 320 *e*P **P** **10 11 17.9 -0.8**
comp=Z,30nm,1.0s,SNR=8.4
SQTA *i* pP **pP** **10 11 50.5 -1.3**
comp=Z,15nm,0.9s
SQTA *e*PP **PP** **10 15 03.6 +1.0**
comp=Z,16nm,1.2s
SUMG Summit 92.96 354 *i* P **P** **10 11 17.2 -1.4**
SUMG IAmb IAmb 10 11 20.5
comp=Z,44nm,1.5s
SUMG Summit 92.96 354 *i* P **P** **10 11 18.7 +0.2**
CEL Celeste 93.04 310 IAmb IAmb 10 11 20.3
comp=Z,32nm,0.9s
RETA Reutte 93.13 320 *i* P **P** **10 11 18.9 -0.5**
comp=Z,3.9nm,0.8s
RETA *i* pP **pP** **10 11 51.3 -1.3**
comp=Z,6.0nm,1.3s
RETA *i* PP **PP** **10 15 02.5 -1.4**
comp=Z,4.9nm,1.0s
GUMA Gualdo di Mace 93.17 316 IAmb IAmb 10 11 23.1
comp=Z,25nm,0.9s
FETA Feichten 93.34 320 *e*PcP **P** **10 11 20.3 -0.2**
comp=Z,21nm,0.9s,SNR=11
FETA *i* pP **pP** **10 11 52.6 -1.1**
comp=Z,14nm,1.2s
FETA *e*PP **PP** **10 15 04.1 -1.5**
comp=Z,10nm,1.1s
FDMO Fiordimonte 93.34 316 IAmb IAmb 10 11 21.0
comp=Z,17nm,1.0s
NRCA Norcia 93.40 315 IAmb IAmb 10 11 21.7
comp=Z,15nm,0.9s
PPT Papeete 93.67 107 LR LR 10 45 54.1
comp=Z,80nm,20.5s,baz=280,slow=30
PPT2 Papeete2 93.67 107 *e*S **S** **10 22 14.4 -6.5**
comp=Z,519nm,26.8s
PPT2 Papeete2 93.67 107 *e*LR LR 10 41 39.2
comp=Z,325nm,37.0s
PPT2 *e*LR LR 10 41 44.7
comp=Z,564nm,33.0s
DAVA Damuels 93.76 320 *i* PcP **P** **10 11 22.2 -0.2**
comp=Z,9.6nm,0.8s
FUORN Ofenpass-Fuorn 93.80 320 IAmb IAmb 10 11 24.8
comp=Z,18nm,0.8s
VNDA Vanda 93.90 172 P **P** **10 11 22.0 0.0**
VNDA Vanda 93.90 172 P **P** **10 11 21.7 -0.4**
comp=Z,7.0nm,0.9s,baz=324,slow=5.7,SNR=21
VNDA pP **pP** **10 11 54.0 -1.7**
comp=Z,2.7nm,0.8s,baz=352,slow=7.1,SNR=2.8
VNDA PP **PP** **10 15 08.3 -1.3**
comp=Z,1.6nm,0.4s,baz=354,slow=1.1,SNR=8.4
VNDA LR LR 10 55 58.1
comp=Z,159nm,18.0s,baz=336,slow=37
comp=Z,7.0nm,0.9s
VNDA Vanda 93.90 172 P **P** **10 11 22.0 0.0**
VNDA pmax pmax
comp=Z,6.0nm,0.7s
DAVOX Davos/Dischmat 93.97 320 P **P** **10 11 22.7 -0.7**
comp=Z,16nm,0.8s,baz=91,slow=3.5,SNR=27
DAVOX pP **pP** **10 11 54.9 -1.7**
comp=Z,8.6nm,1.1s,baz=102,slow=3.7,SNR=1.7
DAVOX LR LR 10 58 00.3
comp=Z,113nm,18.8s,baz=72,slow=38
comp=Z,16nm,0.8s
ZCCA Zocca 94.25 317 IAmb IAmb 10 11 28.2
comp=Z,19nm,0.8s
WLF Walferdange 94.95 324 *d*P **P** **10 11 29.0 +1.4**
comp=Z,13nm,1.0s
TBI Tubuai 95.04 113 *e*S **S** **10 22 25.2 -7.3**
comp=Z,2μm,28.0s
TBI Tubuai 95.04 113 *e*LQ LQ 10 38 10.3
comp=Z,2μm,40.5s
TBI *e*LR LR 10 42 18.8
comp=Z,2μm,37.8s
BCLA Clavier 95.08 325 *d*P **P** **10 11 26.2 -2.0**
comp=Z,15nm,1.0s
DOU Dourbes 95.64 325 *d*P **P** **10 11 30.3 -0.4**
comp=Z,9.4nm,0.9s
LSZ Lusaka 95.95 256 P **P** **10 11 32.7 -0.2**
LSZ IAmb IAmb 10 11 34.6
comp=Z,15nm,0.7s
LSZ Lusaka 95.95 256 LR LR 10 56 41.2
comp=Z,74nm,18.3s,baz=108,slow=36
LSZ Lusaka 95.95 256 P **P** **10 11 33.5 +0.6**
LSZ Lusaka 95.95 256 P **P** **10 11 32.7 -0.2**
LSZ pmax pmax
comp=Z,15nm,0.7s
ICESG Greenland Ices 96.40 353 *i* P **P** **10 11 33.7 -0.5**
ICESG IAmb IAmb 10 11 36.2
comp=Z,6.2nm,0.6s
ICESG Greenland Ices 96.40 353 *e*P **P** **10 11 34.2 0.0**
BORG Borgarnes 96.82 345 LR LR 11 00 24.7
comp=Z,58nm,18.6s,baz=31,slow=38
EKA Eskdalemuir Ar 96.84 331 P **P** **10 11 35.3 -0.7**
comp=Z,5.1nm,0.9s,baz=96,slow=7.6,SNR=4.2
EKA SKiKP **SKiKP** **10 19 32.8 -2.1**
comp=Z,2.4nm,0.9s,baz=34,slow=3.1,SNR=3.9
comp=Z,5.1nm,0.9s
SFJD Kangerlussuaq 99.42 357 LR LR 11 01 15.2
comp=Z,82nm,18.0s,baz=0.0,slow=38
YBH Yreka Blue Hor 99.80 43 LR LR 10 56 12.8
comp=Z,57nm,18.0s,baz=294,slow=35
TAOE Nuku Hiva Isla 100.78 97 *e*LR LR 10 44 47.9
comp=Z,212nm,36.5s
BOSA Boshof 101.16 243 P **Pdif** **10 11 55.4 -0.6**
comp=Z,5.4nm,0.8s,baz=96,slow=7.4,SNR=8.4
BOSA PKiKP **PKiKP** **10 16 18.9 -1.5**
comp=Z,1.6nm,0.9s,baz=139,slow=2.7,SNR=3.8
QSPA South Pole Qui 103.41 180 Pdiff **Pdif** **10 12 05.0 -0.2**
comp=Z,2.0nm,0.8s,baz=309,slow=1.5,SNR=14
QSPA PKiKP **PP** **10 16 19.6 -2.7**
comp=Z,3.3nm,0.8s,baz=346,slow=1.6,SNR=6.4
QSPA PKKPbc **PKKPbc** **10 27 57.4 -4.6**
comp=Z,1.7nm,0.8s,baz=232,slow=2.4,SNR=8.8
NVAR Mina Array Bea 104.36 44 Pdiff **Pdif** **10 12 10.5 +0.3**
comp=Z,0.6nm,0.7s,baz=286,slow=5.5,SNR=4.9
NVAR PP **PKiKP** **10 16 26.7 +0.6**
comp=Z,1.4nm,0.8s,baz=279,slow=6.9,SNR=6.2
NVAR PKKPbc **PKKPbc** **10 27 56.5 -1.1**
comp=Z,1.4nm,0.5s,baz=136,slow=3.4,SNR=15
ELIB Princess Elisa 105.11 199 *d*PKiKP **PKiKP** **10 16 25.9 -0.4**
ELIB *d*PP **PP** **10 16 32.9 -2.0**
ESDC Sonseca Array 106.24 319 PP **PKiKP** **10 16 32.3 +2.9**
comp=Z,1.5nm,0.7s,baz=47,slow=8.4,SNR=4.5
PDAR Pinedale Array 107.41 36 PKiKP **PKiKP** **10 16 31.1 -0.6**
comp=Z,0.3nm,0.5s,baz=67,slow=1.4,SNR=6.6
PDAR PKKPbc **PKKPbc** **10 27 47.0 -1.5**
comp=Z,1.7nm,0.5s,baz=133,slow=5.0,SNR=23
PDAR PKKPab **PKKPdf** **10 28 01.9 +1.3**
comp=Z,2.1nm,0.8s,baz=123,slow=5.5,SNR=12
RKT Rikitea 108.13 110 *e*LR LR 10 48 17.6
comp=Z,2μm,40.2s
ULM Lac du Bonnet 108.79 24 PKiKP **PKiKP** **10 16 33.0 -0.7**
comp=Z,1.2nm,0.7s,baz=354,slow=7.2,SNR=2.9
ULM PKKPab **PKKPdf** **10 27 53.8 -3.9**
comp=Z,1.9nm,0.5s,baz=150,slow=4.1,SNR=7.4
TROLL Troll, Antarti 111.39 197 ⇑PKiKP **PKiKP** **10 16 38.6 +0.4**
comp=Z,178nm,0.5s

SCHQ	**Schefferville**	**111.56**	**5**	PKiKP	**PKiKP**	**10 16 39.0**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=21,slow=2.0,SNR=10						
SCHQ				PKKPab	**PKKPab**	**10 27 40.7**	**-4.9**
	comp=Z,2.4nm,0.8s,baz=169,slow=10.0,SNR=2.4						
SNAA	**Sanae**	**113.05**	**197**	PKiKP	**PKiKP**	**10 16 40.6**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=207,slow=2.3,SNR=10						
TORD	**Torodi Ar. Bea**	**114.08**	**291**	PKiKP	PKPdf	10 16 44.1	-0.5
	comp=Z,2.6nm,0.6s,baz=26,slow=1.3,SNR=3.7						
VNA2	**Neumayer–Watz**	**114.69**	**197**	⇑PKiKP	**PKiKP**	**10 16 43.9**	**-0.3**
	comp=Z,18nm,0.6s,baz=134,slow=1.2						
VNA3	**Neumayer Olymp**	**115.13**	**196**	⇑PKiKP	**PKiKP**	**10 16 44.9**	**-0.2**
	comp=Z,6.6nm,0.7s						
ALPN	**Alpine**	**118.87**	**44**	PKPdf	**PKiKP**	**10 16 54.9**	**+1.0**
P40A	**Paris**	**118.95**	**29**		**PKPdf**	**10 16 53.4**	**-0.1**
TXAR	**Lajitas Array**	**119.50**	**45**		**PKiKP**	**10 16 55.1**	**+0.1**
TXAR	**Lajitas Array**	**119.50**	**45**	PKP	**PKiKP**	**10 16 55.2**	**+0.2**
	comp=Z,4.5nm,0.5s,baz=185,slow=0.6,SNR=76						
TXAR				PKKPbc	**PKKPbc**	**10 27 06.7**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=135,slow=6.9,SNR=10						
TXAR				PKKP	**PKKPdf**	**10 27 38.1**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=142,slow=6.3,SNR=4.7						
CCM	**Cathedral Cave**	**120.51**	**29**		**PKPdf**	**10 16 56.3**	**-0.2**
CCM	**Cathedral Cave**	**120.51**	**29**	PKiKP	**PKPdf**	**10 16 56.3**	**-0.2**
DBIC	**Dimbokro**	**122.42**	**287**		**PKPdf**	**10 17 00.4**	**-0.4**
DBIC	**Dimbokro**	**122.42**	**287**	PKP	**PKPdf**	**10 16 59.9**	**-0.9**
	comp=Z,13nm,0.6s,baz=68,slow=2.2,SNR=22						
DBIC				pPKP	**pPKPdf**	**10 17 33.8**	**-1.5**
	comp=Z,7.1nm,0.9s,baz=99,slow=3.3,SNR=2.5						
DBIC				PP	**PP**	**10 18 36.2**	**-2.4**
	comp=Z,3.6nm,0.7s,baz=52,slow=8.9,SNR=4.0						
DBIC	**Dimbokro**	**122.42**	**287**	PKiKP	**PKPdf**	**10 17 00.4**	**-0.4**
WCI	**Wyandotte Cave**	**122.56**	**25**		**PKiKP**	**10 17 00.5**	**-0.1**
WCI	**Wyandotte Cave**	**122.56**	**25**	PKiKP	**PKiKP**	**10 17 00.5**	**-0.1**
SSPA	**Standing Stone**	**123.36**	**17**		**PKPdf**	**10 17 01.5**	**-0.4**
WVT	**Waverly**	**123.66**	**28**		**PKPdf**	**10 17 02.6**	**0.0**
WVT	**Waverly**	**123.66**	**28**	PKiKP	**PKPdf**	**10 17 02.6**	**0.0**
M65A	**Busby, Falmout**	**124.14**	**10**	P	**PKiKP**	**10 17 04.1**	**+0.5**
	baz=346						
HKT	**Hockley**	**124.17**	**39**	PKPdf	**PKiKP**	**10 17 05.6**	**+1.7**
HKT	**Hockley**	**124.17**	**39**	PKiKP	**PKiKP**	**10 17 05.6**	**+1.7**
ACON	**Acoyapa**	**143.85**	**47**		**PKPdf**	**10 17 40.6**	**-0.1**
AY03	**Cochrane**	**144.60**	**164**		**PKPdf**	**10 17 41.3**	**+0.2**
HDC	**Heredia**	**145.95**	**48**	*eP*	**PKPdf**	**10 17 45.0**	**+0.4**
PAYG	**Puerto Ayora**	**146.67**	**70**	PKPab	**PKiKP**	**10 17 50.4**	**+0.3**
CELP	**Cerrillos**	**147.73**	**13**	PKPab	**PKPbc**	**10 17 50.5**	**+0.2**
OBIP	**Obispado Ponce**	**147.75**	**13**		**PKPbc**	**10 17 49.5**	**-0.8**
SJG	**San Juan**	**147.79**	**12**		**PKPbc**	**10 17 50.5**	**+0.2**
SJG	**San Juan**	**147.79**	**12**	PKP2	**PKPbc**	**10 17 50.5**	**+0.2**
LL02	**Futaleuf**	**148.53**	**162**		**PKPdf**	**10 17 48.6**	**+0.7**
LL01	**San Ignacio de**	**149.09**	**161**		**PKPbc**	**10 17 53.3**	**+0.3**
LR05	**Currie**	**151.16**	**159**		**PKiKP**	**10 17 59.8**	**+1.2**
PLCA	**Paso Flores**	**151.17**	**162**		**PKPdf**	**10 17 54.0**	**+1.7**
PLCA	**Paso Flores**	**151.17**	**162**	PKP	**PKPdf**	**10 17 52.9**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=201,slow=6.5,SNR=4.3						
PLCA				PKPbc	**PKPbc**	**10 17 58.3**	**+0.1**
	comp=Z,14nm,1.1s,baz=231,slow=2.4,SNR=17						
PLCA	**Paso Flores**	**151.17**	**162**	*eP*	**PKPdf**	**10 17 53.6**	**+1.4**
BI02	**San Fabin de**	**154.59**	**157**	PKPdf	**PKPdf**	**10 17 58.7**	**+1.3**
SDV	**Santo Domingo**	**154.97**	**28**	PKPdf	**PKPdf**	**10 17 58.9**	**+0.3**
SDV	**Santo Domingo**	**154.97**	**28**	*eP*	**PKPdf**	**10 18 00.4**	**+1.8**
OTAV	**Otavalo**	**156.51**	**56**	PKPdf	**PKPdf**	**10 18 02.5**	**+1.4**
OTAV					**PKPab**	**10 18 32.4**	**+2.1**
OTAV	**Otavalo**	**156.51**	**56**	PKiKP	**PKPdf**	**10 18 02.5**	**+1.4**
OTAV	**Otavalo**	**156.51**	**56**	*eP*	**PKPdf**	**10 18 01.7**	**+0.6**
NBCA	**Caruaru-PE**	**156.62**	**281**	*eP*	**PKPdf**	**10 18 01.5**	**+0.8**
FLOC	**Florencia**	**157.81**	**49**	PKPab	**PKPab**	**10 18 36.5**	**+1.2**
ROSB	**Rosrio**	**161.71**	**304**	*eP*	**PKPdf**	**10 18 08.4**	**+1.9**
CPUP	**Villa Florida**	**167.18**	**188**	PKP	**PKPdf**	**10 18 11.0**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=110,slow=3.3,SNR=5.0						
CPUP				PKPab	**PKPab**	**10 19 15.7**	**-0.1**
	comp=Z,9.2nm,0.7s,baz=158,slow=5.0,SNR=5.3						
LDASE	**Londrina, Braz**	**167.58**	**217**	*eP*	**PKPdf**	**10 18 12.4**	**+1.0**
BDFB	**Brasilia**	**168.97**	**258**		**PKPdf**	**10 18 12.3**	**-0.2**
BDFB					**PKPab**	**10 19 25.7**	**+1.2**
BDFB	**Brasilia**	**168.97**	**258**	PKP	**PKPdf**	**10 18 12.2**	**-0.4**
	comp=Z,7.4nm,0.9s,baz=185,slow=4.9,SNR=9.9						
BDFB				PKPab	**PKPab**	**10 19 24.4**	**-0.1**
	comp=Z,18nm,0.6s,baz=107,slow=3.9,SNR=23						
BDFB	**Brasilia**	**168.97**	**258**	PKiKP	**PKPdf**	**10 18 12.4**	**-0.2**
LPAZ	**La Paz**	**170.96**	**109**	PKP	**PKPdf**	**10 18 14.5**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=304,slow=3.6,SNR=13						
LPAZ				PKPab	**PKPab**	**10 19 35.3**	**+1.4**
	comp=Z,3.7nm,0.7s,baz=300,slow=2.0,SNR=8.0						
LPAZ	**La Paz**	**170.96**	**109**	*eP*	**PKPdf**	**10 18 15.7**	**+1.3**
AQDB	**Aquidauana**	**172.35**	**206**		**PKPdf**	**10 18 13.7**	**-0.4**
SIV	**San Ignacio**	**176.99**	**143**	PP	**PP**	**10 23 53.3**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=228,slow=5.9,SNR=4.3						
PTLB	**Pontes e Lacer**	**178.13**	**182**		**PKPdf**	**10 18 15.9**	**+0.1**

ROM 16 09:59:00.9±0.1, 38°.423N±0°.006×15°.042E±0°.006, h10km, ML2.9/58, 6C-8D, Error ellipse: s-maj=0.6km s-min=0.4km az=357.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.06**	**226**	⇑P	Pg	09 59 03.4	+0.3
VPL				S	Sg	09 59 05.2	+0.5
VPL				AML	AML		
	comp=E,24650μm,0.3s						
VPL				AML	AML		
	comp=N,30850μm,0.3s						
VPL				AML	AML		
	comp=E,24650μm,1.7s						
LLI	**Lipari**	**0.08**	**286**	⇑P	Pg	09 59 04.4	+1.1
LLI				S	Sg	09 59 06.3	+1.4
LLI				AML	AML		
	comp=N,79000μm,0.6s						
LLI				AML	AML		
	comp=E,50650μm,0.4s						
MILZ	**Milazzo**	**0.21**	**136**	⇓P	Pg	09 59 06.0	+0.6
MILZ				S	Sg	09 59 09.2	+0.9
MILZ				AML	AML		
	comp=N,4735μm,0.5s						
MILZ				AML	AML		
	comp=E,10690μm,0.5s						
MILZ				AML	AML		
	comp=N,4735μm,1.5s						
MPNC	**Port Mandanici**	**0.37**	**139**	⇓P	Pg	09 59 08.7	+0.4
MPNC				S	Sb	09 59 14.7	-0.7
MPNC				AML	AML		
	comp=N,4920μm,1.2s						
MPNC				AML	AML		
	comp=E,2720μm,0.8s						
MPNC				AML	AML		
	comp=N,4920μm,0.8s						
IFIL	**Filicudi I Eol**	**0.40**	**291**	P	Pg	09 59 09.1	+0.3
IFIL				S	Sb	09 59 16.2	-0.1
IFIL				AML	AML		
	comp=N,2400μm,0.9s						
IFIL				AML	AML		
	comp=E,6245μm,0.6s						
IFIL				AML	AML		
	comp=N,2400μm,1.1s						
MSRU	**Castanea**	**0.40**	**113**	⇓P	Pb	09 59 09.5	-0.6
MSRU				S	Sb	09 59 16.1	-0.2
MSRU				AML	AML		
	comp=E,3885μm,0.3s						
MSRU				AML	AML		
	comp=N,5505μm,0.3s						
MUCR	**Ucria**	**0.40**	**199**	P	Pg	09 59 08.6	-0.3
MUCR				S	Sg	09 59 14.8	+0.6
MUCR				AML	AML		
	comp=E,1520μm,0.4s						
MUCR				AML	AML		
	comp=N,2710μm,0.5s						
MUCR				AML	AML		
	comp=N,2710μm,1.5s						
NOV	**Novara**	**0.40**	**169**	P	Pg	09 59 08.9	0.0
NOV				S	Sg	09 59 14.4	+0.3
NOV				AML	AML		
	comp=E,6340μm,0.7s						
NOV				AML	AML		
	comp=N,4895μm,0.6s						
IST3	**Stromboli F**	**0.40**	**21**	P	Pb	09 59 10.8	+0.6
IST3				AML	AML		
	comp=E,728μm,0.7s						
IST3				AML	AML		
	comp=N,1105μm,0.3s						
AIO	**Antillo**	**0.48**	**162**	P	Pg	09 59 10.2	-0.1
AIO				S	Sg	09 59 17.1	+0.6
AIO				AML	AML		
	comp=E,1097μm,0.6s						
AIO				AML	AML		
	comp=N,1500μm,0.3s						
ECTS	**Castiglione**	**0.54**	**173**	P	Pg	09 59 12.0	+0.5
ECTS				S	Sb	09 59 19.8	-0.7
ECTS				AML	AML		
	comp=E,1175μm,0.8s						
ECTS				AML	AML		
	comp=N,1240μm,0.4s						
ECTS				AML	AML		
	comp=E,1175μm,1.2s						
IACL	**Alicudi**	**0.55**	**282**	⇑P	Pg	09 59 11.8	+0.2
IACL				S	Sb	09 59 20.6	0.0
IACL				AML	AML		
	comp=E,1136μm,0.4s						
IACL				AML	AML		
	comp=E,1136μm,1.6s						
IACL				AML	AML		
	comp=N,1008μm,0.3s						
SICLA	**Scilla**	**0.55**	**107**	⇓P	Pb	09 59 12.3	-0.4
SICLA				S	Sb	09 59 20.7	0.0
SICLA				AML	AML		
	comp=E,1605μm,0.3s						
SICLA				AML	AML		
	comp=N,1795μm,0.3s						
SICLA				AML	AML		
	comp=E,1610μm,0.3s						
SICLA				AML	AML		
	comp=E,1610μm,1.7s						
SICLA				AML	AML		
	comp=N,1795μm,1.7s						
MNO	**Monte Soro**	**0.56**	**209**	P	Pg	09 59 11.8	-0.1
MNO				S	Sb	09 59 20.8	-0.3
MNO				AML	AML		
	comp=E,2255μm,0.5s						
MNO				AML	AML		
	comp=N,1715μm,0.3s						
EMSG	**Monte Spagnolo**	**0.61**	**187**	P	Pb	09 59 13.7	-0.1
EMSG				S	Sb	09 59 22.7	+0.4
EMSG				AML	AML		
	comp=N,1550μm,0.4s						
EMSG				AML	AML		
	comp=E,1865μm,0.4s						
EPZF	**Pizzo Felice**	**0.62**	**194**	P	Pb	09 59 13.4	-0.5
EPZF				S	Sb	09 59 23.1	+0.5
EPZF				AML	AML		
	comp=E,1540μm,0.4s						
EPZF				AML	AML		
	comp=N,1975μm,0.4s						
EPZF				AML	AML		
	comp=E,1540μm,1.6s						
MTTG	**Motta San Giov**	**0.66**	**129**	P	Pg	09 59 13.8	+0.1
MTTG				S	Sb	09 59 24.1	+0.2
MTTG				AML	AML		
	comp=E,762μm,0.5s						
MTTG				AML	AML		
	comp=N,910μm,0.8s						
MTTG				AML	AML		
	comp=N,910μm,1.2s						
GMB	**Gambarie**	**0.67**	**112**	P	Pg	09 59 14.2	+0.3
GMB				AML	AML		
	comp=E,3755μm,0.5s						
GMB				AML	AML		
	comp=E,3755μm,1.5s						
GMB				AML	AML		
	comp=N,4595μm,0.5s						
CEL	**Celeste**	**0.69**	**103**	⇓P	Pg	09 59 14.4	+0.1
CEL				S	Sb	09 59 24.5	-0.2
CEL				AML	AML		
	comp=E,508μm,0.5s						
CEL				AML	AML		
	comp=N,686μm,1.1s						
CEL				AML	AML		
	comp=E,636μm,0.5s						
CEL				AML	AML		
	comp=N,807μm,1.1s						
CEL				AML	AML		
	comp=E,636μm,1.5s						
CEL				AML	AML		
	comp=N,686μm,0.9s						
CEL				AML	AML		
	comp=N,807μm,0.9s						
CEL				AML	AML		
	comp=E,468μm,0.6s						
CEL				AML	AML		
	comp=E,508μm,1.5s						
ESLN	**Serra La Nave**	**0.73**	**184**	P	Pb	09 59 15.6	-0.3
GALF	**Gagliano Caste**	**0.80**	**208**	P	Pb	09 59 17.0	-0.1
GALF				S	Sg	09 59 26.8	-0.2
GALF				AML	AML		
	comp=E,1206μm,0.5s						
GALF				AML	AML		
	comp=N,1119μm,0.5s						
PLLN	**Pollina**	**0.83**	**239**	⇑P	Pg	09 59 16.4	-0.5
PLLN				S	Sb	09 59 28.2	-0.5
PLLN				AML	AML		
	comp=E,1031μm,0.5s						
PLLN				AML	AML		
	comp=N,1160μm,0.4s						
SOI	**Samo**	**0.87**	**113**	⇓P	Pg	09 59 17.4	-0.3
SOI				S	Sb	09 59 29.8	0.0
SOI				AML	AML		
	comp=E,362μm,0.4s						
SOI				AML	AML		
	comp=N,360μm,0.9s						
SOI				AML	AML		
	comp=N,360μm,1.1s						
CAGR	**Agira**	**0.91**	**208**	P	Pn	09 59 20.5	+0.7
EPOZ	**Pozzillo**	**0.91**	**178**	P	Pg	09 59 17.5	-0.9
GIB	**Gibilmanna**	**0.91**	**242**	P	Pg	09 59 17.8	-0.7
GIB				S	Sg	09 59 30.4	+0.1
GIB				AML	AML		
	comp=E,979μm,1.1s						
GIB				AML	AML		
	comp=N,822μm,0.4s						
GIB				AML	AML		
	comp=E,979μm,0.9s						
CSLB	**Castelbuono**	**0.92**	**238**	⇑P	Pg	09 59 17.7	-0.8
CSLB				S	Sg	09 59 30.1	-0.4
HLNI	**Lentini**	**1.08**	**187**	P	Pg	09 59 21.1	-0.6
HLNI				S	Sg	09 59 35.7	-0.1
HLNI				AML	AML		
	comp=E,124μm,0.6s						
HLNI				AML	AML		
	comp=E,124μm,1.4s						
HLNI				AML	AML		
	comp=N,184μm,0.9s						
PLAC	**Placanica**	**1.10**	**88**	⇑P	Pg	09 59 21.1	-0.9
PLAC				S	Sg	09 59 36.3	0.0
PLAC				AML	AML		
	comp=N,354μm,0.8s						
PLAC				AML	AML		
	comp=E,319μm,0.4s						
PLAC				AML	AML		
	comp=N,354μm,1.2s						
PLAC				AML	AML		
	comp=E,319μm,1.6s						
RESU	**Resuttano**	**1.10**	**225**	P	Pg	09 59 21.6	-0.5
HAGA	**Augusta**	**1.14**	**175**	P	Pb	09 59 21.8	-1.0
HAGA				S	Sn	09 59 39.3	+0.7
SOLUN	**Solunto**	**1.23**	**255**	P	Pn	09 59 23.8	-0.5
SSY	**Sortino**	**1.27**	**179**	⇓P	Pn	09 59 24.3	-0.5
SSY				S	Sn	09 59 41.8	0.0
SSY				AML	AML		
	comp=N,1785μm,0.4s						
SSY				AML	AML		
	comp=E,1445μm,0.4s						
HVZN	**Vizzini**	**1.27**	**192**	P	Pn	09 59 23.7	-1.1
CET2	**Cetraro**	**1.31**	**33**	P	Pn	09 59 24.3	-1.1
CET2				AML	AML		
	comp=E,216μm,0.8s						
CET2				AML	AML		
	comp=N,292μm,0.7s						
CET2				AML	AML		
	comp=E,216μm,1.2s						
CET2				AML	AML		
	comp=N,292μm,1.3s						
SPS2	**Spezzano della**	**1.33**	**49**	P	Pn	09 59 24.8	-0.9
MPG	**Monte Pellegri**	**1.35**	**259**	P	Pn	09 59 26.1	+0.2
CORL	**Corleone**	**1.47**	**249**	P	Pb	09 59 28.0	-0.4
HMDC	**Modica**	**1.48**	**188**	P	Pn	09 59 26.4	-1.2
HMDC				S	Sb	09 59 47.6	+0.3
CELI	**Celico**	**1.50**	**49**	P	Pn	09 59 27.0	-1.1
CELI				AML	AML		
CELI				AML	AML		
	comp=E,264μm,0.6s						
CELI				AML	AML		
CELI				AML	AML		
	comp=N,224μm,0.8s						
CELI				AML	AML		
CELI				AML	AML		
CELI				AML	AML		
	comp=E,264μm,1.4s						
TIP	**Timpagrande**	**1.54**	**60**	AML	AML		
	comp=E,69μm,0.5s						
TIP				AML	AML		
	comp=N,110μm,0.6s						
FAVR	**Favara**	**1.59**	**224**	P	Pb	09 59 30.4	+0.1
CROCE	**Santa Croce Ca**	**1.64**	**194**	P	Pn	09 59 29.1	-0.7
CROCE				S	Sn	09 59 50.5	-0.4
BULG	**Bulgheria - Ca**	**1.67**	**9**	P	Pn	09 59 29.5	-0.9
CUC	**Castrocucco**	**1.68**	**21**	P	Pn	09 59 29.6	-0.9
MGR	**Morigerati**	**1.76**	**13**	⇓P	Pn	09 59 30.4	-1.1
MGR				AML	AML		
	comp=E,57μm,1.5s						
MGR				AML	AML		
	comp=N,41μm,1.4s						

ROM 16 09:59:19.2±0.1, 38°.361N±0°.008×15°.019E±0°.007, h9km, ML2.4/5, Error ellipse: s-maj=1.0km s-min=0.5km az=15.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.03**	**303**	P	Pg	09 59 21.5	+0.5
VPL				S	Sg	09 59 22.9	+0.6
VPL				AML	AML		
	comp=E,24650μm,0.3s						
VPL				AML	AML		
	comp=N,30850μm,0.3s						
VPL				END			
IVGP	**Vulcano Grotta**	**0.06**	**308**	P	Pg	09 59 21.5	+0.3
IVGP				S	Sg	09 59 22.7	0.0
IVGP				END			
LLI	**Lipari**	**0.10**	**327**	P	Pg	09 59 22.3	+0.6
LLI				AML	AML		
	comp=E,50650μm,0.4s						
LLI				AML	AML		
	comp=N,79000μm,0.6s						
LLI				END			
MILZ	**Milazzo**	**0.19**	**118**	P	Pg	09 59 23.8	+0.7
MILZ				S	Sg	09 59 27.1	+1.2
MILZ				AML	AML		
	comp=E,10690μm,0.5s						
MILZ				AML	AML		
	comp=N,4735μm,0.5s						
MILZ				AML	AML		
	comp=N,1740μm,0.6s						
MILZ				AML	AML		
	comp=E,1780μm,0.2s						
MILZ				END			
MUCR	**Ucria**	**0.34**	**200**	P	Pg	09 59 26.4	+0.5
MUCR				S	Sb	09 59 31.9	-1.0
MUCR				AML	AML		
	comp=N,2710μm,0.5s						
MUCR				AML	AML		
	comp=E,1520μm,0.4s						
MUCR				AML	AML		
	comp=E,553μm,0.2s						
MUCR				END			
MPNC	**Port Mandanici**	**0.34**	**129**	P	Pg	09 59 26.6	+0.6
MPNC				S	Sb	09 59 32.4	-0.5
MPNC				AML	AML		
	comp=E,2720μm,0.8s						
MPNC				AML	AML		
	comp=N,4920μm,1.2s						
MPNC				AML	AML		
	comp=E,769μm,0.4s						
MPNC				END			
NOV	**Novara**	**0.34**	**164**	P	Pb	09 59 27.1	-0.4
NOV				S	Sb	09 59 32.4	-0.7
NOV				AML	AML		
	comp=N,4895μm,0.6s						
NOV				AML	AML		
	comp=E,6340μm,0.7s						
NOV				AML	AML		
	comp=E,1382μm,0.3s						
NOV				END			
MSRU	**Castanea**	**0.40**	**104**	P	Pg	09 59 27.5	+0.5
MSRU				AML	AML		
	comp=E,3885μm,0.3s						
MSRU				AML	AML		
	comp=N,5505μm,0.3s						
MSRU				END			
IFIL	**Filicudi I Eol**	**0.41**	**300**	AML	AML		
	comp=N,2400μm,0.9s						
IFIL				AML	AML		
	comp=E,6245μm,0.6s						
AIO	**Antillo**	**0.42**	**156**	P	Pg	09 59 28.1	+0.6
AIO				AML	AML		
	comp=E,1097μm,0.6s						
AIO				AML	AML		
	comp=N,1500μm,0.3s						
AIO				END			
IST3	**Stromboli F**	**0.47**	**21**	AML	AML		
	comp=E,728μm,0.7s						
IST3				AML	AML		
	comp=N,1105μm,0.3s						
ECTS	**Castiglione**	**0.48**	**170**	AML	AML		
	comp=N,1240μm,0.4s						
ECTS				AML	AML		
	comp=E,1175μm,0.8s						
MNO	**Monte Soro**	**0.50**	**211**	AML	AML		
	comp=E,2255μm,0.5s						
MNO				AML	AML		
	comp=N,1715μm,0.3s						
EMSG	**Monte Spagnolo**	**0.54**	**186**	AML	AML		
	comp=E,1865μm,0.4s						
EMSG				AML	AML		
	comp=N,1550μm,0.4s						
IACL	**Alicudi**	**0.55**	**289**	AML	AML		
	comp=N,1008μm,0.3s						
IACL				AML	AML		
	comp=E,1136μm,0.4s						
EPZF	**Pizzo Felice**	**0.55**	**193**	AML	AML		
	comp=N,1975μm,0.4s						
EPZF				AML	AML		
	comp=E,1540μm,0.4s						
SICLA	**Scilla**	**0.56**	**101**	AML	AML		
	comp=E,1610μm,0.3s						
SICLA				AML	AML		
	comp=E,1605μm,0.3s						
SICLA				AML	AML		
	comp=N,1795μm,0.3s						
RCU	**Reggio Calabri**	**0.56**	**115**	P	Pg	09 59 30.3	+0.1
MTTG	**Motta San Giov**	**0.64**	**124**	AML	AML		
	comp=E,762μm,0.5s						
MTTG				AML	AML		
	comp=N,910μm,0.8s						
GMB	**Gambarie**	**0.67**	**107**	AML	AML		
	comp=E,3755μm,0.5s						
GMB				AML	AML		
	comp=N,4595μm,0.5s						
CEL	**Celeste**	**0.70**	**98**	AML	AML		
	comp=N,807μm,1.1s						
CEL				AML	AML		
	comp=E,508μm,0.5s						
CEL				AML	AML		
	comp=N,686μm,1.1s						
CEL				AML	AML		
	comp=E,636μm,0.5s						
GALF	**Gagliano Caste**	**0.74**	**209**	AML	AML		
	comp=E,1206μm,0.5s						
GALF				AML	AML		
	comp=N,1119μm,0.5s						
PLLN	**Pollina**	**0.78**	**242**	AML	AML		
	comp=E,1031μm,0.5s						
PLLN				AML	AML		
	comp=N,1160μm,0.4s						
GIB	**Gibilmanna**	**0.86**	**245**	AML	AML		
	comp=E,979μm,1.1s						
GIB				AML	AML		
	comp=N,822μm,0.4s						
SOI	**Samo**	**0.87**	**109**	AML	AML		
	comp=N,360μm,0.9s						
SOI				AML	AML		
	comp=E,362μm,0.4s						
HLNI	**Lentini**	**1.02**	**187**	AML	AML		
	comp=E,124μm,0.6s						
HLNI				AML	AML		
	comp=N,184μm,0.9s						
PLAC	**Placanica**	**1.12**	**85**	AML	AML		
	comp=N,354μm,0.8s						
PLAC				AML	AML		
	comp=E,319μm,0.4s						

SSY	**Sortino**	**1.21**	**178**	AML	AML
	comp=E,1445μm,0.4s				
SSY				AML	AML
	comp=N,1785μm,0.4s				
CAR1	**CAROLEI**	**1.29**	**46**	AML	AML
	comp=E,497μm,0.8s				
CAR1				AML	AML
	comp=N,535μm,0.4s				
CAR1				AML	AML
	comp=E,412μm,0.5s				
CAR1				AML	AML
	comp=N,475μm,0.4s				
CET2	**Cetraro**	**1.38**	**32**	AML	AML
	comp=N,292μm,0.7s				
CET2				AML	AML
	comp=E,216μm,0.8s				
CELI	**Celico**	**1.56**	**48**	AML	AML
	comp=E,264μm,0.6s				
CELI				AML	AML
CELI				AML	AML
CELI				AML	AML
	comp=N,224μm,0.8s				
TIP	**Timpagrande**	**1.59**	**58**	AML	AML
	comp=N,110μm,0.6s				
TIP				AML	AML
	comp=E,69μm,0.5s				
MGR	**Morigerati**	**1.82**	**13**	AML	AML
	comp=N,41μm,1.4s				
MGR				AML	AML
	comp=E,57μm,1.5s				

*IDC **16** 10:14:04.8±1.5, 1°.07N×126°.32E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=163.3km s-min=21.6km az=66.0*
*DJA **16** 10:14:08.5±0.8, 1°.N±3°×12°.7E±°, h12km±6km, M3.5/7, MLv3.5/7*

ISC 16 10:14:06.0±1.1, 1°.1N±0°.1×126°.5E±0°.2, h10km, n6, σ0°.77/8, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.99**	**111**	P	**Pn**	**10 14 26.0**	**+0.1**
SGSI	**Sangihe**	**2.69**	**340**	P	**Pb**	**10 14 53.2**	**-1.2**
SGSI				S	**Sb**	**10 15 28.7**	**+1.2**
WRA	**Warramunga Arr**	**22.33**	**160**	P	**P**	**10 19 04.2**	**+0.1**
	2.1nm,0.6s,baz=338,slow=11,SNR=20						
	2.1nm,0.6s						
ASAR	**Alice Springs**	**25.70**	**164**	P	**P**	**10 19 36.6**	**0.0**
	0.8nm,0.6s,baz=344,slow=6.7,SNR=11						
ASAR				PcP	**PcP**	**10 23 07.0**	**0.0**
	0.3nm,0.4s,baz=333,slow=1.9,SNR=5.5						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**10 24 09.9**	**+0.3**
	0.2nm,0.4s,baz=119,slow=7.6,SNR=7.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.77**	**328**	P	**P**	**10 24 38.5**	**+0.4**
	0.2nm,0.3s,baz=127,slow=6.1,SNR=1.7						
	0.2nm,0.3s						

IDC 16 10:17:39.0±13.0, 7°.92S×128°.18E, h158km±152km, mb2.8/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=101.0km s-min=56.0km az=25.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.41**	**193**	P	Pn	10 20 05.5	+1.1
	0.6nm,0.3s,baz=20,slow=11,SNR=11						
FITZ				S	Sn	10 21 58.4	-1.3
	1.2nm,0.4s,baz=51,slow=23,SNR=2.1						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**13.36**	**154**	P	Pn	10 20 40.8	-1.8
	0.2nm,0.3s,baz=330,slow=13,SNR=6.4						
WRA				S	Sn	10 23 02.9	-7.8
	1.5nm,0.7s,baz=330,slow=25,SNR=10						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**16.59**	**161**	P	Pn	10 21 24.0	+1.4
	0.1nm,0.3s,baz=337,slow=10,SNR=5.7						
ASAR				S	S	10 24 19.3	-7.4
	0.4nm,0.5s,baz=352,slow=27,SNR=7.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**68.02**	**328**	P	P	10 28 21.2	-0.1
	0.1nm,0.4s,baz=134,slow=6.6,SNR=1.8						
	0.1nm,0.4s						

IDC 16 10:17:40.4±9.4, 14°.83S×167°.26E, h188km±88km, mb3.3/3, mbtmp3.8/4, Error ellipse: s-maj=83.7km s-min=43.7km az=168.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.25**	**186**	P	Pn	10 19 24.8	+0.9
	2.0nm,0.5s,baz=343,slow=19,SNR=7.6						
DZM				S	Sn	10 20 44.4	-1.4
	3.7nm,1.1s,baz=46,slow=17,SNR=1.4						
STKA	**Stephens Creek**	**28.93**	**230**	P	P	10 23 23.4	+1.4
	1.7nm,0.7s,baz=37,slow=10,SNR=3.1						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**32.63**	**249**	P	P	10 23 54.2	-0.6
	0.3nm,0.7s,baz=80,slow=9.3,SNR=4.1						
	0.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.99**	**259**	P	P	10 24 56.5	-0.6
	2.7nm,0.8s,baz=101,slow=10,SNR=2.9						
	2.7nm,0.8s						
ARCES	**ARCESS Array B**	**120.35**	**345**	PKP	PKPdf	10 36 08.2	-0.5
	2.9nm,0.8s,baz=39,slow=2.2,SNR=7.3						

*CATAC **16** 10:18:16.8±0.5, 13°.N±2°×9°.0W±°, h11km±2km, M3.4/21, MLv3.4/21, Error ellipse: s-maj=5.4km s-min=4.3km az=34.0, confirmed*
*GCG **16** 10:18:17.3±1.3, 13°.15N×89°.96W, h22km±11km, MD4.0*
*SNET **16** 10:18:17.0±0.9, 13°.13N×89°.83W, h20km±4km, ML3.5*

ISC 16 10:18:17.7±2.2, 13°.12N±0°.08×89°.80W±0°.07, h24km±13km, n115, σ0°.49/121, 11C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.59**	**52**	⇑*i*P	**Pb**	**10 18 29.5**	**+0.1**
LALI				*e*S	**Sb**	**10 18 37.2**	**-0.2**
LALI	**Alcalda de L**	**0.59**	**52**	P	**Pb**	**10 18 29.8**	**+0.4**
LALI	**Alcalda de L**	**0.59**	**52**	P	**Sb**	**10 18 37.9**	**+0.5**
JAYA	**Jayaque - finc**	**0.63**	**33**	⇑*i*P	**Pb**	**10 18 30.2**	**0.0**
JAYA				*e*S	**Sn**	**10 18 39.9**	**-0.8**
JAYA	**Jayaque - finc**	**0.63**	**33**	S	**Sb**	**10 18 38.7**	**0.0**
JAYA	**Jayaque - finc**	**0.63**	**33**	P	**Pb**	**10 18 30.2**	**0.0**
JAYA	**Jayaque - finc**	**0.63**	**33**	P	**Pb**	**10 18 30.2**	**0.0**
JAYA	**Jayaque - finc**	**0.63**	**33**	*i* P	**Pb**	**10 18 30.2**	**0.0**
JAYA				*i* S	**Sn**	**10 18 40.0**	**-0.7**
JAYA	**Jayaque - finc**	**0.63**	**33**	*i* P		10 18 30.2	
JAYA				*i* S		10 18 40.0	
CEVE	**Cerro Verde**	**0.72**	**13**	*e*P	**Pb**	**10 18 31.6**	**-0.1**
CEVE	**Cerro Verde**	**0.72**	**13**	P	**Pb**	**10 18 31.7**	**-0.1**
CEVE	**Cerro Verde**	**0.72**	**13**	S	**Sn**	**10 18 42.2**	**-0.9**
SBLS	**San Blas**	**0.73**	**13**	*e*P	**Pb**	**10 18 31.7**	**-0.3**
ITCA	**Escuela Especi**	**0.75**	**43**	⇑*e*P	**Pb**	**10 18 31.8**	**-0.3**
ITCA	**Escuela Especi**	**0.75**	**43**	P	**Pb**	**10 18 32.2**	**+0.1**
ITCA	**Escuela Especi**	**0.75**	**43**	S	**Sn**	**10 18 42.9**	**-0.5**
PMON	**Piamonte**	**0.75**	**39**	⇑*i*P	**Pb**	**10 18 31.9**	**-0.3**
PMON	**Piamonte**	**0.75**	**39**	P	**Pb**	**10 18 32.1**	**-0.2**
PMON	**Piamonte**	**0.75**	**39**	S	**Sn**	**10 18 43.9**	**+0.3**
PMON	**Piamonte**	**0.75**	**39**	P	**Pb**	**10 18 32.0**	**-0.3**
SNJE	**San Jose**	**0.77**	**14**	*e*P	**Pb**	**10 18 32.2**	**-0.3**
PANCS	**Alcalda de**	**0.78**	**51**	⇑*i*P	**Pb**	**10 18 32.1**	**-0.5**
PANCS	**Alcalda de**	**0.78**	**51**	S	**Sn**	**10 18 43.5**	**-0.6**
PANCS	**Alcalda de**	**0.78**	**51**	P	**Pb**	**10 18 32.1**	**-0.5**
PANCS	**Alcalda de**	**0.78**	**51**	P	**Pb**	**10 18 32.1**	**-0.5**
NUBE	**Las Nubes**	**0.78**	**1**	⇑*e*P	**Pb**	**10 18 32.1**	**-0.6**
NUBE	**Las Nubes**	**0.78**	**1**	P	**Pb**	**10 18 32.2**	**-0.4**
NUBE	**Las Nubes**	**0.78**	**1**	S	**Sb**	**10 18 43.3**	**+0.3**
NUBE	**Las Nubes**	**0.78**	**1**	P	**Pb**	**10 18 32.1**	**-0.6**
NUBE	**Las Nubes**	**0.78**	**1**	*i* P	**Pb**	**10 18 32.0**	**-0.6**
NUBE				*i* S	**Sb**	**10 18 43.2**	**+0.3**
NUBE	**Las Nubes**	**0.78**	**1**	*i* P		10 18 32.0	
NUBE				*i* S		10 18 43.2	
CEDA	**San Andres**	**0.78**	**30**	*e*P	**Pb**	**10 18 32.5**	**-0.2**
CEDA	**San Andres**	**0.78**	**30**	S	**Sn**	**10 18 43.5**	**-0.7**
CEDA	**San Andres**	**0.78**	**30**	P	**Pb**	**10 18 32.7**	**0.0**
RTR	**El Retiro**	**0.79**	**11**	*e*P	**Pb**	**10 18 32.6**	**-0.2**
BOQS	**Boqueron**	**0.79**	**39**	⇑*e*P	**Pb**	**10 18 32.7**	**-0.3**
LOMA	**Loma Larga**	**0.80**	**49**	⇑*e*P	**Pb**	**10 18 32.7**	**-0.3**
LOMA				*e*S	**Sn**	**10 18 44.5**	**-0.4**
LOMA	**Loma Larga**	**0.80**	**49**	P	**Pb**	**10 18 33.0**	**-0.1**
LOMA	**Loma Larga**	**0.80**	**49**	P	**Pb**	**10 18 32.8**	**-0.3**
UEES	**Universidad Ev**	**0.80**	**42**	⇑*i*P	**Pb**	**10 18 32.7**	**-0.4**
UEES	**Universidad Ev**	**0.80**	**42**	S	**Sn**	**10 18 44.6**	**-0.2**
UEES	**Universidad Ev**	**0.80**	**42**	P	**Pb**	**10 18 32.7**	**-0.4**
UEES	**Universidad Ev**	**0.80**	**42**	P	**Pb**	**10 18 32.8**	**-0.4**
PIC2	**El Picacho**	**0.81**	**40**	*e*P	**Pb**	**10 18 33.1**	**-0.3**
UTEC	**Universidad Te**	**0.82**	**45**	P	**Pb**	**10 18 33.1**	**-0.2**
UTEC	**Universidad Te**	**0.82**	**45**	S	**Sn**	**10 18 45.1**	**0.0**
UESS	**Universidad de**	**0.83**	**44**	*e*P	**Pb**	**10 18 33.2**	**-0.4**
IGN	**Direccin Gen**	**0.85**	**46**	*e*P	**Pb**	**10 18 33.4**	**-0.4**
IGN	**Direccin Gen**	**0.85**	**46**	S	**Sn**	**10 18 46.3**	**+0.4**
IGN	**Direccin Gen**	**0.85**	**46**	P	**Pb**	**10 18 33.6**	**-0.2**
LFRS	**El Faro**	**0.87**	**55**	*e*P	**Pb**	**10 18 33.7**	**-0.6**
QUEZ	**Alcaldia de Qu**	**0.88**	**36**	*e*P	**Pb**	**10 18 34.0**	**-0.2**
UNIC	**Universidad Ca**	**0.89**	**16**	P	**Pb**	**10 18 34.3**	**-0.3**
UNIC	**Universidad Ca**	**0.89**	**16**	S	**Sn**	**10 18 46.9**	**0.0**
UNIC	**Universidad Ca**	**0.89**	**16**	P	**Pb**	**10 18 34.0**	**-0.6**
SLOZ	**Alcaldia de Sa**	**0.90**	**1**	*e*P	**Pb**	**10 18 34.2**	**-0.5**
SLOZ	**Alcaldia de Sa**	**0.90**	**1**	S	**Sn**	**10 18 47.4**	**+0.3**
SLOZ	**Alcaldia de Sa**	**0.90**	**1**	P	**Pb**	**10 18 34.4**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.90**	**1**	P	**Pb**	**10 18 34.3**	**-0.4**
LFU	**La Fuente**	**0.91**	**47**	*e*P	**Pb**	**10 18 34.6**	**-0.3**
COEG	**Centro de Oper**	**1.02**	**61**	⇑*e*P	**Pn**	**10 18 35.9**	**-0.6**
COEG	**Centro de Oper**	**1.02**	**61**	P	**Pn**	**10 18 36.3**	**-0.2**
COEG	**Centro de Oper**	**1.02**	**61**	S	**Sn**	**10 18 50.4**	**+0.3**
COEG	**Centro de Oper**	**1.02**	**61**	P	**Pn**	**10 18 36.0**	**-0.6**
PAVA	**Las Pavas**	**1.02**	**55**	*e*P	**Pn**	**10 18 36.4**	**-0.2**
PAVA	**Las Pavas**	**1.02**	**55**	S	**Sn**	**10 18 51.5**	**+1.2**
PAVA	**Las Pavas**	**1.02**	**55**	P	**Pn**	**10 18 36.5**	**-0.1**
PAVA	**Las Pavas**	**1.02**	**55**	P	**Pn**	**10 18 36.4**	**-0.2**
SNVI	**San Vicente**	**1.05**	**62**	*e*P	**Pn**	**10 18 36.5**	**-0.5**
TECO	**Alcaldia de Te**	**1.07**	**67**	*e*P	**Pn**	**10 18 36.3**	**-0.9**
TECO	**Alcaldia de Te**	**1.07**	**67**	P	**Pn**	**10 18 36.6**	**-0.6**
TECO	**Alcaldia de Te**	**1.07**	**67**	S	**Sb**	**10 18 51.2**	**-0.1**
TECO	**Alcaldia de Te**	**1.07**	**67**	P	**Pn**	**10 18 36.4**	**-0.9**
UESV	**Universidad de**	**1.11**	**62**	*e*P	**Pn**	**10 18 37.2**	**-0.5**
UESV	**Universidad de**	**1.11**	**62**	S	**Sn**	**10 18 53.0**	**+0.8**
UESV	**Universidad de**	**1.11**	**62**	P	**Pn**	**10 18 37.6**	**-0.1**
UESV	**Universidad de**	**1.11**	**62**	P	**Pn**	**10 18 37.4**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.19**	**61**	⇑*e*P	**Pn**	**10 18 38.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**61**	P	**Pn**	**10 18 38.9**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.19**	**61**	S	**Sb**	**10 18 56.2**	**+1.6**
SCLA	**Alcaldia de Sa**	**1.19**	**61**	P	**Pn**	**10 18 39.0**	**+0.1**
ALJI	**Alcalda de J**	**1.21**	**80**	*e*P	**Pn**	**10 18 38.3**	**-0.8**
ALJI				*e*S	**Sn**	**10 18 54.5**	**-0.3**
ALJI	**Alcalda de J**	**1.21**	**80**	S	**Sb**	**10 18 55.4**	**+0.2**
ALJI	**Alcalda de J**	**1.21**	**80**	P	**Pn**	**10 18 38.6**	**-0.5**
PQSS	**Presa 15 de Se**	**1.30**	**67**	*e*P	**Pn**	**10 18 40.0**	**-0.4**
PQSS	**Presa 15 de Se**	**1.30**	**67**	P	**Pn**	**10 18 40.4**	**0.0**
PQSS	**Presa 15 de Se**	**1.30**	**67**	S	**Sb**	**10 18 58.1**	**+0.2**
PQSS	**Presa 15 de Se**	**1.30**	**67**	P	**Pn**	**10 18 40.0**	**-0.4**
TECA	**Tecapa**	**1.31**	**73**	*e*P	**Pn**	**10 18 40.3**	**-0.4**
LLGN	**La Laguna**	**1.33**	**39**	*e*P	**Pn**	**10 18 40.7**	**-0.1**
LLGN	**La Laguna**	**1.33**	**39**	S	**Sb**	**10 18 59.3**	**+0.7**
LLGN	**La Laguna**	**1.33**	**39**	P	**Pn**	**10 18 41.0**	**+0.2**
LLGN	**La Laguna**	**1.33**	**39**	P	**Pn**	**10 18 41.0**	**+0.2**
MTO3	**Montecristo**	**1.34**	**18**	*e*P	**Pn**	**10 18 41.0**	**-0.1**
MTO3	**Montecristo**	**1.34**	**18**	P	**Pn**	**10 18 41.2**	**+0.1**
MTO3	**Montecristo**	**1.34**	**18**	S	**Sb**	**10 18 59.5**	**+0.4**
MTO3	**Montecristo**	**1.34**	**18**	P	**Pn**	**10 18 41.2**	**+0.1**
MTO3	**Montecristo**	**1.34**	**18**	*i* P	**Pn**	**10 18 41.0**	**-0.1**
MTO3	**Montecristo**	**1.34**	**18**	*i* P		10 18 41.0	
PACA	**Pacayal**	**1.48**	**76**	*e*P	**Pn**	**10 18 43.0**	**+0.1**
PACA	**Pacayal**	**1.48**	**76**	S	**Sb**	**10 19 02.5**	**-0.4**
PACA	**Pacayal**	**1.48**	**76**	P	**Pn**	**10 18 43.4**	**+0.6**
PACA	**Pacayal**	**1.48**	**76**	P	**Pn**	**10 18 43.5**	**+0.6**
LCY	**Lacayo**	**1.49**	**78**	*e*P	**Pn**	**10 18 43.1**	**0.0**
ESQI	**Esquipulas**	**1.50**	**17**	*e*P	**Pn**	**10 18 43.3**	**+0.2**
ESQI	**Esquipulas**	**1.50**	**17**	P	**Pn**	**10 18 43.6**	**+0.4**
ESQI	**Esquipulas**	**1.50**	**17**	S	**Sb**	**10 19 04.2**	**+0.6**
ESQI	**Esquipulas**	**1.50**	**17**	P	**Pn**	**10 18 43.4**	**+0.2**
RANC	**El Ranchito**	**1.50**	**78**	*e*P	**Pn**	**10 18 43.1**	**-0.1**
BLLM	**Bellamira**	**1.55**	**78**	*e*P	**Pn**	**10 18 44.4**	**+0.6**
LCND	**La Caada**	**1.87**	**84**	*e*P	**Pn**	**10 18 48.0**	**-0.2**
LCND	**La Caada**	**1.87**	**84**	S	**Sb**	**10 19 12.8**	**-1.3**
LCND	**La Caada**	**1.87**	**84**	P	**Pn**	**10 18 48.1**	**0.0**
LCND	**La Caada**	**1.87**	**84**	P	**Pn**	**10 18 48.1**	**0.0**
CNCH	**Conchagua**	**1.92**	**85**	P	**Pn**	**10 18 49.9**	**+1.0**
CNCH	**Conchagua**	**1.92**	**85**	S	**Sn**	**10 19 13.9**	**+1.5**
CNCH	**Conchagua**	**1.92**	**85**	P	**Pn**	**10 18 50.3**	**+1.3**
APG	**El Apazote**	**1.98**	**341**	*i* P	**Pn**	**10 18 50.4**	**+0.5**
APG	**El Apazote**	**1.98**	**341**	*i* P		10 18 50.4	
STG0	**El Palmar, Qui**	**1.98**	**311**	*i* P		10 18 52.8	
STG0				*i* S		10 19 20.3	

*TIR **16** 10:34:25.2, 39°.70N×20°.33E, h17km, Md3.2/5, Ml2.3/6*
*ATH **16** 10:34:26.4, 39°.68N×20°.41E, h5km±2km, ML2.3/14, Manual Solution by A.Papageorgiou First location: 2019/03/16 10:35:33, This location: 2019/03/18 09:27:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*

ISC 16 10:34:26.2±0.9, 39°.69N±0°.02×20°.37E±0°.02, h12km±6km, n27, σ0°.66/52, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.16**	**191**	Pg	**Pg**	**10 34 29.9**	**+0.2**
IGT				Sg	**Sg**	**10 34 33.2**	**+1.0**
IGT				AML	AML	10 34 34.0	
	12nm,0.2s						
IGT				AMd		10 35 05.3	
IGT	**Igoumenitsa**	**0.16**	**191**	P	**Pg**	**10 34 29.7**	**0.0**
IGT				S	**Sg**	**10 34 31.5**	**-0.8**
SRN	**Sarande**	**0.34**	**304**	Pg	**Pg**	**10 34 32.4**	**-0.7**
SRN				Sg	**Sg**	**10 34 38.1**	**+0.4**
SRN				AML	AML	10 34 42.0	
	0.6nm,0.3s						
SRN				AMd		10 35 26.9	
JAN	**Janina**	**0.37**	**94**	P	**Pg**	**10 34 33.7**	**+0.1**
JAN				S	**Sg**	**10 34 38.6**	**0.0**
PRGA	**Parga**	**0.40**	**176**	P	**Pb**	**10 34 35.0**	**-0.2**
PRGA				S	**Sg**	**10 34 40.1**	**+0.7**
KEK	**Kerkira**	**0.44**	**274**	P	**Pb**	**10 34 36.1**	**+0.1**
KEK				S	**Sb**	**10 34 41.4**	**-1.2**
LSK	**Leskovik**	**0.50**	**21**	Pg	**Pg**	**10 34 35.1**	**-0.8**
LSK				Sg	**Sb**	**10 34 43.0**	**-1.2**
LSK				AML	AML	10 34 46.2	
	0.9nm,0.5s						
TETR	**Tetrakomo, Epi**	**0.78**	**116**	P	**Pb**	**10 34 41.3**	**-0.4**
TETR				S	**Sg**	**10 34 51.4**	**-0.1**
PENT	**Pentalofos**	**0.78**	**49**	P	**Pb**	**10 34 41.2**	**-0.6**
PENT				S	**Sb**	**10 34 52.0**	**-0.4**
TSLK	**Tsoukalades, L**	**0.89**	**165**	P	**Pb**	**10 34 43.5**	**-0.1**
TSLK				S	**Sb**	**10 34 55.4**	**0.0**
NEST	**Nestorio**	**0.90**	**35**	Pg	**Pg**	**10 34 43.1**	**-0.4**
NEST				Sg	**Sb**	**10 34 56.4**	**+0.6**
NEST				AML	AML	10 35 05.7	
	0.3nm,0.4s						
NEST				AMd		10 36 03.2	
NEST	**Nestorio**	**0.90**	**35**	P	**Pb**	**10 34 43.7**	**0.0**
NEST				S	**Sb**	**10 34 55.7**	**0.0**
LKD2	**Lefkada island**	**0.92**	**166**	Pn	**Pg**	**10 34 43.7**	**-0.3**
LKD2				Sn	**Sn**	**10 34 58.2**	**0.0**
LKD2				AML	AML	10 35 05.4	
	0.5nm,0.4s						
LKD2				AMd		10 35 56.2	
LKD2	**Lefkada island**	**0.92**	**166**	P	**Pb**	**10 34 44.2**	**0.0**
LKD2				S	**Sb**	**10 34 56.6**	**+0.2**
EVGI	**Lefkada island**	**1.09**	**168**	P	**Pn**	**10 34 47.4**	**+0.1**
EVGI				S	**Sn**	**10 35 01.8**	**-0.5**
FSK	**Fiskardo**	**1.23**	**173**	P	**Pg**	**10 34 50.3**	**+0.4**
FSK				S	**Sn**	**10 35 05.9**	**0.0**
THL	**Klokotos Trika**	**1.28**	**95**	P	**Pg**	**10 34 50.5**	**-0.2**
THL				S	**Sn**	**10 35 06.7**	**-0.2**
FNA	**Florina**	**1.34**	**35**	P	**Pg**	**10 34 51.9**	**0.0**
FNA				S	**Sg**	**10 35 09.2**	**-0.1**
EVR	**Evrytania**	**1.35**	**124**	P	**Pg**	**10 34 52.5**	**+0.3**
EVR				S	**Sn**	**10 35 08.9**	**-0.1**
PVO	**Paravola**	**1.40**	**140**	P	**Pb**	**10 34 52.0**	**-0.2**
PVO				S	**Sg**	**10 35 10.4**	**-0.6**
TYRN	**Tyrnavos**	**1.44**	**88**	P	**Pb**	**10 34 52.3**	**-0.6**
TYRN				S	**Sb**	**10 35 11.1**	**-0.1**
OHR	**Ohrid**	**1.46**	**13**	*i* Pn	**Pg**	**10 34 57.4**	**+3.1**
SCTE	**Santa Cesarea**	**1.51**	**285**	Pn	**Pn**	**10 34 52.7**	**-0.4**
SCTE				Sn	**Sb**	**10 35 13.6**	**+0.2**
SCTE				AML	AML	10 35 20.8	
	0.3nm,0.4s						
SCTE				AMd		10 36 06.5	
MAKR	**Makrakomi, Fth**	**1.52**	**116**	P	**Pg**	**10 34 54.8**	**-0.6**
MAKR				S	**Sb**	**10 35 14.0**	**+0.3**
ANX	**Ano Chora**	**1.63**	**132**	P	**Pb**	**10 34 56.1**	**-0.1**
ANX				S	**Sb**	**10 35 17.1**	**+0.4**
LIT	**Litokhoron**	**1.68**	**75**	P	**Pb**	**10 34 57.4**	**+0.3**
LIT				S	**Sb**	**10 35 17.9**	**-0.4**
AXAR	**Agios Charalam**	**2.00**	**117**	P	**Pn**	**10 35 00.7**	**+0.8**

IDC 16 10:49:43.9±2.6, 0°.08N×125°.19E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=330.3km s-min=28.5km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.82**	**156**	P	P	10 54 37.8	-0.2
	0.4nm,0.6s,baz=335,slow=9.7,SNR=6.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**25.07**	**161**	P	P	10 55 10.6	+0.2
	0.2nm,0.4s,baz=344,slow=9.6,SNR=6.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.72**	**327**	P	P	10 59 50.4	-0.1
	0.2nm,0.3s,baz=122,slow=7.0,SNR=2.5						
	0.2nm,0.3s						

*NEIC **16** 10:56:22.2, 66°.33N×157°.37W, h3km*
*AEIC **16** 10:56:25.6±1.6, 66°.24N±0°.02×157°.22W±0°.07, h8km±5km, ML4.0, mb3.9/2(NEIC), ML4.2/150(NEIC), Mwr3.9/63(NEIC), Error ellipse: s-maj=4.3km s-min=2.5km az=103.0*
*NEIC **16** 10:56:25.8±1.6, 66°.26N±0°.02×157°.26W±0°.07, h10km±1km, Error ellipse: s-maj=4.8km s-min=2.9km az=87.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.06; $M_{\theta\theta}$0.47; $M_{\phi\phi}$-0.40; $M_{r\theta}$0.30; $M_{\theta\phi}$-0.78; $M_{\phi r}$0.37; Fault plane solution: $M_0$1.02000×10^{15} NP1: ϕ_s162.52000°, δ68.94000°, λ-14.70000°. NP2: ϕ_s257.90000°, δ76.30000°, λ-158.30000°. Principal axes: T 0.9340, Plg5.0000°, Azm29.0000°; N 0.1476, Plg65.0000°, Azm289.0000°; P -1.0816, Plg25.0000°, Azm121.0000°;*
*IDC **16** 10:56:27.1±0.7, 66°.59N×157°.25W, h0km, mb3.6/13, mbtmp3.6/17, ML3.6/5, MS3.1/7 Error ellipse: s-maj=19.8km s-min=11.0km az=29.0*

ISC 16 10:56:25.2±1.1, 66°.26N±0°.02×157°.22W±0°.03, h3km±7km, n173, σ1°.08/175, mb3.7/16, MS3.0/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.13**	**156**		**Pg**	**10 56 28.3**	**+0.6**
G19K					**Sg**	**10 56 29.8**	**+0.4**
F19K	**Shaleruckik Mo**	**0.62**	**339**		**Pg**	**10 56 37.2**	**+0.1**
F19K					**Sg**	**10 56 45.8**	**+0.7**
G18K	**Tagagawik**	**0.69**	**239**		**Pg**	**10 56 38.8**	**+0.3**
G18K					**Sb**	**10 56 48.9**	**-0.9**
G18K				IAML		10 56 51.6	
	comp=N,10μm,0.8s						
G18K				IAML		10 56 51.6	
	comp=E,8μm,0.8s						
H19K	**Roundabout Mou**	**0.80**	**156**		**Pg**	**10 56 40.3**	**-0.2**
H19K					**Sg**	**10 56 51.1**	**+0.2**
H19K				IAML		10 56 56.2	
	comp=N,6μm,0.3s						
H19K				IAML		10 56 57.7	
	comp=E,7μm,0.3s						
F20K	**Avaraart Lake**	**0.99**	**36**		**Pg**	**10 56 43.8**	**-0.4**
F20K					**Sg**	**10 56 57.3**	**+0.2**
F18K	**Selawik**	**1.04**	**290**		**Pg**	**10 56 45.1**	**+0.1**
F18K					**Sn**	**10 57 00.2**	**-1.3**
E19K	**Redstone River**	**1.20**	**360**		**Pb**	**10 56 48.2**	**-0.4**
E19K				IAML		10 57 06.4	
	comp=N,5μm,0.6s						
E19K				IAML		10 57 06.6	
	comp=E,5μm,0.7s						
H18K	**Honhosa River**	**1.21**	**204**		**Pb**	**10 56 47.6**	**-1.1**
H18K					**Sg**	**10 57 03.8**	**-0.2**
H18K				IAML		10 57 08.4	
	comp=N,4μm,0.7s						
H20K	**Anotleneega Mo**	**1.23**	**128**		**Pn**	**10 56 47.9**	**-1.4**
G21K	**Allakaket**	**1.52**	**79**		**Pn**	**10 56 52.6**	**-0.6**
GCSA	**Galena City Sc**	**1.53**	**175**		**Pn**	**10 56 52.8**	**-0.5**
GCSA					**Sb**	**10 57 13.6**	**-0.1**
G17K	**Kiwalik Mounta**	**1.60**	**243**		**Pn**	**10 56 53.8**	**-0.6**
F17K	**Baldwin Pennin**	**1.64**	**278**		**Pn**	**10 56 54.8**	**-0.1**

BPAW			IAML			10 58 18.3	
	comp=N,344nm,0.6s						
I23K	**Minto, Yukon-K**	**3.43 105**		**Pn**		**10 57 18.7**	**-0.8**
I23K			IAML			10 58 18.1	
	comp=E,499nm,1.0s						
I23K			IAML			10 58 19.7	
	comp=N,589nm,0.8s						
E23K	**Chandalar**	**3.47 55**		**Pn**		**10 57 20.1**	**0.0**
E23K			IAML			10 58 26.8	
	comp=E,499nm,0.7s						
B21K	**Ikpikpuk River**	**3.52 15**		**Pn**		**10 57 19.9**	**-0.8**
B21K			IAML			10 58 24.2	
	comp=N,507nm,0.9s						
B21K			IAML			10 58 30.8	
	comp=E,568nm,1.2s						
K17K	**Iditarod**	**3.59 188**		**Pn**		**10 57 21.2**	**-0.4**
K17K			IAML			10 58 24.6	
	comp=E,300nm,1.0s						
K17K			IAML			10 58 32.9	
	comp=N,303nm,1.1s						
CAST	**Castle Rocks**	**3.60 140**		**Pn**		**10 57 22.6**	**+0.8**
D23K	**Nanushuk River**	**3.69 40**		**Pn**		**10 57 23.8**	**+0.7**
D23K			IAML			10 58 30.7	
	comp=N,455nm,0.8s						
D23K			IAML			10 58 31.3	
	comp=E,508nm,0.9s						
C16K	**Lisburne Hills**	**3.75 306**		**Pn**		**10 57 24.6**	**+0.7**
B20K	**Meade River**	**3.77 0**		**Pn**		**10 57 24.7**	**+0.6**
B20K			IAML			10 58 37.8	
	comp=N,426nm,1.1s						
NEA2	**Nenana**	**3.79 112**		**Pn**		**10 57 24.2**	**-0.2**
TOLK	**Toolik Lake Re**	**3.79 47**		**Pn**		**10 57 25.3**	**+0.7**
KTH	**Kantishna Hill**	**3.82 132**		**Pn**		**10 57 25.1**	**+0.2**
KTH			IAML			10 58 33.7	
	comp=N,254nm,1.1s						
H24K	**Noodor Dome**	**3.83 92**		**Pn**		**10 57 24.4**	**-0.6**
H24K			IAML			10 58 32.2	
	comp=N,449nm,1.0s						
H24K			IAML			10 58 37.5	
	comp=E,400nm,1.1s						
E24K	**Your Creek**	**3.86 58**		**Pn**		**10 57 25.3**	**-0.1**
E24K			IAML			10 58 36.9	
	comp=E,374nm,0.7s						
E24K			IAML			10 58 42.9	
	comp=N,347nm,0.8s						
BWN	**Browne**	**3.88 119**		**Pn**		**10 57 26.4**	**+0.8**
BWN			IAML			10 58 55.8	
	comp=N,392nm,0.9s						
G24K	**Hadweenzic Riv**	**3.93 79**		**Pn**		**10 57 25.4**	**-0.9**
PPLA	**Purkeypile**	**4.01 145**		**Pn**		**10 57 28.3**	**+0.7**
L18K	**Granite Mounta**	**4.06 177**		**Pn**		**10 57 28.3**	**+0.1**
L18K			IAML			10 58 37.1	
	comp=N,230nm,1.1s						
TRF	**Thorofare Moun**	**4.08 130**		**Pn**		**10 57 28.9**	**+0.3**
TRF			IAML			10 58 42.6	
	comp=E,212nm,0.8s						
TRF			IAML			10 58 44.8	
	comp=N,199nm,0.8s						
COLA	**College**	**4.13 105**		**Pn**		**10 57 28.9**	**-0.1**
L17K	**Donlin**	**4.17 187**		**Pn**		**10 57 29.3**	**-0.4**
POKR	**Poker Plat Res**	**4.20 101**		**Pn**		**10 57 29.6**	**-0.6**
POKR			IAML			10 58 41.0	
	comp=E,356nm,0.8s						
A19K	**Wainwright**	**4.21 342**		**Pn**		**10 57 30.6**	**+0.4**
WRH	**Wood River Hil**	**4.22 111**		**Pn**		**10 57 29.9**	**-0.5**
L19K	**White Mountain**	**4.22 165**		**Pn**		**10 57 30.6**	**+0.2**
L19K			IAML			10 58 21.6	
	comp=E,225nm,0.8s						
CCB	**Clear Creek Bu**	**4.25 108**		**Pn**		**10 57 29.8**	**-0.9**
CCB			IAML			10 58 41.5	
	comp=N,199nm,0.6s						
CCB			IAML			10 58 42.6	
	comp=E,168nm,0.7s						
D24K	**Happy Valley**	**4.32 44**		**Pn**		**10 57 31.4**	**-0.3**
MCK	**McKinley**	**4.33 122**		**Pn**		**10 57 31.7**	**-0.2**
B22K	**Teshekpuk Lake**	**4.33 17**	IAML			10 58 59.9	
	comp=N,280nm,0.9s						
B22K			IAML			10 59 12.6	
	comp=E,219nm,1.1s						
C23K	**Itkillik River**	**4.36 32**	IAML			10 58 58.8	
	comp=N,241nm,1.1s						
C23K			IAML			10 59 03.1	
	comp=E,288nm,1.0s						
K15K	**Wolf Creek Mou**	**4.40 207**		**Pn**		**10 57 33.2**	**+0.4**
K15K			IAML			10 58 55.1	
	comp=N,248nm,1.2s						
TNA	**Tin City**	**4.45 266**		**Pn**		**10 57 33.0**	**-0.4**
J14K	**Nanvaranak Lak**	**4.46 221**		**Pn**		**10 57 33.3**	**-0.3**
J14K			IAML			10 58 56.6	
	comp=N,220nm,1.0s						
M19K	**Big River Lodg**	**4.54 163**		**Pn**		**10 57 35.6**	**+0.8**
M19K			IAML			10 58 55.6	
	comp=E,168nm,1.1s						
IL31		**4.55 104**		**Pn**		**10 57 34.7**	**-0.2**
ILAR	**Eielson Array**	**4.55 104**		**Pn**		**10 57 34.4**	**-0.5**
ILAR	**Eielson Array**	**4.55 104**	Pn	**Pn**		**10 57 34.8**	**-0.1**
	comp=E,14nm,0.3s,baz=288,slow=13,SNR=603						
ILAR			Sn	**Sn**		**10 58 25.2**	**-2.9**
	comp=E,5.0nm,0.3s,baz=294,slow=26,SNR=5.3						
ILAR			Lg	Lg		10 58 44.9	
	comp=E,18nm,0.3s,baz=304,slow=30,SNR=11						
RND	**Reindeer**	**4.58 125**		**Pn**		**10 57 35.5**	**+0.3**
H25L	**Birch Creek**	**4.61 85**		**Pn**		**10 57 35.6**	**0.0**
HDA	**Harding Lake**	**4.69 109**	Pn	**Pn**		**10 57 36.5**	**-0.2**
HDA			IAML			10 58 31.4	
	comp=E,120nm,0.7s						
HDA			IAML			10 59 00.9	
	comp=N,169nm,0.9s						
C24K	**Franklin Bluff**	**4.72 39**		**Pn**		**10 57 36.7**	**-0.5**
C24K			IAML			10 59 12.4	
	comp=E,205nm,1.1s						
C24K			IAML			10 59 16.4	
	comp=N,222nm,1.1s						
M20K	**Styx River**	**4.75 156**		**Pn**		**10 57 38.7**	**+1.0**
M20K			IAML			10 58 35.0	
	comp=E,160nm,0.9s						
F25K	**Christian Rive**	**4.75 68**	IAML			10 59 03.4	
	comp=N,192nm,0.8s						
FYU	**Fort Yukon**	**4.83 81**		**Pn**		**10 57 38.6**	**0.0**
M18K	**Stony River**	**4.83 172**		**Pn**		**10 57 38.8**	**+0.1**
PRP	**Porcupine Dome**	**4.85 93**		**Pn**		**10 57 39.1**	**-0.1**
PRP			IAML			10 58 58.2	
	comp=E,198nm,0.8s						
PRP			IAML			10 59 04.7	
	comp=N,190nm,0.8s						
M17K	**Holitna River**	**4.88 181**	IAML			10 59 08.2	
	comp=E,194nm,1.1s						
E25K	**Arctic Village**	**4.90 62**		**Pn**		**10 57 39.4**	**-0.3**
CUT	**Chulitna**	**4.91 139**	Pn	**Pn**		**10 57 41.1**	**+1.4**
CUT			IAML			10 59 02.4	
	comp=N,167nm,1.2s						
SKT	**Skwentna**	**4.96 147**		**Pn**		**10 57 41.7**	**+1.2**
SKT			IAML			10 59 10.5	
	comp=E,124nm,1.2s						
A21K	**Barrow**	**5.09 2**		**Pn**		**10 57 41.6**	**-0.7**
D25K	**Kavik River**	**5.13 48**	IAML			10 59 12.1	
	comp=E,148nm,0.8s						
D25K			IAML			10 59 12.9	
	comp=N,176nm,1.0s						
J25K	**Salcha River,**	**5.21 103**	IAML			10 59 14.2	
	comp=E,99nm,1.1s						
J25K			IAML			10 59 17.4	
	comp=N,144nm,0.9s						
M16K	**Timber Creek**	**5.32 189**		**Pn**		**10 57 44.8**	**-0.5**
F26K	**Sheenjek River**	**5.33 68**		**Pn**		**10 57 45.4**	**-0.2**
STLK	**Strandline Lak**	**5.34 151**		**Pn**		**10 57 46.6**	**+0.9**
SPBG	**Spurr Blockage**	**5.46 155**		**Pn**		**10 57 47.5**	**+0.1**
SPCG	**Spurr Capps Gl**	**5.49 153**		**Pn**		**10 57 48.4**	**+0.5**
CKL	**Chakachamna La**	**5.52 155**		**Pn**		**10 57 48.8**	**+0.4**
SUA	**Susitna One**	**5.60 146**	Pn	**Pn**		**10 57 50.1**	**+0.8**
N19K	**Bonanza Creek**	**5.60 166**		**Pn**		**10 57 49.6**	**+0.2**
N18K	**Kilae Creek**	**5.63 173**		**Pn**		**10 57 50.3**	**+0.5**
GHO	**Glory Hole Cre**	**5.79 137**		**Pn**		**10 57 52.8**	**+0.9**
PMR	**Palmer**	**5.88 139**		**Pn**		**10 57 53.9**	**+0.7**
M14K	**Bethel**	**5.92 203**		**Pn**		**10 57 54.2**	**+0.6**
SML	**Sawmill**	**5.93 135**		**Pn**		**10 57 54.2**	**+0.3**
SCRK	**Sand Creek**	**6.03 106**		**Pn**		**10 57 54.7**	**-0.7**
RDWB	**Redoubt West**	**6.12 159**		**Pn**		**10 57 57.0**	**+0.5**
M23K	**Glacier View**	**6.12 133**		**Pn**		**10 57 56.6**	**+0.2**
DOT	**Dot Lake**	**6.17 109**		**Pn**		**10 57 56.1**	**-0.9**
SCM	**Sheep Creek Mo**	**6.21 131**		**Pn**		**10 57 58.4**	**+0.8**
KNK	**Knik Glacier**	**6.21 137**		**Pn**		**10 57 59.8**	**+2.1**
G27K	**Doyon Strip**	**6.24 78**		**Pn**		**10 57 59.9**	**+1.8**
E27K	**Coleen River**	**6.36 65**		**Pn**		**10 58 00.2**	**+0.5**
M24K	**Tolsona, Glenn**	**6.37 126**		**Pn**		**10 58 01.2**	**+1.3**
O18K	**Koktuh Hills**	**6.49 171**	Pn	**Pn**		**10 58 00.1**	**-1.5**
HARP	**HAARP**	**6.51 121**		**Pn**		**10 58 02.5**	**+0.7**
SLKM	**Skilak Lake**	**6.57 148**	Pn	**Pn**		**10 58 01.8**	**-0.8**
K27K	**Chicken**	**6.76 102**		**Pn**		**10 58 05.4**	**+0.3**
L26K	**Log Cabin Wild**	**6.78 112**		**Pn**		**10 58 05.5**	**+0.1**
KLU	**Klutina**	**6.90 129**		**Pn**		**10 58 09.1**	**+1.8**
I28M	**Miner Creek**	**7.13 89**		**Pn**		**10 58 10.7**	**+0.4**
E28M	**Babbage River**	**7.19 63**		**Pn**		**10 58 10.7**	**-0.4**
M26K	**Nabesna, AK**	**7.28 115**	Pn	**Pn**		**10 58 11.9**	**-0.5**
L27K	**Beaver Creek,**	**7.33 109**		**Pn**		**10 58 12.1**	**-1.0**
BCAR	**Beaver Creek A**	**7.35 109**	Pn	**Pn**		**10 58 12.2**	**-1.1**
GLB	**Gilahina Butte**	**7.63 123**	Pn	**Pn**		**10 58 18.6**	**+1.4**
G29M	**Pine Creek**	**7.67 76**	Pn	**Pn**		**10 58 17.9**	**+0.2**
BMRM	**Bremner River**	**7.72 128**	Pn	**Pn**		**10 58 18.0**	**-0.3**
E29M	**Blow River**	**7.75 65**		**Pn**		**10 58 18.9**	**+0.2**
DAWY	**Dawson**	**7.81 98**	Pn	**Pn**		**10 58 19.8**	**+0.1**
BVCY	**Beaver Creek**	**8.07 111**		**Pn**		**10 58 22.8**	**-0.3**
L29M	**L29M**	**8.75 102**		**Pn**		**10 58 32.1**	**-0.4**
KDAK	**Kodiak Island**	**8.78 164**	Pn	**Pn**		**10 58 36.4**	**+3.6**
	comp=N,0.6nm,0.3s,baz=355,slow=15,SNR=1.3						
	comp=N,6.7nm,0.6s						
M29M	**Somme Creek**	**8.97 106**	Pn	**Pn**		**10 58 35.4**	**-0.2**
G31M	**Satah River**	**9.14 75**	Pn	**Pn**		**10 58 36.8**	**-0.9**
INK	**Inuvik**	**9.37 67**	Pn	**Pn**		**10 58 41.0**	**+0.2**
INK	**Inuvik**	**9.37 67**	Pn	**Pn**		**10 58 41.1**	**+0.3**
	comp=N,0.3nm,0.3s,baz=353,slow=16,SNR=11						
INK			Sn	**Sn**		**11 00 21.8**	**-4.6**
	comp=N,0.3nm,0.3s,baz=353,slow=8.7,SNR=3.4						
INK			Lg	Lg		11 01 17.5	
	comp=N,0.1nm,0.3s,baz=233,slow=18,SNR=3.6						
	comp=N,0.6nm,0.3s						
M30M	**Minto, Yukon**	**9.55 103**	Pn	**Pn**		**10 58 42.8**	**-0.7**
O30N	**Mendenhall**	**10.88 110**	Pn	**Pn**		**10 59 01.2**	**-0.4**
A36M	**Sachs Harbour**	**12.62 49**	Pn	**Pn**		**10 59 23.4**	**-1.9**
BILL	**Bilibino**	**14.16 294**	Pn	**Pn**		**10 59 46.4**	**0.0**
WRGLY	**Wrigley**	**14.61 86**	Pn	**Pn**		**10 59 52.0**	**-0.4**
S34M	**Telegraph Cree**	**14.69 112**	Pn	**Pn**		**10 59 52.0**	**-1.6**
DLBC	**Dease Lake**	**14.74 109**	Pn	**Pn**		**10 59 54.0**	**-0.4**
DLBC	**Dease Lake**	**14.74 109**	Pn	**P**		**10 59 58.1**	**-2.5**
	comp=N,0.1nm,0.3s,baz=290,slow=12,SNR=4.2						
DLBC			Sn	**Sn**		**11 02 34.2**	**-3.8**
	comp=N,0.1nm,0.3s,baz=346,slow=17,SNR=1.5						
DLBC			Lg	Lg		11 04 09.8	
	comp=N,0.1nm,0.3s,baz=331,slow=19,SNR=3.2						
DLBC			LR	LR		11 06 50.1	
	comp=N,109nm,19.8s,baz=104,slow=42						
	comp=N,3.4nm,1.1s						
YKA	**Yellowknife Ar**	**18.52 82**	P	**P**		**11 00 41.3**	**-1.0**
YKA	**Yellowknife Ar**	**18.52 82**	P	**Pn**		**11 00 43.4**	**+0.9**
	comp=N,0.1nm,0.3s,baz=304,slow=13,SNR=11						
	comp=N,0.6nm,0.6s						
SHEM	**Shemya Is, Ala**	**19.64 240**	LR	LR		11 08 04.2	
	comp=N,34nm,18.7s,baz=324,slow=35						
RES	**Resolute Bay**	**21.33 40**	P	**P**		**11 01 13.6**	**+0.8**
	comp=N,0.6nm,0.7s,baz=285,slow=7.4,SNR=8.4						
RES			LR	LR		11 12 00.5	
	comp=N,62nm,19.5s,baz=256,slow=44						
	comp=N,0.6nm,0.7s						
SEY	**Seymchan**	**21.39 285**	P	**P**		**11 01 15.7**	**+2.2**
	comp=N,2.7nm,1.0s,baz=70,slow=13,SNR=7.6						
	comp=N,2.7nm,1.0s						
EUNU	**Eureka**	**22.54 25**	P	**P**		**11 01 24.7**	**-1.1**
EUNU			IAmb	IAmb		11 01 53.5	
	comp=Z,5.2nm,1.4s						
MA2	**Magadan**	**23.95 279**	P	**P**		**11 01 40.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=42,slow=11,SNR=4.5						
MA2			LR	LR		11 10 10.8	
	comp=Z,38nm,20.9s,baz=41,slow=34						
	comp=Z,0.9nm,0.3s						
PETK	**Petropavlovsk-**	**25.60 261**	P	**P**		**11 01 53.5**	**-1.7**
ILON	**Igloolik, Nuna**	**26.97 49**	P	**P**		**11 02 08.0**	**+0.5**
ILON			IAmb	IAmb		11 02 26.6	
	comp=Z,3.5nm,1.1s						
YAK	**Yakutsk**	**30.48 297**	LR	LR		11 14 42.4	
	comp=Z,25nm,18.6s,baz=337,slow=36						
PDAR	**Pinedale Array**	**34.97 108**	P	**P**		**11 03 22.9**	**+4.4**
	comp=Z,0.4nm,0.9s,baz=305,slow=5.2,SNR=3.7						
	comp=Z,0.4nm,0.9s						
NVAR	**Mina Array Bea**	**35.57 122**	P	**P**		**11 03 26.5**	**+2.8**
	comp=Z,0.9nm,1.0s,baz=325,slow=7.4,SNR=5.8						
	comp=Z,0.9nm,1.0s						
SPITS	**Spitsbergen Ar**	**35.73 2**	P	**P**		**11 03 24.7**	**+0.3**
	comp=Z,14nm,1.1s,baz=308,slow=16,SNR=1.7						
NRIK	**Norilsk**	**37.48 328**	LR	LR		11 20 04.0	
	comp=Z,30nm,18.9s,baz=122,slow=38						
TXAR	**Lajitas Array**	**49.03 112**	P	**P**		**11 05 15.3**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=338,slow=5.4,SNR=4.3						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**49.81 299**	P	**P**		**11 05 20.4**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=52,slow=9.3,SNR=2.2						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**53.74 6**	LR	LR		11 27 15.6	
	comp=Z,22nm,20.0s,baz=296,slow=35						
BVAR	**Borovoye Array**	**55.68 327**	P	**P**		**11 06 02.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=40,slow=12,SNR=4.9						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**55.96 321**	P	**P**		**11 06 04.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=31,slow=5.9,SNR=2.8						
	comp=Z,0.2nm,0.3s						
EKA	**Eskdalemuir Ar**	**57.15 17**	P	**P**		**11 06 13.8**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=352,slow=5.1,SNR=4.3						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**58.45 316**	P	**P**		**11 06 21.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=50,slow=8.0,SNR=4.5						
	comp=Z,0.3nm,0.6s						
GERES	**GERESS Array B**	**65.02 7**	P	**P**		**11 07 05.0**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=290,slow=11,SNR=3.2						
	comp=Z,1.7nm,0.5s						
ESDC	**Sonseca Array**	**72.40 21**	P	**P**		**11 07 53.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=317,slow=7.0,SNR=1.6						
	comp=Z,0.2nm,0.3s						

*JMA **16** 11:07:11.4±0.2,33°N±3°×13°7E±°, h458km, MV3.2/28, FAR S OFF TOKAI DISTRICT*
*IDC **16** 11:07:15.4±1.1,32°79N×136°82E, h426km±27km, mb3.0/2, mbtmp3.9/8, Error ellipse: s-maj=43.3km s-min=22.7km az=66.0*

ISC 16 11:07:15.3±1.1,32°9N±0°1×137°0E±0°1, h450km, n22, σ1§64/27, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.77**	**348**	P	**P**	**11 08 09.3**	**-1.1**
TTO2	**TONANKAI O.B.S**	**0.87**	**3**	P	**P**	**11 08 09.9**	**-0.8**
JWKM	**Wakayamakushim**	**1.18**	**300**	P	**P**	**11 08 09.7**	**-2.4**
JTNC	**Tanabenakahech**	**1.48**	**310**	P	**P**	**11 08 11.1**	**-2.2**
JIE	**Ise**	**1.54**	**352**	P	**P**	**11 08 12.2**	**-1.2**
JWY	**Kouya**	**1.77**	**320**	P	**P**	**11 08 13.0**	**-1.7**
JAI	**Aioi**	**2.31**	**294**	P	**P**	**11 08 15.6**	**-1.9**
JHJ	**Hachijo jima 2**	**2.37**	**83**	P	**P**	**11 08 18.0**	**-0.1**
	142nm,0.8s,baz=253,slow=20,SNR=1.5						
JYTA	**Yamagatataniai**	**2.73**	**356**	P	**P**	**11 08 19.8**	**-0.5**
JMN	**Monobe**	**2.73**	**289**	P	**P**	**11 08 18.8**	**-1.7**
JWT	**Wachi**	**2.74**	**332**	P	**P**	**11 08 19.3**	**-1.1**
JOD2	**Odawara 2**	**2.96**	**36**	*e*P	**P**	**11 08 21.9**	**-0.1**
JOD2				*e*S	**S**	**11 09 14.8**	**-1.5**
JRY	**Ryogami san**	**3.52**	**26**	*e*P	**P**	**11 08 26.6**	**+0.2**
JRY				*e*S	**S**	**11 09 22.5**	**-1.7**
BSO1	**Boso 1**	**3.78**	**61**	*e*P	**P**	**11 08 26.0**	**-1.9**
BSO1				*e*S	**S**	**11 09 23.7**	**-3.3**
MJAR	**Matsushiro Arr**	**3.80**	**15**	P	**P**	**11 08 28.4**	**-0.3**
	10nm,0.5s,baz=193,slow=9.4,SNR=28						
MJAR				S	**S**	**11 09 27.1**	**-1.4**
	8.0nm,1.0s,baz=194,slow=15,SNR=6.4						
MAT	**Matsushiro**	**3.80**	**15**	P	**P**	**11 08 28.7**	**0.0**
MAT				*e*S	**S**	**11 09 26.9**	**-1.6**
KSRS	**Korea Array**	**8.71**	**304**	P	**P**	**11 09 18.1**	**-0.2**
	2.3nm,0.8s,baz=120,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**11.97**	**342**	P	**P**	**11 09 55.1**	**+1.5**
	3.1nm,0.5s,baz=148,slow=10,SNR=11						
ASAJ	**Asahikawa**	**12.06**	**20**	P	**P**	**11 09 57.5**	**+2.8**
	3.7nm,0.4s,baz=231,slow=13,SNR=11						
KLR	**Kul'dur**	**16.81**	**348**	P	**P**	**11 10 46.4**	**+1.0**
	1.6nm,0.5s,baz=166,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**52.57**	**183**	P	**P**	**11 15 47.0**	**+1.2**
	0.7nm,0.3s,baz=0.4,slow=7.7,SNR=15						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**56.29**	**183**	P	**P**	**11 16 13.6**	**+1.5**
	0.3nm,0.3s,baz=6.1,slow=7.6,SNR=7.7						
	0.3nm,0.3s						

IDC 16 11:10:56.8±3.9, 6°70S×148°28E, h0km, mb3.6/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=109.8km s-min=32.2km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**224**	P	Pn	**11 15 20.4**	**+1.0**
	0.2nm,0.3s,baz=50,slow=11,SNR=17						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**21.80**	**218**	P	P	**11 15 49.5**	**-1.3**
	0.9nm,0.4s,baz=49,slow=9.2,SNR=51						
	0.9nm,0.4s						
SONM	**Songino Array**	**65.63**	**330**	P	P	**11 21 43.2**	**+0.2**
	0.4nm,0.4s,baz=129,slow=5.8,SNR=2.3						
	0.4nm,0.4s						

IDC 16 11:24:38.8±1.8, 1°13S×127°62E, h0km, mb3.5/4, mbtmp3.4/5, ML3.3/1, MS3.4/1, Error ellipse: s-maj=218.5km s-min=21.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.82**	**161**	P	P	**11 29 09.4**	**-1.8**
	0.1nm,0.3s,baz=350,slow=12,SNR=6.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**23.22**	**165**	P	P	**11 29 49.0**	**+1.3**
	1.0nm,0.9s,baz=344,slow=12,SNR=13						
ASAR				LR	LR	**11 38 55.0**	
	comp=Z,77nm,18.2s,baz=166,slow=37						
	1.0nm,0.9s						
SONM	**Songino Array**	**52.16**	**342**	P	P	**11 33 52.8**	**+1.6**
	0.2nm,0.4s,baz=167,slow=7.1,SNR=1.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**62.05**	**326**	P	P	**11 35 01.0**	**-0.2**
	0.5nm,0.8s,baz=126,slow=7.3,SNR=5.3						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**66.30**	**328**	P	P	**11 35 27.9**	**-1.1**
	0.3nm,0.3s,baz=120,slow=5.5,SNR=5.0						
	0.3nm,0.3s						

*IDC **16** 11:38:00.3±1.3, 7°02S×125°34E, h551km±18km, mb3.1/12, mbtmp4.1/16, Error ellipse: s-maj=27.9km s-min=10.8km az=66.0*
*NEIC **16** 11:38:00.6±2.0, 7°0S±0°1×125°4E±0°1, h546km±10km, mb4.2/21, Error ellipse: s-maj=21.1km s-min=14.8km az=71.0*

ISC 16 11:37:58.4±0.5, 6°84S±0°07×125°6E±0°1, h511km, n59, σ1§80/58, mb3.7/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.19**	**205**	P	**P**	**11 39 14.5**	**+2.8**
SOEI	**Soe**	**3.19**	**205**	P	**P**	**11 39 14.5**	**+2.8**
SOEI	**Soe**	**3.19**	**205**	S	**S**	**11 40 14.8**	**+3.5**
MMRI	**Maumere**	**3.80**	**242**	P	**P**	**11 39 18.0**	**+2.1**
SANI	**Sanana**	**4.77**	**4**	P	**P**	11 39 29.7	+5.7
KAPI	**Kappang**	**6.11**	**287**	P	**P**	**11 39 38.1**	**+1.8**
	21nm,0.9s,baz=176,slow=12,SNR=5.2						
LUWI	**Luwuk**	**6.42**	**334**	P	P	11 39 43.8	+4.5
FAKI	**Fak Fak**	**7.67**	**60**	P	P	11 39 59.0	+7.3
MTN	**Manton Dam**	**8.07**	**138**	P	**P**	**11 39 59.4**	**+3.6**
TOLI2	**Tolitoli**	**9.26**	**328**	P	**P**	**11 40 11.8**	**+3.7**
KNRA	**Kununurra**	**9.31**	**161**	P	**P**	**11 40 10.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**11.19**	**180**	P	**P**	**11 40 28.1**	**-0.2**
	4.6nm,0.5s,baz=358,slow=8.3,SNR=38						
FITZ				S	**S**	**11 42 28.6**	**-3.2**
	2.4nm,0.6s,baz=15,slow=20,SNR=3.5						
WB0	**Warramunga Arr**	**15.42**	**147**	P	**P**	**11 41 13.0**	**+0.2**
WB0				IAmb	IAmb	11 41 14.8	
	comp=Z,7.8nm,0.8s						
WRAB	**Tennant Creek**	**15.53**	**148**	P	**P**	**11 41 14.4**	**+0.4**
WRAB				IAmb	IAmb	11 41 16.0	
	comp=Z,8.9nm,0.9s						
WRA	**Warramunga Arr**	**15.53**	**148**	P	**P**	**11 41 13.4**	**-0.6**
WRA	**Warramunga Arr**	**15.53**	**148**	P	**P**	**11 41 14.1**	**+0.1**
	comp=Z,7.7nm,0.6s,baz=337,slow=9.2,SNR=198						
WRA				S	**S**	**11 43 54.4**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=332,slow=16,SNR=4.0						
WB2	**Warramunga Arr**	**15.54**	**148**	P	**P**	**11 41 14.3**	**+0.2**
WB2				IAmb	IAmb	11 41 15.9	
	comp=Z,11nm,1.1s						
WB1	**Warramunga Ar.**	**15.55**	**148**	P	**P**	**11 41 15.9**	**+1.7**
WR0	**Warramunga Arr**	**15.65**	**147**	P	**P**	**11 41 15.6**	**+0.3**
PSA00	**Pilbara Seismi**	**15.68**	**200**	P	**P**	**11 41 17.5**	**+2.1**
PSA00				IAmb	IAmb	11 41 45.7	
	comp=Z,12nm,1.5s						
WRKA	**Warakurna**	**18.28**	**172**	P	**P**	**11 41 40.3**	**-0.5**
AS31	**Alice Springs**	**18.53**	**155**	P	**P**	**11 41 43.4**	**+0.3**
AS31				IAmb	IAmb	11 41 45.0	
	comp=Z,4.8nm

*AZER **16** 11:45:06.9, 38°.83N×48°.29E, h8km, ml2.7*
*TEH **16** 11:45:08.4, 38°.89N×48°.25E, h6km±63km*
ISC 16 11:45:09.0±1.0, 38°.83N±0°.02×48°.24E±0°.02, h4km±8km, n33, σ1§47/59, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRD	**Yardimli**	**0.08**	**1**	P	**Pg**	**11 45 10.9**	**0.0**
YRD				S	**Sg**	**11 45 12.5**	**+0.3**
LRK	**Lerik**	**0.21**	**158**	P	**Pg**	**11 45 13.6**	**+0.5**
LRK				S	**Sg**	**11 45 17.4**	**+1.6**
GRMI	**Germi**	**0.27**	**265**	Pg	**Pg**	**11 45 14.5**	**+0.2**
GRMI				Sg	**Sg**	**11 45 18.9**	**+1.0**
GLBA	**Clilabad**	**0.42**	**16**	P	**Pb**	**11 45 17.5**	**-1.5**
GLBA				S	**Sb**	**11 45 24.7**	**-1.2**
LKRN	**Lenkeran, Azer**	**0.44**	**106**	P	**Pb**	**11 45 17.6**	**-1.8**
LKRN				S	**Sb**	**11 45 24.6**	**-1.6**
ASTR	**Astara**	**0.51**	**122**	P	**Pb**	**11 45 18.8**	**-1.7**
ASTR				S	**Sb**	**11 45 27.3**	**-1.0**
GAS1	**Astara - Iran**	**0.65**	**133**	Pg	**Pb**	**11 45 21.4**	**-1.5**
QRD	**Qoradiz**	**0.95**	**312**	P	**Pb**	**11 45 27.7**	**-0.4**
QRD				S	**Sb**	**11 45 41.5**	**+0.5**
BLQ	**Beylaqan**	**1.03**	**329**	P	**Pg**	**11 45 28.1**	**-0.7**
BLQ				S	**Sb**	**11 45 42.9**	**-0.4**
IHRS	**Heris**	**1.07**	**242**	Pg	**Pg**	**11 45 28.7**	**-0.9**
ISRB	**Sarab**	**1.10**	**204**	Pg	**Pb**	**11 45 30.1**	**-0.7**
ALIB	**&Aumlli-Bayram**	**1.27**	**28**	P	**Pg**	**11 45 34.8**	**+1.5**
ALIB				S	**Sn**	**11 45 54.0**	**+3.0**
KDMR	**Kurdemir**	**1.54**	**358**	Pn	**Pb**	**11 45 36.8**	**-1.4**
KDMR				Sn	**Sg**	**11 45 59.1**	**+0.5**
AGDM	**Agdam**	**1.54**	**326**	Pn	**Pn**	**11 45 36.6**	**-0.7**
AGDM				Sn	**Sg**	**11 45 58.5**	**-0.2**
BRDA	**Brd**	**1.65**	**330**	Pn	**Pb**	**11 45 39.2**	**-0.7**
BRDA				Sn	**Sg**	**11 46 03.9**	**+2.0**
IHSH	**Hashtrud**	**1.71**	**207**	Pg	**Pg**	**11 45 42.0**	**+0.1**
ITBZ	**Tabriz**	**1.75**	**251**	Pg	**Pb**	**11 45 40.5**	**-1.2**
ORD	**Ordubad**	**1.75**	**274**	Pn	**Pb**	**11 45 40.9**	**-0.9**
ORD				Sn	**Sb**	**11 46 05.2**	**+1.0**
GBS	**Qobustan**	**1.78**	**17**	P	**Pb**	**11 45 41.4**	**-0.9**
GBS				S	**Sg**	**11 46 10.7**	**+4.4**
PQL	**Pirkuli**	**1.97**	**8**	Pn	**Pb**	**11 45 43.8**	**-1.8**
PQL				Sn	**Sb**	**11 46 10.2**	**-0.4**
IMRD	**Marand**	**1.99**	**267**	Pn	**Pb**	**11 45 45.3**	**-0.6**
ATGJ	**Altiaghaj**	**2.09**	**15**	Pn	**Pg**	**11 45 48.3**	**-0.9**
ATGJ				Sn	**Sb**	**11 46 11.9**	**-2.1**
ISHB	**Shabestar**	**2.13**	**256**	Pn	**Pb**	**11 45 47.1**	**-1.2**
QBL	**Gabala**	**2.13**	**352**	Pn	**Pn**	**11 45 45.9**	**+0.5**
QBL				Sn	**Sb**	**11 46 15.7**	**+0.6**
SBZ	**Shahbuz**	**2.16**	**286**	Pn	**Pb**	**11 45 48.2**	**-0.6**
SBZ				Sn	**Sb**	**11 46 17.6**	**+1.5**
NAX	**Nakhchivan**	**2.17**	**280**	Pn	**Pb**	**11 45 48.3**	**-0.5**
NAX				Sn	**Sg**	**11 46 18.1**	**-0.5**
SIZA	**Siyzn**	**2.30**	**13**	Pn	**Pb**	**11 45 50.8**	**-0.3**
SIZA				Sg	**Sg**	**11 46 24.9**	**+2.1**
XNQ	**Khinaliq**	**2.34**	**358**	Pn	**Pn**	**11 45 48.5**	**+0.1**
XNQ				Sn	**Sb**	**11 46 19.6**	**-1.5**
GANJ	**Ganja**	**2.34**	**321**	Pn	**Pn**	**11 45 48.2**	**-0.1**
GANJ				Sn	**Sn**	**11 46 18.6**	**+1.2**
QSAR	**Qusar**	**2.68**	**0**	Pn	**Pn**	**11 45 53.2**	**+0.3**
QSAR				Sn	**Sb**	**11 46 27.9**	**-2.9**
GDB	**GEDABAY**	**2.69**	**315**	Pn	**Pn**	**11 45 54.2**	**+1.1**
GDB				Sn	**Sn**	**11 46 27.6**	**+1.3**
QZX	**Qazax, Azerbai**	**3.13**	**316**	Pn	**Pn**	**11 45 59.1**	**0.0**
QZX				Sn	**Sb**	**11 46 40.0**	**-3.7**
DGRG	**David-gareji**	**3.41**	**321**	Pg	**Pb**	**11 46 08.7**	**-1.4**
DGRG				Sg	**Sg**	**11 46 56.3**	**-2.4**

IDC 16 12:01:37.8±5.8, 12°.85S×167°.36E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=289.4km s-min=33.8km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.41**	**253**	P	P	12 08 09.8	+0.1
	0.2nm,0.6s,baz=85,slow=9.3,SNR=4.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**33.46**	**246**	P	P	12 08 18.8	-0.1
	0.5nm,0.6s,baz=74,slow=9.8,SNR=7.5						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**84.72**	**18**	P	P	12 14 13.3	0.0
	0.4nm,0.8s,baz=232,slow=5.2,SNR=6.4						
	0.4nm,0.8s						

*SNET **16** 12:09:02.5±0.8, 12°.31N×87°.58W, h16km±4km, ML3.3*
*CATAC **16** 12:09:02.8±0.4, 12°N±3°.3°×8°.7W±°, h39km±4km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=6.9km s-min=3.4km az=31.3, confirmed*
ISC 16 12:09:02.7±1.4, 12°.34N±0°.06×87°.40W±0°.04, h65km±10km, n80, σ0§71/95, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.49**	**44**	P	**Pn**	**12 09 15.2**	**+0.1**
CRIN	**San Cristobal**	**0.49**	**44**	P	**Pn**	**12 09 15.3**	**+0.1**
CRIN	**San Cristobal**	**0.49**	**44**	S	**Sn**	**12 09 25.9**	**+1.7**
TEL3	**Telica 3**	**0.59**	**67**	P	**Pn**	**12 09 15.7**	**-0.4**
TEL3	**Telica 3**	**0.59**	**67**	P	**Pn**	**12 09 15.7**	**-0.4**
QUEN	**Al S del Volca**	**0.59**	**65**	P	**Pn**	**12 09 15.8**	**-0.3**
QUEN	**Al S del Volca**	**0.59**	**65**	P	**Pn**	**12 09 15.8**	**-0.3**
QUEN				S	**Sn**	**12 09 26.2**	**+0.3**
TELN	**Telica**	**0.61**	**65**	P	**Pn**	**12 09 15.9**	**-0.5**
TELN	**Telica**	**0.61**	**65**	P	**Pn**	**12 09 15.9**	**-0.5**
TELN				S	**Sn**	**12 09 26.3**	**-0.2**
HERN	**Volcan Telica**	**0.62**	**64**	P	**Pn**	**12 09 15.9**	**-0.6**
HERN	**Volcan Telica**	**0.62**	**64**	P	**Pn**	**12 09 16.1**	**-0.4**
HERN	**Volcan Telica**	**0.62**	**64**	S	**Sn**	**12 09 26.6**	**+0.1**
CSGN	**Cosiguina Volc**	**0.65**	**346**	P	**Pn**	**12 09 16.1**	**-0.6**
CSGN	**Cosiguina Volc**	**0.65**	**346**	P	**Pn**	**12 09 16.2**	**-0.6**
CSGN				S	**Sn**	**12 09 27.3**	**+0.2**
POLN	**Al Sur del Vol**	**0.65**	**62**	P	**Pn**	**12 09 16.1**	**-0.6**
POLN	**Al Sur del Vol**	**0.65**	**62**	P	**Pn**	**12 09 16.3**	**-0.5**
POLN				S	**Sn**	**12 09 27.5**	**+0.5**
POTN	**Potosi Cosigui**	**0.66**	**351**	P	**Pn**	**12 09 16.3**	**-0.6**
POTN	**Potosi Cosigui**	**0.66**	**351**	P	**Pn**	**12 09 16.5**	**-0.4**
POTN				S	**Sn**	**12 09 27.6**	**+0.4**
PLRN	**Geotermica Pol**	**0.66**	**69**	P	**Pn**	**12 09 16.3**	**-0.6**
PLRN	**Geotermica Pol**	**0.66**	**69**	P	**Pn**	**12 09 16.5**	**-0.4**
PLRN				S	**Sn**	**12 09 27.3**	**0.0**
CNGA	**Al SSO del Vol**	**0.70**	**77**	P	**Pn**	**12 09 17.0**	**-0.3**
CNGA	**Al SSO del Vol**	**0.70**	**77**	S	**Sn**	**12 09 29.1**	**+0.9**
CNGA	**Al SSO del Vol**	**0.70**	**77**	P	**Pn**	**12 09 17.0**	**-0.3**
CNGA				S	**Sn**	**12 09 29.0**	**+0.9**
CNGN	**Cerro Negro**	**0.70**	**77**	P	**Pn**	**12 09 17.0**	**-0.4**
CNGN	**Cerro Negro**	**0.70**	**77**	S	**Sn**	**12 09 29.6**	**+1.4**
CNGN	**Cerro Negro**	**0.70**	**77**	P	**Pn**	**12 09 17.2**	**-0.2**
CNGN	**Cerro Negro**	**0.70**	**77**	S	**Sn**	**12 09 29.1**	**+0.9**
ILCN	**San Idelfonso**	**0.72**	**71**	P	**Pn**	**12 09 16.3**	**-1.3**
ILCN	**San Idelfonso**	**0.72**	**71**	P	**Pn**	**12 09 16.5**	**-1.1**
ILCN				S	**Sn**	**12 09 28.6**	**+0.1**
LEVN	**Ruinas Leon Vi**	**0.77**	**86**	P	**Pn**	**12 09 17.9**	**-0.2**
LEVN	**Ruinas Leon Vi**	**0.77**	**86**	S	**Sn**	**12 09 30.0**	**+0.6**
LEVN	**Ruinas Leon Vi**	**0.77**	**86**	P	**Pn**	**12 09 18.1**	**0.0**
LEVN				S	**Sn**	**12 09 29.8**	**+0.3**
BC86	**Nagarote**	**0.82**	**95**	P	**Pn**	**12 09 15.6**	**-3.1**
MOMN	**Momotombo**	**0.84**	**85**	P	**Pn**	**12 09 18.5**	**-0.5**
MOMN	**Momotombo**	**0.84**	**85**	P	**Pn**	**12 09 18.8**	**-0.3**
MOMN				S	**Sn**	**12 09 31.5**	**+0.4**
CNCH	**Conchagua**	**1.02**	**336**	*eP*	**Pn**	**12 09 20.6**	**-0.8**
CNCH				*eS*	**Sn**	**12 09 35.0**	**-0.2**
CNCH	**Conchagua**	**1.02**	**336**	P	**Pn**	**12 09 20.6**	**-0.8**
CNCH	**Conchagua**	**1.02**	**336**	P	**Pn**	**12 09 20.8**	**-0.5**
CNCH	**Conchagua**	**1.02**	**336**	S	**Sn**	**12 09 34.9**	**-0.2**
APYN	**Apoyeque**	**1.03**	**96**	P	**Sn**	**12 09 35.3**	**-0.1**
LCND	**La Caada**	**1.07**	**334**	*eP*	**Pn**	**12 09 21.1**	**-0.8**
LCND				IAML		12 09 36.8	
	comp=Z,759nm,0.2s						
LCND	**La Caada**	**1.07**	**334**	P	**Pn**	**12 09 21.1**	**-0.8**
LCND	**La Caada**	**1.07**	**334**	P	**Pn**	**12 09 21.2**	**-0.7**
TISN	**Laguna Tiscapa**	**1.12**	**100**	P	**Sn**	**12 09 35.7**	**-1.7**
UNAN	**Cigeo UNAN**	**1.13**	**102**	P	**Sn**	**12 09 36.7**	**-0.8**
CHOHN	**Orocuina**	**1.16**	**12**	P	**Pn**	**12 09 22.6**	**-0.5**
CHOHN	**Orocuina**	**1.16**	**12**	P	**Pn**	**12 09 22.8**	**-0.3**
CHOHN	**Orocuina**	**1.16**	**12**	S	**Sn**	**12 09 38.3**	**0.0**
LIMN	**Finca el Limon**	**1.24**	**55**	P	**Pn**	**12 09 23.5**	**-0.7**
LIMN	**Finca el Limon**	**1.24**	**55**	P	**Pn**	**12 09 23.7**	**-0.5**
NANN	**Nandasmo**	**1.31**	**108**	P	**Pn**	**12 09 26.1**	**+1.0**
NANN	**Nandasmo**	**1.31**	**108**	S	**Sn**	**12 09 43.4**	**+1.5**
NANN	**Nandasmo**	**1.31**	**108**	S	**Sn**	**12 09 43.7**	**+1.8**
NANN	**Nandasmo**	**1.31**	**108**	P	**Pn**	**12 09 25.9**	**+0.8**
NANN	**Nandasmo**	**1.31**	**108**	P	**Pn**	**12 09 24.8**	**-0.3**
NANN				S	**Sn**	**12 09 41.9**	**0.0**
LCY	**Lacayo**	**1.38**	**321**	*eP*	**Pn**	**12 09 25.9**	**-0.2**
RANC	**El Ranchito**	**1.39**	**322**	*eP*	**Pn**	**12 09 25.9**	**-0.4**
PACA	**Pacayal**	**1.44**	**321**	*eP*	**Pn**	**12 09 26.7**	**-0.1**
PACA				*eS*	**Sn**	**12 09 45.3**	**+0.4**
PACA	**Pacayal**	**1.44**	**321**	S	**Sn**	**12 09 45.4**	**+0.4**
PACA	**Pacayal**	**1.44**	**321**	P	**Pn**	**12 09 26.7**	**-0.1**
PACA	**Pacayal**	**1.44**	**321**	P	**Pn**	**12 09 26.9**	**+0.1**
ALJI	**Alcalda de J**	**1.50**	**311**	*eS*	**Sn**	**12 09 46.0**	**-0.3**
TECA	**Tecapa**	**1.57**	**317**	*eP*	**Pn**	**12 09 28.4**	**-0.3**
TECA				*eS*	**Sn**	**12 09 49.0**	**+0.8**
RCON	**San Juan de Ri**	**1.66**	**47**	P	**Pn**	**12 09 30.0**	**+0.2**
RCON	**San Juan de Ri**	**1.66**	**47**	P	**Pn**	**12 09 30.2**	**+0.3**
RCON	**San Juan de Ri**	**1.66**	**47**	S	**Sn**	**12 09 50.7**	**+0.3**
YUSH	**Yuscaran**	**1.69**	**19**	P	**Pn**	**12 09 30.0**	**-0.3**
YUSH	**Yuscaran**	**1.69**	**19**	P	**Pn**	**12 09 30.0**	**-0.3**
YUSH	**Yuscaran**	**1.69**	**19**	S	**Sn**	**12 09 51.2**	**+0.2**
BOAB	**BOACO BROADBAN**	**.70**	**86**	P	**Pn**	**12 09 29.4**	**-0.8**
BOAB	**BOACO BROADBAN**	**.70**	**86**	S	**Sn**	**12 09 50.3**	**-0.7**
BOAB	**BOACO BROADBAN**	**.70**	**86**	P	**Pn**	**12 09 29.4**	**-0.8**
PQSS	**Presa 15 de Se**	**1.70**	**319**	*eP*	**Pn**	**12 09 30.4**	**+0.1**
PQSS				*eS*	**Sn**	**12 09 52.0**	**+0.9**
RCVN	**Varillal2**	**1.71**	**44**	P	**Pn**	**12 09 30.4**	**0.0**
RCVN	**Varillal2**	**1.71**	**44**	S	**Sn**	**12 09 52.2**	**+0.8**
RCVN	**Varillal2**	**1.71**	**44**	P	**Pn**	**12 09 30.4**	**0.0**
RCPN	**Sur Rio San Ju**	**1.73**	**47**	P	**Pn**	**12 09 30.8**	**0.0**
COEG	**Centro de Oper**	**1.92**	**312**	*eS*	**Sn**	**12 09 56.5**	**0.0**
JAYA	**Jayaque - finc**	**2.38**	**303**	*eS*	**Sn**	**12 10 07.6**	**-0.3**
NUBE	**Las Nubes**	**2.79**	**304**	P	**Pn**	**12 09 45.5**	**+0.3**

*IDC **16** 12:11:11.1±2.8, 4°.44S×138°.63E, h138km±39km, mb3.5/1, mbtmp3.7/5, Error ellipse: s-maj=65.2km s-min=32.1km az=116.0*
ISC 16 12:11:10.2±1.4, 4°.4S±0°.2×138°.7E±0°.3, h150km, n6, σ1§64/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.71**	**47**	P	**Pn**	**12 11 55.8**	**+1.8**
	4.9nm,0.3s,baz=203,slow=13,SNR=5.8						
JAY				S	**Sn**	**12 12 25.3**	**-2.4**
	14nm,0.8s,baz=149,slow=16,SNR=1.6						
WRA	**Warramunga Arr**	**16.05**	**195**	P	**P**	**12 14 48.1**	**-0.1**
	1.0nm,0.4s,baz=18,slow=12,SNR=32						
FITZ	**Fitzroy Crossi**	**18.71**	**222**	P	**P**	**12 15 17.1**	**-0.2**
	1.6nm,0.9s,baz=48,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**19.73**	**193**	P	**Pn**	**12 15 30.6**	**-0.9**
	0.9nm,0.4s,baz=17,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**27.49**	**175**	P	**P**	**12 16 43.3**	**+0.8**
	1.1nm,0.7s,baz=348,slow=17,SNR=2.2						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**136.71**	**284**	PKP	**PKiKP**	**12 30 17.1**	**-0.5**
	1.7nm,0.3s,baz=78,slow=2.9,SNR=1.6						

WEL 16 12:21:12.0±1.2, 34°S±7°×18°0E±1°6, h33km, M3.5/7, ML3.8/13, MLv3.5/7, Error ellipse: s-maj=21.3km s-min=8.7km az=101.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.30**	**199**	P	Pn	12 22 01.8	+0.5
MXZ				S	Sn	12 22 42.5	+3.1
WMGZ	**Waiomatatini S**	**3.52**	**196**	P	Pn	12 22 05.6	+1.3
WMGZ				S	Sn	12 22 48.7	+4.0
HAZ	**Te Kaha**	**3.64**	**204**	P	Pn	12 22 07.7	+1.8
HAZ				S	Sn	12 22 52.0	+4.2
PKGZ	**Pakihiroa**	**3.65**	**200**	P	Pn	12 22 06.7	+0.6
PKGZ				S	Sn	12 22 51.1	+3.1
PUZ	**Puketiti**	**3.79**	**197**	P	Pn	12 22 07.9	-0.2
PUZ				S	Sn	12 22 52.2	+0.6
RUGZ	**Raukumara Rang**	**3.86**	**204**	P	Pn	12 22 09.6	+0.4
TWGZ	**Tauwhareparae**	**3.96**	**200**	P	Pn	12 22 12.4	+1.9
TWGZ				S	Sn	12 22 58.5	+2.7
CNGZ	**Carnagh Statio**	**4.20**	**196**	P	Pn	12 22 13.3	-0.3
OPRZ	**Ohinepanea**	**4.22**	**216**	P	Pn	12 22 14.9	+0.9
TKGZ	**Te Karaka**	**4.25**	**200**	P	Pn	12 22 13.4	-0.9
TKGZ				S	Sn	12 23 03.3	+0.6
MWZ	**Matawai**	**4.25**	**203**	P	Pn	12 22 14.1	-0.3
MWZ				S	Sn	12 23 03.3	+0.5
URZ	**Urewera**	**4.33**	**208**	S	Sn	12 23 03.4	-1.3
RAGZ	**Rawiri**	**4.43**	**204**	P	Pn	12 22 15.5	-1.4
RIGZ	**Rimuhau**	**4.52**	**199**	P	Pn	12 22 16.6	-1.5
WCZ	**Waipu Caves**	**4.61**	**250**	P	Pn	12 22 19.3	+0.1
MUGZ	**Murupara**	**4.65**	**209**	P	Pn	12 22 19.4	-0.5
MUGZ				S	Sn	12 23 12.7	0.0
PRGZ	**Paritu Road**	**4.69**	**197**	P	Pn	12 22 19.6	-0.9
PRGZ				S	Sn	12 23 13.6	-0.1
SNGZ	**Shannon Statio**	**4.71**	**203**	P	Pn	12 22 19.7	-1.1
SNGZ				S	Sn	12 23 13.7	-0.6
MHGZ	**Mahia Peninsul**	**4.91**	**196**	P	Pn	12 22 21.1	-2.3
MHGZ				S	Sn	12 23 16.9	-2.0
BKZ	**Black Stump Fm**	**5.36**	**208**	P	Pn	12 22 27.5	-2.1

*SOME **16** 12:23:05.5, 42°.10N×82°.57E, h10km*
*NNC **16** 12:23:11.1±5.0, 42°.31N×82°.47E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=43.3km s-min=29.0km az=179.0*
ISC 16 12:23:11.4±2.7, 42°.2N±0°.1×82°.25E±0°.10, h10km, n14, σ1§46/19, 1C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.28**	**297**	Pg	**Pn**	**12 23 48.4**	**-1.0**
	29nm,0.2s						
SHLS				Lg	Lg	12 24 19.3	
	17nm,0.4s						
SHLS	**Shalkode**	**2.28**	**297**	*eP*	**Pn**	**12 23 47.7**	**-1.6**
	13nm,0.2s						
SHLS				*eS*	**Sn**	**12 24 18.1**	**+0.6**
	455nm,0.2s						
PDGK	**Podgornoye**	**2.34**	**301**	⇑Pn	**Pb**	**12 23 54.0**	**+0.1**
	5.2nm,0.3s						
PDGK				⇓Sn	**Sg**	**12 24 28.4**	**+1.7**
	9.7nm,0.5s						
UZB	**Uzynbulak**	**2.58**	**293**	Pg	**Pb**	**12 23 57.7**	**-0.1**
	11nm,0.2s						
UZB				Lg	Lg	12 24 35.5	
	9.3nm,0.4s						
UZB	**Uzynbulak**	**2.58**	**293**	*eP*	**Pb**	**12 23 57.7**	**-0.1**
	11nm,0.2s						
UZB				*eS*	**Sg**	**12 24 35.5**	**+1.3**
	9.3nm,0.4s						
DJR	**Jarkent**	**2.81**	**321**	Pg	**Pb**	**12 24 00.3**	**-1.5**
	3.8nm,0.2s						
DJR				Lg	Lg	12 24 39.9	
	12nm,0.4s						
DJR	**Jarkent**	**2.81**	**321**	*eP*	**Pb**	**12 24 00.3**	**-1.5**
	3.8nm,0.2s						
DJR				*eS*	**Sg**	**12 24 39.9**	**-1.9**
	12nm,0.4s						
SATY	**Saty**	**2.97**	**289**	Pg	**Pb**	**12 24 03.8**	**-0.8**
	3.0nm,0.2s						
SATY				Lg	Lg	12 24 46.2	
	12nm,0.2s						
KNOS	**Konyrlen**	**3.14**	**315**	Pg	**Pb**	**12 24 07.7**	**+0.3**
KNOS				Lg	Lg	12 24 52.4	
	14nm,0.3s						
BLB	**Baldybastay**	**3.37**	**306**	Pg	**Pb**	**12 24 11.0**	**-0.4**
	10nm,0.2s						
BLB				Lg	Lg	12 24 57.9	
	5.4nm,0.3s						
KAPS	**Kapalarasan**	**3.76**	**327**	Lg	Lg	12 25 02.5	
	7.4nm,0.2s						
MDOK	**Medeo**	**3.96**	**286**	*eP*	**Pb**	**12 24 18.3**	**-3.2**
	2.5nm,0.2s						
MDOK				*eS*	**Sb**	**12 25 10.5**	**+0.9**
	9.6nm,0.2s						
TNSS	**Tian-Shan**	**4.01**	**284**	*eP*	**Pb**	**12 24 24.2**	**+1.8**
	0.8nm,0.1s						
TNSS				*eS*	**Sg**	**12 25 20.6**	**+0.3**
	1.8nm,0.3s						
MK31	**Makanchi Array**	**4.63**	**0**	⇓Pn	**Pn**	**12 24 22.8**	**+1.4**
	0.4nm,0.2s,baz=183,slow=12,SNR=51						
MK31				⇓Lg	Lg	12 25 33.2	
	2.7nm,0.5s,baz=179,slow=24,SNR=9.4						

*IDC **16** 12:35:48.0±3.8, 9°.22S×124°.52E, h64km±41km, mb3.3/5, mbtmp4.0/10, ML4.4/5, MS3.6/2, Error ellipse: s-maj=71.8km s-min=17.8km az=52.0*
*NEIC **16** 12:35:50.2±1.1, 9°.36S±0°.09×124°.25E±0°.08, h98km±7km, mb4.1/4, Error ellipse: s-maj=14.6km s-min=9.1km az=212.0*
ISC 16 12:35:51.1±0.5, 9°.40S±0°.06×124°.26E±0°.05, h100km, n60, σ2§49/58, mb3.6/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.35**	**178**	P	**Pn**	**12 36 05.2**	**-1.0**
SOEI				Sn	**Sn**	**12 36 16.2**	**-1.1**
MMRI	**Maumere**	**2.13**	**291**	P	**Pn**	**12 36 24.0**	**-1.4**
MMRI	**Maumere**	**2.13**	**291**	P	**Pn**	**12 36 24.1**	**-1.4**
MMRI	**Maumere**	**2.13**	**291**	S	**Sn**	**12 36 49.4**	**-2.4**
KAPI	**Kappang**	**6.24**	**314**	Pn	**Pn**	**12 37 20.7**	**-0.1**
KAPI	**Kappang**	**6.24**	**314**	P	**Pn**	**12 37 18.0**	**-2.8**
	2.2nm,0.3s,baz=56,slow=7.5,SNR=4.2						
	10.0nm,0.5s						
PLAI	**Plampang**	**6.42**	**275**	P	**Pn**	**12 37 22.6**	**-0.7**
SAUI	**Saumlaki**	**7.10**	**79**	Pn	**Pn**	**12 37 31.2**	**-1.3**
DRS	**Darwin Rock St**	**7.18**	**115**	P	**Pn**	**12 37 34.1**	**+0.5**
DRS	**Darwin Rock St**	**7.18**	**115**	S	**Sn**	**12 38 51.9**	**-1.8**
MTN	**Manton Dam**	**7.56**	**118**	Pn	**Pn**	**12 37 39.1**	**+0.4**
MTN	**Manton Dam**	**7.56**	**118**	P	**Pn**	**12 37 39.4**	**+0.7**
MTN	**Manton Dam**	**7.56**	**118**	S	**Sn**	**12 39 01.0**	**-1.9**
KNRA	**Kununurra**	**7.63**	**145**	Pn	**Pn**	**12 37 40.1**	**+0.4**
KDU	**Kakadu**	**8.70**	**113**	P	**Pn**	**12 37 54.0**	**-0.2**
KDU	**Kakadu**	**8.70**	**113**	S	**Sn**	**12 39 29.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**8.75**	**171**	Pn	**Pn**	**12 37 54.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**8.75**	**171**	P	**Pn**	**12 37 54.0**	**-0.9**
	4.0nm,0.3s,baz=354,slow=13,SNR=228						
FITZ				S	**Sn**	**12 39 28.0**	**-3.7**
	103nm,0.7s,baz=131,slow=19,SNR=16						
	9.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**8.75**	**171**	P	**Pn**	**12 37 54.8**	**0.0**
JAGI	**Jajag, Banyuwa**	**10.03**	**274**	Pn	Pn	12 38 07.5	-4.8
FAKI	**Fak Fak**	**10.22**	**51**	Pn	**Pn**	**12 38 13.1**	**-1.9**
FAKI	**Fak Fak**	**10.22**	**51**	P	**Pn**	**12 38 14.7**	**-0.3**
MBWA	**Marble Bar**	**12.48**	**200**	Pn	**Pn**	**12 38 45.4**	**+0.2**
UGM	**Wanagama**	**13.66**	**275**	Pn	**Pn**	**12 38 59.6**	**-1.1**
UGM	**Wanagama**	**13.66**	**275**	P	**Pn**	**12 39 03.1**	**+2.3**
WB0	**Warramunga Arr**	**14.22**	**138**		**Pn**	**12 39 06.4**	**-1.6**
WRA	**Warramunga Arr**	**14.31**	**138**		**Pn**	**12 39 07.3**	**-1.8**
WRA	**Warramunga Arr**	**14.31**	**138**	P	**Pn**	**12 39 07.1**	**-2.0**
	1.8nm,0.3s,baz=319,slow=14,SNR=131						
WRA				S	Sn	12 41 36.4	-10
	4.1nm,0.7s,baz=319,slow=23,SNR=8.8						
	4.0nm,0.5s						
WRAB	**Tennant Creek**	**14.31**	**138**		**Pn**	**12 39 08.1**	**-1.0**
WB2	**Warramunga Arr**	**14.31**	**138**		**Pn**	**12 39 07.9**	**-1.3**
WR0	**Warramunga Arr**	**14.45**	**138**		**Pn**	**12 39 09.9**	**-1.1**
WRKA	**Warakurna**	**16.02**	**167**	P	**P**	**12 39 32.5**	**+0.2**
GIRL	**Giralia**	**16.30**	**215**	P	**P**	**12 39 37.6**	**+2.2**
BBJI	**Bungbulang**	**16.54**	**275**	P	**P**	**12 39 38.3**	**+0.1**
LEM	**Lembang**	**16.67**	**278**	P	**P**	**12 39 40.4**	**+0.7**
	4.9nm,0.3s,baz=115,slow=17,SNR=3.6						
	22nm,0.5s						
AS31	**Alice Springs**	**16.92**	**148**	P	**P**	**12 39 41.7**	**-0.5**
ASAR	**Alice Springs**	**16.92**	**148**	P	**P**	**12 39 42.0**	**-0.3**
ASAR	**Alice Springs**	**16.92**	**148**	P	**P**	**12 39 41.5**	**-0.7**
	1.5nm,0.3s,baz=327,slow=12,SNR=43						
ASAR				S	**Sn**	**12 42 41.0**	**-9.0**
	1.6nm,0.6s,baz=318,slow=22,SNR=7.8						
	4.8nm,0.4s						
AS01	**Alice Springs**	**16.94**	**148**	P	**P**

JMA 16 13:39:45.3±0.2, 35°.4N±0°.4×139°.2E±0°.3, h12km±1km, MV0.1/11, KANAGAWA PREF, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSGW	**Sagamiharawaka**	**0.21**	**1**	*e*S	Sg	13 39 53.7	+0.9

*NIED **16** 13:41:08.5, 32°.44N×132°.17E, h29km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.45; $M_{\theta\theta}$=0.43; $M_{\phi\phi}$=0.02; $M_{r\theta}$=0.65; $M_{r\phi}$=0.29; $M_{\theta\phi}$=0.60; Fault plane solution: M_0=1.02000×10^{15} NP1:ϕ_s=81.00000°, δ=17.00000°, λ=-58.00000°. NP2:ϕ_s=229.00000°, δ=75.00000°, λ=-99.00000°.*

*JMA **16** 13:41:08.5±0.1, 32°.4N±0°.2×132°.2E±0°.2, h29km, MD3.8/38, MV4.0/38, HYUGANADA REGION*

JMA Felt II J1 at HYUGANADA REGION .

*IDC **16** 13:41:09.8±1.4, 32°.50N×132°.12E, h49km±15km, mb3.5/7, mbtmp3.9/11, ML3.5/4, MS3.4/2, Error ellipse: s-maj=16.6km s-min=11.2km az=9.0*

ISC 16 13:41:08.8±1.0, 32°.43N±0°.05×132°.13E±0°.03, h38km±1km, n53, σ1§22/43, mb3.9/7, 8D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.41**	**333**	P	**Pn**	**13 41 17.6**	**-0.4**
JSKE				S	**Sn**	**13 41 23.8**	**-1.0**
JSKE	**Saikikamae**	**0.41**	**333**	A	A	13 41 17.6	
	comp=N,29nm,0.7s,comp=E,25nm,0.4s						
JHHC	**Hyugahichiya**	**0.41**	**271**	||P	**Pn**	**13 41 17.8**	**-0.3**
JHHC				||S	**Sn**	**13 41 24.4**	**-0.6**
JHHC	**Hyugahichiya**	**0.41**	**271**	A	A	13 41 17.8	
	comp=N,8.0nm,0.8s,comp=E,11nm,0.4s						
JTSN	**Tsuno**	**0.56**	**250**	||P	**Pn**	**13 41 20.2**	**-0.2**
JTSN				||S	**Sn**	**13 41 28.9**	**+0.5**
JTSN	**Tsuno**	**0.56**	**250**	A	A	13 41 20.2	
	comp=N,5.0nm,0.6s,comp=E,4.0nm,0.5s						
JKIT	**Kitakata**	**0.60**	**289**	||P	**Pn**	**13 41 20.6**	**-0.4**
JKIT				||S	**Sn**	**13 41 29.8**	**+0.4**
JKIT	**Kitakata**	**0.60**	**289**	A	A	13 41 20.6	
	comp=N,14nm,0.3s,comp=E,17nm,0.3s						
JUS	**Usuki**	**0.70**	**333**	*i* P	**Pn**	**13 41 22.4**	**+0.1**
JUS				S	**Sn**	**13 41 32.0**	**+0.1**
JUS	**Usuki**	**0.70**	**333**	A	A	13 41 22.4	
	comp=N,9.0nm,0.6s,comp=E,13nm,0.4s						
JTO	**Tosashimizu**	**0.71**	**53**	||P	**Pn**	**13 41 21.5**	**-0.9**
JTO	**Tosashimizu**	**0.71**	**53**	A	A	13 41 21.5	
	comp=N,4.0nm,1.5s,comp=E,4.0nm,1.8s						
UWA2	**Uwa jima 2**	**0.88**	**28**	*i* P	**Pn**	**13 41 24.1**	**-0.7**
UWA2				S	**Sn**	**13 41 35.3**	**-1.1**
JNKG	**Nichinankitago**	**1.00**	**220**	A	A	13 41 27.0	
	comp=N,6.0nm,0.9s,comp=E,4.0nm,0.8s						
JTZ	**Takazaki**	**1.03**	**239**	||P	**Pn**	**13 41 27.5**	**+0.8**
JBEP	**Beppuamama**	**1.08**	**326**	A	A	13 41 28.1	
	comp=N,14nm,0.8s,comp=E,12nm,4.5s						
JIU3	**Izumi3**	**1.11**	**276**	*i* P	**Pn**	**13 41 29.1**	**+1.2**
JNA	**Nagahama**	**1.16**	**15**	*i* P	**Pn**	**13 41 28.2**	**-0.3**
JNAR	**Kushima--Naru**	**1.16**	**219**	A	A	13 41 29.4	
	comp=N,6.0nm,3.1s,comp=E,5.0nm,1.3s						
JKU	**Kubokawa**	**1.18**	**42**	*i* P	**Pn**	**13 41 28.3**	**-0.4**
JNU	**Nakatsue**	**1.25**	**303**	P	**Pn**	**13 41 31.1**	**+1.2**
	comp=E,704nm,0.4s,baz=155,slow=7.3,SNR=3884						
JNU				S	**Sn**	**13 41 45.7**	**+0.2**
	comp=E,788nm,0.4s,baz=256,slow=14,SNR=12						
JNU	**Nakatsue**	**1.25**	**303**	P	**Pn**	**13 41 30.9**	**+1.1**
JNU	**Nakatsue**	**1.25**	**303**	S	**Sn**	**13 41 48.1**	**+2.6**
JKI	**Kunimi**	**1.28**	**339**	A	A	13 41 31.1	
	comp=N,5.0nm,1.4s,comp=E,3.0nm,2.2s						
JTA	**Tamana**	**1.44**	**292**	A	A	13 41 33.8	
	comp=N,2.0nm,3.6s,comp=E,2.0nm,0.8s						
JMN	**Monobe**	**1.96**	**48**	P	**Pn**	**13 41 39.8**	**+0.3**
JMN	**Monobe**	**1.96**	**48**	S	**Sn**	**13 42 06.9**	**+4.1**
JTU	**Tsushima**	**3.09**	**313**	P	**Pn**	**13 41 55.3**	**+0.3**
INU	**Inuyama**	**5.00**	**53**	P	**Pn**	**13 42 22.6**	**+1.4**
INU	**Inuyama**	**5.00**	**53**	S	**Sn**	**13 43 19.9**	**+2.1**
JGF	**Kuroka**	**5.37**	**53**	P	**Pn**	**13 42 27.4**	**+1.0**
TJN	**Taejon**	**5.56**	**316**	P	**Pn**	**13 42 30.6**	**+1.6**
KSRS	**Korea Array**	**6.08**	**327**	P	**Pn**	**13 42 37.6**	**+1.5**
	comp=E,0.7nm,0.3s,baz=146,slow=14,SNR=14						
KSRS				S	**Sn**	**13 43 46.6**	**+2.2**
	comp=E,4.6nm,0.7s,baz=147,slow=29,SNR=4.5						
	comp=E,1.6nm,0.3s						
MAJO	**Matsushiro**	**6.48**	**49**	P	**Pn**	**13 42 42.8**	**+1.2**
MJAR	**Matsushiro Arr**	**6.48**	**49**	P	**Pn**	**13 42 42.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=211,slow=16,SNR=22						
MJAR				S	**Sn**	**13 43 53.7**	**-0.6**
	comp=E,1.5nm,0.8s,baz=233,slow=25,SNR=2.0						
	comp=E,1.4nm,0.3s						
JHJ	**Hachijo jima 2**	**6.49**	**82**	P	**Pn**	**13 42 42.2**	**+0.5**
	comp=E,13nm,0.3s,baz=260,slow=18,SNR=6.1						
	comp=E,191nm,0.9s						
JHJ2	**Mitsune**	**6.51**	**82**	P	**Pn**	**13 42 42.5**	**+0.5**
KLR	**Kul'dur**	**16.78**	**359**	P	**P**	**13 45 02.4**	**-0.2**
	comp=E,0.4nm,0.3s,baz=179,slow=10,SNR=20						
	comp=E,9.7nm,1.0s						
SONM	**Songino Array**	**24.81**	**316**	P	**P**	**13 46 26.1**	**-1.3**
	comp=E,0.4nm,0.4s,baz=131,slow=10,SNR=6.5						
	comp=E,0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**33.54**	**104**	T	T	14 23 41.9	
	baz=298,slow=75,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**33.55**	**104**	T	T	14 23 41.4	
	baz=298,slow=75,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**33.56**	**104**	T	T	14 23 43.9	
	baz=298,slow=75,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**33.99**	**106**	T	T	14 24 15.8	
	baz=300,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**33.99**	**106**	T	T	14 24 16.2	
	baz=300,slow=75,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**34.00**	**106**	T	T	14 24 16.1	
	baz=300,slow=75,SNR=4.8						
ZALV	**Zalesovo Beam**	**39.69**	**317**	LR	LR	14 06 13.6	
	comp=E,52nm,20.8s,baz=41,slow=38						
MKAR	**Makanchi Array**	**40.31**	**306**	P	**P**	**13 48 41.5**	**-0.8**
	comp=E,0.3nm,0.6s,baz=96,slow=8.8,SNR=3.8						
	comp=E,0.3nm,0.6s						
BVAR	**Borovoye Array**	**48.14**	**314**	P	**P**	**13 49 43.7**	**-1.3**
	comp=E,0.7nm,0.5s,baz=90,slow=10,SNR=5.9						
	comp=E,0.7nm,0.5s						
WRA	**Warramunga Arr**	**52.12**	**177**	P	**P**	**13 50 15.6**	**+0.3**
	comp=E,1.8nm,0.8s,baz=353,slow=8.1,SNR=21						
	comp=E,1.8nm,0.8s						
ASAR	**Alice Springs**	**55.81**	**178**	P	**P**	**13 50 42.6**	**+0.4**
	comp=E,1.3nm,0.7s,baz=12,slow=13,SNR=23						
	comp=E,1.3nm,0.7s						
STKA	**Stephens Creek**	**64.59**	**171**	P	**P**	**13 51 42.4**	**+0.3**
	comp=E,2.4nm,0.6s,baz=341,slow=10,SNR=6.2						
	comp=E,2.4nm,0.6s						
ARCES	**ARCESS Array B**	**65.51**	**338**	LR	LR	14 24 56.0	
	comp=E,25nm,18.7s,baz=92,slow=40						
YKA	**Yellowknife Ar**	**71.48**	**27**	P	**P**	**13 52 25.2**	**+0.1**
	comp=E,0.2nm,0.9s,baz=300,slow=5.8,SNR=4.3						
	comp=E,0.2nm,0.9s						

*IDC **16** 13:43:19.4±2.0, 11°.60S×76°.82W, h64km±27km, mb3.3/4, mbtmp3.6/4, MS2.7/2, Error ellipse: s-maj=118.8km s-min=54.9km az=79.0*

ISC 16 13:43:17.8±1.2, 12°.0S±0°.1×77°.5W±0°.1, h51km, n18, σ1§40/10, mb3.5/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.67**	**89**	P	**Pn**	**13 43 31.8**	**+0.5**
	276nm,0.3s,baz=286,slow=14,SNR=69						
NNA				S	**Sn**	**13 43 41.5**	**+0.4**
	814nm,0.3s,baz=338,slow=19,SNR=7.2						
ATAH	**Atahualpa**	**4.91**	**350**	P	**Pn**	**13 44 31.9**	**+2.4**
	6.6nm,0.3s,baz=177,slow=4.0,SNR=28						
ATAH				S	**Sn**	**13 45 23.3**	**-1.9**
	23nm,0.3s,baz=91,slow=23,SNR=8.3						
ATAH				LR	LR	13 46 13.8	
	comp=Z,82nm,20.4s,baz=195,slow=37						
LPAZ	**La Paz**	**10.06**	**116**	LR	LR	13 50 20.4	
	comp=Z,44nm,18.8s,baz=14,slow=44						
H03N1	**Juan Fernandez**	**21.38**	**183**	T	T	14 10 04.5	
	baz=3.6,slow=74,SNR=137						
H03N2	**Juan Fernandez**	**21.38**	**183**	T	T	14 10 04.2	
	baz=3.6,slow=74,SNR=46						
H03N3	**Juan Fernandez**	**21.39**	**183**	T	T	14 10 12.9	
	baz=3.6,slow=74,SNR=76						
TXAR	**Lajitas Array**	**48.22**	**329**	P	**P**	**13 51 53.9**	**+0.2**
	0.4nm,0.6s,baz=147,slow=7.9,SNR=4.4						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**63.00**	**325**	P	**P**	**13 53 40.3**	**+0.5**
	0.2nm,0.6s,baz=99,slow=4.8,SNR=2.2						
	0.2nm,0.6s						
ULM	**Lac du Bonnet**	**64.04**	**347**	P	**P**	**13 53 44.3**	**-1.8**
	1.5nm,0.6s,baz=179,slow=9.5,SNR=4.2						
	1.5nm,0.6s						
YKA	**Yellowknife Ar**	**79.66**	**343**	P	**P**	**13 55 19.2**	**-0.3**
	0.3nm,0.6s,baz=150,slow=5.6,SNR=8.1						
	0.3nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**17.84**	**286**	T	T	16 10 32.4	
	baz=101,slow=78,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**17.85**	**286**	T	T	16 10 33.5	
	baz=101,slow=78,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**17.86**	**286**	T	T	16 10 33.7	
	baz=101,slow=78,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**17.95**	**285**	T	T	16 10 41.7	
	baz=94,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**17.96**	**285**	T	T	16 10 40.8	
	baz=94,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**17.97**	**285**	T	T	16 10 41.0	
	baz=94,slow=75,SNR=30						
WRA	**Warramunga Arr**	**135.37**	**225**	PKP	**PKPdf**	**14 02 33.3**	**+0.4**
	0.5nm,0.9s,baz=119,slow=1.9,SNR=2.6						
KSRS	**Korea Array**	**145.91**	**322**	PKPbc	**PKPbc**	**14 02 51.6**	**-0.4**
	0.9nm,0.8s,baz=57,slow=1.6,SNR=3.4						

*ISK **16** 13:50:12.8, 37°.16N×28°.70E, h5km, ML3.6/33*

*AFAD **16** 13:50:13.6, 37°.15N×28°.70E, h8km±4km, ML3.7*

*IDC **16** 13:50:13.7±1.0, 37°.17N×28°.85E, h0km, mb3.6/5, mbtmp3.8/10, ML4.0/4, MS2.9/6, Error ellipse: s-maj=21.7km s-min=16.4km az=167.0*

*THE **16** 13:50:15.0, 37°.15N×28°.59E, h0km, ML3.4/8, Error ellipse: s-maj=1.5km s-min=0.8km az=40.0*

ISC 16 13:50:13.9±1.0, 37°.16N±0°.01×28°.69E±0°.01, h6km±7km, n114, σ1§04/156, mb3.6/5, MS2.9/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZT	**Denizli-Tavas-**	**0.29**	**65**	P	**Pg**	**13 50 19.9**	**+0.2**
DNZT				S	**Sg**	**13 50 23.8**	**+0.2**
MULA	**Mugla, Merkez-**	**0.31**	**289**	P	**Pg**	**13 50 20.7**	**+0.7**
MULA				S	**Sg**	**13 50 24.6**	**+0.4**
YER	**Yerkesik**	**0.33**	**267**	Pg	**Pg**	**13 50 20.3**	**0.0**
YER				Sg	**Sb**	**13 50 26.3**	**-1.5**
DALY	**Dalyan (Mula)**	**0.34**	**185**	Pg	**Pg**	**13 50 20.4**	**-0.1**
DALY				Sg	**Sb**	**13 50 26.9**	**-1.1**
TAVA	**DENIZLI_Tavas**	**0.36**	**29**	P	**Pg**	**13 50 21.0**	**+0.1**
TAVA				S	**Sg**	**13 50 25.4**	**-0.2**
SABU	**Mula-Dalaman**	**0.40**	**146**	P	**Pg**	**13 50 21.8**	**-0.6**
SABU				S	**Sg**	**13 50 25.7**	**-1.1**
CAEL	**Denizli, Camel**	**0.50**	**94**	P	**Pg**	**13 50 23.5**	**-0.1**
CAEL				S	**Sg**	**13 50 30.7**	**+0.5**
CAEL				*i* AML	AML	13 50 40.0	
	comp=E,6μm,0.8s						
CAEL				*i* AML	AML	13 50 52.0	
	comp=N,5μm,0.9s						
TURN	**Turunc**	**0.52**	**224**	Pg	**Pg**	**13 50 23.7**	**-0.3**
TURN				Sg	**Sb**	**13 50 32.9**	**-0.4**
TURN	**Turunc**	**0.52**	**224**	P	**Pg**	**13 50 24.0**	**+0.1**
TURN				S	**Sb**	**13 50 32.3**	**-1.0**
CAME	**Cameli-Denizli**	**0.53**	**113**	Pg	**Pg**	**13 50 23.6**	**-0.6**
CAME				Sg	**Sb**	**13 50 33.2**	**-0.5**
DNIZ	**Denizli-Tavas-**	**0.54**	**30**	P	**Pb**	**13 50 24.4**	**-0.5**
DNIZ				S	**Sg**	**13 50 31.2**	**-0.3**
DNIZ				*i* AML	AML	13 50 34.0	
	comp=N,7μm,0.4s						
DNIZ				*i* AML	AML	13 50 35.0	
	comp=E,6μm,0.3s						
APMY	**Acipayam-Deniz**	**0.58**	**57**	Pg	**Pg**	**13 50 25.1**	**0.0**
APMY				Sg	**Sb**	**13 50 34.6**	**-0.4**
FETY	**Fethiye**	**0.61**	**149**	Pg	**Pg**	**13 50 25.5**	**-0.1**
FETY				Sg	**Sb**	**13 50 34.6**	**-1.1**
FETY	**Fethiye**	**0.61**	**149**	P	**Pn**	**13 50 28.2**	**-0.9**
FETY				S	**Sg**	**13 50 33.4**	**0.0**
ESEN	**Aydn-Nazilli**	**0.70**	**337**	P	**Pg**	**13 50 26.8**	**-0.5**
ESEN				S	**Sg**	**13 50 36.5**	**+0.1**
ESEN				*i* AML	AML	13 50 41.0	
	comp=E,2μm,0.6s						
GOLH	**Golhisar**	**0.70**	**83**	P	**Pg**	**13 50 26.8**	**-0.5**
MLSB	**Milas**	**0.74**	**281**	Pg	**Pg**	**13 50 28.3**	**+0.1**
MLSB				Sg	**Sb**	**13 50 39.9**	**+0.1**
KNIK	**Mula-Seydike**	**0.77**	**113**	P	**Pb**	**13 50 29.0**	**-0.8**
AYDN	**Tasoluk**	**0.82**	**308**	P	**Pb**	**13 50 30.1**	**-0.5**
AYDN				S	**Sg**	**13 50 40.9**	**+0.5**
AYDN				*i* AML	AML	13 50 48.0	
	comp=N,2μm,1.3s						
IZZE	**Mula-Seydike**	**0.83**	**149**	P	**Pg**	**13 50 29.8**	**-0.1**
NAZL	**Nazilli-Aydin**	**0.87**	**339**	Pg	**Pg**	**13 50 30.4**	**-0.2**
NAZL				Sg	**Sb**	**13 50 43.4**	**+0.1**
INCE	**Denizli-Bozkur**	**0.89**	**52**	P	**Pb**	**13 50 31.5**	**-0.4**
DAT	**Datca**	**0.99**	**245**	Pg	**Pb**	**13 50 33.3**	**-0.2**
BDRM	**Kayabasi**	**1.00**	**265**	P	**Pg**	**13 50 33.1**	**0.0**
BDRM				S	**Sn**	**13 50 49.7**	**+0.7**
BDRM				*i* AML	AML	13 50 54.0	
	comp=E,934nm,0.7s						
AYDB	**Zeytinkoy-Aydi**	**1.01**	**321**	Pg	**Pg**	**13 50 33.5**	**+0.1**
ARG	**Arkhangelos**	**1.04**	**206**	Pg	**Pg**	**13 50 33.9**	**0.0**
ARG	**Arkhangelos**	**1.04**	**206**	P	**Pg**	**13 50 33.9**	**0.0**
ARG				S	**Sn**	**13 50 50.2**	**+0.3**
	1μm,0.7s						
ELL	**Elmali**	**1.05**	**112**	Pg	**Pb**	**13 50 34.3**	**-0.3**
KIRA	**zmir-Kiraz**	**1.06**	**347**	P	**Pb**	**13 50 34.8**	**0.0**
YAZI	**Mula-Datça-**	**1.10**	**245**	P	**Pn**	**13 50 35.9**	**0.0**
YAZI				S	**Sn**	**13 50 51.7**	**+0.3**
BODT	**Bodrum**	**1.11**	**266**	Pn	**Pb**	**13 50 35.6**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.13**	**269**	Pn	**Pb**	**13 50 35.9**	**+0.1**
IZMR	**zmir-demi**	**1.14**	**329**	P	**Pg**	**13 50 35.6**	**-0.2**
AKAS	**Kas**	**1.18**	**141**	Pn	**Pn**	**13 50 37.0**	**0.0**
AKAS	**Kas**	**1.18**	**141**	P	**Pn**	**13 50 37.8**	**+0.8**
AKAS				S	**Sn**	**13 50 56.1**	**+2.6**
DDIM	**Aydin, Didim**	**1.20**	**285**	P	**Pg**	**13 50 36.7**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.22**	**63**	P	**Pn**	**13 50 38.4**	**+0.9**
BRDR				S	**Sn**	**13 50 55.0**	**+0.6**
ODEM	**Odemis-Izmir**	**1.22**	**337**	Pn	**Pg**	**13 50 37.2**	**-0.1**
KSL	**Kastellorizon**	**1.23**	**144**	P	**Pn**	**13 50 37.9**	**+0.2**
KSL				S	**Sn**	**13 50 57.2**	**+2.6**
	3μm,0.5s						
GCAM	**G?zelcaml?**	**1.28**	**296**	Pn	**Pb**	**13 50 38.7**	**+0.2**
GCAM	**G?zelcaml?**	**1.28**	**296**	P	**Pb**	**13 50 38.7**	**+0.2**
BASM	**Basmaki-Afyon**	**1.32**	**54**	Pn	**Pb**	**13 50 39.6**	**+0.4**
KORT	**Korkueli**	**1.33**	**96**	Pn	**Pb**	**13 50 39.5**	**+0.1**
KORT	**Korkueli**	**1.33**	**96**	P	**Pb**	**13 50 40.3**	**+0.9**
DEMR	**Demre-Antalya**	**1.34**	**133**	Pn	**Pg**	**13 50 39.9**	**+0.4**
MANT	**Manisa**	**1.34**	**355**	P	**Pb**	**13 50 39.8**	**+0.2**
PASA	**Karahalli, USA**	**1.35**	**28**	P	**Pn**	**13 50 39.0**	**-0.4**
KULA	**Kula-Manisa**	**1.36**	**359**	Pn	**Pg**	**13 50 39.7**	**-0.2**
NISR	**Nisiros**	**1.37**	**247**	P	**Pn**	**13 50 38.8**	**-0.7**
NISR				S	**Sb**	**13 50 56.9**	**-0.7**
	2μm,1.3s						
BUCA	**Burdur, Bucak-**	**1.50**	**83**	P	**Pg**	**13 50 42.8**	**+0.2**
BUCA				S	**Sg**	**13 51 03.8**	**+1.7**
BCK	**Bucak**	**1.54**	**78**	Pn	**Pb**	**13 50 42.8**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.56**	**122**	P	**Pg**	**13 50 45.3**	**+1.4**
AKUM				S	**Sg**	**13 51 06.6**	**+2.4**
USAK	**Uak-Merkez**	**1.58**	**9**	P	**Pb**	**13 50 43.4**	**-0.2**
ANTB	**Antalya**	**1.59**	**99**	Pn	**Pg**	**13 50 43.8**	**-0.6**
KZIL	**AFYON_Kizioren**	**1.59**	**46**	P	**Pb**	**13 50 43.6**	**-0.1**
KZIL				S	**Sg**	**13 51 04.9**	**-0.1**
ISP	**Isparta**	**1.60**	**65**	Pn	**Pb**	**13 50 43.7**	**-0.2**
GMLD	**Gumuldur**	**1.69**	**304**	Pn	**Pb**	**13 50 45.3**	**0.0**
DGB	**zmir**	**1.69**	**302**	P	**Pn**	**13 50 44.2**	**+0.2**
BNAZ	**Uak-Banaz**	**1.79**	**31**	P	**Pg**	**13 50 47.5**	**-0.7**
BNAZ				S	**Sg**	**13 51 10.7**	**-0.6**
BNAZ				*i* AML	AML	13 51 22.0	
	comp=N,1μm,0.6s						
BNAZ				*i* AML	AML	13 51 23.0	
	comp=E,911nm,0.6s						
BLCB	**Balcova**	**1.79**	**314**	Pn	**Pb**	**13 50 46.4**	**-0.8**
GORD	**Gordes-Manisa**	**1.80**	**347**	Pn	**Pn**	**13 50 45.8**	**+0.3**
AFYN	**Afyon-Dinar-K**	**1.82**	**52**	P	**Pb**	**13 50 47.0**	**-0.7**
AKHS	**Akhisar**	**1.86**	**338**	P	**Pn**	**13 50 46.4**	**+0.1**
AKS	**Akhisar**	**1.86**	**338**	Pn	**Pb**	**13 50 47.2**	**-1.1**
BAGO	**Egridir - ISPA**	**1.86**	**63**	P	**Pb**	**13 50 47.8**	**-0.6**
BAGO				S	**Sn**	**13 51 10.2**	**-0.2**
DEMI	**Demirci**	**1.88**	**1**	P	**Pn**	**13 50 47.2**	**+0.5**
DEMI				S	**Sn**	**13 51 09.6**	**-1.3**
SHAP	**Saphane-Kutahy**	**1.91**	**12**	Pn	**Pb**	**13 50 48.1**	**-1.1**
SIMA	**Simav-Kutahya**	**1.94**	**7**	Pn	**Pn**	**13 50 48.3**	**+0.8**
GEDZ	**Gediz**	**1.97**	**16**	Pn	**Pb**	**13 50 49.2**	**-1.0**
KARP	**Karpathos**	**2.03**	**218**	Pn	**Pb**	**13 50 50.2**	**-1.0**
KARP	**Karpathos**	**2.03**	**218**	P	**Pn**	**13 50 48.2**	**-0.4**
KARP				S	**Sn**	**13 51 14.7**	**+0.4**
	730nm,1.0s						
GDZ	**Gediz**	**2.03**	**18**	P	**Pn**	**13 50 49.7**	**+0.9**
GDZ				S	**Sg**	**13 51 18.4**	**-0.6**
ZEYE	**Izmir, Urla-Ze**	**2.05**	**303**	P	**Pn**	**13 50 49.5**	**+0.6**
URLA	**Izmir**	**2.05**	**307**	P	**Pn**	**13 50 49.7**	**+0.7**
URLA				S	**Sg**	**13 51 20.7**	**+0.8**
URLA				*i* AML	AML	13 51 28.0	
	comp=N,566nm,1.8s						
URLA				*i* AML	AML	13 51 32.0	
	comp=E,510nm,1.3s						
ZEDA	**zmir-Bergama**	**2.21**	**325**	P	**Pn**	**13 50 51.1**	**-0.1**
EMET	**Ktahya-Emet**	**2.27**	**12**	P	**Pb**	**13 50 55.2**	**-0.1**
IZMD	**zmir-Dikili-**	**2.30**	**323**	P	**Pn**	**13 50 53.6**	**+1.2**
YVAC	**Isparta, Yalva**	**2.31**	**60**	P	**Pb**	**13 50 54.4**	**-1.6**
KEPZ	**Antalya-Kepez**	**2.34**	**95**	P	**Pb**	**13 50 56.1**	**-0.5**
STEP	**BALIKESIR_Sava**	**2.35**	**341**	P	**Pn**	**13 50 53.3**	**+0.3**
STEP				S	**Sb**	**13 51 24.8**	**-1.1**
STEP				*i* AML	AML	13 51 37.0	
	comp=E,370nm,0.7s						
STEP				*i* AML	AML	13 51 39.0	
	comp=N,292nm,0.6s						
KARB	**zmir-Karabur**	**2.35**	**311**	P	**Pn**	**13 50 54.4**	**+1.4**
DKL	**Dikili**	**2.38**	**324**	Pn	**Pn**	**13 50 54.7**	**+1.3**
DURS	**Dursunbey**	**2.45**	**356**	P	**Pn**	**13 50 55.5**	**+1.0**
SEDI	**Konya, Seydise**	**2.46**	**82**	P	**Pb**	**13 50 57.5**	**-1.1**
APE	**Apeiranthos**	**2.53**	**269**	Pn	**Pn**	**13 50 56.6**	**+1.0**
APE	**Apeiranthos**	**2.53**	**269**	P	**Pn**	**13 50 54.5**	**-1.1**
APE				S	**Sn**	**13 51 26.2**	**-0.5**
DOGA	**KONYA_Doganhis**	**2.54**	**67**	P	**Pn**	**13 50 57.7**	**+1.8**
UCKU	**Afyonkarahisar**	**2.62**	**55**	P	**Pn**	**13 50 58.8**	**+2.0**
BUHA	**Balikesir, Bur**	**2.67**	**332**	P	**Pn**	**13 50 57.2**	**-0.2**
BALY	**Balya**	**2.71**	**342**	P	**Pn**	**13 50 59.1**	**+1.0**
BALY				S	**Sn**	**13 51 29.5**	**-1.8**
THR3	**Thira Island,**	**2.75**	**255**	P	**Pn**	**13 50 58.1**	**-0.4**
PRK	**Paraskevi**	**2.83**	**318**	P	**Pn**	**13 51 00.5**	**+0.9**
PRK				S	**Sn**	**13 51 34.1**	**+0.1**
	468nm,0.8s						
ZKR	**Zakros**	**2.86**	**225**	P	**Pn**	**13 51 00.0**	**0.0**
ZKR				S	**Sn**	**13 51 34.2**	**-0.6**
	240nm,0.9s						
ULDT	**Uludag**	**3.00**	**6**	P	**Pg**	**13 51 11.3**	**-0.2**
SIGR	**SIGRI**	**3.04**	**313**	P	**Pn**	**13 51 03.4**	**+0.9**
SIGR				S	**Sn**	**13 51 38.2**	**-0.9**
	160nm,0.7s						
BAYC	**CANAKKALE_Bayr**	**3.08**	**328**	P	**Pn**	**13 51 03.8**	**+0.7**
KARY	**Karystos**	**3.49**	**286**	P	**Pn**	**13 51 09.3**	**+0.5**
IDI	**Anoyia**	**3.59**	**240**	Pn	**Pn**	**13 51 13.2**	**+3.0**
	37nm,0.4s,baz=63,slow=15,SNR=42						
IDI				Sn	**Sn**	**13 51 56.4**	**+3.4**
	5.8nm,0.3s,baz=72,slow=20,SNR=7.4						
LIA	**Limnos Island**	**3.88**	**316**	P	**Pn**	**13 51 14.7**	**+0.6**
ALN	**Alexandroupoli**	**4.27**	**332**	P	**Pn**	**13 51 20.0**	**+0.6**
ALN				S	**Sn**	**13 52 10.2**	**+0.7**
	50nm,1.3s						
BRTR	**Keskin Array B**	**4.65**	**55**	Pn	**Pn**	**13 51 26.0**	**+1.1**
	4.4nm,0.3s,baz=244,slow=17,SNR=164						
BRTR				Sn	**Sn**	**13 52 21.6**	**+2.3**
	0.9nm,0.3s,baz=221,slow=25,SNR=7.9						
	14nm,0.5s						
MMAI	**Mount Meron Ar**	**6.88**	**125**	Pn	**Pn**	**13 51 55.0**	**-0.4**
	7.6nm,0.3s,baz=313,slow=12,SNR=50						
MMAI				Sn	**Sn**	**13 53 11.1**	**-2.

HHAR Hobbs 2.47 78 Pn Pn 13 54 48.3 +1.3

*IDC **16** 14:03:27.8±1.3, 38°.02S×94°.25W, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/5, Error ellipse: s-maj=53.1km s-min=33.1km az=91.0*

ISC 16 14:03:31.7±1.1, 38.0S±0.2×94.2W±0.3, h25km, n9, σ0§78/6, mb3.9/6, MS3.2/4, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**18.46**	**106**	LR	LR	14 12 56.7	
	comp=Z,148nm,19.2s,baz=244,slow=31						
LPAZ	**La Paz**	**31.53**	**54**	P	**P**	**14 09 52.6**	**0.0**
	1.7nm,0.7s,baz=228,slow=5.9,SNR=4.0						
LPAZ				LR	LR	14 19 30.9	
	comp=Z,50nm,19.8s,baz=235,slow=30						
	1.7nm,0.7s						
CPUP	**Villa Florida**	**33.10**	**80**	LR	LR	14 22 00.2	
	comp=Z,57nm,18.5s,baz=212,slow=34						
BDFB	**Brasilia**	**46.27**	**74**	LR	LR	14 30 21.2	
	comp=Z,50nm,18.9s,baz=145,slow=35						
QSPA	**South Pole Qui**	**52.20**	**180**	P	**P**	**14 12 40.3**	**+0.1**
	2.2nm,1.1s,baz=135,slow=5.7,SNR=2.1						
	2.2nm,1.1s						
TXAR	**Lajitas Array**	**67.60**	**351**	P	**P**	**14 14 27.2**	**+1.0**
	0.5nm,0.8s,baz=158,slow=3.6,SNR=4.5						
TXAR				LR	LR	14 39 33.4	
	comp=Z,7.3nm,21.4s,baz=228,slow=32						
	0.5nm,0.8s						
NVAR	**Mina Array Bea**	**79.26**	**341**	P	**P**	**14 15 34.2**	**-0.6**
	0.7nm,0.9s,baz=154,slow=4.2,SNR=3.2						
	0.7nm,0.9s						
PDAR	**Pinedale Array**	**81.62**	**349**	P	**P**	**14 15 47.0**	**-0.5**
	0.6nm,0.8s,baz=211,slow=7.5,SNR=5.3						
	0.6nm,0.8s						
ULM	**Lac du Bonnet**	**87.92**	**359**	P	**P**	**14 16 18.3**	**-0.4**
	1.1nm,0.7s,baz=153,slow=4.5,SNR=2.9						
	1.1nm,0.7s						

*DJA **16** 14:15:27.5±0.4, 6°.5S±3°×12°.8E±°, h379km±6km, M4.2/15, mB4.7/5, mb4.1/7, MLv4.5/15, Mw(mB)3.9/5*
*IDC **16** 14:15:30.9±2.5, 6°.62S×127°.87E, h380km±25km, mb3.2/5, mbtmp4.0/8, Error ellipse: s-maj=52.6km s-min=11.6km az=68.0*

ISC 16 14:15:28.2±0.6, 6.55S±0.06×127.90E±0.08, h353km, n29, σ1§42/36, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.84**	**45**	P	**Pn**	**14 16 27.0**	**+0.6**
BNDI				S	**S**	**14 17 15.7**	**+2.5**
MSAI	**Masohi**	**3.35**	**18**	P	**Pn**	**14 16 30.9**	**-0.2**
NLAI	**Namlea**	**3.38**	**346**	P	**Pn**	**14 16 33.6**	**+2.2**
NLAI				S	**S**	**14 17 25.3**	**+3.0**
SAUI	**Saumlaki**	**3.66**	**113**	P	**Pn**	**14 16 34.9**	**+0.8**
SOEI	**Soe**	**4.80**	**228**	P	**Pn**	**14 16 47.8**	**+1.8**
SOEI	**Soe**	**4.80**	**228**	P	**Pn**	**14 16 47.7**	**+1.8**
SANI	**Sanana**	**4.86**	**337**	P	**Pn**	**14 16 47.0**	**+0.5**
SANI	**Sanana**	**4.86**	**337**	S	**S**	**14 17 48.1**	**-1.7**
SANI	**Sanana**	**4.86**	**337**	P	**Pn**	**14 16 46.5**	**0.0**
BBSI	**Bau Bau**	**5.40**	**281**	P	**Pn**	**14 16 52.7**	**+0.2**
	0.2nm54nm,0.9s						
FAKI	**Fak Fak**	**5.64**	**50**	P	**Pn**	**14 16 53.7**	**-1.5**
FAKI	**Fak Fak**	**5.64**	**50**	P	**Pn**	**14 16 53.7**	**-1.5**
	0.5nm2um93nm,0.8s						
KMPI	**Kaimana, Papua**	**6.46**	**64**	P	**Pn**	**14 17 02.6**	**-1.9**
	2um102nm,0.7s						
DRS	**Darwin Rock St**	**6.55**	**153**	P	**P**	**14 17 07.5**	**+0.7**
SWI	**Sorong**	**6.57**	**31**	P	**Pn**	**14 17 04.1**	**-1.7**
	0.1nm827nm12nm,0.7s						
MTN	**Manton Dam**	**7.02**	**153**	P	**P**	**14 17 12.7**	**+0.4**
KDU	**Kakadu**	**7.58**	**144**	P	**P**	**14 17 19.3**	**+0.5**
RKPI	**Ransiki, Papua**	**8.02**	**52**	P	**Pn**	**14 17 22.4**	**-0.3**
PLAI	**Plampang**	**10.28**	**257**	P	**Pn**	**14 17 50.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.69**	**191**	P	**Pn**	**14 18 07.6**	**+1.4**
	0.9nm,0.3s,baz=15,slow=11,SNR=14						
FITZ				S	**S**	**14 20 14.1**	**-2.4**
	0.7nm,0.4s,baz=63,slow=21,SNR=1.2						
WRA	**Warramunga Arr**	**14.71**	**155**	P	**P**	**14 18 40.6**	**+1.0**
	8.1nm,0.6s,baz=335,slow=12,SNR=182						
WRA				S	**S**	**14 21 16.4**	**-1.9**
	1.2nm,0.7s,baz=331,slow=23,SNR=6.6						
COEN	**Coen**	**16.73**	**117**	P	**P**	**14 19 02.2**	**+0.6**
QIS	**Mount Isa**	**17.96**	**142**	P	**P**	**14 19 15.7**	**+0.9**
ASAR	**Alice Springs**	**17.97**	**162**	P	**P**	**14 19 16.0**	**+1.2**
	5.2nm,0.5s,baz=345,slow=12,SNR=61						
ASAR				S	**S**	**14 22 21.3**	**-1.3**
	1.1nm,0.7s,baz=339,slow=21,SNR=8.2						
ASAR				PcP	**PcP**	**14 23 31.1**	**-0.8**
	0.3nm,0.3s,baz=333,slow=1.5,SNR=4.6						
ASAR				ScP	**ScP**	**14 26 30.9**	**-2.4**
	0.2nm,0.5s,baz=346,slow=2.2,SNR=2.1						
STKA	**Stephens Creek**	**28.26**	**155**	P	**P**	**14 20 50.6**	**+0.4**
	1.5nm,0.5s,baz=324,slow=7.2,SNR=5.8						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**66.72**	**328**	P	**P**	**14 25 42.7**	**+0.4**
	0.6nm,0.5s,baz=125,slow=6.5,SNR=15						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**70.27**	**335**	P	**P**	**14 26 03.1**	**-0.8**
	0.6nm,0.4s,baz=126,slow=9.1,SNR=2.4						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**71.05**	**329**	P	**P**	**14 26 08.8**	**+0.2**
	0.9nm,0.6s,baz=134,slow=5.3,SNR=7.1						
	0.9nm,0.6s						
QSPA	**South Pole Qui**	**83.42**	**180**	P	**P**	**14 27 16.7**	**0.0**
	0.3nm,0.4s,baz=163,slow=1.8,SNR=5.8						
	0.3nm,0.4s						

*AEIC **16** 14:17:26.5±0.6, 53°.40N±0°.03×163°.56W±0°.08, h26km±8km, Error ellipse: s-maj=7.2km s-min=4.6km az=98.0*

NEIC 16 14:17:25.8±0.5, 53°.36N±0°.03×163°.50W±0°.09, h26km±7km, ML2.7(AEIC), Error ellipse: s-maj=7.6km s-min=4.9km az=94.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.29**	**330**		Pn	14 17 48.0	-0.2
WESE					Sn	14 18 04.3	-0.3
ISLZ	**Isanotski Laza**	**1.38**	**355**		Pn	14 17 49.1	-0.3
ISLZ					Sn	14 18 06.4	-0.3
SSLS	**Shishaldin Sou**	**1.39**	**348**		Pn	14 17 49.5	-0.1
SSLS					Sn	14 18 07.6	+0.5
WEBT	**Westdahl Beart**	**1.44**	**329**		Pn	14 17 50.2	-0.1
ISNN	**Isanotski Nort**	**1.48**	**354**		Pn	14 17 51.2	+0.3
ISNN					Sb	14 18 11.2	0.0
FALS	**False Pass**	**1.50**	**2**		Pn	14 17 51.1	+0.1
AKSA	**Akutan Strait**	**1.52**	**302**		Pn	14 17 51.1	-0.2
AHB	**Akutan Harbor**	**1.57**	**300**		Pn	14 17 51.9	-0.2
ZRO	**Akutan Zero**	**1.65**	**297**		Pn	14 17 52.7	-0.3
ZRO					Sn	14 18 13.3	-0.1
AKMO	**Akutan Morgan**	**1.66**	**297**		Pn	14 17 53.3	+0.1
LVA	**Lava Point**	**1.71**	**299**		Pn	14 17 53.9	0.0
UNV	**Unalaska Valle**	**1.86**	**286**		Pn	14 17 55.5	-0.4
MREP	**Makushin Rep't**	**1.99**	**284**		Pn	14 17 57.7	-0.1
MSW	**Makushin Switc**	**2.03**	**287**		Pn	14 17 58.5	+0.2
MSW					Sn	14 18 23.9	+1.0
MGOD	**Makushin Gods**	**2.06**	**284**		Pn	14 17 59.2	+0.4
MAPS	**Pakushin South**	**2.10**	**284**		Pn	14 17 59.9	+0.6
SDPT	**Sand Point**	**2.66**	**40**	Pn	Pn	14 18 06.8	-0.2

*IDC **16** 14:24:05.5±5.9, 36°.60N×71°.29E, h163km±54km, mb3.6/5, mbtmp3.8/10, MS2.5/2, Error ellipse: s-maj=60.4km s-min=43.8km az=126.0*
*NNC **16** 14:24:11.2±2.2, 37°.01N×71°.09E, h124km±39km, mb3.1, mpv3.8, Error ellipse: s-maj=17.8km s-min=15.7km az=5.0*

ISC 16 14:24:05.3±1.8, 36.6N±0.1×71.2E±0.1, h150km, n17, σ1§58/20, mb3.9/5, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.48**	**356**	⇑P	**Pn**	**14 25 39.5**	**+1.2**
	4.8nm,0.3s,baz=176,slow=12,SNR=68						
KK31				⇑S	**Sn**	**14 26 47.9**	**-3.3**
	2.4nm,0.3s,baz=180,slow=18,SNR=18						
AAK	**Ala-Archa**	**6.51**	**22**	P	**Pn**	**14 25 40.4**	**+1.5**
	4.1nm,0.3s,baz=171,slow=4.8,SNR=30						
AAK				S	**Sn**	**14 26 51.6**	**-0.6**
	6.9nm,0.8s,baz=322,slow=23,SNR=10						
AAK				LR	LR	14 27 38.2	
	comp=Z,19nm,18.9s,baz=144,slow=33						
AAK	**Ala-Archa**	**6.51**	**22**	⇑P	**Pn**	**14 25 40.5**	**+1.6**
	3.0nm,0.5s						
AAK				⇑S	**Sn**	**14 26 51.4**	**-0.8**
	4.9nm,0.5s						
TKM2	**Tokmak 2**	**7.13**	**27**	⇑P	**Pn**	**14 25 48.7**	**+1.5**
	3.9nm,0.6s						
TKM2				⇑S	**Sn**	**14 27 05.9**	**-1.3**
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**13.09**	**36**	P	**Pn**	**14 27 05.6**	**+0.1**
	0.2nm,0.4s,baz=215,slow=9.9,SNR=5.4						
KURBB	**Kurchatov Arra**	**14.94**	**18**	P	**Pn**	**14 27 29.3**	**+0.5**
	0.2nm,0.4s,baz=225,slow=10,SNR=1.7						
AB31	**Akbulak array**	**15.04**	**330**	⇓P	**P**	**14 27 31.9**	**+0.2**
	0.3nm,0.3s,baz=142,slow=13,SNR=26						
BVAR	**Borovoye Array**	**16.39**	**358**	P	**P**	**14 27 45.5**	**-1.2**
	0.3nm,0.4s,baz=165,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P	**Pn**	**14 27 54.6**	**+3.8**
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**19.73**	**24**	P	**P**	**14 28 22.1**	**-0.9**
	1.2nm,0.3s,baz=202,slow=11,SNR=5.7						
EIL	**Elat**	**30.99**	**268**	LR	LR	14 43 25.2	
	comp=Z,15nm,20.9s,baz=245,slow=37						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**14 31 03.9**	**+0.2**
	3.1nm,1.0s,baz=139,slow=9.1,SNR=4.1						
	3.1nm,1.0s						
ARCES	**ARCESS Array B**	**41.07**	**337**	P	**P**	**14 31 33.1**	**-0.6**
	2.6nm,0.9s,baz=117,slow=8.6,SNR=1.6						
	2.6nm,0.9s						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**14 31 49.3**	**-0.5**
	1.5nm,0.5s,baz=81,slow=9.5,SNR=5.0						
	1.5nm,0.5s						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**14 32 00.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**14 31 59.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=99,slow=8.1,SNR=4.4						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P	**P**	**14 34 33.5**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=54,slow=3.9,SNR=1.8						
	comp=Z,1.5nm,0.4s						

*IDC **16** 14:24:50.3±2.2, 23°.25S×179°.91W, h536km±18km, mb3.3/5, mbtmp4.2/7, Error ellipse: s-maj=41.9km s-min=24.2km az=48.0*

ISC 16 14:24:50.8±1.7, 23.3S±0.2×179.8W±0.3, h550km, n7, σ1§14/9, mb3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.83**	**340**	P	**P**	**14 26 27.5**	**-0.6**
	3.9nm,0.6s,baz=49,slow=21,SNR=1.6						
URZ	**Urewera**	**15.19**	**189**	P	**P**	**14 28 00.5**	**-1.4**
	4.4nm,0.5s,baz=28,slow=16,SNR=9.2						
STKA	**Stephens Creek**	**35.10**	**247**	P	**P**	**14 30 58.5**	**+0.1**
	1.3nm,0.4s,baz=83,slow=11,SNR=5.9						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**14 31 56.5**	**-0.2**
	4.1nm,0.7s,baz=94,slow=6.8,SNR=75						
ASAR				ScP	**ScP**	**14 36 37.5**	**+1.3**
	0.5nm,0.9s,baz=110,slow=3.4,SNR=3.5						
	4.1nm,0.7s						
WRA	**Warramunga Arr**	**42.60**	**265**	P	**P**	**14 31 58.5**	**-0.7**
	4.6nm,0.7s,baz=91,slow=8.4,SNR=106						
WRA				ScP	**ScP**	**14 36 39.1**	**+1.7**
	0.6nm,1.0s,baz=92,slow=3.5,SNR=3.4						
	4.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.02**	**265**	P	**P**	**14 33 02.9**	**+0.2**
	2.8nm,0.6s,baz=100,slow=6.3,SNR=9.9						
	2.8nm,0.6s						
QSPA	**South Pole Qui**	**66.83**	**180**	P	**P**	**14 34 48.6**	**+0.6**
	1.0nm,0.8s,baz=60,slow=4.5,SNR=6.3						
	1.0nm,0.8s						

*IDC **16** 14:32:22.9±13.0, 38°.57N×20°.08E, h0km, mb3.6/4, mbtmp3.5/5, ML2.7/1, Error ellipse: s-maj=231.2km s-min=51.4km az=37.0*
*THE **16** 14:32:30.5, 38°.94N×20°.57E, h16km, ML3.1/11, Error ellipse: s-maj=1.0km s-min=0.4km az=263.0*
*ATH **16** 14:32:30.1, 38°.95N×20°.64E, h19km±2km, ML3.2/25, Manual Solution by A.Plessa First location: 2019/03/16 14:33:23, This location: 2019/03/16 15:41:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*

ISC 16 14:32:30.3±0.9, 38.94N±0.02×20.59E±0.03, h17km±7km, n77, σ0§76/94, mb3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.12**	**157**	P	**Pb**	**14 32 34.3**	**0.0**
TSLK				S	**Sb**	**14 32 37.3**	**+0.5**
	21um,0.2s						
TSLK	**Tsoukalades, L**	**0.12**	**157**	P	**Pb**	**14 32 34.2**	**0.0**
TSLK				S	**Sb**	**14 32 37.9**	**+1.0**
LKD2	**Lefkada island**	**0.16**	**161**	P	**Pb**	**14 32 34.8**	**-0.1**
LKD2				S	**Sb**	**14 32 38.3**	**+0.5**
	13um,0.4s						
LKD2	**Lefkada island**	**0.16**	**161**	P	**Pb**	**14 32 34.8**	**-0.1**
LKD2				S	**Sb**	**14 32 38.4**	**+0.5**
NYDR	**Nydri-Lefkada**	**0.24**	**160**	P	**Pg**	**14 32 35.9**	**+0.1**
NYDR				S	**Sb**	**14 32 40.3**	**+0.2**
	6um,0.2s						
NYDR	**Nydri-Lefkada**	**0.24**	**160**	P	**Pg**	**14 32 35.9**	**+0.1**
DRAG	**Dragano-Lefkad**	**0.26**	**183**	P	**Pb**	**14 32 36.3**	**-0.2**
DRAG				S	**Sb**	**14 32 40.8**	**+0.2**
DRAG	**Dragano-Lefkad**	**0.26**	**183**	P	**Pb**	**14 32 36.4**	**-0.2**
DRAG				S	**Sb**	**14 32 41.0**	**+0.4**
EVGI	**Lefkada island**	**0.32**	**171**	P	**Pb**	**14 32 37.3**	**-0.3**
EVGI				S	**Sb**	**14 32 42.3**	**-0.2**
	5um,0.1s						
EVGI	**Lefkada island**	**0.32**	**171**	P	**Pb**	**14 32 37.4**	**-0.2**
EVGI				S	**Sg**	**14 32 41.6**	**-0.2**
ARTB	**Arta**	**0.37**	**54**	P	**Pg**	**14 32 36.6**	**-1.4**
PRGA	**Parga**	**0.38**	**337**	P	**Pb**	**14 32 38.4**	**-0.1**
FSK	**Fiskardo**	**0.48**	**183**	P	**Pg**	**14 32 40.0**	**0.0**
FSK				S	**Sb**	**14 32 47.1**	**0.0**
	2um,0.3s						
FSK	**Fiskardo**	**0.48**	**183**	P	**Pg**	**14 32 39.9**	**0.0**
VSK1	**VASILIKIADES**	**0.53**	**182**	P	**Pg**	**14 32 40.5**	**-0.4**
VSK1				S	**Sb**	**14 32 49.0**	**+0.5**
	2um,0.4s						
AST1	**Astakos**	**0.56**	**135**	P	**Pg**	**14 32 40.8**	**-0.6**
AST1				S	**Sb**	**14 32 50.1**	**+0.9**
	2um,0.4s						
IGT	**Igoumenitsa**	**0.62**	**341**	P	**Pg**	**14 32 41.6**	**-1.1**
IGT				S	**Sb**	**14 32 51.8**	**+0.5**
	1um,0.4s						
IGT	**Igoumenitsa**	**0.62**	**341**	P	**Pg**	**14 32 41.8**	**-0.9**
TETR	**Tetrakomo, Epi**	**0.67**	**52**	P	**Pg**	**14 32 42.0**	**-1.5**
SMHA	**Samh**	**0.69**	**176**	P	**Pg**	**14 32 42.7**	**-1.1**
DMLN	**Damoulianata-K**	**0.72**	**194**	P	**Pg**	**14 32 43.9**	**-0.5**
DMLN				S	**Sb**	**14 32 55.0**	**+1.0**
	1um,0.4s						
DMLN	**Damoulianata-K**	**0.72**	**194**	P	**Pg**	**14 32 44.0**	**-0.4**
JAN	**Janina**	**0.74**	**16**	P	**Pg**	**14 32 44.0**	**-0.9**
JAN				S	**Sb**	**14 32 55.2**	**+0.5**
	3um,0.7s						
JAN	**Janina**	**0.74**	**16**	P	**Pg**	**14 32 44.3**	**-0.5**
LXR1	**Lixouri, Cepha**	**0.75**	**189**	P	**Pg**	**14 32 44.7**	**-0.2**
VLS	**Valsamata**	**0.76**	**180**	P	**Pg**	**14 32 44.8**	**-0.4**
VLS				S	**Sn**	**14 32 56.5**	**-0.9**
	3um,0.5s						
VLS	**Valsamata**	**0.76**	**180**	P	**Pg**	**14 32 44.5**	**-0.7**
PVO	**Paravola**	**0.80**	**114**	P	**Pb**	**14 32 44.8**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.82**	**180**	P	**Pb**	**14 32 45.8**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.82**	**180**	P	**Pb**	**14 32 45.9**	**-0.2**
RTZL	**Ratzakli, Kefa**	**0.87**	**171**	P	**Pb**	**14 32 46.6**	**-0.4**
MSVA	**Metsovo**	**0.95**	**29**	P	**Pb**	**14 32 48.2**	**-0.2**
EVR	**Evrytania**	**0.95**	**91**	P	**Pb**	**14 32 48.6**	**+0.2**
EVR	**Evrytania**	**0.95**	**91**	P	**Pb**	**14 32 48.6**	**+0.2**
AXS	**Araxos**	**0.96**	**140**	P	**Pb**	**14 32 48.1**	**-0.4**
KEK	**Kerkira**	**0.99**	**322**	P	**Pn**	**14 32 49.1**	**-0.3**
KEK	**Kerkira**	**0.99**	**322**	P	**Pn**	**14 32 49.9**	**+0.5**
SRN	**Sarande**	**1.04**	**334**	P	**Pb**	**14 32 49.5**	**-0.4**
ORTH	**Orthonies,Zaky**	**1.09**	**176**	P	**Pb**	**14 32 50.5**	**-0.2**
ANX	**Ano Chora**	**1.09**	**108**	P	**Pb**	**14 32 49.9**	**-0.9**
ANX	**Ano Chora**	**1.09**	**108**	P	**Pb**	**14 32 49.9**	**-0.9**
RLS	**Riolos of Patr**	**1.12**	**142**	P	**Pb**	**14 32 50.5**	**-0.6**
RLS	**Riolos of Patr**	**1.12**	**142**	P	**Pb**	**14 32 50.6**	**-0.5**
CLEM	**Kyllini,Ilia,G**	**1.13**	**158**	P	**Pn**	**14 32 51.3**	**-0.1**
KYPS	**Kipseli, Zakin**	**1.13**	**171**	P	**Pn**	**14 32 51.4**	**0.0**
EFP	**Efpalio**	**1.15**	**116**	P	**Pn**	**14 32 50.9**	**-0.7**
EFP	**Efpalio**	**1.15**	**116**	P	**Pn**	**14 32 50.9**	**-0.7**
KPRO	**Kipourio**	**1.18**	**30**	P	**Pn**	**14 32 51.4**	**-0.7**
KPRO	**Kipourio**	**1.18**	**30**	P	**Pn**	**14 32 51.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.20**	**86**	P	**Pn**	**14 32 52.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.20**	**86**	P	**Pn**	**14 32 52.1**	**-0.2**
LSK	**Leskovik**	**1.21**	**0**	P	**Pb**	**14 32 52.6**	**-0.2**
SERG	**Sergoula**	**1.26**	**114**	P	**Pn**	**14 32 53.0**	**-0.2**
THL	**Klokotos Trika**	**1.27**	**60**	P	**Pn**	**14 32 52.7**	**-0.5**
THL	**Klokotos Trika**	**1.27**	**60**	P	**Pn**	**14 32 53.1**	**-0.1**
DRO	**Drossia**	**1.32**	**138**	P	**Pn**	**14 32 53.9**	**-0.1**
DRO	**Drossia**	**1.32**	**138**	P	**Pn**	**14 32 53.6**	**-0.3**
PENT	**Pentalofos**	**1.32**	**18**	P	**Pb**	**14 32 54.6**	**-0.2**
KALE	**Kalithea**	**1.33**	**114**	P	**Pn**	**14 32 54.5**	**+0.3**
KALE	**Kalithea**	**1.33**	**114**	P	**Pn**	**14 32 54.4**	**+0.3**
ALIK	**Aliki, Aigiali**	**1.37**	**119**	P	**Pn**	**14 32 54.9**	**+0.3**
TYRN	**Tyrnavos**	**1.49**	**58**	P	**Pn**	**14 32 56.7**	**+0.5**
TYRN	**Tyrnavos**	**1.49**	**58**	P	**Pn**	**14 32 56.4**	**+0.2**
NEST	**Nestorio**	**1.51**	**13**	P	**Pn**	**14 32 56.6**	**-0.1**
KLV	**Kalavryta, Ach**	**1.52**	**126**	P	**Pn**	**14 32 56.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.52**	**126**	P	**Pn**	**14 32 56.6**	**0.0**
AXAR	**Agios Charalam**	**1.62**	**95**	P	**Pb**	**14 32 59.3**	**-0.5**
AXAR	**Agios Charalam**	**1.62**	**95**	P	**Pb**	**14 32 59.2**	**-0.6**
KZN	**Kozani**	**1.64**	**33**	P	**Pb**	**14 32 59.9**	**-0.2**
GUR	**Goura**	**1.70**	**126**	P	**Pn**	**14 32 59.9**	**+0.6**
OHR	**Ohrid**	**2.17**	**4**	*i* Pn	**Pg**	**14 33 11.5**	**-0.6**
OHR				*i* Sn	**Sg**	**14 33 42.6**	**+2.3**
VAY	**Valandovo**	**2.82**	**32**	*i* Pn	**Pg**	**14 33 26.3**	**+2.0**
BRTR	**Keskin Array B**	**10.14**	**81**	Pn	**Pn**	**14 34 59.4**	**+4.2**
	0.1nm,0.3s,baz=265,slow=17,SNR=1.8						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**22.79**	**7**	P	**P**	**14 37 30.9**	**-0.9**
	2.3nm,1.0s,baz=194,slow=10.0,SNR=4.3						
	2.3nm,1.0s						
BVAR	**Borovoye Array**	**36.59**	**51**	P	**P**	**14 39 35.6**	**+0.4**
	0.6nm,0.6s,baz=265,slow=7.1,SNR=4.0						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**44.86**	**59**	P	**P**	**14 40 42.7**	**-0.8**
	0.2nm,0.5s,baz=276,slow=8.1,SNR=5.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.14**	**49**	P	**P**	**14 40 45.2**	**-0.4**
	0.9nm,0.5s,baz=286,slow=8.1,SNR=4.4						
	0.9nm,0.5s						

*NEIC **16** 14:41:49.6±1.8, 51°.84N±0°.04×171°.74W±0°.09, h40km±18km, mb3.8/20, ML3.9/8, ML3.4(AEIC), Error ellipse: s-maj=10.2km s-min=1.6km az=125.0*
*AEIC **16** 14:41:50.5±2.3, 52°.2N±0°.1×171°.81W±0°.09, h25km±8km, Error ellipse: s-maj=20.2km s-min=6.7km az=165.0*
*IDC **16** 14:41:54.7±4.7, 52°.23N×171°.70W, h90km±42km, mb3.6/13, mbtmp3.8/16, Error ellipse: s-maj=28.3km s-min=14.1km az=10.0*

ISC 16 14:41:49.7±0.8, 51.9N±0.1×171.78W±0.05, h50km, n69, σ1§36/65, mb3.9/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.52**	**282**	Pn	**Pn**	**14 42 14.9**	**+0.5**
ATKA				Sn	**Sn**	**14 42 33.0**	**-0.1**
GSMY	**Great Sitkin M**	**2.65**	**275**		**Pn**	**14 42 32.1**	**+2.2**
GSTR	**Great Sitkin T**	**2.65**	**276**	Pn	**Pn**	**14 42 29.2**	**-0.8**
OKWE	**Okmok W'ng Wal**	**2.66**	**53**		**Pn**	**14 42 30.6**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**2.71**	**56**		**Pn**	**14 42 30.9**	**+0.1**
OKTU					**Sn**	**14 43 03.0**	**+0.6**
OKFG	**Magazine Ridge**	**2.79**	**56**		**Pn**	**14 42 32.2**	**+0.3**
OKFG					**Sn**	**14 43 05.7**	**+1.4**
ADK	**Adak**	**3.04**	**271**	Pn	**Pn**	**14 42 36.4**	**+1.2**
ADK				IAML		14 43 22.0	
	248nm,0.4s						
ADK				IAML		14 43 25.5	
	291nm,0.6s						
MAPS	**Pakushin South**	**3.49**	**55**		**Pn**	**14 42 41.0**	**-0.5**
MAPS					**Sn**	**14 43 22.3**	**+0.8**
MGOD	**Makushin Gods**	**3.52**	**56**		**Pn**	**14 42 41.6**	**-0.3**
MSW	**Makushin Switc**	**3.63**	**54**		**Pn**	**14 42 43.1**	**-0.2**
UNV	**Unalaska Valle**	**3.74**	**57**	Pn	**Pn**	**14 42 44.9**	**+0.2**
LVA	**Lava Point**	**4.13**	**55**	Pn	**Pn**	**14 42 52.9**	**+2.6**
LVA				IAML		14 43 54.6	
	comp=E,220nm,0.9s						
AKBBA	**Akutan Broad B**	**4.16**	**56**		**Pn**	**14 42 50.6**	**+0.1**
P08K	**Saint George I**	**4.88**	**15**	Pn	**Pn**	**14 42 59.6**	**-0.8**
P08K				IAML		14 43 54.7	
	comp=

comp=Z,2.5nm,1.0s,baz=309,slow=3.7,SNR=12
comp=Z,2.5nm,1.0s
TXAR Lajitas Array 54.25 87 P P 14 51 10.9 +0.4
comp=Z,0.6nm,0.5s,baz=299,slow=4.6,SNR=7.0
comp=Z,0.6nm,0.5s
ARCES ARCESS Array B 58.21 353 P P 14 51 36.6 -1.5
comp=Z,2.0nm,0.8s,baz=13,slow=7.1,SNR=1.6
comp=Z,2.0nm,0.8s
KURBB Kurchatov Arra 61.82 317 P P 14 52 02.5 -0.6
comp=Z,0.4nm,0.2s,baz=43,slow=7.2,SNR=3.1
comp=Z,0.4nm,0.2s
MKAR Makanchi Array 63.03 312 P P 14 52 10.1 -1.2
comp=Z,0.2nm,0.4s,baz=44,slow=6.4,SNR=7.8
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 63.20 323 P P 14 52 12.1 -0.2
comp=Z,1.6nm,0.5s,baz=49,slow=5.9,SNR=14
comp=Z,1.6nm,0.5s
FINES FINESS Array B 66.10 351 P P 14 52 29.1 -1.8
comp=Z,2.4nm,1.0s,baz=354,slow=7.0,SNR=1.9
comp=Z,2.4nm,1.0s
HFS Hagfors 68.22 357 P P 14 52 42.2 -2.3
comp=Z,0.7nm,0.5s,baz=4.3,slow=5.8,SNR=6.4
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 75.26 281 P P 14 53 28.2 +0.8
comp=Z,1.2nm,0.6s,baz=39,slow=6.4,SNR=7.0
comp=Z,1.2nm,0.6s
ASAR Alice Springs 88.97 228 P P 14 54 40.0 +1.2
comp=Z,1.5nm,0.7s,baz=24,slow=4.8,SNR=41
comp=Z,1.5nm,0.7s
H03N2 Juan Fernandez 117.15 110 T T 17 08 41.4
baz=320
H03N1 Juan Fernandez 117.16 110 T T 17 08 42.5
baz=320,slow=74
H03N3 Juan Fernandez 117.16 110 T T 17 08 43.0
baz=320,slow=74

NOU 16 14:43:47.1, 15.04S×166.60E, h0km, MLv4.5/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.07**	**151**	P	Pn	14 44 36.8	-0.1
LUES	**Luesalemba Tem**	**4.40**	**351**	P	Pn	14 44 55.3	+0.1
KOUNC	**Koumac, New Ca**	**5.91**	**202**	P	Pn	14 45 16.2	+0.3
YATNC	**Mamie plateau,**	**6.99**	**178**	P	Pn	14 45 29.8	-1.0
DZM	**Mont Dzumac**	**7.00**	**181**	P	Pn	14 45 30.1	-0.9
NGOA	**Tingoa Renbel**	**7.25**	**298**	P	Pn	14 45 33.9	-0.4
OUENC	**Ouen Island, N**	**7.34**	**178**	P	Pn	14 45 36.0	+0.4
PINNC	**Pines Island,**	**7.58**	**174**	P	Pn	14 45 39.3	+0.5

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*NAO **16** 14:51:54.1, 34.95N×24.51E, h10km, mb3.6*
*THE **16** 14:52:24.5, 37.56N×20.62E, h11km, ML3.6/18, Error ellipse: s-maj=0.9km s-min=0.4km az=43.0*
*ATH **16** 14:52:24.5, 37.54N×20.64E, h12km±2km, ML3.7/18, Manual Solution by A.Plessa First location: 2019/03/16 14:52:42, This location: 2019/03/16 17:03:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*IDC **16** 14:52:29.3±1.7, 37.58N×20.42E, h70km±19km, mb3.6/14, mbtmp3.8/20, Error ellipse: s-maj=18.7km s-min=12.4km az=9.0*
*BEO **16** 14:52:47.5±0.5, 39.42N×20.61E, h0km, ML3.0/9*
ISC 16 14:52:24.1±0.8, 37.56N±0.03×20.61E±0.03, h18km±2km, n112, σ1§32/155, mb3.9/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.19**	**59**	P	**Pg**	**14 52 28.9**	**-0.1**
KRI1				S	**Sb**	**14 52 31.5**	**0.0**
	150μm,0.5s						
LTHK	**Lithakia**	**0.23**	**51**	P	**Pb**	**14 52 29.5**	**0.0**
LTHK				S	**Sb**	**14 52 32.8**	**-0.3**
	188μm,0.1s						
LTHK	**Lithakia**	**0.23**	**51**	P	**Pb**	**14 52 29.5**	**0.0**
LTHK				S	**Sb**	**14 52 32.9**	**-0.2**
ORTH	**Orthonies,Zaky**	**0.29**	**13**	P	**Pb**	**14 52 30.9**	**+0.1**
ORTH				S	**Sb**	**14 52 35.0**	**-0.4**
KYPS	**Kipseli, Zakin**	**0.30**	**34**	P	**Pb**	**14 52 31.2**	**+0.2**
KYPS				S	**Sg**	**14 52 35.2**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.53**	**14**	P	**Pb**	**14 52 34.6**	**-0.2**
RTZL				S	**Sb**	**14 52 42.7**	**+0.7**
	8μm,0.1s						
CLEM	**Kyllini,Ilia,G**	**0.53**	**52**	P	**Pg**	**14 52 34.6**	**-0.1**
CLEM				S	**Sg**	**14 52 41.3**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.55**	**358**	P	**Pb**	**14 52 35.1**	**-0.1**
PSDA				S	**Sb**	**14 52 43.4**	**+0.7**
	11μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.55**	**358**	P	**Pb**	**14 52 35.3**	**+0.1**
PSDA				S	**Sb**	**14 52 43.9**	**+1.2**
VLS	**Valsamata**	**0.61**	**358**	P	**Pb**	**14 52 35.9**	**-0.3**
VLS				S	**Sb**	**14 52 45.1**	**+0.6**
	6μm,0.4s						
VLS	**Valsamata**	**0.61**	**358**	P	**Pg**	**14 52 36.3**	**0.0**
VLS				S	**Sb**	**14 52 45.2**	**+0.7**
LCHA	**Lechaina**	**0.64**	**54**	P	**Pg**	**14 52 36.9**	**+0.1**
LCHA				S	**Sg**	**14 52 46.0**	**+0.7**
LXR1	**Lixouri, Cepha**	**0.65**	**348**	P	**Pg**	**14 52 37.2**	**+0.2**
LXR1				S	**Sg**	**14 52 46.6**	**+0.9**
	23μm,0.3s						
SMHA	**Samh**	**0.69**	**2**	P	**Pb**	**14 52 37.0**	**-0.5**
SMHA				S	**Sg**	**14 52 46.9**	**+0.1**
DMLN	**Damoulianata-K**	**0.70**	**345**	P	**Pg**	**14 52 37.8**	**-0.1**
DMLN				S	**Sn**	**14 52 48.6**	**-0.9**
	12μm,0.5s						
DMLN	**Damoulianata-K**	**0.70**	**345**	P	**Pg**	**14 52 38.0**	**+0.1**
DMLN				S	**Sn**	**14 52 48.6**	**-0.9**
YRMI	**Loutra Irminis**	**0.79**	**47**	P	**Pb**	**14 52 39.1**	**-0.3**
YRMI				S	**Sb**	**14 52 49.1**	**-0.6**
ZARO	**Zacharo**	**0.83**	**95**	P	**Pg**	**14 52 40.3**	**-0.1**
RLS	**Riolos of Patr**	**0.84**	**54**	P	**Pb**	**14 52 39.8**	**-0.3**
RLS				S	**Sn**	**14 52 52.1**	**-0.8**
	3μm,0.2s						
RLS	**Riolos of Patr**	**0.84**	**54**	P	**Pb**	**14 52 39.6**	**-0.6**
VSK1	**VASILIKIADES**	**0.84**	**358**	P	**Pg**	**14 52 40.5**	**-0.1**
VSK1				S	**Sn**	**14 52 53.0**	**0.0**
	6μm,0.4s						
AMT	**Artemida-Makis**	**0.87**	**92**	P	**Pb**	**14 52 40.4**	**-0.4**
AXS	**Araxos**	**0.88**	**44**	P	**Pb**	**14 52 40.0**	**-0.7**
FSK	**Fiskardo**	**0.89**	**358**	P	**Pb**	**14 52 40.9**	**-0.2**
FSK				S	**Sn**	**14 52 54.7**	**+0.5**
	6μm,0.5s						
FSK	**Fiskardo**	**0.89**	**358**	P	**Pb**	**14 52 41.1**	**+0.1**
DRO	**Drossia**	**0.95**	**66**	P	**Pb**	**14 52 41.8**	**-0.3**
DRO				S	**Sn**	**14 52 56.1**	**+0.3**
	6μm,0.4s						
DRO	**Drossia**	**0.95**	**66**	P	**Pb**	**14 52 42.0**	**-0.1**
EVGI	**Lefkada island**	**1.05**	**2**	P	**Pn**	**14 52 44.1**	**+0.1**
EVGI				S	**Sg**	**14 52 59.4**	**+0.9**
	4μm,0.2s						
EVGI	**Lefkada island**	**1.05**	**2**	P	**Pn**	**14 52 44.1**	**+0.1**
ITM	**Ithomi**	**1.12**	**110**	P	**Pb**	**14 52 45.0**	**+0.1**
ITM				S	**Sg**	**14 53 01.1**	**+0.7**
	1μm,0.7s						
ITM	**Ithomi**	**1.12**	**110**	P	**Pn**	**14 52 44.7**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.12**	**359**	P	**Pg**	**14 52 45.2**	**-0.6**
DRAG				S	**Sg**	**14 53 01.6**	**+1.1**
	1μm,0.3s						
DRAG	**Dragano-Lefkad**	**1.12**	**359**	P	**Pb**	**14 52 45.1**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.15**	**3**	P	**Pn**	**14 52 45.2**	**-0.1**
NYDR				S	**Sg**	**14 53 02.2**	**+0.7**
	1μm,0.4s						
UPR	**University Cam**	**1.18**	**52**	P	**Pb**	**14 52 45.8**	**0.0**
UPR	**University Cam**	**1.18**	**52**	P	**Pb**	**14 52 45.9**	**0.0**
LKD2	**Lefkada island**	**1.22**	**2**	P	**Pn**	**14 52 46.0**	**-0.3**
LKD2				S	**Sg**	**14 53 04.0**	**+0.2**
	2μm,0.7s						
LKD2	**Lefkada island**	**1.22**	**2**	P	**Pb**	**14 52 46.9**	**+0.2**
TSLK	**Tsoukalades, L**	**1.26**	**2**	P	**Pb**	**14 52 47.1**	**-0.2**
TSLK				S	**Sg**	**14 53 05.1**	**+0.2**
	2μm,0.5s						
TSLK	**Tsoukalades, L**	**1.26**	**2**	P	**Pg**	**14 52 48.1**	**-0.4**
PVO	**Paravola**	**1.27**	**34**	P	**Pb**	**14 52 47.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.31**	**68**	P	**Pb**	**14 52 48.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.31**	**68**	P	**Pb**	**14 52 48.0**	**-0.3**
EFP	**Efpalio**	**1.34**	**50**	P	**Pb**	**14 52 48.2**	**-0.4**
EFP				S	**Sg**	**14 53 06.7**	**-0.7**
	2μm,0.4s						
EFP	**Efpalio**	**1.34**	**50**	P	**Pb**	**14 52 48.3**	**-0.3**
GUR	**Goura**	**1.42**	**74**	P	**Pn**	**14 52 49.5**	**+0.4**
GUR	**Goura**	**1.42**	**74**	P	**Pb**	**14 52 49.8**	**-0.4**
ANX	**Ano Chora**	**1.46**	**45**	P	**Pb**	**14 52 50.6**	**-0.2**
ANX	**Ano Chora**	**1.46**	**45**	P	**Pb**	**14 52 50.5**	**-0.2**
KALE	**Kalithea**	**1.46**	**55**	P	**Pb**	**14 52 50.3**	**-0.5**
KALE	**Kalithea**	**1.46**	**55**	P	**Pb**	**14 52 50.7**	**-0.1**
IGT	**Igoumenitsa**	**1.98**	**354**	P	**Pb**	**14 52 58.2**	**-1.4**
VIL2	**Platees**	**2.20**	**72**	P	**Pn**	**14 53 01.3**	**+1.6**
MET4	**Agioi Theodoro**	**2.22**	**88**	P	**Pn**	**14 53 01.6**	**+1.6**
FNA	**Florina**	**3.27**	**10**	*e*Pn	**Pn**	**14 53 17.1**	**+2.6**
OHR	**Ohrid**	**3.54**	**2**	*i* Pn	**Pn**	**14 53 20.7**	**+2.4**
VAY	**Valandovo**	**4.05**	**21**	*i* Pn	**Pn**	**14 53 27.6**	**+2.5**
VAY				*i* Sn	**Sn**	**14 54 14.4**	**+2.4**
VAY	**Valandovo**	**4.05**	**21**	*e*Pn	**Pn**	**14 53 27.8**	**+2.7**
IDI	**Anoyia**	**4.13**	**122**	P	**Pb**	**14 53 32.7**	**-3.6**
	4.1nm,0.6s,baz=304,slow=2.8,SNR=6.5						
IDI				S	**Sn**	**14 54 16.3**	**+2.1**
	7.2nm,0.3s,baz=312,slow=22,SNR=9.6						
SRS	**Serrai**	**4.23**	**32**	*e*Pn	**Pn**	**14 53 29.9**	**+2.2**
SRS				*e*Sg	**Sn**	**14 54 17.8**	**+1.1**
PEHC	**Pehcevo**	**4.56**	**22**	*i* Pn	**Pn**	**14 53 34.4**	**+2.1**
DRME	**Dracevica, Mon**	**4.75**	**347**	*e*Pn	**Pn**	**14 53 35.1**	**+0.4**
VAE	**Valguarnera**	**4.93**	**271**	P	**Pn**	**14 53 40.8**	**+3.5**
	6.8nm,0.5s,baz=284,slow=8.3,SNR=2.1						
VAE				S	**Sn**	**14 54 33.1**	**-0.8**
	14nm,0.4s,baz=46,slow=11,SNR=6.6						
BOSS	**Bosilegrad**	**5.13**	**16**	*e*Pn	**Pn**	**14 53 41.8**	**+1.8**
BARS	**Barje**	**5.33**	**10**	*e*Pn	**Pn**	**14 53 44.0**	**+1.3**
TREB	**Trebinje**	**5.43**	**342**	*e*Pn	**Pn**	**14 53 43.5**	**-0.6**
TREB	**Trebinje**	**5.43**	**342**	*e*Pn	**Pn**	**14 53 44.4**	**+0.3**
TREB				*e*Sg	**Sn**	**14 54 45.8**	**-0.3**
VTS	**Vitosha**	**5.43**	**21**	*e*Pn	**Pn**	**14 53 46.5**	**+2.2**
VTS				*e*Sg	**Sn**	**14 54 46.7**	**+0.3**
BRY	**Bratogost**	**5.56**	**344**	*e*Pn	**Pn**	**14 53 45.5**	**-0.6**
SELS	**Selova**	**5.66**	**4**	*e*Pn	**Pn**	**14 53 48.5**	**+1.2**
SJES	**Sjenica**	**5.71**	**355**	*e*Pn	**Pn**	**14 53 49.5**	**+1.4**
SJES				*e*Sg	**Sn**	**14 54 50.8**	**-2.4**
STON	**Ston**	**5.75**	**338**	*e*Pn	**Pn**	**14 53 48.0**	**-0.5**
STON				*e*Sg	**Sn**	**14 54 57.0**	**+3.1**
ZAPS	**Zavoj**	**5.91**	**15**	*e*Pn	**Pn**	**14 53 51.9**	**+1.2**
GOCS	**Kraljevo Serbi**	**6.00**	**2**	*e*Pn	**Pn**	**14 53 52.8**	**+0.8**
GOCS				*e*Sg	**Sn**	**14 54 58.3**	**-1.9**
RUDO	**Rudo**	**6.12**	**352**	*e*Pn	**Pn**	**14 53 54.4**	**+0.8**
GRUS	**Gruza**	**6.32**	**1**	*e*Pn	**Pn**	**14 53 57.0**	**+0.7**
GRUS				*e*Sg	**Sn**	**14 55 07.4**	**-0.6**
BBLS	**Lazi&#263i**	**6.36**	**352**	*e*Pn	**Pn**	**14 53 59.0**	**+2.0**
BBLS	**Lazi&#263i**	**6.36**	**352**	*e*Pn	**Pn**	**14 53 58.2**	**+1.2**
BBLS				*e*Sg	**Sn**	**14 55 11.4**	**+2.2**
HAPS	**Han Pijesak,Bl**	**6.63**	**350**	*e*Pn	**Pn**	**14 54 01.7**	**+0.9**
TEKS	**Tekeris**	**7.03**	**354**	*e*Pn	**Pn**	**14 54 03.4**	**-2.7**
TEKS	**Tekeris**	**7.03**	**354**	*e*Pn	**Pn**	**14 54 06.1**	**0.0**
A050A	**Klekovaca**	**7.57**	**337**	*e*Pn	**Pn**	**14 54 14.5**	**+1.0**
BLY	**Banja Luka**	**7.63**	**341**	*e*Pn	**Pn**	**14 54 15.2**	**+0.9**
A051A	**Mrakovica**	**7.95**	**341**	*e*Pn	**Pn**	**14 54 16.4**	**-2.3**
BOJS	**Bojanci**	**8.89**	**335**	*e*Pn	**Pn**	**14 54 32.9**	**+1.3**
SKDS	**Skadanscina**	**9.38**	**330**	*e*Pn	**Pn**	**14 54 36.8**	**-1.5**
CEY	**Cerknica**	**9.38**	**332**	*e*Pn	**Pn**	**14 54 39.1**	**+0.7**
SOKA	**Soboth**	**10.00**	**337**	*e*Pn	**Pn**	**14 54 49.7**	**+2.8**
	1.1nm,0.2s						
OBKA	**Obir**	**10.01**	**335**	*i* Pn	**Pn**	**14 54 48.7**	**+1.7**
	0.6nm,0.3s						
OBKA				*e*Sn	**Sn**	**14 56 35.1**	**-3.7**
	5.0nm,0.5s						
OBKA	**Obir**	**10.01**	**335**	*e*Pn	**Pn**	**14 54 47.5**	**+0.5**
BRTR	**Keskin Array B**	**10.42**	**74**	P	Pn	14 54 58.8	+6.1
	0.3nm,0.5s,baz=248,slow=12,SNR=2.2						
KBA	**Koelnbreinsper**	**10.92**	**333**	*e*Pn	**Pn**	**14 55 02.1**	**+2.6**
	0.8nm,0.6s						
KBA				*i* Sn	**Sn**	**14 56 58.6**	**-2.7**
	1.4nm,0.4s						
ABTA	**Abfaltersbach**	**10.96**	**329**	*e*Pn	**Pn**	**14 55 03.8**	**+3.8**
	0.4nm,0.3s						
ABTA				*e*Sn	**Sn**	**14 57 01.0**	**-1.2**
	1.7nm,0.4s						
LESA	**Schwarzleotal**	**11.45**	**332**	*i* Pn	**Pn**	**14 55 08.9**	**+2.2**
	0.7nm,0.3s						
LESA				*i* Sn	**Sn**	**14 57 13.5**	**-0.7**
	1.4nm,0.3s						
DAVOX	**Davos/Dischmat**	**12.16**	**323**	P	**Pn**	**14 55 18.9**	**+2.4**
	1.6nm,0.8s,baz=348,slow=22,SNR=2.1						
DAVOX				S	**Sn**	**14 57 33.3**	**+1.6**
	0.8nm,0.4s,baz=304,slow=22,SNR=2.0						
MMAI	**Mount Meron Ar**	**12.91**	**106**	P	**Pn**	**14 55 31.5**	**+4.8**
	8.3nm,0.9s,baz=306,slow=12,SNR=1.7						
AKASG	**Malin Array Be**	**14.50**	**22**	P	**P**	**14 55 52.5**	**-2.3**
	0.2nm,0.3s,baz=212,slow=8.8,SNR=6.3						
HFS	**Hagfors**	**23.02**	**351**	P	**P**	**14 57 27.3**	**-0.5**
	2.0nm,0.3s,baz=164,slow=11,SNR=24						
	2.0nm,0.3s						
EKA	**Eskdalemuir Ar**	**23.97**	**325**	P	**P**	**14 57 36.3**	**-1.0**
	2.7nm,0.8s,baz=128,slow=10,SNR=2.3						
	2.7nm,0.8s						
FINES	**FINESS Array B**	**24.15**	**6**	P	**P**	**14 57 38.1**	**-0.7**
	1.6nm,0.4s,baz=177,slow=10,SNR=26						
	1.6nm,0.4s						
NB2	**NORSAR Subarra**	**24.23**	**349**	P	**P**	**14 57 39.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**24.23**	**349**	P	**P**	**14 57 39.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=163,slow=8.6,SNR=4.4						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.60**	**220**	P	**P**	**14 58 27.2**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=41,slow=9.2,SNR=3.6						
	comp=Z,1.2nm,0.3s						
ARCES	**ARCESS Array B**	**32.14**	**3**	P	**P**	**14 58 49.6**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=191,slow=11,SNR=9.0						
	comp=Z,1.9nm,0.9s						
BVAR	**Borovoye Array**	**37.46**	**49**	P	**P**	**14 59 36.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=258,slow=6.9,SNR=2.3						
	comp=Z,0.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**40.76**	**359**	P	**P**	**15 00 02.6**	**-1.0**
	comp=Z,12nm,1.1s,baz=185,slow=14,SNR=1.5						
	comp=Z,12nm,1.1s						
KURBB	**Kurchatov Arra**	**42.54**	**53**	P	**P**	**15 00 17.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=278,slow=9.0,SNR=2.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.56**	**58**	P	**P**	**15 00 42.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=273,slow=8.1,SNR=7.0						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.05**	**48**	P	**P**	**15 00 45.6**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=269,slow=8.9,SNR=4.7						
	comp=Z,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**69.91**	**82**	P	**P**	**15 03 34.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=292,slow=6.7,SNR=4.9						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**73.99**	**340**	P	**P**	**15 03 57.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=31,slow=5.2,SNR=4.6						
	comp=Z,0.3nm,0.6s						
KSRS	**Korea Array**	**79.66**	**51**	P	**P**	**15 04 30.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=328,slow=4.4,SNR=3.0						
	comp=Z,0.8nm,0.7s						

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*IDC **16** 14:54:29.2±3.2, 13.02N×87.82W, h108km±22km, mb3.5/7, mbtmp3.9/9, Error ellipse: s-maj=42.0km s-min=26.8km az=16.0*
*NEIC **16** 14:54:30.1±2.5, 12.94N±0.07×88.08W±0.07, h111km±11km, mb4.2/17, Error ellipse: s-maj=12.7km s-min=7.6km az=222.0*
*GCG **16** 14:54:30.7±1.0, 12.94N×88.16W, h88km±19km, MD4.4*
*SNET **16** 14:54:30.1±0.9, 12.90N×88.15W, h97km, ML4.1*
*CATAC **16** 14:54:31.1±0.2, 13.N±3.×8.8W±., h80km±3km, M4.2/43, MLv4.2/43, Error ellipse: s-maj=6.4km s-min=1.5km az=26.0, confirmed*
*UCR **16** 14:55:08.8±1.0, 11.14N×86.00W, h32km±5km, MW3.6*
ISC 16 14:54:28.5±0.7, 12.91N±0.04×88.16W±0.03, h106km±5km, n291, σ1§73/314, mb4.0/14, 6C-18D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.47**	**33**	*e*P	**Pn**	**14 54 45.8**	**+1.0**
LCND	**La Caada**	**0.47**	**33**	P	**Pn**	**14 54 45.8**	**+1.0**
LCND	**La Caada**	**0.47**	**33**	S	**Sn**	**14 54 48.1**	**-9.0**
LCND	**La Caada**	**0.47**	**33**	P	**Pn**	**14 54 45.8**	**+1.0**
CNCH	**Conchagua**	**0.48**	**41**	*e*P	**Pn**	**14 54 45.8**	**+0.8**
CNCH				*e*S	**Sn**	**14 54 57.5**	**+0.2**
CNCH	**Conchagua**	**0.48**	**41**	P	**Pn**	**14 54 45.7**	**+0.7**
CNCH	**Conchagua**	**0.48**	**41**	P	**Pn**	**14 54 45.8**	**+0.8**
CNCH	**Conchagua**	**0.48**	**41**	S	**Sn**	**14 54 58.2**	**+0.9**
BLLM	**Bellamira**	**0.54**	**351**	*i* P	**Pn**	**14 54 46.3**	**+0.9**
RANC	**El Ranchito**	**0.54**	**346**	P	**Pn**	**14 54 46.2**	**+0.8**
RANC	**El Ranchito**	**0.54**	**346**	S	**Sn**	**14 54 58.5**	**+0.4**
RANC	**El Ranchito**	**0.54**	**346**	S	**Sn**	**14 54 59.3**	**+1.2**
RANC	**El Ranchito**	**0.54**	**346**	P	**Pn**	**14 54 46.4**	**+0.9**
CNRM	**Centro Naciona**	**0.56**	**359**	P	**Pn**	**14 54 46.2**	**+0.8**
CNRM	**Centro Naciona**	**0.56**	**359**	S	**Sn**	**14 54 59.0**	**+0.9**
ALJI	**Alcalda de J**	**0.58**	**316**	*e*P	**Pn**	**14 54 46.6**	**+1.1**
ALJI				*e*S	**Sn**	**14 54 59.4**	**+1.1**
ALJI	**Alcalda de J**	**0.58**	**316**	P	**Pn**	**14 54 46.6**	**+1.1**
ALJI	**Alcalda de J**	**0.58**	**316**	S	**Sn**	**14 54 59.0**	**+0.6**
ALJI	**Alcalda de J**	**0.58**	**316**	S	**Sn**	**14 54 59.5**	**+1.2**
ALJI	**Alcalda de J**	**0.58**	**316**	P	**Pn**	**14 54 46.6**	**+1.1**
PACA	**Pacayal**	**0.58**	**344**	*e*P	**Pn**	**14 54 46.8**	**+1.0**
PACA	**Pacayal**	**0.58**	**344**	P	**Pn**	**14 54 46.6**	**+0.9**
PACA	**Pacayal**	**0.58**	**344**	S	**Sn**	**14 54 59.1**	**+0.5**
PACA	**Pacayal**	**0.58**	**344**	P	**Pn**	**14 54 46.8**	**+1.0**
CSGN	**Cosiguina Volc**	**0.59**	**83**	⇓P	**Pn**	**14 54 46.6**	**+0.9**
CSGN				S	**Sn**	**14 54 59.5**	**+1.0**
CSGN	**Cosiguina Volc**	**0.59**	**83**	S	**Sn**	**14 54 59.5**	**+1.0**
CSGN	**Cosiguina Volc**	**0.59**	**83**	⇑P	**Pn**	**14 54 46.6**	**+0.9**
CSGN	**Cosiguina Volc**	**0.59**	**83**	P	**Pn**	**14 54 46.6**	**+0.9**
CSGN	**Cosiguina Volc**	**0.59**	**83**	S	**Sn**	**14 54 59.8**	**+1.3**
CSGN	**Cosiguina Volc**	**0.59**	**83**	P	**Pn**	**14 54 46.6**	**+0.9**
POTN	**Potosi Cosigui**	**0.64**	**82**	⇑P	**Pn**	**14 54 47.0**	**+1.0**
POTN				S	**Sn**	**14 55 00.1**	**+0.9**
POTN	**Potosi Cosigui**	**0.64**	**82**	P	**Pn**	**14 54 47.1**	**+1.0**
POTN	**Potosi Cosigui**	**0.64**	**82**	P	**Pn**	**14 54 47.4**	**+1.4**
POTN	**Potosi Cosigui**	**0.64**	**82**	S	**Sn**	**14 55 01.4**	**+2.2**
PQSS	**Presa 15 de Se**	**0.81**	**331**	P	**Pn**	**14 54 48.4**	**+0.8**
PQSS	**Presa 15 de Se**	**0.81**	**331**	S	**Sn**	**14 55 02.6**	**+0.7**
PQSS	**Presa 15 de Se**	**0.81**	**331**	S	**Sn**	**14 55 04.0**	**+2.1**
PQSS	**Presa 15 de Se**	**0.81**	**331**	P	**Pn**	**14 54 48.6**	**+1.1**
TECO	**Alcaldia de Te**	**0.87**	**316**	P	**Pn**	**14 54 48.9**	**+0.8**
TECO	**Alcaldia de Te**	**0.87**	**316**	S	**Sn**	**14 55 03.0**	**0.0**
TECO	**Alcaldia de Te**	**0.87**	**316**	S	**Sn**	**14 55 03.4**	**+0.4**
TECO	**Alcaldia de Te**	**0.87**	**316**	P	**Pn**	**14 54 49.1**	**+0.9**
UESV	**Universidad de**	**0.95**	**320**	P	**Pn**	**14 54 49.9**	**+1.0**
UESV	**Universidad de**	**0.95**	**320**	S	**Sn**	**14 55 04.9**	**+0.5**
UESV	**Universidad de**	**0.95**	**320**	P	**Pn**	**14 54 50.2**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.97**	**325**	P	**Pn**	**14 54 50.3**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.97**	**325**	S	**Sn**	**14 55 05.9**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.97**	**325**	S	**Sn**	**14 55 06.5**	**+1.8**
SCLA	**Alcaldia de Sa**	**0.97**	**325**	P	**Pn**	**14 54 50.4**	**+1.3**
COEG	**Centro de Oper**	**1.00**	**315**	*e*P	**Pn**	**14 54 50.7**	**+1.1**
COEG				*e*S	**Sn**	**14 55 07.6**	**+2.2**
COEG	**Centro de Oper**	**1.00**	**315**	P	**Pn**	**14 54 50.5**	**+1.1**
COEG	**Centro de Oper**	**1.00**	**315**	S	**Sn**	**14 55 05.2**	**-0.1**
COEG	**Centro de Oper**	**1.00**	**315**	S	**Sn**	**14 55 07.6**	**+2.2**
COEG	**Centro de Oper**	**1.00**	**315**	P	**Pn**	**14 54 50.6**	**+1.1**
CRIN	**San Cristobal**	**1.10**	**101**		**Pn**	**14 54 52.2**	**+1.7**
CRIN	**San Cristobal**	**1.10**	**101**	⇓P	**Pn**	**14 54 52.4**	**+1.8**
CRIN	**San Cristobal**	**1.10**	**101**	P	**Pn**	**14 54 52.3**	**+1.8**
CRIN	**San Cristobal**	**1.10**	**101**	S	**Sn**	**14 55 09.1**	**+2.0**
CRIN	**San Cristobal**	**1.10**	**101**	P	**Pn**	**14 54 52.6**	**+2.1**
PAVA	**Las Pavas**	**1.10**	**317**	*e*P	**Pn**	**14 54 51.9**	**+1.2**
PAVA	**Las Pavas**	**1.10**	**317**	P	**Pn**	**14 54 51.8**	**+1.2**
PAVA	**Las Pavas**	**1.10**	**317**	S	**Sn**	**14 55 08.3**	**+0.9**
PAVA	**Las Pavas**	**1.10**	**317**	P	**Pn**	**14 54 51.9**	**+1.2**
LFRS	**El Faro**	**1.13**	**309**	⇑*i*P	**Pn**	**14 54 52.2**	**+1.2**
PANCS	**Alcalda de**	**1.22**	**305**	P	**Pn**	**14 54 53.0**	**+1.1**
PANCS	**Alcalda de**	**1.22**	**305**	S	**Sn**	**14 55 09.8**	**+0.2**
PANCS	**Alcalda de**	**1.22**

NUBE Las Nubes 1.86 302 P **Pn** **14 55 01.3 +1.5**
NUBE Las Nubes 1.86 302 *e*P **Pn** **14 55 01.1 +1.3**
NUBE Las Nubes 1.86 302 *e*P 14 55 01.1
APYN Apoyeque 1.89 111 P **Pn** **14 55 02.2 +2.3**
APYN S **Sn** **14 55 24.6 +0.7**
APYN Apoyeque 1.89 111 P **Pn** **14 55 01.8 +1.9**
MTO3 Montecristo 1.89 322 **Pn** **14 55 01.9 +1.8**
MTO3 Montecristo 1.89 322 P **Pn** **14 55 01.8 +1.7**
MTO3 Montecristo 1.89 322 S **Sn** **14 55 25.2 +0.9**
MTO3 Montecristo 1.89 322 P **Pn** **14 55 02.0 +1.8**
MTO3 Montecristo 1.89 322 *i* P **Pn** **14 55 02.0 +1.8**
MTO3 Montecristo 1.89 322 *i* P 14 55 02.0
APQ2 Apoyeque 1.92 111 P **Pn** **14 55 02.3 +2.0**
APQ2 S **Sn** **14 55 26.3 +1.6**
APQ2 Apoyeque 1.92 111 P **Pn** **14 55 02.7 +2.3**
SLOZ Alcaldia de Sa 1.94 305 P **Pn** **14 55 02.3 +1.8**
SLOZ Alcaldia de Sa 1.94 305 P **Pn** **14 55 02.4 +1.8**
ABCN Banco Central 1.96 113 P **Pn** **14 55 03.1 +2.2**
ABCN Banco Central 1.96 113 S **Sn** **14 55 26.8 +1.1**
ABCN Banco Central 1.96 113 P **Pn** **14 55 03.1 +2.2**
ALLN Telcor Managua 1.98 112 P **Sn** **14 55 28.3 +2.2**
TISN Laguna Tiscapa 1.99 112 P **Pn** **14 55 02.5 +1.2**
TISN Laguna Tiscapa 1.99 112 P **Pn** **14 55 02.5 +1.2**
UNAN Cigeo UNAN 2.00 113 P **Pn** **14 55 03.2 +1.8**
UNAN S **Sn** **14 55 27.8 +1.2**
UNAN Cigeo UNAN 2.00 113 P **Pn** **14 55 03.3 +1.9**
ESQI Esquipulas 2.01 325 Pn **Pn** **14 55 03.8 +2.2**
R4DEC Barrio San Lui 2.01 112 P **Sn** **14 55 27.9 +1.3**
MGAN Managua 2.01 112 **Pn** **14 55 03.2 +1.7**
MGAN Managua 2.01 112 P **Sn** **14 55 28.1 +1.5**
MGAN Managua 2.01 112 *e*P **Sn** **14 55 27.1 +0.4**
RCVN Varillal2 2.02 70 P **Pn** **14 55 03.4 +1.6**
RCVN Varillal2 2.02 70 P **Pn** **14 55 03.5 +1.6**
RCVN Varillal2 2.02 70 S **Sn** **14 55 28.2 +1.0**
RCVN Varillal2 2.02 70 P **Pn** **14 55 03.5 +1.6**
RCON San Juan de Ri 2.03 73 P **Pn** **14 55 03.7 +1.8**
RCON San Juan de Ri 2.03 73 S **Sn** **14 55 29.3 +1.9**
RCON San Juan de Ri 2.03 73 P **Pn** **14 55 03.8 +1.8**
AERN Aeropuerto Man 2.08 111 S **Sn** **14 55 30.3 +1.9**
AERN Aeropuerto Man 2.08 111 P Pn 14 55 07.7 +5.3
RCPN Sur Rio San Ju 2.10 73 P **Pn** **14 55 04.5 +1.8**
RCPN Sur Rio San Ju 2.10 73 P **Pn** **14 55 04.6 +1.9**
RCPN Sur Rio San Ju 2.10 73 P **Pn** **14 55 04.7 +1.9**
MAS3 Al N del Volca 2.12 114 ⇓P **Pn** **14 55 04.8 +1.8**
MAS3 S **Sn** **14 55 30.0 +0.6**
MAS3 Al N del Volca 2.12 114 P **Pn** **14 55 04.8 +1.8**
MAS3 Al N del Volca 2.12 114 P **Pn** **14 55 04.6 +1.6**
MASN Masaya 2.16 115 ⇓P **Pn** **14 55 05.6 +2.1**
MASN S **Sn** **14 55 31.2 +1.0**
MASN Masaya 2.16 115 P **Pn** **14 55 05.5 +2.1**
MASN Masaya 2.16 115 *e*P **Sn** **14 55 30.6 +0.4**
SABN Sabanita 2.17 116 ⇓P **Pn** **14 55 05.3 +1.8**
SABN Sabanita 2.17 116 P **Pn** **14 55 05.7 +2.1**
SABN Sabanita 2.17 116 P **Sn** **14 55 31.1 +0.8**
SABN Sabanita 2.17 116 P **Pn** **14 55 05.4 +1.8**
NANN Nandasmo 2.21 116 ⇓P **Pn** **14 55 06.7 +2.7**
NANN Nandasmo 2.21 116 P **Pn** **14 55 07.1 +3.0**
NANN Nandasmo 2.21 116 S **Sn** **14 55 32.5 +1.2**
NANN Nandasmo 2.21 116 P **Pn** **14 55 07.0 +3.0**
BOAB BOACO BROADBAN 2.47 100 Pn **Pn** **14 55 09.0 +1.5**
BOAB BOACO BROADBAN 2.47 100 ⇓P **Pn** **14 55 08.7 +1.3**
BOAB BOACO BROADBAN 2.47 100 P **Pn** **14 55 08.8 +1.4**
BOAB BOACO BROADBAN 2.47 100 S **Sn** **14 55 38.8 +1.5**
BOAB BOACO BROADBAN 2.47 100 P **Pn** **14 55 09.0 +1.5**
JAPN Al SSO del Vol 2.78 119 ⇑P **Pn** **14 55 13.7 +2.2**
JAPN Al SSO del Vol 2.78 119 P **Pn** **14 55 13.8 +2.2**
JAPN Al SSO del Vol 2.78 119 P **Pn** **14 55 13.9 +2.3**
CONN Concepcion 2.81 118 ⇑P **Pn** **14 55 10.3 -1.6**
CONN S **Sn** **14 55 46.0 +0.6**
CONN Concepcion 2.81 118 P **Pn** **14 55 11.3 -0.7**
ACON Acoyapa 3.06 107 **Pn** **14 55 16.4 +1.2**
ACON Acoyapa 3.06 107 ⇓P **Pn** **14 55 16.5 +1.2**
ACON Acoyapa 3.06 107 P **Pn** **14 55 16.6 +1.4**
ACON Acoyapa 3.06 107 S **Sn** **14 55 52.3 +1.1**
ACON Acoyapa 3.06 107 P **Pn** **14 55 16.7 +1.5**
APG El Apazote 3.06 313 P **Pn** **14 55 18.1 +2.6**
4.6nm,0.4s,baz=138,slow=9.8,SNR=60
APG El Apazote 3.06 313 *i* P **Pn** **14 55 18.0 +2.6**
APG El Apazote 3.06 313 *i* P 14 55 18.0
LCRUZ La Cruz 3.07 126 *e*P **Pn** **14 55 18.5 +3.2**
ALIBA Liberia Airpor 3.44 132 *e*P **Pn** **14 55 23.7 +3.4**
STG0 El Palmar, Qui 3.45 296 *e*P 14 55 28.1
VRLE La Escondida, 3.45 127 *e*P **Pn** **14 55 24.1 +3.6**
STG8 El Palmar, Qui 3.46 297 *e*P 14 55 27.6
RTAL Retalhuleu 3.80 295 Pn **Pn** **14 55 25.9 +0.8**
NICO Nicoya 3.83 136 *e*P **Pn** **14 55 28.2 +2.7**
ESPN Las Esperanzas 3.83 100 **Pn** **14 55 28.2 +2.7**
INDI Punta indio, G 3.99 139 P **Pn** **14 55 30.1 +2.5**
INDI Punta indio, G 3.99 139 S **Sn** **14 56 11.6 -2.0**
INDI Punta indio, G 3.99 139 P **Pn** **14 55 30.4 +2.7**
NYURE Nandayure 4.06 135 *e*P **Pn** **14 55 32.1 +3.5**
JTS Las Juntas de 4.08 129 Pn **Pn** **14 55 31.0 +2.1**
JTS Las Juntas de 4.08 129 P **Pn** **14 55 31.0 +2.1**
54nm,0.4s,baz=314,slow=17,SNR=30
JTS S **Sn** **14 56 13.9 -1.8**
46nm,0.3s,baz=251,slow=22,SNR=11
JTS Las Juntas de 4.08 129 *e*P **Pn** **14 55 31.3 +2.4**
ARE1 Arenal 1 4.15 125 *e*P **Pn** **14 55 33.1 +3.2**
VARE2 V. Arenal 4.15 125 *e*P **Pn** **14 55 32.9 +2.9**
SOCE Pocosol 4.28 126 **Pn** **14 55 32.9 +1.2**
SOCE Pocosol 4.28 126 P **Pn** **14 55 34.6 +2.9**
SOCE Pocosol 4.28 126 S **Sn** **14 56 20.2 -0.4**
SOCE Pocosol 4.28 126 P **Pn** **14 55 35.2 +3.6**
CBL1 Cabuya 4.46 137 *e*P **Pn** **14 55 35.7 +1.7**
PICV PH. Pirrs 5.07 130 *e*P **Pn** **14 55 46.2 +3.8**
CVTG V. Turrialba, 5.10 122 *e*P **Pn** **14 55 44.8 +2.1**
PISJ San Jernim 5.12 129 *e*P **Pn** **14 55 47.0 +3.9**
VICA Volcano Irazu 5.13 124 *e*P **Pn** **14 55 46.5 +3.1**
LCR2 La Lucha 2 5.14 127 **Pn** **14 55 46.2 +2.7**
LCR2 La Lucha 2 5.14 127 *e*P **Pn** **14 55 46.8 +3.3**
CVTQ Turrialba Volc 5.18 123 *e*P **Pn** **14 55 44.3 +0.2**
RVLA Villa Bonita 5.27 121 *e*P **Pn** **14 55 47.7 +2.7**
OCHAL Ojochal 5.83 130 P **Pn** **14 55 55.6 +3.1**
OCHAL Ojochal 5.83 130 S **Sn** **14 56 57.0 -1.1**
OCHAL Ojochal 5.83 130 P **Pn** **14 55 56.7 +4.2**
DRK0 Durika 6.03 126 *e*P **Pn** **14 55 57.5 +2.0**
FIMO Fila Mora 6.12 129 *e*P **Pn** **14 56 00.4 +3.8**
EDAD Golfito 6.47 130 *e*P **Pn** **14 56 04.0 +2.6**
PIRO Carate, Puerto 6.52 133 P **Pn** **14 56 05.0 +3.1**
PIRO Carate, Puerto 6.52 133 S **Sn** **14 57 14.0 -0.8**
PIRO Carate, Puerto 6.52 133 P **Pn** **14 56 05.2 +3.3**
PIRO Carate, Puerto 6.52 133 *e*P **Pn** **14 56 04.8 +2.9**
TEIG Tepich 7.28 359 P **Pn** **14 56 13.0 +0.8**
baz=343,slow=19
CMIG Matias Romero 7.72 303 P **Pn** **14 56 20.6 +2.4**
6.8nm,0.3s,baz=161,slow=12,SNR=29
RUSC La Rusia 16.41 114 **Pn** **14 58 12.8 -0.5**
SLOR San Lorenzo - 16.59 144 Pn **Pn** **14 58 14.9 -0.6**
SLOR IAmb IAmb 14 58 25.3
comp=Z,9.1nm,0.7s
SDV Santo Domingo 17.66 101 **P** **14 58 24.2 -3.4**
SDV Santo Domingo 17.66 101 P **P** **14 58 24.9 -2.7**
comp=Z,4.6nm,0.9s,baz=277,slow=5.1,SNR=4.5
BAUV El Baul 20.14 99 P **P** **14 58 52.5 -1.9**
BAUV IAmb IAmb 14 58 58.5
comp=Z,17nm,0.9s
OZNA Ozona 21.56 328 P **P** **14 59 10.5 +1.0**
OZNA IAmb IAmb 14 59 14.3
comp=Z,6.3nm,0.8s
TX31 Lajitas Ar. Si 21.79 321 P **P** **14 59 10.9 -1.2**
TXAR Lajitas Array 21.79 321 P **P** **14 59 11.1 -0.9**
TXAR Lajitas Array 21.79 321 P **P** **14 59 14.3 +2.3**
comp=Z,3.3nm,0.7s,baz=139,slow=9.6,SNR=27
comp=Z,3.3nm,0.7s
MIAR Mount Ida 22.10 348 P **P** **14 59 15.1 0.0**
MIAR IAmb IAmb 14 59 19.1
comp=Z,12nm,0.8s
X34A Smith Ranch, M 23.31 339 P **P** **14 59 28.8 +1.5**
FNO Franklin 23.77 341 P **P** **14 59 32.5 +1.2**
WMOK Wichita Mounta 23.77 338 P **P** **14 59 32.6 +1.2**
HHAR Hobbs 23.85 348 P **P** **14 59 33.3 +1.2**
HHAR IAmb IAmb 14 59 35.0
comp=Z,5.3nm,0.6s
T42A Van Buren 24.16 354 P **P** **14 59 32.9 -1.9**
T42A IAmb IAmb 14 59 36.7
comp=Z,6.1nm,1.2s
BLA Blacksburg 25.17 15 P **P** **14 59 43.6 -0.4**
PV23 Carpenter Ridg 31.47 328 P **P** **15 00 41.0 +0.6**
PV23 IAmb IAmb 15 00 44.0
comp=Z,7.4nm,0.9s
E46A Sault Ste Mari 33.51 5 P **P** **15 00 56.1 -1.7**

EYMN Ely 35.04 356 P **P** **15 01 10.1 -1.0**
EYMN IAmb IAmb 15 01 10.9
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 35.05 332 P **P** **15 01 13.2 +1.8**
comp=Z,0.5nm,0.6s,baz=130,slow=9.2,SNR=6.4
comp=Z,0.5nm,0.6s
TPAW Teton Pass 36.25 332 P **P** **15 01 22.3 +0.6**
TPAW IAmb IAmb 15 01 24.5
comp=Z,7.6nm,1.1s
NVAR Mina Array Bea 36.91 319 P **P** **15 01 30.9 +3.5**
comp=Z,0.5nm,0.6s,baz=138,slow=8.7,SNR=3.5
comp=Z,0.5nm,0.6s
ULM Lac du Bonnet 37.77 352 P **P** **15 01 32.9 -1.2**
comp=Z,3.7nm,0.8s,baz=167,slow=7.5,SNR=6.2
comp=Z,3.7nm,0.8s
SCHQ Schefferville 45.04 17 P **P** **15 02 32.7 -0.8**
comp=Z,2.6nm,0.8s,baz=222,slow=6.3,SNR=6.4
comp=Z,2.6nm,0.8s
YKA Yellowknife Ar 52.99 345 P **P** **15 03 34.2 +0.2**
comp=Z,0.7nm,0.6s,baz=135,slow=8.3,SNR=13
comp=Z,0.7nm,0.6s
ILAR Eielson Array 65.33 336 P **P** **15 04 58.4 -0.7**
comp=Z,0.5nm,0.9s,baz=175,slow=5.0,SNR=10
comp=Z,0.5nm,0.9s
WRA Warramunga Arr 138.73 254 PKP **PKiKP** **15 13 44.5 -0.7**
comp=Z,0.7nm,0.6s,baz=87,slow=2.7,SNR=3.1
ASAR Alice Springs 138.79 249 PKP **PKiKP** **15 13 45.0 -0.3**
comp=Z,0.4nm,0.5s,baz=78,slow=2.3,SNR=2.3
CMAR Chiang Mai Arr 148.06 347 PKPbc **PKPbc** **15 14 02.7 0.0**
comp=Z,0.4nm,0.3s,baz=6.4,slow=1.6,SNR=1.8

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*IDC **16** 14:58:18.7±2.2, 7°.03S×129°.92E, h106km±19km, mb4.2/17, mbtmp4.6/21, MS3.3/13, Error ellipse: s-maj=17.6km s-min=11.5km az=68.0*
*DJA **16** 14:58:19.0±0.2, 7°.5S±3°×13°.0E±°, h172km±6km, M4.9/16, mb5.0/16, mB5.4/12, MLv5.2/16, Mw(mB)4.8/12*
*NEIC **16** 14:58:20.2±2.4, 7°.07S±0°.06×129°.93E±0°.08, h118km±3km, mb4.8/24, Error ellipse: s-maj=11.5km s-min=8.6km az=95.0*
ISC 16 14:58:19.2±0.5, **7°.05S**±0°.04×**130°.01E**±0°.05, **h112**km±4km, **h113**km:**pP-P, n172**, σ1.**84**/181, **mb4.6**/29, **4D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.58**	**126**	Pn	**Pn**	**14 58 49.8**	**+2.7**
SAUI	**Saumlaki**	**1.58**	**126**	P	**Pn**	**14 58 50.0**	**+2.9**
BNDI	**Bandanaira**	**2.51**	**358**	P	**Pn**	**14 59 01.2**	**+2.4**
BNDI	**Bandanaira**	**2.51**	**358**	P	**Pn**	**14 59 01.2**	**+2.4**
AAI	**Ambon**	**3.79**	**332**	P	**Pn**	**14 59 18.6**	**+2.7**
MSAI	**Masohi**	**3.83**	**344**	P	**Pn**	**14 59 19.9**	**+3.6**
FAKI	**Fak Fak**	**4.67**	**29**	Pn	**Pn**	**14 59 27.6**	**0.0**
FAKI	**Fak Fak**	**4.67**	**29**	P	**Pn**	**14 59 27.8**	**+0.2**
NLAI	**Namlea**	**4.76**	**322**	P	**Pn**	**14 59 30.0**	**+1.1**
KMPI	**Kaimana, Papua**	**4.99**	**48**	P	**Pn**	**14 59 32.7**	**+0.8**
7.2nm16μm312nm,0.4s							
DRS	**Darwin Rock St**	**5.42**	**171**	P	**Pn**	**14 59 37.0**	**-0.8**
DRS	**Darwin Rock St**	**5.42**	**171**	S	**Sn**	**15 00 36.5**	**-2.5**
MTN	**Manton Dam**	**5.87**	**169**	Pn	**Pn**	**14 59 43.0**	**-0.8**
MTN	**Manton Dam**	**5.87**	**169**	P	**Pn**	**14 59 42.8**	**-1.0**
MTN	**Manton Dam**	**5.87**	**169**	S	**Sn**	**15 00 46.9**	**-2.9**
KDU	**Kakadu**	**6.11**	**157**	P	**Pn**	**14 59 46.7**	**-0.4**
SWI	**Sorong**	**6.27**	**12**	P	**Pn**	**14 59 48.6**	**-0.6**
1.0nm4μm99nm,0.8s							
SOEI	**Soe**	**6.28**	**244**	Pn	**Pn**	**14 59 49.9**	**+0.3**
SOEI	**Soe**	**6.28**	**244**	P	**Pn**	**14 59 50.1**	**+0.5**
SOEI	**Soe**	**6.28**	**244**	P	**Pn**	**14 59 49.9**	**+0.3**
6.2nm6μm670nm,0.9s							
SANI	**Sanana**	**6.38**	**321**	P	**Pn**	**14 59 53.6**	**+2.9**
SANI	**Sanana**	**6.38**	**321**	P	**Pn**	**14 59 51.9**	**+1.2**
0.3nm85nm,1.1s							
RKPI	**Ransiki, Papua**	**6.89**	**37**	P	**Pn**	**14 59 57.7**	**0.0**
295nm,0.9s							
BAKI	**Biak**	**8.41**	**47**	P	**Pn**	**15 00 19.6**	**+1.2**
KNRA	**Kununurra**	**8.66**	**188**	Pn	**Pn**	**15 00 19.7**	**-2.0**
WAMI	**Wamena**	**9.22**	**71**	P	**Pn**	**15 00 30.6**	**+1.4**
411nm,0.8s							
LUWI	**Luwuk**	**9.36**	**309**	Pn	**Pn**	**15 00 31.1**	**-0.1**
BASI	**Baing, Sumba**	**9.84**	**251**	P	**Pn**	**15 00 36.9**	**-0.8**
3μm232nm,0.8s							
SMPI	**Sarmi**	**10.02**	**60**	P	**Pn**	**15 00 38.9**	**-1.3**
161nm,0.9s							
KAPI	**Kappang**	**10.40**	**281**	P	**Pn**	**15 00 44.3**	**-1.0**
22nm,1.0s,baz=246,slow=13,SNR=3.1							
KAPI	**Kappang**	**10.40**	**281**	P	**Pn**	**15 00 46.4**	**+1.2**
WBSI	**Waikabubak, Su**	**10.82**	**255**	P	**Pn**	**15 00 47.6**	**-3.4**
88nm,0.7s							
GENI	**Genyem**	**11.05**	**67**	P	**Pn**	**15 00 56.1**	**+2.1**
GENI	**Genyem**	**11.05**	**67**	P	**Pn**	**15 00 51.9**	**-2.1**
2μm125nm,0.8s							
TABU	**Tabubil**	**11.29**	**82**	P	**Pn**	**15 00 59.0**	**+1.7**
JAY	**Jayapura**	**11.57**	**68**	P	**Pn**	**15 01 01.7**	**+0.7**
52nm,0.9s,baz=246,slow=4.3,SNR=5.6							
JAY				S	**Sn**	**15 03 01.9**	**-6.5**
25nm,0.8s,baz=102,slow=14,SNR=1.9							
FITZ	**Fitzroy Crossi**	**11.78**	**201**	Pn	**Pn**	**15 00 59.5**	**-4.3**
FITZ	**Fitzroy Crossi**	**11.78**	**201**	P	**Pn**	**15 01 00.3**	**-3.4**
40nm,0.3s,baz=32,slow=12,SNR=89							
FITZ				S	Sn	15 02 59.5	-14
176nm,0.7s,baz=144,slow=12,SNR=11							
FITZ				LR	LR	15 06 19.5	
comp=Z,177nm,18.1s,baz=20,slow=41							
PLAI	**Plampang**	**12.24**	**261**	P	**Pn**	**15 01 08.6**	**-1.3**
PLAI	**Plampang**	**12.24**	**261**	P	**Pn**	**15 01 06.4**	**-3.5**
81nm,0.8s							
TOLI2	**Tolitoli**	**12.26**	**311**	Pn	**Pn**	**15 01 13.6**	**+3.4**
TOLI2	**Tolitoli**	**12.26**	**311**	P	**Pn**	**15 01 13.1**	**+2.9**
TWSI	**Taliwang, Sumb**	**13.11**	**262**	P	**Pn**	**15 01 18.6**	**-2.6**
WB0	**Warramunga Arr**	**13.34**	**162**	Pn	**Pn**	**15 01 20.2**	**-4.1**
WRAB	**Tennant Creek**	**13.49**	**162**		**Pn**	**15 01 22.4**	**-3.8**
WRA	**Warramunga Arr**	**13.49**	**162**	Pn	**Pn**	**15 01 22.1**	**-4.1**
WRA	**Warramunga Arr**	**13.49**	**162**	P	**Pn**	**15 01 22.7**	**-3.5**
11nm,0.4s,baz=342,slow=13,SNR=176							
WRA				S	Sn	15 03 42.0	-13
23nm,0.8s,baz=334,slow=23,SNR=11							
WB2	**Warramunga Arr**	**13.50**	**162**	Pn	**Pn**	**15 01 22.5**	**-3.7**
WR0	**Warramunga Arr**	**13.57**	**162**		**Pn**	**15 01 23.2**	**-4.0**
COEN	**Coen**	**14.65**	**119**	Pn	**Pn**	**15 01 38.9**	**-2.2**
COEN	**Coen**	**14.65**	**119**	P	**Pn**	**15 01 42.3**	**+1.2**
DAV	**Davao City (W)**	**14.70**	**342**	LR	LR	15 07 38.0	
comp=Z,88nm,22.0s,baz=18,slow=38							
JAGI	**Jajag, Banyuwa**	**15.77**	**264**	P	**Pn**	**15 01 55.5**	**+0.3**
QIS	**Mount Isa**	**16.34**	**146**	P	**Pn**	**15 02 01.2**	**-1.0**
AS31	**Alice Springs**	**16.94**	**168**		**Pn**	**15 02 07.9**	**-1.7**
ASAR	**Alice Springs**	**16.95**	**168**		**Pn**	**15 02 07.4**	**-2.2**
ASAR	**Alice Springs**	**16.95**	**168**	P	**Pn**	**15 02 08.1**	**-1.5**
11nm,0.5s,baz=340,slow=8.4,SNR=235							
ASAR				S	Sn	15 05 03.9	-14
24nm,0.7s,baz=325,slow=16,SNR=6.2							
ASAR				LR	LR	15 09 39.0	
comp=Z,193nm,19.7s,baz=357,slow=40							
ASAR				ScP	**ScP**	**15 10 12.6**	**-2.0**
5.8nm,0.6s,baz=339,slow=1.8,SNR=4.7							
AS01	**Alice Springs**	**16.95**	**168**	P	**Pn**	**15 02 08.0**	**-1.7**
PMG	**Port Moresby**	**17.14**	**99**	P	**Pn**	**15 02 12.1**	**+0.2**
35nm,0.8s,baz=117,slow=2.4,SNR=20							
PMG				S	Sn	15 05 09.3	-14
26nm,0.8s,baz=179,slow=23,SNR=8.6							
MBWA	**Marble Bar**	**17.20**	**214**	P	**P**	**15 02 11.1**	**-1.3**
MBWA					**P**	**15 02 11.1**	**-1.3**
MBWA	**Marble Bar**	**17.20**	**214**	P	**P**	**15 02 11.4**	**-1.1**
PSA00	**Pilbara Seismi**	**17.46**	**213**		**P**	**15 02 15.2**	**-0.2**
PSA00	**Pilbara Seismi**	**17.46**	**213**	P	**P**	**15 02 13.8**	**-1.6**
PSA00	**Pilbara Seismi**	**17.46**	**213**	P	**P**	**15 02 14.6**	**-0.8**
MTSU	**Mount Surprise**	**17.77**	**130**	P	**Pn**	**15 02 19.9**	**+0.2**
WRKA	**Warakurna**	**17.97**	**185**	P	**P**	**15 02 20.2**	**-0.8**
KKM	**Kota Kinabalu**	**18.93**	**313**		**P**	**15 02 31.2**	**-0.4**
KKM	**Kota Kinabalu**	**18.93**	**313**	P	**Pn**	**15 02 34.0**	**+0.4**
UGM	**Wanagama**	**19.34**	**266**	P	**Pn**	**15 02 36.8**	**-1.4**
SBUM	**Sibu**	**20.10**	**297**		Pn	15 02 46.1	-1.0
SBUM	**Sibu**	**20.10**	**297**	P	Pn	15 02 46.8	-0.3
OOD	**Oodnadatta**	**21.33**	**166**	P	**P**	**15 02 57.6**	**+0.3**
GIRL	**Giralia**	**21.71**	**223**	P	**P**	**15 03 02.1**	**+0.7**
GIRL	**Giralia**	**21.71**	**223**	P	**P**	**15 03 01.7**	**+0.3**
BBJI	**Bungbulang**	**22.18**	**268**	P	**P**	**15 03 06.7**	**+0.1**
LEM	**Lembang**	**22.23**	**269**	P	**P**	**15 03 05.8**	**-1.3**
34nm,0.7s,baz=27,slow=7.4,SNR=6.7							
LEM				LR	LR	15 13 02.2	
comp=Z,65nm,21.5s,baz=151,slow=40							
34nm,0.7s							
MEEK	**Meekatharra**	**22.30**	**208**	P	**P**	**15 03 08.0**	**+0.4**
INKA	**Innaminka**	**22.96**	**155**	P	**P**	**15 03 15.2**	**+1.1**
FORT	**Forrest**	**23.68**	**184**	P	**P**	**15 03 19.2**	**-1.5**

FORT Forrest 23.68 184 P **P** **15 03 22.6 +1.9**
QLP Quilpie 23.68 147 P **P** **15 03 22.8 +2.0**
LCRK Leigh Creek 24.52 163 P **P** **15 03 28.9 +0.6**
KMBL Kambalda 25.36 196 P **P** **15 03 36.4 +0.4**
MORW Morawa 25.56 209 P **P** **15 03 35.4 -2.4**
MORW IAmb IAmb 15 04 16.8
comp=Z,34nm,1.4s
MORW Morawa 25.56 209 P **P** **15 03 38.4 +0.6**
BBOO Buckleboo 26.25 168 P **P** **15 03 43.5 -0.4**
BBOO IAmb IAmb 15 04 18.9
comp=Z,28nm,1.4s
BBOO Buckleboo 26.25 168 P **P** **15 03 44.5 +0.6**
BLDU Balliduu 26.56 206 P **P** **15 03 47.3 +0.5**
STKA Stephens Creek 26.97 158 P **P** **15 03 51.2 +0.8**
STKA Stephens Creek 26.97 158 P **P** **15 03 50.8 +0.4**
comp=Z,7.9nm,0.6s,baz=326,slow=8.5,SNR=19
comp=Z,7.9nm,0.6s
STKA Stephens Creek 26.97 158 P **P** **15 03 51.1 +0.7**
KLBR Kellerberrin 26.97 204 P **P** **15 03 51.1 +0.6**
HTT Hallett 27.53 164 P **P** **15 03 56.2 +0.7**
MUN Mundaring 27.95 206 P **P** **15 04 00.5 +1.3**
NWAO Narrogin (SRO) 28.36 203 P **P** **15 04 02.1 -0.7**
NWAO IAmb IAmb 15 05 05.7
comp=Z,33nm,1.1s
NWAO Narrogin (SRO) 28.36 203 LR LR 15 15 17.9
comp=Z,105nm,18.4s,baz=17,slow=36
NWAO Narrogin (SRO) 28.36 203 P **P** **15 04 04.4 +1.6**
NWAO Narrogin (SRO) 28.36 203 P **P** **15 04 03.4 +0.6**
CMSA Cobar Meteorol 28.43 151 P **P** **15 04 04.8 +1.3**
TATA Tatamba Isabel 29.55 95 P **P** **15 04 15.0 +1.4**
HNR Honiara 29.72 97 LR LR 15 18 33.5
comp=Z,55nm,18.1s,baz=221,slow=41
ALEG Aligegeo Malai 30.44 95 P **P** **15 04 22.1 +0.6**
ARPS Mount Arapiles 31.50 162 P **P** **15 04 31.6 +1.1**
MGBR Mount Gambier 32.01 164 P **P** **15 04 35.5 +0.5**
PSI Prapat 32.53 286 LR LR 15 18 15.0
comp=Z,73nm,20.1s,baz=159,slow=37
CAN Canberra 33.11 151 P **P** **15 04 45.7 +1.0**
CAN Canberra 33.11 151 P **P** **15 04 46.6 +1.9**
CAN pP **pwP** **15 05 12.6 +1.4**
JOW Kunigami 33.72 357 LR LR 15 17 15.2
comp=Z,30nm,19.3s,baz=145,slow=34
SANVU Saraoutou 37.38 106 P **P** **15 05 22.9 +1.5**
CMAR Chiang Mai Arr 39.77 310 P **P** **15 05 40.8 -0.6**
comp=Z,6.7nm,0.8s,baz=130,slow=8.8,SNR=55
CMAR PcP **PcP** **15 07 47.3 +1.5**
comp=Z,1.8nm,0.8s,baz=173,slow=2.9,SNR=6.7
CMAR LR LR 15 25 06.4
comp=Z,19nm,18.7s,baz=90,slow=40
comp=Z,6.7nm,0.8s
MJAR Matsushiro Arr 44.03 10 P **P** **15 06 15.3 -0.5**
comp=Z,2.0nm,0.8s,baz=184,slow=8.0,SNR=5.9
comp=Z,2.0nm,0.8s
MAJO Matsushiro 44.03 10 P **P** **15 06 15.4 -0.4**
KSRS Korea Array 44.31 358 P **P** **15 06 18.3 +0.3**
comp=Z,0.4nm,0.4s,baz=180,slow=16,SNR=4.2
KSRS LR LR 15 23 12.2
comp=Z,16nm,21.7s,baz=190,slow=34
comp=Z,0.4nm,0.4s
XAN Xi'an 45.48 335 P **P** **15 06 27.0 -0.4**
BRDH Bariadhala 47.77 309 LR LR 15 28 51.5
comp=Z,61nm,18.1s,baz=224,slow=38
JKA Kamikawa-asahi 52.18 11 P **P** **15 07 19.2 +0.9**
BKZ Black Stump Fm 52.56 135 P **P** **15 07 22.2 +0.7**
ULN Ulaanbaatar 58.31 342 P **P** **15 08 03.1 +0.6**
SONM Songino Array 58.49 342 P **P** **15 08 03.5 -0.2**
SONM Songino Array 58.49 342 P **P** **15 08 03.0 -0.7**
comp=Z,3.6nm,1.0s,baz=155,slow=6.8,SNR=15
comp=Z,3.6nm,1.0s
PEA0B Petropavlovsk- 64.36 18 P **P** **15 08 43.8 +0.8**
PEA0B IAmb IAmb 15 09 42.6
comp=Z,24nm,1.2s
PETK Petropavlovsk- 64.36 18 P **P** **15 08 44.1 +1.1**
PETK Petropavlovsk- 64.36 18 P **P** **15 08 43.8 +0.8**
comp=Z,1.9nm,0.5s,baz=181,slow=5.2,SNR=20
comp=Z,1.9nm,0.5s
CCD Concordia, Ant 68.12 182 P **P** **15 09 07.8 +0.7**
CCD PcP **pP** **15 09 33.2 -1.1**
CCD sP **sP** **15 09 51.5 +5.2**
MK31 Makanchi Array 68.27 327 P **P** **15 09 08.6 +0.5**
MK31 IAmb IAmb 15 09 09.4
comp=Z,21nm,0.9s
MKAR Makanchi Array 68.27 327 P **P** **15 09 08.2 +0.1**
MKAR Makanchi Array 68.27 327 P **P** **15 09 08.1 0.0**
comp=Z,17nm,0.7s,baz=126,slow=7.7,SNR=210
comp=Z,17nm,0.7s
MA2 Magadan 68.44 11 P **P** **15 09 09.9 +1.0**
MAKZ Makanchi 68.45 327 P **P** **15 09 08.4 -0.8**
MAKZ Makanchi 68.45 327 P **P** **15 09 09.3 +0.1**
YAK Yakutsk 68.87 360 P **P** **15 09 11.8 +0.4**
BOOM Boomskoye usch 69.58 320 P **P** **15 09 15.7 -0.8**
BOOM IAmb IAmb 15 09 18.0
comp=Z,13nm,1.0s
TKM2 Tokmak 2 70.02 321 P **P** **15 09 20.1 +0.8**
SNR=8.8
KBK Karagaybulak 70.30 320 P **P** **15 09 21.9 +1.0**
SNR=6.2
AAK Ala-Archa 70.58 320 P **P** **15 09 20.6 -2.0**
AAK IAmb IAmb 15 09 24.4
comp=Z,12nm,0.9s
AAK Ala-Archa 70.58 320 P **P** **15 09 23.7 +1.1**
SNR=15
AAK Ala-Archa 70.58 320 P **P** **15 09 23.4 +0.8**
AAK PcP **PcP** **15 09 43.7 +0.7**
AAK pP **pwP** **15 09 52.4 -1.4**
AML Almayashu 70.85 319 P **P** **15 09 25.1 +0.6**
SNR=24
USP Ospenovka 70.89 320 P **P** **15 09 25.1 +0.8**
SNR=17
ARSB Arslanbob 70.93 318 P **P** **15 09 25.3 +0.6**
ARSB IAmb IAmb 15 09 26.1
comp=Z,21nm,0.8s
EKS2 Erkin-Say 71.05 320 P **P** **15 09 26.3 +0.9**
SNR=18

MNK	Minsk	102.74	324	*i* P	Pdif	15 12 00.6	-3.2
	comp=E,7.0nm,0.6s						
MNK				*i* P	Pdif	15 12 00.6	-3.2
	comp=N,7.0nm,0.8s						
MNK				*i* P	Pdif	15 12 00.6	-3.2
	comp=Z,8.0nm,0.7s,baz=84						
MNK				*i* pP	pPdif	15 12 29.4	-2.3
MNK				*i* PP	PP	15 16 15.8	-2.9
MNK				*i* PPP	PPP	15 18 26.7	
MNK				*i* S		15 22 29.8	
MNK				*i* sS	SKKSac	15 23 22.3	+9.0
MNK				*i* PS	PS	15 25 26.6	-2.1
MNK				*i* SS	SS	15 30 49.2	-0.8
MNK				*i* SSS	SSS	15 34 44.4	
KOLS	Kolonicke sedl	106.92	319	*e*PDIFF	Pdif	15 12 24.0	+1.5
KECS	Kecovo	108.16	319	*e*PDIFF	Pdif	15 12 30.2	+2.1
TXAR	Lajitas Array	124.94	59	PKP	PKiKP	15 17 07.5	+0.2
	comp=Z,0.5nm,0.8s,baz=278,slow=2.1,SNR=4.2						
TORD	Torodi Ar. Bea	128.82	281	PKP	PKPdf	15 17 14.8	+0.1
	comp=Z,1.2nm,0.4s,baz=82,slow=1.8,SNR=4.7						
PLCA	Paso Flores	128.83	160	PKP	PKiKP	15 17 15.3	+0.5
	comp=Z,3.4nm,0.9s,baz=203,slow=2.0,SNR=7.3						
DBIC	Dimbokro	135.20	272	PKP	PKiKP	15 17 27.5	-0.7
	comp=Z,4.1nm,0.8s,baz=113,slow=3.7,SNR=3.8						
CPUP	Villa Florida	146.07	168	PKPbc	PKPbc	15 17 46.8	-0.1
	comp=Z,14nm,0.8s,baz=181,slow=2.2,SNR=21						
LPAZ	La Paz	150.68	142	PKP	PKPdf	15 17 54.3	-0.1
	comp=Z,2.1nm,0.9s,baz=106,slow=1.8,SNR=3.9						
LPAZ				PKPbc	PKiKP	15 18 01.4	+0.8
	comp=Z,5.3nm,0.4s,baz=141,slow=0.4,SNR=4.8						

*BEO **16** 15:08:19.3±0.5, 45°.63N×17°.98E, h6km±8km, ML2.0/6*

RHSSO 16 15:08:18.3±0.3, 45°.69N×17°.92E, h6km±2km, ML2.1/9, 3C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORH	Mrgy, Hungar	0.73	43	⇑*i*Pg	Pg	15 08 31.3	-1.1
MORH				*e*Sg	Sg	15 08 41.6	-0.3
MOSL	Moslavina	0.82	265	*e*Pg	Pg	15 08 32.5	-1.6
MOSL				Sg	Sg	15 08 43.1	-1.5
DOB	Doboj	0.96	172	*e*Pg	Pg	15 08 35.5	-1.2
DOB				*e*Sg	Sg	15 08 48.5	-0.7
A051A	Mrakovica	0.98	227	⇓*i*Pg	Pg	15 08 36.6	-0.5
A051A				*e*Sg	Sg	15 08 49.3	-0.5
BLY	Banja Luka	1.07	209	⇑*i*Pg	Pg	15 08 37.6	-1.2
BLY				*e*Sg	Sg	15 08 52.4	-0.3
BLY	Banja Luka	1.07	209	*e*Pg	Pg	15 08 37.9	-0.9
BLY				*e*Sg	Sg	15 08 51.8	-0.9
KALN	Kalnik	1.11	294	*e*Pg	Pg	15 08 37.7	-1.9
KALN				Sg	Sg	15 08 52.6	-1.5
BEHE	Becsehely	1.12	315	⇑*i*Pg	Pg	15 08 38.3	-1.4
BEHE				*e*Sg	Sg	15 08 53.6	-0.6
LOBO	Lobor	1.37	291	*e*Pg	Pn	15 08 41.4	-2.7
PTJ	Puntijarka	1.38	280	*e*Pg	Pn	15 08 41.5	-2.7
FRGS	Fruska Gora	1.43	111	*e*Pg	Pn	15 08 44.6	-0.2
FRGS				*e*Sg	Sg	15 09 04.2	-0.1
FRGS	Fruska Gora	1.43	111	*e*Pg	Pn	15 08 42.5	-2.3
FRGS				*e*Sg	Sg	15 09 04.6	+0.3
A050A	Klekovaca	1.55	220	⇓*i*Pn	Pn	15 08 46.3	-0.2
A050A				*e*Sn	Sn	15 09 06.5	-0.5
TEKS	Tekeris	1.61	134	*e*Pn	Pn	15 08 47.4	+0.1
TEKS				*e*Sn	Sn	15 09 08.5	+0.2
TEKS	Tekeris	1.61	134	*e*Pg	Pn	15 08 47.6	+0.3
TEKS				*e*Sg	Sn	15 09 08.5	+0.2
BOJS	Bojanci	1.88	265	*e*Pn	Pn	15 08 51.1	+0.1
BOJS				*e*Sn	Sn	15 09 15.4	+0.4
BBLS	Lazi&#263i	2.10	149	*e*Pn	Pn	15 08 54.2	+0.1
BBLS				*e*Sn	Sn	15 09 19.8	-0.8
BBLS	Lazi&#263i	2.10	149	*e*Pg	Pn	15 08 55.1	+1.0
BBLS				*e*Sg	Sg	15 09 24.9	-1.0
SOKA	Soboth	2.24	297	*i* PKiKP	Pn	15 08 53.6	-2.4
	4.9nm,0.3s						
ARSA	Arzberg	2.28	314	*i* PKiKP	Pn	15 08 54.5	-2.0
	1.3nm,0.2s						
ARSA	Arzberg	2.28	314	*e*Pn	Pn	15 08 56.5	0.0
ARSA				*e*Sn	Sn	15 09 24.6	-0.3
RONA	Rosalia, Austr	2.30	332	*i* PKiKP	Pn	15 08 55.3	-1.6
	0.6nm,0.1s						
CEY	Cerknica	2.45	273	*e*Pn	Pn	15 08 58.6	-0.2
CEY				*e*Sn	Sn	15 09 29.3	+0.3
OBKA	Obir	2.48	291	*i* PKiKP	Pn	15 08 57.5	-1.9
	0.7nm,0.1s						
CONA	Conrad Observa	2.65	329	*i* PKiKP	Pn	15 08 59.8	-1.8
	0.5nm,0.1s						
GRUS	Gruza	2.68	131	*e*Pg	Pb	15 09 05.8	-0.9
GRUS				*e*Sg	Sb	15 09 40.8	+1.0
MOA	Molln	3.31	312	*i* pPKiKP	Pn	15 09 09.7	-1.0
	1.3nm,0.2s						
SELS	Selova	3.37	136	*e*Pn	Pn	15 09 11.8	+0.4
SELS				*e*Sg	Sg	15 10 04.6	-1.8

*IDC **16** 15:22:15.4±1.8, 12°.87S×114°.41E, h0km, mb3.6/9, mbtmp3.7/10, ML4.0/1, MS3.2/3, Error ellipse: s-maj=71.5km s-min=17.6km az=48.0*

ISC 16 15:22:15.4±0.6, 12°.87S±0°.06×114°.45E±0°.07, h10km, n47, σ2§07/53, mb3.6/8, MS3.0/3, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar	4.24	10	P	Pn	15 23 20.6	+0.6
DNP				S	Sn	15 24 06.7	-2.9
JAGI	Jajag, Banyuwa	4.38	356	P	Pn	15 23 22.0	-0.1
JAGI	Jajag, Banyuwa	4.38	356	P	Pn	15 23 22.2	+0.1
JAGI				S	Sn	15 24 09.2	-4.1
GMJI	Gumukmas	4.68	348	P	Pn	15 23 25.6	-0.5
GMJI				S	Sn	15 24 15.8	-4.7
TWSI	Taliwang, Sumb	4.75	30	P	Pn	15 23 26.8	-0.3
TWSI				S	Sn	15 24 17.8	-4.6
SRBI	Singaraja	4.82	9	P	Pn	15 23 28.3	+0.3
SRBI				S	Sn	15 24 20.2	-3.7
ABJI	Asem Bagus	5.05	358	P	Pn	15 23 30.1	-1.1
PLAI	Plampang	5.18	39	P	Pn	15 23 33.1	+0.1
PLAI	Plampang	5.18	39	P	Pn	15 23 33.5	+0.5
PCJI	Pacitan	5.65	325	P	Pn	15 23 39.4	-0.1
	88nm,0.6s						
WBSI	Waikabubak, Su	5.81	57	P	Pn	15 23 41.8	0.0
	0.6nm1μm49nm,0.9s						
NGJI	Ngawi	6.21	331	P	Pn	15 23 47.4	+0.2
	0.3nm57nm,0.6s						
UGM	Wanagama	6.26	322	P	Pn	15 23 48.0	+0.1
UGM	Wanagama	6.26	322	P	Pn	15 23 48.2	+0.3
BASI	Baing, Sumba	6.56	67	P	Pn	15 23 54.7	+2.7
	0.3nm60nm,0.7s						
SMRI	Semarang	7.01	325	P	Pn	15 23 57.2	-0.9
	0.3nm69nm,0.7s						
CMJI	Cimerak	7.77	310	P	Pn	15 24 07.7	-1.0
BBJI	Bungbulang	8.58	308	P	Pn	15 24 18.8	-1.1
XMI	Christmas Isla	8.91	285	P	Pn	15 24 22.4	-1.9
XMIS	Christmas Isla	8.94	285	P	Pn	15 24 22.2	-2.5
CNJI	Cibinong	9.08	307	P	Pn	15 24 26.1	-0.5
	18nm,0.7s						
BKSI	Bulukumba	9.36	37	P	Pn	15 24 27.5	-3.0
MBWA	Marble Bar	9.66	149	P	Pn	15 24 32.4	-2.1
MBWA	Marble Bar	9.66	149	P	Pn	15 24 32.5	-2.1
GIRL	Giralia	9.72	181	P	Pn	15 24 33.5	-1.8
PSAC1	Pilbara Seismi	10.02	150	P	Pn	15 24 37.2	-2.2
PSA00	Pilbara Seismi	10.07	150	P	Pn	15 24 37.9	-2.3
SOEI	Soe	10.11	73	P	Pn	15 24 41.0	+0.1
SOEI	Soe	10.11	73	P	Pn	15 24 39.7	-1.2
	60nm,0.7s						
CGJI	Cibinong	10.64	305	P	Pn	15 24 47.5	-0.4
	43nm,0.6s						
FITZ	Fitzroy Crossi	11.97	117	Pn	Pn	15 25 06.0	-0.2
	0.8nm,0.3s,baz=288,slow=7.8,SNR=29						
FITZ				Sn	Sn	15 27 09.6	-10
	1.5nm,0.3s,baz=222,slow=23,SNR=9.0						
	5.4nm,0.6s						
FITZ	Fitzroy Crossi	11.97	117	P	Pn	15 25 05.9	-0.2
MEEK	Meekatharra	14.24	165	P	Pn	15 25 34.8	-2.5
BLDU	Ballidu	17.78	174	P	Pn	15 26 21.1	-2.0
WRKA	Warakurna	17.81	135	P	Pn	15 26 22.6	-0.9
KLBR	Kellerberrin	18.88	171	P	P	15 26 34.6	-1.3
MUN	Mundaring	19.08	175	P	P	15 26 36.8	-1.4
WRA	Warramunga Arr	20.32	113	P	P	15 26 53.6	+1.8
	1.2nm,0.6s,baz=290,slow=11,SNR=21						
WRA				S	S	15 30 27.1	-13
	0.8nm,0.6s,baz=283,slow=26,SNR=5.1						
	1.2nm,0.6s						
ASAR	Alice Springs	21.34	123	P	P	15 27 05.1	+2.3
	2.2nm,0.8s,baz=299,slow=10,SNR=26						
ASAR				S	S	15 30 54.6	-5.4
	4.8nm,0.9s,baz=298,slow=22,SNR=13						
ASAR				LR	LR	15 34 54.4	
	comp=Z,61nm,18.7s,baz=204,slow=36						
	2.2nm,0.8s						
STKA	Stephens Creek	31.28	132	P	P	15 28 38.4	+2.7
	1.9nm,0.9s,baz=304,slow=16,SNR=3.3						
STKA				LR	LR	15 40 48.8	
	comp=Z,102nm,20.4s,baz=204,slow=36						
	1.9nm,0.9s						
CMAR	Chiang Mai Arr	34.69	334	P	P	15 29 07.9	+2.4
	0.4nm,0.4s,baz=165,slow=8.2,SNR=5.5						
CMAR				LR	LR	15 44 06.5	
	comp=Z,17nm,18.2s,baz=280,slow=38						
	0.4nm,0.4s						
KSRS	Korea Array	51.64	14	P	P	15 31 24.0	+1.8
	1.6nm,0.8s,baz=199,slow=6.9,SNR=5.0						
	1.6nm,0.8s						
SONM	Songino Array	60.86	354	P	P	15 32 29.5	+1.4
	0.2nm,0.5s,baz=190,slow=7.2,SNR=2.0						
	0.2nm,0.5s						
MKAR	Makanchi Array	66.02	336	P	P	15 33 02.6	+0.4
	0.2nm,0.5s,baz=144,slow=4.9,SNR=4.6						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	70.59	337	P	P	15 33 31.8	+1.1
	0.2nm,0.4s,baz=155,slow=6.2,SNR=2.4						
	0.2nm,0.4s						
PETK	Petropavlovsk-	75.43	25	P	P	15 34 01.3	+1.9
	0.6nm,0.7s,baz=230,slow=8.2,SNR=1.4						
	0.6nm,0.7s						
YKA	Yellowknife Ar	119.52	24	PKP	PKiKP	15 41 06.5	+1.4
	0.2nm,0.5s,baz=311,slow=2.5,SNR=4.0						

IDC 16 15:33:13.2±3.3, 32°.30S×178°.10W, h0km, mb3.3/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=73.2km s-min=37.0km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.12	212	Pn	Pn	15 34 58.1	-0.5
	0.6nm,0.3s,baz=349,slow=4.8,SNR=7.7						
URZ				Sn	Sn	15 36 18.7	-1.4
	1.1nm,0.3s,baz=266,slow=24,SNR=14						
	2.3nm,0.4s						
ASAR	Alice Springs	42.95	269	P	P	15 41 14.3	+0.2
	0.2nm,0.7s,baz=108,slow=7.6,SNR=7.2						
	0.2nm,0.7s						
WRA	Warramunga Arr	44.11	274	P	P	15 41 23.4	-0.1
	0.3nm,0.3s,baz=113,slow=8.0,SNR=15						
	0.3nm,0.3s						
FINES	FINESS Array B	146.89	339	PKPbc	PKPbc	15 52 55.9	-0.8
	1.6nm,0.9s,baz=29,slow=3.2,SNR=3.8						

IDC 16 15:37:25.7±4.5, 31°.45N×140°.05E, h101km±42km, mb3.1/3, mbtmp3.3/4, Error ellipse: s-maj=109.4km s-min=29.7km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	5.30	344	P	Pn	15 38 42.2	-0.3
	0.5nm,0.6s,baz=165,slow=12,SNR=4.6						
MKAR	Makanchi Array	46.33	307	P	P	15 45 41.4	-0.1
	0.2nm,0.6s,baz=69,slow=7.9,SNR=3.1						
	0.2nm,0.6s						
WRA	Warramunga Arr	51.39	187	P	P	15 46 20.1	-0.1
	0.2nm,0.8s,baz=5.4,slow=7.4,SNR=4.6						
	0.2nm,0.8s						
FINES	FINESS Array B	73.23	333	P	P	15 48 45.5	0.0
	1.5nm,0.8s,baz=46,slow=6.0,SNR=4.3						
	1.5nm,0.8s						

*IDC **16** 15:46:27.6±0.6, 1°.45S×120°.22E, h0km, mb4.0/12, mbtmp4.0/14, ML3.6/2, MS3.4/20, Error ellipse: s-maj=39.4km s-min=12.4km az=68.0*

*NEIC **16** 15:46:28.4±2.5, 1°.46S±0°.10×120°.17E±0°.08, h10km±1km, mb4.5/17, Error ellipse: s-maj=17.4km s-min=11.8km az=203.0*

*DJA **16** 15:46:30.8±0.2, 2°.S±2°.×12°.0E±°, h10km, M4.7/16, mB5.8/1, mb4.7/11, MLv4.7/16, Mw(mB)5.3/1*

ISC 16 15:46:29.6±0.5, 1°.45S±0°.04×120°.12E±0°.06, h10km, n65, σ1§47/52, mb4.3/21, MS3.4/18, 1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.61	333	P	Pg	15 46 40.6	-0.7
TTSI	Tana Toraja	1.61	191	P	Pn	15 46 56.5	-1.6
TTSI				S	Sn	15 47 18.7	-0.3
APSI	Ampana	1.62	71	P	Pn	15 46 59.3	+1.0
SPSI	Sidrap Palu	2.52	188	P	Pn	15 47 11.4	+0.7
SPSI				S	Sn	15 47 42.5	+1.0
TOLI2	Tolitoli	2.63	15		Pn	15 47 13.3	+1.3
MRSI	Marisa	2.64	44	P	Pn	15 47 11.4	-0.9
MRSI				S	Sn	15 47 47.3	+2.9
LUWI	Luwuk	2.69	81		Pn	15 47 09.5	-3.4
LUWI	Luwuk	2.69	81	P	Pn	15 47 12.7	-0.2
KDI	Kendari	3.53	135	P	Pn	15 47 24.6	+0.1
KAPI	Kappang	3.56	186		Pn	15 47 25.6	+0.7
KAPI	Kappang	3.56	186	Pn	Pn	15 47 25.0	+0.1
	10nm,0.3s,baz=102,slow=5.4,SNR=7.3						
KAPI				Sn	Sn	15 48 07.5	+0.4
	9.2nm,0.3s,baz=96,slow=17,SNR=5.6						
	26nm,0.4s						
BKSI	Bulukumba	3.85	180	P	Pn	15 47 29.2	+0.3
KMSI	Cibinong	4.36	63	P	Pn	15 47 36.0	+0.1
BSSI	Bau Bau, Buton	4.68	175	P	Pn	15 47 40.7	+0.4
BBSI	Bau Bau	4.70	149	P	Pn	15 47 38.8	-1.9
SANI	Sanana	5.90	96	P	Pn	15 47 55.4	-1.7
	0.2nm30nm,0.7s						
SBUM	Sibu	8.79	296	Pn	Pn	15 48 36.6	-0.2
DAV	Davao City (W)	10.07	33	LR	LR	15 52 57.8	
	comp=Z,317nm,21.5s,baz=167,slow=39						
CGJI	Cibinong	15.27	250	P	Pn	15 50 09.2	+3.8
	22nm,2.2s						
FITZ	Fitzroy Crossi	17.41	162	P	Pn	15 50 33.0	+0.1
	0.1nm,0.3s,baz=349,slow=10,SNR=5.7						
FITZ				LR	LR	15 57 04.6	
	comp=Z,146nm,20.5s,baz=324,slow=37						
	4.0nm,0.9s						
PPI	Padang Panjang	19.74	273	P	P	15 51 03.1	+3.4
RPSI	Rantau Prapat	21.58	281	P	P	15 51 19.9	+0.2
RPSI				IAmb	IAmb	15 51 29.1	
	comp=Z,13nm,1.0s						
PSI	Prapat	21.60	281	LR	LR	16 00 51.5	
	comp=Z,167nm,18.6s,baz=104,slow=40						
GSI	Gunungsitoli	22.70	277	P	P	15 51 30.0	-1.8
GSI				IAmb	IAmb	15 51 38.3	
	comp=Z,29nm,1.3s						
WB0	Warramunga Arr	22.95	143	P	P	15 51 34.9	+0.6
WB0				IAmb	IAmb	15 51 40.0	
	comp=Z,11nm,1.0s						
WRA	Warramunga Arr	23.05	144	P	P	15 51 33.4	-2.0
WRA	Warramunga Arr	23.05	144	P	P	15 51 34.0	-1.3
	comp=Z,7.4nm,0.8s,baz=321,slow=10,SNR=37						
WRA				PcP	PcP	15 55 22.7	-2.2
	comp=Z,0.7nm,1.1s,baz=325,slow=1.8,SNR=2.3						
WRA				LR	LR	16 01 33.6	
	comp=Z,115nm,18.7s,baz=14,slow=39						
	comp=Z,7.4nm,0.8s						
WRAB	Tennant Creek	23.05	144	P	P	15 51 34.2	-1.1
WRAB				IAmb	IAmb	15 51 38.3	
	comp=Z,14nm,0.8s						
WB2	Warramunga Arr	23.06	144	P	P	15 51 33.5	-2.0
WB2				IAmb	IAmb	15 51 38.2	
	comp=Z,16nm,0.8s						
WR0	Warramunga Arr	23.19	143	P	P	15 51 36.1	-0.6
WR0				IAmb	IAmb	15 51 41.9	
	comp=Z,14nm,1.0s						
AS31	Alice Springs	25.82	150	P	P	15 51 59.8	-1.4
ASAR	Alice Springs	25.82	150	P	P	15 52 00.6	-0.7
	comp=Z,2.2nm,0.6s,baz=327,slow=8.9,SNR=49						
ASAR				PcP	PcP	15 55 28.9	-1.9
	comp=Z,0.5nm,0.6s,baz=349,slow=1.7,SNR=5.7						
ASAR				LR	LR	16 01 56.0	
	comp=Z,118nm,18.3s,baz=189,slow=36						
	comp=Z,2.2nm,0.6s						
CMAR	Chiang Mai Arr	28.72	314	P	P	15 52 27.8	+0.4
	comp=Z,0.2nm,0.3s,baz=130,slow=8.9,SNR=1.6						
CMAR				LR	LR	16 06 42.3	
	comp=Z,37nm,19.6s,baz=135,slow=42						
	comp=Z,0.2nm,0.3s						
NWAO	Narrogin (SRO)	31.43	185	LR	LR	16 04 37.6	
	comp=Z,97nm,18.6s,baz=341,slow=35						
STKA	Stephens Creek	36.43	148	P	P	15 53 34.6	0.0
STKA	Stephens Creek	36.43	148	P	P	15 53 33.8	-0.8
	comp=Z,5.7nm,0.7s,baz=325,slow=8.9,SNR=13						
	comp=Z,5.7nm,0.7s						
PALK	Pallekele	40.27	283	LR	LR	16 11 54.6	
	comp=Z,72nm,18.9s,baz=112,slow=38						
MJAR	Matsushiro Arr	41.38	22	P	P	15 54 15.8	-0.2
	comp=Z,0.7nm,0.6s,baz=205,slow=8.2,SNR=2.8						
	comp=Z,0.7nm,0.6s						
SONM	Songino Array	50.52	348	P	P	15 55 28.2	0.0
	comp=Z,0.9nm,0.7s,baz=169,slow=8.2,SNR=7.0						
SONM				LR	LR	16 18 30.8	
	comp=Z,37nm,20.6s,baz=198,slow=38						
	comp=Z,0.9nm,0.7s						
MK31	Makanchi Array	58.38	330	P	P	15 56 23.4	-1.9
MKAR	Makanchi Array	58.38	330	P	P	15 56 24.6	-0.6
MKAR	Makanchi Array	58.38	330	P	P	15 56 25.8	+0.6
	comp=Z,1.1nm,0.7s,baz=126,slow=8.1,SNR=13						
MKAR				LR	LR	16 23 12.7	
	comp=Z,33nm,20.0s,baz=110,slow=38						
	comp=Z,1.1nm,0.7s						
BOOM	Boomskoye usch	59.11	323	P	P	15 56 28.0	-2.6
BOOM				IAmb	IAmb	15 57 06.5	
	comp=Z,6.1nm,1.4s						
KBL	Kabul	59.71	312	P	P	15 56 32.4	-2.5
AAK	Ala-Archa	60.06	323	P	P	15 56 35.4	-1.7
AAK				IAmb	IAmb	15 56 39.1	
	comp=Z,7.1nm,1.4s						
AAK	Ala-Archa	60.06	323	LR	LR	16 24 20.1	
	comp=Z,44nm,20.0s,baz=104,slow=38						
GAR	Garm	60.85	317	P	P	15 56 38.8	-3.8
ZALV	Zalesovo Beam	62.48	337	P	P	15 56 51.1	-1.9
ZALV	Zalesovo Beam	62.48	337	P	P	15 56 52.3	-0.8
	comp=Z,2.0nm,0.8s,baz=116,slow=6.8,SNR=6.8						
ZALV				LR	LR	16 24 45.4	
	comp=Z,16nm,20.8s,baz=101,slow=37						
	comp=Z,2.0nm,0.8s						
PETK	Petropavlovsk-	62.77	24	LR	LR	16 21 56.2	
	comp=Z,22nm,22.0s,baz=196,slow=34						
KK31	Karatay Array	62.78	321	P	P	15 56 53.5	-1.9
KK31				IAmb	IAmb	15 57 01.1	
	comp=Z,2.8nm,1.1s						
KKAR	Karatay Array	62.78	321	P	P	15 56 53.5	-1.9
KKAR	Karatay Array	62.78	321	P	P	15 56 53.9	-1.5
KURBB	Kurchatov Arra	62.81	332	P	P	15 56 55.6	+0.3
	comp=Z,1.6nm,0.8s,baz=140,slow=6.1,SNR=8.6						
	comp=Z,1.6nm,0.8s						
KURK	Kurchatov	62.83	332	P	P	15 56 52.2	-3.3
YAK	Yakutsk	63.73	5	LR	LR	16 24 16.8	
	comp=Z,20nm,21.2s,baz=107,slow=36						
MA2	Magadan	65.41	17	LR	LR	16 26 27.3	
	comp=Z,24nm,19.4s,baz=356,slow=37						
BVAR	Borovoye Array	68.26	330	P	P	15 57 30.3	-0.3
	comp=Z,1.6nm,0.8s,baz=125,slow=7.6,SNR=7.7						
BVAR				LR	LR	16 29 41.1	
	comp=Z,26nm,18.1s,baz=147,slow=38						
	comp=Z,1.6nm,0.8s						
SHEM	Shemya Is, Ala	70.27	32	LR	LR	16 24 47.6	
	comp=Z,17nm,20.1s,baz=350,slow=33						
TIXI	Tiksi	73.19	3	LR	LR	16 30 33.7	
	comp=Z,24nm,21.6s,baz=199,slow=36						
NRIK	Noril'sk	74.00	349	P	P	15 58 04.4	-0.6
	comp=Z,0.5nm,0.3s,baz=173,slow=6.5,SNR=1.5						
	comp=Z,0.5nm,0.3s						
SYO	Syowa Base	85.25	201	⇓*e*PcP	P	15 59 10.0	+3.8
QSPA	South Pole Qui	88.50	180	P	P	15 59 21.9	-0.4
	comp=Z,1.2nm,1.0s,baz=38,slow=8.2,SNR=3.6						
	comp=Z,1.2nm,1.0s						
AKASG	Malin Array Be	91.67	320	LR	LR	16 44 48.1	
	comp=Z,20nm,18.2s,baz=271,slow=38						
VRAC	Vranov	99.90	320	LR	LR	16 56 54.4	
	comp=Z,7.9nm,18.2s,baz=344,slow=42						

*DNK **16** 15:53:58.6±1.6, 78°.85N×4°.16E, h36km±13km, ML1.7*

*BER **16** 15:53:58.8±2.5, 78°.89N×3°.96E, h29km±22km, mb(Pn)3.6, ML1.7(DNK), Confirmed Earthquake*

*KOLA **16** 15:53:59.6, 78°.74N×5°.82E, h0km, ML2.1, Error ellipse: s-maj=23.9km s-min=15.2km az=140.0, Greenland sea, Knipovich ridge, middle, Knipovich ridge, north*

*FCIAR **16** 15:53:59.0, 79°.20N×5°.27E, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.60*

ISC 16 15:53:59.0±3.0, 78°.93N±0°.06×5°.5E±0°.1, h16km±11km, n30, σ1§42/40, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.24	87	*e*P	Pg	15 54 22.5	-0.2
KBS				*e*S	Sb	15 54 39.2	+1.7
KBS				IAML		15 54 42.4	
	comp=Z,61nm,0.4s						
KBS	Kingsbay	1.24	87	P	Pg	15 54 22.1	-0.6
KBS				S	Sb	15 54 39.5	+2.0
KBS	Kingsbay	1.24	87	P	Pg	15 54 22.2	-0.5
KBS				S	Sg	15 54 38.5	-0.3
KBS	Kingsbay	1.24	87	*e*P	Pg	15 54 22.2	-0.5
KBS				*e*S	Sb	15 54 39.1	+1.7
KBS	Kingsbay	1.24	87	*i* P	Pg	15 54 22.7	0.0
KBS				*e*S	Sb	15 54 39.3	+1.8
BRBB	Barentsburg B	1.93	112	*e*P	Pn	15 54 31.9	+0.9
BRBB				*e*S	Sb	15 54 56.5	-0.9
BRBB	Barentsburg B	1.93	112	P	Pn	15 54 31.8	+0.9
BRBB				S	Sn	15 54 53.6	-1.3
BRBB	Barentsburg B	1.93	112	P	Pn	15 54 31.6	+0.6
BRBB				S

OMEGA *e*S **Sn** **15 57 08.9 -3.5**
comp=Z,18nm,2.7s
NEEM North Greenlan 11.29 291 *i* P Pn 15 56 30.0 -10
NEEM *i* 15 58 24.9
NEEM IAML 15 58 31.1
comp=Z,1.0nm,0.4s
NEEM North Greenlan 11.29 291 *i* P Pn 15 56 30.0 -10
NEEM *i* 15 58 24.9
NEEM IAML 15 58 31.1
comp=Z,1.0nm,0.4s
SUMG Summit 12.19 262 *i* Pn 15 56 44.0 -8.0
SUMG IAML 15 59 06.6
comp=Z,0.5nm,0.3s
SUMG Summit 12.19 262 *i* Pn 15 56 44.0 -8.0
SUMG IAML 15 59 06.6
comp=Z,0.5nm,0.3s

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*IDC **16** 16:05:41.6±1.5,22°.98S×173°.29E,h0km,mb3.9/4, mbtmp3.9/6,ML5.2/1,MS3.2/6,Error ellipse: s-maj=39.3km s-min=24.9km az=153.0*

ISC 16 16:05:48.1±1.1,22°.8S±0°.2×173°.13E±0°.10,h49km,n11, σ1§36/8,mb3.9/4,MS3.4/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.22**	**275**	Pn	**Pn**	**16 07 18.5**	**+1.0**
	5.1nm,0.5s,baz=101,slow=9.9,SNR=30						
DZM				Sn	**Sn**	**16 08 25.3**	**-2.1**
	4.1nm,0.3s,baz=118,slow=20,SNR=7.3						
MSVF	**Nonsavu**	**6.82**	**43**	Pn	**Pn**	**16 07 24.8**	**-0.9**
	1.6nm,0.3s,baz=236,slow=16,SNR=8.8						
MSVF				Sn	**Sn**	**16 08 42.9**	**+0.8**
	0.8nm,0.3s,baz=114,slow=23,SNR=1.3						
MSVF				LR	LR	16 09 30.6	
	comp=Z,240nm,19.5s,baz=182,slow=33						
	2.5nm,0.4s						
HNR	**Honiara**	**18.32**	**314**	LR	LR	16 16 47.4	
	comp=Z,45nm,18.9s,baz=206,slow=36						
STKA	**Stephens Creek**	**29.36**	**245**	P	**P**	**16 11 47.1**	**+0.6**
	0.9nm,0.5s,baz=56,slow=7.7,SNR=4.1						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**35.98**	**261**	P	**P**	**16 12 45.5**	**+1.0**
	2.0nm,0.8s,baz=90,slow=8.8,SNR=32						
	2.0nm,0.8s						
WRA	**Warramunga Arr**	**36.17**	**267**	P	**P**	**16 12 46.4**	**+0.3**
	0.4nm,0.5s,baz=97,slow=8.3,SNR=11						
	0.4nm,0.5s						
GUMO	**Guam**	**45.53**	**320**	LR	LR	16 30 12.6	
	comp=Z,49nm,21.7s,baz=116,slow=32						
QSPA	**South Pole Qui**	**67.29**	**180**	P	**P**	**16 16 36.6**	**-0.9**
	2.8nm,1.0s,baz=37,slow=2.6,SNR=3.6						
	2.8nm,1.0s						
KSRS	**Korea Array**	**73.48**	**324**	LR	LR	16 49 45.0	
	comp=Z,9.9nm,18.3s,baz=145,slow=36						
PETK	**Petropavlovsk-**	**76.75**	**351**	LR	LR	16 44 46.9	
	comp=Z,19nm,20.8s,baz=140,slow=30						
SONM	**Songino Array**	**92.23**	**322**	LR	LR	17 00 47.7	
	comp=Z,11nm,18.4s,baz=86,slow=36						

IDC 16 16:30:39.9±2.2,1°.45S×126°.76E,h0km,mb3.0/2, mbtmp3.0/3,ML3.2/1,MS3.2/1,Error ellipse: s-maj=179.0km s-min=28.9km az=65.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.82**	**159**	P	Pn	16 35 13.2	-0.6
	0.1nm,0.3s,baz=337,slow=11,SNR=7.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**23.14**	**163**	P	P	16 35 47.5	-0.6
	0.3nm,0.8s,baz=345,slow=12,SNR=4.4						
	0.3nm,0.8s						
PSI	**Prapat**	**28.14**	**279**	LR	LR	16 50 40.2	
	comp=Z,48nm,20.8s,baz=174,slow=43						
MKAR	**Makanchi Array**	**61.84**	**327**	P	P	16 41 00.9	0.0
	0.4nm,1.1s,baz=123,slow=7.6,SNR=1.7						
	0.4nm,1.1s						

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*IDC **16** 16:43:03.4±1.1,38°.19S×93°.93W,h0km,mb3.7/5, mbtmp3.7/6,ML3.8/1,MS3.6/3,Error ellipse: s-maj=35.2km s-min=28.9km az=75.0*

ISC 16 16:43:07.1±1.0,38°.2S±0°.2×93°.9W±0°.2,h25km,n17, σ0§44/8,mb3.6/5,MS3.5/3,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.88**	**75**	T	T	16 59 12.4	
	baz=244,slow=74,SNR=30						
H03S1	**Juan Fernandez**	**12.90**	**75**	T	T	16 59 31.0	
	baz=244,slow=74,SNR=34						
H03S3	**Juan Fernandez**	**12.90**	**75**	T	T	16 59 10.8	
	baz=244,slow=74,SNR=41						
H03N3	**Juan Fernandez**	**13.04**	**73**	T	T	16 59 18.2	
	baz=251,slow=73,SNR=57						
H03N2	**Juan Fernandez**	**13.04**	**73**	T	T	16 59 15.8	
	baz=251,slow=73,SNR=36						
H03N1	**Juan Fernandez**	**13.06**	**73**	T	T	16 59 26.8	
	baz=251,slow=73,SNR=143						
PLCA	**Paso Flores**	**18.20**	**105**	P	**P**	**16 47 18.4**	**+0.2**
	0.1nm,0.3s,baz=291,slow=11,SNR=3.6						
	3.1nm,1.0s						
LPAZ	**La Paz**	**31.46**	**53**	P	**P**	**16 49 27.2**	**-0.2**
	1.4nm,0.7s,baz=196,slow=8.2,SNR=5.1						
	1.4nm,0.7s						
CPUP	**Villa Florida**	**32.91**	**80**	LR	LR	17 00 21.2	
	comp=Z,64nm,19.4s,baz=215,slow=32						
SIV	**San Ignacio**	**36.36**	**62**	LR	LR	17 03 18.2	
	comp=Z,65nm,18.0s,baz=288,slow=33						
QSPA	**South Pole Qui**	**52.02**	**180**	P	**P**	**16 52 14.3**	**0.0**
	3.0nm,1.1s,baz=115,slow=3.9,SNR=5.7						
	3.0nm,1.1s						
TXAR	**Lajitas Array**	**67.80**	**351**	P	**P**	**16 54 02.8**	**-0.2**
	0.2nm,0.6s,baz=183,slow=6.3,SNR=1.6						
	0.2nm,0.6s						
ANMO	**Albuquerque**	**73.71**	**349**	LR	LR	17 22 03.5	
	comp=Z,85nm,20.6s,baz=36,slow=32						
NVAR	**Mina Array Bea**	**79.50**	**341**	P	**P**	**16 55 12.2**	**+0.7**
	0.5nm,0.8s,baz=176,slow=5.3,SNR=2.5						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**81.84**	**348**	P	**P**	**16 55 24.1**	**+0.1**
	0.5nm,0.8s,baz=197,slow=4.9,SNR=4.2						
	0.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**145.31**	**295**	PKPbc	**PKPbc**	**17 02 41.5**	**-0.6**
	2.1nm,0.7s,baz=103,slow=6.5,SNR=5.8						
SONM	**Songino Array**	**162.35**	**310**	PKPab	**PKPab**	**17 03 53.8**	**0.0**
	0.5nm,0.8s,baz=45,slow=2.2,SNR=1.9						

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*IDC **16** 16:52:02.3±1.8,6°.46S×148°.57E,h67km±14km,mb3.9/6, mbtmp4.2/8,MS3.2/7,Error ellipse: s-maj=38.5km s-min=11.4km az=121.0*

ISC 16 16:51:59.6±0.8,6°.3S±0°.1×148°.6E±0°.2,h46km,n24, σ1§06/26,mb4.2/6,MS3.1/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.88**	**65**	P	**Pn**	**16 52 28.5**	**-0.8**
PMG	**Port Moresby**	**3.36**	**205**	P	**Pn**	**16 52 51.2**	**+1.6**
	72nm,0.3s,baz=29,slow=5.3,SNR=102						
PMG				S	**Sn**	**16 53 29.9**	**+1.5**
	331nm,0.6s,baz=131,slow=21,SNR=15						
PMG				LR	LR	16 54 25.7	
	comp=Z,470nm,18.6s,baz=48,slow=44						
COEN	**Coen**	**9.26**	**215**	P	**Pn**	**16 54 10.6**	**-0.1**
MTSU	**Mount Surprise**	**12.44**	**199**	P	**Pn**	**16 54 55.1**	**+0.9**
QIS	**Mount Isa**	**16.61**	**211**	P	**Pn**	**16 55 49.1**	**-0.3**
WRA	**Warramunga Arr**	**19.36**	**224**	P	**P**	**16 56 21.4**	**-0.1**
	6.3nm,0.6s,baz=50,slow=11,SNR=73						
WRA				S	**S**	**16 59 55.8**	**-2.5**
	0.6nm,0.9s,baz=47,slow=22,SNR=4.0						
WRA				ScP	**ScP**	**17 04 14.7**	**-0.1**
	1.0nm,0.7s,baz=46,slow=2.5,SNR=11						
GUMO	**Guam**	**20.15**	**349**	LR	LR	17 04 41.5	
	comp=Z,25nm,18.6s,baz=116,slow=38						
QLP	**Quilpie**	**20.55**	**191**	P	**P**	**16 56 35.2**	**+0.7**
AS01	**Alice Springs**	**22.25**	**218**	P	**P**	**16 56 52.6**	**-0.2**
ASAR	**Alice Springs**	**22.29**	**218**	P	**P**	**16 56 53.0**	**-0.2**
	5.6nm,0.7s,baz=57,slow=9.0,SNR=197						
ASAR				S	**S**	**17 00 53.3**	**-2.3**
	0.7nm,0.9s,baz=35,slow=20,SNR=4.1						
ASAR				ScP	**ScP**	**17 04 21.9**	**0.0**
	0.5nm,0.7s,baz=55,slow=2.6,SNR=7.4						
ASAR				LR	LR	17 05 31.0	
	comp=Z,54nm,20.7s,baz=86,slow=36						
	5.6nm,0.7s						
INKA	**Innaminka**	**22.55**	**198**	P	**P**	**16 56 56.4**	**+0.5**
OOD	**Oodnadatta**	**24.61**	**208**	P	**P**	**16 57 16.3**	**+0.6**
CMSA	**Cobar Meteorol**	**25.21**	**186**	P	**P**	**16 57 21.1**	**0.0**
FITZ	**Fitzroy Crossi**	**25.27**	**240**	P	**P**	**16 57 22.4**	**+0.6**
	14nm,0.6s,baz=61,slow=8.4,SNR=56						
FITZ				LR	LR	17 08 48.0	
	comp=Z,68nm,22.0s,baz=118,slow=40						
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.27**	**240**	P	**P**	**16 57 21.3**	**-0.5**
LCRK	**Leigh Creek**	**25.89**	**201**	P	**P**	**16 57 28.1**	**+0.8**
STKA	**Stephens Creek**	**26.23**	**194**	P	**P**	**16 57 29.4**	**-1.0**
	1.9nm,0.5s,baz=329,slow=11,SNR=4.0						
	1.9nm,0.5s						
WRKA	**Warakurna**	**26.90**	**224**	P	**P**	**16 57 36.8**	**+0.2**
LEM	**Lembang**	**40.72**	**267**	LR	LR	17 18 58.7	
	comp=Z,32nm,18.9s,baz=244,slow=40						
PETK	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**17 02 01.2**	**+1.8**
	1.1nm,0.6s,baz=149,slow=7.8,SNR=7.7						
PETK				LR	LR	17 22 50.6	
	comp=Z,16nm,21.4s,baz=143,slow=31						
	1.1nm,0.6s						
QSPA	**South Pole Qui**	**83.63**	**180**	P	**P**	**17 04 22.3**	**-0.8**
	2.4nm,0.6s,baz=280,slow=1.7,SNR=22						
	2.4nm,0.6s						
ILAR	**Eielson Array**	**85.17**	**23**	P	**P**	**17 04 30.0**	**-0.7**
	0.3nm,0.7s,baz=243,slow=3.7,SNR=4.9						
	0.3nm,0.7s						
PFO	**Pinyon Flats O**	**97.57**	**57**	LR	LR	17 42 02.9	
	comp=Z,39nm,19.3s,baz=108,slow=31						
TORD	**Torodi Ar. Bea**	**146.72**	**284**	PKPbc	**PKPbc**	**17 11 37.2**	**-0.4**
	0.5nm,0.4s,baz=55,slow=3.8,SNR=5.0						

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*IDC **16** 17:02:37.3±1.2,36°.34N×30°.32E,h0km,mb3.7/7, mbtmp3.6/12,ML3.0/4,Error ellipse: s-maj=21.4km s-min=18.4km az=63.0*
*AFAD **16** 17:02:38.1,36°.44N×30°.28E,h18km±1km,ML3.1*
*ISK **16** 17:02:39.2,36°.48N×30°.26E,h5km,ML3.1/29*

ISC 16 17:02:39.2±0.8,36°.40N±0°.02×30°.28E±0°.02,h14km±5km, n67,σ1§34/92,mb3.5/7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.10**	**149**	P	**Pg**	**17 02 42.4**	**+0.2**
AKUM				S	**Sg**	**17 02 45.3**	**+1.0**
KEMT	**Kemer-ANTALYA**	**0.30**	**48**	Pg	**Pb**	**17 02 45.6**	**-0.7**
KEMT				Sg	**Sb**	**17 02 50.5**	**-0.6**
ELL	**Elmali**	**0.46**	**319**	Pg	**Pg**	**17 02 46.8**	**-1.5**
AKAS	**Kas**	**0.57**	**253**	Pg	**Pg**	**17 02 49.9**	**-0.6**
AKAS				Sg	**Sb**	**17 03 00.7**	**+1.5**
AKAS	**Kas**	**0.57**	**253**	P	**Pg**	**17 02 49.8**	**-0.8**
AKAS				S	**Sb**	**17 02 58.6**	**-0.7**
AKAS				*i* AML	AML	17 03 06.0	
	comp=E,1μm,0.7s						
AKAS				*i* AML	AML	17 03 12.0	
	comp=N,2μm,0.6s						
ANTB	**Antalya**	**0.58**	**31**	Pg	**Pb**	**17 02 50.5**	**-0.6**
KORT	**Korkueli**	**0.60**	**5**	Pg	**Pg**	**17 02 49.4**	**-1.6**
KORT				Sg	**Sb**	**17 02 59.1**	**-0.9**
KORT	**Korkueli**	**0.60**	**5**	P	**Pg**	**17 02 49.3**	**-1.7**
KORT				*i* AML	AML	17 03 10.0	
	comp=N,882nm,0.7s						
KORT				*i* AML	AML	17 03 12.0	
	comp=E,1μm,0.7s						
KNIK	**Mula-Seydike**	**0.72**	**308**	P	**Pg**	**17 02 51.8**	**-1.5**
IZZE	**Mula-Seydike**	**0.85**	**272**	P	**Pb**	**17 02 55.8**	**-0.1**
IZZE				S	**Sn**	**17 03 10.2**	**+1.0**
IZZE				*i* AML	AML	17 03 18.0	
	comp=N,839nm,0.4s						
IZZE				*i* AML	AML	17 03 18.0	
	comp=E,487nm,0.5s						
BUCA	**Burdur, Bucak-**	**0.95**	**13**	P	**Pg**	**17 02 56.0**	**-1.5**
CAME	**Cameli-Denizli**	**0.95**	**305**	Pg	**Pn**	**17 02 57.8**	**-0.6**
FETY	**Fethiye**	**0.99**	**284**	Pg	**Pn**	**17 02 59.1**	**+0.3**
GOLH	**Golhisar**	**1.01**	**325**	P	**Pb**	**17 02 58.1**	**-0.5**
GOLH				S	**Sn**	**17 03 14.9**	**+1.6**
GOLH				*i* AML	AML	17 03 22.0	
	comp=E,459nm,1.2s						
GOLH				*i* AML	AML	17 03 33.0	
	comp=N,535nm,0.8s						
CAEL	**Denizli, Camel**	**1.05**	**313**	P	**Pn**	**17 02 59.4**	**-0.4**
CAEL				S	**Sn**	**17 03 15.2**	**+0.9**
CAEL				*i* AML	AML	17 03 24.0	
	comp=N,667nm,0.8s						
CAEL				*i* AML	AML	17 03 36.0	
	comp=E,540nm,0.9s						
BCK	**Bucak**	**1.08**	**13**	Pg	**Pn**	**17 03 00.2**	**+0.1**
SABU	**Mula-Dalaman**	**1.14**	**292**	P	**Pn**	**17 03 01.5**	**+0.7**
SABU				S	**Sn**	**17 03 18.5**	**+2.3**
KEPZ	**Antalya-Kepez**	**1.17**	**65**	P	**Pg**	**17 03 00.4**	**-1.4**
KEPZ				S	**Sb**	**17 03 15.8**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.30**	**352**	P	**Pn**	**17 03 03.6**	**+0.5**
APMY	**Acipayam-Deniz**	**1.32**	**324**	Pn	**Pb**	**17 03 04.3**	**+0.4**
DNZT	**Denizli-Tavas-**	**1.33**	**311**	P	**Pb**	**17 03 03.9**	**-0.2**
DNZT				S	**Sn**	**17 03 23.0**	**+1.8**
DALY	**Dalyan (Mula)**	**1.38**	**288**	Pn	**Pg**	**17 03 05.9**	**+0.3**
ALAN	**Alanya-ANTALYA**	**1.42**	**83**	Pn	**Pg**	**17 03 07.3**	**+0.8**
INCE	**Denizli-Bozkur**	**1.42**	**337**	P	**Pg**	**17 03 07.4**	**+0.9**
INCE				S	**Sn**	**17 03 27.8**	**+4.5**
ISP	**Isparta**	**1.43**	**8**	Pn	**Pg**	**17 03 06.3**	**-0.4**
BASM	**Basmaki-Afyon**	**1.52**	**353**	Pn	**Pg**	**17 03 07.7**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.53**	**314**	P	**Pg**	**17 03 07.8**	**-0.7**
TAVA				S	**Sg**	**17 03 28.7**	**+0.3**
DNIZ	**Denizli-Tavas-**	**1.57**	**321**	P	**Pg**	**17 03 08.8**	**-0.7**
DNIZ				S	**Sg**	**17 03 30.9**	**+0.9**
DNIZ				*i* AML	AML	17 03 38.0	
	comp=N,293nm,0.8s						
DNIZ				*i* AML	AML	17 03 39.0	
	comp=E,316nm,0.5s						
SEDI	**Konya, Seydise**	**1.57**	**48**	P	**Pb**	**17 03 07.1**	**-1.1**
SEDI				S	**Sg**	**17 03 32.2**	**+2.2**
SEYD	**Seydisehir-KON**	**1.60**	**51**	Pn	**Pg**	**17 03 09.1**	**-0.8**
BAGO	**Egridir - ISPA**	**1.63**	**14**	P	**Pg**	**17 03 10.0**	**-0.6**
BAGO				S	**Sg**	**17 03 35.5**	**+3.6**
GAZI	**Gazipasa**	**1.65**	**95**	Pn	**Pg**	**17 03 10.8**	**-0.1**
GAZI	**Gazipasa**	**1.65**	**95**	P	**Pg**	**17 03 10.3**	**-0.6**
GAZI				S	**Sn**	**17 03 29.4**	**+0.5**
TURN	**Turunc**	**1.68**	**283**	Pn	**Pg**	**17 03 10.5**	**-1.0**
TURN	**Turunc**	**1.68**	**283**	P	**Pg**	**17 03 11.4**	**-0.2**
TURN				S	**Sg**	**17 03 33.3**	**-0.1**
ARG	**Arkhangelos**	**1.75**	**264**	Pn	**Pg**	**17 03 11.7**	**-1.2**
YER	**Yerkesik**	**1.76**	**295**	Pn	**Pg**	**17 03 11.5**	**-1.6**
MULA	**Mugla, Merkez-**	**1.79**	**299**	P	**Pg**	**17 03 13.2**	**-0.4**
MULA				S	**Sg**	**17 03 35.8**	**-1.0**
KZIL	**AFYON_Kizioren**	**1.85**	**357**	P	**Pb**	**17 03 12.1**	**-0.8**
HDMB	**Hadim**	**1.86**	**72**	Pn	**Pg**	**17 03 13.2**	**-1.7**
AFYN	**Afyon-Dinar-K**	**1.87**	**5**	P	**Pg**	**17 03 13.0**	**-2.1**
AFYN				S	**Sg**	**17 03 38.3**	**-1.2**
YVAC	**Isparta, Yalva**	**2.01**	**22**	P	**Pb**	**17 03 15.1**	**-0.6**
YVAC				S	**Sg**	**17 03 42.4**	**-1.6**
DOGA	**KONYA_Doganhis**	**2.03**	**33**	P	**Pg**	**17 03 16.1**	**-2.0**
SHUT	**Suhut-Afyon**	**2.16**	**6**	Pn	**Pb**	**17 03 16.8**	**-1.3**
MLSB	**Milas**	**2.20**	**295**	Pn	**Pb**	**17 03 17.8**	**-1.0**
DAT	**Datca**	**2.20**	**279**	Pn	**Pb**	**17 03 18.3**	**-0.6**
NAZL	**Nazilli-Aydin**	**2.23**	**315**	Pn	**Pb**	**17 03 17.8**	**-1.5**
TEKE	**Tekeli-Mersin**	**2.30**	**96**	Pn	**Pb**	**17 03 20.2**	**-0.3**
BERE	**Bereket-Mersin**	**2.37**	**91**	Pn	**Pb**	**17 03 21.2**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.45**	**310**	Pn	**Pb**	**17 03 21.2**	**-2.0**
KULA	**Kula-Manisa**	**2.47**	**329**	Pn	**Pb**	**17 03 21.1**	**-2.4**
BODT	**Bodrum**	**2.48**	**286**	Pn	**Pb**	**17 03 21.9**	**-1.6**
LEF	**Lefka**	**2.48**	**120**	Pn	**Pb**	**17 03 22.5**	**-1.0**
ODEM	**Odemis-Izmir**	**2.57**	**317**	Pn	**Pb**	**17 03 22.7**	**-2.4**
KARP	**Karpathos**	**2.67**	**252**	Pn	**Pb**	**17 03 25.3**	**-1.6**
BRTR	**Keskin Array B**	**4.24**	**38**	Pn	**Pn**	**17 03 45.1**	**+1.5**
	0.6nm,0.3s,baz=225,slow=14,SNR=15						
BRTR				Sn	**Sn**	**17 04 36.6**	**+3.6**
	0.3nm,0.3s,baz=208,slow=22,SNR=5.4						
	1.3nm,0.4s						
IDI	**Anoyia**	**4.52**	**257**	Pn	**Pn**	**17 03 48.5**	**+1.2**
	8.4nm,0.5s,baz=83,slow=9.7,SNR=7.4						
IDI				Sn	**Sn**	**17 04 40.1**	**+0.4**
	0.3nm,0.3s,baz=151,slow=9.0,SNR=1.6						
MMAI	**Mount Meron Ar**	**5.40**	**127**	Pn	**Pn**	**17 03 58.5**	**-1.0**
	1.4nm,0.3s,baz=314,slow=11,SNR=6.1						
MMAI				Sn	**Sn**	**17 05 00.7**	**-0.8**
	0.8nm,0.3s,baz=295,slow=35,SNR=1.3						
	2.5nm,0.6s						
ASF	**Jabal al Asfar**	**6.91**	**126**	Pn	**Pn**	**17 04 18.5**	**-1.7**
	0.1nm,0.3s,baz=358,slow=6.9,SNR=1.6						
	2.2nm,0.8s						
EIL	**Elat**	**7.77**	**148**	Pn	**Pn**	**17 04 31.4**	**-0.6**
	0.3nm,0.3s,baz=25,slow=17,SNR=1.5						
EIL				Sn	**Sn**	**17 05 58.1**	**-1.7**
	0.2nm,0.3s,baz=127,slow=22,SNR=1.6						
	3.9nm,0.8s						
FINES	**FINESS Array B**	**25.20**	**355**	P	**P**	**17 08 04.9**	**+0.8**
	17nm,1.4s,baz=165,slow=9.8,SNR=5.1						
	17nm,1.4s						
ARCES	**ARCESS Array B**	**33.29**	**357**	P	**P**	**17 09 15.9**	**-0.1**
	3.1nm,1.0s,baz=171,slow=8.1,SNR=1.9						
	3.1nm,1.0s						
KURBB	**Kurchatov Arra**	**37.09**	**52**	P	**P**	**17 09 49.2**	**+0.3**
	0.5nm,0.6s,baz=273,slow=8.8,SNR=6.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**39.60**	**58**	P	**P**	**17 10 10.6**	**+0.4**
	0.2nm,0.4s,baz=280,slow=9.1,SNR=4.5						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.12**	**47**	P	**P**	**17 10 23.1**	**+0.5**
	0.4nm,0.6s,baz=282,slow=7.2,SNR=1.5						
	0.4nm,0.6s						
SONM	**Songino Array**	**55.45**	**53**	P	**P**	**17 12 13.7**	**+0.2**
	0.3nm,0.5s,baz=297,slow=3.7,SNR=2.5						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**62.31**	**87**	P	**P**	**17 13 01.8**	**+0.5**
	0.2nm,0.4s,baz=316,slow=9.0,SNR=2.4						
	0.2nm,0.4s						

ISC 16 17:19:20.2±2.0,46°.35N±0°.04×13°.24E±0°.03,h9km±16km, n13,σ0§29/22,2C,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VINO	**Villanova**	**0.10**	**163**	*e*Pg	**Pg**	**17 19 22.6**	**0.0**
VINO				*e*Sg	**Sg**	**17 19 24.5**	**+0.2**
BOO	**Bordano**	**0.10**	**253↑**	*e*Pg	**Pg**	**17 19 22.4**	**-0.3**
BOO				*e*Sg	**Sg**	**17 19 24.2**	**-0.2**
BAD	**Bernadia**	**0.11**	**179↑**	*e*Pg	**Pg**	**17 19 22.7**	**-0.1**
BAD				*e*Sg	**Sg**	**17 19 24.8**	**+0.1**
FUSE	**Fusea**	**0.18**	**292**	*e*Pg	**Pg**	**17 19 23.7**	**-0.2**
FUSE				*e*Sg	**Sg**	**17 19 26.7**	**+0.2**
MPRI	**Monte Prat**	**0.20**	**239**	*e*Pg	**Pg**	**17 19 24.4**	**0.0**
MPRI				*e*Sg	**Sg**	**17 19 27.8**	**+0.5**
PLRO	**Paularo**	**0.21**	**342**	*e*Pg	**Pg**	**17 19 24.3**	**-0.2**
PLRO				*e*Sg	**Sg**	**17 19 27.8**	**+0.3**
ROBS	**Robic**	**0.21**	**119**	*i* Pg	**Pg**	**17 19 24.2**	**-0.4**
ROBS				*i* Sg	**Sg**	**17 19 27.5**	**0.0**
ROBS				IAML		17 19 28.0	
	comp=Z,1.2nm,0.1s						
LSR	**Lussari**	**0.24**	**57**	*e*Pg	**Pg**	**17 19 24.9**	**-0.1**
LSR				*e*Sg	**Sg**	**17 19 28.7**	**+0.4**
PRED	**Cave del Predi**	**0.24**	**67**	*e*Pg	**Pg**	**17 19 24.9**	**-0.2**
PRED				*e*Sg	**Sg**	**17 19 29.0**	**+0.5**
CLUD	**Cludinico**	**0.27**	**294**	*e*Pg	**Pg**	**17 19 25.3**	**-0.3**
ACOM	**Acomizza, Ital**	**0.27**	**43**	*e*Pg	**Pg**	**17 19 25.6**	**-0.2**
ZOU	**Zoufplan**	**0.28**	**318**	*e*Pg	**Pg**	**17 19 25.7**	**-0.2**
DRE	**Drenchia**	**0.33**	**122**	*e*Pg	**Pg**	**17 19 26.4**	**-0.3**

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*IDC **16** 17:23:27.6±1.5,6°.21S×130°.25E,h0km,mb4.2/4, mbtmp4.4/7,ML4.6/3,Error ellipse: s-maj=68.3km s-min=20.3km az=68.0*
*NEIC **16** 17:23:37.6±1.2,6°.36S±0°.02×130°.6E±0°.1,h168km±8km, mb4.3/10,Error ellipse: s-maj=16.3km s-min=2.5km az=82.0*
*DJA **16** 17:23:39.9±0.3,6°.S±2°.×13°.1E±°,h130km±11km,M4.7/14, mB5.2/7,mb4.7/8,MLv4.8/14,Mw(mB)4.6/7*

ISC 16 17:23:36.5±0.5,6°.42S±0°.04×130°.48E±0°.05,h150km,n69, σ2§96/71,mb4.1/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.75**	**152**	Pn	**Pn**	**17 24 11.8**	**+2.9**
SAUI				Sn	**Sn**	**17 24 36.9**	**+3.2**
SAUI	**Saumlaki**	**1.75**	**152**	P	**Pn**	**17 24 10.4**	**+1.5**
SAUI	**Saumlaki**	**1.75**	**152**	P	**Pn**	**17 24 12.1**	**+3.2**
SAUI				S	**Sn**	**17 24 37.9**	**+4.2**
BNDI	**Bandanaira**	**1.97**	**343**	P	**Pn**	**17 24 13.4**	**+2.1**
BNDI	**Bandanaira**	**1.97**	**343**	P	**Pn**	**17 24 13.3**	**+2.0**
MSAI	**Masohi**	**3.42**	**333**	P	**Pn**	**17 24 31.9**	**+2.6**
MSAI				S	**Sn**	**17 25 12.7**	**+2.4**
FAKI	**Fak Fak**	**3.90**	**27**	Pn	**Pn**	**17 24 36.3**	**+0.8**
FAKI				Sn	**Sn**	**17 25 17.4**	**-3.9**
FAKI	**Fak Fak**	**3.90**	**27**	P	**Pn**	**17 24 36.6**	**+1.1**
FAKI	**Fak Fak**	**3.90**	**27**	P	**Pn**	**17 24 36.4**	**+0.9**
FAKI				S	**Sn**	**17 25 20.4**	**-0.9**
KMPI	**Kaimana, Papua**	**4.22**	**50**	P	**Pn**	**17 24 42.2**	**+2.5**
KMPI				S	**Sn**	**17 25 28.7**	**-0.1**
SWI	**Sorong**	**5.57**	**8**	P	**Pn**	**17 24 58.7**	**+1.1**
	1.1nm5μm75nm,0.5s						
DRS	**Darwin Rock St**	**5.99**	**176**	P	**Pn**	**17 25 05.3**	**+2.2**
RKPI	**Ransiki, Papua**	**6.11**	**37**	P	**Pn**	**17 25 06.8

comp=Z,11nm,1.0s
BBOO Buckleboo 26.77 170 P **P 17 29 02.1 -0.3**
BBOO IAmb IAmb 17 29 35.2
comp=Z,6.9nm,1.0s
BBOO Buckleboo 26.77 170 P **P** 17 29 09.5 +7.1
STKA Stephens Creek 27.38 159 P **P 17 29 06.9 -0.9**
STKA Stephens Creek 27.38 159 P **P** 17 29 17.5 +10
comp=Z,1.3nm,0.7s,baz=342,slow=15,SNR=2.9
comp=Z,1.3nm,0.7s
CMAR Chiang Mai Arr 39.73 309 P **P** 17 31 00.5 +5.7
comp=Z,0.8nm,0.5s,baz=134,slow=7.0,SNR=9.4
comp=Z,0.8nm,0.5s
PETK Petropavlovsk- 63.63 18 P **P 17 33 50.2 -1.2**
MK31 Makanchi Array 68.00 326 P **P 17 34 17.8 -1.9**
MKAR Makanchi Array 68.00 326 P **P 17 34 18.1 -1.5**
MKAR Makanchi Array 68.00 326 P **P** 17 34 26.6 +7.0
comp=Z,1.2nm,0.6s,baz=116,slow=8.0,SNR=19
comp=Z,1.2nm,0.6s
MAKZ Makanchi 68.19 326 P **P 17 34 19.2 -1.5**
KURBB Kurchatov Arra 72.27 328 P **P** 17 34 52.3 +6.9
comp=Z,1.9nm,0.2s,baz=121,slow=5.2,SNR=1.6
comp=Z,1.9nm,0.2s
ABKAR Akbulak array 82.35 321 P **P 17 35 40.1 -1.5**

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*JMA **16** 17:29:40.8±0.5,32°N±2°×13°8E±°, h424km±4km, MV3.2/35, FAR S OFF TOKAI DISTRICT*
*IDC **16** 17:29:41.7±0.7,32.40N×137.51E, h398km±10km, mb3.0/12, mbtmp3.8/19, Error ellipse: s-maj=21.3km s-min=12.3km az=73.0*
ISC 16 17:29:42.0±0.8,32.47N±0.08×137.69E±0.07, h408km±6km, n58,σ1905/69, mb3.3/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.38**	**327**	*eP*	**P**	**17 30 36.1**	**+1.1**
TTO2	**TONANKAI O.B.S**	**1.38**	**336**	*eP*	**P**	**17 30 36.3**	**+1.3**
TTO2				*eS*	**S**	**17 31 20.4**	**+2.5**
TTO3	**TONANKAI O.B.S**	**1.42**	**350**	*eP*	**P**	**17 30 36.9**	**+1.6**
TTO4	**TONANKAI O.B.S**	**1.54**	**355**	*eP*	**P**	**17 30 37.2**	**+1.4**
JHJ	**Hachijo jima 2**	**1.88**	**69**	P	**P**	**17 30 38.2**	**+0.3**
	89nm,0.3s,baz=352,slow=17,SNR=19						
JHJ				S	**S**	**17 31 24.0**	**+0.8**
	142nm,0.7s,baz=78,slow=23,SNR=1.7						
JHJ2	**Mitsune**	**1.90**	**70**	P	**P**	**17 30 38.5**	**+0.5**
JHJ2	**Mitsune**	**1.90**	**70**	S	**S**	**17 31 23.6**	**+0.2**
JHJ2	**Mitsune**	**1.90**	**70**	*eP*	**P**	**17 30 38.3**	**+0.3**
JIE	**Ise**	**2.09**	**337**	P	**P**	**17 30 39.8**	**+0.7**
JIE				*eS*	**S**	**17 31 25.3**	**-0.2**
JTNC	**Tanabenakahech**	**2.21**	**308**	*eP*	**P**	**17 30 39.9**	**0.0**
JTNC				*eS*	**S**	**17 31 25.7**	**-1.3**
JWY	**Kouya**	**2.48**	**315**	P	**P**	**17 30 42.5**	**+0.7**
JOD2	**Odawara 2**	**3.02**	**22**	*eP*	**P**	**17 30 45.9**	**0.0**
JOD2				*eS*	**S**	**17 31 35.5**	**-2.3**
JAI	**Aioi**	**3.02**	**297**	P	**P**	**17 30 46.2**	**+0.4**
JYN	**Shimob**	**3.11**	**13**	*eP*	**P**	**17 30 47.3**	**+0.8**
JGF	**Kuroka**	**3.14**	**355**	P	**P**	**17 30 47.3**	**+0.5**
JYTA	**Yamagatataniai**	**3.22**	**346**	P	**P**	**17 30 48.1**	**+0.7**
JYTA				*eS*	**S**	**17 31 41.2**	**+0.5**
JWT	**Wachi**	**3.40**	**326**	P	**P**	**17 30 49.6**	**+0.7**
JWT				*eS*	**S**	**17 31 42.6**	**-0.8**
JMN	**Monobe**	**3.44**	**293**	*eP*	**P**	**17 30 50.1**	**+0.7**
BSO1	**Boso 1**	**3.51**	**51**	*eP*	**P**	**17 30 47.7**	**-1.5**
BSO1				*eS*	**S**	**17 31 41.6**	**-2.5**
JRY	**Ryogami san**	**3.68**	**15**	*eP*	**P**	**17 30 51.9**	**+0.5**
JRY				*eS*	**S**	**17 31 46.8**	**-1.3**
JKG	**Kaga**	**3.96**	**344**	*eP*	**P**	**17 30 54.4**	**+0.4**
MJAR	**Matsushiro Arr**	**4.09**	**6**	P	**P**	**17 30 55.1**	**0.0**
	8.3nm,0.6s,baz=158,slow=9.9,SNR=98						
MJAR				S	**S**	**17 31 53.1**	**-1.8**
	2.4nm,0.3s,baz=134,slow=16,SNR=5.3						
MAJO	**Matsushiro**	**4.09**	**6**	P	**P**	**17 30 55.2**	**+0.1**
MAJO	**Matsushiro**	**4.09**	**6**	S	**S**	**17 31 54.0**	**-0.9**
MAT	**Matsushiro**	**4.09**	**6**	P	**P**	**17 30 55.3**	**+0.1**
MAT				*eS*	**S**	**17 31 52.5**	**-2.4**
JTO	**Tosashimizu**	**4.14**	**277**	*eP*	**P**	**17 30 56.2**	**+0.5**
JHS	**Sajiyo**	**4.57**	**305**	*eP*	**P**	**17 31 01.0**	**+1.2**
JOI	**OKI**	**5.30**	**317**	*eP*	**P**	**17 31 08.1**	**+1.0**
JSD	**Sado**	**5.58**	**5**	P	**P**	**17 31 10.1**	**+0.1**
JNU	**Nakatsue**	**5.78**	**278**	P	**P**	**17 31 11.9**	**-0.3**
	7.1nm,0.8s,baz=139,slow=14,SNR=2.6						
JMM	**Marumori**	**5.96**	**24**	P	**P**	**17 31 13.6**	**-0.4**
JCJ	**Chichijima**	**6.62**	**143**	P	P	17 31 11.8	-10
	109nm,0.7s,baz=54,slow=21,SNR=2.2						
JCJ				S	S	17 32 28.1	-15
	115nm,0.4s,baz=278,slow=22,SNR=8.3						
JTM	**Tenmabayashi**	**8.74**	**17**	P	**P**	**17 31 45.8**	**+0.6**
KSRS	**Korea Array**	**9.43**	**305**	P	**P**	**17 31 53.5**	**+0.5**
	1.1nm,0.6s,baz=115,slow=11,SNR=5.7						
ERM	**Erimo**	**10.48**	**23**	P	**P**	**17 32 06.2**	**+1.7**
ERM	**Erimo**	**10.48**	**23**	S	**S**	**17 34 01.5**	**-0.6**
JEM	**Erimo**	**10.48**	**23**	P	**P**	**17 32 06.6**	**+2.1**
JEM	**Erimo**	**10.48**	**23**	S	**S**	**17 34 01.3**	**-0.8**
ASAJ	**Asahikawa**	**12.25**	**17**	P	**P**	**17 32 25.3**	**+1.3**
	3.4nm,0.3s,baz=234,slow=12,SNR=19						
USRK	**Ussuriysk Ar.**	**12.54**	**341**	P	**P**	**17 32 27.2**	**+0.1**
	3.9nm,0.5s,baz=150,slow=11,SNR=15						
YHNB	**Yeheng**	**16.29**	**246**	P	**P**	**17 33 07.7**	**-0.5**
NACB	**Ninganchiao**	**16.39**	**244**	P	**P**	**17 33 09.6**	**+0.4**
YULB	**Yu-li**	**17.06**	**242**	P	**P**	**17 33 16.4**	**+0.1**
SSLB	**Suanglung**	**17.09**	**244**	P	**P**	**17 33 17.6**	**+0.9**
KLR	**Kul'dur**	**17.33**	**347**	P	**P**	**17 33 19.1**	**+0.2**
	2.1nm,0.4s,baz=162,slow=8.2,SNR=13						
TPUB	**Ta-pu**	**17.61**	**243**	P	**P**	**17 33 22.1**	**-0.1**
SONM	**Songino Array**	**28.18**	**312**	P	**P**	**17 34 58.3**	**-0.8**
	0.3nm,0.4s,baz=119,slow=9.0,SNR=3.8						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.45**	**258**	P	**P**	**17 36 16.6**	**-2.1**
	0.8nm,0.8s,baz=52,slow=7.1,SNR=11						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**42.90**	**316**	P	**P**	**17 37 02.4**	**+0.1**
	0.4nm,0.3s,baz=80,slow=10.0,SNR=3.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.11**	**306**	P	**P**	**17 37 12.6**	**+0.6**
	0.7nm,0.5s,baz=86,slow=9.3,SNR=10						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**46.54**	**311**	P	**P**	**17 37 30.7**	**+0.1**
	0.6nm,0.4s,baz=91,slow=8.6,SNR=6.8						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**51.48**	**315**	P	**P**	**17 38 08.2**	**+0.7**
	0.7nm,0.4s,baz=91,slow=7.5,SNR=7.8						
BVAR				PcP	**PcP**	**17 39 16.2**	**+1.0**
	0.8nm,0.7s,baz=56,slow=0.5,SNR=4.5						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**52.21**	**184**	P	**P**	**17 38 13.2**	**0.0**
	0.5nm,0.6s,baz=0.3,slow=7.8,SNR=8.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**55.93**	**184**	P	**P**	**17 38 39.3**	**-0.3**
	0.2nm,0.6s,baz=3.2,slow=6.9,SNR=2.1						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**71.41**	**332**	P	**P**	**17 40 19.6**	**+0.8**
	1.7nm,0.9s,baz=67,slow=5.0,SNR=9.1						
	1.7nm,0.9s						
KBZ	**Khabaz**	**71.53**	**310**	P	**P**	**17 40 21.0**	**+1.1**
	0.9nm,0.8s,baz=151,slow=3.5,SNR=3.8						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**76.00**	**322**	P	**P**	**17 40 45.9**	**+0.6**
	0.3nm,0.3s,baz=48,slow=7.4,SNR=2.0						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**79.53**	**310**	P	**P**	**17 41 04.7**	**-0.3**
	0.7nm,0.8s,baz=62,slow=5.8,SNR=3.2						
	0.7nm,0.8s						

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*THE **16** 17:47:03.3,37.47N×20.50E, h0km±4km, ML2.5/9, Error ellipse: s-maj=5.2km s-min=0.6km az=210.0*
*ATH **16** 17:47:04.5,37.54N×20.58E, h15km±3km, ML2.5/9, Manual Solution by A.Plessa First location: 2019/03/16 17:47:48, This location: 2019/03/16 19:33:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*
ISC 16 17:47:02.4±2.2,37.45N±0.08×20.49E±0.07, h8km±10km, n28,σ0957/43, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**50**	P	**Pg**	**17 47 09.6**	**+0.6**
KRI1				S	**Sg**	**17 47 14.1**	**+0.7**
	5μm,0.4s						
LTHK	**Lithakia**	**0.38**	**46**	P	**Pg**	**17 47 10.2**	**+0.4**
LTHK				S	**Sg**	**17 47 15.5**	**+0.7**
	2μm,0.5s						
LTHK	**Lithakia**	**0.38**	**46**	P	**Pg**	**17 47 10.2**	**+0.4**
LTHK				S	**Sg**	**17 47 14.2**	**-0.5**
ORTH	**Orthonies,Zaky**	**0.43**	**22**	P	**Pg**	**17 47 11.4**	**+0.5**
ORTH				S	**Sg**	**17 47 15.8**	**-0.7**
KYPS	**Kipseli, Zakin**	**0.45**	**35**	P	**Pg**	**17 47 11.7**	**+0.5**
KYPS				S	**Sg**	**17 47 16.9**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.66**	**19**	P	**Pg**	**17 47 15.2**	**0.0**
RTZL				S	**Sb**	**17 47 25.1**	**-0.5**
	372nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.67**	**6**	P	**Pg**	**17 47 16.0**	**+0.7**
PSDA				S	**Sb**	**17 47 24.6**	**-1.1**
	645nm,0.4s						
PSDA	**Pessada-Kefalo**	**0.67**	**6**	P	**Pg**	**17 47 14.8**	**-0.5**
PSDA				S	**Sg**	**17 47 23.7**	**-0.3**
CLEM	**Kyllini,Ilia,G**	**0.67**	**49**	P	**Pg**	**17 47 15.7**	**+0.3**
CLEM				S	**Sg**	**17 47 22.9**	**-1.2**
VLS	**Valsamata**	**0.73**	**6**	P	**Pg**	**17 47 16.5**	**0.0**
VLS				S	**Sb**	**17 47 27.3**	**-0.3**
	472nm,0.3s						
VLS	**Valsamata**	**0.73**	**6**	P	**Pg**	**17 47 16.5**	**0.0**
VLS				S	**Sg**	**17 47 25.8**	**-0.3**
DMLN	**Damoulianata-K**	**0.80**	**353**	P	**Pg**	**17 47 18.0**	**+0.3**
DMLN				S	**Sb**	**17 47 29.2**	**-0.2**
	962nm,0.5s						
DMLN	**Damoulianata-K**	**0.80**	**353**	P	**Pg**	**17 47 18.0**	**+0.3**
YRMI	**Loutra Irminis**	**0.94**	**46**	P	**Pg**	**17 47 20.0**	**-0.5**
AMT	**Artemida-Makis**	**0.97**	**85**	P	**Pg**	**17 47 20.9**	**-0.2**
RLS	**Riolos of Patr**	**0.98**	**51**	P	**Pg**	**17 47 21.2**	**-0.1**
RLS	**Riolos of Patr**	**0.98**	**51**	P	**Pg**	**17 47 21.2**	**-0.1**
FSK	**Fiskardo**	**1.01**	**3**	P	**Pg**	**17 47 21.2**	**-0.6**
AXS	**Araxos**	**1.02**	**43**	P	**Pg**	**17 47 21.9**	**-0.2**
DRO	**Drossia**	**1.09**	**62**	P	**Pg**	**17 47 23.1**	**-0.2**
DRO				S	**Sn**	**17 47 39.0**	**-0.2**
	225nm,0.6s						
DRO	**Drossia**	**1.09**	**62**	P	**Pg**	**17 47 22.9**	**-0.4**
ITM	**Ithomi**	**1.17**	**103**	P	**Pg**	**17 47 24.6**	**-0.3**
EVGI	**Lefkada island**	**1.18**	**6**	P	**Pg**	**17 47 24.7**	**-0.3**
EVGI				S	**Sn**	**17 47 41.7**	**+0.3**
	185nm,0.5s						
EVGI	**Lefkada island**	**1.18**	**6**	P	**Pg**	**17 47 24.6**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pb**	**17 47 26.4**	**-0.2**
NYDR				S	**Sn**	**17 47 45.3**	**+1.6**
	110nm,0.6s						
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pb**	**17 47 26.6**	**0.0**
LKD2	**Lefkada island**	**1.34**	**5**	P	**Pn**	**17 47 27.2**	**-0.3**
ANX	**Ano Chora**	**1.60**	**44**	P	**Pn**	**17 47 32.2**	**+1.1**

IDC 16 17:47:42.6±1.9,2.14N×127.90E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=149.5km s-min=23.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.83**	**164**	P	P	17 52 48.0	+0.5
	0.8nm,0.5s,baz=344,slow=11,SNR=12						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.30**	**168**	P	P	17 53 19.5	-0.7
	0.1nm,0.5s,baz=348,slow=9.0,SNR=6.0						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	17 57 47.9	+0.1
	0.2nm,0.6s,baz=136,slow=6.6,SNR=2.1						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.70**	**327**	P	P	17 58 16.0	+0.1
	0.2nm,0.6s,baz=128,slow=7.1,SNR=2.0						
	0.2nm,0.6s						

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*IDC **16** 17:54:31.8±0.7,45.83S×77.17W, h0km, mb4.2/10, mbtmp4.2/13, ML3.9/3, MS4.5/9, Error ellipse: s-maj=28.2km s-min=17.4km az=100.0*
*NEIC **16** 17:54:33.3±1.9,45.65S±0.05×76.67W±0.05, h10km±1km, mb4.9/47, Mww5.0/34, Error ellipse: s-maj=9.3km s-min=5.4km az=167.0*
*NEIC **16** 17:54:33.5,45.63S×76.67W, h12km*
*NEIC **16** 17:54:33.5,45.63S×77.00W, h12km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^{16}Nm; M_{rr}0.19; $M_{\theta\theta}$1.71; $M_{\phi\phi}$-1.91; $M_{r\theta}$-0.39; $M_{\theta\phi}$-3.93; $M_{\phi r}$-1.79; Fault plane solution: $M_0$4.67000×10^{16} NP1:ϕ_s79.10000°, δ70.11000°, λ-173.42000°. NP2:ϕ_s346.85000°, δ83.81000°, λ-20.01000°. Principal axes: T 4.3377, Plg9.0000°, Azm35.0000°; N 0.6630, Plg69.0000°, Azm150.0000°; P -5.0007, Plg18.0000°, Azm301.0000°;*
*GCMT **16** 17:54:34.3±0.2,45.68S±0.01×77.23W±0.02, h16km±1km, MW5.1/121, Moment Tensor Solution. s45,c59; s121,c185; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21±.13; $M_{\theta\theta}$1.98±.13; $M_{\phi\phi}$-2.19±.12; $M_{r\theta}$0.02±.35; $M_{\theta\phi}$-4.34±.11; $M_{\phi r}$-2.42±.43; Best double couple: $M_0$5.37000×10^{16} NP1:ϕ_s78.00000°, δ64.00000°, λ-177.00000°. NP2:ϕ_s347.00000°, δ88.00000°, λ-26.00000°. Principal axes: T 5.0910, Plg16.0000°, Azm36.0000°; N 0.5580, Plg64.0000°, Azm162.0000°; P -5.6490, Plg20.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GUC **16** 17:54:38.3±0.7,45.47S×76.40W, h13km±9km, ML3.8*
*VAO **16** 17:54:42.8±0.5,44.91S×76.53W, h10km, mb4.6*
ISC 16 17:54:32.7±0.8,45.65S±0.05×76.77W±0.06, h7km±4km, n173,σ1965/161, mb4.7/36, MS4.6/7, 6C-4D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUEV	**Cuervo**	**2.63**	**81**	||*iP*	**Pn**	**17 55 17.5**	**+1.8**
CUEV				*i* S	**Sn**	**17 55 48.1**	**+0.1**
CUEV				IAML		17 56 01.5	
	comp=E,1μm,0.4s						
USPA	**Uspallante**	**2.68**	**76**	*i* P	**Pn**	**17 55 17.7**	**+1.5**
USPA				*i* S	**Sn**	**17 55 48.6**	**-0.3**
USPA				IAML		17 55 55.4	
	comp=N,539nm,0.3s						
HUDS	**Hudson**	**2.73**	**98**	*e*P	**Pb**	**17 55 19.8**	**-2.1**
HUDS				*i* S	**Sn**	**17 55 51.6**	**+1.2**
AYSN	**Puerto Aysn**	**2.88**	**86**	*i* P	**Pn**	**17 55 21.4**	**+2.4**
AYSN				*i* S	**Sn**	**17 55 53.6**	**-0.3**
AYSN				IAML		17 56 06.5	
	comp=N,232nm,0.4s						
MGDN	**Magdalena**	**2.91**	**71**	||*iP*	**Pn**	**17 55 19.7**	**+0.4**
MGDN				*i* S	**Sn**	**17 55 55.9**	**+1.4**
AY01	**Puyuhuapi**	**3.17**	**69**		**Pn**	**17 55 23.2**	**+0.2**
AY01					**Sb**	**17 56 06.1**	**-2.1**
AY01	**Puyuhuapi**	**3.17**	**69**	*e*P	**Pn**	**17 55 23.9**	**+0.9**
AY01				*i* S	**Sn**	**17 55 57.9**	**-3.2**
COYC	**Coyhaique**	**3.29**	**90**		**Pn**	**17 55 24.6**	**0.0**
AY03	**Cochrane**	**3.30**	**120**	Pn	**Pn**	**17 55 25.0**	**+0.2**
GO07	**Milladeo Hill,**	**3.38**	**42**		**Pn**	**17 55 25.2**	**-0.6**
GO07	**Milladeo Hill,**	**3.38**	**42**	*e*P	**Pn**	**17 55 26.4**	**+0.6**
LJUN	**La Junta**	**3.49**	**63**	*i* P	**Pn**	**17 55 28.4**	**+1.0**
LJUN				*i* S	**Sn**	**17 56 07.4**	**-1.5**
LJUN				IAML		17 56 19.2	
	comp=N,300nm,0.5s						
LL07	**Hotel Espejo d**	**3.68**	**41**	Pn	**Pn**	**17 55 30.5**	**+0.5**
LL06	**Loncomilla**	**4.12**	**35**		**Pn**	**17 55 36.0**	**-0.1**
LL06	**Loncomilla**	**4.12**	**35**	*e*P	**Pn**	**17 55 36.4**	**+0.3**
LL02	**Futaleuf**	**4.30**	**57**	Pn	**Pn**	**17 55 38.1**	**-0.4**
LL01	**San Ignacio de**	**4.54**	**45**		**Pn**	**17 55 41.6**	**-0.1**
LL05	**Los Muermos**	**4.88**	**31**		**Pn**	**17 55 46.7**	**+0.3**
LL05	**Los Muermos**	**4.88**	**31**	*i* P	**Pn**	**17 55 46.4**	**0.0**
LL03	**Petrohue**	**5.52**	**37**		**Pn**	**17 55 55.2**	**-0.1**
LL03	**Petrohue**	**5.52**	**37**	*i* P	**Pn**	**17 55 55.1**	**-0.2**
LL04	**Puerto Octay**	**5.71**	**35**		**Pn**	**17 55 57.8**	**-0.2**
LR04	**Corral**	**6.27**	**24**		**Pn**	**17 56 05.0**	**-0.7**
LR05	**Currie**	**6.45**	**34**	Pn	**Pn**	**17 56 08.9**	**+0.8**
MG05	**Puerto Natales**	**6.66**	**156**		**Pn**	**17 56 10.3**	**-0.6**
PLCA	**Paso Flores**	**6.70**	**45**		**Pn**	**17 56 12.7**	**+1.1**
PLCA	**Paso Flores**	**6.70**	**45**	Pn	**Pn**	**17 56 14.4**	**+2.9**
	comp=N,0.6nm,0.3s,baz=217,slow=8.4,SNR=22						
PLCA				LR	LR	17 58 52.3	
	comp=N,8μm,19.1s,baz=212,slow=37						
	comp=N,5.1nm,0.8s						
PLCA	**Paso Flores**	**6.70**	**45**	*e*P	**Pn**	**17 56 12.8**	**+1.3**
LR03	**Panguipulli**	**6.84**	**30**		**Pn**	**17 56 13.9**	**+0.4**
LC02	**Puerto Saavedr**	**7.30**	**21**		**Pn**	**17 56 20.2**	**+0.4**
MG04	**Isla Riesco**	**7.97**	**157**		**Pn**	**17 56 29.1**	**+0.2**
GO10	**Punta Arenas**	**8.38**	**156**		**Pn**	**17 56 34.8**	**+0.3**
MG02	**Cerro Sombrero**	**8.67**	**148**	Pn	**Pn**	**17 56 38.7**	**+0.2**
MG03	**Isla Dawson**	**9.16**	**156**	Pn	**Pn**	**17 56 44.9**	**-0.3**
BI05	**Punta Hualpn**	**9.30**	**18**	Pn	**Pn**	**17 56 47.2**	**+0.1**
BI02	**San Fabin de**	**9.89**	**27**	Pn	**Pn**	**17 56 54.9**	**-0.4**
USHA	**Ushuaia**	**10.62**	**153**	Pn	**Pn**	**17 57 04.6**	**-0.5**
	comp=N,0.8nm,0.3s,baz=43,slow=8.1,SNR=2.0						
USHA				LR	LR	18 00 55.1	
	comp=N,3μm,19.5s,baz=322,slow=36						
	comp=N,8.7nm,0.8s						
ML02	**Panimavida**	**10.68**	**24**		**Pn**	**17 57 05.2**	**-0.8**
BO02	**Sierra Bellavi**	**11.77**	**25**	Pn	**Pn**	**17 57 19.2**	**-1.8**
H03S1	**Juan Fernandez**	**11.91**	**351**	T	T	18 09 28.6	
	baz=172,slow=74,SNR=693						
H03S2	**Juan Fernandez**	**11.92**	**351**	T	T	18 09 27.5	
	baz=172,slow=74,SNR=478						
H03S3	**Juan Fernandez**	**11.93**	**351**	T	T	18 09 29.6	
	baz=172,slow=74,SNR=425						
BO01	**Tunca**	**12.06**	**23**	Pn	**Pn**	**17 57 23.4**	**-1.6**
MT01	**Popeta**	**12.51**	**22**		**Pn**	**17 57 29.7**	**-1.4**
BO04	**La Punta**	**12.57**	**24**	Pn	**Pn**	**17 57 30.6**	**-1.4**
VA05	**Santo Domingo**	**12.62**	**20**	Pn	**Pn**	**17 57 31.6**	**-0.9**
MT09	**Talagante**	**12.66**	**23**		**Pn**	**17 57 31.9**	**-1.4**
LMEL	**Las Melosas**	**12.82**	**25**		**Pn**	**17 57 34.5**	**-1.0**
MT13	**San Alfonso**	**12.89**	**25**		**Pn**	**17 57 35.3**	**-1.2**
MT03	**Universidad Ad**	**13.06**	**24**	Pn	**Pn**	**17 57 37.2**	**-1.6**
MT05	**Renca**	**13.10**	**23**	Pn	**Pn**	**17 57 37.5**	**-1.6**
MT02	**Curacav**	**13.12**	**21**	Pn	**Pn**	**17 57 37.9**	**-1.5**
MT16	**CCHEN**	**13.12**	**24**	Pn	**Pn**	**17 57 38.8**	**-0.7**
MT08	**Bocatoma Ro**	**13.25**	**25**		**Pn**	**17 57 39.9**	**-1.6**
PEL	**Peldehue**	**13.34**	**23**		**Pn**	**17 57 41.0**	**-1.6**
TRQA	**Tornquist**	**13.37**	**61**	Pn	**Pn**	**17 57 41.5**	**-1.3**
EFI	**East Falkland**	**13.73**	**123**	Pn	**Pn**	**17 57 45.1**	**-2.7**
VA03	**San Esteban**	**13.74**	**23**		**Pn**	**17 57 46.0**	**-2.0**
VA06	**Catapilco**	**13.74**	**20**		**Pn**	**17 57 45.4**	**-2.5**
ZON	**Zonda**	**15.43**	**27**		**Pn**	**17 58 08.6**	**-2.3**
CO06	**Fray Jorge**	**15.49**	**17**	Pn	**Pn**	**17 58 09.2**	**-2.3**
CO06				IAmb	IAmb	17 58 15.4	
	comp=Z,68nm,1.6s						
CFA	**Coronel Fontan**	**15.52**	**28**	Pn	**P**	**17 58 15.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=213,slow=12,SNR=8.8						
	comp=Z,7.0nm,0.9s						
CO03	**El Pedregal**	**15.54**	**20**	Pn	**Pn**	**17 58 10.8**	**-1.5**
AC01	**Pan de Azucar**	**20.08**	**16**	P	**P**	**17 59 04.2**	**-2.6**
PMSA	**Palmer Station**	**20.41**	**164**	LR	LR	18 05 16.6	
	comp=Z,439nm,20.0s,baz=316,slow=32						
PMSA	**Palmer Station**	**20.41**	**164**	*e*P	Pn	17 59 26.4	+14
GO02	**Mina Guanaco**	**21.25**	**18**	P	**P**	**17 59 18.1**	**-1.6**
TBOT	**Tacuaremb**	**21.34**	**56**	*e*P	**P**	**17 59 24.3**	**+4.0**
PB14	**IPOC Station P**	**21.60**	**16**	P	**P**	**17 59 21.4**	**-2.1**
PB05	**IPOC Station P**	**23.37**	**15**	P	**P**	**17 59 41.5**	**-0.5**
PB05				IAmb	IAmb	17 59 59.8	
	comp=Z,23nm,1.1s						
CPSB	**Cacapava Do Su**	**23.74**	**58**	*e*P	**P**	**17 59 49.7**	**+4.2**
PB09	**IPOC Station P**	**24.58**	**17**	P	**P**	**17 59 52.0**	**-1.6**
CPUP	**Villa Florida**	**24.77**	**45**	P	**P**	**17 59 53.3**	**-1.7**
CPUP	**Villa Florida**	**24.77**	**45**	P	**P**	**17 59 57.8**	**+2.8**
	comp=Z,8.9nm,0.8s,baz=223,slow=9.0,SNR=25						
	comp=Z,8.9nm,0.8s						
CPUP	**Villa Florida**	**24.77**	**45**	*e*P	**P**	**17 59 58.4**	**+3.4**
PB01	**IPOC Station P**	**25.27**	**16**	P	**P**	**17 59 58.0**	**-1.7**
PB01				IAmb	IAmb	18 00 18.8	
	comp=Z,25nm,1.2s						
PB11	**IPOC Station P**	**26.48**	**15**	P	**P**	**18 00 08.6**	**-2.1**
PB11				IAmb	IAmb	18 00 33.9	
	comp=Z,32nm,1.2s						
ITAB	**Concordia**	**26.86**	**55**	P	**P**	**18 00 12.6**	**-1.4**
ITAB				IAmb	IAmb	18 00 42.5	
	comp=Z,54nm,1.3s						
ITAB	**Concordia**	**26.86**	**55**	*e*P	**P**	**18 00 17.9**	**+3.9**
MURT	**Porto Murtinho**	**28.61**	**40**	*e*P	**P**	**18 00 32.1**	**+2.5**
PB18	**Visviri**	**28.64**	**15**	P	**P**	**18 00 28.1**	**-2.4**
PB18				IAmb	IAmb	18 01 21.6	
	comp=Z,48nm,1.4s						
PTGB	**Pitanga**	**28.85**	**52**	*e*P	P	18 00 37.7	+5.9
BDQN	**Bodoquena, MS**	**30.06**	**40**	*e*P	**P**	**18 00 45.7**	**+3.2**
LPAZ	**La Paz**	**30.16**	**17**	P	**P**	**18 00 41.6**	**-2.5**
LPAZ	**La Paz**	**30.16**	**17**	P	**P**	**18 00 46.3**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=165,slow=9.4,SNR=5.1						
	comp=Z,0.4nm,0.4s						
LPAZ	**La Paz**	**30.16**	**17**	*

	comp=Z,1μm,30.8s						
TBI				*e*LR	LR	18 23 05.5	
	comp=Z,1μm,26.8s						
CELP	**Cerrillos**	**64.10**	**11**	P	**P**	**18 05 07.3**	**0.0**
TAOE	**Nuku Hiva Isla**	**65.19**	**283**	*e*LR	LR	18 24 46.2	
	comp=Z,344nm,27.2s						
PPT2	**Papeete2**	**65.68**	**269**	*e*LR	LR	18 24 41.7	
	comp=Z,176nm,25.2s						
PPT2				*e*LR	LR	18 24 47.0	
	comp=Z,252nm,25.2s						
RPZ	**Rata Peaks**	**72.61**	**225**	LR	LR	18 30 20.2	
	comp=Z,577nm,20.0s,baz=140,slow=30						
BOSA	**Boshof**	**77.81**	**118**	P	**P**	**18 06 32.2**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=232,slow=2.1,SNR=4.1						
	comp=Z,1.9nm,0.8s						
TX31	**Lajitas Ar. Si**	**78.53**	**336**	P	**P**	**18 06 34.4**	**-0.2**
TXAR	**Lajitas Array**	**78.53**	**336**	P	**P**	**18 06 34.0**	**-0.6**
TXAR	**Lajitas Array**	**78.53**	**336**	P	**P**	**18 06 34.5**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=144,slow=4.7,SNR=5.4						
	comp=Z,0.8nm,1.0s						
JCT	**Junction City**	**78.61**	**340**	P	**P**	**18 06 35.4**	**+0.4**
LBTB	**Lobatse**	**80.59**	**116**	P	**P**	**18 06 45.9**	**-0.3**
LBTB				IAmb	IAmb	18 06 57.6	
	comp=Z,25nm,1.4s						
319A	**Douglas**	**82.15**	**332**	P	**P**	**18 06 54.9**	**+0.8**
319A				IAmb	IAmb	18 07 06.7	
	comp=Z,15nm,1.2s						
DBIC	**Dimbokro**	**82.30**	**72**	P	**P**	**18 06 57.5**	**+2.4**
	comp=Z,3.3nm,0.8s,baz=198,slow=6.2,SNR=3.6						
	comp=Z,3.3nm,0.8s						
WMOK	**Wichita Mounta**	**82.46**	**342**	P	**P**	**18 06 56.4**	**+0.9**
WMOK				IAmb	IAmb	18 07 07.3	
	comp=Z,22nm,1.8s						
T35A	**Sooner Cattle**	**84.10**	**344**	P	**P**	**18 07 04.0**	**+0.2**
CCM	**Cathedral Cave**	**84.34**	**349**	P	**P**	**18 07 05.1**	**0.0**
KAN09	**Caldwell North**	**84.53**	**343**	P	**P**	**18 07 07.0**	**+1.0**
ANMO	**Albuquerque**	**84.60**	**336**	P	**P**	**18 07 06.5**	**-0.2**
ANMO				IAmb	IAmb	18 07 22.5	
	comp=Z,11nm,1.6s						
ESJX	**Sierra Juarez**	**85.07**	**327**	P	**P**	**18 07 08.9**	**-0.2**
P40A	**Paris**	**85.91**	**348**	P	**P**	**18 07 13.4**	**+0.6**
SHPR	**Sheep Range**	**88.81**	**330**	P	**P**	**18 07 27.7**	**+0.5**
SHPR				IAmb	IAmb	18 07 41.0	
	comp=Z,7.8nm,1.5s						
PRN	**Pahroc Range**	**89.58**	**330**	P	**P**	**18 07 31.4**	**+0.7**
PRN				IAmb	IAmb	18 07 52.5	
	comp=Z,15nm,1.3s						
R11B	**Troy Canyon, C**	**90.61**	**330**	P	**P**	**18 07 36.1**	**+0.5**
R11B				IAmb	IAmb	18 07 47.8	
	comp=Z,7.8nm,1.7s						
SPR3	**Spring Creek 3**	**90.77**	**332**	P	**P**	**18 07 37.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**91.40**	**73**	P	**P**	**18 07 40.5**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=231,slow=5.6,SNR=3.0						
	comp=Z,0.9nm,0.3s						
DZM	**Mont Dzumac**	**91.54**	**236**	*e*LR	LR	18 36 56.6	
	comp=Z,452nm,30.4s						
PDAR	**Pinedale Array**	**92.75**	**336**	P	**P**	**18 07 46.9**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=175,slow=4.7,SNR=2.0						
	comp=Z,0.2nm,0.7s						
STKA	**Stephens Creek**	**95.35**	**212**	LR	LR	18 43 04.3	
	comp=Z,222nm,19.6s,baz=187,slow=31						
H11S2	**WAKE ISLAND Hyl**	**21.46**	**265**	T	T	20 26 13.7	
	baz=137,slow=76,SNR=60						
H11S1	**WAKE ISLAND Hyl**	**21.48**	**265**	T	T	20 26 17.2	
	baz=137,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hyl**	**21.48**	**265**	T	T	20 26 15.1	
	baz=137,slow=76,SNR=35						
PETK	**Petropavlovsk-**	**144.53**	**302**	PKP	**PKPdf**	**18 14 07.5**	**-1.5**
	comp=Z,4.4nm,1.1s,baz=46,slow=4.2,SNR=3.5						
MA2	**Magadan**	**148.71**	**314**		**PKPbc**	**18 14 18.4**	**-1.2**
AKTO	**Aktyubinsk**	**149.76**	**64**	PKPbc	**PKiKP**	**18 14 24.3**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=267,slow=3.2,SNR=4.4						
ARTI	**Arti**	**150.34**	**52**		**PKPbc**	**18 14 21.5**	**-2.2**
ARTI	**Arti**	**150.34**	**52**	PKPbc	**PKiKP**	**18 14 24.9**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=172,slow=4.6,SNR=6.3						
ABKAR	**Akbulak array**	**150.81**	**67**	PKPdf	**PKPdf**	**18 14 17.1**	**-2.4**
ABKAR					**sPKPdf**	**18 14 22.3**	**+1.2**
MJAR	**Matsushiro Arr**	**152.30**	**263**	PKPbc	**PKiKP**	**18 14 27.6**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=108,slow=3.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**152.65**	**171**	PKPbc	**PKiKP**	**18 14 30.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=214,slow=3.7,SNR=7.0						
CHTO	**Chiang Mai**	**153.00**	**171**	PKPdf	**PKPdf**	**18 14 21.1**	**-2.6**
CHTO					**PKPab**	**18 14 41.6**	**-0.6**
KURBB	**Kurchatov Arra**	**162.82**	**64**	PKP	**PKPdf**	**18 14 35.0**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=232,slow=2.2,SNR=2.5						
KURBB					PKPab	**sPKPab**	**18 15 25.5**	**0.0**
	comp=Z,0.9nm,0.9s,baz=281,slow=5.1,SNR=7.1						
MKAR	**Makanchi Array**	**165.46**	**78**	PKP	**PKPdf**	**18 14 37.0**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=266,slow=1.6,SNR=1.7						
MKAR					PKPab	**sPKPab**	**18 15 37.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=250,slow=4.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**165.53**	**48**	PKP	**PKPdf**	**18 14 37.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=300,slow=3.3,SNR=3.7						
ZALV					PKPab	**sPKPab**	**18 15 37.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=308,slow=5.3,SNR=1.4						

*DNK **16** 17:56:40.8±5.2, 71°.43N×11°.11W, h14km±66km, ML1.6*
*BER **16** 17:56:41.5±2.6, 71°.26N×11°.25W, h10km, mb(Pn)3.6, ML2.4, Confirmed Earthquake*

ISC 16 17:56:41.1±1.6, 71°.52N±0°.08×10°.86W±0°.06, h27km±19km, n16, σ2°35/28, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.91**	**130**	*e*P		**Pn**	**17 56 58.1**	**+0.1**
JMI				*e*S		**Sb**	**17 57 09.2**	**-0.7**
JMI				IAML			17 57 09.9	
	comp=Z,144nm,0.3s							
JNW	**Jan Mayen West**	**0.93**	**121**	*e*P		**Pb**	**17 56 58.0**	**-0.4**
JNW				*e*S		**Sb**	**17 57 09.7**	**-0.7**
JNW				IAML			17 57 12.9	
	comp=Z,144nm,0.4s							
JMIC	**Jan Mayen**	**0.93**	**124**	*e*P		**Pn**	**17 56 58.3**	**0.0**
JMIC				*e*S		**Sb**	**17 57 09.5**	**-0.9**
JMIC				IAML			17 57 11.0	
	comp=Z,104nm,0.5s							
JMIC	**Jan Mayen**	**0.93**	**124**	*i* P		**Pb**	**17 56 57.8**	**-0.7**
JMIC				*i* S		**Sb**	**17 57 09.3**	**-1.1**
JNE	**Jan Mayen East**	**0.98**	**121**	*e*P		**Pb**	**17 56 58.7**	**-0.7**
JNE				*i* S		**Sb**	**17 57 10.5**	**-1.5**
JNE				IAML			17 57 15.7	
	comp=Z,114nm,0.2s							
SCO	**Scoresbysund**	**3.77**	**259**	*i* P		**Pn**	**17 57 38.5**	**+1.2**
SCO				*e*S		**Sn**	**17 58 17.7**	**-3.0**
DBG	**Daneborg**	**3.93**	**320**	*e*P		**Pn**	**17 57 40.2**	**+0.7**
DBG				*e*S		**Sn**	**17 58 21.9**	**-2.7**
DBG	**Daneborg**	**3.93**	**320**	*i* P		**Pn**	**17 57 40.3**	**+0.8**
DBG				*i* S		**Sn**	**17 58 21.6**	**-3.0**
DBG				IAML			17 58 24.5	
	comp=Z,2.5nm,0.4s							
DAG	**Danmarks Havn**	**5.69**	**342**	*e*P		**Pn**	**17 58 05.3**	**+1.7**
DAG				*e*S		**Sn**	**17 59 06.0**	**-1.9**
DAG	**Danmarks Havn**	**5.69**	**342**	*i* P		**Pn**	**17 58 05.0**	**+1.4**
DAG				*i* S		**Sn**	**17 59 03.8**	**-4.1**
DAG				IAML			17 59 08.2	
	comp=Z,2.1nm,0.4s							
HSPB	**Hornsund (broa**	**8.94**	**40**	IAML			17 58 46.3	
	comp=Z,1.7nm,0.9s							
HSPB				*e*P		**Pn**	**17 58 50.4**	**+2.2**
KBS	**Kingsbay**	**9.34**	**27**	*e*P		**Pn**	**17 58 56.3**	**+2.7**
KBS				*e*S		**Sn**	**18 00 33.1**	**-4.5**
KBS				IAML			18 00 42.7	
	comp=Z,3.3nm,0.8s							
SPA0	**Spitsbergen Ar**	**9.64**	**34**	*e*P		**Pn**	**17 59 01.3**	**+3.6**
SPA0				IAML			17 59 02.8	
	comp=Z,2.4nm,0.8s							
STOK	**Stokkvaagen**	**9.99**	**110**	*e*P		**Pn**	**17 59 03.7**	**+1.2**
NOR	**Nord**	**10.22**	**355**	*e*P		**Pn**	**17 59 08.0**	**+2.4**
NOR				*e*S		**Sn**	**18 00 55.7**	**-3.3**
HOPEN	**Hopen**	**10.90**	**47**	*e*P		**Pn**	**17 59 17.9**	**+3.1**

*IDC **16** 18:00:47.0±2.1, 43°.00N×29°.28W, h0km, mb3.6/8, mbtmp3.5/9, MS3.2/4, Error ellipse: s-maj=69.3km s-min=21.3km az=3.0*

ISC 16 18:00:48.2±1.9, 42°.9N±0°.4×29°.3W±0°.1, h10km, n12, σ0°61/9, mb3.7/8, MS3.1/3, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.27**	**91**	P		**Pn**	**18 05 14.4**	**+0.4**
	0.2nm,0.5s,baz=288,slow=12,SNR=1.9							
ESDC					LR	LR	18 11 05.4	
	comp=Z,56nm,21.4s,baz=282,slow=32							
MDT	**Midelt**	**21.86**	**109**		LR	LR	18 12 32.0	
	comp=Z,71nm,19.5s,baz=340,slow=32							
SCHQ	**Schefferville**	**27.08**	**309**		LR	LR	18 15 26.9	
	comp=Z,39nm,21.2s,baz=48,slow=33							
DAVOX	**Davos/Dischmat**	**27.82**	**68**		LR	LR	18 16 34.6	
	comp=Z,80nm,19.7s,baz=264,slow=34							
BRTR	**Keskin Array B**	**46.38**	**72**	P	**P**	**18 09 14.2**	**-0.6**
	0.8nm,0.9s,baz=286,slow=5.7,SNR=4.3							
	0.8nm,0.9s							
YKA	**Yellowknife Ar**	**51.03**	**323**	P	**P**	**18 09 50.1**	**+0.1**
	0.6nm,0.9s,baz=66,slow=7.3,SNR=6.3							
	0.6nm,0.9s							
PDAR	**Pinedale Array**	**56.60**	**300**	P	**P**	**18 10 31.1**	**-0.4**
	0.4nm,0.8s,baz=73,slow=5.0,SNR=3.9							
	0.4nm,0.8s							
TXAR	**Lajitas Array**	**59.78**	**283**	P	**P**	**18 10 54.0**	**+0.3**
	0.8nm,1.0s,baz=64,slow=5.5,SNR=5.3							
	0.8nm,1.0s							
ILAR	**Eielson Array**	**62.14**	**335**	P	**P**	**18 11 09.1**	**+0.1**
	0.2nm,0.7s,baz=51,slow=7.1,SNR=2.9							
	0.2nm,0.7s							
BVAR	**Borovoye Array**	**62.20**	**42**	P	**P**	**18 11 09.9**	**+0.2**
	1.0nm,1.0s,baz=316,slow=4.0,SNR=4.1							
	1.0nm,1.0s							
KURBB	**Kurchatov Arra**	**67.66**	**41**	P	**P**	**18 11 46.0**	**+0.8**
	0.9nm,0.9s,baz=314,slow=6.6,SNR=7.2							
	0.9nm,0.9s							
MKAR	**Makanchi Array**	**72.08**	**42**	P	**P**	**18 12 11.6**	**-0.9**
	0.6nm,0.9s,baz=328,slow=4.3,SNR=4.8							
	0.6nm,0.9s							

*IDC **16** 18:06:10.7±0.4, 29°.73S×71°.45W, h0km, mb4.8/25, mbtmp4.7/30, ML4.8/5, MS4.5/39, Error ellipse: s-maj=16.0km s-min=11.7km az=74.0*
*SJA **16** 18:06:11.1±0.6, 29°.71S×71°.83W, h15km, ML5.4, MW5.1*
*MOS **16** 18:06:14.4±1.6, 29°.69S×71°.49W, h37km, mb5.2/19, Error ellipse: s-maj=12.5km s-min=6.6km az=105.5*
*NEIC **16** 18:06:15.5, 29°.77S×71°.56W, h43km*
*RSNC **16** 18:06:15.5±1.4, 30°S±10°×7°2W±1°0, h53km±14km, M5.1, mB5.6, mb5.1, Mw(mB)5.1*
*NEIC **16** 18:06:15.4±2.9, 29°.77S±0°.03×71°.56W±0°.07, h41km±1km, mb5.2/266, Mwr5.2/74, Mww5.2/20, Error ellipse: s-maj=9.7km s-min=5.6km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}4.04; $M_{\theta\theta}$1.27; $M_{\phi\phi}$-5.31; $M_{r\theta}$0.57; $M_{r\phi}$0.72; $M_{\theta\phi}$6.91; Fault plane solution: $M_0$8.47000×10^{16} NP1:ϕ_s158.50000°, δ18.43000°, λ65.81000°. NP2:ϕ_s3.84000°, δ73.24000°, λ97.77000°. Principal axes: T 7.8192, Plg61.0000°, Azm285.0000°; N 1.1759, Plg7.0000°, Azm182.0000°; P -8.9952, Plg28.0000°, Azm88.0000°;*
*GUC **16** 18:06:15.8±0.5, 29°.77S×71°.42W, h45km±1km, ML5.2*
*NEIC **16** 18:06:16, 29°.77S×72°.00W, h36km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.84; $M_{\theta\theta}$2.76; $M_{\phi\phi}$-6.61; $M_{r\theta}$0.60; $M_{\theta\phi}$0.20; $M_{r\phi}$5.92; Fault plane solution: $M_0$7.95000×10^{16} NP1: ϕ_s162.74000°, δ22.02000°, λ67.07000°. NP2:ϕ_s7.26000°, δ69.80000°, λ98.95000°. Principal axes: T 6.6190, Plg64.0000°, Azm292.0000°; N 2.6604, Plg8.0000°, Azm184.0000°; P -9.2794, Plg24.0000°, Azm90.0000°;*
*NEIC **16** 18:06:16, 29°.77S×71°.58W, h36km*
*VAO **16** 18:06:18.4±0.4, 29°.81S×71°.39W, h53km, mb5.1*
*GCMT **16** 18:06:18.4±0.2, 29°.87S±0°.01×71°.30W±0°.01, h59km±1km, MW5.2/111, Moment Tensor Solution. s70, c98; s111, c170; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.60±.02; $M_{\theta\theta}$0.12±.02; $M_{\phi\phi}$-0.71±.02; $M_{r\theta}$-0.10±.01; $M_{r\phi}$-0.04±.02; $M_{\theta\phi}$0.60±.02; Best double couple: $M_0$0.89700×10^{17} NP1:ϕ_s195.00000°, δ25.00000°, λ109.00000°. NP2:ϕ_s353.00000°, δ67.00000°, λ81.00000°. Principal axes: T 0.8480, Plg67.0000°, Azm247.0000°; N 0.0980, Plg8.0000°, Azm357.0000°; P -0.9460, Plg21.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 18:06:16.0±0.4, 29°.73S±0°.03×71°.68W±0°.04, h48km±3km, h47km:pP-P, n528, σ1°97/450, mb5.1/149, MS4.6/36, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.88**	**120**			**Pn**	**18 06 30.0**	**-2.3**
GO04					Sn	**Sn**	**18 06 41.2**	**-3.0**
GO04	**Tololo Observa**	**0.88**	**120**		*e*P	**Pn**	**18 06 30.4**	**-1.9**
GO04					*e*S	**Sn**	**18 06 42.1**	**-2.1**
GO04					IAML		18 06 45.1	
	comp=E,468μm,0.4s							
GO04	**Tololo Observa**	**0.88**	**120**		*e*P	**Pn**	**18 06 30.2**	**-2.2**
GO04					*e*S	**Sn**	**18 06 43.3**	**-1.0**
CO06	**Fray Jorge**	**0.94**	**178**		Pn	**Pn**	**18 06 32.1**	**-0.7**
CO06					Sn	**Sn**	**18 06 44.4**	**-0.9**
CO06	**Fray Jorge**	**0.94**	**178**		*e*P	**Pn**	**18 06 32.3**	**-0.5**
CO06					IAML		18 06 50.2	
	comp=E,85μm,0.3s							
LCO	**Las Campanas**	**1.12**	**50**		Pn	**Pn**	**18 06 35.0**	**-0.5**
LCO					Sn	**Sn**	**18 06 49.6**	**-0.3**
LCO	**Las Campanas**	**1.12**	**50**		*e*P	**Pn**	**18 06 35.2**	**-0.3**
LCO					*e*S	**Sn**	**18 06 49.9**	**-0.1**
LCO	**Las Campanas**	**1.12**	**50**		*e*P	**Pn**	**18 06 35.0**	**-0.5**
LCO					*e*S	**Sn**	**18 06 51.0**	**+1.1**
LCO					IAML		18 06 52.8	
	comp=Z,135μm,0.2s							
LCO	**Las Campanas**	**1.12**	**50**	P		**Pn**	**18 06 35.0**	**-0.5**
LCO							18 06 49.6	
CO03	**El Pedregal**	**1.40**	**142**			**Pn**	**18 06 37.7**	**-1.5**
CO03					Sn	**Sn**	**18 06 54.0**	**-2.6**
CO03	**El Pedregal**	**1.40**	**142**		*e*P	**Pn**	**18 06 38.0**	**-1.2**
CO03					IAML		18 06 56.3	
	comp=E,39μm,0.3s							
CO03	**El Pedregal**	**1.40**	**142**		*e*P	**Pn**	**18 06 37.9**	**-1.3**
CO03					*e*S	**Sn**	**18 06 55.5**	**-1.1**
CO03					IAML		18 07 01.2	
	comp=Z,25μm,0.7s							
CO01	**Juntas del Tor**	**1.40**	**100**			**Pn**	**18 06 38.0**	**-1.3**
CO01					Sn	**Sn**	**18 06 53.3**	**-3.5**
CO01	**Juntas del Tor**	**1.40**	**100**		*e*P	**Pn**	**18 06 38.1**	**-1.3**
CO01					*e*S	**Sn**	**18 06 54.8**	**-2.0**
CO01					IAML		18 06 56.7	
	comp=N,29μm,0.6s							
CO01	**Juntas del Tor**	**1.40**	**100**		*e*P	**Pn**	**18 06 38.5**	**-0.9**
CO01					*e*S	**Sn**	**18 06 56.7**	**-0.1**
CO01					IAML		18 07 01.2	
	comp=Z,16μm,0.3s							
AC04	**Llanos de Chal**	**1.61**	**19**			**Pn**	**18 06 42.0**	**-0.1**
AC04	**Llanos de Chal**	**1.61**	**19**		*e*P	**Pn**	**18 06 42.4**	**+0.3**
AC04					IAML		18 07 12.9	
	comp=N,35μm,0.4s							
AC04	**Llanos de Chal**	**1.61**	**19**		*e*P	**Pn**	**18 06 41.6**	**-0.4**
AC04					*e*S	**Sn**	**18 07 03.8**	**+2.2**
AC04					IAML		18 07 14.4	
	comp=Z,24μm,0.5s							
AROD	**Rodeo**	**1.96**	**103**		*e*P	**Pn**	**18 06 47.7**	**+0.5**
ACDV	**Cuesta del Vie**	**2.27**	**102**		*e*P	Pn	18 06 37.1	-14
ACCO	**Cerro Coronel**	**2.42**	**111**		*e*P	**Pn**	**18 06 55.3**	**+1.9**
DOCA	**Reserva Natura**	**2.55**	**119**		*e*P	**Pn**	**18 06 56.5**	**+1.3**
DOCA					*e*S	**Sn**	**18 07 32.8**	**+7.5**
DOCA					IAML		18 07 39.8	
	comp=Z,7μm,1.1s							
AC06	**Mina Casimiro**	**2.64**	**27**			**Pn**	**18 06 56.2**	**+0.1**
AC06	**Mina Casimiro**	**2.64**	**27**		*e*P	**Pn**	**18 06 56.4**	**+0.3**
AC06					IAML		18 07 41.6	
	comp=E,15μm,0.3s							
AGUA	**GUANDACOL**	**2.79**	**86**		*e*P	**Pn**	**18 07 00.5**	**+2.2**
AGUA					*e*S	**Sn**	**18 07 36.0**	**+5.2**
AGUA					IAML		18 07 44.6	
	comp=Z,14μm,0.5s							
VA06	**Catapilco**	**2.84**	**173**		Pn	**Pn**	**18 06 58.5**	**-0.4**
VA06	**Catapilco**	**2.84**	**173**		*e*P	**Pn**	**18 06 58.8**	**-0.1**
VA06					IAML		18 07 44.3	
	comp=N,29μm,0.4s							
RTLS	**Leoncito**	**2.91**	**136**		*e*P	**Pn**	**18 07 01.5**	**+1.4**
RTLS					*e*S	**Sn**	**18 07 41.2**	**+7.2**
RTLS					*e*S		18 07 45.6	
RTLS					IAML		18 07 48.1	
	comp=Z,33μm,0.6s							
ZON	**Zonda**	**3.16**	**126**			**Pn**	**18 07 02.3**	**-1.0**
ZON	**Zonda**	**3.16**	**126**		*e*P	**Pn**	**18 07 04.7**	**+1.5**
ZON					*e*S	**Sn**	**18 07 45.7**	**+6.0**
ZON					IAML		18 08 06.3	
	comp=Z,5μm,0.7s							
ZON	**Zonda**	**3.16**	**126**	P		**Pn**	**18 07 02.3**	**-1.0**
VA03	**San Esteban**	**3.17**	**163**			**Pn**	**18 07 02.7**	**-0.9**
VA03	**San Esteban**	**3.17**	**163**	*e*P		**Pn**	**18 07 04.5**	**+1.0**
VA03				*e*S		**Sn**	**18 07 42.0**	**+1.8**
VA03				IAML			18 08 00.3	
	comp=E,19μm,0.5s							
VA03	**San Esteban**	**3.17**	**163**	*e*P		**Pn**	**18 07 04.3**	**+0.8**
VA03				*e*S		**Sn**	**18 07 45.6**	**+5.4**
VA03				IAML			18 08 05.8	
	comp=Z,10μm,1.8s							
RTLL	**Cerro Villicun**	**3.19**	**121**	*e*P		**Pn**	**18 07 04.9**	**+1.2**
RTLL				*e*S		Sn	18 08 00.5	+20
VCA	**Vinchina**	**3.20**	**73**	*e*P		**Pn**	**18 07 07.0**	**+3.1**
VCA				*e*S		**Sn**	**18 07 47.0**	**+6.1**
VCA				IAML			18 07 58.1	
	comp=Z,13μm,1.3s							
SJA	**San Juan**	**3.23**	**124**	*e*P		**Pn**	**18 07 06.2**	**+1.9**
SJA				*e*S		**Sn**	**18 07 47.6**	**+6.0**
SJA				IAML			18 08 11.0	
	comp=Z,6μm,3.0s							
VA01	**Torpederas**	**3.28**	**180**			**Pn**	**18 07 03.6**	**-1.3**
VA01	**Torpederas**	**3.28**	**180**	*e*P		**Pn**	**18 07 04.5**	**-0.4**
VA01				*e*S		**Sn**	**18 07 46.4**	**+3.7**
VA01				IAML			18 07 55.8	
	comp=Z,4μm,0.7s							
ROC1	**El Roble**	**3.28**	**170**	*e*P		**Pn**	**18 07 05.0**	**-0.2**
ROC1				*e*S		Sn	18 07 53.2	+10
CFA	**Coronel Fontan**	**3.50**	**123**	Pn		**Pn**	**18 07 08.7**	**+0.6**
	comp=Z,69nm,0.3s,baz=324,slow=7.2,SNR=202							
CFA					Sn	**Sn**	**18 07 49.8**	**+1.5**
	comp=Z,161nm,0.3s,baz=120,slow=13,SNR=3.8							
CFA					LR	LR	18 08 42.7	
	comp=Z,7μm,19.2s,baz=292,slow=46							
PEL	**Peldehue**	**3.51**	**166**			**Pn**	**18 07 07.8**	**-0.3**
PEL	**Peldehue**	**3.51**	**166**	*e*P		**Pn**	**18 07 09.0**	**+1.0**
PEL	**Peldehue**	**3.51**	**166**	P		**Pn**	**18 07 07.8**	**-0.3**
MT02	**Curacav**	**3.55**	**173**	Pn		**Pn**	**18 07 08.2**	**-0.4**
MT02	**Curacav**	**3.55**	**173**	*e*P		**Pn**	**18 07 08.7**	**+0.1**
MT02	**Curacav**	**3.55**	**173**	*e*P		**Pn**	**18 07 08.7**	**+0.1**
MT02				IAML			18 08 17.1	
	comp=Z,5μm,1.1s							
AC02	**Maricunga**	**3.66**	**39**	Pn		**Pn**	**18 07 11.1**	**+0.5**
AC02	**Maricunga**	**3.66**	**39**	*e*P		**Pn**	**18 07 12.0**	**+1.4**
AC02	**Maricunga**	**3.66**	**39**	*e*P		**Pn**	**18 07 11.8**	**+1.2**
AC02				*e*S		Sn	18 08 10.7	+18
AC02				IAML			18 08 13.1	
	comp=Z,15μm,1.2s							
MT10	**Hacienda Santa**	**3.66**	**165**	*e*P		**Pn**	**18 07 11.3**	**+1.0**
AC01	**Pan de Azucar**	**3.70**	**15**	Pn		**Pn**	**18 07 09.4**	**-1.3**
AC01	**Pan de Azucar**	**3.70**	**15**	*e*P		**Pn**	**18 07 09.6**	**-1.1**
AC01				*e*S		Sn	18 08 09.7	+17
AC01				IAML			18 08 17.3	
	comp=Z,4μm,0.6s							
MT05	**Renca**	**3.74**	**168**	Pn		**Pn**	**18 07 10.8**	**-0.5**
MT05	**Renca**	**3.74**	**168**	*e*P		**Pn**	**18 07 12.5**	**+1.3**
MT05	**Renca**	**3.74**	**168**	*e*P		**Pn**	**18 07 11.7**	**+0.5**
MT05				*e*S		**Sn**	**18 07 58.5**	**+4.6**
MT05				IAML			18 08 21.6	
	comp=Z,11μm,1.2s							
ASAL	**Salagasta**	**3.75**	**140**	*e*P		**Pn**	**18 07 13.4**	**+2.0**
ASAL				IAML			18 08 21.2	
	comp=Z,2μm,1.3s							
AVFE	**Valle Fertil**	**3.77**	**105**	*e*P		**Pn**	**18 07 12.3**	**+0.6**
AVFE				IAML			18 08 17.5	
	comp=Z,4μm,0.6s							
FCH	**Farellones**	**3.78**	**162**	*e*P		**Pn**	**18 07 13.5**	**+1.4**
MT16	**CCHEN**	**3.81**	**165**	Pn		**Pn**	**18 07 12.5**	**+0.2**
MT03	**Universidad Ad**	**3.88**	**165**			**Pn**	**18 07 13.0**	**-0.2**
MT03	**Universidad Ad**	**3.88**	**165**	*e*P		**Pn**	**18 07 14.1**	**+0.9**
MT03	**Universidad Ad**	**3.88**	**165**	*e*P		**Pn**	**18 07 14.1**	**+0.9**
MT03				*e*S		**Sn**	**18 08 01.9**	**+4.3**
MT03				IAML			18 08 20.5	
	comp=Z,9μm,0.8s							
ARCO	**CERRO ARCO**	**3.89**	**143**	*e*P		**Pn**	**18 07 15.9**	**+2.4**
ARCO				*e*S		**Sn**	**18 08 03.7**	**+5.7**
ARCO				IAML			18 08 21.1	
	comp=Z,4μm,0.7s							
MT04	**Ro Olivares**	**3.89**	**161**	*e*S		**S

COYC Coyhaique 15.82 181 Pn 18 09 53.9 -1.5
BDQN Bodoquena, MS 16.37 59 *e*P **P 18 10 03.7 -1.1**
SIV San Ignacio 16.80 38 Pn **Pn 18 10 06.3 -1.6**
comp=Z,0.2nm,0.3s,baz=215,slow=8.8,SNR=22
SIV LR LR 18 16 40.1
comp=Z,2µm,20.4s,baz=222,slow=38
comp=Z,12nm,0.7s
AQDB Aquidauana 17.14 61 Pn 18 10 09.1 -3.1
AQDB Aquidauana 17.14 61 *e*P **Pn 18 10 11.9 -0.3**
ITAB Concordia 17.37 87 Pn 18 10 12.4 -2.5
ITAB Concordia 17.37 87 *e*P **Pn 18 10 14.4 -0.5**
AY03 Cochrane 17.51 182 P **Pn 18 10 15.6 -1.0**
CNLB Canela 18.13 94 *e*P **P 18 10 23.1 -1.2**
PTGB Pitanga 18.14 79 *e*P **P 18 10 23.7 -0.7**
NNA Nana 18.30 344 P **Pn 18 10 26.6 +0.1**
comp=Z,3.4nm,0.3s,baz=194,slow=12,SNR=4.0
NNA Lg Lg 18 15 52.4
comp=Z,1.2nm,0.3s,baz=0.0,slow=17,SNR=1.2
NNA LR LR 18 16 03.7
comp=Z,2µm,21.1s,baz=170,slow=32
comp=Z,9.2nm,0.3s
PTLB Pontes e Lacer 18.31 42 P **P 18 10 21.9 -4.3**
PTLB Pontes e Lacer 18.31 42 *e*P **Pn 18 10 26.4 -0.2**
RPRD Ribas do Rio P 18.69 65 *e*P **P 18 10 30.0 -0.4**
LDASE Londrina, Braz 19.43 76 *e*P **P 18 10 37.8 -0.8**
TER01 Tubaro-SC 19.74 92 *e*P **P 18 10 41.8 0.0**
VILB Vilhena 19.80 35 P **P 18 10 39.9 -2.7**
VILB Vilhena 19.80 35 *e*P **Pn 18 10 43.9 -0.6**
MAJ01 Sao Joao Batis 20.04 89 *e*P **P 18 10 44.3 -0.8**
SALV Santo Antonio 20.13 50 *e*P **P 18 10 46.0 -0.1**
C2SB Chapadao do Su 20.32 62 *e*P Pn 18 10 49.2 -1.4
FRTB Fartura 20.77 77 *e*P **P 18 10 52.8 -0.3**
ITRB Iturama 21.76 68 *e*P **P 18 11 03.5 -0.2**
CZSB Cruzeiro do Su 21.91 357 P **P 18 11 04.0 -1.3**
CZSB Cruzeiro do Su 21.91 357 *e*P **P 18 11 07.7 +2.4**
MG05 Puerto Natales 21.93 181 P **P 18 11 03.0 -2.3**
MG05 IAmb IAmb 18 11 10.1
comp=Z,86nm,0.9s
SPB Sao Paulo 22.50 80 P **P 18 11 09.9 -1.7**
SPB IAmb IAmb 18 11 30.1
comp=Z,77nm,1.0s
SPB Sao Paulo 22.50 80 *e*P **P 18 11 12.3 +0.7**
BB19B Bebedouro 22.59 73 *e*P **P 18 11 12.3 -0.4**
PDRB Porto dos Gac 22.77 41 *e*P **P 18 11 14.2 -0.3**
ARAG Araguaiana, MT 22.99 57 *e*P **P 18 11 17.8 +1.1**
MG02 Cerro Sombrero 23.10 176 P **P 18 11 15.8 -1.7**
MG04 Isla Riesco 23.11 180 P **P 18 11 14.7 -2.8**
MG04 IAmb IAmb 18 11 39.4
comp=Z,116nm,1.1s
VAO Valinhos 23.11 79 P **P 18 11 14.7 -3.3**
VAO IAmb IAmb 18 11 28.3
comp=Z,74nm,0.9s
VAO Valinhos 23.11 79 *e*P **P 18 11 17.0 -1.1**
ATAH Atahualpa 23.35 343 P **P 18 11 23.2 +2.5**
comp=Z,11nm,0.6s,baz=127,slow=14,SNR=8.0
ATAH LR LR 18 18 51.3
comp=Z,973nm,20.8s,baz=192,slow=32
comp=Z,11nm,0.6s
GO10 Punta Arenas 23.41 179 P **P 18 11 18.5 -2.1**
CLDB Colider 23.90 42 *e*P **P 18 11 26.1 +0.6**
MG03 Isla Dawson 24.11 178 P **P 18 11 26.6 -0.4**
MG03 IAmb IAmb 18 11 55.7
comp=Z,82nm,1.0s
PARB Paraibuna 24.14 81 *e*P **P 18 11 30.0 +2.3**
EFI East Falkland 24.15 159 P **P 18 11 24.9 -2.5**
EFI IAmb IAmb 18 11 56.0
comp=Z,70nm,0.8s
EFI East Falkland 24.15 159 *i* P **P 18 11 26.4 -1.0**
EFI pmax pmax
comp=Z,19nm,1.0s
IPMB Ipameri, GO 24.39 67 *e*P **P 18 11 29.6 -0.4**
MG01 Puerto William 25.35 175 P **P 18 11 34.4 -3.9**
TBTG Tabatinga, AM 25.46 4 P **P 18 11 37.5 -2.1**
TBTG Tabatinga, AM 25.46 4 *e*P **P 18 11 41.7 +2.0**
PMNB Patos De Minas 25.53 70 *e*P **P 18 11 40.1 -0.3**
BDFB Brasilia 25.88 62 P **P 18 11 40.7 -2.9**
BDFB Brasilia 25.88 62 P **P 18 11 42.9 -0.7**
comp=Z,11nm,0.7s,baz=237,slow=11,SNR=22
BDFB Lg Lg 18 19 47.5
comp=Z,0.3nm,0.3s,baz=23,slow=7.4,SNR=4.8
BDFB LR LR 18 22 58.7
comp=Z,3µm,19.9s,baz=220,slow=39
comp=Z,11nm,0.7s
SNDB Serra Nova Dou 25.91 51 *e*P **P 18 11 45.3 +1.5**
TEFE Tefe 26.92 16 *e*P **P 18 11 54.8 +1.9**
NPGB Novo Progresso 27.30 37 *e*P **P 18 11 57.9 +1.6**
DUB01 Friburgo-RJ 27.39 81 *e*P **P 18 11 57.9 +0.8**
DIAM Diamantina, MG 27.93 72 *e*P **P 18 12 02.5 +0.5**
COHC Cochancay 28.05 344 P **P 18 12 02.6 -0.4**
MACA Manacapuru-AM 28.41 24 P **P 18 12 03.8 -2.4**
MACA IAmb IAmb 18 12 34.0
comp=Z,27nm,0.7s
MACA Manacapuru-AM 28.41 24 *e*P **P 18 12 07.9 +1.7**
JANB Januaria 29.12 66 *e*P **P 18 12 11.8 -0.8**
ALF01 Guarapari-ES 29.38 79 *e*P **P 18 12 14.4 -0.4**
SLOR San Lorenzo - 29.56 346 P **P 18 12 14.2 -2.8**
BSFB Barra de Sao F 30.04 76 *e*P **P 18 12 20.0 -0.7**
RIB01 Linhares ES 30.21 77 *e*P **P 18 12 22.5 +0.3**
SDBA SAO DESIDERIO 30.24 61 *e*P **P 18 12 22.1 -0.4**
OTAV Otavalo 30.50 347 P **P 18 12 23.2 -2.0**
OTAV Otavalo 30.50 347 P **P 18 12 23.2 -2.0**
OTAV pmax pmax
comp=Z,40nm,1.8s
OTAV Otavalo 30.50 347 *e*P **P 18 12 28.3 +3.1**
FLOC Florencia 31.37 352 P **P 18 12 31.1 -1.3**
GUA01 Guaratinga, BA 31.98 73 *e*P **P 18 12 37.8 0.0**
CMC01 Camacan, BA 32.84 71 *e*P **P 18 12 46.1 +0.8**
BOAV Boa Vista 33.68 20 P **P 18 12 50.1 -2.5**
BOAV IAmb IAmb 18 13 10.0
comp=Z,31nm,0.8s
BOAV Boa Vista 33.68 20 *e*P **P 18 12 53.3 +0.7**
ROSC El Rosal 34.47 355 P **P 18 13 01.1 +1.3**
comp=Z,7.3nm,0.4s,baz=158,slow=19,SNR=5.1
comp=Z,7.3nm,0.4s
TMAB Tom-Au,PA,Br 35.24 44 *e*P **P 18 13 07.4 +1.3**
PMSA Palmer Station 35.39 174 LR LR 18 27 31.1
comp=Z,592nm,19.5s,baz=326,slow=36
RUSC La Rusia 35.45 358 P **P 18 13 06.0 -2.4**
SDV Santo Domingo 38.41 2 P **P 18 13 31.9 -1.3**
SDV Santo Domingo 38.41 2 *e*P **P 18 13 34.2 +1.0**
BAUV El Baul 38.61 6 P **P 18 13 32.9 -1.8**
NBAN Anadia - AL 38.62 66 *e*P **P 18 13 33.4 -1.5**
NBPB Pedra_Branca-C 38.67 58 *e*P **P 18 13 36.9 +1.6**
MDP Montagnes des 39.16 31 LR LR 18 32 00.4
comp=Z,1µm,19.0s,baz=178,slow=40
NBCA Caruaru-PE 39.68 65 *e*P **P 18 13 43.1 -0.8**
JTS Las Juntas de 41.80 340 LR LR 18 28 07.0
comp=Z,349nm,20.5s,baz=98,slow=31
OBIP Obispado Ponce 47.75 7 P **P 18 14 46.0 -2.4**
CELP Cerrillos 47.78 7 P **P 18 14 47.1 -1.6**
SJG San Juan 47.86 7 LR LR 18 35 58.4
comp=Z,337nm,20.8s,baz=181,slow=37
SJG San Juan 47.86 7 P **P 18 14 50.0 +0.7**
UUPR Utuado, UPR, P 47.95 6 P **P 18 14 49.3 -0.6**
BELA Belgrano 2 51.02 171 P **P 18 15 12.3 -0.4**
BELA IAmb IAmb 18 15 15.8
comp=Z,17nm,0.9s
TEIG Tepich 52.18 340 P **P 18 15 22.2 +0.2**
TEIG Tepich 52.18 340 P **P 18 15 24.1 +2.1**
VNA3 Neumayer Olymp 53.20 159 ⇑P **P 18 15 30.7 +1.6**
comp=Z,13nm,0.7s
VNA1 Neumayer--Stat 53.49 158 ⇑P **P 18 15 32.8 +1.7**
comp=Z,14nm,0.8s
VNA2 Neumayer--Watz 53.84 158 ⇑P **P 18 15 35.2 +1.5**
comp=Z,17nm,0.5s,baz=290,slow=3.7
SNAA Sanae 55.43 159 P **P 18 15 44.6 -0.7**
SNAA IAmb IAmb 18 15 47.8
comp=Z,33nm,1.1s
SNAA Sanae 55.43 159 ⇑P **P 18 15 46.7 +1.4**
comp=Z,470nm,0.9s
SNAA Sanae 55.43 159 P **P 18 15 46.6 +1.4**
comp=Z,15nm,0.9s,baz=272,slow=7.0,SNR=36
SNAA LR LR 18 39 18.0
comp=Z,308nm,19.6s,baz=294,slow=36
comp=Z,15nm,0.9s
RKT Rikitea 56.46 261 *e*S **S 18 23 40.7 -0.5**
comp=Z,1µm,29.8s
RKT *e*LR LR 18 32 27.0
comp=Z,4µm,25.0s
TROLL Troll, Antarti 57.14 159 ⇑P **P 18 15 59.1 +1.5**
comp=Z,664nm,0.8s
NVL N'lazarevskaya 60.12 158 *e*P **P 18 16 19.2 +1.1**
NVL pmax pmax
comp=Z,20nm,1.0s
QSPA South Pole Qui 60.49 180 P **P 18 16 21.7 +0.8**
QSPA IAmb IAmb 18 16 24.1
comp=Z,20nm,0.8s
QSPA South Pole Qui 60.49 180 P **P 18 16 22.3 +1.4**
comp=Z,16nm,0.7s,baz=170,slow=1.5,SNR=80
QSPA LR LR 18 41 44.1
comp=Z,206nm,19.1s,baz=160,slow=35
comp=Z,16nm,0.7s
QSPA South Pole Qui 60.49 180 P **P 18 16 22.7 +1.8**
QSPA pP **pP 18 16 34.8 +1.0**
152A Waverly Hall 63.28 348 P **P 18 16 40.2 +0.5**
152A IAmb IAmb 18 17 00.4
comp=Z,23nm,1.3s
HKT Hockley 63.66 337 *i* P **P 18 16 43.8 +1.6**
HKT pmax pmax
comp=Z,7.0nm,1.0s
Z47A Carrollton 64.49 345 P **P 18 16 47.7 +0.1**
SLBS Sierra La Lagu 64.60 321 P **P 18 16 49.9 +1.2**
SLBS IAmb IAmb 18 16 54.9
comp=Z,14nm,0.8s
SLBS Sierra La Lagu 64.60 321 P **P 18 16 52.3 +3.6**
SLBS pP **pwP 18 17 04.9 +0.7**
HPIG 65.07 327 IAmb IAmb 18 16 57.6
comp=Z,13nm,0.8s
LPIG La Paz 65.13 321 LR LR 18 38 06.8
comp=Z,290nm,21.8s,baz=194,slow=29
X48A Hartselle 65.47 346 IAmb IAmb 18 16 57.8
comp=Z,19nm,0.6s
JCT Junction City 65.59 333 P **P 18 16 55.1 +0.2**
JCT Junction City 65.59 333 P **P 18 16 55.2 +0.2**
JCT pmax pmax
comp=Z,25nm,0.7s
W50A Signal Mountai 65.85 348 IAmb IAmb 18 17 16.4
comp=Z,38nm,1.3s
SWET Sewanee 65.98 347 IAmb IAmb 18 17 01.3
comp=Z,18nm,0.8s
BRDY Brady 66.01 335 IAmb IAmb 18 17 02.7
comp=Z,17nm,0.8s
TKL Tuckaleechee C 66.03 349 IAmb IAmb 18 17 16.5
comp=Z,29nm,1.1s
SAND Sanderson 66.07 331 IAmb IAmb 18 17 03.7
comp=Z,17nm,0.8s
TXAR Lajitas Array 66.19 330 P **P 18 16 59.9 +1.0**
TXAR Lajitas Array 66.19 330 P **P 18 17 02.0 +3.1**
comp=Z,8.1nm,0.7s,baz=152,slow=8.0,SNR=68
TXAR LR LR 18 41 27.4
comp=Z,258nm,20.1s,baz=134,slow=32
comp=Z,8.1nm,0.7s
PLAL Pickwick Lake 66.20 345 IAmb IAmb 18 17 18.1
comp=Z,21nm,0.9s
OZNA Ozona 66.51 333 IAmb IAmb 18 17 06.0
comp=Z,26nm,1.1s
FW07 Weatherford 66.85 336 IAmb IAmb 18 17 07.7
comp=Z,21nm,0.7s
CLTN Cedars of Leba 66.91 347 P **P 18 17 03.3 +0.1**
CLTN IAmb IAmb 18 17 23.0
comp=Z,22nm,1.3s
TAOE Nuku Hiva Isla 66.99 273 *e*LR LR 18 37 20.0
comp=Z,698nm,28.2s
ALPN Alpine 67.08 330 P **P 18 17 04.7 0.0**
PLPT Palo Pinto 67.13 336 P **P 18 17 03.4 -1.4**
MIAR Mount Ida 67.19 340 P **P 18 17 04.1 -1.0**
MIAR Mount Ida 67.19 340 P **P 18 17 04.1 -1.0**
MIAR pmax pmax
comp=Z,14nm,1.2s
Z35A Perchaven, San 67.23 337 P **P 18 17 04.2 -1.1**
WVT Waverly 67.25 346 P **P 18 17 03.6 -1.8**
WVT IAmb IAmb 18 17 09.2
comp=Z,16nm,0.7s
WVT Waverly 67.25 346 P **P 18 17 03.6 -1.8**
WVT pmax pmax
comp=Z,16nm,0.7s
WVT Waverly 67.25 346 P **P 18 17 06.9 +1.5**
WVT pP **pP 18 17 19.0 +0.6**
SGCY Sterling City 67.39 333 IAmb IAmb 18 17 11.3
comp=Z,14nm,0.9s
WHAR Wooly Hollow 67.53 342 IAmb IAmb 18 17 11.6
comp=Z,13nm,0.8s
T47A Sharon Grove 67.93 347 P **P 18 17 07.7 -1.9**
VHRN Van Horn 68.02 329 IAmb IAmb 18 17 15.5
comp=Z,48nm,1.7s
WTFS Witchita Falls 68.05 336 IAmb IAmb 18 17 15.3
comp=Z,19nm,0.8s
SN07 Snyder 07 68.33 334 IAmb IAmb 18 17 17.2
comp=Z,15nm,0.8s
VNDA Vanda 68.34 191 P **P 18 17 14.2 +2.5**
comp=Z,4.5nm,0.8s,baz=123,slow=6.7,SNR=8.4
comp=Z,4.5nm,0.8s
VNDA Vanda 68.34 191 P **P 18 17 15.1 +3.3**
POST Post 68.55 333 IAmb IAmb 18 17 18.4
comp=Z,23nm,1.3s
X34A Smith Ranch, M 68.59 337 P **P 18 17 14.7 +0.9**
X34A IAmb IAmb 18 17 18.8
comp=Z,19nm,0.7s
TBI Tubuai 68.67 255 *e*LR LR 18 38 04.0
comp=Z,1µm,29.0s
TBI *e*LR LR 18 38 04.5
comp=Z,4µm,26.5s
CGM3 Cape Girardeau 68.78 345 IAmb IAmb 18 17 36.7
comp=Z,37nm,1.4s
DKNS Dickens 68.86 334 IAmb IAmb 18 17 20.3
comp=Z,15nm,0.8s
T42A Van Buren 68.86 343 IAmb IAmb 18 18 03.3
comp=Z,34nm,1.7s
HHAR Hobbs 68.92 341 IAmb IAmb 18 17 20.4
comp=Z,17nm,0.8s
WCI Wyandotte Cave 68.97 348 P **P 18 17 16.3 +0.2**
WCI Wyandotte Cave 68.97 348 P **P 18 17 16.3 +0.2**
WCI pmax pmax
comp=Z,97nm,2.0s
WCI Wyandotte Cave 68.97 348 P **P 18 17 18.5 +2.3**
WMOK Wichita Mounta 69.04 336 P **P 18 17 19.3 +2.6**
WMOK pmax pmax
comp=Z,8.0nm,0.7s
BBTS Babate 69.09 58 LR LR 18 48 00.2
comp=Z,499nm,18.4s,baz=110,slow=36
U38A Gravette 69.19 341 IAmb IAmb 18 17 37.1
comp=Z,33nm,1.7s
HSIG 69.41 324 P **P 18 17 19.5 +0.4**
HSIG IAmb IAmb 18 17 24.8
comp=Z,22nm,0.8s
OK029 Liberty Lake 69.55 338 IAmb IAmb 18 17 24.1
comp=Z,23nm,0.7s
FVM French Village 69.61 344 P **P 18 17 20.8 +0.7**
FVM IAmb IAmb 18 17 42.0
comp=Z,25nm,0.8s
FVM French Village 69.61 344 P **P 18 17 20.8 +0.7**
FVM pmax pmax
comp=Z,25nm,0.9s
SYO Syowa Base 69.72 159‖ *e*P **P 18 17 20.2 -0.3**
SYO Syowa Base 69.72 159‖ *e*pP pP 18 17 29.0 -4.7
MSTX Muleshoe 69.84 333 IAmb IAmb 18 17 27.1
comp=Z,27nm,0.9s
CCM Cathedral Cave 69.87 344 P **P 18 17 21.1 -0.6**
CCM IAmb IAmb 18 17 47.1
comp=Z,25nm,1.0s
CCM Cathedral Cave 69.87 344 P **P 18 17 21.1 -0.6**
CCM pmax pmax
comp=Z,25nm,1.0s
CCM Cathedral Cave 69.87 344 P **P 18 17 23.5 +1.8**
CCM pP **pwP 18 17 37.7 +2.8**
SMWD Samnorwood 69.89 335 IAmb IAmb 18 17 26.8
comp=Z,26nm,0.8s
BLO Bloomington 69.93 348 IAmb IAmb 18 17 25.5
comp=Z,19nm,0.7s
OK048 Pawnee Station 69.95 339 IAmb IAmb 18 17 26.5
comp=Z,17nm,0.6s
OK051 E0350 and S346 70.00 339 IAmb IAmb 18 17 27.2
comp=Z,15nm,0.7s
P48A Milroy 70.02 349 IAmb IAmb 18 17 25.6
comp=Z,15nm,0.7s
SSPA Standing Stone 70.25 355 P **P 18 17 26.9 +3.0**
SSPA pP **pP 18 17 40.2 +3.2**
R40A Maddies Statio 70.35 343 P **P 18 17 24.0 -0.6**
P46A Rosedale 70.49 347 IAmb IAmb 18 17 44.7
comp=Z,25nm,0.9s
319A Douglas 70.50 326 IAmb IAmb 18 17 31.9
comp=Z,26nm,0.8s
PPT2 Papeete2 71.20 260 *e*LR LR 18 39 12.9
comp=Z,1µm,23.5s
PPT2 *e*LR LR 18 39 15.3
comp=Z,1µm,23.8s
PPT Papeete 71.21 260 P **P 18 17 33.2 +2.7**
comp=Z,35nm,0.7s,baz=74,slow=22,SNR=4.3
PPT LR LR 18 40 27.6
comp=Z,787nm,19.0s,baz=134,slow=29
comp=Z,35nm,0.7s
N49A Columbus Grove 71.25 350 P **P 18 17 29.7 -0.3**
P38A Dawn 71.94 342 IAmb IAmb 18 18 03.2
comp=Z,40nm,1.6s
TUC Tucson 72.00 326 P **P 18 17 34.6 -0.3**
TUC IAmb IAmb 18 17 58.5
comp=Z,40nm,1.9s
TUC Tucson 72.00 326 P **P 18 17 34.6 -0.3**
TUC pmax pmax
comp=Z,40nm,2.0s
ANMO Albuquerque 72.21 331 P **P 18 17 35.7 -0.5**
ANMO IAmb IAmb 18 17 42.1
comp=Z,38nm,1.8s
ANMO Albuquerque 72.21 331 P **P 18 17 38.6 +2.4**
comp=Z,4.5nm,0.8s,baz=349,slow=4.7,SNR=12
ANMO LR LR 18 45 06.4
comp=Z,390nm,20.2s,baz=284,slow=32
comp=Z,4.5nm,0.8s
ANMO Albuquerque 72.21 331 *i* P **P 18 17 37.1 +0.9**
ANMO pmax pmax
comp=Z,10.0nm,1.7s
DBIC Dimbokro 73.56 72 P **P 18 17 43.1 -1.3**
DBIC IAmb IAmb 18 18 05.7
comp=Z,17nm,0.8s
DBIC Dimbokro 73.56 72 P **P 18 17 44.5 0.0**
comp=Z,5.4nm,0.8s,baz=207,slow=2.8,SNR=7.3
DBIC LR LR 18 48 19.4
comp=Z,863nm,19.3s,baz=235,slow=34
comp=Z,5.4nm,0.8s
X16A Lo Mia Camp, P 74.03 327 IAmb IAmb 18 17 54.1
comp=Z,17nm,0.7s
WBO Williamsburg 74.45 357 IAmb IAmb 18 17 53.2
comp=Z,14nm,0.7s
SADO Sadowa 74.46 354 P **P 18 17 49.3 +0.4**
comp=Z,12nm,0.9s,baz=193,slow=6.0,SNR=7.6
SADO LR LR 18 52 45.2
comp=Z,124nm,20.2s,baz=75,slow=38
comp=Z,12nm,0.9s
WUAZ Wupatki 74.89 327 IAmb IAmb 18 17 58.2
comp=Z,22nm,0.8s
MVCO Mesa Verde 75.00 330 IAmb IAmb 18 17 58.4
comp=Z,24nm,0.8s
BLYC Blythe 75.02 324 IAmb IAmb 18 17 58.6
comp=Z,16nm,0.8s
Q24A Divide 75.13 334 P **P 18 17 54.1 +0.7**
OGNE Ogallala 75.73 337 IAmb IAmb 18 18 01.8
comp=Z,17nm,0.8s
W13A Hualapai Mount 75.77 325 IAmb IAmb 18 18 03.1
comp=Z,13nm,0.7s
PFO Pinyon Flats O 75.92 323 P **P 18 17 57.8 0.0**
PFO IAmb IAmb 18 18 04.1
comp=Z,25nm,1.2s
PFO Pinyon Flats O 75.92 323 P **P 18 17 59.7 +1.9**
comp=Z,9.3nm,0.9s,baz=128,slow=5.2,SNR=12
PFO LR LR 18 44 31.6
comp=Z,264nm,19.8s,baz=112,slow=30
comp=Z,9.3nm,0.9s
PV15 Paradox Valley 75.95 331 IAmb IAmb 18 18 07.6
comp=Z,17nm,0.9s
ISCO Idaho Springs 76.03 334 IAmb IAmb 18 18 04.3
comp=Z,16nm,0.8s
ISCO Idaho Springs 76.03 334 P **P 18 18 01.4 +2.8**
U15A North Rim 76.07 327 IAmb IAmb 18 18 05.1
comp=Z,18nm,0.8s
PV11 David Mesa, Pa 76.08 331 IAmb IAmb 18 18 04.3
comp=Z,19nm,0.8s
BRIGG Briggsdale 76.22 335 IAmb IAmb 18 18 05.4
comp=Z,25nm,0.8s
PV23 Carpenter Ridg 76.26 331 IAmb IAmb 18 18 05.5
comp=Z,30nm,0.9s
ELS Elsinore Mount 76.46 322 IAmb IAmb 18 18 06.9
comp=Z,26nm,1.0s
ECSD EROS Data Cent 76.60 342 P **P 18 18 01.0 -0.3**
ECSD IAmb IAmb 18 18 23.4
comp=Z,25nm,0.9s
E46A Sault Ste Mari 76.60 351 IAmb IAmb 18 18 05.1
comp=Z,19nm,0.7s
SUR Sutherland 76.64 120 LR LR 18 47 30.9
comp=Z,314nm,20.0s,baz=232,slow=32
V12A Nelson 76.74 325 IAmb IAmb 18 18 08.1
comp=Z,16nm,0.9s
KNB Kanab 76.79 327 IAmb IAmb 18 18 33.7
comp=Z,24nm,1.0s
PKCU Pink Cliffs 76.90 328 IAmb IAmb 18 18 22.9
comp=Z,21nm,1.0s
LCMT Little Creek M 76.99 327 P **P 18 18 03.1 -0.7**
MAW Mawson 77.18 164 LR LR 18 54 46.2
comp=Z,318nm,18.3s,baz=227,slow=38
MTPU Mount Pierson 77.33 328 IAmb IAmb 18 18 11.7
comp=Z,20nm,0.7s
GSC Goldstone, Bar 77.40 324 IAmb IAmb 18 18 12.3
comp=Z,15nm,0.9s
SRU San Rafael Swe 77.47 330 IAmb IAmb 18 18 11.9
comp=Z,24nm,0.7s
Q16A Castle Valley 77.59 329 IAmb IAmb 18 18 26.5
comp=Z,26nm,0.9s
TMUT Trail Mountain 77.92 330 IAmb IAmb 18 18 14.8
comp=Z,51nm,1.6s
CCAC Calif City Air 77.92 323 P **P 18 18 08.1 -0.8**
CCAC IAmb IAmb 18 18 28.3
comp=Z,28nm,0.9s
GWY Greenwater Val 78.02 324 IAmb IAmb 18 18 28.6
comp=Z,17nm,1.0s
WIN Windhoek 78.15 109 P **P 18 18 12.5 +1.6**
WIN pmax pmax
comp=Z,14nm,1.1s
PRN Pahroc Range 78.17 326 IAmb IAmb 18 18 30.1
comp=Z,28nm,0.8s
RAR Rarotonga 78.20 252 LR LR 18 44 04.6
comp=Z,455nm,19.7s,baz=98,slow=29
TPNV Topopah Spring 78.40 325 IAmb IAmb 18 18 17.9
comp=Z,34nm,1.3s
WCT Wildcat Mounta 78.47 325 IAmb IAmb 18 18 31.2
comp=Z,15nm,0.9s
PSUT Pine Spring 78.50 327 P **P 18 18 11.8 -0.5**
ISA Isabella, Lake 78.55 323 IAmb IAmb 18 18 38.8
comp=Z,21nm,0.9s
MPU Maple Canyon 78.69 330 IAmb IAmb 18 18 32.3
comp=Z,22nm,0.9s
BSUT Blindstream Ca 78.75 331 IAmb IAmb 18 18 33.0
comp=Z,31nm,0.9s
SPR3 Spring Creek 3 79.09 327 IAmb IAmb 18 18 22.0
comp=Z,68nm,1.9s
EYMN Ely 79.35 347 P **P 18 18 16.2 -0.2**
DUG Dugway, Tooele 79.36 329 IAmb IAmb 18 18 36.0
comp=Z,16nm,0.8s
DUG Dugway, Tooele 79.36 329 P **P 18 18 20.6 +3.7**
DUG pmax pmax
comp=Z,26nm,0.9s
TCUT Toone Canyon 79.50 331 IAmb IAmb 18 18 41.0
comp=Z,24nm,0.7s
TSUM Tsumeb 80.10 106 P **P 18 18 18.7 -2.8**
TSUM Tsumeb 80.10 106 LR LR 18 50 48.2
comp=Z,746nm,18.1s,baz=234,slow=34
PDAR Pinedale Array 80.11 333 P **P 18 18 20.5 -0.5**
PDAR Pinedale Array 80.11 333 P **P 18 18 23.1 +2.0**
comp=Z,5.3nm,0.6s,baz=137,slow=6.6,SNR=56
PDAR PKKPbc **PKKPbc 18 37 06.9 +0.1**
comp=Z,0.6nm,0.8s,baz=272,slow=3.1,SNR=4.5
PDAR LR LR 18 51 05.7
comp=Z,175nm,19.5s,baz=138,slow=34
comp=Z,5.3nm,0.6s
LHV Little Huntoon 80.54 324 IAmb IAmb 18 18 53.0
comp=Z,18nm,1.0s
NVAR Mina Array Bea 80.58 325 P **P 18 18 22.9 -0.6**
NVAR Mina Array Bea 80.58 325 P **P 18 18 26.8 +3.2**
comp=Z,6.3nm,0.8s,baz=155,slow=5.8,SNR=27
NVAR LR LR 18 47 54.1
comp=Z,198nm,21.4s,baz=163,slow=31
comp=Z,6.3nm,0.8s
HVU Hansel Valley 80.63 330 IAmb IAmb 18 18 42.0
comp=Z,22nm,0.8s
AGMN Agassiz Nation 80.65 344 IAmb IAmb 18 18 27.7
comp=Z,15nm,0.8s
AHID Auburn Hatcher 80.74 332 IAmb IAmb 18 18 46.9
comp=Z,17nm,0.9s
PMOZ Porto Moniz, M 80.84 44 *e*LR LR 18 45 49.4
PMOZ *i* AMs_20 18 54 58.1
comp=Z,498nm,18.0s
ELK Elko 80.90 328 P **P 18 18 28.2 +2.9**
comp=Z,9.0nm,0.8s,baz=140,slow=2.8,SNR=34
comp=Z,9.0nm,0.8s
TPAW Teton Pass 81.28 332 P **P 18 18 25.9 -1.4**
BOSA Boshof 81.80 118 P **P 18 18 31.5 +1.1**
comp=Z,7.0nm,0.9s,baz=273,slow=3.1,SNR=12
BOSA LR LR 18 50 57.8
comp=Z,385nm,19.5s,baz=239,slow=33
comp=Z,7.0nm,0.9s

RLMT	Red Lodge	81.98	334	IAmb	IAmb	18 18 35.9	
	comp=Z,15nm,0.7s						
PAHR	Pah Rah Range	82.09	325	P	P	18 18 30.6	-0.9
PAHR				IAmb	IAmb	18 18 50.9	
	comp=Z,21nm,0.9s						
LAO	LASA Array	82.22	337	IAmb	IAmb	18 18 50.2	
	comp=Z,26nm,1.0s						
YMR	Madison River	82.26	333	IAmb	IAmb	18 18 51.5	
	comp=Z,27nm,0.9s						
AFDM	Forest Hills D	82.33	323	IAmb	IAmb	18 18 57.0	
	comp=Z,22nm,1.1s						
ULM	Lac du Bonnet	82.47	345	P	P	18 18 32.9	-0.2
ULM				IAmb	IAmb	18 18 36.9	
	comp=Z,16nm,0.8s						
ULM	Lac du Bonnet	82.47	345	P	P	18 18 34.9	+1.8
	comp=Z,12nm,0.8s,baz=153,slow=4.5,SNR=22						
	comp=Z,12nm,0.8s						
ULM	Lac du Bonnet	82.47	345	*i* P	P	18 18 33.4	+0.4
TORD	Torodi Ar. Bea	82.48	70	P	P	18 18 32.6	-1.3
TORD	Torodi Ar. Bea	82.48	70	P	P	18 18 35.1	+1.2
	comp=Z,2.9nm,0.6s,baz=286,slow=5.4,SNR=7.4						
	comp=Z,2.9nm,0.6s						
HLID	Hailey	82.79	330	IAmb	IAmb	18 18 54.1	
	comp=Z,14nm,0.8s						
MFID	Camas Ranch	83.29	329	IAmb	IAmb	18 18 42.8	
	comp=Z,38nm,1.8s						
DLMT	Dillon	83.49	332	IAmb	IAmb	18 19 01.7	
	comp=Z,24nm,1.4s						
LRM	Limekiln Ridge	83.81	333	P	P	18 18 39.8	-0.6
WVOR	Wild Horse Val	83.81	327	P	P	18 18 43.1	+2.8
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LBTB	Lobatse	83.83	115	P	P	18 18 39.6	-1.4
LBTB				IAmb	IAmb	18 19 03.4	
	comp=Z,18nm,0.8s						
LBTB	Lobatse	83.83	115	LR	LR	18 50 50.3	
	comp=Z,678nm,21.4s,baz=234,slow=32						
LBTB	Lobatse	83.83	115	P	P	18 18 39.6	-1.4
LBTB				pmax	pmax		
	comp=Z,17nm,0.9s						
SCHQ	Schefferville	84.32	3	P	P	18 18 41.8	-0.6
SCHQ				IAmb	IAmb	18 18 47.0	
	comp=Z,29nm,1.6s						
SCHQ	Schefferville	84.32	3	P	P	18 18 44.4	+1.9
	comp=Z,11nm,1.1s,baz=196,slow=3.1,SNR=13						
	comp=Z,11nm,1.1s						
EGMT	Eagleton	84.61	335	IAmb	IAmb	18 19 06.2	
	comp=Z,12nm,0.9s						
PLID	Pearl Lake	84.69	330	IAmb	IAmb	18 19 03.2	
	comp=Z,17nm,0.8s						
BPMT	Black Pine Rid	84.71	332	P	P	18 18 44.2	-0.7
KMPM	Mount Pierce	85.06	323	P	P	18 18 45.8	-0.8
KHMM	Horse Mountain	85.18	323	P	P	18 18 47.9	+0.6
KHMM				IAmb	IAmb	18 18 53.2	
	comp=Z,15nm,0.8s						
YBH	Yreka Blue Hor	85.28	324	P	P	18 18 49.5	+1.8
	comp=Z,6.7nm,0.7s,baz=68,slow=4.5,SNR=28						
YBH				LR	LR	18 51 05.4	
	comp=Z,164nm,19.4s,baz=137,slow=32						
	comp=Z,6.7nm,0.7s						
L04D	Klamath Falls	85.44	325	IAmb	IAmb	18 19 11.8	
	comp=Z,23nm,1.1s						
I07A	Izee	85.48	328	IAmb	IAmb	18 18 54.2	
	comp=Z,11nm,1.0s						
J05D	Fort Rock, OR	85.70	326	IAmb	IAmb	18 18 55.2	
	comp=Z,17nm,1.1s						
L02F	Cave Junction	86.01	324	IAmb	IAmb	18 18 56.8	
	comp=Z,16nm,0.8s						
J04A	Umpqua Nationa	86.10	326	P	P	18 18 51.7	-0.2
URZ	Urewera	86.76	227	P	P	18 18 57.2	+2.1
	comp=Z,2.8nm,0.6s,baz=180,slow=5.1,SNR=1.6						
URZ				LR	LR	18 48 14.7	
	comp=Z,263nm,20.8s,baz=244,slow=29						
	comp=Z,2.8nm,0.6s						
BUCK	Buck Mountain	87.23	326	P	P	18 18 56.3	-0.9
HAWA	Hanford	87.26	329	IAmb	IAmb	18 19 02.3	
	comp=Z,13nm,0.9s						
H04D	Lebanon	87.35	326	IAmb	IAmb	18 19 19.4	
	comp=Z,15nm,0.8s						
COR	Corvallis	87.67	326	P	P	18 18 59.3	+0.1
COR	Corvallis	87.67	326	P	P	18 18 59.3	+0.1
COR				pmax	pmax		
	comp=Z,27nm,0.8s						
NEW	Newport	87.67	332	P	P	18 19 01.7	+2.5
	comp=Z,1.3nm,0.4s,baz=128,slow=5.4,SNR=3.8						
NEW				LR	LR	18 55 23.9	
	comp=Z,240nm,18.3s,baz=140,slow=34						
	comp=Z,1.3nm,0.4s						
C09A	Chrisman Ranch	87.79	331	IAmb	IAmb	18 19 04.3	
	comp=Z,9.1nm,0.8s						
FFC	Flin Flon	88.07	343	P	P	18 18 59.9	-0.9
FFC				IAmb	IAmb	18 19 22.5	
	comp=Z,13nm,1.3s						
FFC	Flin Flon	88.07	343	P	P	18 18 59.9	-0.9
FFC				pmax	pmax		
	comp=Z,13nm,1.3s						
LON	Longmire	88.56	328	IAmb	IAmb	18 19 07.9	
	comp=Z,9.5nm,0.9s						
B08A	Colville Reser	88.67	330	IAmb	IAmb	18 19 28.9	
	comp=Z,23nm,1.6s						
MDT	Midelt	88.90	51	LR	LR	18 56 13.9	
	comp=Z,311nm,21.8s,baz=254,slow=34						
D05A	Enumclaw	88.97	328	P	P	18 19 04.3	-0.9
MORF	Marmelete	89.04	45	*e*P	P	18 19 08.9	+3.0
PTEO	Sao Teotonio	89.15	45	*e*P	P	18 19 10.4	+4.0
PBDV	Barranco-do-Ve	89.45	46	*e*P	P	18 19 10.9	+3.0
GNW	Green Mountain	89.63	328	P	P	18 19 07.2	-1.2
GNW				IAmb	IAmb	18 19 31.9	
	comp=Z,12nm,1.1s						
PVAQ	Vaqueiros	89.68	46	*e*LR	LR	18 48 21.8	
PVAQ				*i* AMs_20		18 55 20.7	
	comp=Z,442nm,20.0s						
PMTG	Montargil	90.41	44	*e*P	P	18 19 15.3	+3.1
LSZ	Lusaka	90.84	108	LR	LR	18 57 44.8	
	comp=Z,513nm,18.4s,baz=250,slow=34						
LSZ	Lusaka	90.84	108	P	P	18 19 16.1	+1.1
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PMRV	Marv??o	91.14	44	*e*LR	LR	18 48 14.9	
PMRV				*i* AMs_20		19 01 29.8	
	comp=Z,485nm,16.0s						
MTE	Manteigas	91.65	43	*e*LR	LR	18 47 50.6	
MTE				*i* AMs_20		18 57 02.8	
	comp=Z,679nm,20.0s						
PGAV	Gavieira, Arco	92.20	42	*e*LR	LR	18 47 23.2	
PGAV				*i* AMs_20		19 01 24.6	
	comp=Z,491nm,18.0s						
MVO	Moncorvo	92.43	43	*e*LR	LR	18 48 02.0	
MVO				*i* AMs_20		18 59 11.6	
	comp=Z,952nm,20.0s						
FRB	Frobisher Bay	93.19	1	P	P	18 19 26.0	+1.5
	comp=Z,1.7nm,0.7s,baz=139,slow=11,SNR=1.6						
	comp=Z,1.7nm,0.7s						
ESDC	Sonseca Array	93.40	46	P	P	18 19 26.9	+0.7
	comp=Z,0.7nm,0.7s,baz=249,slow=5.2,SNR=5.7						
ESDC				LR	LR	19 01 51.5	
	comp=Z,417nm,18.3s,baz=236,slow=36						
	comp=Z,0.7nm,0.7s						
BBB	Bella Bella	95.32	329	LR	LR	18 58 08.7	
	comp=Z,146nm,19.2s,baz=128,slow=33						
SFJD	Kangerlussuaq	97.74	8	LR	LR	19 01 51.2	
	comp=Z,89nm,20.8s,baz=169,slow=34						
MSVF	Nonsavu	97.92	245	LR	LR	18 54 00.4	
	comp=Z,172nm,22.0s,baz=161,slow=29						
YKA	Yellowknife Ar	98.12	341	P	Pdif	18 19 48.1	+1.1
	comp=Z,2.2nm,0.8s,baz=147,slow=4.4,SNR=25						
YKA				LR	LR	19 05 10.0	
	comp=Z,125nm,19.1s,baz=91,slow=36						
	comp=Z,2.2nm,0.8s						
DZM	Mont Dzumac	103.99	234	*e*LR	LR	18 54 22.0	
	comp=Z,651nm,24.1s						
ILAR	Eielson Array	110.53	334	PP	PP	18 25 18.1	-1.2
	comp=Z,0.5nm,0.8s,baz=61,slow=4.7,SNR=5.5						
MNK	Minsk	119.02	41	*i* P	Pdif	18 21 20.2	+0.1
MNK				*i*		18 24 58.8	
MNK				*i*		18 26 19.6	
MNK				*i* PPP	PPP	18 28 51.2	
MNK				*i*		18 32 06.5	
MNK				*i* PS	PS	18 36 08.2	+0.8
MNK				*i* SS	SS	18 42 38.6	+2.3
MNK				*i* SSS	SSS	18 47 03.3	
MNK				pmax	pmax		
	comp=E,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,14nm,1.3s						
MNK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	Malin Array Be	119.04	46	PKP	PKiKP	18 25 00.1	+1.0
	comp=Z,1.0nm,0.8s,baz=268,slow=2.3,SNR=1.8						
FINES	FINESS Array B	119.28	33	PKP	PKiKP	18 25 00.6	+1.3
	comp=Z,2.7nm,0.9s,baz=282,slow=7.0,SNR=2.4						
FINES				PKKPbc	PKKPbc	18 35 14.6	+1.1
	comp=Z,2.2nm,1.0s,baz=133,slow=5.9,SNR=4.0						
BRTR	Keskin Array B	119.43	59	PKP	PKiKP	18 25 00.4	0.0
	comp=Z,0.4nm,0.8s,baz=217,slow=4.6,SNR=2.9						
BRTR				PKKPbc	PKKPab	18 35 14.3	+1.3
	comp=Z,0.4nm,0.8s,baz=172,slow=2.5,SNR=3.7						
ARCES	ARCESS Array B	120.01	24	PKKPbc	PKKPbc	18 35 12.2	+1.2
	comp=Z,3.4nm,0.8s,baz=28,slow=5.5,SNR=3.7						
ASAR	Alice Springs	121.49	208		PKPdf	18 25 04.3	-0.5
ASAR	Alice Springs	121.49	208	PKP	PKiKP	18 25 05.2	+0.2
	comp=Z,2.5nm,0.8s,baz=128,slow=1.7,SNR=30						
ASAR				PKKPbc	PKKPbc	18 35 05.6	+0.9
	comp=Z,0.5nm,0.6s,baz=332,slow=3.3,SNR=12						
OBN	Obninsk	124.08	41	*e*PKIKP	PKPdf	18 25 07.6	-1.0
OBN				*e*		18 26 50.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,263nm,19.0s						
WRA	Warramunga Arr	124.61	210	PKPdf	PKPdf	18 25 09.8	-1.1
WRA	Warramunga Arr	124.61	210	PKP	PKiKP	18 25 11.7	+0.5
	comp=Z,8.0nm,0.6s,baz=160,slow=1.6,SNR=141						
WRA				PKKPbc	PKKPab	18 34 53.6	-1.2
	comp=Z,0.4nm,0.6s,baz=343,slow=4.3,SNR=7.2						
WRAB	Tennant Creek	124.61	210		PKPdf	18 25 09.8	-1.1
WRAB	Tennant Creek	124.61	210	PKIKP	PKPdf	18 25 09.8	-1.1
KLMR	Klimovskoe	125.75	34	*e*PKIKP	PKiKP	18 25 26.6	+15
KLMR				pmax	pmax		
	comp=Z,27nm,1.3s						
KIV	Kislovodsk	126.90	55	*i* PKIKP	PKPdf	18 25 14.6	+0.1
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	Khabaz	127.02	56	PKP	PKiKP	18 25 17.3	+2.2
	comp=Z,1.8nm,1.1s,baz=298,slow=2.5,SNR=3.0						
KBZ	Khabaz	127.02	56	*i* PKIKP	PKPdf	18 25 13.0	-1.6
BILL	Bilibino	129.11	336	*i* PKIKP	PKPdf	18 25 16.0	-1.9
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARTI	Arti	136.17	38	PKP	PKiKP	18 25 33.1	-0.1
	comp=Z,2.4nm,0.8s,baz=292,slow=6.0,SNR=3.8						
ARTI	Arti	136.17	38	*i* PKIKP	PKiKP	18 25 34.3	+1.1
ARTI						18 28 13.0	
ARTI				SS	SS	18 46 05.6	-3.5
SEY	Seymchan	136.44	333	*e*PKIKP	PKiKP	18 25 32.8	-0.7
SEY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI	Tiksi	136.55	351	PKPdf	PKPdf	18 25 29.0	-2.8
TIXI	Tiksi	136.55	351	PKIKP	PKPdf	18 25 29.0	-2.8
PETK	Petropavlovsk-	137.31	318	PKP	PKiKP	18 25 36.8	+1.2
	comp=Z,4.1nm,0.8s,baz=112,slow=4.0,SNR=7.6						
NRIK	Noril'sk	138.59	11	*i* PKIKP	PKPdf	18 25 36.5	+0.9
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ABKAR	Akbulak array	138.70	48	PKPdf	PKPdf	18 25 32.4	-4.0
MA2	Magadan	138.71	329	*i* PKIKP	PKPdf	18 25 34.0	-2.1
MA2				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRVK	Borovoye	143.79	39	PKPdf	PKPdf	18 25 44.3	-1.1
BRVK	Borovoye	143.79	39	PKIKP	PKPdf	18 25 44.3	-1.1
BVAR	Borovoye Array	143.87	39	PKP	PKPdf	18 25 45.2	-0.4
	comp=Z,3.5nm,0.7s,baz=302,slow=2.9,SNR=22						
YAK	Yakutsk	144.79	343	PKPdf	PKPbc	18 25 46.2	+0.3
YAK	Yakutsk	144.79	343	*e*PKIKP	PKPdf	18 25 48.0	+1.1
YAK				*e*		18 26 00.3	
YAK				*e*		18 29 05.7	
YAK				pmax	pmax		
	comp=Z,73nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,61nm,4.5s						
YAK				pmax	pmax		
	comp=N,196nm,6.2s						
YAK				pmax	pmax		
	comp=E,64nm,3.6s						
SIMJ	Simiganj	146.50	64	PKPdf	PKPdf	18 25 49.0	-1.7
SIMJ				PKPbc	PKPab	18 25 52.8	-0.5
TYV	Tymovskoe	146.81	319	*e*PKP2	PKiKP	18 25 55.5	+0.4
TYV				pmax	pmax		
	comp=Z,17nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,4.2s						
KKAR	Karatay Array	147.06	56		PKPbc	18 25 54.0	+0.4
KKAR	Karatay Array	147.06	56	PKP2	PKPbc	18 25 54.0	+0.4
YSS	Yuzhno-Sakhali	148.31	312	PKPdf	PKPdf	18 25 52.1	-1.2
YSS					PKPbc	18 25 56.8	0.0
YSS	Yuzhno-Sakhali	148.31	312	*e*PKP2	PKiKP	18 25 58.9	+0.5
YSS				*e*		18 29 30.4	
YSS				*e*		18 32 59.4	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				pmax	pmax		
	comp=Z,100nm,4.1s						
TOLI2	Tolitoli	149.16	205		PKPbc	18 25 58.6	-1.3
KURBB	Kurchatov Arra	149.45	39	PKPbc	PKiKP	18 26 00.8	+0.2
	comp=Z,1.5nm,0.5s,baz=301,slow=3.2,SNR=22						
KURK	Kurchatov	149.45	38	PKPdf	PKPdf	18 25 52.0	-3.0
KURK					PKPbc	18 25 56.8	-2.7
KURK	Kurchatov	149.45	38	*i* PKHKP	PKPpre	18 25 56.0	
EKS2	Erkin-Say	149.50	55	P	PKPab	18 26 03.9	-1.2
	SNR=12						
AML	Almayashu	149.56	57	P	PKPab	18 26 04.3	-1.5
	SNR=12						
USP	Ospenovka	149.86	54	P	PKiKP	18 26 03.8	+2.0
	SNR=9.1						
AAK	Ala-Archa	150.02	55	PKPdf	PKPdf	18 25 53.9	-2.6
AAK					PKiKP	18 26 02.4	+0.1
AAK	Ala-Archa	150.02	55	P	PKPab	18 26 04.8	-2.5
	SNR=20						
AAK	Ala-Archa	150.02	55	*i* PKIKP	PKPdf	18 25 56.0	-0.4
FRU1	Bishkek	150.07	55		PKiKP	18 26 03.7	+1.4
FRU1	Bishkek	150.07	55	PKP2	PKiKP	18 26 03.7	+1.4
CHMS	Chumysh	150.11	54	P	PKPab	18 26 05.4	-2.2
	SNR=9.4						
HYB	Hyderabad	150.19	108	*e*PKiKP	PKiKP	18 26 04.2	+1.0
GRNR	Gornyy	150.27	323	⇑*i* PKIKP	PKiKP	18 26 03.3	+1.0
GRNR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBK	Karagaybulak	150.34	55	P	PKiKP	18 26 05.4	+2.4
	SNR=8.6						
ZALV	Zalesovo Beam	150.40	29	PKPbc	PKiKP	18 26 03.3	+0.8
	comp=Z,43nm,0.7s,baz=304,slow=3.5,SNR=83						
TKM2	Tokmak 2	150.73	54	P	PKiKP	18 26 06.6	+2.7
	SNR=8.6						
ULHL	Ulahol	151.37	55	P	PKiKP	18 26 06.7	+1.5
	SNR=18						
BOD	Bodaibo	151.64	354	*e*PKIKP	PKiKP	18 26 05.9	+1.0
BOD				pmax	pmax		
	comp=Z,26nm,2.0s						
KSH	Kashi	151.78	61	PKPbc	PKiKP	18 26 07.3	+1.3
KSH				sPKP		18 26 13.9	
ZEA	Zeya	152.34	335	*e*PKIKP	PKiKP	18 26 08.3	+1.8
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SBUM	Sibu	152.62	188	PKPdf	PKPdf	18 25 58.0	-3.1
SBUM					PKPbc	18 26 06.9	-1.2
MAKZ	Makanchi	153.38	43		PKPbc	18 26 07.4	-1.4
MAKZ	Makanchi	153.38	43	PKIKP	PKPbc	18 26 07.4	-1.4
MKAR	Makanchi Array	153.57	43	PKPdf	PKPdf	18 25 60.0	-1.5
MKAR	Makanchi Array	153.57	43	PKPbc	PKiKP	18 26 10.6	+1.3
	comp=Z,2.5nm,0.8s,baz=302,slow=2.3,SNR=23						
MKAR				PKPab	pPKPbc	18 26 23.0	-0.4
	comp=Z,3.1nm,0.7s,baz=325,slow=3.3,SNR=9.2						
MKAR	Makanchi Array	153.57	43	PKIKP	PKPdf	18 26 00.0	-1.5
KLR	Kul'dur	153.61	324	*e*PKIKP	PKPbc	18 26 09.0	-0.2
KLR				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MJAR	Matsushiro Arr	154.13	293	PKPbc	PKiKP	18 26 13.4	+2.6
	comp=Z,0.3nm,0.4s,baz=71,slow=4.0,SNR=4.2						
MJAR				PKPab	pPKPbc	18 26 26.6	+1.9
	comp=Z,4.8nm,0.7s,baz=105,slow=2.2,SNR=13						
HEH	HeiHe	154.95	330	*e*P	PKiKP	18 26 18.1	+6.1
CIT	Chita	157.40	352	*e*PKP2	PKPab	18 26 39.0	+1.0
CIT				*e*		18 30 17.4	
WMQ	Urumqi	158.39	44	*e*PKP	PKPdf	18 26 06.0	-2.0
WMQ				LR	LR		
	comp=Z,240nm,22.5s						
SONM	Songino Array	161.86	4	PKP	PKPdf	18 26 13.4	+1.6
	comp=Z,0.4nm,0.7s,baz=175,slow=0.2,SNR=2.6						
SONM				PKPab	PKPab	18 26 58.7	+1.0
	comp=Z,3.0nm,0.7s,baz=323,slow=4.3,SNR=12						
CMAR	Chiang Mai Arr	165.89	141	PKP	PKPdf	18 26 17.6	+1.4
	comp=Z,0.4nm,0.4s,baz=144,slow=1.4,SNR=5.3						
CMAR				PKPab	PKPab	18 27 16.9	+0.9
	comp=Z,1.6nm,0.8s,baz=219,slow=4.7,SNR=8.2						
CHTO	Chiang Mai	166.18	140	PKPdf	PKPdf	18 26 13.6	-2.8
CHTO					PKPab	18 27 16.5	-0.8
CHTO	Chiang Mai	166.18	140	PKP2	PKPab	18 27 16.5	-0.8
CHTO						19 26 13.6	
GOMU	GeErMu	166.96	57	PKP	PKPdf	18 26 16.8	-0.2
GOMU				pPKP	pPKPdf	18 26 31.0	-0.3
GOMU				sPKP		18 26 36.9	
GTA	Gaotai	168.08	34	*e*P	PKPdf	18 26 20.3	+2.9
GTA				pP	pPKPdf	18 26 27.3	-4.1
GTA				PcP	pPKPab	18 27 40.1	+1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
HHC	Hu-ho-hao-te	168.60	347	*e*P	PKPdf	18 26 18.3	+0.6
BTO	Baotou	169.06	353	*e*PKPbc	PKPdf	18 26 19.9	+1.9
BTO				pPKP	pPKPdf	18 26 33.8	+1.8
BTO				PKPab	PKPab	18 27 32.3	+2.8
BTO				PP	PP	18 31 12.1	-6.1
BTO	Baotou	169.06	353	SS	SS	18 51 56.6	-12
BTO	Baotou	169.06	353	LR	LR		
	comp=Z,470nm,22.6s						
BTO	Baotou	169.06	353	LR	LR		
	comp=E,200nm,5.7s						
BTO	Baotou	169.06	353	LR	LR		
	comp=N,250nm,5.9s						
BTO	Baotou	169.06	353	AMB	AMB		
	comp=Z,260nm,5.6s						
BTO	Baotou	169.06	353	pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	Qiongzhong	169.25	188	PKP	PKPdf	18 26 15.4	-3.2
QIZ				PP	PP	18 31 17.3	-1.7
TIA	Tai'an	170.18	313	PKP	PKPdf	18 26 20.4	+1.8
NJ2	Nanjing	170.66	287	*e*P	PKPdf	18 26 16.9	-2.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HNS	HongShan	170.68	327	⇓PKP	PKPdf	18 26 22.3	+3.5
HNS				LR	LR		
	comp=N,260nm,16.6s						
HNS				LR	LR		
	comp=E,270nm,12.6s						
HNS				LR	LR		
	comp=Z,320nm,18.0s						
LZH	Lanzhou	172.63	30	*e*PKP	PKPdf	18 26 19.6	-0.5
PZH	PanZhiHua	173.36	117	PKP	PKPdf	18 26 18.6	-2.0
CD2	Chengdu	175.89	72	PKP	PKPdf	18 26 20.0	-1.2

*NOU **16** 18:11:51.7,21°.71S×169°.92E,h0km,mb2.5/17,Southeast of Loyalty Islands*
*IDC **16** 18:11:53.0±6.3,20°.99S×169°.88E,h56km±51km,mb3.3/5, mbtmp3.6/6,ML4.2/1,MS2.4/1,Error ellipse: s-maj=136.2km s-min=38.4km az=157.0*

ISC 16 18:11:47.7±1.0,21°.8S±0°.1×170°.41E±0°.09,h35km,n32, σ1°58/33,mb3.5/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.24	279	P	Pn	18 12 23.7	+1.4
MARNC	Mare, Loyalty	2.24	279	S	Sn	18 12 47.0	-1.8
PINNC	Pines Island,	2.85	254	P	Pn	18 12 33.4	+2.7
PINNC	Pines Island,	2.85	254	S	Sn	18 13 03.5	-0.3
YATNC	Mamie plateau,	3.27	266	P	Pn	18 12 38.0	+1.5
YATNC	Mamie plateau,	3.27	266	S	Sn	18 13 12.4	-1.9
OUENC	Ouen Island, N	3.36	259	P	Pn	18 12 40.1	+2.4
OUENC	Ouen Island, N	3.36	259	S	Sn	18 13 15.5	-0.8
DZM	Mont Dzumac	3.69	266	P	Pn	18 12 44.6	+2.3
	22nm,0.3s,baz=122,slow=14,SNR=886						
DZM				S	Sn	18 13 22.3	-2.3
	484nm,0.6s,baz=214,slow=22,SNR=62						
DZM				LR	LR	18 13 24.4	
	comp=Z,59nm,18.9s,baz=134,slow=27						
	44nm,0.3s						
DZM	Mont Dzumac	3.69	266	P	Pn	18 12 44.7	+2.3
DZM	Mont Dzumac	3.69	266	S	Sn	18 13 23.1	-1.6
ONTNC	Ouen Toro	3.70	262	P	Pn	18 12 44.9	+2.5
ONTNC	Ouen Toro	3.70	262	S	Sn	18 13 23.8	-0.9
DVP	Devils Point	4.60	333	P	Pn	18 12 57.4	+2.6
KOUNC	Koumac, New Ca	5.86	282	P	Pn	18 13 14.7	+2.7
KOUNC	Koumac, New Ca	5.86	282	S	Sn	18 14 18.5	+0.5
ASAR	Alice Springs	33.66	260	P	P	18 18 25.9	+0.4
	0.3nm,0.8s,baz=76,slow=8.1,SNR=6.0						
	0.3nm,0.8s						
WRA	Warramunga Arr	33.71	267	P	P	18 18 25.6	-0.3
	0.2nm,0.5s,baz=100,slow=8.3,SNR=5.3						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	80.57	294	P	P	18 23 56.1	-0.9
	0.3nm,0.3s,baz=109,slow=5.8,SNR=4.1						
	0.3nm,0.3s						
SONM	Songino Array	89.95	323	P	P	18 24 41.7	-1.7
	0.4nm,0.6s,baz=135,slow=3.8,SNR=2.3						
	0.4nm,0.6s						
ILAR	Eielson Array	92.38	17	P	P	18 24 52.6	-1.5
	0.1nm,0.5s,baz=239,slow=12,SNR=1.0						
	0.1nm,0.5s						
ARCES	ARCESS Array B	127.85	345	PKP	PKPdf	18 30 49.4	+0.4
	4.3nm,1.0s,baz=56,slow=2.0,SNR=8.9						
EKA	Eskdalemuir Ar	146.21	353	PKPbc	PKPdf	18 31 23.2	+0.2
	1.0nm,0.4s,baz=11,slow=2.1,SNR=11						
RONA	Rosalia, Austr	146.86	327

s-min=18.5km az=10.0

ISC 16 18:28:26.9±1.4, 43°.0N±0°.3×29°.4W±0°.1, h10km, n11, σ1°35/11, mb3.7/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	19.33	91	P	Pn	18 32 53.1	-0.2
	0.1nm,0.3s,baz=297,slow=14,SNR=4.1 0.2nm,0.4s						
MDT	**Midelt**	21.96	109	P	P	18 33 21.5	+0.7
	0.8nm,0.4s,baz=287,slow=12,SNR=3.7 0.8nm,0.4s						
BRTR	**Keskin Array B**	46.40	72	P	P	18 36 54.0	+0.4
	0.5nm,0.6s,baz=323,slow=9.1,SNR=2.6 0.5nm,0.6s						
YKA	**Yellowknife Ar**	50.91	323	P	P	18 37 29.3	+1.5
	0.6nm,0.9s,baz=74,slow=6.9,SNR=6.2 0.6nm,0.9s						
KBZ	**Khabaz**	50.91	63	P	P	18 37 29.9	+1.8
	1.9nm,0.9s,baz=336,slow=5.1,SNR=5.1 1.9nm,0.9s						
PDAR	**Pinedale Array**	56.50	300	P	P	18 38 10.7	+1.3
	0.6nm,0.9s,baz=56,slow=8.3,SNR=3.1 0.6nm,0.9s						
TXAR	**Lajitas Array**	59.70	283	P	P	18 38 30.2	-1.6
	0.9nm,0.9s,baz=79,slow=6.5,SNR=6.4 0.9nm,0.9s						
ILAR	**Eielson Array**	62.02	335	P	P	18 38 46.3	-0.6
	0.3nm,0.6s,baz=42,slow=5.4,SNR=6.4 0.3nm,0.6s						
BVAR	**Borovoye Array**	62.16	42	P	P	18 38 47.1	-0.9
	0.8nm,0.9s,baz=316,slow=4.0,SNR=4.9 0.8nm,0.9s						
KURBB	**Kurchatov Arra**	67.61	41	P	P	18 39 22.6	-0.9
	1.3nm,0.9s,baz=314,slow=6.9,SNR=7.9 1.3nm,0.9s						
MKAR	**Makanchi Array**	72.04	42	P	P	18 39 49.6	-1.4
	0.7nm,0.9s,baz=321,slow=1.8,SNR=5.6 0.7nm,0.9s						

IDC 16 18:32:20.8±5.6, 44°.37N×28°.94W, h0km, mb3.5/4, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=160.2km s-min=31.8km az=19.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	19.11	96	P	P	18 36 43.5	-1.8
	baz=311,slow=9.9,SNR=1.9 0.5nm,0.8s						
YKA	**Yellowknife Ar**	50.03	323	P	P	18 41 16.6	0.0
	0.7nm,1.1s,baz=72,slow=7.5,SNR=4.4 0.7nm,1.1s						
ILAR	**Eielson Array**	60.95	334	P	P	18 42 34.5	-0.6
	0.2nm,0.6s,baz=46,slow=7.5,SNR=5.3 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	66.42	42	P	P	18 43 12.7	+1.2
	0.7nm,1.0s,baz=313,slow=6.7,SNR=5.6 0.7nm,1.0s						
MKAR	**Makanchi Array**	70.86	43	P	P	18 43 39.1	-0.2
	0.3nm,0.7s,baz=328,slow=5.1,SNR=3.7 0.3nm,0.7s						

*NEIC **16** 18:39:53.5±2.0, 42°.32N±0°.07×29°.4W±0°.2, h10km±2km, mb4.6/29, Error ellipse: s-maj=21.1km s-min=10.0km az=244.0*

*IDC **16** 18:39:54.3±2.0, 42°.89N×29°.37W, h0km, mb3.7/9, mbtmp3.6/10, ML4.0/1, Error ellipse: s-maj=65.9km s-min=19.1km az=4.0*

ISC 16 18:39:55.0±1.3, 42°.4N±0°.3×29°.39W±0°.09, h20km, n44, σ1°22/44, mb4.5/23, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	19.35	89	P	Pn	18 44 20.9	+0.5
	0.1nm,0.3s,baz=288,slow=13,SNR=5.8 0.3nm,0.4s						
CTI	**Castel Tesino**	29.41	69	P	P	18 45 57.5	+0.6
CTI				IAmb	IAmb	18 46 03.9	
	comp=Z,15nm,1.5s						
GERES	**GERESS Array B**	30.50	63	P	P	18 46 05.2	-1.5
PRED	**Cave del Predi**	30.67	67	P	P	18 46 06.8	-1.3
PRED				IAmb	IAmb	18 46 11.9	
	comp=Z,8.6nm,1.3s						
UCCT	**U. Connecticut**	31.55	284	P	P	18 46 12.8	-3.0
MVL	**Millersville**	35.08	282	P	P	18 46 45.7	-0.8
BURAR	**Bucovina Array**	38.29	63	P	P	18 47 12.2	-1.7
AKASG	**Malin Array Be**	40.21	57	P	P	18 47 30.7	+0.9
	comp=Z,0.1nm,0.3s,baz=286,slow=7.6,SNR=4.9 comp=Z,0.1nm,0.3s						
RES	**Resolute Bay**	43.20	339	P	P	18 47 53.3	-0.7
BRTR	**Keskin Array B**	46.63	71	P	P	18 48 19.6	-2.4
BRTR	**Keskin Array B**	46.63	71	P	P	18 48 22.6	+0.6
	comp=Z,0.6nm,0.7s,baz=282,slow=7.1,SNR=3.2 comp=Z,0.6nm,0.7s						
KBZ	**Khabaz**	51.24	62	P	P	18 48 57.1	0.0
	comp=Z,0.7nm,0.8s,baz=298,slow=15,SNR=1.8 comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	51.43	324	P	P	18 48 58.2	0.0
YKA	**Yellowknife Ar**	51.43	324	P	P	18 48 56.4	-1.8
	comp=Z,1.6nm,1.2s,baz=70,slow=6.9,SNR=7.2 comp=Z,1.6nm,1.2s						
GNI	**Garni**	54.08	66	P	P	18 49 17.1	-1.2
GNI				IAmb	IAmb	18 49 53.5	
	comp=Z,9.9nm,1.4s						
PLPT	**Palo Pinto**	54.09	284	P	P	18 49 19.2	+0.9
PLPT				IAmb	IAmb	18 49 28.8	
	comp=Z,12nm,1.4s						
WRGLY	**Wrigley**	54.91	326	P	P	18 49 24.4	+0.6
ARTI	**Arti**	54.96	43	P	P	18 49 24.4	+0.1
ARTI				IAmb	IAmb	18 49 26.6	
	comp=Z,10nm,1.5s						
F31M	**Tsiigehtchic**	56.73	333	P	P	18 49 37.1	+0.4
PDAR	**Pinedale Array**	56.81	300	P	P	18 49 38.7	+0.6
	comp=Z,0.5nm,0.9s,baz=48,slow=9.0,SNR=3.6 comp=Z,0.5nm,0.9s						
E29M	**Blow River**	57.55	335	P	P	18 49 43.0	+0.4
E29M				IAmb	IAmb	18 49 48.2	
	comp=Z,5.4nm,1.1s						
E28M	**Babbage River**	57.92	336	P	P	18 49 45.1	-0.1
G29M	**Pine Creek**	58.42	334	P	P	18 49 49.2	+0.5
HWUT	**Hardware Ranch**	58.68	300	P	P	18 49 51.6	+0.5
NEW	**Newport**	58.72	309	P	P	18 49 52.5	+1.4
NEW				IAmb	IAmb	18 49 55.2	
	comp=Z,5.8nm,1.1s						
H29M	**Whitestone**	58.93	333	P	P	18 49 53.1	+0.9
G27K	**Doyon Strip**	59.64	335	P	P	18 49 57.1	-0.1
G27K				IAmb	IAmb	18 50 02.3	
	comp=Z,5.6nm,1.4s						
TXAR	**Lajitas Array**	59.83	284	P	P	18 50 01.2	+2.0
	comp=Z,2.9nm,1.2s,baz=55,slow=6.6,SNR=6.9 comp=Z,2.9nm,1.2s						
I28M	**Miner Creek**	59.91	333	P	P	18 49 59.7	+0.6
I28M				IAmb	IAmb	18 50 08.8	
	comp=Z,6.4nm,1.4s						
D23K	**Nanushuk River**	60.84	339	P	P	18 50 06.7	+1.4
D23K				IAmb	IAmb	18 50 11.6	
	comp=Z,10nm,1.4s						
I26K	**Coal Creek Min**	61.06	334	P	P	18 50 08.4	+1.5
I26K				IAmb	IAmb	18 50 49.1	
	comp=Z,7.4nm,1.3s						
SPR3	**Spring Creek 3**	61.85	298	P	P	18 50 13.2	+0.1
SPR3				IAmb	IAmb	18 50 21.3	
	comp=Z,7.6nm,1.5s						
J08A	**Circle Bar Ran**	62.09	304	P	P	18 50 15.1	+0.7
J25K	**Salcha River,**	62.23	334	P	P	18 50 15.3	+0.5
J25K				IAmb	IAmb	18 50 18.0	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	62.61	335	P	P	18 50 15.8	-1.5
ILAR	**Eielson Array**	62.61	335	P	P	18 50 17.4	+0.1
	comp=Z,0.5nm,0.6s,baz=39,slow=6.2,SNR=11 comp=Z,0.5nm,0.6s						
E19K	**Redstone River**	63.62	340	P	P	18 50 25.6	+1.6
F17K	**Baldwin Pennin**	65.41	341	P	P	18 50 36.3	+0.7
H18K	**Honhosa River**	65.69	339	P	P	18 50 40.5	+3.0
H18K				IAmb	IAmb	18 51 17.1	
	comp=Z,5.3nm,1.4s						
SKT	**Skwentna**	66.06	334	P	P	18 50 41.5	+1.6
KURBB	**Kurchatov Arra**	68.13	41	P	P	18 50 53.0	-0.2
	comp=Z,1.0nm,0.8s,baz=314,slow=7.2,SNR=7.4 comp=Z,1.0nm,0.8s						
MK31	**Makanchi Array**	72.55	42	P	P	18 51 21.2	+0.8
MKAR	**Makanchi Array**	72.55	42	P	P	18 51 20.8	+0.4
MKAR	**Makanchi Array**	72.55	42	P	P	18 51 20.9	+0.5
	comp=Z,0.6nm,0.8s,baz=320,slow=5.7,SNR=4.9 comp=Z,0.6nm,0.8s						

*IDC **16** 18:45:16.0±2.3, 43°.07N×29°.72W, h0km, mb3.6/5, mbtmp3.5/6, ML3.5/1, MS3.7/1, Error ellipse: s-maj=72.4km s-min=26.8km az=3.0*

ISC 16 18:45:17.6±2.1, 43°.1N±0°.5×29°.7W±0°.2, h10km, n7, σ1°53/6, mb3.6/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	19.61	91	P	P	18 49 46.1	0.0
	baz=294,slow=9.7,SNR=4.7 0.3nm,0.4s						
YKA	**Yellowknife Ar**	50.74	323	P	P	18 54 17.2	0.0
	0.3nm,0.7s,baz=74,slow=7.2,SNR=4.4 0.3nm,0.7s						
GNI	**Garni**	54.04	66	LR	LR	19 19 08.0	
	comp=Z,85nm,21.4s,baz=260,slow=38						
TXAR	**Lajitas Array**	59.42	283	P	P	18 55 20.3	-0.2
	1.5nm,1.1s,baz=59,slow=6.3,SNR=6.4 1.5nm,1.1s						
ILAR	**Eielson Array**	61.89	334	P	P	18 55 36.9	+0.3
	0.2nm,0.6s,baz=50,slow=7.1,SNR=2.3 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	67.79	41	P	P	18 56 13.4	-1.9
	1.1nm,1.0s,baz=316,slow=6.2,SNR=6.0 1.1nm,1.0s						
MKAR	**Makanchi Array**	72.22	42	P	P	18 56 44.5	+1.8
	0.4nm,0.8s,baz=316,slow=3.1,SNR=3.5 0.4nm,0.8s						

*IDC **16** 18:50:11.5±2.2, 43°.04N×29°.44W, h0km, mb3.6/6, mbtmp3.5/7, ML3.8/1, MS3.7/1, Error ellipse: s-maj=70.8km s-min=24.1km az=1.0*

ISC 16 18:50:12.7±1.9, 43°.0N±0°.5×29°.4W±0°.2, h10km, n8, σ0°65/7, mb3.6/6, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	19.39	91	P	Pn	18 54 40.1	+0.2
	0.1nm,0.3s,baz=285,slow=12,SNR=2.7 0.3nm,0.7s						
SCHQ	**Schefferville**	26.97	309	LR	LR	19 05 04.0	
	comp=Z,155nm,19.1s,baz=102,slow=33						
YKA	**Yellowknife Ar**	50.94	323	P	P	18 59 13.3	-0.5
	0.5nm,0.9s,baz=68,slow=7.1,SNR=5.0 0.5nm,0.9s						
PDAR	**Pinedale Array**	56.48	300	P	P	18 59 54.8	-0.3
	0.7nm,0.9s,baz=78,slow=6.8,SNR=4.6 0.7nm,0.9s						
TXAR	**Lajitas Array**	59.66	283	P	P	19 00 17.4	+0.1
	1.4nm,1.0s,baz=86,slow=6.8,SNR=7.4 1.4nm,1.0s						
ILAR	**Eielson Array**	62.07	335	P	P	19 00 34.0	+1.0
	0.2nm,0.6s,baz=46,slow=7.6,SNR=4.4 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	67.72	41	P	P	19 01 09.7	-0.3
	0.8nm,0.9s,baz=316,slow=6.7,SNR=5.0 0.8nm,0.9s						
MKAR	**Makanchi Array**	72.14	42	P	P	19 01 36.9	-0.4
	0.2nm,0.6s,baz=328,slow=4.6,SNR=9.3 0.2nm,0.6s						

*IDC **16** 18:55:28.4±1.3, 43°.17N×29°.48W, h0km, mb3.7/14, mbtmp3.6/15, ML3.7/1, Error ellipse: s-maj=43.4km s-min=15.3km az=5.0*

ISC 16 18:55:30.1±1.3, 43°.2N±0°.3×29°.5W±0°.1, h10km, n15, σ0°86/15, mb3.8/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	19.41	92	P	P	18 59 56.1	-0.2
	baz=282,slow=8.8,SNR=4.6 0.3nm,0.8s						
EKA	**Eskdalemuir Ar**	20.88	45	P	P	19 00 12.2	+0.1
	1.5nm,0.7s,baz=263,slow=11,SNR=2.8 1.5nm,0.7s						
MDT	**Midelt**	22.07	110	P	P	19 00 25.9	+0.7
	1.2nm,0.6s,baz=303,slow=13,SNR=5.0 1.2nm,0.6s						
AKASG	**Malin Array Be**	39.82	58	P	P	19 03 03.3	+0.1
	0.1nm,0.3s,baz=283,slow=8.5,SNR=4.9 0.1nm,0.3s						
BRTR	**Keskin Array B**	46.42	72	P	P	19 03 57.1	+0.2
	1.3nm,0.9s,baz=280,slow=7.4,SNR=4.9 1.3nm,0.9s						
YKA	**Yellowknife Ar**	50.75	323	P	P	19 04 31.6	+1.8
	0.8nm,0.9s,baz=69,slow=6.7,SNR=7.8 0.8nm,0.9s						
PDAR	**Pinedale Array**	56.36	299	P	P	19 05 11.1	-0.4
	1.8nm,1.2s,baz=6.1,slow=6.9,SNR=5.7 1.8nm,1.2s						
AKTO	**Aktyubinsk**	56.98	50	P	P	19 05 14.5	-1.0
	0.4nm,0.3s,baz=256,slow=8.3,SNR=2.1 0.4nm,0.3s						
NEW	**Newport**	58.18	308	P	P	19 05 24.6	+0.6
	3.4nm,1.0s,baz=63,slow=4.2,SNR=5.3 3.4nm,1.0s						
TXAR	**Lajitas Array**	59.59	283	P	P	19 05 34.1	0.0
	0.7nm,1.0s,baz=75,slow=6.6,SNR=5.0 0.7nm,1.0s						
ELK	**Elko**	61.04	300	P	P	19 05 43.3	-0.8
	0.5nm,0.6s,baz=18,slow=6.2,SNR=3.1 0.5nm,0.6s						
ILAR	**Eielson Array**	61.85	334	P	P	19 05 48.0	-1.0
	0.3nm,1.0s,baz=30,slow=7.7,SNR=5.7 0.3nm,1.0s						
NVAR	**Mina Array Bea**	64.30	299	P	P	19 06 05.0	-0.9
	0.1nm,0.3s,baz=2.6,slow=5.4,SNR=2.1 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	67.55	41	P	P	19 06 27.3	+1.0
	1.0nm,0.3s,baz=317,slow=6.7,SNR=6.8 1.0nm,0.3s						
MKAR	**Makanchi Array**	71.98	42	P	P	19 06 53.3	-0.4
	0.8nm,0.9s,baz=320,slow=4.7,SNR=6.2 0.8nm,0.9s						

*IDC **16** 19:00:23.7±0.5, 36°.21N×137°.53E, h212km±19km, mb3.3/7, mbtmp3.8/7, Error ellipse: s-maj=80.2km s-min=14.6km az=67.0*

*JMA **16** 19:00:23.6±0.2, 36°.3N±0°.9×13°.8E±°, h226km±1km, MV2.9/36, HIDA MOUNTAINS REGION*

ISC 16 19:00:24.0±0.8, 36°.33N±0°.07×137°.76E±0°.07, h220km±6km, n29, σ0°50/34, mb3.5/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	0.28	75	P	Pn	19 00 53.2	+0.3
JNG				eS	S	19 01 15.6	+0.2
MAJO	**Matsushiro**	0.42	60	P	Pn	19 00 52.6	-0.5
MAJO	**Matsushiro**	0.42	60	S	S	19 01 15.9	0.0
MAT	**Matsushiro**	0.42	60	i P	Pn	19 00 53.2	+0.2
MAT				S	S	19 01 15.4	-0.5
MJAR	**Matsushiro Arr**	0.42	60	P	Pn	19 00 53.4	+0.3
	48nm,0.3s,baz=311,slow=18,SNR=723						
MJAR				S	S	19 01 16.4	+0.5
	12nm,0.8s,baz=289,slow=7.0,SNR=9.7						
JGF	**Kuroka**	0.80	204	P	Pn	19 00 54.4	-0.3
JRY	**Ryogami san**	0.97	109	P	Pn	19 00 55.9	+0.2
JYN	**Shimob**	1.05	142	P	Pn	19 00 56.0	-0.2
JYTA	**Yamagatataniai**	1.11	229	P	Pn	19 00 56.3	-0.2
JYTA				S	S	19 01 21.0	-0.7
JKG	**Kaga**	1.16	268	eP	Pn	19 00 56.9	+0.2
JSZ	**Suzu**	1.16	344	P	Pn	19 00 56.8	0.0
JAG	**Ashikaga**	1.37	86	P	Pn	19 00 58.1	-0.2
JOD2	**Odawara 2**	1.52	134	P	Pn	19 00 59.9	+0.3
JOD2				eS	S	19 01 28.0	+0.8
JSD	**Sado**	1.75	13	P	Pn	19 01 01.2	-0.3
JSD	**Sado**	1.75	13	i P	Pn	19 01 01.7	+0.2
JNS	**Sasagawa**	1.94	40	P	Pn	19 01 03.5	+0.2
JWT	**Wachi**	2.19	242	P	Pn	19 01 05.8	0.0
JOTO	**OTAMA OYAMA**	2.40	59	P	Pn	19 01 08.7	+0.7
JMM	**Marumori**	2.87	57	P	Pn	19 01 12.7	-0.3
JMN	**Monobe**	4.11	232	P	Pn	19 01 27.9	0.0
JMN	**Monobe**	4.11	232	S	S	19 02 19.0	+1.0
JTM	**Tenmabayashi**	5.15	29	P	Pn	19 01 39.7	-0.9
MKAR	**Makanchi Array**	42.01	302	P	P	19 07 53.2	-0.4
	0.3nm,0.6s,baz=88,slow=9.3,SNR=5.3 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	44.12	308	P	P	19 08 09.7	-0.7
	1.1nm,0.3s,baz=88,slow=7.5,SNR=6.4 1.1nm,0.3s						
BVAR	**Borovoye Array**	48.87	312	P	P	19 08 48.1	+0.9
	0.4nm,0.3s,baz=101,slow=7.5,SNR=2.5 0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	55.34	194	P	P	19 09 34.5	-0.5
	3.0nm,1.0s,baz=45,slow=5.7,SNR=2.6 3.0nm,1.0s						
WRA	**Warramunga Arr**	56.06	184	P	P	19 09 39.6	-0.6
	1.0nm,0.4s,baz=360,slow=7.6,SNR=20 1.0nm,0.4s						
ASAR	**Alice Springs**	59.79	184	P	P	19 10 05.5	-0.5
	0.2nm,0.4s,baz=358,slow=6.1,SNR=13 0.2nm,0.4s						
FINES	**FINESS Array B**	68.04	331	P	P	19 10 59.5	+0.3
	0.3nm,0.3s,baz=57,slow=10,SNR=3.9 0.3nm,0.3s						

*GCG **16** 19:04:01.8±3.7, 15°.38N×94°.58W, h36km±999km, MD4.3*
*MEX **16** 19:04:03.0±0.9, 15°.39N×94°.52W, h22km±341km, MD4.1*

ISC 16 19:03:57.3±1.6, 15°.33N±0°.05×94°.53W±0°.03, h6km±11km, n26, σ2°00/48, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	1.09	33	eP	Pg	19 04 19.1	+0.9
CARR				i S	Sg	19 04 31.2	-1.2
NILT	**Santiago Nilte**	1.23	356	eP	Pg	19 04 21.3	+0.3
NILT				eS	Sg	19 04 34.4	-2.6
PCIG		1.31	73	eP	Pg	19 04 22.8	+0.2
PCIG				eS	Sg	19 04 38.2	-1.4
HUIG	**Huatulco**	1.59	286	eP	Pn	19 04 27.2	+1.2
HUIG				eS	Sn	19 04 45.1	-1.8
HUIG	**Huatulco**	1.59	286	eP	Pn	19 04 27.1	+1.2
HUIG				i S	Sn	19 04 44.8	-2.1
HUIG	**Huatulco**	1.59	286	eP		19 04 27.1	
HUIG				i S		19 04 44.8	
CMIG	**Matias Romero**	1.79	349	eP	Pn	19 04 29.5	+0.7
CMIG				eS	Sn	19 04 49.2	-2.6
TGIG		1.98	43	eP	Pn	19 04 32.5	+1.1
TGIG				eS	Sn	19 04 54.3	-2.2
TGIG		1.98	43	eP	Pn	19 04 33.3	+1.9
TGIG				eS	Sn	19 04 55.4	-1.2
TGIG		1.98	43	eP		19 04 33.3	
TGIG				eS		19 04 55.4	
TGBT	**Tuxtla Gutierr**	2.00	44	eP	Pn	19 04 31.3	-0.3
TGBT				eS	Sn	19 04 57.4	+0.4
UXUV	**UXUV**	2.01	10	eP	Pn	19 04 33.1	+1.2
UXUV				eS	Sn	19 04 56.3	-1.1
PATR	**El Naranjo**	2.22	95	eP	Pn	19 04 35.4	+0.5
PATR				eS	Sn	19 04 59.0	-3.9
PAVE	**Pavencul**	2.27	93	eP	Pn	19 04 36.2	+0.6
PAVE				eS	Sn	19 05 02.7	-1.4
CCIG	**Comitan**	2.49	67	eP	Pn	19 04 41.2	+2.7
CCIG				eS	Sn	19 05 10.8	+1.4
CCIG	**Comitan**	2.49	67	eP	Pn	19 04 42.8	+4.2
CCIG	**Comitan**	2.49	67	eP		19 04 42.8	
PEIG	**Puerto Escondi**	2.61	285	eP	Pn	19 04 41.7	+1.6
PEIG				eS	Sn	19 05 09.3	-2.9
NEUV	**Arroyo Zacate**	2.67	333	eP	Pn	19 04 42.6	+1.8
NEUV				eS	Sn	19 05 10.0	-3.6
TUIG	**Tuzandepetl**	2.69	2	eP	Pn	19 04 41.7	+0.5
VHO	**Vista Hermosa**	2.74	310	eP	Pn	19 04 44.5	+2.4
VHO				eS	Sn	19 05 15.0	-0.6
STG0	**El Palmar, Qui**	3.21	106	eP		19 04 46.0	
YOIG	**Yosondua**	3.28	298	eP	Pn	19 04 52.2	+2.7
YOIG				eS	Sn	19 05 29.5	+0.5
PNIG	**Pinotepa**	3.62	287	eP	Pn	19 04 56.2	+2.1
PNIG				eS	Sn	19 05 34.4	-2.8
TXIG	**Tlaxiaco**	3.66	302	eP	Pn	19 04 56.9	+2.2
TXIG				eS	Sn	19 05 38.5	+0.2
TOIG	**Toxpalan**	3.67	319	eP	Pn	19 04 56.7	+1.9
TOIG				eS	Sn	19 05 40.8	+2.2
HLIG	**Huajuapan de L**	4.01	309	eP	Pn	19 05 03.0	+3.5
HLIG				eS	Sn	19 05 46.0	-1.0
FTIG	**Fresnillo de T**	4.31	307	eP	Pn	19 05 04.9	+1.4
FTIG				eS	Sn	19 05 53.0	-1.2
MGIG	**Malinaltepec**	4.38	296	eP	Pn	19 05 06.0	+1.4
MGIG				eS	Sn	19 05 55.0	-1.0
CRIG	**Cruz Grande**	4.64	288	eP	Pn	19 05 09.3	+1.3

*IDC **16** 19:04:02.8±1.3, 27°.93S×177°.96W, h0km, mb3.7/3, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=39.3km s-min=32.8km az=88.0*

ISC 16 19:04:08.3±1.4, 28°.1S±0°.1×178°.1W±0°.3, h35km, n8, σ1°68/8, mb3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	10.94	200	Pn	Pn	19 06 44.3	+2.1
	0.5nm,0.3s,baz=169,slow=7.2,SNR=7.4						
URZ				Sn	Sn	19 08 40.6	-2.7
	3.2nm,0.3s,baz=160,slow=23,SNR=11 2.4nm,0.5s						
ASAR	**Alice Springs**	43.22	264	P	P	19 12 06.5	+0.2
	0.5nm,0.8s,baz=99,slow=7.1,SNR=7.1 0.5nm,0.8s						
WRA	**Warramunga Arr**	43.99	270	P	P	19 12 13.0	+0.5
	0.7nm,0.6s,baz=109,slow=7.5,SNR=9.4 0.7nm,0.6s						
QSPA	**South Pole Qui**	62.04	180	P	P	19 14 25.4	+0.4
	1.4nm,0.8s,baz=16,slow=15,SNR=6.3 1.4nm,0.8s						
FINES	**FINESS Array B**	142.93	341	PKhKP	PKPpre	19 23 33.7	
	1.6nm,1.0s,baz=45,slow=4.1,SNR=4.6						
NOA	**NORSAR Array B**	146.44	352	PKPbc	**PKPab**	19 23 45.0	-0.9
	1.1nm,0.8s,baz=14,slow=2.8,SNR=3.4						
HFS	**Hagfors**	146.94	349	PKPbc	**PKPbc**	19 23 45.8	-0.6
	1.0nm,0.6s,baz=14,slow=6.4,SNR=5.6						
AKASG	**Malin Array Be**	149.38	325	PKPbc	**PKPbc**	19 23 52.4	-0.7
	0.3nm,0.5s,baz=48,slow=0.8,SNR=5.0						

*IDC **16** 19:05:26.3±2.9, 42°.46N×29°.50W, h0km, mb3.6/8, mbtmp3.6/9, ML3.8/1, MS3.8/8, Error ellipse: s-maj=81.5km s-min=22.4km az=6.0*

*NEIC **16** 19:05:29±1.2, 42°.59N±0°.08×29°.6W±0°.1, h10km±1km, mb4.5/24, Error ellipse: s-maj=17.6km s-min=9.5km az=309.0*

*GCMT **16** 19:05:32.0±0.3, 42°.96N±0°.05×29°.31W±0°.04, h12km±1km, MW4.8/100, Moment Tensor Solution. s20,c20; s100,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.13; $M_{\theta\theta}$0.04±.08; $M_{\phi\phi}$1.43±.10; $M_{r\theta}$0.33±.33; $M_{\theta\phi}$0.16±.06; $M_{r\phi}$0.87±.33; Best double couple: $M_0$1.72500×10^{16} NP1:ϕ_s359.00000°, δ30.00000°, λ-103.00000°. NP2:ϕ_s194.00000°, δ61.00000°, λ-83.00000°. Principal axes: T 1.7060, Plg16.0000°, Azm279.0000°; N 0.0460, Plg6.0000°, Azm10.0000°; P -1.7440, Plg73.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 19:05:30.0±0.7, 42°.6N±0°.1×29°.56W±0°.10, h20km, n44, σ0°86/37, mb4.4/19, MS3.7/7, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	5.72	146	Pn	Pn	19 06 53.0	-0.8
COI	**Coimbra**	16.04	91	Pn	Pn	19 09 14.3	0.0
COI				IAmb	IAmb

comp=Z,0.7nm,0.7s
RES Resolute Bay 42.96 339 P P 19 13 26.4 -0.6
RES IAmb IAmb 19 13 29.5
comp=Z,16nm,1.4s
YKA Yellowknife Ar 51.19 324 P P 19 14 32.0 +0.6
comp=Z,0.7nm,0.9s,baz=70,slow=7.2,SNR=6.0
comp=Z,0.7nm,0.9s
KBZ Khabaz 51.26 62 P P 19 14 33.1 +1.0
comp=Z,0.8nm,0.7s,baz=298,slow=4.2,SNR=4.5
comp=Z,0.8nm,0.7s
F31M Tsiigehtchic 56.48 333 P P 19 15 10.5 +0.5
PDAR Pinedale Array 56.59 300 P P 19 15 11.1 -0.5
PDAR Pinedale Array 56.59 300 P P 19 15 11.8 +0.2
comp=Z,0.9nm,1.0s,baz=353,slow=4.2,SNR=4.3
comp=Z,0.9nm,1.0s
E29M Blow River 57.30 335 P P 19 15 14.2 -1.7
E29M IAmb IAmb 19 15 17.4
comp=Z,9.9nm,1.4s
DUG Dugway, Tooele 60.01 299 P P 19 15 35.9 +0.6
LTY Liberty 61.06 309 P P 19 15 42.5 +0.2
LTY IAmb IAmb 19 15 54.0
comp=Z,4.5nm,1.4s
J08A Circle Bar Ran 61.87 304 P P 19 15 48.6 +0.7
ILAR Eielson Array 62.36 335 P P 19 15 51.5 +0.9
comp=Z,0.3nm,0.6s,baz=64,slow=4.9,SNR=5.0
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 64.53 300 LR LR 19 43 57.2
comp=Z,157nm,19.0s,baz=184,slow=36
C16K Lisburne Hills 64.61 343 P P 19 16 06.0 +0.5
KURK Kurchatov 68.04 41 P P 19 16 28.8 +1.1
KURK IAmb IAmb 19 16 38.1
comp=Z,3.2nm,1.1s
KURBB Kurchatov Arra 68.05 41 P P 19 16 27.0 -0.8
comp=Z,0.9nm,1.0s,baz=315,slow=6.1,SNR=7.3
comp=Z,0.9nm,1.0s
LPAZ La Paz 68.50 220 P P 19 16 31.8 +0.2
LPAZ IAmb IAmb 19 17 01.4
comp=Z,3.2nm,1.1s
KKAR Karatay Array 68.62 51 P P 19 16 31.9 +0.3
KKAR Karatay Array 68.62 51 P P 19 16 32.4 +0.8
KKAR IAmb IAmb 19 17 03.6
comp=Z,2.2nm,1.5s
ZAA0 Zalesovo Array 68.67 35 P P 19 16 31.7 +0.1
ZAA0 IAmb IAmb 19 16 41.1
comp=Z,6.7nm,1.5s
ZALV Zalesovo Beam 68.67 35 P P 19 16 31.8 +0.2
SIMJ Simiganj 70.53 55 P P 19 16 43.9 +0.4
SIMJ IAmb IAmb 19 16 50.6
comp=Z,5.9nm,1.3s
GAR Garm 71.10 54 P P 19 16 48.0 +1.1
ARSB Arslanbob 71.17 51 P P 19 16 48.2 +0.8
ARSB IAmb IAmb 19 16 51.0
comp=Z,7.1nm,1.4s
AAK Ala-Archa 71.17 49 P P 19 16 48.0 +0.6
AAK IAmb IAmb 19 16 59.3
comp=Z,6.4nm,1.4s
DRK Karamyk 71.67 53 P P 19 16 51.1 +0.5
DRK IAmb IAmb 19 17 07.3
comp=Z,9.7nm,1.4s
MK31 Makanchi Array 72.48 42 P P 19 16 56.0 +1.0
MKAR Makanchi Array 72.48 42 P P 19 16 54.9 -0.1
MKAR Makanchi Array 72.48 42 P P 19 16 53.5 -1.4
comp=Z,0.7nm,1.0s,baz=326,slow=5.9,SNR=4.8
comp=Z,0.7nm,1.0s
KDJ Kajisay 73.00 48 P P 19 16 59.8 +1.4
KDJ IAmb IAmb 19 17 09.1
comp=Z,4.7nm,1.3s
TARG Taragay, Kyrgy 73.61 48 P P 19 17 03.0 +0.7

*NEIC **16** 19:11:16.2±1.6, 18°.2S±0°.1×177°.9W±0°.1, h593km±9km, mb4.4/28, Error ellipse: s-maj=20.6km s-min=18.2km az=120.0*
*IDC **16** 19:11:17.7±1.4, 18°.02S×178°.12W, h609km±12km, mb3.5/12, mbtmp4.5/14, Error ellipse: s-maj=20.7km s-min=15.9km az=123.0*
ISC 16 19:11:15.7±0.6, 18°.2S±0°.1×177°.93W±0°.09, h590km, n56, σ1§02/59, mb4.4/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.85**	**357**	P	**P**	**19 12 41.0**	**+1.5**
MSVF	**Nonsavu**	**3.85**	**276**	P	**P**	**19 12 40.7**	**+1.2**
173nm,0.7s,baz=130,slow=6.1,SNR=132							
MSVF				S	**S**	**19 13 51.6**	**+3.7**
6.7nm,0.9s,baz=37,slow=20,SNR=0.6							
AFI	**Afiamalu**	**7.28**	**55**	P	**P**	**19 13 05.9**	**-2.1**
NIUE	**Niue**	**7.64**	**98**	P	**P**	**19 13 12.7**	**+1.5**
PINNC	**Pines Island,**	**14.40**	**250**	P	**P**	**19 14 18.5**	**-0.1**
DZM	**Mont Dzumac**	**15.18**	**253**	P	**P**	**19 14 25.5**	**-0.4**
DZM				IAmb	IAmb	19 14 28.0	
comp=Z,8.5nm,1.0s							
DZM	**Mont Dzumac**	**15.18**	**253**	P	**P**	**19 14 25.4**	**-0.6**
comp=Z,5.9nm,0.5s,baz=144,slow=15,SNR=11							
URZ	**Urewera**	**20.47**	**191**	P	**P**	**19 15 12.6**	**-1.3**
comp=Z,4.8nm,0.6s,baz=2.8,slow=3.5,SNR=6.7							
THZ	**Tophouse**	**24.78**	**197**	P	**P**	**19 15 51.7**	**-0.6**
THZ				IAmb	IAmb	19 16 11.6	
comp=Z,26nm,1.4s							
EIDS	**Eidsvold**	**29.61**	**251**	P	**P**	**19 16 34.7**	**0.0**
EIDS				IAmb	IAmb	19 16 35.1	
comp=Z,7.5nm,0.7s							
ARMA	**Armidale**	**30.20**	**240**	P	**P**	**19 16 39.6**	**-0.2**
ARMA				IAmb	IAmb	19 16 52.2	
comp=Z,21nm,1.4s							
CAN	**Canberra**	**33.91**	**233**	P	**P**	**19 17 11.5**	**+0.4**
PMG	**Port Moresby**	**34.96**	**280**	P	**P**	**19 17 19.1**	**-0.9**
comp=Z,39nm,0.9s,baz=52,slow=22,SNR=4.2							
comp=Z,39nm,0.9s							
TOO	**Toolangi**	**37.36**	**231**	P	**P**	**19 17 39.4**	**-0.1**
TOO				IAmb	IAmb	19 17 41.5	
comp=Z,4.5nm,1.0s							
COEN	**Coen**	**37.57**	**271**	P	**P**	**19 17 41.5**	**+0.1**
STKA	**Stephens Creek**	**38.90**	**242**	P	**P**	**19 17 52.3**	**+0.3**
STKA	**Stephens Creek**	**38.90**	**242**	P	**P**	**19 17 52.8**	**+0.7**
comp=Z,14nm,0.8s,baz=88,slow=9.5,SNR=22							
comp=Z,14nm,0.8s							
JAY	**Jayapura**	**43.42**	**286**	P	**P**	**19 18 27.6**	**-0.4**
comp=Z,16nm,0.8s,baz=167,slow=4.7,SNR=4.2							
comp=Z,16nm,0.8s							
BBOO	**Buckleboo**	**43.68**	**241**	P	**P**	**19 18 29.2**	**-0.5**
BBOO				IAmb	IAmb	19 18 30.2	
comp=Z,13nm,0.7s							
WR0	**Warramunga Arr**	**44.84**	**260**	P	**P**	**19 18 38.2**	**-0.6**
WRA	**Warramunga Arr**	**45.03**	**260**	P	**P**	**19 18 39.1**	**-1.1**
WRA	**Warramunga Arr**	**45.03**	**260**	P	**P**	**19 18 39.1**	**-1.1**
comp=Z,6.2nm,0.5s,baz=95,slow=7.2,SNR=301							
WRA				PcP	**PcP**	**19 20 08.4**	**+0.1**
comp=Z,1.0nm,0.8s,baz=102,slow=3.3,SNR=3.8							
comp=Z,6.2nm,0.5s							
AS31	**Alice Springs**	**45.16**	**254**	P	**P**	**19 18 40.7**	**-0.5**
AS31				IAmb	IAmb	19 18 42.0	
comp=Z,7.3nm,0.7s							
ASAR	**Alice Springs**	**45.16**	**254**	P	**P**	**19 18 41.0**	**-0.3**
ASAR	**Alice Springs**	**45.16**	**254**	P	**P**	**19 18 40.9**	**-0.3**
comp=Z,25nm,0.6s,baz=87,slow=8.8,SNR=395							
ASAR				PcP	**PcP**	**19 20 08.8**	**0.0**
comp=Z,1.0nm,0.5s,baz=91,slow=3.8,SNR=4.7							
comp=Z,25nm,0.6s							
MTN	**Manton Dam**	**49.25**	**269**	P	**P**	**19 19 10.9**	**-0.9**
MTN				IAmb	IAmb	19 19 11.9	
comp=Z,12nm,0.8s							
FORT	**Forrest**	**50.31**	**245**	P	**P**	**19 19 18.7**	**-0.7**
KNRA	**Kununurra**	**50.92**	**264**	P	**P**	**19 19 23.3**	**-0.7**
KNRA				IAmb	IAmb	19 19 24.2	
comp=Z,9.5nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**19 19 41.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**19 19 41.3**	**-0.6**
comp=Z,1.7nm,0.5s,baz=87,slow=4.2,SNR=12							
comp=Z,1.7nm,0.5s							
SOEI	**Soe**	**56.53**	**270**	P	**P**	**19 20 04.2**	**+0.5**
SOEI				IAmb	IAmb	19 20 05.5	
comp=Z,23nm,0.8s							
PSA00	**Pilbara Seismi**	**58.29**	**255**	P	**P**	**19 20 14.5**	**-0.9**
PSA00				IAmb	IAmb	19 20 15.5	
comp=Z,12nm,0.9s							
MBWA	**Marble Bar**	**58.45**	**256**	P	**P**	**19 20 15.3**	**-1.2**
JCJ	**Chichijima**	**59.35**	**318**	P	**P**	**19 20 23.8**	**+1.5**
MJAR	**Matsushiro Arr**	**68.40**	**323**	P	**P**	**19 21 18.2**	**-1.3**
comp=Z,2.3nm,0.7s,baz=159,slow=5.9,SNR=12							
comp=Z,2.3nm,0.7s							
MJB9	**Matsu-Tunnel**	**68.40**	**323**	P	**P**	**19 21 19.7**	**+0.2**
MJB9				IAmb	IAmb	19 21 27.3	
comp=Z,16nm,1.4s							
ERM	**Erimo**	**69.85**	**330**	P	**P**	**19 21 29.6**	**+1.6**
UGM	**Wanagama**	**70.10**	**268**	P	**P**	**19 21 29.7**	**-0.5**
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**19 21 40.8**	**+1.0**
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**19 21 40.9**	**+1.1**
comp=Z,1.4nm,0.6s,baz=0.5,slow=0.6,SNR=12							
comp=Z,1.4nm,0.6s							
SSLB	**Suanglung**	**72.77**	**303**	P	**P**	**19 21 43.9**	**-1.6**
SSLB				IAmb	IAmb	19 22 06.3	
comp=Z,12nm,1.0s							
TPUB	**Ta-pu**	**72.79**	**302**	P	**P**	**19 21 44.1**	**-1.5**
TPUB				IAmb	IAmb	19 21 45.4	
comp=Z,22nm,0.9s							
PETK	**Petropavlovsk-**	**74.06**	**345**	P	**P**	**19 21 51.5**	**-0.7**
PETK	**Petropavlovsk-**	**74.06**	**345**	P	**P**	**19 21 51.2**	**-0.9**
comp=Z,2.6nm,0.7s,baz=115,slow=11,SNR=6.0							
comp=Z,2.6nm,0.7s							
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**19 22 55.4**	**+1.6**
comp=Z,1.0nm,0.9s,baz=215,slow=6.1,SNR=6.7							
comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**86.05**	**13**	P	**P**	**19 22 53.2**	**-1.0**
comp=Z,0.2nm,0.4s,baz=205,slow=5.8,SNR=7.3							
comp=Z,0.2nm,0.4s							
F24K	**Squaw Lake**	**88.26**	**11**	P	**P**	**19 23 04.6**	**0.0**
D22K	**Ayikyak River**	**88.70**	**9**	P	**P**	**19 23 06.6**	**0.0**
BMAR	**Burnt Mountain**	**88.82**	**12**	P	**P**	**19 23 07.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**89.41**	**290**	P	**P**	**19 23 11.4**	**+0.5**
comp=Z,1.1nm,0.8s,baz=121,slow=2.9,SNR=9.4							
comp=Z,1.1nm,0.8s							
DRK	**Karamyk**	**116.83**	**306**		**PKPdf**	**19 28 54.2**	**-0.4**
BRTR	**Keskin Array B**	**145.30**	**315**	PKPbc	**PKPdf**	**19 29 46.8**	**-0.7**
comp=Z,1.0nm,0.5s,baz=140,slow=4.6,SNR=6.1							
MMAI	**Mount Meron Ar**	**146.67**	**303**	PKPbc	**PKPbc**	**19 29 52.6**	**-0.1**
comp=Z,7.1nm,0.9s,baz=76,slow=6.1,SNR=4.7							
GERES	**GERESS Array B**	**147.99**	**345**	PKPbc	**PKPbc**	**19 29 55.2**	**-0.3**
comp=Z,1.1nm,0.7s,baz=38,slow=5.0,SNR=4.8							
RDO	**Rodhopi**	**149.53**	**324**	PKPbc	**PKPbc**	**19 29 59.0**	**-0.4**
CIMO	**Cimolais**	**150.66**	**345**	PKPbc	**PKPbc**	**19 30 01.2**	**-0.8**

*INMG **16** 19:19:33.0±4.2, 41°.98N×31°.23W, h10km, M4.2, mb4.7, Ms3.8, #DIST_RANGE: DISTANT*
*IDC **16** 19:19:38.4±1.7, 42°.71N×29°.46W, h0km, mb3.9/14, mbtmp3.8/15, ML3.6/1, MS3.9/56, Error ellipse: s-maj=53.3km s-min=16.4km az=179.0*
*GCMT **16** 19:19:40.6±0.3, 42°.61N±0°.04×29°.33W±0°.04, h18km±1km, MW4.8/99, Moment Tensor Solution. s10,c10; s99,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.67±.15; $M_{\theta\theta}$0.11±.10; $M_{\phi\phi}$1.56±.11; $M_{r\theta}$-1.86±.33; $M_{\theta\phi}$-0.07±.06; $M_{\phi r}$0.55±.29; Best double couple: $M_0$2.35300×10^{16} NP1:ϕ8.00000°, δ32.00000°, λ-41.00000°. NP2: ϕ-135.00000°, δ70.00000°, λ-115.00000°. Principal axes: T 1.8230, Plg21.0000°, Azm244.0000°; N 1.0620, Plg24.0000°, Azm144.0000°; P -2.8830, Plg58.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **16** 19:19:41.6±1.2, 42°.9N±0°.1×29°.5W±0°.1, h10km±1km, mb4.7/66 Error ellipse: s-maj=19.0km s-min=14.9km az=179.0*
ISC 16 19:19:41.4±0.5, 42°.95N±0°.09×29°.51W±0°.06, h10km, n176, σ1§43/130, mb4.5/61, MS3.8/56, 5D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**14.02**	**132**	*e*LR	LR	19 26 10.5	
PMOZ				*i* AMs_20		19 27 10.1	
402nm,18.0s							
PGAV	**Gavieira, Arco**	**15.71**	**86**	*e*LR	LR	19 27 08.8	
PGAV				*i* AMs_20		19 28 08.3	
668nm,18.0s							
PCAS	**Casmilo, Conde**	**16.00**	**93**	*e*P	**P**	**19 23 34.0**	**+4.0**
PCAS				*i* Amb		19 23 41.2	
68nm,1.7s							
COI	**Coimbra**	**16.02**	**93**		**Pn**	**19 23 26.5**	**-0.2**
COI				IAmb	IAmb	19 23 35.4	
comp=Z,74nm,1.3s							
COI	**Coimbra**	**16.02**	**93**	*e*P	**P**	**19 23 34.4**	**+4.2**
COI				*i* Amb		19 23 35.5	
comp=Z,83nm,1.4s							
PMTG	**Montargil**	**16.52**	**96**	*e*P	**P**	**19 23 38.7**	**+3.0**
PMTG				*i* Amb		19 23 40.6	
comp=Z,61nm,1.4s							
MTE	**Manteigas**	**16.61**	**91**		**Pn**	**19 23 32.2**	**-2.0**
MTE	**Manteigas**	**16.61**	**91**	*e*P	**P**	**19 23 40.8**	**+4.1**
MTE				*i* Amb		19 23 49.0	
comp=Z,42nm,1.6s							
MTE				*e*LR	LR	19 27 32.1	
MTE				*i* AMs_20		19 28 32.8	
comp=Z,416nm,20.0s							
MVO	**Moncorvo**	**16.79**	**88**	*e*LR	LR	19 27 28.8	
MVO				*i* AMs_20		19 28 39.7	
comp=Z,353nm,20.0s							
PFVI	**Vila Bisbo**	**16.86**	**103**	*e*P	**P**	**19 23 42.9**	**+3.4**
EVO	**Evora**	**16.87**	**98**	*e*P	**P**	**19 23 43.7**	**+4.1**
EVO				*i* Amb		19 23 48.9	
comp=Z,34nm,1.7s							
PMRV	**Marv??o**	**17.01**	**94**	*e*P	**P**	**19 23 45.2**	**+4.1**
PMRV				*i* Amb		19 23 48.0	
comp=Z,25nm,1.7s							
PMRV				*e*LR	LR	19 27 44.2	
PMRV				*i* AMs_20		19 29 09.2	
comp=Z,651nm,18.0s							
PESTR	**Estremoz**	**17.06**	**96**	Pn	**Pn**	**19 23 38.9**	**-1.0**
PESTR	**Estremoz**	**17.06**	**96**	P	**P**	**19 23 45.8**	**+4.1**
PBEJ	**Beja**	**17.17**	**99**	P	**P**	**19 23 48.1**	**+5.2**
PVAQ	**Vaqueiros**	**17.54**	**101**	*e*LR	LR	19 27 48.8	
PVAQ				*i* AMs_20		19 29 12.3	
comp=Z,494nm,20.0s							
PBAR	**Barrancos**	**17.71**	**98**	*e*P	**P**	**19 23 53.9**	**+5.0**
PBAR				*i* Amb		19 24 12.8	
comp=Z,38nm,1.6s							
PAB	**San Pablo**	**19.20**	**92**	P	**P**	**19 24 04.3**	**-1.1**
ESDC	**Sonseca Array**	**19.45**	**91**	P	**P**	**19 24 07.4**	**-0.6**
ESDC	**Sonseca Array**	**19.45**	**91**	P	**P**	**19 24 06.2**	**-1.9**
baz=309,slow=10.0,SNR=6.8							
ESDC				LR	LR	19 29 46.9	
comp=Z,310nm,21.9s,baz=274,slow=31							
comp=Z,0.4nm,0.9s							
EKA	**Eskdalemuir Ar**	**21.08**	**45**	P	**P**	**19 24 25.6**	**+0.1**
comp=Z,8.5nm,1.1s,baz=238,slow=6.6,SNR=5.1							
comp=Z,8.5nm,1.1s							
MDT	**Midelt**	**22.04**	**109**	LR	LR	19 31 13.7	
comp=Z,235nm,21.7s,baz=324,slow=32							
BORG	**Borgarnes**	**22.33**	**9**	LR	LR	19 30 52.3	
comp=Z,117nm,21.4s,baz=166,slow=30							
CART	**Cartagena**	**22.35**	**94**	P	**P**	**19 24 39.2**	**-0.2**
BMRD	**Maredsous**	**24.50**	**61**	*d*P	**P**	**19 25 00.9**	**+0.3**
BGES	**Gesves**	**24.70**	**60**	*d*P	**P**	**19 25 03.0**	**+0.6**
comp=Z,23nm,1.2s							
BCLA	**Clavier**	**24.85**	**60**	*d*P	**P**	**19 25 04.8**	**+1.1**
comp=Z,19nm,1.2s							
WLF	**Walferdange**	**25.36**	**62**	P	**P**	**19 25 05.9**	**-2.4**
WLF	**Walferdange**	**25.36**	**62**	*d*P	**P**	**19 25 09.0**	**+0.6**
BATG	**Bathurst New B**	**25.99**	**292**	P	**P**	**19 25 12.6**	**-1.6**
ECH	**Echery**	**26.03**	**66**	P	**P**	**19 25 12.7**	**-1.8**
ECH				IAmb	IAmb	19 25 21.1	
comp=Z,18nm,1.3s							
SFJD	**Kangerlussuaq**	**26.68**	**342**	LR	LR	19 33 35.8	
comp=Z,224nm,20.1s,baz=138,slow=31							
BFO	**Black Forest**	**26.80**	**65**	P	**P**	**19 25 21.7**	**+0.2**
BFO				IAmb	IAmb	19 25 25.8	
comp=Z,17nm,1.3s							
SCHQ	**Schefferville**	**26.93**	**309**	LR	LR	19 34 09.9	
comp=Z,338nm,21.1s,baz=84,slow=32							
DAVA	**Damuels**	**27.92**	**67**	*i* P	**P**	**19 25 32.3**	**+0.5**
comp=Z,16nm,1.7s							
DAVOX	**Davos/Dischmat**	**27.98**	**68**	LR	LR	19 35 36.3	
comp=Z,221nm,18.1s,baz=272,slow=34							
ILULI	**Ilulissat**	**28.61**	**344**	P	**P**	**19 25 36.2**	**-1.2**
ILULI				IAmb	IAmb	19 25 43.6	
comp=Z,14nm,0.9s							
SQTA	**Sankt Quirin**	**28.83**	**67**	*e*P	**P**	**19 25 39.3**	**-0.4**
comp=Z,9.5nm,1.5s							
WATA	**Walderalm**	**29.06**	**67**	*e*P	**P**	**19 25 41.0**	**-0.9**
comp=Z,6.7nm,1.4s							
ABTA	**Abfaltersbach**	**29.77**	**68**	*e*P	**P**	**19 25 49.0**	**+0.8**
comp=Z,12nm,1.4s							
LESA	**Schwarzleotal**	**29.80**	**67**	*e*P	**P**	**19 25 49.2**	**+0.9**
comp=Z,7.6nm,1.5s							
JMIC	**Jan Mayen**	**29.99**	**14**	LR	LR	19 34 43.4	
comp=Z,92nm,20.0s,baz=167,slow=30							
KHC	**Kasperske Hory**	**30.22**	**63**	*e*P	**P**	**19 25 49.0**	**-3.0**
NOA	**NORSAR Array B**	**30.24**	**39**	LR	LR	19 36 44.2	
comp=Z,51nm,18.5s,baz=250,slow=34							
KBA	**Koelnbreinsper**	**30.29**	**67**	*e*P	**P**	**19 25 52.5**	**-0.3**
comp=Z,17nm,1.4s							
BBTS	**Babate**	**30.32**	**154**	LR	LR	19 35 31.6	
comp=Z,195nm,20.0s,baz=248,slow=32							
GEC2	**GERESS Array S**	**30.32**	**64**	P	**P**	**19 25 52.7**	**-0.2**
GERES	**GERESS Array B**	**30.32**	**64**	P	**P**	**19 25 52.4**	**-0.6**
GERES	**GERESS Array B**	**30.32**	**64**	P	**P**	**19 25 52.0**	**-0.9**
comp=Z,0.5nm,0.6s,baz=273,slow=18,SNR=4.2							
GERES				LR	LR	19 37 09.3	
comp=Z,235nm,18.3s,baz=265,slow=35							
comp=Z,0.5nm,0.6s							
BIOA	**Bad Ischl, Aus**	**30.41**	**66**	*i* P	**P**	**19 25 54.2**	**+0.6**
comp=Z,7.2nm,1.2s							
FRB	**Frobisher Bay**	**30.49**	**326**	LR	LR	19 34 52.2	
comp=Z,181nm,19.0s,baz=104,slow=30							
PRED	**Cave del Predi**	**30.54**	**68**	P	**P**	**19 25 53.6**	**-1.2**
PRED				IAmb	IAmb	19 26 08.6	
comp=Z,12nm,1.3s							
MYKA	**Terra Mystica**	**30.56**	**68**	*e*P	**P**	**19 25 55.8**	**+0.8**
comp=Z,5.2nm,1.1s							
KEST	**Kesra**	**30.70**	**90**	LR	LR	19 35 48.3	
comp=Z,145nm,21.0s,baz=255,slow=32							
MOA	**Molln**	**30.81**	**65**	*e*P	**P**	**19 25 58.0**	**+0.9**
comp=Z,6.0nm,1.3s							
HFS	**Hagfors**	**31.17**	**41**	P	**P**	**19 26 00.5**	**+0.3**
comp=Z,7.4nm,1.1s,baz=232,slow=7.1,SNR=3.8							
HFS				LR	LR	19 37 20.4	
comp=Z,136nm,19.1s,baz=246,slow=34							
comp=Z,7.4nm,1.1s							
OBKA	**Obir**	**31.20**	**68**	*e*P	**P**	**19 26 01.1**	**+0.4**
comp=Z,6.7nm,1.1s							
CONA	**Conrad Observa**	**31.86**	**65**	*e*P	**P**	**19 26 06.9**	**+0.4**
comp=Z,6.4nm,1.6s							
VRAC	**Vranov**	**32.17**	**62**	LR	LR	19 38 27.2	
comp=Z,258nm,18.1s,baz=266,slow=35							
RONA	**Rosalia, Austr**	**32.19**	**65**	*i* P	**P**	**19 26 09.7**	**+0.3**
comp=Z,8.1nm,1.4s							
LONY	**Lake Ozonia**	**32.27**	**289**	P	**P**	**19 26 11.7**	**+1.6**
MODS	**Modra-Piesok**	**32.74**	**64**	*e*P	**P**	**19 26 14.7**	**+0.6**
VAE	**Valguarnera**	**33.69**	**84**	LR	LR	19 38 17.4	
comp=Z,592nm,20.9s,baz=326,slow=33							
LANS	**Liptovska Anna**	**34.06**	**62**	*e*P	**P**	**19 26 24.6**	**-1.0**
PSZ	**Piszkesteto**	**34.54**	**64**	P	**P**	**19 26 29.5**	**-0.3**
PSZ				IAmb	IAmb	19 26 34.2	
comp=Z,15nm,1.5s							
SADO	**Sadowa**	**35.38**	**290**	LR	LR	19 40 57.5	
comp=Z,372nm,18.4s,baz=56,slow=36							
PABE	**Paberze**	**36.20**	**51**	P	**P**	**19 26 43.3**	**-0.6**
FINES	**FINESS Array B**	**37.36**	**41**	LR	LR	19 40 19.5	
comp=Z,161nm,21.2s,baz=242,slow=33							
BURAR	**Bucovina Array**	**38.11**	**64**	P	**P**	**19 27 00.5**	**+0.1**
ARCES	**ARCESS Array B**	**38.41**	**28**	LR	LR	19 39 36.4	
comp=Z,102nm,21.8s,baz=242,slow=31							
MNK	**Minsk**	**38.53**	**52**	*i* P	**P**	**19 27 02.5**	**-1.2**
comp=E,7.0nm,0.8s							
MNK				*i* P	**P**	**19 27 02.5**	**-1.2**
comp=N,10.0nm,0.8s							
MNK				*i* P	**P**	**19 27 02.5**	**-1.2**
comp=Z,11nm,1.1s,baz=277							
MNK				*i* PP	**PP**	**19 28 31.1**	**-0.6**
MNK				*i* PPP	PPP	19 28 51.1	
MNK				*i* S	**S**	**19 33 00.0**	**+0.8**
MNK				*i* SS	**SS**	**19 35 49.5**	**+1.0**
MNK				*i* SSS	SSS	19 36 06.7	
MNK				*i* LQ	LQ	19 40 07.4	
MNK				*i* LR	LR	19 42 33.1	
MNK				*i* LRM	MLR	19 43 58.2	
comp=E,159nm,18.2s							
MNK				*i* LRM	MLR	19 44 14.4	
comp=N,220nm,18.4s							
MNK				*i* LRM	MLR	19 44 18.2	
comp=Z,124nm,14.9s							
MLR	**Muntele Rosu**	**39.16**	**67**	LR	LR	19 43 03.8	
comp=Z,244nm,19.4s,baz=260,slow=36							
SJG	**San Juan**	**39.64**	**243**	LR	LR	19 40 01.1	
comp=Z,68nm,21.9s,baz=73,slow=31							
AKASG	**Malin Array Be**	**39.98**	**58**	P	**P**	**19 27 15.4**	**-0.4**
comp=Z,0.8nm,0.7s,baz=279,slow=7.8,SNR=5.8							
AKASG				LR	LR	19 43 31.3	
comp=Z,235nm,20.0s,baz=246,slow=36							
comp=Z,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**40.08**	**128**	P	**P**	**19 27 16.1**	**-0.9**
FCC	**Fort Churchill**	**41.95**	**315**	P	**P**	**19 27 33.4**	**+1.4**
TKL	**Tuckaleechee C**	**41.99**	**279**	LR	LR	19 43 22.6	
comp=Z,141nm,20.1s,baz=90,slow=34							
DBIC	**Dimbokro**	**42.17**	**142**	P	**P**	**19 27 33.8**	**-0.4**
DBIC	**Dimbokro**	**42.17**	**142**	LR	LR	19 43 05.3	
comp=Z,138nm,20.0s,baz=309,slow=34							
RES	**Resolute Bay**	**42.62**	**339**	P	**P**	**19 27 37.5**	**+0.2**
RES				IAmb	IAmb	19 27 40.0	
comp=Z,14nm,1.2s							
RES	**Resolute Bay**	**42.62**	**339**	LR	LR	19 42 12.6	
comp=Z,72nm,20.3s,baz=64,slow=32							
MDP	**Montagnes des**	**42.90**	**215**	LR	LR	19 41 44.2	
comp=Z,57nm,21.1s,baz=320,slow=31							
OBN	**Obninsk**	**43.39**	**50**	P	**P**	**19 27 42.4**	**-1.2**
OBN				IAmb	IAmb	19 27 49.7	
comp=Z,12nm,0.6s							
OBN	**Obninsk**	**43.39**	**50**	LR	LR	19 45 31.5	
comp=Z,232nm,20.3s,baz=184,slow=36							
PCRV	**Puerto La Cruz**	**44.74**	**234**	LR	LR	19 42 07.9	
comp=Z,87nm,21.9s,slow=30							
ULM	**Lac du Bonnet**	**44.80**	**303**	LR	LR	19 45 24.6	
comp=Z,264nm,19.2s,baz=80,slow=34							
BR131	**Keskin Array S**	**46.53**	**71**	P	**P**	**19 28 09.5**	**+0.3**
BR131				IAmb	IAmb	19

FXWY	Fox Creek	56.94	301	P	P	19 29 27.3 +0.4
FXWY				IAmb	IAmb	19 29 28.9
	comp=Z,8.9nm,1.5s					
D27M	Malcolm River	57.41	337	P	P	19 29 30.0 +0.3
D27M				IAmb	IAmb	19 29 32.5
	comp=Z,12nm,1.4s					
G29M	Pine Creek	57.86	334	P	P	19 29 33.5 +0.7
JTS	Las Juntas de	57.97	253	LR	LR	19 50 12.4
	comp=Z,215nm,21.8s,baz=99,slow=32					
SAND	Sanderson	58.15	283	P	P	19 29 35.0 -0.4
SAND				IAmb	IAmb	19 29 37.1
	comp=Z,12nm,1.4s					
E27K	Coleen River	58.22	336	P	P	19 29 35.2 -0.1
E27K				IAmb	IAmb	19 29 37.2
	comp=Z,16nm,1.4s					
NEW	Newport	58.29	308	P	P	19 29 36.1 0.0
NEW				IAmb	IAmb	19 29 50.9
	comp=Z,6.4nm,1.1s					
NEW	Newport	58.29	308	LR	LR	19 52 56.9
	comp=Z,223nm,19.1s,baz=42,slow=34					
ANMO	Albuquerque	58.44	290	LR	LR	19 55 06.6
	comp=Z,193nm,18.1s,baz=218,slow=36					
ABKAR	Akbulak array	58.84	50	P	P	19 29 39.5 -0.3
ABKAR	Akbulak array	58.84	50	P	P	19 29 39.6 -0.3
ABKAR				IAmb	IAmb	19 29 46.8
	comp=Z,4.8nm,1.4s					
NRIK	Noril'sk	58.92	22	P	P	19 29 40.3 +0.2
NRIK				IAmb	IAmb	19 29 50.9
	comp=Z,8.0nm,1.4s					
BNM	Barren Site	58.99	289	P	P	19 29 42.4 +1.0
G27K	Doyon Strip	59.08	335	P	P	19 29 41.4 +0.1
G27K				IAmb	IAmb	19 29 47.9
	comp=Z,12nm,1.4s					
C24K	Franklin Bluff	59.23	339	P	P	19 29 42.4 +0.1
PLID	Pearl Lake	59.26	305	P	P	19 29 43.1 -0.1
PLID				IAmb	IAmb	19 29 58.1
	comp=Z,4.6nm,1.2s					
TMUT	Trail Mountain	59.30	297	P	P	19 29 44.0 +0.4
TMUT				IAmb	IAmb	19 29 49.8
	comp=Z,8.1nm,1.3s					
I28M	Miner Creek	59.35	333	P	P	19 29 43.5 +0.2
BMAR	Burnt Mountain	59.59	336	P	P	19 29 44.8 0.0
TX31	Lajitas Ar. Si	59.60	283	P	P	19 29 45.5 -0.1
TX31				IAmb	IAmb	19 29 48.0
	comp=Z,10nm,1.4s					
TXAR	Lajitas Array	59.60	283	P	P	19 29 45.3 -0.3
TXAR	Lajitas Array	59.60	283	P	P	19 29 44.6 -1.0
	comp=Z,2.5nm,1.2s,baz=95,slow=5.5,SNR=10					
TXAR				LR	LR	19 56 34.0
	comp=Z,129nm,18.1s,baz=54,slow=37					
	comp=Z,2.5nm,1.2s					
D24K	Happy Valley	59.65	339	P	P	19 29 45.7 +0.5
DUG	Dugway, Tooele	59.86	298	P	P	19 29 47.1 -0.2
DUG				IAmb	IAmb	19 29 49.5
	comp=Z,9.6nm,1.3s					
DAWY	Dawson	60.00	331	P	P	19 29 48.5 +0.8
CMIG	Matias Romero	60.60	266	LR	LR	19 54 47.6
	comp=Z,73nm,19.3s,baz=8.5,slow=35					
BDFB	Brasilia	60.73	201	LR	LR	19 52 48.5
	comp=Z,79nm,18.7s,baz=353,slow=33					
PRP	Porcupine Dome	61.12	335	P	P	19 29 56.2 +0.7
PRP				IAmb	IAmb	19 30 23.3
	comp=Z,14nm,1.5s					
ELK	Elko	61.12	300	P	P	19 29 57.0 +1.1
ELK				IAmb	IAmb	19 29 58.4
	comp=Z,5.7nm,1.4s					
J08A	Circle Bar Ran	61.69	304	P	P	19 30 00.2 +0.6
ILAR	Eielson Array	62.05	334	P	P	19 30 01.6 +0.1
ILAR	Eielson Array	62.05	334	P	P	19 30 01.6 0.0
	comp=Z,0.6nm,0.7s,baz=36,slow=5.9,SNR=7.4					
	comp=Z,0.6nm,0.7s					
BBB	Bella Bella	62.13	316	LR	LR	19 55 47.3
	comp=Z,111nm,18.3s,baz=12,slow=35					
BRVK	Borovoye	62.23	42	P	P	19 30 02.9 0.0
BRVK				IAmb	IAmb	19 30 09.0
	comp=Z,7.9nm,1.4s					
BVAR	Borovoye Array	62.30	42	P	P	19 30 02.8 -0.7
	comp=Z,1.9nm,1.1s,baz=305,slow=5.1,SNR=7.4					
	comp=Z,1.9nm,1.1s					
WVOR	Wild Horse Val	62.31	303	P	P	19 30 04.6 +0.8
VILB	Vilhena	62.34	214	P	P	19 30 04.0 -0.1
VILB				IAmb	IAmb	19 30 07.2
	comp=Z,7.2nm,1.0s					
RAYN	Ar Rayn	63.66	82	P	P	19 30 13.2 +0.2
CZSB	Cruzeiro do Su	63.91	229	P	P	19 30 12.0 -2.5
MZP	Montezuma Peak	64.21	298	P	P	19 30 16.3 -0.4
MZP				IAmb	IAmb	19 30 22.4
	comp=Z,4.5nm,1.5s					
YBH	Yreka Blue Hor	65.19	305	LR	LR	19 57 48.8
	comp=Z,140nm,19.3s,baz=32,slow=35					
SIV	San Ignacio	65.43	214	LR	LR	19 54 38.4
	comp=Z,56nm,18.3s,baz=289,slow=32					
PFO	Pinyon Flats O	66.00	294	LR	LR	19 59 04.0
	comp=Z,236nm,19.9s,baz=52,slow=36					
ATAH	Atahualpa	66.71	234	LR	LR	20 00 13.5
	comp=Z,51nm,18.4s,baz=3.1,slow=37					
LPIG	La Paz	67.48	282	LR	LR	20 00 38.0
	comp=Z,85nm,18.2s,baz=45,slow=36					
KURK	Kurchatov	67.74	41	P	P	19 30 38.2 -0.6
KURK				IAmb	IAmb	19 30 39.5
	comp=Z,12nm,1.5s					
KURBB	Kurchatov Arra	67.76	41	P	P	19 30 38.5 -0.5
	comp=Z,2.0nm,1.0s,baz=314,slow=7.0,SNR=11					
	comp=Z,2.0nm,1.0s					
ZALV	Zalesovo Beam	68.36	35	P	P	19 30 42.4 -0.2
	comp=Z,0.3nm,0.3s,baz=321,slow=11,SNR=3.5					
	comp=Z,0.3nm,0.3s					
KKAR	Karatay Array	68.37	51	P	P	19 30 42.2 -0.7
LPAZ	La Paz	68.80	220	P	P	19 30 45.6 -0.9
LPAZ	La Paz	68.80	220	LR	LR	19 57 34.9
	comp=Z,58nm,20.6s,baz=12,slow=33					
AAK	Ala-Archa	70.91	49	LR	LR	20 02 46.3
	comp=Z,114nm,20.3s,baz=343,slow=36					
ARSB	Arslanbob	70.91	51	P	P	19 30 58.6 -0.2
ARSB				IAmb	IAmb	19 31 08.6
	comp=Z,13nm,1.4s					
MK31	Makanchi Array	72.18	42	P	P	19 31 06.1 -0.1
MKAR	Makanchi Array	72.18	42	P	P	19 31 05.8 -0.4
MKAR	Makanchi Array	72.18	42	P	P	19 31 05.7 -0.6
	comp=Z,0.8nm,0.8s,baz=316,slow=5.1,SNR=4.4					
	comp=Z,0.8nm,0.8s					
TSUM	Tsumeb	75.50	134	LR	LR	20 01 25.3
	comp=Z,154nm,20.5s,baz=350,slow=33					
PETK	Petropavlovsk-	84.11	356	LR	LR	20 11 16.4
	comp=Z,64nm,18.2s,baz=300,slow=37					
LBTB	Lobatse	84.52	132	LR	LR	20 09 45.8
	comp=Z,106nm,18.1s,baz=329,slow=36					
BOSA	Boshof	87.20	134	LR	LR	20 09 48.4
	comp=Z,117nm,18.7s,baz=6.5,slow=35					
SUR	Sutherland	88.01	139	LR	LR	20 11 20.5
	comp=Z,55nm,18.0s,baz=340,slow=35					
ELIB	Princess Elisa	120.46	163	*d*PKPdf	PKiKP	19 38 33.5 +1.5
MTN	Manton Dam	145.64	35	PKPdf	PKPdf	19 39 20.2 -0.1

*IDC **16** 19:23:41.0±1.6,23°.97N×94°.84E,h107km±15km,mb3.7/14, mbtmp4.0/16, Error ellipse: s-maj=23.0km s-min=10.9km az=58.0*
*NEIC **16** 19:23:40.7±2.5,24°.07N±0°.06×94°.68E±0°.08,h96km±5km, mb4.0/18, Error ellipse: s-maj=11.5km s-min=7.8km az=59.0*
*NDI **16** 19:23:41.6±2.7,24°.06N×94°.53E,h94km±18km,ML4.0, MW3.8,mb4.0(NEIC)*

ISC 16 19:23:39.5±0.8,23°.97N±0°.05×94°.55E±0°.05,h96km±7km, n61,σ1°.9 75/81,mb4.0/22,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.02	327	*e*P	Pn	19 24 01.0	+1.0
IMP				*e*S	Sn	19 24 15.8	+0.4
IMP				IAML		19 24 19.4	
	comp=E,1μm,0.3s						
IMP				IAML		19 24 19.6	
	comp=N,862nm,0.2s						
AZL	Aizawl	1.72	263	*e*P	Pn	19 24 09.4	+1.0
AZL				*e*S	Sn	19 24 32.0	+1.5
AZL				IAML		19 24 34.1	
	comp=E,1μm,0.3s						
AZL				IAML		19 24 36.1	
	comp=N,734nm,0.4s						
KOHI	KOHIMA	1.79	347	*e*P	Pn	19 24 10.2	+0.8
KOHI				*e*S	Sn	19 24 31.4	-0.6
KOHI				IAML		19 24 33.8	
	comp=N,2μm,0.6s						
KOHI				IAML		19 24 35.1	
	comp=E,2μm,0.4s						
SHL	Shillong	2.90	304		Pn	19 24 24.4	+0.3
SHL				Sn	Sn	19 24 55.6	-2.6
SHL	Shillong	2.90	304	*e*P	Pn	19 24 24.6	+0.5
SHL				*e*S	Sn	19 24 55.8	-2.4
SHL				IAML		19 24 58.9	
	comp=E,2μm,0.1s						
BRDH	Bariadhala	2.97	245	P	Pn	19 24 30.1	+5.4
	comp=E,80nm,0.3s,baz=53,slow=20,SNR=1.0						
BRDH				S	Sn	19 25 00.8	+1.2
	comp=E,465nm,0.5s,baz=249,slow=21,SNR=34						
AGT	Agartala	3.02	269	*e*S	Sn	19 25 01.6	+0.7
AGT				IAML		19 25 03.9	
	comp=N,397nm,0.4s						
AGT				IAML		19 25 04.0	
	comp=E,728nm,0.4s						
GUWA	GUWAHATI	3.41	311	*e*P	Pn	19 24 30.4	-0.3
GUWA				*e*S	Sn	19 25 06.0	-4.2
GUWA				IAML		19 25 09.2	
	comp=N,928nm,0.2s						
GUWA				IAML		19 25 09.6	
	comp=E,750nm,0.1s						
TAWA	Tawang	4.34	327	*e*P	Pn	19 24 44.8	+1.1
TAWA				*e*S	Sn	19 25 31.1	-2.3
TAWA				IAML		19 25 33.4	
	comp=E,3μm,0.2s						
TAWA				IAML		19 25 36.1	
	comp=N,2μm,0.3s						
GTK	Tadong	6.32	303	*e*P	Pn	19 25 11.8	+1.5
GTK				*e*S	Sn	19 26 17.5	-3.6
GTK				IAML		19 26 24.3	
	comp=N,122nm,0.3s						
GTK				IAML		19 26 26.1	
	comp=E,114nm,0.5s						
LSA	Lhasa	6.46	333		Pn	19 25 14.2	+1.7
CHTO	Chiang Mai	6.56	141		Pn	19 25 14.2	+0.7
CM31	Chiang Mai Arr	6.85	142	Pn	Pn	19 25 17.6	+0.2
CMAR	Chiang Mai Arr	6.85	142	Pn	Pn	19 25 17.5	+0.1
CMAR	Chiang Mai Arr	6.85	142	P	Pn	19 25 16.4	-0.9
	comp=E,1.3nm,0.7s,baz=317,slow=13,SNR=14						
CMAR				S	Sn	19 26 32.1	-1.7
	comp=E,1.6nm,0.7s,baz=328,slow=21,SNR=4.4						
RAMN	Ramite	7.77	294	Pg	Pn	19 25 30.7	+0.5
	baz=305,slow=0.0						
RAMN				Sg	Sn	19 26 53.5	-3.2
	comp=E,85nm,0.3s,baz=305,slow=0.0						
GUN	Gumba	8.73	299	Pg	Pn	19 25 44.8	+1.4
	baz=308,slow=0.0						
GUN				Sg	Sn	19 27 18.8	-1.5
	comp=E,112nm,0.4s,baz=308,slow=0.0						
PKI	Pulchoki	8.99	295	Pg	Pn	19 25 47.1	+0.3
	baz=305,slow=0.0						
PKI				Sg	Sn	19 27 22.6	-3.8
	comp=E,87nm,0.7s,baz=305,slow=0.0						
PKIN	Phulchoki	9.00	295	Pg	Pn	19 25 46.9	0.0
	baz=305,slow=0.0						
PKIN				Sg	Sn	19 27 23.3	-3.3
	comp=E,78nm,0.5s,baz=305,slow=0.0						
SLVN	Son La	9.03	105	Pn	Pn	19 25 47.8	+0.6
DMN	Daman	9.25	295	Pg	Pn	19 25 50.6	+0.3
	baz=304,slow=0.0						
DMN				Sg	Sn	19 27 28.4	-4.3
	comp=E,77nm,0.6s,baz=304,slow=0.0						
PYUN	Piuthan	11.18	294	Pg	Pn	19 26 16.2	-0.3
	baz=301,slow=0.0						
PYUN				Sg	Sn	19 28 12.8	-6.8
	comp=E,74nm,0.7s,baz=301,slow=0.0						
PBA	Port Blair	12.37	188	Pn	Pn	19 26 32.5	+0.2
UBPT	Khong Chiam	13.43	128	Pn	Pn	19 26 45.2	-1.1
QIZ	Qiongzhong	15.05	106		Pn	19 27 08.0	+0.8
KULM	Kulim	19.48	162	P	Pn	19 28 00.3	-0.8
KULM				IAmb	IAmb	19 28 02.5	
	comp=Z,4.8nm,0.8s						
WUS	Wushi	21.44	327	P	P	19 28 20.6	+0.6
WUS				IAmb	IAmb	19 28 26.4	
	comp=Z,9.0nm,0.9s						
KDJ	Kajisay	23.16	326	P	P	19 28 39.1	+1.2
BOOM	Boomskoye usch	24.06	325	P	P	19 28 48.0	+2.0
BOOM				IAmb	IAmb	19 28 50.0	
	comp=Z,3.5nm,0.8s						
DRK	Karamyk	24.67	314	P	P	19 28 53.4	+1.6
MK31	Makanchi Array	24.81	340	P	P	19 28 54.5	+1.9
MK31				IAmb	IAmb	19 28 55.2	
	comp=Z,4.9nm,0.6s						
MKAR	Makanchi Array	24.81	340	P	P	19 28 54.3	+1.7
MKAR	Makanchi Array	24.81	340	P	P	19 28 54.5	+1.9
	comp=Z,5.7nm,0.5s,baz=150,slow=9.8,SNR=131						
MKAR				PcP	PcP	19 32 26.8	+0.3
	comp=Z,0.4nm,0.5s,baz=169,slow=1.6,SNR=4.7						
	comp=Z,5.7nm,0.5s						
MAKZ	Makanchi	24.92	339	P	P	19 28 54.8	+1.1
MAKZ				IAmb	IAmb	19 28 56.1	
	comp=Z,3.3nm,0.6s						
AAK	Ala-Archa	24.94	323	P	P	19 28 56.5	+2.5
GAR	Garm	25.42	312	P	P	19 29 00.2	+1.8
SONM	Songino Array	25.61	19	P	P	19 28 59.7	-0.3
	comp=Z,0.6nm,0.7s,baz=204,slow=9.5,SNR=5.8						
SONM				ScP	ScP	19 35 57.1	-2.0
	comp=Z,0.4nm,0.7s,baz=194,slow=2.4,SNR=3.7						
	comp=Z,0.6nm,0.7s						
BTK	Batken	25.62	314	P	P	19 29 01.9	+1.8
BTK				IAmb	IAmb	19 29 25.9	
	comp=Z,4.2nm,1.0s						
KURBB	Kurchatov Arra	29.37	339	P	P	19 29 34.5	+1.1
	comp=Z,1.1nm,0.6s,baz=152,slow=8.2,SNR=10						
KURBB				PcP	PcP	19 32 37.5	+0.2
	comp=Z,0.7nm,0.5s,baz=169,slow=2.4,SNR=8.3						
KURBB				ScP	ScP	19 36 09.6	-0.8
	comp=Z,0.4nm,0.6s,baz=145,slow=2.3,SNR=8.4						
	comp=Z,1.1nm,0.6s						
KURK	Kurchatov	29.42	339	P	P	19 29 35.0	+1.3
ZALV	Zalesovo Beam	30.82	349	P	P	19 29 46.9	+0.8
	comp=Z,0.4nm,0.4s,baz=187,slow=10,SNR=2.3						
	comp=Z,0.4nm,0.4s						
BVAR	Borovoye Array	34.30	334	P	P	19 30 17.3	+0.8
	comp=Z,0.7nm,0.6s,baz=134,slow=10,SNR=7.4						
BVAR				PcP	PcP	19 32 50.7	+0.1
	comp=Z,0.3nm,0.5s,baz=180,slow=3.6,SNR=3.6						
	comp=Z,0.7nm,0.6s						
ABKAR	Akbulak array	37.01	322	P	P	19 30 41.2	+1.4
ABKAR	Akbulak array	37.01	322	P	P	19 30 41.4	+1.6
ABKAR				IAmb	IAmb	19 30 41.6	
	comp=Z,2.8nm,1.2s						
MJAR	Matsushiro Arr	39.42	61	P	P	19 30 58.0	-2.2
	comp=Z,0.6nm,0.6s,baz=282,slow=11,SNR=2.7						
	comp=Z,0.6nm,0.6s						
ARTI	Arti	41.72	330	P	P	19 31 19.2	+0.5
NRIK	Noril'sk	45.58	357	P	P	19 31 50.5	+1.0
	comp=Z,2.7nm,0.6s,baz=123,slow=9.2,SNR=3.8						
	comp=Z,2.7nm,0.6s						
FITZ	Fitzroy Crossi	51.66	141	P	P	19 32 36.3	-0.4
FITZ				IAmb	IAmb	19 32 37.2	
	comp=Z,2.3nm,1.4s						
KNRA	Kununurra	51.67	136	P	P	19 32 36.3	-0.5
WB0	Warramunga Arr	58.29	135	P	P	19 33 23.9	-0.6
WRA	Warramunga Arr	58.38	135	P	P	19 33 24.2	-0.9
WRA	Warramunga Arr	58.38	135	P	P	19 33 24.3	-0.9
	comp=Z,2.7nm,0.7s,baz=322,slow=7.4,SNR=32						
	comp=Z,2.7nm,0.7s						
FINES	FINESS Array B	58.96	329	P	P	19 33 29.8	+1.2
	comp=Z,2.3nm,1.0s,baz=87,slow=7.1,SNR=4.3						
	comp=Z,2.3nm,1.0s						
ARCES	ARCESS Array B	60.45	338	P	P	19 33 39.8	+1.1
	comp=Z,4.5nm,1.1s,baz=98,slow=5.0,SNR=5.0						
	comp=Z,4.5nm,1.1s						
AS31	Alice Springs	60.84	138	P	P	19 33 41.7	-0.3
AS31				IAmb	IAmb	19 33 42.6	
	comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	60.84	138	P	P	19 33 41.4	-0.6
ASAR	Alice Springs	60.84	138	P	P	19 33 41.0	-1.0
	comp=Z,2.1nm,0.8s,baz=320,slow=6.9,SNR=36						
	comp=Z,2.1nm,0.8s						
HFS	Hagfors	65.01	327	P	P	19 34 09.5	+0.4
	comp=Z,0.6nm,0.5s,baz=130,slow=4.6,SNR=5.1						
	comp=Z,0.6nm,0.5s						
NOA	NORSAR Array B	66.14	328	P	P	19 34 17.6	+1.2
	comp=Z,0.4nm,0.8s,baz=97,slow=5.7,SNR=1.8						
	comp=Z,0.4nm,0.8s						
BOSA	Boshof	84.73	236	P	P	19 36 04.2	+0.8
	comp=Z,1.5nm,0.5s,baz=40,slow=2.6,SNR=5.1						
	comp=Z,1.5nm,0.5s						
TXAR	Lajitas Array	124.18	19	PKP	PKPdf	19 42 27.2	-0.4
	comp=Z,0.2nm,0.5s,baz=354,slow=3.1,SNR=2.5						

*IDC **16** 19:30:01.6±2.3,43°.34N×29°.50W,h0km,mb3.6/7, mbtmp3.5/8,ML3.9/1,MS3.0/1,Error ellipse: s-maj=71.3km s-min=24.0km az=2.0*

ISC 16 19:30:02.8±1.9,43°.3N±0°.4×29°.5W±0°.2,h10km,n9,σ0°.45/8, mb3.7/7,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	19.44	92	P	Pn	19 34 30.8	+0.2
	0.1nm,0.3s,baz=285,slow=12,SNR=2.7						
	0.7nm,0.9s						
MDT	Midelt	22.13	110	LR	LR	19 42 13.5	
	comp=Z,35nm,19.3s,baz=138,slow=33						
YKA	Yellowknife Ar	50.68	323	P	P	19 39 02.3	+0.4
	0.5nm,0.9s,baz=65,slow=8.0,SNR=5.1						
	0.5nm,0.9s						
PDAR	Pinedale Array	56.30	299	P	P	19 39 43.4	-0.5
	0.6nm,0.8s,baz=47,slow=7.7,SNR=4.5						
	0.6nm,0.8s						
TXAR	Lajitas Array	59.55	283	P	P	19 40 06.7	+0.1
	0.5nm,0.8s,baz=60,slow=7.4,SNR=3.7						
	0.5nm,0.8s						
ILAR	Eielson Array	61.78	334	P	P	19 40 21.4	+0.3
	0.3nm,0.7s,baz=37,slow=5.3,SNR=5.1						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	67.53	41	P	P	19 40 58.7	-0.1
	1.4nm,1.1s,baz=314,slow=6.6,SNR=5.9						
	1.4nm,1.1s						
ZALV	Zalesovo Beam	68.11	35	P	P	19 41 01.8	-0.7
	0.4nm,0.5s,baz=313,slow=9.1,SNR=3.8						
	0.4nm,0.5s						
MKAR	Makanchi Array	71.96	42	P	P	19 41 26.1	-0.2
	0.5nm,0.8s,baz=341,slow=6.8,SNR=5.1						
	0.5nm,0.8s						

*CATAC **16** 19:44:51.7±0.7,13°.N±4°.×9°.0W±°.,h29km±5km,M3.8/14, MLv3.8/14,Error ellipse: s-maj=8.3km s-min=4.9km az=24.2,confirmed*
*SNET **16** 19:44:52.2±1.0, 13°.35N×90°.44W,h49km,ML3.6*
*GCG **16** 19:44:52.8±0.9, 13°.42N×90°.46W,h36km±999km,MD3.9, MW3.7*

ISC 16 19:44:51.0±2.4,13°.27N±0°.09×90°.46W±0°.07,h28km±13km, n61,σ0°.61/71,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.72	37	S	Sn	19 45 15.5	+0.1
NUBE	Las Nubes	0.91	46	*e*P	Pb	19 45 08.2	-0.2
NUBE				*e*S	Sn	19 45 20.5	0.0
NUBE	Las Nubes	0.91	46	P	Pb	19 45 08.2	-0.2
NUBE	Las Nubes	0.91	46	P	Pb	19 45 08.2	-0.2
NUBE	Las Nubes	0.91	46	*e*P	Pb	19 45 08.2	-0.2
NUBE				*e*S	Sn	19 45 20.2	-0.3
NUBE	Las Nubes	0.91	46	*e*P		19 45 08.2	
NUBE				*e*S		19 45 20.2	
CEVE	Cerro Verde	0.98	55	*e*P	Pb	19 45 09.6	-0.1
CEVE				*e*S	Sb	19 45 23.3	+0.9
CEVE	Cerro Verde	0.98	55	P	Pb	19 45 09.4	-0.3
CEVE	Cerro Verde	0.98	55	P	Pb	19 45 09.6	-0.1
FG8	Yepocapa, Chim	0.99	354	*e*P		19 45 12.4	
SBLS	San Blas	0.99	55	*e*P	Pb	19 45 09.6	-0.2
SLOZ	Alcaldia de Sa	1.00	41	P	Pn	19 45 09.2	-0.1
SLOZ	Alcaldia de Sa	1.00	41	S	Sb	19 45 22.7	+0.1
SLOZ	Alcaldia de Sa	1.00	41	S	Sb	19 45 23.2	+0.6
SLOZ	Alcaldia de Sa	1.00	41	P	Pn	19 45 09.0	-0.3
SNJE	San Jose	1.02	54	*i* P	Pb	19 45 09.9	-0.3
SNJE				*e*S	Sb	19 45 23.7	+0.3
JAYA	Jayaque - finc	1.05	69	*i* P	Pb	19 45 10.3	-0.4
JAYA				*e*S	Sn	19 45 23.9	-0.2
JAYA	Jayaque - finc	1.05	69	P	Pn	19 45 10.1	0.0
JAYA	Jayaque - finc	1.05	69	S	Sb	19 45 24.8	+0.5
JAYA	Jayaque - finc	1.05	69	P	Pb	19 45 10.4	-0.4
JAYA	Jayaque - finc	1.05	69	*i* P	Pb	19 45 10.3	-0.4
JAYA				*e*S	Sn	19 45 23.2	-0.8
JAYA	Jayaque - finc	1.05	69	*i* P		19 45 10.3	
JAYA				*e*S		19 45 23.2	
LALI	Alcalda de L	1.13	79	S	Sn	19 45 24.9	-0.6
LALI	Alcalda de L	1.13	79	P	Pn	19 45 10.8	-0.2
UNIC	Universidad Ca	1.13	51	S	Sn	19 45 25.5	-0.3
UNIC	Universidad Ca	1.13	51	P	Pn	19 45 11.0	-0.1
UNIC	Universidad Ca	1.13	51	S	Sn	19 45 25.9	0.0
UNIC	Universidad Ca	1.13	51	P	Pn	19 45 11.3	+0.2
CEDA	San Andres	1.16	63	P	Pb	19 45 12.6	0.0
CEDA	San Andres	1.16	63	S	Sb	19 45 27.1	-0.2
ESSG	Sabana Grande	1.17	342	*e*P		19 45 11.0	
ESSG	Sabana Grande	1.17	342	*e*P	Pn	19 45 11.0	-0.6
PMON	Piamonte	1.20	68	*e*P	Pb	19 45 12.4	-0.7
PMON				*e*S	Sb	19 45 28.2	-0.2
PMON	Piamonte	1.20	68	S	Sn	19 45 27.6	+0.2
PMON	Piamonte	1.20	68	P	Pn	19 45 12.3	+0.2
PMON	Piamonte	1.20	68	P	Pb	19 45 12.5	-0.7
ITCA	Escuela Especi	1.22	71	P	Pn	19 45 11.9	-0.4
ITCA	Escuela Especi	1.22	71	S	Sn	19 45 28.0	+0.1
BOQS	Boqueron	1.24	68	*e*P	Pb	19 45 13.2	-0.7
UEES	Universidad Ev	1.27	69	P	Pn	19 45 13.2	+0.2
UEES	Universidad Ev	1.27	69	S	Sn	19 45 28.5	-0.6
SEMO	Seminario San	1.28	70	S	Sn	19 45 29.3	-0.1
SEMO	Seminario San	1.28	70	P	Pn	19 45 13.3	+0.1
PANCS	Alcalda de	1.29	75	P	Pn	19 45 12.2	-1.1
PANCS	Alcalda de	1.29	75	S	Sn	19 45 28.6	-1.1
PANCS	Alcalda de	1.29	75	P	Pn	19 45 10.1	-3.2
UTEC	Universidad Te	1.30	70	S	Sn	19 45 29.9	+0.1
LOMA	Loma Larga	1.31	73	*e*P	Pn	19 45 13.8	+0.3
LOMA				*e*S	Sn	19 45 29.8	-0.4
LOMA	Loma Larga	1.31	73	S	Sn	19 45 30.6	+0.4
LOMA	Loma Larga	1.31	73	P	Pn	19 45 13.7	+0.1
LOMA	Loma Larga	1.31	73	P	Pn	19 45 13.9	+0

PVRL	Vila Real	16.30	89	eP		P	19 52 44.0 +2.5
PVRL				i Amb			19 52 51.4
comp=Z,38nm,1.8s							
PMTG	Montargil	16.57	97	eP		P	19 52 47.3 +2.9
PMTG				i Amb			19 52 48.9
comp=Z,39nm,1.4s							
MTE	Manteigas	16.65	92	Pn		Pn	19 52 42.0 -1.0
MTE				IAmb		IAmb	19 52 50.2
comp=Z,36nm,1.3s							
MTE	Manteigas	16.65	92	eP		P	19 52 49.0 +3.6
MTE				i Amb			19 52 50.2
comp=Z,36nm,1.3s							
MTE				eLR	LR		19 56 24.6
MTE				i AMs_20			19 57 41.8
comp=Z,243nm,20.0s							
MVO	Moncorvo	16.83	89	eLR	LR		19 55 52.3
MVO				i AMs_20			19 57 48.4
comp=Z,225nm,20.0s							
PCBR	Castelo Branco	16.86	93	eP		P	19 52 52.6 +4.9
PCBR				i Amb			19 53 11.9
comp=Z,21nm,1.7s							
EVO	Evora	16.92	98	eP		P	19 52 51.6 +3.3
EVO				i Amb			19 52 52.3
comp=Z,29nm,1.4s							
PMRV	Marv??o	17.06	95	eP		P	19 52 50.7 +0.9
PMRV				eLR	LR		19 56 49.8
PMRV				i AMs_20			19 58 16.9
comp=Z,372nm,18.0s							
PESTR	Estremoz	17.11	97	Pn		Pn	19 52 48.2 -0.5
PESTR	Estremoz	17.11	97	P		P	19 52 55.0 +4.6
PBDV	Barranco-do-Ve	17.51	102	eP		P	19 52 59.5 +4.7
PBDV				i Amb			19 53 05.4
comp=Z,59nm,1.7s							
PVAQ	Vaqueiros	17.59	101	eLR	LR		19 57 07.3
PVAQ				i AMs_20			19 58 10.5
comp=Z,294nm,22.0s							
PBAR	Barrancos	17.77	98	eP		Pn	19 52 55.9 -0.9
PBAR				i Amb			19 53 03.6
comp=Z,30nm,1.7s							
PAB	San Pablo	19.25	92	P		P	19 53 13.2 -0.9
ESDC	Sonseca Array	19.49	91	P		P	19 53 14.1 -2.6
baz=285,slow=11,SNR=7.1							
ESDC				LR	LR		19 59 05.7
comp=Z,147nm,21.0s,baz=278,slow=32							
comp=Z,0.5nm,1.1s							
NRS	Narsarsuaq	20.51	338	i P		P	19 53 26.0 -1.5
MDT	Midelt	22.10	109	LR	LR		20 00 33.3
comp=Z,130nm,19.8s,baz=343,slow=32							
BORG	Borgarnes	22.27	9	LR	LR		19 59 49.9
comp=Z,99nm,20.4s,baz=133,slow=30							
CART	Cartagena	22.40	94	P		P	19 53 46.8 -1.2
SENIN	Lac Senin/Sane	26.27	70	P		P	19 54 25.9 +0.7
SFJD	Kangerlussuaq	26.61	342	LR	LR		20 02 34.2
comp=Z,180nm,20.5s,baz=159,slow=31							
SCHQ	Schefferville	26.85	309	LR	LR		20 03 17.9
comp=Z,183nm,21.8s,baz=76,slow=32							
DAVOX	Davos/Dischmat	28.00	68	LR	LR		20 04 36.2
comp=Z,122nm,18.8s,baz=264,slow=34							
SUMG	Summit	29.95	355	P		P	19 54 56.2 -1.6
SUMG				IAmb		IAmb	19 55 02.9
comp=Z,6.8nm,1.4s							
NOA	NORSAR Array B	30.22	39	LR	LR		20 05 07.0
comp=Z,37nm,21.6s,baz=260,slow=32							
KHC	Kasperske Hory	30.23	64	P		P	19 55 00.0 -0.2
BBTS	Babate	30.40	154	LR	LR		20 04 41.3
comp=Z,94nm,19.4s,baz=296,slow=31							
FRB	Frobisher Bay	30.41	326	LR	LR		20 04 22.3
comp=Z,79nm,20.6s,baz=97,slow=31							
PRED	Cave del Predi	30.56	68	P		P	19 55 01.6 -1.6
PRED				IAmb		IAmb	19 55 26.0
comp=Z,14nm,1.4s							
KEST	Kesra	30.74	90	LR	LR		20 05 53.0
comp=Z,92nm,20.3s,baz=17,slow=33							
HFS	Hagfors	31.15	42	LR	LR		20 05 46.5
comp=Z,117nm,20.4s,baz=252,slow=33							
OJC	Ojcow	34.13	60	P		P	19 55 34.2 -0.2
OJC				IAmb	IAmb		19 56 00.2
comp=Z,2.8nm,0.9s							
SADO	Sadowa	35.32	290	LR	LR		20 10 14.6
comp=Z,202nm,18.3s,baz=76,slow=36							
FINES	FINESS Array B	37.35	41	P		P	19 56 02.6 +0.9
FINES	FINESS Array B	37.35	41	LR	LR		20 09 27.7
comp=Z,82nm,21.5s,baz=226,slow=33							
BURAR	Bucovina Array	38.13	64	P		P	19 56 09.0 +0.4
ARCES	ARCESS Array B	38.37	28	LR	LR		20 09 57.2
comp=Z,61nm,19.8s,baz=294,slow=33							
MNK	Minsk	38.53	52	i P		P	19 56 10.4 -1.5
MNK				i P		P	19 56 10.4 -1.5
comp=N,12nm,0.9s							
MNK				i P		P	19 56 10.4 -1.5
comp=Z,5.0nm,0.8s,baz=277							
MNK				i PP		PP	19 57 38.9 -0.9
MNK				i PPP		PPP	19 57 58.8
MNK				i S		S	20 02 07.7 +0.3
MNK				i SS		SS	20 04 56.8 +0.2
MNK				i SSS		SSS	20 05 14.0
MNK				i LQ		LQ	20 09 14.5
MNK				i LR		LR	20 11 27.7
MNK				i LRM		MLR	20 13 01.4
comp=E,108nm,17.3s							
MNK				i LRM		MLR	20 13 06.2
comp=Z,98nm,15.7s							
MNK				i LRM		MLR	20 13 13.9
comp=N,155nm,21.1s							
MLR	Muntele Rosu	39.17	67	LR	LR		20 12 12.2
comp=N,126nm,19.5s,baz=260,slow=36							
SJG	San Juan	39.63	243	LR	LR		20 08 22.3
comp=N,50nm,19.8s,baz=106,slow=30							
AKASG	Malin Array Be	39.98	58	P		P	19 56 22.1 -1.9
comp=N,0.1nm,0.3s,baz=287,slow=7.5,SNR=4.6							
AKASG				LR	LR		20 12 40.1
comp=N,133nm,20.5s,baz=242,slow=36							
comp=N,0.1nm,0.3s							
TORD	Torodi Ar. Bea	40.15	128	P		P	19 56 24.0 -1.8
TKL	Tuckaleechee C	41.94	279	LR	LR		20 12 20.0
comp=N,87nm,21.3s,baz=100,slow=34							
DBIC	Dimbokro	42.25	142	LR	LR		20 12 33.0
comp=N,95nm,19.9s,baz=332,slow=34							
RES	Resolute Bay	42.55	339	P		P	19 56 46.7 +1.8
RES				IAmb		IAmb	19 56 49.1
comp=Z,14nm,1.2s							
MDP	Montagnes des	42.93	215	LR	LR		20 11 03.2
comp=Z,42nm,18.6s,baz=37,slow=31							
ULM	Lac du Bonnet	44.73	303	LR	LR		20 14 33.0
comp=Z,155nm,19.2s,baz=66,slow=34							
BRTR	Keskin Array B	46.56	71	P		P	19 57 16.3 -1.1
comp=Z,1.7nm,1.1s,baz=312,slow=6.5,SNR=4.3							
comp=Z,1.7nm,1.1s							
BAUV	El Baul	47.75	236	P		P	19 57 26.7 -0.1
KIRV	Kirov	49.28	43	LR	LR		20 18 23.0
comp=Z,62nm,18.2s,baz=307,slow=36							
SDV	Santo Domingo	49.40	239	LR	LR		20 16 58.4
comp=Z,28nm,19.2s,baz=250,slow=34							
YKA	Yellowknife Ar	50.84	323	P		P	19 57 49.6 -0.2
comp=Z,1.0nm,1.0s,baz=78,slow=7.1,SNR=8.6							
comp=Z,1.0nm,1.0s							
ROSC	El Rosal	54.83	239	LR	LR		20 20 56.6
comp=Z,50nm,18.9s,baz=82,slow=35							
INK	Inuvik	55.58	334	P		P	19 58 23.4 -1.2
comp=Z,4.1nm,1.2s,baz=74,slow=6.8,SNR=5.8							
comp=Z,4.1nm,1.2s							
MSTX	Muleshoe	56.34	287	P		P	19 58 31.8 +0.9
MSTX				IAmb		IAmb	19 58 33.0
comp=Z,8.6nm,1.1s							
PD31	Pinedale Array	56.37	299	P		P	19 58 31.8 +0.8
PDAR	Pinedale Array	56.37	299	P		P	19 58 31.9 +0.8
PDAR	Pinedale Array	56.37	299	P		P	19 58 29.6 -1.5
comp=Z,1.3nm,1.0s,baz=64,slow=6.8,SNR=7.8							
PDAR				LR	LR		20 21 52.0
comp=Z,49nm,18.3s,baz=17,slow=35							
comp=Z,1.3nm,1.0s							
AKTO	Aktyubinsk	57.16	50	LR	LR		20 23 37.5
comp=Z,87nm,19.4s,baz=262,slow=37							
JTS	Las Juntas de	57.95	253	LR	LR		20 19 41.6
comp=Z,100nm,20.7s,baz=94,slow=32							
SAND	Sanderson	58.09	283	P		P	19 58 42.1 -1.0
SAND				IAmb		IAmb	19 58 44.8
comp=Z,8.0nm,1.2s							
E27K	Coleen River	58.15	336	P		P	19 58 44.0 +1.0
E27K				IAmb		IAmb	19 58 45.6
comp=Z,11nm,1.3s							
NEW	Newport	58.22	308	P		P	19 58 45.1 +1.3
NEW				IAmb		IAmb	19 58 46.5
comp=Z,8.4nm,1.2s							
NEW	Newport	58.22	308	LR	LR		20 21 54.5
comp=Z,121nm,19.9s,baz=13,slow=34							
HWUT	Hardware Ranch	58.24	299	P		P	19 58 44.8 +0.5
HWUT				IAmb	IAmb		19 58 50.7
comp=Z,3.8nm,0.9s							
ANMO	Albuquerque	58.38	290	LR	LR		20 23 25.7
comp=Z,121nm,20.2s,baz=209,slow=36							
BNM	Barren Site	58.93	289	P		P	19 58 51.0 +1.8
G27K	Doyon Strip	59.01	335	P		P	19 58 50.6 +1.7
TXAR	Lajitas Array	59.55	283	P		P	19 58 53.5 +0.2
comp=Z,1.7nm,1.0s,baz=90,slow=4.3,SNR=8.6							
TXAR				LR	LR		20 25 42.4
comp=Z,63nm,18.2s,baz=54,slow=37							
comp=Z,1.7nm,1.0s							
TX31	Lajitas Ar. Si	59.55	283	P		P	19 58 54.2 +0.9
TX31				IAmb	IAmb		19 59 00.3
comp=Z,7.8nm,1.4s							
CMIG	Matias Romero	60.56	266	LR	LR		20 24 33.2
comp=Z,55nm,18.9s,baz=0.5,slow=35							
ELK	Elko	61.05	300	P		P	19 59 03.3 -0.4
comp=Z,1.0nm,0.8s,baz=54,slow=4.3,SNR=4.5							
comp=Z,1.0nm,0.8s							
J08A	Circle Bar Ran	61.62	304	P		P	19 59 09.0 +1.7
BRVK	Borovoye	62.21	42	P		P	19 59 11.0 0.0
BRVK				IAmb	IAmb		19 59 12.2
comp=Z,2.0nm,0.9s							
NVAR	Mina Array Bea	64.31	299	P		P	19 59 25.7 +0.3
comp=Z,0.2nm,0.5s,baz=27,slow=8.5,SNR=1.4							
comp=Z,0.2nm,0.5s							
YBH	Yreka Blue Hor	65.12	305	LR	LR		20 26 26.1
comp=Z,61nm,19.2s,baz=18,slow=35							
PFO	Pinyon Flats O	65.94	294	LR	LR		20 28 01.7
comp=Z,186nm,19.9s,baz=52,slow=36							
ATAH	Atahualpa	66.71	234	LR	LR		20 26 27.7
comp=Z,43nm,21.0s,baz=7.6,slow=34							
LPIG	La Paz	67.42	282	LR	LR		20 28 45.6
comp=Z,57nm,18.9s,baz=39,slow=36							
KURK	Kurchatov	67.72	41	P		P	19 59 46.8 -0.1
KURBB	Kurchatov Arra	67.74	41	P		P	19 59 46.6 -0.3
comp=Z,2.3nm,1.1s,baz=315,slow=7.3,SNR=11							
comp=Z,2.3nm,1.1s							
LPAZ	La Paz	68.82	220	P		P	19 59 54.4 -0.4
comp=Z,0.9nm,0.8s,baz=354,slow=7.6,SNR=4.1							
LPAZ				LR	LR		20 29 07.4
comp=Z,44nm,18.1s,baz=73,slow=35							
comp=Z,0.9nm,0.8s							
GAR	Garm	70.86	54	P		P	20 00 07.0 +0.4
AAK	Ala-Archa	70.90	49	P		P	20 00 07.9 +1.0
AAK				IAmb	IAmb		20 00 13.3
comp=Z,5.7nm,1.4s							
DRK	Karamyk	71.43	53	P		P	20 00 11.1 +0.8
DRK				IAmb	IAmb		20 00 14.6
comp=Z,4.0nm,1.1s							
MK31	Makanchi Array	72.17	42	P		P	20 00 13.7 -0.6
MKAR	Makanchi Array	72.17	42	P		P	20 00 14.2 -0.2
comp=Z,0.9nm,0.8s,baz=321,slow=5.2,SNR=9.3							
MKAR				LR	LR		20 29 51.1
comp=Z,156nm,21.9s,baz=148,slow=34							
comp=Z,0.9nm,0.8s							
KDJ	Kajisay	72.72	48	P		P	20 00 18.6 +0.7
KMBO	Kilima Mbogo	74.02	107	LR	LR		20 34 49.6
comp=Z,52nm,18.3s,baz=84,slow=37							
TSUM	Tsumeb	75.58	134	LR	LR		20 30 43.9
comp=Z,121nm,20.1s,baz=357,slow=33							
LSZ	Lusaka	78.48	124	LR	LR		20 34 36.6
comp=Z,85nm,18.3s,baz=358,slow=35							
LBTB	Lobatse	84.59	132	LR	LR		20 39 50.0
comp=Z,52nm,18.2s,baz=208,slow=36							
BOSA	Boshof	87.27	134	LR	LR		20 38 26.0
comp=Z,64nm,19.1s,baz=24,slow=34							

*CATAC **16** 20:12:15.7±0.3, 10°N±2°×8°4W±°, h13km±2km, M4.3/15, MLv4.3/15, Error ellipse: s-maj=5.4km s-min=2.9km az=41.2, confirmed*
*UPA **16** 20:12:15.0±2.2, 9°69N×84°19W, h0km±8km, MW4.5*
*UCR **16** 20:12:17.1±1.3, 9°57N×84°27W, h36km±3km, MW4.1*
ISC 16 20:12:17.0±0.9, 9°53N±0°02×84°30W±0°02, h32km±6km, n148, σ1°04/167, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICV	PH. Pirrs	0.14	49	eP		20 12 23.0	-0.1
SVQ2	Quepos	0.17	126	eP		Pn 20 12 23.0	-0.4
PISJ	San Jernim	0.20	61	eP		Pb 20 12 23.5	-0.2
LLNJ	Naranjito	0.21	106	eP		Pn 20 12 23.6	-0.4
LLNJ				eS		Sn 20 12 29.4	+1.0
ACOS	Acosta	0.30	28	eP		Pb 20 12 24.3	-0.4
ABE2	San Pablo	0.30	55	eP		Pb 20 12 24.4	-0.5
ABE2				eS		Sb 20 12 30.5	+0.3
RAZU	San Marcos de	0.30	65	eP		Pb 20 12 24.4	-0.5
LCR2	La Lucha 2	0.36	55	P		Pb 20 12 24.9	-0.7
LCR2	La Lucha 2	0.36	55	P		Pb 20 12 24.9	-0.7
LCR2	La Lucha 2	0.36	55	S		Sb 20 12 30.7	-0.8
LCR2	La Lucha 2	0.36	55	eP		Pb 20 12 24.8	-0.7
LCR2				eS		Sb 20 12 31.2	-0.3
SANTA	Santa Ana	0.41	16	eP		Pb 20 12 25.8	-0.6
SANTA				eS		Sb 20 12 32.7	0.0
AMPA	Desamparados	0.43	33	eP		Pb 20 12 25.7	-0.9
AMPA				eS		Sb 20 12 33.2	0.0
LUJA	Lujan	0.45	30	eP		Pb 20 12 27.3	+0.4
CENT	San Jose	0.45	29	eP		Pb 20 12 26.1	-0.8
MEXI	Barrio Mexico	0.46	28	eP		Pb 20 12 26.4	-0.7
SJS	Escuela Geolog	0.47	31	eP		Pb 20 12 26.5	-0.7
SJS3	Mercedes San J	0.47	31	eP		Pb 20 12 26.6	-0.7
TRIO	Tres Rios	0.48	39	eP		Pb 20 12 26.3	-1.1
TRIO				eS		Sb 20 12 34.4	-0.1
DOMI	Santo Domingo	0.49	25	eP		Pb 20 12 27.0	-0.5
DOMI				eS		Sb 20 12 34.1	-0.7
TAGO	Cartago	0.50	48	eP		Pb 20 12 26.9	-0.8
HDC	Heredia	0.50	22	eP		Pb 20 12 27.0	-0.7
HDC				eS		Sb 20 12 35.3	+0.3
REPA	Paraso	0.52	55	eP		Pb 20 12 27.0	-0.9
REPA				eS		Sb 20 12 35.1	-0.3
CORON	Coronado	0.53	34	eP		Pb 20 12 27.4	-0.7
SARCI	Sarchi	0.56	356	eP		Pb 20 12 28.1	-0.4
RAMO	San Ramon	0.57	344	eP		Pn 20 12 29.2	+0.1
ARZA	Esparza	0.58	322	eP		Pb 20 12 27.9	-1.0
CVIMO	Finca Echandi	0.60	36	eP		Pb 20 12 28.5	-0.9
PCAYA	Pacayas	0.62	52	eP		Pb 20 12 28.6	-1.0
PCAYA				eS		Sb 20 12 37.9	-0.3
VICA	Volcano Irazu	0.64	45	eP		Pb 20 12 29.1	-1.0
VICA				eS		Sb 20 12 38.5	-0.4
RAFA	San Farael, Vo	0.64	49	eP		Pb 20 12 29.2	-0.9
RAFA				eS		Sb 20 12 38.5	-0.5
VINA	Juan Vinas	0.66	57	eP		Pb 20 12 29.1	-1.1
VTLA	Turrialba Volc	0.70	48	eP		Pn 20 12 30.1	-1.0
CVTQ	Turrialba Volc	0.71	48	eP		Pn 20 12 30.2	-0.9
TURIB	Turrialba	0.71	58	eP		Pn 20 12 29.8	-1.2
CVTV	Tajo	0.72	49	eP		Pn 20 12 30.5	-0.8
VTR0	Volcan Turrial	0.72	48	eP		Pn 20 12 30.6	-0.9
CVTR	Volcan Turrial	0.72	48	eP		Pn 20 12 30.5	-0.9
VTCV	VTCV, Calle Va	0.72	52	eP		Pn 20 12 30.2	-1.0
VERB	Verbena	0.73	56	eP		Pn 20 12 30.2	-1.0
OCHAL	Ojochal	0.78	124	P		Pn 20 12 30.9	-1.0
OCHAL	Ojochal	0.78	124	P		Pn 20 12 30.9	-1.0
OCHAL	Ojochal	0.78	124	S		Sn 20 12 42.1	-0.3
CBL1	Cabuya	0.78	274	eP		Pb 20 12 30.9	-1.3
RVSTA	Santa Teresita	0.78	56	eP		Pn 20 12 31.1	-0.9
SOCE	Pocosol	0.90	340	P		Pn 20 12 33.4	-0.2
SOCE	Pocosol	0.90	340	P		Pn 20 12 33.6	0.0
SOCE	Pocosol	0.90	340	S		Sb 20 12 46.5	+0.5
SOCE	Pocosol	0.90	340	eP		Pn 20 12 33.4	-0.2
RVLA	Villa Bonita	0.91	51	eP		Pn 20 12 33.3	-0.3
ITAL	Pital	0.91	2	eP		Pn 20 12 33.2	-0.5
SARA	Sarapiqu	0.96	17	eP		Pn 20 12 34.5	+0.2
IRES	Siquirres	0.97	54	eP		Pn 20 12 34.1	-0.3
JUNT	Juntas	0.99	319	eP		Pn 20 12 34.4	-0.3
JTS	Las Juntas de	0.99	320	eP		Pn 20 12 34.4	-0.4
JTS				eS		Sb 20 12 49.1	+0.7
JTS	Las Juntas de	0.99	320	eP		Pn 20 12 34.2	-0.6
FORC	Fortuna	1.00	339	eP		Pn 20 12 34.8	-0.1
CARI	Cariari	1.00	34	eP		Pn 20 12 30.9	-4.0
VACR	Volcan Arenal	1.00	339	eP		Pn 20 12 35.0	0.0
ARE1	Arenal 1	1.01	336	eP		Pn 20 12 35.2	+0.2
BURE	Buenos Aires	1.02	110	eP		Pn 20 12 34.9	-0.2
CEDE	Laguna Cedeo	1.03	337	eP		Pn 20 12 35.5	+0.2
NYURE	Nandayure	1.04	296	eP		Pb 20 12 36.1	-0.5
DRK0	Durika	1.08	104	eP		Pn 20 12 34.3	-1.8
DRK0	Durika	1.08	104	P		Pn 20 12 34.4	-1.7
DRK0	Durika	1.08	104	P		Pn 20 12 34.5	-1.7
DRK0	Durika	1.08	104	S		Sn 20 12 49.0	-1.1
DRK0	Durika	1.08	104	eP		Pn 20 12 34.3	-1.8
FIMO	Fila Mora	1.08	120	eP		Pn 20 12 36.1	0.0
TAAN	Batan	1.09	60	eP		Pn 20 12 36.0	-0.2
CNAS	Canas	1.18	319	eP		Pb 20 12 37.7	-1.2
COVE	Coope Vega, Sa	1.18	355	P		Pn 20 12 37.4	0.0
COVE	Coope Vega, Sa	1.18	355	P		Pn 20 12 37.5	0.0
COVE	Coope Vega, Sa	1.18	355	S		Sb 20 12 53.7	-0.2
CMARA	Lajas Hojancha	1.21	294	P		Pn 20 12 37.3	-0.6
CMARA	Lajas Hojancha	1.21	294	P		Pn 20 12 37.2	-0.6
CMARA	Lajas Hojancha	1.21	294	S		Sb 20 12 53.5	-1.1
CMARA	Lajas Hojancha	1.21	294	eP		Pn 20 12 36.6	-1.2
EDP2	Potrero Grande	1.23	115	eP		Pb 20 12 38.6	-1.0
INDI	Punta indio, G	1.23	286	P		Pn 20 12 36.8	-1.2
INDI	Punta indio, G	1.23	286	P		Pn 20 12 36.9	-1.2
INDI	Punta indio, G	1.23	286	S		Sb 20 12 54.8	-0.4
NICO	Nicoya	1.28	298	eP		Pn 20 12 38.4	-0.3
PLVR	Palo Verde	1.31	308	eP		Pn 20 12 39.5	+0.2
TENO	El Achiote	1.34	330	eP		Pn 20 12 40.1	+0.5
JIME	Puerto Jimenez	1.38	136	eP		Pb 20 12 41.6	-0.7
CUI	Cuipilapa	1.40	323	eP		Pb 20 12 41.3	-1.4
EDAD	Golfito	1.42	128	eP		Pn 20 12 39.9	-0.9
VERA	Finca Concepci	1.43	337	eP		Pn 20 12 41.2	+0.4
COLC	Colonia	1.43	322	eP		Pb 20 12 41.7	-1.5
HORNC	Hornillas	1.46	324	eP		Pn 20 12 41.8	+0.6
SACU	Santa Cruz	1.46	300	eP		Pn 20 12 41.1	-0.1
PIRO	Carate, Puerto	1.47	139	eP		Pb 20 12 42.7	-1.0
PIRO				eS		Sb 20 13 03.9	+1.7
PIRO	Carate, Puerto	1.47	139	P		Pb 20 12 42.8	-1.0
PIRO	Carate, Puerto	1.47	139	P		Pb 20 12 42.8	-1.0
PIRO	Carate, Puerto	1.47	139	S		Sb 20 13 04.4	+2.2
PIRO	Carate, Puerto	1.47	139	eP		Pb 20 12 42.5	-1.3
LCHIL	Los Chiles	1.55	345	eP		Pn 20 12 42.5	+0.1
GPS2	Hotel Rincn d	1.59	320	eP		Pn 20 12 43.8	+0.6
GPS3	Bodega del ICE	1.60	319	eP		Pn 20 12 45.0	-1.1
ALIBA	Liberia Airpor	1.61	311	eP		Pb 20 12 44.8	-1.5
VRLE	La Escondida,	1.63	320	eP		Pn 20 12 44.3	+0.6
VORI	VORI	1.64	321	eP		Pn 20 12 44.5	+0.6
ELI1	Hacienda Flor	1.66	312	eP		Pb 20 12 44.9	-2.0
CDITO	Canoas	1.70	124	P		Pb 20 12 46.6	-1.2
CDITO	Canoas	1.70	124	P		Pb 20 12 45.9	-1.8
CDITO	Canoas	1.70	124	S		Sb 20 13 12.2	+3.4
BRU2	Volcan	1.75	115	eP		Pn 20 12 45.2	-0.2
BRU2				eS		Sb 20 13 12.5	+2.2
BRU2	Volcan	1.75	115	P		Pn 20 12 45.4	+0.1
BRU2	Volcan	1.75	115	P		Pn 20 12 45.5	+0.1
BRU2	Volcan	1.75	115	S		Sb 20 13 10.0	-0.4
BRU2	Volcan	1.75	115	eP		Pn 20 12 45.1	-0.3
CNI2	El Empalme, Bo	1.81	93	eP		Pn 20 12 45.6	-0.4
BC3P	Paso Ancho	1.82	113	eP		Pn 20 12 46.2	-0.1
PTPM	Petroterminale	1.93	133	eP		Pn 20 12 47.8	+0.1
PTPM				eS		Sb 20 13 15.0	-0.3
PTAR3	Potrerillos Ar	1.97	115	eP		Pn 20 12 48.5	+0.2
LNBQ3	Los Naranjos,	1.98	112	eP		Pn 20 12 48.7	+0.2
LNBQ3				eS		Sb 20 13 14.8	-2.0
LIMO3	Limones	2.01	135	eP		Pb 20 12 51.4	-1.5
LCRUZ	La Cruz	2.02	320	eP		Pb 20 12 50.5	-2.5
CARN	Rivas	2.04	324	P		Pb 20 12 52.1	-1.2
CARN	Rivas	2.04	324	P		Pb 20 12 51.7	-1.7
CARN				S		Sb 20 13 16.9	-1.4
PEDE3	Pedregal, Chir	2.18	121	eP		Pb 20 12 54.2	-1.7
LOMA3	Las Lomas, Chi	2.18	120	eP		Pb 20 12 54.5	-1.3
CHGR2	Aguacate	2.21	105	eP		Pn 20 12 52.5	+0.9
CHGR2				eS		Sn 20 13 19.4	+1.5
GUAL3	Gualaca, Chiri	2.22	116	eP		Pn 20 12 51.7	0.0
JAPN	AI SSO del Vol	2.40	326	P		Pb 20 12 59.7	+0.1
JAPN	AI SSO del Vol	2.40	326	P		Pb 20 12 58.7	-0.8
CONN	Concepcion	2.40	327	P		Pn 20 12 55.3	+1.1
CONN	Concepcion	2.40	327	P		Pn 20 12 55.4	+1.1
BLUN	Bluefields	2.51	12	P		Pn 20 12 56.3	+0.6
ACON	Acoyapa	2.57	341	P		Pn 20 12 57.3	+0.8
ACON	Acoyapa	2.57	341	P		Pn 20 12 57.3	+0.8
ACON	Acoyapa	2.57	341	S		Sn 20 13 27.9	+1.2
ACON	Acoyapa	2.57	341	eP		Pn 20 12 56.9	+0.4
ESPN	Las Esperanzas	2.65	0	P		Pn 20 12 58.0	+0.4
ESPN	Las Esperanzas	2.65	0	P		Pn 20 12 58.1	+0.5
ESPN	Las Esperanzas	2.65	0	S		Sb 20 13 36.2	+0.3
ESPN	Las Esperanzas	2.65	0	eP		Pn 20 12 57.6	0.0
NANN	Nandasmo	2.99	323	P		Pb 20 13 10.1	+0.5
BOAB	BOACO BROADBAN	3.19	335	P		Pn 20 13 05.7	+0.6
BOAB	BOACO BROADBAN	3.19	335	P		Pn 20 13 05.6	+0.6
B

comp=Z,29nm,20.9s,baz=336,slow=34
AKTO Aktyubinsk 57.20 49 LR LR 20 47 51.2
comp=Z,22nm,18.9s,baz=38,slow=36
NEW Newport 58.59 309 LR LR 20 46 28.8
comp=Z,66nm,20.1s,baz=350,slow=33
ANMO Albuquerque 58.70 290 LR LR 20 48 09.2
comp=Z,54nm,20.9s,baz=202,slow=35
TXAR Lajitas Array 59.84 283 P P 20 23 58.8 -0.3
0.7nm,0.9s,baz=65,slow=7.1,SNR=6.6
0.7nm,0.9s
ILAR Eielson Array 62.36 335 P P 20 24 15.6 0.0
0.5nm,1.0s,baz=45,slow=8.6,SNR=3.0
0.5nm,1.0s
YBH Yreka Blue Hor 65.49 305 LR LR 20 51 37.9
comp=Z,60nm,18.5s,baz=336,slow=35
PFO Pinyon Flats O 66.27 294 LR LR 20 51 33.3
comp=Z,66nm,20.4s,baz=38,slow=34
LPIG La Paz 67.71 283 LR LR 20 53 43.1
comp=Z,39nm,19.7s,baz=16,slow=35
KURBB Kurchatov Arra 67.84 41 P P 20 24 50.1 -1.2
1.1nm,1.0s,baz=317,slow=6.5,SNR=5.4
1.1nm,1.0s
AAK Ala-Archa 70.95 49 LR LR 20 56 58.4
comp=Z,39nm,19.2s,baz=320,slow=36
MKAR Makanchi Array 72.26 42 P P 20 25 20.2 +1.5
0.3nm,0.7s,baz=316,slow=6.0,SNR=3.5
0.3nm,0.7s
SEY Seymchan 74.72 359 LR LR 20 57 08.1
comp=Z,127nm,19.4s,baz=146,slow=35

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*JMA **16** 20:16:15.6±0.1,33°N±1°×13°8E±°,h365km,MV3.3/66,*
FAR S OFF TOKAI DISTRICT
*IDC **16** 20:16:22.5±0.8,33°.29N×137°.94E,h300km±11km,mb2.8/9,*
mbtmp3.6/11,Error ellipse: s-maj=31.4km s-min=11.1km
az=75.0
ISC 16 20:16:22.2±0.9,33°.46N±0°.08×138°.44E±0°.08,h350km,n31,
σ3s48/32,mb3.0/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO5	**TONANKAI O.B.S**	**1.00**	**323**	P	**Pn**	**20 17 04.5**	**-3.2**
JHJ	**Hachijo jima 2**	**1.18**	**106**	P	**Pn**	**20 17 05.5**	**-3.2**
	195nm,0.9s,baz=70,slow=9.7,SNR=2.0						
JHJ				S	**S**	**20 17 41.2**	**-4.8**
	144nm,0.9s,baz=78,slow=20,SNR=5.5						
JHMK	**Hamakita**	**1.47**	**338**	*e*P	**Pn**	**20 17 06.9**	**-3.1**
JIE	**Ise**	**1.71**	**303**	P	**Pn**	**20 17 07.6**	**-4.0**
JOD2	**Odawara 2**	**1.88**	**16**	P	**Pn**	**20 17 10.7**	**-2.0**
JNY	**Yasuok**	**1.96**	**346**	P	**Pn**	**20 17 11.0**	**-2.2**
JKN2	**Miekihoku**	**1.96**	**294**	P	**Pn**	**20 17 09.0**	**-4.2**
JYN	**Shimob**	**2.04**	**2**	P	**Pn**	**20 17 11.9**	**-1.9**
BSO3	**Boso 3**	**2.18**	**51**	P	**Pn**	**20 17 11.9**	**-2.5**
BSO3				S	**S**	**20 17 52.1**	**-4.3**
BSO4	**Boso 4**	**2.20**	**45**	P	**Pn**	**20 17 12.6**	**-2.1**
JTNC	**Tanabenakahech**	**2.39**	**280**	P	**Pn**	**20 17 11.7**	**-4.7**
BSO1	**Boso 1**	**2.42**	**60**	P	**Pn**	**20 17 13.8**	**-2.1**
JYTA	**Yamagatataniai**	**2.55**	**327**	P	**Pn**	**20 17 15.1**	**-2.5**
JRY	**Ryogami san**	**2.58**	**8**	P	**Pn**	**20 17 16.8**	**-1.1**
JAG	**Ashikaga**	**3.08**	**15**	P	**Pn**	**20 17 20.1**	**-2.1**
JAG				*e*S	**S**	**20 18 05.3**	**-5.2**
MJAR	**Matsushiro Arr**	**3.08**	**357**	P	**Pn**	**20 17 20.6**	**-1.6**
	14nm,0.5s,baz=174,slow=11,SNR=111						
MJAR				S	**S**	**20 18 07.6**	**-3.0**
	0.7nm,0.3s,baz=137,slow=15,SNR=0.9						
MAT	**Matsushiro**	**3.09**	**357**	P	**Pn**	**20 17 20.9**	**-1.4**
JYT	**Yasato**	**3.12**	**27**	P	**Pn**	**20 17 20.1**	**-2.5**
JYT				*e*S	**S**	**20 18 04.6**	**-6.5**
JAI	**Aioi**	**3.34**	**277**	P	**Pn**	**20 17 20.4**	**-4.2**
JHO	**Hitachi**	**3.60**	**28**	P	**Pn**	**20 17 25.2**	**-1.9**
JHO				*e*S	**S**	**20 18 13.5**	**-6.0**
JFK	**Kawauchi**	**4.38**	**26**	P	**Pn**	**20 17 34.0**	**-1.1**
ASAJ	**Asahikawa**	**11.13**	**16**	P	**P**	**20 18 56.2**	**+2.3**
	1.7nm,0.3s,baz=219,slow=15,SNR=9.8						
MKAR	**Makanchi Array**	**44.06**	**305**	P	**P**	**20 23 58.8**	**+2.2**
	0.2nm,0.7s,baz=96,slow=9.9,SNR=1.8						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**46.37**	**310**	P	**P**	**20 24 17.7**	**+3.3**
	0.3nm,0.5s,baz=89,slow=7.2,SNR=3.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**51.24**	**314**	P	**P**	**20 24 53.8**	**+2.8**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=2.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**53.24**	**185**	P	**P**	**20 25 09.0**	**+3.0**
	0.3nm,0.3s,baz=0.0,slow=7.6,SNR=16						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**53.81**	**31**	P	P	20 25 16.8	+7.3
	0.3nm,0.8s,baz=274,slow=8.0,SNR=2.0						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**56.97**	**185**	P	P	20 25 36.2	+3.9
	0.2nm,0.6s,baz=7.6,slow=14,SNR=5.5						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**70.83**	**332**	P	P	20 27 06.6	+5.3
	0.9nm,0.5s,baz=54,slow=5.2,SNR=15						
	0.9nm,0.5s						
HFS	**Hagfors**	**76.31**	**335**	P	P	20 27 38.6	+5.6
	0.8nm,0.5s,baz=352,slow=9.4,SNR=4.0						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**76.51**	**337**	P	P	20 27 39.4	+5.3
	0.2nm,0.5s,baz=56,slow=5.9,SNR=1.4						
	0.2nm,0.5s						

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*SOME **16** 20:25:46.3,41°.10N×83°.58E,h10km,MS4.0*
*BJI **16** 20:25:47.2,41°.15N×83°.66E,h6km,mb4.1/7,ML4.3/10,*
Ms3.8/9,Ms7 3.5/9
*IDC **16** 20:25:47.1±0.8,41°.31N×83°.70E,h0km,mb3.7/11,*
mbtmp3.8/18,ML3.5/7,MS3.4/17,Error ellipse:
s-maj=17.8km s-min=11.1km az=55.0
*MOS **16** 20:25:47.2±1.4,41°.14N×83°.66E,h11km,mb4.3/6,Error*
ellipse: s-maj=8.5km s-min=5.2km az=133.4
*NEIC **16** 20:25:49.1±2.0,41°.22N±0°.07×83°.66E±0°.10,h10km±1km,*
mb4.0/12,ML4.0(BJI),Error ellipse: s-maj=12.7km
s-min=11.7km az=246.0
*NNC **16** 20:25:50.1±1.4,41°.33N×83°.56E,h0km,mb4.7,mpv4.4,*
Error ellipse: s-maj=10.6km s-min=7.7km az=152.0
ISC 16 20:25:48.0±0.4,41°.17N±0°.03×83°.74E±0°.03,h10km,n159,
σ2s43/176,mb3.9/19,MS3.4/17,15C-3D,Southern
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.39**	**313**	Pg	**Pb**	**20 26 47.8**	**-0.4**
	80nm,0.2s						
KTMS				Lg	Lg	20 27 33.2	
	222nm,0.2s						
KTMS	**Ketmen**	**3.39**	**313**	*e*P	**Pb**	**20 26 47.1**	**-1.1**
	39nm,0.3s						
KTMS				*e*S	**Sb**	**20 27 30.8**	**+1.3**
	257nm,0.4s						
WUS	**Wushi**	**3.41**	**272**	Pn	**Pn**	**20 26 42.8**	**+1.4**
SHLS	**Shalkode**	**3.75**	**303**	Pg	**Pn**	**20 26 49.2**	**+3.2**
	105nm,0.3s						
SHLS				Lg	Lg	20 27 35.6	
	5μm,0.4s						
SHLS	**Shalkode**	**3.75**	**303**	*e*P	**Pn**	**20 26 44.8**	**-1.2**
SHLS	**Shalkode**	**3.75**	**303**	*e*P	**Pn**	**20 26 48.6**	**+2.6**
	38nm,0.2s						
SHLS				*e*S	**Sn**	**20 27 33.5**	**+3.2**
	5μm,0.5s						
PDGK	**Podgornoye**	**3.82**	**306**	⇑Pn	**Pn**	**20 26 47.7**	**+0.7**
	22nm,0.5s						
PDGK				⇑Lg	Lg	20 27 43.8	
	538nm,0.5s						
WMQ	**Urumqi**	**3.95**	**47**	Pn	**Pn**	**20 26 52.8**	**+4.1**
WMQ				Sn	**Sb**	**20 27 44.4**	**-1.1**
WMQ				smax	smax		
	comp=N,410nm,0.7s						
WMQ				smax	smax		
	comp=E,600nm,0.7s						
UZB	**Uzynbulak**	**4.02**	**301**	Pg	**Pb**	**20 26 59.2**	**+0.2**
	46nm,0.4s						
UZB				Lg	Lg	20 27 51.8	
	500nm,0.4s						
UZB	**Uzynbulak**	**4.02**	**301**	*e*P	**Pn**	**20 26 51.3**	**+1.5**
UZB	**Uzynbulak**	**4.02**	**301**	*e*P	**Pb**	**20 26 59.2**	**+0.2**
	46nm,0.4s						
UZB				*e*S	**Sb**	**20 27 51.8**	**+4.0**
	500nm,0.4s						
DJR	**Jarkent**	**4.29**	**319**	Pg	**Pb**	**20 27 04.5**	**+0.9**
	104nm,0.5s						
DJR				Lg	Lg	20 28 01.8	
	110nm,0.4s						
DJR	**Jarkent**	**4.29**	**319**	*e*P	**Pb**	**20 27 04.5**	**+0.9**
	29nm,0.4s						
DJR				*e*S	**Sb**	**20 28 00.4**	**+4.9**
	108nm,0.4s						
SATY	**Saty**	**4.39**	**297**	Pg	**Pb**	**20 27 06.2**	**+0.9**
	43nm,0.3s						
SATY				Lg	Lg	20 28 04.8	
	564nm,0.6s						
ZHN	**Zhinishke**	**4.42**	**299**	Pg	**Pb**	**20 27 06.7**	**+1.0**
	21nm,0.2s						
ZHN				Lg	Lg	20 28 04.3	
	413nm,0.3s						
ZHN	**Zhinishke**	**4.42**	**299**	*e*P	**Pn**	**20 26 56.9**	**+1.7**
ZHN	**Zhinishke**	**4.42**	**299**	*e*P	**Pb**	**20 27 06.7**	**+1.0**
	21nm,0.2s						
ZHN				*e*S	**Sb**	**20 28 04.3**	**+5.2**
	413nm,0.3s						
TARG	**Taragay, Kyrgy**	**4.49**	**279**		**Pn**	**20 26 58.1**	**+1.6**
TARG	**Taragay, Kyrgy**	**4.49**	**279**	P	**Pn**	**20 26 58.1**	**+1.6**
KNOS	**Konyrlen**	**4.63**	**315**	Pg	**Pb**	**20 27 11.3**	**+2.0**
	90nm,0.4s						
KNOS				Lg	Lg	20 28 12.7	
	252nm,0.4s						
KURS	**Kuram**	**4.73**	**301**	Pg	**Pb**	**20 27 12.4**	**+1.3**
	37nm,0.6s						
KURS				Lg	Lg	20 28 14.3	
	138nm,0.8s						
BLB	**Baldybastay**	**4.86**	**309**	Pg	**Pb**	**20 27 13.9**	**+0.6**
	167nm,0.5s						
BLB				Lg	Lg	20 28 18.0	
	276nm,0.4s						
KDJ	**Kajisay**	**5.01**	**283**	Pn	**Pn**	**20 27 05.2**	**+1.8**
KDJ	**Kajisay**	**5.01**	**283**	P	**Pn**	**20 27 05.2**	**+1.8**
KAPS	**Kapalarasan**	**5.21**	**324**	Pg	**Pb**	**20 27 21.0**	**+1.8**
	44nm,0.5s						
KAPS				Lg	Lg	20 28 29.2	
	174nm,0.3s						
ARXS	**Arharly**	**5.31**	**307**	Pg	**Pb**	**20 27 22.7**	**+1.7**
	18nm,0.2s						
ARXS				Lg	Lg	20 28 32.9	
	132nm,0.4s						
ARXS	**Arharly**	**5.31**	**307**	*e*P	**Pn**	**20 27 08.5**	**+1.1**
KOTS	**Kotyrbulak**	**5.33**	**295**	Pg	**Pb**	**20 27 22.7**	**+1.2**
	43nm,0.5s						
KOTS				Lg	Lg	20 28 32.4	
	562nm,0.5s						
KOTS	**Kotyrbulak**	**5.33**	**295**	*e*P	**Pb**	**20 27 22.6**	**+1.2**
	43nm,0.5s						
KOTS				*e*S	**Sb**	**20 28 32.4**	**+6.9**
	562nm,0.5s						
MDOK	**Medeo**	**5.36**	**294**	*e*P	**Pb**	**20 27 21.0**	**-0.7**
	44nm,0.5s						
MDOK				*e*S	**Sb**	**20 28 29.2**	**+3.1**
	174nm,0.3s						
TNSS	**Tian-Shan**	**5.38**	**292**	Pg	**Pb**	**20 27 25.3**	**+2.9**
	18nm,0.2s						
TNSS				Lg	Lg	20 28 36.5	
	99nm,0.3s						
TNSS	**Tian-Shan**	**5.38**	**292**	*e*P	**Pb**	**20 27 25.3**	**+2.9**
	18nm,0.2s						
TNSS				*e*S	**Sg**	**20 28 36.5**	**-4.4**
	99nm,0.3s						
KNDC	**Almaty**	**5.43**	**294**	⇑Pn	**Pn**	**20 27 10.0**	**+1.0**
	31nm,0.5s						
KNDC				⇑Lg	Lg	20 28 42.9	
	769nm,0.8s						
KNDC	**Almaty**	**5.43**	**294**	P	**Pn**	**20 27 10.1**	**+1.0**
AAA	**Alma-Ata**	**5.46**	**294**	Pg	**Pb**	**20 27 27.4**	**+3.8**
	40nm,0.2s						
AAA				Lg	Lg	20 28 40.6	
	13nm,0.3s						
AAA	**Alma-Ata**	**5.46**	**294**	*e*P	**Pn**	**20 27 11.8**	**+2.3**
AAA	**Alma-Ata**	**5.46**	**294**	*e*P	**Pb**	**20 27 27.4**	**+3.8**
	40nm,0.2s						
AAA				*e*S	**Sg**	**20 28 40.6**	**-2.7**
	13nm,0.3s						
CHKK	**Chushkaly**	**5.66**	**300**	Pg	**Pb**	**20 27 28.6**	**+1.7**
	11nm,0.4s						
CHKK				Lg	Lg	20 28 42.9	
	127nm,0.3s						
CHKK	**Chushkaly**	**5.66**	**300**	*e*P	**Pb**	**20 27 29.7**	**+2.8**
	10nm,0.4s						
CHKK				*e*S	**Sg**	**20 28 43.7**	**-6.0**
	120nm,0.3s						
ULHL	**Ulahol**	**5.71**	**283**	P	**Pn**	**20 27 14.5**	**+1.4**
	SNR=18						
MK31	**Makanchi Array**	**5.72**	**350**		**Pn**	**20 27 14.5**	**+1.5**
MK31	**Makanchi Array**	**5.72**	**350**	⇑Pn	**Pn**	**20 27 14.2**	**+1.3**
	2.3nm,0.3s,baz=219,slow=1.4,SNR=210						
MK31				⇑Pg	**Pg**	**20 27 34.1**	**-3.4**
	15nm,0.4s,baz=169,slow=15,SNR=8.3						
MK31				⇑Sn	**Sn**	**20 28 17.8**	**-0.8**
	61nm,0.6s,baz=180,slow=22,SNR=6.2						
MK31				⇑Lg	Lg	20 28 53.7	
	81nm,0.5s,baz=166,slow=28,SNR=4.2						
MK31	**Makanchi Array**	**5.72**	**350**	*i* P	**Pn**	**20 27 13.9**	**+0.9**
MKAR	**Makanchi Array**	**5.72**	**350**	Pn	**Pn**	**20 27 14.1**	**+1.2**
MKAR	**Makanchi Array**	**5.72**	**350**	Pn	**Pn**	**20 27 14.4**	**+1.5**
	4.0nm,0.3s,baz=174,slow=14,SNR=145						
MKAR				Pg	**Pb**	**20 27 27.0**	**-0.8**
	5.7nm,0.3s,baz=168,slow=15,SNR=11						
MKAR				Sn	**Sn**	**20 28 18.1**	**-0.5**
	16nm,0.3s,baz=170,slow=18,SNR=7.8						
MKAR				Lg	Lg	20 28 42.5	
	13nm,0.3s,baz=168,slow=25,SNR=3.8						
	3.9nm,0.3s						
MKAR	**Makanchi Array**	**5.72**	**350**	*i* P	**Pn**	**20 27 14.3**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MTBS	**Maitube**	**5.77**	**292**	Pg	**Pb**	**20 27 31.8**	**+3.0**
	comp=Z,9.7nm,0.4s						
MTBS				Lg	Lg	20 28 48.5	
	comp=Z,134nm,0.4s						
MTBS	**Maitube**	**5.77**	**292**	*e*P	**Pb**	**20 27 31.8**	**+3.0**
	comp=Z,9.7nm,0.4s						
MTBS				*e*S	**Sg**	**20 28 48.5**	**-4.8**
	comp=Z,134nm,0.4s						
MAKZ	**Makanchi**	**5.78**	**348**	Pn	**Pn**	**20 27 15.1**	**+1.3**
MAKZ	**Makanchi**	**5.78**	**348**	⇑Pn	**Pn**	**20 27 14.2**	**+0.4**
	comp=Z,2.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**20 28 19.9**	**-0.2**
	comp=Z,48nm,0.6s						
MAKZ				⇓Lg	Lg	20 28 50.7	
	comp=Z,109nm,0.8s						
MAKZ	**Makanchi**	**5.78**	**348**	P	**Pn**	**20 27 15.1**	**+1.3**
KTBS	**Karatobe**	**5.80**	**298**	Pg	**Pb**	**20 27 31.5**	**+2.2**
	comp=Z,14nm,0.2s						
KTBS				Lg	Lg	20 28 46.9	
	comp=Z,132nm,0.3s						
BOOM	**Boomskoye usch**	**5.97**	**285**	Pn	**Pn**	**20 27 17.3**	**+0.7**
BOOM	**Boomskoye usch**	**5.97**	**285**	P	**Pn**	**20 27 17.3**	**+0.7**
KST	**Kastek**	**6.08**	**290**	Pg	**Pb**	**20 27 36.8**	**+2.7**
	comp=Z,23nm,0.6s						
KST				Lg	Lg	20 28 57.5	
	comp=Z,227nm,1.0s						
KST	**Kastek**	**6.08**	**290**	*e*P	**Pb**	**20 27 37.9**	**+3.9**
	comp=Z,22nm,0.5s						
KST				*e*S	**Sg**	**20 28 57.6**	**-5.5**
	comp=Z,150nm,0.5s						
KUU	**Kurty**	**6.11**	**299**	Pg	**Pb**	**20 27 37.2**	**+2.7**
	comp=Z,25nm,0.8s						
KUU				Lg	Lg	20 28 57.7	
	comp=Z,261nm,0.5s						
KUU	**Kurty**	**6.11**	**299**	*e*P	**Pb**	**20 27 38.3**	**+3.9**
	comp=Z,14nm,0.7s						
KUU				*e*S	**Sg**	**20 28 58.5**	**-5.4**
	comp=Z,261nm,0.5s						
KSH	**Kashi**	**6.16**	**257**	Pn	Pn	20 27 26.8	+7.7
KSH				Sn	**Sb**	**20 28 46.6**	**-2.6**
KSH				LR	LR		
	comp=Z,700nm,12.4s						
KSH				LR	LR		
	comp=Z,490nm,8.3s						
KSH				LR	LR		
	comp=Z,370nm,11.3s						
DGS	**Degeres**	**6.27**	**292**	Pg	**Pb**	**20 27 42.0**	**+4.8**
	comp=Z,14nm,0.5s						
DGS				Lg	Lg	20 29 04.9	
	comp=Z,78nm,0.4s						
TKM2	**Tokmak 2**	**6.31**	**289**	P	**Pn**	**20 27 23.0**	**+1.7**
	SNR=44						
TKM2	**Tokmak 2**	**6.31**	**289**	⇑Pn	**Pn**	**20 27 23.7**	**+2.4**
	comp=Z,11nm,0.4s						
TKM2				⇑Lg	Lg	20 29 01.9	
	comp=Z,85nm,0.8s						
TKM2	**Tokmak 2**	**6.31**	**289**	P	**Pn**	**20 27 23.6**	**+2.4**
ZSN	**Zaisan**	**6.33**	**7**	Pg	**Pg**	**20 27 46.0**	**-3.2**
	comp=Z,24nm,0.3s						
ZSN				Lg	Lg	20 29 11.6	
	comp=Z,259nm,0.8s						
ZSN	**Zaisan**	**6.33**	**7**	*e*P	**Pg**	**20 27 46.0**	**-3.2**
	comp=Z,24nm,0.3s						
ZSN				*e*S	**Sg**	**20 29 11.6**	**+0.5**
	comp=Z,259nm,0.8s						
KRBS	**Karabastau**	**6.48**	**296**	Pg	**Pb**	**20 27 43.9**	**+3.1**
	comp=Z,7.2nm,0.5s						
KRBS				Lg	Lg	20 29 08.5	
	comp=Z,54nm,0.4s						
KBK	**Karagaybulak**	**6.72**	**286**	P	**Pn**	**20 27 28.7**	**+1.7**
	SNR=23						
CHMS	**Chumysh**	**6.93**	**288**	P	**Pn**	**20 27 31.3**	**+1.6**
	SNR=5.3						
FRU1	**Bishkek**	**6.98**	**287**		**Pn**	**20 27 30.8**	**+0.4**
FRU1	**Bishkek**	**6.98**	**287**	P	**Pn**	**20 27 30.8**	**+0.4**
AAK	**Ala-Archa**	**7.05**	**285**		**Pn**	**20 27 32.5**	**+1.1**
AAK	**Ala-Archa**	**7.05**	**285**	Pn	**Pn**	**20 27 33.1**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=123,slow=7.4,SNR=37						
AAK				Sn	**Sn**	**20 28 53.6**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=156,slow=18,SNR=1.6						
AAK				Lg	Lg	20 29 28.6	
	comp=Z,7.3nm,0.3s,baz=18,slow=20,SNR=4.4						
	comp=Z,3.3nm,0.3s						
AAK	**Ala-Archa**	**7.05**	**285**	P	**Pn**	**20 27 32.9**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**7.05**	**285**	Pn	**Pn**	**20 27 31.4**	**0.0**
	comp=Z,2.5nm,0.4s						
AAK				Pg	**Pg**	**20 28 01.5**	**-1.5**
	comp=Z,23nm,0.9s						
AAK				Lg	Lg	20 29 27.6	
	comp=Z,72nm,0.6s						
AAK	**Ala-Archa**	**7.05**	**285**	*i* P	**Pn**	**20 27 32.4**	**+1.0**
SGDS	**Sogindy**	**7.12**	**292**	Pg	**Pb**	**20 27 56.0**	**+4.2**
	comp=Z,6.2nm,0.4s						
SGDS				Lg	Lg	20 29 29.2	
	comp=Z,40nm,0.5s						
USP	**Ospenovka**	**7.17**	**290**	P	**Pn**	**20 27 34.6**	**+1.7**
	SNR=22						
ARSB	**Arslanbob**	**8.11**	**275**	Pn	**Pn**	**20 27 45.9**	**0.0**
ARSB	**Arslanbob**	**8.11**	**275**	P	**Pn**	**20 27 45.9**	**0.0**
DRK	**Karamyk**	**9.27**	**263**		**Pn**	**20 28 03.0**	**+1.0**
DRK	**Karamyk**	**9.27**	**263**	P	**Pn**	**20 28 03.0**	**+1.0**
GOMU	**GeErMu**	**9.98**	**116**	P	**Pn**	**20 28 12.9**	**+1.1**
GOMU				S	**Sn**	**20 30 00.0**	**-4.0**
GOMU				LR	LR		
	comp=Z,340nm,14.5s						
GOMU				LR	LR		
	comp=Z,440nm,15.4s						
GOMU				LR	LR		
	comp=Z,470nm,16.7s						
KK31	**Karatay Array**	**10.01**	**285**	Pn	**Pn**	**20 28 12.2**	**+0.3**
KK31	**Karatay Array**	**10.01**	**285**	⇓Pn	Pn	20 28 20.6	+8.7
	comp=Z,0.4nm,0.5s,baz=91,slow=13,SNR=8.6						
KK31				⇑Pg		20 28 54.1	
	comp=Z,2.6nm,0.6s,baz=88,slow=16,SNR=2.7						
KK31				⇑Lg	Lg	20 31 03.1	
	comp=Z,12nm,0.6s,baz=91,slow=27,SNR=3.9						
KK31	**Karatay Array**	**10.01**	**285**	P	**Pn**	**20 28 12.2**	**+0.3**
KKAR	**Karatay Array**	**10.01**	**285**	Pn	**Pn**	**20 28 11.6**	**-0.3**
KKAR	**Karatay Array**	**10.01**	**285**	P	**Pn**	**20 28 11.6**	**-0.3**
KURBB	**Kurchatov Arra**	**10.12**	**341**	Pn	**Pn**	**20 28 12.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=30						
KURBB				Sn	**Sn**	**20 30 02.4**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=182,slow=18,SNR=1.8						
KURBB				Lg	Lg	20 31 05.1	
	comp=Z,0.4nm,0.3s,baz=164,slow=25,SNR=4.9						
	comp=Z,2.0nm,0.4s						
KURBB	**Kurchatov Arra**	**10.12**	**341**	⇓Pn	**Pn**	**20 28 11.2**	**-2.1**
	comp=Z,3.3nm,0.3s						
KURBB				⇑Lg	Lg	20 31 12.8	
	comp=Z,76nm,0.9s						
KURBB	**Kurchatov Arra**	**10.12**	**341**	P	**Pn**	**20 28 11.2**	**-2.1**
KURK	**Kurchatov**	**10.19**	**341**	Pn	**Pn**	**20 28 13.0**	**-1.2**
KURK	**Kurchatov**	**10.19**	**341**	*i* P	**Pn**	**20 28 13.7**	**-0.5**
TSSA	**Tissa**	**10.29**	**218**	*e*P	**Pn**	**20 28 17.4**	**+1.5**
TSSA				*e*S	**Sn**	**20 30 07.3**	**-4.1**
GAR	**Garm**	**10.51**	**262**	Pn	**Pn**	**20 28 19.6**	**+0.7**
DHRM	**DHARAMSHALA**	**10.71**	**216**	*e*P	**Pn**	**20 28 21.6**	**-0.2**
DHRM				*e*S	**Sn**	**20 30 15.8**	**-6.0**
DHRM				IAML		20 30 29.8	
	comp=E,48nm,0.8s						
DHRM				IAML		20 30 31.6	
	comp=N,38nm,0.9s						
NIL	**Nilore**	**11.21**	**231**	Pn	**Pn**	**20 28 28.2**	**-0.1**
NIL	**Nilore**	**11.21**	**231**	P	**Pn**	**20 28 28.2**	**-0.1**
SMLA	**Simla**	**11.34**	**210**	*e*P	**Pn**	**20 28 29.9**	**-0.1**
SMLA				*e*S	**Sn**	**20 30 32.0**	**-4.8**
SMLA				IAML		20 30 35.3	
	comp=N,18nm,0.5s						
SMLA				IAML		20 30 42.5	
	comp=E,20nm,0.8s						
SIMJ	**Simiganj**	**11.59**	**262**	Pn	**Pn**	**20 28 32.0**	**-1.5**
GTA	**Gaotai**	**12.40**	**93**	*e*P	Pn	20 28 58.1	+13
GTA				pP		20 29 01.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAA0	**Zalesovo Array**	**12.80**	**3**	Pn	**Pn**	**20 28 48.2**	**-1.8**
ZALV	**Zalesovo Beam**	**12.80**	**3**	Pn	**Pn**	**20 28 48.0**	**-2.0**
ZALV	**Zalesovo Beam**	**12.80**	**3**	Pn	**Pn**	**20 28 48.2**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=187,slow=14,SNR=41						
ZALV				Sn	**Sn**	**20 31 04.7**	**-7.7**
	comp=Z,3.0nm,0.3s,baz=182,slow=24,SNR=11						
ZALV				Lg	Lg	20 32 33.5	
	baz=183,slow=26						
	comp=Z,10nm,0.6s						
ZALV	**Zalesovo Beam**	**12.80**	**3**	*i* P	**Pn**	**20 28 48.5**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KBL	**Kabul**	**13.36**	**245**	Pn	**Pn**	**20 28 56.4**	**-1.4**
KBL	**Kabul**	**13.36**	**245**	P	**Pn**	**20 28 56.4**	**-1.4**
BVAR	**Borovoye Array**	**14.91**	**327**	Pn	**Pn**	**20 29 17.4**	**-1.3**
	baz=134,slow=13,SNR=6.1						
BVAR				Lg	Lg	20 33 25.5	
	baz=131,slow=22,SNR=5.0						
BVAR				LR	LR	20 35 22.9	
	comp=Z,207nm

CMAR LR LR 20 43 18.3
comp=Z,32nm,19.2s,baz=315,slow=40
comp=Z,1.2nm,0.7s
MAK Makhachkala 26.83 286 *e*P **P 20 31 24.9 -3.5**
MAK *e*S **S 20 35 59.3 -5.3**
MAK pmax pmax
comp=Z,73nm,1.3s
MAK MLR MLR
comp=Z,84nm,14.0s
KIRV Kirov 27.72 321 LR LR 20 43 37.4
comp=Z,50nm,20.3s,baz=57,slow=39
NRIK Noril'sk 28.30 3 P **P 20 31 42.3 +1.0**
NRIK IAmb IAmb 20 32 13.2
comp=Z,4.3nm,0.9s
NRIK Noril'sk 28.30 3 P **P 20 31 45.1 +3.8**
comp=Z,1.3nm,0.3s,baz=167,slow=1.9,SNR=2.6
NRIK Noril'sk 28.30 3 *i* P **P 20 31 44.7 +3.4**
NRIK pmax pmax
comp=Z,10.0nm,2.5s
KVAR Kislovodsk Arr 30.14 289 LR LR 20 44 40.1
comp=Z,59nm,20.8s,baz=220,slow=38
KIV Kislovodsk 30.14 289 *e*P **P 20 31 58.7 +0.6**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,30nm,15.0s
OBN Obninsk 33.73 311 *e*P **P 20 32 32.3 +3.0**
OBN pmax pmax
comp=Z,3.0nm,0.8s
KLR Kul'dur 34.28 60 LR LR 20 47 45.2
comp=Z,54nm,19.0s,baz=256,slow=38
YAK Yakutsk 34.33 37 P **P 20 32 34.7 +0.3**
YAK Yakutsk 34.33 37 LR LR 20 46 34.5
comp=Z,57nm,20.5s,baz=262,slow=36
YAK Yakutsk 34.33 37 *i* P **P 20 32 38.0 +3.6**
YAK pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 37.73 285 P **P 20 33 03.6 -0.3**
BRTR Keskin Array B 37.73 285 P **P 20 33 04.6 +0.7**
comp=Z,0.8nm,0.9s,baz=68,slow=8.2,SNR=3.2
comp=Z,0.8nm,0.9s
VSU Vasula 39.28 316 *i* P **P 20 33 19.0 +2.4**
VSU pmax pmax
comp=Z,8.0nm,1.1s
FINES FINESS Array B 39.72 321 P **P 20 33 21.0 +0.8**
comp=Z,3.1nm,1.0s,baz=108,slow=6.2,SNR=5.1
FINES LR LR 20 51 03.3
comp=Z,36nm,21.0s,baz=25,slow=38
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 41.09 333 P **P 20 33 30.2 -1.3**
comp=Z,4.1nm,0.9s,baz=77,slow=5.5,SNR=4.5
ARCES LR LR 20 50 40.6
comp=Z,71nm,18.3s,baz=112,slow=36
comp=Z,4.1nm,0.9s
TGY Tagaytay City 42.08 119 LR LR 20 52 50.4
comp=Z,83nm,19.9s,baz=130,slow=38
MA2 Magadan 44.40 42 LR LR 20 53 15.6
comp=Z,32nm,19.9s,baz=78,slow=37
HFS Hagfors 45.84 319 P **P 20 34 10.0 +0.2**
comp=Z,1.1nm,0.7s,baz=98,slow=8.9,SNR=1.5
HFS LR LR 20 54 17.0
comp=Z,53nm,19.7s,baz=92,slow=37
comp=Z,1.1nm,0.7s
NB2 NORSAR Subarra 46.90 321 P **P 20 34 18.4 +0.1**
comp=Z,0.4nm,0.6s,baz=80,slow=7.9
NOA NORSAR Array B 46.90 321 P **P 20 34 18.1 -0.1**
comp=Z,0.6nm,0.7s,baz=81,slow=7.8,SNR=3.6
NOA LR LR 20 55 01.5
comp=Z,48nm,20.6s,baz=80,slow=38
comp=Z,0.6nm,0.7s
GERES GERESS Array B 48.50 304 LR LR 20 57 36.1
comp=Z,34nm,18.4s,baz=335,slow=39
BILL Bilibino 49.87 29 *i* P P 20 34 47.4 +6.4
BILL pmax pmax
comp=Z,1.0nm,1.1s
ESDC Sonseca Array 63.87 301 P **P 20 36 20.1 -0.7**
comp=Z,0.3nm,0.9s,baz=49,slow=2.2,SNR=1.5
comp=Z,0.3nm,0.9s
C27K Jago River 64.18 17 P **P 20 36 23.8 +1.5**
E24K Your Creek 64.27 19 P **P 20 36 24.0 +1.0**
BMAR Burnt Mountain 65.72 18 P **P 20 36 34.6 +2.2**
SFJD Kangerlussuaq 66.70 342 LR LR 21 08 44.0
comp=Z,40nm,18.6s,baz=298,slow=39
ILAR Eielson Array 67.22 21 P **P 20 36 42.1 +0.2**
comp=Z,0.3nm,0.8s,baz=330,slow=6.2,SNR=5.5
comp=Z,0.3nm,0.8s
FRB Frobisher Bay 73.13 348 LR LR 21 13 59.5
comp=Z,49nm,18.4s,baz=89,slow=40
WRA Warramunga Arr 76.80 132 P **P 20 37 40.4 +0.5**
comp=Z,0.6nm,0.8s,baz=329,slow=5.4,SNR=6.4
comp=Z,0.6nm,0.8s
WB2 Warramunga Arr 76.80 132 P **P 20 37 41.3 +1.3**
ASAR Alice Springs 79.54 134 P **P 20 37 56.6 +1.5**
comp=Z,0.4nm,0.7s,baz=312,slow=4.5,SNR=3.1
comp=Z,0.4nm,0.7s

*NOU **16** 20:35:52.4, 18.°47S×177.°94W, h564^{km}, mb4.2/15, Fiji Islands Region*
*NEIC **16** 20:35:53.9±1.7, 18.°5S±0.°1×178.°2W±0.°1, h556^{km}±8^{km}, mb4.3/24, Error ellipse: s-maj=22.1km s-min=16.6km az=136.0*
*IDC **16** 20:35:54.7±1.1, 18.°35S×178.°19W, h574^{km}±10^{km}, mb3.4/17, mbtmp4.3/19, Error ellipse: s-maj=18.6km s-min=12.4km az=129.0*
ISC 16 20:35:52.8±0.5,**18.°43S**±0.°09×**178.°04W**±0.°09,**h557**^{km},
n97,σ0°**99**/98,**mb4.2**/28,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.76**	**285**	P	**P**	**20 37 00.2**	**+0.9**
LKBA	**Tubou, Lakemba**	**0.76**	**285**	S	**S**	**20 37 54.5**	**+1.3**
MSVF	**Nonsavu**	**3.78**	**280**	P	**P**	**20 37 15.0**	**+1.3**
MSVF	**Nonsavu**	**3.78**	**280**	P	**P**	**20 37 14.9**	**+1.2**
	107nm,0.7s,baz=130,slow=8.3,SNR=66						
MSVF				S	**S**	**20 38 23.0**	**+3.4**
	36nm,1.2s,baz=102,slow=18,SNR=11						
MSVF	**Nonsavu**	**3.78**	**280**	P	**P**	**20 37 15.2**	**+1.5**
MSVF	**Nonsavu**	**3.78**	**280**	S	**S**	**20 38 23.0**	**+3.4**
FUTU	**Fugatoga**	**4.10**	**359**	P	**P**	**20 37 15.7**	**-0.3**
YSA	**Yasawairara**	**4.52**	**292**	P	**P**	**20 37 19.6**	**+0.4**
PVC	**Port Vila**	**12.99**	**271**	P	**P**	**20 38 41.3**	**-0.4**
DVP	**Devils Point**	**13.11**	**271**	P	**P**	**20 38 44.4**	**+1.5**
PINNC	**Pines Island,**	**14.21**	**251**	P	**P**	**20 38 53.1**	**-1.1**
YATNC	**Mamie plateau,**	**14.59**	**253**	P	**P**	**20 38 57.5**	**-0.5**
OUENC	**Ouen Island, N**	**14.71**	**252**	P	**P**	**20 38 58.1**	**-1.1**
DZM	**Mont Dzumac**	**15.00**	**253**	P	**P**	**20 39 00.3**	**-2.0**
DZM	**Mont Dzumac**	**15.00**	**253**	P	**P**	**20 39 00.6**	**-1.7**
	11nm,0.5s,baz=80,slow=19,SNR=18						
DZM	**Mont Dzumac**	**15.00**	**253**	P	**P**	**20 39 00.9**	**-1.4**
ONTNC	**Ouen Toro**	**15.04**	**253**	P	**P**	**20 39 02.0**	**-0.5**
KOUNC	**Koumac, New Ca**	**16.80**	**260**	P	**P**	**20 39 19.5**	**+0.1**
OUZ	**Omahuta**	**18.30**	**202**	P	**P**	**20 39 33.7**	**+0.8**
URZ	**Urewera**	**20.21**	**191**	P	**P**	**20 39 49.7**	**-0.5**
	3.0nm,0.6s,baz=83,slow=17,SNR=1.7						
	3.0nm,0.6s						
THZ	**Tophouse**	**24.51**	**196**	P	**P**	**20 40 28.4**	**-0.4**
THZ				IAmb	IAmb	20 40 56.3	
	comp=Z,15nm,1.3s						
MLZ	**Mavora Lakes**	**29.23**	**200**	P	**P**	**20 41 10.6**	**+0.6**
MLZ				IAmb	IAmb	20 41 15.6	
	comp=Z,11nm,1.3s						
EIDS	**Eidsvold**	**29.42**	**251**	P	**P**	**20 41 11.4**	**-0.5**
EIDS				IAmb	IAmb	20 41 12.4	
	comp=Z,7.6nm,0.7s						
ARMA	**Armidale**	**29.98**	**241**	P	**P**	**20 41 17.3**	**+0.4**
CAN	**Canberra**	**33.67**	**233**	P	**P**	**20 41 48.4**	**+0.3**
TOO	**Toolangi**	**37.12**	**232**	P	**P**	**20 42 17.1**	**+0.4**
COEN	**Coen**	**37.46**	**271**	P	**P**	**20 42 19.4**	**-0.3**
COEN				IAmb	IAmb	20 42 20.5	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**38.69**	**242**	P	**P**	**20 42 29.3**	**-0.2**
STKA	**Stephens Creek**	**38.69**	**242**	P	**P**	**20 42 30.0**	**+0.5**
	comp=Z,8.7nm,0.7s,baz=99,slow=8.9,SNR=20						
	comp=Z,8.7nm,0.7s						
BBOO	**Buckleboo**	**43.46**	**242**	P	**P**	**20 43 06.5**	**-0.7**
BBOO				IAmb	IAmb	20 43 28.7	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**44.85**	**260**	P	**P**	**20 43 17.0**	**-1.2**
WB0				IAmb	IAmb	20 43 18.0	
	comp=Z,5.8nm,0.7s						
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**20 43 16.9**	**-1.5**
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**20 43 17.8**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=98,slow=6.7,SNR=174						
WRA				PcP	**PcP**	**20 44 47.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=104,slow=6.6,SNR=2.0						
	comp=Z,3.5nm,0.5s						
AS31	**Alice Springs**	**44.99**	**255**	P	**P**	**20 43 18.5**	**-0.7**
ASAR	**Alice Springs**	**44.99**	**255**	P	**P**	**20 43 18.9**	**-0.4**
ASAR	**Alice Springs**	**44.99**	**255**	P	**P**	**20 43 18.9**	**-0.3**
	comp=Z,22nm,0.6s,baz=88,slow=8.8,SNR=306						
ASAR				PcP	**PcP**	**20 44 48.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=86,slow=4.9,SNR=4.6						
	comp=Z,22nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.29**	**261**	P	**P**	**20 44 19.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.29**	**261**	P	**P**	**20 44 20.7**	**+0.2**
	comp=Z,6.1nm,1.2s,baz=113,slow=4.3,SNR=6.0						
	comp=Z,6.1nm,1.2s						
MBWA	**Marble Bar**	**58.28**	**256**	P	**P**	**20 44 53.4**	**-1.7**
MBWA				IAmb	IAmb	20 45 05.5	
	comp=Z,13nm,1.2s						
MJAR	**Matsushiro Arr**	**68.53**	**323**	P	**P**	**20 45 59.1**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=160,slow=6.0,SNR=14						
	comp=Z,2.9nm,0.6s						
QSPA	**South Pole Qui**	**71.63**	**180**	P	**P**	**20 46 18.9**	**+0.7**
QSPA	**South Pole Qui**	**71.63**	**180**	P	**P**	**20 46 19.4**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=67,slow=7.2,SNR=6.3						
	comp=Z,0.4nm,0.6s						
JKA	**Kamikawa-asahi**	**71.90**	**331**	P	**P**	**20 46 20.8**	**+0.9**
JKA				IAmb	IAmb	20 46 38.3	
	comp=Z,20nm,1.5s						
PETK	**Petropavlovsk-**	**74.27**	**345**	P	**P**	**20 46 32.8**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=110,slow=7.0,SNR=19						
	comp=Z,5.0nm,0.7s						
KSRS	**Korea Array**	**75.32**	**318**	P	**P**	**20 46 40.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=127,slow=5.4,SNR=2.2						
	comp=Z,0.6nm,0.7s						
MDJ	**Mudanjiang**	**78.81**	**325**	P	**P**	**20 46 58.3**	**0.0**
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**20 47 03.6**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=220,slow=9.9,SNR=9.8						
	comp=Z,1.5nm,0.7s						
PINE	**Pine Mountain**	**80.98**	**38**	P	**P**	**20 47 11.1**	**+1.2**
PINE				IAmb	IAmb	20 47 12.2	
	comp=Z,6.6nm,0.9s						
U15A	**North Rim**	**82.61**	**48**	P	**P**	**20 47 20.0**	**+1.5**
CAST	**Castle Rocks**	**84.07**	**11**	P	**P**	**20 47 23.4**	**-1.4**
CAST				IAmb	IAmb	20 47 23.9	
	comp=Z,5.6nm,0.8s						
SEY	**Seymchan**	**84.36**	**347**	P	**P**	**20 47 25.7**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=149,slow=5.5,SNR=30						
	comp=Z,3.6nm,0.5s						
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**20 47 36.8**	**+1.8**
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**20 47 36.9**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=221,slow=6.3,SNR=20						
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**86.31**	**13**	P	**P**	**20 47 34.5**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=222,slow=4.8,SNR=12						
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**87.49**	**43**	P	**P**	**20 47 42.4**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=226,slow=4.0,SNR=9.1						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**20 47 49.6**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=110,slow=3.0,SNR=7.2						
	comp=Z,0.9nm,0.8s						
C23K	**Itkillik River**	**90.15**	**9**	P	**P**	**20 47 53.1**	**-0.2**
C24K	**Franklin Bluff**	**90.34**	**10**	P	**P**	**20 47 54.4**	**+0.2**
C24K				IAmb	IAmb	20 47 55.3	
	comp=Z,4.5nm,0.9s						
F31M	**Tsiigehtchic**	**91.59**	**16**	P	**P**	**20 47 59.6**	**-0.4**
INK	**Inuvik**	**92.29**	**15**	P	**P**	**20 48 02.4**	**-0.8**
INK				IAmb	IAmb	20 48 03.3	
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**94.17**	**319**	P	**P**	**20 48 11.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=147,slow=8.2,SNR=1.7						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**94.66**	**25**	P	**P**	**20 48 13.3**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=253,slow=4.5,SNR=5.7						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**126.89**	**350**	PKP	**PKPdf**	**20 53 52.5**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=26,slow=3.1,SNR=5.4						
FINES	**FINESS Array B**	**133.78**	**344**	PKP	**PKPdf**	**20 54 04.4**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=29,slow=3.2,SNR=2.3						
AKASG	**Malin Array Be**	**141.18**	**332**	PKhKP	PKPpre	20 54 13.9	
	comp=Z,0.5nm,0.4s,baz=44,slow=4.0,SNR=7.7						
EKA	**Eskdalemuir Ar**	**142.96**	**5**	PKhKP	PKPpre	20 54 20.0	
	comp=Z,2.1nm,0.9s,baz=328,slow=3.0,SNR=4.0						
OJC	**Ojcow**	**145.22**	**340**	PKPbc	**PKPbc**	**20 54 28.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**145.22**	**332**		**PKPbc**	**20 54 29.1**	**+0.7**
BURAR	**Bucovina Array**	**145.23**	**332**	PKPbc	**PKPbc**	**20 54 29.1**	**+0.6**
BRTR	**Keskin Array B**	**145.39**	**315**	PKPbc	**PKPdf**	**20 54 28.9**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=58,slow=3.6,SNR=6.1						
OSTC	**Ostas**	**145.99**	**344**	*e*PKP	**PKPbc**	**20 54 30.9**	**+0.4**
CLL	**Collm**	**146.04**	**348**		**PKPbc**	**20 54 30.2**	**-0.3**
STEB	**Steborice**	**146.10**	**342**	*e*PKP	**PKPdf**	**20 54 29.9**	**+1.2**
DPC	**Dobruska-Polom**	**146.14**	**343**	*e*PKP	**PKPbc**	**20 54 30.9**	**-0.1**
MAUC	**Maruska**	**146.59**	**341**	*e*PKP	**PKPbc**	**20 54 32.7**	**+0.5**
MMAI	**Mount Meron Ar**	**146.72**	**302**	PKPbc	**PKPbc**	**20 54 33.0**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=76,slow=8.9,SNR=5.4						
PRU	**Pruhonice**	**146.94**	**345**	*e*PKP	**PKPbc**	**20 54 33.1**	**+0.1**
BORA	**Eskisehir**	**147.43**	**317**	PKPbc	**PKPbc**	**20 54 34.1**	**-0.7**
ZVC	**Zvikov**	**147.53**	**345**	*e*PKP	**PKPbc**	**20 54 35.3**	**+0.7**
KHC	**Kasperske Hory**	**147.97**	**346**	*e*PKP	**PKPbc**	**20 54 35.9**	**+0.1**
CKRC	**Cesky Krumlov**	**148.07**	**344**	*e*PKP	**PKPbc**	**20 54 36.4**	**+0.3**
GERES	**GERESS Array B**	**148.20**	**345**	PKPbc	**PKPbc**	**20 54 35.6**	**-0.9**
GERES	**GERESS Array B**	**148.20**	**345**	PKPbc	**PKPbc**	**20 54 36.6**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=46,slow=3.9,SNR=9.4						
CONA	**Conrad Observa**	**148.46**	**342**	*i* PKP	**PKPbc**	**20 54 37.6**	**+0.5**
	comp=Z,5.7nm,1.1s						
RONA	**Rosalia, Austr**	**148.54**	**341**	*i* PKP	**PKPbc**	**20 54 37.8**	**+0.5**
	comp=Z,4.8nm,1.0s						
LESA	**Schwarzleotal**	**149.78**	**345**	*e*PKP	**PKPbc**	**20 54 40.1**	**-0.2**
	comp=Z,3.6nm,0.8s						
KBA	**Koelnbreinsper**	**149.93**	**344**	*i* PKP	**PKPbc**	**20 54 41.1**	**+0.2**
	comp=Z,2.4nm,0.6s						
WATA	**Walderalm**	**150.11**	**347**	*e*PKP	**PKPbc**	**20 54 41.0**	**-0.2**
	comp=Z,2.7nm,0.6s						
WTTA	**Wattenberg**	**150.16**	**347**	*i* PKP	**PKPbc**	**20 54 41.4**	**0.0**
	comp=Z,6.7nm,0.6s						
SQTA	**Sankt Quirin**	**150.30**	**347**	*i* PKP	**PKPbc**	**20 54 41.6**	**0.0**
	comp=Z,5.1nm,0.7s						
ABTA	**Abfaltersbach**	**150.45**	**345**	*i* PKP	**PKPbc**	**20 54 41.4**	**-0.6**
	comp=Z,5.6nm,0.6s						
DAVA	**Damuels**	**150.49**	**349**	*i* PKP	**PKPbc**	**20 54 41.4**	**-0.7**
	comp=Z,3.2nm,0.6s						
FETA	**Feichten**	**150.59**	**348**	*i* PKP	**PKPbc**	**20 54 42.5**	**+0.2**
	comp=Z,4.6nm,0.9s						
CIMO	**Cimolais**	**150.88**	**345**		**PKPbc**	**20 54 41.8**	**-1.0**
DAVOX	**Davos/Dischmat**	**150.98**	**349**	PKPbc	**PKPbc**	**20 54 43.2**	**0.0**
	comp=Z,6.0nm,0.7s,baz=320,slow=1.3,SNR=13						
FUORN	**Ofenpass-Fuorn**	**151.06**	**348**		**PKPbc**	**20 54 43.3**	**-0.3**
FNA	**Florina**	**152.17**	**327**		**PKPbc**	**20 54 45.2**	**-0.7**

*IDC **16** 20:41:09.7±2.0, 4.°10S×139.°90E, h79^{km}±38^{km}, mb3.6/4, mbtmp4.0/6, Error ellipse: s-maj=87.2km s-min=15.0km az=106.0*
*DJA **16** 20:41:11.7±0.5, 4.°S±3.°×14.°0E±.°, h102^{km}±7^{km}, M4.2/9, mb4.2/3, MLv4.3/9*
ISC 16 20:41:10.2±0.7,**4.°10S**±0.°05×**139.°88E**±0.°05,**h100**^{km},**n28**,
σ2°**28**/36,**mb3.9**/3,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.52**	**11**	P	**Pn**	**20 41 37.7**	**+0.9**
GENI	**Genyem**	**1.52**	**11**	S	**Sn**	**20 41 58.1**	**+1.3**
GENI	**Genyem**	**1.52**	**11**	P	**Pn**	**20 41 37.1**	**+0.3**
GENI				S	**Sn**	**20 41 55.4**	**-1.4**
JAY	**Jayapura**	**1.77**	**28**	P	**Pn**	**20 41 39.6**	**-0.4**
	52nm,0.3s,baz=207,slow=8.3,SNR=149						
JAY				S	**Sn**	**20 42 00.4**	**-2.2**
	62nm,0.3s,baz=156,slow=20,SNR=8.0						
JAY	**Jayapura**	**1.77**	**28**	P	**Pn**	**20 41 39.4**	**-0.6**
JAY				S	**Sn**	**20 42 00.1**	**-2.5**
TABU	**Tabubil**	**1.78**	**131**	P	**Pn**	**20 41 42.9**	**+2.9**
TABU	**Tabubil**	**1.78**	**131**	S	**Sn**	**20 42 04.9**	**+2.2**
SMPI	**Sarmi**	**2.40**	**331**	P	**Pn**	**20 41 48.4**	**+0.4**
SMPI				S	**Sn**	**20 42 15.4**	**-1.5**
SRPI	**Serui, Papua**	**4.25**	**301**	P	**Pn**	**20 42 14.0**	**+1.1**
SRPI				S	**Sn**	**20 43 00.0**	**-1.5**
MMPI	**Merauke**	**4.37**	**173**	P	**Pn**	**20 42 17.8**	**+3.3**
BAKI	**Biak**	**4.75**	**307**	P	**Pn**	**20 42 19.3**	**-0.2**
BAKI				S	**Sn**	**20 43 13.4**	**0.0**
RKPI	**Ransiki, Papua**	**6.25**	**294**	P	**Pn**	**20 42 40.8**	**+0.9**
	0.2nm36nm,1.2s						
FAKI	**Fak Fak**	**7.71**	**278**	P	**Pn**	**20 43 01.9**	**+2.1**
FAKI	**Fak Fak**	**7.71**	**278**	P	**Pn**	**20 43 00.8**	**+1.0**
PMG	**Port Moresby**	**8.95**	**126**	S	**Sn**	**20 44 52.6**	**-3.1**
	34nm,1.1s,baz=291,slow=17,SNR=2.4						
COEN	**Coen**	**10.32**	**162**	P	**Pn**	**20 43 35.7**	**+0.3**
KDU	**Kakadu**	**11.25**	**220**	P	**Pn**	**20 43 47.3**	**-0.6**
DRS	**Darwin Rock St**	**12.14**	**226**	P	**Pn**	**20 44 00.7**	**+0.8**
MTN	**Manton Dam**	**12.26**	**224**	P	**Pn**	**20 44 00.5**	**-0.9**
MTSU	**Mount Surprise**	**14.61**	**163**	P	**P**	**20 44 35.0**	**-0.8**
QIS	**Mount Isa**	**16.37**	**181**	P	**Pn**	**20 44 55.4**	**+1.3**
WRA	**Warramunga Arr**	**16.65**	**198**	P	**Pn**	**20 44 57.1**	**-0.5**
	4.1nm,0.5s,baz=22,slow=12,SNR=26						
WRA				S	Sn	20 47 52.6	-10
	0.7nm,0.4s,baz=15,slow=22,SNR=1.8						
FITZ	**Fitzroy Crossi**	**19.70**	**224**	P	**P**	**20 45 32.4**	**+0.6**
	1.7nm,0.7s,baz=38,slow=9.8,SNR=8.9						
FITZ				S	**S**	**20 49 00.6**	**-7.9**
	10nm,0.8s,baz=47,slow=19,SNR=12						
AS01	**Alice Springs**	**20.28**	**196**	P	**P**	**20 45 39.8**	**+1.7**
ASAR	**Alice Springs**	**20.30**	**196**	P	**P**	**20 45 39.9**	**+1.6**
	3.3nm,0.8s,baz=26,slow=9.6,SNR=20						
ASAR				S	**S**	**20 49 15.6**	**-4.9**
	1.8nm,0.8s,baz=88,slow=16,SNR=13						
	3.3nm,0.8s						
MKAR	**Makanchi Array**	**71.59**	**322**	P	**P**	**20 52 23.0**	**+2.2**
	1.1nm,0.6s,baz=114,slow=7.8,SNR=23						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**75.53**	**325**	P	**P**	**20 52 45.4**	**+1.7**
	0.8nm,0.9s,baz=121,slow=4.9,SNR=5.0						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**81.11**	**325**	P	**P**	**20 53 16.4**	**+1.9**
	1.1nm,0.6s,baz=121,slow=6.8,SNR=5.5						
	1.1nm,0.6s						

*IDC **16** 20:47:01.0±0.8, 52.°15N×171.°24E, h0^{km}, mb3.8/17, mbtmp3.8/19, ML3.4/2, MS3.1/1, Error ellipse: s-maj=21.7km s-min=14.2km az=171.0*
*NEIC **16** 20:47:01.9±1.4, 52.°0N±0.°1×171.°30E±0.°09, h10^{km}±1^{km}, mb4.3/48, Error ellipse: s-maj=19.4km s-min=9.3km az=179.0*
*MOS **16** 20:47:03.2±0.8, 52.°18N×171.°12E, h28^{km}, mb4.4/6, Error ellipse: s-maj=10.9km s-min=5.5km az=40.2*
*KRSC **16** 20:47:07.1±2.2, 52.°25N×170.°35E, h29^{km}±52^{km}, Ml4.3*
ISC 16 20:47:05.7±0.6,**52.°20N**±0.°09×**171.°09E**±0.°05,**h35**^{km},**n400**,
σ1°**64**/412,**mb4.2**/38,**Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.92**	**73**	Pn	**Pn**	**20 47 33.5**	**-2.3**
	236nm,0.3s,baz=154,slow=3.3,SNR=143						
SHEM				Sn	**Sn**	**20 47 55.2**	**-3.4**
	103nm,0.3s,baz=311,slow=23,SNR=46						
BKI	**Bering**	**4.28**	**317**	P	**Pn**	**20 48 07.5**	**-0.7**
BKI				S	**Sn**	**20 48 54.7**	**-2.1**
BKI	**Bering**	**4.28**	**317**	*e*P	**Pn**	**20 48 07.5**	**-0.7**
BKI				*e*S	**Sn**	**20 48 54.8**	**-2.1**
MKZ	**Mys Kozlova**	**6.08**	**297**	P	**Pn**	**20 48 32.8**	**-0.1**
MKZ				S	**Sn**	**20 49 37.6**	**-3.5**
MKZ	**Mys Kozlova**	**6.08**	**297**	*e*P	**Pn**	**20 48 32.8**	**-0.1**
MKZ				*e*S	**Sn**	**20 49 37.7**	**-3.5**
KBTR	**Krutoberegovo**	**6.30**	**313**	*e*S	**Sn**	**20 49 44.6**	**-1.9**
KBG	**Krutoberegovo**	**6.38**	**313**	*e*S	**Sn**	**20 49 46.8**	**-1.6**
SPN	**Mys Shipunski**	**6.79**	**282**	P	**Pn**	**20 48 43.1**	**+0.3**
SPN	**Mys Shipunski**	**6.79**	**282**	*e*P	**Pn**	**20 48 43.1**	**+0.3**
TUMD	**Tumrok D**	**7.02**	**300**	P	**Pn**	**20 48 46.4**	**+0.5**
TUMD				S	**Sn**	**20 50 02.8**	**-1.7**
TUMD	**Tumrok D**	**7.02**	**300**	*e*P	**Pn**	**20 48 46.5**	**+0.5**
TUMD				*e*S	**Sn**	**20 50 02.8**	**-1.7**
ZLN	**Zelenaya**	**7.15**	**306**	P	**Pn**	**20 48 49.9**	**+2.1**
ZLN	**Zelenaya**	**7.15**	**306**	*e*P	**Pn**	**20 48 50.0**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**7.17**	**306**	P	**Pn**	**20 48 49.3**	**+1.3**
BZGR				S	**Sn**	**20 50 07.2**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**7.17**	**306**	*e*P	**Pn**	**20 48 49.3**	**+1.3**
BZGR				*e*S	**Sn**	**20 50 07.3**	**-1.0**
KII	**Karymskiy**	**7.24**	**289**	P	**Pn**	**20 48 49.4**	**+0.4**
KII	**Karymskiy**	**7.24**	**289**	*e*P	**Pn**	**20 48 49.5**	**+0.4**
KMNR	**Kamenistaya**	**7.32**	**303**	P	**Pn**	**20 48 50.6**	**+0.5**
KMNR				S	**Sn**	**20 50 10.3**	**-1.7**
KMNR	**Kamenistaya**	**7.32**	**303**	*e*P	**Pn**	**20 48 50.6**	**+0.5**
KMNR				*e*S	**Sn**	**20 50 10.3**	**-1.7**
KIRR	**Kirishev**	**7.35**	**305**	P	**Pn**	**20 48 53.3**	**+2.7**
KIRR	**Kirishev**	**7.35**	**305**	*e*P	**Pn**	**20 48 53.3**	**+2.7**
KRSR	**Krestovskiy**	**7.37**	**307**	P	**Pn**	**20 48 51.6**	**+0.9**
KRSR	**Krestovskiy**	**7.37**	**307**	*e*P	**Pn**	**20 48 51.6**	**+0.9**
KLY	**Klyuchi**	**7.37**	**308**	P	**Pn**	**20 48 51.2**	**+0.6**
KLY			

M13K				IAmb	IAmb	20 50 54.0	
	comp=Z,43nm,1.4s						
M13K	Dall Lake	16.30	50	P	Pn	20 50 48.4	-3.2
	baz=250						
L14K	Kuka Creek	16.93	47	P	Pn	20 50 56.1	-3.3
	baz=248						
N14K	Kuskokwak Cree	16.95	52	P	Pn	20 50 56.9	-3.0
	baz=254						
O14K	Tigyukauivet M	17.00	55	P	Pn	20 50 58.6	-1.8
	baz=257						
SDPT	Sand Point	17.05	68	P	Pn	20 50 59.3	-1.7
	baz=271						
M14K	Bethel	17.06	49	P	Pn	20 51 00.2	-0.9
	baz=251						
TNA	Tin City	17.10	30	Pn	P	20 51 01.5	-1.5
TNA	Tin City	17.10	30	P	P	20 51 01.6	-1.5
	baz=228						
J14K	Nanvaranak Lak	17.12	42	P	Pn	20 51 01.4	-0.5
	baz=243						
ANM	Nome	17.34	35	P	Pn	20 51 03.9	-0.7
	baz=235						
F14K	Arctic Creek	17.56	32	P	P	20 51 07.1	-1.0
	baz=231						
S14K	Fog Glacier	17.57	65	P	Pn	20 51 05.7	-1.9
	baz=268						
CHNA	Chernabura Isl	17.57	70	P	Pn	20 51 05.4	-2.2
	baz=273						
L15K	Ungalak Mounta	17.58	47	P	Pn	20 51 06.8	-0.8
	baz=249						
M15K	Kasigluk River	17.64	50	P	Pn	20 51 06.5	-1.9
	baz=253						
O15K	Ungalikthiuk R	17.71	55	P	Pn	20 51 07.4	-1.9
	baz=259						
K15K	Wolf Creek Mou	17.78	45	P	P	20 51 11.4	+0.8
K15K	Wolf Creek Mou	17.78	45	P	Pn	20 51 07.7	-2.4
	baz=247						
N15K	Kwethluk River	17.79	52	P	Pn	20 51 08.3	-2.0
	baz=256						
G15K	Niukluk	18.05	35	P	Pn	20 51 12.5	-0.9
	baz=236						
F15K	North Star Dit	18.25	33	P	Pn	20 51 16.4	+0.5
F15K	North Star Dit	18.25	33	P	Pn	20 51 15.3	-0.6
	baz=233						
N16K	Nishlik Lake	18.50	52	P	P	20 51 16.2	-2.4
	baz=256						
H16K	Elim	18.52	37	P	Pn	20 51 18.0	-1.1
	baz=240						
M16K	Timber Creek	18.54	50	P	P	20 51 16.9	-2.2
	baz=254						
J16K	Anvik River	18.56	42	P	P	20 51 18.1	-1.1
	baz=246,SNR=9.0						
P16K	Nushagak River	18.62	56	P	P	20 51 18.3	-1.6
	baz=261						
O16K	Kokwok River B	18.66	55	P	P	20 51 17.4	-2.9
	baz=260						
I17K	Unalakleet	18.78	41	P	P	20 51 20.2	-1.3
	baz=244						
L17K	Donlin	19.16	47	P	P	20 51 24.6	-1.1
	baz=252						
O17K	Koliganek Bris	19.19	54	P	P	20 51 24.3	-1.7
	baz=260						
J17K	VABM Dome	19.24	43	P	Pn	20 51 28.2	+0.4
J17K				IAmb	IAmb	20 51 36.8	
	comp=Z,20nm,1.4s						
J17K	VABM Dome	19.24	43	P	P	20 51 24.9	-1.7
	baz=248						
Q16K	King Salmon	19.27	58	P	P	20 51 24.9	-2.1
	baz=264						
N17K	Nushagak Hills	19.28	52	P	P	20 51 26.4	-0.7
	baz=258						
K17K	Iditarod	19.34	45	P	P	20 51 26.7	-1.0
	baz=251						
M17K	Holitna River	19.35	49	P	P	20 51 27.2	-0.7
	baz=255						
P17K	Kvichak River	19.44	56	P	Pn	20 51 28.3	-1.9
	baz=263						
G17K	Kiwalik Mounta	19.54	36	P	P	20 51 29.3	-0.5
	baz=240,SNR=9.2						
H17K	Granite Mounta	19.55	38	P	Pn	20 51 30.4	-1.0
H17K	Granite Mounta	19.55	38	P	P	20 51 29.3	-0.6
	baz=243						
C16K	Lisburne Hills	19.69	26	P	Pn	20 51 32.3	-0.8
C16K	Lisburne Hills	19.69	26	P	Pn	20 51 32.1	-1.0
	baz=226						
CHIR	Chirikof Islan	19.78	66	P	P	20 51 31.3	-1.3
	baz=273						
F17K	Baldwin Pennin	19.81	33	P	P	20 51 32.1	-0.8
	baz=237						
L18K	Granite Mounta	19.91	47	P	P	20 51 32.6	-1.3
	baz=254						
ACHA	Angle Creek He	19.93	59	P	P	20 51 32.7	-1.6
ACHA				IAmb	IAmb	20 51 40.9	
	comp=Z,18nm,1.3s						
N18K	Kilae Creek	19.93	52	P	P	20 51 32.9	-1.3
	baz=259						
D17K	Noatak River	19.96	29	P	P	20 51 34.3	-0.1
	baz=231						
E17K	Hotham Inlet	19.98	31	P	P	20 51 34.1	-0.5
	baz=235						
P18K	Big Mountain,	20.08	56	P	P	20 51 35.1	-0.8
	baz=263						
Q18K	Katmai Hardscr	20.13	58	P	P	20 51 34.6	-1.8
	baz=266						
M18K	Stony River	20.13	50	P	P	20 51 35.1	-1.2
	baz=257						
O18K	Koktuh Hills	20.14	54	P	P	20 51 36.0	-0.5
	baz=262						
H18K	Honhosa River	20.23	38	P	Pn	20 51 37.6	-1.9
H18K	Honhosa River	20.23	38	P	P	20 51 37.3	-0.1
	baz=244						
RDOG	Red Dog Mine	20.23	28	P	Pn	20 51 38.1	-1.4
RDOG	Red Dog Mine	20.23	28	P	P	20 51 36.6	-0.8
	baz=231,SNR=7.2						
J18K	Innoko River	20.26	44	P	P	20 51 37.3	-0.5
	baz=251						
R18K	Karluk	20.38	61	P	P	20 51 37.6	-1.4
	baz=269						
C17K	DeLong Mountai	20.42	27	P	P	20 51 38.9	-0.6
	baz=230,SNR=14						
F18K	Selawik	20.44	34	P	P	20 51 39.0	-0.6
	baz=239,SNR=8.1						
G18K	Tagagawik	20.45	36	P	Pn	20 51 40.5	-1.6
	baz=242,SNR=9.5						
SII	Sitkinak Islan	20.55	64	P	P	20 51 37.6	-3.3
SII	Sitkinak Islan	20.55	64	P	P	20 51 38.2	-2.7
	baz=272						
E18K	Tukpahlearik C	20.57	31	P	P	20 51 40.1	-0.9
	baz=236						
N19K	Bonanza Creek	20.64	52	P	P	20 51 41.0	-0.9
	baz=260						
GCSA	Galena City Sc	20.64	40	P	P	20 51 41.0	-0.8
	baz=247,SNR=5.7						
L19K	White Mountain	20.73	48	P	P	20 51 41.5	-1.4
	baz=256						
Q19K	Cape Douglas,	20.85	57	P	P	20 51 42.7	-1.6
	baz=266						
M19K	Big River Lodg	20.88	49	P	P	20 51 43.4	-1.1
	baz=258						
J19K	Poorman	20.89	43	P	P	20 51 44.7	+0.1
J19K	Poorman	20.89	43	P	P	20 51 43.1	-1.5
	baz=251						
OHAK	Old Harbor	21.01	62	P	P	20 51 43.6	-2.3
OHAK	Old Harbor	21.01	62	P	P	20 51 44.2	-1.7
	baz=271						
C18K	Utukok River	21.10	28	P	P	20 51 47.3	+0.4
C18K				IAmb	IAmb	20 51 51.1	
	comp=Z,7.0nm,0.7s						
C18K	Utukok River	21.10	28	P	P	20 51 46.1	-0.7
	baz=232						
P19K	Oil Pt	21.12	55	P	P	20 51 45.6	-1.5
	baz=265						
H19K	Roundabout Mou	21.12	38	P	P	20 51 46.3	-0.6
	baz=246						
F19K	Shaleruckik Mo	21.21	34	P	P	20 51 47.3	-0.7
	baz=241						
L20K	Farewell, AK	21.24	47	P	P	20 51 47.0	-1.4
	baz=257						
K20K	Telida	21.37	45	P	P	20 51 49.6	-0.1
K20K	Telida	21.37	45	P	P	20 51 48.4	-1.3
	baz=254						
B18K	Kokolik River	21.38	26	P	P	20 51 50.4	+0.7
	baz=230						
KDAK	Kodiak Island	21.38	60	P	P	20 51 47.4	-2.5
KDAK	Kodiak Island	21.38	60	P	P	20 51 49.0	-0.9
	comp=Z,11nm,0.8s,baz=4.8,slow=12,SNR=7.8						
	comp=Z,11nm,0.8s						
KDAK	Kodiak Island	21.38	60	P	P	20 51 49.0	-0.9
KDAK	Kodiak Island	21.38	60	P	P	20 51 47.9	-2.0
	baz=270						
O20K	Slope Mountain	21.46	54	P	P	20 51 49.6	-1.1
	baz=264						
M20K	Styx River	21.46	49	P	P	20 51 49.7	-1.1
	baz=259						
Q20K	Shuyak Island	21.49	58	P	P	20 51 50.0	-1.0
	baz=268						
J20K	Nowinta River	21.57	43	P	P	20 51 51.7	-0.1
J20K				IAmb	IAmb	20 51 55.3	
	comp=Z,15nm,0.7s						
J20K	Nowinta River	21.57	43	P	P	20 51 50.6	-1.2
	baz=252,SNR=9.2						
I20K	Naaghedeneel	21.62	41	P	P	20 51 50.4	-2.0
	baz=250						
E19K	Redstone River	21.70	33	P	P	20 51 52.5	-0.7
	baz=240						
H20K	Anotleneega Mo	21.71	39	P	P	20 51 51.7	-1.6
	baz=248,SNR=7.1						
SPCR	Spurr Chakacha	21.79	51	P	P	20 51 52.9	-1.4
	baz=262						
HOM	Homer	21.92	55	P	P	20 51 54.5	-1.1
	baz=266						
D19K	Kuna River	21.94	30	P	P	20 51 55.9	+0.1
D19K	Kuna River	21.94	30	P	P	20 51 55.4	-0.4
	baz=237						
F20K	Avaraart Lake	22.02	35	P	P	20 51 56.1	-0.5
F20K	Avaraart Lake	22.02	35	P	P	20 51 55.4	-1.2
	baz=244						
PPLA	Purkeypile	22.09	47	P	P	20 51 57.2	-0.4
	baz=258						
A19K	Wainwright	22.12	25	P	P	20 51 56.5	-1.1
	baz=229						
SKT	Skwentna	22.23	49	P	P	20 51 58.5	-0.4
	baz=261						
CAST	Castle Rocks	22.25	45	P	P	20 51 57.3	-1.9
	baz=256						
CAPN	Captain Cook N	22.25	53	P	P	20 51 57.8	-1.4
	baz=264						
CHUM	Lake Minchumin	22.26	44	P	P	20 51 58.7	-0.5
	baz=255						
BRSE	Bradley Lake S	22.38	55	P	P	20 51 60.0	-0.6
	baz=267						
E20K	Nigu River	22.43	32	P	P	20 51 59.7	-1.5
	baz=240						
SUA	Susitna One	22.52	51	P	P	20 52 01.7	-0.6
	baz=263						
D20K	Etivluk River	22.53	31	P	P	20 52 01.6	-0.5
	baz=239						
H21K	Melozitna Rive	22.57	40	P	P	20 52 03.0	+0.4
H21K				IAmb	IAmb	20 52 04.7	
	comp=Z,11nm,0.8s						
H21K	Melozitna Rive	22.57	40	P	P	20 52 01.8	-0.8
	baz=250,SNR=10						
G21K	Allakaket	22.61	37	P	P	20 52 02.1	-0.9
	baz=248						
I21K	Tanana	22.75	41	P	P	20 52 03.3	-1.2
	baz=252						
M22K	Willow	22.86	50	P	P	20 52 04.6	-0.9
	baz=263						
CUT	Chulitna	22.88	48	P	P	20 52 04.2	-1.6
	baz=261						
BPAW	Bear Paw Mtn.	22.88	44	P	P	20 52 04.4	-1.5
	baz=256						
F21K	Alatna River	22.89	35	P	P	20 52 05.6	-0.3
F21K	Alatna River	22.89	35	P	P	20 52 04.8	-1.2
	baz=246						
O22K	Cooper Landing	22.93	53	P	P	20 52 04.0	-2.3
	baz=266						
RC01	Rabbit Creek A	22.97	52	P	P	20 52 04.7	-2.1
	baz=265						
SEW	Seward	23.05	54	P	P	20 52 05.4	-2.1
	baz=267						
TRF	Thorofare Moun	23.05	46	P	P	20 52 05.7	-2.0
	baz=258						
B20K	Meade River	23.06	28	P	P	20 52 07.4	-0.2
B20K				IAmb	IAmb	20 52 10.2	
	comp=Z,10nm,1.1s						
B20K	Meade River	23.06	28	P	P	20 52 07.1	-0.4
	baz=235						
H22K	Ishtalitna Cre	23.21	39	P	P	20 52 08.7	-0.5
	baz=252						
PMR	Palmer	23.31	51	P	P	20 52 08.1	-2.0
	baz=264						
C21K	Knifeblade Rid	23.32	30	P	P	20 52 09.8	-0.4
	baz=240,SNR=5.4						
F22K	John River	23.47	35	P	P	20 52 11.2	-0.5
	baz=247						
B21K	Ikpikpuk River	23.61	30	P	P	20 52 12.7	-0.2
B21K				IAmb	IAmb	20 52 15.0	
	comp=Z,11nm,1.1s						
B21K	Ikpikpuk River	23.61	30	P	P	20 52 12.7	-0.2
	baz=240						
KNK	Knik Glacier	23.61	51	P	P	20 52 12.6	-0.5
	baz=265						
PWL	Port Wells	23.64	53	P	P	20 52 13.0	-0.3
	baz=266						
MCK	McKinley	23.70	45	P	P	20 52 13.0	-0.8
	baz=259						
SML	Sawmill	23.71	50	P	P	20 52 12.7	-1.4
	baz=264						
NEA2	Nenana	23.81	43	P	P	20 52 13.8	-1.1
	baz=257						
I23K	Minto, Yukon-K	23.81	42	P	P	20 52 14.9	0.0
I23K				IAmb	IAmb	20 52 15.8	
	comp=Z,7.8nm,0.6s						
I23K	Minto, Yukon-K	23.81	42	P	P	20 52 13.7	-1.2
	baz=256,SNR=7.3						
E22K	Anaktuvuk Pass	23.84	34	P	P	20 52 15.2	0.0
E22K				IAmb	IAmb	20 52 16.9	
	comp=Z,4.4nm,0.6s						
E22K	Anaktuvuk Pass	23.84	34	P	P	20 52 14.5	-0.7
	baz=246,SNR=8.0						
D22K	Ayikyak River	23.86	32	P	P	20 52 15.7	+0.3
D22K				IAmb	IAmb	20 52 17.7	
	comp=Z,7.2nm,0.9s						
D22K	Ayikyak River	23.86	32	P	P	20 52 15.0	-0.5
	baz=244						
H23K	Yukon River	23.91	40	P	P	20 52 14.8	-1.1
	baz=254						
A21K	Barrow	23.97	25	P	P	20 52 14.6	-1.8
	baz=234						
G23K	Bananza Creek	23.98	38	P	P	20 52 15.9	-0.7
	baz=252,SNR=7.4						
M23K	Glacier View	23.99	50	P	P	20 52 15.5	-1.2
	baz=265						
P23K	Montague Islan	24.07	55	P	P	20 52 15.5	-1.9
	baz=269						
COLD	Coldfoot	24.08	37	P	P	20 52 17.5	+0.1
	baz=250						
SCM	Sheep Creek Mo	24.18	50	P	P	20 52 17.2	-1.3
	baz=265						
A22K	Sinclair Lake	24.23	26	P	P	20 52 19.1	+0.4
	baz=236						
B22K	Teshekpuk Lake	24.32	28	P	P	20 52 19.7	+0.1
	baz=240						
COLA	College	24.38	43	P	P	20 52 19.5	-0.6
	baz=258						
D23K	Nanushuk River	24.56	33	P	P	20 52 21.1	-0.7
	baz=246						
H24K	Noodor Dome	24.58	41	P	P	20 52 21.2	-0.8
	baz=256						
E23K	Chandalar	24.58	35	P	P	20 52 21.4	-0.7
	baz=249,SNR=7.0						
POKR	Poker Plat Res	24.60	42	P	P	20 52 22.2	0.0
POKR				IAmb	IAmb	20 52 23.2	
	comp=Z,8.0nm,0.8s						
POKR	Poker Plat Res	24.60	42	P	P	20 52 21.4	-0.8
	baz=258,SNR=5.2						
Q23K	Middleton Isla	24.61	56	P	P	20 52 20.1	-2.2
	baz=271						
HDA	Harding Lake	24.67	44	P	P	20 52 21.1	-1.8
	baz=260						
M24K	Tolsona, Glenn	24.75	50	P	P	20 52 22.5	-1.1
	baz=266						
IL31		24.76	43	P	P	20 52 22.8	-0.8
IL31				IAmb	IAmb	20 52 24.7	
	comp=Z,9.0nm,0.8s						
ILAR	Eielson Array	24.76	43	P	P	20 52 22.9	-0.8
	comp=Z,6.2nm,0.7s,baz=248,slow=7.6,SNR=143						
ILAR				LR	LR	21 01 12.2	
	comp=Z,43nm,19.6s,baz=294,slow=34						
	comp=Z,6.2nm,0.7s						
TOLK	Toolik Lake Re	24.80	34	P	P	20 52 24.2	+0.2
TOLK	Toolik Lake Re	24.80	34	P	P	20 52 23.3	-0.8
	baz=248,SNR=10.0						
KLU	Klutina	24.83	51	P	P	20 52 24.2	-0.3
	baz=267						
EYAK	Cordova Ski Ar	24.90	53	P	P	20 52 23.1	-1.8
	baz=270						
C23K	Itkillik River	24.94	31	P	P	20 52 23.9	-1.3
	baz=244,SNR=20						
G24K	Hadweenzic Riv	24.95	39	P	P	20 52 24.5	-0.9
	baz=254						
E24K	Your Creek	24.98	35	P	P	20 52 24.9	-0.8
	baz=250						
F24K	Squaw Lake	25.03	37	P	P	20 52 25.0	-1.0
	baz=252						
K24K	Donnelly Dome	25.09	46	P	P	20 52 25.8	-0.9
	baz=262						
HARP	HAARP	25.24	49	P	P	20 52 25.7	-2.4
	baz=266						
D24K	Happy Valley	25.25	33	P	P	20 52 27.1	-0.9
	baz=248						
J25K	Salcha River,	25.38	44	P	P	20 52 27.3	-2.0
	baz=261,SNR=7.1						
BMRM	Bremner River	25.46	52	P	P	20 52 29.8	-0.2
BMRM	Bremner River	25.46	52	P	P	20 52 27.8	-2.3
	baz=270						
PRP	Porcupine Dome	25.46	42	P	P	20 52 28.5	-1.6
	baz=259						
N25K	Chitina, Valde	25.47	51	P	P	20 52 27.5	-2.7
	baz=268						
H25L	Birch Creek	25.49	40	P	P	20 52 29.9	-0.3
	baz=257						
RIDG	Independent Ri	25.50	46	P	P	20 52 29.9	-0.5
	baz=264,SNR=5.7						
G25K	Bearman Lake	25.50	39	P	P	20 52 29.9	-0.3
	baz=256						
C24K	Franklin Bluff	25.50	32	P	P	20 52 30.5	+0.2
C24K	Franklin Bluff	25.50	32	P	P	20 52 30.7	+0.5
	baz=247						
F25K	Christian Rive	25.88	37	P	P	20 52 34.3	+0.5
F25K				IAmb	IAmb	20 52 35.5	
	comp=Z,5.4nm,0.8s						
F25K	Christian Rive	25.88	37	P	P	20 52 33.6	-0.2
	baz=255,SNR=6.3						
SCRK	Sand Creek	25.90	45	P	P	20 52 34.2	+0.1
	baz=264,SNR=7.5						
E25K	Arctic Village	26.04	36	P	P	20 52 36.1	+0.8
E25K				IAmb	IAmb	20 52 38.5	
	comp=Z,8.0nm,0.9s						
E25K	Arctic Village	26.04	36	P	P	20 52 35.3	0.0
	baz=254,SNR=8.0						
L26K	Log Cabin Wild	26.11	48	P	P	20 52 35.2	-0.7
	baz=266						
D25K	Kavik River	26.12	33	P	P	20 52 35.5	-0.4
	baz=251,SNR=19						
J26L	Joseph Creek	26.14	44	P	P	20 52 35.5	-0.7
	baz=263,SNR=12						
BMAR	Burnt Mountain	26.23	38	P	P	20 52 37.7	+0.8
M26K	Nabesna, AK	26.25	49	P	P	20 52 36.3	-0.9
	baz=268						
I26K	Coal Creek Min	26.41	43	P	P	20 52 38.0	-0.6
	baz=262						
G26K	Porcupine Rive	26.43	39	P	P	20 52 38.7	0.0
	baz=258,SNR=9.1						
F26K	Sheenjek River	26.45	37	P	P	20 52 38.8	-0.2
	baz=256						
K27K	Chicken	26.74	46	P	P	20 52 41.0	-0.6
	baz=266						
M27K	Edge Creek, AK	26.77	49	P	P	20 52 40.3	-1.7
	baz=269						
MESA	MESA	26.80	54	P	P	20 52 41.0	-1.3
	baz=273						
C26K	Camden Bay	26.80	32	P	P	20 52 43.3	+1.3
	baz=251						
L27K	Beaver Creek,	26.80	48	P	P	20 52 42.2	0.0
	baz=268						
BCAR	Beaver Creek A	26.82	48	P	P	20 52 42.3	0.0
TIXI	Tiksi	26.88	332	P	P	20 52 43.7	+1.0
TIXI	Tiksi	26.88	332	P	P	20 52 43.7	+1.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
I27K	Kandik River	27.09	42	P	P	20 52 43.8	-0.9
	baz=263						
C27K	Jago River	27.11	33	P	P	20 52 45.2	+0.3
	baz=253						
H27K	Steamboat Moun	27.20	41	P	P	20 52 45.8	+0.1
	baz=262						
G27K	Doyon Strip	27.23	39	P	P	20 52 45.9	-0.1
	baz=261						
BVCY	Beaver Creek	27.24	49	P	P	20 52 45.2	-0.9
	baz=270						
YUK3	Moose Creek	27.44	51	P	P	20 52 47.3	-0.9
	baz=272						
E27K	Coleen River	27.50	37	P	P	20 52 48.0	-0.4
	baz=258,SNR=5.6						
O28M	Mount Upton	27.63	53	P	P	20 52 50.2	+0.3
	baz=274						
PINM	Pinnacle	27.65	54	P	P	20 52 47.6	-2.2
	baz=275						
I28M	Miner Creek	27.77	43	P	P	20 52 49.8	-1.0
	baz=265,SNR=6.5						
YUK8	Steele Glacier	27.80	52	P	P	20 52 49.5	-1.9
	baz=273						
DAWY	Dawson	27.93	46	P	P	20 52 51.5	-0.7
DAWY				IAmb	IAmb	20 52 53.3	
	comp=Z,6.5nm,0.8s						
DAWY	Dawson	27.93	46	P	P	20 52 52.0	-0.2
	baz=268						
D27M	Malcolm River	27.95	34	P	P	20 52 52.4	0.0
	baz=257						
PNL	Peninsula	28.13	55	P	P	20 52 51.8	-2.2
	baz=276						
E28M	Babbage River	28.33	36	P	P	20 52 54.8	-0.9
	baz=260						
YUK4	Talbot Arm	28.33	51	P	P	20 52 55.0	-1.1
	baz=274						
M29M	Somme Creek	28.36	49	P	P	20 52 54.7	-1.4
	baz=272						
I29M	Ogilvie Camp,	28.44	43	P	P	20 52 55.1	-1.7
	baz=267						
J29N	Klondike Camp	28.45	45	P	P	20 52 53.6	-3.3
	baz=268						
O29M	Mount Kennedy	28.46	54	P	P	20 52 55.4	-1.8
	baz=276						
H29M	Whitestone	28.47	41	P	P	20 52 53.8	-3.2
	baz=265						
L29M	L29M	28.49	48	P	P	20 52 55.0	-2.2
	baz=271						
YUK6	Outpost Mounta	28.50	52	P	P	20 52 55.4	-2.2
	baz=275						
G29M	Pine Creek	28.67	40	P	P	20 52 56.9	-1.9
	baz=264						
D28M	Stokes Point	28.75	35	P	P	20 52 58.2	-1.2
	baz=259						
K29M	Barlow Dome	28.75	46	P	P	20 52 57.4	-2.3
	baz=270,SNR=7.8						
E29M	Blow River	28.89	37	P	P	20 53 00.3	-0.4
	baz=262						
HYT	Haines Junctio	28.93	52	P	P	20 53 01.2	-0.1
HYT	Haines Junctio	28.93	52	P	P	20 52 59.2	-2.1
	baz=276						
N30M	Aishikik Lake	29.07	51	P	P	20 53 00.3	-2.2
	baz=275						
M30M	Minto, Yukon	29.12	49	P	P	20 52 59.7	-3.2
	baz=273						
I30M	Mount Dempster	29.25	43	P	P	20 53 02.0	-2.0
	baz=269						
J30M	Hart River	29.26	45	P	P	20 53 02.2	-2.0
	baz=270						
P30M	Million Dollar	29.29	54	P	P	20 53 01.9	-2.5
	baz=277						
G30M	tAoh Zraii Nji	29.38	40	P	P	20 53 02.9	-2.2
	baz=266						
F30M	Barrier River	29.60	38	P	P	20 53 06.0	-1.0
	baz=265						
O30N	Mendenhall	29.63	52	P	P	20 53 04.7	-2.6
	baz=277						
PLBC	Pleasant Camp	29.68	55	P	P	20 53 05.4	-2.4
	baz=279						
N31M	Braeburn, Yuko	29.69	51	P	P	20 53 04.0	-3.9
	baz=276						
S31K	Pelican	30.03	58	P	P	20 53 07.2	-3.6
	baz=282						
H31M	Peel River	30.10	42	P	P	20 53 10.5	-1.0
	baz=270						
SKAG	Skagway	30.20	55	P	P	20 53 09.7	-2.6
	baz=280						
WHY	Whitehorse	30.23	52	P	P	20 53 11.0	-1.8
	baz=278						
M31M	Drury Creek, Y	30.27	49	P	P	20 53 10.2	-2.8
	baz=276						
F31M	Tsiigehtchic	30.37	39	P	P	20 53 11.3	-2.4
	baz=267						
INK	Inuvik	30.50	37	P	P	20 53 15.2	+0.3

INK IAmb IAmb 20 53 16.3
comp=Z,3.7nm,0.8s
INK Inuvik 30.50 37 P **P 20 53 15.2 +0.3**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 30.50 37 P **P 20 53 14.1 -0.8**
baz=266,SNR=5.1
SIT Sitka 30.71 59 P **P 20 53 13.9 -3.0**
baz=284
FARO Faro, Yukon 30.75 49 P **P 20 53 14.5 -2.8**
baz=277
R32K Eaglecrest 30.85 57 P **P 20 53 14.5 -3.7**
baz=282
P32M Atlin 30.99 54 P **P 20 53 17.6 -1.8**
baz=281
S32K Killisnoo 31.01 58 P **P 20 53 16.4 -3.0**
baz=284
N32M Quiet Lake 31.03 51 P **P 20 53 17.1 -2.7**
baz=279
P33M Teslin, Yukon 31.32 53 P **P 20 53 20.9 -1.4**
baz=280
MMPY Sheldon Lake, 31.66 48 P **P 20 53 24.6 -0.8**
baz=278
Q32M Nakina River 31.85 55 P **P 20 53 25.8 -1.3**
baz=283
T33K Petersburg 32.03 59 P **P 20 53 26.6 -1.9**
baz=286
U33K Whale Pass 32.14 61 P **P 20 53 26.8 -2.6**
baz=287
CRAG Craig 32.33 62 P **P 20 53 29.8 -1.3**
baz=288
R33M Jennings River 32.40 54 P **P 20 53 30.0 -1.9**
baz=283
WRAK Wrangell Islan 32.47 60 P **P 20 53 30.8 -1.5**
baz=287
H11N2 WAKE ISLAND Hy 32.57 187 T T 21 27 26.3
baz=5.1
H11N3 WAKE ISLAND Hy 32.58 187 T T 21 27 27.2
baz=5.1
H11N1 WAKE ISLAND Hy 32.59 187 T T 21 27 28.4
baz=5.1
S34M Telegraph Cree 32.69 57 P **P 20 53 32.0 -2.2**
baz=285
DLBC Dease Lake 33.11 56 P **P 20 53 35.4 -2.7**
baz=285
V35K Ketchikan 33.19 61 P **P 20 53 37.1 -1.6**
baz=289
TGTN Hyland Airport 33.24 50 P **P 20 53 38.1 -1.1**
baz=282
WTLY Watson Lake, Y 33.30 52 P **P 20 53 38.5 -1.2**
baz=283
T35M Bob Quinn 33.41 58 P **P 20 53 41.8 +1.2**
T35M Bob Quinn 33.41 58 P **P 20 53 39.5 -1.1**
baz=287
A36M Sachs Harbour 33.49 30 P **P 20 53 41.6 +0.5**
A36M IAmb IAmb 20 53 43.3
comp=Z,5.3nm,0.8s
A36M Sachs Harbour 33.49 30 P **P 20 53 40.9 -0.2**
baz=268,SNR=5.8
H11S1 WAKE ISLAND Hy 33.80 188 T T 21 28 57.7
baz=1.1
H11S3 WAKE ISLAND Hy 33.81 188 T T 21 29 01.2
baz=1.1
H11S2 WAKE ISLAND Hy 33.81 187 T T 21 29 03.2
baz=1.1
U35K Hyder 33.86 60 P **P 20 53 43.7 -0.7**
baz=289
C36M Paulatuk 33.93 35 P **P 20 53 45.5 +0.5**
baz=273,SNR=10
WRGLY Wrigley 35.06 46 P **P 20 53 53.2 -1.6**
baz=283
TOAD Toad River Com 35.40 54 P **P 20 53 58.0 +0.2**
baz=288
KOTAN Kotaneelee Air 35.59 51 P **P 20 53 58.3 -1.1**
baz=286
YKA Yellowknife Ar 39.16 45 P **P 20 54 30.3 +0.7**
comp=Z,1.4nm,0.6s,baz=292,slow=8.4,SNR=18
comp=Z,1.4nm,0.6s
SONM Songino Array 40.56 291 P **P 20 54 44.0 +2.4**
comp=E,0.3nm,0.5s,baz=60,slow=8.4,SNR=4.0
comp=E,0.3nm,0.5s
SPB1 Spitsbergen Ar 48.97 353 P **P 20 55 48.8 +0.8**
SPITS Spitsbergen Ar 48.97 353 P **P 20 55 49.0 +1.0**
comp=E,1.5nm,0.4s,baz=55,slow=7.6,SNR=16
comp=E,1.5nm,0.4s
SPITS Spitsbergen Ar 48.97 353 P **P 20 55 49.0 +1.0**
BOZ Bozeman (W) 48.98 65 P **P 20 55 48.6 0.0**
BOZ IAmb IAmb 20 55 49.8
comp=Z,2.1nm,0.8s
BOZ Bozeman (W) 48.98 65 P **P 20 55 48.6 0.0**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
NVAR Mina Array Bea 49.58 77 P **P 20 55 53.7 +0.3**
comp=Z,0.3nm,0.5s,baz=308,slow=6.5,SNR=2.1
comp=Z,0.3nm,0.5s
FCC Fort Churchill 49.78 43 P **P 20 55 54.7 +0.4**
FCC IAmb IAmb 20 55 55.5
comp=Z,3.6nm,0.8s
FCC Fort Churchill 49.78 43 P **P 20 55 54.7 +0.4**
FCC pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 51.91 67 P **P 20 56 09.3 -1.6**
PDAR Pinedale Array 51.91 67 P **P 20 56 11.8 +0.9**
comp=Z,0.8nm,0.7s,baz=305,slow=3.2,SNR=7.7
comp=Z,0.8nm,0.7s
KURK Kurchatov 53.73 308 P **P 20 56 24.6 +0.7**
KURK IAmb IAmb 20 56 37.0
comp=Z,2.2nm,1.0s
KURK Kurchatov 53.73 308 P **P 20 56 24.6 +0.7**
KURK pmax pmax
comp=Z,2.0nm,1.0s
SUMG Summit 53.83 11 P **P 20 56 25.3 +0.5**
SUMG IAmb IAmb 20 56 44.3
comp=Z,8.2nm,1.5s
SUMG Summit 53.83 11 P **P 20 56 25.3 +0.5**
SUMG pmax pmax
comp=Z,8.0nm,1.5s
KURBB Kurchatov Arra 53.84 308 P **P 20 56 25.5 +0.8**
comp=Z,0.5nm,0.6s,baz=53,slow=7.3,SNR=5.7
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 54.44 302 P **P 20 56 29.6 +0.4**
MKAR Makanchi Array 54.44 302 P **P 20 56 29.9 +0.7**
comp=Z,0.1nm,0.3s,baz=55,slow=8.6,SNR=2.2
comp=Z,0.1nm,0.3s
EYMN Ely 57.99 52 P **P 20 56 55.1 +0.6**
KKAR Karatay Array 63.01 306 P **P 20 57 29.5 +0.7**
KKAR Karatay Array 63.01 306 P **P 20 57 29.5 +0.7**
SCHQ Schefferville 63.02 33 P **P 20 57 29.1 +0.5**
comp=Z,4.7nm,0.8s,baz=317,slow=5.9,SNR=6.7
comp=Z,4.7nm,0.8s
AKTO Aktyubinsk 63.15 319 P **P 20 57 30.6 +1.1**
comp=Z,0.7nm,0.5s,baz=90,slow=1.9,SNR=2.5
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 63.26 317 P **P 20 57 31.3 +1.0**
ABKAR Akbulak array 63.26 317 P **P 20 57 31.0 +0.7**
ABKAR IAmb IAmb 20 57 37.5
comp=Z,2.7nm,1.4s
FINES FINESS Array B 63.33 342 P **P 20 57 31.3 +0.8**
comp=Z,1.3nm,0.9s,baz=72,slow=8.9,SNR=1.4
comp=Z,1.3nm,0.9s
NOA NORSAR Array B 65.97 349 P **P 20 57 48.5 +0.6**
comp=Z,1.0nm,0.9s,baz=14,slow=6.6,SNR=2.0
comp=Z,1.0nm,0.9s
HFS Hagfors 66.55 348 P **P 20 57 51.2 -0.3**
comp=Z,2.4nm,0.8s,baz=35,slow=5.3,SNR=2.4
comp=Z,2.4nm,0.8s
WRA Warramunga Arr 78.66 215 P **P 20 59 04.3 +0.4**
comp=Z,0.4nm,0.9s,baz=37,slow=24,SNR=6.9
comp=Z,0.4nm,0.9s
BRTR Keskin Array B 81.25 328 P **P 20 59 19.9 +1.9**
comp=Z,0.5nm,0.7s,baz=8.5,slow=2.9,SNR=1.8
comp=Z,0.5nm,0.7s
ASAR Alice Springs 82.24 214 P **P 20 59 23.9 +0.7**
comp=Z,0.2nm,0.6s,baz=27,slow=5.8,SNR=8.0
comp=Z,0.2nm,0.6s

*IDC **16** 20:53:07.7±1.6, 1°.05N×127°.07E, h0km, mb3.2/5, mbtmp3.2/5, Error ellipse: s-maj=177.9km s-min=21.6km az=68.0*
*DJA **16** 20:53:12.9±0.7, 2°.N±5°×12°.8E±°, h30km±10km, M3.6/8, MLv3.6/8*
ISC 16 20:53:14.2±1.0, 1°.5N±0°.1×128°.43E±0°.07, h61km, n8, σ1§14/10, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**236**	P	**Pn**	**20 53 35.3**	**-0.8**
TNTI				S	**Sn**	**20 53 52.9**	**+0.5**
SWI	**Sorong**	**3.68**	**130**	P	**Pn**	**20 54 08.5**	**-0.2**
SWI				S	**Sn**	**20 54 51.0**	**+0.1**
SANI	**Sanana**	**4.29**	**215**	P	**Pn**	**20 54 17.5**	**+0.5**
WRA	**Warramunga Arr**	**22.09**	**165**	P	**P**	**20 58 04.8**	**+0.3**
	0.3nm,0.8s,baz=346,slow=12,SNR=5.2						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**25.58**	**168**	P	**P**	**20 58 36.9**	**-0.9**
	0.3nm,0.8s,baz=339,slow=8.0,SNR=4.3						
	0.3nm,0.8s						
SONM	**Songino Array**	**49.94**	**341**	P	**P**	**21 02 04.0**	**+1.9**
	0.2nm,0.5s,baz=151,slow=6.6,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**60.34**	**325**	P	**P**	**21 03 16.1**	**-0.8**
	0.3nm,0.4s,baz=118,slow=8.4,SNR=8.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.52**	**327**	P	**P**	**21 03 43.0**	**-1.7**
	0.2nm,0.5s,baz=133,slow=5.6,SNR=2.0						
	0.2nm,0.5s						

*NEIC **16** 20:55:49.9±2.0, 29°.027N±0°.010×97°.89W±0°.01, h5km±2km, Error ellipse: s-maj=1.5km s-min=1.3km az=147.0*
NEIC 16 20:55:49.4±1.9, 29°.00N±0°.01×97°.87W±0°.01, h7km±2km, mb_Lg2.8/40, ML2.9/6, ML2.5/13, Error ellipse: s-maj=1.8km s-min=1.4km az=211.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
735A	**Kenedy**	**0.16**	**160**	Pg	Pg	20 55 53.0	+0.4
735A				Sg	Sg	20 55 55.7	+0.9
735A				IAML		20 55 57.9	
	3μm,0.7s						
EF04	**Eagle Ford 04**	**0.22**	**19**		Pg	20 55 53.6	-0.1
EF04					Sg	20 55 57.9	+1.2
EF01	**Eagle Ford 01**	**0.47**	**286**		Pg	20 55 58.1	-0.3
EF01					Sg	20 56 05.0	+0.5
MLDN	**Muldoon**	**1.04**	**42**	Pg	Pg	20 56 09.4	0.0
MLDN				IAmb_Lg		20 56 24.5	
	comp=Z,72nm,0.8s						
MLDN				IAML		20 56 27.0	
	comp=Z,350nm,0.7s						
MLDN				IAML		20 56 27.0	
	comp=Z,231nm,0.7s						
HNDO	**Hondo**	**1.34**	**293**	Pg	Pn	20 56 13.2	-1.3
833A	**Chaparral WMA,**	**1.50**	**244**	Pg	Pn	20 56 14.7	-2.0
435B	**Jarrell**	**1.79**	**8**		Pn	20 56 19.4	-1.3
HKT	**Hockley**	**2.01**	**62**	Pn	Pn	20 56 22.6	-1.0
HBVL	**Hebbronville**	**2.06**	**200**	Pn	Pn	20 56 24.0	-0.3
JCT	**Junction City**	**2.23**	**312**		Pn	20 56 26.1	-0.7
JCT				IAmb_Lg		20 57 02.5	
	comp=Z,54nm,0.8s						
DRIO	**Del Rio**	**2.44**	**281**	Pn	Pn	20 56 29.3	-0.3
BRDY	**Brady**	**2.48**	**337**	Pn	Pn	20 56 29.6	-0.5
BRDY				IAmb_Lg		20 57 13.4	
	comp=Z,39nm,1.0s						
WHTX	**Lake Whitney,**	**3.00**	**7**	Pn	Pn	20 56 38.2	+0.9
WHTX				IAmb_Lg		20 57 25.5	
	comp=Z,25nm,1.1s						
OZNA	**Ozona**	**3.41**	**305**	Pn	Pn	20 56 43.5	+0.5
FW14	**Alvarado**	**3.44**	**10**	IAmb_Lg		20 57 43.5	
	comp=Z,32nm,1.1s						
FW07	**Weatherford**	**3.69**	**1**		Pn	20 56 48.5	+1.7
FW07				IAmb_Lg		20 57 50.2	
	comp=Z,35nm,1.2s						
PLPT	**Palo Pinto**	**3.82**	**354**	Pn	Pn	20 56 50.1	+1.6
SAND	**Sanderson**	**3.83**	**285**		Pn	20 56 47.4	-1.4
SGCY	**Sterling City**	**4.04**	**317**		Pn	20 56 51.8	+0.1
Z35A	**Perchaven, San**	**4.35**	**7**		Pn	20 56 58.0	+2.2
Z35A				IAmb_Lg		20 58 18.6	
	comp=Z,23nm,1.1s						
SN05	**Snyder 5**	**4.65**	**327**	IAmb_Lg		20 58 19.9	
	comp=Z,25nm,0.8s						
APMT	**Aspermont**	**4.72**	**336**	Pn	Pn	20 57 01.1	+0.1
APMT				IAmb_Lg		20 58 29.5	
	comp=Z,16nm,0.8s						
WTFS	**Witchita Falls**	**4.78**	**354**	Pn	Pn	20 57 01.3	-0.4
SN07	**Snyder 07**	**4.83**	**328**		Pn	20 57 02.6	+0.1
MNHN	**Monahans**	**4.83**	**300**	IAmb_Lg		20 58 35.1	
	comp=Z,27nm,0.8s						
ODSA	**Odessa**	**5.09**	**309**	IAmb_Lg		20 58 42.5	
	comp=Z,17nm,1.2s						
POST	**Post**	**5.11**	**323**	IAmb_Lg		20 58 42.3	
	comp=Z,22nm,0.9s						
ALPN	**Alpine**	**5.20**	**287**	IAmb_Lg		20 58 38.3	
	comp=Z,19nm,1.1s						
DKNS	**Dickens**	**5.33**	**331**	IAmb_Lg		20 58 41.0	
	comp=Z,24nm,0.8s						
PECS	**Pecos**	**5.70**	**296**	IAmb_Lg		20 58 57.2	
	comp=Z,16nm,0.8s						
WMOK	**Wichita Mounta**	**5.77**	**353**	IAmb_Lg		20 59 04.5	
	comp=Z,13nm,0.8s						
SMWD	**Samnorwood**	**6.41**	**342**	IAmb_Lg		20 59 24.2	
	comp=Z,16nm,0.8s						
T35A	**Sooner Cattle**	**7.97**	**8**	IAmb_Lg		21 00 13.1	
	comp=Z,8.7nm,1.2s						

*IDC **16** 21:07:20.1±1.1, 35°.67N×140°.86E, h0km, mb3.5/7, mbtmp3.5/11, ML3.3/4, MS2.7/4, Error ellipse: s-maj=26.1km s-min=16.6km az=75.0*
*JMA **16** 21:07:22.5±0.2, 35°.7N±0°.4×140°.9E±1°.0, h13km±1km, MD4.1/35, MV4.2/35, NEAR CHOSHI CITY*
JMA Felt III J1 at NEAR CHOSHI CITY .
*NIED **16** 21:07:22.5, 35°.74N×140°.91E, h13km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.68; $M_{\theta\theta}$=0.48; $M_{\phi\phi}$=4.16; $M_{r\theta}$=0.88; $M_{\phi\theta}$=0.80; $M_{\phi r}$=2.73; Fault plane solution: M_0=4.91000×10^{14} NP1: ϕ_s=183.00000°, δ=28.00000°, λ=-101.00000°. NP2: ϕ_s=15.00000°, δ=63.00000°, λ=-84.00000°.*
ISC 16 21:07:23.3±0.9, 35°.75N±0°.04×140°.85E±0°.09, h22km±4km, n32, σ1§03/25, mb3.5/7, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.34**	**309**	*i* P	**Pb**	**21 07 30.9**	**+0.2**
JIHU				S	**Sb**	**21 07 36.8**	**+1.1**
JIHU	**Itakohorinouch**	**0.34**	**309**	A	A	21 07 30.9	
	comp=N,47nm,0.4s,comp=E,49nm,0.4s						
JSMT	**Sammumatsuo**	**0.35**	**252**	*i* P	**Pb**	**21 07 30.8**	**0.0**
JHYU	**Hitachinakayam**	**0.62**	**340**	⇓*i* P	**Pb**	**21 07 35.4**	**-0.3**
JHYU				⇓S	**Sb**	**21 07 44.2**	**+0.2**
JHYU	**Hitachinakayam**	**0.62**	**340**	A	A	21 07 35.4	
	comp=N,18nm,0.3s,comp=E,14nm,0.5s						
JYT	**Yasato**	**0.71**	**312**	*i* P	**Pb**	**21 07 36.5**	**-0.6**
JYT				S	**Sb**	**21 07 46.2**	**-0.3**
JYT	**Yasato**	**0.71**	**312**	A	A	21 07 36.5	
	comp=N,13nm,0.4s,comp=E,25nm,0.3s						
BSO4	**Boso 4**	**0.87**	**209**	P	**Pb**	**21 07 39.4**	**-0.3**
JHO	**Hitachi**	**0.89**	**345**	⇓*i* P	**Pb**	**21 07 38.9**	**-1.2**
JHO				⇓S	**Sb**	**21 07 51.0**	**-0.5**
JHO	**Hitachi**	**0.89**	**345**	A	A	21 07 38.9	
	comp=N,4.0nm,0.4s,comp=E,3.0nm,0.3s						
BSO3	**Boso 3**	**0.99**	**197**	⇓P	**Pb**	**21 07 41.0**	**-0.6**
MJAR	**Matsushiro Arr**	**2.28**	**291**	Pn	**Pn**	**21 07 59.2**	**-0.5**
	comp=E,1.4nm,0.3s,baz=95,slow=8.4,SNR=131						
MJAR				Sn	**Sb**	**21 08 29.1**	**-2.4**
	comp=E,2.4nm,0.3s,baz=112,slow=13,SNR=2.0						
MJAR				LR	LR	21 08 37.0	
	comp=E,35nm,19.1s,baz=5.0,slow=33						
	comp=E,7.0nm,0.3s						
JHJ	**Hachijo jima 2**	**2.77**	**199**	Pn	**Pn**	**21 08 06.5**	**0.0**
	comp=E,24nm,0.3s,baz=310,slow=22,SNR=6.1						
JHJ				Sn	**Sn**	**21 08 38.5**	**-0.7**
	comp=E,19nm,0.3s,baz=289,slow=17,SNR=2.1						
	comp=E,88nm,0.7s						
ASAJ	**Asahikawa**	**8.46**	**9**	Pn	**Pn**	**21 09 23.8**	**-0.7**
	comp=E,1.0nm,0.3s,baz=212,slow=8.8,SNR=12						
ASAJ				Sn	**Sn**	**21 10 58.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=1.5						
	comp=E,2.8nm,0.4s						
KSRS	**Korea Array**	**10.53**	**283**	Pn	**Pn**	**21 09 53.2**	**+0.3**
	comp=E,0.1nm,0.3s,baz=96,slow=14,SNR=1.9						
KSRS				LR	LR	21 13 50.7	
	comp=E,29nm,18.4s,baz=105,slow=37						
	comp=E,0.8nm,0.8s						
JOW	**Kunigami**	**13.94**	**234**	LR	LR	21 15 43.5	
	comp=E,31nm,20.3s,baz=326,slow=36						
H11N2	**WAKE ISLAND Hy 27.91**	**118**		T	T	21 42 13.4	
	baz=311,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy 27.92**	**118**		T	T	21 42 17.4	
	baz=311,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy 27.93**	**118**		T	T	21 42 16.1	
	baz=311,slow=75,SNR=52						
SONM	**Songino Array**	**28.15**	**306**	P	**P**	**21 13 16.0**	**+2.0**
	comp=E,0.5nm,0.7s,baz=109,slow=9.5,SNR=2.6						
	comp=E,0.5nm,0.7s						
H11S1	**WAKE ISLAND Hy 28.58**	**120**		T	T	21 42 59.0	
	baz=312,slow=76,SNR=123						
H11S3	**WAKE ISLAND Hy 28.58**	**120**		T	T	21 42 57.0	
	baz=312,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy 28.59**	**120**		T	T	21 42 59.9	
	baz=312,slow=76,SNR=70						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**21 15 17.3**	**+0.9**
	comp=E,0.4nm,0.4s,baz=93,slow=12,SNR=3.8						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**21 15 31.5**	**-1.0**
	comp=E,0.4nm,0.6s,baz=87,slow=8.7,SNR=8.3						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.44**	**309**	P	**P**	**21 15 48.9**	**+0.6**
	comp=E,1.1nm,0.6s,baz=84,slow=7.6,SNR=9.0						
	comp=E,1.1nm,0.6s						
ILAR	**Eielson Array**	**50.82**	**32**	P	**P**	**21 16 23.3**	**+1.5**
	comp=E,0.3nm,0.8s,baz=270,slow=6.6,SNR=2.9						
ILAR				LR	LR	21 39 15.3	
	comp=E,45nm,18.5s,baz=207,slow=38						
	comp=E,0.3nm,0.8s						
WRA	**Warramunga Arr**	**55.73**	**187**	P	**P**	**21 16 57.6**	**-0.7**
	comp=E,0.3nm,0.5s,baz=2.8,slow=7.4,SNR=8.0						
	comp=E,0.3nm,0.5s						
ASAR	**Alice Springs**	**59.46**	**187**	P	**P**	**21 17 23.9**	**-0.7**
	comp=E,0.2nm,0.7s,baz=14,slow=13,SNR=6.0						
	comp=E,0.2nm,0.7s						
H03N2	**Juan Fernandez**	**147.32**	**98**	T	T	00 11 33.4	
	baz=290,slow=76,SNR=30						
H03N3	**Juan Fernandez**	**147.33**	**98**	T	T	00 11 37.6	
	baz=290,slow=76,SNR=47						
H03N1	**Juan Fernandez**	**147.34**	**98**	T	T	00 11 34.7	
	baz=290,slow=76,SNR=59						

*KRNET **16** 21:18:38.9±0.1, 39°.67N×75°.36E, mb2.5*
*NNC **16** 21:18:42.8±2.3, 39°.67N×75°.62E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.5km s-min=14.5km az=169.0*
*SOME **16** 21:18:42.5, 39°.73N×75°.38E, h15km*
ISC 16 21:18:36.5±1.7, 39°.59N±0°.06×75°.46E±0°.04, h6km±11km, n40, σ1§31/61, 12C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.56**	**286**	⇓*e*P	**Pg**	**21 19 06.4**	**-0.1**
SFK				⇓*e*S	**Sg**	**21 19 27.2**	**+0.4**
SALK	**Salom-Alik**	**1.80**	**316**	⇓*e*P	**Pg**	**21 19 10.7**	**-0.3**
SALK				⇓*e*S	**Sb**	**21 19 33.5**	**+0.6**
ARLS	**Aral**	**2.43**	**340**	⇑*e*P	**Pb**	**21 19 20.2**	**-0.5**
ARLS				⇑*e*S	**Sb**	**21 19 50.7**	**-0.3**
ARSB	**Arslanbob**	**2.56**	**313**	⇓*e*P	**Pb**	**21 19 22.0**	**-1.0**
ARSB				⇓*e*S	**Sb**	**21 19 54.0**	**-0.8**
ULHL	**Ulahol**	**2.72**	**12**	P	**Pg**	**21 19 29.2**	**+0.5**
	SNR=8.8						
ULHL	**Ulahol**	**2.72**	**12**	⇓*e*P	**Pb**	**21 19 25.4**	**-0.3**
ULHL				⇓*e*S	**Sb**	**21 19 58.7**	**-0.7**
DRK	**Karamyk**	**2.83**	**269**	⇓*e*P	**Pb**	**21 19 26.5**	**-1.1**
DRK				⇓*e*S	**Sb**	**21 20 01.1**	**-1.5**
KDJ	**Kajisay**	**2.86**	**27**	⇑*e*P	**Pb**	**21 19 27.6**	**-0.4**
KDJ				⇑*e*S	**Sb**	**21 20 02.7**	**-0.6**
AML	**Almayashu**	**2.87**	**333**	P	**Pg**	**21 19 31.1**	**-0.4**
	SNR=9.8						
BOOM	**Boomskoye usch**	**2.92**	**7**	⇑*e*P	**Pb**	**21 19 28.0**	**-1.1**
BOOM				⇑*e*S	**Sb**	**21 20 03.3**	**-1.9**
KBK	**Karagaybulak**	**3.09**	**353**	P	**Pb**	**21 19 32.8**	**+0.8**
	SNR=14						
AAK	**Ala-Archa**	**3.13**	**347**	P	**Pb**	**21 19 32.3**	**-0.4**
	SNR=8.0						
AAK	**Ala-Archa**	**3.13**	**347**	Pn	**Pb**	**21 19 32.4**	**-0.3**
	2.3nm,0.5s						
AAK				⇓Sn	**Sb**	**21 20 12.6**	**+1.4**
	13nm,0.7s						
TKM2	**Tokmak 2**	**3.33**	**2**	P	**Pb**	**21 19 35.8**	**-0.3**
	SNR=16						
TKM2	**Tokmak 2**	**3.33**	**2**	⇑Pn	**Pb**	**21 19 35.6**	**-0.6**
	4.4nm,0.3s						
TKM2				⇑Sn	**Sb**	**21 20 18.4**	**+1.4**
	14nm,0.7s						
CHMS	**Chumysh**	**3.45**	**351**	P	**Pb**	**21 19 36.9**	**-1.2**
	SNR=5.8						
CHMS	**Chumysh**	**3.45**	**351**	⇑Pn	**Pb**	**21 19 36.7**	**-1.3**
	1.3nm,0.3s						
CHMS				⇑Sn	**Sb**	**21 20 20.8**	**+0.6**
	3.6nm,0.5s						
MRKS	**Merke**	**3.58**	**333**	Pg	**Pg**	**21 19 46.0**	**+1.0**
	3.2nm,0.4s						
MRKS				Lg	Lg	21 20 31.5	
	5.1nm,0.3s						
MRKS	**Merke**	**3.58**	**333**	*e*P	**Pg**	**21 19 44.5**	**-0.5**
	2.2nm,0.3s						
MRKS				*e*S	**Sg**	**21 20 29.1**	**-2.3**
	5.1nm,0.4s						
MTBS	**Maitube**	**3.62**	**11**	Pg	**Pg**	**21 19 46.2**	**+0.5**
	0.8nm,0.1s						
MTBS				Lg	Lg	21 20 32.5	
	1.3nm,0.1s						
MTBS	**Maitube**	**3.62**	**11**	*e*P	**Pg**	**21 19 45.8**	**0.0**
	0.8nm,0.1s						
MTBS				*e*S	**Sg**	**21 20 31.3**	**-1.2**
	3.7nm,0.2s						
TNSS	**Tian-Shan**	**3.62**	**18**	Pg	**Pg**	**21 19 46.4**	**+0.5**
	2.3nm,0.2s						
TNSS				Lg	Lg	21 20 33.2	
	2.1nm,0.5s						
TNSS	**Tian-Shan**	**3.62**	**18**	*e*P	**Pg**	**21 19 46.3**	**+0.3**
	1.7nm,0.3s						
TNSS				*e*S	**Sg**	**21 20 32.2**	**-0.7**
	3.2nm,0.4s						
MNAS	**Manas**	**3.66**	**323**	⇑*e*P	**Pn**	**21 19 36.9**	**+3.1**
MNAS				⇑*e*S	**Sn**	**21 20 20.5**	**+3.2**
DGS	**Degeres**	**3.66**	**4**	Pg	**Pg**	**21 19 47.3**	**+0.7**
	2.9nm,0.3s						
DGS				Lg	Lg	21 20 34.0	
	6.1nm,0.4s						
USP	**Ospenovka**	**3.75**	**349**	P	**Sg**	**21 20 36.4**	**-0.5**
	SNR=9.0						
KOTS	**Kotyrbulak**	**3.85**	**18**	Pg	**Pg**	**21 19 51.2**	**+0.9**
	3.0nm,0.4s						
KOTS				Lg	Lg	21 20 40.9	
	16nm,0.6s						
KOTS	**Kotyrbulak**	**3.85**	**18**	*e*P	**Pg**	**21 19 51.2**	**+0.9**
	3.0nm,0.4s						
KOTS				*e*S	**Sg**	**21 20 40.9**	**+0.7**
	16nm,0.6s						
KRBS	**Karabastau**	**4.11**	**2**	Pg	**Pg**	**21 19 54.1**	**-1.1**
	1.6nm,0.3s						
KRBS				Lg	Lg	21 20 46.5	
	4.1nm,0.4s						
SATY	**Saty**	**4.12**	**32**	Pg	**Pg**	**21 19 57.0**	**+1.6**
	1.5nm,0.3s						
SATY				Lg	Lg	21 20 50.6	
	4.4nm,0.6s						
KTBS	**Karatobe**	**4.22**	**12**	Pg	**Pg**	**21 19 57.4**	**0.0**
	1.3nm,0.3s						
KTBS				Lg	Lg	21 20 51.5	
	7.9nm,0.5s						
KUU	**Kurty**	**4.35**	**8**	Pg	**Pg**	**21 20 00.2**	**+0.3**
	0.4nm,0.1s						
KUU				Lg	Lg	21 20 55.9	
	40nm,0.1s						
KUU	**Kurty**	**4.35**	**8**	*e*P	**Pg**	**21 20 00.2**	**+0.3**
	0.4nm,0.1s						
KUU				*e*S	**Sg**	**21 20 55.9**	**-0.3**
	40nm,0.1s						
KURS	**Kuram**	**4.40**	**27**	*e*P	**Pg**	**21 20 01.1**	**+0.4**
	0.8nm,0.1s						
KURS				*e*S	**Sg**	**21 20 57.8**	**+0.1**
	5.5nm,0.3s						
CHKK	**Chushkaly**	**4.42**	**15**	Pg	**Pg**	**21 20 01.1**	**0.0**
	1.4nm,0.2s						
CHKK				Lg	Lg	21 20 58.2	
	8.2nm,0.6s						
CHKK	**Chushkaly**	**4.42**	**15**	*e*P	**Pg**	**21 20 01.1**	**0.0**
	0.8nm,0.1s						

3.6nm,0.3s
KPKS Kokpek 4.57 31 *e*P **Pn 21 19 47.3 +1.0**
2.9nm,0.3s
KPKS *e*S **Sn 21 20 34.0 -5.7**
6.1nm,0.4s
ARXS Arharly 4.95 20 Pg **Pg 21 20 09.5 -1.8**
1.0nm,0.3s
ARXS Lg Lg 21 21 11.9
5.7nm,0.3s

CATAC 16 21:21:19.4±0.7, 12°N±5°×8°8W±°, h28km±4km, M3.0/17, MLv3.0/17, Error ellipse: s-maj=11.3km s-min=3.9km az=29.8, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.62**	**52**	P	Pn	21 21 32.9	+0.4
CSGN	**Cosiguina Volc**	**0.66**	**359**	P	Pn	21 21 32.8	-0.2
CSGN				S	Sn	21 21 43.2	+0.6
POTN	**Potosi Cosigui**	**0.69**	**4**	P	Pn	21 21 33.2	-0.1
POTN				S	Sn	21 21 43.8	+0.7
TEL3	**Telica 3**	**0.74**	**69**	P	Sn	21 21 45.7	+1.4
TEL3	**Telica 3**	**0.74**	**69**	P	Pn	21 21 33.9	-0.1
QUEN	**Al S del Volca**	**0.74**	**68**	P	Pn	21 21 34.1	+0.1
QUEN				S	Sn	21 21 45.7	+1.3
TELN	**Telica**	**0.76**	**67**	P	Sn	21 21 45.9	+0.9
TELN	**Telica**	**0.76**	**67**	P	Pn	21 21 34.7	+0.3
HERN	**Volcan Telica**	**0.76**	**67**	P	Sn	21 21 45.3	+0.2
HERN	**Volcan Telica**	**0.76**	**67**	P	Pb	21 21 34.2	0.0
HERN	**Volcan Telica**	**0.76**	**67**	S	Sn	21 21 46.1	+1.1
POLN	**Al Sur del Vol**	**0.80**	**65**	P	Pb	21 21 34.5	-0.2
PLRN	**Geotermica Pol**	**0.81**	**70**	P	Sn	21 21 45.8	-0.3
PLRN	**Geotermica Pol**	**0.81**	**70**	P	Pb	21 21 34.2	-0.8
PLRN				S	Sn	21 21 45.9	-0.2
CNGA	**Al SSO del Vol**	**0.85**	**77**	P	Sn	21 21 47.7	+0.6
CNGA	**Al SSO del Vol**	**0.85**	**77**	P	Pn	21 21 35.3	-0.2
CNGA				S	Sn	21 21 48.0	+0.9
CNGN	**Cerro Negro**	**0.85**	**77**	P	Sn	21 21 48.2	+1.0
CNGN	**Cerro Negro**	**0.85**	**77**	P	Pb	21 21 35.8	+0.2
ILCN	**San Idelfonso**	**0.87**	**72**	P	Pb	21 21 43.1	+7.2
MOMN	**Momotombo**	**0.99**	**84**	P	Sn	21 21 51.3	+0.7
MOMN	**Momotombo**	**0.99**	**84**	P	Pn	21 21 37.2	-0.3
MOMN				S	Sb	21 21 50.8	0.0
CNCH	**Conchagua**	**1.00**	**344**	P	Sn	21 21 50.8	-0.1
CNCH	**Conchagua**	**1.00**	**344**	P	Pn	21 21 37.1	-0.6
CNCH	**Conchagua**	**1.00**	**344**	S	Sn	21 21 50.8	-0.1
SAPS	**Ciudad Sandino**	**1.13**	**97**	P	Pn	21 21 39.3	-0.1
SAPS	**Ciudad Sandino**	**1.13**	**97**	S	Sb	21 21 54.7	+0.1
RANC	**El Ranchito**	**1.33**	**327**	P	Pn	21 21 42.5	+0.2
LIMN	**Finca el Limon**	**1.38**	**57**	P	Pn	21 21 42.3	-0.6
LIMN	**Finca el Limon**	**1.38**	**57**	P	Pn	21 21 42.5	-0.4
PACA	**Pacayal**	**1.38**	**327**	P	Pn	21 21 42.9	0.0
PQSS	**Presa 15 de Se**	**1.64**	**323**	P	Pn	21 21 47.1	+0.8
TGUH	**Tegucigalpa,Un**	**1.76**	**9**	P	Pn	21 21 47.9	-0.2
YUSH	**Yuscaran**	**1.77**	**23**	P	Pn	21 21 48.2	-0.2
RCVN	**Varillal2**	**1.83**	**46**	P	Pn	21 21 49.2	+0.1
RCVN	**Varillal2**	**1.83**	**46**	P	Pn	21 21 49.2	0.0
BOAB	**BOACO BROADBAN**	**1.85**	**85**	P	Pn	21 21 48.9	-0.3
RCPN	**Sur Rio San Ju**	**1.86**	**49**	P	Pn	21 21 49.7	+0.1
RCPN	**Sur Rio San Ju**	**1.86**	**49**	P	Pn	21 21 49.6	0.0

*IDC **16** 21:23:02.4±0.7, 55°.30N×164°.35E, h0km, mb3.6/19, mbtmp3.6/24, ML4.0/4, MS3.2/12, Error ellipse: s-maj=16.8km s-min=11.8km az=168.0*
*KRSC **16** 21:23:03.1±1.2, 55°.23N×164°.45E, h51km±24km, Mc4.2, Ml4.6*
*NEIC **16** 21:23:03.8±2.4, 55°.3N±0°.1×164°.3E±0°.1, h10km±1km, mb4.1/32, Error ellipse: s-maj=17.7km s-min=13.6km az=167.0*
*MOS **16** 21:23:05.1±0.8, 55°.27N×164°.50E, h45km, mb4.5/8, Error ellipse: s-maj=6.1km s-min=5.2km az=77.2*
ISC 16 21:23:05.0±0.4, 55°.32N±0°.04×164°.39E±0°.04, h22km, n181, σ1§56/186, mb4.0/37, MS3.2/9, 1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.91**	**97**	PN	**Pb**	**21 23 19.9**	**-2.2**
BKI				S	**Sb**	**21 23 31.6**	**-2.1**
BKI	**Bering**	**0.91**	**97**	*i* P	**Pb**	**21 23 19.9**	**-2.2**
BKI				*e*S	**Sb**	**21 23 31.6**	**-2.1**
KBTR	**Krutoberegovo**	**1.26**	**316**	PN	**Pn**	**21 23 25.8**	**-1.4**
KBTR	**Krutoberegovo**	**1.26**	**316**	*e*P	**Pn**	**21 23 25.9**	**-1.4**
KBG	**Krutoberegovo**	**1.34**	**315**	PN	**Pn**	**21 23 27.1**	**-1.1**
KBG				S	**Sn**	**21 23 44.3**	**-1.0**
KBG	**Krutoberegovo**	**1.34**	**315**	*e*P	**Pn**	**21 23 27.1**	**-1.1**
KBG				*e*S	**Sn**	**21 23 44.3**	**-1.0**
MKZ	**Mys Kozlova**	**1.71**	**245**	PN	**Pn**	**21 23 32.9**	**-0.5**
MKZ				S	**Sn**	**21 23 53.3**	**-1.3**
MKZ	**Mys Kozlova**	**1.71**	**245**	*e*P	**Pn**	**21 23 33.0**	**-0.5**
MKZ				*e*S	**Sn**	**21 23 53.4**	**-1.3**
SMKR	**Semkarok**	**2.07**	**309**	PN	**Pn**	**21 23 39.1**	**+0.6**
SMKR	**Semkarok**	**2.07**	**309**	*e*P	**Pn**	**21 23 39.1**	**+0.6**
ZLN	**Zelenaya**	**2.15**	**290**	PN	**Pn**	**21 23 41.2**	**+1.7**
ZLN	**Zelenaya**	**2.15**	**290**	*e*P	**Pn**	**21 23 41.2**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**2.19**	**288**	PN	**Pn**	**21 23 41.4**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.19**	**288**	*e*P	**Pn**	**21 23 41.5**	**+1.4**
CIRR	**Tsirk**	**2.21**	**293**	PN	**Pn**	**21 23 42.0**	**+1.6**
CIRR	**Tsirk**	**2.21**	**293**	*e*P	**Pn**	**21 23 42.1**	**+1.6**
LGNR	**Loginova**	**2.23**	**292**	PN	**Pn**	**21 23 42.7**	**+1.9**
LGNR	**Loginova**	**2.23**	**292**	*e*P	**Pn**	**21 23 42.7**	**+1.9**
TUMD	**Tumrok D**	**2.29**	**269**	PN	**Pn**	**21 23 42.2**	**+0.8**
TUMD				S	**Sn**	**21 24 10.1**	**+1.3**
TUMD	**Tumrok D**	**2.29**	**269**	*e*P	**Pn**	**21 23 42.3**	**+0.8**
TUMD				*e*S	**Sn**	**21 24 10.1**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.30**	**288**	PN	**Pn**	**21 23 43.4**	**+1.7**
BZWR	**Bezymyannyi-We**	**2.30**	**288**	*e*P	**Pn**	**21 23 43.4**	**+1.7**
KLY	**Klyuchi**	**2.33**	**297**	PN	**Pn**	**21 23 41.6**	**-0.3**
KLY	**Klyuchi**	**2.33**	**297**	*e*P	**Pn**	**21 23 41.7**	**-0.3**
KRSR	**Krestovskiy**	**2.34**	**294**	PN	**Pn**	**21 23 43.4**	**+1.2**
KRSR	**Krestovskiy**	**2.34**	**294**	*e*P	**Pn**	**21 23 43.5**	**+1.2**
KIRR	**Kirishev**	**2.38**	**287**	PN	**Pn**	**21 23 44.1**	**+1.3**
KIRR	**Kirishev**	**2.38**	**287**	*e*P	**Pn**	**21 23 44.1**	**+1.3**
KMNR	**Kamenistaya**	**2.40**	**282**	PN	**Pn**	**21 23 45.2**	**+2.2**
KMNR	**Kamenistaya**	**2.40**	**282**	*e*P	**Pn**	**21 23 45.3**	**+2.2**
KPT	**Kopyto**	**2.45**	**287**	PN	**Pn**	**21 23 45.9**	**+2.3**
KPT	**Kopyto**	**2.45**	**287**	*e*P	**Pn**	**21 23 46.0**	**+2.3**
KOZ	**Kozyrevsk**	**2.66**	**288**	PN	**Pn**	**21 23 48.2**	**+1.7**
KOZ	**Kozyrevsk**	**2.66**	**288**	*e*P	**Pn**	**21 23 48.3**	**+1.7**
SRDR	**Sredinnyy**	**2.82**	**293**	PN	**Pn**	**21 23 51.8**	**+3.1**
SRDR	**Sredinnyy**	**2.82**	**293**	*e*P	**Pn**	**21 23 51.8**	**+3.1**
KII	**Karymskiy**	**3.14**	**248**	PN	**Pn**	**21 23 54.2**	**+1.0**
KII	**Karymskiy**	**3.14**	**248**	*e*P	**Pn**	**21 23 54.2**	**+1.0**
ESO	**Esso**	**3.28**	**283**	PN	**Pn**	**21 23 56.8**	**+1.8**
ESO	**Esso**	**3.28**	**283**	*e*P	**Pn**	**21 23 56.9**	**+1.8**
SPN	**Mys Shipunski**	**3.40**	**231**	PN	**Pn**	**21 23 56.1**	**-0.4**
SPN	**Mys Shipunski**	**3.40**	**231**	*e*P	**Pn**	**21 23 56.2**	**-0.4**
SPN				*e*S	**Sn**	**21 24 32.7**	**-3.5**
NLC	**Nalytchevo**	**3.66**	**236**	PN	**Pn**	**21 24 00.3**	**+0.2**
NLC				S	**Sn**	**21 24 40.9**	**-1.7**
NLC	**Nalytchevo**	**3.66**	**236**	*e*P	**Pn**	**21 24 00.4**	**+0.2**
NLC				*e*S	**Sn**	**21 24 40.9**	**-1.7**
SDLR	**Sedlovina**	**3.82**	**240**	PN	**Pn**	**21 24 03.6**	**+1.1**
SDLR	**Sedlovina**	**3.82**	**240**	*e*P	**Pn**	**21 24 03.7**	**+1.1**
KRER	**Koryakskii**	**3.87**	**241**	PN	**Pn**	**21 24 04.9**	**+1.6**
KRER	**Koryakskii**	**3.87**	**241**	*e*P	**Pn**	**21 24 05.0**	**+1.6**
UGLR	**Uglovaya**	**3.89**	**239**	PN	**Pn**	**21 24 04.7**	**+1.3**
UGLR	**Uglovaya**	**3.89**	**239**	*e*P	**Pn**	**21 24 04.8**	**+1.3**
KRX	**Arik**	**3.89**	**242**	PN	**Pn**	**21 24 04.9**	**+1.4**
KRX	**Arik**	**3.89**	**242**	*e*P	**Pn**	**21 24 05.0**	**+1.4**
AVH	**Avacha**	**3.90**	**240**	PN	**Pn**	**21 24 05.1**	**+1.5**
AVH	**Avacha**	**3.90**	**240**	*e*P	**Pn**	**21 24 05.1**	**+1.5**
KOK	**Koryaka**	**3.94**	**241**	PN	**Pn**	**21 24 05.5**	**+1.4**
KOK	**Koryaka**	**3.94**	**241**	*e*P	**Pn**	**21 24 05.5**	**+1.4**
OSSR	**Ossora**	**4.01**	**350**	PN	**Pn**	**21 24 05.3**	**+0.4**
OSSR	**Ossora**	**4.01**	**350**	*e*P	**Pn**	**21 24 05.4**	**+0.4**
DALK	**Dalny**	**4.03**	**238**	*e*S	**Sn**	**21 24 50.1**	**-1.6**
INSR	**Institute**	**4.08**	**239**	*e*S	**Sn**	**21 24 52.2**	**-0.8**
PET	**Petropavlovsk**	**4.08**	**238**		**Pn**	**21 24 06.8**	**+0.9**
PET	**Petropavlovsk**	**4.08**	**238**	*e*PN	**Pn**	**21 24 07.0**	**+1.0**
PET				pmax	pmax		
comp=Z,81nm,0.5s
PET	**Petropavlovsk**	**4.08**	**238**	*e*P	**Pn**	**21 24 06.9**	**+0.9**
PET				*e*S	**Sn**	**21 24 50.8**	**-2.2**
GNL	**Ganaly**	**4.10**	**249**	PN	**Pn**	**21 24 08.1**	**+1.8**
GNL	**Ganaly**	**4.10**	**249**	*e*P	**Pn**	**21 24 08.2**	**+1.8**
KRMR	**Karymshinskiy**	**4.45**	**238**	PN	**Pn**	**21 24 12.4**	**+1.3**
KRMR	**Karymshinskiy**	**4.45**	**238**	*e*P	**Pn**	**21 24 12.4**	**+1.3**
KRMR				*e*S	**Sn**	**21 25 00.6**	**-1.5**
PALN	**Palana**	**4.48**	**329**	PN	**Pn**	**21 24 14.3**	**+2.9**
PALN	**Palana**	**4.48**	**329**	*e*P	**Pn**	**21 24 14.3**	**+2.9**
PEA0B	**Petropavlovsk-**	**4.51**	**243**		**Pn**	**21 24 12.8**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.51**	**243**	*i* PN	**Pn**	**21 24 13.0**	**+1.1**
PETK	**Petropavlovsk-**	**4.51**	**243**		**Pn**	**21 24 12.2**	**+0.3**
PETK	**Petropavlovsk-**	**4.51**	**243**	Pn	**Pn**	**21 24 12.5**	**+0.6**
comp=Z,6.7nm,0.3s,baz=67,slow=17,SNR=66
PETK				Sn	**Sn**	**21 25 04.8**	**+1.2**
comp=Z,3.5nm,0.3s,baz=84,slow=17,SNR=6.0
PETK				LR	LR	21 26 19.4	
comp=Z,107nm,18.6s,baz=49,slow=44
comp=Z,8.4nm,0.4s
PETK	**Petropavlovsk-**	**4.51**	**243**	PN	**Pn**	**21 24 12.2**	**+0.3**
RUS	**Russkaya**	**4.52**	**233**	PN	**Pn**	**21 24 12.3**	**+0.3**
RUS	**Russkaya**	**4.52**	**233**	*e*P	**Pn**	**21 24 12.3**	**+0.3**
RUS				*e*S	**Sn**	**21 25 00.6**	**-3.3**
GRL	**Gorelyy**	**4.65**	**236**	PN	**Pn**	**21 24 15.0**	**+1.1**
GRL	**Gorelyy**	**4.65**	**236**	*e*P	**Pn**	**21 24 15.0**	**+1.1**
APC	**Apacha**	**4.88**	**244**	PN	**Pn**	**21 24 18.8**	**+1.8**
APC	**Apacha**	**4.88**	**244**	*e*P	**Pn**	**21 24 18.9**	**+1.8**
KDTR	**Khodutka, Kamc**	**5.15**	**230**	PN	**Pn**	**21 24 20.3**	**-0.3**
KDTR	**Khodutka, Kamc**	**5.15**	**230**	*e*P	**Pn**	**21 24 20.3**	**-0.3**
TILK	**Tilichiki**	**5.22**	**10**	PN	**Pn**	**21 24 22.6**	**+1.0**
TILK	**Tilichiki**	**5.22**	**10**	*e*P	**Pn**	**21 24 22.6**	**+1.0**
SKR	**Severo-Kuril's**	**6.82**	**230**	*e*PN	**Pn**	**21 24 44.1**	**+0.6**
SKR				pmax	pmax		
comp=Z,400nm,4.5s
SKR				MLR	MLR		
comp=Z,400nm,16.0s
SKR	**Severo-Kuril's**	**6.82**	**230**	*e*P	**Pn**	**21 24 43.1**	**-0.4**
KMSK	**Kamenskaya**	**7.23**	**7**	PN	**Pn**	**21 24 50.8**	**+1.7**
KMSK	**Kamenskaya**	**7.23**	**7**	*e*P	**Pn**	**21 24 50.9**	**+1.7**
MA2	**Magadan**	**8.49**	**306**	Pn	**Pn**	**21 25 10.5**	**+4.0**
comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=4.1
MA2				LR	LR	21 28 40.6	
comp=Z,94nm,20.0s,baz=98,slow=40
comp=Z,0.8nm,0.3s
MA2	**Magadan**	**8.49**	**306**	*i* PN	**Pn**	**21 25 09.4**	**+3.0**
SEY	**Seymchan**	**9.80**	**326**	Pn	**Pn**	**21 25 26.6**	**+2.2**
comp=Z,0.2nm,0.3s,baz=121,slow=17,SNR=1.2
ADK	**Adak**	**11.75**	**99**	Pn	**Pn**	**21 25 53.0**	**+1.9**
ADK	**Adak**	**11.75**	**99**	PN	**Pn**	**21 25 53.0**	**+1.9**
BILL	**Bilibino**	**12.80**	**3**	*i* PN	**Pn**	**21 26 08.7**	**+3.4**
BILL				pmax	pmax		
comp=Z,4.0nm,1.3s
TYV	**Tymovskoe**	**13.78**	**260**	*e*P	**P**	**21 26 26.7**	**-0.4**
TYV				pmax	pmax		
comp=Z,3.0nm,1.1s
TYV				pmax	pmax		
comp=Z,100nm,2.5s
GAMB	**Gambell**	**14.70**	**45**		**P**	**21 26 36.2**	**-1.0**
K13K	**Kusilvak Mount**	**17.29**	**55**		**P**	**21 27 07.0**	**+1.1**
JKA	**Kamikawa-asahi**	**17.92**	**240**		**Pn**	**21 27 13.0**	**+0.4**
JKA				IAmb	IAmb	21 27 55.8	
comp=Z,26nm,1.4s
ASAJ	**Asahikawa**	**17.92**	**240**	P	**Pn**	**21 27 12.9**	**+0.3**
comp=Z,0.5nm,0.3s,baz=45,slow=4.3,SNR=5.8
comp=Z,2.3nm,0.6s
F15K	**North Star Dit**	**18.23**	**43**	P	**P**	**21 27 18.2**	**+1.9**
C16K	**Lisburne Hills**	**19.03**	**35**	P	**Pn**	**21 27 26.1**	**+0.3**
YAK	**Yakutsk**	**19.06**	**305**	P	**P**	**21 27 23.5**	**-1.9**
YAK				IAmb	IAmb	21 27 42.5	
comp=Z,11nm,0.7s
YAK	**Yakutsk**	**19.06**	**305**	P	**P**	**21 27 25.3**	**-0.2**
comp=Z,1.3nm,0.3s,baz=145,slow=18,SNR=3.0
YAK				LR	LR	21 34 58.0	
comp=Z,51nm,20.1s,baz=94,slow=38
comp=Z,6.3nm,0.5s
YAK	**Yakutsk**	**19.06**	**305**	*i* P	**P**	**21 27 22.7**	**-2.8**
YAK				pmax	pmax		
comp=Z,6.0nm,0.8s
ERM	**Erimo**	**19.23**	**235**	P	**P**	**21 27 25.8**	**-1.6**
ERM	**Erimo**	**19.23**	**235**	*i* P	**P**	**21 27 25.3**	**-2.1**
ERM				pmax	pmax		
comp=Z,33nm,1.0s
F17K	**Baldwin Pennin**	**19.78**	**42**	P	**Pn**	**21 27 34.9**	**+0.1**
M16K	**Timber Creek**	**19.95**	**58**	P	**Pn**	**21 27 37.2**	**+0.3**
J17K	**VABM Dome**	**20.04**	**51**	P	Pn	21 27 37.9	0.0
J17K				IAmb	IAmb	21 28 10.3	
comp=Z,11nm,1.2s
E18K	**Tukpahlearik C**	**20.33**	**40**	P	Pn	21 27 40.7	-0.7
C18K	**Utukok River**	**20.57**	**36**	P	**P**	**21 27 42.7**	**+0.8**
KLR	**Kul'dur**	**20.75**	**267**	P	**P**	**21 27 44.0**	**+0.1**
comp=Z,0.4nm,0.6s,baz=4.4,slow=13,SNR=1.3
KLR				LR	LR	21 37 16.6	
comp=Z,57nm,18.4s,baz=62,slow=41
comp=Z,0.4nm,0.6s
J18K	**Innoko River**	**21.10**	**52**	P	**P**	**21 27 48.8**	**+1.1**
J18K				IAmb	IAmb	21 28 08.0	
comp=Z,7.8nm,1.1s
JTM	**Tenmabayashi**	**21.17**	**236**	P	**P**	**21 27 46.9**	**-1.6**
F19K	**Shaleruckik Mo**	**21.22**	**42**	P	**P**	**21 27 49.9**	**+1.1**
E19K	**Redstone River**	**21.59**	**41**	P	**P**	**21 27 54.3**	**+1.5**
E19K				IAmb	IAmb	21 28 38.2	
comp=Z,11nm,1.5s
TIXI	**Tiksi**	**22.23**	**331**	P	**P**	**21 27 59.5**	**-0.2**
TIXI				IAmb	IAmb	21 28 14.4	
comp=Z,5.6nm,1.1s
TIXI	**Tiksi**	**22.23**	**331**	P	**P**	**21 28 00.2**	**+0.5**
comp=Z,1.3nm,0.2s,baz=123,slow=9.2,SNR=6.2
comp=Z,1.3nm,0.2s
TIXI	**Tiksi**	**22.23**	**331**	*i* P	**P**	**21 27 59.4**	**-0.2**
TIXI				pmax	pmax		
comp=Z,3.0nm,1.0s
K20K	**Telida**	**22.29**	**52**	P	**P**	**21 28 02.0**	**+1.6**
K20K				IAmb	IAmb	21 28 16.2	
comp=Z,11nm,1.4s
KDAK	**Kodiak Island**	**23.55**	**66**	P	**P**	**21 28 12.6**	**-0.7**
comp=Z,13nm,1.1s,baz=305,slow=16,SNR=1.7
comp=Z,13nm,1.1s
E22K	**Anaktuvuk Pass**	**23.75**	**40**	P	**P**	**21 28 14.8**	**-0.4**
E22K				IAmb	IAmb	21 28 28.2	
comp=Z,3.0nm,0.8s
CNPM	**China Poot**	**23.91**	**62**	P	**P**	**21 28 16.4**	**-0.5**
COLD	**Coldfoot**	**24.21**	**43**	P	**P**	**21 28 19.4**	**-0.2**
COLD				IAmb	IAmb	21 28 35.5	
comp=Z,5.4nm,0.9s
I23K	**Minto, Yukon-K**	**24.40**	**48**	P	**P**	**21 28 21.7**	**+0.5**
I23K				IAmb	IAmb	21 28 51.8	
comp=Z,7.7nm,1.2s
E23K	**Chandalar**	**24.55**	**41**	P	**P**	**21 28 22.6**	**-0.1**
E23K				IAmb	IAmb	21 28 28.3	
comp=Z,4.5nm,0.8s
TOLK	**Toolik Lake Re**	**24.65**	**39**	P	**P**	**21 28 23.2**	**-0.4**
TOLK				IAmb	IAmb	21 28 40.4	
comp=Z,4.8nm,0.8s
D24K	**Happy Valley**	**25.00**	**38**	P	**P**	**21 28 26.9**	**+0.2**
D24K				IAmb	IAmb	21 28 43.0	
comp=Z,3.6nm,0.7s
SML	**Sawmill**	**25.00**	**56**	P	**P**	**21 28 26.4**	**-0.5**
SML	**Sawmill**	**25.00**	**56**	P	**P**	**21 28 26.4**	**-0.5**
SML				pmax	pmax		
comp=Z,35nm,1.5s
C24K	**Franklin Bluff**	**25.15**	**37**	P	**P**	**21 28 28.2**	**+0.3**
ILAR	**Eielson Array**	**25.45**	**49**	P	**P**	**21 28 30.5**	**-0.3**
comp=Z,0.6nm,0.8s,baz=263,slow=9.5,SNR=6.1
comp=Z,0.6nm,0.8s
D25K	**Kavik River**	**25.89**	**38**	P	**P**	**21 28 34.3**	**-0.5**
D25K				IAmb	IAmb	21 28 51.8	
comp=Z,2.9nm,0.7s
MJAR	**Matsushiro Arr**	**25.90**	**234**	P	**P**	**21 28 34.6**	**-0.6**
comp=Z,1.0nm,0.6s,baz=20,slow=9.8,SNR=4.8
comp=Z,1.0nm,0.6s
MAJO	**Matsushiro**	**25.91**	**234**	P	**P**	**21 28 34.6**	**-0.6**
MAJO	**Matsushiro**	**25.91**	**234**	*i* P	**P**	**21 28 34.0**	**-1.2**
MAJO				pmax	pmax		
comp=Z,5.0nm,1.0s
BMAR	**Burnt Mountain**	**26.40**	**42**	P	**P**	**21 28 39.5**	**+0.1**
BCAR	**Beaver Creek A**	**27.85**	**52**	P	**P**	**21 28 53.2**	**+0.7**
KSRS	**Korea Array**	**30.38**	**249**	P	**P**	**21 29 15.7**	**+0.6**
comp=Z,0.5nm,0.8s,baz=39,slow=11,SNR=1.3
comp=Z,0.5nm,0.8s
JNU	**Nakatsue**	**32.20**	**240**	LR	LR	21 41 50.1	
comp=Z,32nm,20.0s,baz=0.5,slow=35
H11N2	**WAKE ISLAND Hy**	**35.58**	**176**	T	T	22 08 03.9	
baz=358,slow=76,SNR=45
H11N3	**WAKE ISLAND Hy**	**35.59**	**176**	T	T	22 07 60.0	
baz=358,slow=76,SNR=80
H11N1	**WAKE ISLAND Hy**	**35.60**	**176**	T	T	22 08 05.2	
baz=358,slow=76,SNR=67
SONM	**Songino Array**	**35.86**	**283**	P	**P**	**21 30 02.9**	**0.0**
comp=Z,0.5nm,0.5s,baz=68,slow=8.1,SNR=7.1
SONM				LR	LR	21 46 09.2	
comp=Z,42nm,18.2s,baz=60,slow=39
comp=Z,0.5nm,0.5s
H11S1	**WAKE ISLAND Hy**	**36.79**	**176**	T	T	22 09 33.7	
baz=2.2,slow=28,SNR=4.1
H11S3	**WAKE ISLAND Hy**	**36.80**	**176**	T	T	22 09 19.8	
baz=2.2,slow=28,SNR=3.3
H11S2	**WAKE ISLAND Hy**	**36.81**	**176**	T	T	22 09 26.7	
baz=2.2,slow=28,SNR=3.7
YKA	**Yellowknife Ar**	**39.80**	**46**	P	**P**	**21 30 35.9**	**0.0**
comp=Z,0.2nm,0.3s,baz=297,slow=8.3,SNR=6.0
comp=Z,0.2nm,0.3s
NEW	**Newport**	**46.63**	**64**	LR	LR	21 50 16.8	
comp=Z,47nm,18.1s,baz=294,slow=35
KURK	**Kurchatov**	**48.69**	**302**	P	**P**	**21 31 46.4**	**-0.6**
KURK	**Kurchatov**	**48.69**	**302**	*i* P	**P**	**21 31 45.6**	**-1.5**
KURK				pmax	pmax		
comp=Z,4.0nm,1.5s
KURBB	**Kurchatov Arra**	**48.79**	**302**	P	**P**	**21 31 47.4**	**-0.5**
comp=Z,1.1nm,0.6s,baz=55,slow=8.0,SNR=6.7
comp=Z,1.1nm,0.6s
MK31	**Makanchi Array**	**49.45**	**296**		**P**	**21 31 53.4**	**+0.4**
MK31	**Makanchi Array**	**49.45**	**296**	*i* P	**P**	**21 31 52.1**	**-0.9**
MKAR	**Makanchi Array**	**49.45**	**296**		**P**	**21 31 52.6**	**-0.4**
MKAR	**Makanchi Array**	**49.45**	**296**	P	**P**	**21 31 52.8**	**-0.2**
comp=Z,0.5nm,0.7s,baz=60,slow=7.4,SNR=5.7
MKAR				LR	LR	21 53 30.7	
comp=Z,50nm,18.0s,baz=21,slow=37
comp=Z,0.5nm,0.7s
MKAR	**Makanchi Array**	**49.45**	**296**	*i* P	**P**	**21 31 53.2**	**+0.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s
MAKZ	**Makanchi**	**49.60**	**297**	P	**P**	**21 31 53.2**	**-0.9**
MAKZ				IAmb	IAmb	21 32 09.1	
comp=Z,3.0nm,1.4s
MAKZ	**Makanchi**	**49.60**	**297**	P	**P**	**21 31 53.2**	**-0.9**
MAKZ				pmax	pmax		
comp=Z,3.0nm,1.4s
BVAR	**Borovoye Array**	**50.96**	**309**	P	**P**	**21 32 04.5**	**+0.1**
comp=Z,0.6nm,0.7s,baz=75,slow=7.8,SNR=3.9
BVAR				LR	LR	21 54 57.4	
comp=Z,23nm,18.1s,baz=39,slow=38
comp=Z,0.6nm,0.7s
NVAR	**Mina Array Bea**	**52.66**	**75**	P	**P**	**21 32 19.0**	**+1.5**
comp=Z,0.2nm,0.4s,baz=311,slow=7.4,SNR=1.6
comp=Z,0.2nm,0.4s
ARTI	**Arti**	**53.54**	**318**	*d i* P	**P**	**21 32 20.8**	**-2.6**
ARTI				*PP	**pwP**	**21 32 35.1**	**-0.9**
ARTI						21 33 27.4	
ARTI				S	**S**	**21 39 48.4**	**-6.4**
ARTI				SS	**SS**	**21 43 29.4**	**-5.0**
ARTI				pmax	pmax		
comp=Z,10.0nm,1.6s
PDAR	**Pinedale Array**	**54.26**	**65**	P	**P**	**21 32 30.7**	**+1.5**
PDAR	**Pinedale Array**	**54.26**	**65**	P	**P**	**21 32 30.6**	**+1.4**
comp=Z,0.4nm,0.8s,baz=48,slow=2.2,SNR=3.6
comp=Z,0.4nm,0.8s
KKAR	**Karatay Array**	**57.97**	**300**	P	**P**	**21 32 56.0**	**+0.5**
KKAR	**Karatay Array**	**57.97**	**300**	P	**P**	**21 32 56.0**	**+0.5**
AKTO	**Aktyubinsk**	**58.14**	**314**	LR	LR	21 58 38.8	
comp=Z,38nm,20.0s,baz=276,slow=37
ABKAR	**Akbulak array**	**58.23**	**312**	P	**P**	**21 32 57.5**	**+0.4**
ABKAR	**Akbulak array**	**58.23**	**312**	P	**P**	**21 32 57.5**	**+0.4**
ABKAR				IAmb	IAmb	21 33 10.8	
comp=Z,1.5nm,0.7s
FINES	**FINESS Array B**	**59.03**	**338**	P	**P**	**21 33 03.3**	**+0.8**
comp=Z,0.4nm,0.7s,baz=7.1,slow=6.9,SNR=3.5
comp=Z,0.4nm,0.7s
CMAR	**Chiang Mai Arr**	**61.08**	**261**	P	**P**	**21 33 17.5**	**+0.4**
comp=Z,0.5nm,0.5s,baz=17,slow=7.2,SNR=5.8
comp=Z,0.5nm,0.5s
VSU	**Vasula**	**61.58**	**336**	*i* P	**P**	**21 33 18.3**	**-1.6**
VSU				pmax	pmax		
comp=Z,9.0nm,1.2s
OBN	**Obninsk**	**61.95**	**329**	*e*P	**P**	**21 33 20.2**	**-2.3**
OBN				pmax	pmax		
comp=Z,2.0nm,0.8s
NOA	**NORSAR Array B**	**62.06**	**346**	P	**P**	**21 33 23.4**	**+0.2**
comp=Z,1.4nm,1.1s,baz=17,slow=6.9,SNR=1.9
comp=Z,1.4nm,1.1s
HNR	**Honiara**	**64.62**	**185**	LR	LR	22 00 30.7	
comp=Z,13nm,18.6s,baz=264,slow=35
TXAR	**Lajitas Array**	**67.

LSZ	Lusaka	41.92	32	LR	LR	22 03 28.0	
	comp=Z,74nm,18.8s,baz=224,slow=33						
TRQA	Tornquist	48.44	260	P	P	21 49 06.1	+0.5
TRQA				IAmb	IAmb	21 49 08.4	
	comp=Z,19nm,1.4s						
MT09	Talagante	56.65	257	P	P	21 50 06.2	-0.4
MT09				IAmb	IAmb	21 50 41.9	
	comp=Z,16nm,1.3s						
KMBO	Kilima Mbogo	58.18	37	LR	LR	22 12 56.0	
	comp=Z,41nm,21.3s,baz=86,slow=34						
LCO	Las Campanas	59.96	261	P	P	21 50 30.7	+0.8
LPAZ	La Paz	68.14	272		P	21 51 24.6	+0.4
LPAZ				IAmb	IAmb	21 51 26.2	
	comp=Z,2.8nm,0.8s						
LPAZ	La Paz	68.14	272	P	P	21 51 25.2	+0.9
	comp=Z,2.0nm,0.8s,baz=149,slow=5.4,SNR=8.7 comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	90.39	133	P	P	21 53 24.7	-0.1
ASAR	Alice Springs	90.39	133	P	P	21 53 25.1	+0.2
	comp=Z,0.4nm,0.7s,baz=199,slow=3.8,SNR=4.1 comp=Z,0.4nm,0.7s						
RES	Resolute Bay	143.90	334	PKPdf	PKPdf	21 59 55.6	-1.4
YKA	Yellowknife Ar	148.93	310	PKPbc	PKPbc	22 00 09.8	0.0
YKA	Yellowknife Ar	148.93	310	PKPbc	PKiKP	22 00 10.3	-0.8
	comp=Z,1.9nm,0.9s,baz=105,slow=2.4,SNR=21						
ILAR	Eielson Array	162.79	320	PKPab	PKPab	22 01 13.0	-0.3
	comp=Z,0.6nm,0.9s,baz=33,slow=3.2,SNR=4.8						

IDC ***16*** *22:14:43.6±1.6, 5°.98S×129°.74E, h0km, mb3.9/4, mbtmp4.0/7, ML4.0/3, MS4.5/1, Error ellipse: s-maj=88.9km s-min=23.7km az=78.0*

ISC 16 22:14:57.5±0.8, 6°.55S±0°.06×129°.8E±0°.1, h146km, n23, σ2s71/23, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.08	133	P		Pn	22 15 36.4	+3.0
SAUI	Saumlaki	2.08	133	S		Sn	22 16 02.4	+1.4
FAKI	Fak Fak	4.37	35	P		Pn	22 16 00.6	-2.1
DRS	Darwin Rock St	5.95	169	P		Pn	22 16 27.5	+3.9
SOEI	Soe	6.31	239	P		Pn	22 16 36.4	+7.9
SOEI	Soe	6.31	239	S		Sn	22 17 49.9	+10
MTN	Manton Dam	6.40	168	P		Pn	22 16 33.0	+3.4
KDU	Kakadu	6.66	157	P		Pn	22 16 35.1	+2.1
FITZ	Fitzroy Crossi	12.16	199	Pn		Pn	22 17 47.6	+1.5
	0.7nm,0.3s,baz=22,slow=15,SNR=27							
FITZ				Sn		Sn	22 19 58.9	-1.6
	1.5nm,0.3s,baz=116,slow=20,SNR=6.3 1.4nm,0.3s							
FITZ	Fitzroy Crossi	12.16	199	P		P	22 17 49.7	-2.9
WRA	Warramunga Arr	14.03	162	Pn		Pn	22 18 10.5	+0.4
	0.5nm,0.3s,baz=343,slow=12,SNR=14							
WRA				Sn		Sn	22 20 38.0	-7.7
	2.2nm,0.3s,baz=338,slow=23,SNR=13 1.3nm,0.4s							
COEN	Coen	15.10	120	P		Pn	22 18 23.1	-0.5
QIS	Mount Isa	16.88	147	P		Pn	22 18 46.5	+1.2
ASAR	Alice Springs	17.48	167	P		Pn	22 18 55.1	+2.6
	0.7nm,0.3s,baz=346,slow=10,SNR=41							
ASAR				S		S	22 22 03.8	-2.2
	1.7nm,0.6s,baz=352,slow=25,SNR=7.2 2.9nm,0.5s							
AS01	Alice Springs	17.49	167	P		Pn	22 18 54.4	+1.8
WRKA	Warakurna	18.44	184	P		Pn	22 19 05.9	+2.1
OOD	Oodnadatta	21.86	166	P		P	22 19 40.6	+1.9
QLP	Quilpie	24.23	147	P		P	22 20 02.5	+1.6
PSI	Prapat	32.16	286	LR		LR	22 34 22.7	
	comp=Z,800nm,21.2s,baz=132,slow=37							
SONM	Songino Array	57.94	342	P		P	22 24 35.5	+0.8
	0.3nm,0.7s,baz=152,slow=6.4,SNR=2.3 0.3nm,0.7s							
MKAR	Makanchi Array	67.72	327	P		P	22 25 40.3	+1.0
	2.2nm,0.6s,baz=126,slow=7.7,SNR=40 2.2nm,0.6s							
ZALV	Zalesovo Beam	71.08	334	P		P	22 25 59.3	-0.4
	0.5nm,0.5s,baz=123,slow=5.3,SNR=2.3 0.5nm,0.5s							
KURBB	Kurchatov Arra	72.01	329	P		P	22 26 05.5	+0.2
	0.7nm,0.3s,baz=132,slow=4.7,SNR=5.1 0.7nm,0.3s							

ATH ***16*** *22:23:43.0, 37°.49N×20°.32E, h6km±2km, ML3.1/27, Manual Solution by E.Daskalaki First location: 2019/03/18 19:12:18, This location: 2019/03/18 19:09:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*

THE ***16*** *22:23:43.1, 37°.46N×20°.34E, h0km±1km, ML3.0/14, Error ellipse: s-maj=1.7km s-min=0.5km az=222.0*

IDC ***16*** *22:23:50.1±4.7, 38°.41N×21°.54E, h0km, mb3.5/4, mbtmp3.5/5, ML0.9/1, Error ellipse: s-maj=102.6km s-min=31.1km az=59.0*

ISC 16 22:23:41.2±1.8, 37°.40N±0°.05×20°.28E±0°.05, h5km±9km, n73, σ0s98/103, mb3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.50	59	P		Pg	22 23 51.5	+0.7
KRI1				S		Sg	22 23 57.6	+0.2
	14μm,0.3s							
LTHK	Lithakia	0.54	55	P		Pg	22 23 52.0	+0.4
LTHK				S		Sg	22 23 58.6	0.0
	11μm,0.5s							
LTHK	Lithakia	0.54	55	P		Pg	22 23 52.0	+0.4
LTHK				S		Sg	22 23 58.5	-0.1
ORTH	Orthonies,Zaky	0.56	36	P		Pg	22 23 52.6	+0.7
ORTH				S		Sg	22 23 58.6	-0.6
KYPS	Kipseli, Zakin	0.60	46	P		Pg	22 23 53.4	+0.7
KYPS				S		Sg	22 24 00.3	-0.3
PSDA	Pessada-Kefalo	0.75	19	P		Pg	22 23 56.0	+0.4
PSDA				S		Sb	22 24 05.8	-1.4
	2μm,0.4s							
PSDA	Pessada-Kefalo	0.75	19	P		Pg	22 23 56.0	+0.4
PSDA				S		Sg	22 24 04.7	-0.6
RTZL	Ratzakli, Kefa	0.78	30	P		Pg	22 23 56.4	+0.3
RTZL				S		Sb	22 24 06.8	-1.2
	1μm,0.6s							
VLS	Valsamata	0.81	18	P		Pg	22 23 57.0	+0.2
VLS				S		Sb	22 24 08.1	-0.9
	1μm,0.5s							
VLS	Valsamata	0.81	18	P		Pg	22 23 56.8	0.0
VLS				S		Sg	22 24 07.1	-0.3
CLEM	Kyllini,Ilia,G	0.83	54	P		Pg	22 23 57.3	0.0
CLEM				S		Sg	22 24 08.0	0.0
DMLN	Damoulianata-K	0.84	5	P		Pg	22 23 57.9	+0.6
DMLN				S		Sb	22 24 09.3	-0.5
	3μm,0.4s							
DMLN	Damoulianata-K	0.84	5	P		Pg	22 23 57.9	+0.6
SMHA	Samh	0.90	19	P		Pg	22 23 57.6	-0.8
SMHA				S		Sg	22 24 09.5	-0.5
VSK1	VASILIKIADES	1.03	13	P		Pg	22 24 01.1	+0.1
VSK1				S		Sb	22 24 15.2	-0.1
	1μm,0.6s							
FSK	Fiskardo	1.08	12	P		Pg	22 24 01.6	-0.3
FSK				S		Sb	22 24 17.0	+0.3
	735nm,0.3s							
FSK	Fiskardo	1.08	12	P		Pg	22 24 01.5	-0.3
FSK				S		Sb	22 24 15.8	-0.8
ZARO	Zacharo	1.09	85	P		Pg	22 24 03.0	+0.8
YRMI	Loutra Irminis	1.10	50	P		Pg	22 24 02.0	-0.3
YRMI				S		Sg	22 24 15.8	-0.8
AMT	Artemida-Makis	1.15	83	P		Pg	22 24 03.6	+0.4
AMT				S		Sb	22 24 20.0	+1.4
RLS	Riolos of Patr	1.15	55	P		Pg	22 24 02.8	-0.4
RLS				S		Sb	22 24 18.9	+0.3
	548nm,0.3s							
RLS	Riolos of Patr	1.15	55	P		Pg	22 24 02.8	-0.4
RLS				S		Sg	22 24 17.7	-0.4
AXS	Araxos	1.18	47	P		Pg	22 24 03.5	-0.3
AXS				S		Sb	22 24 18.8	-0.7
EVGI	Lefkada island	1.25	14	P		Pg	22 24 04.7	-0.6
EVGI	Lefkada island	1.25	14	P		Pg	22 24 04.6	-0.6
EVGI				S		Sg	22 24 20.8	-0.7
DRO	Drossia	1.26	64	P		Pg	22 24 05.2	-0.2
DRO				S		Sb	22 24 22.9	+0.9
	942nm,0.5s							
DRO	Drossia	1.26	64	P		Pg	22 24 05.2	-0.2
DRO				S		Sg	22 24 21.4	-0.3
DRAG	Dragano-Lefkad	1.30	10	P		Pg	22 24 06.2	+0.1
DRAG				S		Sn	22 24 24.3	+0.6
DRAG	Dragano-Lefkad	1.30	10	P		Pb	22 24 06.8	+0.7
ITM	Ithomi	1.33	99	P		Pg	22 24 06.9	+0.2
ITM				S		Sb	22 24 26.1	+2.1
	270nm,1.0s							
ITM	Ithomi	1.33	99	P		Pg	22 24 07.1	+0.3
NYDR	Nydri-Lefkada	1.35	14	P		Pg	22 24 06.7	-0.4
NYDR				S		Sn	22 24 26.1	+1.2
	450nm,0.6s							
NYDR	Nydri-Lefkada	1.35	14	P		Pg	22 24 06.6	-0.5
LKD2	Lefkada island	1.42	12	P		Pg	22 24 08.0	-0.4
LKD2				S		Sn	22 24 28.2	+1.6
	678nm,0.6s							
LKD2	Lefkada island	1.42	12	P		Pg	22 24 07.9	-0.4
TSLK	Tsoukalades, L	1.45	12	P		Pg	22 24 08.8	-0.2
TSLK				S		Sn	22 24 28.8	+1.4
	615nm,0.5s							
TSLK	Tsoukalades, L	1.45	12	P		Pn	22 24 09.4	+1.4
PVO	Paravola	1.56	39	P		Pn	22 24 10.6	+1.0
KLV	Kalavryta, Ach	1.62	66	P		Pn	22 24 11.8	+1.4
KLV	Kalavryta, Ach	1.62	66	P		Pn	22 24 11.1	+0.8
EFP	Efpalio	1.64	51	P		Pn	22 24 11.9	+1.2
EFP	Efpalio	1.64	51	P		Pn	22 24 11.6	+0.9
ALIK	Aliki, Aigiali	1.69	59	P		Pn	22 24 12.2	+1.0
GUR	Goura	1.72	71	P		Pn	22 24 13.0	+1.1
GUR	Goura	1.72	71	P		Pn	22 24 12.9	+1.0
SERG	Sergoula	1.73	54	P		Pn	22 24 12.7	+0.8
ANX	Ano Chora	1.76	47	P		Pn	22 24 13.7	+1.3
ANX	Ano Chora	1.76	47	P		Pn	22 24 13.4	+1.0
EVR	Evrytania	1.93	38	P		Pb	22 24 17.5	+0.5
TETR	Tetrakomo, Epi	2.09	22	P		Pn	22 24 17.9	+1.0
IGT	Igoumenitsa	2.13	1	P		Pn	22 24 17.9	+0.5
MAKR	Makrakomi, Fth	2.17	42	P		Pn	22 24 19.4	+1.4
LTK	Loutraki	2.22	73	P		Pn	22 24 19.3	+0.7
VLI	Veliai	2.23	107	P		Pn	22 24 21.3	+2.5
KRND	KRANIDI	2.29	90	P		Pn	22 24 20.6	+1.1
AXAR	Agios Charalam	2.32	53	P		Pn	22 24 21.2	+1.2
KEK	Kerkira	2.34	351	P		Pn	22 24 21.9	+1.7
LKR	Lokris	2.48	59	P		Pn	22 24 23.0	+0.8
VIL2	Platees	2.50	70	P		Pn	22 24 23.2	+0.7
THL	Klokotos Trika	2.55	32	P		Pn	22 24 24.4	+1.2
TYRN	Tyrnavos	2.77	33	P		Pn	22 24 27.2	+1.1
DION	Dionisos Attik	2.97	76	P		Pn	22 24 29.7	+0.6
NEO	Neokhori	3.00	50	P		Pn	22 24 29.7	+0.4
XOR	Xorichti	3.01	49	P		Pn	22 24 29.7	+0.1
LIT	Litokhoron	3.20	32	P		Pn	22 24 33.0	+0.8
OHR	Ohrid	3.73	6	*i* Pn		Pn	22 24 43.3	+3.9
IDI	Anoyia	4.28	118	Pn		Pb	22 24 54.4	-2.5
	0.4nm,0.3s,baz=46,slow=8.7,SNR=2.2							
IDI				Sn		Sn	22 25 36.8	-0.5
	1.2nm,0.3s,baz=198,slow=12,SNR=2.0 14nm,1.0s							
VAY	Valandovo	4.30	24	*i* Pn		Pn	22 24 48.6	+1.5
PEHC	Pehcevo	4.82	24	*i* Pn		Pn	22 24 54.3	-0.1
HFS	Hagfors	23.14	352	P		P	22 28 48.9	+0.9
	1.9nm,0.8s,baz=172,slow=12,SNR=2.0 1.9nm,0.8s							
FINES	FINESS Array B	24.34	7	P		P	22 28 58.6	-1.0
	1.6nm,0.9s,baz=198,slow=10.0,SNR=3.8 1.6nm,0.9s							
MKAR	Makanchi Array	45.87	58	P		P	22 32 02.6	-1.7
	0.2nm,0.5s,baz=292,slow=7.1,SNR=4.6 0.2nm,0.5s							
ZALV	Zalesovo Beam	46.35	48	P		P	22 32 06.7	-1.2
	0.5nm,0.5s,baz=258,slow=7.2,SNR=2.5 0.5nm,0.5s							

NEIC ***16*** *22:27:55.9±0.6, 18°.2N±0°.4×69°.0W±0°.1, h106km±24km, ML2.3/12, Md2.9/4(RSPR), Error ellipse: s-maj=54.6km s-min=3.5km az=194.0*

SDD ***16*** *22:27:56.8±2.0, 18°.50N×68°.80W, h119km±19km, MD2.9, ML2.5, MW2.8*

RSPR ***16*** *22:27:56.2, 18°.16N×68°.97W, h104km±6km, MD2.9/4*

ISC 16 22:27:57.1±1.8, 18°.5N±0°.2×68°.85W±0°.08, h108km±14km, n18, σ0s77/23, 3C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.45	86			Pn	22 28 13.0	-0.3
PCDR						Sn	22 28 26.5	+0.9
PCDR				IAML			22 28 27.7	
	comp=N,82nm,1.4s							
PCDR				IAML			22 28 51.4	
	comp=E,54nm,1.5s							
PCDR	Punta Cana, DR	0.45	86	⇓*e*Pg		Pn	22 28 12.8	-0.6
PCDR				*e*Sg		Sn	22 28 25.3	-0.3
PCDR				IAML			22 28 50.8	
	comp=N,141nm,1.8s							
PCDR	Punta Cana, DR	0.45	86	⇓*e*P		Pn	22 28 13.0	-0.3
PCDR	Punta Cana, DR	0.45	86	*e*S		Sn	22 28 26.5	+0.9
MIDR	Miches	0.53	340	⇓*e*Pg		Pn	22 28 13.9	-0.1
MIDR				⇓*e*Sg		Sn	22 28 27.2	+0.6
MIDR				IAML			22 28 28.1	
	comp=N,39nm,0.5s							
DR12	Loma Pena Alta	0.58	301	Pn		Pn	22 28 13.9	-0.5
HATOM	Hato Mayor del	0.58	301	⇓*e*Pg		Pn	22 28 14.0	-0.4
HATOM				⇑*e*Sg		Sn	22 28 28.3	+0.9
HATOM				IAML			22 28 28.7	
	comp=N,39nm,0.2s							
DR08	Loma La Naviza	1.21	293	⇑*e*Pg		Pn	22 28 19.8	-0.6
DR08				*e*Sg		Sn	22 28 36.5	-1.6
DR08				IAML			22 28 40.4	
	comp=N,385nm,0.5s							
ABDR	Alto Bandera	1.71	281	*e*Pg		Pn	22 28 27.8	+1.1
ABDR				IAML			22 29 00.4	
	comp=N,34nm,2.1s							
CRPR	Cabo Rojo, PR	1.72	106			Pn	22 28 26.2	-0.3
CRPR						Sn	22 28 48.7	-0.2
CRPR	Cabo Rojo, PR	1.72	106	IAML			22 28 56.3	
	comp=E,19nm,1.4s							
CRPR				IAML			22 28 57.4	
	comp=N,26nm,1.5s							
CRPR	Cabo Rojo, PR	1.72	106	⇓*e*P		Pn	22 28 26.2	-0.3
CRPR	Cabo Rojo, PR	1.72	106	*e*S		Sn	22 28 48.7	-0.2
AOPR	Arecibo Observ	2.00	94	Pn		Pn	22 28 29.9	-0.1
AOPR				IAML			22 29 24.8	
	comp=N,26nm,1.4s							
CELP	Cerrillos	2.20	100			Pn	22 28 31.9	-0.7
CELP						Sn	22 29 00.7	+1.0
CELP	Cerrillos	2.20	100	IAML			22 29 42.8	
	comp=N,12nm,1.5s							
CELP	Cerrillos	2.20	100	⇑*e*P		Pn	22 28 31.9	-0.7
CELP	Cerrillos	2.20	100	*e*S		Sn	22 29 00.7	+1.0

MOS ***16*** *22:29:26.3±0.9, 3°.04S×102°.00E, h74km, mb5.3/65, Error ellipse: s-maj=7.2km s-min=3.8km az=114.9*

NEIC ***16*** *22:29:29.7±2.1, 3°.12S±0°.06×101°.97E±0°.06, h87km±4km, mb5.3/139, Mww5.1/26, Error ellipse: s-maj=9.4km s-min=7.8km az=56.0*

NEIC ***16*** *22:29:29.6, 3°.12S×101°.97E, h90km*

NEIC ***16*** *22:29:29.6, 3°.42S×102°.00E, h90km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16Nm; Mrr2.22; Mθθ-3.74; Mφφ 1.52; Mrθ 1.35; Mθφ-3.00; Mθr-2.09; Fault plane solution: M0 5.08000×10^16 NP1: φs208.61000°, δ59.65000°, λ29.68000°. NP2: φs102.54000°, δ64.70000°, λ146.02000°. Principal axes: T 5.0386, Plg41.0000°, Azm64.0000°; N 0.0851, Plg49.0000°, Azm250.0000°; P -5.1237, Plg3.0000°, Azm157.0000°;*

DJA ***16*** *22:29:29.4±0.1, 3°S±2°×10°2E±°, h92km±2km, M5.1/92, mB5.7/62, mb5.4/92, MLv5.5/24, Mws5.1/122, Mw(mB)5.2/62, MwMwp4.8/13, Mwp5.1/13*

GCMT ***16*** *22:29:31.7±0.2, 3°.17S±0°.01×101°.97E±0°.01, h107km±1km, MW5.2/124, Moment Tensor Solution. s99,c137; s124,c199; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.29±.12; Mθθ-3.64±.14; Mφφ 1.34±.15; Mrθ 1.75±.09; Mθφ-4.97±.12; Mθr-2.60±.10; Best double couple: M0 6.68300×10^16 NP1:φs199.00000°, δ65.00000°, λ26.00000°. NP2:φs97.00000°, δ66.00000°, λ152.00000°. Principal axes: T 6.6560, Plg36.0000°, Azm58.0000°; N 0.0450, Plg54.0000°, Azm240.0000°; P -6.7110, Plg1.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***16*** *22:29:32.1±0.8, 3°.03S×102°.13E, h114km±6km, mb4.7/36, mbtmp5.1/39, MS3.7/45 Error ellipse: s-maj=10.7km s-min=6.3km az=57.0*

ISC 16 22:29:29.8±0.3, 3°.19S±0°.03×101°.97E±0°.03, h101km±2km, h101km:pP-P, n782, σ1s34/882, mb5.1/213, 40C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.77	126	P		Pn	22 29 47.8	-0.2
KSI				S		Sn	22 30 01.6	-0.1
MNAI	Manna	1.52	140			Pn	22 29 56.7	+0.3
MNAI					Sn	Sn	22 30 17.1	+0.6
MNAI	Manna	1.52	140	P		Pn	22 29 56.5	+0.1
MNAI				S		Sn	22 30 16.8	+0.3
MDSI	Maura Dua	2.55	120	P		Pn	22 30 10.4	+0.8
LWLI	Liwa	2.76	131	P		Pn	22 30 13.0	+0.5
PMBI	Palembang	2.81	85	Pn		Pn	22 30 12.6	-0.4
PMBI				Sn		Sn	22 30 45.0	-1.3
PMBI	Palembang	2.81	85	P		Pn	22 30 13.4	+0.4
PMBI	Palembang	2.81	85	S		Sn	22 30 51.0	+4.7
PMBI	Palembang	2.81	85	P		Pn	22 30 13.1	+0.1
PPI	Padang Panjang	3.14	330	P		Pn	22 30 18.2	+0.7
SISI	Saibi	3.42	303	P		Pn	22 30 21.7	+0.4
BKNI	Bangkinang	3.62	345	Pn		Pn	22 30 25.0	+1.1
BKNI	Bangkinang	3.62	345	P		Pn	22 30 25.3	+1.4
BKNI	Bangkinang	3.62	345	P		Pn	22 30 25.3	+1.4
BLSI	Bandar Lampung	3.92	124	P		Pn	22 30 28.8	+0.9
MNSI	Mandailing Nat	4.63	329	P		Pn	22 30 37.8	+0.3
PBSI	Pulau Batu	4.83	310	P		Pn	22 30 40.8	+0.6
CGJI	Cibinong	5.03	133	P		Pn	22 30 40.8	-2.1
SBJI	Serang	5.06	125	P		Pn	22 30 43.3	-0.1
	3.6nm10μm1μm,0.9s							
MYKOM	Kota Tinggi	5.29	21	Pn		Pn	22 30 47.8	+1.2
MYKOM	Kota Tinggi	5.29	21	P		Pn	22 30 49.6	+3.1
TNG	Tangerang	5.52	123	P		Pn	22 30 50.5	+0.9
TPI	Tanjungpandan	5.69	86	P		Pn	22 30 52.6	+0.7
SKJI	Sukabumi	5.93	130	P		Pn	22 30 53.9	-1.3
GSI	Gunungsitoli	6.27	315	Pn		Pn	22 30 58.4	-1.3
GSI	Gunungsitoli	6.27	315	P		Pn	22 30 59.0	-0.8
GSI	Gunungsitoli	6.27	315	P		Pn	22 30 59.2	-0.6
CNJI	Cibinong	6.56	129	P		Pn	22 31 01.4	-2.4
RPSI	Rantau Prapat	6.59	332	Pn		Pn	22 31 04.0	-0.3
LEM	Lembang	6.68	123	P		Pn	22 31 06.6	+1.0
	309nm,0.9s,baz=220,slow=7.0,SNR=38							
LEM				S		Sn	22 32 21.1	+0.8
	119nm,0.6s,baz=227,slow=21,SNR=1.2							
LEM	Lembang	6.68	123	P		Pn	22 31 06.5	+1.0
	1.9nm6μm654nm,1.0s							
PSI	Prapat	6.69	333	P		Pn	22 31 04.2	-1.3
	70nm,0.4s,baz=157,slow=4.6,SNR=87							
PSI	Prapat	6.69	333	P		Pn	22 31 04.3	-1.3
PSI	Prapat	6.69	333	P		Pn	22 31 03.0	-2.6
BBJI	Bungbulang	7.07	127	P		Pn	22 31 09.0	-1.7
TSI	Tuntungan	7.47	333	P		Pn	22 31 16.4	+0.3
	1.6nm3μm4μm499nm,0.8s							
CMJI	Cimerak	7.90	126	P		Pn	22 31 20.0	-1.9
	2.4nm7μm465nm,1.3s							
SNSI	Sinabang, Aceh	7.92	315	P		Pn	22 31 21.8	-0.5
XMI	Christmas Isla	8.10	153	P		Pn	22 31 17.4	-7.3
XMIS	Christmas Isla	8.11	153	P		Pn	22 31 17.3	-7.5
KULM	Kulim	8.53	351			Pn	22 31 30.6	0.0
KULM	Kulim	8.53	351	P		Pn	22 31 31.5	+1.0
SMRI	Semarang	9.26	115	Pn		Pn	22 31 42.1	+1.6
SMRI	Semarang	9.26	115	P		Pn	22 31 42.3	+1.8
	4μm478nm,0.8s							
MLSI	Meulaboh, Aceh	9.27	323	P		Pn	22 31 39.4	-1.2
YOGI	Yogyakarta	9.47	119	P		Pn	22 31 42.6	-0.8
	3μm334nm,1.1s							
KSM	Kuching	9.54	61			Pn	22 31 43.3	-1.0
UGM	Wanagama	9.72	119	Pn		Pn	22 31 45.3	-1.4
UGM	Wanagama	9.72	119	P		Pn	22 31 45.7	-1.0
UGM	Wanagama	9.72	119	P		Pn	22 31 45.9	-0.8
	5μm246nm,1.0s							
LHMI	Lhok Sumawe	9.76	329	Pn		Pn	22 31 45.7	-1.5
LHMI	Lhok Sumawe	9.76	329	P		Pn	22 31 46.2	-1.0
LHMI	Lhok Sumawe	9.76	329	P		Pn	22 31 45.8	-1.5
	3μm5μm271nm,0.8s							
STKI	Sintang	10.04	71	P		Pn	22 31 54.6	+3.5
	99nm,1.3s							
COCO	West Island	10.28	209			Pn	22 31 53.1	-1.2
COCO	West Island	10.28	209	P		Pn	22 31 53.6	-0.8
NGJI	Ngawi	10.32	114	P		Pn	22 31 57.0	+2.1
	3μm289nm,1.4s							
PCJI	Pacitan	10.42	119	P		Pn	22 31 54.2	-2.1
	3μm193nm,0.8s							
BSI	Banda Aceh	10.91	322	P		Pn	22 32 00.1	-2.8
	2μm6μm341nm,0.9s							
GRJI	Gresik	11.10	110	P		Pn	22 32 08.2	+2.7
	4μm222nm,0.8s							
SBUM	Sibu	11.68	61			Pn	22 32 14.5	+1.3
SBUM	Sibu	11.68	61	P		Pn	22 32 16.9	+3.6
SRIT	Nakonsritamara	11.95	349			Pn	22 32 15.5	-1.3
GMJI	Gumukmas	12.48	114	P		Pn	22 32 24.0	+0.1
	2μm53nm,0.5s							
KMMI	Kalianget	12.54	108	P		Pn	22 32 26.5	+1.7
	158nm,1.3s							
ABJI	Asem Bagus	13.03	111	P		Pn	22 32 31.8	+0.6
JAGI	Jajag, Banyuwa	13.20	114			Pn	22 32 31.1	-2.3
JAGI	Jajag, Banyuwa	13.20	114	P		Pn	22 32 32.0	-1.4
JAGI	Jajag, Banyuwa	13.20	114	P		Pn	22 32 31.2	-2.2
	2μm4μm317nm,0.7s							
SRBI	Singaraja	14.04	111	P		Pn	22 32 45.1	+0.8
	2μm137nm,0.7s							
BKB	Balikpapan	15.04	83			Pn	22 32 57.7	+0.6
BKB	Balikpapan	15.04	83	P		P	22 32 59.6	-0.4
	3μm313nm,1.0s							
SMKI	Samarinda	15.47	80	P		P	22 33 05.4

comp=Z,109nm,1.0s
QIZ Qiongzhong 23.40 19 P **P** **22 34 28.4 -1.5**
QIZ Qiongzhong 23.40 19 P **P** **22 34 30.6 +0.7**
QIZ sP **sP** **22 35 02.6 -0.6**
QIZ S **S** **22 38 38.4 +3.0**
QIZ sS **sS** **22 39 14.1 +1.0**
QIZ pmax pmax
comp=Z,64nm,1.5s
QIZ pmax pmax
comp=Z,190nm,3.3s
QIZ LR LR
comp=Z,250nm,7.3s
QIZ LR LR
comp=Z,350nm,7.7s
QIZ LR LR
comp=Z,190nm,9.4s
PALK Pallekele 23.64 296 P **P** **22 34 31.2 -0.9**
PALK Pallekele 23.64 296 P **P** **22 34 31.2 -0.9**
SANI Sanana 24.02 88 P **P** **22 34 36.4 +0.9**
SANI Sanana 24.02 88 P **P** **22 34 35.7 +0.2**
comp=Z,962nmcomp=Z,59nm,1.4s
SLVN Son La 24.45 4 P **P** **22 34 39.7 +0.3**
SGSI Sangihe 24.52 74 P **P** **22 34 41.5 +1.4**
MBWA Marble Bar 24.85 137 P **P** **22 34 42.9 -0.1**
MBWA Marble Bar 24.85 137 P **P** **22 34 42.2 -0.9**
comp=Z,51nm,1.0s
MBWA Marble Bar 24.85 137 P **P** **22 34 39.1 -3.9**
NLAI Namlea 25.09 91 P **P** **22 34 46.4 +1.1**
comp=Z,1μcomp=Z,73nm,0.7s
PSAC1 Pilbara Seismi 25.16 138 P **P** **22 34 49.0 +3.2**
PSA00 Pilbara Seismi 25.21 138 P **P** **22 34 46.0 -0.3**
PSA00 IAmb IAmb 22 35 10.7
comp=Z,53nm,1.0s
PSA00 Pilbara Seismi 25.21 138 P **P** **22 34 46.6 +0.3**
PSA00 IAmb IAmb 22 35 12.5
comp=Z,34nm,1.1s
PSA00 Pilbara Seismi 25.21 138 P **P** **22 34 49.2 +2.8**
PSA00 Pilbara Seismi 25.21 138 P **P** **22 34 44.0 -2.3**
TGY Tagaytay City 25.48 47 LR LR 22 45 06.6
comp=Z,136nm,21.6s,baz=254,slow=37
DAV Davao City (W) 25.67 67 LR LR 22 44 19.0
comp=Z,169nm,21.1s,baz=285,slow=35
TNTI Ternate 25.69 82 P **P** **22 34 51.1 +0.4**
TNTI IAmb IAmb 22 34 57.1
comp=Z,43nm,0.8s
TNTI Ternate 25.69 82 P **P** **22 34 52.1 +1.4**
comp=Z,58nm,0.9s
MSAI Masohi 26.91 91 P **P** **22 35 03.1 +1.3**
comp=Z,54nm,0.8s
FITZ Fitzroy Crossi 27.52 124 P **P** **22 35 06.1 -1.0**
FITZ Fitzroy Crossi 27.52 124 LR LR 22 45 38.3
comp=Z,168nm,21.4s,baz=298,slow=35
BRDH Bariadhala 27.62 339 LR LR 22 46 50.3
comp=Z,180nm,18.7s,baz=156,slow=38
KMI Kunming 28.16 1 ⇓P **P** **22 35 15.5 +2.6**
KMI sP sP 22 35 45.3 -2.3
KMI S **S** **22 39 51.5 +0.3**
KMI sS sS 22 40 34.4 +3.9
KMI ScP **ScP** **22 41 56.1 -0.6**
KMI pmax pmax
comp=Z,25nm,0.9s
KMI LR LR
comp=Z,190nm,13.2s
KMI LR LR
comp=Z,290nm,11.7s
KMI LR LR
comp=Z,370nm,12.6s
MEEK Meekatharra 28.25 147 P **P** **22 35 14.5 +1.0**
comp=Z,38nm,1.1s
TNCH TengChong 28.25 353 P **P** **22 35 14.4 +0.7**
TNCH pmax pmax
comp=Z,15nm,0.8s
TNCH pmax pmax
comp=Z,80nm,3.8s
TNCH LR LR
comp=Z,390nm,9.6s
TNCH LR LR
comp=Z,310nm,9.2s
TNCH LR LR
comp=Z,330nm,11.4s
MORW Morawa 29.00 154 P **P** **22 35 21.7 +1.5**
KNRA Kununurra 29.14 117 P **P** **22 35 19.4 -2.2**
KNRA Kununurra 29.14 117 P **P** **22 35 20.4 -1.2**
comp=Z,27nm,0.7s
SWI Sorong 29.36 86 P **P** **22 35 24.0 +0.5**
comp=Z,38nm,1.2s
PZH PanZhiHua 29.52 360 P **P** **22 35 25.8 +0.9**
PZH PcP **PcP** **22 38 28.6 +0.6**
PZH S **S** **22 40 12.8 +0.3**
PZH ScP **ScP** **22 41 59.8 -1.1**
PZH ScS **ScS** **22 45 56.3 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,210nm,6.5s
PZH LR LR
comp=Z,230nm,13.7s
PZH LR LR
comp=Z,240nm,12.6s
PZH LR LR
comp=Z,290nm,13.2s
H08S2 Diego Garcia H 29.67 260 T T 23 05 11.0
baz=82,slow=75,SNR=653
H08S3 Diego Garcia H 29.68 260 T T 23 05 07.9
baz=82,slow=75,SNR=413
H08S1 Diego Garcia H 29.69 260 T T 23 05 06.4
baz=82,slow=75,SNR=520
GYA Guiyang 29.82 8 ⇑P **P** **22 35 29.8 +2.2**
GYA pmax pmax
comp=Z,62nm,1.0s
GYA LR LR
comp=Z,490nm,12.0s
DRS Darwin Rock St 30.06 109 P **P** **22 35 28.7 -1.0**
SHL Shillong 30.22 342 P **P** **22 35 30.0 -1.2**
SHL IAmb IAmb 22 35 31.7
comp=Z,18nm,0.7s
SHL Shillong 30.22 342 P **P** **22 35 30.0 -1.2**
SHL pmax pmax
comp=Z,18nm,0.7s
FAKI Fak Fak 30.23 90 P **P** **22 35 29.9 -1.4**
FAKI Fak Fak 30.23 90 P **P** **22 35 31.4 +0.1**
FAKI Fak Fak 30.23 90 P **P** **22 35 32.3 +1.0**
comp=Z,1μcomp=Z,127nm,0.9s
MTN Manton Dam 30.39 110 P **P** **22 35 30.4 -2.3**
MTN Manton Dam 30.39 110 P **P** **22 35 30.4 -2.3**
HYB Hyderabad 30.88 312 *eP* **P** **22 35 37.5 +0.6**
KDU Kakadu 31.61 109 P **P** **22 35 40.8 -2.6**
TPUB Ta-pu 32.01 34 P **P** **22 35 46.9 +0.2**
YULB Yu-li 32.45 35 P **P** **22 35 50.8 +0.2**
YULB IAmb IAmb 22 35 54.2
comp=Z,124nm,1.6s
SSLB Suanglung 32.57 34 P **P** **22 35 52.3 +0.6**
SSLB IAmb IAmb 22 35 54.0
comp=Z,35nm,0.8s
NWAO Narrogin (SRO) 32.85 156 P **P** **22 35 55.0 +0.9**
NWAO IAmb IAmb 22 35 57.7
comp=Z,130nm,1.8s
NWAO Narrogin (SRO) 32.85 156 LR LR 22 47 58.2
comp=Z,92nm,20.2s,baz=51,slow=34
NWAO Narrogin (SRO) 32.85 156 P **P** **22 35 55.0 +0.9**
NWAO pmax pmax
comp=Z,130nm,1.8s
NWAO Narrogin (SRO) 32.85 156 P **P** **22 35 55.2 +1.2**
NWAO PcP **PcP** **22 38 37.5 +0.9**
NACB Ninganchiao 33.23 34 P **P** **22 35 58.0 +0.5**
H01W3 Cape Leeuwin H 33.50 162 T T 23 10 46.4
baz=338
YHNB Yeheng 33.51 33 P **P** **22 36 00.3 +0.5**
YHNB IAmb IAmb 22 36 07.1
comp=Z,69nm,1.2s
H01W2 Cape Leeuwin H 33.51 162 T T 23 10 25.9
baz=338,slow=74
H01W1 Cape Leeuwin H 33.51 162 T T 23 10 35.1
baz=338,slow=74
CD2 Chengdu 33.95 3 P **P** **22 36 03.5 -0.2**
CD2 S **S** **22 41 18.3 -3.0**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,370nm,11.4s
CD2 LR LR
comp=Z,320nm,10.8s
ENH Enshi 34.04 12 P **P** **22 36 04.2 -0.2**
ENH IAmb IAmb 22 36 05.9
comp=Z,40nm,1.1s
ENH Enshi 34.04 12 P **P** **22 36 04.8 +0.4**
YOJ Yonaguni jima 34.27 36 P **P** **22 36 07.1 +0.7**
YOJ Yonaguni jima 34.27 36 P **P** **22 36 07.1 +0.7**
YOJ pmax pmax
comp=Z,156nm,1.3s
LSA Lhasa 34.31 343 P **P** **22 36 07.0 -0.2**
LSA Lhasa 34.31 343 P **P** **22 36 07.0 -0.2**
LSA pmax pmax
comp=Z,13nm,1.0s
WHN Wuhan 35.57 19 P **P** **22 36 19.4 +1.9**
WHN pmax pmax
comp=Z,140nm,1.1s
WB0 Warramunga Arr 35.67 120 P **P** **22 36 17.2 -1.4**
WB0 IAmb IAmb 22 36 19.3
comp=Z,61nm,1.1s
WRA Warramunga Arr 35.69 120 P **P** **22 36 17.6 -1.1**
WRA PcP **PcP** **22 38 45.4 +0.3**
WRA Warramunga Arr 35.69 120 P **P** **22 36 18.3 -0.5**
comp=Z,43nm,0.9s,baz=302,slow=8.9,SNR=278
WRA PcP **PcP** **22 38 45.6 +0.4**
comp=Z,10nm,0.9s,baz=304,slow=2.2,SNR=7.3
WRA S **S** **22 41 41.5 -6.9**
comp=Z,19nm,0.9s,baz=293,slow=16,SNR=25
WRA ScP **ScP** **22 42 21.2 -1.0**
comp=Z,4.5nm,0.7s,baz=311,slow=3.0,SNR=9.1
WRA LR LR 22 53 01.5
comp=Z,50nm,18.4s,baz=340,slow=40
comp=Z,43nm,0.9s
WRA Warramunga Arr 35.69 120 *ceP* **P** **22 36 17.7 -1.1**
WRA pmax pmax
comp=Z,16nm,0.3s
WR0 Warramunga Arr 35.88 120 P **P** **22 36 19.5 -0.8**
SMPI Sarmi 36.72 89 P **P** **22 36 28.9 +1.3**
comp=Z,90nm,1.3s
FORT Forrest 36.87 141 P **P** **22 36 29.6 +1.0**
FORT PcP **PcP** **22 38 50.1 +1.7**
AS31 Alice Springs 36.96 126 P **P** **22 36 29.6 +0.1**
ASAR Alice Springs 36.96 126 P **P** **22 36 29.8 +0.2**
ASAR PcP **PcP** **22 38 49.6 +0.7**
ASAR Alice Springs 36.96 126 P **P** **22 36 29.9 +0.3**
comp=Z,35nm,0.5s,baz=300,slow=7.7,SNR=50
ASAR PcP **PcP** **22 38 49.5 +0.5**
comp=Z,10nm,0.7s,baz=307,slow=2.7,SNR=14
ASAR S **S** **22 42 03.2 -4.4**
comp=Z,16nm,0.9s,baz=300,slow=16,SNR=33
ASAR ScP **ScP** **22 42 26.5 -0.4**
comp=Z,4.8nm,1.0s,baz=279,slow=4.8,SNR=4.2
ASAR LR LR 22 53 24.7
comp=Z,117nm,19.4s,baz=298,slow=39
comp=Z,35nm,0.5s
XAN Xi'an 37.61 9 ⇑P **P** **22 36 34.8 0.0**
XAN S **S** **22 42 10.5 -6.6**
XAN pmax pmax
comp=Z,68nm,1.0s
XAN pmax pmax
comp=Z,120nm,6.2s
XAN LR LR
comp=Z,440nm,11.7s
XAN LR LR
comp=Z,250nm,12.4s
XAN LR LR
comp=Z,610nm,12.4s
XAN Xi'an 37.61 9 P **P** **22 36 34.9 0.0**
GENI Genyem 38.15 90 P **P** **22 36 40.0 +0.3**
comp=Z,83nm,1.0s
NJ2 Nanjing 38.55 23 ⇓*iP* **P** **22 36 44.4 +1.7**
NJ2 pmax pmax
comp=Z,18nm,0.9s
JAY Jayapura 38.69 90 P **P** **22 36 44.8 +0.6**
comp=Z,38nm,0.9s
SSE Sheshan 38.71 27 P **P** **22 36 45.4 +1.4**
SSE S **S** **22 42 33.3 -0.3**
SSE pmax pmax
comp=Z,26nm,0.8s
SSE pmax pmax
comp=Z,150nm,4.2s
SSE LR LR
comp=Z,130nm,17.3s
SSE LR LR
comp=Z,240nm,17.7s
LYN LuoYang 38.82 14 ⇑P **P** **22 36 46.3 +1.4**
LYN pP pP 22 37 10.1 +1.7
LYN PcP **PcP** **22 38 55.0 +0.7**
LYN ScP **ScP** **22 42 32.3 -1.2**
LYN S **S** **22 42 36.8 +1.5**
LYN sS sS 22 43 22.9 +7.5
LYN pmax pmax
comp=Z,100nm,1.1s
LYN LR LR
comp=Z,220nm,13.3s
LYN LR LR
comp=Z,370nm,11.3s
LYN LR LR
comp=Z,380nm,16.5s
LZH Lanzhou 39.12 2 *eP* **P** **22 36 48.8 +1.2**
LZH pP pP 22 37 12.3 +1.0
LZH PcP **PcP** **22 38 56.8 +1.4**
LZH ScP **ScP** **22 42 34.4 -0.4**
LZH ScS **ScS** **22 46 44.5 -2.1**
LZH pmax pmax
comp=Z,22nm,1.3s
LZH LR LR
comp=Z,350nm,14.8s
LZH LR LR
comp=Z,350nm,15.1s
LZH LR LR
comp=Z,390nm,14.4s
JOW Kunigami 39.20 39 P **P** **22 36 48.9 +0.6**
JOW IAmb IAmb 22 36 50.8
comp=Z,51nm,1.2s
GOMU GeErMu 39.75 351 P **P** **22 36 53.8 +0.7**
GOMU pP pP 22 37 16.0 -0.9
GOMU sP sP 22 37 27.8 -0.9
GOMU PcP **PcP** **22 38 57.1 -0.6**
GOMU S **S** **22 42 50.8 +0.8**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU pmax pmax
comp=Z,190nm,5.8s
TIA Tai'an 41.68 19 P **P** **22 37 08.1 -0.4**
TIA PcP **PcP** **22 39 04.6 +1.1**
TIA ScP **ScP** **22 42 43.8 -0.9**
TIA S **S** **22 43 15.0 -2.9**
TIA pmax pmax
comp=Z,16nm,0.8s
COEN Coen 42.05 107 P **P** **22 37 12.5 +0.6**
COEN PcP **PcP** **22 39 06.4 +1.2**
HNS HongShan 42.09 15 ⇑P **P** **22 37 12.8 +1.0**
HNS pP **pP** **22 37 36.8 +1.3**
HNS sP **sP** **22 37 48.1 +1.0**
HNS PcP **PcP** **22 39 05.3 +0.5**
HNS ScP **ScP** **22 42 44.5 -1.7**
HNS S **S** **22 43 26.9 +3.1**
HNS ScS **ScS** **22 47 01.3 -2.7**
HNS pmax pmax
comp=Z,22nm,1.1s
HNS LR LR
comp=Z,160nm,12.0s
HNS LR LR
comp=Z,320nm,13.2s
HNS LR LR
comp=Z,200nm,16.7s
GTA Gaotai 42.44 358 *eP* **P** **22 37 16.6 +1.8**
GTA PcP **PcP** **22 39 07.1 +1.0**
GTA ScP **ScP** **22 42 47.3 -0.5**
GTA ScS **ScS** **22 47 02.4 -4.1**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,7.2s
GTA LR LR
comp=Z,140nm,15.5s
GTA LR LR
comp=Z,180nm,15.9s
GTA LR LR
comp=Z,250nm,13.1s
BBOO Buckleboo 43.43 137 P **P** **22 37 23.2 +0.4**
BBOO IAmb IAmb 22 37 29.7
comp=Z,32nm,0.6s
BTO Baotou 44.21 9 *eP* **P** **22 37 31.0 +2.0**
BTO pP **pP** **22 37 56.5 +3.5**
BTO sP **sP** **22 38 08.3 +3.7**
BTO PP **PP** **22 39 13.3 -0.7**
BTO S **S** **22 43 57.9 +3.0**
BTO SS **SS** **22 47 14.3 -2.3**
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,250nm,5.0s
BTO LR LR
comp=Z,380nm,12.1s
BTO LR LR
comp=Z,310nm,5.4s
BTO LR LR
comp=Z,340nm,15.1s
HHC Hu-ho-hao-te 44.70 10 *eP* **P** **22 37 34.6 +1.7**
HHC pP pP 22 37 58.3 +1.3
HHC S **S** **22 44 06.4 +4.3**
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,120nm,5.9s
HHC LR LR
comp=Z,290nm,13.5s
HHC LR LR
comp=Z,130nm,11.8s
HHC LR LR
comp=Z,250nm,12.6s
BJT Baijiatuau 44.93 15 P **P** **22 37 36.0 +1.4**
BJT IAmb IAmb 22 37 36.8
comp=Z,19nm,0.6s
BJT Baijiatuau 44.93 15 P **P** **22 37 36.0 +1.4**
BJT pmax pmax
comp=Z,19nm,0.6s
BJT Baijiatuau 44.93 15 P **P** **22 37 36.0 +1.4**
BJI Beijing 44.96 15 P **P** **22 37 35.8 +1.0**
BJI PcP **PcP** **22 39 15.8 +1.4**
BJI ScP **ScP** **22 42 57.3 -0.6**
BJI S **S** **22 44 06.8 +1.3**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI pmax pmax
comp=Z,74nm,4.5s
BJI LR LR
comp=Z,96nm,20.0s
BJI LR LR
comp=Z,160nm,20.8s
BJI LR LR
comp=Z,91nm,16.4s
JNU Nakatsue 45.30 35 P **P** **22 37 38.6 +0.9**
JNU Nakatsue 45.30 35 LR LR 22 57 03.7
comp=Z,45nm,20.8s,baz=213,slow=37
MANU Manus Island 45.36 90 P **P** **22 37 38.6 +0.1**
MANU IAmb IAmb 22 37 41.2
comp=Z,37nm,0.8s
NIL Nilore 45.58 326 P **P** **22 37 40.3 +0.4**
NIL IAmb IAmb 22 37 42.6
comp=Z,42nm,0.8s
NIL Nilore 45.58 326 P **P** **22 37 40.3 +0.4**
NIL pmax pmax
comp=Z,42nm,0.8s
NIL Nilore 45.58 326 P **P** **22 37 40.5 +0.6**
NIL pP **pP** **22 38 01.6 -2.2**
NIL ScP **ScP** **22 43 01.4 +0.7**
DL2 Dalian 45.65 22 P **P** **22 37 37.8 -2.5**
DL2 S **S** **22 44 13.9 -1.7**
DL2 pmax pmax
comp=Z,29nm,1.5s
DL2 pmax pmax
comp=Z,320nm,4.5s
GUMO Guam 45.71 68 LR LR 22 56 56.0
comp=Z,27nm,21.5s,baz=96,slow=36
STKA Stephens Creek 46.89 132 P **P** **22 37 50.8 +0.6**
STKA Stephens Creek 46.89 132 P **P** **22 37 50.8 +0.6**
comp=Z,31nm,0.5s,baz=309,slow=7.9,SNR=74
STKA S **S** **22 44 31.5 -2.2**
comp=Z,5.9nm,0.7s,baz=155,slow=20,SNR=9.3
STKA LR LR 22 58 40.4
comp=Z,47nm,19.8s,baz=321,slow=37
comp=Z,31nm,0.5s
KSAR Wonju Array Be 47.05 28 P **P** **22 37 51.2 -0.1**
KSAR PcP **PcP** **22 39 22.4 +0.5**
KSAR Wonju Array Be 47.05 28 P **P** **22 37 51.2 -0.1**
KSRS Korea Array 47.08 28 P **P** **22 37 51.2 -0.3**
comp=Z,20nm,1.0s,baz=210,slow=8.4,SNR=43
KSRS PcP **PcP** **22 39 22.1 +0.1**
comp=Z,5.2nm,0.9s,baz=227,slow=3.3,SNR=6.8
KSRS ScP **ScP** **22 43 05.6 -1.2**
comp=Z,1.5nm,0.9s,baz=158,slow=1.3,SNR=5.8
comp=Z,20nm,1.0s
KS19 Wonju Array Si 47.09 28 P **P** **22 37 51.8 +0.2**
KS19 IAmb IAmb 22 37 53.6
comp=Z,46nm,1.2s
JMN Monobe 47.48 37 P **P** **22 37 55.5 +0.7**
WMQ Urumqi 48.53 346 *eP* **P** **22 38 04.3 +1.6**
WMQ pmax pmax
comp=Z,69nm,1.1s
WMQ pmax pmax
comp=Z,190nm,4.5s
WMQ LR LR
comp=Z,100nm,21.5s
WMQ Urumqi 48.53 346 P **P** **22 38 04.4 +1.6**
XLT XiLinHaoTe 48.57 14 *eP* **P** **22 38 03.9 +0.9**
XLT pmax pmax
comp=Z,36nm,0.9s
XLT pmax pmax
comp=Z,120nm,5.7s
KBL Kabul 48.66 323 P **P** **22 38 04.4 +0.4**
KBL Kabul 48.66 323 P **P** **22 38 04.4 +0.4**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KSH Kashi 48.77 333 P **P** **22 38 04.3 -0.4**
KSH pP pP 22 38 26.5 -2.4
KSH S **S** **22 44 54.3 -5.9**
KSH pmax pmax
comp=Z,11nm,0.9s
WUS Wushi 48.81 337 P **P** **22 38 05.5 +0.5**
WUS IAmb IAmb 22 38 07.0
comp=Z,39nm,0.7s
WUS Wushi 48.81 337 P **P** **22 38 05.9 +0.9**
WUS ScP **ScP** **22 43 14.6 +0.3**
JCJ Chichijima 49.11 50 LR LR 23 00 17.5
comp=Z,26nm,19.1s,baz=30,slow=38
MGBR Mount Gambier 49.27 139 P **P** **22 38 09.9 +1.5**
TARG Taragay, Kyrgy 49.82 336 P **P** **22 38 13.8 +0.8**
TARG IAmb IAmb 22 38 15.5
comp=Z,18nm,0.8s
TARG Taragay, Kyrgy 49.82 336 P **P** **22 38 13.8 +0.8**
TARG pmax pmax
comp=Z,18nm,0.8s
KDJ Kajisay 50.41 336 P **P** **22 38 17.9 +0.8**
KDJ Kajisay 50.41 336 P **P** **22 38 18.0 +0.8**
KDJ pmax pmax
comp=Z,61nm,0.8s
SHLS Shalkode 50.41 339 *eP* **P** **22 38 15.9 -1.2**
SHLS pmax pmax
comp=Z,11nm,0.5s
SHLS Shalkode 50.41 339 *eP* **P** **22 38 15.9 -1.2**
comp=Z,11nm,0.5s
INU Inuyama 50.48 37 P **P** **22 38 16.9 -0.7**
INU IAmb IAmb 22 38 20.2
comp=Z,24nm,1.0s
INU Inuyama 50.48 37 P **P** **22 38 17.3 -0.3**
INU PcP **PcP** **22 39 34.9 +0.5**
INU ScP **ScP** **22 43 20.9 -0.4**
UZB Uzynbulak 50.56 338 *eP* **P** **22 38 18.1 -0.1**
UZB pmax pmax
comp=Z,13nm,0.8s
UZB Uzynbulak 50.56 338 *eP* **P** **22 38 18.2 -0.1**
comp=Z,13nm,0.8s
SATY Saty 50.72 338 *eP* **P** **22 38 19.3 -0.1**
SATY *eS* **S** **22 45 28.2 +1.0**
SATY pmax pmax
comp=Z,14nm,0.7s
SATY Saty 50.72 338 *eP* **P** **22 38 19.3 -0.1**
comp=Z,14nm,0.7s
SATY *eS* **S** **22 45 28.2 +1.0**
DRK Karamyk 50.73 330 P **P** **22 38 20.9 +1.2**
ZHN Zhinishke 50.80 338 *eP* **P** **22 38 19.8 -0.2**
ZHN *eS* **S** **22 45 29.4 +1.1**
ZHN pmax pmax
comp=Z,2.0nm,0.1s
ZHN Zhinishke 50.80 338 *eP* **P** **22 38 19.8 -0.2**
comp=Z,2.0nm,0.1s
ZHN *eS* **S** **22 45 29.4 +1.1**
JGF Kuroka 50.85 37 P **P** **22 38 20.6 +0.1**
JGF IAmb IAmb 22 38 22.4
comp=Z,19nm,0.7s
JGF PcP **PcP** **22 39 36.5 +0.7**
ULHL Ulahol 50.89 335 P **P** **22 38 21.8 +1.0**

SNR=22
SONM Songino Array 50.96 4 P **P 22 38 22.1 +0.9**
SONM IAmb IAmb 22 38 23.6
comp=Z,32nm,0.8s
SONM Songino Array 50.96 4 P **P 22 38 22.3 +1.1**
comp=Z,27nm,0.7s,baz=186,slow=9.4,SNR=221
SONM PcP **PcP 22 39 36.5 +0.5**
comp=Z,5.2nm,0.6s,baz=193,slow=4.5,SNR=7.4
SONM ScP **ScP 22 43 21.8 -1.5**
comp=Z,2.5nm,0.9s,baz=187,slow=3.8,SNR=5.9
SONM S **S 22 45 29.8 -0.6**
comp=Z,0.4nm,0.6s,baz=170,slow=8.8,SNR=2.1
SONM LR LR 23 01 09.5
comp=Z,99nm,21.5s,baz=178,slow=37
comp=Z,27nm,0.7s
ULN Ulaanbaatar 51.04 4 P **P 22 38 22.5 +0.7**
ULN IAmb IAmb 22 38 24.0
comp=Z,19nm,0.8s
ULN Ulaanbaatar 51.04 4 *i* P **P 22 38 22.7 +0.9**
ULN pmax pmax
comp=Z,19nm,0.9s
ULN Ulaanbaatar 51.04 4 P **P 22 38 23.0 +1.2**
ULN PcP **PcP 22 39 36.6 +0.2**
GAR Garm 51.13 328 P **P 22 38 21.9 -0.6**
GAR IAmb IAmb 22 39 39.0
comp=Z,20nm,0.9s
BOOM Boomskoye usch 51.22 335 P **P 22 38 23.4 +0.2**
BOOM IAmb IAmb 22 38 25.1
comp=Z,25nm,0.8s
BOOM Boomskoye usch 51.22 335 P **P 22 38 23.4 +0.2**
BOOM pmax pmax
comp=Z,25nm,0.8s
TNSS Tian-Shan 51.27 337 *e*P **P 22 38 23.2 -0.6**
TNSS Tian-Shan 51.27 337 *e*P **P 22 38 23.3 -0.6**
AAA Alma-Ata 51.42 337 *e*P **P 22 38 24.5 -0.1**
AAA pmax pmax
comp=Z,21nm,1.0s
AAA Alma-Ata 51.42 337 *e*P **P 22 38 24.5 -0.1**
comp=Z,21nm,1.0s
SIMJ Simiganj 51.58 327 P **P 22 38 25.1 -0.8**
SIMJ IAmb IAmb 22 39 40.9
comp=Z,24nm,0.9s
TKM2 Tokmak 2 51.72 335 P **P 22 38 28.2 +1.3**
SNR=49
KBK Karagaybulak 51.77 335 P **P 22 38 29.0 +1.6**
SNR=10
AML Almayashu 51.90 333 P **P 22 38 29.7 +1.2**
SNR=44
ARXS Arharly 51.92 338 *e*P **P 22 38 28.0 -0.3**
CHKK Chushkaly 51.94 337 *e*P **P 22 38 28.2 -0.1**
CHKK Chushkaly 51.94 337 *e*P **P 22 38 28.2 -0.1**
AAK Ala-Archa 51.95 334 P **P 22 38 29.1 +0.4**
AAK Ala-Archa 51.95 334 ScP **ScP 22 43 25.3 -2.5**
comp=Z,2.9nm,0.8s,baz=161,slow=5.2,SNR=8.6
AAK S **S 22 45 44.5 +0.2**
comp=Z,1.2nm,0.6s,baz=190,slow=17,SNR=12
AAK LR LR 23 02 10.1
comp=Z,82nm,22.0s,baz=152,slow=38
AAK Ala-Archa 51.95 334 P **P 22 38 29.9 +1.2**
SNR=13
AAK Ala-Archa 51.95 334 *ce*P **P 22 38 30.1 +1.4**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 51.95 334 P **P 22 38 29.9 +1.2**
AAK PcP **PcP 22 39 40.9 +1.0**
MAJO Matsushiro 51.99 37 P **P 22 38 28.5 -0.4**
MAJO IAmb IAmb 22 38 29.5
comp=Z,36nm,0.9s
MAJO Matsushiro 51.99 37 P **P 22 38 28.5 -0.4**
MAJO pmax pmax
comp=Z,36nm,1.0s
MAJO Matsushiro 51.99 37 P **P 22 38 28.3 -0.6**
MAJO PcP **PcP 22 39 40.2 +0.2**
MAJO ScP **ScP 22 43 26.7 -1.2**
MJAR Matsushiro Arr 51.99 37 P **P 22 38 28.8 -0.1**
comp=Z,34nm,0.8s,baz=215,slow=7.3,SNR=122
MJAR PcP **PcP 22 39 40.2 +0.2**
comp=Z,9.1nm,0.9s,baz=218,slow=4.6,SNR=7.1
MJAR ScP **ScP 22 43 26.9 -1.0**
comp=Z,6.5nm,0.9s,baz=215,slow=4.2,SNR=13
comp=Z,34nm,0.8s
MJB9 Matsu-Tunnel 51.99 37 P **P 22 38 29.3 +0.4**
MJB9 IAmb IAmb 22 38 30.4
comp=Z,36nm,0.9s
MJB9 PcP **PcP 22 39 41.8 +1.8**
FRU1 Bishkek 52.03 335 P **P 22 38 30.0 +0.8**
FRU1 IAmb IAmb 22 38 31.3
comp=Z,34nm,0.9s
FRU1 Bishkek 52.03 335 P **P 22 38 30.0 +0.8**
FRU1 pmax pmax
comp=Z,34nm,0.9s
EIDS Eidsvold 52.06 120 P **P 22 38 29.8 +0.2**
CHMS Chumysh 52.13 335 P **P 22 38 30.8 +1.0**
SNR=14
KUU Kurty 52.22 337 *e*P **P 22 38 30.2 -0.3**
KUU pmax pmax
comp=Z,13nm,0.9s
KUU Kurty 52.22 337 *e*P **P 22 38 30.2 -0.3**
comp=Z,12nm,0.9s
EKS2 Erkin-Say 52.28 334 P **P 22 38 32.4 +1.3**
SNR=73
TDK Taldyqorghan 52.39 339 *e*P **P 22 38 31.7 0.0**
TDK pmax pmax
comp=Z,16nm,0.7s
TDK Taldyqorghan 52.39 339 *e*P **P 22 38 31.8 0.0**
comp=Z,16nm,0.7s
USP Ospenovka 52.46 335 P **P 22 38 32.6 +0.4**
SNR=24
UOSS Minazif 52.48 305 P **P 22 38 33.6 +0.9**
UOSS IAmb IAmb 22 39 20.4
comp=Z,30nm,1.6s
TOO Toolangi 52.49 136 P **P 22 38 33.5 +0.9**
TOO Toolangi 52.49 136 P **P 22 38 33.5 +0.9**
TOO pmax pmax
comp=Z,7.0nm,1.0s
SGDS Sogindy 52.56 335 *e*P **P 22 38 33.0 0.0**
SGDS Sogindy 52.56 335 *e*P **P 22 38 33.1 0.0**
ZSN Zaisan 52.62 345 *e*P **P 22 38 33.4 0.0**
ZSN *e*S **S 22 45 54.4 +1.4**
ZSN pmax pmax
comp=Z,14nm,0.8s
ZSN Zaisan 52.62 345 *e*P **P 22 38 33.4 0.0**
comp=Z,14nm,0.8s
ZSN *e*S **S 22 45 54.5 +1.4**
MK31 Makanchi Array 52.72 343 P **P 22 38 34.3 +0.2**
MK31 IAmb IAmb 22 38 35.4
comp=Z,23nm,0.8s
MK31 Makanchi Array 52.72 343 *ce*P **P 22 38 34.5 +0.4**
MKAR Makanchi Array 52.72 343 P **P 22 38 34.4 +0.3**
MKAR Makanchi Array 52.72 343 P **P 22 38 34.8 +0.7**
comp=Z,27nm,0.6s,baz=147,slow=8.0,SNR=355
MKAR S **S 22 45 54.2 -0.1**
comp=Z,1.6nm,0.8s,baz=148,slow=15,SNR=7.5
MKAR LR LR 23 04 32.1
comp=Z,65nm,19.7s,baz=142,slow=40
comp=Z,27nm,0.6s
MKAR Makanchi Array 52.72 343 *ce*P **P 22 38 34.2 +0.1**
MKAR pmax pmax
comp=Z,27nm,0.6s
MAKZ Makanchi 52.82 343 P **P 22 38 34.7 -0.2**
MAKZ IAmb IAmb 22 38 36.1
comp=Z,18nm,0.9s
MAKZ Makanchi 52.82 343 P **P 22 38 34.7 -0.2**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ Makanchi 52.82 343 P **P 22 38 35.0 +0.1**
MAKZ ScP **ScP 22 43 33.3 +2.1**
JSD Sado 53.02 36 P **P 22 38 36.2 -0.3**
JSD IAmb IAmb 22 38 37.2
comp=Z,16nm,0.6s
ZAK Zakamensk 53.38 1 *e*P **P 22 38 38.3 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
DZA Taraz 53.57 332 *e*P **P 22 38 40.2 -0.2**
DZA pmax pmax
comp=Z,6.0nm,0.6s
DZA Taraz 53.57 332 *e*P **P 22 38 40.3 -0.2**
comp=Z,5.9nm,0.6s
IUG Iuzhnay 53.62 331 *e*P **P 22 38 40.7 -0.2**
IUG *e*S **S 22 46 08.0 +1.1**
IUG pmax pmax
comp=Z,15nm,1.1s
IUG Iuzhnay 53.62 331 *e*P **P 22 38 40.8 -0.2**
comp=Z,15nm,1.1s
IUG *e*S **S 22 46 08.0 +1.1**
MDJ Mudanjiang 53.62 24 P **P 22 38 40.8 +0.1**
MDJ IAmb IAmb 22 38 42.4
comp=Z,20nm,0.9s
MDJ Mudanjiang 53.62 24 P **P 22 38 41.0 +0.3**
MDJ pmax pmax
comp=Z,27nm,0.8s
BNX BinXian 53.70 22 ⇑P **P 22 38 41.6 +0.3**
BNX pmax pmax
comp=Z,96nm,1.1s
CAN Canberra 53.96 132 P **P 22 38 44.5 +1.1**
CAN Canberra 53.96 132 P **P 22 38 44.5 +1.1**
CAN pmax pmax
comp=Z,54nm,1.0s
CAN Canberra 53.96 132 P **P 22 38 44.7 +1.2**
CAN pP **pP 22 39 07.9 -0.1**
CHM Chimkent 53.96 331 *e*P **P 22 38 43.2 -0.1**
CHM Chimkent 53.96 331 *e*P **P 22 38 43.2 -0.1**
BTLS Baital 54.09 336 *e*P **P 22 38 44.0 -0.2**
BTLS Baital 54.09 336 *e*P **P 22 38 44.0 -0.2**
ARMA Armidale 54.11 126 P **P 22 38 45.6 +0.9**
ARMA IAmb IAmb 22 38 47.5
comp=Z,38nm,0.9s
KK31 Karatay Array 54.12 332 P **P 22 38 44.2 -0.2**
KK31 Karatay Array 54.12 332 P **P 22 38 44.2 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 54.12 332 P **P 22 38 44.1 -0.3**
KKAR Karatay Array 54.12 332 P **P 22 38 44.1 -0.3**
USA0B Ussuriysk Arra 54.31 26 P **P 22 38 46.0 +0.3**
USA0B Ussuriysk Arra 54.31 26 P **P 22 38 46.0 +0.3**
USA0B pmax pmax
comp=Z,83nm,0.8s
USRK Ussuriysk Ar. 54.31 26 P **P 22 38 46.3 +0.6**
comp=Z,76nm,0.7s,baz=221,slow=5.8,SNR=316
USRK ScP **ScP 22 43 36.3 -1.5**
comp=Z,1.3nm,0.9s,baz=197,slow=6.0,SNR=4.2
USRK LR LR 23 05 12.4
comp=Z,75nm,19.8s,baz=211,slow=40
comp=Z,76nm,0.7s
BRLS Borolday 54.38 331 *e*P **P 22 38 45.3 -1.0**
BRLS Borolday 54.38 331 *e*P **P 22 38 45.4 -1.0**
JMM Marumori 54.42 38 P **P 22 38 46.0 -0.6**
HIA Hailar 54.48 14 P **P 22 38 46.8 -0.1**
HIA PcP **PcP 22 39 49.3 +0.2**
HIA Hailar 54.48 14 P **P 22 38 46.8 -0.1**
HIA 22 39 49.3
HIA pmax pmax
comp=Z,14nm,1.1s
MOY Mondy 54.66 359 *e*P **P 22 38 49.0 +0.7**
MOY pmax pmax
comp=Z,19nm,2.8s
IRK Irkutsk 55.26 2 *e*P **P 22 38 53.1 +0.6**
IRK *e*S **S 22 46 30.8 +2.4**
IRK pmax pmax
comp=Z,39nm,2.9s
ABPO Ambohimpanom 55.72 249 *i* P **P 22 38 57.2 +0.6**
MOO Moorlands 56.09 141 P **P 22 39 00.3 +1.7**
TAU Tasmania Unive 56.42 141 P **P 22 39 02.2 +1.3**
TAU IAmb IAmb 22 40 28.9
comp=Z,43nm,1.4s
TAU Tasmania Unive 56.42 141 P **P 22 39 02.2 +1.3**
TAU pmax pmax
comp=Z,43nm,1.4s
TAU Tasmania Unive 56.42 141 P **P 22 39 02.4 +1.5**
TAU pP **pP 22 39 25.4 -0.2**
JTM Tenmabayashi 56.47 35 P **P 22 39 00.8 -0.5**
KURBB Kurchatov Arra 57.26 342 P **P 22 39 07.0 +0.4**
comp=Z,25nm,0.7s,baz=160,slow=6.8,SNR=70
KURBB PcP **PcP 22 39 60.0 +0.1**
comp=Z,2.2nm,0.3s,baz=158,slow=3.4,SNR=6.1
KURBB ScP **ScP 22 43 49.1 -1.4**
comp=Z,1.3nm,0.2s,baz=156,slow=4.2,SNR=5.6
KURBB S **S 22 46 52.5 -2.3**
comp=Z,3.4nm,0.2s,baz=137,slow=17,SNR=13
KURBB LR LR 23 08 53.4
comp=Z,62nm,19.3s,baz=156,slow=41
comp=Z,25nm,0.7s
KURK Kurchatov 57.31 343 P **P 22 39 07.2 +0.2**
KURK Kurchatov 57.31 343 *ce*P **P 22 39 07.5 +0.5**
KURK pmax pmax
comp=Z,53nm,0.8s
KURK Kurchatov 57.31 343 P **P 22 39 07.2 +0.2**
HEH HeiHe 57.56 19 *e*P **P 22 39 09.3 +0.5**
HEH pmax pmax
comp=Z,71nm,1.0s
HNR Honiara 57.90 99 P **P 22 39 10.7 -1.1**
HNR Honiara 57.90 99 LR LR 23 07 15.0
comp=Z,36nm,18.6s,baz=169,slow=39
HNR Honiara 57.90 99 P **P 22 39 10.7 -1.1**
HNR pmax pmax
comp=Z,77nm,0.9s
KLR Kul'dur 58.24 23 LR LR 23 06 51.2
comp=Z,80nm,18.8s,baz=216,slow=39
KLR Kul'dur 58.24 23 *ce*P **P 22 39 14.2 +0.6**
KLR pmax pmax
comp=Z,76nm,1.7s
ERM Erimo 58.46 35 P **P 22 39 15.5 +0.3**
ERM Erimo 58.46 35 P **P 22 39 15.5 +0.3**
ERM pmax pmax
comp=Z,102nm,1.4s
BRZS Berezniki 58.67 338 *e*P **P 22 39 16.6 0.0**
BRZS Berezniki 58.67 338 *e*P **P 22 39 16.6 0.0**
ZAA0 Zalesovo Array 58.71 348 P **P 22 39 16.5 -0.2**
ZALV Zalesovo Beam 58.71 348 P **P 22 39 16.6 -0.2**
comp=Z,44nm,0.6s,baz=164,slow=5.4,SNR=224
ZALV ScP **ScP 22 43 54.0 -3.0**
comp=Z,1.6nm,0.7s,baz=151,slow=3.3,SNR=3.1
ZALV S **S 22 47 10.6 -3.1**
comp=Z,8.2nm,1.1s,baz=156,slow=15,SNR=11
ZALV LR LR 23 07 02.6
comp=Z,78nm,19.4s,baz=158,slow=38
comp=Z,44nm,0.6s
ZALV Zalesovo Beam 58.71 348 *i* P **P 22 39 16.6 -0.2**
ZALV pmax pmax
comp=Z,45nm,0.6s
ASAJ Asahikawa 59.51 33 LR LR 23 04 18.6
comp=Z,40nm,21.5s,baz=196,slow=35
ASAJ Asahikawa 59.51 33 P **P 22 39 22.8 +0.4**
ASAJ pmax pmax
comp=Z,32nm,0.8s
JKA Kamikawa-asahi 59.51 33 P **P 22 39 22.8 +0.3**
JKA IAmb IAmb 22 39 24.1
comp=Z,32nm,0.8s
LHI Lord Howe Isla 60.52 125 P **P 22 39 30.1 +0.4**
ZEA Zeya 60.54 17 *e*P **P 22 39 30.1 +0.8**
ZEA *e* 22 40 13.3
ZEA *e* 22 47 38.3
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,30nm,1.0s
RAYN Ar Rayn 61.03 299 P **P 22 39 33.6 +0.3**
RAYN Ar Rayn 61.03 299 P **P 22 39 33.6 +0.3**
RAYN pmax pmax
comp=Z,10.0nm,1.2s
RAYN Ar Rayn 61.03 299 P **P 22 39 34.3 +1.0**
RAYN pP **pP 22 39 57.8 -0.5**
RAYN sP **sP 22 40 08.6 -0.8**
RAYN PcP **PcP 22 40 17.2 +1.5**
H04N2 CROZET ISLANDS 61.03 218 T T 23 44 49.7
baz=59,slow=75,SNR=1175
H04N1 CROZET ISLANDS 61.05 218 T T 23 44 52.4
baz=59,slow=75,SNR=1454
H04N3 CROZET ISLANDS 61.05 218 T T 23 44 47.0
baz=59,slow=75,SNR=1692
H04S1 CROZET ISLANDS 61.30 217 T T 23 45 03.8
baz=60,slow=75,SNR=60
H04S3 CROZET ISLANDS 61.31 217 T T 23 45 02.8
baz=60,slow=75,SNR=146
H04S2 CROZET ISLANDS 61.31 217 T T 23 45 04.6
baz=60,slow=75,SNR=67
YSS Yuzhno-Sakhali 61.47 31 P **P 22 39 35.5 -0.2**
YSS Yuzhno-Sakhali 61.47 31 *e*P **P 22 39 36.1 +0.4**
YSS *e*S **S 22 47 48.9 -0.3**
YSS pmax pmax
comp=Z,200nm,2.9s
YSS pmax pmax
comp=Z,90nm,0.9s
YSS Yuzhno-Sakhali 61.47 31 P **P 22 39 36.2 +0.5**
BOD Bodaibo 61.59 7 *e*P **P 22 39 35.4 -0.9**
BOD pmax pmax
comp=Z,27nm,1.2s
BVAR Borovoye Array 61.99 339 P **P 22 39 38.6 -0.5**
comp=Z,36nm,0.7s,baz=142,slow=8.5,SNR=142
BVAR ScP **ScP 22 44 09.9 -1.6**
comp=Z,1.5nm,0.8s,baz=132,slow=8.0,SNR=3.0
BVAR S **S 22 47 52.4 -3.2**
comp=Z,2.5nm,0.8s,baz=130,slow=16,SNR=7.6
BVAR LR LR 23 09 59.9
comp=Z,44nm,19.1s,baz=141,slow=39
comp=Z,36nm,0.7s
BRVK Borovoye 62.05 339 P **P 22 39 39.3 -0.2**
BRVK IAmb IAmb 22 39 40.2
comp=Z,29nm,0.8s
BRVK Borovoye 62.05 339 *ce*P **P 22 39 39.5 0.0**
BRVK pmax pmax
comp=Z,50nm,1.3s
BRVK Borovoye 62.05 339 P **P 22 39 39.2 -0.2**
ABKAR Akbulak array 63.63 331 P **P 22 39 49.8 -0.3**
ABKAR IAmb IAmb 22 39 51.6
comp=Z,42nm,0.8s
ABKAR Akbulak array 63.63 331 P **P 22 39 49.8 -0.3**
TYV Tymovskoe 64.09 27 *e*P **P 22 39 54.2 +1.2**
TYV *e*S **S 22 48 23.7 +2.0**
TYV pmax pmax
comp=Z,18nm,1.4s
TYV pmax pmax
comp=Z,200nm,4.0s
TYV smax smax
comp=N,300nm,4.6s
TYV smax smax
comp=E,200nm,4.6s
LKRN Lenkeran, Azer 64.31 316 P **P 22 39 56.4 +1.7**
KMBO Kilima Mbogo 64.70 270 P **P 22 39 57.8 -0.3**
KMBO Kilima Mbogo 64.70 270 P **P 22 40 00.4 +2.3**
comp=E,1.9nm,0.7s,baz=57,slow=9.8,SNR=7.9
comp=E,1.9nm,0.7s
KMBO Kilima Mbogo 64.70 270 *i* P **P 22 39 58.2 +0.1**
NOUC Port Laguerre 65.05 113 P **P 22 39 60.0 +0.1**
DZM Mont Dzumac 65.18 113 P **P 22 39 59.8 -1.0**
DZM IAmb IAmb 22 40 02.1
comp=Z,57nm,1.4s
DZM Mont Dzumac 65.18 113 *e*P **P 22 39 59.6 -1.2**
comp=Z,66nm,1.2s
DZM *e*S **S 22 48 36.9 +0.4**
comp=Z,70nm,26.0s
DZM *e*SS **SS 22 52 50.4 -0.5**
comp=Z,83nm,24.1s
DZM *e*LR LR 22 59 38.7
comp=Z,237nm,23.3s
ONTNC Ouen Toro 65.22 113 P **P 22 40 00.7 -0.3**
ONTNC IAmb IAmb 22 40 01.9
comp=Z,55nm,1.1s
AKTO Aktyubinsk 65.35 331 P **P 22 40 01.2 0.0**
comp=Z,7.8nm,0.7s,baz=132,slow=5.4,SNR=21
AKTO LR LR 23 10 47.3
comp=Z,37nm,19.3s,baz=235,slow=38
comp=Z,7.8nm,0.7s
MNGR Mingechevir, A 66.41 317 P **P 22 40 10.0 +1.8**
SEKA Sheki 66.53 318 P **P 22 40 10.2 +1.1**
NAX Nakhchivan 66.81 315 P **P 22 40 12.4 +1.5**
GANJ Ganja 66.87 317 P **P 22 40 13.0 +1.7**
LODK Lodwar 66.90 275 P **P 22 40 12.3 +0.3**
GNI Garni 67.75 316 P **P 22 40 17.1 +0.2**
GNI IAmb IAmb 22 40 52.1
comp=Z,39nm,1.8s
GNI Garni 67.75 316 P **P 22 40 17.1 +0.2**
comp=Z,8.0nm,1.1s,baz=200,slow=12,SNR=5.1
comp=Z,8.0nm,1.1s
DGRG David-gareji 67.87 317 P **P 22 40 19.2 +1.6**
GEVA Gevas 68.20 313 P **P 22 40 19.7 -0.2**
YAK Yakutsk 68.41 14 P **P 22 40 19.8 -0.5**
YAK Yakutsk 68.41 14 *e*P **P 22 40 20.1 -0.3**
YAK *e**PP **PcP 22 40 41.0 -4.1**
YAK *e* 22 40 44.3
YAK *e* 22 42 52.3
YAK *e*PPP PPP 22 44 32.7
YAK *e*S **S 22 49 17.1 +3.4**
YAK *e**SS **sS 22 49 53.0 -4.3**
YAK *e* 22 50 12.4
YAK *e*SS **SS 22 53 43.9 +4.6**
YAK pmax pmax
comp=Z,71nm,0.8s
YAK pmax pmax
comp=N,26nm,0.9s
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=Z,134nm,4.0s
YAK pmax pmax
comp=N,27nm,3.5s
YAK pmax pmax
comp=E,116nm,4.0s
YAK smax smax
comp=N,146nm,4.3s
YAK smax smax
comp=E,114nm,4.5s
YAK Yakutsk 68.41 14 P **P 22 40 19.9 -0.5**
SVE Sverdlovsk 68.53 337 *de*P **P 22 40 21.8 +0.5**
SVE pmax pmax
comp=Z,79nm,0.9s
GURO Guroymak-BITLI 69.03 313 P **P 22 40 25.4 +0.4**
KARS Kars 69.10 316 P **P 22 40 26.5 +1.1**
KARS IAmb IAmb 22 41 05.5
comp=Z,35nm,0.9s
KARS Kars 69.10 316 P **P 22 40 26.5 +1.1**
KARS pmax pmax
comp=Z,35nm,0.9s
ARTI Arti 69.13 336 P **P 22 40 24.3 -0.7**
ARTI IAmb IAmb 22 40 26.0
comp=Z,52nm,0.8s
ARTI Arti 69.13 336 P **P 22 40 25.0 0.0**
comp=Z,44nm,0.7s,baz=138,slow=3.5,SNR=106
ARTI LR LR 23 14 08.0
comp=Z,51nm,19.0s,baz=140,slow=39
comp=Z,44nm,0.7s
ARTI Arti 69.13 336 *c i*P **P 22 40 24.9 -0.1**
ARTI 22 40 47.1
ARTI 22 42 54.6
ARTI S **S 22 49 25.1 +2.6**
ARTI SS **SS 22 53 55.7 +5.0**
ARTI pmax pmax
comp=Z,59nm,0.8s
ARTI Arti 69.13 336 P **P 22 40 24.9 -0.1**
MAW Mawson 69.63 195 LR LR 23 03 46.0
comp=Z,207nm,20.6s,baz=48,slow=29
DCZ Deep Cove 70.47 137 P **P 22 40 34.4 +0.9**
DCZ IAmb IAmb 22 40 37.7
comp=Z,35nm,1.2s
DCZ Deep Cove 70.47 137 P **P 22 40 35.0 +1.6**
KBZ Khabaz 70.50 319 P **P 22 40 34.6 +1.0**
comp=Z,12nm,0.8s,baz=124,slow=4.7,SNR=40
comp=Z,12nm,0.8s
KBZ Khabaz 70.50 319 *ce*P **P 22 40 34.8 +1.2**
SHA1 Shidzhatmaz 70.66 319 *i* P **P 22 40 35.7 +0.8**
KIV Kislovodsk 70.73 319 P **P 22 40 35.1 -0.1**
KIV Kislovodsk 70.73 319 ⇑P **P 22 40 35.6 +0.4**
KIV Kislovodsk 70.73 319 *e*P **P 22 40 34.8 -0.4**
KIV *e*S **S 22 49 41.4 -0.4**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,26nm,17.0s
ASF Jabal al Asfar 70.88 306 P **P 22 40 38.1 +1.7**
comp=Z,9.1nm,0.8s,baz=123,slow=2.7,SNR=6.7
ASF LR LR 23 12 31.3
comp=Z,70nm,20.9s,baz=154,slow=36
comp=Z,9.1nm,0.8s
MLZ Mavora Lakes 71.10 137 P **P 22 40 38.1 +0.7**
WHZ Wether Hill Ro 71.12 138 P **P 22 40 38.3 +0.8**
MBAR Mbarara 71.23 270 P **P 22 40 40.3 +1.4**
MBAR Mbarara 71.23 270 P **P 22 40 40.3 +1.4**
MBAR pmax pmax
comp=Z,6.0nm,0.9s
JCZ Jackson Bay 71.23 136 P **P 22 40 39.3 +1.0**
APZ The Paps 71.41 139 P **P 22 40 40.4 +1.2**
WKZ Wanaka 71.58 136 P **P 22 40 41.5 +1.3**
EIL Elat 71.82 303 P **P 22 40 43.7 +1.8**
comp=Z,10.0nm,0.8s,baz=90,slow=4.0,SNR=6.0
EIL LR LR 23 12 03.4
comp=Z,68nm,19.8s,baz=74,slow=36
comp=Z,10.0nm,0.8s
GAZ Gaziantep 72.13 311 P **P 22 40 43.7 -0.1**
MMAI Mount Meron Ar 72.33 306 P **P 22 40 46.8 +1.8**
comp=Z,10nm,0.8s,baz=90,slow=10,SNR=6.7
comp=Z,10nm,0.8s
SOC Sochi 72.56 318 *e*P P 22 40 38.5 -7.5
SOC *e*PPP PPP 22 45 09.7
SOC *e*SS SS 22 54 41.3 -2.5

SOC *e*SSS SSS 22 57 58.8
RPZ Rata Peaks 72.75 135 P **P** **22 40 47.5 +0.2**
RPZ IAmb IAmb 22 40 49.5
comp=Z,121nm,1.7s
INZ Inchbonnie 72.82 134 P **P** **22 40 47.9 +0.3**
PEA0B Petropavlovsk- 72.85 31 P **P** **22 40 47.6 0.0**
PEA0B IAmb IAmb 22 40 50.3
comp=Z,49nm,1.2s
PEA0B Petropavlovsk- 72.85 31 *ce*P **P** **22 40 49.6 +2.0**
PETK Petropavlovsk- 72.85 31 P **P** **22 40 47.1 -0.5**
PETK Petropavlovsk- 72.85 31 P **P** **22 40 47.6 0.0**
comp=Z,14nm,0.8s,baz=235,slow=6.5,SNR=40
comp=Z,14nm,0.8s
DSZ Denniston Nort 72.89 133 P **P** **22 40 47.6 -0.5**
NRIK Noril'sk 73.05 355 P **P** **22 40 47.7 -0.7**
NRIK IAmb IAmb 22 40 49.1
comp=Z,42nm,1.1s
NRIK Noril'sk 73.05 355 P **P** **22 40 48.0 -0.4**
comp=Z,28nm,0.9s,baz=158,slow=5.0,SNR=43
NRIK LR LR 23 14 26.6
comp=Z,80nm,21.9s,baz=162,slow=37
comp=Z,28nm,0.9s
QRZ Quartz Range 73.25 132 P **P** **22 40 51.2 +1.0**
PET Petropavlovsk 73.31 32 P **P** **22 40 50.2 0.0**
PET IAmb IAmb 22 40 52.0
comp=Z,63nm,0.9s
PET Petropavlovsk 73.31 32 *e*P **P** **22 40 50.6 +0.4**
PET pmax pmax
comp=Z,87nm,0.8s
MA2 Magadan 73.31 24 P **P** **22 40 50.9 +0.7**
MA2 Magadan 73.31 24 LR LR 23 15 01.5
comp=Z,32nm,20.4s,baz=233,slow=37
MA2 Magadan 73.31 24 *ce*P **P** **22 40 51.0 +0.8**
MA2 pmax pmax
comp=Z,93nm,1.7s
LTZ Lake Taylor 73.43 134 P **P** **22 40 51.2 -0.1**
MRNZ Matariki Terra 73.52 132 P **P** **22 40 51.9 +0.1**
LSZ Lusaka 73.52 255 P **P** **22 40 53.3 +0.8**
LSZ pmax pmax
comp=Z,14nm,1.4s
THZ Tophouse 73.70 133 P **P** **22 40 53.2 +0.3**
THZ Tophouse 73.70 133 P **P** **22 40 52.6 -0.3**
KHZ Kahutara 74.28 133 P **P** **22 40 56.1 0.0**
KHZ IAmb IAmb 22 40 57.3
comp=Z,18nm,0.7s
KHZ Kahutara 74.28 133 P **P** **22 40 56.4 +0.2**
KIRV Kirov 74.29 334 LR LR 23 17 08.6
comp=Z,36nm,21.4s,baz=123,slow=38
KIRV Kirov 74.29 334 *ce*P **P** **22 40 56.6 +0.8**
VRH Novokhopyorsk 74.41 325 *e*P **P** **22 40 56.2 -0.5**
VRH pmax pmax
comp=Z,27nm,1.6s
CSS Mathiatis 74.51 307 P **P** **22 40 58.1 +0.5**
CSS IAmb IAmb 22 40 59.9
comp=Z,26nm,1.0s
MKAZ Moumakai 74.69 127 P **P** **22 41 00.5 +1.9**
WAZ Wanganui 74.92 130 P **P** **22 41 01.8 +1.8**
PKVZ Pokaka 75.13 130 P **P** **22 41 02.1 +0.8**
KIRS Kirsehir-Merke 75.20 312 ⇑P **P** **22 41 02.2 +0.5**
TRVZ Turoa 75.29 130 P **P** **22 41 03.4 +1.0**
NGZ Ngauruhoe 75.31 130 P **P** **22 41 03.4 +1.0**
NNVZ North Ngauruho 75.32 130 P **P** **22 41 03.3 +0.9**
WNVZ Wahianoa 75.33 130 P **P** **22 41 03.4 +0.8**
ETVZ East Tongariro 75.39 130 P **P** **22 41 03.9 +1.1**
MOVZ Moawhango 75.46 130 P **P** **22 41 03.6 +0.4**
BR131 Keskin Array S 75.58 312 P **P** **22 41 03.8 -0.1**
BR131 Keskin Array S 75.58 312 P **P** **22 41 03.8 -0.1**
BR131 pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 75.58 312 P **P** **22 41 03.6 -0.3**
BRTR Keskin Array B 75.58 312 P **P** **22 41 03.9 -0.1**
comp=Z,9.4nm,0.9s,baz=135,slow=7.4,SNR=46
comp=Z,9.4nm,0.9s
MSVF Nonsavu 75.78 107 P **P** **22 41 05.1 -0.3**
MSVF IAmb IAmb 22 41 07.7
comp=Z,39nm,1.2s
MSVF Nonsavu 75.78 107 P **P** **22 41 05.1 -0.3**
MSVF pmax pmax
comp=Z,39nm,1.3s
VSR Storozhevoye 75.88 325 *e*P **P** **22 41 02.7 -2.4**
VSR *e*S **S** **22 50 32.9 -6.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR smax smax
comp=N,170nm,1.1s
KWHZ Kaweka Forest 75.98 130 P **P** **22 41 06.5 +0.4**
BKZ Black Stump Fm 76.00 129 P **P** **22 41 06.4 +0.2**
SEY Seymchan 76.00 21 P **P** **22 41 05.8 +0.3**
comp=N,24nm,0.8s,baz=216,slow=5.7,SNR=7.4
comp=N,24nm,0.8s
SEY Seymchan 76.00 21 *ce*P **P** **22 41 05.9 +0.3**
SEY pmax pmax
comp=Z,31nm,0.8s
BFZ Birch Farm 76.01 131 P **P** **22 41 06.9 +0.7**
VORR Voronezh 76.04 325 *e*P **P** **22 41 06.1 +0.1**
VORR pmax pmax
comp=Z,23nm,1.5s
MTHZ Maungataniwha 76.23 129 P **P** **22 41 08.1 +0.5**
ANTO Ankara 76.24 312 P **P** **22 41 07.7 +0.1**
ANTO Ankara 76.24 312 P **P** **22 41 07.7 +0.1**
ANTO pmax pmax
comp=Z,12nm,1.0s
LBTB Lobatse 76.31 245 P **P** **22 41 09.7 +1.4**
LBTB Lobatse 76.31 245 LR LR 23 09 22.4
comp=Z,84nm,20.5s,baz=109,slow=31
LBTB Lobatse 76.31 245 P **P** **22 41 09.7 +1.4**
LBTB pmax pmax
comp=Z,11nm,1.1s
URZ Urewera 76.37 128 LR LR 23 20 19.8
comp=Z,55nm,18.0s,baz=5.5,slow=40
URZ Urewera 76.37 128 P **P** **22 41 08.7 +0.5**
LPSR Galich'ya Gora 76.57 326 *e*P **P** **22 41 07.7 -1.3**
LPSR pmax pmax
comp=Z,17nm,1.6s
MWZ Matawai 76.70 129 P **P** **22 41 10.2 0.0**
TIXI Tiksi 76.73 8 P **P** **22 41 08.7 -0.9**
TIXI IAmb IAmb 22 41 09.5
comp=Z,23nm,0.7s
TIXI Tiksi 76.73 8 LR LR 23 19 46.8
comp=Z,105nm,19.2s,baz=206,slow=39
TIXI Tiksi 76.73 8 P **P** **22 41 08.7 -0.9**
TIXI pmax pmax
comp=Z,23nm,0.7s
RUGZ Raukumara Rang 76.78 128 P **P** **22 41 10.2 -0.5**
BOSA Boshof 76.81 242 P **P** **22 41 12.7 +1.5**
BOSA Boshof 76.81 242 P **P** **22 41 13.2 +2.0**
comp=Z,7.2nm,0.9s,baz=78,slow=4.6,SNR=8.9
BOSA LR LR 23 07 14.8
comp=Z,71nm,21.2s,baz=59,slow=29
comp=Z,7.2nm,0.9s
HAZ Te Kaha 76.84 128 P **P** **22 41 10.8 -0.1**
SOE Somerset East 76.85 237 P **P** **22 41 13.1 +1.9**
SOE IAmb IAmb 22 41 41.5
comp=Z,97nm,1.8s
PUZ Puketiti 77.24 128 P **P** **22 41 12.9 -0.3**
CNGZ Carnagh Statio 77.25 129 P **P** **22 41 15.1 +1.9**
SYO Syowa Base 77.38 199 ‖ *e*P **P** **22 41 15.0 +1.7**
SYO Syowa Base 77.38 199 ‖ *e*PcP **PcP** **22 41 24.0 +0.6**
MOS Moscow 78.53 329 *e*P **P** **22 41 19.5 -0.4**
MOS *e**PP **pP** **22 41 43.4 -2.7**
MOS *e*S **S** **22 51 03.6 -4.4**
MOS *e* 22 51 46.3
MOS pmax pmax
comp=Z,33nm,0.6s
MOS smax smax
comp=E,300μm,1.6s
MOS smax smax
comp=N,200μm,1.3s
OBN Obninsk 78.84 328 P **P** **22 41 21.8 +0.2**
OBN IAmb IAmb 22 41 23.1
comp=Z,21nm,0.8s
OBN Obninsk 78.84 328 ⇑ *e*P **P** **22 41 21.9 +0.3**
OBN *e* 22 44 20.2
OBN *i* S **S** **22 51 07.7 -3.6**
OBN *i* SS **SS** **22 56 18.7 +0.3**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,94nm,21.0s
KLMR Klimovskoe 79.76 334 *e*P **P** **22 41 24.3 -2.1**
KLMR *e**PP **pP** **22 41 48.0 -4.7**
KLMR S **S** **22 51 17.8 -3.0**
KLMR pmax pmax
comp=Z,63nm,1.2s

VNDA Vanda 80.62 169 P **P** **22 41 32.4 +1.5**
VNDA Vanda 80.62 169 P **P** **22 41 32.3 +1.4**
comp=Z,5.4nm,0.7s,baz=316,slow=6.0,SNR=12
comp=Z,5.4nm,0.7s
VNDA Vanda 80.62 169 P **P** **22 41 32.4 +1.5**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
SUR Sutherland 80.83 238 P **P** **22 41 34.9 +1.7**
SUR IAmb IAmb 22 44 10.7
comp=Z,60nm,1.7s
SUR Sutherland 80.83 238 LR LR 23 12 51.7
comp=Z,64nm,18.8s,baz=122,slow=32
MILM Milestii Mici 80.91 318 ⇑P **P** **22 41 33.2 +0.3**
MILM Milestii Mici 80.91 318 P **P** **22 41 33.2 +0.3**
SORM Soroca 81.52 319 ⇑P **P** **22 41 36.2 +0.1**
SORM Soroca 81.52 319 P **P** **22 41 36.2 +0.1**
AKASG Malin Array Be 81.63 322 P **P** **22 41 36.3 -0.3**
comp=Z,2.6nm,0.5s,baz=87,slow=4.8,SNR=22
AKASG S **S** **22 51 36.8 -3.9**
comp=Z,0.8nm,0.7s,baz=104,slow=10.0,SNR=4.6
AKASG LR LR 23 20 55.0
comp=Z,25nm,21.8s,baz=64,slow=38
comp=Z,2.6nm,0.5s
AKASG Malin Array Be 81.63 322 *ce*P **P** **22 41 36.5 -0.1**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 81.63 322 P **P** **22 41 35.7 -0.9**
AKBB Malin Array Si 81.63 322 *ce*P **P** **22 41 36.8 +0.2**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 81.64 322 P **P** **22 41 35.9 -0.8**
KIEV Kiev 81.64 322 ⇓P **P** **22 41 36.8 +0.1**
KIEV Kiev 81.64 322 P **P** **22 41 36.8 +0.1**
VRI Vrincioaia 82.06 317 ⇑P **P** **22 41 40.0 +0.8**
VRI Vrincioaia 82.06 317 P **P** **22 41 39.9 +0.8**
MLR Muntele Rosu 82.52 316 P **P** **22 41 42.1 +0.5**
MLR IAmb IAmb 22 41 43.8
comp=Z,29nm,1.1s
MLR Muntele Rosu 82.52 316 ⇑P **P** **22 41 43.0 +1.4**
MLR Muntele Rosu 82.52 316 P **P** **22 41 43.0 +1.4**
VOIR 83.12 316 ⇓P **P** **22 41 45.4 +0.7**
VOIR 83.12 316 P **P** **22 41 45.4 +0.7**
ARR Arges 83.39 316 ⇑P **P** **22 41 46.1 +0.1**
MNK Minsk 83.41 326 *i* P **P** **22 41 44.3 -1.5**
MNK *i* *PP **pP** **22 42 08.0 -4.3**
MNK *i* 22 44 57.1
MNK *i* PPP PPP 22 46 49.2
MNK *i* S **S** **22 51 57.5 -1.3**
MNK *i* SS **SS** **22 57 26.9 +0.4**
MNK *i* SSS SSS 23 00 56.6
MNK pmax pmax
comp=E,11nm,1.0s
MNK pmax pmax
comp=Z,40nm,0.8s
MNK pmax pmax
comp=N,26nm,1.0s
BURAR Bucovina Array 83.45 318 P **P** **22 41 47.5 +1.1**
BURAR Bucovina Array 83.45 318 ⇑P **P** **22 41 47.9 +1.5**
BURAR Bucovina Array 83.45 318 P **P** **22 41 47.8 +1.5**
ELIB Princess Elisa 83.45 198 *d*P **P** **22 41 48.6 +2.6**
comp=Z,6.1nm,0.9s
BUR08 Bucovina Ar. S 83.47 319 P **P** **22 41 47.6 +1.1**
BILL Bilibino 83.59 20 P **P** **22 41 46.2 -0.3**
BILL Bilibino 83.59 20 *ce*P **P** **22 41 46.2 -0.3**
BILL pmax pmax
comp=Z,9.0nm,0.7s
TSUM Tsumeb 83.66 251 P **P** **22 41 48.4 +0.3**
TSUM Tsumeb 83.66 251 LR LR 23 16 23.5
comp=Z,42nm,18.2s,baz=124,slow=34
LIT Litokhoron 84.01 311 P **P** **22 41 49.1 -0.2**
LIT IAmb IAmb 22 41 50.1
comp=Z,21nm,0.8s
LIT Litokhoron 84.01 311 P **P** **22 41 49.1 -0.2**
LIT pmax pmax
comp=Z,21nm,0.8s
WIN Windhoek 84.05 248 P **P** **22 41 50.9 +0.8**
WIN Windhoek 84.05 248 P **P** **22 41 50.9 +0.8**
WIN pmax pmax
comp=Z,9.0nm,1.0s
JOF Joensuu 84.14 334 *e*P **P** **22 41 50.4 +1.1**
IIGN Ignalina 84.55 326 *e*P **P** **22 41 51.8 +0.2**
LVZ Lovozero 84.58 339 P **P** **22 41 51.2 -0.4**
LVZ Lovozero 84.58 339 P **P** **22 41 51.2 -0.4**
LVZ pmax pmax
comp=Z,136nm,1.8s
MARR Marisel-Cluj 84.68 317 ⇑P **P** **22 41 54.1 +1.5**
DEV Deva 84.68 316 ⇑P **P** **22 41 54.4 +1.9**
DEV Deva 84.68 316 P **P** **22 41 54.4 +1.9**
GZR Gura Zlata 84.69 316 ⇑P **P** **22 41 53.6 +0.9**
GZR Gura Zlata 84.69 316 P **P** **22 41 53.5 +0.9**
HERR Herculane 84.85 315 ⇑P **P** **22 41 54.3 +0.9**
VSU Vasula 85.03 329 *ce*P **P** **22 41 53.2 -0.7**
VSU pmax pmax
comp=Z,17nm,0.9s
VSU Vasula 85.03 329 *e*P **P** **22 41 54.3 +0.4**
SURR Surduc 85.20 316 ⇑P **P** **22 41 56.0 +1.0**
MDVR Moldovita 85.33 315 ⇑P **P** **22 41 56.9 +1.1**
BZS Buzias 85.53 316 ⇑P **P** **22 41 56.9 +0.2**
BZS Buzias 85.53 316 P **P** **22 41 56.9 +0.2**
SIRR Siria 85.60 317 ⇓P **P** **22 41 58.8 +1.7**
AFI Afiamalu 85.61 104 P **P** **22 41 58.5 +0.7**
AFI Afiamalu 85.61 104 P **P** **22 41 58.5 +0.7**
KOLS Kolonicke sedl 85.63 319 *e*P **P** **22 41 59.1 +1.9**
KOLS pmax pmax
comp=Z,34nm,0.9s
KOLS Kolonicke sedl 85.63 319 *e*P **P** **22 41 59.1 +1.9**
ARBE Arbavere 85.64 330 *e*P **P** **22 41 58.5 +1.5**
PABE Paberze 85.84 326 P **P** **22 41 58.3 +0.3**
PABE Paberze 85.84 326 *e*P **P** **22 41 59.4 +1.4**
VSVD Vaisvydziai 85.96 327 *e*P **P** **22 41 59.7 +1.1**
SUW Suwalki 85.99 325 *e*P **P** **22 41 59.4 +0.7**
SUW Suwalki 85.99 325 P **P** **22 41 59.0 +0.2**
SUW Suwalki 85.99 325 P **P** **22 41 59.0 +0.2**
SUW pmax pmax
comp=Z,55nm,0.9s
SUW Suwalki 85.99 325 *e*P **P** **22 41 59.5 +0.7**
FINES FINESS Array B 86.08 332 P **P** **22 41 59.2 +0.1**
FINES FINESS Array B 86.08 332 P **P** **22 41 59.4 +0.3**
comp=Z,6.5nm,0.7s,baz=106,slow=5.5,SNR=53
FINES PKKPbc **PKKPbc** **22 59 58.4 -2.6**
comp=Z,4.2nm,1.2s,baz=349,slow=1.9,SNR=4.9
FINES LR LR 23 23 26.4
comp=Z,34nm,21.5s,baz=106,slow=38
comp=Z,6.5nm,0.7s
STHS Stebnicka Huta 86.38 320 *e*P **P** **22 42 01.9 +1.0**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 86.38 320 *e*P **P** **22 42 01.9 +1.0**
MTSE Matsula 86.58 329 *e*P **P** **22 42 02.4 +0.9**
MEF Metsahovi 86.60 331 *e*P **P** **22 42 02.9 +1.3**
QSPA South Pole Qui 86.78 180 P **P** **22 42 03.9 +1.3**
QSPA South Pole Qui 86.78 180 P **P** **22 42 04.2 +1.6**
comp=Z,5.5nm,0.7s,baz=293,slow=2.0,SNR=28
QSPA LR LR 23 17 49.6
comp=Z,70nm,20.2s,baz=356,slow=33
comp=Z,5.5nm,0.7s
KEF Keuruu 86.80 333 *e*P **P** **22 42 03.6 +1.0**
KIWB Kanaga Island 86.86 38 P **P** **22 42 03.0 -0.1**
PSZ Piszkesteto 87.04 318 P **P** **22 42 04.1 -0.1**
PSZ Piszkesteto 87.04 318 P **P** **22 42 04.1 -0.1**
PSZ pmax pmax
comp=Z,12nm,1.1s
PSZ Piszkesteto 87.04 318 *e*P **P** **22 42 05.2 +1.0**
PBUR Paburge 87.07 326 *e*P **P** **22 42 05.2 +1.2**
ADK Adak 87.15 38 P **P** **22 42 04.0 -0.5**
ADK Adak 87.15 38 P **P** **22 42 04.0 -0.5**
ADK pmax pmax
comp=Z,77nm,1.1s
LANS Liptovska Anna 87.49 319 *e*P **P** **22 42 07.6 +1.3**
LANS pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 87.49 319 *e*P **P** **22 42 07.6 +1.3**
MORH Mrgy, Hungar 87.67 316 ⇑P **P** **22 42 08.1 +1.0**
VAF Ylistaro 87.98 333 *e*P **P** **22 42 09.6 +1.3**
RAF Rauma 88.03 331 *e*P **P** **22 42 09.4 +0.9**
SRO Srobarova 88.08 318 *e*P **P** **22 42 10.8 +1.7**
SRO pmax pmax
comp=Z,15nm,1.1s
SRO Srobarova 88.08 318 *e*P **P** **22 42 10.8 +1.7**
ARCES ARCESS Array B 88.26 340 P **P** **22 42 10.2 +0.7**
comp=Z,21nm,0.9s,baz=104,slow=3.9,SNR=16
ARCES LR LR 23 26 05.6
comp=Z,44nm,18.1s,baz=93,slow=38
comp=Z,21nm,0.9s

OKC Ostrava-Krasne 88.43 320 *e*P **P** **22 42 12.0 +1.3**
OKC Ostrava-Krasne 88.43 320 *e*P **P** **22 42 12.0 +1.3**
MATE Matera 88.47 311 *e*P **P** **22 42 12.2 +1.2**
JAVC Velka Javorina 88.63 319 *e*P **P** **22 42 13.6 +1.9**
STEB Steborice 88.68 320 *e*P **P** **22 42 13.3 +1.4**
MORC Moravsky Berou 88.81 320 P **P** **22 42 13.1 +0.6**
MORC IAmb IAmb 22 42 14.8
comp=Z,10nm,0.9s
MORC Moravsky Berou 88.81 320 *e*P **P** **22 42 13.9 +1.3**
MORC Moravsky Berou 88.81 320 ⇑P **P** **22 42 13.8 +1.3**
MORC Moravsky Berou 88.81 320 P **P** **22 42 13.8 +1.3**
MODS Modra-Piesok 88.83 318 *e*P **P** **22 42 14.3 +1.6**
MODS pmax pmax
comp=Z,44nm,1.4s
MODS Modra-Piesok 88.83 318 *e*P **P** **22 42 14.3 +1.6**
CEL Celeste 88.87 308 P **P** **22 42 13.1 0.0**
CEL IAmb IAmb 22 42 16.6
comp=Z,32nm,1.1s
BEHE Becsehely 88.98 316 P **P** **22 42 14.1 +0.7**
KOGS Kog 89.34 316 *i* P **P** **22 42 16.1 +1.0**
VRAC Vranov 89.38 319 *e*P **P** **22 42 16.8 +1.6**
RONA Rosalia, Austr 89.42 318 *i* P **P** **22 42 16.6 +1.1**
comp=Z,2.0nm,0.9s
KRUC Moravsky 89.48 319 *e*P **P** **22 42 16.6 +0.9**
DPC Dobruska-Polom 89.65 320 *e*P **P** **22 42 18.3 +1.8**
DPC Dobruska-Polom 89.65 320 *e*P **P** **22 42 18.3 +1.8**
KSP Ksiaz 89.72 321 *e*P **P** **22 42 18.2 +1.5**
KSP Ksiaz 89.72 321 P **P** **22 42 18.6 +1.9**
CONA Conrad Observa 89.74 318 *e*P **P** **22 42 18.2 +1.2**
comp=Z,6.4nm,1.1s
OSTC Ostas 89.74 320 *e*P **P** **22 42 18.4 +1.6**
OSTC Ostas 89.74 320 *e*P **P** **22 42 18.4 +1.6**
CHVC Chvalec 89.85 321 *e*P **P** **22 42 18.9 +1.6**
CHVC Chvalec 89.85 321 *e*P **P** **22 42 18.9 +1.6**
UPC Upice 89.87 320 *e*P **P** **22 42 19.3 +1.9**
UPC Upice 89.87 320 *e*P **P** **22 42 19.3 +1.9**
ARSA Arzberg 89.91 317 *e*PcP **P** **22 42 19.2 +1.5**
comp=Z,0.6nm,0.3s
ARSA Arzberg 89.91 317 P **P** **22 42 17.9 +0.2**
ARSA IAmb IAmb 22 42 19.9
comp=Z,12nm,1.1s
BOJS Bojanci 89.95 315 *i* P **P** **22 42 19.1 +1.2**
SOKA Soboth 90.19 317 *e*PcP **P** **22 42 20.7 +1.6**
comp=Z,11nm,1.1s
LJU Ljubljana 90.50 316 *i* P **P** **22 42 21.8 +1.4**
OBKA Obir 90.52 316 *e*PcP **P** **22 42 21.8 +1.2**
comp=Z,3.1nm,0.7s
PRU Pruhonice 90.77 320 *e*P **P** **22 42 23.0 +1.4**
PRU Pruhonice 90.77 320 *e*P **P** **22 42 23.0 +1.4**
PVCC Panska Ves 90.79 320 *e*P **P** **22 42 23.6 +1.9**
PVCC Panska Ves 90.79 320 *e*P **P** **22 42 23.6 +1.9**
MOA Molln 90.80 318 *e*P **P** **22 42 21.9 0.0**
comp=Z,3.4nm,0.8s
CKRC Cesky Krumlov 90.84 319 *e*P **P** **22 42 23.2 +1.2**
CKRC Cesky Krumlov 90.84 319 *e*P **P** **22 42 23.2 +1.2**
MYKA Terra Mystica 91.15 316 *i* PcP **P** **22 42 24.7 +1.2**
comp=Z,2.0nm,0.6s
PRED Cave del Predi 91.19 316 P **P** **22 42 24.5 +0.8**
PRED IAmb IAmb 22 42 25.5
comp=Z,12nm,0.8s
BRG Berggiesshubel 91.21 321 *i* P **P** **22 42 25.1 +1.4**
BRG Amp 22 42 25.9
comp=Z,10nm,1.0s
BIOA Bad Ischl, Aus 91.21 318 *i* P **P** **22 42 24.6 +0.8**
comp=Z,1.4nm,0.5s
GERES GERESS Array B 91.24 319 P **P** **22 42 24.2 +0.2**
GERES GERESS Array B 91.24 319 P **P** **22 42 24.9 +0.9**
comp=Z,3.6nm,0.9s,baz=106,slow=7.1,SNR=8.6
comp=Z,3.6nm,0.9s
KHC Kasperske Hory 91.34 319 *e*P **P** **22 42 28.3 +4.0**
KHC Kasperske Hory 91.34 319 *e*P **P** **22 42 28.3 +4.0**
KBA Koelnbreinsper 91.38 317 *e*P **P** **22 42 24.2 -0.5**
comp=Z,3.3nm,0.8s
SNAA Sanae 91.62 198 P **P** **22 42 27.0 +1.8**
SNAA IAmb IAmb 22 45 35.7
comp=Z,22nm,1.8s
SNAA Sanae 91.62 198 P **P** **22 42 27.4 +2.2**
comp=Z,1.9nm,0.8s,baz=197,slow=3.3,SNR=5.2
SNAA LR LR 23 18 36.5
comp=Z,68nm,20.8s,baz=126,slow=32
comp=Z,1.9nm,0.8s
LESA Schwarzleotal 91.85 317 *e*P **P** **22 42 27.0 +0.2**
comp=Z,4.1nm,0.6s
HFS Hagfors 91.88 330 P **P** **22 42 27.2 +0.6**
comp=Z,12nm,0.8s,baz=98,slow=3.3,SNR=16
HFS LR LR 23 27 12.9
comp=Z,36nm,21.7s,baz=70,slow=38
comp=Z,12nm,0.8s
ABTA Abfaltersbach 91.93 317 *e*P **P** **22 42 27.5 +0.3**
comp=Z,2.2nm,0.6s
CIMO Cimolais 91.96 316 P **P** **22 42 27.5 +0.2**
CIMO IAmb IAmb 22 42 29.1
comp=Z,14nm,0.7s
SPITS Spitsbergen Ar 92.20 348 P **P** **22 42 27.2 -0.5**
comp=Z,6.9nm,0.7s,baz=114,slow=8.4,SNR=16
SPITS LR LR 23 29 00.3
comp=Z,38nm,21.2s,baz=79,slow=39
comp=Z,6.9nm,0.7s
CTI Castel Tesino 92.50 316 P **P** **22 42 30.7 +0.9**
CTI IAmb IAmb 22 42 32.0
comp=Z,11nm,0.9s
CTI Castel Tesino 92.50 316 P **P** **22 42 30.7 +0.9**
CTI pmax pmax
comp=Z,11nm,0.9s
WTTA Wattenberg 92.55 317 *e*P **P** **22 42 30.6 +0.4**
comp=Z,11nm,1.1s,SNR=7.2
WTTA *e*SKS **SKSac** **22 52 54.4 -0.4**
comp=Z,1.2nm,0.8s
WATA Walderalm 92.59 317 *e*P **P** **22 42 30.8 +0.5**
comp=Z,8.6nm,1.3s
SQTA Sankt Quirin 92.84 317 *e*P **P** **22 42 31.9 +0.5**
comp=Z,4.6nm,0.7s,SNR=7.7
SQTA *e*SKS **SKSac** **22 52 54.9 -1.4**
comp=Z,2.8nm,1.0s
NORES NORESS Array B 92.97 331 P **P** **22 42 32.2 +0.6**
NB2 NORSAR Subarra 93.14 331 P **P** **22 42 32.4 0.0**
comp=Z,1.6nm,0.6s,baz=92,slow=4.8
NB2 NORSAR Subarra 93.14 331 P **P** **22 42 32.4 0.0**
NOA NORSAR Array B 93.14 331 P **P** **22 42 32.3 -0.1**
comp=Z,3.5nm,0.8s,baz=95,slow=5.0,SNR=10
NOA LR LR 23 28 18.5
comp=Z,23nm,20.4s,baz=105,slow=38
comp=Z,3.5nm,0.8s
RETA Reutte 93.15 317 *e*PcP **P** **22 42 33.7 +0.9**
comp=Z,3.0nm,0.5s
RETA *e*SKS **SKSac** **22 52 57.3 -0.5**
comp=Z,2.1nm,0.9s
FETA Feichten 93.16 317 *e*PcP **P** **22 42 33.9 +0.9**
comp=Z,0.1nm,0.2s,SNR=4.3
FETA *e*SKS **SKSac** **22 52 59.5 +1.3**
comp=Z,1.6nm,1.0s
FUORN Ofenpass-Fuorn 93.47 316 P **P** **22 42 35.0 +0.5**
FUORN IAmb IAmb 22 42 36.1
comp=Z,10nm,1.2s
DAVA Damuels 93.75 317 *e*PcP **P** **22 42 36.5 +0.9**
comp=Z,0.6nm,0.2s
C16K Lisburne Hills 93.94 22 P **P** **22 42 35.8 0.0**
C16K IAmb IAmb 22 42 36.7
comp=Z,13nm,1.0s
KEST Kesra 93.98 305 P **P** **22 42 37.5 +0.6**
comp=Z,7.7nm,1.1s,baz=54,slow=5.6,SNR=4.7
comp=Z,7.7nm,1.1s
C18K Utukok River 95.45 21 P **P** **22 42 42.8 0.0**
C18K IAmb IAmb 22 42 43.7
comp=Z,10nm,0.8s
B20K Meade River 96.70 20 P **P** **22 42 48.6 +0.2**
B20K IAmb IAmb 22 42 50.4
comp=Z,12nm,0.8s
B21K Ikpikpuk River 97.64 20 P **P** **22 42 52.6 0.0**
H19K Roundabout Mou 97.69 24 P Pdif 22 42 53.7 +0.8
JMIC Jan Mayen 99.60 342 LR LR 23 35 53.0
comp=Z,30nm,18.9s,baz=64,slow=40
DAG Danmarks Havn 99.84 348 *i* P **Pdif** **22 43 01.0 -1.4**
ILAR Eielson Array 101.79 24 PKKPbc PKKPbc 22 59 18.1 -1.5
comp=Z,1.4nm,0.9s,baz=135,slow=2.1,SNR=12
INK Inuvik 105.17 19 Pdiff **Pdif** **22 43 25.8 -0.4**
comp=Z,1.7nm,0.9s,baz=327,slow=4.3,SNR=4.8
INK PKKPbc **PKKPbc** **22 59 07.3 -2.3**
comp=Z,0.8nm,0.7s,baz=118,slow=5.9,SNR=4.5
PPT2 Papeete2 106.55 109 *e*LR LR 23 18 53.1
comp=Z,116nm,34.5s
PPT2 *e*LR LR 23 19 02.1
comp=Z,44nm,22.8s
YKA Yellowknife Ar 114.92 18 PKP **PKiKP** **22 47 57.9 -0.6**
comp=Z,0.4nm,0.6s,baz=324,slow=2.4,SNR=9.0
YKA PKKPbc **PKKPbc** **22 58 36.5 -1.4**

comp=Z,0.6nm,0.8s,baz=145,slow=3.3,SNR=8.6
OZB Mount Ozzard 119.11 34 PKPdf PKiKP 22 48 07.4 +0.3
GNW Green Mountain 121.37 34 PKPdf PKiKP 22 48 12.1 +0.6
I02E Swisshome, OR 122.66 38 PKPdf PKiKP 22 48 14.8 +0.7
MG03 Isla Dawson 122.81 185 PKPdf PKiKP 22 48 14.8 +0.6
FCC Fort Churchill 123.18 10 PKPdf PKPdf 22 48 14.0 -0.5
FCC Fort Churchill 123.18 10 PKIKP PKPdf 22 48 14.0 -0.5
MG02 Cerro Sombrero 123.74 186 PKPdf PKiKP 22 48 16.9 +0.9
HAWA Hanford 123.88 34 PKPdf PKiKP 22 48 16.4 -0.1
NEW Newport 123.98 31 PKP PKiKP 22 48 16.9 +0.1
comp=Z,5.7nm,1.0s,baz=169,slow=0.4,SNR=7.7
YBH Yreka Blue Hor 124.62 40 PKP PKPdf 22 48 17.7 -0.2
comp=Z,1.8nm,0.9s,baz=2.7,slow=7.1,SNR=6.1
FFC Flin Flon 125.06 17 PKPdf PKPdf 22 48 18.2 -0.1
FFC Flin Flon 125.06 17 PKIKP PKPdf 22 48 18.2 -0.1
O02D Mt. Diablo Mer 125.36 41 PKPdf PKiKP 22 48 20.1 +0.3
BMO Blue Mountains 126.06 34 PKPdf PKPdf 22 48 20.4 -0.2
BMO Blue Mountains 126.06 34 PKIKP PKPdf 22 48 20.4 -0.2
PLID Pearl Lake 126.63 33 PKPdf PKPdf 22 48 21.9 +0.1
OVMT Ovando 126.85 29 PKPdf 22 48 21.3 -0.9
AFDM Forest Hills D 127.20 42 PKPdf PKPdf 22 48 22.9 0.0
EGMT Eagleton 127.67 26 PKPdf PKPdf 22 48 23.7 +0.1
SCHQ Schefferville 127.72 352 PKP PKPdf 22 48 23.5 +0.1
comp=Z,3.9nm,0.9s,baz=188,slow=0.6,SNR=5.3
PAHR Pah Rah Range 127.83 40 PKiKP 22 48 24.7 -0.1
CMB Columbia Colle 128.07 43 PKPdf PKPdf 22 48 24.7 +0.1
CMB Columbia Colle 128.07 43 PKIKP PKPdf 22 48 24.7 +0.1
NVAR Mina Array Bea 129.24 41 PKP PKiKP 22 48 28.2 +0.4
comp=Z,5.0nm,0.8s,baz=259,slow=2.1,SNR=19
YHL Hebgen Lake 129.31 30 PKPdf PKiKP 22 48 28.3 +0.4
LOHW Long Hollow 130.48 31 PKiKP 22 48 29.7 -0.4
HVU Hansel Valley 130.57 34 PKiKP 22 48 30.8 +0.6
HVU Hansel Valley 130.57 34 PKIKP PKiKP 22 48 30.8 +0.6
ULM Lac du Bonnet 130.74 15 PKP PKPdf 22 48 29.6 +0.3
comp=Z,6.1nm,0.6s,baz=0.1,slow=3.3,SNR=14
ULM SKPbc **SKPbc 22 51 41.5 -2.7**
comp=Z,9.8nm,0.9s,baz=343,slow=3.9,SNR=15
HWUT Hardware Ranch 131.36 34 PKPdf PKPdf 22 48 31.3 +0.4
PD31 Pinedale Array 131.62 31 PKPdf PKPdf 22 48 31.0 -0.4
PDAR Pinedale Array 131.62 31 PKPdf PKPdf 22 48 31.1 -0.4
PDAR Pinedale Array 131.62 31 PKhKP PKPpre 22 48 24.8
comp=Z,0.5nm,0.8s,baz=112,slow=1.6,SNR=3.9
PDAR PKP **PKPdf 22 48 31.7 +0.3**
comp=Z,1.5nm,0.5s,baz=141,slow=0.8,SNR=18
PDAR SKPbc **SKPbc 22 51 46.0 -1.9**
comp=Z,12nm,0.9s,baz=17,slow=0.5,SNR=48
PFO Pinyon Flats O 133.09 45 PKPdf PKiKP 22 48 35.5 -0.1
PFO Pinyon Flats O 133.09 45 PKIKP PKiKP 22 48 35.5 -0.1
U15A North Rim 134.29 39 PKPdf PKiKP 22 48 37.8 -0.3
LLI01 San Ignacio de 134.36 186 PKPdf 22 48 36.9 +0.6
PLCA Paso Flores 135.75 188 PKP PKiKP 22 48 40.2 -0.5
comp=Z,4.9nm,1.1s,baz=135,slow=1.4,SNR=6.1
PLCA SKPbc **SKPbc 22 52 00.7 -1.0**
comp=Z,3.8nm,1.0s,baz=154,slow=4.0,SNR=4.3
TRQA Tornquist 136.34 198 PKPdf PKPdf 22 48 40.4 +0.2
TRQA Tornquist 136.34 198 PKIKP PKPdf 22 48 40.4 +0.2
ECSD EROS Data Cent 136.40 20 PKPdf 22 48 40.6 +0.5
NBAN Anadia - AL 136.49 252 *eP* **PKiKP 22 48 43.0 +0.2**
CAM01 Campos-RJ 136.60 233 *eP* **PKiKP 22 48 43.1 +0.3**
DUB01 Friburgo-RJ 137.04 232 *eP* **PKiKP 22 48 44.0 +0.3**
SJMB Sao Joao De Ma 137.71 238 *eP* **PKPdf 22 48 43.1 -0.1**
MAJ01 Sao Joao Batis 138.68 221 *eP* **PKiKP 22 48 46.1 -0.9**
ANMO Albuquerque 138.84 36 PKPdf PKPdf 22 48 45.0 -0.1
ANMO Albuquerque 138.84 36 PKIKP PKPdf 22 48 45.0 -0.1
BI02 San Fabin de 139.85 188 PKPdf PKPdf 22 48 47.1 +0.3
DIAM Diamantina, MG 139.98 236 *eP* **PKiKP 22 48 49.4 -0.6**
JANB Januaria 142.00 241 *eP* **PKiKP 22 48 53.3 -0.8**
SLBS Sierra La Lagu 143.04 54 PKPdf PKPbc 22 48 51.0 +1.1
MT02 Curacav 143.16 190 PKPdf PKPbc 22 48 51.2 +1.4
VA03 San Esteban 143.54 191 PKPdf 22 48 52.4 -1.1
MNHN Monahans 143.57 37 PKPbc 22 48 51.4 +0.3
SDBA SAO DESIDERIO 143.62 244 *eP* **PKPdf 22 48 55.5 +1.4**
VA06 Catapilco 143.87 190 PKPdf PKPdf 22 48 52.9 -1.0
USIN University of 144.28 13 PKPab 22 48 52.4 -0.2
WCI Wyandotte Cave 144.32 11 PKPdf PKPab 22 48 52.5 -0.2
WCI Wyandotte Cave 144.32 11 PKIKP PKPab 22 48 52.5 -0.2
ZON Zonda 144.32 194 PKPdf PKPdf 22 48 54.5 -0.4
ZON Zonda 144.32 194 PKIKP PKPdf 22 48 54.5 -0.4
TXAR Lajitas Array 144.39 40 PKP PKPbc 22 48 54.1 +0.5
comp=Z,22nm,0.7s,baz=293,slow=1.1,SNR=306
TXAR SKPbc **SKPbc 22 52 25.4 +0.2**
comp=Z,8.3nm,0.8s,baz=275,slow=0.8,SNR=15
CPUP Villa Florida 144.47 213 PKPdf PKPdf 22 48 54.7 -0.5
CPUP Villa Florida 144.47 213 PKP PKPdf 22 48 55.6 +0.4
comp=Z,42nm,0.9s,baz=135,slow=2.6,SNR=50
ITRB Iturama 144.55 229 *eP* **PKPdf 22 48 57.1 +1.6**
HPIG 144.55 46 PKPbc 22 48 54.5 +0.1
BDFB Brasilia 144.90 237 PKPdf 22 48 56.6 +0.4
BDFB Brasilia 144.90 237 PKPbc **PKPdf 22 48 57.3 +1.1**
comp=Z,26nm,0.8s,baz=119,slow=3.4,SNR=38
FCAR Ozark Folk Cen 144.95 20 PKPab 22 48 54.1 -1.0
CO03 El Pedregal 145.44 191 PKPab 22 48 57.5 +0.3
ROSB Rosrio 145.58 260 *eP* **PKPab 22 48 59.2 +1.1**
MIAR Mount Ida 145.62 23 PKPdf PKPdf 22 48 57.0 +0.2
MIAR Mount Ida 145.62 23 PKP2 **PKPdf 22 48 57.1 +0.2**
CO06 Fray Jorge 145.77 190 PKPab 22 48 58.3 0.0
JCT Junction City 145.94 35 PKPab 22 48 58.9 -0.1
JCT Junction City 145.94 35 PKP2 **PKPab 22 48 58.9 -0.1**
X40A Basin Creek Fa 145.95 22 PKPbc 22 48 58.1 -0.1
WVT Waverly 146.00 14 PKPbc 22 48 58.2 -0.2
WVT Waverly 146.00 14 PKP2 **PKPbc 22 48 58.2 -0.2**
GO04 Tololo Observa 146.11 191 PKPbc **PKPbc 22 48 59.4 +0.1**
CO01 Juntas del Tor 146.15 192 PKPbc 22 48 59.6 +0.2
LCO Las Campanas 147.22 192 PKPbc 22 49 01.7 -0.7
LCO Las Campanas 147.22 192 PKIKP **PKPbc 22 49 01.7 -0.7**
AQDB Aquidauana 147.86 222 PKPdf 22 49 00.5 -0.6
AQDB Aquidauana 147.86 222 *eP* **PKPbc 22 49 03.7 -0.3**
ARAG Araguaiana, MT 147.98 233 *eP* **PKPbc 22 49 03.3 -1.2**
HKT Hockley 148.49 31 PKPdf 22 49 01.8 +0.1
HKT Hockley 148.49 31 PKIKP **PKPdf 22 49 01.8 +0.1**
JSC Jenkinsville 148.92 5 PKPbc 22 49 05.8 -0.6
JSC Jenkinsville 148.92 5 PKP2 **PKPbc 22 49 05.9 -0.6**
AC02 Maricunga 148.93 196 PKPdf PKPdf 22 49 03.8 +0.5
ZAIG Zacatecas 149.28 49 PKPdf PKPdf 22 49 03.2 -0.4
SNDB Serra Nova Dou 149.45 240 *eP* **PKPdf 22 49 04.5 +0.8**
MOIG Morelia 152.08 52 PKPbc PKPbc 22 49 14.4 -0.2
PTLB Pontes e Lacer 153.68 225 PKPdf PKPdf 22 49 10.4 +0.3
PTLB **PKPbc 22 49 17.4 -0.5**
VILB Vilhena 156.11 227 PKPdf PKPdf 22 49 14.0 +0.5
VILB Vilhena 156.11 227 *eP* **PKPdf 22 49 16.0 +2.5**
LPAZ La Paz 158.31 207 PKPdf PKPdf 22 49 17.4 +0.4
LPAZ La Paz 158.31 207 PKP PKPdf 22 49 17.7 +0.7
comp=Z,5.1nm,0.9s,baz=191,slow=5.2,SNR=17
LPAZ PKPab **sPKPdf 22 49 53.8 -1.6**
comp=Z,2.0nm,0.8s,baz=166,slow=9.5,SNR=4.4
LPAZ La Paz 158.31 207 *eP* **PKPdf 22 49 17.0 0.0**
RUSC La Rusia 174.39 299 PKPdf 22 49 28.0 -1.4

SOME ***16*** *22:49:42.4, 42°.37N×83°.42E, h20km*
NNC ***16*** *22:49:46.0±2.0, 42°.39N×83°.14E, h0km, mb3.7, mpv3.5,*
Error ellipse: s-maj=15.8km s-min=9.8km az=155.0
ISC 16 22:49:47.3±2.4, 42°.5N±0°.1×83°.12E±0°.09, h10km, n31,
σ2°20/45, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.26 297**		Pg		**Pb**		**22 50 26.7**	**-1.6**
KTMS	8.1nm,0.2s			Lg		Lg		22 50 59.9	
KTMS	**Ketmen**	**2.26 297**		*eP*		**Pb**		**22 50 26.7**	**-1.6**
KTMS	8.1nm,0.2s			*eS*		**Sg**		**22 50 59.5**	**-0.4**
SHLS	**Shalkode**	**2.78 286**		Pg		**Pn**		**22 50 31.9**	**-0.1**
SHLS	24nm,0.2s			Lg		Lg		22 51 09.0	
SHLS	**Shalkode**	**2.78 286**		*eP*		**Pn**		**22 50 31.7**	**-0.4**
SHLS	140nm,0.2s			*eS*		**Sn**		**22 51 07.4**	**+1.6**
PDGK	**Podgornoye**	**2.81 289**		⇑Pn		**Pb**		**22 50 35.0**	**-2.6**
PDGK	17nm,0.3s			⇑Pg		**Pg**		**22 50 43.0**	**+1.9**
PDGK	8.1nm,0.7s			⇓Lg		Lg		22 51 17.2	
DJR	**Jarkent**	**3.07 309**		Pg		**Pb**		**22 50 40.4**	**-1.6**
DJR	41nm,0.5s			Lg		Lg		22 51 25.4	
DJR	**Jarkent**	**3.07 309**		*eP*		**Pb**		**22 50 40.4**	**-1.6**
DJR	2.0nm,0.2s			*eS*		**Sb**		**22 51 22.3**	**+2.8**
UZB	**Uzynbulak**	**3.09 284**		Pg		**Pb**		**22 50 41.4**	**-1.1**
UZB	14nm,0.3s			Lg		Lg		22 51 24.9	
UZB	**Uzynbulak**	**3.09 284**		*eP*		**Pb**		**22 50 41.9**	**-0.7**
UZB	5.9nm,0.2s			*eS*		**Sg**		**22 51 24.5**	**-2.2**
KNOS	**Konyrlen**	**3.44 305**		Pg		**Pb**		**22 50 47.7**	**-0.8**
KNOS	39nm,0.3s			Lg		Lg		22 51 35.1	
ZHN	**Zhinishke**	**3.52 283**		Pg		**Pb**		**22 50 49.8**	**+0.1**
ZHN	2.3nm,0.2s			Lg		Lg		22 51 38.4	
ZHN	**Zhinishke**	**3.52 283**		*eP*		**Pb**		**22 50 49.8**	**+0.1**
ZHN	1.6nm,0.1s			*eS*		**Sg**		**22 51 38.4**	**-2.0**
SATY	**Saty**	**3.52 281**		Pg		**Pb**		**22 50 50.1**	**+0.3**
SATY	33nm,0.2s			Lg		Lg		22 51 39.5	
BLB	**Baldybastay**	**3.77 297**		Pg		**Pb**		**22 50 55.3**	**+1.3**
BLB	26nm,0.2s			Lg		Lg		22 51 48.6	
KURS	**Kuram**	**3.78 287**		Pg		**Pb**		**22 50 53.6**	**-0.5**
KURS	16nm,0.3s			Lg		Lg		22 51 45.5	
ARXS	**Arharly**	**4.24 296**		Pg		**Pb**		**22 51 03.5**	**+1.5**
ARXS	11nm,0.4s			Lg		Lg		22 52 01.9	
MK31	**Makanchi Array**	**4.38 352**		Pn		**Pn**		**22 50 54.3**	**+0.5**
MK31	baz=154,slow=13,SNR=41			⇑Pg		**Pg**		**22 51 08.0**	**-3.1**
MK31	0.8nm,0.3s,baz=175,slow=16,SNR=23			⇓Sn		**Sn**		**22 51 49.4**	**+4.6**
MK31	0.7nm,0.2s			⇑Lg		Lg		22 52 07.8	
KOTS	**Kotyrbulak**	**4.49 282**		Pg		**Pg**		**22 51 09.5**	**-3.7**
KOTS	4.1nm,0.2s			Lg		Lg		22 52 12.8	
KOTS	**Kotyrbulak**	**4.49 282**		*eP*		**Pb**		**22 51 08.8**	**+2.6**
KOTS	3.5nm,0.3s			*eS*		**Sg**		**22 52 10.8**	**-0.5**
TNSS	**Tian-Shan**	**4.58 279**		Pg		**Pb**		**22 51 10.5**	**+2.5**
TNSS	22nm,0.5s			Lg		Lg		22 52 13.4	
TNSS	**Tian-Shan**	**4.58 279**		*eP*		**Pb**		**22 51 10.5**	**+2.5**
TNSS	1.8nm,0.1s			*eS*		**Sg**		**22 52 13.4**	**-1.1**
CHKK	**Chushkaly**	**4.70 289**		Pg		**Pb**		**22 51 12.3**	**+2.5**
CHKK	4.8nm,0.6s			Lg		Lg		22 52 16.9	
CHKK	**Chushkaly**	**4.70 289**		*eP*		**Pb**		**22 51 12.3**	**+2.5**
CHKK	0.9nm,0.1s			*eS*		**Sg**		**22 52 16.9**	**-1.2**
MTBS	**Maitube**	**4.97 280**		Pg		**Pb**		**22 51 16.6**	**+2.2**
MTBS	5.9nm,0.2s			Lg		Lg		22 52 24.9	
MTBS	**Maitube**	**4.97 280**		*eP*		**Pb**		**22 51 16.6**	**+2.2**
MTBS	8.0nm,0.3s			*eS*		**Sg**		**22 52 24.9**	**-1.9**
KUU	**Kurty**	**5.16 288**		Pg		**Pb**		**22 51 19.1**	**+1.4**
KUU	1.8nm,0.3s			Lg		Lg		22 52 29.0	
KUU	**Kurty**	**5.16 288**		*eP*		**Pb**		**22 51 21.2**	**+3.6**
KUU	1.2nm,0.3s			*eS*		**Sg**		**22 52 32.0**	**-1.0**
KST	**Kastek**	**5.30 279**		Pg		**Pg**		**22 51 24.9**	**-3.9**
KST	1.5nm,0.2s			Lg		Lg		22 52 38.7	
KST	**Kastek**	**5.30 279**		*eP*		**Pg**		**22 51 24.9**	**-3.9**
KST	1.5nm,0.2s			*eS*		**Sg**		**22 52 38.7**	**+1.2**
DGS	**Degeres**	**5.46 281**		Pg		**Pb**		**22 51 25.6**	**+2.8**
DGS	1.1nm,0.4s			Lg		Lg		22 52 39.2	
KRBS	**Karabastau**	**5.59 285**		Pg		**Pb**		**22 51 28.1**	**+3.0**
KRBS	0.6nm,0.2s			Lg		Lg		22 52 44.0	
ETLH	**Xiulin Townshi**	**1.21 250**		P		**Pn**		**22 52 58.2**	**-0.2**
ETLH	2.3nm,0.5s			*eS*		**Sn**		**22 53 15.5**	**-0.6**
JKRS	**Kuro-shima**	**1.22 108**		P		**Pn**		**22 52 59.0**	**+0.6**
JKRS	14nm,0.3s			S		**Sn**		**22 53 16.6**	**+0.4**
YHNB	**Yeheng**	**1.24 273**		P		**Pn**		**22 52 58.9**	**+0.3**
YHNB	39nm,0.5s			S		**Sn**		**22 53 16.2**	**-0.4**
NNSB	**Datong**	**1.24 262**		P		**Pn**		**22 52 58.8**	**0.0**
NNSB	39nm,0.3s			S		**Sn**		**22 53 16.5**	**-0.4**
NNS	**Nan Shan**	**1.25 262**		*eP*		**Pn**		**22 52 59.0**	**+0.1**
NNS	33nm,0.2s			*eS*		**Sn**		**22 53 16.4**	**-0.6**
NSK	**Sanguang**	**1.25 273**		P		**Pn**		**22 52 59.1**	**+0.3**
NSK	2.0nm,0.2s			*i* S		**Sn**		**22 53 16.5**	**-0.4**
NTST	**Danshui**	**1.29 295**		*eS*		**Sn**		**22 53 17.2**	**-0.3**
TWS1	**Kuangyinshan**	**1.29 292**		*eP*		**Pn**		**22 52 58.4**	**-0.7**
ETM	**Tongmen**	**1.30 240**		*eP*		**Pn**		**22 52 59.0**	**-0.4**
ETM	15nm,0.2s			*eS*		**Sn**		**22 53 17.1**	**-0.7**
JIJ	**Ishigaki jima**	**1.31 101**		P		**Pn**		**22 52 59.7**	**+0.3**
JIJ	33nm,0.2s			S		**Sn**		**22 53 17.1**	**-0.8**
LXIB	**Xiulin Townshi**	**1.34 244**		P		**Pn**		**22 52 59.3**	**-0.6**
LXIB	2.3nm,0.2s			S		**Sn**		**22 53 17.8**	**-1.1**
SHUL	**Shoufeng**	**1.35 232**		*eP*		**Pn**		**22 52 59.9**	**0.0**
SHUL	14nm,0.3s			*eS*		**Sn**		**22 53 18.6**	**-0.1**
FUSS	**Fushou**	**1.41 255**		*i* P		**Pn**		**22 53 01.1**	**+0.3**
FUSS	39nm,0.5s			S		**Sn**		**22 53 20.1**	**-0.3**
WHF	**Hehuan Shan**	**1.42 251**		*i* P		**Pn**		**22 53 01.2**	**+0.1**
WHF	26nm,0.2s			S		**Sn**		**22 53 20.2**	**-0.7**
ESL	**Shilin**	**1.43 236**		*i* P		**Pn**		**22 53 00.4**	**-0.4**
ESL	33nm,0.2s			*eS*		**Sn**		**22 53 19.3**	**-1.2**
JISG	**Ishigakijimahi**	**1.44 91**		P		**Pn**		**22 53 01.1**	**+0.2**
JISG	16nm,0.3s			*eS*		**Sn**		**22 53 20.2**	**-0.4**
TWT	**Tachien**	**1.47 256**		*eP*		**Pn**		**22 53 02.1**	**+0.7**
TWT	11nm,0.4s			*eS*		**Sn**		**22 53 21.3**	**-0.1**
NFF	**Wufeng Townshi**	**1.47 271**		*eP*		**Pn**		**22 53 01.8**	**+0.5**
NFF	2.0nm,0.2s			*eS*		**Sn**		**22 53 20.8**	**-0.6**
TDCB	**Techi**	**1.48 256**		P		**Pn**		**22 53 02.1**	**+0.6**
TDCB	2.0nm,0.2s			S		**Sn**		**22 53 21.3**	**-0.5**
EGFH	**Guangfu**	**1.52 232**		*eP*		**Pn**		**22 53 01.7**	**-0.2**
WARBT	**Fenglin Townsh**	**1.52 234**		P		**Pn**		**22 53 01.4**	**-0.5**
WARBT	3.0nm,0.2s			*eS*		**Sn**		**22 53 21.1**	**-1.3**
LIOB	**Emei**	**1.56 271**		*eP*		**Pn**		**22 53 02.7**	**+0.3**
LIOB	2.0nm,0.2s			S		**Sn**		**22 53 23.1**	**-0.3**
OWD	**Renai**	**1.57 245**		P		**Pn**		**22 53 02.5**	**-0.1**
OWD	11nm,0.4s			*i* S		**Sn**		**22 53 22.4**	**-1.2**
NSTT	**Nanjuang**	**1.58 271**		*eP*		**Pn**		**22 53 03.1**	**+0.5**
NSTT	2.0nm,0.2s			S		**Sn**		**22 53 23.1**	**-0.4**
WUSB	**Renai**	**1.60 247**		P		**Pn**		**22 53 03.3**	**+0.3**
WUSB	2.0nm,0.2s			*eS*		**Sn**		**22 53 24.0**	**-0.3**
HGSD	**Ruisui**	**1.64 227**		*eP*		**Pn**		**22 53 03.0**	**-0.3**
WHP	**Taichung City**	**1.66 259**		*i* P		**Pn**		**22 53 04.9**	**+1.2**
WHP	2.0nm,0.2s			S		**Sn**		**22 53 26.2**	**+0.6**
EHY	**Hungye**	**1.70 230**		P		**Pn**		**22 53 03.5**	**-0.6**
ECBN	**Changbin**	**1.75 222**		*eP*		**Pn**		**22 53 04.6**	**-0.1**
ECBN	2.0nm,0.2s			*eS*		**Sn**		**22 53 26.6**	**-0.8**
WCS	**Beigang Elemen**	**1.75 252**		*eP*		**Pn**		**22 53 05.8**	**+1.1**
WCS	2.0nm,0.2s			S		**Sn**		**22 53 28.1**	**+0.7**
NMLH	**Miaoli**	**1.77 268**		*eS*		**Sn**		**22 53 27.6**	**-0.2**
YULB	**Yu-li**	**1.79 227**		*eP*		**Pn**		**22 53 04.6**	**-0.7**
JTJ	**Tarama**	**1.79 89**		P		**Pn**		**22 53 05.6**	**+0.4**
JTJ	2.0nm,0.2s			S		**Sn**		**22 53 27.4**	**-0.9**
TWQ1	**Liyutan**	**1.81 262**		*eP*		**Pn**		**22 53 05.9**	**+0.5**
EYUL	**Yuli**	**1.81 226**		*eP*		**Pn**		**22 53 05.7**	**+0.2**
TWF1	**Yuli**	**1.82 226**		*eP*		**Pn**		**22 53 05.3**	**-0.3**
SSLB	**Suanglung**	**1.82 243**		*eP*		**Pn**		**22 53 06.0**	**+0.4**
SMLT	**Sun Moon Lake**	**1.83 247**		*eP*		**Pn**		**22 53 06.1**	**+0.3**
TYC	**Yuchr**	**1.85 248**		*eP*		**Pn**		**22 53 06.9**	**+1.0**
TYC	2.0nm,0.2s			*eS*		**Sn**		**22 53 30.9**	**+1.3**
FULB	**Fuli**	**1.93 223**		*eP*		**Pn**		**22 53 07.0**	**0.0**
FULB	2.0nm,0.2s			*eS*		**Sn**		**22 53 31.4**	**-0.1**
WHYT	**Xinyi Township**	**1.95 242**		P		**Pn**		**22 53 08.4**	**+1.2**
WHYT	2.0nm,0.2s			*eS*		**Sn**		**22 53 32.9**	**+1.0**
CHKT	**Chengkung**	**1.96 220**		*eP*		**Pn**		**22 53 06.7**	**-0.6**
WJS	**Zhushan**	**2.00 247**		*eP*		**Pn**		**22 53 09.4**	**+1.6**
WJS	2.0nm,0.2s			*eS*		**Sn**		**22 53 35.0**	**+2.1**
ALS	**Alishan**	**2.08 238**		*eP*		**Pn**		**22 53 10.0**	**+0.8**
EDH	**Donghe**	**2.10 219**		*eP*		**Pn**		**22 53 08.6**	**-0.5**
EDH	2.0nm,0.2s			*eS*		**Sn**		**22 53 33.6**	**-1.6**
ELDTW	**Lidau**	**2.12 228**		*eP*		**Pn**		**22 53 09.2**	**-0.3**
CHN5	**Tsauling**	**2.13 242**		*eP*		**Pn**		**22 53 10.7**	**+1.1**
CHN5	2.0nm,0.2s			*eS*		**Sn**		**22 53 37.8**	**+1.6**
LONT	**Longtian**	**2.25 221**		*eP*		**Pn**		**22 53 10.9**	**-0.1**
LDUT	**Ludao**	**2.26 211**		*eP*		**Pn**		**22 53 10.7**	**-0.5**
LDUT	2.0nm,0.2s			*eS*		**Sn**		**22 53 37.2**	**-1.7**
STYH	**Taoyuan**	**2.30 232**		*eP*		**Pn**		**22 53 12.8**	**+1.1**
STYH	2.0nm,0.2s			*eS*		**Sn**		**22 53 40.8**	**+0.9**
CHN4	**Tsaushan**	**2.33 238**		*eP*		**Pn**		**22 53 13.2**	**+1.1**
TWGBT	**Beinan**	**2.35 221**		*eP*		**Pn**		**22 53 12.1**	**-0.2**
TWG	**Pinlang**	**2.35 221**		*eP*		**Pn**		**22 53 12.1**	**-0.2**
JMJ2	**Miyako jima3**	**2.36 87**		S		**Sn**		**22 53 41.0**	**-0.3**
WTP	**Ta-pu**	**2.37 235**		*eP*		**Pn**		**22 53 13.7**	**+1.0**
TWK	**Hsinying**	**2.46 237**		*eP*		**Pn**		**22 53 14.7**	**+0.9**
CHN1	**Nanshi**	**2.47 235**		*eP*		**Pn**		**22 53 15.4**	**+1.4**
SGST	**Jiashian**	**2.49 233**		*eP*		**Pn**		**22 53 14.4**	**+0.2**
WSL	**Shuilin Townsh**	**2.54 245**		*eP*		**Pn**		**22 53 15.4**	**+0.6**
ECL	**Taimali**	**2.59 219**		*eP*		**Pn**		**22 53 15.0**	**-0.5**
MASBT	**Mashibuluo**	**2.77 224**		*eP*		**Pn**		**22 53 18.6**	**+0.7**
LAY	**Lan-yu**	**2.79 203**		*eP*		**Pn**		**22 53 17.5**	**-0.6**
LYUB	**Lan-yu**	**2.81 202**		*eP*		**Pn**		**22 53 17.4**	**-1.0**
SLIU	**Shizi**	**2.98 217**		*eP*		**Pn**		**22 53 20.9**	**+0.3**

TAP ***16*** *22:52:34.6, 24°.60N×122°.71E, h112km±1km, ML3.3, C*
JMA ***16*** *22:52:34.8±0.2, 25°.N±2°.×122°.7E±0°.5, h107km±1km,*
MV2.4/16, NW OFF ISHIGAKIJIMA IS
ISC 16 22:52:34.9±1.4, 24°.62N±0°.04×122°.73E±0°.03, h108km±8km,
n93, σ0°68/149, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26 131**		P		**Pn**		**22 52 50.2**	**-0.1**
JYNG				*eS*		**Sn**		**22 53 01.7**	**-0.1**
YOJ	**Yonaguni jima**	**0.30 122**		*i* P		**Pn**		**22 52 50.5**	**0.0**
YOJ				*eS*		**Sn**		**22 53 02.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.30 122**		P		**Pn**		**22 52 50.4**	**0.0**
YOJ				S		**Sn**		**22 53 02.2**	**0.0**
EOS2	**EOS2**	**0.50 247**		*eP*		**Pn**		**22 52 51.8**	**+0.4**
EOS2				S		**Sn**		**22 53 04.6**	**+0.8**
EOS3	**EOS3**	**0.50 229**		*i* P		**Pn**		**22 52 52.0**	**+0.6**
EOS3				*eS*		**Sn**		**22 53 05.4**	**+1.6**
EOS4	**EOS4**	**0.62 217**		*eP*		**Pn**		**22 52 52.2**	**+0.2**
EOS4				*eS*		**Sn**		**22 53 05.8**	**+0.8**
TWB1	**Santiao Chiao**	**0.78 300**		*eP*		**Pn**		**22 52 53.8**	**0.0**
TWB1				*eS*		**Sn**		**22 53 07.8**	**-0.3**
TWC	**Suao**	**0.80 270**		*i* P		**Pn**		**22 52 53.6**	**-0.4**
TWC				*eS*		**Sn**		**22 53 07.1**	**-1.3**
ESAO	**Su ao**	**0.81 267**		*eP*		**Pn**		**22 52 54.0**	**-0.1**
EWUT	**Wuta**	**0.89 259**		*eP*		**Pn**		**22 52 54.9**	**0.0**
EWUT				*eS*		**Sn**		**22 53 09.4**	**-0.4**
TIPB	**Shuangxi**	**0.90 293**		P		**Pn**		**22 52 55.1**	**+0.1**
TIPB				S		**Sn**		**22 53 09.1**	**-1.0**
SXI1	**Grass Mountain**	**0.91 301**		P		**Pn**		**22 52 55.2**	**0.0**
SXI1				*eS*		**Sn**		**22 53 10.7**	**+0.3**
ENA	**Nanau**	**0.92 258**		P		**Pn**		**22 52 55.3**	**+0.1**
ENA				*eS*		**Sn**		**22 53 10.4**	**-0.1**
NDS	**Dongshan**	**0.93 271**		*eP*		**Pn**		**22 52 55.3**	**+0.1**
EAHA	**Aohua**	**0.95 253**		*eP*		**Pn**		**22 52 55.5**	**+0.1**
EAHA				*eS*		**Sn**		**22 53 10.9**	**0.0**
IRIF	**Iriomote-Funau**	**0.95 107**		P		**Pn**		**22 52 55.5**	**+0.1**
IRIF				S		**Sn**		**22 53 11.0**	**0.0**
TWE	**Neicheng**	**0.97 276**		*eP*		**Pn**		**22 52 55.9**	**+0.2**
TWE				*eS*		**Sn**		**22 53 10.9**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.05 278**		P		**Pn**		**22 52 56.7**	**+0.1**
ENTT	**Nioudou**	**1.06 271**		P		**Pn**		**22 52 57.2**	**+0.6**
ENTT				*eS*		**Sn**		**22 53 13.2**	**+0.2**
LATG	**Datong**	**1.10 266**		P		**Pn**		**22 52 57.3**	**+0.2**
LATG				*eS*		**Sn**		**22 53 14.1**	**+0.1**
TWA	**Mucha**	**1.10 289**		*eS*		**Sn**		**22 53 13.8**	**-0.1**
ETL	**Fush Village**	**1.11 246**		*eP*		**Pn**

AAK ⇑Lg Lg 23 05 29.4
7.0nm,0.8s
TKM2 Tokmak 2 4.60 9 ⇑Pg **Pg 23 04 37.8 -2.0**
2.2nm,0.6s
TKM2 ⇑Sn **Sb 23 05 24.0 -4.1**
3.5nm,0.8s
TKM2 ⇑Lg Lg 23 05 42.9
3.4nm,0.8s
KST Kastek 4.77 12 Pg **Pg 23 04 41.9 -1.2**
4.1nm,0.4s
KST Lg Lg 23 05 46.5
4.0nm,0.4s
KST Kastek 4.77 12 *e*P **Pg 23 04 41.9 -1.2**
4.1nm,0.4s
KST *e*S **Sg 23 05 46.5 +1.6**
4.0nm,0.4s
DGS Degeres 4.94 10 Pg **Pg 23 04 44.4 -1.9**
4.0nm,0.5s
DGS Lg Lg 23 05 50.8
2.6nm,0.6s
MTBS Maitube 4.94 16 Pg **Pg 23 04 46.3 -0.1**
1.6nm,0.1s
MTBS Lg Lg 23 05 54.1
2.2nm,0.2s
MTBS Maitube 4.94 16 *e*P **Pg 23 04 45.2 -1.1**
0.9nm,0.1s
MTBS *e*S **Sg 23 05 52.0 +1.6**
1.7nm,0.1s
TNSS Tian-Shan 4.98 20 Pg **Pg 23 04 46.1 -1.0**
3.4nm,0.4s
TNSS Lg Lg 23 05 54.2
2.0nm,1.0s
TNSS Tian-Shan 4.98 20 *e*P **Pg 23 04 46.1 -1.0**
3.4nm,0.4s
TNSS *e*S **Sg 23 05 54.2 +2.5**
2.0nm,1.0s
IUG Iuzhnay 5.12 319 Pg **Pb 23 04 43.2 +1.8**
19nm,0.5s
IUG Lg Lg 23 05 48.8
17nm,0.4s
KOTS Kotyrbulak 5.21 21 Pg **Pg 23 04 50.2 -1.3**
3.5nm,0.6s
KOTS Lg Lg 23 06 01.3
8.9nm,0.6s
KOTS Kotyrbulak 5.21 21 *e*P **Pg 23 04 50.2 -1.3**
3.5nm,0.6s
KOTS *e*S **Sg 23 06 01.4 +2.4**
8.9nm,0.6s
KRBS Karabastau 5.37 9 Pg **Pg 23 04 51.6 -2.9**
3.3nm,0.4s
KRBS Lg Lg 23 06 03.0
3.6nm,0.5s
KTBS Karatobe 5.55 16 Pg **Pg 23 04 57.0 -1.0**
4.2nm,0.4s
KTBS Lg Lg 23 06 12.3
3.9nm,0.5s
KK31 Karatay Array 5.63 328 Pn **Pn 23 04 35.7 +0.2**
1.0nm,0.3s,baz=143,slow=13,SNR=27
KK31 ⇓Sn **Sn 23 05 37.6 -2.7**
1.0nm,0.3s,baz=163,slow=26,SNR=4.2
CHKK Chushkaly 5.76 18 Pg **Pg 23 05 00.1 -1.8**
0.8nm,0.1s
CHKK Lg Lg 23 06 17.8
1.4nm,0.1s
CHKK Chushkaly 5.76 18 *e*P **Pg 23 05 00.1 -1.8**
0.8nm,0.1s
CHKK *e*S **Sg 23 06 17.8 +1.3**
1.4nm,0.1s
KURS Kuram 5.78 27 *e*P **Pg 23 05 00.1 -2.2**
0.8nm,0.1s
KURS *e*S **Sg 23 06 17.8 +0.7**
1.4nm,0.1s
BRLS Borolday 5.87 324 Pg **Pb 23 04 54.3 0.0**
1.1nm,0.2s
BRLS Lg Lg 23 06 08.1
0.6nm,0.3s
BRLS Borolday 5.87 324 *e*P **Pb 23 04 54.2 0.0**
1.1nm,0.2s
BRLS *e*S **Sb 23 06 08.1 +3.4**
0.6nm,0.3s
KPKS Kokpek 5.95 30 *e*P Pn 23 04 44.4 +4.4
4.0nm,0.5s
KPKS *e*S **Sn 23 05 50.8 +2.6**
2.6nm,0.6s

*IDC **16** 23:11:08.5±1.2,38°.36N×20°.37E,h0km,mb3.6/8, mbtmp3.5/15,ML3.1/5,Error ellipse: s-maj=23.0km s-min=15.3km az=5.0*
*BEO **16** 23:11:10.8±3.1,38°.29N×20°.14E,h0km,ML3.4/14*
*ATH **16** 23:11:11.9,38°.27N×20°.42E,h13km,ML3.3/24,Manual Solution by A.Agalos First location: 2019/03/16 23:11:55, This location: 2019/03/17 14:11:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **16** 23:11:12.5,38°.28N×20°.43E,h12km,ML3.2/12,Error ellipse: s-maj=1.0km s-min=0.4km az=266.0*
ISC 16 23:11:11.2±0.7,38°.28N±0°.02×20°.37E±0°.03,h18km±2km, n145,σ1§48/181,mb3.7/8,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	**Damoulianata-K**	**0.04**	**173**	P	**Pg**	**23 11 14.5**	**+0.1**
DMLN				S	**Sg**	**23 11 16.6**	**-0.1**
	251μm,0.2s						
DMLN	**Damoulianata-K**	**0.04**	**173**	P	**Pg**	**23 11 14.6**	**+0.1**
DMLN				S	**Sg**	**23 11 16.4**	**-0.3**
LXR1	**Lixouri, Cepha**	**0.09**	**144**	P	**Pg**	**23 11 15.0**	**+0.2**
LXR1				S	**Sg**	**23 11 17.2**	**0.0**
	354μm,0.4s						
VLS	**Valsamata**	**0.20**	**120**	P	**Pg**	**23 11 16.2**	**0.0**
VLS				S	**Sg**	**23 11 19.0**	**-0.6**
	24μm,0.3s						
VLS	**Valsamata**	**0.20**	**120**	P	**Pg**	**23 11 16.2**	**0.0**
VLS				S	**Sg**	**23 11 18.5**	**-1.1**
VSK1	**VASILIKIADES**	**0.20**	**49**	P	**Pb**	**23 11 16.8**	**+0.8**
VSK1				S	**Sg**	**23 11 19.2**	**-0.5**
	17μm,0.5s						
SMHA	**Samh**	**0.22**	**97**	P	**Pg**	**23 11 15.9**	**-0.6**
SMHA				S	**Sg**	**23 11 18.8**	**-1.3**
PSDA	**Pessada-Kefalo**	**0.24**	**134**	P	**Pg**	**23 11 16.8**	**+0.1**
PSDA				S	**Sg**	**23 11 20.1**	**-0.3**
	35μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.24**	**134**	P	**Pg**	**23 11 16.7**	**0.0**
PSDA				S	**Sg**	**23 11 19.8**	**-0.6**
FSK	**Fiskardo**	**0.24**	**40**	P	**Pb**	**23 11 17.3**	**+0.5**
FSK				S	**Sg**	**23 11 20.0**	**-0.5**
	14μm,0.4s						
FSK	**Fiskardo**	**0.24**	**40**	P	**Pb**	**23 11 17.3**	**+0.5**
RTZL	**Ratzakli, Kefa**	**0.38**	**122**	P	**Pg**	**23 11 19.0**	**-0.1**
RTZL				S	**Sg**	**23 11 24.1**	**-0.3**
	3μm,0.5s						
EVGI	**Lefkada island**	**0.41**	**33**	P	**Pb**	**23 11 20.2**	**+0.2**
EVGI				S	**Sb**	**23 11 25.9**	**-0.1**
	6μm,0.2s						
EVGI	**Lefkada island**	**0.41**	**33**	P	**Pb**	**23 11 20.2**	**+0.2**
EVGI				S	**Sg**	**23 11 25.3**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.44**	**22**	P	**Pg**	**23 11 20.5**	**+0.3**
DRAG				S	**Sb**	**23 11 27.1**	**+0.4**
	2μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.44**	**22**	P	**Pb**	**23 11 20.8**	**+0.3**
DRAG				S	**Sb**	**23 11 26.8**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.50**	**148**	P	**Pg**	**23 11 20.8**	**-0.4**
ORTH				S	**Sg**	**23 11 27.7**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.51**	**31**	P	**Pb**	**23 11 21.7**	**+0.1**
NYDR				S	**Sb**	**23 11 29.1**	**+0.5**
	2μm,0.3s						
LKD2	**Lefkada island**	**0.56**	**24**	P	**Pg**	**23 11 22.6**	**+0.2**
LKD2				S	**Sb**	**23 11 30.4**	**+0.3**
	2μm,0.5s						
LKD2	**Lefkada island**	**0.56**	**24**	P	**Pg**	**23 11 22.7**	**+0.2**
LKD2				S	**Sb**	**23 11 30.2**	**+0.1**
KYPS	**Kipseli, Zakin**	**0.58**	**142**	P	**Pg**	**23 11 22.6**	**-0.2**
KYPS				S	**Sg**	**23 11 30.3**	**-0.3**
TSLK	**Tsoukalades, L**	**0.59**	**22**	P	**Pb**	**23 11 23.4**	**+0.4**
TSLK				S	**Sb**	**23 11 32.0**	**+1.0**
	3μm,0.5s						
TSLK	**Tsoukalades, L**	**0.59**	**22**	P	**Pb**	**23 11 23.4**	**+0.4**
TSLK				S	**Sb**	**23 11 31.7**	**+0.7**
AST1	**Astakos**	**0.63**	**65**	P	**Pb**	**23 11 23.8**	**+0.3**
LTHK	**Lithakia**	**0.68**	**147**	P	**Pg**	**23 11 23.6**	**-0.9**
LTHK	**Lithakia**	**0.68**	**147**	P	**Pg**	**23 11 23.9**	**-0.6**
LTHK				S	**Sg**	**23 11 33.6**	**0.0**
KRI1	**kERI**	**0.71**	**150**	P	**Pg**	**23 11 25.2**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**0.72**	**122**	P	**Pg**	**23 11 25.1**	**-0.2**
CLEM				S	**Sg**	**23 11 34.7**	**-0.1**
AXS	**Araxos**	**0.80**	**95**	P	**Pg**	**23 11 26.5**	**-0.3**
RLS	**Riolos of Patr**	**0.89**	**104**	P	**Pg**	**23 11 28.0**	**-0.6**
RLS	**Riolos of Patr**	**0.89**	**104**	P	**Pg**	**23 11 28.0**	**-0.6**
PVO	**Paravola**	**0.97**	**69**	P	**Pb**	**23 11 30.3**	**+0.8**
ARTB	**Arta**	**1.00**	**28**	P	**Pb**	**23 11 30.9**	**+0.9**
PATC	**Patra C**	**1.10**	**90**	P	**Pn**	**23 11 32.5**	**+0.9**
DRO	**Drossia**	**1.11**	**107**	P	**Pb**	**23 11 31.7**	**-0.1**
DRO	**Drossia**	**1.11**	**107**	P	**Pb**	**23 11 32.0**	**+0.1**
EFP	**Efpalio**	**1.22**	**82**	P	**Pb**	**23 11 33.6**	**-0.1**
EFP	**Efpalio**	**1.22**	**82**	P	**Pb**	**23 11 33.6**	**-0.1**
IGT	**Igoumenitsa**	**1.25**	**359**	P	**Pb**	**23 11 35.2**	**+0.9**
IGT	**Igoumenitsa**	**1.25**	**359**	P	**Pb**	**23 11 35.3**	**+0.9**
ANX	**Ano Chora**	**1.26**	**75**	P	**Pb**	**23 11 35.0**	**+0.5**
ANX	**Ano Chora**	**1.26**	**75**	P	**Pn**	**23 11 34.8**	**+0.8**
TETR	**Tetrakomo, Epi**	**1.28**	**33**	P	**Pb**	**23 11 35.6**	**+0.8**
AMT	**Artemida-Makis**	**1.29**	**125**	P	**Pn**	**23 11 35.3**	**+0.9**
EVR	**Evrytania**	**1.30**	**60**	P	**Pn**	**23 11 35.2**	**+0.7**
EVR	**Evrytania**	**1.30**	**60**	P	**Pg**	**23 11 36.0**	**-0.2**
KALE	**Kalíthea**	**1.40**	**85**	P	**Pn**	**23 11 36.5**	**+0.6**
KLV	**Kalavryta, Ach**	**1.43**	**99**	P	**Pn**	**23 11 36.8**	**+0.6**
KLV	**Kalavryta, Ach**	**1.43**	**99**	P	**Pn**	**23 11 36.9**	**+0.6**
JAN	**Janina**	**1.43**	**15**	P	**Pb**	**23 11 37.8**	**+0.5**
KEK	**Kerkira**	**1.50**	**343**	P	**Pb**	**23 11 39.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.56**	**61**	P	**Pn**	**23 11 39.4**	**+1.2**
GUR	**Goura**	**1.59**	**102**	P	**Pn**	**23 11 39.8**	**+1.2**
GUR	**Goura**	**1.59**	**102**	P	**Pn**	**23 11 39.6**	**+1.1**
ITM	**Ithomi**	**1.65**	**131**	P	**Pn**	**23 11 40.8**	**+1.5**
THL	**Klokotos Trika**	**1.82**	**44**	P	**Pn**	**23 11 43.4**	**+1.8**
KPRO	**Kipourio**	**1.85**	**24**	P	**Pn**	**23 11 44.1**	**+2.0**
AXAR	**Agios Charalam**	**1.86**	**74**	P	**Pn**	**23 11 43.5**	**+1.4**
TYRN	**Tyrnavos**	**2.04**	**45**	P	**Pn**	**23 11 46.5**	**+1.8**
LTK	**Loutraki**	**2.06**	**96**	P	**Pn**	**23 11 46.6**	**+1.7**
LKR	**Lokris**	**2.10**	**79**	P	**Pn**	**23 11 46.3**	**+0.8**
NEST	**Nestorio**	**2.20**	**14**	P	**Pn**	**23 11 49.5**	**+2.6**
VIL2	**Platees**	**2.29**	**91**	P	**Pn**	**23 11 50.3**	**+2.3**
KZN	**Kozani**	**2.30**	**28**	P	**Pn**	**23 11 50.4**	**+2.1**
SCTE	**Santa Cesarea**	**2.32**	**321**	P	**Pn**	**23 11 49.7**	**+1.2**
KRND	**KRANIDI**	**2.38**	**111**	P	**Pn**	**23 11 50.5**	**+1.2**
MET5	**Makryloggos,Me**	**2.45**	**105**	P	**Pn**	**23 11 51.4**	**+1.1**
LIT	**Litokhoron**	**2.46**	**42**	P	**Pn**	**23 11 51.9**	**+1.5**
NEO	**Neokhori**	**2.46**	**64**	P	**Pn**	**23 11 52.2**	**+1.8**
XOR	**Xorichti**	**2.46**	**63**	P	**Pn**	**23 11 52.1**	**+1.7**
MET4	**Agioi Theodoro**	**2.48**	**104**	P	**Pn**	**23 11 52.2**	**+1.5**
FNA	**Florina**	**2.62**	**17**	*e*Pn	**Pn**	**23 11 55.5**	**+2.8**
OHR	**Ohrid**	**2.85**	**7**	*i* Pn	**Pn**	**23 11 59.4**	**+3.6**
OHR				*i* Sn	**Sb**	**23 12 34.3**	**-1.8**
OHR	**Ohrid**	**2.85**	**7**	*e*Pn	**Pn**	**23 11 59.5**	**+3.6**
TIR	**Tirane**	**3.09**	**353**	*e*Pn	**Pn**	**23 12 01.4**	**+2.3**
VAY	**Valandovo**	**3.48**	**28**	*i* Pn	**Pn**	**23 12 08.8**	**+4.4**
VAY	**Valandovo**	**3.48**	**28**	*e*Pn	**Pn**	**23 12 08.5**	**+4.1**
SRS	**Serrai**	**3.77**	**40**	*e*Pn	**Pn**	**23 12 10.3**	**+1.8**
PEHC	**Pehcevo**	**4.00**	**28**	*i* Pn	**Pn**	**23 12 14.0**	**+2.4**
DRME	**Dracevica, Mon**	**4.01**	**347**	*e*Pn	**Pn**	**23 12 12.2**	**+0.5**
PDG	**Podgorica**	**4.24**	**349**	*e*Pn	**Pn**	**23 12 15.2**	**+0.4**
PDG	**Podgorica**	**4.24**	**349**	*e*Pn	**Pn**	**23 12 15.7**	**+0.9**
HCY	**Herceg Novi**	**4.41**	**342**	*e*Pn	**Pn**	**23 12 17.1**	**0.0**
BOSS	**Bosilegrad**	**4.51**	**20**	*e*Pn	**Pn**	**23 12 20.8**	**+2.2**
BARS	**Barje**	**4.67**	**13**	*e*Pn	**Pn**	**23 12 22.4**	**+1.7**
TREB	**Trebinje**	**4.69**	**342**	*e*Pn	**Pn**	**23 12 21.0**	**-0.1**
TREB	**Trebinje**	**4.69**	**342**	*e*Pn	**Pn**	**23 12 20.8**	**-0.3**
IDI	**Anoyia**	**4.70**	**128**	Pn	**Pn**	**23 12 20.5**	**-0.7**
	10nm,1.0s,baz=324,slow=8.7,SNR=1.8						
IDI				Sn	**Sn**	**23 13 18.6**	**+3.3**
	0.6nm,0.3s,baz=130,slow=22,SNR=7.9						
VAE	**Valguarnera**	**4.78**	**262**	Pn	**Pn**	**23 12 22.4**	**+0.1**
	4.4nm,0.4s,baz=263,slow=13,SNR=1.6						
VAE				Sn	**Sn**	**23 13 20.7**	**+3.4**
	2.4nm,0.3s,baz=275,slow=19,SNR=4.8						
BRY	**Bratogost**	**4.83**	**344**	*e*Pn	**Pn**	**23 12 23.4**	**+0.4**
VTS	**Vitosha**	**4.86**	**26**	*e*Pn	**Pn**	**23 12 25.7**	**+2.2**
SELS	**Selova**	**4.97**	**6**	*e*Pn	**Pn**	**23 12 26.0**	**+1.1**
SJES	**Sjenica**	**4.99**	**357**	*e*Pn	**Pn**	**23 12 26.5**	**+1.3**
SJES	**Sjenica**	**4.99**	**357**	*e*Pn	**Pn**	**23 12 27.1**	**+1.9**
STON	**Ston**	**5.02**	**337**	*e*Pn	**Pn**	**23 12 25.2**	**-0.3**
STON	**Ston**	**5.02**	**337**	*e*Pn	**Pn**	**23 12 25.6**	**+0.1**
UPM	**Unac-Piva**	**5.04**	**348**	*e*Pn	**Pn**	**23 12 25.7**	**-0.4**
ZAPS	**Zavoj**	**5.28**	**18**	*e*Pn	**Pn**	**23 12 31.4**	**+2.2**
RUDO	**Rudo**	**5.39**	**352**	*e*Pn	**Pn**	**23 12 30.7**	**0.0**
BOVS	**Bovan**	**5.45**	**10**	*e*Pn	**Pn**	**23 12 30.8**	**-0.6**
GRUS	**Gruza**	**5.61**	**3**	*e*Pn	**Pn**	**23 12 33.8**	**+0.1**
BBLS	**Lazi&#263i**	**5.63**	**353**	*e*Pn	**Pn**	**23 12 33.1**	**-0.9**
BBLS	**Lazi&#263i**	**5.63**	**353**	*e*Pn	**Pn**	**23 12 35.2**	**+1.2**
DIVS	**Divibare**	**5.82**	**357**	*e*Pn	**Pn**	**23 12 37.2**	**+0.5**
HAPS	**Han Pijesak,Bl**	**5.90**	**350**	*e*Pn	**Pn**	**23 12 38.5**	**+0.7**
KUBS	**Kucevo**	**6.21**	**9**	*e*Pn	**Pn**	**23 12 40.6**	**-1.3**
TEKS	**Tekeris**	**6.30**	**355**	*e*Pn	**Pn**	**23 12 41.6**	**-1.5**
TEKS	**Tekeris**	**6.30**	**355**	*e*Pn	**Pn**	**23 12 43.0**	**-0.1**
AVAS	**Avala Beograd**	**6.42**	**1**	*e*Pn	**Pn**	**23 12 44.6**	**-0.1**
A050A	**Klekovaca**	**6.84**	**336**	*e*Pn	**Pn**	**23 12 51.5**	**+0.9**
FRGS	**Fruska Gora**	**6.89**	**357**	*e*Pn	**Pn**	**23 12 51.3**	**+0.1**
FRGS	**Fruska Gora**	**6.89**	**357**	*e*Pn	**Pn**	**23 12 51.6**	**+0.4**
BLY	**Banja Luka**	**6.89**	**341**	*e*Pn	**Pn**	**23 12 51.9**	**+0.6**
A051A	**Mrakovica**	**7.21**	**340**	*e*Pn	**Pn**	**23 12 55.4**	**-0.3**
BOJS	**Bojanci**	**8.16**	**334**	*e*Pn	**Pn**	**23 13 09.4**	**+0.7**
CEY	**Cerknica**	**8.67**	**331**	*e*Pn	**Pn**	**23 13 16.5**	**+0.9**
SKDS	**Skadanscina**	**8.67**	**329**	*e*Pn	**Pn**	**23 13 15.6**	**-0.1**
KEST	**Kesra**	**9.18**	**257**	Pn	**Pn**	**23 13 22.9**	**+0.2**
	0.2nm,0.3s,baz=1.6,slow=6.6,SNR=4.2						
KEST				Sn	**Sn**	**23 15 05.4**	**-0.1**
	0.1nm,0.3s,baz=265,slow=21,SNR=1.6						
	2.3nm,0.9s						
SOKA	**Soboth**	**9.27**	**337**	*e*Pn	**Pn**	**23 13 24.2**	**+0.2**
	3.4nm,0.8s						
SOKA				Sn	**Sn**	**23 15 03.3**	**-4.5**
	2.2nm,0.6s						
OBKA	**Obir**	**9.28**	**334**	*i* Pn	**Pn**	**23 13 24.6**	**+0.5**
	1.8nm,0.2s						
OBKA				*e*Sn	**Sn**	**23 15 05.0**	**-3.1**
	2.0nm,0.5s						
OBKA	**Obir**	**9.28**	**334**	*e*Pn	**Pn**	**23 13 25.3**	**+1.2**
ARSA	**Arzberg**	**9.65**	**340**	*e*Pn	**Pn**	**23 13 29.5**	**+0.5**
	0.8nm,0.2s						
KBA	**Koelnbreinsper**	**10.20**	**332**	*i* Pn	**Pn**	**23 13 37.7**	**+0.9**
	0.8nm,0.3s						
KBA				*e*Sn	**Sn**	**23 15 26.8**	**-3.9**
	1.8nm,0.7s						
ABTA	**Abfaltersbach**	**10.26**	**328**	*i* Pn	**Pn**	**23 13 37.4**	**0.0**
	0.3nm,0.2s						
ABTA				*e*Sn	**Sn**	**23 15 28.8**	**-3.2**
	3.8nm,0.7s						
BRTR	**Keskin Array B**	**10.43**	**78**	Pn	**Pn**	**23 13 43.8**	**+3.8**
	0.1nm,0.3s,baz=268,slow=12,SNR=1.3						
	1.3nm,1.2s						
MOA	**Molln**	**10.55**	**337**	*i* Pn	**Pn**	**23 13 42.0**	**+0.5**
	1.3nm,0.2s						
MOA				*e*Sn	**Sn**	**23 15 36.9**	**-2.3**
	1.6nm,0.6s						
BIOA	**Bad Ischl, Aus**	**10.62**	**335**	*e*Pn	**Pn**	**23 13 44.1**	**+1.7**
	0.8nm,0.5s						
BIOA				Sn	**Sn**	**23 15 36.5**	**-4.2**
	3.4nm,0.8s						
LESA	**Schwarzleotal**	**10.74**	**331**	*i* Pn	**Pn**	**23 13 44.5**	**+0.5**
	4.2nm,0.4s						
LESA				Sn	**Sn**	**23 15 39.7**	**-4.1**
	2.6nm,0.6s						
WTTA	**Wattenberg**	**11.03**	**327**	*e*Pn	**Pn**	**23 13 49.4**	**+1.3**
	0.7nm,0.2s						
WATA	**Walderalm**	**11.11**	**327**	*i* Pn	**Pn**	**23 13 48.6**	**-0.6**
	1.0nm,0.2s						
SQTA	**Sankt Quirin**	**11.18**	**326**	*i* Pn	**Pn**	**23 13 51.9**	**+1.7**
	0.5nm,0.2s						
SQTA				Sn	**Sn**	**23 15 51.8**	**-2.9**
	1.4nm,0.6s						
RETA	**Reutte**	**11.58**	**326**	*e*Pn	**Pn**	**23 13 58.3**	**+2.7**
	0.9nm,0.8s						
RETA				Sn	**Sn**	**23 16 00.3**	**-4.2**
	0.8nm,0.5s						
GERES	**GERESS Array B**	**11.61**	**338**	Pn	**Pn**	**23 13 55.2**	**-0.8**
	0.1nm,0.3s,baz=151,slow=13,SNR=2.2						
	0.7nm,0.7s						
KHC	**Kasperske Hory**	**11.90**	**338**	*e*SN	Sn	23 16 04.3	-7.9
NACGM	**Naroch**	**17.19**	**13**	*e*P	**Pn**	**23 15 12.0**	**+1.8**
	baz=198						
KBZ	**Khabaz**	**17.84**	**65**	P	**Pn**	**23 15 18.6**	**+0.4**
	baz=281,slow=6.9,SNR=4.1						
	1.2nm,0.9s						
ESDC	**Sonseca Array**	**18.96**	**282**	P	**P**	**23 15 32.4**	**+1.0**
	baz=87,slow=10,SNR=2.4						
	0.4nm,0.8s						
HFS	**Hagfors**	**22.28**	**351**	P	**P**	**23 16 05.5**	**-1.7**
	1.8nm,0.6s,baz=148,slow=12,SNR=8.3						
	1.8nm,0.6s						
FINES	**FINESS Array B**	**23.46**	**7**	P	**P**	**23 16 18.5**	**-0.8**
	1.4nm,0.6s,baz=167,slow=9.2,SNR=10						
	1.4nm,0.6s						
NOA	**NORSAR Array B**	**23.50**	**349**	P	**P**	**23 16 20.3**	**+0.5**
	0.6nm,0.7s,baz=161,slow=9.7,SNR=4.2						
	0.6nm,0.7s						
ARCES	**ARCESS Array B**	**31.44**	**3**	P	**P**	**23 17 30.4**	**-0.7**
	1.1nm,0.7s,baz=186,slow=10,SNR=5.3						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**37.15**	**50**	P	**P**	**23 18 19.6**	**-1.1**
	0.2nm,0.5s,baz=292,slow=7.6,SNR=1.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.27**	**54**	P	**P**	**23 19 02.4**	**-0.9**
	0.2nm,0.3s,baz=283,slow=7.9,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.35**	**58**	P	**P**	**23 19 28.0**	**-0.2**
	0.4nm,0.4s,baz=282,slow=6.9,SNR=12						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**45.72**	**48**	P	**P**	**23 19 31.0**	**+0.1**
	1.3nm,0.5s,baz=278,slow=7.2,SNR=6.0						
	1.3nm,0.5s						

KRSC 16 23:14:22.2±1.5,54°.88N×164°.55E,h61km±28km,Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.88**	**68**	*e*P	Pn	23 14 40.7	+2.1
BKI				*e*S	Sn	23 14 51.3	+0.4
KBTR	**Krutoberegovo**	**1.65**	**324**	*e*P	Pn	23 14 50.1	+1.1
MKZ	**Mys Kozlova**	**1.67**	**260**	*e*P	Pn	23 14 51.5	+2.4
MKZ				*e*S	Sn	23 15 10.3	+0.9
KBG	**Krutoberegovo**	**1.73**	**323**	*e*P	Pn	23 14 51.4	+1.4
TUMD	**Tumrok D**	**2.41**	**279**	*e*P	Pn	23 15 02.3	+3.1
TUMD				*e*S	Sn	23 15 31.4	+3.8
ZLN	**Zelenaya**	**2.42**	**300**	*e*P	Pn	23 15 01.4	+2.0
BZGR	**Bezymyannyi-Gr**	**2.44**	**297**	*e*P	Pn	23 15 02.8	+3.2
BZWR	**Bezymyannyi-We**	**2.55**	**297**	*e*P	Pn	23 15 04.7	+3.4
KMNR	**Kamenistaya**	**2.62**	**291**	*e*P	Pn	23 15 05.8	+3.7
KIRR	**Kirishev**	**2.63**	**296**	*e*P	Pn	23 15 06.6	+4.3
KRSR	**Krestovskiy**	**2.63**	**302**	*e*P	Pn	23 15 04.7	+2.5
KLY	**Klyuchi**	**2.64**	**305**	*e*P	Pn	23 15 03.6	+1.4
KLY				*e*S	Sn	23 15 33.9	+0.9
KPT	**Kopyto**	**2.69**	**296**	*e*P	Pn	23 15 07.1	+4.0
KOZ	**Kozyrevsk**	**2.91**	**296**	*e*P	Pn	23 15 09.6	+3.6
KII	**Karymskiy**	**3.10**	**256**	*e*P	Pn	23 15 12.5	+3.9
SRDR	**Sredinnyy**	**3.10**	**300**	*e*P	Pn	23 15 12.7	+4.2
SPN	**Mys Shipunski**	**3.21**	**238**	*e*S	Sn	23 15 47.4	+0.2
ESO	**Esso**	**3.50**	**290**	*e*P	Pn	23 15 17.0	+3.0
NLC	**Nalytchevo**	**3.52**	**243**	*e*S	Sn	23 15 56.0	+1.4
SDLR	**Sedlovina**	**3.70**	**247**	*e*P	Pn	23 15 21.3	+4.4
UGLR	**Uglovaya**	**3.77**	**246**	*e*P	Pn	23 15 22.2	+4.3
AVH	**Avacha**	**3.79**	**247**	*e*P	Pn	23 15 22.6	+4.5
KRX	**Arik**	**3.79**	**249**	*e*P	Pn	23 15 22.3	+4.1
KOK	**Koryaka**	**3.83**	**248**	*e*P	Pn	23 15 23.3	+4.6
PET	**Petropavlovsk**	**3.95**	**244**	*e*S	Sn	23 16 06.5	+1.3
GNL	**Ganaly**	**4.05**	**256**	*e*P	Pn	23 15 25.6	+3.9
KRMR	**Karymshinskiy**	**4.32**	**244**	*e*S	Sn	23 16 16.4	+2.1
RUS	**Russkaya**	**4.35**	**238**	*e*P	Pn	23 15 29.2	+3.5
OSSR	**Ossora**	**4.46**	**350**	*e*P	Pn	23 15 30.2	+3.2
GRL	**Gorelyy**	**4.50**	**241**	*e*P	Pn	23 15 32.4	+4.6
KDTR	**Khodutka, Kamc**	**4.95**	**234**	*e*P	Pn	23 15 36.9	+3.0
KDTR				*e*S	Sn	23 16 28.9	-0.9
TILK	**Tilichiki**	**5.65**	**8**	*e*P	Pn	23 15 45.5	+2.2

*NEIC **16** 23:32:09.3±1.0,37°.39N±0°.02×118°.90W±0°.02,h2km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=48.0*
NCEDC 16 23:32:09.5±1.0,37°.40N±0°.02×118°.89W±0°.02,h1km±1km, ML3.0/14,ML2.5/74(NEIC),Error ellipse: s-maj=2.6km s-min=2.3km az=63.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MCVM	**Convict Lake**	**0.20**	**15**		Pg	23 32 13.8	+0.4
MLCM	**Laurel Creek C**	**0.21**	**355**		Pg	23 32 14.1	+0.4
MGPM	**Gravel Pit**	**0.23**	**358**		Pg	23 32 14.5	+0.6
MMPM	**Mammoth Pass**	**0.24**	**333**		Pg	23 32 14.6	+0.5
MRDM	**Red Cones**	**0.24**	**326**		Pg	23 32 14.7	+0.5
MDRNC	**Doe Ridge**	**0.24**	**11**		Pg	23 32 14.9	+0.7
MCBM	**Casa Benchmark**	**0.24**	**359**		Pg	23 32 14.9	+0.6
MCBM					Sg	23 32 18.6	+1.1
MCSM	**Casa Diablo Ho**	**0.26**	**358**		Pg	23 32 15.1	+0.6
MTUM	**Tungsten Hills**	**0.27**	**100**		Pb	23 32 17.2	-0.1
MEMM	**East Mammoth H**	**0.27**	**352**		Pg	23 32 15.3	+0.6
**

comp=E,28nm,0.7s
CMPM Mikes Peak 1.93 270 Pb 23 32 45.0 -0.6
HPCM Pacheco Lake 1.93 261 Pb 23 32 44.7 -0.9
PMPB Monarch Peak 1.93 233 Pn 23 32 43.5 -0.2
MTOS Mt Oso, Westle 1.94 274 Pb 23 32 44.7 -1.0
PHFM Heflinger Ranc 1.94 219 Pn 23 32 44.4 +0.7
PACP Pacheco Peak 1.95 259 Pb 23 32 45.0 -0.9
PPTM Peach Tree Val 1.95 229 Pb 23 32 45.9 -0.1
GHC Gold Hill 1.96 217 Pb 23 32 46.2 +0.2
PSTM Stockdale Moun 1.96 222 Pb 23 32 45.4 -0.7
PKD Bear Valley Ra 1.96 223 Pb 23 32 45.3 -0.9
PHPM Hope Ranch 1.98 225 Pb 23 32 45.5 -0.9
PVCM Vineyard Canyo 1.98 222 Pb 23 32 45.4 -1.0
PWKM Work Ranch 2.05 220 Pn 23 32 45.9 +0.7
PBPM Bitterwater Pu 2.05 208 Pn 23 32 46.3 +1.0
GHS Gilroy Hot Spr 2.06 262 Pb 23 32 46.7 -1.1
PPO Portuguese Can 2.06 223 Pb 23 32 47.4 -0.4
BJOM Mount Johnson 2.08 249 Pb 23 32 47.3 -0.9
CSTL Corral Hollow 2.08 277 Pb 23 32 47.3 -0.9
TCHL Shandon 2.10 216 Pb 23 32 47.5 -0.9
CDC Canada Road 2.10 261 Pb 23 32 47.6 -0.9
SAO San Andreas Ge 2.14 254 Pb 23 32 48.1 -1.0
SAO San Andreas Ge 2.14 254 Pn Pn 23 32 47.5 +1.0
GWY Greenwater Val 2.16 123 Pn 23 32 46.2 -0.6
GWY IAML 23 33 24.8
comp=N,18nm,0.8s
GWY IAML 23 33 26.7
comp=E,29nm,0.7s
TPNV Topopah Spring 2.16 101 Pn 23 32 46.7 -0.2
TPNV IAML 23 32 59.6
comp=E,22nm,0.6s
TPNV IAML 23 33 22.8
comp=E,26nm,0.8s
SCZ Santa Cruz 2.16 249 Pn 23 32 47.9 +1.1
SCZ Santa Cruz 2.16 249 IAML 23 33 18.2
comp=E,30nm,0.5s
SCZ IAML 23 33 19.1
comp=N,40nm,0.4s
BJCM Johnson Can. 2.17 248 Pb 23 32 48.6 -1.1
FRP Fremont Peak 2.17 254 Pb 23 32 48.7 -1.1
MHC Mount Hamilton 2.19 269 Pb 23 32 49.2 -0.9
TSCN Private Proper 2.19 213 Pb 23 32 49.3 -0.7
HLPM Lions Peak 2.21 262 Pb 23 32 49.8 -0.6
ANZ Anzar Road 2.22 257 Pb 23 32 49.4 -1.0
CCOB Coe Ranch Numb 2.22 267 Pb 23 32 50.4 -0.2
PCCM Crazy Canyon 2.24 235 Pn 23 32 48.9 +1.0
AFDM Forest Hills D 2.25 314 Pn 23 32 48.6 +0.5
BSMM Soledad Missio 2.27 244 Pb 23 32 50.1 -1.3
PANM San Antonio Re 2.29 226 Pn 23 32 49.9 +1.3
PAHR Pah Rah Range 2.34 351 Pn 23 32 50.0 +0.7
PHSB Hesperia Broad 2.34 229 Pn 23 32 50.7 +1.4
CCAC Calif City Air 2.35 162 Pn 23 32 51.1 +1.7
BPRM Ponciano Ridge 2.48 247 Pn 23 32 52.5 +1.3
BCW Bitter Crk WRg 2.49 190 Pn 23 32 51.8 +0.4
S11A Rachel 2.51 83 Pn 23 32 51.4 -0.4
S11A IAML 23 33 39.9
comp=N,28nm,1.0s
S11A IAML 23 33 57.4
comp=E,32nm,1.6s
GSC Goldstone, Bar 2.69 141 Pn 23 32 54.1 0.0
GSC IAML 23 33 39.0
comp=E,21nm,0.6s
GSC IAML 23 33 40.3
comp=N,14nm,1.0s
R11B Troy Canyon, C 2.78 69 Pn 23 32 55.6 +0.1
PRN Pahroc Range 3.06 89 Pn 23 32 59.4 +0.2
PRN IAML 23 33 22.1
comp=N,14nm,0.5s
PRN IAML 23 34 01.1
comp=E,15nm,1.8s
SHPR Sheep Range 3.12 105 Pn 23 33 00.1 0.0
NPRM Point Reyes 3.32 282 Pn 23 33 05.0 +2.2
GDXM Geysers 3.38 296 Pn 23 33 04.0 +0.4
GDXM IAML 23 34 18.9
comp=E,11nm,4.8s
GDXM IAML 23 34 35.0
comp=N,10nm,4.7s
SPR3 Spring Creek 3 3.93 65 Pn 23 33 12.7 +1.3
SPR3 IAML 23 34 14.1
comp=E,6.3nm,2.5s
SPR3 IAML 23 34 18.4
comp=N,5.0nm,1.1s
PSUT Pine Spring 4.14 73 Pn 23 33 15.1 +0.9
ELK Elko 4.39 39 Pn Pn 23 33 18.4 +0.8
ELK IAML 23 34 30.7
comp=N,4.0nm,0.3s
LCMT Little Creek M 4.53 93 Pn 23 33 19.0 -0.4
KNB Kanab 4.86 93 Pn Pn 23 33 24.3 +0.3
PKCU Pink Cliffs 5.24 88 Pn Pn 23 33 30.1 +0.8
MTPU Mount Pierson 5.36 81 Pn Pn 23 33 31.8 +0.7
U15A North Rim 5.38 98 Pn 23 33 30.6 -0.6

*IDC **16** 23:41:26.6±1.2,27°.36N×77°.03E,h0km,mb3.6/12, mbtmp3.6/14,ML3.6/2,MS3.1/1,Error ellipse: s-maj=34.2km s-min=17.9km az=52.0*
*NEIC **16** 23:41:28.2±1.5,27°.49N±0°.09×76°.9E±0°.1,h10km±1km, mb4.0/19,Error ellipse: s-maj=22.5km s-min=15.0km az=79.0*
*NDI **16** 23:41:33.8±2.1,27°.73N×76°.94E,h10km,ML3.8,MW3.5, mb4.0(NEIC)*
ISC 16 23:41:30.0±1.7,27°.52N±0°.06×77°.03E±0°.06,h23km±12km, n67,σ1$81/80,mb3.8/21,Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWAL	**Palwal**	**0.68**	**23**	*eP*	**Pn**	**23 41 43.9**	**-0.3**
PWAL				*eS*	**Sb**	**23 41 51.4**	**-0.7**
SONA	**Sohna**	**0.73**	**4**	*eP*	**Pb**	**23 41 43.9**	**0.0**
SONA				*eS*	**Sb**	**23 41 52.1**	**-1.4**
SONA				IAML		23 41 54.6	
	2μm,0.2s						
SONA				IAML		23 41 55.3	
	comp=E,2μm,0.1s						
AYAN	**Aya Nagar**	**0.96**	**5**	*eP*	**Pn**	**23 41 48.3**	**+0.3**
AYAN				*eS*	**Sb**	**23 42 00.0**	**-0.1**
NPLP	**NPLP New Delhi**	**1.12**	**6**	*eP*	**Pb**	**23 41 51.6**	**+1.0**
NPLP				*eS*	**Sn**	**23 42 05.8**	**+0.9**
NPLP				IAML		23 42 09.1	
	comp=E,9μm,0.2s						
NPLP				IAML		23 42 10.3	
	comp=E,4μm,0.2s						
KKR	**Kurukshetra**	**2.44**	**356**	*eP*	**Pn**	**23 42 10.1**	**+1.7**
KKR				*eS*	**Sn**	**23 42 39.6**	**+2.1**
KKR				IAML		23 42 56.8	
	comp=E,1μm,0.5s						
KKR				IAML		23 43 07.3	
	comp=E,1μm,0.4s						
SMLA	**Simla**	**3.59**	**2**	*eP*	**Pn**	**23 42 26.4**	**+2.2**
SMLA				*eS*	**Sn**	**23 43 05.1**	**-0.9**
SMLA				IAML		23 43 29.7	
	comp=E,283nm,0.4s						
SMLA				IAML		23 43 30.1	
	comp=E,295nm,0.4s						
BHPL	**Bhopal**	**4.28**	**175**	IAML		23 43 43.2	
	comp=E,233nm,0.3s						
DHRM	**DHARAMSHALA**	**4.75**	**353**	*eP*	**Pn**	**23 42 41.3**	**+0.9**
DHRM				*eS*	**Sn**	**23 43 31.9**	**-3.0**
DHRM				IAML		23 44 13.8	
	comp=E,235nm,0.9s						
DHRM				IAML		23 44 17.9	
	comp=E,350nm,0.7s						
PYUN	**Piuthan**	**5.31**	**82**	Pg	**Pn**	**23 42 50.1**	**+2.0**
	baz=78,slow=0.0						
TSSA	**Tissa**	**5.35**	**352**	*eP*	**Pn**	**23 42 52.6**	**+4.0**
TSSA				*eS*	**Sn**	**23 43 45.8**	**-3.9**
TSSA				*ex*	x	23 43 55.6	
NIL	**Nilore**	**6.92**	**333**	Pn	**Pn**	**23 43 08.9**	**-1.1**
NIL				Sn	**Sn**	**23 44 26.4**	**-1.7**
DMN	**Daman**	**7.17**	**87**	Pg	**Pn**	**23 43 14.4**	**+0.7**
	baz=84,slow=0.0						
DMN				Sg	**Sn**	**23 44 31.2**	**-3.4**
	comp=E,61nm,0.4s,baz=84,slow=0.0						
PKIN	**Phulchoki**	**7.43**	**88**	Pg	**Pn**	**23 43 17.7**	**+0.5**
	baz=84,slow=0.0						
PKIN				Sg	**Sn**	**23 44 38.2**	**-2.8**
	comp=E,86nm,0.4s,baz=84,slow=0.0						
PKI	**Pulchoki**	**7.44**	**88**	Pg	**Pn**	**23 43 18.7**	**+1.2**
	baz=84,slow=0.0						
PKI				Sg	**Sn**	**23 44 38.3**	**-3.0**
	comp=E,84nm,0.3s,baz=84,slow=0.0						
GUN	**Gumba**	**7.85**	**85**	Pg	**Pn**	**23 43 24.1**	**+0.9**
	baz=82,slow=0.0						
GUN				Sg	**Sn**	**23 44 48.2**	**-3.4**
	comp=E,95nm,0.4s,baz=82,slow=0.0						
RAMN	**Ramite**	**8.54**	**92**	Pg	**Pn**	**23 43 32.8**	**+0.3**
	baz=88,slow=0.0						
RAMN				Sg	**Sn**	**23 45 03.2**	**-5.1**
	comp=E,90nm,0.3s,baz=88,slow=0.0						
BOK	**Bokaro**	**8.81**	**113**	*eP*	Pn	23 43 42.6	+6.6
BOK				*eS*	**Sn**	**23 45 17.7**	**+3.0**
KBL	**Kabul**	**9.79**	**318**	Pn	**Pn**	**23 43 48.1**	**-1.5**
HYB	**Hyderabad**	**10.16**	**172**	*eP*	**Pn**	**23 43 53.2**	**-1.2**
DRK	**Karamyk**	**12.69**	**341**	Pn	**Pn**	**23 44 28.0**	**-1.3**
GAR	**Garm**	**12.74**	**336**	Pn	**Pn**	**23 44 29.2**	**-0.6**
SIMJ	**Simiganj**	**12.97**	**331**		**Pn**	**23 44 31.4**	**-1.6**
TAWA	**Tawang**	**13.17**	**86**	*eP*	**Pn**	**23 44 40.6**	**+4.7**
BTK	**Batken**	**13.52**	**339**	Pn	**Pn**	**23 44 39.7**	**-0.7**
WUS	**Wushi**	**13.76**	**7**	Pn	**Pn**	**23 44 43.4**	**-0.3**
ARSB	**Arslanbob**	**14.16**	**347**	Pn	**Pn**	**23 44 47.3**	**-2.0**
KDJ	**Kajisay**	**14.57**	**0**	Pn	**Pn**	**23 44 54.9**	**0.0**
BOOM	**Boomskoye usch**	**14.96**	**357**	Pn	**Pn**	**23 44 59.0**	**-1.1**
AAK	**Ala-Archa**	**15.22**	**353**	Pn	**Pn**	**23 45 02.0**	**-1.6**
AAK				IAmb	IAmb	23 45 18.0	
	comp=Z,1.9nm,0.7s						
AAK	**Ala-Archa**	**15.22**	**353**	Pn	**Pn**	**23 45 03.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=169,slow=13,SNR=6.7						
	comp=Z,0.7nm,0.3s						
FRU1	**Bishkek**	**15.38**	**353**	Pn	**Pn**	**23 45 03.9**	**-1.6**
FRU1				IAmb	IAmb	23 45 16.6	
	comp=Z,5.6nm,0.5s						
KK31	**Karatay Array**	**16.42**	**343**	Pn	**Pn**	**23 45 16.8**	**-2.1**
KKAR	**Karatay Array**	**16.42**	**343**	Pn	**Pn**	**23 45 17.5**	**-1.5**
MAKZ	**Makanchi**	**19.64**	**10**		**P**	**23 45 57.0**	**-0.1**
MK31	**Makanchi Array**	**19.68**	**11**		**Pn**	**23 45 58.9**	**0.0**
MKAR	**Makanchi Array**	**19.68**	**11**		**P**	**23 45 58.0**	**+0.6**
MKAR	**Makanchi Array**	**19.68**	**11**	P	**Pn**	**23 45 58.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=11						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**22.07**	**109**	P	**P**	**23 46 23.9**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=298,slow=9.3,SNR=7.7						
	comp=Z,1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**23.10**	**2**	P	**P**	**23 46 35.6**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=193,slow=10,SNR=6.9						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**23.19**	**3**	P	**P**	**23 46 35.5**	**+0.5**
KURK				IAmb	IAmb	23 46 38.5	
	comp=Z,3.1nm,0.9s						
ABKAR	**Abkulak array**	**25.38**	**333**	P	**P**	**23 46 54.2**	**-1.2**
ABKAR	**Abkulak array**	**25.38**	**333**	P	**P**	**23 46 55.0**	**-0.4**
ABKAR				IAmb	IAmb	23 47 36.7	
	comp=Z,3.3nm,1.5s						
BVAR	**Borovoye Array**	**25.95**	**351**	P	**P**	**23 47 02.3**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=161,slow=11,SNR=4.4						
	comp=Z,0.5nm,0.5s						
BRVK	**Borovoye**	**26.00**	**351**	P	**P**	**23 46 58.8**	**-2.1**
BRVK				IAmb	IAmb	23 47 00.6	
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**27.02**	**10**	P	**P**	**23 47 10.6**	**+0.4**
ZALV	**Zalesovo Beam**	**27.02**	**10**	P	**P**	**23 47 11.0**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=193,slow=9.6,SNR=4.3						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**30.55**	**41**	P	**P**	**23 47 43.2**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=245,slow=9.2,SNR=1.8						
SONM				LR	LR	00 01 21.8	
	comp=Z,32nm,19.0s,baz=131,slow=39						
	comp=Z,0.2nm,0.4s						
ULN	**Ulaanbaatar**	**30.95**	**41**	P	**P**	**23 47 47.4**	**+2.0**
ULN				IAmb	IAmb	23 47 50.9	
	comp=Z,5.6nm,1.4s						
BRTR	**Keskin Array B**	**37.78**	**300**	P	**P**	**23 48 46.3**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=127,slow=6.8,SNR=2.8						
	comp=Z,0.2nm,0.7s						
FINES	**FINESS Array B**	**47.78**	**330**	P	**P**	**23 50 06.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=108,slow=4.5,SNR=3.6						
	comp=Z,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**51.34**	**339**	P	**P**	**23 50 33.6**	**+1.4**
	comp=Z,3.4nm,0.9s,baz=116,slow=6.3,SNR=6.8						
	comp=Z,3.4nm,0.9s						
HFS	**Hagfors**	**53.31**	**326**	P	**P**	**23 50 47.1**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=104,slow=9.2,SNR=2.0						
	comp=Z,1.3nm,0.6s						
LBTB	**Lobatse**	**72.00**	**228**	P	**P**	**23 52 51.3**	**-0.9**
WRA	**Warramunga Arr**	**72.82**	**124**	P	**P**	**23 52 57.1**	**0.0**
WRA	**Warramunga Arr**	**72.82**	**124**	P	**P**	**23 52 56.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=322,slow=5.9,SNR=4.7						
	comp=Z,0.2nm,0.6s						
WB2	**Warramunga Arr**	**72.83**	**124**	P	**P**	**23 52 57.6**	**+0.4**
BOSA	**Boshof**	**74.68**	**226**	P	**P**	**23 53 06.0**	**-2.1**
AS31	**Alice Springs**	**74.84**	**127**	P	**P**	**23 53 05.6**	**-3.3**
AS31				IAmb	IAmb	23 53 12.2	
	comp=Z,2.1nm,1.4s						
ASAR	**Alice Springs**	**74.84**	**127**	P	**P**	**23 53 06.6**	**-2.4**
ASAR	**Alice Springs**	**74.84**	**127**	P	**P**	**23 53 08.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=307,slow=6.5,SNR=2.1						
	comp=Z,0.2nm,0.3s						
E18K	**Tukpahlearik C**	**76.09**	**20**	P	**P**	**23 53 16.4**	**+1.0**
E18K				IAmb	IAmb	23 53 49.8	
	comp=Z,1.7nm,1.1s						
D19K	**Kuna River**	**76.11**	**18**	P	**P**	**23 53 16.5**	**+0.9**
D19K				IAmb	IAmb	23 53 18.1	
	comp=Z,0.7nm,0.9s						
D22K	**Ayikyak River**	**77.27**	**16**	P	**P**	**23 53 21.7**	**-0.4**
D22K				IAmb	IAmb	23 53 41.6	
	comp=Z,3.6nm,1.4s						
D23K	**Nanushuk River**	**77.71**	**16**	P	**P**	**23 53 25.7**	**+1.2**
D23K				IAmb	IAmb	23 54 04.6	
	comp=Z,2.3nm,1.3s						
TOLK	**Toolik Lake Re**	**78.22**	**16**	P	**P**	**23 53 28.6**	**+1.2**
BMAR	**Burnt Mountain**	**80.34**	**15**	P	**P**	**23 53 40.9**	**+1.8**
YKA	**Yellowknife Ar**	**89.81**	**5**	P	**P**	**23 54 27.3**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=342,slow=4.5,SNR=5.0						
	comp=Z,0.2nm,0.7s						

WEL 16 23:43:53.3±0.4,42°S±3°×17°4E±°,h15km±3km,M3.2/17, ML3.5/16,MLv3.2/17,Error ellipse: s-maj=3.4km s-min=2.9km az=151.6,confirmed,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.01**	**159**	P	Pg	23 43 56.3	+0.4
CMWZ				S	Sg	23 43 59.1	+1.4
WDFS	**Ward Fire Stat**	**0.10**	**212**	P	Pg	23 43 56.7	+0.1
SEDS	**Seddon Fire St**	**0.12**	**305**	P	Pb	23 43 57.7	+0.3
SEDS				S	Sb	23 44 01.0	+0.9
BSWZ	**Blackbirch Sta**	**0.25**	**276**	P	Pb	23 43 59.5	-0.2
KEKS	**Kekerengu Vall**	**0.27**	**218**	P	Pg	23 43 59.4	+0.2
TUWZ	**Tuamarina**	**0.37**	**327**	P	Pb	23 44 02.1	+0.4
TUWZ				S	Sb	23 44 08.3	+1.1
BWRS	**Waikakaho Road**	**0.38**	**323**	P	Pb	23 44 02.2	+0.4
TCW	**Tory Channel**	**0.53**	**5**	P	Pb	23 44 04.4	0.0
TCW				S	Sb	23 44 12.6	+0.7
HAVS	**Havelock**	**0.57**	**326**	P	Pb	23 44 05.2	+0.2
BHW	**Baring Head**	**0.60**	**56**	P	Pb	23 44 05.4	-0.1
BHW				S	Sb	23 44 15.2	+1.5
WEL	**Wellington**	**0.62**	**43**	P	Pb	23 44 06.0	+0.1
MISS	**Wellington Mir**	**0.62**	**47**	P	Pb	23 44 06.0	+0.1
MKBS	**Makara Bunker**	**0.63**	**36**	P	Pb	23 44 06.1	0.0
POTA	**Wellington Pot**	**0.63**	**42**	P	Pb	23 44 06.0	-0.1
NEWS	**Newlands**	**0.69**	**42**	P	Pb	23 44 07.0	0.0
SOMS	**Somes Island**	**0.69**	**46**	P	Pb	23 44 07.0	0.0
PLLZ	**Palliser**	**0.80**	**78**	P	Pg	23 44 08.7	-0.2
NNZ	**Nelson**	**0.81**	**310**	P	Pb	23 44 09.6	+0.4
KHZ	**Kahutara**	**0.84**	**216**	P	Pg	23 44 09.6	0.0
KHZ				S	Sn	23 44 22.1	-0.6
MSWZ	**Moikau Station**	**0.84**	**68**	P	Pg	23 44 09.7	0.0
MSWZ				S	Sn	23 44 22.5	-0.4
CAW	**Cannon Point**	**0.90**	**46**	P	Pg	23 44 10.8	0.0
CAW				S	Sn	23 44 24.7	+0.3
DUWZ	**D'Urville Isla**	**0.96**	**347**	P	Pg	23 44 12.1	+0.1
THZ	**Tophouse**	**0.98**	**268**	P	Pg	23 44 12.3	+0.1
PAWZ	**Paruwai Farm**	**0.98**	**69**	P	Pb	23 44 11.3	-0.8
KIW	**Kapiti Island**	**1.03**	**31**	P	Pb	23 44 12.9	+0.1
MTW	**Mount Morrison**	**1.13**	**59**	P	Pb	23 44 13.5	-1.2
MRNZ	**Matariki Terra**	**1.14**	**287**	P	Pg	23 44 15.5	+0.2
TRWZ	**Traveller**	**1.16**	**73**	P	Pn	23 44 13.4	-1.7
OGWZ	**Otaki Gorge**	**1.17**	**38**	P	Pn	23 44 15.1	-0.2
TKNZ	**Takaka Hill**	**1.18**	**307**	P	Pg	23 44 15.8	-0.2
HOWZ	**Holdsworth Sta**	**1.29**	**50**	P	Pn	23 44 16.2	-0.8
TMWZ	**Te Maipa**	**1.41**	**64**	P	Pn	23 44 17.0	-1.6
MRZ	**Mangatainoka R**	**1.49**	**44**	P	Pn	23 44 19.0	-0.7
GVZ	**Greta Valley S**	**1.50**	**215**	P	Pn	23 44 18.5	-1.3
QRZ	**Quartz Range**	**1.56**	**305**	P	Pb	23 44 22.2	+0.2
TIWZ	**Tintock**	**1.59**	**53**	P	Pn	23 44 19.7	-1.3
CPWZ	**Castlepoint**	**1.71**	**62**	P	Pn	23 44 21.8	-0.9
OHWZ	**Ohakea**	**1.75**	**29**	P	Pb	23 44 24.3	-0.8
LTZ	**Lake Taylor**	**1.77**	**234**	P	Pn	23 44 22.8	-0.8
PRWZ	**Pori Road**	**1.78**	**49**	P	Pn	23 44 22.7	-1.0
POWZ	**Post Office Ro**	**1.79**	**42**	P	Pn	23 44 23.2	-0.6
DSZ	**Denniston Nort**	**1.80**	**269**	P	Pb	23 44 25.1	-1.0
BFZ	**Birch Farm**	**1.87**	**56**	P	Pn	23 44 22.8	-1.9
DVHZ	**Dannevirke**	**2.07**	**46**	P	Pn	23 44 26.0	-1.6
WAZ	**Wanganui**	**2.07**	**17**	P	Pb	23 44 31.0	+0.3
ANWZ	**Angora Road**	**2.14**	**54**	P	Pn	23 44 26.6	-1.9
TSZ	**Takapari Road**	**2.14**	**39**	P	Pb	23 44 33.0	+1.2
OXZ	**Oxford**	**2.25**	**225**	P	Pn	23 44 28.3	-1.9
MQZ	**McQueen's Vall**	**2.27**	**210**	P	Pn	23 44 27.5	-2.9
INZ	**Inchbonnie**	**2.28**	**244**	P	Pn	23 44 30.1	-0.4
AKCZ	**Akaroa Harbour**	**2.33**	**204**	P	Pn	23 44 28.9	-2.4
NMEZ	**Namu Road**	**2.34**	**354**	P	Pb	23 44 35.7	+0.5
PNHZ	**Pukenui**	**2.37**	**40**	P	Pn	23 44 30.6	-1.2
WPHZ	**Waipukurau**	**2.38**	**46**	P	Pn	23 44 32.0	+0.2
KHEZ	**Kahui Hut**	**2.45**	**356**	P	Pb	23 44 37.3	+0.2
NEZ	**North Egmont**	**2.47**	**358**	P	Pb	23 44 37.7	+0.2
NBEZ	**Newall Road No**	**2.48**	**354**	P	Pb	23 44 37.5	-0.1
DREZ	**Durham Road**	**2.55**	**360**	P	Pn	23 44 35.1	+0.9
PKE	**Pukeiti**	**2.55**	**356**	P	Pb	23 44 38.3	-0.5
PKVZ	**Pokaka**	**2.60**	**20**	P	Pb	23 44 37.6	-2.0
MOVZ	**Moawhango**	**2.61**	**27**	P	Pn	23 44 36.2	+1.1
WNVZ	**Wahianoa**	**2.63**	**24**	P	Pn	23 44 36.2	+0.7
TRVZ	**Turoa**	**2.64**	**23**	P	Pn	23 44 37.4	+1.7
MHCZ	**Mount Hutt**	**2.65**	**227**	P	Pn	23 44 33.4	-2.1
VRZ	**Vera Road**	**2.65**	**9**	P	Pb	23 44 39.2	-1.2
KRHZ	**Kereru**	**2.66**	**39**	P	Pn	23 44 34.4	-1.4
WHVZ	**Whangaehu Hut**	**2.67**	**24**	P	Pb	23 44 41.0	-0.1
MAVZ	**Matarangi**	**2.68**	**23**	P	Pb	23 44 41.2	+0.1
FWVZ	**Far West T-bar**	**2.69**	**23**	P	Pn	23 44 37.5	+1.2
TUVZ	**Tukino**	**2.71**	**24**	P	Pn	23 44 37.1	+0.7
COVZ	**Chateau Observ**	**2.73**	**22**	P	Pb	23 44 41.5	-0.5
NGZ	**Ngauruhoe**	**2.77**	**23**	P	Pn	23 44 38.6	+1.2
SNVZ	**South Ngauruho**	**2.78**	**24**	P	Pn	23 44 38.4	+1.0
OTVZ	**Oturere**	**2.80**	**24**	P	Pn	23 44 38.6	+0.8
WACZ	**Wakanui South**	**2.81**	**218**	P	Pn	23 44 35.6	-2.1
NNVZ	**North Ngauruho**	**2.82**	**23**	P	Pn	23 44 39.7	+1.6
WTVZ	**West Tongariro**	**2.83**	**22**	P	Pn	23 44 40.6	+2.5
ETVZ	**East Tongariro**	**2.84**	**24**	P	Pn	23 44 39.1	+0.8
TMVZ	**Te Maari**	**2.86**	**24**	P	Pn	23 44 39.1	+0.6
NTVZ	**North Tongarir**	**2.87**	**23**	P	Pn	23 44 39.5	+0.8
KATZ	**Kakaramea**	**2.99**	**23**	P	Pb	23 44 46.7	+0.4
RPZ	**Rata Peaks**	**3.05**	**229**	P	Pn	23 44 39.4	-1.6
BKZ	**Black Stump Fm**	**3.11**	**35**	P	Pb	23 44 49.1	+0.8
ARCZ	**Arundel**	**3.14**	**224**	P	Pn	23 44 40.3	-2.0
HIZ	**Hauiti**	**3.26**	**9**	P	Pb	23 44 47.7	-3.3
TMZ	**Timaru**	**3.53**	**221**	P	Pn	23 44 45.5	-2.2
TLZ	**Tolley Road**	**3.56**	**17**	P	Pn	23 44 51.1	+3.0
ODZ	**Otahua Downs**	**4.20**	**217**	P	Pn	23 44 54.1	-2.8
JCZ	**Jackson Bay**	**4.62**	**238**	P	Pn	23 45 06.1	+3.5
AWAZ	**Awhitu Peninsu**	**4.68**	**4**	P	Pn	23 45 07.5	+4.0
MKAZ	**Moumakai**	**4.69**	**9**	P	Pn	23 45 07.2	+3.6
TUZ	**Tuapeka**	**5.36**	**217**	P	Pn	23 45 10.6	-2.2

*IDC **17** 00:05:44.4±1.1,2°.22N×96°.19E,h0km,mb4.1/11, mbtmp4.1/13,ML3.6/1,MS3.1/4,Error ellipse: s-maj=38.9km s-min=16.0km az=52.0*
*NEIC **17** 00:05:46.5±1.6,2°.25N±0°.04×96°.28E±0°.09,h10km±1km, mb4.4/21,Error ellipse: s-maj=16.6km s-min=4.8km az=247.0*
*DJA **17** 00:05:46.4±0.7,2°N±3°×9°6E±°,h16km±4km,M4.8/15, mb5.5/6,mB6.0/3,MLv4.4/15,Mw(mB)5.6/3*
ISC 17 00:05:48.3±1.2,2°.28N±0°.05×96°.33E±0°.07,h26km±8km, n72,σ1$11/63,mb4.3/21,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.13**	**0**	P	**Pb**	**00 05 53.3**	**-0.1**
GSI	**Gunungsitoli**	**1.58**	**128**	Pn	**Pn**	**00 06 15.2**	**+0.6**
GSI				Sn	**Sn**	**00 06 33.2**	**-1.1**
GSI	**Gunungsitoli**	**1.58**	**128**	P	**Pn**	**00 06 15.3**	**+0.6**
GSI				S	**Sn**	**00 06 35.6**	**+1.3**
MLSI	**Meulaboh, Aceh**	**1.98**	**2**	P	**Pn**	**00 06 20.4**	**+0.3**
MLSI				S	**Sn**	**00 06 46.8**	**+2.7**
TSI	**Tuntungan**	**2.54**	**61**	P	**Pn**	**00 06 30.8**	**+2.9**
RPSI	**Rantau Prapat**	**2.63**	**81**		**Pn**	**00 06 30.4**	**+1.4**
RPSI				Sn	**Sn**	**00 06 58.6**	**-1.6**
PSI	**Prapat**	**2.65**	**79**	Pn	**Pn**	**00 06 31.4**	**+1.9**
	10nm,0.3s,baz=270,slow=11,SNR=38						
PSI				Sn	**Sn**	**00 06 58.6**	**-2.2**
	8.7nm,0.3s,baz=90,slow=20,SNR=8.1						
PSI				LR	LR	00 07 20.4	
	comp=Z,156nm,21.4s,baz=329,slow=35						
	20nm,0.3s						
LHMI	**Lhok Sumawe**	**3.00**	**12**		**Pn**	**00 06 35.1**	**+1.0**
LHMI	**Lhok Sumawe**	**3.00**	**12**	P	**Pn**	**00 06 35.9**	**+1.7**
PBSI	**Pulau

comp=Z,1.2nm,0.4s,baz=190,slow=8.3,SNR=13
SONM PcP **PcP** **00 15 47.6 +0.9**
comp=Z,0.9nm,0.6s,baz=195,slow=3.5,SNR=4.8
comp=Z,1.2nm,0.4s
KURBB Kurchatov Arra 50.47 345 P **P** **00 14 44.1 +0.3**
comp=Z,0.9nm,0.5s,baz=162,slow=6.7,SNR=11
comp=Z,0.9nm,0.5s
KURK Kurchatov 50.53 345 P **P** **00 14 44.5 +0.1**
KURK IAmb IAmb 00 15 01.2
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 51.50 43 P **P** **00 14 51.4 -0.6**
comp=Z,0.6nm,0.5s,baz=201,slow=7.0,SNR=4.1
comp=Z,0.6nm,0.5s
ZAA0 Zalesovo Array 52.37 351 P **P** **00 14 58.2 +0.2**
ZAA0 IAmb IAmb 00 14 59.0
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 52.37 351 P **P** **00 14 58.2 +0.2**
ZALV Zalesovo Beam 52.37 351 P **P** **00 14 58.6 +0.6**
comp=Z,4.6nm,0.4s,baz=166,slow=7.1,SNR=27
comp=Z,4.6nm,0.4s
STKA Stephens Creek 54.72 132 P **P** **00 15 16.7 +1.0**
comp=Z,1.6nm,0.8s,baz=284,slow=4.2,SNR=3.3
comp=Z,1.6nm,0.8s
BVAR Borovoye Array 54.95 341 P **P** **00 15 16.9 -0.1**
comp=Z,2.3nm,0.6s,baz=149,slow=9.8,SNR=9.8
comp=Z,2.3nm,0.6s
ABKAR Abkulak array 56.16 332 P **P** **00 15 26.3 +0.6**
ABKAR Abkulak array 56.16 332 P **P** **00 15 25.5 -0.2**
H04N2 CROZET ISLANDS 62.18 213 T T 01 23 40.1
baz=52,slow=75,SNR=1572
H04N1 CROZET ISLANDS 62.19 213 T T 01 23 24.9
baz=52,slow=75,SNR=1633
H04N3 CROZET ISLANDS 62.20 213 T T 01 23 28.7
baz=52,slow=75,SNR=1914
H04S1 CROZET ISLANDS 62.53 213 T T 01 24 03.4
baz=51,slow=76,SNR=38
H04S3 CROZET ISLANDS 62.54 213 T T 01 24 03.3
baz=51,slow=76,SNR=51
H04S2 CROZET ISLANDS 62.55 213 T T 01 24 07.4
baz=51,slow=76,SNR=26
YAK Yakutsk 64.64 17 P **P** **00 16 22.6 -0.8**
TIXI Tiksi 72.29 10 P **P** **00 17 10.5 -0.6**
TIXI IAmb IAmb 00 17 11.6
comp=Z,2.7nm,0.8s
BURAR Bucovina Array 75.64 319 P **P** **00 17 32.0 +0.6**
FINES FINESS Array B 78.65 333 P **P** **00 17 47.6 -0.2**
FINES FINESS Array B 78.65 333 P **P** **00 17 47.5 -0.3**
comp=Z,1.4nm,0.6s,baz=107,slow=7.4,SNR=11
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 81.23 340 P **P** **00 18 02.3 +0.6**
comp=Z,2.5nm,0.6s,baz=106,slow=7.6,SNR=12
comp=Z,2.5nm,0.6s
ELIB Princess Elisa 86.92 197 *d*PP **PP** **00 21 53.7 -0.1**
BMAR Burnt Mountain 98.69 20 Pdif 00 19 26.7 +1.6

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*IDC **17** 00:18:53.8±1.0, 0.°80N×172.°45W, h0km, mb4.0/18, mbtmp4.0/20, ML3.5/2, MS3.0/8, Error ellipse: s-maj=30.9km s-min=14.2km az=10.0*
*NEIC **17** 00:18:56.8±1.3, 50.°9N±0.°1×172.°56W±0.°08, h16km±5km, mb4.2/61, ML3.8/6, ML3.6(AEIC), Error ellipse: s-maj=15.3km s-min=7.3km az=178.0*
*AEIC **17** 00:18:57.3±1.6, 50.°9N±0.°1×172.°56W±0.°08, h35km±6km, Error ellipse: s-maj=15.4km s-min=7.3km az=176.0*
ISC 17 00:18:59.1±0.7, 50.°83N±0.°10×172.°54W±0.°04, h35km, n125, σ0.86/122, mb4.1/36, MS3.0/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.72**	**324**		**Pn**	**00 19 25.0**	**-1.4**
ATKA				Sn	**Sn**	**00 19 46.4**	**-0.7**
ATKA				IAML		00 19 47.7	
comp=E,485nm,0.6s							
GSTR	**Great Sitkin T**	**2.54**	**301**	Pn	**Pn**	**00 19 36.3**	**-1.4**
GSCK	**Great Sitkin C**	**2.56**	**299**		**Pn**	**00 19 36.9**	**-1.1**
ADAG	**Mount Adagdak**	**2.79**	**296**		**Pn**	**00 19 40.7**	**-0.5**
ADAG					**Sn**	**00 20 14.1**	**+0.5**
ADK	**Adak**	**2.80**	**294**	Pn	**Pn**	**00 19 39.7**	**-1.6**
ADK				Sn	**Sn**	**00 20 11.8**	**-2.1**
ADK				IAML		00 20 13.8	
comp=E,320nm,0.3s							
ADK				IAML		00 20 14.6	
comp=E,296nm,0.5s							
KIRH	**Kanaga Island**	**3.05**	**292**		**Pn**	**00 19 43.9**	**-0.8**
KIWB	**Kanaga Island**	**3.07**	**291**	Pn	**Pn**	**00 19 43.7**	**-1.3**
TAFP	**Tanaga Falls P**	**3.58**	**289**		**Pn**	**00 19 51.0**	**-1.0**
TASE	**Tanaga Southea**	**3.59**	**288**		**Pn**	**00 19 51.9**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**3.77**	**46**		**Pn**	**00 19 54.0**	**-0.6**
OKTU					**Sn**	**00 20 38.7**	**+0.9**
GANE	**Gareloi Northe**	**4.04**	**287**		**Pn**	**00 19 58.7**	**+0.4**
GANO	**Gareloi North**	**4.05**	**287**		**Pn**	**00 19 58.0**	**-0.5**
MAPS	**Pakushin South**	**4.55**	**47**		**Pn**	**00 20 04.4**	**-0.9**
UNV	**Unalaska Valle**	**4.77**	**48**	Pn	**Pn**	**00 20 07.3**	**-1.1**
LVA	**Lava Point**	**5.18**	**47**	Pn	**Pn**	**00 20 13.9**	**-0.2**
LVA				IAML		00 21 20.9	
comp=E,170nm,2.4s							
SHEM	**Shemya Is, Ala**	**8.50**	**288**	LR	LR	00 24 03.5	
comp=E,57nm,20.8s,baz=285,slow=36							
SDPT	**Sand Point**	**8.55**	**53**	Pn	**Pn**	**00 20 59.5**	**-0.7**
SII	**Sitkinak Islan**	**12.28**	**55**	Pn	**Pn**	**00 21 50.8**	**-0.4**
ACHA	**Angle Creek He**	**12.40**	**47**	Pn	**Pn**	**00 21 51.7**	**-1.3**
O18K	**Koktuh Hills**	**13.33**	**41**	Pn	**Pn**	**00 22 04.7**	**-0.9**
KDAK	**Kodiak Island**	**13.54**	**51**	Pn	**Pn**	**00 22 04.1**	**-4.2**
comp=E,0.6nm,0.3s,baz=247,slow=13,SNR=6.6							
KDAK				LR	LR	00 27 26.5	
comp=E,84nm,19.0s,baz=45,slow=38							
J16K	**Anvik River**	**14.03**	**23**		**Pn**	**00 22 16.0**	**+0.9**
J17K	**VABM Dome**	**14.52**	**25**		**Pn**	**00 22 22.4**	**+0.7**
BRLK	**Bradley Lake**	**15.16**	**46**	Pn	**Pn**	**00 22 28.7**	**-1.7**
SEW	**Seward**	**15.96**	**46**	Pn	**Pn**	**00 22 38.4**	**-2.3**
PWL	**Port Wells**	**16.79**	**44**	Pn	**Pn**	**00 22 50.2**	**-0.9**
PWL				IAmb	IAmb	00 23 06.4	
comp=Z,28nm,1.0s							
GHO	**Glory Hole Cre**	**16.96**	**41**	Pn	**Pn**	**00 22 51.8**	**-1.6**
GHO				IAmb	IAmb	00 22 57.0	
comp=Z,14nm,0.8s							
G19K	**Purcell Mounta**	**17.26**	**21**	P	**Pn**	**00 22 56.9**	**-0.1**
E18K	**Tukpahlearik C**	**17.67**	**15**	P	**P**	**00 23 03.0**	**+0.3**
C16K	**Lisburne Hills**	**17.85**	**9**	P	**P**	**00 23 05.4**	**+0.7**
I21K	**Tanana**	**17.90**	**29**		**Pn**	**00 23 04.8**	**-0.1**
E19K	**Redstone River**	**18.33**	**19**	P	**Pn**	**00 23 10.1**	**-0.1**
PETK	**Petropavlovsk-**	**18.42**	**289**	P	**P**	**00 23 10.2**	**-0.8**
comp=Z,0.2nm,0.3s,baz=87,slow=12,SNR=5.5							
comp=Z,1.2nm,0.6s							
G21K	**Allakaket**	**18.44**	**24**	P	**P**	**00 23 10.9**	**-0.3**
C18K	**Utukok River**	**18.70**	**13**	P	**Pn**	**00 23 14.8**	**+0.1**
F21K	**Alatna River**	**18.99**	**23**	P	**P**	**00 23 17.2**	**0.0**
D19K	**Kuna River**	**19.06**	**16**	P	**Pn**	**00 23 18.7**	**-0.3**
D19K				IAmb	IAmb	00 23 32.6	
comp=Z,7.2nm,0.8s							
IL31		**19.34**	**34**	P	**P**	**00 23 20.0**	**-0.9**
IL31				IAmb	IAmb	00 23 23.7	
comp=Z,8.3nm,1.0s							
ILAR	**Eielson Array**	**19.34**	**34**	P	**P**	**00 23 20.3**	**-0.7**
ILAR	**Eielson Array**	**19.34**	**34**	P	**P**	**00 23 19.1**	**-1.9**
comp=Z,0.6nm,0.3s,baz=246,slow=11,SNR=30							
ILAR				PcP	**PcP**	**00 27 41.4**	**-0.4**
comp=Z,0.2nm,0.7s,baz=268,slow=3.6,SNR=1.8							
ILAR				LR	LR	00 30 23.2	
comp=Z,51nm,20.7s,baz=230,slow=36							
comp=Z,3.2nm,0.8s							
M26K	**Nabesna, AK**	**19.75**	**43**	P	**P**	**00 23 25.4**	**-0.2**
DOT	**Dot Lake**	**19.83**	**39**	P	**P**	**00 23 25.8**	**-0.7**
L26K	**Log Cabin Wild**	**19.85**	**41**	P	**P**	**00 23 26.6**	**0.0**
L26K				IAmb	IAmb	00 23 38.4	
comp=Z,7.3nm,0.7s							
SCRK	**Sand Creek**	**20.01**	**38**		**P**	**00 23 27.3**	**-1.2**
SCRK				IAmb	IAmb	00 23 30.4	
comp=Z,7.3nm,0.8s							
E22K	**Anaktuvuk Pass**	**20.10**	**23**	P	**P**	**00 23 29.7**	**+0.3**
BILL	**Bilibino**	**20.14**	**337**		**P**	**00 23 29.1**	**-0.7**
BILL				IAmb	IAmb	00 23 41.6	
comp=Z,6.9nm,1.0s							
M27K	**Edge Creek, AK**	**20.22**	**43**	P	**P**	**00 23 31.2**	**+0.5**
M27K				IAmb	IAmb	00 23 42.7	
comp=Z,10.0nm,0.8s							
D22K	**Ayikyak River**	**20.48**	**21**	P	**P**	**00 23 33.7**	**+0.3**
D22K				IAmb	IAmb	00 23 41.4	
comp=Z,14nm,0.8s							
BCAR	**Beaver Creek A**	**20.52**	**42**	P	**P**	**00 23 33.9**	**-0.1**
B21K	**Ikpikpuk River**	**20.68**	**18**	P	**P**	**00 23 35.1**	**-0.5**
B21K				IAmb	IAmb	00 23 41.5	
comp=Z,9.1nm,0.9s							
I26K	**Coal Creek Min**	**20.96**	**35**	P	**P**	**00 23 37.7**	**-1.0**
I26K				IAmb	IAmb	00 23 43.1	
comp=Z,13nm,0.8s							
TOLK	**Toolik Lake Re**	**21.03**	**23**	P	**P**	**00 23 39.5**	**+0.1**
B22K	**Teshekpuk Lake**	**21.51**	**18**	P	**P**	**00 23 43.4**	**-1.0**
B22K				IAmb	IAmb	00 23 55.2	
comp=Z,6.0nm,0.8s							
BMAR	**Burnt Mountain**	**21.64**	**29**	P	**P**	**00 23 46.2**	**+0.2**
HYT	**Haines Junctio**	**21.80**	**49**	P	**P**	**00 23 48.3**	**+0.4**
HYT				IAmb	IAmb	00 24 14.4	
comp=Z,7.9nm,0.9s							
MA2	**Magadan**	**22.43**	**307**	P	**P**	**00 23 54.0**	**-0.4**
MA2				IAmb	IAmb	00 23 56.4	
comp=Z,3.8nm,0.7s							
MA2	**Magadan**	**22.43**	**307**	LR	LR	00 33 07.3	
comp=Z,30nm,18.1s,baz=156,slow=38							
H29M	**Whitestone**	**23.14**	**35**	P	**P**	**00 24 01.2**	**-0.6**
G29M	**Pine Creek**	**23.56**	**34**	P	**P**	**00 24 05.3**	**-0.7**
G29M				IAmb	IAmb	00 24 26.8	
comp=Z,6.5nm,0.9s							
D27M	**Malcolm River**	**23.79**	**28**	P	**P**	**00 24 08.1**	**0.0**
D27M				IAmb	IAmb	00 24 32.4	
comp=Z,4.3nm,0.9s							
F31M	**Tsiigehtchic**	**25.30**	**34**	P	**P**	**00 24 22.4**	**+0.6**
F31M				IAmb	IAmb	00 24 24.8	
comp=Z,7.2nm,0.8s							
INK	**Inuvik**	**25.71**	**33**	P	**P**	**00 24 25.7**	**+0.2**
INK				IAmb	IAmb	00 24 30.3	
comp=Z,6.9nm,0.8s							
A36M	**Sachs Harbour**	**29.70**	**27**	P	**P**	**00 25 01.6**	**+0.4**
A36M				IAmb	IAmb	00 25 07.0	
comp=Z,3.5nm,0.8s							
YKA	**Yellowknife Ar**	**32.74**	**47**	P	**P**	**00 25 27.9**	**-0.1**
YKA	**Yellowknife Ar**	**32.74**	**47**	P	**P**	**00 25 28.2**	**+0.2**
comp=Z,0.8nm,0.6s,baz=272,slow=8.5,SNR=28							
YKA				PcP	**PcP**	**00 28 12.8**	**+0.2**
comp=Z,0.4nm,0.7s,baz=273,slow=3.1,SNR=7.3							
comp=Z,0.8nm,0.6s							
TIXI	**Tiksi**	**33.06**	**330**	LR	LR	00 40 08.7	
comp=Z,15nm,18.6s,baz=34,slow=38							
B08A	**Colville Reser**	**33.96**	**73**	P	**P**	**00 25 38.9**	**0.0**
B08A				IAmb	IAmb	00 25 40.9	
comp=Z,2.9nm,0.9s							
I05D	**Terrebonne, OR**	**34.55**	**80**	P	**P**	**00 25 44.4**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**35.04**	**215**	T	T	01 02 44.1	
baz=24							
H11N3	**WAKE ISLAND Hy**	**35.04**	**215**	T	T	01 02 44.9	
baz=24							
H11N1	**WAKE ISLAND Hy**	**35.05**	**215**	T	T	01 02 42.8	
baz=24							
PINE	**Pine Mountain**	**35.07**	**81**		**P**	**00 25 49.3**	**+0.6**
J05D	**Fort Rock, OR**	**35.14**	**82**	P	**P**	**00 25 50.0**	**+0.7**
J05D				IAmb	IAmb	00 25 51.2	
comp=Z,4.2nm,0.9s							
NEW	**Newport**	**35.33**	**72**	P	**P**	**00 25 50.3**	**-0.4**
NEW				IAmb	IAmb	00 25 52.6	
comp=Z,4.2nm,1.1s							
H11S1	**WAKE ISLAND Hy**	**36.23**	**215**	T	T	01 04 13.1	
baz=22,slow=76,SNR=6.3							
H11S2	**WAKE ISLAND Hy**	**36.25**	**215**	T	T	01 04 14.6	
baz=22,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**36.25**	**215**	T	T	01 04 13.3	
baz=22,slow=76,SNR=5.4							
BMO	**Blue Mountains**	**36.80**	**77**		**P**	**00 26 03.4**	**0.0**
WVOR	**Wild Horse Val**	**37.21**	**82**	P	**P**	**00 26 07.0**	**+0.1**
MJAR	**Matsushiro Arr**	**37.65**	**267**	P	**P**	**00 26 10.9**	**+0.3**
comp=Z,0.8nm,0.7s,baz=51,slow=7.9,SNR=1.5							
comp=Z,0.8nm,0.7s							
LYMT	**Lyon Mountain**	**38.84**	**71**	P	**P**	**00 26 20.4**	**-0.3**
MCMT	**McKenzie Canyo**	**39.56**	**75**	P	**P**	**00 26 26.6**	**-0.2**
NVAR	**Mina Array Bea**	**39.67**	**87**	P	**P**	**00 26 26.9**	**-0.8**
comp=Z,0.5nm,0.6s,baz=312,slow=7.5,SNR=4.2							
NVAR				PcP	**PcP**	**00 28 34.8**	**+0.8**
comp=Z,1.0nm,0.8s,baz=328,slow=1.8,SNR=4.0							
comp=Z,0.5nm,0.6s							
BOZ	**Bozeman (W)**	**39.91**	**73**	P	**P**	**00 26 29.2**	**-0.3**
ELK	**Elko**	**40.27**	**82**	P	**P**	**00 26 32.4**	**-0.3**
ELK				IAmb	IAmb	00 26 34.2	
comp=Z,3.2nm,0.9s							
R11B	**Troy Canyon, C**	**41.44**	**85**	P	**P**	**00 26 42.4**	**0.0**
TPNV	**Topopah Spring**	**41.86**	**87**	P	**P**	**00 26 45.9**	**+0.1**
TPNV				IAmb	IAmb	00 26 48.0	
comp=Z,3.7nm,0.9s							
DUG	**Dugway, Tooele**	**42.10**	**81**	P	**P**	**00 26 47.7**	**+0.1**
DUG				IAmb	IAmb	00 26 49.3	
comp=Z,8.4nm,1.2s							
GSC	**Goldstone, Bar**	**42.53**	**89**	P	**P**	**00 26 51.2**	**+0.1**
GSC				IAmb	IAmb	00 26 52.4	
comp=Z,6.6nm,1.1s							
PD31	**Pinedale Array**	**42.67**	**75**	P	**P**	**00 26 51.8**	**-0.5**
PD31				IAmb	IAmb	00 26 53.3	
comp=Z,4.8nm,0.9s							
PDAR	**Pinedale Array**	**42.67**	**75**	P	**P**	**00 26 51.8**	**-0.5**
comp=Z,3.5nm,0.9s,baz=304,slow=8.7,SNR=24							
comp=Z,3.5nm,0.9s							
KSAR	**Wonju Array Be**	**43.64**	**276**	P	**P**	**00 27 00.3**	**+0.4**
U15A	**North Rim**	**44.69**	**85**	P	**P**	**00 27 09.2**	**+0.5**
PV23	**Carpenter Ridg**	**45.51**	**80**	P	**P**	**00 27 14.8**	**-0.4**
X16A	**Lo Mia Camp, P**	**46.49**	**86**	IAmb	IAmb	00 27 24.9	
comp=Z,1.5nm,0.7s							
MVCO	**Mesa Verde**	**46.59**	**81**	P	**P**	**00 27 24.0**	**+0.3**
ULM	**Lac du Bonnet**	**46.63**	**59**	P	**P**	**00 27 22.0**	**-1.5**
comp=Z,1.3nm,0.5s,baz=325,slow=1.1,SNR=3.5							
comp=Z,1.3nm,0.5s							
NRIK	**Noril'sk**	**46.83**	**331**	P	**P**	**00 27 24.8**	**0.0**
comp=Z,1.3nm,0.9s,baz=54,slow=12,SNR=5.1							
NRIK				LR	LR	00 51 25.5	
comp=Z,20nm,18.1s,baz=142,slow=42							
comp=Z,1.3nm,0.9s							
SONM	**Songino Array**	**50.38**	**300**	P	**P**	**00 27 52.9**	**+0.3**
SONM	**Songino Array**	**50.38**	**300**	P	**P**	**00 27 52.6**	**0.0**
comp=Z,1.0nm,0.7s,baz=54,slow=7.3,SNR=6.8							
comp=Z,1.0nm,0.7s							
SPITS	**Spitsbergen Ar**	**51.14**	**358**	P	**P**	**00 27 57.8**	**+0.1**
comp=Z,18nm,1.1s,baz=50,slow=12,SNR=1.8							
comp=Z,18nm,1.1s							
TXAR	**Lajitas Array**	**54.80**	**85**	P	**P**	**00 28 24.9**	**-0.5**
comp=Z,1.5nm,0.6s,baz=319,slow=7.5,SNR=14							
TXAR				PcP	**PcP**	**00 29 27.3**	**-0.2**
comp=Z,0.4nm,0.6s,baz=279,slow=2.0,SNR=2.2							
comp=Z,1.5nm,0.6s							
ARCES	**ARCESS Array B**	**59.22**	**353**	LR	LR	00 56 03.8	
comp=Z,11nm,20.3s,baz=26,slow=38							
KURK	**Kurchatov**	**62.18**	**317**	P	**P**	**00 29 17.0**	**+0.6**
KURBB	**Kurchatov Arra**	**62.29**	**317**	P	**P**	**00 29 18.0**	**+0.8**
comp=Z,3.3nm,0.8s,baz=42,slow=6.8,SNR=25							
comp=Z,3.3nm,0.8s							
MK31	**Makanchi Array**	**63.40**	**312**	P	**P**	**00 29 24.7**	**0.0**
MK31				IAmb	IAmb	00 29 25.6	
comp=Z,1.2nm,0.8s							
MKAR	**Makanchi Array**	**63.40**	**312**	P	**P**	**00 29 24.7**	**0.0**
MKAR	**Makanchi Array**	**63.40**	**312**	P	**P**	**00 29 24.4**	**-0.3**
comp=Z,1.2nm,0.7s,baz=43,slow=6.3,SNR=17							
comp=Z,1.2nm,0.7s							
MAKZ	**Makanchi**	**63.53**	**312**	P	**P**	**00 29 25.6**	**0.0**
MAKZ				IAmb	IAmb	00 29 26.5	
comp=Z,3.1nm,1.2s							
BVAR	**Borovoye Array**	**63.78**	**323**	P	**P**	**00 29 27.8**	**+0.8**
comp=Z,2.0nm,0.6s,baz=40,slow=8.1,SNR=11							
comp=Z,2.0nm,0.6s							
ARTI	**Arti**	**65.15**	**332**	P	**P**	**00 29 36.6**	**+0.7**
FINES	**FINESS Array B**	**67.09**	**350**	P	**P**	**00 29 47.9**	**-0.4**
FINES	**FINESS Array B**	**67.09**	**350**	P	**P**	**00 29 48.6**	**+0.4**
comp=Z,2.2nm,1.0s,baz=1.4,slow=5.7,SNR=4.0							
comp=Z,2.2nm,1.0s							
NB2	**NORSAR Subarra**	**68.44**	**358**	P	**P**	**00 29 57.7**	**+0.8**
comp=Z,0.8nm,0.7s,baz=7.4,slow=6.9							
NOA	**NORSAR Array B**	**68.44**	**358**	P	**P**	**00 29 57.8**	**+1.0**
comp=Z,0.8nm,0.7s,baz=3.4,slow=6.5,SNR=4.2							
NOA				LR	LR	00 59 16.5	
comp=Z,13nm,20.1s,baz=265,slow=35							
comp=Z,0.8nm,0.7s							
HFS	**Hagfors**	**69.27**	**357**	P	**P**	**00 30 02.8**	**+0.7**
comp=Z,1.9nm,0.5s,baz=0.0,slow=3.5,SNR=7.1							
comp=Z,1.9nm,0.5s							
ABKAR	**Abkulak array**	**70.67**	**327**	P	**P**	**00 30 11.7**	**+0.9**
ABKAR	**Abkulak array**	**70.67**	**327**	P	**P**	**00 30 11.5**	**+0.7**
ABKAR				IAmb	IAmb	00 30 12.1	
comp=Z,2.7nm,0.8s							
KKAR	**Karatay Array**	**71.58**	**317**	P	**P**	**00 30 16.4**	**0.0**
AKASG	**Malin Array Be**	**77.16**	**346**	P	**P**	**00 30 49.0**	**+0.3**
comp=Z,0.9nm,0.5s,baz=14,slow=5.3,SNR=3.7							
comp=Z,0.9nm,0.5s							
GERES	**GERESS Array B**	**80.56**	**356**	P	**P**	**00 31 08.4**	**+0.9**
baz=342,slow=6.2							
KBZ	**Khabaz**	**80.91**	**335**	P	**P**	**00 31 10.4**	**+1.1**
comp=Z,1.7nm,1.0s,baz=68,slow=5.4,SNR=4.4							
comp=Z,1.7nm,1.0s							
BNI	**Bardonecchia**	**84.49**	**1**	P	**P**	**00 31 29.9**	**+1.8**
ESDC	**Sonseca Array**	**89.31**	**9**	P	**P**	**00 31 51.9**	**+0.3**
comp=Z,0.5nm,0.9s,baz=349,slow=4.7,SNR=4.2							
comp=Z,0.5nm,0.9s							
QSPA	**South Pole Qui**	**140.59**	**180**	PKP	**PKPdf**	**00 38 22.0**	**-1.3**
comp=Z,0.4nm,0.6s,baz=46,slow=1.0,SNR=1.1							

IDC 17 00:23:12.9±2.1, 7.°46S×130.°03E, h0km, mb3.7/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=83.5km s-min=27.5km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.41**	**202**	Pn	Pn	00 25 58.7	+1.5
0.6nm,0.3s,baz=28,slow=12,SNR=17							
FITZ				Sn	Sn	00 27 58.4	-7.2
0.8nm,0.3s,baz=0.0,slow=20,SNR=6.4							
1.7nm,0.3s							
WRA	**Warramunga Arr**	**13.10**	**162**	Pn	Pn	00 26 19.0	-1.4
0.2nm,0.3s,baz=342,slow=13,SNR=8.2							
WRA				Sn	Sn	00 28 32.7	-14
1.0nm,0.3s,baz=343,slow=23,SNR=11							
0.2nm,0.3s							
ASAR	**Alice Springs**	**16.54**	**167**	Pn	Pn	00 27 06.3	-0.1
0.1nm,0.3s,baz=346,slow=8.9,SNR=5.3							
ASAR				Sn	Sn	00 29 56.2	-15
0.2nm,0.3s,baz=357,slow=28,SNR=5.7							
0.2nm,0.7s							
MKAR	**Makanchi Array**	**68.62**	**327**	P	P	00 34 17.9	0.0
0.4nm,0.5s,baz=125,slow=7.1,SNR=13							
0.4nm,0.5s							

IDC 17 00:31:39.2±5.7, 4.°98S×150.°23E, h70km±52km, mb3.4/3, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=130.0km s-min=34.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**215**	P	Pn	00 32 56.5	-0.1
3.8nm,0.3s,baz=27,slow=11,SNR=7.8							
PMG				S	Sn	00 33 58.2	+1.4
46nm,0.4s,baz=162,slow=20,SNR=12							
8.3nm,0.3s							
WRA	**Warramunga Arr**	**21.46**	**225**	P	P	00 36 22.1	+0.1
1.6nm,0.6s,baz=50,slow=10,SNR=16							
1.6nm,0.6s							
ASAR	**Alice Springs**	**24.35**	**219**	P	P	00 36 49.6	-1.1
4.6nm,0.8s,baz=46,slow=9.7,SNR=56							
4.6nm,0.8s							
ILAR	**Eielson Array**	**83.30**	**23**	P	P	00 43 57.8	-0.2
0.3nm,0.8s,baz=256,slow=5.6,SNR=5.0							
0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**147.92**	**287**	PKPbc	PKPbc	00 51 18.2	+0.7
1.4nm,0.3s,baz=102,slow=2.5,SNR=3.1							

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*MOS **17** 00:43:27.3±0.8, 20.°21S×173.°73W, h10km, mb5.3/34, MS4.9/7, Error ellipse: s-maj=11.3km s-min=9.7km az=80.9*
*IDC **17** 00:43:28.6±0.4, 20.°22S×173.°73W, h0km, mb4.6/23, mbtmp4.6/24, ML4.6/1, MS4.6/48, Error ellipse: s-maj=18.6km s-min=14.5km az=109.0*
*BJI **17** 00:43:28.3, 19.°87S×173.°16W, h10km, mB5.8/24, mb5.0/35, Ms5.1/26, Ms7 4.8/29*
*NEIC **17** 00:43:30.5, 20.°15S×173.°00W, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{16}Nm; M_{rr}4.59; $M_{\theta\theta}$-0.82; $M_{\phi\phi}$-3.77; $M_{r\theta}$-0.35; $M_{r\phi}$-0.65; $M_{\theta r}$-3.62; Fault plane solution: $M_0$5.59000×10^{16} NP1: ϕ_s14.43000°, δ24.86000°, λ95.88000°. NP2:ϕ_s187.95000°, δ65.28000°, λ87.28000°. Principal axes: T 5.9347, Plg70.0000°, Azm92.0000°; N -0.6960, Plg2.0000°, Azm189.0000°; P -5.2387, Plg20.0000°, Azm280.0000°;*
*NEIC **17** 00:43:30.5±1.5, 20.°2S±0.°1×173.°7W±0.°1, h10km±1km, mb5.1/93, Mww5.1/13 Error ellipse: s-maj=20.8km s-min=16.3km az=116.0*
*NEIC **17** 00:43:30.5, 20.°15S×173.°70W, h12km*
*NOU **17** 00:43:33.2, 19.°88S×173.°02W, h73km, mb4.8/16, Tonga Islands*
*GCMT **17** 00:43:34.5±0.1, 20.°32S±0.°01×173.°18W±0.°01, h13km, MW5.2/141, Moment Tensor Solution. s86,c126; s141,c229; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.21±.14; $M_{\theta\theta}$0.10±.10; $M_{\phi\phi}$-5.31±.10; $M_{r\theta}$2.46±.25; $M_{\theta\phi}$-0.83±.07; $M_{\phi r}$3.21±.24; Best double couple: $M_0$6.68300×10^{16} NP1:ϕ_s173.00000°, δ30.00000°, λ62.00000°. NP2:ϕ_s25.00000°, δ64.00000°, λ105.00000°. Principal axes: T 6.8150, Plg67.0000°, Azm324.0000°; N -0.2590, Plg14.0000°, Azm198.0000°; P -6.5510, Plg17.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 00:43:29.5±0.3, 20.°26S±0.°05×173.°53W±0.°05, h10km, n469, σ1.9/449/443, mb5.1/113, MS4.8/66, 48C-46D, Tonga Islands

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

BFZ	**Birch Farm**	**22.15 201**	P	**P**	**00 48 28.9**	**+3.4**
BFZ			S	S	00 52 16.7	-13
TBI	**Tubuai**	**22.55 102**	*e*P	**P**	**00 48 32.5**	**+2.6**
	comp=Z,1μm,34.2s					
TBI			*e*S	**S**	**00 52 34.2**	**-3.1**
	comp=Z,4μm,27.8s					
TBI			*e*LR	LR	00 53 32.1	
	comp=Z,7μm,22.0s					
TBI			*e*LR	LR	00 53 35.8	
	comp=Z,2μm,33.2s					
OGWZ	**Otaki Gorge**	**22.65 203**	P	**P**	**00 48 33.1**	**+2.3**
OGWZ			S	S	00 52 28.5	-10
PPT2	**Papeete2**	**22.81 87**	*e*P	**P**	**00 48 29.5**	**-3.3**
	comp=Z,268nm,24.8s					
PPT2			*e*S	**S**	**00 52 35.7**	**-6.5**
	comp=Z,2μm,25.0s					
PPT2			*e*LR	LR	00 53 35.4	
	comp=Z,2μm,21.8s					
PPT2			*e*LR	LR	00 53 44.2	
	comp=Z,2μm,22.5s					
PPT	**Papeete**	**22.81 87**	LR	LR	00 55 44.9	
	comp=Z,3μm,18.7s,baz=244,slow=32					
MSWZ	**Moikau Station**	**23.15 202**	P	**P**	**00 48 38.9**	**+2.8**
TCW	**Tory Channel**	**23.32 204**	P	**P**	**00 48 38.9**	**+1.1**
NNZ	**Nelson**	**23.68 205**	P	**P**	**00 48 47.4**	**+6.1**
TKNZ	**Takaka Hill**	**23.69 206**	P	**P**	**00 48 47.6**	**+6.1**
QRZ	**Quartz Range**	**23.70 207**	P	**P**	**00 48 44.8**	**+3.2**
QRZ	**Quartz Range**	**23.70 207**	P	**P**	**00 48 46.5**	**+4.9**
MRNZ	**Matariki Terra**	**24.08 206**	P	**P**	**00 48 51.8**	**+6.6**
THZ	**Tophouse**	**24.33 205**	P	**P**	**00 48 51.7**	**+4.2**
KHZ	**Kahutara**	**24.64 203**	P	**P**	**00 48 55.6**	**+5.4**
LHI	**Lord Howe Isla**	**27.02 240**	P	**P**	**00 49 10.8**	**-1.0**
LHI			IAmb	IAmb	00 49 27.5	
	comp=Z,95nm,1.4s					
HNR	**Honiara**	**27.76 289**	LR	LR	00 58 29.3	
	comp=Z,714nm,20.3s,baz=164,slow=33					
EIDS	**Eidsvold**	**32.96 254**	P	**P**	**00 50 03.2**	**-1.4**
ARMA	**Armidale**	**32.96 245**	P	**P**	**00 50 03.8**	**-1.0**
ARMA			IAmb	IAmb	00 50 07.3	
	comp=Z,29nm,1.3s					
ARMA	**Armidale**	**32.96 245**	P	**P**	**00 50 02.9**	**-1.9**
	comp=Z,18nm,1.1s					
TAOE	**Nuku Hiva Isla**	**34.16 76**	*e*P	P	00 50 10.9	-4.4
	comp=Z,80nm,26.4s					
TAOE			*e*S	**S**	**00 55 41.7**	**-0.2**
	comp=Z,191nm,23.5s					
TAOE			*e*LR	LR	00 59 01.5	
	comp=Z,2μm,21.0s					
CNB	**Canberra Magne**	**35.87 237**	P	**P**	**00 50 28.5**	**-1.3**
	comp=Z,33nm,0.9s					
CAN	**Canberra**	**36.15 237**	P	**P**	**00 50 31.4**	**-0.8**
CAN			IAmb	IAmb	00 50 35.2	
	comp=Z,27nm,1.0s					
CAN	**Canberra**	**36.15 237**	P	**P**	**00 50 31.4**	**-0.8**
CAN			pmax	pmax		
	comp=Z,27nm,1.0s					
CMSA	**Cobar Meteorol**	**38.17 244**	P	**P**	**00 50 48.3**	**-1.0**
	comp=Z,44nm,0.8s					
QLP	**Quilpie**	**39.14 253**	P	**P**	**00 50 56.0**	**-1.5**
	comp=Z,38nm,0.9s					
TOO	**Toolangi**	**39.45 235**	P	**P**	**00 50 59.7**	**-0.4**
TOO	**Toolangi**	**39.45 235**	P	**P**	**00 51 00.3**	**+0.2**
	comp=Z,11nm,1.0s					
TOO	**Toolangi**	**39.45 235**	P	**P**	**00 50 59.7**	**-0.4**
TOO			pmax	pmax		
	comp=Z,7.0nm,0.8s					
TAU	**Tasmania Unive**	**39.79 226**	P	**P**	**00 51 02.7**	**0.0**
TAU			IAmb	IAmb	00 51 05.0	
	comp=Z,146nm,2.0s					
TAU	**Tasmania Unive**	**39.79 226**	P	**P**	**00 51 02.7**	**0.0**
TAU			pmax	pmax		
	comp=Z,146nm,2.0s					
MTSU	**Mount Surprise**	**39.79 266**	P	**P**	**00 51 02.1**	**-1.1**
	comp=Z,22nm,0.8s					
STKA	**Stephens Creek**	**41.68 245**	P	**P**	**00 51 17.6**	**-1.0**
STKA	**Stephens Creek**	**41.68 245**	P	**P**	**00 51 17.5**	**-1.1**
	comp=Z,95nm,1.0s					
STKA	**Stephens Creek**	**41.68 245**	P	**P**	**00 51 17.3**	**-1.3**
	comp=Z,12nm,0.7s,baz=91,slow=11,SNR=28					
	comp=Z,12nm,0.7s					
STKA	**Stephens Creek**	**41.68 245**	*i* P	**P**	**00 51 17.8**	**-0.7**
COEN	**Coen**	**41.76 272**	P	**P**	**00 51 17.7**	**-1.7**
COEN	**Coen**	**41.76 272**	P	**P**	**00 51 18.4**	**-1.1**
	comp=Z,26nm,0.9s					
ARPS	**Mount Arapiles**	**42.13 237**	P	**P**	**00 51 21.7**	**-0.5**
	comp=Z,31nm,0.9s					
QIS	**Mount Isa**	**43.81 261**	P	**P**	**00 51 34.3**	**-1.7**
	comp=Z,5.2nm,1.1s					
HTT	**Hallett**	**44.06 243**	P	**P**	**00 51 36.8**	**-1.1**
	comp=Z,25nm,0.9s					
BBOO	**Buckleboo**	**46.41 244**	P	**P**	**00 51 54.8**	**-1.8**
BBOO			IAmb	IAmb	00 51 59.2	
	comp=Z,16nm,0.9s					
BBOO	**Buckleboo**	**46.41 244**	P	**P**	**00 51 55.4**	**-1.2**
	comp=Z,18nm,0.8s					
JAY	**Jayapura**	**47.99 286**	LR	LR	01 12 17.1	
	comp=Z,330nm,18.5s,baz=154,slow=36					
AS06	**Alice Springs**	**48.59 256**	P	**P**	**00 52 12.4**	**-1.3**
	comp=Z,27nm,0.8s					
AS19	**Alice Springs**	**48.60 256**	P	**P**	**00 52 12.4**	**-1.3**
	comp=Z,15nm,0.9s					
WR0	**Warramunga Arr**	**48.60 261**	P	**P**	**00 52 10.9**	**-2.9**
WR0			IAmb	IAmb	00 52 14.4	
	comp=Z,56nm,1.9s					
AS31	**Alice Springs**	**48.65 256**	P	**P**	**00 52 12.6**	**-1.6**
AS31	**Alice Springs**	**48.65 256**	P	**P**	**00 52 13.4**	**-0.8**
	comp=Z,4.8nm,0.8s					
ASAR	**Alice Springs**	**48.65 256**	P	**P**	**00 52 12.2**	**-1.9**
	comp=Z,11nm,0.8s,baz=92,slow=7.7,SNR=116					
ASAR			PcP	**PcP**	**00 53 40.3**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=89,slow=4.0,SNR=5.2					
ASAR			S	**S**	**00 59 11.7**	**-5.0**
	comp=Z,0.7nm,0.8s,baz=97,slow=14,SNR=4.6					
ASAR			LR	LR	01 11 54.2	
	comp=Z,1μm,19.0s,baz=100,slow=35					
	comp=Z,11nm,0.8s					
WB0	**Warramunga Arr**	**48.77 261**	P	**P**	**00 52 13.1**	**-1.9**
WB0			IAmb	IAmb	00 52 15.9	
	comp=Z,18nm,0.8s					
WRAB	**Tennant Creek**	**48.78 261**	*i* P	**P**	**00 52 15.1**	**0.0**
WRAB			pmax	pmax		
	comp=Z,20nm,0.9s					
WRA	**Warramunga Arr**	**48.79 261**	P	**P**	**00 52 12.7**	**-2.5**
WRA	**Warramunga Arr**	**48.79 261**	P	**P**	**00 52 12.6**	**-2.5**
	comp=Z,8.9nm,0.7s,baz=97,slow=8.2,SNR=76					
WRA			PcP	**PcP**	**00 53 40.8**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=95,slow=3.4,SNR=2.9					
WRA			S	**S**	**00 59 15.3**	**-3.3**
	comp=Z,0.5nm,0.8s,baz=99,slow=17,SNR=2.9					
WRA			LR	LR	01 11 52.6	
	comp=Z,752nm,19.2s,baz=100,slow=35					
	comp=Z,8.9nm,0.7s					
WRA	**Warramunga Arr**	**48.79 261**	P	**P**	**00 52 12.7**	**-2.5**
WRA			pmax	pmax		
	comp=Z,2.0nm,1.0s					
KDU	**Kakadu**	**52.15 269**	P	**P**	**00 52 39.2**	**-1.4**
	comp=Z,28nm,1.2s					
FORT	**Forrest**	**53.24 246**	P	**P**	**00 52 47.0**	**-1.5**
FORT	**Forrest**	**53.24 246**	P	**P**	**00 52 47.6**	**-0.9**
	comp=Z,49nm,0.9s					
MTN	**Manton Dam**	**53.36 269**	P	**P**	**00 52 47.5**	**-2.1**
MTN			IAmb	IAmb	00 52 54.1	
	comp=Z,22nm,0.8s					
MTN	**Manton Dam**	**53.36 269**	P	**P**	**00 52 48.5**	**-1.1**
	comp=Z,30nm,0.7s					
WRKA	**Warakurna**	**53.56 253**	P	**P**	**00 52 49.5**	**-1.6**
	comp=Z,30nm,1.0s					
KNRA	**Kununurra**	**54.86 265**	P	**P**	**00 52 59.4**	**-1.2**
KNRA	**Kununurra**	**54.86 265**	P	**P**	**00 52 59.6**	**-1.0**
	comp=Z,23nm,0.7s					
FAKI	**Fak Fak**	**55.56 281**	P	**P**	**00 53 04.3**	**-1.3**
FAKI			IAmb	IAmb	00 53 27.6	
	comp=Z,31nm,1.1s					
FITZ	**Fitzroy Crossi**	**57.22 261**	P	**P**	**00 53 15.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**57.22 261**	P	**P**	**00 53 16.9**	**-0.5**
	comp=Z,4.4nm,1.6s					
FITZ	**Fitzroy Crossi**	**57.22 261**	LR	LR	01 18 23.8	
	comp=Z,880nm,18.4s,baz=98,slow=37					
VNDA	**Vanda**	**58.56 186**	P	**P**	**00 53 27.8**	**+1.9**
VNDA			IAmb	IAmb	00 53 46.7	
	comp=Z,18nm,1.2s					
VNDA	**Vanda**	**58.56 186**	P	**P**	**00 53 27.3**	**+1.4**
	comp=Z,4.0nm,0.9s,baz=32,slow=9.5,SNR=6.0					
VNDA			LR	LR	01 13 38.3	
	comp=Z,367nm,20.3s,baz=8.0,slow=31					
	comp=Z,4.0nm,0.9s					
VNDA	**Vanda**	**58.56 186**	P	**P**	**00 53 27.8**	**+1.9**
VNDA			pmax	pmax		
	comp=Z,18nm,1.3s					
SOEI	**Soe**	**60.69 270**	P	**P**	**00 53 41.7**	**-0.1**
SOEI	**Soe**	**60.69 270**	P	**P**	**00 53 42.1**	**+0.3**
TNTI	**Ternate**	**61.48 282**	P	**P**	**00 53 45.7**	**-1.3**
TNTI	**Ternate**	**61.48 282**	P	**P**	**00 53 46.9**	**-0.1**
	comp=Z,2μmcomp=Z,70nm,0.8s					
SANI	**Sanana**	**61.67 279**	P	**P**	**00 53 47.4**	**-0.9**
	comp=Z,831nmcomp=Z,56nm,0.9s					
PSA00	**Pilbara Seismi**	**61.80 256**	P	**P**	**00 53 47.4**	**-1.6**
PSA00	**Pilbara Seismi**	**61.80 256**	P	**P**	**00 53 47.8**	**-1.3**
MBWA	**Marble Bar**	**61.99 256**	P	**P**	**00 53 49.2**	**-1.1**
	comp=Z,25nm,0.9s					
NWAO	**Narrogin (SRO)**	**62.22 243**	P	**P**	**00 53 51.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**62.22 243**	LR	LR	01 19 28.2	
	comp=Z,622nm,19.0s,baz=46,slow=35					
NWAO	**Narrogin (SRO)**	**62.22 243**	P	**P**	**00 53 51.4**	**-0.3**
NWAO			pmax	pmax		
	comp=Z,48nm,1.2s					
JCJ	**Chichijima**	**63.69 316**	LR	LR	01 19 41.9	
	comp=Z,367nm,18.5s,baz=116,slow=34					
MORW	**Morawa**	**63.79 247**	P	**P**	**00 54 00.7**	**-1.5**
WBSI	**Waikabubak, Su**	**65.31 268**	P	**P**	**00 54 13.8**	**+1.4**
	comp=Z,70nm,0.8s					
DAV	**Davao City (W)**	**65.72 288**	LR	LR	01 21 02.6	
	comp=Z,226nm,19.8s,baz=85,slow=34					
KAPI	**Kappang**	**66.45 273**	LR	LR	01 24 15.5	
	comp=Z,112nm,18.4s,baz=122,slow=37					
PLAI	**Plampang**	**67.07 269**	P	**P**	**00 54 22.9**	**-0.8**
	comp=Z,91nm,0.8s					
TOLI2	**Tolitoli**	**67.68 280**	P	**P**	**00 54 25.6**	**-1.9**
PCI	**Palu**	**67.81 278**	P	**P**	**00 54 29.8**	**+1.4**
	comp=Z,124nm,0.9s					
QSPA	**South Pole Qui**	**69.81 180**	P	**P**	**00 54 40.2**	**+0.1**
QSPA			IAmb	IAmb	00 54 46.7	
	comp=Z,26nm,1.1s					
QSPA	**South Pole Qui**	**69.81 180**	P	**P**	**00 54 41.6**	**+1.5**
	comp=Z,9.6nm,0.9s,baz=47,slow=1.9,SNR=24					
QSPA			LR	LR	01 24 18.7	
	comp=Z,462nm,18.0s,baz=40,slow=35					
	comp=Z,9.6nm,0.9s					
JAGI	**Jajag, Banyuwa**	**70.58 268**	P	**P**	**00 54 43.4**	**-2.2**
JGF	**Kuroka**	**72.46 320**	P	**P**	**00 54 53.8**	**-2.7**
JGF			IAmb	IAmb	00 54 57.3	
	comp=Z,36nm,1.4s					
MJAR	**Matsushiro Arr**	**72.58 321**	P	**P**	**00 54 57.1**	**0.0**
	comp=Z,10nm,0.8s,baz=154,slow=5.8,SNR=24					
MJAR			LR	LR	01 22 29.8	
	comp=Z,243nm,20.6s,baz=136,slow=32					
	comp=Z,10nm,0.8s					
MAJO	**Matsushiro**	**72.59 321**	P	**P**	**00 54 57.2**	**0.0**
MAJO			IAmb	IAmb	00 55 02.0	
	comp=Z,18nm,1.0s					
MAJO	**Matsushiro**	**72.59 321**	*i* P	**P**	**00 54 56.8**	**-0.3**
MAJO			pmax	pmax		
	comp=Z,13nm,0.9s					
MJB9	**Matsu-Tunnel**	**72.59 321**	P	**P**	**00 54 57.0**	**-0.1**
MJB9			IAmb	IAmb	00 55 03.0	
	comp=Z,18nm,1.0s					
TGY	**Tagaytay City**	**72.91 292**	LR	LR	01 22 51.0	
	comp=Z,259nm,21.6s,baz=144,slow=32					
JOW	**Kunigami**	**73.29 308**	LR	LR	01 25 36.7	
	comp=Z,222nm,19.2s,baz=120,slow=35					
SHEM	**Shemya Is, Ala**	**73.47 352**	LR	LR	01 21 46.2	
	comp=Z,585nm,21.4s,baz=147,slow=31					
KKM	**Kota Kinabalu**	**73.78 283**	P	**P**	**00 55 03.4**	**-1.4**
KKM			IAmb	IAmb	00 55 07.9	
	comp=Z,18nm,0.7s					
JNU	**Nakatsue**	**75.05 314**	LR	LR	01 25 48.8	
	comp=Z,173nm,18.7s,baz=138,slow=34					
SKR	**Severo-Kuril's**	**75.53 341**	*e*P	P	00 55 05.2	-8.7
SKR			*e*S	**S**	**01 04 56.5**	**+2.1**
SKR			pmax	pmax		
	comp=Z,300nm,4.4s					
SKR			MLR	MLR		
	comp=Z,400nm,16.0s					
JKA	**Kamikawa-asahi**	**75.60 329**	P	**P**	**00 55 14.9**	**+0.3**
JKA			IAmb	IAmb	00 55 23.8	
	comp=Z,13nm,0.9s					
ASAJ	**Asahikawa**	**75.60 329**	P	**P**	**00 55 16.2**	**+1.6**
	comp=Z,7.6nm,0.8s,baz=176,slow=19,SNR=7.1					
ASAJ			LR	LR	01 23 32.1	
	comp=Z,238nm,20.4s,baz=160,slow=32					
	comp=Z,7.6nm,0.8s					
LPIG	**La Paz**	**75.71 57**	LR	LR	01 22 54.5	
	comp=Z,986nm,18.4s,baz=222,slow=31					
ESJX	**Sierra Juarez**	**75.75 48**	P	**P**	**00 55 15.5**	**-0.4**
ESJX			IAmb	IAmb	00 55 19.0	
	comp=Z,21nm,1.3s					
SBUM	**Sibu**	**76.12 278**	P	**P**	**00 55 18.0**	**-0.2**
YUH	**Yuha Desert**	**76.14 47**	P	**P**	**00 55 19.4**	**+1.5**
ISA	**Isabella, Lake**	**76.22 43**	P	**P**	**00 55 20.1**	**+1.7**
ISA			IAmb	IAmb	00 55 23.6	
	comp=Z,25nm,1.6s					
ISA	**Isabella, Lake**	**76.22 43**	P	**P**	**00 55 20.1**	**+1.7**
ISA			pmax	pmax		
	comp=Z,25nm,1.7s					
PFO	**Pinyon Flats O**	**76.33 46**	LR	LR	01 24 28.0	
	comp=Z,533nm,18.2s,baz=254,slow=32					
PET	**Petropavlovsk**	**76.86 343**	*e*P	**P**	**00 55 20.1**	**-1.4**
PET			*e*		00 58 18.9	
PET			*e*S	**S**	**01 05 09.8**	**+0.9**
PET			*e*		01 05 40.2	
PET			*e*SS	**SS**	**01 10 12.7**	**+6.8**
PET			pmax	pmax		
	comp=Z,300nm,6.4s					
PET			pmax	pmax		
	comp=Z,400nm,5.8s					
PET			MLR	MLR		
	comp=Z,500nm,15.0s					
PET			MLR	MLR		
	comp=Z,400nm,15.0s					
NACB	**Ninganchiao**	**77.06 302**	P	**P**	**00 55 22.1**	**-1.2**
PEA0B	**Petropavlovsk-**	**77.20 343**	P	**P**	**00 55 23.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**77.20 343**	P	**P**	**00 55 23.3**	**-0.1**
PEA0B			pmax	pmax		
	comp=Z,75nm,1.5s					
PETK	**Petropavlovsk-**	**77.20 343**	P	**P**	**00 55 23.3**	**-0.1**
PETK	**Petropavlovsk-**	**77.20 343**	P	**P**	**00 55 23.5**	**+0.1**
	comp=Z,10nm,0.7s,baz=160,slow=5.0,SNR=20					
PETK			LR	LR	01 25 24.4	
	comp=Z,221nm,20.3s,baz=159,slow=33					
	comp=Z,10nm,0.7s					
LEM	**Lembang**	**77.24 267**	LR	LR	01 29 16.9	
	comp=Z,144nm,20.5s,baz=156,slow=36					
TPUB	**Ta-pu**	**77.42 301**	P	**P**	**00 55 24.2**	**-1.2**
YBH	**Yreka Blue Hor**	**77.54 36**	P	**P**	**00 55 24.7**	**-1.0**
YBH	**Yreka Blue Hor**	**77.54 36**	LR	LR	01 23 15.0	
	comp=Z,745nm,19.8s,baz=216,slow=31					
YBH	**Yreka Blue Hor**	**77.54 36**	P	**P**	**00 55 24.7**	**-1.0**
YBH			pmax	pmax		
	comp=Z,19nm,1.6s					
KSM	**Kuching**	**77.55 276**	P	**P**	**00 55 26.4**	**+0.1**
PNTR	**Pine Nut**	**77.64 40**	P	**P**	**00 55 23.4**	**-3.0**
YSS	**Yuzhno-Sakhali**	**77.64 331**	P	**P**	**00 55 25.2**	**-0.8**
YSS			IAmb	IAmb	00 55 30.1	
	comp=Z,16nm,0.8s					
YSS	**Yuzhno-Sakhali**	**77.64 331**	*oe*P	**P**	**00 55 27.2**	**+1.2**
YSS			*e*		00 58 22.7	
YSS			*e*S	**S**	**01 05 18.4**	**+0.7**
YSS			*e*PS	PnS	01 05 33.4	-24
YSS			*e*PPS	PPS	01 05 53.3	
YSS			*e*SS	**SS**	**01 10 18.2**	**+0.3**
YSS			pmax	pmax		
	comp=Z,400nm,3.7s					
YSS			pmax	pmax		
	comp=Z,20nm,0.9s					
GWY	**Greenwater Val**	**77.70 44**	P	**P**	**00 55 23.9**	**-2.9**
GWY			IAmb	IAmb	00 55 30.7	
	comp=Z,36nm,2.0s					
HSIG		**77.72 53**	P	**P**	**00 55 28.1**	**+1.1**
HSIG			IAmb	IAmb	00 55 30.6	
	comp=Z,32nm,1.8s					
BLYC	**Blythe**	**77.73 47**	P	**P**	**00 55 27.8**	**+1.0**
NVAR	**Mina Array Bea**	**78.02 41**	P	**P**	**00 55 29.1**	**+0.5**
NVAR	**Mina Array Bea**	**78.02 41**	P	**P**	**00 55 29.3**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=252,slow=5.7,SNR=24					
NVAR			LR	LR	01 25 41.6	
	comp=Z,655nm,18.1s,baz=194,slow=32					
	comp=Z,2.5nm,0.7s					
TPNV	**Topopah Spring**	**78.43 43**	P	**P**	**00 55 31.6**	**+0.8**
TPNV	**Topopah Spring**	**78.43 43**	P	**P**	**00 55 31.7**	**+0.8**
TPNV			pmax	pmax		
	comp=Z,16nm,1.4s					
V12A	**Nelson**	**78.63 45**	P	**P**	**00 55 29.1**	**-2.9**
Y14A	**Wickenburg**	**78.88 48**	P	**P**	**00 55 34.6**	**+1.3**
CGJI	**Cibinong**	**79.12 267**	P	**P**	**00 55 34.1**	**-0.9**
	comp=Z,62nm,0.7s					
BELA	**Belgrano 2**	**79.23 172**	P	**P**	**00 55 34.6**	**+0.1**
BELA			IAmb	IAmb	00 57 38.0	
	comp=Z,9.4nm,0.6s					
KSRS	**Korea Array**	**79.55 316**	P	**P**	**00 55 38.5**	**+1.7**
	comp=Z,3.2nm,0.8s,baz=125,slow=5.8,SNR=12					
KSRS			LR	LR	01 28 27.5	
	comp=Z,102nm,18.7s,baz=120,slow=34					
	comp=Z,3.2nm,0.8s					
KSAR	**Wonju Array Be**	**79.56 316**	P	**P**	**00 55 36.9**	**+0.1**
KSAR	**Wonju Array Be**	**79.56 316**	P	**P**	**00 55 36.9**	**+0.1**
KDAK	**Kodiak Island**	**79.68 11**	LR	LR	01 24 37.0	
	comp=Z,655nm,20.7s,baz=45,slow=31					
PMSA	**Palmer Station**	**79.82 156**	LR	LR	01 29 03.8	
	comp=Z,266nm,18.9s,baz=122,slow=34					
QZH	**Quanzhou**	**79.83 301**	P	**P**	**00 55 39.1**	**+0.5**
QZH			S	**S**	**01 05 46.0**	**+3.9**
QZH			pmax	pmax		
	comp=Z,340nm,3.6s					
WVOR	**Wild Horse Val**	**80.31 38**	P	**P**	**00 55 41.0**	**+0.1**
WVOR	**Wild Horse Val**	**80.31 38**	P	**P**	**00 55 41.0**	**+0.1**
WVOR			pmax	pmax		
	comp=Z,10.0nm,1.2s					
TYV	**Tymovskoe**	**80.61 334**	*e*P	**P**	**00 55 42.8**	**+0.6**
TYV			pmax	pmax		
	comp=Z,10.0nm,1.6s					
TYV			pmax	pmax		
	comp=Z,400nm,7.2s					
USA0B	**Ussuriysk Arra**	**81.19 324**	P	**P**	**00 55 45.9**	**+0.5**
USA0B			IAmb	IAmb	00 55 50.2	
	comp=Z,54nm,1.9s					
USA0B	**Ussuriysk Arra**	**81.19 324**	P	**P**	**00 55 45.9**	**+0.5**
USA0B			pmax	pmax		
	comp=Z,54nm,1.9s					
USRK	**Ussuriysk Ar.**	**81.19 324**	P	**P**	**00 55 45.2**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=79,slow=9.0,SNR=4.1					
USRK			LR	LR	01 27 36.4	
	comp=Z,654nm,20.0s,baz=133,slow=33					
	comp=Z,1.7nm,0.6s					
MDSI	**Maura Dua**	**81.24 268**	P	**P**	**00 55 45.5**	**-1.0**
	comp=Z,992nmcomp=Z,24nm,1.0s					
ELK	**Elko**	**81.30 41**	P	**P**	**00 55 47.0**	**+0.6**
ELK	**Elko**	**81.30 41**	LR	LR	01 28 03.1	
	comp=Z,844nm,18.0s,baz=258,slow=33					
ELK	**Elko**	**81.30 41**	P	**P**	**00 55 47.1**	**+0.6**
ELK			pmax	pmax		
	comp=Z,16nm,1.7s					
ZAIG	**Zacatecas**	**81.36 62**	P	**P**	**00 55 47.8**	**+0.6**
ZAIG			IAmb	IAmb	00 55 49.7	
	comp=Z,30nm,1.9s					
E07A	**Sunnyside**	**82.26 34**	P	**P**	**00 55 51.9**	**+0.9**
BBB	**Bella Bella**	**82.27 26**	LR	LR	01 28 15.1	
	comp=Z,336nm,18.3s,baz=212,slow=33					
HAWA	**Hanford**	**82.32 34**	P	**P**	**00 55 51.6**	**+0.2**
HAWA			IAmb	IAmb	00 55 54.0	
	comp=Z,54nm,1.9s					
MFID	**Camas Ranch**	**82.54 38**	P	**P**	**00 55 53.8**	**+1.0**
MFID			IAmb	IAmb	00 55 55.5	
	comp=Z,32nm,1.9s					
MDJ	**Mudanjiang**	**82.79 323**	P	**P**	**00 55 54.3**	**+0.4**
MDJ			pP	sP	00 55 57.4	+1.5
MDJ			pmax	pmax		
	comp=Z,11nm,1.4s					
MDJ			pmax	pmax		
	comp=Z,430nm,5.5s					
MDJ			LR	LR		
	comp=Z,450nm,20.3s					
MDJ			LR	LR		
	comp=Z,500nm,18.6s					
MDJ			LR	LR		
	comp=Z,760nm,19.2s					
NJ2	**Nanjing**	**83.00 308**	*e*P	**P**	**00 55 55.8**	**+0.6**
NJ2			pmax	pmax		
	comp=Z,17nm,0.9s					
SBM	**South Baldy**	**83.02 50**	P	**P**	**00 55 56.8**	**+1.0**
MPU	**Maple Canyon**	**83.15 43**	P	**P**	**00 55 57.4**	**+1.3**
MPU			IAmb	IAmb	00 55 59.3	
	comp=Z,16nm,1.4s					
MAW	**Mawson**	**83.18 199**	LR	LR	01 32 45.9	
	comp=Z,1μm,18.6s,baz=114,slow=36					
CRNM	**Carthage**	**83.33 50**	P	**P**	**00 55 58.9**	**+1.7**
TXAR	**Lajitas Array**	**83.42 56**	P	**P**	**00 55 59.4**	**+1.8**
TXAR	**Lajitas Array**	**83.42 56**	P	**P**	**00 55 59.7**	**+2.1**
	comp=Z,1.8nm,0.9s,baz=246,slow=5.5,SNR=9.9					
TXAR			LR	LR	01 26 34.3	
	comp=Z,305nm,19.0s,baz=227,slow=31					
	comp=Z,1.8nm,0.9s					
HLID	**Hailey**	**83.45 39**	P	**P**	**00 55 58.5**	**+0.9**
GAMB	**Gambell**	**83.77 1**	P	**P**	**00 55 59.0**	**+0.6**
GAMB			IAmb	IAmb	00 56 13.5	
	comp=Z,20nm,1.5s					
ANMO	**Albuquerque**	**84.02 50**	P	**P**	**00 56 02.1**	**+1.4**
ANMO			IAmb	IAmb	00 56 04.1	
	comp=Z,30nm,1.4s					
ANMO	**Albuquerque**	**84.02 50**	LR	LR	01 28 45.5	
	comp=Z,368nm,18.0s,baz=92,slow=32					
ANMO	**Albuquerque**	**84.02 50**	P	**P**	**00 56 02.1**	**+1.4**
ANMO			pmax	pmax		
	comp=Z,31nm,1.5s					
KLR	**Kul'dur**	**84.52 327**	P	**P**	**00 56 03.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=110,slow=3.9,SNR=6.4					
	comp=Z,1.2nm,0.6s					
KLR	**Kul'dur**	**84.52 327**	*e*P	**P**	**00 56 02.1**	**-0.5**
KLR			pmax	pmax		
	comp=Z,8.0nm,2.6s					
QIZ	**Qiongzhong**	**84.62 292**	P	**P**	**00 56 03.9**	**+0.1**
QIZ			S	**S**	**01 06 34.6**	**+3.1**
QIZ			pmax	pmax		
	comp=Z,500nm,3.5s					
QIZ			LR	LR		
	comp=Z,240nm,18.6s					
BNX	**BinXian**	**84.70 323**	⇑P	**P**	**00 56 04.3**	**+0.7**
BNX			pP	**PcP**	**00 56 07.1**	**0.0**
BNX			pmax	pmax		
	comp=Z,12nm,0.7s					
BNX			LR	LR		
	comp=Z,310nm,16.8s					
BNX			LR	LR		
	comp=Z,360nm,16.3s					
BNX			LR	LR

WHN Wuhan 85.72 305 P **P** **00 56 12.8 +3.7**
MCK McKinley 85.89 11 P **P** **00 56 09.9 +0.7**
MCK IAmb IAmb 00 56 28.7
comp=Z,21nm,1.0s
MCK McKinley 85.89 11 P **P** **00 56 09.9 +0.7**
MCK pmax pmax
comp=Z,21nm,1.0s
PDAR Pinedale Array 85.95 42 P **P** **00 56 10.4 +0.1**
PDAR Pinedale Array 85.95 42 P **P** **00 56 10.8 +0.6**
comp=Z,3.2nm,0.9s,baz=252,slow=5.1,SNR=14
PDAR LR LR 01 31 01.8
comp=Z,318nm,18.2s,baz=250,slow=33
comp=Z,3.2nm,0.9s
SDCO Great Sand Dun 86.06 47 P **P** **00 56 11.9 +0.9**
YHL Hebgen Lake 86.10 39 P **P** **00 56 11.4 +0.4**
YHL IAmb IAmb 00 56 19.4
comp=Z,12nm,1.1s
BOZ Bozeman (W) 86.25 38 P **P** **00 56 12.8 +1.2**
BOZ IAmb IAmb 00 56 14.3
comp=Z,18nm,1.5s
BOZ Bozeman (W) 86.25 38 P **P** **00 56 12.8 +1.2**
BOZ pmax pmax
comp=Z,18nm,1.5s
TIA Tai'an 86.25 311 P **P** **00 56 10.9 -0.7**
TIA pmax pmax
comp=Z,9.0nm,1.0s
TIA pmax pmax
comp=Z,320nm,5.9s
TIA LR LR
comp=Z,160nm,13.2s
TIA LR LR
comp=Z,220nm,19.2s
TIA LR LR
comp=Z,350nm,20.4s
PLCA Paso Flores 86.36 132 P **P** **00 56 14.3 +2.0**
comp=Z,1.9nm,1.0s,baz=268,slow=2.5,SNR=3.1
PLCA LR LR 01 28 21.3
comp=Z,662nm,18.3s,baz=234,slow=31
comp=Z,1.9nm,1.0s
WRH Wood River Hil 86.72 11 P **P** **00 56 13.2 0.0**
WRH IAmb IAmb 00 56 18.8
comp=Z,22nm,1.0s
JCT Junction City 86.94 56 P **P** **00 56 16.1 +0.9**
JCT IAmb IAmb 00 56 17.3
comp=Z,18nm,1.6s
JCT Junction City 86.94 56 P **P** **00 56 16.1 +0.9**
JCT pmax pmax
comp=Z,18nm,1.6s
COLA College 87.13 11 P **P** **00 56 15.3 +0.2**
COLA College 87.13 11 P **P** **00 56 15.4 +0.2**
COLA pmax pmax
comp=Z,20nm,0.3s
SEY Seymchan 87.15 345 P **P** **00 56 15.7 +0.4**
comp=Z,12nm,0.8s,baz=115,slow=7.4,SNR=32
comp=Z,12nm,0.8s
SEY Seymchan 87.15 345 *e*P **P** **00 56 14.9 -0.4**
SEY pmax pmax
comp=Z,25nm,1.2s
ILAR Eielson Array 87.21 11 P **P** **00 56 15.3 -0.3**
comp=Z,2.0nm,0.7s,baz=207,slow=5.4,SNR=18
comp=Z,2.0nm,0.7s
ELIB Princess Elisa 87.31 185 *d*P **P** **00 56 14.3 -2.1**
HEH HeiHe 87.36 327 *e*P **P** **00 56 17.4 +0.7**
HEH LR LR
comp=Z,310nm,17.0s
HEH LR LR
comp=Z,230nm,17.9s
HEH LR LR
comp=Z,700nm,20.4s
SYO Syowa Base 87.84 191 ⇓*e*P **P** **00 56 18.0 -0.8**
SYO Syowa Base 87.84 191 ⇓*e*pP pP 00 56 23.1 +2.7
SNAA Sanae 88.09 177 P **P** **00 56 21.1 +1.1**
SNAA IAmb IAmb 00 56 36.5
comp=Z,13nm,1.3s
SNAA Sanae 88.09 177 P **P** **00 56 21.1 +1.1**
comp=Z,3.4nm,1.0s,baz=213,slow=5.5,SNR=3.7
comp=Z,3.4nm,1.0s
DAWY Dawson 88.13 14 P **P** **00 56 20.4 +0.3**
DAWY IAmb IAmb 00 56 27.4
comp=Z,18nm,1.2s
HNS HongShan 88.52 311 ⇓P **P** **00 56 22.8 +0.3**
HNS S **S** **01 07 10.1 +1.4**
HNS pmax pmax
comp=Z,8.0nm,1.2s
HNS LR LR
comp=Z,130nm,18.1s
HNS LR LR
comp=Z,320nm,17.7s
HNS LR LR
comp=Z,320nm,17.5s
RPSI Rantau Prapat 88.62 273 P **P** **00 56 22.9 -0.7**
RPSI IAmb IAmb 00 56 36.6
comp=Z,17nm,1.2s
PSI Prapat 88.66 273 LR LR 01 36 34.1
comp=Z,136nm,21.0s,baz=133,slow=36
PSI Prapat 88.66 273 P **P** **00 56 22.9 -1.0**
PSI pmax pmax
comp=Z,17nm,1.2s
BJT Baijiatuau 88.71 314 P **P** **00 56 22.9 -0.4**
BJT IAmb IAmb 00 56 30.6
comp=Z,7.4nm,0.8s
BJT Baijiatuau 88.71 314 P **P** **00 56 22.9 -0.4**
BJT pmax pmax
comp=Z,7.0nm,0.8s
BJI Beijing 88.71 314 P **P** **00 56 24.8 +1.5**
BJI pmax pmax
comp=Z,6.0nm,1.5s
BJI pmax pmax
comp=Z,160nm,4.0s
LYN LuoYang 88.90 307 P **P** **00 56 23.4 -1.0**
LYN SKS **SKSac** **01 06 52.8 -1.4**
LYN S **S** **01 07 12.4 0.0**
LYN sS ScS 01 07 20.8 +3.1
LYN pmax pmax
comp=Z,22nm,0.5s
LYN pmax pmax
comp=Z,370nm,6.2s
LYN LR LR
comp=Z,290nm,15.1s
LYN LR LR
comp=Z,230nm,15.8s
LYN LR LR
comp=Z,430nm,14.8s
BILL Bilibino 89.28 353 P **P** **00 56 25.9 +0.5**
BILL IAmb IAmb 00 56 31.0
comp=Z,11nm,0.9s
BILL Bilibino 89.28 353 *ce*P **P** **00 56 26.3 +0.9**
BILL pmax pmax
comp=Z,33nm,2.5s
ENH Enshi 89.41 303 P **P** **00 56 26.4 -0.6**
GSI Gunungsitoli 89.41 272 P **P** **00 56 26.8 -0.5**
ZEA Zeya 89.51 329 *e*P **P** **00 56 28.1 +1.3**
ZEA pmax pmax
comp=Z,20nm,0.8s
E22K Anaktuvuk Pass 89.56 8 P **P** **00 56 26.3 -0.5**
E22K IAmb IAmb 00 56 52.3
comp=Z,28nm,1.9s
BMAR Burnt Mountain 90.02 11 **P** **00 56 28.5 -0.4**
XLT XiLinHaoTe 90.58 317 *e*P **P** **00 56 33.3 +1.2**
XLT sP pwP 00 56 40.8 -0.1
XLT SKS **SKSac** **01 07 03.6 -0.2**
XLT S **S** **01 07 25.4 -2.4**
XLT sS ScS 01 07 34.6 +3.2
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,270nm,5.5s
HIA Hailar 90.98 323 P **P** **00 56 33.7 -0.1**
HIA Hailar 90.98 323 P **P** **00 56 33.7 -0.1**
HIA pmax pmax
comp=Z,4.0nm,0.7s
NNA Nana 92.06 103 LR LR 01 28 59.5
comp=Z,350nm,19.5s,baz=232,slow=30
DGMT Dagmar 92.08 39 P **P** **00 56 39.5 +0.5**
DGMT IAmb IAmb 00 56 46.9
comp=Z,9.7nm,0.9s
HHC Hu-ho-hao-te 92.22 313 *e*P **P** **00 56 40.1 +0.2**
HHC sP pwP 00 56 48.9 +0.2
HHC SKS **SKSac** **01 07 14.5 +1.1**
HHC S **ScS** **01 07 44.3 -1.0**
HHC sS sS 01 07 50.3 +4.9
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.4s
HHC LR LR
comp=Z,170nm,16.0s
HHC LR LR
comp=Z,170nm,16.0s
HHC LR LR
comp=Z,220nm,17.6s
ATAH Atahualpa 92.34 98 LR LR 01 31 04.6
comp=Z,630nm,18.4s,baz=261,slow=31
KMI Kunming 93.00 296 P **P** **00 56 46.8 +2.8**
KMI pmax pmax
comp=Z,17nm,0.8s
KMI LR LR
comp=Z,260nm,21.5s
KMI LR LR
comp=Z,290nm,29.9s
KMI LR LR
comp=Z,400nm,22.4s
BTO Baotou 93.19 312 *e*P **P** **00 56 43.3 -1.0**
BTO SKS **SKSac** **01 07 13.3 -5.5**
BTO S **S** **01 07 49.9 -1.7**
BTO pmax pmax
comp=Z,11nm,0.5s
BTO pmax pmax
comp=Z,280nm,4.3s
BTO LR LR
comp=Z,340nm,5.1s
BTO LR LR
comp=Z,210nm,7.0s
BTO LR LR
comp=Z,340nm,17.5s
YAK Yakutsk 93.50 337 P **P** **00 56 44.7 -0.4**
YAK Yakutsk 93.50 337 LR LR 01 35 05.5
comp=Z,139nm,19.8s,baz=105,slow=33
YAK Yakutsk 93.50 337 *e*P **P** **00 56 45.6 +0.5**
YAK pmax pmax
comp=Z,12nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.6s
YAK pmax pmax
comp=E,3.0nm,1.3s
CMAR Chiang Mai Arr 94.01 288 P **P** **00 56 48.8 +0.3**
CMAR Chiang Mai Arr 94.01 288 P **P** **00 56 49.5 +1.0**
comp=E,4.0nm,1.0s,baz=113,slow=4.6,SNR=18
CMAR LR LR 01 36 11.5
comp=E,62nm,21.7s,baz=125,slow=34
comp=E,4.0nm,1.0s
CMAR Chiang Mai Arr 94.01 288 *ce*P **P** **00 56 49.9 +1.4**
CMAR pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 94.13 288 P **P** **00 56 49.1 +0.1**
CHTO IAmb IAmb 00 57 03.2
comp=Z,7.5nm,1.0s
CHTO Chiang Mai 94.13 288 P **P** **00 56 49.1 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CD2 Chengdu 94.22 301 *e*P **P** **00 56 48.5 -0.7**
PZH PanZhiHua 94.33 297 P **P** **00 56 51.6 +1.7**
PZH SKS **SKSac** **01 07 25.6 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,6.3s
PZH LR LR
comp=Z,150nm,20.1s
PZH LR LR
comp=Z,210nm,22.1s
PZH LR LR
comp=Z,270nm,18.1s
YKA Yellowknife Ar 94.58 24 P **P** **00 56 50.8 +0.8**
comp=Z,2.3nm,1.1s,baz=232,slow=4.9,SNR=8.3
comp=Z,2.3nm,1.1s
ECSD EROS Data Cent 94.76 45 P **P** **00 56 51.6 +0.2**
ULM Lac du Bonnet 97.76 39 P **P** **00 57 04.8 0.0**
comp=Z,2.5nm,0.9s,baz=234,slow=8.7,SNR=3.8
ULM LR LR 01 36 31.4
comp=Z,700nm,18.8s,baz=242,slow=32
comp=Z,2.5nm,0.9s
ULM Lac du Bonnet 97.76 39 *i* P **P** **00 57 04.1 -0.7**
LPAZ La Paz 98.25 111 LR LR 01 34 48.9
comp=Z,441nm,18.2s,baz=254,slow=31
SONM Songino Array 98.36 318 P Pdif 00 57 08.4 +0.6
comp=Z,0.4nm,0.6s,baz=118,slow=5.3,SNR=4.7
SONM PP **PP** **01 01 07.5 -0.5**
comp=Z,1.1nm,1.1s,baz=118,slow=6.0,SNR=3.7
SONM LR LR 01 39 05.3
comp=Z,160nm,19.2s,baz=100,slow=34
comp=Z,0.4nm,0.6s
TIXI Tiksi 99.62 344 *i* P **Pdif** **00 57 11.8 -0.8**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 109.95 310 *e*PKP **PKiKP** **01 01 59.8 -1.6**
WMQ LR LR
comp=Z,140nm,17.5s
ZALV Zalesovo Beam 112.94 321 PKiKP **PKiKP** **01 02 06.4 -0.2**
comp=Z,1.0nm,0.7s,baz=88,slow=3.3,SNR=3.6
MK31 Makanchi Array 114.09 313 *i* PKIKP **PKiKP** **01 02 08.5 -0.6**
MKAR Makanchi Array 114.09 313 PKiKP **PKiKP** **01 02 09.0 -0.1**
comp=Z,1.6nm,0.8s,baz=68,slow=0.9,SNR=14
MKAR Makanchi Array 114.09 313 *i* PKIKP **PKiKP** **01 02 09.0 -0.1**
KURK Kurchatov 116.66 317 *i* PKIKP **PKPdf** **01 02 13.3 -0.5**
KURBB Kurchatov Arra 116.72 317 PKP **PKPdf** **01 02 13.4 -0.6**
comp=Z,0.9nm,0.6s,baz=93,slow=1.9,SNR=14
KURBB PP **PP** **01 03 22.4 +0.3**
comp=Z,1.5nm,1.1s,baz=89,slow=6.1,SNR=5.0
BOOM Boomskoye usch 118.37 308 PKPdf **PKPdf** **01 02 17.4 -0.3**
BOOM Boomskoye usch 118.37 308 PKIKP **PKPdf** **01 02 17.4 -0.3**
AAK Ala-Archa 119.44 308 PKPdf **PKPdf** **01 02 18.9 -0.8**
AAK Ala-Archa 119.44 308 *c* *i* PKIKP **PKPdf** **01 02 19.1 -0.6**
AAK pmax pmax
comp=Z,10.0nm,2.5s
BVAR Borovoye Array 121.58 320 PKP **PKPdf** **01 02 23.5 +0.2**
comp=Z,2.2nm,0.4s,baz=82,slow=1.1,SNR=18
BVAR PP **PP** **01 03 57.9 +2.3**
comp=Z,1.5nm,0.8s,baz=92,slow=4.5,SNR=3.8
BRVK Borovoye 121.64 320 PKPdf **PKPdf** **01 02 23.1 -0.3**
BRVK Borovoye 121.64 320 *c* *i* PKIKP **PKPdf** **01 02 23.2 -0.2**
BRVK pmax pmax
comp=Z,14nm,2.5s
KK31 Karatay Array 122.37 309 PKPdf **PKPdf** **01 02 24.6 -0.5**
KK31 Karatay Array 122.37 309 PKIKP **PKPdf** **01 02 24.6 -0.5**
KKAR Karatay Array 122.37 309 PKPdf **PKPdf** **01 02 24.6 -0.5**
KKAR Karatay Array 122.37 309 PKIKP **PKPdf** **01 02 24.6 -0.5**
KBL Kabul 123.46 299 **PKPdf** **01 02 28.0 +0.3**
KBL Kabul 123.46 299 PKIKP **PKPdf** **01 02 28.0 +0.3**
ARTI Arti 127.46 327 PKP **PKPdf** **01 02 35.1 +0.7**
comp=Z,4.1nm,0.9s,baz=66,slow=3.6,SNR=5.1
ARTI Arti 127.46 327 *i* PKIKP **PKPdf** **01 02 33.8 -0.6**
ARTI 01 04 32.3
ARTI 01 09 45.0
ARTI SS SS 01 21 42.0 -2.9
ARTI MLR MLR
comp=Z,307nm,16.0s
BOSA Boshof 128.14 201 PKP **PKPdf** **01 02 35.0 -1.8**
comp=Z,2.4nm,0.8s,baz=141,slow=2.0,SNR=3.9
ARCES ARCESS Array B 129.37 351 PKP **PKPdf** **01 02 37.5 -0.2**
comp=Z,9.4nm,1.1s,baz=12,slow=2.4,SNR=5.5
AKTO Aktyubinsk 129.65 319 PKP **PKPdf** **01 02 39.4 +0.6**
comp=Z,1.2nm,0.7s,baz=62,slow=5.8,SNR=4.3
FINES FINESS Array B 136.62 346 PKP **PKPdf** **01 02 51.2 -0.3**
comp=Z,3.5nm,1.0s,baz=38,slow=2.5,SNR=5.0
OBN Obninsk 138.45 334 ⇓*e*PKIKP **PKPdf** **01 02 54.7 -0.4**
OBN *i* 01 02 57.2
OBN 01 05 48.0
OBN *e*SS SS 01 24 02.9 +5.2
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN pmax pmax
comp=Z,46nm,2.6s
HFS Hagfors 139.83 354 PKhKP PKPpre 01 02 50.0
comp=Z,3.0nm,0.7s,baz=340,slow=2.1,SNR=4.6
KBZ Khabaz 141.70 316 PKhKP PKPpre 01 02 57.2
comp=Z,0.9nm,0.9s,baz=73,slow=11,SNR=4.5
KIV Kislovodsk 141.74 316 *i* PKIKP **PKPdf** **01 03 00.9 -0.7**
KIV pmax pmax
comp=Z,3.0nm,1.1s
SHA1 Shidzhatmaz 141.85 316 *i* PKIKP **PKPdf** **01 03 01.2 -0.8**
MNK Minsk 142.13 340 *i* PKIKP **PKPdf** **01 03 00.0 -1.8**
MNK *i* 01 10 03.7
MNK *i* SS SS 01 24 42.9 +2.4
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=N,13nm,1.0s
MNK MLR MLR
comp=Z,132nm,17.0s
KMBO Kilima Mbogo 143.11 238 PKP PKPbc 01 03 03.1 +1.2
comp=Z,2.5nm,0.8s,baz=104,slow=4.2,SNR=5.9
RAYN Ar Rayn 143.71 282 PKPbc 01 03 04.7 +1.6
RAYN Ar Rayn 143.71 282 PKIKP PKPbc 01 03 04.7 +1.6
SUW Suwalki 143.96 343 *e*PKP PKPbc 01 03 04.1 +1.3
SUW Suwalki 143.96 343 PKPdf **PKPdf** **01 03 04.7 -0.3**
SUW Suwalki 143.96 343 PKIKP **PKPdf** **01 03 04.7 -0.3**
EKA Eskdalemuir Ar 144.23 9 PKP **PKPab** **01 03 03.8 +0.5**
comp=Z,6.5nm,0.8s,baz=347,slow=2.8,SNR=7.0
GURO Guroymak-BITLI 144.34 309 PKPdf **PKPab** **01 03 04.9 +0.4**
AKASG Malin Array Be 144.71 335 **PKPab** **01 03 04.7 -0.5**
AKASG Malin Array Be 144.71 335 PKP **PKPab** **01 03 05.2 0.0**
comp=Z,11nm,0.8s,baz=41,slow=4.4,SNR=63
AKBB Malin Array Si 144.71 335 PKPdf **PKPab** **01 03 05.0 -0.1**
AKBB Malin Array Si 144.71 335 *i* PKIKP **PKPab** **01 03 05.3 +0.1**
KIEV Kiev 144.72 335 PKPdf **PKPab** **01 03 04.8 -0.4**
KIEV Kiev 144.72 335 ⇑P **PKPab** **01 03 05.5 +0.3**
KIEV Kiev 144.72 335 ⇑PKIKP **PKPab** **01 03 05.5 +0.3**
KIEV Kiev 144.72 335 PKP **PKPab** **01 03 05.1 -0.1**
GKP Gorka Klasztor 146.01 348 *e*PKP **PKPab** **01 03 10.3 +0.4**
R9F13 Warsaw-Wawer 146.11 344 *e*PKPc 01 03 12.4
BEL Belsk 146.55 344 *e*PKP **PKPab** **01 03 12.3 +0.3**
SORM Soroca 147.05 333 ⇓P **PKPbc** **01 03 12.9 +0.3**
SORM Soroca 147.05 333 ⇓PKP2 **PKPbc** **01 03 12.9 +0.3**
LODK Lodwar 147.25 243 PKPbc **PKPdf** **01 03 13.3 +1.3**
PURM Purcari 147.56 329 ⇑P **PKPbc** **01 03 15.0 +1.0**
MILM Milestii Mici 147.77 331 ⇓P **PKPbc** **01 03 15.2 +0.6**
MILM Milestii Mici 147.77 331 ⇓PKP2 **PKPbc** **01 03 15.2 +0.6**
KWP Kalwaria Pacla 147.96 340 *e*PKP **PKiKP** **01 03 17.5 +0.6**
OJC Ojcow 148.28 344 *e*PKP **PKPab** **01 03 18.9 0.0**
OJC Ojcow 148.28 344 **PKPbc** **01 03 15.3 -0.6**
OJC Ojcow 148.28 344 PKP2 **PKPbc** **01 03 15.3 -0.6**
GAZ Gaziantep 148.40 309 **PKPdf** **01 03 14.6 +1.4**
KSP Ksiaz 148.51 348 *e*PKP **PKPbc** **01 03 17.5 +1.0**
PRAR RASCA 148.56 334 ⇑P **PKPbc** **01 03 18.0 +1.2**
CLL Collm 148.59 352 *e*PKIKP **PKPdf** **01 03 13.0 0.0**
CLL *i* 01 03 17.3
CLL pmax pmax
comp=Z,108nm,2.0s
CLL MLR MLR
comp=Z,300nm,18.5s
KOLS Kolonicke sedl 148.70 340 *e*PKP2 **PKiKP** **01 03 18.7 +0.2**
KOLS Kolonicke sedl 148.70 340 *e*PKP **PKiKP** **01 03 18.7 +0.2**
BURAR Bucovina Array 148.76 335 ⇓P **PKiKP** **01 03 18.9 +0.1**
BURAR Bucovina Array 148.76 335 ⇓PKP2 **PKiKP** **01 03 18.9 +0.1**
OSTC Ostas 148.79 348 ⇑*e*PKP **PKPbc** **01 03 18.6 +1.4**
OSTC Ostas 148.79 348 *e*PKP2 **PKPbc** **01 03 18.6 +1.4**
CHVC Chvalec 148.80 348 ⇑*e*PKP **PKPbc** **01 03 18.3 +1.1**
CHVC Chvalec 148.80 348 *e*PKP2 **PKPbc** **01 03 18.3 +1.1**
NIE Niedzica 148.87 342 *e*PKP **PKiKP** **01 03 20.5 +1.6**
BRG Berggiesshubel 148.88 351 *e*PKP **PKPbc** **01 03 18.6 +1.2**
BRG Amp 01 03 19.5
comp=Z,8.1nm,0.9s
BRG Berggiesshubel 148.88 351 P **PKPab** **01 03 21.8 +0.5**
BRG Amp 01 03 22.6
comp=Z,23nm,1.1s
BRG Berggiesshubel 148.88 351 P **PKPab** **01 03 25.3 +4.0**
BRG Amp 01 03 26.0
comp=Z,22nm,1.1s
VLDR Vladesti 148.91 330 ⇓P **PKiKP** **01 03 19.0 0.0**
DPC Dobruska-Polom 148.97 348 ⇑*e*PKP **PKPbc** **01 03 18.6 +0.9**
DPC AMS AMS 02 18 10.0
comp=Z,400nm,17.9s
DPC Dobruska-Polom 148.97 348 *e*PKP2 **PKPbc** **01 03 18.6 +0.9**
DPC MLR MLR
comp=Z,400nm,17.9s
VARL Varlezi 148.97 330 ⇑P **PKiKP** **01 03 19.6 +0.5**
TLCR 149.03 329 ⇓P **PKPbc** **01 03 19.1 +1.2**
TLCR 149.03 329 ⇓PKP2 **PKPbc** **01 03 19.1 +1.2**
TESR Tescani 149.04 332 ⇓P **PKPbc** **01 03 18.8 +0.8**
STEB Steborice 149.05 346 ⇑*e*PKP **PKPbc** **01 03 18.4 +0.5**
GHRR 149.05 331 ⇓P **PKPbc** **01 03 19.2 +1.2**
MORC Moravsky Berou 149.25 346 *e*PKIKP **PKPbc** **01 03 18.5 +0.1**
MORC Moravsky Berou 149.25 346 ⇓P **PKPab** **01 03 22.2 -0.7**
MORC Moravsky Berou 149.25 346 ⇓PKP2 **PKPab** **01 03 22.2 -0.7**
JURR Jurilovca 149.31 328 ⇑P **PKiKP** **01 03 19.9 +0.1**
LANS Liptovska Anna 149.35 343 *e*PKP2 **PKiKP** **01 03 20.6 +0.7**
LANS Liptovska Anna 149.35 343 *e*PKP **PKiKP** **01 03 20.6 +0.7**
BMR Baia Mare 149.36 337 ⇑P **PKPbc** **01 03 19.5 +0.8**
BMR Baia Mare 149.36 337 ⇑PKP2 **PKPbc** **01 03 19.5 +0.8**
CFR Carcaliu 149.37 329 ⇑P **PKiKP** **01 03 20.2 +0.3**
CFR Carcaliu 149.37 329 ⇑PKP2 **PKiKP** **01 03 20.2 +0.3**
TPGR Topolog 149.47 328 ⇑P **PKiKP** **01 03 20.8 +0.6**
VRI Vrincioaia 149.51 332 ⇑P **PKPbc** **01 03 19.9 +0.7**
VRI Vrincioaia 149.51 332 ⇑PKP2 **PKPbc** **01 03 19.9 +0.7**
ARCR ARCALIA 149.53 336 ⇓P **PKiKP** **01 03 20.8 +0.5**
PLOR Plostina 149.55 332 ⇓P **PKPbc** **01 03 19.8 +0.5**
PLOR Plostina 149.55 332 ⇓PKP2 **PKPbc** **01 03 19.8 +0.5**
MAUC Maruska 149.57 345 ⇑*e*PKP **PKiKP** **01 03 20.5 +0.2**
PRU Pruhonice 149.65 350 ⇑*e*PKP **PKPbc** **01 03 18.8 -0.5**
PRU Pruhonice 149.65 350 *e*PKP2 **PKPbc** **01 03 18.8 -0.5**
BRTR Keskin Array B 149.69 316 **PKPbc** **01 03 18.9 -1.1**
BRTR Keskin Array B 149.69 316 PKPbc **PKPbc** **01 03 20.2 +0.2**
comp=Z,5.0nm,0.8s,baz=121,slow=2.6,SNR=21
MEM Membach 149.71 1 *d*PKP **PKPab** **01 03 23.6 -1.0**
BTNL Ternell 149.73 0 *d*PKP **PKPbc** **01 03 20.2 +0.6**
OZUR 149.74 333 ⇓P **PKPbc** **01 03 20.2 +0.4**
COVR Voineasa-Covas 149.76 332 ⇓P **PKPbc** **01 03 20.5 +0.7**
KIRS Kirsehir-Merke 149.81 315 ⇓P **PKPbc** **01 03 21.2 +1.0**
HARR Harsova 149.83 329 ⇓P **PKiKP** **01 03 21.4 +0.5**
TLBR Topalu 149.88 328 ⇑P **PKPbc** **01 03 20.9 +0.9**
VRAC Vranov 149.90 347 *e*PKIKP **PKPbc** **01 03 19.5 -0.5**
VRAC Vranov 149.90 347 ⇓P **PKPab** **01 03 25.1 -0.4**
VRAC Vranov 149.90 347 ⇓PKP2 **PKPab** **01 03 25.1 -0.4**
BMRD Maredsous 149.99 2 *d*PKP **PKiKP** **01 03 23.2 +2.1**
MESR Meseseni 150.00 337 ⇑P **PKiKP** **01 03 21.5 +0.3**
DOPR Dopca 150.01 333 ⇓P **PKiKP** **01 03 22.2 +0.9**
NEHR Nehoiu 150.04 331 ⇓P **PKPbc** **01 03 21.4 +0.9**
JAVC Velka Javorina 150.08 345 *e*PKIKP **PKiKP** **01 03 21.7 +0.3**
CBBR Cluj-Babes-Bol 150.10 336 ⇑P **PKiKP** **01 03 22.0 +0.6**
CJR Cluj-Napoca 150.13 336 ⇑P **PKiKP** **01 03 22.0 +0.4**
CJR Cluj-Napoca 150.13 336 ⇑PKIKP **PKiKP** **01 03 22.0 +0.4**
MLR Muntele Rosu 150.15 332 ⇑P **PKiKP** **01 03 22.2 +0.4**
MLR Muntele Rosu 150.15 332 ⇑PKIKP **PKiKP** **01 03 22.2 +0.4**
ISR Istrita 150.16 331 ⇑P **PKiKP** **01 03 22.6 +0.9**
ANTO Ankara 150.16 317 ⇓P **PKiKP** **01 03 22.3 +0.4**
ANTO Ankara 150.16 317 ⇓PKP2 **PKiKP** **01 03 22.3 +0.4**
KRUC Moravsky 150.18 347 *e*PKIKP **PKPbc** **01 03 20.5 -0.2**
DOU Dourbes 150.19 2 *d*PKiKP **PKPbc** **01 03 19.9 -0.7**
ZVC Zvikov 150.24 350 ⇑*e*PKP **PKiKP** **01 03 22.0 +0.4**
MARR Marisel-Cluj 150.34 337 ⇑P **PKPbc** **01 03 20.9 -0.3**
PSZ Piszkesteto 150.34 342 **PKPbc** **01 03 20.7 -0.5**
PSZ Piszkesteto 150.34 342 PKIKP **PKPbc** **01 03 20.7 -0.5**
DRGR 150.40 337 ⇓P **PKPbc** **01 03 22.3 +0.9**
DRGR 150.40 337 ⇓PKIKP **PKPbc** **01 03 22.3 +0.9**
LEHL Lehliu 150.52 330 ⇑P **PKiKP** **01 03 23.3 +0.9**
VOIR 150.58 333 ⇑P **PKiKP** **01 03 23.4 +0.8**
MODS Modra-Piesok 150.62 345 *e*PKP **PKiKP** **01 03 25.5 +3.0**
SULR 150.63 331 ⇓P **PKiKP** **01 03 23.6 +1.0**
KHC Kasperske Hory 150.63 350 ⇑*e*PKP **PKPbc** **01 03 22.1 +0.3**
KHC AMS AMS 02 20 50.0
comp=Z,400nm,22.8s
KHC Kasperske Hory 150.63 350 *e*PKIKP **PKPbc** **01 03 22.1 +0.3**
KHC MLR MLR
comp=Z,400nm,22.8s
WLF Walferdange 150.66 0 *d*PKP **PKiKP** **01 03 23.1 +0.6**
TNR Turnu Rosu 150.73 334 ⇑P **PKPbc** **01 03 23.0 +0.8**
TNR Turnu Rosu 150.73 334 ⇑PKIKP **PKPbc** **01 03 23.0 +0.8**
ARR Arges 150.81 333 ⇓P **PKiKP** **01 03 24.4 +1.3**
CKRC Cesky Krumlov 150.81 349 ⇑*e*PKP **PKPbc** **01 03 20.5 -1.7**
CKRC Cesky Krumlov 150.81 349 *e*PKIKP **PKPbc** **01 03 20.5 -1.7**
GERES GERESS Array B 150.89 350 PKPbc **PKPbc** **01 03 22.9 +0.4**
comp=Z,6.4nm,1.0s,baz=358,slow=2.9,SNR=12
DEV Deva 151.09 336 ⇑P **PKPbc** **01 03 23.5 +0.6**
DEV Deva 151.09 336 ⇑PKIKP **PKPbc** **01 03 23.5 +0.6**
SIRR Siria 151.22 338 ⇓P **PKiKP** **01 03 24.5 +0.7**
MMAI Mount Meron Ar 151.29 302 PKPbc **PKPbc** **01 03 24.4 +0.5**
comp=Z,12nm,0.7s,baz=98,slow=2.0,SNR=6.3
CONA Conrad Observa 151.37 347 *ep*PKP **PKiKP** **01 03 24.6 +0.5**
comp=Z,29nm,2.0s
RONA Rosalia, Austr 151.49 346 *ep*PKP **PKiKP** **01 03 24.8 +0.4**
comp=Z,7.8nm,0.9s
SURR Surduc 151.49 337 ⇑P **PKPbc** **01 03 24.2 +0.3**
GZR Gura Zlata 151.54 335 ⇓P **PKPbc** **01 03 23.3 -0.8**
MOA Molln 151.76 349 *i* PKiKP **PKPbc** **01 03 23.8 -0.7**
comp=Z,0.9nm,0.5s
BZS Buzias 151.79 337 ⇓P **PKiKP** **01 03 25.5 +0.5**
HERR Herculane 152.11 335 ⇓P **PKPbc** **01 03 25.9 +0.6**
MORH Mrgy, Hungar 152.25 342 ⇑P **PKPbc** **01 03 24.8 -0.8**
LESA Schwarzleotal 152.43 351 *ep*PKP **PKPbc** **01 03 26.7 +0.6**
comp=Z,7.0nm,1.5s

MDVR	Moldovita	152.47	336	⇓P	PKiKP		01 03 27.0	+0.6
RETA	Reutte	152.61	354	*e*PKP	PKPbc		01 03 27.0	+0.5
	comp=Z,9.5nm,1.4s							
KBA	Koelnbreinsper	152.66	350	*e*PKP	PKPbc		01 03 24.7	-2.0
	comp=Z,4.2nm,1.3s							
WATA	Walderalm	152.67	352	*e*PKP	PKPbc		01 03 24.5	-2.2
	comp=Z,1.2nm,0.3s							
WTTA	Wattenberg	152.73	352	*e*PKiKP	PKPbc		01 03 26.4	-0.5
	comp=Z,5.3nm,0.8s							
SQTA	Sankt Quirin	152.83	353	*e*pPKP	PKPbc		01 03 27.1	+0.1
	comp=Z,12nm,1.7s							
FETA	Feichten	153.08	354	*e*pPKP	PKPbc		01 03 28.0	+0.3
	comp=Z,5.9nm,1.0s							
ABTA	Abfaltersbach	153.12	351	*i* pPKP	PKPbc		01 03 27.8	+0.2
	comp=Z,7.6nm,0.9s							
BOVS	Bovan	153.43	335	⇑P	PKiKP		01 03 29.4	+1.0
PDG	Podgorica	155.40	337	⇓P	PKPab		01 03 49.3	+0.6
TORD	Torodi Ar. Bea	171.58	146	PKP	PKPdf		01 03 39.0	-0.3
	comp=Z,1.0nm,0.4s,baz=113,slow=4.1,SNR=2.7							
TORD				PKPab	PKPab		01 05 02.9	+2.7
	comp=Z,1.0nm,0.3s,baz=233,slow=1.7,SNR=2.5							

GCG ***17*** *00:43:52.5±3.4, 14°.75N×94°.03W, h50km±999km, MD4.0*
MEX 17 00:43:52.6±1.3, 14°.73N×94°.03W, h10km±45km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.24	39	*e*P	Pn	00 44 11.4	-4.6
PCIG				*e*S	Sb	00 44 26.7	-5.6
PATR	El Naranjo	1.78	77	*e*P	Pn	00 44 19.9	-3.7
PATR				*i* S	Sn	00 44 42.0	-4.3
PAVE	Pavencul	1.85	75	*e*P	Pn	00 44 21.5	-3.1
PAVE				*e*S	Sn	00 44 43.4	-4.7
NILT	Santiago Nilte	1.91	343	*e*P	Pn	00 44 21.9	-3.2
NILT				*e*S	Sn	00 44 43.6	-5.7
TGIG		2.21	23	*e*P	Pn	00 44 26.8	-2.7
TGIG				*e*S	Sn	00 44 53.8	-3.1
TGIG		2.21	23	*i* P	Pn	00 44 26.7	-2.7
TGIG				*e*S	Sn	00 44 53.4	-3.5
TGIG		2.21	23	*i* P		00 44 26.7	
TGIG				*e*S		00 44 53.4	
CMIG	Matias Romero	2.48	341	*i* P	Pn	00 44 28.6	-4.6
CMIG				*e*S	Sn	00 44 54.1	-9.4
UXUV	UXUV	2.57	358	*e*P	Pn	00 44 30.9	-3.5
UXUV				*i* S	Sn	00 45 01.6	-4.1
STG8	El Palmar, Qui	2.61	96	*i* P		00 44 29.8	
STG0	El Palmar, Qui	2.62	96	*e*P		00 44 29.4	

NEIC ***17*** *00:53:37.7±2.4, 20°.37S±0°.04×68°.43W±0°.07, h121km±5km, mb5.1/72, Error ellipse: s-maj=9.8km s-min=6.0km az=81.0*
VAO ***17*** *00:53:37.3±0.3, 20°.27S×68°.38W, h118km, mb5.0*
SJA ***17*** *00:53:37.5±0.7, 20°.37S×68°.62W, h138km±4km, ML4.9, MW4.8*
GUC ***17*** *00:53:38.6±0.8, 20°.37S×68°.51W, h129km±5km, ML4.9*
RSNC ***17*** *00:53:38.1±1.4, 20°.S±10°×6°.8W±°, h124km±5km, M4.6, mB5.2, mb5.1, ML3.7, Mw(mB)4.9*
IDC ***17*** *00:53:39.8±0.5, 20°.26S×68°.26W, h134km±4km, mb4.3/16, mbtmp4.8/21, MS4.0/5, Error ellipse: s-maj=13.9km s-min=9.4km az=77.0*
SCB ***17*** *00:53:40.1±1.3, 20°.39S×68°.51W, h97km±22km, ML4.9/3, MW3.9, Error ellipse: s-maj=7.2km s-min=6.0km az=1.0*
GCMT ***17*** *00:53:43.7±0.3, 20°.46S±0°.02×68°.42W±0°.02, h142km±2km, MW5.1/81, Moment Tensor Solution. s38,c42; s81,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18±.17; $M_{\theta\theta}$-5.87±.18; $M_{\phi\phi}$6.05±.22; $M_{r\theta}$1.20±.13; $M_{\theta\phi}$-0.47±.18; $M_{\phi r}$0.63±.18; Best double couple: $M_0$6.13200×10^{16} NP1:ϕ_s313.00000°, δ78.00000°, λ-175.00000°. NP2: ϕ_s222.00000°, δ86.00000°, λ-12.00000°. Principal axes: T 6.1230, Plg5.0000°, Azm268.0000°; N 0.0190, Plg77.0000°, Azm23.0000°; P -6.1410, Plg12.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 00:53:38.1±0.3, 20°.36S±0°.03×68°.55W±0°.04, h129km±3km, h130km: pP-P, n276, σ1°.77/325, mb5.0/45, 13C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.61	291		Pn	00 53 58.5	+0.3
PB08				Sn	Sn	00 54 13.7	+0.3
PB08	IPOC Station P	0.61	291	⇑*i*P	Pn	00 53 58.9	+0.6
PB08				*i* S	Sn	00 54 13.7	+0.3
PB08				IAML		00 54 15.2	
	comp=E,25μm,0.6s						
PB08	IPOC Station P	0.61	291	*e*P	Pn	00 53 58.7	+0.4
PB08				*e*S	Sn	00 54 14.6	+1.2
PB08				IAML		00 54 17.5	
	comp=Z,17μm,0.7s						
PB08	IPOC Station P	0.61	291	Pg	Pn	00 53 59.0	+0.8
PB01	IPOC Station P	1.11	232		Pn	00 54 02.3	+0.2
PB01				Sn	Sn	00 54 20.2	-0.2
PB01	IPOC Station P	1.11	232	⇑*i*P	Pn	00 54 02.4	+0.3
PB01				*i* S	Sn	00 54 20.4	0.0
PB01	IPOC Station P	1.11	232	*e*P	Pn	00 54 02.4	+0.2
PB01				*e*S	Sn	00 54 20.4	0.0
PB01				IAML		00 54 21.6	
	comp=Z,13μm,0.2s						
PB01	IPOC Station P	1.11	232	Pg	Pn	00 54 02.1	0.0
PB01				Sg	Sn	00 54 20.7	+0.3
PB01				IAML		00 54 21.2	
	comp=Z,40μm,0.6s						
PB11	IPOC Station P	1.20	300		Pn	00 54 03.5	+0.4
PB11				Sn	Sn	00 54 22.3	+0.3
PB11	IPOC Station P	1.20	300	⇑*i*P	Pn	00 54 03.5	+0.4
PB11				*i* S	Sn	00 54 22.4	+0.3
PB11				IAML		00 54 23.5	
	comp=N,46μm,0.4s						
PB11	IPOC Station P	1.20	300	*e*P	Pn	00 54 03.5	+0.4
PB11				*e*S	Sn	00 54 23.0	+1.0
PB11				IAML		00 54 23.8	
	comp=Z,12μm,0.3s						
PB11	IPOC Station P	1.20	300	Pg	Pn	00 54 03.9	+0.8
PB11				Sg	Sn	00 54 22.9	+0.9
PB11				IAML		00 54 23.6	
	comp=Z,37μm,0.3s						
TA02	Huaiquique	1.49	273		Pn	00 54 06.2	+0.2
TA02	Huaiquique	1.49	273	⇑*i*P	Pn	00 54 06.2	+0.2
TA02				*i* S	Sn	00 54 27.2	-0.1
TA02				IAML		00 54 28.9	
	comp=E,18μm,0.6s						
TA02	Huaiquique	1.49	273	*e*P	Pn	00 54 06.7	+0.7
TA02				*e*S	Sn	00 54 27.4	+0.2
TA02				IAML		00 54 29.1	
	comp=Z,12μm,0.7s						
TA01	Diego Aracena	1.54	262		Pn	00 54 06.5	-0.1
TA01	Diego Aracena	1.54	262	⇑*i*P	Pn	00 54 06.6	-0.1
TA01				*i* S	Sn	00 54 26.9	-1.5
TA01	Diego Aracena	1.54	262	*e*P	Pn	00 54 06.5	-0.1
TA01				*e*S	Sn	00 54 26.0	-2.4
TA01				IAML		00 54 32.8	
	comp=Z,4μm,0.8s						
PB09	IPOC Station P	1.57	204		Pn	00 54 07.8	+0.6
PB09	IPOC Station P	1.57	204	⇓*i*P	Pn	00 54 07.7	+0.6
PB09				*i* S	Sn	00 54 29.7	+0.4
PB09				IAML		00 54 32.4	
	comp=N,10μm,0.6s						
PB09	IPOC Station P	1.57	204	*e*P	Pn	00 54 07.7	+0.6
PB09				*e*S	Sn	00 54 31.1	+1.8
PB09				IAML		00 54 32.8	
	comp=Z,11μm,0.5s						
PB09	IPOC Station P	1.57	204	Pg	Pn	00 54 08.4	+1.2
PB09				Sg	Sn	00 54 30.1	+0.8
PB09				IAML		00 54 34.9	
	comp=Z,3μm,0.4s						
SOEO	Opoqueri	1.89	19	Pg	Pn	00 54 12.9	+1.6
PB03	IPOC Station P	2.02	214	⇓*i*P	Pn	00 54 12.4	-0.1
PB03				*i* S	Sn	00 54 37.6	-1.3
PB03				IAML		00 54 40.7	
	comp=E,6μm,0.6s						
PB03	IPOC Station P	2.02	214	*e*P	Pn	00 54 12.6	+0.1
PB03				*e*S	Sn	00 54 39.1	+0.3
PB03				IAML		00 54 42.0	
	comp=Z,8μm,1.1s						
PX02	IPOC Station P	2.08	311	⇑*i*P	Pn	00 54 12.6	-0.6
PX02				*i* S	Sn	00 54 39.0	-1.0
PX02				IAML		00 54 47.3	
	comp=N,8μm,0.6s						
PB12	IPOC Station P	2.41	316	Pn	Pn	00 54 17.2	-0.1
PB12	IPOC Station P	2.41	316	⇑*i*P	Pn	00 54 17.3	-0.1
PB12				*i* S	Sn	00 54 46.1	-1.3
PB12				IAML		00 54 49.2	
	comp=E,13μm,0.8s						
PB12	IPOC Station P	2.41	316	*e*P	Pn	00 54 17.2	-0.1
PB12				*e*S	Sn	00 54 47.0	-0.4
PB12				IAML		00 54 51.4	
	comp=Z,6μm,0.7s						
PB06	IPOC Station P	2.52	202	⇓*i*P	Pn	00 54 18.6	-0.1
PB06				*i* S	Sn	00 54 48.5	-1.5
PB06				IAML		00 54 49.8	
	comp=E,5μm,0.3s						
PB06	IPOC Station P	2.52	202	*e*P	Pn	00 54 18.8	+0.1
PB06				*e*S	Sn	00 54 49.4	-0.6
PB06				IAML		00 54 54.0	
	comp=Z,3μm,0.4s						
AP01	Chacalluta	2.60	319		Pn	00 54 19.8	+0.2
AP01	Chacalluta	2.60	319	⇑*i*P	Pn	00 54 19.8	+0.2
AP01				*i* S	Sn	00 54 51.2	-0.3
AP01	Chacalluta	2.60	319	*e*P	Pn	00 54 20.0	+0.4
AP01				*e*S	Sn	00 54 51.9	+0.4
AP01				IAML		00 55 03.9	
	comp=Z,12μm,1.5s						
AF01	San Pedro de A	2.60	172		Pn	00 54 21.6	+1.7
AF01	San Pedro de A	2.60	172	*e*P	Pn	00 54 21.6	+1.7
AF01				*e*S	Sn	00 54 39.3	-13
AF01				IAML		00 54 41.2	
	comp=Z,5μm,1.1s						
AF01	San Pedro de A	2.60	172	Pg	Pn	00 54 22.1	+2.2
MOCB	Mochara	2.87	109	Pg	Pn	00 54 25.3	+1.9
PB18	Visviri	2.89	342		Pn	00 54 26.7	+2.9
PB05	IPOC Station P	2.92	211		Pn	00 54 22.9	-1.0
PB05	IPOC Station P	2.92	211	⇓*i*P	Pn	00 54 22.8	-1.0
PB05				*i* S	Sn	00 54 51.2	-7.8
PB05				IAML		00 55 09.4	
	comp=N,3μm,0.2s						
PB05	IPOC Station P	2.92	211	*e*P	Pn	00 54 23.1	-0.7
PB05				*e*S	Sn	00 54 56.5	-2.6
PB05				IAML		00 55 07.0	
	comp=Z,3μm,0.8s						
YJA	Yavi	3.36	123	*e*P	Pn	00 54 31.6	+1.8
YJA				*e*S	Sn	00 55 14.4	+4.7
YJA	Yavi	3.36	123	Pg	Pn	00 54 31.8	+2.0
SOEJ	Jacaque	3.38	6	Pg	Pn	00 54 33.6	+3.4
SOET	ToroToro	3.42	50	Pg	Pn	00 54 32.5	+2.0
BBOE	La Paz, Chanca	3.57	9	Pg	Pn	00 54 35.8	+3.1
PB10	IPOC Station P	3.65	210	Pn	Pn	00 54 31.8	-1.4
PB10	IPOC Station P	3.65	210	*e*P	Pn	00 54 31.8	-1.4
PB10				*e*S	Sn	00 55 12.6	-3.3
PB10				IAML		00 55 30.5	
	comp=Z,1μm,0.7s						
BBOD	La Paz, Gloria	3.70	359	Pg	Pn	00 54 37.5	+3.0
AOVT	TarijaAcel	3.78	109	Pg	Pn	00 54 36.0	+0.9
AOEA	Aiquile	3.81	56	Pg	Pn	00 54 37.4	+1.8
AOEA	Aiquile	3.81	56	Pg	Pn	00 54 37.9	+2.3
BS00	La Paz	3.86	6	Pg	Pn	00 54 39.6	+3.1
LPAZ	La Paz	4.07	6	Pn	Pn	00 54 41.2	+1.8
LPAZ	La Paz	4.07	6	P	Pn	00 54 41.4	+2.0
	comp=Z,757nm,0.6s,baz=182,slow=7.5,SNR=1344						
LPAZ				LR	LR	00 56 43.8	
	comp=Z,861nm,18.5s,baz=294,slow=47						
LPAZ	La Paz	4.07	6	*e*P	Pn	00 54 41.2	+1.8
LPAZ	La Paz	4.07	6	Pg	Pn	00 54 41.6	+2.2
PB14	IPOC Station P	4.58	202	Pn	Pn	00 54 43.8	-2.1
PB14	IPOC Station P	4.58	202	*e*P	Pn	00 54 43.8	-2.1
PB14				*e*S	Sn	00 55 37.6	-0.9
PB14				IAML		00 55 48.4	
	comp=Z,1μm,0.8s						
GO02	Mina Guanaco	4.88	191	Pn	Pn	00 54 48.2	-1.6
GO02	Mina Guanaco	4.88	191	*e*P	Pn	00 54 47.7	-2.2
GO02				*e*S	Sn	00 55 45.1	-0.5
SLA	San Lorenzo	5.17	148	*e*P	Pn	00 54 55.0	+1.3
SLA				IAML		00 55 57.5	
	comp=Z,282nm,1.9s						
AC02	Maricunga	6.47	185	Pn	Pn	00 55 09.8	-1.6
SIV	San Ignacio	8.33	60	P	Pn	00 55 33.2	-2.9
	comp=Z,132nm,0.4s,baz=244,slow=13,SNR=673						
SIV				S	Sn	00 57 01.3	-7.3
	comp=Z,43nm,0.8s,baz=150,slow=20,SNR=6.0						
SIV				LR	LR	00 58 14.0	
	comp=Z,53nm,19.0s,baz=258,slow=34						
CO01	Juntas del Tor	9.68	188		Pn	00 55 50.7	-3.6
PTLB	Pontes e Lacer	10.20	63	Pn	Pn	00 55 57.7	-3.5
PTLB	Pontes e Lacer	10.20	63	*e*P	Pn	00 55 58.0	-3.2
MURT	Porto Murtinho	10.30	99	*e*P	Pn	00 55 59.1	-3.4
VILB	Vilhena	10.87	49		Pn	00 56 08.1	-2.2
VILB	Vilhena	10.87	49	*e*P	Pn	00 56 08.3	-1.9
BDQN	Bodoquena, MS	11.07	93	*e*P	Pn	00 56 08.6	-4.2
ZON	Zonda	11.14	181	Pn	Pn	00 56 10.3	-3.5
CFA	Coronel Fontan	11.20	179	P	Pn	00 56 10.3	-4.2
	comp=Z,28nm,0.3s,baz=0.2,slow=14,SNR=122						
CFA				S	Sn	00 58 09.7	-8.4
	comp=Z,6.8nm,0.2s,baz=267,slow=18,SNR=7.7						
NNA	Nana	11.52	315	Pn	Pn	00 56 19.1	+0.3
NNA	Nana	11.52	315	P	Pn	00 56 18.0	-0.8
	comp=Z,16nm,0.3s,baz=134,slow=15,SNR=8.4						
NNA				S	Sn	00 58 19.6	-6.2
	comp=Z,26nm,0.4s,baz=218,slow=19,SNR=4.6						
CPUP	Villa Florida	11.89	122	Pn	Pn	00 56 22.0	-1.6
CPUP	Villa Florida	11.89	122	P	Pn	00 56 21.9	-1.8
	comp=Z,70nm,0.8s,baz=300,slow=15,SNR=104						
CPUP				S	Sn	00 58 25.2	-10
	comp=Z,25nm,1.1s,baz=135,slow=20,SNR=2.1						
CPUP	Villa Florida	11.89	122	*e*P	Pn	00 56 22.6	-1.1
AQDB	Aquidauana	12.05	93	Pn	Pn	00 56 23.3	-2.5
AQDB	Aquidauana	12.05	93	*e*P	Pn	00 56 21.8	-4.0
SJPY	San Joaquin	12.38	114	*e*P	Pn	00 56 28.4	-1.6
SALV	Santo Antonio	13.00	72	*e*P	Pn	00 56 34.3	-3.8
RPRD	Ribas do Rio P	13.92	93	*e*P	Pn	00 56 48.5	-1.5
PDRB	Porto dos Gac	14.30	54	*e*P	Pn	00 56 50.5	-4.3
C2SB	Chapadao do Su	14.89	87	*e*P	Pn	00 57 01.3	-1.0
CLDB	Colider	15.47	54	*e*P	Pn	00 57 07.3	-2.2
ML02	Panimavida	15.55	189		Pn	00 57 08.7	-1.6
PTGB	Pitanga	15.83	109	*e*P	Pn	00 57 13.7	-0.3
TBOT	Tacuaremb	15.97	137	*e*P	Pn	00 57 15.3	-0.2
TBTG	Tabatinga, AM	16.13	355	Pn	Pn	00 57 15.5	-2.0
TBTG	Tabatinga, AM	16.13	355	*e*P	Pn	00 57 13.4	-4.2
ATAH	Atahualpa	16.24	323	P	P	00 57 20.4	+0.4
	comp=Z,6.6nm,0.8s,baz=147,slow=16,SNR=6.3						
ATAH				S	S	01 00 23.0	+0.5
	comp=Z,4.3nm,0.7s,baz=163,slow=19,SNR=3.8						
LDASE	Londrina, Braz	16.46	104	*e*P	Pn	00 57 20.6	-1.1
ITAB	Concordia	16.50	118	P	Pn	00 57 19.9	-2.2
ITAB	Concordia	16.50	118	*e*P	P	00 57 21.7	-0.7
ARAG	Araguaiana, MT	16.57	77	*e*P	Pn	00 57 22.2	-0.8
CPSB	Cacapava Do Su	16.91	129	*e*P	P	00 57 25.5	-1.3
ITRB	Iturama	17.11	91	*e*P	Pn	00 57 28.9	-0.7
TEFE	Tefe	17.18	13	*e*P	P	00 57 28.0	-1.9
PLTB	Pedras Altas	17.57	133	P	P	00 57 31.9	-2.2
PLTB	Pedras Altas	17.57	133	*e*P	P	00 57 32.4	-1.7
CNLB	Canela	18.35	123	*e*P	P	00 57 41.5	-1.3
NPGB	Novo Progresso	18.40	46	*e*P	P	00 57 41.8	-1.6
TRQA	Tornquist	18.54	163		P	00 57 44.0	-0.7
SNDB	Serra Nova Dou	18.54	66	*e*P	P	00 57 44.0	-0.8
MACA	Manacapuru-AM	18.73	25	P	P	00 57 45.7	-1.3
MACA	Manacapuru-AM	18.73	25	*e*P	P	00 57 45.5	-1.5
BB19B	Bebedouro	18.75	96	*e*P	P	00 57 46.1	-1.0
MAJ01	Sao Joao Batis	19.18	115	*e*P	P	00 57 50.3	-1.5
IPMB	Ipameri, GO	19.36	86	*e*P	P	00 57 52.9	-0.9
TER01	Tubaro-SC	19.45	119	*e*P	P	00 57 52.5	-2.2
LR03	Panguipulli	19.48	189	P	P	00 57 54.5	-0.4
SPB	Sao Paulo	19.84	103	P	P	00 57 56.9	-2.1
SPB	Sao Paulo	19.84	103	*e*P	P	00 57 57.5	-1.5
LR04	Corral	19.90	191	P	P	00 57 58.6	-0.8
LR05	Currie	20.03	188	P	P	00 58 00.2	-0.6
BDFB	Brasilia	20.08	80	P	P	00 57 59.8	-1.9
BDFB	Brasilia	20.08	80	P	P	00 58 00.0	-1.7
	comp=Z,15nm,0.4s,baz=251,slow=7.6,SNR=56						
BDFB				LR	LR	01 06 06.6	
	comp=Z,141nm,19.7s,baz=292,slow=38						
VAO	Valinhos	20.23	101	P	P	00 58 00.5	-2.8
VAO	Valinhos	20.23	101	*e*P	P	00 58 01.2	-2.0
PLCA	Paso Flores	20.38	184	P	P	00 58 04.5	-0.2
PLCA	Paso Flores	20.38	184	P	P	00 58 05.5	+0.8
	comp=Z,55nm,0.9s,baz=5.8,slow=12,SNR=62						
PLCA				S	S	01 01 50.4	+4.4
	comp=Z,2.9nm,1.1s,baz=353,slow=16,SNR=1.4						
	comp=Z,55nm,0.9s						
PLCA	Paso Flores	20.38	184	*e*P	P	00 58 05.5	+0.8
LL04	Puerto Octay	20.75	188	P	P	00 58 08.5	-0.1
PMNB	Patos De Minas	20.93	89	*e*P	P	00 58 08.9	-1.9
LL03	Petrohue	20.97	188	P	P	00 58 09.9	-1.0
PARB	Paraibuna	21.48	102	*e*P	P	00 58 14.6	-2.1
OTAV	Otavalo	22.65	333	P	P	00 58 30.2	+1.2
OTAV	Otavalo	22.65	333	*e*P	P	00 58 31.4	+2.4
LL07	Hotel Espejo d	22.79	189	P	P	00 58 28.9	-0.7
FLOC	Florencia	22.89	341	P	P	00 58 29.4	-1.4
LL02	Futaleuf	22.93	186	P	P	00 58 30.2	-0.8
MAN01	Angra dos Reis	22.99	101	*e*P	P	00 58 29.9	-1.9
MAL2	Monte Alegre,	23.00	39	P	P	00 58 29.6	-2.3
PRPB	Parauapebas	23.01	55	*e*P	P	00 58 30.1	-1.9
DIAM	Diamantina, MG	23.56	89	*e*P	P	00 58 35.5	-1.7
JANB	Januaria	23.67	81	*e*P	P	00 58 36.1	-2.1
BOAV	Boa Vista	23.94	20	P	P	00 58 39.0	-1.5
BOAV	Boa Vista	23.94	20	*e*P	P	00 58 39.6	-0.8
SDBA	SAO DESIDERIO	24.00	74	*e*P	P	00 58 39.8	-1.3
AY01	Puyuhuapi	24.24	187	P	P	00 58 42.4	-0.4
AY01				IAmb	IAmb	00 58 43.9	
	comp=Z,52nm,0.7s						
DUB01	Friburgo-RJ	24.45	99	*e*P	P	00 58 42.0	-3.2
CAM01	Campos-RJ	25.12	98	*e*P	P	00 58 49.4	-1.7
ROSC	El Rosal	25.67	347	P	P	00 58 57.6	+1.0
ROSC				IAmb	IAmb	00 59 04.7	
	comp=Z,31nm,0.5s						
ROSC	El Rosal	25.67	347	P	P	00 58 58.4	+1.8
	comp=Z,22nm,0.4s,baz=125,slow=18,SNR=10						
ROSC				LR	LR	01 10 13.8	
	comp=Z,309nm,18.2s,baz=246,slow=39						
	comp=Z,22nm,0.4s						
SJMB	Sao Joao De Ma	25.83	91	*e*P	P	00 58 56.3	-1.3
ALF01	Guarapari-ES	26.06	95	*e*P	P	00 58 58.4	-1.2
BSFB	Barra de Sao F	26.13	91	*e*P	P	00 58 59.1	-1.2
RUSC	La Rusia	26.46	350	P	P	00 59 03.8	0.0
RIB01	Linhares ES	26.49	93	*e*P	P	00 59 02.4	-1.2
GUA01	Guaratinga, BA	27.50	87	*e*P	P	00 59 11.2	-1.4
CMC01	Camacan, BA	28.05	85	*e*P	P	00 59 15.6	-1.9
ABR01	Abrolhos, BA	28.28	90	*e*P	P	00 59 18.8	-0.7
BAUV	El Baul	29.12	1	P	P	00 59 26.1	-0.9
SDV	Santo Domingo	29.13	356	P	P	00 59 26.0	-1.3
SDV				IAmb	IAmb	00 59 33.0	
	comp=Z,21nm,0.7s						
SDV	Santo Domingo	29.13	356	*e*P	P	00 59 26.5	-0.7
MDP	Montagnes des	29.74	33	LR	LR	01 12 30.0	
	comp=Z,339nm,19.1s,baz=182,slow=38						
MG05	Puerto Natales	31.41	185	P	P	00 59 46.5	-0.2
MG05				IAmb	IAmb	00 59 49.2	
	comp=Z,42nm,1.0s						
NBPB	Pedra_Branca-C	31.75	66	*e*P	P	00 59 48.3	-1.9
SMRC	Santa Marta, M	31.82	349	P	P	00 59 48.4	-2.3
SMRC				IAmb	IAmb	01 00 41.0	
	comp=Z,42nm,1.1s						
EFI	East Falkland	32.32	168	P	P	00 59 54.5	-0.2
EFI	East Falkland	32.32	168	P	P	00 59 55.4	+0.7
NBAN	Anadia - AL	32.87	76	*e*P	P	00 59 58.4	-1.6
NBCA	Caruaru-PE	33.68	74	*e*P	P	01 00 06.4	-0.7
JTS	Las Juntas de	34.47	331	P	P	01 00 17.5	+3.7
RCBR	Riachuelo	34.83	70	P	P	01 00 15.5	-1.5
RCBR				IAmb	IAmb	01 00 18.2	
	comp=Z,14nm,0.9s						
RCBR	Riachuelo	34.83	70	*e*P	P	01 00 16.6	-0.4
MPOM	Morne Pois Mar	35.40	13	P	P	01 00 20.0	-1.7
BIM	Bigot	35.43	13	P	P	01 00 20.2	-1.8
FDF	Fort de France	35.62	12	P	P	01 00 21.8	-1.9
FDF	Fort de France	35.62	12	P	P	01 00 22.0	-1.6
FDF				PcP	PcP	01 02 49.0	-0.6
CRPR	Cabo Rojo, PR	38.15	2	P	P	01 00 43.6	-1.3
CRPR				IAmb	IAmb	01 00 48.8	
	comp=Z,55nm,0.8s						
CELP	Cerrillos	38.24	3	P	P	01 00 44.2	-1.5
SJG	San Juan	38.30	4	P	P	01 00 44.3	-1.9
SJG	San Juan	38.30	4	P	P	01 00 44.5	-1.7
GCPR	Guaynabo City	38.50	4	P	P	01 00 46.0	-1.9
SMRT	St. Maarten	38.55	8	P	P	01 00 45.3	-3.0
BANI	BANI	38.55	357	P	P	01 00 47.9	-0.6
DR12	Loma Pena Alta	38.91	359	P	P	01 00 49.4	-1.9
HOPE	Hope Point	41.72	152	P	P	01 01 15.3	+1.3
ESPZ	Base Esperanza	43.73	173	P	P	01 01 30.9	+0.8
SMAI	San Martin Ant	47.77	179	P	P	01 02 03.5	+1.7
553A	Crawfordville	52.53	343	P	P	01 02 39.0	+0.9
BBSR	BB Station	52.56	4	P	P	01 02 37.4	-0.8
BBSR				IAmb	IAmb	01 02 52.9	
	comp=Z,87nm,1.5s						
TK

comp=Z,30nm,0.4s
DBIC Dimbokro 68.09 74 PKP2 **P 01 04 23.6 -0.8**
DBIC Dimbokro 68.09 74 ⇑P **P 01 04 23.6 -0.8**
DBIC Dimbokro 68.09 74 pmax pmax
comp=Z,31nm,0.8s
ECSD EROS Data Cent 68.78 339 P **P 01 04 28.6 +0.5**
QSPA South Pole Qui 69.83 180 P **P 01 04 36.1 +1.7**
QSPA IAmb IAmb 01 04 37.7
comp=Z,54nm,1.7s
QSPA South Pole Qui 69.83 180 P **P 01 04 36.6 +2.1**
comp=Z,6.6nm,0.4s,baz=172,slow=5.2,SNR=171
comp=Z,6.6nm,0.4s
QSPA South Pole Qui 69.83 180 ⇓P **P 01 04 36.5 +2.0**
QSPA PcP **PcP 01 04 57.1 +0.9**
QSPA pP **pP 01 05 10.3 +2.6**
DRLN Deer Lake 69.99 8 P **P 01 04 35.0 -0.4**
V12A Nelson 70.95 322 P **P 01 04 43.4 +1.8**
MSU Marysvale 71.44 325 P **P 01 04 46.0 +1.3**
GSC Goldstone, Bar 71.82 320 P **P 01 04 48.2 +1.3**
ACRG Accra 71.89 77 P **P 01 04 46.9 -0.8**
ACRG IAmb IAmb 01 04 47.4
comp=Z,29nm,0.4s
TPNV Topopah Spring 72.61 322 P **P 01 04 52.9 +1.3**
ISA Isabella, Lake 73.07 319 P **P 01 04 56.2 +1.9**
PDAR Pinedale Array 73.30 330 P **P 01 04 56.7 +1.0**
PDAR Pinedale Array 73.30 330 P **P 01 04 57.0 +1.4**
comp=Z,1.1nm,0.6s,baz=127,slow=5.0,SNR=10
comp=Z,1.1nm,0.6s
HWUT Hardware Ranch 73.40 328 P **P 01 04 57.1 +0.9**
MZP Montezuma Peak 73.78 322 P **P 01 05 00.4 +1.7**
ULM Lac du Bonnet 74.34 342 P **P 01 05 01.4 +0.2**
comp=Z,3.8nm,0.5s,baz=155,slow=6.7,SNR=9.5
comp=Z,3.8nm,0.5s
LOHW Long Hollow 74.44 330 P **P 01 05 04.0 +1.8**
ELK Elko 74.68 325 P **P 01 05 05.1 +1.4**
NVAR Mina Array Bea 74.81 322 P **P 01 05 06.0 +1.4**
NVAR Mina Array Bea 74.81 322 P **P 01 05 06.2 +1.7**
comp=Z,1.0nm,0.7s,baz=125,slow=4.0,SNR=12
NVAR pP **pP 01 05 39.3 +1.2**
comp=Z,2.3nm,0.9s,baz=126,slow=3.6,SNR=6.2
NVAR sP **sP 01 05 53.6 +1.2**
comp=Z,2.2nm,0.9s,baz=148,slow=6.9,SNR=4.4
comp=Z,1.0nm,0.7s
SCHQ Schefferville 74.90 1 P **P 01 05 03.6 -0.8**
comp=Z,5.7nm,1.1s,baz=185,slow=4.9,SNR=6.9
comp=Z,5.7nm,1.1s
HLID Hailey 76.26 328 P **P 01 05 14.4 +1.7**
TORD Torodi Ar. Bea 76.66 70 P **P 01 05 14.3 -0.9**
TORD IAmb IAmb 01 05 15.5
comp=Z,39nm,1.0s
TORD Torodi Ar. Bea 76.66 70 P **P 01 05 14.8 -0.5**
comp=Z,22nm,0.4s,baz=258,slow=5.2,SNR=35
comp=Z,22nm,0.4s
LRM Limekiln Ridge 76.96 330 P **P 01 05 18.1 +1.5**
VNDA Vanda 78.03 190 P **P 01 05 24.8 +3.0**
comp=Z,3.3nm,1.0s,baz=134,slow=3.0,SNR=7.7
comp=Z,3.3nm,1.0s
WIN Windhoek 78.59 110 P **P 01 05 27.1 +0.9**
WIN IAmb IAmb 01 05 40.7
comp=Z,40nm,1.9s
SUR Sutherland 78.86 120 P **P 01 05 28.8 +1.2**
SUR IAmb IAmb 01 06 16.2
comp=Z,68nm,1.8s
I07A Izee 79.27 325 P **P 01 05 31.6 +2.4**
J05D Fort Rock, OR 79.68 324 P **P 01 05 33.1 +1.6**
PVAQ Vaqueiros 81.08 45 P **P 01 05 40.0 +1.0**
PVAQ IAmb IAmb 01 06 42.2
comp=Z,66nm,1.9s
SOE Somerset East 82.57 122 P **P 01 05 48.1 +1.0**
SOE IAmb IAmb 01 05 49.8
comp=Z,16nm,0.6s
GRHM Grahamstown, E 83.03 123 P **P 01 05 48.1 -1.3**
GRHM IAmb IAmb 01 06 05.3
comp=Z,111nm,1.9s
BOSA Boshof 83.68 118 P **P 01 05 53.2 +0.2**
BOSA IAmb IAmb 01 09 01.3
comp=Z,25nm,1.6s
BOSA Boshof 83.68 118 P **P 01 05 53.4 +0.4**
comp=Z,3.6nm,0.4s,baz=254,slow=4.4,SNR=24
comp=Z,3.6nm,0.4s
FRB Frobisher Bay 83.83 0 LR LR 01 46 54.2
comp=Z,276nm,19.2s,baz=273,slow=38
TAM Tamanrasset 84.01 63 P **P 01 05 54.9 +0.2**
PAB San Pablo 84.47 44 P **P 01 05 56.9 +0.4**
PAB IAmb IAmb 01 07 01.4
comp=Z,24nm,1.6s
ESDC Sonseca Array 84.79 44 P **P 01 05 58.0 -0.1**
comp=Z,1.4nm,0.9s,baz=247,slow=6.0,SNR=6.9
ESDC pP **pP 01 06 32.2 0.0**
comp=Z,2.3nm,1.0s,baz=237,slow=4.1,SNR=5.2
comp=Z,1.4nm,0.9s
LBTB Lobatse 85.19 115 P **P 01 06 00.5 -0.1**
YKA Yellowknife Ar 90.23 340 P **P 01 06 24.7 +1.1**
comp=Z,5.7nm,0.9s,baz=140,slow=4.3,SNR=52
YKA pP **pP 01 06 59.3 +1.1**
comp=Z,14nm,0.9s,baz=141,slow=4.7,SNR=17
comp=Z,5.7nm,0.9s
KEST Kesra 92.35 53 P **P 01 06 34.4 +0.2**
comp=Z,2.3nm,0.8s,baz=235,slow=1.1,SNR=2.4
comp=Z,2.3nm,0.8s
ASAR Alice Springs 131.07 208 PKP **PKiKP 01 12 36.3 0.0**
comp=Z,0.8nm,0.8s,baz=155,slow=2.2,SNR=5.4
PETK Petropavlovsk- 131.84 324 PKP **PKiKP 01 12 38.0 +1.1**
comp=Z,1.0nm,0.8s,baz=78,slow=3.5,SNR=1.5
WRA Warramunga Arr 134.10 211 PKP **PKiKP 01 12 42.6 +0.1**
comp=Z,0.7nm,0.5s,baz=148,slow=1.8,SNR=7.4
KURBB Kurchatov Arra 140.20 33 PKhKP PKPpre 01 12 47.2
comp=Z,0.2nm,0.7s,baz=306,slow=3.3,SNR=2.2
ZALV Zalesovo Beam 140.78 25 PKhKP PKPpre 01 12 48.9
comp=Z,0.6nm,0.5s,baz=287,slow=1.7,SNR=4.8
KSH Kashi 144.12 50 PKP **PKiKP 01 13 01.4 -1.1**
KSH sPKP 01 13 39.3
MKAR Makanchi Array 144.51 35 PKP **PKPdf 01 12 59.0 -0.2**
comp=Z,1.9nm,0.7s,baz=320,slow=3.8,SNR=21
HEH HeiHe 147.59 341 PKP **PKPbc 01 13 07.9 +0.8**
HYB Hyderabad 148.76 90 *e*PKPdf **PKPdf 01 13 06.3 -0.9**
USRK Ussuriysk Ar. 150.72 329 PKPbc **PKiKP 01 13 16.5 +0.8**
comp=Z,2.5nm,0.6s,baz=81,slow=2.2,SNR=4.4
USRK pPKPbc **pPKPbc 01 13 52.5 +1.3**
comp=Z,5.0nm,0.8s,baz=29,slow=3.3,SNR=5.1
MJAR Matsushiro Arr 151.61 310 PKPbc **PKiKP 01 13 18.5 +0.7**
comp=Z,0.8nm,0.5s,baz=73,slow=0.8,SNR=4.1
MJAR pPKPbc **pPKPbc 01 13 54.0 +0.4**
comp=Z,3.3nm,0.8s,baz=70,slow=2.6,SNR=6.3
SONM Songino Array 152.28 7 PKPbc **PKiKP 01 13 20.0 +1.0**
comp=Z,1.1nm,0.4s,baz=343,slow=1.6,SNR=8.1
CMAR Chiang Mai Arr 168.05 97 PKPab **PKPab 01 14 38.7 +0.2**
comp=Z,0.6nm,0.3s,baz=253,slow=3.9,SNR=4.6
PZH PanZhiHua 169.19 54 PKP **PKPdf 01 13 29.5 -1.2**

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*IDC **17** 00:57:39.9±2.3, 43°.08N×29°.35W, h0km, mb3.8/7, mbtmp3.8/8, ML4.3/1, MS3.7/21, Error ellipse: s-maj=77.3km s-min=24.3km az=174.0*
*NEIC **17** 00:57:40.4±1.9, 42°.8N±0°.1×29°.3W±0°.1, h10km±1km, mb4.5/18, Error ellipse: s-maj=25.3km s-min=9.2km az=216.0*
ISC 17 00:57:40.4±0.7,**42°.8N**±0°.1×**29°.31W**±0°.09,**h10**km,**n79,**
σ1§43/59,mb4.4/14,MS3.5/21,1C,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**4.20**	**168**	*e*P	**Pn**	**00 58 44.0**	**-0.5**
PCED	**Cedros**	**4.23**	**174**	*e*P	**Pn**	**00 58 45.3**	**+0.4**
PMAN	**Manadas**	**4.30**	**167**	*e*P	**Pn**	**00 58 44.8**	**-1.1**
PSBA	**Serra de Santa**	**4.34**	**159**	*e*P	**Pn**	**00 58 44.0**	**-2.5**
PAGU	**Agualva, Azore**	**4.38**	**158**	*e*P	**Pn**	**00 58 45.1**	**-1.8**
PICO	**Pico**	**4.39**	**171**	*e*P	**Pn**	**00 58 47.1**	**0.0**
PSCM	**Serra do Cume**	**4.46**	**157**	*e*P	**Pn**	**00 58 46.0**	**-2.0**
PDA	**Ponta Delgada**	**5.80**	**150**	*e*P	**Pn**	**00 59 05.2**	**-1.2**
CMLA	**Cha da Macela**	**5.84**	**149**	Pn	**Pn**	**00 59 05.5**	**-1.5**
CMLA	**Cha da Macela**	**5.84**	**149**	*e*P	**Pn**	**00 59 06.4**	**-0.6**
PGRON	**Lagoa das Cont**	**5.89**	**148**	*e*P	**Pn**	**00 59 08.0**	**+0.3**
BART	**Pico Bartolome**	**5.97**	**147**	*e*P	**Pn**	**00 59 07.9**	**-0.9**
PSMA	**Santa Maria**	**6.66**	**150**	*e*P	**Pn**	**00 59 17.8**	**-0.5**
PSMN	**Pico do Norte,**	**6.68**	**149**	*e*P	**Pn**	**00 59 18.1**	**-0.4**
PMOZ	**Porto Moniz, M**	**13.83**	**132**	Pn	**Pn**	**01 00 54.5**	**-2.0**
PMOZ	**Porto Moniz, M**	**13.83**	**132**	*e*P	**Pn**	**01 00 58.5**	**+2.0**
PMOZ				IAmb	IAmb	01 01 06.0	
	comp=Z,90nm,1.5s						
PMOZ				IAMs_20	IAMs_20	01 05 11.6	
	comp=Z,267nm,20.0s						
PMAR	**Madeira**	**14.06**	**132**	*e*P	**Pn**	**01 01 01.5**	**+1.8**
PMAR				IAmb	IAmb	01 01 03.5	
	comp=Z,92nm,1.2s						
FUL	**Funchal**	**14.13**	**132**	*e*P	**Pn**	**01 01 02.3**	**+1.8**
FUL				IAmb	IAmb	01 01 42.5	
	comp=Z,88nm,1.6s						
PGAV	**Gavieira, Arco**	**15.57**	**86**	*e*P	**P**	**01 01 25.5**	**+1.2**
PGAV				IAMs_20	IAMs_20	01 06 07.2	
	comp=Z,246nm,20.0s						
PCAS	**Casmilo, Conde**	**15.85**	**93**	*e*P	**P**	**01 01 29.0**	**+1.6**
COI	**Coimbra**	**15.87**	**92**		**Pn**	**01 01 24.6**	**+0.9**
COI				IAmb	IAmb	01 01 29.8	
	comp=Z,35nm,1.1s						
COI	**Coimbra**	**15.87**	**92**	*e*P	**P**	**01 01 29.7**	**+2.2**
COI				IAmb	IAmb	01 01 29.9	
	comp=Z,55nm,1.2s						
POLO	**Lamas de Olo**	**16.04**	**88**	*e*P	**P**	**01 01 30.9**	**+1.4**
PVRL	**Vila Real**	**16.11**	**88**	*e*P	**P**	**01 01 31.5**	**+1.3**
PMTG	**Montargil**	**16.36**	**96**	*e*P	**P**	**01 01 34.0**	**+1.0**
PMTG				IAmb	IAmb	01 01 35.1	
	comp=Z,42nm,1.4s						
MTE	**Manteigas**	**16.45**	**91**	P	**Pn**	**01 01 32.5**	**+1.2**
MTE	**Manteigas**	**16.45**	**91**	*e*P	**P**	**01 01 36.1**	**+2.0**
MTE				IAmb	IAmb	01 01 36.8	
	comp=Z,41nm,1.3s						
MTE				IAMs_20	IAMs_20	01 06 32.4	
	comp=Z,160nm,20.0s						
PTEO	**Sao Teotonio**	**16.58**	**102**	*e*P	**P**	**01 01 39.4**	**+4.0**
PCBR	**Castelo Branco**	**16.66**	**93**	*e*P	**P**	**01 01 37.6**	**+1.3**
EVO	**Evora**	**16.71**	**98**	*e*P	**P**	**01 01 38.2**	**+1.4**
EVO				IAmb	IAmb	01 02 05.6	
	comp=Z,34nm,1.7s						
MORF	**Marmelete**	**16.74**	**102**	Pn	**Pn**	**01 01 33.4**	**-1.6**
MORF				IAmb	IAmb	01 01 40.1	
	comp=Z,34nm,1.2s						
MESJ	**Messejana**	**16.83**	**100**	*e*P	**P**	**01 01 40.0**	**+1.9**
PMRV	**Marv??o**	**16.85**	**94**	*e*P	**P**	**01 01 39.9**	**+1.4**
PMRV				IAMs_20	IAMs_20	01 06 58.1	
	comp=Z,235nm,20.0s						
PESTR	**Estremoz**	**16.90**	**96**		**Pn**	**01 01 36.6**	**-0.3**
PESTR				IAmb	IAmb	01 01 40.9	
	comp=Z,41nm,1.5s						
PESTR	**Estremoz**	**16.90**	**96**	*e*P	**P**	**01 01 39.6**	**+0.6**
PESTR				IAmb	IAmb	01 01 41.8	
	comp=Z,40nm,1.6s						
PBAR	**Barrancos**	**17.55**	**98**	*e*P	**P**	**01 01 49.2**	**+3.0**
PAB	**San Pablo**	**19.05**	**91**	P	**P**	**01 02 03.4**	**+0.6**
ESDC	**Sonseca Array**	**19.30**	**91**	P	**P**	**01 02 06.1**	**+0.7**
ESDC	**Sonseca Array**	**19.30**	**91**	P	**Pn**	**01 02 06.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=290,slow=12,SNR=10						
ESDC				LR	LR	01 07 46.7	
	comp=Z,126nm,21.8s,baz=263,slow=31						
	comp=Z,0.7nm,0.4s						
ESBB	**Sonseca Array**	**19.30**	**91**	P	**P**	**01 02 05.4**	**0.0**
MDT	**Midelt**	**21.86**	**109**	LR	LR	01 09 26.0	
	comp=Z,130nm,20.5s,baz=310,slow=32						
CART	**Cartagena**	**22.19**	**94**	P	**P**	**01 02 35.7**	**-0.9**
CART				IAmb	IAmb	01 02 43.7	
	comp=Z,26nm,1.5s						
BORG	**Borgarnes**	**22.41**	**9**	LR	LR	01 08 36.4	
	comp=Z,156nm,21.4s,baz=181,slow=30						
BFO	**Black Forest**	**26.72**	**65**	P	**P**	**01 03 20.0**	**+0.3**
BFO				IAmb	IAmb	01 03 30.4	
	comp=Z,13nm,0.9s						
SFJD	**Kangerlussuaq**	**26.84**	**342**	LR	LR	01 11 34.2	
	comp=Z,248nm,19.9s,baz=149,slow=31						
SCHQ	**Schefferville**	**27.11**	**309**	LR	LR	01 12 09.4	
	comp=Z,213nm,21.9s,baz=86,slow=32						
STU	**Stuttgart**	**27.27**	**64**	P	**P**	**01 03 24.6**	**-0.1**
STU				IAmb	IAmb	01 03 28.6	
	comp=Z,8.1nm,0.7s						
TUE	**Stuetta**	**27.55**	**69**	P	**P**	**01 03 28.3**	**+0.8**
DAVOX	**Davos/Dischmat**	**27.88**	**68**	LR	LR	01 12 56.9	
	comp=Z,78nm,21.1s,baz=264,slow=33						
BBTS	**Babate**	**30.16**	**155**	LR	LR	01 13 35.0	
	comp=Z,151nm,19.5s,baz=228,slow=31						
NOA	**NORSAR Array B**	**30.24**	**39**	LR	LR	01 14 51.3	
	comp=Z,37nm,18.2s,baz=270,slow=34						
GERES	**GERESS Array B**	**30.24**	**63**	LR	LR	01 14 28.8	
	comp=Z,78nm,20.2s,baz=256,slow=33						
KEST	**Kesra**	**30.55**	**90**	LR	LR	01 14 13.9	
	comp=Z,67nm,21.8s,baz=17,slow=32						
FRB	**Frobisher Bay**	**30.66**	**327**	LR	LR	01 12 51.6	
	comp=Z,211nm,19.0s,baz=104,slow=30						
HFS	**Hagfors**	**31.16**	**41**	LR	LR	01 14 35.6	
	comp=Z,73nm,21.2s,baz=248,slow=33						
VRAC	**Vranov**	**32.09**	**62**	LR	LR	01 16 26.8	
	comp=Z,80nm,18.3s,baz=291,slow=35						
VAE	**Valguarnera**	**33.55**	**84**	LR	LR	01 16 59.9	
	comp=Z,227nm,20.7s,baz=325,slow=35						
SADO	**Sadowa**	**35.56**	**291**	LR	LR	01 18 28.6	
	comp=Z,182nm,19.3s,baz=110,slow=35						
PABE	**Paberze**	**36.16**	**51**	P	**P**	**01 04 41.5**	**-1.0**
FINES	**FINESS Array B**	**37.35**	**41**	P	**P**	**01 04 52.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=275,slow=8.2,SNR=1.8						
FINES				LR	LR	01 18 55.1	
	comp=Z,60nm,18.0s,baz=217,slow=34						
	comp=Z,1.4nm,0.8s						
ARCES	**ARCESS Array B**	**38.44**	**28**	LR	LR	01 17 32.9	
	comp=Z,69nm,21.1s,baz=331,slow=31						
MLR	**Muntele Rosu**	**39.07**	**67**	LR	LR	01 21 02.9	
	comp=Z,82nm,19.4s,baz=264,slow=36						
AKASG	**Malin Array Be**	**39.91**	**58**	LR	LR	01 21 19.7	
	comp=Z,61nm,20.2s,baz=252,slow=36						
DBIC	**Dimbokro**	**41.99**	**142**	LR	LR	01 21 37.2	
	comp=Z,146nm,19.1s,baz=308,slow=34						
RES	**Resolute Bay**	**42.78**	**339**	P	**P**	**01 05 38.0**	**+0.4**
RES				IAmb	IAmb	01 05 39.3	
	comp=Z,16nm,1.4s						
ARTI	**Arti**	**54.58**	**43**	P	**P**	**01 07 09.1**	**+0.5**
ARTI				IAmb	IAmb	01 07 10.9	
	comp=Z,2.7nm,0.8s						
F31M	**Tsiigehtchic**	**56.34**	**333**		**P**	**01 07 20.9**	**0.0**
PDAR	**Pinedale Array**	**56.62**	**300**	P	**P**	**01 07 23.2**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=48,slow=7.7,SNR=3.8						
	comp=Z,0.6nm,0.9s						
JTS	**Las Juntas de**	**58.08**	**253**	LR	LR	01 32 06.9	
	comp=Z,445nm,18.0s,baz=112,slow=36						
NEW	**Newport**	**58.48**	**308**	P	**P**	**01 07 36.7**	**+0.2**
NEW				IAmb	IAmb	01 07 52.5	
	comp=Z,3.9nm,0.8s						
TXAR	**Lajitas Array**	**59.77**	**283**	P	**P**	**01 07 46.7**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=67,slow=5.3,SNR=4.1						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**62.28**	**42**	P	**P**	**01 08 02.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=316,slow=4.0,SNR=1.7						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**67.75**	**41**	P	**P**	**01 08 37.8**	**-0.1**
	comp=Z,3.0nm,1.1s,baz=314,slow=7.1,SNR=8.3						
	comp=Z,3.0nm,1.1s						
KK31	**Karatay Array**	**68.32**	**51**	P	**P**	**01 08 38.8**	**-2.9**
KKAR	**Karatay Array**	**68.32**	**51**	P	**P**	**01 08 38.8**	**-2.9**
ZALV	**Zalesovo Beam**	**68.36**	**35**	P	**P**	**01 08 41.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=308,slow=7.0,SNR=4.6						
	comp=Z,0.8nm,0.7s						
GAR	**Garm**	**70.81**	**54**	P	**P**	**01 08 56.6**	**-0.6**
GAR				IAmb	IAmb	01 09 06.8	
	comp=Z,4.5nm,0.9s						
MKAR	**Makanchi Array**	**72.17**	**42**	P	**P**	**01 09 05.2**	**+0.1**
	comp=Z,1.6nm,1.1s,baz=319,slow=4.2,SNR=4.5						
	comp=Z,1.6nm,1.1s						
CPUP	**Villa Florida**	**73.51**	**206**	LR	LR	01 37 47.9	
	comp=Z,307nm,18.5s,baz=237,slow=33						

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*BJI **17** 00:57:52.9, 45°.39N×144°.61E, h266km, mB4.7/21, mb4.8/54*
*MOS **17** 00:57:53.5±1.0, 45°.46N×144°.53E, h263km, mb4.5/44, Error ellipse: s-maj=6.6km s-min=4.9km az=110.9*
*IDC **17** 00:57:55.0±0.6, 45°.45N×144°.55E, h267km±5km, mb3.9/30, mbtmp4.6/38, Error ellipse: s-maj=9.4km s-min=8.4km az=127.0*
*JMA **17** 00:57:55.0±0.3, 45°.N±2°.×14°.5E±°, h284km±2km, MD4.1/38, MV4.4/38, NE OFF HOKKAIDO*
*NIED **17** 00:57:55.0, 45°.13N×144°.64E, h284km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}-0.24; $M_{\theta\theta}$0.09; $M_{\phi\phi}$0.15; $M_{r\theta}$0.10; $M_{\theta\phi}$0.85; $M_{\phi r}$-4.78; Fault plane solution: $M_0$4.86000×10^15^ NP1: ϕ=263.00000°, δ10.00000°, λ-6.00000°. NP2:ϕ=359.00000°, δ89.00000°, λ-100.00000°.*
*NEIC **17** 00:57:55.3±1.7, 45°.32N±0°.07×144°.6E±0°.1, h273km±6km, mb4.5/90 Error ellipse: s-maj=11.8km s-min=9.8km az=116.0*
*SKHL **17** 00:57:55.0±0.5, 45°.30N×144°.70E, h283km±8km, mb5.5/14, mbv4.8/3, msh5.0/3, msha5.6/9*
ISC 17 00:57:54.4±0.4,**45°.32N**±0°.04×**144°.57E**±0°.04,**h270**km±3km,
h270km:**pP-P,n571,**σ1§**14**/623,**mb4.4**/113,**15C-18D,**
Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSJ	**Misakicho**	**1.31**	**158**	⇓*i*PN	**Pn**	**00 58 34.4**	**+1.0**
JTKR	**Abashiri--Toko**	**1.43**	**199**	⇓*i*P	**Pn**	**00 58 35.5**	**+1.4**
JTKR				⇓S	**S**	**00 59 07.1**	**+1.5**
JTKR	**Abashiri--Toko**	**1.43**	**199**	A	A	00 58 35.5	
	comp=N,3.0nm,2.8s,comp=E,4.0nm,2.8s						
JRA	**Rausu**	**1.44**	**164**	⇓P	**Pn**	**00 58 35.0**	**+0.8**
JRA				⇓S	**S**	**00 59 07.1**	**+1.4**
JSE	**Soyaes**	**1.45**	**256**	P	**Pn**	**00 58 35.8**	**+1.6**
JSE				S	**S**	**00 59 07.1**	**+1.4**
JMP	**Maruseppu**	**1.57**	**214**	*i* P	**Pn**	**00 58 36.5**	**+1.3**
JMP				S	**S**	**00 59 08.4**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.58**	**168**	A	A	00 58 35.9	
	comp=N,5.0nm,2.2s,comp=E,7.0nm,2.4s						
YUK	**Yuzh-Kuril'sk**	**1.58**	**144**	⇓*i*PN	**Pn**	**00 58 35.8**	**+0.6**
YUK				*i* S	**S**	**00 59 07.8**	**+0.3**
YUK				pmax	pmax		
	comp=Z,1μm,0.6s						
YUK				pmax	pmax		
	comp=E,199nm,0.5s						
YUK				pmax	pmax		
	comp=N,254nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.9s						
YUK				smax	smax		
	comp=E,3μm,1.0s						
YUK				smax	smax		
	comp=E,986nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.58**	**144**	*i* P	**Pn**	**00 58 35.8**	**+0.6**
YUK				AMB	AMB	00 58 36.5	
	comp=E,200nm,0.6s						
YUK				AMB	AMB	00 58 36.5	
	comp=E,1μm,0.6s						
YUK				*i* S	**S**	**00 59 07.9**	**+0.4**
YUK				A	A	00 59 10.8	
	comp=E,2μm,1.0s						
YUK				A	A	00 59 10.8	
	comp=E,3μm,1.0s						
YUK				A	A	00 59 12.6	
	comp=E,1μm,0.7s						
YUK				A	A	00 59 12.6	
	comp=E,990nm,0.7s						
JNK	**Nakash**	**1.74**	**176**	⇓P	**Pn**	**00 58 37.0**	**+0.5**
JKA	**Kamikawa-asahi**	**1.85**	**230**		**Pn**	**00 58 38.9**	**+1.6**
JKA	**Kamikawa-asahi**	**1.85**	**230**	*e*P	**Pn**	**00 58 38.9**	**+1.6**
ASAJ	**Asahikawa**	**1.85**	**230**	P	**Pn**	**00 58 39.0**	**+1.7**
	comp=E,1μm,0.6s,baz=35,slow=2.8,SNR=1605						
ASAJ				S	**S**	**00 59 12.7**	**+1.4**
	comp=E,148nm,0.9s,baz=18,slow=20,SNR=10						
ASAJ	**Asahikawa**	**1.85**	**230**	PN	**Pn**	**00 58 38.9**	**+1.6**
ASAJ	**Asahikawa**	**1.85**	**230**	*i* P	**Pn**	**00 58 39.0**	**+1.7**
JWK2	**Keihoku**	**1.88**	**271**	*i* P	**Pn**	**00 58 39.8**	**+2.3**
JKK2	**Kamakawa 2**	**1.94**	**223**	P	**Pn**	**00 58 39.5**	**+1.4**
YSS	**Yuzhno-Sakhali**	**2.06**	**323**		**Pn**	**00 58 40.6**	**+1.7**
YSS	**Yuzhno-Sakhali**	**2.06**	**323**	P	**Pn**	**00 58 40.7**	**+1.7**
YSS	**Yuzhno-Sakhali**	**2.06**	**323**	α*i*PN	**Pn**	**00 58 40.7**	**+1.7**
YSS				*e*S	**S**	**00 59 15.1**	**+0.8**
YSS				pmax	pmax		
	comp=Z,1μm,3.2s						
YSS				pmax	pmax		
	comp=Z,800nm,1.0s						
YSS				smax	smax		
	comp=N,1μm,2.9s						
YSS				smax	smax		
	comp=N,200nm,1.1s						
YSS				smax	smax		
	comp=E,520nm,0.8s						
YSS	**Yuzhno-Sakhali**	**2.06**	**323**	*i* P	**Pn**	**00 58 40.3**	**+1.4**
YSS				*i* P	**Pn**	**00 58 40.3**	**+1.4**
YSS				AMB	AMB	00 58 41.1	
	comp=E,1μm,3.2s						
YSS				AMB	AMB	00 58 41.1	
	comp=E,1μm,0.4s						
YSS				*e*S	**S**	**00 59 15.1**	**+0.8**
YSS				A	A	00 59 17.0	
	comp=E,1μm,2.9s						
YSS				A	A	00 59 17.0	
	comp=E,1μm,2.9s						
YSS				A	A	00 59 17.1	
	comp=E,400nm,0.8s						
YSS				A	A	00 59 17.1	
	comp=E,520nm,0.8s						
JAR	**Ashorobuto**	**2.10**	**196**	⇓*i*P	**Pn**	**00 58 40.4**	**+1.0**
JAR				⇓*e*S	**S**	**00 59 15.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**2.12**	**156**	⇓*i*PN	**Pn**	**00 58 38.6**	**-1.0**
NMR				*i* S	**S**	**00 59 12.0**	**-3.5**
NMR	**Nemuro--Hokkai**	**2.12**	**156**	*i* P	**Pn**	**00 58 38.7**	**-0.9**
NMR				AMB	AMB	00 58 39.5	
	comp=E,440nm,0.5s						
NMR				*i* S	**S**	**00 59 12.3**	**-3.2**
NMR				A	A	00 59 13.3	
	comp=E,1μm,0.4s						
NMR				A	A	00 59 13.3	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**2.13**	**156**	⇓*i*P	**Pn**	**00 58 38.6**	**-1.0**
NEM2				⇓*e*S	**S**	**00 59 12.1**	**-3.5**
JSS	**Shosan**	**2.14**	**245**	*i* P	**Pn**	**00 58 42.1**	**+2.4**
JAK	**Akkeshi**	**2.33**	**178**	P	**Pn**	**00 58 41.1**	**-0.4**
JAK				S	**S**	**00 59 16.1**	**-2.7**
KUR	**Kuril'sk**	**2.33**	**91**	⇓*i*PN	**Pn**	**00 58 41.8**	**+0.4**
KUR				S	**S**	**00 59 18.8**	**0.0**
KUR	**Kuril'sk**	**2.33**	**91**	*i* P	**Pn**	**00 58 41.6**	**+0.2**
KUR				AMB	AMB	00 58 42.6	
	comp=E,240nm,0.6s						
KUR				AMB	AMB	00 58 42.6	
	comp=E,120nm,0.6s						
KUR				AMB	AMB	00 58 42.6	
	comp=E,660nm,0.6s						
KUR				*e*S	**S**	**00 59 17.8**	**-1.0**
KUR				A	A	00 59 22.4	
	comp=E,130nm,1.0s						
KUR				A	A	00 59 22.4	
	comp=E,130nm,1.0s						
JRBN	**Rebuntou**	**2.47**	**274**	P	**Pn**	**00 58 43.5**	**+0.8**
JRBN				*e*S	**S**	**00 59 21.1**	**0.0**
JHR	**Hokuryu**	**2.57**	**233**	P	**Pn**	**00 58 45.4**	**+1.6**
JCH	**Churui**	**2.84**	**198**	*i* P	**Pn**	**00 58 46.1**	**-0.5**

comp=E,400nm,6.3s
GRNR Gornyy 7.71 318 ⇓*i*PN **Pn 00 59 44.7 +0.7**
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=Z,140nm,15.0s
GRNR Gornyy 7.71 318 *i*P **Pn 00 59 45.2 +1.2**
GRNR AMB AMB 00 59 46.0
comp=Z,30nm,0.8s
JMM Marumori 7.97 202 Pn 00 59 46.6 -0.8
JMM Marumori 7.97 202 S **S 01 01 13.1 -5.5**
JSD Sado 8.67 215 Pn **Pn 00 59 55.8 -0.4**
JSD Sado 8.67 215 P **Pn 00 59 55.9 -0.2**
USA0B Ussuriysk Arra 9.02 267 Pn **Pn 01 00 01.9 +1.4**
USA0B Ussuriysk Arra 9.02 267 *i*PN **Pn 01 00 02.3 +1.9**
USRK Ussuriysk Ar. 9.02 267 P **Pn 01 00 01.4 +0.9**
comp=Z,29nm,0.7s,baz=75,slow=13,SNR=33
USRK S **S 01 01 40.7 -1.9**
comp=Z,1.6nm,0.5s,baz=84,slow=19,SNR=5.0
SKR Severo-Kuril's 9.41 51 *e*PN **Pn 01 00 04.7 -0.5**
SKR *e*S **S 01 01 48.6 -2.9**
SKR pmax pmax
comp=Z,100nm,2.9s
SKR pmax pmax
comp=Z,119nm,0.8s
SKR smax smax
comp=E,96nm,0.6s
SKR smax smax
comp=N,138nm,0.9s
SKR MLR MLR
comp=Z,200nm,11.0s
SKR Severo-Kuril's 9.41 51 *e*P **Pn 01 00 05.1 -0.1**
SKR AMB AMB 01 00 06.6
comp=Z,100nm,2.9s
SKR AMB AMB 01 00 08.7
comp=Z,50nm,0.5s
SKR AMS AMS 01 03 35.1
comp=Z,200nm,12.0s
KLR Kul'dur 9.55 299 P **Pn 01 00 08.3 +1.4**
comp=Z,17nm,0.6s,baz=109,slow=15,SNR=26
KLR S **S 01 01 55.9 +1.3**
comp=Z,1.6nm,0.7s,baz=150,slow=8.1,SNR=1.1
KLR Kul'dur 9.55 299 *e*PN **Pn 01 00 07.0 +0.1**
KLR pmax pmax
comp=Z,25nm,1.1s
KLR Kul'dur 9.55 299 *e*P **Pn 01 00 09.5 +2.6**
KLR AMB AMB 01 00 13.5
comp=Z,30nm,1.0s
MJB9 Matsu-Tunnel 10.00 211 Pn **Pn 01 00 14.6 +1.8**
MAJO Matsushiro 10.00 211 Pn **Pn 01 00 13.4 +0.6**
MAJO Matsushiro 10.00 211 P **Pn 01 00 13.6 +0.8**
MAJO Matsushiro 10.00 211 *i*PN **Pn 01 00 14.8 +2.0**
MJAR Matsushiro Arr 10.00 211 P **Pn 01 00 12.6 -0.2**
comp=Z,6.4nm,0.6s,baz=25,slow=12,SNR=30
MSHR Mys Shultsa 10.05 259 *i*PN **Pn 01 00 14.1 +0.8**
MSHR pmax pmax
comp=Z,15nm,0.8s
PAU Pauzhetka 10.20 49 *e*P **Pn 01 00 15.4 +0.4**
PAU AMB AMB 01 00 16.8
comp=Z,90nm,0.7s
PSTR Posyet 10.27 260 *i*PN **Pn 01 00 17.2 +1.2**
MDJ Mudanjiang 10.64 272 Pn **Pn 01 00 21.2 +0.6**
EKMR Ekimchan 10.85 320 *e*P **P 01 00 25.5 -1.4**
EKMR AMB AMB 01 00 29.3
comp=Z,10.0nm,0.8s
EKMR AMB AMB 01 00 29.3
comp=Z,10.0nm,0.8s
EKMR AMB AMB 01 00 29.3
comp=Z,30nm,0.8s
JGF Kuroka 11.15 212 P **Pn 01 00 27.7 +0.6**
INU Inuyama 11.50 213 Pn 01 00 32.1 +0.8
INU Inuyama 11.50 213 P **Pn 01 00 32.3 +0.9**
PEA0B Petropavlovsk- 11.58 43 Pn 01 00 33.2 +1.0
PEA0B Petropavlovsk- 11.58 43*ce*PN **Pn 01 00 32.9 +0.7**
PETK Petropavlovsk- 11.58 43 Pn 01 00 32.7 +0.5
PETK Petropavlovsk- 11.58 43 P **Pn 01 00 32.2 0.0**
comp=Z,9.2nm,0.7s,baz=228,slow=8.2,SNR=17
PETK Petropavlovsk- 11.58 43 PN **Pn 01 00 32.7 +0.5**
PET Petropavlovsk 12.00 45 Pn **Pn 01 00 37.6 +0.3**
PET Petropavlovsk 12.00 45 *e*PN **Pn 01 00 37.3 0.0**
PET *e*S **S 01 02 45.5 -5.3**
PET pmax pmax
comp=Z,23nm,0.6s
PET Petropavlovsk 12.00 45 *e*P **Pn 01 00 37.3 0.0**
PET AMB AMB 01 00 44.2
comp=Z,20nm,0.6s
BNX BinXian 12.05 278 ⇓P **Pn 01 00 37.9 -0.1**
BNX pmax pmax
comp=Z,33nm,0.7s
HEH HeiHe 12.54 299 *e*P **Pn 01 00 43.8 -0.1**
HEH pmax pmax
comp=Z,47nm,0.7s
OCTB Oktyabr'skiy 12.94 312 *e*P **P 01 00 49.9 -0.1**
OCTB AMB AMB 01 00 50.4
comp=Z,50nm,0.8s
OCTB AMB AMB 01 00 50.4
comp=Z,50nm,0.8s
OCTB AMB AMB 01 00 50.4
comp=Z,90nm,0.8s
CN2 Changchun 13.72 270 P **Pn 01 00 58.0 -0.4**
CN2 pmax pmax
comp=Z,30nm,0.6s
ZEA Zeya 14.02 313 *e*P **P 01 01 02.2 +0.2**
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.6s
ZEA pmax pmax
comp=Z,90nm,0.7s
ZEA Zeya 14.02 313 *e*P **P 01 01 03.9 +1.9**
ZEA AMB AMB 01 01 04.0
comp=Z,60nm,0.7s
ZEA AMB AMB 01 01 04.0
comp=Z,40nm,0.7s
ZEA AMB AMB 01 01 04.0
comp=Z,90nm,0.7s
JMN Monobe 14.20 219 P **P 01 01 03.2 -1.1**
KSRS Korea Array 14.74 244 P **Pn 01 01 12.1 +1.4**
comp=Z,32nm,0.7s,baz=52,slow=11,SNR=84
KSRS ScP **ScP 01 09 11.0 +1.4**
comp=Z,1.2nm,0.8s,baz=121,slow=1.3,SNR=5.0
KS19 Wonju Array Si 14.75 244 Pn 01 01 10.8 0.0
MA2 Magadan 14.76 12 P **Pn 01 01 10.9 +0.3**
MA2 Magadan 14.76 12 P **Pn 01 01 10.6 -0.1**
comp=Z,5.0nm,0.6s,baz=198,slow=11,SNR=11
MA2 Magadan 14.76 12*ce*P **Pn 01 01 10.8 +0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.3s
KSAR Wonju Array Be 14.77 244 Pn 01 01 12.0 +0.9
KSAR Wonju Array Be 14.77 244 P **Pn 01 01 12.0 +0.9**
JNU Nakatsue 16.12 226 P **P 01 01 25.5 0.0**
JNU IAmb IAmb 01 01 30.5
comp=Z,25nm,0.9s
JNU Nakatsue 16.12 226 P **Pn 01 01 27.7 +0.5**
comp=Z,17nm,0.7s,baz=37,slow=5.1,SNR=8.5
JNU Nakatsue 16.12 226 P **Pn 01 01 29.4 +2.3**
HIA Hailar 17.27 292 P **P 01 01 36.8 -0.9**
HIA Hailar 17.27 292 *i*P **P 01 01 36.6 -1.1**
HIA pmax pmax
comp=Z,27nm,0.8s
DL2 Dalian 18.16 257 P **P 01 01 47.6 +0.3**
DL2 pmax pmax
comp=Z,48nm,0.6s
DL2 pmax pmax
comp=Z,200nm,4.6s
SEY Seymchan 18.21 11 P **P 01 01 47.8 +0.2**
comp=Z,3.3nm,0.3s,baz=156,slow=19,SNR=6.6
SEY Seymchan 18.21 11*ce*P **P 01 01 48.5 +0.9**
SEY pmax pmax
comp=Z,11nm,1.3s
SEY Seymchan 18.21 11 *e*P **P 01 01 48.5 +0.9**
YAK Yakutsk 18.84 338 P **P 01 01 53.0 -1.3**
YAK Yakutsk 18.84 338 P **P 01 01 53.3 -1.0**
comp=Z,25nm,0.5s,baz=135,slow=1.4,SNR=8.1
YAK S **S 01 05 09.5 -4.1**
comp=Z,10nm,0.5s,baz=142,slow=19,SNR=6.9
YAK Yakutsk 18.84 338 *e*P **P 01 01 54.4 0.0**
YAK *e*S **S 01 05 10.6 -3.0**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax smax
comp=N,119nm,2.3s
YAK smax smax
comp=E,87nm,2.7s
XLT XiLinHaoTe 20.29 276 ⇓*i*P **P 01 02 09.1 -1.1**
XLT pmax pmax
comp=E,44nm,0.8s
XLT pmax pmax
comp=E,150nm,4.9s
BJT Baijiatuau 21.48 266 P **P 01 02 20.2 -1.7**
BJT IAmb IAmb 01 02 24.6
comp=Z,22nm,0.7s
BJT Baijiatuau 21.48 266 P **P 01 02 20.2 -1.7**
BJT pmax pmax
comp=Z,22nm,0.7s
BOD Bodaibo 22.52 315 *e*P **P 01 02 28.6 -2.5**
BOD pmax pmax
comp=Z,34nm,1.3s
JOW Kunigami 22.59 221 P **P 01 02 32.4 +0.3**
TIA Tai'an 22.60 256 P **P 01 02 33.4 +1.3**
TIA pmax pmax
comp=Z,43nm,0.8s
HHC Hu-ho-hao-te 24.41 271 *e*P **P 01 02 50.1 +1.5**
HHC S **S 01 06 44.9 -3.2**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,110nm,3.9s
BILL Bilibino 25.42 19 *i*P **P 01 02 56.6 -0.6**
BILL pmax pmax
comp=Z,2.0nm,0.9s
BTO Baotou 25.59 272 *e*P **P 01 03 01.0 +1.8**
BTO pmax pmax
comp=Z,24nm,0.7s
BTO pmax pmax
comp=Z,500nm,3.8s
ULN Ulaanbaatar 25.74 289 P 01 03 00.7 +0.1
ULN IAmb IAmb 01 03 02.1
comp=Z,9.3nm,0.8s
ULN Ulaanbaatar 25.74 289 *i*P **P 01 03 01.4 +0.8**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 25.74 289 *i*P **P 01 03 01.4 +0.8**
SONM Songino Array 26.18 289 P 01 03 05.1 +0.6
SONM IAmb IAmb 01 03 07.9
comp=Z,9.5nm,0.8s
SONM Songino Array 26.18 289 P **P 01 03 05.1 +0.6**
comp=Z,7.5nm,0.5s,baz=82,slow=8.7,SNR=58
SONM PcP **PcP 01 06 24.8 +1.2**
comp=Z,0.3nm,0.5s,baz=87,slow=3.2,SNR=1.9
SONM ScP **ScP 01 09 37.7 +0.6**
comp=Z,1.2nm,1.0s,baz=90,slow=1.4,SNR=4.1
comp=Z,7.5nm,0.5s
LYN LuoYang 26.70 258 P **P 01 03 14.4 +5.4**
LYN pmax pmax
comp=Z,36nm,1.0s
MOY Mondy 29.21 298 *e*P **P 01 03 31.6 +0.4**
MOY pmax pmax
comp=Z,17nm,2.2s
TPUB Ta-pu 29.35 230 P **P 01 03 32.7 0.0**
GAMB Gambell 30.52 37 P **P 01 03 42.6 +0.2**
baz=254
LZH Lanzhou 31.93 268 *e*P **P 01 03 57.3 +2.0**
LZH pP pP 01 04 45.3 -3.0
LZH sP sP 01 05 21.6 +2.2
LZH pmax pmax
comp=Z,41nm,1.2s
UNV Unalaska Valle 32.27 57 P **P 01 03 58.6 +0.9**
baz=275
M11K Mekoryuk 32.44 45 P **P 01 03 59.9 +0.7**
baz=265
TNA Tin City 32.57 35 P **P 01 04 01.0 +0.8**
baz=255
GTA Gaotai 33.25 276 ⇓P **P 01 04 08.3 +1.7**
GTA pP pP 01 05 05.0 +5.1
GTA pmax pmax
comp=Z,26nm,0.9s
K13K Kusilvak Mount 33.34 42 P **P 01 04 07.9 +1.0**
baz=264
ANM Nome 33.41 37 P **P 01 04 08.6 +1.2**
baz=259
M13K Dall Lake 33.86 45 P **P 01 04 13.0 +1.7**
baz=268
F15K North Star Dit 33.93 35 P **P 01 04 12.5 +0.6**
baz=258
J14K Nanvaranak Lak 33.94 40 P **P 01 04 12.8 +0.7**
baz=264
FALS False Pass 33.98 55 P **P 01 04 13.5 +1.0**
baz=276
L14K Kuka Creek 34.23 43 P **P 01 04 14.8 +0.3**
baz=267
C16K Lisburne Hills 34.28 30 P **P 01 04 15.7 +0.8**
baz=254
M14K Bethel 34.56 44 P **P 01 04 18.7 +1.4**
M14K IAmb IAmb 01 04 19.9
comp=Z,16nm,0.7s
M14K Bethel 34.56 44 P **P 01 04 17.9 +0.6**
baz=268
N14K Kuskokwak Cree 34.68 46 P **P 01 04 19.4 +1.1**
baz=270
H16K Elim 34.75 37 P **P 01 04 18.8 -0.1**
baz=262
L15K Ungalak Mounta 34.82 42 P **P 01 04 19.9 +0.3**
baz=267
K15K Wolf Creek Mou 34.84 41 P **P 01 04 19.7 0.0**
baz=266
O14K Tigyukauivet M 34.90 47 P **P 01 04 20.7 +0.5**
baz=271
D17K Noatak River 34.96 32 P **P 01 04 20.9 +0.2**
baz=257
C17K DeLong Mountai 35.11 30 P **P 01 04 21.5 -0.5**
baz=256
M15K Kasigluk River 35.18 44 P **P 01 04 22.8 +0.1**
baz=270
E17K Hotham Inlet 35.31 33 P **P 01 04 23.8 +0.1**
baz=259
J16K Anvik River 35.33 40 P **P 01 04 23.5 -0.4**
baz=266
I17K Unalakleet 35.34 39 P **P 01 04 24.1 +0.2**
I17K IAmb IAmb 01 04 26.8
comp=Z,7.4nm,0.8s
I17K Unalakleet 35.34 39 P **P 01 04 23.8 -0.1**
baz=265
N15K Kwethluk River 35.48 45 P **P 01 04 26.3 +1.1**
baz=271
G17K Kiwalik Mounta 35.53 36 P **P 01 04 25.9 +0.3**
baz=263
SDPT Sand Point 35.60 53 P **P 01 04 26.6 +0.4**
baz=277
O15K Ungalikthiuk R 35.64 47 P **P 01 04 27.2 +0.7**
baz=272
H17K Granite Mounta 35.78 37 P **P 01 04 27.8 +0.1**
baz=264
B18K Kokolik River 35.81 29 P **P 01 04 28.0 +0.1**
baz=256
E18K Tukpahlearik C 35.84 33 P **P 01 04 27.8 -0.4**
baz=260
C18K Utukok River 35.86 30 P **P 01 04 27.1 -1.3**
C18K Utukok River 35.86 30 P **P 01 04 28.3 -0.1**
baz=258
S14K Fog Glacier 36.01 52 P **P 01 04 30.1 +0.3**
baz=277
J17K VABM Dome 36.02 40 P **P 01 04 30.1 +0.4**
baz=267
M16K Timber Creek 36.03 44 P **P 01 04 29.5 -0.3**
baz=271
F18K Selawik 36.08 34 P **P 01 04 30.5 +0.3**
baz=262
N16K Nishlik Lake 36.13 45 P **P 01 04 31.4 +0.7**
baz=272
CNBA Chernabura Isl 36.18 54 P **P 01 04 30.5 -0.6**
L17K Donlin 36.34 42 P **P 01 04 33.2 +0.7**
baz=270
K17K Iditarod 36.35 41 P **P 01 04 32.9 +0.4**
baz=269
G18K Tagagawik 36.40 35 P **P 01 04 33.3 +0.3**
baz=264
H18K Honhosa River 36.45 37 P **P 01 04 32.8 -0.6**
H18K Honhosa River 36.45 37 P **P 01 04 34.2 +0.8**
baz=266
O16K Kokwok River B 36.50 46 P **P 01 04 33.8 -0.1**
baz=273
P16K Nushagak River 36.59 47 P **P 01 04 35.7 +1.1**
baz=274
M17K Holitna River 36.76 43 P **P 01 04 37.0 +1.0**
M17K IAmb IAmb 01 04 38.9
comp=Z,24nm,0.8s
M17K Holitna River 36.76 43 P **P 01 04 35.8 -0.2**
baz=271
N17K Nushagak Hills 36.91 44 P **P 01 04 37.7 +0.5**
baz=273
R16K Pilot Point 36.94 49 P **P 01 04 38.4 +0.9**
baz=276
D19K Kuna River 36.94 31 P **P 01 04 37.1 -0.4**
baz=261
NRIK Noril'sk 36.98 330 P **P 01 04 36.9 -0.8**
NRIK Noril'sk 36.98 330 P **P 01 04 36.5 -1.2**
comp=Z,2.5nm,0.3s,baz=90,slow=8.1,SNR=9.6
NRIK S **S 01 09 58.6 -3.4**
comp=Z,1.7nm,0.3s,baz=108,slow=20,SNR=1.2
NRIK ScP **ScP 01 10 13.5 +0.6**
comp=Z,1.2nm,0.5s,baz=90,slow=4.0,SNR=5.4
comp=Z,2.5nm,0.3s
NRIK Noril'sk 36.98 330*ce*P **P 01 04 36.9 -0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.4s
O17K Koliganek Bris 37.00 46 P **P 01 04 38.6 +0.6**
baz=274
G19K Purcell Mounta 37.06 35 P **P 01 04 37.5 -0.9**
G19K Purcell Mounta 37.06 35 P **P 01 04 38.1 -0.3**
baz=265,SNR=5.9
J18K Innoko River 37.09 40 P **P 01 04 38.8 +0.1**
baz=269
L18K Granite Mounta 37.10 42 P **P 01 04 40.1 +1.3**
baz=271
E19K Redstone River 37.13 33 P **P 01 04 39.0 0.0**
baz=264
H19K Roundabout Mou 37.28 36 P **P 01 04 40.5 +0.2**
baz=267
Q16K King Salmon 37.31 47 P **P 01 04 40.6 0.0**
baz=276
P17K Kvichak River 37.38 47 P **P 01 04 41.4 +0.3**
baz=275
D20K Etivluk River 37.52 31 P **P 01 04 41.4 -0.9**
baz=262
B20K Meade River 37.53 29 P **P 01 04 41.9 -0.4**
baz=260
M18K Stony River 37.53 43 P **P 01 04 42.4 0.0**
baz=273
N18K Kilae Creek 37.54 44 P **P 01 04 42.6 +0.1**
baz=274
J19K Poorman 37.58 39 P **P 01 04 43.4 +0.5**
baz=270
E20K Nigu River 37.62 32 P **P 01 04 42.9 -0.2**
baz=264
F20K Avaraart Lake 37.68 34 P **P 01 04 43.8 +0.2**
baz=266
H20K Anotleneega Mo 37.93 36 P **P 01 04 46.2 +0.5**
baz=268
O18K Koktuh Hills 37.94 45 P **P 01 04 46.8 +0.9**
baz=275
A21K Barrow 37.95 27 P **P 01 04 46.3 +0.5**
baz=259
L19K White Mountain 37.96 42 P **P 01 04 46.9 +0.8**
baz=273
P18K Big Mountain, 37.98 46 P **P 01 04 47.0 +0.7**
baz=276
I20K Naaghedeneel 38.08 37 P **P 01 04 47.8 +0.8**
baz=270
Q18K Katmai Hardscr 38.17 47 P **P 01 04 48.8 +0.9**
baz=277
M19K Big River Lodg 38.19 42 P **P 01 04 49.0 +1.1**
baz=273
N19K Bonanza Creek 38.22 44 P **P 01 04 48.8 +0.5**
baz=275
J20K Nowinta River 38.23 38 P **P 01 04 49.1 +0.9**
baz=271
C21K Knifeblade Rid 38.23 30 P **P 01 04 47.4 -0.8**
baz=264,SNR=8.1
GOMU GeErMu 38.24 274 P **P 01 04 49.8 +0.7**
GOMU pmax pmax
comp=Z,42nm,0.8s
K20K Telida 38.28 40 P **P 01 04 48.0 -0.7**
baz=272
B21K Ikpikpuk River 38.35 30 P **P 01 04 48.9 -0.2**
baz=263
O19K Port Alsworth 38.35 45 P **P 01 04 49.5 +0.2**
baz=276
L20K Farewell, AK 38.40 41 P **P 01 04 49.0 -0.7**
baz=273
A22K Sinclair Lake 38.41 27 P **P 01 04 49.0 -0.6**
baz=261
G21K Allakaket 38.52 35 P **P 01 04 50.2 -0.4**
baz=268
F21K Alatna River 38.56 33 P **P 01 04 51.0 0.0**
baz=267,SNR=9.6
ZAA0 Zalesovo Array 38.58 305 P **P 01 04 50.3 -1.0**
ZALV Zalesovo Beam 38.58 305 P **P 01 04 50.2 -1.1**
ZALV Zalesovo Beam 38.58 305 P **P 01 04 50.5 -0.8**
comp=Z,2.7nm,0.4s,baz=72,slow=8.1,SNR=14
ZALV PcP **PcP 01 06 58.4 +0.8**
comp=Z,3.1nm,0.7s,baz=73,slow=3.5,SNR=8.8
ZALV ScP **ScP 01 10 19.6 +0.3**
comp=Z,1.0nm,0.6s,baz=81,slow=2.8,SNR=6.1
comp=Z,2.7nm,0.4s
R18K Karluk 38.61 49 P **P 01 04 52.3 +0.9**
baz=279
M20K Styx River 38.79 42 P **P 01 04 52.4 -0.6**
baz=274
H21K Melozitna Rive 38.80 36 P **P 01 04 52.3 -0.6**
H21K Melozitna Rive 38.80 36 P **P 01 04 53.1 +0.2**
baz=270
B22K Teshekpuk Lake 38.84 28 P **P 01 04 52.7 -0.4**
baz=264
Q19K Cape Douglas, 38.84 47 P **P 01 04 53.2 -0.2**
baz=278
PZH PanZhiHua 38.90 256 P **P 01 04 55.3 +0.9**
PZH pmax pmax
comp=Z,30nm,0.6s
PZH pmax pmax
comp=Z,150nm,4.3s
P19K Oil Pt 38.96 46 P **P 01 04 54.9 +0.6**
baz=277
D22K Ayikyak River 38.96 31 P **P 01 04 54.2 0.0**
baz=266
CHUM Lake Minchumin 39.04 39 P **P 01 04 55.2 +0.3**
baz=273
F22K John River 39.08 33 P **P 01 04 55.2 0.0**
baz=268
KMI Kunming 39.12 253 P **P 01 04 57.8 +1.4**
KMI pmax pmax
comp=Z,16nm,1.0s
I21K Tanana 39.14 37 P **P 01 04 55.8 0.0**
baz=271
PPLA Purkeypile 39.15 40 P **P 01 04 56.4 +0.3**
baz=274
CAST Castle Rocks 39.17 40 P **P 01 04 55.8 -0.2**
baz=273
O20K Slope Mountain 39.21 45 P **P 01 04 55.5 -0.9**
baz=277
E22K Anaktuvuk Pass 39.24 32 P **P 01 04 55.9 -0.7**
E22K IAmb IAmb 01 04 57.2
comp=Z,17nm,0.6s
E22K Anaktuvuk Pass 39.24 32 P **P 01 04 56.4 -0.2**
baz=268
OHAK Old Harbor 39.29 49 P **P 01 04 57.7 +0.6**
OHAK Old Harbor 39.29 49 P **P 01 04 56.9 -0.1**
baz=280
SPCR Spurr Chakacha 39.29 43 P **P 01 04 57.0 -0.1**
baz=276
H22K Ishtalitna Cre 39.38 36 P **P 01 04 57.6 -0.1**
baz=271
Q20K Shuyak Island 39.53 47 P **P 01 04 59.1 +0.1**
baz=279
KDAK Kodiak Island 39.57 48 P **P 01 04 59.2 -0.1**
baz=280
D23K Nanushuk River 39.69 31 P **P 01 05 00.4 +0.2**
baz=268
C23K Itkillik River 39.75 29 P **P 01 05 00.8 +0.1**
baz=267,SNR=5.9
HOM Homer 39.76 45 P **P 01 05 01.0 +0.1**
baz=278
WMQ Urumqi 39.82 289 *e*P **P 01 05 03.4 +1.7**
WMQ pmax pmax
comp=Z,41nm,1.1s
WMQ pmax pmax
comp=Z,160nm,3.7s
COLD Coldfoot 39.84 33 P **P 01 05 01.9 +0.4**
baz=270
G23K Bananza Creek 39.91 34 P **P 01 05 02.4 +0.3**
baz=271,SNR=9.2
SUA Susitna One 39.96 43 P **P 01 05 02.8 +0.1**
baz=277
TRF Thorofare Moun 39.97 39 P **P 01 05 02.8 0.0**
baz=275
E23K Chandalar 40.06 32 P **P 01 05 03.1 -0.2**

baz=270,SNR=16
CUT Chulitna 40.08 41 P P 01 05 03.6 +0.2
baz=276
TOLK Toolik Lake Re 40.08 31 P P 01 05 03.0 -0.5
TOLK Toolik Lake Re 40.08 31 P P 01 05 03.4 -0.1
baz=269
H23K Yukon River 40.14 36 P P 01 05 03.4 -0.5
baz=273
BRSE Bradley Lake S 40.20 45 P P 01 05 04.2 -0.4
baz=279
I23K Minto, Yukon-K 40.25 37 P P 01 05 04.7 -0.1
baz=274
D24K Happy Valley 40.36 30 P P 01 05 05.3 -0.4
baz=269
C24K Franklin Bluff 40.41 30 P P 01 05 05.3 -0.8
baz=269
NEA2 Nenana 40.41 38 P P 01 05 06.3 +0.1
baz=275
E24K Your Creek 40.48 32 P P 01 05 07.1 +0.3
baz=271
MCK McKinley 40.55 39 P P 01 05 07.0 -0.3
baz=276
O22K Cooper Landing 40.59 44 P P 01 05 07.9 +0.3
baz=279
PMR Palmer 40.71 42 P P 01 05 08.3 -0.3
baz=278
F24K Squaw Lake 40.73 33 P P 01 05 08.4 -0.3
baz=272,SNR=13
SEW Seward 40.78 44 P P 01 05 08.3 -0.9
baz=280
H24K Noodor Dome 40.82 36 P P 01 05 09.3 -0.2
baz=274
COLA College 40.91 37 P P 01 05 10.4 +0.2
baz=275
G24K Hadweenzic Riv 40.93 34 P P 01 05 10.7 +0.4
baz=274
KNK Knik Glacier 41.06 42 P P 01 05 12.0 +0.5
baz=279
SML Sawmill 41.06 42 P P 01 05 11.3 -0.2
baz=278
POKR Poker Plat Res 41.07 37 P P 01 05 12.4 +1.0
baz=275
PWL Port Wells 41.20 43 P P 01 05 13.2 +0.5
PWL IAmb IAmb 01 05 39.8
comp=Z,38nm,1.1s
PWL Port Wells 41.20 43 P P 01 05 12.3 -0.4
baz=280
D25K Kavik River 41.23 30 P P 01 05 12.1 -0.7
baz=272,SNR=15
ILAR Eielson Array 41.33 37 P P 01 05 13.2 -0.4
comp=Z,2.9nm,0.6s,baz=275,slow=7.5,SNR=32
ILAR ScP ScP 01 10 29.0 -0.9
comp=Z,0.4nm,0.8s,baz=281,slow=5.4,SNR=5.0
comp=Z,2.9nm,0.6s
M23K Glacier View 41.34 42 P P 01 05 14.3 +0.5
baz=279
HDA Harding Lake 41.35 38 P P 01 05 14.4 +0.6
baz=277
G25K Bearman Lake 41.47 34 P P 01 05 15.7 +1.0
baz=275
SCM Sheep Creek Mo 41.52 42 P P 01 05 15.2 -0.1
baz=279
E25K Arctic Village 41.58 32 P P 01 05 15.4 -0.2
baz=274
F25K Christian Rive 41.58 33 P P 01 05 15.3 -0.4
baz=274,SNR=7.5
H25L Birch Creek 41.62 35 P P 01 05 15.7 -0.3
baz=276
C26K Camden Bay 41.73 29 P P 01 05 16.5 -0.2
baz=272
PRP Porcupine Dome 41.82 36 P P 01 05 17.5 -0.3
baz=277
FYU Fort Yukon 41.83 34 P P 01 05 17.9 +0.3
FYU IAmb IAmb 01 05 19.8
comp=Z,9.0nm,0.6s
K24K Donnelly Dome 41.93 39 P P 01 05 18.5 0.0
baz=278
J25K Salcha River, 42.00 37 P P 01 05 18.7 -0.4
baz=278
BMAR Burnt Mountain 42.01 33 P P 01 05 19.0 -0.1
M24K Tolsona, Glenn 42.02 41 P P 01 05 18.7 -0.6
baz=280
F26K Sheenjek River 42.15 33 P P 01 05 19.9 -0.3
baz=275,SNR=12
C27K Jago River 42.16 30 P P 01 05 20.0 -0.2
baz=274
MK31 Makanchi Array 42.23 295 P P 01 05 21.6 +0.4
MK31 IAmb IAmb 01 05 22.7
comp=Z,18nm,0.7s
MK31 Makanchi Array 42.23 295 *ceP* P 01 05 21.3 +0.1
MKAR Makanchi Array 42.23 295 P P 01 05 21.4 +0.2
comp=Z,13nm,0.5s,baz=77,slow=9.0,SNR=182
MKAR ScP ScP 01 10 33.7 -0.2
comp=Z,1.4nm,1.0s,baz=64,slow=4.4,SNR=5.1
comp=Z,13nm,0.5s
KLU Klutina 42.24 42 P P 01 05 21.5 +0.4
baz=281
RIDG Independent Ri 42.35 39 P P 01 05 22.3 +0.4
baz=279
G26K Porcupine Rive 42.36 34 P P 01 05 21.8 -0.1
baz=276
MAKZ Makanchi 42.43 295 P P 01 05 23.2 +0.4
MAKZ IAmb IAmb 01 05 24.3
comp=Z,21nm,0.8s
MAKZ Makanchi 42.43 295 ⇓P P 01 05 23.4 +0.7
HARP HAARP 42.44 41 P P 01 05 23.2 +0.6
baz=280
Q23K Middleton Isla 42.45 45 P P 01 05 22.7 0.0
baz=283
EYAK Cordova Ski Ar 42.51 43 P P 01 05 23.6 +0.4
baz=282
SCRK Sand Creek 42.69 38 P P 01 05 24.3 -0.4
SCRK Sand Creek 42.69 38 P P 01 05 24.6 -0.2
baz=280
J26L Joseph Creek 42.79 37 P P 01 05 25.3 -0.1
baz=279
I26K Coal Creek Min 42.83 36 P P 01 05 25.9 +0.2
baz=279
N25K Chitina, Valde 42.84 42 P P 01 05 25.1 -0.9
baz=282
BMRM Bremner River 42.97 43 P P 01 05 27.0 +0.1
baz=282
E27K Coleen River 43.05 32 P P 01 05 27.9 +0.5
baz=277
KURK Kurchatov 43.12 302 P P 01 05 28.0 -0.2
KURK IAmb IAmb 01 05 30.1
comp=Z,21nm,1.1s
KURK Kurchatov 43.12 302 *ceP* P 01 05 28.1 -0.1
KURK pmax pmax
comp=Z,15nm,0.8s
L26K Log Cabin Wild 43.14 39 P P 01 05 28.6 +0.4
baz=281
D27M Malcolm River 43.16 30 P P 01 05 27.7 -0.6
baz=276
KURBB Kurchatov Arra 43.21 302 P P 01 05 28.7 -0.1
comp=Z,13nm,0.7s,baz=72,slow=8.8,SNR=72
KURBB PcP PcP 01 07 13.4 +0.7
comp=Z,0.9nm,0.4s,baz=72,slow=3.2,SNR=4.8
comp=Z,13nm,0.7s
G27K Doyon Strip 43.21 34 P P 01 05 29.1 +0.4
baz=278
KAIM Kayak Island 43.29 44 P P 01 05 30.1 +0.7
baz=284
H27K Steamboat Moun 43.35 35 P P 01 05 29.6 -0.3
baz=279
I27K Kandik River 43.42 35 P P 01 05 30.7 +0.2
baz=280
M26K Nabesna, AK 43.42 40 P P 01 05 31.0 +0.5
baz=282
K27K Chicken 43.51 38 P P 01 05 31.6 +0.6
baz=281
E28M Babbage River 43.75 31 P P 01 05 33.3 +0.3
baz=278
L27K Beaver Creek, 43.81 39 P P 01 05 33.3 -0.3
baz=282
BCAR Beaver Creek A 43.83 39 P P 01 05 34.8 +1.1
D28M Stokes Point 43.93 30 P P 01 05 34.5 +0.2
baz=278
M27K Edge Creek, AK 43.94 40 P P 01 05 34.3 -0.4
baz=283
I28M Miner Creek 44.14 36 P P 01 05 34.9 -1.3
baz=281
E29M Blow River 44.38 31 P P 01 05 37.9 -0.1
E29M Blow River 44.38 31 P P 01 05 37.0 -1.0
baz=280,SNR=6.5
BVCY Beaver Creek 44.39 40 P P 01 05 37.7 -0.4
baz=284
MESA MESA 44.43 43 P P 01 05 37.9 -0.8
baz=285
G29M Pine Creek 44.61 33 P P 01 05 39.9 +0.1
baz=282
H29M Whitestone 44.61 34 P P 01 05 39.4 -0.4
baz=282
DAWY Dawson 44.66 37 P P 01 05 40.5 +0.3
baz=283
YUK3 Moose Creek 44.73 41 P P 01 05 40.6 -0.4
baz=285
J29N Klondike Camp 45.07 37 P P 01 05 43.6 +0.2
baz=284
O28M Mount Upton 45.12 42 P P 01 05 44.9 +0.8
baz=286
YUK8 Steele Glacier 45.18 41 P P 01 05 44.9 +0.3
baz=286
DLV Lat 45.27 234 P P 01 05 45.2 -0.5
PINM Pinnacle 45.27 43 P P 01 05 45.3 +0.2
baz=286
G30M tAoh Zraii Nji 45.29 33 P P 01 05 45.7 +0.5
baz=283
F30M Barrier River 45.32 32 P P 01 05 46.2 +0.9
baz=283
L29M L29M 45.44 39 P P 01 05 47.0 +0.7
baz=285
M29M Somme Creek 45.46 39 P P 01 05 47.4 +0.8
baz=286
K29M Barlow Dome 45.51 37 P P 01 05 47.8 +0.8
baz=285
I30M Mount Dempster 45.64 35 P P 01 05 48.6 +0.6
baz=284
YUK4 Talbot Arm 45.68 41 P P 01 05 49.7 +1.2
baz=286
J30M Hart River 45.83 36 P P 01 05 50.0 +0.5
baz=285
YUK6 Outpost Mounta 45.93 41 P P 01 05 51.1 +0.7
baz=287
INK Inuvik 45.99 31 P P 01 05 50.0 -0.4
INK Inuvik 45.99 31 P P 01 05 50.0 -0.4
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 45.99 31 P P 01 05 50.8 +0.4
baz=284
CHTO Chiang Mai 46.01 250 P P 01 05 51.9 +0.6
CHTO IAmb IAmb 01 05 53.4
comp=Z,11nm,0.6s
CHTO Chiang Mai 46.01 250 P P 01 05 51.9 +0.6
CHTO pmax pmax
comp=Z,11nm,0.6s
O29M Mount Kennedy 46.02 42 P P 01 05 51.0 0.0
baz=287
F31M Tsiigehtchic 46.12 32 P P 01 05 51.9 +0.4
baz=284
M30M Minto, Yukon 46.17 39 P P 01 05 52.5 +0.4
baz=287
CM31 Chiang Mai Arr 46.26 250 P P 01 05 53.5 +0.3
CMAR Chiang Mai Arr 46.26 250 P P 01 05 53.6 +0.3
CMAR Chiang Mai Arr 46.26 250 P P 01 05 54.7 +1.4
comp=Z,3.2nm,0.7s,baz=45,slow=7.0,SNR=20
CMAR PP PP 01 07 46.7 +1.1
comp=Z,2.2nm,0.3s,baz=32,slow=10,SNR=6.5
CMAR ScP ScP 01 10 52.4 +1.6
comp=Z,0.7nm,0.3s,baz=45,slow=3.4,SNR=8.1
comp=Z,3.2nm,0.7s
H31M Peel River 46.31 34 P P 01 05 53.5 +0.4
baz=286
SHL Shillong 46.33 263 P P 01 05 54.0 +0.1
SHL IAmb IAmb 01 05 55.0
comp=Z,11nm,0.7s
SHL Shillong 46.33 263 P P 01 05 54.0 +0.1
SHL pmax pmax
comp=Z,11nm,0.7s
HYT Haines Junctio 46.36 41 P P 01 05 55.4 +1.7
HYT IAmb IAmb 01 05 56.8
comp=Z,28nm,0.9s
HYT Haines Junctio 46.36 41 P P 01 05 54.4 +0.8
baz=288
N30M Aishikik Lake 46.37 41 P P 01 05 54.1 +0.5
baz=287
WUS Wushi 46.60 289 P P 01 05 56.8 +1.0
P30M Million Dollar 46.84 42 P P 01 05 57.4 +0.2
baz=289
N31M Braeburn, Yuko 46.95 40 P P 01 05 58.6 +0.5
baz=288
O30N Mendenhall 47.04 41 P P 01 05 59.1 +0.3
baz=289
BVAR Borovoye Array 47.08 307 P P 01 05 59.0 -0.1
BVAR PcP sP 01 07 26.8 +0.7
comp=Z,8.4nm,0.5s,baz=66,slow=9.3,SNR=37
BVAR PP PP 01 07 50.0 -2.3
comp=Z,2.0nm,0.6s,baz=67,slow=2.4,SNR=4.8
BVAR ScP ScP 01 10 54.3 +0.5
comp=Z,1.3nm,0.6s,baz=59,slow=12,SNR=2.9
comp=Z,0.6nm,0.7s,baz=5.4,slow=2.8,SNR=2.8
comp=Z,8.4nm,0.5s
BRVK Borovoye 47.13 308 P P 01 05 59.7 +0.2
BRVK IAmb IAmb 01 06 00.8
comp=Z,9.0nm,0.7s
BRVK Borovoye 47.13 308 *ceP* P 01 05 59.8 +0.3
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 47.13 308 *eP* P 01 05 59.8 +0.3
PLBC Pleasant Camp 47.34 43 P P 01 06 02.0 +1.0
baz=290
M31M Drury Creek, Y 47.35 39 P P 01 06 02.0 +0.9
baz=289
KDJ Kajisay 47.51 291 P P 01 06 03.9 +1.0
KDJ IAmb IAmb 01 06 05.0
comp=Z,19nm,0.6s
KDJ Kajisay 47.51 291 P P 01 06 03.9 +1.0
KDJ pmax pmax
comp=Z,19nm,0.6s
WHY Whitehorse 47.64 41 P P 01 06 04.9 +1.5
WHY IAmb IAmb 01 06 06.2
comp=Z,51nm,1.3s
WHY Whitehorse 47.64 41 P P 01 06 03.3 -0.1
baz=290
A36M Sachs Harbour 47.72 25 P P 01 06 04.8 +1.1
baz=288
FARO Faro, Yukon 47.80 39 P P 01 06 04.4 -0.2
baz=290
S31K Pelican 47.93 45 P P 01 06 05.7 +0.2
baz=291
ULHL Ulahol 48.07 292 P P 01 06 08.4 +1.3
SNR=19
BOOM Boomskoye usch 48.15 292 P P 01 06 09.1 +1.4
BOOM IAmb IAmb 01 06 10.2
comp=Z,23nm,0.7s
BOOM Boomskoye usch 48.15 292 P P 01 06 09.1 +1.4
BOOM pmax pmax
comp=Z,23nm,0.7s
TKM2 Tokmak 2 48.18 293 P P 01 06 09.2 +1.3
SNR=22
N32M Quiet Lake 48.29 40 P P 01 06 09.0 +0.6
baz=291
P32M Atlin 48.56 42 P P 01 06 11.1 +0.7
baz=292
MMPY Sheldon Lake, 48.58 38 P P 01 06 09.6 -0.9
baz=291
R32K Eaglecrest 48.66 44 P P 01 06 11.1 0.0
baz=292
SIT Sitka 48.72 46 P P 01 06 11.5 0.0
baz=292
KBK Karagaybulak 48.72 293 P P 01 06 13.4 +1.3
SNR=15
USP Ospenovka 48.72 294 P P 01 06 13.1 +1.3
SNR=5.6
P33M Teslin, Yukon 48.75 41 P P 01 06 13.5 +1.6
P33M IAmb IAmb 01 06 14.7
comp=Z,9.7nm,0.8s
P33M Teslin, Yukon 48.75 41 P P 01 06 12.2 +0.3
baz=292
FRU Bishkek 48.85 293 *eP* P 01 06 13.6 +0.8
FRU1 Bishkek 48.85 293 P P 01 06 13.6 +0.7
FRU1 IAmb IAmb 01 06 14.6
comp=Z,14nm,0.9s
FRU1 Bishkek 48.85 293 P P 01 06 13.6 +0.7
FRU1 pmax pmax
comp=Z,14nm,0.9s
C36M Paulatuk 48.96 28 P P 01 06 13.6 +0.4
baz=291
AAK Ala-Archa 49.02 293 P P 01 06 15.1 +0.8
AAK IAmb IAmb 01 06 16.3
comp=Z,11nm,0.9s
AAK Ala-Archa 49.02 293 P P 01 06 15.1 +0.8
comp=Z,3.1nm,0.3s,baz=84,slow=5.1,SNR=22
comp=Z,3.1nm,0.3s
AAK Ala-Archa 49.02 293 P P 01 06 15.3 +1.1
SNR=14
AAK Ala-Archa 49.02 293 *ceP* P 01 06 15.4 +1.1
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 49.02 293 *eP* P 01 06 15.4 +1.1
EKS2 Erkin-Say 49.48 294 P P 01 06 18.8 +1.1
SNR=19
Q32M Nakina River 49.49 43 P P 01 06 17.3 -0.3
baz=293
KSH Kashi 49.58 289 P P 01 06 23.3 +4.8
KSH pmax pmax
comp=Z,10.0nm,0.8s
AML Almayashu 49.79 293 P P 01 06 21.7 +1.3
SNR=17
R33M Jennings River 49.93 42 P P 01 06 20.6 -0.2
baz=294
U33K Whale Pass 50.21 46 P P 01 06 22.7 -0.1
baz=295
S34M Telegraph Cree 50.45 44 P P 01 06 24.2 -0.4
baz=295
WRAK Wrangell Islan 50.48 46 P P 01 06 24.5 -0.2
baz=295
CRAG Craig 50.48 47 P P 01 06 25.7 +1.0
baz=295
ARSB Arslanbob 50.65 292 P P 01 06 27.6 +1.1
ARSB Arslanbob 50.65 292 P P 01 06 27.6 +1.1
ARSB pmax pmax
comp=Z,25nm,0.6s
SVE Sverdlovsk 50.73 315 *eP* P 01 06 26.4 -0.2
SVE pmax pmax
comp=Z,17nm,0.7s
DLBC Dease Lake 50.77 43 P P 01 06 29.3 +2.3
DLBC Dease Lake 50.77 43 P P 01 06 26.5 -0.5
baz=295
T35M Bob Quinn 51.28 44 P P 01 06 31.0 +0.3
baz=296
V35K Ketchikan 51.32 47 P P 01 06 32.0 +1.0
baz=296
KK31 Karatay Array 51.36 296 P P 01 06 31.7 +0.2
KK31 IAmb IAmb 01 06 33.1
comp=Z,21nm,0.7s
KK31 Karatay Array 51.36 296 P P 01 06 31.7 +0.2
KK31 pmax pmax
comp=Z,21nm,0.7s
KKAR Karatay Array 51.36 296 P P 01 06 31.9 +0.4
KKAR Karatay Array 51.36 296 P P 01 06 31.9 +0.4
EUNU Eureka 51.63 10 P P 01 06 32.5 -0.6
U35K Hyder 51.87 46 P P 01 06 36.0 +1.0
baz=297
ARTI Arti 52.04 315 P P 01 06 35.5 -0.9
ARTI IAmb IAmb 01 06 36.9
comp=Z,14nm,0.8s
ARTI Arti 52.04 315 P P 01 06 35.7 -0.6
comp=Z,11nm,0.6s,baz=72,slow=5.4,SNR=26
ARTI PcP PcP 01 07 45.0 +0.6
comp=Z,1.7nm,0.5s,baz=90,slow=8.1,SNR=3.2
comp=Z,11nm,0.6s
ARTI Arti 52.04 315 *c iP* P 01 06 34.8 -1.5
ARTI *PP pP 01 07 29.6 -4.6
ARTI 01 07 44.4
ARTI S S 01 13 37.6 -0.7
ARTI SS SS 01 17 14.0 -4.6
ARTI pmax pmax
comp=Z,11nm,0.7s
DRK Karamyk 52.37 291 P P 01 06 39.7 +0.3
DRK IAmb IAmb 01 06 40.7
comp=Z,8.5nm,0.6s
DRK Karamyk 52.37 291 P P 01 06 39.7 +0.3
DRK pmax pmax
comp=Z,9.0nm,0.6s
BTK Batken 52.71 292 P P 01 06 42.1 +0.5
BTK IAmb IAmb 01 06 43.1
comp=Z,11nm,0.5s
BTK Batken 52.71 292 P P 01 06 42.1 +0.5
BTK pmax pmax
comp=Z,11nm,0.5s
KOTAN Kotaneelee Air 52.77 39 P P 01 06 42.9 +1.3
baz=298
TOAD Toad River Com 52.83 41 P P 01 06 43.8 +1.7
baz=298
SPITS Spitsbergen Ar 52.88 348 P P 01 06 40.9 -1.2
comp=Z,8.4nm,1.0s,baz=76,slow=9.1,SNR=7.6
comp=Z,8.4nm,1.0s
SPITS Spitsbergen Ar 52.88 348 P P 01 06 41.0 -1.2
GAR Garm 53.60 291 P P 01 06 48.5 +0.3
RES Resolute Bay 53.99 16 P P 01 06 49.6 -0.6
RES Resolute Bay 53.99 16 P P 01 06 49.6 -0.6
RES pmax pmax
comp=Z,6.0nm,0.7s
NIL Nilore 54.59 284 P P 01 06 55.4 +0.2
NIL IAmb IAmb 01 06 57.3
comp=Z,32nm,1.0s
NIL Nilore 54.59 284 P P 01 06 55.4 +0.2
NIL pmax pmax
comp=Z,33nm,1.0s
ABKAR Akbulak array 54.64 307 P P 01 06 55.5 +0.2
ABKAR Akbulak array 54.64 307 P P 01 06 55.5 +0.2
ABKAR IAmb IAmb 01 06 56.5
comp=Z,30nm,0.5s
SIMJ Simiganj 54.64 292 P P 01 06 55.7 0.0
DZET Dzherino 54.68 292 P P 01 06 56.4 +0.5
DZET pmax pmax
comp=Z,22nm,0.8s
AKTO Aktyubinsk 55.11 309 P P 01 06 58.6 0.0
comp=Z,5.5nm,0.5s,baz=72,slow=8.4,SNR=29
comp=Z,5.5nm,0.5s
KBL Kabul 56.94 287 P P 01 07 11.6 -0.4
KBL IAmb IAmb 01 07 12.4
comp=Z,15nm,0.6s
KBL Kabul 56.94 287 P P 01 07 11.6 -0.4
KBL pmax pmax
comp=Z,15nm,0.6s
ARCES ARCESS Array B 57.12 339 P P 01 07 12.3 -0.2
comp=Z,7.9nm,1.2s,baz=43,slow=5.9,SNR=4.9
comp=Z,7.9nm,1.2s
DAG Danmarks Havn 57.72 355 P P 01 07 16.4 -0.1
DAG pmax pmax
comp=Z,5.0nm,2.0s
GSI Gunungsitoli 60.19 237 P P 01 07 35.2 +1.0
GSI IAmb IAmb 01 07 37.3
comp=Z,11nm,0.6s
HRA Herat 61.55 291 P P 01 07 43.8 +0.4
HRA IAmb IAmb 01 07 44.8
comp=Z,7.8nm,0.6s
SUMG Summit 62.39 1 P P 01 07 48.9 +0.3
SUMG Summit 62.39 1 P P 01 07 48.9 +0.3
SUMG pmax pmax
comp=Z,5.0nm,0.9s
F07A Phinny Hill Vi 62.62 52 P P 01 07 51.2 +1.2
F07A IAmb IAmb 01 07 52.8
comp=Z,11nm,0.9s
FINES FINESS Array B 62.62 332 P P 01 07 49.2 -0.6
comp=Z,4.3nm,0.5s,baz=45,slow=7.2,SNR=34
comp=Z,4.3nm,0.5s
OBN Obninsk 62.95 322⇑ *eP* P 01 07 51.7 -0.3
OBN *PP pP 01 08 56.0 +3.7
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 62.95 322 *eP* P 01 07 51.7 -0.3
VRH Novokhopyorsk 63.12 317 *eP* P 01 07 52.4 -0.8
VRH pmax pmax
comp=Z,21nm,0.7s
KHMM Horse Mountain 63.51 58 P P 01 07 56.9 +0.8
KHMM IAmb IAmb 01 08 19.6
comp=Z,23nm,1.4s
LPSR Galich'ya Gora 63.54 319 *eP* P 01 07 54.3 -1.6
LPSR pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 63.58 57 P P 01 07 58.0 +1.4
YBH Yreka Blue Hor 63.58 57 P P 01 07 58.0 +1.4
YBH pmax pmax
comp=Z,4.0nm,0.8s
VORR Voronezh 64.01 318 *eP* P 01 07 58.8 -0.2
VORR pmax pmax
comp=Z,13nm,0.4s
VSR Storozhevoye 64.33 318 *eP* P 01 07 59.2 -1.9
VSR pmax pmax
comp=Z,10.0nm,0.8s
O02D Mt. Diablo Mer 64.50 58 P P 01 08 04.1 +1.5
O02D IAmb IAmb 01 08 05.5
comp=Z,11nm,1.2s
WB0 Warramunga Arr 65.43 191 P P 01 08 08.7 +0.2
WB0 IAmb IAmb 01 08 12.7
comp=Z,8.2nm,1.4s
FFC Flin Flon 65.52 36 P P 01 08 09.5 +0.8
FFC IAmb IAmb 01 08 10.5

comp=Z,6.1nm,0.9s
FFC Flin Flon 65.52 36 P P 01 08 09.5 +0.8
FFC pmax pmax
comp=Z,6.0nm,1.0s
FCC Fort Churchill 65.57 29 P P 01 08 09.6 +0.7
FCC IAmb IAmb 01 08 09.8
comp=Z,6.6nm,0.6s
FCC Fort Churchill 65.57 29 P P 01 08 09.6 +0.7
FCC pmax pmax
comp=Z,7.0nm,0.6s
WRA Warramunga Arr 65.61 191 P P 01 08 10.2 +0.5
comp=Z,0.4nm,0.4s,baz=6.3,slow=6.6,SNR=12
comp=Z,0.4nm,0.4s
HRY Holter Researc 66.42 47 P P 01 08 16.0 +1.3
SEKA Sheki 66.62 305 P P 01 08 17.4 +1.4
MNGR Mingechevir, A 66.97 305 P P 01 08 19.4 +1.3
MNK Minsk 66.99 326 *i* P **P 01 08 17.7 -0.3**
MNK *i* 01 08 43.8
MNK *i* *PP **pP 01 09 18.8 -0.3**
MNK *i* PPP PPP 01 12 29.6
MNK *i* S **S 01 16 49.1 +0.3**
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=E,19nm,1.0s
BOZ Bozeman (W) 67.27 48 P P 01 08 21.3 +1.2
BOZ IAmb IAmb 01 08 22.4
comp=Z,6.4nm,0.9s
BOZ Bozeman (W) 67.27 48 P P 01 08 21.3 +1.2
BOZ pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 67.31 58 P P 01 08 21.1 +0.8
CMB IAmb IAmb 01 08 22.6
comp=Z,4.3nm,0.8s
CMB Columbia Colle 67.31 58 P P 01 08 21.1 +0.8
CMB pmax pmax
comp=Z,4.0nm,0.8s
LKRN Lenkeran, Azer 67.31 302 P P 01 08 21.0 +0.8
KVAR Kislovodsk Arr 67.33 310 P P 01 08 21.5 +1.0
comp=Z,8.7nm,0.9s,baz=79,slow=5.2,SNR=9.5
comp=Z,8.7nm,0.9s
KIV Kislovodsk 67.34 310 P P 01 08 21.5 +1.0
KIV Kislovodsk 67.34 310 *eP* **P 01 08 21.2 +0.7**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV Kislovodsk 67.34 310 *eP* **P 01 08 21.2 +0.7**
KBZ Khabaz 67.37 310 P P 01 08 21.9 +1.4
comp=Z,13nm,0.8s,baz=47,slow=3.6,SNR=42
comp=Z,13nm,0.8s
KBZ Khabaz 67.37 310 *ceP* **P 01 08 21.2 +0.7**
KBZ Khabaz 67.37 310 *eP* **P 01 08 21.2 +0.7**
NB2 NORSAR Subarra 67.46 337 P P 01 08 20.3 -0.5
comp=Z,9.3nm,1.2s,baz=32,slow=6.9
NOA NORSAR Array B 67.46 337 P P 01 08 20.4 -0.5
comp=Z,0.6nm,0.5s,baz=33,slow=6.4,SNR=9.7
comp=Z,0.6nm,0.5s
GANJ Ganja 67.49 305 P P 01 08 23.1 +1.7
SHA1 Shidzhatmaz 67.50 310 *i* P **P 01 08 22.3 +0.6**
DGRG David-gareji 67.50 307 P P 01 08 22.7 +1.2
HFS Hagfors 67.51 336 P P 01 08 20.5 -0.6
comp=Z,2.2nm,0.5s,baz=42,slow=6.6,SNR=12
comp=Z,2.2nm,0.5s
NVAR Mina Array Bea 68.29 57 P P 01 08 27.8 +1.2
comp=Z,3.7nm,0.8s,baz=306,slow=6.7,SNR=24
NVAR pP **pwP 01 09 29.4 -1.8**
comp=Z,0.8nm,0.7s,baz=298,slow=6.6,SNR=2.2
comp=Z,3.7nm,0.8s
GNI Garni 68.72 306 P P 01 08 31.1 +1.8
comp=Z,3.7nm,0.5s,baz=27,slow=4.5,SNR=6.0
comp=Z,3.7nm,0.5s
NAX Nakhchivan 68.94 305 P P 01 08 31.8 +1.4
AKASG Malin Array Be 69.21 322 P P 01 08 31.6 -0.2
comp=Z,14nm,0.7s,baz=41,slow=6.2,SNR=49
comp=Z,14nm,0.7s
AKBB Malin Array Si 69.21 322 P P 01 08 31.4 -0.3
AKBB Malin Array Si 69.21 322 *i* P **P 01 08 32.7 +0.9**
AKBB pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 69.22 322 P P 01 08 31.3 -0.5
KIEV Kiev 69.22 322 P P 01 08 31.3 -0.5
KIEV pmax pmax
comp=Z,17nm,0.8s
ASAR Alice Springs 69.34 190 P P 01 08 33.8 +0.9
ASAR Alice Springs 69.34 190 P P 01 08 34.0 +1.2
comp=Z,1.1nm,0.7s,baz=12,slow=6.4,SNR=9.8
comp=Z,1.1nm,0.7s
R11B Troy Canyon, C 69.94 56 P P 01 08 37.8 +1.1
DUG Dugway, Tooele 70.27 53 P P 01 08 40.5 +1.8
DUG pmax pmax
comp=Z,9.0nm,1.0s
PD31 Pinedale Array 70.28 49 P P 01 08 39.4 +0.6
PD31 IAmb IAmb 01 08 40.7
comp=Z,5.5nm,1.1s
PDAR Pinedale Array 70.28 49 P P 01 08 39.4 +0.6
PDAR Pinedale Array 70.28 49 P P 01 08 39.2 +0.4
comp=Z,2.7nm,0.7s,baz=307,slow=6.4,SNR=18
comp=Z,2.7nm,0.7s
UOSS Minazif 71.61 287 P P 01 08 46.3 -0.4
BUR08 Bucovina Ar. S 73.25 322 P P 01 08 56.5 +0.3
BURAR Bucovina Array 73.27 322 P P 01 08 56.6 +0.4
OJC Ojcow 73.46 327 P P 01 08 57.6 +0.5
OJC IAmb IAmb 01 08 58.9
comp=Z,11nm,0.9s
OJC Ojcow 73.46 327 P P 01 08 57.6 +0.5
OJC pmax pmax
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 73.49 324 *eP* **P 01 08 58.0 +0.7**
KOLS pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 73.49 324 *eP* **P 01 08 58.0 +0.7**
STHS Stebnicka Huta 73.53 325 *eP* **P 01 08 58.0 +0.4**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 73.53 325 *eP* **P 01 08 58.0 +0.4**
LANS Liptovska Anna 74.44 326 *eP* **P 01 09 04.9 +2.0**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 74.44 326 *eP* **P 01 09 04.9 +2.0**
STEB Steborice 74.47 328 *eP* **P 01 09 03.7 +0.8**
OSTC Ostas 74.54 329 *eP* **P 01 09 04.2 +0.8**
OSTC Ostas 74.54 329 *eP* **P 01 09 04.2 +0.8**
KECS Kecovo 74.57 325 *eP* **P 01 09 07.1 +3.5**
KECS pmax pmax
comp=Z,12nm,1.1s
KECS Kecovo 74.57 325 *eP* **P 01 09 07.1 +3.5**
MLR Muntele Rosu 74.57 320 P P 01 09 04.5 +0.6
comp=Z,1.5nm,0.6s,baz=102,slow=20,SNR=3.2
comp=Z,1.5nm,0.6s
DPC Dobruska-Polom 74.67 329 *eP* **P 01 09 05.3 +1.1**
DPC Dobruska-Polom 74.67 329 *eP* **P 01 09 05.3 +1.1**
MORC Moravsky Berou 74.68 328 P P 01 09 04.2 0.0
MORC pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 75.06 331 P P 01 09 06.0 -0.3
CLL IAmb IAmb 01 09 07.2
comp=Z,9.3nm,0.7s
CLL Collm 75.06 331 *eP* **P 01 09 06.0 -0.3**
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 75.06 331 *eP* **P 01 09 06.0 -0.3**
comp=Z,11nm,0.7s
BR131 Keskin Array S 75.12 312 P P 01 09 07.4 +0.3
BR131 Keskin Array S 75.12 312 P P 01 09 07.4 +0.3
BRTR Keskin Array B 75.12 312 P P 01 09 07.3 +0.3
BRTR Keskin Array B 75.12 312 P P 01 09 07.6 +0.5
comp=Z,1.4nm,0.7s,baz=74,slow=4.7,SNR=12
comp=Z,1.4nm,0.7s
BRTR Keskin Array B 75.12 312 *ceP* **P 01 09 07.9 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
ECSD EROS Data Cent 76.01 41 P P 01 09 12.2 +0.3
SDCO Great Sand Dun 76.03 50 P P 01 09 12.9 +0.4
EKA Eskdalemuir Ar 76.07 342 P P 01 09 12.2 +0.3
comp=Z,2.1nm,0.5s,baz=25,slow=5.5,SNR=13
comp=Z,2.1nm,0.5s
ESK Eskdalemuir 76.09 342 P P 01 09 11.9 -0.1
ESK Eskdalemuir 76.09 342 P P 01 09 12.0 -0.1
ESK pmax pmax
comp=Z,26nm,1.3s
KHC Kasperske Hory 76.68 329 *eP* **P 01 09 16.2 +0.7**
KHC Kasperske Hory 76.68 329 *eP* **P 01 09 16.2 +0.7**
CONA Conrad Observa 76.83 327 *i* P **P 01 09 17.7 +1.3**
comp=Z,1.7nm,0.5s

RONA Rosalia, Austr 76.86 327 *i* P **P 01 09 18.2 +1.7**
comp=Z,0.4nm,0.3s
GERES GERESS Array B 76.87 329 P P 01 09 16.9 +0.2
baz=47,slow=5.8
ARSA Arzberg 77.52 327 *i* P **P 01 09 21.2 +1.0**
comp=Z,0.9nm,0.4s
LESA Schwarzleotal 78.44 329 *i* P **P 01 09 26.2 +0.9**
comp=Z,2.2nm,0.6s
KBA Koelnbreinsper 78.49 328 *i* P **P 01 09 26.7 +1.0**
comp=Z,1.7nm,0.5s
OBKA Obir 78.51 327 *eP* **P 01 09 26.1 +0.4**
comp=Z,1.5nm,0.7s
CSS Mathiatis 78.79 309 P P 01 09 27.7 +0.3
WATA Walderalm 78.91 330 *i* P **P 01 09 28.7 +0.7**
comp=Z,0.3nm,0.2s
WTTA Wattenberg 78.95 329 *i* P **P 01 09 29.0 +0.8**
comp=Z,1.7nm,0.6s
MMAI Mount Meron Ar 79.06 306 P P 01 09 30.2 +1.2
comp=Z,5.1nm,0.5s,baz=46,slow=8.3,SNR=20
comp=Z,5.1nm,0.5s
SQTA Sankt Quirin 79.14 330 *eP* **P 01 09 29.9 +0.7**
comp=Z,1.1nm,0.5s
RAYN Ar Rayn 79.67 293 P P 01 09 32.4 +0.1
RAYN IAmb IAmb 01 09 33.9
comp=Z,6.1nm,0.9s
RAYN Ar Rayn 79.67 293 P P 01 09 32.4 +0.1
RAYN pmax pmax
comp=Z,6.0nm,0.9s
VLDQ Val d'Or 79.94 27 P P 01 09 32.1 -1.1
VLDQ IAmb IAmb 01 09 33.7
comp=Z,9.8nm,1.2s
TXAR Lajitas Array 83.28 55 P P 01 09 51.9 +0.7
TXAR Lajitas Array 83.28 55 P P 01 09 52.1 +1.0
comp=Z,3.7nm,0.7s,baz=306,slow=5.3,SNR=28
comp=Z,3.7nm,0.7s
ESDC Sonseca Array 90.79 336 P P 01 10 27.1 0.0
comp=Z,0.8nm,0.7s,baz=22,slow=4.2,SNR=8.8
comp=Z,0.8nm,0.7s
QSPA South Pole Qui 135.06 180 PKP PKiKP 01 16 42.0 +0.2
comp=Z,0.5nm,0.8s,baz=317,slow=4.1,SNR=1.1
QSPA SKPbc **SKPbc 01 19 45.0 +0.1**
comp=Z,3.8nm,1.1s,baz=320,slow=2.6,SNR=5.0
SNAA Sanae 149.35 200 PKPbc PKPbc 01 17 10.5 +0.4
comp=Z,0.6nm,0.6s,baz=180,slow=2.0,SNR=1.3
SJMB Sao Joao De Ma 153.03 12 *eP* **PKPdf 01 17 13.5 +1.1**

IDC 17 01:02:38.5±2.0, 30°.92S×178°.21W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=58.3km s-min=36.1km az=45.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.90**	**268**	P	P	01 10 38.4	-0.7
	0.4nm,0.3s,baz=114,slow=8.6,SNR=6.4						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**43.94**	**273**	P	P	01 10 47.8	+0.4
	0.9nm,0.3s,baz=114,slow=8.1,SNR=26						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**59.19**	**180**	P	P	01 12 41.2	0.0
	1.6nm,0.9s,baz=22,slow=0.7,SNR=7.5						
	1.6nm,0.9s						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	PKPdf	01 22 17.1	-0.8
	2.8nm,0.9s,baz=46,slow=4.0,SNR=7.3						

IDC 17 01:10:56.2±0.4, 13°.87N×144°.85E, h138km±3km, mb3.7/14, mbtmp4.1/14, Error ellipse: s-maj=22.0km s-min=13.2km az=89.0
NEIC 17 01:10:57.9±1.4, 13°.86N±0°.10×144°.6E±0°.2, h136km±6km, mb4.2/17, Error ellipse: s-maj=25.1km s-min=12.5km az=106.0
ISC 17 01:10:57.4±0.5, 13°.84N±0°.09×144°.8E±0°.2, h150km, n40, σ1.9 00/43, mb4.1/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.25**	**173**	P	**Pn**	**01 11 17.2**	**-0.7**
	3μm,0.4s,baz=345,slow=6.0,SNR=204						
GUMO				S	**Sn**	**01 11 31.1**	**-2.3**
	3μm,0.4s,baz=17,slow=19,SNR=56						
FAKI	**Fak Fak**	**20.81**	**218**	P	**P**	**01 15 28.2**	**+1.0**
KSRS	**Korea Array**	**27.94**	**330**	P	**P**	**01 16 34.0**	**+0.4**
	0.9nm,0.5s,baz=146,slow=9.7,SNR=3.0						
	0.9nm,0.5s						
WB0	**Warramunga Arr**	**34.94**	**197**	P	**P**	**01 17 35.0**	**-0.1**
WB2	**Warramunga Arr**	**35.12**	**197**	P	**P**	**01 17 36.9**	**+0.3**
WRA	**Warramunga Arr**	**35.12**	**197**	P	**P**	**01 17 36.3**	**-0.4**
	8.0nm,0.8s,baz=15,slow=8.3,SNR=23						
WRA				PcP	**PcP**	**01 20 05.9**	**+0.9**
	0.4nm,0.8s,baz=18,slow=2.8,SNR=2.5						
	8.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**36.95**	**211**	P	**P**	**01 17 52.5**	**+0.2**
AS31	**Alice Springs**	**38.77**	**196**	P	**P**	**01 18 08.4**	**+0.9**
ASAR	**Alice Springs**	**38.77**	**196**	P	**P**	**01 18 07.2**	**-0.4**
	1.8nm,0.6s,baz=16,slow=13,SNR=25						
ASAR				PP	**PP**	**01 19 40.1**	**+0.4**
	0.8nm,0.9s,baz=26,slow=10.0,SNR=4.6						
	1.8nm,0.6s						
STKA	**Stephens Creek**	**45.56**	**184**	P	**P**	**01 19 01.8**	**-0.5**
	1.7nm,0.3s,baz=348,slow=14,SNR=3.7						
	1.7nm,0.3s						
SONM	**Songino Array**	**46.51**	**325**	P	**P**	**01 19 09.2**	**-0.6**
	0.3nm,0.4s,baz=120,slow=6.5,SNR=3.7						
	0.3nm,0.4s						
BBOO	**Buckleboo**	**47.13**	**190**	P	**P**	**01 19 14.9**	**+0.3**
MK31	**Makanchi Array**	**61.29**	**316**	P	**P**	**01 20 57.6**	**+0.6**
MK31				IAmb	IAmb	01 21 00.6	
	comp=Z,2.4nm,1.4s						
MKAR	**Makanchi Array**	**61.29**	**316**	P	**P**	**01 20 57.4**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=90,slow=8.8,SNR=8.8						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**64.38**	**320**	P	**P**	**01 21 17.9**	**+0.6**
KURK				IAmb	IAmb	01 21 18.4	
	comp=Z,5.3nm,1.4s						
KURBB	**Kurchatov Arra**	**64.42**	**320**	P	**P**	**01 21 17.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=102,slow=6.8,SNR=20						
	comp=Z,1.4nm,0.6s						
ILAR	**Eielson Array**	**68.36**	**25**	P	**P**	**01 21 40.7**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=255,slow=5.8,SNR=19						
	comp=Z,1.1nm,0.4s						
BVAR	**Borovoye Array**	**69.72**	**322**	P	**P**	**01 21 50.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=105,slow=7.7,SNR=7.7						
	comp=Z,1.1nm,0.4s						
BMAR	**Burnt Mountain**	**69.89**	**23**	P	**P**	**01 21 52.3**	**+0.5**
H29M	**Whitestone**	**72.11**	**25**	P	**P**	**01 22 05.8**	**+0.6**
H31M	**Peel River**	**73.72**	**25**	P	**P**	**01 22 15.5**	**+0.8**
H31M				IAmb	IAmb	01 22 16.3	
	comp=Z,7.0nm,1.5s						
C36M	**Paulatuk**	**77.55**	**21**	P	**P**	**01 22 35.2**	**-1.1**
C36M				IAmb	IAmb	01 23 08.5	
	comp=Z,2.7nm,1.2s						
EUNU	**Eureka**	**82.63**	**8**	P	**P**	**01 23 04.8**	**+1.2**
YKA	**Yellowknife Ar**	**82.66**	**27**	P	**P**	**01 23 02.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=282,slow=5.5,SNR=8.0						
	comp=Z,0.4nm,0.6s						
PINE	**Pine Mountain**	**83.56**	**47**	P	**P**	**01 23 10.9**	**+1.7**
PINE				IAmb	IAmb	01 23 13.6	
	comp=Z,4.5nm,0.7s						
BMO	**Blue Mountains**	**85.84**	**45**	P	**P**	**01 23 21.7**	**+1.3**
BMO				IAmb	IAmb	01 23 23.1	
	comp=Z,3.3nm,1.0s						
NVAR	**Mina Array Bea**	**86.79**	**51**	P	**P**	**01 23 26.0**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=289,slow=6.0,SNR=16						
	comp=Z,1.3nm,0.6s						
ARCES	**ARCESS Array B**	**86.84**	**342**	P	**P**	**01 23 24.9**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=58,slow=5.6,SNR=0.9						
	comp=Z,2.1nm,0.9s						
ELK	**Elko**	**88.44**	**48**	P	**P**	**01 23 34.9**	**+1.7**
ELK				IAmb	IAmb	01 23 35.5	
	comp=Z,2.9nm,0.7s						
WCT	**Wildcat Mounta**	**88.51**	**53**	P	**P**	**01 23 35.2**	**+1.8**
WCT				IAmb	IAmb	01 23 35.7	
	comp=Z,2.5nm,0.8s						
R11B	**Troy Canyon, C**	**88.87**	**51**	P	**P**	**01 23 37.5**	**+2.2**
R11B				IAmb	IAmb	01 23 37.7	
	comp=Z,2.1nm,1.2s						
FINES	**FINESS Array B**	**90.93**	**335**	P	**P**	**01 23 42.2**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=68,slow=6.5,SNR=1.8						
	comp=Z,1.2nm,0.7s						
PDAR	**Pinedale Array**	**91.81**	**45**	P	**P**	**01 23 49.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=271,slow=5.9,SNR=4.6						
	comp=Z,0.2nm,0.5s						
LCO	**Las Campanas**	**143.80**	**120**	PKPdf	**PKPdf**	**01 30 16.1**	**+0.3**
CO01	**Juntas del Tor**	**144.01**	**122**	PKPdf	**PKPdf**	**01 30 16.3**	**+0.2**
PB12	**IPOC Station P**	**145.94**	**103**	PKPab	**PKiKP**	**01 30 22.6**	**-1.1**
PB11	**IPOC Station P**	**146.50**	**105**	PKPab	**PKiKP**	**01 30 24.1**	**-0.8**
LPAZ	**La Paz**	**148.09**	**99**		**PKiKP**	**01 30 29.3**	**+0.5**
LPAZ	**La Paz**	**148.09**	**99**	PKPbc	**PKiKP**	**01 30 28.6**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=263,slow=1.7,SNR=9.8						
BOAV	**Boa Vista**	**150.13**	**59**	PKPbc	**PKiKP**	**01 30 32.5**	**+0.1**

GCMT 17 01:21:50.0±0.4, 17°.24S±0°.02×176°.71W±0°.02, h20km±2km, MW4.8/82, Moment Tensor Solution. s11,c13; s82,c106; Duration: 0 Moment tensor: Scale 10^{16} **Nm;** M_{rr}0.21±.13; $M_{\theta\theta}$-1.89±.12; $M_{\phi\phi}$1.68±.09; $M_{r\theta}$0.53±.20; $M_{\theta\phi}$0.65±.08; $M_{\phi r}$0.58±.19; **Best double couple:** $M_0$2.06300×10^{16} **NP1:**ϕ=324.00000°, δ68.00000°, λ173.00000°. **NP2:**ϕ=56.00000°, δ84.00000°, λ22.00000°. **Principal axes:** T 2.0410, Plg20.0000°, Azm282.0000°; N 0.0450, Plg67.0000°, Azm72.0000°; P -2.0860, Plg11.0000°, Azm188.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT2	**Papeete2**	**25.89**	**95**	*e*LR	LR	01 33 33.2	
	488nm,30.0s						
PPT2				*e*LR	LR	01 33 38.7	
	692nm,27.8s						
TBI	**Tubuai**	**26.25**	**108**	*e*LR	LR	01 33 33.6	
	917nm,34.2s						
TBI				*e*LR	LR	01 33 38.4	
	3μm,28.8s						
TAOE	**Nuku Hiva Isla**	**36.52**	**82**	*e*LR	LR	01 38 27.3	
	200nm,29.8s						

AEIC 17 01:52:55.3±0.0, 51°.75N×173°.11W, h26km Error ellipse: s-maj=0.0km s-min=0.0km az=90.0
NEIC 17 01:52:56.5±1.3, 51°.78N±0°.07×173°.2W±0°.1, h53km±8km, mb4.0/8, ML3.5(AEIC), Error ellipse: s-maj=11.4km s-min=9.9km az=139.0
IDC 17 01:53:05.8±7.1, 51°.99N×173°.15W, h141km±66km, mb3.2/10, mbtmp3.6/12, Error ellipse: s-maj=31.1km s-min=20.4km az=3.0
ISC 17 01:52:56.8±0.8, 51°.9N±0°.1×173°.19W±0°.06, h59km, n34, σ0.9 90/27, mb3.8/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.70**	**298**		**Pn**	**01 53 10.7**	**-0.2**
ATKA				Sn	**Sn**	**01 53 21.8**	**+0.5**
GSTR	**Great Sitkin T**	**1.79**	**278**		**Pn**	**01 53 25.6**	**+0.3**
ADK	**Adak**	**2.17**	**271**		**Pn**	**01 53 30.3**	**-0.1**
ADK				Sn	**Sn**	**01 53 56.3**	**+0.2**
KIWB	**Kanaga Island**	**2.46**	**271**		**Pn**	**01 53 35.0**	**+0.6**
UNV	**Unalaska Valle**	**4.50**	**61**	Pn	**Pn**	**01 54 02.9**	**+0.6**
KDAK	**Kodiak Island**	**13.23**	**55**	P	**P**	**01 56 07.2**	**-2.4**
	7.8nm,0.8s,baz=225,slow=7.1,SNR=1.8						
PET	**Petropavlovsk**	**17.16**	**285**	Pn	**Pn**	**01 56 51.1**	**-1.1**
PET				IAmb	IAmb	01 57 08.2	
	comp=Z,12nm,1.0s						
SCM	**Sheep Creek Mo**	**17.17**	**45**	Pn	**Pn**	**01 56 51.2**	**-1.2**
ILAR	**Eielson Array**	**18.71**	**36**	P	**Pn**	**01 57 12.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=241,slow=11,SNR=12						
B21K	**Ikpikpuk River**	**19.81**	**19**	P	**P**	**01 57 22.9**	**+0.9**
J26L	**Joseph Creek**	**19.84**	**39**	P	**P**	**01 57 22.6**	**+0.1**
J26L				IAmb	IAmb	01 57 51.8	
	comp=Z,7.8nm,1.4s						
C23K	**Itkillik River**	**20.85**	**22**	P	**P**	**01 57 35.2**	**+2.0**
C23K				IAmb	IAmb	01 57 48.8	
	comp=Z,9.7nm,1.5s						
I28M	**Miner Creek**	**21.64**	**38**	P	**P**	**01 57 42.8**	**+1.0**
H29M	**Whitestone**	**22.53**	**37**	P	**P**	**01 57 51.6**	**+0.2**
H29M				IAmb	IAmb	01 58 05.0	
	comp=Z,15nm,1.5s						
V35K	**Ketchikan**	**24.64**	**65**	P	**P**	**01 58 12.3**	**+0.9**
INK	**Inuvik**	**25.06**	**34**	P	**P**	**01 58 14.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=231,slow=8.5,SNR=1.5						
	comp=Z,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.68**	**213**	T	T	02 37 45.8	
	baz=20,slow=76,SNR=44						
H11N3	**WAKE ISLAND Hy**	**35.69**	**213**	T	T	02 37 45.1	
	baz=20,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**35.70**	**213**	T	T	02 37 48.3	
	baz=20,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**36.88**	**213**	T	T	02 39 11.3	
	baz=20,slow=76,SNR=69						
H11S2	**WAKE ISLAND Hy**	**36.89**	**213**	T	T	02 39 12.4	
	baz=20,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**36.90**	**213**	T	T	02 39 02.5	
	baz=20,slow=76,SNR=31						
MJAR	**Matsushiro Arr**	**37.32**	**265**	P	**P**	**02 00 04.4**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=41,slow=5.2,SNR=2.3						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**42.81**	**76**	P	**P**	**02 00 49.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=293,slow=4.5,SNR=4.5						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**55.12**	**86**	P	**P**	**02 02 23.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=298,slow=6.4,SNR=2.1						
	comp=Z,0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**61.24**	**316**	P	**P**	**02 03 05.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=43,slow=7.1,SNR=4.6						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**62.39**	**311**	P	**P**	**02 03 12.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=49,slow=5.9,SNR=2.7						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**62.69**	**322**	P	**P**	**02 03 15.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=51,slow=6.2,SNR=5.8						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**74.41**	**280**	P	**P**	**02 04 28.1**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=39,slow=5.7,SNR=1.3						
	comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**84.89**	**229**	P	**P**	**02 05 24.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=26,slow=5.3,SNR=5.4						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**88.31**	**227**	P	**P**	**02 05 41.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=28,slow=4.5,SNR=7.3						
	comp=Z,0.7nm,0.7s						
H03N2	**Juan Fernandez**	**117.96**	**109**	T	T	04 20 50.3	
	baz=316						
H03N1	**Juan Fernandez**	**117.97**	**109**	T	T	04 20 48.5	
	baz=316						
H03N3	**Juan Fernandez**	**117.98**	**109**	T	T	04 20 37.7	
	baz=316						

ISN 17 01:53:00.1±0.3, 34°.79N×45°.01E, h10km, ML2.5
TEH 17 01:53:00.6, 34°.79N×45°.01E, h10km±361km, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.56**	**121**	Pg	Pb	01 53 12.0	-0.5
KGS1				Sg	Sb	01 53 20.4	-0.1
IKRK	**Kirkuk**	**0.82**	**318**	*e*Pg	Pg	01 53 16.5	+0.1
	baz=133						
IKRK				*e*Sg	Sb	01 53 28.0	0.0
IDHR	**Dehrash**	**1.14**	**94**	Pg	Pb	01 53 21.8	-0.7
SDS1	**Sardasht. Az.**	**1.41**	**16**	Pg	Pg	01 53 27.9	+0.2
ILBA	**Ilam Banvizeh**	**1.53**	**139**	Pg	Pg	01 53 29.6	-0.4

JMA 17 02:14:55.2±0.7, 47°N±3°×14°2E±°, h0km, MV2.7/8, SOUTH SAKHALIN
SKHL 17 02:14:52.2±0.1, 46°.00N×142°.10E, h8km±1km, mb3.9/5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	**Nevel`sk**	**0.70**	**346**	*e*Pg	Pg	02 15 05.6	0.0
NEVR				AMB	AMB	02 15 06.3	
	460nm,0.5s						
NEVR				*e*Sg	Sg	02 15 15.0	+0.3
NEVR				A	A	02 15 17.2	
	3μm,0.5s						
NEVR				A	A	02 15 17.2	
	2μm,0.5s						
JWK2	**Keihoku**	**0.70**	**192**	*e*P	Pn	02 15 22.1	+14
JWK2				*e*S	Sn	02 15 42.1	+23
JRBN	**Rebuntou**	**0.93**	**232**	*e*P	Pn	02 15 22.0	+11
KHLM	**Kholmsk**	**1.06**	**358**	*e*Pg	Pn	02 15 13.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLM				A	A	02 15 38.5	
	580nm,0.6s						
YSS	**Yuzhno-Sakhali**	**1.06**	**25**	*e*Pg	Pb	02 15 12.7	0.0
YSS				AMB	AMB	02 15 16.2	
	20nm,0.5s						
YSS				*e*Sg	Sb	02 15 27.0	+0.3
YSS				A	A	02 15 29.8	
	40nm,0.6s						
YSS				A	A	02 15 29.8	
	60nm,0.6s						
JSE	**Soyaes**	**1.10**	**162**	*e*P	Pn	02 15 28.4	+15

*IDC **17** 02:19:32.0±2.5, 43.°03N×29.°39W, h0km, mb3.6/7, mbtmp3.6/8, ML3.7/1, MS3.9/4, Error ellipse: s-maj=77.3km s-min=25.9km az=4.0*

ISC 17 02:19:32.4±0.9, 42.°8N±0.°1×29.°4W±0.°2, h10km, n15, σ1§58/11, mb3.5/7, MS3.9/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**5.84**	**148**	*e*P	**Pn**	**02 20 57.2**	**-1.9**
PGRON	**Lagoa das Cont**	**5.89**	**147**	*e*S	**Sn**	**02 22 10.0**	**+2.6**
PGRON				IAML		02 22 11.2	
PGRON				IAML		02 22 11.4	
PGRON				IAML		02 22 11.7	
BART	**Pico Bartolome**	**5.97**	**146**	*e*P	**Pn**	**02 20 59.1**	**-1.8**
BART				*e*S		02 21 03.9	
BART				IAML		02 21 04.8	
BART				IAML		02 21 04.9	
BART				IAML		02 21 04.9	
ESDC	**Sonseca Array**	**19.36**	**91**	P	**Pn**	**02 23 59.6**	**+0.4**
	baz=285,slow=13,SNR=4.4						
	0.8nm,0.8s						
BBTS	**Babate**	**30.15**	**155**	LR	LR	02 36 24.9	
	comp=Z,281nm,19.6s,baz=299,slow=33						
NOA	**NORSAR Array B**	**30.30**	**39**	LR	LR	02 36 33.6	
	comp=Z,95nm,20.8s,baz=240,slow=34						
RES	**Resolute Bay**	**42.79**	**339**	LR	LR	02 42 46.9	
	comp=Z,129nm,18.6s,baz=9.5,slow=33						
YKA	**Yellowknife Ar**	**51.08**	**324**	P	**P**	**02 28 33.6**	**-1.1**
	0.3nm,0.8s,baz=70,slow=7.5,SNR=4.2						
	0.3nm,0.8s						
AKTO	**Aktyubinsk**	**57.20**	**49**	P	**P**	**02 29 20.1**	**+0.7**
	2.3nm,0.8s,baz=321,slow=5.9,SNR=6.2						
	2.3nm,0.8s						
TXAR	**Lajitas Array**	**59.72**	**283**	P	**P**	**02 29 38.4**	**+0.9**
	0.2nm,0.6s,baz=57,slow=7.6,SNR=2.0						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**62.22**	**335**	P	**P**	**02 29 55.2**	**+1.4**
	0.3nm,0.8s,baz=64,slow=6.1,SNR=3.2						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**67.81**	**41**	P	**P**	**02 30 30.4**	**+0.1**
	0.8nm,0.7s,baz=311,slow=6.8,SNR=4.6						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**72.23**	**42**	P	**P**	**02 30 57.5**	**-0.1**
	1.0nm,0.9s,baz=325,slow=6.2,SNR=7.7						
	1.0nm,0.9s						
TSUM	**Tsumeb**	**75.33**	**134**	LR	LR	03 01 45.0	
	comp=Z,127nm,20.9s,baz=336,slow=34						
SONM	**Songino Array**	**81.67**	**28**	P	**P**	**02 31 49.6**	**-1.3**
	0.1nm,0.3s,baz=325,slow=6.2,SNR=1.5						
	0.1nm,0.3s						

*IDC **17** 02:20:40.5±0.8, 42.°98N×29.°30W, h0km, mb3.9/21, mbtmp3.9/22, ML4.0/1, MS3.7/3, Error ellipse: s-maj=22.6km s-min=14.1km az=178.0*

*NEIC **17** 02:20:42.7±1.5, 42.°83N±0.°06×29.°4W±0.°2, h10km±1km, mb4.7/48, Error ellipse: s-maj=19.7km s-min=10.2km az=257.0*

ISC 17 02:20:42.2±0.5, 42.°86N±0.°08×29.°31W±0.°07, h10km, n101, σ1§40/86, mb4.3/57, MS3.8/3, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**5.86**	**149**	Pn	**Pn**	**02 22 08.8**	**-0.2**
CMLA	**Cha da Macela**	**5.86**	**149**	*e*P	**Pn**	**02 22 07.2**	**-1.8**
CMLA				*e*S		02 22 09.0	
CMLA				IAML		02 22 13.2	
CMLA				IAML		02 22 13.2	
CMLA				IAML		02 22 13.3	
BART	**Pico Bartolome**	**5.98**	**147**	*e*P	**Pn**	**02 22 09.2**	**-1.6**
PMOZ	**Porto Moniz, M**	**13.84**	**132**	*e*P	**Pn**	**02 23 59.1**	**+0.6**
PMOZ				*i* AMs_20		02 28 02.5	
	264nm,20.0s						
PMAR	**Madeira**	**14.07**	**132**	*e*P	**Pn**	**02 24 03.3**	**+1.6**
PGAV	**Gavieira, Arco**	**15.57**	**86**	*i* AMs_20		02 29 08.2	
	393nm,18.0s						
PSBE	**So Bento**	**15.80**	**95**	*e*P	**P**	**02 24 27.6**	**-0.9**
PSBE				*i* Amb		02 24 36.7	
	59nm,1.9s						
PCAS	**Casmilo, Conde**	**15.85**	**93**	*e*P	**P**	**02 24 30.8**	**+1.7**
PCAS				*i* Amb		02 24 36.6	
	57nm,1.6s						
POLO	**Lamas de Olo**	**16.04**	**88**	*e*P	**P**	**02 24 29.6**	**-1.6**
PMTG	**Montargil**	**16.36**	**96**	*e*P	**P**	**02 24 36.1**	**+1.3**
PMTG				*i* Amb		02 24 45.4	
	50nm,1.9s						
MTE	**Manteigas**	**16.46**	**91**	*i* AMs_20		02 29 22.4	
	282nm,20.0s						
MVO	**Moncorvo**	**16.64**	**88**	*i* AMs_20		02 29 50.5	
	287nm,18.0s						
PCBR	**Castelo Branco**	**16.66**	**93**	*e*P	**P**	**02 24 39.1**	**+1.0**
PCBR				*i* Amb		02 24 46.7	
	45nm,1.7s						
PBRG	**Braganca**	**16.72**	**86**	*e*P	**P**	**02 24 38.8**	**0.0**
PBRG				*i* Amb		02 24 41.1	
	52nm,1.6s						
PMRV	**Marv??o**	**16.86**	**94**	*e*P	**Pn**	**02 24 38.5**	**+0.4**
PMRV				*i* AMs_20		02 30 08.4	
	392nm,18.0s						
PVAQ	**Vaqueiros**	**17.37**	**101**	*i* AMs_20		02 30 02.1	
	303nm,20.0s						
PBAR	**Barrancos**	**17.56**	**98**	*e*P	**P**	**02 24 51.5**	**+3.5**
ESDC	**Sonseca Array**	**19.30**	**91**	P	**Pn**	**02 25 08.1**	**-0.1**
	0.1nm,0.3s,baz=287,slow=12,SNR=4.2						
ESDC				LR	LR	02 30 47.1	
	comp=Z,218nm,21.0s,baz=232,slow=31						
	1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**21.04**	**45**	P	**P**	**02 25 24.2**	**-1.8**
	2.4nm,0.9s,baz=282,slow=4.2,SNR=3.7						
	2.4nm,0.9s						
RETA	**Reutte**	**28.40**	**67**	*e*P	**P**	**02 26 36.5**	**-0.2**
	5.2nm,1.3s						
FETA	**Feichten**	**28.43**	**68**	*e*P	**P**	**02 26 36.1**	**-0.9**
	4.8nm,1.2s						
SQTA	**Sankt Quirin**	**28.73**	**67**	*e*P	**P**	**02 26 39.9**	**+0.2**
	8.9nm,1.7s						
WATA	**Walderalm**	**28.97**	**67**	*e*P	**P**	**02 26 41.3**	**-0.5**
	2.6nm,1.0s						
ABTA	**Abfaltersbach**	**29.67**	**68**	*e*P	**P**	**02 26 48.6**	**+0.6**
	4.2nm,1.2s						
KBA	**Koelnbreinsper**	**30.19**	**67**	*e*P	**P**	**02 26 52.6**	**-0.1**
	12nm,1.3s						
GERES	**GERESS Array B**	**30.23**	**64**	P	**P**	**02 26 52.6**	**-0.4**
	baz=301,slow=11						
BIOA	**Bad Ischl, Aus**	**30.31**	**66**	*e*P	**P**	**02 26 53.7**	**+0.1**
	7.5nm,1.1s						
PRED	**Cave del Predi**	**30.44**	**68**	P	**P**	**02 26 55.0**	**+0.2**
PRED				IAmb	IAmb	02 27 08.7	
	comp=Z,20nm,1.5s						
MYKA	**Terra Mystica**	**30.46**	**68**	P	**P**	**02 26 55.0**	**0.0**
	comp=Z,10nm,1.4s						
HFS	**Hagfors**	**31.14**	**41**	P	**P**	**02 26 60.0**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=237,slow=13,SNR=1.9						
	comp=Z,2.0nm,0.8s						
ARSA	**Arzberg**	**31.64**	**66**	*e*P	**P**	**02 27 04.9**	**-0.4**
	comp=Z,4.3nm,1.2s						
CONA	**Conrad Observa**	**31.77**	**65**	*e*P	**P**	**02 27 06.4**	**-0.1**
	comp=Z,5.0nm,1.6s						
RONA	**Rosalia, Austr**	**32.09**	**65**	*e*P	**P**	**02 27 09.0**	**-0.2**
	comp=Z,5.0nm,1.3s						
MODS	**Modra-Piesok**	**32.65**	**64**	*e*P	**P**	**02 27 15.1**	**+1.0**
FINES	**FINESS Array B**	**37.34**	**41**	P	**P**	**02 27 53.8**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=264,slow=4.2,SNR=3.9						
	comp=Z,4.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**38.01**	**63**	P	**P**	**02 28 01.8**	**+1.4**
BURAR	**Bucovina Array**	**38.02**	**63**	P	**P**	**02 28 01.7**	**+1.2**
ARCES	**ARCESS Array B**	**38.42**	**28**	LR	LR	02 41 57.7	
	comp=Z,82nm,18.8s,baz=248,slow=33						
MNK	**Minsk**	**38.48**	**52**	*i* P	**P**	**02 28 02.6**	**-1.5**
	comp=E,8.0nm,0.8s						
MNK				*i* P	**P**	**02 28 02.6**	**-1.5**
	comp=N,9.0nm,0.8s						
MNK				*i* P	**P**	**02 28 02.6**	**-1.5**
	comp=Z,5.0nm,0.8s,baz=277						
MNK				*i* PP	**PP**	**02 29 26.6**	**-5.3**
MNK				*i* PPP	PPP	02 29 48.2	
MNK				*i* S	**S**	**02 33 59.2**	**+0.1**
MNK				*i* SS	**SS**	**02 36 54.9**	**+6.8**
MNK				*i* LQ	LQ	02 42 24.3	
MNK				*i* LR	LR	02 44 19.2	
MNK				*i* LRM	MLR	02 46 36.8	
	comp=N,97nm,14.2s						
MNK				*i* LRM	MLR	02 46 46.1	
	comp=E,207nm,17.1s						
MNK				*i* LRM	MLR	02 47 33.1	
	comp=Z,168nm,15.4s						
AKASG	**Malin Array Be**	**39.91**	**58**	P	**P**	**02 28 14.5**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=284,slow=8.3,SNR=7.0						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**39.91**	**129**	P	**P**	**02 28 16.6**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=331,slow=8.5,SNR=7.3						
	comp=Z,3.1nm,0.9s						
RDO	**Rodhopi**	**40.19**	**73**	P	**P**	**02 28 19.5**	**+1.0**
RDO				IAmb	IAmb	02 28 21.2	
	comp=Z,29nm,1.4s						
FCC	**Fort Churchill**	**42.12**	**315**	P	**P**	**02 28 35.5**	**+1.3**
RES	**Resolute Bay**	**42.77**	**339**	P	**P**	**02 28 40.0**	**+0.8**
BRTR	**Keskin Array B**	**46.42**	**71**	P	**P**	**02 29 09.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=283,slow=7.2,SNR=7.1						
	comp=Z,1.5nm,0.8s						
FFC	**Flin Flon**	**47.22**	**311**	P	**P**	**02 29 15.9**	**+1.0**
FFC				IAmb	IAmb	02 29 22.9	
	comp=Z,8.2nm,1.2s						
KBZ	**Khabaz**	**50.97**	**63**	P	**P**	**02 29 41.4**	**-2.4**
	comp=Z,2.9nm,1.1s,baz=290,slow=9.3,SNR=4.3						
	comp=Z,2.9nm,1.1s						
YKA	**Yellowknife Ar**	**51.08**	**324**	P	**P**	**02 29 45.1**	**+0.8**
YKA	**Yellowknife Ar**	**51.08**	**324**	P	**P**	**02 29 43.9**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=70,slow=7.2,SNR=10						
	comp=Z,1.1nm,0.9s						
KARS	**Kars**	**52.49**	**66**	P	**P**	**02 29 57.4**	**+2.0**
ARTI	**Arti**	**54.57**	**43**	LR	LR	02 53 43.4	
	comp=Z,78nm,18.3s,baz=268,slow=36						
YNE	**Yellowstone No**	**55.80**	**302**	P	**P**	**02 30 19.6**	**0.0**
F31M	**Tsiigehtchic**	**56.32**	**333**	P	**P**	**02 30 21.9**	**-0.7**
BOZ	**Bozeman (W)**	**56.52**	**303**	P	**P**	**02 30 24.7**	**+0.1**
MSTX	**Muleshoe**	**56.57**	**287**	P	**P**	**02 30 25.5**	**+0.4**
MSTX				IAmb	IAmb	02 30 30.9	
	comp=Z,8.7nm,1.2s						
PD31	**Pinedale Array**	**56.61**	**300**	P	**P**	**02 30 25.0**	**-0.4**
PDAR	**Pinedale Array**	**56.61**	**300**	P	**P**	**02 30 24.8**	**-0.7**
PDAR	**Pinedale Array**	**56.61**	**300**	P	**P**	**02 30 24.4**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=29,slow=6.8,SNR=6.8						
	comp=Z,1.4nm,1.0s						
FXWY	**Fox Creek**	**57.11**	**301**	P	**P**	**02 30 29.4**	**+0.5**
AKTO	**Aktyubinsk**	**57.12**	**50**	P	**P**	**02 30 27.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=298,slow=10,SNR=4.2						
	comp=Z,1.1nm,0.7s						
E29M	**Blow River**	**57.13**	**335**	P	**P**	**02 30 27.9**	**-0.5**
E29M				IAmb	IAmb	02 30 42.5	
	comp=Z,12nm,1.4s						
E28M	**Babbage River**	**57.51**	**336**	P	**P**	**02 30 30.8**	**-0.3**
E28M				IAmb	IAmb	02 30 40.4	
	comp=Z,6.7nm,1.1s						
E27K	**Coleen River**	**58.37**	**336**	P	**P**	**02 30 37.4**	**+0.2**
E27K				IAmb	IAmb	02 30 46.6	
	comp=Z,11nm,1.2s						
NEW	**Newport**	**58.47**	**308**	P	**P**	**02 30 38.4**	**+0.2**
NEW				IAmb	IAmb	02 30 39.3	
	comp=Z,8.5nm,1.1s						
PV23	**Carpenter Ridg**	**58.47**	**295**	IAmb	IAmb	02 30 40.2	
	comp=Z,7.4nm,1.1s						
HWUT	**Hardware Ranch**	**58.49**	**299**	IAmb	IAmb	02 30 44.6	
	comp=Z,7.9nm,1.1s						
H29M	**Whitestone**	**58.52**	**333**	IAmb	IAmb	02 30 45.8	
	comp=Z,8.6nm,1.1s						
ABKAR	**Akbulak array**	**58.78**	**50**	P	**P**	**02 30 41.0**	**+0.7**
G27K	**Doyon Strip**	**59.23**	**335**	IAmb	IAmb	02 30 43.9	
	comp=Z,4.8nm,0.9s						
PLID	**Pearl Lake**	**59.44**	**305**	IAmb	IAmb	02 30 50.9	
	comp=Z,7.3nm,1.4s						
TMUT	**Trail Mountain**	**59.47**	**297**	IAmb	IAmb	02 30 59.9	
	comp=Z,6.6nm,1.1s						
I28M	**Miner Creek**	**59.50**	**333**	IAmb	IAmb	02 30 45.9	
	comp=Z,5.3nm,0.9s						
TXAR	**Lajitas Array**	**59.77**	**283**	P	**P**	**02 30 47.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=51,slow=5.2,SNR=7.3						
	comp=Z,0.8nm,0.8s						
TX31	**Lajitas Ar. Si**	**59.77**	**283**	IAmb	IAmb	02 31 01.7	
	comp=Z,8.0nm,1.4s						
DUG	**Dugway, Tooele**	**60.04**	**299**	IAmb	IAmb	02 30 55.7	
	comp=Z,6.3nm,1.1s						
E24K	**Your Creek**	**60.43**	**338**	IAmb	IAmb	02 30 59.5	
	comp=Z,7.3nm,1.4s						
I26K	**Coal Creek Min**	**60.65**	**334**	P	**P**	**02 30 53.4**	**+0.6**
B21K	**Ikpikpuk River**	**60.92**	**341**	IAmb	IAmb	02 31 05.6	
	comp=Z,9.3nm,1.2s						
LTY	**Liberty**	**61.03**	**309**	P	**P**	**02 30 55.7**	**-0.1**
J08A	**Circle Bar Ran**	**61.87**	**304**	P	**P**	**02 31 03.4**	**+1.8**
ILAR	**Eielson Array**	**62.19**	**335**	P	**P**	**02 31 03.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=47,slow=7.0,SNR=9.5						
	comp=Z,0.6nm,0.7s						
BRVK	**Borovoye**	**62.20**	**42**	P	**P**	**02 31 04.4**	**+0.9**
BRVK				IAmb	IAmb	02 31 04.9	
	comp=Z,4.7nm,1.1s						
BVAR	**Borovoye Array**	**62.27**	**42**	P	**P**	**02 31 03.6**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=305,slow=5.1,SNR=6.8						
	comp=Z,1.7nm,0.9s						
F21K	**Alatna River**	**62.39**	**339**	IAmb	IAmb	02 31 15.3	
	comp=Z,9.0nm,1.4s						
WVOR	**Wild Horse Val**	**62.48**	**303**	P	**P**	**02 31 07.0**	**+1.3**
WRH	**Wood River Hil**	**62.78**	**335**	P	**P**	**02 31 07.5**	**+0.3**
E19K	**Redstone River**	**63.19**	**340**	IAmb	IAmb	02 31 21.2	
	comp=Z,9.3nm,1.5s						
CZSB	**Cruzeiro do Su**	**63.96**	**229**	P	**P**	**02 31 14.9**	**-0.8**
E18K	**Tukpahlearik C**	**64.04**	**341**	IAmb	IAmb	02 31 25.4	
	comp=Z,8.5nm,1.3s						
C16K	**Lisburne Hills**	**64.41**	**343**	P	**P**	**02 31 18.0**	**+0.1**
NVAR	**Mina Array Bea**	**64.55**	**300**	P	**P**	**02 31 18.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=107,slow=1.5,SNR=4.3						
	comp=Z,0.4nm,0.7s						
KURK	**Kurchatov**	**67.71**	**41**	P	**P**	**02 31 39.5**	**+0.1**
KURK				IAmb	IAmb	02 31 40.3	
	comp=Z,5.4nm,0.9s						
KURBB	**Kurchatov Arra**	**67.73**	**41**	P	**P**	**02 31 38.0**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=314,slow=6.8,SNR=15						
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**68.35**	**35**	P	**P**	**02 31 41.8**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=331,slow=12,SNR=3.9						
	comp=Z,0.8nm,0.6s						
LPAZ	**La Paz**	**68.82**	**220**	P	**P**	**02 31 47.9**	**+0.4**
	comp=Z,1.8nm,1.1s,baz=25,slow=9.1,SNR=3.7						
	comp=Z,1.8nm,1.1s						
AAK	**Ala-Archa**	**70.86**	**49**	P	**P**	**02 32 01.5**	**+2.2**
AAK	**Ala-Archa**	**70.86**	**49**	P	**P**	**02 32 00.3**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=285,slow=5.3,SNR=6.2						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**72.16**	**42**	P	**P**	**02 32 07.1**	**+0.2**
MKAR	**Makanchi Array**	**72.16**	**42**	P	**P**	**02 32 06.8**	**0.0**
	comp=Z,1.4nm,0.9s,baz=315,slow=5.2,SNR=9.5						
	comp=Z,1.4nm,0.9s						
KMBO	**Kilima Mbogo**	**73.79**	**107**	P	**P**	**02 32 17.7**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=278,slow=2.2,SNR=3.6						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**81.59**	**28**	P	**P**	**02 32 59.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=343,slow=1.5,SNR=3.9						
	comp=Z,0.2nm,0.4s						

*TAP **17** 02:24:12.2, 24.°80N×122.°43E, h20km, ML2.6, D*

*JMA **17** 02:24:12.5±0.3, 25.°N±1.°×122.°4E±0.°4, h0km±2km, MV2.1/7, TAIWAN REGION*

ISC 17 02:24:12.3±1.0, 24.°74N±0.°03×122.°41E±0.°02, h12km±9km, n48, σ0§57/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.36**	**207**	*e*P	**Pb**	**02 24 20.4**	**-0.1**
EOS2				*e*S	**Sb**	**02 24 26.3**	**+0.2**
EGS		**0.45**	**283**	*e*P	**Pg**	**02 24 20.6**	**-0.6**
EGS				*e*S	**Sb**	**02 24 29.4**	**+0.7**
EOS3	**EOS3**	**0.46**	**191**	*e*P	**Pb**	**02 24 22.2**	**0.0**
EOS3				*e*S	**Sb**	**02 24 31.5**	**+2.6**
TWB1	**Santiao Chiao**	**0.47**	**305**	*i* P	**Pg**	**02 24 21.8**	**+0.3**
TWB1				*i* S	**Sg**	**02 24 27.6**	**-0.2**
TWC	**Suao**	**0.53**	**256**	*i* P	**Pg**	**02 24 22.5**	**-0.2**
TWC				S	**Sb**	**02 24 30.7**	**-0.3**
ESAO	**Su ao**	**0.54**	**252**	*e*P	**Pb**	**02 24 23.7**	**0.0**
ESAO				*e*S	**Sb**	**02 24 32.2**	**+0.8**
JYNG	**Yonagunijimaku**	**0.56**	**121**	*e*P	**Pg**	**02 24 23.4**	**+0.1**
JYNG				*e*S	**Sb**	**02 24 31.6**	**-0.5**
TIPB	**Shuangxi**	**0.58**	**293**	*i* P	**Pg**	**02 24 24.0**	**+0.4**
TIPB				*e*S	**Sb**	**02 24 32.4**	**-0.2**
SXI1	**Grass Mountain**	**0.60**	**306**	*e*P	**Pb**	**02 24 24.9**	**+0.1**
SXI1				*i* S	**Sb**	**02 24 33.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.61**	**117**	*i* P	**Pg**	**02 24 24.2**	**0.0**
YOJ				*i* S	**Sb**	**02 24 33.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.61**	**117**	*e*P	**Pb**	**02 24 24.8**	**-0.1**
YOJ				*e*S	**Sg**	**02 24 32.8**	**+0.5**
EOS4	**EOS4**	**0.62**	**188**	*i* P	**Pb**	**02 24 25.2**	**+0.3**
EOS4				S	**Sn**	**02 24 35.2**	**-1.1**
EWUT	**Wuta**	**0.65**	**243**	*i* P	**Pb**	**02 24 25.9**	**+0.4**
EWUT				S	**Sb**	**02 24 34.7**	**+0.2**
TWE	**Neicheng**	**0.68**	**268**	*i* P	**Pg**	**02 24 24.7**	**-0.8**
TWE				S	**Sb**	**02 24 36.1**	**+0.8**
ENA	**Nanau**	**0.69**	**243**	*i* P	**Pb**	**02 24 26.2**	**+0.1**
ENA				*i* S	**Sb**	**02 24 35.6**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.75**	**272**	*i* P	**Pg**	**02 24 27.1**	**+0.2**
FUSB				S	**Sb**	**02 24 38.2**	**+0.7**
ENTT	**Nioudou**	**0.78**	**263**	*i* P	**Pb**	**02 24 27.9**	**+0.2**
ENTT				*e*S	**Sb**	**02 24 38.3**	**0.0**
NWLT	**Wulai**	**0.83**	**273**	*i* P	**Pg**	**02 24 28.3**	**0.0**
NWLT				*i* S	**Sg**	**02 24 39.4**	**+0.3**
LATG	**Datong**	**0.83**	**256**	*e*P	**Pb**	**02 24 28.7**	**0.0**
LATG				S	**Sb**	**02 24 39.8**	**-0.1**
YM01	**YM01**	**0.86**	**298**	*e*P	**Pg**	**02 24 26.6**	**-2.4**
YM01				*e*S	**Sg**	**02 24 40.6**	**+0.3**
NACB	**Ninganchiao**	**0.94**	**233**	*i* P	**Pg**	**02 24 30.1**	**-0.2**
NACB				S	**Sb**	**02 24 43.1**	**+0.4**
PCYT	**Pengchaiyu**	**0.94**	**341**	*i* P	**Pg**	**02 24 30.6**	**+0.2**
PCYT				*e*S	**Sb**	**02 24 43.4**	**+0.5**
YHNB	**Yeheng**	**0.94**	**266**	*e*P	**Pb**	**02 24 30.8**	**+0.2**
YHNB				S	**Sg**	**02 24 42.5**	**-0.4**
NSK	**Sanguang**	**0.96**	**266**	*i* P	**Pg**	**02 24 30.4**	**-0.5**
NSK				S	**Sg**	**02 24 43.4**	**0.0**
NNSB	**Datong**	**0.99**	**252**	P	**Pb**	**02 24 31.9**	**+0.5**
NNSB				S	**Sb**	**02 24 45.0**	**+0.6**
NNS	**Nan Shan**	**0.99**	**253**	*i* P	**Pg**	**02 24 31.1**	**-0.3**
NNS				*i* S	**Sn**	**02 24 45.6**	**-0.6**
TWD	**Chiawan**	**0.99**	**229**	*e*P	**Pn**	**02 24 32.6**	**+0.6**
TWD				*e*S	**Sb**	**02 24 44.6**	**+0.1**
ETLH	**Xiulin Townshi**	**1.00**	**238**	*i* P	**Pg**	**02 24 31.4**	**-0.2**
ETLH				*i* S	**Sb**	**02 24 45.1**	**+0.3**
LXIB	**Xiulin Townshi**	**1.16**	**232**	*e*P	**Pn**	**02 24 34.7**	**+0.2**
LXIB				S	**Sn**	**02 24 50.3**	**0.0**
FUSS	**Fushou**	**1.17**	**245**	*i* P	**Pb**	**02 24 34.6**	**0.0**
FUSS				S	**Sn**	**02 24 50.8**	**0.0**
NFF	**Wufeng Townshi**	**1.18**	**265**	*i* P	**Pb**	**02 24 34.3**	**-0.3**
NFF				*e*S	**Sb**	**02 24 49.9**	**-0.1**
WHF	**Hehuan Shan**	**1.20**	**241**	*e*P	**Pn**	**02 24 35.7**	**+0.4**
WHF				*e*S	**Sb**	**02 24 51.3**	**+0.4**
IRIF	**Iriomote-Funau**	**1.27**	**108**	*e*P	**Pb**	**02 24 36.4**	**+0.3**
IRIF				*e*S	**Sg**	**02 24 53.1**	**0.0**
LIOB	**Emei**	**1.27**	**266**	*i* P	**Pg**	**02 24 37.0**	**+0.2**
LIOB				*e*S	**Sn**	**02 24 53.1**	**+0.1**
NSTT	**Nanjuang**	**1.29**	**265**	*i* P	**Pg**	**02 24 37.9**	**+0.8**
NSTT				*i* S	**Sg**	**02 24 54.8**	**+0.9**
OWD	**Renai**	**1.37**	**235**	*i* P	**Pb**	**02 24 37.9**	**-0.1**
OWD				S	**Sg**	**02 24 56.8**	**+0.3**
WARBT	**Fenglin Townsh**	**1.38**	**223**	*i* P	**Pn**	**02 24 37.5**	**+0.1**
WARBT				*e*S	**Sg**	**02 24 56.7**	**-0.1**
WUSB	**Renai**	**1.40**	**238**	*i* P	**Pg**	**02 24 39.1**	**0.0**
WUSB				*e*S	**Sg**	**02 24 57.7**	**+0.4**
WHP	**Taichung City**	**1.41**	**251**	*i* P	**Pg**	**02 24 40.2**	**+0.7**
WHP				*e*S	**Sg**	**02 24 58.5**	**+0.7**
VWDT	**VWDT**	**1.52**	**230**	*i* P	**Pg**	**02 24 41.0**	**-0.4**
VWDT				*e*S	**Sb**	**02 24 59.9**	**+0.3**
WCS	**Beigang Elemen**	**1.53**	**244**	*e*P	**Pb**	**02 24 40.7**	**+0.2**
WCS				*e*S	**Sg**	**02 25 00.8**	**-0.7**
HGSD	**Ruisui**	**1.54**	**216**	*e*P	**Pn**	**02 24 39.8**	**+0.3**
HGSD				*e*S	**Sg**	**02 25 00.9**	**-0.8**
SMLT	**Sun Moon Lake**	**1.62**	**239**	P	**Pg**	**02 24 43.5**	**0.0**
SMLT				*e*S	**Sg**	**02 25 04.6**	**+0.1**
SSLB	**Suanglung**	**1.64**	**235**	*i* P	**Pg**	**02 24 43.2**	**-0.4**
SSLB				S	**

PANC	Panciu	0.60	63	⇑P	Pn	02 47 40.4	+0.7
PANC				⇑S	Sn	02 47 54.2	-1.0
OZUR		0.65	320	⇑P	Pn	02 47 40.4	+0.2
COSR	Cosmesti PH	0.70	69	⇓S	Sn	02 47 55.3	-1.0
ONER	Baraj Valea Uz	0.73	0	⇓S	Sn	02 47 55.8	-1.1
DOPR	Dopca	0.79	298	⇑P	Pn	02 47 41.8	+0.6
DOPR				⇓S	Sn	02 47 57.1	-0.5
GHRR		0.85	57	⇓P	Pn	02 47 42.5	+0.9
GHRR				⇑S	Sn	02 47 57.9	-0.5
TUDR		0.90	90	⇑P	Pn	02 47 42.3	+0.2
TUDR				⇑S	Sn	02 47 57.5	-1.6
TESR	Tescani	0.93	11	⇑P	Pn	02 47 42.8	+0.5
SULR		0.93	186	⇓P	Pn	02 47 43.4	+1.1
SULR				⇑S	Sn	02 48 00.1	+0.6
VOIR		0.95	260	⇑P	Pn	02 47 43.2	+0.6
VOIR				⇑S	Sn	02 47 59.7	-0.4
IZVR	Izvoarele	0.97	93	⇓P	Pn	02 47 42.7	0.0
IZVR				⇓S	Sn	02 47 58.3	-1.9
MTUR	Matau	1.00	248	⇑P	Pn	02 47 44.1	+1.0
SCHLR	Schela	1.02	97	⇑P	Pn	02 47 43.4	+0.3
SCHLR				⇑S	Sn	02 47 59.5	-1.6
VARL	Varlezi	1.07	73	⇑P	Pn	02 47 44.1	+0.6
VARL				⇑S	Sn	02 48 00.9	-0.9
BIR	Birlad	1.09	52	⇓P	Pn	02 47 44.5	+0.8
BIR				⇑S	Sn	02 48 00.8	-1.4
TATR	Tatarca	1.17	90	⇑P	Pn	02 47 45.4	+0.9
TATR				⇓S	Sn	02 48 03.1	-0.4
LEHL	Lehliu	1.17	165	⇓P	Pn	02 47 45.8	+1.3
LEHL				⇑S	Sn	02 48 04.0	+0.4
INCR	INCERC-Sediu C	1.17	188	⇑S	Sn	02 48 03.8	+0.2
GISR	Galati	1.19	97	⇑P	Pn	02 47 45.5	+0.8
GISR				⇑S	Sn	02 48 03.1	-0.6
AMRR	Amara	1.20	146	⇑P	Pn	02 47 46.0	+1.2
AMRR				⇓S	Sn	02 48 04.3	+0.2
CIOR	Ciorogarla	1.21	197	⇑P	Pn	02 47 46.1	+1.2
CIOR				⇑S	Sn	02 48 04.6	+0.3
VLDR	Vladesti	1.21	78	⇓P	Pn	02 47 45.9	+0.9
VLDR				⇑S	Sn	02 48 03.1	-1.1
ARR	Arges	1.25	260	⇑P	Pn	02 47 46.8	+1.3
ARR				⇑S	Sn	02 48 06.1	+0.9
BUC1	Bucharest	1.28	192	⇑P	Pn	02 47 46.9	+1.2
BUC1				⇓S	Sn	02 48 05.7	+0.1
GIUM	Giurgiulesti	1.29	95	⇓S	Sn	02 48 05.3	-0.3
CFR	Carcaliu	1.31	108	⇓P	Pn	02 47 46.5	+0.6
CFR				⇑S	Sn	02 48 04.3	-1.6
BIZ	Bicaz	1.35	352	⇓S	Sn	02 48 07.4	+0.5
GIRR	Girov	1.35	3	⇑P	Pn	02 47 47.3	+0.9
SGRR	Singureni	1.41	192	⇑P	Pn	02 47 48.1	+1.0
SGRR				⇑S	Sn	02 48 07.8	-0.2
HARR	Harsova	1.43	129	⇑P	Pn	02 47 48.1	+0.9
HUMR	Humele	1.47	223	⇓P	Pn	02 47 48.6	+1.0
HUMR				⇑S	Sn	02 48 09.0	0.0
TLBR	Topalu	1.58	131	⇑P	Pn	02 47 49.9	+1.0
TLBR				⇑S	Sn	02 48 10.1	-1.2
TPGR	Topolog	1.62	117	⇑P	Pn	02 47 50.1	+0.7
CVDA	Cernavoda	1.73	137	⇑S	Sn	02 48 14.7	+0.4
TLCR		1.76	103	⇑P	Pn	02 47 51.8	+0.9
TLCR				⇓S	Sn	02 48 14.8	-0.1
ICOR	Ion Corvin	1.80	145	⇑P	Pn	02 47 52.6	+1.2
ICOR				⇑S	Sn	02 48 15.8	+0.1
TIRR	Tirgusor	1.84	128	⇓P	Pn	02 47 52.8	+1.0
TIRR				⇑S	Sn	02 48 15.5	-1.0
LOT	Lotru	1.84	266	⇓P	Pn	02 47 53.6	+1.5
LOT				⇑S	Sn	02 48 18.0	+1.1
JURR	Jurilovca	1.95	115	⇓P	Pn	02 47 54.2	+1.0
RAZG	Razgrad	2.04	177	⇓S	Sn	02 48 20.3	-0.6
MILM	Milestii Mici	2.14	51	⇓P	Pn	02 47 56.2	+0.8
MILM	Milestii Mici	2.14	51	⇓*i*P	Pn	02 47 56.1	+0.7
MILM				*i*S	Sn	02 48 21.1	-1.8
	43nm,0.1s						
BURAR	Bucovina Array	2.17	339	⇓P	Pn	02 47 58.4	+2.5
BURAR				⇓S	Sn	02 48 26.3	+2.4
TSCT	Constanta Port	2.17	131	⇑S	Sn	02 48 23.0	-0.6
KIS	Kishinev	2.19	50	⇑P	Pn	02 47 56.8	+0.8
KIS	Kishinev	2.19	50	⇓*i*P	Pn	02 47 56.9	+0.9
	53nm,0.1s						
KIS				*e*S	Sn	02 48 22.1	-2.0
	40nm,0.2s						
EFOR	EFORIE	2.21	133	⇑S	Sn	02 48 24.1	-0.5
LOZB	Loznitsa	2.24	176	⇑P	Pn	02 47 58.1	+1.3
MANR	Mangalia	2.38	138	⇑S	Sn	02 48 27.7	-0.6
SRE	Strehaia	2.44	248	⇓P	Pn	02 48 00.2	+1.0
GZR	Gura Zlata	2.55	267	⇑P	Pn	02 48 02.1	+1.5
GZR				⇓S	Sn	02 48 34.5	+2.3
GZR	Gura Zlata	2.55	267	*e*Pn	Pn	02 48 01.9	+1.3
PURM	Purcari	2.60	68	⇓P	Pn	02 48 02.0	+0.9
DRGR		2.81	296	⇑P	Pn	02 48 05.4	+1.4
SORM	Soroca	2.87	27	⇑P	Pn	02 48 04.9	+0.4
HERR	Herculane	2.90	257	⇓P	Pn	02 48 05.7	+0.7
BLKB	Belogradchik	3.31	235	*e*Pn	Pn	02 48 10.6	+0.2
BZS	Buzias	3.35	272	*e*Pn	Pn	02 48 11.9	+1.1
MDVR	Moldovita	3.40	258	⇑P	Pn	02 48 12.6	+1.0
MDVR	Moldovita	3.40	258	*e*Pn	Pn	02 48 12.4	+0.8
MDVR				*e*Sn	Sn	02 48 49.4	-2.5
BORS2	Bor- Borsko je	3.46	246	*e*Pn	Pn	02 48 11.1	-1.2
BORS2				*e*Sn	Sn	02 48 49.2	-3.8
ZAGS	Zajecar	3.46	240	*e*Pn	Pn	02 48 12.0	-0.3
ZAGS				*e*Sn	Sn	02 48 49.2	-3.9
KUBS	Kucevo	3.55	252	*e*Pn	Pn	02 48 12.7	-0.7
KUBS				*e*Sn	Sn	02 48 51.9	-3.3
ZAPS	Zavoj	3.56	230	*e*Pn	Pn	02 48 14.3	+0.7
ZAPS				*e*Sn	Sn	02 48 52.6	-2.8
VRSS	Vrsac	3.60	264	*e*Pn	Pn	02 48 15.0	+0.9
VTS	Vitosha	3.75	218	*e*Pn	Pn	02 48 17.6	+1.3
VTS				*e*Sn	Sn	02 48 59.3	-0.9
BOVS	Bovan	3.88	241	⇓P	Pn	02 48 18.8	+1.0
BOVS	Bovan	3.88	241	*e*Pn	Pn	02 48 18.7	+0.9
BOVS				*e*Sn	Sn	02 49 00.1	-2.8
BOSS	Bosilegrad	4.19	224	*e*Pn	Pn	02 48 23.9	+1.9
GRUS	Gruza	4.39	249	*e*Pn	Pn	02 48 25.9	+1.4
GRUS				*e*Sn	Sn	02 49 11.3	-3.7
SELS	Selova	4.46	240	*e*Pn	Pn	02 48 26.7	+1.1

*IDC **17** 03:06:02.1±0.7, 34°.75S×108°.64W, h0km, mb4.2/11, mbtmp4.2/11, MS4.1/39, Error ellipse: s-maj=25.8km s-min=20.0km az=74.0*
*NEIC **17** 03:06:04.2±2.3, 34°.72S±0°.10×108°.5W±0°.1, h10km±1km, mb4.6/44, Error ellipse: s-maj=24.9km s-min=6.6km az=231.0*
*GCMT **17** 03:06:07.2±0.2, 34°.77S±0°.01×108°.59W±0°.01, h24km±1km, MW5.0/113, Moment Tensor Solution. s39,c46; s113,c147; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.79±.18; $M_{\theta\theta}$-0.81±.15; $M_{\phi\phi}$1.60±.15; $M_{r\theta}$0.19±.31; $M_{\theta\phi}$-3.96±.10; $M_{\phi r}$-1.82±.33; Best double couple: $M_0$4.50400×10^16^ NP1:ϕ_s98.00000°, δ66.00000°, λ-179.00000°. NP2:ϕ_s7.00000°, δ89.00000°, λ-24.00000°. Principal axes: T 4.9740, Plg16.0000°, Azm55.0000°; N -0.9350, Plg66.0000°, Azm185.0000°; P -4.0350, Plg17.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 03:06:03.5±0.7, 34°.75±0°.1×108°.5W±0°.1, h10km, n97, σ1§28/38, mb4.6/31, MS4.1/39, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	24.41	97	T	T	03 37 02.9	
	baz=283,slow=76						
H03S1	Juan Fernandez	24.43	97	T	T	03 37 02.9	
	baz=283,slow=76						
H03S3	Juan Fernandez	24.43	97	T	T	03 37 01.4	
	baz=283,slow=76						
H03N2	Juan Fernandez	24.48	96	T	T	03 37 07.7	
	baz=266,slow=73,SNR=15						
H03N3	Juan Fernandez	24.49	96	T	T	03 37 06.8	
	baz=266,slow=73,SNR=17						
H03N1	Juan Fernandez	24.50	96	T	T	03 37 07.6	
	baz=266,slow=73,SNR=16						
PLCA	Paso Flores	30.45	113	P	P	03 12 17.8	+1.3
PLCA				IAmb	IAmb	03 12 25.6	
	comp=Z,14nm,1.1s						
PLCA	Paso Flores	30.45	113	P	P	03 12 17.7	+1.3
	comp=Z,2.7nm,0.8s,baz=265,slow=9.5,SNR=6.0						
PLCA				LR	LR	03 20 44.8	
	comp=Z,189nm,21.8s,baz=275,slow=29						
	comp=Z,2.7nm,0.8s						
MT09	Talagante	30.91	99	P	P	03 12 22.6	+2.0
AC02	Maricunga	34.54	88	P	P	03 12 53.0	+0.2
AC02				IAmb	IAmb	03 13 08.8	
	comp=Z,7.8nm,1.1s						
NNA	Nana	36.54	60	LR	LR	03 24 09.6	
	comp=Z,654nm,21.0s,baz=247,slow=30						
TBI	Tubuai	37.33	276	*e*LR	LR	03 23 02.4	
	comp=Z,3μm,26.8s						
TAOE	Nuku Hiva Isla	38.74	304	*e*S	S	03 19 35.1	+9.5
	comp=Z,83nm,28.1s						
TAOE				*e*LR	LR	03 24 07.8	
	comp=Z,342nm,27.5s						
ATAH	Atahualpa	38.96	52	LR	LR	03 25 32.2	
	comp=Z,446nm,18.7s,baz=239,slow=30						
PMSA	Palmer Station	40.20	152	LR	LR	03 25 41.2	
	comp=Z,352nm,18.8s,baz=128,slow=29						
PPT2	Papeete2	40.30	284	*e*LR	LR	03 24 24.1	
	comp=Z,241nm,24.5s						
PPT2				*e*LR	LR	03 24 28.2	
	comp=Z,218nm,26.0s						
PPT	Papeete	40.31	284	LR	LR	03 25 55.6	
	comp=Z,150nm,20.9s,baz=126,slow=30						
LPAZ	La Paz	40.44	73	P	P	03 13 43.9	+0.9
LPAZ	La Paz	40.44	73	P	P	03 13 44.1	+1.0
	comp=Z,3.8nm,0.9s,baz=230,slow=8.5,SNR=10						
LPAZ				LR	LR	03 26 36.7	
	comp=Z,175nm,19.6s,baz=232,slow=30						
	comp=Z,3.8nm,0.9s						
COHC	Cochancay	42.03	47	P	P	03 13 55.6	+0.3
CZSB	Cruzeiro do Su	42.41	59	P	P	03 13 58.6	+0.1
CZSB				IAmb	IAmb	03 13 59.2	
	comp=Z,18nm,1.2s						
CPUP	Villa Florida	44.46	94	LR	LR	03 30 02.6	
	comp=Z,164nm,18.6s,baz=248,slow=32						
PLTB	Pedras Altas	45.53	102	P	P	03 14 22.8	-0.7
SIV	San Ignacio	46.25	79	LR	LR	03 31 48.3	
	comp=Z,132nm,18.2s,baz=280,slow=33						
RAR	Rarotonga	46.79	273	LR	LR	03 30 26.2	
	comp=Z,158nm,18.4s,baz=108,slow=31						
AQDB	Aquidauana	48.37	87	P	P	03 14 45.6	-0.2
AQDB				IAmb	IAmb	03 14 46.3	
	comp=Z,6.1nm,0.9s						
JTS	Las Juntas de	49.97	31	P	P	03 14 56.5	-1.4
JTS				IAmb	IAmb	03 15 01.5	
	comp=Z,9.5nm,1.0s						
JTS	Las Juntas de	49.97	31	LR	LR	03 30 54.6	
	comp=Z,371nm,18.9s,baz=94,slow=30						
ROSC	El Rosal	50.79	46	P	P	03 15 06.3	+1.7
ROSC	El Rosal	50.79	46	P	P	03 15 06.2	+1.5
	comp=Z,18nm,0.9s,baz=216,slow=5.3,SNR=7.2						
ROSC				LR	LR	03 32 36.9	
	comp=Z,327nm,21.8s,baz=254,slow=31						
	comp=Z,18nm,0.9s						
RUSC	La Rusia	52.37	47	P	P	03 15 16.1	-0.4
BELA	Belgrano 2	53.00	165	P	P	03 15 22.2	+2.2
BELA				IAmb	IAmb	03 15 22.4	
	comp=Z,12nm,1.3s						
CMIG	Matias Romero	53.07	16	LR	LR	03 32 42.7	
	comp=Z,138nm,18.1s,baz=173,slow=30						
QSPA	South Pole Qui	55.54	180	P	P	03 15 37.5	-1.3
QSPA	South Pole Qui	55.54	180	P	P	03 15 38.6	-0.1
	comp=Z,3.8nm,0.9s,baz=105,slow=4.1,SNR=7.7						
QSPA				LR	LR	03 35 53.1	
	comp=Z,160nm,19.1s,baz=78,slow=32						
	comp=Z,3.8nm,0.9s						
SDV	Santo Domingo	56.20	47	LR	LR	03 36 16.7	
	comp=Z,216nm,19.8s,baz=258,slow=32						
VNDA	Vanda	56.38	195	LR	LR	03 34 35.4	
	comp=Z,166nm,19.0s,baz=49,slow=30						
BDFB	Brasilia	57.11	87	P	P	03 15 51.9	+1.3
	comp=Z,0.4nm,0.3s,baz=218,slow=7.8,SNR=3.6						
BDFB				LR	LR	03 38 09.9	
	comp=Z,182nm,18.0s,baz=252,slow=34						
	comp=Z,0.4nm,0.3s						
BAUV	El Baul	57.84	49	P	P	03 15 53.7	-1.8
BOAV	Boa Vista	58.13	61	P	P	03 15 56.6	-1.0
BOAV				IAmb	IAmb	03 15 57.4	
	comp=Z,6.2nm,1.1s						
URZ	Urewera	58.42	243	LR	LR	03 35 24.5	
	comp=Z,346nm,19.5s,baz=209,slow=30						
VNA3	Neumayer Olymp	60.34	158	⇑P	P	03 16 10.8	-1.4
	comp=Z,6.1nm,0.8s						
PCRV	Puerto La Cruz	60.94	51	LR	LR	03 39 42.5	
	comp=Z,310nm,21.0s,slow=33						
VNA2	Neumayer--Watz	61.15	158	⇑P	P	03 16 17.4	-0.3
	comp=Z,4.7nm,1.0s,baz=254,slow=7.4						
SNAA	Sanae	62.18	160	⇑P	P	03 16 23.0	-1.7
	comp=Z,62nm,1.2s						
SNAA	Sanae	62.18	160	P	P	03 16 23.1	-1.5
	comp=Z,2.1nm,0.9s,baz=299,slow=10,SNR=2.7						
SNAA				LR	LR	03 39 03.2	
	comp=Z,129nm,20.2s,baz=256,slow=32						
	comp=Z,2.1nm,0.9s						
TXAR	Lajitas Array	63.82	5	P	P	03 16 36.3	+0.3
	comp=Z,1.1nm,1.0s,baz=173,slow=11,SNR=4.5						
TXAR				LR	LR	03 39 30.8	
	comp=Z,32nm,19.1s,baz=148,slow=31						
	comp=Z,1.1nm,1.0s						
JCT	Junction City	65.31	8	P	P	03 16 47.2	+1.5
MDP	Montagnes des	65.74	65	LR	LR	03 42 33.6	
	comp=Z,461nm,18.9s,baz=234,slow=33						
PDPR	Patillas Dam,	66.14	45	P	P	03 16 48.7	-2.5
SJG	San Juan	66.14	44	LR	LR	03 44 27.3	
	comp=Z,86nm,18.2s,baz=210,slow=35						
SGCY	Sterling City	66.59	7	P	P	03 16 56.0	+2.1
MSVF	Nonsavu	66.73	264	LR	LR	03 39 49.0	
	comp=Z,112nm,18.9s,baz=156,slow=30						
PFO	Pinyon Flats O	68.33	353	LR	LR	03 39 45.8	
	comp=Z,87nm,18.1s,baz=208,slow=30						
TPNV	Topopah Spring	71.61	353	P	P	03 17 25.9	+0.7
TPNV				IAmb	IAmb	03 17 34.2	
	comp=Z,5.9nm,1.2s						
HHAR	Hobbs	71.87	12	IAmb	IAmb	03 17 33.8	
	comp=Z,6.9nm,1.2s						
DSP	Deep Springs	72.21	352	IAmb	IAmb	03 17 37.6	
	comp=Z,6.7nm,1.0s						
LHV	Little Huntoon	73.14	352	IAmb	IAmb	03 17 47.0	
	comp=Z,6.0nm,0.9s						
NV11	Mina Array Sit	73.28	352	IAmb	IAmb	03 17 43.9	
	comp=Z,6.5nm,0.9s						
NVAR	Mina Array Bea	73.29	352	P	P	03 17 36.0	+0.8
NVAR	Mina Array Bea	73.29	352	P	P	03 17 36.2	+1.0
	comp=Z,1.7nm,0.8s,baz=171,slow=6.7,SNR=10						
	comp=Z,1.7nm,0.8s						
TMUT	Trail Mountain	73.64	358	IAmb	IAmb	03 17 40.5	
	comp=Z,6.0nm,1.2s						
TKL	Tuckaleechee C	73.67	21	LR	LR	03 45 06.6	
	comp=Z,98nm,20.6s,baz=190,slow=32						
DZM	Mont Dzumac	73.90	254	*e*LR	LR	03 40 05.2	
	comp=Z,340nm,30.1s						
DZM	Mont Dzumac	73.90	254	LR	LR	03 42 25.9	
	comp=Z,112nm,20.9s,baz=150,slow=30						
SYO	Syowa Base	73.98	169	⇑*e*sP	sP	03 17 41.7	+0.2
BSUT	Blindstream Ca	74.86	358	IAmb	IAmb	03 18 04.2	
	comp=Z,7.2nm,1.2s						
PDAR	Pinedale Array	77.06	359	P	P	03 17 57.6	+0.7
	comp=Z,2.0nm,0.9s,baz=165,slow=5.3,SNR=13						
	comp=Z,2.0nm,0.9s						
YBH	Yreka Blue Hor	77.14	349	LR	LR	03 44 23.3	
	comp=Z,84nm,20.3s,baz=173,slow=30						
WVOR	Wild Horse Val	77.29	352	IAmb	IAmb	03 18 06.8	
	comp=Z,5.3nm,1.0s						
TPAW	Teton Pass	77.81	358	IAmb	IAmb	03 18 08.4	
	comp=Z,4.2nm,0.9s						
MAW	Mawson	77.84	177	LR	LR	03 49 39.1	
	comp=Z,77nm,18.2s,baz=170,slow=34						
HLID	Hailey	78.04	356	IAmb	IAmb	03 18 10.7	
	comp=Z,5.7nm,0.8s						
I07A	Izee	79.01	352	IAmb	IAmb	03 18 16.3	
	comp=Z,7.1nm,1.0s						
G08A	Pilot Rock	80.15	353	IAmb	IAmb	03 18 22.3	
	comp=Z,5.3nm,1.0s						
NEW	Newport	82.92	354	LR	LR	03 48 43.1	
	comp=Z,67nm,19.7s,baz=165,slow=31						
ULM	Lac du Bonnet	85.28	8	P	P	03 18 40.9	+0.8
	comp=Z,1.5nm,0.5s,baz=182,slow=0.9,SNR=4.1						
	comp=Z,1.5nm,0.5s						
HNR	Honiara	85.99	261	LR	LR	03 48 30.3	
	comp=Z,82nm,21.6s,baz=163,slow=30						
STKA	Stephens Creek	86.64	233	LR	LR	03 51 17.6	
	comp=Z,153nm,19.1s,baz=198,slow=31						
SCHQ	Schefferville	96.05	23	LR	LR	03 56 38.1	
	comp=Z,89nm,21.9s,baz=64,slow=32						
H11S2	WAKE ISLAND Hy	96.18	288	T	T	05 06 10.3	
	baz=126,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	96.19	288	T	T	05 06 14.6	
	baz=126,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	96.20	288	T	T	05 06 11.5	
	baz=126,slow=75,SNR=13						
PMG	Port Moresby	96.30	254	LR	LR	03 59 47.3	
	comp=Z,50nm,18.7s,baz=299,slow=34						
YKA	Yellowknife Ar	96.94	357	P	P	03 19 34.5	+0.1
	comp=Z,0.3nm,1.0s,baz=172,slow=3.8,SNR=2.7						
YKA				LR	LR	04 00 41.3	
	comp=Z,133nm,20.0s,baz=282,slow=34						
	comp=Z,0.3nm,1.0s						
ASAR	Alice Springs	97.14	235	LR	LR	04 02 43.9	
	comp=Z,100nm,18.1s,baz=160,slow=35						
SUR	Sutherland	98.05	139	LR	LR	03 56 46.7	
	comp=Z,83nm,18.4s,baz=202,slow=31						
KDAK	Kodiak Island	99.26	338	LR	LR	03 55 07.5	
	comp=Z,82nm,18.2s,baz=327,slow=30						
WRA	Warramunga Arr	99.33	238	LR	LR	04 01 47.8	
	comp=Z,178nm,18.3s,baz=144,slow=34						
BBTS	Babate	99.77	79	LR	LR	04 00 05.0	
	comp=Z,104nm,20.0s,baz=128,slow=32						
H01W1	Cape Leeuwin H	100.14	214	T	T	05 11 48.1	
	baz=143,slow=75,SNR=40						
H01W2	Cape Leeuwin H	100.14	214	T	T	05 11 51.7	
	baz=143,slow=75,SNR=31						
H01W3	Cape Leeuwin H	100.15	214	T	T	05 11 53.1	
	baz=143,slow=75,SNR=34						
BURAR	Bucovina Array	143.35	55		PKPdf	03 25 36.4	-1.5
CMAR	Chiang Mai Arr	150.76	244	PKPbc	PKiKP	03 25 57.5	+0.3
	comp=Z,4.4nm,0.8s,baz=190,slow=1.8,SNR=25						
SONM	Songino Array	150.92	308	PKPbc	PKPbc	03 25 55.1	-1.1
	comp=Z,2.6nm,1.0s,baz=78,slow=2.9,SNR=13						
KURBB	Kurchatov Arra	163.25	344	PKPab	PKPab	03 26 56.2	-0.1
	comp=Z,0.3nm,0.8s,baz=27,slow=3.7,SNR=4.1						

*IDC **17** 03:11:50.4±3.8, 7°.55S×127°.65E, h112km±35km, mb3.5/8, mbtmp4.1/11, Error ellipse: s-maj=49.2km s-min=15.3km az=73.0*
*NEIC **17** 03:11:55.6±1.0, 7°.50S±0°.09×127°.88E±0°.08, h157km±9km, mb4.2/13, Error ellipse: s-maj=16.5km s-min=4.7km az=138.0*

ISC 17 03:11:53.9±0.5, 7°.57S±0°.06×127°.92E±0°.05, h142km, n64, σ1§33/64, mb4.3/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.38	97	Pn	Pn	03 12 48.5	+2.7
SOEI	Soe	4.21	239		Pn	03 12 58.8	+1.9
SOEI	Soe	4.21	239	P	Pn	03 12 58.5	+1.6
SOEI	Soe	4.21	239	S	Sn	03 13 46.1	+0.3
DRS	Darwin Rock St	5.65	149	P	Pn	03 13 16.1	+0.2
DRS	Darwin Rock St	5.65	149	S	Sn	03 14 17.5	-2.4
MTN	Manton Dam	6.12	149		Pn	03 13 22.8	+0.6
MTN	Manton Dam	6.12	149	P	Pn	03 13 22.4	+0.2
	142nm,0.5s						
MTN	Manton Dam	6.12	149	S	Sn	03 14 30.3	-0.9
	142nm,0.5s						
FAKI	Fak Fak	6.32	43	Pn	Pn	03 13 26.1	+1.3
FAKI	Fak Fak	6.32	43	P	Pn	03 13 25.7	+0.9
	32nm,1.4s						
FAKI	Fak Fak	6.32	43	S	Sn	03 14 35.5	-0.5
	32nm,1.4s						
KDU	Kakadu	6.78	139	P	Pn	03 13 30.9	-0.1
	106nm,0.6s						
KDU	Kakadu	6.78	139	S	Sn	03 14 44.4	-2.6
	106nm,0.6s						
KNRA	Kununurra	8.10	174		Pn	03 13 47.9	-0.7
PLAI	Plampang	10.12	262	P	Pn	03 14 15.1	-0.6
	17nm,1.6s						
FITZ	Fitzroy Crossi	10.70	192	Pn	Pn	03 14 20.8	-2.5
FITZ	Fitzroy Crossi	10.70	192	P	Pn	03 14 20.6	-2.8
	9.4nm,0.4s,baz=17,slow=9.9,SNR=72						
FITZ				S	Sn	03 16 08.8	-13
	20nm,0.3s,baz=79,slow=16,SNR=7.0						
WRA	Warramunga Arr	13.79	154	Pn	Pn	03 15 00.5	-3.0
WRA	Warramunga Arr	13.79	154	P	Pn	03 15 01.1	-2.4
	12nm,0.7s,baz=321,slow=14,SNR=155						
WRA				S	Sn	03 17 25.4	-11
	17nm,0.6s,baz=332,slow=22,SNR=12						
WR0	Warramunga Arr	13.89	153		Pn	03 15 02.8	-2.0
MBWA	Marble Bar	15.66	210	P	P	03 15 28.2	+0.2
	10nm,1.8s						
PSA00	Pilbara Seismi	15.96	208		Pn	03 15 29.0	-1.5
PSA00				IAmb	IAmb	03 15 33.8	
PSA00	Pilbara Seismi	15.96	208	Pn	Pn	03 15 29.6	-0.9
PSA00				IAmb	IAmb	03 15 58.7	
	comp=Z,7.4nm,1.3s						
PSA00	Pilbara Seismi	15.96	208	P	P	03 15 30.7	-0.6
	comp=Z,18nm,0.9s						
COEN	Coen	16.27	114	P	Pn	03 15 35.0	+0.5
COEN				IAmb	IAmb	03 15 41.2	
	comp=Z,5.1nm,0.8s						
COEN	Coen	16.27	114	P	Pn	03 15 35.9	+1.4
	comp=Z,10.0nm,1.6s						
AS31	Alice Springs	17.00	161		P	03 15 43.5	+0.6
AS31				IAmb	IAmb	03 15 45.6	
	comp=Z,7.2nm,0.5s						
ASAR	Al

BELA IAmb IAmb 03 24 56.5
comp=Z,1.8nm,0.7s
CPUP Villa Florida 145.92 172 PKPbc **PKPdf 03 31 17.1 +0.4**
comp=Z,0.8nm,0.4s,baz=286,slow=0.6,SNR=6.2
LPAZ La Paz 151.47 146 PKPab **PKPab 03 31 42.1 +0.6**
comp=Z,2.6nm,0.6s,baz=192,slow=2.2,SNR=13

IDC 17 03:46:24.0±1.2, 28°.10N×104°.91E, h0km, mb3.5/5, mbtmp3.5/6, ML3.8/1, MS3.0/2, Error ellipse: s-maj=84.1km s-min=20.8km az=61.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.05**	**211**	LR	LR	03 53 50.0	
	comp=Z,24nm,21.6s,baz=140,slow=40						
SONM	**Songino Array**	**19.74**	**3**	P	P	03 50 55.4	0.0
	0.3nm,0.3s,baz=183,slow=11,SNR=4.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**25.74**	**323**	P	P	03 51 55.8	-0.4
	0.3nm,0.6s,baz=127,slow=9.3,SNR=5.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**30.08**	**326**	P	P	03 52 35.4	+0.5
	0.2nm,0.4s,baz=130,slow=9.9,SNR=3.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**55.60**	**146**	P	P	03 56 01.5	-0.2
	0.2nm,0.5s,baz=334,slow=7.8,SNR=4.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**58.57**	**149**	P	P	03 56 22.7	0.0
	0.1nm,0.3s,baz=334,slow=6.8,SNR=4.5						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**59.97**	**315**	LR	LR	04 24 35.4	
	comp=Z,39nm,21.1s,baz=246,slow=38						
ARCES	**ARCESS Array B**	**60.28**	**337**	P	P	03 56 33.8	-0.2
	3.4nm,1.0s,baz=84,slow=8.4,SNR=1.5						
	3.4nm,1.0s						

NNC 17 04:01:07.6±2.5, 38°.70N×70°.65E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=17.6km s-min=14.0km az=13.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.40**	**359**	Pn	Pn	04 02 15.8	+0.1
	4.0nm,0.5s,baz=176,slow=12,SNR=49						
KK31				Sn	Sn	04 03 09.0	+1.3
	4.1nm,0.5s						
KK31				Lg	Lg	04 03 25.7	
	3.8nm,0.3s,baz=168,slow=31,SNR=4.9						
AAK	**Ala-Archa**	**4.90**	**35**	Pn	Pn	04 02 21.8	-0.9
	3.7nm,0.7s						
AAK				Sn	Sn	04 03 22.1	+1.9
	7.8nm,0.8s						
AAK				Lg	Lg	04 03 39.9	
	9.8nm,0.8s						
TKM2	**Tokmak 2**	**5.65**	**40**	Pn	Pn	04 02 33.0	+0.1
	2.2nm,0.6s						
TKM2				Sn	Sn	04 03 40.0	+1.4
	2.9nm,0.5s						
TKM2				Lg	Lg	04 04 06.2	
	4.4nm,0.9s						

*IDC **17** 04:19:32.3±0.9, 38°.53N×70°.84E, h0km, mb3.8/14, mbtmp3.8/21, ML3.4/7, MS3.6/1, Error ellipse: s-maj=14.6km s-min=10.9km az=146.0*
*NNC **17** 04:19:36.7±10.0, 38°.98N×72°.08E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=90.6km s-min=70.6km az=73.0*
ISC 17 04:19:37.1±0.9, 38°.72N±0°.08×70°.54E±0°.08, h23km, n33, σ2°01/36, mb3.8/13, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.17**	**34**	P	**Pn**	**04 20 41.0**	**+1.3**
	SNR=27						
BRLS	**Borolday**	**4.34**	**353**	Pg	**Pn**	**04 20 39.3**	**-2.4**
	16nm,0.3s						
BRLS				Lg	Lg	04 21 29.2	
	48nm,0.6s						
KK31	**Karatay Array**	**4.38**	**360**	⇑Pn	**Pn**	**04 20 43.6**	**+1.4**
	10nm,0.3s,baz=185,slow=14,SNR=165						
KK31				⇑Sn	**Sn**	**04 21 35.7**	**+3.2**
	27nm,0.6s,baz=177,slow=20,SNR=3.5						
KK31				⇑Lg	Lg	04 21 49.2	
	18nm,0.3s,baz=176,slow=35,SNR=3.9						
MRKS	**Merke**	**4.51**	**26**	Pg	**Pn**	**04 20 45.5**	**+1.4**
	23nm,0.6s						
MRKS				Lg	Lg	04 21 40.2	
	89nm,0.5s						
EKS2	**Erkin-Say**	**4.64**	**31**	P	**Pn**	**04 20 48.2**	**+2.3**
	SNR=9.1						
AAK	**Ala-Archa**	**4.94**	**36**	Pn	**Pn**	**04 20 50.7**	**+0.7**
	5.3nm,0.3s,baz=210,slow=9.1,SNR=38						
AAK				Sn	**Sn**	**04 21 49.9**	**+3.5**
	2.6nm,0.3s,baz=10.0,slow=20,SNR=4.3						
	11nm,0.3s						
AAK	**Ala-Archa**	**4.94**	**36**	P	**Pn**	**04 20 52.2**	**+2.2**
	SNR=15						
KBK	**Karagaybulak**	**5.17**	**39**	P	**Pn**	**04 20 55.7**	**+2.6**
	SNR=34						
CHMS	**Chumysh**	**5.34**	**35**	P	**Pn**	**04 20 57.9**	**+2.6**
	SNR=11						
USP	**Ospenovka**	**5.44**	**32**	P	**Pn**	**04 20 58.4**	**+1.6**
	SNR=11						
TKM2	**Tokmak 2**	**5.69**	**41**	P	**Pn**	**04 21 02.7**	**+2.4**
	SNR=6.3						
MKAR	**Makanchi Array**	**11.81**	**43**	Pn	**Pn**	**04 22 23.1**	**-0.9**
	0.2nm,0.3s,baz=232,slow=14,SNR=12						
MKAR				Lg	Lg	04 25 46.5	
	0.1nm,0.3s,baz=229,slow=30,SNR=3.6						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**13.18**	**23**	Pn	**Pn**	**04 22 40.4**	**-2.3**
	baz=216,slow=13,SNR=8.6						
KURBB				Lg	Lg	04 26 26.4	
	baz=214,slow=32,SNR=4.7						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**14.31**	**360**	Pn	**Pn**	**04 22 56.7**	**-1.4**
	0.1nm,0.3s,baz=165,slow=12,SNR=10.0						
BVAR				Sn	**Sn**	**04 25 30.7**	**-5.3**
	baz=169,slow=24,SNR=2.6						
	0.7nm,0.4s						
AKTO	**Aktyubinsk**	**14.70**	**327**	Pn	**Pn**	**04 23 03.4**	**-0.1**
	0.9nm,0.3s,baz=151,slow=10,SNR=6.5						
AKTO				Sn	**Sn**	**04 25 42.9**	**-2.6**
	0.5nm,0.3s,baz=336,slow=6.8,SNR=4.1						
	5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**18.09**	**28**	P	**Pn**	**04 23 45.6**	**-1.1**
	0.4nm,0.3s,baz=217,slow=11,SNR=8.5						
	2.1nm,0.6s						
ARTI	**Arti**	**19.44**	**339**	P	**Pn**	**04 24 02.6**	**-0.3**
	0.2nm,0.3s,baz=168,slow=9.8,SNR=3.3						
	1.8nm,0.5s						
GNI	**Garni**	**19.96**	**282**	P	**Pn**	**04 24 09.4**	**-0.1**
	3.3nm,0.6s,baz=77,slow=9.1,SNR=4.4						
	3.3nm,0.6s						
KBZ	**Khabaz**	**21.34**	**292**	P	**P**	**04 24 23.4**	**+1.0**
	1.9nm,0.8s,baz=170,slow=17,SNR=4.1						
	1.9nm,0.8s						
SONM	**Songino Array**	**27.44**	**59**	P	**P**	**04 25 18.6**	**-2.6**
	0.2nm,0.4s,baz=256,slow=10,SNR=1.9						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**31.31**	**306**	P	**P**	**04 25 56.6**	**+1.4**
	0.2nm,0.4s,baz=109,slow=9.8,SNR=1.7						
	0.2nm,0.4s						
NRIK	**Noril'sk**	**32.02**	**11**	P	**P**	**04 26 01.9**	**+0.6**
	2.1nm,0.5s,baz=118,slow=6.4,SNR=3.5						
	2.1nm,0.5s						
FINES	**FINESS Array B**	**35.45**	**325**	P	**P**	**04 26 31.3**	**+0.1**
	3.8nm,1.1s,baz=115,slow=8.4,SNR=4.0						
	3.8nm,1.1s						
ARCES	**ARCESS Array B**	**38.96**	**337**	P	**P**	**04 27 01.7**	**+0.7**
	2.2nm,0.8s,baz=107,slow=7.8,SNR=4.5						
	2.2nm,0.8s						
HFS	**Hagfors**	**41.11**	**320**	P	**P**	**04 27 18.9**	**+0.1**
	2.1nm,0.6s,baz=98,slow=8.4,SNR=16						
	2.1nm,0.6s						
NB2	**NORSAR Subarra**	**42.40**	**322**	P	**P**	**04 27 28.8**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**42.40**	**322**	P	**P**	**04 27 29.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=95,slow=8.0,SNR=4.0						
	comp=Z,1.2nm,0.8s						
TGY	**Tagaytay City**	**50.61**	**105**	LR	LR	04 49 21.0	
	comp=Z,55nm,19.9s,baz=261,slow=36						
ESDC	**Sonseca Array**	**56.12**	**296**	P	**P**	**04 29 16.0**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=53,slow=6.6,SNR=4.8						
	comp=Z,0.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.43**	**267**	P	**P**	**04 30 19.2**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=48,slow=6.2,SNR=5.9						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**79.05**	**2**	P	**P**	**04 31 39.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=350,slow=5.7,SNR=5.7						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**83.47**	**122**	P	**P**	**04 32 01.0**	**-2.0**
	comp=Z,1.0nm,1.0s,baz=322,slow=5.0,SNR=10						
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**85.82**	**125**	P	**P**	**04 32 12.4**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=323,slow=5.0,SNR=4.7						
	comp=Z,0.4nm,0.7s						

*ASRS **17** 04:29:12.0±1.6, 53°.80N×88°.21E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
NNC 17 04:29:15.3±2.5, 53°.62N×88°.02E, h0km, mb3.6, mpv3.2, 9C-5D, Error ellipse: s-maj=19.5km s-min=10.4km az=60.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.93**	**281**	⇓Pn	Pn	04 29 48.4	-0.9
	2.1nm,0.5s						
ZAA0				⇑Sn	Sb	04 30 15.7	-0.2
	9.2nm,0.7s						
KURK	**Kurchatov**	**6.47**	**247**	⇓Pn	Pn	04 30 51.3	-0.5
	2.0nm,0.7s						
KURK				⇓Sn	Sn	04 32 05.5	-0.7
	2.5nm,0.7s						
KURK				⇓Lg	Lg	04 32 41.5	
	8.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.57**	**247**	⇑Pn	Pn	04 30 53.5	+0.4
	2.6nm,0.3s						
KURBB				⇑Sn	Sn	04 32 08.9	+0.3
	14nm,0.6s						
KURBB				⇓Lg	Lg	04 32 45.0	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.76**	**211**	⇑Pn	Pn	04 31 11.6	+2.3
	0.7nm,0.5s,baz=40,slow=13,SNR=12						
MK31				⇑Sn	Sn	04 32 37.6	-0.3
	1.9nm,0.7s,baz=334,slow=20,SNR=6.7						
MK31				⇑Lg	Lg	04 33 19.5	
	4.5nm,0.8s,baz=32,slow=40,SNR=4.0						
MAKZ	**Makanchi**	**7.84**	**212**	⇑Pn	Pn	04 31 12.3	+1.8
	0.6nm,0.5s						
MAKZ				⇑Sn	Sn	04 32 42.6	+2.7
	1.3nm,0.5s						
MAKZ				⇑Lg	Lg	04 33 26.0	
	3.0nm,0.9s						

*IDC **17** 04:41:34.2±1.1, 56°.08S×142°.55W, h0km, mb3.7/6, mbtmp3.7/6, MS3.8/16, Error ellipse: s-maj=37.2km s-min=25.4km az=180.0*
ISC 17 04:41:35.6±1.3, 56°.1S±0°.3×142°.6W±0°.2, h10km, n33, σ0°77/7, mb3.9/6, MS3.8/16, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**32.11**	**287**	LR	LR	04 57 48.6	
	comp=Z,119nm,20.4s,baz=244,slow=30						
TBI	**Tubuai**	**33.09**	**348**	*e*LR	LR	04 56 28.5	
	1μm,29.2s						
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**04 48 20.7**	**+0.8**
	1.3nm,0.8s,baz=120,slow=0.4,SNR=7.9						
QSPA				LR	LR	04 59 00.4	
	comp=Z,148nm,19.7s,baz=66,slow=31						
	1.3nm,0.8s						
RAR	**Rarotonga**	**37.11**	**333**	LR	LR	05 01 31.7	
	comp=Z,134nm,19.0s,baz=44,slow=32						
PMSA	**Palmer Station**	**37.24**	**136**	LR	LR	05 00 26.7	
	comp=Z,131nm,18.7s,baz=130,slow=30						
PPT2	**Papeete2**	**38.79**	**349**	*e*LR	LR	04 59 08.1	
	279nm,26.2s						
PPT2				*e*LR	LR	04 59 15.1	
	204nm,30.2s						
TAOE	**Nuku Hiva Isla**	**47.14**	**3**	*e*LR	LR	05 03 12.0	
	183nm,28.2s						
PLCA	**Paso Flores**	**47.94**	**103**	LR	LR	05 05 37.1	
	comp=Z,72nm,18.1s,baz=216,slow=30						
H03S2	**Juan Fernandez**	**48.22**	**90**	T	T	05 42 08.4	
	baz=220,slow=74,SNR=8.5						
H03S1	**Juan Fernandez**	**48.23**	**90**	T	T	05 42 09.7	
	baz=220,slow=74,SNR=7.1						
H03S3	**Juan Fernandez**	**48.24**	**90**	T	T	05 42 10.4	
	baz=220,slow=74,SNR=7.5						
H03N3	**Juan Fernandez**	**48.50**	**90**	T	T	05 42 32.9	
	baz=223,slow=72,SNR=38						
H03N2	**Juan Fernandez**	**48.51**	**90**	T	T	05 42 29.1	
	baz=223,slow=72,SNR=38						
H03N1	**Juan Fernandez**	**48.52**	**90**	T	T	05 42 29.6	
	baz=223,slow=72,SNR=52						
SNAA	**Sanae**	**49.44**	**164**	P	**P**	**04 50 24.2**	**-1.0**
	1.1nm,0.6s,baz=219,slow=9.7,SNR=5.1						
	1.1nm,0.6s						
DZM	**Mont Dzumac**	**50.46**	**291**	*e*LR	LR	05 05 09.0	
	131nm,25.2s						
STKA	**Stephens Creek**	**56.51**	**262**	LR	LR	05 11 33.3	
	comp=Z,64nm,19.5s,baz=204,slow=32						
CPUP	**Villa Florida**	**65.97**	**102**	LR	LR	05 16 56.3	
	comp=Z,70nm,18.5s,baz=216,slow=32						
NNA	**Nana**	**66.64**	**76**	LR	LR	05 14 48.6	
	comp=Z,44nm,18.4s,baz=234,slow=30						
ASAR	**Alice Springs**	**67.15**	**261**	P	**P**	**04 52 29.9**	**+0.3**
	0.5nm,0.8s,baz=141,slow=6.6,SNR=6.7						
	0.5nm,0.8s						
LPAZ	**La Paz**	**67.95**	**86**	P	**P**	**04 52 35.8**	**+0.4**
	0.7nm,0.6s,baz=107,slow=2.3,SNR=5.8						
LPAZ				LR	LR	05 15 13.7	
	comp=Z,50nm,19.0s,baz=234,slow=30						
	0.7nm,0.6s						
H01W1	**Cape Leeuwin H**	**68.56**	**239**	T	T	06 07 53.8	
	baz=143,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**68.56**	**239**	T	T	06 08 03.4	
	baz=143,slow=76,SNR=55						
H01W3	**Cape Leeuwin H**	**68.57**	**239**	T	T	06 08 06.5	
	baz=143,slow=76,SNR=50						
ATAH	**Atahualpa**	**69.84**	**72**	LR	LR	05 17 39.4	
	comp=Z,43nm,19.4s,baz=210,slow=31						
WRA	**Warramunga Arr**	**69.88**	**264**	P	**P**	**04 52 46.6**	**0.0**
	0.4nm,0.9s,baz=144,slow=6.2,SNR=2.3						
	0.4nm,0.9s						
SIV	**San Ignacio**	**72.14**	**92**	P	**P**	**04 53 00.5**	**+0.1**
	0.4nm,0.5s,baz=282,slow=9.0,SNR=5.5						
SIV				LR	LR	05 18 30.0	
	comp=Z,89nm,21.4s,baz=289,slow=31						
	0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**76.18**	**258**	LR	LR	05 25 30.2	
	comp=Z,69nm,18.2s,baz=135,slow=35						
KAPI	**Kappang**	**90.17**	**261**	LR	LR	05 32 12.8	
	comp=Z,53nm,20.3s,baz=192,slow=34						
SUR	**Sutherland**	**90.75**	**166**	LR	LR	05 33 35.5	
	comp=Z,24nm,18.3s,baz=168,slow=34						
BOSA	**Boshof**	**95.00**	**169**	LR	LR	05 35 12.3	
	comp=Z,53nm,18.2s,baz=203,slow=34						
LBTB	**Lobatse**	**98.60**	**169**	LR	LR	05 37 18.8	
	comp=Z,42nm,18.5s,baz=179,slow=34						
MKAR	**Makanchi Array**	**151.02**	**270**	PKPbc	**PKiKP**	**05 01 27.6**	**-0.7**
	0.4nm,0.8s,baz=117,slow=2.5,SNR=4.7						

NEIC 17 04:49:12.5±0.7, 35°.74N±0°.01×97°.56W±0°.01, h5km±1km, mb_Lg3.0/121, ML3.2/57, Error ellipse: s-maj=3.0km s-min=2.6km az=191.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.11**	**56**		Pg	04 49 15.5	+0.8
OK029				Sg	Sg	04 49 17.6	+1.4
OK029				IAML		04 49 17.8	
	14μm,0.3s						
OK029				IAML		04 49 17.8	
	12μm,0.3s						
ADOK	**Arcadia Dam**	**0.18**	**118**		Pg	04 49 16.8	+0.8
ADOK				Sg	Sg	04 49 19.8	+1.4
OK009	**Oakdale Elemen**	**0.19**	**144**		Pg	04 49 17.0	+0.8
OK009				Sg	Sg	04 49 20.3	+1.5
OKCSW	**OKLAHOMA CITY**	**0.35**	**163**		Pg	04 49 19.8	+0.6
OKCSW				Sg	Sg	04 49 25.1	+1.4
OKCSW				IAML		04 49 27.8	
	comp=N,5μm,0.4s						
FNO	**Franklin**	**0.50**	**165**		Pg	04 49 22.5	+0.5
FNO				IAML		04 49 32.5	
	comp=E,1μm,0.4s						
OK031	**S. Brethren Rd**	**0.63**	**70**		Pg	04 49 25.0	+0.5
OK031				IAML		04 49 36.2	
	comp=E,796nm,0.3s						
OK052	**Battle Ridge R**	**0.67**	**67**		Pg	04 49 25.7	+0.4
OK052				IAML		04 49 38.1	
	comp=E,771nm,0.4s						
W35A	**Tecumseh**	**0.81**	**136**		Pg	04 49 28.1	+0.1
W35A				IAML		04 49 41.9	
	comp=E,882nm,0.5s						
W35A				IAML		04 49 43.8	
	comp=N,860nm,0.5s						
QUOK	**Quay**	**0.82**	**58**		Pg	04 49 28.3	+0.1
QUOK				IAML		04 49 43.8	
	comp=N,874nm,0.2s						
QUOK				IAML		04 49 46.0	
	comp=E,722nm,0.2s						
CROK	**Carrier**	**0.84**	**336**		Pg	04 49 28.8	+0.2
OK048	**Pawnee Station**	**0.84**	**36**		Pg	04 49 28.9	+0.2
OK048				IAML		04 49 42.4	
	comp=E,675nm,0.1s						
OK048				IAML		04 49 44.4	
	comp=E,673nm,0.2s						
DEOK	**Depew**	**0.87**	**83**		Pg	04 49 29.0	-0.1
DEOK				IAML		04 49 48.1	
	comp=N,602nm,0.3s						
DEOK				IAML		04 49 48.2	
	comp=E,583nm,0.3s						
CSTR	**Hydro, Custer**	**0.92**	**265**		Pg	04 49 30.3	+0.2
OK051	**E0350 and S346**	**0.97**	**37**	IAML		04 49 45.9	
	comp=E,1μm,0.2s						
OK051				IAML		04 49 49.3	
	comp=E,1μm,0.2s						
GC02	**Grant County #**	**1.14**	**348**		Pg	04 49 34.1	-0.2
X34A	**Smith Ranch, M**	**1.15**	**191**		Pb	04 49 34.8	-0.2
X34A				IAML		04 49 52.5	
	comp=N,551nm,0.3s						
X34A				IAML		04 49 55.3	
	comp=E,444nm,0.4s						
OK038	**West end E0370**	**1.21**	**308**		Pg	04 49 35.0	-0.6
WMOK	**Wichita Mounta**	**1.41**	**225**		Pn	04 49 38.3	-0.6
TUL3	**Leonard**	**1.45**	**83**		Pn	04 49 38.7	-0.6
T35A	**Sooner Cattle**	**1.45**	**35**		Pn	04 49 39.3	-0.1
KAN08	**Anthony NE Sta**	**1.52**	**348**	IAmb_Lg		04 50 02.0	
	comp=Z,93nm,0.8s						
WTFS	**Witchita Falls**	**2.10**	**201**		Pb	04 49 49.8	-1.2
SMWD	**Samnorwood**	**2.28**	**255**		Pn	04 49 51.8	+1.0
SMWD				IAmb_Lg		04 50 27.3	
	comp=Z,64nm,1.0s						
U38A	**Gravette**	**2.67**	**74**	IAmb_Lg		04 50 43.1	
	comp=Z,32nm,0.8s						
PLPT	**Palo Pinto**	**2.98**	**192**	Pn	Pn	04 50 01.9	+1.4
HHAR	**Hobbs**	**2.99**	**78**		Pn	04 50 01.3	+0.8
APMT	**Aspermont**	**3.20**	**222**		Pn	04 50 05.9	+2.4
Z38A	**Mt. Pleasant**	**3.26**	**139**		Pn	04 50 04.7	+0.5
FW14	**Alvarado**	**3.34**	**175**	IAmb_Lg		04 51 06.5	
	comp=Z,30nm,0.8s						
FW13	**Cleburne**	**3.38**	**178**	IAmb_Lg		04 50 59.3	
	comp=Z,31nm,1.1s						
KSU1	**Kansas State U**	**3.44**	**12**	Pn	Pn	04 50 07.2	+0.4
KSU1				IAmb_Lg		04 51 04.3	
	comp=Z,46nm,0.8s						
DKNS	**Dickens**	**3.45**	**234**	IAmb_Lg		04 51 10.3	
	comp=Z,38nm,0.7s						
MIAR	**Mount Ida**	**3.48**	**109**	Pn	Pn	04 50 08.4	+1.2
MIAR				IAmb_Lg		04 51 10.9	
	comp=Z,31nm,0.9s						
CBKS	**Cedar Bluff**	**3.53**	**331**	Pn	Pn	04 50 08.8	+0.8
CBKS				IAmb_Lg		04 51 09.6	
	comp=Z,59nm,0.9s						
ABTX	**Abilene, Hawle**	**3.55**	**210**	IAmb_Lg		04 51 05.0	
	comp=Z,26nm,0.7s						
WHTX	**Lake Whitney,**	**3.74**	**179**	Pn	Pn	04 50 11.3	+0.5
237A	**Washetta, Mont**	**4.00**	**158**	IAmb_Lg		04 51 26.9	
	comp=Z,37nm,0.9s						
X40A	**Basin Creek Fa**	**4.07**	**106**		Pn	04 50 16.9	+1.6
X40A				IAmb_Lg		04 51 26.3	
	comp=Z,42nm,0.7s						
WLAR	**White Oak Lake**	**4.20**	**118**	IAmb_Lg		04 51 34.6	
	comp=Z,26nm,0.7s						
POST	**Post**	**4.21**	**232**		Pn	04 50 18.7	+1.4
POST				IAmb_Lg		04 51 29.1	
	comp=Z,45nm,0.9s						
RTBA	**Rita Blanca**	**4.25**	**281**	Pn	Pn	04 50 18.8	+0.8
RTBA				IAmb_Lg		04 51 38.4	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**4.33**	**94**		Pn	04 50 19.2	+0.3
WHAR				IAmb_Lg		04 51 36.5	
	comp=Z,36nm,0.8s						
UALR	**University of**	**4.38**	**101**	IAmb_Lg		04 51 41.8	
	comp=Z,20nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.42**	**86**	IAmb_Lg		04 51 43.6	
	comp=Z,23nm,0.8s						
MGMO	**Mountain Grove**	**4.50**	**70**	IAmb_Lg		04 51 40.9	
	comp=Z,25nm,0.8s						
BRDY	**Brady**	**4.60**	**196**	IAmb_Lg		04 51 47.9	
	comp=Z,18nm,0.8s						
MSTX	**Muleshoe**	**4.63**	**249**		Pn	04 50 23.8	+0.6
Z41A	**Richland Creek**	**4.64**	**121**	IAmb_Lg		04 51 51.6	
	comp=Z,33nm,1.0s						
NATX	**Nacogdoches**	**4.64**	**148**	IAmb_Lg		04 51 45.8	
	comp=Z,22nm,1.0s						
435B	**Jarrell**	**4.94**	**180**		Pn	04 50 27.6	+0.3
R40A	**Maddies Statio**	**4.94**	**57**		Pn	04 50 27.7	+0.3
R40A				IAmb_Lg		04 52 00.0	
	comp=Z,25nm,0.9s						
P38A	**Dawn**	**5.03**	**38**		Pn	04 50 29.8	+1.2
P38A				IAmb_Lg		04 51 52.3	
	comp=Z,22nm,0.7s						
CCAR	**Cane Creek**	**5.10**	**109**	IAmb_Lg		04 52 03.7	
	comp=Z,38nm,1.0s						
T42A	**Van Buren**	**5.38**	**74**		Pn	04 50 34.2	+0.8
T42A				IAmb_Lg		04 52 12.7	
	comp=Z,18nm,0.8s						
ODSA	**Odessa**	**5.49**	**230**	IAmb_Lg		04 52 07.5	
	comp=Z,18nm,1.0s						
CCM	**Cathedral Cave**	**5.57**	**64**	IAmb_Lg		04 52 14.3	
	comp=Z,21nm,0.8s						
JCT	**Junction City**	**5.57**	**200**	IAmb_Lg		04 52 21.8	
	comp=Z,36nm,0.9s						
OZNA	**Ozona**	**5.65**	**213**	IAmb_Lg		04 52 18.7	
	comp=Z,27nm,0.8s						
T25A	**Trinidad**	**5.70**	**286**	IAmb_Lg		04 52 21.7	
	comp=Z,26nm,0.9s						
P40A	**Paris**	**5.79**	**47**	IAmb_Lg		04 52 18.0	
	comp=Z,29nm,0.8s						
PBMO	**Poplar Bluff**	**5.86**	**78**	IAmb_Lg		04 52 19.2	
	comp=Z,32nm,0.8s						
FVM	**French Village**	**6.14**	**66**	IAmb_Lg		04 52 43.4	
	comp=Z,18nm,0.7

JFWS	Jewell Farm	9.13	36	IAmb_Lg		04 54 03.6	
	comp=Z,18nm,0.7s						
K22A	Casper	9.80	318	IAmb_Lg		04 54 36.1	
	comp=Z,15nm,0.9s						

TRN 17 04:57:20.4, 15°.19N×60°.94W, h148km, MD3.6, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	Savane Anatole	0.41	212	eP	Pn	04 57 42.8	+1.6
SVN				eS	Sn	04 57 58.1	+1.1
ILAM	Ilet Lapin Mar	0.42	172	eP	Pn	04 57 42.7	+1.5
ILAM				eS	Sn	04 57 57.8	+0.8
MDN	Morne-Daniel	0.46	286	eP	Pn	04 57 42.4	+1.1
MDN				eS	Sn	04 57 57.9	+0.7
DSLB	Salisbury	0.53	298	eP	Pn	04 57 42.9	+1.2
DSLB				eS	Sn	04 57 59.1	+1.2
BIM	Bigot	0.69	191	eP	Pn	04 57 43.8	+1.2
BIM				eS	Sn	04 58 01.4	+1.8
TBG	Guadaloupe-3	0.95	314	eP	Pn	04 57 45.4	+0.8
TBG				eS	Sn	04 58 04.2	+1.2
SLBI	Saint Lucia, B	1.16	182	eP	Pn	04 57 47.1	+0.7
SLBI				eS	Sn	04 58 06.5	+0.1
SLAC	Saint Lucia, A	1.29	178	eP	Pn	04 57 48.8	+1.1
SLAC				eS	Sn	04 58 08.6	0.0
SVB	Belmont	1.93	189	eP	Pn	04 57 55.5	+0.8
SVB				eS	Sn	04 58 20.7	-0.4
ANBD	Bethesda, Anti	2.01	337	eP	Pn	04 57 56.1	+0.6
ANBD				eS	Sn	04 58 22.6	+0.1
SVT	Saint Vincent	2.03	188	eP	Pn	04 57 57.0	+1.2
SVT				eS	Sn	04 58 24.6	+1.5
BBGH	Gun Hill	2.44	147	eP	Pn	04 58 02.3	+1.6
BBGH				eS	Sn	04 58 31.9	+0.2
ANWB	Willy Bob	2.59	342	eP	Pn	04 58 03.1	+0.6
ANWB				eS	Sn	04 58 34.4	-0.8
GCMP	Grenada, Carri	2.73	190	eS	Sn	04 58 39.4	+1.1
SKI	Saint Kitts	2.74	321	eP	Pn	04 58 05.2	+0.8
SKI				eS	Sn	04 58 39.3	+0.8

*IDC **17** 04:57:35.0±3.0, 29°.97S×176°.22W, h0km, mb3.8/2, mbtmp4.0/4, ML3.7/2, MS3.5/5, Error ellipse: s-maj=72.7km s-min=33.9km az=114.0*

ISC 17 04:57:38.3±3.1, 30°.05±0°.2×175°.9W±0°.5, h35km, n11, σ0§99/6, mb4.1/3, MS3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	10.02	213	Pn	Pn	04 59 58.8	-0.8
	0.4nm,0.3s,baz=0.0,slow=9.1,SNR=1.7						
URZ				Sn	Sn	05 01 51.8	+1.0
	0.7nm,0.3s,baz=110,slow=19,SNR=6.9						
	4.9nm,0.8s						
MSVF	Nonsavu	13.43	335	LR	LR	05 05 39.2	
	comp=Z,128nm,19.6s,baz=162,slow=36						
RPZ	Rata Peaks	17.14	214	Pn	Pn	05 01 34.5	-0.5
	0.5nm,0.3s,baz=29,slow=19,SNR=2.8						
	3.1nm,0.3s						
ASAR	Alice Springs	44.92	266	P	P	05 05 50.1	+0.2
	0.4nm,0.4s,baz=104,slow=7.3,SNR=9.2						
	0.4nm,0.4s						
WRA	Warramunga Arr	45.88	271	P	P	05 05 57.1	-0.5
	1.3nm,0.5s,baz=110,slow=7.6,SNR=8.4						
	1.3nm,0.5s						
QSPA	South Pole Qui	60.07	180	P	P	05 07 48.3	+6.6
	2.6nm,1.1s,baz=2.7,slow=0.5,SNR=6.2						
ASAJ	Asahikawa	82.97	331	LR	LR	05 41 04.6	
	comp=Z,27nm,21.7s,baz=132,slow=32						
PETK	Petropavlovsk-	85.93	344	LR	LR	05 41 42.1	
	comp=Z,24nm,21.0s,baz=120,slow=31						
USRK	Ussuriysk Ar.	87.87	325	LR	LR	05 42 38.0	
	comp=Z,22nm,21.2s,baz=205,slow=31						
MA2	Magadan	93.44	344	LR	LR	05 44 39.9	
	comp=Z,36nm,21.8s,baz=124,slow=30						
FINES	FINESS Array B	145.40	342	PKPbc	PKPab	05 17 12.8	+0.8
	3.8nm,1.1s,baz=29,slow=4.4,SNR=9.2						

*IDC **17** 05:09:51.9±0.5, 14°.04N×144°.97E, h154km±3km, mb3.4/14, mbtmp4.0/15, Error ellipse: s-maj=20.6km s-min=12.2km az=91.0*

*NEIC **17** 05:09:53.7±1.2, 13°.86N±0°.08×144°.9E±0°.1, h157km±5km, mb4.3/32, Error ellipse: s-maj=19.3km s-min=10.5km az=103.0*

ISC 17 05:09:52.4±0.5, 13°.93N±0°.07×144°.9E±0°.1, h150km, n55, σ1§19/53, mb4.2/27, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.34	179	P	Pn	05 10 15.0	+1.9
	723nm,0.3s,baz=105,slow=3.0,SNR=168						
GUMO				S	Sn	05 10 31.1	+2.2
	1μm,0.3s,baz=69,slow=22,SNR=64						
JAY	Jayapura	16.85	194	P	Pn	05 13 41.1	+1.5
	27nm,0.9s,baz=222,slow=1.8,SNR=3.7						
JOW	Kunigami	20.14	312	P	P	05 14 16.1	+1.2
JOW				IAmb	IAmb	05 14 20.7	
	comp=Z,14nm,0.9s						
JOW	Kunigami	20.14	312	P	P	05 14 15.5	+0.6
	comp=Z,14nm,0.6s,baz=128,slow=9.6,SNR=4.6						
	comp=Z,14nm,0.6s						
FAKI	Fak Fak	20.90	218	P	P	05 14 23.7	+0.6
NACB	Ninganchiao	24.20	298	P	P	05 14 57.0	+1.7
NACB				IAmb	IAmb	05 15 03.0	
	comp=Z,19nm,1.1s						
SSLB	Suanglung	24.62	297	P	P	05 14 59.7	+0.6
SSLB				IAmb	IAmb	05 15 04.1	
	comp=Z,12nm,0.7s						
COEN	Coen	27.75	184	P	P	05 15 27.3	+0.1
COEN				IAmb	IAmb	05 15 39.7	
	comp=Z,5.7nm,1.1s						
KSRS	Korea Array	27.87	330	P	P	05 15 27.4	-0.7
	comp=Z,0.6nm,0.6s,baz=147,slow=8.5,SNR=2.0						
	comp=Z,0.6nm,0.6s						
INCN	Inchon	28.53	329	P	P	05 15 35.6	+1.7
KNRA	Kununurra	33.45	209	P	P	05 16 15.9	-1.3
KNRA				IAmb	IAmb	05 16 30.7	
	comp=Z,7.7nm,1.0s						
WB0	Warramunga Arr	35.03	197	P	P	05 16 24.4	-6.5
WB0				IAmb	IAmb	05 16 31.4	
	comp=Z,6.1nm,0.6s						
WR8	Warramunga Arr	35.18	197	P	P	05 16 26.2	-6.0
WR8				IAmb	IAmb	05 16 32.8	
	comp=Z,3.3nm,0.6s						
WB2	Warramunga Arr	35.21	197	P	P	05 16 25.1	-7.3
WB2				IAmb	IAmb	05 16 33.5	
	comp=Z,5.5nm,0.8s						
WRA	Warramunga Arr	35.21	197	P	P	05 16 25.0	-7.5
WRA	Warramunga Arr	35.21	197	P	P	05 16 32.7	+0.2
	comp=Z,4.4nm,0.7s,baz=23,slow=8.1,SNR=7.3						
WRA				S	S	05 21 51.6	-3.4
	comp=Z,0.6nm,1.1s,baz=18,slow=13,SNR=2.6						
	comp=Z,4.4nm,0.7s						
FITZ	Fitzroy Crossi	37.04	211	P	P	05 16 47.5	-0.5
FITZ	Fitzroy Crossi	37.04	211	P	P	05 16 47.9	-0.1
	comp=Z,3.7nm,0.8s,baz=37,slow=11,SNR=10						
	comp=Z,3.7nm,0.8s						
AS31	Alice Springs	38.87	196	P	P	05 17 03.1	-0.2
ASAR	Alice Springs	38.87	196	P	P	05 17 02.6	-0.7
ASAR	Alice Springs	38.87	196	P	P	05 17 03.4	0.0
	comp=Z,0.9nm,0.6s,baz=17,slow=13,SNR=25						
	comp=Z,0.9nm,0.6s						
DZM	Mont Dzumac	41.57	149	P	P	05 17 27.9	+2.3
MBWA	Marble Bar	42.72	216	P	P	05 17 34.5	-0.4
MBWA				IAmb	IAmb	05 17 46.6	
	comp=Z,10nm,1.1s						
PSA00	Pilbara Seismi	42.98	215	P	P	05 17 37.1	+0.1
PSA00				IAmb	IAmb	05 18 06.3	
	comp=Z,9.3nm,1.1s						
CMAR	Chiang Mai Arr	44.24	282	P	P	05 17 47.8	+0.6
CMAR	Chiang Mai Arr	44.24	282	P	P	05 17 46.8	-0.4
	comp=Z,0.6nm,0.3s,baz=83,slow=6.4,SNR=4.6						
	comp=Z,0.6nm,0.3s						
ARMA	Armidale	44.57	172	P	P	05 17 49.5	-0.1
ARMA				IAmb	IAmb	05 18 10.9	
	comp=Z,9.1nm,1.1s						
MNAI	Manna	45.37	249	P	P	05 17 55.5	-0.7
STKA	Stephens Creek	45.65	184	P	P	05 17 57.4	-0.6
STKA				IAmb	IAmb	05 17 59.4	
	comp=Z,7.8nm,0.7s						
STKA	Stephens Creek	45.65	184	P	P	05 17 56.6	-1.4
	comp=Z,1.4nm,0.5s,baz=5.1,slow=12,SNR=3.8						
	comp=Z,1.4nm,0.5s						

SONM	Songino Array	46.45	325	P	P	05 18 05.4	+1.0
SONM	Songino Array	46.45	325	P	P	05 18 03.7	-0.6
	comp=Z,0.3nm,0.5s,baz=100,slow=6.0,SNR=2.0						
	comp=Z,0.3nm,0.5s						
LHI	Lord Howe Isla	47.20	163	P	P	05 18 09.8	-0.3
BBOO	Buckleboo	47.23	190	P	P	05 18 10.5	+0.2
BBOO				IAmb	IAmb	05 18 11.1	
	comp=Z,6.8nm,0.7s						
FORT	Forrest	47.30	200	P	P	05 18 11.1	+0.2
MORW	Morawa	51.02	213	P	P	05 18 38.3	-0.9
MORW				IAmb	IAmb	05 18 58.3	
	comp=Z,11nm,1.1s						
MK31	Makanchi Array	61.24	316	P	P	05 19 51.7	0.0
MKAR	Makanchi Array	61.24	316	P	P	05 19 51.5	-0.1
MKAR	Makanchi Array	61.24	316	P	P	05 19 50.4	-1.3
	comp=Z,0.4nm,0.6s,baz=90,slow=7.7,SNR=7.0						
	comp=Z,0.4nm,0.6s						
ZAA0	Zalesovo Array	61.35	324	P	P	05 19 52.8	+0.6
ZAA0				IAmb	IAmb	05 20 15.7	
	comp=Z,1.4nm,0.8s						
KURBB	Kurchatov Arra	64.36	320	P	P	05 20 10.4	-1.8
	comp=Z,0.4nm,0.2s,baz=102,slow=6.8,SNR=4.3						
	comp=Z,0.4nm,0.2s						
D19K	Kuna River	65.34	20	P	P	05 20 18.9	+0.7
CAST	Castle Rocks	65.70	26	P	P	05 20 20.2	-0.4
SLKM	Skilak Lake	65.70	29	P	P	05 20 21.0	+0.3
H21K	Melozitna Rive	66.14	24	P	P	05 20 24.4	+1.0
B20K	Meade River	66.32	19	P	P	05 20 24.9	+0.5
B20K				IAmb	IAmb	05 20 48.1	
	comp=Z,2.9nm,1.1s						
KNK	Knik Glacier	66.76	29	P	P	05 20 28.3	+0.9
E22K	Anaktuvuk Pass	67.35	21	P	P	05 20 31.7	+0.6
B22K	Teshekpuk Lake	67.62	19	P	P	05 20 33.1	+0.5
ILAR	Eielson Array	68.27	25	P	P	05 20 33.9	-2.9
	comp=Z,0.5nm,0.3s,baz=256,slow=5.3,SNR=28						
	comp=Z,0.5nm,0.3s						
BVAR	Borovoye Array	69.66	322	P	P	05 20 44.5	-1.1
	comp=Z,0.6nm,0.5s,baz=98,slow=6.3,SNR=2.6						
	comp=Z,0.6nm,0.5s						
YKA	Yellowknife Ar	82.56	27	P	P	05 21 56.6	-1.8
	comp=Z,0.1nm,0.4s,baz=284,slow=5.9,SNR=2.2						
	comp=Z,0.1nm,0.4s						
NVAR	Mina Array Bea	86.72	51	P	P	05 22 18.1	-1.9
	comp=Z,0.3nm,0.5s,baz=289,slow=5.3,SNR=3.4						
	comp=Z,0.3nm,0.5s						
PLCA	Paso Flores	139.18	138	PKP	PKPdf	05 29 01.2	-0.7
	comp=Z,2.1nm,0.9s,baz=236,slow=6.3,SNR=3.9						
LPAZ	La Paz	148.08	98	PKPbc	PKPbc	05 29 22.6	+0.5
	comp=Z,1.4nm,0.5s,baz=270,slow=0.7,SNR=9.3						

*MEX **17** 05:29:27.9±1.4, 14°.57N×92°.66W, h57km±23km, MD3.8*

*GCG **17** 05:29:28.1±1.7, 14°.57N×92°.48W, h55km±15km, MD3.9*

ISC 17 05:29:28.3±1.6, 14°.58N±0°.08×92°.59W±0°.05, h45km±18km, n19, σ1§14/33, 2C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.45	44	i P	Pn	05 29 38.4	-0.2
THIG				eS	Sn	05 29 47.8	+1.9
THIG		0.45	44	eP	Pn	05 29 38.4	-0.2
THIG		0.45	44	eP		05 29 38.4	
SMCA	Catarina	0.57	61	eP	Pn	05 29 39.5	-0.6
SMCA				i S	Sn	05 29 48.9	+0.4
SMCA	Catarina	0.57	61	eP		05 29 39.5	
SMCA				i S		05 29 48.9	
PATR	El Naranjo	0.63	33	eP	Pn	05 29 40.2	-0.9
PATR				eS	Sn	05 29 49.9	-0.5
PAVE	Pavencul	0.73	33	eP	Pn	05 29 41.4	-1.0
PAVE				eS	Sn	05 29 51.9	-0.7
RTAL	Retalhuleu	0.87	94	eP	Pn	05 29 43.3	-0.8
RTAL				eS	Sn	05 29 55.7	+0.1
STG8	El Palmar, Qui	1.20	96	i P		05 29 44.3	
STG0	El Palmar, Qui	1.22	97	eP		05 29 44.4	
STG0				i S		05 29 57.6	
PCIG		1.27	331	eP	Pn	05 29 49.0	-0.6
PCIG				eS	Sn	05 30 03.2	-2.3
HUEH	Huehuetenango	1.28	55	eP	Pn	05 29 49.6	-0.3
HUEH				eS	Sn	05 30 06.3	+0.3
HUEH	Huehuetenango	1.28	55	i P	Pn	05 29 50.0	+0.1
HUEH				i S	Sn	05 30 07.1	+1.0
HUEH	Huehuetenango	1.28	55	i P		05 29 50.0	
HUEH				i S		05 30 07.1	
CCIG	Comitan	1.75	14	eP	Pn	05 29 57.3	+1.1
CCIG				eS	Sn	05 30 19.3	+1.8
CCIG	Comitan	1.75	14	eP	Pn	05 29 57.4	+1.1
CCIG	Comitan	1.75	14	eP		05 29 57.4	
FG8	Yepocapa, Chim	1.99	99	eP		05 29 53.3	
FG8				eS		05 30 12.1	
CARR	Arriaga	2.09	323	eP	Pn	05 30 00.3	-0.6
CARR				eS	Sn	05 30 26.4	+0.7
APG	El Apazote	2.10	78	eP	Pn	05 29 59.9	-1.2
APG	El Apazote	2.10	78	eP		05 29 59.9	
TGIG		2.25	347	eP	Pn	05 30 02.6	-0.4
TGIG				eS	Sn	05 30 26.6	-2.9
TGIG		2.25	347	eP	Pn	05 30 02.9	-0.1
TGIG		2.25	347	eP		05 30 02.9	
NILT	Santiago Nilte	2.78	316	eP	Pn	05 30 11.1	+0.8
NILT				eS	Sn	05 30 41.8	-0.8
NUBE	Las Nubes	2.81	104	eP	Pn	05 30 11.1	+0.3
NUBE	Las Nubes	2.81	104	eP		05 30 11.1	
UXUV	UXUV	3.11	331	eP	Pn	05 30 15.5	+0.7
UXUV				eS	Sn	05 30 50.9	+0.2
CMIG	Matias Romero	3.33	319	eP	Pn	05 30 20.0	+2.1
CMIG				eS	Sn	05 30 56.2	-0.1

*IDC **17** 05:41:34.4±0.8, 42°.91N×29°.38W, h0km, mb3.6/11, mbtmp3.6/12, ML3.7/1, Error ellipse: s-maj=30.1km s-min=17.3km az=21.0*

ISC 17 05:41:34.5±0.7, 42°.4N±0°.1×29°.82W±0°.10, h10km, n27, σ2§15/27, mb3.9/11, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSBA	Serra de Santa	4.05	151	eP	Pn	05 42 37.0	+0.5
PAGU	Agualva, Azore	4.10	150	eP	Pn	05 42 37.2	0.0
PSCM	Serra do Cume	4.18	150	eP	Pn	05 42 38.7	+0.3
PSET	Sete Cidades	5.50	144	eP	Pn	05 42 56.6	+0.1
CMLA	Cha da Macela	5.64	143	eP	Pn	05 42 59.3	+0.9
PGRON	Lagoa das Cont	5.70	142	eP	Pn	05 43 00.3	+1.0
BART	Pico Bartolome	5.79	140	eP	Pn	05 43 00.7	+0.1
PSMN	Pico do Norte,	6.47	144	eP	Pn	05 43 10.1	+0.3
PMOZ	Porto Moniz, M	13.79	129	eP	Pn	05 44 52.0	+1.9
PMOZ				IAmb	IAmb	05 45 15.6	
	comp=Z,96nm,1.9s						
PMOZ				eS	S	05 47 40.6	-5.3
PMOZ				IAMs_20	IAMs_20	05 53 25.3	
	comp=Z,524nm,18.0s						
FUL	Funchal	14.09	129	eP	Pn	05 44 56.9	+2.7
PGAV	Gavieira, Arco	15.98	84	eS	S	05 48 35.2	+4.5
PGAV				IAMs_20	IAMs_20	05 54 25.1	
	comp=Z,1μm,18.0s						
PCAS	Casmilo, Conde	16.21	91	eP	P	05 45 26.1	+0.7
COI	Coimbra	16.23	90	eP	P	05 45 24.7	-0.9
COI				IAmb	IAmb	05 45 27.1	
	comp=Z,65nm,1.4s						
PMTG	Montargil	16.69	94	eP	Pn	05 45 27.7	-0.7
PMTG				IAmb	IAmb	05 45 31.0	
	comp=Z,41nm,1.4s						
PVAQ	Vaqueiros	17.65	99	eS	S	05 49 08.8	+4.2
PVAQ				IAMs_20	IAMs_20	05 55 18.6	
	comp=Z,721nm,20.0s						
ESDC	Sonseca Array	19.67	89	P	P	05 46 02.2	-1.4
	comp=Z,0.1nm,0.3s,baz=285,slow=13,SNR=5.0						
	comp=Z,1.7nm,1.0s						
MDT	Midelt	22.06	107	P	P	05 46 30.2	+0.6
	comp=Z,7.8nm,1.3s,baz=323,slow=13,SNR=6.8						
	comp=Z,7.8nm,1.3s						
TORD	Torodi Ar. Bea	39.88	127	P	P	05 49 08.9	+0.4
	comp=Z,1.5nm,0.4s,baz=327,slow=9.4,SNR=4.5						
	comp=Z,1.5nm,0.4s						
YKA	Yellowknife Ar	51.27	324	P	P	05 50 36.3	-1.8
	comp=Z,0.1nm,0.4s,baz=82,slow=5.2,SNR=4.5						
	comp=Z,0.1nm,0.4s						
PDAR	Pinedale Array	56.55	300	P	P	05 51 18.7	+1.5
	comp=Z,0.2nm,0.6s,baz=62,slow=7.5,SNR=6.1						
	comp=Z,0.2nm,0.6s						
NEW	Newport	58.49	308	P	P	05 51 32.7	+2.0
	comp=Z,0.6nm,0.5s,baz=23,slow=4.3,SNR=3.1						
	comp=Z,0.6nm,0.5s						
TXAR	Lajitas Array	59.52	283	P	P	05 51 40.2	+2.0
	comp=Z,0.3nm,0.6s,baz=47,slow=7.3,SNR=4.1						
	comp=Z,0.3nm,0.6s						

ELK	Elko	61.23	300	P	P	05 51 51.6	+1.7
	comp=Z,0.3nm,0.3s,baz=90,slow=5.5,SNR=3.8						
	comp=Z,0.3nm,0.3s						
ILAR	Eielson Array	62.50	335	P	P	05 51 56.2	-1.6
	comp=Z,0.2nm,0.7s,baz=39,slow=7.8,SNR=5.8						
	comp=Z,0.2nm,0.7s						
LPAZ	La Paz	68.19	220	P	P	05 52 42.2	+6.4
	comp=Z,1.1nm,1.1s,baz=3.2,slow=4.9,SNR=3.5						
	comp=Z,1.8nm,1.1s						
KURBB	Kurchatov Arra	68.36	41	P	P	05 52 33.4	-2.5
	comp=Z,1.0nm,1.0s,baz=312,slow=6.3,SNR=6.0						
	comp=Z,1.0nm,1.0s						
MKAR	Makanchi Array	72.78	42	P	P	05 53 01.4	-1.6
	comp=Z,0.4nm,0.8s,baz=314,slow=5.6,SNR=2.8						
	comp=Z,0.4nm,0.8s						

*IDC **17** 05:45:57.1±0.5, 42°.81N×29°.36W, h0km, mb4.2/26, mbtmp4.2/27, ML4.4/1, MS4.0/72, Error ellipse: s-maj=16.7km s-min=11.7km az=179.0*

*IGIL **17** 05:45:58.9, 42°.91N×29°.28W, h10km, Mb4.5*

*NEIC **17** 05:45:59.4±1.1, 42°.78N±0°.10×29°.2W±0°.1, h10km±1km, mb4.7/131, Error ellipse: s-maj=16.5km s-min=14.6km az=195.0*

*GCMT **17** 05:46:00.4±0.2, 42°.84N±0°.03×29°.28W±0°.02, h14km, MW4.9/116, Moment Tensor Solution. s35,c36; s116,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.62±.15; $M_{\theta\theta}$0.13±.09; $M_{\phi\phi}$2.49±.11; $M_{r\theta}$0.87±.25; $M_{\theta\phi}$0.20±.06; $M_{r\phi}$0.96±.22; Best double couple: $M_0$2.86000×10^{16} NP1:ϕ_s352.00000°, δ36.00000°, λ-113.00000°. NP2:ϕ_s199.00000°, δ58.00000°, λ-75.00000°. Principal axes: T 2.7120, Plg11.0000°, Azm278.0000°; N 0.2930, Plg13.0000°, Azm11.0000°; P -3.0080, Plg73.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 05:45:58.7±0.3, 42°.76N±0°.06×29°.25W±0°.05, h10km, n288, σ1§16/210, mb4.6/116, MS4.0/74, 11D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	Rosais	4.10	169	eP	Pn	05 46 59.1	-2.4
PCED	Cedros	4.14	174	eP	Pn	05 47 01.1	-0.9
CALA	Caldeira	4.19	174	eP	Pn	05 47 02.1	-0.6
PMAN	Manadas	4.21	168	eP	Pn	05 47 00.2	-2.7
PSBA	Serra de Santa	4.24	159	eP	Pn	05 47 00.2	-3.2
PAGU	Agualva, Azore	4.28	158	eP	Pn	05 47 00.8	-3.1
PICO	Pico	4.30	171	eP	Pn	05 47 03.2	-1.0
PSCM	Serra do Cume	4.36	158	eP	Pn	05 47 01.8	-3.2
ADH	Angra Heroismo	4.37	159	eP	Pn	05 47 01.4	-3.8
PSET	Sete Cidades	5.62	150	eP	Pn	05 47 19.8	-2.5
PDA	Ponta Delgada	5.70	150	eP	Pn	05 47 20.3	-3.1
CMLA	Cha da Macela	5.74	149		Pn	05 47 22.1	-1.9
CMLA	Cha da Macela	5.74	149	eP	Pn	05 47 21.9	-2.1
PGRON	Lagoa das Cont	5.79	148	eP	Pn	05 47 23.4	-1.3
BART	Pico Bartolome	5.87	147	eP	Pn	05 47 23.4	-2.4
PSMA	Santa Maria	6.57	150	eP	Pn	05 47 32.9	-2.4
PSMN	Pico do Norte,	6.58	149	eP	Pn	05 47 33.2	-2.4
PMOZ	Porto Moniz, M	13.74	132		Pn	05 49 13.6	0.0
PMOZ	Porto Moniz, M	13.74	132	eP	Pn	05 49 15.6	+2.0
PMOZ				IAmb	IAmb	05 49 23.3	
	comp=Z,69nm,1.1s						
PMAR	Madeira	13.97	132	eP	Pn	05 49 17.9	+1.1
PMAR				IAmb	IAmb	05 49 19.3	
	comp=Z,101nm,1.5s						
PMPST	Porto Santo, M	14.03	129	eP	Pn	05 49 18.9	+1.4
PMPST				IAmb	IAmb	05 49 21.3	
	comp=Z,214nm,1.5s						
FUL	Funchal	14.04	132	eP	Pn	05 49 20.0	+2.4
FUL				IAmb	IAmb	05 49 24.0	
	comp=Z,91nm,1.5s						
PGAV	Gavieira, Arco	15.53	86	eP	P	05 49 44.5	+2.4
PGAV				IAmb	IAmb	05 49 46.3	
	comp=Z,109nm,1.7s						
PSBE	So Bento	15.74	95	eP	P	05 49 46.4	+1.9
PSBE				IAmb	IAmb	05 50 13.8	
	comp=Z,52nm,1.6s						
PCAS	Casmilo, Conde	15.80	93	eP	P	05 49 46.8	+1.8
PCAS				IAmb	IAmb	05 49 48.4	
	comp=Z,109nm,1.4s						
COI	Coimbra	15.82	92		Pn	05 49 40.8	-0.6
COI	Coimbra	15.82	92	eP	P	05 49 47.6	+2.3
COI				IAmb	IAmb	05 49 49.3	
	comp=Z,160nm,1.4s						
POLO	Lamas de Olo	15.99	88	eP	P	05 49 49.5	+2.3
PVIS	Viseu	16.07	90	eP	P	05 49 49.9	+1.8
PVRL	Vila Real	16.07	88	eP	P	05 49 50.3	+2.2
PMTG	Montargil	16.30	96	eP	P	05 49 52.2	+1.5
PMTG				IAmb	IAmb	05 49 53.8	
	comp=Z,108nm,1.4s						
MTE	Manteigas	16.41	91		Pn	05 49 48.0	-1.1
MTE	Manteigas	16.41	91	eP	P	05 49 54.3	+2.4
MTE				IAmb	IAmb	05 49 55.2	
	comp=Z,59nm,1.4s						
MVO	Moncorvo	16.60	88	eP	P	05 49 56.8	+2.8
MVO				IAmb	IAmb	05 50 00.9	
	comp=Z,43nm,1.5s						
PCBR	Castelo Branco	16.61	93	eP	P	05 49 56.8	+2.7
PCBR				IAmb	IAmb	05 50 06.7	
	comp=Z,49nm,1.4s						
EVO	Evora	16.65	98	P	P	05 49 57.0	+2.5
MORF	Marmelete	16.67	102	Pn	Pn	05 49 52.1	-0.4
MORF	Marmelete	16.67	102	eP	Pn	05 49 53.4	+1.0
MORF				IAmb	IAmb	05 49 58.8	
	comp=Z,50nm,1.5s						
MORF	Marmelete	16.67	102	eP	P	05 49 57.8	+3.0
MESJ	Messejana	16.76	100		Pn	05 49 53.3	-0.2
MESJ	Messejana	16

BSTI Sart Tilman 24.95 60 *dP* **P 05 51 22.2 +0.1**
comp=Z,4.8nm,1.0s
BHOU Houvegnez 25.22 60 *dP* **P 05 51 26.3 +1.9**
comp=Z,11nm,1.2s
MEM Membach 25.24 60 *dP* **P 05 51 25.2 +0.6**
comp=Z,19nm,1.0s
WLF Walferdange 25.27 62 *dP* **P 05 51 24.8 -0.2**
BTNL Ternell 25.31 60 *dP* **P 05 51 25.2 -0.2**
comp=Z,16nm,1.2s
SFJD Kangerlussuaq 26.93 342 LR LR 06 00 08.4
comp=Z,201nm,18.9s,baz=148,slow=32
SCHQ Schefferville 27.20 309 P **P 05 51 41.4 -1.0**
comp=Z,9.0nm,1.1s,baz=134,slow=9.8,SNR=3.9
SCHQ LR LR 06 00 40.6
comp=Z,427nm,20.1s,baz=92,slow=33
comp=Z,9.0nm,1.1s
TUE Stuetta 27.54 69 P **P 05 51 45.1 -0.6**
comp=Z,27nm,1.8s
DAVOX Davos/Dischmat 27.87 68 LR LR 06 01 44.7
comp=Z,399nm,18.9s,baz=266,slow=34
SQTA Sankt Quirin 28.73 67 *epP* pP 05 51 59.3 +0.7
comp=Z,4.7nm,1.3s
WATA Walderalm 28.96 67 *eP* **P 05 51 58.8 +0.5**
comp=Z,5.5nm,1.2s
ABTA Abfaltersbach 29.67 68 *epP* **P 05 52 05.2 +0.7**
comp=Z,5.6nm,1.3s
CLL Collm 29.68 58 *eP* **P 05 52 05.0 +0.5**
CLL AMS AMS 06 02 00.0
comp=Z,300nm,18.2s
BBTS Babate 30.06 155 LR LR 06 01 46.6
comp=Z,231nm,19.6s,baz=240,slow=32
KHC Kasperske Hory 30.13 63 *eP* **P 05 52 09.0 +0.4**
JMIC Jan Mayen 30.14 13 LR LR 06 01 15.9
comp=Z,166nm,18.2s,baz=11,slow=30
KBA Koelnbreinsper 30.19 67 *epP* **P 05 52 10.4 +1.2**
comp=Z,22nm,1.4s
GEC2 GERESS Array S 30.24 63 P **P 05 52 09.0 -0.6**
GEC2 IAmb IAmb 05 52 11.4
comp=Z,15nm,1.5s
GERES GERESS Array B 30.24 63 P **P 05 52 09.1 -0.4**
GERES GERESS Array B 30.24 63 P **P 05 52 09.8 +0.3**
baz=284,slow=8.0
GERES LR LR 06 03 27.1
comp=Z,314nm,18.3s,baz=272,slow=35
NOA NORSAR Array B 30.27 39 P **P 05 52 09.7 0.0**
comp=Z,2.6nm,1.0s,baz=252,slow=9.6,SNR=4.7
NOA LR LR 06 02 18.4
comp=Z,91nm,21.5s,baz=250,slow=32
comp=Z,2.6nm,1.0s
BIOA Bad Ischl, Aus 30.31 66 *epP* **P 05 52 11.1 +0.9**
comp=Z,6.9nm,1.0s
PRED Cave del Predi 30.43 68 P **P 05 52 11.2 0.0**
PRED IAmb IAmb 05 52 12.4
comp=Z,15nm,1.4s
KEST Kesra 30.50 90 P **P 05 52 11.4 -0.6**
KEST Kesra 30.50 90 P **P 05 52 12.0 +0.1**
comp=Z,5.6nm,0.9s,baz=333,slow=5.5,SNR=6.7
KEST LR LR 06 03 57.6
comp=Z,308nm,20.2s,baz=230,slow=35
comp=Z,5.6nm,0.9s
FRB Frobisher Bay 30.76 327 LR LR 06 01 02.8
comp=Z,311nm,21.5s,baz=113,slow=30
OBKA Obir 31.09 68 *eP* **P 05 52 17.0 -0.1**
comp=Z,7.5nm,1.2s
HFS Hagfors 31.19 41 P **P 05 52 17.7 0.0**
comp=Z,10nm,1.0s,baz=257,slow=8.7,SNR=4.5
HFS LR LR 06 03 08.5
comp=Z,236nm,21.1s,baz=258,slow=33
comp=Z,10nm,1.0s
ARSA Arzberg 31.64 66 *eP* **P 05 52 21.7 -0.1**
comp=Z,4.8nm,1.3s
ARSA Arzberg 31.64 66 P **P 05 52 21.0 -0.8**
CONA Conrad Observa 31.77 65 *eP* **P 05 52 23.0 0.0**
comp=Z,4.9nm,1.6s
DPC Dobruska-Polom 31.82 60 P **P 05 52 22.9 -0.5**
VRAC Vranov 32.09 62 LR LR 06 04 36.3
comp=Z,322nm,18.6s,baz=276,slow=35
RONA Rosalia, Austr 32.09 65 *eP* **P 05 52 25.1 -0.7**
comp=Z,3.2nm,1.0s
MODS Modra-Piesok 32.65 64 *eP* **P 05 52 30.1 -0.6**
VAE Valguarnera 33.51 84 LR LR 06 04 45.1
comp=Z,915nm,21.0s,baz=332,slow=34
MORH Mrgy, Hungar 33.93 67 P **P 05 52 41.4 -0.5**
comp=Z,8.4nm,1.3s
BINY Binghamton 34.13 285 P **P 05 52 44.6 +0.9**
BINY IAmb IAmb 05 52 49.6
comp=Z,10nm,1.2s
CEL Celeste 34.30 82 P **P 05 52 44.7 -0.5**
comp=Z,10nm,1.5s
SADO Sadowa 35.64 291 LR LR 06 06 36.9
comp=Z,509nm,20.8s,baz=66,slow=35
HOLU Holmets 35.98 63 P **P 05 52 59.0 -0.5**
PABE Paberze 36.18 51 P **P 05 53 00.7 -0.4**
MUKU Mukachevo 36.19 63 P **P 05 53 00.8 -0.5**
KORU Korolevo 36.54 63 P **P 05 53 03.8 -0.5**
KBN Korca 36.98 76 P **P 05 53 08.2 -0.1**
KBN IAmb IAmb 05 53 10.9
comp=Z,22nm,1.3s
FINES FINESS Array B 37.39 41 P **P 05 53 12.0 +0.7**
comp=Z,6.0nm,0.9s,baz=265,slow=8.2,SNR=7.5
FINES LR LR 06 07 11.0
comp=Z,105nm,19.5s,baz=257,slow=34
comp=Z,6.0nm,0.9s
FIA1 FINESS Array S 37.39 41 P **P 05 53 12.0 +0.7**
RNPP8 Varash 37.71 57 P **P 05 53 13.5 -0.7**
RNPP9 Sopachiv 37.72 57 P **P 05 53 13.6 -0.7**
RNPP9 pP **pP 05 53 17.2 +0.5**
NACGM Naroch 37.83 51 *eP* **P 05 53 15.8 +0.7**
baz=275
BUR08 Bucovina Ar. S 38.01 63 P **P 05 53 16.9 0.0**
BURAR Bucovina Array 38.03 63 P **P 05 53 17.1 0.0**
ARCES ARCESS Array B 38.49 27 P **P 05 53 21.5 +0.9**
ARCES ARCESS Array B 38.49 27 LR LR 06 07 09.6
comp=Z,101nm,20.8s,baz=286,slow=33
MNK Minsk 38.50 52 *i* P **P 05 53 19.5 -1.3**
comp=E,29nm,0.9s
MNK *i* P **P 05 53 19.5 -1.3**
comp=N,12nm,0.8s
MNK *i* P **P 05 53 19.5 -1.3**
comp=Z,22nm,0.9s,baz=277
MNK *i* PP **PP 05 54 47.4 -1.3**
MNK *i* PPP PPP 05 55 05.5
MNK *i* S **S 05 59 16.0 -0.1**
MNK *i* SS SnSn 06 01 33.1 -29
MNK *i* SSS SSS 06 02 26.8
MNK *i* LQ LQ 06 06 22.1
MNK *i* LR LR 06 08 36.3
MNK *i* LRM MLR 06 11 24.0
comp=Z,130nm,15.8s
MNK *i* LRM MLR 06 11 35.8
comp=E,194nm,17.2s
MNK *i* LRM MLR 06 12 05.4
comp=N,94nm,13.9s
MLR Muntele Rosu 39.06 66 P **P 05 53 25.1 -0.6**
MLR IAmb IAmb 05 53 34.5
comp=Z,23nm,1.5s
MLR Muntele Rosu 39.06 66 LR LR 06 09 02.2
comp=Z,300nm,20.1s,baz=266,slow=35
LUBAR Lubar, Ukraine 39.16 59 P **P 05 53 25.5 -0.9**
HUMP Col San Antoni 39.50 243 P **P 05 53 30.5 +0.9**
SJG San Juan 39.72 243 LR LR 06 05 32.4
comp=Z,103nm,21.7s,baz=56,slow=30
AK20 Malin Array Si 39.78 58 P **P 05 53 30.5 -1.0**
AK19 Malin Array Si 39.78 58 P **P 05 53 30.5 -1.1**
TORD Torodi Ar. Bea 39.80 129 P **P 05 53 32.2 +0.2**
TORD Torodi Ar. Bea 39.80 129 P **P 05 53 32.3 +0.2**
comp=Z,4.9nm,0.8s,baz=325,slow=7.7,SNR=8.0
comp=Z,4.9nm,0.8s
AK12 Malin Array Si 39.89 58 P **P 05 53 31.4 -1.0**
AK11 Malin Array Si 39.89 58 P **P 05 53 31.4 -1.1**
KIEV Kiev 39.91 58 P **P 05 53 31.7 -0.9**
AK02 Malin Array Si 39.92 58 P **P 05 53 31.7 -1.0**
AK02 pP **pP 05 53 35.7 +0.5**
AKASG Malin Array Be 39.92 58 P **P 05 53 31.5 -1.2**
comp=Z,4.3nm,0.9s,baz=283,slow=8.2,SNR=11
AKASG LR LR 06 09 28.9
comp=Z,323nm,19.7s,baz=272,slow=35
comp=Z,4.3nm,0.9s
AKBB Malin Array Si 39.92 58 P **P 05 53 31.7 -1.0**
LVZ Lovozero 41.52 31 P **P 05 53 46.1 +0.3**
DBIC Dimbokro 41.90 142 LR LR 06 09 49.0
comp=Z,218nm,18.9s,baz=324,slow=34
TKL Tuckaleechee C 42.22 279 LR LR 06 09 30.2
comp=Z,190nm,21.0s,baz=84,slow=34
MDP Montagnes des 42.85 216 LR LR 06 08 49.8
comp=Z,67nm,18.3s,baz=5.5,slow=32

RES Resolute Bay 42.88 339 P **P 05 53 56.7 0.0**
RES Resolute Bay 42.88 339 LR LR 06 08 33.0
comp=Z,79nm,19.9s,baz=46,slow=32
OBN Obninsk 43.37 50 LR LR 06 12 09.6
comp=Z,195nm,19.0s,baz=208,slow=36
OBN Obninsk 43.37 50 P **P 05 54 00.0 -0.8**
comp=Z,28nm,0.8s
PCRV Puerto La Cruz 44.78 234 LR LR 06 10 24.1
comp=Z,94nm,21.7s,slow=33
ULM Lac du Bonnet 45.08 304 LR LR 06 11 54.5
comp=Z,373nm,18.6s,baz=76,slow=35
BR106 Keskin Array S 46.39 71 P **P 05 54 24.4 -1.0**
comp=Z,3.3nm,1.1s
BR105 Keskin Array S 46.40 71 P **P 05 54 24.4 -1.1**
comp=Z,4.1nm,1.1s
BRTR Keskin Array B 46.41 71 P **P 05 54 26.3 +0.7**
comp=Z,2.1nm,1.0s,baz=295,slow=7.6,SNR=7.7
BRTR LR LR 06 15 25.0
comp=Z,100nm,18.3s,baz=302,slow=38
comp=Z,2.1nm,1.0s
BR104 Keskin Array S 46.42 71 P **P 05 54 24.6 -1.0**
comp=Z,2.4nm,1.0s
Z47A Carrollton 46.50 279 P **P 05 54 26.5 +0.3**
T42A Van Buren 46.87 285 P **P 05 54 28.9 0.0**
R40A Maddies Statio 47.13 287 IAmb IAmb 05 54 37.0
comp=Z,7.2nm,0.9s
FFC Flin Flon 47.33 311 P **P 05 54 32.7 +0.4**
FFC IAmb IAmb 05 54 38.8
comp=Z,8.3nm,1.2s
P38A Dawn 47.43 289 P **P 05 54 33.1 -0.3**
P38A IAmb IAmb 05 54 39.4
comp=Z,5.9nm,0.9s
MGMO Mountain Grove 47.65 286 IAmb IAmb 05 54 41.1
comp=Z,8.9nm,0.9s
ECSD EROS Data Cent 47.82 295 P **P 05 54 36.5 +0.1**
ECSD IAmb IAmb 05 54 41.1
comp=Z,13nm,1.5s
KIRV Kirov 49.30 43 LR LR 06 14 32.1
comp=Z,151nm,21.0s,baz=287,slow=35
SDV Santo Domingo 49.47 239 LR LR 06 12 56.7
comp=Z,50nm,21.2s,baz=86,slow=33
MIAR Mount Ida 49.82 283 P **P 05 54 51.0 -0.8**
MIAR IAmb IAmb 05 54 57.7
comp=Z,6.5nm,0.8s
MAL2 Monte Alegre, 49.92 213 P **P 05 54 54.9 +2.1**
MAL2 IAmb IAmb 05 55 21.9
comp=Z,9.9nm,0.9s
MMAI Mount Meron Ar 50.82 78 LR LR 06 16 21.0
comp=Z,84nm,21.9s,baz=291,slow=36
KBZ Khabaz 50.98 63 P **P 05 55 00.9 +0.5**
comp=Z,3.8nm,1.0s,baz=314,slow=7.6,SNR=6.1
KBZ LR LR 06 16 56.4
comp=Z,151nm,20.1s,baz=324,slow=36
comp=Z,3.8nm,1.0s
YKA Yellowknife Ar 51.19 324 P **P 05 55 00.8 -1.0**
comp=Z,1.0nm,0.9s,baz=69,slow=7.3,SNR=10
YKA PcP **PcP 05 56 15.7 -1.2**
comp=Z,0.2nm,0.3s,baz=67,slow=3.7,SNR=5.8
YKA LR LR 06 13 51.8
comp=Z,82nm,18.8s,baz=338,slow=33
comp=Z,1.0nm,0.9s
LAO LASA Array 52.78 303 IAmb IAmb 05 55 25.0
comp=Z,13nm,1.2s
GNI Garni 53.83 66 LR LR 06 19 17.7
comp=Z,68nm,21.0s,baz=296,slow=37
ARTI Arti 54.61 43 P **P 05 55 27.3 +0.2**
ARTI IAmb IAmb 05 55 28.1
comp=Z,10nm,1.1s
ARTI Arti 54.61 43 LR LR 06 17 36.5
comp=Z,167nm,19.5s,baz=298,slow=35
ROSC El Rosal 54.90 240 LR LR 06 16 32.8
comp=Z,103nm,22.0s,baz=59,slow=34
INK Inuvik 55.92 334 P **P 05 55 35.7 -0.6**
INK Inuvik 55.92 334 LR LR 06 16 54.7
comp=Z,103nm,18.4s,baz=246,slow=33
YMP Mirror Lake PI 56.12 302 IAmb IAmb 05 55 49.8
comp=Z,12nm,1.4s
T25A Trinidad 56.13 292 IAmb IAmb 05 55 45.5
comp=Z,8.1nm,1.4s
F31M Tsiigehtchic 56.43 333 P **P 05 55 39.4 -0.6**
MSTX Muleshoe 56.65 287 IAmb IAmb 05 55 51.1
comp=Z,9.5nm,1.0s
PDAR Pinedale Array 56.71 300 P **P 05 55 42.1 -0.5**
comp=Z,0.5nm,0.8s,baz=63,slow=7.6,SNR=5.0
PDAR LR LR 06 18 45.4
comp=Z,113nm,18.2s,baz=46,slow=35
comp=Z,0.5nm,0.8s
MOOW Moose Ponds 56.98 301 IAmb IAmb 05 55 54.7
comp=Z,8.8nm,1.5s
AKTO Aktyubinsk 57.15 49 LR LR 06 21 25.6
comp=Z,184nm,18.0s,baz=317,slow=37
FXWY Fox Creek 57.21 301 IAmb IAmb 05 56 06.3
comp=Z,8.7nm,1.5s
TPAW Teton Pass 57.23 301 IAmb IAmb 05 55 55.6
comp=Z,9.4nm,1.5s
E29M Blow River 57.25 335 P **P 05 55 45.0 -0.7**
E28M Babbage River 57.62 336 P **P 05 55 47.6 -0.8**
JTS Las Juntas de 58.10 253 LR LR 06 16 18.1
comp=Z,300nm,21.6s,baz=106,slow=31
G29M Pine Creek 58.12 334 P **P 05 55 51.9 -0.1**
G29M IAmb IAmb 05 56 06.5
comp=Z,11nm,1.1s
SAND Sanderson 58.38 283 IAmb IAmb 05 55 60.0
comp=Z,4.6nm,0.8s
PV21 Cone Mtn., Par 58.48 295 P **P 05 55 55.9 +0.7**
PV21 IAmb IAmb 05 56 05.8
comp=Z,13nm,1.4s
MTO3 Montecristo 58.48 260 P **P 05 55 53.1 -2.4**
E27K Coleen River 58.49 336 P **P 05 55 54.1 -0.5**
E27K IAmb IAmb 05 55 55.3
comp=Z,8.1nm,1.0s
NEW Newport 58.57 309 P **P 05 55 55.6 +0.2**
NEW Newport 58.57 309 P **P 05 55 54.3 -1.2**
comp=Z,2.9nm,1.0s,baz=54,slow=6.5,SNR=5.4
NEW LR LR 06 19 07.5
comp=Z,281nm,20.4s,baz=68,slow=34
comp=Z,2.9nm,1.0s
HWUT Hardware Ranch 58.58 299 P **P 05 55 56.3 +0.5**
HWUT IAmb IAmb 05 56 01.2
comp=Z,8.2nm,1.3s
H29M Whitestone 58.64 333 P **P 05 55 55.5 -0.1**
ANMO Albuquerque 58.69 290 LR LR 06 20 36.4
comp=Z,256nm,20.7s,baz=221,slow=36
ABKAR Akbulak array 58.81 50 P **P 05 55 56.1 -0.9**
NRIK Noril'sk 59.03 22 P **P 05 55 58.4 +0.2**
comp=Z,1.6nm,0.4s,baz=308,slow=4.7,SNR=4.1
comp=Z,1.6nm,0.4s
HVU Hansel Valley 59.27 300 P **P 05 56 00.8 +0.3**
HVU IAmb IAmb 05 56 10.3
comp=Z,11nm,1.4s
G27K Doyon Strip 59.34 335 P **P 05 56 00.0 -0.5**
G27K IAmb IAmb 05 56 01.2
comp=Z,6.7nm,1.0s
C24K Franklin Bluff 59.49 339 P **P 05 56 01.8 +0.4**
TMUT Trail Mountain 59.56 297 IAmb IAmb 05 56 13.3
comp=Z,5.7nm,1.0s
I28M Miner Creek 59.62 333 P **P 05 56 02.0 -0.5**
I28M IAmb IAmb 05 56 03.6
comp=Z,5.7nm,0.9s
E25K Arctic Village 59.69 337 P **P 05 56 03.2 +0.4**
DLBC Dease Lake 59.81 323 LR LR 06 18 41.0
comp=Z,134nm,18.5s,baz=89,slow=33
TXAR Lajitas Array 59.84 283 P **P 05 56 03.6 -1.0**
comp=Z,0.7nm,0.7s,baz=71,slow=6.7,SNR=7.5
TXAR LR LR 06 23 02.5
comp=Z,149nm,18.2s,baz=58,slow=37
comp=Z,0.7nm,0.7s
TX31 Lajitas Ar. Si 59.84 283 IAmb IAmb 05 56 15.6
comp=Z,8.8nm,1.4s
D24K Happy Valley 59.90 339 IAmb IAmb 05 56 04.8
comp=Z,3.5nm,0.8s
VHRN Van Horn 59.96 286 P **P 05 56 05.5 0.0**
VHRN IAmb IAmb 05 56 15.8
comp=Z,8.5nm,1.3s
DUG Dugway, Tooele 60.13 299 P **P 05 56 07.0 +0.5**
DAWY Dawson 60.27 332 P **P 05 56 07.1 +0.2**
DAWY IAmb IAmb 05 56 08.7
comp=Z,6.9nm,1.0s
D23K Nanushuk River 60.52 339 P **P 05 56 09.3 +0.8**
D23K IAmb IAmb 05 56 09.9
comp=Z,5.0nm,1.1s
E24K Your Creek 60.54 338 IAmb IAmb 05 56 10.0
comp=Z,5.7nm,1.1s
BDFB Brasilia 60.62 201 P **P 05 56 10.2 +0.3**
comp=Z,0.8nm,0.5s,baz=27,slow=7.2,SNR=3.1
BDFB LR LR 06 17 53.6
comp=Z,156nm,21.9s,baz=342,slow=32

comp=Z,0.8nm,0.5s
I26K Coal Creek Min 60.76 334 IAmb IAmb 05 56 11.3
comp=Z,7.4nm,0.9s
CMIG Matias Romero 60.78 267 LR LR 06 20 37.0
comp=Z,90nm,20.2s,baz=359,slow=34
ELK Elko 61.39 300 P **P 05 56 16.1 +0.9**
ELK IAmb IAmb 05 56 21.4
comp=Z,7.9nm,1.4s
COLD Coldfoot 61.60 338 P **P 05 56 16.5 +0.6**
COLD IAmb IAmb 05 56 17.2
comp=Z,5.6nm,1.0s
G23K Bananza Creek 61.91 337 IAmb IAmb 05 56 19.1
comp=Z,5.2nm,1.0s
J25K Salcha River, 61.93 334 P **P 05 56 18.5 +0.2**
J25K IAmb IAmb 05 56 18.9
comp=Z,7.0nm,1.1s
J08A Circle Bar Ran 61.97 304 P **P 05 56 19.9 +1.0**
BRVK Borovoye 62.24 42 P **P 05 56 20.4 0.0**
BRVK IAmb IAmb 05 56 22.0
comp=Z,6.5nm,1.0s
ILAR Eielson Array 62.31 335 P **P 05 56 20.1 -0.5**
comp=Z,1.5nm,0.9s,baz=38,slow=6.1,SNR=13
ILAR LR LR 06 21 50.4
comp=Z,82nm,19.0s,baz=62,slow=35
comp=Z,1.5nm,0.9s
BVAR Borovoye Array 62.31 42 P **P 05 56 21.4 +0.5**
comp=Z,4.4nm,1.0s,baz=289,slow=5.5,SNR=18
BVAR LR LR 06 22 29.1
comp=Z,151nm,19.2s,baz=299,slow=35
comp=Z,4.4nm,1.0s
H23K Yukon River 62.40 336 IAmb IAmb 05 56 22.4
comp=Z,6.1nm,0.9s
BBB Bella Bella 62.41 317 LR LR 06 23 54.5
comp=Z,106nm,18.8s,baz=43,slow=36
F21K Alatna River 62.51 339 IAmb IAmb 05 56 22.7
comp=Z,5.1nm,1.1s
WVOR Wild Horse Val 62.58 303 P **P 05 56 24.1 +1.1**
D19K Kuna River 62.72 341 IAmb IAmb 05 56 24.0
comp=Z,4.3nm,1.0s
G21K Allakaket 63.03 338 IAmb IAmb 05 56 26.3
comp=Z,4.2nm,0.9s
F20K Avaraart Lake 63.23 339 IAmb IAmb 05 56 28.0
comp=Z,7.8nm,1.3s
E19K Redstone River 63.30 340 IAmb IAmb 05 56 28.4
comp=Z,3.4nm,0.7s
H21K Melozitna Rive 63.46 337 IAmb IAmb 05 56 40.8
comp=Z,10nm,1.4s
I21K Tanana 63.57 337 IAmb IAmb 05 56 31.3
comp=Z,7.1nm,1.1s
CZSB Cruzeiro do Su 63.93 229 P **P 05 56 32.5 +0.5**
KTH Kantishna Hill 64.43 335 P **P 05 56 34.9 +0.1**
C16K Lisburne Hills 64.52 343 P **P 05 56 35.1 -0.1**
C16K IAmb IAmb 05 56 35.8
comp=Z,4.6nm,0.9s
NVAR Mina Array Bea 64.65 300 P **P 05 56 36.8 0.0**
comp=Z,0.4nm,1.0s,baz=46,slow=6.6,SNR=4.5
NVAR LR LR 06 24 27.1
comp=Z,204nm,20.1s,baz=48,slow=36
comp=Z,0.4nm,1.0s
TIXI Tiksi 64.84 7 P **P 05 56 37.5 +0.3**
TIXI IAmb IAmb 05 56 43.0
comp=Z,4.6nm,1.1s
SIV San Ignacio 65.38 214 LR LR 06 20 44.4
comp=Z,47nm,21.2s,baz=290,slow=32
PFO Pinyon Flats O 66.26 294 LR LR 06 25 12.7
comp=Z,462nm,20.5s,baz=70,slow=36
ATAH Atahualpa 66.76 235 LR LR 06 23 13.4
comp=Z,78nm,21.5s,baz=16,slow=34
LPIG La Paz 67.71 283 LR LR 06 25 56.3
comp=Z,140nm,19.9s,baz=44,slow=36
KURK Kurchatov 67.76 41 P **P 05 56 55.8 -0.5**
KURBB Kurchatov Arra 67.78 41 P **P 05 56 56.6 +0.2**
comp=Z,8.2nm,1.0s,baz=314,slow=6.7,SNR=46
comp=Z,8.2nm,1.0s
KK31 Karatay Array 68.34 51 IAmb IAmb 05 57 01.5
comp=Z,4.8nm,1.1s
KKAR Karatay Array 68.34 51 P **P 05 57 00.1 0.0**
ZAA0 Zalesovo Array 68.40 35 P **P 05 57 00.3 0.0**
ZAA0 IAmb IAmb 05 57 01.7
comp=Z,4.8nm,1.0s
ZALV Zalesovo Beam 68.40 35 P **P 05 57 00.1 -0.2**
ZALV Zalesovo Beam 68.40 35 P **P 05 57 00.4 +0.1**
comp=Z,3.4nm,0.9s,baz=312,slow=5.7,SNR=12
ZALV LR LR 06 26 57.3
comp=Z,58nm,21.1s,baz=332,slow=36
comp=Z,3.4nm,0.9s
LPAZ La Paz 68.77 220 P **P 05 57 05.4 +1.7**
LPAZ IAmb IAmb 05 57 11.7
comp=Z,7.2nm,1.4s
LPAZ La Paz 68.77 220 P **P 05 57 04.0 +0.2**
comp=Z,1.0nm,0.8s,baz=7.8,slow=5.2,SNR=5.8
LPAZ LR LR 06 22 48.6
comp=Z,72nm,21.8s,baz=24,slow=32
comp=Z,1.0nm,0.8s
LODK Lodwar 69.18 105 P **P 05 57 05.5 -0.3**
LODK IAmb IAmb 05 57 07.9
comp=Z,10.0nm,1.4s
KDAK Kodiak Island 69.25 331 LR LR 06 24 25.1
comp=Z,91nm,18.2s,baz=264,slow=33
NNA Nana 69.73 230 LR LR 06 26 34.0
comp=Z,43nm,18.6s,baz=14,slow=35
SIMJ Simiganj 70.24 55 P **P 05 57 11.3 -0.9**
SIMJ IAmb IAmb 05 57 13.6
comp=Z,6.4nm,1.1s
BTK Batken 70.44 53 P **P 05 57 13.8 +0.6**
BTK IAmb IAmb 05 57 15.7
comp=Z,8.5nm,1.1s
GAR Garm 70.81 54 P **P 05 57 15.7 +0.1**
AAK Ala-Archa 70.89 49 P **P 05 57 16.3 +0.3**
AAK IAmb IAmb 05 57 19.1
comp=Z,7.4nm,1.2s
AAK Ala-Archa 70.89 49 LR LR 06 29 04.1
comp=Z,171nm,20.2s,baz=321,slow=36
DRK Karamyk 71.39 53 P **P 05 57 20.0 +0.7**
BOOM Boomskoye usch 71.79 49 IAmb IAmb 05 57 23.6
comp=Z,5.7nm,1.1s
MAKZ Makanchi 72.03 42 P **P 05 57 22.2 -0.5**
MAKZ IAmb IAmb 05 57 23.8
comp=Z,10nm,1.3s
MK31 Makanchi Array 72.20 42 P **P 05 57 23.5 -0.2**
MKAR Makanchi Array 72.20 42 P **P 05 57 23.8 +0.1**
comp=Z,4.6nm,0.9s,baz=319,slow=5.3,SNR=33
MKAR LR LR 06 28 14.1
comp=Z,75nm,19.2s,baz=280,slow=35
comp=Z,4.6nm,0.9s
KDJ Kajisay 72.71 48 P **P 05 57 27.1 +0.1**
KDJ IAmb IAmb 05 57 29.0
comp=Z,5.9nm,1.2s
CPUP Villa Florida 73.46 206 LR LR 06 27 42.4
comp=Z,40nm,18.7s,baz=26,slow=34
KMBO Kilima Mbogo 73.71 107 P **P 05 57 34.2 +0.8**
comp=Z,0.8nm,0.3s,baz=130,slow=17,SNR=3.3
KMBO LR LR 06 31 38.6
comp=Z,153nm,18.1s,baz=293,slow=37
comp=Z,0.8nm,0.3s
WUS Wushi 74.47 48 P **P 05 57 37.0 -0.3**
WUS IAmb IAmb 05 57 38.9
comp=Z,7.7nm,1.0s
KIBK Kibwezi 75.13 108 P **P 05 57 42.5 +1.1**
TSUM Tsumeb 75.22 135 P **P 05 57 41.4 -0.4**
TSUM IAmb IAmb 05 57 53.4
comp=Z,13nm,1.4s
TSUM Tsumeb 75.22 135 LR LR 06 27 19.5
comp=Z,181nm,21.9s,baz=330,slow=33
NIL Nilore 76.11 57 P **P 05 57 46.7 0.0**
NIL IAmb IAmb 05 57 55.5
comp=Z,5.7nm,0.6s
MA2 Magadan 78.03 360 LR LR 06 30 07.9
comp=Z,24nm,18.6s,baz=35,slow=34
LSZ Lusaka 78.14 124 LR LR 06 33 28.9
comp=Z,128nm,18.2s,baz=310,slow=36
SONM Songino Array 81.66 28 P **P 05 58 17.1 0.0**
SONM Songino Array 81.66 28 P **P 05 58 17.3 +0.2**
comp=Z,1.4nm,0.9s,baz=320,slow=4.4,SNR=7.4
SONM LR LR 06 35 50.8
comp=Z,46nm,18.3s,baz=296,slow=37
comp=Z,1.4nm,0.9s
ULN Ulaanbaatar 81.86 28 P **P 05 58 18.3 +0.1**
SHEM Shemya Is, Ala 82.78 346 LR LR 06 34 25.3
comp=Z,30nm,19.6s,baz=310,slow=35
LBTB Lobatse 84.24 132 LR LR 06 33 43.1
comp=Z,168nm,21.3s,baz=318,slow=34
PETK Petropavlovsk- 84.33 356 LR LR 06 37 28.2
comp=Z,44nm,18.2s,baz=30,slow=37
BOSA Boshof 86.92 134 LR LR 06 34 21.2
comp=Z,159nm,21.7s,baz=357,slow=33
SUR Sutherland 87.73 140 LR LR 06 37 06.3

comp=Z,86nm,18.0s,baz=288,slow=35
ASAJ Asahikawa 93.20 6 LR LR 06 41 06.3
comp=Z,16nm,18.2s,baz=180,slow=36
TAOE Nuku Hiva Isla 111.29 278 *e*LR LR 06 37 31.9
comp=Z,93nm,22.7s
PPT2 Papeete2 123.91 277 *e*LR LR 06 43 20.2
comp=Z,72nm,23.0s
TBI Tubual 127.39 272 *e*LR LR 06 44 59.3
comp=Z,1μm,27.0s
QSPA South Pole Qui 132.64 180 PKP **PKPdf 06 05 12.8 +0.3**
comp=Z,2.1nm,0.9s,baz=237,slow=5.5,SNR=6.6
VNDA Vanda 144.83 184 PKP PKPbc 06 05 34.5 +1.0
comp=Z,1.6nm,0.8s,baz=301,slow=1.9,SNR=4.1
FITZ Fitzroy Crossi 147.48 49 PKPbc **PKPbc 06 05 43.0 -0.2**
comp=Z,5.4nm,0.9s,baz=273,slow=2.2,SNR=4.4
WRA Warramunga Arr 153.38 36 PKPbc **PKPbc 06 05 56.3 -1.1**
comp=Z,0.6nm,0.9s,baz=348,slow=1.9,SNR=5.1
WRA PKPab **PKPab 06 06 09.3 -0.1**
comp=Z,2.2nm,1.0s,baz=336,slow=4.4,SNR=9.2
DZM Mont Dzumac 155.57 323 *e*LR LR 06 58 01.6
comp=Z,135nm,31.3s
ASAR Alice Springs 156.39 42 PKPab **PKPab 06 06 21.3 -1.0**
comp=Z,2.4nm,0.9s,baz=333,slow=4.6,SNR=13

*IDC **17** 06:03:45.0±1.5, 5°.53S×143°.04E, h0km, mb3.8/5, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=45.9km s-min=23.3km az=96.0*
ISC 17 06:03:49.9±1.2, 5°.76S±0°.08×142°.8E±0°.2, h35km, n7, σ2§01/9, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.82**	**327**	Pn	**Pn**	**06 04 45.1**	**-1.2**
	14nm,0.3s,baz=160,slow=12,SNR=22						
JAY				Sn	**Sn**	**06 05 30.7**	**+0.7**
	2.3nm,0.3s,baz=343,slow=13,SNR=1.9 26nm,0.3s						
WRA	**Warramunga Arr**	**16.30**	**209**	Pn	**P**	**06 07 39.2**	**+0.3**
	0.1nm,0.3s,baz=30,slow=13,SNR=6.9						
WRA				Sn	**Sn**	**06 10 33.3**	**-2.9**
	baz=29,slow=22,SNR=1.7						
WRA				Lg	Lg	06 12 30.7	
	baz=13,slow=28,SNR=1.4 0.3nm,0.7s						
ASAR	**Alice Springs**	**19.74**	**205**	P	**Pn**	**06 08 20.8**	**+2.4**
	1.2nm,0.6s,baz=32,slow=9.8,SNR=14 1.2nm,0.6s						
MKAR	**Makanchi Array**	**74.66**	**322**	P	**P**	**06 15 27.7**	**+1.9**
	0.7nm,0.9s,baz=120,slow=5.2,SNR=3.9 0.7nm,0.9s						
NRIK	**Noril'sk**	**83.78**	**343**	P	**P**	**06 16 13.4**	**-1.7**
	1.7nm,0.4s,baz=118,slow=6.1,SNR=4.6 1.7nm,0.4s						
BVAR	**Borovoye Array**	**84.11**	**325**	P	**P**	**06 16 18.1**	**+0.9**
	0.3nm,0.6s,baz=116,slow=3.4,SNR=1.8 0.3nm,0.6s						
ILAR	**Eielson Array**	**86.94**	**24**	P	**P**	**06 16 30.0**	**-1.0**
	0.4nm,1.0s,baz=259,slow=4.2,SNR=4.1 0.4nm,1.0s						

IDC 17 06:26:48.4±2.1, 1°.50N×127°.67E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=196.5km s-min=23.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**163**	P	P	06 31 48.2	+0.7
	0.2nm,0.4s,baz=342,slow=10,SNR=2.8 0.2nm,0.4s						
ASAR	**Alice Springs**	**25.74**	**167**	P	P	06 32 20.2	-0.7
	0.2nm,0.5s,baz=355,slow=10,SNR=2.0 0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.91**	**326**	P	P	06 36 56.6	+0.4
	0.4nm,0.4s,baz=117,slow=7.0,SNR=11 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.11**	**328**	P	P	06 37 24.1	-0.3
	0.4nm,0.5s,baz=128,slow=6.1,SNR=7.9 0.4nm,0.5s						

*GCG **17** 06:56:39.7±1.4, 14°.55N×90°.69W, h6km±11km, MD4.0, MW3.1*
*CATAC **17** 06:56:40.7±0.4, 15°.N±3°.×9°.1W±°., h4km±1km, M2.9/6, MLv2.9/6, Error ellipse: s-maj=6.2km s-min=3.5km az=175.4, confirmed*
ISC 17 06:56:40.5±1.1, 14°.53N±0°.04×90°.67W±0°.04, h5km±10km, n14, σ0§89/17, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.14**	**67**	*e*P	**Pg**	**06 56 43.5**	**0.0**
GCG4				*i* S	**Sg**	**06 56 46.8**	**+1.3**
GCG4	**OSOP**	**0.14**	**67**	*e*P		06 56 43.5	
GCG4				*i* S		06 56 46.8	
ESSG	**Sabana Grande**	**0.21**	**227**	*i* P	**Pg**	**06 56 44.6**	**-0.1**
ESSG				*e*S	**Sg**	**06 56 47.9**	**+0.4**
ESSG	**Sabana Grande**	**0.21**	**227**	*i* P		06 56 44.6	
ESSG				*e*S		06 56 47.9	
APG	**El Apazote**	**0.51**	**23**	*i* P	**Pg**	**06 56 50.1**	**-0.4**
APG				*i* S	**Sg**	**06 56 57.3**	**+0.2**
APG	**El Apazote**	**0.51**	**23**	*i* P		06 56 50.1	
APG				*i* S		06 56 57.3	
STG0	**El Palmar, Qui**	**0.66**	**261**	*e*P		06 56 56.9	
STG8	**El Palmar, Qui**	**0.67**	**263**	*i* P		06 56 57.7	
SOKI	**Kika Raxquin**	**0.77**	**292**	*e*P	**Pg**	**06 56 55.2**	**-0.1**
SOKI	**Kika Raxquin**	**0.77**	**292**	*e*P		06 56 55.2	
SLOZ	**Alcaldia de Sa**	**0.99**	**120**	S	**Sn**	**06 57 17.7**	**+2.0**
SLOZ	**Alcaldia de Sa**	**0.99**	**120**	P	**Pg**	**06 56 59.3**	**-0.3**
NUBE	**Las Nubes**	**1.06**	**126**	P	**Pb**	**06 57 01.3**	**-0.3**
NUBE	**Las Nubes**	**1.06**	**126**	S	**Sb**	**06 57 15.7**	**-0.2**
MTO3	**Montecristo**	**1.27**	**96**	S	**Sn**	**06 57 24.1**	**+1.2**
MTO3	**Montecristo**	**1.27**	**96**	P	**Pg**	**06 57 04.3**	**-0.7**
ESQI	**Esquipulas**	**1.28**	**89**	P	**Pn**	**06 57 04.2**	**-1.1**
ESQI	**Esquipulas**	**1.28**	**89**	S	**Sn**	**06 57 23.6**	**+0.6**
JAYA	**Jayaque - finc**	**1.47**	**126**	P	**Pn**	**06 57 07.5**	**-0.3**
SCLA	**Alcaldia de Sa**	**2.05**	**113**	P	**Pg**	**06 57 19.2**	**-0.7**

IDC 17 06:56:56.5±2.3, 20°.01N×121°.46E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=223.9km s-min=21.9km az=63.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.58**	**319**	P	P	07 04 45.5	-0.6
	0.8nm,0.9s,baz=113,slow=9.3,SNR=3.7 0.8nm,0.9s						
WRA	**Warramunga Arr**	**41.66**	**162**	P	P	07 04 46.4	-0.5
	1.5nm,0.6s,baz=343,slow=9.0,SNR=20 1.5nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	07 50 08.8	
	baz=279,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**42.62**	**84**	T	T	07 50 07.8	
	baz=280,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	07 50 06.7	
	baz=279,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	07 50 08.1	
	baz=280,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**42.64**	**82**	T	T	07 50 07.4	
	baz=279,slow=75,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**42.64**	**84**	T	T	07 50 08.0	
	baz=280,slow=75,SNR=6.5						
ZALV	**Zalesovo Beam**	**43.92**	**329**	P	P	07 05 05.2	+0.3
	0.8nm,0.6s,baz=123,slow=9.2,SNR=3.8 0.8nm,0.6s						
ASAR	**Alice Springs**	**45.07**	**164**	P	P	07 05 14.7	+0.2
	0.8nm,0.4s,baz=345,slow=6.9,SNR=30 0.8nm,0.4s						

*NNC **17** 06:58:18.9±1.0, 51°.92N×74°.34E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=18.4km s-min=6.5km az=26.0, Suspected Mining explosion.*
*IDC **17** 06:58:21.2±1.0, 51°.93N×74°.16E, h0km, mbtmp2.5/3, ML1.8/3, Error ellipse: s-maj=32.5km s-min=8.2km az=30.0*
ISC 17 06:58:20.7±1.2, 51°.97N±0°.08×74°.28E±0°.07, h0km, n11, σ1§16/10, 4C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.60**	**296**	⇑Pg	**Pb**	**06 59 07.9**	**-0.3**
	6.5nm,1.2s,baz=100,slow=16,SNR=15						
BVA0				⇑Lg	Lg	06 59 42.4	
	7.3nm,0.7s,baz=107,slow=20,SNR=14						
BVAR	**Borovoye Array**	**2.60**	**296**	Pg	**Pb**	**06 59 07.1**	**-1.0**
	0.1nm,0.3s,baz=110,slow=17,SNR=15						
BVAR				Lg	Lg	06 59 40.9	
	0.5nm,0.3s,baz=114,slow=27,SNR=30						
BRVK	**Borovoye**	**2.67**	**296**	⇓Pg	**Pb**	**06 59 09.1**	**-0.3**
	6.2nm,1.0s						
BRVK				⇑Lg	Lg	06 59 44.8	
	15nm,0.6s						
KURBB	**Kurchatov Arra**	**2.99**	**115**	Pn	**Pn**	**06 59 10.4**	**+1.1**
	0.1nm,0.3s,baz=300,slow=16,SNR=5.2						
KURBB				Lg	Lg	06 59 53.0	
	0.1nm,0.3s,baz=302,slow=31,SNR=5.2 0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**2.99**	**115**	⇓Pg	**Pb**	**06 59 14.1**	**-0.7**
	3.7nm,0.8s						
KURBB				⇓Lg	Lg	06 59 52.3	
	19nm,0.7s						
KURK	**Kurchatov**	**3.00**	**113**	⇓Pg	**Pn**	**06 59 10.7**	**+1.3**
	2.8nm,1.2s						
KURK				⇓Lg	Lg	06 59 52.0	
	13nm,0.8s						
OTUK	**Ortayu**	**3.93**	**199**	⇓Pg	**Pb**	**06 59 30.8**	**0.0**
	5.1nm,1.1s						
OTUK				Lg	Lg	07 00 20.8	
	3.5nm,0.7s						
I46RU	**ZALESOVO INFRA**	**6.67**	**69**	I	I	07 35 50.0	
	baz=252,slow=325,SNR=3.8						
ZALV	**Zalesovo Beam**	**6.67**	**69**	Pn	**Pn**	**07 00 00.8**	**+1.0**
	0.1nm,0.3s,baz=256,slow=14,SNR=4.8 1.1nm,0.7s						
MK31	**Makanchi Array**	**7.36**	**132**	⇑Lg	Lg	07 02 06.9	
	5.7nm,1.2s,baz=317,slow=26,SNR=5.2						
MKAR	**Makanchi Array**	**7.36**	**132**	Pn	**Pn**	**07 00 10.1**	**+0.8**
	baz=316,slow=12,SNR=1.7						
MKAR				Sn	**Sn**	**07 01 31.6**	**-1.8**
	0.1nm,0.3s,baz=319,slow=17,SNR=3.1						
MKAR				Lg	Lg	07 02 14.4	
	0.1nm,0.3s,baz=318,slow=25,SNR=8.3 0.2nm,0.6s						

*MEX **17** 06:59:51.7±1.0, 13°.79N×92°.25W, h13km±38km, MD3.9*
*GCG **17** 06:59:55.9±2.7, 14°.04N×91°.57W, h14km±54km, MD4.2*
ISC 17 06:59:49.1±3.7, 13°.8N±0°.1×92°.15W±0°.07, h17km±26km, n10, σ1§13/17, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.81**	**33**	*e*P	**Pn**	**07 00 05.6**	**-0.1**
RTAL				*e*S	**Sn**	**07 00 17.9**	**+0.5**
STG0	**El Palmar, Qui**	**0.97**	**53**	*e*P		07 00 08.0	
STG0				*i* S		07 00 21.9	
STG8	**El Palmar, Qui**	**0.98**	**52**	*i* P		07 00 08.6	
STG8				*i* S		07 00 22.2	
PATR	**El Naranjo**	**1.27**	**356**	*e*P	**Pn**	**07 00 11.9**	**-0.4**
PATR				*e*S	**Sb**	**07 00 28.5**	**-0.3**
PAVE	**Pavencul**	**1.34**	**359**	*e*P	**Pb**	**07 00 14.3**	**+0.3**
PAVE				*e*S	**Sn**	**07 00 30.3**	**-0.6**
APG	**El Apazote**	**2.00**	**55**	*e*P	**Pn**	**07 00 23.1**	**+0.8**
APG	**El Apazote**	**2.00**	**55**	*e*P		07 00 23.1	
PCIG		**2.12**	**331**	*e*P	**Pn**	**07 00 21.8**	**-2.0**
PCIG				*e*S	**Sn**	**07 00 48.2**	**-1.5**
NUBE	**Las Nubes**	**2.30**	**88**	*e*P	**Pn**	**07 00 25.8**	**-0.7**
NUBE	**Las Nubes**	**2.30**	**88**	*e*P		07 00 25.8	
CCIG	**Comitan**	**2.42**	**0**	*e*P	**Pb**	**07 00 32.3**	**-0.1**
CCIG				*e*S	**Sb**	**07 01 01.2**	**-0.9**
TGIG		**3.06**	**342**	*e*S	**Sn**	**07 01 15.0**	**+1.8**
UXUV	**UXUV**	**3.95**	**331**	*e*P	**Pn**	**07 00 50.7**	**+1.7**
UXUV				*e*S	**Sn**	**07 01 35.0**	**-0.1**
CMIG	**Matias Romero**	**4.17**	**321**	*e*P	**Pn**	**07 00 53.0**	**+1.0**
CMIG				*e*S	**Sn**	**07 01 40.8**	**+0.5**

IDC 17 07:03:24.3±1.8, 3°.60S×137°.34E, h0km, mb3.7/2, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=51.1km s-min=23.4km az=131.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.53**	**72**	Pn	Pn	07 04 22.3	+1.8
	16nm,0.3s,baz=180,slow=11,SNR=25						
JAY				Sn	Sn	07 05 05.0	+2.0
	baz=315,slow=20 30nm,0.3s						
WRA	**Warramunga Arr**	**16.50**	**190**	Pn	Pn	07 07 16.3	-1.0
	0.3nm,0.3s,baz=16,slow=8.8,SNR=12						
WRA				Sn	Sn	07 10 16.2	-5.1
	0.1nm,0.3s,baz=25,slow=22,SNR=3.2 0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.41**	**218**	P	P	07 07 42.5	+1.3
	baz=48,slow=12,SNR=1.6 3.7nm,1.2s						
ASAR	**Alice Springs**	**20.22**	**189**	P	P	07 08 00.8	-0.2
	2.5nm,0.9s,baz=1.0,slow=11,SNR=23 2.5nm,0.9s						
ILAR	**Eielson Array**	**87.21**	**25**	P	P	07 16 11.5	-0.8
	0.7nm,0.8s,baz=256,slow=5.1,SNR=6.1 0.7nm,0.8s						

*IDC **17** 07:03:44.2±0.8, 43°.49N×29°.06W, h0km, mb3.9/19, mbtmp3.9/20, ML4.6/1, MS3.9/24, Error ellipse: s-maj=25.2km s-min=13.9km az=178.0*
*SVSA **17** 07:03:45.8±1.1, 42°.77N×29°.89W, h15km, ML4.5(INMG), Error ellipse: s-maj=43.9km s-min=6.2km az=65.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia Atlantico N*
*NEIC **17** 07:03:45.2±1.1, 43°.0N±0°.1×29°.2W±0°.1, h10km±1km, mb4.6/58, Error ellipse: s-maj=24.2km s-min=16.1km az=193.0*
ISC 17 07:03:43.8±0.4, 42°.85N±0°.07×29°.18W±0°.06, h10km, n124, σ1§73/103, mb4.5/45, MS3.9/24, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSBA	**Serra de Santa**	**4.32**	**160**	*e*P	**Pn**	**07 04 48.6**	**-0.9**
PAGU	**Agualva, Azore**	**4.35**	**159**	*e*P	**Pn**	**07 04 49.3**	**-0.7**
PAGU				*e*S	**Sn**	**07 05 37.8**	**-3.0**
PAGU				*i* AML	AML	07 05 39.9	
PAGU				*i* AML	AML	07 05 40.0	
PAGU				*i* AML	AML	07 05 40.1	
PSET	**Sete Cidades**	**5.67**	**151**	*e*P	**Pn**	**07 05 08.9**	**+0.7**
PDA	**Ponta Delgada**	**5.76**	**151**	*e*P	**Pn**	**07 05 09.5**	**+0.1**
PDA				*e*S	**Sn**	**07 06 12.3**	**-3.2**
PDA				*i* AML	AML	07 06 14.6	
PDA				*i* AML	AML	07 06 14.9	
PDA				*i* AML	AML	07 06 15.0	
CMLA	**Cha da Macela**	**5.80**	**150**	Pn	**Pn**	**07 05 12.4**	**+2.5**
PGRON	**Lagoa das Cont**	**5.85**	**149**	*e*P	**Pn**	**07 05 12.2**	**+1.6**
BART	**Pico Bartolome**	**5.92**	**148**	*e*P	**Pn**	**07 05 12.2**	**+0.6**
PSMA	**Santa Maria**	**6.63**	**151**	*e*P	**Pn**	**07 05 21.8**	**+0.6**
PSMA				*e*S	**Sn**	**07 06 34.1**	**-2.7**
PSMA				*i* AML	AML	07 06 34.8	
PSMA				*i* AML	AML	07 06 35.4	
PSMA				*i* AML	AML	07 06 35.8	
PSMN	**Pico do Norte,**	**6.64**	**150**	*e*P	**Pn**	**07 05 22.4**	**+0.9**
PSMN				*e*S	**Sn**	**07 06 34.7**	**-2.5**
PSMN				*i* AML	AML	07 06 40.0	
PSMN				*i* AML	AML	07 06 40.1	
PSMN				*i* AML	AML	07 06 43.8	
PMOZ	**Porto Moniz, M**	**13.76**	**133**	Pn	**Pn**	**07 07 01.3**	**+2.2**
PMOZ	**Porto Moniz, M**	**13.76**	**133**	*e*P	**P**	**07 07 03.8**	**-4.0**
PMOZ				IAmb	IAmb	07 07 10.3	
	comp=Z,106nm,2.2s						
PMOZ				IAMs_20	IAMs_20	07 11 05.0	
	comp=Z,459nm,20.0s						
PMAR	**Madeira**	**13.99**	**132**	*e*P	**Pn**	**07 07 06.0**	**+3.7**
PSBE	**So Bento**	**15.70**	**95**	*e*P	**P**	**07 07 32.7**	**+3.6**
PSBE				IAmb	IAmb	07 07 41.5	
	comp=Z,64nm,1.6s						
PCAS	**Casmilo, Conde**	**15.75**	**93**	*e*P	**P**	**07 07 32.0**	**+2.3**
PCAS				IAmb	IAmb	07 07 33.8	
	comp=Z,78nm,1.4s						
COI	**Coimbra**	**15.77**	**93**	Pn	**Pn**	**07 07 27.0**	**+1.1**
COI				IAmb	IAmb	07 07 40.3	
	comp=Z,57nm,1.2s						
COI	**Coimbra**	**15.77**	**93**	*e*P	**P**	**07 07 33.9**	**+4.0**
PMTG	**Montargil**	**16.26**	**96**	*e*P	**P**	**07 07 36.9**	**+1.6**
PMTG				IAmb	IAmb	07 07 39.3	
	comp=Z,59nm,1.4s						
MTE	**Manteigas**	**16.36**	**91**	*e*P	**P**	**07 07 40.0**	**+3.6**
MTE				IAMs_20	IAMs_20	07 12 33.9	
	comp=Z,347nm,20.0s						
PTEO	**Sao Teotonio**	**16.49**	**102**	*e*P	**Pn**	**07 07 35.9**	**+0.7**
PTEO				IAmb	IAmb	07 07 47.7	
	comp=Z,61nm,1.5s						
PCBR	**Castelo Branco**	**16.56**	**93**	*e*P	**P**	**07 07 40.2**	**+1.5**
EVO	**Evora**	**16.61**	**98**	*e*P	**P**	**07 07 41.8**	**+2.6**
EVO				IAmb	IAmb	07 07 43.3	
	comp=Z,33nm,1.3s						
MORF	**Marmelete**	**16.64**	**103**	Pn	**Pn**	**07 07 37.5**	**+0.3**
MORF				IAmb	IAmb	07 07 44.0	
	comp=Z,41nm,1.3s						
MESJ	**Messejana**	**16.73**	**100**	Pn	**Pn**	**07 07 39.1**	**+0.9**
MESJ	**Messejana**	**16.73**	**100**	P	**P**	**07 07 45.0**	**+4.5**
PBEJ	**Beja**	**16.91**	**99**	*e*P	**P**	**07 07 44.4**	**+1.9**
PBEJ				IAmb	IAmb	07 07 53.6	
	comp=Z,41nm,1.7s						
PCVE	**Castro Verde**	**16.95**	**101**	*e*P	**P**	**07 07 43.1**	**+0.2**
PBAR	**Barrancos**	**17.45**	**98**	*e*P	**P**	**07 07 52.2**	**+3.7**
PBAR				IAmb	IAmb	07 07 53.5	
	comp=Z,32nm,1.4s						
PAB	**San Pablo**	**18.95**	**92**	P	**Pn**	**07 08 07.1**	**+1.3**
ESDC	**Sonseca Array**	**19.20**	**91**	P	**Pn**	**07 08 09.7**	**+1.0**
ESDC	**Sonseca Array**	**19.20**	**91**	P	**Pn**	**07 08 09.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=287,slow=13,SNR=19						
ESDC				LR	LR	07 13 58.3	
	comp=Z,246nm,20.2s,baz=282,slow=32 comp=Z,1.5nm,0.5s						
ESBB	**Sonseca Array**	**19.20**	**91**	P	**Pn**	**07 08 09.7**	**+1.0**
DRLN	**Deer Lake**	**20.60**	**298**	P	**P**	**07 08 23.1**	**+0.2**
DRLN				IAmb	IAmb	07 08 28.4	
	comp=Z,36nm,1.1s						
EKA	**Eskdalemuir Ar**	**20.97**	**44**	P	**P**	**07 08 21.9**	**-4.9**
	comp=Z,3.2nm,1.0s,baz=338,slow=9.2,SNR=2.0 comp=Z,3.2nm,1.0s						
MDT	**Midelt**	**21.77**	**109**	LR	LR	07 15 16.8	
	comp=Z,240nm,21.4s,baz=330,slow=32						
CEST	**Esterri de Car**	**22.30**	**80**	P	**P**	**07 08 41.9**	**+0.5**
CEST				IAmb	IAmb	07 08 48.5	
	comp=Z,28nm,1.2s						
BORG	**Borgarnes**	**22.39**	**9**	LR	LR	07 13 56.0	
	comp=Z,57nm,20.3s,baz=168,slow=28						
GBN	**Guysborough**	**23.27**	**287**	P	**P**	**07 08 51.5**	**+0.2**
LMN	**Caledonia Moun**	**25.52**	**289**	P	**P**	**07 09 13.1**	**+0.7**
ECH	**Echery**	**25.84**	**65**	P	**P**	**07 09 15.5**	**+0.2**
ECH				IAmb	IAmb	07 09 18.5	
	comp=Z,21nm,1.5s						
SENIN	**Lac Senin/Sane**	**26.05**	**70**	P	**P**	**07 09 18.4**	**+1.0**
BATG	**Bathurst New B**	**26.26**	**293**	P	**P**	**07 09 18.9**	**-0.1**
BATG				IAmb	IAmb	07 09 24.4	
	comp=Z,18nm,0.9s						
SFJD	**Kangerlussuaq**	**26.86**	**341**	LR	LR	07 17 37.1	
	comp=Z,189nm,20.4s,baz=143,slow=32						
SCHQ	**Schefferville**	**27.18**	**309**	P	**P**	**07 09 26.4**	**-0.9**
SCHQ	**Schefferville**	**27.18**	**309**	P	**P**	**07 09 25.4**	**-1.9**
	comp=Z,4.9nm,0.9s,baz=120,slow=8.1,SNR=3.2						
SCHQ				LR	LR	07 18 32.1	
	comp=Z,252nm,18.6s,baz=80,slow=33 comp=Z,4.9nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.78**	**68**	LR	LR	07 19 17.6	
	comp=Z,150nm,19.7s,baz=266,slow=34						
PKME	**Peaks-Kenny Pk**	**28.73**	**289**	P	**P**	**07 09 41.5**	**+0.3**
CTI	**Castel Tesino**	**29.09**	**69**	P	**P**	**07 09 45.7**	**+1.1**
BBTS	**Babate**	**30.13**	**155**	LR	LR	07 19 37.6	
	comp=Z,214nm,19.5s,baz=242,slow=31						
GERES	**GERESS Array B**	**30.15**	**64**	P	**P**	**07 09 50.7**	**-3.2**
	baz=274,slow=16						
GERES				LR	LR	07 20 29.6	
	comp=Z,145nm,19.7s,baz=262,slow=34						
NOA	**NORSAR Array B**	**30.16**	**39**	LR	LR	07 21 13.9	
	comp=Z,27nm,18.4s,baz=255,slow=35						
PRED	**Cave del Predi**	**30.34**	**68**	P	**P**	**07 09 56.5**	**+0.9**
PRED				IAmb	IAmb	07 10 07.3	
	comp=Z,7.7nm,1.0s						
KEST	**Kesra**	**30.45**	**90**	LR	LR	07 21 51.4	
	comp=Z,99nm,18.7s,baz=198,slow=36						
FRB	**Frobisher Bay**	**30.71**	**326**	LR	LR	07 18 44.2	
	comp=Z,297nm,21.3s,baz=110,slow=30						
HFS	**Hagfors**	**31.08**	**41**	P	**P**	**07 09 58.1**	**-3.7**
	comp=Z,5.2nm,1.1s,baz=235,slow=12,SNR=1.8 comp=Z,5.2nm,1.1s						
VRAC	**Vranov**	**32.00**	**62**	LR	LR	07 21 38.6	
	comp=Z,128nm,20.3s,baz=272,slow=34						
VAE	**Valguarnera**	**33.45**	**84**	LR	LR	07 22 28.8	
	comp=Z,475nm,21.1s,baz=303,slow=34						
SADO	**Sadowa**	**35.65**	**291**	LR	LR	07 24 22.7	
	comp=Z,379nm,20.7s,baz=76,slow=35						
FINES	**FINESS Array B**	**37.28**	**41**	P	**P**	**07 10 54.0**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=243,slow=6.1,SNR=2.0 comp=Z,1.8nm,0.8s						
BUR08	**Bucovina Ar. S**	**37.92**	**63**	P	**P**	**07 11 02.7**	**+1.4**
BURAR	**Bucovina Array**	**37.94**	**63**	P	**P**	**07 11 02.8**	**+1.4**
Q54A	**Coxs Mills**	**38.73**	**282**	P	**P**	**07 11 09.2**	**+1.2**
AKASG	**Malin Array Be**	**39.82**	**58**	P	**P**	**07 11 15.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=278,slow=8.1,SNR=2.6 comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**39.82**	**129**	P	**P**	**07 11 20.8**	**+3.4**
	comp=Z,1.6nm,0.2s,baz=342,slow=8.5,SNR=1.9 comp=Z,1.6nm,0.2s						
U54A	**Nelsons Funny**	**40.45**	**279**	P	**P**	**07 11 23.2**	**+0.7**
U54A				IAmb	IAmb	07 11 25.5	
	comp=Z,18nm,1.2s						
DBIC	**Dimbokro**	**41.94**	**142**	LR	LR	07 27 49.3	
	comp=Z,173nm,19.0s,baz=324,slow=34						
TKL	**Tuckaleechee C**	**42.25**	**279**	LR	LR	07 27 28.5	
	comp=Z,229nm,20.9s,baz=76,slow=34						
RES	**Resolute Bay**	**42.81**	**339**	P	**P**	**07 11 41.7**	**+0.5**
RES				IAmb	IAmb	07 11 47.6	
	comp=Z,8.6nm,1.0s						
GOGA	**Godfrey**	**43.08**	**276**	P	**P**	**07 11 44.6**	**+0.7**
GOGA				IAmb	IAmb	07 11 56.5	
	comp=Z,11nm,1.4s						
E38A	**The Farm, Brul**	**43.45**	**297**	P	**P**	**07 11 47.0**	**+0.2**
ULM	**Lac du Bonnet**	**45.06**	**304**	LR	LR	07 29 17.4	
	comp=Z,358nm,19.7s,baz=94,slow=34						
AGMN	**Agassiz Nation**	**45.67**	**301**	P	**P**	**07 12 05.1**	**+0.6**
AGMN				IAmb	IAmb	07 12 09.9	
	comp=Z,6.9nm,1.2s						
BR131	**Keskin Array S**	**46.33**	**72**	P	**P**	**07 12 11.1**	**+1.1**
BR131				IAmb	IAmb	07 12 12.9	
	comp=Z,5.1nm,1.0s						
BRTR	**Keskin Array B**	**46.33**	**72**	P	**P**	**07 12 10.4**	**+

comp=Z,8.6nm,1.1s
NEW Newport 58.55 308 LR LR 07 36 58.5
comp=Z,237nm,18.3s,baz=73,slow=34
HWUT Hardware Ranch 58.58 299 P **P** **07 13 41.2 +0.3**
HWUT IAmb IAmb 07 13 46.6
comp=Z,4.0nm,0.9s
ANMO Albuquerque 58.71 290 LR LR 07 39 01.7
comp=Z,248nm,18.9s,baz=220,slow=36
I29M Ogilvie Camp, 59.05 332 P **P** **07 13 43.9 +0.3**
G27K Doyon Strip 59.27 335 P **P** **07 13 45.4 +0.2**
G27K IAmb IAmb 07 13 51.6
comp=Z,8.0nm,1.1s
I28M Miner Creek 59.55 333 P **P** **07 13 48.1 +1.0**
I28M IAmb IAmb 07 13 53.6
comp=Z,8.9nm,1.1s
TMUT Trail Mountain 59.56 297 IAmb IAmb 07 13 53.5
comp=Z,7.0nm,1.1s
TXAR Lajitas Array 59.87 283 P **P** **07 13 50.6 +0.7**
comp=Z,1.0nm,1.0s,baz=79,slow=6.5,SNR=4.8
TXAR LR LR 07 40 47.0
comp=Z,140nm,18.0s,baz=75,slow=37
comp=Z,1.0nm,1.0s
DUG Dugway, Tooele 60.13 299 IAmb IAmb 07 13 57.8
comp=Z,7.3nm,1.2s
I26K Coal Creek Min 60.70 334 P **P** **07 13 55.4 +0.6**
CMIG Matias Romero 60.84 267 LR LR 07 37 33.1
comp=Z,51nm,20.9s,baz=30,slow=33
ELK Elko 61.38 300 P **P** **07 14 00.6 +0.4**
ELK IAmb IAmb 07 14 03.4
comp=Z,4.2nm,1.1s
PSUT Pine Spring 61.71 298 IAmb IAmb 07 14 08.8
comp=Z,4.2nm,1.1s
BVAR Borovoye Array 62.21 42 P **P** **07 14 05.2 -0.1**
comp=Z,0.5nm,0.5s,baz=343,slow=3.1,SNR=4.5
comp=Z,0.5nm,0.5s
ILAR Eielson Array 62.24 335 P **P** **07 14 04.3 -1.0**
comp=Z,0.4nm,0.9s,baz=34,slow=3.1,SNR=7.0
comp=Z,0.4nm,0.9s
WVOR Wild Horse Val 62.57 303 IAmb IAmb 07 14 21.3
comp=Z,10nm,1.4s
PINE Pine Mountain 63.20 306 P **P** **07 14 12.9 +0.6**
PINE IAmb IAmb 07 14 25.6
comp=Z,6.1nm,1.2s
NVAR Mina Array Bea 64.64 300 P **P** **07 14 22.1 +0.2**
comp=Z,0.4nm,0.9s,baz=72,slow=4.8,SNR=4.8
comp=Z,0.4nm,0.9s
PFO Pinyon Flats O 66.27 294 LR LR 07 42 36.6
comp=Z,204nm,21.1s,baz=90,slow=35
KURK Kurchatov 67.65 41 P **P** **07 14 41.7 +1.0**
KURBB Kurchatov Arra 67.67 41 P **P** **07 14 39.1 -1.7**
comp=Z,2.2nm,0.9s,baz=316,slow=6.7,SNR=8.7
comp=Z,2.2nm,0.9s
LPIG La Paz 67.74 283 LR LR 07 44 43.6
comp=Z,74nm,18.1s,baz=108,slow=36
ZALV Zalesovo Beam 68.29 36 P **P** **07 14 43.6 -1.1**
comp=Z,0.5nm,0.6s,baz=291,slow=5.7,SNR=7.0
comp=Z,0.5nm,0.6s
LPAZ La Paz 68.88 220 P P 07 14 56.3 +6.8
comp=Z,0.8nm,0.8s,baz=54,slow=7.9,SNR=3.8
comp=Z,0.8nm,0.8s
MAKZ Makanchi 71.93 42 P **P** **07 15 07.7 +0.6**
MAKZ IAmb IAmb 07 15 20.7
comp=Z,5.4nm,1.4s
MK31 Makanchi Array 72.09 42 P **P** **07 15 07.2 -0.9**
MKAR Makanchi Array 72.09 42 P **P** **07 15 07.1 -1.0**
MKAR Makanchi Array 72.09 42 P **P** **07 15 06.1 -2.1**
comp=Z,1.1nm,0.8s,baz=320,slow=5.3,SNR=12
comp=Z,1.1nm,0.8s
SONM Songino Array 81.55 28 P **P** **07 16 02.0 +0.4**
comp=Z,0.4nm,0.6s,baz=335,slow=6.7,SNR=4.4
comp=Z,0.4nm,0.6s
HHC Hu-ho-hao-te 89.45 29 *e*P **P** **07 16 40.3 -0.8**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,370nm,5.0s
MDJ Mudanjiang 90.87 15 P **P** **07 16 48.4 +0.9**

IDC ***17*** *07:07:12.0±0.9, 8°.26S×116°.59E, h0km, mb4.0/6, mbtmp4.0/8, ML3.4/2, Error ellipse: s-maj=39.4km s-min=17.3km az=56.0*
ISC 17 07:07:13.2±0.9, 8°.3S±0°.1×116°.6E±0°.2, h10km, n12, σ1°.15/12, mb4.0/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.51**	**44**	Pn	**Pn**	**07 08 22.5**	**+0.9**
	1.4nm,0.3s,baz=181,slow=4.7,SNR=8.1						
	7.5nm,0.2s						
FITZ	**Fitzroy Crossi**	**13.11**	**139**	Pn	**Pn**	**07 10 19.9**	**+0.3**
	0.2nm,0.3s,baz=349,slow=16,SNR=1.5						
	1.6nm,0.8s						
MTN	**Manton Dam**	**14.96**	**109**	P	**P**	**07 10 47.6**	**-2.9**
	comp=Z,0.0nmcomp=Z,170nm,0.6s						
WRA	**Warramunga Arr**	**20.69**	**126**	P	**P**	**07 11 54.1**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=301,slow=12,SNR=23						
	comp=Z,6.2nm,0.8s						
AS31	**Alice Springs**	**22.53**	**135**	P	**P**	**07 12 14.2**	**+0.7**
	comp=Z,0.0nmcomp=Z,54nm,0.9s						
ASAR	**Alice Springs**	**22.53**	**135**	P	**P**	**07 12 14.2**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=314,slow=8.4,SNR=26						
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.80**	**327**	P	**P**	**07 13 38.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=141,slow=6.0,SNR=5.0						
	comp=Z,0.6nm,0.3s						
STKA	**Stephens Creek**	**33.01**	**139**	P	**P**	**07 13 49.4**	**+0.7**
	comp=Z,1.2nm,0.2s,baz=321,slow=5.1,SNR=4.4						
	comp=Z,1.2nm,0.2s						
SONM	**Songino Array**	**56.62**	**352**	P	**P**	**07 16 56.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=156,slow=8.1,SNR=4.7						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**62.79**	**334**	P	**P**	**07 17 38.4**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=146,slow=7.5,SNR=6.7						
	comp=Z,0.9nm,0.8s						
CPUP	**Villa Florida**	**145.08**	**190**	PKPbc	**PKPdf**	**07 26 51.7**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=184,slow=2.3,SNR=14						
BDFB	**Brasilia**	**151.76**	**213**	PKPbc	**PKiKP**	**07 27 09.4**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=167,slow=4.5,SNR=4.7						

IDC ***17*** *07:07:22.9±0.4, 8°.29S×116°.49E, h0km, mb5.0/27, mbtmp5.0/31, ML4.9/4, MS5.3/15, Error ellipse: s-maj=13.7km s-min=10.4km az=83.0*
MOS ***17*** *07:07:24.0±1.0, 8°.28S×116°.48E, h18km, mb5.5/62, MS5.2/26, Error ellipse: s-maj=7.3km s-min=4.5km az=110.2*
NEIC ***17*** *07:07:25.4, 8°.42S×116°.52E, h26km*
NEIC ***17*** *07:07:25.4, 8°.42S×117°.00E, h26km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.11; $M_{\theta\theta}$1.91; $M_{\phi\phi}$0.20; $M_{r\theta}$2.20; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.22; Fault plane solution: $M_0$3.02000×10^{17} NP1: ϕ_s116.99000°, δ23.53000°, λ-65.58000°. NP2: ϕ_s270.64000°, δ68.68000°, λ-100.21000°. Principal axes: T 2.9243, Plg23.0000°, Azm8.0000°; N 0.2008, Plg10.0000°, Azm274.0000°; P -3.1251, Plg65.0000°, Azm163.0000°;*
ISC-PP ***17*** *07:07:25, 8°.42S×116°.52E, h5km±1km, Mwppsm6.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.79±.08; $M_{\theta\theta}$-0.20±.17; $M_{\phi\phi}$-0.06±.14; $M_{r\theta}$0.01±.15; $M_{\theta\phi}$0.18±.10; $M_{\phi r}$-0.36±.22; Fault plane solution: $M_0$1.08000×10^{18} NP1: ϕ_s301.80000°, δ40.70000°, λ241.50000°. NP2: ϕ_s157.50000°, δ55.10000°, λ-67.70000°.*
NEIC ***17*** *07:07:25.4±1.7, 8°.42S±0°.05×116°.52E±0°.05, h10km±1km, mb5.5/124, Ms_20 5.3/215, Mww5.6/32 Error ellipse: s-maj=10.0km s-min=7.3km az=220.0*
DJA ***17*** *07:07:26.5±0.2, 8°.S±1°.1×11°.7E±°, h17km±1km, M5.5/118, mb5.4/118, mB6.0/98, MLv5.9/30, Mw(mB)5.6/98, MwMwp5.4/66, Mwp5.6/66*
IPGP ***17*** *07:07:27.0, 8°.42S×116°.52E, h20km, Mw5.6, Fault plane solution: NP1: ϕ_s335.00000°, δ10.00000°, λ-16.00000°. NP2: ϕ_s80.00000°, δ87.00000°, λ-99.00000°.*
GCMT ***17*** *07:07:28.4±0.1, 8°.47S×116°.54E, h14km, MW5.5/150, Moment Tensor Solution. s130, c244; s150, c311; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.68±.03; $M_{\theta\theta}$1.85±.02; $M_{\phi\phi}$-0.16±.02; $M_{r\theta}$-1.34±.05; $M_{\theta\phi}$-0.15±.01; $M_{\phi r}$-0.20±.04; Best double couple: $M_0$2.23100×10^{17} NP1: ϕ_s283.00000°, δ27.00000°, λ-75.00000°. NP2: ϕ_s86.00000°, δ64.00000°, λ-98.00000°. Principal axes: T 2.3030, Plg19.0000°, Azm182.0000°;*

N -0.1380, Plg7.0000°, Azm90.0000°; P -2.1590, Plg70.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 17 07:07:23.8±0.2, 8°.37S±0°.03×116°.56E±0°.03, h5km, h5km: pP-P, n740, σ2s19/774, mb5.4/173, MS5.3/153, 16C-45D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.49**	**139**	P	**Pb**	**07 07 35.8**	**+0.9**
PLAI	**Plampang**	**1.29**	**111**	P	**Pg**	**07 07 49.8**	**+1.2**
PLAI	**Plampang**	**1.29**	**111**	S	**Sn**	**07 08 07.6**	**+1.4**
PLAI	**Plampang**	**1.29**	**111**	P	**Pn**	**07 07 49.2**	**+0.7**
SRBI	**Singaraja**	**1.36**	**282**	P	**Pn**	**07 07 50.2**	**+0.7**
DNP	**Denpasar**	**1.37**	**257**	P	**Pg**	**07 07 51.7**	**+1.6**
ABJI	**Asem Bagus**	**2.37**	**284**	P	**Pn**	**07 08 05.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**2.38**	**267**		**Pn**	**07 08 04.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.38**	**267**	P	**Pn**	**07 08 04.6**	**+1.0**
KMMI	**Kalianget**	**2.88**	**297**	P	**Pn**	**07 08 12.5**	**+2.1**
WBSI	**Waikabubak, Su**	**3.07**	**115**	P	**Pn**	**07 08 14.6**	**+1.5**
GMJI	**Gumukmas**	**3.08**	**272**	P	**Pn**	**07 08 14.6**	**+1.4**
GRJI	**Gresik**	**4.29**	**289**	P	**Pn**	**07 08 31.2**	**+1.4**
BASI	**Baing, Sumba**	**4.38**	**115**	P	**Pn**	**07 08 33.4**	**+2.4**
BSSI	**Bau Bau, Buton**	**4.49**	**61**	P	**Pn**	**07 08 32.9**	**+0.4**
KAPI	**Kappang**	**4.60**	**44**	Pn	**Pn**	**07 08 34.8**	**+0.6**
KAPI	**Kappang**	**4.60**	**44**	Pn	**Pn**	**07 08 34.4**	**+0.3**
	27nm,0.3s,baz=197,slow=5.1,SNR=71						
KAPI				Sn	**Sn**	**07 09 26.8**	**-1.2**
	157nm,0.3s,baz=199,slow=18,SNR=8.7						
KAPI				Lg	Lg	07 09 48.1	
	103nm,0.3s,baz=235,slow=23,SNR=8.6						
KAPI				LR	LR	07 10 33.3	
	comp=Z,28μm,20.7s,baz=166,slow=42						
	110nm,0.2s						
KAPI	**Kappang**	**4.60**	**44**	P	**Pn**	**07 08 35.5**	**+1.4**
KAPI				S	**Sn**	**07 09 27.1**	**-0.8**
KAPI	**Kappang**	**4.60**	**44**	P	**Pn**	**07 09 34.7**	**+0.6**
KAPI	**Kappang**	**4.60**	**44**	*d*P	**Pn**	**07 08 34.0**	**-0.1**
KAPI				MLR	MLR		
	comp=Z,89μm,12.0s						
BKSI	**Bulukumba**	**4.66**	**50**	P	**Pn**	**07 08 35.4**	**+0.5**
TBJI	**Tambak Boyo**	**4.91**	**288**	P	**Pn**	**07 08 40.1**	**+1.7**
NGJI	**Ngawi**	**5.14**	**281**	P	**Pn**	**07 08 45.0**	**+3.4**
PCJI	**Pacitan**	**5.33**	**271**	P	**Pn**	**07 08 45.6**	**+1.5**
SPSI	**Sidrap Palu**	**5.42**	**36**	P	**Pn**	**07 08 45.5**	**+0.2**
	comp=Z,8.9nmcomp=Z,356nm,0.8s						
MMRI	**Maumere**	**5.63**	**93**		**Pn**	**07 08 50.7**	**+2.5**
MMRI	**Maumere**	**5.63**	**93**	P	**Pn**	**07 08 50.4**	**+2.2**
MMRI	**Maumere**	**5.63**	**93**	P	**Pn**	**07 08 49.4**	**+1.2**
UGM	**Wanagama**	**5.99**	**274**	Pn	**Pn**	**07 08 55.1**	**+1.8**
UGM	**Wanagama**	**5.99**	**274**	P	**Pn**	**07 08 55.4**	**+2.2**
UGM	**Wanagama**	**5.99**	**274**	P	**Pn**	**07 08 55.2**	**+2.0**
SMRI	**Semarang**	**6.20**	**282**	Pn	**Pn**	**07 08 58.2**	**+2.1**
SMRI	**Semarang**	**6.20**	**282**	P	**Pn**	**07 08 59.9**	**+3.8**
SMRI	**Semarang**	**6.20**	**282**	P	**Pn**	**07 08 59.0**	**+2.9**
	comp=Z,7μmcomp=Z,552nm,0.8s						
TTSI	**Tana Toraja**	**6.20**	**32**	P	**Pn**	**07 08 57.7**	**+1.6**
	comp=Z,7.2nmcomp=Z,33μmcomp=Z,9μmcomp=Z,328nm,1.2s						
YOGI	**Yogyakarta**	**6.22**	**275**	P	**Pn**	**07 08 58.5**	**+2.1**
	comp=Z,6.3nmcomp=Z,8μmcomp=Z,359nm,0.7s						
BBSI	**Bau Bau**	**6.62**	**65**	P	**Pn**	**07 09 04.0**	**+2.1**
	comp=Z,3.1nmcomp=Z,13μmcomp=Z,8μmcomp=Z,400nm,0.9s						
BKB	**Balikpapan**	**7.07**	**3**	Pn	Pn	07 09 13.1	+5.1
BKB	**Balikpapan**	**7.07**	**3**	P	Pn	07 09 14.2	+6.2
	comp=Z,263nm,0.9s						
SOEI	**Soe**	**7.74**	**101**	Pn	**Pn**	**07 09 19.3**	**+2.0**
SOEI	**Soe**	**7.74**	**101**	P	**Pn**	**07 09 19.0**	**+1.6**
SOEI	**Soe**	**7.74**	**101**	P	**Pn**	**07 09 18.8**	**+1.4**
	comp=Z,11μmcomp=Z,15μmcomp=Z,743nm,1.0s						
CMJI	**Cimerak**	**8.05**	**274**	P	**Pn**	**07 09 21.7**	**+0.2**
	comp=Z,10μmcomp=Z,6μmcomp=Z,333nm,1.0s						
JCJI	**Jatiwangi**	**8.43**	**282**	P	**Pn**	**07 09 28.3**	**+1.6**
	comp=Z,14μmcomp=Z,14μmcomp=Z,310nm,1.0s						
BBJI	**Bungbulang**	**8.87**	**275**	P	**Pn**	**07 09 35.3**	**+2.5**
APSI	**Ampana**	**8.98**	**35**	P	**Pn**	**07 09 36.4**	**+2.1**
	comp=Z,3μmcomp=Z,145nm,1.6s						
LEM	**Lembang**	**8.99**	**279**	Pn	**Pn**	**07 09 34.9**	**+0.3**
	comp=Z,4.7nm,0.3s,baz=125,slow=5.9,SNR=11						
LEM				Sn	**Sn**	**07 11 20.5**	**+4.0**
	comp=Z,5.4nm,0.3s,baz=143,slow=20,SNR=1.0						
LEM				LR	LR	07 13 23.5	
	comp=Z,22μm,19.4s,baz=90,slow=40						
	comp=Z,24nm,0.5s						
LEM	**Lembang**	**8.99**	**279**	P	**Pn**	**07 09 36.2**	**+1.6**
	comp=Z,6μmcomp=Z,377nm,1.0s						
CNJI	**Cibinong**	**9.40**	**276**	P	**Pn**	**07 09 42.8**	**+2.8**
	comp=Z,199nm,1.0s						
LUWI	**Luwuk**	**9.55**	**41**	Pn	**Pn**	**07 09 43.5**	**+1.4**
LUWI	**Luwuk**	**9.55**	**41**	P	**Pn**	**07 09 42.7**	**+0.5**
	comp=Z,12μmcomp=Z,116nm,1.0s						
STKI	**Sintang**	**9.79**	**329**	P	**Pn**	**07 09 47.3**	**+1.9**
	comp=Z,13μmcomp=Z,9μmcomp=Z,106nm,1.0s						
CBJI	**Citeko**	**9.82**	**281**	P	**Pn**	**07 09 48.1**	**+2.3**
SKJI	**Sukabumi**	**10.00**	**277**	P	**Pn**	**07 09 49.1**	**+0.8**
	comp=Z,8μmcomp=Z,547nm,1.2s						
MRSI	**Marisa**	**10.30**	**32**	P	**Pn**	**07 09 54.3**	**+2.0**
	comp=Z,11μmcomp=Z,57nm,0.7s						
TOLI2	**Tolitoli**	**10.31**	**24**	Pn	**Pn**	**07 09 53.7**	**+1.1**
TOLI2	**Tolitoli**	**10.31**	**24**	P	**Pn**	**07 09 56.1**	**+3.5**
TPI	**Tanjungpandan**	**10.47**	**302**	P	**Pn**	**07 09 55.7**	**+1.0**
	comp=Z,9μmcomp=Z,6μmcomp=Z,322nm,1.6s						
SBJI	**Serang**	**10.58**	**281**	P	**Pn**	**07 09 59.7**	**+3.5**
	comp=Z,9μmcomp=Z,434nm,1.1s						
CGJI	**Cibinong**	**10.91**	**278**	P	**Pn**	**07 10 02.6**	**+1.8**
XMI	**Christmas Isla**	**10.92**	**258**	P	**Pn**	**07 10 02.6**	**+1.7**
XMIS	**Christmas Isla**	**10.96**	**258**		**Pn**	**07 09 59.6**	**-1.9**
XMIS	**Christmas Isla**	**10.96**	**258**	P	**Pn**	**07 10 02.4**	**+0.9**
SANI	**Sanana**	**11.29**	**57**	P	**Pn**	**07 10 07.3**	**+1.3**
	comp=Z,121nm,1.4s						
KMSI	**Cibinong**	**11.56**	**40**	P	**Pn**	**07 10 11.8**	**+2.1**
	comp=Z,14μmcomp=Z,10μmcomp=Z,175nm,0.5s						
SBUM	**Sibu**	**11.58**	**338**	Pn	**Pn**	**07 10 11.1**	**+1.1**
KSM	**Kuching**	**11.59**	**327**		**Pn**	**07 10 11.8**	**+1.7**
BLSI	**Bandar Lampung**	**11.62**	**284**	P	**Pn**	**07 10 11.9**	**+1.4**
	comp=Z,8μmcomp=Z,181nm,0.7s						
NLAI	**Namlea**	**11.66**	**65**	P	**Pn**	**07 10 12.4**	**+1.4**
	comp=Z,7μmcomp=Z,4μmcomp=Z,97nm,1.5s						
PPBI	**Pangkal Pinang**	**12.06**	**300**	P	**Pn**	**07 10 20.2**	**+3.6**
AAI	**Ambon**	**12.47**	**69**	P	**Pn**	**07 10 26.7**	**+4.6**
	comp=Z,6μmcomp=Z,6μmcomp=Z,277nm,1.4s						
LWLI	**Liwa**	**12.85**	**284**	P	**Pn**	**07 10 32.0**	**+4.6**
	comp=Z,7μmcomp=Z,313nm,0.8s						
MDSI	**Maura Dua**	**12.89**	**287**	P	**Pn**	**07 10 31.1**	**+3.3**
	comp=Z,8μmcomp=Z,6μmcomp=Z,159nm,2.2s						
MBWA	**Marble Bar**	**13.08**	**167**	Pn	**Pn**	**07 10 29.7**	**-0.7**
MBWA	**Marble Bar**	**13.08**	**167**	P	**Pn**	**07 10 29.9**	**-0.5**
MBWA	**Marble Bar**	**13.08**	**167**	P	**Pn**	**07 10 30.5**	**0.0**
FITZ	**Fitzroy Crossi**	**13.10**	**139**	Pn	**Pn**	**07 10 30.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.10**	**139**	Pn	**Pn**	**07 10 30.0**	**-0.7**
	comp=Z,6.4nm,0.3s,baz=337,slow=10.0,SNR=47						
FITZ				Sn	**Sn**	**07 12 52.8**	**-4.1**
	comp=Z,8.1nm,0.3s,baz=262,slow=6.8,SNR=3.0						
FITZ				LR	LR	07 15 35.7	
	comp=Z,15μm,20.8s,baz=320,slow=37						
	comp=Z,29nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.10**	**139**	P	**Pn**	**07 10 30.4**	**-0.3**
MSAI	**Masohi**	**13.28**	**69**	P	**Pn**	**07 10 37.9**	**+4.7**
	comp=Z,5μmcomp=Z,240nm,1.1s						
PSA00	**Pilbara Seismi**	**13.51**	**167**	Pn	**Pn**	**07 10 35.6**	**-0.6**
PSA00	**Pilbara Seismi**	**13.51**	**167**		**Pn**	**07 10 35.6**	**-0.6**
PSA00	**Pilbara Seismi**	**13.51**	**167**	P	**Pn**	**07 10 35.0**	**-1.3**
MYLDM	**Lahad Datu**	**13.60**	**8**		**Pn**	**07 10 38.8**	**+1.3**
BNDI	**Bandanaira**	**13.80**	**75**	P	**Pn**	**07 10 44.9**	**+4.6**
KNRA	**Kununurra**	**13.97**	**122**	Pn	**Pn**	**07 10 41.7**	**-0.9**
MNAI	**Manna**	**14.09**	**286**	Pn	**Pn**	**07 10 43.8**	**-0.5**
MNAI	**Manna**	**14.09**	**286**	P	**Pn**	**07 10 48.3**	**+4.0**
MNAI	**Manna**	**14.09**	**286**	P	**Pn**	**07 10 44.7**	**+0.4**
	comp=Z,7μmcomp=Z,8μmcomp=Z,325nm,0.9s						
TNTI	**Ternate**	**14.09**	**50**	P	**P**	**07 10 51.2**	**-1.0**
	comp=Z,5μmcomp=Z,110nm,1.2s						
KKM	**Kota Kinabalu**	**14.32**	**359**		**Pn**	**07 10 48.1**	**+0.6**
GIRL	**Giralia**	**14.37**	**189**		**Pn**	**07 10 47.3**	**-0.8**
GIRL	**Giralia**	**14.37**	**189**	P	**Pn**	**07 10 46.8**	**-1.2**
KSI	**Kapahiang**	**14.65**	**288**	P	**Pn**	**07 10 53.6**	**+1.6**
	comp=Z,10μmcomp=Z,287nm,1.7s						
DRS	**Darwin Rock St**	**14.67**	**107**	P	**Pn**	**07 10 52.2**	**0.0**
SGSI	**Sangihe**	**14.95**	**37**	P	**Pn**	**07 10 57.1**	**+1.1**
MTN	**Manton Dam**	**15.00**	**108**		**Pn**	**07 10 54.8**	**-1.9**
MTN				IAmb	IAmb	07 11 16.3	
	comp=Z,106nm,0.6s						
MTN	**Manton Dam**	**15.00**	**108**	P	**Pn**	**07 10 55.5**	**-1.2**
TPRI	**Tanjung Pinang**	**15.13**	**307**	P	**P**	**07 11 02.9**	**-0.8**
	comp=Z,9μmcomp=Z,100nm,1.2s						
MYKOM	**Kota Tinggi**	**16.20**	**308**		**Pn**	**07 11 13.8**	**+1.5**
KDU	**Kakadu**	**16.23**	**107**	P	**Pn**	**07 11 13.5**	**+0.8**
SWI	**Sorong**	**16.43**	**64**	P	**Pn**	**07 11 18.1**	**+2.7**
	comp=Z,5μmcomp=Z,6μmcomp=Z,320nm,1.9s						
FAKI	**Fak Fak**	**16.52**	**72**		**Pn**	**07 11 16.7**	**+0.2**
FAKI				IAmb	IAmb	07 11 35.5	
	comp=Z,277nm,1.1s						
FAKI	**Fak Fak**	**16.52**	**72**	P	**P**	**07 11 19.7**	**+0.5**
FAKI	**Fak Fak**	**16.52**	**72**	P	**Pn**	**07 11 17.5**	**+1.0**
	comp=Z,8μmcomp=Z,233nm,0.9s						
PPSI	**Pulau Pagai**	**17.38**	**288**	P	**P**	**07 11 29.2**	**+0.5**
	comp=Z,5μmcomp=Z,261nm,1.2s						
KMPI	**Kaimana, Papua**	**17.68**	**76**	P	**Pn**	**07 11 30.4**	**-0.7**
	comp=Z,5μmcomp=Z,365nm,1.1s						
BKNI	**Bangkinang**	**17.71**	**298**	P	**P**	**07 11 33.5**	**+1.1**
BKNI	**Bangkinang**	**17.71**	**298**	P	**P**	**07 11 34.4**	**+2.0**
	comp=Z,10μmcomp=Z,412nm,1.0s						
DAV	**Davao City (W)**	**17.78**	**31**	P	**Pn**	**07 11 32.6**	**+0.3**
	comp=Z,18nm,0.3s,baz=148,slow=2.1,SNR=11						
DAV				LR	LR	07 19 14.6	
	comp=Z,8μm,18.6s,baz=192,slow=40						
	comp=Z,48nm,0.3s						
DAV	**Davao City (W)**	**17.78**	**31**	P	**P**	**07 11 35.5**	**+2.4**
DAV				P	**P**	**07 11 35.5**	**+2.4**
DAV				P	**P**	**07 11 35.5**	**+2.4**
PPI	**Padang Panjang**	**17.91**	**295**	P	**P**	**07 11 37.0**	**+2.4**
	comp=Z,12μmcomp=Z,9μmcomp=Z,502nm,1.5s						
MEEK	**Meekatharra**	**18.28**	**174**	P	**Pn**	**07 11 38.9**	**+0.5**
SISI	**Saibi**	**18.75**	**291**	P	**P**	**07 11 42.9**	**-0.9**
	comp=Z,4μmcomp=Z,150nm,1.0s						
RKPI	**Ransiki, Papua**	**18.82**	**70**	P	**P**	**07 11 44.6**	**0.0**
	comp=Z,4μmcomp=Z,10μmcomp=Z,392nm,1.4s						
MNSI	**Mandailing Nat**	**19.21**	**297**	P	**Pn**	**07 11 53.5**	**+3.7**
	comp=Z,11μmcomp=Z,7μmcomp=Z,205nm,1.2s						
COCO	**West Island**	**19.77**	**257**	P	**P**	**07 11 56.1**	**+1.1**
PBSI	**Pulau Batu**	**20.00**	**293**	P	**Pn**	**07 11 59.8**	**+0.6**
	comp=Z,6μmcomp=Z,5μmcomp=Z,301nm,1.6s						
WRKA	**Warakurna**	**20.01**	**147**	P	**P**	**07 11 58.8**	**+1.2**
MORW	**Morawa**	**20.60**	**181**	P	**P**	**07 12 03.5**	**-0.5**
MORW				IAmb	IAmb	07 12 18.1	
	comp=Z,176nm,1.1s						
MORW	**Morawa**	**20.60**	**181**	P	**P**	**07 12 05.0**	**+1.1**
WB0	**Warramunga Arr**	**20.66**	**125**	P	**P**	**07 12 04.4**	**-0.3**
WRA	**Warramunga Arr**	**20.70**	**126**	P	**P**	**07 12 05.3**	**+0.1**
WRA	**Warramunga Arr**	**20.70**	**126**	P	**P**	**07 12 05.2**	**+0.1**
	comp=Z,66nm,0.5s,baz=301,slow=12,SNR=121						
WRA				S	**S**	**07 15 51.5**	**-5.5**
	comp=Z,3.6nm,0.6s,baz=292,slow=29,SNR=1.5						
WRA				LR	LR	07 21 10.4	
	comp=Z,8μm,18.6s,baz=301,slow=40						
	comp=Z,66nm,0.5s						
WRA	**Warramunga Arr**	**20.70**	**126**	P	**P**	**07 12 05.3**	**+0.1**
WRA				pmax	pmax		
	comp=Z,54nm,1.4s						
WRAB	**Tennant Creek**	**20.71**	**126**	P	**P**	**07 12 05.0**	**-0.2**
WRAB				IAmb	IAmb	07 12 10.6	
	comp=Z,297nm,1.2s						
WRAB	**Tennant Creek**	**20.71**	**126**	*c*P	**P**	**07 12 05.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,91nm,0.8s						
WRAB				MLR	MLR		
	comp=Z,8μm,17.0s						
WB2	**Warramunga Arr**	**20.71**	**126**	P	**P**	**07 12 05.2**	**0.0**
WB2				IAmb	IAmb	07 12 10.5	
	comp=Z,350nm,1.3s						
BAKI	**Biak**	**20.73**	**71**	P	Pn	07 12 09.0	+1.1
	comp=Z,6μmcomp=Z,9μmcomp=Z,468nm,1.5s						
RPSI	**Rantau Prapat**	**20.73**	**301**	P	**P**	**07 12 06.9**	**+1.4**
RPSI				IAMs_20	IAMs_20	07 20 57.8	
	comp=Z,12μm,19.0s						
PSI	**Prapat**	**20.79**	**302**	P	**P**	**07 12 07.2**	**+0.9**
	comp=Z,152nm,1.3s,baz=144,slow=8.6,SNR=75						
PSI				S	**S**	**07 15 59.5**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=196,slow=11,SNR=1.6						
PSI				LR	LR	07 21 08.8	
	comp=Z,12μm,20.2s,baz=134,slow=40						
PSI	**Prapat**	**20.79**	**302**	P	**P**	**07 12 06.9**	**+0.6**
PSI				pmax	pmax		
	comp=Z,977nm,1.5s						

comp=Z,7μm,15.5s
LCRK Leigh Creek 29.88 140 P **P** **07 13 33.7 +1.2**
INKA Innaminka 29.89 133 P **P** **07 13 33.8 +1.1**
PMG Port Moresby 30.25 94 P **P** **07 13 39.0 +3.0**
comp=Z,26nm,0.9s,baz=328,slow=2.9,SNR=2.8
PMG LR LR 07 27 18.4
comp=Z,3μm,19.2s,baz=262,slow=39
BBOO Buckleboo 30.30 146 P **P** **07 13 35.8 -0.4**
BBOO IAmb IAmb 07 13 42.2
comp=Z,119nm,1.1s
BBOO IAMs_20 IAMs_20 07 26 29.4
comp=Z,8μm,18.0s
BBOO Buckleboo 30.30 146 P **P** **07 13 36.9 +0.7**
HKPS Hong Kong Po S 30.55 356 IAMs_20 IAMs_20 07 26 31.0
comp=Z,5μm,20.0s
PBA Port Blair 30.93 310 P P 07 13 37.9 -4.1
GZH Guangzhou 31.42 354 P P 07 13 55.3 +9.2
GZH LR LR
comp=Z,3μm,13.7s
GZH LR LR
comp=Z,3μm,14.9s
GZH LR LR
comp=Z,8μm,18.0s
CM31 Chiang Mai Arr 31.82 327 P **P** **07 13 51.8 +2.1**
CMAR Chiang Mai Arr 31.82 327 P **P** **07 13 51.4 +1.6**
CMAR Chiang Mai Arr 31.82 327 P **P** **07 13 51.8 +2.0**
comp=Z,39nm,0.9s,baz=152,slow=6.8,SNR=125
CMAR LR LR 07 27 55.3
comp=Z,10μm,18.4s,baz=150,slow=39
CMAR Chiang Mai Arr 31.82 327 P **P** **07 13 51.4 +1.6**
QLP Quilpie 31.89 128 P **P** **07 13 52.8 +2.4**
SLVN Son La 32.02 337 P **P** **07 13 52.9 +1.3**
SLVN IAmb IAmb 07 14 01.8
comp=Z,79nm,1.4s
CHTO Chiang Mai 32.11 327 P **P** **07 13 54.3 +2.0**
CHTO IAmb IAmb 07 13 56.3
comp=Z,51nm,0.9s
CHTO IAMs_20 IAMs_20 07 27 53.0
comp=Z,10μm,19.0s
CHTO Chiang Mai 32.11 327 P **P** **07 13 54.3 +2.0**
CHTO pmax pmax
comp=Z,51nm,0.9s
CHTO MLR MLR
comp=Z,10μm,19.0s
SSLB Suanglung 32.25 8 P **P** **07 13 54.3 +0.9**
HTT Hallett 32.38 144 P **P** **07 13 55.9 +1.3**
NACB Ninganchiao 32.72 9 P **P** **07 13 58.3 +0.8**
NACB IAmb IAmb 07 14 06.7
comp=Z,72nm,1.3s
STKA Stephens Creek 33.00 139 P **P** **07 14 00.4 +0.4**
STKA Stephens Creek 33.00 139 P **P** **07 14 00.4 +0.4**
comp=Z,24nm,0.5s,baz=309,slow=9.7,SNR=48
STKA S **S** **07 19 18.3 -0.7**
comp=Z,7.0nm,0.8s,baz=33,slow=19,SNR=1.7
STKA LR LR 07 28 13.2
comp=Z,8μm,19.1s,baz=308,slow=38
comp=Z,24nm,0.5s
STKA Stephens Creek 33.00 139 P **P** **07 14 01.1 +1.1**
STKA Stephens Creek 33.00 139*d* iP **P** **07 14 00.7 +0.7**
QZH Quanzhou 33.17 3 P **P** **07 14 00.9 -0.5**
QZH S **S** **07 19 17.9 -3.7**
QZH pmax pmax
comp=Z,920nm,10.0s
QZH LR LR
comp=Z,3μm,17.2s
QZH LR LR
comp=Z,1μm,15.5s
QZH LR LR
comp=Z,4μm,16.1s
YHNB Yeheng 33.17 8 P **P** **07 14 03.2 +1.6**
YHNB IAmb IAmb 07 14 09.4
comp=Z,59nm,0.9s
CMSA Cobar Meteorol 35.59 134 P **P** **07 14 23.7 +1.2**
KMI Kunming 35.91 338 ⇓P **P** **07 14 28.9 +3.4**
KMI pP sP 07 14 35.3 +7.0
KMI PP **PP** **07 15 55.0 +7.9**
KMI pmax pmax
comp=Z,90nm,1.5s
KMI pmax pmax
comp=Z,2μm,5.1s
KMI LR LR
comp=Z,2μm,14.3s
KMI LR LR
comp=Z,5μm,14.1s
KMI LR LR
comp=Z,5μm,15.5s
GYA Guiyang 35.93 345 P **P** **07 14 29.6 +4.1**
GYA pP sP 07 14 37.3 +8.9
GYA S **S** **07 20 07.9 +3.4**
GYA sS sS 07 20 18.8 +12
GYA pmax pmax
comp=Z,59nm,0.9s
GYA LR LR
comp=Z,4μm,19.7s
GYA LR LR
comp=Z,4μm,15.7s
GYA LR LR
comp=Z,6μm,19.2s
ARPS Mount Arapiles 36.43 145 P **P** **07 14 31.1 +1.5**
CNSH ChangSha 36.50 355 P **P** **07 14 32.5 +2.3**
CNSH S **S** **07 20 17.4 +4.4**
CNSH pmax pmax
comp=Z,20nm,0.8s
CNSH LR LR
comp=Z,2μm,20.3s
CNSH LR LR
comp=Z,3μm,15.0s
CNSH LR LR
comp=Z,2μm,18.0s
JOW Kunigami 36.79 18 LR LR 07 31 02.3
comp=Z,2μm,20.4s,baz=188,slow=39
EIDS Eidsvold 36.95 121 IAMs_20 IAMs_20 07 31 13.1
comp=Z,4μm,18.0s
PZH PanZhiHua 37.53 338 P **P** **07 14 41.6 +2.4**
PZH PP **PnPn** **07 16 14.8 +9.2**
PZH S **S** **07 20 31.4 +2.4**
PZH pmax pmax
comp=Z,70nm,1.3s
PZH pmax pmax
comp=Z,1μm,6.3s
PZH LR LR
comp=Z,3μm,18.8s
PZH LR LR
comp=Z,5μm,17.5s
PZH LR LR
comp=Z,4μm,18.6s
TNCH TengChong 37.56 333 P **P** **07 14 42.8 +3.3**
TNCH pP sP 07 14 49.0 +6.6
TNCH S **S** **07 20 30.4 +0.8**
TNCH pmax pmax
comp=Z,160nm,1.1s
TNCH pmax pmax
comp=Z,1μm,4.5s
TNCH LR LR
comp=Z,6μm,13.2s
TNCH LR LR
comp=Z,3μm,13.1s
TNCH LR LR
comp=Z,11μm,14.1s
WHN Wuhan 38.75 357 ⇓P **P** **07 14 51.0 +1.8**
WHN PP **PnPn** **07 16 25.3 +5.2**
WHN S **S** **07 20 50.5 +3.5**
WHN pmax pmax
comp=Z,86nm,0.8s
WHN pmax pmax
comp=Z,2μm,4.7s
WHN LR LR
comp=Z,12μm,14.4s
WHN LR LR
comp=Z,6μm,13.1s
WHN LR LR
comp=Z,16μm,15.3s
PALK Pallekele 38.97 292 P **P** **07 14 50.4 -1.0**
PALK Pallekele 38.97 292 IAMs_20 IAMs_20 07 32 20.9
comp=Z,4μm,18.0s
PALK Pallekele 38.97 292 LR LR 07 32 05.0
comp=Z,3μm,18.1s,baz=117,slow=38
PALK Pallekele 38.97 292 P **P** **07 14 51.3 -0.2**
PALK P **P** **07 14 51.3 -0.2**
PALK Pallekele 38.97 292*d* iP **P** **07 14 50.2 -1.3**
PALK pmax pmax
comp=Z,42nm,1.5s
PALK MLR MLR
comp=Z,4μm,18.0s
ENH Enshi 39.01 350 IAMs_20 IAMs_20 07 32 57.3
comp=Z,4μm,18.0s

TOO Toolangi 39.12 142 IAMs_20 IAMs_20 07 31 32.1
comp=Z,3μm,19.0s
ARMA Armidale 39.43 129 IAMs_20 IAMs_20 07 32 31.9
comp=Z,7μm,19.0s
ARMA Armidale 39.43 129 P **P** **07 14 58.3 +3.1**
SSE Sheshan 39.49 6 P **P** **07 14 57.4 +2.0**
SSE PP **PnPn** **07 16 29.8 +0.8**
SSE S **S** **07 20 58.3 +0.2**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,540nm,4.8s
SSE LR LR
comp=Z,440nm,16.3s
CAN Canberra 40.00 137 P **P** **07 15 00.0 +0.2**
CAN IAmb IAmb 07 15 07.2
comp=Z,107nm,1.5s
CAN Canberra 40.00 137 P **P** **07 15 01.7 +1.9**
CAN Canberra 40.00 137 P **P** **07 15 00.0 +0.2**
CAN pmax pmax
comp=Z,107nm,1.5s
CNB Canberra Magne 40.24 137 P **P** **07 15 03.4 +1.6**
NJ2 Nanjing 40.25 3 ⇑P **P** **07 15 04.4 +2.7**
NJ2 pP **sP** **07 15 10.3 +5.7**
NJ2 PP **PnPn** **07 16 42.6 +4.6**
NJ2 S **S** **07 21 10.4 +0.8**
NJ2 pmax pmax
comp=Z,51nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,4.4s
NJ2 LR LR
comp=Z,3μm,17.6s
NJ2 LR LR
comp=Z,830nm,17.1s
NJ2 LR LR
comp=Z,3μm,14.7s
MGCD Mangrove Creek 40.36 133 P **P** **07 15 04.3 +1.6**
CD2 Chengdu 40.94 343 P **P** **07 15 09.0 +1.5**
CD2 pP sP 07 15 16.0 +5.6
CD2 S **S** **07 21 21.1 +1.1**
CD2 sS sS 07 21 30.3 +7.6
CD2 pmax pmax
comp=Z,260nm,0.8s
CD2 pmax pmax
comp=Z,1μm,5.8s
CD2 LR LR
comp=Z,5μm,15.7s
CD2 LR LR
comp=Z,7μm,15.9s
SHL Shillong 41.40 325 P **P** **07 15 12.3 +0.7**
SHL IAmb IAmb 07 15 14.6
comp=Z,114nm,0.9s
SHL IAMs_20 IAMs_20 07 32 53.4
comp=Z,3μm,21.0s
SHL Shillong 41.40 325 P **P** **07 15 11.4 -0.3**
SHL Shillong 41.40 325 P **P** **07 15 12.3 +0.7**
SHL pmax pmax
comp=Z,114nm,0.9s
SHL MLR MLR
comp=Z,3μm,21.0s
TATA Tatamba Isabel 42.77 93 P **P** **07 15 24.8 +2.0**
XAN Xi'an 42.79 351 ⇑P **P** **07 15 23.9 +1.3**
XAN pP sP 07 15 29.8 +4.3
XAN S **S** **07 21 42.3 -5.0**
XAN pmax pmax
comp=Z,85nm,1.1s
XAN pmax pmax
comp=Z,2μm,7.6s
XAN LR LR
comp=Z,12μm,15.8s
XAN LR LR
comp=Z,3μm,17.2s
XAN LR LR
comp=Z,17μm,15.8s
LYN LuoYang 42.86 355 ⇓P **P** **07 15 24.6 +1.5**
LYN sP sP 07 15 39.0 +13
LYN PP **PP** **07 17 08.5 +5.8**
LYN S **S** **07 21 49.8 +1.6**
LYN SS **SS** **07 24 58.4 -1.2**
LYN pmax pmax
comp=Z,70nm,0.9s
LYN pmax pmax
comp=Z,2μm,8.8s
LYN LR LR
comp=Z,5μm,19.6s
LYN LR LR
comp=Z,2μm,17.2s
LYN LR LR
comp=Z,6μm,17.2s
HNR Honiara 42.86 95 P **P** **07 15 23.9 +0.4**
HNR Honiara 42.86 95 P **P** **07 15 23.6 0.0**
comp=Z,115nm,0.7s,baz=200,slow=5.8,SNR=4.2
comp=Z,115nm,0.7s
HNR Honiara 42.86 95 P **P** **07 15 23.9 +0.4**
HNR pmax pmax
comp=Z,232nm,1.1s
HNR MLR MLR
comp=Z,2μm,21.0s
NGOA Tingoa Renbel 42.94 98 P **P** **07 15 26.3 +2.2**
DGAR Diego Garcia 43.68 268 P **P** **07 15 29.8 -0.4**
DGAR Diego Garcia 43.68 268⇓*e*P **P** **07 15 27.3 -2.8**
DGAR pmax pmax
comp=Z,55nm,0.8s
DGAR MLR MLR
comp=Z,1μm,17.0s
TAU Tasmania Unive 43.72 147 IAMs_20 IAMs_20 07 32 30.6
comp=Z,7μm,21.0s
KAAM Kaadhehdhoo 44.29 279 P **P** **07 15 34.5 -0.6**
KAAM IAMs_20 IAMs_20 07 32 23.6
comp=Z,3μm,20.0s
KAAM Kaadhehdhoo 44.29 279 P P 07 15 30.0 -5.1
TIA Tai'an 44.34 1 P **P** **07 15 35.3 +0.2**
TIA PP **PP** **07 17 19.8 +1.2**
TIA S **S** **07 22 03.0 -6.9**
TIA pmax pmax
comp=Z,63nm,0.8s
TIA pmax pmax
comp=Z,1μm,4.5s
TIA LR LR
comp=Z,2μm,18.8s
TIA LR LR
comp=Z,3μm,14.9s
TIA LR LR
comp=Z,4μm,14.9s
JTU Tsushima 44.36 15 P **P** **07 15 38.9 +3.7**
LSA Lhasa 45.06 328 IAMs_20 IAMs_20 07 37 11.3
comp=Z,3μm,20.0s
LSA Lhasa 45.06 328 P **P** **07 15 43.8 +2.3**
LSA S **S** **07 22 17.1 -4.3**
LSA pmax pmax
comp=Z,97nm,1.1s
LSA LR LR
comp=Z,3μm,22.3s
LSA LR LR
comp=Z,2μm,22.3s
LSA Lhasa 45.06 328 P **P** **07 15 42.6 +1.1**
LSA P **P** **07 15 42.6 +1.1**
HYB Hyderabad 45.46 304 *e*P **P** **07 15 43.6 -0.7**
HYB IVmB_BB 07 16 34.4
comp=Z,510nm,2.9s
HYB *e*PP **PP** **07 17 31.3 +0.6**
HYB *e*S **S** **07 22 26.9 +0.1**
HYB IVMs_BB IVMs_BB 07 34 54.5
comp=Z,923nm,17.0s
HNS HongShan 45.56 358 ⇓P **P** **07 15 45.0 +0.3**
HNS pP **sP** **07 15 55.3 +7.7**
HNS sP pP 07 16 00.1 +13
HNS PcP **PcP** **07 17 27.8 +4.5**
HNS PP **PP** **07 17 38.0 +6.6**
HNS S **S** **07 22 26.9 -0.5**
HNS pmax pmax
comp=Z,39nm,1.4s
HNS pmax pmax
comp=Z,1μm,7.0s
HNS LR LR
comp=Z,480nm,19.0s
HNS LR LR
comp=Z,6μm,16.1s
TJN Taejon 45.65 12⇑*e*P **P** **07 15 44.8 -0.7**
LHI Lord Howe Isla 45.72 126 IAMs_20 IAMs_20 07 36 38.5
comp=Z,3μm,18.0s
HMDM Hanimaadhoo 45.78 288 P P 07 15 42.8 -4.1
LZH Lanzhou 45.81 346 *e*P **P** **07 15 48.9 +2.0**
LZH pP sP 07 15 55.3 +5.5
LZH S **S** **07 22 34.0 +2.5**

LZH pmax pmax
comp=Z,130nm,1.2s
LZH pmax pmax
comp=Z,1μm,4.8s
LZH LR LR
comp=Z,4μm,15.5s
LZH LR LR
comp=Z,5μm,15.1s
LZH LR LR
comp=Z,5μm,14.4s
TIY Taiyuan 46.00 355 P **P** **07 15 49.3 +1.0**
TIY S **S** **07 22 34.9 +0.9**
TIY pmax pmax
comp=Z,51nm,0.9s
TIY pmax pmax
comp=Z,900nm,12.0s
TIY LR LR
comp=Z,3μm,17.2s
TIY LR LR
comp=Z,1μm,19.2s
TIY LR LR
comp=Z,3μm,17.9s
INCN Inchon 46.58 11 P **P** **07 15 52.7 -0.1**
KSAR Wonju Array Be 46.79 12 P **P** **07 15 55.4 +1.0**
KSAR Wonju Array Be 46.79 12 P **P** **07 15 55.4 +1.0**
KSRS Korea Array 46.81 12 P **P** **07 15 55.1 +0.6**
comp=Z,11nm,0.9s,baz=192,slow=8.4,SNR=38
KSRS S **S** **07 22 40.3 -5.1**
comp=Z,0.2nm,0.3s,baz=213,slow=15,SNR=1.5
comp=Z,11nm,0.9s
KS19 Wonju Array Si 46.84 12 P **P** **07 15 55.9 +1.1**
KS19 IAmb IAmb 07 16 04.0
comp=Z,36nm,1.1s
DL2 Dalian 47.27 5 P **P** **07 15 58.4 +0.3**
DL2 S **S** **07 22 48.6 -3.3**
DL2 pmax pmax
comp=Z,64nm,1.0s
DL2 pmax pmax
comp=Z,750nm,5.5s
DL2 LR LR
comp=Z,3μm,17.0s
DL2 LR LR
comp=Z,1μm,12.8s
DL2 LR LR
comp=Z,3μm,16.7s
INU Inuyama 47.58 23 IAmb IAmb 07 16 02.1
comp=Z,68nm,1.1s
KOUNC Koumac, New Ca 47.61 110 P **P** **07 16 03.3 +2.1**
JGF Kuroka 47.93 23 P **P** **07 16 04.6 +1.2**
BJI Beijing 48.16 360 P **P** **07 16 05.3 +0.2**
BJI PP **PP** **07 17 57.8 +0.3**
BJI S **S** **07 23 03.3 -1.3**
BJI pmax pmax
comp=Z,24nm,1.1s
BJI pmax pmax
comp=Z,520nm,8.7s
BJI LR LR
comp=Z,1μm,15.6s
BJI LR LR
comp=Z,1μm,14.4s
BJI LR LR
comp=Z,2μm,19.9s
GOMU GeErMu 48.82 337 P **P** **07 16 12.3 +1.6**
GOMU sP sP 07 16 23.6 +10
GOMU PcP **PcP** **07 17 36.4 +0.9**
GOMU PP **PP** **07 18 07.6 +3.6**
GOMU S **S** **07 23 18.0 +3.2**
GOMU pmax pmax
comp=Z,63nm,1.2s
GOMU pmax pmax
comp=Z,2μm,10.5s
GOMU LR LR
comp=Z,4μm,15.6s
GOMU LR LR
comp=Z,11μm,18.3s
MAJO Matsushiro 49.09 23 P **P** **07 16 12.5 +0.2**
MAJO Matsushiro 49.09 23*d* iP **P** **07 16 12.2 -0.1**
MAJO pmax pmax
comp=Z,70nm,1.3s
MAJO MLR MLR
comp=Z,1μm,18.0s
MJAR Matsushiro Arr 49.09 23 P **P** **07 16 12.0 -0.3**
comp=Z,42nm,0.9s,baz=195,slow=7.2,SNR=73
MJAR S **S** **07 23 12.0 -5.8**
comp=Z,0.4nm,0.4s,baz=304,slow=12,SNR=1.1
comp=Z,42nm,0.9s
BTO Baotou 49.10 353 *e*P **P** **07 16 14.5 +2.1**
BTO pP **sP** **07 16 20.0 +4.7**
BTO sP pP 07 16 23.8 +9.3
BTO PP **PP** **07 18 03.6 -2.6**
BTO S **S** **07 23 19.9 +1.8**
BTO SS **SS** **07 26 42.9 -6.6**
BTO pmax pmax
comp=Z,130nm,0.9s
BTO pmax pmax
comp=Z,780nm,4.9s
BTO LR LR
comp=Z,3μm,15.6s
BTO LR LR
comp=Z,3μm,19.4s
BTO LR LR
comp=Z,5μm,18.6s
HHC Hu-ho-hao-te 49.19 355 *e*P **P** **07 16 14.1 +1.0**
HHC sP sP 07 16 24.6 +8.6
HHC PP **PP** **07 18 06.6 -0.4**
HHC S **S** **07 23 17.5 -1.8**
HHC sS sS 07 23 29.9 +7.9
HHC SS **SS** **07 26 44.5 -6.4**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,930nm,5.6s
HHC LR LR
comp=Z,3μm,16.0s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,4μm,16.1s
DZM Mont Dzumac 49.81 112 P **P** **07 16 18.0 -0.2**
DZM IAmb IAmb 07 16 29.0
comp=Z,62nm,1.2s
DZM Mont Dzumac 49.81 112 *e*P **P** **07 16 20.2 +2.0**
comp=Z,138nm,1.4s
DZM Mont Dzumac 49.81 112 *e*S **S** **07 23 22.4 -6.3**
comp=Z,814nm,36.7s
DZM *e*SS **SS** **07 26 59.5 -1.9**
comp=Z,1μm,26.1s
DZM *e*LR LR 07 30 34.2
comp=Z,2μm,23.5s
DZM Mont Dzumac 49.81 112 P **P** **07 16 21.4 +3.2**
ONTNC Ouen Toro 49.85 112 P **P** **07 16 17.9 -0.5**
ONTNC IAMs_20 IAMs_20 07 38 59.5
comp=Z,3μm,20.0s
GTA Gaotai 50.01 343 *e*P **P** **07 16 21.6 +2.2**
GTA pP sP 07 16 27.8 +5.5
GTA PP **PP** **07 18 14.9 +0.3**
GTA S **S** **07 23 34.4 +3.5**
GTA pmax pmax
comp=Z,73nm,1.6s
GTA pmax pmax
comp=Z,1μm,7.6s
GTA LR LR
comp=Z,3μm,17.5s
GTA LR LR
comp=Z,2μm,18.3s
GTA LR LR
comp=Z,4μm,17.5s
YATNC Mamie plateau, 50.22 112 P **P** **07 16 23.9 +2.7**
SNY Shenyang 50.36 7 ⇓P **P** **07 16 22.0 +0.2**
SNY S **S** **07 23 32.6 -2.8**
SNY pmax pmax
comp=Z,39nm,0.9s
SNY pmax pmax
comp=Z,830nm,3.5s
SNY LR LR
comp=Z,1μm,16.7s
SNY LR LR
comp=Z,930nm,16.7s
SNY LR LR
comp=Z,2μm,15.5s
JSD Sado 50.41 22 P **P** **07 16 26.3 +4.0**
PINNC Pines Island, 50.80 112 IAMs_20 IAMs_20 07 39 38.7
comp=Z,4μm,20.0s
JMM Marumori 51.26 25 P **P** **07 16 29.7 +1.0**
XLT XiLinHaoTe 52.02 360⇓*i*P **P** **07 16 34.6 +0.2**
XLT sP sP 07 16 49.0 +12

XLT				PP	**PP**	**07 18 30.5**	**-2.2**
XLT				S	**S**	**07 23 55.0**	**-3.6**
XLT				pmax	pmax		
	comp=Z,73nm,1.1s						
XLT				pmax	pmax		
	comp=Z,500nm,3.8s						
XLT				LR	LR		
	comp=Z,210nm,20.8s						
XLT				LR	LR		
	comp=Z,2μm,18.7s						
XLT				LR	LR		
	comp=Z,5μm,16.2s						
PSTR	**Posyet**	**52.41**	**13**⇑	*e*P	**P**	**07 16 36.2**	**-1.0**
MSHR	**Mys Shultsa**	**52.43**	**14**	*de*P	**P**	**07 16 38.4**	**+1.1**
MSHR				pmax	pmax		
	comp=Z,58nm,1.1s						
CN2	**Changchun**	**52.55**	**8**	P	**P**	**07 16 38.5**	**+0.3**
CN2				pP	sP	07 16 46.3	+5.2
CN2				PP	**PP**	**07 18 40.3**	**+3.0**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,800nm,5.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,15.0s						
VLA	**Vladivostok**	**53.11**	**14**	*ce*P	**P**	**07 16 43.3**	**+0.9**
VLA				pmax	pmax		
	comp=Z,24nm,1.0s						
JTM	**Tenmabayashi**	**53.88**	**23**	P	**P**	**07 16 49.6**	**+1.6**
MDJ	**Mudanjiang**	**54.04**	**11**	P	**P**	**07 16 49.3**	**+0.1**
MDJ				S	**S**	**07 24 26.6**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,52nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,1μm,5.2s						
MDJ				LR	LR		
	comp=Z,780nm,15.1s						
MDJ				LR	LR		
	comp=Z,2μm,16.5s						
USA0B	**Ussuriysk Arra**	**54.16**	**14**	P	**P**	**07 16 50.4**	**+0.4**
USA0B	**Ussuriysk Arra**	**54.16**	**14**	*d i*P	**P**	**07 16 50.0**	**0.0**
USRK	**Ussuriysk Ar.**	**54.16**	**14**	P	**P**	**07 16 50.5**	**+0.5**
	comp=Z,84nm,1.0s,baz=191,slow=6.6,SNR=80						
USRK				S	**S**	**07 24 25.2**	**-2.2**
	comp=Z,1.1nm,0.8s,baz=115,slow=4.4,SNR=1.0						
	comp=Z,84nm,1.0s						
BNX	**BinXian**	**54.73**	**9**	⇓P	**P**	**07 16 53.8**	**-0.4**
BNX				pP	**sP**	**07 17 02.3**	**+5.2**
BNX				PP	**PP**	**07 18 55.8**	**-1.2**
BNX				S	**S**	**07 24 35.3**	**+0.1**
BNX				sS	sS	07 24 51.5	+14
BNX				pmax	pmax		
	comp=Z,50nm,1.5s						
BNX				pmax	pmax		
	comp=Z,1μm,5.1s						
BNX				LR	LR		
	comp=Z,900nm,14.6s						
BNX				LR	LR		
	comp=Z,670nm,14.6s						
BNX				LR	LR		
	comp=Z,1μm,16.3s						
ERM	**Erimo**	**55.74**	**24**	*de*P	**P**	**07 17 02.3**	**+0.8**
ERM				pmax	pmax		
	comp=Z,40nm,1.1s						
TEY	**Ternei**	**56.14**	**17**⇓	*e*P	**P**	**07 17 04.7**	**+0.3**
TEY				*e*		07 24 52.4	
TEY				pmax	pmax		
	comp=N,20nm,0.5s						
TEY				pmax	pmax		
	comp=Z,60nm,0.6s						
ULN	**Ulaanbaatar**	**56.62**	**352**	P	**P**	**07 17 08.2**	**+0.3**
ULN				IAmb	IAmb	07 17 10.4	
	comp=Z,59nm,1.1s						
ULN	**Ulaanbaatar**	**56.62**	**352**	IAMs_20	IAMs_20	07 46 10.2	
	comp=Z,3μm,19.0s						
ULN	**Ulaanbaatar**	**56.62**	**352**	P	**P**	**07 17 08.6**	**+0.7**
ULN				P	**P**	**07 17 08.6**	**+0.7**
ULN				P	**P**	**07 17 08.6**	**+0.7**
ULN	**Ulaanbaatar**	**56.62**	**352**	*d i*P	**P**	**07 17 08.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,42nm,1.0s						
ULN				MLR	MLR		
	comp=Z,2μm,18.0s						
SONM	**Songino Array**	**56.67**	**352**	P	**P**	**07 17 08.8**	**+0.5**
SONM	**Songino Array**	**56.67**	**352**	P	**P**	**07 17 08.6**	**+0.3**
	comp=Z,41nm,0.9s,baz=171,slow=6.8,SNR=163						
SONM				S	**S**	**07 25 04.3**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=221,slow=5.7,SNR=1.4						
SONM				LR	LR	07 45 10.2	
	comp=Z,4μm,18.3s,baz=190,slow=40						
	comp=Z,41nm,0.9s						
SONM	**Songino Array**	**56.67**	**352**	P	**P**	**07 17 08.8**	**+0.5**
SONM				pmax	pmax		
	comp=Z,84nm,1.1s						
DCZ	**Deep Cove**	**56.99**	**140**	P	**P**	**07 17 11.4**	**+0.9**
DCZ				IAmb	IAmb	07 17 16.6	
	comp=Z,99nm,1.5s						
MSZ	**Milford Sound**	**57.18**	**138**	P	**P**	**07 17 14.1**	**+2.3**
ASAJ	**Asahikawa**	**57.31**	**22**	P	**P**	**07 17 13.7**	**+1.0**
JCZ	**Jackson Bay**	**57.52**	**138**	P	**P**	**07 17 16.0**	**+1.6**
JCZ	**Jackson Bay**	**57.52**	**138**	P	**P**	**07 17 16.3**	**+1.9**
MLZ	**Mavora Lakes**	**57.58**	**139**	IAmb	IAmb	07 17 18.1	
	comp=Z,25nm,0.8s						
MLZ	**Mavora Lakes**	**57.58**	**139**	P	**P**	**07 17 16.5**	**+1.8**
WHZ	**Wether Hill Ro**	**57.68**	**140**	IAmb	IAmb	07 17 30.5	
	comp=Z,47nm,1.2s						
WKZ	**Wanaka**	**57.95**	**138**	P	**P**	**07 17 19.6**	**+2.2**
FOZ	**Fox Glacier**	**58.01**	**137**	IAMs_20	IAMs_20	07 43 58.5	
	comp=Z,4μm,20.0s						
APZ	**The Paps**	**58.09**	**141**	P	**P**	**07 17 19.6**	**+1.3**
WMQ	**Urumqi**	**58.16**	**336**	*e*P	**P**	**07 17 19.9**	**+1.1**
WMQ				S	**S**	**07 25 20.1**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,81nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,770nm,5.5s						
WMQ				LR	LR		
	comp=Z,3μm,15.3s						
WMQ				LR	LR		
	comp=Z,2μm,15.5s						
WMQ				LR	LR		
	comp=Z,2μm,16.7s						
WVZ	**Waitaha Valley**	**58.49**	**136**	P	**P**	**07 17 22.2**	**+1.1**
LBZ	**Lake Benmore**	**58.57**	**137**	P	**P**	**07 17 23.0**	**+1.3**
LBZ				IAmb	IAmb	07 17 28.2	
	comp=Z,54nm,1.3s						
LBZ	**Lake Benmore**	**58.57**	**137**	P	**P**	**07 17 22.2**	**+0.5**
NIL	**Nilore**	**58.61**	**318**	IAMs_20	IAMs_20	07 47 03.2	
	comp=Z,4μm,18.0s						
NIL	**Nilore**	**58.61**	**318**	P	**P**	**07 17 20.8**	**-1.3**
NIL				P	**P**	**07 17 20.8**	**-1.3**
DSZ	**Denniston Nort**	**58.80**	**134**	P	**P**	**07 17 25.2**	**+1.8**
INZ	**Inchbonnie**	**58.86**	**135**	P	**P**	**07 17 24.9**	**+1.2**
INZ				IAmb	IAmb	07 17 34.1	
	comp=Z,52nm,1.1s						
INZ	**Inchbonnie**	**58.86**	**135**	P	**P**	**07 17 25.3**	**+1.6**
KLR	**Kul'dur**	**58.88**	**12**	*d i*P	**P**	**07 17 23.4**	**-0.2**
KLR				pmax	pmax		
	comp=Z,122nm,2.5s						
RPZ	**Rata Peaks**	**58.92**	**136**	P	**P**	**07 17 25.4**	**+1.2**
RPZ	**Rata Peaks**	**58.92**	**136**	P	**P**	**07 17 26.3**	**+2.1**
QRZ	**Quartz Range**	**59.05**	**133**	P	**P**	**07 17 27.1**	**+2.0**
QRZ	**Quartz Range**	**59.05**	**133**	P	**P**	**07 17 27.6**	**+2.5**
HEH	**HeiHe**	**59.14**	**8**	*e*P	**P**	**07 17 25.8**	**+0.4**
HEH				S	**S**	**07 25 27.8**	**-5.4**
HEH				SS	**SS**	**07 29 24.3**	**-3.4**
HEH				pmax	pmax		
	comp=Z,200nm,1.3s						
HEH				pmax	pmax		
	comp=Z,2μm,4.9s						
HEH				LR	LR		
	comp=Z,2μm,17.8s						
HEH				LR	LR		
	comp=Z,1μm,16.5s						
HEH				LR	LR		
	comp=Z,2μm,17.7s						
LTZ	**Lake Taylor**	**59.46**	**135**	P	**P**	**07 17 27.6**	**-0.3**
OXZ	**Oxford**	**59.47**	**136**	IAmb	IAmb	07 17 47.5	
	comp=Z,58nm,1.2s						
OXZ	**Oxford**	**59.47**	**136**	P	**P**	**07 17 29.4**	**+1.5**
THZ	**Tophouse**	**59.59**	**134**	P	**P**	**07 17 30.3**	**+1.4**
THZ				IAmb	IAmb	07 17 39.8	
	comp=Z,53nm,1.0s						
THZ	**Tophouse**	**59.59**	**134**	P	**P**	**07 17 30.3**	**+1.4**
ZAK	**Zakamensk**	**59.64**	**350**	*e*P	**P**	**07 17 29.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,44nm,1.5s						
NNZ	**Nelson**	**59.78**	**133**	P	**P**	**07 17 32.6**	**+2.5**
YSS	**Yuzhno-Sakhali**	**59.81**	**20**	P	**P**	**07 17 30.4**	**+0.4**
YSS	**Yuzhno-Sakhali**	**59.81**	**20**	*ke*P	**P**	**07 17 30.3**	**+0.2**
YSS				*e*		07 18 19.3	
YSS				*e*		07 19 47.2	
YSS				*e*S	**S**	**07 25 37.9**	**-4.1**
YSS				*e*PS	**PnS**	**07 25 46.9**	**-6.9**
YSS				*e*PPS	PPS	07 26 02.0	
YSS				*e*SS	**SS**	**07 29 40.6**	**+2.3**
YSS				pmax	pmax		
	comp=Z,1μm,3.5s						
YSS				pmax	pmax		
	comp=Z,110nm,1.2s						
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS				MLR	MLR		
	comp=E,700nm,14.0s						
WUS	**Wushi**	**60.08**	**328**	IAMs_20	IAMs_20	07 47 56.6	
	comp=Z,2μm,18.0s						
HIZ	**Hauiti**	**60.16**	**130**	P	**P**	**07 17 36.1**	**+3.4**
HIZ				IAmb	IAmb	07 17 56.4	
	comp=Z,59nm,1.2s						
CIT	**Chita**	**60.20**	**358**	*e*P	**P**	**07 17 33.7**	**+0.9**
CIT				*e*		07 18 14.6	
CIT				*e*		07 19 42.2	
CIT				*e*		07 21 18.9	
CIT				pmax	pmax		
	comp=Z,289nm,2.8s						
KHZ	**Kahutara**	**60.24**	**134**	P	**P**	**07 17 35.2**	**+2.0**
TUWZ	**Tuamarina**	**60.24**	**133**	P	**P**	**07 17 34.5**	**+1.2**
KUR	**Kuril'sk**	**60.33**	**25**	*de*P	**P**	**07 17 33.8**	**+0.2**
KUR				pmax	pmax		
	comp=Z,167nm,1.1s						
MSVF	**Nonsavu**	**60.41**	**106**	P	**P**	**07 17 36.9**	**+2.0**
MSVF				IAmb	IAmb	07 17 60.0	
	comp=Z,56nm,1.1s						
MSVF	**Nonsavu**	**60.41**	**106**	P	**P**	**07 17 36.9**	**+2.0**
MSVF	**Nonsavu**	**60.41**	**106**	⇓*e*P	**P**	**07 17 37.0**	**+2.1**
MSVF				pmax	pmax		
	comp=Z,22nm,1.0s						
MSVF				MLR	MLR		
	comp=Z,2μm,18.0s						
TOZ	**Tahuroa Road**	**60.48**	**129**	IAMs_20	IAMs_20	07 44 42.1	
	comp=Z,4μm,19.0s						
KSH	**Kashi**	**60.68**	**325**	P	**P**	**07 17 35.5**	**-0.9**
KSH				pmax	pmax		
	comp=Z,12nm,1.4s						
KSH				pmax	pmax		
	comp=Z,380nm,5.2s						
KSH				LR	LR		
	comp=Z,1μm,21.3s						
KSH				LR	LR		
	comp=Z,1μm,18.6s						
KSH				LR	LR		
	comp=Z,2μm,18.9s						
SNZO	**South Karori**	**60.76**	**133**	P	**P**	**07 17 38.7**	**+1.9**
BHW	**Baring Head**	**60.91**	**133**	IAMs_20	IAMs_20	07 44 29.3	
	comp=Z,3μm,19.0s						
TARG	**Taragay, Kyrgy**	**61.20**	**328**	IAMs_20	IAMs_20	07 48 43.2	
	comp=Z,2μm,21.0s						
MRZ	**Mangatainoka R**	**61.23**	**132**	P	**P**	**07 17 39.8**	**-0.2**
MRZ				IAmb	IAmb	07 17 50.3	
	comp=Z,38nm,1.1s						
MRZ	**Mangatainoka R**	**61.23**	**132**	P	**P**	**07 17 40.6**	**+0.5**
MOY	**Mondy**	**61.28**	**349**	*e*P	**P**	**07 17 40.7**	**+0.5**
MOY				pmax	pmax		
	comp=Z,178nm,2.5s						
IRK	**Irkutsk**	**61.28**	**351**	*e*P	**P**	**07 17 39.2**	**-0.9**
IRK				pmax	pmax		
	comp=Z,185nm,2.3s						
GRNR	**Gornyy**	**61.36**	**14**	⇓*i*P	**P**	**07 17 42.1**	**+1.5**
GRNR				pmax	pmax		
	comp=N,10.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
SHLS	**Shalkode**	**61.38**	**330**	*e*P	**P**	**07 17 38.8**	**-2.3**
SHLS				pmax	pmax		
	comp=Z,23nm,1.3s						
SHLS	**Shalkode**	**61.38**	**330**	*e*P	**P**	**07 17 38.8**	**-2.3**
	comp=Z,23nm,1.3s						
UGL	**Uglegorsk**	**61.43**	**19**	⇓*i*P	**P**	**07 17 42.1**	**+1.1**
UGL				*e*		07 17 47.3	
UGL				*e*S	S	07 25 54.2	-8.4
UGL				pmax	pmax		
	comp=Z,200nm,1.0s						
UGL				smax	smax		
	comp=E,2μm,16.0s						
BKZ	**Black Stump Fm**	**61.56**	**130**	P	**P**	**07 17 43.3**	**+0.9**
BKZ				IAmb	IAmb	07 17 55.2	
	comp=Z,45nm,0.9s						
BKZ	**Black Stump Fm**	**61.56**	**130**	P	**P**	**07 17 43.7**	**+1.4**
BKZ	**Black Stump Fm**	**61.56**	**130**	P	**P**	**07 17 43.7**	**+1.4**
UZB	**Uzynbulak**	**61.59**	**330**	*e*P	**P**	**07 17 41.6**	**-0.9**
UZB				pmax	pmax		
	comp=Z,34nm,1.6s						
UZB	**Uzynbulak**	**61.59**	**330**	*e*P	**P**	**07 17 41.7**	**-0.9**
	comp=Z,34nm,1.6s						
BFZ	**Birch Farm**	**61.73**	**132**	P	**P**	**07 17 44.6**	**+1.2**
BFZ	**Birch Farm**	**61.73**	**132**	P	**P**	**07 17 44.7**	**+1.3**
RTZ	**Ruatahuna**	**61.81**	**129**	P	**P**	**07 17 45.2**	**+1.2**
KDJ	**Kajisay**	**61.81**	**328**	P	**P**	**07 17 44.0**	**-0.1**
URZ	**Urewera**	**61.83**	**129**	P	**P**	**07 17 46.5**	**+2.4**
URZ	**Urewera**	**61.83**	**129**	P	**P**	**07 17 44.1**	**0.0**
SATY	**Saty**	**61.84**	**329**	*e*P	**P**	**07 17 43.2**	**-1.0**
SATY				pmax	pmax		
	comp=Z,34nm,1.6s						
SATY	**Saty**	**61.84**	**329**	*e*P	**P**	**07 17 43.2**	**-1.0**
	comp=Z,34nm,1.6s						
ZHN	**Zhinishke**	**61.90**	**329**	*e*P	**P**	**07 17 43.7**	**-0.9**
ZHN				pmax	pmax		
	comp=Z,24nm,1.7s						
ZHN	**Zhinishke**	**61.90**	**329**	*e*P	**P**	**07 17 43.8**	**-0.9**
	comp=Z,24nm,1.7s						
KBL	**Kabul**	**61.96**	**316**	P	**P**	**07 17 43.5**	**-1.8**
KBL	**Kabul**	**61.96**	**316**	P	**P**	**07 17 44.3**	**-1.0**
	SNR=8.6						
KBL				P	**P**	**07 17 44.3**	**-1.0**
	SNR=8.6						
KBL	**Kabul**	**61.96**	**316**	P	**P**	**07 17 43.5**	**-1.8**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DGTI	**Dogotuki**	**62.03**	**104**	P	**P**	**07 17 47.2**	**+1.4**
PXZ	**Pawanui**	**62.03**	**131**	P	**P**	**07 17 48.0**	**+2.5**
MWZ	**Matawai**	**62.17**	**129**	P	**P**	**07 17 47.1**	**+0.7**
RUGZ	**Raukumara Rang**	**62.21**	**129**	P	**P**	**07 17 46.7**	**-0.1**
HAZ	**Te Kaha**	**62.25**	**128**	P	**P**	**07 17 47.4**	**+0.5**
ZSN	**Zaisan**	**62.27**	**336**	*e*P	**P**	**07 17 46.1**	**-0.8**
ZSN				*e*S	**S**	**07 26 11.1**	**-2.4**
ZSN				pmax	pmax		
	comp=Z,27nm,1.0s						
ZSN	**Zaisan**	**62.27**	**336**	*e*P	**P**	**07 17 46.2**	**-0.7**
	comp=Z,27nm,1.0s						
ZSN				*e*S	**S**	**07 26 11.2**	**-2.4**
RIGZ	**Rimuhau**	**62.42**	**129**	P	**P**	**07 17 49.5**	**+1.3**
TWGZ	**Tauwhareparae**	**62.48**	**129**	P	**P**	**07 17 50.3**	**+1.7**
PKGZ	**Pakihiroa**	**62.50**	**128**	P	**P**	**07 17 49.6**	**+0.9**
ZEA	**Zeya**	**62.53**	**7**	*e*P	**P**	**07 17 49.2**	**+0.8**
ZEA				*e*S	**S**	**07 26 18.9**	**+2.5**
ZEA				pmax	pmax		
	comp=E,100nm,3.0s						
ZEA				pmax	pmax		
	comp=N,400nm,3.1s						
ZEA				pmax	pmax		
	comp=Z,600nm,2.3s						
ZEA				pmax	pmax		
	comp=N,60nm,1.4s						
ZEA				pmax	pmax		
	comp=E,20nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,90nm,1.5s						
ZEA				smax	smax		
	comp=E,300nm,10.1s						
ZEA				smax	smax		
	comp=N,400nm,10.2s						
TNSS	**Tian-Shan**	**62.57**	**328**	*e*P	**P**	**07 17 48.1**	**-1.3**
TNSS	**Tian-Shan**	**62.57**	**328**	*e*P	**P**	**07 17 48.2**	**-1.3**
MXZ	**Matakaoa Point**	**62.62**	**128**	P	**P**	**07 17 51.0**	**+1.6**
MXZ	**Matakaoa Point**	**62.62**	**128**	P	**P**	**07 17 50.6**	**+1.1**
PUZ	**Puketiti**	**62.68**	**129**	P	**P**	**07 17 50.3**	**+0.4**
AAA	**Alma-Ata**	**62.71**	**328**	*e*P	**P**	**07 17 49.0**	**-0.9**
AAA				pmax	pmax		
	comp=Z,12nm,0.6s						
AAA	**Alma-Ata**	**62.71**	**328**	*e*P	**P**	**07 17 49.0**	**-0.9**
	comp=Z,12nm,0.6s						
BOOM	**Boomskoye usch**	**62.73**	**327**	P	**P**	**07 17 49.7**	**-0.5**
BOOM				IAmb	IAmb	07 18 17.1	
	comp=Z,21nm,1.0s						
BOOM				IAMs_20	IAMs_20	07 49 53.6	
	comp=Z,1μm,18.0s						
BOOM	**Boomskoye usch**	**62.73**	**327**	P	**P**	**07 17 49.7**	**-0.5**
BOOM				pmax	pmax		
	comp=Z,21nm,1.0s						
BOOM				MLR	MLR		
	comp=Z,1μm,18.0s						
WMGZ	**Waiomatatini S**	**62.75**	**128**	P	**P**	**07 17 51.1**	**+0.8**
MK31	**Makanchi Array**	**62.82**	**334**	*d i*P	**P**	**07 17 50.0**	**-0.5**
MKAR	**Makanchi Array**	**62.82**	**334**	P	**P**	**07 17 49.5**	**-1.1**
MKAR	**Makanchi Array**	**62.82**	**334**	P	**P**	**07 17 49.9**	**-0.7**
	comp=Z,30nm,0.8s,baz=148,slow=7.1,SNR=67						
MKAR				S	**S**	**07 26 14.7**	**-5.7**
	comp=Z,0.1nm,0.4s,baz=133,slow=8.1,SNR=0.8						
MKAR				PKP2bc		07 46 59.0	
	comp=Z,0.7nm,0.8s,baz=343,slow=2.5,SNR=5.8						
	comp=Z,30nm,0.8s						
MAKZ	**Makanchi**	**62.97**	**334**	P	**P**	**07 17 51.7**	**+0.2**
MAKZ				IAmb	IAmb	07 17 58.6	
	comp=Z,35nm,1.2s						
MAKZ				IAMs_20	IAMs_20	07 49 25.0	
	comp=Z,2μm,20.0s						
MAKZ	**Makanchi**	**62.97**	**334**	P	**P**	**07 17 50.9**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,22nm,1.8s						
DRK	**Karamyk**	**63.11**	**322**	P	**P**	**07 17 52.1**	**-0.9**
TYV	**Tymovskoe**	**63.17**	**18**	*e*P	**P**	**07 17 54.0**	**+1.3**
TYV				*e*S	**S**	**07 26 23.5**	**-1.1**
TYV				pmax	pmax		
	comp=Z,1μm,4.3s						
TYV				pmax	pmax		
	comp=Z,71nm,1.7s						
TYV				smax	smax		
	comp=N,2μm,9.2s						
TYV				smax	smax		
	comp=E,2μm,9.2s						
TKM2	**Tokmak 2**	**63.20**	**327**	P	**P**	**07 17 52.7**	**-0.7**
	SNR=9.4						
TDK	**Taldyqorghan**	**63.25**	**331**	*e*P	**P**	**07 17 52.6**	**-0.8**
TDK				pmax	pmax		
	comp=Z,32nm,1.2s						
TDK				MLR	MLR		
	comp=Z,2μm,17.0s						
TDK	**Taldyqorghan**	**63.25**	**331**	*e*P	**P**	**07 17 52.7**	**-0.8**
	comp=Z,32nm,1.2s						
TDK				LR	LR	07 47 51.3	
	comp=Z,2μm,16.9s						
KBK	**Karagaybulak**	**63.37**	**327**	P	**P**	**07 17 54.6**	**+0.1**
	SNR=7.0						
NGCH	**Negor - Chabah**	**63.48**	**304**	P	**P**	**07 17 52.7**	**-2.5**
ARSB	**Arslanbob**	**63.59**	**325**	IAmb	IAmb	07 18 16.9	
	comp=Z,52nm,1.2s						
AAK	**Ala-Archa**	**63.61**	**327**	P	**P**	**07 17 55.4**	**-0.6**
AAK				IAmb	IAmb	07 18 22.7	
	comp=Z,22nm,1.0s						
AAK	**Ala-Archa**	**63.61**	**327**	IAMs_20	IAMs_20	07 49 33.9	
	comp=Z,2μm,20.0s						
AAK	**Ala-Archa**	**63.61**	**327**	P	**P**	**07 17 54.7**	**-1.4**
AAK				P	**P**	**07 17 54.7**	**-1.4**
AAK				P	**P**	**07 17 54.7**	**-1.4**
AAK	**Ala-Archa**	**63.61**	**327**	P	**P**	**07 17 56.0**	**0.0**
	SNR=12						
AAK	**Ala-Archa**	**63.61**	**327**	*d i*P	**P**	**07 17 55.3**	**-0.7**
AAK				pmax	pmax		
	comp=Z,38nm,2.5s						
FRU1	**Bishkek**	**63.65**	**327**	IAMs_20	IAMs_20	07 50 28.1	
	comp=Z,2μm,18.0s						
JLN	**Jalan Bani Buh**	**63.67**	**300**	P	**P**	**07 17 54.7**	**-2.0**
JLN				P	**P**	**07 17 54.7**	**-2.0**
AML	**Almayashu**	**63.71**	**326**	P	**P**	**07 17 56.8**	**-0.2**
	SNR=15						
GAR	**Garm**	**63.73**	**321**	P	**P**	**07 17 54.9**	**-1.9**
EKS2	**Erkin-Say**	**64.02**	**326**	P	**P**	**07 17 58.8**	**+0.1**
	SNR=12						
USP	**Ospenovka**	**64.03**	**327**	P	**P**	**07 17 58.1**	**-0.5**
	SNR=9.4						
BTK	**Batken**	**64.06**	**322**	IAmb	IAmb	07 18 21.3	
	comp=Z,30nm,1.2s						
BTK	**Batken**	**64.06**	**322**	P	**P**	**07 17 58.6**	**-0.4**
SGDS	**Sogindy**	**64.08**	**327**	*e*P	**P**	**07 17 57.9**	**-1.1**
SGDS	**Sogindy**	**64.08**	**327**	*e*P	**P**	**07 17 58.0**	**-1.1**
WBK	**Wadi Bani Khal**	**64.22**	**300**	P	**P**	**07 17 58.3**	**-2.0**
SIMJ	**Simiganj**	**64.34**	**320**	P	**P**	**07 17 59.1**	**-1.8**
SIMJ				IAmb	IAmb	07 18 04.8	
	comp=Z,28nm,1.3s						
MHTO	**MHTO**	**64.50**	**298**	P	**P**	**07 18 00.6**	**-1.6**
MHTO				P	**P**	**07 18 00.6**	**-1.6**
DQM	**DQM**	**64.52**	**297**	P	**P**	**07 18 00.8**	**-1.4**
DQM				P	**P**	**07 18 00.8**	**-1.4**
NKL	**Nikolayevsk**	**64.63**	**16**	*e*P	**P**	**07 18 01.9**	**-0.3**
NKL				*e*S	**S**	**07 26 39.4**	**-3.1**
NKL				pmax	pmax		
	comp=E,97nm,1.5s						
NKL				pmax	pmax		
	comp=N,59nm,1.2s						
NKL				pmax	pmax		
	comp=Z,212nm,1.2s						
NKL				smax	smax		
	comp=E,147nm,3.1s						
NKL				smax	smax		
	comp=N,239nm,4.7s						
JMDO	**Jabal Madar**	**64.88**	**299**	P	**P**	**07 18 02.2**	**-2.4**
JMDO				P	**P**	**07 18 02.2**	**-2.4**
SMDO	**Samad**	**65.18**	**300**	P	**P**	**07 18 05.1**	**-1.5**
SMDO				P	**P**	**07 18 05.1**	**-1.5**
SMDO				P	**P**	**07 18 05.1**	**-1.5**
BIDO	**Bidbid**	**65.28**	**301**	P	**P**	**07 18 05.5**	**-1.7**
BIDO				P	**P**	**07 18 05.5**	**-1.7**
SBV	**Sambava**	**65.47**	**259**	P	**P**	**07 18 05.5**	**-3.0**
BTLS	**Baital**	**65.47**	**328**	*e*P	**P**	**07 18 06.4**	**-1.5**
BTLS	**Baital**	**65.47**	**328**	*e*P	**P**	**07 18 06.5**	**-1.5**
DZA	**Taraz**	**65.53**	**325**	*e*P	**P**	**07 18 07.7**	**-0.8**
DZA	**Taraz**	**65.53**	**325**	*e*P	**P**	**07 18 07.7**	**-0.8**
BSY	**Bisya**	**65.79**	**299**	P	**P**	**07 18 08.4**	**-2.1**
BSY				P	**P**	**07 18 08.4**	**-2.1**
IUG	**Iuzhnay**	**65.82**	**324**	*e*P	**P**	**07 18 09.5**	**-0.9**
IUG				pmax	pmax		
	comp=Z,21nm,1.0s						
IUG	**Iuzhnay**	**65.82**	**324**	*e*P	**P**	**07 18 09.5**	**-0.9**
	comp=Z,21nm,1.0s						
BOD	**Bodaibo**	**65.99**	**359**	*e*P	**P**	**07 18 11.0**	**0.0**
BOD				pmax	pmax		
	comp=Z,166nm,2.0s						
HOQ	**Hoqain**	**66.00**	**300**	P	**P**	**07 18 10.1**	**-1.8**
HOQ				P	**P**	**07 18 10.1**	**-1.8**
HOQ				P	**P**	**07 18 10.1**	**-1.8**
KK31	**Karatay Array**	**66.13**	**325**	P	**P**	**07 18 11.0**	**-1.3**
KK31	**Karatay Array**	**66.13**	**325**	P	**P**	**07 18 11.0**	**-1.3**
KK31

comp=Z,2μm,18.0s
KURK Kurchatov 67.39 335 P **P 07 18 18.4 -1.7**
KURK P **P 07 18 18.4 -1.7**
KURK P **P 07 18 18.4 -1.7**
KURK Kurchatov 67.39 335*d* iP **P 07 18 19.3 -0.8**
KURK pmax pmax
comp=Z,55nm,1.7s
KURK MLR MLR
comp=Z,2μm,19.0s
UOSS Minazif 67.44 301 P **P 07 18 18.1 -2.9**
HATD Hatta, Dubai 67.45 301 P **P 07 18 19.2 -1.9**
ASHO Ashiyiah 67.47 301 P **P 07 18 19.3 -1.9**
ASHO P **P 07 18 19.3 -1.9**
ABTO Aybut 67.52 293 P **P 07 18 19.8 -1.9**
ABTO P **P 07 18 19.8 -1.9**
ZAA0 Zalesovo Array 67.61 340 P **P 07 18 20.1 -1.3**
ZAA0 IAmb IAmb 07 18 27.0
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 67.61 340 P **P 07 18 19.6 -1.8**
comp=Z,16nm,0.8s,baz=141,slow=4.0,SNR=39
ZALV S **S 07 27 12.6 -6.3**
comp=Z,0.4nm,0.4s,baz=126,slow=7.8,SNR=1.7
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 67.61 340 *i* P **P 07 18 20.1 -1.4**
ZALV pmax pmax
comp=Z,17nm,0.8s
ABPO Ambohimpanom 67.83 253 P **P 07 18 23.7 -0.2**
ABPO IAmb IAmb 07 18 30.3
comp=Z,47nm,1.4s
ABPO Ambohimpanom 67.83 253 IAMs_20 IAMs_20 07 44 19.5
comp=Z,1μm,19.0s
ABPO Ambohimpanom 67.83 253 P **P 07 18 23.7 -0.2**
ABPO pmax pmax
comp=Z,47nm,1.4s
SKR Severo-Kuril's 68.05 26*de*P **P 07 18 24.3 0.0**
VOI Vohitsoka 68.19 250 P **P 07 18 25.8 -0.2**
VOI IAmb IAmb 07 18 32.5
comp=Z,42nm,1.1s
VOI IAMs_20 IAMs_20 07 45 21.9
comp=Z,1μm,18.0s
VOI Vohitsoka 68.19 250 P **P 07 18 24.7 -1.3**
SNR=6.4
MAW Mawson 69.02 199 P **P 07 18 30.4 +0.4**
comp=Z,24nm,0.9s,baz=53,slow=5.1,SNR=1.9
MAW S **S 07 27 33.8 -1.5**
comp=Z,28nm,1.0s,baz=92,slow=18,SNR=2.0
comp=Z,24nm,0.9s
BRZS Berezniki 69.51 331 *e*P **P 07 18 32.5 -0.9**
BRZS Berezniki 69.51 331 *e*P **P 07 18 32.5 -0.9**
PEA0B Petropavlovsk- 70.49 25 P **P 07 18 39.5 +0.1**
PEA0B IAmb IAmb 07 18 42.4
comp=Z,38nm,1.1s
PEA0B Petropavlovsk- 70.49 25*de*P **P 07 18 39.9 +0.5**
PETK Petropavlovsk- 70.49 25 P **P 07 18 39.8 +0.4**
PETK Petropavlovsk- 70.49 25 P **P 07 18 39.3 -0.1**
comp=Z,21nm,1.0s,baz=222,slow=2.0,SNR=16
PETK S **S 07 27 57.4 +4.3**
comp=Z,1.5nm,0.9s,baz=318,slow=8.5,SNR=2.5
comp=Z,21nm,1.0s
PET Petropavlovsk 70.83 25 *e*P P 07 18 35.6 -5.8
PET *e*S **S 07 27 51.0 -6.0**
PET *e* 07 28 47.9
PET *e*SS **SS 07 32 23.3 -6.4**
PET pmax pmax
comp=Z,16nm,0.9s
PET pmax pmax
comp=Z,400nm,12.7s
PET pmax pmax
comp=Z,600nm,13.7s
PET MLR MLR
comp=Z,500nm,17.0s
PET MLR MLR
comp=Z,500nm,15.0s
YAK Yakutsk 70.92 7 P **P 07 18 42.0 +0.2**
YAK Yakutsk 70.92 7*de*P **P 07 18 40.7 -1.1**
YAK *e**PP **sP 07 18 50.3 +5.6**
YAK *e* 07 19 00.3
YAK *e* 07 21 18.1
YAK *e*PPP PPP 07 23 01.6
YAK *e*S **S 07 27 55.8 -1.9**
YAK *e* 07 28 41.9
YAK *e*SS **SS 07 32 25.5 -5.2**
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=N,25nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,177nm,3.9s
YAK pmax pmax
comp=N,175nm,3.8s
YAK pmax pmax
comp=E,84nm,3.3s
YAK smax smax
comp=E,795nm,12.3s
YAK smax smax
comp=N,710nm,8.1s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,966nm,17.0s
SMRA Abu-Samra 71.97 299 P **P 07 18 47.1 -1.8**
BVAR Borovoye Array 72.62 333 P **P 07 18 50.9 -1.4**
comp=E,17nm,0.8s,baz=141,slow=7.5,SNR=59
BVAR S **S 07 28 12.0 -5.7**
comp=E,0.3nm,0.4s,baz=125,slow=18,SNR=1.2
comp=E,17nm,0.8s
BRVK Borovoye 72.69 333 P **P 07 18 51.9 -0.7**
BRVK IAmb IAmb 07 19 18.0
comp=Z,35nm,1.2s
BRVK Borovoye 72.69 333 IAMs_20 IAMs_20 07 55 10.2
comp=Z,2μm,18.0s
BRVK Borovoye 72.69 333*d* iP **P 07 18 51.2 -1.4**
BRVK pmax pmax
comp=Z,32nm,1.3s
BRVK MLR MLR
comp=Z,2μm,18.0s
VNDA Vanda 72.99 171 P **P 07 18 54.6 +0.5**
VNDA IAmb IAmb 07 18 59.3
comp=Z,52nm,1.4s
VNDA Vanda 72.99 171 P **P 07 18 54.5 +0.3**
comp=Z,15nm,1.0s,baz=317,slow=7.2,SNR=14
VNDA S **SKiKP 07 28 26.3 -1.5**
comp=Z,0.5nm,0.3s,baz=228,slow=6.5,SNR=1.6
comp=Z,15nm,1.0s
VNDA Vanda 72.99 171 P **P 07 18 54.6 +0.5**
VNDA pmax pmax
comp=Z,52nm,1.4s
MA2 Magadan 73.02 17 P **P 07 18 55.0 +0.5**
MA2 IAmb IAmb 07 19 09.2
comp=Z,51nm,1.0s
MA2 Magadan 73.02 17*d* iP **P 07 18 54.9 +0.4**
MA2 pmax pmax
comp=Z,25nm,1.0s
MA2 MLR MLR
comp=Z,483nm,19.0s
MA2 Magadan 73.02 17 P **P 07 18 55.3 +0.8**
comp=Z,2μmcomp=Z,62nm,1.0s
ABKAR Akbulak array 75.67 326 P **P 07 19 08.5 -1.6**
SEY Seymchan 76.20 16⇓*e*P **P 07 19 13.2 +0.3**
SEY pmax pmax
comp=Z,30nm,1.3s
RAYN Ar Rayn 76.26 297 P **P 07 19 12.4 -1.7**
RAYN Ar Rayn 76.26 297 IAMs_20 IAMs_20 07 54 15.0
comp=Z,2μm,21.0s
RAYN Ar Rayn 76.26 297 P **P 07 19 12.4 -1.7**
RAYN pmax pmax
comp=Z,13nm,1.0s
RAYN MLR MLR
comp=Z,2μm,21.0s
SYO Syowa Base 77.57 201⇓*i* P **P 07 19 22.2 +1.7**
SYO Syowa Base 77.57 201⇓*i* pP pP 07 19 24.0 +1.4
KIBK Kibwezi 78.30 269 IAMs_20 IAMs_20 07 49 48.6
comp=Z,982nm,20.0s
KIBK Kibwezi 78.30 269 P **P 07 19 23.2 -2.6**
SNR=8.9
KMBO Kilima Mbogo 79.25 270 P **P 07 19 30.8 -0.5**
KMBO Kilima Mbogo 79.25 270 P **P 07 19 31.4 +0.1**
comp=Z,1.3nm,0.2s,baz=124,slow=4.3,SNR=9.2
KMBO S **S 07 29 29.1 -3.8**
comp=Z,3.4nm,0.3s,baz=81,slow=19,SNR=7.7
comp=Z,1.3nm,0.2s
KMBO Kilima Mbogo 79.25 270 P **P 07 19 28.7 -2.6**
KMBO P **P 07 19 28.7 -2.6**
KMBO Kilima Mbogo 79.25 270*de*P **P 07 19 31.3 0.0**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
SVE Sverdlovsk 79.39 332 *e*P **P 07 19 29.7 -1.1**
SVE *e*S **S 07 29 29.5 -2.6**
SVE pmax pmax
comp=Z,46nm,1.2s
FURI Furi 79.45 281 IAMs_20 IAMs_20 07 54 28.4
comp=Z,2μm,19.0s
NRIK Noril'sk 80.10 350 P **P 07 19 33.9 -0.4**
NRIK Noril'sk 80.10 350 P **P 07 19 33.4 -0.9**
comp=Z,5.4nm,0.9s,baz=172,slow=5.7,SNR=8.9
NRIK S **S 07 29 32.1 -7.0**
comp=Z,0.6nm,0.3s,baz=171,slow=14,SNR=1.6
comp=Z,5.4nm,0.9s
NRIK Noril'sk 80.10 350*ce*P **P 07 19 33.2 -1.1**
NRIK pmax pmax
comp=Z,12nm,1.4s
NRIK MLR MLR
comp=Z,2μm,17.0s
ARTI Arti 80.21 331 P **P 07 19 33.2 -2.0**
ARTI IAMs_20 IAMs_20 07 59 14.1
comp=Z,2μm,20.0s
ARTI Arti 80.21 331*d* iP **P 07 19 33.4 -1.8**
ARTI 07 22 36.0
ARTI S **S 07 29 40.0 -0.8**
ARTI SS **SS 07 34 51.1 -0.7**
ARTI MLR MLR
comp=Z,2μm,20.0s
TIXI Tiksi 80.27 4 P **P 07 19 33.7 -1.5**
TIXI Tiksi 80.27 4 IAMs_20 IAMs_20 07 58 43.2
comp=Z,1μm,20.0s
TIXI Tiksi 80.27 4*d* iP **P 07 19 33.6 -1.5**
TIXI pmax pmax
comp=Z,16nm,1.1s
MAK Makhachkala 80.70 316 *e*P P 07 19 33.7 -4.5
MAK *e* 07 22 36.9
MAK *e*PPP PPP 07 24 26.8
MAK *e*S S 07 29 36.3 -10
MAK *e*SSS SSS 07 38 20.7
MAK pmax pmax
comp=Z,21nm,0.3s
MAK MLR MLR
comp=Z,1μm,18.0s
QSPA South Pole Qui 81.62 180 P **P 07 19 43.3 +0.4**
QSPA IAmb IAmb 07 19 50.1
comp=Z,49nm,1.1s
QSPA South Pole Qui 81.62 180 P **P 07 19 43.1 +0.3**
comp=Z,12nm,0.9s,baz=320,slow=2.8,SNR=27
QSPA S **S 07 29 52.9 -2.7**
comp=Z,1.1nm,1.0s,baz=297,slow=2.3,SNR=5.5
comp=Z,12nm,0.9s
POGA Pongola 81.66 244 IAmb IAmb 07 19 51.7
comp=Z,44nm,0.9s
POGA IAMs_20 IAMs_20 07 54 54.2
comp=Z,1μm,19.0s
GNI Garni 81.73 313 P **P 07 19 42.3 -1.7**
comp=Z,2.9nm,0.4s,baz=201,slow=7.0,SNR=1.6
GNI S **S 07 29 52.0 -5.7**
comp=Z,2.0nm,0.3s,baz=91,slow=16,SNR=1.3
comp=Z,9.9nm,0.4s
GNI Garni 81.73 313⇑*e*P **P 07 19 43.5 -0.4**
GNI pmax pmax
comp=Z,15nm,1.6s
GNI MLR MLR
comp=Z,913nm,21.0s
LODK Lodwar 81.80 275 P **P 07 19 43.7 -1.1**
GEVA Gevas 82.42 310 P **P 07 19 46.6 -1.0**
TRLG Trialeti 82.62 314 P **P 07 19 48.0 -0.6**
KARS Kars 83.08 313 P **P 07 19 50.8 -0.2**
KARS Kars 83.08 313 P **P 07 19 50.8 -0.2**
KARS pmax pmax
comp=Z,107nm,1.3s
ELIB Princess Elisa 83.10 198 *d*P **P 07 19 50.3 -0.2**
comp=Z,22nm,1.1s
GURO Guroymak-BITLI 83.26 310 P **P 07 19 51.7 -0.3**
GURO IAmb IAmb 07 19 57.0
comp=Z,30nm,1.4s
GURO IAMs_20 IAMs_20 07 59 52.3
comp=Z,981nm,22.0s
BILL Bilibino 83.88 17⇑*e*P **P 07 19 53.2 -1.1**
BILL pmax pmax
comp=Z,9.0nm,1.8s
KBZ Khabaz 84.13 316 P **P 07 19 54.7 -1.4**
comp=Z,5.3nm,1.1s,baz=73,slow=2.9,SNR=7.1
KBZ S **SKSac 07 30 15.2 -5.0**
comp=Z,0.8nm,0.5s,baz=77,slow=14,SNR=2.0
comp=Z,5.3nm,1.1s
SHA1 Shidzhatmaz 84.30 316⇑*e*P **P 07 19 55.5 -1.8**
KVAR Kislovodsk Arr 84.34 316 S **SKSac 07 30 16.4 -5.5**
comp=Z,1.6nm,0.3s,baz=146,slow=11,SNR=1.6
KIV Kislovodsk 84.34 316 *e*P **P 07 19 56.8 -0.5**
KIV *e* 07 23 11.8
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIRV Kirov 85.52 331⇑*e*P **P 07 20 01.0 -1.7**
GRHM Grahamstown, E 85.62 237 P **P 07 20 03.1 -0.9**
GRHM IAmb IAmb 07 20 25.2
comp=Z,40nm,1.0s
ASF Jabal al Asfar 85.75 303 P **P 07 20 04.0 -0.7**
comp=Z,2.8nm,0.7s,baz=130,slow=7.9,SNR=3.4
comp=Z,2.8nm,0.7s
MBAR Mbarara 85.78 270 P **P 07 20 04.9 -0.4**
MBAR Mbarara 85.78 270 IAMs_20 IAMs_20 07 55 42.8
comp=Z,1μm,20.0s
MBAR Mbarara 85.78 270 P P 07 20 01.1 -4.2
MBAR P P 07 20 01.1 -4.2
MBAR Mbarara 85.78 270⇓*e*P **P 07 20 05.1 -0.2**
MBAR pmax pmax
comp=Z,36nm,1.8s
LABN Labinsk 85.89 316 *e*P **P 07 20 03.6 -1.3**
LABN pmax pmax
comp=Z,26nm,0.5s
LSZ Lusaka 86.27 255 P **P 07 20 06.9 -0.7**
LSZ IAmb IAmb 07 20 19.4
comp=Z,43nm,1.1s
LSZ Lusaka 86.27 255 IAMs_20 IAMs_20 07 56 18.2
comp=Z,1μm,20.0s
LSZ Lusaka 86.27 255 P **P 07 20 06.9 -0.7**
LSZ pmax pmax
comp=Z,43nm,1.1s
SOC Sochi 86.31 315 *e*P P 07 20 03.2 -3.8
SOC *e*S **SKSac 07 30 26.7 -7.4**
SOC *e*SS **SS 07 36 13.4 -9.4**
SOC *e*SSS SSS 07 39 49.6
ERBR Yeremizino-Bor 86.35 317 *e*P **P 07 20 09.9 +2.7**
ERBR pmax pmax
comp=Z,48nm,1.5s
GAZ Gaziantep 86.61 308 P **P 07 20 08.1 -0.6**
GAZ IAMs_20 IAMs_20 07 59 52.9
comp=Z,1μm,22.0s
GHAJ Ghor Haditha 86.68 302 IAMs_20 IAMs_20 08 03 18.9
comp=Z,1μm,19.0s
EIL Elat 86.87 300 P **P 07 20 09.7 -0.4**
comp=Z,1.6nm,0.4s,baz=135,slow=8.6,SNR=3.5
comp=Z,1.6nm,0.4s
NVL N'lazarevskaya 86.96 199 *e*P P 07 20 15.7 +6.0
NVL *e*S **SKSac 07 30 36.5 -0.7**
NVL pmax pmax
comp=Z,12nm,0.9s
NVL MLR MLR
comp=Z,863nm,18.0s
VRH Novokhopyorsk 87.11 323 *e*P **P 07 20 07.6 -3.1**
VRH pmax pmax
comp=Z,47nm,1.2s
MMAI Mount Meron Ar 87.17 304 P **P 07 20 12.9 +1.4**
comp=Z,7.7nm,0.8s,baz=66,slow=8.4,SNR=3.0
MMAI S **SKSac 07 30 33.8 -6.3**
comp=Z,1.6nm,0.5s,baz=74,slow=11,SNR=1.4
MMAI LR LR 08 04 22.4
comp=Z,1μm,18.2s,baz=100,slow=39
comp=Z,7.7nm,0.8s
BOSA Boshof 87.18 242 P **P 07 20 11.2 -0.7**
BOSA IAmb IAmb 07 20 18.0
comp=Z,27nm,1.0s
BOSA Boshof 87.18 242 P **P 07 20 11.9 +0.1**
comp=Z,12nm,0.8s,baz=98,slow=4.3,SNR=19
BOSA S **S 07 30 45.1 -7.5**
comp=Z,3.9nm,1.3s,baz=62,slow=7.5,SNR=1.0
comp=Z,12nm,0.8s
BOSA Boshof 87.18 242 P **P 07 20 12.0 +0.1**
LBTB Lobatse 87.38 245 P **P 07 20 12.4 -0.4**
LBTB IAmb IAmb 07 20 25.5
comp=Z,31nm,1.1s
LBTB Lobatse 87.38 245 P **P 07 20 12.4 -0.4**
LBTB pmax pmax
comp=Z,31nm,1.1s
TOKA Tokat 87.87 311 P **P 07 20 13.7 -1.0**
TOKA IAmb IAmb 07 20 15.2
comp=Z,16nm,0.9s
VSR Storozhevoye 88.66 322 *e*P P 07 20 14.3 -3.8
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 88.75 323 *e*P **P 07 20 17.0 -1.5**
VORR pmax pmax
comp=Z,47nm,0.4s
KIP Kipapa 88.80 68⇓*e*P **P 07 20 19.0 -0.5**
KIP pmax pmax
comp=Z,7.0nm,1.1s
LPSR Galich'ya Gora 89.16 323 *e*P **P 07 20 18.5 -1.9**
LPSR pmax pmax
comp=Z,15nm,0.9s
CSS Mathiatis 89.23 305 IAMs_20 IAMs_20 08 04 13.4
comp=Z,1μm,20.0s
TROLL Troll, Antarti 89.30 196⇑P **P 07 20 22.8 +1.8**
comp=Z,768nm,0.9s
BR131 Keskin Array S 89.88 310 P **P 07 20 22.9 -1.5**
BR131 Keskin Array S 89.88 310*de*P **P 07 20 23.1 -1.3**
BRTR Keskin Array B 89.88 310 P **P 07 20 23.0 -1.3**
BRTR Keskin Array B 89.88 310 P **P 07 20 22.6 -1.7**
comp=Z,2.6nm,0.9s,baz=120,slow=5.0,SNR=11
BRTR S **SKSac 07 30 47.5 -8.7**
comp=Z,0.6nm,1.0s,baz=69,slow=11,SNR=1.3
comp=Z,2.6nm,0.9s
BRTR Keskin Array B 89.88 310 P **P 07 20 23.0 -1.3**
TBI Tubuai 90.36 114 *e*P P 07 20 20.8 -6.0
comp=Z,324nm,24.5s
TBI Tubuai 90.36 114 *e*S **S 07 31 16.7 -5.8**
comp=Z,1μm,25.5s
TBI *e*SS **SS 07 37 17.6 -4.7**
comp=Z,1μm,30.8s
TBI *e*LQ LQ 07 45 19.5
comp=Z,5μm,31.5s
TBI *e*LR LR 07 49 15.8
comp=Z,4μm,22.5s
TBI *e*LR LR 07 49 18.2
comp=Z,1μm,28.0s
SIM Simferopol' 90.54 315 P P 07 20 19.7 -7.4
SIM S S 07 31 08.1 -15
SIM pmax pmax
comp=Z,64nm,16.0s
ANTO Ankara 90.55 310 IAMs_20 IAMs_20 08 08 09.1
comp=Z,889nm,22.0s
MOS Moscow 90.67 326 *e*P **P 07 20 26.6 -0.9**
MOS *e* 07 24 00.6
SNAA Sanae 90.95 196 P **P 07 20 28.9 +0.3**
SNAA IAmb IAmb 07 20 41.3
comp=Z,25nm,1.1s
SNAA Sanae 90.95 196⇑P **P 07 20 30.1 +1.5**
comp=Z,256nm,0.7s
SNAA Sanae 90.95 196 P **P 07 20 28.1 -0.5**
comp=Z,7.9nm,0.7s,baz=184,slow=3.7,SNR=18
comp=Z,7.9nm,0.7s
SNAA Sanae 90.95 196*de*P **P 07 20 30.6 +2.0**
SNAA pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 91.00 332 *e*P **P 07 20 27.8 -1.0**
KLMR *e* 07 24 04.7
KLMR S **SKSac 07 30 57.2 -4.1**
KLMR pmax pmax
comp=Z,22nm,2.0s
BYL Byron's Ledge 91.04 71 IAMs_20 IAMs_20 08 04 43.3
comp=Z,2μm,18.0s
OBN Obninsk 91.12 326⇓*e*P **P 07 20 27.3 -2.2**
OBN *i* 07 20 32.2
OBN *PP **sP 07 20 37.0 +4.6**
OBN *e* 07 24 08.9
OBN *i* S **SKSac 07 30 58.2 -4.0**
OBN *i* SSS SSS 07 41 02.1
OBN pmax pmax
comp=Z,7.0nm,1.0s
PPT2 Papeete2 91.16 108 *e*P **P 07 20 30.4 -0.3**
comp=Z,84nm,32.5s
PPT2 Papeete2 91.16 108 *e*PP **PP 07 24 02.9 -4.6**
comp=Z,93nm,24.0s
PPT2 *e*S **S 07 31 26.6 -3.6**
comp=Z,375nm,23.5s
PPT2 *e*SS **SS 07 37 33.3 -1.1**
comp=Z,253nm,26.2s
PPT2 *e*LQ LQ 07 45 47.5
comp=Z,2μm,37.2s
PPT2 *e*LR LR 07 49 43.2
comp=Z,1μm,23.5s
PPT2 *e*LR LR 07 49 43.7
comp=Z,908nm,26.5s
BELA Belgrano 2 92.41 186 P **P 07 20 35.0 -0.3**
BELA IAmb IAmb 07 20 41.6
comp=Z,14nm,0.7s
VNA2 Neumayer--Watz 92.59 196⇑P **P 07 20 37.8 +1.6**
comp=Z,9.7nm,0.7s,baz=123,slow=3.1
VNA1 Neumayer--Stat 92.98 196⇑P **P 07 20 40.0 +2.0**
comp=Z,8.9nm,0.8s
VNA3 Neumayer Olymp 93.00 195⇑P **P 07 20 39.1 +1.0**
comp=Z,7.5nm,1.0s
AK10 Malin Array Si 94.69 320 P **P 07 20 46.5 +0.4**
AKASG Malin Array Be 94.72 320 P **P 07 20 43.8 -2.5**
comp=Z,1.3nm,0.8s,baz=80,slow=4.4,SNR=4.9
comp=Z,1.3nm,0.8s
AKASG Malin Array Be 94.72 320 *i* P **P 07 20 44.0 -2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 94.72 320 P **P 07 20 46.2 -0.1**
AK05 Malin Array Si 94.72 320 P **P 07 20 46.7 +0.4**
AK03 Malin Array Si 94.72 320 P **P 07 20 46.9 +0.6**
KIEV Kiev 94.73 320 P **P 07 20 46.0 -0.3**
KIEV Kiev 94.73 320 P **P 07 20 46.0 -0.3**
comp=Z,19nm,1.4s
APA Apatity 95.06 338⇓*i* P **P 07 20 45.6 -1.9**
APA *i* 07 24 37.1
APA pmax pmax
comp=Z,5.0nm,1.2s
TSUM Tsumeb 95.66 250 IAMs_20 IAMs_20 08 07 34.5
comp=Z,781nm,18.0s
MNK Minsk 95.97 324 *i* P **P 07 20 48.7 -3.2**
MNK *i* PPP PPP 07 26 43.8
MNK *i* S **SKSac 07 31 23.1 -5.8**
MNK *i* SP **SP 07 33 36.0 +6.7**
MNK *i* SS **SS 07 38 38.0 -3.6**
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
H19K Roundabout Mou 96.31 25 IAmb IAmb 07 21 05.1
comp=Z,14nm,1.1s
MLR Muntele Rosu 96.33 315 IAMs_20 IAMs_20 08 10 53.8
comp=Z,1μm,19.0s
MLR Muntele Rosu 96.33 315 P **P 07 20 54.0 +0.1**
MLR Muntele Rosu 96.33 315 P **P 07 20 54.0 +0.1**
HORU Horodok 96.35 319 P **P 07 20 53.8 0.0**
HORU Horodok 96.35 319 P **P 07 20 53.8 0.0**
RNPP9 Sopachiv 96.89 321 P **P 07 20 56.3 +0.2**
RNPP8 Varash 96.90 321 P **P 07 20 56.3 +0.1**
FINES FINESS Array B 97.51 331 PKiKP **PKiKP 07 25 32.9 -0.5**
comp=Z,4.2nm,1.0s,baz=120,slow=2.2,SNR=4.0
D23K Nanushuk River 98.75 21 IAmb IAmb 07 21 18.3
comp=Z,12nm,1.3s
KOLS Kolonicke sedl 99.06 318 *e*P **Pdif 07 21 05.8 -0.2**
KOLS Kolonicke sedl 99.06 318 *e*PDIFF **Pdif 07 21 05.8 -0.2**
BWN Browne 99.21 26 IAMs_20 IAMs_20 07 55 30.0
comp=Z,694nm,19.0s
KBN Korca 99.76 310 IAMs_20 IAMs_20 08 12 37.9
comp=Z,708nm,21.0s
KECS Kecovo 100.23 318 *e*P **Pdif 07 21 11.4 +0.2**
KECS Kecovo 100.23 318 *e*PDIFF **Pdif 07 21 11.4 +0.2**
ILAR Eielson Array 100.31 26 P **Pdif 07 21 09.0 -2.2**
comp=Z,0.3nm,0.7s,baz=249,slow=5.4,SNR=4.8
ILAR PP **PP 07 25 16.9 -0.4**
comp=Z,1.3nm,1.1s,baz=273,slow=5.6,SNR=6.0
ILAR PKKPbc **PKKPbc 07 37 27.6 -2.9**
comp=Z,0.4nm,0.7s,baz=84,slow=1.3,SNR=7.4
ILAR Eielson Array 100.31 26 P **Pdif 07 21 09.0 -2.2**
PDG Podgorica 100.97 312 IAMs_20 IAMs_20 08 16 05.8
comp=Z,697nm,20.0s
TAOE Nuku Hiva Isla 101.70 101 *e*P **Pdif 07 21 16.5 -2.1**
comp=Z,46nm,22.9s
TAOE Nuku Hiva Isla 101.70 101 *e*S **Sdif 07 32 59.1 -2.3**
comp=Z,108nm,23.2s
TAOE *e*SS **SS 07 39 59.7 -4.3**
comp=Z,140nm,25.6s

TAOE Nuku Hiva Isla 101.70 101 eLR LR 07 54 38.2
comp=Z,676nm,22.8s
K27K Chicken 102.45 26 IAMs_20 IAMs_20 08 06 19.9
comp=Z,700nm,21.0s
GERES GERESS Array B 104.71 318 PKiKP **PKiKP 07 25 45.9 -1.0**
comp=Z,0.9nm,0.8s,baz=102,slow=5.8,SNR=4.6
MAYO Mayo, Yukon 105.23 26 IAMs_20 IAMs_20 08 04 11.3
comp=Z,582nm,18.0s
FDMO Fiordimonte 105.50 312 IAMs_20 IAMs_20 08 13 10.8
comp=Z,810nm,22.0s
CESX Cesi 105.90 312 IAMs_20 IAMs_20 08 15 52.2
comp=Z,830nm,22.0s
ZCCA Zocca 106.94 314 IAMs_20 IAMs_20 08 00 22.8
comp=Z,899nm,18.0s
FUORN Ofenpass-Fuorn 107.22 316 IAMs_20 IAMs_20 08 16 54.1
comp=Z,863nm,18.0s
DAVOX Davos/Dischmat 107.47 316 PKKPbc PKKPbc 07 37 07.9 -0.8
comp=Z,0.8nm,0.5s,baz=344,slow=16,SNR=3.6
TUE Stuetta 107.87 316 IAMs_20 IAMs_20 08 17 14.2
comp=Z,1μm,20.0s
WRGLY Wrigley 110.66 25 IAMs_20 IAMs_20 07 58 45.7
comp=E,624nm,18.0s
TULEG Thule 111.80 1 IAMs_20 IAMs_20 07 58 38.6
comp=Z,840nm,20.0s
TAM Tamanrasset 112.55 291 IAMs_20 IAMs_20 08 17 38.2
comp=Z,518nm,18.0s
OZB Mount Ozzard 114.48 40 IAMs_20 IAMs_20 08 03 54.0
comp=Z,830nm,19.0s
YKA Yellowknife Ar 114.59 23 PKiKP **PKiKP 07 26 03.4 -1.5**
comp=Z,1.8nm,0.9s,baz=304,slow=1.9,SNR=18
YKA PKKPbc **PKKPbc 07 36 42.1 -3.4**
comp=Z,0.1nm,0.3s,baz=120,slow=3.6,SNR=3.7
TORD Torodi Ar. Bea 115.97 281 PKPdf 07 26 07.4 -1.6
TORD Torodi Ar. Bea 115.97 281 PKP **PKPdf 07 26 08.1 -0.8**
comp=Z,3.5nm,0.6s,baz=50,slow=2.2,SNR=3.0
CART Cartagena 116.84 308 IAMs_20 IAMs_20 08 23 53.1
comp=Z,578nm,19.0s
ACRG Accra 117.23 272 IAMs_20 IAMs_20 08 15 03.5
comp=Z,808nm,20.0s
ESDC Sonseca Array 118.67 311 PKPdf 07 26 12.8 -0.7
ESDC Sonseca Array 118.67 311 PKP **PKPdf 07 26 12.4 -1.1**
comp=Z,1.7nm,0.8s,baz=21,slow=3.4,SNR=9.0
SFS San Fernando 121.14 308 IAMs_20 IAMs_20 08 22 00.1
comp=Z,522nm,19.0s
PESTR Estremoz 121.60 311 IAMs_20 IAMs_20 08 24 20.9
comp=Z,730nm,19.0s
DBIC Dimbokro 121.94 273 PKP **PKPdf 07 26 19.4 -1.0**
comp=Z,3.6nm,0.7s,baz=23,slow=1.1,SNR=5.9
NVAR Mina Array Bea 122.47 50 PKP **PKPdf 07 26 20.8 -0.3**
comp=Z,2.1nm,0.8s,baz=253,slow=2.3,SNR=13
MSO Missoula 122.50 39 PKPdf 07 26 20.4 -0.4
AVE Averroes 122.82 304 IAMs_20 IAMs_20 08 25 51.8
comp=Z,739nm,18.0s
Q09A Carvers 123.19 49 IAMs_20 IAMs_20 08 20 22.3
comp=Z,663nm,18.0s
GWY Greenwater Val 124.35 52 IAMs_20 IAMs_20 08 06 00.3
comp=Z,700nm,20.0s
FFC Flin Flon 124.52 26 PKPdf 07 26 23.9 -0.4
FFC Flin Flon 124.52 26 PKIKP **PKPdf 07 26 23.9 -0.4**
FCC Fort Churchill 124.55 19 PKPdf 07 26 23.4 -0.6
FCC IAMs_20 IAMs_20 08 19 29.3
comp=Z,735nm,19.0s
FCC Fort Churchill 124.55 19 PKIKP **PKPdf 07 26 23.5 -0.6**
FCC MLR MLR
comp=Z,700nm,19.0s
PFO Pinyon Flats O 125.20 55 PKPdf **PKPdf 07 26 26.7 +0.3**
PFO Pinyon Flats O 125.20 55 PKIKP **PKPdf 07 26 26.7 +0.3**
PRN Pahroc Range 125.23 50 PKPdf 07 26 27.3 +1.0
TKX Tecate 125.34 56 IAMs_20 IAMs_20 08 08 13.8
comp=Z,671nm,22.0s
V12A Nelson 125.89 52 IAMs_20 IAMs_20 08 10 51.2
comp=Z,808nm,22.0s
PDAR Pinedale Array 127.08 42 PKPdf 07 26 29.8 -0.1
PDAR Pinedale Array 127.08 42 PKP **PKPdf 07 26 29.4 -0.4**
comp=Z,1.8nm,0.9s,baz=225,slow=1.3,SNR=12
PIX Pinacate 128.18 56 IAMs_20 IAMs_20 08 30 29.1
comp=Z,721nm,21.0s
LL01 San Ignacio de 128.84 171 IAMs_20 IAMs_20 08 20 35.8
comp=Z,1μm,22.0s
ULM Lac du Bonnet 130.32 27 PKP **PKPdf 07 26 34.2 -1.2**
comp=Z,1.0nm,0.4s,baz=327,slow=3.8,SNR=2.4
PLCA Paso Flores 130.71 173 PKP **PKPdf 07 26 35.5 -1.2**
comp=Z,0.9nm,0.7s,baz=95,slow=1.2,SNR=6.5
PLCA Paso Flores 130.71 173 eP **PKiKP 07 26 40.4 +2.8**
LR05 Currie 131.00 171 IAMs_20 IAMs_20 08 22 06.1
comp=Z,880nm,21.0s
ISCO Idaho Springs 131.08 43 IAMs_20 IAMs_20 08 24 38.7
comp=Z,602nm,20.0s
Y22D IRIS PASSCAL I 132.58 51 IAMs_20 IAMs_20 08 23 47.2
comp=Z,616nm,20.0s
ANMO Albuquerque 132.59 50 PKPdf **PKPdf 07 26 41.5 +1.0**
ANMO Albuquerque 132.59 50 PKIKP **PKPdf 07 26 41.5 +1.0**
SCHQ Schefferville 133.58 3 PKP **PKPdf 07 26 42.2 +0.7**
comp=Z,1.8nm,0.9s,baz=261,slow=2.2,SNR=3.5
TRQA Tornquist 133.80 182 IAMs_20 IAMs_20 08 25 09.7
comp=Z,1μm,20.0s
ML02 Panimavida 135.47 171 IAMs_20 IAMs_20 08 25 22.3
comp=Z,985nm,20.0s
BO01 Tunca 136.86 171 PKPdf 07 26 48.9 +0.6
TXAR Lajitas Array 136.90 56 PKhKP PKPpre 07 26 37.6
comp=Z,1.0nm,0.9s,baz=292,slow=3.3,SNR=5.8
TXAR PKP **PKPdf 07 26 50.0 +1.5**
comp=Z,1.5nm,0.8s,baz=189,slow=2.3,SNR=8.9
VA01 Torpederas 138.10 170 IAMs_20 IAMs_20 08 23 27.3
comp=Z,1μm,22.0s
WMOK Wichita Mounta 138.31 46 IAMs_20 IAMs_20 08 33 07.3
comp=Z,473nm,20.0s
OK031 S. Brethren Rd 139.01 43 IAMs_20 IAMs_20 08 32 59.4
comp=Z,440nm,20.0s
OK052 Battle Ridge R 139.01 43 IAMs_20 IAMs_20 08 32 43.4
comp=Z,461nm,18.0s
ZON Zonda 140.00 173 PKPdf 07 26 53.8 -0.4
ZON Zonda 140.00 173 PKIKP **PKPdf 07 26 53.8 -0.4**
FW06 Azle 140.08 47 IAMs_20 IAMs_20 08 28 21.3
comp=Z,486nm,18.0s
Z35A Perchaven, San 140.12 47 IAMs_20 IAMs_20 08 28 35.3
comp=Z,559nm,21.0s
S39A Bolivar 140.23 38 IAMs_20 IAMs_20 08 27 31.7
comp=Z,603nm,18.0s
PSAL Palomas, Salto 140.38 188 eP **PKiKP 07 26 58.0 +0.7**
L46A Eue Claire 140.89 27 IAMs_20 IAMs_20 08 41 32.5
comp=Z,604nm,19.0s
X40A Basin Creek Fa 142.53 42 IAMs_20 IAMs_20 08 39 56.4
comp=Z,656nm,20.0s
RIB01 Linhares ES 144.33 219 eP **PKiKP 07 27 05.3 -0.5**
WVT Waverly 144.53 35 PKPab 07 26 59.8 -0.5
WVT Waverly 144.53 35 PKIKP **PKPab 07 26 59.8 -0.5**
143A Socs Landing, 144.55 43 PKPab 07 27 01.6 +1.1
AC02 Maricunga 144.57 171 IAMs_20 IAMs_20 08 28 47.5
comp=Z,795nm,20.0s
L59A Walton 144.79 15 PKPab 07 27 00.8 -0.3
VAO Valinhos 144.90 207 PKPdf PKPbc 07 27 03.6 +1.4
VAO Valinhos 144.90 207 eP **PKPdf 07 27 05.2 +2.0**
BSFB Barra de Sao F 144.97 219 eP PKPbc 07 27 03.8 +1.3
CPUP Villa Florida 145.00 190 PKPab 07 27 03.2 +1.0
CPUP Villa Florida 145.00 190 PKPbc **PKPab 07 27 03.0 +0.7**
comp=Z,44nm,0.8s,baz=164,slow=2.0,SNR=56
CPUP Villa Florida 145.00 190 PKIKP **PKPab 07 27 03.3 +1.0**
CPUP Villa Florida 145.00 190 eP **PKPdf 07 27 04.2 +1.0**
Y45A Yeager Farm, C 145.04 40 PKPbc 07 27 02.3 +0.1
SJMB Sao Joao De Ma 145.28 219 eP **PKPab 07 27 04.6 +1.0**
PTGB Pitanga 145.29 198 eP **PKPdf 07 27 05.4 +1.6**
SSPA Standing Stone 145.39 20 PKPbc 07 27 02.0 -1.2
FRTB Fartura 145.68 203 eP **PKPab 07 27 07.2 +2.2**
GUA01 Guaratinga, BA 145.92 223 eP **PKPab 07 27 07.0 +1.0**
LDASE Londrina, Braz 146.21 201 eP **PKPab 07 27 07.9 +1.0**
CMC01 Camacan, BA 146.57 225 eP **PKPbc 07 27 08.7 +1.2**
DIAM Diamantina, MG 147.09 216 eP **PKPbc 07 27 09.9 +0.8**
BB19B Bebedouro 147.28 206 eP **PKPbc 07 27 11.1 +1.7**
U54A Nelsons Funny 147.36 28 IAMs_20 IAMs_20 08 47 35.8
comp=Z,818nm,20.0s
NBAN Anadia - AL 147.55 237 eP **PKPdf 07 27 08.3 +0.5**
BG3 Lake Jocassee 148.04 31 IAMs_20 IAMs_20 08 48 06.0
comp=Z,940nm,20.0s
NBCA Caruaru-PE 148.08 240 eP **PKPbc 07 27 11.9 +0.1**
250A Grady 148.35 39 IAMs_20 IAMs_20 08 44 02.3
comp=Z,703nm,20.0s
PMNB Patos De Minas 148.44 212 eP **PKPdf 07 27 11.9 +2.7**
AF01 San Pedro de A 148.53 172 PKPbc 07 27 14.9 +1.8
T59A Double "B" Far 148.77 22 IAMs_20 IAMs_20 08 44 02.6
comp=Z,721nm,18.0s
RCBR Riachuelo 149.13 244 PKPbc 07 27 14.8 +0.2
RCBR Riachuelo 149.13 244 PKP2 **PKPbc 07 27 14.8 +0.2**
RCBR Riachuelo 149.13 244 eP **PKPdf 07 27 13.2 +2.8**
ITRB Iturama 149.27 205 eP **PKPbc 07 27 13.8 -0.9**
MURT Porto Murtinho 149.62 191 eP **PKPdf 07 27 14.0 +3.1**

RPRD Ribas do Rio P 149.77 198 eP **PKPdf 07 27 13.8 +2.6**
IPMB Ipameri, GO 149.80 210 eP **PKPbc 07 27 15.4 -0.7**
JANB Januaria 149.98 219 eP **PKPdf 07 27 14.9 +3.2**
AQDB Aquidauana 150.34 195 eP **PKPdf 07 27 15.5 +3.4**
BDQN Bodoquena, MS 150.62 193 eP **PKPdf 07 27 16.0 +3.5**
BDFB Brasilia 151.67 213 PKPbc **PKPbc 07 27 20.3 -0.3**
comp=Z,11nm,0.6s,baz=158,slow=2.0,SNR=22
SDBA SAO DESIDERIO 152.33 222 eP **PKPdf 07 27 16.5 +1.2**
NBPB Pedra_Branca-C 152.48 241 eP **PKPdf 07 27 18.1 +2.5**
ARAG Araguaiana, MT 153.45 206 eP **PKPdf 07 27 17.6 +0.8**
SALV Santo Antonio 154.69 198 eP **PKPdf 07 27 22.1 +3.5**
LPAZ La Paz 155.07 169 PKP **PKPdf 07 27 19.9 0.0**
comp=Z,2.8nm,1.0s,baz=191,slow=5.2,SNR=7.7
LPAZ PKPab **PKPab 07 27 44.8 +0.8**
comp=Z,11nm,0.9s,baz=176,slow=3.0,SNR=10
LPAZ La Paz 155.07 169 eP **PKPdf 07 27 21.3 +1.4**
SIV San Ignacio 155.68 186 PKP **PKPdf 07 27 20.1 +0.1**
comp=Z,3.8nm,0.9s,baz=130,slow=1.6,SNR=16
SIV PKPab **PKPab 07 27 47.3 +1.4**
comp=Z,7.0nm,0.8s,baz=208,slow=3.3,SNR=11
PTLB Pontes e Lacer 155.96 190 eP **PKPdf 07 27 23.2 +2.9**
SNDB Serra Nova Dou 156.46 211 eP **PKPdf 07 27 23.2 +2.2**
HERN Volcan Telica 156.63 78 IAMs_20 IAMs_20 08 31 46.3
comp=Z,431nm,20.0s
VILB Vilhena 158.57 189 eP **PKPdf 07 27 27.4 +3.7**
PDRB Porto dos Gac 159.06 199 eP **PKPdf 07 27 27.6 +3.3**
ESPN Las Esperanzas 159.13 78 IAMs_20 IAMs_20 08 47 31.8
comp=Z,386nm,18.0s
OTAV Otavalo 163.01 118 eP **PKPdf 07 27 30.0 +0.9**
RUSC La Rusia 170.12 104 PKPdf 07 27 33.8 -0.8
SDV Santo Domingo 172.87 85 PKPab 07 29 03.3 +1.3
SDV Santo Domingo 172.87 85 eP **PKPdf 07 27 39.3 +3.8**
BOAV Boa Vista 173.39 206 eP **PKPdf 07 27 37.8 +2.2**

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*DJA **17** 07:09:19.8±0.4, 8°S±2°×11°7E±°, h11km±3km, M5.5/42, mB5.9/7, mb5.4/42, MLv5.5/17, Mw5.2/56, Mw(mB)5.5/7, MwMwp5.8/4, Mwp5.9/4*
*NEIC **17** 07:09:19.8±1.5, 8°35S±0°08×116°57E±0°07, h10km±1km, mb5.3/75, Error ellipse: s-maj=14.4km s-min=11.3km az=201.0*
*IDC **17** 07:09:22.6±2.0, 8°30S×116°62E, h35km±15km, mb4.9/25, mbtmp5.1/27, ML5.2/1, Error ellipse: s-maj=17.2km s-min=11.2km az=68.0*
ISC 17 07:09:18.7±0.3,**8°37S**±0°04×**116°55E**±0°04,**h10**km,**n182,** σ1**9**09/191,**mb5.3**/59,**5C-1D,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.49**	**138**	P	**Pg**	**07 09 29.2**	**+0.9**
PLAI	**Plampang**	**1.29**	**111**	P	**Pn**	**07 09 43.4**	**+0.6**
SRBI	**Singaraja**	**1.36**	**282**	P	**Pn**	**07 09 43.9**	**+0.1**
DNP	**Denpasar**	**1.36**	**257**	P	**Pg**	**07 09 45.1**	**+0.2**
ABJI	**Asem Bagus**	**2.37**	**284**	P	**Pn**	**07 09 59.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**2.38**	**267**	Pn	**Pn**	**07 09 58.2**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.38**	**267**	P	**Pn**	**07 09 58.1**	**+0.3**
KMMI	**Kalianget**	**2.88**	**297**	P	**Pn**	**07 10 06.4**	**+1.7**
WBSI	**Waikabubak, Su**	**3.07**	**114**	P	**Pn**	**07 10 08.9**	**+1.5**
GMJI	**Gumukmas**	**3.08**	**272**	P	**Pn**	**07 10 08.4**	**+0.9**
GRJI	**Gresik**	**4.29**	**289**	P	**Pn**	**07 10 24.7**	**+0.6**
BASI	**Baing, Sumba**	**4.38**	**115**	P	**Pn**	**07 10 28.3**	**+3.0**
BSSI	**Bau Bau, Buton**	**4.49**	**61**	P	**Pn**	**07 10 27.2**	**+0.3**
KAPI	**Kappang**	**4.61**	**44**	Pn	**Pn**	**07 10 28.5**	**+0.1**
	2μm,0.9s,baz=252,slow=16,SNR=1.4						
KAPI				Sn	**Sn**	**07 11 20.2**	**-1.8**
	24nm,0.3s,baz=223,slow=22,SNR=0.6						
BKSI	**Bulukumba**	**4.66**	**50**	P	**Pn**	**07 10 32.1**	**+2.9**
TBJI	**Tambak Boyo**	**4.91**	**288**	P	**Pn**	**07 10 34.0**	**+1.3**
PCJI	**Pacitan**	**5.33**	**271**	P	**Pn**	**07 10 38.7**	**+0.4**
CNJI	**Cibinong**	**9.40**	**276**	P	**Pn**	**07 11 35.8**	**+1.5**
	261nm,1.0s						
XMIS	**Christmas Isla**	**10.96**	**258**	Pn	**Pn**	**07 11 53.5**	**-2.3**
MBWA	**Marble Bar**	**13.08**	**167**	Pn	**Pn**	**07 12 24.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.10**	**138**	Pn	**Pn**	**07 12 25.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**13.10**	**138**	Pn	**Pn**	**07 12 25.0**	**0.0**
	9.1nm,0.3s,baz=343,slow=14,SNR=3.6						
FITZ				Sn	**Sn**	**07 14 49.0**	**-1.8**
	3.5nm,0.3s,baz=233,slow=20,SNR=2.4						
	50nm,0.5s						
PSA00	**Pilbara Seismi**	**13.50**	**167**	Pn	**Pn**	**07 12 30.7**	**+0.2**
KNRA	**Kununurra**	**13.97**	**122**	Pn	**Pn**	**07 12 36.7**	**-0.2**
MNAI	**Manna**	**14.09**	**286**	Pn	**Pn**	**07 12 38.7**	**+0.1**
GIRL	**Giralia**	**14.37**	**189**	Pn	**Pn**	**07 12 40.6**	**-1.7**
MTN	**Manton Dam**	**15.00**	**108**	Pn	**Pn**	**07 12 49.4**	**-1.6**
FAKI	**Fak Fak**	**16.53**	**72**	P	**Pn**	**07 13 11.8**	**+1.0**
	98nm,0.9s						
PPSI	**Pulau Pagai**	**17.38**	**288**	P	**Pn**	**07 13 22.3**	**+0.8**
	151nm,1.1s						
MORW	**Morawa**	**20.59**	**181**	P	**P**	**07 13 58.8**	**+0.7**
MORW				IAmb	IAmb	07 14 05.2	
	comp=Z,101nm,0.7s						
WB0	**Warramunga Arr**	**20.66**	**125**	P	**P**	**07 13 59.1**	**+0.2**
WRA	**Warramunga Arr**	**20.70**	**126**	P	**P**	**07 13 58.9**	**-0.4**
WRA	**Warramunga Arr**	**20.70**	**126**	P	**P**	**07 13 59.2**	**-0.2**
	comp=Z,208nm,1.1s,baz=300,slow=12,SNR=20						
WRA				PKiKP	**PKiKP**	**07 25 59.3**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=285,slow=1.3,SNR=5.1						
	comp=Z,208nm,1.1s						
WRAB	**Tennant Creek**	**20.71**	**126**	P	**P**	**07 13 59.9**	**+0.5**
WRAB				IAmb	IAmb	07 14 02.3	
	comp=Z,156nm,1.1s						
WB2	**Warramunga Arr**	**20.71**	**126**	P	**P**	**07 13 59.6**	**+0.1**
RPSI	**Rantau Prapat**	**20.73**	**301**	P	**P**	**07 14 01.0**	**+1.3**
RPSI	**Rantau Prapat**	**20.73**	**301**	P	**P**	**07 13 59.5**	**-0.2**
PSI	**Prapat**	**20.79**	**302**	P	**P**	**07 14 01.0**	**+0.5**
	comp=Z,66nm,1.2s,baz=132,slow=10,SNR=3.7						
	comp=Z,66nm,1.2s						
WR8	**Warramunga Arr**	**20.84**	**125**	P	**P**	**07 14 00.3**	**-0.5**
WR8				IAmb	IAmb	07 14 03.8	
	comp=Z,234nm,1.0s						
KULM	**Kulim**	**20.87**	**310**	P	**P**	**07 14 00.5**	**-0.7**
WR0	**Warramunga Arr**	**20.87**	**125**	P	**P**	**07 14 00.9**	**-0.3**
GSI	**Gunungsitoli**	**21.22**	**296**	P	**P**	**07 14 03.9**	**-1.1**
AS31	**Alice Springs**	**22.53**	**134**	P	**P**	**07 14 19.9**	**+0.9**
AS31				IAmb	IAmb	07 14 24.0	
	comp=Z,47nm,0.8s						
ASAR	**Alice Springs**	**22.53**	**134**	P	**P**	**07 14 19.9**	**+0.9**
	comp=Z,219nm,1.0s,baz=312,slow=9.0,SNR=11						
ASAR				PcP	**PcP**	**07 18 12.4**	**-0.5**
	comp=Z,9.5nm,0.7s,baz=297,slow=1.9,SNR=4.3						
ASAR				ScP	**ScP**	**07 21 48.9**	**-1.9**
	comp=Z,7.0nm,0.9s,baz=292,slow=2.1,SNR=4.6						
	comp=Z,219nm,1.0s						
FORT	**Forrest**	**24.75**	**156**	P	**P**	**07 14 41.6**	**+1.0**
BSI	**Banda Aceh**	**25.28**	**302**	P	**P**	**07 14 44.9**	**-0.7**
	comp=Z,133nm,1.4s						
COEN	**Coen**	**26.69**	**104**	P	**P**	**07 14 58.0**	**-0.3**
COEN				IAmb	IAmb	07 14 59.6	
	comp=Z,107nm,1.1s						
BBOO	**Buckleboo**	**30.29**	**146**	P	**P**	**07 15 30.4**	**+0.1**
CM31	**Chiang Mai Arr**	**31.82**	**327**	P	**P**	**07 15 44.4**	**+0.5**
CM31				IAmb	IAmb	07 15 46.8	
	comp=Z,49nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.82**	**327**	P	**P**	**07 15 45.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**31.82**	**327**	P	**P**	**07 15 45.6**	**+1.7**
	comp=Z,20nm,0.9s,baz=154,slow=7.1,SNR=7.3						
CMAR				ScP	**ScP**	**07 22 15.3**	**-3.4**
	comp=Z,2.8nm,0.8s,baz=179,slow=3.0,SNR=7.8						
	comp=Z,20nm,0.9s						
CHTO	**Chiang Mai**	**32.12**	**327**	P	**P**	**07 15 47.0**	**+0.5**
STKA	**Stephens Creek**	**33.00**	**139**	P	**P**	**07 15 54.2**	**+0.1**
STKA	**Stephens Creek**	**33.00**	**139**	P	**P**	**07 15 55.2**	**+1.1**
	comp=Z,39nm,0.7s,baz=314,slow=9.7,SNR=6.7						
	comp=Z,39nm,0.7s						
ENH	**Enshi**	**39.02**	**350**	P	**P**	**07 16 45.9**	**+0.3**
ENH				IAmb	IAmb	07 16 52.2	
	comp=Z,81nm,1.4s						
TOO	**Toolangi**	**39.12**	**142**	P	**P**	**07 16 46.3**	**-0.2**
ARMA	**Armidale**	**39.43**	**129**	P	**P**	**07 16 49.9**	**+0.6**
CAN	**Canberra**	**39.99**	**137**	P	**P**	**07 16 54.8**	**+0.9**
CAN				IAmb	IAmb	07 16 59.3	
	comp=Z,48nm,1.1s						
SHL	**Shillong**	**41.41**	**325**	P	**P**	**07 17 05.7**	**-0.1**
SHL				IAmb	IAmb	07 17 07.2	
	comp=Z,77nm,1.2s						
HNR	**Honiara**	**42.86**	**95**	P	**P**	**07 17 16.5**	**-1.1**
HNR	**Honiara**	**42.86**	**95**	P	**P**	**07 17 17.0**	**-0.7**
	comp=Z,166nm,0.9s,baz=190,slow=12,SNR=3.7						
	comp=Z,166nm,0.9s						
KAAM	**Kaadhehdhoo**	**44.29**	**279**	P	**P**	**07 17 28.6**	**-0.6**
KAAM				IAmb	IAmb	07 17 40.5	
	comp=Z,61nm,1.0s						
JMN	**Monobe**	**44.98**	**21**	P	**P**	**07 17 35.2**	**+0.8**
JMN				IAmb	IAmb	07 17 38.0	
	comp=Z,29nm,1.0s						
LSA	**Lhasa**	**45.06**	**328**	P	**P**	**07 17 35.9**	**+0.3**
LSA				IAmb	IAmb	07 17 38.4	
	comp=Z,79nm,1.3s						
KSAR	**Wonju Array Be**	**46.79**	**12**	P	**P**	**07 17 48.6**	**+0.1**
KSRS	**Korea Array**	**46.81**	**12**	P	**P**	**07 17 46.8**	**-1.9**
	comp=Z,11nm,1.0s,baz=199,slow=7.2,SNR=3.5						
	comp=Z,11nm,1.0s						
KS19	**Wonju Array Si**	**46.84**	**12**	P	**P**	**07 17 48.4**	**-0.6**
INU	**Inuyama**	**47.58**	**23**	P	**P**	**07 17 55.1**	**+0.4**
INU				IAmb	IAmb	07 18 09.0	
	comp=Z,20nm,1.1s						
JGF	**Kuroka**	**47.93**	**23**	P	**P**	**07 17 57.4**	**-0.1**
JGF				IAmb	IAmb	07 18 04.9	
	comp=Z,21nm,0.9s						
BJT	**Baijiatuau**	**48.15**	**360**	P	**P**	**07 17 59.3**	**+0.3**
BJT				IAmb	IAmb	07 18 07.7	
	comp=Z,19nm,1.1s						
MAJO	**Matsushiro**	**49.09**	**23**	P	**P**	**07 18 06.1**	**-0.4**
MJAR	**Matsushiro Arr**	**49.09**	**23**	P	**P**	**07 18 06.0**	**-0.4**
	comp=Z,12nm,0.9s,baz=201,slow=8.7,SNR=5.0						
	comp=Z,12nm,0.9s						
DZM	**Mont Dzumac**	**49.81**	**112**	P	**P**	**07 18 11.7**	**-0.7**
ONTNC	**Ouen Toro**	**49.85**	**112**	P	**P**	**07 18 11.7**	**-0.8**
ONTNC				IAmb	IAmb	07 18 22.2	
	comp=Z,38nm,0.9s						
JSD	**Sado**	**50.42**	**22**	P	**P**	**07 18 15.8**	**-0.7**
JSD				IAmb	IAmb	07 18 17.3	
	comp=Z,43nm,0.9s						
JMM	**Marumori**	**51.27**	**25**	P	**P**	**07 18 23.1**	**+0.2**
JMM				IAmb	IAmb	07 18 24.1	
	comp=Z,61nm,1.1s						
JTM	**Tenmabayashi**	**53.88**	**23**	P	**P**	**07 18 43.3**	**+1.1**
JTM				IAmb	IAmb	07 18 48.7	
	comp=Z,41nm,0.9s						
MDJ	**Mudanjiang**	**54.04**	**11**	P	**P**	**07 18 43.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**54.16**	**14**	P	**P**	**07 18 44.5**	**+0.4**
USA0B				IAmb	IAmb	07 18 45.4	
	comp=Z,50nm,1.1s						
USRK	**Ussuriysk Ar.**	**54.16**	**14**	P	**P**	**07 18 44.0**	**-0.1**
	comp=Z,21nm,0.8s,baz=186,slow=6.8,SNR=6.9						
	comp=Z,21nm,0.8s						
ULN	**Ulaanbaatar**	**56.62**	**352**	P	**P**	**07 19 02.2**	**+0.2**
SONM	**Songino Array**	**56.68**	**352**	P	**P**	**07 19 02.8**	**+0.3**
SONM	**Songino Array**	**56.68**	**352**	P	**P**	**07 19 02.5**	**+0.1**
	comp=Z,15nm,1.0s,baz=179,slow=8.2,SNR=4.2						
	comp=Z,15nm,1.0s						
JKA	**Kamikawa-asahi**	**57.32**	**22**	P	**P**	**07 19 07.0**	**+0.2**
JKA				IAmb	IAmb	07 19 08.2	
	comp=Z,51nm,1.0s						
HIA	**Hailar**	**57.46**	**2**	P	**P**	**07 19 07.9**	**+0.1**
MLZ	**Mavora Lakes**	**57.58**	**139**	P	**P**	**07 19 09.8**	**+1.0**
MLZ				IAmb	IAmb	07 19 13.7	
	comp=Z,25nm,0.7s						
CASY	**Casey**	**57.97**	**183**	P	**P**	**07 19 11.7**	**+0.6**
CASY				IAmb	IAmb	07 19 14.2	
	comp=Z,36nm,0.7s						
OXZ	**Oxford**	**59.47**	**136**	P	**P**	**07 19 24.0**	**+2.0**
OXZ				IAmb	IAmb	07 19 26.3	
	comp=Z,27nm,0.6s						
THZ	**Tophouse**	**59.59**	**134**	P	**P**	**07 19 24.7**	**+1.7**
THZ				IAmb	IAmb	07 19 27.9	
	comp=Z,32nm,1.0s						
YSS	**Yuzhno-Sakhali**	**59.81**	**20**	P	**P**	**07 19 24.1**	**-0.1**
RER	**Riviere de l'E**	**59.84**	**250**	P	**P**	**07 19 25.8**	**+0.7**
BKZ	**Black Stump Fm**	**61.56**	**130**	P	**P**	**07 19 37.3**	**+0.8**
RTZ	**Ruatahuna**	**61.81**	**129**	P	**P**	**07 19 38.9**	**+0.7**
MK31	**Makanchi Array**	**62.82**	**334**	P	**P**	**07 19 45.2**	**+0.6**
MK31				IAmb	IAmb	07 19 46.5	
	comp=Z,19nm,1.0s						
MKAR	**Makanchi Array**	**62.82**	**334**	P	**P**	**07 19 45.2**	**+0.6**
	comp=Z,14nm,0.9s,baz=141,slow=7.8,SNR=4.8						
MKAR				PKP2bc		07 48 47.5	
	comp=Z,0.9nm,0.9s,baz=336,slow=2.7,SNR=3.9						
	comp=Z,14nm,0.9s						
MAKZ	**Makanchi**	**62.97**	**334**	P	**P**	**07 19 46.2**	**+0.6**
ARSB	**Arslanbob**	**63.59**	**325**	P	**P**	**07 19 50.8**	**+0.8**
ARSB				IAmb	IAmb	07 19 54.2	
	comp=Z,16nm,1.0s						
KURBB	**Kurchatov Arra**	**67.36**	**335**	P	**P**	**07 20 14.6**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=150,slow=5.4,SNR=4.1						
KURBB				PKP2bc		07 48 32.2	
	comp=Z,0.5nm,0.6s,baz=315,slow=6.5,SNR=7.0						
	comp=Z,4.1nm,0.8s						
KURK	**Kurchatov**	**67.39**	**335**	P	**P**	**07 20 14.5**	**+0.3**
KURK				IAmb	IAmb	07 20 16.1	
	comp=Z,13nm,1.1s						
ZAA0	**Zalesovo Array**	**67.62**	**340**	P	**P**	**07 20 15.0**	**-0.6**
ZAA0				IAmb	IAmb	07 20 15.8	
	comp=Z,10nm,0.8s						
ZALV	**Zalesovo Beam**	**67.62**	**340**	P	**P**	**07 20 14.7**	**-0.8**
ZALV	**Zalesovo Beam**	**67.62**	**340**	P	**P**	**07 20 13.6**	**-2.0**
	comp=Z,7.1nm,0.8s,baz=130,slow=4.3,SNR=3.6						
	comp=Z,7.1nm,0.8s						
VOI	**Vohitsoka**	**68.19**	**250**	P	**P**	**07 20 20.2**	**+0.1**
MAW	**Mawson**	**69.01**	**199**	P	**P**	**07 20 25.7**	**+1.6**
MAW	**Mawson**	**69.01**	**199**	P	**P**	**07 20 25.1**	**+1.0**
	comp=Z,41nm,0.9s,baz=36,slow=4.9,SNR

SNAA	Sanae	90.94	196	⇑P	P	07 22 23.9	+1.2
	comp=Z,404nm,0.8s						
SNAA	Sanae	90.94	196	P	P	07 22 23.3	+0.7
	comp=Z,14nm,0.7s,baz=128,slow=3.0,SNR=10						
	comp=Z,14nm,0.7s						
BELA	Belgrano 2	92.40	186	P	P	07 22 29.5	+0.2
VNA2	Neumayer--Watz	92.58	196	⇑P	P	07 22 31.0	+0.8
	comp=Z,18nm,0.6s,baz=115,slow=4.8						
VNA1	Neumayer--Stat	92.98	196	⇑P	P	07 22 33.2	+1.2
	comp=Z,19nm,1.0s						
VNA3	Neumayer Olymp	93.00	195	⇑P	P	07 22 33.0	+0.9
	comp=Z,11nm,0.8s						
FINES	FINESS Array B	97.52	331	PKiKP	PKiKP	07 27 26.4	-1.0
	comp=Z,1.3nm,0.8s,baz=132,slow=2.8,SNR=3.8						
ILAR	Eielson Array	100.32	26	PKKPbc	PKKPbc	07 39 20.3	-4.3
	comp=Z,0.8nm,0.7s,baz=118,slow=1.5,SNR=5.8						
GERES	GERESS Array B	104.71	318	PKKP		07 39 16.5	
	comp=Z,0.9nm,0.6s,baz=160,slow=13,SNR=5.4						
YKA	Yellowknife Ar	114.60	23	PKP	PKiKP	07 27 57.2	-1.8
	comp=Z,1.1nm,0.9s,baz=310,slow=2.2,SNR=4.2						
YKA				PKKPbc	PKKPbc	07 38 35.8	-3.8
	comp=Z,0.5nm,0.9s,baz=123,slow=3.1,SNR=3.9						
TORD	Torodi Ar. Bea	115.97	281	PKP	PKPdf	07 28 00.8	-2.2
	comp=Z,3.6nm,0.6s,baz=19,slow=2.2,SNR=2.1						
ESDC	Sonseca Array	118.67	311	PKP	PKPdf	07 28 05.1	-2.4
	comp=Z,1.9nm,1.0s,baz=19,slow=4.4,SNR=4.4						
PNTR	Pine Nut	121.31	49		PKPdf	07 28 12.6	-0.3
DBIC	Dimbokro	121.93	273	PKP	PKPdf	07 28 12.6	-1.8
	comp=Z,6.8nm,0.9s,baz=63,slow=4.0,SNR=3.3						
NVAR	Mina Array Bea	122.47	50	PKP	PKPdf	07 28 14.4	-0.7
	comp=Z,1.1nm,0.6s,baz=280,slow=1.7,SNR=4.1						
GSC	Goldstone, Bar	124.49	53		PKPdf	07 28 19.2	+0.3
PFO	Pinyon Flats O	125.20	55		PKPdf	07 28 20.6	+0.2
SHPR	Sheep Range	125.42	51		PKPdf	07 28 21.3	+0.5
V12A	Nelson	125.89	52		PKPdf	07 28 21.6	0.0
ESJX	Sierra Juarez	126.02	56		PKPdf	07 28 22.7	+0.6
PDAR	Pinedale Array	127.08	42	PKP	PKPdf	07 28 22.8	-1.1
	comp=Z,0.5nm,0.5s,baz=132,slow=0.7,SNR=4.4						
LAO	LASA Array	127.22	36		PKPdf	07 28 24.6	+0.8
LL02	Futaleuf	128.12	172		PKPdf	07 28 26.1	+0.5
ULM	Lac du Bonnet	130.32	27	PKP	PKPdf	07 28 29.1	-0.3
	comp=Z,0.9nm,0.4s,baz=295,slow=3.4,SNR=3.4						
PLCA	Paso Flores	130.70	173	PKP	PKPdf	07 28 30.3	-0.4
	comp=Z,2.5nm,0.7s,baz=256,slow=2.1,SNR=5.8						
PLCA				SKPab	SKPbc	07 31 51.6	-3.1
	comp=Z,4.6nm,1.1s,baz=214,slow=1.7,SNR=3.2						
SCHQ	Schefferville	133.59	3	PKP	PKPdf	07 28 34.8	-0.7
	comp=Z,1.2nm,0.6s,baz=297,slow=2.3,SNR=1.2						
BI02	San Fabin de	134.60	171		PKPdf	07 28 38.4	+0.2
G40A	Rib Lake	136.58	28		PKPdf	07 28 42.4	+1.0
BO01	Tunca	136.86	171		PKPdf	07 28 42.0	-0.3
TXAR	Lajitas Array	136.90	56	PKhKP	PKPpre	07 28 31.3	
	comp=Z,0.8nm,0.6s,baz=226,slow=2.6,SNR=4.4						
TXAR				PKP	PKPdf	07 28 42.6	0.0
	comp=Z,1.2nm,0.8s,baz=256,slow=3.4,SNR=4.4						
CFA	Coronel Fontan	139.99	174	PKhKP	PKPpre	07 28 40.4	
	comp=Z,1.8nm,0.7s,baz=277,slow=3.4,SNR=2.8						
CFA				PKP	PKPdf	07 28 49.0	+0.8
	comp=Z,3.7nm,0.6s,baz=167,slow=1.8,SNR=5.5						
CFA				SKPbc	SKPbc	07 32 19.9	-4.6
	comp=Z,2.4nm,1.0s,baz=212,slow=3.9,SNR=3.2						
R40A	Maddies Statio	140.48	37	PKPdf	PKPdf	07 28 48.0	-0.8
MIAR	Mount Ida	142.00	42		PKPdf	07 28 52.6	+0.9
R49A	Shelbyville	144.35	30		PKPdf	07 28 56.8	+1.2
AC02	Maricunga	144.57	171		PKPab	07 28 56.5	+1.1
VAO	Valinhos	144.89	207		PKPab	07 28 56.9	+0.8
CPUP	Villa Florida	145.00	190	PKPbc	PKPab	07 28 56.4	0.0
	comp=Z,98nm,0.9s,baz=161,slow=2.8,SNR=17						
PB14	IPOC Station P	146.51	168	PKPab	PKPdf	07 29 01.0	+0.8
PB10	IPOC Station P	147.56	168		PKPbc	07 29 05.1	+1.0
BDFB	Brasilia	151.66	213		PKPbc	07 29 14.7	+0.1
BDFB	Brasilia	151.66	213	PKPbc	PKPbc	07 29 13.2	-1.5
	comp=Z,27nm,0.9s,baz=181,slow=2.3,SNR=6.0						
LPAZ	La Paz	155.06	169	PKP	PKPdf	07 29 13.9	0.0
	comp=Z,3.8nm,0.9s,baz=196,slow=5.8,SNR=1.4						
LPAZ				PKPab	PKPab	07 29 38.8	+0.8
	comp=Z,12nm,0.6s,baz=170,slow=2.2,SNR=7.9						
SIV	San Ignacio	155.68	186	PKP	PKPdf	07 29 13.7	-0.3
	comp=Z,6.0nm,1.0s,baz=121,slow=2.0,SNR=1.8						
SIV				PKPab	PKPab	07 29 40.1	+0.2
	comp=Z,11nm,0.8s,baz=194,slow=5.1,SNR=9.1						
PTLB	Pontes e Lacer	155.95	190		PKPab	07 29 42.1	+1.1
MACA	Manacapuru-AM	168.22	194		PKPab	07 30 34.8	+0.1
RUSC	La Rusia	170.12	104		PKPdf	07 29 26.6	-2.0
SDV	Santo Domingo	172.87	85	PKPab	PKPab	07 30 55.9	-0.1
BOAV	Boa Vista	173.39	206	PKPab	PKPab	07 30 57.6	-0.1

IDC 17 07:20:08.4±1.2, 25°.70N×95°.87E, $h0^{km}$, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=60.7km s-min=20.4km az=58.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	23.60	18	P	P	07 25 20.3	-0.7
	0.5nm,0.7s,baz=189,slow=8.6,SNR=1.9						
	0.5nm,0.7s						
MKAR	Makanchi Array	23.66	336	P	P	07 25 22.0	+0.6
	0.3nm,0.4s,baz=146,slow=9.9,SNR=4.4						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	28.23	336	P	P	07 26 03.7	+0.8
	0.1nm,0.3s,baz=148,slow=10.0,SNR=1.5						
	0.1nm,0.3s						
AKASG	Malin Array Be	55.92	315	P	P	07 29 47.8	-0.2
	0.2nm,0.4s,baz=76,slow=6.1,SNR=1.8						
	0.2nm,0.4s						
WRA	Warramunga Arr	58.78	137	P	P	07 30 08.4	-0.3
	0.5nm,0.8s,baz=321,slow=7.2,SNR=5.4						
	0.5nm,0.8s						
ASAR	Alice Springs	61.36	140	P	P	07 30 26.7	+0.4
	0.5nm,0.8s,baz=323,slow=6.6,SNR=5.0						
	0.5nm,0.8s						
HFS	Hagfors	64.22	327	P	P	07 30 44.2	-0.7
	3.7nm,1.0s,baz=98,slow=7.4,SNR=1.5						
	3.7nm,1.0s						

WEL 17 07:27:41.1±1.2, 33°S±7°×17°8E±2°0, $h12^{km}$, M4.0/5, mB4.7/2, ML4.3/11, MLv4.0/5, Mw(mB)3.9/2, Error ellipse: s-maj=25.9km s-min=9.2km az=88.9, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.58	175	P	Pn	07 28 49.4	-0.7
MXZ				S	Sn	07 29 42.9	-0.2
HAZ	Te Kaha	4.75	181	P	Pn	07 28 53.1	+0.6
HAZ				S	Sn	07 29 51.9	+4.4
WMGZ	Waiomatatini S	4.84	175	P	Pn	07 28 51.5	-2.2
WMGZ				S	Sn	07 29 50.9	+1.3
RUGZ	Raukumara Rang	4.96	181	P	Pn	07 28 56.1	+0.6
RUGZ				S	Sn	07 29 55.4	+2.5
PUZ	Puketiti	5.08	176	P	Pn	07 28 57.3	+0.3
PUZ				S	Sn	07 29 55.9	+0.3
URZ	Urewera	5.29	186	P	Pn	07 29 01.3	+1.4
URZ				S	Sn	07 30 04.9	+4.2
MWZ	Matawai	5.33	183	P	Pn	07 29 00.4	-0.1
MWZ				S	Sn	07 30 03.1	+1.2
TKGZ	Te Karaka	5.43	180	P	Pn	07 29 02.2	+0.3
TKGZ				S	Sn	07 30 04.8	+0.5
MUGZ	Murupara	5.54	189	P	Pn	07 29 06.2	+2.9
PRRZ	Plateau Road	5.62	192	P	Pn	07 29 08.6	+4.2
ALRZ	Allen Road	5.69	192	P	Pn	07 29 10.1	+4.8
RIGZ	Rimuhau	5.70	181	P	Pn	07 29 05.1	-0.4
SNGZ	Shannon Statio	5.79	184	P	Pn	07 29 07.6	+0.9
SNGZ				S	Sn	07 30 15.7	+2.6
KNZ	Kokohu	6.02	181	P	Pn	07 29 07.8	-2.0
BKZ	Black Stump Fm	6.25	190	P	Pn	07 29 15.4	+2.2
NGZ	Ngauruhoe	6.43	196	P	Pn	07 29 20.2	+4.6
BFZ	Birch Farm	7.78	189	P	Pn	07 29 31.5	-2.6
BFZ				S	Sn	07 30 59.3	-2.8
MRZ	Mangatainoka R	7.86	193	P	Pn	07 29 32.8	-2.4
MRZ				S	Sn	07 31 03.7	-0.4

DJA 17 07:28:22.1±0.8, 2°S±9°×13°7E±°, $h12^{km}$±8^{km}, M4.0/6, MLv4.0/6
IDC 17 07:28:22.5±1.3, 1°.69S×137°.04E, $h0^{km}$, mb3.6/4, mbtmp3.7/7, ML3.5/3, Error ellipse: s-maj=36.9km s-min=22.8km az=78.0

ISC 17 07:28:22.6±0.8, 1°.6S±0°.1×136°.99E±0°.05, $h10^{km}$, n13, σ1°51/15, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	0.80	250	P	Pb	07 28 38.2	-0.3
BAKI	Biak	0.97	295	P	Pg	07 28 40.2	-1.1
BAKI				S	Sb	07 28 53.0	-1.4
SMPI	Sarmi	1.76	103	P	Pn	07 28 53.0	-0.2
RKPI	Ransiki, Papua	2.81	272	P	Pn	07 29 07.7	+0.1
JAY	Jayapura	3.82	104	Pn	Pn	07 29 21.1	-0.5
	1.9nm,0.3s,baz=343,slow=20,SNR=5.4						
JAY				Sn	Sn	07 30 04.0	-2.7
	1.3nm,0.3s,baz=270,slow=20,SNR=1.3						
	10nm,0.7s						
JAY	Jayapura	3.82	104	P	Pn	07 29 20.5	-1.1
FAKI	Fak Fak	4.91	254	P	Pn	07 29 35.0	-1.6
WRA	Warramunga Arr	18.41	188	P	P	07 32 38.1	0.0
	0.2nm,0.3s,baz=8.6,slow=13,SNR=17						
	2.3nm,0.7s						
FITZ	Fitzroy Crossi	19.82	214	P	P	07 32 54.4	+0.8
	0.1nm,0.3s,baz=45,slow=14,SNR=2.2						
	3.3nm,0.9s						
ASAR	Alice Springs	22.14	188	P	P	07 33 19.9	+1.3
	4.6nm,0.7s,baz=15,slow=11,SNR=42						
	4.6nm,0.7s						
STKA	Stephens Creek	30.43	172	P	P	07 34 35.8	+0.5
	1.3nm,0.9s,baz=338,slow=11,SNR=3.3						
	1.3nm,0.9s						
MKAR	Makanchi Array	67.87	323	P	P	07 39 24.2	+2.9
	0.2nm,0.5s,baz=98,slow=7.9,SNR=2.5						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	71.84	325	P	P	07 39 47.0	+1.5
	0.2nm,0.5s,baz=113,slow=5.1,SNR=2.8						
	0.2nm,0.5s						

IDC 17 07:37:36.5±1.6, 43°.33N×28°.78W, $h0^{km}$, mb3.6/4, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=78.5km s-min=25.1km az=34.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	18.92	93	P	Pn	07 42 00.3	+1.0
	baz=285,slow=12,SNR=2.3						
	0.6nm,1.0s						
TORD	Torodi Ar. Bea	39.90	130	P	P	07 45 11.3	-0.9
	1.2nm,0.3s,baz=328,slow=10.0,SNR=1.5						
	1.2nm,0.3s						
YKA	Yellowknife Ar	50.93	323	P	P	07 46 37.8	-1.4
	0.3nm,0.7s,baz=71,slow=7.1,SNR=4.7						
	0.3nm,0.7s						
PDAR	Pinedale Array	56.72	300	P	P	07 47 23.4	+1.2
	0.7nm,0.9s,baz=76,slow=15,SNR=4.7						
	0.7nm,0.9s						
ILAR	Eielson Array	61.94	335	P	P	07 47 57.4	-0.2
	0.3nm,0.7s,baz=59,slow=7.1,SNR=2.7						
	0.3nm,0.7s						

IDC 17 07:43:21.6±1.3, 49°.55S×113°.07E, $h0^{km}$, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=51.3km s-min=27.7km az=109.0

ISC 17 07:43:22.9±1.2, 49°.6S±0°.2×113°.1E±0°.3, $h10^{km}$, n13, σ1°15/7, mb3.7/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.68	3	T	T	08 02 10.7	
	baz=178,slow=74,SNR=106						
H01W1	Cape Leeuwin H	14.68	3	T	T	08 02 12.4	
	baz=178,slow=74,SNR=128						
H01W3	Cape Leeuwin H	14.69	3	T	T	08 02 13.2	
	baz=178,slow=74,SNR=116						
STKA	Stephens Creek	27.64	61	P	P	07 49 09.2	-1.4
	1.1nm,0.8s,baz=223,slow=19,SNR=3.0						
	1.1nm,0.8s						
ASAR	Alice Springs	30.56	40	P	P	07 49 37.1	+0.5
	0.6nm,0.8s,baz=202,slow=8.5,SNR=4.2						
	0.6nm,0.8s						
WRA	Warramunga Arr	34.07	37	P	P	07 50 08.8	+1.5
	1.1nm,0.7s,baz=203,slow=9.5,SNR=10						
	1.1nm,0.7s						
QSPA	South Pole Qui	40.56	180	P	P	07 51 02.4	+0.2
	0.5nm,0.9s,baz=318,slow=15,SNR=3.4						
	0.5nm,0.9s						
H08S2	Diego Garcia H	53.84	307	T	T	08 51 36.3	
	baz=148,slow=76						
H08S1	Diego Garcia H	53.85	307	T	T	08 51 40.2	
	baz=148,slow=76						
H08S3	Diego Garcia H	53.86	307	T	T	08 51 38.8	
	baz=148,slow=76						
CMAR	Chiang Mai Arr	68.88	346	P	P	07 54 27.0	-0.6
	1.1nm,0.3s,baz=154,slow=7.7,SNR=4.6						
	1.1nm,0.3s						
PDAR	Pinedale Array	149.99	87	PKPbc	PKiKP	08 03 13.7	-0.3
	0.2nm,0.7s,baz=226,slow=3.7,SNR=1.9						
YKA	Yellowknife Ar	151.11	45	PKPbc	PKiKP	08 03 15.8	+0.4
	0.1nm,0.4s,baz=284,slow=2.4,SNR=3.8						

UPA 17 07:49:09.9±2.4, 10°.34N×72°.86W, $h0^{km}$±217^{km}
IDC 17 07:49:11.0±0.5, 10°.10N×72°.41W, $h164^{km}$±5^{km}, mb3.8/19, mbtmp4.3/23, MS3.4/1, Error ellipse: s-maj=9.9km s-min=8.0km az=47.0
RSNC 17 07:49:11.5±0.0, 10°N±1°×7°3W±°, $h152^{km}$±3^{km}, M4.6, mB5.3, mb5.1, ML4.0, Mw(mB)4.8
NEIC 17 07:49:11.6±2.0, 10°.05N±0°.07×72°.55W±0°.07, $h153^{km}$±8^{km}, mb4.3/143, Error ellipse: s-maj=10.9km s-min=8.7km az=224.0
VAO 17 07:49:14.1±1.9, 9°.67N×72°.49W, $h159^{km}$±9^{km}, mb4.4
FUNV 17 07:49:19.3, 9°.65N×71°.91W, $h3^{km}$, MW4.2

ISC 17 07:49:10.2±0.5, 10°.07N±0°.03×72°.52W±0°.04, $h156^{km}$±4^{km}, n245, σ2°03/271, mb4.2/82, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	Machiques	0.02	212	eP	Pn	07 49 33.6	+2.6
MCQV				eS	Sn	07 49 43.6	-3.4
CRJC	Cerrejon, Guaj	1.01	340	P	Pn	07 49 37.2	+1.4
CRJC				S	Sn	07 49 55.7	+0.3
URIC	Uribia, Colomb	1.70	18	P	Pn	07 49 43.3	+0.9
URIC				S	Sn	07 50 06.9	-0.3
ARGC	Ariguani, Magd	1.71	263	P	Pn	07 49 43.8	+1.3
ARGC				S	Sn	07 50 07.9	+0.6
OCAC	Ocana	1.98	203	P	Pn	07 49 46.0	+0.3
OCAC				S	Sn	07 50 11.8	-1.2
SMRC	Santa Marta, M	2.00	303	Pn	Pn	07 49 46.1	+0.4
SMRC	Santa Marta, M	2.00	303	P	Pn	07 49 46.1	+0.4
SMRC				S	Sn	07 50 12.3	-0.7
CAPV	Capacho	2.20	175	eS	Sn	07 50 14.6	-3.1
SDV	Santo Domingo	2.20	122	P	Pn	07 49 49.8	+1.5
	896nm,0.4s,baz=353,slow=13,SNR=3348						
SDV				S	Sn	07 50 18.4	+0.8
	545nm,0.3s,baz=225,slow=17,SNR=57						
SDV	Santo Domingo	2.20	122	P	Pn	07 49 49.6	+1.3
SDV				S	Sn	07 50 17.7	+0.1
SDV	Santo Domingo	2.20	122	eP	Pn	07 49 49.9	+1.7
SOCV	Socops	2.42	137	eS	Sn	07 50 12.2	-10
SJCC	San Jacinto, C	2.62	266	P	Pn	07 49 53.0	-0.2
SJCC				S	Sn	07 50 26.4	0.0
PAMC	Pamplona, Colo	2.72	184	P	Pn	07 49 55.9	+1.1
PAMC				S	Sn	07 50 28.7	-0.5
TEPV	Terepaima	3.28	92	eP	Pn	07 50 03.0	+1.6
TEPV				eS	Sn	07 50 35.1	-6.1
BRJC	Barrancabermej	3.31	202	P	Pn	07 50 01.7	0.0
BRJC				S	Sn	07 50 38.0	-3.7
ZARC	Zaragoza, Cauc	3.45	222	P	Pn	07 50 03.0	-0.5
ZARC				S	Sn	07 50 41.8	-3.1
BARC	Barichara	3.52	191	P	Pn	07 50 05.1	+0.5
BARC				S	Sn	07 50 42.8	-4.1
TAMC	Tame, Arauca	3.68	169	P	Pn	07 50 07.5	+0.9
TAMC				S	Sn	07 50 48.5	-1.9
LCBC	Los crdobas,	3.98	253	P	Pn	07 50 09.9	-0.5
LCBC				S	Sn	07 50 52.9	-4.3
LCBC	Los crdobas,	3.98	253	eP	Pn	07 50 09.8	-0.5
LCBC				eS	Sn	07 50 54.0	-3.2
PTBC	PUERTO BERRIO,	4.00	209	P	Pn	07 50 09.8	-0.8
PTBC				S	Sn	07 50 53.8	-3.8
HATO	Hato, Curacao	4.08	59		Pn	07 50 13.1	+1.5
RUSC	La Rusia	4.19	188	Pn	Pn	07 50 13.3	-0.2
RUSC	La Rusia	4.19	188	P	Pn	07 50 13.0	-0.5
RUSC				S	Sn	07 50 53.1	-10
APAC	Apartado, Choc	4.55	242	P	Pn	07 50 17.9	+0.1
APAC				S	Sn	07 51 08.0	-2.6
BAUV	El Baul	4.56	104	eP	Pn	07 50 18.4	+0.5
BAUV				eS	Sn	07 51 02.6	-8.2
SPBC	San Pablo de B	4.65	199	P	Pn	07 50 18.7	-0.5
SPBC				S	Sn	07 51 11.6	-1.5
DBBC	Dabeiba	4.74	231	P	Pn	07 50 19.1	-1.3
DBBC				S	Sn	07 51 09.5	-5.7
BENV	Beln	4.85	91	eP	Pn	07 50 24.1	+2.2
BENV				eS	Sn	07 51 11.5	-6.3
HELC	Santa Helena	4.87	218	P	Pn	07 50 22.2	-0.2
HELC				S	Sn	07 51 14.2	-4.4
CAPC	Capurgana	4.97	254	P	Pn	07 50 21.0	-2.4
CAPC				S	Sn	07 51 12.8	-7.7
NORC	Norcasia	5.04	208	P	Pn	07 50 23.5	-0.9
	6μm191nm,0.6s						
NORC				S	Sn	07 51 16.0	-6.4
	6μm191nm,0.6s						
CBOC	Ciudad Bolivar	5.42	220	P	Pn	07 50 29.7	+0.2
	7μm305nm,0.8s						
CBOC				S	Sn	07 51 29.0	-2.5
	7μm305nm,0.8s						
ROSC	El Rosal	5.49	199	Pn	Pn	07 50 31.8	+1.2
ROSC	El Rosal	5.49	199	P	Pn	07 50 31.9	+1.3
	82nm,0.5s,baz=56,slow=9.0,SNR=38						
ROSC				S	Sn	07 51 37.1	+3.6
	79nm,0.4s,baz=62,slow=23,SNR=3.9						
ROSC	El Rosal	5.49	199	P	Pn	07 50 31.8	+1.2
	2μm117nm,0.6s						
ROSC				S	Sn	07 51 29.6	-3.9
	2μm117nm,0.6s						
CHIC	Chingaza	5.54	193	P	Pn	07 50 31.0	-0.2
	2μm107nm,0.7s						
CHIC				S	Sn	07 51 30.3	-4.2
	2μm107nm,0.7s						
GUY2C	Guyana, Caldas	5.58	211	P	Pn	07 50 31.9	+0.1
	5μm202nm,0.4s						
GUY2C				S	Sn	07 51 32.7	-2.9
	5μm202nm,0.4s						
UPD2	Meteti	5.63	255	eP	Pn	07 50 30.6	-1.5
UPD2				eS	Sn	07 51 31.8	-4.2
FUNV	FUNVISIS	5.64	85	eP	Pn	07 50 34.1	+1.9
FUNV				eS	Sn	07 51 30.8	-5.7
CVER	Cruz Verde, Cu	5.72	196	P	Pn	07 50 35.8	+2.0
CVER				S	Sn	07 51 33.2	-5.9
RECRC	Villamaria, Ca	5.80	209	P	Pn	07 50 36.4	+1.6
RECRC				S	Sn	07 51 37.9	-3.1
PTAC	Punta Ardita,	5.98	241	eP	Pn	07 50 36.1	-0.6
SOLC	Bahia Solano	6.16	232	P	Pn	07 50 39.2	+0.1
SOLC				S	Sn	07 51 44.5	-4.3
ANIL	Santa Ana	6.24	207	P	Pn	07 50 41.2	+0.8
ANIL				S	Sn	07 51 51.5	+0.5
PLMC	San Jos del P	6.34	216	P	Pn	07 50 41.5	-0.1
	7μm538nm,0.6s						
PLMC				S	Sn	07 51 50.6	-2.7
	7μm538nm,0.6s						
ORTC	Ortega, Tolima	6.69	204	P	Pn	07 50 45.9	-0.3
	3μm176nm,0.8s						
ORTC				S	Sn	07 51 56.7	-4.9
	3μm176nm,0.8s						
PRAC	Prado	6.74	201	P	Pn	07 50 45.7	-1.1
	2μm87nm,0.6s						
PIZC	Pizarro, Choco	6.98	224	P	Pn	07 50 51.3	+1.3
	3μm328nm,0.9s						
UPA	Univ. de Panam	7.00	262	eP	Pn	07 50 49.5	-0.8
UPA				eS	Sn	07 52 05.0	-3.9
URMC	La Uribe, Meta	7.02	195	P	Pn	07 50 50.8	+0.1
URMC				S	Sn	07 52 04.8	-4.8
YOTC	Yotoco, Valle	7.14	212	P	Pn	07 50 51.3	-1.0
	2μm214nm,0.6s						
YOTC				S	Sn	07 52 08.7	-3.7
	2μm214nm,0.6s						
CHOR3	La Chorrera	7.24	261	eP	Pn	07 50 52.7	-0.7
CHOR3				eS	Sn	07 52 11.1	-3.5
BCIP	Isla Barro Col	7.27	264	Pn	Pn	07 50 53.5	-0.4
BCIP	Isla Barro Col	7.27	264	P	Pn	07 50 53.2	-0.7
	50nm,0.6s						
BCIP				S	Sn	07 52 12.0	-3.3
	50nm,0.6s						
BCIP	Isla Barro Col	7.27	264	eP	Pn	07 50 52.9	-1.0
BCIP				eS	Sn	07 52 09.4	-5.9
GUVC	San Jose del G	7.48	181	P	Pn	07 50 55.6	-1.1
	3μm155nm,0.5s						
GUVC				S	Sn	07 52 20.6	+0.2
	3μm155nm,0.5s						
MALC	Bahia Malaga	7.68	219	P	Pn	07 50 59.9	+0.5
PCRV	Puerto La Cruz	7.77	89	P	Pn	07 51 01.0	+0.4
	14nm,0.3s,baz=301,slow=4.9,SNR=62						
PCRV				S	Sn	07 52 24.8	-2.6
	18nm,0.4s,baz=315,slow=23,SNR=8.8						
BETC	Betania	7.89	202	P	Pn	07 51 01.2	-1.0
JAMC	Jamundi, Valle	7.96	211	P	Pn	07 51 01.8	-1.5
	1μm65nm,0.5s						
MACC	Macarena, Meta	7.98	190	P	Pn	07 51 00.4	-3.0
	1μm93nm,0.7s						
GARC	Garzon, Huila	8.37	201	P	Pn	07 51 07.0	-1.8
PAPH	Port-au-Prince	8.41	1	Pn	Pn	07 51 09.7	+0.7
PAPH	Port-au-Prince	8.41	1	eP	Pn	07 51 09.6	+0.6
PAPH				eS	Sn	07 52 29.0	-14
PAPH				IVMs_BB	IVMs_BB	07 52 45.2	
	comp=E,191nm,2.6s						
PAPH				IVMs_BB	IVMs_BB	07 52 51.6	
	comp=N,149nm,2.8s						
BANI	BANI	8.54	14		Pn	07 51 10.3	-0.5
POPC	Popayan, Colom

SABA	Saba	11.72	49		Pn	07 51 50.1	-2.6
CBCY	The Bluff, Cay	11.88	325	eP	Pn	07 51 55.8	+1.0
FDF	Fort de France	12.04	66	Pn	Pn	07 51 52.8	-4.0
SLOR	San Lorenzo -	12.27	209		Pn	07 51 59.2	-1.0
ACON	Acoyapa	12.56	280	Pn	Pn	07 52 04.1	+0.4
BOAB	BOACO BROADBAN	13.11	282	Pn	Pn	07 52 11.3	+0.7
COHC	Cochancay	14.14	209		Pn	07 52 23.9	+0.1
BOAV	Boa Vista	14.15	122	Pn	Pn	07 52 24.6	+0.8
TBTG	Tabatinga, AM	14.40	169		Pn	07 52 26.3	-0.7
TBTG	Tabatinga, AM	14.40	169	eP	Pn	07 52 26.4	-0.5
TEFE	Tefe	15.61	149	eP	Pn	07 52 41.7	-0.2
MACA	Manacapuru-AM	17.66	138	P	P	07 53 05.4	0.0
MACA				IAmb	IAmb	07 53 08.4	
	comp=Z,8.8nm,0.8s						
CZSB	Cruzeiro do Su	17.68	181	P	P	07 53 04.8	-0.9
CZSB				IAmb	IAmb	07 53 06.9	
	comp=Z,18nm,0.8s						
CZSB	Cruzeiro do Su	17.68	181	eP	P	07 53 05.8	+0.2
ATAH	Atahualpa	18.06	199	P	Pn	07 53 11.5	-0.4
	comp=Z,8.3nm,0.4s,baz=20,slow=7.4,SNR=9.4						
ATAH				LR	LR	08 02 00.4	
	comp=Z,110nm,20.4s,baz=59,slow=42						
APG	El Apazote	18.18	287	P	Pn	07 53 15.9	+2.7
	comp=Z,1.1nm,0.7s,baz=126,slow=9.8,SNR=10						
TEIG	Tepich	18.24	305	P	Pn	07 53 13.5	0.0
HUEH	Huehuetenango	19.23	288	P	P	07 53 23.4	+0.6
CCIG	Comitan	20.06	290	P	P	07 53 32.7	+1.1
GOGA	Godfrey	25.32	338	P	P	07 54 24.4	+2.0
GOGA				IAmb	IAmb	07 54 45.7	
	comp=Z,9.7nm,1.4s						
HODGE	Hodges	25.65	341	P	P	07 54 27.4	+2.0
HODGE				IAmb	IAmb	07 54 27.7	
	comp=Z,5.2nm,0.7s						
Y52A	Lilburn	25.95	338	P	P	07 54 30.5	+2.4
Y52A				IAmb	IAmb	07 54 48.5	
	comp=Z,8.8nm,1.2s						
LPAZ	La Paz	26.55	171	P	P	07 54 35.1	+0.8
LPAZ	La Paz	26.55	171	P	P	07 54 35.0	+0.7
	comp=Z,1.0nm,0.4s,baz=340,slow=3.6,SNR=8.6						
LPAZ				pP	pP	07 55 09.4	+2.6
	comp=Z,1.7nm,0.7s,baz=342,slow=7.6,SNR=3.7						
	comp=Z,1.0nm,0.4s						
Y49A	Blount Mountai	26.89	334	P	P	07 54 38.3	+1.8
Y49A				IAmb	IAmb	07 54 43.8	
	comp=Z,5.6nm,1.1s						
Z47A	Carrollton	27.11	330	P	P	07 54 40.8	+2.3
Z47A				IAmb	IAmb	07 54 52.5	
	comp=Z,8.8nm,1.1s						
FPAL	Fort Paine	27.14	336	P	P	07 54 41.2	+2.4
W50A	Signal Mountai	27.60	337	P	P	07 54 45.4	+2.4
W50A				IAmb	IAmb	07 54 48.3	
	comp=Z,6.1nm,1.0s						
X48A	Hartselle	27.67	334	P	P	07 54 45.4	+1.9
X48A				IAmb	IAmb	07 55 01.2	
	comp=Z,12nm,1.4s						
SIV	San Ignacio	28.27	156	P	P	07 54 48.4	-0.6
	comp=Z,4.3nm,0.6s,baz=344,slow=8.7,SNR=25						
SIV				pP	pP	07 55 24.3	+2.5
	comp=Z,2.4nm,0.6s,baz=328,slow=9.4,SNR=4.9						
	comp=Z,4.3nm,0.6s						
PTLB	Pontes e Lacer	28.61	152	P	P	07 54 51.6	-0.3
U49A	Red Boiling Sp	28.94	338	P	P	07 54 56.8	+2.1
WVT	Waverly	29.43	334	P	P	07 55 00.6	+1.5
T47A	Sharon Grove	29.87	336	P	P	07 55 04.8	+1.9
T47A				IAmb	IAmb	07 55 05.3	
	comp=Z,6.3nm,0.7s						
R50A	Paris	30.02	341	P	P	07 55 06.8	+2.5
R50A				IAmb	IAmb	07 55 29.4	
	comp=Z,5.9nm,1.4s						
X40A	Basin Creek Fa	30.59	326	P	P	07 55 10.9	+1.5
X40A				IAmb	IAmb	07 55 11.1	
	comp=Z,6.1nm,1.5s						
P52A	Corning	30.66	345	P	P	07 55 11.7	+1.8
P52A				IAmb	IAmb	07 55 15.4	
	comp=Z,7.6nm,1.1s						
WHAR	Wooly Hollow	30.90	327	P	P	07 55 13.4	+1.4
WHAR				IAmb	IAmb	07 55 14.6	
	comp=Z,11nm,1.2s						
LCAR	Lake Charles	30.92	330	P	P	07 55 13.3	+1.1
LCAR				IAmb	IAmb	07 55 14.4	
	comp=Z,6.0nm,1.2s						
O52A	Adamsville	31.05	346	P	P	07 55 15.4	+2.1
MIAR	Mount Ida	31.05	325	P	P	07 55 14.9	+1.5
MIAR				IAmb	IAmb	07 55 15.1	
	comp=Z,5.7nm,0.9s						
435B	Jarrell	31.11	315	P	P	07 55 15.6	+1.7
CGM3	Cape Girardeau	31.21	333	P	P	07 55 16.0	+1.2
CGM3				IAmb	IAmb	07 55 26.2	
	comp=Z,5.1nm,0.9s						
KSPA	Keystone Colle	31.49	355	P	P	07 55 19.3	+2.1
T42A	Van Buren	31.66	331	P	P	07 55 19.8	+1.1
T42A				IAmb	IAmb	07 55 20.1	
	comp=Z,3.3nm,0.5s						
OLIL	Olney	31.77	336		P	07 55 21.4	+1.8
FVM	French Village	32.12	333	P	P	07 55 24.5	+1.8
MGMO	Mountain Grove	32.33	330	P	P	07 55 25.8	+1.2
MGMO				IAmb	IAmb	07 55 26.0	
	comp=Z,5.2nm,1.2s						
BRDY	Brady	32.39	315	P	P	07 55 25.8	+0.6
HHAR	Hobbs	32.53	327	P	P	07 55 27.1	+0.8
HHAR				IAmb	IAmb	07 55 27.7	
	comp=Z,5.2nm,1.1s						
CCM	Cathedral Cave	32.55	332	P	P	07 55 27.3	+0.8
CCM				IAmb	IAmb	07 55 28.6	
	comp=Z,5.4nm,1.0s						
DRIO	Del Rio	32.56	310	P	P	07 55 26.1	-0.7
DRIO				IAmb	IAmb	07 55 27.7	
	comp=Z,4.1nm,0.8s						
SFIN	Lafayette	32.84	339	P	P	07 55 30.4	+1.4
P43A	Skaggs, Pawnee	33.12	336	P	P	07 55 32.8	+1.4
R40A	Maddies Statio	33.22	331	P	P	07 55 33.3	+1.0
R40A				IAmb	IAmb	07 55 36.6	
	comp=Z,4.7nm,0.9s						
OK031	S. Brethren Rd	33.93	323	P	P	07 55 39.3	+0.8
SGCY	Sterling City	34.24	314	IAmb	IAmb	07 55 43.1	
	comp=Z,11nm,1.1s						
WMOK	Wichita Mounta	34.32	320	IAmb	IAmb	07 55 43.2	
	comp=Z,4.3nm,0.9s						
APMT	Aspermont	34.34	317	P	P	07 55 43.5	+1.4
AQDB	Aquidauana	34.57	151	P	P	07 55 44.5	+0.3
AQDB				IAmb	IAmb	07 55 45.2	
	comp=Z,7.1nm,0.7s						
AQDB	Aquidauana	34.57	151	eP	P	07 55 44.0	-0.1
SN07	Snyder 07	34.73	316	IAmb	IAmb	07 55 46.6	
	comp=Z,4.5nm,0.6s						
TXAR	Lajitas Array	34.85	308	P	P	07 55 47.4	+0.7
	comp=Z,1.5nm,0.7s,baz=130,slow=9.4,SNR=21						
TXAR				PcP	PcP	07 58 17.0	+0.7
	comp=Z,1.2nm,0.7s,baz=144,slow=5.7,SNR=7.2						
	comp=Z,1.5nm,0.7s						
SADO	Sadowa	35.04	352	P	P	07 55 49.4	+1.5
DKNS	Dickens	35.09	316	IAmb	IAmb	07 55 50.4	
	comp=Z,5.8nm,0.6s						
MNHN	Monahans	35.13	312	IAmb	IAmb	07 55 50.0	
	comp=Z,4.2nm,0.7s						
POST	Post	35.14	315	P	P	07 55 50.2	+1.2
BDFB	Brasilia	35.24	136	P	P	07 55 50.2	+0.1
	comp=Z,0.5nm,0.4s,baz=302,slow=17,SNR=1.2						
BDFB				pP	pP	07 56 22.9	-0.6
	comp=Z,1.3nm,0.6s,baz=303,slow=9.9,SNR=2.2						
	comp=Z,0.5nm,0.4s						
JFWS	Jewell Farm	36.20	338	P	P	07 55 58.6	+0.8
MSTX	Muleshoe	36.52	315		P	07 56 01.5	+0.7
MSTX				IAmb	IAmb	07 56 02.3	
	comp=Z,7.9nm,0.9s						
VHRN	Van Horn	36.53	309	IAmb	IAmb	07 56 03.8	
	comp=Z,3.5nm,0.7s						
EPT	El Paso	38.14	310	IAmb	IAmb	07 56 16.2	
	comp=Z,6.6nm,0.7s						
T25A	Trinidad	39.41	318	IAmb	IAmb	07 56 28.2	
	comp=Z,3.5nm,0.7s						
ANMO	Albuquerque	39.62	314	P	P	07 56 28.5	+1.7
319A	Douglas	40.11	307	IAmb	IAmb	07 56 33.6	
	comp=Z,7.8nm,1.0s						
SDCO	Great Sand Dun	40.47	318	IAmb	IAmb	07 56 36.2	
	comp=Z,4.1nm,0.7s						
AGMN	Agassiz Nation	42.85	337	IAmb	IAmb	07 56 54.7	
	comp=Z,4.6nm,0.5s						
PV13	Radium Mtn., P	42.90	317	IAmb	IAmb	07 56 56.4	
	comp=Z,7.8nm,0.8s						
PV11	David Mesa, Pa	43.01	317	IAmb	IAmb	07 56 57.8	
	comp=Z,4.9nm,0.6s						
WUAZ	Wupatki	43.44	312	IAmb	IAmb	07 57 01.3	
	comp=Z,4.7nm,0.8s						
ULM	Lac du Bonnet	44.47	339	IAmb	IAmb	07 57 06.3	
	comp=Z,10nm,1.1s						
ULM	Lac du Bonnet	44.47	339	P	P	07 57 05.5	-0.2
	comp=Z,5.3nm,0.5s,baz=138,slow=7.8,SNR=14						
	comp=Z,5.3nm,0.5s						
SCHQ	Schefferville	44.88	5	P	P	07 57 09.1	+0.3
	comp=Z,3.0nm,0.5s,baz=187,slow=7.0,SNR=11						
	comp=Z,3.0nm,0.5s						
KNB	Kanab	45.15	313	IAmb	IAmb	07 57 14.2	
	comp=Z,5.0nm,0.8s						
BSUT	Blindstream Ca	45.41	319	P	P	07 57 15.3	+1.5
PD31	Pinedale Array	45.86	322	IAmb	IAmb	07 57 18.3	
	comp=Z,4.3nm,0.6s						
PDAR	Pinedale Array	45.86	322	P	P	07 57 18.1	+1.0
PDAR	Pinedale Array	45.86	322	P	P	07 57 17.9	+0.8
	comp=Z,4.3nm,0.6s,baz=127,slow=10,SNR=40						
PDAR				PcP	PcP	07 58 50.9	-0.9
	comp=Z,0.7nm,0.4s,baz=115,slow=6.7,SNR=6.9						
	comp=Z,4.3nm,0.6s						
V12A	Nelson	46.10	311	P	P	07 57 20.7	+1.8
V12A				IAmb	IAmb	07 57 21.1	
	comp=Z,6.8nm,0.8s						
LOHW	Long Hollow	46.97	322	P	P	07 57 27.3	+1.6
LOHW				IAmb	IAmb	07 57 27.7	
	comp=Z,5.5nm,0.8s						
SNOW	Snow King Moun	46.98	322	P	P	07 57 27.5	+1.7
SNOW				IAmb	IAmb	07 57 28.6	
	comp=Z,6.3nm,0.7s						
BGU	Big Grassy Mou	47.10	318	IAmb	IAmb	07 57 28.6	
	comp=Z,3.6nm,0.7s						
TPAW	Teton Pass	47.11	322	IAmb	IAmb	07 57 27.5	
	comp=Z,3.7nm,0.7s						
FXWY	Fox Creek	47.24	322	P	P	07 57 28.8	+1.0
R11B	Troy Canyon, C	47.70	313	P	P	07 57 33.0	+1.7
YHL	Hebgen Lake	48.00	323	IAmb	IAmb	07 57 36.9	
	comp=Z,10nm,1.3s						
CCAC	Calif City Air	48.30	308	IAmb	IAmb	07 57 37.8	
	comp=Z,7.9nm,0.8s						
EGMT	Eagleton	49.07	327	P	P	07 57 42.6	+1.0
EGMT				IAmb	IAmb	07 57 43.5	
	comp=Z,4.8nm,0.8s						
DLMT	Dillon	49.12	323	P	P	07 57 43.7	+1.6
DLMT				IAmb	IAmb	07 57 45.1	
	comp=Z,6.0nm,1.3s						
NVAR	Mina Array Bea	49.69	312	P	P	07 57 47.5	+0.9
	comp=Z,1.1nm,0.6s,baz=113,slow=7.1,SNR=12						
NVAR				PcP	PcP	07 59 05.8	+0.3
	comp=Z,1.1nm,0.6s,baz=139,slow=4.4,SNR=9.2						
	comp=Z,1.1nm,0.6s						
MFID	Camas Ranch	50.12	319	P	P	07 57 50.6	+0.9
MFID				IAmb	IAmb	07 57 53.1	
	comp=Z,4.8nm,1.1s						
PLCA	Paso Flores	50.58	178	P	P	07 57 53.4	+0.4
	comp=Z,1.0nm,0.7s,baz=350,slow=7.5,SNR=5.4						
	comp=Z,1.0nm,0.7s						
G08A	Pilot Rock	52.98	320	IAmb	IAmb	07 58 12.6	
	comp=Z,5.3nm,1.0s						
E09A	Wood Farm, Sta	53.04	322	IAmb	IAmb	07 58 12.8	
	comp=Z,3.8nm,1.0s						
PINE	Pine Mountain	53.62	318	IAmb	IAmb	07 58 17.9	
	comp=Z,5.7nm,0.9s						
B08A	Colville Reser	54.62	323	IAmb	IAmb	07 58 24.0	
	comp=Z,5.3nm,0.8s						
H04A	Detroit Lake	54.80	318	IAmb	IAmb	07 58 25.7	
	comp=Z,4.6nm,0.7s						
YKA	Yellowknife Ar	60.45	339	P	P	07 59 03.0	0.0
	comp=Z,2.7nm,0.7s,baz=132,slow=7.0,SNR=43						
YKA				PcP	PcP	07 59 45.8	-0.4
	comp=Z,0.4nm,0.6s,baz=122,slow=4.9,SNR=6.2						
	comp=Z,2.7nm,0.7s						
DBIC	Dimbokro	66.94	87	P	P	07 59 44.4	-2.0
	comp=Z,3.8nm,1.1s,baz=286,slow=2.6,SNR=3.6						
	comp=Z,3.8nm,1.1s						
ESDC	Sonseca Array	67.15	51	P	P	07 59 47.3	-0.1
	comp=Z,0.6nm,0.7s,baz=273,slow=6.3,SNR=5.3						
	comp=Z,0.6nm,0.7s						
EKA	Eskdalemuir Ar	70.07	35	P	P	08 00 04.8	-0.3
	comp=Z,0.8nm,0.5s,baz=254,slow=4.8,SNR=2.1						
	comp=Z,0.8nm,0.5s						
E29M	Blow River	71.74	339	P	P	08 00 15.4	+0.5
E29M				IAmb	IAmb	08 00 16.4	
	comp=Z,8.8nm,1.0s						
E28M	Babbage River	72.38	339	IAmb	IAmb	08 00 19.6	
	comp=Z,5.1nm,0.8s						
TORD	Torodi Ar. Bea	72.53	79	P	P	08 00 20.2	-0.5
	comp=Z,1.4nm,0.3s,baz=285,slow=7.1,SNR=1.6						
	comp=Z,1.4nm,0.3s						
E27K	Coleen River	72.99	339	IAmb	IAmb	08 00 23.7	
	comp=Z,9.5nm,1.4s						
ILAR	Eielson Array	74.29	335	P	P	08 00 30.0	0.0
	comp=Z,0.9nm,0.5s,baz=106,slow=4.3,SNR=8.1						
	comp=Z,0.9nm,0.5s						
RND	Reindeer	74.94	333	P	P	08 00 34.7	+0.8
FETA	Feichten	78.12	44	i P	P	08 00 52.6	+0.4
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	78.23	30	P	P	08 00 52.4	0.0
	comp=Z,1.1nm,0.7s,baz=270,slow=5.9						
NOA	NORSAR Array B	78.23	30	P	P	08 00 52.3	-0.1
	comp=Z,1.0nm,0.7s,baz=269,slow=5.7,SNR=4.1						
	comp=Z,1.0nm,0.7s						
E19K	Redstone River	78.74	337	IAmb	IAmb	08 00 56.6	
	comp=Z,5.2nm,0.7s						
D19K	Kuna River	79.08	338	IAmb	IAmb	08 00 58.7	
	comp=Z,4.1nm,0.8s						
ABTA	Abfaltersbach	79.36	44	eP	P	08 00 58.8	-0.1
	comp=Z,0.7nm,0.4s						
SPITS	Spitsbergen Ar	79.99	12	P	P	08 01 01.7	+0.1
	comp=Z,7.9nm,0.9s,baz=270,slow=0.7,SNR=12						
	comp=Z,7.9nm,0.9s						
GERES	GERESS Array B	80.02	42	P	P	08 01 01.9	-0.5
	baz=237,slow=8.9						
E18K	Tukpahlearik C	80.04	337	IAmb	IAmb	08 01 03.3	
	comp=Z,3.1nm,0.6s						
RDOG	Red Dog Mine	80.88	338	IAmb	IAmb	08 01 08.2	
	comp=Z,7.4nm,0.7s						
C16K	Lisburne Hills	81.77	338	P	P	08 01 12.4	+1.3
C16K				IAmb	IAmb	08 01 13.2	
	comp=Z,8.4nm,1.0s						
ARCES	ARCESS Array B	83.44	21	P	P	08 01 19.7	-0.1
	comp=Z,1.9nm,0.6s,baz=285,slow=4.6,SNR=11						
	comp=Z,1.9nm,0.6s						
FINES	FINESS Array B	85.32	28	P	P	08 01 29.2	-0.2
	comp=Z,4.4nm,1.0s,baz=270,slow=9.5,SNR=6.6						
	comp=Z,4.4nm,1.0s						
MKAR	Makanchi Array	119.08	20	PKP	PKPdf	08 07 39.0	-1.6
	comp=Z,0.2nm,0.4s,baz=320,slow=1.8,SNR=6.2						
CMAR	Chiang Mai Arr	150.43	17	PKPbc	PKPbc	08 08 43.8	-0.4
	comp=Z,1.6nm,0.4s,baz=319,slow=3.4,SNR=12						
ASAR	Alice Springs	151.39	238	PKP	PKPdf	08 08 40.0	-0.1
	comp=Z,0.9nm,0.7s,baz=100,slow=2.2,SNR=9.7						
ASAR				PKPbc	PKPbc	08 08 45.5	-0.9
	comp=Z,7.3nm,0.7s,baz=113,slow=2.4,SNR=42						
ASAR				pPKPbc	pPKPbc	08 09 28.8	+1.2
	comp=Z,1.9nm,0.8s,baz=113,slow=2.2,SNR=5.2						
WRA	Warramunga Arr	152.30	246	PKP	PKPdf	08 08 41.6	+0.1
	comp=Z,0.4nm,0.7s,baz=90,slow=1.0,SNR=6.8						
WRA				PKPbc	PKPbc	08 08 47.8	-0.7
	comp=Z,9.9nm,0.4s,baz=105,slow=2.8,SNR=252						
WRA				pPKPbc	pPKPbc	08 09 30.7	+1.0
	comp=Z,1.7nm,0.5s,baz=102,slow=2.3,SNR=5.3						

IDC 17 07:56:04.7±10.0, 7°.32S×129°.11E, h251km±128km, mb2.8/1, mbtmp3.4/4, Error ellipse: s-maj=75.9km s-min=55.8km az=25.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.23	197	P	Pn	07 58 39.8	+1.1
	0.8nm,0.7s,baz=29,slow=10,SNR=1.1						
FITZ				S	S	08 00 43.1	-1.3
	3.5nm,1.0s,baz=330,slow=14,SNR=2.6						
WRA	Warramunga Arr	13.54	158	P	Pn	07 59 06.8	-0.4
	0.5nm,0.4s,baz=341,slow=12,SNR=13						
WRA				S	S	08 01 25.6	-12
	0.2nm,0.4s,baz=339,slow=24,SNR=5.7						
ASAR	Alice Springs	16.89	165	P	P	07 59 45.5	+0.2
	0.2nm,0.3s,baz=346,slow=10,SNR=5.2						
MKAR	Makanchi Array	68.01	327	P	P	08 06 36.9	-0.1
	0.2nm,0.4s,baz=114,slow=8.1,SNR=2.8						
	0.2nm,0.4s						

KRSC 17 07:59:58.9±0.6, 55°.53N×162°.37E, h74km±13km, Ml3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.73	20	eP	Pn	08 00 15.8	+1.4
KBTR				eS	Sn	08 00 27.4	+1.6
KBG	Krutoberegovo	0.76	14	eP	Pn	08 00 15.9	+1.3
KBG				eS	Sn	08 00 28.1	+1.8
ZLN	Zelenaya	1.01	300	eP	Pn	08 00 19.4	+1.5
ZLN				eS	Sn	08 00 33.8	+1.8
BZGR	Bezymyannyi-Gr	1.03	294	eP	Pn	08 00 19.3	+1.2
BZGR				eS	Sn	08 00 33.6	+1.2
MKZ	Mys Kozlova	1.04	201	eP	Pn	08 00 19.3	+1.3
MKZ				eS	Sn	08 00 33.7	+1.4
CIRR	Tsirk	1.09	304	eP	Pn	08 00 20.4	+1.5
CIRR				eS	Sn	08 00 35.4	+1.7
LGNR	Loginova	1.10	301	eP	Pn	08 00 20.7	+1.6
LGNR				eS	Sn	08 00 35.8	+1.6
BZWR	Bezymyannyi-We	1.15	293	eP	Pn	08 00 21.2	+1.6
BZWR				eS	Sn	08 00 37.2	+2.1
TUMD	Tumrok D	1.17	255	eP	Pn	08 00 20.8	+1.1
TUMD				eS	Sn	08 00 35.9	+0.6
SMKR	Semkarok	1.18	335	eP	Pn	08 00 21.4	+1.6
SMKR				eS	Sn	08 00 37.6	+2.1
KIRR	Kirishev	1.23	291	eP	Pn	08 00 22.4	+1.8
KIRR				eS	Sn	08 00 38.5	+1.8
KMNR	Kamenistaya	1.23	282	eP	Pn	08 00 22.1	+1.5
KMNR				eS	Sn	08 00 37.0	+0.1
KRSR	Krestovskiy	1.23	305	eP	Pn	08 00 21.6	+1.0
KRSR				eS	Sn	08 00 36.8	0.0
KLY	Klyuchi	1.25	310	eP	Pn	08 00 20.7	0.0
KLY				eS	Sn	08 00 36.1	-0.9
KPT	Kopyto	1.29	291	eP	Pn	08 00 22.9	+1.6
KPT				eS	Sn	08 00 38.6	+0.4
SRKR	Sorokina	1.32	330	eS	Sn	08 00 41.0	+2.2
KOZ	Kozyrevsk	1.51	292	eP	Pn	08 00 26.0	+1.9
KOZ				eS	Sn	08 00 45.8	+2.7
SRDR	Sredinnyy	1.69	299	eP	Pn	08 00 28.9	+2.3
SRDR				eS	Sn	08 00 50.1	+2.7
BKI	Bering	2.08	97	eP	Pn	08 00 33.9	+2.2
BKI				eS	Sn	08 00 58.4	+1.8
ESO	Esso	2.11	282	eP	Pn	08 00 34.1	+1.9
KII	Karymskiy	2.25	230	eP	Pn	08 00 36.5	+2.4
KII				eS	Sn	08 01 02.7	+1.7
SPN	Mys Shipunski	2.79	210	eP	Pn	08 00 43.1	+1.8
SPN				eS	Sn	08 01 14.0	+0.1
NLC	Nalytchevo	2.95	218	eP	Pn	08 00 45.7	+2.3
NLC				eS	Sn	08 01 19.5	+1.8
SDLR	Sedlovina	3.04	224	eP	Pn	08 00 47.5	+2.7
SDLR				eS	Sn	08 01 24.0	+4.0
KRX	Arik	3.07	227	eP	Pn	08 00 48.2	+2.9
KRX				eS	Sn	08 01 24.4	+3.5
AVH	Avacha	3.10	225	eP	Pn	08 00 48.8	+3.2
AVH				eS	Sn	08 01 25.7	+4.1
UGLR	Uglovaya	3.11	223	eP	Pn	08 00 48.6	+2.9
UGLR				eS	Sn	08 01 24.4	+2.6
KOK	Koryaka	3.12	226	eP	Pn	08 00 49.0	+3.0
GNL	Ganaly	3.16	236	eP	Pn	08 00 49.6	+3.2
DALK	Dalny	3.28	222	eP	Pn	08 00 50.4	+2.6
DALK				eS	Sn	08 01 28.2	+2.5
PET	Petropavlovsk	3.32	223	eP	Pn	08 00 50.7	+2.2
PET				eS	Sn	08 01 30.5	+3.8
KRMR	Karymshinskiy	3.67	224	eP	Pn	08 00 56.8	+3.5
KRMR				eS	Sn	08 01 39.8	+4.5
OSSR	Ossora	3.75	5	eP	Pn	08 00 56.5	+2.1
OSSR				eS	Sn	08 01 37.7	+0.5
RUS	Russkaya	3.84	218	eP	Pn	08 00 57.8	+2.2
RUS				eS	Sn	08 01 41.6	+2.1
GRL	Gorelyy	3.91	222	eP	Pn	08 01 00.8	+4.2
GRL				eS	Sn	08 01 44.7	+3.4
APC	Apacha	4.02	232	eP	Pn	08 01 01.9	+4.0
KDTR	Khodutka, Kamc	4.51	216	eP	Pn	08 01 06.9	+2.2
KDTR				eS	Sn	08 01 58.5	+2.7

DJA 17 08:01:22.1±0.5, 10°.S±4°.×12°.4E±°, h64km±12km, M3.6/7, mb3.9/2, MLv3.5/7
IDC 17 08:01:29.3±1.9, 10°.62S×124°.58E, h0km, mb3.2/1, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=75.9km s-min=24.9km az=65.0
ISC 17 08:01:20.2±1.1, 9°.7S±0°.1×124°.2E±0°.1, h100km, n10, σ2.9 37/11, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.10	166	P	Pn	08 01 33.5	-0.8
MMRI	Maumere	2.22	297	P	Pn	08 01 54.6	-1.1
BASI	Baing, Sumba	3.65	261	P	Pn	08 02 13.9	-0.8
WBSI	Waikabubak, Su	4.78	270	P	Pn	08 02 28.5	-1.5
BSSI	Bau Bau, Buton	5.10	313	P	Pn	08 02 33.7	-0.6
BKSI	Bulukumba	5.93	316	P	Pn	08 02 43.7	-1.9
	0.1nm18nm,1.8s						
FITZ	Fitzroy Crossi	8.50	171	Pn	Pn	08 03 21.0	+0.5
	0.2nm,0.3s,baz=331,slow=9.3,SNR=8.3						
FITZ				Sn	Sn	08 04 47.4	-7.4
	0.8nm,0.3s,baz=110,slow=23,SNR=18						
	0.7nm,0.3s						
WRA	Warramunga Arr	14.13	138	Pn	Pn	08 04 36.5	+0.7
	0.1nm,0.3s,baz=311,slow=13,SNR=6.0						
WRA				Sn	Sn	08 07 07.2	-4.4
	0.1nm,0.3s,baz=311,slow=25,SNR=2.5						
	0.2nm,0.4s						

WRA	Warramunga Arr	17.40 132	P	Pn	08 17 44.6	+1.0
	1.4nm,0.4s,baz=308,slow=12,SNR=14					
WRA			S	S	08 20 51.2	-1.3
	0.5nm,0.6s,baz=313,slow=27,SNR=2.9					
ASAR	Alice Springs	19.65 141	P	Pn	08 18 12.8	+2.7
	2.2nm,0.7s,baz=324,slow=13,SNR=8.5					
ASAR			S	S	08 21 40.9	+3.9
	0.7nm,0.6s,baz=333,slow=24,SNR=5.4					
	2.2nm,0.7s					
GUMO	Guam	32.58 48	LR	LR	08 36 18.8	
	comp=Z,38nm,18.0s,baz=29,slow=41					
MKAR	Makanchi Array	64.84 332	P	P	08 24 09.9	-0.1
	0.3nm,0.5s,baz=134,slow=7.6,SNR=4.5					
	0.3nm,0.5s					
ZALV	Zalesovo Beam	69.24 338	P	P	08 24 37.4	-0.1
	0.7nm,0.3s,baz=145,slow=6.3,SNR=4.3					
	0.7nm,0.3s					
KURBB	Kurchatov Arra	69.33 333	P	P	08 24 39.6	+1.5
	0.2nm,0.4s,baz=140,slow=5.8,SNR=3.0					
	0.2nm,0.4s					
QSPA	South Pole Qui	81.43 180	P	P	08 25 50.1	+3.1
	1.1nm,0.9s,baz=315,slow=3.5,SNR=3.1					
	1.1nm,0.9s					

IDC 17 08:19:21.8±1.6, 25°.63N×141°.95E, h0km, mb3.6/6, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=49.7km s-min=19.7km az=92.0

ISC 17 08:19:26.6±1.5, 25°.6N±0°.1×142°.0E±0°.3, h35km, n14, σ19/30, mb3.6/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.50	7	Pn	Pn	08 19 49.5	-1.6
	35nm,0.3s,baz=272,slow=22,SNR=8.6						
JCJ				Sn	Sn	08 20 11.7	+2.2
	31nm,0.3s,baz=290,slow=23,SNR=8.9						
KSRS	Korea Array	16.81	318	Pn	Pn	08 23 18.8	-0.5
	0.2nm,0.3s,baz=136,slow=12,SNR=4.8						
	0.6nm,0.7s						
H11N2	WAKE ISLAND Hy	23.70	99	T	T	08 49 57.9	
	baz=288						
H11N1	WAKE ISLAND Hy	23.70	99	T	T	08 49 59.1	
	baz=288						
H11N3	WAKE ISLAND Hy	23.71	99	T	T	08 50 00.5	
	baz=288						
H11S3	WAKE ISLAND Hy	23.93	102	T	T	08 50 13.4	
	baz=291,slow=75						
H11S1	WAKE ISLAND Hy	23.94	102	T	T	08 50 14.1	
	baz=291,slow=75						
H11S2	WAKE ISLAND Hy	23.95	102	T	T	08 50 14.7	
	baz=291,slow=75						
SONM	Songino Array	35.69	318	P	P	08 26 22.3	+0.6
	0.3nm,0.4s,baz=102,slow=6.6,SNR=2.4						
	0.3nm,0.4s						
WRA	Warramunga Arr	45.87	190	P	P	08 27 46.4	+0.6
	1.5nm,0.7s,baz=8.6,slow=8.6,SNR=18						
	1.5nm,0.7s						
MKAR	Makanchi Array	51.30	311	P	P	08 28 26.8	-0.5
	0.2nm,0.5s,baz=99,slow=7.6,SNR=1.8						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	53.97	315	P	P	08 28 46.7	-0.2
	0.2nm,0.6s,baz=95,slow=8.5,SNR=1.9						
	0.2nm,0.6s						
BVAR	Borovoye Array	59.03	318	P	P	08 29 23.7	+0.8
	0.3nm,0.5s,baz=75,slow=1.6,SNR=1.9						
	0.3nm,0.5s						
FINES	FINESS Array B	79.21	334	P	P	08 31 27.0	-0.8
	2.6nm,0.9s,baz=33,slow=7.3,SNR=3.9						
	2.6nm,0.9s						

TAP 17 08:20:38.7, 24°.69N×121°.98E, h8km, ML3.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.14	236	*i* P	Pg	08 20 41.9	+0.2
TWC				S	Sg	08 20 44.2	+0.4
EGS		0.16	346	*i* P	Pg	08 20 42.4	+0.2
EGS				*i* S	Sg	08 20 45.3	+0.8
TWE	Neicheng	0.28	277	*i* P	Pg	08 20 44.7	+0.4
TWE				*i* S	Sg	08 20 48.2	+0.1
EWUT	Wuta	0.30	217	P	Pg	08 20 44.8	+0.1
EWUT				S	Sg	08 20 48.7	0.0
TIPB	Shuangxi	0.31	334	P	Pg	08 20 45.2	+0.3
TIPB				S	Sg	08 20 49.9	+0.7
ENA	Nanau	0.34	220	P	Pg	08 20 45.3	0.0
EOS2	EOS2	0.36	139	P	Pg	08 20 45.2	-0.5
FUSB	Fushanzhiwuyua	0.36	282	P	Pg	08 20 46.5	+0.7
FUSB				S	Sb	08 20 52.4	-0.9
ENTT	Nioudou	0.38	263	*i* P	Pb	08 20 47.0	-0.7
ENTT				*i* S	Sg	08 20 51.6	+0.6
SXI1	Grass Mountain	0.41	347	*e*P	Pg	08 20 47.0	+0.2
NWF	Wu-fen Shan	0.42	335	*e*P	Pg	08 20 46.9	-0.1
WFSB	Wu-fen Shan	0.42	335	*e*P	Pg	08 20 46.9	-0.1
LATG	Datong	0.44	250	*i* P	Pb	08 20 48.0	-0.7
NWLT	Wulai	0.44	282	*e*P	Pg	08 20 47.8	+0.5
NWLT				*e*S	Sg	08 20 53.6	+0.5
EOS3	EOS3	0.51	142	*e*P	Pg	08 20 48.2	-0.4
YHNB	Yeheng	0.55	268	P	Pb	08 20 50.4	-0.2
NSK	Sanguang	0.56	269	P	Pg	08 20 50.2	+0.5
YM01	YM01	0.59	321	P	Pb	08 20 51.2	0.0
NNSB	Datong	0.60	245	*e*P	Pg	08 20 50.3	-0.1
ZUZH	Zhuzihu	0.61	320	P	Pb	08 20 51.6	-0.1
NACB	Ninganchiao	0.62	214	P	Pg	08 20 50.7	+0.1
EOS4	EOS4	0.65	151	*e*P	Pg	08 20 50.5	-0.7
TWS1	Kuangyinshan	0.65	309	P	Pb	08 20 52.0	-0.4
ETLH	Xiulin Townshi	0.66	223	*e*P	Pg	08 20 51.5	0.0
NTST	Danshui	0.67	315	*e*P	Pb	08 20 52.8	0.0
TWY	Chenhua	0.68	330	*e*P	Pg	08 20 51.8	0.0
NCUH	Zhongli	0.77	291	*e*P	Pn	08 20 55.5	-0.4
NFF	Wufeng Townshi	0.78	266	*e*P	Pn	08 20 55.6	-0.5
LXIB	Xiulin Townshi	0.84	218	*e*P	Pg	08 20 54.5	-0.4
WUSB	Renai	1.04	229	*e*P	Pb	08 20 59.1	0.0
WARBT	Fenglin Townsh	1.10	209	*e*P	Pg	08 20 59.0	-0.9

TAP 17 08:20:45.5, 24°.69N×121°.99E, h9km, ML3.3, C
JMA 17 08:20:46.0±0.1, 24°.7N±0°.5×122°.0E±0°.4, h13km, MV3.0/11, TAIWAN REGION

ISC 17 08:20:45.5±0.9, 24°.67N±0°.01×122°.02E±0°.01, h9km±6km, n94, σ0.9/65/150, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.17	247	*i* P	Pg	08 20 49.1	+0.1
TWC				*i* S	Sg	08 20 51.1	-0.3
ESAO	Su ao	0.19	238	P	Sg	08 20 49.6	+0.2
ESAO				S	Sg	08 20 51.9	-0.1
EGS		0.19	336	*i* P	Pg	08 20 49.6	+0.2
EGS				*i* S	Sg	08 20 52.2	+0.1
NTC	Toucheng	0.25	316	P	Pg	08 20 50.9	+0.4
NTC				S	Sg	08 20 54.7	+0.8
ILA	Ilan	0.26	290	P	Pg	08 20 50.5	-0.2
ILA				S	Sg	08 20 55.0	+0.6
NDS	Dongshan	0.28	262	*e*P	Pg	08 20 51.4	+0.3
NDS				*e*S	Sg	08 20 55.0	+0.2
EWUT	Wuta	0.32	224	*e*P	Pg	08 20 52.1	+0.4
EWUT				*e*S	Sg	08 20 56.1	+0.1
EOS2	EOS2	0.32	142	*e*P	Pg	08 20 52.2	+0.4
TWE	Neicheng	0.32	278	*i* P	Pg	08 20 51.8	-0.1
TWE				*i* S	Sg	08 20 56.0	-0.1
TWB1	Santiao Chiao	0.33	355	*i* P	Pg	08 20 52.2	0.0
TWB1				*i* S	Sg	08 20 56.5	-0.1
TIPB	Shuangxi	0.34	330	P	Pg	08 20 52.4	0.0
TIPB				S	Sg	08 20 57.0	+0.1
ENA	Nanau	0.35	226	*i* P	Pg	08 20 52.7	+0.2
ENA				*i* S	Sg	08 20 57.0	-0.2
FUSB	Fushanzhiwuyua	0.40	282	*e*P	Pg	08 20 53.3	-0.1
FUSB				S	Sg	08 20 59.1	+0.5
ENTT	Nioudou	0.41	265	*e*P	Pb	08 20 54.2	-0.8
ENTT				S	Sg	08 20 59.6	+0.5
EAHA	Aohua	0.43	216	P	Pg	08 20 54.2	+0.4
EAHA				S	Sb	08 21 00.5	-1.3
SXI1	Grass Mountain	0.44	343	P	Pg	08 20 54.6	+0.5
EHP	Heping Village	0.44	215	*e*S	Sb	08 21 02.1	-0.1
NWF	Wu-fen Shan	0.45	332	*i* P	Pb	08 20 55.2	-0.4
NWF				*i* S	Sb	08 21 01.5	-1.0
WFSB	Wu-fen Shan	0.45	332	P	Pg	08 20 54.8	+0.5
WFSB				S	Sb	08 21 01.6	-0.8
LATG	Datong	0.47	253	P	Pg	08 20 54.9	+0.2
LATG				S	Sb	08 21 01.6	-1.5
EOS3	EOS3	0.47	145	P	Pg	08 20 55.5	+0.8
NWLT	Wulai	0.48	282	P	Pg	08 20 54.8	-0.1
NWLT				S	Sg	08 21 00.8	-0.4
TWA	Mucha	0.50	308	*i* P	Pg	08 20 55.7	+0.5
TWA				S	Sg	08 21 02.3	+0.5
NHY	Taipei	0.55	312	*e*P	Pg	08 20 56.4	+0.3
TATO	Taipei	0.57	302	P	Pb	08 20 57.4	-0.2
TATO	Taipei	0.57	302	S	Sg	08 21 04.3	+0.3
YHNB	Yeheng	0.58	270	P	Pg	08 20 56.6	-0.2
YHNB	Yeheng	0.58	270	S	Sg	08 21 03.3	-1.2
YHNB	Yeheng	0.58	270	P	Pg	08 20 57.2	+0.3
YHNB				S	Sg	08 21 04.7	+0.1
TAP	Taipei	0.59	308	*e*P	Pg	08 20 56.9	0.0
TAP				*e*S	Sb	08 21 05.5	-1.0
NSK	Sanguang	0.60	270	*i* P	Pg	08 20 57.0	-0.1
NSK				*i* S	Sg	08 21 04.3	-0.8
EOS4	EOS4	0.61	153	P	Pg	08 20 57.2	-0.1
EOS4				S	Sb	08 21 07.1	+0.3
YM01	YM01	0.62	319	P	Pb	08 20 58.4	-0.2
YM01				*e*S	Sb	08 21 06.7	-0.7
ETL	Fush Village	0.63	215	P	Pg	08 20 57.4	-0.3
ETL				S	Sg	08 21 06.3	+0.4
NNSB	Datong	0.63	247	*e*P	Pg	08 20 56.7	-0.9
NNSB				*e*S	Sb	08 21 06.5	-1.1
NACB	Ninganchiao	0.63	218	P	Pg	08 20 57.8	+0.1
NACB	Ninganchiao	0.63	218	S	Sg	08 21 05.6	-0.3
NACB	Ninganchiao	0.63	218	P	Pg	08 20 57.3	-0.4
NACB				S	Sg	08 21 05.9	-0.1
NNS	Nan Shan	0.63	248	*i* P	Pg	08 20 57.8	0.0
NNS				S	Sb	08 21 07.0	-0.8
ZUZH	Zhuzihu	0.65	319	*i* P	Pg	08 20 58.4	+0.3
ZUZH				S	Sb	08 21 07.6	-0.6
ETLH	Xiulin Townshi	0.67	226	*e*P	Pg	08 20 58.3	-0.3
ETLH				*e*S	Sg	08 21 07.2	-0.2
ANP	Anpu	0.68	319	*e*P	Pb	08 20 59.9	-0.7
TWS1	Kuangyinshan	0.69	308	P	Pg	08 20 59.1	+0.3
TWS1				*e*S	Sb	08 21 08.4	-0.9
TWD	Chiawan	0.70	213	P	Pg	08 20 58.5	-0.6
TWD				S	Sg	08 21 08.3	-0.1
TWY	Chenhua	0.71	328	P	Pg	08 20 59.2	0.0
TWY				S	Sb	08 21 09.9	0.0
NTST	Danshui	0.71	314	*e*P	Pb	08 21 00.3	+0.3
NTST				*e*S	Sb	08 21 09.4	-0.5
KSHI	Guanxi Townshi	0.77	278	*e*P	Pb	08 21 00.9	-0.2
HWA	Hwalien	0.79	209	*e*P	Pn	08 21 02.5	-0.3
NCUH	Zhongli	0.81	291	*e*P	Pn	08 21 02.5	-0.6
NCUH				*e*S	Sb	08 21 13.4	+0.6
NFF	Wufeng Townshi	0.82	267	*e*P	Pn	08 21 02.7	-0.5
FUSS	Fushou	0.82	239	P	Pb	08 21 01.8	-0.3
FUSS				S	Sb	08 21 13.2	-0.2
ETM	Tongmen	0.85	214	*e*P	Pg	08 21 01.2	-0.7
ETM				*e*S	Sg	08 21 12.6	-0.5
LXIB	Xiulin Townshi	0.85	220	*e*P	Pg	08 21 01.7	-0.2
LXIB				*e*S	Sg	08 21 13.0	-0.1
WHF	Hehuan Shan	0.86	233	*i* P	Pb	08 21 02.6	-0.3
WHF				S	Sb	08 21 14.0	-0.8
JYNG	Yonagunijimaku	0.87	105	P	Pg	08 21 02.8	+0.5
JYNG				S	Sg	08 21 14.0	+0.3
TWT	Tachien	0.87	242	*e*P	Pn	08 21 03.5	-0.7
TWT				*e*S	Sb	08 21 15.0	+0.2
TDCB	Techi	0.89	242	*e*P	Pb	08 21 03.0	-0.2
LIOB	Emei	0.91	268	*e*P	Pn	08 21 04.0	-0.5
NSTT	Nanjuang	0.93	268	P	Pn	08 21 04.8	+0.2
YOJ	Yonaguni jima	0.93	103	P	Pg	08 21 03.4	0.0
YOJ	Yonaguni jima	0.93	103	S	Sg	08 21 15.8	+0.3
YOJ	Yonaguni jima	0.93	103	*e*P	Pg	08 21 03.5	+0.2
YOJ				S	Sg	08 21 15.8	+0.3
YOJ	Yonaguni jima	0.93	103	P	Pg	08 21 03.8	+0.4
YOJ				S	Sg	08 21 15.3	-0.1
SBCB	Hsinchu	0.95	277	P	Pn	08 21 05.8	+0.8
SBCB				S	Sn	08 21 19.5	+0.9
PCYT	Pengchaiyu	0.95	3	*e*P	Pg	08 21 03.6	-0.2
HSN	Hsinchu	0.96	278	*e*P	Pn	08 21 04.9	-0.2
HSN				S	Sb	08 21 17.3	+0.2
SHUL	Shoufeng	0.97	205	*e*P	Pn	08 21 05.9	+0.5
ESL	Shilin	1.01	212	*e*P	Pg	08 21 04.3	-0.6
OWD	Renai	1.05	227	P	Pb	08 21 05.8	-0.1
OWD				*e*S	Sg	08 21 19.0	-0.4
WHP	Taichung City	1.05	248	*e*P	Pn	08 21 06.8	+0.3
WHP				*e*S	Sb	08 21 19.4	-0.5
WUSB	Renai	1.06	231	*e*P	Pb	08 21 06.0	-0.1
WUSB				*e*S	Sb	08 21 20.2	-0.1
WARBT	Fenglin Townsh	1.11	211	*e*P	Pb	08 21 06.4	-0.5
NMLH	Miaoli	1.12	263	P	Pn	08 21 08.8	+1.3
NMLH				*i* S	Sn	08 21 24.8	+1.8
NSY	Sanyi	1.17	258	*e*P	Pg	08 21 09.2	+1.2
NSY				S	Sn	08 21 25.8	+1.6
TWQ1	Liyutan	1.18	254	*e*P	Pg	08 21 09.9	+1.7
VWDT	VWDT	1.22	221	*e*P	Pg	08 21 10.0	+1.1
VWDT				*e*S	Sn	08 21 24.8	-0.4
SMLT	Sun Moon Lake	1.29	233	*e*P	Pg	08 21 10.1	-0.1
SSLB	Suanglung	1.31	228	P	Pg	08 21 10.7	0.0
SSLB	Suanglung	1.31	228	S	Sg	08 21 28.0	+0.3
SSLB	Suanglung	1.31	228	*e*P	Pg	08 21 10.5	-0.2
SSLB				S	Sg	08 21 27.9	+0.1
EHYH	Wanrong	1.33	208	*e*P	Pb	08 21 10.5	0.0
YULB	Yu-li	1.44	207	P	Pg	08 21 13.1	0.0
WJS	Zhushan	1.45	234	*e*S	Sg	08 21 35.0	+2.8
WNT	Mingjian	1.45	237	*e*P	Pg	08 21 13.9	+0.6
IRIF	Iriomote-Funau	1.60	102	P	Pb	08 21 16.0	+0.9
IRIF				S	Sb	08 21 36.1	+0.7
FULB	Fuli	1.61	204	*e*P	Pb	08 21 15.7	+0.3
CHN5	Tsauling	1.63	229	*e*P	Pg	08 21 17.6	+0.9
CHN5				*i* S	Sg	08 21 40.1	+2.3
WRL	Guolierlin Hig	1.68	243	*e*P	Pg	08 21 17.4	-0.3
ECS	Chishang	1.73	205	*e*P	Pg	08 21 18.6	-0.2
ELDTW	Lidau	1.74	212	*e*P	Pb	08 21 17.7	+0.1
TPUB	Ta-pu	1.87	223	P	Pb	08 21 19.4	-0.4
JKRS	Kuro-shima	1.87	103	*e*P	Pn	08 21 17.3	-0.3
JKRS				*e*S	Sn	08 21 39.8	-1.5
JIJ	Ishigaki jima	1.96	99	*e*P	Pn	08 21 18.3	-0.6
JIJ				S	Sn	08 21 43.5	-0.1
JISG	Ishigakijimahi	2.09	92	S	Sn	08 21 45.5	-1.3

IDC 17 08:43:56.3±2.3, 4°.17S×143°.34E, h125km±19km, mb3.5/6, mbtmp3.9/9, Error ellipse: s-maj=29.5km s-min=15.1km az=67.0

ISC 17 08:43:54.7±0.9, 4°.35S±0°.08×143°.3E±0°.1, h100km, n9, σ2.9/64/13, mb3.7/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.18	305	P	Pn	08 44 45.0	+2.1
	22nm,0.9s,baz=139,slow=12,SNR=5.6						
JAY				S	Sn	08 45 20.9	+0.8
	9.7nm,0.4s,baz=106,slow=10,SNR=4.4						
PMG	Port Moresby	6.31	143	P	Pn	08 45 29.6	+4.4
	21nm,0.9s,baz=356,slow=18,SNR=2.6						
PMG				S	Sn	08 46 34.3	-1.6
	5.5nm,0.5s,baz=307,slow=20,SNR=1.0						
WRA	Warramunga Arr	17.80	209	P	P	08 47 56.6	+1.1
	3.8nm,0.6s,baz=28,slow=12,SNR=49						
WRA				S	Sn	08 51 10.3	-4.4
	0.7nm,0.9s,baz=18,slow=18,SNR=2.5						
ASAR	Alice Springs	21.25	204	P	P	08 48 35.2	+2.3
	11nm,0.8s,baz=33,slow=11,SNR=19						
ASAR				S	S	08 52 22.9	-0.7
	0.3nm,0.8s,baz=20,slow=23,SNR=1.6						
	11nm,0.8s						
FITZ	Fitzroy Crossi	22.04	230	P	P	08 48 42.5	+1.2
	3.4nm,0.8s,baz=51,slow=13,SNR=2.5						
	3.4nm,0.8s						
MKAR	Makanchi Array	73.91	321	P	P	08 55 17.9	-1.1
	0.5nm,0.6s,baz=111,slow=6.6,SNR=6.9						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	77.73	324	P	P	08 55 39.6	-1.0
	0.2nm,0.4s,baz=115,slow=4.8,SNR=2.5						
	0.2nm,0.4s						
ILAR	Eielson Array	85.44	24	P	P	08 56 17.6	-3.3
	0.8nm,1.1s,baz=262,slow=5.9,SNR=2.8						
	0.8nm,1.1s						
QSPA	South Pole Qui	85.61	180	P	P	08 56 20.1	-1.8
	0.8nm,0.5s,baz=348,slow=5.5,SNR=7.4						
	0.8nm,0.5s						

IDC 17 08:50:23.3±4.3, 39°.80N×31°.40W, h0km, mb3.2/6, mbtmp3.3/6, Error ellipse: s-maj=142.7km s-min=26.3km az=7.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	21.07	81	P	P	08 55 09.0	-0.1
	0.7nm,0.9s,baz=278,slow=9.0,SNR=6.0						
	0.7nm,0.9s						
BRTR	Keskin Array B	48.96	68	P	P	08 59 10.4	-1.1
	0.8nm,0.9s,baz=316,slow=10,SNR=2.0						
	0.8nm,0.9s						
YKA	Yellowknife Ar	52.63	325	P	P	08 59 37.7	-0.9
	0.1nm,0.6s,baz=80,slow=11,SNR=3.8						
	0.1nm,0.6s						
PDAR	Pinedale Array	56.79	301	P	P	09 00 09.7	+0.2
	0.9nm,1.0s,baz=79,slow=7.7,SNR=5.5						
	0.9nm,1.0s						
KURBB	Kurchatov Arra	71.08	39	P	P	09 01 43.3	+0.2
	0.2nm,0.9s,baz=309,slow=6.0,SNR=4.8						
	0.2nm,0.9s						
MKAR	Makanchi Array	75.49	41	P	P	09 02 10.2	+0.9
	0.2nm,0.6s,baz=316,slow=3.3,SNR=4.8						
	0.2nm,0.8s						

NNC 17 09:03:06.8±0.5, 44°.79N×80°.98E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=5.8km s-min=1.9km az=134.0
SOME 17 09:03:07.5, 44°.82N×80°.97E, h20km

ISC 17 09:03:07.7±1.7, 44°.74N±0°.04×81°.01E±0°.05, h2km±13km, n36, σ1.32/52, 12C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.96	245	*e*P	Pg	09 03 26.4	+0.3
	56nm,0.2s						
DJR				*e*S	Sb	09 03 39.8	-0.6
	120nm,0.2s						
KAPS	Kapalarasan	1.29	295	P	Pn	09 03 30.9	-1.9
	35nm,0.1s						
KAPS				S	Sb	09 03 48.2	-1.7
	390nm,0.2s						
KNOS	Konyrlen	1.36	254	P	Pb	09 03 33.3	-0.7
	46nm,0.1s						
KNOS				S	Sn	09 03 51.9	-0.7
	88nm,0.2s						
TDK	Taldyqorghan	1.87	279	*e*P	Pb	09 03 41.5	-1.1
	221nm,0.5s						
TDK				*e*S	Sb	09 04 05.6	-0.8
	266nm,0.2s						
SHLS	Shalkode	1.94	216	*e*P	Pn	09 03 41.0	-0.7
	74nm,0.2s						
SHLS				*e*S	Sn	09 04 05.2	-1.6
	111nm,0.2s						
UZB	Uzynbulak	2.15	223	Pg	Pb	09 03 46.7	-0.7
	13nm,0.1s						
UZB				Lg	Lg	09 04 14.6	
	197nm,0.3s						
UZB	Uzynbulak	2.15	223	*e*P	Pb	09 03 46.7	-0.7
	13nm,0.1s						
UZB				*e*S	Sb	09 04 14.6	+0.1
	197nm,0.3s						
MAKZ	Makanchi	2.17	18	⇑Pn	Pn	09 03 44.1	-0.9
	2.6nm,0.3s						
MAKZ				⇑Sn	Sn	09 04 11.9	-0.6
	46nm,0.5s						
MK31	Makanchi Array	2.24	23	⇑Pn	Pn	09 03 45.0	-0.8
	2.5nm,0.3s,baz=211,slow=15,SNR=378						
MK31				⇑Sn	Sn	09 04 13.2	-0.9
	17nm,0.2s,baz=168,slow=39,SNR=12						
ARXS	Arharly	2.34	258	Pg	Pb	09 03 50.6	0.0
	30nm,0.2s						
ARXS				Lg	Lg	09 04 21.8	
	473nm,0.5s						
ZHN	Zhinishke	2.44	231	Pg	Pb	09 03 52.3	0.0
	7.6nm,0.1s						
ZHN				Lg	Lg	09 04 24.1	
	406nm,0.3s						
ZHN	Zhinishke	2.44	231	*e*P	Pb	09 03 52.3	0.0
	7.6nm,0.1s						
ZHN				*e*S	Sg	09 04 24.1	-1.8
	406nm,0.3s						
SATY	Saty	2.52	229	Pg	Pb	09 03 54.1	+0.3
	16nm,0.1s						
SATY				Lg	Lg	09 04 27.3	
	890nm,0.2s						
SATY	Saty	2.52	229	*e*P	Pn	09 03 50.6	+0.8
	30nm,0.2s						
SATY				*e*S	Sn	09 04 21.8	+0.6
	473nm,0.5s						
CHKK	Chushkaly	3.02	254	Pg	Pb	09 04 02.0	-0.2
	9.4nm,0.4s						
CHKK				Lg	Lg	09 04 41.0	
	155nm,0.2s						
CHKK	Chushkaly	3.02	254	*e*P	Pb	09 04 02.0	-0.2
	9.4nm,0.4s						
CHKK				*e*S	Sb	09 04 41.0	+1.5
	155nm,0.2s						
KOTS	Kotyrbulak	3.19	243	Pg	Pb	09 04 05.1	-0.1
	6.7nm,0.3s						
KOTS				Lg	Lg	09 04 46.4	
	158nm,0.4s						
KOTS	Kotyrbulak	3.19	243	*e*P	Pb	09 04 05.1	-0.1
	6.7nm,0.3s						
KOTS				*e*S	Sb	09 04 46.4	+1.8
	158nm,0.4s						
KTBS	Karatobe	3.28	253	Pg	Pb	09 04 06.6	0.0
	14nm,0.3s						
KTBS				Lg	Lg	09 04 48.8	
	124nm,0.5s						
TNSS	Tian-Shan	3.40	241	Pg	Pb	09 04 08.7	-0.1
	5.0nm,0.2s						
TNSS				Lg	Lg	09 04 52.4	
	9.0nm,0.5s						
TNSS	Tian-Shan	3.40	241	*e*P	Pb	09 04 08.7	-0.1
	5.0nm,0.2s						
TNSS				*e*S	Sb	09 04 52.4	+1.7
	9.0nm,0.5s						
KUU	Kurty	3.46	257	Pg	Pb	09 04 09.7	+0.1
	24nm,0.7s						
KUU				Lg	Lg	09 04 54.2	
	48nm,0.6s						
KUU	Kurty	3.46	257	*e*P	Pb	09 04 09.8	+0.1
	24nm,0.7s						
KUU				*e*S	Sb	09 04 54.2	+2.1
	48nm,0.6s						

KK31 ||Lg Lg 09 07 11.0
2.1nm,0.5s,baz=70,slow=28,SNR=7.3

*IDC **17** 09:03:32.6±0.8,42°.93N×29°.37W,h0km,mb3.8/14, mbtmp3.8/15,ML4.1/1,MS3.8/24,Error ellipse: s-maj=24.8km s-min=16.7km az=175.0*
*NEIC **17** 09:03:33.1±0.9,42°.7N±0°.1×29°.1W±0°.1,h10km±1km, mb4.6/31,Error ellipse: s-maj=20.2km s-min=15.7km az=199.0*

ISC 17 09:03:33.3±0.5,42°.73N±0°.08×29°.22W±0°.07,h10km,n89, σ1°18/69,mb4.4/28,MS3.9/25,1C,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**5.58**	**150**	*eP*	**Pn**	**09 04 56.3**	**-0.1**
PDA	**Ponta Delgada**	**5.67**	**150**	*eP*	**Pn**	**09 04 56.7**	**-0.9**
CMLA	**Cha da Macela**	**5.71**	**149**		**Pn**	**09 04 57.0**	**-1.1**
CMLA	**Cha da Macela**	**5.71**	**149**	*eP*	**Pn**	**09 04 57.8**	**-0.3**
CMLA				*eS*	**Sn**	**09 06 02.6**	**-1.1**
CMLA				IAML		09 06 09.3	
CMLA				IAML		09 06 10.0	
CMLA				IAML		09 06 11.4	
PGRON	**Lagoa das Cont**	**5.76**	**148**	*eP*	**Pn**	**09 04 59.3**	**+0.5**
PSMA	**Santa Maria**	**6.53**	**150**	*eP*	**Pn**	**09 05 08.3**	**-1.1**
PSMN	**Pico do Norte,**	**6.55**	**149**	*eP*	**Pn**	**09 05 08.6**	**-1.1**
PSMN				IAML		09 06 15.3	
PSMN				IAML		09 06 15.6	
PSMN				IAML		09 06 15.7	
PMOZ	**Porto Moniz, M**	**13.70**	**132**	Pn	**Pn**	**09 06 46.1**	**-1.6**
PMOZ	**Porto Moniz, M**	**13.70**	**132**	*eP*	**Pn**	**09 06 47.2**	**-0.5**
PMOZ				*i* Amb		09 06 58.3	
	108nm,2.0s						
PSBE	**So Bento**	**15.72**	**95**	*eP*	**P**	**09 07 23.6**	**+4.8**
PCAS	**Casmilo, Conde**	**15.78**	**93**	*eP*	**P**	**09 07 21.8**	**+2.4**
COI	**Coimbra**	**15.80**	**92**	Pn	**Pn**	**09 07 14.0**	**-1.7**
COI				IAmb	IAmb	09 07 24.4	
	comp=Z,28nm,0.9s						
COI	**Coimbra**	**15.80**	**92**	*eP*	**P**	**09 07 22.4**	**+2.9**
PVIS	**Viseu**	**16.05**	**90**	*eP*	**Pn**	**09 07 19.2**	**+0.3**
MVO	**Moncorvo**	**16.58**	**88**	*eP*	**Pn**	**09 07 23.7**	**-2.1**
PCBR	**Castelo Branco**	**16.59**	**93**	*eP*	**P**	**09 07 28.9**	**+0.5**
PCBR				*i* Amb		09 07 42.1	
	comp=Z,29nm,1.5s						
MORF	**Marmelete**	**16.65**	**102**	Pn	**Pn**	**09 07 25.8**	**-0.9**
MORF	**Marmelete**	**16.65**	**102**	*eP*	**Pn**	**09 07 26.9**	**+0.2**
PVAQ	**Vaqueiros**	**17.28**	**101**	Pn	**Pn**	**09 07 33.0**	**-1.6**
ESDC	**Sonseca Array**	**19.23**	**91**	*eP*	**Pn**	**09 07 59.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=288,slow=12,SNR=8.7						
	comp=Z,1.1nm,0.8s						
DRLN	**Deer Lake**	**20.63**	**298**	P	**P**	**09 08 12.5**	**-0.2**
DRLN				IAmb	IAmb	09 08 28.2	
	comp=Z,38nm,1.4s						
WLF	**Walferdange**	**25.27**	**62**	P	**P**	**09 08 57.9**	**-1.6**
BATG	**Bathurst New B**	**26.28**	**293**	P	**P**	**09 09 08.5**	**-0.2**
BATG				IAmb	IAmb	09 09 47.7	
	comp=Z,25nm,1.2s						
SFJD	**Kangerlussuaq**	**26.97**	**342**	P	**P**	**09 09 14.7**	**+0.1**
SCHQ	**Schefferville**	**27.24**	**310**	LR	LR	09 18 01.8	
	comp=Z,218nm,19.7s,baz=90,slow=32						
DAVOX	**Davos/Dischmat**	**27.86**	**68**	LR	LR	09 18 53.9	
	comp=Z,189nm,21.2s,baz=254,slow=33						
GERES	**GERESS Array B**	**30.23**	**63**	LR	LR	09 21 03.2	
	comp=Z,195nm,19.7s,baz=274,slow=35						
FRB	**Frobisher Bay**	**30.80**	**327**	LR	LR	09 18 47.2	
	comp=Z,227nm,18.4s,baz=150,slow=30						
HFS	**Hagfors**	**31.20**	**41**	LR	LR	09 20 53.9	
	comp=Z,123nm,21.4s,baz=257,slow=34						
VRAC	**Vranov**	**32.08**	**62**	LR	LR	09 22 01.9	
	comp=Z,194nm,20.6s,baz=269,slow=35						
SGRT	**San Giovanni R**	**33.00**	**76**	P	**P**	**09 10 06.2**	**-2.3**
VAE	**Valguarnera**	**33.50**	**84**	LR	LR	09 23 20.3	
	comp=Z,247nm,19.1s,baz=288,slow=35						
CUC	**Castrocucco**	**33.61**	**79**	P	**P**	**09 10 12.5**	**-1.3**
CUC				IAmb	IAmb	09 10 29.9	
	comp=Z,8.4nm,1.1s						
WDD	**Wied Dalam**	**34.25**	**87**	P	**P**	**09 10 17.6**	**-1.6**
SADO	**Sadowa**	**35.67**	**291**	LR	LR	09 23 38.5	
	comp=Z,167nm,20.1s,baz=64,slow=34						
FINES	**FINESS Array B**	**37.39**	**41**	P	**P**	**09 10 46.6**	**+0.6**
FINES	**FINESS Array B**	**37.39**	**41**	P	**P**	**09 10 46.3**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=240,slow=3.8,SNR=3.5						
	comp=Z,1.1nm,0.7s						
ARCES	**ARCESS Array B**	**38.51**	**27**	LR	LR	09 22 44.1	
	comp=Z,65nm,21.0s,baz=272,slow=30						
TORD	**Torodi Ar. Bea**	**39.77**	**129**	P	**P**	**09 11 05.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**39.77**	**129**	P	**P**	**09 11 08.2**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=324,slow=6.5,SNR=1.4						
	comp=Z,1.8nm,0.3s						
AKASG	**Malin Array Be**	**39.92**	**58**	P	**P**	**09 11 08.0**	**+0.8**
	comp=Z,0.1nm,0.2s,baz=289,slow=8.4,SNR=4.3						
AKASG				LR	LR	09 26 53.3	
	comp=Z,195nm,20.1s,baz=251,slow=35						
	comp=Z,0.1nm,0.2s						
TKL	**Tuckaleechee C**	**42.24**	**279**	LR	LR	09 30 37.5	
	comp=Z,70nm,18.1s,baz=115,slow=39						
RES	**Resolute Bay**	**42.91**	**339**	P	**P**	**09 11 31.9**	**+0.4**
SDV	**Santo Domingo**	**49.47**	**239**	P	**P**	**09 12 24.8**	**+0.7**
SDV				IAmb	IAmb	09 12 31.4	
	comp=Z,10nm,1.1s						
KSU1	**Kansas State U**	**49.83**	**290**	P	**P**	**09 12 26.3**	**-0.1**
MIAR	**Mount Ida**	**49.85**	**283**	P	**P**	**09 12 26.1**	**-0.5**
MIAR				IAmb	IAmb	09 12 32.0	
	comp=Z,6.1nm,0.8s						
YKA	**Yellowknife Ar**	**51.22**	**324**	P	**P**	**09 12 35.4**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=72,slow=7.0,SNR=7.5						
YKA				PcP	**PcP**	**09 13 50.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=80,slow=3.6,SNR=5.2						
	comp=Z,0.9nm,0.9s						
WHTX	**Lake Whitney,**	**53.95**	**283**	P	**P**	**09 12 55.6**	**-1.5**
BRDY	**Brady**	**55.43**	**283**	P	**P**	**09 13 07.9**	**-0.1**
BRDY				IAmb	IAmb	09 13 12.8	
	comp=Z,5.0nm,0.9s						
F31M	**Tsiigehtchic**	**56.47**	**333**	P	**P**	**09 13 14.5**	**-0.2**
F31M				IAmb	IAmb	09 13 16.6	
	comp=Z,8.6nm,1.1s						
MSTX	**Muleshoe**	**56.68**	**287**	P	**P**	**09 13 16.8**	**-0.1**
MSTX				IAmb	IAmb	09 13 22.6	
	comp=Z,7.9nm,1.0s						
PD31	**Pinedale Array**	**56.74**	**300**	P	**P**	**09 13 17.0**	**-0.4**
PDAR	**Pinedale Array**	**56.74**	**300**	P	**P**	**09 13 16.3**	**-1.1**
PDAR	**Pinedale Array**	**56.74**	**300**	P	**P**	**09 13 16.8**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=66,slow=7.2,SNR=6.4						
PDAR				LR	LR	09 35 24.1	
	comp=Z,99nm,18.5s,baz=82,slow=34						
	comp=Z,1.1nm,1.0s						
AKTO	**Aktyubinsk**	**57.15**	**49**	LR	LR	09 36 49.2	
	comp=Z,134nm,21.4s,baz=148,slow=35						
JTS	**Las Juntas de**	**58.11**	**253**	LR	LR	09 33 42.1	
	comp=Z,93nm,21.9s,baz=87,slow=31						
NEW	**Newport**	**58.60**	**309**	LR	LR	09 36 18.9	
	comp=Z,107nm,20.6s,baz=91,slow=34						
HWUT	**Hardware Ranch**	**58.61**	**299**	P	**P**	**09 13 29.9**	**-0.7**
HWUT				IAmb	IAmb	09 13 37.0	
	comp=Z,6.6nm,1.1s						
ANMO	**Albuquerque**	**58.72**	**290**	LR	LR	09 37 27.2	
	comp=Z,108nm,20.5s,baz=231,slow=35						
NRIK	**Noril'sk**	**59.05**	**22**	P	**P**	**09 13 33.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=225,slow=8.6,SNR=1.5						
	comp=Z,0.7nm,0.3s						
G27K	**Doyon Strip**	**59.38**	**335**	P	**P**	**09 13 34.9**	**-0.4**
G27K				IAmb	IAmb	09 13 42.4	
	comp=Z,10nm,1.5s						
TX31	**Lajitas Ar. Si**	**59.87**	**283**	P	**P**	**09 13 38.9**	**-0.4**
TX31				IAmb	IAmb	09 13 45.1	
	comp=Z,3.2nm,0.8s						
TXAR	**Lajitas Array**	**59.87**	**283**	P	**P**	**09 13 39.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=71,slow=6.5,SNR=13						
TXAR				LR	LR	09 40 36.9	
	comp=Z,42nm,18.2s,baz=62,slow=37						
	comp=Z,0.8nm,0.6s						
VHRN	**Van Horn**	**59.98**	**286**	P	**P**	**09 13 40.5**	**+0.3**
VHRN				IAmb	IAmb	09 13 46.2	
	comp=Z,5.3nm,1.1s						
DAWY	**Dawson**	**60.30**	**332**	P	**P**	**09 13 41.9**	**+0.2**
DAWY				IAmb	IAmb	09 13 44.9	
	comp=Z,5.5nm,1.1s						
E24K	**Your Creek**	**60.58**	**338**	P	**P**	**09 13 43.4**	**-0.2**
CMIG	**Matias Romero**	**60.80**	**267**	LR	LR	09 38 29.8	
	comp=Z,47nm,19.4s,baz=12,slow=35						
ELK	**Elko**	**61.42**	**300**	P	**P**	**09 13 49.5**	**-0.4**
ELK				IAmb	IAmb	09 13 56.5	
	comp=Z,4.5nm,1.1s						
COLD	**Coldfoot**	**61.64**	**338**	P	**P**	**09 13 51.0**	**+0.3**
J08A	**Circle Bar Ran**	**62.00**	**304**	P	**P**	**09 13 54.1**	**+0.4**
BVAR	**Borovoye Array**	**62.32**	**42**	P	**P**	**09 13 55.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=330,slow=5.0,SNR=2.9						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**62.34**	**335**	P	**P**	**09 13 54.7**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=41,slow=4.9,SNR=7.6						
	comp=Z,0.9nm,0.9s						
E19K	**Redstone River**	**63.33**	**340**	P	**P**	**09 14 02.5**	**+0.5**
E19K				IAmb	IAmb	09 14 08.1	
	comp=Z,5.5nm,1.2s						
NVAR	**Mina Array Bea**	**64.68**	**300**	P	**P**	**09 14 11.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=42,slow=8.1,SNR=1.6						
	comp=Z,0.1nm,0.3s						
TIXI	**Tiksi**	**64.87**	**8**	LR	LR	09 39 21.4	
	comp=Z,55nm,19.2s,baz=22,slow=33						
PFO	**Pinyon Flats O**	**66.29**	**294**	LR	LR	09 42 47.6	
	comp=Z,121nm,19.9s,baz=80,slow=36						
ATAH	**Atahualpa**	**66.76**	**235**	LR	LR	09 41 53.6	
	comp=Z,46nm,18.8s,baz=353,slow=34						
LPIG	**La Paz**	**67.74**	**283**	LR	LR	09 44 10.4	
	comp=Z,69nm,18.1s,baz=32,slow=36						
KURBB	**Kurchatov Arra**	**67.78**	**41**	P	**P**	**09 14 31.4**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=314,slow=6.7,SNR=7.7						
	comp=Z,0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**68.41**	**35**	P	**P**	**09 14 35.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=309,slow=7.3,SNR=1.7						
	comp=Z,0.5nm,0.5s						
LPAZ	**La Paz**	**68.77**	**220**	P	**P**	**09 14 40.4**	**+2.1**
	comp=Z,1.5nm,1.0s,baz=56,slow=5.0,SNR=3.7						
	comp=Z,1.5nm,1.0s						
AAK	**Ala-Archa**	**70.89**	**49**	LR	LR	09 48 27.5	
	comp=Z,86nm,18.2s,baz=333,slow=38						
MKAR	**Makanchi Array**	**72.21**	**42**	P	**P**	**09 14 59.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=302,slow=7.0,SNR=5.5						
	comp=Z,0.7nm,0.8s						
BOSA	**Boshof**	**86.88**	**134**	LR	LR	09 51 21.3	
	comp=Z,57nm,22.0s,baz=238,slow=33						
BRDH	**Bariadhala**	**95.16**	**53**	LR	LR	10 05 44.2	
	comp=Z,67nm,18.6s,baz=312,slow=39						
QSPA	**South Pole Qui**	**132.61**	**180**	PKP	**PKiKP**	**09 22 47.8**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=243,slow=2.3,SNR=1.5						
VNDA	**Vanda**	**144.80**	**184**	PKP	**PKPdf**	**09 23 09.6**	**+0.7**
	comp=Z,2.3nm,1.0s,baz=164,slow=1.1,SNR=3.1						
WRA	**Warramunga Arr**	**153.39**	**36**	PKPab	**PKPab**	**09 23 44.1**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=331,slow=5.1,SNR=3.2						
ASAR	**Alice Springs**	**156.40**	**42**	PKPab	**PKPab**	**09 23 57.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=327,slow=3.6,SNR=4.8						

*IDC **17** 09:22:44.4±1.1,15°.58N×145°.79E,h146km±11km, mb3.8/19,mbtmp4.4/23,Error ellipse: s-maj=16.7km s-min=10.8km az=88.0*
*NEIC **17** 09:22:46.4±1.5,15°.61N±0°.08×145°.6E±0°.1,h155km±6km, mb4.5/53,Error ellipse: s-maj=16.9km s-min=12.0km az=101.0*

ISC 17 09:22:45.3±0.5,15°.60N±0°.06×145°.62E±0°.10,h150km,n88, σ0°74/84,mb4.5/44,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.13**	**200**	P	**Pn**	**09 23 22.2**	**+0.3**
	187nm,0.2s,baz=108,slow=3.3,SNR=51						
GUMO				S	**Sn**	**09 23 49.9**	**-0.3**
	419nm,0.2s,baz=334,slow=21,SNR=16						
JCJ	**Chichijima**	**11.88**	**345**	Pn	**Pn**	**09 25 30.7**	**+0.8**
PATS	**Pohnpei**	**15.18**	**124**		**P**	**09 26 14.7**	**+1.1**
JHJ	**Hachijo jima 2**	**18.23**	**344**	P	**P**	**09 26 47.2**	**+0.2**
	151nm,0.7s,baz=246,slow=22,SNR=1.9						
JAY	**Jayapura**	**18.65**	**196**	P	**P**	**09 26 51.6**	**-0.2**
	41nm,1.0s,baz=320,slow=6.5,SNR=3.9						
JOW	**Kunigami**	**19.63**	**308**	P	**P**	**09 27 03.7**	**+1.4**
JOW				IAmb	IAmb	09 27 20.6	
	comp=Z,20nm,1.1s						
JOW	**Kunigami**	**19.63**	**308**	P	**Pn**	**09 27 04.8**	**-0.4**
	comp=Z,6.5nm,0.3s,baz=121,slow=16,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**20.34**	**79**	T	T	09 48 13.8	
	baz=266,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**20.35**	**79**	T	T	09 48 14.9	
	baz=266,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**20.36**	**79**	T	T	09 48 15.5	
	baz=266,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**20.67**	**75**	T	T	09 48 36.3	
	baz=263,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**20.68**	**75**	T	T	09 48 40.2	
	baz=263,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**20.69**	**75**	T	T	09 48 38.5	
	baz=263,slow=75,SNR=12						
MJAR	**Matsushiro Arr**	**21.88**	**344**	P	**P**	**09 27 26.0**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=166,slow=10,SNR=1.6						
	comp=Z,0.6nm,0.5s						
JNU	**Nakatsue**	**21.97**	**325**	P	**P**	**09 27 26.6**	**-0.6**
JNU				IAmb	IAmb	09 27 29.8	
	comp=Z,33nm,1.3s						
SSLB	**Suanglung**	**24.59**	**293**	P	**P**	**09 27 52.4**	**+0.8**
SSLB				IAmb	IAmb	09 28 32.4	
	comp=Z,14nm,1.1s						
KSRS	**Korea Array**	**26.82**	**328**	P	**P**	**09 28 12.1**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=145,slow=9.3,SNR=10						
	comp=Z,2.8nm,0.8s						
MTN	**Manton Dam**	**31.69**	**208**	P	**P**	**09 28 53.6**	**-1.3**
KNRA	**Kununurra**	**35.26**	**209**	P	**P**	**09 29 24.5**	**-1.2**
KNRA				IAmb	IAmb	09 30 06.8	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**36.84**	**198**	P	**P**	**09 29 38.9**	**-0.2**
WB2	**Warramunga Arr**	**37.02**	**198**	P	**P**	**09 29 40.5**	**-0.2**
WRA	**Warramunga Arr**	**37.02**	**198**	P	**P**	**09 29 39.4**	**-1.3**
WRA	**Warramunga Arr**	**37.02**	**198**	P	**P**	**09 29 40.5**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=22,slow=10,SNR=22						
	comp=Z,2.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**38.62**	**12**	P	**P**	**09 29 53.2**	**-0.5**
PEA0B				IAmb	IAmb	09 30 12.4	
	comp=Z,21nm,1.4s						
PETK	**Petropavlovsk-**	**38.62**	**12**	P	**P**	**09 29 53.3**	**-0.4**
PETK	**Petropavlovsk-**	**38.62**	**12**	P	**P**	**09 29 53.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=182,slow=7.6,SNR=10						
	comp=Z,0.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**38.85**	**211**	P	**P**	**09 29 55.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**38.85**	**211**	P	**P**	**09 29 56.0**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=0.9,slow=6.1,SNR=6.5						
	comp=Z,3.6nm,1.0s						
AS31	**Alice Springs**	**40.67**	**197**	P	**P**	**09 30 12.2**	**+1.1**
ASAR	**Alice Springs**	**40.67**	**197**	P	**P**	**09 30 12.6**	**+1.5**
ASAR	**Alice Springs**	**40.67**	**197**	P	**P**	**09 30 11.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=14,slow=12,SNR=12						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.63**	**281**	P	**P**	**09 30 43.9**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=76,slow=5.6,SNR=9.9						
	comp=Z,1.3nm,0.3s						
ULN	**Ulaanbaatar**	**45.18**	**324**	P	**P**	**09 30 47.4**	**+0.2**
SONM	**Songino Array**	**45.54**	**323**	P	**P**	**09 30 50.3**	**+0.3**
SONM	**Songino Array**	**45.54**	**323**	P	**P**	**09 30 50.6**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=135,slow=7.1,SNR=18						
	comp=Z,2.6nm,0.6s						
ATKA	**Atka Island**	**48.41**	**32**	P	**P**	**09 31 11.3**	**-0.7**
BBOO	**Buckleboo**	**49.00**	**191**	P	**P**	**09 31 16.5**	**-0.2**
BBOO				IAmb	IAmb	09 31 36.1	
	comp=Z,18nm,1.4s						
UNV	**Unalaska Valle**	**53.25**	**33**	P	**P**	**09 31 47.3**	**-0.9**
M14K	**Bethel**	**58.57**	**27**	P	**P**	**09 32 26.2**	**+0.3**
ANM	**Nome**	**59.06**	**22**	P	**P**	**09 32 29.7**	**+0.4**
ANM				IAmb	IAmb	09 33 12.5	
	comp=Z,9.6nm,1.4s						
O16K	**Kokwok River B**	**59.85**	**29**	P	**P**	**09 32 35.0**	**+0.2**
O16K				IAmb	IAmb	09 32 36.5	
	comp=Z,12nm,1.0s						
ZAA0	**Zalesovo Array**	**60.43**	**324**	P	**P**	**09 32 39.3**	**+0.4**
ZALV	**Zalesovo Beam**	**60.43**	**324**	P	**P**	**09 32 38.8**	**0.0**
ZALV	**Zalesovo Beam**	**60.43**	**324**	P	**P**	**09 32 39.2**	**+0.4**
	comp=Z,4.7nm,0.5s,baz=96,slow=7.4,SNR=16						
	comp=Z,4.7nm,0.5s						
MK31	**Makanchi Array**	**60.57**	**315**	P	**P**	**09 32 40.8**	**+0.8**
MKAR	**Makanchi Array**	**60.57**	**315**	P	**P**	**09 32 40.9**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=90,slow=8.2,SNR=33						
MKAR				PcP	**PcP**	**09 33 22.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=81,slow=7.6,SNR=4.2						
	comp=Z,1.7nm,0.5s						
ACHA	**Angle Creek He**	**60.72**	**31**	P	**P**	**09 32 39.9**	**-0.9**
ACHA				IAmb	IAmb	09 33 01.8	
	comp=Z,16nm,1.3s						
MAKZ	**Makanchi**	**60.79**	**315**	P	**P**	**09 32 42.4**	**+1.0**
MAKZ				IAmb	IAmb	09 32 43.5	
	comp=Z,9.3nm,1.4s						
O18K	**Koktuh Hills**	**61.31**	**30**	P	**P**	**09 32 44.7**	**0.0**
OHAK	**Old Harbor**	**61.47**	**33**	P	**P**	**09 32 46.5**	**+0.8**
N19K	**Bonanza Creek**	**61.97**	**29**	P	**P**	**09 32 49.7**	**+0.4**
N19K				IAmb	IAmb	09 32 51.4	
	comp=Z,8.2nm,0.8s						
E18K	**Tukpahlearik C**	**62.20**	**21**	P	**P**	**09 32 50.1**	**-0.3**
E18K				IAmb	IAmb	09 32 52.0	
	comp=Z,6.8nm,1.4s						
L19K	**White Mountain**	**62.27**	**27**	P	**P**	**09 32 51.3**	**+0.3**
L19K				IAmb	IAmb	09 32 53.3	
	comp=Z,6.6nm,1.1s						
CNPM	**China Poot**	**63.14**	**31**	P	**P**	**09 32 56.3**	**-0.6**
D19K	**Kuna River**	**63.52**	**20**	P	**P**	**09 32 59.3**	**0.0**
D19K				IAmb	IAmb	09 33 40.7	
	comp=Z,6.9nm,1.4s						
KURK	**Kurchatov**	**63.54**	**319**	P	**P**	**09 32 60.0**	**+0.4**
KURBB	**Kurchatov Arra**	**63.58**	**319**	P	**P**	**09 33 00.5**	**+0.6**
	comp=Z,6.7nm,0.4s,baz=97,slow=7.4,SNR=174						
	comp=Z,6.7nm,0.4s						
KDJ	**Kajisay**	**63.77**	**310**	P	**P**	**09 33 02.2**	**+0.7**
NRIK	**Noril'sk**	**64.48**	**341**	P	**P**	**09 33 04.5**	**-0.9**
NRIK				IAmb	IAmb	09 33 05.8	
	comp=Z,9.1nm,1.2s						
NRIK	**Noril'sk**	**64.48**	**341**	P	**P**	**09 33 04.4**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=106,slow=8.5,SNR=5.7						
	comp=Z,2.4nm,0.5s						
IL31		**66.45**	**26**	P	**P**	**09 33 16.7**	**-1.4**
ILAR	**Eielson Array**	**66.45**	**26**	P	**P**	**09 33 16.8**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=252,slow=5.8,SNR=74						
	comp=Z,1.8nm,0.4s						
E24K	**Your Creek**	**66.70**	**22**	P	**P**	**09 33 20.1**	**+0.3**
D24K	**Happy Valley**	**66.90**	**21**	P	**P**	**09 33 21.1**	**+0.1**
D24K				IAmb	IAmb	09 33 22.6	
	comp=Z,4.2nm,0.6s						
KK31	**Karatay Array**	**68.70**	**311**	P	**P**	**09 33 33.0**	**+0.3**
KK31				IAmb	IAmb	09 33 34.3	
	comp=Z,10.0nm,1.4s						
KKAR	**Karatay Array**	**68.70**	**311**	P	**P**	**09 33 33.5**	**+0.7**
KKAR				IAmb	IAmb	09 33 34.3	
	comp=Z,10nm,1.4s						
KKAR	**Karatay Array**	**68.70**	**311**	P	**P**	**09 33 32.9**	**+0.2**
BVAR	**Borovoye Array**	**68.82**	**321**	P	**P**	**09 33 33.9**	**+0.6**
	comp=Z,10nm,0.5s,baz=105,slow=7.0,SNR=50						
	comp=Z,10nm,0.5s						
BRVK	**Borovoye**	**68.88**	**321**	P	**P**	**09 33 33.5**	**-0.2**
GAR	**Garm**	**69.03**	**306**	P	**P**	**09 33 34.8**	**-0.2**
GAR				IAmb	IAmb	09 33 36.8	
	comp=Z,7.4nm,0.5s						
SIMJ	**Simiganj**	**70.07**	**306**	P	**P**	**09 33 40.8**	**-0.6**
SIMJ				IAmb	IAmb	09 33 43.7	
	comp=Z,9.6nm,1.2s						
HYT	**Haines Junctio**	**70.11**	**30**	P	**P**	**09 33 42.3**	**+1.1**
ABKAR	**Akbulak array**	**75.55**	**318**	P	**P**	**09 34 12.5**	**-0.8**
ARTI	**Arti**	**75.64**	**325**	P	**P**	**09 34 13.0**	**-0.7**
ARTI				IAmb	IAmb	09 34 15.1	
	comp=Z,20nm,1.1s						
GNW	**Green Mountain**	**79.69**	**43**	P	**P**	**09 34 37.0**	**+0.7**
YKA	**Yellowknife Ar**	**80.75**	**28**	P	**P**	**09 34 41.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=288,slow=5.7,SNR=19						
	comp=Z,0.7nm,0.5s						
J05D	**Fort Rock, OR**	**81.72**	**47**	P	**P**	**09 34 47.9**	**+0.5**
J05D				IAmb	IAmb	09 34 49.6	
	comp=Z,5.4nm,0.8s						
B08A	**Colville Reser**	**81.80**	**42**	P	**P**	**09 34 47.9**	**+0.3**
B08A				IAmb	IAmb	09 34 49.1	
	comp=Z,7.3nm,0.9s						
PNTR	**Pine Nut**	**83.95**	**51**	P	**P**	**09 35 00.6**	**+1.4**
NVAR	**Mina Array Bea**	**85.10**	**52**	P	**P**	**09 35 04.5**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=268,slow=5.7,SNR=22						
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**85.40**	**342**	P	**P**	**09 35 04.2**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=64,slow=5.5,SNR=5.6						
	comp=Z,2.7nm,0.7s						
HLID	**Hailey**	**86.42**	**46**	P	**P**	**09 35 11.4**	**+0.2**
HLID				IAmb	IAmb	09 35 13.0	
	comp=Z,6.5nm,1.1s						
ELK	**Elko

KSRS	Korea Array	71.39	324	P	P	09 39 46.1	+1.1
	comp=Z,0.8nm,0.7s,baz=147,slow=6.8,SNR=4.2						
	comp=Z,0.8nm,0.7s						
PETK	Petropavlovsk-	74.54	351	P	P	09 40 03.1	-0.2
	comp=Z,3.8nm,1.0s,baz=183,slow=6.4,SNR=4.1						
	comp=Z,3.8nm,1.0s						
CMAR	Chiang Mai Arr	81.84	293	P	P	09 40 45.2	+0.7
	comp=Z,0.5nm,0.3s,baz=111,slow=6.9,SNR=5.4						
	comp=Z,0.5nm,0.3s						
SYO	Syowa Base	84.42	195‖	eP	P	09 40 56.0	-1.0
SEY	Seymchan	84.79	351	P	P	09 40 58.9	+0.2
	comp=Z,2.2nm,0.8s,baz=146,slow=4.3,SNR=12						
	comp=Z,2.2nm,0.8s						
YBH	Yreka Blue Hor	86.22	43	P	P	09 41 06.3	-0.2
L19K	White Mountain	86.53	15	P	P	09 41 07.7	+0.2
L19K				IAmb	IAmb	09 41 10.6	
	comp=Z,3.8nm,1.0s						
L04D	Klamath Falls	86.73	42	P	P	09 41 09.6	+0.6
NVAR	Mina Array Bea	87.48	47	P	P	09 41 12.7	-0.1
NVAR	Mina Array Bea	87.48	47	P	P	09 41 13.0	+0.1
	comp=Z,0.7nm,0.8s,baz=210,slow=4.9,SNR=7.3						
	comp=Z,0.7nm,0.8s						
SNAA	Sanae	87.88	181	P	P	09 41 14.9	+0.8
J05D	Fort Rock, OR	87.96	42	P	P	09 41 15.0	0.0
J05D				IAmb	IAmb	09 41 23.3	
	comp=Z,2.2nm,0.8s						
SONM	Songino Array	90.17	322	P	P	09 41 25.9	+0.7
	comp=Z,0.5nm,0.8s,baz=145,slow=3.5,SNR=3.7						
	comp=Z,0.5nm,0.8s						
ILAR	Eielson Array	90.69	16	P	P	09 41 25.6	-1.4
	comp=Z,0.7nm,0.7s,baz=227,slow=6.3,SNR=5.4						
	comp=Z,0.7nm,0.7s						
ANMO	Albuquerque	94.61	55	LR	LR	10 20 06.0	
	comp=Z,30nm,19.1s,baz=338,slow=33						
TXAR	Lajitas Array	94.78	61	P	P	09 41 47.4	+0.5
	comp=Z,0.3nm,0.7s,baz=212,slow=4.4,SNR=5.3						
	comp=Z,0.3nm,0.7s						
MORC	Moravsky Berou	144.76	332	ePKP	PKPdf	09 48 00.9	-0.7
DPC	Dobruska-Polom	144.86	333	ePKP	PKPdf	09 48 01.6	-0.1
UPC	Upice	144.87	334	ePKP	PKPdf	09 48 01.2	-0.5
MAUC	Maruska	144.93	331	ePKP	PKPdf	09 48 02.2	+0.4
JAVC	Velka Javorina	145.36	330	ePKP	PKiKP	09 48 04.4	-2.2
BRG	Berggiesshubel	145.41	336	iP	PKPab	09 48 03.2	+0.5
BRG				Amp		09 48 04.1	
	comp=Z,14nm,1.0s						
BRG	Berggiesshubel	145.41	336	P	PKiKP	09 48 06.0	-0.5
BRG				Amp		09 48 06.4	
	comp=Z,9.3nm,1.0s						
CLL	Collm	145.41	337	iPKPbc	PKPab	09 48 02.8	+0.1
	comp=Z,12nm,0.9s						
VRAC	Vranov	145.52	332	PKPbc	PKPab	09 48 03.5	+0.3
	comp=Z,2.7nm,0.4s,baz=58,slow=7.2,SNR=5.8						
VRAC	Vranov	145.52	332	ePKP	PKPab	09 48 03.7	+0.5
KRUC	Moravsky	145.79	332	ePKP	PKPab	09 48 04.4	+0.2
MODS	Modra-Piesok	145.89	330	e	PKiKP	09 48 05.5	-2.1
ZVC	Zvikov	146.45	334	ePKP	PKPab	09 48 06.4	-0.3
RONA	Rosalia, Austr	146.83	330	ePKP	PKPab	09 48 07.9	-0.4
	comp=Z,1.2nm,0.4s						
CONA	Conrad Observa	146.87	331	iPKP	PKPab	09 48 08.1	-0.4
	comp=Z,2.5nm,0.8s						
CKRC	Cesky Krumlov	146.88	333	ePKP	PKPab	09 48 07.5	-0.9
CKRC				ex	x	09 48 14.5	
KHC	Kasperske Hory	146.94	334	ePKP	PKPab	09 48 07.8	-0.9
GERES	GERESS Array B	147.11	334	PKPbc	PKPbc	09 48 07.7	-0.1
	comp=Z,3.2nm,0.8s,baz=29,slow=6.1,SNR=8.8						
KBA	Koelnbreinsper	148.63	332	iPKP	PKPbc	09 48 11.0	-1.1
	comp=Z,1.2nm,0.6s						
LESA	Schwarzleotal	148.65	333	iPKP	PKPbc	09 48 11.7	-0.3
	comp=Z,2.0nm,0.5s						
WTTA	Wattenberg	149.21	334	ePKP	PKiKP	09 48 13.5	-1.2
	comp=Z,6nm,0.6s						
ABTA	Abfaltersbach	149.25	333	iPKP	PKPbc	09 48 12.8	-0.7
	comp=Z,1.6nm,0.6s						
SQTA	Sankt Quirin	149.42	335	ePKP	PKiKP	09 48 14.3	-0.8
	comp=Z,0.7nm,0.2s						
FETA	Feichten	149.78	335	iPKP	PKiKP	09 48 15.0	-0.9
	comp=Z,1.4nm,0.5s						
DAVOX	Davos/Dischmat	150.31	335	PKPbc	PKiKP	09 48 16.0	-1.0
	comp=Z,6.5nm,0.9s,baz=41,slow=3.4,SNR=12						

DJA 17 09:31:50.2±0.5, 3°N±4°×12°6E±°, h19km±6km, M4.4/12, mB5.1/4, mb4.5/6, MLv4.3/12, Mw(mB)4.5/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.46	305	P	Pn	09 32 00.8	-0.9
SGSI				S	Sn	09 32 08.0	-1.4
KMSI	Cibinong	3.42	214	P	Pn	09 32 42.2	-0.3
MRSI	Marisa	4.92	234	P	Pn	09 33 03.4	+0.2
LUWI	Luwuk	5.42	215	P	Pn	09 33 11.9	+1.8
SANI	Sanana	5.43	179	P	Pn	09 33 08.4	-1.9
	0.2nm2μm30nm,0.5s						
APSI	Ampana	6.05	225	P	Pn	09 33 21.5	+2.8
	0.3nm1μm51nm,0.7s						
NLAI	Namlea	6.72	170	P	Pn	09 33 27.1	-0.9

IDC 17 09:58:54.9±1.5, 4°.59S×144°.36E, h0km, mb3.7/4, mbtmp3.7/7, ML3.0/3, MS3.3/1, Error ellipse: s-maj=29.6km s-min=18.5km az=47.0

ISC 17 09:59:00.2±1.2, 4°.6S±0°.1×144°.4E±0°.1, h35km, n8, σ2§06/9, mb3.7/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	4.18	300	Pn	Pn	10 00 00.6	-1.1
	2.7nm,0.3s,baz=181,slow=3.4,SNR=8.1						
JAY				Sn	Sn	10 00 52.5	+3.2
	1.0nm,0.3s,baz=100,slow=21,SNR=2.1						
JAY				Lg	Lg	10 01 08.0	
	2.1nm,0.3s,baz=295,slow=14,SNR=3.7						
	11nm,0.5s						
PMG	Port Moresby	5.53	150	Pn	Pn	10 00 19.4	-0.7
	4.3nm,0.3s,baz=312,slow=12,SNR=12						
PMG				Sn	Sn	10 01 25.9	+3.4
	3.5nm,0.3s,baz=122,slow=20,SNR=1.7						
	12nm,0.4s						
WRA	Warramunga Arr	18.10	212	P	Pn	10 03 08.4	-0.6
	0.1nm,0.3s,baz=31,slow=13,SNR=7.5						
	1.1nm,1.0s						
ASAR	Alice Springs	21.47	207	P	P	10 03 45.8	-0.1
	2.7nm,1.0s,baz=29,slow=12,SNR=11						
ASAR				LR	LR	10 11 00.0	
	comp=Z,86nm,21.9s,baz=92,slow=34						
	2.7nm,1.0s						
FITZ	Fitzroy Crossi	22.69	232	P	P	10 03 58.5	-0.5
	1.9nm,0.6s,baz=55,slow=14,SNR=2.0						
	1.9nm,0.6s						
JMM	Marumori	42.38	356	S	S	10 13 21.0	+11
ILAR	Eielson Array	85.25	24	P	P	10 11 33.4	+0.4
	0.3nm,0.9s,baz=256,slow=5.8,SNR=4.1						
	0.3nm,0.9s						
QSPA	South Pole Qui	85.36	180	P	P	10 11 32.4	-1.3
	1.4nm,1.0s,baz=242,slow=8.9,SNR=2.8						
	1.4nm,1.0s						

IDC 17 10:12:02.0±0.9, 34°.97N×143°.14E, h0km, mb3.6/9, mbtmp3.6/10, ML3.2/1, Error ellipse: s-maj=23.9km s-min=21.4km az=109.0

JMA 17 10:12:04.5±0.4, 35°.4N±0°.9×14°3E±°, h69km, MV4.1/37, FAR E OFF CENTRAL HONSHU

ISC 17 10:12:05.3±3.1, 35°.45N±0°.05×142°.68E±0°.07, h23km±24km, n36, σ1§72/41, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.60	241	P	Pn	10 12 29.7	-2.1
BSO1				S	Sn	10 12 48.3	-3.2
JIHU	Itakohorinouch	1.82	287	P	Pn	10 12 34.8	-0.5
JIHU				eS	Sn	10 12 56.9	-0.8
BSO3	Boso 3	1.89	251	P	Pn	10 12 34.6	-1.3
BSO3				eS	Sn	10 12 58.4	-0.5
JHYU	Hitachinakayam	1.92	298	iP	Pn	10 12 35.5	-1.0
JHYU				eS	Sn	10 12 57.5	-2.5
BSO4	Boso 4	1.97	257	P	Pn	10 12 36.4	-0.8
BSO4				eS	Sn	10 13 00.2	-0.9
JHO	Hitachi	2.07	305	iP	Pn	10 12 37.1	-1.5
JYT	Yasato	2.16	292	iP	Pn	10 12 38.6	-1.3
JYT				S	Sn	10 13 03.4	-2.6
JFK	Kawauchi	2.40	323	iP	Pn	10 12 42.3	-1.0
JFK				eS	Sn	10 13 09.3	-2.8
JMM	Marumori	2.85	328	P	Pn	10 12 48.3	-1.1
JOD2	Odawara 2	2.94	267	P	Pn	10 12 48.9	-1.7
JOD2				eS	Sn	10 13 21.1	-4.2
JHJ2	Mitsune	3.32	226	P	Pn	10 12 56.9	+1.0
JHJ2	Mitsune	3.32	226	eP	Pn	10 12 54.1	-1.8
JHJ	Hachijo jima 2	3.34	227	Pn	Pn	10 12 54.0	-2.1
	6.3nm,0.3s,baz=5.1,slow=22,SNR=9.7						
JHJ				Sn	Sn	10 13 28.6	-6.4
	78nm,0.3s,baz=22,slow=24,SNR=12						
	59nm,0.7s						
JMK	Ichinoseki	3.69	342	eP	Pn	10 13 00.4	-0.5
MJAR	Matsushiro Arr	3.78	288	Pn	Pn	10 13 01.9	-0.4
	2.1nm,0.3s,baz=98,slow=8.5,SNR=70						
MJAR				Sn	Sn	10 13 48.1	+2.0
	0.7nm,0.3s,baz=117,slow=28,SNR=6.5						
MAJO	Matsushiro	3.79	288	P	Pn	10 13 02.7	+0.4
JYK	Kaneyama	3.93	333	P	Pn	10 13 04.0	-0.2
JYK				eS	Sn	10 13 48.4	-1.2
JOM	Ohasama	4.17	345	P	Pn	10 13 07.0	-0.5
JGF	Kuroka	4.34	274	P	Pn	10 13 10.0	0.0
JSD	Sado	4.39	307	P	Pn	10 13 10.5	0.0
INU	Inuyama	4.62	270	P	Pn	10 13 14.1	+0.3
JTM	Tenmabayashi	5.48	347	P	Pn	10 13 24.8	-0.7
ERM	Erimo	6.57	3	P	Pn	10 13 38.7	-1.8
JEM	Erimo	6.57	3	P	Pn	10 13 39.0	-1.5
JCJ	Chichijima	8.34	183	Pn	Pn	10 13 52.9	-12
	7.2nm,0.3s,baz=274,slow=19,SNR=1.4						
JCJ				Sn	Sn	10 15 19.2	-19
	11nm,0.3s,baz=295,slow=20,SNR=2.0						
ASAJ	Asahikawa	8.66	360	Pn	Pn	10 14 08.5	-0.7
	2.3nm,0.3s,baz=209,slow=11,SNR=33						
ASAJ				Sn	Sn	10 15 40.2	-5.8
	0.7nm,0.3s,baz=150,slow=20,SNR=5.9						
USRK	Ussuriysk Ar.	11.99	320	Pn	Pn	10 14 56.7	+2.0
	0.2nm,0.3s,baz=114,slow=13,SNR=2.4						
SONM	Songino Array	29.53	306	P	P	10 18 12.9	+4.8
	0.5nm,0.6s,baz=82,slow=8.1,SNR=2.9						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	43.74	314	P	P	10 20 14.0	+5.3
	0.6nm,0.6s,baz=88,slow=16,SNR=2.3						
	0.6nm,0.6s						
MKAR	Makanchi Array	45.84	304	P	P	10 20 31.3	+5.8
	0.4nm,0.6s,baz=90,slow=8.8,SNR=6.2						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	47.79	309	P	P	10 20 45.0	+4.3
	1.0nm,0.6s,baz=84,slow=7.9,SNR=10						
	1.0nm,0.6s						
ILAR	Eielson Array	50.30	32	P	P	10 21 00.3	+0.7
	0.4nm,0.7s,baz=267,slow=5.8,SNR=4.2						
	0.4nm,0.7s						
WRA	Warramunga Arr	55.65	190	P	P	10 21 37.6	-2.0
	0.6nm,0.6s,baz=7.4,slow=7.4,SNR=7.6						
	0.6nm,0.6s						
ASAR	Alice Springs	59.38	189	P	P	10 22 02.8	-3.1
	0.2nm,0.7s,baz=5.0,slow=7.7,SNR=4.5						
	0.2nm,0.7s						
NVAR	Mina Array Bea	75.12	53	P	P	10 23 46.9	+1.0
	0.6nm,0.7s,baz=282,slow=6.2,SNR=6.1						
	0.6nm,0.7s						
PDAR	Pinedale Array	78.04	46	P	P	10 24 02.7	+0.3
	0.3nm,0.8s,baz=300,slow=5.8,SNR=2.5						
	0.3nm,0.8s						

IDC 17 10:54:21.0±6.1, 4°.89S×153°.09E, h130km±46km, mb3.0/5, mbtmp3.5/6, MS3.6/1, Error ellipse: s-maj=66.0km s-min=29.4km az=111.0

ISC 17 10:54:16.9±1.6, 4°.9S±0°.3×153°.4E±0°.3, h100km, n10, σ1§67/9, mb3.1/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.67	234	P	Pn	10 56 06.7	+0.8
	21nm,0.5s,baz=54,slow=11,SNR=13						
PMG				S	Sn	10 57 32.2	+1.0
	6.2nm,0.6s,baz=72,slow=20,SNR=0.8						
WRA	Warramunga Arr	23.86	229	P	P	10 59 19.7	-1.6
	0.3nm,0.7s,baz=57,slow=10.0,SNR=4.8						
WRA				PcP	PcP	11 03 03.0	+1.2
	1.5nm,1.1s,baz=58,slow=2.6,SNR=9.2						
	0.3nm,0.7s						
ASAR	Alice Springs	26.51	223	P	P	10 59 42.6	-2.7
	0.3nm,0.8s,baz=58,slow=9.2,SNR=6.0						
ASAR				PcP	PcP	11 03 08.6	+0.7
	0.2nm,0.7s,baz=52,slow=2.5,SNR=6.0						
	0.3nm,0.8s						
H11S3	WAKE ISLAND Hy	26.66	29	T	T	11 27 56.0	
	baz=207,slow=74						
H11S2	WAKE ISLAND Hy	26.66	29	T	T	11 28 04.2	
	baz=207,slow=74						
H11S1	WAKE ISLAND Hy	26.68	29	T	T	11 28 03.6	
	baz=207						
TGY	Tagaytay City	37.34	301	LR	LR	11 15 14.7	
	comp=Z,106nm,21.5s,baz=128,slow=34						
MKAR	Makanchi Array	80.79	319	P	P	11 06 18.0	-1.6
	0.1nm,0.3s,baz=116,slow=6.8,SNR=3.7						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	81.56	326	P	P	11 06 23.5	0.0
	0.2nm,0.3s,baz=100,slow=6.0,SNR=1.6						
	0.2nm,0.3s						
ILAR	Eielson Array	82.00	22	P	P	11 06 26.6	+1.1
	0.3nm,0.8s,baz=259,slow=5.3,SNR=1.8						
	0.3nm,0.8s						

WEL 17 11:32:55.2±1.3, 32°S±27°×18°0W±6°5, h430km±34km, mB4.4/2, mLA4.5/6, MLv4.4/1, Mw(mB)3.5/2, Error ellipse: s-maj=91.2km s-min=12.6km az=111.8, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.25	196	P	P	11 34 29.2	-2.0
WMGZ	Waiomatatini S	6.47	195	P	P	11 34 35.5	+2.0
WMGZ				S	S	11 35 55.5	+1.2
HAZ	Te Kaha	6.57	199	P	P	11 34 35.0	+0.1
HAZ				S	S	11 35 57.9	+1.7
PKGZ	Pakihiroa	6.60	197	P	P	11 34 36.1	+0.9
PKGZ				S	S	11 35 56.2	-0.5
PUZ	Puketiti	6.75	195	P	P	11 34 37.4	+0.5
PUZ				S	S	11 35 58.8	-1.0
RUGZ	Raukumara Rang	6.80	199	P	P	11 34 37.0	-0.5
RUGZ				S	S	11 35 59.7	-1.1
TWGZ	Tauwhareparae	6.92	197	S	S	11 36 03.6	+0.6
MWZ	Matawai	7.18	199	P	P	11 34 40.7	-0.8
MWZ				S	S	11 36 08.8	+0.5
URZ	Urewera	7.24	202	P	P	11 34 41.6	-0.4
URZ				S	S	11 36 11.3	+2.0
RIGZ	Rimuhau	7.47	197	P	P	11 34 44.5	-0.2
RIGZ				S	S	11 36 14.3	+0.2
SNGZ	Shannon Statio	7.65	199	P	P	11 34 46.8	+0.2
SNGZ				S	S	11 36 19.9	+2.1
NTVZ	North Tongarir	8.49	206	P	P	11 34 58.1	+2.3
KWHZ	Kaweka Forest	8.52	202	P	P	11 34 54.9	-1.1
KWHZ				S	S	11 36 34.3	-1.0
OTVZ	Oturere	8.55	206	P	P	11 34 55.9	-0.5
KAHZ	Kahuranaki	8.72	199	P	P	11 34 58.4	+0.2
KAHZ				S	S	11 36 40.7	+1.2

NAO 17 11:49:16.4, 35°.66N×22°.52E, h10km, mb5.0

BJI 17 11:49:35.1, 38°.15N×20°.77E, h11km, mB5.2/9, mb4.6/31, Ms4.6/1, Ms7 4.2/1

MOS 17 11:49:35.7±1.2, 37°.74N×21°.04E, h11km, mb4.9/30, Error ellipse: s-maj=4.7km s-min=2.4km az=83.2

IDC 17 11:49:35.7±0.5, 37°.81N×21°.15E, h0km, mb4.6/29, mbtmp4.5/41, ML4.2/10, MS3.7/40, Error ellipse: s-maj=10.8km s-min=10.5km az=26.0

MED_RC 17 11:49:38.0±0.6, 37°.75N×21°.01E, h10km, MW4.5/19, Moment Tensor Solution. Mantle waves: s19,c19; Duration: 1s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.24±.19; $M_{\theta\theta}$-0.16±.23; $M_{\phi\phi}$-0.08±.16; $M_{r\theta}$7.26±.36; $M_{\theta\phi}$0.64±.15; $M_{\phi r}$-3.54±.37; Best double couple: $M_0$8.10000×1015 NP1:ϕ_s355.00000°, δ3.00000°, λ149.00000°. NP2:ϕ_s116.00000°, δ88.00000°, λ87.00000°. Principal axes: T 7.8900, Plg46.0000°, Azm23.0000°; N 0.4100, Plg3.0000°, Azm116.0000°; P -8.3000, Plg43.0000°, Azm208.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

BEO 17 11:49:39.6±0.5, 37°.89N×20°.75E, h0km, mL4.3/21

ATH 17 11:49:39.5, 37°.76N×21°.06E, h23km, Mw4.2, Moment Tensor Solution. s10 Moment tensor: M_{rr}0.04; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$0.10; $M_{r\theta}$1.55; $M_{\theta\phi}$-0.07; $M_{\phi r}$-1.52; Fault plane solution: NP1:ϕ_s223.00000°, δ3.00000°, λ-1.00000°. NP2:ϕ_s314.00000°, δ90.00000°, λ-93.00000°.

THE 17 11:49:39.3, 37°.76N×21°.06E, h24km, mL4.5/9 Error ellipse: s-maj=0.8km s-min=0.3km az=239.0

NEIC 17 11:49:39.3±1.8, 37°.74N±0°.05×21°.02E±0°.06, h10km±2km, mb4.8/78, Error ellipse: s-maj=8.7km s-min=7.9km az=54.0

PDG 17 11:49:39.7±0.6, 37°.81N×21°.03E, h13km±1km, mL4.5/13, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0

MCSM 17 11:49:39.4±0.5, 38°.N±4°×2°1E±°, h12km±3km, mb4.9, mB4.8, MLv4.8, Mw(mB)4.1

UPSL 17 11:49:39.5, 37°.76N×21°.06E, h23km, Mw4.1, Moment Tensor Solution. s8 Moment tensor: M_{rr}0.14; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-0.14; $M_{r\theta}$1.34; $M_{\theta\phi}$-0.09; $M_{\phi r}$-0.99; Fault plane solution: NP1:ϕ_s127.00000°, δ89.00000°, λ89.00000°.

HLW 17 11:49:41.9, 37°.67N×21°.92E, h9km±11km, Ml4.4

ISC 17 11:49:38.6±0.8, 37°.78N±0°.02×21°.06E±0°.02, h18km±5km, n757, σ1§82/835, mb4.8/102, MS3.7/38, 69C-38D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLEM	Kyllini,Ilia,G	0.12	27	P	Pb	11 49 44.0	+1.5
CLEM				S	Sb	11 49 47.9	+2.8
KYPS	Kipseli, Zakin	0.19	282	P	Pb	11 49 45.3	+1.6
KYPS				S	Sb	11 49 49.1	+2.0
LTHK	Lithakia	0.19	249	P	Pb	11 49 44.4	+0.8
LTHK				S	Sb	11 49 48.3	+1.3
	131μm,0.4s						
LTHK	Lithakia	0.19	249	P	Pb	11 49 44.4	+0.8
LTHK				S	Sb	11 49 49.1	+2.1
LCHA	Lechaina	0.22	45	P	Pb	11 49 45.7	+1.5
LCHA				S	Sb	11 49 49.9	+2.0
KRI1	kERI	0.23	239	P	Pb	11 49 44.9	+0.6
KRI1				S	Sb	11 49 49.4	+1.3
	106μm,0.6s						
ORTH	Orthonies,Zaky	0.30	284	P	Pb	11 49 46.4	+0.9
ORTH				S	Sb	11 49 52.0	+1.9
RTZL	Ratzakli, Kefa	0.37	322	P	Pb	11 49 47.5	+0.7
RTZL				S	Sb	11 49 53.7	+1.4
	69μm,0.7s						
RLS	Riolos of Patr	0.42	49	P	Pb	11 49 48.3	+0.7
RLS				S	Sb	11 49 55.0	+1.3
	71μm,0.3s						
RLS	Riolos of Patr	0.42	49	P	Pb	11 49 48.4	+0.7
RLS				S	Sb	11 49 54.8	+1.1
AXS	Araxos	0.48	31	P	Pb	11 49 49.5	+0.8
AXS				S	Sb	11 49 56.3	+0.9
PSDA	Pessada-Kefalo	0.50	312	P	Pb	11 49 49.4	+0.4
PSDA				S	Sb	11 49 57.0	+1.0
	46μm,0.5s						
PSDA	Pessada-Kefalo	0.50	312	P	Pb	11 49 49.7	+0.7
PSDA				S	Sb	11 49 57.0	+1.0
DRO	Drossia	0.54	71	P	Pb	11 49 50.0	+0.4
DRO				S	Sb	11 49 58.7	+1.6
	102μm,0.6s						
DRO	Drossia	0.54	71	P	Pb	11 49 50.4	+0.8
DRO				S	Sb	11 49 58.2	+1.1
VLS	Valsamata	0.55	317	P	Pb	11 49 49.8	+0.1
VLS				S	Sb	11 49 58.5	+1.3
	38μm,0.6s						
VLS	Valsamata	0.55	317	P	Pb	11 49 50.2	+0.5
VLS				S	Sb	11 49 58.1	+0.9
ZARO	Zacharo	0.55	122	P	Pn	11 49 50.7	-0.9
ZARO				S	Sb	11 49 58.5	+1.2
AMT	Artemida-Makis	0.57	116	P	Pn	11 49 51.2	-0.7
AMT				S	Sb	11 49 59.0	+1.0
SMHA	Samh	0.57	325	P	Pn	11 49 51.3	-0.7
SMHA				S	Sn	11 49 59.7	-1.3
LXR1	Lixouri, Cepha	0.65	311	P	Pb	11 49 51.5	+0.1
LXR1				S	Sn	11 50 02.0	-0.8
	165μm,0.6s						
PATG	Patra B	0.70	49	P	Pn	11 49 53.6	-0.1
PATG				S	Sn	11 50 03.1	-0.9
DMLN	Damoulianata-K	0.71	310	P	Pb	11 49 52.8	+0.2
DMLN				S	Sn	11 50 03.8	-0.6
	51μm,0.7s						
DMLN	Damoulianata-K	0.71	310	P	Pn	11 49 53.8	-0.1
DMLN				S	Sn	11 50 03.9	-0.5
VSK1	VASILIKIADES	0.74	328	P	Pb	11 49 53.2	+0.1
AST1	Astakos	0.76	2	P	Pn	11 49 53.9	-0.6
UPR	University Cam	0.76	48	P	Pn	11 49 53.9	-0.6
FSK	Fiskardo	0.78	330	P	Pb	11 49 53.7	-0.1
FSK	Fiskardo	0.78	330	P	Pb	11 49 53.8	0.0
FSK				S	Sn	11 50 05.6	-0.6
EVGI	Lefkada island	0.90	339	P	Pg	11 49 55.9	-0.2
EVGI	Lefkada island	0.90	339	P	Pn	11 49 56.4	0.0
EVGI				S	Sn	11 50 08.9	-0.1
KLV	Kalavryta, Ach	0.90	73	P	Pb	11 49 55.6	-0.2
KLV				S	Sn	11 50 08.8	-0.3
KLV	Kalavryta, Ach	0.90	73	P	Pn	11 49 56.5	-0.1
PVO	Paravola	0.91	23	P	Pn	11 49 57.1	+0.5
PVO				S	Sn	11 50 09.4	+0.1
ITM	Ithomi	0.91	131	P	Pg	11 49 55.9	-0.5
ITM	Ithomi	0.91	131	P	Pb	11 49 55.8	-0.1
ITM				S	Sg	11 50 08.4	0.0
ITM	Ithomi	0.91	131		Pb	11 49 55.8	-0.1
EFP	Efpalio	0.93	46	P	Pg	11 49 56.5	-0.2
ALIK	Aliki, Aigiali	0.96	60	P	Pg	11 49 56.8	-0.4
NYDR	Nydri-Lefkada	0.97	343	P	Pg	11 49 57.1	-0.5
DRAG	Dragano-Lefkad	0.98	337	P	Pb	11 49 56.9	-0.3
DRAG	Dragano-Lefkad	0.98	337	P	Pn	11 49 58.0	+0.4
DRAG				S	Sn	11 50 11.8	+0.7
GUR	Goura	1.02	81	P	Pb	11 49 57.4	-0.6
GUR	Goura	1.02	81	P	Pn	11 49 58.7	+0.4
GUR				S	Sn	11 50 12.0	-0.3
KALE	Kalithea	1.05	54	P	Pn	11 49 58.4	-0.1
ANX	Ano Chora	1.06	40	P	Pg	11 49 58.8	-0.3
AN

CEL Celeste 4.11 278 Pn Pn 11 50 41.6 +1.0
CEL Sn Sn 11 51 29.0 +0.7
GMB Gambarie 4.15 277 P Pn 11 50 42.6 +1.3
PEHC Pehcevo 4.24 19 *i* Pn Pn 11 50 44.5 +2.1
MMB Musomishta 4.29 28 *i* P Pn 11 50 45.9 +2.7
PUK Puka 4.35 348 Pn 11 50 45.3 +1.3
KKB Krupnik 4.36 21 *i* P Pn 11 50 46.4 +2.4
ULC Ulcinj 4.41 342⇓*i* Pn Pn 11 50 45.3 +0.6
ULC *e*Sn Sn 11 51 35.2 -0.4
BOZC Bozcaada 4.41 61 P Pn 11 50 47.2 +2.5
MATE Matera 4.43 312 P Pn 11 50 46.1 +1.1
MATE Matera 4.43 312⇑P Pn 11 50 44.9 -0.1
GADA Gvkgeada 4.47 56 P Pn 11 50 47.9 +2.4
DRME Dracevica, Mon 4.63 342 *e*Pn Pn 11 50 48.6 +0.8
DRME Dracevica, Mon 4.63 342⇑Pn Pn 11 50 48.8 +1.0
DRME *i* Sn Sn 11 51 40.9 -0.2
CUC Castrocucco 4.65 300 Pn Pn 11 50 51.0 +2.9
BLCB Balcova 4.76 81 P Pn 11 50 51.9 +2.4
DKL Dikili 4.77 73 *e*P Pn 11 50 49.4 -0.2
BUM Brajici-Budva 4.81 340⇑*i* Pn Pn 11 50 50.9 +0.6
BUM *e*Sn Sn 11 51 45.0 -0.6
COMU Canakkale 4.81 60 P Pn 11 50 52.4 +2.1
RDO Rodhopi 4.83 44 P Pn 11 50 52.4 +2.0
RDO Rodhopi 4.83 44 Pn 11 50 52.1 +1.7
RZN Rozhen 4.83 35 *i* P Pn 11 50 53.4 +2.8
BOSS Bosilegrad 4.83 13 *e*Pn Pn 11 50 52.5 +1.9
BOSS *e*Sn Sn 11 51 47.4 +1.3
PDG Podgorica 4.85 344 Pn Pn 11 50 51.1 +0.4
PDG Podgorica 4.85 344⇑Pn Pn 11 50 51.3 +0.6
PDG Podgorica 4.85 344⇑P Pn 11 50 51.5 +0.8
PDG Podgorica 4.85 344⇑*i* Pn Pn 11 50 51.3 +0.6
PDG *e*Sn Sn 11 51 44.9 -1.5
PVY Plav 4.88 350⇑Pn Pn 11 50 52.2 +0.9
PVY *i* Sn Sn 11 51 45.8 -1.7
GCAM G?zelcaml? 4.89 89 *e*P Pn 11 50 54.4 +3.1
CAVK Edirne/Enez-Ca 4.92 52 ⇓P Pn 11 50 53.8 +2.2
ENEZ Enez 4.93 52 P Pn 11 50 53.9 +2.0
ZKR Zakros 4.93 121 *e*P Pn 11 50 55.1 +3.2
GELI Tayfur-Gelibol 4.96 56 P Pn 11 50 54.7 +2.5
ALN Alexandroupoli 4.96 50 P Pn 11 50 54.1 +1.8
ALN Alexandroupoli 4.96 50 Pn 11 50 53.5 +1.2
ALN Alexandroupoli 4.96 50 P Pn 11 50 53.5 +1.2
BODT Bodrum 5.03 96 P Pn 11 50 56.3 +3.1
PLNA Plana 5.03 20 *i* P Pn 11 50 56.1 +2.8
CEME Cevo 5.04 342⇑*i* Pn Pn 11 50 53.6 +0.2
CEME *i* Sn Sn 11 51 49.3 -1.9
HCY Herceg Novi 5.06 338⇑*i* Pn Pn 11 50 53.6 0.0
HCY Herceg Novi 5.06 338⇑*i* Pn Pn 11 50 53.6 0.0
HCY *e*Sn Sn 11 51 50.7 -1.0
BARS Barje 5.06 6 *e*Pn Pn 11 50 55.3 +1.6
BARS *e*Sn Sn 11 51 51.1 -0.6
KDZ Kurdzhali 5.07 39 P Pn 11 50 56.0 +2.3
KDZ Kurdzhali 5.07 39 *i* P Pn 11 50 56.0 +2.3
KDZ Kurdzhali 5.07 39 P Pn 11 50 56.1 +2.3
VTS Vitosha 5.11 18 *i* P Pn 11 50 56.7 +2.2
VTS Vitosha 5.11 18 *e*Pn Pn 11 50 56.7 +2.2
VTS *e*Sn Sn 11 51 54.7 +1.6
ERIK Erikli-Kesan 5.12 54 P Pn 11 50 56.1 +1.6
LPK Lapseki 5.13 58 P Pn 11 50 57.6 +3.0
IVA Berane 5.16 350⇑*i* Pn Pn 11 50 56.0 +0.8
IVA *i* Sn Sn 11 52.5 -1.8
CANM Can-anakkale 5.18 63 *e*P Pn 11 50 57.6 +2.4
PLD Plovdiv 5.20 32 *e*P Pn 11 50 57.9 +2.4
PLD Plovdiv 5.20 32 *i* P Pn 11 50 57.9 +2.4
PLD Plovdiv 5.20 32 P Pn 11 50 57.8 +2.3
PLD Plovdiv 5.20 32 *e*Pn Pn 11 50 57.9 +2.4
KOME Kolasin 5.20 347⇓*i* Pn Pn 11 50 56.4 +0.7
KOME *i* Sn Sn 11 51 54.0 -1.2
NKME Niksic 5.24 343⇓*i* Pn Pn 11 50 56.6 +0.5
NKME *e*Sn Sn 11 51 54.9 -1.1
VAE Valguarnera 5.29 269 Pn Pn 11 50 58.5 +1.7
12nm,0.4s,baz=166,slow=6.8,SNR=7.5
VAE Sn Sn 11 51 59.7 +2.3
14nm,0.3s,baz=13,slow=19,SNR=4.5
VAE LR LR 11 53 08.0
comp=Z,331nm,19.3s,baz=341,slow=39
PGB Panagyurishte 5.29 26 *i* P Pn 11 50 59.5 +2.6
TREB Trebinje 5.35 338⇑*i* Pn Pn 11 50 57.4 -0.2
MLSB Milas 5.36 93 *e*P Pn 11 51 02.5 +4.7
KARP Karpathos 5.38 113 *e*P Pn 11 51 01.7 +3.5
KARP Karpathos 5.38 113 P Pn 11 51 01.1 +2.9
KARP Karpathos 5.38 113 *e*P Pn 11 51 01.0 +2.9
KARP Karpathos 5.38 113 Pn Pn 11 50 59.8 +1.6
1.1nm2µm186nm,0.9s
AYDB Zeytinkoy-Aydi 5.41 86 *e*P Pn 11 51 02.2 +3.7
SELS Selova 5.43 0 *e*Pn Pn 11 50 59.8 +1.0
SELS *e*Sn Sn 11 51 59.9 -1.0
UKOP Uzunkopru-Edir 5.46 50 *e*P Pn 11 51 02.3 +3.3
BRY Bratogost 5.47 340⇑*i* Pn Pn 11 50 59.1 -0.3
BRY Bratogost 5.47 340⇓*i* Pn Pn 11 50 59.2 -0.2
BRY *i* Sn Sn 11 52 00.4 -1.5
SJES Sjenica 5.54 352⇑*i* Pn Pn 11 51 01.6 +1.3
SJES Sjenica 5.54 352 *e*Pn Pn 11 51 01.7 +1.4
SJES *e*Sn Sn 11 52 02.4 -1.2
ODEM Odemis-Izmir 5.56 83 *e*P Pn 11 51 03.5 +2.9
RKY Sarkoy-Tekirda 5.56 57 *e*P Pn 11 51 03.1 +2.5
GIB Gibilmanna 5.57 274 P Pn 11 51 03.9 +3.2
GIB pmax pmax
comp=Z,56nm,0.6s
WDD Wied Dalam 5.59 252 Pn Pn 11 51 01.0 0.0
ZAPS Zavoj 5.62 12 *e*Pn Pn 11 51 03.7 +2.4
UPM Unac-Piva 5.66 344 *e*Pn Pn 11 51 02.5 +0.5
UPM Unac-Piva 5.66 344⇑*i* Pn Pn 11 51 02.6 +0.5
UPM *i* Sn Sn 11 52 05.4 -1.3
PLE Pljevlja 5.69 348⇓*i* Pn Pn 11 51 03.7 +1.3
PLE *i* Sn Sn 11 52 05.6 -1.7
STON Ston 5.70 334⇑*i* Pn Pn 11 51 02.0 -0.4
SGRT San Giovanni R 5.70 316 Pn Pn 11 51 02.5 -0.1
GORD Gordes-Manisa 5.71 76 *e*P Pn 11 51 06.4 +3.8
NAZL Nazilli-Aydin 5.72 86 *e*P Pn 11 51 06.8 +4.0
GOCS Kraljevo Serbi 5.78 359 *e*Pn Pn 11 51 04.3 +0.7
GOCS *e*Sn Sn 11 52 08.4 -1.1
YER Yerkesik 5.78 94 *e*P Pn 11 51 06.9 +3.3
YER Yerkesik 5.78 94 P Pn 11 51 06.4 +2.8
TURN Turunc 5.81 98 *e*P Pn 11 51 06.8 +2.8
ARG Arkhangelos 5.87 103 *e*P Pn 11 51 08.3 +3.6
ARG Arkhangelos 5.87 103 Pn 11 51 06.5 +1.8
ARG Arkhangelos 5.87 103 P Pn 11 51 06.5 +1.8
BOVS Bovan 5.87 5 ⇓P Pn 11 51 05.9 +1.2
BOVS Bovan 5.87 5 *e*Pn Pn 11 51 05.8 +1.1
BOVS *e*Sn Sn 11 52 11.4 -0.2
SUSR Susurluk-Balik 5.90 66 *e*P Pn 11 51 08.9 +3.8
MPEP Malo Peshtene 5.93 19 *i* P Pn 11 51 08.2 +2.6
BLKB Belogradchik 5.96 11 *e*Pn Pn 11 51 08.3 +2.2
EDRB Edirne 5.97 45 *e*P Pn 11 51 08.1 +2.0
RUDO Rudo 5.97 348 *e*Pn Pn 11 51 06.0 -0.2
PAOL Paolisi 5.99 305 Pn 11 51 07.2 +0.7
KULA Kula-Manisa 6.03 81 *e*P Pn 11 51 11.2 +4.1
BAND Balkesir-Ban 6.05 63 ⇓P Pn 11 51 10.6 +3.4
ZAGS Zajecar 6.09 8 *e*Pn Pn 11 51 08.6 +0.8
ZAGS *e*Sn Sn 11 52 16.6 -0.4
GRUS Gruza 6.11 358 *e*Pn Pn 11 51 08.6 +0.6
GRUS *e*Sn Sn 11 52 15.1 -2.4
DALY Dalyan (Mula) 6.13 97 *e*P Pn 11 51 12.6 +4.3
KCTX Karacabey (Bur 6.20 64 *e*P Pn 11 51 12.3 +3.0
BBLS Lazi&#263i 6.21 349⇑*i* Pn Pn 11 51 09.5 +0.1
BBLS Lazi&#263i 6.21 349 *e*Pn Pn 11 51 09.6 +0.1
BBLS *e*Sn Sn 11 52 18.9 -1.1
BORS2 Bor- Borsko je 6.34 6 *e*Pn Pn 11 51 10.7 -0.6
BORS2 *e*Sn Sn 11 52 21.9 -1.4
DIVS Divibare 6.36 353 *e*Pn Pn 11 51 12.1 +0.5
DIVS *e*Sn Sn 11 52 21.1 -2.8
TRUS Trudelj 6.46 356 *e*Pn Pn 11 51 13.0 +0.2
TRUS *e*Sn Sn 11 52 23.9 -2.1
HAPS Han Pijesak,BI 6.50 346⇑*i* Pn Pn 11 51 13.7 +0.2
APMY Acipayam-Deniz 6.55 90 *e*P Pn 11 51 17.4 +3.2
CAME Cameli-Denizli 6.62 90 *e*P Pn 11 51 18.6 +3.4
KUBS Kucevo 6.64 4 *e*Pn Pn 11 51 14.3 -1.1
KUBS *e*Sn Sn 11 52 29.3 -1.3
ARMT Armutlu 6.67 63 *e*P Pn 11 51 18.1 +2.4
CTYL Yalikoy Yolu 6.69 54 *e*P Pn 11 51 18.2 +2.2
CTKS Kestanelik-??a 6.71 57 *e*P Pn 11 51 16.1 -0.2
TVSB Tavsanli 6.79 73 *e*P Pn 11 51 21.1 +3.7
TEKS Tekeris 6.86 351⇑*i* Pn Pn 11 51 17.9 -0.5
TEKS Tekeris 6.86 351 *e*Pn Pn 11 51 17.9 -0.5
TEKS *e*Sn Sn 11 52 32.7 -3.3
BGKT Bogazkoy 6.86 58 *e*P Pn 11 51 21.3 +2.9
AVAS Avala Beograd 6.92 357 *e*Pn Pn 11 51 19.3 +0.1
AVAS *e*Sn Sn 11 52 34.8 -2.7
INTR Introdacqua 6.94 310 Pn Pn 11 51 21.2 +1.7

LOZB Loznitsa 6.99 35 ⇑P Pn 11 51 22.8 +2.6
ISK Istanbul-Kandi 7.00 60 *e*P Pn 11 51 22.4 +2.1
KAVV Kandilli-Istan 7.00 60 *e*P Pn 11 51 22.8 +2.5
AKAS Kas 7.01 100 *e*P Pn 11 51 23.8 +3.3
AKAS Kas 7.01 100 Pn Pn 11 51 22.6 +2.1
MDVR Moldovita 7.01 4 ⇑P Pn 11 51 21.2 +0.7
YLV Yalova 7.03 64 *e*P Pn 11 51 23.5 +2.7
KLYT Kilyos 7.08 58 *e*P Pn 11 51 23.7 +2.4
RAZG Razgrad 7.11 34 ⇑P Pn 11 51 24.9 +3.1
ELL Elmali 7.13 96 *e*P Pn 11 51 26.3 +4.1
SLUM Salum 7.14 150 P Pn 11 51 21.1 -1.2
HERR Herculane 7.17 8 ⇑P Pn 11 51 23.9 +1.3
ADVT Abdulvahap 7.25 66 *e*P Pn 11 51 26.9 +3.2
HRT Hereke 7.33 63 *e*P Pn 11 51 27.5 +2.6
VRSS Vrsac 7.34 1 *e*Pn Pn 11 51 24.9 0.0
VRSS *e*Sn Sn 11 52 44.3 -3.5
HUMR Humele 7.36 22 ⇑P Pn 11 51 27.5 +2.3
FRGS Fruska Gora 7.43 353⇑*i* Pn Pn 11 51 25.5 -0.7
FRGS Fruska Gora 7.43 353 *e*Pn Pn 11 51 26.2 0.0
KORT Korkueli 7.43 93 *e*P Pn 11 51 29.6 +3.2
AQU L'Aquila 7.44 310 Pn Pn 11 51 27.7 +1.3
comp=Z,0.4nmcomp=Z,827nmcomp=Z,88nm,0.8s
AQU Sn Sn 11 52 51.7 +1.4
comp=Z,0.4nmcomp=Z,827nmcomp=Z,88nm,0.8s
SILT Sile 7.44 60 *e*P Pn 11 51 29.0 +2.7
ISP Isparta 7.49 87 *e*P Pn 11 51 31.3 +4.2
ISP Isparta 7.49 87 Pn 11 51 28.6 +1.5
ISP Isparta 7.49 87 P Pn 11 51 28.6 +1.5
SHUT Suhut-Afyon 7.51 81 *e*P Pn 11 51 30.8 +3.3
A050A Klekovaca 7.52 334⇑*i* Pn Pn 11 51 28.2 +0.8
CAMP Campotosto 7.54 311 Pn 11 51 29.2 +1.4
BLY Banja Luka 7.55 338⇑*i* Pn Pn 11 51 27.7 -0.1
BORA Eskisehir 7.62 71 Pn 11 51 30.9 +2.0
STFAR Stefanesti-Arg 7.66 21 ⇓P Pn 11 51 32.3 +2.9
GZR Gura Zlata 7.71 9 ⇑P Pn 11 51 31.3 +1.1
GZR Gura Zlata 7.71 9 P Pn 11 51 31.2 +1.1
SAUV Serdivan-Sakar 7.77 65 *e*P Pn 11 51 34.5 +3.6
GULT Gulveren 7.81 67 *e*P Pn 11 51 33.9 +2.4
BZS Buzias 7.84 3 *e*P Pn 11 51 31.5 -0.4
BZS Buzias 7.84 3 ⇑P Pn 11 51 31.4 -0.4
BZS Buzias 7.84 3 P Pn 11 51 31.4 -0.4
A051A Mrakovica 7.87 338⇑*i* Pn Pn 11 51 32.0 -0.3
NRCA Norcia 7.89 312 Pn 11 51 34.9 +2.2
GUMA Gualdo di Mace 7.91 314 Pn 11 51 35.1 +2.3
LOT Lotru 7.92 14 *e*P Pn 11 51 34.9 +1.9
LOT Lotru 7.92 14 ⇑P Pn 11 51 35.0 +1.9
SURR Surduc 8.01 5 ⇓P Pn 11 51 34.7 +0.6
MTUR Matau 8.02 21 ⇑P Pn 11 51 36.0 +1.6
MTUR Matau 8.02 21 P Pn 11 51 35.9 +1.6
FDMO Fiordimonte 8.03 313 Pn 11 51 36.4 +1.9
ARR Arges 8.04 18 ⇓P Pn 11 51 36.8 +2.2
CESX Cesi 8.09 309 Pn 11 51 36.4 +1.2
VOIR 8.21 20 ⇑P Pn 11 51 39.2 +2.2
VOIR 8.21 20 P Pn 11 51 39.2 +2.2
VOIR 8.21 20 Pn Pn 11 51 39.0 +2.0
comp=Z,717nmcomp=Z,81nm,0.7s
DEV Deva 8.21 9 P Pn 11 51 39.2 +2.3
DEV pmax pmax
comp=Z,48nm,0.8s
TNR Turnu Rosu 8.22 16 ⇑P Pn 11 51 39.4 +2.3
TNR Turnu Rosu 8.22 16 P Pn 11 51 39.3 +2.3
MDUB Muburnu 8.32 68 *e*P Pn 11 51 40.9 +2.4
ISR Istrita 8.40 28 ⇓P Pn 11 51 42.6 +2.9
ISR Istrita 8.40 28 P Pn 11 51 42.5 +2.9
ISR Istrita 8.40 28 Pn Pn 11 51 41.7 +2.1
comp=Z,102nm,0.7s
MFTR Murfatlar 8.47 39 ⇑P Pn 11 51 43.6 +3.1
SIRR Siria 8.49 3 ⇓P Pn 11 51 41.2 +0.4
MLR Muntele Rosu 8.53 24 *e*P Pn 11 51 44.7 +3.4
MLR Muntele Rosu 8.53 24 Pn 11 51 44.2 +2.9
MLR Muntele Rosu 8.53 24 Pn Pn 11 51 41.4 +0.1
comp=Z,3.0nm,0.3s,baz=220,slow=7.3,SNR=24
MLR LR LR 11 55 55.9
comp=Z,1µm,18.7s,baz=250,slow=45
comp=Z,15nm,0.6s
MLR Muntele Rosu 8.53 24 ⇑P Pn 11 51 42.8 +1.5
MLR Muntele Rosu 8.53 24 P Pn 11 51 44.2 +2.9
MLR Muntele Rosu 8.53 24 Pn Pn 11 51 43.3 +2.0
comp=Z,58nm,1.0s
NEHR Nehoiu 8.59 25 ⇓P Pn 11 51 45.2 +3.2
HARR Harsova 8.62 35 ⇑P Pn 11 51 45.4 +2.8
HARR Harsova 8.62 35 P Pn 11 51 45.3 +2.8
YUVA Yuva-Kibriscik 8.66 69 *e*P Pn 11 51 47.9 +4.7
TIRR Tirgusor 8.67 37 *e*P Pn 11 51 45.4 +2.2
TIRR Tirgusor 8.67 37 Pn 11 51 44.8 +1.6
TIRR Tirgusor 8.67 37 ⇓P Pn 11 51 45.7 +2.5
TIRR Tirgusor 8.67 37 P Pn 11 51 45.7 +2.5
TIRR Tirgusor 8.67 37 Pn Pn 11 51 45.2 +2.0
comp=Z,56nm,0.9s
MDB Medias 8.71 15 ⇓P Pn 11 51 46.5 +2.8
MDB Medias 8.71 15 P Pn 11 51 46.5 +2.8
DOPR Dopca 8.79 20 ⇑P Pn 11 51 47.6 +2.8
BOJS Bojanci 8.86 332 *i* Pn Pn 11 51 45.6 -0.1
BOJS *e*Sn Sn 11 53 20.8 -4.2
BOJS IAML 11 53 41.3
comp=Z,133nm,1.1s
BOJS Bojanci 8.86 332⇑*i* Pn Pn 11 51 45.6 -0.1
COVR Voineasa-Covas 8.92 24 ⇓P Pn 11 51 49.3 +2.6
TPGR Topolog 8.97 36 ⇓P Pn 11 51 49.6 +2.2
MARR Marisel-Cluj 9.02 9 ⇓P Pn 11 51 49.5 +1.5
OZUR 9.02 21 ⇑P Pn 11 51 51.1 +3.1
PLOR Plostina 9.08 26 ⇑P Pn 11 51 52.4 +3.5
PLOR Plostina 9.08 26 P Pn 11 51 52.3 +3.5
PLOR5 Plostina Array 9.08 26 Pn Pn 11 51 50.8 +2.0
comp=Z,1µmcomp=Z,98nm,0.8s
PLOR3 Plostina Array 9.08 26 Pn Pn 11 51 50.8 +2.0
comp=Z,104nm,1.4s
DRGR 9.09 7 ⇓P Pn 11 51 50.3 +1.3
DRGR 9.09 7 P Pn 11 51 50.2 +1.3
CFR Carcaliu 9.10 33 ⇓P Pn 11 51 51.0 +1.9
CFR Carcaliu 9.10 33 P Pn 11 51 50.9 +1.9
VRI Vrincioaia 9.12 26 ⇑P Pn 11 51 52.7 +3.4
VRI Vrincioaia 9.12 26 P Pn 11 51 52.7 +3.4
VRI Vrincioaia 9.12 26 Pn Pn 11 51 51.3 +2.0
comp=Z,1µmcomp=Z,92nm,0.8s
CJR Cluj-Napoca 9.12 11 P Pn 11 51 51.9 +2.5
DB3 El Dabaa 9.13 135 P Pn 11 51 46.3 -3.3
DB3 S Sn 11 53 17.6 -14
DB3 El Dabaa 9.13 135 P Pn 11 51 46.3 -3.3
DB3 S Sn 11 53 17.6 -14
SWA2 9.27 155 P Pn 11 51 51.2 -0.3
SWA2 9.27 155 P Pn 11 51 49.0 -2.4
VSL Villasalto 9.30 284 Pn Pn 11 51 52.8 +0.9
CEY Cerknica 9.37 330 *e*Pn Pn 11 51 52.4 -0.4
SKDS Skadanscina 9.38 328⇑*i* Pn Pn 11 51 51.7 -1.2
OSSC Osservatorio P 9.41 311 Pn 11 51 55.7 +2.4
TLCR 9.41 36 ⇑P Pn 11 51 56.0 +2.7
TLCR 9.41 36 P Pn 11 51 55.9 +2.7
GHRR 9.53 28 Pn Pn 11 51 57.1 +2.2
VLDR Vladesti 9.61 31 ⇓P Pn 11 51 59.4 +3.4
KEST Kesra 9.62 261 Pn 11 51 58.0 +1.6
KEST Kesra 9.62 261 Pn Pn 11 51 58.1 +1.7
comp=Z,0.7nm,0.3s,baz=14,slow=1.7,SNR=11
KEST LR LR 11 56 29.2
comp=Z,201nm,19.1s,baz=211,slow=43
comp=Z,6.3nm,0.6s
TESR Tescani 9.66 24 ⇑P Pn 11 51 59.3 +2.6
BUD Budapest 9.81 352 P Pn 11 52 00.0 +1.2
BUD pmax pmax
comp=Z,30nm,0.6s
SABO M.te Sabotino 9.90 328 Pn 11 51 59.2 -0.8
SOKA Soboth 9.95 335 *i* Pn Pn 11 51 60.0 -0.8
comp=Z,38nm,0.7s,SNR=15
SOKA *e*Sn Sn 11 53 45.9 -6.1
comp=Z,16nm,0.5s
OBKA Obir 9.97 333 *i* Pn Pn 11 52 00.4 -0.7
comp=Z,22nm,0.5s,SNR=11
OBKA *e*Sn Sn 11 53 47.6 -4.9
comp=Z,46nm,0.5s
OBKA Obir 9.97 333⇑*i* Pn Pn 11 51 59.6 -1.5
BR105 Keskin Array S 10.00 75 P Pn 11 52 04.3 +2.8
comp=Z,142nmcomp=Z,14nm,0.7s
BR106 Keskin Array S 10.00 75 P Pn 11 52 04.3 +2.7
comp=Z,97nmcomp=Z,11nm,0.8s
BR104 Keskin Array S 10.01 75 P Pn 11 52 04.2 +2.4
comp=Z,99nmcomp=Z,11nm,0.8s
BR131 Keskin Array S 10.01 75 Pn 11 52 04.6 +2.8
BR131 Keskin Array S 10.01 75*c* *i* P Pn 11 52 06.9 +5.1
BRTR Keskin Array B 10.01 75 Pn 11 52 04.7 +3.0
BRTR Keskin Array B 10.01 75 Pn Pn 11 52 07.1 +5.3
comp=Z,1.4nm,0.3s,baz=259,slow=13,SNR=34
BRTR Keskin Array B 10.01 75 P Pn 11 52 04.7 +3.0

BMR Baia Mare 10.05 9 P Pn 11 52 04.1 +2.1
BMR pmax pmax
comp=Z,54nm,0.8s
PSZ Piszkesteto 10.17 356 Pn 11 52 03.5 -0.3
PSZ Piszkesteto 10.17 356 ⇑P Pn 11 52 03.0 -0.8
PSZ Piszkesteto 10.17 356 P Pn 11 52 03.5 -0.3
PSZ Piszkesteto 10.17 356 *e*P Pn 11 52 05.1 +1.3
SRO Srobarova 10.23 350 P Pn 11 52 05.8 +1.3
SRO pmax pmax
comp=Z,36nm,0.7s
SRO Srobarova 10.23 350 *e*SN Sn 11 53 54.0 -4.7
PRED Cave del Predi 10.29 330 Pn 11 52 05.3 -0.1
BURAR Bucovina Array 10.29 16 Pn 11 52 07.2 +1.7
BURAR Bucovina Array 10.29 16 ⇓P Pn 11 52 07.4 +1.9
BURAR Bucovina Array 10.29 16 P Pn 11 52 07.3 +1.9
ARSA Arzberg 10.31 338 *e*Pn Pn 11 52 04.9 -0.7
comp=Z,10nm,0.4s,SNR=17
ARSA Arzberg 10.31 338 Pn 11 52 05.2 -0.4
BUR08 Bucovina Ar. S 10.31 16 Pn 11 52 07.2 +1.4
TEOL Teolo 10.33 320 Pn 11 52 05.8 -0.1
TRSU Trosnyk 10.40 7 P Pn 11 52 08.3 +1.4
TRSU Trosnyk 10.40 7 P Pn 11 52 08.3 +1.4
MYKA Terra Mystica 10.41 330 *e*Pn Pn 11 52 06.7 -0.4
comp=Z,8.6nm,0.4s,SNR=12
KORU Korolevo 10.48 8 P Pn 11 52 09.6 +1.6
RONA Rosalia, Austr 10.51 342 *i* Pn Pn 11 52 07.5 -0.9
comp=Z,3.1nm,0.4s,SNR=8.0
RONA *e*Sn Sn 11 54 03.2 -2.5
comp=Z,5.8nm,0.5s
BRIU Brid 10.65 7 P Pn 11 52 11.5 +1.2
CIMO Cimolais 10.66 326 Pn 11 52 09.4 -1.1
NSLU Nyzhne Selyshc 10.70 12 P Pn 11 52 10.1 -0.9
KECS Kecovo 10.71 358 *e*P Pn 11 52 11.9 +0.8
KECS Kecovo 10.71 358 *e*PN Pn 11 52 11.9 +0.8
MUKU Mukachevo 10.73 6 P Pn 11 52 12.4 +1.0
HOLU Holmets 10.79 5 P Pn 11 52 13.0 +0.9
CTI Castel Tesino 10.83 323 Pn 11 52 12.0 -0.9
CTI Castel Tesino 10.83 323 P Pn 11 52 12.0 -0.9
CONA Conrad Observa 10.83 341 *e*Pn Pn 11 52 12.2 -0.7
comp=Z,1.4nm,0.3s,SNR=5.6
CONA *e*Sn Sn 11 54 09.0 -4.7
comp=Z,4.0nm,0.6s
MSSA Maissana 10.89 310 Pn Pn 11 52 15.2 +1.5
KBA Koelnbreinsper 10.90 331 *i* Pn Pn 11 52 14.0 +0.2
comp=Z,5.9nm,0.3s,SNR=17
KBA *e*Sn Sn 11 54 10.5 -4.9
comp=Z,11nm,0.5s
KBA Koelnbreinsper 10.90 331 P Pn 11 52 14.4 +0.6
KBA pmax pmax
comp=Z,25nm,0.8s
KSV Kosov 10.93 14 P Pn 11 52 15.9 +1.8
KSV Kosov 10.93 14 P Pn 11 52 15.9 +1.8
MODS Modra-Piesok 10.94 347 *e*P Pn 11 52 14.9 +0.6
MODS *e* 11 54 10.4
MODS Modra-Piesok 10.94 347 *e*PN Pn 11 52 14.9 +0.6
MODS *e*SN Sn 11 54 10.4 -5.8
ABTA Abfaltersbach 10.97 327 *e*Pn Pn 11 52 14.3 -0.4
comp=Z,7.3nm,0.4s,SNR=18
KOLS Kolonicke sedl 11.18 4 *e*P Pn 11 52 19.6 +2.0
KOLS Kolonicke sedl 11.18 4 *e*PN Pn 11 52 19.6 +2.0
STNU Starunia 11.21 12 P Pn 11 52 20.1 +2.2
MOA Molln 11.23 336 *e*Pn Pn 11 52 17.9 -0.4
comp=Z,15nm,0.3s,SNR=30
MOA *e*Sn Sn 11 54 18.4 -4.9
comp=Z,10nm,0.6s
BIOA Bad Ischl, Aus 11.30 334 *e*Pn Pn 11 52 18.7 -0.5
comp=Z,15nm,0.4s,SNR=10
BIOA *e*Sn Sn 11 54 19.8 -5.3
comp=Z,8.4nm,0.5s
JAVC Velka Javorina 11.34 349 *e*PN Pn 11 52 20.3 +0.5
LANS Liptovska Anna 11.42 355 *e*P Pn 11 52 22.6 +1.7
LANS Liptovska Anna 11.42 355 *e*PN Pn 11 52 22.6 +1.7
LESA Schwarzleotal 11.44 330 *e*Pn Pn 11 52 20.3 -0.9
comp=Z,25nm,0.4s,SNR=20
LESA *e*Sn Sn 11 54 22.5 -6.0
comp=Z,19nm,0.5s
NE56 Odesa 11.49 36 P Pn 11 52 23.6 +1.9
STHS Stebnicka Huta 11.63 1 *e*P Pn 11 52 25.2 +1.4
STHS Stebnicka Huta 11.63 1 *e*PN Pn 11 52 25.2 +1.4
SORM Soroca 11.64 25 P Pn 11 52 25.1 +1.3
SORM Soroca 11.64 25 P Pn 11 52 25.1 +1.3
comp=Z,14nm,0.9s
NIE Niedzica 11.65 358 *e*P Pn 11 52 25.5 +1.6
NIE Niedzica 11.65 358 P Pn 11 52 25.6 +1.6
NIE pmax pmax
comp=Z,14nm,0.9s
NIE Niedzica 11.65 358 P Pn 11 52 25.4 +1.4
comp=Z,14nm,0.9s
NDNU Novodnistrovsk 11.74 21 P Pn 11 52 27.2 +2.0
WTTA Wattenberg 11.74 327 *i* Pn Pn 11 52 26.2 +0.7
comp=Z,9.5nm,0.3s,SNR=26
WTTA *e*Sn Sn 11 54 30.6 -5.6
comp=Z,24nm,0.5s
WTTA Wattenberg 11.74 327 P Pn 11 52 26.8 +1.4
WTTA pmax pmax
comp=Z,29nm,0.9s
KRUC Moravsky 11.77 345 *e*PN Pn 11 52 25.2 -0.4
WATA Walderalm 11.83 327 *e*Pn Pn 11 52 26.9 +0.4
comp=Z,6.3nm,0.3s,SNR=16
WATA *e*Sn Sn 11 54 33.1 -5.0
comp=Z,28nm,0.7s
SQTA Sankt Quirin 11.90 326 *i* Pn Pn 11 52 29.0 +1.4
comp=Z,4.0nm,0.3s,SNR=12
SQTA *e*Sn Sn 11 54 34.8 -5.1
comp=Z,29nm,1.0s
FUORN Ofenpass-Fuorn 11.91 321 Pn 11 52 28.4 +0.6
VRAC Vranov 11.97 346 Pn Pn 11 52 27.8 -0.5
comp=Z,0.3nm,0.3s,baz=174,slow=11,SNR=8.5
comp=Z,4.5nm,0.7s
VRAC Vranov 11.97 346 *e*PN Pn 11 52 25.2 -3.1
VRAC Vranov 11.97 346 ⇑P Pn 11 52 28.1 -0.3
VRAC Vranov 11.97 346 P Pn 11 52 28.0 -0.3
FETA Feichten 11.97 324 *e*Pn Pn 11 52 30.2 +1.6
comp=Z,14nm,0.4s
HORU Horodok 12.07 17 P Pn 11 52 31.8 +2.1
HORU Horodok 12.07 17 P Pn 11 52 31.8 +2.1
CKRC Cesky Krumlov 12.07 338 *e*PN Pn 11 52 29.4 -0.4
CKRC *e*SN Sn 11 54 39.7 -4.3
CKRC Cesky Krumlov 12.07 338 *e*P P 11 52 36.9 -5.7
CKRC MLR MLR
comp=Z,600nm,14.4s
TREC Trest 12.20 342 P Pn 11 52 30.0 -1.4
TREC pmax pmax
comp=Z,14nm,1.1s
DAVOX Davos/Dischmat 12.21 321 Pn Pn 11 52 32.2 +0.3
comp=Z,1.1nm,0.3s,baz=240,slow=14,SNR=18
DAVOX Sn Sn 11 54 41.4 -6.2
comp=Z,2.3nm,0.3s,baz=285,slow=22,SNR=8.8
comp=Z,5.9nm,0.5s
HFRF Wahat Farafira 12.23 148 P Pn 11 52 29.7 -2.4
MORC Moravsky Berou 12.26 349 Pn 11 52 32.2 -0.1
MORC Moravsky Berou 12.26 349 *e*PN Pn 11 52 30.7 -1.6
MORC Moravsky Berou 12.26 349 ⇓P Pn 11 52 32.9 +0.5
MORC Moravsky Berou 12.26 349 P Pn 11 52 32.8 +0.5
TUE Stuetta 12.28 319 Pn 11 52 33.3 +0.5
TUE Stuetta 12.28 319 P Pn 11 52 33.3 +0.5
comp=Z,80nm,0.8s
GEC2 GERESS Array S 12.28 337 Pn 11 52 31.4 -1.3
GERES GERESS Array B 12.28 337 Pn Pn 11 52 31.4 -1.3
comp=Z,2.6nm,0.3s,baz=152,slow=13,SNR=30
GERES Sn Sn 11 54 39.4 -10
comp=Z,1.4nm,0.3s,baz=148,slow=25,SNR=5.2
GERES LR LR 11 58 47.7
comp=Z,215nm,18.6s,baz=92,slow=45
RETA Reutte 12.30 325 *e*Pn Pn 11 52 33.2 +0.2
comp=Z,2.1nm,0.4s
RETA *e*Sn Sn 11 54 46.6 -3.0
comp=Z,9.7nm,0.5s
OJC Ojcow 12.47 356 *e*P Pn 11 52 23.2 -12
**OJC Ojcow 12.47 356 Pn 11 52 35.7

ZVC Zvikov 12.66 339 *e*PN **Pn 11 52 36.9 -0.9**
ZVC AMS AMS 11 58 10.0
comp=Z,600nm,14.4s
WET Wettzell 12.81 335 P **Pn 11 52 40.2 +0.4**
WET pmax pmax
comp=Z,29nm,1.1s
GOPC GO Pecny, Ondr 12.94 342 *e*PN **Pn 11 52 41.0 -0.6**
GOPC GO Pecny, Ondr 12.94 342 *e*P **Pn 11 52 41.0 -0.6**
DPC Dobruska-Polom 13.02 346 *e*PN **Pn 11 52 42.3 -0.4**
DPC AMS AMS 11 58 30.0
comp=Z,900nm,16.4s
DPC Dobruska-Polom 13.02 346 *e*P **Pn 11 52 42.3 -0.4**
DPC MLR MLR
comp=Z,900nm,16.4s
LUBAR Lubar, Ukraine 13.05 19 P **Pn 11 52 44.0 +0.9**
PRU Pruhonice 13.07 341 *e*PN **Pn 11 52 42.3 -1.1**
PRU Pruhonice 13.07 341 *e*P **Pn 11 52 42.3 -1.1**
UPC Upice 13.23 346 P **Pn 11 52 44.0 -1.5**
OSTC Ostas 13.23 346 AMS AMS 11 58 40.0
comp=Z,800nm,15.1s
CHVC Chvalec 13.29 346 *e*PN **Pn 11 52 46.0 -0.4**
CHVC Chvalec 13.29 346 *e*P **Pn 11 52 46.0 -0.4**
SENIN Lac Senin/Sane 13.33 314 **Pn 11 52 48.1 +0.9**
KSP Ksiaz 13.49 347 P **Pn 11 52 51.2 +2.1**
KSP pmax pmax
comp=Z,11nm,0.8s
PVCC Panska Ves 13.56 342 P **Pn 11 52 52.5 +2.4**
PVCC pmax pmax
comp=Z,29nm,1.1s
RNPP5 Staryi Chortor 13.88 13 P **Pn 11 52 54.9 +0.6**
STU Stuttgart 13.96 326 Pn **Pn 11 52 55.0 -0.5**
STU Stuttgart 13.96 326 P **Pn 11 52 55.0 -0.5**
MI28 Mi28,Pidlybu 13.96 18 P **Pn 11 52 56.2 +0.7**
RNPP8 Varash 13.97 13 P **Pn 11 52 56.6 +1.0**
AK07 Malin Array Si 14.03 22 P **Pn 11 52 56.3 -0.1**
BRG Berggiesshubel 14.04 341 *e*P **Pn 11 52 56.1 -0.4**
BRG Amp 11 52 57.5
comp=Z,2.9nm,0.8s
BRG Berggiesshubel 14.04 341 P **P 11 53 07.4 +3.1**
BRG Amp 11 53 08.0
comp=Z,6.1nm,0.7s
BFO Black Forest 14.04 323 Pn **Pn 11 52 55.7 -1.0**
BFO Black Forest 14.04 323 P **Pn 11 52 55.7 -1.0**
RNPP9 Sopachiv 14.05 13 P **Pn 11 52 57.0 +0.3**
BEL Belsk 14.06 359 *e*P **P 11 53 07.2 +2.7**
AK06 Malin Array Si 14.06 22 P **Pn 11 52 57.0 +0.2**
EIL Elat 14.10 121 Pn **Pn 11 52 56.8 -0.7**
comp=Z,1.2nm,0.3s,baz=350,slow=13,SNR=7.9
EIL Sn Sn 11 55 21.9 -12
comp=Z,2.0nm,0.3s,baz=320,slow=18,SNR=7.1
comp=Z,2.5nm,0.3s
ASF Jabal al Asfar 14.13 109 Pn **Pn 11 52 57.5 -0.5**
comp=Z,0.3nm,0.3s,baz=225,slow=10.0,SNR=1.8
ASF Sn **Sn 11 55 32.1 -2.3**
comp=Z,0.6nm,0.3s,baz=153,slow=12,SNR=2.2
comp=Z,1.4nm,0.4s
KIEV Kiev 14.16 22 **Pn 11 52 57.6 -0.6**
KIEV Kiev 14.16 22 ⇑P **Pn 11 52 58.8 +0.6**
KIEV Kiev 14.16 22 P **Pn 11 52 58.8 +0.6**
AKASG Malin Array Be 14.17 22 Pn **Pn 11 52 57.6 -0.7**
comp=Z,2.3nm,0.3s,baz=214,slow=12,SNR=26
comp=Z,5.9nm,0.6s
AKBB Malin Array Si 14.17 22 **Pn 11 52 57.4 -0.9**
AKBB Malin Array Si 14.17 22 P **Pn 11 52 57.4 -0.9**
R9F13 Warsaw-Wawer 14.44 0 *e*P **P 11 53 10.3 +1.5**
CLL Collm 14.68 340 Pn **Pn 11 53 05.2 -0.1**
CLL Collm 14.68 340 *e*P **Pn 11 53 04.0 -1.3**
CLL pmax pmax
comp=Z,49nm,1.4s
CLL Collm 14.68 340 *e*P **Pn 11 53 04.0 -1.3**
CLL *es*P **P 11 53 08.0 -3.5**
CLL *i* PP **PnPn 11 53 13.4 +0.1**
comp=Z,49nm,1.4s
CLL *i* x x 11 53 21.1
SOC Sochi 15.28 62 *e*P **Pn 11 53 12.0 -1.4**
SOC *e* 11 56 04.3
KOPT Kop Dagi 15.30 76 Pn **Pn 11 53 14.8 +0.9**
TNS Taunus Mts 15.37 328 P **Pn 11 53 15.7 +1.1**
TNS pmax pmax
comp=Z,70nm,0.9s
GKP Gorka Klasztor 15.72 351 *e*P **P 11 53 24.4 +1.5**
GKP Gorka Klasztor 15.72 351 P **P 11 53 24.5 +1.5**
GKP pmax pmax
comp=Z,148nm,0.8s
WLF Walferdange 16.00 323 **Pn 11 53 23.3 +0.5**
WLF Walferdange 16.00 323 *d*P **P 11 53 29.7 +3.6**
comp=Z,28nm,1.0s
WLF *d*S **Sn 11 56 13.7 -6.0**
WLF Walferdange 16.00 323 P **Pn 11 53 23.3 +0.5**
WLF pmax pmax
comp=Z,35nm,0.9s
SUW Suwalki 16.30 4 *e*P **Pn 11 53 26.4 -0.1**
SUW Suwalki 16.30 4 **Pn 11 53 26.4 -0.1**
SUW Suwalki 16.30 4 P **Pn 11 53 26.4 -0.1**
SUW pmax pmax
comp=Z,690nm,1.0s
SUW Suwalki 16.30 4 *e*P **P 11 53 30.3 +0.9**
GURO Guroymak-BITLI 16.51 81 **P 11 53 31.1 -1.0**
MEM Membach 16.72 325 *d*P **P 11 53 35.7 +1.6**
comp=Z,14nm,1.0s
RCHB Rochefort 16.78 323 *d*P **P 11 53 34.6 -0.1**
BSTI Sart Tilman 16.91 324 *d*P **P 11 53 40.2 +4.1**
BCLA Clavier 16.92 323 *d*P **P 11 53 36.7 +0.4**
DOU Dourbes 17.05 321 *d*P **P 11 53 38.7 +1.0**
comp=Z,18nm,1.1s
KARS Kars 17.29 74 P **Pn 11 53 39.6 +0.3**
KARS pmax pmax
comp=Z,111nm,0.8s
MNK Minsk 17.36 13 *i* P **Pn 11 53 39.1 -0.8**
comp=Z,47nm,0.8s,baz=199
MNK *i* P **P 11 53 39.9 -1.3**
comp=E,33nm,0.8s
MNK *i* P **P 11 53 39.9 -1.3**
comp=N,15nm,0.8s
MNK *i* PP **PnPn 11 53 49.7 -0.3**
MNK *i* PPP PPP 11 53 57.5
MNK *i* S **Sn 11 56 51.8 -0.8**
MNK *i* SS **SnSn 11 57 17.2 +11**
MNK *i* LQ LQ 11 58 45.4
MNK *i* LR LR 12 00 03.8
MNK *i* LRM MLR 12 01 17.1
comp=Z,230nm,13.6s
MNK *i* LRM MLR 12 01 22.6
comp=N,208nm,13.3s
MNK *i* LRM MLR 12 01 40.1
comp=E,196nm,12.4s
MNK Minsk 17.36 13 *i* P **Pn 11 53 39.1 -0.8**
MNK *i* S **Sn 11 56 51.8 -0.8**
MNK pmax pmax
comp=Z,47nm,0.8s
MNK pmax pmax
comp=E,33nm,0.8s
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=Z,230nm,14.0s
MNK pmax pmax
comp=N,208nm,13.0s
MNK pmax pmax
comp=E,196nm,12.0s
SHA1 Shidzhatmaz 17.39 63‖ *e*P **P 11 53 43.1 +1.3**
KIV Kislovodsk 17.46 63 *e*P **Pn 11 53 38.4 -2.9**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,32nm,14.0s
KBZ Khabaz 17.56 63 P **Pn 11 53 41.6 -0.7**
comp=Z,0.4nm,0.3s,baz=257,slow=9.6,SNR=10
comp=Z,6.3nm,0.8s
KBZ Khabaz 17.56 63⇑ *e*P **P 11 53 44.0 +0.6**
KBZ pmax pmax
comp=Z,7.0nm,0.6s
NACGM Naroch 17.57 11 *e*P **Pn 11 53 40.9 -1.5**
comp=E,1μm,0.9s
UCC Uccle 17.62 323 *d*P **P 11 53 45.0 +1.0**
BSEG Bad Segeberg 17.77 339 P **P 11 53 46.8 +1.2**
BSEG pmax pmax
comp=Z,27nm,0.9s
BSD Bornholm Skovb 17.84 348 *e*P **P 11 53 47.3 +1.0**
BSD Bornholm Skovb 17.84 348 *e*P **Pn 11 53 45.1 -0.6**
BSD IAmb IAmb 11 53 45.3
comp=Z,26nm,1.0s
PABE Paberze 17.84 5 P **Pn 11 53 44.8 -0.9**
PABE Paberze 17.84 5 *e*P **Pn 11 53 45.6 -0.2**

IIGN Ignalina 17.92 10 *e*P **P 11 53 48.3 +1.0**
NCK Nalchik 18.01 64⇑ *e*P **Pn 11 53 47.4 -0.6**
NCK pmax pmax
comp=Z,13nm,0.8s
PBUR Paburge 18.26 2 *e*P **P 11 53 52.2 +1.2**
GNI Garni 18.55 75 P **Pn 11 53 55.1 +0.2**
GNI Garni 18.55 75 P **Pn 11 53 55.1 +0.2**
comp=Z,1.0nm,0.3s,baz=305,slow=2.6,SNR=9.2
GNI LR LR 12 01 32.5
comp=Z,94nm,19.4s,baz=274,slow=39
comp=Z,13nm,0.6s
GNI Garni 18.55 75⇑ *e*P **P 11 53 52.0 -2.6**
GNI pmax pmax
comp=Z,14nm,0.9s
GNI Garni 18.55 75 P **Pn 11 53 56.0 +1.1**
comp=Z,25nm,1.6s
VSR Storozhevoye 18.56 38 *e*P **P 11 53 52.5 -1.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LUNU Lund 18.59 346 *i* P **Pn 11 53 54.7 -0.2**
BLEU Blekinge 18.86 351 *i* P **P 11 53 57.0 -0.6**
VORR Voronezh 18.88 37 *e*P **Pn 11 53 58.4 -0.1**
VORR pmax pmax
comp=Z,55nm,0.4s
BJUU Bjuv 19.08 346 *i* P **Pn 11 54 01.6 +0.7**
DEL Delary 19.31 348 *i* P **Pn 11 54 03.5 -0.2**
DEL IAmb IAmb 11 54 05.6
comp=Z,9.9nm,0.7s
LPSR Galich'ya Gora 19.36 34 *e*P **P 11 54 03.4 +0.2**
LPSR pmax pmax
comp=Z,98nm,0.8s
ESBB Sonseca Array 19.60 283 P **Pn 11 54 06.8 -0.6**
ESDC Sonseca Array 19.60 283 P **P 11 54 06.4 +0.4**
comp=Z,0.2nm,0.3s,baz=81,slow=12,SNR=19
comp=Z,3.9nm,0.9s
VRH Novokhopyorsk 19.84 41 *e*P **P 11 54 08.4 0.0**
VRH *e*S **Sn 11 57 54.4 +2.0**
VRH pmax pmax
comp=Z,81nm,0.5s
VRH smax smax
comp=E,900nm,4.8s
SLIT Slitere, Latvi 19.88 2 *e*P **P 11 54 08.9 +0.2**
FABU Falkenberg 20.01 347 *i* P Pn 11 54 11.6 -0.4
TAM Tamanrasset 20.04 226 P **P 11 54 09.8 -1.1**
TAM Tamanrasset 20.04 226 P **P 11 54 09.8 -1.1**
TAM pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 20.28 26 P **P 11 54 12.5 -0.7**
OBN Obninsk 20.28 26 P **P 11 54 12.4 -0.8**
comp=Z,89nm,0.3s,baz=67,slow=0.5,SNR=16
comp=Z,89nm,0.3s
OBN Obninsk 20.28 26*d i*P **P 11 54 13.2 +0.1**
OBN 11 54 30.0
OBN *e*S **S 11 57 58.5 -1.2**
OBN SSS SSS 11 58 34.0
OBN pmax pmax
comp=Z,43nm,0.8s
OBN MLR MLR
comp=Z,215nm,16.0s
OBN Obninsk 20.28 26 P **P 11 54 13.1 0.0**
comp=Z,100nm,0.5s
MUD Monsted U'grnd 20.30 341 *i* P **P 11 54 13.2 -0.2**
MUD IAmb IAmb 11 54 15.2
comp=Z,35nm,0.7s
ONAU Onsala 20.54 346 *i* P **P 11 54 16.2 +0.3**
MAK Makhachkala 20.76 67 *e*P **P 11 54 16.8 -1.6**
MAK *e*S **S 11 58 10.1 +0.7**
MAK pmax pmax
comp=Z,111nm,0.9s
MAK MLR MLR
comp=Z,109nm,18.0s
VSU Vasula 21.02 8*ce*P **P 11 54 20.0 -1.1**
VSU pmax pmax
comp=Z,270nm,0.9s
VSU Vasula 21.02 8 *e*P **P 11 54 20.6 -0.6**
MTSE Matsula 21.02 4 *e*P **P 11 54 21.8 +0.6**
MOS Moscow 21.15 27 *e*P **P 11 54 20.3 -2.2**
MOS pmax pmax
comp=Z,143nm,0.6s
TJOU Tjoern 21.19 346 *i* P **P 11 54 22.8 -0.1**
MDT Midelt 21.50 264 LR LR 12 02 47.3
comp=Z,56nm,21.8s,baz=92,slow=37
PBRG Braganca 21.70 289 *e*P **P 11 54 31.6 +2.9**
PBRG *i* Amb 11 54 38.7
comp=Z,49nm,1.6s
ARBE Arbavere 21.90 7 *e*P **P 11 54 30.8 +0.3**
MVO Moncorvo 21.91 288 *e*P **P 11 54 31.4 +0.5**
HOMB Homborsund 22.08 342 *e*P **P 11 54 33.5 +1.0**
STRU Stroemstad 22.21 346 *e*P **P 11 54 35.2 +1.3**
PMRV Marv??o 22.26 283 *e*P **P 11 54 35.1 +0.4**
PMRV *i* Amb 11 54 41.8
comp=Z,29nm,1.6s
MTE Manteigas 22.32 286 *e*P **P 11 54 38.6 +3.2**
POLO Lamas de Olo 22.48 288 *e*P **P 11 54 39.0 +1.9**
MEF Metsahovi 22.56 4 *e*P **P 11 54 38.6 +1.1**
PVIS Viseu 22.57 287 *e*P **P 11 54 38.5 +0.5**
PBEJ Beja 22.79 280 *e*P **P 11 54 43.8 +3.5**
PUL Pulkovo 22.80 12⇑ *e*P **P 11 54 40.4 +0.3**
PUL pmax pmax
comp=Z,93nm,0.8s
PGAV Gavieira, Arco 22.84 290 *e*P **P 11 54 45.5 +4.5**
HFS Hagfors 22.86 350 P **P 11 54 40.0 -0.8**
comp=Z,20nm,0.4s,baz=163,slow=11,SNR=93
HFS LR LR 12 04 25.7
comp=Z,103nm,19.5s,baz=171,slow=39
comp=Z,20nm,0.4s
HFS Hagfors 22.86 350 P **P 11 54 40.0 -0.8**
PMTG Montargil 22.94 282 *e*P **P 11 54 43.6 +1.7**
PCAS Casmilo, Conde 23.07 285 *e*P **P 11 54 44.3 +1.2**
KONO Kongsberg 23.09 345 *e*P **P 11 54 43.4 +0.2**
MESJ Messejana 23.10 279 *e*P **P 11 54 45.2 +1.7**
OSL Oslo 23.14 347 *e*P **P 11 54 42.9 -0.7**
OSL IAmb IAmb 11 54 43.3
comp=Z,57nm,0.6s
RAF Rauma 23.27 1 *e*P **P 11 54 43.8 -1.1**
BLS5 Blasjo 23.61 341 *e*P **P 11 54 48.9 +0.5**
NC602 NORSAR Array S 23.75 348 P **P 11 54 48.8 -0.9**
NC602 NORSAR Array S 23.75 348 *e*P **P 11 54 49.0 -0.7**
NC602 IAmb IAmb 11 54 49.7
comp=Z,249nm,1.7s
NORES NORESS Array B 23.75 348 P **P 11 54 49.2 -0.5**
NORES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 23.89 6 P **P 11 54 50.1 -1.0**
comp=Z,25nm,0.8s,baz=173,slow=9.8,SNR=79
FINES LR LR 12 04 37.5
comp=Z,205nm,18.5s,baz=206,slow=38
comp=Z,25nm,0.8s
FIA1 FINESS Array S 23.90 6 P **P 11 54 50.1 -0.9**
NAO01 NORSAR Array S 23.96 348 P **P 11 54 51.0 -0.8**
ODD1 Odda 23.99 342 *e*P **P 11 54 51.7 -0.3**
ODD1 IAmb IAmb 11 54 55.4
comp=Z,6μm,4.1s
EKA Eskdalemuir Ar 24.00 325 P **P 11 54 52.2 +0.1**
comp=Z,16nm,0.6s,baz=125,slow=8.5,SNR=23
comp=Z,16nm,0.6s
ESK Eskdalemuir 24.01 325 P **P 11 54 51.6 -0.6**
ESK IAmb IAmb 11 54 56.1
comp=Z,28nm,0.8s
ESK Eskdalemuir 24.01 325 P **P 11 54 51.6 -0.6**
ESK pmax pmax
comp=Z,28nm,0.8s
NC405 NORSAR Array S 24.08 349 P **P 11 54 52.2 -0.7**
NB2 NORSAR Subarra 24.09 348 P **P 11 54 52.3 -0.7**
comp=Z,26nm,1.0s,baz=159,slow=9.3
NB2 NORSAR Subarra 24.09 348 P **P 11 54 52.3 -0.7**
baz=159,slow=9.3
NOA NORSAR Array B 24.09 348 P **P 11 54 52.7 -0.3**
comp=Z,7.1nm,0.6s,baz=157,slow=9.2,SNR=45
NOA LR LR 12 05 19.2
comp=Z,50nm,19.5s,baz=165,slow=39
comp=Z,7.1nm,0.6s
SKAR Skarslia 24.30 345 *e*P **P 11 54 55.3 +0.4**
SKAR IAmb IAmb 11 54 58.7
comp=Z,311nm,2.2s
KEF Keuruu 24.53 4 *e*P **P 11 54 57.6 +0.7**
ASK Askoy 24.85 341 *e*P **P 11 55 01.5 +1.8**
ASK IAmb IAmb 11 55 02.1
comp=Z,64nm,1.2s
HYA Hoyanger 25.20 343 *e*P **P 11 55 03.5 +0.6**
HYA IAmb IAmb 11 55 06.6
comp=Z,23nm,0.8s
RAYN Ar Rayn 25.28 117 P **P 11 55 04.4 +0.3**
RAYN Ar Rayn 25.28 117 P **P 11 55 04.4 +0.3**
RAYN pmax pmax

comp=Z,8.0nm,0.9s
VAF Ylistaro 25.31 2 *e*P **P 11 55 04.7 +0.8**
DOMB Dombas 25.40 347 *e*P **P 11 55 06.1 +1.2**
DOMB IAmb IAmb 11 55 07.4
comp=Z,44nm,0.9s
SUE Sulen 25.45 341 *e*P **P 11 55 05.2 0.0**
FOO Floro 25.85 342 *e*P **P 11 55 08.3 -0.5**
FOO IAmb IAmb 11 55 08.7
comp=Z,86nm,1.5s
JOF Joensuu 25.94 11 *e*P **P 11 55 09.1 -0.6**
NSS Namsos 27.33 351 *e*P **P 11 55 21.8 -0.3**
NSS IAmb IAmb 11 55 25.9
comp=Z,15nm,0.7s
KIRV Kirov 27.76 32 LR LR 12 06 44.4
comp=Z,114nm,18.6s,baz=239,slow=37
KIRV Kirov 27.76 32*ce*P **P 11 55 24.9 -1.2**
MOR8 Moi Rana 28.69 354 *e*P **P 11 55 34.3 0.0**
MOR8 IAmb IAmb 11 55 36.5
comp=Z,15nm,1.2s
LEIR Leirfjorden 28.75 353 *e*P **P 11 55 35.6 +0.9**
LEIR IAmb IAmb 11 55 37.7
comp=Z,79nm,1.8s
STOK Stokkvaagen 28.97 353 *e*P **P 11 55 37.0 +0.2**
STOK IAmb IAmb 11 55 37.5
comp=Z,36nm,1.3s
AKTO Aktyubinsk 29.08 52 LR LR 12 09 35.7
comp=Z,93nm,19.5s,baz=189,slow=41
KONS Konsvik 29.12 353 *e*P **P 11 55 38.2 0.0**
KONS IAmb IAmb 11 55 40.4
comp=Z,23nm,1.3s
VAGH Vaagaholmen 29.34 354 *e*P **P 11 55 40.0 0.0**
FAUS Fauske 29.83 356 *e*P **P 11 55 44.3 -0.1**
TORD Torodi Ar. Bea 30.00 220 P **P 11 55 46.0 -0.3**
TORD IAmb IAmb 11 56 05.5
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 30.00 220 P **P 11 55 46.4 +0.1**
comp=Z,9.3nm,0.6s,baz=28,slow=11,SNR=5.5
comp=Z,9.3nm,0.6s
ABKAR Akbulak array 30.12 55 P **P 11 55 47.0 -0.2**
ABKAR IAmb IAmb 11 55 47.6
comp=Z,9.1nm,0.7s
ABKAR Akbulak array 30.12 55 P **P 11 55 46.3 -0.9**
STEI Steigen 30.38 356 *e*P **P 11 55 48.8 -0.4**
ARTI Arti 30.97 41 P **P 11 55 53.4 -1.2**
ARTI Arti 30.97 41 LR LR 12 09 05.6
comp=Z,91nm,19.9s,baz=246,slow=38
ARTI Arti 30.97 41*c i*P **P 11 55 53.5 -1.2**
ARTI 11 56 52.2
ARTI S **S 12 01 03.0 +4.8**
ARTI SS **SnSn 12 02 44.2 +5.7**
ARTI pmax pmax
comp=Z,30nm,1.1s
KTK1 Kautokeino 31.31 2 *e*P **P 11 55 57.3 -0.2**
JETT Jettan, Norway 31.84 360 *e*P **P 11 56 01.4 -0.7**
ARA0 ARCESS Array S 31.91 3 *e*P **P 11 56 01.6 -1.1**
ARCES ARCESS Array B 31.91 3 P **P 11 56 01.8 -0.9**
comp=Z,2.2nm,0.4s,baz=190,slow=10,SNR=58
ARCES LR LR 12 10 03.4
comp=Z,224nm,19.7s,baz=162,slow=38
comp=Z,2.2nm,0.4s
TRO Tromso 31.93 359 *e*P **P 11 56 02.4 -0.5**
SVE Sverdlovsk 32.29 41 *e*P **P 11 56 05.9 -0.3**
SVE pmax pmax
comp=Z,61nm,1.0s
UOSS Minazif 32.43 103 P **P 11 56 07.0 -0.8**
VADS Vadso 32.70 5 *e*P **P 11 56 09.7 +0.1**
LODK Lodwar 36.62 156 P **P 11 56 43.7 -0.4**
BORG Borgarnes 36.67 331 LR LR 12 13 28.0
comp=Z,67nm,18.1s,baz=132,slow=39
BJO1 Bjornoya 36.82 359 *e*P **P 11 56 45.1 0.0**
BRVK Borovoye 36.99 49 P **P 11 56 46.3 -0.6**
BRVK IAmb IAmb 11 56 48.4
comp=Z,17nm,0.7s
BRVK Borovoye 36.99 49*de*P **P 11 56 46.6 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 37.05 49 P **P 11 56 47.3 -0.1**
comp=Z,21nm,0.5s,baz=269,slow=6.0,SNR=141
BVAR LR LR 12 14 38.4
comp=Z,30nm,20.2s,baz=257,slow=41
comp=Z,21nm,0.5s
SIMJ Simiganj 37.34 73 P **P 11 56 49.2 -0.9**
SIMJ IAmb IAmb 11 56 50.4
comp=Z,8.8nm,0.8s
KK31 Karatay Array 37.56 66 P **P 11 56 51.4 -0.5**
KK31 IAmb IAmb 11 56 53.0
comp=Z,14nm,0.8s
KK31 Karatay Array 37.56 66 P **P 11 56 51.4 -0.5**
KK31 pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 37.56 66 P **P 11 56 51.5 -0.4**
KKAR IAmb IAmb 11 56 53.0
comp=Z,14nm,0.8s
KKAR Karatay Array 37.56 66 P **P 11 56 51.1 -0.9**
KKAR Karatay Array 37.56 66 P **P 11 56 51.5 -0.4**
KKAR pmax pmax
comp=Z,14nm,0.8s
GAR Garm 38.25 72 P **P 11 56 57.5 -0.3**
GAR IAmb IAmb 11 56 58.6
comp=Z,30nm,1.0s
DBIC Dimbokro 38.90 224 P **P 11 57 02.8 -0.5**
DBIC IAmb IAmb 11 57 08.0
comp=Z,15nm,0.9s
DBIC Dimbokro 38.90 224 P **P 11 57 03.1 -0.2**
comp=Z,14nm,0.9s,baz=28,slow=7.8,SNR=7.8
DBIC LR LR 12 14 35.1
comp=Z,59nm,18.1s,baz=43,slow=38
comp=Z,14nm,0.9s
DRK Karamyk 39.25 71 P **P 11 57 05.9 -0.5**
DRK Karamyk 39.25 71 P **P 11 57 05.9 -0.5**
DRK pmax pmax
comp=Z,6.0nm,0.5s
ARSB Arslanbob 39.70 68 P **P 11 57 09.8 -0.2**
ARSB IAmb IAmb 11 57 21.0
comp=Z,17nm,1.2s
ARSB Arslanbob 39.70 68 P **P 11 57 09.8 -0.2**
ARSB pmax pmax
comp=Z,17nm,1.2s
BBTS Babate 40.44 246 LR LR 12 16 25.2
comp=Z,140nm,18.1s,baz=310,slow=40
AAK Ala-Archa 40.53 66 LR LR 12 17 41.5
comp=Z,61nm,19.7s,baz=272,slow=42
AAK Ala-Archa 40.53 66⇑ *e*P **P 11 57 16.5 -0.4**
AAK pmax pmax
comp=Z,12nm,2.5s
SPA0 Spitsbergen Ar 40.55 359 *e*P **P 11 57 17.5 +1.0**
SPITS Spitsbergen Ar 40.55 359 P **P 11 57 16.2 -0.2**
comp=Z,0.6nm,0.3s,baz=161,slow=11,SNR=18
SPITS LR LR 12 16 01.3
comp=Z,190nm,20.8s,baz=148,slow=39
comp=Z,0.6nm,0.3s
BOOM Boomskoye usch 41.60 66 P **P 11 57 25.6 -0.2**
BOOM Boomskoye usch 41.60 66 P **P 11 57 25.6 -0.2**
BOOM pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 42.12 53 P **P 11 57 28.8 -0.9**
comp=Z,10.0nm,0.5s,baz=283,slow=8.8,SNR=48
KURBB LR LR 12 19 19.8
comp=Z,58nm,18.6s,baz=171,slow=42
comp=Z,10.0nm,0.5s
NIL Nilore 42.13 79 P **P 11 57 29.2 -0.8**
NIL IAmb IAmb 11 57 30.3
comp=Z,20nm,1.0s
NIL Nilore 42.13 79 P **P 11 57 29.2 -0.8**
NIL pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 42.17 53 P **P 11 57 29.0 -1.1**
KURK IAmb IAmb 11 57 30.7
comp=Z,9.5nm,0.7s
KURK Kurchatov 42.17 53*ce*P **P 11 57 28.9 -1.1**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KSH Kashi 42.36 70 P **P 11 57 30.3 -1.6**
KSH sP pP 11 57 37.1 -0.1
KSH pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 42.77 347 *e*P **P 11 57 33.9 -0.7**
DAG IAmb IAmb 11 57 35.6
comp=Z,1.2nm,0.8s
ICESG Greenland Ices 44.88 334 *e*P **P 11 57 52.4 +0.3**
ICESG IAmb IAmb 11 57 56.3
comp=Z,5.8nm,0.8s
MK31 Makanchi Array 45.15 58 P **P 11 57 52.6 -1.5**
MK31 IAmb IAmb 11 57 55.0
comp=Z,6.7nm,0.5s

MK31 Makanchi Array 45.15 58c iP P 11 57 52.8 -1.3
MKAR Makanchi Array 45.15 58 P P 11 57 52.8 -1.3
MKAR Makanchi Array 45.15 58 P P 11 57 53.0 -1.1
comp=Z,7.5nm,0.4s,baz=270,slow=7.6,SNR=95
MKAR PcP **PcP 11 59 34.1 -0.2**
comp=Z,1.6nm,0.6s,baz=278,slow=3.3,SNR=2.0
MKAR ScP **ScP 12 03 25.1 -1.0**
comp=Z,0.7nm,0.9s,baz=295,slow=6.0,SNR=4.0
MKAR LR LR 12 19 51.1
comp=Z,43nm,21.6s,baz=275,slow=40
comp=Z,7.5nm,0.4s
SUMG Summit 45.35 339 P P 11 57 56.4 +0.6
SUMG Summit 45.35 339 P P 11 57 56.4 +0.6
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 45.35 339 eP P 11 57 56.1 +0.3
SUMG IAmb IAmb 11 57 57.8
comp=Z,3.1nm,0.9s
ZAA0 Zalesovo Array 45.64 48 P P 11 57 56.7 -1.2
ZALV Zalesovo Beam 45.64 48 P P 11 57 56.4 -1.5
ZALV Zalesovo Beam 45.64 48 P P 11 57 56.9 -1.0
comp=Z,35nm,0.4s,baz=275,slow=8.4,SNR=107
ZALV LR LR 12 18 55.2
comp=Z,47nm,20.5s,baz=260,slow=39
comp=Z,35nm,0.4s
NRIK Noril'sk 46.96 26 P P 11 58 08.6 +0.6
NRIK IAmb IAmb 11 58 09.5
comp=Z,6.7nm,0.9s
NRIK Noril'sk 46.96 26 P P 11 58 07.5 -0.6
comp=Z,2.7nm,0.4s,baz=250,slow=3.1,SNR=6.6
NRIK LR LR 12 19 41.8
comp=Z,105nm,21.7s,baz=274,slow=38
comp=Z,2.7nm,0.4s
NRIK Noril'sk 46.96 26c iP P 11 58 08.4 +0.4
NRIK pmax pmax
comp=Z,6.0nm,1.1s
WMQ Urumqi 49.58 61 eP P 11 58 32.5 +3.8
LSZ Lusaka 53.20 171 LR LR 12 24 08.3
comp=Z,89nm,18.6s,baz=96,slow=39
EUNU Eureka 55.99 348 P P 11 59 15.9 +0.4
EUNU IAmb IAmb 11 59 31.9
comp=Z,8.9nm,1.4s
SCHQ Schefferville 59.04 318 P P 11 59 37.6 +0.3
comp=Z,5.2nm,0.5s,baz=66,slow=5.0,SNR=26
comp=Z,5.2nm,0.5s
TIXI Tiksi 59.87 20 P P 11 59 42.8 0.0
TIXI IAmb IAmb 11 59 43.7
comp=Z,3.9nm,0.8s
TIXI Tiksi 59.87 20 LR LR 12 29 25.1
comp=Z,202nm,19.1s,baz=18,slow=40
TIXI Tiksi 59.87 20⇑ eP P 11 59 42.5 -0.3
TIXI pmax pmax
comp=Z,4.0nm,0.9s
RES Resolute Bay 60.27 344 P P 11 59 45.8 +0.3
RES IAmb IAmb 11 59 50.3
comp=Z,7.2nm,1.3s
RES Resolute Bay 60.27 344 P P 11 59 45.8 +0.3
RES pmax pmax
comp=Z,7.0nm,1.3s
SONM Songino Array 60.38 51 P P 11 59 45.6 -1.2
comp=Z,0.9nm,0.3s,baz=285,slow=8.9,SNR=11
SONM LR LR 12 29 08.9
comp=Z,54nm,18.3s,baz=328,slow=39
comp=Z,0.9nm,0.3s
BOD Bodaibo 60.42 38 eP P 11 59 45.2 -1.6
BOD pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 60.77 50⇓ eP P 11 59 48.5 -1.0
ULN pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 62.61 175 LR LR 12 31 33.0
comp=Z,51nm,18.3s,baz=355,slow=40
YAK Yakutsk 65.24 29 LR LR 12 32 45.8
comp=Z,53nm,20.1s,baz=298,slow=40
YAK Yakutsk 65.24 29 eP P 12 00 18.4 -0.4
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
BOSA Boshof 66.16 176 P P 12 00 24.9 -0.3
comp=E,1.8nm,0.5s,baz=352,slow=6.9,SNR=8.1
BOSA LR LR 12 31 28.7
comp=E,66nm,18.2s,baz=20,slow=38
comp=E,1.8nm,0.5s
PZH PanZhiHua 67.31 73 P P 12 00 36.0 +3.2
PZH pmax pmax
comp=E,10.0nm,0.5s
PZH pmax pmax
comp=E,120nm,5.5s
A36M Sachs Harbour 68.00 349 P P 12 00 36.9 +0.7
XLT XiLinHaoTe 68.19 51 eP P 12 00 39.4 +1.3
XLT pP sP 12 00 45.0 -0.8
XLT sP pP 12 00 47.3 +3.6
XLT pmax pmax
comp=E,7.0nm,0.5s
XLT pmax pmax
comp=E,140nm,4.7s
KMI Kunming 68.80 74 P P 12 00 44.3 +2.0
KMI pmax pmax
comp=E,16nm,0.4s
ZEA Zeya 68.93 38 eP P 12 00 42.8 +0.5
CHTO Chiang Mai 69.32 82 P P 12 00 44.2 -1.1
CHTO IAmb IAmb 12 00 45.1
comp=Z,8.5nm,1.1s
CHTO Chiang Mai 69.32 82 P P 12 00 44.2 -1.1
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CM31 Chiang Mai Arr 69.52 82 P P 12 00 45.5 -1.1
CM31 IAmb IAmb 12 00 46.4
comp=Z,8.9nm,0.8s
CMAR Chiang Mai Arr 69.52 82 P P 12 00 45.4 -1.2
comp=Z,5.1nm,0.6s,baz=302,slow=7.8,SNR=47
comp=Z,5.1nm,0.6s
SUR Sutherland 69.80 180 LR LR 12 34 10.3
comp=Z,77nm,19.5s,baz=24,slow=38
FCC Fort Churchill 69.81 330 P P 12 00 48.0 +0.4
FCC Fort Churchill 69.81 330 P P 12 00 48.0 +0.4
FCC pmax pmax
comp=Z,3.0nm,0.8s
C36M Paulatuk 70.14 348 P P 12 00 49.4 -0.1
C36M IAmb IAmb 12 00 50.6
comp=Z,15nm,1.5s
HEH HeiHe 71.06 41 eP P 12 00 55.1 -0.4
HEH pmax pmax
comp=Z,16nm,0.9s
BILL Bilibino 71.31 13⇑ iP P 12 00 56.0 -0.7
BILL pmax pmax
comp=Z,24nm,3.8s
SEY Seymchan 72.35 21⇑ iP P 12 01 03.1 +0.1
SEY pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 72.53 350 P P 12 01 04.0 0.0
INK Inuvik 72.53 350 P P 12 01 04.0 0.0
INK pmax pmax
comp=Z,3.0nm,0.9s
E29M Blow River 72.98 352 P P 12 01 07.5 +0.9
F31M Tsiigehtchic 73.37 350 P P 12 01 08.9 0.0
F31M IAmb IAmb 12 01 10.2
comp=Z,10nm,0.8s
E27K Coleen River 73.55 353 P P 12 01 10.8 +0.7
TOLK Toolik Lake Re 73.67 356 P P 12 01 11.4 +0.6
TOLK IAmb IAmb 12 01 15.5
comp=Z,5.9nm,0.9s
BNX BinXian 73.78 44 ⇓P P 12 01 11.0 -0.8
BNX pmax pmax
comp=Z,7.0nm,1.0s
CN2 Changchun 73.84 47 P P 12 01 11.5 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 73.91 40 LR LR 12 37 56.6
comp=Z,46nm,18.9s,baz=312,slow=39
KLR Kul'dur 73.91 40⇑ iP P 12 01 11.8 -0.7
KLR pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 73.91 340 P P 12 01 12.3 +0.1
comp=Z,1.5nm,0.7s,baz=34,slow=5.1,SNR=23
comp=Z,1.5nm,0.7s
E25K Arctic Village 73.94 355 P P 12 01 12.8 +0.4
F26K Sheenjek River 74.25 354 P P 12 01 15.0 +0.8
E22K Anaktuvuk Pass 74.27 357 P P 12 01 15.0 +0.7
E22K IAmb IAmb 12 01 15.7
comp=Z,5.2nm,0.6s
G29M Pine Creek 74.41 352 P P 12 01 15.0 -0.2
G29M IAmb IAmb 12 01 19.0
comp=Z,10.0nm,0.8s
MA2 Magadan 74.48 24 P P 12 01 15.7 +0.1
MA2 IAmb IAmb 12 01 20.0
comp=Z,12nm,0.7s
MA2 Magadan 74.48 24 LR LR 12 39 20.0
comp=Z,90nm,18.0s,baz=346,slow=40
MA2 Magadan 74.48 24c iP P 12 01 15.9 +0.3
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 74.48 24 P P 12 01 15.9 +0.3
MA2 pP **pP 12 01 21.2 -0.1**
E19K Redstone River 75.08 359 P P 12 01 19.8 +0.9
COLD Coldfoot 75.10 356 P P 12 01 19.2 +0.1
COLD IAmb IAmb 12 01 20.9
comp=Z,6.8nm,1.1s
FYU Fort Yukon 75.45 354 P P 12 01 21.3 +0.3
I29M Ogilvie Camp, 75.94 351 P P 12 01 23.5 -0.4
I29M IAmb IAmb 12 01 27.0
comp=Z,8.0nm,0.6s
ULM Lac du Bonnet 76.27 324 P P 12 01 25.8 -0.3
ULM IAmb IAmb 12 01 45.7
comp=Z,4.8nm,0.8s
ULM Lac du Bonnet 76.27 324 P P 12 01 26.4 +0.4
comp=Z,2.9nm,0.7s,baz=42,slow=6.8,SNR=5.7
comp=Z,2.9nm,0.7s
ULM Lac du Bonnet 76.27 324⇓ eP P 12 01 24.5 -1.6
NJ2 Nanjing 76.64 60 eP P 12 01 29.1 +0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
TNA Tin City 76.75 4 P P 12 01 28.2 -0.3
TNA IAmb IAmb 12 01 29.8
comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 77.27 44 P P 12 01 31.0 -0.9
comp=Z,2.8nm,0.6s,baz=280,slow=5.6,SNR=7.2
USRK LR LR 12 39 50.9
comp=Z,70nm,19.9s,baz=332,slow=39
comp=Z,2.8nm,0.6s
USRK Ussuriysk Ar. 77.27 44 P P 12 01 31.0 -0.9
DAWY Dawson 77.31 351 P P 12 01 32.2 +0.4
DAWY IAmb IAmb 12 01 33.4
comp=Z,7.1nm,0.8s
ILAR Eielson Array 77.34 355 P P 12 01 32.2 +0.4
comp=Z,1.5nm,0.7s,baz=355,slow=2.9,SNR=19
ILAR LR LR 12 40 04.2
comp=Z,26nm,18.4s,baz=114,slow=39
comp=Z,1.5nm,0.7s
WRH Wood River Hil 77.72 355 P P 12 01 34.2 +0.2
WRH IAmb IAmb 12 01 37.8
comp=Z,6.1nm,0.8s
KSAR Wonju Array Be 79.23 51 P P 12 01 42.1 -0.7
KSAR Wonju Array Be 79.23 51 P P 12 01 42.1 -0.7
KSRS Korea Array 79.25 51 P P 12 01 41.8 -1.1
comp=Z,4.1nm,0.7s,baz=312,slow=5.2,SNR=17
KSRS LR LR 12 40 56.3
comp=Z,31nm,18.7s,baz=245,slow=39
comp=Z,4.1nm,0.7s
YSS Yuzhno-Sakhali 80.83 36 eP P 12 01 50.6 -0.7
YSS pmax pmax
comp=Z,20nm,1.1s
ECSD EROS Data Cent 81.17 319 P P 12 01 53.4 +0.2
PETK Petropavlovsk- 81.98 25 P P 12 01 56.2 -1.1
comp=Z,1.3nm,1.0s,baz=356,slow=1.9,SNR=1.5
PETK LR LR 12 44 40.2
comp=Z,68nm,18.5s,baz=338,slow=40
comp=Z,1.3nm,1.0s
ASAJ Asahikawa 82.83 38 LR LR 12 43 02.7
comp=Z,63nm,20.4s,baz=3.5,slow=39
LAO LASA Array 83.57 327 P P 12 02 06.3 +0.6
LAO IAmb IAmb 12 02 18.9
comp=Z,11nm,1.1s
BDFB Brasilia 83.73 245 LR LR 12 40 30.0
comp=Z,51nm,18.7s,baz=356,slow=36
JNU Nakatsue 83.89 53 P P 12 02 06.7 -1.0
comp=Z,5.3nm,0.9s,baz=326,slow=3.6,SNR=1.8
JNU LR LR 12 43 03.1
comp=Z,15nm,19.2s,baz=172,slow=38
comp=Z,5.3nm,0.9s
WHAR Wooly Hollow 84.61 311 P P 12 02 11.0 -0.2
WHAR IAmb IAmb 12 02 22.2
comp=Z,6.8nm,1.1s
KDAK Kodiak Island 84.65 357 P P 12 02 11.4 +0.5
KDAK Kodiak Island 84.65 357 P P 12 02 11.4 +0.5
KDAK pmax pmax
comp=Z,65nm,1.5s
OHAK Old Harbor 85.24 357 P P 12 02 13.8 -0.1
MIAR Mount Ida 85.89 311 P P 12 02 18.6 +1.0
MIAR IAmb IAmb 12 02 37.7
comp=Z,6.2nm,1.2s
MIAR Mount Ida 85.89 311 P P 12 02 18.6 +1.0
MIAR pmax pmax
comp=Z,6.0nm,1.2s
T35A Sooner Cattle 85.93 315 P P 12 02 17.6 -0.2
MJAR Matsushiro Arr 85.96 46 P P 12 02 17.5 -0.4
comp=Z,2.8nm,0.8s,baz=318,slow=5.0,SNR=7.5
comp=Z,2.8nm,0.8s
OVMT Ovando 86.07 330 P P 12 02 18.8 +0.4
NEW Newport 86.60 333 P P 12 02 21.2 +0.3
NEW IAmb IAmb 12 02 37.6
comp=Z,4.1nm,1.0s
NEW Newport 86.60 333 P P 12 02 21.7 +0.8
comp=Z,1.9nm,0.7s,baz=98,slow=2.2,SNR=3.4
comp=Z,1.9nm,0.7s
BOZ Bozeman (W) 86.72 329 P P 12 02 21.9 +0.2
BOZ IAmb IAmb 12 02 43.9
comp=Z,7.6nm,1.5s
BOZ Bozeman (W) 86.72 329 P P 12 02 21.9 +0.2
BOZ pmax pmax
comp=Z,8.0nm,1.5s
C09A Chrisman Ranch 87.40 334 P P 12 02 25.3 +0.6
C09A IAmb IAmb 12 02 41.5
comp=Z,5.5nm,0.9s
PDAR Pinedale Array 88.12 326 P P 12 02 28.9 +0.3
comp=Z,0.5nm,0.8s,baz=68,slow=5.5,SNR=4.5
comp=Z,0.5nm,0.8s
HWUT Hardware Ranch 89.93 327 P P 12 02 36.6 -0.5
PV23 Carpenter Ridg 91.30 323 P P 12 02 42.5 -1.1
PV23 IAmb IAmb 12 02 55.5
comp=Z,7.6nm,0.9s
NVAR Mina Array Bea 95.43 329 LR LR 12 48 05.4
comp=Z,72nm,18.2s,baz=191,slow=37
TXAR Lajitas Array 95.56 314 P P 12 03 03.7 +0.6
comp=Z,0.3nm,0.6s,baz=90,slow=2.5,SNR=3.5
comp=Z,0.3nm,0.6s
CPUP Villa Florida 97.24 242 LR LR 12 47 35.4
comp=Z,60nm,19.9s,baz=67,slow=36
WRA Warramunga Arr 120.09 93 PKP **PKPdf 12 08 27.9 -0.8**
comp=Z,0.5nm,0.5s,baz=319,slow=2.0,SNR=15
WRA Warramunga Arr 120.09 93 PKIKP **PKPdf 12 08 28.0 -0.8**
ASAR Alice Springs 121.70 97 PKP **PKPdf 12 08 31.2 -0.6**
comp=Z,0.6nm,0.5s,baz=307,slow=1.7,SNR=17
QSPA South Pole Qui 127.64 180 PKP **PKPdf 12 08 42.1 +0.3**
comp=Z,1.8nm,0.9s,baz=273,slow=3.4,SNR=5.5
DZM Mont Dzumac 146.38 72 eLR LR 12 57 33.3
comp=Z,77nm,25.2s
DZM Mont Dzumac 146.38 72 PKPbc **PKPab 12 09 19.5 -0.3**
comp=Z,4.6nm,0.7s,baz=270,slow=2.0,SNR=1.9
TAOE Nuku Hiva Isla 146.57 325 eLR LR 12 57 36.5
comp=Z,39nm,23.3s
PPT2 Papeete2 158.27 335 eLR LR 13 02 55.3
comp=Z,40nm,22.2s

*NEIC **17** 12:05:15.3±1.2, 43.°42N±0.°09×127.°6W±0.°2, h10km±2km, ML3.1/62, Error ellipse: s-maj=21.5km s-min=14.5km az=247.0*
*IDC **17** 12:05:17.8±2.5, 43.°65N×127.°34W, h0km, mb3.0/3, mbtmp3.0/5, ML3.0/2, MS2.9/3, Error ellipse: s-maj=43.9km s-min=18.7km az=51.0*
ISC 17 12:05:18.2±1.9, 43.°49N±0.°09×127.°5W±0.°1, h10km, n52, σ1§49/44, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**2.61**	**96**	Pn	**Pn**	**12 05 57.4**	**-3.0**
I02E	**Swisshome, OR**	**2.70**	**76**	Pn	**Pn**	**12 05 58.5**	**-3.1**
I02E				IAML		12 07 18.3	
comp=E,41nm,4.4s							
K02D	**Willamette Mer**	**2.90**	**105**	Pn	**Pn**	**12 06 01.9**	**-2.7**
I03D	**Drain, OR**	**3.00**	**85**		**Pn**	**12 06 03.9**	**-1.9**
DBO	**Dodson Butte**	**3.11**	**95**		**Pn**	**12 06 05.2**	**-2.2**
HEBO	**Mount Hebo**	**3.17**	**56**	Pn	**Pn**	**12 06 06.6**	**-1.7**
HEBO				IAML		12 06 50.3	
comp=N,54nm,3.2s							
L02F	**Cave Junction**	**3.18**	**114**	Pn	**Pn**	**12 06 06.1**	**-2.3**
COR	**Corvallis**	**3.20**	**69**		**Pn**	**12 06 07.2**	**-1.3**
COR				IAML		12 06 37.0	
comp=N,24nm,3.5s							
COR				IAML		12 06 47.6	
comp=N,31nm,3.0s							
BUCK	**Buck Mountain**	**3.32**	**76**		**Pn**	**12 06 09.2**	**-1.2**
BUCK				IAML		12 06 57.2	
comp=E,33nm,4.3s							
G03D	**McMinnville, O**	**3.47**	**59**		**Pn**	**12 06 11.0**	**-1.3**
G03D				IAML		12 06 57.3	
comp=E,38nm,1.4s							
H04D	**Lebanon**	**3.57**	**72**	Pn	**Pn**	**12 06 12.6**	**-1.0**
H04D				IAML		12 06 44.9	
comp=E,27nm,2.6s							
H04D				IAML		12 06 51.5	
comp=N,26nm,4.0s							
F03A	**Seaside**	**3.70**	**48**		**Pn**	**12 06 14.2**	**-1.3**
J04A	**Umpqua Nationa**	**3.92**	**92**	Pn	**Pn**	**12 06 17.9**	**-0.8**
RADR	**Rader Ridge**	**3.92**	**40**	Pn	**Pn**	**12 06 17.2**	**-1.3**
YBH	**Yreka Blue Hor**	**3.93**	**115**	Pn	**Pn**	**12 06 18.0**	**-0.7**
YBH	**Yreka Blue Hor**	**3.93**	**115**	Pn	**Pn**	**12 06 18.7**	**0.0**
comp=N,0.3nm,0.3s,baz=295,slow=15,SNR=7.3							
YBH				Sn	**Sn**	**12 07 06.8**	**+1.8**
comp=N,0.1nm,0.3s,baz=336,slow=18,SNR=1.4							
comp=N,0.6nm,0.3s							
H04A	**Detroit Lake**	**3.99**	**71**		**Pn**	**12 06 18.4**	**-1.1**
H04A				IAML		12 06 47.0	
comp=N,14nm,0.4s							
H04A				IAML		12 06 49.2	
comp=E,15nm,1.5s							
L04D	**Klamath Falls**	**4.01**	**107**	Pn	**Pn**	**12 06 18.4**	**-1.4**
L04D				IAML		12 06 58.4	
comp=N,16nm,4.7s							
L04D				IAML		12 07 36.7	
comp=E,19nm,3.2s							
F04D	**Rainier, OR**	**4.10**	**49**	Pn	**Pn**	**12 06 20.6**	**-0.3**
E03A	**Lebam**	**4.12**	**41**	Pn	**Pn**	**12 06 19.8**	**-1.4**
E03A				IAML		12 06 53.5	
comp=E,28nm,4.3s							
E03A				IAML		12 07 27.6	
comp=N,26nm,2.6s							
WISH	**Wishkah**	**4.47**	**35**	Pn	**Pn**	**12 06 24.1**	**-1.8**
I05D	**Terrebonne, OR**	**4.51**	**77**		**Pn**	**12 06 25.4**	**-1.3**
I05D				IAML		12 09 18.2	
comp=N,22nm,4.8s							
J05D	**Fort Rock, OR**	**4.55**	**90**		**Pn**	**12 06 25.6**	**-1.7**
J05D				IAML		12 07 48.5	
comp=N,13nm,4.9s							
J05D				IAML		12 08 07.0	
comp=E,16nm,5.0s							
HOOD	**Mount Hood Mea**	**4.55**	**64**		**Pn**	**12 06 26.5**	**-0.8**
HOOD				IAML		12 07 17.2	
comp=N,18nm,1.0s							
HOOD				IAML		12 07 35.7	
comp=E,20nm,1.6s							
NLWA	**Neilton Lookou**	**4.65**	**32**	Pn	**Pn**	**12 06 27.0**	**-1.6**
NLWA				IAML		12 08 32.5	
comp=E,20nm,4.0s							
NLWA				IAML		12 08 53.9	
comp=E,17nm,4.2s							
PINE	**Pine Mountain**	**4.75**	**84**		**Pn**	**12 06 29.1**	**-1.0**
PINE				IAML		12 08 15.8	
comp=N,17nm,4.6s							
PINE				IAML		12 09 03.4	
comp=E,13nm,4.9s							
LON	**Longmire**	**5.16**	**49**		**Pn**	**12 06 35.2**	**-0.4**
LON				IAML		12 07 41.0	
comp=N,13nm,3.5s							
LON				IAML		12 07 42.1	
comp=E,11nm,4.7s							
G06A	**Carlson Farm,**	**5.20**	**68**		**Pn**	**12 06 35.1**	**-1.0**
G06A				IAML		12 08 12.3	
comp=N,13nm,4.7s							
D05A	**Enumclaw**	**5.35**	**44**		**Pn**	**12 06 37.3**	**-0.7**
I07A	**Izee**	**5.80**	**81**		**Pn**	**12 06 43.6**	**-0.7**
PGC	**Sidney**	**5.87**	**27**		**Pn**	**12 06 44.4**	**-0.7**
F07A	**Phinny Hill Vi**	**5.89**	**63**	Pn	**Pn**	**12 06 45.0**	**-0.5**
MXC	**Moxie City**	**5.95**	**56**		**Pn**	**12 06 45.1**	**-1.3**
LTY	**Liberty**	**6.09**	**49**		**Pn**	**12 06 48.1**	**-0.3**
HAWA	**Hanford**	**6.34**	**60**		**Pn**	**12 06 50.9**	**-0.8**
G08A	**Pilot Rock**	**6.36**	**71**		**Pn**	**12 06 50.9**	**-1.1**
D08A	**Wollman Farm,**	**7.01**	**56**	Pn	**Pn**	**12 07 00.3**	**-0.5**
BMO	**Blue Mountains**	**7.44**	**76**		**Pn**	**12 07 05.4**	**-1.4**
C09A	**Chrisman Ranch**	**7.75**	**53**	Pn	**Pn**	**12 07 10.0**	**-1.1**
PLID	**Pearl Lake**	**8.38**	**75**	Pn	**Pn**	**12 07 19.0**	**-1.0**
NEW	**Newport**	**8.65**	**53**	Pn	**Pn**	**12 07 23.2**	**-0.2**
comp=N,0.2nm,0.3s,baz=258,slow=9.3,SNR=1.6							
NEW				LR	LR	12 10 43.2	
comp=N,145nm,19.2s,baz=250,slow=38							
comp=N,0.4nm,0.3s							
PFO	**Pinyon Flats O**	**13.09**	**135**	LR	LR	12 13 43.6	
comp=N,33nm,19.8s,baz=302,slow=38							
PDAR	**Pinedale Array**	**13.11**	**87**	LR	LR	12 13 36.6	
comp=N,50nm,21.7s,baz=270,slow=38							
YKA	**Yellowknife Ar**	**20.47**	**17**	P	Pn	12 09 56.0	-1.9
comp=N,0.3nm,0.7s,baz=206,slow=11,SNR=4.5							
comp=N,0.3nm,0.7s							
TXAR	**Lajitas Array**	**23.70**	**119**	P	**P**	**12 10 32.9**	**+2.6**
comp=N,0.8nm,1.0s,baz=319,slow=8.3,SNR=4.3							
comp=N,0.8nm,1.0s							
ILAR	**Eielson Array**	**23.96**	**339**	P	**P**	**12 10 31.7**	**-0.7**
comp=N,0.5nm,0.8s,baz=143,slow=9.5,SNR=5.1							
comp=N,0.5nm,0.8s							
H11N3	**WAKE ISLAND Hy**	**59.13**	**268**	T	T	13 19 07.1	
baz=50,slow=75,SNR=45							
H11N2	**WAKE ISLAND Hy**	**59.13**	**269**	T	T	13 19 11.0	
baz=50,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy**	**59.15**	**268**	T	T	13 19 09.4	
baz=50,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hy**	**60.05**	**268**	T	T	13 20 17.9	
baz=50,slow=75,SNR=238							
H11S2	**WAKE ISLAND Hy**	**60.06**	**268**	T	T	13 20 13.6	
baz=50,slow=75,SNR=202							
H11S3	**WAKE ISLAND Hy**	**60.07**	**268**	T	T	13 20 14.0	
baz=50,slow=75,SNR=192							

*WEL **17** 12:20:04.5±1.1, 32.°5S±6.°×17.°8W±1.°8, h12km, M4.8/9, mB4.7/4, ML5.3/9, MLv5.1/9, Mw(mB)4.0/4, Error ellipse: s-maj=23.9km s-min=4.6km az=105.8, confirmed*
*IDC **17** 12:20:06.9±0.9, 32.°29S×178.°23W, h0km, mb4.2/5, mbtmp4.2/7, ML3.9/2, MS3.7/12, Error ellipse: s-maj=31.9km s-min=25.5km az=116.0*
*NEIC **17** 12:20:09.1±1.6, 32.°5S±0.°1×178.°2W±0.°2, h10km±2km, mb4.5/8, Error ellipse: s-maj=26.1km s-min=22.0km az=147.0*
ISC 17 12:20:07.3±0.7, 32.°30S±0.°06×178.°0W±0.°1, h10km, n60, σ1§65/56, mb4.4/12, MS3.6/11, 4C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.03**	**2**	P	**Pn**	**12 20 53.0**	**-2.3**
GLKZ				S	**Sn**	**12 21 28.9**	**-2.8**
MXZ	**Matakaoa Point**	**6.05**	**209**	Pn	**Pn**	**12 21 35.6**	**-1.2**
MXZ	**Matakaoa Point**	**6.05**	**209**	P	**Pn**	**12 21 33.3**	**-3.5**
MXZ				S	**Sn**	**12 22 46.1**	**-0.1**
PKGZ	**Pakihiroa**	**6.41**	**209**	P	**Pn**	**12 21 41.0**	**-0.7**
HAZ	**Te Kaha**	**6.44**	**211**	P	**Pn**	**12 21 39.0**	**-3.1**
HAZ				S	**Sn**	**12 22 57.5**	**+1.9**
PUZ	**Puketiti**	**6.51**	**207**	P	**Pn**	**12 21 41.2**	**-1.9**
PUZ				S	**Sn**	**12 22 57.8**	**+0.3**
MWZ	**Matawai**	**7.03**	**210**	P	**Pn**	**12 21 48.6**	**-1.7**
MWZ				S	**Sn**	**12 23 09.6**	**-0.8**
OPRZ	**Ohinepanea**	**7.10**	**217**	S	**Sn**	**12 23 12.6**	**+0.7**
URZ	**Urewera**	**7.15**	**213**	Pn	**Pn**	**12 21 50.9**	**-1.1**
2.3nm,0.3s,baz=71,slow=5.5,SNR=15							
URZ				Sn	**Sn**	**12 23 10.1**	**-3.1**
7.9nm,0.3s,baz=225,slow=23,SNR=10							
6.4nm,0.5s							
URZ	**Urewera**	**7.15**	**213**	P	**Pn**	**12 21 50.0**	**-1.9**
URZ				S	**Sn**	**12 23 11.7**	**-1.6**
MUGZ	**Murupara**	**7.49**	**213**	P	**Pn**	**12 21 56.0**	**-0.5**
SNGZ	**Shannon Statio**	**7.49**	**209**	P	**Pn**	**12 21 57.3**	**+0.7**
RTZ	**Ruatahuna**	**7.50**	**212**	Pn	**Pn**	**12 21 56.1**	**-0.8**
OUZ	**Omahuta**	**7.57**	**245**	P	Pn	12 22 03.0	+5.3
TOZ	**Tahuroa Road**	**7.59**	**223**	Pn	**Pn**	**12 21 57.0**	**-0.9**
RAHZ	**Arahi**	**7.71**	**210**	P	**Pn**	**12 21 60.0**	**+0.4**
MTHZ	**Maungataniwha**	**7.76**	**211**	P	**Pn**	**12 22 01.4**	**+1.0**
BKZ	**Black Stump Fm**	**8.17**	**212**	P	**Pn**	**12 22 05.8**	**-0.2**
KAHZ	**Kahuranaki**	**8.54**	**208**	P	**Pn**	**12 22 09.1**	**-1.9**
MRZ	**Mangatainoka R**	**9.80**	**210**	Pn	**Pn**	**12 22 25.6**	**-2.7**
CTZ	**Chatham Island**	**11.46**	**175**	Pn	**Pn**	**12 22 47.9**	**-3.1**
RPZ	**Rata Peaks**	**14.27**	**214**	Pn	**Pn**	**12 23 27.1**	**-2.2**
0.5nm,0.3s,baz=66,slow=8.5,SNR=2.0							
RPZ				Sn	Sn	12 25 52.0	-16

0.9nm,0.3s,baz=222,slow=23,SNR=7.8
1.9nm,0.4s
DZM Mont Dzumac 17.16 303 LR LR 12 29 35.9
comp=Z,294nm,18.9s,baz=70,slow=34
PPT Papeete 29.55 67 LR LR 12 36 38.3
comp=Z,143nm,18.8s,baz=216,slow=33
HNR Honiara 30.56 313 LR LR 12 37 26.7
comp=Z,63nm,18.3s,baz=94,slow=34
STKA Stephens Creek 34.08 260 P **P 12 26 53.5 +1.4**
STKA Stephens Creek 34.08 260 P **P 12 26 53.9 +1.8**
3.7nm,0.7s,baz=80,slow=11,SNR=6.8
STKA LR LR 12 40 48.1
comp=Z,184nm,18.0s,baz=40,slow=37
BBOO Buckleboo 38.48 257 P **P 12 27 28.9 -0.7**
BBOO IAmb IAmb 12 27 30.6
comp=Z,11nm,1.0s
PMG Port Moresby 39.44 297 LR LR 12 41 17.4
comp=Z,44nm,21.7s,baz=96,slow=32
AS31 Alice Springs 43.03 269 P **P 12 28 06.7 -0.6**
ASAR Alice Springs 43.03 269 P **P 12 28 06.6 -0.8**
ASAR Alice Springs 43.03 269 P **P 12 28 07.1 -0.2**
comp=Z,3.4nm,0.7s,baz=106,slow=7.3,SNR=47
ASAR LR LR 12 43 20.9
comp=Z,58nm,18.5s,baz=91,slow=32
comp=Z,3.4nm,0.7s
WB2 Warramunga Arr 44.18 274 P **P 12 28 16.6 0.0**
WB2 IAmb IAmb 12 28 42.5
comp=Z,10nm,1.0s
WRA Warramunga Arr 44.19 274 P **P 12 28 15.7 -1.0**
WRA Warramunga Arr 44.19 274 P **P 12 28 16.6 -0.1**
comp=Z,2.4nm,0.3s,baz=113,slow=7.9,SNR=84
WRA LR LR 12 44 42.2
comp=Z,74nm,18.6s,baz=58,slow=34
comp=Z,2.4nm,0.3s
MTN Manton Dam 50.29 281 P **P 12 29 04.1 -0.2**
MTN IAmb IAmb 12 29 24.8
comp=Z,14nm,1.1s
FITZ Fitzroy Crossi 52.37 271 P **P 12 29 18.5 -1.3**
FITZ IAmb IAmb 12 29 26.6
comp=Z,4.1nm,1.4s
QSPA South Pole Qui 57.81 180 P **P 12 29 59.6 +0.9**
QSPA South Pole Qui 57.81 180 P **P 12 30 00.4 +1.7**
comp=Z,2.1nm,0.8s,baz=16,slow=1.2,SNR=10
comp=Z,2.1nm,0.8s
KAPI Kappang 63.95 281 LR LR 12 59 26.7
comp=Z,91nm,18.5s,baz=124,slow=37
SYO Syowa Base 75.26 193⇓*e*pP pP 12 31 52.8 +1.3
TROLL Troll, Antarti 75.97 180 ⇑P **P 12 31 50.3 -3.9**
comp=Z,136nm,0.9s
SNAA Sanae 76.26 178 ⇑P **P 12 31 54.3 -1.4**
comp=Z,131nm,1.2s
VNA3 Neumayer Olymp 76.41 176 ⇑P **P 12 31 58.0 +1.4**
comp=Z,16nm,0.8s
VNA2 Neumayer--Watz 76.84 177 ⇑P **P 12 32 01.3 +2.4**
comp=Z,7.6nm,0.7s,baz=159,slow=12
PFO Pinyon Flats O 87.50 47 LR LR 13 04 25.8
comp=Z,69nm,18.9s,baz=262,slow=30
USRK Ussuriysk Ar. 88.74 327 P **P 12 33 01.4 +0.6**
comp=Z,1.3nm,0.7s,baz=70,slow=13,SNR=4.8
comp=Z,1.3nm,0.7s
NVAR Mina Array Bea 89.64 43 P **P 12 33 07.4 +1.9**
comp=Z,0.6nm,0.8s,baz=211,slow=7.0,SNR=4.9
comp=Z,0.6nm,0.8s
ANMO Albuquerque 94.77 51 LR LR 13 11 10.9
comp=Z,43nm,18.1s,baz=46,slow=32
MA2 Magadan 95.12 345 LR LR 13 11 49.3
comp=Z,17nm,20.7s,baz=164,slow=33
CPUP Villa Florida 98.81 129 LR LR 13 10 08.2
comp=Z,27nm,20.4s,baz=204,slow=30
MKAR Makanchi Array 118.98 309 PKP **PKiKP 12 38 57.0 +1.1**
comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=2.0
KURBB Kurchatov Arra 122.38 313 PKP **PKPdf 12 39 02.2 -0.1**
comp=Z,0.6nm,0.8s,baz=108,slow=1.8,SNR=5.5
BVAR Borovoye Array 127.75 315 PKP **PKPdf 12 39 12.9 +0.4**
comp=Z,0.4nm,0.6s,baz=170,slow=0.9,SNR=3.8
KBZ Khabaz 146.13 302 PKPbc **PKPbc 12 39 47.2 -0.2**
comp=Z,7.7nm,1.0s,baz=276,slow=1.3,SNR=8.4
FIA1 FINESS Array S 146.92 339 PKPdf **PKPdf 12 39 48.1 +0.9**
FINES FINESS Array B 146.92 339 PKPdf **PKPdf 12 39 47.8 +0.5**
FINES FINESS Array B 146.92 339 PKPbc **PKPbc 12 39 48.8 -0.4**
comp=Z,4.2nm,0.8s,baz=48,slow=3.0,SNR=10.0
AKASG Malin Array Be 152.78 320 PKPbc **PKiKP 12 40 04.9 +0.7**
comp=Z,0.8nm,0.6s,baz=68,slow=2.0,SNR=4.1
BRTR Keskin Array B 153.45 295 PKPbc **PKiKP 12 40 08.4 +2.2**
comp=Z,2.0nm,1.0s,baz=148,slow=3.4,SNR=5.9

WEL 17 12:21:03.2±1.0, 39°S±8°×17°5E±°, h112km±7km, M1.6/8, ML1.3/7, MLv1.6/8, Error ellipse: s-maj=10.1km s-min=7.3km az=171.1, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.18**	**104**	P	Pn	12 21 19.7	+0.8
WTVZ				S	Sn	12 21 32.9	+2.2
NNVZ	**North Ngauruho**	**0.20**	**108**	P	Pn	12 21 19.9	+0.9
NNVZ				S	Sn	12 21 33.1	+2.2
NGZ	**Ngauruhoe**	**0.21**	**120**	P	Pn	12 21 19.7	+0.7
PKVZ	**Pokaka**	**0.22**	**184**	P	Pn	12 21 19.6	+0.7
FWVZ	**Far West T-bar**	**0.24**	**142**	P	Pn	12 21 19.9	+0.7
OTVZ	**Oturere**	**0.25**	**112**	P	Pn	12 21 20.3	+1.1
OTVZ				S	Sn	12 21 34.0	+2.8
MTVZ	**Mangateitei**	**0.33**	**165**	P	Pn	12 21 19.8	+0.4
MOVZ	**Moawhango**	**0.45**	**138**	P	Pn	12 21 20.3	+0.3
MOVZ				S	Sn	12 21 33.3	+0.7
WAZ	**Wanganui**	**0.74**	**203**	P	Pn	12 21 22.9	+0.8
MRHZ	**Matea Rd**	**0.85**	**74**	P	Pn	12 21 23.0	-0.2
BKZ	**Black Stump Fm**	**0.88**	**97**	P	Pn	12 21 23.5	+0.1
BKZ				S	Sn	12 21 39.0	+0.4
KRHZ	**Kereru**	**0.97**	**127**	P	Pn	12 21 25.0	+0.8
NEZ	**North Egmont**	**1.01**	**258**	P	Pn	12 21 25.2	+0.6
PNHZ	**Pukenui**	**1.06**	**143**	P	Pn	12 21 25.5	+0.3
PNHZ				S	Sn	12 21 42.0	+0.2
TSZ	**Takapari Road**	**1.09**	**155**	P	Pn	12 21 25.9	+0.4
ARHZ	**Aropaoanui**	**1.28**	**99**	P	Pn	12 21 28.3	+0.8
ARHZ				S	Sn	12 21 47.1	+1.1
RTZ	**Ruatahuna**	**1.34**	**71**	P	Pn	12 21 28.0	-0.3
RTZ				S	Sn	12 21 47.5	+0.2
KAHZ	**Kahuranaki**	**1.38**	**122**	P	Pn	12 21 29.1	+0.5
KAHZ				S	Sn	12 21 48.5	+0.5
PXZ	**Pawanui**	**1.50**	**130**	P	Pn	12 21 30.1	0.0
MRZ	**Mangatainoka R**	**1.60**	**174**	P	Pn	12 21 30.5	-0.7
MRZ				S	Sn	12 21 50.3	-2.3
TIWZ	**Tintock**	**1.75**	**167**	P	Pn	12 21 32.4	-0.8
OGWZ	**Otaki Gorge**	**1.75**	**185**	P	Pn	12 21 32.4	-0.7
KIW	**Kapiti Island**	**1.82**	**191**	P	Pn	12 21 32.9	-1.1
HOWZ	**Holdsworth Sta**	**1.83**	**176**	P	Pn	12 21 33.0	-1.1
MWZ	**Matawai**	**1.85**	**67**	P	Pn	12 21 31.5	-2.8
RIGZ	**Rimuhau**	**1.91**	**80**	P	Pn	12 21 34.7	-0.3
PRGZ	**Paritu Road**	**1.97**	**86**	P	Pn	12 21 35.4	-0.5
MHGZ	**Mahia Peninsul**	**1.98**	**93**	P	Pn	12 21 35.8	-0.1
TKGZ	**Te Karaka**	**2.04**	**73**	P	Pn	12 21 36.3	-0.4
CAW	**Cannon Point**	**2.05**	**186**	P	Pn	12 21 35.6	-1.2
DUWZ	**D'Urville Isla**	**2.05**	**212**	P	Pn	12 21 35.6	-1.3
RUGZ	**Raukumara Rang**	**2.12**	**59**	P	Pn	12 21 37.7	-0.2
TCW	**Tory Channel**	**2.29**	**201**	P	Pn	12 21 38.3	-1.6
PLWZ	**Palliser**	**2.50**	**182**	P	Pn	12 21 40.4	-2.2

IDC 17 12:29:53.5±2.1, 32°09S×178°26W, h0km, mb3.9/3, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=49.4km s-min=37.0km az=61.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.23**	**210**	Pn	Pn	12 31 39.5	-0.9
URZ				Sn	Sn	12 32 57.3	-5.9
0.5nm,0.3s,baz=22,slow=12,SNR=1.3							
3.3nm,0.3s,baz=73,slow=23,SNR=12							
3.4nm,0.4s							
ASAR Alice Springs		**42.83**	**269**	P	P	12 37 53.5	0.0
0.6nm,0.6s,baz=106,slow=7.5,SNR=17							
0.6nm,0.6s							
WRA Warramunga Arr		**43.97**	**274**	P	P	12 38 02.7	0.0
0.9nm,0.3s,baz=114,slow=8.3,SNR=33							
0.9nm,0.3s							
QSPA South Pole Qui		**58.03**	**180**	P	P	12 39 47.9	-0.1
1.8nm,1.2s,baz=314,slow=8.4,SNR=3.1							
1.8nm,1.2s							
FINES FINESS Array B		**146.64**	**339**	PKPbc	PKPdf	12 49 35.4	+0.7
1.7nm,0.8s,baz=64,slow=4.4,SNR=4.7							

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*IDC **17** 12:38:35.1±3.3, 32°73N×73°77E, h0km, mb3.5/4, mbtmp3.5/7, ML3.3/3, MS3.4/1, Error ellipse: s-maj=93.2km s-min=22.0km az=73.0*

*NNC **17** 12:38:50.0±3.2, 33°74N×73°65E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=41.5km s-min=24.8km az=92.0*

ISC 17 12:38:39.5±1.5, 33°1N±0°1×74°5E±0°2, h10km, n11, σ2°88/14, mb3.6/3, 3D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.49**	**0**	Pn	**Pn**	**12 40 59.5**	**+3.1**
0.5nm,0.3s,baz=180,slow=8.3,SNR=5.5							
AAK				Sn	**Sn**	**12 42 46.2**	**+3.0**
0.3nm,0.3s,baz=156,slow=20,SNR=3.6							
1.2nm,0.3s							
AAK	**Ala-Archa**	**9.49**	**0**	P	**Pn**	**12 40 59.6**	**+3.1**
0.8nm,0.3s							
AAK				S	**Sn**	**12 42 43.8**	**+0.6**
3.9nm,1.0s							
TKM2	**Tokmak 2**	**9.81**	**5**	⇓P	Pn	12 41 06.0	+5.1
3.5nm,0.6s							
TKM2				⇓S	**Sn**	**12 42 51.1**	**-0.1**
11nm,0.7s							
KK31	**Karatay Array**	**10.43**	**344**	P	**Pn**	**12 41 10.6**	**+1.4**
2.6nm,0.3s,baz=167,slow=14,SNR=40							
KK31				⇓S	**Sn**	**12 43 00.9**	**-5.3**
0.9nm,0.3s,baz=172,slow=26,SNR=6.1							
MKAR	**Makanchi Array**	**14.89**	**21**	Pn	**P**	**12 42 14.8**	**-1.0**
0.2nm,0.3s,baz=204,slow=13,SNR=11							
MKAR				Sn	**Sn**	**12 44 51.3**	**-3.7**
0.1nm,0.3s,baz=189,slow=23,SNR=2.9							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**17.73**	**8**	P	**Pn**	**12 42 47.9**	**+1.5**
baz=197,slow=10,SNR=3.6							
0.4nm,0.8s							
BVAR	**Borovoye Array**	**20.10**	**353**	P	**P**	**12 43 14.2**	**+1.0**
0.6nm,0.5s,baz=161,slow=9.2,SNR=4.9							
0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**22.07**	**16**	P	**P**	**12 43 38.0**	**+3.6**
0.5nm,0.5s,baz=199,slow=7.3,SNR=2.1							
0.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**26.34**	**118**	P	**P**	**12 44 15.8**	**0.0**
0.6nm,0.3s,baz=292,slow=9.7,SNR=6.7							
0.6nm,0.3s							
TGY	**Tagaytay City**	**46.16**	**103**	LR	LR	13 09 43.4	
comp=Z,41nm,19.7s,baz=123,slow=40							
ASAR	**Alice Springs**	**79.96**	**127**	P	**P**	**12 50 48.0**	**-1.1**
0.5nm,0.7s,baz=310,slow=4.4,SNR=6.6							
0.5nm,0.7s							

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*SDD **17** 12:38:59.6±3.1, 18°78N×69°44W, h89km±11km, MD3.7, ML3.7, MW3.6*

*RSPR **17** 12:38:59.2, 19°68N×68°92W, h126km±12km, MD3.3/23*

*OSPL **17** 12:39:00.1±3.7, 18°84N×69°45W, h86km±21km, ML3.1*

ISC 17 12:38:58.3±1.2, 18°84N±0°04×69°47W±0°02, h89km±6km, n67, σ1°37/88, 25C-24D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.10**	**124**	⇑*e*Pg	**Pn**	**12 39 10.2**	**-0.8**
HATOM				⇓*e*Sg	**Sn**	**12 39 20.0**	**-0.4**
HATOM				IAML		12 39 20.5	
comp=N,6μm,0.2s							
MIDR	**Miches**	**0.42**	**70**	⇓*e*Pg	**Pn**	**12 39 12.2**	**-0.2**
MIDR				⇓*e*Sg	**Sn**	**12 39 23.5**	**+0.7**
MIDR				IAML		12 39 25.0	
comp=N,3μm,0.1s							
SMDR	**Samana, DR**	**0.52**	**31**	⇓*e*Pg	**Pn**	**12 39 13.0**	**-0.2**
SMDR				⇑*e*Sg	**Sn**	**12 39 25.7**	**+1.6**
SMDR				IAML		12 39 31.2	
comp=N,3μm,0.6s							
DR08	**Loma La Naviza**	**0.54**	**283**	⇑*e*Pg	**Pn**	**12 39 13.1**	**-0.3**
DR08				⇓*e*Sg	**Sn**	**12 39 24.5**	**-0.1**
DR08				IAML		12 39 26.0	
comp=N,46μm,0.3s							
SDD	**Santo Domingo**	**0.57**	**228**	⇑*e*Pg	**Pn**	**12 39 12.5**	**-1.1**
SDD				⇓*e*Sg	**Sn**	**12 39 23.6**	**-1.3**
SDD				IAML		12 39 24.0	
comp=N,157nm,0.1s							
SDD	**Santo Domingo**	**0.57**	**228**	*i* P	**Pn**	**12 39 12.5**	**-1.1**
SDD				*e*S	**Sn**	**12 39 23.8**	**-1.1**
NADR	**Nagua**	**0.63**	**324**	⇓*e*Pg	**Pn**	**12 39 14.2**	**+0.1**
NADR				⇑*e*Sg	**Sn**	**12 39 27.4**	**+1.5**
NADR				IAML		12 39 29.9	
comp=N,7μm,0.3s							
LONA1	**Toro Cenizo, N**	**0.65**	**325**	*i* P	Pn	12 38 52.0	-22
LONA1				*e*S	Sn	12 39 05.9	-20
LONA1				IAML		12 39 11.1	
comp=Z,2μm,6.0s							
CADR	**Cabrera**	**0.93**	**331**	⇑*e*Pg	**Pn**	**12 39 17.0**	**-0.2**
CADR				⇓*e*Sg	**Sn**	**12 39 32.4**	**+1.1**
CADR				IAML		12 39 34.1	
comp=N,2μm,0.2s							
BANI	**BANI**	**0.96**	**242**	⇑*e*Pg	**Pn**	**12 39 17.2**	**-0.5**
BANI				⇓*e*Sg	**Sn**	**12 39 32.6**	**+0.6**
BANI				IAML		12 39 36.2	
comp=N,2μm,0.2s							
PCDR	**Punta Cana, DR**	**1.08**	**107**	⇑*e*Pg	**Pn**	**12 39 18.6**	**-0.3**
PCDR				⇑*e*Sg	**Sn**	**12 39 34.6**	**+0.2**
PCDR				IAML		12 39 36.5	
comp=N,812nm,0.6s							
PCDR	**Punta Cana, DR**	**1.08**	**107**	*i* P	**Pn**	**12 39 18.6**	**-0.3**
PCDR				*e*S	**Sn**	**12 39 34.9**	**+0.6**
PCDR				IAML		12 39 36.6	
comp=Z,520nm,0.2s							
ABDR	**Alto Bandera**	**1.10**	**269**	⇑*e*Pg	**Pn**	**12 39 19.1**	**-0.4**
ABDR				⇓*e*Sg	**Sn**	**12 39 35.1**	**-0.3**
ABDR				IAML		12 39 36.8	
comp=N,1μm,0.2s							
SC01	**Santiago de lo**	**1.33**	**296**	⇓*e*Pg	**Pn**	**12 39 22.7**	**+0.9**
SC01				⇓*e*Sg	**Sn**	**12 39 42.7**	**+3.0**
SC01				IAML		12 39 47.9	
comp=N,410nm,0.2s							
SC01	**Santiago de lo**	**1.33**	**296**	*i* P	**Pn**	**12 39 22.8**	**+0.9**
SC01				*e*S	**Sn**	**12 39 41.3**	**+1.7**
SC01				IAML		12 39 49.6	
comp=Z,258nm,0.3s							
SODR	**Sosua Marina B**	**1.39**	**311**	⇓*e*Pg	**Pn**	**12 39 21.4**	**-1.2**
SODR				IAML		12 39 53.2	
comp=N,560nm,1.4s							
MADR	**Mao Valverde**	**1.71**	**295**	*e*Pg	**Pn**	**12 39 26.6**	**-0.1**
MADR				IAML		12 39 59.9	
comp=N,481nm,0.5s							
SDDR	**Presa de Saban**	**1.73**	**275**	⇑*e*Pg	**Pn**	**12 39 27.9**	**+0.9**
SDDR				⇓*e*Sg	**Sn**	**12 39 50.8**	**+1.9**
SDDR				IAML		12 39 54.7	
comp=N,256nm,0.2s							
SDDR	**Presa de Saban**	**1.73**	**275**	⇑*e*P	**Pn**	**12 39 28.3**	**+1.3**
SDDR	**Presa de Saban**	**1.73**	**275**	*i* P	**Pn**	**12 39 27.8**	**+0.7**
SDDR				*e*S	**Sn**	**12 39 50.4**	**+1.5**
SDDR				IAML		12 39 57.6	
comp=Z,113nm,0.7s							
PODR	**Polo**	**1.85**	**249**	⇑*e*Pg	**Pn**	**12 39 28.1**	**-0.7**
PODR				⇑*e*Sg	**Sn**	**12 39 51.3**	**-0.5**
PODR				IAML		12 39 55.4	
comp=N,239nm,0.3s							
PODR	**Polo**	**1.85**	**249**	*i* P	**Pn**	**12 39 28.1**	**-0.7**
PODR				*e*S	**Sn**	**12 39 51.8**	**-0.1**
LONE3	**El Aguacate, B**	**1.90**	**263**	*i* P	**Pn**	**12 39 29.4**	**0.0**
LONE3				*e*S	**Sn**	**12 39 54.4**	**+1.4**
IDE	**Isla Desecheo**	**1.94**	**103**	⇑*e*P	**Pn**	**12 39 30.6**	**+0.8**
IDE	**Isla Desecheo**	**1.94**	**103**	*e*S	**Sn**	**12 39 56.3**	**+2.6**
AGPR	**Aguadilla, PR**	**2.26**	**99**	⇑*e*Pg	**Pn**	**12 39 33.9**	**-0.1**
AGPR				IAML		12 40 10.4	
comp=N,246nm,0.2s							
AGPR	**Aguadilla, PR**	**2.26**	**99**	⇑*e*P	**Pn**	**12 39 33.9**	**-0.1**
AGPR	**Aguadilla, PR**	**2.26**	**99**	*e*S	**Sn**	**12 40 00.7**	**-0.7**
AGPR	**Aguadilla, PR**	**2.26**	**99**	*i* P	**Pn**	**12 39 33.7**	**-0.3**
AGPR				*e*S	**Sn**	**12 40 00.3**	**-1.0**
AGPR				IAML		12 40 09.2	
comp=Z,119nm,0.7s							
LOBH	**Bahia de las A**	**2.28**	**245**	*i* P	**Pn**	**12 39 34.1**	**-0.1**
LOBH				*e*S	**Sn**	**12 40 00.4**	**-1.3**
LOBH				IAML		12 40 07.0	
comp=Z,104nm,0.4s							
PRSN	**Puerto Rico Se**	**2.29**	**105**	⇓*e*Pg	**Pn**	**12 39 34.2**	**-0.1**
PRSN				IAML		12 40 15.1	
comp=N,501nm,0.2s							
PRSN	**Puerto Rico Se**	**2.29**	**105**	⇓*e*P	**Pn**	**12 39 35.2**	**+0.9**
PRSN	**Puerto Rico Se**	**2.29**	**105**	*e*S	**Sn**	**12 40 05.0**	**+3.2**
LSP	**Las Mesas**	**2.35**	**106**	⇑*e*P	**Pn**	**12 39 35.8**	**+0.6**
LSP	**Las Mesas**	**2.35**	**106**	*e*S	**Sn**	**12 40 05.5**	**+2.0**
CRPR	**Cabo Rojo, PR**	**2.39**	**110**	⇑*e*Pg	**Pn**	**12 39 36.6**	**+1.0**
CRPR				IAML		12 40 20.2	
comp=N,65nm,0.5s							
CRPR	**Cabo Rojo, PR**	**2.39**	**110**	⇓*e*P	**Pn**	**12 39 36.6**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.39**	**110**	*e*S	**Sn**	**12 40 07.6**	**+3.4**
CRPR	**Cabo Rojo, PR**	**2.39**	**110**	*i* P	**Pn**	**12 39 36.7**	**+1.1**
CRPR				IAML		12 40 16.1	
comp=Z,92nm,0.2s							
MLPR	**Magueyes Islan**	**2.46**	**110**	⇑*e*P	**Pn**	**12 39 36.4**	**-0.1**
MLPR	**Magueyes Islan**	**2.46**	**110**	*e*S	**Sn**	**12 40 10.3**	**+4.4**
GBPR	**Guanica, Bosqu**	**2.60**	**109**	⇓*i*P	**Pn**	**12 39 40.4**	**+1.8**
GBPR	**Guanica, Bosqu**	**2.60**	**109**	*e*S	**Sn**	**12 40 12.1**	**+2.7**
AOPR	**Arecibo Observ**	**2.62**	**100**	⇑*e*P	**Pn**	**12 39 38.7**	**-0.1**
AOPR	**Arecibo Observ**	**2.62**	**100**	*e*S	**Sn**	**12 40 08.9**	**-1.0**
UUPR	**Utuado, UPR, P**	**2.67**	**102**	⇓*i*P	**Pn**	**12 39 39.3**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.67**	**102**	*e*S	**Sn**	**12 40 11.1**	**0.0**
EMPR	**Esperanza - Ma**	**2.81**	**97**	⇓*e*P	**Pn**	**12 39 41.1**	**-0.1**
EMPR	**Esperanza - Ma**	**2.81**	**97**	*e*S	**Sn**	**12 40 12.8**	**-1.5**
OBIP	**Obispado Ponce**	**2.83**	**106**	⇑*e*P	**Pn**	**12 39 41.2**	**-0.3**
OBIP	**Obispado Ponce**	**2.83**	**106**	*e*S	**Sn**	**12 40 14.6**	**-0.2**
CELP	**Cerrillos**	**2.84**	**105**	⇓*e*P	**Pn**	**12 39 42.9**	**+1.1**
CELP	**Cerrillos**	**2.84**	**105**	*e*S	**Sn**	**12 40 16.6**	**+1.3**
ECPR	**Experimental S**	**2.99**	**100**	⇑*e*P	**Pn**	**12 39 42.8**	**-0.9**
ECPR	**Experimental S**	**2.99**	**100**	*e*S	**Sn**	**12 40 16.0**	**-2.7**
GRTK	**Grand Turk**	**3.08**	**330**	*i* P	**Pn**	**12 39 43.4**	**-1.5**
GRTK				*e*S	**Sn**	**12 40 18.1**	**-2.8**
GRTK				IAML		12 40 20.9	
comp=Z,52nm,0.5s							
SJG	**San Juan**	**3.23**	**102**	⇓*e*P	**Pn**	**12 39 47.1**	**+0.1**
SJG	**San Juan**	**3.23**	**102**	*e*S	**Sn**	**12 40 23.7**	**-0.8**
SJG	**San Juan**	**3.23**	**102**	*i* P	**Pn**	**12 39 46.8**	**-0.1**
GCPR	**Guaynabo City**	**3.25**	**99**	⇑*e*P	**Pn**	**12 39 46.2**	**-1.0**
GCPR	**Guaynabo City**	**3.25**	**99**	*e*S	**Sn**	**12 40 21.4**	**-3.7**
IGPR	**InterUniversit**	**3.31**	**105**	⇑*e*P	**Pn**	**12 39 48.9**	**+0.9**
IGPR	**InterUniversit**	**3.31**	**105**	*e*S	**Sn**	**12 40 25.6**	**-0.7**
PDPR	**Patillas Dam,**	**3.37**	**104**	⇓*e*P	**Pn**	**12 39 48.7**	**-0.2**
PDPR	**Patillas Dam,**	**3.37**	**104**	*e*S	**Sn**	**12 40 26.6**	**-1.3**
HUMP	**Col San Antoni**	**3.50**	**101**	⇓*e*P	**Pn**	**12 39 49.8**	**-0.9**
HUMP	**Col San Antoni**	**3.50**	**101**	*e*S	**Sn**	**12 40 29.0**	**-2.1**

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*IDC **17** 12:44:18.9±0.9, 24°34N×122°00E, h0km, mb3.8/12, mbtmp3.8/13, ML3.5/1, MS3.3/9, Error ellipse: s-maj=24.5km s-min=18.3km az=58.0*

*BJI **17** 12:44:21.9, 24°49N×121°79E, h10km, mB4.6/2, mb4.0/10, ML4.0/6, Ms3.9/3, Ms7 3.8/3*

*ASIES **17** 12:44:22.9, 24°44N×121°91E, h25km, ML4.2, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-1.15; $M_{\theta\theta}$0.55; $M_{\phi\phi}$0.28; $M_{r\theta}$-0.33; $M_{\theta\phi}$0.60; $M_{r\phi}$0.36; Fault plane solution: $M_0$1.20464×10^{22} NP1: ϕ_s210.23000°, δ48.37000°, λ-121.17000°. NP2: ϕ_s72.55000°, δ50.24000°, λ-59.78000°. Principal axes: T Plg1.0040°, Azm141.7020°; N Plg22.7600°, Azm232.1230°; P Plg67.2160°, Azm49.3110°;*

*NEIC **17** 12:44:22.9±1.0, 24°47N±0°02×121°96E±0°03, h20km±5km, mb4.2/12, Mwr4.0/17 Error ellipse: s-maj=3.7km s-min=1.6km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.67; $M_{\theta\theta}$0.32; $M_{\phi\phi}$0.35; $M_{r\theta}$-0.37; $M_{\theta\phi}$0.84; $M_{r\phi}$0.48; Fault plane solution: $M_0$1.19000×10^{15} NP1:ϕ_s77.86000°, δ55.38000°, λ-37.18000°. NP2:ϕ_s191.16000°, δ60.18000°, λ-139.10000°. Principal axes: T 1.1752, Plg3.0000°, Azm314.0000°; N 0.0210, Plg41.0000°, Azm221.0000°; P -1.1962, Plg49.0000°, Azm47.0000°;*

*TAP **17** 12:44:22.9, 24°44N×121°91E, h25km, ML4.2, B*

*NIED **17** 12:44:23.2, 24°40N×121°91E, h28km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.11; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$0.45; $M_{r\theta}$-0.90; $M_{\theta\phi}$1.11; $M_{r\phi}$0.66; Fault plane solution: $M_0$1.54000×10^{15} NP1:ϕ_s75.00000°, δ67.00000°, λ-24.00000°. NP2:ϕ_s175.00000°, δ68.00000°, λ-155.00000°.*

*NEIC **17** 12:44:23, 24°47N×121°95E, h21km*

*JMA **17** 12:44:23.2±0.1, 24°4N±0°4×121°9E±0°5, h28km±2km, MV3.7/14, TAIWAN REGION*

ISC 17 12:44:22.8±0.6, 24°43N±0°01×121°95E±0°02, h20km±3km, n211, σ0°90/299, mb4.0/17, MS3.3/7, 25C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.16**	**276**	⇓*i*P	**Pb**	**12 44 27.7**	**+0.5**
EWUT				*e*S	**Sb**	**12 44 30.8**	**+0.8**
ESAO	**Su ao**	**0.18**	**327**	⇓*i*P	**Pb**	**12 44 28.0**	**+0.5**
ESAO				*i* S	**Sb**	**12 44 31.3**	**+0.7**
ENA	**Nanau**	**0.19**	**270**	⇓*i*P	**Pb**	**12 44 27.9**	**+0.2**
ENA				*e*S	**Sb**	**12 44 31.5**	**+0.5**
TWC	**Suao**	**0.20**	**333**	⇓*i*P	**Pb**	**12 44 28.4**	**+0.5**
TWC				*i* S	**Sb**	**12 44 32.0**	**+0.7**
EAHA	**Aohua**	**0.22**	**243**	⇓*e*P	**Pb**	**12 44 28.4**	**+0.3**
EAHA				*e*S	**Sb**	**12 44 33.0**	**+1.3**
EHP	**Heping Village**	**0.23**	**238**	*e*P	**Pb**	**12 44 28.5**	**+0.2**
EHP				*e*S	**Sb**	**12 44 33.2**	**+1.3**
EOS2	**EOS2**	**0.26**	**92**	*e*P	**Pn**

TATO			Sg	Sb	12 44 45.0	-0.2
TATO	**Taipei**	**0.69 322**	P	Pb	12 44 36.5	+0.4
TATO	**Taipei**	**0.69 322**	S	Sb	12 44 44.7	-0.5
NHY	**Taipei**	**0.70 330**	*eP*	Pn	12 44 37.2	-0.4
NHY			*eS*	Sb	12 44 46.4	+0.9
TWT	**Tachien**	**0.73 256**	⇑*i*P	Pn	12 44 37.5	-0.6
TWT			*eS*	Sn	12 44 47.6	-1.1
SHUL	**Shoufeng**	**0.73 209**	*eP*	Pn	12 44 38.1	+0.2
SHUL			*eS*	Sn	12 44 48.9	+0.3
TAP	**Taipei**	**0.73 326**	⇑P	Pn	12 44 37.5	-0.4
TAP			*i* S	Sn	12 44 47.6	-0.9
TDCB	**Techi**	**0.74 257**	*eP*	Pb	12 44 37.6	+0.4
TDCB			*eS*	Sb	12 44 46.9	0.0
ESL	**Shilin**	**0.77 218**	P	Pb	12 44 37.7	+0.1
ESL			*eS*	Sn	12 44 49.4	-0.2
KSHI	**Guanxi Townshi**	**0.79 296**	*eP*	Pn	12 44 38.5	-0.3
KSHI			*eS*	Sn	12 44 49.1	-0.8
NFF	**Wufeng Townshi**	**0.79 285**	*eP*	Pn	12 44 38.1	+0.3
NFF			*eS*	Sb	12 44 48.9	+0.9
YM01	**YM01**	**0.79 334**	⇑P	Pn	12 44 38.5	-0.4
YM01			*eS*	Sn	12 44 49.4	-0.8
TEGC	**Jichi Village**	**0.81 208**	*eP*	Pn	12 44 38.6	-0.4
ZUZH	**Zhuzihu**	**0.82 333**	*eP*	Pb	12 44 38.8	+0.4
ZUZH			S	Sb	12 44 49.6	+0.6
TWS1	**Kuangyinshan**	**0.83 324**	⇑*i*P	Pb	12 44 38.2	-0.3
TWS1			S	Sb	12 44 49.6	+0.5
ANP	**Anpu**	**0.85 333**	*eP*	Pb	12 44 39.2	+0.3
ANP			*eS*	Sb	12 44 49.7	-0.2
OWD	**Renai**	**0.85 236**	⇓*e*P	Pb	12 44 39.1	+0.2
OWD			*eS*	Sn	12 44 51.2	-0.5
NTST	**Danshui**	**0.86 328**	*eP*	Pn	12 44 39.8	0.0
NTST			*eS*	Sn	12 44 51.8	0.0
WARBT	**Fenglin Townsh**	**0.88 216**	*eP*	Pb	12 44 38.8	-0.5
WARBT			*eS*	Sb	12 44 50.9	+0.3
WUSB	**Renai**	**0.88 240**	⇓P	Pb	12 44 39.6	+0.2
WUSB			*eS*	Sb	12 44 51.1	+0.4
LIOB	**Emei**	**0.88 284**	*eP*	Pn	12 44 40.1	+0.1
LIOB			*eS*	Sn	12 44 52.0	-0.3
NCUH	**Zhongli**	**0.88 308**	P	Pn	12 44 40.3	+0.2
NCUH			S	Sn	12 44 52.8	+0.5
TWY	**Chenhua**	**0.90 339**	⇑*i*P	Pb	12 44 39.7	-0.1
TWY			*eS*	Sn	12 44 52.2	-0.6
JYNG	**Yonagunijimaku**	**0.91 88**	P	Pn	12 44 40.4	0.0
JYNG			*eS*	Sn	12 44 53.6	+0.7
WHP	**Taichung City**	**0.93 261**	*eP*	Pn	12 44 41.1	+0.3
WHP			*i* S	Sn	12 44 53.2	-0.4
SBCB	**Hsinchu**	**0.95 293**	⇑P	Pn	12 44 41.6	+0.6
SBCB			*eS*	Sn	12 44 55.3	+1.3
HSN	**Hsinchu**	**0.97 293**	⇑*i*P	Pn	12 44 41.3	+0.1
HSN			*i* S	Sn	12 44 54.6	+0.2
YOJ	**Yonaguni jima**	**0.97 88**		Pb	12 44 40.7	-0.1
YOJ			Sn	Sb	12 44 53.5	+0.3
YOJ	**Yonaguni jima**	**0.97 88**	P	Pn	12 44 41.5	+0.3
YOJ	**Yonaguni jima**	**0.97 88**	S	Sn	12 44 55.2	+0.8
YOJ	**Yonaguni jima**	**0.97 88**	*eP*	Pn	12 44 41.1	-0.2
YOJ			*eS*	Sn	12 44 54.7	+0.3
YOJ	**Yonaguni jima**	**0.97 88**	*eP*	Pn	12 44 41.5	+0.3
YOJ			*eS*	Sn	12 44 54.7	+0.3
VWDT	**VWDT**	**1.00 228**	⇓P	Pb	12 44 41.5	+0.1
VWDT			*eS*	Sn	12 44 56.2	+1.1
WCS	**Beigang Elemen**	**1.02 249**	*eP*	Pn	12 44 42.9	+1.0
HGSD	**Ruisui**	**1.05 207**	*eP*	Pn	12 44 42.9	+0.5
NMLH	**Miaoli**	**1.06 276**	*eP*	Pn	12 44 43.9	+1.4
NMLH			*eS*	Sn	12 44 57.6	+0.9
TWQ1	**Liyutan**	**1.08 266**	*eP*	Pn	12 44 44.1	+1.3
TWQ1			*eS*	Sn	12 44 58.6	+1.4
EHYH	**Wanrong**	**1.08 211**	*eP*	Pn	12 44 41.8	-1.1
EHY	**Hungye**	**1.08 212**	*eP*	Pn	12 44 42.3	-0.5
SMLT	**Sun Moon Lake**	**1.10 241**	*eP*	Pn	12 44 42.7	-0.5
SMLT			*eS*	Sn	12 44 57.7	-0.2
SSLB	**Suanglung**	**1.11 235**	Pn	Pb	12 44 43.4	+0.1
SSLB			Sn	Sb	12 44 57.7	+0.3
SSLB	**Suanglung**	**1.11 235**	P	Pb	12 44 43.7	+0.3
SSLB	**Suanglung**	**1.11 235**	S	Sn	12 44 58.9	+0.9
SSLB	**Suanglung**	**1.11 235**	*eP*	Pn	12 44 43.2	0.0
SSLB			*eS*	Sb	12 44 57.6	+0.3
TYC	**Yuchr**	**1.13 243**	*eP*	Pb	12 44 43.8	+0.2
YULB	**Yu-li**	**1.19 210**		Pb	12 44 44.8	+0.1
YULB			Sn	Sn	12 45 01.0	+1.1
YULB	**Yu-li**	**1.19 210**	P	Pb	12 44 44.9	+0.1
YULB	**Yu-li**	**1.19 210**	S	Sn	12 45 01.8	+1.8
YULB	**Yu-li**	**1.19 210**	*eP*	Pn	12 44 43.9	-0.5
TCU	**Taichung**	**1.20 257**	*eP*	Pb	12 44 46.0	+1.2
TCU			*eS*	Sn	12 45 01.6	+1.6
WDJ	**Dajia District**	**1.20 266**	*eP*	Pb	12 44 46.2	+1.4
PCYT	**Pengchaiyu**	**1.20 5**	*eP*	Pn	12 44 44.0	-0.4
PCYT			*eS*	Sb	12 44 59.8	-0.2
EYUL	**Yuli**	**1.22 208**	*eP*	Pn	12 44 44.8	0.0
TWF1	**Yuli**	**1.23 209**	*eP*	Pn	12 44 43.6	-1.3
WHYT	**Xinyi Township**	**1.24 234**	*eP*	Pb	12 44 46.0	+0.5
WJS	**Zhushan**	**1.27 242**	P	Pb	12 44 47.4	+1.3
WJS			*eS*	Sb	12 45 05.6	+3.6
WNT	**Mingjian**	**1.28 245**	*eP*	Pb	12 44 47.8	+1.6
WNT			*eS*	Sb	12 45 05.7	+3.5
WCHH	**Zhanghua**	**1.32 255**	*eP*	Pb	12 44 47.6	+0.7
CHKH	**Chenggong**	**1.33 203**	*eP*	Pb	12 44 47.2	+0.1
FULB	**Fuli**	**1.36 206**	*eP*	Pn	12 44 47.0	+0.3
ALS	**Alishan**	**1.39 229**	*eP*	Pb	12 44 48.6	+0.3
CHKT	**Chengkung**	**1.43 202**	*eP*	Pn	12 44 47.3	-0.3
CHN5	**Tsauling**	**1.43 235**	*eP*	Pb	12 44 49.5	+0.8
CHN5			*eS*	Sb	12 45 08.5	+1.9
EHD	**Haiduan**	**1.45 208**	*eP*	Pn	12 44 48.1	+0.2
WDLH	**Douliu**	**1.49 241**	*eP*	Pb	12 44 50.5	+0.8
WDLH			S	Sb	12 45 10.5	+2.4
ECS	**Chishang**	**1.49 207**	*eP*	Pb	12 44 49.9	+0.1
ELDTW	**Lidau**	**1.50 215**	*eP*	Pn	12 44 48.8	0.0
EDH	**Donghe**	**1.57 202**	*eP*	Pn	12 44 48.9	-0.6
WCKO	**Fanlu**	**1.58 232**	*eP*	Pb	12 44 52.6	+1.3
WTK	**Tuku**	**1.61 243**	*eP*	Pb	12 44 52.3	+0.6
WTK			*eS*	Sb	12 45 13.6	+1.9
CHN2	**Minshiung**	**1.62 237**	*eP*	Pb	12 44 53.1	+1.1
CHN2			*eS*	Sb	12 45 13.7	+1.7
IRIF	**Iriomote-Funau**	**1.62 93**	P	Pn	12 44 50.7	+0.4
IRIF			*eS*	Sn	12 45 11.4	+0.7
CHN4	**Tsaushan**	**1.64 229**	*eP*	Pb	12 44 53.1	+0.7
CHN4			*eS*	Sb	12 45 14.6	+1.9
TPUB	**Ta-pu**	**1.65 227**	Pn	Pb	12 44 52.5	0.0
TPUB	**Ta-pu**	**1.65 227**	P	Pb	12 44 52.6	0.0
TPUB	**Ta-pu**	**1.65 227**	*eP*	Pb	12 44 52.7	+0.2
TPUB			*eS*	Sb	12 45 13.4	+0.5
STH	**Taoyuan**	**1.65 221**	*eP*	Pb	12 44 52.1	-0.4
CHY	**Chiayi**	**1.68 237**	*eP*	Pb	12 44 53.4	+0.4
LONT	**Longtian**	**1.69 207**	*eP*	Pn	12 44 51.2	0.0
WTP	**Ta-pu**	**1.70 226**	*eP*	Pb	12 44 53.6	+0.3
WSF	**Szhu**	**1.77 244**	*eP*	Pb	12 44 54.5	0.0
WSF			*eS*	Sb	12 45 17.1	+0.9
TWK	**Hsinying**	**1.77 229**	*eP*	Pb	12 44 54.7	+0.1
TWGBT	**Beinan**	**1.79 207**	P	Pn	12 44 53.6	+1.0
TWGBT	**Beinan**	**1.79 207**	*eP*	Pn	12 44 51.9	-0.7
TWG	**Pinlang**	**1.79 207**		Pn	12 44 53.3	+0.7
TWG	**Pinlang**	**1.79 207**	*eP*	Pn	12 44 53.1	+0.5
SNST	**Tainan City**	**1.79 228**	*eP*	Pb	12 44 55.4	+0.4
CHN1	**Nanshi**	**1.80 227**	*eP*	Pb	12 44 55.2	+0.1
CHN1			*eS*	Sb	12 45 17.3	+0.1
LDUT	**Ludao**	**1.80 194**	*eP*	Pn	12 44 51.8	-1.0
WSL	**Shuilin Townsh**	**1.82 241**	*eP*	Pb	12 44 54.7	-0.6
WSL			*eS*	Sb	12 45 18.7	+1.1
SGST	**Jiashian**	**1.83 223**	*eP*	Pb	12 44 54.6	-1.0
SGST			*eS*	Sb	12 45 18.8	+0.5
ICHU	**Yijhu**	**1.86 236**	*eP*	Pb	12 44 56.4	+0.3
ICHU			*eS*	Sb	12 45 20.5	+1.5
JKRS	**Kuro-shima**	**1.89 95**	P	Pb	12 44 55.6	-0.9
JKRS			*eS*	Sb	12 45 18.9	-0.8
CHN8	**Yiju**	**1.92 236**	*eP*	Pb	12 44 56.9	-0.3
CHN8			*eS*	Sb	12 45 21.7	+1.0
JIJ	**Ishigaki jima**	**2.00 91**	P	Pn	12 44 55.7	+0.2
JIJ			*eS*	Sn	12 45 20.6	+0.7
SHHT	**Tainan City**	**2.03 227**	*eP*	Pb	12 44 59.1	+0.2
SCST	**Cishan**	**2.04 221**	*eP*	Pb	12 44 59.0	-0.1
ECL	**Taimali**	**2.04 207**	*eP*	Pn	12 44 54.4	-1.6
TSMG	**Majia**	**2.09 215**	*eP*	Pn	12 44 58.2	+1.5
TWM1	**Shoushan**	**2.12 222**	*eP*	Pb	12 45 01.0	+0.3
TSCK	**Chigu Township**	**2.13 234**	*eP*	Pb	12 44 59.3	-1.4
JISG	**Ishigakijimahi**	**2.16 85**	P	Pn	12 44 57.8	+0.3
JISG			S	Sn	12 45 24.8	+1.0
MASBT	**Mashibuluo**	**2.17 214**	*eP*	Pb	12 45 00.2	-1.3
VWUC	**VWUC**	**2.34 284**	*eP*	Pn	12 44 59.6	-0.5
PNG	**Penghu**	**2.35 249**	*eP*	Pn	12 45 00.2	-0.1
PHUB	**P'eng-hu**	**2.36 248**	*eP*	Pn	12 44 59.8	-0.6
SCZT	**Fangliau**	**2.38 211**	*eP*	Pb	12 45 03.7	-1.3
LAY	**Lan-yu**	**2.41 189**	*eP*	Pn	12 45 00.4	-0.7
LYUB	**Lan-yu**	**2.44 188**	*eP*	Pn	12 45 00.5	-1.0
MATB	**Ma-tsu**	**2.50 314**	*eP*	Pn	12 45 01.5	-0.8
JTJ	**Tarama**	**2.52 85**	*eP*	Pn	12 45 04.5	+2.0
VCHM	**Qimei**	**2.61 243**	*eP*	Pn	12 45 03.8	-0.1
PTMZ	**Houxiangcun**	**2.65 284**	*eP*	Pn	12 45 03.8	-0.6
XPSS	**Dashiqiu**	**2.95 328**	*eP*	Pn	12 45 07.5	-1.1
JMJ	**Miyako jima 2**	**3.07 82**	P	Pn	12 45 12.5	+2.4
JMJ2	**Miyako jima3**	**3.09 84**	*eS*	Sn	12 45 49.3	+2.5
QZH	**Quanzhou**	**3.10 280**	Pn	Pn	12 45 10.5	0.0
QZH			Sn	Sn	12 45 45.3	-1.7
QZH			smax	smax		
comp=N,690nm,0.6s						
QZH			smax	smax		
comp=E,290nm,0.7s						
MHZQ	**Yeshan**	**3.12 303**	*eP*	Pn	12 45 10.0	-0.9
KNM	**Kinmen**	**3.21 271**	*eP*	Pn	12 45 13.3	+1.2
KNMB	**Chin-men Tao**	**3.25 271**	Pn	Pn	12 45 12.3	-0.3
KNMB	**Chin-men Tao**	**3.25 271**	*eP*	Pn	12 45 11.9	-0.7
AXDP	**Jialang**	**3.65 278**	*eP*	Pn	12 45 17.7	-0.5
ZPLA	**Ao Xicun**	**3.87 263**	*eP*	Pn	12 45 21.7	+0.6
DSXP	**Dongshan**	**4.20 261**	*eP*	Pn	12 45 26.0	+0.3
SXFK	**Yanhouchang**	**4.36 298**	*eP*	Pn	12 45 27.1	-0.9
JOW	**Kunigami**	**6.19 66**	Pn	Pn	12 45 52.4	-0.7
JOW	**Kunigami**	**6.19 66**	Pn	Pn	12 45 53.5	+0.4
2.4nm,0.3s,baz=144,slow=14,SNR=16						
JOW			Sn	**Sn**	**12 47 05.7**	**+2.4**
baz=149,slow=23						
6.2nm,0.3s						
JOW	**Kunigami**	**6.19 66**	P	Pn	12 45 54.1	+1.0
JNU	**Nakatsue**	**11.67 40**	LR	LR	12 52 19.3	
comp=Z,49nm,20.0s,baz=204,slow=41						
KSRS	**Korea Array**	**13.95 20**	Pn	P	**12 47 44.7**	**-2.6**
0.5nm,0.3s,baz=202,slow=12,SNR=33						
KSRS			LR	LR	12 53 44.7	
comp=Z,45nm,18.3s,baz=195,slow=40						
HHC	**Hu-ho-hao-te**	**18.54 335**	*eP*	Pn	**12 48 41.3**	**+2.8**
HHC			pmax	pmax		
comp=Z,16nm,0.6s						
HHC			pmax	pmax		
comp=Z,82nm,3.8s						
HHC			LR	LR		
comp=N,200nm,11.9s						
HHC			LR	LR		
comp=E,150nm,13.3s						
HHC			LR	LR		
comp=Z,170nm,11.8s						
LZH	**Lanzhou**	**19.45 311**	*eP*	Pn	**12 48 53.3**	**+3.7**
LZH			sP	sP	12 49 02.6	+6.4
LZH			pmax	pmax		
comp=Z,21nm,1.3s						
USRK	**Ussuriysk Ar.**	**21.36 20**	P	P	**12 49 08.6**	**-0.2**
1.2nm,0.7s,baz=209,slow=14,SNR=2.3						
1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**22.21 259**	LR	LR	12 58 27.8	
comp=Z,37nm,18.6s,baz=60,slow=38						
GUMO	**Guam**	**24.16 112**	LR	LR	12 58 30.6	
comp=Z,45nm,18.7s,baz=98,slow=35						
KLR	**Kul'dur**	**25.92 15**	LR	LR	13 00 07.8	
comp=Z,46nm,18.8s,baz=184,slow=36						
SONM	**Songino Array**	**26.42 336**	P	P	**12 49 57.8**	**-0.4**
SONM	**Songino Array**	**26.42 336**	P	P	**12 49 58.4**	**+0.2**
3.0nm,1.0s,baz=152,slow=7.7,SNR=12						
SONM			LR	LR	13 01 32.2	
comp=Z,78nm,19.5s,baz=150,slow=39						
3.0nm,1.0s						
WMQ	**Urumqi**	**33.99 313**	*eP*	P	**12 51 07.4**	**+2.2**
MK31	**Makanchi Array**	**38.65 315**	P	P	**12 51 44.1**	**-0.8**
MKAR	**Makanchi Array**	**38.65 315**	P	P	**12 51 44.2**	**-0.8**
MKAR	**Makanchi Array**	**38.65 315**	P	P	**12 51 45.0**	**+0.1**
1.2nm,0.6s,baz=101,slow=10,SNR=15						
1.2nm,0.6s						
MAKZ	**Makanchi**	**38.86 315**	P	P	**12 51 46.6**	**-0.1**
MAKZ			IAmb	IAmb	12 51 50.0	
comp=Z,1.7nm,0.6s						
ZAA0	**Zalesovo Array**	**40.42 327**	P	P	**12 51 59.8**	**+0.3**
ZAA0			IAmb	IAmb	12 52 01.5	
comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**40.42 327**	P	P	**12 51 59.3**	**-0.2**
ZALV	**Zalesovo Beam**	**40.42 327**	P	P	**12 51 58.9**	**-0.7**
comp=Z,2.4nm,0.6s,baz=108,slow=7.0,SNR=12						
comp=Z,2.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.38 319**	P	P	**12 52 16.0**	**+0.4**
comp=Z,1.1nm,0.2s,baz=114,slow=9.2,SNR=5.0						
comp=Z,1.1nm,0.2s						
AAK	**Ala-Archa**	**42.92 307**	LR	LR	13 12 56.0	
comp=Z,44nm,18.2s,baz=95,slow=40						
WRA	**Warramunga Arr**	**45.72 164**	P	P	**12 52 44.3**	**+1.6**
WRA	**Warramunga Arr**	**45.72 164**	P	P	**12 52 41.1**	**-1.7**
comp=Z,0.4nm,0.8s,baz=342,slow=7.9,SNR=2.0						
comp=Z,0.4nm,0.8s						
WR0	**Warramunga Arr**	**45.79 163**	P	P	**12 52 43.1**	**-0.2**
BVAR	**Borovoye Array**	**47.93 320**	P	P	**12 52 59.4**	**-0.3**
comp=Z,0.7nm,0.5s,baz=101,slow=7.5,SNR=3.2						
comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**49.20 165**	P	P	**12 53 09.1**	**-0.6**
comp=Z,0.2nm,0.6s,baz=349,slow=9.4,SNR=1.6						
ASAR			PcP	**PcP**	**12 54 30.6**	**-2.3**
comp=Z,0.2nm,0.3s,baz=1.6,slow=1.9,SNR=4.8						
comp=Z,0.2nm,0.6s						
ABKAR	**Akbulak array**	**53.77 314**	P	P	**12 53 43.3**	**-0.4**
ABKAR			IAmb	IAmb	12 53 44.8	
comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**53.77 314**	P	P	**12 53 43.5**	**-0.3**
E22K	**Anaktuvuk Pass**	**66.19 24**	P	P	**12 55 08.4**	**-0.4**
E22K			IAmb	IAmb	12 55 15.4	
comp=Z,4.1nm,1.3s						
TOLK	**Toolik Lake Re**	**66.95 23**	P	P	**12 55 13.4**	**-0.3**
TOLK			IAmb	IAmb	12 55 38.8	
comp=Z,4.3nm,1.4s						
BPAW	**Bear Paw Mtn.**	**67.05 28**	P	P	**12 55 14.0**	**-0.3**
ILAR	**Eielson Array**	**68.68 27**	P	P	**12 55 24.6**	**0.0**
comp=Z,0.3nm,0.7s,baz=278,slow=7.1,SNR=4.5						
comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**69.02 24**	P	P	**12 55 26.4**	**-0.3**
BCAR	**Beaver Creek A**	**71.29 29**	P	P	**12 55 40.4**	**-0.2**
FINES	**FINESS Array B**	**71.59 330**	P	P	**12 55 41.2**	**-1.2**
FINES	**FINESS Array B**	**71.59 330**	P	P	**12 55 43.3**	**+0.9**
comp=Z,0.8nm,0.5s,baz=66,slow=4.6,SNR=7.7						
FINES			LR	LR	13 30 14.6	
comp=Z,46nm,19.7s,baz=45,slow=38						
comp=Z,0.8nm,0.5s						
DAWY	**Dawson**	**72.00 27**	P	P	**12 55 44.2**	**-0.8**
INK	**Inuvik**	**72.73 22**	P	P	**12 55 47.9**	**-1.2**
INK			IAmb	IAmb	12 55 58.1	
comp=Z,5.2nm,1.4s						
INK	**Inuvik**	**72.73 22**	P	P	**12 55 47.7**	**-1.4**
comp=Z,1.2nm,0.8s,baz=300,slow=5.9,SNR=6.2						
comp=Z,1.2nm,0.8s						
HFS	**Hagfors**	**77.69 331**	LR	LR	13 36 40.3	
comp=Z,99nm,18.2s,baz=187,slow=40						
YKA	**Yellowknife Ar**	**82.47 23**	P	P	**12 56 42.0**	**-1.5**
comp=Z,0.2nm,0.6s,baz=311,slow=5.3,SNR=5.0						
comp=Z,0.2nm,0.6s						

*IDC **17** 12:45:27.0±0.8, 2°.62N×128°.23E, h0km, mb3.9/11, mbtmp3.9/11, MS3.5/2, Error ellipse: s-maj=47.0km s-min=15.8km az=83.0*

*NEIC **17** 12:45:34.6±1.2, 2°.70N±0°.06×128°.31E±0°.07, h53km±10km, mb4.2/17, Error ellipse: s-maj=13.6km s-min=3.8km az=128.0*

*DJA **17** 12:45:35.0±0.7, 3°N±4°×12°8E±°, h31km±5km, M4.5/12, mB5.1/4, mb4.7/5, MLv4.4/12, Mw(mB)4.5/4*

ISC 17 12:45:32.7±0.6, **2.77N**±0°.07×**128°.34E**±0°.09, **h35**km, **n51**, σ1°**31**/44, **mb4.2**/18, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**206**		**Pn**	**12 46 08.0**	**+1.0**
TNTI	**Ternate**	**2.21**	**206**	P	**Pn**	**12 46 07.9**	**+1.0**
SGSI	**Sangihe**	**2.96**	**288**	P	**Pn**	**12 46 18.0**	**+0.8**
SWI	**Sorong**	**4.64**	**141**	P	**Pn**	**12 46 42.3**	**+2.0**
SWI				S	**Sn**	**12 47 33.5**	**+0.5**
KMSI	**Cibinong**	**4.87**	**244**	P	**Pn**	**12 46 43.7**	**+0.1**
SANI	**Sanana**	**5.33**	**206**	P	**Pn**	**12 46 51.3**	**+1.4**
LUWI	**Luwuk**	**6.73**	**236**	Pn	**Pn**	**12 47 09.8**	**+0.7**
LUWI	**Luwuk**	**6.73**	**236**	P	**Pn**	**12 47 09.9**	**+0.7**
0.4nm6μm38nm,0.6s							
MRSI	**Marisa**	**6.79**	**251**	P	**Pn**	**12 47 13.1**	**+3.1**
FAKI	**Fak Fak**	**6.87**	**145**	Pn	**Pn**	**12 47 12.1**	**+1.1**
FAKI	**Fak Fak**	**6.87**	**145**	P	**Pn**	**12 47 12.8**	**+1.8**
TOLI2	**Tolitoli**	**7.73**	**258**	Pn	**Pn**	**12 47 23.2**	**+0.3**
KDI	**Kendari**	**8.79**	**221**	P	**Pn**	**12 47 39.0**	**+1.5**
TGY	**Tagaytay City**	**13.43**	**327**	LR	LR	12 54 10.5	
comp=Z,198nm,21.0s,baz=120,slow=39							
KNRA	**Kununurra**	**18.33**	**179**		**P**	**12 49 43.8**	**-0.4**
KNRA				IAmb	IAmb	12 50 02.7	
comp=Z,20nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.90**	**187**	P	**P**	**12 50 09.8**	**-2.4**
comp=Z,2.3nm,1.1s,baz=6.3,slow=9.2,SNR=1.6							
comp=Z,2.3nm,1.1s							
WB0	**Warramunga Arr**	**23.17**	**165**		**P**	**12 50 33.3**	**-3.1**
WB0				IAmb	IAmb	12 50 52.8	
comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**12 50 34.7**	**-3.2**
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**12 50 35.9**	**-2.1**
comp=Z,2.5nm,0.8s,baz=345,slow=11,SNR=36							
comp=Z,2.5nm,0.8s							
AS31	**Alice Springs**	**26.82**	**169**	P	**P**	**12 51 08.4**	**-1.7**
ASAR	**Alice Springs**	**26.82**	**169**	P	**P**	**12 51 08.1**	**-2.0**
comp=Z,0.3nm,0.5s,baz=354,slow=8.1,SNR=9.0							
comp=Z,0.3nm,0.5s							
KSRS	**Korea Array**	**34.52**	**359**	P	**P**	**12 52 18.5**	**+0.7**
comp=Z,2.2nm,0.6s,baz=176,slow=9.9,SNR=13							
comp=Z,2.2nm,0.6s							
STKA	**Stephens Creek**	**36.68**	**161**	LR	LR	13 11 17.8	
comp=Z,79nm,18.1s,baz=205,slow=42							
H11S3	**WAKE ISLAND Hy 40.66**		**65**	T	T	13 36 26.9	
baz=251,slow=74,SNR=8.3							
H11S2	**WAKE ISLAND Hy 40.68**		**65**	T	T	13 36 37.0	
baz=251							
H11S1	**WAKE ISLAND Hy 40.68**		**65**	T	T	13 36 50.5	
baz=251,slow=74							
H11N1	**WAKE ISLAND Hy 41.23**		**63**	T	T	13 37 08.3	
baz=250,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hy 41.24**		**63**	T	T	13 37 07.9	
baz=250,slow=75,SNR=6.8							
H11N3	**WAKE ISLAND Hy 41.25**		**63**	T	T	13 37 08.3	
baz=250,slow=75,SNR=9.9							
SONM	**Songino Array**	**48.73**	**340**	P	**P**	**12 54 13.6**	**-0.4**
SONM	**Songino Array**	**48.73**	**340**	P	**P**	**12 54 14.2**	**+0.1**
comp=Z,0.6nm,0.6s,baz=154,slow=7.9,SNR=4.6							
comp=Z,0.6nm,0.6s							
PEA0B	**Petropavlovsk-**	**55.73**	**21**	P	**P**	**12 55 05.9**	**+0.1**
PETK	**Petropavlovsk-**	**55.73**	**21**	P	**P**	**12 55 05.8**	**0.0**
PETK	**Petropavlovsk-**	**55.73**	**21**	P	**P**	**12 55 06.5**	**+0.7**
comp=Z,2.9nm,0.9s,baz=172,slow=6.2,SNR=8.0							
comp=Z,2.9nm,0.9s							
MA2	**Magadan**	**59.26**	**13**	P	**P**	**12 55 31.2**	**+0.6**
comp=Z,0.8nm,0.3s,baz=179,slow=4.1,SNR=5.3							
comp=Z,0.8nm,0.3s							
MK31	**Makanchi Array**	**59.26**	**325**	P	**P**	**12 55 29.9**	**-0.9**
MK31				IAmb	IAmb	12 55 51.9	
comp=Z,0.9nm,0.8s							
MKAR	**Makanchi Array**	**59.26**	**325**	P	**P**	**12 55 30.2**	**-0.6**
MKAR	**Makanchi Array**	**59.26**	**325**	P	**P**	**12 55 30.7**	**-0.2**
comp=Z,0.4nm,0.5s,baz=109,slow=8.8,SNR=5.6							
comp=Z,0.4nm,0.5s							
SEY	**Seymchan**	**62.62**	**12**	P	**P**	**12 55 54.5**	**+1.2**
comp=Z,0.5nm,0.4s,baz=188,slow=8.2,SNR=4.9							
comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**63.42**	**327**	P	**P**	**12 55 58.9**	**+0.1**
comp=Z,0.8nm,0.2s,baz=125,slow=5.3,SNR=5.2							
comp=Z,0.8nm,0.2s							
TIXI	**Tiksi**	**68.79**	**0**	P	**P**	**12 56 32.2**	**-0.7**
comp=Z,1.2nm,0.5s,baz=220,slow=3.0,SNR=5.5							
comp=Z,1.2nm,0.5s							
E18K	**Tukpahlearik C**	**80.24**	**22**	P	**P

ASAR	**Alice Springs**	**38.03 195**	P	**P**	**13 08 27.4**	**-0.1**
ASAR	**Alice Springs**	**38.03 195**	P	**P**	**13 08 28.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=4.9,slow=15,SNR=10.0					
	comp=Z,0.2nm,0.5s					
DZM	**Mont Dzumac**	**41.65 147**	P	**P**	**13 08 57.9**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=252,slow=4.1,SNR=7.9					
	comp=Z,5.2nm,0.6s					
CMAR	**Chiang Mai Arr**	**43.31 283**	P	**P**	**13 09 12.2**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=87,slow=5.8,SNR=8.0					
	comp=Z,1.0nm,0.6s					
STKA	**Stephens Creek**	**45.02 183**	P	**P**	**13 09 24.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=0.0,slow=8.1,SNR=3.0					
	comp=Z,0.8nm,0.4s					
SONM	**Songino Array**	**46.30 326**	P	**P**	**13 09 35.6**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=137,slow=6.9,SNR=7.4					
	comp=Z,0.9nm,0.5s					
YAK	**Yakutsk**	**49.65 351**	P	**P**	**13 09 58.2**	**-1.1**
YAK			IAmb	IAmb	13 10 00.2	
	comp=Z,13nm,0.8s					
M13K	**Dall Lake**	**60.62 27**	P	**P**	**13 11 15.2**	**-2.5**
MK31	**Makanchi Array**	**60.91 316**	P	**P**	**13 11 20.3**	**+0.3**
MKAR	**Makanchi Array**	**60.91 316**	P	**P**	**13 11 20.4**	**+0.4**
MKAR	**Makanchi Array**	**60.91 316**	P	**P**	**13 11 20.8**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=91,slow=8.4,SNR=24					
	comp=Z,1.9nm,0.7s					
MAKZ	**Makanchi**	**61.12 316**	P	**P**	**13 11 21.4**	**0.0**
MAKZ			IAmb	IAmb	13 11 23.1	
	comp=Z,2.7nm,0.7s					
ZALV	**Zalesovo Beam**	**61.18 325**	P	**P**	**13 11 20.6**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=117,slow=6.2,SNR=4.0					
ZALV			PcP	**PcP**	**13 12 01.4**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=141,slow=4.9,SNR=4.0					
	comp=Z,0.7nm,0.4s					
KURK	**Kurchatov**	**64.06 320**	P	**P**	**13 11 40.6**	**-0.1**
KURK			IAmb	IAmb	13 11 41.9	
	comp=Z,4.7nm,0.9s					
KURBB	**Kurchatov Arra**	**64.10 320**	P	**P**	**13 11 41.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=103,slow=6.7,SNR=26					
	comp=Z,2.4nm,0.6s					
NRIK	**Noril'sk**	**66.00 341**	P	**P**	**13 11 53.0**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=131,slow=6.9,SNR=4.1					
	comp=Z,1.9nm,0.6s					
B20K	**Meade River**	**67.20 19**	P	**P**	**13 11 59.4**	**-1.1**
B20K			IAmb	IAmb	13 12 08.6	
	comp=Z,13nm,1.5s					
B22K	**Teshekpuk Lake**	**68.51 19**	P	**P**	**13 12 09.2**	**+0.6**
B22K			IAmb	IAmb	13 12 29.8	
	comp=Z,3.3nm,1.2s					
IL31		**69.24 25**	P	**P**	**13 12 12.5**	**-0.7**
IL31			IAmb	IAmb	13 12 45.8	
	comp=Z,5.3nm,1.5s					
ILAR	**Eielson Array**	**69.24 25**	P	**P**	**13 12 12.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=253,slow=5.6,SNR=10					
	comp=Z,0.4nm,0.6s					
BVAR	**Borovoye Array**	**69.44 322**	P	**P**	**13 12 15.1**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=105,slow=7.6,SNR=26					
BVAR			PcP	**PcP**	**13 12 36.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=134,slow=4.2,SNR=2.4					
	comp=Z,2.1nm,0.5s					
J26L	**Joseph Creek**	**70.59 26**	P	**P**	**13 12 21.0**	**-0.6**
ABKAR	**Akbulak array**	**75.99 318**	P	**P**	**13 12 52.9**	**-0.4**
ARTI	**Arti**	**76.44 325**	P	**P**	**13 12 56.0**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=150,slow=5.1,SNR=4.3					
	comp=Z,2.3nm,0.6s					
YKA	**Yellowknife Ar**	**83.56 27**	P	**P**	**13 13 33.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=288,slow=5.4,SNR=6.7					
	comp=Z,0.4nm,0.5s					
RES	**Resolute Bay**	**85.03 13**	P	**P**	**13 13 41.5**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=316,slow=3.5,SNR=1.9					
	comp=Z,0.5nm,0.6s					
NVAR	**Mina Array Bea**	**87.91 51**	P	**P**	**13 13 57.1**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=260,slow=5.4,SNR=4.2					
	comp=Z,0.3nm,0.6s					
FINES	**FINESS Array B**	**90.91 335**	P	**P**	**13 14 07.6**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=60,slow=5.0,SNR=6.3					
	comp=Z,1.1nm,0.6s					

*NEIC **17** 13:13:17.9±1.1, 69°.57N±0°.05×144°.1W±0°.1, h10km±2km, Error ellipse: s-maj=8.6km s-min=6.3km az=1.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.65; $M_{\theta\theta}$=0.32; $M_{\phi\phi}$=0.97; $M_{r\theta}$=0.48; $M_{\theta\phi}$=-1.87; $M_{\phi r}$=0.18; Fault plane solution: M_0=2.12000×10^{14} NP1: ϕ_s=187.46000°, δ=72.33000°, λ=-14.52000°. NP2: ϕ_s=281.95000°, δ=76.18000°, λ=-161.79000°. Principal axes: T 2.3147, Plg=3.0000°, Azm=54.0000°; N -0.4527, Plg=67.0000°, Azm=318.0000°; P -1.8620, Plg=23.0000°, Azm=145.0000°;*

*NEIC **17** 13:13:17.9, 69°.53N×144°.20W, h5km*

AEIC 17 13:13:17.9±1.4, 69°.53N±0°.05×144°.2W±0°.1, h5km±6km, ML3.4, mb4.0/6(NEIC), ML3.5/112(NEIC), Mwr3.5/26(NEIC), Error ellipse: s-maj=7.8km s-min=6.0km az=173.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.20**	**60**		Pg	13 13 21.2	-0.6
C27K					Sg	13 13 24.4	0.0
C27K	**Jago River**	**0.20**	**60**	IAML		13 13 28.2	
	comp=N,4μm,0.6s						
C27K				IAML		13 13 29.4	
	comp=E,5μm,0.8s						
C26K	**Camden Bay**	**0.46**	**328**		Pg	13 13 27.1	+0.3
D25K	**Kavik River**	**0.80**	**256**		Pg	13 13 31.7	-1.4
D25K					Sg	13 13 43.1	-0.3
D27M	**Malcolm River**	**1.18**	**103**		Pg	13 13 38.3	-2.2
E25K	**Arctic Village**	**1.50**	**200**		Pn	13 13 44.2	-1.2
E25K				IAML		13 14 08.3	
	comp=E,550nm,1.2s						
E25K				IAML		13 14 09.2	
	comp=N,536nm,0.7s						
E25K	**Arctic Village**	**1.50**	**200**		Sg	13 14 05.7	-0.2
C24K	**Franklin Bluff**	**1.59**	**279**	Pn	Pn	13 13 46.4	-0.2
C24K				IAML		13 14 10.2	
	comp=N,750nm,0.5s						
C24K				IAML		13 14 11.1	
	comp=E,611nm,0.9s						
C24K	**Franklin Bluff**	**1.59**	**279**		Sg	13 14 08.9	+0.2
E27K	**Coleen River**	**1.65**	**144**		Pn	13 13 46.6	-0.9
E27K				IAML		13 14 10.4	
	comp=E,502nm,0.7s						
E27K				IAML		13 14 11.1	
	comp=N,489nm,0.9s						
E27K	**Coleen River**	**1.65**	**144**		Sb	13 14 09.8	+0.1
D24K	**Happy Valley**	**1.68**	**259**		Pb	13 13 49.2	0.0
D24K					Sg	13 14 12.7	+0.8
F26K	**Sheenjek River**	**1.84**	**179**	Pn	Pn	13 13 50.3	+0.1
F26K				IAML		13 14 17.9	
	comp=E,603nm,0.7s						
F26K				IAML		13 14 18.3	
	comp=N,456nm,0.7s						
F26K	**Sheenjek River**	**1.84**	**179**		Sb	13 14 14.7	-0.7
E28M	**Babbage River**	**1.92**	**117**	Pn	Pn	13 13 50.8	-0.3
E28M				IAML		13 14 25.6	
	comp=N,325nm,0.7s						
F25K	**Christian Rive**	**2.02**	**196**	Pn	Pn	13 13 53.0	+0.4
F25K				IAML		13 14 21.9	
	comp=E,518nm,0.9s						
F25K	**Christian Rive**	**2.02**	**196**		Sb	13 14 19.4	-1.0
BMAR	**Burnt Mountain**	**2.11**	**184**		Pn	13 13 54.4	+0.4
TOLK	**Toolik Lake Re**	**2.12**	**248**		Pn	13 13 53.8	-0.3
TOLK				IAML		13 14 31.5	
	comp=E,322nm,0.7s						
E24K	**Your Creek**	**2.13**	**229**		Pn	13 13 53.8	-0.4
C23K	**Itkillik River**	**2.26**	**281**		Pn	13 13 55.5	-0.3
D23K	**Nanushuk River**	**2.38**	**259**		Pn	13 13 57.4	-0.1
D23K				IAML		13 14 53.8	
	comp=N,258nm,0.9s						
F24K	**Squaw Lake**	**2.43**	**216**		Pn	13 13 58.1	-0.2
E23K	**Chandalar**	**2.46**	**236**		Pn	13 13 58.1	-0.6
E29M	**Blow River**	**2.55**	**114**		Pn	13 13 59.8	0.0
E29M				IAML		13 14 38.1	
	comp=E,232nm,0.6s						
E29M				IAML		13 14 41.5	
	comp=N,238nm,0.7s						
G27K	**Doyon Strip**	**2.89**	**160**		Pn	13 14 04.2	-0.4
FYU	**Fort Yukon**	**3.00**	**188**		Pn	13 14 06.2	+0.2
G24K	**Hadweenzic Riv**	**3.09**	**205**		Pn	13 14 07.1	-0.2
G24K				IAML		13 14 57.1	
	comp=E,146nm,0.7s						
D22K	**Ayikyak River**	**3.10**	**262**	IAML		13 15 02.8	
	comp=E,147nm,0.9s						
D22K				IAML		13 15 04.2	
	comp=N,150nm,1.1s						
E22K	**Anaktuvuk Pass**	**3.10**	**247**	Pn	Pn	13 14 07.2	-0.2
COLD	**Coldfoot**	**3.21**	**227**	Pn	Pn	13 14 08.9	+0.1
B22K	**Teshekpuk Lake**	**3.28**	**289**	Pn	Pn	13 14 09.6	-0.3
G23K	**Bananza Creek**	**3.57**	**220**	IAML		13 15 14.9	
	comp=E,100nm,0.8s						
G23K				IAML		13 15 14.9	
	comp=N,72nm,0.8s						
B21K	**Ikpikpuk River**	**3.65**	**276**	IAML		13 15 34.2	
	comp=E,109nm,0.9s						
E21K	**Killik River**	**3.69**	**257**	IAML		13 15 25.0	
	comp=N,112nm,0.8s						
G30M	**tAoh Zraii Nji**	**3.92**	**127**	IAML		13 15 34.9	
	comp=N,93nm,1.1s						
H24K	**Noodor Dome**	**3.96**	**202**	IAML		13 15 23.0	
	comp=E,68nm,1.0s						
H24K				IAML		13 15 27.2	
	comp=N,59nm,1.0s						
H29M	**Whitestone**	**3.99**	**144**	IAML		13 15 32.9	
	comp=E,88nm,1.0s						
H29M				IAML		13 15 39.0	
	comp=N,77nm,1.1s						
INK	**Inuvik**	**4.05**	**103**		Pn	13 14 19.6	-0.7
PRP	**Porcupine Dome**	**4.06**	**188**	IAML		13 15 25.7	
	comp=E,66nm,0.9s						
F21K	**Alatna River**	**4.14**	**240**	IAML		13 15 32.5	
	comp=N,60nm,0.7s						
H23K	**Yukon River**	**4.24**	**211**	IAML		13 15 33.3	
	comp=E,49nm,1.1s						
H23K				IAML		13 15 45.8	
	comp=N,62nm,0.9s						
F31M	**Tsiigehtchic**	**4.38**	**114**	Pn	Pn	13 14 24.8	-0.1
F31M				IAML		13 15 43.0	
	comp=N,46nm,1.1s						
I28M	**Miner Creek**	**4.41**	**156**	IAML		13 15 46.0	
	comp=N,52nm,0.6s						
I28M				IAML		13 15 48.5	
	comp=E,43nm,0.9s						
B20K	**Meade River**	**4.53**	**282**		Pn	13 14 27.1	+0.2
B20K				IAML		13 16 05.6	
	comp=N,58nm,1.1s						
POKR	**Poker Plat Res**	**4.60**	**197**		Pn	13 14 28.9	+0.8
POKR				IAML		13 15 24.1	
	comp=E,56nm,0.7s						
POKR				IAML		13 15 24.3	
	comp=N,55nm,0.6s						
G21K	**Allakaket**	**4.62**	**234**	IAML		13 15 52.6	
	comp=N,36nm,1.0s						
G21K				IAML		13 15 57.0	
	comp=E,40nm,0.9s						
I23K	**Minto, Yukon-K**	**4.83**	**207**		Pn	13 14 31.4	+0.3
I23K				IAML		13 15 55.6	
	comp=N,35nm,0.7s						
I23K				IAML		13 15 59.0	
	comp=E,30nm,0.9s						
COLA	**College**	**4.89**	**199**		Pn	13 14 32.4	+0.5
IL31		**4.89**	**194**	Pn	Pn	13 14 32.3	+0.4
ILAR	**Eielson Array**	**4.89**	**194**		Pn	13 14 32.1	+0.1
F20K	**Avaraart Lake**	**4.95**	**245**	IAML		13 16 00.6	
	comp=E,26nm,1.1s						
F20K				IAML		13 16 06.2	
	comp=N,28nm,1.2s						
J25K	**Salcha River,**	**4.96**	**186**	IAML		13 15 53.2	
	comp=E,41nm,0.8s						
J25K				IAML		13 16 00.5	
	comp=N,28nm,0.8s						
J26L	**Joseph Creek**	**5.06**	**177**	IAML		13 16 07.0	
	comp=N,30nm,0.7s						
J26L				IAML		13 16 08.9	
	comp=E,32nm,0.7s						
H21K	**Melozitna Rive**	**5.09**	**224**	IAML		13 16 07.7	
	comp=E,25nm,1.2s						
H21K				IAML		13 16 10.0	
	comp=N,26nm,1.1s						
CCB	**Clear Creek Bu**	**5.10**	**198**		Pn	13 14 34.9	0.0
CCB				IAML		13 16 16.4	
	comp=E,22nm,1.0s						
D19K	**Kuna River**	**5.11**	**265**	IAML		13 16 19.5	
	comp=N,39nm,0.9s						
E19K	**Redstone River**	**5.22**	**253**	IAML		13 16 16.5	
	comp=N,30nm,0.8s						
HDA	**Harding Lake**	**5.25**	**193**		Pn	13 14 37.5	+0.5
I30M	**Mount Dempster**	**5.27**	**141**	IAML		13 15 44.0	
	comp=N,27nm,0.4s						
H31M	**Peel River**	**5.30**	**130**	IAML		13 16 09.5	
	comp=N,26nm,0.8s						
H31M				IAML		13 16 17.0	
	comp=E,26nm,0.9s						
I21K	**Tanana**	**5.30**	**218**		Pn	13 14 37.6	+0.1
WRH	**Wood River Hil**	**5.30**	**199**		Pn	13 14 37.9	+0.3
WRH				IAML		13 15 39.9	
	comp=N,21nm,0.9s						
WRH				IAML		13 16 10.1	
	comp=E,35nm,0.8s						
NEA2	**Nenana**	**5.31**	**203**		Pn	13 14 37.8	+0.1
SCRK	**Sand Creek**	**5.58**	**179**		Pn	13 14 42.1	+0.6
J29N	**Klondike Camp**	**5.61**	**152**		Pn	13 14 41.7	-0.3
DAWY	**Dawson**	**5.80**	**159**	Pn	Pn	13 14 45.0	+0.4
DOT	**Dot Lake**	**5.91**	**179**	Pn	Pn	13 14 46.5	+0.6
BPAW	**Bear Paw Mtn.**	**6.07**	**209**		Pn	13 14 48.0	-0.2
MCK	**McKinley**	**6.12**	**200**		Pn	13 14 49.2	+0.4
BCAR	**Beaver Creek A**	**6.56**	**170**		Pn	13 14 55.7	+0.7
KTH	**Kantishna Hill**	**6.57**	**207**		Pn	13 14 55.2	+0.1
A36M	**Sachs Harbour**	**6.72**	**60**	Pn	Pn	13 14 55.0	-1.9
RDOG	**Red Dog Mine**	**6.94**	**267**	Pn	Pn	13 14 59.4	-0.6
C36M	**Paulatuk**	**7.08**	**82**	Pn	Pn	13 14 59.3	-2.6
M30M	**Minto, Yukon**	**7.60**	**153**		Pn	13 15 08.8	-0.3
WRGLY	**Wrigley**	**10.40**	**117**	Pn	Pn	13 15 46.7	-0.7
RES	**Resolute Bay**	**15.55**	**49**	Pn	Pn	13 16 52.9	-4.5
RES				IAmb	IAmb	13 17 01.9	
	comp=Z,10nm,1.4s						
FCC	**Fort Churchill**	**23.58**	**92**	P	P	13 18 28.1	-0.9
EGMT	**Eagleton**	**27.31**	**124**	P	P	13 19 02.3	-0.9
EGMT				IAmb	IAmb	13 19 10.8	
	comp=Z,3.8nm,1.1s						
DBO	**Dodson Butte**	**28.59**	**147**	P	P	13 19 13.2	-1.4
K02D	**Willamette Mer**	**28.92**	**148**	P	P	13 19 16.2	-1.3

RSNC 17 13:38:24.7±2.8, 3°S±20°×7°7W±°, h315km±23km, M3.6, mb3.0, mB4.8, mBc6.4, ML3.2, MLv3.9, Mw(mB)4.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**2.02**	**328**	P	Pn	13 39 08.7	-4.8
PIAT	**Ana Tenorio**	**2.02**	**328**	P	Pn	13 39 08.7	-4.8
PAC1	**Pacto, Paraso**	**3.37**	**332**	P	Pn	13 39 32.1	+6.7
PAC1	**Pacto, Paraso**	**3.37**	**332**	P	Pn	13 39 32.1	+6.7
FLF1	**Flavio Alfaro-**	**3.54**	**311**	P	Pn	13 39 24.2	-2.8
FLF1	**Flavio Alfaro-**	**3.54**	**311**	P	Pn	13 39 24.2	-2.8
CMBC	**Cumbal**	**3.69**	**350**	P	Pn	13 39 30.0	+1.0
CMBC	**Cumbal**	**3.69**	**350**	P	Pn	13 39 30.0	+1.0
PTLC	**Puerto Leguiza**	**3.74**	**40**	P	Pn	13 39 33.0	+4.0
PTLC	**Puerto Leguiza**	**3.74**	**40**	P	Pn	13 39 33.0	+4.0
PPLP	**Puerto Lpez**	**3.77**	**288**	P	Pn	13 39 30.0	+0.7
PPLP	**Puerto Lpez**	**3.77**	**288**	P	Pn	13 39 30.0	+0.7
FLOC	**Florencia**	**4.54**	**20**	P	Pn	13 39 40.4	+2.6
FLOC	**Florencia**	**4.54**	**20**	P	Pn	13 39 40.4	+2.6
GARC	**Garzon, Huila**	**5.16**	**19**	P	Pn	13 39 35.0	-10
GARC	**Garzon, Huila**	**5.16**	**19**	P	Pn	13 39 35.0	-10
POPC	**Popayan, Colom**	**5.25**	**6**	P	Pn	13 39 47.5	+1.5
	0.0nm5.8nm,1.4s						
POPC	**Popayan, Colom**	**5.25**	**6**	P	Pn	13 39 47.5	+1.5
	0.0nm5.8nm,1.4s						
GR1C	**Gorgona, Isla**	**5.77**	**350**	P	Pn	13 39 52.1	+0.3
GR1C	**Gorgona, Isla**	**5.77**	**350**	P	Pn	13 39 52.1	+0.3
YOTC	**Yotoco, Valle**	**6.71**	**7**	P	Pn	13 40 04.2	+1.1
YOTC	**Yotoco, Valle**	**6.71**	**7**	P	Pn	13 40 04.2	+1.1

*NEIC **17** 13:51:32±1.9, 19°.7N±0°.1×68°.95W±0°.01, h35km±2km, ML2.7/22, Md3.1/6(RSPR), Error ellipse: s-maj=19.4km s-min=3.1km az=357.0*

*SDD **17** 13:51:34.4±1.8, 17°.88N×68°.98W, h23km±156km, MD2.8, ML2.1, MW2.4*

*RSPR **17** 13:51:36.2, 19°.37N×68°.62W, h145km±11km, MD3.1/6*

ISC 17 13:51:33.8±2.0, 18°.6N±0°.2×69°.14W±0°.05, h129km±14km, n33, σ1°30/39, 8C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alto**	**0.32**	**313**	Pn	**Pn**	**13 51 51.2**	**-0.9**
HATOM	**Hato Mayor del**	**0.32**	**313**	⇑*e*Pg	**Pn**	**13 51 51.6**	**-0.4**
HATOM				⇓*e*Sg	**Sn**	**13 52 04.7**	**-1.1**
HATOM				IAML		13 52 06.0	
	comp=N,24nm,0.1s						
MIDR	**Miches**	**0.41**	**11**	⇑*e*Pg	**Pn**	**13 51 53.9**	**+1.4**
MIDR				⇓*e*Sg	**Sn**	**13 52 07.3**	**+0.8**
MIDR				IAML		13 52 09.4	
	comp=N,23nm,0.1s						
PCDR	**Punta Cana, DR**	**0.72**	**95**		**Pn**	**13 51 54.1**	**-0.2**
PCDR				IAML		13 52 04.3	
	comp=E,70nm,1.7s						
PCDR				IAML		13 52 36.3	
	comp=N,127nm,2.3s						
PCDR	**Punta Cana, DR**	**0.72**	**95**	⇑*e*Pg	**Pn**	**13 51 50.8**	**-3.5**
PCDR				IAML		13 52 07.8	
	comp=N,111nm,2.8s						
PCDR	**Punta Cana, DR**	**0.72**	**95**	⇓*e*P	**Pn**	**13 51 54.4**	**+0.2**
PCDR	**Punta Cana, DR**	**0.72**	**95**	*e*S	**Sn**	**13 52 11.5**	**+1.8**
BANI	**BANI**	**1.17**	**261**	Pn	**Pn**	**13 51 57.8**	**-0.7**
BANI				IAML		13 52 20.0	
	comp=N,73nm,0.2s						
BANI				IAML		13 52 20.1	
	comp=E,78nm,0.4s						
BANI	**BANI**	**1.17**	**261**	⇓*e*Pg	**Pn**	**13 51 59.0**	**+0.5**
BANI				⇓*e*Sg	**Sn**	**13 52 17.4**	**+0.1**
AGPR	**Aguadilla, PR**	**1.92**	**93**	Pn	**Pn**	**13 52 04.7**	**-2.1**
AGPR				IAML		13 53 13.9	
	comp=E,68nm,2.9s						
LSP	**Las Mesas**	**1.99**	**101**		**Pn**	**13 52 09.3**	**+1.7**
LSP					**Sn**	**13 52 35.3**	**+1.8**
LSP	**Las Mesas**	**1.99**	**101**	⇓*e*P	**Pn**	**13 52 09.3**	**+1.7**
LSP	**Las Mesas**	**1.99**	**101**	*e*S	**Sn**	**13 52 35.3**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.01**	**106**	Pn	**Pn**	**13 52 09.5**	**+1.6**
CRPR				IAML		13 52 47.1	
	comp=N,34nm,2.7s						
CRPR				IAML		13 52 52.9	
	comp=E,38nm,2.6s						
CRPR	**Cabo Rojo, PR**	**2.01**	**106**	*e*Pg	**Pn**	**13 52 05.5**	**-2.4**
CRPR				IAML		13 52 46.4	
	comp=N,39nm,3.0s						
SDDR	**Presa de Saban**	**2.08**	**282**	Pn	**Pn**	**13 52 08.8**	**0.0**
AOPR	**Arecibo Observ**	**2.27**	**95**		**Pn**	**13 52 10.9**	**-0.3**
AOPR				IAML		13 52 45.2	
	comp=E,37nm,0.4s						
AOPR				IAML		13 53 17.8	
	comp=N,34nm,1.9s						
AOPR	**Arecibo Observ**	**2.27**	**95**		**Sn**	**13 52 39.0**	**-0.8**
AOPR	**Arecibo Observ**	**2.27**	**95**	*e*Pg	**Pn**	**13 52 11.9**	**+0.7**
AOPR				⇓*e*Sg	**Sn**	**13 52 39.0**	**-0.8**
AOPR	**Arecibo Observ**	**2.27**	**95**	⇓*e*P	**Pn**	**13 52 11.4**	**+0.2**
AOPR	**Arecibo Observ**	**2.27**	**95**	*e*S	**Sn**	**13 52 39.0**	**-0.8**
UUPR	**Utuado, UPR, P**	**2.32**	**98**		**Sn**	**13 52 41.1**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.32**	**98**		**Pn**	**13 52 11.8**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.32**	**98**	⇑*e*P	**Pn**	**13 52 12.5**	**+0.8**
UUPR	**Utuado, UPR, P**	**2.32**	**98**	*e*S	**Sn**	**13 52 41.1**	**+0.3**
OBIP	**Obispado Ponce**	**2.46**	**102**	Pn	**Pn**	**13 52 13.6**	**0.0**
OBIP				IAML		13 52 49.5	
	comp=E,18nm,2.6s						
OBIP				IAML		13 53 23.8	
	comp=N,23nm,2.3s						
CELP	**Cerrillos**	**2.48**	**101**		**Pn**	**13 52 13.4**	**-0.3**
CELP				IAML		13 53 40.4	
	comp=N,20nm,2.7s						
CELP	**Cerrillos**	**2.48**	**101**		**Sn**	**13 52 45.0**	**+0.6**
CELP	**Cerrillos**	**2.48**	**101**	⇑*e*Pg	**Pn**	**13 52 12.3**	**-1.5**
CELP				⇑*e*Sg	**Sn**	**13 52 43.8**	**-0.7**
CELP				IAML		13 53 01.8	
	comp=N,14nm,2.6s						
CELP	**Cerrillos**	**2.48**	**101**	⇑*e*P	**Pn**	**13 52 15.4**	**+1.6**
CELP	**Cerrillos**	**2.48**	**101**	*e*S	**Sn**	**13 52 45.0**	**+0.6**
ECPR	**Experimental S**	**2.65**	**95**	⇑*e*P	**Pn**	**13 52 15.4**	**-0.5**
ECPR	**Experimental S**	**2.65**	**95**	*e*S	**Sn**	**13 52 46.4**	**-1.8**

IDC 17 14:10:09.8±23.0, 19°.57S×179°.16W, h640km±223km, mb2.4/3, mbtmp3.5/3, Error ellipse: s-maj=310.1km s-min=48.2km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.65**	**261**	P	P	14 17 20.6	0.0
	0.4nm,0.8s,baz=96,slow=8.7,SNR=8.6						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**43.67**	**256**	P	P	14 17 20.8	+0.1
	0.4nm,0.7s,baz=86,slow=8.5,SNR=9.7						
ASAR				PcP	PcP	14 18 52.8	-0.2
	0.3nm,0.9s,baz=104,slow=4.1,SNR=6.1						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**87.66**	**13**	P	P	14 21 51.5	+0.1
	0.2nm,0.3s,baz=216,slow=5.1,SNR=5.7						
	0.2nm,0.3s						

*SJA **17** 14:18:47.7±0.8, 29°.80S×72°.59W, h11km, ML4.2, MW4.0*

*NEIC **17** 14:18:53.6±1.8, 29°.90S±0°.04×72°.09W±0°.09, h10km±1km, mb4.5/5, Error ellipse: s-maj=13.0km s-min=6.6km az=273.0*

*GUC **17** 14:18:55.0±0.6, 29°.96S×72°.07W, h26km±8km, ML4.1*

ISC 17 14:18:48.1±1.4, 30°.14S±0°.02×72°.31W±0°.04, h3km±9km, n72, σ2°30/115, mb4.6/3, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.79**	**133**	Pg	**Pn**	**14 19 09.6**	**+3.4**
CO06	**Fray Jorge**	**0.79**	**133**	⇓*i*P	**Pn**	**14 19 09.6**	**+3.4**
CO06				*e*S	**Sn**	**14 19 21.2**	**+2.5**
CO06				IAML		14 19 23.3	
	comp=N,5μm,0.2s						
GO04	**Tololo Observa**	**1.31**	**92**		**Pg**	**14 19 14.7**	**+1.5**
GO04	**Tololo Observa**	**1.31**	**92**	⇓*i*P	**Pg**	**14 19 14.7**	**+1.5**
GO04				*e

VA03	**San Esteban**	**3.02 151**	*e*P		**Pb**	**14 19 44.1**	**+1.5**
VA03	**San Esteban**	**3.02 151**	*e*P		**Pb**	**14 19 44.0**	**+1.3**
VA03			*e*S		**Sg**	**14 20 25.7**	**+0.5**
VA03			IAML			14 20 37.9	
	comp=Z,414nm,0.7s						
RTLS	**Leoncito**	**3.07 123**	*e*P		**Pb**	**14 19 45.4**	**+1.7**
RTLS			*e*S		**Sg**	**14 20 29.0**	**+2.1**
RTLS			IAML			14 20 30.8	
	comp=Z,2μm,0.7s						
AC06	**Mina Casimiro**	**3.26 32**	Pn		**Pn**	**14 19 40.8**	**+0.6**
AC06	**Mina Casimiro**	**3.26 32**	*e*P		**Pn**	**14 19 41.3**	**+1.1**
AC06			IAML			14 20 30.5	
	comp=E,630nm,0.6s						
MT02	**Curacav**	**3.27 163**	Pn		**Pb**	**14 19 47.0**	**+0.2**
MT02	**Curacav**	**3.27 163**	*e*P		**Pb**	**14 19 46.7**	**-0.1**
MT02			IAML			14 20 58.0	
	comp=E,210nm,0.8s						
MT02	**Curacav**	**3.27 163**	*e*P		**Pb**	**14 19 43.7**	**-3.2**
MT02			*e*P		Pg	14 19 47.2	-3.6
MT02			*e*S		**Sg**	**14 20 33.2**	**0.0**
MT02			IAML			14 20 46.1	
	comp=Z,305nm,0.8s						
PEL	**Peldehue**	**3.30 156**	Pn		**Pb**	**14 19 46.2**	**-1.2**
PEL	**Peldehue**	**3.30 156**	*e*P		**Pb**	**14 19 47.9**	**+0.5**
PEL			IAML			14 20 48.7	
	comp=N,376nm,0.5s						
AGUA	**GUANDACOL**	**3.38 80**	*e*P		**Pb**	**14 19 47.5**	**-1.3**
AGUA			*e*S		**Sg**	**14 20 40.9**	**+4.1**
AGUA			IAML			14 20 48.0	
	comp=Z,339nm,1.2s						
ZON	**Zonda**	**3.42 115**	Pn		**Pb**	**14 19 47.8**	**-1.8**
ZON	**Zonda**	**3.42 115**	*e*P		**Pb**	**14 19 50.0**	**+0.4**
ZON			*e*S		**Sb**	**14 20 31.7**	**+0.1**
ZON			IAML			14 20 47.1	
	comp=Z,217nm,1.4s						
MT05	**Renca**	**3.51 158**			**Pb**	**14 19 50.4**	**-0.6**
MT05	**Renca**	**3.51 158**	*e*P		**Pb**	**14 19 51.0**	**0.0**
MT05	**Renca**	**3.51 158**	*e*P		**Pb**	**14 19 51.7**	**+0.7**
MT05			*e*S		**Sg**	**14 20 38.8**	**-2.2**
MT05			*e*S		**Sb**	**14 20 41.2**	**+7.1**
MT05			IAML			14 20 58.1	
	comp=Z,643nm,0.9s						
VA05	**Santo Domingo**	**3.56 171**			**Pb**	**14 19 51.0**	**-0.8**
FCH	**Farellones**	**3.62 152**	*e*P		**Pb**	**14 19 52.8**	**-0.2**
MT16	**CCHEN**	**3.62 156**			**Pb**	**14 19 52.4**	**-0.4**
MT03	**Universidad Ad**	**3.68 156**			**Pb**	**14 19 52.9**	**-1.0**
MT03	**Universidad Ad**	**3.68 156**	*e*P		**Pb**	**14 19 53.5**	**-0.4**
MT03	**Universidad Ad**	**3.68 156**	*e*P		**Pn**	**14 19 49.7**	**+3.6**
MT03			*e*P		**Pb**	**14 19 53.5**	**-0.4**
MT03			*e*P		Pg	14 19 54.0	-4.7
MT03			*e*S		**Sb**	**14 20 39.4**	**+0.3**
MT03			*e*S		**Sg**	**14 20 46.7**	**+0.3**
MT03			IAML			14 20 58.6	
	comp=Z,476nm,0.6s						
MT04	**Ro Olivares**	**3.75 151**	*e*P		**Pb**	**14 19 55.3**	**+0.2**
MT04			*e*S		**Sg**	**14 20 45.7**	**-2.9**
MT04			IAML			14 21 07.3	
	comp=Z,344nm,0.8s						
CFA	**Coronel Fontan**	**3.79 114**	*e*P		**Pb**	**14 19 54.0**	**-1.9**
CFA			*e*S		**Sb**	**14 20 43.7**	**+1.5**
CFA			*e*S		**Sg**	**14 20 50.0**	**-0.1**
CFA			IAML			14 20 57.0	
	comp=Z,179nm,0.7s						
MT09	**Talagante**	**3.80 163**			**Pb**	**14 19 55.1**	**-0.8**
MT01	**Popeta**	**3.82 167**	*e*P		**Pn**	**14 19 49.7**	**+1.7**
MT01			*e*P		**Pb**	**14 19 55.0**	**-1.3**
MT01			*e*S		**Sg**	**14 20 53.2**	**+2.2**
MT01			IAML			14 21 03.2	
	comp=Z,208nm,0.6s						
MT08	**Bocatoma Ro**	**3.83 150**	*e*P		**Pb**	**14 19 56.9**	**+0.3**
MT08			*e*S		**Sg**	**14 20 48.7**	**-2.6**
MT08			*e*S		Sb	14 20 52.7	+9.2
MT08			IAML			14 21 03.8	
	comp=Z,225nm,0.8s						
VCA	**Vinchina**	**3.84 70**	*e*P		**Pn**	**14 19 48.7**	**+0.3**
VCA			*e*P		**Pb**	**14 19 53.5**	**-3.2**
VCA			*e*S		**Sg**	**14 20 52.3**	**+0.7**
VCA			IAML			14 20 56.5	
	comp=Z,374nm,1.3s						
ASAL	**Salagasta**	**3.85 130**	*e*P		**Pb**	**14 19 57.0**	**+0.2**
ASAL			*e*S		**Sg**	**14 20 49.2**	**-2.6**
ASAL			IAML			14 21 09.2	
	comp=Z,274nm,0.8s						
MT13	**San Alfonso**	**3.99 155**			**Pb**	**14 19 57.6**	**-1.6**
MT13	**San Alfonso**	**3.99 155**	*e*P		**Pn**	**14 19 52.7**	**+2.4**
MT13			*e*P		**Pb**	**14 19 58.2**	**-0.9**
MT13			*e*S		**Sb**	**14 20 49.7**	**+1.8**
MT13			IAML			14 21 15.2	
	comp=Z,237nm,0.8s						
BO04	**La Punta**	**4.10 160**	Pn		**Pb**	**14 19 59.1**	**-2.0**
LMEL	**Las Melosas**	**4.11 155**	*e*P		**Pb**	**14 19 60.0**	**-1.3**
LMEL			*e*S		**Sb**	**14 20 49.2**	**-2.2**
LMEL			*e*S		**Sg**	**14 20 55.2**	**-5.0**
LMEL			IAML			14 21 13.3	
	comp=Z,200nm,0.8s						
AVFE	**Valle Fertil**	**4.23 98**	*e*P		Pb	14 19 58.6	-4.6
AVFE			*e*S		**Sb**	**14 20 52.7**	**-2.0**
AVFE			IAML			14 21 04.7	
	comp=Z,242nm,0.9s						
AC01	**Pan de Azucar**	**4.25 21**			**Pn**	**14 19 53.0**	**-0.8**
AC01	**Pan de Azucar**	**4.25 21**	*e*P		**Pn**	**14 19 53.5**	**-0.4**
AC01			*e*S		**Sb**	**14 20 57.7**	**+2.4**
AC01			IAML			14 21 07.6	
	comp=Z,278nm,0.9s						
AC02	**Maricunga**	**4.32 41**	*e*P		Pn	14 19 48.7	-6.5
AC02			*e*P		Pb	14 19 56.3	-8.7
AC02			*e*S		**Sn**	**14 20 49.7**	**+3.3**
AC02			*e*S		**Sb**	**14 20 58.2**	**+0.4**
AC02			IAML			14 21 08.8	
	comp=Z,244nm,0.8s						
BO01	**Tunca**	**4.37 167**	*e*P		**Pb**	**14 20 02.7**	**-2.9**
BO01			*e*S		**Sg**	**14 21 15.2**	**+6.7**
BO01			IAML			14 21 36.6	
	comp=Z,98nm,0.8s						
ACLC	**CERRO LA CRUZ**	**4.71 83**	*e*P		**Pn**	**14 20 04.2**	**+3.9**
ACLC			*e*S		**Sb**	**14 21 03.2**	**-5.6**
ACLC			*e*S		Sn	14 21 07.2	+12
ACLC			IAML			14 21 14.6	
	comp=Z,163nm,0.8s						
BO02	**Sierra Bellavi**	**4.82 165**	*e*P		Pb	14 20 09.2	-4.1
BO02			*e*S		**Sb**	**14 21 06.7**	**-5.1**
BO02			IAML			14 21 38.2	
	comp=Z,165nm,0.8s						
ACHE	**Chepes**	**4.97 103**	*e*P		Pn	14 20 09.0	+5.1
ACHE			*e*S		**Sn**	**14 21 07.2**	**+5.2**
APLL	**PUNTA DE LOS L**	**5.01 94**	*e*P		**Pn**	**14 20 08.7**	**+4.4**
APLL			*e*S		**Sb**	**14 21 14.7**	**-2.5**
GO02	**Mina Guanaco**	**5.51 27**	Pn		**Pn**	**14 20 10.7**	**-0.7**
LPAZ	**La Paz**	**14.31 16**	Pn		**Pn**	**14 22 11.7**	**-0.6**
BDFB	**Brasilia**	**26.55 62**	P		**P**	**14 24 27.6**	**0.0**
SNAA	**Sanae**	**55.25 159**	P		P	14 28 27.9	+5.6
SNAA			IAmb		IAmb	14 28 57.8	
	comp=Z,8.4nm,1.3s						
N49A	**Columbus Grove**	**71.55 351**	P		**P**	**14 30 12.9**	**+2.5**
ECSD	**EROS Data Cent**	**76.81 342**	P		P	14 30 46.1	+5.1
ECSD			IAmb		IAmb	14 30 47.2	
	comp=Z,3.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.13 71**	P		**P**	**14 31 19.1**	**+3.1**
TORD			IAmb		IAmb	14 31 20.3	
	comp=Z,2.1nm,0.9s						

*DJA **17** 14:22:12.9±0.4, 11°S±4°×11°2E±°, h10km, M4.2/13, mB4.6/1, mb4.2/7, MLv4.1/13, Mw(mB)3.8/1*
*IDC **17** 14:22:13.6±3.0, 11°30S×112°45E, h0km, mb3.6/8, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=144.8km s-min=18.7km az=45.0*

ISC 17 14:22:14.0±0.8, 11°37S±0°07×112°32E±0°06, h10km, n33, σ1§31/31, mb3.8/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**3.27**	**20**	P	**Pn**	**14 23 05.1**	**-0.3**
GMJI				S	**Sn**	**14 23 40.4**	**-4.0**
PCJI	**Pacitan**	**3.35**	**340**	P	**Pn**	**14 23 05.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**3.41**	**32**	P	**Pn**	**14 23 08.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**3.41**	**32**	S	**Sn**	**14 23 46.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**3.41**	**32**	P	**Pn**	**14 23 07.6**	**+0.4**
ABJI	**Asem Bagus**	**4.03**	**28**	P	**Pn**	**14 23 15.6**	**-0.1**
SRBI	**Singaraja**	**4.34**	**41**	P	**Pn**	**14 23 20.9**	**+0.9**
TWSI	**Taliwang, Sumb**	**5.20**	**60**	P	**Pn**	**14 23 31.3**	**-0.6**
	0.1nm592nm19nm,0.6s						
CMJI	**Cimerak**	**5.22**	**313**	P	**Pn**	**14 23 32.2**	**0.0**
PLAI	**Plampang**	**5.94**	**65**	P	**Pn**	**14 23 42.5**	**+0.4**
PLAI	**Plampang**	**5.94**	**65**	P	**Pn**	**14 23 40.9**	**-1.2**
	0.1nm13nm,1.1s						
BBJI	**Bungbulang**	**6.02**	**310**	S	**Sn**	**14 24 50.1**	**-2.3**
BBJI	**Bungbulang**	**6.02**	**310**	P	**Pn**	**14 23 43.9**	**+0.6**
CNJI	**Cibinong**	**6.52**	**308**	P	**Pn**	**14 23 48.7**	**-1.3**
	0.1nm6.6nm,0.6s						
XMI	**Christmas Isla**	**6.57**	**277**	P	**Pn**	**14 23 51.3**	**+0.5**
XMIS	**Christmas Isla**	**6.61**	**277**	P	**Pn**	**14 23 51.1**	**-0.1**
WBSI	**Waikabubak, Su**	**7.17**	**77**	P	**Pn**	**14 23 57.5**	**-1.5**
	0.1nm17nm,0.8s						
CGJI	**Cibinong**	**8.07**	**305**	P	**Pn**	**14 24 11.2**	**-0.1**
GIRL	**Giralia**	**11.36**	**171**	P	**Pn**	**14 24 54.8**	**-1.6**
MBWA	**Marble Bar**	**12.05**	**145**	P	**Pn**	**14 25 04.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**14.51**	**119**	Pn	**Pn**	**14 25 39.6**	**0.0**
	0.1nm,0.3s,baz=305,slow=8.0,SNR=6.1						
FITZ				Sn	Sn	14 28 04.9	-16
	0.1nm,0.3s,baz=314,slow=18,SNR=1.8 1.5nm,0.9s						
MEEK	**Meekatharra**	**16.30**	**160**	P	**Pn**	**14 26 01.7**	**-1.5**
WRA	**Warramunga Arr**	**22.83**	**115**	P	**P**	**14 27 17.8**	**+0.4**
	0.3nm,0.7s,baz=293,slow=10,SNR=7.2 0.3nm,0.7s						
ASAR	**Alice Springs**	**23.90**	**124**	P	**P**	**14 27 28.6**	**+0.5**
	0.3nm,0.8s,baz=301,slow=8.9,SNR=6.1 0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.45**	**336**	P	**P**	**14 28 46.9**	**+2.3**
	0.5nm,0.5s,baz=168,slow=7.0,SNR=4.7 0.5nm,0.5s						
H08S2	**Diego Garcia H**	**39.43**	**272**	T	T	15 11 38.2	
	baz=98,slow=75						
H08S3	**Diego Garcia H**	**39.44**	**272**	T	T	15 11 40.2	
	baz=98						
H08S1	**Diego Carcia H**	**39.45**	**272**	T	T	15 11 38.5	
	baz=98,slow=75						
SONM	**Songino Array**	**59.18**	**355**	P	**P**	**14 32 15.6**	**+0.4**
	0.6nm,0.7s,baz=165,slow=7.5,SNR=4.5 0.6nm,0.7s						
MKAR	**Makanchi Array**	**63.83**	**337**	P	**P**	**14 32 48.0**	**+1.4**
	1.2nm,0.5s,baz=143,slow=7.8,SNR=21 1.2nm,0.5s						
AAK	**Ala-Archa**	**63.94**	**330**	P	**P**	**14 32 48.7**	**+1.2**
	0.9nm,0.8s,baz=138,slow=10,SNR=3.7 0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**68.40**	**338**	P	**P**	**14 33 16.4**	**+0.6**
	0.4nm,0.6s,baz=154,slow=5.7,SNR=4.5 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**69.14**	**343**	P	**P**	**14 33 21.1**	**+0.8**
	1.0nm,0.5s,baz=173,slow=2.5,SNR=5.0 1.0nm,0.5s						

*IDC **17** 14:27:18.9±0.6, 36°50N×142°87E, h0km, mb4.3/25, mbtmp4.3/33, ML3.6/7, MS3.9/50, Error ellipse: s-maj=15.0km s-min=13.5km az=134.0*
*BJI **17** 14:27:20.0, 36°70N×142°80E, h10km, mB4.9/26, mb4.6/66, Ms4.6/62, Ms7 4.5/61*
*NEIC **17** 14:27:20.6±1.3, 36°55N±0°06×142°9E±0°1, h10km±1km, mb4.7/55, Error ellipse: s-maj=14.9km s-min=9.3km az=118.0*
*MOS **17** 14:27:21.7±0.9, 36°86N×142°75E, h15km, mb4.8/42, MS4.0/6, Error ellipse: s-maj=7.8km s-min=4.7km az=115.3*
*NIED **17** 14:27:22.1, 36°58N×142°76E, h74km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}6.57; $M_{\theta\theta}$-1.00; $M_{\phi\phi}$-5.57; $M_{r\theta}$1.93; $M_{\theta\phi}$-2.62; $M_{\phi r}$0.13; Fault plane solution: $M_0$6.94000×10^15^ NP1: ϕ_s191.00000°, δ43.00000°, λ69.00000°. NP2: ϕ_s38.00000°, δ51.00000°, λ108.00000°.*
*JMA **17** 14:27:22.1±0.3, 36°6N±0°7×14°3E±°, h74km, MV3.8/30, FAR E OFF KANTO*
*GCMT **17** 14:27:25.6±0.6, 36°44N±0°05×142°85E±0°06, h20km±1km, MW4.7/76, Moment Tensor Solution. s7,c7; s76,c100; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.74±.15; $M_{\theta\theta}$-0.83±.10; $M_{\phi\phi}$-0.90±.09; $M_{r\theta}$0.49±.23; $M_{\theta\phi}$-0.41±.05; $M_{\phi r}$0.18±.20; Best double couple: $M_0$1.59100×10^16^ NP1: ϕ_s218.00000°, δ37.00000°, λ81.00000°. NP2: ϕ_s50.00000°, δ54.00000°, λ97.00000°. Principal axes: T 1.8330, Plg80.0000°, Azm347.0000°; N -0.4860, Plg5.0000°, Azm226.0000°; P -1.3490, Plg9.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 14:27:22.7±0.7, 36°59N±0°05×142°81E±0°05, h24km±3km, h54km: pP-P, n268, σ1§48/236, mb4.7/92, MS4.1/60, 18C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.69**	**288**	P	**Pn**	**14 27 49.4**	**-1.3**
JFK	**Kawauchi**	**1.73**	**297**	P	**Pn**	**14 27 49.9**	**-1.4**
JFK				*e*S	**Sn**	**14 28 11.2**	**-1.5**
JHO	**Hitachi**	**1.80**	**271**	P	**Pn**	**14 27 50.8**	**-1.4**
JHO				*e*S	**Sn**	**14 28 11.9**	**-2.5**
JHYU	**Hitachinakayam**	**1.81**	**263**	*i* P	**Pn**	**14 27 51.3**	**-1.0**
JMM	**Marumori**	**2.05**	**309**		**Pn**	**14 27 54.3**	**-1.3**
JMM	**Marumori**	**2.05**	**309**	P	**Pn**	**14 27 54.7**	**-0.9**
JMM	**Marumori**	**2.05**	**309**	S	**Sn**	**14 28 20.0**	**-0.5**
JOTO	**OTAMA OYAMA**	**2.20**	**297**	*i* P	**Pn**	**14 27 57.5**	**-0.2**
JOTO				S	**Sn**	**14 28 24.1**	**-0.1**
BSO1	**Boso 1**	**2.44**	**218**	*e*P	**Pn**	**14 27 59.5**	**-1.1**
JMK	**Ichinoseki**	**2.67**	**332**	P	**Pn**	**14 28 03.8**	**-0.4**
JAG	**Ashikaga**	**2.71**	**267**	*i* P	**Pn**	**14 28 03.7**	**-1.0**
JYK	**Kaneyama**	**3.02**	**321**	P	**Pn**	**14 28 08.5**	**-0.5**
JOM	**Ohasama**	**3.11**	**338**	P	**Pn**	**14 28 09.4**	**-0.9**
JRY	**Ryogami san**	**3.21**	**261**	P	**Pn**	**14 28 10.5**	**-1.1**
JOD2	**Odawara 2**	**3.30**	**247**	P	**Pn**	**14 28 12.1**	**-0.7**
JYN	**Shimob**	**3.62**	**254**	P	**Pn**	**14 28 17.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.70**	**271**	Pn	**Pn**	**14 28 18.5**	**+0.1**
	1.7nm,0.3s,baz=92,slow=9.2,SNR=126						
MJAR				LR	LR	14 30 03.3	
	comp=Z,2μm,21.3s,baz=74,slow=44 80nm,0.8s						
MAJO	**Matsushiro**	**3.70**	**271**	Pn	**Pn**	**14 28 18.6**	**+0.2**
MAJO	**Matsushiro**	**3.70**	**271**	P	**Pn**	**14 28 19.0**	**+0.6**
MAJO	**Matsushiro**	**3.70**	**271**	*c i* P	**Pn**	**14 28 19.0**	**+0.6**
MAT	**Matsushiro**	**3.70**	**271**	P	**Pn**	**14 28 19.0**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.71**	**271**	Pn	**Pn**	**14 28 18.7**	**+0.2**
JSD	**Sado**	**3.90**	**293**		**Pn**	**14 28 20.9**	**-0.2**
JSD	**Sado**	**3.90**	**293**	P	**Pn**	**14 28 21.8**	**+0.7**
JANG	**Nango**	**3.91**	**345**	*e*P	**Pn**	**14 28 21.5**	**+0.2**
JHJ2	**Mitsune**	**4.25**	**216**	P	**Pn**	**14 28 24.8**	**-1.2**
JHJ	**Hachijo jima 2**	**4.26**	**217**	Pn	**Pn**	**14 28 24.4**	**-1.7**
	63nm,0.3s,baz=88,slow=21,SNR=9.4						
JHJ				Sn	**Sn**	**14 29 10.7**	**-4.5**
	78nm,0.3s,baz=86,slow=23,SNR=5.6 87nm,0.3s						
JTM	**Tenmabayashi**	**4.40**	**343**		**Pn**	**14 28 28.1**	**+0.1**
JTM	**Tenmabayashi**	**4.40**	**343**	P	**Pn**	**14 28 27.3**	**-0.7**
JTM	**Tenmabayashi**	**4.40**	**343**	S	**Sn**	**14 29 18.8**	**+0.3**
JGF	**Kuroka**	**4.52**	**259**		**Pn**	**14 28 30.6**	**+0.9**
JGF	**Kuroka**	**4.52**	**259**	P	**Pn**	**14 28 30.2**	**+0.5**
INU	**Inuyama**	**4.86**	**257**		**Pn**	**14 28 34.4**	**+0.1**
INU	**Inuyama**	**4.86**	**257**	P	**Pn**	**14 28 34.7**	**+0.4**
ERM	**Erimo**	**5.42**	**3**		**Pn**	**14 28 40.0**	**-2.1**
ERM	**Erimo**	**5.42**	**3**	P	**Pn**	**14 28 39.9**	**-2.1**
ERM	**Erimo**	**5.42**	**3**	S	**Sn**	**14 29 42.5**	**-1.1**
ERM	**Erimo**	**5.42**	**3**	*c i* P	**Pn**	**14 28 39.7**	**-2.3**
JEM	**Erimo**	**5.42**	**3**	P	**Pn**	**14 28 39.8**	**-2.2**
ASAJ	**Asahikawa**	**7.52**	**359**	Pn	**Pn**	**14 29 09.0**	**-1.8**
	4.6nm,0.3s,baz=212,slow=14,SNR=40						
ASAJ				Sn	**Sn**	**14 30 32.7**	**-2.5**
	1.5nm,0.3s,baz=298,slow=31,SNR=7.2						
ASAJ				LR	LR	14 32 23.7	
	comp=Z,207nm,20.1s,baz=181,slow=40 11nm,0.3s						
JKA	**Kamikawa-asahi**	**7.52**	**359**	Pn	**Pn**	**14 29 08.9**	**-1.8**
JMN	**Monobe**	**7.85**	**251**	Pn	**Pn**	**14 29 15.7**	**+0.3**
JMN	**Monobe**	**7.85**	**251**	P	**Pn**	**14 29 16.1**	**+0.7**
KUR	**Kuril'sk**	**9.44**	**22**	P	**Pn**	**14 29 35.0**	**-2.1**
KUR				*e*S	**Sn**	**14 31 14.5**	**-7.9**
JCJ	**Chichijima**	**9.48**	**183**	Sn	Sn	14 31 07.2	-16
	9.3nm,0.3s,baz=290,slow=23,SNR=2.0						
YSS	**Yuzhno-Sakhali**	**10.35**	**360**	Pn	**Pn**	**14 29 48.3**	**-1.3**
YSS	**Yuzhno-Sakhali**	**10.35**	**360**	P	**Pn**	**14 29 48.7**	**-0.9**
YSS	**Yuzhno-Sakhali**	**10.35**	**360**	*e*P	**Pn**	**14 29 49.8**	**+0.2**
YSS				*e*S	**Sn**	**14 31 40.1**	**-4.7**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,1.1s						
YSS				smax	smax		
	comp=E,20nm,0.8s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
JNU	**Nakatsue**	**10.39 254**			**Pn**	**14 29 50.3**	**0.0**
JNU	**Nakatsue**	**10.39 254**		Pn	**Pn**	**14 29 50.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=112,slow=10.0,SNR=4.0						
JNU				LR	LR	14 34 27.0	
	comp=E,686nm,19.8s,baz=74,slow=41 comp=E,11nm,1.0s						
JNU	**Nakatsue**	**10.39 254**		P	**Pn**	**14 29 51.2**	**+0.9**
PSTR	**Posyet**	**11.05 307**	*c i* P		**Pn**	**14 29 59.3**	**+0.1**
USA0B	**Ussuriysk Arra**	**11.21 316**	⇑ *i* P		**Pn**	**14 30 02.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**11.21 316**	Pn		**Pn**	**14 30 02.1**	**+0.8**
	comp=E,0.2nm,0.3s,baz=134,slow=13,SNR=5.4						
USRK				LR	LR	14 33 58.0	
	comp=E,534nm,20.1s,baz=136,slow=35 comp=E,2.8nm,0.7s						
KSRS	**Korea Array**	**11.93 279**	Pn		**Pn**	**14 30 13.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=93,slow=13,SNR=25						
KSRS				LR	LR	14 34 33.4	
	comp=E,226nm,20.2s,baz=85,slow=36 comp=E,7.5nm,1.0s						
KSAR	**Wonju Array Be**	**11.96 279**	Pn		**Pn**	**14 30 12.7**	**+1.0**
KSAR	**Wonju Array Be**	**11.96 279**	P		**Pn**	**14 30 12.7**	**+1.0**
KS19	**Wonju Array Si**	**11.97 279**	Pn		**Pn**	**14 30 12.7**	**+0.9**
TJN	**Taejon**	**12.43 274**	⇑ *i* P		**Pn**	**14 30 19.3**	**+1.2**
TYV	**Tymovskoe**	**14.27 360**	*e*P		**Pn**	**14 30 41.3**	**-1.8**
TYV			pmax		pmax		
	comp=Z,300nm,5.9s						
TYV			pmax		pmax		
	comp=Z,17nm,1.4s						
GRNR	**Gornyy**	**14.89 344**	⇑ *i* P		**Pn**	**14 30 49.5**	**-2.1**
GRNR			pmax		pmax		
	comp=Z,2.0nm,0.7s						
GRNR			MLR		MLR		
	comp=E,540nm,16.0s						
GRNR			MLR		MLR		
	comp=Z,760nm,16.0s						
GRNR			MLR		MLR		
	comp=N,430nm,13.0s						
KLR	**Kul'dur**	**14.98 331**	Pn		**Pn**	**14 30 51.4**	**-1.4**
	comp=N,0.1nm,0.3s,baz=138,slow=8.6,SNR=5.7						
KLR				LR	LR	14 36 46.3	
	comp=N,368nm,18.3s,baz=146,slow=38 comp=N,1.9nm,0.8s						
KLR	**Kul'dur**	**14.98 331**	⇑ *e*P		**Pn**	**14 30 51.3**	**-1.5**
KLR			pmax		pmax		
	comp=Z,6.0nm,1.7s						
CN2	**Changchun**	**15.08 304**	P		**Pn**	**14 30 50.5**	**-3.6**
CN2			S		**Sn**	**14 33 37.3**	**-3.0**
CN2			pmax		pmax		
	comp=Z,10.0nm,0.7s						
CN2			pmax		pmax		
	comp=Z,300nm,6.0s						
CN2			LR		LR		
	comp=Z,1μm,14.0s						
CN2			LR		LR		
	comp=Z,800nm,14.0s						
CN2			LR		LR		
	comp=Z,1μm,15.0s						
JOW	**Kunigami**	**15.72 236**	LR		LR	14 37 28.7	
	comp=Z,178nm,18.4s,baz=34,slow=39						
SNY	**Shenyang**	**15.79 295**	⇑ P		**Pn**	**14 31 01.6**	**-1.7**
SNY			pmax		pmax		
	comp=Z,8.0nm,0.5s						
SNY			pmax		pmax		
	comp=Z,130nm,5.3s						
SNY			LR		LR		
	comp=Z,690nm,13.1s						
SNY			LR		LR		
	comp=Z,1μm,12.2s						
SNY			LR		LR		
	comp=Z,2μm,14.7s						
OKH	**Okha**	**16.96**	**0** *de*P		Pn	14 31 06.7	-11
OKH			MLR		MLR		
	comp=Z,500nm,16.0s						
OKH			MLR		MLR		
	comp=E,900nm,15.0s						
OKH			MLR		MLR		
	comp=N,600nm,15.0s						
HEH	**HeiHe**	**17.60 326**	*e*P		**Pn**	**14 31 23.8**	**-2.4**
HEH			sP		**pP**	**14 31 32.8**	**+0.9**
HEH			pmax		pmax		
	comp=N,5.0nm,1.6s						
HEH			LR		LR		
	comp=N,1μm,13.0s						
HEH			LR		LR		
	comp=N,970nm,12.0s						
HEH			LR		LR		
	comp=N,2μm,12.7s						
SSE	**Sheshan**	**18.76 259**	P		**P**	**14 31 39.3**	**-0.7**
SSE			pmax		pmax		
	comp=N,12nm,0.7s						
SSE			pmax		pmax		
	comp=N,27nm,3.1s						
SSE			LR		LR		
	comp=N,490nm,16.0s						
SSE			LR		LR		
	comp=N,280nm,15.8s						
PETK	**Petropavlovsk-**	**19.53 28**	P		**P**	**14 31 48.0**	**-0.3**
	comp=N,2.7nm,0.9s,baz=198,slow=12,SNR=4.3						
PETK			LR		LR	14 42 33.2	
	comp=N,189nm,18.2s,baz=216,slow=47						
PETK	**Petropavlovsk-**	**19.53 28**	P		**P**	**14 31 48.0**	**-0.3**
PET	**Petropavlovsk**	**19.83 29**	⇓ *e*P		**Pn**	**14 31 53.8**	**+0.6**
PET			pmax		pmax		

comp=Z,1μm,15.9s
MA2 Magadan 23.57 10 P **P 14 32 31.3 +0.1**
MA2 Magadan 23.57 10 LR LR 14 42 46.8
comp=Z,262nm,18.5s,baz=200,slow=39
MA2 Magadan 23.57 10*de*P **P 14 32 31.6 +0.4**
MA2 pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 23.57 10 P **P 14 32 30.5 -0.7**
comp=Z,18nm,1.0s
WHN Wuhan 24.41 264 P **P 14 32 39.6 +0.2**
WHN pmax pmax
comp=Z,86nm,1.1s
WHN LR LR
comp=Z,960nm,11.8s
WHN LR LR
comp=Z,3μm,14.9s
WHN LR LR
comp=Z,3μm,13.5s
HHC Hu-ho-hao-te 24.67 290 *e*P **P 14 32 42.3 +0.5**
HHC pP pP 14 32 46.0 -1.0
HHC sP sP 14 32 50.0 +0.8
HHC sS sS 14 37 10.9 -0.4
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,90nm,5.2s
HHC LR LR
comp=Z,250nm,12.2s
HHC LR LR
comp=Z,270nm,13.8s
HHC LR LR
comp=Z,420nm,13.0s
LYN LuoYang 24.71 274 P **P 14 32 42.5 +0.4**
LYN sS sS 14 37 11.9 -0.7
LYN pmax pmax
comp=Z,59nm,0.8s
LYN pmax pmax
comp=Z,270nm,4.3s
LYN LR LR
comp=Z,580nm,13.4s
LYN LR LR
comp=Z,1μm,12.7s
LYN LR LR
comp=Z,1μm,13.7s
CIT Chita 25.77 316 *e*P **P 14 32 52.6 +1.1**
CIT *e* 14 33 03.4
CIT *e* 14 33 30.6
CIT *e* 14 33 43.2
CIT pmax pmax
comp=Z,179nm,1.7s
YAK Yakutsk 26.75 346 P **P 14 33 00.3 +0.1**
YAK Yakutsk 26.75 346 LR LR 14 43 57.5
comp=Z,318nm,19.1s,baz=150,slow=37
YAK Yakutsk 26.75 346*c i*P **P 14 33 00.1 -0.1**
YAK *e**PP **pP 14 33 05.4 -0.2**
YAK *e* 14 33 37.5
YAK *e*PPP PPP 14 33 51.9
YAK *e*S **S 14 37 36.6 +2.2**
YAK *e**SS **sS 14 37 46.1 +2.6**
YAK *e*SSS SSS 14 38 54.6
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,52nm,2.0s
YAK pmax pmax
comp=N,75nm,2.3s
YAK pmax pmax
comp=E,35nm,3.2s
YAK smax smax
comp=N,138nm,4.7s
YAK smax smax
comp=E,77nm,3.5s
YAK MLR MLR
comp=Z,604nm,16.0s
YAK MLR MLR
comp=N,411nm,16.0s
YAK MLR MLR
comp=E,121nm,17.0s
H11N2 WAKE ISLAND Hy 26.96 122 T T 15 01 07.2
baz=314,slow=75,SNR=29
H11N1 WAKE ISLAND Hy 26.97 122 T T 15 01 10.4
baz=314,slow=75,SNR=28
H11N3 WAKE ISLAND Hy 26.98 122 T T 15 01 09.9
baz=314,slow=75,SNR=24
SEY Seymchan 27.02 10⇓*e*P **P 14 33 04.7 +2.1**
SEY pmax pmax
comp=Z,13nm,1.7s
SHEM Shemya Is, Ala 27.20 44 LR LR 14 43 52.6
comp=Z,37nm,18.4s,baz=350,slow=36
H11S1 WAKE ISLAND Hy 27.68 124 T T 15 02 07.2
baz=316,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 27.69 124 T T 15 02 06.6
baz=316,slow=76,SNR=16
XAN Xi'an 27.69 275⇓P **P 14 33 09.4 +0.4**
XAN pP sP 14 33 18.8 +2.4
XAN pmax pmax
comp=Z,19nm,1.0s
H11S2 WAKE ISLAND Hy 27.70 124 T T 15 02 01.5
baz=316,slow=76,SNR=20
ENH Enshi 28.42 267 P **P 14 33 15.8 +0.3**
BOD Bodaibo 28.50 327 *e*P **P 14 33 16.3 +0.4**
BOD pmax pmax
comp=Z,43nm,1.4s
ULN Ulaanbaatar 28.52 305 P **P 14 33 17.2 +0.8**
ULN IAmb IAmb 14 33 29.8
comp=Z,20nm,1.1s
ULN Ulaanbaatar 28.52 305*c i*P **P 14 33 17.9 +1.4**
ULN pmax pmax
comp=Z,18nm,1.2s
SONM Songino Array 28.96 304 P **P 14 33 21.4 +1.1**
SONM IAmb IAmb 14 33 33.6
comp=Z,20nm,1.0s
SONM Songino Array 28.96 304 P **P 14 33 21.6 +1.4**
comp=Z,8.6nm,0.9s,baz=109,slow=9.0,SNR=53
SONM LR LR 14 45 19.4
comp=Z,174nm,18.3s,baz=121,slow=37
comp=Z,8.6nm,0.9s
IRK Irkutsk 31.22 312 *e*P **P 14 33 39.7 -0.4**
IRK pmax pmax
comp=Z,28nm,1.4s
LZH Lanzhou 31.25 281 *e*P **P 14 33 42.1 +1.4**
LZH sP sP 14 33 51.8 +3.7
LZH S **S 14 38 46.8 +0.9**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH LR LR
comp=Z,510nm,13.4s
LZH LR LR
comp=Z,1μm,13.7s
LZH LR LR
comp=Z,1μm,13.1s
ZAK Zakamensk 31.42 309 *e*P **P 14 33 41.9 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
MOY Mondy 33.08 310 *e*P **P 14 33 57.1 +0.6**
MOY pmax pmax
comp=Z,13nm,2.7s
GTA Gaotai 33.76 288 *e*P **P 14 34 03.6 +1.0**
GTA pP sP 14 34 13.9 +3.8
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA LR LR
comp=Z,260nm,15.5s
GTA LR LR
comp=Z,240nm,14.7s
GTA LR LR
comp=Z,280nm,15.1s
QIZ Qiongzhong 33.78 248 P **P 14 34 04.6 +1.8**
QIZ S **S 14 39 27.4 +2.1**
QIZ LR LR
comp=Z,350nm,11.7s
QIZ LR LR
comp=Z,410nm,15.1s
QIZ LR LR
comp=Z,330nm,11.3s
BILL Biiibino 34.14 15⇑*e*P **P 14 34 05.1 -0.3**
BILL pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 35.87 353 LR LR 14 50 12.4
comp=Z,217nm,18.8s,baz=199,slow=38
TIXI Tiksi 35.87 353⇓*i*P **P 14 34 20.7 +0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
PZH PanZhiHua 36.18 266 P **P 14 34 23.8 +0.2**
PZH S **S 14 40 04.3 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.7s
PZH LR LR
comp=Z,410nm,14.1s
PZH LR LR
comp=Z,440nm,15.5s
PZH LR LR
comp=Z,610nm,15.5s
GOMU GeErMu 38.31 284 P **P 14 34 42.6 +0.7**
GOMU PcP **PcP 14 36 53.8 -1.8**
GOMU S **S 14 40 34.8 -0.3**
GOMU pmax pmax
comp=Z,17nm,1.4s
GOMU LR LR
comp=Z,480nm,15.8s
GOMU LR LR
comp=Z,670nm,14.9s
GOMU LR LR
comp=Z,800nm,13.3s
UBPT Khong Chiam 39.38 247 P **P 14 34 51.4 +0.9**
UBPT IAmb IAmb 14 34 53.4
comp=Z,13nm,0.9s
TNCH TengChong 39.43 266 P **P 14 34 51.1 -0.1**
TNCH S **S 14 40 54.8 +3.0**
TNCH pmax pmax
comp=Z,16nm,1.0s
TNCH pmax pmax
comp=Z,99nm,2.3s
TNCH LR LR
comp=Z,260nm,12.9s
TNCH LR LR
comp=Z,320nm,13.6s
TNCH LR LR
comp=Z,420nm,14.2s
ANM Nome 41.39 31 P **P 14 35 08.0 +1.3**
ANM IAmb IAmb 14 35 10.7
comp=Z,12nm,1.0s
ANM Nome 41.39 31 P **P 14 35 08.0 +1.3**
ANM pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 42.03 298 *e*P **P 14 35 15.3 +3.0**
WMQ pmax pmax
comp=Z,21nm,1.3s
WMQ LR LR
comp=Z,470nm,15.1s
WMQ LR LR
comp=Z,430nm,15.1s
WMQ LR LR
comp=Z,140nm,15.7s
CHTO Chiang Mai 42.28 257 P **P 14 35 13.5 -1.0**
CHTO Chiang Mai 42.28 257 P **P 14 35 13.5 -1.0**
CHTO pmax pmax
comp=Z,4.0nm,1.2s
CMAR Chiang Mai Arr 42.48 257 P **P 14 35 16.7 +0.6**
comp=Z,1.0nm,0.3s,baz=47,slow=6.4,SNR=8.1
CMAR LR LR 14 55 11.5
comp=Z,121nm,19.8s,baz=90,slow=39
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 42.48 257 *i*P **P 14 35 19.2 +3.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 43.03 313 P **P 14 35 20.3 +0.1**
ZALV Zalesovo Beam 43.03 313 P **P 14 35 20.0 -0.2**
ZALV Zalesovo Beam 43.03 313 P **P 14 35 21.1 +1.0**
comp=Z,6.1nm,0.9s,baz=90,slow=6.5,SNR=18
ZALV LR LR 14 53 23.0
comp=Z,102nm,18.7s,baz=76,slow=36
comp=Z,6.1nm,0.9s
NRIK Noril'sk 44.13 335 P **P 14 35 29.4 +0.6**
NRIK Noril'sk 44.13 335 P **P 14 35 29.4 +0.6**
comp=Z,1.1nm,0.5s,baz=173,slow=9.9,SNR=5.5
NRIK LR LR 14 55 12.8
comp=Z,268nm,18.4s,baz=102,slow=38
comp=Z,1.1nm,0.5s
NRIK Noril'sk 44.13 335*ce*P **P 14 35 29.8 +1.0**
NRIK pmax pmax
comp=Z,4.0nm,1.3s
SHL Shillong 44.52 271 P **P 14 35 31.4 -1.4**
SHL IAmb IAmb 14 35 50.1
comp=Z,8.9nm,1.1s
SHL Shillong 44.52 271 P **P 14 35 31.4 -1.4**
SHL pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 45.30 303 IAmb IAmb 14 35 55.5
comp=Z,8.7nm,1.1s
MK31 Makanchi Array 45.30 303*ce*P **P 14 35 38.8 +0.3**
MKAR Makanchi Array 45.30 303 P **P 14 35 38.9 +0.4**
MKAR Makanchi Array 45.30 303 P **P 14 35 39.1 +0.6**
comp=Z,5.2nm,0.8s,baz=89,slow=9.2,SNR=48
MKAR LR LR 14 57 29.4
comp=Z,106nm,18.7s,baz=80,slow=40
comp=Z,5.2nm,0.8s
MKAR Makanchi Array 45.30 303 *i*P **P 14 35 39.5 +1.0**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 45.51 303 P **P 14 35 40.9 +0.8**
MAKZ IAmb IAmb 14 35 57.3
comp=Z,9.8nm,1.0s
MAKZ Makanchi 45.51 303 P **P 14 35 40.9 +0.8**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
BRDH Bariadhala 46.08 267 LR LR 14 58 33.6
comp=Z,204nm,18.3s,baz=71,slow=41
KDAK Kodiak Island 46.68 42 LR LR 14 54 01.9
comp=Z,77nm,20.3s,baz=87,slow=34
KURK Kurchatov 47.08 309 P **P 14 35 52.5 +0.1**
KURK Kurchatov 47.08 309*ce*P **P 14 35 52.7 +0.3**
KURK pmax pmax
comp=Z,41nm,1.3s
KURBB Kurchatov Arra 47.15 308 P **P 14 35 53.4 +0.5**
comp=Z,14nm,0.8s,baz=84,slow=8.0,SNR=115
KURBB LR LR 14 55 56.3
comp=Z,147nm,19.4s,baz=169,slow=36
comp=Z,14nm,0.8s
D22K Ayikyak River 47.26 26 IAmb IAmb 14 36 17.9
comp=Z,8.3nm,1.1s
E22K Anaktuvuk Pass 47.47 28 P **P 14 35 55.6 +0.3**
E22K IAmb IAmb 14 35 58.0
comp=Z,6.2nm,1.0s
NEA2 Nenana 48.33 32 P **P 14 36 02.2 +0.3**
NEA2 IAmb IAmb 14 36 15.1
comp=Z,9.2nm,1.1s
TOLK Toolik Lake Re 48.35 27 IAmb IAmb 14 36 15.8
comp=Z,8.9nm,1.1s
D24K Happy Valley 48.67 26 IAmb IAmb 14 36 30.4
comp=Z,8.6nm,1.1s
COLA College 48.86 32⇑*e*P **P 14 36 06.9 +1.0**
COLA pmax pmax
comp=Z,5.0nm,1.1s
H24K Noodor Dome 48.86 31 IAmb IAmb 14 36 22.7
comp=Z,7.2nm,1.1s
POKR Poker Plat Res 49.03 32 IAmb IAmb 14 36 21.3
comp=Z,13nm,1.1s
IL31 49.27 32 IAmb IAmb 14 36 37.9
comp=Z,11nm,1.2s
ILAR Eielson Array 49.27 32 P **P 14 36 09.7 +0.5**
comp=Z,2.6nm,0.9s,baz=267,slow=6.1,SNR=24
comp=Z,2.6nm,0.9s
ANVS Anan'yevo 49.40 298 P **P 14 36 13.1 +2.4**
TARG Taragay, Kyrgy 49.60 297 P **P 14 36 14.5 +2.0**
TARG pmax pmax
comp=Z,12nm,0.9s
KDJ Kajisay 49.93 298 P **P 14 36 15.5 +0.8**
BOOM Boomskoye usch 50.70 298 P **P 14 36 22.4 +1.8**
KSH Kashi 51.60 295 P P 14 36 32.6 +5.3
KSH pmax pmax
comp=Z,7.0nm,1.6s
KSH LR LR
comp=Z,320nm,14.1s
KSH LR LR
comp=Z,280nm,12.0s
KSH LR LR
comp=Z,500nm,13.6s
AAK Ala-Archa 51.68 299 P **P 14 36 27.6 -0.3**
AAK Ala-Archa 51.68 299 P **P 14 36 28.6 +0.7**
comp=Z,1.0nm,0.6s,baz=102,slow=8.6,SNR=4.4
AAK LR LR 14 59 48.5
comp=Z,217nm,18.1s,baz=79,slow=38
comp=Z,1.0nm,0.6s
AAK Ala-Archa 51.68 299*de*P **P 14 36 27.3 -0.6**
AAK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 51.69 313 P **P 14 36 28.3 +0.7**
comp=Z,3.8nm,0.8s,baz=79,slow=7.7,SNR=14
BVAR LR LR 14 58 40.1
comp=Z,133nm,18.5s,baz=73,slow=36
comp=Z,3.8nm,0.8s
BRVK Borovoye 51.75 313 P **P 14 36 28.3 +0.3**
BRVK Borovoye 51.75 313⇑*e*P **P 14 36 28.8 +0.8**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
ARLS Aral 52.04 298 P **P 14 36 32.1 +1.5**
PSI Prapat 52.54 241 P **P 14 36 34.0 -0.4**
comp=Z,2.6nm,0.5s,baz=210,slow=7.8,SNR=3.6
PSI LR LR 15 00 26.5
comp=Z,103nm,18.6s,baz=327,slow=38
comp=Z,2.6nm,0.5s
I29M Ogilvie Camp, 52.85 31 IAmb IAmb 14 36 49.7
comp=Z,11nm,1.1s
G30M tAoh Zraii Nji 53.46 29 IAmb IAmb 14 36 54.4
comp=Z,13nm,1.1s
ARK Arkit 53.73 299 P **P 14 36 45.1 +2.1**
INK Inuvik 54.27 27 LR LR 15 04 03.3
comp=Z,55nm,18.6s,baz=252,slow=41
KK31 Karatay Array 54.31 301 IAmb IAmb 14 36 49.2
comp=Z,14nm,1.1s
KKAR Karatay Array 54.31 301 P **P 14 36 47.7 +0.6**
KKAR Karatay Array 54.31 301 IAmb IAmb 14 36 49.1
comp=Z,8.9nm,1.1s
KKAR Karatay Array 54.31 301 P **P 14 36 47.7 +0.6**
TRKS Terek-Say 54.40 299 P **P 14 36 48.9 +1.0**
H31M Peel River 54.40 30 IAmb IAmb 14 37 00.7
comp=Z,8.6nm,0.9s
GSI Gunungsitoli 54.55 241 P **P 14 36 49.1 +0.1**
NIL Nilore 55.81 289 P **P 14 36 59.8 +1.7**
SVE Sverdlovsk 56.21 319 *e*P **P 14 37 01.8 +1.3**
SVE pmax pmax
comp=Z,22nm,1.1s
WB0 Warramunga Arr 56.62 189 P **P 14 37 02.9 -0.9**
WB0 IAmb IAmb 14 37 18.1
comp=Z,5.2nm,0.8s
WRA Warramunga Arr 56.80 190 P **P 14 37 03.1 -1.9**
WRA Warramunga Arr 56.80 190 P **P 14 37 03.6 -1.4**
comp=Z,3.1nm,1.0s,baz=7.8,slow=7.3,SNR=15
comp=Z,3.1nm,1.0s
SIMJ Simiganj 56.97 296 P **P 14 37 07.0 +0.6**
DZET Dzherino 57.04 296 P **P 14 37 07.9 +1.0**
DZET pmax pmax
comp=Z,14nm,1.0s
ARTI Arti 57.53 319 P **P 14 37 10.0 +0.2**
comp=Z,12nm,0.8s,baz=94,slow=3.5,SNR=16
ARTI LR LR 15 03 25.6
comp=Z,124nm,18.9s,baz=90,slow=38
comp=Z,12nm,0.8s
ARTI Arti 57.53 319*d i*P **P 14 37 10.1 +0.2**
ARTI 14 39 14.5
ARTI S **S 14 45 06.6 +0.7**
ARTI SS **SS 14 48 53.1 -2.3**
ARTI pmax pmax
comp=Z,24nm,1.0s
ABKAR Akbulak array 59.08 311 P **P 14 37 20.9 +0.1**
ABKAR Akbulak array 59.08 311 IAmb IAmb 14 37 32.4
comp=Z,8.5nm,0.8s
AKTO Aktyubinsk 59.80 313 P **P 14 37 26.2 +0.4**
comp=Z,6.0nm,0.8s,baz=81,slow=13,SNR=12
AKTO LR LR 15 06 53.8
comp=Z,98nm,18.0s,baz=42,slow=40
comp=Z,6.0nm,0.8s
ASAR Alice Springs 60.52 189 P **P 14 37 30.0 -1.0**
comp=Z,1.2nm,0.8s,baz=1.2,slow=6.4,SNR=11
ASAR LR LR 15 07 40.0
comp=Z,46nm,18.1s,baz=44,slow=40
comp=Z,1.2nm,0.8s
ASAR Alice Springs 60.52 189 P **P 14 37 30.0 -1.0**
SPITS Spitsbergen Ar 61.17 349 LR LR 15 07 26.1
comp=Z,138nm,18.2s,baz=352,slow=39
KIRV Kirov 61.27 323 P **P 14 37 36.1 +0.5**
comp=Z,10nm,0.5s,baz=62,slow=15,SNR=4.2
KIRV LR LR 15 07 47.4
comp=Z,92nm,18.0s,baz=57,slow=40
comp=Z,10nm,0.5s
KIRV Kirov 61.27 323⇓*e*P **P 14 37 37.0 +1.4**
DZM Mont Dzumac 62.48 155 *e*LR LR 14 56 16.9
comp=Z,103nm,20.3s
DZM Mont Dzumac 62.48 155 LR LR 15 04 06.7
comp=Z,77nm,19.3s,baz=18,slow=35
RES Resolute Bay 62.75 15 P **P 14 37 45.4 +0.1**
RES IAmb IAmb 14 37 58.0
comp=Z,8.7nm,1.1s
RES Resolute Bay 62.75 15 LR LR 15 09 43.9
comp=Z,60nm,18.0s,baz=14,slow=40
RES Resolute Bay 62.75 15 P **P 14 37 45.4 +0.1**
RES pmax pmax
comp=Z,9.0nm,1.1s
PALK Pallekele 63.37 259 LR LR 15 07 52.6
comp=Z,78nm,18.7s,baz=64,slow=38
MSVF Nonsavu 63.47 142 LR LR 15 05 42.4
comp=Z,90nm,18.0s,baz=25,slow=36
YKA Yellowknife Ar 63.62 30 P **P 14 37 51.5 +0.2**
comp=Z,1.6nm,0.9s,baz=296,slow=6.6,SNR=16
comp=Z,1.6nm,0.9s
KLMR Klimovskoe 64.72 328 *e*P **P 14 37 56.8 -1.7**
KLMR pmax pmax
comp=Z,36nm,1.8s
ARCES ARCESS Array B 64.80 340 LR LR 15 10 12.6
comp=Z,66nm,19.0s,baz=8.5,slow=40
LON Longmire 67.73 48 P **P 14 38 18.3 +0.1**
LON IAmb IAmb 14 38 23.6
comp=Z,4.3nm,0.9s
LON Longmire 67.73 48 P **P 14 38 18.3 +0.1**
LON pmax pmax
comp=Z,4.0nm,1.0s
VRH Novokhopyorsk 68.65 318 *e*P P 14 38 32.3 +8.5
VRH pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 69.11 324⇓*e*P **P 14 38 27.6 +1.1**
OBN *e**PP **pP 14 38 31.1 -1.0**
OBN *SP **sP 14 38 34.0 -0.2**
OBN 14 40 57.0
OBN *e* 14 48 00.6
OBN pmax pmax
comp=Z,17nm,1.1s
OBN MLR MLR
comp=Z,198nm,16.0s
LPSR Galich'ya Gora 69.35 321 *e*P **P 14 38 27.3 -0.8**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 69.72 333 P **P 14 38 29.9 -0.3**
comp=Z,2.6nm,0.8s,baz=342,slow=4.8,SNR=6.7
FINES LR LR 15 14 20.3
comp=Z,84nm,21.3s,baz=35,slow=40
comp=Z,2.6nm,0.8s
VORR Voronezh 69.72 320 *e*P P 14 38 36.0 +5.6
VSR Storozhevoye 70.00 319 *e*P **P 14 38 30.4 -1.7**
VSR pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 72.03 311 P **P 14 38 45.2 +0.7**
comp=Z,4.6nm,0.8s,baz=36,slow=4.0,SNR=9.1
comp=Z,4.6nm,0.8s
KBZ Khabaz 72.03 311⇑*e*P **P 14 38 45.2 +0.7**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 72.04 312 *e*P **P 14 38 45.1 +0.4**
KIV pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 73.47 33 P **P 14 38 53.5 +0.6**
FFC IAmb IAmb 14 39 06.1
comp=Z,5.6nm,1.0s
FFC Flin Flon 73.47 33 P **P 14 38 53.5 +0.6**
FFC pmax pmax
comp=Z,6.0nm,1.0s
NACGM Naroch 73.70 327 *e*P **P 14 38 55.9 +1.6**
baz=49
NVAR Mina Array Bea 74.35 54 P **P 14 38 59.6 +0.9**
comp=Z,0.6nm,0.6s,baz=280,slow=7.0,SNR=4.5
comp=Z,0.6nm,0.6s
HFS Hagfors 74.94 336 P **P 14 39 03.0 +1.6**
comp=Z,3.2nm,0.8s,baz=150,slow=12,SNR=2.1
HFS LR LR 15 14 53.3
comp=Z,224nm,18.3s,baz=45,slow=38
comp=Z,3.2nm,0.8s
HFS Hagfors 74.94 336 P **P 14 39 03.0 +1.6**
NOA NORSAR Array B 75.02 338 P **P 14 39 02.6 +0.7**
comp=Z,3.0nm,0.9s,baz=38,slow=5.8,SNR=4.8
NOA LR LR 15 16 23.7
comp=Z,154nm,18.2s,baz=50,slow=39
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 75.33 323 P **P 14 39 04.7 +0.9**
comp=Z,4.0nm,0.8s,baz=49,slow=5.6,SNR=16

AKASG				LR	LR	15 15 01.0	
	comp=Z,108nm,18.1s,baz=48,slow=38						
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si**	**75.33**	**323**	*e*P	**P**	**14 39 03.9**	**+0.1**
AK23	**Malin Array Si**	**75.33**	**323**	P	**P**	**14 39 05.6**	**+1.8**
AK01	**Malin Array Si**	**75.34**	**323**	P	**P**	**14 39 04.1**	**+0.3**
KIEV	**Kiev**	**75.34**	**323**	P	**P**	**14 39 04.3**	**+0.5**
KIEV				pmax	pmax		
	comp=Z,15nm,1.8s						
KIEV	**Kiev**	**75.34**	**323**	P	**P**	**14 39 03.1**	**-0.7**
AK04	**Malin Array Si**	**75.34**	**323**	P	**P**	**14 39 03.4**	**-0.5**
AK18	**Malin Array Si**	**75.39**	**323**	P	**P**	**14 39 04.4**	**+0.3**
GURO	**Guroymak-BITLI**	**75.50**	**307**	P	**P**	**14 39 05.8**	**+0.5**
GURO				IAmb	IAmb	14 39 18.2	
	comp=Z,5.5nm,0.9s						
LUBAR	**Lubar, Ukraine**	**76.55**	**323**	P	**P**	**14 39 11.5**	**+0.7**
PDAR	**Pinedale Array**	**77.17**	**46**	P	**P**	**14 39 15.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=276,slow=1.3,SNR=4.1						
	comp=Z,0.4nm,0.7s						
BORG	**Borgarnes**	**78.22**	**353**	LR	LR	15 16 33.2	
	comp=Z,14nm,19.8s,baz=7,1.slow=38						
PFO	**Pinyon Flats O**	**78.35**	**57**	LR	LR	15 10 54.6	
	comp=Z,57nm,19.5s,baz=278,slow=33						
BUR08	**Bucovina Ar. S**	**79.33**	**322**	P	**P**	**14 39 27.3**	**+0.9**
KOLS	**Kolonicke sedl**	**79.83**	**325**	*e*P	**P**	**14 39 30.5**	**+1.5**
KOLS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KOLS	**Kolonicke sedl**	**79.83**	**325**	*e*P	**P**	**14 39 30.5**	**+1.5**
BRTR	**Keskin Array B**	**79.98**	**312**	P	**P**	**14 39 31.3**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=111,slow=5.4,SNR=4.6						
	comp=Z,0.9nm,0.8s						
OJC	**Ojcow**	**80.02**	**327**	P	**P**	**14 39 29.5**	**-0.5**
OJC				IAmb	IAmb	14 39 32.5	
	comp=Z,12nm,1.1s						
OJC	**Ojcow**	**80.02**	**327**	P	**P**	**14 39 29.5**	**-0.5**
OJC				pmax	pmax		
	comp=Z,12nm,1.1s						
PV10	**Paradox Valley**	**80.22**	**49**	P	**P**	**14 39 32.6**	**+1.0**
MLR	**Muntele Rosu**	**80.44**	**320**	LR	LR	15 21 07.9	
	comp=Z,120nm,18.2s,baz=42,slow=40						
URZ	**Urewera**	**80.95**	**153**	LR	LR	15 10 57.0	
	comp=Z,32nm,20.6s,baz=338,slow=32						
LANS	**Liptovska Anna**	**80.95**	**326**	*e*P	**P**	**14 39 37.1**	**+2.0**
LANS				pmax	pmax		
	comp=Z,4.0nm,1.3s						
LANS	**Liptovska Anna**	**80.95**	**326**	*e*P	**P**	**14 39 37.1**	**+2.0**
PSZ	**Piszkesteto**	**81.66**	**325**	P	**P**	**14 39 39.7**	**+0.8**
PSZ				IAmb	IAmb	14 39 51.3	
	comp=Z,11nm,1.2s						
PSZ	**Piszkesteto**	**81.66**	**325**	P	**P**	**14 39 39.7**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,11nm,1.2s						
CLL	**Collm**	**82.03**	**331**	*i* P	**P**	**14 39 41.4**	**+0.7**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	**Collm**	**82.03**	**331**	*i* P	**P**	**14 39 41.4**	**+0.7**
	comp=Z,7.0nm,0.9s						
VRAC	**Vranov**	**82.09**	**328**	LR	LR	15 19 53.3	
	comp=Z,148nm,18.0s,baz=16,slow=38						
MODS	**Modra-Piesok**	**82.50**	**327**	*e*P	**P**	**14 39 44.8**	**+1.6**
MODS	**Modra-Piesok**	**82.50**	**327**	*e*P	**P**	**14 39 44.8**	**+1.6**
ASF	**Jabal al Asfar**	**82.68**	**305**	LR	LR	15 20 32.4	
	comp=Z,39nm,19.4s,baz=355,slow=39						
PPT2	**Papeete2**	**83.45**	**117**	*e*LR	LR	15 05 31.3	
PPT2				*e*LR	LR	15 05 49.8	
	comp=Z,157nm,32.5s						
	comp=Z,120nm,29.8s						
KHC	**Kasperske Hory**	**83.50**	**329**	*e*P	**P**	**14 39 49.9**	**+1.5**
KHC	**Kasperske Hory**	**83.50**	**329**	*e*P	**P**	**14 39 49.9**	**+1.5**
GERES	**GERESS Array B**	**83.67**	**329**	LR	LR	15 18 53.3	
	comp=Z,49nm,19.6s,baz=45,slow=37						
TAOE	**Nuku Hiva Isla**	**84.98**	**105**	*e*LR	LR	15 06 34.0	
	comp=Z,109nm,23.9s						
SCHQ	**Schefferville**	**85.44**	**17**	LR	LR	15 24 39.4	
	comp=Z,56nm,18.1s,baz=74,slow=40						
EIL	**Elat**	**85.55**	**304**	LR	LR	15 21 32.9	
	comp=Z,52nm,19.2s,baz=60,slow=38						
DAVOX	**Davos/Dischmat**	**86.88**	**330**	LR	LR	15 23 00.5	
	comp=Z,148nm,18.2s,baz=82,slow=38						
TBI	**Tubuai**	**87.34**	**122**	*e*LR	LR	15 07 34.0	
	comp=Z,835nm,26.2s						
TBI				*e*LR	LR	15 07 43.5	
	comp=Z,1μm,31.2s						
TXAR	**Lajitas Array**	**89.50**	**53**	P	**P**	**14 40 19.1**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=321,slow=5.3,SNR=3.9						
	comp=Z,0.4nm,0.8s						
VAE	**Valguarnera**	**92.18**	**121**	LR	LR	15 25 48.5	
	comp=Z,111nm,19.4s,baz=198,slow=38						
KEST	**Kesra**	**96.05**	**324**	LR	LR	15 27 59.3	
	comp=Z,79nm,18.4s,baz=9.2,slow=38						
ESDC	**Sonseca Array**	**98.17**	**335**	LR	LR	15 29 52.6	
	comp=Z,106nm,19.6s,baz=356,slow=38						
LPAZ	**La Paz**	**145.93**	**62**	PKPbc	**PKPbc**	**14 47 01.4**	**0.0**
	comp=Z,2.6nm,1.0s,baz=9.2,slow=3.4,SNR=7.1						

*JMA **17** 14:34:57.7±0.2,25°N±2°×123°2E±0°7,h162km±2km, MV3.0/19,NW OFF ISHIGAKIJIMA IS*
ISC 17 14:34:57.0±1.8,**25°1**N±0°1×**123°15E**±0°05,**h161**km±14km, **n21**,σ0**°76**/32,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**192**	P	**Pn**	**14 35 20.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.63**	**192**	*e*P	**Pn**	**14 35 20.8**	**+0.5**
YOJ				*e*S	**Sn**	**14 35 38.0**	**-0.1**
JYNG	**Yonagunijimaku**	**0.66**	**197**	P	**Pn**	**14 35 20.9**	**+0.5**
JYNG				S	**Sn**	**14 35 38.3**	**0.0**
IRIF	**Iriomote-Funau**	**0.91**	**145**	*e*P	**Pn**	**14 35 22.4**	**+0.3**
IRIF				*e*S	**Sn**	**14 35 41.2**	**-0.3**
JKRS	**Kuro-shima**	**1.15**	**137**	P	**Pn**	**14 35 24.8**	**+0.7**
JKRS				*e*S	**Sn**	**14 35 44.7**	**-0.2**
JIJ	**Ishigaki jima**	**1.15**	**128**	P	**Pn**	**14 35 24.4**	**+0.3**
JIJ				*e*S	**Sn**	**14 35 43.5**	**-1.4**
JISG	**Ishigakijimahi**	**1.17**	**115**	P	**Pn**	**14 35 24.6**	**+0.4**
JISG				*e*S	**Sn**	**14 35 44.5**	**-0.6**
HATJ	**Hateruma jima**	**1.18**	**150**	*e*P	**Sn**	**14 35 45.0**	**-0.4**
JTJ	**Tarama**	**1.48**	**107**	*e*P	**Pn**	**14 35 28.1**	**+0.9**
JTJ				*e*S	**Sn**	**14 35 49.9**	**-0.4**
TATO	**Taipei**	**1.51**	**266**	P	**Pn**	**14 35 28.4**	**+0.9**
YHNB	**Yeheng**	**1.66**	**256**	P	**Pn**	**14 35 29.8**	**+0.6**
YHNB	**Yeheng**	**1.66**	**256**	S	**Sn**	**14 35 52.4**	**-1.5**
NACB	**Ninganchiao**	**1.68**	**238**	P	**Pn**	**14 35 29.4**	**+0.1**
JIRB	**Irabujima**	**1.85**	**97**	P	**Pn**	**14 35 31.6**	**+0.5**
JIRB				*e*S	**Sn**	**14 35 56.4**	**-1.0**
JMJ2	**Miyako jima3**	**2.01**	**99**	P	**Pn**	**14 35 33.9**	**+1.1**
JMJ2				*e*S	**Sn**	**14 36 00.4**	**-0.1**
JOGS	**Gusukube**	**2.07**	**98**	*e*P	**Pn**	**14 35 34.7**	**+1.1**
JOGS				*e*S	**Sn**	**14 36 01.3**	**-0.5**
SSLB	**Suanglung**	**2.38**	**238**	P	**Pn**	**14 35 38.4**	**+1.1**
YULB	**Yu-li**	**2.39**	**226**	P	**Pn**	**14 35 36.9**	**-0.4**
TPUB	**Ta-pu**	**2.91**	**233**	P	**Pn**	**14 35 44.9**	**+1.2**
TWGBT	**Beinan**	**2.95**	**220**	P	**Pn**	**14 35 44.0**	**-0.1**
JKE	**Kume jima 2**	**3.50**	**69**	*e*P	**Pn**	**14 35 50.8**	**-0.3**
JKE				*e*S	**Sn**	**14 36 32.8**	**-0.5**

*IDC **17** 14:38:34.3±2.7,34°88N×24°56E,h33km±13km,mb3.7/16, mbtmp3.9/20,ML3.7/4,MS3.0/1,Error ellipse: s-maj=30.0km s-min=17.0km az=13.0*
*ISK **17** 14:38:35.6,34°88N×24°80E,h26km,ML3.6/19*
*NEIC **17** 14:38:35.5±1.4,34°91N±0°09×24°66E±0°07,h32km±5km, mb4.4/34,Error ellipse: s-maj=13.7km s-min=8.0km az=198.0*
*MCSM **17** 14:38:37.4±2.4,35°N±13°×2°5E±°,h26km±2km,mb3.8, MLv3.9*
*THE **17** 14:38:38.7,35°03N×24°68E,h24km±1km,ML3.5/6,Error ellipse: s-maj=1.2km s-min=0.7km az=353.0*
*HLW **17** 14:38:38.7,34°64N×24°94E,h10km±11km,Ml3.3*
*ATH **17** 14:38:38.4,35°02N×24°71E,h22km,ML3.5/15,Manual Solution by A.Agalos First location: 2019/03/17 14:39:35, This location: 2019/03/17 14:57:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
ISC 17 14:38:35.5±0.9,**34°92N**±0°04×**24°73E**±0°02,**h34**km±2km, **n181**,σ1**§75**/206,**mb4.2**/29,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.16**	**10**	P	**Pb**	**14 38 43.2**	**+1.5**
TMBK				S	**Sb**	**14 38 47.1**	**+1.1**
TMBK	**Timbaki Herakl**	**0.16**	**10**	P	**Pb**	**14 38 42.9**	**+1.2**
IDI	**Anoyia**	**0.39**	**19**	Pg	**Pb**	**14 38 45.1**	**+0.5**
IDI				Sg	**Sb**	**14 38 51.8**	**+1.0**
IDI	**Anoyia**	**0.39**	**19**	P	**Pb**	**14 38 44.5**	**-0.1**
IDI				S	**Sb**	**14 38 51.8**	**+1.0**
IDI	**Anoyia**	**0.39**	**19**		**Pb**	**14 38 45.1**	**+0.5**
IDI	**Anoyia**	**0.39**	**19**	Pg	**Pb**	**14 38 45.4**	**+0.8**
	527nm,0.3s,baz=214,slow=12,SNR=1133						
IDI				Lg	Lg	14 38 52.1	
	1μm,0.3s,baz=252,slow=20,SNR=85						
IDI	**Anoyia**	**0.39**	**19**	P	**Pb**	**14 38 45.4**	**+0.8**
IDI				S	**Sb**	**14 38 50.5**	**-0.3**
IACM	**Heraklion**	**0.48**	**35**	P	**Pb**	**14 38 47.8**	**+2.1**
IACM				S	**Sb**	**14 38 53.9**	**+1.1**
IACM	**Heraklion**	**0.48**	**35**	P	**Pb**	**14 38 47.1**	**+1.4**
IACM				S	**Sb**	**14 38 52.9**	**+0.1**
PRNS	**Prines Rethymn**	**0.49**	**337**	P	**Pb**	**14 38 47.1**	**+1.2**
PRNS				S	**Sb**	**14 38 52.8**	**-0.2**
PRNS	**Prines Rethymn**	**0.49**	**337**	P	**Pb**	**14 38 47.0**	**+1.2**
PRNS				S	**Sb**	**14 38 52.7**	**-0.4**
GVD	**Gavdhos**	**0.54**	**262**	Pg	**Pn**	**14 38 47.9**	**+1.2**
GVD				Sg	**Sn**	**14 38 57.0**	**+2.5**
GVD	**Gavdhos**	**0.54**	**262**	P	**Pn**	**14 38 47.9**	**+1.2**
GVD				S	**Sn**	**14 38 57.1**	**+2.5**
	12μm,0.5s						
GVD	**Gavdhos**	**0.54**	**262**	P	**Pn**	**14 38 48.1**	**+1.5**
GVD				S	**Sn**	**14 38 56.9**	**+2.3**
CHNB	**Souda**	**0.79**	**316**	P	**Pn**	**14 38 52.3**	**+1.5**
CHNB				S	**Sn**	**14 39 01.7**	**+0.9**
CHAN	**Chania**	**0.83**	**317**	P	**Pb**	**14 38 52.5**	**+1.1**
CHAN				S	**Sn**	**14 39 01.7**	**0.0**
	2μm,0.8s						
CHAN	**Chania**	**0.83**	**317**	P	**Pb**	**14 38 52.6**	**+1.1**
CHAN				S	**Sn**	**14 39 01.9**	**+0.2**
KNDR	**Palaiochora Ch**	**0.92**	**291**	Pg	**Pb**	**14 38 54.7**	**+1.8**
KNDR				Sg	**Sb**	**14 39 08.9**	**+4.1**
KNDR	**Palaiochora Ch**	**0.92**	**291**	P	**Pb**	**14 38 54.4**	**+1.5**
KNDR				S	**Sb**	**14 39 07.0**	**+2.2**
	2μm,0.5s						
KNDR	**Palaiochora Ch**	**0.92**	**291**	P	**Pb**	**14 38 54.7**	**+1.8**
KNDR				S	**Sb**	**14 39 07.5**	**+2.7**
ZKR	**Zakros**	**1.23**	**80**	Pn	**Pb**	**14 38 58.2**	**0.0**
ZKR	**Zakros**	**1.23**	**80**	P	**Pb**	**14 39 00.3**	**+2.1**
ZKR				S	**Sb**	**14 39 16.0**	**+2.2**
	2μm,0.5s						
ZKR	**Zakros**	**1.23**	**80**	P	**Pb**	**14 39 00.3**	**+2.1**
ZKR				S	**Sb**	**14 39 16.6**	**+2.8**
ANKY	**Antikythira Is**	**1.51**	**309**	P	**Pb**	**14 39 02.1**	**-0.7**
ANKY				S	**Sn**	**14 39 19.9**	**+1.4**
	1μm,0.8s						
ANKY	**Antikythira Is**	**1.51**	**309**	P	**Pb**	**14 39 03.6**	**+0.8**
THR6	**Thira Island,**	**1.54**	**20**	P	**Pn**	**14 39 02.4**	**+1.9**
THR3	**Thira Island,**	**1.58**	**20**	P	**Pn**	**14 39 03.1**	**+2.0**
SAP3	**Santorini-Thir**	**1.59**	**18**	P	**Pn**	**14 39 03.5**	**+2.2**
SAP3				S	**Sn**	**14 39 23.3**	**+2.5**
THRA	**Thira**	**1.60**	**21**	P	**Pn**	**14 39 03.9**	**+2.5**
THR8	**Santorini-Mono**	**1.61**	**22**	P	**Pn**	**14 39 03.0**	**+1.6**
CMBO	**Columbo, Santo**	**1.64**	**19**	P	**Pb**	**14 39 04.7**	**-0.5**
CMBO	**Columbo, Santo**	**1.64**	**19**	P	**Pb**	**14 39 04.6**	**-0.5**
CMBO				S	**Sn**	**14 39 24.7**	**+2.8**
MHLO	**Agia Marina, M**	**1.79**	**351**	P	**Pn**	**14 39 05.5**	**+1.5**
MHLO				S	**Sn**	**14 39 26.6**	**+1.1**
	3μm,0.5s						
MHLO	**Agia Marina, M**	**1.79**	**351**	P	**Pn**	**14 39 05.7**	**+1.7**
KARP	**Karpathos**	**2.08**	**72**	P	**Pb**	**14 39 12.0**	**-0.6**
KARP	**Karpathos**	**2.08**	**72**	Pn	**Pn**	**14 39 10.9**	**+2.8**
KARP	**Karpathos**	**2.08**	**72**	P	**Pn**	**14 39 09.8**	**+1.7**
KARP				Sn	**Sn**	**14 39 35.7**	**+2.8**
KARP	**Karpathos**	**2.08**	**72**	P	**Pb**	**14 39 11.7**	**-0.9**
KARP				S	**Sb**	**14 39 36.8**	**-1.4**
ASTA	**Astypalaia**	**2.09**	**39**	P	**Pn**	**14 39 11.0**	**+2.8**
AMGA	**Amorgos Island**	**2.13**	**26**	P	**Pn**	**14 39 11.5**	**+2.9**
APE	**Apeiranthos**	**2.24**	**17**	Pn	**Pn**	**14 39 11.5**	**+1.2**
APE	**Apeiranthos**	**2.24**	**17**	P	**Pn**	**14 39 11.5**	**+1.2**
APE	**Apeiranthos**	**2.24**	**17**	P	**Pn**	**14 39 12.0**	**+1.7**
VLI	**Veliai**	**2.32**	**321**	P	**Pn**	**14 39 12.9**	**+1.7**
VLI	**Veliai**	**2.32**	**321**	P	**Pn**	**14 39 13.2**	**+2.0**
KRND	**KRANIDI**	**2.77**	**333**	P	**Pn**	**14 39 19.0**	**+1.5**
KRND	**KRANIDI**	**2.77**	**333**	P	**Pn**	**14 39 19.1**	**+1.6**
MET4	**Agioi Theodoro**	**2.91**	**339**	P	**Pn**	**14 39 21.1**	**+1.7**
MET5	**Makryloggos,Me**	**2.92**	**338**	P	**Pn**	**14 39 21.6**	**+2.1**
DAT	**Datca**	**2.93**	**51**	Pn	**Pn**	**14 39 21.6**	**+1.8**
BODT	**Bodrum**	**2.99**	**44**	Pn	**Pn**	**14 39 22.6**	**+2.1**
VLY	**Voula,Athens**	**3.03**	**346**	P	**Pn**	**14 39 23.4**	**+2.4**
ARG	**Arkhangelos**	**3.05**	**64**	Pn	**Pn**	**14 39 23.2**	**+1.8**
ARG	**Arkhangelos**	**3.05**	**64**	Pn	**Pn**	**14 39 22.6**	**+1.2**
KARY	**Karystos**	**3.12**	**356**	P	**Pn**	**14 39 23.9**	**+1.6**
ATHU	**Athens Univers**	**3.14**	**346**	P	**Pn**	**14 39 24.2**	**+1.7**
PTL	**Penteli**	**3.20**	**348**	P	**Pn**	**14 39 25.1**	**+1.7**
ITM	**Ithomi**	**3.21**	**316**	P	**Pn**	**14 39 24.9**	**+1.4**
ITM	**Ithomi**	**3.21**	**316**	Pn	**Pn**	**14 39 22.4**	**-1.1**
ITM	**Ithomi**	**3.21**	**316**	P	**Pn**	**14 39 25.3**	**+1.8**
DION	**Dionisos Attik**	**3.22**	**349**	P	**Pn**	**14 39 25.3**	**+1.6**
DION	**Dionisos Attik**	**3.22**	**349**	P	**Pn**	**14 39 25.2**	**+1.6**
TURN	**Turunc**	**3.40**	**56**	Pn	**Pn**	**14 39 28.6**	**+2.5**
LTK	**Loutraki**	**3.41**	**336**	P	**Pn**	**14 39 28.2**	**+1.9**
MLSB	**Milas**	**3.42**	**45**	Pn	**Pn**	**14 39 28.7**	**+2.3**
GCAM	**G?zelcaml?**	**3.43**	**35**	Pn	**Pn**	**14 39 28.9**	**+2.3**
SLUM	**Salum**	**3.44**	**173**	P	**Pn**	**14 39 28.0**	**+1.3**
VIL2	**Platees**	**3.49**	**341**	P	**Pn**	**14 39 28.2**	**+0.7**
AMT	**Artemida-Makis**	**3.58**	**318**	P	**Pn**	**14 39 31.1**	**+2.5**
GUR	**Goura**	**3.58**	**328**	P	**Pn**	**14 39 29.9**	**+1.2**
GUR	**Goura**	**3.58**	**328**	P	**Pn**	**14 39 30.1**	**+1.4**
YER	**Yerkesik**	**3.63**	**51**	Pn	**Pn**	**14 39 31.9**	**+2.6**
DALY	**Dalyan (Mula)**	**3.71**	**58**	Pn	**Pn**	**14 39 32.4**	**+2.1**
KLV	**Kalavryta, Ach**	**3.75**	**327**	P	**Pn**	**14 39 32.8**	**+1.8**
DRO	**Drossia**	**3.89**	**322**	P	**Pn**	**14 39 35.7**	**+2.9**
BLCB	**Balcova**	**3.93**	**28**	Pn	**Pn**	**14 39 36.3**	**+2.9**
FETY	**Fethiye**	**3.93**	**63**	Pn	**Pn**	**14 39 35.4**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**3.95**	**39**	Pn	**Pn**	**14 39 36.3**	**+2.5**
LKR	**Lokris**	**3.98**	**340**	P	**Pn**	**14 39 35.7**	**+1.6**
AKAS	**Kas**	**4.18**	**70**	Pn	**Pn**	**14 39 39.2**	**+2.2**
AKAS	**Kas**	**4.18**	**70**	Pn	**Pn**	**14 39 38.7**	**+1.7**
CAME	**Cameli-Denizli**	**4.22**	**60**	Pn	**Pn**	**14 39 39.9**	**+2.3**
ODEM	**Odemis-Izmir**	**4.30**	**38**	Pn	**Pn**	**14 39 41.3**	**+2.8**
ELL	**Elmali**	**4.58**	**65**	Pn	**Pn**	**14 39 44.9**	**+2.4**
DB3	**El Dabaa**	**5.02**	**139**	P	**Pn**	**14 39 49.0**	**+0.6**
LIT	**Litokhoron**	**5.47**	**342**	Pn	**Pn**	**14 39 55.9**	**+1.3**
LIT	**Litokhoron**	**5.47**	**342**	P	**Pn**	**14 39 55.9**	**+1.3**
SWA2		**5.69**	**174**	P	**Pn**	**14 39 58.9**	**+1.3**
SWA2				S	**Sn**	**14 40 57.9**	**-3.9**
KEK	**Kerkira**	**6.20**	**322**	Pn	**Pn**	**14 40 04.0**	**-0.5**
CSS	**Mathiatis**	**7.06**	**87**	Pn	**Pn**	**14 40 17.1**	**+0.7**
BR105	**Keskin Array S**	**8.54**	**53**	P	**Pn**	**14 40 39.5**	**+2.6**
	2.8nm,0.9s						
BR106	**Keskin Array S**	**8.55**	**53**	P	**Pn**	**14 40 38.5**	**+1.5**
	2.6nm,1.0s						
BR104	**Keskin Array S**	**8.55**	**53**	P	**Pn**	**14 40 38.3**	**+1.3**
	3.0nm,0.8s						
BRTR	**Keskin Array B**	**8.56**	**53**	Pn	**Pn**	**14 40 41.1**	**+4.0**
	0.2nm,0.3s,baz=233,slow=13,SNR=5.2						
	1.1nm,0.6s						
CUC	**Castrocucco**	**8.71**	**308**		**Pn**	**14 40 37.7**	**-1.4**
VAE	**Valguarnera**	**8.73**	**290**	Sn	**Sn**	**14 42 14.3**	**-2.2**
	1.2nm,0.3s,baz=209,slow=10.0,SNR=5.1						
EIL	**Elat**	**10.10**	**118**	Pn	**Pn**	**14 40 57.9**	**-0.2**
	0.6nm,0.3s,baz=315,slow=8.6,SNR=2.3						
	2.8nm,0.4s						
MLR	**Muntele Rosu**	**10.60**	**5**	Pn	**Pn**	**14 41 09.5**	**+4.5**
	0.4nm,0.3s,baz=160,slow=8.7,SNR=4.6						
SORM	**Soroca**	**13.48**	**10**	P	**Pn**	**14 41 44.9**	**+0.7**
	9.4nm,2.3s						
HOLU	**Holmets**	**13.71**	**353**	P	**Pn**	**14 41 48.1**	**+0.7**
CIMO	**Cimolais**	**14.70**	**324**	P	**P**	**14 42 07.5**	**+0.9**
KBA	**Koelnbreinsper**	**14.86**	**328**	*e*P	**P**	**14 42 09.9**	**+1.3**
	1.8nm,0.6s						
ABTA	**Abfaltersbach**	**14.98**	**326**	*e*P	**P**	**14 42 10.8**	**+0.9**
	2.3nm,0.6s						
MOA	**Molln**	**15.10**	**332**	*i* P	**P**	**14 42 11.5**	**+0.4**
	2.3nm,0.6s						
LUBAR	**Lubar, Ukraine**	**15.16**	**7**	P	**Pn**	**14 42 07.8**	**+0.9**
LESA	**Schwarzleotal**	**15.42**	**328**	*i* P	**P**	**14 42 15.5**	**+0.8**
	2.2nm,0.5s						
WATA	**Walderalm**	**15.85**	**325**	*e*P	**P**	**14 42 20.3**	**+0.7**
	1.1nm,0.3s						
AK07	**Malin Array Si**	**15.96**	**10**	P	**Pn**	**14 42 18.2**	**+0.9**
AK06	**Malin Array Si**	**15.99**	**10**	P	**Pn**	**14 42 18.6**	**+0.9**
FUORN	**Ofenpass-Fuorn**	**15.99**	**321**	P	**P**	**14 42 21.8**	**+0.5**
AK13	**Malin Array Si**	**16.00**	**10**	P	**Pn**	**14 42 18.7**	**+0.9**
AK10	**Malin Array Si**	**16.02**	**10**	P	**Pn**	**14 42 18.9**	**+0.9**
AK14	**Malin Array Si**	**16.02**	**10**	P	**Pn**	**14 42 18.4**	**+0.3**
AK05	**Malin Array Si**	**16.03**	**10**	P	**Pn**	**14 42 19.3**	**+1.1**
AK09	**Malin Array Si**	**16.04**	**11**	P	**Pn**	**14 42 19.4**	**+1.1**
KIEV	**Kiev**	**16.10**	**10**	Pn	**Pn**	**14 42 20.0**	**+0.9**
KIEV	**Kiev**	**16.10**	**10**	P	**Pn**	**14 42 20.2**	**+1.1**
AKASG	**Malin Array Be**	**16.11**	**10**	Pn	**Pn**	**14 42 18.8**	**-0.4**
AKASG	**Malin Array Be**	**16.11**	**10**	Pn	**Pn**	**14 42 19.8**	**+0.5**
	2.7nm,0.3s,baz=203,slow=11,SNR=13						
	1.3nm,0.4s						
AKBB	**Malin Array Si**	**16.11**	**10**	Pn	**Pn**	**14 42 19.8**	**+0.6**
AKBB	**Malin Array Si**	**16.11**	**10**	P	**Pn**	**14 42 20.2**	**+1.0**
AK20	**Malin Array Si**	**16.12**	**10**	P	**Pn**	**14 42 20.4**	**+1.1**
GEC2	**GERESS Array S**	**16.14**	**333**	P	**P**	**14 42 22.7**	**+0.1**
GERES	**GERESS Array B**	**16.14**	**333**	P	**P**	**14 42 22.8**	**+0.2**
GERES	**GERESS Array B**	**16.14**	**333**	Pn	**P**	**14 42 22.2**	**-0.4**
	0.3nm,0.3s,baz=150,slow=11,SNR=5.7						
MI28	**Mi28,Pidlybu**	**16.15**	**7**	P	**Pn**	**14 42 20.7**	**+1.0**
AK23	**Malin Array Si**	**16.16**	**10**	P	**Pn**	**14 42 20.8**	**+1.0**
RNPP9	**Sopachiv**	**16.51**	**3**	P	**Pn**	**14 42 25.3**	**+1.0**
KBZ	**Khabaz**	**16.56**	**52**	Pn	**P**	**14 42 28.4**	**+1.3**
	0.2nm,0.3s,baz=230,slow=8.9,SNR=6.0						
	6.6nm,1.0s						
GNI	**Garni**	**16.70**	**66**	LR	LR	14 50 02.7	
	comp=Z,53nm,19.0s,baz=260,slow=41						
SENIN	**Lac Senin/Sane**	**17.45**	**316**		**Pn**	**14 42 36.3**	**0.0**
SENIN				IAmb	IAmb	14 42 55.1	
	comp=Z,56nm,1.4s						
NACGM	**Naroch**	**20.04**	**3**	*e*P	**P**	**14 43 03.4**	**-1.9**
	baz=185						
ESDC	**Sonseca Array**	**23.27**	**290**	P	**P**	**14 43 38.5**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=91,slow=10,SNR=2.2						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**26.23**	**347**	P	**P**	**14 44 05.7**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=151,slow=10,SNR=9.6						
	comp=Z,1.7nm,0.4s						
FINES	**FINESS Array B**	**26.56**	**1**	P	**P**	**14 44 07.6**	**-2.3**
	comp=Z,3.2nm,0.7s,baz=158,slow=12,SNR=13						
	comp=Z,3.2nm,0.7s						
FIA1	**FINESS Array S**	**26.56**	**1**	P	**P**	**14 44 07.6**	**-2.4**
FIA1				IAmb	IAmb	14 44 37.5	
	comp=Z,15nm,1.1s						
NOA	**NORSAR Array B**	**27.55**	**346**	P	**P**	**14 44 17.7**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=148,slow=11,SNR=3.3						
	comp=Z,1.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**28.04**	**325**	P	**P**	**14 44 22.4**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=121,slow=10,SNR=7.7						
	comp=Z,0.9nm,0.5s						
UOSS	**Minazif**	**28.92**	**102**	P	**P**	**14 44 31.4**	**-0.1**
ARTI	**Arti**	**31.35**	**36**	P	**P**	**14 44 51.9**	**-0.7**
ARTI				IAmb	IAmb	14 45 31.1	
	comp=Z,6.6nm,1.4s						
ARCES	**ARCESS Array B**	**34.67**	**0**	P	**P**	**14 45 19.1**	**-2.4**
	comp=Z,3.1nm,0.9s,baz=177,slow=9.7,SNR=5.6						
	comp=Z,3.1nm,0.9

JHYU	**Hitachinakayam**	**1.82 265**	*i* P		**Pn**	**14 48 54.1**	**-1.3**
JHYU			*e*S		**Sn**	**14 49 15.8**	**-1.7**
JHO	**Hitachi**	**1.83 273**	P		**Pn**	**14 48 53.7**	**-1.7**
JMM	**Marumori**	**2.11 310**			**Pn**	**14 48 57.2**	**-2.1**
JMM	**Marumori**	**2.11 310**	P		**Pn**	**14 48 57.7**	**-1.6**
JMM	**Marumori**	**2.11 310**	S		**Sn**	**14 49 23.1**	**-1.4**
JOTO	**OTAMA OYAMA**	**2.25 298**	*i* P		**Pn**	**14 49 00.4**	**-0.9**
JOTO			S		**Sn**	**14 49 27.1**	**-1.1**
BSO1	**Boso 1**	**2.41 220**	*e*P		**Pn**	**14 49 02.6**	**-0.3**
JAG	**Ashikaga**	**2.73 269**	*i* P		**Pn**	**14 49 06.6**	**-1.3**
JAG			*e*S		**Sn**	**14 49 37.0**	**-2.9**
JMK	**Ichinoseki**	**2.74 333**	P		**Pn**	**14 49 06.4**	**-1.5**
JYK	**Kaneyama**	**3.09 321**	P		**Pn**	**14 49 11.4**	**-1.4**
JOM	**Ohasama**	**3.18 338**	P		**Pn**	**14 49 12.2**	**-1.9**
JRY	**Ryogami san**	**3.22 262**	P		**Pn**	**14 49 13.4**	**-1.3**
JOD2	**Odawara 2**	**3.29 249**	*e*P		**Pn**	**14 49 13.9**	**-1.7**
JAW	**Awa shima**	**3.44 305**	*e*P		**Pn**	**14 49 19.6**	**+2.0**
JYN	**Shimob**	**3.63 255**	P		**Pn**	**14 49 20.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.73 272**	Pn		**Pn**	**14 49 21.4**	**-0.2**
	2.1nm,0.3s,baz=90,slow=9.6,SNR=134						
MJAR			Sn		**Sn**	**14 50 02.7**	**-1.8**
	1.0nm,0.3s,baz=95,slow=13,SNR=5.7						
MJAR			LR		LR	14 51 06.4	
	comp=Z,830nm,21.4s,baz=64,slow=44						
	70nm,0.9s						
MAJO	**Matsushiro**	**3.73 272**			**Pn**	**14 49 21.3**	**-0.4**
MAJO	**Matsushiro**	**3.73 272**	P		**Pn**	**14 49 21.9**	**+0.3**
MAJO	**Matsushiro**	**3.73 272**	*ce*P		**Pn**	**14 49 22.0**	**+0.3**
MAJO			pmax		pmax		
	comp=Z,98nm,0.8s						
MAT	**Matsushiro**	**3.73 272**	P		**Pn**	**14 49 21.8**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.73 272**			**Pn**	**14 49 21.2**	**-0.5**
JSD	**Sado**	**3.95 294**			**Pn**	**14 49 23.8**	**-0.8**
JSD	**Sado**	**3.95 294**	P		**Pn**	**14 49 24.5**	**-0.1**
JSD	**Sado**	**3.95 294**	P		**Pn**	**14 49 24.2**	**-0.4**
JANG	**Nango**	**3.98 345**	*e*S		**Sn**	**14 50 06.9**	**-3.8**
JHJ2	**Mitsune**	**4.22 217**	P		**Pn**	**14 49 29.4**	**+1.1**
JHJ	**Hachijo jima 2**	**4.23 217**	Pn		**Pn**	**14 49 27.4**	**-1.1**
	comp=Z,43nm,0.3s,baz=79,slow=23,SNR=7.4						
JHJ			Sn		**Sn**	**14 50 13.8**	**-3.1**
	comp=Z,48nm,0.3s,baz=28,slow=23,SNR=2.9						
	comp=Z,169nm,0.9s						
JTM	**Tenmabayashi**	**4.47 343**	Pn		**Pn**	**14 49 31.0**	**-0.8**
JTM	**Tenmabayashi**	**4.47 343**	P		**Pn**	**14 49 31.5**	**-0.3**
JTM	**Tenmabayashi**	**4.47 343**	S		**Sn**	**14 50 20.9**	**-1.9**
JSZ	**Suzu**	**4.47 283**	P		**Pn**	**14 49 32.2**	**+0.3**
JGF	**Kuroka**	**4.53 260**			**Pn**	**14 49 33.5**	**+0.8**
JGF	**Kuroka**	**4.53 260**	P		**Pn**	**14 49 33.5**	**+0.8**
INU	**Inuyama**	**4.87 258**			**Pn**	**14 49 37.4**	**+0.2**
INU	**Inuyama**	**4.87 258**	P		**Pn**	**14 49 38.1**	**+0.9**
ERM	**Erimo**	**5.49 3**	Pn		**Pn**	**14 49 43.1**	**-2.7**
ERM	**Erimo**	**5.49 3**	P		**Pn**	**14 49 43.2**	**-2.5**
ERM	**Erimo**	**5.49 3**	*de*P		**Pn**	**14 49 42.9**	**-2.8**
JEM	**Erimo**	**5.49 3**	P		**Pn**	**14 49 43.3**	**-2.4**
JKA	**Kamikawa-asahi**	**7.58 359**	Pn		**Pn**	**14 50 12.6**	**-1.9**
ASAJ	**Asahikawa**	**7.58 359**	Pn		**Pn**	**14 50 13.0**	**-1.5**
	comp=Z,6.1nm,0.3s,baz=219,slow=13,SNR=41						
ASAJ			Sn		**Sn**	**14 51 35.4**	**-4.1**
	comp=Z,3.3nm,0.3s,baz=76,slow=30,SNR=6.6						
	comp=Z,16nm,0.4s						
JMN	**Monobe**	**7.85 252**	Pn		**Pn**	**14 50 18.3**	**0.0**
JMN	**Monobe**	**7.85 252**	P		**Pn**	**14 50 19.7**	**+1.4**
JCJ	**Chichijima**	**9.42 184**	Pn		**Pn**	**14 50 37.5**	**-2.4**
	comp=Z,8.3nm,0.3s,baz=11,slow=16,SNR=1.8						
JCJ			Sn		Sn	14 52 08.3	-16
	comp=Z,8.0nm,0.3s,baz=58,slow=22,SNR=1.8						
	comp=Z,50nm,0.5s						
KUR	**Kuril'sk**	**9.49 22**	P		**Pn**	**14 50 36.2**	**-4.5**
TEY	**Ternei**	**9.72 333**	*e*P		**Pn**	**14 50 44.7**	**+0.9**
JNU	**Nakatsue**	**10.40 254**	Pn		**Pn**	**14 50 52.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=42,slow=10,SNR=5.0						
JNU			LR		LR	14 55 29.8	
	comp=Z,280nm,21.2s,baz=72,slow=41						
	comp=Z,14nm,1.0s						
YSS	**Yuzhno-Sakhali**	**10.42 360**	Pn		**Pn**	**14 50 51.0**	**-2.3**
YSS	**Yuzhno-Sakhali**	**10.42 360**	*e*P		**Pn**	**14 50 53.3**	**-0.1**
YSS			*e*S		**Sn**	**14 52 43.8**	**-5.2**
YSS			pmax		pmax		
	comp=Z,40nm,0.9s						
YSS			smax		smax		
	comp=N,30nm,0.9s						
YSS			smax		smax		
	comp=E,10.0nm,0.7s						
YSS			MLR		MLR		
	comp=Z,400nm,15.0s						
PSTR	**Posyet**	**11.11 307**⇓	*e*P		**Pn**	**14 51 02.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**11.27 316**	Pn		**Pn**	**14 51 06.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=4.7						
USRK			LR		LR	14 55 01.7	
	comp=Z,246nm,20.5s,baz=150,slow=35						
	comp=Z,2.4nm,0.6s						
KSRS	**Korea Array**	**11.96 279**	Pn		**Pn**	**14 51 14.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=22						
KSRS			LR		LR	14 55 44.8	
	comp=Z,147nm,18.5s,baz=85,slow=37						
	comp=Z,6.4nm,1.0s						
KSAR	**Wonju Array Be**	**11.99 279**	Pn		**Pn**	**14 51 15.0**	**0.0**
KSAR	**Wonju Array Be**	**11.99 279**	P		**Pn**	**14 51 15.0**	**0.0**
TJN	**Taejon**	**12.46 274**⇓	*e*P		**Pn**	**14 51 21.9**	**+0.5**
TYV	**Tymovskoe**	**14.33 360**	*e*P		**Pn**	**14 51 48.4**	**+1.6**
TYV			pmax		pmax		
	comp=Z,200nm,4.5s						
TYV			pmax		pmax		
	comp=Z,10.0nm,1.0s						
GRNR	**Gornyy**	**14.96 344**⇓	*i* P		**Pn**	**14 51 51.9**	**-3.5**
GRNR			pmax		pmax		
	comp=Z,1.0nm,0.9s						
GRNR			MLR		MLR		
	comp=E,430nm,15.0s						
GRNR			MLR		MLR		
	comp=Z,460nm,15.0s						
GRNR			MLR		MLR		
	comp=N,260nm,14.0s						
KLR	**Kul'dur**	**15.05 331**	Pn		**Pn**	**14 51 54.6**	**-1.9**
	comp=N,0.1nm,0.3s,baz=129,slow=12,SNR=5.8						
KLR			LR		LR	14 57 29.5	
	comp=N,154nm,19.3s,baz=148,slow=36						
	comp=N,1.5nm,0.7s						
KLR	**Kul'dur**	**15.05 331**	*e*P		**Pn**	**14 51 53.9**	**-2.6**
KLR			pmax		pmax		
	comp=Z,7.0nm,1.0s						
CN2	**Changchun**	**15.13 304**	P		**Pn**	**14 51 57.1**	**-0.6**
CN2			pmax		pmax		
	comp=Z,10.0nm,0.6s						
CN2			LR		LR		
	comp=Z,700nm,12.0s						
CN2			LR		LR		
	comp=Z,700nm,12.0s						
CN2			LR		LR		
	comp=Z,600nm,13.0s						
JOW	**Kunigami**	**15.70 236**	LR		LR	14 58 41.2	
	comp=Z,122nm,18.8s,baz=89,slow=40						
HEH	**HeiHe**	**17.66 326**	*e*P		**Pn**	**14 52 26.8**	**-3.0**
HEH			pmax		pmax		
	comp=Z,4.0nm,1.3s						
HEH			LR		LR		
	comp=Z,520nm,10.8s						
HEH			LR		LR		
	comp=Z,540nm,13.5s						
HEH			LR		LR		
	comp=Z,850nm,12.1s						
PEA0B	**Petropavlovsk-**	**19.58 27**	P		**P**	**14 52 50.3**	**-1.2**
PEA0B	**Petropavlovsk-**	**19.58 27**	P		**P**	**14 52 50.3**	**-1.2**
PEA0B			pmax		pmax		
	comp=Z,13nm,1.0s						
PETK	**Petropavlovsk-**	**19.58 27**	P		**Pn**	**14 52 50.7**	**-2.3**
PETK	**Petropavlovsk-**	**19.58 27**	P		**Pn**	**14 52 51.8**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=168,slow=7.6,SNR=4.0						
PETK			LR		LR	15 03 34.4	
	comp=Z,107nm,18.0s,baz=217,slow=46						
ZEA	**Zeya**	**20.34 333**	*e*P		Pn	14 52 59.6	-2.4
ZEA			pmax		pmax		
	comp=E,10.0nm,0.9s						
ZEA			pmax		pmax		
	comp=N,10.0nm,0.8s						
ZEA			pmax		pmax		
	comp=Z,20nm,0.8s						
ZEA			MLR		MLR		
	comp=E,300nm,16.0s						
ZEA			MLR		MLR		
	comp=Z,500nm,16.0s						
TIA	**Tai'an**	**20.69 277**	P		**P**	**14 53 01.8**	**-2.0**
TIA			pmax		pmax		
	comp=Z,6.0nm,1.0s						
TIA			pmax		pmax		
	comp=Z,230nm,5.3s						
TIA			LR		LR		
	comp=Z,730nm,13.1s						
TIA			LR		LR		
	comp=Z,490nm,13.7s						
TIA			LR		LR		
	comp=Z,610nm,14.3s						
XLT	**XiLinHaoTe**	**21.66 298**	*e*P		**P**	**14 53 12.3**	**-1.9**
XLT			pP		pP	14 53 16.8	-3.7
XLT			sP		sP	14 53 23.0	-0.6
XLT			pmax		pmax		
	comp=Z,27nm,1.2s						
XLT			pmax		pmax		
	comp=Z,86nm,5.4s						
XLT			LR		LR		
	comp=Z,670nm,13.6s						
XLT			LR		LR		
	comp=Z,690nm,14.0s						
HNS	**HongShan**	**22.46 281**	⇓P		**P**	**14 53 20.4**	**-2.4**
HNS			pmax		pmax		
	comp=Z,15nm,0.9s						
HNS			LR		LR		
	comp=Z,430nm,12.6s						
HNS			LR		LR		
	comp=Z,510nm,14.0s						
HNS			LR		LR		
	comp=Z,620nm,14.7s						
MA2	**Magadan**	**23.63 10**	P		**P**	**14 53 34.0**	**-0.4**
MA2			IAmb		IAmb	14 53 46.4	
	comp=Z,14nm,0.8s						
MA2	**Magadan**	**23.63 10**	LR		LR	15 03 40.0	
	comp=Z,128nm,18.4s,baz=204,slow=39						
MA2	**Magadan**	**23.63 10**	*ce*P		**P**	**14 53 34.6**	**+0.2**
MA2			pmax		pmax		
	comp=Z,5.0nm,0.8s						
MA2	**Magadan**	**23.63 10**	P		**P**	**14 53 34.3**	**-0.1**
	comp=Z,18nm,0.8s						
WHN	**Wuhan**	**24.43 264**	⇑P		**P**	**14 53 41.8**	**-0.4**
WHN			LR		LR		
	comp=Z,700nm,9.7s						
WHN			LR		LR		
	comp=Z,990nm,14.5s						
WHN			LR		LR		
	comp=Z,1μm,16.2s						
HHC	**Hu-ho-hao-te**	**24.71 290**	*e*P		**P**	**14 53 43.8**	**-1.0**
HHC			sS		sS	14 58 15.1	-2.4
HHC			pmax		pmax		
	comp=Z,28nm,0.6s						
HHC			pmax		pmax		
	comp=Z,110nm,5.2s						
HHC			LR		LR		
	comp=Z,190nm,13.0s						
HHC			LR		LR		
	comp=Z,260nm,14.5s						
HHC			LR		LR		
	comp=Z,230nm,13.0s						
LYN	**LuoYang**	**24.74 274**	P		**P**	**14 53 45.3**	**+0.3**
LYN			pmax		pmax		
	comp=Z,38nm,0.7s						
LYN			LR		LR		
	comp=Z,300nm,11.7s						
LYN			LR		LR		
	comp=Z,800nm,12.7s						
LYN			LR		LR		
	comp=Z,820nm,12.7s						
CIT	**Chita**	**25.83 316**	*e*P		**P**	**14 53 56.0**	**+1.3**
CIT			*e*			14 54 07.0	
CIT			*e*			14 54 33.6	
CIT			*e*			14 54 45.4	
CIT			*e*			14 57 27.0	
CIT			pmax		pmax		
	comp=Z,130nm,1.4s						
YAK	**Yakutsk**	**26.82 346**	P		**P**	**14 54 03.1**	**-0.3**
YAK	**Yakutsk**	**26.82 346**	*e*P		**P**	**14 54 03.4**	**-0.1**
YAK			*e**PP		**sP**	**14 54 12.2**	**-0.6**
YAK			*e*			14 54 42.9	
YAK			*e*S		**S**	**14 58 40.1**	**+2.5**
YAK			*e**SS		**sS**	**14 58 52.4**	**+2.9**
YAK			*e*SS		**SnSn**	**14 59 42.7**	**-0.4**
YAK			pmax		pmax		
	comp=Z,21nm,0.9s						
YAK			pmax		pmax		
	comp=N,5.0nm,1.2s						
YAK			pmax		pmax		
	comp=E,2.0nm,1.0s						
YAK			pmax		pmax		
	comp=Z,367nm,8.8s						
YAK			pmax		pmax		
	comp=N,203nm,6.4s						
YAK			pmax		pmax		
	comp=E,135nm,5.4s						
YAK			smax		smax		
	comp=N,72nm,4.4s						
YAK			smax		smax		
	comp=E,38nm,2.9s						
YAK			MLR		MLR		
	comp=Z,367nm,18.0s						
YAK			MLR		MLR		
	comp=N,213nm,16.0s						
YAK			MLR		MLR		
	comp=E,102nm,17.0s						
H11N2	**WAKE ISLAND Hy**	**26.91 122**	T		T	15 22 12.1	
	baz=314,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**26.92 122**	T		T	15 22 13.7	
	baz=314,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**26.93 122**	T		T	15 22 14.4	
	baz=314,slow=75,SNR=22						
SEY	**Seymchan**	**27.08 10**⇓	*e*P		**P**	**14 54 07.3**	**+1.5**
SEY			pmax		pmax		
	comp=Z,6.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**27.23 44**	LR		LR	15 04 13.2	
	comp=Z,42nm,19.5s,baz=54,slow=35						
H11S1	**WAKE ISLAND Hy**	**27.63 124**	T		T	15 23 09.4	
	baz=316,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**27.63 124**	T		T	15 23 03.6	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.64 124**	T		T	15 23 11.5	
	baz=316,slow=76,SNR=11						
XAN	**Xi'an**	**27.71 275**	⇑P		**P**	**14 54 11.4**	**-0.5**
XAN			pP		sP	14 54 21.6	+0.3
XAN			pmax		pmax		
	comp=Z,18nm,1.0s						
BOD	**Bodaibo**	**28.57 327**	*e*P		**P**	**14 54 22.2**	**+3.1**
BOD			pmax		pmax		
	comp=Z,50nm,1.2s						
ULN	**Ulaanbaatar**	**28.58 305**	P		**P**	**14 54 20.1**	**+0.5**
ULN			IAmb		IAmb	14 54 32.5	
	comp=Z,19nm,1.1s						
ULN	**Ulaanbaatar**	**28.58 305**	*ce*P		**P**	**14 54 21.0**	**+1.4**
ULN			pmax		pmax		
	comp=Z,13nm,1.3s						
SONM	**Songino Array**	**29.01 304**	P		**P**	**14 54 24.2**	**+0.8**
SONM			IAmb		IAmb	14 54 36.3	
	comp=Z,18nm,1.0s						
SONM	**Songino Array**	**29.01 304**	P		**P**	**14 54 24.9**	**+1.5**
	comp=Z,7.4nm,1.0s,baz=108,slow=9.3,SNR=36						
SONM			LR		LR	15 04 33.2	
	comp=Z,76nm,20.5s,baz=138,slow=33						
	comp=Z,7.4nm,1.0s						
LZH	**Lanzhou**	**31.28 281**	*e*P		**P**	**14 54 44.3**	**+0.7**
LZH			sP		sP	14 54 51.4	-1.7
LZH			pmax		pmax		
	comp=Z,20nm,1.2s						
LZH			LR		LR		
	comp=Z,380nm,12.4s						
LZH			LR		LR		
	comp=Z,600nm,12.0s						
LZH			LR		LR		
	comp=Z,610nm,12.7s						
ZAK	**Zakamensk**	**31.48 309**	*e*P		**P**	**14 54 45.4**	**+0.3**
ZAK			pmax		pmax		
	comp=Z,7.0nm,1.3s						
MOY	**Mondy**	**33.13 311**	*e*P		**P**	**14 55 00.2**	**+0.6**
QIZ	**Qiongzhong**	**33.78 248**	P		**P**	**14 55 03.4**	**-2.0**
QIZ			pmax		pmax		
	comp=Z,24nm,1.7s						
QIZ			LR		LR		
	comp=Z,310nm,15.1s						
QIZ			LR		LR		
	comp=Z,240nm,13.7s						
QIZ			LR		LR		
	comp=Z,220nm,13.1s						
BILL	**Bilibino**	**34.20 15**⇑	*e*P		**P**	**14 55 09.3**	**+0.7**
BILL			pmax		pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**35.93 353**	P		**P**	**14 55 23.8**	**+0.4**
TIXI	**Tiksi**	**35.93 353**⇓	*e*P		**P**	**14 55 24.0**	**+0.6**
TIXI			pmax		pmax		
	comp=Z,9.0nm,3.0s						
PZH	**PanZhiHua**	**36.20 266**	P		**P**	**14 55 27.5**	**+1.1**
PZH			S		**S**	**15 01 05.4**	**+0.6**
PZH			pmax		pmax		
	comp=Z,10.0nm,0.6s						
PZH			pmax		pmax		
	comp=Z,140nm,6.1s						
PZH			LR		LR		
	comp=Z,210nm,14.7s						
PZH			LR		LR		
	comp=Z,290nm,13.7s						
PZH			LR		LR		
	comp=Z,330nm,13.9s						
GOMU	**GeErMu**	**38.35 284**	P		**P**	**14 55 44.1**	**-0.7**
GOMU			pP		pP	14 55 47.9	-3.7
GOMU			pmax		pmax		
	comp=Z,10.0nm,1.3s						
GOMU			LR		LR		
	comp=Z,290nm,15.3s						
GOMU			LR		LR		
	comp=Z,460nm,13.5s						
GOMU			LR		LR		
	comp=Z,520nm,14.2s						
CMAR	**Chiang Mai Arr**	**42.48 257**	P		**P**	**14 56 19.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=40,slow=5.4,SNR=7.0						
CMAR			LR		LR	15 15 11.3	
	comp=Z,67nm,18.4s,baz=120,slow=38						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.48 257**	*i* P		**P**	**14 56 20.8**	**+2.0**
CMAR			pmax		pmax		
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.10 313**	P		**P**	**14 56 23.2**	**-0.1**
ZALV	**Zalesovo Beam**	**43.10 313**	P		**P**	**14 56 23.9**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=89,slow=7.7,SNR=15						
ZALV			LR		LR	15 15 18.2	
	comp=Z,81nm,18.6s,baz=70,slow=38						
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**43.10 313**	*i* P		**P**	**14 56 24.0**	**+0.7**
ZALV			pmax		pmax		
	comp=Z,4.0nm,0.8s						
NRIK	**Noril'sk**	**44.20 335**	LR		LR	15 16 16.0	
	comp=Z,158nm,18.0s,baz=99,slow=38						
NRIK	**Noril'sk**	**44.20 335**⇑	*e*P		**P**	**14 56 32.7**	**+0.7**
NRIK			pmax		pmax		
	comp=Z,8.0nm,1.4s						
G19K	**Purcell Mounta**	**45.19 30**	IAmb		IAmb	14 56 41.7	
	comp=Z,11nm,1.4s						
H19K	**Roundabout Mou**	**45.34 31**	IAmb		IAmb	14 56 54.8	
	comp=Z,9.3nm,1.1s						
MK31	**Makanchi Array**	**45.35 303**	IAmb		IAmb	14 56 53.6	
	comp=Z,6.4nm,1.0s						
MK31	**Makanchi Array**	**45.35 303**	*c i* P		**P**	**14 56 41.7**	**+0.2**
MKAR	**Makanchi Array**	**45.35 303**	P		**P**	**14 56 41.7**	**+0.1**
MKAR	**Makanchi Array**	**45.35 303**	P		**P**	**14 56 42.2**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=88,slow=9.5,SNR=39						
MKAR			LR		LR	15 18 20.3	
	comp=Z,69nm,18.4s,baz=74,slow=40						
	comp=Z,4.9nm,0.8s						
E19K	**Redstone River**	**45.38 28**	IAmb		IAmb	14 56 54.8	
	comp=Z,4.6nm,0.8s						
MAKZ	**Makanchi**	**45.56 303**	P		**P**	**14 56 43.5**	**+0.3**
MAKZ			IAmb		IAmb	14 57 10.5	
	comp=Z,6.7nm,1.0s						
MAKZ	**Makanchi**	**45.56 303**	P		**P**	**14 56 43.5**	**+0.3**
MAKZ			pmax		pmax		
	comp=Z,7.0nm,1.0s						
BRDH	**Bariadhala**	**46.10 267**	LR		LR	15 19 37.1	
	comp=Z,100nm,18.3s,baz=116,slow=41						
KURK	**Kurchatov**	**47.14 309**	P		**P**	**14 56 55.4**	**-0.1**
KURK	**Kurchatov**	**47.14 309**	*ce*P		**P**	**14 56 55.9**	**+0.4**
KURK			pmax		pmax		
	comp=Z,15nm,0.7s						
KURBB	**Kurchatov Arra**	**47.21 309**	P		**P**	**14 56 56.2**	**+0.2**
	comp=Z,10nm,0.8s,baz=84,slow=8.0,SNR=88						
KURBB			LR		LR	15 16 59.4	
	comp=Z,83nm,18.2s,baz=178,slow=36						
	comp=Z,10nm,0.8s						
D22K	**Ayikyak River**	**47.30 26**	IAmb		IAmb	14 57 10.1	
	comp=Z,7.5nm,1.1s						
E22K	**Anaktuvuk Pass**	**47.52 27**	P		**P**	**14 56 58.3**	**0.0**
E22K			IAmb		IAmb	14 57 12.7	
	comp=Z,4.7nm,1.1s						
C23K	**Itkillik River**	**48.16 25**	IAmb		IAmb	14 57 16.5	
	comp=Z,8.8nm,0.9s						
E23K	**Chandalar**	**48.33 28**	IAmb		IAmb	14 57 20.1	
	comp=Z,6.9nm,0.9s						
SML	**Sawmill**	**48.73 36**	P		**P**	**14 57 07.4**	**-0.3**
SML	**Sawmill**	**48.73 36**	P		**P**	**14 57 07.4**	**-0.3**
SML			pmax		pmax		
	comp=Z,38nm,1.4s						
POKR	**Poker Plat Res**	**49.08 32**	IAmb		IAmb	14 57 24.0	
	comp=Z,8.9nm,1.0s						
IL31		**49.31 32**	P		**P**	**14 57 12.0**	**0.0**
IL31			IAmb		IAmb	14 57 28.8	
	comp=Z,7.8nm,1.1s						
ILAR	**Eielson Array**	**49.31 32**	P		**P**	**14 57 12.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=260,slow=5.6,SNR=22						
	comp=Z,1.3nm,0.7s						
TARG	**Taragay, Kyrgy**	**49.65 297**	IAmb		IAmb	14 57 37.9	
	comp=Z,9.4nm,0.8s						
TARG	**Taragay, Kyrgy**	**49.65 297**	P		**P**	**14 57 17.3**	**+1.9**
TARG			pmax		pmax		
	comp=Z,15nm,0.8s						
KDJ	**Kajisay**	**49.98 298**	P		**P**	**14 57 19.1**	**+1.4**
KDJ			pmax		pmax		
	comp=Z,5.0nm,0.9s						
BOOM	**Boomskoye usch**	**50.76 299**	P		**P**	**14 57 24.4**	**+0.8**
BOOM			pmax		pmax		
	comp=Z,6.0nm,1.0s						
KSH	**Kashi**	**51.65 295**	P		P	14 57 35.3	+5.0
KSH			pmax		pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**51.73 299**	LR		LR	15 20 51.7	
	comp=Z,97nm,18.4s,baz=64,slow=38						
AAK	**Ala-Archa**	**51.73 299**⇓	*e*P		**P**	**14 57 32.0**	**+1.1**
AAK			pmax		pmax		
	comp=Z,7.0nm,1.8s						
BVAR	**Borovoye Array**	**51.75 313**	P		**P**	**14 57 31.3**	**+0.6**
	comp=Z,3.9nm,1.0s,baz=77,slow=6.7,SNR=11						
BVAR			LR		LR	15 21 58.4	
	comp=Z,104nm,18.1s,baz=77,slow=39						
	comp=Z,3.9nm,1.0s						
BRVK	**Borovoye**	**51.81 313**	P		**P**	**14 57 31.3**	**+0.2**
BRVK	**Borovoye**	**51.81 313**	*ce*P		**P**	**14 57 32.3**	**+1.2**
BRVK			pmax		pmax		
	comp=Z,5.0nm,1.3s						
ARLS	**Aral**	**52.09 298**	P		**P**	**14 57 35.5**	**+2.0**
ARLS			pmax		pmax		
	comp=Z,7.0nm,0.9s						
G29M	**Pine Creek**	**52.81 29**	IAmb		IAmb	14 57 52.1	
	comp=Z,5.7nm,0.8s						
I29M	**Ogilvie Camp,**	**52.89 31**	IAmb		IAmb	14 57 52.3	
	comp=Z,8.9nm,1.1s						
ARSB	**Arslanbob**	**53.22 298**	IAmb		IAmb	14 57 54.5	
	comp=Z,15nm,1.0s						
I30M	**Mount Dempster**	**53.72 31**	IAmb		IAmb	14 57 58.9	
	comp=Z,4.7nm,0.8s						
KK31	**Karatay Array**	**54.36 301**	IAmb		IAmb	14 58 12.6	
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**54.36 301**	P		**P**	**14 57 49.8**	**-0.3**
KKAR	**Karatay Array**	**54.36 301**	P		**P**	**14 57 49.8**	**-0.3**
TRKS	**Terek-Say**	**54.45 299**	P		**P**	**14 57 51.8**	**+0.9**

comp=Z,133nm,18.1s,slow=38
ARTI Arti 57.60 319 *d iP* **P 14 58 13.6 +0.7**
ARTI 14 59 01.9
ARTI S **S 15 06 11.8 +2.9**
ARTI SS **SS 15 09 59.0 +0.4**
ARTI pmax pmax
comp=Z,12nm,0.9s
ABKAR Akbulak array 59.13 311 P **P 14 58 23.7 -0.1**
ABKAR Akbulak array 59.13 311 IAmb IAmb 14 58 35.2
comp=Z,7.6nm,0.8s
ASAR Alice Springs 60.46 189 P **P 14 58 32.9 -0.3**
comp=Z,1.1nm,0.8s,baz=1.1,slow=6.1,SNR=13
comp=Z,1.1nm,0.8s
KIRV Kirov 61.34 323 LR LR 15 26 33.1
comp=Z,33nm,19.1s,baz=56,slow=37
KIRV Kirov 61.34 323⇓ *eP* **P 14 58 39.7 +1.1**
DZM Mont Dzumac 62.41 155 *e*LR LR 15 17 15.0
comp=Z,79nm,23.4s
RES Resolute Bay 62.80 15 P **P 14 58 49.0 +0.7**
RES IAmb IAmb 14 59 00.8
comp=Z,4.5nm,0.9s
RES Resolute Bay 62.80 15 P **P 14 58 49.0 +0.7**
RES pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 63.67 30 P **P 14 58 54.6 +0.4**
comp=Z,0.6nm,0.8s,baz=300,slow=6.6,SNR=8.5
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 63.67 30 *i P* **P 14 58 56.2 +2.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
KLMR Klimovskoe 64.79 328 *e*P P 14 58 53.1 -8.5
KLMR pmax pmax
comp=Z,35nm,2.1s
ARCES ARCESS Array B 64.87 340 LR LR 15 33 06.2
comp=Z,74nm,18.3s,baz=4.0,slow=41
STKA Stephens Creek 68.06 181 P **P 14 59 22.7 0.0**
comp=Z,1.3nm,0.7s,baz=320,slow=7.9,SNR=3.1
comp=Z,1.3nm,0.7s
FINES FINESS Array B 69.79 333 P **P 14 59 33.4 +0.2**
comp=Z,3.0nm,0.8s,baz=0.0,slow=5.9,SNR=5.3
FINES LR LR 15 32 59.7
comp=Z,105nm,18.5s,baz=34,slow=38
comp=Z,3.0nm,0.8s
KBZ Khabaz 72.09 311 P **P 14 59 47.6 +0.1**
comp=Z,4.1nm,0.8s,baz=100,slow=4.4,SNR=8.0
comp=Z,4.1nm,0.8s
KBZ Khabaz 72.09 311⇑ *iP* **P 14 59 48.4 +0.9**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 72.10 312 P **P 14 59 49.0 +1.3**
KIV Kislovodsk 72.10 312 *e*P **P 14 59 48.3 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,60nm,18.0s
NACGM Naroch 73.77 327 *e*P **P 14 59 56.7 -0.5**
baz=49
NVAR Mina Array Bea 74.37 54 P **P 15 00 02.3 +0.9**
comp=Z,1.0nm,0.7s,baz=273,slow=6.7,SNR=6.3
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 75.09 338 P **P 15 00 05.9 +1.0**
comp=Z,4.3nm,1.0s,baz=36,slow=5.9
NOA NORSAR Array B 75.09 338 P **P 15 00 05.7 +0.8**
comp=Z,2.2nm,1.0s,baz=39,slow=5.7,SNR=3.0
comp=Z,2.2nm,1.0s
AK03 Malin Array Si 75.38 323 P **P 15 00 07.2 +0.6**
AK03 pP **pP 15 00 10.4 -3.4**
AKASG Malin Array Be 75.39 323 P **P 15 00 07.0 +0.3**
comp=Z,2.2nm,0.7s,baz=46,slow=6.1,SNR=11
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 75.39 323 *i P* **P 15 00 07.4 +0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 75.39 323⇓ *eP* **P 15 00 07.5 +0.8**
AKBB Malin Array Si 75.39 323 P **P 15 00 07.9 +1.2**
AK01 Malin Array Si 75.40 323 P **P 15 00 07.0 +0.2**
KIEV Kiev 75.40 323 P **P 15 00 07.6 +0.8**
KIEV Kiev 75.40 323 P **P 15 00 07.6 +0.8**
AK04 Malin Array Si 75.41 323 P **P 15 00 07.0 +0.2**
AK22 Malin Array Si 75.43 323 P **P 15 00 07.2 +0.3**
SFJD Kangerlussuaq 76.29 5 LR LR 15 35 51.8
comp=Z,41nm,18.1s,baz=344,slow=37
RNPP8 Varash 76.57 325 P **P 15 00 12.5 -0.9**
LUBAR Lubar, Ukraine 76.61 323 P **P 15 00 13.2 -0.5**
PDAR Pinedale Array 77.20 46 P **P 15 00 18.5 +1.0**
comp=Z,0.2nm,0.6s,baz=314,slow=6.8,SNR=2.4
comp=Z,0.2nm,0.6s
PFO Pinyon Flats O 78.37 57 LR LR 15 30 40.4
comp=Z,24nm,21.1s,baz=280,slow=32
KOLS Kolonicke sedl 79.90 325 *e*P P 15 00 38.3 +6.4
KOLS *e* 15 00 43.8
KOLS Kolonicke sedl 79.90 325 *e*P P 15 00 38.3 +6.4
KOLS *e* 15 00 43.8
BRTR Keskin Array B 80.04 312 P **P 15 00 33.8 +0.7**
comp=Z,1.1nm,0.9s,baz=76,slow=5.2,SNR=3.9
comp=Z,1.1nm,0.9s
BR106 Keskin Array S 80.04 312 P **P 15 00 33.3 +0.2**
comp=Z,2.5nm,1.1s
BR104 Keskin Array S 80.05 312 P **P 15 00 33.3 +0.2**
comp=Z,3.2nm,0.9s
BR105 Keskin Array S 80.06 312 P **P 15 00 33.4 +0.3**
comp=Z,3.5nm,1.0s
MLR Muntele Rosu 80.50 320 LR LR 15 41 07.0
comp=Z,88nm,19.5s,baz=38,slow=39
LANS Liptovska Anna 81.02 326 *e*P **P 15 00 40.5 +2.5**
LANS Liptovska Anna 81.02 326 *e*P **P 15 00 40.5 +2.5**
CLL Collm 82.10 331 *e*P **P 15 00 44.0 +0.4**
CLL Collm 82.10 331 *e*P **P 15 00 44.0 +0.4**
CLL *ex* x 15 00 53.0
PPT2 Papeete2 83.40 117 *e*LR LR 15 26 58.8
comp=Z,38nm,23.2s
KHC Kasperske Hory 83.56 329 *e*P **P 15 00 53.1 +1.8**
KHC *ex* x 15 01 02.1
KHC Kasperske Hory 83.56 329 *e*P **P 15 00 53.1 +1.8**
KHC *e* 15 01 02.1
KHC Kasperske Hory 83.56 329 P **P 15 00 51.9 +0.6**
GERES GERESS Array B 83.74 329 P **P 15 00 52.5 +0.2**
baz=359,slow=7.9
TAOE Nuku Hiva Isla 84.94 105 *e*LR LR 15 27 38.3
comp=Z,52nm,23.0s
TXAR Lajitas Array 89.52 53 P **P 15 01 21.5 +0.6**
comp=Z,0.5nm,0.8s,baz=320,slow=3.5,SNR=4.4
comp=Z,0.5nm,0.8s
LPAZ La Paz 145.94 62 PKPbc **PKPab 15 08 04.2 -0.3**
comp=Z,1.0nm,0.7s,baz=23,slow=5.1,SNR=2.5

*DJA **17** 15:07:04.4±0.3, 7°S±3°×12°7E±°, h420km±6km, M4.4/18, mB4.6/4, mb4.3/15, MLv4.6/18, Mw(mB)3.8/4*
*NEIC **17** 15:07:05.2±1.3, 6°85S±0°.09×127°40E±0°.09, h405km±9km, mb4.3/29, Error ellipse: s-maj=13.6km s-min=12.3km az=213.0*
*IDC **17** 15:07:05.7±3.0, 6°90S×127°32E, h418km±40km, mb3.5/14, mbtmp4.3/17, Error ellipse: s-maj=22.7km s-min=16.3km az=73.0*
ISC 17 15:07:04.4±0.4, **6°90S**±0°.05×**127°32E**±0°.05, **h400**km, **n110**, σ1$**07**/113, **mb4.1**/33, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.31**	**15**	P	**Pn**	**15 08 11.6**	**+1.4**
BNDI	**Bandanaira**	**3.49**	**48**	P	**Pn**	**15 08 13.3**	**+1.5**
NLAI	**Namlea**	**3.64**	**357**	P	**Pn**	**15 08 16.0**	**+2.8**
MSAI	**Masohi**	**3.88**	**24**	P	**Pn**	**15 08 15.0**	**-0.4**
SAUI	**Saumlaki**	**4.09**	**105**	Pn	**Pn**	**15 08 17.6**	**+0.3**
SAUI	**Saumlaki**	**4.09**	**105**	P	**Pn**	**15 08 18.7**	**+1.4**
SAUI	**Saumlaki**	**4.09**	**105**	S	**S**	**15 09 17.6**	**+1.1**
SAUI	**Saumlaki**	**4.09**	**105**	P	**Pn**	**15 08 18.1**	**+0.8**
SOEI	**Soe**	**4.14**	**227**		**Pn**	**15 08 19.8**	**+1.8**
SOEI	**Soe**	**4.14**	**227**	P	**Pn**	**15 08 19.7**	**+1.7**
SOEI	**Soe**	**4.14**	**227**	S	**S**	**15 09 17.5**	**-0.2**
SOEI	**Soe**	**4.14**	**227**	P	**Pn**	**15 08 19.5**	**+1.5**
BBSI	**Bau Bau**	**4.93**	**286**	P	**Pn**	**15 08 28.6**	**+2.9**
SANI	**Sanana**	**5.00**	**345**	P	**Pn**	**15 08 27.2**	**+0.8**
	77nm,0.6s						
SANI	**Sanana**	**5.00**	**345**	S	**S**	**15 09 33.4**	**+0.3**
	77nm,0.6s						
SANI	**Sanana**	**5.00**	**345**	P	**Pn**	**15 08 26.7**	**+0.3**
	0.4nm1μm80nm,0.6s						
MMRI	**Maumere**	**5.33**	**251**	Pn	**Pn**	**15 08 31.7**	**+1.9**
MMRI	**Maumere**	**5.33**	**251**	P	**Pn**	**15 08 31.5**	**+1.7**
	0.5nm116nm,1.0s						
FAKI	**Fak Fak**	**6.30**	**51**		**Pn**	**15 08 40.5**	**+0.1**
FAKI	**Fak Fak**	**6.30**	**51**	P	**Pn**	**15 08 40.4**	**+0.1**
	72nm,0.9s						
FAKI	**Fak Fak**	**6.30**	**51**	P	**Pn**	**15 08 40.6**	**+0.1**
	0.4nm1μm77nm,0.5s						
DRS	**Darwin Rock St**	**6.53**	**148**	P	**P**	**15 08 44.8**	**+1.4**
	36nm,0.8s						
MTN	**Manton Dam**	**7.00**	**148**		**P**	**15 08 49.2**	**+0.6**
MTN	**Manton Dam**	**7.00**	**148**	P	**P**	**15 08 49.3**	**+0.6**
	78nm,0.4s						
KMPI	**Kaimana, Papua**	**7.12**	**63**	P	**P**	**15 08 50.2**	**+0.1**
SWI	**Sorong**	**7.17**	**33**	P	**Pn**	**15 08 49.7**	**-0.3**
	0.1nm20nm,0.5s						
BKSI	**Bulukumba**	**7.33**	**282**	P	**Pn**	**15 08 52.8**	**+1.0**
	0.1nm27nm,0.8s						
BASI	**Baing, Sumba**	**7.44**	**243**	P	**Pn**	**15 08 51.2**	**-1.8**
	98nm,1.4s						
KDU	**Kakadu**	**7.67**	**139**	P	**Pn**	**15 08 56.5**	**+0.9**
	12nm,0.6s						
WBSI	**Waikabubak, Su**	**8.31**	**250**	P	**Pn**	**15 09 01.5**	**-1.5**
	27nm,0.9s						
KNRA	**Kununurra**	**8.84**	**171**	P	**Pn**	**15 09 09.8**	**+0.9**
PLAI	**Plampang**	**9.65**	**258**	P	**P**	**15 09 17.0**	**-1.1**
	28nm,0.7s						
PLAI	**Plampang**	**9.65**	**258**	P	**P**	**15 09 16.5**	**-1.6**
	28nm,0.7s						
TOLI2	**Tolitoli**	**10.29**	**320**	P	**P**	**15 09 26.3**	**+0.9**
TOLI2	**Tolitoli**	**10.29**	**320**	P	**P**	**15 09 26.2**	**+0.9**
	13nm,1.4s						
FITZ	**Fitzroy Crossi**	**11.25**	**188**	P	**P**	**15 09 36.4**	**+0.6**
	3.2nm,0.3s,baz=14,slow=5.5,SNR=40						
FITZ				S	**S**	**15 11 43.5**	**+2.7**
	2.1nm,0.5s,baz=75,slow=15,SNR=1.7						
WB0	**Warramunga Arr**	**14.52**	**152**	P	**P**	**15 10 11.6**	**-0.1**
WRAB	**Tennant Creek**	**14.64**	**153**	P	**P**	**15 10 12.9**	**-0.1**
WRA	**Warramunga Arr**	**14.64**	**153**	P	**P**	**15 10 11.8**	**-1.3**
WRA	**Warramunga Arr**	**14.64**	**153**	P	**P**	**15 10 13.3**	**+0.2**
	6.2nm,0.3s,baz=332,slow=11,SNR=297						
WRA				S	**S**	**15 12 44.7**	**-4.6**
	4.1nm,0.8s,baz=323,slow=19,SNR=7.8						
WB2	**Warramunga Arr**	**14.65**	**153**	P	**P**	**15 10 13.0**	**-0.2**
WR0	**Warramunga Arr**	**14.75**	**152**	P	**P**	**15 10 14.2**	**-0.1**
MBWA	**Marble Bar**	**15.96**	**207**	P	**P**	**15 10 27.6**	**+0.3**
	14nm,1.5s						
PSA00	**Pilbara Seismi**	**16.28**	**206**	P	**P**	**15 10 30.8**	**+0.1**
PSA00				IAmb	IAmb	15 10 31.7	
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**16.28**	**206**	P	**P**	**15 10 30.9**	**+0.2**
	comp=Z,21nm,1.3s						
COEN	**Coen**	**17.09**	**116**	P	**P**	**15 10 39.2**	**-0.2**
COEN				IAmb	IAmb	15 11 14.3	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**17.09**	**116**	P	**P**	**15 10 39.4**	**0.0**
	comp=Z,13nm,0.7s						
AS31	**Alice Springs**	**17.83**	**160**	P	**P**	**15 10 47.1**	**0.0**
AS31				IAmb	IAmb	15 10 49.2	
	comp=Z,7.0nm,0.3s						
ASAR	**Alice Springs**	**17.83**	**160**	P	**P**	**15 10 47.3**	**+0.1**
ASAR	**Alice Springs**	**17.83**	**160**	P	**P**	**15 10 47.6**	**+0.4**
	comp=Z,11nm,0.6s,baz=349,slow=12,SNR=249						
ASAR				S	**S**	**15 13 49.0**	**-2.6**
	comp=Z,1.7nm,0.7s,baz=339,slow=18,SNR=8.5						
AS01	**Alice Springs**	**17.84**	**160**	P	**P**	**15 10 47.6**	**+0.3**
	comp=Z,29nm,0.8s						
QIS	**Mount Isa**	**18.06**	**140**	P	**P**	**15 10 49.6**	**0.0**
	comp=Z,27nm,0.6s						
WRKA	**Warakurna**	**18.06**	**177**	P	**P**	**15 10 50.1**	**+0.5**
	comp=Z,16nm,0.8s						
MTSU	**Mount Surprise**	**19.98**	**126**	P	**P**	**15 11 09.4**	**+0.7**
	comp=Z,3.0nm,0.8s						
MEEK	**Meekatharra**	**21.31**	**202**	P	**P**	**15 11 20.5**	**-0.3**
	comp=Z,19nm,2.5s						
OOD	**Oodnadatta**	**22.24**	**160**	P	**P**	**15 11 29.0**	**-0.2**
	comp=Z,16nm,0.6s						
FORT	**Forrest**	**23.77**	**178**	P	**P**	**15 11 42.9**	**0.0**
FORT	**Forrest**	**23.77**	**178**	P	**P**	**15 11 43.8**	**+0.8**
	comp=Z,26nm,0.8s						
INKA	**Innaminka**	**24.32**	**150**	P	**P**	**15 11 50.0**	**+2.0**
	comp=Z,14nm,2.9s						
MORW	**Morawa**	**24.49**	**204**	P	**P**	**15 11 50.6**	**+1.2**
MORW				IAmb	IAmb	15 12 15.8	
	comp=Z,24nm,1.4s						
LCRK	**Leigh Creek**	**25.56**	**158**	P	**P**	**15 11 59.9**	**+0.9**
	comp=Z,13nm,1.8s						
BBOO	**Buckleboo**	**27.03**	**164**	P	**P**	**15 12 12.1**	**+0.1**
BBOO				IAmb	IAmb	15 12 13.0	
	comp=Z,9.7nm,0.9s						
BBOO	**Buckleboo**	**27.03**	**164**	P	**P**	**15 12 12.3**	**+0.3**
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**28.20**	**154**	P	**P**	**15 12 22.4**	**+0.1**
STKA	**Stephens Creek**	**28.20**	**154**	P	**P**	**15 12 22.6**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=330,slow=9.2,SNR=27						
	comp=Z,4.4nm,0.5s						
STKA	**Stephens Creek**	**28.20**	**154**	P	**P**	**15 12 22.6**	**+0.3**
	comp=Z,1.7nm,1.2s						
HTT	**Hallett**	**28.51**	**159**	P	**P**	**15 12 26.3**	**+1.2**
KULM	**Kulim**	**29.24**	**294**	P	**P**	**15 12 32.8**	**+1.1**
CMSA	**Cobar Meteorol**	**29.93**	**147**	P	**P**	**15 12 38.3**	**+0.8**
ARPS	**Mount Arapiles**	**32.55**	**158**	P	**P**	**15 13 01.5**	**+1.4**
	comp=Z,22nm,0.7s						
ARMA	**Armidale**	**32.67**	**139**	P	**P**	**15 13 01.3**	**-0.1**
ARMA				IAmb	IAmb	15 13 03.5	
	comp=Z,18nm,1.3s						
ALEG	**Aligegeo Malai**	**33.11**	**95**	P	**P**	**15 13 04.6**	**-0.6**
	comp=Z,22nm,0.5s						
CAN	**Canberra**	**34.59**	**148**	P	**P**	**15 13 19.1**	**+1.4**
CAN	**Canberra**	**34.59**	**148**	P	**P**	**15 13 19.0**	**+1.4**
	comp=Z,61nm,1.6s						
CMAR	**Chiang Mai Arr**	**37.66**	**312**	P	**P**	**15 13 43.4**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=143,slow=6.9,SNR=13						
	comp=Z,1.8nm,0.8s						
KSRS	**Korea Array**	**44.13**	**1**	P	**P**	**15 14 35.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=183,slow=9.1,SNR=8.4						
	comp=Z,1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**44.40**	**13**	P	**P**	**15 14 36.5**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=196,slow=8.8,SNR=12						
	comp=Z,3.7nm,0.8s						
MAJO	**Matsushiro**	**44.40**	**13**	P	**P**	**15 14 36.2**	**-1.2**
MAJO				IAmb	IAmb	15 15 07.8	
	comp=Z,21nm,1.5s						
MJB9	**Matsu-Tunnel**	**44.41**	**13**	P	**P**	**15 14 36.2**	**-1.2**
MJB9				IAmb	IAmb	15 15 18.2	
	comp=Z,18nm,1.5s						
JMM	**Marumori**	**46.27**	**15**	P	**P**	**15 14 51.8**	**0.0**
JTM	**Tenmabayashi**	**49.11**	**14**	P	**P**	**15 15 13.1**	**-0.2**
USA0B	**Ussuriysk Arra**	**51.04**	**4**	P	**P**	**15 15 27.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.04**	**4**	P	**P**	**15 15 27.4**	**0.0**
	comp=Z,3.5nm,0.7s,baz=196,slow=7.8,SNR=8.8						
	comp=Z,3.5nm,0.7s						
WHZ	**Wether Hill Ro**	**52.29**	**145**	P	**P**	**15 15 36.4**	**-0.2**
WHZ				IAmb	IAmb	15 16 16.7	
	comp=Z,20nm,1.3s						
TUWZ	**Tuamarina**	**53.74**	**137**	P	**P**	**15 15 46.7**	**-0.5**
BKZ	**Black Stump Fm**	**54.57**	**134**	P	**P**	**15 15 53.2**	**-0.1**
BKZ				IAmb	IAmb	15 16 04.8	
	comp=Z,18nm,1.5s						
BFZ	**Birch Farm**	**55.00**	**136**	P	**P**	**15 15 56.4**	**+0.2**
BFZ				IAmb	IAmb	15 16 09.9	
	comp=Z,23nm,1.1s						
SONM	**Songino Array**	**57.55**	**343**	P	**P**	**15 16 14.3**	**+0.4**
SONM	**Songino Array**	**57.55**	**343**	P	**P**	**15 16 14.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=185,slow=7.3,SNR=9.5						
	comp=Z,1.0nm,0.6s						
PEA0B	**Petropavlovsk-**	**65.09**	**20**	P	**P**	**15 17 04.2**	**+0.7**
PETK	**Petropavlovsk-**	**65.09**	**20**	P	**P**	**15 17 04.3**	**+0.8**
PETK	**Petropavlovsk-**	**65.09**	**20**	P	**P**	**15 17 03.4**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=209,slow=5.3,SNR=11						
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**66.71**	**328**	P	**P**	**15 17 13.5**	**-0.4**
MKAR	**Makanchi Array**	**66.71**	**328**	P	**P**	**15 17 13.5**	**-0.4**
MKAR	**Makanchi Array**	**66.71**	**328**	P	**P**	**15 17 13.8**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=124,slow=8.0,SNR=37						
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**66.89**	**328**	P	**P**	**15 17 14.7**	**-0.3**
BOOM	**Boomskoye usch**	**67.79**	**321**	P	**P**	**15 17 20.3**	**-0.6**
YAK	**Yakutsk**	**68.75**	**1**	P	**P**	**15 17 25.7**	**-0.4**
AAK	**Ala-Archa**	**68.77**	**321**	P	**P**	**15 17 26.5**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=116,slow=5.9,SNR=5.7						
	comp=Z,0.8nm,0.4s						
ZAA0	**Zalesovo Array**	**70.34**	**335**	P	**P**	**15 17 34.7**	**-1.2**
ZAA0				IAmb	IAmb	15 17 35.8	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**70.34**	**335**	P	**P**	**15 17 34.7**	**-1.2**
ZALV	**Zalesovo Beam**	**70.34**	**335**	P	**P**	**15 17 35.2**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=138,slow=5.7,SNR=14						
	comp=Z,2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**71.06**	**330**	P	**P**	**15 17 40.0**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=134,slow=5.1,SNR=48						
	comp=Z,4.5nm,0.7s						
KURK	**Kurchatov**	**71.07**	**330**	P	**P**	**15 17 40.0**	**-0.3**
KURK				IAmb	IAmb	15 17 40.9	
	comp=Z,5.5nm,0.8s						
BVAR	**Borovoye Array**	**76.58**	**329**	P	**P**	**15 18 11.3**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=125,slow=8.7,SNR=6.8						
	comp=Z,0.8nm,0.5s						
BRVK	**Borovoye**	**76.65**	**329**	P	**P**	**15 18 11.9**	**-0.4**
TIXI	**Tiksi**	**78.39**	**0**	P	**P**	**15 18 20.8**	**-0.6**
TIXI				IAmb	IAmb	15 18 21.5	
	comp=Z,2.6nm,0.5s						
ABKAR	**Akbulak array**	**80.79**	**322**	P	**P**	**15 18 33.1**	**-1.6**
NRIK	**Noril'sk**	**80.83**	**347**	P	**P**	**15 18 34.0**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=134,slow=7.2,SNR=4.1						
	comp=Z,1.1nm,0.5s						
AKTO	**Aktyubinsk**	**82.38**	**323**	P	**P**	**15 18 42.4**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=131,slow=6.3,SNR=5.3						
	comp=Z,1.5nm,0.7s						

*IDC **17** 15:11:08.3±4.0, 32°67N×47°99E, h0km, mb3.7/10, mbtmp3.7/10, MS3.0/1, Error ellipse: s-maj=79.1km s-min=28.2km az=178.0*
*TEH **17** 15:11:10.4, 32°79N×48°05E, h8km±24km*
ISC 17 15:11:10.9±0.7, **32°81N**±0°.04×**48°05E**±0°.04, **h10**km, **n43**, σ1$**96**/44, **mb3.7**/11, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.74**	**347**	Pg	**Pb**	**15 11 25.9**	**0.0**
IKFM				Sg	**Sn**	**15 11 37.8**	**-0.8**
IDOB	**Doab**	**0.98**	**6**	Pg	**Pn**	**15 11 30.4**	**-0.6**
BDRS	**Dareh Seyedi**	**1.34**	**31**	Pg	**Pg**	**15 11 37.0**	**+0.4**
AHWZ	**Ahwaz**	**1.56**	**161**	Pg	**Pg**	**15 11 40.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.69**	**330**	Pg	**Pg**	**15 11 43.1**	**-0.3**
IGHG	**Ghaleghazi**	**1.96**	**321**	Pn	**Pg**	**15 11 47.7**	**-0.8**
SNQR	**Sonqor, Kerman**	**2.08**	**350**	Pn	**Pb**	**15 11 49.1**	**+0.3**
HAGD	**Aghdareh**	**2.21**	**24**	Pn	**Pb**	**15 11 50.4**	**-0.7**
GLG1	**Gilan-e-Gharb**	**2.21**	**307**	Pn	**Pb**	**15 11 50.1**	**-1.0**
IDHR	**Dehrash**	**2.34**	**324**	Pn	**Pb**	**15 11 52.9**	**-0.5**
IPIR	**Pirpir**	**2.40**	**92**	Pn	**Pb**	**15 11 53.2**	**-1.1**
ZNGN	**Zangian**	**2.47**	**105**	Pn	**Pb**	**15 11 53.8**	**-1.8**
HGHA	**Hamedan- Ghaye**	**2.76**	**14**	Pn	**Pb**	**15 11 58.7**	**-1.7**
IBRJ	**Brojen**	**2.86**	**107**	Pn	**Pn**	**15 11 58.6**	**+1.8**
IKLH	**Kolahrood**	**3.01**	**79**	Pn	**Pb**	**15 12 02.1**	**-2.6**
IRAZ	**Razeghan**	**3.02**	**31**	Pn	**Pb**	**15 12 02.0**	**-3.0**
QABG	**Abgarm-Qazvin**	**3.16**	**23**	Pn	**Pb**	**15 12 04.1**	**-3.2**
IQOM	**Qom**	**3.23**	**50**	Pn	**Pn**	**15 12 04.5**	**+2.5**
KLNJ	**Kolanjah**	**3.50**	**120**	Pn	**Pn**	**15 12 08.2**	**+2.4**
IMHD	**Mahdasht**	**3.60**	**36**	Pn	**Pn**	**15 12 09.6**	**+2.8**
IZEF	**Zefreh**	**3.60**	**87**	Pn	**Pn**	**15 12 10.1**	**+3.0**
KRSH	**Karshahi**	**3.61**	**70**	Pn	**Pn**	**15 12 09.8**	**+2.8**
IVRN	**Varamin**	**3.76**	**53**	Pn	**Pn**	**15 12 11.6**	**+2.6**
IRAM	**Ramesheh**	**3.80**	**104**	Pn	**Pn**	**15 12 11.6**	**+1.8**
ISFB	**Sefidab**	**3.82**	**65**	Pn	**Pn**	**15 12 12.3**	**+2.4**
IGZV	**Ghazvin**	**3.99**	**26**	Pn	**Pn**	**15 12 15.2**	**+2.8**
IDMV	**Damavand**	**4.30**	**49**	Pn	**Pn**	**15 12 19.5**	**+2.8**
MZPU	**Pul - Mazandar**	**4.64**	**38**	Pn	**Pn**	**15 12 24.5**	**+3.2**
ANAR	**Anarak**	**4.79**	**84**	Pn	**Pn**	**15 12 26.0**	**+2.8**
IPRN	**Peran**	**4.93**	**45**	Pn	**Pn**	**15 12 28.1**	**+2.9**
IALA	**Alasht**	**5.11**	**49**	Pn	**Pn**	**15 12 30.9**	**+3.1**
GRMI	**Germi**	**5.99**	**359**	Pn	**Pn**	**15 12 42.6**	**+2.9**
MLR	**Muntele Rosu**	**21.23**	**313**	P	**P**	**15 15 57.5**	**+0.4**
	0.6nm,0.4s,baz=123,slow=6.5,SNR=3.3						
	0.6nm,0.4s						
AKASG	**Malin Array Be**	**22.62**	**328**	P	**P**	**15 16 11.8**	**+0.1**
	0.7nm,0.6s,baz=141,slow=10,SNR=4.7						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**25.81**	**32**	P	**P**	**15 16 42.4**	**+0.3**
	1.4nm,0.7s,baz=241,slow=7.6,SNR=7.6						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**28.60**	**42**	P	**P**	**15 17 08.0**	**+0.8**
	0.4nm,0.6s,baz=244,slow=9.4,SNR=3.5						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**31.99**	**340**	P	**P**	**15 17 36.6**	**-0.4**
	1.3nm,0.6s,baz=148,slow=8.0,SNR=11						
	1.3nm,0.6s						
HFS	**Hagfors**	**35.43**	**331**	P	**P**	**15 18 06.4**	**-0.5**
	1.2nm,0.3s,baz=120,slow=8.8,SNR=8.8						
	1.2nm,0.3s						
NOA	**NORSAR Array B**	**36.95**	**331**	P	**P**	**15 18 18.7**	**-1.3**
	1.7nm,1.1s,baz=132,slow=7.9,SNR=1.7						
NOA				LR	LR	15 36 37.4	
	comp=Z,27nm,21.6s,baz=55,slow=41						
	1.7nm,1.1s						
ARCES	**ARCESS Array B**	**38.89**	**348**	P	**P**	**15 18 36.0**	**-0.2**
	4.4nm,1.0s,baz=129,slow=8.7,SNR=2.4						
	4.4nm,1.0s						
ESDC	**Sonseca Array**	**42.02**	**295**	P	**P**	**15 19 01.9**	**-0.6**
	0.3nm,0.6s,baz=92,slow=10,SNR=2.0						
	0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**47.51**	**352**	P	**P**	**15 19 46.0**	**+0.3**
	17nm,1.1s,baz=135,slow=9.5,SNR=5.6						
ILAR	**Eielson Array**	**82.04**	**6**	P	**P**	**15 23 30.1**	**-0.9**
	0.3nm,0.7s,baz=322,slow=5.5,SNR=4.9						
	0.3nm,0.7s						

*IDC **17** 15:11:47.6±0.8, 2°42S×140°09E, h0km, mb3.7/7, mbtmp3.8/8, ML4.0/1, MS2.9/2, Error ellipse: s-maj=14.8km s-min=8.2km az=4.0*
*DJA **17** 15:11:49.7±0.6, 2°S±7°×14°0E±°, h12km

H11N3	WAKE ISLAND Hy	34.25	49	T	T	15 54 45.9	
	baz=233,slow=75,SNR=8.5						
KSRS	Korea Array	41.35	345	LR	LR	15 35 25.5	
	comp=Z,16nm,19.5s,baz=175,slow=34						
CMAR	Chiang Mai Arr	45.66	299	P	P	15 20 09.8	-0.1
	comp=Z,0.3nm,0.4s,baz=120,slow=5.5,SNR=6.8						
	comp=Z,0.3nm,0.4s						
MK31	Makanchi Array	70.55	322	P	P	15 23 04.2	+0.3
MK31				IAmb	IAmb	15 23 06.1	
	comp=Z,4.6nm,1.5s						
MKAR	Makanchi Array	70.55	322	P	P	15 23 04.3	+0.4
	comp=Z,1.0nm,0.6s,baz=100,slow=8.1,SNR=11						
	comp=Z,1.0nm,0.6s						
MAKZ	Makanchi	70.75	322	P	P	15 23 05.7	+0.6
MAKZ				IAmb	IAmb	15 23 06.6	
	comp=Z,5.4nm,1.4s						
BVAR	Borovoye Array	80.00	325	P	P	15 23 57.6	-0.4
	comp=Z,0.6nm,0.6s,baz=79,slow=7.5,SNR=4.6						
	comp=Z,0.6nm,0.6s						
J20K	Nowinta River	81.84	24	P	P	15 24 09.4	+1.8
ILAR	Eielson Array	85.00	24	P	P	15 24 23.1	-0.8
	comp=Z,0.2nm,0.5s,baz=261,slow=4.6,SNR=5.0						
	comp=Z,0.2nm,0.5s						
F24K	Squaw Lake	85.42	22	P	P	15 24 26.9	+0.9
BMAR	Burnt Mountain	86.62	22	P	P	15 24 33.8	+1.9
QSPA	South Pole Qui	87.46	180	P	P	15 24 36.5	+0.3
	comp=Z,0.8nm,0.8s,baz=46,slow=1.5,SNR=6.0						
	comp=Z,0.8nm,0.8s						
LPAZ	La Paz	146.33	125	PKPbc	PKPbc	15 31 31.9	+0.6
	comp=Z,0.5nm,0.5s,baz=63,slow=2.3,SNR=2.5						

NEIC ***17*** *15:28:52.8±0.8, 47.°49N±0.°01×121.°77W±0.°02, h13km±7km, Error ellipse: s-maj=2.1km s-min=1.0km az=49.0*
SEA ***17*** *15:28:53±1.3, 47.°49N±0.°02×121.°73W±0.°04, h17km±6km, ML1.9, ML1.7/16(NEIC), Error ellipse: s-maj=3.6km s-min=3.2km az=82.0*

PNSN 17 15:28:53.6, 47.°49N×121.°73W, h17km, MD1.9, Fault plane solution: NP1:ϕ_s320.00000°, δ90.00000°, λ-140.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATT	Rattlesnake La	0.08	217		Pg	15 28 56.6	-0.3
HTW	Haystack Looko	0.32	356		Pg	15 28 59.9	-0.5
D05A	Enumclaw	0.35	210	Pg	Pg	15 29 00.6	-0.2
BLH	Bald Hill	0.40	330		Pg	15 29 01.2	-0.7
GHW	Garrison Hill	0.58	220		Pg	15 29 03.9	-1.2
OBSR	Observation Ro	0.59	185		Pg	15 29 04.5	-0.8
B941	Kapowsin	0.60	214		Pg	15 29 04.0	-1.4
RCS	Mount Rainier-	0.62	180		Pg	15 29 04.9	-0.9
REMR	Mount Rainier-	0.67	186		Pg	15 29 05.6	-1.2
WRW	Wenatchee Ridg	0.69	57		Pg	15 29 06.6	-0.5
GMW	Gold Mountain	0.72	275		Pg	15 29 06.7	-0.9
JCW	Jim Creek	0.72	349		Pg	15 29 06.4	-1.3
LON	Longmire	0.74	184	Pg	Pg	15 29 06.6	-1.5
LON				IAML		15 29 16.7	
	comp=E,25nm,0.2s						
GNW	Green Mountain	0.74	276	Pg	Pb	15 29 06.5	-1.6
GNW				IAML		15 29 22.2	
	comp=N,29nm,0.2s						
GPW	Glacier Peak	0.75	32		Pg	15 29 07.3	-1.0
LTY	Liberty	0.76	107	Pg	Pb	15 29 07.8	-0.6
LTY				IAML		15 29 19.5	
	comp=N,30nm,0.2s						
LTY				IAML		15 29 20.2	
	comp=E,24nm,0.2s						
TBM	Table Mountain	0.83	112		Pg	15 29 09.8	-0.1
SLFW	Sugar Loaf	0.86	71		Pb	15 29 10.1	-0.1
C04A	Brinnon	0.87	286		Pb	15 29 08.7	-1.5
ETW	Entiat	0.96	82		Pb	15 29 11.4	-0.4
EBG	Ellensburg	0.98	126		Pb	15 29 12.4	+0.2
SQM	Sequim	1.06	304		Pb	15 29 11.9	-1.6
NLW	Nelson Butte	1.11	57		Pb	15 29 14.1	-0.4
YA2	Yakima	1.27	139		Pn	15 29 16.6	0.0
MXC	Moxie City	1.34	132		Pn	15 29 17.8	+0.2
MXC				IAML		15 29 36.5	
	comp=N,10nm,4.8s						
MXC				IAML		15 29 39.6	
	comp=E,14nm,2.1s						
WISH	Wishkah	1.44	256		Pn	15 29 18.6	-0.3
NLWA	Neilton Lookou	1.45	267		Pn	15 29 18.3	-0.8
NLWA				IAML		15 29 53.1	
	comp=E,18nm,4.7s						
PGC	Sidney	1.64	316	Pn	Pn	15 29 20.7	-0.9
PGC				IAML		15 30 10.4	
	comp=E,13nm,4.5s						
LOCW	Locke Island	1.75	115		Pb	15 29 25.3	0.0
JBO	Jordan Butte	2.41	146		Pb	15 29 34.9	-1.7

NEIC ***17*** *15:34:56.8±0.7, 18.°90N±0.°03×155.°25W±0.°02, h10km±2km, Error ellipse: s-maj=5.1km s-min=3.0km az=326.0*

HVO 17 15:34:56.8±0.8, 18.°91N±0.°03×155.°28W±0.°02, h13km±7km, ML3.3/47, ML3.3/40(NEIC), Error ellipse: s-maj=4.8km s-min=2.1km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.31	304		Pb	15 35 04.2	-0.1
HPO	Honuapo	0.31	304		Sg	15 35 08.4	+0.7
HTC	Hot Caves	0.34	341		Pg	15 35 04.1	+0.2
HLP	Hilina Pali	0.38	356		Pg	15 35 04.6	0.0
HLP	Hilina Pali	0.38	356	IAML		15 35 11.3	
	comp=E,7μm,0.3s						
HLP				IAML		15 35 11.3	
	comp=N,12μm,0.2s						
KHU	Kahuku	0.46	316		Pg	15 35 05.3	-0.7
KHU	Kahuku	0.46	316	IAML		15 35 12.6	
	comp=N,4μm,0.2s						
KHU				IAML		15 35 12.7	
	comp=E,4μm,0.2s						
PUH	Pauahi	0.47	7		Pg	15 35 05.2	-0.9
PUH	Pauahi	0.47	7	IAML		15 35 12.0	
	comp=E,1μm,0.3s						
PUH				IAML		15 35 14.6	
	comp=N,2μm,0.4s						
SDHHI	Sand Hill	0.48	358		Pg	15 35 05.3	-1.0
SDHHI					Sg	15 35 11.6	-1.1
KNHH	Kane Nui o Ham	0.48	13		Pg	15 35 05.5	-0.9
RIM	Rim	0.48	1		Pg	15 35 05.4	-1.0
KKO	Keanakako'i	0.48	2		Pg	15 35 05.5	-1.0
KKO					Sg	15 35 11.8	-1.2
WRMHI	West Rim	0.49	358		Pg	15 35 05.5	-1.2
WRMHI					Sg	15 35 12.2	-1.1
STCH	Steam Cracks	0.49	17		Pg	15 35 05.7	-1.0
STCH					Sg	15 35 12.1	-1.2
STCH	Steam Cracks	0.49	17	IAML		15 35 13.2	
	comp=E,2μm,0.2s						
STCH				IAML		15 35 13.3	
	comp=N,2μm,0.2s						
BYL	Byron's Ledge	0.50	2		Pg	15 35 05.6	-1.2
BYL					Sg	15 35 12.5	-0.9
BYL	Byron's Ledge	0.50	2	IAML		15 35 13.1	
	comp=N,2μm,0.5s						
BYL				IAML		15 35 14.8	
	comp=E,2μm,0.4s						
JCUZ	Jacuzzi	0.50	20		Pg	15 35 05.9	-0.9
JCUZ					Sg	15 35 12.5	-1.0
OBL	Observatory Le	0.50	360		Pg	15 35 05.6	-1.2
NPOC	North of Pu'u	0.51	18		Pg	15 35 05.8	-1.0
UWE	Uwekahuna	0.51	359		Pg	15 35 05.7	-1.2
UWE	Uwekahuna	0.51	359	IAML		15 35 13.3	
	comp=E,2μm,0.5s						
UWE				IAML		15 35 13.5	
	comp=N,2μm,0.2s						
HATHI	Halema'uma'u T	0.51	2		Pg	15 35 05.7	-1.3
HATHI	Halema'uma'u T	0.51	2	IAML		15 35 13.2	
	comp=E,2μm,0.3s						
HATHI				IAML		15 35 16.6	
	comp=N,2μm,0.4s						
SBLHI	Steaming Bluff	0.51	1		Pg	15 35 05.7	-1.4
RSD	Rainshed	0.55	0		Pg	15 35 06.1	-1.6
RSD					Sg	15 35 13.4	-1.6
JOKA	Jonika Flow	0.58	27		Pg	15 35 06.8	-1.5
JOKA					Sg	15 35 14.4	-1.6
JOKA	Jonika Flow	0.58	27	IAML		15 35 16.0	
	comp=N,885nm,0.6s						
JOKA				IAML		15 35 17.5	
	comp=E,620nm,0.5s						
MLH	Mauna Loa	0.59	350		Pg	15 35 07.0	-1.5
MLH					Sg	15 35 14.7	-1.7
MLH	Mauna Loa	0.59	350	IAML		15 35 15.4	
	comp=E,3μm,0.2s						
MLH				IAML		15 35 16.0	
	comp=N,3μm,0.1s						
MWH	Mokuaweoweo	0.65	332		Pg	15 35 07.7	-2.0
MWH					Sg	15 35 16.2	-2.1
MWH	Mokuaweoweo	0.65	332	IAML		15 35 16.9	
	comp=E,1μm,0.6s						
MWH				IAML		15 35 18.4	
	comp=N,1μm,0.4s						
MLOA	Mauna Loa Obse	0.68	336		Pg	15 35 08.1	-2.1
MLOA	Mauna Loa Obse	0.68	336		Sg	15 35 17.2	-2.1
MLOA	Mauna Loa Obse	0.68	336	IAML		15 35 15.5	
	comp=E,30nm,4.3s						
ALEP	Alea Permanent	0.71	331		Pg	15 35 08.4	-2.5
ALEP					Sg	15 35 17.7	-2.7
HMH	Humu'ula Sheep	0.71	344		Pg	15 35 08.8	-2.1
HMH	Humu'ula Sheep	0.71	344	IAML		15 35 20.8	
	comp=N,2μm,0.2s						
HMH				IAML		15 35 20.9	
	comp=E,1μm,0.2s						
CPH	Captain Cook	0.83	314		Pg	15 35 09.8	-3.2
POHA	Pohakuloa	0.88	344		Pg	15 35 10.4	-3.4
POHA	Pohakuloa	0.88	344	IAML		15 35 27.8	
	comp=E,680nm,0.5s						
POHA				IAML		15 35 27.8	
	comp=E,748nm,0.4s						
HUH	Hualalai	0.93	326		Pg	15 35 11.7	-3.2
HUH	Hualalai	0.93	326	IAML		15 35 30.2	
	comp=N,856nm,0.2s						
HUH				IAML		15 35 32.9	
	comp=E,774nm,0.4s						
KKH	Kailua Kona	1.02	317		Pb	15 35 12.3	-4.0
KKH					Sb	15 35 24.4	-5.2
HLK	Haleakala	2.05	334		Pn	15 35 27.6	-3.6

AEIC ***17*** *15:47:26.3±0.7, 54.°6N±0.°1×163.°0W±0.°1, h74km±7km, Error ellipse: s-maj=21.1km s-min=5.2km az=158.0*

NEIC 17 15:47:26.6±0.6, 54.°5N±0.°2×162.°8W±0.°1, h67km±16km, ML2.5/6, ML2.5(AEIC), Error ellipse: s-maj=24.9km s-min=5.4km az=155.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	False Pass	0.49	318		Pn	15 47 38.6	-0.4
FALS					Sn	15 47 48.4	+0.2
ISLZ	Isanotski Laza	0.56	295		Pn	15 47 39.7	-0.1
ISLZ					Sn	15 47 49.9	+0.5
ISNN	Isanotski Nort	0.64	302		Pn	15 47 40.7	0.0
ISNN					Sn	15 47 52.0	+1.0
SSLS	Shishaldin Sou	0.71	289		Pn	15 47 41.5	0.0
SSLS					Sn	15 47 53.2	+0.8
HAG	Hague Volcano	0.99	33		Pn	15 47 44.7	-0.1
WESE	West Dahl East	1.02	270		Pn	15 47 44.9	-0.3
PS4A	Pavlof South-4	1.03	33		Pn	15 47 45.0	-0.3
PVV	Pavlof Volcano	1.07	34		Pn	15 47 45.6	-0.2
WEBT	Westdahl Beart	1.12	276		Pn	15 47 46.2	-0.3
PS1A	Pavlof South-1	1.13	34		Pn	15 47 46.4	-0.1
PS1A					Sn	15 48 02.4	+0.9
SDPT	Sand Point	1.61	57		Pn	15 47 52.8	-0.2
SDPT				IAML		15 48 17.7	
	comp=N,38nm,0.7s						
SDPT				IAML		15 48 51.3	
	comp=E,47nm,1.2s						
AKSA	Akutan Strait	1.71	259		Pn	15 47 54.9	+0.7
AKGG	Akutan Green G	1.87	262		Pn	15 47 56.4	0.0
LVA	Lava Point	1.90	261	Pn	Pn	15 47 57.0	+0.2
LVA				IAML		15 49 08.4	
	comp=E,91nm,1.0s						
CNBA	Chernabura Isl	1.92	79	Pn	Pn	15 47 57.1	0.0
CNBA				IAML		15 49 11.8	
	comp=N,16nm,1.1s						
UNV	Unalaska Valle	2.25	255		Pn	15 48 01.3	-0.2
MSW	Makushin Switc	2.38	258		Pn	15 48 03.6	+0.2
MGOD	Makushin Gods	2.47	255		Pn	15 48 04.8	+0.2

NOU ***17*** *15:47:46.1, 23.°51S×179.°35W, h567km, mb4.7/65, South of Fiji Islands*
IDC ***17*** *15:47:46.7±0.8, 23.°55S×179.°81W, h526km±7km, mb3.8/18, mbtmp4.6/20, Error ellipse: s-maj=13.1km s-min=10.8km az=113.0*
NEIC ***17*** *15:47:46.6±1.3, 23.°6S±0.°1×179.°6W±0.°1, h535km±4km, mb4.5/105, Error ellipse: s-maj=16.7km s-min=12.3km az=145.0*

ISC 17 15:47:46.7±0.4, 23.°57S±0.°05×179.°74W±0.°06, h536km, n295, σ1$49/277, mb4.5/64, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	5.38	9	P	P	15 49 19.8	+0.6
GLKZ	Green Lake	5.90	164	P	P	15 49 24.1	+0.4
GLKZ				S	S	15 50 46.3	+3.3
MSVF	Nonsavu	6.16	340	P	P	15 49 26.4	-0.1
MSVF	Nonsavu	6.16	340	P	P	15 49 26.7	+0.3
	14nm,0.5s,baz=231,slow=22,SNR=35						
MSVF				S	S	15 50 46.2	-1.5
	9.3nm,0.8s,baz=340,slow=21,SNR=1.0						
MSVF	Nonsavu	6.16	340	P	P	15 49 26.7	+0.3
TAVE	Taveuni	6.82	359	P	P	15 49 34.0	+1.4
DGTI	Dogotuki	7.24	356	P	P	15 49 37.6	+0.9
YSA	Yasawairara	7.28	339	P	P	15 49 37.8	+0.7
FUTU	Fugatoga	9.34	10	P	P	15 49 57.6	-0.2
NIUE	Niue	10.18	66	P	P	15 50 05.3	-1.1
PINNC	Pines Island,	11.83	272	P	P	15 50 25.6	+2.1
PINNC	Pines Island,	11.83	272	P	P	15 50 25.8	+2.3
YATNC	Mamie plateau,	12.42	274	P	P	15 50 32.7	+3.0
DZM	Mont Dzumac	12.83	274	P	P	15 50 33.6	-0.4
DZM	Mont Dzumac	12.83	274	P	P	15 50 34.8	+0.7
	14nm,0.9s,baz=76,slow=22,SNR=9.1						
DZM	Mont Dzumac	12.83	274	P	P	15 50 38.0	+4.0
OUZ	Omahuta	12.98	205	P	P	15 50 37.0	+1.7
OUZ	Omahuta	12.98	205	P	P	15 50 37.1	+1.9
KUZ	Kuaotunu	13.71	196	P	P	15 50 43.7	+0.9
KUZ	Kuaotunu	13.71	196	P	P	15 50 46.7	+3.9
WIAZ	Waiheke Island	13.90	197	P	P	15 50 47.4	+2.5
MBAZ	Motutapu North	13.95	198	P	P	15 50 46.9	+1.6
ETAZ	East Tamaki Re	14.11	198	P	P	15 50 47.7	+0.7
MKAZ	Moumakai	14.19	197	P	P	15 50 48.3	+0.4
WMGZ	Waiomatatini S	14.30	186	P	P	15 50 50.3	+1.4
HAZ	Te Kaha	14.30	188	P	P	15 50 50.0	+1.0
HAZ	Te Kaha	14.30	188	P	S	15 53 19.6	+0.3
PKGZ	Pakihiroa	14.38	187	P	P	15 50 50.6	+0.8
RUGZ	Raukumara Rang	14.52	188	P	P	15 50 51.9	+0.4
TGRZ	Tauranga	14.53	193	P	P	15 50 54.9	+3.6
PUZ	Puketiti	14.56	186	P	P	15 50 52.0	+0.3
PUZ	Puketiti	14.56	186	P	S	15 53 25.7	+1.5
TWGZ	Tauwhareparae	14.70	187	P	P	15 50 54.8	+1.6
TWGZ	Tauwhareparae	14.70	187	P	S	15 53 26.7	-0.2
TOZ	Tahuroa Road	14.70	195	P	P	15 50 52.7	-0.4
TOZ	Tahuroa Road	14.70	195	P	P	15 50 56.9	+3.8
KMRZ	Kaimai	14.71	194	P	P	15 50 55.9	+2.6
URZ	Urewera	14.89	190	P	P	15 50 52.7	-2.4
	15nm,0.4s,baz=352,slow=2.7,SNR=30						
URZ				S	S	15 53 26.2	-4.2
	14nm,0.8s,baz=342,slow=23,SNR=3.1						
URZ	Urewera	14.89	190	P	P	15 50 53.9	-1.2
URZ	Urewera	14.89	190	P	P	15 50 54.0	-1.2
URZ	Urewera	14.89	190	P	S	15 53 26.1	-4.3
MWZ	Matawai	14.91	188	P	P	15 50 54.5	-0.9
CNGZ	Carnagh Statio	14.97	186	P	P	15 50 56.9	+1.0
KOUNC	Koumac, New Ca	15.11	278	P	P	15 51 00.3	+2.6
MUGZ	Murupara	15.16	191	P	P	15 50 57.2	-0.7
RIGZ	Rimuhau	15.24	187	P	P	15 50 58.5	-0.3
RIGZ	Rimuhau	15.24	187	P	S	15 53 36.2	-0.7
TLZ	Tolley Road	15.26	194	P	P	15 51 01.1	+2.1
RTZ	Ruatahuna	15.26	190	P	P	15 50 57.2	-1.8
RTZ	Ruatahuna	15.26	190	P	S	15 53 36.2	-1.2
MTHZ	Maungataniwha	15.52	190	P	P	15 51 00.9	-0.7
MTHZ	Maungataniwha	15.52	190	P	S	15 53 39.9	-1.9
RAHZ	Arahi	15.54	189	P	P	15 51 00.9	-1.0
RAHZ	Arahi	15.54	189	P	S	15 53 40.3	-1.9
WATZ	Wairara	15.58	193	P	P	15 51 03.9	+1.6
HIZ	Hauiti	15.60	196	P	P	15 51 03.1	+0.7
HIZ	Hauiti	15.60	196	P	P	15 51 05.9	+3.4
NMHZ	Naumai	15.76	190	P	P	15 51 03.4	-0.8
KATZ	Kakaramea	15.85	193	P	P	15 51 07.0	+1.9
BKZ	Black Stump Fm	15.88	191	P	P	15 51 03.4	-1.9
BKZ	Black Stump Fm	15.88	191	P	P	15 51 03.4	-1.9
BKZ	Black Stump Fm	15.88	191	P	S	15 53 44.3	-3.7
NTVZ	North Tongarir	15.97	193	P	P	15 51 06.5	+0.2
TMVZ	Te Maari	15.98	193	P	P	15 51 06.6	+0.2
TWVZ	Taurewa	15.99	194	P	P	15 51 07.0	+0.5
WTVZ	West Tongariro	16.00	193	P	P	15 51 06.7	0.0
NNVZ	North Ngauruho	16.01	193	P	P	15 51 08.1	+1.3
OTVZ	Oturere	16.03	193	P	P	15 51 05.1	-1.9
NGZ	Ngauruhoe	16.06	193	P	P	15 51 07.4	+0.2
SNVZ	South Ngauruho	16.06	193	P	P	15 51 06.6	-0.7
MCHZ	McNeill Hill	16.12	190	P	S	15 53 50.1	-1.9
TUVZ	Tukino	16.14	193	P	P	15 51 07.1	-0.9
KWHZ	Kaweka Forest	16.14	191	P	S	15 53 51.7	-0.8
TRVZ	Turoa	16.19	193	P	P	15 51 07.5	-1.1
VRZ	Vera Road	16.20	196	P	P	15 51 09.2	+0.7
WNVZ	Wahianoa	16.20	193	P	P	15 51 07.5	-1.2
MOVZ	Moawhango	16.25	193	P	P	15 51 08.0	-1.1
KAHZ	Kahuranaki	16.43	189	P	P	15 51 09.9	-0.8
KAHZ	Kahuranaki	16.43	189	P	S	15 53 57.1	-0.3
PKE	Pukeiti	16.47	197	P	P	15 51 14.0	+2.9
NEZ	North Egmont	16.51	197	P	P	15 51 14.2	+2.8
KHEZ	Kahui Hut	16.55	197	P	P	15 51 11.3	-0.6
PREZ	Palmer Road	16.56	197	P	P	15 51 15.4	+3.5
NBEZ	Newall Road No	16.57	198	P	P	15 51 15.0	+3.0
PNHZ	Pukenui	16.66	191	P	P	15 51 10.4	-2.4
PXZ	Pawanui	16.67	189	P	P	15 51 11.5	-1.3
PXZ	Pawanui	16.67	189	P	S	15 53 57.5	-3.6
NMEZ	Namu Road	16.70	197	P	P	15 51 16.1	+3.0
TSZ	Takapari Road	16.84	191	P	P	15 51 12.7	-1.8
TSZ	Takapari Road	16.84	191	P	S	15 54 00.9	-3.2
PRHZ	Porangahau	16.93	190	P	P	15 51 14.5	-0.8
DVHZ	Dannevirke	17.04	191	P	P	15 51 14.5	-1.8
ANWZ	Angora Road	17.14	190	P	P	15 51 16.2	-1.1
PRWZ	Pori Road	17.32	191	P	P	15 51 18.1	-0.8
BFZ	Birch Farm	17.40	190	P	P	15 51 17.9	-1.7
BFZ	Birch Farm	17.40	190	P	P	15 51 18.0	-1.7
BFZ	Birch Farm	17.40	190	P	S	15 54 09.8	-3.3
MRZ	Mangatainoka R	17.50	192	P	P	15 51 17.9	-2.6
MRZ	Mangatainoka R	17.50	192	P	S	15 54 11.2	-3.6
OGWZ	Otaki Gorge	17.73	193	P	P	15 51 20.7	-1.9
TCW	Tory Channel	18.30	195	P	P	15 51 26.6	-1.2
SNZO	South Karori	18.30	193	P	P	15 51 26.5	-1.3
QRZ	Quartz Range	18.40	199	P	P	15 51 28.9	+0.2
QRZ	Quartz Range	18.40	199	P	P	15 51 29.1	+0.3
QRZ	Quartz Range	18.40	199	P	S	15 54 30.7	+1.3
NNZ	Nelson	18.52	197	P	P	15 51 29.4	-0.4
NNZ				IAmb	IAmb	15 51 30.4	
	comp=Z,21nm,0.8s						
NNZ	Nelson	18.52	197	P	P	15 51 29.4	-0.4
NNZ	Nelson	18.52	197	P	S	15 54 28.5	-2.9
THZ	Tophouse	19.16	197	P	P	15 51 35.4	-0.3
THZ	Tophouse	19.16	197	P	P	15 51 35.9	+0.1
THZ	Tophouse	19.16	197	P	S	15 54 38.5	-3.3
DSZ	Denniston Nort	19.46	199	P	P	15 51 38.6	+0.1
DSZ	Denniston Nort	19.46	199	P	S	15 54 44.5	-2.1
KHZ	Kahutara	19.61	195	P	P	15 51 38.4	-1.4
KHZ	Kahutara	19.61	195	P	P	15 51 38.4	-1.4
KHZ	Kahutara	19.61	195	P	S	15 54 44.4	-4.5
GVZ	Greta Valley S	20.25	195	P	P	15 51 44.3	-1.3
GVZ	Greta Valley S	20.25	195	P	S	15 54 53.1	-6.2
LTZ	Lake Taylor	20.28	197	P	P	15 51 44.0	-1.8
LTZ				IAmb	IAmb	15 51 47.4	
	comp=Z,20nm,0.8s						
LTZ	Lake Taylor	20.28	197	P	P	15 51 44.4	-1.5
INZ	Inchbonnie	20.46	199	P	P	15 51 46.7	-0.8
OXZ	Oxford	20.85	197	P	P	15 51 50.0	-1.0
OXZ	Oxford	20.85	197	P	P	15 51 49.9	-1.1
WVZ	Waitaha Valley	20.99	200	P	P	15 51 51.2	-1.0
MQZ	McQueen's Vall	21.04	196	P	P	15 51 51.5	-1.1
RPZ	Rata Peaks	21.48	198	P	P	15 51 55.9	-0.8
	comp=Z,4.1nm,0.4s,baz=44,slow=1.2,SNR=8.8						
	comp=Z,4.1nm,0.4s						
RPZ	Rata Peaks	21.48	198	P	P	15 51 55.9	-0.8
RPZ	Rata Peaks	21.48	198	P	P	15 51 56.1	-0.7
FOZ	Fox Glacier	21.70	201	P	P	15 51 57.6	-1.0
TMZ	Timaru	22.11	198	P	P	15 52 01.0	-1.3
LBZ	Lake Benmore	22.35	199	P	P	15 52 02.4	-2.1
JCZ	Jackson Bay	22.52	202	P	P	15 52 05.7	-0.5
JCZ	Jackson Bay	22.52	202	P	P	15 52 05.6	-0.5
NGOA	Tingoa Renbel	22.62	298	P	P	15 52 07.5	+0.2
ODZ	Otahua Downs	22.82	198	P	P	15 52 07.7	-0.9
ODZ	Otahua Downs	22.82	198	P	P	15 52 07.5	-1.1
WKZ	Wanaka	23.11	201	P	P	15 52 10.3	-1.0
MSZ	Milford Sound	23.35	203	P	P	15 52 14.5	+1.2
EAZ	Earnscleugh	23.38	200	P	P	15 52 12.8	-0.8
ALEG	Aligegeo Malai	23.83	305	P	P	15 52 17.1	-0.9
MLZ	Mavora Lakes	23.89	201	P	P	15 52 18.1	-0.1
MLZ				IAmb	IAmb	15 52 19.1	
	comp=Z,22nm,1.0s						
MLZ	Mavora Lakes	23.89	201	P	P	15 52 18.6	+0.4
TUZ	Tuapeka	23.94	198	P	P	15 52 18.1	-0.4
DCZ	Deep Cove	24.31	203	P	P	15 52 22.1	+0.3
DCZ				IAmb	IAmb	15 52 23.7	
	comp=Z,19nm,0.9s						
DCZ	Deep Cove	24.31	203	P	P	15 52 22.0	+0.2
WHZ	Wether Hill Ro	24.41	201	P	P	15 52 22.4	-0.4
SYZ	Scrubby Hill	24.61	199	P	P	15 52 24.1	-0.4
SYZ	Scrubby Hill	24.61	199	P	P	15 52 24.2	-0.3
TATA	Tatamba Isabel	24.73	304	P	P	15 52 24.7	-1.4
APZ	The Paps	25.23	200	P	P	15 52 30.3	+0.2
ARMA	Armidale	26.36	249	P	P	15 52 41.

FORT Forest 46.65 249 P P 15 55 26.6 -0.5
FORT Forest 46.65 249 P P 15 55 26.3 -0.8
WRKA Warakurna 47.14 257 P P 15 55 30.4 -0.6
DRS Darwin Rock St 48.02 274 P P 15 55 37.2 -0.4
KNRA Kununurra 48.93 269 P P 15 55 43.8 -0.5
FAKI Fak Fak 50.72 286 P P 15 55 56.8 -0.7
FAKI IAmb IAmb 15 55 57.8
comp=Z,26nm,1.2s
FAKI Fak Fak 50.72 286 P P 15 55 56.9 -0.6
FITZ Fitzroy Crossi 51.09 265 P P 15 56 00.2 0.0
FITZ Fitzroy Crossi 51.09 265 P P 15 56 00.1 0.0
VNDA Vanda 54.73 185 P P 15 56 26.6 +1.5
comp=Z,1.7nm,0.8s,baz=341,slow=9.6,SNR=3.5
comp=Z,1.7nm,0.8s
SOEI Soe 55.05 275 P P 15 56 28.4 -0.1
SOEI Soe 55.05 275 P P 15 56 28.8 +0.2
MEEK Meekatharra 55.44 253 P P 15 56 30.3 -0.7
PSA00 Pilbara Seismi 55.46 259 P P 15 56 30.5 -0.7
PSA00 IAmb IAmb 15 56 31.6
comp=Z,21nm,0.8s
PSA00 Pilbara Seismi 55.46 259 P P 15 56 30.4 -0.7
NWAO Narrogin (SRO) 55.59 245 P P 15 56 31.7 -0.3
NWAO IAmb IAmb 15 56 57.9
comp=Z,42nm,1.2s
NWAO Narrogin (SRO) 55.59 245 P P 15 56 31.6 -0.3
MBWA Marble Bar 55.66 260 P P 15 56 32.0 -0.6
BLDU Ballidu 56.37 248 P P 15 56 36.7 -0.7
MUN Mundaring 56.58 246 P P 15 56 38.7 -0.1
SANI Sanana 56.66 284 P P 15 56 39.0 -0.5
MORW Morawa 57.21 250 P P 15 56 42.9 -0.2
MORW IAmb IAmb 15 56 43.8
comp=Z,35nm,0.9s
MORW Morawa 57.21 250 P P 15 56 42.5 -0.7
GIRL Giralia 60.22 257 P P 15 57 03.5 0.0
GIRL Giralia 60.22 257 P P 15 57 03.8 +0.3
CASY Casey 60.52 206 P P 15 57 04.4 -0.2
CASY IAmb IAmb 15 57 39.5
comp=Z,25nm,1.4s
PLAI Plampang 61.34 273 P P 15 57 10.5 -0.5
PLAI Plampang 61.34 273 P P 15 57 10.4 -0.5
TOLI2 Tolitoli 62.73 284 P P 15 57 19.1 -0.9
TOLI2 IAmb IAmb 15 57 21.6
comp=Z,26nm,0.7s
TOLI2 Tolitoli 62.73 284 P P 15 57 19.2 -0.7
RPN Rapa Nui 62.96 110 P P 15 57 19.8 -1.5
JAGI Jajag, Banyuwa 64.80 272 P P 15 57 32.0 -1.2
JAGI Jajag, Banyuwa 64.80 272 P P 15 57 32.2 -1.0
QSPA South Pole Qui 66.52 180 P P 15 57 44.5 +1.3
comp=Z,8.9nm,1.0s,baz=62,slow=0.7,SNR=18
comp=Z,8.9nm,1.0s
KKM Kota Kinabalu 69.03 287 P P 15 57 59.1 -0.3
KKM IAmb IAmb 15 58 10.7
comp=Z,20nm,1.0s
MJAR Matsushiro Arr 71.76 325 P P 15 58 14.8 -0.1
comp=Z,1.9nm,0.8s,baz=163,slow=6.5,SNR=4.8
comp=Z,1.9nm,0.8s
XMIS Christmas Isla 71.86 266 P P 15 58 15.8 -0.2
KSM Kuching 72.28 280 P P 15 58 18.3 -0.2
KSM IAmb IAmb 15 58 19.5
comp=Z,22nm,0.7s
ADK Adak 75.17 2 P P 15 58 34.2 +0.3
BELA Belgrano 2 76.74 173 P P 15 58 42.6 +0.2
UNV Unalaska Valle 77.93 8 P P 15 58 48.9 -0.2
KSRS Korea Array 78.14 320 P P 15 58 51.8 +1.2
comp=Z,1.4nm,0.7s,baz=136,slow=6.5,SNR=8.6
comp=Z,1.4nm,0.7s
MYKOM Kota Tinggi 78.28 277 P P 15 58 52.3 +0.4
MYKOM IAmb IAmb 15 59 25.0
comp=Z,16nm,1.2s
PEA0B Petropavlovsk- 78.83 346 P P 15 58 54.6 +0.7
PEA0B IAmb IAmb 15 59 18.9
comp=Z,25nm,1.4s
PETK Petropavlovsk- 78.83 346 P P 15 58 54.0 +0.2
comp=Z,2.7nm,0.7s,baz=123,slow=5.5,SNR=13
comp=Z,2.7nm,0.7s
ISA Isabella, Lake 82.62 46 IAmb IAmb 15 59 16.9
comp=Z,8.6nm,0.8s
KULM Kulim 82.62 279 P P 15 59 14.7 +0.2
O02D Mt. Diablo Mer 82.65 40 IAmb IAmb 15 59 17.8
comp=Z,16nm,1.1s
SYO Syowa Base 83.39 193 e PcP PcP 15 59 19.2 -1.1
ELIB Princess Elisa 83.42 187 dP P 15 59 16.8 -0.8
WAKR Walker 83.67 43 IAmb IAmb 15 59 22.4
comp=Z,9.6nm,1.0s
YBH Yreka Blue Hor 83.68 39 PcP PcP 15 59 21.5 -0.5
PNTR Pine Nut 83.92 43 P P 15 59 19.6 -1.0
PNTR IAmb IAmb 15 59 23.9
comp=Z,13nm,0.9s
NVAR Mina Array Bea 84.35 44 P P 15 59 24.1 +1.3
comp=Z,4.5nm,1.1s,baz=221,slow=7.0,SNR=15
comp=Z,4.5nm,1.1s
SNAA Sanae 85.00 179 P P 15 59 24.8 -0.4
comp=Z,0.7nm,0.5s,baz=225,slow=7.1,SNR=1.5
comp=Z,0.7nm,0.5s
O19K Port Alsworth 86.01 12 IAmb IAmb 15 59 31.0
comp=Z,12nm,0.7s
MA2 Magadan 86.31 345 P P 15 59 31.0 -0.4
MA2 Magadan 86.31 345 P P 15 59 31.9 +0.5
comp=Z,1.6nm,0.4s,baz=132,slow=5.0,SNR=11
comp=Z,1.6nm,0.4s
J08A Circle Bar Ran 87.15 40 IAmb IAmb 15 59 38.7
comp=Z,12nm,1.3s
U15A North Rim 87.20 48 IAmb IAmb 15 59 39.7
comp=Z,8.4nm,0.9s
PKCU Pink Cliffs 87.73 47 IAmb IAmb 15 59 42.7
comp=Z,11nm,1.0s
G08A Pilot Rock 88.02 38 P P 15 59 40.3 +0.4
G08A IAmb IAmb 15 59 42.7
comp=Z,11nm,1.1s
MXC Moxie City 88.06 36 IAmb IAmb 15 59 42.6
comp=Z,6.1nm,0.8s
MTPU Mount Pierson 88.13 47 IAmb IAmb 15 59 44.0
comp=Z,5.6nm,0.9s
LTY Liberty 88.27 36 IAmb IAmb 15 59 43.2
comp=Z,5.1nm,0.9s
E07A Sunnyside 88.28 37 IAmb IAmb 15 59 43.9
comp=Z,9.1nm,0.9s
MFID Camas Ranch 88.75 41 IAmb IAmb 15 59 46.0
comp=Z,1.1nm,1.0s
Q16A Castle Valley 89.27 47 IAmb IAmb 15 59 49.9
comp=Z,4.4nm,0.9s
TMUT Trail Mountain 89.44 46 IAmb IAmb 15 59 50.0
comp=Z,11nm,0.8s
MPU Maple Canyon 89.53 45 IAmb IAmb 15 59 49.9
comp=Z,4.9nm,1.0s
CMAR Chiang Mai Arr 89.63 290 P P 15 59 47.7 -0.3
CMAR Chiang Mai Arr 89.63 290 P P 15 59 49.6 +1.7
comp=Z,3.6nm,0.9s,baz=135,slow=3.4,SNR=30
CMAR pP pP 16 01 44.8 +0.2
comp=Z,0.2nm,0.5s,baz=95,slow=5.3,SNR=1.5
comp=Z,3.6nm,0.9s
HLID Hailey 89.69 41 IAmb IAmb 15 59 50.7
comp=Z,4.7nm,1.0s
VHRN Van Horn 89.70 56 IAmb IAmb 15 59 50.7
comp=Z,4.9nm,1.0s
SRU San Rafael Swe 89.80 47 IAmb IAmb 15 59 51.0
comp=Z,11nm,0.9s
TX31 Lajitas Ar. Si 90.05 58 IAmb IAmb 15 59 52.9
comp=Z,5.6nm,0.9s
TXAR Lajitas Array 90.05 58 P P 15 59 51.0 +1.2
TXAR Lajitas Array 90.05 58 P P 15 59 51.8 +2.0
comp=Z,2.9nm,0.8s,baz=209,slow=7.0,SNR=28
TXAR pP pP 16 01 47.6 +0.7
comp=Z,0.4nm,0.9s,baz=274,slow=5.6,SNR=2.7
comp=Z,2.9nm,0.8s
P18A Preston Nutter 90.25 46 IAmb IAmb 15 59 53.1
comp=Z,4.2nm,0.9s
TCUT Toone Canyon 90.25 45 IAmb IAmb 15 59 53.3
comp=Z,10nm,0.9s
HWUT Hardware Ranch 90.41 44 IAmb IAmb 15 59 52.9
comp=Z,3.0nm,0.7s
PV23 Carpenter Ridg 90.48 48 IAmb IAmb 15 59 54.0
comp=Z,7.2nm,0.9s
ALPN Alpine 90.55 57 IAmb IAmb 15 59 54.8
comp=Z,5.1nm,0.9s
ANMO Albuquerque 90.56 52 P P 15 59 51.2 -0.9
ANMO IAmb IAmb 15 59 54.7
comp=Z,5.3nm,1.1s
AHID Auburn Hatcher 91.31 43 IAmb IAmb 15 59 58.6
comp=Z,5.0nm,0.8s
SAND Sanderson 91.53 58 IAmb IAmb 15 59 58.7
comp=Z,4.6nm,0.9s
S22A 4UR Ranch, Cre 91.64 49 IAmb IAmb 15 59 59.9
comp=Z,4.1nm,1.0s
ILAR Eielson Array 91.65 13 P P 15 59 56.1 -0.1
comp=Z,0.6nm,0.9s,baz=223,slow=6.6,SNR=7.3
comp=Z,0.6nm,0.9s
PDAR Pinedale Array 92.28 44 P P 16 00 00.5 +0.6
comp=Z,1.4nm,0.8s,baz=218,slow=4.2,SNR=14
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 99.96 25 PP PP 16 04 44.9 -2.9
comp=Z,0.2nm,0.5s,baz=251,slow=7.7,SNR=3.6
MKAR Makanchi Array 112.10 313 PKiKP PKiKP 16 05 20.7 -0.5
comp=Z,0.4nm,0.5s,baz=155,slow=0.7,SNR=8.5
KURBB Kurchatov Arra 115.17 316 PKP PKPdf 16 05 26.1 -0.8
comp=Z,0.6nm,0.6s,baz=86,slow=1.3,SNR=5.9
BVAR Borovoye Array 120.35 319 PKP PKPdf 16 05 36.5 -0.3
comp=Z,1.1nm,0.4s,baz=99,slow=2.0,SNR=10
ARCES ARCESS Array B 131.61 348 PKP PKPdf 16 05 57.9 0.0
comp=Z,2.2nm,0.8s,baz=23,slow=1.6,SNR=8.8
KMBO Kilima Mbogo 136.47 241 SKPbc SKPbc 16 08 51.7 +0.5
comp=Z,0.9nm,0.3s,baz=63,slow=2.4,SNR=5.0
FINES FINESS Array B 138.21 342 PKhKP PKPpre 16 06 03.4
comp=Z,4.0nm,1.1s,baz=202,slow=2.1,SNR=5.5
FINES SKPbc SKPbc 16 08 54.9 +0.7
comp=Z,6.7nm,1.0s,baz=101,slow=9.9,SNR=5.3
NB2 NORSAR Subarra141.79 351 PKP PKPpre 16 06 12.5
comp=Z,0.6nm,0.5s,baz=19,slow=3.7
NOA NORSAR Array B141.79 351 PKhKP PKPpre 16 06 12.2
comp=Z,0.5nm,0.7s,baz=68,slow=1.0,SNR=4.5
HFS Hagfors 142.26 349 PKhKP PKPpre 16 06 14.2
comp=Z,4.0nm,0.4s,baz=64,slow=3.4,SNR=38
AKASG Malin Array Be 144.82 328 PKP PKPdf 16 06 22.6 +0.2
comp=Z,2.4nm,0.4s,baz=47,slow=4.3,SNR=29
AKASG SKPbc SKiKP 16 09 12.7 +0.9
comp=Z,1.9nm,0.7s,baz=61,slow=1.7,SNR=7.2
AKBB Malin Array Si 144.82 328 PKPdf PKPdf 16 06 22.4 0.0
KIEV Kiev 144.83 328 PKPdf PKPdf 16 06 22.4 0.0
BR131 Keskin Array S 147.56 308 PKPbc 16 06 30.9 -0.3
BRTR Keskin Array B 147.56 308 PKPab 16 06 34.8 -0.4
BRTR Keskin Array B 147.56 308 PKPbc PKPbc 16 06 31.2 +0.1
comp=Z,1.7nm,0.7s,baz=140,slow=5.0,SNR=8.4
BRTR PKPab PKPab 16 06 35.6 +0.4
comp=Z,3.3nm,0.6s,baz=98,slow=3.5,SNR=17
EKA Eskdalemuir Ar 148.17 4 PKPbc PKPbc 16 06 32.1 +0.2
comp=Z,0.6nm,0.4s,baz=352,slow=2.9,SNR=8.1
ESDC Sonseca Array 163.55 12 PKPab PKPab 16 07 44.1 +0.6
comp=Z,2.3nm,1.1s,baz=344,slow=4.9,SNR=5.8

SNET 17 15:51:19.4±1.7, 13°.15N×89°.38W, h64km, ML4.1
CATAC 17 15:51:19.9±0.4, 13°N±3°×8°.9W±°, h34km±3km, M3.9/22, MLv3.9/22, Error ellipse: s-maj=6.7km s-min=3.9km az=30.1, confirmed
GCG 17 15:51:20.7±0.7, 13°.25N×89°.43W, h60km±6km, MD4.1
ISC 17 15:51:20.6±1.9, 13°.16N±0°.09×89°.43W±0°.06, h53km±9km, n108, σ0°51/132, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.34	18	*i* P		Pn	15 51 30.3	-0.2
LALI				*e*S		Sn	15 51 37.5	0.0
LALI	Alcalda de L	0.34	18	P		Pn	15 51 30.1	-0.3
LALI	Alcalda de L	0.34	18	S		Sn	15 51 38.3	+0.7
LALI	Alcalda de L	0.34	18	P		Pn	15 51 30.3	-0.2
LALI	Alcalda de L	0.34	18	*i* P		Pn	15 51 30.3	-0.2
LALI	Alcalda de L	0.34	18	*i* P			15 51 30.3	
JAYA	Jayaque - finc	0.49	358	*e*P		Pn	15 51 31.7	-0.5
JAYA				*e*S		Sn	15 51 40.4	-0.2
JAYA	Jayaque - finc	0.49	358	P		Pn	15 51 31.6	-0.6
JAYA	Jayaque - finc	0.49	358	P		Pn	15 51 31.8	-0.5
JAYA	Jayaque - finc	0.49	358	*i* P		Pn	15 51 31.7	-0.5
JAYA				*i* S		Sn	15 51 40.7	+0.1
JAYA	Jayaque - finc	0.49	358	*i* P			15 51 31.7	
JAYA				*i* S			15 51 40.7	
PANCS	Alcalda de	0.51	28	*e*P		Pn	15 51 31.4	-0.9
PANCS				*e*S		Sn	15 51 41.0	+0.3
PANCS	Alcalda de	0.51	28	P		Pn	15 51 32.1	-0.2
PANCS	Alcalda de	0.51	28	S		Sn	15 51 40.7	-0.1
PANCS	Alcalda de	0.51	28	P		Pn	15 51 32.3	-0.1
ITCA	Escuela Especi	0.53	16	*e*P		Pn	15 51 32.1	-0.5
ITCA				*e*S		Sn	15 51 41.7	+0.4
ITCA	Escuela Especi	0.53	16	P		Pn	15 51 32.2	-0.5
ITCA	Escuela Especi	0.53	16	P		Pn	15 51 32.5	-0.1
LOMA	Loma Larga	0.54	28	*e*P		Pn	15 51 32.4	-0.4
LOMA				*e*S		Sn	15 51 42.6	+1.1
LOMA	Loma Larga	0.54	28	P		Pn	15 51 32.2	-0.6
LOMA	Loma Larga	0.54	28	P		Pn	15 51 32.4	-0.4
PMON	Piamonte	0.56	11	*e*P		Pn	15 51 32.6	-0.4
PMON				*e*S		Sn	15 51 42.7	+0.8
PMON	Piamonte	0.56	11	P		Pn	15 51 32.7	-0.3
PMON	Piamonte	0.56	11	P		Pn	15 51 32.6	-0.3
SEMO	Seminario San	0.58	20	*e*S		Sn	15 51 43.3	+1.1
SEMO	Seminario San	0.58	20	P		Pn	15 51 32.8	-0.3
SEMO	Seminario San	0.58	20	S		Sn	15 51 42.8	+0.7
SEMO	Seminario San	0.58	20	P		Pn	15 51 32.7	-0.3
UTEC	Universidad Te	0.58	22	P		Pn	15 51 33.0	-0.2
UTEC	Universidad Te	0.58	22	S		Sn	15 51 42.8	+0.6
UTEC	Universidad Te	0.58	22	P		Pn	15 51 32.9	-0.2
LFRS	El Faro	0.58	38	*i* P		Pn	15 51 32.9	-0.3
UEES	Universidad Ev	0.58	18	*e*P		Pn	15 51 32.9	-0.3
UEES	Universidad Ev	0.58	18	P		Pn	15 51 33.0	-0.3
UEES	Universidad Ev	0.58	18	S		Sn	15 51 43.0	+0.7
UEES	Universidad Ev	0.58	18	P		Pn	15 51 32.9	-0.3
BOQS	Boqueron	0.59	14	*e*P		Pn	15 51 33.2	-0.2
UESS	Universidad de	0.60	22	*e*P		Pn	15 51 33.1	-0.3
PIC2	El Picacho	0.60	16	*i* P		Pn	15 51 33.5	-0.2
UDBS	Universidad Do	0.61	26	*e*P		Pn	15 51 33.3	-0.3
UDBS				*e*S		Sn	15 51 43.5	+0.6
UDBS	Universidad Do	0.61	26	P		Pn	15 51 33.3	-0.3
UDBS	Universidad Do	0.61	26	P		Pn	15 51 33.3	-0.3
CEDA	San Andres	0.64	3	*e*P		Pn	15 51 33.6	-0.2
CEDA				*e*S		Sn	15 51 44.1	+0.7
CEDA	San Andres	0.64	3	P		Pn	15 51 33.7	-0.2
CEDA	San Andres	0.64	3	P		Pn	15 51 33.6	-0.2
LFU	La Fuente	0.66	28	*e*S		Sn	15 51 45.0	+1.0
QUEZ	Alcaldia de Qu	0.69	13	*e*S		Sn	15 51 44.7	+0.2
CEVE	Cerro Verde	0.69	344	*e*P		Pn	15 51 34.4	-0.3
CEVE				*e*S		Sn	15 51 45.7	+0.8
CEVE	Cerro Verde	0.69	344	P		Pn	15 51 34.6	-0.1
CEVE	Cerro Verde	0.69	344	P		Pn	15 51 34.6	-0.1
SBLS	San Blas	0.70	344	*e*P		Pn	15 51 34.7	-0.1
COEG	Centro de Oper	0.70	49	*e*P		Pn	15 51 34.0	-0.6
COEG				*e*S		Sn	15 51 44.7	-0.1
COEG	Centro de Oper	0.70	49	P		Pn	15 51 34.1	-0.6
COEG	Centro de Oper	0.70	49	P		Pn	15 51 34.1	-0.6
SNJE	San Jose	0.72	346	*e*P		Pn	15 51 34.8	-0.3
SNJE				*e*S		Sn	15 51 46.1	+0.5
PAVA	Las Pavas	0.73	41	*e*P		Pn	15 51 34.8	-0.2
PAVA				*e*S		Sn	15 51 46.0	+0.5
PAVA	Las Pavas	0.73	41	P		Pn	15 51 34.9	-0.2
PAVA	Las Pavas	0.73	41	P		Pn	15 51 34.9	-0.2
SNVI	San Vicente	0.73	52	*e*P		Pn	15 51 34.5	-0.5
TECO	Alcaldia de Te	0.73	59	*e*P		Pn	15 51 34.2	-0.8
TECO				*e*S		Sn	15 51 45.0	-0.5
TECO	Alcaldia de Te	0.73	59	P		Pn	15 51 34.3	-0.8
TECO	Alcaldia de Te	0.73	59	S		Sn	15 51 44.9	-0.6
TECO	Alcaldia de Te	0.73	59	P		Pn	15 51 34.2	-0.8
UESV	Universidad de	0.78	53	*e*P		Pn	15 51 35.0	-0.6
UESV				*e*S		Sn	15 51 46.8	+0.2
UESV	Universidad de	0.78	53	P		Pn	15 51 35.2	-0.5
UESV	Universidad de	0.78	53	P		Pn	15 51 35.2	-0.5
NUBE	Las Nubes	0.81	335	*e*P		Pn	15 51 35.5	-0.6
NUBE				*e*S		Sn	15 51 47.3	-0.2
NUBE	Las Nubes	0.81	335	P		Pn	15 51 35.6	-0.6
NUBE	Las Nubes	0.81	335	P		Pn	15 51 35.6	-0.6
NUBE	Las Nubes	0.81	335	*i* P		Pn	15 51 35.5	-0.6
NUBE	Las Nubes	0.81	335	*i* P			15 51 35.5	
UNIC	Universidad Ca	0.82	352	*e*P		Pn	15 51 36.2	0.0
UNIC				*e*S		Sn	15 51 48.4	+0.8
UNIC	Universidad Ca	0.82	352	P		Pn	15 51 35.9	-0.4
UNIC	Universidad Ca	0.82	352	P		Pn	15 51 36.2	0.0
ALJI	Alcalda de J	0.85	79	*e*P		Pn	15 51 36.0	-0.5
ALJI				*e*S		Sn	15 51 48.3	+0.2
ALJI	Alcalda de J	0.85	79	P		Pn	15 51 35.3	-1.2
ALJI	Alcalda de J	0.85	79	S		Sn	15 51 48.0	-0.2
SCLA	Alcaldia de Sa	0.87	52	*e*P		Pn	15 51 36.6	-0.2
SCLA				*e*S		Sn	15 51 49.2	+0.6
SCLA	Alcaldia de Sa	0.87	52	P		Pn	15 51 36.8	+0.1
SCLA	Alcaldia de Sa	0.87	52	P		Pn	15 51 36.6	-0.2
SLOZ	Alcaldia de Sa	0.93	338	*e*P		Pn	15 51 37.4	-0.1
SLOZ	Alcaldia de Sa	0.93	338	S		Sn	15 51 50.9	+0.9
SLOZ	Alcaldia de Sa	0.93	338	P		Pn	15 51 37.5	-0.1
SLOZ	Alcaldia de Sa	0.93	338	P		Pn	15 51 37.6	0.0
TECA	Tecapa	0.96	70	*e*P		Pn	15 51 37.4	-0.7
TECA				*e*P			15 51 37.5	
PQSS	Presa 15 de Se	0.96	61	*e*P		Pn	15 51 37.6	-0.4
PQSS				*e*S		Sn	15 51 50.9	+0.2
PQSS	Presa 15 de Se	0.96	61	P		Pn	15 51 37.6	-0.4
PQSS	Presa 15 de Se	0.96	61	P		Pn	15 51 37.7	-0.4
LLGN	La Laguna	1.10	25	*e*S		Sn	15 51 53.8	-0.4
PACA	Pacayal	1.12	74	*e*P		Pn	15 51 40.6	+0.4
PACA				*e*S		Sn	15 51 55.7	+1.0
PACA	Pacayal	1.12	74	P		Pn	15 51 40.8	+0.6
PACA	Pacayal	1.12	74	P		Pn	15 51 40.5	+0.4
LCY	Lacayo	1.14	77	*e*P		Pn	15 51 40.5	+0.1
RANC	El Ranchito	1.14	76	*e*P		Pn	15 51 40.9	+0.4
RANC	El Ranchito	1.14	76	S		Sn	15 51 55.8	+0.6
RANC	El Ranchito	1.14	76	P		Pn	15 51 40.6	+0.1
RANC	El Ranchito	1.14	76	P		Pn	15 51 40.9	+0.4
BLLM	Bellamira	1.19	76	*e*P		Pn	15 51 41.1	0.0
MTO3	Montecristo	1.23	3	*e*P		Pn	15 51 41.1	-0.7
MTO3				*e*S		Sn	15 51 57.6	0.0
MTO3	Montecristo	1.23	3	P		Pn	15 51 41.2	-0.7
MTO3	Montecristo	1.23	3	S		Sn	15 51 56.8	-0.8
MTO3	Montecristo	1.23	3	P		Pn	15 51 41.1	-0.7
MTO3	Montecristo	1.23	3	*e*P		Pn	15 51 41.1	-0.7
MTO3	Montecristo	1.23	3	*e*P			15 51 41.1	
CAHU	Cacacuatique	1.33	63	*e*P		Pn	15 51 42.8	-0.3
ESQI	Esquipulas	1.40	4	*e*P		Pn	15 51 43.5	-0.3
ESQI				*e*S		Sn	15 52 01.7	+0.4
ESQI	Esquipulas	1.40	4	P		Pn	15 51 43.6	-0.3
ESQI	Esquipulas	1.40	4	P		Pn	15 51 43.6	-0.3
CNCH	Conchagua	1.56	86	*e*P		Pn	15 51 46.4	+0.3
CNCH				*e*S		Sn	15 52 06.8	+1.5
APG	El Apazote	2.09	331 ‖	*e*P		Pn	15 51 53.4	-0.1
APG	El Apazote	2.09	331 ‖	*e*P			15 51 53.4	
STG0	El Palmar, Qui	2.25	304	*i* P			15 52 00.4	
STG8	El Palmar, Qui	2.27	305	*e*S			15 52 32.5	
LIMN	Finca el Limon	2.99	92	P		Pn	15 52 04.7	-0.9
LIMN	Finca el Limon	2.99	92	P		Pn	15 52 04.9	-0.7

IDC 17 15:59:01.9±1.1, 43°.15N×136°.36E, h335km±14km, mb3.2/4, mbtmp3.6/11, Error ellipse: s-maj=22.7km s-min=15.3km az=164.0
SKHL 17 15:59:01.9±0.5, 43°.20N×136°.60E, h336km±5km, mb3.6/3, msha4.4/1
ISC 17 15:59:00.9±0.9, 43°.1N±0°.1×136°.69E±0°.07, h341km, n16, σ1°66/18, mb3.2/4, 1C, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRTR	Gornotajezhnoj	3.36	282	*e*P		Pn	16 00 02.0	-0.9
GRTR					AMB	AMB	16 00 02.3	
USRK	Ussuriysk Ar.	3.59	290	P		Pn	16 00 04.0	-1.1
1.8nm,0.5s,baz=91,slow=9.9,SNR=6.4								
ASAJ	Asahikawa	4.41	74	P		Pn	16 00 16.1	+2.5
3.6nm,0.4s,baz=260,slow=12,SNR=17								
AKK	Akkeshi	5.98	88	*e*P		Pn	16 00 31.8	+0.8
AKK				*e*S		S	16 01 41.2	-2.9
NMR	Nemuro--Hokkai	6.61	84	*e*P		Pn	16 00 39.0	+0.6
NMR				*e*S		S	16 01 54.6	-2.9
MJAR	Matsushiro Arr	6.64	169	P		Pn	16 00 41.1	+2.2
1.6nm,0.6s,baz=354,slow=12,SNR=8.7								
KLR	Kul'dur	7.04	333	P		Pn	16 00 42.4	-0.9
2.1nm,0.6s,baz=142,slow=12,SNR=7.0								
KLR	Kul'dur	7.04	333 ‖	*e*P		Pn	16 00 42.7	-0.6
KSRS	Korea Array	8.74	233	P		Pn	16 01 03.5	-0.3
1.0nm,0.6s,baz=49,slow=11,SNR=7.9								
TYV	Tymovskoe	8.78	26	*e*P		P	16 01 07.2	+0.3
TYV					AMB	AMB	16 01 07.5	
PETK	Petropavlovsk-	17.19	47	P		Pn	16 02 42.2	-0.7
1.6nm,0.8s,baz=201,slow=2.5,SNR=3.5								
MA2	Magadan	18.64	23	P		P	16 02 55.8	+1.1
1.2nm,0.4s,baz=197,slow=9.9,SNR=7.2								
KURBB	Kurchatov Arra	39.56	302	P		P	16 05 59.0	-0.8
0.7nm,0.5s,baz=81,slow=9.1,SNR=8.7								
0.7nm,0.5s								
BVAR	Borovoye Array	43.92	307	P		P	16 06 34.1	-0.6
0.7nm,0.4s,baz=72,slow=8.2,SNR=4.5								
0.7nm,0.4s								
ILAR	Eielson Array	46.48	35	P		P	16 06 56.9	+2.5
0.8nm,0.6s,baz=279,slow=7.8,SNR=17								
0.8nm,0.6s								
FINES	FINESS Array B	61.77	329	P		P	16 08 44.1	+0.3
2.9nm,0.9s,baz=27,slow=5.8,SNR=1.5								
2.9nm,0.9s								

IDC 17 16:13:18.2±3.4, 32°.40S×178°.11W, h0km, mb3.6/2, mbtmp3.6/3, ML3.1/1, MS3.4/1, Error ellipse: s-maj=75.9km s-min=38.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.03	212	Pn		Pn	16 15 02.0	-0.4
0.4nm,0.3s,baz=256,slow=11,SNR=1.2								
URZ					Sn	Sn	16 16 24.0	+1.0
1.1nm,0.3s,baz=343,slow=15,SNR=10								
1.6nm,0.5s								
PMG	Port Moresby	39.41	298	LR		LR	16 35 21.1	
comp=Z,60nm,21.1s,baz=29,slow=34								
ASAR	Alice Springs	42.94	269	P		P	16 21 18.8	-0.3
0.4nm,0.6s,baz=106,slow=7.7,SNR=11								
0.4nm,0.6s								
WRA	Warramunga Arr	44.11	274	P		P	16 21 28.7	+0.1
0.5nm,0.3s,baz=112,slow=8.0,SNR=12								
0.5nm,0.3s								
FINES	FINESS Array B	146.97	339	PKPbc		PKPbc	16 33 01.3	-0.8
3.6nm,1.0s,baz=23,slow=4.5,SNR=2.2								

NEIC 17 16:28:02.9±1.1, 40°.469N±0°.010×111°.95W±0°.02, h9km±6km, Error ellipse: s-maj=2.2km s-min=1.4km az=78.0
UUSS 17 16:28:03.1±0.7, 40°.469N±0°.006×111°.94W±0°.02, h9km±6km, ML2.3/7, ML2.1/28(NEIC), Error ellipse: s-maj=2.1km s-min=0.8km az=76.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WTU	Western Traver	0.01	207			Pg	16 28 04.9	+0.1
GMU	Granite Mounta	0.17	52			Pg	16 28 07.0	+0.2
GMU						Sg	16 28 09.5	+0.1
MHD	Mile High Driv	0.22	29			Pg	16 28 07.8	+0.2
NOQ	North Oquirrh	0.23	324			Pg	16 28 08.2	+0.5
AAU	Alta	0.26	62			Pg	16 28 08.6	+0.1
DCU	Deer Creek Res	0.32	100			Pg	16 28 09.8	+0.3
RBU	Red Butte Cany	0.33	18			Pg	16 28 09.7	+0.1
RBU	Red Butte Cany	0.33

HVU				IAML		16 28 55.3	
	comp=E,32nm,0.4s						
ROA	**Roan Cliffs**	**1.46**	**123**		Pb	16 28 30.6	+0.1
PTU	**Portage**	**1.49**	**349**		Pn	16 28 29.6	-0.6
BEI	**Bear River Ran**	**1.65**	**4**		Pn	16 28 32.6	+0.1
Q16A	**Castle Valley**	**1.66**	**159**	Pn	Pn	16 28 31.6	-1.0
MSU	**Marysvale**	**1.96**	**185**	Pn	Pn	16 28 36.4	-0.4
TPAW	**Teton Pass**	**3.11**	**13**	Pn	Pn	16 28 51.2	-1.4
TPAW				IAML		16 30 09.7	
	comp=E,7.0nm,4.7s						
FXWY	**Fox Creek**	**3.24**	**12**	Pn	Pn	16 28 55.2	+0.8
FXWY				IAML		16 29 19.6	
	comp=E,6.9nm,4.2s						
MOOW	**Moose Ponds**	**3.40**	**15**	Pn	Pn	16 28 56.9	+0.4
MOOW				IAML		16 29 53.0	
	comp=E,6.6nm,4.7s						
MOOW				IAML		16 30 27.1	
	comp=E,5.9nm,4.9s						

*ATH **17** 16:39:13.5, 35°.26N×24°.77E, h12km±1km, ML2.9/8, Manual Solution by A.Fokaefs First location: 2019/03/17 16:40:34, This location: 2020/09/26 17:49:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **17** 16:39:13.2, 35°.00N×24°.66E, h16km, ML2.6/6, Error ellipse: s-maj=1.1km s-min=0.5km az=170.0*
ISC 17 16:39:13.5±1.0, 35°.11N±0°.05×24°.70E±0°.03, h19km±2km, n32, σ1s08/41, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.07**	**125**	P	**Pg**	**16 39 17.2**	**+0.3**
TMBK				S	**Sg**	**16 39 20.1**	**+0.8**
TMBK	**Timbaki Herakl**	**0.07**	**125**	P	**Pg**	**16 39 17.7**	**+0.8**
IDI	**Anoyia**	**0.24**	**41**	P	**Pg**	**16 39 19.9**	**+0.8**
IDI	**Anoyia**	**0.24**	**41**	P	**Pb**	**16 39 16.6**	**-2.4**
PRNS	**Prines Rethymn**	**0.30**	**327**	P	**Pb**	**16 39 21.7**	**+1.4**
PRNS	**Prines Rethymn**	**0.30**	**327**	P	**Pg**	**16 39 19.6**	**-0.6**
IACM	**Heraklion**	**0.36**	**57**	P	**Pb**	**16 39 22.1**	**+0.7**
IACM				S	**Sb**	**16 39 29.0**	**+2.3**
IACM	**Heraklion**	**0.36**	**57**	P	**Pg**	**16 39 19.1**	**-2.0**
GVD	**Gavdhos**	**0.57**	**242**	P	**Pb**	**16 39 22.8**	**-2.0**
GVD				S	**Sg**	**16 39 30.4**	**-2.2**
	2μm,0.4s						
CHNB	**Souda**	**0.64**	**306**	P	**Pb**	**16 39 25.6**	**-0.4**
CHAN	**Chania**	**0.68**	**307**	P	**Pb**	**16 39 27.1**	**+0.5**
CHAN				S	**Sn**	**16 39 37.9**	**-0.2**
	255nm,0.6s						
CHAN	**Chania**	**0.68**	**307**	P	**Pb**	**16 39 26.9**	**+0.3**
KNDR	**Palaiochora Ch**	**0.84**	**279**	P	**Pb**	**16 39 29.4**	**-0.1**
KNDR				S	**Sn**	**16 39 41.9**	**-0.3**
	335nm,0.5s						
KNDR	**Palaiochora Ch**	**0.84**	**279**	P	**Pn**	**16 39 30.7**	**+0.4**
KNDR				S	**Sn**	**16 39 44.5**	**+2.3**
ZKR	**Zakros**	**1.24**	**89**	P	**Pn**	**16 39 35.4**	**-0.5**
ZKR				S	**Sb**	**16 39 52.7**	**+0.7**
	155nm,0.5s						
ZKR	**Zakros**	**1.24**	**89**	P	**Pn**	**16 39 36.0**	**+0.1**
ANKY	**Antikythira Is**	**1.37**	**304**	P	**Pn**	**16 39 37.5**	**-0.1**
ANKY				S	**Sn**	**16 39 55.2**	**0.0**
	392nm,1.2s						
ANKY	**Antikythira Is**	**1.37**	**304**	P	**Pb**	**16 39 38.9**	**+0.4**
SAP3	**Santorini-Thir**	**1.42**	**21**	P	**Pn**	**16 39 38.1**	**-0.2**
MHLO	**Agia Marina, M**	**1.59**	**351**	P	**Pn**	**16 39 40.3**	**-0.4**
KARP	**Karpathos**	**2.06**	**77**	P	**Pn**	**16 39 46.9**	**-0.2**
KARP				S	**Sn**	**16 40 13.0**	**+0.7**
	112nm,0.8s						
KARP	**Karpathos**	**2.06**	**77**	P	**Pn**	**16 39 47.8**	**+0.7**
APE	**Apeiranthos**	**2.07**	**19**	P	**Pn**	**16 39 46.3**	**-0.9**
VLI	**Velisi**	**2.15**	**319**	P	**Pn**	**16 39 48.2**	**-0.2**
KRND	**KRANIDI**	**2.59**	**332**	P	**Pn**	**16 39 53.9**	**-0.5**
MET4	**Agioi Theodoro**	**2.72**	**338**	P	**Pn**	**16 39 55.6**	**-0.6**
MET5	**Makryloggos,Me**	**2.73**	**337**	P	**Pn**	**16 39 56.2**	**-0.2**
VLY	**Voula,Athens**	**2.83**	**345**	P	**Pn**	**16 39 57.5**	**-0.2**
DION	**Dionisos Attik**	**3.03**	**348**	P	**Pn**	**16 39 59.8**	**-0.6**
VIL2	**Platees**	**3.30**	**340**	P	**Pn**	**16 40 02.2**	**-2.0**
GUR	**Goura**	**3.40**	**327**	P	**Pn**	**16 40 05.0**	**-0.7**
KLV	**Kalavryta, Ach**	**3.58**	**326**	P	**Pn**	**16 40 07.7**	**-0.3**

IDC 17 16:43:23.8±7.5, 43°.20N×139°.44E, h292km±34km, mb2.6/2, mbtmp3.1/4, Error ellipse: s-maj=237.9km s-min=38.4km az=120.0, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**2.47**	**67**	P	Pn	16 44 13.8	0.0
	3.0nm,0.4s,baz=250,slow=12,SNR=11						
MJAR	**Matsushiro Arr**	**6.71**	**189**	P	Pn	16 45 01.8	+0.2
	1.2nm,0.8s,baz=3.7,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**63.00**	**185**	P	P	16 53 19.5	-0.6
	0.4nm,1.1s,baz=3.3,slow=6.9,SNR=4.7						
	0.4nm,1.1s						
ASAR	**Alice Springs**	**66.72**	**186**	P	P	16 53 44.6	+0.8
	0.2nm,0.8s,baz=18,slow=4.7,SNR=1.5						
	0.2nm,0.8s						

SKHL 17 16:44:55.0±0.2, 44°.80N×149°.50E, h30km±5km, mb3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.24**	**291**	*e*P	Pn	16 45 15.4	-0.8
KUR				AMB	AMB	16 45 15.5	
	10.0nm,0.3s						
KUR				*e*S	Sn	16 45 30.8	-1.1
KUR				A	A	16 45 32.3	
	30nm,0.2s						
KUR				A	A	16 45 32.3	
	50nm,0.2s						
SHO	**Shikotan**	**2.13**	**245**	*e*P	Pn	16 45 28.0	-0.5
SHO				AMB	AMB	16 45 28.7	
	10.0nm,0.3s						
SHO				*e*S	Sn	16 45 52.6	-1.3
SHO				A	A	16 45 57.8	
	20nm,0.2s						
SHO				A	A	16 45 57.8	
	10.0nm,0.2s						
NMR	**Nemuro--Hokkai**	**3.07**	**244**	*e*P	Pn	16 45 41.0	-0.4
NMR				AMB	AMB	16 45 41.2	
	10.0nm,0.3s						
NMR				*e*S	Sn	16 46 15.8	-1.3
NMR				A	A	16 46 17.6	
	10.0nm,0.2s						
NMR				A	A	16 46 17.6	
	10.0nm,0.2s						
AKK	**Akkeshi**	**3.81**	**244**	*e*P	Pn	16 45 52.8	+1.2
AKK				*e*S	Sn	16 46 35.4	+0.1

*KNET **17** 16:50:52.3±0.5, 42°.55N×74°.70E, h13km±6km, ml2.4, Error ellipse: s-maj=3.3km s-min=1.5km az=118.0*
KRNET 17 16:50:52.2±0.1, 42°.55N×74°.72E, h25km, mb2.1, 8C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.19**	**297**	⇑P	Pb	16 50 57.1	-0.8
	32nm,0.2s,SNR=113						
AAK	**Ala-Archa**	**0.19**	**297**	⇑*e*P	Pb	16 50 56.9	-1.0
AAK				⇑*i*S	Sb	16 51 00.1	-1.7
KBK	**Karagaybulak**	**0.20**	**58**	⇑P	Pb	16 50 57.4	-0.6
	5.4nm,0.1s,SNR=24						
KBK				⇓S	Sb	16 51 01.0	-0.9
	104nm,0.2s						
KBK	**Karagaybulak**	**0.20**	**58**	⇓*i*P	Pb	16 50 57.3	-0.7
KBK				⇓*e*S	Sb	16 51 00.6	-1.4
FRU1	**Bishkek**	**0.27**	**345**	⇓*i*P	Pb	16 50 58.5	-0.3
FRU1				⇓*i*S	Sb	16 51 02.8	-0.5
UCH	**Uchtor**	**0.36**	**205**	⇓P	Pb	16 51 00.2	-0.3
	14nm,0.1s,SNR=17						
UCH				⇓S	Sb	16 51 05.0	-1.1
	27nm,0.3s						
UCH	**Uchtor**	**0.36**	**205**	⇓*i*P	Pb	16 51 00.0	-0.5
UCH				⇓*i*S	Sb	16 51 05.2	-0.9
CHMS	**Chumysh**	**0.45**	**3**	⇓P	Pb	16 51 01.4	-0.1
	4.5nm,0.1s,SNR=10						
CHMS				⇓S	Sb	16 51 07.7	-0.2
	3.2nm,0.1s						
CHMS	**Chumysh**	**0.45**	**3**	⇑*i*P	Pb	16 51 01.2	-0.4
CHMS				⇑*i*S	Sb	16 51 07.5	-0.4
USP	**Ospenovka**	**0.73**	**347**	⇓P	Pb	16 51 06.4	+0.1
	6.3nm,0.2s,SNR=32						
USP	**Ospenovka**	**0.73**	**347**	⇓*i*P	Pb	16 51 06.2	-0.1
USP				⇓*e*S	Sb	16 51 16.1	+0.1
TKM2	**Tokmak 2**	**0.74**	**60**	⇑P	Pb	16 51 06.5	-0.1
	2.8nm,0.1s,SNR=9.8						
TKM2	**Tokmak 2**	**0.74**	**60**	⇓*i*P	Pb	16 51 06.5	-0.1
TKM2				⇓*i*S	Sb	16 51 16.4	0.0
AML	**Almayashu**	**0.87**	**241**	⇑P	Pn	16 51 09.2	0.0
	1.4nm,0.1s,SNR=5.7						
AML	**Almayashu**	**0.87**	**241**	⇓*i*P	Pb	16 51 08.5	-0.4
AML				⇓*i*S	Sb	16 51 20.4	+0.1
BOOM	**Boomskoye usch**	**0.90**	**94**	⇓*i*P	Pb	16 51 09.0	-0.3
BOOM				⇓*i*S	Sb	16 51 21.3	+0.3

*KRNET **17** 16:51:06.0±0.1, 42°.55N×74°.72E, h22km, mb3.4*
*NNC **17** 16:51:06.3±0.3, 42°.56N×74°.78E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=2.0km s-min=0.8km az=170.0*
*SOME **17** 16:51:06.5, 42°.60N×74°.72E, h15km*
ISC 17 16:51:06.8±0.8, 42°.57N±0°.02×74°.70E±0°.01, h12km±5km, n70, σ1s24/124, 45C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.17**	**295**	P	**Pg**	**16 51 10.6**	**-0.3**
	228nm,0.2s						
AAK				⇓S	**Sg**	**16 51 13.9**	**+0.2**
	1μm,0.3s						
AAK	**Ala-Archa**	**0.17**	**295**	⇑*i*P	**Pg**	**16 51 10.9**	**+0.1**
AAK				⇑*i*S	**Sg**	**16 51 14.0**	**+0.3**
KBK	**Karagaybulak**	**0.20**	**63**	⇑*i*P	**Pg**	**16 51 10.7**	**-0.7**
KBK				⇑*i*S	**Sg**	**16 51 14.4**	**-0.1**
FRU1	**Bishkek**	**0.25**	**348**	⇓*i*P	**Pg**	**16 51 12.2**	**+0.1**
FRU1				⇓*i*S	**Sb**	**16 51 16.8**	**+1.1**
UCH	**Uchtor**	**0.37**	**202**	⇓*i*P	**Pg**	**16 51 13.8**	**-0.5**
UCH				⇓*i*S	**Sg**	**16 51 19.0**	**-0.4**
CHMS	**Chumysh**	**0.43**	**5**	⇓P	**Pg**	**16 51 14.9**	**-0.5**
	82nm,0.3s						
CHMS				⇑S	**Sg**	**16 51 21.2**	**-0.1**
	83nm,0.3s						
CHMS	**Chumysh**	**0.43**	**5**	⇑*i*P	**Pg**	**16 51 14.8**	**-0.6**
CHMS				⇑*i*S	**Sg**	**16 51 21.2**	**-0.1**
EKS2	**Erkin-Say**	**0.69**	**278**	⇑*i*P	**Pg**	**16 51 19.4**	**-0.8**
EKS2				⇑*i*S	**Sg**	**16 51 29.1**	**-0.2**
USP	**Ospenovka**	**0.72**	**348**	⇑*i*P	**Pg**	**16 51 19.9**	**-0.8**
USP				⇑*i*S	**Sg**	**16 51 29.9**	**-0.2**
TKM2	**Tokmak 2**	**0.75**	**61**	⇑P	**Pg**	**16 51 20.0**	**-1.4**
	11nm,0.2s						
TKM2				⇓S	**Sg**	**16 51 29.6**	**-1.6**
	81nm,0.3s						
TKM2	**Tokmak 2**	**0.75**	**61**	⇑*i*P	**Pg**	**16 51 20.2**	**-1.2**
TKM2				⇑*i*S	**Sg**	**16 51 30.1**	**-1.1**
AML	**Almayashu**	**0.86**	**240**	⇓*i*P	**Pg**	**16 51 22.5**	**-1.1**
AML				⇓*i*S	**Sg**	**16 51 34.5**	**-0.4**
BOOM	**Boomskoye usch**	**0.92**	**94**	⇑*i*P	**Pg**	**16 51 23.1**	**-1.5**
BOOM				⇑*i*S	**Sg**	**16 51 35.3**	**-1.3**
DGS	**Degeres**	**1.04**	**49**	P	**Pb**	**16 51 25.7**	**-1.0**
	71nm,0.4s						
DGS				S	**Sg**	**16 51 39.2**	**-1.1**
	148nm,0.4s						
DGS	**Degeres**	**1.04**	**49**	*e*P	**Pb**	**16 51 25.7**	**-1.0**
DGS				*e*S	**Sg**	**16 51 39.2**	**-1.1**
KST	**Kastek**	**1.04**	**62**	P	**Pb**	**16 51 25.6**	**-1.2**
	20nm,0.2s						
KST				S	**Sg**	**16 51 39.3**	**-1.3**
	155nm,0.3s						
KST	**Kastek**	**1.04**	**62**	*e*P	**Pb**	**16 51 25.6**	**-1.2**
KST				*e*S	**Sg**	**16 51 39.2**	**-1.3**
KST	**Kastek**	**1.04**	**62**	*e*P	**Pb**	**16 51 25.6**	**-1.2**
	20nm,0.2s						
KST				*e*S	**Sg**	**16 51 39.3**	**-1.3**
	155nm,0.3s						
MRKS	**Merke**	**1.10**	**280**	*e*P	**Pb**	**16 51 27.5**	**-0.4**
MRKS				*e*S	**Sb**	**16 51 42.2**	**0.0**
MRKS	**Merke**	**1.10**	**280**	*e*P	**Pb**	**16 51 27.4**	**-0.4**
	15nm,0.2s						
MRKS				*e*S	**Sb**	**16 51 42.1**	**-0.1**
	138nm,0.3s						
ULHL	**Ulahol**	**1.19**	**105**	⇑*i*P	**Pb**	**16 51 27.8**	**-1.5**
ULHL				⇑*i*S	**Sb**	**16 51 43.4**	**-1.3**
KRBS	**Karabastau**	**1.33**	**32**	P	**Pn**	**16 51 30.9**	**-0.4**
KRBS				S	**Sb**	**16 51 48.4**	**-0.4**
MTBS	**Maitube**	**1.39**	**65**	P	**Pn**	**16 51 31.7**	**-0.4**
	13nm,0.3s						
MTBS				S	**Sn**	**16 51 49.9**	**-0.5**
	121nm,0.5s						
MTBS	**Maitube**	**1.39**	**65**	*e*P	**Pn**	**16 51 31.7**	**-0.4**
MTBS				*e*S	**Sn**	**16 51 49.9**	**-0.5**
MTBS	**Maitube**	**1.39**	**65**	*e*P	**Pn**	**16 51 31.7**	**-0.4**
	13nm,0.3s						
MTBS				*e*S	**Sn**	**16 51 49.9**	**-0.5**
	121nm,0.5s						
MNAS	**Manas**	**1.63**	**268**	⇑*i*P	**Pn**	**16 51 36.0**	**+0.6**
MNAS				⇑*i*S	**Sb**	**16 51 57.5**	**+0.2**
TNSS	**Tian-Shan**	**1.72**	**73**	P	**Pb**	**16 51 37.8**	**-0.7**
	12nm,0.2s						
TNSS				S	**Sb**	**16 51 59.9**	**-0.3**
	52nm,0.4s						
TNSS	**Tian-Shan**	**1.72**	**73**	*e*P	**Pb**	**16 51 37.8**	**-0.7**
TNSS				*e*S	**Sb**	**16 51 59.9**	**-0.3**
TNSS	**Tian-Shan**	**1.72**	**73**	*e*P	**Pb**	**16 51 37.8**	**-0.7**
	12nm,0.2s						
TNSS				*e*S	**Sb**	**16 51 59.9**	**-0.3**
	52nm,0.4s						
AAA	**Alma-Ata**	**1.75**	**68**	*e*P	**Pb**	**16 51 38.6**	**-0.2**
	39nm,0.1s						
AAA				*e*S	**Sb**	**16 52 01.5**	**+0.7**
	30nm,0.3s						
ARSB	**Arslanbob**	**1.79**	**227**	⇑*e*P	**Pn**	**16 51 38.2**	**+0.7**
ARSB				⇑*i*S	**Sb**	**16 52 01.6**	**-0.3**
KUU	**Kurty**	**1.79**	**42**	P	**Pb**	**16 51 38.6**	**-0.8**
KUU				S	**Sb**	**16 52 01.6**	**-0.2**
KUU	**Kurty**	**1.79**	**42**	*e*P	**Pb**	**16 51 38.6**	**-0.8**
KUU				*e*S	**Sb**	**16 52 01.6**	**-0.2**
KNDC	**Almaty**	**1.79**	**68**	⇑P	**Pb**	**16 51 39.3**	**-0.1**
	31nm,0.5s						
KNDC				⇑S	**Sb**	**16 52 02.7**	**+0.9**
	42nm,0.4s						
SALK	**Salom-Alik**	**1.81**	**202**	⇑*i*P	**Pn**	**16 51 38.2**	**+0.3**
SALK				⇑*i*S	**Sb**	**16 52 02.0**	**-0.5**
KDJ	**Kajisay**	**1.89**	**103**	⇓*i*P	**Pn**	**16 51 39.3**	**+0.3**
KDJ				⇓*i*S	**Sn**	**16 52 03.7**	**+0.9**
KOTS	**Kotyrbulak**	**1.89**	**69**	*e*P	**Pb**	**16 51 41.1**	**-0.2**
	26nm,0.2s						
KOTS				*e*S	**Sb**	**16 52 06.0**	**+1.1**
	189nm,0.3s						
CHKK	**Chushkaly**	**2.11**	**52**	Pg	**Pb**	**16 51 44.3**	**-0.6**
	20nm,0.4s						
CHKK				Lg	Lg	16 52 11.2	
	192nm,0.4s						
CHKK	**Chushkaly**	**2.11**	**52**	*e*P	**Pb**	**16 51 44.3**	**-0.6**
	20nm,0.4s						
CHKK				*e*S	**Sb**	**16 52 11.2**	**+0.1**
	192nm,0.4s						
ARK	**Arkit**	**2.17**	**250**	⇓*i*P	**Pn**	**16 51 43.4**	**+0.5**
ARK				⇓*i*S	**Sn**	**16 52 11.2**	**+1.4**
ANVS	**Anan'yevo**	**2.20**	**83**	⇑*i*P	**Pn**	**16 51 43.8**	**+0.5**
ANVS				⇑*i*S	**Sn**	**16 52 11.2**	**+0.8**
OHH	**Osh**	**2.50**	**216**	⇑*i*P	**Pn**	**16 51 48.0**	**+0.7**
OHH				⇑*i*S	**Sn**	**16 52 18.5**	**+0.8**
DZA	**Taraz**	**2.50**	**279**	*e*P	**Pb**	**16 51 51.9**	**+0.2**
	24nm,0.1s						
DZA				*e*S	**Sb**	**16 52 24.1**	**+1.6**
	104nm,0.3s						
BTLS	**Baital**	**2.52**	**349**	Pg	**Pb**	**16 51 51.7**	**-0.2**
	7.5nm,0.3s						
BTLS				Lg	Lg	16 52 23.9	
	68nm,0.3s						
BTLS	**Baital**	**2.52**	**349**	*e*P	**Pb**	**16 51 51.7**	**-0.2**
	7.5nm,0.3s						
BTLS				*e*S	**Sb**	**16 52 23.9**	**+1.1**
	68nm,0.3s						
KURS	**Kuram**	**2.71**	**69**	Pg	**Pb**	**16 51 54.9**	**-0.3**
	2.8nm,0.4s						
KURS				Lg	Lg	16 52 29.5	
	39nm,0.7s						
KURS	**Kuram**	**2.71**	**69**	*e*P	Pn	16 51 44.3	-5.8
	20nm,0.4s						
KURS				*e*S	Sn	16 52 11.2	-12
	192nm,0.4s						
SFK	**Sufi-Kurgan**	**2.71**	**200**	⇑*i*P	**Pn**	**16 51 50.8**	**+0.5**
SFK				⇑*i*S	**Sn**	**16 52 23.5**	**+0.5**
PRZ	**Przheval'sk**	**2.73**	**90**	⇑*e*P	**Pn**	**16 51 51.1**	**+0.5**
PRZ				⇑*e*S	**Sn**	**16 52 24.3**	**+0.6**
SATY	**Saty**	**2.77**	**79**	Pg	**Pb**	**16 51 56.2**	**-0.1**
	6.3nm,0.3s						
SATY				Lg	Lg	16 52 31.8	
	83nm,0.4s						
ZHN	**Zhinishke**	**2.81**	**76**	Pg	**Pb**	**16 51 56.7**	**-0.3**
	8.3nm,0.5s						
ZHN				Lg	Lg	16 52 32.6	
	75nm,0.4s						
ZHN	**Zhinishke**	**2.81**	**76**	*e*P	**Pb**	**16 51 56.7**	**-0.3**
	8.3nm,0.5s						
ZHN				*e*S	**Sb**	**16 52 32.6**	**+1.3**
	75nm,0.4s						
TRKS	**Terek-Say**	**2.85**	**250**	⇓*i*P	**Pn**	**16 51 53.1**	**+0.9**
TRKS				⇓*i*S	**Sn**	**16 52 27.4**	**+1.0**
KK31	**Karatay Array**	**3.13**	**281**	⇓Pg	**Pg**	**16 52 04.9**	**-1.9**
	1.4nm,0.3s,baz=104,slow=14,SNR=35						
KK31				⇑Lg	Lg	16 52 45.9	
	3.3nm,0.3s,baz=104,slow=27,SNR=11						
BLB	**Baldybastay**	**3.15**	**60**	Pg	**Pb**	**16 52 02.4**	**-0.4**
	32nm,0.4s						
BLB				Lg	Lg	16 52 42.8	
	73nm,0.3s						
UZB	**Uzynbulak**	**3.23**	**78**	Pg	**Pb**	**16 52 04.2**	**+0.1**
	4.9nm,0.2s						
UZB				Lg	Lg	16 52 45.5	
	35nm,0.6s						
UZB	**Uzynbulak**	**3.23**	**78**	*e*P	**Pb**	**16 52 04.2**	**+0.1**
	4.9nm,0.2s						
UZB				*e*S	**Sb**	**16 52 45.5**	**+2.1**
	35nm,0.6s						
SHLS	**Shalkode**	**3.55**	**79**	Pg	**Pg**	**16 52 14.8**	**0.0**
	2.5nm,0.3s						
SHLS				Lg	Lg	16 53 03.9	
	18nm,0.6s						
SHLS	**Shalkode**	**3.55**	**79**	*e*P	**Pg**	**16 52 17.5**	**+2.8**
	5.3nm,0.3s						
SHLS				*e*S	**Sg**	**16 53 08.1**	**+7.3**
	18nm,0.6s						
BRLS	**Borolday**	**3.61**	**279**	*e*P	**Pg**	**16 52 13.4**	**-2.5**
	1.3nm,0.4s						
BRLS				*e*S	**Sg**	**16 53 01.3**	**-1.5**
	5.5nm,0.3s						
TDK	**Taldyqorghan**	**3.62**	**47**	Pg	**Pb**	**16 52 11.6**	**+0.8**
	12nm,0.3s						
TDK				Lg	Lg	16 52 58.3	
	52nm,0.5s						
TDK	**Taldyqorghan**	**3.62**	**47**	*e*P	**Pb**	**16 52 11.6**	**+0.8**
	12nm,0.3s						
TDK				*e*S	**Sb**	**16 52 58.3**	**+3.7**
	52nm,0.5s						
DRK	**Karamyk**	**3.78**	**216**	⇑*i*P	**Pn**	**16 52 05.9**	**+0.7**
DRK				⇑*i*S	**Sn**	**16 52 49.7**	**0.0**
BTK	**Batken**	**3.85**	**231**	⇓*e*P	**Pn**	**16 52 06.6**	**+0.7**
BTK				⇓*e*S	**Sn**	**16 52 51.2**	**+0.1**
DJR	**Jarkent**	**4.10**	**63**	*e*P	**Pb**	**16 52 21.1**	**+2.1**
	6.1nm,0.4s						
DJR				*e*S	**Sg**	**16 53 14.2**	**-4.4**
	19nm,0.5s						
OTUK	**Ortayu**	**5.92**	**344**	⇑Lg	Lg	16 54 14.2	
	16nm,0.7s						
MAKZ	**Makanchi**	**6.70**	**48**	⇑Pn	**Pn**	**16 52 44.4**	**-0.5**
	1.2nm,0.9s						
MAKZ				⇑Sn	**Sn**	**16 54 00.4**	**-0.7**
	1.4nm,0.9s						
MAKZ				⇓Lg	Lg	16 54 38.4	
	6.1nm,1.2s						
MK31	**Makanchi Array**	**6.86**	**49**	Pn	**Pn**	**16 52 48.9**	**+1.7**
	1.2nm,0.6s,baz=229,slow=14,SNR=20						
MK31				⇑Sn	**Sn**	**16 54 06.4**	**+1.2**
	0.5nm,0.4s,baz=231,slow=26,SNR=4.7						
MK31				⇓Lg	Lg	16 54 45.5	
	1.4nm,0.6s,baz=240,slow=29,SNR=3.5						
KURBB	**Kurchatov Arra**	**8.48**	**17**	⇑Pn	**Pn**	**16 53 07.7**	**-1.6**
	2.2nm,0.9s						
KURBB				⇑Sn	**Sn**	**16 54 45.5**	**+0.7**
	2.5nm,0.7s						
KURBB				⇑Lg	Lg	16 55 36.2	
	13nm,0.9s						
KURK	**Kurchatov**	**8.58**	**17**	⇑Lg	Lg	16 55 35.9	
	10.0nm,1.0s						

*IDC **17** 17:00:19.7±1.8, 29°.93S×72°.25W, h0km, mb4.2/1, mbtmp3.7/5, ML3.5/4, Error ellipse: s-maj=45.6km s-min=29.9km az=69.0*
*GUC **17** 17:00:21.7±0.7, 29°.96S×71°.94W, h36km±4km, ML3.5*
ISC 17 17:00:20.4±2.0, 29°.93S±0°.04×72°.02W±0°.08, h8km±13km, n24, σ1s34/22, 1C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.81**	**156**	⇓*i*P	**Pb**	**17 00 36.2**	**-0.7**
CO06				*i*S	**Sn**	**17 00 48.2**	**-2.3**
CO06				IAML		17 00 49.7	
	comp=E,2μm,0.2s						
GO04	**Tololo Observa**	**1.09**	**103**	⇓*i*P	**Pb**	**17 00 41.1**	**-0.5**
GO04				*e*S	**Sg**	**17 00 56.0**	**+0.5**
CO03	**El Pedregal**	**1.47**	**129**	⇓*i*P	**Pn**	**17 00 46.8**	**-0.5**
CO03				*i*S	**Sb**	**17 01 06.2**	**-0.6**
CO03				IAML		17 01 09.5	
	comp=E,1μm,0.4s						
LCO	**Las Campanas**	**1.47**	**52**	⇑*i*P	**Pn**	**17 00 47.7**	**+0.2**
LCO				*i*S	**Sb**	**17 01 07.6**	**+0.4**
LCO				IAML		17 01 13.3	
	comp=E,6μm,0.6s						
CO01	**Juntas del Tor**	**1.67**	**92**	⇓*i*P	**Pb**	**17 00 50.9**	**-0.8**
CO01				*i*S	**Sb**	**17 01 12.7**	**-0.3**
CO01				IAML		17 01 17.3	
	comp=N,592nm,0.3s						
AC04	**Llanos de Chal**	**1.91**	**26**	*e*P	**Pn**	**17 00 52.4**	**-0.9**
AC04				IAML		17 01 29.3	
	comp=N,290nm,0.4s						
VA06

*NEIC **17** 17:07:19.1±2.0,20°.1S±0°.1×168°.0E±0°.1,h10km±2km, mb4.4/7,Error ellipse: s-maj=28.5km s-min=6.2km az=317.0*

ISC 17 17:07:18.6±0.6,**20°21S**±0°.06×**168°02E**±0°.06,**h10**km,**n41**, σ1°71/39,**mb4.2**/13,**MS3.0**/3,**Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.26**	**180**	P	**Pn**	**17 07 40.5**	**-1.8**
MARNC	**Mare, Loyalty**	**1.26**	**180**	S	**Sb**	**17 07 56.3**	**-2.6**
YATNC	**Mamie plateau,**	**2.12**	**210**	P	**Pn**	**17 07 55.9**	**+1.8**
DZM	**Mont Dzumac**	**2.37**	**218**		**Pn**	**17 07 58.8**	**+1.2**
DZM	**Mont Dzumac**	**2.37**	**218**	Pn	**Pn**	**17 07 58.6**	**+1.0**
	6.4nm,0.3s,baz=63,slow=8.4,SNR=123						
DZM				Sn	**Sn**	**17 08 26.7**	**0.0**
	34nm,0.3s,baz=168,slow=22,SNR=6.0						
DZM				LR	LR	17 08 37.6	
	comp=Z,312nm,19.2s,baz=296,slow=32						
	16nm,0.3s						
DZM	**Mont Dzumac**	**2.37**	**218**	P	**Pn**	**17 07 59.6**	**+2.0**
DZM	**Mont Dzumac**	**2.37**	**218**	S	**Sb**	**17 08 30.7**	**0.0**
PINNC	**Pines Island,**	**2.45**	**193**	Pn	**Pn**	**17 07 59.7**	**+1.0**
PINNC	**Pines Island,**	**2.45**	**193**	P	**Pn**	**17 08 00.2**	**+1.6**
PINNC	**Pines Island,**	**2.45**	**193**	S	**Sn**	**17 08 29.8**	**+1.1**
OUENC	**Ouen Island, N**	**2.46**	**206**	P	**Pn**	**17 08 00.1**	**+1.3**
OUENC	**Ouen Island, N**	**2.46**	**206**	S	**Sn**	**17 08 30.7**	**+1.8**
ONTNC	**Ouen Toro**	**2.55**	**215**		**Pn**	**17 08 01.3**	**+1.3**
ONTNC	**Ouen Toro**	**2.55**	**215**	P	**Pn**	**17 08 02.1**	**+2.1**
ONTNC	**Ouen Toro**	**2.55**	**215**	S	**Sn**	**17 08 33.6**	**+2.5**
KOUNC	**Koumac, New Ca**	**3.52**	**264**	S	**Sb**	**17 08 59.0**	**-4.9**
KOUNC	**Koumac, New Ca**	**3.52**	**264**	P	**Pn**	**17 08 15.0**	**+1.6**
MSVF	**Nonsavu**	**9.80**	**77**	Pn	**Pn**	**17 09 40.5**	**+0.8**
MSVF	**Nonsavu**	**9.80**	**77**	Pn	**Pn**	**17 09 41.7**	**+1.9**
	0.3nm,0.3s,baz=220,slow=12,SNR=4.5						
MSVF				LR	LR	17 12 42.7	
	comp=Z,208nm,19.4s,baz=194,slow=34						
HNR	**Honiara**	**13.25**	**323**	LR	LR	17 13 57.6	
	comp=Z,47nm,20.4s,baz=110,slow=30						
PMG	**Port Moresby**	**22.82**	**295**	LR	LR	17 18 47.8	
	comp=Z,45nm,21.2s,baz=83,slow=30						
STKA	**Stephens Creek**	**26.36**	**239**	P	**P**	**17 12 55.7**	**+0.6**
STKA	**Stephens Creek**	**26.36**	**239**	P	**P**	**17 12 57.8**	**+2.7**
	3.9nm,0.6s,baz=72,slow=9.3,SNR=10						
	3.9nm,0.6s						
MGBR	**Mount Gambier**	**29.53**	**228**	P	**P**	**17 13 21.0**	**-2.3**
RAR	**Rarotonga**	**30.11**	**98**	LR	LR	17 25 23.7	
	comp=Z,30nm,18.3s,baz=77,slow=36						
BBOO	**Buckleboo**	**31.11**	**240**	P	**P**	**17 13 36.1**	**-1.3**
BBOO				IAmb	IAmb	17 13 52.1	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**31.61**	**265**	P	**P**	**17 13 41.0**	**-0.9**
WRA	**Warramunga Arr**	**31.61**	**265**	P	**P**	**17 13 42.4**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=93,slow=8.4,SNR=27						
	comp=Z,0.8nm,0.5s						
AS31	**Alice Springs**	**31.79**	**257**	P	**P**	**17 13 43.8**	**+0.3**
AS31				IAmb	IAmb	17 13 45.3	
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**31.79**	**257**	P	**P**	**17 13 42.6**	**-0.9**
ASAR	**Alice Springs**	**31.79**	**257**	P	**P**	**17 13 44.5**	**+1.0**
	comp=Z,4.8nm,0.7s,baz=88,slow=8.7,SNR=77						
ASAR				LR	LR	17 26 31.2	
	comp=Z,95nm,18.3s,baz=92,slow=36						
	comp=Z,4.8nm,0.7s						
KNRA	**Kununurra**	**37.56**	**270**	P	**P**	**17 14 31.3**	**-2.1**
KNRA				IAmb	IAmb	17 14 43.1	
	comp=Z,7.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.02**	**266**	P	**P**	**17 14 53.2**	**-0.8**
FITZ				IAmb	IAmb	17 14 56.5	
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**17 18 28.2**	**-1.1**
QSPA				IAmb	IAmb	17 18 53.4	
	comp=Z,8.2nm,1.3s						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**17 18 29.0**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=18,slow=3.2,SNR=6.4						
	comp=Z,1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**72.08**	**334**	P	**P**	**17 18 43.9**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=126,slow=7.3,SNR=4.7						
	comp=Z,3.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**77.86**	**295**	P	**P**	**17 19 19.1**	**+2.1**
	comp=Z,2.0nm,0.9s,baz=135,slow=4.3,SNR=16						
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**87.31**	**324**	P	**P**	**17 20 05.0**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=156,slow=6.1,SNR=5.6						
	comp=Z,0.8nm,1.0s						
NVAR	**Mina Array Bea**	**90.30**	**49**	P	**P**	**17 20 19.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=244,slow=6.9,SNR=3.2						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**91.50**	**18**	P	**P**	**17 20 23.2**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=248,slow=5.3,SNR=5.5						
	comp=Z,0.3nm,0.8s						
GERES	**GERESS Array B**	**144.78**	**330**	PKP	**PKPdf**	**17 26 56.3**	**+0.4**
	baz=94,slow=2.9						

IDC 17 17:19:18.1±2.0,**6°13N**×**122°64E**,**h0**km,**mb3.5**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=226.6km s-min=25.8km az=63.0**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.35**	**156**	P	P	17 25 13.6	-0.5
	0.3nm,0.5s,baz=332,slow=11,SNR=8.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**31.59**	**160**	P	P	17 25 43.3	+0.5
	0.5nm,0.6s,baz=348,slow=6.7,SNR=16						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**53.29**	**326**	P	P	17 28 38.8	-0.1
	0.3nm,0.5s,baz=120,slow=8.5,SNR=6.5						
	0.3nm,0.5s						

*IDC **17** 17:24:06.2±2.1,7°.17S×127°.67E,h0km,mb3.5/1, mbtmp3.7/4,ML3.8/3,Error ellipse: s-maj=101.6km s-min=28.3km az=72.0*
*DJA **17** 17:24:21.3±0.4,8°.S±6°×12°.8E±°,h185km±16km,M4.2/7, mb4.0/7,MLv4.4/7*

ISC 17 17:24:21.3±1.1,**7°69S**±0°.09×**127°77E**±0°.08,**h200**km,**n20**, σ2°66/20,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.51**	**95**	P	**Pn**	**17 25 18.7**	**+1.6**
SOEI	**Soe**	**4.02**	**239**	P	**Pn**	**17 25 23.0**	**-0.6**
SOEI	**Soe**	**4.02**	**239**	P	**Pn**	**17 25 23.0**	**-0.6**
DRS	**Darwin Rock St**	**5.62**	**147**	P	**Pn**	**17 25 44.0**	**+0.2**
DRS	**Darwin Rock St**	**5.62**	**147**	S	**Sn**	**17 26 45.4**	**-3.6**
MTN	**Manton Dam**	**6.09**	**147**	P	**Pn**	**17 25 51.4**	**+1.6**
FAKI	**Fak Fak**	**6.51**	**43**	P	**Pn**	**17 25 55.5**	**+0.2**
	0.1nm14nm,1.0s						
KDU	**Kakadu**	**6.78**	**137**	P	**Pn**	**17 26 00.6**	**+1.8**
KMPI	**Kaimana, Papua**	**7.13**	**56**	P	**Pn**	**17 26 00.8**	**-2.6**
BASI	**Baing, Sumba**	**7.54**	**250**	P	**Pn**	**17 26 08.2**	**-0.4**
	85nm,1.5s						
SWI	**Sorong**	**7.62**	**27**	P	**Pn**	**17 26 10.9**	**+1.1**
WBSI	**Waikababubak, Su**	**8.51**	**256**	P	**Pn**	**17 26 20.8**	**-0.5**
	26nm,1.0s						
PLAI	**Plampang**	**9.96**	**263**	P	**Pn**	**17 26 39.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.55**	**191**	Pn	**Pn**	**17 26 47.1**	**-0.5**
	1.2nm,0.3s,baz=16,slow=12,SNR=35						
FITZ				Sn	Sn	17 28 36.9	-8.6
	0.9nm,0.3s,baz=136,slow=24,SNR=6.3						
	2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.55**	**191**	P	**Pn**	**17 26 47.3**	**-0.4**
WRA	**Warramunga Arr**	**13.74**	**153**	Pn	**Pn**	**17 27 27.5**	**-0.6**
	0.3nm,0.3s,baz=321,slow=14,SNR=12						
WRA				Sn	S	17 29 54.5	-6.8
	1.0nm,0.3s,baz=320,slow=26,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**16.94**	**160**	P	**Pn**	**17 28 11.1**	**+4.1**
	0.3nm,0.3s,baz=338,slow=11,SNR=37						
ASAR				S	**S**	**17 31 10.2**	**-2.0**
	0.3nm,0.3s,baz=318,slow=22,SNR=3.6						
	1.1nm,0.5s						
AS01	**Alice Springs**	**16.95**	**160**	P	**Pn**	**17 28 13.4**	**+6.3**
WRKA	**Warakurna**	**17.25**	**178**	P	**Pn**	**17 28 16.1**	**+5.4**
MKAR	**Makanchi Array**	**67.62**	**328**	P	P	17 35 01.8	+5.2
	0.4nm,0.8s,baz=123,slow=7.8,SNR=4.3						
	0.4nm,0.8s						

*IDC **17** 17:26:12.7±7.7,20°.14S×176°.72W,h368km±76km,mb3.2/8, mbtmp4.0/9,Error ellipse: s-maj=30.2km s-min=27.0km az=121.0*

ISC 17 17:26:03.7±1.0,**20°5S**±0°.1×**176°3W**±0°.2,**h300**km,**n13**, σ1°54/12,**mb3.6**/8,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.14**	**261**	P	**Pn**	**17 29 35.4**	**-0.2**
	13nm,0.6s,baz=80,slow=18,SNR=12						
URZ	**Urewera**	**18.61**	**196**	P	**P**	**17 30 00.2**	**+0.5**
	3.5nm,0.3s,baz=34,slow=1.9,SNR=6.2						
URZ				S	**S**	**17 33 15.0**	**-0.7**
	9.2nm,1.0s,baz=92,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**46.05**	**256**	P	**P**	**17 33 59.4**	**+0.9**
	1.1nm,0.5s,baz=83,slow=8.6,SNR=13						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**46.16**	**262**	P	**P**	**17 33 59.2**	**-0.1**
	2.4nm,0.3s,baz=96,slow=7.5,SNR=39						
	2.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.59**	**262**	P	**P**	**17 35 03.0**	**+1.0**
	2.1nm,0.7s,baz=108,slow=3.6,SNR=5.8						
	2.1nm,0.7s						
QSPA	**South Pole Qui**	**69.59**	**180**	P	P	17 36 44.8	+4.3
	1.7nm,0.9s,baz=31,slow=4.5,SNR=6.5						
	1.7nm,0.9s						
MJAR	**Matsushiro Arr**	**71.14**	**323**	P	**P**	**17 36 49.5**	**-0.6**
	0.8nm,0.7s,baz=151,slow=5.4,SNR=1.7						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**79.94**	**43**	P	**P**	**17 37 41.8**	**+1.8**
	0.6nm,0.6s,baz=246,slow=3.0,SNR=2.7						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**85.72**	**57**	P	P	17 38 13.1	+3.5
	0.2nm,0.7s,baz=268,slow=5.9,SNR=2.6						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**87.95**	**12**	P	**P**	**17 38 19.6**	**+0.3**
	0.4nm,0.9s,baz=210,slow=4.8,SNR=4.8						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**120.07**	**320**	PKP	**PKiKP**	**17 44 19.4**	**+0.7**
	0.4nm,0.5s,baz=107,slow=3.5,SNR=2.7						
AKASG	**Malin Array Be**	**143.74**	**332**	PKP	**PKPdf**	**17 45 01.3**	**-1.6**
	0.2nm,0.4s,baz=39,slow=3.6,SNR=5.1						
EKA	**Eskdalemuir Ar**	**144.82**	**7**	PKP	**PKiKP**	**17 45 05.1**	**-3.5**
	0.5nm,0.6s,baz=4.9,slow=3.6,SNR=1.0						

DJA 17 17:31:10.2±0.7,**10°S**±8°×**11°9E**±°,**h72**km±11km,**M3.5**/7, **mb3.6**/1,**MLv3.5**/7,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikababubak, Su**	**0.78**	**65**	P	Pn	17 31 28.3	+2.1
WBSI				S	Sn	17 31 39.3	+1.2
PLAI	**Plampang**	**1.44**	**322**	P	Pn	17 31 33.9	-0.5
PLAI				S	Sn	17 31 49.3	-3.4
BASI	**Baing, Sumba**	**1.90**	**98**	P	Pn	17 31 40.3	-0.2
TWSI	**Taliwang, Sumb**	**2.15**	**305**	P	Pn	17 31 44.7	+0.8
TWSI				S	Sn	17 32 08.7	-0.9
BSSI	**Bau Bau, Buton**	**4.21**	**25**	P	Pn	17 32 12.0	0.0
JAGI	**Jajag, Banyuwa**	**4.70**	**288**	P	Pn	17 32 17.8	-0.9
BKSI	**Bulukumba**	**4.84**	**17**	P	Pn	17 32 20.4	-0.1
GMJI	**Gumukmas**	**5.43**	**288**	P	Pn	17 32 27.9	-0.7

*JMA **17** 17:36:36.4±0.1,43°.0N±0°.5×145°.8E±0°.6,h43km,MV2.7/34, OFF NEMURO PENINSULA*
*SKHL **17** 17:36:37.0±0.1,43°.00N×145°.80E,h22km±1km,mb3.8/3*

ISC 17 17:36:37.1±1.7,**43°03N**±0°.09×**145°77E**±0°.06,**h31**km±11km, **n12**, σ0°40/22,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.33**	**357**	P	**Pn**	**17 36 45.6**	**-0.3**
NEM2				S	**Sn**	**17 36 51.9**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.34**	**355**	*i* P	**Pb**	**17 36 45.5**	**+0.2**
NMR				*e*S	**Sn**	**17 36 51.8**	**+0.1**
JKHN	**Kushirohamanak**	**0.45**	**277**	P	**Pn**	**17 36 47.2**	**-0.1**
JKHN				*e*S	**Sn**	**17 36 55.1**	**+0.7**
AKK	**Akkeshi**	**0.68**	**269**	*i* P	**Pn**	**17 36 50.2**	**-0.4**
AKK				AMB	AMB	17 36 50.4	
	60nm,0.2s						
AKK				*e*S	**Sb**	**17 36 59.3**	**-0.4**
AKK				A	A	17 37 00.5	
	180nm,0.2s						
AKK				A	A	17 37 00.5	
	220nm,0.2s						
JAK	**Akkeshi**	**0.79**	**268**	P	**Pn**	**17 36 51.7**	**-0.3**
JAK				*e*S	**Sn**	**17 37 03.0**	**+0.3**
JNSB	**Nemuroshibetsu**	**0.93**	**323**	P	**Pn**	**17 36 53.8**	**-0.2**
JNSB				*e*S	**Sn**	**17 37 06.6**	**+0.3**
JNK	**Nakash**	**0.94**	**306**	P	**Pn**	**17 36 53.9**	**-0.4**
JNK				*e*S	**Sn**	**17 37 06.3**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.00**	**4**	*e*P	**Pn**	**17 36 54.8**	**-0.3**
YUK				AMB	AMB	17 36 55.5	
	30nm,0.3s						
YUK				*e*S	**Sn**	**17 37 08.5**	**+0.4**
YUK				A	A	17 37 11.7	
	110nm,0.2s						
YUK				A	A	17 37 11.7	
	110nm,0.2s						
JRA	**Rausu**	**1.02**	**333**	P	**Pn**	**17 36 55.0**	**-0.2**
JRA				*e*S	**Sn**	**17 37 08.6**	**+0.1**
SHO	**Shikotan**	**1.14**	**42**	*e*P	**Pn**	**17 36 56.8**	**-0.1**
SHO				AMB	AMB	17 36 57.4	
	20nm,0.3s						
SHO				*e*S	**Sn**	**17 37 10.9**	**-0.6**
SHO				A	A	17 37 11.2	
	50nm,0.2s						
SHO				A	A	17 37 11.2	
	110nm,0.2s						
SHO				A	A	17 37 12.0	
JAR	**Ashorobuto**	**1.49**	**281**	P	**Pn**	**17 37 01.9**	**+0.2**
KUR	**Kuril'sk**	**2.67**	**34**	*e*S	**Sn**	**17 37 50.0**	**+0.8**
KUR				A	A	17 37 51.6	
	20nm,0.4s						
KUR				A	A	17 37 51.6	
	20nm,0.4s						

NNC 17 17:39:45.6±4.9,**37°18N**×**70°14E**,**h0**km,**mb4.4**,**mpv4.0**, **2C-3D**,**Error ellipse: s-maj=45.7km s-min=34.2km az=76.0**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.65**	**28**	P	Pn	17 41 12.1	+0.9
	SNR=212						
KK31	**Karatay Array**	**5.92**	**3**	⇓Pn	Pn	17 41 16.3	+1.7
	2.8nm,0.3s,baz=187,slow=13,SNR=63						
KK31				⇓Sn	Sn	17 42 23.6	+0.4
	2.8nm,0.5s,baz=192,slow=24,SNR=5.9						
KK31				⇑Lg	Lg	17 42 53.9	
	1.7nm,0.3s,baz=201,slow=36,SNR=3.8						
EKS2	**Erkin-Say**	**6.15**	**26**	P	Pn	17 41 18.8	+1.0
	SNR=16						
AAK	**Ala-Archa**	**6.39**	**30**	P	Pn	17 41 21.7	+0.5
	SNR=16						
AAK	**Ala-Archa**	**6.39**	**30**	Pn	Pn	17 41 20.4	-0.8
	3.2nm,0.3s						
AAK				⇑Sn	Sn	17 42 37.0	+1.9
	2.5nm,0.7s						
KBK	**Karagaybulak**	**6.60**	**33**	P	Pn	17 41 24.3	+0.3
	SNR=7.2						
CHMS	**Chumysh**	**6.80**	**30**	P	Pn	17 41 26.8	+0.1
	SNR=7.8						
USP	**Ospenovka**	**6.93**	**27**	P	Pn	17 41 28.2	-0.3
	SNR=10.0						
TKM2	**Tokmak 2**	**7.10**	**34**	P	Pn	17 41 30.3	-0.6
	SNR=7.2						
TKM2	**Tokmak 2**	**7.10**	**34**	⇓Pn	Pn	17 41 29.8	-1.1
	10nm,0.4s						

DJA 17 17:40:17.7±0.6,**10°S**±8°×**11°9E**±°,**h10km**,**M4.4**/6,**mb3.7**/1, **MLv4.7**/6,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikababubak, Su**	**0.34**	**68**	P	Pg	17 40 24.7	+0.2
BASI	**Baing, Sumba**	**1.55**	**107**	P	Pn	17 40 45.3	-0.1
PLAI	**Plampang**	**1.58**	**306**	P	Pn	17 40 44.7	-1.1
TWSI	**Taliwang, Sumb**	**2.39**	**295**	P	Pn	17 40 56.9	-0.1
BSSI	**Bau Bau, Buton**	**3.87**	**21**	P	Pn	17 41 17.1	-0.2
BKSI	**Bulukumba**	**4.54**	**13**	P	Pn	17 41 27.2	+0.7
JAGI	**Jajag, Banyuwa**	**5.03**	**284**	P	Pn	17 41 32.4	-0.8

*AEIC **17** 17:40:56.2±1.8,51°.5N±0°.1×175°.17W±0°.07,h18km±6km, Error ellipse: s-maj=14.7km s-min=6.4km az=182.0*
*NEIC **17** 17:40:58.1±1.8,51°.6N±0°.1×175°.20W±0°.08,h39km±11km, mb4.0/61,ML4.2(AEIC),Error ellipse: s-maj=17.1km s-min=6.1km az=163.0*
*IDC **17** 17:41:00.8±2.9,51°.84N×175°.30W,h68km±25km,mb3.7/20, mbtmp4.0/24,MS2.9/4,Error ellipse: s-maj=22.5km s-min=12.1km az=169.0*

ISC 17 17:40:56.7±0.6,**51°55N**±0°.09×**175°13W**±0°.04,**h35**km, **n135**, σ2°00/119,**mb4.0**/31,**MS2.9**/3,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCK	**Great Sitkin C**	**0.79**	**306**		**Pn**	**17 41 11.2**	**-0.1**
GSTR	**Great Sitkin T**	**0.79**	**314**		**Pn**	**17 41 11.7**	**+0.2**
GSTD	**Great Sitkin T**	**0.81**	**309**		**Pn**	**17 41 11.7**	**0.0**
GSSP	**Great Sitkin S**	**0.84**	**310**		**Pn**	**17 41 12.3**	**+0.1**
ATKA	**Atka Island**	**0.88**	**41**		**Pn**	**17 41 13.1**	**+0.6**
ATKA	**Atka Island**	**0.88**	**41**		**Sn**	**17 41 24.5**	**+0.5**
ADK	**Adak**	**1.02**	**290**		**Pn**	**17 41 14.3**	**-0.3**
KIRH	**Kanaga Island**	**1.27**	**287**		**Pn**	**17 41 18.1**	**+0.1**
KIRH					**Sn**	**17 41 34.3**	**+0.5**
KIWB	**Kanaga Island**	**1.29**	**284**		**Pn**	**17 41 18.1**	**-0.2**
KICM	**Kanaga Island**	**1.33**	**287**		**Pn**	**17 41 19.1**	**+0.2**
TAFP	**Tanaga Falls P**	**1.81**	**282**		**Pn**	**17 41 26.0**	**+0.6**
TAFP					**Sn**	**17 41 50.3**	**+3.3**
TASE	**Tanaga Southea**	**1.83**	**280**		**Pn**	**17 41 26.4**	**+0.7**
GALAA	**Gareloi Lava P**	**2.28**	**277**		**Pn**	**17 41 33.0**	**+1.2**
GALAA					**Sn**	**17 42 02.4**	**+3.8**
GANE	**Gareloi Northe**	**2.28**	**278**		**Pn**	**17 41 32.8**	**+0.8**
GANO	**Gareloi North**	**2.30**	**278**		**Pn**	**17 41 33.2**	**+1.1**
GANO					**Sn**	**17 42 03.8**	**+4.6**
GASW	**Gareloi Southw**	**2.33**	**277**		**Pn**	**17 41 34.2**	**+1.7**
MAPS	**Pakushin South**	**5.47**	**62**		**Pn**	**17 42 19.5**	**+3.8**
MREP	**Makushin Rep't**	**5.58**	**63**		**Pn**	**17 42 21.0**	**+3.8**
UNV	**Unalaska Valle**	**5.73**	**63**	Pn	**Pn**	**17 42 23.8**	**+4.6**
P08K	**Saint George I**	**6.03**	**31**		**Pn**	**17 42 27.2**	**+3.9**
LVA	**Lava Point**	**6.10**	**61**	Pn	Pn	17 42 29.6	+5.3
SPIA	**Saint Paul Isl**	**6.32**	**25**	Pn	**Pn**	**17 42 31.5**	**+4.2**
SHEM	**Shemya Is, Ala**	**6.73**	**284**	P	**Pn**	**17 42 34.9**	**+1.9**
	53nm,0.7s,baz=284,slow=18,SNR=2.3						
SHEM				S	**Sn**	**17 43 48.6**	**+0.2**
	82nm,0.9s,baz=93,slow=22,SNR=2.6						
ISLZ	**Isanotski Laza**	**7.57**	**61**		**Pn**	**17 42 48.4**	**+3.9**
M11K	**Mekoryuk**	**10.16**	**26**	Pn	**Pn**	**17 43 24.3**	**+4.4**
O14K	**Tigyukauivet M**	**11.01**	**40**	Pn	**Pn**	**17 43 36.1**	**+4.5**
M13K	**Dall Lake**	**11.05**	**32**	Pn	**Pn**	**17 43 36.8**	**+4.8**
K13K	**Kusilvak Mount**	**11.87**	**25**	Pn	**Pn**	**17 43 47.7**	**+4.4**
N15K	**Kwethluk River**	**12.05**	**38**	Pn	**Pn**	**17 43 50.1**	**+4.4**
O16K	**Kokwok River B**	**12.53**	**43**	Pn	Pn	17 43 57.5	+5.2
K15K	**Wolf Creek Mou**	**13.04**	**29**		**Pn**	**17 44 03.9**	**+4.6**
L16K	**Owhat River**	**13.30**	**34**	Pn	**Pn**	**17 44 07.3**	**+4.6**
N17K	**Nushagak Hills**	**13.43**	**41**	Pn	**Pn**	**17 44 09.2**	**+4.7**
ANM	**Nome**	**14.01**	**18**	Pn	**Pn**	**17 44 16.2**	**+3.7**
J16K	**Anvik River**	**14.08**	**28**		**P**	**17 44 18.8**	**-1.8**
KDAK	**Kodiak Island**	**14.42**	**56**	Pn	**Pn**	**17 44 19.6**	**+1.5**
KDAK	**Kodiak Island**	**14.42**	**56**	P	**Pn**	**17 44 18.5**	**+0.4**
	15nm,1.0s,baz=116,slow=6.3,SNR=22						
TNA	**Tin City**	**14.53**	**12**	Pn	**Pn**	**17 44 21.7**	**+2.3**
J17K	**VABM Dome**	**14.62**	**30**	P	**P**	**17 44 29.7**	**+3.1**
L18K	**Granite Mounta**	**14.63**	**36**		**P**	**17 44 24.6**	**-2.1**
N19K	**Bonanza Creek**	**14.71**	**43**	Pn	**Pn**	**17 44 24.8**	**+2.8**
L19K	**White Mountain**	**15.29**	**38**	P	**P**	**17 44 34.9**	**+0.7**
L19K				IAmb	IAmb	17 44 40.2	
	comp=Z,9.4nm,0.9s						
J18K	**Innoko River**	**15.43**	**32**	P	**P**	**17 44 35.3**	**-0.3**
J18K				IAmb	IAmb	17 44 41.1	
	comp=Z,6.2nm,1.0s						
H17K	**Granite Mounta**	**15.56**	**25**	P	**Pn**	**17 44 35.5**	**+2.3**
H17K				IAmb	IAmb	17 44 43.1	
	comp=Z,13nm,1.2s						
CNPM	**China Poot**	**15.63**	**50**	Pn	**Pn**	**17 44 35.5**	**+1.4**
H18K	**Honhosa River**	**16.14**	**26**	P	**P**	**17 44 44.3**	**+0.7**
J19K	**Poorman**	**16.14**	**32**	P	**P**	**17 44 44.2**	**+0.7**
SLKM	**Skilak Lake**	**16.46**	**47**	Pn	**Pn**	**17 44 45.2**	**+0.4**
PETK	**Petropavlovsk-**	**16.64**	**286**	P	**Pn**	**17 44 47.7**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=84,slow=15,SNR=7.4						
PETK				LR	LR	17 50 33.2	
	comp=Z,32nm,21.4s,baz=84,slow=35						
J20K	**Nowinta River**	**16.76**	**33**		**P**	**17 44 52.4**	**+2.0**
J20K				IAmb	IAmb	17 44 56.4	
	comp=Z,8.5nm,1.1s						
C16K	**Lisburne Hills**	**17.44**	**12**	P	**P**	**17 45 00.0**	**+2.2**
KTH	**Kantishna Hill**	**17.56**	**38**	P	**P**	**17 45 01.2**	**+1.9**
KTH				IAmb	IAmb	17 45 04.2	
	comp=Z,16nm,1.1s						
KNK	**Knik Glacier**	**17.60**	**46**	P	**Pn**	**17 44 58.7**	**-0.3**
I21K	**Tanana**	**18.11**	**32**	P	**P**	**17 45 06.7**	**+1.4**
I21K				IAmb	IAmb	17 45 10.5	
	comp=Z,18nm,1.2s	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H29M				IAmb	IAmb	17 46 11.9	
	comp=Z,4.8nm,1.1s						
I30M	**Mount Dempster**	**24.00**	**40**	P	**P**	**17 46 07.8**	**0.0**
I30M				IAmb	IAmb	17 46 22.5	
	comp=Z,3.5nm,0.7s						
E28M	**Babbage River**	**24.09**	**32**	P	**P**	**17 46 06.9**	**-1.6**
E28M				IAmb	IAmb	17 46 11.1	
	comp=Z,3.6nm,0.9s						
E29M	**Blow River**	**24.54**	**33**	P	**P**	**17 46 13.0**	**+0.4**
E29M				IAmb	IAmb	17 46 15.9	
	comp=Z,3.0nm,0.7s						
H31M	**Peel River**	**24.97**	**40**	P	**P**	**17 46 15.1**	**-1.5**
H31M				IAmb	IAmb	17 46 47.5	
	comp=Z,5.3nm,1.1s						
YAK	**Yakutsk**	**31.03**	**311**	LR	LR	17 59 15.5	
	comp=Z,37nm,20.2s,baz=85,slow=36						
TIXI	**Tiksi**	**31.63**	**330**	LR	LR	18 02 16.8	
	comp=Z,24nm,18.5s,baz=21,slow=41						
YKA	**Yellowknife Ar**	**33.44**	**47**	P	**P**	**17 47 31.5**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=281,slow=9.3,SNR=2.4						
YKA				PcP	**PcP**	**17 50 13.1**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=279,slow=3.4,SNR=1.7						
	comp=Z,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.75**	**211**	T	T	18 24 58.4	
	baz=20,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**34.76**	**211**	T	T	18 24 58.4	
	baz=20,slow=76,SNR=60						
H11N1	**WAKE ISLAND Hy**	**34.77**	**211**	T	T	18 24 58.4	
	baz=20,slow=76,SNR=78						
USRK	**Ussuriysk Ar.**	**35.54**	**279**	P	**P**	**17 47 48.6**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=80,slow=7.7,SNR=4.3						
	comp=Z,1.6nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**35.96**	**210**	T	T	18 26 29.2	
	baz=17,SNR=142						
H11S2	**WAKE ISLAND Hy**	**35.98**	**210**	T	T	18 26 28.6	
	baz=17,slow=74,SNR=54						
H11S3	**WAKE ISLAND Hy**	**35.98**	**210**	T	T	18 26 27.4	
	baz=17,slow=74,SNR=33						
MJAR	**Matsushiro Arr**	**36.08**	**264**	P	**P**	**17 47 54.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=42,slow=7.4,SNR=4.5						
	comp=Z,1.0nm,0.7s						
LYMT	**Lyon Mountain**	**40.15**	**71**	P	**P**	**17 48 29.8**	**+0.4**
MCMT	**McKenzie Canyo**	**40.94**	**74**	P	**P**	**17 48 37.2**	**+1.3**
BOZ	**Bozeman (W)**	**41.25**	**72**	P	**P**	**17 48 38.7**	**+0.4**
BOZ				IAmb	IAmb	17 48 58.3	
	comp=Z,4.6nm,1.4s						
KSRS	**Korea Array**	**41.92**	**273**	P	**P**	**17 48 44.9**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=60,slow=7.5,SNR=6.8						
	comp=Z,1.4nm,0.7s						
PD31	**Pinedale Array**	**44.06**	**75**	P	**P**	**17 49 02.1**	**+0.8**
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**17 49 02.1**	**+0.8**
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**17 49 03.0**	**+1.8**
	comp=Z,2.3nm,0.6s,baz=306,slow=3.8,SNR=42						
	comp=Z,2.3nm,0.6s						
FCC	**Fort Churchill**	**44.17**	**48**	P	**P**	**17 49 00.9**	**-0.7**
SONM	**Songino Array**	**48.60**	**298**	PcP	**PcP**	**17 51 01.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=61,slow=3.3,SNR=4.7						
SPITS	**Spitsbergen Ar**	**50.34**	**357**	P	**P**	**17 49 48.9**	**-0.6**
	comp=Z,14nm,1.0s,baz=112,slow=5.5,SNR=5.0						
	comp=Z,14nm,1.0s						
TXAR	**Lajitas Array**	**56.36**	**84**	P	**P**	**17 50 34.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=299,slow=5.9,SNR=6.4						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**58.28**	**352**	P	**P**	**17 50 45.4**	**-1.9**
	comp=Z,8.9nm,1.2s,baz=13,slow=8.7,SNR=1.8						
	comp=Z,8.9nm,1.2s						
KURBB	**Kurchatov Arra**	**60.64**	**315**	P	**P**	**17 51 01.4**	**-2.4**
	comp=Z,1.0nm,0.4s,baz=43,slow=6.7,SNR=14						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**61.70**	**310**	P	**P**	**17 51 09.1**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=52,slow=5.8,SNR=4.9						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**62.21**	**322**	P	**P**	**17 51 12.6**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=52,slow=6.8,SNR=16						
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**66.09**	**349**	P	**P**	**17 51 37.1**	**-2.5**
	comp=Z,2.6nm,0.9s,baz=5.4,slow=4.5,SNR=1.7						
	comp=Z,2.6nm,0.9s						
HFS	**Hagfors**	**68.44**	**355**	P	**P**	**17 51 53.1**	**-1.5**
	comp=Z,10.0nm,1.1s,baz=260,slow=7.4,SNR=6.2						
	comp=Z,10.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.27**	**279**	P	**P**	**17 52 24.8**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=22,slow=7.5,SNR=6.5						
	comp=Z,1.5nm,0.9s						
EKA	**Eskdalemuir Ar**	**73.28**	**5**	P	**P**	**17 52 22.6**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=343,slow=5.7,SNR=2.4						
	comp=Z,2.3nm,0.9s						
AKASG	**Malin Array Be**	**76.05**	**344**	P	**P**	**17 52 37.8**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=19,slow=6.4,SNR=3.0						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**83.77**	**227**	P	**P**	**17 53 21.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=28,slow=5.3,SNR=1.8						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**87.20**	**225**	P	**P**	**17 53 39.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=21,slow=6.1,SNR=4.6						
	comp=Z,1.0nm,0.8s						
H03N2	**Juan Fernandez**	**119.00**	**108**	T	T	20 10 10.5	
	baz=317,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**119.01**	**108**	T	T	20 10 10.5	
	baz=317,slow=77,SNR=23						
H03N3	**Juan Fernandez**	**119.02**	**108**	T	T	20 10 10.0	
	baz=317,slow=77,SNR=16						
BOSA	**Boshof**	**152.46**	**319**	PKPbc	**PKPbc**	**18 00 48.9**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=19,slow=2.7,SNR=16						

NAO ***17*** *17:41:25.1, 34.°95N×24.°51E, h10km, mb3.9*
HLW ***17*** *17:41:26.6, 35.°16N×24.°81E, h30km±22km, Md3.9, Ml3.6*
IDC ***17*** *17:41:28.6±1.2, 35.°07N×24.°53E, h35km±6km, mb3.9/19, mbtmp4.0/25, ML3.7/5, MS3.2/6, Error ellipse: s-maj=19.2km s-min=12.9km az=169.0*
ISK ***17*** *17:41:29.7, 35.°08N×24.°67E, h45km±1km, ML3.7/16*
MCSM ***17*** *17:41:30.5±0.8, 35.°N±.°×2.°5E±.°, h21km±4km, mb3.8, MLv4.2*
ATH ***17*** *17:41:30.4, 34.°95N×24.°73E, h22km±1km, ML3.7/14, Manual Solution by A.Agalos First location: 2019/03/17 17:42:24, This location: 2019/03/17 18:06:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
THE ***17*** *17:41:31.2, 35.°00N×24.°68E, h21km, ML3.5/10, Error ellipse: s-maj=0.8km s-min=0.4km az=168.0*
AFAD ***17*** *17:41:35.0, 34.°89N×25.°17E, h38km, MW3.9*

ISC 17 17:41:28.3±0.5, 34.°89N±0.°04×24.°74E±0.°03, h35km, n179, σ2.°13/218, mb3.9/19, MS3.2/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.18**	**7**	P	**Pn**	**17 41 35.2**	**+0.2**
TMBK				S	**Sn**	**17 41 38.5**	**-1.0**
TMBK	**Timbaki Herakl**	**0.18**	**7**	P	**Pn**	**17 41 36.2**	**+1.3**
IDI	**Anoyia**	**0.41**	**18**	Pg	**Pn**	**17 41 38.6**	**+0.7**
IDI				Sg	**Sn**	**17 41 45.1**	**+0.7**
IDI	**Anoyia**	**0.41**	**18**	P	**Pn**	**17 41 38.4**	**+0.6**
IDI				S	**Sn**	**17 41 44.1**	**-0.3**
IDI	**Anoyia**	**0.41**	**18**	Pg	**Pn**	**17 41 38.5**	**+0.7**
	568nm,0.3s,baz=252,slow=12,SNR=1850						
IDI				Lg	Lg	17 41 44.9	
	1μm,0.3s,baz=27,slow=18,SNR=42						
IDI	**Anoyia**	**0.41**	**18**	P	**Pn**	**17 41 38.6**	**+0.7**
IDI				S	**Sn**	**17 41 43.8**	**-0.6**
IACM	**Heraklion**	**0.49**	**33**	P	**Pn**	**17 41 40.0**	**+1.1**
IACM				S	**Sn**	**17 41 47.6**	**+1.4**
IACM	**Heraklion**	**0.49**	**33**	P	**Pn**	**17 41 40.1**	**+1.2**
IACM				S	**Sn**	**17 41 46.4**	**+0.2**
PRNS	**Prines Rethymn**	**0.51**	**338**	P	**Pn**	**17 41 40.1**	**+1.0**
PRNS				S	**Sn**	**17 41 46.0**	**-0.6**
PRNS	**Prines Rethymn**	**0.51**	**338**	P	**Pn**	**17 41 39.8**	**+0.8**
PRNS				S	**Sn**	**17 41 46.9**	**+0.3**
GVD	**Gavdhos**	**0.54**	**264**	Pg	**Pn**	**17 41 41.3**	**+1.8**
GVD				Sg	**Sn**	**17 41 50.2**	**+2.9**
GVD	**Gavdhos**	**0.54**	**264**	P	**Pn**	**17 41 41.0**	**+1.5**
GVD				S	**Sn**	**17 41 49.2**	**+1.9**
	22μm,0.3s						
GVD	**Gavdhos**	**0.54**	**264**	P	**Pn**	**17 41 41.2**	**+1.7**
GVD				S	**Sn**	**17 41 48.5**	**+1.2**
CHNB	**Souda**	**0.81**	**317**	P	**Pn**	**17 41 45.2**	**+2.0**
CHNB				S	**Sn**	**17 41 56.0**	**+2.1**
CHAN	**Chania**	**0.84**	**318**	P	**Pn**	**17 41 45.5**	**+1.8**
CHAN				S	**Sn**	**17 41 55.4**	**+0.5**
	3μm,0.6s						
CHAN	**Chania**	**0.84**	**318**	P	**Pn**	**17 41 45.9**	**+2.1**
CHAN				S	**Sn**	**17 41 57.2**	**+2.3**
KNDR	**Palaiochora Ch**	**0.93**	**292**	Pg	**Pn**	**17 41 47.5**	**+2.7**
KNDR	**Palaiochora Ch**	**0.93**	**292**	P	**Pn**	**17 41 47.0**	**+2.2**
KNDR				S	**Sn**	**17 42 00.5**	**+3.6**
	3μm,0.6s						
KNDR	**Palaiochora Ch**	**0.93**	**292**	P	**Pn**	**17 41 47.7**	**+2.8**
KNDR				S	**Sn**	**17 42 01.1**	**+4.2**
ZKR	**Zakros**	**1.23**	**79**	Pn	**Pn**	**17 41 52.7**	**+3.6**
ZKR	**Zakros**	**1.23**	**79**	P	**Pn**	**17 41 53.2**	**+4.1**
ZKR				S	**Sn**	**17 42 08.9**	**+4.4**
	2μm,0.8s						
ZKR	**Zakros**	**1.23**	**79**	P	**Pn**	**17 41 53.3**	**+4.2**
ZKR				S	**Sn**	**17 42 08.7**	**+4.2**
ANKY	**Antikythira Is**	**1.52**	**310**	P	**Pn**	**17 41 55.8**	**+2.8**
ANKY				S	**Sn**	**17 42 13.3**	**+1.7**
	2μm,0.7s						
ANKY	**Antikythira Is**	**1.52**	**310**	P	**Pn**	**17 41 56.5**	**+3.5**
ANKY				S	**Sn**	**17 42 15.0**	**+3.4**
THR6	**Thira Island,**	**1.56**	**20**	P	**Pn**	**17 41 55.4**	**+1.9**
THR3	**Thira Island,**	**1.61**	**19**	P	**Pn**	**17 41 55.9**	**+1.7**
SAP3	**Santorini-Thir**	**1.62**	**18**	P	**Pn**	**17 41 56.7**	**+2.3**
THRA	**Thira**	**1.62**	**20**	P	**Pn**	**17 41 57.4**	**+3.0**
THR8	**Santorini-Mono**	**1.63**	**22**	P	**Pn**	**17 41 56.1**	**+1.7**
CMBO	**Columbo, Santo**	**1.67**	**19**	P	**Pn**	**17 41 57.2**	**+2.2**
CMBO				S	**Sn**	**17 42 16.9**	**+1.8**
	2μm,0.6s						
CMBO	**Columbo, Santo**	**1.67**	**19**	P	**Pn**	**17 41 57.3**	**+2.3**
MHLO	**Agia Marina, M**	**1.81**	**351**	P	**Pn**	**17 41 58.8**	**+1.7**
KARP	**Karpathos**	**2.09**	**71**	Pn	**Pn**	**17 42 03.4**	**+2.5**
KARP	**Karpathos**	**2.09**	**71**	P	**Pn**	**17 42 04.6**	**+3.8**
KARP	**Karpathos**	**2.09**	**71**	P	**Pn**	**17 42 05.0**	**+4.1**
KARP	**Karpathos**	**2.09**	**71**	P	**Pn**	**17 42 04.7**	**+3.8**
ASTA	**Astypalaia**	**2.11**	**38**	P	**Pn**	**17 42 03.9**	**+2.8**
AMGA	**Amorgos Island**	**2.15**	**26**	P	**Pn**	**17 42 03.5**	**+1.8**
APE	**Apeiranthos**	**2.27**	**16**	Pn	**Pn**	**17 42 03.7**	**+0.4**
APE	**Apeiranthos**	**2.27**	**16**	P	**Pn**	**17 42 04.7**	**+1.4**
APE				S	**Sn**	**17 42 32.0**	**+2.0**
	340nm,0.6s						
APE	**Apeiranthos**	**2.27**	**16**	P	**Pn**	**17 42 04.7**	**+1.4**
VLI	**Veliai**	**2.34**	**322**	P	**Pn**	**17 42 05.9**	**+1.6**
VLI				S	**Sn**	**17 42 32.6**	**+0.9**
	375nm,0.8s						
VLI	**Veliai**	**2.34**	**322**	P	**Pn**	**17 42 05.8**	**+1.6**
KRND	**KRANIDI**	**2.80**	**333**	P	**Pn**	**17 42 12.1**	**+1.5**
KRND				S	**Sn**	**17 42 44.8**	**+1.7**
	330nm,0.5s						
KRND	**KRANIDI**	**2.80**	**333**	P	**Pn**	**17 42 12.3**	**+1.7**
YAZI	**Mula-Dat§a-**	**2.84**	**50**	P	**Pn**	**17 42 13.4**	**+2.3**
MET4	**Agioi Theodoro**	**2.93**	**339**	P	**Pn**	**17 42 14.0**	**+1.6**
MET5	**Makryloggos,Me**	**2.94**	**338**	P	**Pn**	**17 42 14.3**	**+1.8**
BODT	**Bodrum**	**3.01**	**43**	Pn	**Pn**	**17 42 14.9**	**+1.4**
VLY	**Voula,Athens**	**3.05**	**346**	P	**Pn**	**17 42 15.8**	**+1.7**
ARG	**Arkhangelos**	**3.06**	**63**	Pn	**Pn**	**17 42 16.9**	**+2.7**
ARG	**Arkhangelos**	**3.06**	**63**	P	**Pn**	**17 42 17.4**	**+3.2**
ARG				S	**Sn**	**17 42 53.6**	**+4.0**
	288nm,1.2s						
ARG	**Arkhangelos**	**3.06**	**63**	P	**Pn**	**17 42 17.4**	**+3.2**
BDRM	**Kayabasi**	**3.08**	**45**	P	**Pn**	**17 42 16.6**	**+2.0**
KARY	**Karystos**	**3.14**	**356**	P	**Pn**	**17 42 17.0**	**+1.7**
ATHU	**Athens Univers**	**3.16**	**346**	P	**Pn**	**17 42 17.5**	**+1.9**
ITM	**Ithomi**	**3.22**	**316**	Pn	**Pn**	**17 42 17.1**	**+0.7**
ITM	**Ithomi**	**3.22**	**316**	P	**Pn**	**17 42 18.1**	**+1.6**
PTL	**Penteli**	**3.23**	**348**	P	**Pn**	**17 42 17.9**	**+1.4**
PTL				S	**Sn**	**17 42 55.3**	**+1.6**
PTL	**Penteli**	**3.23**	**348**	P	**Pn**	**17 42 18.1**	**+1.6**
DION	**Dionisos Attik**	**3.24**	**349**	P	**Pn**	**17 42 18.5**	**+1.8**
DION	**Dionisos Attik**	**3.24**	**349**	P	**Pn**	**17 42 18.3**	**+1.6**
TURN	**Turunc**	**3.41**	**56**	Pn	**Pn**	**17 42 21.5**	**+2.5**
TURN	**Turunc**	**3.41**	**56**	P	**Pn**	**17 42 22.0**	**+3.0**
TURN				S	**Sn**	**17 42 59.5**	**+1.3**
SLUM	**Salum**	**3.42**	**173**	P	**Pn**	**17 42 21.5**	**+2.4**
LTK	**Loutraki**	**3.43**	**336**	P	**Pn**	**17 42 20.6**	**+1.3**
MLSB	**Milas**	**3.44**	**45**	Pn	**Pn**	**17 42 21.3**	**+1.9**
GCAM	**G?zelcaml?**	**3.45**	**35**	Pn	**Pn**	**17 42 21.1**	**+1.6**
VILL	**Villia**	**3.46**	**341**	P	**Pn**	**17 42 21.1**	**+1.4**
GUR	**Goura**	**3.60**	**328**	P	**Pn**	**17 42 23.4**	**+1.7**
GUR	**Goura**	**3.60**	**328**	P	**Pn**	**17 42 23.8**	**+2.1**
YER	**Yerkesik**	**3.64**	**51**	Pn	**Pn**	**17 42 24.6**	**+2.4**
DALY	**Dalyan (Mula)**	**3.71**	**58**	Pn	**Pn**	**17 42 25.8**	**+2.6**
KYMI	**Kymi, Euboea I**	**3.77**	**352**	P	**Pn**	**17 42 25.5**	**+1.6**
KYMI	**Kymi, Euboea I**	**3.77**	**352**	P	**Pn**	**17 42 25.6**	**+1.7**
FETY	**Fethiye**	**3.94**	**63**	Pn	**Pn**	**17 42 29.4**	**+3.1**
FETY	**Fethiye**	**3.94**	**63**	P	**Pn**	**17 42 29.2**	**+3.0**
FETY				S	**Sn**	**17 43 14.4**	**+3.1**
SABU	**Mula-Dalaman**	**3.94**	**60**	P	**Pn**	**17 42 29.6**	**+3.3**
BLCB	**Balcova**	**3.95**	**27**	Pn	**Pn**	**17 42 27.9**	**+1.5**
IZZE	**Mula-Seydike**	**3.96**	**66**	P	**Pn**	**17 42 28.8**	**+2.1**
IZZE				S	**Sn**	**17 43 10.9**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**3.97**	**39**	Pn	**Pn**	**17 42 28.3**	**+1.5**
LKR	**Lokris**	**4.00**	**340**	P	**Pn**	**17 42 28.8**	**+1.7**
ESEN	**Aydn-Nazilli**	**4.11**	**44**	P	**Pn**	**17 42 32.1**	**+3.5**
AKAS	**Kas**	**4.19**	**70**	Pn	**Pn**	**17 42 32.3**	**+2.5**
AKAS	**Kas**	**4.19**	**70**	P	**Pn**	**17 42 32.8**	**+3.1**
AKAS				S	**Sn**	**17 43 15.2**	**-2.3**
NAZL	**Nazilli-Aydin**	**4.20**	**42**	Pn	**Pn**	**17 42 32.2**	**+2.4**
AXAR	**Agios Charalam**	**4.21**	**337**	P	**Pn**	**17 42 31.6**	**+1.6**
DNZT	**Denizli-Tavas-**	**4.21**	**54**	P	**Pn**	**17 42 33.2**	**+3.1**
DNZT				S	**Sn**	**17 43 18.5**	**+0.4**
CAME	**Cameli-Denizli**	**4.23**	**60**	Pn	**Pn**	**17 42 33.4**	**+3.0**
TAVA	**DENIZLI_Tavas**	**4.24**	**52**	P	**Pn**	**17 42 33.8**	**+3.3**
AXS	**Araxos**	**4.26**	**322**	P	**Pn**	**17 42 33.6**	**+2.9**
ODEM	**Odemis-Izmir**	**4.31**	**38**	Pn	**Pn**	**17 42 33.6**	**+2.1**
CAEL	**Denizli, Camel**	**4.33**	**58**	P	**Pn**	**17 42 34.9**	**+3.2**
KNIK	**Mula-Seydike**	**4.38**	**62**	P	**Pn**	**17 42 35.4**	**+3.0**
KNIK				S	**Sn**	**17 43 22.6**	**+0.2**
SIGR	**SIGRI**	**4.40**	**11**	Pn	**Pn**	**17 42 33.6**	**+1.0**
SIGR	**SIGRI**	**4.40**	**11**	P	**Pn**	**17 42 33.6**	**+1.0**
DNIZ	**Denizli-Tavas-**	**4.42**	**51**	P	**Pn**	**17 42 35.8**	**+2.8**
APMY	**Acipayam-Deniz**	**4.50**	**54**	Pn	**Pn**	**17 42 36.8**	**+2.8**
PRK	**Paraskevi**	**4.51**	**15**	P	**Pn**	**17 42 35.6**	**+1.5**
GOLH	**Golhisar**	**4.55**	**58**	P	**Pn**	**17 42 38.2**	**+3.4**
GOLH				S	**Sn**	**17 43 29.1**	**+2.6**
ELL	**Elmali**	**4.59**	**65**	Pn	**Pn**	**17 42 38.8**	**+3.5**
ELL	**Elmali**	**4.59**	**65**	P	**Pn**	**17 42 38.5**	**+3.2**
XOR	**Xorichti**	**4.63**	**345**	P	**Pn**	**17 42 37.9**	**+2.0**
AKUM	**Antalya-Kumluc**	**4.78**	**71**	P	**Pn**	**17 42 40.2**	**+2.3**
AKUM				S	**Sn**	**17 43 31.0**	**-1.1**
KULA	**Kula-Manisa**	**4.79**	**40**	Pn	**Pn**	**17 42 40.5**	**+2.4**
INCE	**Denizli-Bozkur**	**4.81**	**53**	P	**Pn**	**17 42 41.4**	**+3.0**
GORD	**Gordes-Manisa**	**4.86**	**34**	Pn	**Pn**	**17 42 41.5**	**+2.5**
DB3	**El Dabaa**	**5.00**	**139**	S	**Sn**	**17 43 36.2**	**-1.2**
LIA	**Limnos Island**	**5.01**	**4**	P	**Pn**	**17 42 42.7**	**+1.7**
KORT	**Korkueli**	**5.01**	**64**	P	**Pn**	**17 42 44.2**	**+3.0**
KORT				S	**Sn**	**17 43 37.8**	**-0.2**
PAIG	**Paliouri**	**5.09**	**351**	Pn	**Pn**	**17 42 43.5**	**+1.4**
TYRN	**Tyrnavos**	**5.21**	**338**	P	**Pn**	**17 42 45.3**	**+1.6**
BUCA	**Burdur, Bucak-**	**5.30**	**61**	P	**Pn**	**17 42 48.1**	**+3.0**
BUCA				S	**Sn**	**17 43 45.1**	**+0.1**
SWA2		**5.67**	**174**	P	**Pn**	**17 42 52.0**	**+2.0**
HNAT	**Natroun**	**7.23**	**135**	P	**Pn**	**17 43 13.0**	**+1.5**
CEL	**Celeste**	**7.87**	**298**	P	**Pn**	**17 43 22.4**	**+2.1**
	0.1nm13nm,0.8s						
ANTO	**Ankara**	**8.11**	**50**	P	**Pn**	**17 43 25.1**	**+1.5**
	0.0nm4.3nm,0.8s						
HFRF	**Wahat Farafira**	**8.30**	**157**	P	**Pn**	**17 43 27.3**	**+1.0**
NBNS	**Bani Suef**	**8.38**	**136**	P	**Pn**	**17 43 28.6**	**+1.3**
NBNS				S	**Sn**	**17 44 58.0**	**-2.6**
BR105	**Keskin Array S**	**8.56**	**53**	P	**Pn**	**17 43 31.3**	**+1.5**
	3.3nm,1.0s						
BR106	**Keskin Array S**	**8.56**	**53**	P	**Pn**	**17 43 30.9**	**+1.0**
	3.8nm,0.8s						
BR104	**Keskin Array S**	**8.57**	**53**	P	**Pn**	**17 43 31.3**	**+1.4**
	3.5nm,1.0s						
BRTR	**Keskin Array B**	**8.57**	**53**	Pn	**Pn**	**17 43 31.1**	**+1.1**
	0.2nm,0.3s,baz=234,slow=14,SNR=10.0						
	0.7nm,0.7s						
VAE	**Valguarnera**	**8.74**	**290**	Pn	**Pn**	**17 43 30.8**	**-1.4**
	3.8nm,0.5s,baz=304,slow=20,SNR=1.4						
VAE				Sn	**Sn**	**17 45 05.1**	**-4.4**
	1.9nm,0.3s,baz=215,slow=11,SNR=7.4						
EIL	**Elat**	**10.09**	**118**	Pn	**Pn**	**17 43 51.0**	**+0.3**
	1.2nm,0.3s,baz=323,slow=2.6,SNR=19						
EIL				Sn	**Sn**	**17 45 35.6**	**-7.0**
	1.9nm,0.3s,baz=83,slow=4.0,SNR=8.6						
ASF	**Jabal al Asfar**	**10.51**	**102**	Pn	**Pn**	**17 43 56.1**	**-0.4**
	0.3nm,0.3s,baz=306,slow=9.3,SNR=2.8						
ASF				Sn	**Sn**	**17 45 47.5**	**-5.4**
	0.3nm,0.3s,baz=295,slow=16,SNR=1.9						
MLR	**Muntele Rosu**	**10.63**	**5**	Pn	**Pn**	**17 43 58.5**	**+0.5**
	0.1nm,0.3s,baz=149,slow=10.0,SNR=2.1						
MLR				LR	LR	17 48 51.5	
	comp=Z,56nm,18.7s,baz=154,slow=42						
	1.4nm,0.7s						
KBA	**Koelnbreinsper**	**14.88**	**328**	*i* P	**P**	**17 45 02.2**	**+0.6**
	1.4nm,0.4s						
ABTA	**Abfaltersbach**	**15.01**	**326**	*i* P	**P**	**17 45 03.5**	**+0.7**
	1.7nm,0.6s						
MOA	**Molln**	**15.12**	**332**	*i* P	**P**	**17 45 04.3**	**+0.2**
	1.8nm,0.4s						
LUBAR	**Lubar, Ukraine**	**15.18**	**7**	P	**Pn**	**17 45 00.4**	**+0.5**
BIOA	**Bad Ischl, Aus**	**15.24**	**330**	*i* P	**P**	**17 45 05.5**	**+0.1**
	1.3nm,0.2s						
MAUC	**Maruska**	**15.33**	**343**	*e*P	**P**	**17 45 07.0**	**+0.7**
LESA	**Schwarzleotal**	**15.44**	**328**	*e*P	**P**	**17 45 08.5**	**+0.9**
	3.3nm,0.5s						
WATA	**Walderalm**	**15.87**	**326**	*i* P	**P**	**17 45 14.6**	**+2.1**
	3.2nm,0.6s						
STEB	**Steborice**	**15.88**	**343**	*e*P	**P**	**17 45 13.8**	**+1.5**
CKRC	**Cesky Krumlov**	**15.91**	**334**	*e*P	**P**	**17 45 13.5**	**+0.7**
AK06	**Malin Array Si**	**16.02**	**10**	P	**Pn**	**17 45 11.6**	**+0.9**
AK13	**Malin Array Si**	**16.02**	**10**	P	**Pn**	**17 45 11.6**	**+0.8**
AK10	**Malin Array Si**	**16.04**	**10**	P	**Pn**	**17 45 11.8**	**+0.8**
AK14	**Malin Array Si**	**16.05**	**10**	P	**Pn**	**17 45 11.8**	**+0.7**
AK05	**Malin Array Si**	**16.05**	**10**	P	**Pn**	**17 45 12.2**	**+1.0**
AK09	**Malin Array Si**	**16.06**	**11**	P	**Pn**	**17 45 12.4**	**+1.1**
AK12	**Malin Array Si**	**16.07**	**10**	P	**Pn**	**17 45 12.2**	**+0.8**
AK08	**Malin Array Si**	**16.07**	**10**	P	**Pn**	**17 45 12.5**	**+1.1**
AK16	**Malin Array Si**	**16.09**	**10**	P	**Pn**	**17 45 12.5**	**+0.9**
KIEV	**Kiev**	**16.12**	**10**	P	**Pn**	**17 45 13.1**	**+1.0**
	57nm,1.2s						
AKBB	**Malin Array Si**	**16.13**	**10**	P	**Pn**	**17 45 13.1**	**+0.9**
AKASG	**Malin Array Be**	**16.13**	**10**	Pn	**Pn**	**17 45 12.7**	**+0.5**
	4.7nm,0.3s,baz=204,slow=10,SNR=39						
GERES	**GERESS Array B**	**16.16**	**333**	Pn	**Pn**	**17 45 15.4**	**+2.8**
	0.5nm,0.3s,baz=147,slow=13,SNR=12						
DAVOX	**Davos/Dischmat**	**16.32**	**321**	Pn	**P**	**17 45 18.7**	**+1.2**
	0.2nm,0.3s,baz=96,slow=8.2,SNR=3.7						
KHC	**Kasperske Hory**	**16.44**	**333**	*e*P	**P**	**17 45 19.3**	**+0.7**
KIV	**Kislovodsk**	**16.53**	**51**	P	**P**	**17 45 20.6**	**+0.8**
	9.7nm,1.2s						
KVAR	**Kislovodsk Arr**	**16.54**	**51**	Pn	**P**	**17 45 21.3**	**+1.5**
	baz=260,slow=18						
	1.5nm,0.5s						
KBZ	**Khabaz**	**16.57**	**52**	Pn	**P**	**17 45 21.4**	**+1.4**
	0.3nm,0.3s,baz=248,slow=8.4,SNR=11						
KBZ				LR	LR	17 53 02.7	
	comp=Z,33nm,18.8s,baz=204,slow=42						
	9.6nm,1.0s						
GNI	**Garni**	**

51nm,0.3s,baz=178,slow=22,SNR=10
KAPI LR LR 17 44 42.1
comp=Z,2μm,21.8s,baz=169,slow=40
KAPI Kappang 4.68 8 P **Pn 17 42 54.5 +2.6**
KAPI Kappang 4.68 8 S **Sn 17 43 48.8 +2.5**
KAPI Kappang 4.68 8*d i*P **Pn 17 42 53.5 +1.6**
KAPI pmax pmax
comp=Z,349nm,1.3s
JAGI Jajag, Banyuwa 5.00 283 Pn **Pn 17 42 55.9 -0.4**
JAGI Jajag, Banyuwa 5.00 283 P **Pn 17 42 57.4 +1.1**
JAGI Jajag, Banyuwa 5.00 283 P **Pn 17 42 57.2 +0.9**
SOEI Soe 5.12 91 Pn **Pn 17 42 59.5 +1.4**
SOEI Soe 5.12 91 P **Pn 17 43 01.4 +3.3**
SOEI Soe 5.12 91 P **Pn 17 43 01.2 +3.1**
ABJI Asem Bagus 5.13 291 P **Pn 17 43 02.7 +4.6**
comp=Z,1.7nmcomp=Z,3μmcomp=Z,201nm,0.6s
BBSI Bau Bau 5.42 40 P **Pn 17 43 04.1 +2.1**
comp=Z,0.8nmcomp=Z,2μmcomp=Z,2μmcomp=Z,254nm,1.1s
KMMI Kalianget 5.68 297 P **Pn 17 43 08.5 +2.8**
comp=Z,0.6nmcomp=Z,96nm,1.1s
SPSI Sidrap Palu 5.71 7 P **Pn 17 43 09.1 +3.0**
comp=Z,0.8nmcomp=Z,2μmcomp=Z,158nm,0.6s
GMJI Gumukmas 5.73 284 P **Pn 17 43 06.6 +0.3**
comp=Z,0.9nmcomp=Z,2μmcomp=Z,90nm,0.6s
TTSI Tana Toraja 6.63 6 P **Pn 17 43 22.5 +3.8**
comp=Z,0.7nmcomp=Z,2μmcomp=Z,148nm,0.7s
PCJI Pacitan 7.94 280 P **Pn 17 43 37.1 +0.5**
comp=Z,85nm,0.8s
UGM Wanagama 8.63 281 P **Pn 17 43 49.8 +3.6**
UGM Wanagama 8.63 281 P **Pn 17 43 46.2 0.0**
comp=Z,139nm,1.9s
PCI Palu 8.74 5 P Pn 17 43 53.0 +5.2
comp=Z,2μmcomp=Z,209nm,1.2s
LUWI Luwuk 9.33 23 P **Pn 17 43 56.2 +0.4**
comp=Z,78nm,1.1s
MTKI Muara Teweh, K 9.62 334 P **Pn 17 44 02.1 +2.4**
FITZ Fitzroy Crossi 10.52 143 Pn **Pn 17 44 11.6 -0.5**
FITZ Fitzroy Crossi 10.52 143 Pn **Pn 17 44 12.2 +0.1**
comp=Z,1.3nm,0.3s,baz=340,slow=7.5,SNR=19
FITZ Sn **Sn 17 46 01.9 -8.2**
comp=Z,2.9nm,0.3s,baz=157,slow=12,SNR=8.1
FITZ LR LR 17 48 42.4
comp=Z,338nm,18.7s,baz=320,slow=40
comp=Z,8.3nm,0.6s
CMJI Cimerak 10.66 279 P **Pn 17 44 15.6 +1.5**
comp=Z,69nm,1.7s
TOLI2 Tolitoli 10.85 9 P **Pn 17 44 19.1 +2.5**
KNRA Kununurra 11.18 123 Pn **Pn 17 44 20.6 -0.5**
KNRA Kununurra 11.18 123 P **Pn 17 44 21.0 -0.1**
comp=Z,47nm,0.7s
MBWA Marble Bar 11.44 177 Pn **Pn 17 44 24.0 -0.6**
MBWA Marble Bar 11.44 177 P **Pn 17 44 24.8 +0.2**
BBJI Bungbulang 11.50 280 P **Pn 17 44 26.6 +0.9**
LEM Lembang 11.68 283 Pn **Pn 17 44 29.0 +0.8**
comp=Z,1.1nm,0.3s,baz=356,slow=23,SNR=1.9
LEM Sn **Sn 17 46 35.8 -3.1**
comp=Z,2.3nm,0.3s,baz=345,slow=22,SNR=1.5
comp=Z,8.3nm,0.5s
LEM Lembang 11.68 283 P **Pn 17 44 29.0 +0.8**
PSAC1 Pilbara Seismi 11.81 177 P **Pn 17 44 28.3 -1.5**
comp=Z,37nm,0.8s
PSA00 Pilbara Seismi 11.85 176 Pn **Pn 17 44 28.9 -1.5**
PSA00 Pilbara Seismi 11.85 176 P **Pn 17 44 29.2 -1.2**
PSA00 Pilbara Seismi 11.85 176 P **Pn 17 44 28.9 -1.5**
comp=Z,34nm,0.8s
PSA00 Pilbara Seismi 11.85 176 P **Pn 17 44 29.3 -1.1**
DRS Darwin Rock St 11.93 104 P **Pn 17 44 31.3 -0.1**
CNJI Cibinong 12.04 280 P **Pn 17 44 33.1 +0.2**
comp=Z,19nm,0.8s
SAUI Saumlaki 12.20 83 Pn **Pn 17 44 34.9 -0.2**
SAUI Saumlaki 12.20 83 P **Pn 17 44 37.5 +2.3**
SAUI Saumlaki 12.20 83 P **Pn 17 44 36.3 +1.1**
MTN Manton Dam 12.24 106 Pn **Pn 17 44 33.8 -1.9**
MTN Manton Dam 12.24 106 P **Pn 17 44 34.3 -1.4**
MTN Manton Dam 12.24 106 P **Pn 17 44 35.4 -0.3**
KDU Kakadu 13.49 104 P **Pn 17 44 51.6 -1.1**
CGJI Cibinong 13.59 282 P **Pn 17 44 52.4 -1.6**
comp=Z,28nm,0.6s
GIRL Giralia 13.70 199 Pn **Pn 17 44 55.2 -0.4**
GIRL Giralia 13.70 199 P **Pn 17 44 55.5 -0.1**
KSM Kuching 14.10 321 Pn **Pn 17 44 59.6 -1.5**
FAKI Fak Fak 14.71 64 Pn **Pn 17 45 08.9 -0.6**
FAKI Fak Fak 14.71 64 P **Pn 17 45 08.7 -0.8**
comp=Z,87nm,0.9s
SWI Sorong 14.96 55 P **Pn 17 45 13.7 +0.9**
comp=Z,783nmcomp=Z,103nm,1.0s
LWLI Liwa 15.59 286 P **Pn 17 45 23.7 +2.5**
comp=Z,74nm,0.7s
MDSI Maura Dua 15.65 288 P **Pn 17 45 24.9 +3.0**
KKM Kota Kinabalu 15.87 350 P **P 17 45 30.3 +1.6**
MNAI Manna 16.84 287 P **P 17 45 42.2 +2.9**
MEEK Meekatharra 16.88 181 P **P 17 45 37.3 -2.4**
comp=Z,39nm,0.8s
MEEK Meekatharra 16.88 181 P **Pn 17 45 37.1 -0.5**
KSI Kapahiang 17.42 289 P **Pn 17 45 44.1 -0.4**
comp=Z,28nm,0.6s
WRKA Warakurna 17.62 151 P **P 17 45 47.6 -0.4**
comp=Z,22nm,0.9s
WRKA Warakurna 17.62 151 P **P 17 45 47.8 -0.1**
DAV Davao City (W) 17.85 22 LR LR 17 53 55.9
comp=Z,116nm,19.2s,baz=3.0,slow=42
WB0 Warramunga Arr 17.88 126 Pn **Pn 17 45 48.4 -1.8**
WRA Warramunga Arr 17.93 126 **Pn 17 45 49.5 -1.4**
WRA Warramunga Arr 17.93 126 P **Pn 17 45 49.0 -1.8**
comp=Z,15nm,0.8s,baz=301,slow=13,SNR=63
WRA S Sn 17 48 57.7 -13
comp=Z,12nm,1.0s,baz=300,slow=24,SNR=12
WRA Warramunga Arr 17.93 126 *i* P **Pn 17 45 49.0 -1.8**
WRA pmax pmax
comp=Z,15nm,0.8s
WRAB Tennant Creek 17.94 126 **Pn 17 45 50.6 -0.3**
WRAB Tennant Creek 17.94 126*de*P **P 17 45 50.9 -0.5**
WRAB pmax pmax
comp=Z,18nm,0.8s
WB2 Warramunga Arr 17.94 126 **Pn 17 45 49.4 -1.5**
MORW Morawa 19.50 188 **Pn 17 46 09.5 -0.3**
MORW Morawa 19.50 188 P **Pn 17 46 11.0 +1.2**
MORW Morawa 19.50 188 P **Pn 17 46 09.9 +0.1**
AS31 Alice Springs 19.86 136 **Pn 17 46 13.0 -1.2**
AS31 Alice Springs 19.86 136 P **Pn 17 46 13.6 -0.5**
comp=Z,9.9nm,0.8s
ASAR Alice Springs 19.86 136 P **Pn 17 46 13.4 -0.8**
ASAR Alice Springs 19.86 136 P **Pn 17 46 13.9 -0.3**
comp=Z,0.7nm,0.3s,baz=326,slow=12,SNR=60
ASAR S S 17 49 42.8 -14
comp=Z,7.1nm,1.0s,baz=303,slow=19,SNR=9.7
ASAR LR LR 17 54 02.8
comp=Z,164nm,20.5s,baz=311,slow=37
ASAR PKiKP **PKiKP 17 58 19.8 +0.2**
comp=Z,0.4nm,0.7s,baz=265,slow=0.8,SNR=5.1
comp=Z,21nm,0.8s
AS01 Alice Springs 19.89 136 P **Pn 17 46 14.2 -0.3**
AS06 Alice Springs 19.89 136 P **Pn 17 46 14.0 -0.6**
comp=Z,37nm,0.9s
AS19 Alice Springs 19.93 136 P **Pn 17 46 14.3 -0.7**
comp=Z,31nm,1.1s
BLDU Ballidu 20.95 186 P Pn 17 46 25.7 -1.1
comp=Z,37nm,0.7s
BLDU Ballidu 20.95 186 P Pn 17 46 28.9 +2.0
SMPI Sarmi 20.96 70 P **P 17 46 24.7 +0.1**
comp=Z,56nm,1.1s
KMBL Kambalda 21.74 173 P **P 17 46 34.4 +1.6**
MUN Mundaring 22.35 186 P **P 17 46 40.9 +1.5**
QIS Mount Isa 22.56 121 P **P 17 46 42.0 +0.3**
comp=Z,75nm,1.1s
QIS Mount Isa 22.56 121 P **P 17 46 43.6 +1.9**
FORT Forrest 22.61 160 P **P 17 46 44.5 +2.4**
NWAO Narrogin (SRO) 23.20 184 P **P 17 46 48.3 0.0**
NWAO Narrogin (SRO) 23.20 184 LR LR 17 55 55.2
comp=Z,157nm,20.3s,baz=329,slow=37
NWAO Narrogin (SRO) 23.20 184 P **P 17 46 49.1 +0.8**
NWAO Narrogin (SRO) 23.20 184 P **P 17 46 48.3 0.0**
NWAO pmax pmax
comp=Z,19nm,0.8s
PSI Prapat 23.59 301 LR LR 17 57 19.1
comp=Z,192nm,20.7s,baz=146,slow=40
KULM Kulim 23.62 308 P **P 17 46 51.5 -1.1**
KULM IAmb IAmb 17 46 53.5
comp=Z,58nm,1.9s
KULM Kulim 23.62 308 P **P 17 46 51.7 -0.9**
TGY Tagaytay City 23.70 5 P **P 17 46 52.8 -0.5**
comp=Z,241nm,0.5s,baz=186,slow=9.2,SNR=9.7
TGY LR LR 17 56 28.4
comp=Z,100nm,20.8s,baz=173,slow=38
OOD Oodnadatta 23.87 141 P **P 17 46 56.0 +1.0**

COEN Coen 23.97 103 P **P 17 46 55.9 -0.1**
COEN Coen 23.97 103 P **P 17 46 56.2 +0.2**
comp=Z,34nm,1.5s
COEN Coen 23.97 103 P **P 17 46 57.0 +1.0**
GSI Gunungsitoli 24.02 296 P **P 17 47 00.0 +3.5**
MTSU Mount Surprise 25.88 112 P **P 17 47 14.6 +1.2**
comp=Z,16nm,0.8s
MTSU Mount Surprise 25.88 112 P **P 17 47 15.1 +1.6**
MLSI Meulaboh, Aceh 26.49 301 P **P 17 47 17.0 -1.9**
INKA Innaminka 27.20 134 P **P 17 47 29.1 +3.9**
LCRK Leigh Creek 27.31 142 P **P 17 47 29.9 +3.7**
PMG Port Moresby 27.70 92 LR LR 18 01 11.3
comp=Z,106nm,19.1s,baz=256,slow=42
QIZ Qiongzhong 29.94 342 P **P 17 47 49.5 -0.1**
QIZ S **S 17 52 49.6 +2.3**
QIZ LR LR
QIZ comp=Z,150nm,15.8s LR LR
QIZ comp=Z,250nm,16.5s LR LR
QIZ comp=Z,270nm,26.0s LR LR
STKA Stephens Creek 30.39 140 P **P 17 47 54.5 +0.9**
comp=Z,1.5nm,0.7s,baz=302,slow=14,SNR=3.7
STKA LR LR 18 01 31.8
comp=Z,88nm,18.2s,baz=340,slow=39
comp=Z,1.5nm,0.7s
STKA Stephens Creek 30.39 140 P **P 17 47 55.2 +1.6**
SRDT SRDT 31.00 320 P **P 17 48 00.5 +1.4**
NONG Nongkai 31.73 330 P **P 17 48 06.7 +1.2**
CMAR Chiang Mai Arr 34.29 325 P **P 17 48 27.8 -0.1**
comp=Z,2.4nm,0.6s,baz=154,slow=7.2,SNR=23
CMAR PcP **PcP 17 51 05.9 +1.6**
comp=Z,1.2nm,0.6s,baz=137,slow=3.3,SNR=6.8
CMAR LR LR 18 03 07.9
comp=Z,125nm,19.8s,baz=135,slow=38
comp=Z,2.4nm,0.6s
CMAR Chiang Mai Arr 34.29 325 *i* P **P 17 48 28.2 +0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
GUMO Guam 34.49 48 LR LR 18 04 35.2
comp=Z,10.0nm,18.9s,baz=252,slow=40
CHTO Chiang Mai 34.57 325 P **P 17 48 29.0 -1.3**
CHTO Chiang Mai 34.57 325 P **P 17 48 29.0 -1.3**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
GEXS Deakin Univers 36.33 145 P **P 17 48 46.2 +0.9**
JOW Kunigami 37.37 14 LR LR 18 03 40.8
comp=Z,92nm,21.4s,baz=171,slow=36
KMI Kunming 38.07 336 P **P 17 49 01.9 +1.5**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI LR LR
comp=Z,140nm,16.5s
KMI LR LR
comp=Z,150nm,14.3s
KMI LR LR
comp=Z,180nm,35.8s
PZH PanZhiHua 39.71 335 P **P 17 49 14.8 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.3s
WHN Wuhan 40.24 354 ⇑P **P 17 49 19.3 +1.1**
WHN pmax pmax
comp=Z,170nm,1.6s
HNR Honiara 40.29 93 LR LR 18 08 53.3
comp=Z,24nm,18.6s,baz=252,slow=41
ALEG Aligegeo Malai 41.08 92 P **P 17 49 25.3 -0.2**
TAU Tasmania Unive 41.29 148 P **P 17 49 28.2 +1.4**
NJ2 Nanjing 41.49 360 *eP* **P 17 49 30.0 +1.5**
NJ2 pmax pmax
comp=Z,18nm,0.8s
PALK Palikekele 41.76 292 LR LR 18 09 06.9
comp=Z,63nm,18.7s,baz=116,slow=40
JCJ Chichijima 42.88 31 LR LR 18 06 30.7
comp=Z,33nm,21.6s,baz=288,slow=35
CD2 Chengdu 42.95 341 P **P 17 49 40.5 0.0**
CD2 pmax pmax
comp=Z,40nm,0.4s
SHL Shillong 43.91 323 P **P 17 49 47.1 -1.3**
SHL IAmb IAmb 17 49 48.7
comp=Z,12nm,0.8s
SHL Shillong 43.91 323 P **P 17 49 47.1 -1.3**
SHL pmax pmax
comp=Z,12nm,0.8s
JNU Nakatsue 44.02 14 LR LR 18 08 54.5
comp=Z,35nm,20.5s,baz=192,slow=37
LYN LuoYang 44.43 352 P **P 17 49 52.4 +0.2**
LYN pmax pmax
comp=Z,29nm,0.8s
XAN Xi'an 44.53 348 ⇑P **P 17 49 53.0 -0.1**
XAN pP sP 17 49 58.8 +1.3
XAN pmax pmax
comp=Z,27nm,1.0s
JTU Tsushima 45.03 12 P **P 17 49 58.0 +0.9**
H08S2 Diego Garcia H 46.06 269 T T 18 39 09.0
baz=96,slow=76,SNR=572
H08S3 Diego Garcia H 46.08 269 T T 18 39 09.9
baz=96,slow=76,SNR=346
H08S1 Diego Carcia H 46.08 269 T T 18 39 10.4
baz=96,slow=76,SNR=234
JHJ Hachijo jima 2 46.91 24 LR LR 18 09 53.8
comp=Z,22nm,20.8s,baz=68,slow=36
HNS HongShan 47.00 355 ⇓P **P 17 50 11.8 -0.8**
HNS pmax pmax
comp=Z,12nm,1.4s
DZM Mont Dzumac 47.02 111 *e*LR LR 18 03 26.6
comp=Z,148nm,24.2s
DZM Mont Dzumac 47.02 111 LR LR 18 10 21.2
comp=Z,71nm,19.6s,baz=232,slow=37
LSA Lhasa 47.49 326 IAmb IAmb 17 50 19.7
comp=Z,20nm,1.3s
KSAR Wonju Array Be 47.59 10 P **P 17 50 16.4 -0.7**
KSAR Wonju Array Be 47.59 10 P **P 17 50 16.4 -0.7**
KSRS Korea Array 47.61 10 P **P 17 50 16.9 -0.3**
comp=Z,6.3nm,0.7s,baz=190,slow=8.8,SNR=38
KSRS LR LR 18 10 25.9
comp=Z,58nm,20.9s,baz=195,slow=36
comp=Z,6.3nm,0.7s
KSRS Korea Array 47.61 10 P **P 17 50 17.0 -0.3**
LZH Lanzhou 47.73 343 *eP* **P 17 50 19.3 +0.8**
LZH pP sP 17 50 26.8 +3.9
LZH pmax pmax
comp=Z,42nm,1.2s
MAJO Matsushiro 49.37 20 P **P 17 50 28.3 -2.6**
MAJO IAmb IAmb 17 50 29.6
comp=Z,20nm,1.3s
MAJO Matsushiro 49.37 20⇑*eP* **P 17 50 28.4 -2.6**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 49.37 20 P **P 17 50 28.6 -2.4**
comp=Z,7.5nm,0.8s,baz=194,slow=7.6,SNR=20
MJAR LR LR 18 11 34.6
comp=Z,26nm,19.6s,baz=184,slow=36
comp=Z,7.5nm,0.8s
MJB9 Matsu-Tunnel 49.37 20 P **P 17 50 28.3 -2.6**
MJB9 IAmb IAmb 17 50 29.6
comp=Z,20nm,1.3s
BJT Baijiatuau 49.51 357 P **P 17 50 30.4 -1.5**
BJI Beijing 49.53 357 P **P 17 50 31.8 -0.3**
BJI pmax pmax
comp=Z,13nm,0.7s
BTO Baotou 50.72 351 *eP* **P 17 50 41.9 +0.7**
BTO pP **pP 17 50 45.4 +1.0**
BTO sP **sP 17 50 48.5 +2.8**
BTO S **S 17 57 59.3 +2.6**
BTO pmax pmax
comp=Z,39nm,0.9s
BTO pmax pmax
comp=Z,220nm,4.5s
BTO LR LR
comp=Z,200nm,5.2s
BTO LR LR
comp=Z,150nm,4.5s
BTO LR LR
comp=Z,240nm,5.6s
JSD Sado 50.74 20 P **P 17 50 40.3 -1.0**
GOMU GeErMu 51.03 335 P **P 17 50 43.6 -0.4**
GOMU pP sP 17 50 51.3 +2.9
GOMU pmax pmax
comp=Z,6.0nm,1.2s
GOMU LR LR
comp=Z,180nm,19.0s
GOMU LR LR
comp=Z,210nm,19.2s
GOMU LR LR

comp=Z,390nm,21.8s
GTA Gaotai 52.01 341 P **P 17 50 51.8 +0.8**
GTA pP sP 17 51 02.1 +6.7
GTA pmax pmax
comp=Z,19nm,1.1s
XLT XiLinHaoTe 53.39 357 *eP* **P 17 51 00.4 -0.6**
XLT sP sP 17 51 07.3 +1.9
XLT pmax pmax
comp=Z,27nm,0.8s
XLT pmax pmax
comp=Z,97nm,4.7s
CN2 Changchun 53.54 6 P **P 17 51 00.6 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MDJ Mudanjiang 54.87 9 IAmb IAmb 17 51 11.7
comp=Z,16nm,0.8s
MDJ Mudanjiang 54.87 9 P **P 17 51 09.0 -2.7**
MDJ pmax pmax
comp=Z,26nm,0.8s
USA0B Ussuriysk Arra 54.89 11 IAmb IAmb 17 51 11.5
comp=Z,16nm,0.7s
USA0B Ussuriysk Arra 54.89 11*c i*P **P 17 51 10.7 -1.1**
USRK Ussuriysk Ar. 54.89 11 P **P 17 51 10.9 -0.9**
comp=Z,13nm,0.6s,baz=188,slow=6.9,SNR=28
USRK LR LR 18 13 40.8
comp=Z,34nm,21.2s,baz=213,slow=35
comp=Z,13nm,0.6s
ASAJ Asahikawa 57.64 20 LR LR 18 16 38.1
comp=Z,31nm,19.7s,baz=188,slow=36
ASAJ Asahikawa 57.64 20 P **P 17 51 29.6 -1.9**
ULN Ulaanbaatar 58.27 351 P **P 17 51 34.8 -1.3**
ULN Ulaanbaatar 58.27 351*d i*P **P 17 51 35.6 -0.5**
ULN pmax pmax
comp=Z,13nm,1.1s
SONM Songino Array 58.35 350 P **P 17 51 36.2 -0.4**
SONM Songino Array 58.35 350 P **P 17 51 36.6 0.0**
comp=Z,13nm,0.7s,baz=168,slow=8.5,SNR=82
SONM LR LR 18 20 17.2
comp=Z,46nm,18.1s,baz=172,slow=40
comp=Z,13nm,0.7s
URZ Urewera 59.08 129 LR LR 18 17 50.9
comp=Z,79nm,18.5s,baz=19,slow=37
KLR Kulʲdur 59.70 10 LR LR 18 16 37.0
comp=Z,23nm,21.8s,baz=204,slow=35
KLR Kulʲdur 59.70 10*ceP* **P 17 51 44.1 -1.7**
KLR pmax pmax
comp=Z,13nm,2.5s
HEH HeiHe 60.12 6 *eP* **P 17 51 47.3 -1.3**
HEH pmax pmax
comp=Z,27nm,0.9s
YSS Yuzhno-Sakhali 60.20 18 *eP* **P 17 51 46.4 -2.9**
YSS pmax pmax
comp=Z,10.0nm,1.1s
WMQ Urumqi 60.39 334 *eP* **P 17 51 50.8 +0.1**
WMQ pmax pmax
comp=Z,15nm,1.1s
NIL Nilore 61.24 317 P **P 17 51 54.3 -2.4**
NIL IAmb IAmb 17 51 55.6
comp=Z,8.8nm,0.7s
NIL Nilore 61.24 317 P **P 17 51 54.3 -2.4**
NIL pmax pmax
comp=Z,9.0nm,0.7s
ZAK Zakamensk 61.37 349 *eP* **P 17 51 55.5 -1.8**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
CIT Chita 61.63 356 *eP* **P 17 51 59.4 +0.5**
CIT *e* 17 52 06.8
CIT *e* 17 52 17.2
CIT *e* 17 52 37.0
CIT *e* 17 55 38.4
WUS Wushi 62.51 327 IAmb IAmb 17 52 05.5
comp=Z,26nm,1.6s
IRK Irkutsk 62.97 350 *eP* P 17 52 04.2 -3.7
IRK pmax pmax
comp=Z,23nm,1.5s
MOY Mondy 63.06 347 *eP* **P 17 52 08.6 0.0**
MOY pmax pmax
comp=Z,16nm,1.7s
KSH Kashi 63.19 324 P **P 17 52 08.8 -0.9**
KSH pmax pmax
comp=Z,13nm,0.7s
ZEA Zeya 63.55 5 *eP* **P 17 52 11.0 -0.6**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
SHLS Shalkode 63.76 329 *eP* **P 17 52 10.5 -2.9**
SHLS pmax pmax
comp=Z,6.0nm,0.8s
SHLS Shalkode 63.76 329 *eP* **P 17 52 10.6 -2.9**
comp=Z,5.6nm,0.8s
UZB Uzynbulak 63.98 328 *eP* **P 17 52 13.9 -1.0**
UZB pmax pmax
comp=Z,7.0nm,1.1s
UZB Uzynbulak 63.98 328 *eP* **P 17 52 14.0 -1.0**
comp=Z,7.3nm,1.1s
SATY Saty 64.24 328 *eP* **P 17 52 15.6 -1.0**
SATY pmax pmax
comp=Z,5.0nm,0.9s
SATY Saty 64.24 328 *eP* **P 17 52 15.6 -1.0**
comp=Z,5.3nm,0.9s
ZHN Zhinishke 64.30 328 *eP* **P 17 52 15.9 -1.1**
ZHN pmax pmax
comp=Z,3.0nm,0.4s
ZHN Zhinishke 64.30 328 *eP* **P 17 52 16.0 -1.1**
comp=Z,3.4nm,0.4s
ZSN Zaisan 64.48 335 *eP* **P 17 52 17.1 -0.9**
ZSN pmax pmax
comp=Z,5.0nm,0.7s
ZSN Zaisan 64.48 335 *eP* **P 17 52 17.1 -0.9**
comp=Z,5.3nm,0.7s
KBL Kabul 64.62 316 P **P 17 52 17.2 -2.2**
KBL Kabul 64.62 316 P **P 17 52 17.2 -2.2**
KBL pmax pmax
comp=Z,32nm,0.7s
TNSS Tian-Shan 65.00 327 *eP* **P 17 52 20.5 -1.4**
TNSS Tian-Shan 65.00 327 *eP* **P 17 52 20.5 -1.4**
MK31 Makanchi Array 65.08 333 P **P 17 52 20.2 -1.7**
MK31 IAmb IAmb 17 52 22.1
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 65.08 333*d i*P **P 17 52 20.6 -1.3**
MKAR Makanchi Array 65.08 333 P **P 17 52 20.6 -1.3**
MKAR Makanchi Array 65.08 333 P **P 17 52 21.4 -0.5**
comp=Z,9.2nm,0.8s,baz=144,slow=7.5,SNR=59
MKAR LR LR 18 22 09.9
comp=Z,46nm,19.8s,baz=147,slow=37
comp=Z,9.2nm,0.8s
MKAR Makanchi Array 65.08 333 *i* P **P 17 52 21.3 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
AAA Alma-Ata 65.13 327 *eP* **P 17 52 21.0 -1.3**
AAA pmax pmax
comp=Z,15nm,1.4s
AAA Alma-Ata 65.13 327 *eP* **P 17 52 21.1 -1.3**
comp=Z,15nm,1.4s
BOOM Boomskoye usch 65.17 326 P **P 17 52 21.2 -1.6**
MAKZ Makanchi 65.24 333 P **P 17 52 21.8 -1.1**
MAKZ IAmb IAmb 17 52 22.9
comp=Z,8.7nm,1.1s
MAKZ Makanchi 65.24 333 P **P 17 52 21.8 -1.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
TDK Taldyqorghan 65.61 329 *eP* **P 17 52 24.3 -1.1**
TDK pmax pmax
comp=Z,5.0nm,0.8s
TDK Taldyqorghan 65.61 329 *eP* **P 17 52 24.3 -1.1**
comp=Z,4.9nm,0.8s
TKM2 Tokmak 2 65.65 326 P **P 17 52 25.3 -0.6**
SNR=9.6
DRK Karamyk 65.67 321 P **P 17 52 24.5 -1.7**
KBK Karagaybulak 65.83 326 P **P 17 52 27.0 0.0**
SNR=14
AAK Ala-Archa 66.07 325 P **P 17 52 27.6 -0.9**
AAK IAmb IAmb 17 52 29.0
comp=Z,11nm,0.7s
AAK Ala-Archa 66.07 325 P **P 17 52 28.4 -0.2**
SNR=17
AAK Ala-Archa 66.07 325*ceP* **P 17 52 27.8 -0.8**
AAK pmax pmax
comp=Z,27nm,1.7s
AML Almayashu 66.20 325 P **P 17 52 28.9 -0.7**
SNR=25
GAR Garm 66.30 320 P **P 17 52 28.2 -1.9**
USP Ospenovka 66.48 326 P **P 17 52 30.1 -1.0**
SNR=16
EKS2 Erkin-Say 66.49 325 P **P 17 52 31.1 -0.1**

SNR=15
SGDS Sogindy 66.53 326 *e*P **P 17 52 29.9 -1.5**
SGDS pmax pmax
comp=Z,10.0nm,1.6s
SGDS Sogindy 66.53 326 *e*P **P 17 52 30.0 -1.5**
comp=Z,10nm,1.6s
BTK Batken 66.62 321 IAmb IAmb 17 52 33.1
comp=Z,9.7nm,0.8s
BTK Batken 66.62 321 P **P 17 52 30.6 -1.4**
SIMJ Simiganj 66.94 319 P **P 17 52 32.1 -2.1**
SIMJ IAmb IAmb 17 52 33.3
comp=Z,12nm,0.7s
DZET Dzherino 67.14 319 P **P 17 52 33.0 -2.4**
DZET pmax pmax
comp=Z,31nm,0.7s
H04N2 CROZET ISLANDS 67.37 224 T T 19 06 06.6
baz=85,slow=75,SNR=173
H04N1 CROZET ISLANDS 67.38 224 T T 19 06 07.2
baz=85,slow=75
H04N3 CROZET ISLANDS 67.38 224 T T 19 06 04.9
baz=85,slow=75
BTLS Baital 67.89 327 *e*P **P 17 52 38.3 -1.6**
BTLS Baital 67.89 327 *e*P **P 17 52 38.4 -1.6**
DZA Taraz 68.03 324 *e*P **P 17 52 39.2 -1.7**
DZA Taraz 68.03 324 *e*P **P 17 52 39.2 -1.7**
IUG Iuzhnay 68.34 323 *e*P **P 17 52 41.6 -1.3**
IUG Iuzhnay 68.34 323 *e*P **P 17 52 41.7 -1.3**
MAW Mawson 68.63 200 LR LR 18 16 44.5
comp=Z,74nm,21.7s,baz=58,slow=31
KK31 Karatay Array 68.64 324 IAmb IAmb 17 52 45.2
comp=Z,15nm,1.4s
KKAR Karatay Array 68.64 324 P **P 17 52 42.5 -2.2**
KKAR Karatay Array 68.64 324 IAmb IAmb 17 52 45.2
comp=Z,9.6nm,1.4s
KKAR Karatay Array 68.64 324 P **P 17 52 42.5 -2.2**
CHM Chimkent 68.70 323 *e*P **P 17 52 43.7 -1.3**
CHM Chimkent 68.70 323 *e*P **P 17 52 43.7 -1.3**
BRLS Borolday 68.99 323 *e*P **P 17 52 45.0 -1.8**
BRLS pmax pmax
comp=Z,9.0nm,1.4s
BRLS Borolday 68.99 323 *e*P **P 17 52 45.0 -1.8**
comp=Z,8.5nm,1.4s
KURBB Kurchatov Arra 69.60 334 P **P 17 52 49.1 -1.3**
comp=Z,3.8nm,0.5s,baz=140,slow=5.6,SNR=42
KURBB LR LR 18 27 23.6
comp=Z,69nm,18.2s,baz=190,slow=40
comp=Z,3.8nm,0.5s
KURK Kurchatov 69.63 334 P **P 17 52 49.1 -1.5**
KURK Kurchatov 69.63 334 *d iP* **P 17 52 49.3 -1.3**
KURK pmax pmax
comp=Z,29nm,1.7s
ZAA0 Zalesovo Array 69.69 339 IAmb IAmb 17 52 50.9
comp=Z,6.8nm,0.8s
ZALV Zalesovo Beam 69.69 339 P **P 17 52 49.0 -1.9**
ZALV Zalesovo Beam 69.69 339 P **P 17 52 49.5 -1.4**
comp=Z,7.5nm,0.6s,baz=137,slow=5.2,SNR=32
comp=Z,7.5nm,0.6s
PETK Petropavlovsk- 70.66 24 P **P 17 52 56.5 -0.4**
PETK Petropavlovsk- 70.66 24 P **P 17 52 56.3 -0.6**
comp=Z,4.6nm,0.6s,baz=235,slow=1.9,SNR=32
comp=Z,4.6nm,0.6s
PETK Petropavlovsk- 70.66 24 P **P 17 52 56.5 -0.4**
PET Petropavlovsk 70.98 24 P **P 17 52 57.7 -1.1**
comp=Z,17nm,1.6s
BRZS Berezniki 71.85 331 *e*P **P 17 53 03.2 -1.0**
BRZS pmax pmax
comp=Z,9.0nm,1.1s
BRZS Berezniki 71.85 331 *e*P **P 17 53 03.2 -1.0**
comp=Z,9.5nm,1.1s
YAK Yakutsk 71.96 5 *e*P **P 17 53 03.0 -1.5**
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,1.0nm,1.3s
MA2 Magadan 73.55 16 P **P 17 53 13.7 -0.3**
MA2 IAmb IAmb 17 53 15.7
comp=Z,14nm,0.8s
MA2 Magadan 73.55 16 P **P 17 53 13.7 -0.3**
comp=Z,10nm,0.7s,baz=196,slow=7.7,SNR=30
MA2 LR LR 18 24 21.8
comp=Z,14nm,21.9s,baz=228,slow=35
comp=Z,10nm,0.7s
MA2 Magadan 73.55 16 *e*P **P 17 53 13.8 -0.3**
MA2 pmax pmax
comp=Z,35nm,1.8s
MA2 Magadan 73.55 16 P **P 17 53 13.2 -0.8**
comp=Z,27nm,1.0s
MA2 Magadan 73.55 16 P **P 17 53 13.7 -0.3**
BVAR Borovoye Array 74.92 332 P **P 17 53 21.4 -0.8**
comp=Z,7.3nm,0.8s,baz=134,slow=8.4,SNR=35
BVAR LR LR 18 29 17.3
comp=Z,41nm,19.0s,baz=123,slow=38
comp=Z,7.3nm,0.8s
BRVK Borovoye 74.99 332 P **P 17 53 21.5 -1.2**
BRVK IAmb IAmb 17 53 22.6
comp=Z,20nm,1.4s
BRVK Borovoye 74.99 332 *d iP* **P 17 53 21.4 -1.2**
BRVK pmax pmax
comp=Z,16nm,1.3s
SEY Seymchan 76.79 15 P **P 17 53 32.5 -0.2**
comp=Z,7.1nm,0.7s,baz=217,slow=5.0,SNR=43
comp=Z,7.1nm,0.7s
SEY Seymchan 76.79 15 *e*P **P 17 53 31.1 -1.6**
SEY pmax pmax
comp=Z,9.0nm,0.8s
SYO Syowa Base 77.25 201⇓ *e*P **P 17 53 36.0 +0.7**
SYO Syowa Base 77.25 201⇑ *e*PcP **PcP 17 53 46.8 +0.9**
ABKAR Abkulak array 78.15 325 P **P 17 53 39.0 -1.5**
ABKAR Abkulak array 78.15 325 IAmb IAmb 17 53 40.6
comp=Z,17nm,0.9s
RAYN Ar Rayn 79.06 296 P **P 17 53 45.5 -0.8**
RAYN IAmb IAmb 17 53 47.7
comp=Z,11nm,0.8s
RAYN Ar Rayn 79.06 296 P **P 17 53 45.5 -0.8**
RAYN pmax pmax
comp=Z,11nm,0.8s
QSPA South Pole Qui 80.32 180 P **P 17 53 52.6 +0.2**
QSPA IAmb IAmb 17 53 56.7
comp=Z,46nm,1.9s
QSPA South Pole Qui 80.32 180 P **P 17 53 53.8 +1.4**
comp=Z,5.7nm,1.0s,baz=314,slow=1.0,SNR=18
QSPA LR LR 18 27 53.8
comp=Z,77nm,18.1s,baz=356,slow=34
comp=Z,5.7nm,1.0s
TIXI Tiksi 81.41 3 P **P 17 53 56.0 -1.8**
TIXI Tiksi 81.41 3 LR LR 18 34 12.2
comp=Z,29nm,18.4s,baz=201,slow=39
TIXI Tiksi 81.41 3⇑ *e*P **P 17 53 56.0 -1.8**
TIXI pmax pmax
comp=Z,7.0nm,1.5s
SVE Sverdlovsk 81.70 332 *e*P **P 17 53 58.6 -1.0**
SVE pmax pmax
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 81.75 270 P **P 17 54 01.8 +0.6**
comp=Z,0.9nm,0.3s,baz=47,slow=8.5,SNR=6.9
comp=Z,0.9nm,0.3s
NRIK Noril'sk 81.82 349 P **P 17 53 59.5 -0.5**
comp=Z,3.1nm,0.7s,baz=112,slow=5.1,SNR=7.0
NRIK LR LR 18 33 12.5
comp=Z,39nm,21.0s,baz=156,slow=38
comp=Z,3.1nm,0.7s
NRIK Noril'sk 81.82 349 *ce*P **P 17 53 59.2 -0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.0s
ARTI Arti 82.55 331 P **P 17 54 02.3 -1.8**
ARTI IAmb IAmb 17 54 03.3
comp=Z,10nm,0.8s
ARTI Arti 82.55 331 LR LR 18 37 12.7
comp=Z,29nm,18.3s,baz=128,slow=40
ARTI Arti 82.55 331 *c iP* **P 17 54 02.7 -1.4**
ARTI 17 57 10.1
ARTI S **SKSac 18 04 21.8 -3.4**
ARTI SS **SS 18 09 41.6 -1.1**
ARTI pmax pmax
comp=Z,12nm,0.8s
NCK Nalchik 86.25 315 *ce*P **P 17 54 23.0 -0.2**
NCK pmax pmax
comp=Z,9.0nm,0.7s
KBZ Khabaz 86.80 315 P **P 17 54 25.7 -0.1**
comp=Z,5.4nm,0.9s,baz=132,slow=3.5,SNR=9.4
comp=Z,5.4nm,0.9s
KBZ Khabaz 86.80 315 *ce*P **P 17 54 25.8 -0.1**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
GOF Gofitskoye 87.08 316 *ce*P **P 17 54 27.3 +0.1**
KIRV Kirov 87.86 331 LR LR 18 37 31.2
comp=Z,29nm,19.1s,baz=121,slow=38
KIRV Kirov 87.86 331⇑ *e*P **P 17 54 29.4 -1.2**
MBAR Mbarara 88.25 270 P **P 17 54 32.7 -1.1**
MBAR IAmb IAmb 17 54 36.4
comp=Z,6.5nm,0.9s
MBAR Mbarara 88.25 270⇓ *e*P **P 17 54 33.8 0.0**
MBAR pmax pmax
comp=Z,8.0nm,1.1s
LSZ Lusaka 88.33 255 P **P 17 54 36.3 +2.3**
LSZ pmax pmax
comp=Z,12nm,1.1s
PPT2 Papeete2 88.40 107 *e*LR LR 18 22 37.2
comp=Z,33nm,20.8s
BOSA Boshof 88.75 241 P **P 17 54 36.7 +0.9**
comp=Z,3.4nm,0.8s,baz=108,slow=4.3,SNR=5.9
BOSA LR LR 18 28 29.3
comp=Z,49nm,19.6s,baz=48,slow=32
comp=Z,3.4nm,0.8s
TROLL Troll, Antarti 88.75 196 ⇑P **P 17 54 38.1 +3.1**
comp=Z,148nm,0.7s
LBTB Lobatse 89.08 245 LR LR 18 30 13.8
comp=Z,43nm,18.3s,baz=103,slow=33
SNAA Sanae 90.37 196 ⇑P **P 17 54 44.9 +2.5**
comp=Z,35nm,0.7s
SNAA Sanae 90.37 196 P **P 17 54 44.4 +1.9**
comp=Z,1.4nm,0.8s,baz=7.8,slow=17,SNR=2.0
SNAA LR LR 18 33 11.0
comp=Z,69nm,19.5s,baz=199,slow=34
comp=Z,1.4nm,0.8s
SUR Sutherland 91.77 237 LR LR 18 31 56.7
comp=Z,36nm,18.6s,baz=124,slow=33
BR104 Keskin Array S 92.61 310 P **P 17 54 51.7 -1.8**
comp=Z,3.5nm,1.0s
BR131 Keskin Array S 92.62 310 IAmb IAmb 17 54 53.9
comp=Z,4.2nm,0.9s
BR131 Keskin Array S 92.62 310 *d iP* **P 17 54 52.9 -0.6**
BRTR Keskin Array B 92.62 310 P **P 17 54 52.0 -1.5**
BRTR Keskin Array B 92.62 310 P **P 17 54 52.6 -0.9**
comp=Z,2.6nm,0.9s,baz=119,slow=4.3,SNR=12
comp=Z,2.6nm,0.9s
BRTR Keskin Array B 92.62 310 P **P 17 54 52.0 -1.5**
BR105 Keskin Array S 92.63 310 P **P 17 54 51.8 -1.8**
comp=Z,4.0nm,1.0s
BR106 Keskin Array S 92.64 310 P **P 17 54 51.8 -1.8**
comp=Z,2.6nm,1.0s
KLMR Klimovskoe 93.33 331 *e*P P 17 54 51.5 -4.6
KLMR pmax pmax
comp=Z,16nm,2.0s
G19K Purcell Mounta 96.29 24 IAmb IAmb 17 55 11.6
comp=Z,4.2nm,0.8s
E19K Redstone River 96.45 23 IAmb IAmb 17 55 12.8
comp=Z,4.6nm,0.8s
KDAK Kodiak Island 97.22 33 LR LR 18 35 39.9
comp=Z,23nm,21.2s,baz=61,slow=33
AKASG Malin Array Be 97.31 320 P **P 17 55 12.3 -2.1**
comp=Z,0.6nm,0.7s,baz=82,slow=3.9,SNR=1.6
AKASG LR LR 18 44 30.0
comp=Z,32nm,20.1s,baz=74,slow=39
comp=Z,0.6nm,0.7s
AK22 Malin Array Si 97.41 320 P **P 17 55 13.1 -1.8**
AK17 Malin Array Si 97.41 320 P **P 17 55 12.9 -2.0**
AK19 Malin Array Si 97.44 320 P **P 17 55 13.1 -2.0**
NDNU Novodnistrovsk 98.30 318 P **P 17 55 17.2 -1.8**
MLR Muntele Rosu 99.00 315 LR LR 18 49 16.1
comp=Z,17nm,18.6s,baz=46,slow=41
TAOE Nuku Hiva Isla 99.02 101 *e*LR LR 18 27 28.9
comp=Z,134nm,25.8s
FINES FINESS Array B 99.86 331 P **Pdif 17 55 24.8 -0.9**
comp=Z,7.1nm,1.1s,baz=158,slow=4.4,SNR=4.1
FINES LR LR 18 45 20.8
comp=Z,17nm,21.8s,baz=42,slow=38
comp=Z,7.1nm,1.1s
ILAR Eielson Array 100.41 26 P **Pdif 17 55 28.5 +0.4**
comp=Z,0.4nm,1.0s,baz=256,slow=3.6,SNR=1.4
SPITS Spitsbergen Ar 102.01 348 P **Pdif 17 55 34.2 -0.7**
comp=Z,8.8nm,0.9s,baz=153,slow=0.6,SNR=2.0
YKA Yellowknife Ar 114.77 24 PKP **PKiKP 18 00 21.1 -0.5**
comp=Z,0.4nm,0.6s,baz=290,slow=2.0,SNR=5.7
TORD Torodi Ar. Bea 118.64 280 PKP **PKiKP 18 00 31.4 +0.9**
comp=Z,1.3nm,0.5s,baz=81,slow=1.9,SNR=5.8
ESDC Sonseca Array 121.40 311 PKP **PKPdf 18 00 35.5 +0.3**
comp=Z,1.0nm,1.0s,baz=54,slow=1.3,SNR=5.0
TXAR Lajitas Array 135.54 58 PKP **PKPdf 18 01 03.7 +1.2**
comp=Z,0.2nm,0.6s,baz=298,slow=2.5,SNR=4.2
CPUP Villa Florida 144.04 186 PKP **PKPdf 18 01 17.6 -0.3**
comp=Z,2.6nm,0.9s,baz=161,slow=1.3,SNR=6.9
BDFB Brasilia 151.78 207 PKP **PKPdf 18 01 32.0 +1.1**
comp=Z,1.1nm,0.5s,baz=40,slow=4.7,SNR=4.8
BDFB PKPbc **PKiKP 18 01 38.7 +1.0**
comp=Z,1.0nm,0.4s,baz=162,slow=8.7,SNR=6.0
LPAZ La Paz 153.24 164 PKPbc **PKiKP 18 01 42.2 +0.9**
comp=Z,3.4nm,1.0s,baz=254,slow=0.6,SNR=6.5

*ATH **17** 18:00:05.9, 40.°12N×20.°04E, h8km±2km, ML2.1/7, Manual Solution by A.Agalos First location: 2019/03/17 18:01:20, This location: 2019/03/17 18:25:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*TIR **17** 18:00:06.4, 40.°07N×20.°03E, h17km±2km, Md2.7/4, Ml2.2/4*
ISC 17 18:00:06.5±1.1, **40.°08N**±0.°03×**20.°03E**±0.°04, **h13**km±8km, **n19**, σ0.°**60**/28, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.20**	**187**	P	**Pg**	**18 00 10.3**	**-0.6**
SRN				Sg	**Sg**	**18 00 14.5**	**+0.6**
SRN				AML	AML	18 00 16.2	
	2.0nm,0.2s						
SRN				AMd		18 00 58.6	
KEK	**Kerkira**	**0.41**	**206**	P	**Pg**	**18 00 14.7**	**+0.1**
KEK				S	**Sb**	**18 00 21.1**	**-0.5**
LSK	**Leskovik**	**0.44**	**80**	Pg	**Pg**	**18 00 15.2**	**0.0**
LSK				Sg	**Sb**	**18 00 22.7**	**+0.1**
LSK				AML	AML	18 00 29.0	
	0.7nm,0.5s						
LSK				AMd		18 01 12.3	
IGT	**Igoumenitsa**	**0.59**	**157**	P	**Pg**	**18 00 18.3**	**+0.3**
IGT				Sg	**Sb**	**18 00 27.3**	**+0.4**
IGT				AMd		18 01 00.6	
IGT	**Igoumenitsa**	**0.59**	**157**	P	**Pg**	**18 00 17.8**	**-0.2**
IGT				S	**Sb**	**18 00 26.6**	**-0.3**
KBN	**Korca**	**0.79**	**46**	Pn	**Pb**	**18 00 21.9**	**-0.2**
KBN				S	**Sn**	**18 00 34.0**	**-1.2**
KBN				AML	AML	18 00 45.8	
	0.2nm,0.6s						
NEST	**Nestorio**	**0.85**	**66**	P	**Pg**	**18 00 22.4**	**-0.5**
KPRO	**Kipourio**	**1.03**	**96**	P	**Pb**	**18 00 25.8**	**-0.4**
OHR	**Ohrid**	**1.19**	**29**	*i* Pn	**Pg**	**18 00 29.2**	**-0.1**
SCTE	**Santa Cesarea**	**1.20**	**270**	P	**Pb**	**18 00 28.9**	**-0.1**
TETR	**Tetrakomo, Epi**	**1.21**	**127**	P	**Pb**	**18 00 29.3**	**+0.1**
TETR				S	**Sn**	**18 00 46.1**	**+0.8**
FNA	**Florina**	**1.24**	**55**	Pg	**Pg**	**18 00 30.7**	**+0.3**
FNA				Sg	**Sg**	**18 00 47.9**	**+1.2**
FNA				AML	AML	18 00 54.2	
	0.2nm,0.6s						
FNA				AMd		18 01 18.5	
FNA	**Florina**	**1.24**	**55**	P	**Pg**	**18 00 30.0**	**-0.4**
TSLK	**Tsoukalades, L**	**1.34**	**159**	P	**Pb**	**18 00 31.6**	**+0.2**
LKD2	**Lefkada island**	**1.38**	**159**	P	**Pb**	**18 00 32.2**	**+0.1**
LKD2				S	**Sg**	**18 00 50.3**	**-0.5**
EVGI	**Lefkada island**	**1.53**	**161**	P	**Pn**	**18 00 33.9**	**+0.4**
THL	**Klokotos Trika**	**1.61**	**108**	P	**Pb**	**18 00 35.5**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.94**	**123**	P	**Pn**	**18 00 39.6**	**+0.5**
ANX	**Ano Chora**	**2.08**	**135**	P	**Pb**	**18 00 42.7**	**-1.5**

DJA 17 18:08:48.0±0.2, **8.°S**±5.°×**117.°E**±.°, **h10**km, **M4.0**/15, **mb4.4**/1, **MLv3.7**/15, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.50**	**142**	P	Pg	18 08 58.2	+0.4
PLAI	**Plampang**	**1.29**	**112**	P	Pn	18 09 11.9	-0.2
SRBI	**Singaraja**	**1.37**	**281**	P	Pn	18 09 12.5	-0.7
DNP	**Denpasar**	**1.39**	**256**	P	Pn	18 09 13.7	+0.3
ABJI	**Asem Bagus**	**2.38**	**283**	P	Pn	18 09 27.0	0.0
JAGI	**Jajag, Banyuwa**	**2.40**	**267**	P	Pn	18 09 26.4	-0.9
KMMI	**Kalianget**	**2.88**	**296**	P	Pn	18 09 34.7	+0.7
WBSI	**Waikabubak, Su**	**3.07**	**115**	P	Pn	18 09 36.8	+0.1
GMJI	**Gumukmas**	**3.09**	**271**	P	Pn	18 09 36.2	-0.7
BASI	**Baing, Sumba**	**4.37**	**116**	P	Pn	18 09 54.9	+0.3
BSSI	**Bau Bau, Buton**	**4.46**	**61**	P	Pn	18 09 55.9	+0.2
BKSI	**Bulukumba**	**4.63**	**50**	P	Pn	18 09 58.3	+0.2
PCJI	**Pacitan**	**5.34**	**271**	P	Pn	18 10 07.7	-0.1

*IDC **17** 18:19:51.7±2.7, 34.°57N×139.°42E, h0km, mb3.3/2, mbtmp3.2/3, ML1.8/1, Error ellipse: s-maj=117.8km s-min=23.1km az=74.0*
*JMA **17** 18:19:53.3±0.2, 34.°9N±0.°6×140.°1E±0.°7, h20km±2km, MV2.7/37, SE OFF BOSO PENINSULA*
JMA Felt I J1 at SE OFF BOSO PENINSULA .
ISC 17 18:19:53.0±0.9, **34.°89N**±0.°05×**140.°08E**±0.°04, **h27**km±8km, **n21**, σ0.°**89**/22, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.21**	**312**	P	**Pb**	**18 19 58.8**	**-0.1**
TATJ				S	**Sb**	**18 20 04.5**	**+1.5**
BSO4	**Boso 4**	**0.23**	**66**	*i* P	**Pb**	**18 19 58.6**	**-0.5**
BSO4				*e*X		18 20 05.1	
JKUC	**kamogawauchiur**	**0.28**	**20**	*i* P	**Pb**	**18 19 58.8**	**-1.1**
JKUC				*e*S	**Sb**	**18 20 04.5**	**-0.2**
KTR	**Katsuura**	**0.32**	**37**	*i* P	**Pb**	**18 19 59.7**	**-0.7**
KTR				*e*S	**Sb**	**18 20 05.7**	**+0.1**
BSO3	**Boso 3**	**0.37**	**104**	*i* P	**Pb**	**18 20 01.7**	**+0.8**
BSO3				*e*X		18 20 10.2	
JIM2	**Oshima 3**	**0.56**	**252**	P	**Pb**	**18 20 04.1**	**-0.2**
JTHY	**Toshimahigashi**	**0.75**	**241**	*e*P	**Pb**	**18 20 07.4**	**0.0**
BSO1	**Boso 1**	**0.78**	**108**	*e*P	**Pn**	**18 20 07.1**	**-0.5**
KTJ3	**Kamata3**	**0.83**	**273**	*e*P	**Pn**	**18 20 07.8**	**-1.1**
KTJ3				*e*S	**Sb**	**18 20 19.3**	**-0.3**
JOD2	**Odawara 2**	**0.89**	**295**	*e*P	**Pn**	**18 20 08.8**	**-1.0**
JOD2				*e*S	**Sn**	**18 20 21.4**	**-0.5**
JMYK	**Miyake Tsubota**	**0.94**	**208**	*e*P	**Pn**	**18 20 10.1**	**-0.3**
JIZS	**Izushimoda**	**1.00**	**260**	*e*P	**Pn**	**18 20 10.7**	**-0.6**
JIZS				*e*S	**Sn**	**18 20 24.3**	**-0.3**
MJAR	**Matsushiro Arr**	**2.24**	**318**	Pn	**Pn**	**18 20 29.6**	**+1.2**
	0.3nm,0.3s,baz=149,slow=11,SNR=24						
MJAR				Sn	**Sn**	**18 20 57.2**	**+2.0**
	0.8nm,0.3s,baz=12,slow=14,SNR=7.8						
	1.7nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.09**	**116**	T	T	18 55 02.9	
	baz=308,slow=75,SNR=194						
H11N1	**WAKE ISLAND Hy**	**28.10**	**116**	T	T	18 55 03.6	
	baz=308,slow=75,SNR=166						
H11N3	**WAKE ISLAND Hy**	**28.11**	**116**	T	T	18 55 05.8	
	baz=308,slow=75,SNR=191						
H11S1	**WAKE ISLAND Hy**	**28.71**	**118**	T	T	18 55 55.0	
	baz=310,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**28.71**	**118**	T	T	18 55 54.4	
	baz=310,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**28.73**	**118**	T	T	18 55 53.8	
	baz=310,slow=76,SNR=66						
WRA	**Warramunga Arr**	**54.80**	**187**	P	**P**	**18 29 20.8**	**+0.2**
	0.5nm,0.8s,baz=1.5,slow=7.2,SNR=4.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**58.53**	**187**	P	**P**	**18 29 47.0**	**-0.1**
	0.3nm,0.8s,baz=6.5,slow=8.1,SNR=2.2						
	0.3nm,0.8s						

*IDC **17** 18:23:59.1±2.3, 34.°85N×140.°16E, h0km, mb3.5/3, mbtmp3.5/4, ML2.2/1, MS2.0/1, Error ellipse: s-maj=68.9km s-min=17.5km az=71.0*
*JMA **17** 18:24:02.8±0.2, 34.°9N±0.°5×140.°1E±0.°6, h19km±2km, MV3.1/36, SE OFF BOSO PENINSULA*
JMA Felt II J1 at SE OFF BOSO PENINSULA .
ISC 17 18:24:02.5±0.9, **34.°87N**±0.°05×**140.°09E**±0.°03, **h24**km±8km, **n23**, σ0.°**80**/26, **mb3.7**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.23**	**315**	*i* P	**Pb**	**18 24 08.2**	**-0.2**
TATJ				S	**Sb**	**18 24 13.7**	**+1.3**
BSO4	**Boso 4**	**0.24**	**60**	*i* P	**Pb**	**18 24 08.2**	**-0.3**
BSO4				X		18 24 14.6	
JKUC	**kamogawauchiur**	**0.30**	**17**	P	**Pb**	**18 24 08.2**	**-1.2**
JKUC				S	**Sb**	**18 24 13.8**	**-0.5**
KTR	**Katsuura**	**0.33**	**34**	P	**Pb**	**18 24 09.2**	**-0.7**
KTR				S	**Sb**	**18 24 15.1**	**+0.1**
BSO3	**Boso 3**	**0.35**	**101**	P	**Pn**	**18 24 11.2**	**-0.6**
BSO3				*e*X		18 24 16.2	
JIM2	**Oshima 3**	**0.56**	**254**	*i* P	**Pb**	**18 24 13.6**	**-0.2**
JTHY	**Toshimahigashi**	**0.74**	**243**	P	**Pb**	**18 24 16.8**	**0.0**
JTHY				S	**Sn**	**18 24 28.0**	**0.0**
BSO1	**Boso 1**	**0.76**	**106**	P	**Pb**	**18 24 16.7**	**-0.1**
BSO1				X		18 24 29.1	
KTJ3	**Kamata3**	**0.84**	**275**	P	**Pb**	**18 24 17.2**	**-1.1**
KTJ3				S	**Sb**	**18 24 28.7**	**-0.6**
JOD2	**Odawara 2**	**0.91**	**296**	P	**Pb**	**18 24 18.2**	**-1.4**
JOD2				S	**Sb**	**18 24 30.9**	**-0.4**
JIZS	**Izushimoda**	**1.01**	**262**	*i* P	**Pb**	**18 24 20.0**	**-1.2**
JIZS				S	**Sb**	**18 24 33.6**	**-0.5**
JKO	**Kozu shima**	**1.04**	**229**	P	**Pn**	**18 24 21.5**	**0.0**
JHJ	**Hachijo jima 2**	**1.77**	**188**	Pn	**Pn**	**18 24 31.8**	**+0.3**
	80nm,0.3s,baz=82,slow=23,SNR=17						
JHJ				Sn	**Sn**	**18 24 53.6**	**+0.4**
	35nm,0.3s,baz=26,slow=12,SNR=2.3						
MJAR	**Matsushiro Arr**	**2.26**	**318**	Pn	**Pn**	**18 24 39.1**	**+0.7**
	0.6nm,0.3s,baz=141,slow=12,SNR=27						
MJAR				LR	LR	18 25 05.2	
	comp=Z,30nm,20.7s,baz=83,slow=28						
MJAR				Sn	**Sn**	**18 25 07.4**	**+1.9**
	2.0nm,0.3s,baz=236,slow=49,SNR=5.0						
	4.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.08**	**115**	T	T	18 59 15.9	
	baz=308,slow=75,SNR=631						
H11N1	**WAKE ISLAND Hy**	**28.08**	**116**	T	T	18 59 13.7	
	baz=308,slow=75,SNR=545						
H11N3	**WAKE ISLAND Hy**	**28.09**	**115**	T	T	18 59 14.6	
	baz=308,slow=75,SNR=666						
H11S3	**WAKE ISLAND Hy**	**28.70**	**118**	T	T	19 00 06.5	
	baz=310,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hy**	**28.70**	**118**	T	T	19 00 03.5	
	baz=310,slow=75,SNR=122						
H11S2	**WAKE ISLAND Hy**	**28.71**	**118**	T	T	19 00 06.2	
	baz=310,slow=75,SNR=144						
KURBB	**Kurchatov Arra**	**46.51**	**309**	P	**P**	**18 32 27.8**	**+0.1**
	0.6nm,0.7s,baz=84,slow=7.4,SNR=6.3						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**54.78**	**187**	P	**P**	**18 33 30.2**	**-0.2**
	0.7nm,0.6s,baz=4.0,slow=7.7,SNR=16						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**58.51**	**187**	P	**P**	**18 33 57.1**	**+0.3**
	0.3nm,0.8s,baz=14,slow=7.8,SNR=8.9						
	0.3nm,0.8s						

*IDC **17** 18:58:24.2±0.7, 9.°60S×118.°97E, h0km, mb4.2/16, mbtmp4.2/18, ML3.8/2, MS3.1/10, Error ellipse: s-maj=28.6km s-min=15.3km az=64.0*
*DJA **17** 18:58:27.4±0.3, 10.°S±4.°×117.°E±.°, h10km, M4.6/19, mB4.9/4, mb4.8/11, MLv4.6/19, Mw(mB)4.2/4*
ISC 17 18:58:26.2±0.4, **9.°74S**±0.°05×**119.°07E**±0.°04, **h10**km, **n81**, σ2.°**32**/71, **mb4.2**/16, **MS3.1**/8, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.33**	**73**	P	**Pg**	**18 58 34.3**	**+1.5**
BASI	**Baing, Sumba**	**1.56**	**108**	P	**Pn**	**18 58 54.3**	**+0.3**
PLAI	**Plampang**	**1.57**	**305**	P	**Pn**	**18 58 53.6**	**-0.5**
PLAI	**Plampang**	**1.57**	**305**	S	**Sn**	**18 59 14.4**	**-0.1**
PLAI	**Plampang**	**1.57**	**305**	P	**Pn**	**18 58 53.8**	**-0.3**
TWSI	**Taliwang, Sumb**	**2.38**	**295**	P	**Pn**	**18 59 05.8**	**+0.5**
MMRI	**Maumere**	**3.31**	**71**	P	**Pn**	**18 59 19.0**	**+0.8**
MMRI	**Maumere**	**3.31**	**71**	P	**Pn**	**18 59 18.1**	**-0.1**
BSSI	**Bau Bau, Buton**	**3.84**	**22**	P	**Pn**	**18 59 26.1**	**+0.7**
DNP	**Denpasar**	**3.96**	**285**	P	**Pn**	**18 59 29.5**	**+2.5**
SRBI	**Singaraja**	**4.15**	**293**	P	**Pn**	**18 59 32.4**	**+2.7**
BKSI	**Bulukumba**	**4.51**	**13**	P	**Pn**	**18 59 36.2**	**+1.6**
KAPI	**Kappang**	**4.74**	**8**	**Pn**	**Pn**	**18 59 38.9**	**+1.1**
	15nm,0.3s,baz=181,slow=8.5,SNR=14						
KAPI				Sn	**Sn**	**19 00 29.7**	**-3.2**
	26nm,0.3s,baz=108,slow=23,SNR=6.3						
KAPI				LR	LR	19 01 26.9	
	comp=Z,348nm,21.3s,baz=146,slow=40						
KAPI	**Kappang**	**4.74**	**8**	P	**Pn**	**18 59 39.7**	**+1.9**
KAPI	**Kappang**	**4.74**	**8**	S	**Sn**	**19 00 33.7**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.02**	**284**	P	**Pn**	**18 59 42.8**	**+1.1**
**JAG

SOEI Soe 5.12 91 P **Pn 18 59 44.8 +1.6**
0.5nm82nm,0.6s
ABJI Asem Bagus 5.16 292 P **Pn 18 59 48.1 +4.6**
0.3nm74nm,0.6s
BBSI Bau Bau 5.46 40 P **Pn 18 59 50.3 +2.5**
0.3nm97nm,1.0s
GMJI Gumukmas 5.75 284 P **Pn 18 59 52.2 +0.5**
0.2nm769nm42nm,0.7s
SPSI Sidrap Palu 5.78 7 P **Pn 18 59 55.4 +3.3**
0.3nm1µm96nm,0.6s
TTSI Tana Toraja 6.69 6 P **Pn 19 00 07.7 +3.1**
0.2nm809nm67nm,0.6s
PCJI Pacitan 7.95 280 P **Pn 19 00 23.5 +1.6**
45nm,1.0s
PCI Palu 8.81 5 P Pn 19 00 38.5 +4.8
FITZ Fitzroy Crossi 10.47 143 Pn **Pn 19 00 57.0 +0.5**
0.5nm,0.3s,baz=329,slow=9.9,SNR=18
FITZ Sn **Sn 19 02 45.8 -8.2**
1.0nm,0.3s,baz=179,slow=20,SNR=9.4
2.6nm,0.4s
FITZ Fitzroy Crossi 10.47 143 P **Pn 19 00 59.0 +2.5**
MBWA Marble Bar 11.37 177 P **Pn 19 01 12.2 +3.3**
PSA00 Pilbara Seismi 11.79 176 P **Pn 19 01 17.2 +2.6**
DRS Darwin Rock St 11.91 104 P **Pn 19 01 17.7 +1.4**
MTN Manton Dam 12.22 106 P **Pn 19 01 20.6 +0.1**
MTN Manton Dam 12.22 106 S **Sn 19 03 39.6 +2.6**
KDU Kakadu 13.47 104 P **Pn 19 01 38.2 +0.7**
GIRL Giralia 13.64 199 P **Pn 19 01 42.9 +3.0**
FAKI Fak Fak 14.74 63 P **Pn 19 01 55.8 +0.8**
KKM Kota Kinabalu 15.94 350 P **Pn 19 02 09.9 -0.9**
MEEK Meekatharra 16.82 181 P **P 19 02 25.4 +1.3**
WRKA Warakurna 17.56 151 P **P 19 02 34.0 +1.6**
WRA Warramunga Arr 17.89 126 P **Pn 19 02 33.9 -1.5**
5.2nm,0.8s,baz=298,slow=13,SNR=31
WRA S Sn 19 05 44.2 -11
3.3nm,0.9s,baz=296,slow=24,SNR=4.9
DAV Davao City (W) 17.91 21 LR LR 19 09 23.5
comp=Z,42nm,20.0s,baz=320,slow=37
MORW Morawa 19.44 188 P **Pn 19 02 55.8 +1.6**
ASAR Alice Springs 19.81 136 P **Pn 19 02 58.8 0.0**
0.4nm,0.3s,baz=325,slow=12,SNR=55
ASAR S **S 19 06 32.2 -8.3**
2.0nm,0.9s,baz=307,slow=21,SNR=7.5
2.6nm,0.6s
AS01 Alice Springs 19.84 136 P **Pn 19 03 00.1 +1.0**
BLDU Ballidu 20.89 186 P Pn 19 03 11.9 +0.7
QIS Mount Isa 22.52 121 P **P 19 03 28.9 +2.5**
PSI Prapat 23.62 301 P **P 19 03 34.6 -3.3**
7.7nm,0.4s,baz=174,slow=11,SNR=7.5
7.7nm,0.4s
OOD Oodnadatta 23.82 141 P **P 19 03 39.9 +0.3**
COEN Coen 23.95 102 P **P 19 03 42.9 +1.9**
MTSU Mount Surprise 25.86 112 P **P 19 04 01.4 +3.1**
STKA Stephens Creek 30.34 140 P **P 19 04 39.0 +0.7**
0.7nm,0.4s,baz=322,slow=11,SNR=4.2
0.7nm,0.4s
LOEI Loei 32.29 327 P **P 19 04 56.2 +0.7**
CMAR Chiang Mai Arr 34.34 325 P **P 19 05 12.6 -0.8**
0.7nm,0.5s,baz=146,slow=8.6,SNR=1.0
CMAR LR LR 19 20 13.8
comp=Z,41nm,19.2s,baz=135,slow=38
0.7nm,0.5s
JOW Kunigami 37.43 14 LR LR 19 20 20.7
comp=Z,19nm,19.4s,baz=158,slow=35
TATA Tatamba Isabel 40.23 91 P **P 19 06 06.6 +3.1**
NGOA Tingoa Renbel 40.30 96 P **P 19 06 04.2 +0.1**
ALEG Aligegeo Malai 41.08 92 P **P 19 06 12.5 +2.0**
JNU Nakatsue 44.08 14 LR LR 19 23 52.4
comp=Z,15nm,22.0s,baz=220,slow=35
H08S2 Diego Garcia H 46.06 269 T T 19 55 55.8
baz=95,slow=75,SNR=160
H08S3 Diego Garcia H 46.08 269 T T 19 55 56.6
baz=95,slow=75,SNR=133
LUES Luesalemba Tem 46.08 95 P **P 19 06 52.7 +1.8**
H08S1 Diego Carcia H 46.08 269 T T 19 55 57.2
baz=95,slow=75,SNR=88
KSRS Korea Array 47.67 10 P **P 19 07 01.9 -1.0**
1.6nm,0.7s,baz=188,slow=8.5,SNR=8.8
KSRS LR LR 19 26 28.0
comp=Z,19nm,20.9s,baz=245,slow=35
1.6nm,0.7s
MJAR Matsushiro Arr 49.43 20 P **P 19 07 14.9 -1.6**
1.1nm,0.7s,baz=196,slow=8.9,SNR=3.0
MJAR LR LR 19 25 30.6
comp=Z,17nm,22.0s,baz=198,slow=33
1.1nm,0.7s
USRK Ussuriysk Ar. 54.95 11 P **P 19 07 56.0 -1.4**
4.3nm,0.7s,baz=198,slow=7.5,SNR=5.8
4.3nm,0.7s
SONM Songino Array 58.41 350 P **P 19 08 21.7 -0.5**
3.1nm,0.5s,baz=170,slow=7.3,SNR=30
3.1nm,0.5s
KLR Kul'dur 59.77 10 LR LR 19 38 13.4
comp=Z,12nm,18.0s,baz=198,slow=40
MKAR Makanchi Array 65.14 333 P **P 19 09 06.4 -1.0**
2.5nm,0.8s,baz=144,slow=7.4,SNR=22
2.5nm,0.8s
H04N2 CROZET ISLANDS 67.32 224 T T 20 22 51.0
baz=84,slow=75,SNR=128
H04N1 CROZET ISLANDS 67.34 224 T T 20 22 51.0
baz=84,slow=75,SNR=108
H04N3 CROZET ISLANDS 67.34 224 T T 20 22 51.0
baz=84,slow=75,SNR=90
MAW Mawson 68.57 200 LR LR 19 32 22.5
comp=Z,110nm,21.9s,baz=126,slow=30
KURBB Kurchatov Arra 69.66 334 P **P 19 09 33.6 -2.3**
0.6nm,0.4s,baz=141,slow=5.4,SNR=7.4
0.6nm,0.4s
ZALV Zalesovo Beam 69.75 339 P **P 19 09 34.5 -1.8**
1.9nm,0.5s,baz=123,slow=5.5,SNR=6.5
1.9nm,0.5s
PETK Petropavlovsk- 70.72 23 P **P 19 09 41.2 -1.2**
2.8nm,0.8s,baz=199,slow=2.7,SNR=5.0
PETK LR LR 19 43 56.2
comp=Z,12nm,18.7s,baz=108,slow=39
2.8nm,0.8s
BVAR Borovoye Array 74.98 332 P **P 19 10 06.5 -1.2**
1.6nm,0.8s,baz=141,slow=9.6,SNR=7.7
1.6nm,0.8s
SEY Seymchan 76.85 15 P **P 19 10 17.2 -0.9**
1.6nm,0.7s,baz=228,slow=4.1,SNR=18
1.6nm,0.7s
QSPA South Pole Qui 80.26 180 P **P 19 10 38.6 +1.5**
1.7nm,0.7s,baz=345,slow=0.4,SNR=12
1.7nm,0.7s
TIXI Tiksi 81.47 3 P **P 19 10 41.5 -1.7**
0.5nm,0.2s,baz=132,slow=3.6,SNR=4.4
0.5nm,0.2s
BRTR Keskin Array B 92.66 310 P **P 19 11 36.3 -2.5**
0.5nm,0.8s,baz=91,slow=5.4,SNR=3.7
0.5nm,0.8s
TORD Torodi Ar. Bea 118.66 280 PKP **PKPdf 19 17 14.3 -1.3**
0.4nm,0.5s,baz=75,slow=1.6,SNR=3.8

*NEIC **17** 19:18:12.5±1.7,61°.37N±0°.02×150°.01W±0°.05,h39km±4km, Error ellipse: s-maj=3.3km s-min=3.0km az=89.0*
AEIC 17 19:18:13.1±1.7,61°.37N±0°.03×150°.02W±0°.05,h39km±5km, ML3.1,ML3.2/158(NEIC), Error ellipse: s-maj=3.8km s-min=3.3km az=163.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.24 204**			Pn	19 18 20.4	-0.6
RC01	**Rabbit Creek A**	**0.31 154**			Pn	19 18 20.1	-1.4
RC01				IAML		19 18 27.3	
comp=E,2µm,0.5s
RC01				IAML		19 18 31.1	
comp=N,2µm,0.4s
RC01	**Rabbit Creek A**	**0.31 154**			Sn	19 18 26.6	-1.0
SUA	**Susitna One**	**0.36 286**			Sn	19 18 28.4	-0.3
SUA	**Susitna One**	**0.36 286**			Pn	19 18 21.1	-1.0
SUA				IAML		19 18 28.8	
comp=E,3µm,0.7s
SUA				IAML		19 18 28.8	
comp=N,2µm,0.6s
M22K	**Willow**	**0.39 353**			Pn	19 18 20.8	-1.5
M22K				IAML		19 18 31.5	
comp=N,2µm,0.5s
M22K				IAML		19 18 33.2	
comp=E,2µm,0.5s
PMR	**Palmer**	**0.48 61**			Pn	19 18 22.1	-1.5
PMR				IAML		19 18 30.6	
comp=N,2µm,0.5s
PMR				IAML		19 18 30.9	
comp=E,1µm,0.4s
PMR	**Palmer**	**0.48 61**			Sn	19 18 30.1	-0.8

GHO	**Glory Hole Cre**	**0.66 52**			Pn	19 18 24.7	-1.5
GHO				IAML		19 18 36.3	
comp=E,2µm,0.3s
GHO				IAML		19 18 37.4	
comp=N,2µm,0.4s
GHO	**Glory Hole Cre**	**0.66 52**			Sn	19 18 34.9	-0.5
KNK	**Knik Glacier**	**0.75 86**			Pn	19 18 25.9	-1.3
KNK				IAML		19 18 40.8	
comp=E,1µm,0.5s
KNK	**Knik Glacier**	**0.75 86**			Sn	19 18 38.2	+0.8
CAPN	**Captain Cook N**	**0.82 223**			Pn	19 18 28.0	0.0
SLKM	**Skilak Lake**	**0.87 187**			Pn	19 18 27.6	-1.3
SLKM				IAML		19 18 41.2	
comp=N,1µm,0.2s
SLKM	**Skilak Lake**	**0.87 187**			Sn	19 18 40.1	-0.2
STLK	**Strandline Lak**	**0.88 279**			Pn	19 18 28.0	-1.1
STLK	**Strandline Lak**	**0.88 279**			Sn	19 18 40.4	-0.3
O22K	**Cooper Landing**	**0.90 171**			Pn	19 18 27.8	-1.4
SML	**Sawmill**	**0.92 60**			Pn	19 18 28.1	-1.5
SML				IAML		19 18 43.4	
comp=E,706nm,0.8s
SML				IAML		19 18 43.6	
comp=N,695nm,0.6s
SML	**Sawmill**	**0.92 60**			Sn	19 18 41.4	-0.2
SKT	**Skwentna**	**0.95 311**			Pn	19 18 28.7	-1.3
SKT				IAML		19 18 42.3	
comp=E,960nm,0.5s
SKT	**Skwentna**	**0.95 311**			Sn	19 18 41.8	-0.6
PWL	**Port Wells**	**0.96 121**			Pn	19 18 28.8	-1.3
PWL	**Port Wells**	**0.96 121**			Sn	19 18 43.0	+0.4
SPCG	**Spurr Capps Gl**	**0.97 266**			Pn	19 18 29.2	-1.1
CUT	**Chulitna**	**1.05 354**			Pn	19 18 29.9	-1.4
SPCR	**Spurr Chakacha**	**1.07 262**			Pn	19 18 30.4	-1.3
SPBG	**Spurr Blockage**	**1.14 266**			Pn	19 18 31.6	-1.1
M23K	**Glacier View**	**1.18 68**			Pn	19 18 32.3	-0.8
SEW	**Seward**	**1.30 167**		Pn	Pn	19 18 33.4	-1.3
SCM	**Sheep Creek Mo**	**1.37 69**			Pn	19 18 35.1	-0.7
DFR	**Drift River**	**1.52 240**			Pn	19 18 36.6	-1.2
M20K	**Styx River**	**1.58 291**			Pn	19 18 38.2	-0.4
M20K				IAML		19 19 00.9	
comp=E,194nm,0.7s
M20K				IAML		19 19 01.1	
comp=N,222nm,1.0s
RED	**Redoubt Volcan**	**1.65 236**			Pn	19 18 38.5	-1.1
BRLK	**Bradley Lake**	**1.66 195**			Pn	19 18 38.4	-1.3
BRLK	**Bradley Lake**	**1.66 195**		IAML		19 19 03.8	
comp=E,374nm,0.2s
BRLK				IAML		19 19 06.1	
comp=N,305nm,0.1s
BRSE	**Bradley Lake S**	**1.67 193**			Pn	19 18 38.2	-1.6
O20K	**Slope Mountain**	**1.82 226**			Pn	19 18 41.4	-0.5
PPLA	**Purkeypile**	**1.84 327**		Pn	Pn	19 18 41.9	-0.4
P23K	**Montague Islan**	**1.88 136**			Pn	19 18 40.6	-2.1
HOM	**Homer**	**1.89 206**			Pn	19 18 41.7	-1.2
CNPM	**China Poot**	**1.94 199**			Pn	19 18 42.2	-1.4
CNPM	**China Poot**	**1.94 199**		IAML		19 19 09.3	
comp=E,178nm,0.6s
CNPM				IAML		19 19 12.2	
comp=N,305nm,0.3s
KLU	**Klutina**	**1.97 85**		Pn	Pn	19 18 43.0	-1.0
KLU				IAML		19 19 14.0	
comp=E,156nm,0.5s
KLU				IAML		19 19 15.7	
comp=N,282nm,0.4s
M24K	**Tolsona, Glenn**	**1.97 66**			Pn	19 18 44.3	+0.3
M24K	**Tolsona, Glenn**	**1.97 66**		IAML		19 19 19.9	
comp=N,339nm,0.6s
HIN	**Hinchinbrook I**	**1.97 118**			Pn	19 18 42.9	-1.2
HIN				IAML		19 19 16.0	
comp=E,348nm,0.9s
DIV	**Divide**	**2.06 95**		Pn	Pn	19 18 44.0	-1.3
ILSW	**Iliamna Southw**	**2.07 229**			Pn	19 18 45.0	-0.4
ILSW				IAML		19 19 14.8	
comp=E,164nm,0.7s
TRF	**Thorofare Moun**	**2.10 357**		IAML		19 19 23.7	
comp=E,145nm,0.6s
TRF				IAML		19 19 25.3	
comp=N,170nm,0.5s
RND	**Reindeer**	**2.12 14**		Pn	Pn	19 18 45.9	-0.2
M19K	**Big River Lodg**	**2.16 286**			Pn	19 18 45.9	-0.6
M19K				IAML		19 19 19.4	
comp=N,103nm,0.4s
KTH	**Kantishna Hill**	**2.24 350**		Pn	Pn	19 18 47.9	+0.3
KTH				IAML		19 19 18.0	
comp=E,103nm,0.4s
EYAK	**Cordova Ski Ar**	**2.24 110**			Pn	19 18 46.1	-1.4
N19K	**Bonanza Creek**	**2.24 258**			Pn	19 18 47.0	-0.7
CAST	**Castle Rocks**	**2.27 336**		Pn	Pn	19 18 48.1	0.0
P19K	**Oil Pt**	**2.34 224**			Pn	19 18 48.6	-0.5
O19K	**Port Alsworth**	**2.42 243**		Pn	Pn	19 18 49.0	-1.0
MCK	**McKinley**	**2.43 11**		Pn	Pn	19 18 50.6	+0.4
L19K	**White Mountain**	**2.44 292**			Pn	19 18 50.2	-0.2
L19K	**White Mountain**	**2.44 292**		IAML		19 19 36.3	
comp=E,88nm,1.1s
N25K	**Chitina, Valde**	**2.61 82**		Pn	Pn	19 18 52.2	-0.6
N25K				IAML		19 19 31.6	
comp=N,108nm,0.5s
N25K				IAML		19 19 31.8	
comp=E,89nm,0.4s
AUCH	**Augustine Cone**	**2.63 222**			Pn	19 18 53.0	-0.1
BMRM	**Bremner River**	**2.65 96**		Pn	Pn	19 18 51.8	-1.6
GOAT	**Goat Mountain**	**2.70 105**			Pn	19 18 52.3	-1.7
CHUM	**Lake Minchumin**	**2.74 338**			Pn	19 18 54.5	0.0
K20K	**Telida**	**2.75 318**			Pn	19 18 54.0	-0.6
BPAW	**Bear Paw Mtn.**	**2.78 351**		Pn	Pn	19 18 54.5	-0.5
WACK	**Wrangell Chich**	**2.78 75**			Pn	19 18 55.2	-0.1
WASW	**Wrangell South**	**2.84 76**			Pn	19 18 56.0	-0.2
WAZA	**Wrangell Mount**	**2.88 73**			Pn	19 18 57.1	+0.5
O18K	**Koktuh Hills**	**2.98 242**		Pn	Pn	19 18 56.7	-1.1
O18K				IAML		19 19 57.7	
comp=E,65nm,0.8s
O18K				IAML		19 19 58.2	
comp=N,63nm,0.8s
GLB	**Gilahina Butte**	**2.99 86**			Pn	19 18 57.4	-0.6
GLB				IAML		19 19 45.2	
comp=E,59nm,0.5s
GLB				IAML		19 19 51.0	
comp=N,91nm,0.7s
SYI	**Shuyak Island**	**3.01 204**			Pn	19 18 57.4	-0.9
SYI	**Shuyak Island**	**3.01 204**		IAML		19 19 41.5	
comp=E,82nm,0.4s
SYI				IAML		19 19 41.7	
comp=N,67nm,0.6s
Q19K	**Cape Douglas,**	**3.04 218**		Pn	Pn	19 18 58.3	-0.4
K24K	**Donnelly Dome**	**3.13 37**			Pn	19 19 02.0	+2.0
VRDI	**Verde Repeater**	**3.17 90**		Pn	Pn	19 19 01.5	+0.9
VRDI				IAML		19 19 53.3	
comp=N,53nm,1.2s
WRH	**Wood River Hil**	**3.24 15**			Pn	19 19 02.2	+0.8
NEA2	**Nenana**	**3.27 7**		IAML		19 19 56.9	
comp=N,39nm,0.9s
NEA2				IAML		19 19 57.4	
comp=E,43nm,0.8s
L18K	**Granite Mounta**	**3.28 288**			Pn	19 19 01.3	-0.6
L18K	**Granite Mounta**	**3.28 288**		IAML		19 19 57.6	
comp=E,38nm,0.9s
SUCK	**Suckling Hills**	**3.33 110**			Pn	19 19 01.8	-0.8
SUCK	**Suckling Hills**	**3.33 110**		IAML		19 19 44.3	
comp=N,94nm,1.1s
SUCK				IAML		19 21 07.1	
comp=E,76nm,1.2s
RIDG	**Independent Ri**	**3.38 43**		Pn	Pn	19 19 04.3	+1.0
RIDG				IAML		19 19 54.0	
comp=N,94nm,0.6s
J20K	**Nowinta River**	**3.40 328**		IAML		19 19 43.5	
comp=N,75nm,0.6s
J20K				IAML		19 19 43.7	
comp=E,68nm,0.4s
CCB	**Clear Creek Bu**	**3.44 16**			Pn	19 19 04.1	0.0
CCB	**Clear Creek Bu**	**3.44 16**		IAML		19 20 02.2	
comp=E,33nm,0.7s
M26K	**Nabesna, AK**	**3.48 70**			Pn	19 19 04.3	-0.4
M26K	**Nabesna, AK**	**3.48 70**		IAML		19 20 05.6	
comp=N,48nm,0.6s
M26K				IAML		19 20 13.7	
comp=E,36nm,0.9s
L26K	**Log Cabin Wild**	**3.54 59**		IAML		19 20 04.2	
comp=E,80nm,0.4s
M17K	**Holitna River**	**3.57 274**		IAML		19 20 06.0	
comp=N,74nm,0.8s
M17K				IAML		19 20 16.6	
comp=E,80nm,1.1s
DOT	**Dot Lake**	**3.59 48**		Pn	Pn	19 19 08.0	+1.8
N17K	**Nushagak Hills**	**3.60 260**			Pn	19 19 05.5	-0.8

N17K	**Nushagak Hills**	**3.60 260**		IAML		19 19 47.2	
comp=E,34nm,0.9s
J19K	**Poorman**	**3.69 318**			Pn	19 19 06.9	-0.7
J19K	**Poorman**	**3.69 318**		IAML		19 20 22.4	
comp=E,34nm,0.8s
J19K				IAML		19 20 29.1	
comp=N,32nm,0.6s
IL31		**3.70 21**		Pn	Pn	19 19 08.3	+0.6
ILAR	**Eielson Array**	**3.70 21**			Pn	19 19 09.1	+1.3
KAHC	**Katmai Hardscr**	**3.70 225**			Pn	19 19 06.9	-0.9
BALM	**Baldy**	**3.73 92**			Pn	19 19 06.8	-1.4
KIAG	**Kiagna River**	**3.74 93**			Pn	19 19 07.4	-0.9
J18K	**Innoko River**	**3.76 307**		IAML		19 19 51.2	
comp=N,27nm,0.8s
I23K	**Minto, Yukon-K**	**3.81 4**			Pn	19 19 09.3	+0.2
I23K	**Minto, Yukon-K**	**3.81 4**		IAML		19 20 23.8	
comp=N,32nm,0.8s
SCRK	**Sand Creek**	**3.82 44**		Pn	Pn	19 19 09.5	0.0
SCRK				IAML		19 20 10.5	
comp=E,51nm,0.6s
SCRK				IAML		19 20 15.2	
comp=N,30nm,1.0s
J25K	**Salcha River,**	**3.89 31**			Pn	19 19 10.9	+0.6
J25K	**Salcha River,**	**3.89 31**		IAML		19 20 03.3	
comp=E,44nm,0.6s
J25K				IAML		19 20 06.0	
comp=N,28nm,0.6s
I21K	**Tanana**	**3.93 348**		IAML		19 20 24.0	
comp=E,23nm,1.1s
I20K	**Naaghedeneel**	**4.00 331**			Pn	19 19 11.9	+0.2
K17K	**Iditarod**	**4.13 293**		IAML		19 20 24.5	
comp=N,40nm,0.9s
K17K				IAML		19 20 32.8	
comp=E,40nm,0.8s
J26L	**Joseph Creek**	**4.31 40**		IAML		19 20 11.9	
comp=E,47nm,0.7s
J26L				IAML		19 20 14.2	
comp=N,45nm,0.7s
M16K	**Timber Creek**	**4.34 269**		IAML		19 20 42.0	
comp=N,18nm,1.2s
N16K	**Nishlik Lake**	**4.37 262**			Pn	19 19 16.1	-0.7
O16K	**Kokwok River B**	**4.37 250**			Pn	19 19 15.9	-1.0
O16K	**Kokwok River B**	**4.37 250**		IAML		19 20 33.9	
comp=N,20nm,1.1s
H23K	**Yukon River**	**4.48 2**			Pn	19 19 18.7	+0.3
L16K	**Owhat River**	**4.54 279**			Pn	19 19 18.3	-0.9
H22K	**Ishtalitna Cre**	**4.59 353**			Pn	19 19 19.9	+0.1
P16K	**Nushagak River**	**4.62 243**			Pn	19 19 19.7	-0.6
H20K	**Anotleneega Mo**	**4.68 334**			Pn	19 19 20.7	-0.5
J17K	**VABM Dome**	**4.68 300**		IAML		19 20 54.1	
comp=N,15nm,1.1s
O28M	**Mount Upton**	**4.81 93**			Pn	19 19 22.8	-0.4
I26K	**Coal Creek Min**	**5.02 35**			Pn	19 19 26.4	+0.6
I26K	**Coal Creek Min**	**5.02 35**		IAML		19 20 53.4	
comp=N,25nm,0.7s
H19K	**Roundabout Mou**	**5.08 328**			Pn	19 19 25.9	-0.6
H19K	**Roundabout Mou**	**5.08 328**		IAML		19 20 59.5	
comp=N,14nm,0.8s
H19K				IAML		19 21 00.1	
comp=E,20nm,1.1s
N15K	**Kwethluk River**	**5.08 261**			Pn	19 19 26.2	-0.5
N15K	**Kwethluk River**	**5.08 261**		IAML		19 20 50.7	
comp=E,24nm,0.9s
N15K				IAML		19 20 51.6	
comp=N,20nm,1.0s
M15K	**Kasigluk River**	**5.23 267**			Pn	19 19 27.8	-0.9
J16K	**Anvik River**	**5.30 296**			Pn	19 19 28.8	-0.8
J16K				IAML		19 21 09.8	
comp=N,12nm,1.0s
H18K	**Honhosa River**	**5.35 319**			Pn	19 19 29.8	-0.5
H18K	**Honhosa River**	**5.35 319**		IAML		19 21 10.1	
comp=E,10nm,1.0s
H18K				IAML		19 21 15.1	
comp=N,8.4nm,0.9s
O15K	**Ungalikthiuk R**	**5.35 250**			Pn	19 19 29.7	-0.6
L15K	**Ungalak Mounta**	**5.50 278**			Pn	19 19 31.4	-0.9
K15K	**Wolf Creek Mou**	**5.54 285**			Pn	19 19 32.4	-0.5
I17K	**Unalakleet**	**5.54 302**			Pn	19 19 32.5	-0.3
H17K	**Granite Mounta**	**5.74 313**			Pn	19 19 35.5	-0.2
M14K	**Bethel**	**5.83 269**			Pn	19 19 36.4	-0.5
O14K	**Tigyukauivet M**	**5.98 254**			Pn	19 19 38.4	-0.5
F21K	**Alatna River**	**6.07 347**			Pn	19 19 40.4	+0.2
L14K	**Kuka Creek**	**6.09 275**			Pn	19 19 40.4	-0.1
F20K	**Avaraart Lake**	**6.22 339**			Pn	19 19 42.3	+0.1
G17K	**Kiwalik Mounta**	**6.32 316**			Pn	19 19 42.7	-0.9
H16K	**Elim**	**6.46 306**			Pn	19 19 44.0	-1.5

*IDC **17** 19:18:56.0±2.9,43°.07N×105°.01W,h0km,mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=58.1km s-min=9.7km az=157.0*
*NEIC **17** 19:18:59.2±1.7,43°.59N±0°.06×105°.16W±0°.07,h0km±1km, ML3.2/38, Error ellipse: s-maj=12.3km s-min=5.2km az=214.0*
ISC 17 19:18:55.9±1.0,43°.33N±0°.05×105°.08W±0°.07,h0km,n24, σ2967/21, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.26 238**		Pg	**Pn**	**19 19 23.7**	**+2.8**
OGNE	**Ogallala**	**3.29 135**		Pn	**Pg**	**19 19 58.5**	**-0.4**
PD31	**Pinedale Array**	**3.33 262**		Pn	**Pb**	**19 19 53.7**	**-2.3**
PDAR	**Pinedale Array**	**3.33 262**		Pn	**Pb**	**19 19 54.8**	**-1.2**
PDAR	**Pinedale Array**	**3.33 262**		Pn	**Pn**	**19 19 52.9**	**+3.4**
1.3nm,0.3s,baz=64,slow=14,SNR=27
PDAR				Lg	Lg	19 20 40.4	
5.5nm,0.3s,baz=71,slow=33,SNR=9.9
1.4nm,0.3s
LAO	**LASA Array**	**3.46 347**			**Pn**	**19 19 53.2**	**+2.2**
LAO				IAML		19 21 08.1	
78nm,0.8s
LAO				IAML		19 21 28.9	
69nm,3.4s
RLMT	**Red Lodge**	**3.50 302**		Pn	**Pn**	**19 19 53.7**	**+1.9**
RLMT				IAML		19 21 51.0	
42nm,4.8s
YMP	**Mirror Lake Pl**	**3.92 293**		Pn	**Pn**	**19 20 00.4**	**+2.7**
YNE	**Yellowstone No**	**3.92 297**		Pn	**Pn**	**19 19 60.0**	**+2.3**
YNE				IAML		19 21 05.5	
comp=N,52nm,0.8s
O20A	**White River Ci**	**3.97 218**		Pn	**Pb**	**19 20 04.8**	**-2.1**
O20A				IAML		19 21 15.2	
comp=N,35nm,1.3s
LOHW	**Long Hollow**	**4.03 276**			**Pn**	**19 20 02.9**	**+3.7**
TPAW	**Teton Pass**	**4.28 274**			**Pn**	**19 20 06.3**	**+3.7**
TPAW				IAML		19 21 22.9	
comp=N,26nm,1.2s
FXWY	**Fox Creek**	**4.34 276**			**Pb**	**19 20 10.5**	**-2.7**
FXWY				IAML		19 21 25.7	
comp=N,18nm,3.2s
Q24A	**Divide**	**4.36 181**			**Pb**	**19 20 12.5**	**-1.2**
Q24A				IAML		19 21 34.1	
comp=E,16nm,0.8s
YMR	**Madison River**	**4.45 290**			**Pb**	**19 20 12.9**	**-2.2**
YMR				IAML		19 21 37.7	
comp=N,27nm,1.4s
YMR				IAML		19 21 44.1	
comp=E,22nm,2.2s
BSUT	**Blindstream Ca**	**5.08 239**		IAML		19 22 02.4	
comp=N,14nm,3.1s
BSUT				IAML		19 22 23.3	
comp=E,14nm,5.0s
HWUT	**Hardware Ranch**	**5.10 252**		Pn	**Pb**	**19 20 22.6**	**-3.4**
HWUT				IAML		19 21 55.9	
comp=E,18nm,1.8s
HWUT				IAML		19 22 13.4	
comp=E,20nm,3.2s
BOZ	**Bozeman (W)**	**5.21 298**			**Pb**	**19 20 25.8**	**-2.2**
BOZ				IAML		19 21 49.1	
comp=E,15nm,1.9s
BOZ				IAML		19 23 27.5	
comp=E,18nm,4.4s
P18A	**Preston Nutter**	**5.36 228**		Pn	Pb	19 20 24.4	-6.2
PV23	**Carpenter Ridg**	**5.71 213**		Pn	**Pb**	**19 20 33.0**	**-3.6**
EGMT	**Eagleton**	**5.72 327**		Pn	**Pn**	**19 20 24.1**	**+1.9**
LYMT	**Lyon Mountain**	**6.26 308**		Pn	**Pn**	**19 20 31.5**	**+1.7**
I10CA	**LAC DU BONNET**	**9.26 39**		I	I	20 16 20.0	
comp=E,0.1nm,1.2s,baz=222,slow=331,SNR=8.4
ULM	**Lac du Bonnet**	**9.36 39**		Pn	**Pn**	**19 21 12.0**	**0.0**
comp=E,0.7nm,0.3s,baz=226,slow=12,SNR=8.4
ULM				Lg	Lg	19 23 48.5	
comp=E,0.1nm,0.3s,baz=297,slow=20,SNR=3.3
comp=E,0.9nm,0.5s

DJA 17 19:19:32.9±0.4, 11°S±5°×11°8E±°, h10km, M3.9/8, mb4.0/5, MLv3.9/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.20**	**34**	P	Pn	19 20 08.9	-0.7
PLAI	**Plampang**	**2.66**	**352**	P	Pn	19 20 15.9	0.0
BASI	**Baing, Sumba**	**2.70**	**63**	P	Pn	19 20 15.5	-0.9
SRBI	**Singaraja**	**4.44**	**319**	P	Pn	19 20 41.0	+0.7
GMJI	**Gumukmas**	**5.62**	**304**	P	Pn	19 20 55.5	-1.1
BSSI	**Bau Bau, Buton**	**5.79**	**24**	P	Pn	19 20 59.2	+0.3
SOEI	**Soe**	**6.26**	**75**	P	Pn	19 21 05.9	+0.4
	0.1nm19nm,1.8s						
BKSI	**Bulukumba**	**6.42**	**18**	P	Pn	19 21 08.3	+0.6
	0.1nm12nm,0.9s						

*RSNC **17** 19:27:47.4±0.0, 9°N±3°×7°9W±°, h81km±8km, M2.8, mb3.9, ML2.7*
*UPA **17** 19:27:48.0±0.5, 9°.24N×78°.60W, h65km±3km, ML3.9, MW4.3*

ISC 17 19:27:45.8±1.2, 9°.36N±0°.05×78°.60W±0°.03, h78km±12km, n41, σ1°87/69, 1C, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	**Canitas, Panam**	**0.32**	**244**	⇑*iP*	**Pn**	**19 27 58.1**	**+0.1**
CNTA3				*eS*	**Sn**	19 28 06.2	-0.7
UPD2	**Meteti**	**0.99**	**144**	*eP*	**Pn**	**19 28 05.3**	**+0.7**
UPA	**Univ. de Panam**	**1.00**	**248**	*eP*	**Pn**	**19 28 05.5**	**+0.8**
UPA				*eS*	**Sn**	19 28 18.8	0.0
TABO3	**Taboga, Panama**	**1.10**	**239**	*eS*	**Sn**	19 28 21.1	+0.1
ARRA3	**Arraijan, Pana**	**1.12**	**250**	*eP*	**Pn**	**19 28 07.2**	**+1.0**
BCIP	**Isla Barro Col**	**1.24**	**261**	P	**Pn**	**19 28 08.9**	**+1.2**
BCIP				S	**Sn**	**19 28 25.0**	**+0.9**
BCIP	**Isla Barro Col**	**1.24**	**261**	*eP*	**Pn**	**19 28 09.0**	**+1.3**
BCIP				AMP		19 28 10.4	
	comp=Z,9μm,0.1s						
BCIP				*eS*	**Sn**	**19 28 25.0**	**+0.9**
BCIP	**Isla Barro Col**	**1.24**	**261**	P	**Pn**	**19 28 08.9**	**+1.2**
BCIP				S	**Sn**	**19 28 25.0**	**+0.9**
CHOR3	**La Chorrera**	**1.24**	**248**	*eP*	**Pn**	**19 28 08.5**	**+0.8**
CHOR3				AMP		19 28 10.1	
	comp=Z,1μm,0.2s						
CHOR3				*eS*	**Sn**	**19 28 24.6**	**+0.5**
CAPC	**Capurgana**	**1.43**	**120**	P	**Pn**	**19 28 10.3**	**+0.2**
CAPC				S	**Sn**	**19 28 28.7**	**+0.3**
CAPC	**Capurgana**	**1.43**	**120**	P	**Pn**	**19 28 10.3**	**+0.2**
CAPC				S	**Sn**	**19 28 28.7**	**+0.3**
LCBC	**Los crdobas,**	**2.26**	**103**	P	**Pn**	**19 28 22.7**	**+1.6**
LCBC				S	**Sn**	**19 28 49.8**	**+1.6**
LCBC	**Los crdobas,**	**2.26**	**103**	P	**Pn**	**19 28 22.7**	**+1.6**
LCBC				S	**Sn**	**19 28 49.8**	**+1.6**
AZU	**Azuero**	**2.27**	**227**	P	**Pn**	**19 28 21.7**	**+0.3**
AZU				S	**Sn**	**19 28 47.7**	**-0.8**
AZU	**Azuero**	**2.27**	**227**	*eP*	**Pn**	**19 28 22.0**	**+0.6**
AZU				AMP		19 28 22.3	
	comp=Z,171nm,0.1s						
AZU				*eS*	**Sn**	**19 28 47.8**	**-0.7**
AZU	**Azuero**	**2.27**	**227**	P	**Pn**	**19 28 21.7**	**+0.3**
AZU				S	**Sn**	**19 28 47.7**	**-0.8**
CHIT3	**Chitre**	**2.28**	**232**	*eP*	**Pn**	**19 28 22.2**	**+0.8**
CHIT3				*eS*	**Sn**	**19 28 47.5**	**-1.1**
APAC	**Apartado, Choc**	**2.47**	**126**	P	**Pn**	**19 28 26.4**	**+2.4**
APAC				S	**Sn**	**19 28 58.9**	**+5.7**
APAC	**Apartado, Choc**	**2.47**	**126**	P	**Pn**	**19 28 26.4**	**+2.4**
APAC				S	**Sn**	**19 28 58.9**	**+5.7**
GMAL	**Guarumal, Vera**	**3.05**	**239**	P	**Pn**	**19 28 32.0**	**+0.1**
GMAL	**Guarumal, Vera**	**3.05**	**239**	P	**Pn**	**19 28 32.0**	**+0.1**
DBBC	**Dabeiba**	**3.32**	**134**	P	**Pn**	**19 28 37.2**	**+1.6**
DBBC	**Dabeiba**	**3.32**	**134**	P	**Pn**	**19 28 37.2**	**+1.6**
SJCC	**San Jacinto, C**	**3.41**	**81**	P	**Pn**	**19 28 37.7**	**+0.9**
SJCC				S	**Sn**	19 29 14.6	-1.7
SJCC	**San Jacinto, C**	**3.41**	**81**	P	**Pn**	**19 28 37.7**	**+0.9**
SJCC				S	**Sn**	19 29 14.6	-1.7
ZARC	**Zaragoza, Cauc**	**4.14**	**116**	P	**Pn**	**19 28 46.7**	**0.0**
ZARC				S	**Sn**	19 29 30.4	-3.5
ZARC	**Zaragoza, Cauc**	**4.14**	**116**	P	**Pn**	**19 28 46.7**	**0.0**
ZARC				S	**Sn**	19 29 30.4	-3.5
CBOC	**Ciudad Bolivar**	**4.32**	**143**	P	**Pn**	**19 28 47.1**	**-2.2**
CBOC				S	**Sn**	19 29 36.4	-2.1
CBOC	**Ciudad Bolivar**	**4.32**	**143**	P	**Pn**	**19 28 47.1**	**-2.2**
CBOC				S	**Sn**	19 29 36.4	-2.1
ARGC	**Ariguani, Magd**	**4.32**	**83**	P	Pn	19 29 00.0	+11
ARGC				S	**Sn**	**19 29 38.5**	**+0.2**
ARGC	**Ariguani, Magd**	**4.32**	**83**	P	Pn	19 29 00.0	+11
ARGC				S	**Sn**	**19 29 38.5**	**+0.2**
PRVC	**Isla de Provid**	**4.83**	**326**	P	**Pn**	**19 28 56.2**	**+0.2**
PRVC				S	**Sn**	**19 29 47.0**	**-3.7**
PRVC	**Isla de Provid**	**4.83**	**326**	P	**Pn**	**19 28 56.2**	**+0.2**
PRVC				S	**Sn**	**19 29 47.0**	**-3.7**
PTBC	**PUERTO BERRIO,**	**4.97**	**124**	P	**Pn**	**19 28 57.6**	**-0.4**
PTBC				S	**Sn**	**19 29 51.4**	**-2.8**
PTBC	**PUERTO BERRIO,**	**4.97**	**124**	P	**Pn**	**19 28 57.6**	**-0.4**
PTBC				S	**Sn**	**19 29 51.4**	**-2.8**
OCAC	**Ocana**	**5.33**	**102**	P	**Pn**	**19 29 02.8**	**-0.3**
	comp=Z,34nm,0.5s						
OCAC				S	**Sn**	**19 29 59.8**	**-3.6**
	comp=Z,34nm,0.5s						
OCAC	**Ocana**	**5.33**	**102**	P	**Pn**	**19 29 02.8**	**-0.3**
	comp=Z,34nm,0.5s						
OCAC				S	**Sn**	**19 29 59.8**	**-3.6**
	comp=Z,34nm,0.5s						
RUSC	**La Rusia**	**6.46**	**122**	P	**Pn**	**19 29 19.0**	**+0.2**
	comp=Z,3.8nm,1.9s						
RUSC	**La Rusia**	**6.46**	**122**	P	**Pn**	**19 29 19.0**	**+0.2**
	comp=Z,3.8nm,1.9s						
URIC	**Uribia, Colomb**	**6.90**	**70**	P	**Pn**	**19 29 24.9**	**+0.5**
URIC	**Uribia, Colomb**	**6.90**	**70**	P	**Pn**	**19 29 24.9**	**+0.5**

IDC 17 19:28:39.4±2.1, 6°.78S×128°.88E, h0km, mb3.4/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=83.4km s-min=28.0km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.69**	**195**	Pn	Pn	19 31 28.8	+1.2
	0.6nm,0.3s,baz=17,slow=7.7,SNR=37						
FITZ				Sn	Sn	19 33 24.3	-15
	0.2nm,0.3s,baz=261,slow=11,SNR=2.2						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**14.12**	**158**	Pn	Pn	19 31 59.9	-0.9
	0.4nm,0.3s,baz=336,slow=14,SNR=22						
WRA				Sn	Sn	19 34 22.9	-16
	0.5nm,0.3s,baz=336,slow=23,SNR=8.0						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**17.47**	**164**	P	Pn	19 32 44.4	-0.4
	0.2nm,0.3s,baz=346,slow=10.0,SNR=18						
ASAR				S	Sn	19 35 45.7	-14
	0.2nm,0.4s,baz=324,slow=14,SNR=4.4						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	19 39 37.0	0.0
	0.2nm,0.5s,baz=123,slow=7.4,SNR=5.4						
	0.2nm,0.5s						

IDC 17 19:55:56.9±5.5, 49°.96N×114°.59W, h0km, mbtmp3.0/1, ML3.2/1, Error ellipse: s-maj=74.6km s-min=39.2km az=71.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.38**	**225**	I	I	20 14 00.0	
	baz=41,slow=319,SNR=3.3						
I10CA	**LAC DU BONNET**	**11.93**	**82**	I	I	21 10 10.0	
	baz=275,slow=323,SNR=4.7						
YKA	**Yellowknife Ar**	**12.56**	**360**	Pn	Pn	19 58 52.2	-4.5
	0.2nm,0.3s,baz=184,slow=13,SNR=8.0						
YKA				Sn	Sn	20 01 08.8	-8.3
	0.1nm,0.3s,baz=171,slow=24,SNR=2.8						
YKA				Lg	Lg	20 02 24.3	
	baz=173,slow=27						
	0.1nm,0.3s						

*CATAC **17** 20:03:14.0±1.0, 7°N±7°×8°3W±1°4, h1km, M4.5/7, MLv4.5/7, Error ellipse: s-maj=31.3km s-min=11.5km az=72.8, confirmed*
*UPA **17** 20:03:15.5±0.3, 6°.60N×82°.67W, h24km±16km, ML4.4, MW4.8*
*UCR **17** 20:03:35.8±0.7, 8°.09N×83°.43W, h0km±134km, MW3.6*

ISC 17 20:03:14.0±2.1, 6°.7N±0°.1×82°.65W±0°.05, h10km, n63, σ1°13/77, 6C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**1.56**	**352**	⇑*eP*	**Pn**	**20 03 37.2**	**-4.5**
PTPM				AMP		20 03 37.8	
	comp=Z,2μm,0.2s						
PTPM				*eS*	**Sn**	**20 03 57.6**	**-4.3**
PEDE3	**Pedregal, Chir**	**1.73**	**8**	*eP*	**Pn**	**20 03 44.3**	**+0.2**
LOMA3	**Las Lomas, Chi**	**1.78**	**8**	*eP*	**Pn**	**20 03 45.2**	**+0.3**
GMAL	**Guarumal, Vera**	**1.79**	**52**	⇓*eP*	**Pn**	**20 03 45.1**	**+0.2**
GMAL				AMP		20 03 45.7	
	comp=Z,3μm,0.1s						
GMAL				*eS*	**Sn**	**20 04 07.7**	**+0.1**
PIRO	**Carate, Puerto**	**1.87**	**339**	*eP*	**Pn**	**20 03 45.6**	**-0.4**
PIRO				*eS*	**Sn**	**20 04 09.9**	**+0.2**
PIRO	**Carate, Puerto**	**1.87**	**339**	P	**Pn**	**20 03 45.2**	**-0.8**
GUAL3	**Gualaca, Chiri**	**1.90**	**111**	⇑*eP*	**Pn**	**20 03 46.9**	**+0.4**
GUAL3				*eS*	**Sn**	**20 04 10.6**	**+0.1**
CACAO	**El Cacao, Vera**	**1.91**	**69**	*eP*	**Pn**	**20 03 46.5**	**-0.1**
CACAO				*eS*	**Sn**	**20 04 09.5**	**-1.0**
CDITO	**Canoas**	**1.92**	**353**	P	**Pn**	**20 03 46.7**	**-0.1**
CDITO	**Canoas**	**1.92**	**353**	S	**Sn**	**20 04 11.0**	**0.0**
PTAR3	**Potrerillos Ar**	**2.03**	**4**	*eP*	**Pn**	**20 03 49.0**	**+0.6**
PTAR3				*eS*	**Sn**	**20 04 14.1**	**+0.2**
MESA3	**La Mesa, Verag**	**2.08**	**44**	*eP*	**Pn**	**20 03 49.7**	**+0.8**
MESA3				*eS*	**Sn**	**20 04 15.1**	**+0.2**
LNBQ3	**Los Naranjos,**	**2.13**	**6**	⇑*eP*	**Pn**	**20 03 50.0**	**+0.2**
STIA3	**Santiago, Vera**	**2.20**	**49**	*eP*	**Pn**	**20 03 51.4**	**+0.9**
CHGR2	**Aguacate**	**2.32**	**12**	*eP*	**Pn**	**20 03 53.1**	**+0.8**
CHGR2				*eS*	**Sn**	**20 04 21.4**	**+0.4**
EDP2	**Potrero Grande**	**2.40**	**348**	*eP*	**Pn**	**20 03 54.2**	**+0.8**
FIMO	**Fila Mora**	**2.42**	**343**	*eP*	**Pn**	**20 03 53.9**	**+0.2**
CALO3	**Calobre, Verag**	**2.44**	**47**	*eP*	**Pn**	**20 03 54.8**	**+0.9**
CALO3				*eS*	**Sn**	**20 04 23.6**	**-0.2**
CHIT3	**Chitre**	**2.56**	**60**	*eP*	**Pn**	**20 03 56.2**	**+0.6**
CHIT3				*eS*	**Sn**	**20 04 26.5**	**-0.4**
ACHO3	**Achotines, Los**	**2.57**	**73**	⇑*eP*	**Pn**	**20 03 55.4**	**-0.3**
ACHO3				*eS*	**Sn**	**20 04 26.1**	**-1.0**
AZU	**Azuero**	**2.62**	**64**	⇓*eP*	**Pn**	**20 03 56.8**	**+0.5**
AZU				AMP		20 03 57.3	
	comp=Z,1μm,0.2s						
AZU				⇑*eS*	**Sn**	**20 04 28.2**	**+0.1**
OCHAL	**Ojochal**	**2.62**	**338**	P	**Pn**	**20 03 56.3**	**-0.1**
OCHAL	**Ojochal**	**2.62**	**338**	S	**Sn**	**20 04 29.3**	**+1.0**
EDPE	**Pejibaye, P**	**2.65**	**340**	*eP*	**Pn**	**20 03 57.0**	**+0.2**
DRK0	**Durika**	**2.66**	**347**	*eP*	**Pn**	**20 03 57.0**	**0.0**
DRK0	**Durika**	**2.66**	**347**	P	**Pn**	**20 03 56.0**	**-1.1**
DRK0	**Durika**	**2.66**	**347**	S	**Sn**	**20 04 30.2**	**+0.8**
DRK0	**Durika**	**2.66**	**347**	*eP*	**Pn**	**20 03 56.6**	**-0.4**
PCRI3	**Pocrí, Los San**	**2.71**	**68**	*eP*	**Pn**	**20 03 58.0**	**+0.4**
PCRI3				*eS*	**Sn**	**20 04 29.4**	**-1.0**
CNI2	**El Empalme, Bo**	**2.76**	**4**	*eP*	**Pn**	**20 04 00.0**	**+1.8**
CNI2				AMP		20 04 01.4	
	comp=Z,3μm,0.2s						
CNI2				*eS*	**Sb**	**20 04 36.0**	**-1.3**
PNME	**Penonome**	**2.94**	**52**	*eP*	**Pn**	**20 04 02.5**	**+1.8**
LLNJ	**Naranjito**	**3.15**	**333**	*eP*	**Pn**	**20 04 03.7**	**0.0**
RAZU	**San Marcos de**	**3.28**	**336**	*eP*	**Pn**	**20 04 06.5**	**+0.9**
PISJ	**San Jernim**	**3.30**	**334**	*eP*	**Pn**	**20 04 06.2**	**+0.3**
PICV	**PH. Pirrs**	**3.33**	**333**	*eP*	**Pn**	**20 04 06.3**	**+0.2**
ABE2	**San Pablo**	**3.33**	**335**	*eP*	**Pn**	**20 04 07.2**	**+0.8**
LCR2	**La Lucha 2**	**3.35**	**336**	S	**Sn**	**20 04 47.8**	**+1.3**
LCR2	**La Lucha 2**	**3.35**	**336**	P	**Pn**	**20 04 07.1**	**+0.6**
LCR2	**La Lucha 2**	**3.35**	**336**	*eP*	**Pn**	**20 04 07.0**	**+0.4**
ACOS	**Acosta**	**3.46**	**334**	*eP*	**Pn**	**20 04 08.6**	**+0.5**
VTCV	**VTCV, Calle Va**	**3.47**	**342**	*eP*	**Pn**	**20 04 09.7**	**+1.3**
RAFA	**San Farael, Vo**	**3.48**	**341**	*eP*	**Pn**	**20 04 09.5**	**+1.0**
CVTV	**Tajo**	**3.50**	**342**	*eP*	**Pn**	**20 04 10.4**	**+1.6**
CVTQ	**Turrialba Volc**	**3.51**	**342**	*eP*	**Pn**	**20 04 10.5**	**+1.6**
VTLA	**Turrialba Volc**	**3.51**	**342**	*eP*	**Pn**	**20 04 10.4**	**+1.5**
VICA	**Volcano Irazu**	**3.51**	**340**	*eP*	**Pn**	**20 04 10.1**	**+1.0**
SJS3	**Mercedes San J**	**3.54**	**337**	*eP*	**Pn**	**20 04 10.5**	**+1.3**
SJS	**Escuela Geolog**	**3.55**	**337**	*eP*	**Pn**	**20 04 10.4**	**+1.1**
CORON	**Coronado**	**3.56**	**338**	*eP*	**Pn**	**20 04 11.1**	**+1.6**
HDC	**Heredia**	**3.63**	**337**	*eP*	**Pn**	**20 04 11.3**	**+1.0**
CVTG	**V. Turrialba,**	**3.64**	**342**	*eP*	**Pn**	**20 04 11.8**	**+1.2**
VBV1	**V. Barva**	**3.72**	**337**	*eP*	**Pn**	**20 04 12.9**	**+1.1**
TCS1	**Tacares**	**3.74**	**334**	P	**Pn**	**20 04 12.7**	**+0.8**
SOCE	**Pocosol**	**4.18**	**332**	*eP*	**Pn**	**20 04 18.9**	**+1.0**
NYURE	**Nandayure**	**4.20**	**322**	*eP*	**Pn**	**20 04 18.9**	**+0.8**
JUNT	**Juntas**	**4.27**	**328**	*eP*	**Pn**	**20 04 19.1**	**0.0**
JTS	**Las Juntas de**	**4.27**	**328**	⇑*eP*	**Pn**	**20 04 19.1**	**-0.1**
JTS	**Las Juntas de**	**4.27**	**328**	*eP*	**Pn**	**20 04 19.0**	**-0.1**
VACR	**Volcan Arenal**	**4.29**	**332**	*eP*	**Pn**	**20 04 20.6**	**+1.2**
ARE1	**Arenal 1**	**4.30**	**332**	*eP*	**Pn**	**20 04 21.1**	**+1.6**
VARE2	**V. Arenal**	**4.30**	**332**	*eP*	**Pn**	**20 04 21.0**	**+1.5**
HORNC	**Hornillas**	**4.74**	**328**	*eP*	**Pn**	**20 04 26.3**	**+0.6**
ACON	**Acoyapa**	**5.84**	**335**	*eP*	**Pn**	**20 04 42.1**	**+1.4**

*NOU **17** 20:22:38.3, 30°.49S×179°.80E, h533km, mb4.2/12, Kermadec Islands Region*
*IDC **17** 20:22:39.6±2.3, 30°.33S×178°.96E, h514km±21km, mb3.6/7, mbtmp4.5/9, Error ellipse: s-maj=26.2km s-min=17.2km az=43.0*
*NEIC **17** 20:22:42.3±1.2, 30°.6S±0°.1×179°.0E±0°.1, h552km±14km, mb4.1/16, Error ellipse: s-maj=22.6km s-min=13.0km az=149.0*
*WEL **17** 20:22:43.6±1.3, 31°S±8°×18°0E±1°7, h508km±18km, M4.0/15, mB4.5/13, ML4.9/9, MLv4.8/15, Mw(mB)3.6/13, Error ellipse: s-maj=22.6km s-min=9.1km az=106.5, confirmed*

ISC 17 20:22:40.6±0.6, 30°.54S±0°.07×179°.25E±0°.09, h550km, n75, σ2°02/86, mb4.1/14, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.77**	**63**	P	**P**	**20 23 52.3**	**-2.0**
GLKZ				S	**S**	**20 24 50.6**	**-3.5**
RIZ	**Raoul Island**	**2.77**	**63**	P	**P**	**20 23 50.4**	**-3.9**
GRZ	**Great Barrier**	**6.52**	**208**	P	**P**	**20 24 28.4**	**+1.0**
OUZ	**Omahuta**	**6.66**	**224**	P	**P**	**20 24 25.9**	**+0.7**
OUZ	**Omahuta**	**6.66**	**224**	P	**P**	**20 24 25.8**	**+0.7**
WCZ	**Waipu Caves**	**6.77**	**216**	P	**P**	**20 24 27.0**	**+0.8**
MXZ	**Matakaoa Point**	**7.05**	**186**	P	**P**	**20 24 29.3**	**+0.5**
MXZ	**Matakaoa Point**	**7.05**	**186**	P	**P**	**20 24 27.2**	**-1.6**
MXZ	**Matakaoa Point**	**7.05**	**186**	P	**P**	**20 24 26.5**	**-2.3**
WIAZ	**Waiheke Island**	**7.12**	**208**	P	**P**	**20 24 28.6**	**-0.9**
MYRZ	**Mayor Island**	**7.17**	**200**	P	**P**	**20 24 31.9**	**+1.9**
WIZ	**White Island**	**7.18**	**193**	P	**P**	**20 24 31.4**	**+1.3**
MBAZ	**Motutapu North**	**7.20**	**209**	P	**P**	**20 24 31.7**	**+1.5**
WMGZ	**Waiomatatini S**	**7.30**	**185**	P	**P**	**20 24 30.3**	**-0.9**
WMGZ				S	**S**	**20 25 58.1**	**-3.9**
HAZ	**Te Kaha**	**7.30**	**189**	P	**P**	**20 24 29.8**	**-1.4**
HAZ				S	**S**	**20 25 57.5**	**-4.6**
PKGZ	**Pakihiroa**	**7.37**	**187**	P	**P**	**20 24 30.9**	**-1.1**
MKAZ	**Moumakai**	**7.38**	**206**	P	**P**	**20 24 33.3**	**+1.3**
WTAZ	**Waiatarua**	**7.47**	**210**	P	**P**	**20 24 34.4**	**+1.5**
RUGZ	**Raukumara Rang**	**7.52**	**190**	P	**P**	**20 24 31.7**	**-1.9**
PUZ	**Puketiti**	**7.56**	**186**	P	**P**	**20 24 32.8**	**-1.0**
TWGZ	**Tauwhareparae**	**7.69**	**187**	P	**P**	**20 24 34.3**	**-0.8**
KMRZ	**Kaimai**	**7.79**	**200**	P	**P**	**20 24 38.7**	**+2.7**
TOZ	**Tahuroa Road**	**7.82**	**202**	P	**P**	**20 24 38.0**	**+1.7**
TOZ	**Tahuroa Road**	**7.82**	**202**	P	**P**	**20 24 38.0**	**+1.7**
KARZ	**Kaharoa**	**7.87**	**198**	P	**P**	**20 24 39.4**	**+2.6**
URZ	**Urewera**	**7.90**	**192**	P	**P**	**20 24 35.5**	**-1.6**
	48nm,0.4s,baz=7.4,slow=1.2,SNR=66						
URZ				S	**S**	**20 26 07.0**	**-5.8**
	11nm,0.5s,baz=161,slow=23,SNR=5.5						
URZ	**Urewera**	**7.90**	**192**	P	**P**	**20 24 35.7**	**-1.4**
URZ	**Urewera**	**7.90**	**192**	P	**P**	**20 24 35.4**	**-1.7**
URZ				S	**S**	**20 26 07.8**	**-5.1**
MWZ	**Matawai**	**7.91**	**190**	P	**P**	**20 24 36.2**	**-1.0**
TKGZ	**Te Karaka**	**7.97**	**188**	P	**P**	**20 24 37.0**	**-0.8**
RAGZ	**Rawiri**	**8.08**	**190**	P	**P**	**20 24 38.1**	**-0.9**
MUGZ	**Murupara**	**8.18**	**194**	P	**P**	**20 24 39.2**	**-0.7**
HIZ	**Hauiti**	**8.74**	**203**	P	**P**	**20 24 47.5**	**+2.0**
HIZ	**Hauiti**	**8.74**	**203**	P	**P**	**20 24 45.8**	**+0.3**
BKZ	**Black Stump Fm**	**8.90**	**194**	P	**P**	**20 24 46.0**	**-1.2**
BKZ	**Black Stump Fm**	**8.90**	**194**	P	**P**	**20 24 46.9**	**-0.3**
BFZ	**Birch Farm**	**10.41**	**193**	P	**P**	**20 25 01.6**	**-0.9**
PLWZ	**Palliser**	**11.47**	**195**	P	**P**	**20 25 12.4**	**-1.0**
QRZ	**Quartz Range**	**11.62**	**206**	P	**P**	**20 25 15.3**	**+0.3**
QRZ	**Quartz Range**	**11.62**	**206**	P	**P**	**20 25 15.5**	**+0.5**
TUWZ	**Tuamarina**	**11.68**	**200**	P	**P**	**20 25 14.4**	**-1.2**
KHZ	**Kahutara**	**12.71**	**200**	P	**P**	**20 25 26.0**	**-0.1**
KHZ	**Kahutara**	**12.71**	**200**	P	**P**	**20 25 26.1**	**-0.1**
MSVF	**Nonsavu**	**12.79**	**355**	P	**P**	**20 25 24.9**	**-2.6**
GVZ	**Greta Valley S**	**13.36**	**200**	P	**P**	**20 25 32.3**	**-0.6**
DGTI	**Dogotuki**	**14.18**	**2**	P	**P**	**20 25 39.5**	**-2.3**
RPZ	**Rata Peaks**	**14.68**	**204**	P	**P**	**20 25 45.4**	**-1.1**
	2.6nm,0.4s,baz=15,slow=12,SNR=5.3						
RPZ				S	**S**	**20 28 21.3**	**+1.6**
	8.1nm,1.1s,baz=55,slow=23,SNR=2.0						
RPZ	**Rata Peaks**	**14.68**	**204**	P	**P**	**20 25 46.5**	**0.0**
JCZ	**Jackson Bay**	**15.85**	**209**	P	**P**	**20 25 59.1**	**+0.6**
STKA	**Stephens Creek**	**32.13**	**258**		**P**	**20 28 23.9**	**+0.7**
STKA	**Stephens Creek**	**32.13**	**258**	P	**P**	**20 28 23.6**	**+0.4**
	4.9nm,0.4s,baz=97,slow=12,SNR=31						
	4.9nm,0.4s						
BBOO	**Buckleboo**	**36.64**	**255**	P	**P**	**20 29 00.8**	**-0.1**
BBOO				IAmb	IAmb	20 29 01.1	
	comp=Z,9.8nm,0.9s						
COEN	**Coen**	**37.04**	**288**	P	**P**	**20 29 04.0**	**-0.4**
COEN				IAmb	IAmb	20 29 08.4	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**40.73**	**268**	P	**P**	**20 29 33.1**	**-1.1**
ASAR	**Alice Springs**	**40.73**	**268**	P	**P**	**20 29 32.5**	**-1.7**
ASAR	**Alice Springs**	**40.73**	**268**	P	**P**	**20 29 33.4**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=104,slow=7.2,SNR=68						
ASAR				PcP	**PP**	**20 31 23.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=109,slow=3.8,SNR=4.6						
ASAR				ScP	**ScP**	**20 34 22.8**	**+3.2**
	comp=Z,0.4nm,1.0s,baz=126,slow=3.9,SNR=4.1						
	comp=Z,4.0nm,0.6s						
WB2	**Warramunga Arr**	**41.72**	**274**	P	**P**	**20 29 40.8**	**-1.2**
WRA	**Warramunga Arr**	**41.73**	**274**	P	**P**	**20 29 39.9**	**-2.2**
WRA	**Warramunga Arr**	**41.73**	**274**	P	**P**	**20 29 41.2**	**-0.9**
	comp=Z,9.7nm,0.6s,baz=112,slow=7.7,SNR=115						
WRA				PcP	**PcP**	**20 31 26.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=113,slow=2.5,SNR=3.7						
WRA				ScP	**ScP**	**20 34 27.8**	**+4.2**
	comp=Z,0.8nm,1.1s,baz=108,slow=4.6,SNR=2.9						
WRA				S	**S**	**20 35 15.7**	**-4.3**
	comp=Z,0.5nm,0.8s,baz=110,slow=14,SNR=4.2						
	comp=Z,9.7nm,0.6s						
WB0	**Warramunga Arr**	**41.76**	**274**	P	**P**	**20 29 41.3**	**-1.0**
FORT	**Forrest**	**43.71**	**256**	P	**P**	**20 29 56.9**	**-0.5**
MTN	**Manton Dam**	**47.66**	**281**	P	**P**	**20 30 26.1**	**-1.6**
MTN				IAmb	IAmb	20 30 37.7	
	comp=Z,6.7nm,1.0s						
KNRA	**Kununurra**	**48.35**	**276**	P	**P**	**20 30 31.7**	**-1.1**
KNRA				IAmb	IAmb	20 30 34.7	
	comp=Z,3.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**49.99**	**271**	P	**P**	**20 30 44.2**	**-0.6**
MBWA	**Marble Bar**	**53.85**	**265**	P	**P**	**20 31 10.4**	**-2.2**
MBWA				IAmb	IAmb	20 31 25.3	
	comp=Z,12nm,1.1s						
CASY	**Casey**	**53.91**	**208**	P	**P**	**20 31 12.4**	**+0.2**
CASY				IAmb	IAmb	20 31 14.5	
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**20 31 54.1**	**+2.8**
QSPA				IAmb	IAmb	20 31 56.2	
	comp=Z,6.1nm,1.1s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**20 31 55.2**	**+4.0**
	comp=Z,2.5nm,0.8s,baz=249,slow=1.6,SNR=14						
	comp=Z,2.5nm,0.8s						
BELA	**Belgrano 2**	**69.96**	**173**	P	**P**	**20 32 58.5**	**+2.2**
BELA				IAmb	IAmb	20 33 00.6	
	comp=Z,2.4nm,0.8s						
SNAA	**Sanae**	**78

YHNB	**Yeheng**	**3.79 298**	Pn	**Pn**	**20 29 26.8**	**-0.2**
YHNB	**Yeheng**	**3.79 298**	P	**Pn**	**20 29 26.4**	**-0.5**
YHNB	**Yeheng**	**3.79 298**	S	**Sn**	**20 30 05.7**	**-5.3**
TATO	**Taipei**	**3.85 303**		**Pn**	**20 29 27.2**	**-0.4**
TATO	**Taipei**	**3.85 303**	P	**Pn**	**20 29 27.9**	**+0.3**
TATO	**Taipei**	**3.85 303**	S	**Sn**	**20 30 09.1**	**-3.2**
SSLB	**Suanglung**	**3.86 284**	Pn	**Pn**	**20 29 26.9**	**-1.1**
SSLB	**Suanglung**	**3.86 284**	P	**Pn**	**20 29 26.8**	**-1.1**
SSLB	**Suanglung**	**3.86 284**	S	**Sn**	**20 30 09.4**	**-3.4**
TPUB	**Ta-pu**	**4.09 276**	Pn	**Pn**	**20 29 30.8**	**-0.3**
TPUB	**Ta-pu**	**4.09 276**	P	**Pn**	**20 29 30.6**	**-0.5**
TPUB	**Ta-pu**	**4.09 276**	S	**Sn**	**20 30 15.5**	**-2.9**
JOW	**Kunigami**	**4.86 36**	Pn	**Pn**	**20 29 39.9**	**-1.7**
	comp=E,72nm,0.3s,baz=201,slow=12,SNR=114					
JOW			Sn	**Sn**	**20 30 30.7**	**-6.6**
	comp=E,31nm,0.3s,baz=297,slow=29,SNR=8.4					
	comp=E,219nm,0.4s					
JOW	**Kunigami**	**4.86 36**	P	**Pn**	**20 29 40.0**	**-1.7**
QZH	**Quanzhou**	**6.24 290**	Pn	**Pn**	**20 29 59.4**	**-1.2**
QZH			smax	smax		
	comp=E,99nm,1.2s					
QZH			smax	smax		
	comp=E,85nm,0.8s					
QZH			LR	LR		
	comp=E,570nm,8.2s					
QZH			LR	LR		
	comp=E,750nm,10.8s					
QZH			LR	LR		
	comp=E,770nm,13.5s					
KNMB	**Chin-men Tao**	**6.30 285**	Pn	**Pn**	**20 30 01.2**	**-0.2**
JMZ	**Minamidaito 2**	**6.32 62**	P	**Pn**	**20 29 58.2**	**-3.4**
SSE	**Sheshan**	**8.83 338**	P	**Pn**	**20 30 34.4**	**-1.7**
SSE			S	**Sn**	**20 32 16.1**	**+1.0**
SSE			pmax	pmax		
	comp=E,5.0nm,0.5s					
SSE			pmax	pmax		
	comp=E,50nm,3.2s					
SSE			LR	LR		
	comp=E,300nm,13.8s					
SSE			LR	LR		
	comp=E,220nm,13.7s					
TGY	**Tagaytay City**	**9.61 205**	Pn	**Pn**	**20 30 47.3**	**+0.4**
	comp=E,59nm,0.3s,baz=217,slow=7.1,SNR=4.5					
TGY			LR	LR	20 34 20.1	
	comp=E,133nm,18.5s,baz=104,slow=36					
NJ2	**Nanjing**	**10.62 330**	*e*P	**Pn**	**20 31 01.1**	**+0.5**
NJ2			pmax	pmax		
	comp=E,5.0nm,0.7s					
NJ2			pmax	pmax		
	comp=E,230nm,4.4s					
NJ2			LR	LR		
	comp=E,670nm,12.8s					
NJ2			LR	LR		
	comp=E,440nm,12.8s					
NJ2			LR	LR		
	comp=E,640nm,15.6s					
JNU	**Nakatsue**	**11.38 26**	Pn	**Pn**	**20 31 09.2**	**-1.8**
JNU	**Nakatsue**	**11.38 26**	Pn	**Pn**	**20 31 08.7**	**-2.4**
	comp=E,2.2nm,0.3s,baz=270,slow=5.5,SNR=18					
	comp=E,11nm,0.6s					
JNU	**Nakatsue**	**11.38 26**	P	**Pn**	**20 31 08.9**	**-2.2**
JMN	**Monobe**	**13.26 34**	Pn	**Pn**	**20 31 32.9**	**-3.9**
JMN	**Monobe**	**13.26 34**	P	**Pn**	**20 31 33.0**	**-3.9**
KSRS	**Korea Array**	**14.68 9**	Pn	**Pn**	**20 31 53.8**	**-2.4**
	comp=E,0.3nm,0.3s,baz=189,slow=13,SNR=31					
KSRS			LR	LR	20 38 28.1	
	comp=E,116nm,18.4s,baz=185,slow=41					
	comp=E,7.6nm,0.8s					
QIZ	**Qiongzhong**	**14.73 258**	P	**Pn**	**20 31 57.3**	**+0.4**
QIZ			LR	LR		
	comp=E,290nm,7.0s					
QIZ			LR	LR		
	comp=E,220nm,11.7s					
QIZ			LR	LR		
	comp=E,290nm,13.4s					
TIA	**Tai'an**	**14.91 334**	P	**Pn**	**20 32 00.9**	**+1.6**
TIA			pmax	pmax		
	comp=E,6.0nm,1.0s					
TIA			LR	LR		
	comp=E,490nm,16.1s					
TIA			LR	LR		
	comp=E,460nm,11.4s					
TIA			LR	LR		
	comp=E,750nm,14.9s					
JWT	**Wachi**	**15.26 34**	P	**Pn**	**20 32 00.7**	**-3.2**
DAV	**Davao City (W)**	**15.78 178**	LR	LR	20 39 32.1	
	comp=E,146nm,18.5s,baz=326,slow=42					
LYN	**LuoYang**	**15.98 319**	P	**P**	**20 32 18.4**	**+1.7**
LYN			pmax	pmax		
	comp=Z,60nm,0.5s					
LYN			LR	LR		
	comp=N,520nm,10.3s					
LYN			LR	LR		
	comp=E,350nm,10.0s					
LYN			LR	LR		
	comp=Z,730nm,14.4s					
JCJ	**Chichijima**	**16.07 72**	LR	LR	20 37 23.6	
	comp=Z,67nm,19.1s,baz=85,slow=34					
DL2	**Dalian**	**16.19 350**	P	**Pn**	**20 32 13.8**	**-2.1**
DL2			pmax	pmax		
	comp=Z,63nm,1.0s					
DL2			pmax	pmax		
	comp=Z,240nm,9.4s					
DL2			LR	LR		
	comp=Z,580nm,14.0s					
DL2			LR	LR		
	comp=Z,650nm,15.7s					
DL2			LR	LR		
	comp=Z,620nm,13.1s					
JGF	**Kuroka**	**16.55 38**	P	**Pn**	**20 32 16.9**	**-3.7**
HNS	**HongShan**	**16.95 331**	⇓P	**P**	**20 32 28.1**	**+0.7**
HNS			pmax	pmax		
	comp=Z,14nm,1.2s					
HNS			LR	LR		
	comp=Z,500nm,14.6s					
HNS			LR	LR		
	comp=Z,200nm,13.7s					
HNS			LR	LR		
	comp=Z,570nm,15.5s					
MAJO	**Matsushiro**	**17.71 37**		**Pn**	**20 32 33.8**	**-1.2**
MJAR	**Matsushiro Arr**	**17.71 37**	P	**Pn**	**20 32 35.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=225,slow=9.3,SNR=24					
	comp=Z,16nm,0.9s					
MJB9	**Matsu-Tunnel**	**17.71 37**		**Pn**	**20 32 34.0**	**-1.1**
XAN	**Xi'an**	**17.96 312**	⇓P	**P**	**20 32 39.8**	**+1.1**
XAN			pP	pwP	20 32 45.3	-5.6
XAN			pmax	pmax		
	comp=Z,9.0nm,1.1s					
XAN			pmax	pmax		
	comp=Z,180nm,3.8s					
XAN			LR	LR		
	comp=Z,440nm,14.5s					
XAN			LR	LR		
	comp=Z,350nm,16.7s					
XAN			LR	LR		
	comp=Z,560nm,13.7s					
BJI	**Beijing**	**18.64 338**	P	**P**	**20 32 45.4**	**-0.7**
BJI			S	**S**	**20 36 17.3**	**-0.4**
BJI			pmax	pmax		
	comp=Z,6.0nm,0.9s					
BJI			LR	LR		
	comp=Z,180nm,12.7s					
BJI			LR	LR		
	comp=Z,140nm,14.0s					
BJI			LR	LR		
	comp=Z,310nm,14.3s					
UBPT	**Khong Chiam**	**20.00 251**		**P**	**20 32 59.4**	**-1.7**
JMM	**Marumori**	**20.10 39**	P	**P**	**20 32 59.8**	**-2.2**
KMI	**Kunming**	**20.50 281**	P	Pn	20 33 14.8	+5.9
KMI			S	**S**	**20 36 55.5**	**0.0**
KMI			pmax	pmax		
	comp=Z,7.0nm,1.6s					
KMI			LR	LR		
	comp=Z,140nm,13.0s					
KMI			LR	LR		
	comp=Z,280nm,16.1s					
KMI			LR	LR		
	comp=Z,320nm,15.0s					
CN2	**Changchun**	**20.82 1**	P	**P**	**20 33 08.8**	**-1.0**
CN2			pmax	pmax		
	comp=Z,20nm,0.8s					
GUMO	**Guam**	**20.96 113**	LR	LR	20 40 45.6	
	comp=Z,86nm,19.3s,baz=317,slow=35					
HHC	**Hu-ho-hao-te**	**21.18 331**	*e*P	**P**	**20 33 13.6**	**-0.2**
HHC			pP	sP	20 33 18.6	-0.9
HHC			sP	pwP	20 33 21.6	-4.4
HHC			S	**S**	**20 37 05.9**	**-2.6**
HHC			sS	pS	20 37 13.3	-3.6
HHC			SS	**SnSn**	**20 37 35.6**	**+4.8**
HHC			pmax	pmax		
	comp=Z,15nm,0.7s					
HHC			pmax	pmax		
	comp=Z,60nm,4.0s					
HHC			LR	LR		
	comp=Z,400nm,14.3s					
HHC			LR	LR		
	comp=Z,220nm,12.2s					
HHC			LR	LR		
	comp=Z,420nm,12.7s					
PZH	**PanZhiHua**	**21.47 284**	P	**P**	**20 33 21.0**	**+3.9**
PZH			S	**S**	**20 37 14.8**	**+0.2**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,120nm,5.7s					
PZH			LR	LR		
	comp=Z,180nm,11.4s					
PZH			LR	LR		
	comp=Z,230nm,12.5s					
PZH			LR	LR		
	comp=Z,280nm,15.0s					
BTO	**Baotou**	**21.71 328**	*e*P	**P**	**20 33 21.3**	**+1.7**
BTO			pP	**pwP**	**20 33 26.1**	**-5.7**
BTO			sP	**sP**	**20 33 28.5**	**+3.2**
BTO			PP	**PnPn**	**20 33 45.0**	**+4.3**
BTO			SS	Sn	20 37 53.0	+25
BTO			pmax	pmax		
	comp=Z,14nm,0.5s					
BTO			pmax	pmax		
	comp=Z,96nm,4.1s					
BTO			LR	LR		
	comp=Z,590nm,14.2s					
BTO			LR	LR		
	comp=Z,530nm,8.3s					
BTO			LR	LR		
	comp=Z,640nm,14.9s					
USRK	**Ussuriysk Ar.**	**21.97 13**	P	**P**	**20 33 20.0**	**-2.2**
	comp=Z,4.6nm,0.7s,baz=196,slow=9.3,SNR=18					
USRK			LR	LR	20 42 41.9	
	comp=Z,110nm,19.2s,baz=181,slow=39					
	comp=Z,4.6nm,0.7s					
XLT	**XiLinHaoTe**	**22.19 343**	*e*P	**P**	**20 33 23.5**	**-1.1**
XLT			sP	pwP	20 33 31.4	-5.3
XLT			PP	**PnPn**	**20 33 50.6**	**+3.5**
XLT			S	**S**	**20 37 28.8**	**+0.7**
XLT			sS	pS	20 37 34.3	+0.8
XLT			pmax	pmax		
	comp=Z,8.0nm,1.0s					
XLT			pmax	pmax		
	comp=Z,110nm,5.2s					
XLT			LR	LR		
	comp=Z,47nm,15.3s					
XLT			LR	LR		
	comp=Z,180nm,17.0s					
XLT			LR	LR		
	comp=Z,520nm,15.3s					
MRSI	**Marisa**	**22.52 188**	P	**P**	**20 33 30.9**	**+2.6**
	comp=Z,30nm,1.3s					
LZH	**Lanzhou**	**22.58 310**	*e*P	**P**	**20 33 31.4**	**+2.4**
LZH			pP	pwP	20 33 37.8	-3.4
LZH			sS	sS	20 37 38.4	-3.8
LZH			pmax	pmax		
	comp=Z,22nm,1.2s					
LZH			LR	LR		
	comp=Z,240nm,12.7s					
LZH			LR	LR		
	comp=Z,340nm,12.7s					
LZH			LR	LR		
	comp=Z,430nm,12.7s					
BNX	**BinXian**	**22.83 4**	⇑P	**P**	**20 33 28.8**	**-2.5**
BNX			pmax	pmax		
	comp=Z,5.0nm,0.7s					
ERM	**Erimo**	**24.31 34**	P	**P**	**20 33 46.3**	**+0.6**
ERM			IAmb	IAmb	20 33 51.6	
	comp=Z,38nm,1.1s					
TNCH	**TengChong**	**24.32 280**	P	**P**	**20 33 46.3**	**0.0**
TNCH			pP	sP	20 33 50.8	-1.4
TNCH			S	**S**	**20 38 00.3**	**-4.5**
TNCH			pmax	pmax		
	comp=Z,4.0nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,78nm,3.7s					
TNCH			LR	LR		
	comp=Z,160nm,12.9s					
TNCH			LR	LR		
	comp=Z,210nm,11.8s					
TNCH			LR	LR		
	comp=Z,320nm,13.5s					
CMAR	**Chiang Mai Arr**	**24.82 265**	P	**P**	**20 33 51.7**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=74,slow=10,SNR=14					
CMAR			PcP	**PcP**	**20 37 28.4**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=42,slow=0.9,SNR=5.2					
CMAR			LR	LR	20 44 47.1	
	comp=Z,85nm,18.4s,baz=75,slow=39					
	comp=Z,1.1nm,0.6s					
SANI	**Sanana**	**24.85 178**	P	**P**	**20 33 50.2**	**-0.6**
	comp=Z,31nm,0.8s					
ASAJ	**Asahikawa**	**25.59 30**	LR	LR	20 44 37.8	
	comp=Z,20nm,20.4s,baz=196,slow=38					
JKA	**Kamikawa-asahi**	**25.59 30**	P	**P**	**20 33 57.6**	**+0.1**
HIA	**Hailar**	**26.62 352**	P	**P**	**20 34 08.2**	**+1.5**
HIA			IAmb	IAmb	20 34 08.8	
	comp=Z,18nm,0.8s					
KLR	**Kul'dur**	**26.77 10**	LR	LR	20 45 47.6	
	comp=Z,96nm,18.5s,baz=203,slow=39					
GTA	**Gaotai**	**27.00 313**	*e*P	**P**	**20 34 11.6**	**+1.2**
GTA			pP	pwP	20 34 22.3	-0.3
GTA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
GTA			LR	LR		
	comp=Z,150nm,12.0s					
GTA			LR	LR		
	comp=Z,140nm,15.1s					
GTA			LR	LR		
	comp=Z,130nm,10.4s					
HEH	**HeiHe**	**27.33 3**	*e*P	**P**	**20 34 13.4**	**+0.4**
KAPI	**Kappang**	**28.25 191**	LR	LR	20 45 20.8	
	comp=Z,67nm,21.5s,baz=352,slow=36					
SONM	**Songino Array**	**28.98 334**	P	**P**	**20 34 28.1**	**+0.2**
SONM	**Songino Array**	**28.98 334**	P	**P**	**20 34 27.4**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=151,slow=10,SNR=14					
SONM			LR	LR	20 47 14.0	
	comp=Z,69nm,19.8s,baz=142,slow=39					
	comp=Z,1.9nm,0.7s					
GOMU	**GeErMu**	**29.31 304**	P	**P**	**20 34 31.5**	**+0.2**
GOMU			pP	pwP	20 34 37.8	-5.7
GOMU			pmax	pmax		
	comp=Z,5.0nm,0.9s					
WMQ	**Urumqi**	**37.09 313**	*e*P	**P**	**20 35 42.6**	**+4.0**
WMQ			pmax	pmax		
	comp=Z,10.0nm,1.3s					
KNRA	**Kununurra**	**38.54 174**	P	**P**	**20 35 50.7**	**-0.3**
KNRA			IAmb	IAmb	20 36 58.3	
	comp=Z,16nm,1.4s					
PETK	**Petropavlovsk-**	**39.01 31**	P	**P**	**20 35 53.1**	**-1.5**
PETK	**Petropavlovsk-**	**39.01 31**	P	**P**	**20 35 55.4**	**+0.8**
	comp=Z,6.2nm,1.0s,baz=220,slow=3.9,SNR=6.9					
PETK			LR	LR	20 50 59.0	
	comp=Z,45nm,20.9s,baz=240,slow=35					
	comp=Z,6.2nm,1.0s					
YAK	**Yakutsk**	**39.21 3**	LR	LR	20 53 24.2	
	comp=Z,38nm,19.7s,baz=203,slow=38					
PET	**Petropavlovsk**	**39.41 32**	pP	pP	20 36 03.2	+1.1
	comp=Z,30nm,1.3s					
COEN	**Coen**	**40.73 152**	P	**P**	**20 36 09.5**	**+0.2**
COEN			IAmb	IAmb	20 36 11.4	
	comp=Z,20nm,0.8s					
MA2	**Magadan**	**40.87 20**	LR	LR	20 53 34.9	
	comp=Z,50nm,19.8s,baz=212,slow=37					
MA2	**Magadan**	**40.87 20**	P	**P**	**20 36 09.4**	**-0.6**
	comp=Z,13nm,1.1s					
MK31	**Makanchi Array**	**41.71 315**	IAmb	IAmb	20 36 30.4	
	comp=Z,20nm,1.2s					
MKAR	**Makanchi Array**	**41.71 315**	P	**P**	**20 36 17.8**	**+0.7**
MKAR	**Makanchi Array**	**41.71 315**	P	**P**	**20 36 18.0**	**+0.9**
	comp=Z,4.7nm,0.8s,baz=98,slow=10,SNR=46					
MKAR			LR	LR	20 56 07.9	
	comp=Z,91nm,18.0s,baz=330,slow=40					
	comp=Z,4.7nm,0.8s					
MAKZ	**Makanchi**	**41.92 315**	P	**P**	**20 36 19.9**	**+1.1**
MAKZ			IAmb	IAmb	20 36 32.3	
	comp=Z,24nm,1.1s					
ZAA0	**Zalesovo Array**	**43.24 326**	P	**P**	**20 36 28.9**	**-0.5**
ZALV	**Zalesovo Beam**	**43.24 326**	P	**P**	**20 36 29.5**	**+0.1**
	comp=Z,12nm,0.8s,baz=113,slow=7.9,SNR=41					
ZALV			LR	LR	20 55 24.6	
	comp=Z,54nm,18.5s,baz=107,slow=37					
	comp=Z,12nm,0.8s					
WB0	**Warramunga Arr**	**43.41 167**	IAmb	IAmb	20 36 32.3	
	comp=Z,27nm,1.4s					
WRA	**Warramunga Arr**	**43.56 167**	P	**P**	**20 36 32.6**	**+0.2**
	comp=Z,8.1nm,0.7s,baz=348,slow=9.0,SNR=69					
	comp=Z,8.1nm,0.7s					
WB2	**Warramunga Arr**	**43.57 167**	P	**P**	**20 36 32.4**	**0.0**
WB2			IAmb	IAmb	20 36 33.7	
	comp=Z,21nm,1.1s					
WR0	**Warramunga Arr**	**43.62 167**	P	**P**	**20 36 33.0**	**+0.2**
WR0			IAmb	IAmb	20 36 34.2	
	comp=Z,12nm,0.8s					
KSH	**Kashi**	**44.55 304**	P	P	20 36 46.6	+6.3
KSH			sP	pwP	20 36 56.0	+3.3
KSH			pmax	pmax		
	comp=Z,5.0nm,1.0s					
KURK	**Kurchatov**	**45.34 320**	P	**P**	**20 36 47.1**	**+0.9**
KURK			IAmb	IAmb	20 36 59.5	
	comp=Z,28nm,1.5s					
KURBB	**Kurchatov Arra**	**45.36 319**	P	**P**	**20 36 47.3**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=110,slow=8.5,SNR=20					
	comp=Z,3.4nm,0.7s					
AAK	**Ala-Archa**	**46.08 308**	LR	LR	20 57 42.6	
	comp=Z,58nm,18.4s,baz=102,slow=38					
AS31	**Alice Springs**	**47.11 169**	P	**P**	**20 37 00.9**	**+0.5**
ASAR	**Alice Springs**	**47.11 169**	P	**P**	**20 37 01.1**	**+0.7**
ASAR			PcP	**PcP**	**20 38 33.1**	**+0.9**
ASAR	**Alice Springs**	**47.11 169**	P	**P**	**20 37 01.3**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=352,slow=8.9,SNR=62					
ASAR			PcP	**PcP**	**20 38 32.9**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=347,slow=4.1,SNR=7.0					
ASAR			LR	LR	20 55 27.7	
	comp=Z,23nm,21.3s,baz=38,slow=34					
	comp=Z,2.5nm,0.5s					
TIXI	**Tiksi**	**48.79 2**	P	**P**	**20 37 12.8**	**-0.1**
TIXI			IAmb	IAmb	20 37 13.8	
	comp=Z,9.8nm,1.1s					
TIXI	**Tiksi**	**48.79 2**	LR	LR	20 57 42.3	
	comp=Z,78nm,20.6s,baz=202,slow=36					
BVAR	**Borovoye Array**	**50.89 321**	P	**P**	**20 37 30.4**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=106,slow=6.8,SNR=13					
	comp=Z,1.7nm,0.5s					
BRVK	**Borovoye**	**50.96 321**	P	**P**	**20 37 30.7**	**+1.1**
BRVK			IAmb	IAmb	20 37 42.3	
	comp=Z,7.8nm,0.9s					
NRIK	**Noril'sk**	**51.55 344**	P	**P**	**20 37 33.1**	**-0.7**
	comp=Z,8.3nm,1.0s,baz=123,slow=6.9,SNR=10					
NRIK			LR	LR	21 01 12.4	
	comp=Z,111nm,20.2s,baz=152,slow=38					
	comp=Z,8.3nm,1.0s					
MORW	**Morawa**	**52.42 190**	P	**P**	**20 37 39.5**	**-1.3**
FORT	**Forrest**	**53.48 177**	P	**P**	**20 37 48.7**	**+0.2**
EIDS	**Eidsvold**	**54.24 151**	P	**P**	**20 37 54.4**	**+0.2**
EIDS			IAmb	IAmb	20 38 14.3	
	comp=Z,12nm,1.3s					
STKA	**Stephens Creek**	**56.75 163**	P	**P**	**20 38 11.1**	**-1.0**
STKA	**Stephens Creek**	**56.75 163**	P	**P**	**20 38 12.0**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=352,slow=4.9,SNR=7.7					
	comp=Z,2.1nm,0.7s					
ABKAR	**Akbulak array**	**56.85 315**	P	**P**	**20 38 13.4**	**+0.6**
AKTO	**Aktyubinsk**	**58.14 316**	LR	LR	21 03 57.2	
	comp=Z,54nm,19.5s,baz=158,slow=37					
ARTI	**Arti**	**58.33 323**	P	**P**	**20 38 22.3**	**-0.8**
ARTI			IAmb	IAmb	20 38 34.5	
	comp=Z,5.0nm,0.6s					
ARTI	**Arti**	**58.33 323**	LR	LR	21 04 49.0	
	comp=Z,53nm,20.2s,baz=100,slow=37					
DZM	**Mont Dzumac**	**60.21 135**	*e*LR	LR	20 56 20.5	
	comp=Z,93nm,24.6s					
M14K	**Bethel**	**61.97 32**	P	**P**	**20 38 47.5**	**-0.4**
KIRV	**Kirov**	**63.27 325**	LR	LR	21 09 22.9	
	comp=Z,111nm,18.9s,baz=96,slow=39					
B22K	**Teshekpuk Lake**	**65.76 22**	IAmb	IAmb	20 39 26.9	
	comp=Z,7.3nm,0.7s					
D23K	**Nanushuk River**	**66.76 23**	P	**P**	**20 39 21.3**	**+2.0**
ILAR	**Eielson Array**	**68.69 27**	P	**P**	**20 39 32.3**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=264,slow=5.9,SNR=8.0					
ILAR			LR	LR	21 11 15.5	
	comp=Z,23nm,18.2s,baz=330,slow=37					
	comp=Z,0.7nm,0.8s					
KBZ	**Khabaz**	**69.02 310**	P	**P**	**20 39 35.2**	**+1.4**
	comp=Z,2.6nm,0.9s,baz=46,slow=5.5,SNR=4.4					
KBZ			LR	LR	21 13 01.6	
	comp=Z,36nm,21.1s,baz=64,slow=39					
	comp=Z,2.6nm,0.9s					
E28M	**Babbage River**	**70.82 23**	IAmb	IAmb	20 39 58.2	
	comp=Z,6.0nm,0.8s					
BCAR	**Beaver Creek A**	**71.23 29**	P	**P**	**20 39 45.8**	**-1.4**
SPITS	**Spitsbergen Ar**	**71.45 348**	P	**P**	**20 39 49.3**	**+1.1**
	comp=Z,8.8nm,1.0s,baz=80,slow=11,SNR=1.9					
SPITS			LR	LR	21 16 51.4	
	comp=Z,23nm,20.6s,baz=20,slow=41					
	comp=Z,8.8nm,1.0s					
ARCES	**ARCESS Array B**	**72.01 339**	P	**P**	**20 39 53.1**	**+1.5**
	comp=Z,4.6nm,1.0s,baz=59,slow=4.5,SNR=2.1					
ARCES			LR	LR	21 18 49.0	
	comp=Z,41nm,18.6s,baz=64,slow=42					
	comp=Z,4.6nm,1.0s					
FINES	**FINESS Array B**	**74.30 330**	P	**P**	**20 40 05.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=48,slow=2.8,SNR=4.3					
FINES			LR	LR	21 17 04.9	
	comp=Z,96nm,18.3s,baz=49,slow=39					
	comp=Z,2.0nm,0.7s					
MNK	**Minsk**	**75.67 323**	*i* P	**P**	**20 40 16.1**	**+2.8**
	comp=E,6.0nm,0.7s					
MNK			*i* P	**P**	**20 40 16.1**	**+2.8**
	comp=N,4.0nm,0.8s					
MNK			*i* P	**P**	**20 40 16.1**	**+2.8**
	comp=Z,10.0nm,0.6s,baz=71					
MNK			*i* PcP	**PcP**	**20 40 25.0**	**-1.1**
MNK			*i* PP	PP	20 43 20.3	+18
MNK			*i* PPP	PPP	20 44 28.1	
MNK			*i* S	**S**	**20 49 57.2**	**+3.7**
MNK			*i* SS	SS	20 55 21.0	+37
MNK			*i* LQ	LQ	21 11 41.0	
MNK			*i* LR	LR	21 13 42.2	
MNK			*i* LRM	MLR	21 16 05.5	
	comp=Z,67nm,15.4s					
MNK			*i* LRM	MLR	21 16 09.6	
	comp=N,297nm,15.8s					
MNK			*i* LRM	MLR	21 16 13.3	
	comp=E,421nm,15.8s					
AK09	**Malin Array Si**	**76.14 319**	P	**P**	**20 40 15.3**	**-0.8**
AK03	**Malin Array Si**	**76.14 319**	P	**P**	**20 40 15.3**	**-0.8**
AKASG	**Malin Array Be**	**76.15 319**	P	**P**	**20 40 15.7**	**-0.5**
	comp=E,2.8nm,0.7s,baz=60,slow=6.3,SNR=11					
	comp=E,2.8nm,0.7s					
AKBB	**Malin Array Si**	**76.15 319**	P	**P**	**20 40 15.5**	**-0.6**
KIEV	**Kiev**	**76.16 319**	P	**P**	**20 40 15.3**	**-0.9**
	comp=E,30nm,0.7s					
AK10	**Malin Array Si**	**76.17 319**	P	**P**	**20 40 15.4**	**-0.8**
AK11	**Malin Array Si**	**76.19 319**	P	**P**	**20 40 15.6**	**-0.8**
BR131	**Keskin Array S**	**76.76 308**	P	**P**	**20 40 18.9**	**-1.2**
BR131			IAmb	IAmb	20 40 24.0	
	comp=Z,7.0nm,1.1s					
BRTR	**Keskin Array B**	**76.76 308**	P	**P**	**20 40 20.4**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=96,slow=7.6,SNR=10.0					
	comp=Z,2.9nm,1.0s					
BR104	**Keskin Array S**	**76.76 308**	P	**P**	**20 40 19.7**	**-0.4**
	comp=Z,3.4nm,0.8s					
BR106	**Keskin Array S**	**76.77 308**	P	**P**	**20 40 19.7**	**-0.4**
	comp=Z,4.1nm,1.0s					
BR105	**Keskin Array S**	**76.78 308**	P	**P**	**20 40 19.5**	**-0.6**
	comp=Z,3.2nm,0.9s					
LUBAR	**Lubar, Ukraine**	**77.30 319**	P	**P**	**20 40 21.6**	**-1.1**
RNPP8	**Varash**	**77.92 321**	P	**P**	**20 40 25.4**	**-0.7**
NDNU	**Novodnistrovsk**	**78.00 318**	P	**P**	**20 40 25.8**	**-0.8**
HORU	**Horodok**	**78.36 319**	P	**P**	**20 40 27.7**	**-0.9**
HFS	**Hagfors**	**80.37 332**	LR	LR	21 20 51.3	
	comp=Z,129nm,18.8s,baz=70,slow=39					
NB2	**NORSAR Subarra**	**80.96 333**	P	**P**	**20 40 45.3**	**+2.7**
	comp=Z,2.9nm,0.8s,baz=54,slow=6.2					
NOA	**NORSAR Array B**	**80.96 333**	P	**P**	**20 40 43.7**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=57,slow=5.4,SNR=4.3					
	comp=Z,2.6nm,0.9s					
YKA	**Yellowknife Ar**	**82.71 24**	P	**P**	**20 40 52.8**	**+1.2**
	comp=Z,1.4nm,0.9s,ba

comp=Z,26nm,18.5s,baz=328,slow=37
NVAR Mina Array Bea 94.87 45 P P 20 41 52.0 +1.3
comp=Z,1.0nm,0.8s,baz=275,slow=3.9,SNR=5.8
comp=Z,1.0nm,0.8s
TBI Tubuai 94.93 113 *e*LR LR 21 12 29.2
comp=Z,701nm,27.2s
TAOE Nuku Hiva Isla 97.78 96 *e*LR LR 21 13 39.5
comp=Z,280nm,28.9s

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*DJA **17** 20:54:25.3±0.3, 19°N±3°×12°1E±°, h10km, M4.9/13, mB5.8/5, mb4.6/13, MLv4.9/2, Mw(mB)5.4/5, MwMwp4.8/1, Mwp5.1/1*
*BJI **17** 20:54:28.0, 18°.44N×120°.94E, h15km, mB4.6/12, mb4.2/43, ML4.1/3, Ms3.9/15, Ms7 3.7/16*
*NEIC **17** 20:54:30.7±2.1, 18°.38N±0°.07×121°.05E±0°.09, h45km±7km, mb4.5/49, Error ellipse: s-maj=11.9km s-min=10.9km az=101.0*
*IDC **17** 20:54:32.0±2.0, 18°.47N×121°.23E, h59km±20km, mb3.8/23, mbtmp4.2/26, ML4.1/3, MS3.5/27, Error ellipse: s-maj=17.6km s-min=10.8km az=87.0*
ISC 17 20:54:30.1±0.4, 18°.41N±0°.05×121°.08E±0°.07, h41km, n117,
σ1§45/103, mb4.4/49, MS3.5/27, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.29**	**182**	P	**Pn**	**20 55 36.0**	**+3.0**
	300nm,0.6s,baz=182,slow=6.9,SNR=7.2						
TGY				S	**Sn**	**20 56 27.3**	**+5.5**
	436nm,0.5s,baz=249,slow=7.7,SNR=1.4						
TWG	**Pinlang**	**4.38**	**360**	Pn	**Pn**	**20 55 33.8**	**-0.4**
TPUB	**Ta-pu**	**4.88**	**355**	Pn	**Pn**	**20 55 41.3**	**+0.3**
YULB	**Yu-li**	**4.96**	**2**	Pn	**Pn**	**20 55 42.9**	**+0.8**
SSLB	**Suanglung**	**5.35**	**359**	Pn	**Pn**	**20 55 47.8**	**+0.3**
NACB	**Ninganchiao**	**5.75**	**5**	Pn	**Pn**	**20 55 52.8**	**-0.1**
YHNB	**Yeheng**	**6.23**	**2**	Pn	**Pn**	**20 56 01.3**	**+1.6**
YOJ	**Yonaguni jima**	**6.28**	**16**		**Pn**	**20 56 01.1**	**+0.9**
KNMB	**Chin-men Tao**	**6.52**	**338**	Pn	**Pn**	**20 56 03.0**	**-0.6**
TATO	**Taipei**	**6.54**	**3**		**Pn**	**20 56 04.4**	**+0.6**
HKPS	**Hong Kong Po S**	**7.56**	**302**	Pn	**Pn**	**20 56 14.8**	**-3.0**
GZH	**Guangzhou**	**8.60**	**304**	P	**Pn**	**20 56 30.1**	**-2.0**
QIZ	**Qiongzhong**	**10.67**	**275**	Pn	**Pn**	**20 56 57.9**	**-2.6**
JOW	**Kunigami**	**10.69**	**37**	P	**Pn**	**20 56 59.5**	**-1.2**
	3.1nm,0.3s,baz=118,slow=14,SNR=5.1						
	9.1nm,0.4s						
JMZ	**Minamidaito 2**	**11.94**	**50**	Pn	**Pn**	**20 57 19.1**	**+1.3**
DAV	**Davao City (W)**	**12.10**	**158**	LR	LR	21 03 10.7	
	comp=Z,308nm,18.5s,baz=336,slow=43						
MYLDM	**Lahad Datu**	**13.39**	**191**	Pn	**Pn**	**20 57 38.3**	**+0.6**
NJ2	**Nanjing**	**13.73**	**352**	*e*P	**Pn**	**20 57 44.5**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,140nm,4.8s						
NJ2				LR	LR		
	comp=N,360nm,15.2s						
NJ2				LR	LR		
	comp=E,200nm,13.3s						
NJ2				LR	LR		
	comp=Z,310nm,17.5s						
SLVN	**Son La**	**16.42**	**283**	Pn	**Pn**	**20 58 16.4**	**-1.3**
JNU	**Nakatsue**	**17.08**	**29**	Pn	**Pn**	**20 58 25.0**	**-0.9**
JNU				IAmb	IAmb	20 58 30.1	
	comp=Z,38nm,1.0s						
JNU	**Nakatsue**	**17.08**	**29**	P	**Pn**	**20 58 24.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=211,slow=7.7,SNR=8.9						
JNU				LR	LR	21 05 32.0	
	comp=Z,98nm,19.1s,baz=220,slow=39						
	comp=Z,26nm,0.9s						
TOLI2	**Tolitoli**	**17.20**	**181**	Pn	**Pn**	**20 58 25.7**	**-1.7**
TIA	**Tai'an**	**18.07**	**350**	P	**P**	**20 58 39.3**	**+1.2**
TIA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TIA				pmax	pmax		
	comp=Z,170nm,4.3s						
TIA				LR	LR		
	comp=Z,220nm,13.6s						
TIA				LR	LR		
	comp=Z,110nm,4.7s						
TIA				LR	LR		
	comp=Z,320nm,15.7s						
SBUM	**Sibu**	**18.09**	**210**	P	**P**	**20 58 36.3**	**-2.1**
KMI	**Kunming**	**18.29**	**295**	P	**Pn**	**20 58 42.6**	**+1.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				LR	LR		
	comp=Z,350nm,15.2s						
KMI				LR	LR		
	comp=Z,250nm,16.0s						
KMI				LR	LR		
	comp=Z,280nm,16.5s						
JMN	**Monobe**	**19.07**	**34**	P	**Pn**	**20 58 48.7**	**-1.5**
JMN				IAmb	IAmb	20 59 23.2	
	comp=Z,43nm,1.3s						
PZH	**PanZhiHua**	**19.59**	**298**	P	**Pn**	**20 58 57.5**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,4.3s						
KSRS	**Korea Array**	**19.90**	**16**	P	**P**	**20 58 57.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=200,slow=11,SNR=19						
KSRS				LR	LR	21 07 18.6	
	comp=Z,78nm,19.6s,baz=220,slow=39						
	comp=Z,9.6nm,1.0s						
STKI	**Sintang**	**20.53**	**208**	P	**P**	**20 59 06.6**	**+1.4**
	comp=Z,5μmcomp=Z,14nm,1.2s						
SANI	**Sanana**	**20.90**	**166**	P	**P**	**20 59 07.8**	**-1.3**
	comp=Z,21nm,1.5s						
CHTO	**Chiang Mai**	**20.99**	**275**	P	**P**	**20 59 10.4**	**+0.3**
CM31	**Chiang Mai Arr**	**21.00**	**274**	P	**P**	**20 59 11.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.00**	**274**	P	**P**	**20 59 10.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.00**	**274**	P	**P**	**20 59 11.4**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=87,slow=8.9,SNR=20						
CMAR				LR	LR	21 07 45.1	
	comp=Z,18nm,18.1s,baz=90,slow=38						
	comp=Z,2.3nm,0.8s						
SWI	**Sorong**	**21.61**	**151**	P	P	20 59 30.2	+13
INU	**Inuyama**	**22.00**	**37**	P	**P**	**20 59 21.8**	**+0.9**
INU				IAmb	IAmb	20 59 24.1	
	comp=Z,17nm,0.9s						
LZH	**Lanzhou**	**23.27**	**323**	*e*P	**P**	**20 59 35.0**	**+0.6**
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
LZH				LR	LR		
	comp=Z,250nm,12.7s						
LZH				LR	LR		
	comp=Z,190nm,13.1s						
LZH				LR	LR		
	comp=Z,240nm,13.7s						
GUMO	**Guam**	**23.35**	**98**	LR	LR	21 08 50.1	
	comp=Z,54nm,19.1s,baz=89,slow=37						
MJAR	**Matsushiro Arr**	**23.53**	**36**	P	**P**	**20 59 36.4**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=242,slow=6.7,SNR=5.1						
	comp=Z,2.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**23.81**	**342**	*e*P	**P**	**20 59 38.8**	**-0.5**
HHC				S	**S**	**21 03 53.9**	**+1.6**
HHC				sS	sS	21 04 03.0	-8.0
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,99nm,5.2s						
HHC				LR	LR		
	comp=Z,190nm,13.8s						
HHC				LR	LR		
	comp=Z,200nm,13.8s						
HHC				LR	LR		
	comp=Z,160nm,13.8s						
KULM	**Kulim**	**23.84**	**239**	P	**P**	**20 59 38.9**	**-0.8**
KULM				IAmb	IAmb	20 59 42.0	
	comp=Z,25nm,1.1s						
XLT	**XiLinHaoTe**	**25.76**	**352**	*e*P	**P**	**21 00 00.3**	**+3.3**
XLT				pP	pP	21 00 07.5	-0.6
XLT				PP	**PnPn**	**21 00 42.0**	**+7.0**
XLT				pmax	pmax		
	comp=Z,14nm,1.2s						
XLT				pmax	pmax		
	comp=Z,140nm,4.7s						
USRK	**Ussuriysk Ar.**	**27.29**	**17**	P	**P**	**21 00 08.7**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=199,slow=10,SNR=5.4						
USRK				LR	LR	21 10 51.3	
	comp=Z,68nm,20.4s,baz=195,slow=36						
	comp=Z,2.0nm,0.7s						
SHL	**Shillong**	**27.95**	**290**	P	**P**	**21 00 17.0**	**-0.1**
SHL				IAmb	IAmb	21 00 19.3	
	comp=Z,10nm,0.8s						

GOMU	**GeErMu**	**29.16**	**313**	P	**P**	**21 00 28.3**	**+0.4**
GOMU				pP	pP	21 00 39.8	+0.5
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				LR	LR		
	comp=Z,220nm,15.0s						
GOMU				LR	LR		
	comp=Z,290nm,15.1s						
GOMU				LR	LR		
	comp=Z,540nm,17.6s						
LSA	**Lhasa**	**29.47**	**298**	IAmb	IAmb	21 00 33.8	
	comp=Z,12nm,1.3s						
ASAJ	**Asahikawa**	**31.35**	**31**	LR	LR	21 13 51.0	
	comp=Z,58nm,20.9s,baz=270,slow=37						
ULN	**Ulaanbaatar**	**31.53**	**342**	P	**P**	**21 00 48.8**	**+0.2**
SONM	**Songino Array**	**31.70**	**341**	P	**P**	**21 00 50.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=163,slow=9.5,SNR=14						
SONM				PcP	**PcP**	**21 03 41.3**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=103,slow=1.8,SNR=3.6						
SONM				LR	LR	21 13 16.2	
	comp=Z,108nm,19.4s,baz=154,slow=36						
	comp=Z,1.2nm,0.6s						
KLR	**Kul'dur**	**31.93**	**13**	LR	LR	21 14 13.6	
	comp=Z,104nm,20.1s,baz=202,slow=37						
WMQ	**Urumqi**	**37.77**	**319**	*e*P	**P**	**21 01 45.3**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**40.28**	**161**	P	**P**	**21 02 02.0**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=342,slow=8.8,SNR=4.8						
WRA				PcP	**PcP**	**21 04 06.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=344,slow=3.3,SNR=7.7						
	comp=Z,0.8nm,0.6s						
WUS	**Wushi**	**42.30**	**312**	IAmb	IAmb	21 02 22.8	
	comp=Z,6.7nm,0.7s						
MK31	**Makanchi Array**	**42.56**	**320**	P	**P**	**21 02 22.6**	**+0.7**
MK31				IAmb	IAmb	21 02 24.4	
	comp=Z,7.4nm,0.9s						
MKAR	**Makanchi Array**	**42.56**	**320**	P	**P**	**21 02 22.7**	**+0.7**
MKAR	**Makanchi Array**	**42.56**	**320**	P	**P**	**21 02 23.2**	**+1.3**
	comp=Z,6.7nm,0.8s,baz=114,slow=9.3,SNR=74						
MKAR				PcP	**PcP**	**21 04 13.3**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=84,slow=4.1,SNR=4.3						
MKAR				LR	LR	21 20 59.7	
	comp=Z,45nm,19.2s,baz=167,slow=37						
	comp=Z,6.7nm,0.8s						
MAKZ	**Makanchi**	**42.76**	**320**	P	**P**	**21 02 24.1**	**+0.6**
MAKZ				IAmb	IAmb	21 02 25.9	
	comp=Z,6.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**43.17**	**82**	T	T	21 47 43.3	
	baz=277,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hy**	**43.18**	**82**	T	T	21 47 49.6	
	baz=277,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**43.19**	**82**	T	T	21 47 48.1	
	baz=277,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**43.22**	**81**	T	T	21 47 46.5	
	baz=277,slow=74						
H11N2	**WAKE ISLAND Hy**	**43.22**	**81**	T	T	21 47 43.0	
	baz=277,slow=74						
H11N3	**WAKE ISLAND Hy**	**43.23**	**81**	T	T	21 47 44.6	
	baz=277						
ASAR	**Alice Springs**	**43.66**	**163**	P	**P**	**21 02 30.2**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=344,slow=7.4,SNR=7.4						
	comp=Z,0.8nm,0.6s						
YAK	**Yakutsk**	**43.99**	**6**	LR	LR	21 25 17.0	
	comp=Z,35nm,18.0s,baz=171,slow=42						
KDJ	**Kajisay**	**44.05**	**312**	P	**P**	**21 02 34.7**	**+0.5**
KDJ				IAmb	IAmb	21 02 37.1	
	comp=Z,7.4nm,0.9s						
KSH	**Kashi**	**44.17**	**308**	P	**P**	**21 02 38.5**	**+3.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PETK	**Petropavlovsk-**	**44.77**	**31**	P	**P**	**21 02 38.7**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=211,slow=8.0,SNR=4.2						
PETK				LR	LR	21 21 34.8	
	comp=Z,23nm,18.9s,baz=169,slow=36						
	comp=Z,2.0nm,0.7s						
BOOM	**Boomskoye usch**	**45.04**	**312**	P	**P**	**21 02 42.2**	**+0.1**
ZAA0	**Zalesovo Array**	**45.11**	**330**	P	**P**	**21 02 41.7**	**-0.5**
ZALV	**Zalesovo Beam**	**45.11**	**330**	P	**P**	**21 02 41.3**	**-1.0**
ZALV	**Zalesovo Beam**	**45.11**	**330**	P	**P**	**21 02 42.0**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=122,slow=6.6,SNR=7.3						
ZALV				LR	LR	21 22 12.3	
	comp=Z,45nm,20.1s,baz=130,slow=37						
	comp=Z,1.7nm,0.8s						
NIL	**Nilore**	**45.19**	**299**	P	**P**	**21 02 43.0**	**-0.2**
AAK	**Ala-Archa**	**46.10**	**312**	P	**P**	**21 02 50.7**	**+0.2**
AAK				IAmb	IAmb	21 03 11.9	
	comp=Z,6.2nm,1.4s						
MA2	**Magadan**	**46.37**	**20**	P	**P**	**21 02 52.1**	**0.0**
MA2				IAmb	IAmb	21 02 56.6	
	comp=Z,6.5nm,1.1s						
MA2	**Magadan**	**46.37**	**20**	LR	LR	21 24 53.5	
	comp=Z,39nm,18.1s,baz=236,slow=39						
KURK	**Kurchatov**	**46.56**	**324**	P	**P**	**21 02 54.2**	**+0.5**
KURBB	**Kurchatov Arra**	**46.56**	**324**	P	**P**	**21 02 54.7**	**+0.9**
	comp=Z,12nm,0.8s,baz=123,slow=7.7,SNR=95						
	comp=Z,12nm,0.8s						
ARSB	**Arslanbob**	**46.84**	**310**	P	**P**	**21 02 56.0**	**-0.3**
ARSB				IAmb	IAmb	21 02 58.6	
	comp=Z,4.2nm,0.9s						
GAR	**Garm**	**48.34**	**306**	P	**P**	**21 03 07.6**	**-0.3**
KBL	**Kabul**	**48.75**	**300**	P	**P**	**21 03 10.9**	**-0.4**
KBL				IAmb	IAmb	21 03 39.2	
	comp=Z,3.4nm,1.0s						
KK31	**Karatay Array**	**49.05**	**311**	P	**P**	**21 03 13.8**	**+0.6**
KK31				IAmb	IAmb	21 03 15.1	
	comp=Z,4.3nm,0.8s						
KKAR	**Karatay Array**	**49.05**	**311**	P	**P**	**21 03 13.7**	**+0.5**
KKAR	**Karatay Array**	**49.05**	**311**	P	**P**	**21 03 13.7**	**+0.5**
KKAR				IAmb	IAmb	21 03 15.0	
	comp=Z,2.7nm,0.8s						
SIMJ	**Simiganj**	**49.29**	**305**	P	**P**	**21 03 14.9**	**-0.3**
SIMJ				IAmb	IAmb	21 03 47.6	
	comp=Z,6.6nm,1.4s						
BVAR	**Borovoye Array**	**52.16**	**324**	P	**P**	**21 03 37.3**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=113,slow=9.8,SNR=10.0						
BVAR				PcP	**PcP**	**21 04 47.9**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=108,slow=3.2,SNR=5.9						
	comp=Z,2.4nm,0.7s						
EIDS	**Eidsvold**	**52.41**	**145**	P	**P**	**21 03 37.5**	**-1.0**
TIXI	**Tiksi**	**53.43**	**3**	P	**P**	**21 03 45.2**	**-0.3**
TIXI				IAmb	IAmb	21 03 52.2	
	comp=Z,5.2nm,1.1s						
TIXI	**Tiksi**	**53.43**	**3**	LR	LR	21 30 52.7	
	comp=Z,44nm,18.7s,baz=202,slow=41						
STKA	**Stephens Creek**	**53.73**	**158**	P	**P**	**21 03 47.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=326,slow=8.5,SNR=3.0						
	comp=Z,1.2nm,0.7s						
NRIK	**Noril'sk**	**54.94**	**346**	P	**P**	**21 03 56.5**	**-0.1**
NRIK				IAmb	IAmb	21 03 57.9	
	comp=Z,4.8nm,0.8s						
NRIK	**Noril'sk**	**54.94**	**346**	P	**P**	**21 03 56.6**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=136,slow=7.0,SNR=4.4						
NRIK				LR	LR	21 27 54.7	
	comp=Z,49nm,19.8s,baz=158,slow=36						
	comp=Z,4.2nm,0.8s						
ABKAR	**Akbulak array**	**57.49**	**317**	P	**P**	**21 04 14.6**	**-0.5**
ABKAR				IAmb	IAmb	21 04 16.1	
	comp=Z,3.0nm,0.7s						
ARTI	**Arti**	**59.79**	**325**	P	**P**	**21 04 31.7**	**+0.7**
ARTI	**Arti**	**59.79**	**325**	LR	LR	21 30 19.1	
	comp=Z,43nm,19.7s,baz=92,slow=36						
ONTNC	**Ouen Toro**	**60.05**	**130**	P	**P**	**21 04 32.0**	**-1.2**
KIRV	**Kirov**	**64.92**	**327**	LR	LR	21 33 28.4	
	comp=Z,45nm,19.6s,baz=89,slow=36						
GNI	**Garni**	**68.07**	**307**	LR	LR	21 38 06.1	
	comp=Z,16nm,21.1s,baz=94,slow=38						
KBZ	**Khabaz**	**69.07**	**311**	P	**P**	**21 05 31.4**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=193,slow=1.9,SNR=4.5						
KBZ				LR	LR	21 39 07.8	
	comp=Z,42nm,18.6s,baz=70,slow=39						
	comp=Z,2.1nm,0.9s						
RAYN	**Ar Rayn**	**70.02**	**289**	P	**P**	**21 05 37.2**	**-1.0**
RAYN				IAmb	IAmb	21 05 39.4	
	comp=Z,5.6nm,0.9s						
CAST	**Castle Rocks**	**72.30**	**28**	P	**P**	**21 05 51.2**	**0.0**
CAST				IAmb	IAmb	21 05 57.1	
	comp=Z,5.3nm,0.8s						
D23K	**Nanushuk River**	**72.34**	**22**	P	**P**	**21 05 51.8**	**+0.5**
D23K				IAmb	IAmb	21 05 54.4	
	comp=Z,5.8nm,1.1s						
BRLK	**Bradley Lake**	**73.30**	**32**	P	**P**	**21 05 56.3**	**-0.9**
BWN	**Browne**	**73.37**	**27**	P	**P**	**21 05 56.4**	**-1.1**
RND	**Reindeer**	**73.75**	**28**	P	**P**	**21 05 59.4**	**-0.4**
ILAR	**Eielson Array**	**74.38**	**26**	P	**P**	**21 06 03.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=266,slow=5.3,SNR=7.6						
	comp=Z,0.4nm,0.6s						

ARCES	**ARCESS Array B**	**74.84**	**339**	P	**P**	**21 06 05.6**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=74,slow=4.4,SNR=3.5						
ARCES				LR	LR	21 42 18.3	
	comp=Z,32nm,18.9s,baz=66,slow=38						
	comp=Z,1.8nm,0.9s						
SPITS	**Spitsbergen Ar**	**75.08**	**348**	P	**P**	**21 06 06.9**	**-0.4**
	comp=Z,14nm,1.1s,baz=66,slow=3.6,SNR=2.0						
SPITS				LR	LR	21 43 45.1	
	comp=Z,41nm,19.0s,baz=46,slow=39						
	comp=Z,14nm,1.1s						
FINES	**FINESS Array B**	**76.38**	**330**	P	**P**	**21 06 15.0**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=60,slow=3.4,SNR=4.2						
	comp=Z,3.3nm,0.9s						
BRTR	**Keskin Array B**	**76.56**	**308**	P	**P**	**21 06 16.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=74,slow=6.2,SNR=2.8						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**77.13**	**319**	P	**P**	**21 06 18.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=64,slow=5.5,SNR=5.0						
AKASG				LR	LR	21 42 11.3	
	comp=Z,44nm,18.1s,baz=56,slow=37						
	comp=Z,0.4nm,0.5s						
MLR	**Muntele Rosu**	**80.60**	**315**	LR	LR	21 45 04.9	
	comp=Z,72nm,18.4s,baz=62,slow=38						
HFS	**Hagfors**	**82.54**	**331**	P	**P**	**21 06 47.4**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=97,slow=18,SNR=1.9						
HFS				LR	LR	21 49 15.0	
	comp=Z,20nm,18.4s,baz=46,slow=40						
	comp=Z,2.7nm,0.8s						
NB2	**NORSAR Subarra**	**83.27**	**333**	P	**P**	**21 06 51.7**	**-0.6**
	comp=Z,12nm,1.0s,baz=64,slow=5.1						
NOA	**NORSAR Array B**	**83.27**	**333**	P	**P**	**21 06 51.5**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=63,slow=4.9,SNR=7.1						
NOA				LR	LR	21 46 10.7	
	comp=Z,35nm,18.2s,baz=80,slow=37						
	comp=Z,1.4nm,0.7s						
VRAC	**Vranov**	**85.30**	**321**	LR	LR	21 50 11.8	
	comp=Z,31nm,18.7s,baz=124,slow=39						
YKA	**Yellowknife Ar**	**88.30**	**23**	P	**P**	**21 07 18.2**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=313,slow=4.6,SNR=21						
	comp=Z,1.3nm,0.8s						

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*NEIC **17** 20:54:55.6±1.4, 3°.9S±0°.2×152°.1E±0°.2, h176km±6km, mb4.6/18, Error ellipse: s-maj=35.6km s-min=16.9km az=117.0*
*IDC **17** 20:54:56.0±7.9, 4°.15S×152°.60E, h204km±55km, mb3.3/4, mbtmp3.9/5, Error ellipse: s-maj=81.9km s-min=28.9km az=86.0*
ISC 17 20:54:56.0±1.0, 4°.1S±0°.1×152°.3E±0°.2, h200km, n30,
σ1§45/31, mb4.4/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.18**	**228**	Pn	**Pn**	**20 55 19.2**	**-3.2**
PMG	**Port Moresby**	**7.36**	**224**	P	**Pn**	**20 56 42.9**	**+1.9**
	11nm,0.8s,baz=320,slow=17,SNR=1.5						
PMG				S	**Sn**	**20 58 03.0**	**-1.5**
	63nm,0.7s,baz=128,slow=19,SNR=9.1						
COEN	**Coen**	**13.33**	**222**	Pn	**Pn**	**20 57 58.3**	**+0.6**
SAUI	**Saumlaki**	**21.24**	**258**	P	**P**	**20 59 22.0**	**-4.7**
MTN	**Manton Dam**	**22.66**	**246**	P	**P**	**20 59 41.1**	**+0.5**
MTN				IAmb	IAmb	20 59 43.7	
	comp=Z,8.2nm,1.0s						
WB0	**Warramunga Arr**	**23.42**	**227**		**P**	**20 59 48.2**	**+0.9**
WB0				IAmb	IAmb	20 59 49.2	
	comp=Z,24nm,1.1s						
WR0	**Warramunga Arr**	**23.43**	**226**	P	**P**	**20 59 48.1**	**+0.6**
WR0				IAmb	IAmb	20 59 50.2	
	comp=Z,15nm,0.5s						
WRAB	**Tennant Creek**	**23.56**	**227**	P	**P**	**20 59 49.9**	**+1.3**
WRAB				IAmb	IAmb	20 59 50.4	
	comp=Z,26nm,0.6s						
WB2	**Warramunga Arr**	**23.56**	**226**	P	**P**	**20 59 50.0**	**+1.4**
WB2				IAmb	IAmb	20 59 50.5	
	comp=Z,29nm,0.6s						
WRA	**Warramunga Arr**	**23.57**	**227**	P	**P**	**20 59 48.9**	**+0.2**
WRA	**Warramunga Arr**	**23.57**	**227**	P	**P**	**20 59 49.7**	**+1.0**
	comp=Z,16nm,0.5s,baz=52,slow=9.8,SNR=24						
KNRA	**Kununurra**	**25.86**	**242**	P	**P**	**21 00 09.6**	**+0.2**
KNRA				IAmb	IAmb	21 00 26.0	
	comp=Z,8.9nm,1.0s						
AS31	**Alice Springs**	**26.36**	**221**	P	**P**	**21 00 14.5**	**+0.6**
ASAR	**Alice Springs**	**26.36**	**221**	P	**P**	**21 00 15.1**	**+1.1**
ASAR	**Alice Springs**	**26.36**	**221**	P	**P**	**21 00 14.8**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=51,slow=8.2,SNR=36						
	comp=Z,1.2nm,0.5s						
STKA	**Stephens Creek**	**29.44**	**199**	P	**P**	**21 00 41.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=20,slow=12,SNR=3.1						
	comp=Z,0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.58**	**240**	P	**P**	**21 00 42.2**	**-0.3**
FORT	**Forrest**	**35.05**	**218**	P	**P**	**21 01 30.3**	**+0.4**
FORT				IAmb	IAmb	21 01 36.5	
	comp=Z,16nm,0.8s						
MBWA	**Marble Bar**	**35.91**	**239**	P	**P**	**21 01 36.4**	**-1.1**
MBWA				IAmb	IAmb	21 01 55.8	
	comp=Z,6.1nm,1.1s						
PSA00	**Pilbara Seismi**	**35.98**	**238**	P	**P**	**21 01 37.8**	**-0.3**
PSA00				IAmb	IAmb	21 01 41.5	
	comp=Z,8.1nm,1.1s						
YOJ	**Yonaguni jima**	**40.20**	**316**	P	**P**	**21 02 11.8**	**-1.3**
GIRL	**Giralia**	**41.19**	**240**	P	**P**	**21 02 21.4**	**0.0**
JNU	**Nakatsue**	**42.19**	**333**	P	**P**	**21 02 30.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**57.12**	**295**	P	**P**	**21 04 24.0**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=112,slow=6.5,SNR=4.8						
	comp=Z,0.9nm,0.3s						
PEA0B	**Petropavlovsk-**	**57.14**	**4**	P	**P**	**21 04 22.3**	**+0.6**
PEA0B				IAmb	IAmb	21 04 32.4	
	comp=Z,10nm,1.1s						
PETK

MK31 ⇓Sn **Sn** **21 38 29.4 +1.5**
0.3nm,0.2s,baz=187,slow=27,SNR=8.0
MK31 ⇑Lg Lg 21 39 12.0
3.6nm,0.7s

RSNC 17 21:40:57.0±0.0,7°N±1°×7°3W±°,h143km±1km,M2.8,mb4.8, mB6.2,ML2.6,Mw(mB)5.8,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**191**	P	Pn	21 41 16.2	-0.6
BARC				S	Sn	21 41 31.1	-0.7
BRJC	**Barrancabermej**	**0.62**	**285**	P	Pn	21 41 18.0	-0.2
BRJC				S	Sn	21 41 34.8	+0.5
PAMC	**Pamplona, Colo**	**0.68**	**40**	P	Pn	21 41 19.2	0.0
PAMC				S	Sn	21 41 36.0	-0.1
RUSC	**La Rusia**	**0.91**	**176**	P	Pn	21 41 20.3	-0.7
RUSC				S	Sn	21 41 38.4	-0.8
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	21 41 23.1	-1.2
PTBC				S	Sn	21 41 43.8	-1.4
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	21 41 24.6	-0.3
TAMC				S	Sn	21 41 45.6	-0.6
OCAC	**Ocana**	**1.43**	**353**	P	Pn	21 41 24.7	-0.8
OCAC				S	Sn	21 41 46.5	-0.8
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	21 41 25.3	-0.6
SPBC				S	Sn	21 41 46.1	-1.9
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn	21 41 29.3	-0.5
ZARC				S	Sn	21 41 54.9	0.0
NORC	**Norcasia**	**2.12**	**234**	P	Pn	21 41 32.9	-0.3
NORC				S	Sn	21 42 00.1	-0.9
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	21 41 34.6	-0.5
CHIC				S	Sn	21 42 03.5	-0.8
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	21 41 36.4	+0.9
ROSC				S	Sn	21 42 07.6	+2.5
HELC	**Santa Helena**	**2.45**	**256**	P	Pn	21 41 38.6	+1.0
HELC				S	Sn	21 42 07.5	-1.2
GUY2C	**Guyana, Caldas**	**2.72**	**235**	P	Pn	21 41 41.9	+0.9
GUY2C				S	Sn	21 42 15.3	+0.5
VILC	**Villavicencio,**	**2.74**	**192**	P	Pn	21 41 40.4	-0.5
VILC				S	Sn	21 42 14.1	-0.7
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	21 41 45.2	+0.9
CBOC				S	Sn	21 42 20.1	-0.8
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	21 41 44.4	-0.5
DBBC				S	Sn	21 42 20.3	-1.6
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	21 41 46.7	-0.3
ARGC				S	Sn	21 42 25.8	+0.2
ANIL	**Santa Ana**	**3.22**	**224**	P	Pn	21 41 46.5	-0.8
ANIL				S	Sn	21 42 27.0	+0.9
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	21 41 46.1	-1.1
SDV				S	Sn	21 42 24.4	-1.7
PRAC	**Prado**	**3.53**	**210**	P	Pn	21 41 50.6	-0.5
PRAC				S	Sn	21 42 33.2	+0.3
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	21 41 51.2	-0.3
ORTC				S	Sn	21 42 34.5	+0.9
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	21 41 50.9	-0.7
APAC				S	Sn	21 42 34.1	+0.2
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	21 41 52.5	-0.2
PLMC				S	Sn	21 42 34.9	-0.9
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	21 41 50.8	-2.1
SJCC				S	Sn	21 42 32.4	-3.8
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	21 41 53.3	-0.6
URMC				S	Sn	21 42 37.8	-0.2
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	21 41 58.7	-1.0
CRJC				S	Sn	21 42 44.0	-4.4
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	21 41 59.4	-1.1
YOTC				S	Sn	21 42 48.2	-1.7
GUVC	**San Jose del G**	**4.27**	**173**	P	Pn	21 42 00.6	-0.1
GUVC				S	Sn	21 42 48.1	-2.1
SMRC	**Santa Marta, M**	**4.46**	**346**	P	Pn	21 42 02.3	-0.8
SMRC				S	Sn	21 42 50.6	-4.0
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	21 42 09.0	-1.2
URIC				S	Sn	21 43 03.9	-3.4
MALC	**Bahia Malaga**	**5.02**	**237**	P	Pn	21 42 12.1	+1.5
MALC				S	Sn	21 43 08.9	+1.0

IDC 17 21:45:13.8±3.0,32°.10S×178°.36W,h0km,mb3.4/2, mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=70.3km s-min=36.6km az=114.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.18**	**210**	Pn	Pn	21 47 00.4	+0.5
URZ	0.5nm,0.3s,baz=17,slow=14,SNR=1.5			Sn	Sn	21 48 20.6	-1.6
	1.5nm,0.3s,baz=49,slow=20,SNR=7.4 2.3nm,0.5s						
ASAR	**Alice Springs**	**42.74**	**269**	P	P	21 53 12.9	-0.1
	0.2nm,0.5s,baz=105,slow=7.9,SNR=5.2 0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.88**	**274**	P	P	21 53 22.3	+0.1
	0.3nm,0.3s,baz=114,slow=7.8,SNR=9.4 0.3nm,0.3s						
FINES	**FINESS Array B**	**146.62**	**339**	PKPbc	PKPdf	22 04 55.5	+0.5
	5.6nm,1.1s,baz=45,slow=4.1,SNR=7.4						

*JMA **17** 21:56:23.2±0.1,24°.1N±0°.7×123°.3E±0°.4,h20km±2km, MV2.6/9,NEAR ISHIGAKIJIMA ISLAND*

ISC 17 21:56:23.0±1.2,24°.04N±0°.06×123°.28E±0°.03,h20km±5km, n15,σ0°62/22,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.48**	**88**	P	**Pg**	**21 56 32.5**	**-0.3**
HATJ				S	**Sg**	**21 56 39.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.48**	**329**	P	**Pg**	**21 56 32.9**	**0.0**
YOJ	**Yonaguni jima**	**0.48**	**329**	S	**Sg**	**21 56 39.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.48**	**329**	P	**Pg**	**21 56 33.0**	**+0.1**
YOJ				S	**Sg**	**21 56 39.2**	**-0.4**
IRIF	**Iriomote-Funau**	**0.50**	**55**	P	**Pg**	**21 56 33.1**	**-0.1**
IRIF				S	**Sg**	**21 56 40.2**	**+0.1**
JYNG	**Yonagunijimaku**	**0.51**	**323**	P	**Pb**	**21 56 33.2**	**0.0**
JYNG				eS	**Sg**	**21 56 40.0**	**-0.3**
JKRS	**Kuro-shima**	**0.69**	**74**	P	**Pb**	**21 56 36.5**	**+0.1**
JKRS				S	**Sg**	**21 56 46.3**	**+0.3**
JIJ	**Ishigaki jima**	**0.85**	**68**	P	**Pb**	**21 56 38.8**	**-0.3**
JIJ				S	**Sb**	**21 56 49.7**	**-0.4**
JISG	**Ishigakijimahi**	**1.08**	**60**	eP	**Pb**	**21 56 42.5**	**-0.6**
JISG				eS	**Sb**	**21 56 56.5**	**-0.3**
NACB	**Ninganchiao**	**1.55**	**275**	P	**Pn**	**21 56 49.6**	**+0.1**
YHNB	**Yeheng**	**1.84**	**290**	P	**Pb**	**21 56 55.5**	**-0.7**
YULB	**Yu-li**	**1.93**	**251**	P	**Pn**	**21 56 54.4**	**-0.4**
YULB	**Yu-li**	**1.93**	**251**	S	**Sn**	**21 57 19.1**	**+0.6**
SSLB	**Suanglung**	**2.14**	**264**	P	**Pb**	**21 57 00.2**	**-1.0**
TPUB	**Ta-pu**	**2.54**	**254**	P	**Pn**	**21 57 05.1**	**+1.9**

*NEIC **17** 21:57:11.6±1.5,23°.7S±0°.1×179°.6W±0°.1,h509km±6km, mb4.7/182,Error ellipse: s-maj=16.6km s-min=14.3km az=145.0*

*NOU **17** 21:57:12.5,23°.65S×179°.34W,h551km,mb5.0/56,South of Fiji Islands*

*IDC **17** 21:57:13.1±0.6,23°.60S×179°.69W,h537km±6km,mb3.9/18, mbtmp4.8/21,Error ellipse: s-maj=11.5km s-min=10.1km az=126.0*

ISC 17 21:57:12.6±0.4,23°.72S±0°.05×179°.54W±0°.05, h536km±4km,h537km;pP-P,n433,σ1§34/419,mb4.7/104, 39C-9D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.50**	**7**	P	**P**	**21 58 46.4**	**+0.3**
GLKZ	**Green Lake**	**5.71**	**166**	P	**P**	**21 58 48.5**	**+0.7**
GLKZ				S	**S**	**22 00 02.9**	**-2.8**
MSVF	**Nonsavu**	**6.37**	**339**	P	**P**	**21 58 53.3**	**-0.9**
MSVF				S	**S**	**22 00 17.7**	**+0.6**
MSVF	**Nonsavu**	**6.37**	**339**	P	**P**	**21 58 53.8**	**-0.4**
MSVF	85nm,0.6s,baz=275,slow=23,SNR=74			S	**S**	**22 00 16.3**	**-0.8**
	80nm,1.1s,baz=94,slow=22,SNR=7.2						
MSVF	**Nonsavu**	**6.37**	**339**	P	**P**	**21 58 54.2**	**0.0**
TAVE	**Taveuni**	**6.98**	**357**	P	**P**	**21 59 00.7**	**+0.7**
DGTI	**Dogotuki**	**7.41**	**355**	P	**P**	**21 59 04.2**	**0.0**
YSA	**Yasawairara**	**7.49**	**338**	P	**P**	**21 59 05.2**	**+0.3**
FUTU	**Fugatoga**	**9.45**	**8**	P	**P**	**21 59 25.0**	**+0.2**
FUTU	**Fugatoga**	**9.45**	**8**	P	**P**	**21 59 25.1**	**+0.2**
NIUE	**Niue**	**10.07**	**65**	P	**P**	**21 59 31.3**	**+0.1**
NIUE	**Niue**	**10.07**	**65**	P	**P**	**21 59 30.5**	**-0.7**
NIUE	**Niue**	**10.07**	**65**	P	**P**	**21 59 31.2**	**+0.1**

MARNC	**Mare, Loyalty**	**11.70**	**279**	P	**P**	**21 59 48.3**	**+0.3**
PINNC	**Pines Island,**	**12.02**	**273**	P	**P**	**21 59 53.0**	**+1.6**
PINNC	**Pines Island,**	**12.02**	**273**	P	**P**	**21 59 53.6**	**+2.2**
AFI	**Afiamalu**	**12.21**	**38**	P	**P**	**21 59 49.1**	**-4.4**
AFI	**Afiamalu**	**12.21**	**38**	P	**P**	**21 59 49.9**	**-3.6**
OUENC	**Ouen Island, N**	**12.60**	**273**	P	**P**	**21 59 59.8**	**+2.3**
OUZ	**Omahuta**	**12.92**	**206**	P	**P**	**22 00 02.1**	**+1.6**
ONTNC	**Ouen Toro**	**12.97**	**273**	P	**P**	**22 00 02.4**	**+1.1**
ONTNC	**Ouen Toro**	**12.97**	**273**	P	**P**	**22 00 03.8**	**+2.5**
DZM	**Mont Dzumac**	**13.02**	**274**	P	**P**	**22 00 00.9**	**-1.0**
DZM	**Mont Dzumac**	**13.02**	**274**	eP	**P**	**22 00 00.9**	**-1.0**
DZM	79nm,1.2s			eS	**S**	**22 02 23.7**	**+2.3**
	70nm,1.4s						
DZM	**Mont Dzumac**	**13.02**	**274**	P	**P**	**22 00 01.5**	**-0.4**
	24nm,0.6s,baz=67,slow=19,SNR=18						
DZM	**Mont Dzumac**	**13.02**	**274**	P	**P**	**22 00 04.1**	**+2.2**
GRZ	**Great Barrier**	**13.22**	**198**	P	**P**	**22 00 04.8**	**+1.2**
ABAZ	**Army Bay**	**13.73**	**199**	P	**P**	**22 00 10.0**	**+1.1**
WIAZ	**Waiheke Island**	**13.82**	**198**	P	**P**	**22 00 11.3**	**+1.4**
MBAZ	**Motutapu North**	**13.87**	**199**	P	**P**	**22 00 12.1**	**+1.7**
MXZ	**Matakaoa Point**	**13.93**	**187**	P	**P**	**22 00 09.8**	**-1.1**
MXZ				S	**S**	**22 02 35.3**	**-2.6**
MYRZ	**Mayor Island**	**14.00**	**194**	P	**P**	**22 00 13.1**	**+1.4**
ETAZ	**East Tamaki Re**	**14.03**	**199**	P	**P**	**22 00 13.5**	**+1.5**
MKAZ	**Moumakai**	**14.10**	**198**	P	**P**	**22 00 13.9**	**+1.1**
WTAZ	**Waiatarua**	**14.12**	**200**	P	**P**	**22 00 14.3**	**+1.3**
WMGZ	**Waiomatatini S**	**14.17**	**187**	P	**P**	**22 00 12.9**	**-0.5**
WMGZ				S	**S**	**22 02 41.6**	**-0.9**
KBAZ	**Karaka Road Bo**	**14.17**	**198**	P	**P**	**22 00 15.2**	**+1.7**
HAZ	**Te Kaha**	**14.18**	**189**	P	**P**	**22 00 12.5**	**-1.2**
HAZ				S	**S**	**22 02 39.6**	**-3.2**
AWAZ	**Awhitu Peninsu**	**14.21**	**199**	P	**P**	**22 00 15.0**	**+1.1**
PKGZ	**Pakihiroa**	**14.25**	**188**	P	**P**	**22 00 15.2**	**+0.8**
PKGZ				S	**S**	**22 02 41.0**	**-3.2**
RUGZ	**Raukumara Rang**	**14.40**	**189**	P	**P**	**22 00 15.5**	**-0.6**
RUGZ				S	**S**	**22 02 45.3**	**-2.0**
TWGZ	**Tauwhareparae**	**14.57**	**188**	P	**P**	**22 00 18.0**	**+0.2**
TWGZ				S	**S**	**22 02 49.4**	**-1.0**
TOZ	**Tahuroa Road**	**14.60**	**196**	P	**P**	**22 00 18.4**	**+0.4**
TOZ	**Tahuroa Road**	**14.60**	**196**	P	**P**	**22 00 19.0**	**+1.0**
KMRZ	**Kaimai**	**14.61**	**194**	P	**P**	**22 00 19.3**	**+1.2**
KARZ	**Kaharoa**	**14.71**	**193**	P	**P**	**22 00 20.2**	**+1.0**
MKRZ	**Makatiti**	**14.78**	**192**	P	**P**	**22 00 21.5**	**+1.6**
URZ	**Urewera**	**14.78**	**190**	P	**P**	**22 00 16.8**	**-3.0**
	81nm,0.4s,baz=351,slow=4.7,SNR=28						
URZ				S	**S**	**22 02 51.2**	**-3.0**
	35nm,0.4s,baz=265,slow=21,SNR=9.7						
URZ	**Urewera**	**14.78**	**190**	P	**P**	**22 00 17.2**	**-2.6**
URZ				S	**S**	**22 02 50.8**	**-3.3**
MWZ	**Matawai**	**14.79**	**189**	P	**P**	**22 00 19.3**	**-0.7**
MWZ				S	**S**	**22 02 51.6**	**-2.9**
TKGZ	**Te Karaka**	**14.85**	**188**	P	**P**	**22 00 20.3**	**-0.2**
CNGZ	**Carnagh Statio**	**14.85**	**187**	P	**P**	**22 00 22.9**	**+2.3**
TARZ	**Mount Tarawera**	**14.86**	**192**	P	**P**	**22 00 21.8**	**+0.9**
RRRZ	**Republican Roa**	**14.96**	**192**	P	**P**	**22 00 23.1**	**+1.3**
MUGZ	**Murupara**	**15.05**	**191**	P	**P**	**22 00 21.1**	**-1.6**
RIGZ	**Rimuhau**	**15.12**	**188**	P	**P**	**22 00 23.7**	**+0.3**
RIGZ				S	**S**	**22 02 56.7**	**-3.9**
RTZ	**Ruatahuna**	**15.15**	**190**	P	**P**	**22 00 21.2**	**-2.6**
FUNA	**Funafuti**	**15.15**	**355**	P	**P**	**22 00 23.1**	**-1.0**
TLZ	**Tolley Road**	**15.16**	**195**	P	**P**	**22 00 24.5**	**+0.6**
ALRZ	**Allen Road**	**15.21**	**192**	P	**P**	**22 00 25.4**	**+1.0**
MRHZ	**Matea Rd**	**15.46**	**192**	P	**P**	**22 00 25.1**	**-1.9**
WATZ	**Wairara**	**15.48**	**194**	P	**P**	**22 00 28.0**	**+0.9**
HIZ	**Hauiti**	**15.51**	**197**	P	**P**	**22 00 26.9**	**-0.5**
HIZ	**Hauiti**	**15.51**	**197**	P	**P**	**22 00 30.7**	**+3.3**
RITZ	**Rihia Road**	**15.71**	**193**	P	**P**	**22 00 28.6**	**-0.9**
KATZ	**Kakaramea**	**15.74**	**194**	P	**P**	**22 00 29.6**	**-0.4**
BKZ	**Black Stump Fm**	**15.77**	**191**	P	**P**	**22 00 27.4**	**-2.8**
BKZ	**Black Stump Fm**	**15.77**	**191**	P	**P**	**22 00 29.1**	**-1.0**
BKZ	**Black Stump Fm**	**15.77**	**191**	P	**P**	**22 00 27.6**	**-2.5**
NTVZ	**North Tongarir**	**15.87**	**194**	P	**P**	**22 00 30.1**	**-1.1**
KRVZ	**Karewarewa**	**15.87**	**194**	P	**P**	**22 00 30.6**	**-0.6**
TMVZ	**Te Maari**	**15.88**	**194**	P	**P**	**22 00 29.7**	**-1.6**
TWVZ	**Taurewa**	**15.89**	**194**	P	**P**	**22 00 31.0**	**-0.4**
WTVZ	**West Tongariro**	**15.90**	**194**	P	**P**	**22 00 30.8**	**-0.7**
NNVZ	**North Ngauruho**	**15.91**	**194**	P	**P**	**22 00 30.9**	**-0.8**
OTVZ	**Oturere**	**15.93**	**194**	P	**P**	**22 00 29.3**	**-2.6**
NGZ	**Ngauruhoe**	**15.96**	**194**	P	**P**	**22 00 31.3**	**-0.8**
SNVZ	**South Ngauruho**	**15.96**	**194**	P	**P**	**22 00 30.3**	**-1.9**
COVZ	**Chateau Observ**	**15.99**	**194**	P	**P**	**22 00 31.7**	**-0.7**
KWHZ	**Kaweka Forest**	**16.03**	**191**	P	**P**	**22 00 30.0**	**-2.8**
TUVZ	**Tukino**	**16.03**	**194**	P	**P**	**22 00 31.9**	**-1.0**
FWVZ	**Far West T-bar**	**16.04**	**194**	P	**P**	**22 00 31.6**	**-1.5**
MAVZ	**Matarangi**	**16.05**	**194**	P	**P**	**22 00 32.2**	**-1.1**
WHVZ	**Whangaehu Hut**	**16.06**	**194**	P	**P**	**22 00 31.5**	**-1.7**
TRVZ	**Turoa**	**16.09**	**194**	P	**P**	**22 00 32.1**	**-1.4**
VRZ	**Vera Road**	**16.11**	**196**	P	**P**	**22 00 35.7**	**+2.2**
PKVZ	**Pokaka**	**16.12**	**194**	P	**P**	**22 00 32.1**	**-1.6**
MOVZ	**Moawhango**	**16.14**	**193**	P	**P**	**22 00 31.5**	**-2.3**
KRHZ	**Kereru**	**16.25**	**191**	P	**P**	**22 00 32.7**	**-2.2**
KAHZ	**Kahuranaki**	**16.32**	**190**	P	**P**	**22 00 33.4**	**-2.0**
PKE	**Pukeiti**	**16.38**	**198**	P	**P**	**22 00 38.1**	**+2.0**
NEZ	**North Egmont**	**16.42**	**198**	P	**P**	**22 00 38.1**	**+1.5**
KHEZ	**Kahui Hut**	**16.47**	**198**	P	**P**	**22 00 37.6**	**+0.6**
KHEZ	**Kahui Hut**	**16.47**	**198**	P	**P**	**22 00 39.1**	**+2.1**
PREZ	**Palmer Road**	**16.47**	**197**	P	**P**	**22 00 38.9**	**+2.0**
NBEZ	**Newall Road No**	**16.48**	**198**	P	**P**	**22 00 40.4**	**+3.4**
PNHZ	**Pukenui**	**16.55**	**192**	P	**P**	**22 00 34.4**	**-3.3**
PXZ	**Pawanui**	**16.55**	**190**	P	**P**	**22 00 35.8**	**-1.9**
NMEZ	**Namu Road**	**16.62**	**198**	P	**P**	**22 00 40.7**	**+2.4**
WPHZ	**Waipukurau**	**16.65**	**191**	P	**P**	**22 00 37.8**	**-0.8**
TSZ	**Takapari Road**	**16.73**	**192**	P	**P**	**22 00 37.5**	**-1.9**
PRHZ	**Porangahau**	**16.82**	**190**	P	**P**	**22 00 39.6**	**-0.5**
DVHZ	**Dannevirke**	**16.93**	**191**	P	**P**	**22 00 38.9**	**-2.3**
ANWZ	**Angora Road**	**17.03**	**190**	P	**P**	**22 00 40.8**	**-1.3**
POWZ	**Post Office Ro**	**17.09**	**192**	P	**P**	**22 00 42.0**	**-0.7**
PRWZ	**Pori Road**	**17.21**	**192**	P	**P**	**22 00 43.3**	**-0.5**
BFZ	**Birch Farm**	**17.29**	**191**	P	**P**	**22 00 43.1**	**-1.4**
BFZ	**Birch Farm**	**17.29**	**191**	P	**P**	**22 00 43.3**	**-1.2**
BFZ	**Birch Farm**	**17.29**	**191**	P	**P**	**22 00 42.0**	**-2.4**
MRZ	**Mangatainoka R**	**17.39**	**193**	P	**P**	**22 00 42.3**	**-3.1**
MRZ	**Mangatainoka R**	**17.39**	**193**	P	**P**	**22 00 42.4**	**-3.0**
TIWZ	**Tintock**	**17.44**	**192**	P	**P**	**22 00 44.2**	**-1.7**
CPWZ	**Castlepoint**	**17.52**	**191**	P	**P**	**22 00 46.6**	**+0.1**
OGWZ	**Otaki Gorge**	**17.62**	**193**	P	**P**	**22 00 44.8**	**-2.7**
HOWZ	**Holdsworth Sta**	**17.63**	**192**	P	**P**	**22 00 45.0**	**-2.6**
DUWZ	**D'Urville Isla**	**17.90**	**196**	P	**P**	**22 00 48.7**	**-1.4**
MSWZ	**Moikau Station**	**18.18**	**193**	P	**P**	**22 00 50.7**	**-2.0**
SNZO	**South Karori**	**18.20**	**194**	P	**P**	**22 00 51.6**	**-1.1**
SNZO	**South Karori**	**18.20**	**194**	P	**P**	**22 00 53.1**	**+0.4**
TCW	**Tory Channel**	**18.20**	**195**	P	**P**	**22 00 51.1**	**-1.7**
BHW	**Baring Head**	**18.25**	**194**	P	**P**	**22 00 52.4**	**-0.9**
BHW	**Baring Head**	**18.25**	**194**	P	**P**	**22 00 52.1**	**-1.2**
QRZ	**Quartz Range**	**18.32**	**199**	P	**P**	**22 00 54.4**	**+0.5**
QRZ	**Quartz Range**	**18.32**	**199**	P	**P**	**22 00 54.6**	**+0.7**
PLWZ	**Palliser**	**18.33**	**193**	P	**P**	**22 00 52.3**	**-1.8**
TKNZ	**Takaka Hill**	**18.38**	**198**	P	**P**	**22 00 54.7**	**+0.2**
NNZ	**Nelson**	**18.43**	**197**	P	**P**	**22 00 54.4**	**-0.5**
NNZ	**Nelson**	**18.43**	**197**	P	**P**	**22 00 54.4**	**-0.5**
RAR	**Rarotonga**	**18.44**	**86**	P	**P**	**22 00 55.6**	**+0.3**
	34nm,0.8s,baz=254,slow=11,SNR=3.5						
TUWZ	**Tuamarina**	**18.49**	**196**	P	**P**	**22 00 54.6**	**-0.8**
CMWZ	**Cape Campbell**	**18.73**	**195**	P	**P**	**22 00 57.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**18.77**	**195**	P	**P**	**22 00 57.8**	**-0.3**
MRNZ	**Matariki Terra**	**18.77**	**198**	P	**P**	**22 00 57.9**	**-0.2**
THZ	**Tophouse**	**19.07**	**198**	P	**P**	**22 01 00.7**	**-0.2**
DSZ	**Denniston Nort**	**19.38**	**200**	P	**P**	**22 01 03.2**	**-0.4**
KHZ	**Kahutara**	**19.52**	**195**	P	**P**	**22 01 04.1**	**-0.7**
KHZ	**Kahutara**	**19.52**	**195**	P	**P**	**22 01 04.3**	**-0.5**
GVZ	**Greta Valley S**	**20.16**	**196**	P	**P**	**22 01 09.6**	**-1.1**
LTZ	**Lake Taylor**	**20.19**	**198**	P	**P**	**22 01 09.7**	**-1.3**
INZ	**Inchbonnie**	**20.38**	**199**	P	**P**	**22 01 11.6**	**-1.0**
AMCZ	**Amberley**	**20.46**	**197**	P	**P**	**22 01 12.5**	**-0.8**
OXZ	**Oxford**	**20.76**	**198**	P	**P**	**22 01 15.0**	**-1.1**
MQZ	**McQueen's Vall**	**20.95**	**196**		**P**	**22 01 16.8**	**-0.9**
RPZ	**Rata Peaks**	**21.40**	**199**		**P**	**22 01 20.7**	**-1.1**
RPZ	**Rata Peaks**	**21.40**	**199**	P	**P**	**22 01 20.8**	**-1.0**
	78nm,0.5s,baz=0.0,slow=4.0,SNR=35 78nm,0.5s						
RPZ	**Rata Peaks**	**21.40**	**199**	P	**P**	**22 01 22.2**	**+0.3**
FOZ	**Fox Glacier**	**21.63**	**201**	P	**P**	**22 01 22.7**	**-1.1**
LBZ	**Lake Benmore**	**22.27**	**200**	P	**P**	**22 01 27.7**	**-2.0**
LBZ				IAmb	IAmb	22 01 35.0	
	comp=Z,34nm,0.9s						
JCZ	**Jackson Bay**	**22.45**	**202**	P	**P**	**22 01 31.4**	**0.0**
ODZ	**Otahua Downs**	**22.73**	**198**	P	**P**	**22 01 33.1**	**-0.6**
WKZ	**Wanaka**	**23.04**	**201**	P	**P**	**22 01 35.1**	**-1.5**
MLZ	**Mavora Lakes**	**23.82**	**202**		**P**	**22 01 42.9**	**-0.6**

DCZ	**Deep Cove**	**24.24**	**203**	P	**P**	**22 01 47.2**	**0.0**
WHZ	**Wether Hill Ro**	**24.34**	**202**		**P**	**22 01 47.4**	**-0.7**
SYZ	**Scrubby Hill**	**24.53**	**199**	P	**P**	**22 01 50.2**	**+0.5**
TW1H	**Toowoomba 1 Ha**	**25.94**	**256**	P	**P**	**22 02 03.6**	**+1.0**
ARMA	**Armidale**	**26.48**	**249**	P	**P**	**22 02 07.8**	**+0.5**
ARMA				IAmb	IAmb	22 02 09.5	
	comp=Z,31nm,1.0s						
ARMA	**Armidale**	**26.48**	**249**	P	**P**	**22 02 07.0**	**-0.4**
EIDS	**Eidsvold**	**26.75**	**260**	P	**P**	**22 02 09.5**	**-0.2**
EIDS				IAmb	IAmb	22 02 10.6	
	comp=Z,23nm,0.6s						
EIDS	**Eidsvold**	**26.75**	**260**	P	**P**	**22 02 09.9**	**+0.2**
TBI	**Tubuai**	**27.56**	**95**	eSS	sS	22 08 45.8	-18
	comp=Z,814nm,35.0s						
SYDH	**Sydney Hard Ro**	**27.83**	**242**	P	**P**	**22 02 20.4**	**+1.4**
WOLH	**Wollongong Har**	**27.88**	**241**	P	**P**	**22 02 20.6**	**+1.2**
PAE	**Paea**	**28.63**	**84**	eP	**P**	**22 02 26.2**	**0.0**
	comp=Z,27nm,1.0s						
PPT2	**Papeete2**	**28.66**	**83**	eP	**P**	**22 02 27.5**	**+1.0**
	comp=Z,44nm,24.8s						
PPT2				eSS	sS	22 09 12.7	-10
	comp=Z,315nm,26.8s						
PPT2				eSS	SS	22 09 17.6	-27
	comp=Z,214nm,30.0s						
PPT	**Papeete**	**28.66**	**83**	P	**P**	**22 02 27.3**	**+0.8**
	comp=Z,106nm,1.1s,baz=270,slow=4.0,SNR=6.6						
	comp=Z,106nm,1.1s						
TVO	**Taravao**	**28.90**	**84**	eP	**P**	**22 02 27.9**	**-0.7**
	comp=Z,41nm,0.9s						
CNB	**Canberra Magne**	**29.31**	**240**	P	**P**	**22 02 33.3**	**+1.3**
CAN	**Canberra**	**29.60**	**240**	P	**P**	**22 02 35.2**	**+0.7**
CAN	**Canberra**	**29.60**	**240**	P	**P**	**22 02 35.3**	**+0.9**
PMOR	**Pomariorio Ree**	**31.03**	**80**	eP	**P**	**22 02 47.6**	**+0.7**
	comp=Z,83nm,1.0s						
CMSA	**Cobar Meteorol**	**31.68**	**248**	P	**P**	**22 02 52.7**	**+0.4**
QLP	**Quilpie**	**32.85**	**257**	P	**P**	**22 03 02.8**	**+0.5**
TOO	**Toolangi**	**32.90**	**237**		**P**	**22 03 03.1**	**+0.4**
TOO				IAmb	IAmb	22 03 04.1	
	comp=Z,14nm,0.6s						
CORO	**Coronation Par**	**32.91**	**229**	P	**P**	**22 03 03.8**	**+1.2**
MOO	**Moorlands**	**33.27**	**228**	P	**P**	**22 03 06.0**	**+0.4**
TAU	**Tasmania Unive**	**33.37**	**227**		**P**	**22 03 07.1**	**+0.6**
TAU	**Tasmania Unive**	**33.37**	**227**	P	**P**	**22 03 06.9**	**+0.5**
MTSU	**Mount Surprise**	**34.15**	**272**	P	**P**	**22 03 13.8**	**+0.4**
STKA	**Stephens Creek**	**35.18**	**248**		**P**	**22 03 22.0**	**+0.2**
STKA	**Stephens Creek**	**35.18**	**248**	P	**P**	**22 03 21.9**	**0.0**
	comp=Z,32nm,0.6s,baz=95,slow=11,SNR=94						
	comp=Z,32nm,0.6s						
STKA	**Stephens Creek**	**35.18**	**248**	P	**P**	**22 03 22.3**	**+0.4**
ARPS	**Mount Arapiles**	**35.58**	**239**	P	**P**	**

SYO Syowa Base 83.29 193⇓eP P 22 08 43.0 +0.4
ELIB Princess Elisa 83.30 187 dP P 22 08 43.8 +1.0
comp=Z,3.8nm,0.7s
GSC Goldstone, Bar 83.49 47 P P 22 08 45.2 +0.8
GSC IAmb IAmb 22 08 46.6
comp=Z,15nm,1.1s
GLA Glamis 83.59 50 P P 22 08 46.4 +1.6
GLA IAmb IAmb 22 08 47.9
comp=Z,32nm,0.9s
WAKR Walker 83.66 43 P P 22 08 46.6 +1.3
WAKR IAmb IAmb 22 08 47.8
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 83.68 39 P P 22 08 46.7 +1.6
HATC Hat Creek Radi 83.83 40 P P 22 08 46.9 +1.0
HATC IAmb IAmb 22 08 48.3
comp=Z,24nm,0.9s
PNTR Pine Nut 83.91 43 P P 22 08 47.3 +0.8
PNTR IAmb IAmb 22 08 49.3
comp=Z,21nm,0.9s
DSP Deep Springs 83.92 45 P P 22 08 47.6 +1.4
GRAC Grapevine Rang 84.09 45 P P 22 08 48.5 +1.3
GRAC IAmb IAmb 22 08 49.8
comp=Z,24nm,1.1s
LHV Little Huntoon 84.09 44 P P 22 08 48.8 +1.7
LHV IAmb IAmb 22 08 49.7
comp=Z,12nm,1.0s
113A Mohawk Valley, 84.18 51 P P 22 08 49.1 +1.5
113A IAmb IAmb 22 08 50.5
comp=Z,14nm,1.1s
BLYC Blythe 84.18 49 P P 22 08 49.0 +1.3
BLYC IAmb IAmb 22 08 50.5
comp=Z,13nm,1.0s
L04D Klamath Falls 84.22 39 IAmb IAmb 22 08 50.2
comp=Z,27nm,1.3s
DBO Dodson Butte 84.26 38 P P 22 08 49.6 +1.6
HSIG 84.26 55 P P 22 08 49.4 +1.2
HSIG IAmb IAmb 22 08 50.7
comp=Z,25nm,0.9s
RYN Ryan 84.31 44 P P 22 08 49.0 +0.6
NVAR Mina Array Bea 84.33 44 P P 22 08 49.6 +1.1
NVAR Mina Array Bea 84.33 44 P P 22 08 48.7 +0.1
comp=Z,4.5nm,0.9s,baz=220,slow=7.4,SNR=21
comp=Z,4.5nm,0.9s
PAHR Pah Rah Range 84.41 42 P P 22 08 49.6 +0.7
NV11 Mina Array Sit 84.42 44 P P 22 08 49.8 +0.8
TROLL Troll, Antarti 84.52 181 ⇑P P 22 08 49.7 +0.7
comp=Z,355nm,0.5s
COYC Coyhaique 84.75 138 P P 22 08 52.1 +1.8
SNAA Sanae 84.84 179 ⇑P P 22 08 50.1 -0.3
comp=Z,48nm,0.6s
SNAA Sanae 84.84 179 P P 22 08 50.4 0.0
comp=Z,1.4nm,0.5s,baz=194,slow=14,SNR=13
comp=Z,1.4nm,0.5s
J04A Umpqua Nationa 84.98 38 P P 22 08 53.4 +1.8
J04A IAmb IAmb 22 08 54.1
comp=Z,30nm,1.0s
V12A Nelson 85.05 48 P P 22 08 53.5 +1.5
BUCK Buck Mountain 85.09 37 IAmb IAmb 22 08 55.2
comp=Z,44nm,1.4s
SHPR Sheep Range 85.27 47 P P 22 08 54.4 +1.2
J05D Fort Rock, OR 85.50 39 P P 22 08 55.9 +1.8
J05D IAmb IAmb 22 08 56.6
comp=Z,14nm,0.8s
PRN Pahroc Range 85.85 46 IAmb IAmb 22 08 58.5
comp=Z,10.0nm,0.9s
PINE Pine Mountain 85.98 38 IAmb IAmb 22 08 59.9
comp=Z,20nm,1.2s
LL02 Futaleuf 86.04 136 P 22 08 58.9 +2.2
LL01 San Ignacio de 86.07 135 IAmb IAmb 22 08 59.5
comp=Z,13nm,0.9s
TUC Tucson 86.07 52 P P 22 08 59.0 +2.0
TUC IAmb IAmb 22 09 00.3
comp=Z,21nm,0.9s
WVOR Wild Horse Val 86.50 40 IAmb IAmb 22 09 01.1
comp=Z,12nm,1.1s
I07A Izee 86.98 39 IAmb IAmb 22 09 03.5
comp=Z,20nm,1.0s
G06A Carlson Farm, 87.05 37 IAmb IAmb 22 09 03.4
comp=Z,11nm,1.0s
KNB Kanab 87.12 47 IAmb IAmb 22 09 04.6
comp=Z,11nm,1.0s
J08A Circle Bar Ran 87.14 40 IAmb IAmb 22 09 04.1
comp=Z,30nm,1.3s
U15A North Rim 87.17 48 IAmb IAmb 22 09 05.1
comp=Z,16nm,0.9s
WUAZ Wupatki 87.32 49 IAmb IAmb 22 09 05.5
comp=Z,12nm,1.2s
GNW Green Mountain 87.34 35 IAmb IAmb 22 09 04.8
comp=Z,9.2nm,0.9s
LR05 Currie 87.37 133 P P 22 09 04.4 +1.4
LR05 IAmb IAmb 22 09 06.2
comp=Z,31nm,1.1s
CBB Campbell River 87.69 32 IAmb IAmb 22 09 07.0
comp=Z,22nm,1.4s
PKCU Pink Cliffs 87.69 47 IAmb IAmb 22 09 08.1
comp=Z,17nm,0.9s
X18A Snowflake 87.81 51 IAmb IAmb 22 09 07.8
comp=Z,6.1nm,0.8s
ZAIG Zacatecas 87.89 64 IAmb IAmb 22 09 09.0
comp=Z,12nm,1.0s
MXC Moxie City 88.07 36 IAmb IAmb 22 09 08.1
comp=Z,11nm,0.8s
PLCA Paso Flores 88.09 134 IAmb IAmb 22 09 09.7
comp=Z,18nm,1.1s
PLCA Paso Flores 88.09 134 P P 22 09 08.2 +1.7
comp=Z,10nm,1.1s,baz=235,slow=5.8,SNR=6.8
comp=Z,10nm,1.1s
MTPU Mount Pierson 88.10 47 IAmb IAmb 22 09 09.8
comp=Z,10nm,0.9s
E07A Sunnyside 88.29 37 IAmb IAmb 22 09 09.4
comp=Z,13nm,0.8s
HAWA Hanford 88.37 37 IAmb IAmb 22 09 09.7
comp=Z,20nm,1.1s
MFID Camas Ranch 88.75 41 IAmb IAmb 22 09 11.4
comp=Z,16nm,0.9s
TLIG Tlapa 89.01 70 IAmb IAmb 22 09 14.1
comp=Z,21nm,1.0s
D08A Wollman Farm, 89.11 37 IAmb IAmb 22 09 13.0
comp=Z,10nm,0.9s
SEY Seymchan 89.18 348 P P 22 09 10.4 -0.3
comp=Z,1.5nm,0.6s,baz=167,slow=6.0,SNR=7.7
comp=Z,1.5nm,0.6s
E09A Wood Farm, Sta 89.21 37 IAmb IAmb 22 09 13.0
comp=Z,8.6nm,1.0s
Q16A Castle Valley 89.23 46 IAmb IAmb 22 09 15.3
comp=Z,8.6nm,0.8s
MPU Maple Canyon 89.51 45 IAmb IAmb 22 09 15.3
comp=Z,10nm,1.0s
PLID Pearl Lake 89.60 39 IAmb IAmb 22 09 15.1
comp=Z,18nm,1.4s
BI02 San Fabin de 89.61 130 IAmb IAmb 22 09 16.0
comp=Z,16nm,0.8s
VHRN Van Horn 89.64 56 IAmb IAmb 22 09 16.5
comp=Z,12nm,0.9s
HLID Hailey 89.68 41 IAmb IAmb 22 09 16.1
comp=Z,8.4nm,0.9s
HVU Hansel Valley 89.72 43 IAmb IAmb 22 09 16.0
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 89.86 290 P P 22 09 14.6 -0.3
comp=Z,0.7nm,0.4s,baz=149,slow=3.8,SNR=6.8
CMAR pP pwP 22 11 13.8 -2.9
comp=Z,0.5nm,0.3s,baz=136,slow=3.4,SNR=1.6
CMAR PKKPbc PKKPbc 22 26 44.3 +0.8
comp=Z,0.8nm,0.3s,baz=272,slow=4.1,SNR=7.9
comp=Z,0.7nm,0.4s
TX31 Lajitas Ar. Si 89.98 58 IAmb IAmb 22 09 18.1
comp=Z,14nm,0.8s
TXAR Lajitas Array 89.98 58 P P 22 09 17.1 +1.8
TXAR Lajitas Array 89.98 58 P P 22 09 16.8 +1.4
comp=Z,9.2nm,0.7s,baz=212,slow=6.5,SNR=95
comp=Z,9.2nm,0.7s
P18A Preston Nutter 90.22 46 IAmb IAmb 22 09 18.6
comp=Z,7.0nm,0.9s
HWUT Hardware Ranch 90.39 44 IAmb IAmb 22 09 18.6
comp=Z,7.5nm,0.7s
PV10 Paradox Valley 90.39 48 IAmb IAmb 22 09 18.7
comp=Z,16nm,1.1s
PV23 Carpenter Ridg 90.45 48 IAmb IAmb 22 09 19.4
comp=Z,10.0nm,0.8s
ALPN Alpine 90.47 57 IAmb IAmb 22 09 19.9
comp=Z,12nm,0.9s
ANMO Albuquerque 90.51 52 P P 22 09 18.9 +1.1
ANMO IAmb IAmb 22 09 19.9
comp=Z,11nm,1.1s
AHID Auburn Hatcher 91.29 43 IAmb IAmb 22 09 23.9
comp=Z,8.4nm,0.8s
SAND Sanderson 91.45 58 IAmb IAmb 22 09 23.9
comp=Z,11nm,0.9s
S22A 4UR Ranch, Cre 91.60 49 IAmb IAmb 22 09 25.1
comp=Z,9.9nm,1.0s
ILAR Eielson Array 91.75 13 P P 22 09 21.7 -0.9
comp=Z,0.6nm,0.7s,baz=223,slow=5.9,SNR=4.1
ILAR pP pwP 22 11 21.7 -0.8
comp=Z,1.2nm,1.0s,baz=225,slow=5.2,SNR=4.6
comp=Z,0.6nm,0.7s
PD31 Pinedale Array 92.27 44 IAmb IAmb 22 09 27.2
comp=Z,7.7nm,1.3s
PDAR Pinedale Array 92.27 44 P P 22 09 26.1 +0.4
PDAR Pinedale Array 92.27 44 P P 22 09 25.9 +0.2
comp=Z,3.0nm,0.7s,baz=218,slow=3.5,SNR=28
PDAR PP PP 22 13 14.4 -1.6
comp=Z,0.4nm,0.8s,baz=279,slow=2.9,SNR=4.0
comp=Z,3.0nm,0.7s
YHL Hebgen Lake 92.33 41 IAmb IAmb 22 09 31.0
comp=Z,4.8nm,1.0s
SDCO Great Sand Dun 92.52 50 IAmb IAmb 22 09 28.8
comp=Z,4.4nm,0.8s
MSTX Muleshoe 92.75 54 IAmb IAmb 22 09 29.8
comp=Z,16nm,1.4s
HNDO Hondo 93.50 59 IAmb IAmb 22 09 33.6
comp=Z,11nm,0.8s
BRDY Brady 94.46 58 IAmb IAmb 22 09 37.2
comp=Z,7.3nm,1.2s
SONM Songino Array 97.24 319 pP pP 22 11 48.5 +3.1
comp=Z,0.4nm,0.7s,baz=118,slow=5.4,SNR=3.3
SONM PKKPbc PKKPbc 22 26 25.6 -0.1
comp=Z,0.7nm,0.5s,baz=282,slow=3.0,SNR=6.7
ZALV Zalesovo Beam 112.08 321 PKiKP PKiKP 22 14 45.6 -1.2
comp=Z,0.4nm,0.5s,baz=169,slow=1.5,SNR=3.9
MKAR Makanchi Array 112.34 313 PKiKP PKiKP 22 14 46.7 -0.9
comp=Z,1.0nm,0.6s,baz=198,slow=0.8,SNR=20
MKAR SKP 22 17 30.3
comp=Z,0.5nm,0.8s,baz=90,slow=2.9,SNR=3.8
MKAR PKKPbc PKKPbc 22 25 39.5 -0.6
comp=Z,0.9nm,0.9s,baz=272,slow=1.6,SNR=7.0
MKAR PKKPab PKKPab 22 25 50.4 +1.8
comp=Z,2.2nm,0.9s,baz=279,slow=4.3,SNR=13
KURBB Kurchatov Arra 115.40 316 PKP PKPdf 22 14 52.1 -1.2
comp=Z,1.3nm,0.6s,baz=107,slow=1.7,SNR=15
KURBB SKP 22 17 37.0
comp=Z,0.9nm,1.0s,baz=110,slow=1.9,SNR=4.9
BOOM Boomskoye usch 116.05 307 PKiKP 22 14 55.1 +0.1
BDFB Brasilia 118.57 125 PKP PKPdf 22 14 59.9 -0.7
comp=Z,1.8nm,0.7s,baz=225,slow=1.4,SNR=3.7
GAR Garm 119.78 303 PKPdf PKiKP 22 15 02.4 0.0
BVAR Borovoye Array 120.58 319 PKP PKPdf 22 15 02.2 -0.9
comp=Z,2.2nm,0.5s,baz=90,slow=2.9,SNR=12
SPITS Spitsbergen Ar 124.97 356 PKP PKPdf 22 15 10.3 -0.7
comp=Z,8.6nm,0.7s,baz=355,slow=3.2,SNR=7.9
ARTI Arti 127.09 324 PKP PKPdf 22 15 14.4 -1.1
comp=Z,3.3nm,0.6s,baz=48,slow=3.8,SNR=6.6
ARCES ARCESS Array B 131.79 348 PKP PKPdf 22 15 23.6 -0.5
comp=Z,3.4nm,0.6s,baz=57,slow=1.7,SNR=24
KMBO Kilima Mbogo 136.56 241 SKPbc SKPbc 22 18 18.1 +0.8
comp=Z,6.2nm,0.9s,baz=61,slow=4.3,SNR=14
FINES FINESS Array B 138.40 342 PKhKP PKPpre 22 15 26.2
comp=Z,2.9nm,0.8s,baz=29,slow=4.4,SNR=4.3
FINES PKP PKPdf 22 15 37.1 +0.5
comp=Z,4.4nm,0.8s,baz=343,slow=2.0,SNR=5.2
FINES SKPbc SKPbc 22 18 20.8 0.0
comp=Z,10nm,0.8s,baz=59,slow=3.3,SNR=15
NB2 NORSAR Subarra 141.96 352 PKP PKPdf 22 15 38.3 -4.8
comp=Z,2.2nm,0.7s,baz=24,slow=3.7
NOA NORSAR Array B 141.96 352 PKhKP PKPpre 22 15 38.6
comp=Z,0.6nm,0.5s,baz=40,slow=1.2,SNR=7.4
HFS Hagfors 142.45 349 PKhKP PKPpre 22 15 39.7
comp=Z,6.8nm,0.5s,baz=66,slow=3.6,SNR=42
HFS SKPbc SKPbc 22 18 30.1 -1.2
comp=Z,4.9nm,0.8s,baz=350,slow=1.8,SNR=3.6
AKASG Malin Array Be 145.04 328 PKP PKPdf 22 15 48.2 -0.6
comp=Z,4.5nm,0.6s,baz=46,slow=4.0,SNR=40
AKASG pPKP pPKPdf 22 17 56.5 +2.6
comp=Z,4.0nm,0.9s,baz=45,slow=3.8,SNR=6.5
AKASG SKPbc SKiKP 22 18 38.1 -0.1
comp=Z,8.0nm,0.8s,baz=46,slow=2.6,SNR=16
AKBB Malin Array Si 145.04 328 PKP PKPbc 22 15 48.8 -0.7
KIEV Kiev 145.05 328 PKPdf PKPbc 22 15 48.9 -0.7
KIEV Kiev 145.05 328 ⇑P PKPbc 22 15 49.0 -0.5
KIEV Kiev 145.05 328 PKP PKPbc 22 15 48.8 -0.7
SUW Suwalki 145.27 336 ePKP PKPbc 22 15 50.0 -0.1
MI28 Mi28,Pidlybu 145.64 329 PKP PKPbc 22 15 50.6 -0.6
RNPP9 Sopatchiv 146.12 331 PKP PKPbc 22 15 51.4 -1.2
KPL Plonkton 146.12 6 eP PKPbc 22 15 52.3 -0.1
LUBAR Lubar, Ukraine 146.26 328 PKP PKPbc 22 15 51.7 -1.4
DRUM Mains of Drumt 146.77 3 eP PKPbc 22 15 53.8 -0.4
SORM Soroca 147.10 325 ⇑P PKPbc 22 15 54.6 -0.7
INVG Invergeldie, C 147.16 5 eP PKPbc 22 15 54.7 -0.5
LAWE Loch Awe, Argy 147.21 6 eP PKPbc 22 15 54.9 -0.5
HORU Horodok 147.38 328 PKP PKPdf 22 15 53.5 +0.8
CIDE Kastamonu/Cide 147.49 312 ⇑P PKiKP 22 15 58.3 +0.1
MILM Milestii Mici 147.57 323 ⇓P PKPbc 22 15 55.1 -1.5
PGBU Glenifferbraes 147.73 5 eP PKPbc 22 15 56.0 -0.8
BR131 Keskin Array S 147.80 308 PKPbc 22 15 57.2 -0.5
BRTR Keskin Array B 147.80 308 PKPbc PKPbc 22 15 56.5 -1.1
comp=Z,1.7nm,0.6s,baz=144,slow=3.2,SNR=11
BRTR pPKP pPKPab 22 18 00.9 -0.6
comp=Z,1.1nm,0.9s,baz=135,slow=3.5,SNR=5.2
BR104 Keskin Array S 147.81 308 PKP PKPdf 22 15 54.5 +0.6
BR106 Keskin Array S 147.81 308 PKP PKPdf 22 15 54.5 +0.6
BR105 Keskin Array S 147.82 308 PKP PKPdf 22 15 54.5 +0.5
BEL Belsk 147.88 336 ePKP PKiKP 22 15 57.6 -1.0
EKA Eskdalemuir Ar 148.31 4 PKPbc PKPbc 22 15 57.5 -0.7
comp=Z,2.4nm,0.4s,baz=352,slow=3.0,SNR=21
TLCR 148.56 320 ⇓P PKPbc 22 15 58.2 -1.0
VLDR Vladesti 148.61 322 ⇑P PKPbc 22 15 59.2 0.0
GAL1 Galloway 148.65 6 eP PKPbc 22 15 58.4 -0.7
KWP Kalwaria Pacla 148.81 332 ePKP PKiKP 22 15 59.9 -0.8
EDMD Edmundbyers 148.87 3 eP PKPbc 22 15 58.7 -0.9
CFR Carcaliu 148.96 320 ⇑P PKiKP 22 16 00.4 -0.7
TPGR Topolog 148.97 320 ⇓P PKiKP 22 16 00.6 -0.6
TESR Tescani 149.01 324 ⇑P PKPbc 22 15 59.9 -0.3
BURAR Bucovina Array 149.05 327 PKiKP 22 16 01.4 +0.1
BURAR Bucovina Array 149.05 327 ⇑P PKiKP 22 16 01.6 +0.2
TIRR Tirgusor 149.20 319 ⇑P PKPbc 22 16 00.4 -0.3
ONER Baraj Valea Uz 149.26 324 ⇑P PKiKP 22 16 01.8 +0.1
HARR Harsova 149.35 320 ⇑P PKiKP 22 16 01.6 -0.3
VRI Vrincioaia 149.36 323 ⇑P PKPbc 22 16 00.6 -0.5
PLOR Plostina 149.41 323 ⇑P PKPbc 22 16 01.1 -0.2
MANR Mangalia 149.43 318 ⇓P PKiKP 22 16 02.0 -0.1
KOLS Kolonicke sedl 149.52 331 ePKP PKiKP 22 16 02.6 +0.4
KOLS e 22 16 10.2
KOLS e 22 18 09.9
OJC Ojcow 149.55 335 ePKP PKiKP 22 16 01.9 -0.2
STHS Stebnicka Huta 149.60 333 ePKP PKPbc 22 16 01.3 -0.3
OZUR 149.74 324 ⇑P PKiKP 22 16 02.7 0.0
HPK Haverah Park 149.76 2 eP PKiKP 22 16 01.8 -0.6
NEHR Nehoiu 149.87 322 ⇑P PKiKP 22 16 02.5 -0.6
NIE Niedzica 149.99 334 ePKP PKiKP 22 16 03.6 +0.4
MLR Muntele Rosu 150.03 323 PKPbc PKiKP 22 16 03.2 -0.3
MLR Muntele Rosu 150.03 323 ⇑P PKPbc 22 16 02.2 -0.7
BORA Eskisehir 150.03 310 PKPbc PKPbc 22 16 02.5 -0.5
DOPR Dopca 150.03 324 ⇑P PKiKP 22 16 03.4 +0.1
KSP Ksiaz 150.26 340 ePKP PKiKP 22 16 04.0 +0.4
CBBR Cluj-Babes-Bol 150.46 327 ⇑P PKiKP 22 16 04.0 -0.1
CJR Cluj-Napoca 150.47 327 ⇓P PKiKP 22 16 04.2 0.0
MESR Meseseni 150.49 328 ⇑P PKPbc 22 16 03.3 -0.5
LANS Liptovska Anna 150.53 334 ePKP PKiKP 22 16 05.1 +0.8
LANS e 22 18 14.3
STEB Steborice 150.53 337⇑ePKP PKiKP 22 16 03.6 -0.6
OSTC Ostas 150.54 339⇑ePKP PKiKP 22 16 04.7 +0.5
VOIR 150.55 323 ⇑P PKiKP 22 16 04.0 -0.5
CHVC Chvalec 150.56 340⇑ePKP PKiKP 22 16 03.7 -0.6
UPC Upice 150.64 340⇑ePKP PKiKP 22 16 04.4 0.0
DPC Dobruska-Polom 150.68 339⇑ePKP PKiKP 22 16 04.6 0.0
FOEL Foel Wylfa 150.74 5 eP PKPbc 22 16 03.4 -0.7
MARR Marisel-Cluj 150.74 327 ⇓P PKPbc 22 16 03.9 -0.5
MORC Moravsky Berou 150.75 337 PKPbc PKiKP 22 16 04.5 -0.2
MORC Moravsky Berou 150.75 337 ePKP PKiKP 22 16 04.7 0.0
MORC Moravsky Berou 150.75 337 ⇓P PKiKP 22 16 04.9 +0.2
CLL Collm 150.80 344 PKPbc PKiKP 22 16 04.5 -0.1
CLL Collm 150.80 344 i PKPbc PKiKP 22 16 04.4 -0.3
comp=Z,26nm,0.8s
CLL e(PKPab) PKPab 22 16 13.0 -0.8
CLL epPKPab pPKPbc 22 18 09.0 +0.6
CLL ex x 22 18 14.0
ARR Arges 150.82 324 ⇑P PKPdf 22 15 59.4 +1.0
DRGR 150.86 328 ⇑P PKPbc 22 16 03.4 -1.2
BRG Berggiesshubel 150.94 342 i PKP PKiKP 22 16 05.1 +0.1
BRG Amp 22 16 05.7
comp=Z,14nm,0.7s
BRG pPKP pPKPab 22 18 12.2 -1.3
BRG Amp 22 18 14.9
comp=Z,5.4nm,1.1s
MAUC Maruska 150.99 336⇑ePKP PKiKP 22 16 05.6 +0.4
CWF Charnwood Fore 150.99 2 eP PKPbc 22 16 04.3 -0.3
PVCC Panska Ves 151.07 341⇑ePKP PKiKP 22 16 05.6 +0.3
JAVC Velka Javorina 151.46 336 ePKP PKiKP 22 16 07.4 +1.2
VRAC Vranov 151.48 338 ePKP PKiKP 22 16 06.2 0.0
PRU Pruhonice 151.56 341⇑ePKP PKiKP 22 16 06.5 +0.2
KRUC Moravsky 151.75 338 ePKP PKiKP 22 16 06.7 -0.1
GZR Gura Zlata 151.79 326 ⇑P PKPbc 22 16 06.1 -0.7
SURR Surduc 151.88 327 ⇑P PKPbc 22 16 05.4 -1.5
MODS Modra-Piesok 152.01 336 ePKP PKiKP 22 16 07.7 +0.4
BZS Buzias 152.23 327 ⇑P PKPbc 22 16 06.1 -1.5
HERR Herculane 152.33 325 ⇑P PKiKP 22 16 07.7 -0.3
KHC Kasperske Hory 152.61 341⇑ePKP PKiKP 22 16 08.5 -0.1
CKRC Cesky Krumlov 152.66 340⇑ePKP PKiKP 22 16 08.7 0.0
MDVR Moldovita 152.76 326 ⇑P PKPbc 22 16 08.3 -0.6
GERES GERESS Array B 152.82 341 PKPbc PKiKP 22 16 08.8 -0.3
comp=Z,2.4nm,0.8s,baz=15,slow=5.5,SNR=4.8
MORH Mrgy, Hungar 153.18 331 ⇑P PKiKP 22 16 09.6 -0.1
DBIC Dimbokro 162.30 162 PKP PKPdf 22 16 12.6 -1.2
comp=Z,3.4nm,0.8s,baz=210,slow=2.1,SNR=3.9
DBIC PKPab PKPab 22 17 05.7 +1.3
comp=Z,4.7nm,0.9s,baz=177,slow=6.9,SNR=3.8
ESDC Sonseca Array 163.65 12 PKPab PKPab 22 17 10.1 +0.2
comp=Z,0.4nm,0.6s,baz=310,slow=6.1,SNR=4.6
TORD Torodi Ar. Bea 169.42 187 PKPab PKPab 22 17 35.9 +0.1
TORD Torodi Ar. Bea 169.42 187 PKP PKPdf 22 16 18.9 -0.4
comp=Z,2.6nm,1.0s,baz=216,slow=4.6,SNR=8.5
TORD PKPab PKPab 22 17 36.4 +0.6
comp=Z,1.0nm,0.6s,baz=196,slow=1.8,SNR=4.7

IDC 17 22:08:34.3±0.8, 12°.85S×45°.34E, h0km, mb3.8/6, mbtmp3.9/8, ML4.5/3, MS3.6/2, Error ellipse: s-maj=26.1km s-min=21.5km az=63.0
NEIC 17 22:08:36.4±1.6, 12°.90S±0°.09×45°.22E±0°.09, h10km±1km, mb4.6/15, Error ellipse: s-maj=17.9km s-min=10.8km az=222.0

ISC 17 22:08:35.2±0.5, 12°.99S±0°.05×45°.29E±0°.07, h10km, n46, n2911/53, mb4.3/13, 1D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.54	96	P	Pn	22 09 41.9	-2.1
SBV				S	Sn	22 10 27.8	-9.0
OPO	Ambohidratompo	5.84	162	Pn	Pn	22 10 03.5	+1.3
8.4nm,0.3s,baz=334,slow=12,SNR=795							
OPO				Sn	Sn	22 11 05.2	-4.1
6.2nm,0.3s,baz=251,slow=20,SNR=12							
OPO	Ambohidratompo	5.84	162	P	Pn	22 10 04.0	+1.8
OPO				S	Sn	22 11 04.8	-4.6
FIRM	Firavahana	5.88	165	P	Pn	22 10 04.6	+1.9
FIRM				S	Sn	22 11 06.9	-3.4
ATG	Ambohiby	5.92	172	P	Pn	22 10 04.8	+1.6
ABPO	Ambohimpanom	6.28	163	Pn	Pn	22 10 09.2	+1.1
ABPO	Ambohimpanom	6.28	163	P	Pn	22 10 09.5	+1.4
ABPO				S	Sn	22 11 15.3	-4.8
DGRM	Ambatolahisoa	6.33	170	P	Pn	22 10 10.6	+1.7
DGRM				S	Sn	22 11 19.4	-1.9
AVY	Angavokely	6.36	159	P	Pn	22 10 10.2	+0.9
AVY				S	Sn	22 11 17.6	-4.5
ABM	Ambohimiarambe	7.04	164	P	Pn	22 10 20.3	+1.6
VOI	Vohitsoka	8.99	171		Pn	22 10 46.1	+0.9
ZOMB	Zomba	9.93	255	ePN	Pn	22 11 00.7	+2.5
ZOMB				eSN	Sn	22 12 44.9	-5.0
FOMA	Nahampoana Res	12.03	173	Pn	Pn	22 11 28.0	+1.1
KIBK	Kibwezi	12.78	325		Pn	22 11 34.7	-2.5
RER	Riviere de l'E	12.88	131	Pn	Pn	22 11 38.7	+0.1
KMBO	Kilima Mbogo	14.22	325		Pn	22 11 53.9	-3.2
KMBO	Kilima Mbogo	14.22	325	Pn	Pn	22 11 54.0	-3.1
0.3nm,0.3s,baz=129,slow=13,SNR=5.2							
KMBO				Sn	Sn	22 14 35.8	+0.6
0.2nm,0.3s,baz=38,slow=23,SNR=2.2							
0.7nm,0.4s							
LSZ	Lusaka	16.74	260	P	Pn	22 12 30.1	-0.1
LSZ	Lusaka	16.74	260	Pn	Pn	22 12 31.0	+0.9
0.3nm,0.3s,baz=79,slow=7.9,SNR=13							
LSZ				LR	LR	22 18 46.7	
comp=Z,68nm,18.5s,baz=80,slow=36							
6.3nm,0.8s							
LBTB	Lobatse	22.10	234	P	P	22 13 32.5	+1.6
LBTB				IAmb	IAmb	22 13 36.7	
comp=Z,15nm,1.2s							
BOSA	Boshof	24.28	227	P	P	22 13 54.3	+1.3
BOSA	Boshof	24.28	227	P	P	22 13 54.6	+1.6
comp=Z,2.4nm,0.5s,baz=57,slow=9.6,SNR=14							
comp=Z,2.4nm,0.5s							
PALK	Pallekele	40.53	62	P	P	22 16 14.7	-0.3
PALK				IAmb	IAmb	22 16 42.7	
comp=Z,12nm,1.1s							
TORD	Torodi Ar. Bea	50.41	299	P	P	22 17 33.0	-0.3
TORD				IAmb	IAmb	22 17 37.3	
comp=Z,1.5nm,0.8s							
SYO	Syowa Base	56.10	182⇓	eP	P	22 18 17.0	+2.7
AB31	Akbulak array	63.31	11	P	P	22 19 05.0	+0.8
AB31				IAmb	IAmb	22 19 06.4	
comp=Z,2.0nm,0.8s							
ABKAR	Akbulak array	63.31	11	P	P	22 19 04.9	+0.7
ABKAR				IAmb	IAmb	22 19 06.3	
comp=Z,2.0nm,0.8s							
ABKAR	Akbulak array	63.31	11	P	P	22 19 04.7	+0.5
MKAR	Makanchi Array	68.12	26	P	P	22 19 36.0	+0.6
comp=Z,0.2nm,0.6s,baz=209,slow=6.1,SNR=3.8							
comp=Z,0.2nm,0.6s							
SENIN	Lac Senin/Sane	68.23	333	P	P	22 19 34.9	-1.5
SENIN				IAmb	IAmb	22 19 57.9	
comp=Z,13nm,1.4s							
ESDC	Sonseca Array	69.57	321	P	P	22 19 46.3	+1.7
comp=Z,0.6nm,0.7s,baz=138,slow=6.5,SNR=5.3							
comp=Z,0.6nm,0.7s							
FINES	FINESS Array B	75.73	351	P	P	22 20 21.7	+1.0
QSPA	South Pole Qui	77.11	180	P	P	22 20 30.5	+1.6
QSPA				IAmb	IAmb	22 21 05.5	
comp=Z,10nm,1.5s							
QSPA	South Pole Qui	77.11	180	P	P	22 20 31.3	+2.5
comp=Z,1.1nm,0.8s,baz=244,slow=2.8,SNR=5.5							
comp=Z,1.1nm,0.8s							
ASAR	Alice Springs	83.64	113	P	P	22 21 05.3	+0.6
ASAR	Alice Springs	83.64	113	P	P	22 21 05.7	+0.9
comp=Z,0.8nm,0.6s,baz=264,slow=4.9,SNR=16							
comp=Z,0.8nm,0.6s							
WRA	Warramunga Arr	84.78	109	P	P	22 21 11.0	+0.5
comp=Z,0.6nm,0.7s,baz=259,slow=3.1,SNR=11							
comp=Z,0.6nm,0.7s							
WB0	Warramunga Arr	84.87	109	P	P	22 21 11.5	+0.5
WB0				IAmb	IAmb	22 21 20.3	
comp=Z,11nm,1.4s							
WR8	Warramunga Arr	84.93	109	P	P	22 21 11.8	+0.5
WR8				IAmb	IAmb	22 21 21.5	
comp=Z,5.8nm,1.2s							
FAKI	Fak Fak	86.39	92	P	P	22 21 19.0	+0.3
STKA	Stephens Creek	88.50	122	LR	LR	22 56 41.0	
comp=Z,68nm,18.9s,baz=202,slow=33							
EIDS	Eidsvold	98.33	118	P	P	22 22 13.8	-0.1
ANGG	Ammassalik, Gr	98.82	335	P	P	22 22 14.3	-0.6
YKA	Yellowknife Ar	128.52	348	PKP	PKPdf	22 27 40.1	-2.0
comp=Z,0.2nm,0.6s,baz=20,slow=2.0,SNR=2.4							
TXAR	Lajitas Array	146.94	304	PKPbc	PKPbc	22 28 19.2	+0.3
comp=Z,0.3nm,0.6s,baz=104,slow=4.9,SNR=4.3							
NVAR	Mina Array Bea	150.76	333	PKPbc	PKPbc	22 28 26.9	-1.6
comp=Z,0.4nm,0.6s,baz=11,slow=1.2,SNR=2.0							

HEL 17 22:17:36.0±0.4, 67°.83N×20°.23E, h0km, ML0.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.70	71	PG	Pg	22 17 48.2	-1.2
LANU				SG	Sg	22 17 57.4	-1.1
KIF	Kilpisjarvi	1.20	10	PG	Pg	22 17 58.3	-0.7
KIF				MSG		22 18 13.6	
comp=Z,0.7nm,0.2s							
KIF				SG	Sg	22 18 13.7	-0.9
HEF	Hetta	1.41	64	PN	Pg	22 18 03.0	0.0
HEF				MSG		22 18 18.5	
comp=Z,0.4nm,0.2s							
HEF				SN	Sn	22 18 23.4	+1.2
ERTU	Ertsjaerv	1.49	148	PN	Pn	22 18 03.3	-0.6
ERTU				SN	Sn	22 18 25.4	+1.3
KLF	Kolari	1.55	111	MSG		22 18 22.7	
comp=Z,0.4nm,0.2s							
KLF				SN	Sn	22 18 25.6	0.0

KTK1	Kautokeino	1.63	42	SN	Sg	22 18 28.4	+0.1
TOF	Tornio	2.38	136	MSG		22 18 46.5	
	comp=Z,0.2nm,0.2s						
TOF				SG	Sb	22 18 49.5	-0.1
RNF	Rovaniemi	2.56	116	SG	Sb	22 18 54.3	-0.5
ARA0	ARCESS Array S	2.58	46	SG	Sb	22 18 54.3	-1.1

GCG ***17*** *22:26:10.5±3.0, 14°.80N×94°.78W, h50km, MD4.6*
MEX ***17*** *22:26:13.6±2.1, 15°.21N×94°.70W, h16km±24km, MD4.0*
ISC 17 22:26:06.7±1.6,**15°.03N**±0°.06×**94.79W**±0°.02,**h14**km±11km,
n30,σ2**52**/54,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.47	300	*e*P	Pg	22 26 36.2	+1.3
HUIG				*e*S	Sb	22 26 52.6	+0.3
HUIG	Huatulco	1.47	300	*i* P	Pg	22 26 36.4	+1.5
HUIG				*e*S	Sb	22 26 52.7	+0.3
HUIG	Huatulco	1.47	300	*i* P		22 26 36.4	
HUIG				*e*S		22 26 52.7	
CARR	Arriaga	1.48	35	*e*P	Pg	22 26 34.9	-0.2
CARR				*i* S	Sb	22 26 52.7	-0.1
NILT	Santiago Nilte	1.54	6	*e*P	Pg	22 26 36.2	-0.1
NILT				*i* S	Sn	22 26 50.4	-3.2
PCIG		1.66	66	*e*P	Pb	22 26 37.3	+0.2
PCIG				*e*S	Sn	22 26 54.0	-2.5
CMIG	Matias Romero	2.06	358	*e*P	Pg	22 26 45.2	-1.0
CMIG				*i* S	Sb	22 27 07.9	-1.4
UXUV	UXUV	2.36	15	*e*P	Pb	22 26 50.1	+1.0
UXUV				*e*S	Sn	22 27 14.9	+1.0
TGIG		2.37	42	*e*P	Pb	22 26 49.4	+0.1
TGIG				*e*S	Sb	22 27 17.8	-0.6
TGIG		2.37	42	*i* P	Pb	22 26 49.3	+0.1
TGIG		2.37	42	*i* P		22 26 49.3	
PEIG	Puerto Escondi	2.47	293	*e*P	Pb	22 26 50.3	-0.6
PEIG				*e*S	Sn	22 27 17.9	+1.3
PATR	El Naranjo	2.47	88	*e*P	Pn	22 26 48.8	+1.9
PATR				*e*S	Sn	22 27 15.8	-1.2
PAVE	Pavencul	2.53	86	*e*P	Pn	22 26 49.6	+2.0
PAVE				*e*S	Sn	22 27 18.4	0.0
VHO	Vista Hermosa	2.76	318	*e*P	Pb	22 26 56.1	+0.1
VHO				*e*S	Sb	22 27 27.8	-2.0
NEUV	Arroyo Zacate	2.84	340	*e*P	Pb	22 26 57.1	-0.2
NEUV				*e*S	Sn	22 27 27.5	+1.7
CCIG	Comitan	2.85	64	*e*P	Pb	22 26 56.5	-0.9
CCIG				*i* S	Sb	22 27 30.2	-2.0
CCIG	Comitan	2.85	64	*i* P	Pb	22 26 57.0	-0.5
CCIG	Comitan	2.85	64	*i* P		22 26 57.0	
YOIG	Yosondua	3.21	305	*e*P	Pb	22 27 03.1	-0.7
YOIG				*e*S	Sn	22 27 38.1	+2.7
STG8	El Palmar, Qui	3.38	99	*e*P		22 26 57.4	
PNIG	Pinotepa	3.49	293	*e*P	Pb	22 27 05.9	-2.4
PNIG				*e*S	Sn	22 27 42.0	+0.2
TXIG	Tlaxiaco	3.62	308	*e*P	Pb	22 27 09.3	-1.3
TXIG				*e*S	Sn	22 27 49.4	+4.1
TOIG	Toxpalan	3.75	325	*e*P	Pb	22 27 12.2	-0.6
TOIG				*e*S	Sn	22 27 48.8	+0.4
HLIG	Huajuapan de L	4.01	314	*e*P	Pb	22 27 15.1	-2.3
HLIG				*e*S	Sb	22 28 01.7	-4.3
TPIG	Tehuac#an	4.18	324	*e*	Sb	22 28 07.4	-3.2
MGIG	Malinaltepec	4.29	301	*e*P	Pb	22 27 18.9	-3.3
MGIG				*i* S	Sn	22 28 02.4	+0.5
FTIG	Fresnillo de T	4.30	312	*e*P	Pb	22 27 19.8	-2.4
FTIG				*e*S	Sn	22 28 05.8	+3.9
TLIG	Tlapa	4.42	305	*e*P	Pn	22 27 18.7	+5.2
TLIG				*e*S	Sn	22 28 03.5	-1.3
CRIG	Cruz Grande	4.51	293	*e*P	Pn	22 27 16.7	+2.1
CRIG				*e*S	Sn	22 28 06.7	-0.3
JAUV	Jalcomulco	4.72	336	*e*P	Pn	22 27 21.7	+4.1
JAUV				*e*S	Sn	22 28 12.3	0.0
PPM	Popocatepetl	5.44	318	*e*P	Pb	22 27 37.1	-4.8
PPM				*e*S	Sn	22 28 37.9	+7.3
YAIG	Yautepec	5.59	314	*e*P	Pn	22 27 36.4	+6.7
YAIG				*e*S	Sn	22 28 27.4	-6.6
ARIG	Puente Sto Nin	6.23	302	*e*P	Pn	22 27 45.8	+7.5
ARIG				*e*S	Sn	22 28 44.1	-5.4

MOS ***17*** *22:53:08.6±1.2, 41°.13N×142°.31E, h50km, mb4.5/14, Error ellipse: s-maj=9.2km s-min=5.4km az=87.8*
NEIC ***17*** *22:53:09.4±1.7, 41°.03N±0°.06×142°.42E±0°.09, h35km±2km, mb4.4/39, Error ellipse: s-maj=14.4km s-min=6.0km az=134.0*
JMA ***17*** *22:53:10.2±0.1, 41°.0N±0°.4×142°.5E±0°.8, h49km±4km, MD4.1/36, MV4.4/36, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
NIED ***17*** *22:53:10.2, 41°.04N×142°.45E, h49km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.04; Mθθ=1.17; Mφφ=-1.13; Mrθ=0.51; Mθφ=-0.04; Mφr=0.13; Fault plane solution: M0=1.26000×10^15 NP1: φs=138.00000°, δ=70.00000°, λ=9.00000°. NP2: φs=45.00000°, δ=82.00000°, λ=160.00000°.*
IDC ***17*** *22:53:11.4±2.0, 41°.05N×142°.43E, h65km±16km, mb3.6/20, mbtmp3.9/26, MS3.1/3 Error ellipse: s-maj=18.2km s-min=12.8km az=111.0*
ISC 17 22:53:09.5±0.8,**41°.05N**±0°.04×**142°.49E**±0°.04,**h46**km±7km,
n144,σ1**27**/146,**mb4.3**/48,**9C-16D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	Aomorirokkasho	0.85	268	⇓*i*P	Pn	22 53 25.6	+0.6
JARK				⇓S	Sn	22 53 36.8	+0.4
JARK	Aomorirokkasho	0.85	268	A	A	22 53 25.6	
	comp=N,11nm,0.6s,comp=E,6.0nm,0.8s						
JAHD	Aomorihigashid	0.90	284	⇓*i*P	Pn	22 53 26.3	+0.6
JAHD				⇓*e*S	Sn	22 53 38.0	+0.4
JAHD	Aomorihigashid	0.90	284	A	A	22 53 26.3	
	comp=N,20nm,0.9s,comp=E,11nm,0.7s						
JANG	Nango	1.00	228	*i* P	Pn	22 53 27.8	+0.7
JANG				S	Sn	22 53 40.6	+0.5
JANG	Nango	1.00	228	A	A	22 53 27.8	
	comp=N,10.0nm,0.3s,comp=E,13nm,1.3s						
JKEN	Kujiedanarisaw	1.03	215	*i* P	Pn	22 53 27.8	+0.3
JKEN				*e*S	Sn	22 53 40.6	-0.2
JKEN	Kujiedanarisaw	1.03	215	A	A	22 53 27.8	
	comp=N,17nm,0.3s,comp=E,13nm,1.2s						
ERM	Erimo	1.09	27	Pn	Pn	22 53 30.0	+1.6
ERM					Sn	22 53 44.3	+2.0
ERM	Erimo	1.09	27	*c i*P	Pn	22 53 29.8	+1.5
JEM	Erimo	1.09	27	*i* P	Pn	22 53 29.9	+1.5
JEM				*e*S	Sn	22 53 44.0	+1.7
JTM	Tenmabayashi	1.11	257		Pn	22 53 29.1	+0.5
JTM					Sn	22 53 41.7	-1.0
JTM	Tenmabayashi	1.11	257	⇓*i*P	Pn	22 53 29.4	+0.8
JTM				⇓S	Sn	22 53 43.3	+0.6
JTM	Tenmabayashi	1.11	257	A	A	22 53 29.4	
	comp=N,11nm,0.5s,comp=E,13nm,0.4s						
JOT	Ohata	1.14	288	⇓*i*P	Pn	22 53 29.4	+0.4
JOT				⇓S	Sn	22 53 43.4	0.0
JOT	Ohata	1.14	288	A	A	22 53 29.4	
	comp=N,7.0nm,1.0s,comp=E,5.0nm,0.4s						
JNBK	Urakawa-nobuka	1.25	9	*i* P	Pn	22 53 32.1	+1.6
JNBK	Urakawa-nobuka	1.25	9	A	A	22 53 32.1	
	comp=N,4.0nm,1.3s,comp=E,5.0nm,4.2s						
JKB	Kayabe	1.38	308	*i* P	Pn	22 53 32.7	+0.4
JKB				S	Sn	22 53 49.4	+0.1
JKZ	Kuzumaki	1.38	220	A	A	22 53 33.2	
	comp=N,5.0nm,1.4s,comp=E,8.0nm,1.5s						
JIAM	Iburiatsuma	1.63	345	P	Pn	22 53 38.1	+2.4
JIAM	Iburiatsuma	1.63	345	A	A	22 53 38.1	
	comp=N,15nm,0.7s,comp=E,10.0nm,0.8s						
JSR	Shiriuchi	1.63	288	⇓*i*P	Pn	22 53 36.6	+0.9
JSR				⇓S	Sn	22 53 56.4	+0.8
JAH	Hinai	1.65	239	⇓*i*P	Pn	22 53 37.1	+1.2
JCH	Churui	1.70	22	*i* P	Pn	22 53 38.1	+1.5
JCH				*e*S	Sn	22 53 58.7	+1.6
JBT2	Biratori 2	1.73	357	P	Pn	22 53 38.6	+1.5
JOM	Ohasama	1.82	211	*i* P	Pn	22 53 39.6	+1.2
JOM	Ohasama	1.82	211	A	A	22 53 39.6	
	comp=N,4.0nm,0.3s,comp=E,5.0nm,0.3s						
JEW	Eniwo	1.95	337	*e*P	Pn	22 53 41.3	+1.2
JEW				*e*S	Sn	22 54 04.9	+1.5
JRG	Rokugo	2.18	221	A	A	22 53 44.6	
	comp=N,3.0nm,0.9s,comp=E,3.0nm,2.4s						
ASAJ	Asahikawa	3.07	1	P	Pn	22 53 56.9	+1.4
	comp=E,96nm,0.4s,baz=224,slow=10,SNR=90						
ASAJ				S	Sn	22 54 33.0	+2.2
	comp=E,33nm,0.4s,baz=242,slow=30,SNR=4.1						
JKA	Kamikawa-asahi	3.07	2	Pn	Pn	22 53 56.8	+1.4
NMR	Nemuro--Hokkai	3.34	45	*e*P	Pn	22 53 59.2	0.0
NMR				*e*S	Sn	22 54 34.2	-3.4
JMM	Marumori	3.44	203		Pn	22 54 01.2	+0.7
RUSJ	Misakicho	3.67	33	⇓*i*P	Pn	22 54 04.7	+1.0
RUSJ				*e*S	Sn	22 54 46.3	+0.6
YUK	Yuzh-Kuril'sk	3.89	39	*e*P	Pn	22 54 08.6	+1.9
YUK				*e*S	Sn	22 54 48.8	-2.3
YUK				pmax	pmax		
	comp=E,58nm,0.4s						
YUK				pmax	pmax		
	comp=Z,291nm,0.4s						
YUK				pmax	pmax		
	comp=N,109nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,450nm,0.2s						
JSD	Sado	4.44	229	Pn	Pn	22 54 15.2	+0.9
MJB9	Matsu-Tunnel	5.60	218	Pn	Pn	22 54 30.3	0.0
MAJO	Matsushiro	5.60	218	Pn	Pn	22 54 30.2	-0.1
MAJO	Matsushiro	5.60	218	*de*P	Pn	22 54 31.7	+1.4
MJAR	Matsushiro Arr	5.60	218	P	Pn	22 54 32.9	+2.6
	comp=E,13nm,0.4s,baz=35,slow=13,SNR=51						
MJAR				LR	LR	22 56 47.7	
	comp=E,73nm,20.6s,baz=32,slow=39						
KUR	Kuril'sk	5.74	41	*e*P	Pn	22 54 33.1	+1.0
KUR				*e*S	Sn	22 55 35.3	-1.3
TEY	Ternei	5.87	315	*e*P	Pn	22 54 44.5	+11
YSS	Yuzhno-Sakhali	5.91	2	Pn	Pn	22 54 35.3	+1.0
YSS	Yuzhno-Sakhali	5.91	2	*e*P	Pn	22 54 36.1	+1.7
YSS				pmax	pmax		
	comp=Z,80nm,1.0s						
JGF	Kuroka	6.77	218		Pn	22 54 46.9	+0.6
INU	Inuyama	7.13	219	Pn	Pn	22 54 51.6	+0.4
USA0B	Ussuriysk Arra	8.36	296	⇑*e*P	Pn	22 55 05.1	-2.9
USRK	Ussuriysk Ar.	8.36	296	P	Pn	22 55 09.3	+1.4
	comp=Z,4.2nm,0.7s,baz=103,slow=13,SNR=8.5						
PSTR	Posyet	8.87	284	*de*P	Pn	22 55 13.8	-1.1
TYV	Tymovskoe	9.82	1	*e*P	Pn	22 55 29.5	+1.6
TYV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,300nm,4.9s						
JMN	Monobe	10.01	226	Pn	Pn	22 55 32.6	+1.9
KLR	Kul'dur	11.15	321	P	Pn	22 55 49.0	+2.9
	comp=Z,1.2nm,0.7s,baz=120,slow=14,SNR=4.3						
KLR	Kul'dur	11.15	321	*e*P	Pn	22 55 46.8	+0.7
KLR				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KSRS	Korea Array	11.85	257	P	Pn	22 56 01.3	+5.6
	comp=Z,2.6nm,0.6s,baz=66,slow=13,SNR=9.4						
PETK	Petropavlovsk-	15.86	35	P	Pn	22 56 50.0	+0.6
	comp=Z,1.2nm,0.9s,baz=207,slow=10,SNR=1.6						
ZEA	Zeya	16.31	326	*e*P	Pn	22 56 53.0	-2.1
MA2	Magadan	19.26	13	P	P	22 57 29.5	-0.3
	comp=Z,3.4nm,0.4s,baz=188,slow=14,SNR=4.7						
MA2	Magadan	19.26	13	*de*P	P	22 57 29.3	-0.6
MA2				pmax	pmax		
	comp=Z,15nm,1.7s						
YAK	Yakutsk	22.39	344	*e*P	P	22 58 00.4	-3.2
YAK				*e**PP	pP	22 58 10.4	-3.8
YAK				*e*PPP	PPP	22 58 32.7	
YAK				*e*		23 01 54.0	
YAK				*e*S	S	23 02 04.7	-1.6
YAK				*e**SS	Sn	23 02 21.2	+0.2
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,122nm,4.2s						
YAK				pmax	pmax		
	comp=N,68nm,4.9s						
YAK				pmax	pmax		
	comp=E,126nm,5.3s						
YAK				smax	smax		
	comp=E,63nm,5.2s						
YAK				smax	smax		
	comp=N,112nm,5.3s						
SEY	Seymchan	22.70	12	*e*P	P	22 58 03.5	-3.4
SEY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	Songino Array	26.47	297	P	P	22 58 41.9	-0.3
	comp=Z,0.3nm,0.5s,baz=90,slow=9.2,SNR=4.2						
	comp=Z,0.3nm,0.5s						
H11N2	WAKE ISLAND Hy	29.73	128	T	T	23 30 25.6	
	baz=320,slow=75,SNR=98						
H11N1	WAKE ISLAND Hy	29.74	128	T	T	23 30 54.8	
	baz=320,slow=75,SNR=99						
H11N3	WAKE ISLAND Hy	29.75	128	T	T	23 30 56.2	
	baz=320,slow=75,SNR=127						
BILL	Bilibino	29.95	18	*ce*P	P	22 59 13.0	+0.1
BILL				pmax	pmax		
	comp=Z,12nm,1.7s						
H11S1	WAKE ISLAND Hy	30.57	130	T	T	23 31 57.5	
	baz=322,slow=76,SNR=58						
H11S3	WAKE ISLAND Hy	30.58	130	T	T	23 32 01.2	
	baz=322,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	30.59	130	T	T	23 32 01.3	
	baz=322,slow=76,SNR=36						
TIXI	Tiksi	31.43	352	LR	LR	23 14 49.2	
	comp=Z,35nm,18.0s,baz=224,slow=41						
C16K	Lisburne Hills	38.75	28	P	P	23 00 28.5	-0.4
C16K				IAmb	IAmb	23 00 31.1	
	comp=Z,5.6nm,0.8s						
ZAA0	Zalesovo Array	39.94	309	P	P	23 00 38.9	0.0
ZALV	Zalesovo Beam	39.94	309	P	P	23 00 38.5	-0.4
	comp=Z,2.3nm,0.5s,baz=91,slow=8.7,SNR=11						
	comp=Z,2.3nm,0.5s						
NRIK	Noril'sk	40.02	333	P	P	23 00 38.9	-0.5
	comp=Z,1.2nm,0.3s,baz=94,slow=12,SNR=4.0						
NRIK				LR	LR	23 17 37.1	
	comp=Z,41nm,18.4s,baz=134,slow=37						
	comp=Z,1.2nm,0.3s						
NRIK	Noril'sk	40.02	333	⇑*e*P	P	23 00 39.2	-0.2
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
C18K	Utukok River	40.33	28	P	P	23 00 42.0	-0.1
C18K				IAmb	IAmb	23 00 45.2	
	comp=Z,5.3nm,0.8s						
G18K	Tagagawik	40.79	33	P	P	23 00 47.0	+1.1
F19K	Shaleruckik Mo	41.27	31	P	P	23 00 50.1	+0.3
G19K	Purcell Mounta	41.46	32	P	P	23 00 52.2	+0.9
E19K	Redstone River	41.57	30	P	P	23 00 53.4	+1.2
E19K				IAmb	IAmb	23 00 56.2	
	comp=Z,3.7nm,0.6s						
H19K	Roundabout Mou	41.66	33	P	P	23 00 54.4	+1.5
H19K				IAmb	IAmb	23 00 55.4	
	comp=Z,7.2nm,0.7s						
B20K	Meade River	42.02	27	P	P	23 00 56.3	+0.5
B20K				IAmb	IAmb	23 01 01.5	
	comp=Z,7.5nm,0.7s						
MK31	Makanchi Array	42.81	299	P	P	23 01 02.6	-0.1
MK31	Makanchi Array	42.81	299	*de*P	P	23 01 02.2	-0.4
MKAR	Makanchi Array	42.81	299	P	P	23 01 02.1	-0.5
	comp=Z,1.3nm,0.6s,baz=85,slow=10,SNR=18						
	comp=Z,1.3nm,0.6s						
B21K	Ikpikpuk River	42.83	27	P	P	23 01 03.0	+0.6
B21K				IAmb	IAmb	23 01 05.6	
	comp=Z,5.7nm,0.8s						
G21K	Allakaket	42.93	32	P	P	23 01 04.1	+0.8
G21K				IAmb	IAmb	23 01 07.7	
	comp=Z,8.2nm,1.2s						
F21K	Alatna River	42.99	31	P	P	23 01 05.2	+1.4
MAKZ	Makanchi	43.02	299	P	P	23 01 04.0	-0.3
MAKZ	Makanchi	43.02	299	P	P	23 01 04.0	-0.3
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
B22K	Teshekpuk Lake	43.33	26	P	P	23 01 06.6	+0.2
D22K	Ayikyak River	43.42	29	P	P	23 01 08.3	+1.1
D22K				IAmb	IAmb	23 01 10.8	
	comp=Z,4.2nm,0.8s						
E22K	Anaktuvuk Pass	43.69	30	P	P	23 01 10.5	+1.0
KURK	Kurchatov	44.21	305	P	P	23 01 13.5	-0.3
KURK				IAmb	IAmb	23 01 13.9	
	comp=Z,4.4nm,0.8s						
KURK	Kurchatov	44.21	305	⇑*e*P	P	23 01 12.9	-0.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	Kurchatov Arra	44.29	305	P	P	23 01 13.8	-0.7
	comp=Z,3.7nm,0.6s,baz=78,slow=8.6,SNR=19						
	comp=Z,3.7nm,0.6s						
E23K	Chandalar	44.51	30	P	P	23 01 17.3	+1.3
E23K				IAmb	IAmb	23 01 20.0	
	comp=Z,5.7nm,1.0s						
D24K	Happy Valley	44.83	28	P	P	23 01 19.6	+1.1
E24K	Your Creek	44.93	30	P	P	23 01 20.6	+1.3
E24K				IAmb	IAmb	23 01 23.5	
	comp=Z,2.7nm,0.7s						
F24K	Squaw Lake	45.16	31	P	P	23 01 22.3	+1.1
COLA	College	45.27	34	⇑*e*P	P	23 01 24.1	+2.1
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
IL31		45.69	34	P	P	23 01 26.7	+1.4
IL31				IAmb	IAmb	23 01 49.1	
	comp=Z,2.8nm,0.9s						
ILAR	Eielson Array	45.69	34	P	P	23 01 25.9	+0.6
	comp=Z,1.6nm,0.8s,baz=251,slow=6.3,SNR=23						
	comp=Z,1.6nm,0.8s						
D25K	Kavik River	45.70	28	P	P	23 01 26.1	+0.6
PRP	Porcupine Dome	46.20	33	P	P	23 01 30.8	+1.2
PRP				IAmb	IAmb	23 01 35.8	
	comp=Z,7.5nm,1.1s						
F26K	Sheenjek River	46.59	30	P	P	23 01 34.3	+1.9
C27K	Jago River	46.63	28	P	P	23 01 34.0	+1.3
SCRK	Sand Creek	47.02	35	P	P	23 01 37.1	+1.1
SCRK				IAmb	IAmb	23 01 38.6	
	comp=Z,7.9nm,1.2s						
E28M	Babbage River	48.21	29	P	P	23 01 46.9	+1.9
E28M				IAmb	IAmb	23 01 55.5	
	comp=Z,3.8nm,1.4s						
BVAR	Borovoye Array	48.56	310	P	P	23 01 47.6	-0.3
	comp=Z,3.5nm,0.5s,baz=75,slow=9.1,SNR=17						
	comp=Z,3.5nm,0.5s						
BRVK	Borovoye	48.62	310	⇑*e*P	P	23 01 47.6	-0.7
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
E29M	Blow River	48.84	29	P	P	23 01 51.5	+1.6
E29M				IAmb	IAmb	23 01 52.6	
	comp=Z,3.4nm,0.9s						
I30M	Mount Dempster	50.03	33	P	P	23 02 00.8	+1.7
INK	Inuvik	50.45	29	P	P	23 02 03.1	+1.1
INK	Inuvik	50.45	29	P	P	23 02 03.1	+1.1
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
F31M	Tsiigehtchic	50.57	30	P	P	23 02 04.2	+1.3
F31M				IAmb	IAmb	23 02 20.8	
	comp=Z,6.1nm,1.1s						
H31M	Peel River	50.72	32	P	P	23 02 05.3	+1.1
ARTI	Arti	54.06	317	*c i*P	P	23 02 29.4	+0.4
ARTI						23 03 34.7	
ARTI						23 04 29.2	
ARTI				S	S	23 10 02.7	+1.0
ARTI				SS	SS	23 13 43.4	+0.4
ARTI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ABKAR	Akbulak array	56.05	308	P	P	23 02 43.3	-0.2
ABKAR				IAmb	IAmb	23 02 43.8	
	comp=Z,3.5nm,0.6s						
ABKAR	Akbulak array	56.05	308	P	P	23 02 43.3	-0.2
EUNU	Eureka	56.10	9	P	P	23 02 43.7	+0.2
EUNU				IAmb	IAmb	23 02 44.5	
	comp=Z,3.0nm,0.8s						
SPITS	Spitsbergen Ar	56.76	349	P	P	23 02 48.5	+0.4
	comp=Z,3.2nm,0.8s,baz=33,slow=3.4,SNR=8.3						
	comp=Z,3.2nm,0.8s						
KIRV	Kirov	57.59	322	⇑*e*P	P	23 02 55.6	+1.5
RES	Resolute Bay	58.51	15	P	P	23 03 00.5	+0.1
RES				IAmb	IAmb	23 03 01.6	
	comp=Z,4.8nm,1.1s						
RES	Resolute Bay	58.51	15	P	P	23 03 00.5	+0.1
RES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
YKA	Yellowknife Ar	59.94	32	P	P	23 03 11.0	+0.6
	comp=Z,0.3nm,0.6s,baz=298,slow=7.1,SNR=4.8						
	comp=Z,0.3nm,0.6s						
YKA	Yellowknife Ar	59.94	32	P	P	23 03 11.0	+0.6
ARCES	ARCESS Array B	60.55	339	P	P	23 03 15.8	+1.2
	comp=Z,3.5nm,0.9s,baz=36,slow=6.8,SNR=4.1						
	comp=Z,3.5nm,0.9s						
WRA	Warramunga Arr	61.15	189	P	P	23 03 18.3	-0.9
	comp=Z,0.3nm,0.5s,baz=6.3,slow=6.9,SNR=6.2						
	comp=Z,0.3nm,0.5s						
WRA	Warramunga Arr	61.15	189	*i* P	P	23 03 21.3	+2.2
ASAR	Alice Springs	64.88	189	P	P	23 03 43.3	-0.5
	comp=Z,0.3nm,0.7s,baz=359,slow=7.6,SNR=4.1						
	comp=Z,0.3nm,0.7s						
FINES	FINESS Array B	65.67	332	P	P	23 03 47.6	-0.9
	comp=Z,2.9nm,0.9s,baz=48,slow=6.6,SNR=7.0						
	comp=Z,2.9nm,0.9s						
FINES	FINESS Array B	65.67	332	*i* P	P	23 03 47.9	-0.6
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	Kislovodsk	68.93	310	P	P	23 04 10.5	+0.9
KIV	Kislovodsk	68.93	310	*e*P	P	23 04 10.0	+0.3
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	Khabaz	68.94	310	P	P	23 04 10.0	+0.4
	comp=Z,1.5nm,0.9s,baz=45,slow=8.6,SNR=1.8						
	comp=Z,1.5nm,0.9s						
HFS	Hagfors	70.78	336	P	P	23 04 20.0	-0.6
	comp=Z,3.1nm,0.8s,baz=45,slow=6.7,SNR=5.2						
	comp=Z,3.1nm,0.8s						
HFS	Hagfors	70.78	336	P	P	23 04 20.0	-0.6
NB2	NORSAR Subarra	70.81	337	P	P	23 04 19.9	-0.9
	comp=Z,0.3nm,0.4s,baz=36,slow=6.5						
NOA	NORSAR Array B	70.81	337	P	P	23 04 19.9	-0.9
	comp=Z,0.5nm,0.5s,baz=32,slow=4.8,SNR=2.0						
	comp=Z,0.5nm,0.5s						
AKASG	Malin Array Be	71.64	322	P	P	23 04 24.3	-1.6
	comp=Z,0.3nm,0.4s,baz=46,slow=6.7,SNR=4.6						
	comp=Z,0.3nm,0.4s						
BRTR

CIRR	**Tsirk**	**2.78**	**312**	*eP*	**Pn**	**23 04 00.9**	**+0.8**
CIRR				*eS*	**Sn**	**23 04 32.7**	**-1.5**
LGNR	**Loginova**	**2.79**	**311**	PN	**Pn**	**23 04 01.3**	**+1.1**
LGNR				S	**Sn**	**23 04 33.1**	**-1.3**
LGNR	**Loginova**	**2.79**	**311**	*eP*	**Pn**	**23 04 01.4**	**+1.1**
LGNR				*eS*	**Sn**	**23 04 33.1**	**-1.3**
BZWR	**Bezymyannyi-We**	**2.80**	**308**	PN	**Pn**	**23 04 00.6**	**+0.3**
BZWR				S	**Sn**	**23 04 32.7**	**-2.0**
BZWR	**Bezymyannyi-We**	**2.80**	**308**	*eP*	**Pn**	**23 04 00.7**	**+0.3**
BZWR				*eS*	**Sn**	**23 04 32.7**	**-2.0**
KMNR	**Kamenistaya**	**2.81**	**303**	PN	**Pn**	**23 04 00.9**	**+0.4**
KMNR	**Kamenistaya**	**2.81**	**303**	*eP*	**Pn**	**23 04 00.9**	**+0.4**
SMKR	**Semkarok**	**2.84**	**325**	PN	**Pn**	**23 04 00.8**	**+0.1**
SMKR				S	**Sn**	**23 04 33.4**	**-2.0**
SMKR	**Semkarok**	**2.84**	**325**	*eP*	**Pn**	**23 04 00.8**	**+0.1**
SMKR				*eS*	**Sn**	**23 04 33.5**	**-2.0**
KIRR	**Kirishev**	**2.87**	**307**	PN	**Pn**	**23 04 01.2**	**0.0**
KIRR				S	**Sn**	**23 04 34.4**	**-1.8**
KIRR	**Kirishev**	**2.87**	**307**	*eP*	**Pn**	**23 04 01.2**	**0.0**
KIRR				*eS*	**Sn**	**23 04 34.5**	**-1.8**
SPN	**Mys Shipunski**	**2.88**	**247**	PN	**Pn**	**23 04 00.9**	**-0.3**
SPN	**Mys Shipunski**	**2.88**	**247**	*eP*	**Pn**	**23 04 01.0**	**-0.3**
SPN				*eS*	**Sn**	**23 04 32.4**	**-3.9**
KRSR	**Krestovskiy**	**2.92**	**313**	PN	**Pn**	**23 04 01.5**	**-0.5**
KRSR				S	**Sn**	**23 04 35.6**	**-2.0**
KRSR	**Krestovskiy**	**2.92**	**313**	*eP*	**Pn**	**23 04 01.5**	**-0.5**
KRSR				*eS*	**Sn**	**23 04 35.6**	**-2.0**
KPT	**Kopyto**	**2.93**	**306**	PN	**Pn**	**23 04 02.7**	**+0.7**
KPT	**Kopyto**	**2.93**	**306**	*eP*	**Pn**	**23 04 02.8**	**+0.7**
KII	**Karymskiy**	**2.94**	**267**	PN	**Pn**	**23 04 02.2**	**+0.1**
KII	**Karymskiy**	**2.94**	**267**	*eP*	**Pn**	**23 04 02.2**	**+0.1**
KII				*eS*	**Sn**	**23 04 34.5**	**-3.4**
KLY	**Klyuchi**	**2.95**	**315**	PN	**Pn**	**23 04 00.8**	**-1.4**
KLY				S	**Sn**	**23 04 34.5**	**-3.5**
KLY	**Klyuchi**	**2.95**	**315**	*eP*	**Pn**	**23 04 00.8**	**-1.4**
KLY				*eS*	**Sn**	**23 04 34.6**	**-3.5**
KOZ	**Kozyrevsk**	**3.15**	**306**	PN	**Pn**	**23 04 05.5**	**+0.6**
KOZ				S	**Sn**	**23 04 41.2**	**-1.7**
KOZ	**Kozyrevsk**	**3.15**	**306**	*eP*	**Pn**	**23 04 05.6**	**+0.6**
KOZ				*eS*	**Sn**	**23 04 41.2**	**-1.7**
NLC	**Nalytchevo**	**3.22**	**251**	PN	**Pn**	**23 04 06.0**	**+0.1**
NLC	**Nalytchevo**	**3.22**	**251**	*eP*	**Pn**	**23 04 06.0**	**+0.1**
NLC				*eS*	**Sn**	**23 04 39.7**	**-5.0**
SRDR	**Sredinnyy**	**3.36**	**309**	PN	**Pn**	**23 04 08.5**	**+0.5**
SRDR				S	**Sn**	**23 04 47.5**	**-0.8**
SRDR	**Sredinnyy**	**3.36**	**309**	*eP*	**Pn**	**23 04 08.5**	**+0.5**
SRDR				*eS*	**Sn**	**23 04 47.6**	**-0.8**
SDLR	**Sedlovina**	**3.44**	**255**	PN	**Pn**	**23 04 09.5**	**+0.4**
SDLR	**Sedlovina**	**3.44**	**255**	*eP*	**Pn**	**23 04 09.6**	**+0.4**
SDLR				*eS*	**Sn**	**23 04 47.4**	**-3.0**
UGLR	**Uglovaya**	**3.50**	**254**	PN	**Pn**	**23 04 10.4**	**+0.6**
UGLR	**Uglovaya**	**3.50**	**254**	*eP*	**Pn**	**23 04 10.5**	**+0.6**
UGLR				*eS*	**Sn**	**23 04 47.9**	**-3.9**
KRER	**Koryakskii**	**3.51**	**256**	PN	**Pn**	**23 04 10.9**	**+0.8**
KRER	**Koryakskii**	**3.51**	**256**	*eP*	**Pn**	**23 04 10.9**	**+0.8**
KRER				*eS*	**Sn**	**23 04 49.4**	**-2.8**
AVH	**Avacha**	**3.53**	**255**	PN	**Pn**	**23 04 11.1**	**+0.9**
AVH	**Avacha**	**3.53**	**255**	*eP*	**Pn**	**23 04 11.1**	**+0.9**
AVH				*eS*	**Sn**	**23 04 50.5**	**-1.9**
KRX	**Arik**	**3.55**	**257**	PN	**Pn**	**23 04 11.2**	**+0.6**
KRX	**Arik**	**3.55**	**257**	*eP*	**Pn**	**23 04 11.3**	**+0.6**
KRX				*eS*	**Sn**	**23 04 50.3**	**-2.7**
KOK	**Koryaka**	**3.58**	**256**	PN	**Pn**	**23 04 11.6**	**+0.7**
KOK	**Koryaka**	**3.58**	**256**	*eP*	**Pn**	**23 04 11.7**	**+0.7**
DALK	**Dalny**	**3.60**	**252**	PN	**Pn**	**23 04 11.5**	**+0.3**
DALK	**Dalny**	**3.60**	**252**	*eP*	**Pn**	**23 04 11.5**	**+0.3**
DALK				*eS*	**Sn**	**23 04 49.8**	**-4.4**
PET	**Petropavlovsk**	**3.66**	**252**		**Pn**	**23 04 10.9**	**-1.1**
PET				Sn	**Sn**	**23 04 52.9**	**-2.7**
PET	**Petropavlovsk**	**3.66**	**252**	*e*PN	**Pn**	**23 04 12.6**	**+0.6**
PET	**Petropavlovsk**	**3.66**	**252**	*eP*	**Pn**	**23 04 12.3**	**+0.3**
PET				*eS*	**Sn**	**23 04 51.4**	**-4.2**
ESO	**Esso**	**3.67**	**299**	PN	**Pn**	**23 04 12.0**	**-0.1**
ESO	**Esso**	**3.67**	**299**	*eP*	**Pn**	**23 04 12.1**	**-0.1**
ESO				*eS*	**Sn**	**23 04 51.2**	**-4.5**
GNL	**Ganaly**	**3.87**	**264**	PN	**Pn**	**23 04 16.3**	**+1.3**
GNL	**Ganaly**	**3.87**	**264**	*eP*	**Pn**	**23 04 16.3**	**+1.3**
RUS	**Russkaya**	**4.00**	**245**	PN	**Pn**	**23 04 17.3**	**+0.6**
RUS	**Russkaya**	**4.00**	**245**	*eP*	**Pn**	**23 04 17.3**	**+0.6**
RUS				*eS*	**Sn**	**23 04 59.4**	**-4.6**
KRMR	**Karymshinskiy**	**4.03**	**251**	PN	**Pn**	**23 04 18.3**	**+1.3**
KRMR	**Karymshinskiy**	**4.03**	**251**	*eP*	**Pn**	**23 04 18.4**	**+1.3**
KRMR				*eS*	**Sn**	**23 05 01.4**	**-3.3**
PEA0B	**Petropavlovsk-**	**4.17**	**256**		**Pn**	**23 04 19.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.17**	**256**	PN	**Pn**	**23 04 19.5**	**+0.5**
PETK	**Petropavlovsk-**	**4.17**	**256**	Pn	**Pn**	**23 04 19.3**	**+0.3**
	8.1nm,0.3s,baz=82,slow=18,SNR=86						
PETK				Sn	**Sn**	**23 05 06.9**	**-1.3**
	6.9nm,0.3s,baz=91,slow=19,SNR=2.1						
PETK				LR	LR	23 05 17.1	
	comp=Z,37nm,19.5s,baz=26,slow=30						
	11nm,0.4s						
GRL	**Gorelyy**	**4.18**	**248**	PN	**Pn**	**23 04 20.8**	**+1.5**
GRL	**Gorelyy**	**4.18**	**248**	*eP*	**Pn**	**23 04 20.9**	**+1.5**
GRL				*eS*	**Sn**	**23 05 05.6**	**-3.1**
APC	**Apacha**	**4.54**	**255**	PN	**Pn**	**23 04 26.3**	**+2.3**
APC	**Apacha**	**4.54**	**255**	*eP*	**Pn**	**23 04 26.4**	**+2.3**
APC				*eS*	**Sn**	**23 05 14.8**	**-2.5**
SHEM	**Shemya Is, Ala**	**5.99**	**101**	Pn	**Pn**	**23 04 45.3**	**+1.4**
	5.0nm,0.3s,baz=299,slow=19,SNR=1.3						
SHEM				Sn	**Sn**	**23 05 49.2**	**-3.6**
	5.4nm,0.3s,baz=131,slow=23,SNR=5.9						
SHEM				LR	LR	23 06 59.5	
	comp=Z,127nm,21.7s,baz=172,slow=37						
	32nm,0.6s						
SKR	**Severo-Kuril's**	**6.23**	**238**	*e*PN	**Pn**	**23 04 46.0**	**-1.3**
SKR				pmax	pmax		
	comp=Z,31nm,0.6s						
SKR				MLR	MLR		
	comp=Z,500nm,14.0s						
BILL	**Bilibino**	**13.81**	**3**		S	23 09 55.8	+28
GAMB	**Gambell**	**15.42**	**43**	Pn	**P**	**23 06 59.8**	**+2.4**
ASAJ	**Asahikawa**	**17.45**	**243**	P	**Pn**	**23 07 19.8**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=48,slow=16,SNR=1.7						
	comp=Z,2.8nm,0.4s						
J17K	**VABM Dome**	**20.68**	**49**	P	**P**	**23 07 57.6**	**+2.4**
J17K				IAmb	IAmb	23 08 01.9	
	comp=Z,9.0nm,0.9s						
KLR	**Kul'dur**	**20.73**	**269**	P	**P**	**23 07 56.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=65,slow=14,SNR=4.5						
KLR				LR	LR	23 16 53.5	
	comp=Z,41nm,19.1s,baz=146,slow=40						
	comp=Z,1.4nm,0.8s						
KLR	**Kul'dur**	**20.73**	**269**	*eP*	**P**	**23 07 54.8**	**-1.1**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.8s						
M19K	**Big River Lodg**	**22.70**	**54**	P	**P**	**23 08 15.1**	**-2.0**
USRK	**Ussuriysk Ar.**	**23.26**	**258**	LR	LR	23 18 23.4	
	comp=Z,35nm,21.2s,baz=67,slow=39						
OHAK	**Old Harbor**	**23.69**	**66**	P	**P**	**23 08 24.1**	**-3.0**
PPLA	**Purkeypile**	**23.75**	**51**	P	**P**	**23 08 28.9**	**+1.1**
PPLA				IAmb	IAmb	23 08 33.7	
	comp=Z,10.0nm,1.1s						
CAST	**Castle Rocks**	**23.81**	**50**	P	**P**	**23 08 27.9**	**-0.4**
SYI	**Shuyak Island**	**23.93**	**62**	P	**P**	**23 08 26.5**	**-2.9**
STLK	**Strandline Lak**	**23.93**	**55**	P	**P**	**23 08 30.9**	**+1.5**
STLK				IAmb	IAmb	23 08 33.1	
	comp=Z,4.9nm,0.9s						
KDAK	**Kodiak Island**	**23.96**	**64**	P	**P**	**23 08 25.8**	**-3.9**
KDAK	**Kodiak Island**	**23.96**	**64**	P	**P**	**23 08 25.8**	**-3.9**
KDAK				pmax	pmax		
	comp=Z,33nm,1.2s						
SKT	**Skwentna**	**24.06**	**54**	P	**P**	**23 08 31.9**	**+1.3**
BPAW	**Bear Paw Mtn.**	**24.32**	**48**	P	**P**	**23 08 33.5**	**+0.4**
BPAW				IAmb	IAmb	23 08 35.5	
	comp=Z,10.0nm,1.0s						
KTH	**Kantishna Hill**	**24.33**	**50**	P	**P**	**23 08 33.8**	**+0.6**
KTH				IAmb	IAmb	23 08 36.1	
	comp=Z,11nm,1.1s						
SUA	**Susitna One**	**24.45**	**55**	P	**P**	**23 08 34.3**	**-0.1**
TRF	**Thorofare Moun**	**24.62**	**50**	P	**P**	**23 08 36.7**	**+0.9**
COLD	**Coldfoot**	**24.96**	**41**	P	**P**	**23 08 40.6**	**+1.9**
COLD				IAmb	IAmb	23 08 42.1	
	comp=Z,9.4nm,0.8s						
I23K	**Minto, Yukon-K**	**25.08**	**46**	P	**P**	**23 08 41.0**	**+1.2**
I23K				IAmb	IAmb	23 08 43.2	
	comp=Z,9.4nm,1.1s						
NEA2	**Nenana**	**25.18**	**47**	P	**P**	**23 08 42.2**	**+1.5**
RND	**Reindeer**	**25.26**	**50**	P	**P**	**23 08 41.9**	**+0.3**
RND				IAmb	IAmb	23 08 44.1	
	comp=Z,5.2nm,0.9s						
RND	**Reindeer**	**25.26**	**50**	P	**P**	**23 08 41.9**	**+0.3**
RND				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GHO	**Glory Hole Cre**	**25.30**	**54**	P	**P**	**23 08 40.8**	**-1.1**
MJAR	**Matsushiro Arr**	**25.34**	**236**	P	**P**	**23 08 43.9**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=27,slow=8.5,SNR=5.5						
	comp=Z,2.8nm,0.8s						
TOLK	**Toolik Lake Re**	**25.44**	**38**	P	**P**	**23 08 44.0**	**+0.9**
TOLK				IAmb	IAmb	23 08 46.2	
	comp=Z,10nm,1.0s						
SML	**Sawmill**	**25.58**	**54**	P	**P**	**23 08 44.5**	**0.0**
SML	**Sawmill**	**25.58**	**54**	P	**P**	**23 08 44.5**	**0.0**
SML				pmax	pmax		
	comp=Z,25nm,1.2s						
WRH	**Wood River Hil**	**25.60**	**48**	P	**P**	**23 08 46.3**	**+1.8**
WRH				IAmb	IAmb	23 08 46.6	
	comp=Z,9.6nm,1.0s						
CCB	**Clear Creek Bu**	**25.73**	**47**	P	**P**	**23 08 46.6**	**+0.9**
CCB				IAmb	IAmb	23 08 49.2	
	comp=Z,4.9nm,0.7s						
E24K	**Your Creek**	**25.74**	**39**	P	**P**	**23 08 47.2**	**+1.3**
E24K				IAmb	IAmb	23 08 49.5	
	comp=Z,5.9nm,0.7s						
SCM	**Sheep Creek Mo**	**26.05**	**54**	P	**P**	**23 08 49.0**	**+0.2**
SCM				IAmb	IAmb	23 08 57.1	
	comp=Z,14nm,1.2s						
SCM	**Sheep Creek Mo**	**26.05**	**54**	P	**P**	**23 08 49.0**	**+0.2**
SCM				pmax	pmax		
	comp=Z,14nm,1.2s						
IL31		**26.12**	**47**	P	**P**	**23 08 49.6**	**+0.4**
IL31				IAmb	IAmb	23 08 53.3	
	comp=Z,6.1nm,0.9s						
ILAR	**Eielson Array**	**26.12**	**47**	P	**P**	**23 08 50.9**	**+1.6**
ILAR	**Eielson Array**	**26.12**	**47**	P	**P**	**23 08 49.4**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=257,slow=8.4,SNR=28						
	comp=Z,3.0nm,0.8s						
M24K	**Tolsona, Glenn**	**26.57**	**53**	P	**P**	**23 08 54.4**	**+1.0**
PRP	**Porcupine Dome**	**26.70**	**45**	P	**P**	**23 08 55.9**	**+1.2**
PRP				IAmb	IAmb	23 08 56.6	
	comp=Z,8.9nm,0.9s						
E25K	**Arctic Village**	**26.83**	**40**	P	**P**	**23 08 57.1**	**+1.5**
BMAR	**Burnt Mountain**	**27.15**	**41**	P	**P**	**23 09 00.1**	**+1.5**
N25K	**Chitina, Valde**	**27.37**	**54**	P	**P**	**23 09 00.6**	**-0.1**
N25K				IAmb	IAmb	23 09 02.4	
	comp=Z,4.3nm,0.8s						
DOT	**Dot Lake**	**27.40**	**49**	P	**P**	**23 09 00.1**	**-0.7**
HMT	**Hamilton**	**27.74**	**57**	P	**P**	**23 09 01.1**	**-2.8**
BCAR	**Beaver Creek A**	**28.48**	**50**	P	**P**	**23 09 12.3**	**+1.8**
KSRS	**Korea Array**	**30.05**	**251**	P	**P**	**23 09 24.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=30,slow=7.5,SNR=1.7						
KSRS				LR	LR	23 20 56.2	
	comp=Z,14nm,18.4s,baz=220,slow=35						
	comp=Z,0.7nm,0.4s						
G31M	**Satah River**	**31.18**	**42**	P	**P**	**23 09 35.2**	**+1.0**
G31M				IAmb	IAmb	23 09 36.7	
	comp=Z,3.9nm,1.1s						
INK	**Inuvik**	**31.32**	**39**	P	**P**	**23 09 36.3**	**+0.8**
INK	**Inuvik**	**31.32**	**39**	P	**P**	**23 09 36.3**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
F31M	**Tsiigehtchic**	**31.32**	**41**	P	**P**	**23 09 36.3**	**+0.7**
MMPY	**Sheldon Lake,**	**33.29**	**49**	P	**P**	**23 09 54.4**	**+1.5**
MMPY				IAmb	IAmb	23 09 55.8	
	comp=Z,3.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**34.56**	**176**	T	T	23 47 32.5	
	baz=354,slow=76,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**34.58**	**176**	T	T	23 47 38.9	
	baz=354,slow=76,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**34.58**	**176**	T	T	23 47 49.9	
	baz=354,slow=76,SNR=6.5						
SONM	**Songino Array**	**36.11**	**284**	P	**P**	**23 10 17.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=66,slow=7.2,SNR=5.3						
SONM				PcP	**PcP**	**23 12 41.7**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=60,slow=3.5,SNR=2.4						
SONM				LR	LR	23 26 53.8	
	comp=Z,31nm,19.1s,baz=1.5,slow=39						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**40.51**	**45**	P	**P**	**23 10 55.3**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=298,slow=8.2,SNR=12						
YKA				PcP	**PcP**	**23 12 57.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=291,slow=2.9,SNR=2.7						
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**49.25**	**303**	P	**P**	**23 12 04.8**	**+0.9**
KURK				IAmb	IAmb	23 12 08.8	
	comp=Z,4.2nm,0.9s						
KURK	**Kurchatov**	**49.25**	**303**	P	**P**	**23 12 04.8**	**+0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**49.36**	**303**	P	**P**	**23 12 04.9**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=56,slow=7.9,SNR=15						
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**49.92**	**297**	P	**P**	**23 12 09.6**	**+0.4**
MK31	**Makanchi Array**	**49.92**	**297**	P	**P**	**23 12 09.6**	**+0.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**49.92**	**297**	P	**P**	**23 12 09.7**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=55,slow=7.5,SNR=10						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**51.62**	**310**	P	**P**	**23 12 22.9**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=68,slow=7.6,SNR=7.9						
	comp=Z,1.8nm,0.6s						
MZP	**Montezuma Peak**	**53.95**	**74**	P	P	23 12 29.7	-10
FINES	**FINESS Array B**	**59.99**	**338**	P	**P**	**23 13 21.7**	**0.0**
	comp=Z,2.5nm,0.9s,baz=12,slow=8.9,SNR=4.0						
	comp=Z,2.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.93**	**261**	P	**P**	**23 13 28.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=39,slow=6.7,SNR=1.3						
	comp=Z,0.3nm,0.3s						
NOA	**NORSAR Array B**	**63.05**	**346**	P	**P**	**23 13 42.4**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=15,slow=5.3,SNR=2.4						
	comp=Z,1.2nm,0.8s						
HFS	**Hagfors**	**63.54**	**344**	P	**P**	**23 13 45.2**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=56,slow=3.6,SNR=1.6						
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**67.80**	**70**	P	**P**	**23 14 15.6**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=297,slow=4.5,SNR=24						
	comp=Z,1.4nm,0.6s						
AKASG	**Malin Array Be**	**68.85**	**331**	P	**P**	**23 14 19.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=26,slow=7.3,SNR=2.6						
	comp=Z,0.3nm,0.4s						
KIV	**Kislovodsk**	**70.26**	**319**	*eP*	P	23 14 22.6	-6.2
QSPA	**South Pole Qui**	**144.05**	**180**	PKP	**PKPab**	**23 22 48.5**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=271,slow=1.5,SNR=6.2						

*THE **17** 23:07:32.5, 37°.67N×20°.70E, h7km±1km, ML2.5/13, Error ellipse: s-maj=1.3km s-min=0.4km az=47.0*
*ATH **17** 23:07:32.3, 37°.64N×20°.62E, h11km±2km, ML2.6/23, Manual Solution by A.Andreou First location: 2019/03/17 23:08:26, This location: 2020/08/05 17:57:04 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

ISC 17 23:07:32.2±1.3, 37°.65N±0°.05×20°.67E±0°.04, h9km±7km, n62, σ0°59/88, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.12**	**84**	P	**Pg**	**23 07 34.8**	**-0.3**
KRI1				S	**Sg**	**23 07 36.3**	**-0.8**
	11μm,0.3s						
LTHK	**Lithakia**	**0.15**	**66**	P	**Pg**	**23 07 35.2**	**-0.3**
LTHK				S	**Sg**	**23 07 37.1**	**-0.7**
	17μm,0.5s						
LTHK	**Lithakia**	**0.15**	**66**	P	**Pg**	**23 07 35.1**	**-0.3**
ORTH	**Orthonies,Zaky**	**0.20**	**7**	P	**Pg**	**23 07 37.0**	**+0.5**
ORTH				S	**Sg**	**23 07 40.3**	**+0.9**
KYPS	**Kipseli, Zakin**	**0.21**	**37**	P	**Pg**	**23 07 37.1**	**+0.5**
KYPS				S	**Sg**	**23 07 40.9**	**+1.4**
RTZL	**Ratzakli, Kefa**	**0.43**	**11**	P	**Pg**	**23 07 40.9**	**+0.2**
RTZL				S	**Sg**	**23 07 46.6**	**+0.1**
	680nm,0.3s						
CLEM	**Kyllini,Ilia,G**	**0.44**	**57**	P	**Pb**	**23 07 41.8**	**-0.4**
CLEM				S	**Sg**	**23 07 48.0**	**+1.3**
PSDA	**Pessada-Kefalo**	**0.47**	**352**	P	**Pg**	**23 07 41.7**	**+0.3**
PSDA				S	**Sg**	**23 07 47.5**	**-0.1**
	958nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.47**	**352**	P	**Pg**	**23 07 41.7**	**+0.3**
PSDA				S	**Sg**	**23 07 48.2**	**+0.6**
VLS	**Valsamata**	**0.53**	**354**	P	**Pg**	**23 07 42.6**	**+0.1**
VLS				S	**Sg**	**23 07 49.7**	**+0.1**
	590nm,0.3s						
VLS	**Valsamata**	**0.53**	**354**	P	**Pg**	**23 07 42.6**	**+0.1**
VLS				S	**Sg**	**23 07 49.5**	**0.0**
LXR1	**Lixouri, Cepha**	**0.58**	**342**	P	**Pg**	**23 07 43.1**	**-0.4**
LXR1				S	**Sg**	**23 07 51.7**	**+0.6**
	2μm,0.4s						
SMHA	**Samh**	**0.60**	**359**	P	**Pg**	**23 07 43.0**	**-0.9**
SMHA				S	**Sg**	**23 07 52.0**	**+0.2**
DMLN	**Damoulianata-K**	**0.63**	**339**	P	**Pg**	**23 07 44.7**	**+0.2**
DMLN				S	**Sg**	**23 07 53.3**	**+0.5**
	960nm,0.5s						
DMLN	**Damoulianata-K**	**0.63**	**339**	P	**Pg**	**23 07 44.8**	**+0.3**
YRMI	**Loutra Irminis**	**0.71**	**50**	P	**Pg**	**23 07 45.8**	**-0.1**
YRMI				S	**Sg**	**23 07 55.9**	**+0.8**
RLS	**Riolos of Patr**	**0.75**	**57**	P	**Pg**	**23 07 46.4**	**-0.4**
RLS				S	**Sg**	**23 07 56.7**	**+0.1**
	322nm,0.4s						
RLS	**Riolos of Patr**	**0.75**	**57**	P	**Pg**	**23 07 46.3**	**-0.4**
RLS				S	**Sb**	**23 07 57.9**	**0.0**
VSK1	**VASILIKIADES**	**0.76**	**354**	P	**Pg**	**23 07 46.6**	**-0.4**
VSK1				S	**Sg**	**23 07 57.4**	**+0.5**
	360nm,0.8s						
AXS	**Araxos**	**0.78**	**46**	P	**Pg**	**23 07 46.9**	**-0.5**
AXS				S	**Sg**	**23 07 57.5**	**-0.1**
ZARO	**Zacharo**	**0.80**	**101**	P	**Pg**	**23 07 48.2**	**+0.5**
FSK	**Fiskardo**	**0.81**	**354**	P	**Pg**	**23 07 47.4**	**-0.5**
FSK				S	**Sg**	**23 07 59.0**	**+0.5**
	270nm,0.9s						
FSK	**Fiskardo**	**0.81**	**354**	P	**Pg**	**23 07 47.5**	**-0.5**
FSK				S	**Sg**	**23 07 59.1**	**+0.5**
AMT	**Artemida-Makis**	**0.84**	**98**	P	**Pg**	**23 07 47.9**	**-0.4**
DRO	**Drossia**	**0.88**	**70**	P	**Pg**	**23 07 48.8**	**-0.4**
DRO				S	**Sg**	**23 08 00.8**	**+0.1**
	442nm,0.4s						
DRO	**Drossia**	**0.88**	**70**	P	**Pg**	**23 07 49.1**	**-0.1**
DRO				S	**Sb**	**23 08 02.8**	**+1.2**
EVGI	**Lefkada island**	**0.97**	**360**	P	**Pg**	**23 07 50.1**	**-0.8**
EVGI				S	**Sb**	**23 08 03.9**	**-0.2**
	158nm,0.3s						
EVGI	**Lefkada island**	**0.97**	**360**	P	**Pg**	**23 07 50.2**	**-0.8**
EVGI				S	**Sb**	**23 08 04.2**	**0.0**
DRAG	**Dragano-Lefkad**	**1.03**	**356**	P	**Pg**	**23 07 51.8**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.06**	**1**	P	**Pg**	**23 07 51.5**	**-1.2**
NYDR				S	**Sb**	**23 08 07.3**	**+0.5**
	132nm,0.7s						
NYDR	**Nydri-Lefkada**	**1.06**	**1**	P	**Pg**	**23 07 51.7**	**-1.0**
NYDR				S	**Sb**	**23 08 06.8**	**0.0**
ITM	**Ithomi**	**1.11**	**115**	P	**Pg**	**23 07 52.4**	**-1.1**
LKD2	**Lefkada island**	**1.14**	**360**	P	**Pg**	**23 07 53.1**	**-1.0**
LKD2	**Lefkada island**	**1.14**	**360**	P	**Pg**	**23 07 53.2**	**-1.0**
TSLK	**Tsoukalades, L**	**1.17**	**360**	P	**Pb**	**23 07 54.1**	**-0.6**
TSLK	**Tsoukalades, L**	**1.17**	**360**	P	**Pb**	**23 07 54.3**	**-0.4**
PVO	**Paravola**	**1.18**	**35**	P	**Pb**	**23 07 54.4**	**-0.4**
KLV	**Kalavryta, Ach**	**1.24**	**71**	P	**Pn**	**23 07 54.7**	**-1.1**
KLV	**Kalavryta, Ach**	**1.24**	**71**	P	**Pn**	**23 07 55.7**	**-0.1**
EFP	**Efpalio**	**1.25**	**51**	P	**Pg**	**23 07 56.3**	**+0.1**
SERG	**Sergoula**	**1.34**	**55**	P	**Pn**	**23 07 57.4**	**+0.3**
GUR	**Goura**	**1.36**	**77**	P	**Pn**	**23 07 56.4**	**-1.1**
GUR	**Goura**	**1.36**	**77**	P	**Pn**	**23 07 57.9**	**+0.4**
ANX	**Ano Chora**	**1.37**	**46**	P	**Pn**	**23 07 57.3**	**-0.3**
ANX	**Ano Chora**	**1.37**	**46**	P	**Pn**	**23 07 57.1**	**-0.5**
VLX	**Vlachokerasia**	**1.39**	**101**	P	**Pn**	**23 07 58.4**	**+0.4**
EVR	**Evrytania**	**1.55**	**35**	P	**Pn**	**23 07 59.8**	**-0.4**
LTK	**Loutraki**	**1.86**	**78**	P	**Pn**	**23 08 04.4**	**+0.1**
IGT	**Igoumenitsa**	**1.90**	**352**	P	**Pn**	**23 08

ISC 17 23:28:42.1±1.5, 33°.18N±0°.07×141°.5E±0°.1, h41km, n14, σ1°71/14, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.41**	**268**	*eP*	**Pn**	**23 29 04.3**	**-1.0**
JHJ2				*eS*	**Sn**	**23 29 22.2**	**-0.4**
JHCJ	**Hachijojimakas**	**1.43**	**266**	*eP*	**Pn**	**23 29 04.7**	**-0.8**
JHCJ				*eS*	**Sn**	**23 29 22.1**	**-1.0**
BSO1	**Boso 1**	**1.53**	**344**	*eS*	**Sn**	**23 29 23.2**	**-1.6**
BSO2	**Boso 2**	**1.68**	**339**	*eS*	**Sn**	**23 29 27.8**	**-1.2**
BSO3	**Boso 3**	**1.81**	**333**	*eP*	**Pn**	**23 29 09.3**	**-1.3**
BSO4	**Boso 4**	**2.04**	**332**	*eS*	**Sn**	**23 29 36.2**	**-1.9**
JHO	**Hitachi**	**3.50**	**348**	*eP*	**Pn**	**23 29 33.6**	**-0.5**
MJAR	**Matsushiro Arr**	**4.30**	**322**	Pn	**Pn**	**23 29 46.3**	**+1.2**
	0.1nm,0.3s,baz=151,slow=11,SNR=5.7						
MJAR				Sn	**Sn**	**23 30 38.2**	**+4.2**
	baz=26,slow=8.6 1.6nm,0.5s						
KSRS	**Korea Array**	**11.88**	**295**	LR	LR	23 35 56.7	
	comp=Z,21nm,18.9s,baz=215,slow=40						
MKAR	**Makanchi Array**	**46.31**	**305**	P	**P**	**23 37 03.9**	**+0.1**
	0.2nm,0.7s,baz=89,slow=9.0,SNR=2.4 0.2nm,0.7s						
WRA	**Warramunga Arr**	**53.27**	**188**	P	**P**	**23 37 57.4**	**+0.6**
	0.8nm,0.5s,baz=6.2,slow=7.5,SNR=12 0.8nm,0.5s						
ASAR	**Alice Springs**	**56.99**	**188**	P	**P**	**23 38 24.3**	**+0.7**
	0.3nm,0.6s,baz=358,slow=6.5,SNR=4.7 0.3nm,0.6s						
ARCES	**ARCESS Array B**	**67.62**	**340**	P	P	23 39 43.0	+8.8
	3.7nm,1.1s,baz=68,slow=3.1,SNR=5.9 3.7nm,1.1s						
GNI	**Garni**	**74.08**	**308**	LR	LR	00 14 28.8	
	comp=Z,40nm,18.9s,baz=194,slow=38						

IDC 17 23:39:47.8±2.1, 9°.97N×126°.35E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=217.1km s-min=30.5km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.24**	**168**	P	P	23 46 35.5	0.0
	0.2nm,0.4s,baz=349,slow=8.9,SNR=1.2 0.2nm,0.4s						
MKAR	**Makanchi Array**	**52.31**	**323**	P	P	23 49 01.6	+0.3
	0.2nm,0.4s,baz=125,slow=7.9,SNR=4.7 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**56.36**	**325**	P	P	23 49 30.3	-0.4
	0.1nm,0.5s,baz=126,slow=7.7,SNR=4.0 0.1nm,0.5s						
ARCES	**ARCESS Array B**	**84.50**	**340**	P	P	23 52 22.7	+0.4
	2.5nm,0.9s,baz=77,slow=5.8,SNR=1.8 2.5nm,0.9s						
FINES	**FINESS Array B**	**86.19**	**332**	P	P	23 52 30.5	-0.4
	1.5nm,0.8s,baz=69,slow=5.3,SNR=5.5 1.5nm,0.8s						

*NNC **18** 00:10:03.1±2.3, 36°.62N×70°.62E, h125km±34km, mb3.1, mpv3.7, Error ellipse: s-maj=18.7km s-min=16.4km az=174.0*
*IDC **18** 00:10:04.0±8.5, 36°.53N×70°.98E, h132km±65km, mb3.6/1, mbtmp3.8/7, Error ellipse: s-maj=78.5km s-min=43.9km az=162.0*

ISC 18 00:10:07.0±2.3, 36°.8N±0°.2×70°.7E±0°.1, h150km, n19, σ1°21/23, 5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.81**	**22**	P	**Pn**	**00 11 29.7**	**-1.7**
	SNR=38						
KK31	**Karatay Array**	**6.32**	**358**	P	**Pn**	**00 11 35.7**	**-2.1**
	1.1nm,0.3s,baz=188,slow=16,SNR=27						
KK31				⇓S	**Sn**	**00 12 49.3**	**+0.3**
	1.8nm,0.3s,baz=186,slow=23,SNR=5.7						
EKS2	**Erkin-Say**	**6.32**	**21**	P	**Pn**	**00 11 38.1**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**6.52**	**25**	P	**Pn**	**00 11 39.4**	**-1.3**
	3.2nm,0.3s,baz=163,slow=3.5,SNR=24						
AAK				S	**Sn**	**00 12 55.9**	**+1.8**
	2.9nm,0.5s,baz=330,slow=20,SNR=9.5						
AAK	**Ala-Archa**	**6.52**	**25**	P	**Pn**	**00 11 39.5**	**-1.2**
	SNR=12						
AAK	**Ala-Archa**	**6.52**	**25**	⇓P	**Pn**	**00 11 39.2**	**-1.6**
	2.8nm,0.5s						
AAK				⇓S	**Sn**	**00 12 55.6**	**+1.5**
	6.8nm,0.6s						
KBK	**Karagaybulak**	**6.70**	**28**	P	**Pn**	**00 11 43.9**	**+0.8**
	SNR=6.2						
USP	**Ospenovka**	**7.09**	**23**	P	**Pn**	**00 11 48.0**	**-0.1**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.18**	**30**	P	**Pn**	**00 11 49.2**	**-0.2**
	SNR=10						
TKM2	**Tokmak 2**	**7.18**	**30**	⇓P	**Pn**	**00 11 48.8**	**-0.7**
	4.5nm,0.6s						
TKM2				⇓S	**Sn**	**00 13 09.7**	**-0.1**
	1.9nm,0.6s						
MK31	**Makanchi Array**	**13.19**	**37**	P	**Pn**	**00 13 07.5**	**-0.9**
	0.4nm,0.5s,baz=225,slow=14,SNR=9.3						
MKAR	**Makanchi Array**	**13.19**	**37**	P	**Pn**	**00 13 07.4**	**-1.0**
	0.8nm,0.7s,baz=228,slow=15,SNR=12						
AB31	**Akbulak array**	**14.74**	**331**	P	**Pn**	**00 13 26.1**	**-1.8**
	1.4nm,0.3s,baz=143,slow=14,SNR=94						
KURBB	**Kurchatov Arra**	**14.92**	**20**	P	**Pn**	**00 13 31.3**	**+1.1**
	1.2nm,0.9s,baz=210,slow=10,SNR=7.9						
BVA0	**Borovoye Array**	**16.24**	**359**	P	**Pn**	**00 13 46.6**	**+0.2**
	1.4nm,1.1s,baz=178,slow=13,SNR=5.5						
BVAR	**Borovoye Array**	**16.24**	**359**	P	**Pn**	**00 13 47.1**	**+0.7**
	0.5nm,0.4s,baz=165,slow=9.9,SNR=7.4						
AKTO	**Aktyubinsk**	**16.43**	**330**	P	**Pn**	**00 13 49.0**	**+0.2**
	2.0nm,0.5s,baz=109,slow=7.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**19.75**	**25**	P	**P**	**00 14 24.3**	**-0.6**
	4.6nm,0.5s,baz=222,slow=12,SNR=22						
GERES	**GERESS Array B**	**42.60**	**305**	P	**P**	**00 17 49.7**	**+1.5**
	1.8nm,0.7s,baz=69,slow=8.3,SNR=4.1 1.8nm,0.7s						

*IDC **18** 00:21:53.3±1.3, 11°.02S×152°.52E, h0km, mb3.6/4, mbtmp3.7/5, ML3.7/1, MS3.3/6, Error ellipse: s-maj=49.4km s-min=30.8km az=122.0*

ISC 18 00:21:59.0±1.3, 11°.1S±0°.3×152°.4E±0°.3, h35km, n10, σ1°75/6, mb3.7/4, MS3.3/3, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.63**	**78**	LR	LR	00 26 02.7	
	comp=Z,103nm,19.1s,baz=9.0,slow=33						
DZM	**Mont Dzumac**	**17.36**	**131**	LR	LR	00 31 38.6	
	comp=Z,112nm,20.1s,baz=266,slow=34						
WRA	**Warramunga Arr**	**19.47**	**241**	P	**Pn**	**00 26 23.0**	**-1.4**
	0.2nm,0.3s,baz=63,slow=10,SNR=14						
WRA				LR	LR	00 34 04.9	
	comp=Z,80nm,18.3s,baz=94,slow=37 1.9nm,0.6s						
ASAR	**Alice Springs**	**21.59**	**232**	P	**P**	**00 26 47.5**	**+1.5**
	0.3nm,0.6s,baz=53,slow=10,SNR=5.1						
ASAR				LR	LR	00 34 55.8	
	comp=Z,48nm,18.7s,baz=62,slow=36 0.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**26.77**	**252**	LR	LR	00 38 36.3	
	comp=Z,74nm,18.8s,baz=104,slow=37						
URZ	**Urewera**	**34.98**	**145**	LR	LR	00 41 07.9	
	comp=Z,133nm,18.1s,baz=28,slow=33						
QSPA	**South Pole Qui**	**78.94**	**180**	P	**P**	**00 33 59.2**	**+0.3**
	0.9nm,0.9s,baz=54,slow=0.8,SNR=9.4 0.9nm,0.9s						
MKAR	**Makanchi Array**	**84.76**	**320**	P	**P**	**00 34 30.8**	**+1.1**
	0.4nm,0.9s,baz=93,slow=4.6,SNR=3.6 0.4nm,0.9s						
ILAR	**Eielson Array**	**88.08**	**22**	P	**P**	**00 34 45.3**	**-0.3**
	1.0nm,1.0s,baz=239,slow=5.1,SNR=4.5 1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**151.26**	**277**	PKPbc	**PKPbc**	**00 41 48.0**	**-1.9**
	0.5nm,0.7s,baz=76,slow=3.0,SNR=1.6						

*IDC **18** 00:32:04.7±1.0, 8°.30S×116°.65E, h0km, mb3.8/6, mbtmp3.9/8, ML3.2/2, Error ellipse: s-maj=23.8km s-min=17.9km az=63.0*
*NEIC **18** 00:32:05.4±2.0, 8°.35S±0°.10×116°.61E±0°.06, h10km±2km, mb4.1/6, Error ellipse: s-maj=18.7km s-min=4.6km az=332.0*

*DJA **18** 00:32:06.3±0.2, 8°S±3°×11°7E±°, h10km, M4.2/16, mb4.6/3, MLv4.0/16*

ISC 18 00:32:05.3±0.6, 8°.32S±0°.05×116°.57E±0°.04, h10km, n36, σ1°19/39, mb3.9/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.52**	**143**	P	**Pb**	**00 32 16.5**	**0.0**
TWSI				S	**Sb**	**00 32 23.6**	**-0.4**
PLAI	**Plampang**	**1.30**	**113**	P	**Pg**	**00 32 30.1**	**-0.1**
SRBI	**Singaraja**	**1.36**	**280**	P	**Pn**	**00 32 29.9**	**-0.4**
DNP	**Denpasar**	**1.39**	**255**	P	**Pb**	**00 32 32.0**	**+0.7**
ABJI	**Asem Bagus**	**2.37**	**283**	P	**Pn**	**00 32 44.6**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.39**	**266**		**Pn**	**00 32 45.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.39**	**266**	P	**Pn**	**00 32 44.3**	**-0.3**
KMMI	**Kalianget**	**2.87**	**296**	P	**Pb**	**00 32 55.4**	**-1.2**
WBSI	**Waikabubak, Su**	**3.08**	**115**	P	**Pn**	**00 32 55.2**	**+1.1**
GMJI	**Gumukmas**	**3.09**	**271**	P	**Pn**	**00 32 54.6**	**+0.5**
BASI	**Baing, Sumba**	**4.38**	**116**	P	**Pn**	**00 33 14.8**	**+2.8**
BSSI	**Bau Bau, Buton**	**4.46**	**61**	P	**Pn**	**00 33 14.3**	**+1.3**
KAPI	**Kappang**	**4.56**	**44**	Pn	**Pn**	**00 33 14.2**	**-0.2**
KAPI	**Kappang**	**4.56**	**44**	Pn	**Pn**	**00 33 15.2**	**+0.8**
	1.7nm,0.3s,baz=191,slow=5.1,SNR=6.7						
KAPI				Sn	**Sn**	**00 34 05.7**	**-1.9**
	4.2nm,0.3s,baz=235,slow=22,SNR=6.6						
KAPI				Lg	Lg	00 34 27.4	
	2.4nm,0.3s,baz=201,slow=21,SNR=1.2 4.5nm,0.3s						
BKSI	**Bulukumba**	**4.62**	**50**	P	**Pn**	**00 33 16.4**	**+1.2**
PCJI	**Pacitan**	**5.33**	**271**	P	**Pn**	**00 33 25.6**	**+0.6**
	0.3nm58nm,1.3s						
UGM	**Wanagama**	**6.00**	**273**	Pn	**Pn**	**00 33 33.5**	**-0.7**
UGM	**Wanagama**	**6.00**	**273**	P	**Pn**	**00 33 34.5**	**+0.3**
PMBI	**Palembang**	**12.90**	**294**	Pn	**Pn**	**00 35 08.1**	**-0.8**
MBWA	**Marble Bar**	**13.12**	**167**	Pn	**Pn**	**00 35 10.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**13.12**	**139**	Pn	**Pn**	**00 35 10.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**13.12**	**139**	Pn	**Pn**	**00 35 12.2**	**+0.3**
	0.1nm,0.3s,baz=309,slow=14,SNR=2.7						
FITZ				Sn	**Sn**	**00 37 35.4**	**-2.7**
	0.1nm,0.3s,baz=123,slow=22,SNR=1.6 3.0nm,0.8s						
PSA00	**Pilbara Seismi**	**13.55**	**167**	Pn	**Pn**	**00 35 15.8**	**-1.9**
WB0	**Warramunga Arr**	**20.67**	**125**	P	**P**	**00 36 44.9**	**-0.7**
WB0				IAmb	IAmb	00 36 49.1	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**20.72**	**126**	P	**P**	**00 36 45.5**	**-0.6**
WRA	**Warramunga Arr**	**20.72**	**126**	P	**P**	**00 36 46.1**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=300,slow=12,SNR=17 comp=Z,4.2nm,1.0s						
WRAB	**Tennant Creek**	**20.73**	**126**	P	**P**	**00 36 45.5**	**-0.7**
WRAB				IAmb	IAmb	00 36 51.0	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**20.73**	**126**	P	**P**	**00 36 44.8**	**-1.4**
WB2				IAmb	IAmb	00 37 07.7	
	comp=Z,9.2nm,1.2s						
WR8	**Warramunga Arr**	**20.86**	**126**	P	**P**	**00 36 47.7**	**+0.1**
WR8				IAmb	IAmb	00 36 48.8	
	comp=Z,8.6nm,1.1s						
ASAR	**Alice Springs**	**22.55**	**135**	P	**P**	**00 37 06.6**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=319,slow=8.6,SNR=21 comp=Z,4.4nm,0.9s						
BBOO	**Buckleboo**	**30.33**	**146**	P	**P**	**00 38 17.2**	**0.0**
CMAR	**Chiang Mai Arr**	**31.79**	**327**	P	**P**	**00 38 32.4**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=131,slow=8.0,SNR=6.8 comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**56.63**	**352**	P	**P**	**00 41 50.0**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=164,slow=7.7,SNR=5.4 comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**62.78**	**334**	P	**P**	**00 42 32.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=141,slow=7.8,SNR=7.4 comp=Z,1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**67.58**	**340**	P	**P**	**00 43 01.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=132,slow=2.2,SNR=3.5 comp=Z,0.5nm,0.6s						
CPUP	**Villa Florida**	**145.05**	**190**	PKPbc	**PKPbc**	**00 51 43.3**	**+0.2**
	comp=Z,4.2nm,1.0s,baz=199,slow=3.4,SNR=6.1						

*JMA **18** 00:33:04.5±0.1, 40°.1N±0°.2×141°.8E±0°.4, h57km, MD3.7/39, MV3.8/39, NORTHERN IWATE PREF*
JMA Felt II J1 at NORTHERN IWATE PREF .
*IDC **18** 00:33:05.5±2.4, 40°.03N×141°.75E, h70km±22km, mb3.3/8, mbtmp3.6/10, Error ellipse: s-maj=28.9km s-min=15.0km az=105.0*

ISC 18 00:33:04.3±0.8, 40°.05N±0°.04×141°.78E±0°.06, h57km±6km, n32, σ0°76/31, mb3.7/7, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.13**	**150**	*i* P	**Pn**	**00 33 13.3**	**+0.2**
JTH				S	**Sn**	**00 33 19.5**	**+0.1**
JKEN	**Kujiedanarisaw**	**0.16**	**341**	*i* P	**Pn**	**00 33 13.5**	**+0.3**
JKEN				S	**Sn**	**00 33 20.0**	**+0.3**
JKEN	**Kujiedanarisaw**	**0.16**	**341**	A	A	00 33 13.5	
	comp=N,17nm,0.5s,comp=E,20nm,0.3s						
JKZ	**Kuzumaki**	**0.35**	**259**	*i* P	**Pn**	**00 33 15.1**	**+0.4**
JKZ				S	**Sn**	**00 33 22.3**	**+0.2**
JKZ	**Kuzumaki**	**0.35**	**259**	A	A	00 33 15.1	
	comp=N,14nm,0.2s,comp=E,10.0nm,0.2s						
JANG	**Nango**	**0.38**	**328**	*i* P	**Pn**	**00 33 14.9**	**+0.1**
JANG				S	**Sn**	**00 33 22.6**	**+0.1**
JOM	**Ohasama**	**0.69**	**213**	⇓*i* P	**Pn**	**00 33 18.4**	**+0.1**
JOM				⇓S	**Sn**	**00 33 28.6**	**+0.1**
JOM	**Ohasama**	**0.69**	**213**	A	A	00 33 18.4	
	comp=N,6.0nm,0.5s,comp=E,8.0nm,0.2s						
JAH	**Hinai**	**0.89**	**279**	*i* P	**Pn**	**00 33 21.0**	**+0.3**
JAH				S	**Sn**	**00 33 33.6**	**+0.8**
JAH	**Hinai**	**0.89**	**279**	A	A	00 33 21.0	
	comp=N,5.0nm,0.9s,comp=E,4.0nm,1.1s						
JTM	**Tenmabayashi**	**0.91**	**324**	*i* P	**Pn**	**00 33 21.2**	**+0.1**
JTM				S	**Sn**	**00 33 33.4**	**0.0**
JRG	**Rokugo**	**1.10**	**234**	⇓*i* P	**Pn**	**00 33 23.9**	**+0.3**
JRG				⇓*e*S	**Sn**	**00 33 38.6**	**+0.7**
JRG	**Rokugo**	**1.10**	**234**	A	A	00 33 23.9	
	comp=N,4.0nm,1.0s,comp=E,4.0nm,0.4s						
JMK	**Ichinoseki**	**1.18**	**202**	⇓*i* P	**Pn**	**00 33 24.7**	**0.0**
JOT	**Ohata**	**1.44**	**338**	P	**Pn**	**00 33 28.3**	**+0.1**
JOT				*e*S	**Sn**	**00 33 45.3**	**-0.7**
JIW	**Iwasaki**	**1.46**	**292**	P	**Pn**	**00 33 28.9**	**+0.5**
ASAJ	**Asahikawa**	**4.11**	**8**	P	**Pn**	**00 34 05.2**	**+0.6**
	comp=E,12nm,0.3s,baz=223,slow=11,SNR=12						
ASAJ				S	**Sn**	**00 34 53.6**	**+2.3**
	comp=E,27nm,0.9s,baz=11,slow=23,SNR=3.8						
MJAR	**Matsushiro Arr**	**4.49**	**220**	P	**Pn**	**00 34 11.6**	**+1.8**
	comp=E,3.6nm,0.5s,baz=25,slow=14,SNR=9.5						
MA2	**Magadan**	**20.35**	**13**	P	**P**	**00 37 35.9**	**+0.2**
	comp=E,1.9nm,0.3s,baz=163,slow=12,SNR=3.8 comp=E,1.9nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**29.57**	**126**	T	T	01 09 45.4	
	baz=318,slow=75,SNR=95						
H11N1	**WAKE ISLAND Hy**	**29.57**	**126**	T	T	01 09 43.9	
	baz=318,slow=75,SNR=125						
H11N3	**WAKE ISLAND Hy**	**29.58**	**126**	T	T	01 09 46.9	
	baz=318,slow=75,SNR=127						
H11S1	**WAKE ISLAND Hy**	**30.37**	**128**	T	T	01 10 45.5	
	baz=319,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.37**	**128**	T	T	01 10 54.5	
	baz=319,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**30.39**	**128**	T	T	01 10 51.3	
	baz=319,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**40.15**	**310**	P	**P**	**00 40 34.3**	**-0.1**
	comp=E,0.5nm,0.3s,baz=78,slow=10,SNR=4.0 comp=E,0.5nm,0.3s						
MKAR	**Makanchi Array**	**42.82**	**299**	P	**P**	**00 40 56.6**	**+0.1**
	comp=E,0.2nm,0.6s,baz=90,slow=8.9,SNR=2.4 comp=E,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**44.42**	**306**	P	**P**	**00 41 08.8**	**-0.5**
	comp=E,0.8nm,0.6s,baz=80,slow=8.6,SNR=7.1 comp=E,0.8nm,0.6s						
ILAR	**Eielson Array**	**46.81**	**34**	P	**P**	**00 41 28.8**	**+0.9**
	comp=E,0.3nm,0.6s,baz=268,slow=6.1,SNR=8.1 comp=E,0.3nm,0.6s						
WRA	**Warramunga Arr**	**60.09**	**188**	P	**P**	**00 43 04.3**	**-1.3**
	comp=E,0.4nm,0.7s,baz=6.3,slow=6.6,SNR=2.7 comp=E,0.4nm,0.7s						
ASAR	**Alice Springs**	**63.81**	**188**	P	**P**	**00 43 29.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=12,slow=6.4,SNR=1.7 comp=E,0.2nm,0.3s						
FINES	**FINESS Array B**	**66.29**	**332**	P	**P**	**00 43 45.2**	**-1.0**
	comp=E,1.3nm,0.9s,baz=29,slow=12,SNR=0.9 comp=E,1.3nm,0.9s						

*IDC **18** 00:33:25.9±1.0, 12°.12N×143°.36E, h0km, mb3.8/8, mbtmp3.8/8, MS2.9/3, Error ellipse: s-maj=43.9km s-min=22.8km az=97.0*

ISC 18 00:33:29.8±0.9, 12°.1N±0°.2×143°.3E±0°.3, h25km, n16, σ0°96/8, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.12**	**46**	LR	LR	00 34 34.3	
	comp=Z,51nm,21.0s,baz=101,slow=33						
H11S3	**WAKE ISLAND Hy**	**23.41**	**71**	T	T	01 02 46.7	
	baz=252,slow=77,SNR=10						
H11S1	**WAKE ISLAND Hy**	**23.43**	**71**	T	T	01 02 52.9	
	baz=252,slow=77,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**23.43**	**71**	T	T	01 02 45.7	
	baz=252,slow=77,SNR=7.3						
JNU	**Nakatsue**	**23.82**	**333**	LR	LR	00 46 38.9	
	comp=Z,27nm,18.3s,baz=184,slow=33						
H11N1	**WAKE ISLAND Hy**	**23.89**	**69**	T	T	01 03 27.1	
	baz=255,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**23.90**	**69**	T	T	01 03 32.5	
	baz=255,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**23.91**	**69**	T	T	01 03 31.7	
	baz=255,slow=75,SNR=6.7						
WRA	**Warramunga Arr**	**33.05**	**196**	P	**P**	**00 40 02.8**	**-0.7**
	0.8nm,0.8s,baz=18,slow=9.5,SNR=5.5 0.8nm,0.8s						
ASAR	**Alice Springs**	**36.72**	**195**	P	**P**	**00 40 35.5**	**+0.4**
	0.2nm,0.5s,baz=19,slow=12,SNR=4.9 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.78**	**320**	P	**P**	**00 44 06.4**	**+0.1**
	0.7nm,0.6s,baz=106,slow=6.8,SNR=6.0 0.7nm,0.6s						
BVAR	**Borovoye Array**	**70.15**	**322**	P	**P**	**00 44 41.0**	**+0.8**
	0.7nm,0.5s,baz=111,slow=8.1,SNR=6.5 0.7nm,0.5s						
ILAR	**Eielson Array**	**70.55**	**25**	P	**P**	**00 44 41.0**	**-1.4**
	0.4nm,0.5s,baz=269,slow=7.3,SNR=1.9 0.4nm,0.5s						
YKA	**Yellowknife Ar**	**84.87**	**27**	P	**P**	**00 46 02.6**	**+0.3**
	0.3nm,0.7s,baz=286,slow=5.2,SNR=3.6 0.3nm,0.7s						
ARCES	**ARCESS Array B**	**88.02**	**342**	P	**P**	**00 46 17.2**	**-0.3**
	3.8nm,1.1s,baz=73,slow=5.9,SNR=5.5 3.8nm,1.1s						
NVAR	**Mina Array Bea**	**89.03**	**51**	P	**P**	**00 46 24.4**	**+1.1**
	0.3nm,0.5s,baz=270,slow=5.8,SNR=4.1						
NVAR				LR	LR	01 17 48.0	
	comp=Z,25nm,21.4s,baz=181,slow=30 0.3nm,0.5s						

*BEO **18** 00:38:02.9±0.9, 40°.88N×19°.66E, h34km±7km, ML1.9/6*
*TIR **18** 00:38:03.2, 40°.82N×19°.61E, h36km, Md2.8/7, Ml2.3/9*

ISC 18 00:38:03.2±1.0, 40°.87N±0°.02×19°.70E±0°.03, h14km±9km, n17, σ1°07/34, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.43**	**201**	Pg	**Pg**	**00 38 11.5**	**-0.3**
VLO				Sg	**Sg**	**00 38 18.5**	**+1.0**
VLO				AML	AML	00 38 24.8	
	2.7nm,0.2s						
VLO				AMd		00 38 59.1	
TIR	**Tirane**	**0.50**	**14**	Pg	**Pb**	**00 38 13.2**	**-0.5**
TIR				AML	AML	00 38 23.7	
	0.2nm,0.2s						
TIR				Sg	**Sn**	**00 38 23.9**	**-0.3**
TIR	**Tirane**	**0.50**	**14**	*e*Pg	**Pb**	**00 38 13.2**	**-0.5**
TIR				*e*Sg	**Sn**	**00 38 23.5**	**-0.8**
KBN	**Korca**	**0.86**	**106**	Pg	**Pn**	**00 38 20.0**	**-1.0**
KBN				Sg	**Sn**	**00 38 34.0**	**+0.7**
KBN				AML	AML	00 38 37.3	
	0.2nm,0.5s						
KBN				AMd		00 39 01.0	
OHR	**Ohrid**	**0.87**	**73**	*e*Pg	**Pn**	**00 38 19.6**	**-1.4**
OHR				*e*Sg	**Sn**	**00 38 34.0**	**+0.5**
LSK	**Leskovik**	**0.99**	**136**	Pg	**Pn**	**00 38 22.4**	**-0.3**
LSK				S	**Sn**	**00 38 37.5**	**+0.9**
LSK				AML	AML	00 38 44.9	
	0.3nm,0.5s						
LSK				AMd		00 39 15.1	
SRN	**Sarande**	**1.01**	**167**	Pg	**Pn**	**00 38 23.0**	**+0.1**
SRN				Sg	**Sn**	**00 38 37.3**	**+0.4**
SRN				AML	AML	00 38 38.7	
	0.2nm,0.7s						
SRN				AMd		00 39 12.8	
NEST	**Nestorio**	**1.12**	**113**	Pg	**Pn**	**00 38 24.1**	**-0.5**
NEST				Sg	**Sn**	**00 38 42.2**	**+2.4**
NEST				AML	AML	00 38 47.5	
	0.1nm,0.3s						
PUK	**Puka**	**1.19**	**7**	Pg	**Pg**	**00 38 26.2**	**+0.1**
PUK				Sg	**Sg**	**00 38 44.0**	**+2.5**
PUK				AML	AML	00 38 48.2	
	0.3nm,0.5s						
PUK				AMd		00 39 14.0	
SCTE	**Santa Cesarea**	**1.23**	**230**	P	**Pn**	**00 38 25.1**	**-0.9**
SCTE				S	**Sn**	**00 38 41.2**	**-1.1**
FNA	**Florina**	**1.27**	**93**	P	**Pg**	**00 38 27.0**	**-0.8**
FNA				Sg	**Sg**	**00 38 46.3**	**+1.9**
FNA				AML	AML	00 38 48.6	
	0.5nm,0.4s						
FNA				AMd		00 39 14.6	
FNA	**Florina**	**1.27**	**93**	*e*Pg	**Pg**	**00 38 26.4**	**-1.4**
FNA				*e*Sg	**Sg**	**00 38 44.0**	**-0.4**
IGT	**Igoumenitsa**	**1.42**	**160**	Pg	**Pb**	**00 38 29.4**	**0.0**
IGT				Sg	**Sg**	**00 38 48.1**	**-0.8**
IGT				AMd		00 39 17.5	
BCI	**Bajram Curri**	**1.52**	**10**	P	**Pg**	**00 38 31.8**	**-0.8**
BCI				Sn	**Sg**	**00 38 53.2**	**+0.9**
BCI				AML	AML	00 38

DR08				⇑eSg	Sb	00 58 09.7	+2.5
DR08				IAML		00 58 09.9	
comp=N,2μm,0.2s							
SC01	**Santiago de lo**	**0.52**	**326**	⇑ePg	**Pb**	**00 58 04.1**	**+0.4**
SC01				⇑eSg	**Sn**	**00 58 13.5**	**-1.4**
SC01				IAML		00 58 13.9	
comp=N,70nm,0.2s							
SC01	**Santiago de lo**	**0.52**	**326**	*i* P	**Pb**	**00 58 04.0**	**+0.4**
SC01				IAML		00 58 18.1	
comp=Z,38nm,0.6s							
NADR	**Nagua**	**0.64**	**56**	⇑ePg	**Pn**	**00 58 07.2**	**-0.3**
NADR				⇑eSg	**Sn**	**00 58 17.4**	**-0.4**
NADR				IAML		00 59 01.9	
comp=N,130nm,1.6s							
SODR	**Sosua Marina B**	**0.77**	**349**	⇑eSg	**Sn**	**00 58 21.7**	**+0.7**
SODR				IAML		00 58 24.2	
comp=N,108nm,1.0s							
SDDR	**Presa de Saban**	**0.82**	**269**	⇓ePg	**Pn**	**00 58 09.0**	**-1.0**
SDDR				⇑eSg	**Sn**	**00 58 22.1**	**-0.2**
SDDR				IAML		00 58 24.0	
comp=N,19nm,0.8s							
SDDR	**Presa de Saban**	**0.82**	**269**	*i* P	**Pn**	**00 58 09.1**	**-1.0**
SDDR				IAML		00 58 25.0	
comp=Z,19nm,0.3s							
HATOM	**Hato Mayor del**	**1.00**	**101**	ePg	**Pn**	**00 58 11.9**	**-0.7**
HATOM				⇑eSg	**Sb**	**00 58 25.0**	**-0.2**
HATOM				IAML		00 58 26.6	
comp=N,31nm,0.1s							
LONE3	**El Aguacate, B**	**1.06**	**249**	*i* P	**Pb**	**00 58 12.5**	**-0.3**
LONE3				eS	**Sb**	**00 58 26.4**	**-0.4**
LONE3				IAML		00 58 27.9	
comp=Z,20nm,2.2s							
PODR	**Polo**	**1.16**	**225**	*i* P	**Pn**	**00 58 14.5**	**-0.3**
PODR				eS	**Sn**	**00 58 30.5**	**-0.3**
LODU1	**El Espartillar**	**1.18**	**238**	*i* P	**Pn**	**00 58 15.4**	**+0.4**
LODU1				eS	**Sn**	**00 58 31.1**	**-0.1**
LODU1				IAML		00 58 36.4	
comp=Z,30nm,1.6s							
MIDR	**Miches**	**1.30**	**90**	⇑ePg	**Pb**	**00 58 16.1**	**-0.8**
MIDR				⇑eSg	**Sn**	**00 58 34.2**	**+0.2**
MIDR				IAML		00 59 18.4	
comp=N,20nm,1.7s							

*IDC **18** 01:05:46.2±3.3, 54°.26N×87°.17E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=29.8km s-min=19.7km az=56.0*

ASRS 18 01:05:44.0±1.0, 54°.29N×87°.08E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**257**	I	I	01 13 31.1	
baz=77,slow=339							
ZALV	**Zalesovo Beam**	**1.37**	**256**	Pg	Pb	01 06 11.9	+1.3
0.7nm,0.3s,baz=69,slow=16,SNR=8.1							
ZALV				Lg	Lg	01 06 30.8	
0.5nm,0.3s,baz=75,slow=28,SNR=6.7							
KURBB	**Kurchatov Arra**	**6.39**	**238**	Pn	Pn	01 07 22.9	+3.7
baz=56,slow=14,SNR=11							
1.3nm,0.8s							
MKAR	**Makanchi Array**	**8.10**	**204**	Pn	Pn	01 07 45.3	+2.5
baz=28,slow=14,SNR=2.6							
MKAR				Lg	Lg	01 10 05.7	
baz=22,slow=28,SNR=5.6							
0.1nm,0.5s							

*ASRS **18** 01:07:28.0±0.9, 54°.25N×87°.06E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 01:07:31.5±3.1, 54°.22N×87°.03E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=26.6km s-min=18.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**259**	I	I	01 15 10.0	
baz=77,slow=339							
ZALV	**Zalesovo Beam**	**1.33**	**259**	Pg	Pg	01 07 55.9	-1.2
0.9nm,0.3s,baz=76,slow=18,SNR=8.7							
ZALV				Lg	Lg	01 08 14.6	
1.3nm,0.3s,baz=80,slow=27,SNR=6.8							
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	01 09 06.5	+0.6
baz=54,slow=14,SNR=5.0							
KURBB				Lg	Lg	01 10 52.2	
baz=49,slow=30,SNR=2.0							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**8.03**	**204**	Pn	Pn	01 09 30.7	+1.4
baz=26,slow=14,SNR=1.6							
MKAR				Lg	Lg	01 11 45.9	
baz=20,slow=29,SNR=4.3							
0.1nm,0.5s							

*SFS **18** 01:11:35.5, 36°.83N×8°.89W, h21km, ML3.1/18, ML3.3/19, MLv3.1/19*
*MDD **18** 01:11:35.3±0.5, 36°.76N×9°.13W, h39km±8km, mb_Lg3.3/21, Error ellipse: s-maj=4.6km s-min=2.9km az=83.0*
*IGIL **18** 01:11:36.0, 36°.75N×9°.07W, h27km, ML2.7*
*INMG **18** 01:11:36.4±1.3, 36°.76N×9°.07W, h30km±2km, ML2.5, Error ellipse: s-maj=4.0km s-min=2.4km az=82.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Cabo S.Vicente*
*CNRM **18** 01:11:39.3, 36°.35N×8°.93W, h30km, ML3.1*

ISC 18 01:11:34.1±1.3, 36°.75N±0°.03×9°.08W±0°.05, h45km±9km, n109, σ1§60/174, 3C-5D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.28**	**14**	eP	**Pn**	**01 11 43.1**	**+0.6**
PSVI				eS	**Sn**	**01 11 48.1**	**-0.3**
PSVI				*i* AML	AML	01 11 48.6	
PSVI				*i* AML	AML	01 11 49.7	
PSVI				*i* AML	AML	01 11 50.3	
PFVI	**Vila Bisbo**	**0.43**	**28**	⇓*i*P	**Pn**	**01 11 44.9**	**+0.7**
PFVI				eS	**Sn**	**01 11 51.1**	**-0.3**
PFVI				*i* AML	AML	01 11 51.7	
PFVI				*i* AML	AML	01 11 51.7	
PFVI				*i* AML	AML	01 11 52.0	
PFVI	**Vila Bisbo**	**0.43**	**28**	Pg	**Pn**	**01 11 45.0**	**+0.7**
PFVI				Sg	**Sn**	**01 11 49.5**	**-1.9**
PLAGO	**Lagos**	**0.47**	**42**	eP	**Pn**	**01 11 45.5**	**+0.9**
PLAGO				eS	**Sn**	**01 11 52.6**	**+0.5**
PLAGO				*i* AML	AML	01 11 52.7	
PLAGO				*i* AML	AML	01 11 53.0	
PLAGO				*i* AML	AML	01 11 54.0	
PPOR	**Portimao**	**0.58**	**49**	eS	**Sn**	**01 11 55.0**	**+0.4**
PPOR				*i* AML	AML	01 11 57.3	
PPOR				*i* AML	AML	01 11 57.5	
PALJ	**Aljezur**	**0.61**	**22**	eS	**Sn**	**01 11 55.7**	**+0.4**
PALJ				*i* AML	AML	01 11 56.3	
PALJ				*i* AML	AML	01 11 56.4	
MORF	**Marmelete**	**0.65**	**32**	eP	**Pn**	**01 11 47.9**	**+0.9**
MORF				eS	**Sn**	**01 11 56.4**	**+0.1**
MORF				IAML		01 11 56.9	
comp=N,503nm,0.2s							
MORF	**Marmelete**	**0.65**	**32**	⇓eP	**Pn**	**01 11 47.9**	**+0.9**
MORF				eS	**Sn**	**01 11 56.5**	**+0.2**
MORF				*i* AML	AML	01 11 56.9	
MORF				*i* AML	AML	01 11 57.0	
MORF				*i* AML	AML	01 11 57.0	
PALBU	**Albufeira**	**0.75**	**62**	eP	**Pn**	**01 11 49.6**	**+1.3**
PALBU				eS	**Sn**	**01 11 59.4**	**+0.8**
PTEO	**Sao Teotonio**	**0.84**	**20**	⇓*i*P	**Pn**	**01 11 50.4**	**+0.9**
PTEO				eS	**Sn**	**01 12 01.2**	**+0.4**
PTEO				*i* AML	AML	01 12 01.9	
PTEO				*i* AML	AML	01 12 01.9	
PTEO				*i* AML	AML	01 12 02.3	
PBDV	**Barranco-do-Ve**	**1.04**	**62**	⇑*i*P	**Pn**	**01 11 53.6**	**+1.3**
PBDV				eS	**Sn**	**01 12 06.2**	**+0.4**
PBDV				*i* AML	AML	01 12 06.8	
PBDV				*i* AML	AML	01 12 07.0	
PBDV				*i* AML	AML	01 12 07.9	
PCVE	**Castro Verde**	**1.21**	**43**	⇑eP	**Pn**	**01 11 55.9**	**+1.3**
PCVE				eS	**Sn**	**01 12 10.4**	**+0.6**
PCVE				*i* AML	AML	01 12 10.9	
PCVE				*i* AML	AML	01 12 11.2	
PCVE				*i* AML	AML	01 12 14.8	
PCVE	**Castro Verde**	**1.21**	**43**	Sg	**Sn**	**01 12 09.9**	**+0.1**
PCVE				Pg	**Pn**	**01 11 56.0**	**+1.4**
PVAQ	**Vaqueiros**	**1.27**	**59**	⇑*i*P	**Pn**	**01 11 56.6**	**+1.2**
PVAQ				eS	**Sn**	**01 12 11.5**	**+0.2**
PVAQ				*i* AML	AML	01 12 12.1	
PVAQ				*i* AML	AML	01 12 12.2	
PVAQ				*i* AML	AML	01 12 13.0	
PVAQ	**Vaqueiros**	**1.27**	**59**	Pg	**Pn**	**01 11 56.4**	**+1.0**
PVAQ				Sg	**Sn**	**01 12 11.1**	**-0.1**
MESJ	**Messejana**	**1.28**	**32**	eP	**Pn**	**01 11 56.6**	**+1.0**
MESJ				eS	**Sn**	**01 12 11.9**	**+0.3**
MESJ				IAML		01 12 13.1	
comp=N,61nm,0.3s							
MESJ	**Messejana**	**1.28**	**32**	eP	**Pn**	**01 11 56.7**	**+1.0**
MESJ				eS	**Sn**	**01 12 12.3**	**+0.7**
MESJ				*i* AML	AML	01 12 13.1	
MESJ				*i* AML	AML	01 12 13.3	
MESJ				*i* AML	AML	01 12 13.6	
EGRO	**El Granado**	**1.50**	**58**	Pg	**Pn**	**01 11 59.4**	**+0.9**
EGRO				Sg	**Sn**	**01 12 16.7**	**-0.2**
EGRO	**El Granado**	**1.50**	**58**	Pg	**Pn**	**01 11 59.7**	**+1.2**
EGRO				Sg	**Sn**	**01 12 16.4**	**-0.4**
EGRO				*i* Vmb_Lg		01 12 17.7	
PBEJ	**Beja**	**1.60**	**37**	eP	**Pn**	**01 12 00.8**	**+0.9**
PBEJ				eS	**Sn**	**01 12 19.4**	**0.0**
PBEJ				*i* AML	AML	01 12 19.9	
PBEJ				*i* AML	AML	01 12 21.8	
PBEJ				*i* AML	AML	01 12 21.8	
ARNO	**Arenosillo**	**1.91**	**79**	Pn	**Pn**	**01 12 05.3**	**+1.1**
EVO	**Evora**	**1.97**	**25**	eP	**Pn**	**01 12 05.6**	**+0.6**
EVO				eS	**Sn**	**01 12 28.3**	**-0.2**
EVO				*i* AML	AML	01 12 28.8	
EVO				*i* AML	AML	01 12 28.9	
EVO				*i* AML	AML	01 12 28.9	
EVO	**Evora**	**1.97**	**25**	Pn	**Pn**	**01 12 06.8**	**+1.8**
PBAR	**Barrancos**	**2.16**	**48**	eP	**Pn**	**01 12 08.6**	**+1.0**
PBAR				eS	**Sn**	**01 12 33.0**	**-0.1**
PBAR				*i* AML	AML	01 12 34.9	
PBAR				*i* AML	AML	01 12 35.1	
PBAR				*i* AML	AML	01 12 35.6	
PBAR	**Barrancos**	**2.16**	**48**	Pn	**Pn**	**01 12 08.5**	**+0.9**
PBAR				Sn	**Sn**	**01 12 33.5**	**+0.4**
EMIN	**Mina Concepcio**	**2.17**	**61**	Pn	**Pn**	**01 12 08.0**	**+0.2**
EMIN				Sn	**Sn**	**01 12 33.5**	**0.0**
EMIN	**Mina Concepcio**	**2.17**	**61**	Pn	**Pn**	**01 12 08.4**	**+0.6**
EMIN				Sn	**Sn**	**01 12 32.4**	**-1.1**
PMAFR	**Mafra**	**2.21**	**356**	eP	**Pn**	**01 12 09.3**	**+1.1**
PMAFR				eS	**Sn**	**01 12 35.4**	**+1.0**
PMAFR				*i* AML	AML	01 12 36.1	
PMAFR				*i* AML	AML	01 12 37.7	
PMAFR				*i* AML	AML	01 12 37.9	
PMAFR	**Mafra**	**2.21**	**356**	Pn	**Pn**	**01 12 09.1**	**+0.9**
PMAFR				Sn	**Sn**	**01 12 34.9**	**+0.6**
PMTG	**Montargil**	**2.41**	**16**	⇓*i*P	**Pn**	**01 12 11.6**	**+0.5**
PMTG				eS	**Sn**	**01 12 38.1**	**-1.3**
PMTG				*i* AML	AML	01 12 40.3	
PMTG				*i* AML	AML	01 12 40.3	
PMTG				*i* AML	AML	01 12 41.5	
PESTR	**Estremoz**	**2.42**	**29**	eP	**Pn**	**01 12 11.7**	**+0.5**
PESTR				eS	**Sn**	**01 12 39.0**	**-0.5**
PESTR				*i* AML	AML	01 12 40.7	
PESTR				*i* AML	AML	01 12 41.2	
PESTR				*i* AML	AML	01 12 41.6	
PESTR	**Estremoz**	**2.42**	**29**	Pn	**Pn**	**01 12 11.2**	**0.0**
PESTR				Sn	**Sn**	**01 12 39.3**	**-0.3**
EBAD	**Badajoz**	**2.59**	**39**	Pn	**Pn**	**01 12 13.9**	**+0.5**
EBAD				Sn	**Sn**	**01 12 43.2**	**-0.4**
EBAD	**Badajoz**	**2.59**	**39**	Pn	**Pn**	**01 12 14.2**	**+0.8**
EBAD				Sn	**Sn**	**01 12 42.6**	**-1.1**
EBAD				*i* Vmb_Lg		01 12 45.2	
ESPR	**Espera**	**2.59**	**86**	Pn	**Pn**	**01 12 14.9**	**+1.4**
ESPR				Sn	**Sn**	**01 12 44.6**	**+0.8**
ESPR	**Espera**	**2.59**	**86**	Pn	**Pn**	**01 12 15.1**	**+1.6**
ESPR				Sn	**Sn**	**01 12 43.1**	**-0.7**
ESPR				*i* Vmb_Lg		01 12 46.2	
PSBE	**So Bento**	**2.77**	**5**	eP	**Pn**	**01 12 17.1**	**+1.1**
PSBE				eS	**Sn**	**01 12 48.9**	**+0.7**
PSBE				*i* AML	AML	01 12 49.6	
PSBE				*i* AML	AML	01 12 50.9	
PSBE				*i* AML	AML	01 12 53.0	
EJIF	**Jimena Fronter**	**2.92**	**95**	Pn	**Pn**	**01 12 20.3**	**+2.2**
EJIF				Sn	**Sn**	**01 12 52.5**	**+0.5**
TARIF	**Tarifa**	**2.92**	**103**	Pn	**Pn**	**01 12 19.7**	**+1.6**
LIJA	**Lijar**	**2.95**	**86**	Pn	**Pn**	**01 12 20.1**	**+1.5**
PMRV	**Marv??o**	**2.99**	**26**	⇓eP	**Pn**	**01 12 19.6**	**+0.6**
PMRV				eS	**Sn**	**01 12 52.2**	**-1.3**
PMRV				*i* AML	AML	01 12 54.1	
PMRV				*i* AML	AML	01 12 54.2	
PMRV				*i* AML	AML	01 12 54.9	
SMIR	**Smir Dam**	**3.18**	**109**	P	**Pn**	**01 12 23.2**	**+1.7**
SMIR	**Smir Dam**	**3.18**	**109**	S	**Sn**	**01 12 58.5**	**+0.3**
ECAB	**El Cabril**	**3.20**	**65**	Pn	**Pn**	**01 12 23.2**	**+1.3**
ECAB				Sn	**Sn**	**01 12 57.8**	**-1.0**
ECAB	**El Cabril**	**3.20**	**65**	Pn	**Pn**	**01 12 23.2**	**+1.3**
ECAB				Sn	**Sn**	**01 12 56.9**	**-2.0**
ECAB				*i* Vmb_Lg		01 13 00.2	
PCAS	**Casmilo, Conde**	**3.33**	**8**	eP	**Pn**	**01 12 24.8**	**+1.1**
PCAS				eS	**Sn**	**01 13 01.8**	**-0.2**
PCAS				*i* AML	AML	01 13 02.9	
PCAS				*i* AML	AML	01 13 03.7	
PCAS				*i* AML	AML	01 13 05.2	
PCBR	**Castelo Branco**	**3.33**	**22**	eP	**Pn**	**01 12 24.5**	**+0.8**
PCBR				eS	**Sn**	**01 13 00.8**	**-1.2**
PCBR				*i* AML	AML	01 13 02.3	
PCBR				*i* AML	AML	01 13 02.7	
PCBR				*i* AML	AML	01 13 03.3	
CHEFC	**Chefchaouen**	**3.45**	**117**	P	**Pn**	**01 12 27.3**	**+1.9**
CHEFC	**Chefchaouen**	**3.45**	**117**	S	**Sn**	**01 13 04.3**	**-0.8**
COI	**Coimbra**	**3.49**	**8**	eS	**Sn**	**01 13 04.8**	**-1.1**
AVE	**Averroes**	**3.71**	**158**	Pn	**Pn**	**01 12 29.3**	**+0.5**
AVE	**Averroes**	**3.71**	**158**	P	**Pn**	**01 12 29.0**	**+0.1**
AVE	**Averroes**	**3.71**	**158**	S	**Sn**	**01 13 08.6**	**-2.7**
MTE	**Manteigas**	**3.84**	**18**	eP	**Pn**	**01 12 31.3**	**+0.6**
MTE				eS	**Sn**	**01 13 12.9**	**-1.6**
MTE				*i* AML	AML	01 13 14.7	
MTE				*i* AML	AML	01 13 14.8	
MTE				*i* AML	AML	01 13 14.8	
EADA	**Adamuz**	**3.85**	**67**	Pn	**Pn**	**01 12 32.1**	**+1.2**
EADA				Sn	**Sn**	**01 13 13.5**	**-1.3**
EADA	**Adamuz**	**3.85**	**67**	Pn	**Pn**	**01 12 32.0**	**+1.2**
EADA				Sn	**Sn**	**01 13 13.1**	**-1.8**
EADA				*i* Vmb_Lg		01 13 17.2	
ZHG	**ZHG**	**3.86**	**148**	P	**Pn**	**01 12 31.4**	**+0.4**
ZHG	**ZHG**	**3.86**	**148**	S	**Sn**	**01 13 13.6**	**-1.5**
EGOR	**Sierra Gorda,**	**4.00**	**83**	Pn	**Pn**	**01 12 35.3**	**+2.3**
EGOR				Sn	**Sn**	**01 13 20.8**	**+2.2**
EGOR	**Sierra Gorda,**	**4.00**	**83**	Pn	**Pn**	**01 12 35.5**	**+2.5**
EGOR				Sn	**Sn**	**01 13 18.3**	**-0.4**
EPLA	**Plasencia**	**4.06**	**35**	Pn	**Pn**	**01 12 34.4**	**+0.7**
EPLA				Sn	**Sn**	**01 13 16.8**	**-3.3**
EPLA				*i* Vmb_Lg		01 13 20.1	
PVIS	**Viseu**	**4.07**	**13**	eP	**Pn**	**01 12 34.6**	**+0.7**
PVIS				eS	**Sn**	**01 13 18.8**	**-1.3**
ELGU	**Los Guajares,**	**4.38**	**87**	Pn	**Pn**	**01 12 40.6**	**+2.5**
ELGU				Sn	**Sn**	**01 13 27.5**	**-0.4**
ELGU	**Los Guajares,**	**4.38**	**87**	Pn	**Pn**	**01 12 41.0**	**+2.8**
ELGU				*i* Vmb_Lg		01 12 44.1	
ELGU				Sn	**Sn**	**01 13 25.5**	**-2.5**
PALE	**Palemas**	**4.44**	**109**	P	**Pn**	**01 12 41.2**	**+2.3**
PALE	**Palemas**	**4.44**	**109**	S	**Sn**	**01 13 30.0**	**+0.6**
EQTA	**Presa de Quent**	**4.54**	**83**	Pn	**Pn**	**01 12 41.9**	**+1.6**
EQTA				Sn	**Sn**	**01 13 34.4**	**+2.5**
EQUE	**Quentar**	**4.54**	**83**	Pn	**Pn**	**01 12 42.3**	**+2.0**
EQUE				Sn	**Sn**	**01 13 32.1**	**+0.2**
IFR	**Ifrane**	**4.57**	**134**	Pn	**Pn**	**01 12 41.2**	**+0.3**
E0803	**Jimena (Jaen)**	**4.60**	**75**	Pn	**Pn**	**01 12 42.2**	**+1.1**
E0803				Sn	**Sn**	**01 13 31.6**	**-1.8**
LCRM	**LCR**	**4.62**	**130**	P	**Pn**	**01 12 42.8**	**+1.3**
LCRM	**LCR**	**4.62**	**130**	S	**Sn**	**01 13 30.9**	**-3.0**
PVRL	**Vila Real**	**4.64**	**13**	eP	**Pn**	**01 12 42.3**	**+0.6**
PVRL				eS	**Sn**	**01 13 32.4**	**-2.0**
PVRL				*i* AML	AML	01 13 34.3	
PVRL				*i* AML	AML	01 13 34.5	
PVRL				*i* AML	AML	01 13 34.6	
PAB	**San Pablo**	**4.66**	**52**	Pn	**Pn**	**01 12 42.8**	**+0.8**
PAB				Sn	**Sn**	**01 13 31.1**	**-3.7**
PAB				*i* Vmb_Lg		01 13 33.9	
MVO	**Moncorvo**	**4.69**	**19**	eP	**Pn**	**01 12 42.9**	**+0.5**
MVO				eS	**Sn**	**01 13 33.7**	**-1.8**
MVO				*i* AML	AML	01 13 34.7	
MVO				*i* AML	AML	01 13 35.3	
MVO				*i* AML	AML	01 13 37.3	
PSIM	**Granatula de C**	**4.70**	**62**	Pn	**Pn**	**01 12 43.5**	**+1.1**
PSIM				Sn	**Sn**	**01 13 32.9**	**-2.8**
POLO	**Lamas de Olo**	**4.72**	**12**	eP	**Pn**	**01 12 43.6**	**+0.7**
POLO				eS	**Sn**	**01 13 34.4**	**-2.1**
POLO				*i* AML	AML	01 13 36.2	
POLO				*i* AML	AML	01 13 36.6	
POLO				*i* AML	AML	01 13 37.0	
AKLM	**AKL**	**4.80**	**116**	P	**Pn**	**01 12 44.1**	**+0.1**
AKLM	**AKL**	**4.80**	**116**	S	**Sn**	**01 13 34.9**	**-3.5**
EQES	**Quesada**	**4.91**	**76**	Pn	**Pn**	**01 12 46.2**	**+0.8**
EQES				Sn	**Sn**	**01 13 40.3**	**-0.7**
EQES				*i* Vmb_Lg		01 13 42.0	
ESDC	**Sonseca Array**	**4.98**	**53**	Pn	**Pn**	**01 12 47.1**	**+0.8**
ESDC				*i* Vmb_Lg		01 13 08.0	
ESDC				Sn	**Sn**	**01 13 38.7**	**-3.9**
PCAB	**Cabril**	**5.02**	**9**	eP	**Pn**	**01 12 48.4**	**+1.5**
EAH	**EAH**	**5.11**	**185**	P	**Pn**	**01 12 48.3**	**+0.2**
EAH	**EAH**	**5.11**	**185**	S	**Sn**	**01 13 43.4**	**-2.4**
GOG	**Mont Gurugu**	**5.17**	**105**	P	**Pn**	**01 12 51.6**	**+2.7**
GOG	**Mont Gurugu**	**5.17**	**105**	S	**Sn**	**01 13 45.5**	**-1.7**
ELOB	**Lobios**	**5.17**	**8**	Pn	**Pn**	**01 12 49.5**	**+0.5**
ELOB				Sn	**Sn**	**01 13 44.3**	**-3.1**
ELOB				*i* Vmb_Lg		01 16 04.4	
PGAV	**Gavieira, Arco**	**5.25**	**7**	eP	**Pn**	**01 12 50.9**	**+0.9**
PGAV				eS	**Sn**	**01 13 46.5**	**-2.8**
PGAV				*i* AML	AML	01 13 47.4	
PGAV				*i* AML	AML	01 13 51.3	
MD31	**MD31**	**5.26**	**136**	P	**Pn**	**01 12 50.9**	**+0.7**
MD31	**MD31**	**5.26**	**136**	S	**Sn**	**01 13 46.1**	**-3.5**
PBRG	**Braganca**	**5.36**	**19**	eP	**Pn**	**01 12 52.3**	**+0.7**
PBRG				eS	**Sn**	**01 13 49.1**	**-3.0**
PBRG				*i* AML	AML	01 13 51.3	
PBRG				*i* AML	AML	01 13 51.3	
PBRG				*i* AML	AML	01 13 51.7	
MDT	**Midelt**	**5.38**	**136**	P	**Pn**	**01 12 52.7**	**+0.8**
MDT	**Midelt**	**5.38**	**136**	S	**Sn**	**01 13 49.0**	**-3.7**
UCM	**Universidad Co**	**5.79**	**50**	Pn	**Pn**	**01 12 58.7**	**+1.2**
UCM				Sn	**Sn**	**01 14 01.5**	**-1.1**
JBK	**JBK**	**5.83**	**112**	P	**Pn**	**01 12 58.7**	**+0.5**
JBK	**JBK**	**5.83**	**112**	S	**Sn**	**01 14 00.9**	**-3.0**
TIO	**Tiouine**	**6.00**	**165**	Pn	**Pn**	**01 13 00.8**	**+0.3**
TIO	**Tiouine**	**6.00**	**165**	P	**Pn**	**01 13 01.2**	**+0.7**
TIO	**Tiouine**	**6.00**	**165**	S	**Sn**	**01 14 06.2**	**-1.8**
OUZM	**OUZ**	**6.14**	**161**	P	**Pn**	**01 13 02.8**	**+0.5**
OUZM	**OUZ**	**6.14**	**161**	S	**Sn**	**01 14 08.2**	**-3.2**
TTIG	**Tnine Tigouga,**	**6.21**	**175**	P	**Pn**	**01 13 00.0**	**-3.3**
TTIG	**Tnine Tigouga,**	**6.21**	**175**	S	**Sn**	**01 14 10.5**	**-2.6**
EMUR	**La Murta**	**6.34**	**78**	Pn	**Pn**	**01 13 04.9**	**-0.2**
TZRR	**Tazzarine**	**6.63**	**153**	P	**Pn**	**01 13 09.5**	**+0.4**
TZRR	**Tazzarine**	**6.63**	**153**	S	**Sn**	**01 14 19.8**	**-3.5**
EPON	**Pontenova**	**6.73**	**12**	Pn	**Pn**	**01 13 11.4**	**+1.1**
EPON				Sn	**Sn**	**01 14 21.8**	**-3.9**
ETOR	**Torete**	**6.83**	**51**	Pn	**Pn**	**01 13 13.5**	**+1.8**
ETOR				Sn	**Sn**	**01 14 23.6**	**-4.5**
ETOR				*i* Vmb_Lg		01 16 40.2	
EMOS	**Mosqueruela**	**7.65**	**59**	Pn	**Pn**	**01 13 26.0**	**+2.9**
EMOS				Sn	**Sn**	**01 14 46.6**	**-1.9**

*SJA **18** 01:15:24.8±0.8, 24°.55S×69°.69W, h90km±5km, ML3.9, MW3.8*
*IDC **18** 01:15:25.3±2.6, 24°.65S×69°.56W, h76km±24km, mb3.4/6, mbtmp3.8/8, Error ellipse: s-maj=30.7km s-min=19.7km az=82.0*
*GUC **18** 01:15:26.8±0.8, 24°.65S×69°.63W, h73km±4km, ML4.0*

ISC 18 01:15:25.9±0.8, 24°.62S±0°.03×69°.71W±0°.04, h80km±7km, n43, σ1§69/54, mb3.5/6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.55**	**169**	eP	**Pn**	**01 15 39.6**	**-0.9**
GO02				*i* S	**Sn**	**01 15 50.2**	**-1.0**
GO02				IAML		01 15 50.9	
comp=N,8μm,0.2s							
GO02	**Mina Guanaco**	**0.55**	**169**	eP	**Pn**	**01 15 38.8**	**-1.7**
GO02				eS	**Sn**	**01 15 54.0**	**+2.7**
PB14	**IPOC Station P**	**0.64**	**270**	eP	**Pn**	**01 15 42.0**	**+0.8**
PB14				*i* S	**Sn**	**01 15 54.5**	**+1.8**
PB14	**IPOC Station P**	**0.64**	**270**	eP	**Pn**	**01 15 42.1**	**+0.8**
PB14				eS	**Sn**	**01 15 55.2**	**+2.5**
PB14				IAML		01 15 56.9	
comp=Z,2μm,0.2s							
PB10	**IPOC Station P**	**1.35**	**325**	eP	**Pn**	**01 15 50.6**	**+1.2**
PB10				*i* S	**Sn**	**01 16 09.2**	**+2.3**
PB10	**IPOC Station P**	**1.35**	**325**	eP	**Pn**	**01 15 50.0**	**+0.6**
PB10				eS	**Sn**	**01 16 07.0**	**0.0**
AC01	**Pan de Azucar**	**1.72**	**208**	eP	**Pn**	**01 15 53.9**	**-0.3**
AC01				*i* S	**Sn**	**01 16 16.9**	**+1.4**
AC01				IAML		01 16 20.1	
comp=E,3μm,0.3s							
AC01	**Pan de Azucar**	**1.72**	**208**	eP	**Pn**	**01 15 54.0**	**-0.1**
AC01				eS	**Sn**	**01 16 18.5**	**+3.0**
AC01				IAML		01 16 20.5	
comp=Z,1μm,0.2s							
PB05	**IPOC Station P**	**1.82**	**345**	eP	**Pn**	**01 15 56.0**	**+0.4**
PB05				*i* S	**Sn**	**01 16 19.8

comp=E,1.9nm,0.6s
YKA Yellowknife Ar 93.88 341 P **P 01 28 33.0 -0.8**
comp=E,0.1nm,0.6s,baz=125,slow=7.5,SNR=2.6
comp=E,0.1nm,0.6s
H11S2 WAKE ISLAND Hy 27.48 275 T T 03 54 21.0
baz=107,slow=74,SNR=6.5
H11S1 WAKE ISLAND Hy 27.49 275 T T 03 54 26.1
baz=107,slow=74,SNR=5.6
H11S3 WAKE ISLAND Hy 27.50 275 T T 03 54 22.4
baz=107,slow=74,SNR=4.0
KURBB Kurchatov Arra 144.32 35 PKP **PKPab 01 34 51.0 +0.3**
comp=E,0.5nm,0.8s,baz=307,slow=3.2,SNR=6.5
ZALV Zalesovo Beam 145.07 26 PKPbc **PKPbc 01 34 53.4 +0.1**
comp=E,2.9nm,0.6s,baz=320,slow=4.4,SNR=12
MKAR Makanchi Array 148.56 38 PKPbc **PKPdf 01 35 03.0 +3.2**
comp=E,0.7nm,0.7s,baz=335,slow=2.9,SNR=8.8

IDC 18 01:33:16.9±8.3, 16°.99S×177°.10W, h0km, mb4.1/2, mbtmp4.1/2, Error ellipse: s-maj=344.0km s-min=66.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.03**	**258**	P	P	01 41 42.1	-0.5
0.5nm,0.5s,baz=92,slow=7.2,SNR=12							
0.5nm,0.5s							
ASAR	**Alice Springs**	**46.24**	**253**	P	P	01 41 44.4	+0.1
5.5nm,0.6s,baz=88,slow=8.1,SNR=85							
5.5nm,0.6s							
BRTR	**Keskin Array B**	**145.00**	**317**	PKPbc	PKPab	01 52 55.4	-0.6
0.2nm,0.5s,baz=83,slow=3.3,SNR=3.7							

*SOME **18** 01:54:37.7, 39°.42N×75°.20E, h5km*
*NNC **18** 01:54:41.8±2.6, 39°.53N×75°.50E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=19.1km s-min=16.3km az=122.0*
*KRNET **18** 01:54:51.2±0.1, 39°.72N×75°.21E, mb2.3*
ISC 18 01:54:52.7±2.1, 39°.8N±0°.1×75°.22E±0°.05, h10km, n22, σ1°97/32, 10C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.34**	**281**	⇑iP	**Pb**	**01 55 16.7**	**-1.4**
SFK				⇑iS	**Sg**	**01 55 35.2**	**-0.8**
SALK	**Salom-Alik**	**1.55**	**317**	⇑iP	**Pb**	**01 55 20.8**	**-0.8**
SALK				⇑iS	**Sg**	**01 55 42.2**	**-0.3**
ARLS	**Aral**	**2.20**	**342**	⇓eP	**Pb**	**01 55 30.8**	**-2.0**
ARLS				⇓eS	**Sb**	**01 56 01.0**	**+0.8**
ARSB	**Arslanbob**	**2.31**	**313**	⇑iP	**Pb**	**01 55 32.7**	**-1.9**
ARSB				⇑iS	**Sb**	**01 56 03.2**	**-0.1**
ULHL	**Ulahol**	**2.60**	**17**	⇑iP	**Pb**	**01 55 37.5**	**-2.1**
ULHL				⇑iS	**Sb**	**01 56 10.7**	**-0.9**
BOOM	**Boomskoye usch**	**2.78**	**11**	⇓eP	**Pb**	**01 55 39.7**	**-2.9**
BOOM				⇓eS	**Sb**	**01 56 14.9**	**-1.9**
KDJ	**Kajisay**	**2.79**	**32**	⇑eP	**Pb**	**01 55 40.1**	**-2.8**
KDJ				⇑eS	**Sb**	**01 56 15.7**	**-1.5**
AAK	**Ala-Archa**	**2.92**	**349**	⇓Pg	**Pn**	**01 55 40.9**	**+1.5**
2.3nm,0.7s							
AAK				⇓Lg	Lg	01 56 21.0	
9.7nm,1.1s							
TKM2	**Tokmak 2**	**3.17**	**5**	⇓Pg	**Pn**	**01 55 43.8**	**+1.0**
2.7nm,0.4s							
TKM2				⇓Lg	Lg	01 56 28.2	
5.7nm,0.6s							
KST	**Kastek**	**3.33**	**9**	Pg	**Pn**	**01 55 45.0**	**0.0**
2.1nm,0.4s							
KST				Lg	Lg	01 56 34.6	
14nm,0.9s							
KST	**Kastek**	**3.33**	**9**	eP	**Pn**	**01 55 45.0**	**0.0**
1.3nm,0.2s							
KST				eS	**Sb**	**01 56 34.6**	**+2.1**
14nm,0.4s							
MTBS	**Maitube**	**3.49**	**15**	Pg	**Pn**	**01 55 47.7**	**+0.6**
1.8nm,0.3s							
MTBS				Lg	Lg	01 56 39.1	
8.3nm,0.3s							
MTBS	**Maitube**	**3.49**	**15**	eP	**Pn**	**01 55 47.7**	**+0.6**
1.2nm,0.1s							
MTBS				eS	**Sb**	**01 56 39.1**	**+2.1**
8.4nm,0.2s							
DGS	**Degeres**	**3.50**	**7**	Pg	**Pn**	**01 55 48.4**	**+1.1**
3.9nm,0.5s							
DGS				Lg	Lg	01 56 40.5	
7.4nm,0.6s							
TNSS	**Tian-Shan**	**3.52**	**21**	Pg	**Pn**	**01 55 48.6**	**+0.7**
2.9nm,0.4s							
TNSS				Lg	Lg	01 56 40.7	
4.1nm,0.4s							
TNSS	**Tian-Shan**	**3.52**	**21**	eP	**Pn**	**01 55 48.5**	**+0.7**
3.2nm,0.3s							
TNSS				eS	**Sb**	**01 56 40.7**	**+2.4**
4.1nm,0.4s							
KOTS	**Kotyrbulak**	**3.75**	**22**	Pg	**Pn**	**01 55 52.8**	**+2.0**
3.5nm,0.4s							
KOTS				Lg	Lg	01 56 48.1	
14nm,0.8s							
KOTS	**Kotyrbulak**	**3.75**	**22**	eP	**Pn**	**01 55 52.8**	**+2.0**
3.5nm,0.4s							
KOTS				eS	**Sb**	**01 56 48.1**	**+3.4**
8.5nm,0.4s							
KRBS	**Karabastau**	**3.95**	**5**	Pg	**Pn**	**01 55 56.8**	**+3.4**
1.5nm,0.3s							
KRBS				Lg	Lg	01 56 54.9	
3.7nm,0.5s							
SATY	**Saty**	**4.07**	**35**	Pg	**Pn**	**01 55 57.9**	**+2.7**
1.8nm,0.3s							
SATY				Lg	Lg	01 56 56.7	
3.3nm,0.2s							
KTBS	**Karatobe**	**4.10**	**15**	Pg	**Pn**	**01 55 59.2**	**+3.8**
1.8nm,0.6s							
KTBS				Lg	Lg	01 56 58.9	
10nm,0.5s							
KK31	**Karatay Array**	**4.86**	**315**	⇓Lg	Lg	01 57 26.8	
0.5nm,0.5s,baz=128,slow=27							

WEL 18 02:02:43.6±0.7, 42°.S±4°.×17°.8E±°, h33km, M3.4/7, ML3.7/10, MLv3.4/7, Error ellipse: s-maj=6.4km s-min=5.7km az=116.8, confirmed, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**1.85**	**311**	P	Pn	02 03 12.5	-0.5
CPWZ				S	Sn	02 03 35.4	+0.2
TMWZ	**Te Maipa**	**1.92**	**302**	P	Pb	02 03 16.2	-1.7
TMWZ				S	Sb	02 03 39.4	-2.1
BFZ	**Birch Farm**	**1.99**	**317**	P	Pn	02 03 16.0	+1.1
ANWZ	**Angora Road**	**2.06**	**324**	P	Pn	02 03 16.4	+0.6
ANWZ				S	Sb	02 03 43.2	-2.2
PAWZ	**Paruwai Farm**	**2.10**	**290**	P	Pn	02 03 16.6	+0.1
PAWZ				S	Sn	02 03 40.7	-0.7
PRHZ	**Porangahau**	**2.15**	**330**	P	Pn	02 03 18.4	+1.2
PRHZ				S	Sn	02 03 42.3	-0.4
PLWZ	**Palliser**	**2.16**	**284**	P	Pn	02 03 17.9	+0.6
PLWZ				S	Sn	02 03 42.6	-0.3
PRWZ	**Pori Road**	**2.23**	**315**	P	Pn	02 03 19.3	+1.2
PXZ	**Pawanui**	**2.29**	**337**	P	Pn	02 03 20.3	+1.3
PXZ				S	Sn	02 03 46.3	+0.2
WPHZ	**Waipukurau**	**2.40**	**329**	P	Pn	02 03 23.1	+2.5
WPHZ				S	Sn	02 03 49.4	+0.5
POWZ	**Post Office Ro**	**2.45**	**315**	P	Pn	02 03 23.4	+2.2
KAHZ	**Kahuranaki**	**2.51**	**339**	P	Pn	02 03 22.7	+0.6
OGWZ	**Otaki Gorge**	**2.53**	**301**	P	Pn	02 03 23.9	+1.5
CKHZ	**Cape Kidnapper**	**2.59**	**343**	P	Pn	02 03 24.3	+1.2
TSZ	**Takapari Road**	**2.61**	**322**	P	Pn	02 03 24.9	+1.4
PNHZ	**Pukenui**	**2.63**	**327**	P	Pn	02 03 24.8	+1.0
KRHZ	**Kereru**	**2.80**	**333**	P	Pn	02 03 27.3	+1.2
MCHZ	**McNeill Hill**	**2.88**	**339**	P	Pn	02 03 28.7	+1.5
KWHZ	**Kaweka Forest**	**2.98**	**335**	P	Pn	02 03 29.8	+1.1
ARHZ	**Aropaoanui**	**2.99**	**344**	P	Pn	02 03 29.9	+1.3
MHGZ	**Mahia Peninsul**	**2.99**	**358**	P	Pn	02 03 29.4	+0.7
KNZ	**Kokohu**	**3.13**	**355**	P	Pn	02 03 29.7	-0.9
NMHZ	**Naumai**	**3.19**	**342**	P	Pn	02 03 32.2	+0.7
BKZ	**Black Stump Fm**	**3.20**	**338**	P	Pn	02 03 32.5	+0.9
PRGZ	**Paritu Road**	**3.22**	**358**	P	Pn	02 03 32.5	+0.6
MOVZ	**Moawhango**	**3.24**	**327**	P	Pn	02 03 34.3	+2.1
RAHZ	**Arahi**	**3.31**	**347**	P	Pn	02 03 33.2	+0.2
WAZ	**Wanganui**	**3.33**	**315**	P	Pn	02 03 36.6	+3.3
KHZ	**Kahutara**	**3.35**	**264**	P	Pn	02 03 34.4	+0.8
KHZ				S	Sn	02 04 13.5	+1.2
WNVZ	**Wahianoa**	**3.37**	**326**	P	Pn	02 03 36.5	+2.4
MTVZ	**Mangateitei**	**3.38**	**324**	P	Pn	02 03 36.8	+2.7
TUVZ	**Tukino**	**3.40**	**327**	P	Pn	02 03 36.9	+2.5
SNGZ	**Shannon Statio**	**3.40**	**351**	P	Pn	02 03 34.2	-0.2
WHVZ	**Whangaehu Hut**	**3.41**	**326**	P	Pn	02 03 37.1	+2.4
TRVZ	**Turoa**	**3.42**	**325**	P	Pn	02 03 37.2	+2.4
MAVZ	**Matarangi**	**3.44**	**326**	P	Pn	02 03 37.4	+2.3
RIGZ	**Rimuhau**	**3.44**	**356**	P	Pn	02 03 35.5	+0.6
FWVZ	**Far West T-bar**	**3.45**	**326**	P	Pn	02 03 37.4	+2.2
SNVZ	**South Ngauruho**	**3.47**	**327**	P	Pn	02 03 37.6	+2.1
OTVZ	**Oturere**	**3.48**	**328**	P	Pn	02 03 37.7	+2.1
ETVZ	**East Tongariro**	**3.49**	**329**	P	Pn	02 03 38.4	+2.8
NGZ	**Ngauruhoe**	**3.50**	**327**	P	Pn	02 03 37.9	+2.1
COVZ	**Chateau Observ**	**3.50**	**326**	P	Pn	02 03 38.2	+2.4
TMVZ	**Te Maari**	**3.51**	**329**	P	Pn	02 03 37.9	+1.9
PKVZ	**Pokaka**	**3.51**	**323**	P	Pn	02 03 38.3	+2.5
NNVZ	**North Ngauruho**	**3.53**	**328**	P	Pn	02 03 38.4	+2.1
MRHZ	**Matea Rd**	**3.53**	**339**	P	Pn	02 03 37.4	+1.3
NTVZ	**North Tongarir**	**3.54**	**329**	P	Pn	02 03 38.2	+1.9
KRVZ	**Karewarewa**	**3.55**	**328**	P	Pn	02 03 38.7	+2.2
WTVZ	**West Tongariro**	**3.56**	**328**	P	Pn	02 03 38.6	+2.0
RITZ	**Rihia Road**	**3.57**	**332**	P	Pn	02 03 38.7	+2.0
RTZ	**Ruatahuna**	**3.62**	**347**	P	Pn	02 03 37.3	-0.1
KATZ	**Kakaramea**	**3.64**	**330**	P	Pn	02 03 40.1	+2.5
TWVZ	**Taurewa**	**3.65**	**326**	P	Pn	02 03 39.8	+1.9
TKGZ	**Te Karaka**	**3.70**	**358**	P	Pn	02 03 38.6	+0.1
MUGZ	**Murupara**	**3.79**	**345**	P	Pn	02 03 40.1	+0.4
ALRZ	**Allen Road**	**3.81**	**339**	P	Pn	02 03 41.1	+1.2
MWZ	**Matawai**	**3.83**	**354**	P	Pn	02 03 39.5	-0.7
WATZ	**Wairara**	**3.86**	**332**	P	Pn	02 03 41.8	+1.2
VRZ	**Vera Road**	**3.92**	**319**	P	Pn	02 03 43.0	+1.6
URZ	**Urewera**	**3.94**	**349**	P	Pn	02 03 41.7	-0.1
TWGZ	**Tauwhareparae**	**3.96**	**359**	P	Pn	02 03 42.5	+0.4
RRRZ	**Republican Roa**	**3.98**	**342**	P	Pn	02 03 42.9	+0.6
PREZ	**Palmer Road**	**4.07**	**312**	P	Pn	02 03 47.2	+3.7
PUZ	**Puketiti**	**4.07**	**2**	P	Pn	02 03 48.9	+5.4
TARZ	**Mount Tarawera**	**4.08**	**343**	P	Pn	02 03 44.3	+0.6
NEZ	**North Egmont**	**4.15**	**312**	P	Pn	02 03 48.4	+3.7
KHEZ	**Kahui Hut**	**4.18**	**312**	P	Pn	02 03 48.8	+3.7
RUGZ	**Raukumara Rang**	**4.18**	**356**	P	Pn	02 03 45.0	-0.2
CTZ	**Chatham Island**	**4.23**	**114**	P	Pn	02 03 44.0	-1.7
MQZ	**McQueen's Vall**	**4.25**	**247**	S	Pn	02 03 46.1	+0.1
MQZ				S	Sn	02 04 35.1	+0.6
PKE	**Pukeiti**	**4.26**	**312**	P	Pn	02 03 49.7	+3.5
TLZ	**Tolley Road**	**4.26**	**332**	P	Pn	02 03 47.7	+1.4
PKGZ	**Pakihiroa**	**4.27**	**0**	P	Pn	02 03 45.1	-1.2
WMGZ	**Waiomatatini S**	**4.33**	**4**	P	Pn	02 03 46.3	-0.8
HAZ	**Te Kaha**	**4.39**	**357**	P	Pn	02 03 47.6	-0.2
MXZ	**Matakaoa Point**	**4.58**	**3**	P	Pn	02 03 49.5	-1.0
FOZ	**Fox Glacier**	**6.21**	**254**	P	Pn	02 04 16.2	+3.4

IDC 18 02:05:10.3±2.2, 22°.27S×178°.29W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=60.2km s-min=43.6km az=19.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.80**	**246**	P	P	02 12 20.0	-0.1
0.5nm,0.4s,baz=95,slow=12,SNR=4.4							
0.5nm,0.4s							
ASAR	**Alice Springs**	**43.88**	**259**	P	P	02 13 18.6	-0.2
1.5nm,0.5s,baz=98,slow=7.8,SNR=15							
1.5nm,0.5s							
WRA	**Warramunga Arr**	**44.12**	**264**	P	P	02 13 20.8	0.0
2.3nm,0.4s,baz=103,slow=8.0,SNR=68							
2.3nm,0.4s							
QSPA	**South Pole Qui**	**67.81**	**180**	P	P	02 16 10.3	+0.3
0.9nm,1.0s,baz=96,slow=5.8,SNR=1.2							
0.9nm,1.0s							
HFS	**Hagfors**	**141.23**	**350**	PKP	PKPdf	02 24 39.9	-2.6
2.4nm,0.8s,baz=45,slow=3.8,SNR=7.4							
BRTR	**Keskin Array B**	**147.79**	**310**	PKPbc	PKPbc	02 24 57.0	-0.6
0.4nm,0.8s,baz=28,slow=1.5,SNR=4.6							

*VAO **18** 02:07:17.2±0.4, 13°.01S×70°.09W, h10km, mb4.1*
ISC 18 02:07:19.9±1.3, 13°.06S±0°.08×70°.2W±0°.1, h35km, n13, σ1°36/18, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.76**	**149**	eP	**Pn**	**02 08 17.2**	**+1.3**
LPAZ				eS	**Sn**	**02 09 00.0**	**+0.8**
CZSB	**Cruzeiro do Su**	**5.86**	**334**	eP	**Pn**	**02 08 43.2**	**-1.1**
CZSB				eS	**Sn**	**02 09 52.5**	**+2.2**
TBTG	**Tabatinga, AM**	**8.82**	**2**	eP	**Pn**	**02 09 24.8**	**-0.1**
TBTG				eS	**Sn**	**02 11 04.9**	**+1.8**
VILB	**Vilhena**	**9.69**	**91**	eP	**Pn**	**02 09 36.6**	**-0.4**
VILB				eS	**Sn**	**02 11 25.9**	**+1.2**
PTLB	**Pontes e Lacer**	**10.93**	**104**	eP	**Pn**	**02 09 52.0**	**-1.9**
TEFE	**Tefe**	**10.94**	**30**	eP	**Pn**	**02 09 53.4**	**-0.6**
PDRB	**Porto dos Gac**	**13.19**	**85**	eP	**Pn**	**02 10 23.2**	**-1.5**
PDRB				eS	**Sn**	**02 12 51.5**	**+1.2**
CLDB	**Colider**	**14.21**	**83**	eP	**Pn**	**02 10 38.0**	**-0.7**
SALV	**Santo Antonio**	**14.28**	**103**	eP	**Pn**	**02 10 38.5**	**-1.1**
ARAG	**Araguaiana, MT**	**17.95**	**101**	eP	**Pn**	**02 11 26.7**	**-0.2**
BOAV	**Boa Vista**	**18.08**	**33**	eP	**Pn**	**02 11 26.2**	**-2.2**
SNDB	**Serra Nova Dou**	**18.44**	**89**	eP	**Pn**	**02 11 32.4**	**-0.4**
JANB	**Januaria**	**25.14**	**98**	eP	**P**	**02 12 42.4**	**+0.4**

IDC 18 02:09:40.3±52.0, 17°.47S×179°.51E, h538km±238km, mb3.2/3, mbtmp4.2/3, Error ellipse: s-maj=1166.0km s-min=115.4km az=80.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.42**	**259**	P	P	02 10 46.7	0.0
6.1nm,0.8s,baz=119,slow=10,SNR=8.7							
STKA	**Stephens Creek**	**37.12**	**240**	P	P	02 16 05.4	+0.1
1.1nm,0.4s,baz=96,slow=9.1,SNR=5.9							
1.1nm,0.4s							
WRA	**Warramunga Arr**	**42.76**	**259**	P	P	02 16 50.3	-0.5
0.8nm,0.6s,baz=96,slow=7.7,SNR=9.6							
0.8nm,0.6s							
ASAR	**Alice Springs**	**43.00**	**254**	P	P	02 16 52.5	-0.1
4.8nm,0.5s,baz=93,slow=7.4,SNR=56							
4.8nm,0.5s							

*IDC **18** 02:19:12.7±0.7, 12°.94S×45°.35E, h0km, mb3.9/12, mbtmp4.0/14, ML5.1/2, MS3.3/6, Error ellipse: s-maj=20.4km s-min=17.4km az=121.0*
*NEIC **18** 02:19:13.4±0.9, 12°.93S±0°.07×45°.3E±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=20.4km s-min=10.6km az=102.0*
ISC 18 02:19:13.6±0.5, 13°.00S±0°.06×45°.27E±0°.07, h10km, n43, σ1°74/45, mb4.0/12, MS3.2/3, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.56**	**96**	P	**Pn**	**02 20 19.4**	**-3.2**
OPO	**Ambohidratompo**	**5.84**	**162**	Pn	**Pn**	**02 20 40.7**	**+0.2**
9.2nm,0.3s,baz=335,slow=12,SNR=759							
OPO				Sn	**Sn**	**02 21 43.2**	**-4.5**
7.6nm,0.3s,baz=275,slow=21,SNR=10							
OPO				LR	LR	02 22 41.7	
comp=Z,161nm,21.2s,baz=178,slow=36							
OPO	**Ambohidratompo**	**5.84**	**162**	P	**Pn**	**02 20 41.0**	**+0.5**
FIRM	**Firavahana**	**5.88**	**165**	P	**Pn**	**02 20 41.9**	**+0.9**
ATG	**Ambohiby**	**5.92**	**172**	P	**Pn**	**02 20 42.2**	**+0.7**
ABPO	**Ambohimpanom**	**6.28**	**163**	Pn	**Pn**	**02 20 45.8**	**-0.6**
ABPO	**Ambohimpanom**	**6.28**	**163**	P	**Pn**	**02 20 46.5**	**+0.1**
DGRM	**Ambatolahisoa**	**6.33**	**170**	P	**Pn**	**02 20 48.1**	**+1.0**
AVY	**Angavokely**	**6.36**	**158**	P	**Pn**	**02 20 47.3**	**-0.3**
ABM	**Ambohimiarambe**	**7.04**	**164**	P	**Pn**	**02 20 57.5**	**+0.5**
VOI	**Vohitsoka**	**8.98**	**171**	Pn	**Pn**	**02 21 24.1**	**+0.5**
ZOMB	**Zomba**	**9.90**	**255**	ePN	**Pn**	**02 21 38.0**	**+1.8**
ZOMB				eSN	**Sn**	**02 23 22.4**	**-5.2**
FOMA	**Nahampoana Res**	**12.03**	**173**	Pn	**Pn**	**02 22 04.6**	**-0.6**
KIBK	**Kibwezi**	**12.77**	**325**	Pn	**Pn**	**02 22 13.6**	**-1.9**
RER	**Riviere de l'E**	**12.89**	**130**	Pn	**Pn**	**02 22 16.1**	**-0.9**
KMBO	**Kilima Mbogo**	**14.22**	**325**	Pn	**Pn**	**02 22 34.6**	**-0.8**
0.8nm,0.4s,baz=178,slow=16,SNR=3.8							
KMBO				Sn	**Sn**	**02 25 13.2**	**-0.3**
0.4nm,0.3s,baz=46,slow=24,SNR=5.5							
KMBO				LR	LR	02 26 52.9	
comp=Z,44nm,21.4s,baz=108,slow=32							
LSZ	**Lusaka**	**16.72**	**260**	Pn	**Pn**	**02 23 07.8**	**-0.4**
LSZ				IAmb	IAmb	02 23 14.4	
comp=Z,22nm,0.8s							
LSZ	**Lusaka**	**16.72**	**260**	Pn	**Pn**	**02 23 09.0**	**+0.8**
comp=Z,0.7nm,0.3s,baz=77,slow=8.0,SNR=25							
LSZ				Sn	**Sn**	**02 26 10.1**	**-4.1**
comp=Z,0.3nm,0.3s,baz=102,slow=3.3,SNR=3.5							
LSZ				LR	LR	02 29 36.1	
comp=Z,100nm,18.4s,baz=78,slow=37							
comp=Z,12nm,0.9s							
KHWEE **KHWEE**	**20.88**	**242**	*i* P	Pn		02 23 58.7	+0.1
LPHEP **Lephephe**	**21.10**	**238**	*i* P	**P**		**02 24 01.1**	**+2.5**
LBTB Lobatse	**22.07**	**234**	P	**P**		**02 24 08.5**	**-0.5**
LBTB			IAmb	IAmb		02 24 14.3	
comp=Z,13nm,1.1s							
LBTB Lobatse	**22.07**	**234**	P	**P**		**02 24 10.7**	**+1.6**
comp=Z,4.1nm,0.8s,baz=67,slow=8.0,SNR=5.9							
LBTB			LR	LR		02 33 04.7	
comp=Z,93nm,18.3s,baz=50,slow=38							
comp=Z,4.1nm,0.8s							
KDWAN **Kaudwane**	**22.10**	**239**	*i* P	**P**		**02 24 11.9**	**+2.5**
BOSA Boshof	**24.26**	**227**	P	**P**		**02 24 32.0**	**+0.8**
BOSA			IAmb	IAmb		02 24 39.1	
comp=Z,6.0nm,1.0s							
BOSA Boshof	**24.26**	**227**	P	**P**		**02 24 32.4**	**+1.2**
comp=Z,1.9nm,0.7s,baz=56,slow=8.0,SNR=7.3							
BOSA			LR	LR		02 35 00.5	
comp=Z,64nm,18.7s,baz=58,slow=39							
comp=Z,1.9nm,0.7s							
LKGWB **Lokgwabe**	**25.29**	**241**	*i* P	**P**		**02 24 39.0**	**-1.6**
SUR Sutherland	**29.56**	**225**	P	**P**		**02 25 18.2**	**-0.7**
SUR Sutherland	**29.56**	**225**	P	**P**		**02 25 20.9**	**+2.0**
comp=Z,7.7nm,0.9s,baz=137,slow=5.4,SNR=4.0							
comp=Z,7.7nm,0.9s							
TORD Torodi Ar. Bea	**50.40**	**299**	P	**P**		**02 28 13.2**	**+1.6**
comp=Z,1.1nm,0.5s,baz=146,slow=10.0,SNR=1.2							
comp=Z,1.1nm,0.5s							
BRTR Keskin Array B	**53.55**	**349**	P	**P**		**02 28 35.7**	**+0.9**
comp=Z,0.4nm,0.7s,baz=174,slow=9.9,SNR=2.9							
comp=Z,0.4nm,0.7s							
MAW Mawson	**55.78**	**172**	LR	LR		02 48 10.9	
comp=Z,65nm,18.5s,baz=174,slow=31							
KK31 Karatay Array	**60.42**	**21**	P	**P**		**02 29 22.3**	**-1.0**
KKAR Karatay Array	**60.42**	**21**	P	**P**		**02 29 22.3**	**-1.0**
CMAR Chiang Mai Arr	**61.46**	**61**	P	**P**		**02 29 32.2**	**+1.3**
comp=Z,1.2nm,0.3s,baz=245,slow=7.9,SNR=5.3							
comp=Z,1.2nm,0.3s							
ABKAR Akbulak array	**63.32**	**11**	P	**P**		**02 29 41.3**	**-1.4**
MKAR Makanchi Array	**68.14**	**26**	P	**P**		**02 30 13.9**	**0.0**
MKAR Makanchi Array	**68.14**	**26**	P	**P**		**02 30 13.6**	**-0.4**
comp=Z,0.4nm,0.6s,baz=221,slow=7.2,SNR=4.0							
comp=Z,0.4nm,0.6s							
ESDC Sonseca Array	**69.56**	**321**	P	**P**		**02 30 24.0**	**+1.1**
comp=Z,0.6nm,0.6s,baz=122,slow=5.5,SNR=3.8							
comp=Z,0.6nm,0.6s							
ZALV Zalesovo Beam	**74.69**	**23**	P	**P**		**02 30 52.5**	**-0.8**
comp=Z,0.3nm,0.3s,baz=198,slow=8.9,SNR=2.0							
comp=Z,0.3nm,0.3s							
QSPA South Pole Qui	**77.10**	**180**	P	**P**		**02 31 07.8**	**+0.6**
QSPA			IAmb	IAmb		02 31 10.0	
comp=Z,3.0nm,0.9s							
QSPA South Pole Qui	**77.10**	**180**	P	**P**		**02 31 08.9**	**+1.8**
comp=Z,2.6nm,0.9s,baz=234,slow=3.7,SNR=5.5							
comp=Z,2.6nm,0.9s							
ASAR Alice Springs	**83.66**	**113**	P	**P**		**02 31 43.0**	**-0.2**
comp=Z,0.6nm,0.6s,baz=263,slow=4.6,SNR=6.5							
comp=Z,0.6nm,0.6s							
WRA Warramunga Arr	**84.80**	**109**	P	**P**		**02 31 49.2**	**+0.2**
comp=Z,1.0nm,0.8s,baz=262,slow=3.8,SNR=5.9							
comp=Z,1.0nm,0.8s							

*BJI **18** 02:25:49.5, 21°.83N×144°.10E, h112km, mB4.8/13, mb4.6/36*
*NEIC **18** 02:25:51.8±1.7, 22°.06N±0°.07×143°.9E±0°.1, h93km±4km, mb4.9/316, Error ellipse: s-maj=14.1km s-min=10.1km az=77.0*
*IDC **18** 02:25:53.0±0.7, 22°.06N×143°.82E, h110km±5km, mb4.3/26, mbtmp4.6/28, MS3.2/23, Error ellipse: s-maj=14.6km s-min=9.6km az=78.0*
*JMA **18** 02:26:02.6±0.3, 23°N±1°×14°4E±°, h111km, MV5.3/28, IOTO ISLANDS REGION*
ISC 18 02:25:53.1±0.5, 22°.11N±0°.04×143°.86E±0°.06, h111km±4km, h111km: pP-P, n603, σ1°30/503, mb4.8/194, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.76**	**342**	eP	**Pn**	**02 27 03.2**	**+0.5**
JHH2				eS	**Sn**	**02 27 49.5**	**-7.4**
JCJ	**Chichijima**	**5.20**	**343**	Pn	**Pn**	**02 27 07.6**	**-1.0**
JCJ	**Chichijima**	**5.20**	**343**	P	Pn	02 27 02.2	-6.4
166nm,0.4s,baz=35,slow=8.1,SNR=36							
JCJ				S	**Sn**	**02 27 59.8**	**-7.6**
467nm,0.4s,baz=131,slow=22,SNR=14							
CBIJ Chichi jima	**5.20**	**343**	eP	**Pn**	**02 27 08.4**	**-0.2**
GUMO Guam	**8.53**

comp=Z,21nm,1.0s
PEA0B Petropavlovsk- 32.71 15 P **P 02 32 14.4 -0.5**
PEA0B IAmb IAmb 02 32 23.3
comp=Z,18nm,1.1s
PETK Petropavlovsk- 32.71 15 P **P 02 32 15.4 +0.4**
PETK Petropavlovsk- 32.71 15 P **P 02 32 16.7 +1.8**
comp=Z,4.5nm,0.9s,baz=208,slow=6.0,SNR=7.2
PETK PcP **PcP 02 34 57.5 -0.4**
comp=Z,2.8nm,0.9s,baz=257,slow=3.8,SNR=3.8
PETK ScP **ScP 02 38 29.6 -2.3**
comp=Z,1.5nm,0.8s,baz=239,slow=0.9,SNR=3.6
PETK LR LR 02 43 01.2
comp=Z,52nm,21.6s,baz=220,slow=31
comp=Z,4.5nm,0.9s
PET Petropavlovsk 32.88 17 P **P 02 32 18.0 +1.7**
PET Petropavlovsk 32.88 17 P **P 02 32 16.6 +0.3**
comp=Z,38nm,1.0s
HHC Hu-ho-hao-te 33.02 312 *e*P **P 02 32 19.8 +1.9**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,51nm,3.6s
COEN Coen 35.85 181 P **P 02 32 41.9 -0.4**
COEN IAmb IAmb 02 32 44.8
comp=Z,22nm,0.9s
CD2 Chengdu 36.78 292 *e*P **P 02 32 50.0 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 37.37 301 *e*P **P 02 32 57.1 +1.7**
LZH pP pP 02 33 19.4 -0.4
LZH pmax pmax
comp=Z,21nm,1.0s
MA2 Magadan 37.76 6 P **P 02 32 59.4 +1.4**
MA2 IAmb IAmb 02 33 00.6
comp=Z,18nm,0.8s
MA2 Magadan 37.76 6 LR LR 02 50 30.1
comp=Z,19nm,18.1s,baz=170,slow=39
MA2 Magadan 37.76 6 P **P 02 32 58.9 +0.8**
comp=Z,27nm,0.8s
MA2 Magadan 37.76 6 P **P 02 32 59.5 +1.4**
SHEM Shemya Is, Ala 38.35 30 LR LR 02 45 21.0
comp=Z,44nm,21.9s,baz=124,slow=30
PZH PanZhiHua 38.51 285 P **P 02 33 05.0 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
ULN Ulaanbaatar 39.05 320 P **P 02 33 10.0 +0.7**
ULN Ulaanbaatar 39.05 320 P **P 02 33 10.2 +0.9**
ULN pP **pP 02 33 32.9 -0.4**
SONM Songino Array 39.43 320 P **P 02 33 12.6 +0.2**
SONM Songino Array 39.43 320 P **P 02 33 12.8 +0.4**
comp=Z,5.1nm,0.6s,baz=131,slow=7.9,SNR=40
SONM PcP **PcP 02 35 18.3 0.0**
comp=Z,0.6nm,0.6s,baz=184,slow=7.9,SNR=1.6
SONM ScP **ScP 02 38 55.8 -1.1**
comp=Z,0.6nm,0.7s,baz=148,slow=3.2,SNR=3.5
SONM LR LR 02 49 21.0
comp=Z,36nm,18.9s,baz=169,slow=36
comp=Z,5.1nm,0.6s
KNRA Kununurra 40.36 203 P **P 02 33 19.1 -1.0**
KNRA IAmb IAmb 02 33 20.6
comp=Z,11nm,0.7s
YAK Yakutsk 41.08 350 P **P 02 33 25.3 -0.2**
GTA Gaotai 41.15 305 *e*P **P 02 33 28.3 +1.6**
CMAR Chiang Mai Arr 42.18 273 P **P 02 33 35.5 +0.3**
comp=Z,1.6nm,0.4s,baz=88,slow=6.4,SNR=4.7
CMAR LR LR 02 50 11.2
comp=Z,15nm,20.9s,baz=175,slow=35
comp=Z,1.6nm,0.4s
KIWB Kanaga Island 42.22 36 P **P 02 33 35.3 +0.3**
ADK Adak 42.49 36 P **P 02 33 37.2 0.0**
ADK IAmb IAmb 02 33 39.3
comp=Z,36nm,1.1s
WB0 Warramunga Arr 42.63 193 P **P 02 33 37.7 -1.0**
WR0 Warramunga Arr 42.79 193 P **P 02 33 39.1 -0.9**
WRAB Tennant Creek 42.80 193 P **P 02 33 39.2 -0.9**
WRAB IAmb IAmb 02 33 40.9
comp=Z,9.9nm,0.7s
WB2 Warramunga Arr 42.81 193 P **P 02 33 39.2 -1.0**
WB2 IAmb IAmb 02 33 41.3
comp=Z,12nm,0.8s
WRA Warramunga Arr 42.81 193 P **P 02 33 38.6 -1.6**
WRA Warramunga Arr 42.81 193 P **P 02 33 39.5 -0.7**
comp=Z,6.7nm,0.6s,baz=17,slow=9.0,SNR=62
WRA ScP **ScP 02 39 09.3 -1.1**
comp=Z,2.8nm,0.8s,baz=10,slow=4.2,SNR=10
WRA LR LR 02 49 55.5
comp=Z,50nm,20.7s,baz=76,slow=34
comp=Z,6.7nm,0.6s
FITZ Fitzroy Crossi 43.76 205 P **P 02 33 47.4 -0.3**
ATKA Atka Island 43.99 36 P **P 02 33 49.6 +0.3**
GOMU GeErMu 44.63 300 P **P 02 33 56.8 +1.7**
GOMU pP pP 02 34 19.0 -1.2
GOMU sP sP 02 34 30.6 -1.9
GOMU PcP **PcP 02 35 37.1 +1.0**
GOMU pmax pmax
comp=Z,14nm,0.9s
GOMU pmax pmax
comp=Z,200nm,5.1s
KULM Kulim 44.98 255 P **P 02 33 59.1 +1.5**
KULM IAmb IAmb 02 34 00.2
comp=Z,12nm,0.7s
AS31 Alice Springs 46.52 193 P **P 02 34 08.2 -1.4**
ASAR Alice Springs 46.52 193 P **P 02 34 08.1 -1.5**
ASAR Alice Springs 46.52 193 P **P 02 34 08.4 -1.1**
comp=Z,2.1nm,0.6s,baz=11,slow=6.9,SNR=27
ASAR pP **pP 02 34 35.1 +0.6**
comp=Z,1.8nm,0.6s,baz=12,slow=9.5,SNR=4.5
ASAR PcP **PcP 02 35 42.1 -0.2**
comp=Z,1.3nm,0.8s,baz=9.5,slow=4.9,SNR=5.1
ASAR ScP **ScP 02 39 25.1 -0.5**
comp=Z,0.8nm,0.6s,baz=17,slow=5.1,SNR=6.4
ASAR LR LR 02 53 15.9
comp=Z,51nm,19.6s,baz=266,slow=35
comp=Z,2.1nm,0.6s
NIKH Nikolski High 47.28 37 P **P 02 34 15.6 +0.5**
baz=248
SPIA Saint Paul Isl 48.29 32 P **P 02 34 24.1 +1.2**
SPIA Saint Paul Isl 48.29 32 P **P 02 34 23.5 +0.7**
baz=243
P08K Saint George I 48.38 33 P **P 02 34 24.7 +1.1**
baz=244
UNV Unalaska Valle 48.91 37 P **P 02 34 27.6 0.0**
UNV Unalaska Valle 48.91 37 P **P 02 34 29.0 +1.3**
baz=250
MBWA Marble Bar 49.03 210 P **P 02 34 28.1 -0.8**
MBWA Marble Bar 49.03 210 P **P 02 34 28.9 -0.1**
DZM Mont Dzumac 49.12 152 P **P 02 34 28.6 -1.1**
DZM IAmb IAmb 02 35 43.7
comp=Z,35nm,1.7s
LVA Lava Point 49.28 37 P **P 02 34 30.5 0.0**
PSA00 Pilbara Seismi 49.33 210 P **P 02 34 29.9 -1.3**
GSI Gunungsitoli 49.52 252 P **P 02 34 33.5 +0.6**
TIXI Tiksi 50.31 354 P **P 02 34 38.3 +0.3**
TIXI Tiksi 50.31 354 P **P 02 34 38.3 +0.3**
WMQ Urumqi 50.81 309 *e*P **P 02 34 45.6 +3.3**
WMQ pmax pmax
comp=Z,34nm,0.7s
FALS False Pass 50.95 36 P **P 02 34 43.9 +0.9**
baz=252
GAMB Gambell 50.99 24 IAmb IAmb 02 34 45.8
comp=Z,16nm,1.0s
GAMB Gambell 50.99 24 P **P 02 34 44.9 +1.6**
baz=237,SNR=9.3
M11K Mekoryuk 51.60 29 P **P 02 34 48.3 +0.5**
baz=245
MSVF Nonsavu 51.84 137 P **P 02 34 51.1 +0.8**
MSVF Nonsavu 51.84 137 P **P 02 34 51.5 +1.3**
MSVF pP **pP 02 35 15.0 -0.9**
SDPT Sand Point 52.71 36 P **P 02 34 56.7 +0.6**
baz=254
M13K Dall Lake 52.91 30 P **P 02 34 59.2 +1.7**
baz=248
K13K Kusilvak Mount 52.93 28 P **P 02 34 59.3 +1.6**
baz=245
GIRL Giralia 53.02 215 P **P 02 34 60.0 +1.2**
CHNA Chernabura Isl 53.06 37 P **P 02 34 59.8 +1.0**
baz=255
TNA Tin City 53.32 23 IAmb IAmb 02 35 02.9
comp=Z,12nm,0.9s
TNA Tin City 53.32 23 P **P 02 35 02.3 +1.9**
baz=240,SNR=10
O14K Tigyukauivet M 53.48 32 P **P 02 35 03.1 +1.4**
baz=251
N14K Kuskokwak Cree 53.50 31 P **P 02 35 03.4 +1.5**
baz=250
L14K Kuka Creek 53.56 29 P **P 02 35 03.7 +1.5**
baz=248
M14K Bethel 53.67 30 P **P 02 35 04.7 +1.7**
baz=249,SNR=8.0
STKA Stephens Creek 53.72 182 P **P 02 35 02.2 -1.6**
STKA Stephens Creek 53.72 182 P **P 02 35 02.4 -1.4**
comp=Z,3.8nm,0.5s,baz=350,slow=8.6,SNR=13
STKA PcP **PcP 02 36 09.4 +0.9**
comp=Z,1.9nm,0.6s,baz=16,slow=5.9,SNR=1.6
comp=Z,3.8nm,0.5s
J14K Nanvaranak Lak 53.73 27 IAmb IAmb 02 35 06.2
comp=Z,21nm,1.1s
J14K Nanvaranak Lak 53.73 27 P **P 02 35 05.0 +1.5**
baz=246,SNR=5.5
ANM Nome 53.79 24 IAmb IAmb 02 35 06.6
comp=Z,24nm,1.1s
ANM Nome 53.79 24 P **P 02 35 05.5 +1.6**
baz=243,SNR=11
F14K Arctic Creek 53.86 23 P **P 02 35 06.5 +2.1**
baz=241,SNR=32
CHGN Chignik 54.08 36 P **P 02 35 06.8 +0.7**
baz=255
O15K Ungalikthiuk R 54.16 32 P **P 02 35 07.9 +1.2**
baz=252,SNR=5.8
L15K Ungalak Mounta 54.22 29 P **P 02 35 08.1 +1.1**
baz=249
M15K Kasigluk River 54.23 30 P **P 02 35 08.3 +1.2**
baz=250
ZAA0 Zalesovo Array 54.28 321 P **P 02 35 07.5 -0.1**
ZAA0 IAmb IAmb 02 35 08.4
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 54.28 321 P **P 02 35 07.7 0.0**
ZALV Zalesovo Beam 54.28 321 P **P 02 35 07.4 -0.3**
comp=Z,9.7nm,0.5s,baz=108,slow=8.1,SNR=41
comp=Z,9.7nm,0.5s
N15K Kwethluk River 54.34 31 P **P 02 35 09.5 +1.5**
baz=251,SNR=6.0
K15K Wolf Creek Mou 54.42 28 IAmb IAmb 02 35 10.7
comp=Z,16nm,0.8s
K15K Wolf Creek Mou 54.42 28 P **P 02 35 10.2 +1.7**
baz=248,SNR=6.2
G15K Niukluk 54.49 24 P **P 02 35 10.4 +1.4**
baz=244,SNR=6.4
F15K North Star 54.58 23 P **P 02 35 11.5 +1.8**
baz=243,SNR=18
R16K Pilot Point 54.84 34 P **P 02 35 12.8 +1.1**
baz=255
MKAR Makanchi Array 54.89 312 P **P 02 35 12.7 +0.5**
MKAR Makanchi Array 54.89 312 P **P 02 35 12.9 +0.7**
comp=Z,1.7nm,0.4s,baz=87,slow=8.7,SNR=23
MKAR pP **pP 02 35 37.1 -0.9**
comp=Z,4.7nm,0.6s,baz=91,slow=9.1,SNR=13
MKAR PcP **PcP 02 36 13.0 0.0**
comp=Z,1.9nm,0.5s,baz=79,slow=3.0,SNR=4.7
MKAR ScP **ScP 02 40 00.3 -1.1**
comp=Z,1.0nm,0.8s,baz=95,slow=5.1,SNR=4.9
comp=Z,1.7nm,0.4s
P16K Nushagak River 55.02 32 P **P 02 35 14.6 +1.8**
baz=254
H16K Elim 55.04 25 P **P 02 35 14.1 +1.2**
baz=246,SNR=11
N16K Nishlik Lake 55.06 31 P **P 02 35 15.2 +1.9**
baz=252,SNR=6.7
MAKZ Makanchi 55.10 312 P **P 02 35 14.7 +0.9**
MAKZ IAmb IAmb 02 35 40.6
comp=Z,12nm,1.2s
MAKZ Makanchi 55.10 312 P **P 02 35 14.4 +0.6**
MAKZ pP **pP 02 35 38.2 -1.5**
BBOO Buckleboo 55.11 188 P **P 02 35 12.8 -1.0**
O16K Kokwok River B 55.12 32 P **P 02 35 14.8 +1.1**
O16K Kokwok River B 55.12 32 P **P 02 35 15.1 +1.5**
baz=254
L16K Owhat River 55.13 29 P **P 02 35 14.4 +0.8**
L16K IAmb IAmb 02 35 15.7
comp=Z,30nm,1.5s
L16K Owhat River 55.13 29 P **P 02 35 15.0 +1.4**
baz=251
M16K Timber Creek 55.14 30 P **P 02 35 15.1 +1.3**
baz=252
J16K Anvik River 55.18 27 IAmb IAmb 02 35 16.3
comp=Z,14nm,0.8s
J16K Anvik River 55.18 27 P **P 02 35 15.7 +1.7**
baz=249,SNR=8.3
G16K Koyuk River 55.31 24 P **P 02 35 16.0 +1.2**
baz=245
I17K Unalakleet 55.37 26 P **P 02 35 17.0 +1.7**
baz=248
CHIR Chirikof Islan 55.50 37 P **P 02 35 16.6 +0.3**
baz=258
C16K Lisburne Hills 55.56 20 P **P 02 35 17.8 +1.2**
baz=241
Q16K King Salmon 55.59 33 P **P 02 35 18.0 +1.0**
baz=255
O17K Koliganek Bris 55.66 32 P **P 02 35 19.0 +1.5**
baz=254,SNR=5.7
L17K Donlin 55.79 29 P **P 02 35 20.1 +1.8**
baz=252,SNR=6.7
N17K Nushagak Hills 55.83 31 IAmb IAmb 02 35 21.4
comp=Z,15nm,0.8s
N17K Nushagak Hills 55.83 31 P **P 02 35 19.7 +1.1**
baz=254
P17K Kvichak River 55.83 32 P **P 02 35 19.6 +0.9**
baz=255
J17K VABM Dome 55.87 27 IAmb IAmb 02 35 21.8
comp=Z,13nm,0.8s
J17K VABM Dome 55.87 27 P **P 02 35 20.8 +1.9**
baz=250
M17K Holitna River 55.96 30 P **P 02 35 21.3 +1.7**
baz=253
K17K Iditarod 55.98 28 P **P 02 35 21.7 +2.0**
baz=251,SNR=18
G17K Kiwalik Mounta 56.00 24 P **P 02 35 21.4 +1.6**
baz=247,SNR=12
D17K Noatak River 56.04 22 P **P 02 35 21.7 +1.6**
baz=243,SNR=27
H17K Granite Mounta 56.08 25 P **P 02 35 22.1 +1.7**
baz=248,SNR=14
F17K Baldwin Pennin 56.15 23 P **P 02 35 22.6 +1.7**
baz=246,SNR=14
ACHA Angle Creek He 56.16 34 P **P 02 35 20.5 -0.7**
RDOG Red Dog Mine 56.26 21 P **P 02 35 23.3 +1.7**
baz=243,SNR=10
C17K DeLong Mountai 56.37 21 P **P 02 35 24.2 +1.8**
baz=243,SNR=13
Q18K Katmai Hardscr 56.42 33 P **P 02 35 23.9 +0.8**
baz=257
SII Sitkinak Islan 56.43 36 P **P 02 35 24.1 +1.0**
SII Sitkinak Islan 56.43 36 P **P 02 35 24.0 +1.0**
baz=259
N18K Kilae Creek 56.48 31 P **P 02 35 24.6 +1.3**
baz=255
R18K Karluk 56.48 35 P **P 02 35 24.4 +1.0**
baz=258
P18K Big Mountain, 56.48 32 P **P 02 35 24.3 +0.9**
baz=256
L18K Granite Mounta 56.54 29 P **P 02 35 25.2 +1.5**
baz=253
O18K Koktuh Hills 56.60 32 P **P 02 35 25.2 +1.0**
O18K Koktuh Hills 56.60 32 P **P 02 35 25.9 +1.6**
baz=256,SNR=7.6
M18K Stony River 56.73 30 P **P 02 35 26.6 +1.6**
baz=254
H18K Honhosa River 56.77 25 IAmb IAmb 02 35 27.4
comp=Z,13nm,0.8s
H18K Honhosa River 56.77 25 P **P 02 35 26.4 +1.1**
baz=250,SNR=11
E18K Tukpahlearik C 56.78 22 IAmb IAmb 02 35 28.2
comp=Z,19nm,1.0s
E18K Tukpahlearik C 56.78 22 P **P 02 35 27.1 +1.7**
baz=246
F18K Selawik 56.80 23 P **P 02 35 26.9 +1.4**
baz=248,SNR=11
J18K Innoko River 56.90 27 P **P 02 35 27.2 +1.0**
baz=252
G18K Tagagawik 56.92 24 P **P 02 35 27.5 +1.2**
baz=249,SNR=22
OHAK Old Harbor 57.03 35 P **P 02 35 27.8 +0.6**
OHAK Old Harbor 57.03 35 P **P 02 35 27.6 +0.3**
baz=260
C18K Utukok River 57.10 21 IAmb IAmb 02 35 29.9
comp=Z,6.2nm,0.8s
C18K Utukok River 57.10 21 P **P 02 35 28.7 +1.1**
baz=245
O19K Port Alsworth 57.12 32 P **P 02 35 28.9 +1.1**
baz=257
Q19K Cape Douglas, 57.18 33 P **P 02 35 28.6 +0.3**
baz=258
N19K Bonanza Creek 57.18 31 P **P 02 35 29.8 +1.4**
baz=256,SNR=5.4
B18K Kokolik River 57.21 20 P **P 02 35 30.1 +1.8**
baz=244
GCSA Galena City Sc 57.23 26 P **P 02 35 29.5 +1.1**
baz=251,SNR=5.2
L19K White Mountain 57.35 29 IAmb IAmb 02 35 31.8
comp=Z,17nm,1.0s
L19K White Mountain 57.35 29 P **P 02 35 30.9 +1.4**
baz=255
M19K Big River Lodg 57.49 30 P **P 02 35 30.6 +0.2**
baz=256
KDAK Kodiak Island 57.51 35 LR LR 02 58 17.0
comp=Z,14nm,21.8s,baz=77,slow=34
KDAK Kodiak Island 57.51 35 P **P 02 35 31.0 +0.4**
baz=260
KDAK Kodiak Island 57.51 35 P **P 02 35 31.2 +0.6**
J19K Poorman 57.52 27 IAmb IAmb 02 35 32.8
comp=Z,20nm,1.0s
J19K Poorman 57.52 27 P **P 02 35 31.9 +1.4**
baz=253,SNR=9.7
P19K Oil Pt 57.53 32 P **P 02 35 31.5 +0.7**
baz=258
F19K Shaleruckik Mo 57.58 24 IAmb IAmb 02 37 31.9
comp=Z,9.2nm,0.9s
F19K Shaleruckik Mo 57.58 24 P **P 02 35 31.9 +0.9**
baz=249,SNR=5.4
G19K Purcell Mounta 57.60 24 P **P 02 35 32.6 +1.4**
baz=250
KURK Kurchatov 57.61 317 P **P 02 35 31.3 -0.1**
KURK Kurchatov 57.61 317 P **P 02 35 31.5 +0.1**
KURK pP **pP 02 35 55.6 -1.4**
H19K Roundabout Mou 57.65 25 P **P 02 35 33.0 +1.6**
baz=251
KURBB Kurchatov Arra 57.66 317 P **P 02 35 32.1 +0.3**
comp=Z,22nm,0.6s,baz=92,slow=7.8,SNR=320
comp=Z,22nm,0.6s
Q20K Shuyak Island 57.76 34 P **P 02 35 33.0 +0.7**
baz=260
A19K Wainwright 57.81 19 P **P 02 35 34.0 +1.5**
baz=244
NRIK Noril'sk 57.83 340 IAmb IAmb 02 35 33.8
comp=Z,34nm,1.9s
NRIK Noril'sk 57.83 340 P **P 02 35 32.4 -0.3**
comp=Z,2.8nm,0.5s,baz=103,slow=6.8,SNR=6.2
NRIK LR LR 03 01 07.9
comp=Z,24nm,20.2s,baz=103,slow=36
comp=Z,2.8nm,0.5s
L20K Farewell, AK 57.87 29 P **P 02 35 34.4 +1.3**
baz=256
O20K Slope Mountain 57.92 32 P **P 02 35 34.3 +0.7**
baz=258
E19K Redstone River 58.00 23 IAmb IAmb 02 35 36.3
comp=Z,17nm,1.1s
E19K Redstone River 58.00 23 P **P 02 35 35.6 +1.7**
baz=249
K20K Telida 58.01 28 P **P 02 35 35.8 +1.8**
baz=255
M20K Styx River 58.07 30 IAmb IAmb 02 35 37.1
comp=Z,20nm,1.1s
M20K Styx River 58.07 30 P **P 02 35 36.1 +1.5**
baz=257
D19K Kuna River 58.07 22 IAmb IAmb 02 35 36.8
comp=Z,24nm,1.3s
D19K Kuna River 58.07 22 P **P 02 35 35.8 +1.3**
baz=248
J20K Nowinta River 58.19 27 P **P 02 35 37.2 +2.0**
baz=254,SNR=14
I20K Naaghedeneel 58.22 26 P **P 02 35 37.3 +1.8**
baz=254
H20K Anotleneega Mo 58.26 25 P **P 02 35 37.3 +1.5**
baz=253,SNR=17
SPCR Spurr Chakacha 58.35 31 P **P 02 35 37.8 +1.3**
baz=258
F20K Avaraart Lake 58.42 24 IAmb IAmb 02 35 38.8
comp=Z,10nm,0.7s
F20K Avaraart Lake 58.42 24 P **P 02 35 38.2 +1.5**
baz=251
CNPM China Poot 58.51 33 P **P 02 35 37.9 +0.3**
STLK Strandline Lak 58.59 30 IAmb IAmb 02 35 39.6
comp=Z,11nm,0.8s
E20K Nigu River 58.65 22 P **P 02 35 39.9 +1.4**
baz=250
D20K Etivluk River 58.66 22 P **P 02 35 40.0 +1.5**
baz=249
BRLK Bradley Lake 58.72 33 P **P 02 35 38.1 -1.0**
PPLA Purkeypile 58.73 29 P **P 02 35 40.2 +1.0**
baz=257
BRSE Bradley Lake S 58.79 33 P **P 02 35 40.1 +0.5**
baz=260
SKT Skwentna 58.83 30 IAmb IAmb 02 35 41.0
comp=Z,16nm,0.9s
SKT Skwentna 58.83 30 P **P 02 35 40.1 +0.3**
baz=258,SNR=5.4
CAST Castle Rocks 58.89 28 P **P 02 35 41.4 +1.2**
CAST Castle Rocks 58.89 28 P **P 02 35 41.5 +1.3**
baz=257,SNR=14
CHUM Lake Minchumin 58.90 28 P **P 02 35 41.6 +1.5**
baz=256
B20K Meade River 58.96 20 P **P 02 35 42.1 +1.6**
baz=248
G21K Allakaket 59.09 25 IAmb IAmb 02 35 44.1
comp=Z,17nm,1.0s
G21K Allakaket 59.09 25 P **P 02 35 43.1 +1.6**
baz=254
SUA Susitna One 59.09 31 P **P 02 35 42.0 +0.3**
baz=259
H21K Melozitna Rive 59.14 26 P **P 02 35 43.6 +1.8**
baz=255,SNR=16
F21K Alatna River 59.30 24 IAmb IAmb 02 35 45.5
comp=Z,6.8nm,0.8s
F21K Alatna River 59.30 24 P **P 02 35 44.3 +1.3**
baz=253,SNR=12
I21K Tanana 59.35 26 P **P 02 35 45.1 +1.9**
baz=256,SNR=13
BOOM Boomskoye usch 59.36 307 IAmb IAmb 02 36 18.1
comp=Z,5.7nm,0.7s
O22K Cooper Landing 59.42 32 P **P 02 35 44.7 +0.9**
baz=261
KTH Kantishna Hill 59.43 28 P **P 02 35 44.2 +0.3**
KTH IAmb IAmb 02 35 46.4
comp=Z,14nm,0.8s
C21K Knifeblade Rid 59.44 21 P **P 02 35 45.1 +1.3**
baz=251
M22K Willow 59.44 30 P **P 02 35 43.7 -0.2**
baz=260
E21K Killik River 59.49 22 IAmb IAmb 02 35 46.6
comp=Z,11nm,0.9s
E21K Killik River 59.49 22 P **P 02 35 45.4 +1.2**
baz=252,SNR=9.4
SEW Seward 59.49 32 P **P 02 35 45.0 +0.8**
baz=261
CUT Chulitna 59.49 30 P **P 02 35 45.5 +1.2**
baz=259
RC01 Rabbit Creek A 59.51 31 P **P 02 35 45.6 +1.1**
baz=260
BPAW Bear Paw Mtn. 59.52 28 P **P 02 35 45.6 +1.1**
baz=258,SNR=6.7
KSH Kashi 59.53 304 P **P 02 35 49.3 +4.2**
KSH pmax pmax
comp=Z,5.0nm,0.8s
A21K Barrow 59.62 19 P **P 02 35 46.3 +1.3**
baz=248
B21K Ikpikpuk River 59.65 21 IAmb IAmb 02 35 47.8
comp=Z,14nm,1.1s
B21K Ikpikpuk River 59.65 21 P **P 02 35 46.8 +1.6**
baz=251,SNR=7.3
TRF Thorofare Moun 59.69 28 P **P 02 35 46.3 +0.4**
baz=258,SNR=7.6
H22K Ishtalitna Cre 59.77 25 P **P 02 35 47.0 +0.9**
baz=256
F22K John River 59.87 24 P **P 02 35 48.4 +1.6**
baz=254
PMR Palmer 59.88 31 P **P 02 35 47.1 +0.1**
baz=261,SNR=5.9
A22K Sinclair Lake 60.00 19 P **P 02 35 49.2 +1.6**
baz=250
D22K Ayikyak River 60.07 22 P **P 02 35 49.9 +1.7**
baz=253,SNR=25
PWL Port Wells 60.15 32 P **P 02 35 49.3 +0.4**
baz=262
KNK Knik Glacier 60.17 31 P **P 02 35 49.7 +0.7**
baz=261
E22K Anaktuvuk Pass 60.17 23 P **P 02 35 50.7 +1.8**
baz=254,SNR=20
B22K Teshekpuk Lake 60.27 20 IAmb IAmb 02 35 51.7
comp=Z,14nm,0.8s
B22K Teshekpuk Lake 60.27 20 P **P 02 35 51.0 +1.5**

baz=252
SML Sawmill 60.29 30 P P 02 35 49.9 0.0
SML Sawmill 60.29 30 P P 02 35 50.6 +0.8
baz=261,SNR=5.3
MCK McKinley 60.33 28 IAmb IAmb 02 35 51.3
comp=Z,14nm,0.8s
MCK McKinley 60.33 28 P P 02 35 50.4 +0.4
baz=260,SNR=6.5
AAK Ala-Archa 60.42 307 P P 02 35 51.3 +0.1
AAK Ala-Archa 60.42 307 P P 02 35 51.9 +0.7
I23K Minto, Yukon-K 60.42 27 IAmb IAmb 02 35 53.5
comp=Z,23nm,1.3s
I23K Minto, Yukon-K 60.42 27 P P 02 35 52.4 +1.8
baz=258,SNR=8.9
NEA2 Nenana 60.44 27 IAmb IAmb 02 35 52.7
comp=Z,17nm,1.0s
NEA2 Nenana 60.44 27 P P 02 35 51.9 +1.1
baz=259
H23K Yukon River 60.48 26 IAmb IAmb 02 35 53.7
comp=Z,12nm,0.9s
H23K Yukon River 60.48 26 P P 02 35 52.7 +1.6
baz=258
G23K Bananza Creek 60.49 25 P P 02 35 53.0 +1.9
baz=257,SNR=15
P23K Montague Islan 60.49 33 P P 02 35 52.7 +1.6
baz=263
COLD Coldfoot 60.54 24 IAmb IAmb 02 35 54.1
comp=Z,21nm,1.1s
COLD Coldfoot 60.54 24 P P 02 35 53.1 +1.7
baz=256,SNR=12
M23K Glacier View 60.57 30 P P 02 35 53.0 +1.3
baz=262
GLI Glacier Island 60.75 32 P P 02 35 53.9 +0.9
baz=263
SCM Sheep Creek Mo 60.77 30 P P 02 35 54.4 +1.3
baz=262
D23K Nanushuk River 60.79 22 P P 02 35 54.7 +1.7
baz=255
WRH Wood River Hil 60.83 27 P P 02 35 53.3 -0.1
E23K Chandalar 60.95 23 P P 02 35 56.2 +1.9
baz=257,SNR=35
Q23K Middleton Isla 60.97 33 P P 02 35 55.8 +1.5
baz=264
COLA College 61.00 27 P P 02 35 55.8 +1.3
baz=260
COLA College 61.00 27 P P 02 35 55.2 +0.7
C23K Itkillik River 61.04 21 P P 02 35 56.4 +1.7
baz=255
TOLK Toolik Lake Re 61.10 23 P P 02 35 56.8 +1.6
baz=256,SNR=14
H24K Noodor Dome 61.16 26 IAmb IAmb 02 35 58.0
comp=Z,8.2nm,0.8s
H24K Noodor Dome 61.16 26 P P 02 35 56.9 +1.2
baz=260
POKR Poker Plat Res 61.22 27 P P 02 35 56.1 0.0
baz=260
HDA Harding Lake 61.31 28 P P 02 35 57.0 +0.3
baz=261
M24K Tolsona, Glenn 61.34 30 P P 02 35 58.3 +1.4
baz=263
E24K Your Creek 61.37 23 IAmb IAmb 02 35 59.4
comp=Z,13nm,0.7s
E24K Your Creek 61.37 23 P P 02 35 58.7 +1.6
baz=258
EYAK Cordova Ski Ar 61.37 32 P P 02 35 57.5 +0.4
EYAK Cordova Ski Ar 61.37 32 P P 02 35 57.7 +0.6
baz=264
KLU Klutina 61.39 31 P P 02 35 58.6 +1.2
baz=264,SNR=6.3
IL31 61.39 27 IAmb IAmb 02 35 57.7
comp=Z,12nm,0.8s
ILAR Eielson Array 61.39 27 P P 02 35 56.1 -1.1
ILAR Eielson Array 61.39 27 P P 02 35 56.8 -0.4
comp=Z,7.8nm,0.8s,baz=259,slow=5.3,SNR=96
ILAR LR LR 03 00 43.8
comp=Z,22nm,20.4s,baz=116,slow=34
comp=Z,7.8nm,0.8s
F24K Squaw Lake 61.48 24 IAmb IAmb 02 36 00.6
comp=Z,11nm,1.1s
F24K Squaw Lake 61.48 24 P P 02 35 59.4 +1.6
baz=259
G24K Hadweenzic Riv 61.48 25 IAmb IAmb 02 36 00.5
comp=Z,18nm,1.1s
G24K Hadweenzic Riv 61.48 25 P P 02 35 59.6 +1.9
baz=259,SNR=8.1
D24K Happy Valley 61.48 22 IAmb IAmb 02 36 00.1
comp=Z,14nm,0.7s
D24K Happy Valley 61.48 22 P P 02 35 59.4 +1.6
baz=257
ARSB Arslanbob 61.65 306 IAmb IAmb 02 36 01.4
comp=Z,4.6nm,0.6s
C24K Franklin Bluff 61.66 21 IAmb IAmb 02 36 01.3
comp=Z,13nm,0.9s
C24K Franklin Bluff 61.66 21 P P 02 36 00.3 +1.4
baz=257
K24K Donnelly Dome 61.73 28 P P 02 36 00.7 +1.2
baz=263
HARP HAARP 61.85 30 P P 02 36 01.3 +1.0
baz=264
BMRM Bremner River 61.97 32 P P 02 36 02.2 +1.0
BMRM Bremner River 61.97 32 P P 02 36 02.0 +0.8
baz=265
J25K Salcha River, 62.01 27 IAmb IAmb 02 36 03.2
comp=Z,6.6nm,0.8s
J25K Salcha River, 62.01 27 P P 02 36 01.7 +0.2
baz=262
G25K Bearman Lake 62.03 25 P P 02 36 02.9 +1.5
baz=261
N25K Chitina, Valde 62.03 31 P P 02 36 02.6 +1.0
baz=265
H25L Birch Creek 62.06 26 P P 02 36 03.0 +1.4
baz=261,SNR=5.8
PRP Porcupine Dome 62.07 26 P P 02 36 02.8 +0.9
baz=262
RIDG Independent Ri 62.13 28 P P 02 36 02.7 +0.4
baz=264,SNR=5.6
F25K Christian Rive 62.34 24 IAmb IAmb 02 36 06.7
comp=Z,28nm,1.4s
F25K Christian Rive 62.34 24 P P 02 36 05.6 +2.0
baz=261,SNR=13
FYU Fort Yukon 62.34 25 IAmb IAmb 02 36 07.1
comp=Z,12nm,0.8s
D25K Kavik River 62.38 22 P P 02 36 05.4 +1.7
baz=259
GLB Gilahina Butte 62.39 31 P P 02 36 04.7 +0.7
E25K Arctic Village 62.45 23 P P 02 36 06.1 +1.9
baz=260,SNR=10
DOT Dot Lake 62.47 29 IAmb IAmb 02 36 05.8
comp=Z,20nm,1.1s
SCRK Sand Creek 62.54 28 P P 02 36 05.6 +0.6
baz=264,SNR=12
BMAR Burnt Mountain 62.72 24 P P 02 36 07.2 +1.1
L26K Log Cabin Wild 62.73 29 IAmb IAmb 02 36 07.7
comp=Z,8.7nm,0.7s
L26K Log Cabin Wild 62.73 29 P P 02 36 07.2 +0.9
baz=265,SNR=5.8
BVAR Borovoye Array 62.77 319 P P 02 36 07.1 +0.5
comp=Z,36nm,0.7s,baz=89,slow=7.3,SNR=157
comp=Z,36nm,0.7s
J26L Joseph Creek 62.77 28 IAmb IAmb 02 36 07.8
comp=Z,22nm,0.9s
J26L Joseph Creek 62.77 28 P P 02 36 07.0 +0.5
baz=264,SNR=16
BRVK Borovoye 62.84 319 P P 02 36 07.4 +0.3
BRVK IAmb IAmb 02 36 08.4
comp=Z,23nm,0.9s
BRVK Borovoye 62.84 319 P P 02 36 07.3 +0.3
BRVK pP pP 02 36 31.6 -1.7
M26K Nabesna, AK 62.85 30 IAmb IAmb 02 36 45.9
comp=Z,14nm,1.3s
M26K Nabesna, AK 62.85 30 P P 02 36 08.3 +1.3
baz=266
F26K Sheenjek River 62.92 24 IAmb IAmb 02 36 10.0
comp=Z,13nm,0.7s
F26K Sheenjek River 62.92 24 P P 02 36 09.4 +2.1
baz=262,SNR=14
G26K Porcupine Rive 62.96 25 P P 02 36 09.6 +2.0
baz=263,SNR=11
C26K Camden Bay 62.99 22 P P 02 36 09.8 +2.1
baz=260
I26K Coal Creek Min 63.03 27 P P 02 36 08.8 +0.7
baz=264
KKAR Karatay Array 63.30 308 P P 02 36 10.9 +0.6
M27K Edge Creek, AK 63.37 30 IAmb IAmb 02 36 26.6
comp=Z,19nm,1.2s
M27K Edge Creek, AK 63.37 30 P P 02 36 11.6 +1.0
baz=267
K27K Chicken 63.38 28 IAmb IAmb 02 38 26.5
comp=Z,40nm,1.9s
K27K Chicken 63.38 28 P P 02 36 11.8 +1.3
baz=266
L27K Beaver Creek, 63.43 29 IAmb IAmb 02 36 12.3
comp=Z,9.3nm,0.7s
L27K Beaver Creek, 63.43 29 P P 02 36 11.9 +1.0
baz=267,SNR=7.2
BCAR Beaver Creek A 63.45 29 P P 02 36 11.9 +0.9
I27K Kandik River 63.70 27 P P 02 36 13.6 +1.0
baz=266,SNR=6.5
G27K Doyon Strip 63.78 25 IAmb IAmb 02 36 16.4
comp=Z,22nm,1.9s
G27K Doyon Strip 63.78 25 P P 02 36 14.0 +0.9
baz=265
H27K Steamboat Moun 63.78 26 P P 02 36 14.7 +1.6
baz=265
BVCY Beaver Creek 63.84 30 P P 02 36 14.6 +1.0
baz=268
E27K Coleen River 63.93 24 P P 02 36 15.6 +1.5
baz=264,SNR=7.0
YUK3 Moose Creek 64.01 31 P P 02 36 15.8 +0.9
baz=268
PINM Pinnacle 64.08 33 P P 02 36 15.5 +0.3
baz=269
O28M Mount Upton 64.12 32 P P 02 36 16.7 +1.0
baz=269
D27M Malcolm River 64.27 22 P P 02 36 18.0 +1.7
baz=264
YUK8 Steele Glacier 64.33 31 P P 02 36 18.2 +1.2
baz=269
I28M Miner Creek 64.38 27 IAmb IAmb 02 36 18.9
comp=Z,9.2nm,0.8s
I28M Miner Creek 64.38 27 P P 02 36 18.3 +1.1
baz=267,SNR=8.4
PNL Peninsula 64.51 33 P P 02 36 18.1 +0.2
baz=270
DAWY Dawson 64.56 28 IAmb IAmb 02 36 19.8
comp=Z,8.6nm,0.8s
DAWY Dawson 64.56 28 P P 02 36 19.1 +0.9
baz=268
E28M Babbage River 64.73 23 IAmb IAmb 02 36 22.1
comp=Z,35nm,1.4s
E28M Babbage River 64.73 23 P P 02 36 21.1 +1.9
baz=266,SNR=19
YUK4 Talbot Arm 64.87 31 P P 02 36 22.2 +1.7
baz=270,SNR=10
O29M Mount Kennedy 64.92 32 P P 02 36 22.4 +1.7
baz=271
M29M Somme Creek 64.96 30 P P 02 36 22.9 +1.9
baz=270
SIMJ Simiganj 65.01 304 P P 02 36 21.5 -0.2
SIMJ Simiganj 65.01 304 P P 02 36 22.2 +0.5
SIMJ PcP PcP 02 36 55.2 +1.4
YUK6 Outpost Mounta 65.01 32 P P 02 36 22.8 +1.3
baz=271
H29M Whitestone 65.06 26 IAmb IAmb 02 36 23.6
comp=Z,16nm,0.8s
H29M Whitestone 65.06 26 P P 02 36 22.8 +1.4
baz=268,SNR=9.6
I29M Ogilvie Camp, 65.06 27 IAmb IAmb 02 36 23.4
comp=Z,29nm,1.4s
I29M Ogilvie Camp, 65.06 27 P P 02 36 22.6 +1.2
baz=269,SNR=6.6
D28M Stokes Point 65.06 22 P P 02 36 23.1 +1.8
baz=266,SNR=5.2
J29N Klondike Camp 65.08 28 IAmb IAmb 02 36 23.6
comp=Z,9.4nm,0.6s
J29N Klondike Camp 65.08 28 P P 02 36 22.8 +1.1
baz=269
L29M L29M 65.11 29 P P 02 36 23.3 +1.5
baz=270,SNR=11
G29M Pine Creek 65.22 25 IAmb IAmb 02 36 25.1
comp=Z,19nm,0.9s
G29M Pine Creek 65.22 25 P P 02 36 23.8 +1.4
baz=268
E29M Blow River 65.32 24 P P 02 36 24.3 +1.3
baz=268,SNR=8.7
K29M Barlow Dome 65.39 29 IAmb IAmb 02 36 26.1
comp=Z,12nm,0.8s
K29M Barlow Dome 65.39 29 P P 02 36 24.8 +1.2
baz=270
HYT Haines Junctio 65.44 32 IAmb IAmb 02 36 26.8
comp=Z,24nm,1.2s
HYT Haines Junctio 65.44 32 P P 02 36 25.0 +1.0
baz=272
N30M Aishikik Lake 65.62 31 IAmb IAmb 02 36 27.6
comp=Z,14nm,0.8s
N30M Aishikik Lake 65.62 31 P P 02 36 26.3 +1.2
baz=272
P30M Million Dollar 65.73 33 P P 02 36 27.4 +1.5
baz=272
M30M Minto, Yukon 65.73 30 IAmb IAmb 02 36 28.1
comp=Z,7.0nm,0.7s
M30M Minto, Yukon 65.73 30 P P 02 36 27.0 +1.2
baz=271
I30M Mount Dempster 65.87 27 P P 02 36 27.6 +0.8
baz=270,SNR=7.2
J30M Hart River 65.90 28 IAmb IAmb 02 36 35.4
comp=Z,8.4nm,0.8s
J30M Hart River 65.90 28 P P 02 36 27.7 +0.7
baz=271
G30M tAoh Zraii Nji 65.93 25 IAmb IAmb 02 36 29.1
comp=Z,19nm,1.0s
G30M tAoh Zraii Nji 65.93 25 P P 02 36 27.9 +0.9
baz=270,SNR=14
PLBC Pleasant Camp 66.06 33 P P 02 36 29.3 +1.4
baz=273
F30M Barrier River 66.10 24 P P 02 36 29.4 +1.4
baz=270
MAYO Mayo, Yukon 66.11 29 P P 02 36 29.3 +1.0
baz=272
O30N Mendenhall 66.13 32 P P 02 36 28.5 0.0
O30N IAmb IAmb 02 38 29.9
comp=Z,30nm,1.6s
O30N Mendenhall 66.13 32 P P 02 36 28.5 0.0
baz=273
S31K Pelican 66.22 35 P P 02 36 29.8 +0.9
baz=274
N31M Braeburn, Yuko 66.25 31 P P 02 36 30.0 +0.9
baz=273
SKAG Skagway 66.59 33 P P 02 36 32.4 +1.1
baz=274
G31M Satah River 66.70 25 P P 02 36 32.9 +1.1
baz=272,SNR=24
H31M Peel River 66.71 26 IAmb IAmb 02 36 34.0
comp=Z,19nm,0.8s
H31M Peel River 66.71 26 P P 02 36 32.8 +0.8
baz=272,SNR=12
WHY Whitehorse 66.73 32 P P 02 36 31.9 -0.4
baz=274
SIT Sitka 66.78 36 P P 02 36 32.2 -0.3
baz=275
M31M Drury Creek, Y 66.87 30 P P 02 36 33.7 +0.7
M31M IAmb IAmb 02 36 35.1
comp=Z,12nm,1.0s
M31M Drury Creek, Y 66.87 30 P P 02 36 33.0 0.0
baz=274
F31M Tsiigehtchic 66.89 25 IAmb IAmb 02 36 34.5
comp=Z,12nm,0.8s
F31M Tsiigehtchic 66.89 25 P P 02 36 33.7 +0.7
baz=272,SNR=11
INK Inuvik 66.94 24 IAmb IAmb 02 36 34.9
comp=Z,22nm,1.1s
INK Inuvik 66.94 24 P P 02 36 33.9 +0.6
baz=272,SNR=13
FARO Faro, Yukon 67.35 30 P P 02 36 37.0 +0.9
baz=274
P32M Atlin 67.40 33 P P 02 36 37.5 +1.0
baz=275
N32M Quiet Lake 67.57 31 P P 02 36 38.6 +1.1
baz=275
URZ Urewera 67.68 152 P P 02 36 38.8 +0.5
P33M Teslin, Yukon 67.79 32 P P 02 36 40.1 +1.1
P33M IAmb IAmb 02 36 41.2
comp=Z,16nm,1.1s
P33M Teslin, Yukon 67.79 32 P P 02 36 39.9 +0.9
baz=276,SNR=5.4
MWZ Matawai 67.92 152 P P 02 36 39.5 -0.4
QRZ Quartz Range 68.05 157 P P 02 36 40.2 -0.4
U33K Whale Pass 68.09 37 P P 02 36 40.9 +0.2
baz=277
CRAG Craig 68.17 38 P P 02 36 41.5 +0.2
baz=277
Q32M Nakina River 68.20 34 P P 02 36 42.9 +1.2
baz=277
MMPY Sheldon Lake, 68.28 30 P P 02 36 43.5 +1.5
baz=276
WRAK Wrangell Islan 68.48 36 P P 02 36 44.9 +1.7
baz=278
R33M Jennings River 68.81 33 P P 02 36 47.0 +1.6
baz=278
S34M Telegraph Cree 68.93 35 P P 02 36 47.4 +1.4
baz=278
THZ Tophouse 69.01 157 P P 02 36 46.4 -0.2
MRZ Mangataiinoka R 69.07 155 P P 02 36 46.2 -0.7
BFZ Birch Farm 69.35 154 P P 02 36 47.8 -0.9
ARTI Arti 69.41 324 P P 02 36 48.1 -0.9
ARTI IAmb IAmb 02 36 49.6
comp=Z,10.0nm,0.7s
ARTI Arti 69.41 324 P P 02 36 48.8 -0.2
ARTI pP pP 02 37 15.2 -0.3
DLBC Dease Lake 69.43 34 IAmb IAmb 02 36 51.9
comp=Z,16nm,0.9s
DLBC Dease Lake 69.43 34 P P 02 36 50.6 +1.4
baz=279
A36M Sachs Harbour 69.45 19 IAmb IAmb 02 36 51.3
comp=Z,23nm,1.2s
A36M Sachs Harbour 69.45 19 P P 02 36 50.0 +1.1
baz=278,SNR=6.0
FOZ Fox Glacier 69.53 160 P P 02 36 49.4 -0.3
T35M Bob Quinn 69.54 36 P P 02 36 50.9 +1.0
baz=279
ABKAR Akbulak array 69.69 316 P P 02 36 50.9 +0.1
ABKAR IAmb IAmb 02 36 51.7
comp=Z,9.6nm,0.8s
WTLY Watson Lake, Y 69.80 32 P P 02 36 52.0 +0.6
baz=279
KHZ Kahutara 69.81 157 P P 02 36 49.3 -2.1
TGTN Hyland Airport 69.82 31 P P 02 36 52.6 +1.1
baz=279,SNR=9.1
U35K Hyder 69.84 37 P P 02 36 52.3 +0.7
baz=280
GVZ Greta Valley S 70.11 158 P P 02 36 51.9 -1.4
C36M Paulatuk 70.25 22 IAmb IAmb 02 36 54.7
comp=Z,9.7nm,0.7s
C36M Paulatuk 70.25 22 P P 02 36 54.3 +0.4
baz=280,SNR=8.9
WRGLY Wrigley 71.70 28 IAmb IAmb 02 37 05.0
comp=Z,14nm,0.9s
WRGLY Wrigley 71.70 28 P P 02 37 04.1 +1.4
baz=283,SNR=5.5
TOAD Toad River Com 71.82 33 P P 02 37 04.2 +0.5
baz=283,SNR=5.5
KOTAN Kotaneelee Air 72.12 32 P P 02 37 05.6 +0.2
baz=283
EUNU Eureka 74.61 8 P P 02 37 20.3 +0.6
EUNU IAmb IAmb 02 37 21.3
comp=Z,10nm,0.7s
SPITS Spitsbergen Ar 75.54 350 P P 02 37 25.3 +0.3
comp=Z,7.7nm,0.8s,baz=86,slow=5.1,SNR=16
comp=Z,7.7nm,0.8s
KBS Kingsbay 75.68 351 *i* P P 02 37 25.8 0.0
YKA Yellowknife Ar 75.80 28 P P 02 37 27.0 +0.3
YKA Yellowknife Ar 75.80 28 P P 02 37 27.1 +0.5
comp=Z,5.7nm,0.8s,baz=292,slow=5.7,SNR=58
comp=Z,5.7nm,0.8s
LLLB Lillooet 75.85 41 IAmb IAmb 02 37 29.6
comp=Z,14nm,0.9s
E03A Lebam 76.00 45 IAmb IAmb 02 37 30.7
comp=Z,18nm,0.8s
NOR Nord 76.02 357 *i* P P 02 37 27.5 -0.2
NOR IAmb IAmb 02 37 32.2
comp=Z,2.3nm,0.6s
GNW Green Mountain 76.17 44 IAmb IAmb 02 37 31.9
comp=Z,14nm,1.0s
F03A Seaside 76.18 46 P P 02 37 30.9 +1.6
LON Longmire 77.08 45 P P 02 37 34.0 -0.3
H04D Lebanon 77.17 47 IAmb IAmb 02 37 37.6
comp=Z,32nm,1.4s
H04A Detroit Lake 77.49 47 P P 02 37 37.4 +0.7
H04A IAmb IAmb 02 37 38.8
comp=Z,12nm,0.9s
KHMM Horse Mountain 77.62 51 IAmb IAmb 02 37 40.4
comp=Z,18nm,1.0s
HOOD Mount Hood Mea 77.64 46 IAmb IAmb 02 37 43.5
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 78.08 50 P P 02 37 41.5 +1.4
YBH Yreka Blue Hor 78.08 50 LR LR 03 09 05.5
comp=Z,35nm,18.8s,baz=294,slow=33
KCPM Cahto Peak 78.11 52 IAmb IAmb 02 37 42.8
comp=Z,15nm,0.8s
B08A Colville Reser 78.14 43 IAmb IAmb 02 37 42.0
comp=Z,9.8nm,0.8s
L04D Klamath Falls 78.20 49 IAmb IAmb 02 37 42.9
comp=Z,15nm,0.9s
G06A Carlson Farm, 78.35 46 IAmb IAmb 02 37 43.7
comp=Z,19nm,1.5s
E07A Sunnyside 78.42 44 P P 02 37 40.8 -1.0
K04D Chiloquin, OR 78.46 49 IAmb IAmb 02 37 44.4
comp=Z,22nm,0.8s
J05D Fort Rock, OR 78.60 48 P P 02 37 44.3 +1.4
J05D IAmb IAmb 02 37 45.4
comp=Z,16nm,0.8s
ARCES ARCESS Array B 78.73 342 P P 02 37 42.5 -0.5
ARCES ARCESS Array B 78.73 342 P P 02 37 43.0 +0.1
comp=Z,6.8nm,0.6s,baz=72,slow=8.0,SNR=47
ARCES LR LR 03 17 14.0
comp=Z,15nm,18.1s,baz=38,slow=39
comp=Z,6.8nm,0.6s
HATC Hat Creek Radi 79.27 50 IAmb IAmb 02 37 48.7
comp=Z,20nm,0.9s
NEW Newport 79.56 42 P P 02 37 47.9 0.0
NEW IAmb IAmb 02 37 49.8
comp=Z,10nm,0.9s
NEW Newport 79.56 42 LR LR 03 05 56.6
comp=Z,23nm,20.5s,baz=292,slow=30
NEEM North Greenlan 80.27 3 *i* P P 02 37 51.5 -0.1
NEEM IAmb IAmb 02 37 53.0
comp=Z,18nm,0.8s
J08A Circle Bar Ran 80.46 47 P P 02 37 53.6 +0.6
J08A IAmb IAmb 02 37 55.1
comp=Z,14nm,1.0s
DAG Danmarks Havn 80.77 356 *i* P P 02 37 53.1 -0.7
DAG IAmb IAmb 02 37 54.4
comp=Z,4.1nm,0.9s
CMB Columbia Colle 81.02 53 IAmb IAmb 02 37 57.8
comp=Z,12nm,0.9s
PAHR Pah Rah Range 81.14 51 P P 02 37 57.9 +1.2
PNTR Pine Nut 81.21 51 IAmb IAmb 02 37 59.4
comp=Z,13nm,0.9s
MFID Camas Ranch 82.23 46 IAmb IAmb 02 38 04.3
comp=Z,11nm,0.9s
NVAR Mina Array Bea 82.40 52 P P 02 38 04.1 +0.7
NVAR Mina Array Bea 82.40 52 P P 02 38 04.5 +1.1
comp=Z,7.5nm,0.6s,baz=281,slow=5.2,SNR=29
comp=Z,7.5nm,0.6s
KBZ Khabaz 82.54 314 P P 02 38 04.4 +0.7
comp=Z,13nm,0.8s,baz=148,slow=3.2,SNR=30
comp=Z,13nm,0.8s
KULLO Kullorsuaq 82.59 6 *i* P P 02 38 03.1 -0.3
KULLO IAmb IAmb 02 38 04.7
comp=Z,25nm,0.9s
GNI Garni 82.67 310 P P 02 38 04.8 +0.1
GNI IAmb IAmb 02 38 11.2
comp=Z,23nm,1.4s
BCW Bitter Crk WRg 82.87 55 IAmb IAmb 02 40 33.1
comp=Z,28nm,1.6s
FINES FINESS Array B 83.08 335 P P 02 38 05.5 -0.7
comp=Z,5.2nm,0.4s,baz=63,slow=5.1,SNR=59
comp=Z,5.2nm,0.4s
GMN Gold Mountain 83.59 52 P P 02 38 10.1 +0.5
UPNV Upernavik 84.40 6 *i* P P 02 38 12.8 +0.2
UPNV IAmb IAmb 02 38 13.7
comp=Z,12nm,0.6s
GWY Greenwater Val 84.46 53 IAmb IAmb 02 38 15.6
comp=Z,9.5nm,0.8s
TPNV Topopah Spring 84.47 52 IAmb IAmb 02 38 15.9
comp=Z,15nm,1.2s
S11A Rachel 84.56 52 IAmb IAmb 02 38 16.0
comp=Z,14nm,1.3s
YHL Hebgen Lake 84.68 44 IAmb IAmb 02 38 17.6
comp=Z,11nm,1.0s
GSC Goldstone, Bar 84.71 54 P P 02 38 14.7 -0.4
YHB Horse Butte 84.71 44 IAmb IAmb 02 38 17.7
comp=Z,12nm,0.9s
YMR Madison River 84.90 44 IAmb IAmb 02 38 18.8
comp=Z,12nm,0.9s
HVU Hansel Valley 84.95 47 IAmb IAmb 02 38 18.6
comp=Z,12nm,1.3s
YNR Norris Junctio 85.06 44 IAmb IAmb 02 38 20.8
comp=Z,12nm,1.1s
FFC Flin Flon 85.15 32 P P 02 38 17.4 +0.5
FFC IAmb IAmb 02 38 18.6
comp=Z,17nm,0.8s
YMP Mirror Lake Pl 85.38 43 IAmb IAmb 02 38 21.5

comp=Z,8.6nm,0.9s
SUMG Summit 85.55 1 P P 02 38 19.9 +0.9
SUMG IAmb IAmb 02 38 20.9
comp=Z,17nm,0.7s
SUMG Summit 85.55 1 *i* P **P 02 38 18.9 -0.1**
SUMG IAmb IAmb 02 38 20.7
comp=Z,16nm,0.7s
PSUT Pine Spring 85.56 50 IAmb IAmb 02 38 21.2
comp=Z,11nm,0.9s
DUG Dugway, Tooele 85.59 48 IAmb IAmb 02 38 21.3
comp=Z,7.9nm,0.7s
LOHW Long Hollow 85.60 45 IAmb IAmb 02 38 55.9
comp=Z,17nm,1.9s
PFO Pinyon Flats O 85.64 56 P **P 02 38 19.6 -0.2**
PFO IAmb IAmb 02 38 21.8
comp=Z,8.6nm,0.9s
RLMT Red Lodge 85.77 43 IAmb IAmb 02 38 22.8
comp=Z,11nm,0.8s
HWUT Hardware Ranch 85.84 47 IAmb IAmb 02 38 22.6
comp=Z,9.9nm,0.9s
NUUG Nuugaatsiaq 85.86 5 *i* P **P 02 38 20.0 0.0**
NUUG IAmb IAmb 02 38 21.6
comp=Z,6.9nm,0.8s
V12A Nelson 86.00 53 IAmb IAmb 02 38 23.6
comp=Z,26nm,1.6s
TCUT Toone Canyon 86.16 47 IAmb IAmb 02 38 24.1
comp=Z,9.0nm,0.8s
FCC Fort Churchill 86.40 26 IAmb IAmb 02 38 23.9
comp=Z,7.5nm,0.8s
MPU Maple Canyon 86.49 48 P **P 02 38 23.5 -0.5**
LCMT Little Creek M 86.64 51 IAmb IAmb 02 38 26.4
comp=Z,6.0nm,0.8s
PDAR Pinedale Array 86.66 45 P **P 02 38 25.2 +0.3**
comp=Z,1.3nm,0.8s,baz=228,slow=1.8,SNR=12
PDAR LR LR 03 09 46.0
comp=Z,14nm,20.2s,baz=279,slow=30
comp=Z,1.3nm,0.8s
LAO LASA Array 86.91 40 IAmb IAmb 02 38 27.8
comp=Z,18nm,0.9s
SCO Scoresbysund 87.12 355 *i* P **P 02 38 23.3 -2.8**
SCO IAmb IAmb 02 38 27.3
comp=Z,16nm,1.2s
Q16A Castle Valley 87.29 49 IAmb IAmb 02 38 30.0
comp=Z,19nm,1.5s
AKASG Malin Array Be 87.54 325 P **P 02 38 27.1 -1.5**
comp=Z,0.9nm,0.4s,baz=55,slow=4.5,SNR=11
AKASG LR LR 03 18 47.2
comp=Z,15nm,18.0s,baz=56,slow=36
comp=Z,0.9nm,0.4s
AKBB Malin Array Si 87.54 325 P **P 02 38 26.4 -2.2**
AK01 Malin Array Si 87.55 325 P **P 02 38 26.5 -2.1**
KIEV Kiev 87.55 325 P **P 02 38 26.4 -2.2**
comp=Z,21nm,0.9s
AK09 Malin Array Si 87.55 325 P **P 02 38 27.2 -1.4**
AK04 Malin Array Si 87.56 325 P **P 02 38 27.2 -1.5**
U15A North Rim 87.58 52 IAmb IAmb 02 38 31.5
comp=Z,7.5nm,0.8s
P18A Preston Nutter 87.62 48 P **P 02 38 29.4 -0.2**
113A Mohawk Valley, 88.04 55 IAmb IAmb 02 38 32.6
comp=Z,5.1nm,0.7s
Y14A Wickenburg 88.12 54 IAmb IAmb 02 38 33.8
comp=Z,14nm,1.0s
ILULI Ilulissat 88.30 5 *i* P **P 02 38 32.0 +0.2**
RAYN Ar Rayn 88.58 295 P **P 02 38 34.6 +0.5**
HFS Hagfors 88.59 338 P **P 02 38 31.7 -1.7**
comp=Z,5.3nm,0.9s,baz=95,slow=3.3,SNR=15
comp=Z,5.3nm,0.9s
WUAZ Wupatki 88.65 52 IAmb IAmb 02 38 36.5
comp=Z,8.2nm,0.9s
LUBAR Lubar, Ukraine 88.75 325 P **P 02 38 33.2 -1.1**
NB2 NORSAR Subarra 88.79 339 P **P 02 38 32.7 -1.7**
comp=Z,4.9nm,0.8s,baz=42,slow=5.1
NOA NORSAR Array B 88.79 339 P **P 02 38 32.6 -1.8**
comp=Z,1.7nm,0.7s,baz=46,slow=4.8,SNR=6.2
NOA LR LR 03 21 11.5
comp=Z,12nm,18.5s,baz=250,slow=37
comp=Z,1.7nm,0.7s
RNPP8 Varash 88.96 326 P **P 02 38 34.1 -1.1**
ICESG Greenland Ices 89.03 1 *i* P **P 02 38 35.2 -0.5**
ICESG IAmb IAmb 02 38 37.0
comp=Z,12nm,0.8s
PV11 David Mesa, Pa 89.18 49 IAmb IAmb 02 38 39.6
comp=Z,8.3nm,0.7s
PV13 Radium Mtn., P 89.28 49 IAmb IAmb 02 38 38.7
comp=Z,5.3nm,0.8s
SFJD Kangerlussuaq 90.51 6 LR LR 03 20 14.4
comp=Z,15nm,19.7s,baz=77,slow=36
SFJD Kangerlussuaq 90.51 6 *i* P **P 02 38 41.5 -0.6**
TUC Tucson 90.51 55 P **P 02 38 43.9 +0.9**
BRTR Keskin Array B 90.52 314 P **P 02 38 42.0 -1.1**
comp=Z,1.9nm,0.7s,baz=93,slow=4.3,SNR=15
BRTR pP **pP 02 39 11.8 +1.2**
comp=Z,1.0nm,0.8s,baz=89,slow=1.9,SNR=3.8
comp=Z,1.9nm,0.7s
BR104 Keskin Array S 90.53 314 P **P 02 38 42.0 -1.0**
comp=Z,3.1nm,0.9s
BR106 Keskin Array S 90.53 314 P **P 02 38 41.6 -1.4**
comp=Z,2.6nm,0.9s
BR105 Keskin Array S 90.54 314 P **P 02 38 42.1 -1.0**
comp=Z,3.7nm,0.8s
ULM Lac du Bonnet 90.75 34 P **P 02 38 42.9 -0.8**
comp=Z,3.0nm,0.8s,baz=311,slow=5.3,SNR=7.6
comp=Z,3.0nm,0.8s
AGMN Agassiz Nation 91.93 35 IAmb IAmb 02 38 50.2
comp=Z,4.8nm,0.8s
319A Douglas 92.07 55 IAmb IAmb 02 38 52.7
comp=Z,5.4nm,1.0s
ANMO Albuquerque 92.48 51 P **P 02 38 52.9 +0.7**
ANMO IAmb IAmb 02 38 54.7
comp=Z,5.2nm,1.4s
ANMO Albuquerque 92.48 51 LR LR 03 20 45.8
comp=Z,19nm,19.2s,baz=90,slow=36
QSPA South Pole Qui 111.90 180 PKiKP **PKiKP 02 44 14.2 -0.3**
comp=Z,0.6nm,0.5s,baz=279,slow=1.5,SNR=9.4
LSZ Lusaka 119.06 264 PKPdf **PKiKP 02 44 29.8 -0.1**
LBTB Lobatse 123.76 254 PKPdf **PKiKP 02 44 38.8 -0.1**
SNAA Sanae 126.88 193 PKPdf **PKiKP 02 44 43.3 -0.4**
SNAA Sanae 126.88 193 PKP **PKiKP 02 44 43.6 -0.1**
comp=Z,1.1nm,0.6s,baz=223,slow=6.0,SNR=6.7
TORD Torodi Ar. Bea 128.97 310 PKPdf **PKPdf 02 44 47.6 -1.2**
TORD Torodi Ar. Bea 128.97 310 PKP **PKPdf 02 44 48.5 -0.3**
comp=Z,0.8nm,0.3s,baz=19,slow=2.7,SNR=1.4
BAUV El Baul 136.06 49 PKPdf **PKPdf 02 45 01.8 -0.4**
DBIC Dimbokro 138.08 309 PKP **PKiKP 02 45 07.1 -0.8**
comp=Z,0.9nm,0.4s,baz=137,slow=3.6,SNR=1.5
LL04 Puerto Octay 144.17 130 PKPdf **PKPdf 02 45 16.3 +0.3**
PLCA Paso Flores 145.55 131 PKPbc **PKPab 02 45 19.2 0.0**
comp=Z,3.9nm,0.6s,baz=289,slow=1.9,SNR=16
BI02 San Fabin de 146.33 123 PKPbc **PKPbc 02 45 21.1 -0.2**
MT02 Curacav 147.22 117 PKPbc **PKPbc 02 45 24.0 +0.1**
VA03 San Esteban 147.79 117 PKPbc **PKPbc 02 45 25.4 -0.2**
MT08 Bocatoma Ro 148.10 118 PKPbc **PKiKP 02 45 27.6 -0.6**
PB11 IPOC Station P 148.64 92 PKPbc **PKPbc 02 45 28.1 -0.1**
LPAZ La Paz 149.28 85 PKPbc **PKPbc 02 45 30.6 +0.1**
comp=Z,4.5nm,0.5s,baz=263,slow=6.0,SNR=4.0
CFA Coronel Fontan 149.93 115 PKPbc **PKPbc 02 45 30.5 -0.5**
comp=Z,1.7nm,0.4s,baz=271,slow=2.9,SNR=5.5
SIV San Ignacio 155.68 80 PKP **PKPdf 02 45 35.1 +0.4**
comp=Z,0.6nm,0.7s,baz=282,slow=10,SNR=3.5
SIV PKPab **PKPab 02 46 00.8 -0.7**
comp=Z,0.9nm,0.8s,baz=275,slow=12,SNR=4.0
BDFB Brasilia 167.06 62 PKPab **PKPab 02 46 50.7 -0.6**
comp=Z,2.6nm,0.7s,baz=240,slow=3.8,SNR=4.9

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*IDC **18** 02:45:22.5±2.1, 0°.69S×127°.55E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=211.2km s-min=22.8km az=67.0*
*DJA **18** 02:45:24.4±0.3, 1°.S±2°.×12°.8E±°., h10km, M3.5/7, MLv3.5/7*
ISC 18 02:45:27.9±1.0, 0°.61S±0°.05×127°.5E±0°.1, h41km, n8, σ1§61/11, mb3.7/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**353**	P	**Pn**	**02 45 49.2**	**-1.5**
TNTI				S	**Sn**	**02 46 09.1**	**+1.3**
SANI	**Sanana**	**2.11**	**227**	P	**Pn**	**02 45 58.9**	**-1.8**
SANI				S	**Sn**	**02 46 27.0**	**+1.3**
NLAI	**Namlea**	**2.65**	**190**	P	**Pn**	**02 46 06.8**	**-1.3**
NLAI				S	**Sn**	**02 46 41.1**	**+2.1**
MSAI	**Masohi**	**3.05**	**153**	P	**Pn**	**02 46 12.9**	**-0.8**
WRA	**Warramunga Arr**	**20.34**	**161**	P	**P**	**02 49 59.3**	**-1.5**
	1.0nm,0.8s,baz=340,slow=12,SNR=4.5						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**23.74**	**165**	P	**P**	**02 50 36.0**	**-0.5**
	2.9nm,0.7s,baz=346,slow=10,SNR=26						
	2.9nm,0.7s						
MKAR	**Makanchi Array**	**61.58**	**326**	P	**P**	**02 55 42.5**	**+1.5**
	0.5nm,0.8s,baz=134,slow=5.2,SNR=5.2						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**65.82**	**328**	P	**P**	**02 56 09.7**	**+0.8**
	0.5nm,0.8s,baz=133,slow=5.1,SNR=4.7						
	0.5nm,0.8s						

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*IDC **18** 02:56:00.6±3.3, 6°.24S×147°.33E, h110km±33km, mb3.3/2, mbtmp3.8/4, Error ellipse: s-maj=66.4km s-min=17.7km az=117.0*
ISC 18 02:55:56.4±1.1, 6°.1S±0°.1×147°.5E±0°.1, h77km, n13, σ1§67/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**185**	P	**Pn**	**02 56 47.5**	**+1.2**
	66nm,0.3s,baz=352,slow=8.0,SNR=36						
PMG				S	**Sn**	**02 57 26.7**	**+1.9**
	88nm,0.3s,baz=99,slow=8.6,SNR=5.1						
COEN	**Coen**	**8.91**	**208**	P	**Pn**	**02 58 02.5**	**+0.2**
HNR	**Honiara**	**12.82**	**106**	P	**Pn**	**02 58 53.7**	**-2.1**
	342nm,0.8s,baz=221,slow=2.0,SNR=3.0						
ALEG	**Aligegeo Malai**	**13.40**	**102**	P	**Pn**	**02 59 02.9**	**-0.5**
QIS	**Mount Isa**	**16.30**	**207**	P	**P**	**02 59 42.6**	**+0.3**
WRA	**Warramunga Arr**	**18.79**	**222**	P	**P**	**03 00 08.5**	**-1.2**
	1.8nm,0.7s,baz=47,slow=11,SNR=18						
WRA				S	S	03 03 26.9	-12
	0.5nm,0.7s,baz=47,slow=24,SNR=2.7						
AS01	**Alice Springs**	**21.80**	**215**	P	**P**	**03 00 43.4**	**+1.1**
ASAR	**Alice Springs**	**21.83**	**215**	P	**P**	**03 00 42.4**	**-0.2**
	0.9nm,0.4s,baz=47,slow=9.1,SNR=17						
ASAR				S	**S**	**03 04 35.4**	**-4.4**
	0.4nm,0.9s,baz=34,slow=18,SNR=1.8						
	0.9nm,0.4s						
OOD	**Oodnadatta**	**24.34**	**206**	P	**P**	**03 01 07.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.42**	**239**	P	**P**	**03 01 07.8**	**-0.1**
LCRK	**Leigh Creek**	**25.77**	**199**	P	**P**	**03 01 20.4**	**+0.3**
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**03 08 25.9**	**+1.1**
	0.5nm,0.6s,baz=257,slow=5.8,SNR=6.1						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.54**	**284**	PKPbc	**PKPab**	**03 15 27.4**	**+0.1**
	0.9nm,0.3s,baz=82,slow=4.2,SNR=1.6						

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*IDC **18** 03:08:07.0±1.9, 5°.73N×92°.73E, h0km, mb3.8/6, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=84.4km s-min=20.8km az=58.0*
ISC 18 03:08:12.6±1.6, 5°.8N±0°.2×92°.9E±0°.3, h35km, n13, σ0§43/7, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.89**	**25**	Pn	**Pn**	**03 11 27.1**	**0.0**
	0.4nm,0.3s,baz=220,slow=13,SNR=5.9						
	0.8nm,0.3s						
H08S3	**Diego Garcia H**	**24.33**	**237**	T	T	03 39 27.8	
	baz=57,slow=75,SNR=159						
H08S2	**Diego Garcia H**	**24.33**	**237**	T	T	03 39 23.2	
	baz=57,slow=75,SNR=202						
H08S1	**Diego Carcia H**	**24.35**	**237**	T	T	03 39 29.1	
	baz=57,slow=75,SNR=113						
MKAR	**Makanchi Array**	**41.83**	**349**	P	**P**	**03 15 58.6**	**-0.4**
	0.4nm,0.5s,baz=165,slow=7.9,SNR=5.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**46.24**	**347**	P	**P**	**03 16 34.0**	**-0.3**
	0.2nm,0.3s,baz=167,slow=6.3,SNR=4.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**48.15**	**123**	P	**P**	**03 16 49.5**	**-0.2**
	1.3nm,0.8s,baz=305,slow=8.7,SNR=6.3						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**48.43**	**354**	P	**P**	**03 16 51.9**	**+0.7**
	0.3nm,0.3s,baz=167,slow=7.2,SNR=3.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**49.62**	**128**	P	**P**	**03 17 01.1**	**+0.1**
	1.2nm,0.6s,baz=297,slow=7.5,SNR=15						
	1.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**63.32**	**211**	T	T	04 28 14.0	
	baz=49,slow=75,SNR=28						
H04N1	**CROZET ISLANDS**	**63.33**	**211**	T	T	04 28 14.2	
	baz=49,slow=75,SNR=24						
H04N3	**CROZET ISLANDS**	**63.34**	**211**	T	T	04 28 12.3	
	baz=49,slow=75,SNR=28						
ARCES	**ARCESS Array B**	**76.77**	**341**	P	**P**	**03 20 00.2**	**+0.1**
	2.6nm,0.9s,baz=98,slow=7.3,SNR=6.0						
	2.6nm,0.9s						

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*AEIC **18** 03:17:57.8±4.8, 51°.8N±0°.2×178°.1E±0°.2, h22km±9km, Error ellipse: s-maj=25.9km s-min=13.1km az=189.0*
*NEIC **18** 03:17:58.1±2.1, 50°.8N±0°.2×178°.4E±0°.1, h57km±14km, mb3.8/27, ML3.5(AEIC), Error ellipse: s-maj=23.6km s-min=10.5km az=176.0*
*IDC **18** 03:18:03.6±3.3, 51°.41N×178°.56E, h76km±22km, mb3.3/12, mbtmp3.7/15, Error ellipse: s-maj=47.7km s-min=14.2km az=5.0*
ISC 18 03:18:01.9±1.7, 51°.3N±0°.2×178°.52E±0°.05, h68km±11km, n64, σ1§39/70, mb3.7/22, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.72**	**71**		**Pn**	**03 18 28.3**	**-1.4**
GASW					**Sn**	**03 18 51.9**	**+1.1**
GANO	**Gareloi North**	**1.76**	**70**		**Pn**	**03 18 29.3**	**-1.0**
GANO					**Sn**	**03 18 54.2**	**+2.4**
GALAA	**Gareloi Lava P**	**1.77**	**72**		**Pn**	**03 18 30.4**	**0.0**
GALAA					**Sn**	**03 18 54.5**	**+2.6**
TASE	**Tanaga Southea**	**2.23**	**74**		**Pn**	**03 18 36.0**	**-0.6**
TASE					**Sn**	**03 19 05.4**	**+2.3**
TAFP	**Tanaga Falls P**	**2.27**	**72**		**Pn**	**03 18 37.4**	**+0.2**
KIWB	**Kanaga Island**	**2.77**	**76**	Pn	**Pn**	**03 18 42.7**	**-1.2**
KINC	**Kanaga Island**	**2.80**	**74**		**Pn**	**03 18 43.5**	**-0.7**
KIRH	**Kanaga Island**	**2.81**	**75**		**Pn**	**03 18 43.8**	**-0.7**
ADK	**Adak**	**3.06**	**76**	Pn	**Pn**	**03 18 46.4**	**-1.4**
ADK				Sn	**Sn**	**03 19 20.9**	**-2.3**
SHEM	**Shemya Is, Ala**	**3.10**	**300**	P	**Pn**	**03 18 47.9**	**-0.6**
	42nm,0.3s,baz=124,slow=2.4,SNR=18						
SHEM				S	**Sn**	**03 19 26.5**	**+2.2**
	144nm,0.5s,baz=288,slow=21,SNR=8.2						
ADAG	**Mount Adagdak**	**3.12**	**75**		**Pn**	**03 18 48.3**	**-0.5**
GSCK	**Great Sitkin C**	**3.40**	**75**		**Pn**	**03 18 52.0**	**-0.5**
GSCK					**Sn**	**03 19 36.4**	**+4.8**
GSSP	**Great Sitkin S**	**3.41**	**74**		**Pn**	**03 18 52.7**	**+0.1**
GSTR	**Great Sitkin T**	**3.48**	**74**	Pn	**Pn**	**03 18 51.6**	**-2.0**
ATKA	**Atka Island**	**4.63**	**75**	Pn	**Pn**	**03 19 06.5**	**-2.8**
ATKA					**Sn**	**03 19 59.5**	**-2.0**
NIKH	**Nikolski High**	**7.96**	**73**	Pn	**Pn**	**03 19 54.3**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**8.51**	**70**		**Pn**	**03 20 01.6**	**-0.6**
MAPS	**Pakushin South**	**9.22**	**68**		**Pn**	**03 20 12.3**	**+0.3**
MREP	**Makushin Rep't**	**9.34**	**68**		**Pn**	**03 20 14.2**	**+0.6**
UNV	**Unalaska Valle**	**9.48**	**68**		**Pn**	**03 20 17.1**	**+1.5**
PETK	**Petropavlovsk-**	**12.91**	**286**	P	**Pn**	**03 21 02.6**	**+0.3**
	0.6nm,0.4s,baz=103,slow=16,SNR=2.2						
GAMB	**Gambell**	**13.58**	**19**	Pn	**Pn**	**03 21 10.0**	**-1.1**
M14K	**Bethel**	**14.42**	**41**	P	**P**	**03 21 28.3**	**+1.1**
N15K	**Kwethluk River**	**14.93**	**45**	P	**P**	**03 21 33.5**	**+0.6**
K15K	**Wolf Creek Mou**	**15.46**	**37**	P	**P**	**03 21 37.3**	**-1.5**
K15K				IAmb	IAmb	03 21 38.3	
	comp=Z,14nm,1.4s						
G16K	**Koyuk River**	**17.25**	**28**	P	**P**	**03 22 00.1**	**+1.5**
OHAK	**Old Harbor**	**17.44**	**59**	Pn	**Pn**	**03 21 56.2**	**-4.2**
KDAK	**Kodiak Island**	**17.90**	**57**	P	**P**	**03 22 03.7**	**-2.1**
KDAK	**Kodiak Island**	**17.90**	**57**	P	**P**	**03 22 04.6**	**-1.1**
	comp=Z,21nm,1.1s,baz=318,slow=5.2,SNR=6.2						
H18K	**Honhosa River**	**18.33**	**32**	P	**Pn**	**03 22 11.6**	**+0.5**
G18K	**Tagagawik**	**18.71**	**30**	P	**Pn**	**03 22 16.4**	**+0.7**
C16K	**Lisburne Hills**	**18.79**	**19**	P	**Pn**	**03 22 16.8**	**+0.2**
STLK	**Strandline Lak**	**19.17**	**46**	P	**Pn**	**03 22 20.6**	**-0.7**
STLK				IAmb	IAmb	03 22 35.7	
	comp=Z,11nm,1.4s						
PPLA	**Purkeypile**	**19.52**	**42**	P	**Pn**	**03 22 24.9**	**-0.6**
F19K	**Shaleruckik Mo**	**19.60**	**28**	P	**Pn**	**03 22 24.9**	**-1.3**
F19K				IAmb	IAmb	03 22 26.6	
	comp=Z,3.4nm,0.8s						
E19K	**Redstone River**	**20.17**	**27**	P	Pn	03 22 31.5	-1.4
E19K				IAmb	IAmb	03 22 33.5	
	comp=Z,6.5nm,1.2s						
KTH	**Kantishna Hill**	**20.30**	**41**	P	**P**	**03 22 32.1**	**+0.1**
D19K	**Kuna River**	**20.64**	**25**	P	Pn	03 22 36.7	-1.8
D19K				IAmb	IAmb	03 22 40.7	
	comp=Z,4.3nm,1.2s						
F21K	**Alatna River**	**21.16**	**30**	P	**P**	**03 22 42.6**	**+1.5**
F21K				IAmb	IAmb	03 22 44.0	
	comp=Z,2.4nm,0.8s						
SCM	**Sheep Creek Mo**	**21.33**	**47**	P	**P**	**03 22 43.3**	**+0.2**
WRH	**Wood River Hil**	**21.81**	**40**	P	**P**	**03 22 46.9**	**-1.1**
WRH				IAmb	IAmb	03 23 23.8	
	comp=Z,6.1nm,1.2s						
B20K	**Meade River**	**21.97**	**22**	P	**P**	**03 22 49.5**	**-0.1**
B20K				IAmb	IAmb	03 23 05.2	
	comp=Z,12nm,1.4s						
E22K	**Anaktuvuk Pass**	**22.21**	**29**	P	**P**	**03 22 52.1**	**-0.2**
E22K				IAmb	IAmb	03 23 22.2	
	comp=Z,6.9nm,1.4s						
B21K	**Ikpikpuk River**	**22.33**	**25**	P	**P**	**03 22 53.6**	**-0.1**
B21K				IAmb	IAmb	03 23 10.6	
	comp=Z,4.1nm,1.4s						
ILAR	**Eielson Array**	**22.40**	**40**	P	**P**	**03 22 53.1**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=233,slow=8.2,SNR=15						
	comp=Z,0.4nm,0.6s						
E23K	**Chandalar**	**22.86**	**31**	P	**P**	**03 22 59.7**	**+0.4**
E23K				IAmb	IAmb	03 23 17.9	
	comp=Z,4.5nm,1.4s						
TOLK	**Toolik Lake Re**	**23.18**	**29**	P	**P**	**03 23 02.9**	**+0.5**
TOLK				IAmb	IAmb	03 23 04.4	
	comp=Z,4.2nm,1.1s						
DOT	**Dot Lake**	**23.24**	**43**	P	**P**	**03 23 02.0**	**-1.0**
DOT				IAmb	IAmb	03 23 28.5	
	comp=Z,12nm,1.5s						
C23K	**Itkillik River**	**23.55**	**26**	P	**P**	**03 23 06.4**	**+0.6**
J26L	**Joseph Creek**	**23.67**	**41**	P	**P**	**03 23 06.4**	**-0.6**
J26L				IAmb	IAmb	03 23 07.2	
	comp=Z,4.2nm,0.7s						
BCAR	**Beaver Creek A**	**24.11**	**45**	P	**P**	**03 23 11.8**	**+0.9**
I28M	**Miner Creek**	**25.41**	**40**	P	**P**	**03 23 22.2**	**-0.6**
I28M				IAmb	IAmb	03 24 04.2	
	comp=Z,3.6nm,1.2s						
G31M	**Satah River**	**27.97**	**38**	P	**P**	**03 23 45.7**	**+0.1**
YKA	**Yellowknife Ar**	**36.53**	**46**	P	**P**	**03 25 00.4**	**0.0**
	comp=Z,0.2nm,0.7s,baz=284,slow=9.0,SNR=2.9						
	comp=Z,0.2nm,0.7s						
SONM	**Songino Array**	**45.19**	**295**	P	**P**	**03 26 11.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=62,slow=6.8,SNR=2.5						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**03 26 12.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=320,slow=10,SNR=2.1						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**47.94**	**71**	P	**P**	**03 26 34.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=354,slow=4.0,SNR=4.5						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**50.37**	**355**	P	**P**	**03 26 50.8**	**-0.6**
	comp=Z,7.3nm,0.9s,baz=27,slow=9.7,SNR=1.6						
	comp=Z,7.3nm,0.9s						
KURBB	**Kurchatov Arra**	**57.98**	**312**	P	**P**	**03 27 47.1**	**+0.1**
	comp=Z,0.6nm,0.2s,baz=44,slow=6.7,SNR=2.9						
	comp=Z,0.6nm,0.2s						
MKAR	**Makanchi Array**	**58.78**	**307**	P	**P**	**03 27 52.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=52,slow=7.6,SNR=5.5						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**59.88**	**318**	P	**P**	**03 27 59.9**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=66,slow=7.2,SNR=7.8						
	comp=Z,1.6nm,0.6s						
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**03 28 04.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=316,slow=5.2,SNR=2.1						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**75.12**	**340**	P	**P**	**03 29 36.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=23,slow=6.4,SNR=2.5						
	comp=Z,0.4nm,0.4s						
BRTR	**Keskin Array B**	**84.33**	**334**	P	**P**	**03 30 27.6**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=72,slow=4.6,SNR=4.8						
	comp=Z,0.5nm,0.8s						

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*IDC **18** 03:28:39.3±1.8, 3°.57S×149°.52E, h0km, mb3.8/8, mbtmp3.8/8, MS3.9/47, Error ellipse: s-maj=59.6km s-min=23.5km az=109.0*
*GCMT **18** 03:28:46.0±0.2, 3°.45S±0°.01×149°.39E±0°.01, h18km±1km, MW4.9/112, Moment Tensor Solution. s22,c24; s112,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.10±.10; $M_{\theta\theta}$1.30±.09; $M_{\phi\phi}$-1.21±.10; $M_{r\theta}$-0.16±.19; $M_{\theta\phi}$2.45±.08; $M_{r\phi}$0.54±.21; Best double couple: M_0=2.81000×10^{16} NP1:ϕ_s103.00000°, δ80.00000°, λ-6.00000°. NP2:ϕ_s194.00000°, δ84.00000°, λ-170.00000°. Principal axes: T 2.8050, Plg3.0000°, Azm328.0000°; N 0.0040, Plg78.0000°, Azm224.0000°; P -2.8160, Plg11.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 18 03:28:42.5±1.9, 3°.6S±0°.2×149°.5E±0°.4, h20km, n54, σ0§81/8, mb3.8/8, MS4.0/44, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**202**	LR	LR	03 32 46.4	
	comp=Z,1μm,20.6s,baz=328,slow=40						
HNR	**Honiara**	**11.88**	**120**	LR	LR	03 36 10.0	
	comp=Z,508nm,20.9s,baz=316,slow=38						
GUMO	**Guam**	**17.69**	**345**	LR	LR	03 38 47.4	
	comp=Z,294nm,18.8s,baz=165,slow=34						
WRA	**Warramunga Arr**	**21.96**	**221**	P	**P**	**03 33 34.8**	**-0.4**
	6.8nm,0.8s,baz=42,slow=11,SNR=26						
WRA				LR	LR	03 42 49.4	
	comp=Z,603nm,18.1s,baz=52,slow=39						
	6.8nm,0.8s						
DZM	**Mont Dzumac**	**24.64**	**140**	LR	LR	03 42 44.5	
	comp=Z,711nm,20.1s,baz=254,slow=34						
ASAR	**Alice Springs**	**25.00**	**216**	P	**P**	**03 34 05.8**	**+0.6**
	1.6nm,0.8s,baz=51,slow=7.8,SNR=14						
ASAR				LR	LR	03 44 51.9	
	comp=Z,541nm,19.9s,baz=50,slow=39						
	1.6nm,0.8s						
DAV	**Davao City (W)**	**26.13**	**294**	LR	LR	03 44 07.5	
	comp=Z,252nm,19.9s,baz=258,slow=36						
FITZ	**Fitzroy Crossi**	**27.45**	**237**	LR	LR	03 46 13.0	
	comp=Z,848nm,19.1s,baz=42,slow=38						
H11S3	**WAKE ISLAND Hy**	**27.73**	**37**	T	T	04 03 49.8	
	baz=220,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**27.74**	**37**	T	T	04 03 35.3	
	baz=220,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**27.75**	**37**	T	T	04 03 44.5	
	baz=220,slow=76,SNR=10						
H11N1	**WAKE ISLAND

SHEM	Shemya Is, Ala	59.85	17	LR	LR	03 59 26.3		
	comp=Z,88nm,21.4s,baz=324,slow=31							
PPT	Papeete	61.22	108	LR	LR	04 01 14.4		
	comp=Z,66nm,19.9s,baz=278,slow=32							
MA2	Magadan	63.00	1	LR	LR	04 06 14.9		
	comp=Z,28nm,19.2s,baz=164,slow=36							
SONM	Songino Array	63.59	329	P	P	03 39 12.5	+0.4	
	0.5nm,0.8s,baz=130,slow=4.3,SNR=3.1							
SONM				LR	LR	04 06 25.3		
	comp=Z,101nm,19.7s,baz=149,slow=36							
	0.5nm,0.8s							
YAK	Yakutsk	67.20	350	LR	LR	04 07 52.7		
	comp=Z,41nm,21.8s,baz=124,slow=35							
MKAR	Makanchi Array	77.28	320	P	P	03 40 35.3	-0.3	
	0.4nm,0.8s,baz=88,slow=7.4,SNR=5.0							
MKAR				LR	LR	04 15 42.7		
	comp=Z,75nm,18.2s,baz=88,slow=36							
	0.4nm,0.8s							
ZALV	Zalesovo Beam	78.36	327	P	P	03 40 40.9	-0.5	
	0.4nm,0.4s,baz=134,slow=8.3,SNR=1.9							
ZALV				LR	LR	04 14 20.7		
	comp=Z,101nm,20.8s,baz=94,slow=35							
	0.4nm,0.4s							
AAK	Ala-Archa	81.47	314	LR	LR	04 17 16.2		
	comp=Z,80nm,20.3s,baz=103,slow=36							
ILAR	Eielson Array	82.32	23	P	P	03 41 02.9	+0.4	
	0.5nm,0.8s,baz=233,slow=5.8,SNR=5.2							
	0.5nm,0.8s							
NRIK	Noril'sk	83.79	342	LR	LR	04 17 18.6		
	comp=Z,61nm,21.4s,baz=130,slow=35							
BVAR	Borovoye Array	86.33	324	P	P	03 41 21.8	-1.3	
	0.5nm,0.5s,baz=100,slow=6.6,SNR=3.9							
BVAR				LR	LR	04 21 34.2		
	comp=Z,47nm,18.1s,baz=77,slow=37							
	0.5nm,0.5s							
DLBC	Dease Lake	88.07	31	LR	LR	04 21 27.4		
	comp=Z,74nm,18.1s,baz=290,slow=36							
BBB	Bella Bella	88.16	38	LR	LR	04 16 05.1		
	comp=Z,79nm,18.1s,baz=226,slow=32							
YBH	Yreka Blue Hor	90.72	48	LR	LR	04 14 16.4		
	comp=Z,153nm,21.6s,baz=280,slow=30							
ARTI	Arti	93.60	326	LR	LR	04 23 32.2		
	comp=Z,179nm,21.8s,baz=100,slow=35							
AKTO	Aktyubinsk	93.70	320	LR	LR	04 23 28.2		
	comp=Z,103nm,21.0s,baz=143,slow=35							
NVAR	Mina Array Bea	93.94	52	LR	LR	04 19 14.8		
	comp=Z,75nm,18.4s,baz=206,slow=32							
NEW	Newport	94.92	42	LR	LR	04 17 27.2		
	comp=Z,53nm,21.0s,baz=272,slow=31							
PFO	Pinyon Flats O	95.34	57	LR	LR	04 19 11.4		
	comp=Z,79nm,18.4s,baz=278,slow=32							
YKA	Yellowknife Ar	95.91	28	LR	LR	04 22 29.6		
	comp=Z,35nm,20.7s,baz=288,slow=34							
KIRV	Kirov	98.33	329	LR	LR	04 26 34.8		
	comp=Z,56nm,21.7s,baz=85,slow=35							

ASIES ***18*** *03:42:11.7, 23°.29N×120°.87E, $h2^{km}$, ML3.6, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-0.92; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.47; $M_{r\theta}$-2.59; $M_{\theta\phi}$-0.74; $M_{\phi r}$-0.03; Fault plane solution: $M_0$2.79093×10^{21} NP1: ϕ_s=343.28000°, δ16.33000°, λ-17.96000°. NP2:ϕ_s=90.56000°, δ85.03000°, λ-105.57000°. Principal axes: T Plg38.1170°, Azm194.5230°; N Plg15.5140°, Azm91.9440°; P Plg47.7220°, Azm344.1680°;*

TAP ***18*** *03:42:11.7, 23°.29N×120°.87E, $h2^{km}$, ML3.6, C*

ISC 18 03:42:12.3±0.9, 23°.29N±0°.01×120°.88E±0°.01, h6^{km}±7^{km}, n140, σ0§91/206, 6C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	Taoyuan	0.15	218	⇑iP	Pg	03 42 15.2	-0.3
STYH				i S	Sg	03 42 17.4	-0.2
ELDTW	Lidau	0.17	129	⇓iP	Pg	03 42 16.0	+0.3
YUS	Yu-Shan	0.21	19	⇑eP	Pg	03 42 14.2	-2.4
ALS	Alishan	0.23	343	⇑iP	Pg	03 42 16.8	-0.1
ALS				S	Sg	03 42 20.3	+0.3
TPUB	Ta-pu	0.23	272	P	Pg	03 42 17.1	+0.2
TPUB	Ta-pu	0.23	272	S	Sg	03 42 21.0	+1.0
TPUB	Ta-pu	0.23	272	⇓iP	Pg	03 42 17.2	+0.2
TPUB				i S	Sg	03 42 20.7	+0.7
WTP	Ta-pu	0.25	259	P	Pg	03 42 17.6	+0.3
WTP				S	Sg	03 42 21.4	+0.8
CHN4	Tsaushan	0.27	282	⇓iP	Pb	03 42 18.1	-1.5
WCKO	Fanlu	0.29	300	P	Pb	03 42 18.5	-1.4
EHD	Haiduan	0.33	115	⇓iP	Pg	03 42 18.6	-0.3
EHD				S	Sg	03 42 23.3	0.0
CHN1	Nanshi	0.34	252	i P	Pb	03 42 19.9	-0.9
CHN1				i S	Sb	03 42 25.4	-1.0
SGST	Jiashian	0.34	232	⇑eP	Pg	03 42 18.7	-0.3
SGST				eS	Sg	03 42 24.1	+0.5
CHN5	Tsauling	0.35	329	i P	Pb	03 42 19.7	-1.4
CHN5				i S	Sb	03 42 25.2	-1.8
SNST	Tainan City	0.36	258	P	Pb	03 42 20.3	-0.8
SNST				S	Sb	03 42 26.0	-1.0
TWK	Hsinying	0.36	266	⇓iP	Pb	03 42 20.1	-1.1
TWK				S	Sb	03 42 25.6	-1.5
ECS	Chishang	0.37	122	⇓iP	Pb	03 42 20.3	-1.1
ECS				i S	Sb	03 42 26.0	-1.3
TWF1	Yuli	0.39	81	P	Pg	03 42 20.3	+0.4
TWF1				S	Sg	03 42 25.4	+0.4
FULB	Fuli	0.39	104	⇓eP	Pb	03 42 21.1	-0.6
FULB				eS	Sb	03 42 27.4	-0.6
YULB	Yu-li	0.40	76	P	Pb	03 42 21.1	-0.7
YULB	Yu-li	0.40	76	S	Sg	03 42 25.6	+0.3
YULB	Yu-li	0.40	76	⇓iP	Pg	03 42 20.3	+0.2
YULB				i S	Sg	03 42 25.3	0.0
WHYT	Xinyi Township	0.40	357	i P	Pg	03 42 20.3	+0.1
WHYT				S	Sg	03 42 26.3	+0.8
EYUL	Yuli	0.41	82	P	Pg	03 42 20.6	+0.3
EYUL				S	Sg	03 42 26.0	+0.3
LONT	Longtian	0.45	149	⇓iP	Pb	03 42 21.5	-1.1
LONT				S	Sg	03 42 27.8	+0.8
EHY	Hungye	0.46	62	P	Pg	03 42 21.5	+0.2
EHY				i S	Sg	03 42 27.4	+0.1
CHY	Chiayi	0.46	296	P	Pb	03 42 22.4	-0.5
EHYH	Wanrong	0.47	65	P	Pg	03 42 21.7	+0.2
EHYH				S	Sg	03 42 27.7	0.0
CHKH	Chenggong	0.49	102	P	Pb	03 42 22.6	-0.6
CHKH				eS	Sb	03 42 30.2	-0.4
WGK	Gukeng	0.49	323	P	Pb	03 42 23.0	-0.3
WGK				i S	Sb	03 42 31.5	+0.8
CHKT	Chengkung	0.49	113	P	Pb	03 42 23.1	-0.2
CHKT				eS	Sb	03 42 31.1	+0.4
SSLB	Suanglung	0.50	8	P	Pg	03 42 21.4	-0.5
SSLB	Suanglung	0.50	8	P	Pg	03 42 21.4	-0.5
SSLB				eS	Sg	03 42 28.4	0.0
WDLH	Douliu	0.50	322	P	Pb	03 42 23.2	-0.3
WDLH				eS	Sb	03 42 31.5	+0.3
TWG	Pinlang	0.50	159	⇓iP	Pb	03 42 22.5	-1.1
TWG				S	Sg	03 42 29.2	+0.5
EDH	Donghe	0.51	129	i P	Pb	03 42 23.1	-0.5
EDH				eS	Sb	03 42 30.5	-0.7
TWGBT	Beinan	0.51	159	P	Pb	03 42 22.5	-1.2
TWGBT	Beinan	0.51	159	S	Sg	03 42 29.5	+0.7
TWGBT	Beinan	0.51	159	⇓iP	Pb	03 42 22.5	-1.2
TWGBT				S	Sg	03 42 29.3	+0.5
VWDT	VWDT	0.52	28	⇑iP	Pg	03 42 22.2	-0.1
CHN3	Shinhua	0.52	245	P	Pb	03 42 24.8	+0.9
ECBN	Changbin	0.53	87	eP	Pb	03 42 24.4	+0.5
ECBN				eS	Sb	03 42 32.7	+0.9
HGSD	Ruisui	0.54	68	eP	Pb	03 42 23.5	-0.7
SCST	Cishan	0.54	221	P	Pb	03 42 24.0	-0.2
SCST				eS	Sn	03 42 34.1	-1.8
WJS	Zhushan	0.54	345	P	Pb	03 42 24.1	-0.2
WJS				S	Sb	03 42 33.2	+0.9
ICHU	Yijhu	0.56	277	i P	Pb	03 42 24.4	-0.1
ICHU				eS	Sb	03 42 33.6	+1.0
SHHT	Tainan City	0.56	241	eP	Pn	03 42 25.6	-1.2
SSHA	Shanhua	0.56	254	eP	Pb	03 42 25.4	+0.7
SSHA				eS	Sn	03 42 35.6	-0.9
SMLT	Sun Moon Lake	0.59	2	eP	Pg	03 42 22.8	-1.0
SMLT				eS	Sb	03 42 32.3	-1.4
SSD	Sandimen	0.59	203	i P	Pg	03 42 23.7	0.0
TTN	Taitung	0.59	155	P	Pb	03 42 25.1	+0.1
WTK	Tuku	0.60	311	eP	Pb	03 42 25.2	0.0
WTK				eS	Sb	03 42 35.1	+1.3
TYC	Yuchr	0.61	358	P	Pb	03 42 24.3	-1.0
TYC				i S	Sb	03 42 35.2	+1.0
WNT	Mingjian	0.61	343	P	Pb	03 42 25.8	+0.4
WNT				S	Sb	03 42 35.4	+1.2
CHN8	Yiju	0.62	275	eP	Pb	03 42 25.3	-0.2
CHN8				eS	Sb	03 42 35.9	+1.5
TSMG	Majia	0.62	200	P	Pg	03 42 23.3	-1.1
EGFH	Guangfu	0.63	53	eP	Pb	03 42 24.9	-0.8
EGFH				eS	Sg	03 42 32.2	-0.4
TWM1	Shoushan	0.63	222	eP	Pn	03 42 26.6	-1.2
WARBT	Fenglin Townsh	0.63	48	⇑eP	Pg	03 42 24.2	-0.3
WARBT				eS	Sg	03 42 32.3	-0.4
SCLT	Jiali	0.64	260	eP	Pb	03 42 26.5	+0.6
SCLT				eS	Sn	03 42 37.5	-0.9
WSL	Shuilin Townsh	0.64	291	eP	Pb	03 42 25.7	-0.2
WSF	Szhu	0.69	300	eP	Pb	03 42 26.8	0.0
WSF				eS	Sb	03 42 36.8	+0.2
ECL	Taimali	0.70	174	P	Pg	03 42 25.6	-0.1
ECL				eS	Sb	03 42 35.5	-1.2
OWD	Renai	0.71	22	eP	Pg	03 42 25.1	-1.0
MASBT	Mashibuluo	0.71	198	P	Pg	03 42 25.8	-0.3
ESL	Shilin	0.73	44	eP	Pg	03 42 26.0	-0.3
ESL				eS	Sb	03 42 36.6	-1.0
WUSB	Renai	0.73	17	P	Pg	03 42 25.5	-0.9
DPDB	Guoxing	0.74	3	P	Pg	03 42 26.6	0.0
DPDB				S	Sb	03 42 39.4	+1.4
TSCK	Chigu Township	0.74	259	P	Pb	03 42 28.0	+0.3
TSCK				S	Sn	03 42 39.8	-1.1
WCS	Beigang Elemen	0.76	2	P	Pg	03 42 26.9	0.0
WCS				eS	Sb	03 42 39.9	+1.3
SHUL	Shoufeng	0.80	52	eP	Pb	03 42 28.4	-0.2
LDUT	Ludao	0.82	138	P	Pb	03 42 28.2	-0.8
WCHH	Zhanghua	0.84	340	eP	Pb	03 42 28.7	-0.6
WCHH				eS	Sb	03 42 41.6	+0.9
WSSB	Gushan	0.86	221	P	Pn	03 42 31.5	+0.5
WSSB				S	Sn	03 42 47.6	+3.7
TCU	Taichung	0.87	348	P	Pn	03 42 30.9	-0.2
TCU				eS	Sn	03 42 43.4	-0.7
TEYL	Yanliau Villag	0.87	49	eP	Pg	03 42 28.2	-1.0
ETM	Tongmen	0.88	40	P	Pg	03 42 28.9	-0.3
LXIB	Xiulin Townshi	0.88	34	eP	Pg	03 42 28.4	-0.8
LXIB				eS	Sb	03 42 41.3	-0.7
WHF	Hehuan Shan	0.92	23	P	Pg	03 42 29.4	-0.7
SCZT	Fangliau	0.95	195	i P	Pb	03 42 30.4	-0.7
SCZT				eS	Sn	03 42 45.4	-0.5
TAWH	Dawu Township	0.95	179	P	Pg	03 42 30.4	-0.2
WHP	Taichung City	0.98	4	P	Pn	03 42 32.2	-0.6
WHP				eS	Sn	03 42 47.3	+0.3
TDCB	Techi	0.99	15	eP	Pg	03 42 30.6	-0.8
TWT	Tachien	0.99	16	eP	Pb	03 42 31.4	-0.6
FUSS	Fushou	1.01	19	eP	Pg	03 42 30.5	-1.2
TWD	Chiawan	1.02	40	eP	Pg	03 42 31.8	-0.2
TWD				eS	Sb	03 42 46.2	+0.1
WLCH	Liuqiu	1.04	206	eP	Pn	03 42 35.9	+2.4
TWQ1	Liyutan	1.05	355	eP	Pn	03 42 33.5	-0.1
TWQ1				eS	Sn	03 42 49.2	+0.6
TWP	Hsiaoliuchiu	1.06	207	eP	Pn	03 42 36.2	+2.6
ETLH	Xiulin Townshi	1.06	31	i P	Pg	03 42 32.0	-0.8
SLIU	Shizi	1.07	184	eP	Pb	03 42 32.7	-0.6
NACB	Ninganchiao	1.09	37	P	Pg	03 42 32.7	-0.7
NACB	Ninganchiao	1.09	37	P	Pg	03 42 32.6	-0.7
NACB				eS	Sb	03 42 47.7	-0.5
WDGT	Dungji	1.12	269	eP	Pb	03 42 33.5	-0.6
WDGT				i S	Sb	03 42 48.9	0.0
NSY	Sanyi	1.12	355	eP	Pb	03 42 33.7	-0.5
NSY				eS	Sn	03 42 51.1	+0.7
PHUB	P'eng-hu	1.22	281	eP	Pg	03 42 34.5	-1.2
PHUB				eS	Sb	03 42 51.7	0.0
NNSB	Datong	1.22	22	P	Pg	03 42 34.2	-1.6
NNS	Nan Shan	1.23	22	eP	Pg	03 42 34.5	-1.4
NMLH	Miaoli	1.24	356	eP	Pn	03 42 36.9	+0.7
NMLH				eS	Sn	03 42 54.7	+1.4
PNG	Penghu	1.25	283	eP	Pg	03 42 35.4	-0.9
PNG				i S	Sb	03 42 52.6	+0.1
HEN	Hengchun	1.29	186	eP	Pn	03 42 37.4	+0.5
EAHA	Aohua	1.30	37	eP	Pg	03 42 36.5	-0.8
VCHM	Qimei	1.33	267	P	Pg	03 42 36.6	-1.4
VCHM				S	Sg	03 42 54.5	-0.8
NSTT	Nanjuang	1.34	5	P	Pb	03 42 38.2	+0.4
NSTT				S	Sn	03 42 57.0	+1.4
TWK1	Hengchun	1.34	183	eP	Pb	03 42 39.4	+1.5
TWKBT	Hengchun	1.35	183	eP	Pb	03 42 39.0	+1.0
NFF	Wufeng Townshi	1.35	9	i P	Pb	03 42 38.6	+0.6
NFF				eS	Sn	03 42 57.7	+1.6
LIOB	Emei	1.35	5	eP	Pb	03 42 38.6	+0.5
LIOB				eS	Sn	03 42 57.8	+1.7
LATG	Datong	1.37	25	eP	Pg	03 42 38.1	-0.6
ENA	Nanau	1.38	35	P	Pn	03 42 37.8	-0.3
LAY	Lan-yu	1.40	153	eP	Pb	03 42 38.9	+0.1
EWUT	Wuta	1.41	36	P	Pn	03 42 38.3	-0.3
LYUB	Lan-yu	1.44	152	eP	Pn	03 42 38.3	-0.7
YHNB	Yeheng	1.44	18	P	Pn	03 42 38.8	-0.3
YHNB	Yeheng	1.44	18	eP	Pn	03 42 38.6	-0.5
YHNB				eS	Sn	03 43 01.0	+2.6
NSK	Sanguang	1.45	18	eP	Pb	03 42 39.4	-0.3
ENTT	Nioudou	1.48	25	eP	Pb	03 42 39.8	-0.4
KSHI	Guanxi Townshi	1.50	10	eP	Pg	03 42 41.6	+0.4
KSHI				eS	Sg	03 43 03.3	+2.6
NDS	Dongshan	1.54	30	eP	Pb	03 42 41.1	-0.1
ESAO	Su ao	1.55	34	eP	Pb	03 42 40.9	-0.6
EOS4	EOS4	1.56	58	eP	Pg	03 42 42.3	+0.1
TWC	Suao	1.58	34	eP	Pb	03 42 41.9	-0.1
NWLT	Wulai	1.58	21	eP	Pg	03 42 42.4	-0.4
TWE	Neicheng	1.59	27	eP	Pg	03 42 42.4	-0.5
FUSB	Fushanzhiwuyua	1.60	24	eP	Pg	03 42 42.4	-0.6
EOS3	EOS3	1.65	53	eP	Pb	03 42 42.3	-0.8
TWA	Mucha	1.80	21	eP	Pg	03 42 48.0	+1.2
TIPB	Shuangxi	1.88	27	eP	Pb	03 42 47.3	+0.1
YM01	YM01	1.95	19	eP	Pg	03 42 48.9	+0.9
WFSB	Wu-fen Shan	1.95	25	eP	Pg	03 42 48.8	-1.0
ZUZH	Zhuzihu	1.96	18	eP	Pg	03 42 48.8	-1.1
TWB1	Santiao Chiao	1.99	30	eP	Pb	03 42 49.1	+0.2
SXI1	Grass Mountain	2.01	27	eP	Pg	03 42 50.5	-0.4
VWUC	VWUC	2.14	323	eP	Pn	03 42 49.7	+1.2
YOJ	Yonaguni jima	2.27	59	P	Pn	03 42 50.0	-0.4
YOJ	Yonaguni jima	2.27	59	eP	Pn	03 42 49.6	-0.8
PTMZ	Houxiangcun	2.37	318	eP	Pb	03 42 53.4	-1.9
MATB	Ma-tsu	2.97	344	eP	Pn	03 42 59.2	-0.7
AXDP	Jialang	3.10	302	eP	Pn	03 43 01.1	-0.7
XPSS	Dashiqiu	3.67	350	eP	Pn	03 43 09.7	+0.1

DJA 18 04:21:31.4±0.6, 0°N±5°×10°0E±°, h167^{km}±8^{km}, M3.8/10, mb4.1/2, MLv3.6/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.70	308	P	Pn	04 21 56.7	+1.0
PPI	Padang Panjang	0.85	162	P	Pn	04 21 57.7	+1.0
BKNI	Bangkinang	0.91	92	P	Pn	04 21 57.4	+0.3
PBSI	Pulau Batu	1.90	257	P	Pn	04 22 07.0	+0.6
PBSI				S	Sn	04 22 32.9	-0.5
SISI	Saibi	1.97	212	P	Pn	04 22 08.2	+0.9
SISI				S	Sn	04 22 34.9	-0.2
GSI	Gunungsitoli	2.72	290	P	Pn	04 22 16.8	+0.7
PPSI	Pulau Pagai	3.10	182	P	Pn	04 22 20.8	0.0
SNSI	Sinabang, Aceh	4.31	298	P	Pn	04 22 37.3	+1.1
BSI	Banda Aceh	7.02	317	P	Pn	04 23 10.6	-1.3

CATAC ***18*** *04:34:24.8±0.4, 10°N±3°×8°5W±°, h7^{km}±2^{km}, M3.9/12, MLv3.9/12, Error ellipse: s-maj=6.1km s-min=3.1km az=19.8, confirmed*

UCR ***18*** *04:34:25.7±1.1, 9°.64N×84°.93W, h22^{km}±3^{km}, MW3.8*

ISC 18 04:34:25.4±1.2, 9°.61N±0°.04×84°.92W±0°.02, h20^{km}±2^{km}, n100, σ0§74/124, 8C-25D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	Cabuya	0.17	264	⇑iP	Pb	04 34 30.9	-0.2
CBL1				eS	Sb	04 34 35.1	0.0
ARZA	Esparza	0.46	33	eS	Sb	04 34 41.6	+0.5
NYURE	Nandayure	0.51	320	⇓iP	Pb	04 34 36.4	+0.7
NYURE				eS	Sb	04 34 44.1	+1.5
INDI	Punta indio, G	0.63	294	P	Pb	04 34 37.7	-0.1
INDI	Punta indio, G	0.63	294	S	Sb	04 34 47.1	+0.9
CMARA	Lajas Hojancha	0.64	310	S	Sb	04 34 46.8	+0.1
CMARA	Lajas Hojancha	0.64	310	P	Pb	04 34 36.8	-1.4
CMARA	Lajas Hojancha	0.64	310	P	Pb	04 34 36.7	-1.4
CMARA	Lajas Hojancha	0.64	310	eP	Pb	04 34 37.7	-0.4
CMARA				eS	Sb	04 34 47.6	+0.8
RAMO	San Ramon	0.66	43	⇓iP	Pb	04 34 38.6	+0.2
RAMO				eS	Sb	04 34 47.2	0.0
JUNT	Juntas	0.67	357	⇓iP	Pb	04 34 37.6	-0.9
JTS	Las Juntas de	0.68	357	⇓iP	Pb	04 34 37.7	-1.0
JTS				eS	Sb	04 34 45.5	-2.3
MTEVE	Monteverde	0.71	8	⇓iP	Pb	04 34 39.4	0.0
NARAN	Naranjo de Ala	0.73	48	eP	Pb	04 34 39.2	-0.3
NARAN				eS	Sn	04 34 51.0	-0.2
NICO	Nicoya	0.74	315	eP	Pb	04 34 39.3	-0.3
NICO				eS	Sb	04 34 50.1	+0.9
SARCI	Sarchi	0.74	50	eP	Pb	04 34 39.5	-0.3
TCS1	Tacares	0.75	55	P	Pb	04 34 39.8	-0.1
TCS1	Tacares	0.75	55	P	Pb	04 34 39.8	-0.1
TCS1	Tacares	0.75	55	⇓iP	Pb	04 34 39.7	-0.2
TCS1				eS	Sb	04 34 50.5	+0.7
GREC	Grecia	0.76	52	eP	Pb	04 34 39.0	-1.1
ACOS	Acosta	0.77	76	eP	Pb	04 34 39.9	-0.4
ACOS				eS	Sb	04 34 50.5	+0.1
ZARE	Zarcero	0.78	42	⇓iP	Pn	04 34 41.2	-0.2
ZARE				eS	Sn	04 34 52.0	-0.6
SANTA	Santa Ana	0.80	66	⇓eP	Pb	04 34 40.0	-0.7
SANTA				eS	Sb	04 34 51.0	-0.1
SOCE	Pocosol	0.83	21	P	Pb	04 34 40.5	-0.7
SOCE	Pocosol	0.83	21	S	Sb	04 34 52.1	+0.1
SOCE	Pocosol	0.83	21	P	Pb	04 34 40.6	-0.6
SOCE	Pocosol	0.83	21	⇓iP	Pb	04 34 40.6	-0.6
CNAS	Canas	0.84	348	⇑eP	Pb	04 34 40.7	-0.6
PLVR	Palo Verde	0.85	330	eP	Pb	04 34 40.9	-0.8
PLVR				eS	Sb	04 34 52.7	0.0
ARE1	Arenal 1	0.87	13	⇓eP	Pb	04 34 41.5	-0.5
HDC	Heredia	0.89	64	⇓iP	Pb	04 34 41.9	-0.4
HDC				eS	Sb	04 34 54.0	+0.3
RAZU	San Marcos de	0.89	86	eP	Pb	04 34 42.3	+0.1
MEXI	Barrio Mexico	0.89	68	⇓iP	Pb	04 34 41.8	-0.5
CENT	San Jose	0.89	69	⇓eP	Pb	04 34 41.8	-0.5
CENT				eS	Sb	04 34 53.7	-0.2
AMPA	Desamparados	0.90	71	eP	Pb	04 34 41.7	-0.7
AMPA				eS	Sb	04 34 53.6	-0.3
VACR	Volcan Arenal	0.90	16	⇓iP	Pb	04 34 41.6	-0.7
LUJA	Lujan	0.90	69	⇑iP	Pn	04 34 43.0	0.0
LUJA				eS	Sn	04 34 55.2	-0.2
DOMI	Santo Domingo	0.90	65	eP	Pb	04 34 42.3	-0.2
TUNA	La Fortuna	0.90	18	eP	Pb	04 34 41.9	-0.5
TIBA	Tibas	0.91	67	⇓eP	Pn	04 34 43.2	0.0
LCR2	La Lucha 2	0.91	81	S	Sb	04 34 54.4	-0.2
LCR2	La Lucha 2	0.91	81	P	Pb	04 34 42.1	-0.6
LCR2	La Lucha 2	0.91	81	P	Pb	04 34 42.2	-0.6
LCR2	La Lucha 2	0.91	81	eP	Pb	04 34 42.0	-0.7
LCR2				eS	Sb	04 34 54.6	+0.1
SJS	Escuela Geolog	0.92	69	⇓eP	Pb	04 34 42.2	-0.5
SJS3	Mercedes San J	0.92	69	⇓iP	Pb	04 34 42.4	-0.3
SJS3				eS	Sb	04 34 55.1	+0.5
SACU	Santa Cruz	0.92	315	eP	Pb	04 34 42.3	-0.5
SACU				eS	Sn	04 34 55.4	-0.5
VBV1	V. Barva	0.95	58	⇓iP	Pb	04 34 43.0	-0.5
TRIO	Tres Rios	0.96	72	eP	Pb	04 34 42.5	-1.0
BAGA	Bagaces	0.98	340	⇓iP	Pn	04 34 44.0	0.0
BAGA				eS	Sn	04 34 58.0	+0.8
CORON	Coronado	0.98	68	⇑iP	Pb	04 34 43.7	-0.1
TAGO	Cartago	1.02	75	⇑iP	Pb	04 34 44.1	-0.4
TAGO				eS	Sb	04 34 57.8	+0.3
CVIMO	Finca Echandi	1.05	67	⇓eP	Pb	04 34 44.7	-0.3
ITAL	Pital	1.06	37	⇓iP	Pn	04 34 44.3	-0.8
ITAL				eS	Sb	04 34 58.4	0.0
REPA	Paraso	1.06	78	eP	Pb	04 34 44.7	-0.5
REPA				eS	Sn	04 34 60.0	+0.4
VICA	Volcano Irazu	1.13	70	⇓eP	Pn	04 34 45.8	-0.7
PCAYA	Pacayas	1.14	74	⇑eP	Pn	04 34 46.2	-0.2
RAFA	San Farael, Vo	1.15	72	eP	Pn	04 34 46.5	-0.2
ALIBA	Liberia Airpor	1.16	328	⇓iP	Pn	04 34 46.3	-0.2
VINA	Juan Vinas	1.19	76	eP	Pn	04 34 47.1	0.0
VTLA	Turrialba Volc	1.20	71	eP	Pn	04 34 47.3	-0.1
CVTQ	Turrialba Volc	1.21	71	eP	Pb	04

MTN Manton Dam 20.42 242 P P 04 43 00.0 -1.4
MTN IAmb IAmb 04 43 16.0
comp=Z,91nm,1.4s
MTN Manton Dam 20.42 242 P P 04 43 02.0 +0.5
DRS Darwin Rock St 20.45 243 P Pn 04 43 03.5 -0.5
EIDS Eidsvold 21.86 176 P P 04 43 16.6 -0.3
EIDS IAmb IAmb 04 43 27.8
comp=Z,43nm,1.4s
EIDS Eidsvold 21.86 176 P P 04 43 19.4 +2.5
WB0 Warramunga Arr 21.92 221 P P 04 43 15.9 -1.7
WB0 IAmb IAmb 04 43 22.9
comp=Z,40nm,0.8s
WR0 Warramunga Arr 21.96 220 P P 04 43 16.8 -1.3
WR0 IAmb IAmb 04 43 21.9
comp=Z,33nm,0.8s
WRAB Tennant Creek 22.07 221 P P 04 43 18.1 -1.1
WB2 Warramunga Arr 22.07 221 P P 04 43 18.0 -1.3
WRA Warramunga Arr 22.08 221 P P 04 43 17.8 -1.6
WRA Warramunga Arr 22.08 221 P P 04 43 18.8 -0.6
comp=Z,23nm,0.8s,baz=42,slow=10,SNR=36
WRA LR LR 04 52 34.0
comp=Z,2μm,18.7s,baz=50,slow=39
comp=Z,23nm,0.8s
WB1 Warramunga Ar. 22.09 221 P P 04 43 19.7 +0.2
QLP Quilpie 23.56 192 P P 04 43 37.7 +3.1
KNRA Kununurra 23.75 238 P P 04 43 35.3 -1.3
KNRA IAmb IAmb 04 43 49.6
comp=Z,31nm,1.1s
AUWSH Wavell State H 24.07 172 P P 04 43 41.6 +2.1
DZM Mont Dzumac 24.77 140 P P 04 43 46.8 +0.7
DZM IAmb IAmb 04 44 09.7
comp=Z,27nm,1.2s
DZM Mont Dzumac 24.77 140 *e*P **P 04 43 42.7 -3.4**
comp=Z,49nm,1.2s
DZM *e*S **S 04 48 02.4 -5.3**
comp=Z,430nm,25.4s
DZM *e*LR LR 04 49 47.0
comp=Z,4μm,25.1s
DZM Mont Dzumac 24.77 140 LR LR 04 52 27.1
comp=Z,3μm,19.9s,baz=307,slow=34
AS01 Alice Springs 25.10 215 P P 04 43 50.0 +1.0
AS31 Alice Springs 25.12 215 P P 04 43 49.3 0.0
ASAR Alice Springs 25.12 215 P P 04 43 49.0 -0.2
ASAR Alice Springs 25.12 215 P P 04 43 49.8 +0.5
comp=Z,18nm,0.9s,baz=51,slow=8.4,SNR=29
ASAR LR LR 04 54 36.1
comp=Z,2μm,18.5s,baz=50,slow=39
comp=Z,18nm,0.9s
INKA Innaminka 25.57 198 P P 04 43 55.7 +2.6
DAV Davao City (W) 26.05 294 LR LR 04 53 52.4
comp=Z,753nm,18.1s,baz=106,slow=36
ARMA Armidale 26.91 176 P P 04 44 04.2 -1.2
ARMA IAmb IAmb 04 44 26.1
comp=Z,52nm,1.6s
ARMA Armidale 26.91 176 P P 04 44 07.7 +2.3
FITZ Fitzroy Crossi 27.53 236 P P 04 44 09.8 -1.2
FITZ IAmb IAmb 04 44 14.9
comp=Z,14nm,0.9s
FITZ Fitzroy Crossi 27.53 236 LR LR 04 55 57.2
comp=Z,3μm,19.6s,baz=35,slow=38
FITZ Fitzroy Crossi 27.53 236 P P 04 44 10.9 -0.1
OOD Oodnadatta 27.57 207 P P 04 44 12.9 +1.7
H11N1 WAKE ISLAND Hy 28.67 36 T T 05 14 30.2
baz=220,slow=74
H11N3 WAKE ISLAND Hy 28.68 36 T T 05 14 33.4
baz=220
H11N2 WAKE ISLAND Hy 28.68 36 T T 05 14 31.4
baz=220,slow=74
LCRK Leigh Creek 28.90 200 P P 04 44 24.0 +0.9
STKA Stephens Creek 29.25 194 P P 04 44 25.0 -1.1
STKA Stephens Creek 29.25 194 P P 04 44 25.1 -1.1
comp=Z,1.1nm,0.5s,baz=352,slow=14,SNR=3.5
STKA LR LR 04 57 12.0
comp=Z,728nm,19.2s,baz=12,slow=39
comp=Z,1.1nm,0.5s
WRKA Warakurna 29.62 222 P P 04 44 29.6 0.0
KAPI Kappang 29.70 266 LR LR 04 58 28.8
comp=Z,347nm,18.2s,baz=80,slow=41
MSVF Nonsavu 31.39 119 LR LR 04 56 21.3
comp=Z,1μm,20.2s,baz=299,slow=34
CAN Canberra 31.73 181 P 04 44 48.0 -0.1
TGY Tagaytay City 33.25 302 LR LR 04 55 57.4
comp=Z,324nm,20.6s,baz=138,slow=32
PSA00 Pilbara Seismi 33.97 235 P P 04 45 07.0 -0.8
JOW Kunigami 36.41 327 LR LR 04 57 37.7
comp=Z,927nm,20.6s,baz=132,slow=32
MEEK Meekatharra 37.49 229 P P 04 45 37.9 -0.2
JHJ Hachijo jima 2 37.50 347 LR LR 04 57 24.8
comp=Z,538nm,21.8s,baz=153,slow=30
KMBL Kambalda 38.05 220 P P 04 45 43.2 +0.6
JMN Monobe 39.80 339 P 04 45 55.7 -1.6
JMN IAmb IAmb 04 46 22.2
comp=Z,37nm,1.4s
JNU Nakatsue 40.41 336 LR LR 05 00 58.2
comp=Z,333nm,20.2s,baz=146,slow=33
MORW Morawa 40.72 228 P P 04 46 04.1 -0.9
MJAR Matsushiro Arr 41.15 346 LR LR 05 01 56.0
comp=Z,350nm,18.7s,baz=162,slow=34
BBJI Bungbulang 41.83 263 P P 04 46 13.8 -0.6
LEM Lembang 41.83 264 LR LR 05 05 00.3
comp=Z,312nm,21.7s,baz=122,slow=38
NWAO Narrogin (SRO) 42.08 222 LR LR 05 04 35.9
comp=Z,1μm,18.8s,baz=27,slow=38
URZ Urewera 42.86 148 LR LR 05 01 26.1
comp=Z,832nm,21.7s,baz=40,slow=32
RPZ Rata Peaks 44.42 158 LR LR 05 03 29.9
comp=Z,1μm,19.8s,baz=317,slow=34
BKNI Bangkinang 48.57 273 P P 04 47 09.0 +1.1
USA0B Ussuriysk Arra 49.96 344 P P 04 47 14.2 -3.8
USA0B IAmb IAmb 04 48 28.4
comp=Z,9.4nm,1.1s
USRK Ussuriysk Ar. 49.96 344 P P 04 47 18.9 +1.0
comp=Z,3.0nm,0.7s,baz=155,slow=6.6,SNR=4.5
comp=Z,3.0nm,0.7s
RAR Rarotonga 52.34 114 LR LR 05 08 43.9
comp=Z,88nm,18.7s,baz=278,slow=35
SRDT SRDT 52.96 291 P P 04 47 42.5 +1.6
CMAR Chiang Mai Arr 54.31 296 P P 04 47 48.4 -2.5
CMAR Chiang Mai Arr 54.31 296 P P 04 47 52.6 +1.8
comp=Z,1.7nm,0.6s,baz=110,slow=5.8,SNR=10
CMAR LR LR 05 10 51.8
comp=Z,151nm,20.3s,baz=110,slow=36
comp=Z,1.7nm,0.6s
PETK Petropavlovsk- 56.76 6 P P 04 48 06.8 -1.0
PETK Petropavlovsk- 56.76 6 P P 04 48 10.7 +2.8
comp=Z,2.5nm,0.9s,baz=189,slow=7.1,SNR=4.8
comp=Z,2.5nm,0.9s
SHEM Shemya Is, Ala 59.69 17 LR LR 05 09 21.5
comp=Z,333nm,21.9s,baz=188,slow=31
PPT Papeete 61.28 108 LR LR 05 12 29.4
comp=Z,106nm,18.1s,baz=276,slow=33
PPT2 Papeete2 61.28 108 *e*LQ LQ 05 03 57.6
comp=Z,1μm,32.2s
PPT2 *e*LR LR 05 06 46.1
comp=Z,193nm,27.0s
PPT2 *e*LR LR 05 06 48.0
comp=Z,314nm,26.0s
BRDH Bariadhala 62.11 298 LR LR 05 15 40.2
comp=Z,162nm,20.4s,baz=121,slow=36
TBI Tubuai 62.12 115 *e*LQ LQ 05 04 22.9
comp=Z,3μm,34.8s
TBI *e*LR LR 05 07 05.3
comp=Z,3μm,29.8s
TBI *e*LR LR 05 07 10.6
comp=Z,1μm,29.5s
SHL Shillong 62.78 301 P P 04 48 48.1 -2.0
ULN Ulaanbaatar 63.13 329 P P 04 48 49.6 -2.2
ULN IAmb IAmb 04 49 27.8
comp=Z,12nm,1.4s
SONM Songino Array 63.44 329 P P 04 48 52.8 -1.1
SONM IAmb IAmb 04 49 18.2
comp=Z,10nm,1.6s
SONM Songino Array 63.44 329 P P 04 48 56.5 +2.5
comp=Z,1.9nm,0.7s,baz=148,slow=5.9,SNR=9.5
SONM LR LR 05 16 19.2
comp=Z,420nm,20.1s,baz=120,slow=36
comp=Z,1.9nm,0.7s
YAK Yakutsk 67.03 350 LR LR 05 17 26.1
comp=Z,167nm,21.9s,baz=182,slow=35
TAOE Nuku Hiva Isla 70.08 98 *e*LR LR 05 10 49.3
comp=Z,274nm,23.4s
BILL Bilibino 72.28 7 P P 04 49 49.0 -0.1
BILL IAmb IAmb 04 50 16.7
comp=Z,12nm,1.4s
VNDA Vanda 74.32 177 P P 04 50 01.1 +0.1
VNDA IAmb IAmb 04 51 24.8
comp=Z,26nm,1.9s
VNDA Vanda 74.32 177 LR LR 05 20 04.6
comp=Z,287nm,19.0s,baz=354,slow=34
RKT Rikitea 75.36 113 *e*LR LR 05 13 13.7
comp=Z,3μm,34.2s
L16K Owhat River 75.72 22 P P 04 50 07.6 -1.6
MK31 Makanchi Array 77.14 319 P P 04 50 16.9 -0.9
MKAR Makanchi Array 77.14 319 P P 04 50 15.8 -2.0
MKAR Makanchi Array 77.14 319 P P 04 50 19.8 +2.0
comp=Z,1.4nm,0.9s,baz=98,slow=7.5,SNR=8.3
MKAR LR LR 05 23 00.7
comp=Z,297nm,20.7s,baz=85,slow=35
comp=Z,1.4nm,0.9s
MAKZ Makanchi 77.35 319 P P 04 50 16.9 -2.0
ZAA0 Zalesovo Array 78.21 327 P P 04 50 20.7 -2.7
ZALV Zalesovo Beam 78.21 327 P P 04 50 22.0 -1.5
ZALV Zalesovo Beam 78.21 327 P P 04 50 24.9 +1.5
comp=Z,0.6nm,0.3s,baz=111,slow=8.1,SNR=4.4
ZALV LR LR 05 24 05.6
comp=Z,289nm,20.9s,baz=102,slow=35
comp=Z,0.6nm,0.3s
SLKM Skilak Lake 78.87 26 P P 04 50 27.0 0.0
KDJ Kajisay 79.29 314 P P 04 50 27.8 -2.1
BOOM Boomskoye usch 80.27 314 P P 04 50 33.4 -1.8
KURK Kurchatov 80.68 323 P P 04 50 34.6 -2.3
KURBB Kurchatov Arra 80.71 322 P P 04 50 38.5 +1.4
comp=Z,1.3nm,1.1s,baz=104,slow=4.7,SNR=5.2
comp=Z,1.3nm,1.1s
AAK Ala-Archa 81.34 314 LR LR 05 27 00.8
comp=Z,281nm,20.3s,baz=100,slow=36
ILAR Eielson Array 82.17 23 P P 04 50 43.2 -1.4
ILAR Eielson Array 82.17 23 P P 04 50 46.0 +1.4
comp=Z,1.0nm,0.9s,baz=247,slow=5.4,SNR=9.7
comp=Z,1.0nm,0.9s
D23K Nanushuk River 82.79 18 P P 04 50 46.9 -0.8
BCAR Beaver Creek A 83.58 25 P P 04 50 52.3 +0.3
NRIK Noril'sk 83.63 342 P P 04 50 54.7 +2.6
comp=Z,0.9nm,0.3s,baz=110,slow=3.3,SNR=5.0
NRIK LR LR 05 26 52.3
comp=Z,242nm,21.2s,baz=114,slow=35
comp=Z,0.9nm,0.3s
KK31 Karatay Array 84.31 314 P P 04 50 54.8 -1.4
KK31 IAmb IAmb 04 51 03.3
comp=Z,7.9nm,1.1s
KKAR Karatay Array 84.31 314 P P 04 50 55.8 -0.3
KKAR IAmb IAmb 04 51 03.2
comp=Z,5.0nm,1.1s
MAW Mawson 85.55 203 LR LR 05 26 12.9
comp=Z,259nm,21.9s,baz=90,slow=34
BVAR Borovoye Array 86.19 324 P P 04 51 07.0 +1.7
comp=Z,1.3nm,0.7s,baz=106,slow=5.4,SNR=5.3
BVAR LR LR 05 31 19.4
comp=Z,151nm,18.1s,baz=83,slow=37
comp=Z,1.3nm,0.7s
QSPA South Pole Qui 86.51 180 P P 04 51 07.2 +0.4
comp=Z,1.2nm,0.9s,baz=348,slow=2.0,SNR=8.7
comp=Z,1.2nm,0.9s
DLBC Dease Lake 87.93 31 LR LR 05 30 01.7
comp=Z,220nm,18.1s,baz=281,slow=35
BBB Bella Bella 88.03 38 LR LR 05 25 58.2
comp=Z,213nm,18.3s,baz=250,slow=32
YBH Yreka Blue Hor 90.62 48 LR LR 05 24 21.3
comp=Z,577nm,21.8s,baz=281,slow=30
ARTI Arti 93.45 326 LR LR 05 33 27.5
comp=Z,643nm,21.8s,baz=92,slow=35
AKTO Aktyubinsk 93.57 320 LR LR 05 33 12.7
comp=Z,331nm,20.9s,baz=54,slow=35
SYO Syowa Base 93.83 200 *e*pP **P 04 51 43.0 +2.1**
NVAR Mina Array Bea 93.85 52 LR LR 05 28 30.2
comp=Z,260nm,19.3s,baz=246,slow=32
NEW Newport 94.80 42 LR LR 05 27 10.9
comp=Z,206nm,21.9s,baz=270,slow=31
PFO Pinyon Flats O 95.26 57 LR LR 05 26 36.3
comp=Z,248nm,20.7s,baz=276,slow=30
YKA Yellowknife Ar 95.77 28 P P 04 51 52.4 +2.5
comp=Z,0.4nm,0.8s,baz=275,slow=5.1,SNR=5.3
comp=Z,0.4nm,0.8s
ELK Elko 96.22 50 LR LR 05 29 42.1
comp=Z,240nm,19.9s,baz=266,slow=32
KIRV Kirov 98.18 329 LR LR 05 35 57.4
comp=Z,220nm,21.8s,baz=83,slow=35
TORD Torodi Ar. Bea 146.75 289 PKPbc **PKiKP 04 58 09.6 -0.2**
comp=Z,3.1nm,0.4s,baz=50,slow=3.8,SNR=2.3
BOAV Boa Vista 150.01 91 PKPdf 04 58 11.1 +0.3

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*IPEC **18** 04:40:23.4±0.2, 51.°60N× 16.°10E, h1km, ML2.7/5, Error ellipse: s-maj=3.1km s-min=1.5km az=70.0*
*DNK **18** 04:40:24.4±0.9, 51.°62N× 15.°87E, h15km±32km, ML2.2*
*BGR **18** 04:40:25.0±0.5, 51.°54N× 16.°10E, h1km, ML3.0/12, Error ellipse: s-maj=4.4km s-min=2.2km az=23.0*
*IDC **18** 04:40:25.1±0.8, 51.°52N× 16.°07E, h0km, mb3.0/1, mbtmp3.4/7, ML3.0/6, Error ellipse: s-maj=13.5km s-min=8.0km az=116.0*
*PRU **18** 04:40:26.9, 51.°48N× 16.°08E, h0km*
*VIE **18** 04:40:26.0±0.7, 51.°42N× 15.°99E, h0km, mb2.9/14, ml2.9/13, ms4.0/1, Error ellipse: s-maj=7.6km s-min=3.2km az=54.0, Suspected Mining induced.*
ISC 18 04:40:22.1±0.7, 51.°65N±0.°03× 16.°14E±0.°02, h0km, n69, σ1°22/131, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.82**	**173**	*e*Pg	**Pg**	**04 40 38.5**	**+0.8**
KSP				*e*Sg	**Sg**	**04 40 48.3**	**0.0**
KSP	**Ksiaz**	**0.82**	**173**	*e*Pg	**Pg**	**04 40 38.5**	**+0.8**
KSP				*e*Sg	**Sg**	**04 40 48.5**	**+0.1**
CHVC	**Chvalec**	**1.07**	**183**	*e*PG	**Pb**	**04 40 43.3**	**-0.2**
CHVC				*e*SG	**Sg**	**04 40 56.6**	**+0.2**
OSTC	**Ostas**	**1.10**	**177**	*e*PG	**Pb**	**04 40 43.9**	**-0.1**
OSTC				*e*SG	**Sg**	**04 40 57.5**	**+0.1**
UPC	**Upice**	**1.15**	**184**	*e*PG	**Pg**	**04 40 44.6**	**+0.5**
UPC				*e*SG	**Sg**	**04 40 58.5**	**-0.5**
DPC	**Dobruska-Polom**	**1.31**	**175**	*e*PG	**Pg**	**04 40 47.4**	**+0.2**
DPC				*e*SG	**Sg**	**04 41 03.3**	**-0.9**
DPC	**Dobruska-Polom**	**1.31**	**175**	*e*Pg	**Pg**	**04 40 47.4**	**+0.2**
DPC				*e*Sg	**Sg**	**04 41 03.3**	**-0.9**
PIVO	**Bartosovice**	**1.49**	**170**	*e*Pn	**Pn**	**04 40 50.6**	**+0.4**
PIVO	baz=349			*e*Sg	**Sg**	**04 41 08.4**	**-1.6**
	83nm,0.2s,baz=349						
PVCC	**Panska Ves**	**1.50**	**222**	*e*PG	**Pn**	**04 40 50.6**	**+0.4**
PVCC				*e*SG	**Sn**	**04 41 10.4**	**-0.1**
	comp=Z,355nm,0.5s						
BRG	**Berggiesshubel**	**1.58**	**241**	Pn	**Pn**	**04 40 50.8**	**-0.6**
BRG				Pg	**Pg**	**04 40 53.1**	**+0.6**
BRG				Sg	**Sg**	**04 41 13.2**	**+0.2**
BRG				Amp		04 41 13.7	
	comp=Z,234nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**241**	*e*Pg	**Pb**	**04 40 52.5**	**+0.2**
BRG				*e*Sg	**Sg**	**04 41 13.0**	**0.0**
KRLC	**Kraliky**	**1.63**	**165**	*e*PG	**Pn**	**04 40 52.6**	**+0.5**
KRLC				*e*SG	**Sn**	**04 41 13.4**	**-0.5**
	comp=Z,98nm,0.5s						
PRU	**Pruhonice**	**1.95**	**212**	*e*PN	**Pn**	**04 40 56.6**	**+0.2**
PRU				*e*PG	**Pb**	**04 40 58.6**	**+0.1**
PRU				*e*SG	**Sb**	**04 41 22.9**	**-0.4**
	comp=Z,50nm,0.5s						
CLL	**Collm**	**1.99**	**261**	*e*Pn	**Pn**	**04 40 57.3**	**+0.3**
CLL				*e*Pg	**Pg**	**04 41 01.1**	**+0.9**
CLL				*e*Sg	**Sg**	**04 41 27.4**	**+1.4**
CLL	**Collm**	**1.99**	**261**	*i* Pn	**Pn**	**04 40 57.3**	**+0.3**
CLL				*i* Pg	**Pb**	**04 41 00.1**	**+0.9**
CLL				*i* x	x	04 41 04.1	
CLL				*e*Sg	**Sg**	**04 41 26.0**	**0.0**
	comp=Z,39nm,0.5s						
CLL				AMS	AMS	05 58 00.0	
	comp=Z,300nm,20.5s						
MORC	**Moravsky Berou**	**2.08**	**154**	*e*Pn	**Pn**	**04 40 58.6**	**+0.3**
MORC	baz=334			*e*Sg	**Sb**	**04 41 27.3**	**+0.2**
	comp=Z,42nm,0.4s,baz=334						
MORC	**Moravsky Berou**	**2.08**	**154**	*e*Pn	**Pn**	**04 40 58.8**	**+0.5**
MORC				*e*Sg	**Sb**	**04 41 27.2**	**+0.1**
OKC	**Ostrava-Krasne**	**2.22**	**144**	*e*PG	**Pg**	**04 41 05.0**	**+0.4**
OKC				*e*SG	**Sg**	**04 41 33.9**	**+0.5**
	comp=Z,120nm,0.7s						
OKC	**Ostrava-Krasne**	**2.22**	**144**	*e*Pg	**Pg**	**04 41 05.0**	**+0.4**
OKC				*e*Sg	**Sg**	**04 41 33.0**	**-0.4**
VRAC	**Vranov**	**2.37**	**173**	Pn	**Pn**	**04 41 03.0**	**+0.9**
	comp=Z,4.9nm,0.3s,baz=345,slow=13,SNR=25						
VRAC				Lg	Lg	04 41 36.7	
	comp=Z,4.9nm,0.3s,baz=219,slow=8.8,SNR=6.0						
	comp=Z,10nm,0.4s						
VRAC	**Vranov**	**2.37**	**173**	*e*Pn	**Pn**	**04 41 02.7**	**+0.5**
	baz=352						
VRAC				*e*Sg	**Sb**	**04 41 35.8**	**+0.5**
	comp=Z,36nm,0.5s,baz=352						
KRUC	**Moravsky**	**2.60**	**176**	*e*Pn	**Pn**	**04 41 06.0**	**+0.6**
	baz=356						
KRUC				*e*Sg	**Sb**	**04 41 43.2**	**+1.2**
	comp=Z,43nm,0.7s,baz=356						
TANN	**Tannenbergstha**	**2.63**	**243**	*e*Pn	**Pn**	**04 41 06.5**	**+0.7**
TANN				*e*Pg	**Pg**	**04 41 13.6**	**+1.1**
TANN				*e*Sg	**Sg**	**04 41 45.3**	**-1.2**
WERD	**Werda**	**2.70**	**245**	*e*Pn	**Pn**	**04 41 07.3**	**+0.5**
WERD				*e*Sg	**Sg**	**04 41 48.8**	**-0.1**
OJC	**Ojcow**	**2.73**	**120**	*e*Pn	**Pn**	**04 41 06.6**	**-0.5**
OJC				*e*Pg	**Pg**	**04 41 15.2**	**+0.9**
OJC				*e*Sg	**Sg**	**04 41 51.5**	**+1.9**
JAVC	**Velka Javorina**	**2.97**	**160**	*e*Pn	**Pn**	**04 41 11.0**	**+0.6**
	baz=340						
JAVC	**Velka Javorina**	**2.97**	**160**	*e*PN	**Pn**	**04 41 11.1**	**+0.6**
KHC	**Kasperske Hory**	**3.01**	**214**	*e*PN	**Pn**	**04 41 11.3**	**+0.2**
KHC				*e*PG	**Pb**	**04 41 17.9**	**+1.3**
KHC				*e*SN	**Sn**	**04 41 46.9**	**-0.9**
KHC				*e*x	x	04 41 56.8	
	comp=Z,23nm,0.4s						
MOX	**Moxa**	**3.02**	**252**	*e*Pg	**Pg**	**04 41 20.3**	**+0.4**
MOX				*e*Sg	**Sg**	**04 41 59.9**	**+0.8**
MANZ	**Manzenberg**	**3.05**	**238**	*e*Pn	**Pn**	**04 41 12.3**	**+0.7**
MANZ				*e*Pg	**Pg**	**04 41 20.6**	**0.0**
MANZ				*e*Sg	**Sg**	**04 41 59.9**	**-0.2**
CKRC	**Cesky Krumlov**	**3.07**	**203**	*e*PN	**Pn**	**04 41 12.9**	**+1.0**
CKRC				*e*PG	**Pb**	**04 41 19.0**	**+1.4**
CKRC				*e*SG	**Sg**	**04 41 58.8**	**-1.9**
	comp=Z,27nm,0.6s						
ROTZ	**Rotzenmuhle**	**3.13**	**234**	*e*Pn	**Pn**	**04 41 13.1**	**+0.4**
ROTZ				*e*Sg	**Sg**	**04 42 00.8**	**-1.9**
GEC2	**GERESS Array S**	**3.22**	**210**	*e*Pn	**Pn**	**04 41 14.8**	**+0.8**
GEC2				*e*Sg	**Sg**	**04 42 02.9**	**-2.6**
GERES	**GERESS Array B**	**3.22**	**210**	Pn	**Pn**	**04 41 15.1**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=31,slow=13,SNR=18						
GERES				Pg	**Pb**	**04 41 21.4**	**+1.3**
	comp=Z,4.6nm,0.3s,baz=32,slow=17,SNR=19						
GERES				Lg	Lg	04 42 03.4	
	comp=Z,7.9nm,0.3s,baz=32,slow=28,SNR=9.8						
	comp=Z,5.8nm,0.5s						
WET	**Wettzell**	**3.27**	**221**	*e*Pn	**Pn**	**04 41 15.2**	**+0.6**
LANS	**Liptovska Anna**	**3.29**	**138**	*e*PN	**Pn**	**04 41 16.3**	**+1.4**
LANS				*e*PG	**Pg**	**04 41 24.2**	**-0.9**
LANS				*e*SG	**Sg**	**04 42 07.7**	**0.0**
MODS	**Modra-Piesok**	**3.37**	**167**	*e*PN	**Pn**	**04 41 17.7**	**+1.8**
MODS				*e*PG	**Pg**	**04 41 26.2**	**-0.4**
MODS				*e*SG	**Sg**	**04 42 09.0**	**-1.2**
NIE	**Niedzica**	**3.47**	**129**	*e*Pg	**Pg**	**04 41 29.1**	**+0.5**
NIE				*e*Sg	**Sg**	**04 42 12.9**	**-0.7**
BSD	**Bornholm Skovb**	**3.54**	**349**	*i* P	**Pn**	**04 41 19.6**	**+1.3**
BSD				*i* S	**Sn**	**04 41 59.2**	**-1.6**
BSD				IAML		04 42 07.3	
	comp=Z,1.6nm,0.4s						
CLZ	**Clausthal**	**3.59**	**275**	*e*Pn	**Pn**	**04 41 20.8**	**+1.8**
GRF	**Grafenberg Arr**	**3.69**	**240**	*e*Pn	**Pn**	**04 41 20.9**	**+0.5**
CONA	**Conrad Observa**	**3.73**	**183**	*i* Pn	**Pn**	**04 41 22.1**	**+1.0**
	comp=Z,3.9nm,0.4s,SNR=9.7						
CONA				*e*Sg	**Sg**	**04 42 20.8**	**-1.2**
	comp=Z,30nm,0.5s						
STHS	**Stebnicka Huta**	**3.95**	**123**	*e*PN	**Pn**	**04 41 25.1**	**+1.1**
STHS				*e*PG	**Pg**	**04 41 38.7**	**+0.9**
RONA	**Rosalia, Austr**	**3.96**	**178**	*i* Pn	**Pn**	**04 41 25.0**	**+0.9**
	comp=Z,0.7nm,0.1s						
RONA				*e*Sg	**Sg**	**04 42 25.5**	**-3.8**
	comp=Z,23nm,0.5s						
MOA	**Molln**	**4.00**	**198**	*i* Pn	**Pn**	**04 41 25.4**	**+0.8**
	comp=Z,13nm,0.4s,SNR=7.5						
MOA				*e*Sg	**Sg**	**04 42 27.5**	**-2.9**
	comp=Z,9.0nm,0.4s						
KECS	**Kecovo**	**4.23**	**137**	*e*PG	**Pg**	**04 41 44.6**	**+1.4**
BIOA	**Bad Ischl, Aus**	**4.29**	**203**	*i* Pn	**Pn**	**04 41 29.2**	**+0.7**
	comp=Z,5.9nm,0.3s,SNR=5.8						
BIOA				*e*Sg	**Sg**	**04 42 38.0**	**-1.7**
	comp=Z,22nm,0.4s						
LUNU	**Lund**	**4.29**	**339**	*i* P	**Pn**	**04 41 29.4**	**+0.8**
LUNU				*i* S	**Sn**	**04 42 16.7**	**-2.7**
ARSA	**Arzberg**	**4.43**	**185**	*i* Pn	**Pn**	**04 41 31.7**	**+1.2**
	comp=Z,2.5nm,0.3s						
ARSA				*e*Sg	**Sg**	**04 42 42.6**	**-1.7**
	comp=Z,11nm,0.5s						
BLEU	**Blekinge**	**4.66**	**358**	*i* P	**Pn**	**04 41 35.3**	**+1.7**
BLEU				*i* S	**Sn**	**04 42 26.3**	**-2.1**
KOLS	**Kolonicke sedl**	**4.78**	**122**	*e*PN	**Pn**	**04 41 36.4**	**+1.0**
KOLS				*e*PG	**Pg**	**04 41 52.0**	**-1.7**
BJUU	**Bjuv**	**4.80**	**339**	*i* P	**Pn**	**04 41 35.8**	**+0.3**
BJUU				*i* S	**Sn**	**04 42 28.4**	**-3.3**
LESA	**Schwarzleotal**	**4.80**	**209**	*i* Pn	**Pn**	**04 41 36.2**	**+0.5**
	comp=Z,0.5nm,0.1s						
LESA				*e*Sg	**Sg**	**04 42 53.9**	**-2.2**
	comp=Z,7.4nm,0.3s						
KBA	**Koelnbreinsper**	**4.93**	**203**	*i* Pn	**Pn**	**04 41 38.6**	**+1.0**
	comp=Z,7.0nm,0.4s,SNR=13						
KBA				*e*Sg	**Sg**	**04 42 59.1**	**-1.3**
	comp=Z,13nm,0.5s						
DEL	**Delary**	**5.01**	**345**	*i* P	**Pn**	**04 41 39.2**	**+0.8**
DEL				*i* S	**Sn**	**04 42 34.8**	**-2.1**
WATA	**Walderalm**	**5.25**	**216**	*i* Pn	**Pn**	**04 41 42.3**	**+0.5**
	comp=Z,1.5nm,0.2s						
OBKA	**Obir**	**5.25**	**192**	Sg	**Sg**	**04 43 11.3**	**+0.5**
	comp=Z,14nm,0.6s						
WTTA	**Wattenberg**	**5.28**	**215**	*e*Pn	**Pn**	**04 41 43.9**	**+1.5**
	comp=Z,1.0nm,0.2s						
WTTA				*e*Sg	**Sg**	**04 43 10.1**	**-1.6**
	comp=Z,12nm,0.7s						
RETA	**Reutte**	**5.44**	**222**	*i* Pn	**Pn**	**04 41 44.7**	**+0.2**
	comp=Z,0.9nm,0.2s						
RETA				*i* Sg	**Sg**	**04 43 17.8**	**+1.0**
	comp=Z,5.5nm,0.5s						
ABTA	**Abfaltersbach**	**5.46**	**207**	*i* Pn	**Pn**	**04 41 46.1**	**+1.4**
	comp=Z,0.8nm,0.3s						
ABTA				*e*Sg	**Sg**	**04 43 15.3**	**-1.9**
	comp=Z,7.2nm,0.6s						
SQTA	**Sankt Quirin**	**5.48**	**218**	*i* Pn	**Pn**	**04 41 45.2**	**+0.2**
	comp=Z,0.9nm,0.2s						
DAVA	**Damuels**	**5.98**	**225**	Sg	**Sg**	**04 43 35.6**	**+1.6**
	comp=Z,6.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**6.37**	**222**	Pn	**Pn**	**04 41 56.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=162,slow=24,SNR=2.2						
DAVOX				Lg	Lg	04 43 42.2	
	comp=Z,0.7nm,0.3s,baz=178,slow=23,SNR=4.0						
	comp=Z,1.2nm,0.4s						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**04 42 23.7**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=283,slow=12,SNR=6.3						
AKASG				Lg	Lg	04 44 46.0	
	baz=55,slow=8.0						
	comp=Z,0.6nm,0.5s						
HFS	**Hagfors**	**8.61**	**352**	Pn	**Pn**	**04 42 30.5**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=2.3						
	comp=Z,4.6nm,0.9s						
FINES	**FINESS Array B**	**11.22**	**25**	Pn	**Pn**	**04 43 04.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=4.5						
	comp=Z,3.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**12.06**	**295**	Pn	**Pn**	**04 43 11.3**	**-3.7**
	baz=102,slow=14						
ARCES	**ARCESS Array B**	**18.48**	**10**	P	**P**	**04 44 37.4**	**-1.8**
	comp=Z,2.9nm,1.0s,baz=196,slow=13,SNR=2.0						
YKA	**Yellowknife Ar**	**59.73**	**336**	P	**P**	**04 50 30.3**	**+2.3**
	comp=Z,0.1nm,0.7s,baz=29,slow=6.6,SNR=2.4						
	comp=Z,0.1nm,0.7s						

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*IDC **18** 04:41:49.6±1.6, 3.°53S× 149.°71E, h0km, mb3.9/8, mbtmp3.9/8, MS4.2/5, Error

1.7nm,0.3s,baz=113,slow=7.7,SNR=6.3
1.7nm,0.3s
SONM Songino Array 63.63 329 P **P 04 52 22.0 -0.8**
0.6nm,0.6s,baz=136,slow=6.4,SNR=2.3
0.6nm,0.6s
TIXI Tiksi 76.27 353 LR LR 05 30 05.6
comp=Z,100nm,18.5s,baz=185,slow=38
MKAR Makanchi Array 77.35 319 P **P 04 53 46.9 +0.5**
0.3nm,0.5s,baz=110,slow=6.9,SNR=2.7
0.3nm,0.5s
KURBB Kurchatov Arra 80.91 322 P **P 04 54 05.8 +0.1**
0.3nm,0.6s,baz=122,slow=4.5,SNR=2.9
0.3nm,0.6s
ILAR Eielson Array 82.19 23 P **P 04 54 12.0 -0.2**
0.6nm,1.0s,baz=233,slow=7.4,SNR=2.6
0.6nm,1.0s
QSPA South Pole Qui 86.41 180 LR LR 05 34 11.1
comp=Z,209nm,18.2s,baz=8.0,slow=36
INK Inuvik 88.40 21 LR LR 05 34 14.0
comp=Z,72nm,18.4s,baz=246,slow=36
YKA Yellowknife Ar 95.76 28 P **P 04 55 17.8 +0.4**
0.1nm,0.3s,baz=276,slow=4.1,SNR=4.0
YKA LR LR 05 33 53.3
comp=Z,138nm,20.0s,baz=302,slow=33
0.1nm,0.3s

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*IDC **18** 04:44:23.6±1.5, 3°.78S×150°.18E, h0km, mb3.9/9, mbtmp3.9/9, MS4.3/3, Error ellipse: s-maj=50.6km s-min=23.5km az=116.0*
*GCMT **18** 04:44:34.0±0.2, 3°.48S±0°.01×149°.40E±0°.01, h17km±1km, MW5.1/145, Moment Tensor Solution. s45,c54; s145,c239; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.25±.17; Mθθ=2.84±.15; Mφφ=-2.58±.16; Mrθ=1.35±.41; Mθφ=5.73±.14; Mφr=0.36±.38; Best double couple: M0=6.48100×10^16 NP1:φs=12.00000°, δ=79.00000°, λ=175.00000°. NP2:φs=103.00000°, δ=85.00000°, λ=11.00000°. Principal axes: T 6.7230, Plg=11.0000°, Azm=328.0000°; N -0.4780, Plg=78.0000°, Azm=127.0000°; P -6.2390, Plg=4.0000°, Azm=237.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 18 04:44:25.3±1.5, 3°.8S±0°.2×150°.2E±0°.3, h10km, n11, σ0=93/9, mb3.8/9, MS4.2/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**223**	P	**P**	**04 49 22.4**	**-0.3**
	8.4nm,0.8s,baz=42,slow=11,SNR=12						
	8.4nm,0.8s						
ASAR	**Alice Springs**	**25.24**	**217**	P	**P**	**04 49 51.9**	**+0.2**
	2.7nm,1.0s,baz=55,slow=8.4,SNR=8.0						
	2.7nm,1.0s						
TGY	**Tagaytay City**	**33.99**	**302**	LR	LR	05 04 46.8	
	comp=Z,345nm,19.4s,baz=147,slow=36						
CMAR	**Chiang Mai Arr**	**55.05**	**296**	P	**P**	**04 53 57.9**	**+0.2**
	1.0nm,0.4s,baz=106,slow=6.6,SNR=5.2						
	1.0nm,0.4s						
PETK	**Petropavlovsk-**	**57.04**	**5**	LR	LR	05 13 32.3	
	comp=Z,483nm,21.3s,baz=183,slow=31						
SONM	**Songino Array**	**64.07**	**329**	P	**P**	**04 54 59.8**	**+0.1**
	0.4nm,0.5s,baz=120,slow=5.7,SNR=1.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**77.83**	**319**	P	**P**	**04 56 24.0**	**+0.9**
	0.4nm,0.7s,baz=93,slow=9.4,SNR=4.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**81.38**	**322**	P	**P**	**04 56 42.0**	**-0.2**
	0.1nm,0.4s,baz=97,slow=3.8,SNR=1.5						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**82.23**	**23**	P	**P**	**04 56 45.2**	**-1.3**
	0.7nm,0.9s,baz=253,slow=4.4,SNR=5.0						
ILAR				LR	LR	05 33 20.4	
	comp=Z,99nm,18.3s,baz=266,slow=36						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**86.85**	**323**	P	**P**	**04 57 09.3**	**-0.8**
	0.6nm,0.5s,baz=76,slow=6.3,SNR=3.5						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**95.76**	**28**	P	**P**	**04 57 52.8**	**+1.4**
	0.3nm,0.8s,baz=269,slow=4.9,SNR=5.2						
	0.3nm,0.8s						

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*IDC **18** 04:50:16.7±1.5, 4°.57S×149°.73E, h0km, mb4.0/12, mbtmp4.0/12, MS3.9/3, Error ellipse: s-maj=47.9km s-min=22.3km az=117.0*
*GCMT **18** 04:50:27.0±0.2, 3°.50S±0°.01×149°.44E±0°.01, h14km±1km, MW5.0/131, Moment Tensor Solution. s25,c30; s131,c189; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.03±.11; Mθθ=2.03±.12; Mφφ=-2.07±.12; Mrθ=0.69±.27; Mθφ=3.83±.11; Mφr=0.39±.23; Best double couple: M0=4.41400×10^16 NP1:φs=14.00000°, δ=80.00000°, λ=-178.00000°. NP2:φs=284.00000°, δ=88.00000°, λ=-10.00000°. Principal axes: T 4.3600, Plg=5.0000°, Azm=329.0000°; N 0.1020, Plg=80.0000°, Azm=90.0000°; P -4.4680, Plg=9.0000°, Azm=239.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 18 04:50:22.0±1.4, 4°.6S±0°.2×149°.7E±0°.3, h35km, n15, σ0=93/12, mb4.0/12, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**9.20**	**283**	LR	LR	04 56 00.7	
	comp=Z,134nm,20.0s,baz=58,slow=37						
WRA	**Warramunga Arr**	**21.37**	**223**	P	**P**	**04 55 05.8**	**-0.9**
	3.1nm,0.9s,baz=42,slow=11,SNR=9.6						
	3.1nm,0.9s						
ASAR	**Alice Springs**	**24.33**	**217**	P	**P**	**04 55 36.4**	**-0.3**
	1.2nm,0.8s,baz=53,slow=8.8,SNR=6.4						
	1.2nm,0.8s						
DAV	**Davao City (W)**	**26.70**	**296**	LR	LR	05 04 04.0	
	comp=Z,355nm,21.8s,baz=118,slow=31						
JOW	**Kunigami**	**37.48**	**328**	LR	LR	05 09 27.7	
	comp=Z,617nm,19.8s,baz=120,slow=31						
CMAR	**Chiang Mai Arr**	**54.99**	**296**	P	**P**	**04 59 51.0**	**+0.7**
	1.6nm,0.3s,baz=102,slow=7.0,SNR=10.0						
	1.6nm,0.3s						
KLR	**Kul'dur**	**55.82**	**346**	P	**P**	**04 59 54.7**	**-1.0**
	1.7nm,0.8s,baz=156,slow=10.0,SNR=5.3						
	1.7nm,0.8s						
PETK	**Petropavlovsk-**	**57.87**	**6**	P	**P**	**05 00 08.7**	**-1.4**
	1.4nm,0.8s,baz=187,slow=8.7,SNR=2.8						
	1.4nm,0.8s						
SONM	**Songino Array**	**64.52**	**329**	P	**P**	**05 00 55.2**	**-0.2**
	1.1nm,0.7s,baz=149,slow=5.8,SNR=5.3						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**78.14**	**320**	P	**P**	**05 02 18.6**	**+1.0**
	1.0nm,0.9s,baz=113,slow=4.6,SNR=5.8						
	1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**79.27**	**327**	P	**P**	**05 02 24.1**	**+0.5**
	0.5nm,0.4s,baz=93,slow=2.9,SNR=3.8						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**81.73**	**322**	P	**P**	**05 02 37.8**	**+0.8**
	0.8nm,0.9s,baz=106,slow=4.7,SNR=4.4						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**83.14**	**23**	P	**P**	**05 02 45.1**	**+1.1**
	1.3nm,0.9s,baz=237,slow=6.3,SNR=6.9						
	1.3nm,0.9s						
BVAR	**Borovoye Array**	**87.22**	**324**	P	**P**	**05 03 05.1**	**+0.4**
	1.5nm,0.7s,baz=92,slow=4.6,SNR=5.5						
	1.5nm,0.7s						
YKA	**Yellowknife Ar**	**96.67**	**28**	P	**P**	**05 03 48.6**	**+0.3**
	0.5nm,1.0s,baz=270,slow=4.0,SNR=3.1						
	0.5nm,1.0s						

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*ASRS **18** 04:54:37.0±0.6, 54°.29N×86°.20E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **18** 04:54:38.7±5.4, 54°.54N×85°.98E, h0km, mb3.4, mpv2.5, Error ellipse: s-maj=229.6km s-min=31.5km az=141.0, Suspected Mining explosion.*

IDC 18 04:54:41.4±2.3, 54°.25N×86°.07E, h0km, mbtmp3.1/2, ML2.9/2, 1C-2D, Error ellipse: s-maj=18.0km s-min=10.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.80**	**248**	I	I	04 59 30.0	
	0.1nm,0.8s,baz=67,slow=338,SNR=10						
ZAA0	**Zalesovo Array**	**0.80**	**248**	⇓P	Pg	04 54 55.9	-0.7
	0.1nm,0.2s						
ZAA0				⇓S	Sb	04 55 08.8	-0.6
	1.1nm,0.3s						
ZALV	**Zalesovo Beam**	**0.80**	**248**	Pg	Pg	04 54 55.5	-1.1
	1.5nm,0.3s,baz=64,slow=17,SNR=13						
ZALV				Lg	Lg	04 55 08.3	
	4.1nm,0.3s,baz=68,slow=29,SNR=8.6						
KURBB	**Kurchatov Arra**	**5.87**	**235**	Pn	Pn	04 56 10.3	+0.8
	0.2nm,0.3s,baz=50,slow=14,SNR=14						
KURBB				Lg	Lg	04 57 48.0	
	0.1nm,0.3s,baz=50,slow=31,SNR=4.9						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**5.87**	**235**	⇑Pn	Pn	04 56 11.2	+1.7
	0.7nm,0.4s						
MK31	**Makanchi Array**	**7.84**	**199**	Pn	Pn	04 56 38.0	+1.3
	0.7nm,0.7s,baz=24,slow=14,SNR=17						
MKAR	**Makanchi Array**	**7.84**	**199**	Pn	Pn	04 56 37.6	+0.9
	0.4nm,0.3s,baz=22,slow=12,SNR=16						
MKAR				Sn	Sn	04 58 06.3	+0.2
	0.1nm,0.3s,baz=23,slow=27,SNR=1.8						
MKAR				Lg	Lg	04 58 46.7	
	baz=29,slow=30						
	0.5nm,0.3s						

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*OSPL **18** 05:07:22.9±1.6, 20°.12N×69°.83W, h0km±213km, ML2.0*
*SDD **18** 05:07:25.7±2.2, 20°.25N×70°.20W, h30km±72km, MD2.8, ML2.1, MW2.5*

ISC 18 05:07:23.9±1.4, 20°.17N±0°.05×70°.07W±0°.05, h13km±13km, n12, σ1=00/20, 13C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.96**	**220**	⇑eSg	**Sb**	**05 07 55.9**	**+0.8**
SC01				IAML		05 08 00.6	
	comp=N,34nm,1.6s						
DR08	**Loma La Naviza**	**1.20**	**178**	⇑eSg	**Sg**	**05 08 02.4**	**-0.4**
ABDR	**Alto Bandera**	**1.45**	**201**	⇑ePg	**Pn**	**05 07 50.6**	**+0.5**
ABDR				⇑eSg	**Sb**	**05 08 09.8**	**+0.3**
ABDR				IAML		05 08 12.2	
	comp=N,40nm,0.5s						
MCDR	**Montecristi**	**1.52**	**260**	⇑ePg	**Pn**	**05 07 50.6**	**-0.1**
MCDR				⇑eSg	**Sn**	**05 08 08.0**	**-2.3**
HATOM	**Hato Mayor del**	**1.52**	**154**	⇑ePg	**Pb**	**05 07 51.9**	**-0.1**
HATOM				⇑eSg	**Sg**	**05 08 13.1**	**+0.2**
MIDR	**Miches**	**1.52**	**141**	⇓ePg	**Pg**	**05 07 53.0**	**-0.2**
MIDR				⇑eSg	**Sg**	**05 08 14.0**	**+1.0**
MIDR				IAML		05 08 14.9	
	comp=N,20nm,1.9s						
REDR	**Restauracion**	**1.60**	**232**	⇑ePg	**Pb**	**05 07 53.5**	**+0.3**
REDR				⇑eSg	**Sg**	**05 08 15.2**	**-0.1**
REDR				IAML		05 08 17.6	
	comp=N,32nm,0.8s						
SDDR	**Presa de Saban**	**1.65**	**224**	ePg	**Pn**	**05 07 52.7**	**+0.1**
SDDR				⇑eSg	**Sn**	**05 08 12.4**	**-1.2**
SDDR				IAML		05 08 14.1	
	comp=N,16nm,1.9s						
SDDR	**Presa de Saban**	**1.65**	**224**	iP	**Pn**	**05 07 51.9**	**-0.7**
SDDR				IAML		05 08 19.3	
	comp=Z,5.8nm,0.7s						
GRTK	**Grand Turk**	**1.67**	**324**	iP	**Pb**	**05 07 54.5**	**+0.1**
GRTK				eS	**Sb**	**05 08 16.6**	**+1.2**
GRTK				IAML		05 08 22.7	
	comp=Z,21nm,1.1s						
LONE3	**El Aguacate, B**	**2.03**	**220**	iP	**Pn**	**05 07 58.6**	**+0.6**
LONE3				eS	**Sn**	**05 08 24.8**	**+1.5**
LONE3				IAML		05 08 28.4	
	comp=Z,11nm,0.5s						
PCDR	**Punta Cana, DR**	**2.29**	**136**	⇑eSg	**Sg**	**05 08 36.2**	**-1.5**

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*IDC **18** 05:31:32.6±0.8, 46°.83N×156°.46E, h0km, mb3.8/22, mbtmp3.8/24, ML3.8/2, MS3.5/12, Error ellipse: s-maj=22.1km s-min=14.6km az=162.0*
*NEIC **18** 05:31:35.2±2.0, 47°.1N±0°.1×156°.3E±0°.1, h10km±1km, mb4.4/57, Error ellipse: s-maj=20.7km s-min=12.6km az=141.0*
*SKHL **18** 05:31:35.2±0.6, 47°.10N×156°.10E, h30km±5km, mb5.1/8*
*MOS **18** 05:31:36.6±2.1, 47°.06N×156°.12E, h40km, mb4.6/11, Error ellipse: s-maj=8.2km s-min=6.0km az=80.5*

ISC 18 05:31:35.8±0.6, 47°.04N±0°.06×156°.19E±0°.06, h18km, n169, σ1=73/162, mb4.3/55, MS3.6/10, 6C-7D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.65**	**359**	⇑ePN	**Pn**	**05 32 29.1**	**-2.2**
SKR	**Severo-Kuril's**	**3.65**	**359**	eP	**Pn**	**05 32 29.1**	**-2.2**
SKR				AMB	AMB	05 32 34.7	
	40nm,0.4s						
SKR				eS	**Sn**	**05 33 10.0**	**-3.8**
SKR				A	A	05 33 20.7	
	380nm,0.5s						
SKR				A	A	05 33 20.7	
	300nm,0.5s						
SKR				AMS	AMS	05 33 57.1	
	600nm,16.0s						
PAU	**Pauzhetka**	**4.45**	**5**	eP	**Pn**	**05 32 40.4**	**-1.9**
PAU				AMB	AMB	05 32 43.6	
	60nm,0.4s						
PAU				eS	**Sn**	**05 33 30.5**	**-3.1**
PAU				A	A	05 33 32.1	
	440nm,0.3s						
PAU				A	A	05 33 32.1	
	400nm,0.3s						
KUR	**Kuril'sk**	**6.06**	**256**	c iPN	**Pn**	**05 33 03.9**	**-0.6**
KUR				pmax	pmax		
	comp=E,70nm,0.4s						
KUR				pmax	pmax		
	comp=Z,378nm,0.4s						
KUR				pmax	pmax		
	comp=N,140nm,0.3s						
KUR	**Kuril'sk**	**6.06**	**256**	eP	**Pn**	**05 33 03.6**	**-0.9**
KUR				AMB	AMB	05 33 12.8	
	comp=N,140nm,0.4s						
KUR				AMB	AMB	05 33 12.8	
	comp=N,70nm,0.4s						
KUR				AMB	AMB	05 33 12.8	
	comp=N,380nm,0.4s						
KUR				eS	**Sn**	**05 34 10.7**	**-2.6**
KUR				A	A	05 34 16.2	
	comp=N,80nm,0.3s						
KUR				A	A	05 34 16.2	
	comp=N,180nm,0.3s						
PEA0B	**Petropavlovsk-**	**6.15**	**8**		**Pn**	**05 33 03.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**6.15**	**8**	d iPN	**Pn**	**05 33 03.2**	**-2.5**
PETK	**Petropavlovsk-**	**6.15**	**8**		**Pn**	**05 33 02.8**	**-3.0**
PETK	**Petropavlovsk-**	**6.15**	**8**	Pn	**Pn**	**05 33 02.5**	**-3.3**
	comp=N,0.8nm,0.3s,baz=185,slow=15,SNR=8.5						
PETK				Sn	**Sn**	**05 34 16.0**	**+0.4**
	comp=N,1.4nm,0.3s,baz=178,slow=24,SNR=4.3						
PETK	**Petropavlovsk-**	**6.15**	**8**	PN	**Pn**	**05 33 02.8**	**-3.0**
PET	**Petropavlovsk**	**6.20**	**14**		**Pn**	**05 33 03.9**	**-2.4**
PET	**Petropavlovsk**	**6.20**	**14**	ePN	**Pn**	**05 33 06.5**	**+0.2**
PET				MLR	MLR		
	comp=Z,300nm,8.0s						
PET	**Petropavlovsk**	**6.20**	**14**	eP	**Pn**	**05 33 06.3**	**0.0**
PET				AMB	AMB	05 33 23.3	
	comp=Z,20nm,0.3s						
PET				eS	**Sn**	**05 34 11.8**	**-4.8**
PET				A	A	05 34 16.1	
	comp=Z,80nm,0.4s						
PET				A	A	05 34 16.1	
	comp=Z,110nm,0.4s						
SHO	**Shikotan**	**7.31**	**248**	eP	**Pn**	**05 33 18.8**	**-2.7**
SHO				AMB	AMB	05 33 20.4	
	comp=Z,30nm,0.3s						
SHO				eS	**Sn**	**05 34 38.5**	**-5.5**
SHO				A	A	05 34 44.2	
	comp=Z,100nm,0.5s						
SHO				A	A	05 34 44.2	
	comp=Z,90nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.85**	**251**	PN	**Pn**	**05 33 27.1**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**7.85**	**251**	eP	**Pn**	**05 33 28.7**	**-0.3**
YUK				AMB	AMB	05 33 30.0	
	comp=Z,30nm,0.3s						
NMR	**Nemuro--Hokkai**	**8.25**	**247**	ePN	**Pn**	**05 33 31.4**	**-3.1**
NMR	**Nemuro--Hokkai**	**8.25**	**247**	eP	**Pn**	**05 33 31.4**	**-3.1**
YSS	**Yuzhno-Sakhali**	**9.19**	**274**	ePN	**Pn**	**05 33 47.7**	**+0.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS	**Yuzhno-Sakhali**	**9.19**	**274**	eP	**Pn**	**05 33 46.6**	**-0.7**
YSS				AMB	AMB	05 33 49.6	
	comp=Z,50nm,0.3s						
YSS				AMS	AMS	05 38 15.0	
	comp=Z,300nm,15.0s						
TYV	**Tymovskoe**	**9.69**	**298**	ePN	**Pn**	**05 33 57.6**	**+3.4**
TYV				eS	**Sn**	**05 35 46.6**	**+4.1**
TYV				pmax	pmax		
	comp=Z,200nm,3.9s						
TYV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV				smax	smax		
	comp=N,200nm,5.1s						
TYV				smax	smax		
	comp=E,200nm,5.1s						
TYV				smax	smax		
	comp=N,4.0nm,1.2s						
TYV				smax	smax		
	comp=E,4.0nm,1.2s						
TYV	**Tymovskoe**	**9.69**	**298**	eP	**Pn**	**05 33 53.4**	**-0.8**
TYV				AMB	AMB	05 33 59.2	
	comp=E,200nm,3.9s						
TYV				AMB	AMB	05 34 05.9	
	comp=E,10.0nm,0.5s						
TYV				eS	**Sn**	**05 35 36.6**	**-5.9**
TYV				A	A	05 35 49.1	
	comp=E,200nm,5.0s						
TYV				A	A	05 35 49.1	
	comp=E,200nm,5.0s						
TYV				A	A	05 35 53.3	
	comp=E,10.0nm,0.4s						
TYV				A	A	05 35 53.3	
	comp=E,10.0nm,0.4s						
JKA	**Kamikawa-asahi**	**9.97**	**258**	Pn	**Pn**	**05 33 58.3**	**+0.2**
ASAJ	**Asahikawa**	**9.97**	**258**	Pn	**Pn**	**05 33 57.0**	**-1.1**
	comp=E,1.4nm,0.3s,baz=84,slow=32,SNR=3.7						
	comp=E,13nm,0.7s						
ASAJ	**Asahikawa**	**9.97**	**258**	PN	**Pn**	**05 33 58.3**	**+0.2**
ERM	**Erimo**	**10.57**	**246**	Pn	**Pn**	**05 34 05.5**	**-0.8**
ERM	**Erimo**	**10.57**	**246**	PN	**Pn**	**05 34 05.5**	**-0.8**
OKH	**Okha**	**10.69**	**312**	eP	**Pn**	**05 34 06.9**	**-0.9**
OKH				AMB	AMB	05 34 07.5	
	comp=E,40nm,0.3s						
OKH				AMS	AMS	05 40 08.0	
	comp=E,500nm,14.0s						
OKH				AMS	AMS	05 40 08.0	
	comp=E,400nm,14.0s						
OKH				AMS	AMS	05 40 08.0	
	comp=E,300nm,14.0s						
SHEM	**Shemya Is, Ala**	**12.86**	**57**	Pn	Pn	05 34 30.8	-6.7
	comp=E,4.9nm,0.3s,baz=112,slow=18,SNR=4.2						
SHEM				LR	LR	05 38 18.3	
	comp=E,192nm,21.4s,baz=281,slow=32						
MA2	**Magadan**	**12.96**	**348**	LR	LR	05 40 03.2	
	comp=E,167nm,19.1s,baz=174,slow=39						
MA2	**Magadan**	**12.96**	**348**	⇑ePN	**Pn**	**05 34 36.9**	**-2.0**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.9s						
TEY	**Ternei**	**13.76**	**269**	eP	**Pn**	**05 34 47.8**	**-2.0**
EKMR	**Ekimchan**	**16.06**	**301**	eP	**Pn**	**05 35 16.8**	**-3.8**
EKMR				AMB	AMB	05 35 34.6	
	comp=Z,10.0nm,0.9s						
SEY	**Seymchan**	**16.07**	**354**	Pn	**Pn**	**05 35 18.1**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=174,slow=11,SNR=4.2						
SEY	**Seymchan**	**16.07**	**354**	⇓eP	**Pn**	**05 35 19.0**	**-1.6**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KLR	**Kul'dur**	**16.45**	**287**	Pn	**P**	**05 35 26.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=8.6						
	comp=Z,1.2nm,0.7s						
KLR	**Kul'dur**	**16.45**	**287**	⇓eP	**P**	**05 35 27.9**	**-0.2**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**16.45**	**287**	eP	**Pn**	**05 35 21.9**	**-3.6**
MJA0	**Matsu Arr-Jizo**	**16.96**	**238**	eP	**Pn**	**05 35 31.0**	**-1.1**
MJA0				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MJAR	**Matsushiro Arr**	**16.98**	**238**	P	**Pn**	**05 35 29.4**	**-3.0**
	comp=Z,4.3nm,1.1s,baz=30,slow=11,SNR=8.0						
MJAR	**Matsushiro Arr**	**16.98**	**238**	eP	**Pn**	**05 35 31.0**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAJO	**Matsushiro**	**16.99**	**238**	⇓eP	**Pn**	**05 35 31.2**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,22nm,1.6s						
USA0B	**Ussuriysk Arra**	**17.15**	**269**	Pn	**Pn**	**05 35 34.2**	**-0.2**
USA0B	**Ussuriysk Arra**	**17.15**	**269**	P	**Pn**	**05 35 34.2**	**-0.2**
USA0B				pmax	pmax		
	comp=Z,12nm,1.3s						
USRK	**Ussuriysk Ar.**	**17.15**	**269**	P	**Pn**	**05 35 32.5**	**-1.8**
	comp=Z,3.0nm,0.7s,baz=76,slow=12,SNR=4.6						
USRK	**Ussuriysk Ar.**	**17.15**	**269**	eP	**P**	**05 35 34.9**	**-1.1**
USRK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZEA	**Zeya**	**19.54**	**301**	eP	**Pn**	**05 36 03.6**	**+0.1**
YAK	**Yakutsk**	**21.27**	**325**	LR	LR	05 44 12.2	
	comp=Z,82nm,21.3s,baz=106,slow=35						
YAK	**Yakutsk**	**21.27**	**325**	⇑eP	**P**	**05 36 20.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
YAK	**Yakutsk**	**21.27**	**325**	eP	**P**	**05 36 20.2**	**-0.6**
BILL	**Bilibino**	**21.68**	**10**	P	**P**	**05 36 25.6**	**+0.4**
BILL				IAmb	IAmb	05 36 30.4	
	comp=Z,15nm,1.0s						
BILL	**Bilibino**	**21.68**	**10**	ceP	**P**	**05 36 26.2**	**+1.0**
BILL				pmax	pmax		
	comp=Z,16nm,1.0s						
BILL	**Bilibino**	**21.68**	**10**	eP	**P**	**05 36 26.2**	**+1.0**
JCJ	**Chichijima**	**22.76**	**214**	P	**P**	**05 36 38.2**	**+1.1**
KSRS	**Korea Array**	**22.91**	**256**	P	**P**	**05 36 38.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=55,slow=11,SNR=6.7						
KSRS				LR	LR	05 45 57.1	
	comp=Z,54nm,21.6s,baz=60,slow=38						
	comp=Z,1.3nm,0.5s						
KSAR	**Wonju Array Be**	**22.94**	**256**	P	**P**	**05 36 39.8**	**+0.9**
KSAR	**Wonju Array Be**	**22.94**	**256**	P	**P**	**05 36 39.8**	**+0.9**
JNU	**Nakatsue**	**23.71**	**243**	LR	LR	05 48 05.1	
	comp=Z,60nm,19.6s,baz=22,slow=42						
GAMB	**Gambell**	**24.36**	**35**	P	**P**	**05 36 53.3**	**+0.9**
ANM	**Nome**	**27.21**	**36**	P	**P**	**05 37 18.9**	**+0.8**
ANM				IAmb	IAmb	05 37 29.9	
	comp=Z,6.3nm,1.0s						
ANM	**Nome**	**27.21**	**36**	P	**P**	**05 37 18.9**	**+0.8**
ANM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**27.82**	**342**	P	**P**	**05 37 23.0**	**-0.5**
TIXI	**Tiksi**	**27.82**	**342**	LR	LR	05 48 57.0	
	comp=Z,120nm,19.1s,baz=162,slow=37						
TIXI	**Tiksi**	**27.82**	**342**	⇓eP	**P**	**05 37 24.0**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s						
TIXI	**Tiksi**	**27.82**	**342**	eP	**P**	**05 37 24.0**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**28.61**	**159**	T	T	06 06 57.4	
	baz=346,slow=77,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.62**	**159**	T	T	06 07 09.7	
	baz=346,slow=77,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.62**	**159**	T	T	06 07 08.9	
	baz=346,slow=77,SNR=11						
J17K	**VABM Dome**	**29.52**	**40**	P	**P**	**05 37 39.1**	**+0.4**
J17K				IAmb	IAmb	05 37 58.2	
	comp=Z,10nm,1.4s						
K17K	**Iditarod**	**29.73**	**42**	P	**P**	**05 37 41.4**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**29.74**	**160**	T	T	06 08 21.0	
	baz=346,slow=76,SNR=99	

SONM Songino Array 33.22 290 *e*P **P 05 38 14.3 +2.6**
SONM pmax pmax
comp=Z,1.0nm,0.9s
E22K Anaktuvuk Pass 33.47 32 P **P 05 38 13.6 +0.1**
B22K Teshekpuk Lake 33.48 28 P **P 05 38 15.1 +1.6**
B22K IAmb IAmb 05 38 23.0
comp=Z,7.8nm,1.4s
E23K Chandalar 34.27 33 P **P 05 38 19.7 -0.7**
E23K IAmb IAmb 05 38 36.0
comp=Z,8.1nm,1.5s
C23K Itkillik River 34.27 30 P **P 05 38 20.2 -0.2**
C23K IAmb IAmb 05 38 29.3
comp=Z,7.0nm,1.1s
SML Sawmill 34.30 44 P **P 05 38 18.9 -1.9**
WRH Wood River Hil 34.47 39 P **P 05 38 21.4 -0.7**
WRH IAmb IAmb 05 38 40.8
comp=Z,8.5nm,1.4s
CCB Clear Creek Bu 34.60 39 P **P 05 38 23.6 +0.4**
H24K Noodor Dome 34.66 37 P **P 05 38 22.9 -0.9**
H24K IAmb IAmb 05 38 26.0
comp=Z,6.2nm,1.4s
E24K Your Creek 34.69 33 P **P 05 38 23.8 -0.2**
E24K IAmb IAmb 05 38 32.6
comp=Z,7.4nm,1.5s
SCM Sheep Creek Mo 34.78 44 P **P 05 38 24.7 -0.2**
SCM Sheep Creek Mo 34.78 44 P **P 05 38 24.7 -0.2**
SCM pmax pmax
comp=Z,29nm,1.3s
G24K Hadweenzic Riv 34.90 35 P **P 05 38 24.7 -1.1**
IL31 35.00 39 P **P 05 38 25.9 -0.8**
IL31 IAmb IAmb 05 38 29.2
comp=Z,10nm,1.4s
ILAR Eielson Array 35.00 39 P **P 05 38 25.1 -1.7**
ILAR Eielson Array 35.00 39 P **P 05 38 24.8 -1.9**
comp=Z,0.5nm,0.7s,baz=248,slow=7.2,SNR=11
comp=Z,0.5nm,0.7s
D25K Kavik River 35.64 31 P **P 05 38 32.5 +0.3**
D25K IAmb IAmb 05 38 40.9
comp=Z,6.0nm,1.1s
NACB Ninganchiao 35.78 243 P **P 05 38 34.9 +1.1**
BMAR Burnt Mountain 36.09 34 P **P 05 38 36.9 +0.7**
DOT Dot Lake 36.23 41 P **P 05 38 37.2 -0.1**
C27K Jago River 36.61 31 P **P 05 38 39.8 -0.6**
K27K Chicken 37.10 40 P **P 05 38 44.4 -0.2**
K27K IAmb IAmb 05 38 52.7
comp=Z,12nm,1.2s
E27K Coleen River 37.27 33 P **P 05 38 46.8 +0.7**
L27K Beaver Creek, 37.27 42 P **P 05 38 46.0 -0.2**
L27K IAmb IAmb 05 38 54.0
comp=Z,4.1nm,0.9s
BCAR Beaver Creek A 37.29 42 P **P 05 38 46.2 -0.1**
D27M Malcolm River 37.54 31 P **P 05 38 49.1 +0.6**
D27M IAmb IAmb 05 38 59.0
comp=Z,6.3nm,1.4s
I28M Miner Creek 37.94 38 P **P 05 38 51.0 -0.9**
E28M Babbage River 38.04 32 P **P 05 38 51.9 -0.7**
H29M Whitestone 38.54 36 P **P 05 38 56.6 -0.3**
G29M Pine Creek 38.65 35 P **P 05 38 58.1 +0.4**
G29M IAmb IAmb 05 39 06.3
comp=Z,6.5nm,1.1s
K29M Barlow Dome 39.12 40 P **P 05 39 01.7 -0.2**
K29M IAmb IAmb 05 39 09.3
comp=Z,9.2nm,1.4s
I30M Mount Dempster 39.45 38 P **P 05 39 03.8 -0.8**
NRIK Noril'sk 39.61 329‖ *e*P **P 05 39 04.3 -1.4**
NRIK pmax pmax
comp=Z,5.0nm,1.3s
G31M Satah River 40.12 35 P **P 05 39 09.8 -0.1**
INK Inuvik 40.27 33 P **P 05 39 11.3 +0.1**
INK IAmb IAmb 05 39 19.8
comp=Z,8.1nm,1.1s
INK Inuvik 40.27 33 P **P 05 39 11.3 +0.1**
INK pmax pmax
comp=Z,8.0nm,1.2s
F31M Tsiigehtchic 40.27 34 P **P 05 39 11.3 +0.1**
C36M Paulatuk 43.51 30 P **P 05 39 38.7 +1.1**
C36M IAmb IAmb 05 39 46.7
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 44.15 306 P **P 05 39 42.9 -0.1**
ZALV Zalesovo Beam 44.15 306 P **P 05 39 43.5 +0.5**
comp=Z,0.4nm,0.4s,baz=66,slow=7.3,SNR=3.6
ZALV LR LR 05 58 52.5
comp=Z,72nm,18.7s,baz=41,slow=37
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 44.15 306 *e*P **P 05 39 45.4 +2.4**
EUNU Eureka 48.42 12 P **P 05 40 16.8 +0.5**
MK31 Makanchi Array 48.67 298 P **P 05 40 18.8 +0.1**
MK31 IAmb IAmb 05 40 22.2
comp=Z,4.9nm,1.4s
MK31 Makanchi Array 48.67 298 P **P 05 40 18.8 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,1.4s
MKAR Makanchi Array 48.67 298 P **P 05 40 18.5 -0.2**
MKAR Makanchi Array 48.67 298 P **P 05 40 20.3 +1.7**
comp=Z,1.3nm,0.8s,baz=64,slow=8.1,SNR=14
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 48.67 298 P **P 05 40 18.5 -0.2**
MAKZ Makanchi 48.85 299 P **P 05 40 19.6 -0.4**
MAKZ IAmb IAmb 05 40 23.7
comp=Z,4.2nm,1.2s
MAKZ Makanchi 48.85 299 P **P 05 40 19.6 -0.4**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 48.95 305 P **P 05 40 19.6 -1.1**
KURK IAmb IAmb 05 40 55.3
comp=Z,4.0nm,0.8s
KURK Kurchatov 48.95 305 P **P 05 40 19.6 -1.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 48.95 305 *e*P **P 05 40 19.6 -1.1**
KURBB Kurchatov Arra 49.05 305 P **P 05 40 22.8 +1.4**
comp=Z,1.0nm,0.5s,baz=69,slow=8.6,SNR=8.0
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 49.42 38 P **P 05 40 24.6 +0.6**
YKA Yellowknife Ar 49.42 38 P **P 05 40 23.9 -0.2**
comp=Z,0.4nm,0.7s,baz=296,slow=7.6,SNR=5.9
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 49.42 38 *e*P **P 05 40 24.7 +0.6**
BVAR Borovoye Array 52.29 310 P **P 05 40 46.8 +0.9**
comp=Z,0.9nm,0.4s,baz=62,slow=8.6,SNR=7.2
BVAR LR LR 06 03 50.7
comp=Z,98nm,20.0s,baz=39,slow=37
comp=Z,0.9nm,0.4s
BRVK Borovoye 52.33 310 P **P 05 40 47.9 +1.8**
BRVK IAmb IAmb 05 40 50.1
comp=Z,3.0nm,0.9s
BRVK Borovoye 52.33 310‖ *e*P **P 05 40 48.6 +2.5**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
SPITS Spitsbergen Ar 52.69 350 P **P 05 40 49.4 +0.8**
comp=Z,5.7nm,1.0s,baz=52,slow=9.3,SNR=0.9
comp=Z,5.7nm,1.0s
CMAR Chiang Mai Arr 54.49 259 P **P 05 41 03.0 +0.6**
comp=Z,0.5nm,0.3s,baz=31,slow=8.2,SNR=4.7
CMAR LR LR 06 05 31.8
comp=Z,22nm,19.9s,baz=200,slow=37
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 54.49 259 *e*P **P 05 41 03.9 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HNR Honiara 56.31 176 LR LR 06 02 22.3
comp=Z,56nm,20.1s,baz=349,slow=33
ARTI Arti 56.32 319 P **P 05 41 15.8 +0.7**
ARTI Arti 56.32 319 P **P 05 41 18.0 +3.0**
comp=Z,3.9nm,0.8s,baz=39,slow=3.5,SNR=4.5
comp=Z,3.9nm,0.8s
ARTI Arti 56.32 319*d i*P **P 05 41 16.4 +1.3**
ARTI 05 43 19.3
ARTI S **S 05 49 10.3 +6.2**
ARTI pmax pmax
comp=Z,6.0nm,1.0s
PLID Pearl Lake 57.76 57 P **P 05 41 25.7 -0.1**
PLID IAmb IAmb 05 41 33.2
comp=Z,3.2nm,1.0s
ARCES ARCESS Array B 58.26 342 P **P 05 41 30.6 +2.0**
comp=Z,1.6nm,0.9s,baz=26,slow=6.9,SNR=4.5
ARCES LR LR 06 11 01.2
comp=Z,88nm,20.1s,baz=70,slow=40
comp=Z,1.6nm,0.9s
ABKAR Akbulak array 59.85 311 P **P 05 41 39.8 -0.1**
ABKAR IAmb IAmb 05 41 45.4
comp=Z,5.0nm,1.4s
AKTO Aktyubinsk 60.09 313 P **P 05 41 43.7 +2.1**
comp=Z,0.6nm,0.5s,baz=28,slow=5.3,SNR=1.9
comp=Z,0.6nm,0.5s
NVAR Mina Array Bea 60.42 64 P **P 05 41 43.0 -1.3**
comp=Z,0.3nm,0.7s,baz=292,slow=5.8,SNR=3.8
comp=Z,0.3nm,0.7s
SIMJ Simiganj 61.30 297 P **P 05 41 49.8 -0.4**
PDAR Pinedale Array 62.85 56 P **P 05 41 59.9 -0.8**
comp=Z,0.2nm,0.6s,baz=318,slow=2.0,SNR=5.4
comp=Z,0.2nm,0.6s
RDMU Red Mountain 64.27 57 P **P 05 42 09.1 -0.9**
FINES FINESS Array B 64.66 336 P **P 05 42 13.5 +1.6**
FINES FINESS Array B 64.66 336 P **P 05 42 13.7 +1.8**
comp=Z,1.4nm,0.8s,baz=35,slow=7.0,SNR=4.2
comp=Z,1.4nm,0.8s
FINES FINESS Array B 64.66 336 P **P 05 42 13.5 +1.6**
NOA NORSAR Array B 68.61 343 P **P 05 42 39.8 +2.6**
comp=Z,0.6nm,0.8s,baz=32,slow=6.3,SNR=2.0
comp=Z,0.6nm,0.8s
HFS Hagfors 68.90 341 P **P 05 42 41.9 +2.9**
comp=Z,2.9nm,0.9s,baz=64,slow=3.4,SNR=5.0
comp=Z,2.9nm,0.9s
WRA Warramunga Arr 69.52 202 P **P 05 42 43.5 +0.3**
comp=Z,0.6nm,0.7s,baz=18,slow=6.5,SNR=2.4
comp=Z,0.6nm,0.7s
ASAR Alice Springs 73.20 201 P **P 05 43 04.4 -1.0**
comp=Z,0.4nm,0.7s,baz=15,slow=6.1,SNR=2.7
comp=Z,0.4nm,0.7s
GNI Garni 73.93 312 LR LR 06 21 43.4
comp=Z,42nm,19.0s,baz=70,slow=41
TXAR Lajitas Array 75.50 63 P **P 05 43 18.5 -0.6**
comp=Z,0.3nm,0.6s,baz=299,slow=5.5,SNR=4.6
comp=Z,0.3nm,0.6s
EKA Eskdalemuir Ar 76.53 348 P **P 05 43 27.0 +2.6**
comp=Z,2.0nm,1.0s,baz=17,slow=5.5,SNR=3.5
comp=Z,2.0nm,1.0s
H03N2 Juan Fernandez 136.65 92 T T 08 22 15.5
baz=308,slow=77,SNR=16
H03N1 Juan Fernandez 136.66 92 T T 08 22 19.6
baz=308,slow=77,SNR=22
H03N3 Juan Fernandez 136.66 92 T T 08 22 16.2
baz=308,slow=77,SNR=21

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*NOU **18** 05:33:04.4, 16.18S×167.59E, h14km, mb4.9/14, Vanuatu Islands*
*IDC **18** 05:33:04.1±3.6, 16.13S×167.67E, h48km±35km, mb4.2/14, mbtmp4.4/15, ML4.8/1, MS3.4/11, Error ellipse: s-maj=32.5km s-min=19.9km az=95.0*
*NEIC **18** 05:33:05.3±2.0, 16.03S±0.09×167.7E±0.2, h51km±7km, mb4.7/39, Error ellipse: s-maj=21.8km s-min=13.0km az=92.0*
ISC 18 05:33:03.8±0.5, 16.03S±0.06×167.59E±0.08, h39km, n93, σ1.21/86, mb4.6/32, MS3.5/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.78**	**161**	P	**Pn**	**05 33 33.1**	**+1.0**
DVP	**Devils Point**	**1.78**	**161**	P	**Pn**	**05 33 32.5**	**+0.4**
MARNC	**Mare, Loyalty**	**5.44**	**176**	P	**Pn**	**05 34 22.6**	**+0.2**
KOUNC	**Koumac, New Ca**	**5.48**	**214**	P	**Pn**	**05 34 24.1**	**+1.1**
KOUNC	**Koumac, New Ca**	**5.48**	**214**	P	**Pn**	**05 34 24.0**	**+1.1**
LUES	**Luesalemba Tem**	**5.58**	**343**	P	Pn	05 34 28.8	+4.4
YATNC	**Mamie plateau,**	**6.03**	**186**	P	**Pn**	**05 34 30.8**	**+0.2**
YATNC	**Mamie plateau,**	**6.03**	**186**	P	**Pn**	**05 34 29.7**	**-0.9**
DZM	**Mont Dzumac**	**6.11**	**190**	P	**Pn**	**05 34 31.4**	**-0.2**
22nm,0.3s,baz=83,slow=8.1,SNR=144							
DZM				S	**Sn**	**05 35 38.4**	**-1.9**
78nm,0.4s,baz=121,slow=23,SNR=7.4							
DZM				LR	LR	05 35 47.6	
comp=Z,87nm,21.1s,baz=32,slow=27							
90nm,0.5s							
DZM	**Mont Dzumac**	**6.11**	**190**	P	**Pn**	**05 34 31.4**	**-0.2**
DZM	**Mont Dzumac**	**6.11**	**190**	P	**Pn**	**05 34 31.5**	**-0.2**
ONTNC	**Ouen Toro**	**6.33**	**190**		**Pn**	**05 34 35.0**	**+0.3**
ONTNC	**Ouen Toro**	**6.33**	**190**	P	**Pn**	**05 34 35.4**	**+0.7**
ONTNC	**Ouen Toro**	**6.33**	**190**	P	**Pn**	**05 34 35.0**	**+0.3**
OUENC	**Ouen Island, N**	**6.39**	**186**	P	**Pn**	**05 34 36.6**	**+1.1**
OUENC	**Ouen Island, N**	**6.39**	**186**	P	**Pn**	**05 34 35.8**	**+0.3**
PINNC	**Pines Island,**	**6.55**	**181**		**Pn**	**05 34 38.5**	**+0.9**
PINNC	**Pines Island,**	**6.55**	**181**	P	**Pn**	**05 34 38.2**	**+0.6**
PINNC	**Pines Island,**	**6.55**	**181**	P	**Pn**	**05 34 38.4**	**+0.8**
HNR	**Honiara**	**9.93**	**310**	LR	LR	05 38 53.3	
comp=Z,134nm,21.5s,baz=162,slow=35							
SAVO	**Savo Central**	**10.21**	**311**	P	**Pn**	**05 35 32.3**	**+4.3**
EIDS	**Eidsvold**	**18.01**	**236**		**Pn**	**05 37 10.0**	**-1.2**
RIZ	**Raoul Island**	**18.73**	**137**	P	**Pn**	**05 37 24.2**	**+4.3**
OUZ	**Omahuta**	**19.85**	**165**	P	**Pn**	**05 37 33.7**	**+0.4**
ARMA	**Armidale**	**20.46**	**223**	P	Pn	05 37 40.5	-0.2
HAZ	**Te Kaha**	**23.44**	**159**	P	**P**	**05 38 12.4**	**+2.8**
URZ	**Urewera**	**23.68**	**161**	LR	LR	05 46 13.2	
comp=Z,184nm,21.7s,baz=58,slow=34							
URZ	**Urewera**	**23.68**	**161**	P	**P**	**05 38 12.4**	**+0.5**
MWZ	**Matawai**	**23.88**	**160**	P	**P**	**05 38 16.5**	**+2.7**
PUZ	**Puketiti**	**23.89**	**159**	P	**P**	**05 38 14.5**	**+0.7**
RTZ	**Ruatahuna**	**23.97**	**162**	P	**P**	**05 38 14.9**	**+0.2**
RTZ				IAmb	IAmb	05 38 26.4	
comp=Z,13nm,1.0s							
BKZ	**Black Stump Fm**	**24.33**	**163**	P	**P**	**05 38 18.9**	**+0.8**
BKZ				IAmb	IAmb	05 38 20.5	
comp=Z,8.4nm,0.7s							
CAN	**Canberra**	**25.41**	**217**	P	**P**	**05 38 29.0**	**+1.2**
CAN				IAmb	IAmb	05 38 33.2	
comp=Z,58nm,1.5s							
THZ	**Tophouse**	**26.05**	**171**	P	**P**	**05 38 34.8**	**+1.2**
LTZ	**Lake Taylor**	**26.96**	**172**	P	**P**	**05 38 42.2**	**+0.5**
LTZ				IAmb	IAmb	05 39 03.1	
comp=Z,12nm,1.2s							
LTZ	**Lake Taylor**	**26.96**	**172**	P	**P**	**05 38 42.1**	**+0.3**
MQZ	**McQueen's Vall**	**27.92**	**172**	P	**P**	**05 38 51.5**	**+1.2**
STKA	**Stephens Creek**	**28.41**	**232**	P	**P**	**05 38 55.0**	**+0.2**
STKA				IAmb	IAmb	05 38 56.3	
comp=Z,31nm,1.0s							
STKA	**Stephens Creek**	**28.41**	**232**	P	**P**	**05 38 55.0**	**+0.2**
comp=Z,5.5nm,0.9s,baz=54,slow=8.9,SNR=9.5							
STKA				LR	LR	05 49 45.0	
comp=Z,97nm,18.2s,baz=33,slow=35							
comp=Z,5.5nm,0.9s							
EAZ	**Eaznscleugh**	**29.15**	**178**	P	**P**	**05 39 01.2**	**0.0**
TUZ	**Tuapeka**	**29.88**	**177**	P	**P**	**05 39 08.0**	**+0.4**
WR8	**Warramunga Arr**	**31.68**	**258**	P	**P**	**05 39 23.6**	**-0.3**
WB0	**Warramunga Arr**	**31.78**	**258**	P	**P**	**05 39 24.2**	**-0.6**
WB2	**Warramunga Arr**	**31.82**	**258**	P	**P**	**05 39 24.3**	**-0.8**
WRA	**Warramunga Arr**	**31.83**	**258**	P	**P**	**05 39 24.6**	**-0.7**
WRA	**Warramunga Arr**	**31.83**	**258**	P	**P**	**05 39 23.9**	**-1.3**
comp=Z,1.3nm,0.8s,baz=88,slow=8.1,SNR=7.9							
comp=Z,1.3nm,0.8s							
AS31	**Alice Springs**	**32.52**	**251**	P	**P**	**05 39 31.1**	**-0.2**
AS31				IAmb	IAmb	05 39 32.0	
comp=Z,4.5nm,0.8s							
ASAR	**Alice Springs**	**32.52**	**251**	P	**P**	**05 39 30.9**	**-0.4**
comp=Z,12nm,0.7s,baz=77,slow=9.2,SNR=127							
ASAR				PcP	**PcP**	**05 42 16.9**	**-0.7**
comp=Z,0.8nm,0.7s,baz=96,slow=2.1,SNR=4.1							
ASAR				LR	LR	05 53 42.7	
comp=Z,103nm,18.2s,baz=80,slow=38							
comp=Z,12nm,0.7s							
BBOO	**Buckleboo**	**33.05**	**234**	P	**P**	**05 39 35.5**	**-0.2**
BBOO				IAmb	IAmb	05 39 45.8	
comp=Z,14nm,1.2s							
SAUI	**Saumlaki**	**36.34**	**278**	P	**P**	**05 40 04.5**	**+0.1**
GUMO	**Guam**	**37.02**	**321**	LR	LR	05 56 01.6	
comp=Z,40nm,19.6s,baz=76,slow=37							
FORT	**Forrest**	**38.92**	**241**	P	**P**	**05 40 26.2**	**+0.2**
FORT				IAmb	IAmb	05 40 27.8	
comp=Z,16nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.09**	**261**	P	**P**	**05 40 36.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**48.36**	**240**	LR	LR	06 01 28.7	
comp=Z,82nm,18.8s,baz=295,slow=35							
JMZ	**Minamidaito 2**	**54.62**	**319**	P	**P**	**05 42 28.3**	**-0.4**
JHJ	**Hachijo jima 2**	**55.63**	**332**	LR	LR	06 02 23.3	
comp=Z,16nm,21.1s,baz=98,slow=32							
JGF	**Kuroka**	**58.80**	**331**	P	**P**	**05 42 58.3**	**0.0**
JGF				IAmb	IAmb	05 43 00.1	
comp=Z,11nm,1.0s							
MJAR	**Matsushiro Arr**	**59.20**	**333**	P	**P**	**05 43 00.4**	**-0.7**
comp=Z,8.0nm,0.9s,baz=167,slow=7.1,SNR=14							
comp=Z,8.0nm,0.9s							
MAJO	**Matsushiro**	**59.20**	**333**	P	**P**	**05 43 00.0**	**-1.0**
MJB9	**Matsu-Tunnel**	**59.20**	**333**	P	**P**	**05 43 00.5**	**-0.6**
JMM	**Marumori**	**59.23**	**335**	P	**P**	**05 42 59.9**	**-1.3**
VNDA	**Vanda**	**61.58**	**181**	P	**P**	**05 43 17.1**	**+0.3**
CASY	**Casey**	**62.45**	**203**	P	**P**	**05 43 23.0**	**+0.2**
CASY				IAmb	IAmb	05 43 36.6	
comp=Z,17nm,1.4s							
JKA	**Kamikawa-asahi**	**64.06**	**340**	P	**P**	**05 43 35.3**	**+1.6**
ASAJ	**Asahikawa**	**64.06**	**340**	LR	LR	06 06 31.1	
comp=Z,36nm,21.6s,baz=89,slow=31							
KSRS	**Korea Array**	**64.98**	**326**	P	**P**	**05 43 39.6**	**-0.1**
comp=Z,1.5nm,0.7s,baz=155,slow=9.2,SNR=5.0							
comp=Z,1.5nm,0.7s							
USA0B Ussuriysk Arra 68.18 333 P **P 05 43 59.1 -1.0**							
USA0B IAmb IAmb 05 44 02.3							
comp=Z,16nm,1.1s							
USRK Ussuriysk Ar. 68.18 333 P **P 05 44 00.9 +0.8**							
comp=Z,9.4nm,0.8s,baz=148,slow=5.6,SNR=12							
comp=Z,9.4nm,0.8s							
PETK Petropavlovsk- 69.38 354 P **P 05 44 07.6 +0.3**							
PETK Petropavlovsk- 69.38 354 P **P 05 44 07.5 +0.1**							
comp=Z,1.6nm,0.7s,baz=172,slow=5.8,SNR=2.3							
PETK LR LR 06 12 05.2							
comp=Z,11nm,19.7s,baz=151,slow=34							
comp=Z,1.6nm,0.7s							
MDJ Mudanjiang 69.57 332 P **P 05 44 08.9 +0.1**							
MDJ IAmb IAmb 05 44 10.6							
comp=Z,16nm,0.8s							
KLR Kul'dur 72.31 336 P **P 05 44 25.9 +0.6**							
comp=Z,7.5nm,0.9s,baz=124,slow=3.3,SNR=17							
comp=Z,7.5nm,0.9s							
QSPA South Pole Qui 74.00 180 P **P 05 44 34.3 -1.0**							
QSPA IAmb IAmb 05 44 52.3							
comp=Z,6.4nm,1.1s							
QSPA South Pole Qui 74.00 180 P **P 05 44 34.1 -1.2**							
comp=Z,1.0nm,0.7s,baz=311,slow=1.4,SNR=7.0							
comp=Z,1.0nm,0.7s							
CMAR Chiang Mai Arr 75.76 294 P **P 05 44 46.1 0.0**							
comp=Z,0.7nm,0.3s,baz=123,slow=4.0,SNR=6.9							
comp=Z,0.7nm,0.3s							
SEY Seymchan 79.60 353 P **P 05 45 05.4 -1.1**							
comp=Z,0.9nm,0.2s,baz=151,slow=4.9,SNR=5.5							
comp=Z,0.9nm,0.2s							
ULN Ulaanbaatar 83.36 324 P **P 05 45 27.6 +0.6**							
ULN IAmb IAmb 05 45 28.2							
comp=Z,6.9nm,0.9s							
O22K Cooper Landing 83.59 20 P **P 05 45 26.5 -1.1**							
SONM Songino Array 83.72 324 P **P 05 45 29.1 +0.3**							
SONM IAmb IAmb 05 45 29.8							
comp=Z,3.2nm,1.0s							
SONM Songino Array 83.72 324 P **P 05 45 28.5 -0.3**							
comp=Z,4.7nm,1.1s,baz=136,slow=5.7,SNR=12							
comp=Z,4.7nm,1.1s							
BELA Belgrano 2 85.41 175 P **P 05 45 35.1 -1.7**							
BELA IAmb IAmb 05 45 38.0							
comp=Z,2.5nm,0.8s							
KTH Kantishna Hill 85.58 17 P **P 05 45 36.9 -0.9**							
KTH IAmb IAmb 05 46 01.1							
comp=Z,5.1nm,1.1s							
BPAW Bear Paw Mtn. 85.98 17 P **P 05 45 41.4 +1.7**							
BPAW IAmb IAmb 05 46 03.8							
comp=Z,15nm,1.4s							
HG4B Hotspring 86.11 33 P **P 05 45 40.4 -0.2**							
ILAR Eielson Array 87.66 18 P **P 05 45 47.8 0.0**							
ILAR Eielson Array 87.66 18 P **P 05 45 44.2 -3.6**							
comp=Z,0.2nm,0.5s,baz=246,slow=5.3,SNR=6.5							
ILAR LR LR 06 18 16.3							
comp=Z,54nm,19.8s,baz=246,slow=31							
N30M Aishikik Lake 88.74 23 P **P 05 45 53.5 +0.4**							
P33M Teslin, Yukon 89.70 26 P **P 05 45 55.9 -1.7**							
P33M IAmb IAmb 05 46 01.5							
comp=Z,4.8nm,1.3s							
D23K Nanushuk River 89.82 14 P **P 05 45 56.1 -1.8**							
D23K IAmb IAmb 05 46 02.2							
comp=Z,4.4nm,0.9s							
TOLK Toolik Lake Re 89.83 14 P **P 05 45 57.3 -0.7**							
TOLK IAmb IAmb 05 45 58.5							
comp=Z,4.7nm,0.6s							
MKAR Makanchi Array 98.35 316 P Pdif 05 46 38.7 +1.1							
comp=Z,0.4nm,0.7s,baz=100,slow=5.0,SNR=3.6							
comp=Z,0.4nm,0.7s							
ZALV Zalesovo Beam 98.62 324 P **P 05 46 36.9 -1.6**							
comp=Z,0.5nm,0.5s,baz=129,slow=5.7,SNR=2.2							
comp=Z,0.5nm,0.5s							
ARCES ARCESS Array B 121.58 345 PKP **PKPdf 05 51 50.9 -1.8**							
comp=Z,2.9nm,0.8s,baz=29,slow=2.8,SNR=7.2							

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*MEX **18** 05:38:28.7±0.8, 15.07N×93.61W, h37km±37km, MD4.2*
*GCG **18** 05:38:30.2±2.0, 15.19N×93.39W, h36km±999km, MD4.3*
ISC 18 05:38:26.2±1.7, 15.08N±0.05×93.65W±0.03, h34km±3km, n27, σ1.89/49, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.75**	**34**	*e*P	**Pn**	**05 38 40.7**	**+0.3**
PCIG				*i* S	**Sn**	**05 38 58.6**	**0.0**
CARR	**Arriaga**	**1.19**	**348**	*e*P	**Pn**	**05 38 47.2**	**+0.7**
CARR				*e*S	**Sb**	**05 39 01.5**	**-1.9**
THIG		**1.35**	**97**	*e*P	**Pb**	**05 38 51.2**	**+0.3**
THIG				*e*S	**Sn**	**05 39 02.9**	**-2.5**
PATR	**El Naranjo**	**1.37**	**88**	*e*P	**Pn**	**05 38 49.0**	**-0.2**
PATR				*e*S	**Sn**	**05 39 04.8**	**-1.5**
PAVE	**Pavencul**	**1.43**	**85**	*e*P	**Pn**	**05 38 50.2**	**+0.2**
PAVE				*e*S	**Sn**	**05 39 06.8**	**-0.8**
SMCA	**Catarina**	**1.54**	**98**	*e*P	**Pn**	**05 38 51.4**	**+0.1**
SMCA				*e*S	**Sn**	**05 39 08.8**	**-1.3**
SMCA	**Catarina**	**1.54**	**98**	*e*P		05 38 51.4	
SMCA				*e*S		05 39 08.8	
NILT	**Santiago Nilte**	**1.75**	**328**	*e*P	**Pn**	**05 38 55.0**	**+1.0**
NILT				*e*S	**Sn**	**05 39 14.7**	**-0.5**
TGIG		**1.77**	**17**	*i* P	**Pn**	**05 38 55.1**	**+0.6**
TGIG				*i* S	**Sn**	**05 39 15.9**	**+0.1**
TGIG		**1.77**	**17**	*i* P	**Pn**	**05 38 55.0**	**+0.6**
TGIG		**1.77**	**17**	*i* P		05 38 55.0	
CCIG	**Comitan**	**1.89**	**50**	*e*P	**Pn**	**05 38 57.2**	**+1.0**
CCIG				*i* S	**Sn**	**05 39 13.7**	**-5.3**
CCIG	**Comitan**	**1.89**	**50**	*e*P	**Pn**	**05 38 57.4**	**+1.2**
CCIG	**Comitan**	**1.89**	**50**	*e*P		05 38 57.4	
RTAL	**Retalhuleu**	**1.97**	**106**	*e*P	**Pn**	**05 38 58.0**	**+0.8**
RTAL				*e*S	**Sn**	**05 39 18.9**	**-1.8**
HUEH	**Huehuetenango**	**2.09**	**83**	*i* P	**Pn**	**05 39 00.7**	**+1.7**
HUEH				*i* S	**Sn**	**05 39 26.4**	**+2.5**
HUEH	**Huehuetenango**	**2.09**	**83**	*e*P	**Pn**	**05 39 01.0**	**+2.0**
HUEH				*i* S	**Sn**	**05 39 26.4**	**+2.5**
HUEH	**Huehuetenango**	**2.09**	**83**	*e*P		05 39 01.0	
HUEH				*i* S		05 39 26.4	
UXUV	**UXUV**	**2.28**	**348**	*i* P	**Pn**	**05 39 03.2**	**+1.8**
UXUV				*i* S	**Sn**	**05 39 29.8**	**+1.5**
STG8	**El Palmar, Qui**	**2.31**	**105**	*e*P		05 38 58.8	
STG8				*e*S		05 39 21.3	
CMIG	**Matias Romero**	**2.33**	**330**	*e*P	**Pn**	**05 39 03.0**	**+0.9**
CMIG				*i* S	**Sn**	**05 39 29.5**	**0.0**
STG0	**El Palmar, Qui**	**2.33**	**106**	*e*P		05 39 00.4	
STG0				*i* S		05 39 22.7	
HUIG	**Huatulco**	**2.47**	**287**	*e*P	**Pn**	**05 39 03.5**	**-0.5**
HUIG				*e*S	**Sn**	**05 39 28.4**	**-4.6**
APG	**El Apazote**	**3.08**	**91**	*e*P	**Pn**	**05 39 15.1**	**+2.4**
APG	**El Apazote**	**3.08**	**91**	*e*P		05 39 15.1	
NEUV	**Arroyo Zacate**	**3.34**	**322**	*e*P	**Pn**	**05 39 17.7**	**+1.8**
NEUV				*i* S	**Sn**	**05 39 53.4**	**-1.0**
PEIG	**Puerto Escondi**	**3.49**	**286**	*e*P	**Pn**	**05 39 19.1**	**+1.0**
PEIG				*i* S	**Sn**	**05 39 57.9**	**-0.3

KURBB Lg Lg 05 53 01.7
baz=58,slow=28,SNR=1.8
0.5nm,0.5s
MKAR Makanchi Array 7.99 205 Pn Pn 05 51 42.0 +3.8
0.1nm,0.3s,baz=27,slow=13,SNR=1.8
MKAR Lg Lg 05 53 56.1
0.1nm,0.3s,baz=36,slow=27,SNR=2.2
0.1nm,0.3s

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*IDC **18** 05:55:21.4±0.8, 15°.2S×173°.65W, h0km, mb3.9/9, mbtmp3.9/9, MS3.5/11, Error ellipse: s-maj=37.0km s-min=20.6km az=137.0*
*NEIC **18** 05:55:22.9±1.3, 15°.15±0°.1×173°.55W±0°.06, h10km±1km, mb4.3/10, Error ellipse: s-maj=18.0km s-min=8.0km az=162.0*
ISC 18 05:55:26.0±0.7, 15°.2S±0°.1×173°.6W±0°.1, h30km, n36, σ1§07/25, mb4.1/15, MS3.7/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**55**		**Pn**	**05 55 57.7**	**-1.8**
NIUE	**Niue**	**5.23**	**139**		**Pn**	**05 56 41.5**	**-0.7**
MSVF	**Nonsavu**	**8.45**	**251**	LR	LR	05 59 57.1	
comp=Z,53nm,20.5s,baz=59,slow=33							
DZM	**Mont Dzumac**	**20.15**	**247**	LR	LR	06 06 07.3	
comp=Z,121nm,21.6s,baz=38,slow=32							
URZ	**Urewera**	**24.45**	**198**	LR	LR	06 09 28.6	
comp=Z,131nm,19.2s,baz=108,slow=35							
H11N3	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	06 45 02.3	
baz=149,slow=76,SNR=9.9							
H11N1	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	06 45 01.5	
baz=149,slow=76,SNR=9.6							
H11N2	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	06 45 13.6	
baz=149,slow=76,SNR=10							
STKA	**Stephens Creek**	**44.03**	**240**	P	**P**	**06 03 30.8**	**-0.4**
1.1nm,0.6s,baz=83,slow=8.5,SNR=3.2							
1.1nm,0.6s							
WR0	**Warramunga Arr**	**49.56**	**257**	P	**P**	**06 04 14.4**	**-0.2**
WR0				IAmb	IAmb	06 04 35.7	
comp=Z,4.1nm,1.0s							
WB0	**Warramunga Arr**	**49.71**	**257**	P	**P**	**06 04 14.6**	**-1.1**
WB0				IAmb	IAmb	06 04 16.7	
comp=Z,8.2nm,1.4s							
WB2	**Warramunga Arr**	**49.74**	**257**	P	**P**	**06 04 14.8**	**-1.1**
WRA	**Warramunga Arr**	**49.75**	**257**	P	**P**	**06 04 14.8**	**-1.3**
WRA	**Warramunga Arr**	**49.75**	**257**	P	**P**	**06 04 14.4**	**-1.6**
comp=Z,0.9nm,0.6s,baz=94,slow=6.7,SNR=9.3							
WRA				LR	LR	06 24 12.0	
comp=Z,72nm,18.2s,baz=103,slow=35							
comp=Z,0.9nm,0.6s							
AS31	**Alice Springs**	**50.04**	**252**	P	**P**	**06 04 17.5**	**-0.7**
AS31				IAmb	IAmb	06 04 19.0	
comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**06 04 16.8**	**-1.5**
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**06 04 17.1**	**-1.1**
comp=Z,3.3nm,0.5s,baz=86,slow=8.2,SNR=36							
ASAR				LR	LR	06 24 18.5	
comp=Z,63nm,18.3s,baz=102,slow=35							
comp=Z,3.3nm,0.5s							
FITZ	**Fitzroy Crossi**	**58.11**	**258**	P	**P**	**06 05 15.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**58.11**	**258**	LR	LR	06 29 08.6	
comp=Z,56nm,18.0s,baz=341,slow=35							
SHEM	**Shemya Is, Ala**	**68.43**	**352**	LR	LR	06 28 51.1	
comp=Z,46nm,21.7s,baz=48,slow=29							
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**06 06 50.3**	**+1.6**
comp=Z,1.1nm,0.7s,baz=155,slow=5.8,SNR=1.7							
comp=Z,1.1nm,0.7s							
NVAR	**Mina Array Bea**	**74.25**	**42**	P	**P**	**06 07 01.0**	**+0.4**
comp=Z,0.8nm,0.8s,baz=227,slow=10,SNR=7.9							
NVAR				LR	LR	06 32 50.7	
comp=Z,52nm,21.2s,baz=233,slow=30							
comp=Z,0.8nm,0.8s							
KDAK	**Kodiak Island**	**74.71**	**11**	LR	LR	06 32 16.2	
comp=Z,58nm,20.3s,baz=6.9,slow=30							
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**06 07 04.5**	**+0.7**
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**06 07 04.0**	**+0.2**
comp=Z,3.1nm,0.8s,baz=21,slow=1.2,SNR=13							
comp=Z,3.1nm,0.8s							
KSRS	**Korea Array**	**75.87**	**316**	LR	LR	06 36 38.3	
comp=Z,6.7nm,20.1s,baz=230,slow=33							
K20K	**Telida**	**79.71**	**9**	P	**P**	**06 07 30.8**	**+0.3**
K20K				IAmb	IAmb	06 08 00.4	
comp=Z,8.0nm,1.4s							
TNA	**Tin City**	**80.58**	**2**	P	**P**	**06 07 36.1**	**+1.1**
TNA				IAmb	IAmb	06 07 53.7	
comp=Z,6.0nm,1.4s							
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**06 07 37.1**	**+0.9**
comp=Z,0.3nm,0.8s,baz=253,slow=4.9,SNR=2.5							
comp=Z,0.3nm,0.8s							
L27K	**Beaver Creek,**	**81.78**	**14**	P	**P**	**06 07 42.0**	**+0.4**
L27K				IAmb	IAmb	06 07 42.4	
comp=Z,2.0nm,1.1s							
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**06 07 44.8**	**+0.9**
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**06 07 42.9**	**-0.9**
comp=Z,0.3nm,0.8s,baz=219,slow=7.0,SNR=2.3							
comp=Z,0.3nm,0.8s							
BMAR	**Burnt Mountain**	**85.03**	**11**	P	**P**	**06 07 57.2**	**-1.0**
YKA	**Yellowknife Ar**	**89.93**	**23**	P	**P**	**06 08 22.1**	**+0.2**
comp=Z,0.2nm,0.8s,baz=240,slow=4.7,SNR=2.9							
comp=Z,0.2nm,0.8s							
TKL	**Tuckaleechee C**	**98.50**	**55**	LR	LR	06 46 35.7	
comp=Z,57nm,18.0s,baz=116,slow=31							
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc	**PKPab**	**06 15 03.3**	**0.0**
comp=Z,1.0nm,0.7s,baz=123,slow=2.1,SNR=7.2							

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*NNC **18** 06:00:38.5±1.5, 54°.25N×86°.70E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=17.4km s-min=8.1km az=1.0, Suspected Mining explosion.*
*ASRS **18** 06:00:39.0±1.6, 54°.11N×86°.49E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **18** 06:00:39.4±2.7, 54°.18N×86°.67E, h0km, mbtmp3.1/2, ML3.2/2, Error ellipse: s-maj=22.1km s-min=13.5km az=56.0*
ISC 18 06:00:41.9±1.5, 53°.04N±0°.06×84°.9E±0°.2, h0km, n7, σ1§16/8, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**356**	I	I	06 06 20.9	
0.2nm,0.9s,baz=81,slow=340,SNR=5.4							
ZAA0	**Zalesovo Array**	**0.92**	**356**	⇑P	**Pb**	**06 01 00.1**	**-0.5**
0.2nm,0.2s							
ZAA0				⇓S	**Sn**	**06 01 16.0**	**+0.1**
2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**0.92**	**356**	Pg	**Pg**	**06 01 00.1**	**+0.6**
2.5nm,0.3s,baz=78,slow=17,SNR=29							
ZALV				Lg	Lg	06 01 16.8	
3.0nm,0.3s,baz=74,slow=28,SNR=12							
KURBB	**Kurchatov Arra**	**4.65**	**241**	Pn	**Pg**	**06 02 11.1**	**+0.2**
0.2nm,0.3s,baz=55,slow=14,SNR=4.7							
KURBB				Lg	Lg	06 03 55.2	
0.1nm,0.3s,baz=58,slow=32,SNR=5.0							
0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**4.65**	**241**	⇑Pn	**Pg**	**06 02 11.5**	**+0.6**
1.2nm,0.5s							
MK31	**Makanchi Array**	**6.48**	**196**	Pn	**Pb**	**06 02 34.9**	**-0.5**
0.2nm,0.3s,baz=30,slow=14,SNR=34							
MK31				⇑Sn	**Sg**	**06 04 08.0**	**-1.7**
0.2nm,0.5s,baz=248,slow=22,SNR=4.9							
MK31				⇓Lg	Lg	06 04 50.6	
1.3nm,0.8s							
MKAR	**Makanchi Array**	**6.48**	**196**	Pn	**Pb**	**06 02 36.9**	**+1.5**
0.7nm,0.3s,baz=26,slow=13,SNR=28							
MKAR				Lg	Lg	06 04 50.2	
baz=12,slow=30,SNR=2.8							
0.6nm,0.3s							

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*IDC **18** 06:07:44.4±0.8, 29°.04N×139°.29E, h387km±10km, mb3.2/17, mbtmp3.9/18, Error ellipse: s-maj=17.5km s-min=12.4km az=67.0*
*JMA **18** 06:07:48.4±0.3, 29°.N±1°.×14°.0E±°., h448km±4km, MV3.5/28, NEAR TORISHIMA IS*
ISC 18 06:07:45.6±0.6, 29°.04N±0°.07×139°.3E±0°.1, h400km, n29, σ1§71/34, mb3.6/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.21**	**126**	P	Pn	06 08 54.6	+3.9
CBIJ				S	**S**	**06 09 47.1**	**+3.8**
JCJ	**Chichijima**	**3.21**	**126**	P	**Pn**	**06 08 48.4**	**-2.3**
108nm,0.3s,baz=304,slow=15,SNR=66							
JCJ				S	**S**	**06 09 40.3**	**-2.9**
384nm,0.4s,baz=288,slow=22,SNR=31							
JHH2	**Haha-jima-NKT2**	**3.51**	**132**	P	Pn	06 08 57.1	+3.9
JHH2				S	**S**	**06 09 52.1**	**+4.1**
JIE	**Ise**	**5.77**	**338**	P	Pn	06 09 22.3	+6.7
JKN2	**Miekihoku**	**5.78**	**334**	P	Pn	06 09 22.6	+6.8
JAO	**Obara**	**6.44**	**345**	*e*P	Pn	06 09 28.2	+5.2
JRY	**Ryogami san**	**6.97**	**357**	P	**P**	**06 09 31.8**	**+2.4**
JRY				*e*S	**S**	**06 10 54.0**	**+0.9**
JAG	**Ashikaga**	**7.37**	**1**	P	**P**	**06 09 34.7**	**+0.9**
JAG				S	**S**	**06 10 57.6**	**-3.8**
MJAR	**Matsushiro Arr**	**7.54**	**353**	P	**P**	**06 09 37.4**	**+1.6**
4.8nm,0.3s,baz=169,slow=11,SNR=14							
JHO	**Hitachi**	**7.63**	**8**	P	**P**	**06 09 38.7**	**+1.9**
JHO				*e*S	**S**	**06 11 04.7**	**-2.1**
USRK	**Ussuriysk Ar.**	**16.21**	**341**	P	**P**	**06 11 13.5**	**+2.5**
1.6nm,0.6s,baz=133,slow=11,SNR=4.2							
KLR	**Kul'dur**	**20.97**	**346**	P	**P**	**06 12 00.3**	**+1.6**
1.4nm,0.6s,baz=188,slow=10,SNR=5.8							
1.4nm,0.6s							
MKAR	**Makanchi Array**	**47.26**	**308**	P	**P**	**06 15 40.3**	**-0.3**
0.6nm,0.4s,baz=88,slow=10,SNR=11							
MKAR				PcP	**pwP**	**06 17 03.8**	**-0.6**
0.3nm,0.6s,baz=75,slow=6.2,SNR=3.5							
0.6nm,0.4s							
WRA	**Warramunga Arr**	**48.93**	**186**	P	**P**	**06 15 53.3**	**0.0**
0.3nm,0.4s,baz=0.6,slow=7.6,SNR=9.5							
WRA				PcP	**pP**	**06 17 11.5**	**-0.6**
0.5nm,0.4s,baz=357,slow=4.0,SNR=6.0							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**49.85**	**313**	P	**P**	**06 16 00.0**	**+0.1**
1.9nm,0.5s,baz=92,slow=8.0,SNR=24							
1.9nm,0.5s							
ASAR	**Alice Springs**	**52.66**	**186**	P	**P**	**06 16 20.4**	**-0.4**
0.1nm,0.4s,baz=10.0,slow=7.6,SNR=2.1							
ASAR				PcP	**PcP**	**06 17 25.2**	**+0.7**
0.2nm,0.4s,baz=20,slow=3.0,SNR=1.8							
0.1nm,0.4s							
BVAR	**Borovoye Array**	**54.88**	**316**	P	**P**	**06 16 36.3**	**0.0**
1.4nm,0.4s,baz=86,slow=7.4,SNR=7.8							
BVAR				PcP	**PcP**	**06 17 32.3**	**-0.4**
0.9nm,0.4s,baz=98,slow=3.1,SNR=4.3							
1.4nm,0.4s							
ILAR	**Eielson Array**	**57.26**	**29**	P	**P**	**06 16 52.3**	**-0.4**
0.3nm,0.5s,baz=246,slow=6.1,SNR=5.5							
0.3nm,0.5s							
ARCES	**ARCESS Array B**	**70.86**	**340**	P	**P**	**06 18 20.3**	**+0.3**
1.1nm,0.4s,baz=68,slow=8.5,SNR=19							
1.1nm,0.4s							
YKA	**Yellowknife Ar**	**71.65**	**28**	P	**P**	**06 18 24.6**	**-0.2**
0.3nm,0.6s,baz=264,slow=5.6,SNR=7.3							
0.3nm,0.6s							
KBZ	**Khabaz**	**74.81**	**312**	P	**P**	**06 18 43.3**	**0.0**
2.5nm,0.8s,baz=82,slow=7.6,SNR=5.4							
2.5nm,0.8s							
FINES	**FINESS Array B**	**75.06**	**333**	P	**P**	**06 18 44.1**	**-0.3**
1.8nm,0.5s,baz=70,slow=5.0,SNR=17							
1.8nm,0.5s							
AKASG	**Malin Array Be**	**79.53**	**323**	P	**P**	**06 19 08.1**	**-1.0**
0.7nm,0.5s,baz=55,slow=5.9,SNR=4.6							
0.7nm,0.5s							
HFS	**Hagfors**	**80.62**	**336**	P	**P**	**06 19 14.2**	**-0.5**
1.2nm,0.3s,baz=102,slow=5.1,SNR=8.2							
1.2nm,0.3s							
NOA	**NORSAR Array B**	**80.85**	**337**	P	**P**	**06 19 15.5**	**-0.5**
0.6nm,0.5s,baz=54,slow=6.5,SNR=1.2							
0.6nm,0.5s							
NVAR	**Mina Array Bea**	**81.31**	**51**	P	**P**	**06 19 19.5**	**+0.4**
0.7nm,0.7s,baz=287,slow=5.1,SNR=10.0							
0.7nm,0.7s							
BRTR	**Keskin Array B**	**82.80**	**312**	P	**P**	**06 19 26.6**	**0.0**
1.0nm,0.7s,baz=120,slow=5.0,SNR=5.0							
1.0nm,0.7s							
PDAR	**Pinedale Array**	**84.61**	**44**	P	**P**	**06 19 36.2**	**+0.5**
0.8nm,1.0s,baz=302,slow=2.8,SNR=3.9							
0.8nm,1.0s							
LPAZ	**La Paz**	**151.78**	**69**	PKPbc	**PKiKP**	**06 26 55.1**	**-0.3**
0.6nm,0.5s,baz=342,slow=3.2,SNR=5.1							

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*ASRS **18** 06:20:05.0±1.0, 54°.38N×86°.92E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 18 06:20:07.8±3.5, 54°.37N×86°.89E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=31.1km s-min=18.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**252**	I	I	06 27 27.9	
0.1nm,1.0s,baz=72,slow=338,SNR=50							
ZALV	**Zalesovo Beam**	**1.29**	**252**	Pg	Pg	06 20 31.9	-0.6
0.7nm,0.3s,baz=66,slow=16,SNR=9.2							
ZALV				Lg	Lg	06 20 49.4	
0.9nm,0.3s,baz=70,slow=30,SNR=5.5							
KURBB	**Kurchatov Arra**	**6.33**	**237**	Pn	Pn	06 21 43.1	+0.8
baz=54,slow=14,SNR=4.1							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	06 22 07.9	+0.9
0.1nm,0.3s,baz=28,slow=14,SNR=2.1							
0.1nm,0.3s							

IDC 18 06:44:50.0±3.2, 54°.48N×86°.21E, h0km, mbtmp2.4/2, ML2.3/2, Error ellipse: s-maj=24.8km s-min=14.5km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**238**	I	I	06 50 00.0	
0.1nm,0.6s,baz=58,slow=336,SNR=6.5							
ZALV	**Zalesovo Beam**	**0.97**	**238**	Pg	Pg	06 45 07.5	-1.0
0.9nm,0.3s,baz=54,slow=17,SNR=5.8							
ZALV				Lg	Lg	06 45 23.0	
1.3nm,0.3s,baz=57,slow=28,SNR=6.3							
KURBB	**Kurchatov Arra**	**6.07**	**234**	Pn	Pn	06 46 20.4	-0.5
baz=45,slow=14,SNR=2.1							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**8.08**	**200**	Pn	Pn	06 46 50.1	+1.6
0.1nm,0.3s,baz=22,slow=9.5,SNR=6.1							
0.1nm,0.3s							

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*IDC **18** 06:48:24.4±1.5, 51°.31N×81°.88E, h0km, mbtmp1.9/2, ML1.4/2, Error ellipse: s-maj=15.5km s-min=13.0km az=139.0*
NNC 18 06:48:20.5±3.9, 51°.43N×81°.97E, h0km, mb2.7, mpv2.2, 3C-1D, Error ellipse: s-maj=34.5km s-min=22.9km az=14.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.23**	**253**	⇑Pg	Pb	06 49 01.7	+0.1
1.4nm,0.6s							
KURK				⇑Lg	Lg	06 49 31.3	
4.7nm,1.0s							
KURBB	**Kurchatov Arra**	**2.32**	**251**	Pg	Pg	06 49 04.0	-0.8
0.1nm,0.3s,baz=72,slow=19,SNR=5.0							
KURBB				Lg	Lg	06 49 34.9	
0.1nm,0.3s,baz=72,slow=33,SNR=4.5							
KURBB	**Kurchatov Arra**	**2.32**	**251**	⇓Pg	Pb	06 49 02.0	-1.1
0.8nm,0.5s							
KURBB				⇑Lg	Lg	06 49 34.3	
4.2nm,0.6s							
I46RU	**ZALESOVO INFRA**	**3.06**	**33**	I	I	07 06 30.0	
0.1nm,0.9s,baz=210,slow=321,SNR=1.8							
ZALV	**Zalesovo Beam**	**3.06**	**33**	Pn	Pb	06 49 16.9	+1.1
0.1nm,0.3s,baz=224,slow=18,SNR=1.7							
ZALV				Lg	Lg	06 50 03.9	
1.8nm,0.3s,baz=212,slow=24,SNR=16							
0.3nm,0.4s							
MK31	**Makanchi Array**	**4.64**	**177**	Lg	Lg	06 50 48.2	
1.3nm,0.7s,baz=358,slow=27,SNR=3.6							
MKAR	**Makanchi Array**	**4.64**	**177**	Pn	Pn	06 49 36.0	+4.2
baz=9.8,slow=12,SNR=6.5							
MKAR				Lg	Lg	06 50 44.5	
0.1nm,0.3s,baz=6.3,slow=29,SNR=6.9							
0.1nm,0.5s							

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*NNC **18** 06:51:59.0±1.3, 42°.81N×80°.24E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=7.9km s-min=7.4km az=8.0*
*SOME **18** 06:52:00.3, 43°.52N×80°.15E, h5km*
*KRNET **18** 06:52:02.9±0.1, 42°.96N×80°.14E, mb2.4*
ISC 18 06:52:01.4±1.7, 43°.02N±0°.05×80°.07E±0°.05, h1km±11km, n25, σ0§98/45, 10C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.46**	**288**	P	**Pg**	**06 52 09.1**	**-1.2**
14nm,0.1s							
SHLS				S	**Sg**	**06 52 15.4**	**-0.9**
55nm,0.1s							
SHLS	**Shalkode**	**0.46**	**288**	*e*P	**Pg**	**06 52 09.1**	**-1.2**
14nm,0.1s							
SHLS				*e*S	**Sg**	**06 52 15.4**	**-0.9**
55nm,0.1s							
PDGK	**Podgornoye**	**0.52**	**307**	⇓P	**Pb**	**06 52 14.0**	**+0.4**
0.7nm,0.5s							
PDGK				⇑S	**Sn**	**06 52 24.6**	**-1.3**
20nm,0.6s							
UZB	**Uzynbulak**	**0.78**	**280**	P	**Pb**	**06 52 17.9**	**+0.1**
10nm,0.1s							
UZB				S	**Sn**	**06 52 30.8**	**-1.3**
34nm,0.1s							
UZB	**Uzynbulak**	**0.78**	**280**	*e*P	**Pb**	**06 52 17.9**	**+0.1**
5.4nm,0.1s							
UZB				*e*S	**Sn**	**06 52 30.8**	**-1.3**
34nm,0.1s							
ZHN	**Zhinishke**	**1.20**	**278**	P	**Pg**	**06 52 24.9**	**+0.4**
23nm,0.2s							
ZHN				S	**Sn**	**06 52 42.4**	**-0.2**
50nm,0.2s							
ZHN	**Zhinishke**	**1.20**	**278**	*e*P	**Pg**	**06 52 24.9**	**+0.4**
13nm,0.1s							
ZHN				*e*S	**Sn**	**06 52 42.4**	**-0.2**
50nm,0.2s							
SATY	**Saty**	**1.22**	**273**	P	**Pg**	**06 52 26.2**	**+1.5**
22nm,0.2s							
SATY				S	**Sn**	**06 52 44.7**	**+1.7**
83nm,0.1s							
PRZ	**Przheval'sk**	**1.34**	**247**	⇑*e*P	**Pg**	**06 52 27.5**	**+0.4**
PRZ				⇑*e*S	**Sg**	**06 52 46.0**	**+1.6**
KURS	**Kuram**	**1.46**	**289**	P	**Pn**	**06 52 28.1**	**-0.9**
6.7nm,0.5s							
KURS				S	**Sg**	**06 52 48.3**	**-0.1**
4.9nm,0.4s							
ANVS	**Anan'yevo**	**1.78**	**263**	⇑*i*P	**Pb**	**06 52 34.5**	**-0.5**
ANVS				⇑*i*S	**Sg**	**06 52 57.9**	**-0.6**
TARG	**Taragay, Kyrgy**	**2.11**	**233**	⇓*i*P	**Pb**	**06 52 39.0**	**-1.8**
TARG				⇓*i*S	**Sn**	**06 53 05.0**	**-0.4**
KOTS	**Kotyrbulak**	**2.17**	**277**	Pg	**Pb**	**06 52 41.8**	**+0.1**
2.8nm,0.2s							
KOTS				Lg	Lg	06 53 11.6	
20nm,0.3s							
KOTS	**Kotyrbulak**	**2.17**	**277**	*e*P	**Pb**	**06 52 41.8**	**+0.1**
2.8nm,0.2s							
KOTS				*e*S	**Sg**	**06 53 11.6**	**+0.4**
20nm,0.3s							
TNSS	**Tian-Shan**	**2.29**	**272**	Pg	**Pg**	**06 52 44.7**	**-0.6**
2.1nm,0.1s							
TNSS				Lg	Lg	06 53 16.1	
6.5nm,0.3s							
TNSS	**Tian-Shan**	**2.29**	**272**	*e*P	**Pg**	**06 52 44.7**	**-0.6**
2.1nm,0.1s							
TNSS				*e*S	**Sg**	**06 53 16.1**	**+1.2**
6.5nm,0.3s							
KDJ	**Kajisay**	**2.31**	**248**	⇑*i*P	**Pb**	**06 52 41.9**	**-2.1**
KDJ				⇑*i*S	**Sn**	**06 53 09.8**	**-0.2**
KTBS	**Karatobe**	**2.56**	**287**	Pg	**Pb**	**06 52 47.5**	**-0.8**
1.1nm,0.3s							
KTBS				Lg	Lg	06 53 21.2	
14nm,0.3s							
MTBS	**Maitube**	**2.67**	**274**	Pg	**Pb**	**06 52 51.1**	**+1.0**
1.9nm,0.3s							
MTBS				Lg	Lg	06 53 27.6	
8.6nm,0.4s							
MTBS	**Maitube**	**2.67**	**274**	*e*P	**Pb**	**06 52 51.1**	**+1.0**
1.3nm,0.1s							
MTBS				*e*S	**Sg**	**06 53 27.6**	**+0.5**
7.3nm,0.2s							
KST	**Kastek**	**3.01**	**272**	Pg	**Pb**	**06 52 57.2**	**+1.3**
1.7nm,0.3s							
KST				Lg	Lg	06 53 38.3	
7.8nm,0.7s							
KST	**Kastek**	**3.01**	**272**	*e*P	**Pb**	**06 52 57.2**	**+1.3**
1.3nm,0.1s							
KST				*e*S	**Sg**	**06 53 38.3**	**+0.3**
7.8nm,0.7s							
BOOM	**Boomskoye usch**	**3.08**	**262**	⇑*e*P	**Pn**	**06 52 52.8**	**+1.3**
BOOM				⇑*e*S	**Sn**	**06 53 29.4**	**+0.3**
DGS	**Degeres**	**3.15**	**276**	Pg	**Pb**	**06 52 59.2**	**+0.9**
1.5nm,0.4s							
DGS				Lg	Lg	06 53 41.6	
4.8nm,0.6s							
MK31	**Makanchi Array**	**4.09**	**22**	Pn	**Pn**	**06 53 05.8**	**+0.6**
0.1nm,0.3s,baz=200,slow=13,SNR=12							
MK31				⇓Pg	**Pb**	**06 53 14.5**	**+0.2**
0.1nm,0.2s,baz=197,slow=13,SNR=3.6							
MK31				⇑Sn	**Sn**	**06 53 53.5**	**-0.3**
0.1nm,0.3s,baz=201,slow=13,SNR=4.1							
MK31				⇓Lg	Lg	06 54 13.1	
0.1nm,0.2s,baz=200,slow=27,SNR=3.5							

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*NNC **18** 06:55:21.3±1.8, 54°.34N×86°.34E, h0km, mb3.5, mpv2.5, Error ellipse: s-maj=27.3km s-min=9.6km az=165.0, Suspected Mining explosion.*
*ASRS **18** 06:55:22.0±0.3, 54°.33N×86°.13E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **18** 06:55:24.4±2.3, 54°.32N×86°.22E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=18.1km s-min=11.3km az=58.0*
ISC 18 06:55:18.1±2.0, 53°.10N±0°.05×85°.8E±0°.1, h0km, n8, σ1§88/9, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**325**	I	I	07 00 12.1	
0.1nm,0.8s,baz=66,slow=337,SNR=5.7							
ZAA0	**Zalesovo Array**	**1.05**	**325**	⇓P	**Pn**	**06 55 40.0**	**0.0**
0.1nm,0.2s							
ZAA0				⇑S	**Sb**	**06 55 53.5**	**+0.2**
1.5nm,0.3s							
ZALV	**Zalesovo Beam**	**1.05**	**325**	Pg	**Pb**	**06 55 39.8**	**+0.7**
1.5nm,0.3s,baz=64,slow=18,SNR=14							
ZALV				Lg	Lg	06 55 54.8	
6.9nm,0.3s,baz=66,slow=29,SNR=10.0							
KURBB	**Kurchatov Arra**	**5.16**	**244**	Pn	**Pg**	**06 56 55.2**	**-1.7**
0.2nm,0.3s

4.1nm,0.5s
ZALV Zalesovo Beam 1.22 326 Pg **Pn 07 00 47.4 +0.1**
10nm,0.3s,baz=72,slow=16,SNR=67
ZALV Lg Lg 07 01 02.0
12nm,0.3s,baz=74,slow=27,SNR=27
I46RU ZALESOVO INFRA 1.22 326 I I 07 05 58.6
0.2nm,0.9s,baz=74,slow=338,SNR=5.8
KURK Kurchatov 5.08 247 ⇓Pn **Pg 07 01 57.5 -2.9**
1.5nm,0.6s
KURK ⇓Lg Lg 07 03 39.7
4.5nm,1.0s
KURBB Kurchatov Arra 5.18 246 Pn **Pg 07 02 02.1 -0.1**
0.6nm,0.3s,baz=52,slow=13,SNR=20
KURBB Sn **Sg 07 03 08.4 -0.8**
baz=54,slow=24
KURBB Lg Lg 07 03 39.3
0.1nm,0.3s,baz=48,slow=32,SNR=6.7
3.8nm,0.4s
KURBB Kurchatov Arra 5.18 246 ⇑Pn **Pb 07 01 56.6 +2.2**
4.4nm,0.4s
KURBB ⇓Lg Lg 07 03 41.7
6.3nm,0.7s
MK31 Makanchi Array 6.61 203 ⇑Pn Pb 07 02 24.5 +5.8
0.4nm,0.3s,baz=26,slow=13,SNR=41
MK31 ⇑Sn **Sg 07 03 58.0 +2.9**
0.5nm,0.6s,baz=145,slow=14,SNR=4.4
MK31 ⇑Lg Lg 07 04 39.9
1.1nm,0.6s,baz=30,slow=31,SNR=4.6
MKAR Makanchi Array 6.61 203 Pn **Pg 07 02 27.2 -2.3**
0.9nm,0.3s,baz=22,slow=13,SNR=46
MKAR Sn **Sg 07 03 53.9 -1.1**
0.2nm,0.3s,baz=25,slow=28,SNR=5.2
MKAR Lg Lg 07 04 38.2
0.2nm,0.3s,baz=24,slow=32,SNR=6.2
1.4nm,0.4s

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*NEIC **18** 07:04:07.9±1.1, 18°.4S±0°.1×177°.7W±0°.2, h626km±9km, mb4.1/21, Error ellipse: s-maj=23.2km s-min=16.2km az=92.0*
*IDC **18** 07:04:09.9±1.8, 18°.17S×177°.95W, h647km±22km, mb2.9/9, mbtmp3.9/10, Error ellipse: s-maj=28.3km s-min=16.7km az=145.0*
ISC 18 07:04:09.7±0.6,**18°.3S**±0°.1×**177°.9W**±0°.1,**h650**km,**n39,** σ0**88**/40,**mb3.8**/18,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.88**	**277**	P	**P**	**07 05 37.4**	**-0.8**
MSVF	**Nonsavu**	**3.88**	**277**	P	**P**	**07 05 37.8**	**-0.4**
55nm,0.7s,baz=110,slow=18,SNR=42							
FUTU	**Fugatoga**	**3.93**	**357**	P	**P**	**07 05 36.1**	**-2.4**
THZ	**Tophouse**	**24.71**	**197**	P	**P**	**07 08 41.5**	**-1.3**
THZ				IAmb	IAmb	07 09 24.7	
comp=Z,8.7nm,1.2s							
ARMA	**Armidale**	**30.18**	**241**	P	**P**	**07 09 30.5**	**0.0**
CAN	**Canberra**	**33.87**	**233**	P	**P**	**07 10 01.3**	**-0.2**
COEN	**Coen**	**37.58**	**271**	P	**P**	**07 10 32.8**	**+0.8**
STKA	**Stephens Creek**	**38.88**	**242**	P	**P**	**07 10 42.4**	**+0.1**
STKA	**Stephens Creek**	**38.88**	**242**	P	**P**	**07 10 42.7**	**+0.4**
comp=Z,0.9nm,0.5s,baz=75,slow=12,SNR=3.2							
comp=Z,0.9nm,0.5s							
BBOO	**Buckleboo**	**43.66**	**241**	P	**P**	**07 11 19.1**	**-0.5**
BBOO				IAmb	IAmb	07 11 31.9	
comp=Z,12nm,1.2s							
WR8	**Warramunga Arr**	**44.88**	**260**	P	**P**	**07 11 29.5**	**+0.3**
WR8				IAmb	IAmb	07 11 29.8	
comp=Z,8.7nm,1.5s							
WB0	**Warramunga Arr**	**45.01**	**260**	P	**P**	**07 11 30.7**	**+0.5**
WB0				IAmb	IAmb	07 12 05.8	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	**07 11 30.2**	**-0.2**
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	**07 11 30.6**	**+0.2**
comp=Z,1.1nm,0.4s,baz=96,slow=8.2,SNR=27							
comp=Z,1.1nm,0.4s							
AS31	**Alice Springs**	**45.15**	**255**	P	**P**	**07 11 32.1**	**+0.8**
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**07 11 31.6**	**+0.3**
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**07 11 31.7**	**+0.4**
comp=Z,2.3nm,0.6s,baz=93,slow=7.5,SNR=24							
ASAR				PcP	**PcP**	**07 12 57.8**	**+0.6**
comp=Z,0.3nm,0.5s,baz=96,slow=3.6,SNR=2.2							
comp=Z,2.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**07 12 31.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**53.44**	**261**	P	**P**	**07 12 32.3**	**+0.5**
comp=Z,1.8nm,0.8s,baz=105,slow=8.2,SNR=2.0							
comp=Z,1.8nm,0.8s							
PSA00	**Pilbara Seismi**	**58.28**	**256**	P	**P**	**07 13 04.4**	**-0.5**
SBA	**Scott Base**	**60.10**	**184**	P	**P**	**07 13 15.5**	**-0.5**
SBA				IAmb	IAmb	07 13 46.9	
comp=Z,22nm,1.5s							
VNDA	**Vanda**	**60.14**	**185**	P	**P**	**07 13 14.4**	**-1.9**
QSPA	**South Pole Qui**	**71.80**	**180**	P	**P**	**07 14 29.4**	**+0.9**
QSPA				IAmb	IAmb	07 14 53.9	
comp=Z,6.4nm,1.5s							
QSPA	**South Pole Qui**	**71.80**	**180**	P	**P**	**07 14 29.4**	**+0.9**
comp=Z,1.6nm,0.6s,baz=17,slow=19,SNR=15							
comp=Z,1.6nm,0.6s							
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**07 15 10.2**	**-0.3**
comp=Z,0.4nm,0.7s,baz=253,slow=5.9,SNR=4.4							
comp=Z,0.4nm,0.7s							
BELA	**Belgrano 2**	**81.76**	**173**	P	**P**	**07 15 22.0**	**0.0**
BELA				IAmb	IAmb	07 15 38.7	
comp=Z,5.5nm,1.5s							
TX31	**Lajitas Ar. Si**	**85.78**	**57**	P	**P**	**07 15 44.6**	**+1.9**
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	**07 15 44.6**	**+2.0**
comp=Z,0.7nm,0.7s,baz=241,slow=4.9,SNR=7.5							
comp=Z,0.7nm,0.7s							
CCB	**Clear Creek Bu**	**85.82**	**13**	P	**P**	**07 15 41.8**	**0.0**
CCB				IAmb	IAmb	07 15 41.8	
comp=Z,4.0nm,1.3s							
ILAR	**Eielson Array**	**86.12**	**13**	P	**P**	**07 15 42.8**	**-0.5**
comp=Z,0.2nm,0.4s,baz=208,slow=4.4,SNR=9.5							
comp=Z,0.2nm,0.4s							
J25K	**Salcha River,**	**86.31**	**13**	P	**P**	**07 15 45.0**	**+0.7**
J25K				IAmb	IAmb	07 16 01.6	
comp=Z,7.8nm,1.5s							
PD31	**Pinedale Array**	**87.28**	**43**	P	**P**	**07 15 49.6**	**+0.1**
PD31				IAmb	IAmb	07 15 52.1	
comp=Z,2.7nm,1.4s							
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**07 15 50.0**	**+0.4**
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**07 15 50.1**	**+0.5**
comp=Z,0.3nm,0.7s,baz=245,slow=2.3,SNR=4.2							
comp=Z,0.3nm,0.7s							
I28M	**Miner Creek**	**88.28**	**15**	P	**P**	**07 15 53.9**	**+0.4**
D22K	**Ayikyak River**	**88.78**	**9**	P	**P**	**07 15 55.9**	**+0.2**
D22K				IAmb	IAmb	07 16 01.9	
comp=Z,5.3nm,1.4s							
H29M	**Whitestone**	**89.28**	**15**	P	**P**	**07 15 58.9**	**+0.9**
TOKA	**Tokat**	**143.16**	**314**	PKPbc	**PKPdf**	**07 22 30.6**	**-1.2**
BURAR	**Bucovina Array**	**145.14**	**332**	PKPdf	**PKPdf**	**07 22 34.2**	**-0.8**

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*ASRS **18** 07:04:20.0±0.9, 54°.07N×86°.55E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 18 07:04:23.6±2.7,**54°.06N**×**86°.52E,h0**km,**mbtmp2.9**/2, **ML2.5**/2,**Error ellipse: s-maj=21.5km s-min=12.5km az=63.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**264**	I	I	07 10 08.1	
baz=83,slow=339,SNR=4.1							
ZALV	**Zalesovo Beam**	**1.01**	**264**	Pg	Pg	07 04 41.3	-1.6
1.0nm,0.3s,baz=81,slow=18,SNR=6.0							
ZALV				Lg	Lg	07 04 57.6	
1.4nm,0.3s,baz=85,slow=30,SNR=6.1							
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	07 05 54.2	+0.8
0.1nm,0.3s,baz=56,slow=14,SNR=5.7							
KURBB				Lg	Lg	07 07 36.0	
baz=51,slow=32,SNR=1.4							
0.5nm,0.3s							
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	07 06 18.9	+1.2
0.1nm,0.3s,baz=24,slow=14,SNR=5.7							
MKAR				Sn	Sn	07 07 45.8	-0.5
baz=19,slow=26,SNR=3.8							
MKAR				Lg	Lg	07 08 30.0	
baz=16,slow=38,SNR=2.1							
0.2nm,0.3s							

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*BJI **18** 07:10:24.1, 36°.85N×70°.20E, h276km, mB4.5/5, mb4.5/25*
*MOS **18** 07:10:24.3±1.1, 36°.78N×70°.19E, h295km, mb4.4/16, Error ellipse: s-maj=6.3km s-min=3.9km az=83.8*
*NEIC **18** 07:10:25.0±1.8, 36°.76N±0°.06×70°.10E±0°.07, h283km±4km, mb4.4/87, Error ellipse: s-maj=8.8km s-min=8.4km az=160.0*
*IDC **18** 07:10:24.6±0.4, 36°.69N×70°.16E, h289km±4km, mb3.9/33, mbtmp4.6/38, Error ellipse: s-maj=7.6km s-min=6.7km az=1.0*
*NNC **18** 07:10:28.3±1.4, 37°.11N×70°.12E, h285km±13km, mb3.6, mpv4.8, Error ellipse: s-maj=14.5km s-min=8.8km az=30.0*
ISC 18 07:10:24.2±0.3,**36.70N**±0°.03×**70°.14E**±0°.03,**h281**km±3km, **h281**km:**pP-P,n489,**σ1**51**/554,**mb4.3**/109,**23C-6D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**2.15**	**336**	Pn	**Pn**	**07 11 10.8**	**+0.1**
SIMJ				Sn	**S**	**07 11 44.8**	**-2.9**
GAR	**Garm**	**2.31**	**4**	Pn	**Pn**	**07 11 12.3**	**+0.3**
KBL	**Kabul**	**2.33**	**203**		**Pn**	**07 11 13.2**	**+0.7**
KBL	**Kabul**	**2.33**	**203**	P	**Pn**	**07 11 13.2**	**+0.7**
SNR=147							
KBL				S	**S**	**07 11 49.7**	**-1.2**
KBL	**Kabul**	**2.33**	**203**	PN	**Pn**	**07 11 13.2**	**+0.7**
DZET	**Dzherino**	**2.35**	**334**	PN	**Pn**	**07 11 12.5**	**+0.1**
DRK	**Karamyk**	**3.08**	**25**		**Pn**	**07 11 20.3**	**+0.7**
DRK				Sn	**S**	**07 12 02.4**	**-1.6**
DRK	**Karamyk**	**3.08**	**25**	PN	**Pn**	**07 11 20.4**	**+0.7**
BTK	**Batken**	**3.40**	**9**	Pn	**Pn**	**07 11 23.7**	**+0.8**
BTK				Sn	**S**	**07 12 09.0**	**-0.8**
BTK	**Batken**	**3.40**	**9**	PN	**Pn**	**07 11 23.9**	**+1.0**
NIL	**Nilore**	**3.97**	**139**		**Pn**	**07 11 30.7**	**+1.5**
NIL	**Nilore**	**3.97**	**139**	P	**Pn**	**07 11 30.7**	**+1.5**
NIL	**Nilore**	**3.97**	**139**	PN	**Pn**	**07 11 30.7**	**+1.5**
SRNI	**Srinagar**	**4.64**	**123**	*e*P	**Pn**	**07 11 36.5**	**-0.4**
SRNI				*e*S	**S**	**07 12 31.7**	**-3.3**
SRNI				*e*S	S	07 12 34.0	-1.0
ARSB	**Arslanbob**	**5.13**	**25**		**Pn**	**07 11 41.9**	**-0.7**
ARK	**Arkit**	**5.29**	**15**	PN	**Pn**	**07 11 44.1**	**-0.4**
ARK				pmax	pmax		
comp=Z,354nm,2.7s							
KSH	**Kashi**	**5.40**	**57**	P	Pn	07 11 40.9	-4.9
KSH				S	S	07 12 39.5	-12
KSH				smax	smax		
comp=Z,660nm,0.7s							
KSH				smax	smax		
comp=Z,550nm,0.8s							
IUG	**Iuzhnay**	**5.45**	**359**	*e*PN	**Pn**	**07 11 46.4**	**+0.1**
IUG	**Iuzhnay**	**5.45**	**359**	*e*P	**Pn**	**07 11 46.4**	**+0.1**
JMU	**Jammu**	**5.58**	**134**	*e*P	**Pn**	**07 11 47.8**	**-0.1**
JMU				*e*S	**S**	**07 12 50.3**	**-5.0**
JMU				IAML		07 13 07.5	
comp=E,2μm,0.7s							
JMU				IAML		07 13 12.1	
comp=E,2μm,0.5s							
CHM	**Chimkent**	**5.63**	**356**	*e*PN	**Pn**	**07 11 48.7**	**+0.2**
CHM	**Chimkent**	**5.63**	**356**	*e*P	**Pn**	**07 11 48.7**	**+0.2**
AML	**Almayashu**	**6.09**	**26**	P	**Pn**	**07 11 54.0**	**-0.4**
SNR=64							
ARLS	**Aral**	**6.09**	**31**	PN	**Pn**	**07 11 53.8**	**-0.5**
ARLS				pmax	pmax		
comp=Z,139nm,0.7s							
DZA	**Taraz**	**6.26**	**8**	*e*PN	**Pn**	**07 11 56.3**	**+0.3**
DZA	**Taraz**	**6.26**	**8**	*e*P	**Pn**	**07 11 56.4**	**+0.3**
THN	**Thein Dam**	**6.27**	**131**	*e*P	**Pn**	**07 11 57.1**	**+0.8**
THN				*e*S	**S**	**07 13 08.7**	**-1.7**
THN				IAML		07 13 10.4	
comp=E,2μm,0.4s							
THN				IAML		07 13 21.5	
comp=E,2μm,0.5s							
BRLS	**Borolday**	**6.33**	**358**	Lg	Lg	07 13 02.6	
comp=E,192nm,1.1s							
BRLS	**Borolday**	**6.33**	**358**	*e*PN	**Pn**	**07 11 53.4**	**-3.5**
BRLS	**Borolday**	**6.33**	**358**	*e*P	**Pn**	**07 11 53.5**	**-3.5**
KK31	**Karatay Array**	**6.41**	**2**	Pn	**Pn**	**07 11 57.6**	**-0.3**
KK31	**Karatay Array**	**6.41**	**2**	P	**Pn**	**07 11 57.4**	**-0.6**
comp=E,164nm,0.5s,baz=198,slow=11,SNR=1969							
KK31				S	**S**	**07 13 08.6**	**-4.7**
comp=E,149nm,0.8s,baz=186,slow=19,SNR=7.7							
KK31	**Karatay Array**	**6.41**	**2**	*i* PN	**Pn**	**07 11 57.3**	**-0.6**
KKAR	**Karatay Array**	**6.41**	**2**	Pn	**Pn**	**07 11 57.5**	**-0.3**
UCH	**Uchtor**	**6.48**	**30**	P	**Pn**	**07 11 59.5**	**+0.3**
SNR=6.7							
MRKS	**Merke**	**6.49**	**21**	P	**Pn**	**07 11 59.1**	**+0.1**
comp=E,217nm,0.7s							
EKS2	**Erkin-Say**	**6.59**	**24**	P	**Pn**	**07 12 00.4**	**+0.2**
SNR=14							
DHRM	**DHARAMSHALA**	**6.75**	**129**	*e*P	**Pn**	**07 12 03.1**	**+0.6**
DHRM				*e*S	**S**	**07 13 18.5**	**-3.2**
DHRM				IAML		07 13 19.4	
comp=E,1μm,0.5s							
DHRM				IAML		07 13 19.5	
comp=N,2μm,0.4s							
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**07 12 03.3**	**+0.2**
comp=N,29nm,0.5s,baz=207,slow=7.9,SNR=91							
AAK				S	**S**	**07 13 21.0**	**-1.8**
comp=N,82nm,0.7s,baz=162,slow=20,SNR=10							
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**07 12 03.5**	**+0.4**
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**07 12 03.4**	**+0.3**
SNR=59							
AAK	**Ala-Archa**	**6.82**	**28**	⇓P	**Pn**	**07 12 02.7**	**-0.4**
comp=N,35nm,0.8s							
AAK				S	**S**	**07 13 20.8**	**-2.0**
comp=N,201nm,0.9s							
AAK	**Ala-Archa**	**6.82**	**28**	*ce*PN	**Pn**	**07 12 03.4**	**+0.3**
AAK				pmax	pmax		
comp=Z,40nm,0.8s							
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**07 12 02.9**	**-0.2**
HRA	**Herat**	**6.83**	**253**	Pn	**Pn**	**07 12 03.9**	**+0.4**
KBK	**Karagaybulak**	**7.01**	**30**	P	**Pn**	**07 12 06.2**	**+0.6**
SNR=23							
CHMS	**Chumysh**	**7.23**	**28**	P	**Pn**	**07 12 07.7**	**-0.3**
SNR=12							
CHMS	**Chumysh**	**7.23**	**28**	⇓P	**Pn**	**07 12 06.9**	**-1.1**
comp=Z,24nm,0.9s							
CHMS				⇑S	**S**	**07 13 27.2**	**-4.5**
comp=Z,114nm,1.1s							
CHMS	**Chumysh**	**7.23**	**28**	PN	**Pn**	**07 12 06.9**	**-1.1**
ULHL	**Ulahol**	**7.28**	**39**	P	**Pn**	**07 12 09.2**	**+0.4**
SNR=45							
BOOM	**Boomskoye usch**	**7.32**	**36**	Pn	**Pn**	**07 12 09.6**	**+0.3**
BOOM	**Boomskoye usch**	**7.32**	**36**	PN	**Pn**	**07 12 09.6**	**+0.3**
USP	**Ospenovka**	**7.37**	**26**	P	**Pn**	**07 12 09.2**	**-0.6**
SNR=8.6							
BHK	**Bhakra**	**7.41**	**133**	*e*P	**Pn**	**07 12 10.2**	**-0.1**
BHK				*e*S	**S**	**07 13 32.4**	**-3.7**
BHK				IAML		07 13 36.2	
comp=E,804nm,0.6s							
BHK				IAML		07 13 45.8	
comp=E,965nm,0.9s							
TKM2	**Tokmak 2**	**7.50**	**32**	P	**Pn**	**07 12 11.8**	**+0.2**
SNR=26							
TKM2	**Tokmak 2**	**7.50**	**32**	⇑P	**Pn**	**07 12 11.3**	**-0.3**
comp=E,20nm,0.6s							
TKM2	**Tokmak 2**	**7.50**	**32**	*i* PN	**Pn**	**07 12 10.7**	**-0.9**
TKM2				pmax	pmax		
comp=Z,20nm,0.6s							
SGDS	**Sogindy**	**7.58**	**26**	*e*PN	**Pn**	**07 12 12.6**	**+0.3**
SGDS	**Sogindy**	**7.58**	**26**	*e*P	**Pn**	**07 12 12.6**	**+0.3**
KDJ	**Kajisay**	**7.69**	**43**	Pn	**Pn**	**07 12 13.9**	**0.0**
KDJ	**Kajisay**	**7.69**	**43**	PN	**Pn**	**07 12 14.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**7.79**	**47**		**Pn**	**07 12 15.0**	**-0.4**
DGS	**Degeres**	**7.84**	**32**	P	**Pn**	**07 12 15.9**	**+0.2**
comp=Z,16nm,0.7s							
SMLA	**Simla**	**8.06**	**132**	*e*P	**Pn**	**07 12 18.9**	**+0.6**
SMLA				*e*S	**S**	**07 13 45.4**	**-5.4**
SMLA				IAML		07 13 51.1	
comp=N,919nm,0.4s							
SMLA				IAML		07 13 52.4	
comp=E,666nm,0.7s							
KRBS	**Karabastau**	**8.18**	**30**	P	**Pn**	**07 12 20.2**	**+0.4**
comp=E,14nm,0.7s							
TNSS	**Tian-Shan**	**8.22**	**37**	P	**Pn**	**07 12 21.1**	**+0.5**
comp=E,31nm,0.8s							
TNSS	**Tian-Shan**	**8.22**	**37**	*e*PN	**Pn**	**07 12 20.6**	**0.0**
TNSS	**Tian-Shan**	**8.22**	**37**	*e*P	**Pn**	**07 12 20.6**	**0.0**
HNLY	**HANLEY**	**8.26**	**116**	*e*P	**Pn**	**07 12 21.7**	**+0.3**
HNLY				*ex*	x	07 13 44.9	
HNLY				IAML		07 13 57.4	
comp=E,68nm,0.5s							
HNLY				IAML		07 14 03.7	
comp=N,55nm,0.7s							
AAA	**Alma-Ata**	**8.33**	**37**	*e*PN	**Pn**	**07 12 22.1**	**+0.4**
AAA	**Alma-Ata**	**8.33**	**37**	*e*P	**Pn**	**07 12 22.4**	**+0.7**
WUS	**Wushi**	**8.38**	**55**	Pn	**Pn**	**07 12 22.2**	**-0.2**
KOTS	**Kotyrbulak**	**8.44**	**37**	P	**Pn**	**07 12 24.6**	**+1.4**
comp=N,64nm,0.8s							
KLP	**Kalpa**	**8.47**	**125**	*e*P	**Pn**	**07 12 24.2**	**+0.3**
KLP				*e*S	**S**	**07 13 53.8**	**-6.9**
KLP				IAML		07 14 03.2	
comp=E,768nm,0.7s							
KLP				IAML		07 14 15.9	
comp=E,752nm,0.6s							
KTBS	**Karatobe**	**8.61**	**34**	P	**Pn**	**07 12 24.9**	**-0.2**
comp=E,8.9nm,0.7s							
BTLS	**Baital**	**8.85**	**18**	*e*PN	**Pn**	**07 12 27.9**	**-0.1**
BTLS	**Baital**	**8.85**	**18**	*e*P	**Pn**	**07 12 27.9**	**-0.1**
SATY	**Saty**	**8.99**	**42**	P	**Pn**	**07 12 30.5**	**+0.5**
comp=E,79nm,0.9s							
SATY	**Saty**	**8.99**	**42**	*e*PN	**Pn**	**07 12 30.3**	**+0.4**
SATY	**Saty**	**8.99**	**42**	*e*P	**Pn**	**07 12 30.4**	**+0.5**
SATY				*e*S	**S**	**07 14 12.7**	**+0.8**
BKNR	**BIKANER**	**9.05**	**162**	*e*S	**S**	**07 14 09.3**	**-4.2**
ZHN	**Zhinishke**	**9.07**	**42**	P	**Pn**	**07 12 31.1**	**+0.1**
comp=E,90nm,0.7s							
ZHN	**Zhinishke**	**9.07**	**42**	*e*PN	**Pn**	**07 12 31.4**	**+0.4**
ZHN	**Zhinishke**	**9.07**	**42**	*e*P	**Pn**	**07 12 31.5**	**+0.4**
KURS	**Kuram**	**9.16**	**40**	P	**Pn**	**07 12 33.0**	**+1.0**
comp=E,31nm,1.4s							
DDI	**Dehra Dun**	**9.17**	**132**	*e*P	**Pn**	**07 12 33.0**	**+0.7**
DDI				*e*S	**S**	**07 14 10.6**	**-5.7**
DDI				IAML		07 14 15.9	
comp=E,388nm,0.6s							
DDI				IAML		07 14 18.4	
comp=N,406nm,0.4s							
RTK	**Rohtak**	**9.29**	**144**	*e*P	**Pn**	**07 12 33.2**	**-0.4**
RTK				*e*S	S	07 14 11.1	-7.8
UZB	**Uzynbulak**	**9.38**	**44**	P	**Pn**	**07 12 35.3**	**+0.5**
comp=N,102nm,1.0s							
UZB	**Uzynbulak**	**9.38**	**44**	*e*P	**Pn**	**07 12 35.1**	**+0.3**
UZB				*e*S	**S**	**07 14 21.8**	**+0.8**
UZB	**Uzynbulak**	**9.38**	**44**	*e*P	**Pn**	**07 12 35.1**	**+0.3**
UZB				*e*S	**S**	**07 14 21.9**	**+0.8**
SHLS	**Shalkode**	**9.64**	**45**	P	**P**	**07 12 41.6**	**-1.3**
comp=N,98nm,1.1s							
SHLS	**Shalkode**	**9.64**	**45**	*e*P	**P**	**07 12 41.4**	**-1.4**
SHLS	**Shalkode**	**9.64**	**45**	*e*P	**P**	**07 12 41.5**	**-1.4**
PDGK	**Podgornoye**	**9.76**	**44**	⇑P	**Pn**	**07 12 39.0**	**-0.5**
comp=N,42nm,0.7s							
PDGK	**Podgornoye**	**9.76**	**44**	P	**Pn**	**07 12 39.4**	**-0.1**
JASL	**Jaisalmer**	**9.76**	**176**	*e*P	**Pn**	**07 12 39.1**	**-0.5**
JASL				IAML		07 14 28.3	
comp=E,149nm,0.8s							
JASL				IAML		07 14 41.7	
comp=E,179nm,0.7s							
BHGR	**Bahadurgarh**	**9.83**	**142**	*e*S	**S**	**07 14 24.4**	**-6.8**
JOSI	**Joshimath**	**9.96**	**125**	*e*P	**Pn**	**07 12 42.4**	**+0.2**
JOSI				IAML		07 14 36.2	
comp=E,369nm,0.5s							
JOSI				IAML		07 14 46.5	
comp=E,464nm,0.4s							
NDI	**New Delhi**	**9.97**	**141**	*e*P	**Pn**	**07 12 42.3**	**+0.2**
NDI				*e*S	**S**	**07 14 27.2**	**-7.3**
NPLP	**NPLP New Delhi**	**9.98**	**142**	*e*P	**Pn**	**07 12 42.4**	**+0.1**
NPLP				*e*S	**S**	**07 14 27.6**	**-7.2**
KUDL	**Kundal**	**10.07**	**146**	*e*P	**Pn**	**07 12 43.2**	**-0.2**
KUDL				*e*S	S	07 14 28.7	-8.2
KUDL				IAML		07 14 38.3	
comp=E,117nm,0.7s							
KUDL				IAML		07 14 46.8	
comp=E,58nm,0.5s							
AYAN	**Aya Nagar**	**10.09**	**142**	*e*P	**Pn**	**07 12 43.7**	**+0.1**
AYAN				*e*S	**S**	**07 14 30.4**	**-6.8**
SONA	**Sohna**	**10.26**	**143**	*e*P	**Pn**	**07 12 47.5**	**+1.8**
SONA				*e*S	**S**	**07 14 37.4**	**-3.7**
SONA				IAML		07 14 44.6	
comp=E,234nm,0.4s							
SONA				IAML		07 14 51.0	
comp=E,107nm,0.4s							
TDK	**Taldyqorghan**	**10.39**	**34**	*e*P	**Pn**	**07 12 47.1**	**-0.1**
TDK	**Taldyqorghan**	**10.39**	**34**	*e*P	**Pn**	**07 12 47.1**	**-0.1**
DJR	**Jarkent**	**10.59**	**41**	P	**Pn**	**07 12 49.6**	**-0.1**
comp=E,26nm,0.9s							
AJM	**Ajmer**	**10.88**	**158**	*e*P	**P**	**07 12 56.3**	**-0.5**
KAPS	**Kapalarasan**	**11.05**	**36**	P	**Pn**	**07 12 55.9**	**+0.6**
comp=E,29nm,0.4s							
PTH	**Pithoragarh**	**11.05**	**127**	*e*P	**Pn**	**07 12 57.6**	**+1.9**
PTH				*e*S	**S**	**07 14 52.4**	**-7.1**
PTH				IAML		07 15 06.6	
comp=E,85nm,0.6s							
PTH				IAML		07 15 13.5	
comp=E,152nm,1.4s							
LGTI	**Lohaghat**	**11.14**	**128**	*e*P	**Pn**	**07 12 55.6**	**-0.9**
LGTI				*e*S	**S**	**07 14 54.0**	**-7.1**
LGTI				IAML		07 15 11.2	
comp=E,137nm,1.0s							
LGTI				IAML		07 15 15.6	
comp=E,127nm,0.7s							
OTUK	**Ortayu**	**11.65**	**7**	P	**Pn**	**07 13 02.1**	**-0.6**
comp=E,18nm,1.1s							
OTUK	**Ortayu**	**11.65**	**7**	⇑P	**Pn**	**07 13 01.4**	**-1.3**
comp=E,68nm,1.2s							
OTUK	**Ortayu**	**11.65**	**7**	P	**Pn**	**07 13 01.4**	**-1.3**
JHNI	**Jhansi**	**13.30**	**145**	*e*P	**P**	**07 13 27.4**	**+3.8**
JHNI				*e*S	**S**	**07 15 45.8**	**-4.6**
JHNI				IAML		07 15 59.1	
comp=E,63nm,0.7s							
JHNI				IAML		07 16 02.4	
comp=E,39nm,0.9s							
BHUJ	**Bhuj**	**13.40**	**182**	*e*P	**P**	**07 13 27.1**	**+2.4**
BRZS	**Berezniki**	**13.41**	**7**	P	**Pn**	**07 13 23.2**	**-0.8**
comp=E,13nm,1.0s							
MAKZ	**Makanchi**	**13.41**	**

ZSN *e*S **S** 07 16 35.0 +2.3
ZSN Zaisan 15.31 41 *e*P **Pn** 07 13 46.7 -0.1
ZSN *e*S **S** 07 16 35.1 +2.3
BANOM Banah 15.95 232 P **P** 07 13 53.4 +0.6
SHME Shamm 15.96 232 P **P** 07 13 53.7 +0.8
SHME Shamm 15.96 232 P **P** 07 13 53.4 +0.5
AKTO Aktyubinsk 16.27 331 P **P** 07 13 56.5 +0.5
comp=Z,95nm,0.7s,baz=145,slow=8.0,SNR=214
AKTO S **S** 07 16 50.3 -1.5
comp=Z,29nm,1.0s,baz=252,slow=18,SNR=8.3
AKTO Aktyubinsk 16.27 331 ⇑P **P** 07 13 55.2 -0.7
comp=Z,72nm,0.8s
BVA0 Borovoye Array 16.33 1 P **Pn** 07 13 57.6 -1.0
comp=Z,19nm,0.6s,baz=179,slow=14,SNR=120
BVA0 Borovoye Array 16.33 1 *i*P **Pn** 07 13 57.6 -1.0
BVAR Borovoye Array 16.33 1 P **Pn** 07 13 57.2 -1.4
comp=Z,29nm,0.6s,baz=170,slow=8.3,SNR=56
BVAR S **S** 07 16 52.9 0.0
comp=Z,12nm,0.9s,baz=168,slow=15,SNR=3.5
BRVK Borovoye 16.36 0 P **P** 07 13 56.9 0.0
BRVK Borovoye 16.36 0 P **Pn** 07 13 58.1 -0.9
BRVK Borovoye 16.36 0 ⇑P **P** 07 13 57.4 +0.4
comp=Z,19nm,0.6s
BRVK Borovoye 16.36 0 *i*P **P** 07 13 57.3 +0.4
BRVK pmax pmax
comp=Z,19nm,0.6s
MDH Madha 16.40 230 P **P** 07 13 58.7 +1.1
MDH Madha 16.40 230 P **P** 07 13 58.8 +1.1
MASF Masafi 16.44 231 P **Pn** 07 14 00.2 0.0
WSAR Wadi Sarin 16.69 220 P **P** 07 14 01.1 +0.3
comp=Z,0.2nm,0.5s,baz=73,slow=20,SNR=28
WSAR S **S** 07 17 01.7 +1.0
baz=73,slow=19,SNR=2.2
UOSS Minazif 16.72 229 P **P** 07 14 00.6 -0.6
UOSS Minazif 16.72 229 P **P** 07 14 02.2 +1.0
UOSS Minazif 16.72 229 P **P** 07 14 02.1 +1.0
HATD Hatta, Dubai 16.85 229 P **P** 07 14 03.4 +0.8
HATD Hatta, Dubai 16.85 229 P **P** 07 14 02.8 +0.2
ASHO Ashiyiah 17.00 229 P **P** 07 14 05.7 +1.4
SNR=12
ASHO Ashiyiah 17.00 229 P **P** 07 14 05.5 +1.3
NAZ Nazwa, Dubai 17.02 231 P **P** 07 14 05.2 +0.8
AKL Akola 17.03 157 *e*P **P** 07 14 06.2 +1.7
AKL *e*S **S** 07 17 11.7 +4.2
WBK Wadi Bani Khal 17.04 218 P **P** 07 14 06.9 +2.2
SNR=6.1
HOQ Hoqain 17.12 224 P **P** 07 14 06.3 +0.8
SOHO SOHO 17.13 227 P **P** 07 14 06.2 +0.6
SMDO Samad 17.14 221 P **P** 07 14 07.9 +2.0
JLN Jalan Bani Buh 17.22 216 P **P** 07 14 08.4 +1.8
ASUD Al Ashush, Dub 17.49 231 P **P** 07 14 11.0 +1.5
ALNE Al Ain 17.66 228 P **P** 07 14 12.4 +1.1
SNR=14
ALNE Al Ain 17.66 228 P **P** 07 14 12.1 +0.8
JMDO Jabal Madar 17.68 219 P **P** 07 14 13.7 +2.2
AJN Ajban 17.75 231 P **P** 07 14 13.1 +0.8
ARQ Araqi 17.75 225 P **Pn** 07 14 15.2 -0.5
BSY Bisya 17.85 222 P **P** 07 14 15.0 +1.6
BLSP Bilaspur 17.86 141 *e*P **P** 07 14 15.1 +1.5
BLSP *e*S **S** 07 17 23.5 -0.5
MAK Makhachkala 18.45 297 *d i*P **Pn** 07 14 22.9 -0.4
MAK pmax pmax
comp=Z,223nm,1.2s
BOK Bokaro 18.69 129 *e*P **P** 07 14 23.7 +1.3
BOK *e*S **S** 07 17 39.5 -0.6
KNTI KHUNTI 18.87 132 *e*P **P** 07 14 25.8 +1.4
JRN Qarnain Island 18.88 236 P **P** 07 14 24.3 0.0
LSA Lhasa 18.90 106 P **P** 07 14 26.9 +1.8
MHTO MHTO 18.91 217 P **P** 07 14 26.4 +1.7
JHSG JHARSUGUGA 19.02 138 *e*P **P** 07 14 26.9 +0.9
UMZA Um Al Zommool 19.03 227 P **P** 07 14 26.7 +0.7
SHMA Al-Shehemyia 19.59 242 P **P** 07 14 32.3 +0.4
SNR=6.5
SHMA S **S** 07 17 55.0 -2.5
SNR=12
SAKB Bahrain 19.82 243 P **P** 07 14 34.7 +0.3
MZR Muzera 19.83 231 P **P** 07 14 34.8 +0.2
MZR S **S** 07 17 57.2 -4.9
SNR=7.8
GOMU GeErMu 19.85 84 P **P** 07 14 36.1 +1.1
GOMU pmax pmax
comp=Z,17nm,0.6s
DQM DQM 20.02 217 P **P** 07 14 36.0 -0.5
ZAA0 Zalesovo Array 20.04 26 P **P** 07 14 35.8 -0.5
ZAA0 lAmb lAmb 07 14 39.2
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 20.04 26 P **P** 07 14 35.8 -0.5
comp=Z,8.8nm,0.5s,baz=217,slow=9.5,SNR=29
ZALV S **S** 07 18 04.2 -0.8
comp=Z,4.5nm,0.8s,baz=212,slow=19,SNR=3.0
comp=Z,8.8nm,0.5s
ZALV Zalesovo Beam 20.04 26 *i*P **P** 07 14 35.9 -0.4
ZALV pmax pmax
comp=Z,9.0nm,0.5s
TRNA Turayna 20.13 239 P **P** 07 14 37.0 -0.6
SNR=16
TRNA S **S** 07 18 04.0 -3.3
SNR=26
GNI Garni 20.17 288 P **P** 07 14 36.3 -1.8
GNI Garni 20.17 288 P **P** 07 14 38.8 +0.8
comp=Z,25nm,0.7s,baz=84,slow=10,SNR=11
comp=Z,25nm,0.7s
GNI Garni 20.17 288 P **P** 07 14 40.7 +2.5
GNI Garni 20.17 288 *i*P **P** 07 14 39.3 +1.2
GNI pmax pmax
comp=Z,40nm,1.0s
GNI Garni 20.17 288 P **P** 07 14 38.9 +0.8
GNI Garni 20.17 288 P **P** 07 14 40.6 +2.5
comp=Z,559nmcomp=Z,58nm,1.1s
SLWR Sila 20.24 237 P **P** 07 14 39.5 +0.6
KBD Kabd 20.25 255 P **P** 07 14 39.8 +1.0
SMRA Abu-Samra 20.39 240 P **P** 07 14 40.7 +0.3
SMRA S **S** 07 18 10.0 -1.7
SNR=24
RAGD RAYAGADA 20.95 142 *e*P **P** 07 14 47.1 +1.1
ARTI Arti 21.23 342 P **P** 07 14 48.2 -0.1
ARTI lAmb lAmb 07 14 50.5
comp=Z,13nm,0.5s
ARTI Arti 21.23 342 P **P** 07 14 48.9 +0.5
comp=Z,12nm,0.5s,baz=154,slow=7.9,SNR=20
ARTI S S 07 18 38.7 +14
comp=Z,8.0nm,0.8s,baz=121,slow=19,SNR=7.7
comp=Z,12nm,0.5s
ARTI Arti 21.23 342 *d i*P **P** 07 14 49.0 +0.6
ARTI S **S** 07 18 28.6 +3.9
ARTI pmax pmax
comp=Z,10.0nm,0.6s
SHL Shillong 21.62 115 P **P** 07 14 52.6 +0.2
SHL Shillong 21.62 115 P **P** 07 14 53.5 +1.0
SNR=7.6
SHL Shillong 21.62 115 *e*P **P** 07 14 53.0 +0.5
SHL Shillong 21.62 115 P **P** 07 14 53.3 +0.8
SHL pmax pmax
comp=Z,71nm,0.4s
KBZ Khabaz 21.89 297 P **P** 07 14 54.7 +0.2
comp=Z,5.3nm,0.8s,baz=90,slow=3.0,SNR=10
comp=Z,5.3nm,0.8s
KBZ Khabaz 21.89 297 *ce*P **P** 07 14 55.5 +1.0
GOF Gofitskoye 22.05 301 *ce*P **P** 07 14 57.8 +1.9
SHA1 Shidzhatmaz 22.07 297 *i*P **P** 07 14 56.7 +0.3
KVAR Kislovodsk Arr 22.07 298 P **P** 07 14 54.8 -1.5
comp=Z,1.2nm,0.3s,baz=90,slow=20,SNR=1.5
comp=Z,1.2nm,0.3s
KIV Kislovodsk 22.08 298 P **P** 07 14 56.0 -0.4
KIV Kislovodsk 22.08 298 *e*P **P** 07 14 56.6 +0.2
KIV pmax pmax
comp=Z,7.0nm,0.9s
DOK Doka 22.86 222 P **P** 07 15 04.4 +0.8
SNR=7.6
DMTO DMTO 23.18 219 P **P** 07 15 06.8 +0.4
GTA Gaotai 23.48 74 *e*P **P** 07 15 14.9 +5.7
GTA pmax pmax
comp=Z,6.0nm,0.6s
WHFO Wadi Hawf 23.63 222 P **P** 07 15 11.0 +0.4
SNR=18
RBK Rabkut 23.74 221 P **P** 07 15 11.9 +0.3
SNR=5.7
ABTO Aybut 24.34 222 P **P** 07 15 17.4 +0.3
SNR=15
VRH Novokhopyorsk 24.88 315 *e*P P 07 15 29.0 +7.6
VRH pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 24.94 245 P **P** 07 15 22.8 +0.4
RAYN Ar Rayn 24.94 245 P **P** 07 15 24.3 +1.8
RAYN Ar Rayn 24.94 245 P **P** 07 15 23.9 +1.5
RAYN pmax pmax
comp=Z,2.0nm,0.4s
RAYN Ar Rayn 24.94 245 P **P** 07 15 24.0 +1.5
KIRV Kirov 25.76 335 P **P** 07 15 29.9 +0.6
comp=Z,28nm,0.6s,baz=144,slow=5.7,SNR=7.3
KIRV pP **pP** 07 16 22.4 -0.5
comp=Z,29nm,0.7s,baz=137,slow=18,SNR=5.6
comp=Z,28nm,0.6s
KIRV Kirov 25.76 335 *ce*P **P** 07 15 30.1 +0.8
VSR Storozhevoye 26.36 313 *e*P **P** 07 15 33.5 -1.2
VSR *e**PP **pP** 07 16 23.6 -5.4
VSR pmax pmax
comp=Z,9.0nm,1.0s
VORR Voronezh 26.51 314 *e*P **P** 07 15 34.1 -1.9
VORR *e**PP **pP** 07 16 27.9 -2.1
VORR pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 27.03 316 *e*P **P** 07 15 39.5 -1.1
LPSR *e**PP **pP** 07 16 35.8 +0.9
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ILGA Ilgaz 28.55 290 P **P** 07 15 54.2 -0.3
ILGA lAmb lAmb 07 15 57.2
comp=Z,15nm,1.0s
MMAI Mount Meron Ar 28.64 273 P **P** 07 15 56.2 +1.0
comp=Z,0.9nm,0.3s,baz=64,slow=6.6,SNR=1.6
comp=Z,0.9nm,0.3s
BR131 Keskin Array S 28.71 287 P **P** 07 15 55.1 -0.8
BRTR Keskin Array B 28.71 287 P **P** 07 15 53.2 -2.7
BRTR Keskin Array B 28.71 287 P **P** 07 15 56.5 +0.5
comp=Z,1.7nm,0.7s,baz=96,slow=8.9,SNR=11
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 28.71 287 *ce*P **P** 07 15 57.0 +1.1
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BR106 Keskin Array S 28.73 287 P **P** 07 15 56.9 +0.9
comp=Z,35nmcomp=Z,2.8nm,0.9s
BR105 Keskin Array S 28.73 287 P **P** 07 15 56.9 +0.8
comp=Z,45nmcomp=Z,3.4nm,0.7s
SONM Songino Array 28.80 56 P **P** 07 15 55.6 -1.0
SONM Songino Array 28.80 56 P **P** 07 15 57.9 +1.4
comp=Z,1.4nm,0.8s,baz=259,slow=8.6,SNR=6.4
SONM pP **pP** 07 16 52.1 -0.4
comp=Z,0.6nm,0.5s,baz=264,slow=8.5,SNR=1.3
SONM PcP **PcP** 07 18 58.9 +0.4
comp=Z,1.3nm,0.6s,baz=252,slow=3.6,SNR=2.5
comp=Z,1.4nm,0.8s
ANTO Ankara 29.34 288 P **P** 07 16 03.0 +1.6
ANTO Ankara 29.34 288 P **P** 07 16 03.0 +1.6
comp=Z,4.7nm,0.6s
PALK Pallekele 30.83 159 P **P** 07 16 14.9 +0.3
PALK lAmb lAmb 07 16 16.4
comp=Z,12nm,0.7s
PALK Pallekele 30.83 159 P **P** 07 16 15.5 +0.9
PALK Pallekele 30.83 159 P **P** 07 16 15.3 +0.7
CHTO Chiang Mai 30.93 117 P **P** 07 16 16.1 +0.7
CHTO lAmb lAmb 07 16 18.6
comp=Z,9.8nm,0.9s
KLMR Klimovskoe 30.97 331 *e*P **P** 07 16 14.0 -1.3
KLMR *e**PP **pP** 07 17 06.8 -3.5
KLMR pmax pmax
comp=Z,7.0nm,0.6s
CM31 Chiang Mai Arr 31.16 118 P **P** 07 16 18.0 +0.6
CMAR Chiang Mai Arr 31.16 118 P **P** 07 16 18.0 +0.5
CMAR Chiang Mai Arr 31.16 118 P **P** 07 16 17.7 +0.3
comp=Z,16nm,0.8s,baz=307,slow=6.0,SNR=84
CMAR pP **pP** 07 17 14.2 +0.6
comp=Z,3.5nm,0.8s,baz=313,slow=8.3,SNR=2.4
CMAR PcP **PcP** 07 19 04.7 -0.3
comp=Z,2.9nm,0.6s,baz=308,slow=2.2,SNR=6.4
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 31.16 118 *ce*P **P** 07 16 17.8 +0.3
CMAR pmax pmax
comp=Z,20nm,0.8s
AK09 Malin Array Si 32.23 309 P **P** 07 16 26.2 -0.1
AK10 Malin Array Si 32.25 309 P **P** 07 16 26.5 0.0
AK08 Malin Array Si 32.25 309 P **P** 07 16 26.5 0.0
AK07 Malin Array Si 32.27 308 P **P** 07 16 26.7 0.0
AK05 Malin Array Si 32.28 309 P **P** 07 16 26.6 -0.2
AKASG Malin Array Be 32.28 309 P **P** 07 16 26.7 -0.1
AKASG Malin Array Be 32.28 309 P **P** 07 16 26.5 -0.2
comp=Z,2.5nm,0.5s,baz=84,slow=8.3,SNR=27
AKASG pP **pP** 07 17 22.1 +0.1
comp=Z,3.1nm,0.7s,baz=87,slow=7.7,SNR=2.6
AKASG PP **PP** 07 17 42.8 -3.3
comp=Z,3.9nm,0.6s,baz=94,slow=9.7,SNR=9.9
comp=Z,2.5nm,0.5s
AKASG Malin Array Be 32.28 309 *ce*P **P** 07 16 26.7 -0.1
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 32.28 309 P **P** 07 16 25.5 -1.3
AKBB lAmb lAmb 07 16 27.1
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 32.28 309 *ce*P **P** 07 16 26.9 +0.1
AKBB pmax pmax
comp=Z,16nm,1.5s
AKBB Malin Array Si 32.28 309 P **P** 07 16 26.7 -0.1
AK02 Malin Array Si 32.28 309 P **P** 07 16 26.5 -0.3
AK01 Malin Array Si 32.29 309 P **P** 07 16 26.8 0.0
KIEV Kiev 32.29 309 P **P** 07 16 25.8 -1.1
KIEV lAmb lAmb 07 16 27.1
comp=Z,6.3nm,0.8s
AK15 Malin Array Si 32.34 309 P **P** 07 16 26.8 -0.5
HHC Hu-ho-hao-te 32.35 70 *e*P **P** 07 16 27.8 +0.1
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,60nm,4.1s
AK16 Malin Array Si 32.35 309 P **P** 07 16 27.3 -0.1
AK22 Malin Array Si 32.39 309 P **P** 07 16 27.4 -0.3
AK21 Malin Array Si 32.41 309 P **P** 07 16 27.5 -0.4
AK19 Malin Array Si 32.42 309 P **P** 07 16 27.6 -0.4
AK20 Malin Array Si 32.42 309 P **P** 07 16 27.7 -0.3
SORM Soroca 32.52 304 P **P** 07 16 28.7 -0.2
SORM Soroca 32.52 304 P **P** 07 16 28.7 -0.2
SLVN Son La 33.06 108 P **P** 07 16 35.2 +1.3
SLVN lAmb lAmb 07 16 36.1
comp=Z,6.0nm,0.7s
SLVN Son La 33.06 108 P **P** 07 16 35.3 +1.3
LUBAR Lubar, Ukraine 33.10 307 P **P** 07 16 33.4 -0.5
VRI Vrincioaia 33.53 300 P **P** 07 16 39.4 +1.7
VRI Vrincioaia 33.53 300 P **P** 07 16 39.4 +1.7
comp=Z,7.3nm,0.9s
PLOR5 Plostina Array 33.57 300 P **P** 07 16 39.7 +1.6
comp=Z,15nm,1.0s
PLOR3 Plostina Array 33.58 300 P **P** 07 16 39.8 +1.6
comp=Z,2μmcomp=Z,11nm,1.1s
TESR Tescani 33.59 301 P **P** 07 16 38.8 +0.6
comp=Z,11nm,0.9s
KMPD K-Podol'skiy 33.81 304 P **P** 07 16 39.4 -0.6
NRIK Noril'sk 34.06 11 P **P** 07 16 43.8 +1.9
NRIK Noril'sk 34.06 11 P **P** 07 16 41.2 -0.7
comp=Z,4.2nm,0.5s,baz=172,slow=7.1,SNR=3.9
comp=Z,4.2nm,0.5s
NRIK Noril'sk 34.06 11 *ce*P **P** 07 16 44.1 +2.2
NRIK pmax pmax
comp=Z,4.0nm,0.6s
MLR Muntele Rosu 34.08 299 P **P** 07 16 44.5 +2.0
MLR lAmb lAmb 07 16 45.6
comp=Z,20nm,1.0s
MLR Muntele Rosu 34.08 299 P **P** 07 16 44.5 +2.0
MLR Muntele Rosu 34.08 299 P **P** 07 16 44.5 +2.0
comp=Z,22nm,1.0s
SRDT SRDT 34.11 123 P **P** 07 16 44.1 +1.1
RNPP5 Staryi Chortor 34.45 309 P **P** 07 16 45.6 +0.2
NONG Nongkai 34.46 114 P **P** 07 16 45.9 0.0
RNPP9 Sopachiv 34.47 309 P **P** 07 16 45.9 +0.3
RNPP8 Varash 34.48 309 P **P** 07 16 45.7 0.0
KARP Karpathos 34.52 281 P **P** 07 16 46.4 +0.1
comp=Z,38nm,0.9s
BURAR Bucovina Array 34.59 303 P **P** 07 16 47.2 +0.3
BUR08 Bucovina Ar. S 34.61 303 P **P** 07 16 47.3 +0.3
VOIR 34.71 299 P **P** 07 16 48.5 +0.6
VOIR 34.71 299 P **P** 07 16 48.5 +0.6
comp=Z,4.9nm,1.2s
KSV Kosov 34.72 304 P **P** 07 16 48.2 +0.4
KSV Kosov 34.72 304 P **P** 07 16 48.2 +0.4
ATD Arta Tunnel 35.09 231 P **P** 07 16 51.8 +0.4
ATD lAmb lAmb 07 16 55.0
comp=Z,15nm,1.1s
STNU Starunia 35.11 305 P **P** 07 16 52.0 +0.8
JOF Joensuu 35.35 330 *e*P **P** 07 16 53.5 +0.6
NAYO Nakonayok 35.64 121 P **P** 07 16 57.2 +1.2
KAAM Kaadhehdhoo 36.12 175 P **P** 07 17 01.3 +1.3
KAAM Kaadhehdhoo 36.12 175 P **P** 07 17 01.4 +1.4
ARBE Arbavere 36.28 323 *e*P **P** 07 17 01.2 +0.3
DRGR 36.30 301 P **P** 07 17 02.8 +1.5
BERU Beregovo 36.34 304 P **P** 07 17 03.0 +1.5
HOLU Holmets 36.51 304 P **P** 07 17 04.2 +1.2
KOLS Kolonicke sedl 36.59 305 *e*P **P** 07 17 05.7 +2.0
KOLS *e* 07 18 38.4
KOLS Kolonicke sedl 36.59 305 *e*P **P** 07 17 05.7 +2.0
KOLS *e*PP **PnPn** 07 18 38.3 +0.8
FIA1 FINESS Array S 36.93 326 P **P** 07 17 06.4 +0.1
FINES FINESS Array B 36.93 326 P **P** 07 17 06.2 -0.1
comp=Z,8.0nm,0.6s,baz=108,slow=8.6,SNR=35
FINES pP **pP** 07 18 04.3 +1.6
comp=Z,3.5nm,0.6s,baz=110,slow=8.7,SNR=2.8
FINES PP **PP** 07 18 33.2 -3.7
comp=Z,3.6nm,0.6s,baz=109,slow=8.8,SNR=2.7
FINES PcP **PcP** 07 19 21.3 +0.4
comp=Z,2.8nm,0.7s,baz=116,slow=6.3,SNR=1.3
comp=Z,8.0nm,0.6s
FINES FINESS Array B 36.93 326 *i*P **P** 07 17 06.5 +0.2
FINES pmax pmax
comp=Z,8.0nm,0.6s
MTSE Matsula 37.13 321 *e*P **P** 07 17 07.6 -0.4
TIA Tai'an 37.50 76 P **P** 07 17 13.3 +1.9
TIA pmax pmax
comp=Z,7.0nm,0.6s
KEF Keuruu 37.73 327 *e*P **P** 07 17 13.4 +0.4
NIE Niedzica 37.90 306 P **P** 07 17 16.0 +1.4
NIE Niedzica 37.90 306 P **P** 07 17 16.0 +1.4
comp=Z,5.1nm,1.0s
UBPT Khong Chiam 37.94 115 P **P** 07 17 14.5 -0.8
UBPT lAmb lAmb 07 17 15.6
comp=Z,12nm,0.9s
UBPT Khong Chiam 37.94 115 P **P** 07 17 15.0 -0.3
OJC Ojcow 38.23 307 P **P** 07 17 16.1 -1.2
OJC Ojcow 38.23 307 P **P** 07 17 17.6 +0.3
OJC Ojcow 38.23 307 P **P** 07 17 17.6 +0.3
comp=Z,9.5nm,1.3s
VAF Ylistaro 38.99 328 *e*P **P** 07 17 23.5 +0.2
MORC Moravsky Berou 39.69 306 P **P** 07 17 29.4 0.0
VADS Vadso 39.89 340 lAmb lAmb 07 17 30.9
comp=Z,15nm,0.8s
VADS *e*P **P** 07 17 31.3 +0.6
MODS Modra-Piesok 39.91 304 *e*P **P** 07 17 32.0 +0.8
MODS *e* 07 19 11.2
MODS Modra-Piesok 39.91 304 *e*P **P** 07 17 32.0 +0.8
MODS *e*PP **PP** 07 19 11.2 +1.8
DPC Dobruska-Polom 40.46 307 P **P** 07 17 36.6 +0.9
DPC Dobruska-Polom 40.46 307 P **P** 07 17 36.6 +0.9
comp=Z,7.0nm,2.2s
ARA0 ARCESS Array S 40.70 338 *e*P **P** 07 17 37.7 +0.4
ARA0 lAmb lAmb 07 17 38.5
comp=Z,11nm,0.7s
ARCES ARCESS Array B 40.70 338 P **P** 07 17 37.5 +0.2
comp=Z,5.1nm,0.5s,baz=119,slow=8.2,SNR=40
ARCES pP **pP** 07 18 36.7 +1.9
comp=Z,6.5nm,0.8s,baz=118,slow=7.6,SNR=4.0
comp=Z,5.1nm,0.5s
BLEU Blekinge 40.95 316 *i*P **P** 07 17 38.9 -0.5
KTK1 Kautokeino 41.16 336 *e*P **P** 07 17 41.0 -0.1
KTK1 lAmb lAmb 07 17 41.7
comp=Z,15nm,0.4s
BSD Bornholm Skovb 41.38 314 *i*P **P** 07 17 41.7 -1.2
BSD lAmb lAmb 07 17 45.8
comp=Z,76nm,1.1s
HAMF Hammerfest 41.79 339 *e*P **P** 07 17 47.2 +1.1
HAMF lAmb lAmb 07 17 47.6
comp=Z,16nm,0.7s
SNSI Sinabang, Aceh 41.80 139 P **P** 07 17 47.2 +0.3
DEL Delary 42.04 316 *i*P **P** 07 17 48.0 -0.3
CUC Castrocucco 42.18 292 P **P** 07 17 49.9 +0.2
JETT Jettan, Norway 42.30 337 *e*P **P** 07 17 50.8 +0.6
JETT lAmb lAmb 07 17 51.2
comp=Z,11nm,0.9s
HFS Hagfors 42.48 322 P **P** 07 17 51.8 0.0
comp=Z,8.9nm,0.5s,baz=98,slow=10,SNR=31
HFS pP **pP** 07 18 49.1 -0.6
comp=Z,11nm,0.8s,baz=96,slow=13,SNR=4.3
comp=Z,8.9nm,0.5s
KBA Koelnbreinsper 42.68 302 P **P** 07 17 55.6 +1.8
HEH HeiHe 42.68 53 *e*P **P** 07 17 55.8 +2.3
HEH pmax pmax
comp=Z,8.0nm,0.9s
FABU Falkenberg 42.71 317 *i*P **P** 07 17 53.1 -0.5
BORU Boraas 42.72 318 *i*P **P** 07 17 53.7 0.0
TRO Tromso 42.81 336 *e*P **P** 07 17 54.6 +0.4
TRO lAmb lAmb 07 17 55.1
comp=Z,9.6nm,0.8s
ONAU Onsala 43.16 318 *i*P **P** 07 17 57.2 0.0
MOR8 Moi Rana 43.30 331 *e*P **P** 07 17 57.4 -0.9
MOR8 lAmb lAmb 07 17 58.3
comp=Z,7.1nm,0.5s
FAUS Fauske 43.31 333 *e*P **P** 07 17 58.5 +0.2
CIMO Cimolais 43.40 301 P **P** 07 17 59.0 -0.3
GSI Gunungsitoli 43.40 138 P **P** 07 18 00.6 +0.9
GSI Gunungsitoli 43.40 138 P **P** 07 18 00.6 +0.9
GSI Gunungsitoli 43.40 138 P **P** 07 17 59.9 +0.2
STEI Steigen 43.49 333 *e*P **P** 07 17 59.8 +0.2
STEI lAmb lAmb 07 18 01.3
comp=Z,22nm,1.1s
NC405 NORSAR Array S 43.57 323 P **P** 07 18 00.6 +0.1
NC405 lAmb lAmb 07 18 01.1
comp=Z,19nm,1.1s
NC602 NORSAR Array S 43.61 323 *e*P **P** 07 18 00.5 -0.3
NORES NORESS Array B 43.61 323 P **P** 07 18 00.2 -0.6
STRU Stroemstad 43.65 320 *i*P **P** 07 18 00.4 -0.6
NC303 NORSAR Array S 43.75 323 P **P** 07 18 01.7 -0.2
NC303 lAmb lAmb 07 18 02.6
comp=Z,19nm,0.8s
NB2 NORSAR Subarra 43.80 323 P **P** 07 18 01.7 -0.7
comp=Z,4.1nm,0.5s,baz=100,slow=7.9
NB2 pP **pP** 07 19 01.2 +0.5
comp=Z,12nm,0.9s,baz=96,slow=8.6
NB2 NORSAR Subarra 43.80 323 P **P** 07 18 02.0 -0.4
baz=98,slow=7.9
NOA NORSAR Array B 43.80 323 P **P** 07 18 01.7 -0.7
comp=Z,6.5nm,0.7s,baz=96,slow=7.9,SNR=19
NOA pP **pP** 07 19 01.5 +0.8
comp=Z,6.1nm,0.8s,baz=95,slow=8.1,SNR=7.1
comp=Z,6.5nm,0.7s
LEIR Leirfjorden 43.81 330 *e*P **P** 07 18 02.5 +0.3
LEIR lAmb lAmb 07 18 04.0
comp=Z,14nm,1.3s
VAGH Vaagaholmen 43.90 331 *e*P **P** 07 18 03.4 +0.4
VAGH lAmb lAmb 07 18 04.5
comp=Z,18nm,1.0s
KONS Konsvik 43.90 331 *e*P **P** 07 18 03.1 +0.1
STOK Stokkvaagen 43.90 331 *e*P **P** 07 18 03.2 +0.3
NC204 NORSAR Array S 44.05 323 P **P** 07 18 04.3 0.0
NC204 lAmb lAmb 07 18 05.4
comp=Z,16nm,1.1s
LOF Lofoten 44.16 333 *e*P **P** 07 18 05.2 +0.3
SSRD Sdr. Stenderup 44.40 315 *i*P **P** 07 18 03.4 -3.7
BJO1 Bjornoya 44.87 343 *e*P **P** 07 18 11.0 +0.5
DOMB Dombas 44.93 324 *e*P **P** 07 18 11.0 -0.1
DOMB lAmb lAmb 07 18 12.9
comp=Z,7.7nm,0.9s
HOMB Homborsund 45.01 319 *i*P **P** 07 18 10.9 -0.9
KS19 Wonju Array Si 45.42 71 P **P** 07 18 14.9 -0.4
KS19 lAmb lAmb 07 18 43.1
comp=Z,21nm,1.5s
KSAR Wonju Array Be 45.45 71 P **P** 07 18 15.1 -0.4
KSRS Korea Array 45.47 71 P **P** 07 18 14.4 -1.3
comp=Z,2.4nm,0.7s,baz=279,slow=7.2,SNR=9.3
KSRS PcP **sP** 07 19 48.3 +0.7
comp=Z,0.7nm,0.4s,baz=315,slow=2.4,SNR=2.4
comp=Z,2.4nm,0.7s
KLR Kul'dur 45.59 54 *ce*P **P** 07 18 18.6 +2.1
KLR pmax pmax
comp=Z,4.0nm,1.7s
SNART Snartemo 45.70 319 *i*P **P** 07 18 16.5 -0.7
TIXI Tiksi 45.85 22 P **P** 07 18 18.9 +0.7
TIXI pP **pP** 07 19 16.4 -1.0
TIXI sP **PcP** 07 19 49.3 -0.9
LODK Lodwar 46.03 232 P **P** 07 18 21.1 +0.7
LODK Lodwar 46.03 232 P **P** 07 18 22.2 +1.8
PPI Padang Panjang 46.41 136 P **P** 07 18 23.2 0.0
comp=Z,49nm,0.7s
MYKOM Kota Tinggi 46.63 130 P **P** 07 18 25.3 +0.3
USRK Ussuriysk Ar. 46.68 61 P **P** 07 18 25.6 +0.6
comp=Z,2.7nm,0.6s,baz=287,slow=8.4,SNR=6.1
comp=Z,2.7nm,0.6s
SENIN Lac Senin/Sane 46.90 302 P **P** 07 18 26.4 -0.5
SENIN lAmb lAmb 07 18 27.7

comp=Z,23nm,0.9s
SPA0 Spitsbergen Ar 47.14 347 *e*P **P 07 18 29.4 +1.3**
SPITS Spitsbergen Ar 47.14 347 P **P 07 18 29.3 +1.1**
comp=Z,3.3nm,0.6s,baz=119,slow=12,SNR=14
comp=Z,3.3nm,0.6s
KEST Kesra 48.31 288 P **P 07 18 38.0 +0.2**
KEST Kesra 48.31 288 P **P 07 18 37.5 -0.3**
comp=Z,1.8nm,0.5s,baz=75,slow=5.2,SNR=4.1
comp=Z,1.8nm,0.5s
KMBO Kilima Mbogo 48.45 226 P **P 07 18 39.9 +0.7**
KMBO Kilima Mbogo 48.45 226 P **P 07 18 39.4 +0.2**
comp=Z,3.8nm,0.4s,baz=38,slow=14,SNR=10
comp=Z,3.8nm,0.4s
KMBO Kilima Mbogo 48.45 226 P **P 07 18 40.3 +1.1**
KMBO Kilima Mbogo 48.45 226 *i*P **P 07 18 39.2 0.0**
KMBO pmax pmax
comp=Z,4.0nm,0.4s
KIBK Kibwezi 48.98 225 P **P 07 18 43.8 +0.8**
KIBK IAmb IAmb 07 18 45.1
comp=Z,12nm,0.7s
KIBK Kibwezi 48.98 225 P **P 07 18 44.4 +1.3**
SNR=14
KSI Kapahiang 50.27 136 P P 07 18 47.5 -5.1
SBUM Sibu 51.59 121 P **P 07 19 02.9 +0.5**
SBUM IAmb IAmb 07 19 04.1
comp=Z,9.6nm,0.8s
SBUM Sibu 51.59 121 P **P 07 19 03.2 +0.8**
EKA Eskdalemuir Ar 51.66 316 P **P 07 19 01.4 -0.9**
comp=Z,1.8nm,0.6s,baz=85,slow=8.1,SNR=2.7
EKA pP **pP 07 20 03.5 +0.9**
comp=Z,3.1nm,0.7s,baz=75,slow=7.3,SNR=2.7
comp=Z,1.8nm,0.6s
KKM Kota Kinabalu 51.92 114 P **P 07 19 05.6 +0.6**
KKM IAmb IAmb 07 19 06.7
comp=Z,36nm,1.3s
MBAR Mbarara 52.06 234 P **P 07 19 06.6 +0.6**
MBAR IAmb IAmb 07 19 07.3
comp=Z,12nm,0.7s
MBAR Mbarara 52.06 234 P **P 07 19 06.6 +0.6**
MBAR Mbarara 52.06 234*ce*P **P 07 19 07.0 +1.0**
MBAR pmax pmax
comp=Z,9.0nm,0.7s
YSS Yuzhno-Sakhali 53.28 55 P **P 07 19 15.5 +1.2**
YSS IAmb IAmb 07 19 16.2
comp=Z,15nm,0.6s
MAJO Matsushiro 53.53 68 P **P 07 19 16.0 -0.3**
MAJO IAmb IAmb 07 19 16.9
comp=Z,5.3nm,0.5s
MJAR Matsushiro Arr 53.53 68 P **P 07 19 16.2 -0.2**
comp=Z,0.9nm,0.4s,baz=302,slow=10.0,SNR=6.2
MJAR pP **pP 07 20 17.6 -0.4**
comp=Z,1.8nm,0.7s,baz=290,slow=8.9,SNR=1.4
comp=Z,0.9nm,0.4s
MA2 Magadan 54.64 38*ce*P **P 07 19 26.3 +2.4**
MA2 pmax pmax
comp=Z,8.0nm,2.5s
SEY Seymchan 54.64 34*ce*P **P 07 19 26.7 +2.9**
SEY pmax pmax
comp=Z,6.0nm,2.5s
ESDC Sonseca Array 56.75 297 P **P 07 19 38.1 -1.1**
comp=Z,1.0nm,0.6s,baz=65,slow=7.5,SNR=6.6
ESDC pP **pP 07 20 42.6 +1.9**
comp=Z,1.9nm,0.9s,baz=71,slow=6.9,SNR=4.2
comp=Z,1.0nm,0.6s
ABPO Ambohimpanom 59.49 205 P **P 07 19 58.8 +0.5**
ABPO IAmb IAmb 07 20 00.4
comp=Z,9.9nm,0.6s
PETK Petropavlovsk- 60.31 44 pP pP 07 21 07.7 +1.0
comp=Z,2.4nm,0.9s,baz=290,slow=4.2,SNR=2.9
VOI Vohitsoka 62.31 205 P **P 07 20 18.0 +0.8**
VOI Vohitsoka 62.31 205 P **P 07 20 18.1 +0.9**
SNR=11
TORD Torodi Ar. Bea 65.03 268 P **P 07 20 33.7 -1.2**
TORD IAmb IAmb 07 20 34.5
comp=Z,3.6nm,0.7s
TORD Torodi Ar. Bea 65.03 268 P **P 07 20 33.6 -1.2**
comp=Z,5.3nm,0.4s,baz=46,slow=6.3,SNR=7.0
TORD pP **pP 07 21 39.1 +1.0**
comp=Z,2.5nm,0.6s,baz=46,slow=8.3,SNR=1.6
comp=Z,5.3nm,0.4s
LSZ Lusaka 65.09 225 P **P 07 20 35.8 +0.4**
LSZ IAmb IAmb 07 20 36.3
comp=Z,6.2nm,0.7s
FOMA Nahampoana Res 65.11 203 P **P 07 20 35.5 +0.4**
C16K Lisburne Hills 67.50 19 P **P 07 20 49.7 0.0**
C16K **pP 07 21 53.4 -1.0**
C16K sP **sP 07 22 26.2 +1.3**
B22K Teshekpuk Lake 68.73 14 IAmb IAmb 07 20 58.9
comp=Z,10nm,1.4s
D19K Kuna River 69.16 17 IAmb IAmb 07 21 02.5
comp=Z,4.6nm,0.8s
E18K Tukpahlearik C 69.36 19 P **P 07 21 01.8 +0.6**
E18K IAmb IAmb 07 21 03.3
comp=Z,14nm,1.4s
E18K pP **pP 07 22 06.7 +0.6**
F15K North Star Dit 69.52 21 IAmb IAmb 07 21 03.9
comp=Z,5.4nm,1.1s
C23K Itkillik River 69.70 14 IAmb IAmb 07 21 06.4
comp=Z,3.8nm,0.7s
TOLK Toolik Lake Re 70.91 14 IAmb IAmb 07 21 13.3
comp=Z,5.6nm,0.7s
A36M Sachs Harbour 71.07 5 IAmb IAmb 07 21 14.2
comp=Z,6.5nm,0.8s
F21K Alatna River 71.25 16 P **P 07 21 12.2 -0.4**
F21K pP **pP 07 22 17.9 +0.1**
E24K Your Creek 71.60 14 IAmb IAmb 07 21 17.2
comp=Z,6.2nm,1.3s
COLD Coldfoot 71.97 15 IAmb IAmb 07 21 18.9
comp=Z,10nm,1.5s
F25K Christian Rive 72.57 14 IAmb IAmb 07 21 23.3
comp=Z,6.4nm,1.4s
C36M Paulatuk 73.75 5 IAmb IAmb 07 21 28.4
comp=Z,18nm,1.4s
INK Inuvik 73.82 9 P **P 07 21 27.6 0.0**
INK IAmb IAmb 07 21 30.1
comp=Z,8.0nm,1.2s
INK pP **pP 07 22 33.0 -0.1**
DBIC Dimbokro 74.01 266 P **P 07 21 28.3 -1.3**
DBIC IAmb IAmb 07 21 29.2
comp=Z,7.8nm,0.5s
DBIC Dimbokro 74.01 266 P **P 07 21 28.7 -0.9**
comp=Z,7.1nm,0.5s,baz=52,slow=6.7,SNR=28
comp=Z,7.1nm,0.5s
MBWA Marble Bar 74.17 132 P **P 07 21 29.6 -0.7**
LBTB Lobatse 74.36 221 IAmb IAmb 07 21 32.4
comp=Z,21nm,1.4s
CAST Castle Rocks 74.72 18 P **P 07 21 33.4 +0.5**
CAST IAmb IAmb 07 21 34.3
comp=Z,14nm,1.2s
IL31 74.78 16 P **P 07 21 32.9 -0.3**
ILAR Eielson Array 74.78 16 P **P 07 21 32.9 -0.4**
ILAR pP **pP 07 22 40.1 +1.0**
ILAR Eielson Array 74.78 16 P **P 07 21 32.5 -0.7**
comp=Z,1.3nm,0.9s,baz=315,slow=5.6,SNR=14
ILAR pP **pP 07 22 38.9 -0.2**
comp=Z,1.3nm,0.7s,baz=336,slow=5.8,SNR=7.5
comp=Z,1.3nm,0.9s
KNRA Kununurra 75.92 122 P **P 07 21 39.9 -0.4**
BCAR Beaver Creek A 77.35 14 P **P 07 21 48.5 +0.8**
BOSA Boshof 77.45 219 P **P 07 21 48.2 -0.5**
BOSA IAmb IAmb 07 21 49.3
comp=Z,7.3nm,0.8s
BOSA Boshof 77.45 219 P **P 07 21 48.3 -0.5**
comp=Z,6.4nm,0.7s,baz=38,slow=5.9,SNR=17
comp=Z,6.4nm,0.7s
MORW Morawa 78.34 140 P **P 07 21 52.6 -0.9**
YKA Yellowknife Ar 81.08 2 P **P 07 22 08.0 +0.3**
comp=Z,2.0nm,0.9s,baz=352,slow=4.9,SNR=26
YKA pP **pP 07 23 14.5 +0.3**
comp=Z,3.5nm,0.8s,baz=352,slow=5.3,SNR=9.9
comp=Z,2.0nm,0.9s
SCHQ Schefferville 81.64 336 pP pP 07 23 18.5 +1.4
comp=Z,4.4nm,0.8s,baz=39,slow=6.5,SNR=3.4
NWAO Narrogin (SRO) 82.05 142 P **P 07 22 11.6 -1.5**
WRA Warramunga Arr 82.69 121 P **P 07 22 15.0 -1.7**
WRA Warramunga Arr 82.69 121 P **P 07 22 15.1 -1.7**
comp=Z,7.4nm,0.6s,baz=313,slow=5.2,SNR=107
WRA pP **pP 07 23 25.0 +0.5**
comp=Z,1.7nm,0.9s,baz=315,slow=5.5,SNR=2.6
comp=Z,7.4nm,0.6s
WRAB Tennant Creek 82.69 121 P **P 07 22 15.3 -1.4**
ASAR Alice Springs 84.94 124 P **P 07 22 26.4 -1.6**
comp=Z,7.4nm,0.7s,baz=314,slow=5.1,SNR=89
ASAR pP **pP 07 23 35.8 -0.3**
comp=Z,1.3nm,0.7s,baz=316,slow=5.3,SNR=2.4
comp=Z,7.4nm,0.7s
PMG Port Moresby 85.33 105 P **P 07 22 29.9 -0.2**
comp=Z,20nm,0.8s,baz=301,slow=10,SNR=3.6
comp=Z,20nm,0.8s
STKA Stephens Creek 95.47 126 P **P 07 23 15.7 -1.4**
comp=Z,1.3nm,0.7s,baz=312,slow=14,SNR=3.6
comp=Z,1.3nm,0.7s
TXAR Lajitas Array 114.06 354 PKKPbc PKKPbc 07 39 09.4 -2.1
comp=Z,0.3nm,0.7s,baz=222,slow=2.0,SNR=4.2
BDFB Brasilia 121.65 274 PKP **PKPdf 07 28 44.5 -0.6**
comp=Z,0.8nm,0.4s,baz=51,slow=6.5,SNR=2.3
QSPA South Pole Qui 126.49 180 PKPdf **PKPdf 07 28 52.0 -0.8**
QSPA South Pole Qui 126.49 180 PKP **PKPdf 07 28 52.0 -0.8**
comp=Z,5.1nm,0.7s,baz=251,slow=1.6,SNR=18
CPUP Villa Florida 134.53 268 PKP **PKPdf 07 29 08.0 -1.1**
comp=Z,3.0nm,0.6s,baz=72,slow=3.4,SNR=14
TRQA Tornquist 142.25 253 PKPdf **PKPdf 07 29 23.5 +0.5**
ZON Zonda 145.71 266 PKPdf **PKPbc 07 29 30.0 -0.2**
CO01 Juntas del Tor 146.28 270 PKPbc **PKPbc 07 29 31.9 -0.3**
LCO Las Campanas 146.40 272 PKPbc **PKPbc 07 29 31.8 -0.8**
CO03 El Pedregal 147.08 269 PKPbc **PKPbc 07 29 33.9 -0.3**
VA03 San Esteban 147.61 265 PKPbc **PKPbc 07 29 35.5 -0.1**
MT13 San Alfonso 147.69 263 PKPbc **PKPbc 07 29 35.5 -0.3**
MT03 Universidad Ad 147.79 264 PKPbc **PKPbc 07 29 36.1 0.0**
MT02 Curacav 148.23 265 PKPbc **PKPbc 07 29 36.6 -0.4**
BO01 Tunca 148.50 262 PKPbc **PKPbc 07 29 37.4 -0.4**
ML02 Panimavida 149.11 260 PKPbc **PKPbc 07 29 39.0 -0.2**
BI02 San Fabin de 149.19 258 PKPbc **PKPbc 07 29 39.4 0.0**
PLCA Paso Flores 149.24 250 PKPbc **PKPbc 07 29 39.3 -0.2**
comp=Z,8.9nm,0.9s,baz=91,slow=3.5,SNR=5.7
LR05 Currie 150.29 251 PKPbc **PKPbc 07 29 41.4 -0.4**
LL02 Futaleuf 150.33 245 PKPbc **PKPbc 07 29 41.1 -0.8**
LL03 Petrohue 150.67 250 PKPbc **PKPbc 07 29 42.3 -0.4**
AY01 Puyuhuapi 150.89 243 PKPbc **PKPbc 07 29 42.0 -1.1**
GO07 Milladeo Hill, 151.66 246 PKPbc **PKPbc 07 29 44.6 -0.3**
RPN Rapa Nui 170.45 357 PKPdf **PKPdf 07 29 57.0 -1.6**
VA02 Isla de Pascua 170.49 358 PKPdf **PKPdf 07 29 56.9 -1.7**

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*NNC **18** 07:21:20.7±1.2, 49.°95N×78.°00E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=18.6km s-min=4.7km az=102.0, Suspected Mining explosion.*
*IDC **18** 07:21:24.5±1.2, 50.°04N×78.°80E, h0km, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=19.1km s-min=7.7km az=64.0*
ISC 18 07:21:17.9±2.8, 50.°05N±0.°05×77.°6E±0.°2, h0km, n16, σ0°63/27, 13C-13D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.82**	**49**	⇓P	**Pb**	**07 21 35.2**	**+0.2**
KUR07				⇓S	**Sb**	**07 21 46.2**	**-0.3**
KUR17	**Kurchatov Arra**	**0.83**	**45**	⇑P	**Pn**	**07 21 36.0**	**-0.8**
KUR17				⇑S	**Sb**	**07 21 46.3**	**-0.6**
KUR06	**Kurchatov Arra**	**0.83**	**48**	⇓P	**Pb**	**07 21 35.5**	**+0.3**
KUR06				⇓S	**Sb**	**07 21 46.6**	**-0.4**
KUR16	**Kurchatov Arra**	**0.84**	**46**	⇑P	**Pb**	**07 21 35.5**	**+0.2**
KUR16				⇑S	**Sg**	**07 21 46.1**	**+1.2**
KURBB	**Kurchatov Arra**	**0.85**	**47**	Pg	**Pb**	**07 21 35.9**	**+0.3**
	1.0nm,0.3s,baz=167,slow=18,SNR=15						
KURBB				Lg	Lg	07 21 45.6	
	0.7nm,0.3s,baz=160,slow=33,SNR=8.2						
KURBB	**Kurchatov Arra**	**0.85**	**47**	⇑P	**Pb**	**07 21 35.5**	**0.0**
	6.9nm,0.4s						
KURBB				⇓S	**Sb**	**07 21 46.8**	**-0.7**
	54nm,0.7s						
KUR15	**Kurchatov Arra**	**0.86**	**48**	⇓P	**Pb**	**07 21 35.7**	**-0.1**
KUR15				⇓S	**Sg**	**07 21 45.9**	**+0.2**
KUR05	**Kurchatov Arra**	**0.87**	**46**	⇓P	**Pb**	**07 21 35.9**	**+0.1**
KUR05				⇑S	**Sg**	**07 21 46.8**	**+1.0**
KUR14	**Kurchatov Arra**	**0.88**	**49**	⇑P	**Pb**	**07 21 35.4**	**-0.6**
KUR14				⇑S	**Sg**	**07 21 46.2**	**+0.1**
KUR04	**Kurchatov Arra**	**0.89**	**45**	⇑P	**Pb**	**07 21 36.1**	**0.0**
KUR04				⇑S	**Sg**	**07 21 47.2**	**+0.9**
KURK	**Kurchatov**	**0.96**	**45**	⇓P	**Pg**	**07 21 36.0**	**-0.2**
	4.6nm,0.5s						
KURK				⇑S	**Sg**	**07 21 48.3**	**-0.3**
	9.4nm,0.5s						
MAKZ	**Makanchi**	**4.38**	**136**	⇓Pn	**Pn**	**07 22 25.9**	**+0.3**
	0.4nm,0.7s						
MAKZ				⇓Pg	**Pb**	**07 22 36.8**	**+1.1**
	4.3nm,1.2s						
MAKZ				⇓Lg	Lg	07 23 30.1	
	5.2nm,0.8s						
MK31	**Makanchi Array**	**4.53**	**134**	⇓Pn	**Pn**	**07 22 27.1**	**-0.7**
	0.1nm,0.3s,baz=322,slow=10,SNR=14						
MK31				⇑Pg	**Pb**	**07 22 37.4**	**-0.9**
	0.3nm,0.3s,baz=71,slow=49,SNR=8.2						
MK31				⇑Lg	Lg	07 23 34.7	
	4.8nm,0.7s,baz=328,slow=25,SNR=9.7						
MKAR	**Makanchi Array**	**4.53**	**134**	Pn	**Pn**	**07 22 27.8**	**0.0**
	0.1nm,0.3s,baz=323,slow=11,SNR=14						
MKAR				Lg	Lg	07 23 29.1	
	0.6nm,0.3s,baz=330,slow=28,SNR=10.0						
	0.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.95**	**46**	I	I	07 56 30.0	
	baz=223,slow=335,SNR=1.3						
ZALV	**Zalesovo Beam**	**5.95**	**46**	Pn	**Pn**	**07 22 48.1**	**+1.0**
	0.2nm,0.3s,baz=226,slow=14,SNR=2.1						
	0.5nm,0.3s						

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*IDC **18** 07:28:02.1±2.5, 8.°49S×111.°77E, h0km, mb3.8/7, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=147.5km s-min=17.3km az=52.0*
*DJA **18** 07:28:17.5±0.4, 9.°S±8.°×111.°2E±.°, h120km±8km, M3.9/18, mB4.5/1, mb4.1/2, MLv3.8/18, Mw(mB)3.7/1*
ISC 18 07:28:16.8±0.8, 8.°62S±0.°08×112.°17E±0.°04, h110km, n23, σ2°04/27, mb3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.07**	**293**	P	**Pn**	**07 28 41.0**	**+2.3**
GMJI	**Gumukmas**	**1.31**	**75**	P	**Pn**	**07 28 43.8**	**+2.4**
GMJI				S	**Sn**	**07 29 03.2**	**+3.2**
NGJI	**Ngawi**	**1.43**	**331**	P	**Pn**	**07 28 45.9**	**+3.1**
GRJI	**Gresik**	**1.73**	**10**	P	**Pn**	**07 28 48.0**	**+1.6**
GRJI				S	**Sn**	**07 29 10.8**	**+1.9**
UGM	**Wanagama**	**1.77**	**293**	P	**Pn**	**07 28 49.0**	**+2.0**
UGM				S	**Sn**	**07 29 12.1**	**+2.1**
TBJI	**Tambak Boyo**	**1.82**	**350**	P	**Pn**	**07 28 49.4**	**+1.8**
JAGI	**Jajag, Banyuwa**	**1.97**	**86**	P	**Pn**	**07 28 51.0**	**+1.6**
JAGI				S	**Sn**	**07 29 16.1**	**+1.8**
ABJI	**Asem Bagus**	**2.21**	**68**	P	**Pn**	**07 28 54.6**	**+2.2**
KMMI	**Kalianget**	**2.37**	**49**	P	**Pn**	**07 28 55.9**	**+1.3**
DNP	**Denpasar**	**3.01**	**91**	P	**Pn**	**07 29 03.5**	**+0.6**
SRBI	**Singaraja**	**3.06**	**80**	P	**Pn**	**07 29 04.6**	**+1.0**
CMJI	**Cimerak**	**3.77**	**283**	P	**Pn**	**07 29 13.7**	**+0.6**
TWSI	**Taliwang, Sumb**	**4.66**	**92**	P	**Pn**	**07 29 25.7**	**+0.6**
CNJI	**Cibinong**	**5.16**	**284**	P	**Pn**	**07 29 33.3**	**+1.5**
	0.1nm633nm25nm,1.3s						
PLAI	**Plampang**	**5.55**	**93**	P	**Pn**	**07 29 37.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**16.13**	**127**	Pn	**Pn**	**07 31 57.6**	**+0.4**
	0.1nm,0.3s,baz=328,slow=13,SNR=6.3						
FITZ				Sn	Sn	07 34 44.2	-12
	0.4nm,0.3s,baz=342,slow=20,SNR=7.3						
	3.2nm,1.0s						
WRA	**Warramunga Arr**	**24.22**	**120**	P	**P**	**07 33 24.1**	**+0.6**
	0.5nm,0.5s,baz=296,slow=9.7,SNR=6.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.63**	**128**	P	**P**	**07 33 36.9**	**+0.6**
	0.6nm,0.4s,baz=299,slow=9.9,SNR=8.9						
	0.6nm,0.4s						
STKA	**Stephens Creek**	**35.80**	**134**	P	**P**	**07 35 06.5**	**+0.8**
	1.8nm,0.5s,baz=322,slow=9.4,SNR=8.4						
	1.8nm,0.5s						
SONM	**Songino Array**	**56.44**	**355**	P	**P**	**07 37 44.6**	**-2.6**
	0.4nm,0.4s,baz=193,slow=5.9,SNR=2.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.26**	**337**	P	**P**	**07 38 17.4**	**-2.9**
	0.8nm,0.4s,baz=146,slow=6.7,SNR=19						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**65.82**	**337**	P	**P**	**07 38 47.4**	**-2.9**
	0.3nm,0.4s,baz=151,slow=5.8,SNR=3.2						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**66.48**	**343**	P	**P**	**07 38 51.2**	**-3.2**
	0.9nm,0.4s,baz=143,slow=5.1,SNR=1.7						
	0.9nm,0.4s						

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*IDC **18** 07:30:22.4±2.9, 54.°24N×87.°12E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=25.4km s-min=16.7km az=64.0*
ASRS 18 07:30:20.0±0.8, 54.°21N×87.°11E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214

p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**260**	I	I	07 38 06.7	
	0.3nm,1.0s,baz=79,slow=342,SNR=16						
ZALV	**Zalesovo Beam**	**1.38**	**260**	Pg	Pb	07 30 47.1	+0.6
	1.3nm,0.3s,baz=73,slow=16,SNR=15						
ZALV				Lg	Lg	07 31 06.7	
	1.7nm,0.3s,baz=78,slow=21,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.36**	**239**	Pn	Pn	07 31 58.5	+3.6
	0.1nm,0.3s,baz=55,slow=14,SNR=10						
KURBB				Lg	Lg	07 33 43.7	
	0.1nm,0.3s,baz=46,slow=30,SNR=4.4						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**8.03**	**204**	Pn	Pn	07 32 21.7	+3.8
	0.1nm,0.3s,baz=24,slow=14,SNR=4.6						
MKAR				Sn	Sn	07 33 52.4	+3.0
	0.1nm,0.3s,baz=27,slow=27,SNR=4.4						
MKAR				Lg	Lg	07 34 37.3	
	baz=23,slow=30,SNR=2.3						
	0.2nm,0.3s						

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*NEIC **18** 07:46:41.7±1.7, 62.°08N±0.°02×154.°10W±0.°03, h11km±3km, Error ellipse: s-maj=3.0km s-min=0.4km az=136.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.29; Mθθ1.98; Mφφ-2.27; Mrθ-1.44; Mθφ-1.88; Mφr-0.29; Fault plane solution: M03.21000×10^14^ NP1: φs244.19000°, δ83.36000°, λ153.00000°. NP2: φs337.56000°, δ63.19000°, λ7.45000°. Principal axes: T 3.2402, Plg24.0000°, Azm198.0000°; N -0.0624, Plg62.0000°, Azm51.0000°; P -3.1778, Plg14.0000°, Azm294.0000°;*
*AEIC **18** 07:46:41.2±1.7, 62.°08N±0.°02×154.°07W±0.°04, h8km±3km, ML3.7, mb4.2/15(NEIC), ML3.9/196(NEIC), Mwr3.6/74(NEIC) Error ellipse: s-maj=2.9km s-min=2.1km az=135.0*
*NEIC **18** 07:46:42.2, 62.°05N×154.°16W, h8km*
*IDC **18** 07:46:48.4±2.0, 61.°76N×152.°51W, h0km, mb3.3/3, mbtmp3.4/7, ML3.3/4, Error ellipse: s-maj=38.1km s-min=12.2km az=105.0*
ISC 18 07:46:41.1±1.1, 62.°07N±0.°02×154.°07W±0.°02, h4km±8km, n227, σ0°76/227, mb4.2/12, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M19K	**Big River Lodg**	**0.23**	**222**		**Pg**	**07 46 45.5**	**+0.1**
M19K				IAML		07 46 49.8	
	comp=E,21μm,0.4s						
M19K				IAML		07 46 50.3	
	comp=N,15μm,0.5s						
L19K	**White Mountain**	**0.38**	**287**		**Pg**	**07 46 48.5**	**0.0**
L19K					**Sg**	**07 46 54.8**	**+1.3**
L20K	**Farewell, AK**	**0.41**	**12**		**Pg**	**07 46 48.8**	**-0.3**
L20K					**Sg**	**07 46 55.0**	**+0.6**
M20K	**Styx River**	**0.48**	**113**		**Pg**	**07 46 50.3**	**0.0**
M20K					**Sg**	**07 46 56.9**	**+0.3**
M18K	**Stony River**	**1.02**	**236**		**Pg**	**07 46 59.8**	**-0.7**
M18K					**Sg**	**07 47 14.0**	**+0.2**
SPBG	**Spurr Blockage**	**1.15**	**134**		**Pg**	**07 47 02.2**	**-0.9**
SPBG					**Sg**	**07 47 18.0**	**0.0**
PPLA	**Purkeypile**	**1.20**	**46**	Pn	**Pg**	**07 47 03.0**	**-1.0**
PPLA	**Purkeypile**	**1.20**	**46**		**Sg**	**07 47 19.8**	**+0.2**
SKT	**Skwentna**	**1.20**	**93**		**Pb**	**07 47 03.6**	**-0.8**
SKT	**Skwentna**	**1.20**	**93**		**Sg**	**07 47 20.1**	**+0.6**
STLK	**Strandline Lak**	**1.21**	**118**		**Sg**	**07 47 19.8**	**-0.1**
STLK	**Strandline Lak**	**1.21**	**118**		**Pb**	**07 47 03.2**	**-1.3**
L18K	**Granite Mounta**	**1.24**	**278**		**Pn**	**07 47 04.6**	**-0.5**
SPCR	**Spurr Chakacha**	**1.25**	**134**		**Pn**	**07 47 04.1**	**-1.3**
SPCR					**Sb**	**07 47 20.9**	**-0.8**
SPCG	**Spurr Capps Gl**	**1.25**	**128**		**Pn**	**07 47 03.9**	**-1.6**
SPCG					**Sb**	**07 47 20.9**	**-0.9**
N19K	**Bonanza Creek**	**1.28**	**189**		**Pn**	**07 47 04.7**	**-1.1**
N19K					**Sb**	**07 47 21.5**	**-1.1**
N19K				IAML		07 47 22.2	
	comp=E,3μm,0.2s						
N19K				IAML		07 47 22.4	
	comp=N,2μm,0.3s						
K20K	**Telida**	**1.29**	**0**		**Pn**	**07 47 04.2**	**-1.6**
K20K				IAML		07 47 23.1	
	comp=N,3μm,0.4s						
K20K				IAML		07 47 23.1	
	comp=E,3μm,0.5s						
K20K	**Telida**	**1.29**	**0**		**Sb**	**07 47 22.6**	**-0.2**
RDJH	**Redoubt Jeurge**	**1.61**	**157**		**Pn**	**07 47 10.2**	**-0.2**
RDJH					**Sb**	**07 47 31.9**	**-0.1**
NCT	**North Crescent**	**1.61**	**160**		**Pn**	**07 47 10.2**	**-0.2**
NCT					**Sn**	**07 47 31.6**	**-0.1**
CAST	**Castle Rocks**	**1.63**	**33**		**Pn**	**07 47 10.0**	**-0.6**
CAST				IAML		07 47 33.5	
	comp=E,1μm,0.5s						
CAST	**Castle Rocks**	**1.63**	**33**		**Sb**	**07 47 32.4**	**-0.1**
N18K	**Kilae Creek**	**1.65**	**213**		**Pn**	**07 47 10.1**	**-0.7**
N18K				IAML		07 47 33.9	
	comp=E,1μm,0.6s						
N18K				IAML		07 47 34.1	
	comp=N,2μm,0.5s						
N18K	**Kilae Creek**	**1.65**	**213**		**Sb**	**07 47 33.5**	**+0.4**
SUA	**Susitna One**	**1.69**	**110**		**Pn**	**07 47 11.5**	**0.0**
SUA				IAML		07 47 36.4	
	comp=N,1μm,0.7s						
SUA				IAML		07 47 38.4	
	comp=E,1μm,1.1s						
RDWB	**Redoubt West**	**1.70**	**159**		**Pn**	**07 47 11.3**	**-0.3**
RDWB					**Sn**	**07 47 34.1**	**+0.3**
RDT	**Redoubt**	**1.71**	**151**		**Pn**	**07 47 11.5**	**-0.1**
RDT					**Sn**	**07 47 34.4**	**+0.5**
M17K	**Holitna River**	**1.74**	**249**		**Pn**	**07 47 11.2**	**-0.8**
M17K	**Holitna River**	**1.74**	**249**		**Sb**	**07 47 35.6**	**0.0**
CUT	**Chulitna**	**1.81**	**78**		**Pn**	**07 47 13.2**	**+0.2**
CUT				Sn	**Sb**	**07 47 37.1**	**-0.6**
J18K	**Innoko River**	**1.85**	**320**		**Pn**	**07 47 13.0**	**-0.6**
O19K	**Port Alsworth**	**1.89**	**184**		**Pn**	**07 47 13.3**	**-0.8**
M22K	**Willow**	**1.90**	**98**	Pn	**Pn**	**07 47 14.8**	**+0.6**
M22K	**Willow**	**1.90**	**98**		**Sb**	**07 47 40.8**	**+0.6**
CAPN	**Captain Cook N**	**1.92**	**132**	Pn	**Pb**	**07 47 15.8**	**-0.7**
CHUM	**Lake Minchumin**	**1.98**	**23**		**Pn**	**07 47 14.7**	**-0.7**
L17K	**Donlin**	**1.99**	**274**		**Pn**	**07 47 14.9**	**-0.6**
J19K	**Poorman**	**2.05**	**341**		**Pn**	**07 47 15.6**	**-0.7**
J19K				IAML		07 47 49.0	
	comp=N,1μm,0.5s						
J19K				IAML		07 47 50.0	
	comp=E,922nm,0.8s						
KTH	**Kantishna Hill**	**2.07**	**43**		**Pn**	**07 47 16.0**	**-0.7**
KTH				IAML		07 47 49.2	
	comp=N,765nm,0.5s						
KTH				IAML		07 47 53.4	
	comp=E,637nm,0.7s						
K17K	**Iditarod**	**2.07**	**290**		**Pn**	**07 47 15.9**	**-0.7**
K17K				IAML		07 47 52.9	
	comp=E,801nm,0.6s						
J20K	**Nowinta River**	**2.11**	**359**		**Pn**	**07 47 16.4**	**-0.7**
J20K				IAML		07 47 49.5	
	comp=N,1μm,0.3s						
O20K	**Slope Mountain**	**2.12**	**160**		**Pn**	**07 47 17.9**	**+0.6**
ILSW	**Iliamna Southw**	**2.15**	**167**		**Pn**	**07 47 18.0**	**+0.3**
ILSW				IAML		07 47 50.6	
	comp=E,720nm,0.7s						
ILSW				IAML		07 47 52.5	
	comp=N,581nm,0.4s						
N17K	**Nushagak Hills**	**2.16**	**225**	Pn	**P

GHO IAML 07 47 59.8
comp=E,596nm,0.4s
GHO IAML 07 48 01.1
comp=N,694nm,0.7s
P19K Oil Pt 2.46 170 Pn Pn 07 47 21.7 -0.3
BPAW Bear Paw Mtn. 2.47 33 Pn 07 47 20.9 -1.2
BPAW IAML 07 48 02.3
comp=E,650nm,0.5s
BPAW IAML 07 48 03.4
comp=N,544nm,0.7s
M16K Timber Creek 2.57 248 Pn 07 47 22.7 -0.7
M16K Timber Creek 2.57 248 IAML 07 47 55.5
comp=E,452nm,0.8s
M16K IAML 07 48 10.5
comp=N,667nm,0.7s
L16K Owhat River 2.58 264 Pn **Pn 07 47 23.1 -0.5**
L16K IAML 07 48 04.6
comp=N,520nm,0.6s
L16K IAML 07 48 10.1
comp=E,391nm,1.0s
O22K Cooper Landing 2.64 125 Pn **Pn 07 47 24.4 +0.1**
J17K VABM Dome 2.66 302 Pn **Pn 07 47 24.5 -0.1**
J17K IAML 07 48 11.3
comp=E,431nm,0.7s
J17K IAML 07 48 11.3
comp=N,411nm,0.6s
HOM Homer 2.70 153 Pn **Pn 07 47 25.2 0.0**
AUL Augustine Lava 2.72 173 Pn 07 47 26.2 +0.7
SML Sawmill 2.73 93 Pn 07 47 26.9 +1.3
SML IAML 07 48 07.5
comp=N,533nm,0.7s
SML IAML 07 48 09.0
comp=E,427nm,0.7s
AUCH Augustine Cone 2.74 173 Pn 07 47 26.4 +0.6
I20K Naaghedeneel 2.74 356 Pn 07 47 25.6 -0.1
O17K Koliganek Bris 2.74 214 Pn 07 47 25.1 -0.7
RND Reindeer 2.75 59 Pn 07 47 26.4 +0.4
RND IAML 07 48 07.9
comp=N,393nm,0.6s
RND IAML 07 48 10.3
comp=E,304nm,0.7s
KNK Knik Glacier 2.75 101 Pn 07 47 27.0 +1.1
KNK IAML 07 48 10.4
comp=E,326nm,0.5s
KNK IAML 07 48 17.6
comp=N,307nm,0.8s
P18K Big Mountain, 2.75 192 Pn **07 47 25.5 -0.4**
P18K IAML 07 48 14.4
comp=E,314nm,0.8s
N16K Nishlik Lake 2.78 237 Pn 07 47 25.7 -0.6
BRLK Bradley Lake 2.79 145 Pn **Pn 07 47 26.7 +0.2**
BRLK IAML 07 48 06.9
comp=N,400nm,0.6s
BRLK IAML 07 48 06.9
comp=E,349nm,0.6s
BRSE Bradley Lake S 2.85 144 Pn 07 47 27.8 +0.5
MCK McKinley 2.88 52 Pn **Pn 07 47 28.5 +0.8**
CNPM China Poot 2.91 150 Pn **Pn 07 47 28.2 +0.1**
CNPM IAML 07 48 10.6
comp=N,330nm,0.6s
GCSA Galena City Sc 2.96 336 Pn 07 47 29.4 +0.6
BWN Browne 2.97 43 Pn **Pn 07 47 30.4 +1.5**
BWN IAML 07 48 18.4
comp=N,504nm,0.9s
SEW Seward 2.99 129 Pn **Pn 07 47 30.3 +1.2**
PWL Port Wells 3.01 111 Pn 07 47 30.2 +0.7
PWL Port Wells 3.01 111 IAML 07 48 19.7
comp=E,246nm,0.8s
PWL IAML 07 48 23.3
comp=N,271nm,1.0s
M23K Glacier View 3.01 93 Pn 07 47 30.9 +1.4
P17K Kvichak River 3.12 203 Pn 07 47 30.9 +0.1
Q19K Cape Douglas, 3.16 176 Pn **Pn 07 47 31.9 +0.3**
O16K Kokwok River B 3.17 220 Pn 07 47 31.0 -0.7
O16K IAML 07 48 24.4
comp=E,387nm,0.7s
O16K IAML 07 48 25.2
comp=N,294nm,0.7s
SCM Sheep Creek Mo 3.19 91 Pn 07 47 33.2 +1.1
SCM IAML 07 48 23.3
comp=E,349nm,0.7s
SCM IAML 07 48 26.7
comp=N,270nm,0.7s
J16K Anvik River 3.25 295 Pn **Pn 07 47 32.6 -0.1**
J16K IAML 07 48 29.7
comp=N,197nm,0.9s
NEA2 Nenana 3.39 40 Pn 07 47 35.1 +0.4
KAHC Katmai Hardscr 3.47 188 Pn 07 47 35.2 -0.6
M15K Kasigluk River 3.47 249 Pn 07 47 35.2 -0.6
N15K Kwethluk River 3.49 239 Pn 07 47 35.6 -0.5
K15K Wolf Creek Mou 3.50 277 Pn 07 47 35.7 -0.5
L15K Ungalak Mounta 3.54 267 Pn 07 47 36.0 -0.6
SYI Shuyak Island 3.58 166 Pn **Pn 07 47 38.4 +1.2**
KAHG Katmai Hook Gl 3.60 184 Pn 07 47 38.3 +0.7
P16K Nushagak River 3.62 214 Pn 07 47 37.3 -0.4
WRH Wood River Hil 3.62 46 Pn **Pn 07 47 38.5 +0.8**
WRH IAML 07 48 39.9
comp=N,151nm,0.8s
H19K Roundabout Mou 3.62 344 Pn 07 47 38.1 +0.2
H19K IAML 07 48 42.6
comp=N,252nm,1.1s
H18K Honhosa River 3.64 330 Pn 07 47 38.5 +0.4
H18K IAML 07 48 40.1
comp=N,189nm,0.8s
H18K IAML 07 48 40.9
comp=E,264nm,0.6s
H21K Melozitna Rive 3.64 8 Pn 07 47 38.0 -0.1
H21K IAML 07 48 40.4
comp=E,203nm,0.8s
H21K IAML 07 48 49.6
comp=N,168nm,0.8s
Q16K King Salmon 3.64 202 Pn 07 47 38.2 +0.1
M24K Tolsona, Glenn 3.71 86 Pn **Pn 07 47 40.9 +1.7**
M24K IAML 07 48 47.4
comp=N,247nm,0.8s
I23K Minto, Yukon-K 3.73 32 Pn 07 47 38.0 -1.4
I23K Minto, Yukon-K 3.73 32 IAML 07 48 44.9
comp=E,161nm,0.9s
I23K IAML 07 48 51.1
comp=N,176nm,0.8s
KAKN Katmai Knife C 3.82 188 Pn 07 47 40.8 +0.1
CCB Clear Creek Bu 3.82 45 Pn 07 47 39.0 -1.7
CCB Clear Creek Bu 3.82 45 IAML 07 48 46.6
comp=N,134nm,0.7s
CCB IAML 07 48 49.1
comp=E,157nm,0.6s
H17K Granite Mounta 3.89 320 Pn 07 47 41.6 +0.1
H17K Granite Mounta 3.89 320 IAML 07 48 49.9
comp=E,179nm,0.7s
KLU Klutina 3.91 95 Pn **Pn 07 47 42.6 +0.7**
KLU IAML 07 48 47.6
comp=E,115nm,0.8s
KLU IAML 07 48 50.6
comp=N,156nm,1.0s
ACHA Angle Creek He 3.93 190 Pn **Pn 07 47 42.4 +0.3**
COLA College 3.96 42 Pn **Pn 07 47 43.3 +0.8**
HDA Harding Lake 3.98 51 Pn 07 47 43.6 +0.8
HDA IAML 07 48 49.1
comp=N,180nm,0.5s
HDA IAML 07 48 54.1
comp=E,141nm,0.7s
H22K Ishtalitna Cre 4.01 16 Pn 07 47 42.5 -0.8
M14K Bethel 4.02 254 Pn 07 47 42.9 -0.4
M14K Bethel 4.02 254 IAML 07 48 59.9
comp=N,163nm,1.0s
M14K IAML 07 49 06.6
comp=E,105nm,1.1s
L14K Kuka Creek 4.17 264 Pn 07 47 45.2 -0.1
HARP HAARP 4.18 82 Pn 07 47 47.0 +1.4
IL31 4.21 47 Pn 07 47 46.5 +0.6
ILAR Eielson Array 4.21 47 Pn **Pn 07 47 47.4 +1.4**
comp=E,0.6nm,0.3s,baz=223,slow=14,SNR=29
ILAR Lg Lg 07 48 51.2
comp=E,3.9nm,0.3s,baz=236,slow=28,SNR=4.8
comp=E,2.6nm,0.4s
POKR Poker Plat Res 4.25 41 Pn 07 47 47.4 +0.8
POKR IAML 07 49 10.0
comp=E,106nm,1.0s
H23K Yukon River 4.26 26 Pn 07 47 45.7 -1.0
H23K Yukon River 4.26 26 IAML 07 48 55.1
comp=E,107nm,0.7s
H23K IAML 07 49 06.1
comp=N,103nm,0.8s
N14K Kuskokwak Cree 4.29 243 Pn 07 47 46.5 -0.5
G19K Purcell Mounta 4.29 343 IAML 07 49 00.4
comp=N,104nm,0.7s
G19K IAML 07 49 03.4
comp=E,137nm,0.8s
KDAK Kodiak Island 4.37 169 Pn 07 47 49.3 +1.2
KDAK Kodiak Island 4.37 169 Pn **Pn 07 47 49.1 +1.0**
comp=E,6.8nm,0.3s,baz=340,slow=14,SNR=25
KDAK Lg Lg 07 48 52.5
comp=E,3.6nm,0.3s,baz=349,slow=16,SNR=5.1
comp=E,18nm,0.4s
J14K Nanvaranak Lak 4.46 283 Pn 07 47 49.3 0.0
J14K Nanvaranak Lak 4.46 283 IAML 07 49 18.0
comp=N,118nm,0.9s
G21K Allakaket 4.47 3 Pn 07 47 49.5 0.0
G21K Allakaket 4.47 3 IAML 07 49 01.5
comp=N,143nm,0.7s
G21K IAML 07 49 07.4
comp=E,146nm,1.1s
PLK1 Peulik 1 4.47 198 Pn 07 47 49.6 +0.1
H16K Elim 4.49 309 Pn 07 47 49.8 0.0
G17K Kiwalik Mounta 4.51 323 Pn 07 47 50.4 +0.4
N25K Chitina, Valde 4.51 92 Pn 07 47 50.8 +0.6
O14K Tigyukauivet M 4.53 235 Pn 07 47 49.7 -0.6
O14K Tigyukauivet M 4.53 235 IAML 07 49 10.6
comp=E,114nm,0.7s
PLBL Peulik Blue Cr 4.60 199 Pn 07 47 51.8 +0.4
H24K Noodor Dome 4.66 33 Pn 07 47 51.2 -1.0
J25K Salcha River, 4.67 53 Pn 07 47 53.0 +0.6
J25K IAML 07 49 10.1
comp=E,79nm,0.7s
J25K IAML 07 49 20.1
comp=N,75nm,1.1s
M13K Dall Lake 4.78 254 Pn **Pn 07 47 53.1 -0.6**
M13K IAML 07 49 14.7
comp=N,86nm,0.7s
M13K IAML 07 49 21.8
comp=E,128nm,1.1s
DOT Dot Lake 4.85 67 Pn **Pn 07 47 56.0 +1.3**
OHAK Old Harbor 4.88 175 Pn 07 47 55.9 +0.7
GLB Gilahina Butte 4.92 93 Pn **Pn 07 47 56.3 +0.6**
G16K Koyuk River 4.96 316 Pn 07 47 56.0 -0.2
SCRK Sand Creek 4.97 63 Pn **Pn 07 47 57.7 +1.2**
SCRK IAML 07 49 21.0
comp=E,77nm,0.8s
SCRK IAML 07 49 21.2
comp=N,66nm,0.7s
G23K Bananza Creek 4.97 19 Pn 07 47 56.1 -0.3
K13K Kusilvak Mount 4.99 273 Pn 07 47 56.7 0.0
K13K IAML 07 49 28.7
comp=N,72nm,0.7s
F19K Shaleruckik Mo 5.04 343 Pn 07 47 57.6 +0.3
F19K Shaleruckik Mo 5.04 343 IAML 07 49 27.8
comp=E,51nm,0.8s
F20K Avaraart Lake 5.05 353 Pn 07 47 57.9 +0.5
F20K IAML 07 49 29.3
comp=E,70nm,1.1s
PRP Porcupine Dome 5.12 44 Pn **Pn 07 47 59.4 +0.7**
PRP IAML 07 49 32.3
comp=E,57nm,0.8s
PRP IAML 07 49 35.6
comp=N,67nm,0.9s
F21K Alatna River 5.18 3 Pn 07 47 59.6 +0.4
F21K Alatna River 5.18 3 IAML 07 49 26.6
comp=E,70nm,0.8s
M26K Nabesna, AK 5.19 81 Pn **Pn 07 48 00.3 +0.8**
M26K IAML 07 49 24.1
comp=N,59nm,0.6s
M26K IAML 07 49 25.4
comp=E,67nm,0.4s
J26L Joseph Creek 5.33 58 Pn 07 48 01.3 -0.1
J26L IAML 07 49 37.1
comp=N,55nm,0.8s
J26L IAML 07 49 37.9
comp=E,47nm,0.8s
G15K Niukluk 5.33 308 Pn 07 48 01.9 +0.5
F17K Baldwin Pennin 5.38 328 Pn 07 48 02.5 +0.5
COLD Coldfoot 5.43 16 Pn **Pn 07 48 02.7 0.0**
G24K Hadweenzic Riv 5.45 29 Pn 07 48 01.9 -1.1
H25L Birch Creek 5.54 37 Pn 07 48 04.2 0.0
E19K Redstone River 5.57 347 Pn 07 48 05.1 +0.4
ANM Nome 5.67 301 Pn **Pn 07 48 06.3 +0.3**
BALM Baldy 5.70 95 Pn 07 48 06.8 +0.3
M27K Edge Creek, AK 5.71 82 Pn **Pn 07 48 07.8 +1.1**
L27K Beaver Creek, 5.75 75 Pn 07 48 07.8 +0.7
BCAR Beaver Creek A 5.77 75 Pn **Pn 07 48 08.7 +1.3**
K27K Chicken 5.80 65 Pn 07 48 08.0 +0.3
F15K North Star Dit 5.92 313 Pn 07 48 09.9 +0.5
E17K Hotham Inlet 6.03 330 Pn 07 48 11.1 +0.2
E18K Tukpahlearik C 6.05 335 Pn **Pn 07 48 12.1 +0.9**
F24K Squaw Lake 6.07 23 Pn 07 48 10.8 -0.6
E22K Anaktuvuk Pass 6.16 8 Pn 07 48 13.2 +0.4
E20K Nigu River 6.27 353 Pn 07 48 15.3 +1.0
E23K Chandalar 6.29 15 Pn 07 48 14.8 +0.2
E21K Killik River 6.39 0 Pn 07 48 17.0 +1.1
F14K Arctic Creek 6.41 307 Pn 07 48 16.7 +0.6
VNFG Fog Glacier, M 6.45 208 Pn 07 48 17.8 +1.0
E24K Your Creek 6.47 19 Pn 07 48 16.7 -0.3
F25K Christian Rive 6.60 29 Pn 07 48 18.2 -0.5
G26K Porcupine Rive 6.60 38 Pn 07 48 18.1 -0.6
D19K Kuna River 6.67 347 Pn 07 48 20.8 +1.1
BMAR Burnt Mountain 6.73 33 Pn **Pn 07 48 20.6 +0.1**
D17K Noatak River 6.82 330 Pn 07 48 22.2 +0.5
TOLK Toolik Lake Re 6.86 14 Pn **Pn 07 48 23.1 +0.8**
D22K Ayikyak River 6.86 4 Pn 07 48 23.4 +1.1
DAWY Dawson 6.96 67 Pn 07 48 24.9 +1.2
F26K Sheenjek River 7.04 32 Pn 07 48 25.1 +0.3
E25K Arctic Village 7.04 27 Pn **Pn 07 48 24.7 -0.1**
TNA Tin City 7.05 306 Pn **Pn 07 48 25.3 +0.4**
D23K Nanushuk River 7.06 10 Pn **Pn 07 48 26.0 +1.0**
RDOG Red Dog Mine 7.06 332 Pn **Pn 07 48 25.8 +0.7**
I28M Miner Creek 7.12 55 Pn 07 48 26.9 +1.0
C21K Knifeblade Rid 7.12 358 Pn 07 48 26.6 +0.7
C18K Utukok River 7.24 339 Pn 07 48 27.9 +0.4
L29M L29M 7.43 75 Pn **Pn 07 48 31.1 +0.9**
B21K Ikpikpuk River 7.58 359 Pn **Pn 07 48 32.5 +0.3**
C16K Lisburne Hills 7.81 328 Pn **Pn 07 48 36.4 +1.1**
C23K Itkillik River 7.92 9 Pn **Pn 07 48 37.7 +0.9**
B22K Teshekpuk Lake 8.31 2 Pn **Pn 07 48 42.2 +0.1**
C27K Jago River 8.67 25 Pn **Pn 07 48 48.9 +1.8**
E28M Babbage River 8.91 36 Pn **Pn 07 48 50.8 +0.4**
D27M Malcolm River 8.98 31 Pn **Pn 07 48 52.7 +1.3**
G30M tAoh Zraii Nji 9.11 50 Pn **Pn 07 48 54.4 +1.3**
E29M Blow River 9.26 40 Pn 07 48 55.3 +0.2
H31M Peel River 9.43 58 Pn **Pn 07 48 58.5 +0.9**
INK Inuvik 10.61 45 Pn **Pn 07 49 16.5 +2.9**
comp=E,0.1nm,0.3s,baz=245,slow=13,SNR=10
comp=E,2.7nm,0.9s
A36M Sachs Harbour 14.81 36 Pn **Pn 07 50 11.9 +1.1**
YKA Yellowknife Ar 18.17 71 P **P 07 50 54.8 +0.6**
YKA Yellowknife Ar 18.17 71 P **Pn 07 50 54.1 +0.3**
comp=E,0.1nm,0.3s,baz=284,slow=10,SNR=7.0
comp=E,0.2nm,0.6s
RES Resolute Bay 23.84 34 P **P 07 51 55.2 +0.4**
LTY Liberty 23.99 113 P **P 07 51 56.3 -0.1**
LTY IAmb IAmb 07 52 10.8
comp=Z,4.2nm,1.1s
H04A Detroit Lake 25.39 118 P **P 07 52 09.2 0.0**
H04A IAmb IAmb 07 52 22.0
comp=Z,9.6nm,1.5s
PINE Pine Mountain 26.63 118 P **P 07 52 21.3 +0.7**
PINE IAmb IAmb 07 52 27.1
comp=Z,7.7nm,1.4s
PEA0B Petropavlovsk- 26.75 273 P **P 07 52 19.4 -2.0**
J05D Fort Rock, OR 26.93 119 P **P 07 52 23.4 +0.2**
ILON Igloolik, Nuna 28.85 44 P **P 07 52 39.9 -0.1**
ILON IAmb IAmb 07 52 47.1
comp=Z,6.7nm,1.4s
HLID Hailey 29.62 110 P **P 07 52 46.7 -0.6**
PNTR Pine Nut 31.12 122 P **P 07 53 00.5 -0.2**
PNTR IAmb IAmb 07 53 27.7
comp=Z,7.3nm,1.5s
NVAR Mina Array Bea 32.21 121 P **P 07 53 10.8 +0.6**
comp=Z,0.6nm,0.6s,baz=322,slow=10.0,SNR=7.2
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 32.42 106 P **P 07 53 12.1 0.0**
PDAR Pinedale Array 32.42 106 P **P 07 53 12.8 +0.7**
comp=Z,0.1nm,0.4s,baz=315,slow=7.6,SNR=4.9
comp=Z,0.1nm,0.4s
TPNV Topopah Spring 34.31 119 P **P 07 53 28.9 +0.4**
TPNV IAmb IAmb 07 53 40.6
comp=Z,3.7nm,1.4s
GWY Greenwater Val 34.80 121 P **P 07 53 32.7 0.0**
GWY IAmb IAmb 07 54 07.8
comp=Z,5.1nm,1.4s
BCW Bitter Crk WRg 34.80 125 P **P 07 53 33.0 +0.4**
PV23 Carpenter Ridg 36.15 110 P **P 07 53 44.8 +0.4**
PV23 IAmb IAmb 07 54 06.4
comp=Z,3.7nm,1.1s
PV13 Radium Mtn., P 36.48 110 P **P 07 53 47.0 -0.2**
PV13 IAmb IAmb 07 54 10.4
comp=Z,7.0nm,1.5s
TKX Tecate 37.98 123 P **P 07 54 00.8 +1.0**
TXAR Lajitas Array 46.21 111 P **P 07 55 07.6 +0.6**
TXAR Lajitas Array 46.21 111 P **P 07 55 08.5 +1.5**
comp=Z,0.2nm,0.6s,baz=321,slow=4.7,SNR=2.3
comp=Z,0.2nm,0.6s
MKAR Makanchi Array 62.49 320 P **P 07 57 03.8 -1.4**

*ASRS **18** 07:48:31.0±0.5, 54°.69N×83°.60E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 07:48:33.1±1.7, 54°.65N×83°.75E, h0km, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=16.3km s-min=10.4km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**138**	I	I	I	07 54 02.1	
	baz=316,slow=332,SNR=1.9							
ZALV	**Zalesovo Beam**	**0.94**	**138**	Pg	Pg	Pg	07 48 50.4	-0.7
	2.8nm,0.3s,baz=320,slow=18,SNR=20							
ZALV				Lg	Lg	Lg	07 49 05.0	
	6.7nm,0.3s,baz=321,slow=30,SNR=22							
KURBB	**Kurchatov Arra**	**5.13**	**220**	Pn	Pn	Pn	07 49 51.3	+0.1
	baz=42,slow=13,SNR=1.5							
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**7.92**	**187**	Pn	Pn	Pn	07 50 29.5	0.0
	baz=8.3,slow=13,SNR=2.2							
	0.1nm,0.4s							
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	Pn	07 50 30.8	-0.7
	baz=66,slow=15,SNR=3.4							
	0.7nm,0.4s							

*ASRS **18** 07:56:51.0±1.9, 54°.20N×86°.43E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 07:56:54.3±2.5, 54°.12N×86°.42E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=20.5km s-min=12.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**260**	I	I	I	08 02 30.0	
	0.1nm,0.8s,baz=81,slow=340,SNR=5.3							
ZALV	**Zalesovo Beam**	**0.96**	**260**	Pg	Pg	Pg	07 57 11.5	-1.1
	0.7nm,0.3s,baz=77,slow=16,SNR=13							
ZALV				Lg	Lg	Lg	07 57 26.6	
	1.8nm,0.3s,baz=78,slow=28,SNR=8.5							
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	Pn	07 58 24.7	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=5.3							
KURBB				Lg	Lg	Lg	08 00 04.3	
	baz=51,slow=30,SNR=1.9							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	Pn	07 58 49.9	+1.0
	0.2nm,0.3s,baz=25,slow=15,SNR=12							
	0.3nm,0.3s							

*TAP **18** 08:07:46.1, 23°.96N×122°.70E, h31km, ML3.1, D*
*JMA **18** 08:07:46.9±0.1, 24°.0N±0°.8×122°.6E±0°.6, h31km, MV2.6/10, NW OFF ISHIGAKIJIMA IS*

ISC 18 08:07:45.8±1.1, 23°.90N±0°.03×122°.67E±0°.02, h25km±13km, n77, σ0=89/148, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.39**	**305**	*eP*		**Pn**	**08 07 54.8**	**-0.6**
EOS4				*eS*		**Sn**	**08 08 00.9**	**-0.9**
EOS3	**EOS3**	**0.50**	**320**	*eP*		**Pn**	**08 07 56.7**	**-0.5**
EOS3				*eS*		**Sn**	**08 08 04.1**	**-0.8**
JYNG	**Yonagunijimaku**	**0.61**	**25**	P		**Pb**	**08 07 57.6**	**-0.2**
JYNG				S		**Sb**	**08 08 04.7**	**-1.2**
YOJ	**Yonaguni jima**	**0.64**	**29**	P		**Pb**	**08 07 58.1**	**-0.3**
YOJ				*eS*		**Sb**	**08 08 06.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.64**	**29**	P		**Pb**	**08 07 58.3**	**-0.1**
YOJ				S		**Sb**	**08 08 05.8**	**-1.2**
EOS2	**EOS2**	**0.65**	**323**	P		**Pn**	**08 07 59.5**	**+0.2**
EOS2				*eS*		**Sn**	**08 08 09.3**	**+0.6**
EWUT	**Wuta**	**0.98**	**304**	*eP*		**Pb**	**08 08 04.1**	**+0.1**
EWUT				*eS*		**Sb**	**08 08 17.4**	**+0.9**
TWD	**Chiawan**	**0.99**	**281**	*eP*		**Pn**	**08 08 03.5**	**-0.6**
TWD				*eS*		**Sn**	**08 08 16.8**	**-0.6**
ENA	**Nanau**	**1.00**	**302**	*eP*		**Pb**	**08 08 04.3**	**-0.1**
ENA				*eS*		**Sb**	**08 08 17.9**	**+0.8**
NACB	**Ninganchiao**	**1.02**	**286**	P		**Pn**	**08 08 04.2**	**-0.3**
NACB				*eS*		**Sn**	**08 08 17.5**	**-0.4**
SHUL	**Shoufeng**	**1.02**	**264**	*eP*		**Pn**	**08 08 04.7**	**+0.3**
SHUL				*eS*		**Sn**	**08 08 18.4**	**+0.5**
TWC	**Suao**	**1.03**	**314**	*eP*		**Pb**	**08 08 04.9**	**0.0**
TWC				*eS*		**Sb**	**08 08 17.8**	**-0.2**
HATJ	**Hateruma jima**	**1.05**	**81**	P		**Pb**	**08 08 06.1**	**+0.7**
HATJ				*eS*		**Sb**	**08 08 19.7**	**+0.9**
IRIF	**Iriomote-Funau**	**1.06**	**66**	P		**Pb**	**08 08 05.5**	**-0.1**
IRIF				*eS*		**Sb**	**08 08 19.3**	**+0.3**
ETM	**Tongmen**	**1.08**	**274**	*eP*		**Pn**	**08 08 05.0**	**-0.3**
ETM				*eS*		**Sn**	**08 08 18.1**	**-1.3**
ETLH	**Xiulin Townshi**	**1.12**	**286**	*eP*		**Pn**	**08 08 05.9**	**-0.1**
ETLH				*eS*		**Sn**	**08 08 20.0**	**-0.7**
LXIB	**Xiulin Townshi**	**1.15**	**276**	*eP*		**Pn**	**08 08 06.2**	**-0.2**
LXIB				*eS*		**Sn**	**08 08 21.0**	**-0.5**
EGS		**1.16**	**325**	*eP*		**Pb**	**08 08 07.6**	**+0.5**
EGS				*eS*		**Sb**	**08 08 22.9**	**+1.3**
WARBT	**Fenglin Townsh**	**1.19**	**262**	*eP*		**Pn**	**08 08 06.3**	**-0.5**
WARBT				*eS*		**Sn**	**08 08 21.0**	**-1.1**
HGSD	**Ruisui**	**1.21**	**251**	*eP*		**Pn**	**08 08 06.5**	**-0.5**
HGSD				*eS*		**Sn**	**08 08 21.4**	**-1.2**
LATG	**Datong**	**1.22**	**302**	*eP*		**Pb**	**08 08 07.8**	**-0.4**
LATG				*eS*		**Sb**	**08 08 24.8**	**+1.2**
TWE	**Neicheng**	**1.23**	**312**	*eP*		**Pb**	**08 08 08.1**	**-0.1**
TWE				*eS*		**Sb**	**08 08 25.4**	**+1.7**
ENTT	**Nioudou**	**1.25**	**307**	*eP*		**Pb**	**08 08 08.2**	**-0.4**
ENTT				*eS*		**Sb**	**08 08 25.8**	**+1.5**
TWB1	**Santiao Chiao**	**1.27**	**331**	*eP*		**Pb**	**08 08 08.4**	**-0.6**
JKRS	**Kuro-shima**	**1.27**	**74**	*eP*		**Pb**	**08 08 09.2**	**+0.1**
NNSB	**Datong**	**1.28**	**294**	*eP*		**Pn**	**08 08 08.8**	**+0.6**
NNSB				*eS*		**Sn**	**08 08 24.7**	**0.0**
EHY	**Hungye**	**1.29**	**253**	*eP*		**Pn**	**08 08 08.4**	**+0.2**
EHY				*eS*		**Sn**	**08 08 24.1**	**-0.7**
NNS	**Nan Shan**	**1.30**	**295**	*eP*		**Pb**	**08 08 09.2**	**-0.4**
NNS				*eS*		**Sb**	**08 08 25.8**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.30**	**311**	*eP*		**Pb**	**08 08 09.4**	**-0.2**
FUSB				*eS*		**Sb**	**08 08 27.2**	**+1.2**
WHF	**Hehuan Shan**	**1.30**	**281**	*eP*		**Pn**	**08 08 09.1**	**+0.3**
WHF				*eS*		**Sn**	**08 08 25.7**	**+0.1**
TIPB	**Shuangxi**	**1.31**	**325**	*eP*		**Pb**	**08 08 10.2**	**+0.3**
TIPB				*eS*		**Sb**	**08 08 27.0**	**+0.7**
FUSS	**Fushou**	**1.35**	**285**	*eP*		**Pn**	**08 08 09.6**	**+0.5**
FUSS				*eS*		**Sn**	**08 08 26.7**	**+0.3**
EYUL	**Yuli**	**1.35**	**246**	*eP*		**Pn**	**08 08 09.4**	**+0.4**
EYUL				*eS*		**Sn**	**08 08 26.3**	**+0.1**
YULB	**Yu-li**	**1.35**	**248**	*eP*		**Pn**	**08 08 09.3**	**+0.3**
YULB				*eS*		**Sn**	**08 08 24.4**	**-1.8**
OWD	**Renai**	**1.36**	**273**	*eP*		**Pn**	**08 08 09.8**	**+0.5**
OWD				*eS*		**Sn**	**08 08 26.0**	**-0.7**
TWF1	**Yuli**	**1.37**	**247**	*eP*		**Pn**	**08 08 09.3**	**0.0**
TWF1				*eS*		**Sn**	**08 08 26.1**	**-0.5**
NWLT	**Wulai**	**1.38**	**310**	*eP*		**Pb**	**08 08 10.2**	**-0.7**
NWLT				*eS*		**Sb**	**08 08 27.2**	**-0.8**
SXI1	**Grass Mountain**	**1.39**	**329**	*eP*		**Pb**	**08 08 10.3**	**-0.9**
SXI1				*eS*		**Sb**	**08 08 28.2**	**-0.4**
VWDT	**VWDT**	**1.40**	**264**	*eP*		**Pn**	**08 08 10.3**	**+0.6**
VWDT				*eS*		**Sn**	**08 08 27.2**	**-0.2**
YHNB	**Yeheng**	**1.41**	**303**	*eP*		**Pn**	**08 08 10.4**	**+0.6**
YHNB				*eS*		**Sn**	**08 08 26.6**	**-1.0**
WFSB	**Wu-fen Shan**	**1.42**	**326**	*eP*		**Pb**	**08 08 11.7**	**+0.1**
WFSB				*eS*		**Sb**	**08 08 29.8**	**+0.5**
WUSB	**Renai**	**1.42**	**274**	*eP*		**Pn**	**08 08 10.4**	**+0.3**
WUSB				*eS*		**Sn**	**08 08 28.3**	**+0.3**
NSK	**Sanguang**	**1.42**	**303**	*eP*		**Pn**	**08 08 10.8**	**+0.7**
NSK				*eS*		**Sb**	**08 08 30.3**	**+0.9**
JIJ	**Ishigaki jima**	**1.43**	**71**	*eP*		**Pb**	**08 08 11.0**	**-0.7**
CHKT	**Chengkung**	**1.44**	**237**	*eS*		**Sn**	**08 08 26.5**	**-1.7**
FULB	**Fuli**	**1.44**	**241**	*eP*		**Pn**	**08 08 10.1**	**-0.2**
FULB				*eS*		**Sn**	**08 08 27.7**	**-0.7**
EDH	**Donghe**	**1.56**	**234**	*eP*		**Pn**	**08 08 11.3**	**-0.5**

EDH				eS	Sn	08 08 29.7	-1.5
SSLB	**Suanglung**	**1.57**	**266**	eP	Pn	08 08 12.9	+0.8
SSLB				eS	Sn	08 08 32.9	+1.2
NFF	**Wufeng Townshi**	**1.59**	**298**	eP	Pb	08 08 14.3	-0.2
NFF				eS	Sb	08 08 35.2	+0.9
YM01	**YM01**	**1.59**	**321**	eP	Pn	08 08 12.2	-0.2
YM01				eS	Sb	08 08 32.8	-1.5
WCS	**Beigang Elemen**	**1.61**	**276**	eP	Pn	08 08 14.2	+1.5
WCS				eS	Sb	08 08 35.7	+0.9
SMLT	**Sun Moon Lake**	**1.62**	**270**	eP	Pn	08 08 13.7	+1.0
SMLT				eS	Sn	08 08 34.0	+1.1
WHP	**Taichung City**	**1.62**	**284**	eP	Pb	08 08 14.6	-0.4
WHP				eS	Sb	08 08 35.7	+0.7
LDUT	**Ludao**	**1.64**	**222**	eP	Pn	08 08 12.5	-0.6
LDUT				eS	Sn	08 08 31.3	-2.0
JISG	**Ishigakijimahi**	**1.65**	**65**	eP	Pn	08 08 14.0	+0.9
TYC	**Yuchr**	**1.66**	**271**	eP	Pb	08 08 15.2	-0.5
TYC				eS	Sb	08 08 36.0	-0.1
ELDTW	**Lidau**	**1.67**	**245**	eP	Pn	08 08 11.7	-1.8
ELDTW				eS	Sn	08 08 33.3	-0.9
WHYT	**Xinyi Township**	**1.67**	**263**	eP	Pb	08 08 15.7	-0.2
WHYT				eS	Sn	08 08 35.3	+1.1
LIOB	**Emei**	**1.68**	**297**	eP	Pb	08 08 15.7	-0.4
LIOB				eS	Sb	08 08 37.8	+1.0
LONT	**Longtian**	**1.72**	**235**	eP	Pn	08 08 13.8	-0.4
LONT				eS	Sn	08 08 35.1	-0.2
ALS	**Alishan**	**1.75**	**258**	eP	Pn	08 08 16.3	+1.5
ALS				eS	Sn	08 08 37.6	+1.2
WJS	**Zhushan**	**1.78**	**268**	eS	Sb	08 08 40.4	+0.9
TWQ1	**Liyutan**	**1.79**	**285**	eP	Pb	08 08 17.0	-0.8
TWQ1				eS	Sb	08 08 38.5	-1.3
TWG	**Pinlang**	**1.82**	**234**	eP	Pn	08 08 15.2	-0.2
TWG				eS	Sn	08 08 36.6	-1.1
CHN5	**Tsauling**	**1.85**	**261**	eP	Pb	08 08 18.3	-0.6
CHN5				eS	Sb	08 08 41.5	-0.2
STYH	**Taoyuan**	**1.88**	**248**	eP	Pn	08 08 17.1	+0.9
STYH				eS	Sn	08 08 40.3	+1.1
WCKO	**Fanlu**	**1.94**	**257**	eP	Pn	08 08 17.4	+0.2
WCKO				eS	Sb	08 08 44.0	-0.3
TPUB	**Ta-pu**	**1.96**	**253**	eP	Pn	08 08 19.4	+2.0
TPUB				eS	Sn	08 08 43.9	+2.7
WDLH	**Douliu**	**1.96**	**264**	eP	Pb	08 08 20.5	-0.3
WDLH				eS	Sb	08 08 46.0	+1.2
CHN4	**Tsaushan**	**1.98**	**254**	eP	Pb	08 08 20.7	-0.4
CHN4				eS	Sb	08 08 45.4	0.0
WTP	**Ta-pu**	**1.99**	**251**	eP	Pn	08 08 18.6	+0.8
WTP				eS	Sb	08 08 45.2	-0.6
CHN1	**Nanshi**	**2.09**	**251**	eP	Pn	08 08 21.5	+2.3
CHN1				eS	Sb	08 08 48.1	-0.4
TWK	**Hsinying**	**2.10**	**253**	eP	Pn	08 08 21.1	+1.8
TWK				eS	Sb	08 08 47.8	-1.0
MASBT	**Mashibuluo**	**2.27**	**236**	eP	Pn	08 08 22.3	+0.7
MASBT				eS	Sn	08 08 49.8	+1.1
SCZT	**Fangliau**	**2.42**	**232**	eP	Pn	08 08 25.0	+1.3
SCZT				eS	Sn	08 08 54.2	+1.6
WDGT	**Dungji**	**2.83**	**258**	eP	Pn	08 08 29.8	+0.4
WDGT				eS	Sn	08 09 02.8	+0.2
VWUC	**VWUC**	**3.13**	**291**	eP	Pn	08 08 33.3	-0.1
VWUC				eS	Sn	08 09 07.8	-2.1

*ASRS **18** 08:14:14.0±1.3, 53°.68N×86°.83E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 08:14:15.1±2.5, 53°.71N×86°.95E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.2km s-min=14.3km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**282**	I	I	08 21 00.0	
	baz=101,slow=342,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.28**	**282**	Pg	Pg	08 14 38.2	-1.6
	1.2nm,0.3s,baz=103,slow=17,SNR=11						
ZALV				Lg	Lg	08 14 56.9	
	1.4nm,0.3s,baz=100,slow=30,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.03**	**243**	Pn	Pn	08 15 46.6	+1.1
	0.1nm,0.3s,baz=57,slow=13,SNR=6.6						
KURBB				Lg	Lg	08 17 27.2	
	baz=55,slow=32,SNR=2.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.54**	**205**	Pn	Pn	08 16 07.4	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=6.9						
MKAR				Lg	Lg	08 18 14.4	
	baz=20,slow=26,SNR=2.1						
	0.2nm,0.3s						

IDC 18 08:22:47.9±1.7, 54°.61N×83°.78E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=16.1km s-min=10.1km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**137**	I	I	08 28 20.0	
	baz=316,slow=334,SNR=2.9						
ZALV	**Zalesovo Beam**	**0.90**	**137**	Pg	Pg	08 23 04.3	-0.8
	3.1nm,0.3s,baz=318,slow=18,SNR=25						
ZALV				Lg	Lg	08 23 18.4	
	3.5nm,0.3s,baz=318,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**5.11**	**221**	Pn	Pn	08 24 06.4	+0.7
	baz=42,slow=14,SNR=4.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.88**	**187**	Pn	Pn	08 24 43.8	0.0
	0.1nm,0.3s,baz=6.4,slow=11,SNR=3.2						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**8.08**	**264**	Pn	Pn	08 24 45.3	-1.2
	0.1nm,0.3s,baz=71,slow=14,SNR=3.2						
	0.9nm,0.4s						

*IDC **18** 08:45:07.9±3.4, 54°.21N×87°.31E, h0km, mbtmp2.5/2, ML2.4/2, Error ellipse: s-maj=29.9km s-min=19.1km az=57.0*

ASRS 18 08:45:08.0±1.5, 54°.23N×87°.10E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**259**	I	I	08 52 55.7	
	0.1nm,0.7s,baz=77,slow=339,SNR=8.1						
ZALV	**Zalesovo Beam**	**1.37**	**259**	Pg	Pg	08 45 34.3	0.0
	0.8nm,0.3s,baz=78,slow=16,SNR=7.5						
ZALV				Lg	Lg	08 45 55.6	
	1.1nm,0.3s,baz=80,slow=30,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.37**	**239**	Pn	Pn	08 46 45.5	+2.5
	0.1nm,0.3s,baz=55,slow=13,SNR=4.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.05**	**204**	Pn	Pn	08 47 07.4	+1.2
	0.1nm,0.3s,baz=28,slow=14,SNR=1.7						
MKAR				Lg	Lg	08 49 22.7	
	baz=21,slow=32						
	0.1nm,0.3s						

*ISK **18** 08:47:00.4, 38°.68N×43°.54E, h8km, ML2.5/13*
*AFAD **18** 08:47:00.1, 38°.70N×43°.63E, h7km±4km, ML2.4*

ISC 18 08:47:00.9±1.0, 38°.70N±0°.03×43°.61E±0°.03, h13km±7km, n23, σ0°.99/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**238**	Pg	**Pg**	**08 47 05.2**	**-0.3**
TVAN	**Van**	**0.24**	**223**	P	**Pg**	**08 47 05.4**	**-0.7**
TVAN				S	**Sg**	**08 47 10.2**	**+0.6**
TVAN				*i* AML	AML	08 47 12.0	
	comp=N,3μm,0.4s						
TVAN				*i* AML	AML	08 47 17.0	
	comp=E,3μm,0.6s						
VMUR	**Van-Muradiye**	**0.29**	**354**	P	**Pg**	**08 47 06.1**	**-0.9**
VMUR				S	**Sg**	**08 47 11.6**	**+0.5**
VMUR				*i* AML	AML	08 47 15.0	
	comp=E,611nm,0.5s						
VMUR				*i* AML	AML	08 47 15.0	
	comp=N,598nm,0.6s						
OZAP	**Van, Ozalp-Mer**	**0.30**	**98**	P	**Pg**	**08 47 06.4**	**-0.9**
OZAP				S	**Sb**	**08 47 13.4**	**+0.2**
OZAP				*i* AML	AML	08 47 20.0	
	comp=N,577nm,0.8s						
OZAP				*i* AML	AML	08 47 22.0	
	comp=E,1μm,0.7s						
ERCV	**ERCIS-VAN**	**0.38**	**326**	Pg	**Pg**	**08 47 08.0**	**-0.6**
GEVA	**Gevas**	**0.58**	**228**	P	**Pg**	**08 47 10.8**	**-1.5**
GEVA				S	**Sb**	**08 47 21.3**	**0.0**
GEVA				*i* AML	AML	08 47 26.0	
	comp=N,196nm,0.6s						
GEVA				*i* AML	AML	08 47 30.0	
	comp=E,183nm,0.5s						
ADCV	**BITLIS_Adilcev**	**0.70**	**279**	P	**Pg**	**08 47 13.7**	**-0.8**
ADCV				S	**Sb**	**08 47 25.3**	**+0.6**
ADCV				*i* AML	AML	08 47 28.0	
	comp=E,117nm,0.7s						
ADCV				*i* AML	AML	08 47 30.0	
	comp=N,179nm,0.6s						
DYDN	**Diyadin**	**0.84**	**4**	P	**Pg**	**08 47 16.0**	**-1.2**
DYDN				S	**Sg**	**08 47 28.5**	**+0.2**
DYDN				*i* AML	AML	08 47 35.0	
	comp=E,119nm,0.5s						
DYDN				*i* AML	AML	08 47 35.0	
	comp=N,88nm,0.4s						
MLAZ	**Malazgirt-MUS**	**0.94**	**298**	Pg	**Pb**	**08 47 18.4**	**-0.6**
DORK	**Agr/Tutak/Do**	**0.94**	**317**	P	**Pg**	**08 47 17.6**	**-1.4**
DORK				S	**Sb**	**08 47 31.5**	**0.0**
DORK				*i* AML	AML	08 47 36.0	
	comp=N,144nm,0.5s						
DORK				*i* AML	AML	08 47 38.0	
	comp=E,107nm,0.6s						
AGRB	**Hanur-Agry**	**0.99**	**331**	Pg	**Pg**	**08 47 19.3**	**-0.8**
AGRB				Sg	**Sn**	**08 47 34.4**	**-0.3**
KOTA	**Agri, Merkez-K**	**1.14**	**344**	P	**Pg**	**08 47 21.4**	**-1.5**
KOTA				S	**Sn**	**08 47 38.8**	**+0.4**
KOTA				*i* AML	AML	08 47 44.0	
	comp=E,53nm,0.6s						
KOTA				*i* AML	AML	08 47 44.0	
	comp=N,48nm,1.4s						
GURO	**Guroymak-BITLI**	**1.24**	**263**	Pn	**Pg**	**08 47 23.3**	**-1.5**
GURO				Sn	**Sb**	**08 47 40.0**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.37**	**21**	Pn	**Pg**	**08 47 27.1**	**-0.1**
EATA	**Eleskirt**	**1.45**	**324**	P	**Pn**	**08 47 27.3**	**+0.2**
EATA				S	**Sg**	**08 47 49.3**	**+1.7**
EATA				*i* AML	AML	08 47 51.0	
	comp=E,52nm,0.8s						
EATA				*i* AML	AML	08 47 58.0	
	comp=N,52nm,1.7s						
CUKT	**Cukurca**	**1.45**	**180**	Pn	**Pn**	**08 47 27.1**	**+0.2**
SRTM	**Siirt_Merkez**	**1.50**	**242**	P	**Pg**	**08 47 28.6**	**-1.2**
SRTM				S	**Sg**	**08 47 51.9**	**+2.5**
SRTM				*i* AML	AML	08 47 56.0	
	comp=E,80nm,0.5s						
SRTM				*i* AML	AML	08 47 57.0	
	comp=N,75nm,0.7s						
GNI	**Garni**	**1.69**	**31**	Pn	**Pb**	**08 47 31.5**	**-0.4**
VRTB	**Varto-Mus**	**1.74**	**286**	Pn	**Pn**	**08 47 30.5**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**1.87**	**314**	Pn	**Pn**	**08 47 33.4**	**+0.6**
KARS	**Kars**	**1.97**	**348**	Pn	**Pn**	**08 47 35.0**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.10**	**333**	Pn	**Pn**	**08 47 36.9**	**+1.0**
BNGB	**Bingl**	**2.31**	**278**	Pn	**Pn**	**08 47 39.7**	**+1.0**

*IDC **18** 08:55:24.6±2.1, 3°.41S×80°.80W, h0km, mb3.4/3, mbtmp3.5/5, ML3.2/2, MS3.7/13, Error ellipse: s-maj=73.0km s-min=34.4km az=47.0*
*RSNC **18** 08:55:27.9±1.6, 4°.5±11°.×8°.1W±°, h53km±48km, M3.9, mb4.2, ML3.6*

ISC 18 08:55:28.9±1.4, 3°.6S±0°.1×81°.03W±0°.09, h38km, n41, σ1.9°77/33, mb3.5/3, MS3.6/9, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLP	**Puerto Lpez**	**2.06**	**7**	P	**Pn**	**08 56 00.4**	**-0.6**
PPLP				S	**Sn**	**08 56 26.2**	**+0.7**
PPLP	**Puerto Lpez**	**2.06**	**7**	P	**Pn**	**08 56 00.4**	**-0.6**
PPLP				S	**Sn**	**08 56 26.2**	**+0.7**
COHC	**Cochancay**	**2.10**	**58**	P	**Pn**	**08 56 00.3**	**-1.2**
COHC				S	**Sn**	**08 56 28.1**	**+1.7**
COHC	**Cochancay**	**2.10**	**58**	P	**Pn**	**08 56 00.3**	**-1.2**
COHC				S	**Sn**	**08 56 28.1**	**+1.7**
FLF1	**Flavio Alfaro-**	**3.43**	**20**	P	**Pn**	**08 56 19.9**	**0.0**
FLF1	**Flavio Alfaro-**	**3.43**	**20**	P	**Pn**	**08 56 19.9**	**0.0**
PIAT	**Ana Tenorio**	**3.79**	**47**	P	**Pn**	**08 56 26.2**	**+1.1**
PIAT	**Ana Tenorio**	**3.79**	**47**	P	**Pn**	**08 56 26.2**	**+1.1**
ATAH	**Atahualpa**	**4.38**	**143**	LR	LR	08 58 19.0	
	comp=Z,695nm,19.7s,baz=312,slow=40						
PAC1	**Pacto, Paraso**	**4.45**	**30**	P	**Pn**	**08 56 33.7**	**-0.3**
PAC1	**Pacto, Paraso**	**4.45**	**30**	P	**Pn**	**08 56 33.7**	**-0.3**
OTAV	**Otavalo**	**4.60**	**34**	P	**Pn**	**08 56 37.3**	**+0.9**
OTAV	**Otavalo**	**4.60**	**34**	P	**Pn**	**08 56 37.3**	**+0.9**
CUSE	**Cuicocha Este**	**4.69**	**34**	P	**Pn**	**08 56 39.1**	**+1.6**
CUSE	**Cuicocha Este**	**4.69**	**34**	P	**Pn**	**08 56 39.1**	**+1.6**
BBAC	**Balboa, Cauca**	**6.74**	**34**	P	**Pn**	**08 57 07.8**	**+2.2**
	24nm,0.7s						
BBAC	**Balboa, Cauca**	**6.74**	**34**	P	**Pn**	**08 57 07.8**	**+2.2**
	24nm,0.7s						
FLOC	**Florencia**	**7.44**	**46**	P	**Pn**	**08 57 13.1**	**-2.0**
	14nm,1.0s						
FLOC	**Florencia**	**7.44**	**46**	P	**Pn**	**08 57 13.1**	**-2.0**
	14nm,1.0s						
POPC	**Popayan, Colom**	**7.49**	**36**	P	**Pn**	**08 57 14.1**	**-1.8**
	5.2nm,0.8s						
POPC	**Popayan, Colom**	**7.49**	**36**	P	**Pn**	**08 57 14.1**	**-1.8**
	5.2nm,0.8s						
JAMC	**Jamundi, Valle**	**8.05**	**33**	P	**Pn**	**08 57 20.9**	**-2.6**
JAMC	**Jamundi, Valle**	**8.05**	**33**	P	**Pn**	**08 57 20.9**	**-2.6**
YOTC	**Yotoco, Valle**	**8.87**	**32**	P	**Pn**	**08 57 31.6**	**-3.1**
YOTC	**Yotoco, Valle**	**8.87**	**32**	P	**Pn**	**08 57 31.6**	**-3.1**
CZSB	**Cruzeiro do Su**	**9.24**	**117**	P	Pn	08 57 34.8	-4.9
CZSB	**Cruzeiro do Su**	**9.24**	**117**	P	Pn	08 57 34.8	-4.9
ROSC	**El Rosal**	**10.73**	**39**	LR	LR	09 03 01.1	
	comp=Z,872nm,18.1s,baz=253,slow=44						
SDV	**Santo Domingo**	**16.16**	**40**	Pn	**Pn**	**08 59 09.8**	**-3.8**
	0.1nm,0.3s,baz=218,slow=12,SNR=2.0						
SDV				LR	LR	09 06 42.9	
	comp=Z,424nm,20.3s,baz=180,slow=43						
	1.8nm,0.8s						
LPAZ	**La Paz**	**17.88**	**136**	P	**Pn**	**08 59 35.4**	**0.0**
	0.2nm,0.3s,baz=318,slow=11,SNR=4.8						
LPAZ				LR	LR	09 07 51.6	
	comp=Z,229nm,21.8s,baz=282,slow=42						
	1.2nm,0.7s						
PCRV	**Puerto La Cruz**	**21.30**	**50**	LR	LR	09 10 27.2	
	comp=Z,252nm,19.5s,slow=43						
SIV	**San Ignacio**	**23.17**	**123**	LR	LR	09 09 52.5	
	comp=Z,101nm,19.0s,baz=294,slow=38						
CMIG	**Matias Romero**	**24.70**	**327**	LR	LR	09 08 13.8	
	comp=Z,66nm,20.1s,baz=152,slow=31						
SJG	**San Juan**	**26.09**	**34**	LR	LR	09 12 55.9	
	comp=Z,108nm,20.5s,baz=212,slow=41						
MDP	**Montagnes des**	**29.65**	**73**	LR	LR	09 14 03.6	
	comp=Z,273nm,18.8s,baz=306,slow=38						
BDFB	**Brasilia**	**34.61**	**112**	LR	LR	09 17 02.5	
	comp=Z,112nm,18.2s,baz=288,slow=38						
TXAR	**Lajitas Array**	**39.29**	**328**	P	**P**	**09 02 55.3**	**+0.9**
	0.2nm,0.8s,baz=118,slow=9.0,SNR=2.1						
	0.2nm,0.8s						
LPIG	**La Paz**	**39.63**	**316**	LR	LR	09 16 42.8	
	comp=Z,71nm,20.7s,baz=106,slow=32						
PDAR	**Pinedale Array**	**52.88**	**334**	P	**P**	**09 04 42.0**	**+0.7**
	0.7nm,0.9s,baz=138,slow=8.0,SNR=4.9						
	0.7nm,0.9s						
ELK	**Elko**	**54.09**	**328**	LR	LR	09 27 11.8	
	comp=Z,47nm,18.7s,baz=124,slow=35						
NVAR	**Mina Array Bea**	**54.19**	**324**	P	**P**	**09 04 51.9**	**+0.9**
	0.4nm,0.8s,baz=133,slow=6.9,SNR=3.6						
NVAR				LR	LR	09 25 24.0	
	comp=Z,65nm,19.0s,baz=162,slow=33						
	0.4nm,0.8s						

*NEIC **18** 08:55:41.4±0.8, 33°.516N±0°.004×116°.577W±0°.006, h1km±1km, Error ellipse: s-maj=1.0km s-min=0.3km az=131.0*

PAS 18 08:55:42.1±0.9, 33°.521N±0°.006×116°.572W±0°.008, h2km±1km, ML3.1/221, ML3.0/52(NEIC), Error ellipse: s-maj=0.9km s-min=0.9km az=101.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRD	**Ford Ranch, An**	**0.04**	**224**		Pg	08 55 44.1	+1.1
FRD	**Ford Ranch, An**	**0.04**	**224**		Pg	08 55 44.0	+1.1
SNDA	**J Saunders Pla**	**0.05**	**313**		Pg	08 55 44.8	+1.6
BZNA	**Buzz No.'s Pla**	**0.08**	**250**		Pg	08 55 45.8	+1.9
PFO	**Pinyon Flats O**	**0.13**	**46**		Pg	08 55 46.6	+1.9
PFO	**Pinyon Flats O**	**0.13**	**46**	Pg	Pg	08 55 44.4	-0.3
PFO				IAML		08 55 46.9	
	7μm,0.6s						
PFO				IAML		08 55 46.9	
	6μm,0.3s						
XPFO	**Pinon Flat**	**0.13**	**47**		Pg	08 55 44.7	0.0
CRY	**Cary Ranch**	**0.14**	**288**		Pg	08 55 47.9	+2.9
GVDA	**Garner Valley**	**0.17**	**330**		Pg	08 55 45.5	+0.1
GVDA					Sg	08 55 48.0	+0.2
PMD	**Palm Desert**	**0.21**	**52**		Pg	08 55 46.0	-0.1
PMD					Sg	08 55 48.9	0.0
BORC	**Borrego Spring**	**0.28**	**153**		Pg	08 55 47.9	+0.3
PLM	**Palomar**	**0.29**	**236**		Pg	08 55 48.2	+0.4
MATG	**Mataguay Scout**	**0.33**	**191**		Pg	08 55 48.8	+0.4
MATG					Sg	08 55 53.5	+0.9
POB	**Polly Butte**	**0.34**	**300**		Pg	08 55 48.9	+0.3
POB					Sg	08 55 53.9	+0.9
DGR	**Domenigoni Val**	**0.39**	**290**		Pg	08 55 49.7	+0.1
DGR					Sg	08 55 55.3	+0.7
BACC	**Bachelor Mtn.**	**0.40**	**283**		Pg	08 55 49.9	+0.1
BACC					Sg	08 55 55.5	+0.4
HMTC	**Hemet**	**0.41**	**298**		Pg	08 55 50.0	0.0
HMTC					Sg	08 55 56.0	+0.8
DEVC	**Devers**	**0.41**	**359**		Pg	08 55 50.2	+0.1
DEVC					Sg	08 55 56.0	+0.5
SLH	**Sleepy Hollow**	**0.42**	**141**		Pg	08 55 50.8	+0.6
SLH					Sg	08 55 57.3	+1.6
JUEM	**Julian Eagle M**	**0.44**	**183**		Pg	08 55 50.8	+0.2
JUEM					Sg	08 55 56.8	+0.5
EW2	**E Wide Canyon**	**0.44**	**18**		Pg	08 55 50.7	+0.1
EW2					Sg	08 55 57.6	+1.3
CTCC	**Cactus City**	**0.50**	**74**		Pg	08 55 52.2	+0.4
CTCC					Sg	08 55 59.5	+1.1
BBSC	**Beaumont Base**	**0.53**	**320**		Pg	08 55 52.4	+0.1
BBSC					Sg	08 55 59.9	+0.8
MURC	**Murrieta**	**0.53**	**279**		Pg	08 55 52.2	0.0
MURC					Sg	08 55 59.6	+0.5
SALN	**Salton City**	**0.55**	**116**		Pg	08 55 53.0	+0.4
SALN					Sb	08 56 01.2	-1.4
BLAC	**Blackrock camp**	**0.57**	**16**		Pg	08 55 53.0	0.0
BLAC					Sg	08 56 00.9	+0.5
CTW	**Cottonwood Mou**	**0.60**	**75**		Pg	08 55 53.8	+0.1
CTW					Sg	08 56 02.0	+0.4
DPP	**Dos Picos Cty**	**0.61**	**211**		Pg	08 55 53.5	-0.2
DPP					Sg	08 56 01.5	-0.1
PEC	**Perris**	**0.61**	**307**		Pg	08 55 53.9	0.0
PEC					Sg	08 56 02.0	+0.1
MONP2	**Monument Peak**	**0.64**	**169**		Pg	08 55 54.5	+0.1
MONP2					Sg	08 56 03.0	+0.3
GORC	**Green Oak Ranc**	**0.66**	**237**		Pg	08 55 54.5	-0.3
GORC					Sg	08 56 03.1	-0.3
EML	**El Monte Cty P**	**0.67**	**200**		Pg	08 55 54.7	-0.2
EML					Sg	08 56 03.3	-0.3
BELC	**Belle Mtn. Jos**	**0.68**	**45**		Pg	08 55 55.0	-0.1
BELC					Sg	08 56 04.2	+0.3
CFT	**Crafton Hills**	**0.68**	**319**		Pg	08 55 55.3	+0.1
CFT					Sg	08 56 05.2	+1.1
BOMB	**Bombay Beach**	**0.72**	**102**		Pg	08 55 56.4	+0.4
BOMB					Sb	08 56 06.9	-0.9
ELS	**Elsinore Mount**	**0.72**	**280**		Pg	08 55 55.7	-0.3
ELS	**Elsinore Mount**	**0.72**	**280**		Sg	08 56 05.4	0.0
TPC	**Twentynine Pal**	**0.73**	**37**		Pg	08 55 55.8	-0.3
SVD	**Seven Oaks Dam**	**0.73**	**323**		Pg	08 55 56.1	0.0
SVD					Sg	08 56 06.1	+0.5
ERRC	**Elmore Ranch**	**0.75**	**122**		Pb	08 55 57.2	-0.6
ERRC					Sb	08 56 08.3	-0.1
HAY	**Hayfield**	**0.76**	**76**		Pg	08 55 57.3	+0.5
HAY					Sb	08 56 08.1	-1.0
CPE	**Camp Elliot**	**0.77**	**215**		Pg	08 55 56.4	-0.5
CPE					Sg	08 56 06.6	-0.3
RSBC	**Riverside Bore**	**0.77**	**306**		Pg	08 55 56.6	-0.4
RSBC					Sg	08 56 07.3	+0.3
RSBC	**Riverside Bore**	**0.77**	**306**		Pg	08 55 55.8	-1.1
RSBC					Sg	08 56 07.5	+0.4
FRK	**Frink**	**0.79**	**98**		Pg	08 55 57.0	-0.3
FRK					Sg	08 56 07.8	+0.3
GTM	**Goat Mountain**	**0.79**	**13**		Pg	08 55 56.9	-0.5
GTM					Sg	08 56 07.7	+0.1
BBRC	**Big Bear Solar**	**0.79**	**339**		Pg	08 55 57.2	-0.1
BBRC					Sg	08 56 08.1	+0.4
MTRP	**Mission Trails**	**0.81**	**210**		Pg	08 55 56.9	-0.7
MTRP					Sg	08 56 07.9	-0.2
CRR	**Carrizo Plain**	**0.81**	**141**		Pg	08 55 57.8	+0.1
CRR					Sb	08 56 09.5	-0.8
RVR	**Riverside**	**0.82**	**305**		Pg	08 55 57.3	-0.5
RVR					Sg	08 56 08.7	+0.3
CFSC	**Central Fire S**	**0.83**	**315**		Pg	08 55 58.5	+0.4
CFSC					Sb	08 56 10.0	-1.0
SDRC	**San Diego Road**	**0.84**	**202**		Pg	08 55 57.7	-0.6
SDRC					Sg	08 56 08.3	-0.8
BAR	**Barrett**	**0.84**	**186**		Pg	08 55 57.8	-0.5
BAR					Sg	08 56 08.7	-0.5
SWSC	**Sam W. Stewart**	**0.86**	**131**		Pg	08 55 58.6	-0.1
SWSC					Sg	08 56 10.9	+0.9
SDMC	**San Diego Miss**	**0.88**	**213**		Pg	08 55 58.3	-0.6
SDMC					Sg	08 56 10.2	0.0
CRNC	**Corona**	**0.90**	**294**		Pg	08 55 59.0	-0.3
CRNC					Sg	08 56 10.7	-0.3
CLI2	**Calipatria 2**	**0.92**	**115**		Pg	08 55 59.7	-0.1
CLI2					Sb	08 56 14.2	+0.7
DUZA	**Dulzura**	**0.93**	**191**		Pg	08 55 59.2	-0.7
DUZA					Sg	08 56 11.2	-0.7
BC3	**Big Chuckawall**	**0.94**	**82**		Pg	08 56 00.1	-0.1
BC3					Sg	08

comp=E,126nm,0.6s
113A Mohawk Valley, 2.47 107 Pn Pn 08 56 21.8 -1.6
SNCC San Nicolas Is 2.48 265 Pn Pn 08 56 22.5 -1.1
V12A Nelson 2.62 32 Pn Pn 08 56 24.6 -0.9
ISA Isabella, Lake 2.65 324 Pn Pn 08 56 25.7 -0.3
GWY Greenwater Val 2.66 358 Pn Pn 08 56 25.4 -0.8
W13A Hualapai Mount 2.73 54 Pn Pn 08 56 26.6 -0.6
BCW Bitter Crk WRg 2.75 302 Pn 08 56 27.5 +0.2
BCW IAML 08 57 05.6
comp=N,69nm,1.0s
BCW IAML 08 57 14.3
comp=E,83nm,0.8s
SFX San Felipe 2.87 149 Pn Pn 08 56 29.2 +0.3
Y14A Wickenburg 3.00 81 Pn Pn 08 56 29.7 -1.1
SHPR Sheep Range 3.19 21 Pn 08 56 33.0 -0.5
WCT Wildcat Mounta 3.27 359 Pn Pn 08 56 34.3 -0.1
PIX Pinacate 3.28 126 Pn Pn 08 56 33.2 -1.3
TPNV Topopah Spring 3.43 4 Pn Pn 08 56 36.9 +0.1
TPNV IAML 08 57 32.1
comp=E,25nm,0.5s
GRAC Grapevine Rang 3.53 350 Pn 08 56 38.5 +0.5
GMN Gold Mountain 3.81 352 Pn 08 56 42.1 0.0
DSP Deep Springs 4.01 344 Pn Pn 08 56 45.3 +0.8
PRN Pahroc Range 4.07 17 Pn Pn 08 56 46.4 +0.9
S11A Rachel 4.17 9 Pn Pn 08 56 46.1 -0.8
X16A Lo Mia Camp, P 4.36 77 Pn Pn 08 56 49.3 -0.2
LCMT Little Creek M 4.42 37 08 56 50.4 0.0
U15A North Rim 4.56 49 Pn Pn 08 56 52.9 +0.5
KNB Kanab 4.64 40 Pn Pn 08 56 53.9 +0.4
WUAZ Wupatki 4.73 64 Pn Pn 08 56 54.0 -0.7
WUAZ IAML 08 58 39.5
comp=E,14nm,4.8s
WUAZ IAML 08 58 50.6
comp=E,14nm,4.7s
BBGB Big Mountain B 4.77 311 Pn Pn 08 56 55.4 +0.3
R11B Troy Canyon, C 4.88 9 Pn Pn 08 56 56.9 +0.1
LHV Little Huntoon 4.97 342 Pn Pn 08 56 58.6 +0.8
NV11 Mina Array Sit 5.07 346 Pn Pn 08 56 59.9 +0.7
NV11 IAML 08 58 29.0
comp=E,7.7nm,3.3s
NVAR Mina Array Bea 5.10 345 Pn Pn 08 57 00.4 +0.7
SAO San Andreas Ge 5.14 310 Pn Pn 08 56 59.5 -0.6
PKCU Pink Cliffs 5.24 40 Pn Pn 08 57 01.5 -0.2
PSUT Pine Spring 5.46 23 Pn Pn 08 57 05.3 +0.6
X18A Snowflake 5.59 78 Pn Pn 08 57 06.5 0.0

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*ASRS **18** 09:00:36.0±1.1,54°.25N×87°.01E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 09:00:36.3±3.1,54°.34N×87°.22E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.2km s-min=18.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47 255**		I	I	09 08 10.0	
	baz=78,slow=340,SNR=7.0						
ZALV	**Zalesovo Beam**	**1.47 255**		Pg	Pn	09 01 03.2	-0.8
	0.8nm,0.3s,baz=74,slow=15,SNR=14						
ZALV				Lg	Lg	09 01 23.6	
	0.7nm,0.3s,baz=69,slow=28,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.48 238**		Pn	Pn	09 02 12.2	-0.7
	0.1nm,0.3s,baz=55,slow=13,SNR=4.5						
KURBB				Lg	Lg	09 04 00.4	
	baz=50,slow=30,SNR=4.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.18 205**		Pn	Pn	09 02 37.7	+1.5
	0.1nm,0.3s,baz=22,slow=11,SNR=5.4						
MKAR				Sn	Sn	09 04 10.1	+0.8
	baz=26,slow=26,SNR=3.6						
MKAR				Lg	Lg	09 04 56.1	
	baz=24,slow=25,SNR=1.4						
	0.2nm,0.4s						

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*ASRS **18** 09:13:45.0±0.5,53°.65N×86°.84E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 09:13:46.8±2.6,53°.74N×86°.93E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=23.5km s-min=13.3km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27 281**		I	I	09 20 55.0	
	baz=101,slow=344,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.27 281**		Pg	Pg	09 14 10.2	-1.0
	0.8nm,0.3s,baz=100,slow=17,SNR=9.6						
ZALV				Lg	Lg	09 14 28.4	
	0.7nm,0.3s,baz=101,slow=31,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.03 242**		Pn	Pn	09 15 17.4	+0.1
	baz=56,slow=14,SNR=2.6						
KURBB				Lg	Lg	09 16 57.6	
	baz=63,slow=33,SNR=4.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.56 205**		Pn	Pn	09 15 39.1	+0.9
	0.1nm,0.3s,baz=24,slow=13,SNR=5.0						
MKAR				Sn	Sn	09 17 07.1	+2.5
	baz=19,slow=29,SNR=2.0						
MKAR				Lg	Lg	09 17 45.2	
	baz=27,slow=36,SNR=5.3						
	0.1nm,0.2s						

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*NNC **18** 09:29:35.0±2.2, 54°.40N×87°.73E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=18.3km s-min=14.1km az=15.0, Suspected Mining explosion.*
*ASRS **18** 09:29:40.0±0.7, 54°.23N×87°.04E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **18** 09:29:43.1±2.5, 54°.20N×87°.13E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=22.3km s-min=15.2km az=64.0*

ISC 18 09:29:36.4±4.2,54°.3N±0°.2×87°.7E±0°.2, h0km, n9, σ1§81/12, 2C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71 260**		I	I	09 37 10.0	
	0.1nm,0.8s,baz=77,slow=342,SNR=6.7						
ZAA0	**Zalesovo Array**	**1.71 260**		⇓P	**Pn**	**09 30 06.8**	**-0.6**
	0.5nm,0.4s,baz=72,slow=17						
ZAA0				⇑S	**Sn**	**09 30 30.7**	**+0.8**
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**1.71 260**		Pg	**Pb**	**09 30 07.0**	**-1.6**
	3.4nm,0.3s,baz=76,slow=16,SNR=39						
ZALV				Lg	Lg	09 30 26.8	
	2.1nm,0.3s,baz=78,slow=21,SNR=7.7						
KURK	**Kurchatov**	**6.58 241**		⇓Pn	**Pn**	**09 31 14.8**	**+0.5**
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**6.68 240**		Pn	**Pn**	**09 31 18.5**	**+2.9**
	0.2nm,0.3s,baz=53,slow=13,SNR=18						
KURBB				Sn	**Sn**	**09 32 31.2**	**-1.2**
	baz=56,slow=27,SNR=1.4						
KURBB				Lg	Lg	09 33 04.4	
	baz=54,slow=31,SNR=1.6						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**6.68 240**		⇓Pn	**Pn**	**09 31 13.8**	**-1.9**
	1.5nm,0.4s						
KURBB				⇑Sn	**Sn**	**09 32 33.5**	**+1.2**
	1.2nm,0.5s						
KURBB				⇓Lg	Lg	09 33 07.9	
	2.9nm,0.7s						
MK31	**Makanchi Array**	**8.24 207**		Pn	**Pn**	**09 31 38.0**	**+0.8**
	0.4nm,0.5s,baz=216,slow=36,SNR=11						
MK31				⇓Sn	**Sn**	**09 33 10.9**	**-0.1**
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**8.24 207**		Pn	Pn	09 31 41.9	+4.7
	0.3nm,0.3s,baz=24,slow=13,SNR=9.6						
MKAR				Sn	**Sn**	**09 33 12.3**	**+1.3**
	0.1nm,0.3s,baz=24,slow=26,SNR=3.9						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**10.33 270**		Pn	**Pn**	**09 32 08.7**	**+3.0**
	0.1nm,0.3s,baz=71,slow=14,SNR=2.6						
	0.7nm,0.4s						

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*IDC **18** 09:39:38.6±1.2, 28°.79N×129°.88E, h69km±11km, mb3.6/18, mbtmp3.9/22, MS2.7/3, Error ellipse: s-maj=18.0km s-min=8.2km az=111.0*
*JMA **18** 09:39:38.8±0.2, 28°.9N±0°.4×129°.7E±0°.9, h56km±2km, MD3.7/24, MV3.8/24, NEAR AMAMI-OSHIMA ISLAND*

*NEIC **18** 09:39:39.7±1.3, 28°.83N±0°.07×129°.6E±0°.1, h56km±9km, mb4.3/10, Error ellipse: s-maj=13.6km s-min=9.4km az=104.0*

ISC 18 09:39:38.5±0.8,28°.85N±0°.04×129°.73E±0°.06, h59km±7km, n70, σ1§19/76, mb4.0/23, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.45 195**		P	**Pn**	**09 39 49.9**	**+0.1**
JAM				S	**Sn**	**09 39 57.7**	**-0.3**
JAM	**Amami Oshima**	**0.45 195**		A	A	09 39 49.9	
	comp=N,11nm,1.1s,comp=E,8.0nm,0.8s						
JTAJ	**Takarajima**	**0.56 304**	*i*	P	**Pn**	**09 39 51.0**	**0.0**
JTAJ			*e*	S	**Sn**	**09 39 60.0**	**-0.1**
JTAJ	**Takarajima**	**0.56 304**		A	A	09 39 51.0	
	comp=N,5.0nm,0.5s,comp=E,6.0nm,1.5s						
JZK	**Kikaishima**	**0.57 158**		P	**Pn**	**09 39 51.9**	**+0.8**
JZK	**Kikaishima**	**0.57 158**		A	A	09 39 51.9	
	comp=N,37nm,0.8s,comp=E,22nm,1.2s						
JAMN	**Amaminishikomi**	**0.78 219**	*i*	P	**Pn**	**09 39 54.0**	**+0.3**
JAMN	**Amaminishikomi**	**0.78 219**		A	A	09 39 54.0	
	comp=N,11nm,1.3s,comp=E,10.0nm,0.3s						
JNN	**Nakanoshima**	**1.00 7**		P	**Pn**	**09 39 56.4**	**-0.1**
JNN			*e*	S	**Sn**	**09 40 09.5**	**-0.3**
JNN	**Nakanoshima**	**1.00 7**		A	A	09 39 56.4	
	comp=N,6.0nm,0.4s,comp=E,6.0nm,0.4s						
JTK	**Tokunoshima**	**1.26 213**		P	**Pn**	**09 40 00.7**	**+0.8**
JTK			*e*	S	**Sn**	**09 40 17.5**	**+1.5**
JTK	**Tokunoshima**	**1.26 213**		A	A	09 40 00.7	
	comp=N,3.0nm,5.3s,comp=E,3.0nm,1.1s						
JYAK	**Yakushimahirau**	**1.54 26**		P	**Pn**	**09 40 03.8**	**+0.1**
JKC	**Kuchinoerabu**	**1.66 14**		P	**Pn**	**09 40 05.7**	**+0.4**
JKC				S	**Sn**	**09 40 25.5**	**-0.1**
JOKE	**Okinoerabujima**	**1.80 215**		P	**Pn**	**09 40 08.5**	**+1.2**
JMTN	**Minamitane**	**1.85 33**	*e*	P	**Pn**	**09 40 08.6**	**+0.7**
JMTN			*e*	S	**Sn**	**09 40 30.9**	**+0.7**
JTN	**Tanegashima 3**	**2.10 31**		P	**Pn**	**09 40 11.8**	**+0.5**
JYRO	**Yoronjima**	**2.14 212**		P	**Pn**	**09 40 12.7**	**+0.8**
JYRO			*e*	S	**Sn**	**09 40 38.1**	**+0.8**
JOW	**Kunigami**	**2.39 213**			**Pn**	**09 40 15.8**	**+0.6**
JOW	**Kunigami**	**2.39 213**		P	**Pn**	**09 40 15.9**	**+0.7**
	comp=E,79nm,0.4s,baz=32,slow=11,SNR=50						
JOW				S	**Sn**	**09 40 44.6**	**+1.3**
	comp=E,184nm,0.2s,baz=90,slow=20,SNR=17						
JOW	**Kunigami**	**2.39 213**	*e*	P	**Pn**	**09 40 15.9**	**+0.7**
JIH	**Iheya**	**2.39 221**	*e*	P	**Pn**	**09 40 16.3**	**+1.1**
JIH			*e*	S	**Sn**	**09 40 43.7**	**+0.4**
JNTH	**Nagotoyohara**	**2.77 214**		P	**Pn**	**09 40 21.3**	**+0.8**
JNTH			*e*	S	**Sn**	**09 40 53.0**	**+0.3**
JAGN	**Aguni-jima**	**3.15 225**	*e*	P	**Pn**	**09 40 26.6**	**+0.9**
JJT3	**Tamagusuku3**	**3.20 213**		P	**Pn**	**09 40 28.0**	**+1.6**
JJT3			*e*	S	**Sn**	**09 41 03.7**	**+0.4**
JMZ	**Minamidaito 2**	**3.29 156**	Pn	P	**Pn**	**09 40 29.8**	**+2.2**
JKE	**Kume jima 2**	**3.62 227**	*e*	P	**Pn**	**09 40 33.0**	**+0.9**
JNU	**Nakatsue**	**4.37 13**			**Pn**	**09 40 44.5**	**+2.0**
JNU	**Nakatsue**	**4.37 13**		P	**Pn**	**09 40 44.1**	**+1.6**
	comp=E,11nm,0.4s,baz=206,slow=14,SNR=43						
JNU				S	**Sn**	**09 41 33.3**	**+1.2**
	comp=E,9.9nm,0.5s,baz=232,slow=19,SNR=1.2						
JMN	**Monobe**	**6.02 35**	Pn	P	**Pn**	**09 41 05.2**	**+0.2**
KSRS	**Korea Array**	**8.72 350**		P	**Pn**	**09 41 44.6**	**+2.8**
	comp=E,2.0nm,0.7s,baz=169,slow=15,SNR=7.6						
KSRS				LR	LR	09 45 00.6	
	comp=E,35nm,19.9s,baz=190,slow=37						
INU	**Inuyama**	**8.95 42**	Pn	P	**Pn**	**09 41 46.5**	**+1.4**
YULB	**Yu-li**	**9.32 236**	Pn	P	**Pn**	**09 41 46.8**	**-3.4**
JGF	**Kuroka**	**9.33 42**	Pn	P	**Pn**	**09 41 51.2**	**+1.0**
MJAR	**Matsushiro Arr**	**10.48 41**		P	**Pn**	**09 42 06.7**	**+0.8**
	comp=E,0.9nm,0.7s,baz=240,slow=14,SNR=2.9						
JCJ	**Chichijima**	**11.14 96**		LR	LR	09 46 01.2	
	comp=E,43nm,19.6s,baz=80,slow=35						
SONM	**Songino Array**	**26.18 323**		P	**P**	**09 45 09.0**	**+1.5**
SONM	**Songino Array**	**26.18 323**		P	**P**	**09 45 07.4**	**-0.1**
	comp=E,1.0nm,0.6s,baz=140,slow=9.5,SNR=6.2						
	comp=E,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.96 257**		P	**P**	**09 45 40.8**	**-0.5**
	comp=E,0.7nm,0.3s,baz=64,slow=8.1,SNR=1.8						
CMAR				LR	LR	09 57 55.1	
	comp=E,22nm,18.0s,baz=345,slow=36						
	comp=E,0.7nm,0.3s						
MK31	**Makanchi Array**	**40.85 309**		P	**P**	**09 47 15.4**	**+0.9**
MKAR	**Makanchi Array**	**40.85 309**		P	**P**	**09 47 15.2**	**+0.8**
MKAR	**Makanchi Array**	**40.85 309**		P	**P**	**09 47 15.1**	**+0.6**
	comp=E,0.5nm,0.4s,baz=95,slow=9.1,SNR=12						
MKAR				PcP	**PcP**	**09 49 14.4**	**+0.1**
	comp=E,0.3nm,0.7s,baz=83,slow=4.6,SNR=2.5						
	comp=E,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**41.03 321**		P	**P**	**09 47 15.7**	**-0.1**
	comp=E,2.5nm,0.4s,baz=107,slow=9.1,SNR=6.9						
	comp=E,2.5nm,0.4s						
KURK	**Kurchatov**	**43.89 314**		P	**P**	**09 47 39.6**	**+0.6**
KURK				IAmb	IAmb	09 48 04.3	
	comp=Z,2.2nm,1.1s						
KURBB	**Kurchatov Arra**	**43.93 314**		P	**P**	**09 47 39.7**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=97,slow=8.8,SNR=15						
	comp=Z,1.1nm,0.4s						
WRA	**Warramunga Arr**	**48.71 174**		P	**P**	**09 48 18.4**	**+1.3**
WRA	**Warramunga Arr**	**48.71 174**		P	**P**	**09 48 15.3**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=355,slow=7.9,SNR=3.3						
	comp=Z,0.5nm,0.7s						
WR8	**Warramunga Arr**	**48.73 174**		P	**P**	**09 48 17.8**	**+0.4**
WR8				IAmb	IAmb	09 48 47.8	
	comp=Z,6.7nm,1.3s						
KKAR	**Karatay Array**	**49.03 304**		P	**P**	**09 48 20.7**	**+1.2**
BVAR	**Borovoye Array**	**49.25 317**		P	**P**	**09 48 20.8**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=85,slow=9.7,SNR=11						
	comp=Z,1.7nm,0.5s						
BRVK	**Borovoye**	**49.32 317**		P	**P**	**09 48 22.4**	**+0.9**
ASAR	**Alice Springs**	**52.36 175**		P	**P**	**09 48 44.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=356,slow=7.2,SNR=8.7						
	comp=Z,0.2nm,0.5s						
ABKAR	**Akbulak array**	**55.86 312**		P	**P**	**09 49 10.1**	**+0.2**
E23K	**Chandalar**	**60.11 25**		P	**P**	**09 49 41.0**	**+1.5**
E23K				IAmb	IAmb	09 49 59.3	
	comp=Z,3.2nm,1.2s						
ILAR	**Eielson Array**	**61.51 29**		P	**P**	**09 49 46.2**	**-2.7**
	comp=Z,0.2nm,0.7s,baz=286,slow=6.5,SNR=4.3						
	comp=Z,0.2nm,0.7s						
F26K	**Sheenjek River**	**62.21 26**		P	**P**	**09 49 55.6**	**+2.0**
F26K				IAmb	IAmb	09 50 11.2	
	comp=Z,2.6nm,1.1s						
A36M	**Sachs Harbour**	**67.33 19**		P	**P**	**09 50 28.4**	**+1.7**
A36M				IAmb	IAmb	09 50 34.3	
	comp=Z,4.5nm,0.9s						
ARCES	**ARCESS Array B**	**68.07 338**		P	**P**	**09 50 30.9**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=63,slow=5.5,SNR=2.8						
	comp=Z,4.3nm,0.9s						
KBZ	**Khabaz**	**68.55 309**		P	**P**	**09 50 35.5**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=51,slow=6.5,SNR=6.0						
	comp=Z,3.4nm,0.9s						
C36M	**Paulatuk**	**68.78 21**		P	**P**	**09 50 37.2**	**+1.4**
FINES	**FINESS Array B**	**71.25 330**		P	**P**	**09 50 50.5**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=61,slow=5.3,SNR=6.2						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**74.41 320**		P	**P**	**09 51 09.7**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=63,slow=5.9,SNR=4.0						
	comp=Z,0.9nm,0.4s						
YKA	**Yellowknife Ar**	**75.60 26**		P	**P**	**09 51 16.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=300,slow=5.8,SNR=8.5						
	comp=Z,0.6nm,0.7s						
BR131	**Keskin Array S**	**76.48 308**		P	**P**	**09 51 22.8**	**+0.4**
BR131				IAmb	IAmb	09 51 23.9	
	comp=Z,3.5nm,0.9s						
BRTR	**Keskin Array B**	**76.48 308**		P	**P**	**09 51 22.2**	**-0.2**
BRTR	**Keskin Array B**	**76.48 308**		P	**P**	**09 51 22.4**	**0.0**
	comp=Z,2.3nm,0.8s,baz=95,slow=5.2,SNR=13						
	comp=Z,2.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**86.98 335**		P	**P**	**09 52 16.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=38,slow=6.3,SNR=1.9						
	comp=Z,0.4nm,0.3s						
NVAR	**Mina Array Bea**	**87.74 47**		P	**P**	**09 52 19.0**	**-2.4**
	comp=Z,0.3nm,0.8s,baz=307,slow=3.4,SNR=2.3						
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array**	**90.30 39**		P	**P**	**09 52 30.1**	**-3.2**
	comp=Z,0.2nm,0.7s,baz=320,slow=3.5,SNR=4.2						
	comp=Z,0.2nm,0.7s						
DBIC	**Dimbokro**	**123.81 302**		PKP	**PKPdf**	**09 58 30.6**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=68,slow=5.4,SNR=1.8						

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*ASRS **18** 09:47:07.0±1.1, 54°.15N×87°.10E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 09:47:09.9±3.5,54°.17N×86°.87E, h0km, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=29.6km s-min=17.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23 260**		I	I	09 52 59.6	
	0.1nm,0.8s,baz=78,slow=340,SNR=9.6						
ZALV	**Zalesovo Beam**	**1.23 260**		Pg	Pg	09 47 33.2	-0.3
	1.4nm,0.3s,baz=80,slow=15,SNR=11						
ZALV				Lg	Lg	09 47 49.7	
	1.7nm,0.3s,baz=79,slow=30,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.22 238**		Pn	Pn	09 48 44.2	+1.3
	baz=53,slow=13,SNR=1.7						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**7.94 203**		Pn	Pn	09 49 07.1	+0.5
	baz=23,slow=13,SNR=1.5						
	0.1nm,0.5s						

HEL 18 09:58:23.7±0.3, 67°.89N×20°.21E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.69 76**		PG	Pg	09 58 36.2	-0.7
LANU				SG	Sg	09 58 43.6	-2.3
KIF	**Kilpisjarvi**	**1.14 11**	*e*	P	Pn	09 58 46.7	-0.2
KIF	**Kilpisjarvi**	**1.14 11**		PN	Pn	09 58 47.0	+0.1
KIF				MSG		09 58 59.5	
	comp=Z,4.6nm,0.2s						
KIF				SN	Sn	09 59 02.4	-0.8
HEF	**Hetta**	**1.39 66**	*e*	P	Pb	09 58 51.2	+0.6
HEF	**Hetta**	**1.39 66**		PN	Pg	09 58 50.2	-0.1
HEF				MSG		09 59 05.7	
	comp=Z,2.7nm,0.2s						
HEF				SN	Sn	09 59 09.8	+0.4
PAJU	**Pajala**	**1.42 126**		PG	Pn	09 58 48.7	-2.0
	baz=305						
PAJU				SG	Sg	09 59 08.8	-0.2
ERTU	**Ertsjaerv**	**1.54 149**		PG	Pn	09 58 51.4	-1.1
ERTU				SN	Sg	09 59 13.4	+0.2
KLF	**Kolari**	**1.58 113**		PG	Pn	09 58 52.4	-0.5
KLF				MSG		09 59 11.1	
	comp=Z,1.6nm,0.2s						
KLF				SN	Sn	09 59 13.9	-0.2
KTK1	**Kautokeino**	**1.59 43**		PN	Pg	09 58 54.1	0.0
KALU	**Kalix**	**2.39 147**		PG	Pn	09 59 05.0	+1.0
	baz=334						
KALU				SG	Sb	09 59 36.0	-1.4
TOF	**Tornio**	**2.43 136**		PG	Pn	09 59 06.0	+1.4
TOF				MSG		09 59 35.5	
	comp=Z,2.5nm,0.2s						
TOF				SG	Sb	09 59 38.2	-0.5
ARA0	**ARCESS Array S**	**2.54 47**		PG	Pb	09 59 08.8	-1.4
ARA0				SG	Sb	09 59 42.3	+0.4
RNF	**Rovaniemi**	**2.59 117**		PB	Pn	09 59 08.3	+1.5
	baz=306						
RNF				SG	Sb	09 59 43.0	-0.3
RAJF	**Raja-Jooseppi**	**3.08 75**		PG	Pb	09 59 19.0	-0.3
RAJF				SG	Sg	10 00 00.2	-2.4
KEV	**Kevo**	**3.10 50**		PG	Pb	09 59 19.0	-0.6
KEV				SB	Sn	09 59 54.1	+2.7
KEV				MSG		09 59 54.6	
	comp=Z,1.1nm,0.2s						
VRF	**Varrio**	**3.57 88**		PG	Pb	09 59 29.4	+1.8
OBF0	**Syolatti, Pyha**	**3.77 153**		PG	Pb	09 59 28.9	-2.2
KU6	**Riekki**	**4.24 112**		PG	Pb	09 59 40.5	+1.5

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*NNC **18** 10:23:52.6±0.6, 51°.83N×75°.49E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=11.1km s-min=3.6km az=24.0, Suspected Mining explosion.*
*IDC **18** 10:23:54.0±1.2, 51°.75N×75°.42E, h0km, mbtmp2.8/2, ML2.1/1, Error ellipse: s-maj=29.6km s-min=8.6km az=30.0*

ISC 18 10:23:58.2±1.4,51°.9N±0°.1×75°.92E±0°.08, h0km, n12, σ1§89/10, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.06 123**		⇑Pg	**Pn**	**10 24 34.1**	**0.0**
	5.5nm,1.0s						
KURK				⇓Lg	Lg	10 25 02.6	
	15nm,0.7s						
KURBB	**Kurchatov Arra**	**2.07 126**		Pg	**Pn**	**10 24 33.8**	**-0.4**
	0.2nm,0.3s,baz=304,slow=19,SNR=13						
KURBB				Lg	Lg	10 25 04.1	
	0.2nm,0.3s,baz=297,slow=28,SNR=6.9						
KURBB	**Kurchatov Arra**	**2.07 126**		⇑Pg	**Pn**	**10 24 34.5**	**+0.4**
	4.4nm,0.8s						
KURBB				⇓Lg	Lg	10 25 04.3	
	40nm,0.8s						
BVA0	**Borovoye Array**	**3.57 291**		⇓Pg	**Pn**	**10 24 54.3**	**-0.5**
	4.0nm,1.1s,baz=111,slow=16,SNR=12						
BVA0				Lg	Lg	10 25 39.1	
	18nm,0.8s,baz=108,slow=20,SNR=8.3						
BVAR	**Borovoye Array**	**3.57 291**		Pg	**Pn**	**10 24 52.3**	**-2.5**
	0.1nm,0.3s,baz=110,slow=17,SNR=4.7						
BVAR				Lg	Lg	10 25 40.3	
	0.2nm,0.3s,baz=114,slow=28,SNR=3.3						
BRVK	**Borovoye**	**3.64 291**		⇑Pg	**Pn**	**10 24 53.8**	**-2.0**
	8.3nm,1.3s						
BRVK				⇓Lg	Lg	10 25 40.6	
	22nm,0.9s						
OTUK	**Ortayu**	**4.31 214**		⇑Pg	**Pn**	**10 25 07.4**	**+2.5**
	3.8nm,1.6s						
OTUK				⇓Lg	Lg	10 26 04.4	
	9.9nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.77 65**		I	I	11 01 00.0	
	baz=250,slow=328,SNR=8.3						
ZALV	**Zalesovo Beam**	**5.77 65**		Pn	**Pn**	**10 25 27.5**	**+2.5**
	0.2nm,0.3s,baz=258,slow=15,SNR=4.6						
	0.8nm,0.5s						
MAKZ	**Makanchi**	**6.44 140**		⇑Lg	Lg	10 27 22.8	
	5.8nm,0.9s						
MK31	**Makanchi Array**	**6.58 138**		Lg	Lg	10 27 26.5	
	2.8nm,0.7s,baz=325,slow=23,SNR=10						
MKAR	**Makanchi Array**	**6.58 138**		Pn	**Pn**	**10 25 34.9**	**-1.2**
	0.6nm,0.8s,baz=317,slow=12,SNR=1.0	

1.6nm,0.3s
LSZ Lusaka 16.82 260 Pn **Pn 10 40 40.5 -0.6**
LSZ IAmb IAmb 10 40 46.2
comp=Z,31nm,0.9s
LSZ Lusaka 16.82 260 Pn **Pn 10 40 41.0 -0.1**
comp=Z,0.8nm,0.3s,baz=75,slow=8.0,SNR=21
LSZ Sn **Sn 10 43 41.0 -7.2**
comp=Z,0.4nm,0.3s,baz=13,slow=18,SNR=2.2
LSZ LR LR 10 46 35.2
comp=Z,73nm,20.2s,baz=94,slow=35
comp=Z,25nm,0.9s
LODK Lodwar 19.09 328 Pn 10 41 08.3 -0.7
LBTB Lobatse 22.16 234 P **P 10 41 42.4 +0.8**
LBTB IAmb IAmb 10 41 58.5
comp=Z,13nm,0.8s
LBTB Lobatse 22.16 234 P **P 10 41 42.2 +0.7**
comp=Z,12nm,1.0s,baz=62,slow=11,SNR=13
LBTB S **S 10 45 47.2 +1.3**
comp=Z,1.1nm,0.6s,baz=101,slow=18,SNR=1.4
LBTB LR LR 10 50 27.7
comp=Z,57nm,18.4s,baz=58,slow=37
comp=Z,12nm,1.0s
BOSA Boshof 24.34 227 P **P 10 42 04.3 +0.7**
BOSA IAmb IAmb 10 42 11.8
comp=Z,5.9nm,0.8s
BOSA Boshof 24.34 227 P **P 10 42 04.2 +0.7**
comp=Z,2.0nm,0.5s,baz=55,slow=9.6,SNR=7.7
BOSA LR LR 10 52 49.1
comp=Z,58nm,18.4s,baz=24,slow=40
comp=Z,2.0nm,0.5s
SUR Sutherland 29.64 225 P **P 10 42 52.6 +1.4**
SUR IAmb IAmb 10 43 27.4
comp=Z,14nm,1.0s
SUR Sutherland 29.64 225 LR LR 10 55 03.4
comp=Z,43nm,18.3s,baz=120,slow=37
TORD Torodi Ar. Bea 50.48 299 P **P 10 45 44.4 +0.6**
comp=Z,1.0nm,0.3s,baz=108,slow=7.6,SNR=2.5
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 53.56 349 P **P 10 46 07.5 +1.0**
comp=Z,0.6nm,0.7s,baz=170,slow=8.8,SNR=4.2
comp=Z,0.6nm,0.7s
DBIC Dimbokro 53.58 288 LR LR 11 09 00.6
comp=Z,29nm,18.1s,baz=151,slow=36
KBZ Khabaz 56.48 358 P **P 10 46 28.9 +1.6**
comp=Z,0.4nm,0.4s,baz=158,slow=16,SNR=2.5
comp=Z,0.4nm,0.4s
KKAR Karatay Array 60.38 21 P **P 10 46 53.9 -0.8**
CMAR Chiang Mai Arr 61.37 60 P **P 10 47 02.7 +0.8**
comp=Z,0.5nm,0.3s,baz=256,slow=5.3,SNR=5.2
comp=Z,0.5nm,0.3s
AB31 Akbulak array 63.29 11 P **P 10 47 14.2 +0.1**
AB31 IAmb IAmb 10 47 24.5
comp=Z,5.6nm,0.8s
ABKAR Akbulak array 63.29 11 P **P 10 47 14.0 -0.1**
AKASG Malin Array Be 64.96 349 P **P 10 47 25.1 0.0**
comp=Z,0.2nm,0.3s,baz=172,slow=5.2,SNR=2.7
comp=Z,0.2nm,0.3s
MDT Midelt 65.95 315 LR LR 11 18 09.2
comp=Z,23nm,18.7s,baz=190,slow=38
GERES GERESS Array B 67.63 338 P **P 10 47 42.8 +0.5**
comp=Z,0.3nm,0.3s,baz=158,slow=8.1,SNR=1.4
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 68.08 26 P **P 10 47 45.3 +0.2**
comp=Z,0.6nm,0.8s,baz=205,slow=4.7,SNR=4.7
comp=Z,0.6nm,0.8s
BVAR Borovoye Array 69.17 16 P **P 10 47 52.0 +0.3**
comp=Z,0.3nm,0.3s,baz=216,slow=4.6,SNR=4.6
comp=Z,0.3nm,0.3s
ESDC Sonseca Array 69.61 321 P **P 10 47 55.0 +0.2**
comp=Z,1.1nm,0.9s,baz=131,slow=4.0,SNR=5.4
comp=Z,1.1nm,0.9s
KURBB Kurchatov Arra 69.65 22 P **P 10 47 55.2 +0.5**
comp=Z,0.3nm,0.7s,baz=224,slow=6.1,SNR=2.2
comp=Z,0.3nm,0.7s
ARTI Arti 69.96 8 LR LR 11 21 31.1
comp=Z,18nm,19.5s,baz=266,slow=38
ZALV Zalesovo Beam 74.64 23 P **P 10 48 24.7 +0.2**
comp=Z,0.5nm,0.5s,baz=208,slow=6.0,SNR=6.7
comp=Z,0.5nm,0.5s
FINES FINESS Array B 75.74 351 P **P 10 48 31.5 +0.8**
comp=Z,2.9nm,1.0s,baz=145,slow=7.6,SNR=1.9
comp=Z,2.9nm,1.0s
QSPA South Pole Qui 77.12 180 P **P 10 48 41.1 +2.3**
comp=Z,2.0nm,0.8s,baz=269,slow=2.6,SNR=8.1
comp=Z,2.0nm,0.8s
HFS Hagfors 77.17 344 P **P 10 48 39.5 +0.6**
comp=Z,4.8nm,1.0s,baz=191,slow=6.9,SNR=2.1
comp=Z,4.8nm,1.0s
SONM Songino Array 81.19 37 P **P 10 49 02.8 +1.4**
comp=Z,0.3nm,0.4s,baz=224,slow=4.0,SNR=2.2
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 83.48 353 P **P 10 49 13.1 +0.4**
comp=Z,2.5nm,0.9s,baz=85,slow=2.6,SNR=3.7
comp=Z,2.5nm,0.9s
ASAR Alice Springs 83.58 113 P **P 10 49 15.2 +0.9**
comp=Z,2.1nm,0.6s,baz=263,slow=4.7,SNR=53
comp=Z,2.1nm,0.6s
WRA Warramunga Arr 84.72 109 P **P 10 49 21.9 +1.8**
comp=Z,1.8nm,0.7s,baz=260,slow=3.2,SNR=10
comp=Z,1.8nm,0.7s
KSRS Korea Array 91.99 52 LR LR 11 32 38.5
comp=Z,16nm,18.8s,baz=210,slow=36
TXAR Lajitas Array 146.99 304 PKPbc **PKPbc 10 56 28.6 -0.4**
comp=Z,0.3nm,0.6s,baz=94,slow=3.0,SNR=4.3
NVAR Mina Array Bea 150.79 333 PKP **PKPdf 10 56 34.1 +1.1**
comp=Z,0.1nm,0.5s,baz=97,slow=1.2,SNR=2.6
NVAR PKPbc **pPKPbc 10 56 41.1 -0.4**
comp=Z,0.4nm,0.7s,baz=74,slow=2.1,SNR=4.0

NNC 18 10:53:51.3±3.3, 36°.38N×70°.36E, h127^{km}±73^{km}, mb3.0, mpv3.6, 1C-2D, Error ellipse: s-maj=30.2km s-min=27.3km az=71.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.71**	**1**	P	Pn	10 55 27.3	0.0
	1.5nm,0.3s,baz=190,slow=15,SNR=41						
KK31				⇑S	Sn	10 56 43.0	+0.6
	1.5nm,0.3s,baz=193,slow=26,SNR=7.6						
AAK	**Ala-Archa**	**7.02**	**26**	⇓P	Pn	10 55 31.6	0.0
	4.0nm,1.1s						
AAK				⇓S	Sn	10 56 50.4	+0.4
	2.8nm,0.6s						
AB31	**Akbulak array**	**14.94**	**333**	P	Pn	10 57 15.8	0.0
	1.0nm,0.6s,baz=154,slow=12,SNR=21						

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*ANF **18** 11:08:04.8±0.1, 61°.67N×136°.04W, h1^{km}±1^{km}, ML3.7/44, Error ellipse: s-maj=0.8km s-min=0.8km az=159.0*
*PGC **18** 11:08:06.3, 61°.66N×136°.01W, h12^{km}, ML3.4/43, 51km south of Carmacks, Yt Southern Yukon Territory, Canada*
ISC 18 11:08:05.3±0.9, 61°.66N±0°.01×136°.09W±0°.01, h10^{km}±7^{km}, n159, σ1^{s}79/272, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N31M	**Braeburn, Yuko**	**0.23**	**140**	P	**Pg**	**11 08 10.6**	**+0.6**
N31M				S	**Sg**	**11 08 13.6**	**+0.5**
N31M	**Braeburn, Yuko**	**0.23**	**140**	P	**Pg**	**11 08 10.3**	**+0.3**
	baz=327,SNR=1000						
N31M				S	**Sg**	**11 08 13.7**	**+0.5**
	baz=327						
N30M	**Aishikik Lake**	**0.52**	**248**	P	**Pb**	**11 08 16.4**	**-0.3**
N30M				S	**Sb**	**11 08 23.4**	**-0.8**
N30M	**Aishikik Lake**	**0.52**	**248**	P	**Pb**	**11 08 16.1**	**-0.5**
	baz=67,SNR=1000						
N30M				S	**Sb**	**11 08 23.8**	**-0.5**
	baz=67						
O30N	**Mendenhall**	**0.89**	**180**	P	**Pb**	**11 08 22.3**	**-0.7**
O30N	**Mendenhall**	**0.89**	**180**	P	**Pb**	**11 08 22.2**	**-0.7**
	baz=1.5,SNR=1000						
O30N				S	**Sb**	**11 08 34.2**	**-0.7**
	baz=1.5						
M31M	**Drury Creek, Y**	**0.97**	**55**	P	**Pg**	**11 08 23.1**	**-0.8**
M31M	**Drury Creek, Y**	**0.97**	**55**	P	**Pg**	**11 08 23.1**	**-0.8**
	baz=236,SNR=778						
M31M				S	**Sg**	**11 08 35.6**	**-0.9**
	baz=236						
M30M	**Minto, Yukon**	**0.98**	**340**	P	**Pg**	**11 08 24.0**	**-0.1**
M30M				S	**Sg**	**11 08 36.9**	**+0.1**
M30M	**Minto, Yukon**	**0.98**	**340**	P	**Pg**	**11 08 23.4**	**-0.7**
	baz=158,SNR=1000						
M30M				S	**Sg**	**11 08 36.8**	**0.0**
	baz=158						
YUK5	**Granite Creek**	**1.01**	**239**	P	**Pb**	**11 08 24.9**	**0.0**
YUK5				S	**Sb**	**11 08 38.2**	**-0.1**
HYT	**Haines Junctio**	**1.08**	**220**	P	**Pb**	**11 08 26.2**	**0.0**
HYT	**Haines Junctio**	**1.08**	**220**	P	**Pb**	**11 08 26.1**	**-0.2**
	baz=39,SNR=1000						
HYT				Sb	**Sn**	**11 08 42.6**	**+0.8**
	baz=39						
WHY	**Whitehorse**	**1.16**	**149**	P	**Pg**	**11 08 26.6**	**-1.0**
WHY				S	**Sg**	**11 08 41.8**	**-0.9**
WHY	**Whitehorse**	**1.16**	**149**	P	**Pg**	**11 08 26.6**	**-1.0**
	baz=332,SNR=327						
WHY				S	**Sb**	**11 08 42.8**	**0.0**
	baz=332						
YUK4	**Talbot Arm**	**1.27**	**257**	P	**Pg**	**11 08 28.7**	**-0.9**
YUK4				S	**Sg**	**11 08 45.0**	**-1.1**
YUK4	**Talbot Arm**	**1.27**	**257**	P	**Pg**	**11 08 28.5**	**-1.2**
	baz=78,SNR=1000						
YUK4				S	**Sg**	**11 08 45.2**	**-0.9**
	baz=78						
YUK6	**Outpost Mounta**	**1.31**	**238**	P	**Pn**	**11 08 30.8**	**+0.8**
YUK6				S	**Sn**	**11 08 49.1**	**+1.4**
YUK6	**Outpost Mounta**	**1.31**	**238**	P	**Pn**	**11 08 30.7**	**+0.7**
	baz=56,SNR=709						
YUK6				S	**Sn**	**11 08 49.3**	**+1.7**
	baz=56						
M29M	**Somme Creek**	**1.37**	**306**	P	**Pn**	**11 08 31.0**	**+0.4**
M29M				S	**Sb**	**11 08 49.6**	**+1.0**
M29M	**Somme Creek**	**1.37**	**306**	P	**Pn**	**11 08 30.8**	**+0.2**
	baz=123,SNR=1000						
M29M				S	**Sn**	**11 08 49.9**	**+1.0**
	baz=123						
FARO	**Faro, Yukon**	**1.41**	**65**	P	**Pn**	**11 08 31.5**	**+0.3**
FARO				S	**Sg**	**11 08 50.4**	**-0.4**
FARO	**Faro, Yukon**	**1.41**	**65**	P	**Pn**	**11 08 31.2**	**+0.1**
	baz=247,SNR=324						
FARO				S	**Sg**	**11 08 50.5**	**-0.2**
	baz=247						
BRWY	**Burwash Landin**	**1.44**	**260**	Pg	**Pg**	**11 08 32.6**	**-0.3**
BRWY				Sg	**Sn**	**11 08 52.4**	**+1.8**
YUK7	**Dusty Glacier**	**1.51**	**222**	Pn	**Pg**	**11 08 34.2**	**-0.1**
YUK7				Sg	**Sn**	**11 08 54.9**	**+2.5**
N32M	**Quiet Lake**	**1.53**	**108**	Pn	**Pn**	**11 08 32.9**	**+0.1**
N32M				Sg	**Sn**	**11 08 52.7**	**-0.1**
N32M	**Quiet Lake**	**1.53**	**108**	P	**Pn**	**11 08 32.9**	**+0.1**
	baz=291						
N32M				S	**Sn**	**11 08 53.6**	**+0.8**
	baz=291						
P30M	**Million Dollar**	**1.60**	**196**	Pn	**Pb**	**11 08 34.6**	**-0.4**
P30M				Sg	**Sg**	**11 08 56.5**	**-0.2**
P30M	**Million Dollar**	**1.60**	**196**	P	**Pb**	**11 08 34.6**	**-0.4**
	baz=16						
P30M				S	**Sg**	**11 08 56.6**	**-0.2**
	baz=16						
L29M	**L29M**	**1.74**	**328**	Pn	**Pn**	**11 08 35.8**	**+0.2**
L29M				Sg	**Sb**	**11 09 00.4**	**+1.2**
L29M	**L29M**	**1.74**	**328**	P	**Pn**	**11 08 35.8**	**+0.2**
	baz=145,SNR=707						
L29M				S	**Sb**	**11 09 00.3**	**+1.2**
	baz=145						
YUK8	**Steele Glacier**	**1.81**	**260**	Pn	**Pn**	**11 08 37.7**	**+1.0**
YUK8				Pg	**Pg**	**11 08 40.0**	**+0.1**
YUK8				Sg	**Sg**	**11 09 03.8**	**+0.4**
YUK8	**Steele Glacier**	**1.81**	**260**	Pg	**Pg**	**11 08 39.8**	**-0.1**
	baz=76						
YUK8				Sb	**Sg**	**11 09 03.7**	**+0.4**
	baz=76						
O29M	**Mount Kennedy**	**1.82**	**223**	Pn	**Pb**	**11 08 38.6**	**-0.3**
O29M				Sg	**Sg**	**11 09 04.2**	**+0.3**
O29M	**Mount Kennedy**	**1.82**	**223**	Pg	**Pg**	**11 08 39.9**	**-0.4**
	baz=41						
O29M				Sb	**Sg**	**11 09 04.2**	**+0.3**
	baz=41						
MAYO	**Mayo, Yukon**	**1.94**	**3**	Pn	**Pn**	**11 08 39.0**	**+0.6**
MAYO				Pg	**Pg**	**11 08 42.4**	**-0.2**
MAYO	**Mayo, Yukon**	**1.94**	**3**	P	**Pn**	**11 08 38.9**	**+0.5**
	baz=182,SNR=9.5						
MAYO				Sb	**Sb**	**11 09 06.8**	**+1.7**
	baz=182						
YUK3	**Moose Creek**	**2.09**	**275**	Pn	**Pn**	**11 08 41.2**	**+0.7**
YUK3				Sg	**Sg**	**11 09 11.7**	**-0.6**
YUK3	**Moose Creek**	**2.09**	**275**	P	**Pn**	**11 08 41.3**	**+0.7**
	baz=91,SNR=248						
YUK3				Sb	**Sg**	**11 09 11.8**	**-0.6**
	baz=91						
P33M	**Teslin, Yukon**	**2.16**	**131**	Pn	**Pn**	**11 08 41.0**	**-0.4**
P33M				Pg	**Pb**	**11 08 43.6**	**-0.9**
P33M				Sg	**Sb**	**11 09 11.7**	**+0.4**
P33M	**Teslin, Yukon**	**2.16**	**131**	P	**Pn**	**11 08 41.7**	**+0.2**
	baz=314,SNR=139						
P33M				Sb	**Sb**	**11 09 12.6**	**+1.2**
	baz=314						
O28M	**Mount Upton**	**2.18**	**248**	Pn	**Pb**	**11 08 43.8**	**-1.2**
O28M	**Mount Upton**	**2.18**	**248**	Pg	**Pg**	**11 08 46.8**	**-0.2**
	baz=64						
O28M				Sb	**Sg**	**11 09 14.2**	**-1.0**
	baz=64						
PLBC	**Pleasant Camp**	**2.22**	**184**	Pn	**Pn**	**11 08 43.2**	**+1.1**
PLBC				Pg	**Pb**	**11 08 45.4**	**0.0**
PLBC				Sg	**Sg**	**11 09 14.2**	**-2.2**
PLBC	**Pleasant Camp**	**2.22**	**184**	P	**Pn**	**11 08 43.6**	**+1.5**
	baz=4.0,SNR=63						
PLBC				Sb	**Sg**	**11 09 14.7**	**-1.8**
	baz=4.0						
SKAG	**Skagway**	**2.24**	**170**	P	**Pn**	**11 08 43.8**	**+1.4**
	baz=351,SNR=33						
SKAG				Sb	**Sg**	**11 09 15.1**	**-2.1**
	baz=351						
YUK2	**White River**	**2.27**	**275**	Pn	**Pn**	**11 08 43.7**	**+0.7**
YUK2				Sg	**Sg**	**11 09 16.9**	**-1.3**
K29M	**Barlow Dome**	**2.29**	**344**	Pn	**Pn**	**11 08 43.9**	**+0.6**
K29M				Sg	**Sb**	**11 09 17.4**	**+2.2**
K29M	**Barlow Dome**	**2.29**	**344**	P	**Pn**	**11 08 43.9**	**+0.6**
	baz=162						
K29M				S	**Sn**	**11 09 12.7**	**+1.1**
	baz=162						
BVCY	**Beaver Creek**	**2.37**	**291**	Pg	**Pb**	**11 08 49.2**	**+1.1**
BVCY				Sg	**Sg**	**11 09 20.4**	**-1.2**
BVCY	**Beaver Creek**	**2.37**	**291**	P	**Pn**	**11 08 45.0**	**+0.7**
	baz=106						
BVCY				Sb	**Sg**	**11 09 20.3**	**-1.2**
	baz=106						
P32M	**Atlin**	**2.38**	**150**	Pg	**Pb**	**11 08 47.7**	**-0.7**
P32M				Sg	**Sb**	**11 09 18.7**	**+0.9**
P32M	**Atlin**	**2.38**	**150**	P	**Pn**	**11 08 45.2**	**+0.7**
	baz=332,SNR=56						
P32M				Sb	**Sb**	**11 09 18.9**	**+1.1**
	baz=332						
PINM	**Pinnacle**	**2.57**	**234**	Sb	**Sg**	**11 09 25.8**	**-2.1**
	baz=51						
PCA	**Pinnacle**	**2.57**	**234**	Pn	**Pn**	**11 08 49.4**	**+2.3**
PCA				Sg	**Sg**	**11 09 28.8**	**+0.9**
PNL	**Peninsula**	**2.58**	**221**	Pn	**Pn**	**11 08 47.5**	**+0.4**
PNL				Sg	**Sg**	**11 09 27.9**	**-0.1**
PNL	**Peninsula**	**2.58**	**221**	Pg	**Pg**	**11 08 54.3**	**-0.4**
	baz=38						
PNL				Sb	**Sg**	**11 09 27.1**	**-0.9**
	baz=38						
SAMH	**Samovar Hills**	**2.76**	**238**	Pn	**Pn**	**11 08 51.2**	**+1.5**
M27K	**Edge Creek, AK**	**2.82**	**287**	Pn	**Pn**	**11 08 52.0**	**+1.4**
M27K				Pg	**Pb**	**11 08 57.0**	**+1.1**
M27K				Sg	**Sg**	**11 09 33.8**	**-2.0**
M27K	**Edge Creek, AK**	**2.82**	**287**	P	**Pn**	**11 08 51.1**	**+0.6**
	baz=102,SNR=89						
M27K				Sb	**Sg**	**11 09 33.9**	**-1.9**
	baz=102						
DAWY	**Dawson**	**2.85**	**329**	Pn	**Pn**	**11 08 51.0**	**+0.2**
DAWY				Sg	**Sg**	**11 09 35.0**	**-1.8**
DAWY	**Dawson**	**2.85**	**329**	P	**Pn**	**11 08 51.2**	**+0.3**
	baz=146,SNR=81						
DAWY				Sb	**Sg**	**11 09 34.9**	**-1.8**
	baz=146						
RKAV	**Rock Avalanche**	**2.91**	**244**	Pn	**Pn**	**11 08 54.4**	**+2.7**
J30M	**Hart River**	**2.93**	**358**	Pn	**Pn**	**11 08 52.8**	**+0.7**
J30M				Sg	**Sb**	**11 09 36.3**	**+2.8**
J30M	**Hart River**	**2.93**	**358**	P	**Pn**	**11 08 52.6**	**+0.5**
	baz=177						
J30M				Sb	**Sb**	**11 09 36.2**	**+2.7**
	baz=177						
J29N	**Klondike Camp**	**2.97**	**342**	Pn	**Pn**	**11 08 53.4**	**+0.9**
J29N				Pg	**Pg**	**11 09 00.6**	**-1.5**
J29N				Sg	**Sg**	**11 09 38.4**	**-2.0**
J29N	**Klondike Camp**	**2.97**	**342**	Sb	**Sb**	**11 09 37.7**	**+3.1**
	baz=160						
L27K	**Beaver Creek,**	**3.02**	**300**	Pn	**Pn**	**11 08 53.2**	**0.0**
L27K				Pg	**Pb**	**11 09 00.9**	**+1.7**
L27K				Sg	**Sg**	**11 09 40.4**	**-1.9**
L27K	**Beaver Creek,**	**3.02**	**300**	P	**Pn**	**11 08 53.8**	**+0.6**
	baz=115						
L27K				Sb	**Sg**	**11 09 40.4**	**-1.9**
	baz=115						
BALM	**Baldy**	**3.08**	**261**	Pn	**Pn**	**11 08 56.7**	**+2.6**
BALM				Sn	**Sb**	**11 09 36.6**	**-1.3**
KIAG	**Kiagna River**	**3.12**	**259**	Pn	**Pn**	**11 08 57.4**	**+2.7**
KIAG				Sn	**Sb**	**11 09 36.7**	**-2.3**
BESE	**Bessie Mountai**	**3.15**	**168**	Pn	**Pn**	**11 08 56.2**	**+1.1**
BESE				Sg	**Sb**	**11 09 41.9**	**+2.0**
MESA	**MESA**	**3.23**	**245**	Pn	**Pn**	**11 08 59.2**	**+2.9**
Q32M	**Nakina River**	**3.31**	**143**	Pn	**Pn**	**11 08 58.6**	**+1.3**
Q32M				Sg	**Sg**	**11 09 48.0**	**-3.4**
Q32M	**Nakina River**	**3.31**	**143**	Sb	**Sg**	**11 09 48.1**	**-3.4**
	baz=327						
M26K	**Nabesna, AK**	**3.34**	**286**	Pn	**Pn**	**11 08 58.4**	**+0.7**
M26K				Sg	**Sg**	**11 09 49.5**	**-3.0**
M26K	**Nabesna, AK**	**3.34**	**286**	P	**Pn**	**11 08 58.2**	**+0.6**
	baz=100,SNR=118						
M26K				Sb	**Sg**	**11 09 49.6**	**-2.8**
	baz=100						
R33M	**Jennings River**	**3.40**	**130**	Pn	**Pn**	**11 08 58.7**	**+0.2**
R33M				Sg	**Sb**	**11 09 49.0**	**+1.8**
R33M	**Jennings River**	**3.40**	**130**	P	**Pn**	**11 08 57.9**	**-0.7**
	baz=314,SNR=8.7						
R33M				Sb	**Sb**	**11 09 50.1**	**+3.0**
	baz=314						
R32K	**Eaglecrest**	**3.49**	**166**	Sb	**Sg**	**11 09 53.8**	**-3.4**
	baz=348						
I30M	**Mount Dempster**	**3.58**	**358**	Pn	**Pn**	**11 09 02.0**	**+1.1**
I30M	**Mount Dempster**	**3.58**	**358**	P	**Pn**	**11 09 02.1**	**+1.1**
	baz=177,SNR=15						
I30M				S	**Sn**	**11 09 43.9**	**+0.5**
	baz=177						
K27K	**Chicken**	**3.63**	**313**	Pn	**Pn**	**11 09 01.8**	**+0.3**
K27K				Pg	**Pg**	**11 09 12.4**	**-2.4**
K27K				Sg	**Sg**	**11 09 58.4**	**-3.4**
K27K	**Chicken**	**3.63**	**313**	P	**Pn**	**11 09 01.9**	**+0.3**
	baz=128						
K27K				Sb	**Sg**	**11 09 58.5**	**-3.4**
	baz=128						
L26K	**Log Cabin Wild**	**3.65**	**295**	Pn	**Pn**	**11 09 02.0**	**+0.1**
L26K	**Log Cabin Wild**	**3.65**	**295**	P	**Pn**	**11 09 02.2**	**+0.3**
	baz=108,SNR=10.0						
L26K				Sb	**Sg**	**11 09 59.5**	**-2.9**
	baz=108						
S31K	**Pelican**	**3.71**	**181**	P	**Pn**	**11 09 03.3**	**+0.7**
	baz=1.4						
S31K				Sb	**Sg**	**11 10 00.3**	**-4.1**
	baz=1.4						
TGTN	**Hyland Airport**	**3.74**	**89**	Pn	**Pn**	**11 09 03.6**	**+0.5**
TGTN	**Hyland Airport**	**3.74**	**89**	P	**Pn**	**11 09 03.1**	**0.0**
	baz=276						
TGTN				Sb	**Sb**	**11 09 59.8**	**+3.2**
	baz=276						
I29M	**Ogilvie Camp,**	**3.85**	**346**	Pn	**Pn**	**11 09 05.5**	**+1.0**
I29M				Sn	**Sn**	**11 09 49.5**	**-0.2**
I29M	**Ogilvie Camp,**	**3.85**	**346**	S	**Sn**	**11 09 51.2**	**+1.4**
	baz=164						
WTLY	**Watson Lake, Y**	**3.88**	**110**	Pg	**Pb**	**11 09 15.5**	**+1.6**
WTLY				Sg	**Sb**	**11 10 05.2**	**+4.2**
WTLY	**Watson Lake, Y**	**3.88**	**110**	Sb	**Sb**	**11 10 05.2**	**+4.2**
	baz=297						
N25K	**Chitina, Valde**	**4.06**	**273**	Pn	**Pn**	**11 09 09.9**	**+2.3**
BMRM	**Bremner River**	**4.17**	**264**	P	**Pn**	**11 09 10.6**	**+1.6**
	baz=77						
BMRM				S	**Sn**	**11 10 00.7**	**+3.0**
	baz=77						
I28M	**Miner Creek**	**4.17**	**337**	Pn	**Pn**	**11 09 09.9**	**+0.8**
I28M				Sg	**Sb**	**11 10 14.3**	**+5.0**
I28M	**Miner Creek**	**4.17**	**337**	Sb	**Sb**	**11 10 13.9**	**+4.6**
	baz=154						
DOT	**Dot Lake**	**4.18**	**302**	Pn	**Pn**	**11 09 09.4**	**+0.2**
DOT				Sg	**Sg**	**11 10 17.1**	**-2.5**
H31M	**Peel River**	**4.23**	**10**	Pn	**Pn**	**11 09 10.3**	**+0.4**
H31M	**Peel River**	**4.23**	**10**	P	**Pn**	**11 09 10.6**	**+0.7**
	baz=191						
H31M				S	**Sn**	**11 10 00.2**	**+0.9**
	baz=191						
S32K	**Killisnoo**	**4.28**	**169**	Sb	**Sg**	**11 10 17.3**	**-5.2**
	baz=351						
SCRK	**Sand Creek**	**4.30**	**306**	P	**Pn**	**11 09 11.3**	**+0.3**
	baz=119,SNR=11						
SCRK				Sb	**Sg**	**11 10 19.7**	**-3.7**
	baz=119						
DLBC	**Dease Lake**	**4.43**	**134**	Pn	**Pn**	**11 09 11.9**	**-0.8**
DLBC				Sg	**Sg**	**11 10 22.4**	**-5.1**
DLBC	**Dease Lake**	**4.43**	**134**	P	**Pn**	**11 09 13.0**	**+0.3**
	baz=320,SNR=23						
DLBC				Sb	**Sb**	**11 10 21.4**	**+4.6**
	baz=320						
J26L	**Joseph Creek**	**4.44**	**313**	P	**Pn**	**11 09 13.1**	**+0.4**
	baz=126,SNR=28						
J26L				Sb	**Sb**	**11 10 21.8**	**+5.0**
	baz=126						
S34M	**Telegraph Cree**	**4.52**	**144**	Pn	**Pn**	**11 09 14.8**	**+1.1**
S34M				Sg	**Sg**	**11 10 25.5**	**-4.7**
S34M	**Telegraph Cree**	**4.52**	**144**	P	**Pn**	**11 09 14.2**	**+0.5**
	baz=329						
S34M				Sb	**Sg**	**11 10 24.7**	**-5.5**
	baz=329						
RIDG	**Independent Ri**	**4.54**	**301**	P	**Pn**	**11 09 14.5**	**+0.3**
	baz=113						
RIDG				Sb	**Sg**	**11 10 26.8**	**-4.2**
	baz=113						
I27K	**Kandik River**	**4.66**	**330**	Pn	**Pn**	**11 09 16.9**	**+1.1**
I27K				Sg	**Sg**	**11 10 32.6**	**-2.3**
I27K	**Kandik River**	**4.66**	**330**	P	**Pn**	**11 09 16.9**	**+1.1**
	baz=145,SNR=17						
I27K				S	**Sn**	**11 10 11.1**	**+1.2**
	baz=145						
H29M	**Whitestone**	**4.69**	**349**	Pn	**Pn**	**11 09 16.3**	**+0.3**
H29M	**Whitestone**	**4.69**	**349**	P	**Pn**	**11 09 16.5**	**+0.4**
	baz=166,SNR=26						
H29M				S	**Sn**	**11 10 09.9**	**-0.5**
	baz=166						
KLU	**Klutina**	**4.71**	**272**	P	**Pn**	**11 09 19.1**	**+2.7**
	baz=84						
I26K	**Coal Creek Min**	**4.84**	**322**	Pn	**Pn**	**11 09 18.7**	**+0.6**
I26K				Sg	**Sg**	**11 10 35.8**	**-4.6**
I26K	**Coal Creek Min**	**4.84**	**322**	P	**Pn**	**11 09 18.8**	**+0.6**
	baz=136						
I26K				Sb	**Sb**	**11 10 34.5**	**+6.2**
	baz=136						
K24K	**Donnelly Dome**	**4.95**	**300**	P	**Pn**	**11 09 20.1**	**+0.4**
	baz=111						
J25K	**Salcha River,**	**5.15**	**309**	Pn	**Pn**	**11 09 22.8**	**+0.3**
J25K				Sg	**Sg**	**11 10 45.8**	**-4.5**
J25K	**Salcha River,**	**5.15**	**309**	P	**Pn**	**11 09 23.1**	**+0.7**
	baz=121						
H27K	**Steamboat Moun**	**5.17**	**335**	Pn	**Pn**	**11 09 23.5**	**+0.7**
H27K	**Steamboat Moun**	**5.17**	**335**	P	**Pn**	**11 09 23.3**	**+0.5**
	baz=150						
G29M	**Pine Creek**	**5.34**	**352**	Pn	**Pn**	**11 09 25.4**	**+0.5**
G29M				Sn	**Sn**	**11 10 23.9**	**-2.6**

G25K	Bearman Lake	6.73	324	Pn	Pn	11 09 44.2	+0.2
INK	Inuvik	6.76	8	Pn	Pn	11 09 43.7	-0.8
E29M	Blow River	6.80	354	Pn	Pn	11 09 44.7	-0.3
E29M	Blow River	6.80	354	P	Pn	11 09 45.5	+0.4
	baz=172,SNR=12						
I23K	Minto, Yukon-K	6.91	306	P	Pn	11 09 46.5	0.0
	baz=114						
E27K	Coleen River	6.96	343	Pn	Pn	11 09 46.9	-0.3
E27K	Coleen River	6.96	343	P	Pn	11 09 47.8	+0.6
	baz=158,SNR=8.1						
F26K	Sheenjek River	6.97	334	Pn	Pn	11 09 47.7	+0.3
F26K	Sheenjek River	6.97	334	P	Pn	11 09 48.1	+0.7
	baz=146,SNR=6.6						
E28M	Babbage River	7.12	350	Pn	Pn	11 09 49.5	+0.1
E28M				Sn	Sn	11 11 05.3	-5.1
E28M	Babbage River	7.12	350	P	Pn	11 09 49.8	+0.3
	baz=166						
F25K	Christian River	7.22	330	Pn	Pn	11 09 52.0	+1.1
F25K	Christian Rive	7.22	330	P	Pn	11 09 52.0	+1.1
	baz=141						
E25K	Arctic Village	7.63	332	Pn	Pn	11 09 57.2	+0.8
E25K	Arctic Village	7.63	332	P	Pn	11 09 57.4	+1.0
	baz=144,SNR=6.1						
F24K	Squaw Lake	7.75	324	P	Pn	11 09 59.0	+0.8
	baz=134						
D27M	Malcolm River	7.88	347	Pn	Pn	11 10 00.4	+0.6
D27M				Sn	Sn	11 11 24.0	-5.0
D27M	Malcolm River	7.88	347	P	Pn	11 10 00.7	+0.8
	baz=163						
G23K	Bananza Creek	7.90	316	P	Pn	11 10 01.1	+0.9
	baz=123						
E23K	Chandalar	8.61	324	P	Pn	11 10 11.2	+1.4
	baz=132						
TOLK	Toolik Lake Re	8.99	327	P	Pn	11 10 17.4	+2.2
	baz=134						
O19K	Port Alsworth	9.00	269	P	Pn	11 10 18.0	+2.8
	baz=73						
G21K	Allakaket	9.03	310	P	Pn	11 10 16.4	+0.8
	baz=114						
C36M	Paulatuk	9.17	28	P	Pn	11 10 16.2	-1.2
KUKN	Kugluktuk,NWT	10.84	46	P	Pn	11 10 38.8	-1.6
A36M	Sachs Harbour	11.19	18	P	Pn	11 10 43.8	-1.2

*IDC **18** 11:12:01.5±3.3, 7°.75S×123°.42E, h153km±33km, mb3.4/4, mbtmp4.0/7, Error ellipse: s-maj=50.7km s-min=12.4km az=64.0*
*DJA **18** 11:12:05.6±0.9, 8°.S±5°.×12°.4E±°, h259km±11km, M4.1/11, mB4.4/1, mb4.2/2, MLv4.0/11, Mw(mB)3.6/1*
*NEIC **18** 11:12:09.1±2.1, 7°.88S±0°.10×123°.4E±0°.1, h237km±14km, mb4.3/10, Error ellipse: s-maj=19.9km s-min=7.5km az=128.0*

ISC 18 11:12:08.7±0.7, 7°.90S±0°.06×123°.50E±0°.07, h237km, n42, σ1°.90/45, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.45	240	Pn	Pn	11 12 44.6	-0.7
MMRI	Maumere	1.45	240	P	Pn	11 12 44.9	-0.5
SOEI	Soe	1.99	158	Pn	Pn	11 12 50.2	0.0
SOEI	Soe	1.99	158	P	Pn	11 12 50.0	-0.2
SOEI	Soe	1.99	158	S	S	11 13 22.3	-0.4
SOEI	Soe	1.99	158	P	Pn	11 12 49.1	-1.1
SOEI				S	S	11 13 22.8	+0.1
BBSI	Bau Bau	2.57	339	P	Pn	11 12 55.3	-0.5
BSSI	Bau Bau, Buton	3.46	300	P	Pn	11 13 04.7	-1.0
WSI	Waingapu	3.62	241	P	Pn	11 13 07.1	-0.4
BASI	Baing, Sumba	3.69	231	P	Pn	11 13 08.2	-0.1
BKSI	Bulukumba	4.22	307	P	Pn	11 13 13.6	-1.0
WBSI	Waikabubak, Su	4.42	247	P	Pn	11 13 15.8	-1.2
PLAI	Plampang	5.74	260	P	Pn	11 13 33.0	-0.3
	0.2nm28nm,1.1s						
SANI	Sanana	6.32	23	P	Pn	11 13 35.8	-4.9
DRS	Darwin Rock St	8.56	122	P	Pn	11 14 09.1	0.0
MTN	Manton Dam	8.97	124		Pn	11 14 14.1	-0.2
MTN	Manton Dam	8.97	124	P	Pn	11 14 14.2	-0.2
MTN	Manton Dam	8.97	124	S	S	11 15 50.3	-5.4
KNRA	Kununurra	9.29	147		Pn	11 14 17.9	-0.5
FAKI	Fak Fak	10.02	61	Pn	Pn	11 14 27.4	-0.3
FITZ	Fitzroy Crossi	10.35	169	Pn	Pn	11 14 31.3	-0.5
FITZ	Fitzroy Crossi	10.35	169	P	Pn	11 14 28.6	-3.3
	1.6nm,0.3s,baz=356,slow=10,SNR=34						
FITZ				S	S	11 16 22.5	-5.5
	20nm,0.7s,baz=288,slow=20,SNR=9.9						
PSA00	Pilbara Seismi	14.04	194		Pn	11 15 17.5	-0.3
WB0	Warramunga Arr	15.83	139	P	P	11 15 39.2	+0.7
WRA	Warramunga Arr	15.92	140	P	P	11 15 40.1	+0.6
WRA	Warramunga Arr	15.92	140	P	P	11 15 40.2	+0.7
	4.4nm,0.4s,baz=314,slow=12,SNR=49						
WRA				S	S	11 18 34.8	0.0
	0.8nm,0.4s,baz=316,slow=25,SNR=5.1						
WRAB	Tennant Creek	15.92	140	P	P	11 15 40.4	+0.8
WB2	Warramunga Arr	15.93	140	P	P	11 15 40.6	+1.0
WB2				IAmb	IAmb	11 15 41.1	
	comp=Z,7.0nm,0.7s						
WB1	Warramunga Ar.	15.94	140	P	P	11 15 40.9	+1.2
WR0	Warramunga Arr	16.06	139	P	P	11 15 42.1	+1.0
WR0				IAmb	IAmb	11 15 44.0	
	comp=Z,6.9nm,0.7s						
WRKA	Warakurna	17.64	166	P	P	11 16 00.0	+1.6
AS31	Alice Springs	18.58	149	P	P	11 16 10.2	+1.7
AS31				IAmb	IAmb	11 16 14.4	
	comp=Z,5.5nm,0.7s						
ASAR	Alice Springs	18.58	149	P	P	11 16 10.7	+2.1
	comp=Z,12nm,0.6s,baz=330,slow=13,SNR=87						
ASAR				S	S	11 19 34.9	+7.1
	comp=Z,1.3nm,0.9s,baz=316,slow=21,SNR=5.7						
COEN	Coen	20.22	109	P	P	11 16 26.4	+0.2
MORW	Morawa	22.20	198	P	P	11 16 46.3	+0.7
MORW				IAmb	IAmb	11 17 06.6	
	comp=Z,15nm,1.2s						
FORT	Forrest	23.16	170	P	P	11 16 53.5	-0.8
BBOO	Buckleboo	27.39	157	P	P	11 17 33.2	+0.9
BBOO				IAmb	IAmb	11 18 14.5	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	29.20	147	P	P	11 17 49.3	+0.8
STKA				IAmb	IAmb	11 18 23.5	
	comp=Z,22nm,1.4s						
STKA	Stephens Creek	29.20	147	P	P	11 17 50.2	+1.7
	comp=Z,1.0nm,0.3s,baz=324,slow=11,SNR=7.8						
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	46.32	16	P	P	11 20 10.3	-0.7
	comp=Z,0.8nm,0.5s,baz=190,slow=8.8,SNR=4.7						
	comp=Z,0.8nm,0.5s						
MKAR	Makanchi Array	65.62	330	P	P	11 22 28.7	+1.3
	comp=Z,0.3nm,0.5s,baz=139,slow=7.7,SNR=5.7						
	comp=Z,0.3nm,0.5s						
KURBB	Kurchatov Arra	70.05	331	P	P	11 22 54.9	0.0
	comp=Z,0.2nm,0.3s,baz=144,slow=5.8,SNR=3.1						
	comp=Z,0.2nm,0.3s						

*IDC **18** 11:38:10.1±1.0, 51°.74N×75°.62E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=26.6km s-min=7.7km az=30.0*
*NNC **18** 11:38:11.2±0.6, 51°.52N×75°.49E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=11.5km s-min=4.4km az=22.0, Suspected Mining explosion.*

ISC 18 11:38:06.8±1.0, 51°.73N±0°.06×75°.17E±0°.06, h0km, n13, σ1°.24/12, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.39	116	Pg	Pn	11 38 48.3	+1.2
	0.6nm,0.3s,baz=303,slow=19,SNR=19						
KURBB				Lg	Lg	11 39 18.1	
	1.0nm,0.3s,baz=307,slow=31,SNR=14						
KURBB	Kurchatov Arra	2.39	116	⇑Pn	Pn	11 38 48.0	+0.9
	9.0nm,0.7s						
KURBB				⇓Lg	Lg	11 39 18.7	
	46nm,0.6s						
KURK	Kurchatov	2.39	114	⇑Pn	Pn	11 38 47.9	+0.6
	4.9nm,0.8s						
KURK				⇑Lg	Lg	11 39 18.6	
	19nm,0.6s						
BVA0	Borovoye Array	3.21	296	Pn	Pg	11 39 07.6	-0.6
	2.7nm,0.6s,baz=106,slow=12,SNR=23						
BVA0				⇓Lg	Lg	11 39 58.8	
	13nm,0.6s,baz=116,slow=26,SNR=11						
BVAR	Borovoye Array	3.21	296	Pn	Pb	11 39 05.3	+0.7
	0.2nm,0.3s,baz=112,slow=16,SNR=9.4						
BVAR				Sn	Sb	11 39 44.6	+0.5
	0.2nm,0.3s,baz=110,slow=22,SNR=5.3						
BVAR				Lg	Lg	11 39 55.4	
	0.6nm,0.3s,baz=113,slow=26,SNR=16						
	3.1nm,0.7s						
BRVK	Borovoye	3.28	296	⇑Pn	Pg	11 39 08.0	-1.5
	3.6nm,0.6s						
BRVK				⇓Lg	Lg	11 40 00.7	
	21nm,0.8s						
OTUK	Ortayu	3.94	209	⇑Pg	Pg	11 39 21.8	-0.4
	1.6nm,0.7s						
OTUK				⇑Lg	Lg	11 40 13.5	
	16nm,1.3s						
ZALV	Zalesovo Beam	6.25	65	Pn	Pn	11 39 40.9	+0.6
	0.4nm,0.3s,baz=252,slow=13,SNR=7.2						
ZALV				Sn	Sn	11 40 52.0	-0.4
	0.3nm,0.3s,baz=246,slow=21,SNR=3.7						
	1.4nm,0.5s						
I46RU	ZALESOVO INFRA	6.26	65	I	I	12 13 10.0	
	baz=251,slow=294,SNR=1.0						
MAKZ	Makanchi	6.64	135	⇓Lg	Lg	11 41 31.9	
	6.9nm,0.7s						
MK31	Makanchi Array	6.79	134	⇑Lg	Lg	11 41 38.6	
	4.0nm,0.7s,baz=317,slow=26,SNR=7.8						
MKAR	Makanchi Array	6.79	134	Pn	Pn	11 39 48.8	+1.1
	0.1nm,0.3s,baz=320,slow=13,SNR=4.9						
MKAR				Sn	Sn	11 41 03.1	-2.4
	0.3nm,0.3s,baz=316,slow=18,SNR=5.6						
MKAR				Lg	Lg	11 41 38.5	
	0.4nm,0.3s,baz=315,slow=26,SNR=11						
	0.4nm,0.5s						
AAK	Ala-Archa	9.11	183	Lg	Lg	11 42 56.5	
	0.3nm,0.3s,baz=54,slow=14,SNR=4.2						

HEL 18 11:40:34.0±0.4, 61°.69N×27°.41E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	Kangasniemi	0.68	310	PG	Pg	11 40 45.8	-1.1
KAF				MSG		11 40 55.3	
	comp=Z,0.9nm,0.2s						
KAF				SG	Sb	11 40 57.4	-1.1
FIA0	FINESS Array S	0.68	250	PG	Pg	11 40 45.6	-1.5
	baz=66						
FIA0				MSG		11 40 55.5	
	comp=Z,0.9nm,0.2s						
FIA0				SG	Sg	11 40 55.9	0.0
RUF	Ruokolahti	0.78	109	PB	Pg	11 40 48.9	-0.1
	baz=278						
RUF				MSG		11 40 58.4	
	comp=Z,0.9nm,0.2s						
VJF	Virojoki	1.16	176	MSG		11 41 09.0	
	comp=Z,1.2nm,0.2s						
VJF				SB	Sg	11 41 10.5	-0.6
SUF	Sumiainen	1.19	331	PG	Pg	11 40 55.1	-1.7
SUF				MSG		11 41 10.3	
	comp=Z,0.3nm,0.2s						
PVF	Pernaja	1.37	214	PG	Pg	11 40 58.2	-2.1
PVF				MSG		11 41 15.5	
	comp=Z,0.9nm,0.2s						
PVF				SB	Sg	11 41 16.3	-1.7
NIF	Nilsia	1.72	6	SN	Sn	11 41 28.1	+0.4
OUF	Merijarvi	2.95	337	MSG		11 42 00.8	
	comp=Z,0.5nm,0.2s						
OUF				SG	Sb	11 42 05.4	+1.4

*NNC **18** 11:43:58.2±0.9, 51°.75N×75°.44E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=17.8km s-min=5.4km az=26.0, Suspected Mining explosion.*
*IDC **18** 11:44:01.9±1.1, 51°.85N×75°.71E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=26.7km s-min=7.7km az=31.0*

ISC 18 11:43:58.3±1.0, 51°.7N±0°.1×75°.28E±0°.08, h0km, n12, σ1°.36/11, 6C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.32	117	Pg	Pb	11 44 40.5	-0.5
	0.2nm,0.3s,baz=304,slow=19,SNR=11						
KURBB				Lg	Lg	11 45 11.2	
	0.2nm,0.3s,baz=308,slow=28,SNR=13						
KURBB	Kurchatov Arra	2.32	117	⇑Pg	Pb	11 44 39.5	-1.4
	6.0nm,0.8s						
KURBB				⇑Lg	Lg	11 45 10.0	
	39nm,0.8s						
KURK	Kurchatov	2.33	114	⇑Pg	Pn	11 44 38.5	+0.7
	2.4nm,0.9s						
KURK				⇓Lg	Lg	11 45 11.5	
	24nm,0.9s						
BVA0	Borovoye Array	3.27	296	⇓Pg	Pg	11 45 00.0	-0.9
	2.1nm,0.7s,baz=118,slow=18,SNR=11						
BVA0				⇑Lg	Lg	11 45 43.7	
	15nm,0.9s,baz=102,slow=24,SNR=7.0						
BVAR	Borovoye Array	3.27	296	Pn	Pb	11 44 56.5	-0.7
	0.1nm,0.3s,baz=108,slow=12,SNR=8.4						
BVAR				Sn	Sb	11 45 38.6	+1.1
	0.1nm,0.3s,baz=109,slow=25,SNR=13						
	2.4nm,0.7s						
BRVK	Borovoye	3.34	296	⇑Lg	Lg	11 45 46.3	
	36nm,1.0s						
OTUK	Ortayu	3.96	210	⇑Lg	Lg	11 46 07.1	
	22nm,1.3s						
ZALV	Zalesovo Beam	6.20	65	Pn	Pn	11 45 32.1	+1.1
	0.2nm,0.3s,baz=256,slow=10,SNR=3.5						
ZALV				Lg	Lg	11 47 13.2	
	0.1nm,0.3s,baz=252,slow=36,SNR=1.9						
	0.9nm,0.7s						
I46RU	ZALESOVO INFRA	6.20	65	I	I	12 19 40.0	
	baz=248,slow=284,SNR=4.3						
MAKZ	Makanchi	6.58	136	⇓Sn	Sn	11 46 51.8	-0.2
	1.4nm,0.7s						
MAKZ				⇓Lg	Lg	11 47 30.6	
	9.3nm,1.0s						
MK31	Makanchi Array	6.73	134	Sn	Sn	11 46 53.7	-1.9
	1.1nm,0.8s,baz=334,slow=17,SNR=3.8						
MK31				Lg	Lg	11 47 32.5	
	3.2nm,0.8s,baz=325,slow=25,SNR=10.0						
MKAR	Makanchi Array	6.73	134	Pn	Pn	11 45 40.1	+1.8
	baz=327,slow=13,SNR=3.4						
MKAR				Sn	Sn	11 46 56.9	+1.2
	0.1nm,0.3s,baz=324,slow=22,SNR=3.7						
MKAR				Lg	Lg	11 47 30.4	
	0.1nm,0.3s,baz=326,slow=26,SNR=9.7						
	0.5nm,0.8s						

*SSNC **18** 11:48:57.8±1.3, 18°.39N×77°.90W, h9km±8km, MD2.9, ML2.6, MW2.9*
*JSN **18** 11:48:59.0±0.3, 18°.27N×77°.85W, h14km±4km, MD3.1*

ISC 18 11:48:55.8±1.8, 18°.37N±0°.06×77°.9W±0°.1, h26km±14km, n10, σ1°.70/17, 1C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	Mount Denham	0.40	110	eP	Pb	11 49 05.0	+0.5
MTDJ				eS	Sb	11 49 09.6	-0.8
MTDJ				IAML		11 49 10.2	
	comp=Z,465nm,0.1s						
MTDJ				IAML		11 49 10.2	
	750nm,0.3s						
MTDJ	Mount Denham	0.40	110	⇓iP	Pb	11 49 05.0	+0.5
MTDJ				i S	Sb	11 49 09.6	-0.8
MCJ	Malvern	0.49	153	⇓iP	Pb	11 49 06.2	+0.2
MCJ				i S	Sb	11 49 11.6	-1.4
STH	Stony Hill	1.10	105	eP	Pb	11 49 16.6	+0.4
STH				eS	Sb	11 49 30.0	-0.2
STH				IAML		11 49 30.4	
	comp=E,28μm,0.1s						
STH				IAML		11 49 30.9	
	comp=N,33μm,0.1s						
STH	Stony Hill	1.10	105	⇑iP	Pb	11 49 16.7	+0.5
PILO	Pilon	1.61	18	eP	Pb	11 49 25.4	+0.5
PILO				eS	Sn	11 49 41.6	-0.9
PILO				eSg	Sb	11 49 44.2	-0.6
PILO				IAML		11 49 45.6	
	comp=N,36nm,0.1s						
PILO				IAML		11 49 45.7	
	comp=E,41nm,0.1s						
LMGC	Las Mercedes	1.90	27	eP	Pn	11 49 27.5	+1.0
LMGC				eS	Sn	11 49 45.0	-4.5
LMGC				IAML		11 49 51.8	
	comp=E,6.9nm,0.1s						
LMGC				IAML		11 49 53.0	
	comp=N,15nm,0.1s						
MARVS	Santiago de Cu	2.51	49	eS	Sn	11 50 04.4	-0.3
RCC	Rio Carpintero	2.66	52	eP	Pn	11 49 37.3	+0.4
RCC				IAML		11 50 10.0	
	comp=E,1.9nm,0.1s						
RCC				IAML		11 50 10.8	
	comp=N,2.0nm,0.0s						
PINC	Pinares de May	2.92	43	eP	Pn	11 49 43.7	+3.2
PINC				IAML		11 50 19.9	
	comp=E,7.7nm,0.1s						
PINC				IAML		11 50 20.4	
	comp=N,8.8nm,0.0s						

*IDC **18** 11:52:27.5±4.7, 20°.19S×173°.88W, h110km±41km, mb3.4/7, mbtmp3.9/10, MS3.2/2, Error ellipse: s-maj=33.6km s-min=21.5km az=140.0*

ISC 18 11:52:26.2±0.9, 20°.4S±0°.1×173°.8W±0°.1, h100km, n13, σ2°.06/12, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.15	288	P	Pn	11 54 21.7	-0.3
	5.5nm,0.7s,baz=127,slow=14,SNR=5.6						
MSVF				LR	LR	11 57 17.9	
	comp=Z,159nm,21.0s,baz=159,slow=36						
DZM	Mont Dzumac	18.48	261	P	P	11 56 35.4	+0.8
	5.8nm,0.8s,baz=77,slow=18,SNR=2.5						
URZ	Urewera	19.43	202	P	P	11 56 46.7	+2.0
	9.2nm,1.0s,baz=36,slow=8.7,SNR=2.0						
URZ				S	S	12 00 13.9	-5.0
	12nm,1.1s,baz=54,slow=15,SNR=1.9						
PPT	Papeete	23.08	87	LR	LR	12 04 30.3	
	comp=Z,56nm,18.1s,baz=314,slow=31						
STKA	Stephens Creek	41.37	245	P	P	12 00 03.3	+0.7
	1.8nm,0.8s,baz=108,slow=13,SNR=3.4						
	1.8nm,0.8s						
ASAR	Alice Springs	48.36	256	P	P	12 00 58.6	+0.4
	1.1nm,0.8s,baz=90,slow=7.7,SNR=16						
	1.1nm,0.8s						
WRA	Warramunga Arr	48.50	261	P	P	12 00 58.3	-1.0
	0.9nm,0.7s,baz=96,slow=7.3,SNR=13						
	0.9nm,0.7s						
QSPA	South Pole Qui	69.64	180	P	P	12 03 26.8	+2.1
	2.2nm,1.0s,baz=310,slow=2.0,SNR=3.7						
	2.2nm,1.0s						
NVAR	Mina Array Bea	78.32	41	P	P	12 04 14.9	-0.9
	0.5nm,0.7s,baz=238,slow=7.8,SNR=4.1						
	0.5nm,0.7s						
TXAR	Lajitas Array	83.74	56	P	P	12 04 43.7	-0.9
	0.2nm,0.7s,baz=236,slow=6.0,SNR=2.7						
	0.2nm,0.7s						
PDAR	Pinedale Array	86.26	42	P	P	12 04 57.0	-0.1
	0.7nm,0.9s,baz=180,slow=3.0,SNR=5.1						
	0.7nm,0.9s						
BVAR	Borovoye Array	121.55	320	PKP	PKPdf	12 11 07.2	-0.7
	0.5nm,0.4s,baz=96,slow=1.4,SNR=2.6						
AKASG	Malin Array Be	144.75	334	PKP	PKPbc	12 11 51.2	+0.9
	0.6nm,0.6s,baz=47,slow=1.4,SNR=4.2						

*IDC **18** 12:16:20.4±2.4, 10°.53N×125°.48E, h200km±24km, mb3.5/14, mbtmp4.1/15, MS3.2/3, Error ellipse: s-maj=29.3km s-min=9.8km az=68.0*

ISC 18 12:16:20.5±0.7, 10°.6N±0°.1×125°.5E±0°.2, h200km, n18, σ0°.90/16, mb3.9/14, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.46	179	P	Pn	12 17 16.0	+0.4
	128nm,0.3s,baz=0.0,slow=8.1,SNR=2.2						
JOW	Kunigami	16.41	9	LR	LR	12 24 52.6	
	comp=Z,97nm,20.5s,baz=226,slow=31						
CMAR	Chiang Mai Arr	26.87	290	P	P	12 21 43.4	+0.5
	1.3nm,0.3s,baz=102,slow=8.3,SNR=7.2						
CMAR				LR	LR	12 32 57.7	
	comp=Z,20nm,18.1s,baz=180,slow=37						
	1.3nm,0.3s						
KSRS	Korea Array	26.88	4	P	P	12 21 44.4	+1.7
	0.8nm,0.7s,baz=187,slow=10,SNR=4.9						
	0.8nm,0.7s						
MJAR	Matsushiro Arr	28.32	22	LR	LR	12 32 18.2	
	comp=Z,75nm,19.4s,baz=202,slow=34						
FITZ	Fitzroy Crossi	28.46	180	P	P	12 21 57.8	+0.8
	2.5nm,0.7s,baz=356,slow=13,SNR=6.8						
	2.5nm,0.7s						
WRA	Warramunga Arr	31.52	164	P	P	12 22 22.4	-1.6
	1.2nm,0.6s,baz=342,slow=9.3,SNR=11						
	1.2nm,0.6s						
ASAR	Alice Springs	34.98	167	P	P	12 22 53.5	-0.4
	1.5nm,0.7s,baz=349,slow=8.7,SNR=20						
	1.5nm,0.7s						
SONM	Songino Array	40.50	340	P	P	12 23 39.3	-0.6
	0.4nm,0.3s,baz=157,slow=7.8,SNR=5.8						
	0.4nm,0.3s						
STKA	Stephens Creek	44.91	160	P	P	12 24 15.1	-0.2
	5.1nm,0.8s,baz=340,slow=6.2,SNR=11						
	5.1nm,0.8s						
MKAR	Makanchi Array	51.36	323	P	P	12 25 04.8	+0.2
	3.1nm,0.6s,baz=116,slow=8.3,SNR=26						
	3.1nm,0.6s						
ZALV	Zalesovo Beam	54.03	332	P	P	12 25 22.2	-1.7
	1.1nm,0.6s,baz=123,slow=5.5,SNR=6.2						
	1.1nm,0.6s						
KURBB	Kurchatov Arra	55.42	326	P	P	12 25 33.7	-0.4
	3.3nm,0.5s,baz=126,slow=7.0,SNR=12						
	3.3nm,0.5s						
BVAR	Borovoye Array	61.02	325	P	P	12 26 12.4	-0.4
	3.4nm,0.9s,baz=118,slow=8.6,SNR=12						
	3.4nm,0.9s						
ILAR	Eielson Array	79.52	26	P	P	12 28 04.9	+0.2
	0.3nm,1.0s,baz=248,slow=6.1,SNR=5.1						
	0.3nm,1.0s						
FINES	FINESS Array B	85.30	332	P	P	12 28 34.7	+0.1
	2.6nm,0.9s,baz=93,slow=7.8,SNR=1.9						
	2.6nm,0.9s						
AKASG	Malin Array Be	85.88	321	P	P	12 28 37.7	0.0
	0.3nm,0.4s,baz=57,slow=5.8,SNR=5.2						
	0.3nm,0.4s						
PLCA	Paso Flores	146.75	157	PKPbc	PKPbc	12 35 39.7	+0.4
	1.4nm,0.9s,baz=194,slow=4.5,SNR=1.4						

*IDC **18** 12:35:22.4±1.2, 3°.43S×141°.13E, h0km, mb3.8/6, mbtmp3.9/8, ML4.1/1, MS3.0/6, Error ellipse: s-maj=35.1km s-min=11.2km az=73.0*
*DJA **18** 12:35:29.1±1.1, 3°.S±7°.×14°.1E±°, h10km, M4.3/6, mb4.7/1, MLv4.2/6*

ISC 18 12:35:24.4±0.8, 3°.41S±0°.05×141°.10E±0°.08, h10km, n27, σ2°.20/28, mb3.7/6, MS3.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.97	336	Pg	Pg	12 35 43.2	0.0
	62nm,0.3s,baz=175,slow=9.9,SNR=228						
JAY				Lg	Lg	12 35 54.9	
	243nm,0.3s,baz=75,slow=21,SNR=17						
JAY				LR	LR	12 36 16.4	
	comp=Z,439nm,18.6s,baz=194,slow=54						
JAY	Jayapura	0.97	336	P	Pg	12 35 43.2	0.0
GENI	Genyem	1.23	311	P	Pb	12 35 47.3	-0.6
GENI	Genyem	1.23	311	P	Pb	12 35 47.4	-0.5
GENI				S	Sb	12 36 03.2	-0.6
TABU	Tabubil	1.85	176	P	Pn	12 35 59.5	+3.2
WA

1.4nm,0.6s
AS01 Alice Springs 21.29 198 P P 12 40 12.1 +0.7
ASAR Alice Springs 21.31 198 P P 12 40 10.6 -1.0
0.7nm,0.5s,baz=30,slow=10,SNR=17
ASAR LR LR 12 47 34.7
comp=Z,62nm,21.2s,baz=271,slow=34
0.7nm,0.5s
KAPI Kappang 21.35 265 P P 12 40 10.8 -1.3
WRKA Warakurna 24.79 209 P P 12 40 47.0 +0.2
KSRS Korea Array 42.46 344 LR LR 13 00 08.3
comp=Z,12nm,18.0s,baz=205,slow=35
CMAR Chiang Mai Arr 46.85 299 LR LR 13 04 50.0
comp=Z,25nm,18.2s,baz=195,slow=38
MKAR Makanchi Array 71.80 322 P P 12 46 47.0 -0.4
0.6nm,0.7s,baz=101,slow=7.5,SNR=6.9
0.6nm,0.7s
KURBB Kurchatov Arra 75.68 324 P P 12 47 08.2 -1.7
1.2nm,0.2s,baz=116,slow=5.9,SNR=2.0
1.2nm,0.2s
BVAR Borovoye Array 81.25 325 P P 12 47 40.8 0.0
0.7nm,0.5s,baz=101,slow=7.5,SNR=1.8
0.7nm,0.5s
ILAR Eielson Array 85.48 24 P P 12 48 01.7 -0.6
0.4nm,0.9s,baz=267,slow=5.3,SNR=1.7
0.4nm,0.9s

*SCB **18** 12:42:27.5±0.9, 21°.34S×66°.67W, h228km±8km, ML3.5/2, MW3.6, Error ellipse: s-maj=5.7km s-min=4.8km az=0.0*
*GUC **18** 12:42:29.3±0.6, 21°.36S×66°.94W, h245km, ML3.0*
ISC 18 12:42:26.3±2.3, 21°.40S±0°.07×66°.69W±0°.06, h235km±17km, n20, σ1§36/29, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.99**	**82**	Pg	**Pn**	**12 43 01.0**	**+0.7**
MOCB				Sg	**S**	**12 43 25.8**	**-1.0**
MOCB				IAML		12 43 26.6	
228nm,0.5s							
YJA	**Yavi**	**1.34**	**126**	Pg	**Pn**	**12 43 03.6**	**+1.1**
PB09	**IPOC Station P**	**2.41**	**260**	*e*P	**Pn**	**12 43 13.5**	**+1.7**
PB09				*e*S	**S**	**12 43 47.1**	**-0.3**
PB09				IAML		12 43 52.0	
comp=N,33nm,0.2s							
PB09	**IPOC Station P**	**2.41**	**260**	Pg	**Pn**	**12 43 13.4**	**+1.7**
PB08	**IPOC Station P**	**2.62**	**298**	*e*P	**Pn**	**12 43 15.9**	**+1.6**
PB08				*e*S	**S**	**12 43 51.1**	**-0.7**
PB08				IAML		12 43 55.4	
comp=E,45nm,0.3s							
PB08	**IPOC Station P**	**2.62**	**298**	Pg	**Pn**	**12 43 15.4**	**+1.1**
PB01	**IPOC Station P**	**2.63**	**277**	*e*P	**Pn**	**12 43 15.1**	**+1.0**
PB01				*i*S	**S**	**12 43 50.0**	**-1.5**
PB01	**IPOC Station P**	**2.63**	**277**	Pg	**Pn**	**12 43 15.6**	**+1.5**
PB01				Sg	**S**	**12 43 51.5**	**0.0**
PB01				IAML		12 43 52.2	
comp=E,121nm,0.3s							
PB06	**IPOC Station P**	**2.97**	**244**	*e*P	**Pn**	**12 43 19.6**	**+1.8**
SOEO	**Opoqueri**	**3.04**	**338**	Pg	**Pn**	**12 43 20.3**	**+1.4**
PB11	**IPOC Station P**	**3.22**	**300**	*e*P	**Pn**	**12 43 21.2**	**+0.6**
PB11				*e*S	**S**	**12 44 02.1**	**-1.2**
PB11	**IPOC Station P**	**3.22**	**300**	Pg	**Pn**	**12 43 21.3**	**+0.6**
TA01	**Diego Aracena**	**3.37**	**284**	*e*P	**Pn**	**12 43 22.3**	**+0.3**
TA01				*e*S	**S**	**12 44 03.6**	**-2.3**
SOET	**ToroToro**	**3.37**	**14**	Pg	**Pn**	**12 43 23.1**	**+0.6**
AOEA	**Aiquile**	**3.48**	**23**	Pg	**Pn**	**12 43 23.9**	**+0.1**
PB05	**IPOC Station P**	**3.56**	**245**	*e*P	**Pn**	**12 43 25.6**	**+1.2**
PB05				*e*S	**S**	**12 44 08.6**	**-1.7**
PB10	**IPOC Station P**	**4.15**	**239**	*e*P	**Pn**	**12 43 31.9**	**+0.6**
PB10				*e*S	**S**	**12 44 20.2**	**-2.4**
SOEJ	**Jacaque**	**4.62**	**342**	Pg	**Pn**	**12 43 38.9**	**+1.3**
BBOD	**La Paz, Gloria**	**5.07**	**339**	Pg	**Pn**	**12 43 44.3**	**+1.2**
LPAZ	**La Paz**	**5.26**	**345**	Pg	**Pn**	**12 43 46.7**	**+1.1**

RSNC 18 12:47:41.0±0.0, 7°.N±1°.×7°.3W±°., h151km±2km, M3.0, mb3.5, mB4.8, ML2.8, Mw(mB)4.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**188**	P	Pn	12 48 01.0	-0.8
BARC				S	Sn	12 48 15.8	-1.9
BRJC	**Barrancabermej**	**0.61**	**284**	P	Pn	12 48 02.8	-0.2
BRJC				S	Sn	12 48 19.9	+0.1
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	12 48 03.8	-0.2
PAMC				S	Sn	12 48 21.1	-0.5
RUSC	**La Rusia**	**0.93**	**176**	P	Pn	12 48 04.9	-1.0
RUSC				S	Sn	12 48 23.6	-1.3
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	12 48 07.6	-1.3
PTBC				S	Sn	12 48 29.0	-1.3
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	12 48 09.4	-0.3
TAMC				S	Sn	12 48 31.1	-0.6
OCAC	**Ocana**	**1.41**	**353**	P	Pn	12 48 09.2	-0.7
OCAC				S	Sn	12 48 31.5	-0.6
SPBC	**San Pablo de B**	**1.49**	**218**	P	Pn	12 48 09.9	-0.7
SPBC				S	Sn	12 48 32.1	-1.2
NORC	**Norcasia**	**2.12**	**234**	P	Pn	12 48 17.0	-0.7
NORC				S	Sn	12 48 45.2	-0.7
CHIC	**Chingaza**	**2.26**	**195**	P	Pn	12 48 19.1	-0.6
CHIC				S	Sn	12 48 48.5	-1.0
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	12 48 20.9	+0.8
ROSC				S	Sn	12 48 51.2	+1.1
HELC	**Santa Helena**	**2.45**	**255**	P	Pn	12 48 21.6	-0.3
HELC				S	Sn	12 48 55.0	+1.7
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P	Pn	12 48 22.4	+0.1
CVER				S	Sn	12 48 53.7	-0.4
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	12 48 25.3	-0.1
GUY2C				S	Sn	12 49 01.5	+2.0
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	12 48 24.5	-1.0
VILC				S	Sn	12 48 59.1	-0.8
RECRC	**Villamaria, Ca**	**2.87**	**230**	P	Pn	12 48 30.2	+2.8
RECRC				S	Sn	12 49 06.3	+3.2
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	12 48 28.5	-0.1
CBOC				S	Sn	12 49 05.6	+0.2
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	12 48 28.4	-0.7
DBBC				S	Sn	12 49 04.9	-1.3
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	12 48 31.1	+0.1
ARGC				S	Sn	12 49 10.3	+0.6
SDV	**Santo Domingo**	**3.22**	**51**	P	Pn	12 48 30.7	-0.8
SDV				S	Sn	12 49 08.4	-2.1
ANIL	**Santa Ana**	**3.23**	**224**	P	Pn	12 48 32.7	+1.1
ANIL				S	Sn	12 49 11.8	+1.0
PRAC	**Prado**	**3.55**	**209**	P	Pn	12 48 34.7	-0.8
PRAC				S	Sn	12 49 16.8	-0.9
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	12 48 34.8	-0.8
APAC				S	Sn	12 49 16.4	-1.6
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	12 48 35.4	-0.4
ORTC				S	Sn	12 49 18.8	+0.4
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	12 48 34.8	-2.0
SJCC				S	Sn	12 49 16.2	-3.9
PLMC	**San Jos del P**	**3.66**	**239**	P	Pn	12 48 37.3	+0.4
PLMC				S	Sn	12 49 20.2	-0.1
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	12 48 37.8	-0.5
URMC				S	Sn	12 49 21.9	-1.0
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	12 48 41.4	-2.3
CRJC				S	Sn	12 49 29.2	-3.2
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	12 48 44.8	0.0
YOTC				S	Sn	12 49 33.3	-1.1
GUVC	**San Jose del G**	**4.29**	**173**	P	Pn	12 48 43.6	-1.5
GUVC				S	Sn	12 49 33.6	-1.4
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	12 48 46.5	-0.5
SMRC				S	Sn	12 49 34.1	-4.4
MACC	**Macarena, Meta**	**4.71**	**189**	P	Pn	12 48 48.1	-2.5
MACC				S	Sn	12 49 40.1	-4.8
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	12 48 52.1	-2.0
URIC				S	Sn	12 49 47.5	-3.7
MALC	**Bahia Malaga**	**5.02**	**236**	P	Pn	12 48 55.5	+0.8
MALC				S	Sn	12 49 52.4	+0.2
JAMC	**Jamundi, Valle**	**5.02**	**225**	P	Pn	12 48 56.6	+1.6
5.1nm,0.7s							
JAMC				S	Sn	12 49 55.0	+2.4
5.1nm,0.7s							
GARC	**Garzon, Huila**	**5.17**	**207**	P	Pn	12 48 55.1	-1.9
GARC				S	Sn	12 49 52.5	-3.7
POPC	**Popayan, Colom**	**5.52**	**220**	P	Pn	12 49 03.2	+1.6

*NOU **18** 12:56:02.2, 39°.81S×177°.34E, h6km, MLv3.4/8, Off E. Coast of N. Island, N.Z.*
*WEL **18** 12:56:06.6±0.5, 40°.S±2°.×17°.7E±°., h28km±4km, M3.1/55, ML3.7/13, MLv3.1/55, Error ellipse: s-maj=4.5km s-min=3.2km az=90.2, confirmed*

ISC 18 12:56:06.7±1.0, 39°.68S±0°.02×176°.99E±0°.03, h32km±6km, n85, σ0§81/94, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.07**	**72**	P	**Pb**	**12 56 13.0**	**+0.9**
CKHZ				S	**Sb**	**12 56 18.5**	**+2.7**
KAHZ	**Kahuranaki**	**0.15**	**218**	P	**Pn**	**12 56 13.3**	**+0.5**
KAHZ				S	**Sn**	**12 56 18.6**	**+2.1**
NCDS	**Napier Civil D**	**0.20**	**333**	P	**Pb**	**12 56 12.9**	**-0.2**
NCDS				S	**Sb**	**12 56 18.2**	**+0.7**
NGHS	**Napier Girls H**	**0.20**	**343**	P	**Pb**	**12 56 13.2**	**+0.1**
MCHZ	**McNeill Hill**	**0.33**	**316**	P	**Pb**	**12 56 14.5**	**-0.2**
MCHZ				S	**Sb**	**12 56 20.7**	**+0.6**
PWZ	**Pawanui**	**0.36**	**196**	P	**Pn**	**12 56 15.9**	**+0.2**
PWZ				S	**Sn**	**12 56 23.9**	**+2.1**
PXZ	**Pawanui**	**0.36**	**196**	P	**Pn**	**12 56 16.0**	**+0.2**
PXZ				S	**Sn**	**12 56 23.5**	**+1.7**
ARHZ	**Aropaoanui**	**0.42**	**0**	P	**Pb**	**12 56 16.5**	**+0.6**
ARHZ				S	**Sn**	**12 56 24.3**	**+1.3**
KRHZ	**Kereru**	**0.48**	**274**	P	**Pb**	**12 56 16.4**	**-0.5**
KRHZ				S	**Sb**	**12 56 23.9**	**-0.1**
KWHZ	**Kaweka Forest**	**0.51**	**300**	P	**Pb**	**12 56 16.8**	**-0.6**
KWHZ				S	**Sb**	**12 56 24.7**	**-0.1**
WPHZ	**Waipukurau**	**0.57**	**228**	P	**Pb**	**12 56 18.8**	**+0.4**
NMHZ	**Naumai**	**0.60**	**346**	P	**Pb**	**12 56 19.1**	**+0.2**
WHHZ	**Waihua**	**0.63**	**17**	P	**Pn**	**12 56 20.2**	**+0.7**
BKZ	**Black Stump Fm**	**0.64**	**323**	P	**Pb**	**12 56 19.2**	**-0.4**
BKZ	**Black Stump Fm**	**0.64**	**323**	P	**Pb**	**12 56 19.1**	**-0.5**
PRHZ	**Porangahau**	**0.65**	**205**	P	**Pb**	**12 56 20.0**	**+0.4**
PNHZ	**Pukenui**	**0.65**	**249**	P	**Pb**	**12 56 19.3**	**-0.5**
RAHZ	**Arahi**	**0.77**	**5**	P	**Pn**	**12 56 21.7**	**+0.4**
MTHZ	**Maungataniwha**	**0.83**	**352**	P	**Pn**	**12 56 22.3**	**0.0**
KNZ	**Kokohu**	**0.84**	**39**	P	**Pn**	**12 56 22.6**	**+0.3**
ANWZ	**Angora Road**	**0.88**	**207**	P	**Pn**	**12 56 22.6**	**-0.2**
TSZ	**Takapari Road**	**0.88**	**244**	P	**Pn**	**12 56 22.3**	**-0.6**
MHNZ	**Mahia Peninsul**	**0.88**	**54**	P	**Pb**	**12 56 23.6**	**+0.1**
DVHZ	**Dannevirke**	**0.89**	**225**	P	**Pn**	**12 56 22.7**	**-0.3**
SNGZ	**Shannon Statio**	**0.94**	**17**	P	**Pn**	**12 56 24.2**	**+0.5**
MRHZ	**Matea Rd**	**0.96**	**332**	P	**Pn**	**12 56 24.1**	**+0.1**
MOVZ	**Moawhango**	**1.00**	**285**	P	**Pn**	**12 56 24.5**	**-0.1**
PRGZ	**Paritu Road**	**1.02**	**43**	P	**Pn**	**12 56 25.2**	**+0.3**
HATZ	**Hinemaiaia**	**1.05**	**318**	P	**Pn**	**12 56 25.7**	**+0.4**
RTZ	**Ruatahuna**	**1.06**	**359**	P	**Pn**	**12 56 25.8**	**+0.4**
TUVZ	**Tukino**	**1.11**	**291**	P	**Pn**	**12 56 26.9**	**+0.7**
RITZ	**Rihia Road**	**1.12**	**308**	P	**Pn**	**12 56 26.8**	**+0.5**
ETVZ	**East Tongariro**	**1.13**	**298**	P	**Pn**	**12 56 26.9**	**+0.5**
WNVZ	**Wahianoa**	**1.14**	**288**	P	**Pn**	**12 56 27.1**	**+0.6**
RIGZ	**Rimuhau**	**1.14**	**32**	P	**Pn**	**12 56 26.8**	**+0.3**
TMVZ	**Te Maari**	**1.15**	**299**	P	**Pn**	**12 56 27.1**	**+0.4**
OTVZ	**Oturere**	**1.15**	**296**	P	**Pn**	**12 56 27.3**	**+0.6**
BFZ	**Birch Farm**	**1.15**	**210**	P	**Pn**	**12 56 25.8**	**-0.8**
BFZ	**Birch Farm**	**1.15**	**210**	P	**Pn**	**12 56 25.9**	**-0.7**
WHVZ	**Whangaehu Hut**	**1.16**	**290**	P	**Pn**	**12 56 27.7**	**+0.8**
SNVZ	**South Ngauruho**	**1.16**	**295**	P	**Pn**	**12 56 27.2**	**+0.3**
NTVZ	**North Tongarir**	**1.17**	**299**	P	**Pn**	**12 56 27.3**	**+0.3**
PRWZ	**Pori Road**	**1.17**	**222**	P	**Pn**	**12 56 26.8**	**-0.1**
POWZ	**Post Office Ro**	**1.18**	**233**	P	**Pn**	**12 56 26.9**	**-0.1**
TRVZ	**Turoa**	**1.18**	**288**	P	**Pn**	**12 56 28.0**	**+0.8**
MAVZ	**Matarangi**	**1.18**	**290**	P	**Pn**	**12 56 28.0**	**+0.7**
NGZ	**Ngauruhoe**	**1.19**	**295**	P	**Pn**	**12 56 27.8**	**+0.5**
FWVZ	**Far West T-bar**	**1.19**	**290**	P	**Pn**	**12 56 27.5**	**+0.1**
KRVZ	**Karewarewa**	**1.20**	**299**	P	**Pn**	**12 56 27.7**	**+0.3**
NNVZ	**North Ngauruho**	**1.20**	**297**	P	**Pn**	**12 56 27.8**	**+0.4**
MUGZ	**Murupara**	**1.21**	**352**	P	**Pn**	**12 56 27.8**	**+0.3**
MTVZ	**Mangateitei**	**1.21**	**284**	P	**Pn**	**12 56 28.6**	**+1.1**
COVZ	**Chateau Observ**	**1.22**	**293**	P	**Pn**	**12 56 28.2**	**+0.5**
ALRZ	**Allen Road**	**1.23**	**335**	P	**Pn**	**12 56 28.3**	**+0.6**
WTVZ	**West Tongariro**	**1.23**	**297**	P	**Pn**	**12 56 28.3**	**+0.6**
RAGZ	**Rawiri**	**1.23**	**16**	P	**Pn**	**12 56 28.0**	**+0.2**
KATZ	**Kakaramea**	**1.23**	**305**	P	**Pn**	**12 56 28.4**	**+0.6**
PRRZ	**Plateau Road**	**1.27**	**338**	P	**Pn**	**12 56 28.4**	**+0.2**
WHTZ	**Whakaora**	**1.29**	**321**	P	**Pb**	**12 56 30.5**	**0.0**
WPRZ	**Whakapapatarin**	**1.33**	**331**	P	**Pn**	**12 56 29.3**	**+0.3**
PKVZ	**Pokaka**	**1.33**	**286**	P	**Pn**	**12 56 30.1**	**+1.0**
TWVZ	**Taurewa**	**1.35**	**296**	P	**Pn**	**12 56 30.1**	**+0.7**
CPWZ	**Castlepoint**	**1.37**	**206**	P	**Pn**	**12 56 29.7**	**+0.1**
WATZ	**Wairara**	**1.38**	**314**	P	**Pn**	**12 56 29.6**	**-0.1**
TIWZ	**Tintock**	**1.39**	**217**	P	**Pn**	**12 56 29.2**	**-0.6**
RRRZ	**Republican Roa**	**1.39**	**344**	P	**Pn**	**12 56 30.2**	**+0.3**
OHWZ	**Ohakea**	**1.39**	**247**	P	**Pn**	**12 56 30.7**	**+0.8**
HRRZ	**Handcock Road**	**1.40**	**337**	P	**Pn**	**12 56 31.1**	**+1.1**
TKGZ	**Te Karaka**	**1.41**	**29**	P	**Pn**	**12 56 30.1**	**0.0**
MWZ	**Matawai**	**1.41**	**17**	P	**Pn**	**12 56 30.0**	**-0.1**
URZ	**Urewera**	**1.42**	**4**	P	**Pn**	**12 56 30.0**	**-0.3**
URZ	**Urewera**	**1.42**	**4**	P	**Pn**	**12 56 30.2**	**0.0**
MRZ	**Mangatainoka R**	**1.46**	**227**	P	**Pn**	**12 56 30.0**	**-0.9**
HSRZ	**Hossack Road**	**1.49**	**337**	P	**Pb**	**12 56 33.1**	**-0.6**
TARZ	**Mount Tarawera**	**1.49**	**345**	P	**Pn**	**12 56 31.9**	**+0.5**
KUTZ	**Kaahu Road**	**1.50**	**322**	P	**Pn**	**12 56 31.7**	**+0.3**
WAZ	**Wanganui**	**1.55**	**267**	P	**Pn**	**12 56 32.4**	**+1.1**
TMWZ	**Te Maipa**	**1.66**	**210**	P	**Pn**	**12 56 32.6**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.66**	**222**	P	**Pn**	**12 56 32.5**	**-1.1**
OGWZ	**Otaki Gorge**	**1.80**	**230**	P	**Pn**	**12 56 34.3**	**-1.2**
HIZ	**Hauiti**	**2.03**	**304**	P	**Pb**	**12 56 41.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.34**	**279**	P	**Pn**	**12 56 46.1**	**+3.1**
SNZO	**South Karori**	**2.39**	**226**	P	**Pn**	**12 56 42.3**	**-1.3**
QRZ	**Quartz Range**	**3.60**	**250**	P	**Pn**	**12 57 00.7**	**+0.4**
KHZ	**Kahutara**	**3.78**	**223**	P	**Pn**	**12 57 01.9**	**-0.8**

*IDC **18** 12:59:29.7±5.8, 29°.66S×179°.00W, h228km±50km, mb3.2/5, mbtmp3.8/6, Error ellipse: s-maj=40.9km s-min=26.1km az=42.0*
ISC 18 12:59:31.6±0.7, 29°.95S±0°.07×179°.3W±0°.1, h250km, n53, σ1§45/52, mb3.4/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.38**	**60**	P	Pn	13 00 10.8	+1.8
GLKZ				S	**S**	**13 00 39.7**	**+1.2**
RIZ	**Raoul Island**	**1.38**	**60**	P	Pn	13 00 11.3	+2.2
MXZ	**Matakaoa Point**	**7.85**	**194**	P	**Pn**	**13 01 22.1**	**-0.9**
MXZ				S	S	13 02 48.5	-4.0
WMGZ	**Waiomatatini S**	**8.08**	**193**	P	**Pn**	**13 01 23.7**	**-2.0**
WMGZ				S	S	13 02 54.1	-3.6
HAZ	**Te Kaha**	**8.16**	**197**	P	**Pn**	**13 01 29.1**	**+2.4**
HAZ				S	**S**	**13 02 59.5**	**-0.1**
PKGZ	**Pakihiroa**	**8.19**	**195**	P	**Pn**	**13 01 27.1**	**-0.2**
PKGZ				S	**S**	**13 02 59.4**	**-1.1**
PUZ	**Puketiti**	**8.35**	**193**	P	**Pn**	**13 01 28.7**	**-0.5**
PUZ				S	**S**	**13 03 01.4**	**-2.8**
RUGZ	**Raukumara Rang**	**8.38**	**197**	P	**Pn**	**13 01 30.5**	**+0.7**
RUGZ				S	S	13 02 59.2	-5.8
TWGZ	**Tauwhareparae**	**8.51**	**195**	S	**S**	**13 03 06.6**	**-1.3**
MWZ	**Matawai**	**8.77**	**197**	P	**Pn**	**13 01 35.8**	**+1.2**
MWZ				S	**S**	**13 03 13.4**	**-0.4**
TKGZ	**Te Karaka**	**8.79**	**195**	P	**Pn**	**13 01 37.8**	**+3.0**
TKGZ				S	S	13 03 10.8	-3.5
URZ	**Urewera**	**8.81**	**199**	P	**Pn**	**13 01 37.0**	**+2.0**
2.1nm,0.3s,baz=351,slow=5.0,SNR=23							
URZ				S	**S**	**13 03 15.4**	**+0.7**
15nm,0.4s,baz=218,slow=22,SNR=15							
URZ	**Urewera**	**8.81**	**199**	P	**Pn**	**13 01 35.2**	**+0.2**
URZ				S	**S**	**13 03 12.9**	**-1.8**
RAGZ	**Rawiri**	**8.95**	**197**	P	**Pn**	**13 01 36.5**	**-0.4**
RAGZ				S	S	13 03 13.0	-5.1
RIGZ	**Rimuhau**	**9.07**	**195**	P	**Pn**	**13 01 36.5**	**-1.9**
MUGZ	**Murupara**	**9.11**	**200**	P	**Pn**	**13 01 38.1**	**-0.8**
MUGZ				S	**S**	**13 03 20.7**	**-1.1**
SNGZ	**Shannon Statio**	**9.24**	**197**	P	Pn	13 01 38.2	-2.3
SNGZ				S	S	13 03 20.8	-4.0
PRGZ	**Paritu Road**	**9.25**	**194**	S	S	13 03 22.1	-3.0
MHGZ	**Mahia Peninsul**	**9.46**	**193**	S	S	13 03 22.9	-7.1
POWZ	**Post Office Ro**	**11.17**	**200**	P	**Pn**	**13 02 03.0**	**-1.7**
POWZ				S	S	13 04 04.7	-4.9
PRWZ	**Pori Road**	**11.26**	**199**	P	**Pn**	**13 02 07.1**	**+1.2**
PRWZ				S	S	13 04 02.1	-10
BFZ	**Birch Farm**	**11.31**	**198**	P	**Pn**	**13 02 06.6**	**+0.1**
BFZ				S	S	13 04 07.4	-5.4
MRZ	**Mangatainoka R**	**11.47**	**200**	P	Pn	13 02 04.8	-3.8
MRZ				S	S	13 04 07.7	-9.0
HOWZ	**Holdsworth Sta**	**11.71**	**200**	P	**Pn**	**13 02 10.5**	**-1.0**
HOWZ				S	S	13 04 15.4	-6.8
OGWZ	**Otaki Gorge**	**11.74**	**201**	P	Pn	13 02 07.1	-4.7
OGWZ				S	S	13 04 17.0	-5.9
TMWZ	**Te Maipa**	**11.80**	**198**	P	**Pn**	**13 02 12.8**	**+0.2**
TMWZ				S	S	13 04 17.5	-6.7
KIW	**Kapiti Island**	**11.86**	**202**	P	**Pn**	**13 02 12.5**	**-0.9**
KIW				S	S	13 04 17.7	-8.0
CAW	**Cannon Point**	**12.04**	**201**	P	Pn	13 02 11.4	-4.2
CAW				S	S	13 04 22.1	-7.6
DUWZ	**D'Urville Isla**	**12.15**	**205**	P	**Pn**	**13 02 16.7**	**-0.3**
PAWZ	**Paruwai Farm**	**12.18**	**199**	P	**Pn**	**13 02 16.6**	**-0.8**
MSWZ	**Moikau Station**	**12.27**	**200**	P	**Pn**	**13 02 18.0**	**-0.4**
TCW	**Tory Channel**	**12.39**	**203**	P	**Pn**	**13 02 18.4**	**-1.5**
MSVF	**Nonsavu**	**12.40**	**348**	P	P	13 02 24.5	+1.6
2.8nm,0.4s,baz=237,slow=21,SNR=9.6							
TUWZ	**Tuamarina**	**12.70**	**204**	P	**Pn**	**13 02 22.9**	**-0.8**
TKNZ	**Takaka Hill**	**12.72**	**208**	P	**Pn**	**13 02 24.8**	**+0.7**
QRZ	**Quartz Range**	**12.73**	**209**	P	**Pn**	**13 02 23.1**	**-1.0**
CTZ	**Chatham Island**	**13.92**	**172**	P	P	13 02 47.0	+7.6
CTZ				S	**S**	**13 05 14.0**	**+1.3**
DZM	**Mont Dzumac**	**15.02**	**298**	P	Pn	13 02 59.2	+6.9
12nm,1.1s,baz=139,slow=23,SNR=3.1							
ASAR	**Alice Springs**	**42.01**	**267**	P	**P**	**13 07 01.0**	**+2.1**
0.2nm,0.4s,baz=106,slow=6.7,SNR=8.3							
0.2nm,0.4s							
WRA	**Warramunga Arr**	**42.96**	**272**	P	**P**	**13 07 08.7**	**+2.1**
0.3nm,0.3s,baz=110,slow=8.0,SNR=9.9							
WRA				S	**S**	**13 13 13.2**	**+0.5**
0.1nm,0.4s,baz=118,slow=13,SNR=0.9							
0.3nm,0.3s							
QSPA	**South Pole Qui**	**60.16**	**180**	P	**P**	**13 09 15.8**	**+2.9**
0.8nm,0.7s,baz=301,slow=1.8,SNR=5.3							
0.8nm,0.7s							
KSRS	**Korea Array**	**83.28**	**320**	P	**P**	**13 11 30.4**	**+0.1**
0.5nm,0.6s,baz=122,slow=7.1,SNR=2.0							
0.5nm,0.6s							
PETK	**Petropavlovsk-**	**85.11**	**346**	P	**P**	**13 11 39.5**	**+0.5**
2.9nm,0.8s,baz=103,slow=6.7,SNR=5.6							
2.9nm,0.8s							
MKAR	**Makanchi Array**	**116.63**	**311**	PKP	**PKiKP**	**13 17 45.2**	**-0.5**
0.1nm,0.3s,baz=126,slow=2.0,SNR=4.1							
KURBB	**Kurchatov Arra**	**119.97**	**314**	PKP	**PKiKP**	**13 17 51.3**	**-0.7**
0.4nm,0.4s,baz=116,slow=2.0,SNR=7.2							
BVAR	**Borovoye Array**	**125.31**	**316**	PKP	**PKiKP**	**13 18 02.6**	**+0.1**
0.6nm,0.3s,baz=96,slow=0.9,SNR=5.4							
ARCES	**ARCESS Array B**	**137.91**	**347**	PKhKP	PKPpre	13 18 16.8	
1.3nm,0.8s,baz=64,slow=2.8,SNR=5.2							
ARCES				PKP	**PKiKP**	**13 18 24.3**	**-3.2**
2.8nm,1.0s,baz=60,slow=2.2,SNR=1.7							
FINES	**FINESS Array B**	**144.34**	**339**	PKP	**PKPdf**	**13 18 35.9**	**-1.2**
5.2nm,0.3s,baz=49,slow=4.2,SNR=74							
NB2	**NORSAR Subarra**	**148.13**	**350**	PKP	**PKiKP**	**13 18 46.9**	**-1.9**
comp=Z,0.5nm,0.5s,baz=19,slow=2.8							
NOA	**NORSAR Array B**	**148.13**	**350**	PKPbc	**PKiKP**	**13 18 46.5**	**-2.3**
comp=Z,0.4nm,0.7s,baz=17,slow=4.2,SNR=3.3							
HFS	**Hagfors**	**148.57**	**348**	PKPbc	**PKiKP**	**13 18 48.0**	**-1.6**
comp=Z,0.8nm,0.4s,baz=30,slow=6.8,SNR=4.4							
AKASG	**Malin Array Be**	**150.26**	**322**	PKPbc	**PKiKP**	**13 18 52.9**	**-0.5**
comp=Z,1.6nm,0.5s,baz=49,slow=3.0,SNR=8.1							
BRTR	**Keskin Array B**	**151.40**	**299**	PKPbc	**PKiKP**	**13 18 56.0**	**-0.3**
comp=Z,0.6nm,0.5s,baz=127,slow=4.9,SNR=2.5							

KRSC 18 13:00:30.9±2.1, 48°.31N×156°.65E, h16km±29km, MI3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.40

ASAR			LR	LR	13 59 48.7		
	comp=Z,130nm,18.7s,baz=73,slow=39						
	comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.68 236**	P	**P**	**13 50 50.7**	**-0.8**	
FITZ			IAmb	IAmb	13 50 54.4		
	comp=Z,5.5nm,0.7s						
KAPI	**Kappang**	**26.27 270**	LR	LR	14 04 15.5		
	comp=Z,76nm,18.2s,baz=132,slow=42						
STKA	**Stephens Creek**	**26.71 189**	P	**P**	**13 51 19.4**	**+0.6**	
	comp=Z,1.6nm,0.7s,baz=29,slow=21,SNR=3.6						
	comp=Z,1.6nm,0.7s						
BBOO	**Buckleboo**	**28.87 198**	P	**P**	**13 51 36.8**	**-1.3**	
BBOO			IAmb	IAmb	13 51 47.2		
	comp=Z,18nm,1.4s						
MBWA	**Marble Bar**	**30.03 236**	P	**P**	**13 51 47.9**	**-0.6**	
PSA00	**Pilbara Seismi**	**30.13 235**	P	**P**	**13 51 47.6**	**-1.7**	
FORT	**Forrest**	**30.46 212**	P	**P**	**13 51 51.4**	**-0.8**	
MSVF	**Nonsavu**	**33.53 114**	LR	LR	14 04 54.9		
	comp=Z,60nm,18.1s,baz=189,slow=34						
XMIS	**Christmas Isla**	**40.39 260**	P	**P**	**13 53 16.9**	**-0.6**	
QRZ	**Quartz Range**	**42.49 150**	P	**P**	**13 53 34.9**	**+0.5**	
QRZ			IAmb	IAmb	13 53 49.5		
	comp=Z,14nm,1.2s						
THZ	**Tophouse**	**43.39 151**	P	**P**	**13 53 41.2**	**-0.5**	
THZ			IAmb	IAmb	13 54 09.4		
	comp=Z,5.6nm,1.1s						
MRZ	**Mangatainoka R**	**43.95 147**	P	**P**	**13 53 46.6**	**+0.4**	
MRZ			IAmb	IAmb	13 53 48.7		
	comp=Z,11nm,1.1s						
BFZ	**Birch Farm**	**44.33 147**	P	**P**	**13 53 49.1**	**-0.1**	
KSRS	**Korea Array**	**45.86 340**	P	**P**	**13 54 01.8**	**+0.5**	
	comp=Z,3.2nm,0.9s,baz=161,slow=10.0,SNR=8.5						
KSRS			LR	LR	14 12 25.6		
	comp=Z,22nm,19.0s,baz=145,slow=35						
	comp=Z,3.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**50.96 347**	P	**P**	**13 54 41.1**	**+0.7**	
	comp=Z,3.0nm,0.7s,baz=178,slow=8.1,SNR=6.2						
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**52.19 298**	P	**P**	**13 54 50.8**	**+0.7**	
	comp=Z,0.3nm,0.3s,baz=113,slow=7.7,SNR=0.9						
	comp=Z,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**59.08 8**	P	**P**	**13 55 39.1**	**+0.3**	
PETK	**Petropavlovsk-**	**59.08 8**	P	**P**	**13 55 39.9**	**+1.1**	
	comp=Z,3.1nm,0.9s,baz=168,slow=4.2,SNR=6.0						
	comp=Z,3.1nm,0.9s						
SEY	**Seymchan**	**68.28 3**	P	**P**	**13 56 40.0**	**+0.8**	
	comp=Z,1.0nm,0.7s,baz=178,slow=4.6,SNR=8.6						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**76.47 321**	P	**P**	**13 57 28.2**	**-0.2**	
MKAR	**Makanchi Array**	**76.47 321**	P	**P**	**13 57 29.8**	**+1.5**	
	comp=Z,0.3nm,0.7s,baz=114,slow=6.0,SNR=5.2						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**78.02 328**	P	**P**	**13 57 36.7**	**-0.2**	
	comp=Z,0.8nm,0.6s,baz=121,slow=5.9,SNR=3.9						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**80.21 323**	P	**P**	**13 57 49.5**	**+0.7**	
	comp=Z,0.4nm,0.7s,baz=92,slow=4.0,SNR=4.2						
	comp=Z,0.4nm,0.7s						
F17K	**Baldwin Pennin**	**80.92 19**	P	**P**	**13 57 53.3**	**+1.0**	
F17K			IAmb	IAmb	13 58 14.0		
	comp=Z,9.1nm,1.5s						
E19K	**Redstone River**	**82.80 19**	P	**P**	**13 58 02.7**	**+0.4**	
E19K			IAmb	IAmb	13 58 15.8		
	comp=Z,2.5nm,0.8s						
D19K	**Kuna River**	**83.10 18**	P	**P**	**13 58 03.8**	**+0.1**	
D19K			IAmb	IAmb	13 58 34.3		
	comp=Z,6.8nm,1.5s						
NRIK	**Noril'sk**	**84.42 342**	P	**P**	**13 58 11.5**	**+1.1**	
	comp=Z,2.5nm,0.6s,baz=137,slow=4.3,SNR=5.7						
	comp=Z,2.5nm,0.6s						
QSPA	**South Pole Qui**	**84.59 180**	P	**P**	**13 58 13.0**	**+1.3**	
	comp=Z,1.1nm,0.9s,baz=277,slow=1.9,SNR=7.0						
	comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**85.25 23**	P	**P**	**13 58 12.9**	**-1.8**	
	comp=Z,0.6nm,0.7s,baz=256,slow=5.0,SNR=6.8						
BVAR	**Borovoye Array**	**85.76 324**	P	**P**	**13 58 17.2**	**-0.3**	
	comp=Z,0.5nm,0.6s,baz=104,slow=5.8,SNR=2.7						
	comp=Z,0.5nm,0.6s						
F24K	**Squaw Lake**	**85.98 21**	P	**P**	**13 58 19.2**	**+0.9**	
F24K			IAmb	IAmb	13 58 55.0		
	comp=Z,3.6nm,1.4s						
E25K	**Arctic Village**	**87.03 20**	P	**P**	**13 58 23.2**	**-0.3**	
E25K			IAmb	IAmb	13 58 37.4		
	comp=Z,1.6nm,1.4s						

*GUC **18** 13:46:00.9±0.5,22°.57S×67°.91W,h189km±6km, ML3.0*
*SCB **18** 13:46:00.2±1.3,22°.47S×67°.69W,h172km±18km, ML2.7/3, MW2.2, Error ellipse: s-maj=11.8km s-min=3.9km az=0.0*
ISC 18 13:45:59.4±2.2,22°.56S±0°.06×67°.72W±0°.05, h179km±20km, n16, σ0°97/24, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.60 298**		*e*P	**Pn**	**13 46 33.3**	**+0.9**
PB09				*e*S	**Sn**	**13 46 57.5**	**-0.5**
PB09	**IPOC Station P**	**1.60 298**		Pg	**Pn**	**13 46 33.7**	**+1.3**
PB06	**IPOC Station P**	**1.72 265**		*e*P	**Pn**	**13 46 34.1**	**+0.6**
PB06				*e*S	**Sn**	**13 46 59.2**	**-0.7**
PB06				IAML		13 47 02.9	
	comp=E,151nm,0.1s						
YJA	**Yavi**	**2.08**	**80**	Pg	**Pn**	**13 46 38.0**	**+0.3**
PB01	**IPOC Station P**	**2.23 312**		*e*P	**Pn**	**13 46 39.7**	**+0.6**
PB01				*e*S	**Sn**	**13 47 09.3**	**-0.5**
PB01				IAML		13 47 11.1	
	comp=E,97nm,0.1s						
PB01	**IPOC Station P**	**2.23 312**		Pg	**Pn**	**13 46 40.0**	**+1.0**
PB01				Sg	**Sn**	**13 47 08.7**	**-1.1**
PB01				IAML		13 47 10.3	
	comp=E,41nm,0.4s						
PB05	**IPOC Station P**	**2.31 262**		*e*P	**Pn**	**13 46 39.9**	**0.0**
PB05				*e*S	**Sn**	**13 47 09.7**	**-1.7**
PB05				IAML		13 47 11.7	
	comp=N,57nm,0.2s						
MOCB	**Mochara**	**2.33**	**56**	Pg	**Pn**	**13 46 41.4**	**+0.8**
MOCB				Sg	**Sn**	**13 47 10.9**	**-1.5**
MOCB				IAML		13 47 11.8	
	comp=N,7.6nm,0.4s						
PB08	**IPOC Station P**	**2.76 331**		*e*P	**Pn**	**13 46 47.1**	**+1.7**
PB08				*e*S	**Sn**	**13 47 22.1**	**+0.9**
PB08				IAML		13 47 25.2	
	comp=E,26nm,0.5s						
PB08	**IPOC Station P**	**2.76 331**		Pg	**Pn**	**13 46 45.9**	**+0.5**
PB10	**IPOC Station P**	**2.78 250**		*e*P	**Pn**	**13 46 45.7**	**+0.5**
PB10				IAML		13 47 21.6	
	comp=E,47nm,0.1s						
TA01	**Diego Aracena**	**3.03 311**		*e*P	**Pn**	**13 46 48.5**	**+0.2**
TA01				IAML		13 47 27.4	
	comp=N,28nm,0.3s						
GO02	**Mina Guanaco**	**3.10 213**		*e*P	**Pn**	**13 46 50.5**	**+1.0**
PB14	**IPOC Station P**	**3.21 230**		*e*P	**Pn**	**13 46 51.6**	**+0.9**
PB14				IAML		13 47 30.7	
	comp=E,12nm,0.2s						
PB11	**IPOC Station P**	**3.32 327**		Pg	**Pn**	**13 46 52.2**	**+0.1**
PB11				Sg	**Sn**	**13 47 32.6**	**-0.6**
PB11				IAML		13 47 34.7	
	comp=E,33nm,0.2s						
PB12	**IPOC Station P**	**4.63 328**		Pg	**Pn**	**13 47 08.4**	**-0.2**

*SKO **18** 13:50:32.6,40°.96N×20°.19E,h2km, ML3.1*
*TIR **18** 13:50:33.8,41°.05N×20°.45E,h12km±1km, Md3.4/2, Ml3.2/7*
*PDG **18** 13:50:34.4±0.8,41°.00N×20°.37E,h2km±1km, ML3.2/11, Error ellipse: s-maj=1.2km s-min=1.8km az=0.0*
*THE **18** 13:50:34.3,41°.07N×20°.40E,h0km±1km, ML3.0/8, Error ellipse: s-maj=2.1km s-min=0.7km az=28.0*
*BEO **18** 13:50:36.3±0.2,41°.03N×20°.42E,h4km±2km, ML2.8/8*
ISC 18 13:50:34.3±1.1,41°.03N±0°.02×20°.39E±0°.02,h1km±10km, n86, σ1°24/125, 10C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.32**	**75**	⇑*i*Pg	**Pb**	**13 50 41.5**	**-1.4**
OHR				*i* Sg	**Sb**	**13 50 47.9**	**-0.7**
OHR				*e*Lg	Lg	13 50 48.0	
	comp=N,857nm,0.3s						
OHR				*e*Lg	Lg	13 50 50.4	
	comp=E,1μm,0.5s						
OHR	**Ohrid**	**0.32**	**75**	*e*Pg	**Pg**	**13 50 41.3**	**+0.9**
OHR				*e*Sg	**Sb**	**13 50 48.4**	**-0.2**
KBN	**Korca**	**0.51 143**		⇑*i*Pg	**Pg**	**13 50 43.8**	**-0.2**
KBN				Sg	**Sg**	**13 50 50.9**	**+0.4**
KBN				AML	AML	13 50 53.3	
	comp=E,24nm,0.6s						
KBN				AMd		13 52 14.6	
KBN	**Korca**	**0.51 143**		P	**Pg**	**13 50 43.9**	**-0.1**
KBN				S	**Sg**	**13 50 51.8**	**+1.2**
	comp=E,7μm,0.6s						
TIR	**Tirane**	**0.51 309**		⇑*i*Pg	**Pg**	**13 50 43.3**	**-0.7**
TIR				Sg	**Sb**	**13 50 52.9**	**-1.1**
TIR				AML	AML	13 50 56.5	
	comp=E,2.8nm,0.6s						
TIR	**Tirane**	**0.51 309**		P	**Pg**	**13 50 43.4**	**-0.7**
TIR				S	**Sg**	**13 50 50.9**	**+0.2**
	comp=E,760nm,0.8s						
TIR	**Tirane**	**0.51 309**		*e*Pg	**Pg**	**13 50 43.4**	**-0.7**
TIR				*e*Sg	**Sb**	**13 50 53.6**	**-0.4**
FNA	**Florina**	**0.79 108**		⇑*i*Pg	**Pg**	**13 50 48.9**	**-0.5**
FNA				Sg	**Sb**	**13 51 00.5**	**-1.5**
FNA				AML	AML	13 51 07.8	
	comp=E,6.0nm,0.4s						
FNA				AMd		13 52 30.6	
FNA	**Florina**	**0.79 108**		P	**Pg**	**13 50 48.9**	**-0.5**
FNA				S	**Sb**	**13 51 01.0**	**-1.1**
	comp=E,2μm,0.3s						
FNA	**Florina**	**0.79 108**		⇑*i*Pg	**Pg**	**13 50 49.0**	**-0.4**
FNA				*i* Sg	**Sb**	**13 51 01.9**	**-0.2**
FNA	**Florina**	**0.79 108**		*e*Pg	**Pg**	**13 50 48.8**	**-0.5**
FNA				*e*Sg	**Sb**	**13 51 00.6**	**-1.5**
NEST	**Nestorio**	**0.79 141**		⇑*i*Pn	**Pg**	**13 50 48.6**	**-0.9**
NEST				Sn	**Sb**	**13 51 00.8**	**-1.4**
NEST				AML	AML	13 51 04.1	
	comp=E,3.3nm,0.5s						
NEST	**Nestorio**	**0.79 141**		P	**Pg**	**13 50 48.9**	**-0.6**
NEST				S	**Sb**	**13 51 02.3**	**0.0**
	comp=E,965nm,0.6s						
LSK	**Leskovik**	**0.89 170**		⇑*i*Pn	**Pg**	**13 50 49.5**	**-2.0**
LSK				Sn	**Sb**	**13 51 05.1**	**-0.1**
LSK				AML	AML	13 51 09.5	
	comp=E,6.2nm,0.5s						
LSK	**Leskovik**	**0.89 170**		P	**Pg**	**13 50 49.5**	**-2.0**
PENT	**Pentalofos**	**1.01 145**		P	**Pg**	**13 50 53.0**	**-0.7**
PUK	**Puka**	**1.08 340**		⇓*e*Pn	**Pg**	**13 50 54.2**	**-0.8**
PUK				Sn	**Sb**	**13 51 10.8**	**+0.3**
PUK				AML	AML	13 51 18.3	
	comp=E,1.5nm,0.4s						
SRN	**Sarande**	**1.19 195**		⇓*e*Pn	**Pg**	**13 50 56.6**	**-0.5**
SRN				Sn	**Sn**	**13 51 15.7**	**+0.9**
SRN	**Sarande**	**1.19 195**		P	**Pg**	**13 50 56.7**	**-0.4**
ULC	**Ulcinj**	**1.27 318**		*i* Pg	**Pg**	**13 50 54.5**	**-4.2**
KZN	**Kozani**	**1.27 124**		P	**Pn**	**13 50 59.0**	**-0.4**
KZN				S	**Sn**	**13 51 17.9**	**+0.7**
	comp=E,620nm,0.4s						
KPRO	**Kipourio**	**1.30 145**		P	**Pg**	**13 50 58.7**	**-0.6**
KPRO				S	**Sn**	**13 51 18.8**	**+0.9**
	comp=E,648nm,0.8s						
BCI	**Bajram Curri**	**1.36 350**		P	**Pn**	**13 50 59.2**	**-1.2**
BCI				S	**Sn**	**13 51 19.2**	**+0.1**
KEK	**Kerkira**	**1.39 199**		P	**Pg**	**13 51 00.9**	**-0.1**
KEK				S	**Sn**	**13 51 21.5**	**+1.6**
	comp=E,352nm,0.4s						
KTI	**Kastanea**	**1.46 115**		P	**Pn**	**13 51 01.2**	**-0.8**
DRME	**Dracevica, Mon**	**1.47 322**		*e*Pn	**Pn**	**13 51 00.4**	**-1.6**
DRME	**Dracevica, Mon**	**1.47 322**		⇓*i*Pg	**Pn**	**13 51 00.8**	**-1.2**
DRME				*i* Sg	**Sg**	**13 51 24.9**	**+3.4**
IGT	**Igoumenitsa**	**1.50 182**		⇑*e*Pn	**Pg**	**13 51 03.3**	**+0.3**
IGT				S	**Sg**	**13 51 24.5**	**+2.0**
IGT				AML	AML	13 51 28.4	
	comp=E,1.1nm,1.0s						
IGT	**Igoumenitsa**	**1.50 182**		P	**Pn**	**13 51 02.3**	**-0.1**
IGT				S	**Sg**	**13 51 24.4**	**+2.0**
	comp=E,338nm,0.9s						
IGT	**Igoumenitsa**	**1.50 182**		*e*Pg	**Pb**	**13 51 02.7**	**-0.2**
IGT	**Igoumenitsa**	**1.50 182**		*e*Pg	**Pg**	**13 51 04.0**	**+1.0**
IGT				*e*Sg	**Sg**	**13 51 24.9**	**+2.5**
GRG	**Griva**	**1.52 92**		P	**Pn**	**13 51 02.1**	**-0.7**
GRG	**Griva**	**1.52 92**		*i* Pn	**Pn**	**13 51 02.4**	**-0.4**
PVY	**Plav**	**1.60 348**		⇑*i*Pn	**Pb**	**13 51 04.7**	**0.0**
PVY				*i* Sn	**Sg**	**13 51 29.2**	**+3.6**
PDG	**Podgorica**	**1.64 329**		*e*Pn	**Pn**	**13 51 04.7**	**+0.4**
PDG	**Podgorica**	**1.64 329**		*e*Pg	**Pg**	**13 51 05.6**	**-0.1**
PDG				*e*Sg	**Sg**	**13 51 30.2**	**+3.5**
PDG	**Podgorica**	**1.64 329**		⇑*i*Pn	**Pn**	**13 51 04.7**	**+0.4**
PDG				*i* Sn	**Sg**	**13 51 30.3**	**+3.3**
VAY	**Valandovo**	**1.67 79**		*i* Pn	**Pn**	**13 51 04.8**	**+0.1**
VAY				*i* Sg	**Sg**	**13 51 29.1**	**+1.1**
VAY				*e*Lg	Lg	13 51 30.6	
	comp=N,147nm,0.8s						
VAY				*e*Lg	Lg	13 51 31.8	
	comp=E,66nm,0.7s						
VAY	**Valandovo**	**1.67 79**		*e*Pg	**Pn**	**13 51 04.8**	**+0.1**
VAY				*e*Sg	**Sg**	**13 51 28.7**	**+0.7**
BUM	**Brajici-Budva**	**1.69 319**		⇓*i*Pn	**Pn**	**13 51 05.2**	**0.0**
BUM				*e*Sn	**Sg**	**13 51 31.8**	**+3.0**
LIT	**Litokhoron**	**1.85 119**		P	**Pn**	**13 51 07.4**	**+0.2**
LIT	**Litokhoron**	**1.85 119**		*i* Pn	**Pn**	**13 51 07.4**	**+0.2**
CEME	**Cevo**	**1.87 324**		⇓*i*Pn	**Pn**	**13 51 08.0**	**+0.4**
CEME				*i* Sn	**Sg**	**13 51 35.7**	**+1.2**
IVA	**Berane**	**1.88 349**		⇓*i*Pn	**Pb**	**13 51 08.6**	**-0.9**
IVA				*i* Sn	**Sg**	**13 51 35.8**	**+1.2**
KNT	**Kendrikon**	**1.90 85**		*i* Pn	**Pn**	**13 51 08.0**	**0.0**
THL	**Klokotos Trika**	**1.92 139**		P	**Pn**	**13 51 08.2**	**0.0**
KOME	**Kolasin**	**1.93 341**		*e*Pn	**Pb**	**13 51 09.4**	**-1.0**
KOME				*i* Sn	**Sg**	**13 51 37.9**	**+1.5**
HCY	**Herceg Novi**	**2.00 316**		*e*Pn	**Pn**	**13 51 07.6**	**-1.8**
HCY	**Herceg Novi**	**2.00 316**		*e*Pn	**Pn**	**13 51 09.6**	**+0.2**
HCY				*e*Sn	**Sg**	**13 51 39.5**	**+0.8**
PEHC	**Pehcevo**	**2.03 68**		*i* Pn	**Pb**	**13 51 11.4**	**-0.7**
NKME	**Niksic**	**2.04 329**		⇓*i*Pn	**Pn**	**13 51 10.7**	**+0.8**
NKME				*e*Sn	**Sg**	**13 51 39.2**	**-0.7**
BARS	**Barje**	**2.08 30**		*e*Pn	**Pg**	**13 51 14.1**	**0.0**
BOSS	**Bosilegrad**	**2.14 46**		*e*Pn	**Pn**	**13 51 11.6**	**+0.3**
KKB	**Krupnik**	**2.21 68**		*i* Pn	**Pn**	**13 51 12.7**	**+0.5**
LKD2	**Lefkada island**	**2.25 175**		P	**Pn**	**13 51 13.3**	**+0.6**
LKD2				S	**Sg**	**13 51 45.6**	**-1.0**
LKD2	**Lefkada island**	**2.25 175**		P	**Sn**	**13 51 13.0**	**+0.3**
SJES	**Sjenica**	**2.25 352**		*e*Pn	**Pb**	**13 51 15.0**	**-0.9**
SJES	**Sjenica**	**2.25 352**		*e*Pg	**Pb**	**13 51 16.2**	**+0.3**
SJES				*e*Sg	**Sg**	**13 51 47.2**	**+0.5**
SELS	**Selova**	**2.25 14**		*e*Pg	**Pb**	**13 51 15.4**	**-0.5**
SELS				*e*Sg	**Sg**	**13 51 47.8**	**+1.1**
TREB	**Trebinje**	**2.27 319**		*e*Pn	**Pn**	**13 51 12.8**	**-0.3**
TREB	**Trebinje**	**2.27 319**		*e*Pn	**Pn**	**13 51 12.7**	**-0.3**
BRY	**Bratogost**	**2.33 324**		*e*Pn	**Pn**	**13 51 13.9**	**0.0**
BRY	**Bratogost**	**2.33 324**		⇓*i*Pn	**Pn**	**13 51 14.8**	**+0.9**
BRY				*e*Sn	**Sb**	**13 51 46.7**	**+0.3**
NYDR	**Nydri-Lefkada**	**2.33 174**		P	**Pn**	**13 51 13.9**	**+0.2**
SRS	**Serrai**	**2.42 87**		*i* Pn	**Pn**	**13 51 15.2**	**+0.1**
UPM	**Unac-Piva**	**2.44 334**		*e*Pn	**Pn**	**13 51 16.9**	**+1.4**
UPM	**Unac-Piva**	**2.44 334**		*e*Pn	**Pn**	**13 51 16.2**	**+0.7**
UPM				*i* Sn	**Sb**	**13 51 49.7**	**0.0**
GOCS	**Kraljevo Serbi**	**2.56 8**		*e*Pn	**Pb**	**13 51 19.9**	**-1.2**
RUDO	**Rudo**	**2.69 344**		*e*Pn	**Pb**	**13 51 22.4**	**-1.0**
XOR	**Xorichti**	**2.71 127**		P	**Pn**	**13 51 18.1**	**-1.0**
STON	**Ston**	**2.72 313**		*e*Pn	**Pn**	**13 51 18.4**	**-0.8**
GRUS	**Gruza**	**2.87 5**		*e*Pn	**Pb**	**13 51 23.7**	**-2.6**
BBLS	**Lazi&#263i**	**2.93 346**		*e*Pn	**Pb**	**13 51 26.4**	**-1.0**
BBLS	**Lazi&#263i**	**2.93 346**		*e*Pn	**Pb**	**13 51 26.7**	**-0.7**
DIVS	**Divibare**	**3.08 355**		*e*Pn	**Pn**	**13 51 26.9**	**+2.7**
ZAGS	**Zajecar**	**3.10 26**		*e*Pn	**Pn**	**13 51 25.2**	**+0.8**
HAPS	**Han Pijesak,Bl**	**3.23 341**		*e*Pn	**Pn**	**13 51 26.4**	**0.0**
KUBS	**Kucevo**	**3.51 15**		*e*Pn	**Pn**	**13 51 28.1**	**-2.0**
TEKS	**Tekeris**	**3.57 350**		*e*Pn	**Pn**	**13 51 30.6**	**-0.3**
TEKS	**Tekeris**	**3.57 350**		*e*Pn	**Pn**	**13 51 34.2**	**+3.2**
BLY	**Banja Luka**	**4.40 329**		*e*Pn	Pn	13 51 47.0	+4.7
A050A	**Klekovaca**	**4.47 322**		*e*Pn	**Pn**	**13 51 43.6**	**+0.3**
A051A	**Mrakovica**	**4.73 328**		*e*Pn	**Pn**	**13 51 47.0**	**+0.1**
BOJS	**Bojanci**	**5.84 322**		*e*Pn	**Pn**	**13 52 01.1**	**-0.9**
CEY	**Cerknica**	**6.40 319**		*e*Pn	**Pn**	**13 52 08.9**	**-0.9**
OBKA	**Obir**	**6.92 324**		*e*Pn	**Pn**	**13 52 17.4**	**+0.5**

*NEIC **18** 14:11:07.0±0.6,38°.689N±0°.007×118°.48W±0°.02, h10km±1km, Error ellipse: s-maj=2.7km s-min=2.3km az=288.0*
REN 18 14:11:07.2±0.6,38°.70N±0°.01×118°.476W±0°.009, h9km±3km, ML2.8/8, ML2.6/48(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=169.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RYN	**Ryan**	**0.08 208**		Pg	Pg	14 11 09.8	+0.2
RYN				Sg	Sg	14 11 11.4	+0.1
NV09	**Mina Array Sit**	**0.28 157**			Pg	14 11 13.1	+0.1
NVAR	**Mina Array Bea**	**0.30 153**		Pg	Pg	14 11 13.2	0.0
NV08	**Mina Array Sit**	**0.32 157**			Pg	14 11 13.6	0.0
TVH1	**TV Hill, Hawth**	**0.33 223**			Pg	14 11 13.9	0.0
TVH1					Sg	14 11 18.7	+0.4
NV11	**Mina Array Sit**	**0.37 136**		Pg	Pg	14 11 14.4	-0.1
NV11	**Mina Array Sit**	**0.37 136**			Sg	14 11 19.6	+0.4
LHV	**Little Huntoon**	**0.45 183**			Pg	14 11 16.1	+0.2
LHV					Sg	14 11 22.6	+0.8
LHV	**Little Huntoon**	**0.45 183**		IAML		14 11 23.3	
	comp=E,1μm,0.4s						
LHV				IAML		14 11 23.4	
	comp=N,738nm,0.3s						
WAKR	**Walker**	**0.78 256**			Pg	14 11 22.0	-0.2
WAKR					Sg	14 11 32.6	+0.2
WAKR	**Walker**	**0.78 256**		IAML		14 11 33.8	
	comp=E,265nm,0.3s						
LUL	**Lundy Lake**	**0.85 221**			Pg	14 11 23.5	-0.1
MGNR	**McGee Canyon**	**0.90 191**			Pg	14 11 24.4	-0.2
PNTR	**Pine Nut**	**0.96 294**			Pg	14 11 25.1	-0.5
PNTR					Sg	14 11 38.3	+0.1
PNTR	**Pine Nut**	**0.96 294**		IAML		14 11 41.9	
	comp=N,181nm,0.8s						
PNTR				IAML		14 11 44.0	
	comp=E,212nm,0.7s						
BENR	**Benton**	**0.98 184**			Pg	14 11 25.7	-0.4
Q09A	**Carvers**	**1.02 82**			Pg	14 11 26.6	-0.2
Q09A					Sb	14 11 40.6	0.0
MCBM	**Casa Benchmark**	**1.10 198**			Pg	14 11 28.1	-0.3
MCBM					Sb	14 11 43.0	-0.1
MDPB	**Devils Postpil**	**1.17 204**			Pg	14 11 28.9	-0.6
MDPB					Sg	14 11 44.2	-0.5
MDPB	**Devils Postpil**	**1.17 204**		IAML		14 11 44.9	
	comp=E,89nm,0.2s						
PAHR	**Pah Rah Range**	**1.23 325**			Pb	14 11 29.8	-0.8
PAHR					Sg	14 11 46.8	0.0
PAHR	**Pah Rah Range**	**1.23 325**		IAML		14 11 48.6	
	comp=N,50nm,0.2s						
MZP	**Montezuma Peak**	**1.32 139**			Pn	14 11 31.2	-0.8
DSP	**Deep Springs**	**1.39 163**			Pn	14 11 32.2	-0.4
DSP	**Deep Springs**	**1.39 163**			Sg	14 11 51.7	0.0
BHPR	**Bishop**	**1.40 180**			Pb	14 11 33.5	-0.1
BHPR					Sg	14 11 52.1	0.0
PEAR	**Peavine Mounta**	**1.47 309**			Pn	14 11 34.2	+0.2
PEAR					Sg	14 11 54.8	+0.3
CMB	**Columbia Colle**	**1.64 247**			Pn	14 11 35.5	-0.7
CMB				IAML		14 11 59.2	
	comp=E,59nm,0.2s						
CMB				IAML		14 11 59.4	
	comp=N,54nm,0.2s						
BEKR	**Beckworth**	**1.87 309**			Pn	14 11 38.9	-0.7
GRAC	**Grapevine Rang**	**1.91 152**		Pn	Pn	14 11 39.3	-0.7
GRAC				IAML		14 12 15.1	
	comp=N,53nm,0.5s						
AFDM	**Forest Hills D**	**1.96 278**		Pn	Pn	14 11 40.1	-0.6
AFDM				IAML		14 12 10.6	
	comp=N,32nm,0.5s						
AFDM				IAML		14 12 12.0	
	comp=E,52nm,0.4s						
R11B	**Troy Canyon, C**	**2.29 98**		Pn	Pn	14 11 44.3	-1.0
R11B				IAML		14 12 20.0	
	comp=N,49nm,0.6s						
R11B				IAML		14 12 20.4	
	comp=E,43nm,0.8s						
S11A	**Rachel**	**2.39 115**			Pn	14 11 45.5	-1.1
WCT	**Wildcat Mounta**	**2.40 142**		Pn	Pn	14 11 46.0	-0.7
WCT				IAML		14 12 24.9	
	comp=N,29nm,0.5s						
WCT				IAML		14 12 25.1	
	comp=E,26nm,0.5s						
SDH	**Striped Hills**	**2.66 140**			Pn	14 11 50.9	+0.6
NSP	**Numbskull Pass**	**2.66 137**			Pn	14 11 50.3	0.0
AMDNV	**Amargosa**	**2.84 141**			Pn	14 11 53.2	+0.6
PRN	**Pahroc Range**	**3.00 114**			Pn	14 11 54.4	-0.6
PRN				IAML		14 12 45.6	
	comp=E,27nm,0.3s						
ELK	**Elko**	**3.23 50**		Pn	Pn	14 11 57.4	-0.8

*ISN **18** 14:23:30.4±0.4,34°.73N×45°.38E,h6km±9

0.2nm,0.3s,baz=88,slow=14,SNR=7.3
MJAR Sn Sn 14 32 09.5 +16
0.1nm,0.3s,baz=89,slow=24,SNR=4.2
1.4nm,0.4s
SONM Songino Array 28.65 304 P **P 14 36 13.2 +1.5**
0.8nm,0.6s,baz=91,slow=10,SNR=2.8
0.8nm,0.6s
MKAR Makanchi Array 45.00 302 P **P 14 38 31.1 +0.9**
0.3nm,0.7s,baz=86,slow=9.1,SNR=4.1
0.3nm,0.7s
KURBB Kurchatov Arra 46.83 308 P **P 14 38 44.1 -0.4**
0.4nm,0.6s,baz=84,slow=8.4,SNR=7.5
0.4nm,0.6s

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*IDC **18** 14:30:20.0±0.5, 31°.55S×177°.69W, h0km, mb4.7/20, mbtmp4.6/23, ML4.6/3, MS4.5/32, Error ellipse: s-maj=17.8km s-min=15.4km az=80.0*
*MOS **18** 14:30:22.0±1.2, 31°.64S×177°.81W, h15km, mb5.2/19, Error ellipse: s-maj=13.3km s-min=9.9km az=92.8*
*NEIC **18** 14:30:22.3±1.1, 31°.8S±0°.1×177°.8W±0°.1, h8km±3km, mb5.2/61, Error ellipse: s-maj=17.5km s-min=13.9km az=121.0*
*NOU **18** 14:30:24.2, 32°.16S×177°.00W, h57km, mb4.9/49, South of Kermadec Islands*
*GCMT **18** 14:30:26.3±0.2, 31°.50S±0°.02×177°.23W±0°.01, h18km, MW5.1/116, Moment Tensor Solution. s55,c78; s116,c163; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.31±.17; Mθθ-0.41±.11; Mφφ-3.90±.11; Mrθ0.74±.26; Mθφ-1.07±.07; Mφr4.01±.26; Best double couple: M=5.89400×10^16^ NP1:φ=199.00000°, δ23.00000°, λ96.00000°. NP2:φ=12.00000°, δ67.00000°, λ87.00000°. Principal axes: T 5.9560, Plg68.0000°, Azm277.0000°; N -0.1220, Plg3.0000°, Azm13.0000°; P -5.8310, Plg22.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 14:30:21.8±0.3, 31°.74S±0°.04×177°.57W±0°.04, h10km, n346, σ1.98/349, mb5.1/70, MS4.5/38, 16C-4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.49 353**		P	Pn	14 30 57.1	-5.3
GLKZ				S	**Sn**	**14 31 27.0**	**-5.8**
RIZ	**Raoul Island**	**2.51 353**		P	Pn	14 30 57.4	-5.2
RIZ				S	**Sn**	**14 31 27.0**	**-6.3**
MXZ	**Matakaoa Point**	**6.72 209**		Pn	Pn	14 31 56.6	-4.0
MXZ	**Matakaoa Point**	**6.72 209**		P	**Pn**	**14 31 59.2**	**-1.4**
MXZ	**Matakaoa Point**	**6.72 209**		S	**Sn**	**14 33 13.9**	**-3.3**
MXZ	**Matakaoa Point**	**6.72 209**		P	**Pn**	**14 31 58.3**	**-2.3**
MXZ				S	**Sn**	**14 33 16.7**	**-0.5**
WMGZ	**Waiomatatini S**	**6.90 207**		P	**Pn**	**14 32 01.8**	**-1.3**
WMGZ				S	**Sn**	**14 33 24.5**	**+2.9**
PKGZ	**Pakihiroa**	**7.08 209**		P	**Pn**	**14 32 03.3**	**-2.2**
PKGZ				S	**Sn**	**14 33 27.4**	**+1.4**
HAZ	**Te Kaha**	**7.11 211**		P	**Pn**	**14 32 04.3**	**-1.6**
HAZ				S	**Sn**	**14 33 29.0**	**+2.3**
PUZ	**Puketiti**	**7.18 207**		P	**Pn**	**14 32 03.6**	**-3.3**
PUZ				S	**Sn**	**14 33 29.7**	**+1.1**
RUGZ	**Raukumara Rang**	**7.33 211**		P	**Pn**	**14 32 06.5**	**-2.6**
RUGZ				S	**Sn**	**14 33 33.5**	**+1.1**
TWGZ	**Tauwhareparae**	**7.38 208**		P	**Pn**	**14 32 07.3**	**-2.4**
TWGZ				S	**Sn**	**14 33 35.7**	**+2.2**
CNGZ	**Carnagh Statio**	**7.56 206**		P	**Pn**	**14 32 10.7**	**-1.3**
CNGZ				S	**Sn**	**14 33 39.9**	**+2.1**
TKGZ	**Te Karaka**	**7.66 208**		P	**Pn**	**14 32 12.0**	**-1.4**
TKGZ				S	**Sn**	**14 33 40.0**	**-0.3**
MWZ	**Matawai**	**7.71 210**		P	Pn	14 32 10.6	-3.5
MWZ				S	**Sn**	**14 33 41.8**	**+0.3**
URZ	**Urewera**	**7.83 212**		Pn	**Pn**	**14 32 15.7**	**0.0**
	1.8nm,0.3s,baz=349,slow=4.7,SNR=32						
URZ				Sn	**Sn**	**14 33 43.5**	**-0.9**
	12nm,0.3s,baz=66,slow=17,SNR=12						
URZ				LR	LR	14 35 52.8	
	comp=Z,7μm,18.3s,baz=112,slow=42						
	19nm,0.5s						
URZ	**Urewera**	**7.83 212**		P	**Pn**	**14 32 14.9**	**-0.8**
URZ	**Urewera**	**7.83 212**		S	**Sn**	**14 33 40.7**	**-3.7**
URZ	**Urewera**	**7.83 212**		P	**Pn**	**14 32 13.1**	**-2.6**
URZ				S	**Sn**	**14 33 41.7**	**-2.7**
RAGZ	**Rawiri**	**7.89 210**		P	**Pn**	**14 32 13.4**	**-3.2**
RAGZ				S	**Sn**	**14 33 47.0**	**+1.0**
WCZ	**Waipu Caves**	**7.92 236**		P	**Pn**	**14 32 20.8**	**+3.8**
RIGZ	**Rimuhau**	**7.92 207**		P	**Pn**	**14 32 14.9**	**-2.2**
RIGZ				S	**Sn**	**14 33 46.6**	**-0.2**
MKAZ	**Moumakai**	**8.04 226**		P	**Pn**	**14 32 22.7**	**+4.1**
PRGZ	**Paritu Road**	**8.07 206**		P	**Pn**	**14 32 16.1**	**-2.9**
PRGZ				S	**Sn**	**14 33 48.6**	**-1.7**
OUZ	**Omahuta**	**8.15 242**		P	**Pn**	**14 32 23.5**	**+3.3**
OUZ	**Omahuta**	**8.15 242**		P	Pn	14 32 25.2	+5.0
SNGZ	**Shannon Statio**	**8.16 209**		P	**Pn**	**14 32 18.6**	**-1.8**
SNGZ				S	**Sn**	**14 33 51.5**	**-1.1**
RTZ	**Ruatahuna**	**8.18 212**		P	**Pn**	**14 32 17.8**	**-2.8**
RTZ	**Ruatahuna**	**8.18 212**		P	**Pn**	**14 32 18.4**	**-2.2**
RTZ				S	**Sn**	**14 33 50.1**	**-3.0**
KNZ	**Kokohu**	**8.23 207**		P	Pn	14 32 14.1	-7.1
KNZ				S	**Sn**	**14 33 51.4**	**-3.0**
TOZ	**Tahuroa Road**	**8.26 222**			**Pn**	**14 32 19.8**	**-1.8**
TOZ	**Tahuroa Road**	**8.26 222**		P	**Pn**	**14 32 24.8**	**+3.2**
MHGZ	**Mahia Peninsul**	**8.26 205**		P	Pn	14 32 17.9	-3.8
MHGZ				S	**Sn**	**14 33 54.7**	**-0.4**
RAHZ	**Arahi**	**8.38 210**		P	**Pn**	**14 32 21.9**	**-1.4**
RAHZ				S	**Sn**	**14 33 56.0**	**-2.0**
MTHZ	**Maungataniwha**	**8.43 211**		P	**Pn**	**14 32 23.0**	**-1.1**
MTHZ				S	**Sn**	**14 33 58.7**	**-0.7**
WHHZ	**Waihua**	**8.46 209**		S	**Sn**	**14 33 58.1**	**-1.7**
MRHZ	**Matea Rd**	**8.61 213**		P	**Pn**	**14 32 24.2**	**-2.3**
MRHZ				S	**Sn**	**14 33 59.7**	**-4.0**
BKZ	**Black Stump Fm**	**8.85 212**		Pn	**Pn**	**14 32 27.1**	**-2.7**
BKZ	**Black Stump Fm**	**8.85 212**		P	**Pn**	**14 32 27.1**	**-2.7**
BKZ	**Black Stump Fm**	**8.85 212**		S	**Sn**	**14 34 07.3**	**-2.2**
BKZ	**Black Stump Fm**	**8.85 212**		P	**Pn**	**14 32 27.5**	**-2.3**
BKZ				S	**Sn**	**14 34 06.6**	**-2.9**
MCHZ	**McNeill Hill**	**8.99 210**		P	**Pn**	**14 32 29.7**	**-2.0**
MCHZ				S	**Sn**	**14 34 11.7**	**-1.3**
CKHZ	**Cape Kidnapper**	**9.02 207**		S	**Sn**	**14 34 10.8**	**-2.8**
HIZ	**Hauiti**	**9.17 220**		P	**Pn**	**14 32 34.7**	**+0.6**
HIZ	**Hauiti**	**9.17 220**		P	**Pn**	**14 32 35.4**	**+1.3**
KAHZ	**Kahuranaki**	**9.21 208**		P	Pn	14 32 30.0	-4.7
KAHZ				S	**Sn**	**14 34 15.6**	**-2.9**
WTVZ	**West Tongariro**	**9.23 215**		P	**Pn**	**14 32 35.1**	**0.0**
WTVZ				S	**Sn**	**14 34 17.2**	**-1.8**
KHEZ	**Kahui Hut**	**10.18 220**		P	**Pn**	**14 32 47.9**	**-0.2**
BFZ	**Birch Farm**	**10.22 207**		P	**Pn**	**14 32 45.5**	**-3.0**
BFZ	**Birch Farm**	**10.22 207**		S	**Sn**	**14 34 38.9**	**-4.3**
MRZ	**Mangatainoka R**	**10.47 210**		Pn	Pn	14 32 48.0	-4.1
SNZO	**South Karori**	**11.38 211**		P	**Pn**	**14 33 03.2**	**-1.2**
CTZ	**Chatham Island**	**12.00 177**			**Pn**	**14 33 11.1**	**-1.7**
CTZ	**Chatham Island**	**12.00 177**		P	Pn	14 33 07.1	-5.7
CTZ	**Chatham Island**	**12.00 177**		S	Sn	14 35 14.5	-12
CTZ	**Chatham Island**	**12.00 177**		P	**Pn**	**14 33 11.4**	**-1.4**
CTZ				S	Sn	14 35 13.3	-13
TKNZ	**Takaka Hill**	**12.00 217**		Pn	Pn	14 33 08.2	-4.7
QRZ	**Quartz Range**	**12.07 219**		P	**Pn**	**14 33 13.9**	**0.0**
QRZ	**Quartz Range**	**12.07 219**		S	**Sn**	**14 35 26.1**	**-2.4**
KHZ	**Kahutara**	**12.79 211**		P	**Pn**	**14 33 21.2**	**-2.5**
DSZ	**Denniston Nort**	**13.11 217**		Pn	**Pn**	**14 33 25.8**	**-2.4**
NIUE	**Niue**	**14.37 30**		P	Pn	14 33 39.5	-6.0
MSVF	**Nonsavu**	**14.50 343**			**Pn**	**14 33 46.1**	**-1.1**
MSVF	**Nonsavu**	**14.50 343**		Pn	Pn	14 33 43.5	-3.8
	0.5nm,0.3s,baz=151,slow=18,SNR=4.5						
MSVF				LR	LR	14 38 45.6	
	comp=Z,2μm,18.7s,baz=172,slow=35						
	5.6nm,0.8s						
MSVF	**Nonsavu**	**14.50 343**		P	**P**	**14 33 53.8**	**-0.2**
MSVF	**Nonsavu**	**14.50 343**	*i*	P	**Pn**	**14 33 46.0**	**-1.3**
RPZ	**Rata Peaks**	**14.94 214**		Pn	Pn	14 33 48.6	-4.4
RPZ	**Rata Peaks**	**14.94 214**		Pn	**Pn**	**14 33 51.4**	**-1.7**
	1.2nm,0.3s,baz=32,slow=1.2,SNR=13						
RPZ				Sn	Sn	14 36 25.3	-13
	4.4nm,0.3s,baz=311,slow=13,SNR=9.8						
RPZ	**Rata Peaks**	**14.94 214**		P	**Pn**	**14 33 50.4**	**-2.7**
DGTI	**Dogotuki**	**15.57 350**		P	**P**	**14 34 06.1**	**+0.3**
LBZ	**Lake Benmore**	**15.86 214**		Pn	**Pn**	**14 34 02.5**	**-2.6**
PINNC	**Pines Island,**	**16.12 301**		P	**P**	**14 34 14.7**	**+2.8**
ODZ	**Otahua Downs**	**16.15 211**		P	**Pn**	**14 34 05.5**	**-3.4**
JCZ	**Jackson Bay**	**16.32 217**		P	**Pn**	**14 34 09.7**	**-1.5**
DZM	**Mont Dzumac**	**17.19 300**		P	**Pn**	**14 34 23.2**	**+1.0**
DZM	**Mont Dzumac**	**17.19 300**	*e*	P	**Pn**	**14 34 23.0**	**+0.8**
	265nm,1.4s						
DZM			*e*	LR	LR	14 38 13.8	
	4μm,22.8s						
DZM	**Mont Dzumac**	**17.19 300**		Pn	**Pn**	**14 34 18.4**	**-3.8**
	0.6nm,0.3s,baz=125,slow=12,SNR=10						
DZM				LR	LR	14 39 54.2	
	comp=Z,5μm,18.8s,baz=146,slow=34						
	7.2nm,1.0s						
DZM	**Mont Dzumac**	**17.19 300**		P	**P**	**14 34 27.4**	**+3.6**
SYZ	**Scrubby Hill**	**17.98 211**		P	**Pn**	**14 34 27.2**	**-4.5**
AFI	**Afiamalu**	**18.53 18**		P	**P**	**14 34 33.5**	**-5.1**
AFI	**Afiamalu**	**18.53 18**		P	**P**	**14 34 38.4**	**-0.2**
AFI	**Afiamalu**	**18.53 18**		P	**P**	**14 34 38.4**	**-0.2**
AFI				pmax	pmax		
	comp=Z,29nm,1.4s						
RAR	**Rarotonga**	**19.05 61**		P	**P**	**14 34 41.6**	**-2.6**
RAR				IAmb	IAmb	14 34 53.4	
	comp=Z,151nm,1.4s						
RAR	**Rarotonga**	**19.05 61**		LR	LR	14 41 20.7	
	comp=Z,1μm,19.2s,baz=237,slow=35						
RAR	**Rarotonga**	**19.05 61**		P	**P**	**14 34 41.6**	**-2.6**
RAR				pmax	pmax		
	comp=Z,151nm,1.4s						
KOUNC	**Koumac, New Ca**	**19.70 300**		P	**Pn**	**14 34 55.4**	**+2.6**
FUNA	**Funafuti**	**23.30 352**		P	**P**	**14 35 32.4**	**+2.5**
TBI	**Tubuai**	**26.23 78**	*e*	P	**P**	**14 35 56.7**	**-0.4**
	comp=Z,374nm,24.8s						
TBI			*e*	S	**S**	**14 40 32.6**	**+3.2**
	comp=Z,6μm,24.8s						
TBI			*e*	LR	LR	14 42 31.9	
	comp=Z,4μm,22.2s						
ARMA	**Armidale**	**26.37 265**		P	**P**	**14 35 59.8**	**+1.4**
CNB	**Canberra Magne**	**27.72 254**		P	**P**	**14 36 10.8**	**+0.3**
EIDS	**Eidsvold**	**28.19 275**		P	**P**	**14 36 14.7**	**0.0**
EIDS				IAmb	IAmb	14 36 27.7	
	comp=Z,35nm,1.2s						
PPT2	**Papeete2**	**28.98 68**	*e*	P	P	14 36 18.2	-3.6
	comp=Z,67nm,34.5s						
PPT2			*e*	S	**S**	**14 41 15.4**	**+2.5**
	comp=Z,1μm,24.0s						
PPT2			*e*	LR	LR	14 43 44.1	
	comp=Z,866nm,21.8s						
PPT2			*e*	LR	LR	14 43 50.0	
	comp=Z,967nm,21.0s						
PPT	**Papeete**	**28.99 68**		LR	LR	14 46 08.5	
	comp=Z,1μm,18.6s,baz=246,slow=33						
TAU	**Tasmania Unive**	**29.86 238**		P	**P**	**14 36 28.6**	**-0.7**
TAU				IAmb	IAmb	14 36 45.2	
	comp=Z,64nm,1.6s						
TAU	**Tasmania Unive**	**29.86 238**		P	**P**	**14 36 28.6**	**-0.7**
TAU				pmax	pmax		
	comp=Z,64nm,1.6s						
HNR	**Honiara**	**30.46 312**		P	**P**	**14 36 33.6**	**-1.2**
	comp=Z,28nm,0.6s,baz=219,slow=3.0,SNR=5.9						
HNR				LR	LR	14 46 35.1	
	comp=Z,686nm,20.8s,baz=179,slow=32						
	comp=Z,28nm,0.6s						
TOO	**Toolangi**	**30.80 249**		P	**P**	**14 36 36.5**	**-1.2**
TOO	**Toolangi**	**30.80 249**		P	**P**	**14 36 36.5**	**-1.2**
TOO				pmax	pmax		
	comp=Z,22nm,1.6s						
CMSA	**Cobar Meteorol**	**31.18 261**		P	**P**	**14 36 41.8**	**+0.6**
QLP	**Quilpie**	**33.63 269**		P	**P**	**14 37 02.6**	**0.0**
ARPS	**Mount Arapiles**	**33.74 250**		P	**P**	**14 37 03.2**	**-0.3**
STKA	**Stephens Creek**	**34.55 259**			**P**	**14 37 10.0**	**-0.7**
STKA	**Stephens Creek**	**34.55 259**		P	**P**	**14 37 10.3**	**-0.4**
	comp=Z,8.7nm,0.5s,baz=100,slow=10,SNR=28						
STKA				LR	LR	14 51 02.9	
	comp=Z,2μm,18.1s,baz=89,slow=36						
	comp=Z,8.7nm,0.5s						
STKA	**Stephens Creek**	**34.55 259**		P	**P**	**14 37 12.1**	**+1.5**
STKA	**Stephens Creek**	**34.55 259**	*i*	P	**P**	**14 37 10.4**	**-0.2**
MGBR	**Mount Gambier**	**34.70 248**		P	**P**	**14 37 10.3**	**-1.5**
INKA	**Innaminka**	**36.25 265**		P	**P**	**14 37 26.8**	**+1.5**
HTT	**Hallett**	**36.50 255**		P	**P**	**14 37 27.1**	**-0.3**
LCRK	**Leigh Creek**	**37.69 260**		P	**P**	**14 37 37.9**	**+0.4**
RKT	**Rikitea**	**38.58 88**	*e*	P	**P**	**14 37 46.8**	**+1.8**
	comp=Z,706nm,37.5s						
RKT			*e*	S	**S**	**14 43 43.8**	**+2.6**
	comp=Z,966nm,26.5s						
BBOO	**Buckleboo**	**38.98 256**		P	**P**	**14 37 46.6**	**-1.7**
BBOO	**Buckleboo**	**38.98 256**		P	**P**	**14 37 48.1**	**-0.2**
PMG	**Port Moresby**	**39.52 296**		LR	LR	14 52 45.2	
	comp=Z,510nm,18.3s,baz=122,slow=34						
QIS	**Mount Isa**	**39.79 276**		P	**P**	**14 37 55.3**	**0.0**
COEN	**Coen**	**40.00 287**		P	**P**	**14 37 58.8**	**+1.8**
OOD	**Oodnadatta**	**40.52 263**		P	**P**	**14 38 01.9**	**+0.7**
TAOE	**Nuku Hiva Isla**	**41.52 65**	*e*	P	P	14 38 02.7	-6.9
	comp=Z,40nm,23.1s						
TAOE			*e*	S	**S**	**14 44 24.3**	**-1.3**
	comp=Z,248nm,23.9s						
TAOE			*e*	SS	**SS**	**14 47 25.6**	**-4.6**
	comp=Z,844nm,27.1s						
TAOE			*e*	LR	LR	14 49 35.6	
	comp=Z,589nm,21.5s						
AS01	**Alice Springs**	**43.38 268**		P	**P**	**14 38 24.3**	**-0.4**
AS31	**Alice Springs**	**43.42 268**		P	**P**	**14 38 23.3**	**-1.7**
ASAR	**Alice Springs**	**43.42 268**		P	**P**	**14 38 23.4**	**-1.6**
ASAR	**Alice Springs**	**43.42 268**		P	**P**	**14 38 23.3**	**-1.7**
	comp=Z,14nm,0.7s,baz=106,slow=7.1,SNR=132						
ASAR				LR	LR	14 55 27.4	
	comp=Z,477nm,18.1s,baz=108,slow=35						
	comp=Z,14nm,0.7s						
ASAR	**Alice Springs**	**43.42 268**		P	**P**	**14 38 23.4**	**-1.6**
WR0	**Warramunga Arr**	**44.35 273**		P	**P**	**14 38 30.8**	**-1.7**
WR0				IAmb	IAmb	14 38 51.3	
	comp=Z,35nm,0.8s						
WB2	**Warramunga Arr**	**44.52 273**			**P**	**14 38 31.9**	**-2.0**
WB2				IAmb	IAmb	14 38 52.2	
	comp=Z,55nm,0.9s						
WRAB	**Tennant Creek**	**44.52 273**		P	**P**	**14 38 31.8**	**-2.0**
WRAB				IAmb	IAmb	14 38 52.1	
	comp=Z,53nm,0.8s						
WRAB	**Tennant Creek**	**44.52 273**	*i*	P	**P**	**14 38 32.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**44.53 273**		P	**P**	**14 38 32.4**	**-1.6**
	comp=Z,29nm,0.6s,baz=111,slow=8.0,SNR=98						
WRA				LR	LR	14 56 56.7	
	comp=Z,2μm,18.0s,baz=132,slow=36						
	comp=Z,29nm,0.6s						
WB0	**Warramunga Arr**	**44.56 274**			**P**	**14 38 32.2**	**-2.0**
FORT	**Forrest**	**46.07 256**		P	**P**	**14 38 44.2**	**-1.8**
FORT				IAmb	IAmb	14 38 58.2	
	comp=Z,36nm,0.9s						
FORT	**Forrest**	**46.07 256**		P	**P**	**14 38 45.3**	**-0.7**
VNDA	**Vanda**	**46.80 186**		P	**P**	**14 38 52.6**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=8.8,slow=7.5,SNR=3.9						
VNDA				LR	LR	14 55 07.0	
	comp=Z,601nm,20.7s,baz=11,slow=32						
	comp=Z,1.6nm,0.7s						
WRKA	**Warakurna**	**47.69 264**		P	**P**	**14 38 56.9**	**-1.9**
JAY	**Jayapura**	**48.84 298**		LR	LR	14 57 21.9	
	comp=Z,321nm,21.5s,baz=193,slow=33						
MTN	**Manton Dam**	**50.56 280**		P	**P**	**14 39 19.0**	**-1.9**
MTN				IAmb	IAmb	14 39 31.3	
	comp=Z,66nm,1.6s						
KNRA	**Kununurra**	**51.18 275**		P	**P**	**14 39 24.1**	**-1.4**
KNRA				IAmb	IAmb	14 39 56.1	
	comp=Z,41nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.73 271**		P	**P**	**14 39 35.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.73 271**		LR	LR	15 01 21.3	
	comp=Z,1μm,18.1s,baz=116,slow=35						
CASY	**Casey**	**54.13 208**		P	**P**	**14 39 46.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**54.28 250**		LR	LR	15 00 25.5	
	comp=Z,302nm,21.4s,baz=64,slow=33						
FAKI	**Fak Fak**	**55.15 291**		P	**P**	**14 39 53.8**	**-1.0**
FAKI	**Fak Fak**	**55.15 291**		P	**P**	**14 39 55.6**	**+0.8**
FAKI	**Fak Fak**	**55.15 291**		P	**P**	**14 39 53.3**	**-1.5**
	comp=Z,21nm,2.0s						
MEEK	**Meekatharra**	**55.25 258**		P	**P**	**14 39 54.2**	**-1.2**
PSA00	**Pilbara Seismi**	**56.18 264**		P	**P**	**14 40 00.8**	**-1.3**
PSA00				IAmb	IAmb	14 40 05.8	
	comp=Z,24nm,1.4s						
GUMO	**Guam**	**57.69 315**		LR	LR	15 04 13.9	
	comp=Z,286nm,18.9s,baz=132,slow=35						
QSPA	**South Pole Qui**	**58.37 180**		P	**P**	**14 40 18.7**	**+1.6**
	comp=Z,11nm,0.7s,baz=43,slow=1.1,SNR=55						
QSPA				LR	LR	15 02 55.6	
	comp=Z,460nm,19.7s,baz=40,slow=33						
	comp=Z,11nm,0.7s						
GIRL	**Giralia**	**60.48 260**		P	**P**	**14 40 31.0**	**-1.1**
SANI	**Sanana**	**60.70 287**		P	**P**	**14 40 31.7**	**-2.1**
	comp=Z,16nm,2.1s						
KAPI	**Kappang**	**64.21 281**		LR	LR	15 09 05.4	
	comp=Z,537nm,18.7s,baz=123,slow=36						
JAGI	**Jajag, Banyuwa**	**67.13 274**		P	**P**	**14 41 14.7**	**-1.5**
	comp=Z,40nm,1.4s						
BELA	**Belgrano 2**	**68.41 172**		P	**P**	**14 41 23.8**	**+0.6**
BELA				IAmb	IAmb	14 42 12.8	
	comp=Z,14nm,1.1s						
PCJI	**Pacitan**	**69.80 273**		P	**P**	**14 41 31.6**	**-1.2**
JCJ	**Chichijima**	**69.97 322**		LR	LR	15 07 55.0	
	comp=Z,201nm,21.5s,baz=160,slow=32						
PMSA	**Palmer Station**	**70.89 155**		LR	LR	15 08 59.7	
	comp=Z,266nm,18.3s,baz=258,slow=33						
MYLDM	**Lahad Datu**	**70.97 289**		P	**P**	**14 41 39.2**	**-0.8**
MAW	**Mawson**	**71.18 201**		LR	LR	15 13 32.2	
	comp=Z,706nm,18.2s,baz=116,slow=36						
LEM	**Lembang**	**73.53 272**		LR	LR	15 14 26.4	
	comp=Z,355nm,19.7s,baz=167,slow=36						
ESPZ	**Base Esperanza**	**74.19 156**		P	**P**	**14 41 59.1**	**+0.7**
TGY	**Tagaytay City**	**74.47 298**		LR	LR	15 16 10.9	
	comp=Z,106nm,18.1s,baz=328,slow=37						
ELIB	**Princess Elisa**	**75.56 187**	*d*	P	**P**	**14 42 08.0**	**+1.6**
	comp=Z,10.0nm,1.3s						
SYO	**Syowa Base**	**75.89 193**⇑	*e*	pP	pP	14 42 10.0	+0.8
SYO	**Syowa Base**	**75.89 193**⇑	*e*	sP	sP	14 42 11.9	+2.3
SYO	**Syowa Base**	**75.89 193**⇓	*e*	PcP	**PcP**	**14 42 19.8**	**-0.7**
JHJ	**Hachijo jima 2**	**76.04 324**		LR	LR	15 14 38.3	
	comp=Z,128nm,18.5s,baz=82,slow=35						
TROLL	**Troll, Antarti**	**76.53 180**	⇑	P	**P**	**14 42 13.5**	**+1.6**
	comp=Z,578nm,0.9s						
SNAA	**Sanae**	**76.81 178**		P	**P**	**14 42 14.1**	**+0.8**
SNAA				IAmb	IAmb	14 43 07.2	
	comp=Z,32nm,1.2s						
SNAA	**Sanae**	**76.81 178**	⇑	P	**P**	**14 42 14.6**	**+1.3**
	comp=Z,148nm,0.7s						
SNAA	**Sanae**	**76.81 178**	⇑	P	**P**	**14 42 14.3**	**+0.9**
	comp=Z,7.5nm,0.8s,baz=149,slow=6.9,SNR=13						
SNAA				LR	LR	15 15 35.2	
	comp=Z,243nm,18.7s,baz=218,slow=35						
	comp=Z,7.5nm,0.8s						
SNAA	**Sanae**	**76.81 178**	*ce*	P	**P**	**14 42 14.1**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,28nm,1.4s						
VNA3	**Neumayer Olymp**	**76.94 176**	⇑	P	**P**	**14 42 15.2**	**+1.2**
	comp=Z,43nm,0.7s						
VNA2	**Neumayer--Watz**	**77.38 177**	⇑	P	**P**	**14 42 18.0**	**+1.5**
	comp=Z,25nm,0.7s,baz=180,slow=5.7						
NVL	**N'lazarevskaya**	**77.56 183**	*e*	P	**P**	**14 42 19.9**	**+2.4**
NVL			*e*	S	**S**	**14 52 04.9**	**-3.5**
NVL				pmax	pmax		
	comp=Z,22nm,1.0s						
NVL				MLR	MLR		
	comp=Z,346nm,19.0s						
VNA1	**Neumayer--Stat**	**77.61 176**	⇑	P	**P**	**14 42 19.2**	**+1.5**
	comp=Z,38nm,1.1s						
JOW	**Kunigami**	**77.83 312**		LR	LR	15 15 09.7	
	comp=Z,209nm,18.9s,baz=72,slow=35						
JGF	**Kuroka**	**79.23 324**		P	**P**	**14 42 27.3**	**+0.2**
JGF				IAmb	IAmb	14 44 12.9	
	comp=Z,28nm,1.6s						
H03S2	**Juan Fernandez**	**79.42 123**		T	T	16 10 08.0	
	baz=238,slow=74,SNR=5.8						
H03S1	**Juan Fernandez**	**79.43 123**		T	T	16 10 12.9	
	baz=238,slow=74,SNR=5.5						
H03S3	**Juan Fernandez**	**79.44 123**		T	T	16 10 13.3	
	baz=238,slow=74,SNR=6.3						
MJAR	**Matsushiro Arr**	**79.55 325**		LR	LR	15 13 59.2	
	comp=Z,91nm,18.6s,baz=124,slow=33						
H03N3	**Juan Fernandez**	**79.62 123**		T	T	16 10 18.5	
	baz=233						
H03N2	**Juan Fernandez**	**79.62 123**		T	T	16 10 12.1	
	baz=233						
H03N1	**Juan Fernandez**	**79.64 123**		T	T	16 10 17.6	
	baz=233						
JNU	**Nakatsue**	**80.80 318**		LR	LR	15 12 50.5	
	comp=Z,175nm,21.8s,baz=135,slow=32						
PLCA	**Paso Flores**	**81.33 133**		P	**P**	**14 42 39.6**	**+0.9**
PLCA	**Paso Flores**	**81.33 133**		P	**P**	**14 42 39.9**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=214,slow=6.0,SNR=5.8						
PLCA				LR	LR	15 12 20.0	
	comp=Z,295nm,18.7s,baz=226,slow=31						
	comp=Z,4.8nm,0.9s						
BI02	**San Fabin de**	**83.17 129**		P	**P**	**14 42 49.3**	**+0.9**
BI02				IAmb	IAmb	14 43 19.4	
	comp=Z,27nm,1.4s						
**

PNTR	**Pine Nut**	**88.69**	**41**	P	**P**	**14 43 16.9 +1.3**
PNTR				IAmb	IAmb	14 43 24.7
comp=Z,9.2nm,0.9s						
YBH	**Yreka Blue Hor**	**88.86**	**38**	P	**P**	**14 43 17.6 +1.4**
YBH	**Yreka Blue Hor**	**88.86**	**38**	P	**P**	**14 43 17.6 +1.4**
YBH				pmax	pmax	
comp=Z,10.0nm,1.2s						
NVAR	**Mina Array Bea**	**88.98**	**42**	P	**P**	**14 43 17.4 +0.5**
NVAR	**Mina Array Bea**	**88.98**	**42**	P	**P**	**14 43 16.4 -0.5**
comp=Z,2.3nm,0.7s,baz=221,slow=8.3,SNR=16						
comp=Z,2.3nm,0.7s						
NV11	**Mina Array Sit**	**89.06**	**43**	P	**P**	**14 43 18.0 +0.8**
NV11				IAmb	IAmb	14 43 22.0
comp=Z,19nm,1.6s						
TPNV	**Topopah Spring**	**89.19**	**45**	P	**P**	**14 43 18.9 +1.0**
TPNV				IAmb	IAmb	14 43 23.2
comp=Z,14nm,1.1s						
TPNV	**Topopah Spring**	**89.19**	**45**	P	**P**	**14 43 18.9 +1.0**
TPNV				pmax	pmax	
comp=Z,14nm,1.2s						
MOIG	**Morelia**	**89.21**	**66**	P	**P**	**14 43 19.0 +0.5**
TYV	**Tymovskoe**	**89.43**	**336**	*e*P	**P**	**14 43 19.0 +0.6**
TYV				*e*S	**S**	**14 54 07.7 -0.7**
TYV				pmax	pmax	
comp=Z,22nm,1.0s						
TYV				pmax	pmax	
comp=Z,100nm,5.5s						
TYV				smax	smax	
comp=N,700nm,9.2s						
TYV				smax	smax	
comp=E,600nm,9.2s						
TUC	**Tucson**	**89.66**	**51**	P	**P**	**14 43 21.8 +1.7**
TUC				pmax	pmax	
comp=Z,9.0nm,1.7s						
PRN	**Pahroc Range**	**90.21**	**45**	P	**P**	**14 43 23.6 +1.0**
PRN				IAmb	IAmb	14 43 28.4
comp=Z,48nm,2.0s						
J05D	**Fort Rock, OR**	**90.73**	**37**	P	**P**	**14 43 25.9 +1.0**
J05D				IAmb	IAmb	14 43 39.3
comp=Z,17nm,1.3s						
TIA	**Tai'an**	**91.15**	**313**	P	**P**	**14 43 28.8 +1.9**
TIA				SKS	**SKSac**	**14 54 00.1 +1.1**
TIA				S	**S**	**14 54 25.1 +0.1**
TIA				pmax	pmax	
comp=Z,10.0nm,1.1s						
TIA				LR	LR	
comp=Z,180nm,15.9s						
TIA				LR	LR	
comp=Z,220nm,20.0s						
TIA				LR	LR	
comp=Z,220nm,22.0s						
PINE	**Pine Mountain**	**91.24**	**37**	P	**P**	**14 43 28.3 +0.9**
PINE				IAmb	IAmb	14 43 32.4
comp=Z,21nm,1.3s						
U15A	**North Rim**	**91.27**	**47**	IAmb	IAmb	14 43 33.5
comp=Z,29nm,1.5s						
CN2	**Changchun**	**91.43**	**323**	*e*P	**P**	**14 43 26.9 -1.1**
CN2				*e*S	**S**	**14 54 25.0 -2.2**
CN2				pmax	pmax	
comp=Z,10.0nm,0.6s						
CN2				pmax	pmax	
comp=Z,200nm,4.0s						
CN2				LR	LR	
comp=Z,200nm,11.0s						
CN2				LR	LR	
comp=Z,300nm,11.0s						
CN2				LR	LR	
comp=Z,200nm,12.0s						
BNX	**BinXian**	**91.81**	**325**	⇓P	**P**	**14 43 30.3 +0.6**
BNX				pmax	pmax	
comp=Z,13nm,1.7s						
I07A	**Izee**	**92.19**	**38**	P	**P**	**14 43 32.4 +0.8**
I07A				IAmb	IAmb	14 43 36.5
comp=Z,13nm,1.4s						
MTPU	**Mount Pierson**	**92.36**	**46**	P	**P**	**14 43 33.5 +0.6**
KLR	**Kul'dur**	**92.38**	**329**	P	**P**	**14 43 31.2 -1.0**
comp=Z,3.9nm,0.6s,baz=144,slow=1.5,SNR=16						
comp=Z,3.9nm,0.6s						
KLR	**Kul'dur**	**92.38**	**329**	*ce*P	**P**	**14 43 32.4 +0.2**
KLR				pmax	pmax	
comp=Z,13nm,1.9s						
NNA	**Nana**	**92.70**	**106**	*i* P	**P**	**14 43 33.8 -0.9**
TXAR	**Lajitas Array**	**92.81**	**57**	P	**P**	**14 43 34.7 -0.2**
comp=Z,1.8nm,1.1s,baz=193,slow=5.1,SNR=8.0						
comp=Z,1.8nm,1.1s						
LYN	**LuoYang**	**93.13**	**309**	P	**P**	**14 43 37.0 +0.9**
LYN				SKS	**SKSac**	**14 54 09.6 -0.6**
LYN				S	**ScS**	**14 54 49.5 +4.9**
LYN				pmax	pmax	
comp=Z,150nm,5.2s						
LYN				LR	LR	
comp=Z,150nm,13.2s						
LYN				LR	LR	
comp=Z,240nm,10.8s						
LYN				LR	LR	
comp=Z,360nm,15.9s						
HNS	**HongShan**	**93.41**	**312**	⇑P	**P**	**14 43 38.5 +1.3**
HNS				SKS	**SKSac**	**14 54 10.3 -1.3**
HNS				S	**S**	**14 54 46.8 +1.7**
HNS				SS	**SS**	**15 01 02.8 +0.4**
HNS				pmax	pmax	
comp=Z,6.0nm,1.3s						
HNS				LR	LR	
comp=Z,150nm,14.5s						
HNS				LR	LR	
comp=Z,200nm,16.1s						
HNS				LR	LR	
comp=Z,240nm,16.5s						
ANMO	**Albuquerque**	**94.13**	**51**	*i* P	**P**	**14 43 42.5 +1.6**
ANMO				pmax	pmax	
comp=Z,10.0nm,4.0s						
CMAR	**Chiang Mai Arr**	**94.19**	**289**	LR	LR	15 26 49.6
comp=Z,69nm,21.1s,baz=135,slow=36						
HVU	**Hansel Valley**	**94.37**	**43**	P	**P**	**14 43 42.5 +0.7**
HVU	**Hansel Valley**	**94.37**	**43**	P	**P**	**14 43 42.5 +0.7**
HVU				pmax	pmax	
comp=Z,8.0nm,1.3s						
MA2	**Magadan**	**94.68**	**344**	P	**P**	**14 43 40.9 -1.7**
comp=Z,0.8nm,0.3s,baz=113,slow=10,SNR=4.0						
comp=Z,0.8nm,0.3s						
MA2	**Magadan**	**94.68**	**344**	*i* P	**P**	**14 43 42.9 +0.3**
MA2				pmax	pmax	
comp=Z,7.0nm,1.3s						
PLID	**Pearl Lake**	**94.72**	**39**	P	**P**	**14 43 43.1 -0.3**
PLID				IAmb	IAmb	14 44 06.0
comp=Z,9.3nm,1.3s						
PZH	**PanZhiHua**	**96.25**	**297**	P	**P**	**14 43 51.6 +0.9**
PZH				pmax	pmax	
comp=Z,10.0nm,0.6s						
PZH				pmax	pmax	
comp=Z,120nm,6.5s						
PDAR	**Pinedale Array**	**96.85**	**43**	P	**P**	**14 43 52.2 -1.0**
comp=Z,0.7nm,0.8s,baz=235,slow=4.1,SNR=5.6						
PDAR				PKKP	**PKKPbc**	**15 00 35.6 -0.3**
comp=Z,0.2nm,0.6s,baz=9.1,slow=2.4,SNR=3.7						
comp=Z,0.7nm,0.8s						
LPAZ	**La Paz**	**97.26**	**114**	P	**P**	**14 43 55.6 -0.6**
comp=Z,0.8nm,0.5s,baz=187,slow=7.1,SNR=3.6						
comp=Z,0.8nm,0.5s						
SEY	**Seymchan**	**97.36**	**347**	P	**P**	**14 43 53.4 -1.3**
comp=Z,1.2nm,0.8s,baz=70,slow=23,SNR=6.9						
comp=Z,1.2nm,0.8s						
SEY	**Seymchan**	**97.36**	**347**	*i* P	**P**	**14 43 55.4 +0.7**
SEY				pmax	pmax	
comp=Z,3.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**97.43**	**314**	*e*P	Pdif	14 43 57.8 +2.0
HHC				SKS	**SKSac**	**14 54 35.8 +2.7**
HHC				S	**ScS**	**14 55 22.3 +1.9**
HHC				sS	sS	14 55 29.3 +6.8
HHC				pmax	pmax	
comp=Z,14nm,0.5s						
HHC				pmax	pmax	
comp=Z,48nm,4.3s						
ZEA	**Zeya**	**97.59**	**331**	*e*P	**P**	**14 43 56.9 +1.0**
ZEA				MLR	MLR	
comp=Z,200nm,16.0s						
TNCH	**TengChong**	**97.95**	**294**	*e*P	**P**	**14 43 59.8 +1.3**
TNCH				SKS	**SKSac**	**14 54 36.1 -0.5**
TNCH				S	**S**	**14 55 22.8 -2.7**
TNCH				pmax	pmax	
comp=Z,76nm,5.3s						
TNCH				LR	LR	
comp=Z,150nm,17.1s						
BTO	**Baotou**	**98.24**	**313**	*e*P	Pdif	14 44 01.8 +2.4
BTO				pP	pwP	14 44 07.3 -1.2
BTO				PP	**PP**	**14 48 00.8 +1.3**
BTO				S	**S**	**14 55 28.1 +1.0**
BTO				pmax	pmax	
comp=Z,3.0nm,0.5s						
BTO				LR	LR	
comp=Z,340nm,15.3s						
BTO				LR	LR	
comp=Z,380nm,10.7s						
BTO				LR	LR	
comp=Z,410nm,10.3s						
COLA	**College**	**99.06**	**12**	*i* P	**Pdif**	**14 44 00.9 -1.4**
COLA				pmax	pmax	
comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**99.15**	**13**	P	**Pdif**	**14 44 01.7 -1.0**
comp=Z,0.5nm,0.6s,baz=217,slow=5.7,SNR=12						
comp=Z,0.5nm,0.6s						
LZH	**Lanzhou**	**99.81**	**306**	*e*P	**Pdif**	**14 43 53.3 -13**
LZH				sP	pP	14 44 02.5 -5.5
BILL	**Bilibino**	**100.21**	**354**	*i* P	**Pdif**	**14 44 07.8 +0.5**
BILL				pmax	pmax	
comp=Z,6.0nm,1.6s						
YKA	**Yellowknife Ar**	**106.49**	**26**	PKKPbc	PKKPbc	15 00 06.1 -1.8
comp=Z,0.4nm,0.7s,baz=43,slow=3.0,SNR=7.4						
WMQ	**Urumqi**	**114.34**	**308**	*e*PKP	PKPdf	14 49 02.1 +0.4
WMQ				LR	LR	
comp=Z,110nm,14.1s						
MK31	**Makanchi Array**	**118.91**	**309**	*c i* PKIKP	**PKiKP**	**14 49 11.9 +1.5**
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	**PKPdf**	**14 49 08.7 -1.7**
comp=Z,1.0nm,0.8s,baz=88,slow=1.9,SNR=5.7						
MKAR				PKKPbc	**PKKPbc**	**14 59 25.3 -0.2**
comp=Z,0.4nm,0.7s,baz=295,slow=4.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**119.27**	**318**	PKP	**PKPdf**	**14 49 09.8 -0.9**
comp=Z,1.2nm,0.9s,baz=108,slow=2.6,SNR=2.0						
KSH	**Kashi**	**121.23**	**300**	PKP	**PKiKP**	**14 49 18.3 +3.0**
BOOM	**Boomskoye usch**	**122.09**	**303**		**PKPdf**	**14 49 17.0 +0.2**
BOOM	**Boomskoye usch**	**122.09**	**303**	PKIKP	**PKPdf**	**14 49 17.0 +0.2**
KURK	**Kurchatov**	**122.24**	**313**	PKPdf	**PKPdf**	**14 49 15.7 -0.8**
KURK	**Kurchatov**	**122.24**	**313**	*c i* PKIKP	**PKPdf**	**14 49 17.5 +1.0**
KURK				pmax	pmax	
comp=Z,6.0nm,1.3s						
KURBB	**Kurchatov Arra**	**122.27**	**313**	PKP	**PKPdf**	**14 49 15.4 -1.1**
comp=Z,1.7nm,0.7s,baz=103,slow=1.9,SNR=15						
KBL	**Kabul**	**125.07**	**292**		**PKPdf**	**14 49 23.6 +0.8**
KBL	**Kabul**	**125.07**	**292**	PKIKP	**PKPdf**	**14 49 23.6 +0.8**
KKAR	**Karatay Array**	**126.11**	**303**		**PKPdf**	**14 49 23.0 -1.2**
KKAR	**Karatay Array**	**126.11**	**303**	PKIKP	**PKPdf**	**14 49 23.0 -1.2**
BVAR	**Borovoye Array**	**127.61**	**315**	PKP	**PKPdf**	**14 49 26.4 -0.4**
comp=Z,7.8nm,1.1s,baz=96,slow=3.0,SNR=8.2						
BRVK	**Borovoye**	**127.68**	**315**	*c i* PKIKP	**PKiKP**	**14 49 28.9 +1.5**
BRVK				pmax	pmax	
comp=Z,6.0nm,1.3s						
KIBK	**Kibwezi**	**132.13**	**232**		PKPpre	14 49 24.9
ARTI	**Arti**	**134.46**	**320**	*i* PKIKP	**PKPdf**	**14 49 41.5 +1.9**
ARTI						14 52 14.2
ARTI				SS	SS	15 10 04.3 +1.2
APA	**Apatity**	**139.80**	**342**	⇓*i*PKHKP	PKPpre	14 49 32.3
APA				*i*		14 49 49.1
APA				pmax	pmax	
comp=Z,4.0nm,0.9s						
APA				pmax	pmax	
comp=Z,9.0nm,1.2s						
ARCES	**ARCESS Array B**	**139.97**	**348**	PKP	**PKPdf**	**14 49 49.2 -0.3**
comp=Z,3.0nm,0.8s,baz=39,slow=2.2,SNR=5.8						
KLMR	**Klimovskoe**	**142.11**	**331**	*e*PKIKP	PKPpre	14 49 49.0
KLMR				pmax	pmax	
comp=Z,10.0nm,1.1s						
GNI	**Garni**	**145.00**	**296**		**PKPbc**	**14 49 58.5 -0.4**
GNI	**Garni**	**145.00**	**296**	PKIKP	**PKPbc**	**14 49 58.5 -0.4**
GNI	**Garni**	**145.00**	**296**	PKP	**PKPbc**	**14 49 59.5 +0.7**
VRH	**Novokhopyorsk**	**145.26**	**316**	*e*PKP2	**PKPbc**	**14 49 57.5 -1.6**
VRH				pmax	pmax	
comp=Z,31nm,1.2s						
MOS	**Moscow**	**145.64**	**325**	*i* PKIKP	**PKPdf**	**14 49 59.3 -0.5**
MOS				pmax	pmax	
comp=Z,140nm,1.0s						
GOF	**Gofitskoye**	**145.87**	**305**	*ce*PKIKP	**PKPdf**	**14 50 01.0 +0.4**
KBZ	**Khabaz**	**146.15**	**302**	PKPbc	**PKPdf**	**14 50 01.1 +0.1**
comp=Z,7.9nm,0.9s,baz=113,slow=2.6,SNR=15						
KBZ	**Khabaz**	**146.15**	**302**	*c i* PKP2	**PKPbc**	**14 50 03.5 +1.4**
KIV	**Kislovodsk**	**146.27**	**303**	PKPdf	**PKPdf**	**14 50 01.5 +0.1**
KIV	**Kislovodsk**	**146.27**	**303**	*i* PKP2	**PKPdf**	**14 50 02.1 +0.6**
KIV				pmax	pmax	
comp=Z,16nm,1.1s						
KIV	**Kislovodsk**	**146.27**	**303**	PKP	**PKPdf**	**14 50 03.0 +1.5**
LPSR	**Galich'ya Gora**	**146.37**	**319**	*e*PKP2	**PKPdf**	**14 50 01.0 -0.2**
LPSR				pmax	pmax	
comp=Z,103nm,0.9s						
OBN	**Obninsk**	**146.48**	**324**	PKPdf	**PKPdf**	**14 50 02.1 +0.9**
OBN	**Obninsk**	**146.48**	**324**	*i* PKP2	**PKPdf**	**14 50 01.3 +0.1**
OBN				pmax	pmax	
comp=Z,86nm,1.3s						
OBN	**Obninsk**	**146.48**	**324**	PKP	**PKPdf**	**14 50 02.3 +1.1**
FINES	**FINESS Array B**	**146.53**	**340**	PKPdf	**PKPdf**	**14 50 01.0 -0.2**
FINES	**FINESS Array B**	**146.53**	**340**	PKPbc	**PKPdf**	**14 50 00.9 -0.2**
comp=Z,18nm,0.6s,baz=44,slow=3.4,SNR=61						
FINES	**FINESS Array B**	**146.53**	**340**	PKIKP	**PKPdf**	**14 50 01.0 -0.2**
VORR	**Voronezh**	**146.57**	**317**	*e*PKP2	**PKPdf**	**14 50 02.0 +0.5**
VORR				pmax	pmax	
comp=Z,57nm,0.5s						
VSR	**Storozhevoye**	**146.77**	**317**	*e*PKIKP	**PKPdf**	**14 50 01.2 -0.7**
VSR				pmax	pmax	
comp=Z,30nm,1.0s						
VORD	**Divnogorie**	**146.78**	**316**	*e*PKIKP	**PKPdf**	**14 50 02.0 +0.1**
VORD				pmax	pmax	
comp=Z,20nm,1.0s						
ERBR	**Yeremizino-Bor**	**147.52**	**306**	*i* PKP2	**PKPbc**	**14 50 07.6 +1.6**
ERBR				pmax	pmax	
comp=Z,57nm,1.1s						
LABN	**Labinsk**	**147.56**	**304**	*i* PKP2	**PKPbc**	**14 50 07.5 +1.4**
LABN				pmax	pmax	
comp=Z,24nm,0.5s						
SOC	**Sochi**	**148.46**	**303**	*e*PKIKP	**PKPdf**	**14 50 04.4 -0.6**
SOC				*e*		14 53 38.0
SOC				*e*SS	SS	15 12 46.4 -0.5
SOC				*e*SSS	SSS	15 18 14.8
ANN	**Anapa**	**149.82**	**306**	*i* PKP2	**PKPbc**	**14 50 11.2 -0.7**
ANN				pmax	pmax	
comp=Z,36nm,1.1s						
NB2	**NORSAR Subarra**	**150.13**	**351**	PKP	**PKPbc**	**14 50 12.1 -0.1**
comp=Z,1.0nm,0.5s,baz=10,slow=3.3						
NOA	**NORSAR Array B**	**150.13**	**351**	PKPbc	**PKPbc**	**14 50 11.3 -0.9**
comp=Z,1.8nm,0.7s,baz=14,slow=3.1,SNR=6.3						
HFS	**Hagfors**	**150.63**	**348**	PKPbc	**PKPdf**	**14 50 11.7 +3.8**
comp=Z,6.5nm,0.8s,baz=31,slow=2.4,SNR=5.4						
MNK	**Minsk**	**150.92**	**329**	*i* PKIKP	**PKPbc**	**14 50 13.5 -0.7**
MNK				*i*		14 53 49.9
MNK				*i* PPP	PPP	14 57 12.4
MNK				*i*		14 57 13.1
MNK				*i* SS	SS	15 13 12.6 -0.3
MNK				*i* SSS	SSS	15 18 56.9
MNK				pmax	pmax	
comp=E,14nm,0.7s						
MNK				pmax	pmax	
comp=N,4.0nm,0.8s						
MNK				pmax	pmax	
comp=Z,13nm,0.9s						
MMAI	**Mount Meron Ar**	**152.18**	**281**	PKPbc	**PKPbc**	**14 50 17.6 -0.3**
comp=Z,7.8nm,0.6s,baz=100,slow=2.5,SNR=10						
AKASG	**Malin Array Be**	**152.58**	**321**		**PKPbc**	**14 50 18.3 +0.2**
AKASG	**Malin Array Be**	**152.58**	**321**	PKPbc	**PKPbc**	**14 50 16.9 -1.3**
comp=Z,7.0nm,1.0s,baz=56,slow=2.6,SNR=10						
AKBB	**Malin Array Si**	**152.58**	**321**	*c i* PKIKP	**PKPbc**	**14 50 19.3 +1.2**
KIEV	**Kiev**	**152.59**	**321**		**PKPbc**	**14 50 17.8 -0.3**
KIEV	**Kiev**	**152.59**	**321**	PKIKP	**PKPbc**	**14 50 17.8 -0.3**
ILGA	**Ilgaz**	**153.27**	**299**		**PKPbc**	**14 50 20.0 -0.3**
BRTR	**Keskin Array B**	**153.54**	**296**		**PKPbc**	**14 50 19.9 -0.9**
BRTR	**Keskin Array B**	**153.54**	**296**	PKPbc	**PKPbc**	**14 50 19.7 -1.1**
comp=Z,2.2nm,0.9s,baz=86,slow=2.6,SNR=9.6						
RNPP8	**Varash**	**153.91**	**325**	PKP	**PKPdf**	**14 50 14.8 +1.8**
DBIC	**Dimbokro**	**154.14**	**163**	PKPbc	**PKPbc**	**14 50 23.3 +0.6**
comp=Z,3.6nm,0.7s,baz=31,slow=3.2,SNR=4.5						
KMPD	**K-Podol'skiy**	**155.26**	**320**	PKP	**PKPdf**	**14 50 18.1 +3.1**
EKA	**Eskdalemuir Ar**	**156.09**	**8**	PKPab	**PKPab**	**14 50 42.2 -1.2**
comp=Z,1.4nm,0.7s,baz=334,slow=2.9,SNR=4.8						
BUR08	**Bucovina Ar. S**	**156.48**	**319**		**PKPab**	**14 50 45.2 -0.3**
BURAR	**Bucovina Array**	**156.49**	**319**		**PKPab**	**14 50 44.6 -0.9**
BURAR	**Bucovina Array**	**156.49**	**319**	PKP2	**PKPab**	**14 50 44.6 -0.9**
KOLS	**Kolonicke sedl**	**157.23**	**325**	*e*PKP	**PKPab**	**14 50 50.8 +2.3**
KOLS				*e*		15 19 45.9
STHS	**Stebnicka Huta**	**157.39**	**327**	*e*PKP2	**PKPab**	**14 50 51.0 +1.8**
STHS	**Stebnicka Huta**	**157.39**	**327**	*e*PKP	**PKPab**	**14 50 51.0 +1.8**
UZHM	**Uzhgorod**	**157.42**	**324**	PKP	**PKPdf**	**14 50 20.9 +3.1**
OJC	**Ojcow**	**157.46**	**330**	PKP	**PKPdf**	**14 50 19.7 +1.9**
CLL	**Collm**	**158.95**	**341**	*e*PKIKP	**PKPdf**	**14 50 21.0 +1.4**
CLL				*i*		14 50 55.9
CLL	**Collm**	**158.95**	**341**	*e*PKPdf	**PKPdf**	**14 50 21.0 +1.4**
CLL				*i* PKPab	**PKPab**	**14 50 55.9 +0.1**
CLL				*ex*	x	14 51 07.0
BRG	**Berggiesshubel**	**159.07**	**339**	*e*PKP	**PKPab**	**14 50 57.0 +0.6**
BRG				Amp		14 51 00.4
comp=Z,14nm,1.3s						
MODS	**Modra-Piesok**	**159.93**	**330**	*e*PKP2	**PKPab**	**14 51 02.2 +1.9**
MODS	**Modra-Piesok**	**159.93**	**330**	*e*PKP	**PKPab**	**14 51 02.2 +1.9**
KHC	**Kasperske Hory**	**160.71**	**337**	*e*PKPAB	**PKPab**	**14 51 03.0 -0.6**
KHC	**Kasperske Hory**	**160.71**	**337**	*e*PKP2	**PKPab**	**14 51 03.0 -0.6**
GERES	**GERESS Array B**	**160.91**	**337**	PKPab	**PKPab**	**14 51 03.8 -0.8**
comp=Z,1.5nm,0.7s,baz=31,slow=4.1,SNR=4.8						
FUORN	**Ofenpass-Fuorn**	**163.36**	**340**		**PKPab**	**14 51 17.7 -0.5**
ESDC	**Sonseca Array**	**170.53**	**31**	PKPab	**PKPab**	**14 51 46.5 -0.7**
comp=Z,0.8nm,0.8s,baz=321,slow=3.8,SNR=4.6						

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*NEIC **18** 14:33:18.6±1.3, 10°.7S±0°.2×166°.2E±0°.3, h60km±6km, mb4.2/13, Error ellipse: s-maj=44.8km s-min=21.0km az=117.0*
*IDC **18** 14:33:39.4±8.4, 11°.99S×166°.88E, h298km±93km, mb3.7/2, mbtmp4.2/3, Error ellipse: s-maj=93.5km s-min=62.9km az=117.0*

ISC 18 14:33:39.6±1.0, 12°.02S±0°.09×166°.8E±0°.2, h300km, n20, σ0°57/21, mb4.1/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.00**	**182**	Pn	**Pn**	**14 35 58.7 +0.9**
DZM	**Mont Dzumac**	**10.00**	**182**	P	**Pn**	**14 35 58.8 +1.0**
4.9nm,0.3s,baz=306,slow=18,SNR=32						
DZM				S	**S**	**14 37 49.8 -0.8**
4.6nm,1.0s,baz=164,slow=21,SNR=1.1						
ONTNC	**Ouen Toro**	**10.23**	**182**	Pn	**Pn**	**14 36 00.4 -0.2**
EIDS	**Eidsvold**	**19.89**	**226**	P	**P**	**14 37 49.4 -0.1**
EIDS				IAmb	IAmb	14 37 55.1
comp=Z,20nm,1.4s						
MBWA	**Marble Bar**	**45.84**	**252**	P	**P**	**14 41 32.7 0.0**
M14K	**Bethel**	**76.68**	**15**	P	**P**	**14 44 57.0 -0.4**
M16K	**Timber Creek**	**77.71**	**16**	P	**P**	**14 45 03.3 +0.1**
K15K	**Wolf Creek Mou**	**78.11**	**15**	P	**P**	**14 45 05.3 -0.1**
SLKM	**Skilak Lake**	**79.97**	**20**	P	**P**	**14 45 15.4 -0.1**
F15K	**North Star Dit**	**80.39**	**12**	P	**P**	**14 45 17.1 -0.4**
G19K	**Purcell Mounta**	**82.40**	**14**	P	**P**	**14 45 27.9 -0.2**
RND	**Reindeer**	**82.54**	**19**	P	**P**	**14 45 28.2 -0.7**
E19K	**Redstone River**	**83.44**	**13**	P	**P**	**14 45 33.7 +0.3**
E19K				IAmb	IAmb	14 45 55.3
comp=Z,4.4nm,1.4s						
C18K	**Utukok River**	**83.62**	**11**	P	**P**	**14 45 33.8 -0.5**
C18K				IAmb	IAmb	14 45 40.2
comp=Z,4.2nm,1.4s						
D19K	**Kuna River**	**84.11**	**12**	P	**P**	**14 45 36.8 +0.1**
D19K				IAmb	IAmb	14 46 08.0
comp=Z,4.4nm,1.5s						
IL31		**84.12**	**18**	P	**P**	**14 45 35.8 -0.9**
IL31				IAmb	IAmb	14 46 08.0
comp=Z,4.6nm,1.5s						
ILAR	**Eielson Array**	**84.12**	**18**	P	**P**	**14 45 36.1 -0.7**
comp=Z,0.9nm,0.7s,baz=233,slow=5.1,SNR=10						
comp=Z,0.9nm,0.7s						
BMAR	**Burnt Mountain**	**86.64**	**17**	P	**P**	**14 45 49.9 +0.6**
MKAR	**Makanchi Array**	**94.91**	**317**	P	**P**	**14 46 27.9 -0.1**
comp=Z,0.9nm,0.6s,baz=97,slow=6.0,SNR=11						
comp=Z,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**117.53**	**346**	PKP	**PKiKP**	**14 51 49.9 +0.5**
comp=Z,1.9nm,0.8s,baz=50,slow=2.3,SNR=7.1						

IDC 18 14:35:54.6±3.1, 31°.71S×177°.74W, h0km, mb4.1/2, mbtmp4.1/3, ML3.1/1, Error ellipse: s-maj=73.5km s-min=36.9km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.78**	**211**	Pn	Pn	14 37 48.9	-0.2
0.3nm,0.3s,baz=133,slow=16,SNR=2.1							
URZ				Sn	Sn	14 39 17.3	-0.6
4.3nm,0.3s,baz=188,slow=19,SNR=11							
16nm,1.0s							
ASAR	**Alice Springs**	**43.27**	**268**	P	P	14 43 59.2	+1.0
1.2nm,0.6s,baz=105,slow=7.5,SNR=6.4							
1.2nm,0.6s							
WRA	**Warramunga Arr**	**44.38**	**273**	P	P	14 44 06.5	-0.6
1.6nm,0.5s,baz=115,slow=8.4,SNR=7.0							
1.6nm,0.5s							
QSPA	**South Pole Qui**	**58.41**	**180**	P	P	14 46 02.2	+10
1.2nm,0.6s,baz=303,slow=1.3,SNR=6.5							
FINES	**FINESS Array B**	**146.44**	**339**	PKPbc	PKPdf	14 55 35.5	0.0
2.8nm,0.8s,baz=45,slow=1.9,SNR=5.7							

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*ISN **18** 14:41:26.6±0.5, 34°.73N×45°.46E, h6km±11km, ML2.8*
*TEH **18** 14:41:28.5, 34°.73N×45°.44E, h8km±111km*

ISC 18 14:41:29.1±1.0, 34°.69N±0°.05×45°.46E±0°.04, h18km, n9, σ0°73/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**151**	Pg	**Pg**	**14 41 34.2 -0.1**
KGS1				Sg	**Sg**	**14 41 38.2 +0.4**
GLG1	**Gilan-e-Gharb**	**0.69**	**147**	Pg	**Pb**	**14 41 42.3 -0.3**
IDHR	**Dehrash**	**0.76**	**89**	Pg	**Pb**	**14 41 43.3 -0.6**
IGHG	**Ghaleghazi**	**0.98**	**111**	Pg	**Pn**	**14 41 48.1 -0.2**
IKRK	**Kirkuk**	**1.16**	**308**	*e*Pg	**Pb**	**14 41 50.0 -0.6**
IKRK				*e*Sg	**Sg**	**14 42 07.0 +0.3**
IKRK				AML	AML	14 42 14.0
comp=N,311nm,0.4s						
IKRK				AML	AML	14 42 19.1
comp=E,196nm,1.1s						
KCHF	**Cheshme Sefid,**	**1.

comp=Z,0.2nm,0.4s
MAW Mawson 55.73 172 P P 14 56 02.1 -1.0
MAW IAmb IAmb 14 56 15.1
comp=Z,20nm,1.2s
TRIS Tristan da Cun 56.62 234 P P 14 56 08.0 -2.0
LIT Litokhoron 56.99 339 P P 14 56 10.4 -2.2
LIT IAmb IAmb 14 56 31.1
comp=Z,4.8nm,0.9s
CEL Celeste 58.04 333 P P 14 56 18.0 -2.0
CEL IAmb IAmb 14 57 01.3
comp=Z,6.0nm,0.9s
KKAR Karatay Array 60.39 21 P P 14 56 35.4 -0.7
CMAR Chiang Mai Arr 61.32 60 P P 14 56 44.1 +1.1
comp=Z,0.2nm,0.4s,baz=256,slow=8.8,SNR=6.7
comp=Z,0.2nm,0.4s
AB31 Akbulak array 63.31 11 P P 14 56 55.5 -0.2
ABKAR Akbulak array 63.31 11 P P 14 56 55.2 -0.5
NWAO Narrogin (SRO) 67.83 120 P P 14 57 26.3 +0.9
NWAO IAmb IAmb 14 57 41.1
comp=Z,26nm,1.1s
MKAR Makanchi Array 68.09 26 P P 14 57 26.6 0.0
MKAR Makanchi Array 68.09 26 P P 14 57 27.3 +0.7
comp=Z,0.5nm,0.8s,baz=224,slow=6.8,SNR=5.7
comp=Z,0.5nm,0.8s
BVAR Borovoye Array 69.18 16 P P 14 57 33.7 +0.4
comp=Z,0.6nm,0.8s,baz=206,slow=7.9,SNR=2.5
comp=Z,0.6nm,0.8s
KURBB Kurchatov Arra 69.66 22 P P 14 57 37.5 +1.2
comp=Z,0.2nm,0.5s,baz=214,slow=6.7,SNR=1.6
comp=Z,0.2nm,0.5s
ESDC Sonseca Array 69.69 321 P P 14 57 37.9 +1.1
comp=Z,0.8nm,0.7s,baz=131,slow=6.1,SNR=5.5
comp=Z,0.8nm,0.7s
QIZ Qiongzhong 70.98 64 P P 14 57 44.6 -0.5
PSA00 Pilbara Seismi 70.98 109 P P 14 57 44.9 -0.2
ZALV Zalesovo Beam 74.65 23 P P 14 58 07.5 +1.5
comp=Z,0.4nm,0.4s,baz=214,slow=5.5,SNR=1.5
comp=Z,0.4nm,0.4s
MYLDM Lahad Datu 74.76 81 P P 14 58 06.6 -1.0
MYLDM IAmb IAmb 14 58 44.9
comp=Z,19nm,1.1s
HOPE Hope Point 74.84 217 P P 14 58 07.0 -0.3
QSPA South Pole Qui 77.08 180 P P 14 58 20.7 +0.6
QSPA IAmb IAmb 14 58 23.1
comp=Z,5.7nm,1.3s
QSPA South Pole Qui 77.08 180 P P 14 58 21.5 +1.4
comp=Z,1.9nm,1.0s,baz=28,slow=11,SNR=3.1
comp=Z,1.9nm,1.0s
ASAR Alice Springs 83.49 113 P P 14 58 53.9 -1.5
ASAR Alice Springs 83.49 113 P P 14 58 56.4 +1.0
comp=Z,0.6nm,0.6s,baz=261,slow=4.6,SNR=12
comp=Z,0.6nm,0.6s
AS31 Alice Springs 83.49 113 P P 14 58 53.9 -1.5
WRA Warramunga Arr 84.63 109 P P 14 59 02.3 +1.1
comp=Z,0.6nm,0.7s,baz=260,slow=3.3,SNR=2.9
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 147.08 304 PKPbc PKPab 15 06 12.3 +0.1
comp=Z,0.7nm,0.9s,baz=107,slow=3.0,SNR=4.3

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*IDC **18** 14:49:12.4±1.0, 31°.67S×177°.64W, h0km, mb4.2/6, mbtmp4.2/7, ML3.3/1, Error ellipse: s-maj=29.7km s-min=27.1km az=137.0*
*NEIC **18** 14:49:16.3±0.6, 31°.57S±0°.08×177°.8W±0°.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=26.0km s-min=8.6km az=116.0*
ISC 18 14:49:14.3±0.7, 31°.61S±0°.06×177°.9W±0°.1, h10km, n39, σ1°68/42, mb4.4/11, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.34**	**359**	P	**Pn**	**14 49 50.9**	**-1.8**
GLKZ				S	**Sn**	**14 50 18.7**	**-2.8**
WMGZ	**Waiomatatini S**	**6.92**	**205**	P	**Pn**	**14 50 53.9**	**-1.9**
WMGZ				S	**Sn**	**14 52 13.9**	**-0.5**
PKGZ	**Pakihiroa**	**7.09**	**207**	P	Pn	14 50 49.0	-9.1
PKGZ				S	**Sn**	**14 52 17.6**	**-1.0**
HAZ	**Te Kaha**	**7.11**	**209**	P	**Pn**	**14 50 57.0**	**-1.4**
HAZ				S	**Sn**	**14 52 21.5**	**+2.3**
PUZ	**Puketiti**	**7.20**	**205**	P	Pn	14 50 56.3	-3.3
PUZ				S	**Sn**	**14 52 21.4**	**-0.1**
RUGZ	**Raukumara Rang**	**7.33**	**209**	P	Pn	14 50 58.4	-3.2
RUGZ				S	**Sn**	**14 52 25.4**	**+0.5**
TWGZ	**Tauwhareparae**	**7.39**	**206**	P	Pn	14 50 55.6	-6.7
TWGZ				S	**Sn**	**14 52 26.0**	**-0.3**
TKGZ	**Te Karaka**	**7.67**	**206**	S	**Sn**	**14 52 30.7**	**-2.4**
MWZ	**Matawai**	**7.71**	**208**	P	Pn	14 51 02.6	-4.0
MWZ				S	**Sn**	**14 52 34.2**	**+0.2**
URZ	**Urewera**	**7.82**	**211**	Pn	Pn	14 51 05.9	-2.2
0.4nm,0.3s,baz=335,slow=4.6,SNR=7.4							
URZ				Sn	**Sn**	**14 52 35.5**	**-1.1**
1.5nm,0.3s,baz=330,slow=23,SNR=7.2							
12nm,1.2s							
URZ	**Urewera**	**7.82**	**211**	P	Pn	14 51 05.6	-2.4
URZ				S	**Sn**	**14 52 35.1**	**-1.5**
RAGZ	**Rawiri**	**7.89**	**208**	P	**Pn**	**14 51 08.4**	**-0.8**
RAGZ				S	**Sn**	**14 52 39.1**	**+0.5**
RIGZ	**Rimuhau**	**7.94**	**206**	P	Pn	14 51 05.2	-4.6
RIGZ				S	**Sn**	**14 52 39.1**	**-0.6**
OUZ	**Omahuta**	**8.01**	**241**	P	Pn	14 51 16.8	+6.2
MUGZ	**Murupara**	**8.15**	**211**	P	Pn	14 51 07.1	-5.6
SNGZ	**Shannon Statio**	**8.17**	**207**	P	Pn	14 51 10.7	-2.2
SNGZ				S	**Sn**	**14 52 42.0**	**-3.3**
DVHZ	**Dannevirke**	**9.93**	**208**	S	**Sn**	**14 53 23.4**	**-5.3**
NIUE	**Niue**	**14.38**	**32**	Pn	**Pn**	**14 52 38.8**	**+0.8**
DZM	**Mont Dzumac**	**16.91**	**300**	Pn	**Pn**	**14 53 12.7**	**+1.4**
STKA	**Stephens Creek**	**34.35**	**259**	P	**P**	**14 56 02.6**	**+1.3**
2.1nm,0.8s,baz=113,slow=15,SNR=3.6							
2.1nm,0.8s							
BBOO	**Buckleboo**	**38.78**	**256**	P	**P**	**14 56 39.4**	**+0.2**
AS31	**Alice Springs**	**43.18**	**268**	P	**P**	**14 57 17.4**	**+1.8**
ASAR	**Alice Springs**	**43.19**	**268**	P	**P**	**14 57 17.6**	**+2.0**
ASAR	**Alice Springs**	**43.19**	**268**	P	**P**	**14 57 16.7**	**+1.1**
1.9nm,0.6s,baz=105,slow=7.4,SNR=31							
1.9nm,0.6s							
WR0	**Warramunga Arr**	**44.10**	**273**	P	**P**	**14 57 24.4**	**+1.4**
WR0				IAmb	IAmb	14 57 26.9	
comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**44.27**	**273**	P	**P**	**14 57 25.7**	**+1.3**
WB2				IAmb	IAmb	14 57 42.6	
comp=Z,5.4nm,0.8s							
WRAB	**Tennant Creek**	**44.28**	**273**	P	**P**	**14 57 25.8**	**+1.4**
WRAB				IAmb	IAmb	14 57 27.7	
comp=Z,9.9nm,1.2s							
WRA	**Warramunga Arr**	**44.28**	**273**	P	**P**	**14 57 26.2**	**+1.8**
comp=Z,5.1nm,0.7s,baz=113,slow=7.9,SNR=22							
comp=Z,5.1nm,0.7s							
WB0	**Warramunga Arr**	**44.31**	**274**	P	**P**	**14 57 26.2**	**+1.6**
WB0				IAmb	IAmb	14 57 27.0	
comp=Z,6.6nm,0.7s							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**14 59 12.8**	**+2.2**
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**14 59 10.2**	**-0.3**
comp=Z,2.7nm,0.9s,baz=44,slow=2.3,SNR=4.1							
comp=Z,2.7nm,0.9s							
SYO	**Syowa Base**	**75.97**	**193**	‖ *eP*	**P**	**15 01 02.0**	**+1.0**
SNAA	**Sanae**	**76.95**	**178**	P	**P**	**15 01 06.3**	**-0.3**
comp=Z,2.7nm,0.9s,baz=298,slow=6.5,SNR=3.0							
comp=Z,2.7nm,0.9s							
O02D	**Mt. Diablo Mer**	**87.75**	**39**	P	**P**	**15 02 04.6**	**+1.2**
O02D				IAmb	IAmb	15 02 04.8	
comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**89.04**	**43**	P	**P**	**15 02 10.1**	**+0.4**
comp=Z,0.8nm,0.7s,baz=215,slow=4.9,SNR=4.9							
comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**122.01**	**313**	PKP	**PKPdf**	**15 08 07.0**	**-1.5**
comp=Z,0.4nm,0.8s,baz=116,slow=2.2,SNR=3.1							
KBZ	**Khabaz**	**145.88**	**302**	PKPbc	**PKPdf**	**15 08 53.7**	**+0.6**
comp=Z,2.0nm,0.9s,baz=251,slow=9.0,SNR=4.2							
FINES	**FINESS Array B**	**146.32**	**339**	PKPbc	**PKPdf**	**15 08 53.7**	**+0.4**
comp=Z,3.8nm,0.8s,baz=40,slow=2.9,SNR=7.6							
AKASG	**Malin Array Be**	**152.33**	**321**	PKPbc	**PKPbc**	**15 09 09.4**	**-0.6**
comp=Z,0.3nm,0.3s,baz=62,slow=3.4,SNR=1.8							
AKASG				PKPab	**PKPab**	**15 09 18.8**	**-1.3**
comp=Z,0.3nm,0.4s,baz=46,slow=4.7,SNR=6.0							

IDC 18 14:50:15.9±2.4, 5°.81S×145°.75E, h0km, mb3.3/3, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=61.2km s-min=27.3km az=78.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.83**	**159**	Pn	Pn	14 51 16.6	+0.3
14nm,0.3s,baz=6.2,slow=7.1,SNR=62							
PMG				Sn	Sn	14 51 55.7	-6.4
5.8nm,0.3s,baz=58,slow=13,SNR=3.6							
38nm,0.3s							
WRA	**Warramunga Arr**	**17.89**	**217**	P	Pn	14 54 26.3	-0.1
0.2nm,0.3s,baz=39,slow=12,SNR=11							
0.5nm,0.7s							
ASAR	**Alice Springs**	**21.09**	**212**	P	P	14 55 02.0	-0.2
0.4nm,0.7s,baz=39,slow=11,SNR=14							
0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.06**	**299**	P	P	14 59 28.2	+0.2
0.6nm,0.6s,baz=114,slow=5.7,SNR=5.6							
0.6nm,0.6s							
MKAR	**Makanchi Array**	**76.56**	**321**	P	P	15 02 08.0	-0.2
0.2nm,0.7s,baz=103,slow=6.2,SNR=2.0							
0.2nm,0.7s							

NNC 18 14:51:42.4±3.1, 37°.24N×71°.29E, h156km±57km, mb2.9, mpv3.8, 5C-2D, Error ellipse: s-maj=30.9km s-min=19.3km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.89**	**354**	P	Pn	14 53 07.7	+0.1
5.9nm,0.5s,baz=37,slow=17,SNR=36							
KK31				‖ S	Sn	14 54 15.0	+0.7
1.1nm,0.3s,baz=183,slow=26,SNR=4.6							
AAK	**Ala-Archa**	**5.93**	**24**	⇑P	Pn	14 53 08.4	+0.1
4.5nm,0.3s							
AAK				⇑S	Sn	14 54 15.7	+0.2
3.6nm,0.6s							
CHMS	**Chumysh**	**6.34**	**24**	⇑P	Pn	14 53 13.3	-0.2
4.5nm,0.4s							
TKM2	**Tokmak 2**	**6.57**	**29**	⇑P	Pn	14 53 16.8	+0.1
3.0nm,0.7s							
MK31	**Makanchi Array**	**12.56**	**37**	⇑P	Pn	14 54 35.5	-0.1
0.6nm,0.7s,baz=215,slow=12,SNR=4.2							
AB31	**Akbulak array**	**14.56**	**329**	‖ P	Pn	14 55 00.9	0.0
0.6nm,0.5s,baz=138,slow=12,SNR=29							

IDC 18 14:54:02.5±2.8, 31°.75S×177°.37W, h0km, mb3.9/2, mbtmp4.0/3, ML3.0/1, Error ellipse: s-maj=68.7km s-min=36.5km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.92**	**213**	Pn	Pn	14 55 58.3	-0.5
0.2nm,0.3s,baz=37,slow=14,SNR=6.5							
URZ				Sn	Sn	14 57 28.5	-0.5
1.2nm,0.3s,baz=31,slow=18,SNR=7.7							
16nm,1.1s							
ASAR	**Alice Springs**	**43.59**	**268**	P	P	15 02 08.8	+0.2
0.8nm,0.6s,baz=107,slow=7.7,SNR=17							
ASAR				PcP	PcP	15 03 55.9	-0.4
0.2nm,0.4s,baz=109,slow=3.7,SNR=1.7							
0.8nm,0.6s							
WRA	**Warramunga Arr**	**44.70**	**273**	P	P	15 02 17.4	-0.1
1.6nm,0.5s,baz=112,slow=7.9,SNR=13							
1.6nm,0.5s							
FINES	**FINESS Array B**	**146.60**	**340**	PKPbc	PKPdf	15 13 44.2	+0.6
1.6nm,0.9s,baz=49,slow=3.1,SNR=5.1							

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*IDC **18** 14:59:38.6±0.5, 31°.49S×177°.72W, h0km, mb4.6/16, mbtmp4.5/19, ML4.4/3, MS3.1/1, Error ellipse: s-maj=19.9km s-min=17.5km az=126.0*
*NEIC **18** 14:59:40.4±1.5, 31°.68S±0°.06×177°.6W±0°.2, h10km±1km, mb4.9/35, Error ellipse: s-maj=21.6km s-min=10.0km az=87.0*
ISC 18 14:59:42.2±0.4, 31°.60S±0°.05×177°.71W±0°.08, h26km, n135, σ1°59/145, mb4.9/34, 14C-8D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.34**	**355**	P	**Pn**	**15 00 15.1**	**-3.9**
GLKZ				S	**Sn**	**15 00 44.1**	**-2.8**
RIZ	**Raoul Island**	**2.36**	**355**	P	**Pn**	**15 00 16.7**	**-2.6**
RIZ				S	**Sn**	**15 00 45.7**	**-1.7**
MXZ	**Matakaoa Point**	**6.79**	**208**	P	**Pn**	**15 01 18.4**	**-1.8**
MXZ				S	**Sn**	**15 02 36.6**	**0.0**
HAZ	**Te Kaha**	**7.17**	**210**	P	**Pn**	**15 01 24.1**	**-1.3**
HAZ				S	**Sn**	**15 02 48.8**	**+2.8**
PUZ	**Puketiti**	**7.25**	**206**	P	**Pn**	**15 01 23.8**	**-2.8**
PUZ				S	**Sn**	**15 02 48.2**	**+0.2**
TWGZ	**Tauwhareparae**	**7.45**	**207**	P	**Pn**	**15 01 27.0**	**-2.3**
TWGZ				S	**Sn**	**15 02 53.0**	**0.0**
TKGZ	**Te Karaka**	**7.73**	**207**	P	**Pn**	**15 01 30.5**	**-2.5**
TKGZ				S	**Sn**	**15 02 57.8**	**-2.0**
MWZ	**Matawai**	**7.77**	**209**	P	**Pn**	**15 01 31.9**	**-1.7**
MWZ				S	**Sn**	**15 02 59.4**	**-1.3**
OPRZ	**Ohinepanea**	**7.81**	**216**	P	**Pn**	**15 01 35.1**	**+0.9**
OPRZ				S	**Sn**	**15 03 03.9**	**+2.2**
URZ	**Urewera**	**7.88**	**211**	Pn	**Pn**	**15 01 34.3**	**-0.8**
1.0nm,0.3s,baz=350,slow=4.5,SNR=9.8							
URZ				Sn	**Sn**	**15 03 03.4**	**-0.1**
7.5nm,0.3s,baz=184,slow=21,SNR=10.0							
9.2nm,0.5s							
URZ	**Urewera**	**7.88**	**211**	P	**Pn**	**15 01 33.0**	**-2.1**
URZ				S	**Sn**	**15 03 02.6**	**-0.9**
RAGZ	**Rawiri**	**7.95**	**209**	P	**Pn**	**15 01 33.5**	**-2.6**
RAGZ				S	**Sn**	**15 03 03.0**	**-2.3**
RIGZ	**Rimuhau**	**8.00**	**206**	P	**Pn**	**15 01 34.3**	**-2.5**
RIGZ				S	**Sn**	**15 03 05.7**	**-0.7**
MKAZ	**Moumakai**	**8.05**	**225**	P	**Pn**	**15 01 38.1**	**+0.7**
OUZ	**Omahuta**	**8.12**	**241**	P	Pn	15 01 44.0	+5.7
SNGZ	**Shannon Statio**	**8.23**	**208**	P	**Pn**	**15 01 37.0**	**-2.9**
SNGZ				S	**Sn**	**15 03 11.6**	**-0.4**
RTZ	**Ruatahuna**	**8.24**	**210**		**Pn**	**15 01 37.1**	**-3.0**
RTZ	**Ruatahuna**	**8.24**	**210**	P	**Pn**	**15 01 38.3**	**-1.8**
BKZ	**Black Stump Fm**	**8.90**	**211**	Pn	**Pn**	**15 01 46.8**	**-2.4**
BKZ	**Black Stump Fm**	**8.90**	**211**	P	**Pn**	**15 01 44.4**	**-4.8**
BKZ				S	**Sn**	**15 03 26.7**	**-2.0**
TCW	**Tory Channel**	**11.55**	**212**		**Sn**	**15 04 28.8**	**-4.7**
TUWZ	**Tuamarina**	**11.88**	**212**		**Pn**	**15 02 27.0**	**-2.9**
CTZ	**Chatham Island**	**12.14**	**176**	P	**Pn**	**15 02 29.6**	**-3.8**
CTZ				S	Sn	15 04 33.6	-14
MRNZ	**Matariki Terra**	**12.42**	**215**		**Sn**	**15 04 50.5**	**-4.2**
THZ	**Tophouse**	**12.62**	**214**	Pn	**Pn**	**15 02 37.1**	**-3.0**
GVZ	**Greta Valley S**	**13.52**	**210**		**Pn**	**15 02 48.7**	**-3.5**
MSVF	**Nonsavu**	**14.34**	**343**	Pn	**Pn**	**15 03 03.4**	**-0.3**
MSVF	**Nonsavu**	**14.34**	**343**	Pn	**Pn**	**15 03 02.3**	**-1.3**
0.5nm,0.3s,baz=128,slow=12,SNR=4.6							
8.9nm,0.9s							
RPZ	**Rata Peaks**	**14.99**	**213**	Pn	Pn	15 03 06.8	-5.5
RPZ	**Rata Peaks**	**14.99**	**213**	Pn	**Pn**	**15 03 10.5**	**-1.8**
0.7nm,0.3s,baz=318,slow=2.6,SNR=6.5							
RPZ				Sn	Sn	15 05 45.8	-12
0.5nm,0.3s,baz=260,slow=17,SNR=2.6							
DZM	**Mont Dzumac**	**17.02**	**300**	P	**P**	**15 03 43.8**	**+3.6**
DZM	**Mont Dzumac**	**17.02**	**300**	*eP*	**P**	**15 03 42.1**	**+1.9**
168nm,1.6s							
DZM				*e*LR	LR	15 07 45.3	
925nm,24.6s							
DZM	**Mont Dzumac**	**17.02**	**300**	Pn	**Pn**	**15 03 38.9**	**+0.3**
0.2nm,0.3s,baz=106,slow=15,SNR=8.1							
18nm,1.1s							
AFI	**Afiamalu**	**18.43**	**18**		**P**	**15 03 53.1**	**-2.8**
AFI				IAmb	IAmb	15 03 57.6	
comp=Z,67nm,0.9s							
ARMA	**Armidale**	**26.27**	**265**	P	**P**	**15 05 17.0**	**+1.4**
ARMA				IAmb	IAmb	15 05 35.3	
comp=Z,70nm,2.0s							
TBI	**Tubuai**	**26.32**	**79**	*eS*	**S**	**15 09 48.3**	**+1.0**
TBI				*e*LR	LR	15 11 48.7	
comp=Z,2μm,23.2s							
EIDS	**Eidsvold**	**28.07**	**275**	P	**P**	**15 05 33.2**	**+1.5**
EIDS				IAmb	IAmb	15 05 36.2	
comp=Z,18nm,0.9s							
PPT2	**Papeete2**	**29.03**	**68**	*eS*	**S**	**15 10 33.5**	**+3.2**
comp=Z,324nm,22.5s							
PPT2				*e*LR	LR	15 13 03.2	
comp=Z,229nm,23.0s							
PPT2				*e*LR	LR	15 13 04.4	
comp=Z,226nm,20.5s							
TOO	**Toolangi**	**30.74**	**249**	P	**P**	**15 05 55.2**	**-0.2**
STKA	**Stephens Creek**	**34.47**	**259**	P	**P**	**15 06 28.8**	**+0.8**
STKA	**Stephens Creek**	**34.47**	**259**	P	**P**	**15 06 29.9**	**+1.9**
comp=Z,9.9nm,0.8s,baz=92,slow=10.0,SNR=20							
comp=Z,9.9nm,0.8s							
RKT	**Rikitea**	**38.68**	**88**	*e*LR	LR	15 17 25.1	
comp=Z,996nm,23.2s							
BBOO	**Buckleboo**	**38.90**	**256**	P	**P**	**15 07 05.8**	**0.0**
BBOO				IAmb	IAmb	15 08 12.9	
comp=Z,30nm,1.4s							
KRVT	**Keravat (AS076**	**39.30**	**307**	LR	LR	15 21 38.0	
comp=Z,25nm,19.3s,baz=27,slow=34							
AS31	**Alice Springs**	**43.31**	**268**	P	**P**	**15 07 41.6**	**-0.5**
ASAR	**Alice Springs**	**43.31**	**268**	P	**P**	**15 07 41.6**	**-0.6**
ASAR	**Alice Springs**	**43.31**	**268**	P	**P**	**15 07 41.9**	**-0.3**
comp=Z,14nm,0.8s,baz=107,slow=6.2,SNR=84							
comp=Z,14nm,0.8s							
WR0	**Warramunga Arr**	**44.23**	**273**	P	**P**	**15 07 49.8**	**+0.3**
WR0				IAmb	IAmb	15 07 51.8	
comp=Z,20nm,0.8s							
WB2	**Warramunga Arr**	**44.40**	**273**	P	**P**	**15 07 50.0**	**-0.9**
WRAB	**Tennant Creek**	**44.40**	**273**	P	**P**	**15 07 50.3**	**-0.6**
WRA	**Warramunga Arr**	**44.41**	**273**	P	**P**	**15 07 50.7**	**-0.2**
WRA	**Warramunga Arr**	**44.41**	**273**	P	**P**	**15 07 50.0**	**-0.9**
comp=Z,31nm,0.7s,baz=114,slow=7.7,SNR=74							
comp=Z,31nm,0.7s							
FORT	**Forrest**	**45.99**	**256**	P	**P**	**15 08 04.6**	**+1.2**
KNRA	**Kununurra**	**51.05**	**275**	P	**P**	**15 08 42.8**	**+0.3**
CASY	**Casey**	**54.20**	**208**	P	**P**	**15 09 05.7**	**+0.6**
CASY				IAmb	IAmb	15 09 08.0	
comp=Z,15nm,0.8s							
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**15 09 37.8**	**+1.8**
comp=Z,8.6nm,0.8s,baz=50,slow=2.1,SNR=27							
comp=Z,8.6nm,0.8s							
BELA	**Belgrano 2**	**68.56**	**172**	P	**P**	**15 10 42.2**	**+0.1**
BELA				IAmb	IAmb	15 10 58.1	
comp=Z,7.8nm,0.9s							
ELIB	**Princess Elisa**	**75.69**	**187**	*dP*	**P**	**15 11 25.1**	**+0.1**
SYO	**Syowa Base**	**76.00**	**193**	‖ *eP*	**P**	**15 11 25.4**	**-1.2**
SYO	**Syowa Base**	**76.00**	**193**	‖ *es*P	sP	15 11 33.0	-2.5
SYO	**Syowa Base**	**76.00**	**193**	‖ *e*PcP	**PcP**	**15 11 37.0**	**-1.8**
TROLL	**Troll, Antarti**	**76.67**	**180**	⇑P	**P**	**15 11 31.4**	**+0.8**
comp=Z,304nm,0.8s							
SNAA	**Sanae**	**76.95**	**178**	P	**P**	**15 11 32.4**	**+0.4**
SNAA				IAmb	IAmb	15 11 57.3	
comp=Z,18nm,1.2s							
SNAA	**Sanae**	**76.95**	**178**	⇑P	**P**	**15 11 33.2**	**+1.2**
comp=Z,84nm,0.7s							
SNAA	**Sanae**	**76.95**	**178**	P	**P**	**15 11 33.1**	**+1.0**
comp=Z,6.1nm,1.1s,baz=176,slow=5.1,SNR=8.2							
comp=Z,6.1nm,1.1s							
VNA3	**Neumayer Olymp**	**77.09**	**176**	⇑P	**P**	**15 11 33.3**	**+0.5**
comp=Z,24nm,0.7s							
VNA2	**Neumayer--Watz**	**77.53**	**177**	⇑P	**P**	**15 11 36.1**	**+0.9**
comp=Z,18nm,0.7s,baz=180,slow=5.4							
VNA1	**Neumayer--Stat**	**77.76**	**176**	⇑P	**P**	**15 11 38.1**	**+1.7**
comp=Z,24nm,1.1s							
MJAR	**Matsushiro Arr**	**79.37**	**325**	P	**P**	**15 11 44.7**	**-1.0**
comp=Z,2.5nm,1.0s,baz=202,slow=43,SNR=3.2							
comp=Z,2.5nm,1.0s							
KSRS	**Korea Array**	**85.42**	**320**	P	**P**	**15 12 17.7**	**+0.4**
comp=Z,1.9nm,0.8s,baz=143,slow=6.7,SNR=4.8							
comp=Z,1.9nm,0.8s							
PET	**Petropavlovsk**	**86.76**	**346**	P	**P**	**15 12 24.7**	**+1.2**
comp=Z,14nm,1.4s							
PEA0B	**Petropavlovsk-**	**87.04**	**345**	P	**P**	**15 12 24.8**	**-0.1**
PETK	**Petropavlovsk-**	**87.04**	**345**	P	**P**	**15 12 24.3**	**-0.5**
PETK	**Petropavlovsk-**	**87.04**	**345**	P	**P**	**15 12 25.3**	**+0.4**
comp=Z,8.8nm,0.9s,baz=135,slow=5.2,SNR=11							
comp=Z,8.8nm,0.9s							
O02D	**Mt. Diablo Mer**	**87.67**	**39**	P	**P**	**15 12 29.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**88.30**	**326**	P	**P**	**15 12 31.7**	**+0.6**
comp=Z,5.2nm,0.8s,baz=135,slow=5.4,SNR=4.2							
comp=Z,5.2nm,0.8s							
WAKR	**Walker**	**88.35**	**42**	IAmb	IAmb	15 12 45.4	
comp=Z,7.1nm,1.1s							
GRAC	**Grapevine Rang**	**88.53**	**44**	IAmb	IAmb	15 12 46.4	
comp=Z,6.7nm,0.9s							
PNTR	**Pine Nut**	**88.66**	**41**	P	**P**	**15 12 33.6**	**+0.3**
PNTR				IAmb	IAmb	15 12 47.1	
comp=Z,8.4nm,0.9s							
YBH	**Yreka Blue Hor**	**88.82**	**38**	P	**P**	**15 12 34.8**	**+1.0**
comp=Z,3.0nm,0.9s,baz=130,slow=9.4,SNR=7.9							
comp=Z,3.0nm,0.9s							
NVAR	**Mina Array Bea**	**88.95**	**43**	P	**P**	**15 12 34.9**	**+0.3**
NVAR	**Mina Array Bea**	**88.95**	**43**	P	**P**	**15 12 35.5**	**+0.8**
comp=Z,2.1nm,0.8s,baz=221,slow=7.8,SNR=13							
comp=Z,2.1nm,0.8s							
NV11	**Mina Array Sit**	**89.04**	**43**	P	**P**	**15 12 35.3**	**+0.4**
NV11				IAmb	IAmb	15 12 48.3	
comp=Z,6.7nm,1.1s							
TPNV	**Topopah Spring**	**89.17**	**45**	P	**P**	**15 12 36.4**	**+0.7**
W13A	**Hualapai Mount**	**89.42**	**47**	P	**P**	**15 12 37.7**	**+0.8**
SHPR	**Sheep Range**	**89.54**	**46**	P	**P**	**15 12 38.2**	**+0.8**
PRN	**Pahroc Range**	**90.19**	**45**	P	**P**	**15 12 41.4**	**+1.0**
PRN				IAmb	IAmb	15 12 55.6	
comp=Z,7.3nm,1.1s							
U15A	**North Rim**	**91.26**	**47**	P	**P**	**15 12 46.5**	**+0.9**
U15A				IAmb	IAmb	15 13 00.2	
comp=Z,9.4nm,1.2s							
I07A	**Izee**	**92.15**	**38**	P	**P**	**15 12 49.6**	**+0.3**
I07A				IAmb	IAmb	15 13 03.6	
comp=Z,5.5nm,1.1s							
ELK	**Elko**	**92.26**	**42**	P	**P**	**15 12 50.8**	**+0.7**
ELK	**Elko**	**92.26**	**42**

BRG Berggiesshubel 158.90 339 *e*PKP **PKPab 15 20 13.7 +0.3**
BRG Amp 15 20 17.6
comp=Z,4.9nm,0.9s
SURR Surduc 159.12 318 ⇑P **PKPab 15 20 15.2 +0.6**
HERR Herculane 159.44 316 ⇓P **PKPab 15 20 16.2 +0.1**
MODS Modra-Piesok 159.76 330 *e*PKP **PKPdf 15 19 40.7 +2.3**
MDVR Moldovita 159.91 316 ⇑P **PKPab 15 20 15.7 -2.5**
KHC Kasperske Hory 160.53 337 *e*PKPAB **PKPab 15 20 20.0 -0.7**
TORD Torodi Ar. Bea 161.62 178 PKP **PKPdf 15 19 41.7 +0.2**
comp=Z,0.1nm,0.3s,baz=173,slow=5.1,SNR=1.8
TORD PKPab **PKPab 15 20 26.9 +0.8**
comp=Z,1.9nm,0.9s,baz=178,slow=4.9,SNR=4.6

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*IDC **18** 15:04:01.9±1.9, 37°.41N×141°.75E, h0km, mb3.5/6, mbtmp3.5/8, ML2.7/2, Error ellipse: s-maj=39.8km s-min=29.7km az=81.0*
*JMA **18** 15:04:05.0±0.2, 37°.3N±0°.4×141°.6E±0°.9, h31km±1km, MV3.5/36, E OFF FUKUSHIMA PREF*
ISC 18 15:04:03.0±1.9, 37°.32N±0°.05×141°.59E±0°.09, h5km±11km, n23, σ0°975/26, mb3.5/6, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57 275**		P	**Pb**	**15 04 16.1**	**+0.6**
JFK				*e*S	**Sb**	**15 04 23.8**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.67 251**		⇓P	**Pb**	**15 04 17.5**	**+0.3**
ONAJ				⇓*e*S	**Sb**	**15 04 26.9**	**+0.1**
JMST	**Minamisoumatoc**	**0.69 306**		P	**Pb**	**15 04 18.0**	**+0.5**
JMST				*e*S	**Sb**	**15 04 27.3**	**0.0**
JMM	**Marumori**	**0.84 311**		*e*P	**Pb**	**15 04 20.1**	**+0.2**
JMM				*e*S	**Sb**	**15 04 31.3**	**-0.1**
JFFD	**Fukushimafurud**	**0.85 255**		⇓*i*P	**Pb**	**15 04 20.4**	**+0.1**
JFFD				⇓*e*S	**Sb**	**15 04 31.5**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.03 284**		P	**Pb**	**15 04 23.9**	**+0.6**
JOTO				*e*S	**Sb**	**15 04 37.4**	**+0.4**
JHO	**Hitachi**	**1.08 229**		*e*P	**Pg**	**15 04 23.6**	**-0.2**
JHO				*e*S	**Sg**	**15 04 37.6**	**-0.2**
JIO	**Ouri**	**1.15 350**		*e*P	**Pg**	**15 04 24.8**	**-0.2**
JIO				*e*S	**Sg**	**15 04 39.8**	**-0.1**
JOU	**Okura**	**1.27 325**		⇓P	**Pn**	**15 04 27.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.82 255**		Pn	**Pn**	**15 04 50.2**	**+1.6**
	0.6nm,0.3s,baz=50,slow=14,SNR=26						
MJAR				Sn	**Sb**	**15 05 27.2**	**-1.4**
	0.7nm,0.3s,baz=190,slow=25,SNR=6.1						
	3.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.01 316**		Pn	**Pn**	**15 06 25.2**	**-2.1**
	0.1nm,0.3s,baz=107,slow=18,SNR=2.4						
	1.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.17 121**		T	T	15 39 22.0	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.18 122**		T	T	15 39 18.9	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.19 121**		T	T	15 39 19.6	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.90 124**		T	T	15 40 20.4	
	baz=316,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.90 124**		T	T	15 40 20.5	
	baz=316,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.91 124**		T	T	15 40 22.2	
	baz=316,slow=76						
ZALV	**Zalesovo Beam**	**41.83 312**		P	**P**	**15 11 54.5**	**+1.1**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=2.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.09 302**		P	**P**	**15 12 11.4**	**-0.5**
	0.3nm,0.7s,baz=87,slow=10,SNR=5.1						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.94 308**		P	**P**	**15 12 26.6**	**+0.2**
	0.3nm,0.5s,baz=83,slow=8.0,SNR=13						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**50.48 312**		P	**P**	**15 13 01.4**	**-0.2**
	0.2nm,0.3s,baz=93,slow=5.8,SNR=2.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**57.37 188**		P	**P**	**15 13 52.3**	**+0.2**
	0.9nm,1.0s,baz=6.4,slow=7.3,SNR=2.9						
	0.9nm,1.0s						
AKASG	**Malin Array Be**	**74.16 322**		P	**P**	**15 15 40.3**	**0.0**
	0.1nm,0.3s,baz=46,slow=6.1,SNR=1.9						
	0.1nm,0.3s						

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*IDC **18** 15:07:14.2±0.4, 31°.46S×177°.71W, h0km, mb4.9/18, mbtmp4.8/19, ML5.3/1, MS4.7/45, Error ellipse: s-maj=17.6km s-min=14.9km az=160.0*
*MOS **18** 15:07:15.8±1.0, 31°.45S×177°.71W, h12km, mb5.3/20, Error ellipse: s-maj=12.5km s-min=10.3km az=89.7*
*NEIC **18** 15:07:16.8±2.0, 31°.63S±0°.09×177°.6W±0°.1, h10km±1km, mb5.3/125, Mww5.0/18, Error ellipse: s-maj=16.8km s-min=14.8km az=99.0*
*GCMT **18** 15:07:21.8±0.2, 31°.50S±0°.02×177°.18W±0°.02, h20km±1km, MW5.1/111, Moment Tensor Solution. s61,c80; s111,c146; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}3.84±.20; $M_{\theta\theta}$-0.40±.12; $M_{\phi\phi}$-3.43±.13; $M_{r\theta}$1.27±.23; $M_{\theta\phi}$-0.36±.07; $M_{\phi r}$4.13±.27; Best double couple: $M_0$5.65700×10^16^ NP1:ϕ_s181.00000°, δ21.00000°, λ77.00000°. NP2:ϕ_s14.00000°, δ70.00000°, λ95.00000°. Principal axes: T 5.8710, Plg65.0000°, Azm292.0000°; N -0.4220, Plg4.0000°, Azm193.0000°; P -5.4420, Plg25.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 15:07:14.5±0.9, 31°.64S±0°.04×177°.55W±0°.05, h3km±4km, n364, σ1$41/336, mb5.2/111, MS4.8/50, 17C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.39 352**		P	**Pn**	**15 07 51.7**	**-2.8**
GLKZ				S	**Sn**	**15 08 21.5**	**-2.8**
RIZ	**Raoul Island**	**2.41 352**		P	**Pn**	**15 07 52.4**	**-2.4**
RIZ				S	**Sn**	**15 08 21.8**	**-2.9**
MXZ	**Matakaoa Point**	**6.83 209**		S	**Sn**	**15 10 13.3**	**-0.4**
WMGZ	**Waiomatatini S**	**7.01 207**		P	**Pn**	**15 08 56.6**	**-1.4**
WMGZ				S	**Sn**	**15 10 19.3**	**+1.2**
PKGZ	**Pakihiroa**	**7.18 209**		P	**Pn**	**15 08 58.4**	**-2.0**
PKGZ				S	**Sn**	**15 10 23.0**	**+0.5**
HAZ	**Te Kaha**	**7.21 211**		P	**Pn**	**15 08 59.5**	**-1.3**
HAZ				S	**Sn**	**15 10 24.4**	**+1.1**
PUZ	**Puketiti**	**7.29 207**		P	**Pn**	**15 08 59.0**	**-2.8**
PUZ				S	**Sn**	**15 10 24.7**	**-0.4**
GRZ	**Great Barrier**	**7.41 230**		P	Pn	15 09 08.5	+4.9
RUGZ	**Raukumara Rang**	**7.43 211**		P	**Pn**	**15 09 01.9**	**-2.0**
RUGZ				S	**Sn**	**15 10 30.0**	**+1.1**
TWGZ	**Tauwhareparae**	**7.49 208**		P	**Pn**	**15 09 02.4**	**-2.2**
TWGZ				S	**Sn**	**15 10 28.9**	**-1.2**
CNGZ	**Carnagh Statio**	**7.67 206**		P	**Pn**	**15 09 05.0**	**-2.1**
CNGZ				S	**Sn**	**15 10 30.5**	**-3.9**
TKGZ	**Te Karaka**	**7.76 208**		P	**Pn**	**15 09 06.2**	**-2.2**
TKGZ				S	**Sn**	**15 10 34.8**	**-2.0**
MWZ	**Matawai**	**7.81 210**		P	**Pn**	**15 09 06.2**	**-2.8**
MWZ				S	**Sn**	**15 10 34.8**	**-3.1**
OPRZ	**Ohinepanea**	**7.87 216**		P	**Pn**	**15 09 08.8**	**-1.0**
OPRZ				S	**Sn**	**15 10 39.9**	**+0.6**
URZ	**Urewera**	**7.93 212**		Pn	**Pn**	**15 09 09.2**	**-1.4**
	3.9nm,0.3s,baz=343,slow=3.9,SNR=32						
URZ				Sn	Sn	15 10 29.9	-11
	6.6nm,0.3s,baz=178,slow=9.0,SNR=5.0						
URZ				LR	LR	15 12 12.8	
	comp=Z,6μm,18.4s,baz=112,slow=37						
URZ	**Urewera**	**7.93 212**		P	**Pn**	**15 09 08.2**	**-2.4**
URZ				S	**Sn**	**15 10 38.7**	**-2.1**
WIAZ	**Waiheke Island**	**7.95 228**		P	Pn	15 09 15.3	+4.4
RAGZ	**Rawiri**	**7.99 210**		P	**Pn**	**15 09 08.8**	**-2.8**
RAGZ				S	**Sn**	**15 10 40.3**	**-2.3**
RIGZ	**Rimuhau**	**8.03 207**		P	**Pn**	**15 09 09.0**	**-3.0**
RIGZ				S	**Sn**	**15 10 40.8**	**-2.6**
MKAZ	**Moumakai**	**8.13 226**		P	**Pn**	**15 09 14.9**	**+1.5**
PRGZ	**Paritu Road**	**8.17 206**		P	Pn	15 09 09.5	-4.5
PRGZ				S	**Sn**	**15 10 45.6**	**-1.3**
OUZ	**Omahuta**	**8.22 242**		P	Pn	15 09 20.1	+5.4
RTZ	**Ruatahuna**	**8.28 211**		**Pn**	**15 09 13.5**	**-2.0**
TOZ	**Tahuroa Road**	**8.35 221**		**Pn**	**15 09 16.2**	**-0.2**
BKZ	**Black Stump Fm**	**8.95 211**		**Pn**	**15 09 21.4**	**-3.3**
HIZ	**Hauiti**	**9.26 220**		**Pn**	**15 09 28.4**	**-0.5**
WAZ	**Wanganui**	**10.12 215**		P	**Pn**	**15 09 39.5**	**-1.2**
WAZ				S	**Sn**	**15 11 30.5**	**-4.2**
CTZ	**Chatham Island**	**12.10 177**		Pn	**Pn**	**15 10 05.7**	**-2.1**
CTZ	**Chatham Island**	**12.10 177**		P	**Pn**	**15 10 05.7**	**-2.1**
CTZ				S	Sn	15 12 09.9	-13

MRNZ	**Matariki Terra**	**12.47 216**	Pn	Pn	15 10 08.2	-4.7
INZ	**Inchbonnie**	**14.11 215**	Pn	**Pn**	**15 10 33.3**	**-1.9**
MSVF	**Nonsavu**	**14.40 343**		**Pn**	**15 10 38.6**	**-0.9**
MSVF	**Nonsavu**	**14.40 343**	Pn	Pn	15 10 35.1	-4.3
	0.5nm,0.3s,baz=170,slow=12,SNR=5.6					
MSVF			LR	LR	15 15 31.9	
	comp=Z,4μm,18.9s,baz=174,slow=35					
	9.6nm,0.9s					
MSVF	**Nonsavu**	**14.40 343**	*i*P	**Pn**	**15 10 38.9**	**-0.6**
RPZ	**Rata Peaks**	**15.04 214**	Pn	**Pn**	**15 10 46.4**	**-1.5**
RPZ	**Rata Peaks**	**15.04 214**	Pn	**Pn**	**15 10 42.8**	**-5.1**
	3.2nm,0.3s,baz=282,slow=1.0,SNR=23					
RPZ			Sn	Sn	15 13 19.9	-15
	2.7nm,0.3s,baz=121,slow=22,SNR=7.8					
LBZ	**Lake Benmore**	**15.96 214**	Pn	**Pn**	**15 10 56.2**	**-3.7**
PINNC	**Pines Island,**	**16.09 300**	P	**P**	**15 11 07.8**	**+2.7**
ONTNC	**Ouen Toro**	**17.00 299**	P	**P**	**15 11 17.8**	**+2.4**
ONTNC			IAmb	IAmb	15 11 20.9	
	comp=Z,461nm,2.0s					
EAZ	**Earnscleugh**	**17.01 213**	P	**Pn**	**15 11 07.5**	**-5.8**
DZM	**Mont Dzumac**	**17.15 300**		**P**	**15 11 17.8**	**+0.7**
DZM	**Mont Dzumac**	**17.15 300**	*e*P	**P**	**15 11 16.5**	**-0.6**
	comp=Z,513nm,1.5s					
DZM			*e*LR	LR	15 15 14.3	
	comp=Z,5μm,21.8s					
DZM	**Mont Dzumac**	**17.15 300**	Pn	**Pn**	**15 11 15.6**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=68,slow=17,SNR=11					
DZM			LR	LR	15 16 49.4	
	comp=Z,6μm,19.1s,baz=138,slow=34					
MLZ	**Mavora Lakes**	**17.68 215**		**Pn**	**15 11 20.1**	**-1.6**
WHZ	**Wether Hill Ro**	**18.14 214**	P	**P**	**15 11 28.3**	**+0.5**
AFI	**Afiamalu**	**18.42 18**	P	**P**	**15 11 30.6**	**-0.5**
AFI			IAmb	IAmb	15 11 37.7	
	comp=Z,194nm,1.1s					
AFI	**Afiamalu**	**18.42 18**	P	**P**	**15 11 30.6**	**-0.5**
AFI			pmax	pmax		
	comp=Z,194nm,1.2s					
RAR	**Rarotonga**	**18.98 61**	P	**P**	**15 11 35.2**	**-1.9**
	comp=Z,12nm,0.5s,baz=220,slow=6.9,SNR=1.9					
RAR			S	Sn	15 14 48.9	-22
	comp=Z,17nm,0.6s,baz=135,slow=19,SNR=1.5					
RAR			LR	LR	15 18 06.0	
	comp=Z,2μm,19.5s,baz=243,slow=34					
TBI	**Tubuai**	**26.19 79**	*e*S	**S**	**15 17 19.1**	**-4.1**
	comp=Z,6μm,24.2s					
TBI			*e*LR	LR	15 19 18.4	
	comp=Z,6μm,22.2s					
TBI			*e*LR	LR	15 19 21.5	
	comp=Z,2μm,22.5s					
ARMA	**Armidale**	**26.40 265**	P	**P**	**15 12 54.5**	**+2.0**
ARMA	**Armidale**	**26.40 265**	P	**P**	**15 12 53.9**	**+1.5**
	comp=Z,44nm,0.8s					
CNB	**Canberra Magne**	**27.77 253**	P	**P**	**15 13 07.0**	**+2.3**
	comp=Z,33nm,1.4s					
MILA	**Mila**	**27.93 250**	P	**P**	**15 13 08.7**	**+2.6**
	comp=Z,25nm,0.8s					
CAN	**Canberra**	**28.07 253**	P	**P**	**15 13 08.2**	**+0.9**
CAN	**Canberra**	**28.07 253**	P	**P**	**15 13 09.2**	**+1.9**
	comp=Z,25nm,0.8s					
CAN	**Canberra**	**28.07 253**	P	**P**	**15 13 08.2**	**+0.9**
CAN			pmax	pmax		
	comp=Z,42nm,1.3s					
EIDS	**Eidsvold**	**28.20 275**	P	**P**	**15 13 10.0**	**+1.4**
EIDS			IAmb	IAmb	15 13 12.6	
	comp=Z,31nm,0.8s					
EIDS	**Eidsvold**	**28.20 275**	P	**P**	**15 13 09.5**	**+1.0**
	comp=Z,44nm,1.0s					
PPT2	**Papeete2**	**28.92 68**	*e*S	**S**	**15 18 06.7**	**+0.3**
	comp=Z,1μm,23.8s					
PPT2			*e*LR	LR	15 20 38.3	
	comp=Z,1μm,21.0s					
PPT2			*e*LR	LR	15 20 44.3	
	comp=Z,1μm,21.0s					
PPT	**Papeete**	**28.93 68**	P	**P**	**15 13 15.7**	**+0.7**
	comp=Z,41nm,1.0s,baz=215,slow=13,SNR=4.3					
PPT			LR	LR	15 22 53.8	
	comp=Z,1μm,20.9s,baz=240,slow=32					
	comp=Z,41nm,1.0s					
TAU	**Tasmania Unive**	**29.93 238**	P	**P**	**15 13 24.9**	**+1.2**
TAU	**Tasmania Unive**	**29.93 238**	P	**P**	**15 13 24.9**	**+1.2**
TAU			pmax	pmax		
	comp=Z,24nm,0.9s					
HNR	**Honiara**	**30.40 312**	LR	LR	15 24 11.6	
	comp=Z,906nm,19.6s,baz=169,slow=34					
TOO	**Toolangi**	**30.86 249**	P	**P**	**15 13 33.8**	**+1.8**
TOO	**Toolangi**	**30.86 249**	P	**P**	**15 13 33.4**	**+1.4**
	comp=Z,12nm,0.9s					
TOO	**Toolangi**	**30.86 249**	P	**P**	**15 13 33.8**	**+1.8**
TOO			pmax	pmax		
	comp=Z,17nm,1.2s					
CMSA	**Cobar Meteorol**	**31.22 260**	P	**P**	**15 13 37.0**	**+1.7**
	comp=Z,77nm,0.9s					
QLP	**Quilpie**	**33.65 269**	P	**P**	**15 13 57.7**	**+1.1**
	comp=Z,70nm,1.2s					
ARPS	**Mount Arapiles**	**33.80 250**	P	**P**	**15 13 59.0**	**+1.2**
	comp=Z,141nm,0.8s					
STKA	**Stephens Creek**	**34.60 259**	P	**P**	**15 14 05.2**	**+0.4**
STKA	**Stephens Creek**	**34.60 259**	P	**P**	**15 14 05.8**	**+1.0**
	comp=Z,197nm,0.8s					
STKA	**Stephens Creek**	**34.60 259**	P	**P**	**15 14 04.7**	**-0.1**
	comp=Z,32nm,0.7s,baz=101,slow=11,SNR=70					
STKA			PcP	**PcP**	**15 16 38.9**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=72,slow=6.4,SNR=3.3					
STKA			LR	LR	15 27 49.9	
	comp=Z,2μm,18.0s,baz=87,slow=36					
	comp=Z,32nm,0.7s					
STKA	**Stephens Creek**	**34.60 259**	*i*P	**P**	**15 14 05.4**	**+0.6**
MGBR	**Mount Gambier**	**34.75 248**	P	**P**	**15 14 07.3**	**+1.3**
HTT	**Hallett**	**36.55 255**	P	**P**	**15 14 22.0**	**+0.4**
	comp=Z,38nm,1.0s					
MTSU	**Mount Surprise**	**36.92 282**	P	**P**	**15 14 26.6**	**+1.7**
	comp=Z,21nm,0.7s					
RKT	**Rikitea**	**38.55 88**	*e*S	**S**	**15 20 37.3**	**+2.1**
	comp=Z,1μm,27.8s					
RKT			*e*LR	LR	15 25 05.1	
	comp=Z,5μm,21.8s					
BBOO	**Buckleboo**	**39.02 256**	P	**P**	**15 14 42.1**	**-0.3**
BBOO			IAmb	IAmb	15 14 43.4	
	comp=Z,50nm,0.7s					
BBOO	**Buckleboo**	**39.02 256**	P	**P**	**15 14 41.8**	**-0.7**
	comp=Z,72nm,0.7s					
QIS	**Mount Isa**	**39.80 275**	P	**P**	**15 14 49.5**	**+0.4**
	comp=Z,19nm,0.7s					
COEN	**Coen**	**39.99 287**	P	**P**	**15 14 52.2**	**+1.5**
TAOE	**Nuku Hiva Isla**	**41.46 65**	*e*S	**S**	**15 21 19.8**	**+0.7**
	comp=Z,554nm,25.6s					
TAOE			*e*LR	LR	15 26 29.2	
	comp=Z,898nm,21.3s					
AS19	**Alice Springs**	**43.38 268**	P	**P**	**15 15 18.5**	**0.0**
	comp=Z,89nm,0.7s					
AS06	**Alice Springs**	**43.39 268**	P	**P**	**15 15 18.9**	**+0.3**
	comp=Z,82nm,0.7s					
AS31	**Alice Springs**	**43.44 268**	P	**P**	**15 15 18.7**	**-0.3**
AS31	**Alice Springs**	**43.44 268**	P	**P**	**15 15 18.7**	**-0.3**
	comp=Z,24nm,0.7s					
ASAR	**Alice Springs**	**43.44 268**	P	**P**	**15 15 18.5**	**-0.5**
ASAR	**Alice Springs**	**43.44 268**	P	**P**	**15 15 18.9**	**-0.1**
	comp=Z,41nm,0.6s,baz=105,slow=7.5,SNR=316					
ASAR			PcP	**PcP**	**15 17 06.5**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=102,slow=4.8,SNR=1.8					
ASAR			ScP	**ScP**	**15 20 57.7**	**-1.9**
	comp=Z,2.0nm,1.0s,baz=100,slow=4.7,SNR=5.4					
ASAR			LR	LR	15 33 47.0	
	comp=Z,1μm,18.4s,baz=94,slow=37					
	comp=Z,41nm,0.6s					
WRAB	**Tennant Creek**	**44.54 273**	P	**P**	**15 15 27.3**	**-0.5**
WRAB	**Tennant Creek**	**44.54 273**	*i*P	**P**	**15 15 28.1**	**+0.3**
WRAB			pmax	pmax		
	comp=Z,63nm,0.8s					
WRA	**Warramunga Arr**	**44.54 273**	P	**P**	**15 15 26.7**	**-1.1**
WRA	**Warramunga Arr**	**44.54 273**	P	**P**	**15 15 27.3**	**-0.5**
	comp=Z,94nm,0.7s,baz=115,slow=7.5,SNR=307					
WRA			PcP	**PcP**	**15 17 11.1**	**0.0**
	comp=Z,7.5nm,0.8s,baz=118,slow=3.2,SNR=2.5					
WRA			ScP	**ScP**	**15 21 03.9**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=111,slow=4.1,SNR=4.8					
WRA			LR	LR	15 33 16.8	
	comp=Z,1μm,18.1s,baz=114,slow=35					
FORT	**Forrest**	**46.12 256**	P	**P**	**15 15 39.4**	**-0.8**
FORT	**Forrest**	**46.12 256**	P	**P**	**15 15 39.6**	**-0.6**
	comp=Z,105nm,0.7s					
VNDA	**Vanda**	**46.91 186**	LR	LR	15 32 02.3	
	comp=Z,816nm,20.7s,baz=14,slow=32					
WRKA	**Warakurna**	**47.72 264**	P	**P**	**15 15 51.8**	**-1.0**
	comp=Z,68nm,0.8s					
KMBL	**Kambalda**	**51.03 253**	P	P	15 16 12.6	-5.4
KNRA	**Kununurra**	**51.19 275**	IAmb	IAmb	15 16 21.6	
	comp=Z,38nm,0.8s					
KNRA	**Kununurra**	**51.19 275**	P	**P**	**15 16 19.7**	**+0.3**
	comp=Z,45nm,0.8s					
FITZ	**Fitzroy Crossi**	**52.75 271**	P	**P**	**15 16 30.1**	**-0.9**
	comp=Z,9.0nm,1.6s					
FITZ	**Fitzroy Crossi**	**52.75 271**	P	**P**	**15 16 29.6**	**-1.4**
	comp=Z,29nm,0.8s,baz=159,slow=4.7,SNR=38					
FITZ			LR	LR	15 38 07.7	
	comp=Z,2μm,19.1s,baz=118,slow=35					
	comp=Z,29nm,0.8s					
CASY	**Casey**	**54.23 208**	P	**P**	**15 16 42.1**	**+0.9**
NWAO	**Narrogin (SRO)**	**54.33 250**	LR	LR	15 37 21.7	
	comp=Z,515nm,20.4s,baz=58,slow=33					
FAKI	**Fak Fak**	**55.13 291**	P	**P**	**15 16 47.5**	**-1.0**
FAKI			IAmb	IAmb	15 16 49.7	
	comp=Z,20nm,0.9s					
FAKI	**Fak Fak**	**55.13 291**	P	**P**	**15 16 49.1**	**+0.6**
	comp=Z,30nm,1.5s					
MEEK	**Meekatharra**	**55.29 258**	P	**P**	**15 16 48.0**	**-1.5**
	comp=Z,43nm,0.9s					
PSA00	**Pilbara Seismi**	**56.21 264**	IAmb	IAmb	15 16 55.1	
	comp=Z,44nm,1.5s					
PSA00	**Pilbara Seismi**	**56.21 264**	P	**P**	**15 16 53.9**	**-2.2**
MBWA	**Marble Bar**	**56.48 264**	P	**P**	**15 16 56.9**	**-1.2**
	comp=Z,20nm,1.0s					
SWI	**Sorong**	**57.16 292**	P	**P**	**15 17 03.1**	**+0.2**
	comp=Z,28nm,1.0s					
GUMO	**Guam**	**57.63 315**	LR	LR	15 40 59.9	
	comp=Z,384nm,18.6s,baz=125,slow=35					
QSPA	**South Pole Qui**	**58.48 180**	P	**P**	**15 17 13.8**	**+2.1**
	comp=Z,23nm,0.9s,baz=38,slow=1.2,SNR=38					
QSPA			LR	LR	15 39 40.5	
	comp=Z,607nm,19.9s,baz=42,slow=33					
	comp=Z,23nm,0.9s					
BELA	**Belgrano 2**	**68.51 172**	P	**P**	**15 18 18.4**	**+0.7**
BELA			IAmb	IAmb	15 18 34.4	
	comp=Z,16nm,0.8s					
PCJI	**Pacitan**	**69.82 273**	P	**P**	**15 18 27.3**	**+0.5**
JCJ	**Chichijima**	**69.89 322**	LR	LR	15 45 11.2	
	comp=Z,288nm,20.8s,baz=152,slow=33					
PMSA	**Palmer Station**	**70.98 155**	LR	LR	15 45 55.0	
	comp=Z,341nm,18.4s,baz=222,slow=33					
MAW	**Mawson**	**71.29 201**	LR	LR	15 50 37.0	
	comp=Z,1μm,18.2s,baz=116,slow=36					
TGY	**Tagaytay City**	**74.44 298**	LR	LR	15 53 14.8	
	comp=Z,108nm,18.4s,baz=275,slow=37					
KSM	**Kuching**	**75.63 281**	P	**P**	**15 19 01.5**	**+0.1**
KSM			IAmb	IAmb	15 19 03.1	
	comp=Z,22nm,0.7s					
ELIB	**Princess Elisa**	**75.67 187**	*d*P	**P**	**15 19 02.1**	**+1.3**
	comp=Z,11nm,1.1s					
JHJ	**Hachijo jima 2**	**75.97 324**	LR	LR	15 52 10.8	
	comp=Z,185nm,18.8s,baz=74,slow=36					
SYO	**Syowa Base**	**76.00 193**	⇓*e*P	**P**	**15 19 04.2**	**+1.7**
TROLL	**Troll, Antarti**	**76.64 180**	⇑P	**P**	**15 19 08.1**	**+1.8**
	comp=Z,873nm,1.0s					
SNAA	**Sanae**	**76.91 178**	P	**P**	**15 19 08.5**	**+0.7**
SNAA			IAmb	IAmb	15 19 35.4	
	comp=Z,41nm,1.2s					
SNAA	**Sanae**	**76.91 178**	⇑P	**P**	**15 19 09.2**	**+1.4**
	comp=Z,289nm,1.0s					
SNAA	**Sanae**	**76.91 178**	P	**P**	**15 19 07.8**	**0.0**
	comp=Z,15nm,1.0s,baz=181,slow=3.6,SNR=13					
SNAA			LR	LR	15 50 10.0	
	comp=Z,344nm,20.7s,baz=210,slow=33					
	comp=Z,15nm,1.0s					
SNAA	**Sanae**	**76.91 178**	*ce*P	**P**	**15 19 09.2**	**+1.4**
SNAA			pmax	pmax		
	comp=Z,27nm,1.2s					
VNA3	**Neumayer Olymp**	**77.05 176**	⇑P	**P**	**15 19 09.7**	**+1.2**
	comp=Z,49nm,0.8s					
VNA2	**Neumayer--Watz**	**77.49 177**	⇑P	**P**	**15 19 12.5**	**+1.6**
	comp=Z,36nm,0.7s,baz=180,slow=5.3					
NVL	**N'lazarevskaya**	**77.67 183**	*e*P	**P**	**15 19 13.1**	**+1.2**
NVL			pmax	pmax		
	comp=Z,18nm,1.1s					
NVL			MLR	MLR		
	comp=Z,515nm,19.0s					
VNA1	**Neumayer--Stat**	**77.72 176**	⇑P	**P**	**15 19 14.0**	**+1.8**
	comp=Z,41nm,0.8s					
MJAR	**Matsushiro Arr**	**79.47 325**	P	**P**	**15 19 19.6**	**-2.7**
	comp=Z,2.4nm,0.9s,baz=144,slow=4.4,SNR=4.2					
MJAR			LR	LR	15 50 42.5	
	comp=Z,150nm,19.2s,baz=126,slow=33					
	comp=Z,2.4nm,0.9s					
MAJO	**Matsushiro**	**79.48 325**	*i*P	**P**	**15 19 21.0**	**-1.3**
MAJO			pmax	pmax		
	comp=Z,8.0nm,1.0s					
JNU	**Nakatsue**	**80.73 318**	LR	LR	15 51 49.3	
	comp=Z,116nm,21.1s,baz=138,slow=33					
PLCA	**Paso Flores**	**81.39 133**	P	**P**	**15 19 33.6**	**+0.8**
PLCA			IAmb	IAmb	15 20 18.4	
	comp=Z,56nm,1.8s					
PLCA	**Paso Flores**	**81.39 133**	P	**P**	**15 19 34.7**	**+1.9**
	comp=Z,4.1nm,1.0s,baz=296,slow=4.2,SNR=3.9					
PLCA			LR	LR	15 47 58.0	
	comp=Z,415nm,19.4s,baz=224,slow=30					
	comp=Z,4.1nm,1.0s					
ASAJ	**Asahikawa**	**83.71 332**	LR	LR	15 52 38.8	
	comp=Z,371nm,19.1s,baz=

comp=Z,261nm,18.1s,baz=148,slow=36
comp=Z,17nm,0.8s
KMRM Mail Ridge 87.16 38 P **P 15 20 03.7 +1.8**
KMRM IAmb IAmb 15 20 07.0
comp=Z,28nm,1.3s
NJ2 Nanjing 87.34 310 *e*P **P 15 20 05.3 +2.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
PIX Pinacate 87.34 50 IAmb IAmb 15 20 08.1
comp=Z,24nm,1.4s
O02D Mt. Diablo Mer 87.61 39 P **P 15 20 05.8 +1.7**
AFDM Forest Hills D 87.73 41 IAmb IAmb 15 20 09.5
comp=Z,21nm,1.5s
GWY Greenwater Val 88.34 45 IAmb IAmb 15 20 34.5
comp=Z,34nm,1.8s
DSP Deep Springs 88.36 43 P **P 15 20 09.0 +1.4**
USA0B Ussuriysk Arra 88.40 326 IAmb IAmb 15 20 09.9
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 88.40 326 *i* P **P 15 20 07.8 +0.2**
USRK Ussuriysk Ar. 88.40 326 P **P 15 20 07.0 -0.6**
comp=Z,8.4nm,0.7s,baz=114,slow=4.6,SNR=14
comp=Z,8.4nm,0.7s
LHV Little Huntoon 88.65 42 IAmb IAmb 15 20 15.2
comp=Z,22nm,1.2s
YBH Yreka Blue Hor 88.77 38 P **P 15 20 10.7 +1.1**
YBH IAmb IAmb 15 20 14.8
comp=Z,31nm,1.8s
YBH Yreka Blue Hor 88.77 38 P **P 15 20 10.5 +0.9**
comp=Z,4.2nm,0.8s,baz=208,slow=1.3,SNR=9.6
YBH LR LR 15 54 47.5
comp=Z,560nm,18.9s,baz=232,slow=32
comp=Z,4.2nm,0.8s
YBH Yreka Blue Hor 88.77 38 P **P 15 20 10.7 +1.1**
YBH pmax pmax
comp=Z,31nm,1.8s
WCT Wildcat Mounta 88.77 45 IAmb IAmb 15 20 15.1
comp=Z,16nm,1.4s
HATC Hat Creek Radi 88.78 39 IAmb IAmb 15 20 34.8
comp=Z,24nm,1.1s
NVAR Mina Array Bea 88.88 42 P **P 15 20 12.1 +1.7**
NVAR Mina Array Bea 88.88 42 P **P 15 20 11.2 +0.9**
comp=Z,6.8nm,0.9s,baz=246,slow=3.0,SNR=17
NVAR LR LR 15 53 58.5
comp=Z,578nm,19.2s,baz=196,slow=32
comp=Z,6.8nm,0.9s
RYN Ryan 88.89 42 IAmb IAmb 15 20 15.4
comp=Z,23nm,1.4s
NV11 Mina Array Sit 88.97 43 IAmb IAmb 15 20 15.8
comp=Z,24nm,1.4s
PAHR Pah Rah Range 89.14 41 IAmb IAmb 15 20 17.1
comp=Z,16nm,1.3s
V12A Nelson 89.15 46 IAmb IAmb 15 20 17.3
comp=Z,18nm,1.3s
Y14A Wickenburg 89.16 49 IAmb IAmb 15 20 17.2
comp=Z,32nm,1.5s
TYV Tymovskoe 89.34 336 *e*P **P 15 20 13.0 +1.2**
TYV *e*S **S 15 31 00.5 -1.6**
TYV pmax pmax
comp=Z,32nm,0.8s
TYV pmax pmax
comp=Z,300nm,4.4s
TYV smax smax
comp=N,900nm,8.1s
TYV smax smax
comp=E,800nm,8.1s
W13A Hualapai Mount 89.34 47 IAmb IAmb 15 20 18.4
comp=Z,26nm,1.4s
DBO Dodson Butte 89.49 36 IAmb IAmb 15 20 27.1
comp=Z,17nm,1.2s
TUC Tucson 89.58 51 P **P 15 20 17.3 +3.7**
S11A Rachel 89.86 44 IAmb IAmb 15 20 39.5
comp=Z,10nm,0.8s
319A Douglas 90.02 53 IAmb IAmb 15 20 21.4
comp=Z,22nm,1.5s
PRN Pahroc Range 90.12 45 IAmb IAmb 15 20 22.1
comp=Z,29nm,1.2s
X16A Lo Mia Camp, P 90.46 49 IAmb IAmb 15 20 23.8
comp=Z,23nm,1.3s
J05D Fort Rock, OR 90.64 37 IAmb IAmb 15 20 23.5
comp=Z,22nm,1.3s
TIA Tai'an 91.09 313 P **P 15 20 21.4 +0.9**
TIA SKS **SKSac 15 30 54.8 +1.4**
TIA S **ScS 15 31 20.4 -1.8**
TIA pmax pmax
comp=Z,18nm,1.0s
TIA LR LR
comp=Z,290nm,17.9s
TIA LR LR
comp=Z,210nm,21.0s
TIA LR LR
comp=Z,320nm,18.2s
KNB Kanab 91.23 46 IAmb IAmb 15 20 36.5
comp=Z,16nm,1.2s
CN2 Changchun 91.36 323 *e*P **P 15 20 21.3 -0.2**
CN2 *e*S **S 15 31 21.3 +0.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,19.0s
KDAK Kodiak Island 91.52 13 LR LR 15 56 32.9
comp=Z,294nm,18.6s,baz=58,slow=32
GRNR Gornyy 91.56 333 ⇑*i*P **P 15 20 23.4 +1.2**
GRNR pmax pmax
comp=Z,7.0nm,0.9s
BNX BinXian 91.74 325 ⇓P **P 15 20 23.1 -0.1**
BNX pmax pmax
comp=Z,19nm,0.7s
PKCU Pink Cliffs 91.81 46 IAmb IAmb 15 20 30.3
comp=Z,17nm,1.2s
J08A Circle Bar Ran 92.14 39 IAmb IAmb 15 20 30.2
comp=Z,19nm,1.3s
ELK Elko 92.19 42 IAmb IAmb 15 20 31.4
comp=Z,17nm,1.8s
MTPU Mount Pierson 92.27 46 IAmb IAmb 15 20 52.5
comp=Z,15nm,1.2s
KLR Kul'dur 92.29 329 LR LR 15 57 41.4
comp=Z,446nm,20.8s,baz=141,slow=33
KLR Kul'dur 92.29 329*ce*P **P 15 20 26.1 +0.4**
KLR pmax pmax
comp=Z,30nm,2.0s
TX31 Lajitas Ar. Si 92.73 57 IAmb IAmb 15 20 33.5
comp=Z,13nm,1.4s
TXAR Lajitas Array 92.73 57 P **P 15 20 29.3 +1.0**
comp=Z,3.5nm,1.1s,baz=259,slow=3.0,SNR=10
TXAR LR LR 15 54 42.6
comp=Z,465nm,19.4s,baz=234,slow=31
comp=Z,3.5nm,1.1s
CMIG Matias Romero 92.77 72 LR LR 15 53 53.3
comp=Z,331nm,19.3s,baz=183,slow=30
LYN LuoYang 93.08 309 *e*P **P 15 20 30.8 +1.1**
LYN SKS **SKSac 15 31 03.3 -1.3**
LYN S **ScS 15 31 43.1 +4.3**
LYN LR LR
comp=Z,190nm,12.5s
LYN LR LR
comp=Z,320nm,16.6s
LYN LR LR
comp=Z,410nm,18.0s
G08A Pilot Rock 93.20 37 IAmb IAmb 15 20 44.5
comp=Z,16nm,1.3s
ALPN Alpine 93.34 56 IAmb IAmb 15 20 35.9
comp=Z,18nm,1.5s
HNS HongShan 93.35 312 ⇓P **P 15 20 31.9 +1.1**
HNS SKS **SKSac 15 31 07.8 +1.9**
HNS S **ScS 15 31 41.8 +0.9**
HNS pmax pmax
comp=Z,9.0nm,1.6s
HNS LR LR
comp=Z,160nm,15.1s
HNS LR LR
comp=Z,190nm,17.3s
HNS LR LR
comp=Z,250nm,17.3s
MFID Camas Ranch 93.61 40 IAmb IAmb 15 20 36.2
comp=Z,8.0nm,0.9s
E07A Sunnyside 93.62 36 IAmb IAmb 15 20 37.9
comp=Z,25nm,1.5s
BMO Blue Mountains 93.77 38 IAmb IAmb 15 20 37.2
comp=Z,26nm,1.9s
BBB Bella Bella 94.00 28 LR LR 15 57 11.3
comp=Z,541nm,19.1s,baz=217,slow=32
ANMO Albuquerque 94.05 51 LR LR 15 56 09.5
comp=Z,605nm,19.2s,baz=35,slow=31
ANMO Albuquerque 94.05 51 *i* P **P 15 20 35.4 +1.0**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
CMAR Chiang Mai Arr 94.17 289 P **P 15 20 34.9 -0.2**
comp=Z,0.7nm,0.6s,baz=141,slow=3.8,SNR=7.5
CMAR PP **PP 15 24 21.5 -0.4**
comp=Z,0.8nm,0.3s,baz=119,slow=8.3,SNR=7.8
CMAR PKKPbc **PKKPbc 15 37 36.0 +0.3**
comp=Z,0.2nm,0.4s,baz=284,slow=5.8,SNR=4.7
CMAR LR LR 16 03 33.7
comp=Z,110nm,21.3s,baz=130,slow=36
comp=Z,0.7nm,0.6s
CMAR Chiang Mai Arr 94.17 289*ce*P **P 15 20 36.7 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
HVU Hansel Valley 94.28 43 IAmb IAmb 15 20 40.1
comp=Z,15nm,1.5s
E09A Wood Farm, Sta 94.45 37 IAmb IAmb 15 20 40.2
comp=Z,18nm,1.6s
MA2 Magadan 94.58 344 LR LR 16 09 35.3
comp=Z,176nm,18.1s,baz=153,slow=40
MA2 Magadan 94.58 344*ce*P **P 15 20 35.9 -0.1**
MA2 pmax pmax
comp=Z,4.0nm,1.2s
HEH HeiHe 94.96 328 *e*P **P 15 20 36.0 -1.9**
HEH pmax pmax
comp=Z,5.0nm,1.7s
NEW Newport 96.14 36 LR LR 15 57 21.1
comp=Z,860nm,20.1s,baz=222,slow=31
PZH PanZhiHua 96.22 297 P **P 15 20 46.4 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,6.1s
PDAR Pinedale Array 96.76 43 P **P 15 20 46.6 -0.1**
comp=Z,0.8nm,0.8s,baz=204,slow=3.3,SNR=5.6
PDAR PKKPbc **PKKPbc 15 37 29.5 -0.5**
comp=Z,0.4nm,0.6s,baz=41,slow=2.9,SNR=5.0
PDAR LR LR 15 59 01.2
comp=Z,371nm,18.8s,baz=226,slow=32
comp=Z,0.8nm,0.8s
YHL Hebgen Lake 97.10 41 IAmb IAmb 15 20 53.9
comp=Z,11nm,1.4s
YMR Madison River 97.11 41 IAmb IAmb 15 20 58.3
comp=Z,16nm,1.6s
SEY Seymchan 97.27 347 *i* P **P 15 20 48.0 -0.1**
SEY pmax pmax
comp=Z,6.0nm,1.6s
BOZ Bozeman (W) 97.31 40 IAmb IAmb 15 20 54.9
comp=Z,17nm,1.6s
HHC Hu-ho-hao-te 97.37 314 *e*P Pdif 15 20 51.6 +2.2
HHC SKS **SKSac 15 31 29.8 +2.4**
HHC S **ScS 15 32 17.8 +3.3**
HHC sS pS 15 32 28.8 +16
HHC pmax pmax
comp=Z,56nm,4.6s
HHC LR LR
comp=Z,170nm,20.6s
HHC LR LR
comp=Z,140nm,19.6s
HHC LR LR
comp=Z,250nm,14.9s
ZEA Zeya 97.51 331 *e*P Pdif 15 20 49.7 +0.2
YNE Yellowstone No 97.86 41 IAmb IAmb 15 20 56.6
comp=Z,5.8nm,1.2s
TNCH TengChong 97.92 294 *e*P Pdif 15 20 53.4 +1.1
TNCH SKS **SKSac 15 31 29.6 -1.6**
TNCH S **S 15 32 17.0 -2.9**
TNCH pmax pmax
comp=Z,180nm,5.4s
TNCH LR LR
comp=Z,140nm,16.2s
TNCH LR LR
comp=Z,170nm,18.7s
TNCH LR LR
comp=Z,270nm,16.9s
DLBC Dease Lake 98.10 23 LR LR 15 57 11.7
comp=Z,286nm,21.1s,baz=229,slow=31
CPUP Villa Florida 98.92 128 LR LR 16 00 40.5
comp=Z,160nm,18.1s,baz=224,slow=32
COLA College 98.95 12 *i* P **P 15 20 55.6 0.0**
COLA pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 99.04 13 P **Pdif 15 20 55.1 -1.0**
comp=Z,1.1nm,0.8s,baz=222,slow=5.5,SNR=8.4
ILAR LR LR 16 01 17.6
comp=Z,256nm,19.3s,baz=208,slow=33
comp=Z,1.1nm,0.8s
YKA Yellowknife Ar 106.39 26 PKiKP **PKiKP 15 25 39.3 -0.5**
comp=Z,0.2nm,0.6s,baz=255,slow=1.9,SNR=4.7
YKA PP **PP 15 25 52.6 -1.2**
comp=Z,0.1nm,0.5s,baz=242,slow=6.6,SNR=4.0
YKA PKKPbc **PKKPbc 15 37 00.4 -1.7**
comp=Z,0.6nm,0.8s,baz=41,slow=2.7,SNR=9.0
YKA PKKP **PKKPab 15 37 12.9 -0.8**
comp=Z,0.7nm,0.8s,baz=44,slow=2.9,SNR=6.5
WMQ Urumqi 114.29 308 *e*PKP **PKiKP 15 25 57.1 +1.6**
MK31 Makanchi Array 118.86 309*c i*PKIKP **PKPdf 15 26 04.0 -0.1**
MKAR Makanchi Array 118.86 309 PKPdf **PKPdf 15 26 03.3 -0.8**
MKAR Makanchi Array 118.86 309 PKP **PKPdf 15 26 02.4 -1.7**
comp=Z,1.7nm,0.8s,baz=100,slow=0.9,SNR=14
MKAR PKKPbc **PKKPab 15 36 19.6 -0.2**
comp=Z,0.5nm,0.8s,baz=280,slow=2.2,SNR=4.2
MKAR Makanchi Array 118.86 309 PKIKP **PKPdf 15 26 03.3 -0.8**
MAKZ Makanchi 119.07 309 PKPdf **PKPdf 15 26 04.0 -0.5**
MAKZ Makanchi 119.07 309 PKIKP **PKPdf 15 26 04.0 -0.5**
ZALV Zalesovo Beam 119.21 318 PKP **PKPdf 15 26 03.0 -1.5**
comp=Z,0.6nm,0.3s,baz=48,slow=2.2,SNR=3.7
ZALV Zalesovo Beam 119.21 318 PKIKP **PKPdf 15 26 03.0 -1.5**
KURK Kurchatov 122.18 313 PKPdf **PKPdf 15 26 10.1 -0.2**
KURK Kurchatov 122.18 313*c i*PKIKP **PKPdf 15 26 10.1 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 122.21 313 PKP **PKPdf 15 26 09.7 -0.6**
comp=Z,4.0nm,0.7s,baz=105,slow=1.9,SNR=38
AAK Ala-Archa 123.11 303 PKPdf **PKiKP 15 26 13.0 +0.2**
AAK Ala-Archa 123.11 303 PKP **PKPdf 15 26 11.8 -0.8**
comp=Z,1.5nm,0.6s,baz=42,slow=0.8,SNR=5.4
AAK Ala-Archa 123.11 303*c i*PKIKP **PKiKP 15 26 13.4 +0.6**
AAK pmax pmax
comp=Z,4.0nm,1.3s
KBL Kabul 125.05 292 PKPdf **PKiKP 15 26 17.5 +0.5**
KBL Kabul 125.05 292 PKIKP **PKiKP 15 26 17.5 +0.5**
GAR Garm 125.28 298 PKPdf **PKiKP 15 26 17.7 +0.5**
KKAR Karatay Array 126.07 303 PKPdf **PKiKP 15 26 18.3 -0.2**
KKAR Karatay Array 126.07 303 PKIKP **PKiKP 15 26 18.3 -0.2**
SIMJ Simiganj 126.19 297 PKPdf **PKiKP 15 26 19.4 +0.4**
FRB Frobisher Bay 126.23 31 PKP **PKPdf 15 26 17.1 -0.5**
comp=Z,2.9nm,0.7s,baz=131,slow=3.7,SNR=3.9
SCHQ Schefferville 126.89 43 PKP **PKPdf 15 26 18.5 -0.7**
comp=Z,5.7nm,0.8s,baz=174,slow=1.7,SNR=5.3
BVAR Borovoye Array 127.55 315 PKP **PKPdf 15 26 19.9 -0.6**
comp=Z,4.9nm,0.8s,baz=112,slow=2.3,SNR=16
BVAR Borovoye Array 127.55 315 PKIKP **PKPdf 15 26 20.0 -0.6**
BRVK Borovoye 127.62 315 PKPdf **PKPdf 15 26 20.7 +0.1**
BRVK Borovoye 127.62 315*c i*PKIKP **PKiKP 15 26 21.3 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
ARTI Arti 134.39 320 PKP **PKPdf 15 26 32.9 -0.5**
comp=Z,3.2nm,0.8s,baz=127,slow=2.3,SNR=5.2
ARTI SKPbc **SKPbc 15 30 03.1 -0.8**
comp=Z,2.8nm,0.7s,baz=249,slow=21,SNR=5.6
ARTI Arti 134.39 320 *i* PKIKP **PKPdf 15 26 34.0 +0.6**
ARTI 15 29 03.5
AKTO Aktyubinsk 135.21 312 PKP **PKPdf 15 26 34.4 -0.7**
comp=Z,1.7nm,0.6s,baz=334,slow=1.2,SNR=8.0
AKTO SKPbc **SKPbc 15 30 06.0 -0.8**
comp=Z,0.8nm,0.5s,baz=18,slow=21,SNR=6.7
ARCES ARCESS Array B 139.88 348 PKP **PKPdf 15 26 41.0 -2.2**
comp=Z,3.5nm,0.8s,baz=54,slow=2.0,SNR=4.6
ARCES ARCESS Array B 139.88 348 PKIKP **PKPdf 15 26 41.0 -2.2**
KLMR Klimovskoe 142.03 331 *e*PKHKP PKPpre 15 26 40.3
KLMR pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 144.97 296 **PKPdf 15 26 53.2 -0.1**
GNI Garni 144.97 296 PKIKP **PKPdf 15 26 53.3 -0.1**
GNI Garni 144.97 296 PKP **PKPdf 15 26 53.2 -0.1**
VRH Novokhopyorsk 145.20 316 *e*PKIKP **PKPdf 15 26 53.0 -0.1**
VRH pmax pmax
comp=Z,32nm,0.8s
MOS Moscow 145.57 325 *i* PKP2 **PKPdf 15 26 52.5 -1.1**
MOS pmax pmax
comp=Z,161nm,0.7s
GOF Gofitskoye 145.82 305*ce*PKIKP **PKPab 15 26 55.8 +0.4**
KBZ Khabaz 146.11 302 PKPbc **PKPbc 15 26 55.9 +0.1**
comp=Z,19nm,0.9s,baz=96,slow=3.2,SNR=36
KBZ Khabaz 146.11 302*c i*PKP2 **PKPab 15 26 56.1 -0.3**
KIV Kislovodsk 146.23 303 PKPdf **PKPbc 15 26 56.2 -0.1**
KIV Kislovodsk 146.23 303 *i* PKP2 **PKPbc 15 26 55.8 -0.6**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV Kislovodsk 146.23 303 PKP **PKPab 15 26 56.7 -0.4**
LPSR Galich'ya Gora 146.30 319 *e*PKP2 **PKPbc 15 26 56.2 +0.1**
LPSR pmax pmax
comp=Z,195nm,0.8s
OBN Obninsk 146.40 324 PKPdf **PKPbc 15 26 56.4 0.0**
OBN Obninsk 146.40 324 ⇓P **PKPab 15 26 56.8 -0.3**
OBN Obninsk 146.40 324 *e*PKP2 **PKPdf 15 26 55.6 +0.6**
OBN pmax pmax
comp=Z,92nm,1.5s
OBN Obninsk 146.40 324 PKP **PKPbc 15 26 56.3 0.0**
FINES FINESS Array B 146.44 340 PKPbc **PKPbc 15 26 55.9 -0.4**
comp=Z,41nm,0.7s,baz=57,slow=3.8,SNR=83
VORR Voronezh 146.51 318 *e*PKP2 **PKPbc 15 26 57.0 +0.2**
VORR pmax pmax
comp=Z,114nm,0.4s
VSR Storozhevoye 146.70 317 *e*PKIKP **PKPdf 15 26 56.0 +0.3**
VSR pmax pmax
comp=Z,50nm,0.9s
VORD Divnogorie 146.72 316 *e*PKIKP **PKPdf 15 26 56.0 +0.3**
VORD pmax pmax
comp=Z,40nm,1.0s
ERBR Yeremizino-Bor 147.47 307 *i* PKP2 **PKPbc 15 27 00.4 +0.7**
ERBR pmax pmax
comp=Z,85nm,1.0s
SOC Sochi 148.41 303 *e*PKHKP PKPpre 15 26 57.2
SOC *e* 15 30 29.1
SOC *e*PPP PPP 15 33 47.5
SOC *e*SS SS 15 49 39.0 -2.0
SOC *e*SSS SSS 15 55 10.3
ANN Anapa 149.78 306 *i* PKP2 **PKPbc 15 27 05.4 -0.2**
ANN pmax pmax
comp=Z,33nm,0.7s
NB2 NORSAR Subarra 150.03 351 PKP **PKPbc 15 27 05.6 -0.2**
comp=Z,20nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 150.03 351 PKPbc **PKPbc 15 27 04.2 -1.7**
comp=Z,4.9nm,1.1s,baz=18,slow=2.4,SNR=3.6
NOA PKPab **PKPab 15 27 10.1 -1.5**
comp=Z,3.3nm,0.7s,baz=16,slow=2.5,SNR=11
HFS Hagfors 150.53 349 PKPbc **PKPbc 15 27 06.0 -1.0**
comp=Z,15nm,0.9s,baz=90,slow=1.5,SNR=11
HFS Hagfors 150.53 349 PKIKP **PKPbc 15 27 06.0 -1.0**
MNK Minsk 150.84 329 *i* PKIKP **PKPbc 15 27 07.3 -0.6**
MNK *i* 15 30 43.8
MNK *i* PPP PPP 15 34 06.2
MNK *i* 15 34 08.2
MNK *i* SS SS 15 50 04.3 -2.3
MNK *i* SSS SSS 15 55 48.5
MNK pmax pmax
comp=N,16nm,0.6s
MNK pmax pmax
comp=E,16nm,1.1s
MNK pmax pmax
comp=Z,36nm,0.7s
MMAI Mount Meron Ar 152.18 282 PKPbc **PKiKP 15 27 12.6 +0.5**
comp=Z,17nm,0.6s,baz=90,slow=4.5,SNR=28
AKASG Malin Array Be 152.51 322 **PKiKP 15 27 12.1 0.0**
AKASG Malin Array Be 152.51 322 PKPbc **PKPbc 15 27 11.6 -0.2**
comp=Z,7.6nm,0.8s,baz=53,slow=2.8,SNR=16
AKASG PKPab **PKPab 15 27 20.9 -1.3**
comp=Z,13nm,0.7s,baz=48,slow=4.2,SNR=26
KIEV Kiev 152.52 322 **PKiKP 15 27 12.1 0.0**
KIEV Kiev 152.52 322 PKIKP **PKiKP 15 27 12.1 0.0**
SUW Suwalki 153.15 332 *e*PKP **PKPab 15 27 25.5 +0.8**
ILGA Ilgaz 153.24 299 **PKiKP 15 27 15.3 +1.0**
KIRS Kirsehir-Merke 153.37 295 ⇑P **PKiKP 15 27 14.5 +0.1**
BRTR Keskin Array B 153.51 296 PKPbc **PKPbc 15 27 14.0 -0.6**
comp=Z,6.1nm,0.9s,baz=138,slow=2.8,SNR=18
BRTR PKPab **PKPab 15 27 26.4 -0.7**
comp=Z,9.7nm,0.9s,baz=131,slow=3.7,SNR=15
ANTO Ankara 154.13 297 **PKPab 15 27 29.4 -0.2**
ANTO Ankara 154.13 297 PKP2 **PKPab 15 27 29.4 -0.2**
DBIC Dimbokro 154.24 163 PKPbc **PKiKP 15 27 16.9 +0.1**
comp=Z,5.8nm,0.9s,baz=157,slow=2.2,SNR=4.1
EKA Eskdalemuir Ar 155.98 8 PKPab **PKPab 15 27 36.4 -0.3**
comp=Z,1.6nm,0.7s,baz=0.5,slow=3.0,SNR=4.5
KWP Kalwaria Pacla 156.47 326 *e*PKP **PKPab 15 27 38.8 -0.3**
KOLS Kolonicke sedl 157.15 325 *e*PKP2 **PKPab 15 27 42.3 +0.2**
KOLS Kolonicke sedl 157.15 325 *e*PKP **PKPab 15 27 42.3 +0.2**
STHS Stebnicka Huta 157.31 327 *e*PKP2 **PKPab 15 27 43.1 +0.3**
STHS Stebnicka Huta 157.31 327 *e*PKP **PKPab 15 27 43.1 +0.3**
NIE Niedzica 157.75 328 *e*PKP **PKPab 15 27 42.2 -2.4**
KSP Ksiaz 158.24 336 *e*PKP **PKPab 15 27 47.0 +0.4**
LANS Liptovska Anna 158.31 329 *e*PKP2 **PKPab 15 27 48.1 +1.0**
LANS Liptovska Anna 158.31 329 *e*PKP **PKPab 15 27 48.1 +1.0**
CHVC Chvalec 158.53 336 *e*PKPAB **PKPab 15 27 48.2 +0.2**
CHVC Chvalec 158.53 336 *e*PKP2 **PKPab 15 27 48.2 +0.2**
UPC Upice 158.62 336 *e*PKPAB **PKPab 15 27 49.0 +0.7**
UPC Upice 158.62 336 *e*PKP2 **PKPab 15 27 49.0 +0.7**
DPC Dobruska-Polom 158.64 335 *e*PKPAB **PKPab 15 27 49.3 +0.8**
DPC Dobruska-Polom 158.64 335 *e*PKP2 **PKPab 15 27 49.3 +0.8**
CLL Collm 158.86 341 *e*PKIKP **PKPdf 15 27 16.0 +2.6**
CLL *i* 15 27 48.7
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 158.86 341 *e*PKPdf **PKPdf 15 27 16.0 +2.6**
CLL *i* PKPab **PKPab 15 27 48.7 -0.6**
comp=Z,14nm,1.1s
CLL *ex* x 15 28 00.0
CLL AMS AMS 16 38 00.0
comp=Z,200nm,21.2s
BRG Berggiesshubel 158.97 339 *i* PKP **PKPab 15 27 50.2 +0.4**
BRG Amp 15 27 50.8
comp=Z,8.6nm,0.9s
BRG Berggiesshubel 158.97 339 P PKPab 15 28 00.6 +11
BRG Amp 15 28 03.8
comp=Z,9.1nm,1.0s
PVCC Panska Ves 159.08 338 *e*PKPAB **PKPab 15 27 51.0 +0.7**
PVCC Panska Ves 159.08 338 *e*PKP2 **PKPab 15 27 51.0 +0.7**
JAVC Velka Javorina 159.31 331 *e*PKP **PKPab 15 27 51.8 +0.4**
VRAC Vranov 159.39 333 *e*PKP **PKPab 15 27 51.8 +0.1**
KRUC Moravsky 159.66 333 *e*PKP **PKPab 15 27 52.1 -0.8**
SMOL Smolenice 159.68 330 *e*PKP2 **PKPab 15 27 54.0 +1.0**
MODS Modra-Piesok 159.85 330 *e*PKP2 **PKPab 15 27 54.7 +0.9**
MODS Modra-Piesok 159.85 330 *e*PKP **PKPab 15 27 54.7 +0.9**
ZVC Zvikov 160.15 337 *e*PKPAB **PKPab 15 27 55.7 +0.7**
KHC Kasperske Hory 160.62 338 *e*PKPAB **PKPab 15 27 57.5 +0.4**
KHC Kasperske Hory 160.62 338 *e*PKP2 **PKPab 15 27 57.5 +0.4**
CKRC Cesky Krumlov 160.63 336 *e*PKPAB **PKPab 15 27 57.7 +0.6**
CKRC Cesky Krumlov 160.63 336 *e*PKP2 **PKPab 15 27 57.7 +0.6**
CONA Conrad Observa 160.79 332 *i* PKP **PKPab 15 27 58.5 +0.6**
comp=Z,10nm,0.9s
RONA Rosalia, Austr 160.79 331 *i* PKP **PKPab 15 27 58.5 +0.6**
comp=Z,8.3nm,0.8s
GERES GERESS Array B 160.82 337 PKPab **PKPab 15 27 56.7 -1.4**
comp=Z,3.2nm,0.7s,baz=17,slow=5.7,SNR=9.8
MOA Molln 161.47 334 *i* PKP **PKPab 15 28 01.3 +0.5**
comp=Z,8.1nm,0.8s
TORD Torodi Ar. Bea 161.59 178 PKP **PKPdf 15 27 17.4 -0.1**
comp=Z,1.6nm,0.9s,baz=355,slow=1.4,SNR=6.8
TORD PKPab **sPKPab 15 28 02.5 +1.8**
comp=Z,3.6nm,0.8s,baz=173,slow=3.2,SNR=7.4
BIOA Bad Ischl, Aus 161.83 335 *i* PKP **PKPab 15 28 02.8 +0.4**
comp=Z,6.5nm,0.8s
SOKA Soboth 162.12 331 *i* PKP **PKPab 15 28 03.6 -0.2**
comp=Z,27nm,1.9s
LESA Schwarzleotal 162.40 337 *i* PKP **PKPab 15 28 05.3 +0.3**
comp=Z,15nm,1.5s
WATA Walderalm 162.83 339 *i* PKP **PKPab 15 28 07.0 0.0**
comp=Z,7.8nm,0.7s
WTTA Wattenberg 162.88 338 *i* PKP **PKPab 15 28 06.9 -0.3**
comp=Z,10nm,0.8s
RETA Reutte 162.94 340 *e*PKP **PKPab 15 28 07.3 0.0**
comp=Z,12nm,1.2s
ABTA Abfaltersbach 163.04 336 *i* PKP **PKPab 15 28 07.5 -0.3**
comp=Z,7.7nm,0.7s
SQTA Sankt Quirin 163.05 339 *i* PKP **PKPab 15 28 08.3 +0.4**
comp=Z,10.0nm,0.7s
DAVA Damuels 163.36 342 *i* PKP **PKPab 15 28 09.2 -0.1**
comp=Z,10nm,1.0s
FETA Feichten 163.37 340 *i* PKP **PKPab 15 28 09.8 +0.5**
comp=Z,9.7nm,1.1s
ESDC Sonseca Array 170.43 31 PKP **PKPdf 15 27 23.7 -0.3**
comp=Z,0.7nm,0.7s,baz=341,slow=2.7,SNR=2.1
ESDC PKPab **PKPab 15 28 39.7 -0.9**
comp=Z,0.9nm,0.7s,baz=328,slow=4.0,SNR=2.5

*IDC **18** 15:07:17.2±1.9, 20°56S×173°48W, h0km, mb3.9/7, mbtmp3.9/8, ML5.1/1, Error ellipse: s-maj=77.2km s-min=31.0km az=180.0*
ISC 18 15:07:17.9±1.6, 20°8S±0°5×173°4W±0°1, h10km, n15, σ0°87/15, mb3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.64**	**289**	Pn	**Pn**	**15 09 22.9**	**-0.2**
	0.7nm,0.3s,baz=134,slow=15,SNR=5.6 6.1nm,0.8s						
RAR	**Rarotonga**	**12.72**	**94**	Pn	**Pn**	**15 10 17.8**	**-1.1**
	2.6nm,0.3s,baz=256,slow=9.4,SNR=10.0						
MJAR	**Matsushiro Arr**	**73.05**	**321**	P	**P**	**15 18 47.0**	**-1.3**
	1.2nm,0.6s,baz=157,slow=6.6,SNR=3.1 1.2nm,0.6s						
PETK	**Petropavlovsk-**	**77.71**	**343**	P	**P**	**15 19 14.0**	**-0.7**
	1.5nm,0.7s,baz=157,slow=5.2,SNR=2.0 1.5nm,0.7s						
NVAR	**Mina Array Bea**	**78.30**	**41**	P	**P**	**15 19 19.1**	**+0.5**
	1.0nm,0.7s,baz=238,slow=8.2,SNR=5.8 1.0nm,0.7s						
KSRS	**Korea Array**	**80.00**	**316**	P	**P**	**15 19 28.2**	**+0.6**
	0.5nm,0.6s,baz=123,slow=7.2,SNR=2.0 0.5nm,0.6s						
TXAR	**Lajitas Array**	**83.59**	**56**	P	**P**	**15 19 48.7**	**+1.9**
	0.7nm,0.8s,baz=227,slow=6.6,SNR=5.2 0.7nm,0.8s						
PDAR	**Pinedale Array**	**86.23**	**41**	P	**P**	**15 20 00.9**	**+0.9**
	0.6nm,0.8s,baz=260,slow=6.9,SNR=4.4 0.6nm,0.8s						
ILAR	**Eielson Array**	**87.66**	**11**	P	**P**	**15 20 05.6**	**-0.6**
	0.4nm,0.7s,baz=226,slow=6.1,SNR=9.5 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**117.17**	**317**	PKP	**PKPdf**	**15 26 03.2**	**0.0**
	0.4nm,0.6s,baz=97,slow=1.7,SNR=5.6						
BVAR	**Borovoye Array**	**122.05**	**320**	PKP	**PKPdf**	**15 26 12.8**	**+0.2**
	1.5nm,0.6s,baz=66,slow=0.7,SNR=11						
ARCES	**ARCESS Array B**	**129.88**	**351**	PKP	**PKPdf**	**15 26 27.6**	**+0.5**
	2.7nm,0.8s,baz=28,slow=2.9,SNR=5.0						
AKASG	**Malin Array Be**	**145.21**	**335**	PKPbc	**PKPbc**	**15 26 55.0**	**-0.3**
	2.4nm,0.5s,baz=41,slow=4.1,SNR=18						
BRTR	**Keskin Array B**	**150.14**	**315**	PKPbc	**PKPbc**	**15 27 09.4**	**0.0**
	1.2nm,0.7s,baz=113,slow=4.2,SNR=4.5						
BRTR	**Keskin Array B**	**150.14**	**315**	PKIKP	**PKPbc**	**15 27 09.5**	**0.0**

*JSO **18** 15:08:47, 33°21N×36°10E, h11km, ML2.0/19, Mw2.1/19*
*GII **18** 15:08:47.4±0.0, 33°21N±0°01×36°141E±0°003, h8km, Mws2.1/5, confirmed*
*GRAL **18** 15:08:48.3±0.3, 33°19N×36°18E, h0km±5km, MD2.9*
ISC 18 15:08:47.8±1.1, 33°21N±0°02×36°14E±0°04, h15km±9km, n44, σ0°61/49, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI	**Neve Ativ**	**0.34**	**279**	P	**Pb**	**15 08 55.0**	**-0.5**
NATI	**Neve Ativ**	**0.34**	**279**	S	**Sb**	**15 09 00.3**	**-0.4**
NATI	**Neve Ativ**	**0.34**	**279**	P	**Pb**	**15 08 55.0**	**-0.5**
KSHT	**Keshet**	**0.35**	**231**	P	**Pb**	**15 08 55.7**	**-0.2**
KSHT	**Keshet**	**0.35**	**231**	S	**Sb**	**15 09 01.3**	**+0.1**
SHBL	**Chebaa**	**0.36**	**293**	*e*P	**Pb**	**15 08 55.5**	**-0.5**
SHBL				*e*S	**Sg**	**15 09 00.7**	**+0.4**
RCY	**Rachaya**	**0.38**	**319**	*e*P	**Pg**	**15 08 55.8**	**+0.1**
RCY				*e*S	**Sg**	**15 09 01.4**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.40**	**271**	P	**Pg**	**15 08 55.9**	**0.0**
GEM	**Giv'at Ha'Em**	**0.40**	**271**	P	**Pg**	**15 08 55.8**	**-0.1**
GEM				S	**Sb**	**15 09 02.1**	**-0.3**
QRWL	**Qaraoun**	**0.51**	**312**	*e*P	**Pg**	**15 08 58.0**	**0.0**
QRWL				*e*S	**Sb**	**15 09 05.3**	**-0.5**
SHMJ	**Saham**	**0.57**	**213**	P	**Pg**	**15 08 59.1**	**0.0**
SHMJ				S	**Sb**	**15 09 08.3**	**+0.8**
MMB1	**Mount Meron ar**	**0.64**	**253**	P	**Pg**	**15 09 00.2**	**-0.2**
MMC1	**Mount Meron ar**	**0.64**	**254**	P	**Pg**	**15 09 00.3**	**-0.1**
MMA0B	**Mount Meron ar**	**0.65**	**253**	P	**Pg**	**15 09 00.3**	**-0.2**
MMA0B	**Mount Meron ar**	**0.65**	**253**	S	**Sb**	**15 09 10.3**	**+0.7**
MMC7	**Mount Meron ar**	**0.65**	**254**	P	**Pg**	**15 09 00.4**	**-0.2**
ZAHL	**Zahle**	**0.68**	**342**	*e*P	**Pg**	**15 09 01.0**	**-0.2**
DQRL	**Deir Qamar**	**0.69**	**316**	*e*P	**Pg**	**15 09 01.2**	**-0.1**
BHL	**Bhannes**	**0.80**	**330**	*e*P	**Pb**	**15 09 03.4**	**-0.1**
HNTI	**Hanita**	**0.82**	**262**	P	**Pg**	**15 09 03.2**	**-0.5**
HNTI	**Hanita**	**0.82**	**262**	S	**Sb**	**15 09 15.4**	**+0.9**
HNTI	**Hanita**	**0.82**	**262**	P	**Pg**	**15 09 03.2**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.93**	**240**	P	**Pg**	**15 09 05.1**	**-0.6**
BLGI	**Bet Lehem HaGe**	**0.93**	**240**	S	**Sb**	**15 09 18.1**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.93**	**240**	P	**Pb**	**15 09 06.0**	**+0.5**
MMLI	**Mount Malkishu**	**0.98**	**218**	P	**Pg**	**15 09 05.9**	**-0.8**
MMLI	**Mount Malkishu**	**0.98**	**218**	S	**Sb**	**15 09 19.9**	**+0.7**
MMLI	**Mount Malkishu**	**0.98**	**218**	P	**Pg**	**15 09 05.9**	**-0.8**
QRNJ	**Al-Qirein**	**0.99**	**209**	P	**Pg**	**15 09 05.9**	**-1.1**
FKH	**Fakeheh**	**1.06**	**12**	*e*P	**Pg**	**15 09 07.4**	**-1.0**
HWQ	**Hawqa**	**1.08**	**352**	*e*P	**Pg**	**15 09 08.1**	**-0.6**
HMDT	**Nahal Hemdat**	**1.08**	**209**	P	**Pg**	**15 09 07.6**	**-1.1**
HMDT	**Nahal Hemdat**	**1.08**	**209**	S	**Sb**	**15 09 23.1**	**+1.0**
HMDT	**Nahal Hemdat**	**1.08**	**209**	P	**Pg**	**15 09 07.7**	**-1.0**
HSUJ	**Al Zarqa**	**1.10**	**178**	P	**Pb**	**15 09 08.9**	**+0.4**
OFRI	**`Ofer**	**1.13**	**239**	P	**Pg**	**15 09 08.4**	**-1.2**
OFRI	**`Ofer**	**1.13**	**239**	S	**Sg**	**15 09 23.9**	**-0.6**
OFRI	**`Ofer**	**1.13**	**239**	P	**Pg**	**15 09 08.5**	**-1.2**
ASF	**Jabal al Asfar**	**1.22**	**148**	P	**Pb**	**15 09 10.6**	**+0.1**
BEIL	**Beino**	**1.33**	**2**	*e*P	**Pn**	**15 09 12.2**	**+0.3**
SLTI	**Sal'it**	**1.34**	**224**	P	**Pn**	**15 09 11.7**	**-0.2**
SLTI	**Sal'it**	**1.34**	**224**	S	**Sn**	**15 09 30.3**	**+0.9**
SALP	**Salfit**	**1.39**	**215**	P	**Pn**	**15 09 12.5**	**-0.1**
DSI	**Dead Sea**	**1.75**	**202**	P	**Pn**	**15 09 17.6**	**0.0**

IDC 18 15:14:37.4±2.7, 31°77S×177°40W, h0km, mb4.1/3, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=67.0km s-min=36.0km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.88**	**213**	Pn	Pn	15 16 32.5	-0.8
	0.3nm,0.3s,baz=70,slow=16,SNR=1.5						
URZ				Sn	Sn	15 18 02.2	-0.9
	0.5nm,0.3s,baz=210,slow=6.2,SNR=3.8 7.1nm,0.8s						
STKA	**Stephens Creek**	**34.69**	**259**	P	P	15 21 29.9	+0.9
	1.5nm,0.7s,baz=106,slow=7.4,SNR=2.5 1.5nm,0.7s						
ASAR	**Alice Springs**	**43.56**	**268**	P	P	15 22 43.2	-0.1
	1.2nm,0.6s,baz=104,slow=7.4,SNR=11						
ASAR				PcP	PcP	15 24 30.9	-0.2
	0.4nm,0.9s,baz=112,slow=3.2,SNR=2.1 1.2nm,0.6s						
WRA	**Warramunga Arr**	**44.67**	**273**	P	P	15 22 51.8	-0.4
	2.3nm,0.6s,baz=113,slow=7.8,SNR=14 2.3nm,0.6s						
FINES	**FINESS Array B**	**146.61**	**340**	PKPbc	PKPdf	15 34 19.2	+0.6
	3.2nm,0.8s,baz=46,slow=4.0,SNR=6.4						

*IDC **18** 15:27:12.2±3.0, 32°43S×177°14W, h0km, mb4.1/3, mbtmp4.2/4, ML4.2/1, Error ellipse: s-maj=73.7km s-min=35.6km az=125.0*
*WEL **18** 15:28:49.7±0.5, 38°S±3°×17°7E±°, h5km, M2.4/16, ML2.6/17, MLv2.4/16, Error ellipse: s-maj=4.4km s-min=3.3km az=2.4, confirmed*
ISC 18 15:27:17.9±2.6, 32°1S±0°1×178°0W±0°4, h10km, n26, σ2°95/22, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**6.61**	**208**	P	Pb	15 29 03.2	-10
HAZ	**Te Kaha**	**6.64**	**210**	P	**Pn**	**15 28 58.2**	**+2.8**
HAZ				S		15 29 04.8	
WSRZ	**White Island S**	**6.72**	**215**	P	**Pn**	**15 28 53.9**	**-2.7**
WIZ	**White Island**	**6.72**	**215**	P	**Pn**	**15 28 53.5**	**-3.1**
RUGZ	**Raukumara Rang**	**6.86**	**210**	P	**Pn**	**15 28 58.3**	**-0.4**
RUGZ				S		15 29 04.8	
TWGZ	**Tauwhareparae**	**6.92**	**207**	P	Pn	15 29 05.0	+5.6
WHRZ	**Whale Island**	**7.09**	**214**	P	Pn	15 28 55.6	-6.0
TKGZ	**Te Karaka**	**7.20**	**207**	P	Pn	15 29 07.6	+4.5
MWZ	**Matawai**	**7.23**	**209**	P	**Pn**	**15 29 02.7**	**-1.0**
OPRZ	**Ohinepanea**	**7.28**	**216**	P	**Pn**	**15 29 00.6**	**-3.7**
OPRZ				S		15 29 08.8	
MARZ	**Manawahe**	**7.33**	**215**	P	**Pn**	**15 29 00.8**	**-4.2**
URZ	**Urewera**	**7.35**	**212**	Pn	**Pn**	**15 29 00.6**	**-4.7**
	3.9nm,0.3s,baz=347,slow=3.8,SNR=51						
URZ				Sn	**Sn**	**15 30 30.0**	**+1.3**
	1.7nm,0.3s,baz=21,slow=16,SNR=2.7 14nm,0.3s						
URZ	**Urewera**	**7.35**	**212**	P	**Pn**	**15 29 00.6**	**-4.7**
URZ				S		15 29 08.5	
RAGZ	**Rawiri**	**7.42**	**209**	P	**Pn**	**15 29 05.3**	**-1.0**
RIGZ	**Rimuhau**	**7.46**	**206**	P	Pn	15 29 11.5	+4.7
LIRZ	**Lichensteins R**	**7.49**	**216**	P	**Pn**	**15 29 04.5**	**-2.7**
KARZ	**Kaharoa**	**7.58**	**217**	P	**Pn**	**15 29 05.7**	**-2.7**
MUGZ	**Murupara**	**7.68**	**212**	P	**Pn**	**15 29 05.7**	**-4.1**
SNGZ	**Shannon Statio**	**7.69**	**208**	P	**Pn**	**15 29 10.5**	**+0.6**
RTZ	**Ruatahuna**	**7.70**	**211**	P	**Pn**	**15 29 07.4**	**-2.8**
RAHZ	**Arahi**	**7.91**	**209**	P	**Pn**	**15 29 13.0**	**+0.1**
MTHZ	**Maungataniwha**	**7.96**	**211**	P	**Pn**	**15 29 12.2**	**-1.5**
MTHZ				S		15 29 28.4	
STKA	**Stephens Creek**	**34.14**	**259**	P	**P**	**15 34 05.8**	**+2.6**
	1.4nm,0.7s,baz=97,slow=14,SNR=3.6 1.4nm,0.7s						
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**15 35 19.9**	**+1.8**
	1.5nm,0.6s,baz=105,slow=7.6,SNR=35 1.5nm,0.6s						
WRA	**Warramunga Arr**	**44.19**	**274**	P	**P**	**15 35 28.1**	**+0.8**
	2.1nm,0.5s,baz=111,slow=8.0,SNR=34 2.1nm,0.5s						
FINES	**FINESS Array B**	**146.72**	**339**	PKPbc	**PKPbc**	**15 46 56.2**	**-3.0**
	1.9nm,0.7s,baz=46,slow=4.8,SNR=8.2						

*IDC **18** 15:42:26.8±1.0, 5°95S×149°28E, h0km, mb3.8/6, mbtmp3.9/7, ML2.5/1, Error ellipse: s-maj=53.5km s-min=20.4km az=112.0*
*NEIC **18** 15:42:36.7±1.3, 6°1S±0°2×149°1E±0°2, h60km±9km, mb4.3/15, Error ellipse: s-maj=31.5km s-min=13.2km az=134.0*
ISC 18 15:42:35.4±0.7, 6°0S±0°1×148°9E±0°1, h60km, n25, σ1°62/30, mb4.2/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.74**	**61**	P	**Pn**	**15 43 30.5**	**-0.3**
PMG	**Port Moresby**	**3.76**	**207**	Pn	**Pn**	**15 43 31.6**	**+0.5**
	22nm,0.3s,baz=48,slow=5.5,SNR=64						
PMG				Sn	**Sn**	**15 44 14.6**	**+0.5**
	23nm,0.3s,baz=74,slow=19,SNR=9.3 61nm,0.3s						
COEN	**Coen**	**9.67**	**215**	Pn	**Pn**	**15 44 52.7**	**+0.6**
MTN	**Manton Dam**	**18.77**	**248**	P	**Pn**	**15 46 51.7**	**+0.8**
MTN				IAmb	IAmb	15 47 30.9	
	comp=Z,19nm,1.3s						
EIDS	**Eidsvold**	**19.34**	**174**	P	**Pn**	**15 46 57.5**	**-0.1**
WB0	**Warramunga Arr**	**19.62**	**225**	P	**P**	**15 47 00.5**	**+1.4**
WB0				IAmb	IAmb	15 47 01.5	
	comp=Z,8.6nm,0.7s						
WR0	**Warramunga Arr**	**19.65**	**224**	P	**P**	**15 47 01.0**	**+1.5**
WRAB	**Tennant Creek**	**19.76**	**224**	P	**P**	**15 47 02.1**	**+1.4**
WRAB				IAmb	IAmb	15 47 02.9	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**19.77**	**224**	P	**P**	**15 47 02.3**	**+1.5**
WB2				IAmb	IAmb	15 47 03.0	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**19.77**	**224**	P	**P**	**15 47 02.1**	**+1.2**
	comp=Z,9.8nm,0.7s,baz=52,slow=11,SNR=34						
WRA				S	**S**	**15 50 35.8**	**-4.8**
	comp=Z,1.0nm,1.0s,baz=45,slow=22,SNR=3.4						
WRA				PcP	**PcP**	**15 51 18.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=34,slow=1.8,SNR=4.8 comp=Z,9.8nm,0.7s						
KNRA	**Kununurra**	**21.94**	**242**	P	**P**	**15 47 25.0**	**+0.8**
KNRA				IAmb	IAmb	15 48 02.0	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**22.70**	**218**	P	**P**	**15 47 32.5**	**+0.1**
ASAR	**Alice Springs**	**22.70**	**218**	P	**P**	**15 47 33.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=55,slow=9.5,SNR=26						
ASAR				PcP	**PcP**	**15 51 23.6**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=34,slow=2.5,SNR=5.2						
ASAR				S	**S**	**15 51 32.1**	**-4.4**
	comp=Z,1.1nm,0.9s,baz=31,slow=24,SNR=5.9 comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.66**	**240**	P	**P**	**15 48 01.6**	**+1.7**
BBOO	**Buckleboo**	**29.20**	**203**	P	**P**	**15 48 30.7**	**-0.7**
BBOO				IAmb	IAmb	15 49 02.0	
	comp=Z,14nm,1.1s						
MBWA	**Marble Bar**	**31.99**	**239**	P	**P**	**15 48 57.0**	**+0.8**
PETK	**Petropavlovsk-**	**59.39**	**6**	P	**P**	**15 52 30.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=143,slow=6.9,SNR=6.9 comp=Z,1.0nm,0.7s						
P18K	**Big Mountain,**	**78.71**	**26**	P	**P**	**15 54 32.6**	**+1.4**
MKAR	**Makanchi Array**	**78.72**	**320**	P	**P**	**15 54 30.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=100,slow=6.0,SNR=1.9 comp=Z,0.1nm,0.3s						
QSPA	**South Pole Qui**	**83.93**	**180**	P	**P**	**15 54 58.8**	**-0.1**
QSPA				IAmb	IAmb	15 54 59.6	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**83.93**	**180**	P	**P**	**15 54 58.9**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=354,slow=15,SNR=13 comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**84.78**	**23**	P	**P**	**15 55 02.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=256,slow=5.9,SNR=2.6 comp=Z,0.3nm,0.7s						
J25K	**Salcha River,**	**85.30**	**23**	P	**P**	**15 55 06.0**	**+0.3**
J25K				IAmb	IAmb	15 55 38.4	
	comp=Z,3.6nm,1.4s						
D23K	**Nanushuk River**	**85.42**	**18**	P	**P**	**15 55 07.5**	**+1.4**
D23K				IAmb	IAmb	15 55 43.0	
	comp=Z,4.0nm,1.4s						
K29M	**Barlow Dome**	**88.23**	**25**	P	**P**	**15 55 21.5**	**+1.5**

IDC 18 15:49:21.6±2.4, 6°76S×146°24E, h0km, mb3.1/2, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=57.2km s-min=27.4km az=73.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.78**	**161**	Pn	Pn	15 50 07.7	+0.2
	7.5nm,0.3s,baz=49,slow=23,SNR=17						
PMG				Sn	Sb	15 50 44.4	-2.5
	1.0nm,0.3s,baz=27,slow=9.9,SNR=1.8						
WRA	**Warramunga Arr**	**17.47**	**220**	P	P	15 53 27.6	-0.6
	0.1nm,0.3s,baz=41,slow=12,SNR=6.7 0.9nm,0.6s						
ASAR	**Alice Springs**	**20.57**	**214**	P	P	15 54 01.1	-1.2
	0.3nm,0.4s,baz=50,slow=9.2,SNR=19 0.3nm,0.4s						
MKAR	**Makanchi Array**	**77.60**	**321**	P	P	16 01 20.2	+0.3
	0.2nm,0.7s,baz=134,slow=4.2,SNR=2.2 0.2nm,0.7s						

*ISN **18** 15:50:18.9±0.5, 34°30N×45°66E, h14km±15km, ML2.5*
*TEH **18** 15:50:19.2, 34°33N×45°62E, h10km±63km*
ISC 18 15:50:19.2±1.1, 34°33N±0°04×45°62E±0°04, h14km±12km, n8, σ0°78/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**353**	Pg	**Pg**	**15 50 22.8**	**-0.6**
KGS1				Sg	**Sg**	**15 50 26.7**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.33**	**132**	Pg	**Pb**	**15 50 26.1**	**-0.8**
IDHR	**Dehrash**	**0.73**	**60**	Pg	**Pg**	**15 50 33.5**	**0.0**
IBDR	**Badra**	**1.25**	**168**	*e*Pn	**Pg**	**15 50 43.0**	**-0.2**
IBDR				*e*Sn	**Sg**	**15 51 01.0**	**+1.6**
BHD	**Baghdad**	**1.48**	**225**	*e*Pn	**Pg**	**15 50 47.0**	**-0.6**
BHD				*e*Sn	**Sg**	**15 51 07.0**	**+0.3**
IKRK	**Kirkuk**	**1.50**	**316**	*e*Pg	**Pb**	**15 50 47.0**	**+0.2**
IKRK				*e*Sg	**Sg**	**15 51 08.0**	**+0.6**
SNQR	**Sonqor, Kerman**	**1.74**	**72**	Pg	**Pg**	**15 50 52.3**	**-0.3**
IKFM	**Kafar-mosalman**	**2.02**	**113**	Pn	**Pb**	**15 50 55.6**	**-0.1**

*NEIC **18** 16:16:57.6±1.3, 20°1S±0°1×173°23W±0°08, h10km±1km, mb4.6/24, Error ellipse: s-maj=19.4km s-min=12.7km az=359.0*
*NOU **18** 16:17:03.6, 19°90S×173°01W, h58km, mb4.3/11, Tonga Islands*
*IDC **18** 16:17:09.9±4.7, 20°31S×173°80W, h93km±38km, mb3.7/8, mbtmp4.1/11, MS3.8/13, Error ellipse: s-maj=36.8km s-min=21.9km az=132.0*
ISC 18 16:17:01.2±0.5, 20°09S±0°08×173°06W±0°05, h47km, n65, σ1°82/56, mb4.4/15, MS3.9/11, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.12**	**72**	Pn	**Pn**	**16 17 49.2**	**+1.3**
NIUE	**Niue**	**3.12**	**72**	P	**Pn**	**16 17 49.4**	**+1.5**
NIUE	**Niue**	**3.12**	**72**	S	**Sn**	**16 18 24.7**	**+0.7**
AFI	**Afiamalu**	**6.27**	**11**	Pn	**Pn**	**16 18 29.8**	**-1.4**
AFI	**Afiamalu**	**6.27**	**11**	P	**Pn**	**16 18 31.5**	**+0.3**
AFI	**Afiamalu**	**6.27**	**11**	S	**Sn**	**16 19 39.9**	**-1.7**
DGTI	**Dogotuki**	**7.82**	**298**	P	**Pn**	**16 18 54.2**	**+1.8**
MSVF	**Nonsavu**	**8.74**	**284**	Pn	**Pn**	**16 19 04.8**	**-0.3**
MSVF	**Nonsavu**	**8.74**	**284**	P	**Pn**	**16 19 06.3**	**+1.2**
	8.8nm,0.7s,baz=126,slow=22,SNR=6.8						
MSVF				LR	LR	16 21 58.9	
	comp=Z,847nm,19.2s,baz=119,slow=36						
MSVF	**Nonsavu**	**8.74**	**284**	P	**Pn**	**16 19 07.1**	**+2.0**
RAR	**Rarotonga**	**12.49**	**97**	Pn	**Pn**	**16 19 57.5**	**+1.2**
RAR	**Rarotonga**	**12.49**	**97**	P	**Pn**	**16 19 57.2**	**+0.9**
	19nm,0.6s,baz=264,slow=7.0,SNR=11						
RAR				S	**Sn**	**16 22 08.1**	**-6.0**
	22nm,0.9s,baz=63,slow=16,SNR=1.8						
RAR	**Rarotonga**	**12.49**	**97**	P	**Pn**	**16 19 57.4**	**+1.1**
PINNC	**Pines Island,**	**18.33**	**259**	Pn	**P**	**16 21 07.9**	**-3.8**
PINNC				IAmb	IAmb	16 21 13.1	
	comp=Z,37nm,0.8s						
YATNC	**Mamie plateau,**	**18.81**	**260**	P	**P**	**16 21 17.8**	**+0.8**
DZM	**Mont Dzumac**	**19.23**	**260**	P	**P**	**16 21 20.1**	**-1.5**
DZM				IAmb	IAmb	16 21 23.7	
	comp=Z,26nm,1.3s						
DZM	**Mont Dzumac**	**19.23**	**260**	P	**P**	**16 21 19.6**	**-2.0**
	comp=Z,5.8nm,0.8s,baz=237,slow=21,SNR=6.2						
DZM				LR	LR	16 27 42.7	
	comp=Z,268nm,18.0s,baz=123,slow=34						
DZM	**Mont Dzumac**	**19.23**	**260**	P	**Pn**	**16 21 24.2**	**+1.2**
URZ	**Urewera**	**20.01**	**203**	P	**P**	**16 21 30.1**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=43,slow=2.2,SNR=1.9						
URZ				S	S	16 24 54.0	-18
	comp=Z,7.2nm,1.0s,baz=190,slow=9.3,SNR=3.3						
URZ	**Urewera**	**20.01**	**203**	P	Pn	16 21 34.7	+2.7
BKZ	**Black Stump Fm**	**21.04**	**203**	P	**P**	**16 21 40.9**	**-0.3**
PPT	**Papeete**	**22.36**	**87**	LR	LR	16 29 14.8	
	comp=Z,200nm,18.4s,baz=268,slow=31						
BFZ	**Birch Farm**	**22.47**	**202**	P	**P**	**16 22 00.0**	**+3.6**
TCW	**Tory Channel**	**23.65**	**204**	P	**P**	**16 22 08.9**	**+0.6**
QRZ	**Quartz Range**	**24.05**	**208**	P	**P**	**16 22 12.7**	**+0.8**
QRZ				IAmb	IAmb	16 22 18.8	
	comp=Z,8.5nm,0.7s						
INZ	**Inchbonnie**	**26.07**	**207**		**P**	**16 22 30.6**	**+0.4**
INZ				IAmb	IAmb	16 22 38.7	
	comp=Z,15nm,0.9s						
OXZ	**Oxford**	**26.32**	**205**		**P**	**16 22 33.4**	**+0.8**
OXZ				IAmb	IAmb	16 22 45.0	
	comp=Z,9.6nm,0.7s						
HNR	**Honiara**	**28.13**	**288**	LR	LR	16 32 44.2	
	comp=Z,130nm,18.0s,baz=94,slow=34						
CAN	**Canberra**	**36.61**	**237**	P	**P**	**16 24 02.6**	**-0.5**
TOO	**Toolangi**	**39.91**	**235**	P	**P**	**16 24 30.0**	**-0.7**
TAU	**Tasmania Unive**	**40.22**	**227**	P	**P**	**16 24 34.0**	**+0.8**
STKA	**Stephens Creek**	**42.14**	**244**	P	**P**	**16 24 47.8**	**-1.5**
STKA				IAmb	IAmb	16 24 48.6	
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**42.14**	**244**	P	**P**	**16 24 46.7**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=98,slow=7.9,SNR=8.2						
STKA				LR	LR	16 39 43.0	
	comp=Z,154nm,18.5s,baz=50,slow=33 comp=Z,1.7nm,0.5s						
COEN	**Coen**	**42.20**	**271**	P	**P**	**16 24 48.2**	**-1.7**
BBOO	**Buckleboo**	**46.88**	**244**	P	**P**	**16 25 26.0**	**-1.0**
WR0	**Warramunga Arr**	**49.06**	**261**	P	**P**	**16 25 41.9**	**-2.1**
AS31	**Alice Springs**	**49.12**	**256**	P	**P**	**16 25 43.3**	**-1.2**
ASAR	**Alice Springs**	**49.12**	**256**	P	**P**	**16 25 42.8**	**-1.7**
ASAR	**Alice Springs**	**49.12**	**256**	P	**P**	**16 25 42.5**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.9,SNR=41						
ASAR				PcP	**PcP**	**16 27 09.3**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=92,slow=3.7,SNR=4.5						
ASAR				LR	LR	16 44 55.5	
	comp=Z,84nm,18.7s,baz=96,slow=34 comp=Z,1.1nm,0.5s						
WB0	**Warramunga Arr**	**49.23**	**261**	P	**P**	**16 25 43.8**	**-1.6**
WB0				IAmb	IAmb	16 25 44.4	
	comp=Z,9.6nm,1.4s						
WB2	**Warramunga Arr**	**49.23**	**261**	P	**P**	**16 25 43.5**	**-1.9**
WB2				IAmb	IAmb	16 25 44.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**49.25**	**261**	P	**P**	**16 25 43.5**	**-2.0**
WRA	**Warramunga Arr**	**49.25**	**261**	P	**P**	**16 25 43.0**	**-2.5**
	comp=Z,1.6nm,0.5s,baz=96,slow=5.4,SNR=17 comp=Z,1.6nm,0.5s						
FORT	**Forrest**	**53.71**	**246**	P	**P**	**16 26 17.8**	**-0.9**
MTN	**Manton Dam**	**53.80**	**269**	P	**P**	**16 26 18.3**	**-1.3**
MTN				IAmb	IAmb	16 26 18.7	
	comp=Z,8.9nm,0.9s						
SOEI	**Soe**	**61.13**	**270**

KUR A A 16 32 02.1
2μm,0.3s
SHO Shikotan 1.32 248 *i* P **Pn 16 31 54.7 +0.7**
SHO AMB AMB 16 31 56.5
80nm,0.2s
SHO *i* S **Sn 16 32 08.4 -2.1**
SHO A A 16 32 12.2
550nm,0.2s
SHO A A 16 32 12.2
630nm,0.2s
YUK Yuzh-Kuril'sk 1.94 261 *i* P **Pn 16 32 03.2 +0.7**
YUK AMB AMB 16 32 06.3
360nm,0.2s
YUK *e*S **Sn 16 32 24.0 -1.9**
YUK A A 16 32 29.2
220nm,0.2s
YUK A A 16 32 29.2
650nm,0.2s
NEM2 Nemuro 2 2.25 244 P **Pn 16 32 07.3 +0.5**
NEM2 *e*S **Sn 16 32 31.0 -2.5**
NMR Nemuro--Hokkai 2.26 244 *i* P **Pn 16 32 07.2 +0.3**
NMR *i* S **Sn 16 32 31.0 -2.7**
JRA Rausu 2.49 261 P **Pn 16 32 11.7 +1.8**
JRA *e*S **Sn 16 32 39.5 +0.3**
JNSB Nemuroshibetsu 2.61 258 P **Pn 16 32 13.4 +1.8**
JNSB *e*S **Sn 16 32 42.4 +0.2**
JKHN Kushirohamanak 2.76 243 P **Pn 16 32 14.7 +1.0**
JKHN *e*S **Sn 16 32 44.2 -1.8**
JNK Nakash 2.86 255 P **Pn 16 32 16.7 +1.6**
JNK *e*S **Sn 16 32 47.7 -0.8**
AKK Akkeshi 3.00 244 *i* P **Pn 16 32 17.9 +0.9**
AKK *e*S **Sn 16 32 50.1 -1.8**
JAK Akkeshi 3.10 245 *e*P **Pn 16 32 19.3 +0.8**
JAK *e*S **Sn 16 32 52.6 -1.8**
JTKR Abashiri--Toko 3.34 264 *e*P **Pn 16 32 24.8 +3.1**
JTKR *e*S **Sn 16 33 01.6 +1.2**
JAR Ashorobuto 3.61 254 P **Pn 16 32 27.6 +2.2**
JAR *e*S **Sn 16 33 07.3 +0.4**
JOB Onbets 3.71 248 P **Pn 16 32 28.6 +1.8**
JOB *e*S **Sn 16 33 08.7 -0.8**
JCH Churui 4.15 247 *e*P **Pn 16 32 34.7 +1.9**
JCH *e*S **Sn 16 33 19.1 -1.2**
JKK2 Kamakawa 2 4.19 265 *e*P **Pn 16 32 36.8 +3.4**
JNBK Urakawa-nobuka 4.71 245 *e*P **Pn 16 32 42.4 +2.0**
YSS Yuzhno-Sakhali 4.79 304 *e*P **Pn 16 32 42.7 +1.1**
YSS AMB AMB 16 32 42.9
20nm,0.3s
YSS *e*S **Sn 16 33 32.8 -3.2**
YSS A A 16 33 34.5
10.0nm,0.4s
YSS A A 16 33 34.5
10.0nm,0.4s

IDC 18 16:33:44.3±2.7, 31°.82S×177°.42W, h0km, mb4.1/3, mbtmp4.1/4, ML3.3/1, Error ellipse: s-maj=66.4km s-min=35.8km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.83 213**		Pn	Pn	16 35 38.9	-0.5
URZ	0.4nm,0.3s,baz=82,slow=2.9,SNR=2.2			Sn	Sn	16 37 07.9	-1.0
	1.7nm,0.3s,baz=223,slow=21,SNR=7.9 6.3nm,0.9s						
STKA	**Stephens Creek**	**34.67 259**		P	P	16 40 36.0	+0.3
	1.1nm,0.5s,baz=102,slow=11,SNR=3.6 1.1nm,0.5s						
ASAR	**Alice Springs**	**43.55 268**		P	P	16 41 50.4	+0.3
	1.6nm,0.6s,baz=105,slow=7.5,SNR=43						
ASAR				PcP	PcP	16 43 37.9	0.0
	0.2nm,0.6s,baz=105,slow=3.7,SNR=1.9 1.6nm,0.6s						
WRA	**Warramunga Arr**	**44.66 273**		P	P	16 41 58.5	-0.5
	3.4nm,0.6s,baz=113,slow=7.9,SNR=22 3.4nm,0.6s						
FINES	**FINESS Array B**	**146.65 340**		PKPbc	PKPdf	16 53 26.0	+0.5
	2.5nm,0.8s,baz=40,slow=2.4,SNR=6.5						

IDC 18 16:35:27.9±1.6, 10°.47N×126°.33E, h0km, mb3.4/6, mbtmp3.4/6, MS2.7/1, Error ellipse: s-maj=79.9km s-min=21.4km az=63.0
ISC 18 16:35:33.9±1.8, 10°.4N±0°.3×126°.3E±0°.5, h44km, n13, σ0°.19/6, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**25.75**	**27**	LR	LR	16 52 44.1	
	comp=Z,16nm,18.4s,baz=76,slow=40						
CMAR	**Chiang Mai Arr**	**27.64 290**		P	**P**	**16 41 17.8**	**0.0**
	0.4nm,0.4s,baz=101,slow=9.0,SNR=5.1 0.4nm,0.4s						
WRA	**Warramunga Arr**	**31.21 165**		P	**P**	**16 41 49.5**	**+0.2**
	0.1nm,0.5s,baz=345,slow=8.3,SNR=0.8 0.1nm,0.5s						
ASAR	**Alice Springs**	**34.70 168**		P	**P**	**16 42 19.6**	**-0.2**
	0.2nm,0.5s,baz=343,slow=8.7,SNR=5.2 0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.84**	**74**	T	T	17 25 54.4	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**39.85**	**74**	T	T	17 25 58.8	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**39.85**	**74**	T	T	17 26 07.2	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**40.16**	**72**	T	T	17 26 23.6	
	baz=259,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.17**	**72**	T	T	17 26 22.2	
	baz=259,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	17 26 22.2	
	baz=259,slow=74						
MKAR	**Makanchi Array**	**51.92 323**		P	**P**	**16 44 38.5**	**+0.2**
	0.2nm,0.4s,baz=112,slow=8.3,SNR=5.3 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**54.50 331**		P	**P**	**16 44 57.0**	**-0.1**
	0.3nm,0.3s,baz=131,slow=7.9,SNR=2.1 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**55.96 325**		P	**P**	**16 45 07.6**	**-0.1**
	0.3nm,0.5s,baz=124,slow=6.6,SNR=5.6 0.3nm,0.5s						

IDC 18 16:39:24.7±2.1, 31°.70S×177°.38W, h0km, mb3.5/2, mbtmp3.6/3, ML2.8/1, Error ellipse: s-maj=64.0km s-min=33.5km az=129.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.95 213**		Pn	Pn	16 41 22.3	+0.8
	0.1nm,0.3s,baz=20,slow=15,SNR=1.8						
URZ				Sn	Sn	16 42 50.6	-1.5
	0.4nm,0.3s,baz=174,slow=18,SNR=1.7 7.0nm,1.1s						
ASAR	**Alice Springs**	**43.59 268**		P	P	16 47 30.8	0.0
	0.2nm,0.4s,baz=108,slow=7.6,SNR=7.7						
ASAR				PcP	PcP	16 49 17.9	-0.6
	0.2nm,0.7s,baz=102,slow=3.8,SNR=1.6 0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.69 273**		P	P	16 47 39.5	-0.2
	0.6nm,0.4s,baz=113,slow=7.7,SNR=8.4 0.6nm,0.4s						
FINES	**FINESS Array B**	**146.55 340**		PKPbc	PKPab	16 59 08.4	+0.2
	4.6nm,1.0s,baz=23,slow=4.5,SNR=3.5						
NOA	**NORSAR Array B**	**150.12 352**		PKPbc	PKPbc	16 59 14.8	-1.9
	0.3nm,0.5s,baz=14,slow=9.2,SNR=4.5						

TEH 18 16:41:32.3, 33°.95N×46°.98E, h10km
ISN 18 16:41:33.5±1.4, 33°.95N×47°.10E, h31km±14km, ML2.7
ISC 18 16:41:32.7±1.0, 33°.97N±0°.04×47°.04E±0°.04, h12km, n10, σ0°.98/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.31**	**1**	Pg	**Pg**	**16 41 39.1**	**0.0**
KCHF				Sg	**Sg**	**16 41 44.0**	**+0.6**
IGHG	**Ghaleghazi**	**0.53 313**		Pg	**Pg**	**16 41 42.6**	**-0.5**
IKFM	**Kafar-mosalman**	**0.81 123**		Pg	**Pb**	**16 41 47.9**	**-0.8**
IDHR	**Dehrash**	**0.91 324**		Pg	**Pg**	**16 41 49.5**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.95 279**		Pg	**Pg**	**16 41 50.0**	**-1.0**
IDOB	**Doab**	**0.97 100**		Pg	**Pn**	**16 41 52.6**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.01**	**29**	Pg	**Pn**	**16 41 52.9**	**-0.2**
IBDR	**Badra**	**1.26 228**		*e*Pg	**Pg**	**16 41 57.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**16 42 14.0**	**+0.7**
IBDR				AML	AML	16 42 18.0	
	comp=E,146nm,0.5s						
IBDR				AML	AML	16 42 24.7	
	comp=N,133nm,0.4s						
BHD	**Baghdad**	**2.32 253**		*e*Pn	**Pb**	**16 42 13.0**	**-1.5**
BHD				*e*Sn	**Sn**	**16 42 40.0**	**+0.8**
IKRK	**Kirkuk**	**2.64 304**		*e*Pn	**Pn**	**16 42 16.0**	**+0.8**
IKRK				*e*Sn	**Sn**	**16 42 49.0**	**+1.9**

GCG 18 16:43:29.5±16.0, 14°.86N×94°.55W, h113km±418km, MD4.1
MEX 18 16:43:36.1±1.2, 15°.39N×94°.71W, h18km±999km, MD4.2
ISC 18 16:43:30.8±1.6, 15°.32N±0°.05×94°.68W±0°.02, h16km±12km, n44, σ2°.38/73, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.19**	**39**	*e*P	**Pg**	**16 43 53.7**	**0.0**
CARR				*i* S	**Sb**	**16 44 06.4**	**-1.5**
NILT	**Santiago Nilte**	**1.24**	**3**	*e*P	**Pn**	**16 43 54.3**	**+0.8**
NILT				*i* S	**Sb**	**16 44 08.0**	**-1.6**
HUIG	**Huatulco**	**1.44 288**		*e*P	**Pn**	**16 43 57.6**	**+1.4**
HUIG				*e*S	**Sn**	**16 44 13.2**	**-1.7**
HUIG	**Huatulco**	**1.44 288**		*e*P	**Pn**	**16 43 57.4**	**+1.2**
HUIG				*e*S	**Sn**	**16 44 13.2**	**-1.7**
HUIG	**Huatulco**	**1.44 288**		*e*P		16 43 57.4	
HUIG				*e*S		16 44 13.2	
PCIG		**1.46**	**75**	*i* P	**Pg**	**16 43 58.7**	**-0.3**
PCIG				*e*S	**Sn**	**16 44 15.3**	**0.0**
PANG	**Puerto Angel**	**1.76 282**		*i* P	**Pn**	**16 44 01.8**	**+1.2**
PANG				*i* S	**Sn**	**16 44 21.4**	**-1.2**
CMIG	**Matias Romero**	**1.77 354**		*i* P	**Pn**	**16 44 02.5**	**+1.7**
CMIG				*i* S	**Sn**	**16 44 21.7**	**-1.2**
UXUV	**UXUV**	**2.05**	**14**	*e*P	**Pb**	**16 44 07.3**	**-0.3**
UXUV				*e*S	**Sn**	**16 44 30.6**	**+0.7**
TGIG		**2.09**	**46**	*e*P	**Pb**	**16 44 08.1**	**-0.3**
TGIG				*i* S	**Sn**	**16 44 31.5**	**+0.7**
TGIG		**2.09**	**46**	*e*P	**Pb**	**16 44 08.0**	**-0.3**
TGIG				*e*S	**Sb**	**16 44 34.3**	**+0.3**
TGIG		**2.09**	**46**	*e*P		16 44 08.0	
TGIG				*e*S		16 44 34.3	
TGBT	**Tuxtla Gutierr**	**2.11**	**46**	*i* P	**Pb**	**16 44 08.5**	**-0.1**
TGBT				*i* S	**Sn**	**16 44 32.9**	**+1.6**
PATR	**El Naranjo**	**2.37**	**95**	*e*P	**Pn**	**16 44 11.7**	**+2.5**
PATR				*i* S	**Sn**	**16 44 38.2**	**+0.1**
PAVE	**Pavencul**	**2.42**	**93**	*e*P	**Pb**	**16 44 12.9**	**-1.2**
PAVE				*i* S	**Sn**	**16 44 40.1**	**+0.7**
PEIG	**Puerto Escondi**	**2.47 286**		*e*P	**Pn**	**16 44 12.1**	**+1.8**
PEIG				*e*S	**Sn**	**16 44 37.4**	**-2.8**
OXLC	**Oaxaca**	**2.60 312**		*e*P	**Pn**	**16 44 15.0**	**+2.6**
OXLC				*e*S	**Sn**	**16 44 43.9**	**+0.1**
NEUV	**Arroyo Zacate**	**2.61 336**		*e*P	**Pn**	**16 44 14.2**	**+1.9**
NEUV				*e*S	**Sn**	**16 44 43.1**	**-0.6**
OXBJ	**Oaxaca**	**2.62 312**		*i* P	**Pn**	**16 44 13.6**	**+1.0**
OXBJ				*e*S	**Sn**	**16 44 43.2**	**-0.9**
VHO	**Vista Hermosa**	**2.63 312**		*e*P	**Pb**	**16 44 16.6**	**-1.0**
VHO				*i* S	**Sn**	**16 44 45.1**	**+0.7**
CCIG	**Comitan**	**2.63**	**68**	*e*P	**Pn**	**16 44 14.8**	**+2.0**
CCIG				*i* S	**Sb**	**16 44 47.7**	**-2.1**
CCIG	**Comitan**	**2.63**	**68**	*e*P	**Pb**	**16 44 17.3**	**-0.4**
CCIG				*e*S	**Sb**	**16 44 47.7**	**-2.1**
CCIG	**Comitan**	**2.63**	**68**	*e*P		16 44 17.3	
CCIG				*e*S		16 44 47.7	
TUIG	**Tuzandepetl**	**2.71**	**5**	*e*P	**Pn**	**16 44 16.2**	**+2.5**
HUEH	**Huehuetenango**	**3.07**	**90**	*e*P	**Pn**	**16 44 19.9**	**+1.1**
HUEH				*i* S	**Sn**	**16 44 55.3**	**0.0**
YOIG	**Yosondua**	**3.15 299**		*e*P	**Pn**	**16 44 23.8**	**+3.9**
YOIG				*e*S	**Sn**	**16 44 56.9**	**-0.4**
PMUV	**Sontecomapan**	**3.23 353**		*e*P	**Pn**	**16 44 22.5**	**+1.5**
PMUV				*i* S	**Sn**	**16 44 57.5**	**-1.7**
STG8	**El Palmar, Qui**	**3.34 105**		*e*P		16 44 21.5	
STG8				*e*S		16 44 55.4	
STG0	**El Palmar, Qui**	**3.35 105**		*e*P		16 44 21.8	
STG0				*e*S		16 44 55.7	
PNIG	**Pinotepa**	**3.48 288**		*e*P	**Pn**	**16 44 26.8**	**+2.5**
PNIG				*e*S	**Sn**	**16 45 00.8**	**-4.5**
TXIG	**Tlaxiaco**	**3.53 303**		*e*P	**Pn**	**16 44 29.4**	**+4.1**
TXIG				*e*S	**Sn**	**16 45 06.2**	**-0.6**
TOIG	**Toxpalan**	**3.58 321**		*e*P	**Pb**	**16 44 30.9**	**-2.9**
TOIG				*i* S	**Sn**	**16 45 07.8**	**0.0**
HLIG	**Huajuapan de L**	**3.90 310**		*e*P	**Pn**	**16 44 34.6**	**+4.5**
HLIG				*i* S	**Sn**	**16 45 15.4**	**-0.4**
TPIG	**Tehuac#an**	**4.01 321**		*e*P	Pn	16 44 37.3	+5.6
TPIG				*i* S	**Sn**	**16 45 19.7**	**+1.2**
APG	**El Apazote**	**4.09**	**94**	*e*P	Pn	16 44 09.0	-24
APG				*e*S	Sn	16 44 26.8	-54
APG	**El Apazote**	**4.09**	**94**	*e*P		16 44 09.0	
APG				*e*S		16 44 26.8	
FTIG	**Fresnillo de T**	**4.19 308**		*e*P	Pn	16 44 39.2	+5.0
FTIG				*i* S	**Sn**	**16 45 22.4**	**-0.4**
TLIG	**Tlapa**	**4.34 301**		*e*P	**Pn**	**16 44 36.9**	**+0.7**
TLIG				*i* S	Sn	16 45 19.5	-7.1
CRIG	**Cruz Grande**	**4.50 289**		*e*P	**Pn**	**16 44 41.1**	**+2.8**
CRIG				*i* S	Sn	16 45 22.5	-7.9
JAUV	**Jalcomulco**	**4.50 334**		*e*P	**Pn**	**16 44 39.8**	**+1.4**
JAUV				*i* S	**Sn**	**16 45 26.3**	**-4.2**
SCIG	**Sabancuy**	**4.93**	**42**	*e*P	**Pn**	**16 44 46.9**	**+2.6**
SCIG				*e*S	**Sn**	**16 45 34.4**	**-6.6**
SCIG	**Sabancuy**	**4.93**	**42**	*e*P	**Pn**	**16 44 46.8**	**+2.6**
SCIG	**Sabancuy**	**4.93**	**42**	*e*P		16 44 46.8	
DAIG	**Los Arroyos**	**5.06 290**		*e*P	**Pn**	**16 44 49.4**	**+3.3**
DAIG				*i* S	Sn	16 45 38.0	-6.2
PPM	**Popocatepetl**	**5.30 315**		*e*P	Pn	16 44 56.2	+6.5
PPM				*i* S	**Sn**	**16 45 57.3**	**+6.6**
YAIG	**Yautepec**	**5.47 311**		*e*P	**Pn**	**16 44 56.1**	**+4.2**
YAIG				*e*S	**Sn**	**16 45 52.5**	**-2.1**
PLIG	**Platanillo**	**5.53 304**		*e*P	Pn	16 44 57.4	+4.8
PLIG				*i* S	Sn	16 45 49.9	-6.0
CXUV	**Coxquihui**	**5.56 331**		*e*P	**Pn**	**16 44 55.9**	**+3.0**
CXUV				*i* S	**Sn**	**16 45 57.7**	**+1.1**
CAIG	**El Cayaco**	**5.63 289**		*i* P	**Pn**	**16 44 57.5**	**+3.6**
CAIG				*i* S	Sn	16 45 52.3	-6.0
ARIG	**Puente Sto Nin**	**6.17 299**		*e*P	**Pn**	**16 45 04.2**	**+2.9**
ARIG				*i* S	Sn	16 46 02.7	-8.9
ZIIG	**Zihuatanejo**	**6.89 290**		*i* P	**Pn**	**16 45 15.8**	**+4.7**

IDC 18 16:43:47.5±2.8, 31°.60S×177°.81W, h0km, mb3.8/2, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=67.9km s-min=37.3km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.84 211**		Pn	Pn	16 45 43.0	+0.2
	0.1nm,0.3s,baz=3.4,slow=19,SNR=1.9						
URZ				Sn	Sn	16 47 11.1	-1.1
	0.4nm,0.3s,baz=54,slow=19,SNR=1.7 10nm,1.1s						
ASAR	**Alice Springs**	**43.22 268**		P	P	16 51 50.1	-0.5
	0.5nm,0.6s,baz=108,slow=7.2,SNR=12						
ASAR				PcP	PcP	16 53 39.7	-0.4
	0.2nm,0.9s,baz=109,slow=3.3,SNR=1.5 0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.32 273**		P	P	16 51 59.9	+0.4
	1.1nm,0.5s,baz=112,slow=7.9,SNR=11 1.1nm,0.5s						
FINES	**FINESS Array B**	**146.33 339**		PKPbc	PKPdf	17 03 28.4	+0.3
	2.1nm,0.9s,baz=50,slow=2.2,SNR=4.5						

IDC 18 16:53:42.1±1.1, 31°.41S×177°.72W, h0km, mb4.2/4, mbtmp4.2/5, ML3.3/1, Error ellipse: s-maj=33.6km s-min=31.8km az=106.0
NEIC 18 16:53:46.1±0.3, 31°.68S±0°.09×177°.9W±0°.2, h10km±2km, mb4.4/7, Error ellipse: s-maj=27.8km s-min=14.4km az=82.0
ISC 18 16:53:44.0±1.1, 31°.58S±0°.08×177°.9W±0°.2, h10km, n35, σ1°.28/45, mb4.4/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.31 359**		P	Pn	16 54 19.7	-2.4
GLKZ				S	**Sn**	**16 54 49.6**	**-1.0**
WMGZ	**Waiomatatini S**	**6.94 205**		P	**Pn**	**16 55 27.0**	**+1.3**
WMGZ				S	**Sn**	**16 56 45.2**	**+0.6**
PKGZ	**Pakihiroa**	**7.10 207**		P	**Pn**	**16 55 27.6**	**-0.4**
PKGZ				S	**Sn**	**16 56 48.8**	**+0.1**
HAZ	**Te Kaha**	**7.13 209**		P	**Pn**	**16 55 27.9**	**-0.4**
HAZ				S	**Sn**	**16 56 51.1**	**+1.8**
PUZ	**Puketiti**	**7.22 205**		P	**Pn**	**16 55 27.3**	**-2.2**
PUZ				S	**Sn**	**16 56 51.0**	**-0.6**
RUGZ	**Raukumara Rang**	**7.35 209**		P	**Pn**	**16 55 29.2**	**-2.3**
RUGZ				S	**Sn**	**16 56 54.2**	**-0.8**
TWGZ	**Tauwhareparae**	**7.41 206**		S	**Sn**	**16 56 57.7**	**+1.3**
TKGZ	**Te Karaka**	**7.69 206**		P	**Pn**	**16 55 33.5**	**-2.5**
TKGZ				S	**Sn**	**16 57 03.2**	**0.0**
MWZ	**Matawai**	**7.72 208**		P	**Pn**	**16 55 33.4**	**-3.2**
MWZ				S	**Sn**	**16 57 04.4**	**+0.3**
URZ	**Urewera**	**7.83 210**		Pn	**Pn**	**16 55 38.9**	**+1.0**
	0.4nm,0.3s,baz=345,slow=4.6,SNR=7.0						
URZ				Sn	**Sn**	**16 57 03.8**	**-2.9**
	2.1nm,0.3s,baz=20,slow=21,SNR=8.4 3.7nm,0.6s						
URZ	**Urewera**	**7.83 210**		P	**Pn**	**16 55 36.8**	**-1.2**
URZ				S	**Sn**	**16 57 05.0**	**-1.8**
RAGZ	**Rawiri**	**7.91 208**		S	**Sn**	**16 57 07.7**	**-0.9**
RIGZ	**Rimuhau**	**7.96 206**		S	**Sn**	**16 57 10.0**	**+0.1**
OUZ	**Omahuta**	**8.01 241**		P	Pn	16 55 47.6	+7.2
MUGZ	**Murupara**	**8.16 211**		S	**Sn**	**16 57 14.7**	**-0.2**
SNGZ	**Shannon Statio**	**8.19 207**		P	**Pn**	**16 55 41.3**	**-1.5**
SNGZ				S	**Sn**	**16 57 13.8**	**-1.6**
RTZ	**Ruatahuna**	**8.19 210**		Pn	**Pn**	**16 55 43.0**	**0.0**
STKA	**Stephens Creek**	**34.35 259**		P	**P**	**17 00 32.1**	**+1.1**
	2.0nm,0.6s,baz=117,slow=9.9,SNR=4.4 2.0nm,0.6s						
BBOO	**Buckleboo**	**38.78 256**		P	**P**	**17 01 09.6**	**+0.8**
AS31	**Alice Springs**	**43.18 268**		P	**P**	**17 01 45.9**	**+0.7**
AS31				IAmb	IAmb	17 01 47.7	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**43.18 268**		P	**P**	**17 01 45.9**	**+0.7**
ASAR	**Alice Springs**	**43.18 268**		P	**P**	**17 01 46.0**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=105,slow=7.6,SNR=46						
ASAR				PcP	**PcP**	**17 03 33.7**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=111,slow=3.5,SNR=2.2 comp=Z,2.7nm,0.7s						
WR0	**Warramunga Arr**	**44.10 273**		P	**P**	**17 01 53.3**	**+0.7**
WR0				IAmb	IAmb	17 01 54.7	
	comp=Z,5.6nm,0.9s						
WB2	**Warramunga Arr**	**44.26 273**		P	**P**	**17 01 54.8**	**+0.8**
WB2				IAmb	IAmb	17 01 55.6	
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**44.27 273**		P	**P**	**17 01 54.8**	**+0.8**
WRAB				IAmb	IAmb	17 01 55.5	
	comp=Z,5.8nm,0.7s						
WRA	**Warramunga Arr**	**44.27 273**		P	**P**	**17 01 55.0**	**+0.9**
WRA	**Warramunga Arr**	**44.27 273**		P	**P**	**17 01 54.6**	**+0.5**
	comp=Z,6.5nm,0.7s,baz=114,slow=7.6,SNR=23 comp=Z,6.5nm,0.7s						
QSPA	**South Pole Qui**	**58.53 180**		P	**P**	**17 03 42.0**	**+1.5**
QSPA				IAmb	IAmb	17 04 09.3	
	comp=Z,4.9nm,1.0s						
QSPA	**South Pole Qui**	**58.53 180**		P	**P**	**17 03 41.8**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=52,slow=2.4,SNR=7.9 comp=Z,1.8nm,0.9s						
KURBB	**Kurchatov Arra**	**121.99 313**		PKP	**PKPdf**	**17 12 37.5**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=89,slow=1.6,SNR=4.1						
KBZ	**Khabaz**	**145.86 303**		PKPbc	**PKPdf**	**17 13 22.5**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=121,slow=5.6,SNR=3.6						
FINES	**FINESS Array B**	**146.29 339**		PKPbc	**PKPdf**	**17 13 22.7**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=50,slow=4.2,SNR=14						
MMAI	**Mount Meron Ar**	**151.91 282**		PKPbc	**PKPbc**	**17 13 39.9**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=92,slow=4.8,SNR=2.7						
AKASG	**Malin Array Be**	**152.31 321**		PKPbc	**PKPbc**	**17 13 39.1**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=64,slow=1.0,SNR=6.5						
BRTR	**Keskin Array B**	**153.25 296**		PKPbc	**PKPbc**	**17 13 42.1**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=11,slow=1.5,SNR=3.9						

NDI 18 16:54:28.8, 21°.90N×94°.38E, h21km, mb4.6, ML4.6, mb4.6(NEIC)
BKK 18 16:54:30.6±0.4, 22°N±5°×94°.5E±°, h78km, M4.5/25, mb4.9/17, mB4.9/15, Mjma4.5/25, ML5.2/11, MLv5.0/17, Mw(mB)4.2/17, MwMwp3.1/1, Mwp3.8/1
NEIC 18 16:54:30.6±1.9, 21°.94N±0°.06×94°.47E±0°.07, h100km±7km, mb4.6/50, Error ellipse: s-maj=10.9km s-min=7.5km az=223.0
IDC 18 16:54:30.4±1.2, 21°.90N×94°.54E, h104km±10km, mb4.1/28, mbtmp4.4/31, MS3.5/14, Error ellipse: s-maj=16.6km s-min=9.1km az=54.0
BJI 18 16:54:30.3, 22°.03N×94°.36E, h111km, mB4.8/25, mb4.7/55
ISC 18 16:54:30.2±0.5, 21°.91N±0°.04×94°.38E±0°.04, h104km±4km, h104km:pP-P, n254, σ1°.98/287, mb4.6/91, 17C-6D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**2.40 320**		*e*P	**Pn**	**16 55 08.8**	**+0.6**
AZL				*e*S	**Sn**	**16 55 37.8**	**+0.5**
AZL				IAML		16 55 43.1	
	comp=N,2μm,0.3s						
AZL				IAML		16 55 44.4	
	comp=E,2μm,0.3s						
BRDH	**Bariadhala**	**2.65 287**		P	**Pn**	**16 55 12.2**	**+0.9**
	comp=E,921nm,0.3s,baz=95,slow=8.8,SNR=66						
BRDH				S	**Sn**	**16 55 43.9**	**+0.9**
	comp=E,1μm,0.2s,baz=33,slow=23,SNR=31						
BRDH				LR	LR	16 56 44.0	
	comp=E,602nm,21.5s,baz=36,slow=48						
IMP	**Imphal**	**2.94 352**		*e*P	**Pn**	**16 55 17.4**	**+2.1**
IMP				*e*S	**Sn**	**16 55 48.7**	**-1.2**
AGT	**Agartala**	**3.49 305**		*e*P	**Pn**	**16 55 23.0**	**+0.5**
AGT				*e*S	**Sn**	**16 56 01.5**	**-1.5**
AGT				*e*S		16 56 01.9	
AGT				IAML		16 56 06.4	
	comp=N,3μm,0.6s						
AGT				IAML		16 56 06.5	
	comp=E,6μm,0.3s						
KOHI	**KOHIMA**	**3.80 356**		*e*P	**Pn**	**16 55 28.5**	**+1.6**
KOHI				*e*S	**Sn**	**16 56 09.6**	**-1.3**
KOHI				IAML		16 56 23.0	
	comp=N,617nm,0.7s						
KOHI				IAML		16 56 26.2	
	comp=E,1μm,0.6s						
SHL	**Shillong**	**4.30 328**		Pn	**Pn**	**16 55 33.5**	**-0.1**
SHL	**Shillong**	**4.30 328**		*e*P	**Pn**	**16 55 33.6**	**-0.1**
SHL				*e*S	**Sn**	**16 56 19.1**	**-3.8**
SHL				IAML		16 56 23.7	
	comp=E,2μm,0.2s						
SHL				IAML		16 56 27.2	
	comp=E,3μm,0.4s						
TNCH	**TengChong**	**4.91**	**50**	P	**Pn**	**16 55 43.1**	**+1.2**
TNCH				S	**Sn**	**16 56 35.9**	**-1.

comp=N,3μm,0.4s
TAWA Tawang 6.10 339 eP Pn 16 55 58.2 0.0
TAWA eS Sn 16 57 01.3 -5.6
TAWA IAML 16 57 08.6
comp=E,3μm,0.2s
TAWA IAML 16 57 10.0
comp=N,2μm,0.2s
NANT Nan 6.69 116 P Pn 16 56 04.8 -1.1
PHIT Phitsanulok 7.38 128 P Pn 16 56 14.7 -0.6
GTK Tadong 7.52 317 eP Pn 16 56 15.6 -1.8
GTK eS Sn 16 57 37.0 -4.1
GTK IAML 16 57 45.4
comp=N,612nm,0.5s
GTK IAML 16 57 46.2
comp=E,513nm,0.5s
UTHA Uthaitani 7.93 142 P Pn 16 56 22.8 0.0
BOK Bokaro 8.05 285 eP Pn 16 56 23.9 -0.5
BOK eS Sn 16 57 49.5 -4.4
BOK IAML 16 57 56.4
comp=E,171nm,0.2s
BOK IAML 16 58 01.3
comp=E,647nm,0.8s
KHLT Khaolaem Dam 8.12 150 P Pn 16 56 25.7 +0.3
PZH PanZhiHua 8.13 54 P Pn 16 56 29.8 +4.2
PZH S **Sn 16 58 01.0 +5.1**
PZH pmax pmax
comp=E,70nm,1.1s
PZH pmax pmax
comp=E,140nm,4.8s
PZH LR LR
comp=E,520nm,7.7s
PZH LR LR
comp=E,390nm,9.0s
PZH LR LR
comp=E,310nm,8.0s
LSA Lhasa 8.29 340 Pn 16 56 27.9 -0.1
KMI Kunming 8.31 66 ⇑P Pn 16 56 31.8 +3.6
KMI S **Sn 16 58 00.8 +0.3**
KMI pmax pmax
comp=E,47nm,1.2s
KMI pmax pmax
comp=E,170nm,3.3s
KMI smax smax
comp=E,66nm,1.5s
KMI smax smax
comp=E,63nm,1.2s
KMI LR LR
comp=E,1μm,7.5s
KMI LR LR
comp=E,590nm,6.8s
KMI LR LR
comp=E,300nm,10.0s
KNTI KHUNTI 8.48 279 eP Pn 16 56 31.0 +0.6
KNTI eS **Sn 16 57 58.6 -5.8**
KNTI IAML 16 58 04.8
comp=E,755nm,0.2s
KNTI IAML 16 58 05.2
comp=N,693nm,0.2s
DGPR DIGLIPUR 8.79 189 eP Pn 16 56 32.8 -1.7
SLVN Son La 8.88 92 Pn 16 56 34.9 -0.9
NONG Nongkai 9.09 113 P Pn 16 56 38.5 0.0
comp=N,1.4nmcomp=N,82nm,0.9s
CHAI Chaiyaphum 9.36 128 P Pn 16 56 43.3 +1.1
JHSG JHARSUGUGA 9.85 271 eP Pn 16 56 49.6 +0.7
JHSG eS **Sn 16 58 31.5 -6.2**
NAYO Nakonayok 10.03 138 P Pn 16 56 52.7 +1.4
PBA Port Blair 10.31 189 Pn **Pn 16 56 54.9 -0.3**
PBA Port Blair 10.31 189 eP Pn 16 56 53.5 -1.7
PBA ⇑eS **Sn 16 58 42.5 -6.4**
RAGD RAYAGADA 10.57 257 eP Pn 16 56 59.6 +1.0
RAGD eS Sn 16 58 47.9 -7.2
PANO Nakornpanom 10.75 114 P Pn 16 56 59.8 -1.3
VIS Vishakhapatnam 11.20 250 eP Pn 16 57 06.7 -0.5
VIS eS Sn 16 58 58.0 -12
BLSP Bilaspur 11.36 273 eP Pn 16 57 08.4 -1.0
BLSP eS Sn 16 59 05.0 -9.3
ALBI Allahabad 12.01 289 eP Pn 16 57 19.2 +1.3
ALBI eS Sn 16 59 20.7 -9.3
GYA Guiyang 12.09 66 ⇑P P 16 57 23.9 -3.6
GYA sP Pn 16 57 48.8 +30
GYA S **Sn 16 59 32.6 +0.4**
GYA pmax pmax
comp=N,10.0nm,0.6s
GYA pmax pmax
comp=N,110nm,4.4s
GYA LR LR
comp=N,190nm,7.4s
GYA LR LR
comp=N,300nm,5.5s
GYA LR LR
comp=N,290nm,9.2s
UBPT Khong Chiam 12.41 120 Pn **Pn 16 57 21.4 -1.9**
UBPT Khong Chiam 12.41 120 P Pn 16 57 20.2 -3.1
GOMU GeErMu 14.24 1 P Pn 16 57 43.6 -3.9
GOMU pmax pmax
comp=N,52nm,1.0s
GOMU pmax pmax
comp=N,210nm,5.9s
NGP Nagpur 14.29 270 eP Pn 16 57 49.2 +1.5
NGP eS Sn 17 00 16.6 -8.7
LGTI Lohaghat 14.78 303 eP Pn 16 57 53.5 -0.5
LGTI eS Sn 17 00 26.6 -10
PTH Pithoragarh 14.85 304 eP Pn 16 57 53.0 -2.0
PTH eS Sn 17 00 29.8 -9.2
JHNI Jhansi 14.93 287 eP Pn 16 57 55.9 0.0
JHNI eS Sn 17 00 29.4 -11
HYB Hyderabad 15.56 256 eP Pn 16 58 04.7 +0.8
BHPL Bhopal 15.72 278 eP Pn 16 58 06.1 +0.3
BHPL IAmb IAmb 16 58 10.6
comp=Z,29nm,0.5s
BHPL ex x 17 00 52.2
JOSI Joshimath 15.83 306 eP P 16 58 10.5 +1.4
JOSI eS Sn 17 00 51.3 -11
ENH Enshi 15.91 55 Pn 16 58 07.3 -1.0
ENH IAmb IAmb 16 58 41.3
comp=Z,46nm,1.2s
LZH Lanzhou 16.36 28 eP Pn 16 58 13.0 -0.9
LZH sP sP 16 58 45.3 -2.0
LZH pmax pmax
comp=Z,32nm,1.0s
NDI New Delhi 16.91 297 eS Sn 17 01 12.9 -16
NDI eS S 17 01 13.0 -19
KLP Kalpa 17.29 307 eP Pn 16 58 27.9 +2.5
KLP ex x 17 01 30.3
KUDL Kundal 17.35 295 eP Pn 16 58 29.1 +3.3
KUDL eS Sn 17 01 22.6 -16
XAN Xi'an 17.61 44 ⇑P P 16 58 28.1 -0.5
XAN pmax pmax
comp=Z,49nm,0.8s
SMLA Simla 17.91 304 eP Pn 16 58 36.3 +3.7
SMLA IAmb IAmb 16 58 37.2
comp=Z,26nm,0.8s
SMLA eS S 17 01 38.9 -13
CNSH ChangSha 17.93 66 P Pn 16 58 34.4 +1.6
CNSH S **S 17 01 53.5 +0.9**
CNSH pmax pmax
comp=Z,24nm,1.1s
CNSH LR LR
comp=Z,200nm,8.4s
CNSH LR LR
comp=Z,220nm,8.4s
CNSH LR LR
comp=Z,210nm,8.6s
GTA Gaotai 18.05 14 eP P 16 58 33.4 -0.1
GTA sP sP 16 59 05.8 -0.2
GTA ScP **ScP 17 06 30.6 +1.3**
BHK Bhakra 18.62 304 eP Pn 16 58 46.4 +5.3
BHK eS **S 17 01 58.7 -7.8**
DHRM DHARAMSHALA 19.08 306 eS **S 17 02 08.0 -8.1**
PSI Prapat 19.50 166 P P 16 58 50.2 +0.8
comp=Z,2.8nm,0.4s,baz=347,slow=16,SNR=4.3
RPSI Rantau Prapat 19.60 166 P P 16 58 50.2 -0.2
THN Thein Dam 19.61 306 eS **S 17 02 19.8 -6.2**
PALK Pallekele 19.64 224 S S 17 02 17.5 -10
comp=Z,2.3nm,0.3s,baz=310,slow=7.9,SNR=4.0
PALK LR LR 17 07 08.8
comp=Z,101nm,18.7s,baz=42,slow=38
WHN Wuhan 19.85 60 P Pn 16 58 54.5 -1.0
WHN S **S 17 02 31.3 +0.3**
LYN LuoYang 20.27 48 eP P 16 58 54.3 -3.2
LYN S **S 17 02 31.9 -7.3**
LYN LR LR
comp=Z,330nm,14.5s
LYN LR LR
comp=Z,540nm,15.9s
GSI Gunungsitoli 20.72 171 P P 16 59 01.4 -1.0
GSI IAmb IAmb 16 59 06.8
comp=Z,17nm,0.8s
GSI Gunungsitoli 20.72 171 P P 16 59 00.5 -1.9
comp=Z,20nm,0.6s
NIL Nilore 22.00 307 P P 16 59 17.3 +1.3
NIL IAmb IAmb 16 59 20.2
comp=Z,24nm,0.6s
MYKOM Kota Tinggi 22.02 154 P P 16 59 16.2 -0.2
WMQ Urumqi 22.55 347 eP P 16 59 22.6 +1.0
WMQ pP pP 16 59 39.5 -2.4
WMQ PcP **PcP 17 03 14.1 +2.6**
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,290nm,4.5s
BTO Baotou 22.88 32 eP P 16 59 23.5 -1.5
BTO PP **PnPn 16 59 55.0 -0.4**
BTO S **S 17 03 25.6 -1.2**
BTO pmax pmax
comp=Z,25nm,0.8s
BTO pmax pmax
comp=Z,290nm,4.1s
BTO LR LR
comp=Z,170nm,6.6s
BTO LR LR
comp=Z,220nm,5.3s
BTO LR LR
comp=Z,170nm,6.0s
WUS Wushi 23.10 330 IAmb IAmb 16 59 31.1
comp=Z,36nm,0.7s
HNS HongShan 23.39 44 ⇑P P 16 59 29.3 -0.4
HNS pP **pP 16 59 52.8 +1.9**
HNS sP **sP 17 00 06.8 +3.0**
HNS ScP **ScP 17 06 42.1 +0.1**
HNS pmax pmax
comp=Z,8.0nm,0.8s
HNS LR LR
comp=Z,180nm,9.3s
HNS LR LR
comp=Z,180nm,6.7s
HNS LR LR
comp=Z,120nm,8.2s
KSH Kashi 23.55 322 P P 16 59 32.8 +1.4
KSH pmax pmax
comp=Z,52nm,0.7s
HHC Hu-ho-hao-te 23.83 34 eP P 16 59 34.0 +0.1
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,70nm,3.8s
NJ2 Nanjing 23.99 60 eP P 16 59 35.0 -0.2
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
TARG Taragay, Kyrgy 24.18 329 P P 16 59 40.5 +3.1
TARG IAmb IAmb 16 59 41.8
comp=Z,31nm,0.7s
TIA Tai'an 24.38 49 P P 16 59 39.9 +1.1
TIA pmax pmax
comp=Z,8.0nm,1.1s
SHLS Shalkode 24.56 333 eP P 16 59 40.7 +0.3
comp=Z,24nm,1.1s
UZB Uzynbulak 24.74 332 eP P 16 59 44.0 +1.8
KDJ Kajisay 24.79 328 P P 16 59 45.5 +2.8
KDJ IAmb IAmb 16 59 49.0
comp=Z,51nm,1.1s
YULB Yu-li 24.88 81 P P 16 59 45.5 +2.1
YULB IAmb IAmb 16 59 52.3
comp=Z,18nm,1.1s
SATY Saty 24.94 331 eP P 16 59 45.9 +1.9
comp=Z,42nm,1.2s
ZHN Zhinishke 25.02 332 eP P 16 59 46.4 +1.8
comp=Z,14nm,0.8s
ULHL Ulahol 25.34 327 P P 16 59 50.4 +2.7
SNR=36
KBL Kabul 25.55 305 P P 16 59 51.0 +1.4
KBL IAmb IAmb 16 59 54.7
comp=Z,18nm,0.7s
TNSS Tian-Shan 25.59 329 eP P 16 59 51.8 +1.7
AAA Alma-Ata 25.74 330 eP P 16 59 53.0 +1.9
comp=Z,51nm,1.3s
BJI Beijing 25.89 41 P P 16 59 52.3 0.0
BJI pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 26.16 328 P P 16 59 57.9 +2.8
SNR=20
KBK Karagaybulak 26.30 326 P P 16 59 59.1 +2.8
SNR=11
TDK Taldyqorghan 26.51 334 eP P 16 59 59.8 +1.8
AAK Ala-Archa 26.52 326 P P 17 00 00.2 +2.0
AAK IAmb IAmb 17 00 02.4
comp=Z,27nm,1.2s
AAK Ala-Archa 26.52 326 P P 17 00 00.6 +2.4
comp=Z,7.1nm,0.5s,baz=147,slow=6.2,SNR=26
AAK LR LR 17 13 19.6
comp=Z,102nm,19.0s,baz=78,slow=42
comp=Z,7.1nm,0.5s
AAK Ala-Archa 26.52 326 P P 17 00 01.2 +3.0
SNR=22
AML Almayashu 26.60 324 P P 17 00 01.8 +2.6
SNR=27
ZSN Zaisan 26.61 346 eP P 17 00 00.1 +1.2
comp=Z,25nm,1.3s
MK31 Makanchi Array 26.69 341 IAmb IAmb 17 00 02.3
comp=Z,17nm,0.9s
MKAR Makanchi Array 26.69 341 P P 17 00 01.1 +1.5
comp=Z,13nm,0.6s,baz=156,slow=8.7,SNR=138
MKAR PcP **PcP 17 03 21.0 +0.4**
comp=Z,0.4nm,0.4s,baz=164,slow=3.3,SNR=2.2
MKAR ScP **ScP 17 06 51.2 0.0**
comp=Z,2.9nm,0.9s,baz=163,slow=4.3,SNR=14
comp=Z,13nm,0.6s
GAR Garm 26.72 315 P P 17 00 02.0 +2.0
MAKZ Makanchi 26.80 341 P P 17 00 02.0 +1.5
MAKZ IAmb IAmb 17 00 03.2
comp=Z,13nm,1.1s
EKS2 Erkin-Say 26.91 325 P P 17 00 05.1 +3.4
SNR=13
USP Ospenovka 26.96 327 P P 17 00 04.9 +2.8
SNR=5.9
BTK Batken 26.98 317 IAmb IAmb 17 00 06.1
comp=Z,16nm,1.1s
SGDS Sogindy 27.03 327 eP P 17 00 04.6 +1.9
SIMJ Simiganj 27.41 313 P P 17 00 07.4 +1.2
SIMJ IAmb IAmb 17 00 08.8
comp=Z,9.1nm,0.6s
SONM Songino Array 27.61 18 P P 17 00 08.0 +0.1
comp=Z,0.5nm,0.4s,baz=206,slow=8.0,SNR=4.4
SONM ScP **ScP 17 06 53.7 -0.5**
comp=Z,0.6nm,0.6s,baz=195,slow=4.5,SNR=3.5
comp=Z,0.5nm,0.4s
DZA Taraz 28.41 323 eP P 17 00 17.3 +2.3
BTLS Baital 28.48 329 eP P 17 00 17.5 +2.0
IUG Iuzhnay 28.69 320 eP P 17 00 19.9 +2.3
comp=Z,8.9nm,0.5s
DL2 Dalian 28.82 48 P P 17 00 18.8 +0.3
DL2 pP **pP 17 00 41.6 0.0**
DL2 PcP **PcP 17 03 29.1 +3.3**
DL2 S **S 17 04 56.8 -4.0**
DL2 ScP **ScP 17 06 56.6 -1.3**
DL2 pmax pmax
comp=Z,41nm,1.0s
KK31 Karatay Array 29.00 322 P P 17 00 21.8 +1.6
KKAR Karatay Array 29.00 322 P P 17 00 21.7 +1.5
KKAR Karatay Array 29.00 322 IAmb IAmb 17 00 23.0
comp=Z,6.9nm,1.4s
CHM Chimkent 29.05 320 eP P 17 00 23.0 +2.4
comp=Z,7.0nm,0.5s
BRLS Borolday 29.35 322 eP P 17 00 24.6 +1.4
KURBB Kurchatov Arra 31.24 340 P P 17 00 41.0 +1.2
comp=Z,15nm,0.8s,baz=153,slow=8.3,SNR=102
KURBB PcP **PcP 17 03 32.6 +0.7**
comp=Z,0.8nm,0.4s,baz=158,slow=2.7,SNR=4.2
KURBB ScP **ScP 17 07 06.3 +0.8**
comp=Z,4.7nm,0.8s,baz=156,slow=2.8,SNR=29
KURBB LR LR 17 14 27.5
comp=Z,104nm,19.9s,baz=174,slow=38
comp=Z,15nm,0.8s
KURK Kurchatov 31.29 341 P P 17 00 41.4 +1.1
KURK IAmb IAmb 17 00 43.8
comp=Z,16nm,0.8s
KSRS Korea Array 32.80 54 P P 17 00 53.0 -0.7
comp=Z,0.7nm,0.5s,baz=246,slow=8.5,SNR=4.0
KSRS LR LR 17 16 37.8
comp=Z,48nm,19.2s,baz=290,slow=41
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 32.80 350 P P 17 00 54.1 +0.7
ZALV Zalesovo Beam 32.80 350 P P 17 00 54.6 +1.1
comp=Z,20nm,0.5s,baz=173,slow=8.5,SNR=116
ZALV S **S 17 06 03.8 +1.0**
comp=Z,2.2nm,0.7s,baz=167,slow=13,SNR=6.4
ZALV ScP **ScP 17 07 10.6 -0.2**
comp=Z,0.6nm,0.4s,baz=169,slow=2.9,SNR=2.8
ZALV LR LR 17 16 04.0
comp=Z,75nm,19.2s,baz=257,slow=39
comp=Z,20nm,0.5s
BRZS Berezniki 32.83 334 eP P 17 00 55.4 +1.7
comp=Z,8.9nm,1.0s
CN2 Changchun 33.72 42 eP P 17 01 02.8 +1.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
JNU Nakatsue 34.09 63 LR LR 17 17 28.8
comp=Z,79nm,18.0s,baz=255,slow=41
BVAR Borovoye Array 36.09 335 P P 17 01 22.9 +1.1
comp=Z,6.3nm,0.6s,baz=140,slow=10,SNR=39
BVAR PcP **PcP 17 03 46.8 +1.2**
comp=Z,0.6nm,0.5s,baz=119,slow=1.8,SNR=1.7
BVAR S **S 17 06 54.9 +1.6**
comp=Z,1.5nm,0.9s,baz=145,slow=15,SNR=4.6
BVAR ScP **ScP 17 07 22.5 0.0**
comp=Z,0.9nm,0.6s,baz=142,slow=3.6,SNR=4.6
BVAR LR LR 17 17 49.7
comp=Z,90nm,21.5s,baz=175,slow=39
comp=Z,6.3nm,0.6s
BRVK Borovoye 36.15 335 P P 17 01 23.5 +1.2
BRVK IAmb IAmb 17 01 24.8
comp=Z,8.7nm,0.7s
USRK Ussuriysk Ar. 38.11 45 P P 17 01 38.1 -0.9
comp=Z,2.2nm,0.6s,baz=253,slow=6.3,SNR=5.9
comp=Z,2.2nm,0.6s
ABKAR Akbulak array 38.55 324 P P 17 01 44.5 +1.9
ABKAR Akbulak array 38.55 324 IAmb IAmb 17 01 45.9
comp=Z,19nm,1.0s
AKTO Aktyubinsk 40.23 324 P P 17 01 57.9 +1.3
comp=Z,9.4nm,0.3s,baz=120,slow=4.9,SNR=47
comp=Z,9.4nm,0.3s
ARTI Arti 43.43 332 P P 17 02 23.3 +0.8
ARTI Arti 43.43 332 P P 17 02 23.5 +0.9
comp=Z,17nm,0.4s,baz=132,slow=5.9,SNR=50
comp=Z,17nm,0.4s
RAYN Ar Rayn 44.94 282 P P 17 02 37.0 +1.8
KBZ Khabaz 47.56 310 P P 17 02 56.8 +1.5
comp=Z,1.0nm,0.5s,baz=152,slow=4.3,SNR=6.9
comp=Z,1.0nm,0.5s
NRIK Noril'sk 47.62 357 P P 17 02 55.8 +0.5
NRIK IAmb IAmb 17 02 57.1
comp=Z,15nm,1.1s
NRIK Noril'sk 47.62 357 P P 17 02 55.5 +0.2
comp=Z,6.3nm,0.5s,baz=153,slow=5.9,SNR=29
NRIK LR LR 17 24 11.3
comp=Z,71nm,21.5s,baz=230,slow=37
comp=Z,6.3nm,0.5s
KIV Kislovodsk 47.75 310 P P 17 02 59.4 +2.5
KIV Kislovodsk 47.75 310 ⇑P P 17 02 58.5 +1.6
MARD Mardin 48.45 301 IAmb IAmb 17 03 06.2
comp=Z,13nm,1.2s
MMAI Mount Meron Ar 52.89 295 P P 17 03 37.6 +1.8
comp=Z,0.4nm,0.4s,baz=116,slow=10,SNR=1.3
MMAI LR LR 17 30 48.2
comp=Z,50nm,18.1s,baz=104,slow=41
comp=Z,0.4nm,0.4s
KHAM Kharkiv 53.14 317 P P 17 03 39.3 +2.0
KHAM pP **pP 17 04 00.8 -1.6**
TIXI Tiksi 53.54 13 P P 17 03 38.6 -1.1
TIXI IAmb IAmb 17 03 39.7
comp=Z,4.6nm,0.8s
EIL Elat 53.57 291 LR LR 17 32 12.4
comp=Z,46nm,18.4s,baz=254,slow=42
KIRS Kirsehir-Merke 53.90 303 ⇑P P 17 03 44.9 +1.9
BR104 Keskin Array S 54.11 304 P P 17 03 46.8 +2.1
comp=Z,2.2nm,1.3s
BRTR Keskin Array B 54.11 304 P P 17 03 45.8 +1.2
comp=Z,0.8nm,0.6s,baz=90,slow=4.9,SNR=5.8
comp=Z,0.8nm,0.6s
BR106 Keskin Array S 54.13 304 P P 17 03 45.5 +0.7
comp=Z,1.9nm,1.0s
PLTM Poltava 54.17 316 P P 17 03 46.0 +1.2
MA2 Magadan 54.48 31 P P 17 03 45.9 -0.9
MA2 IAmb IAmb 17 03 46.7
comp=Z,4.0nm,0.7s
MA2 Magadan 54.48 31 P P 17 03 46.1 -0.8
comp=Z,7.3nm,1.7s
WB0 Warramunga Arr 56.97 134 P P 17 04 04.8 -0.3
WB0 IAmb IAmb 17 04 06.0
comp=Z,9.6nm,1.2s
WRA Warramunga Arr 57.05 134 P P 17 04 05.1 -0.7
comp=Z,2.3nm,0.5s,baz=320,slow=7.5,SNR=28
comp=Z,2.3nm,0.5s
WB2 Warramunga Arr 57.06 134 P P 17 04 05.5 -0.3
WB2 IAmb IAmb 17 04 10.6
comp=Z,9.7nm,1.2s
WR0 Warramunga Arr 57.20 134 IAmb IAmb 17 04 07.8
comp=Z,4.2nm,0.6s
BAL3X Bal3x, Balta 57.27 314 P P 17 04 09.5 +2.6
AK09 Malin Array Si 57.65 317 P P 17 04 09.9 +0.4
AK08 Malin Array Si 57.67 317 P P 17 04 09.9 +0.2
AK10 Malin Array Si 57.67 317 P P 17 04 10.0 +0.3
AKASG Malin Array Be 57.69 317 P P 17 04 10.1 +0.3
comp=Z,3.2nm,0.4s,baz=83,slow=6.7,SNR=70
comp=Z,3.2nm,0.4s
AK07 Malin Array Si 57.70 317 P P 17 04 10.3 +0.4
AK01 Malin Array Si 57.70 317 P P 17 04 10.0 +0.1
AK05 Malin Array Si 57.70 317 P P 17 04 10.1 +0.2
AK06 Malin Array Si 57.70 317 P P 17 04 10.1 +0.2
AK02 Malin Array Si 57.70 317 P P 17 04 10.1 +0.2
KIEV Kiev 57.70 317 P P 17 04 10.0 +0.2
KIEV Kiev 57.70 317 ⇑P P 17 04 10.5 +0.6
KIEV Kiev 57.70 317 P P 17 04 10.1 +0.2
comp=Z,67nm,0.7s
AK11 Malin Array Si 57.73 317 P P 17 04 10.2 +0.1
AK12 Malin Array Si 57.73 317 P P 17 04 10.4 +0.3
AK23 Malin Array Si 57.76 317 P P 17 04 10.5 +0.2
AK16 Malin Array Si 57.77 317 P P 17 04 10.5 +0.1
AK18 Malin Array Si 57.80 317 P P 17 04 10.6 +0.1
AK22 Malin Array Si 57.80 317 P P 17 04 10.6 0.0
AK17 Malin Array Si 57.80 317 P P 17 04 10.7 +0.1
AK21 Malin Array Si 57.81 317 P P 17 04 10.8 +0.1
AK21 pP **pP 17 04 35.0 -1.1**
CFR Carcaliu 58.20 310 ⇑P P 17 04 16.0 +2.5
MI28 Mi28,Pidlybu 58.69 317 P P 17 04 17.4 +0.6
MI28 pP **pP 17 04 41.1 -1.1**
VRI Vrincioaia 59.19 311 ⇑P P 17 04 22.1 +1.7
VRI Vrincioaia 59.19 311 P P 17 04 23.0 +2.6
comp=Z,17nm,1.2s
PLOR5 Plostina Array 59.24 311 P P 17 04 22.9 +2.2
comp=Z,34nm,0.9s
TESR Tescani 59.24 312 ⇑P P 17 04 22.6 +1.9
TESR Tescani 59.24 312 P P 17 04 22.3 +1.6
comp=Z,13nm,0.6s
PLOR Plostina 59.25 311 ⇑P P 17 04 23.3 +2.5
ONER Baraj Valea Uz 59.42 312 ⇓P P 17 04 24.0 +2.0
AS31 Alice Springs 59.42 137 P P 17 04 22.6 +0.4
ASAR Alice Springs 59.42 137 P P 17 04 21.9 -0.4
comp=Z,1.8nm,0.5s,baz=320,slow=7.1,SNR=44
ASAR PcP **PcP 17 05 08.5 -0.5**
comp=Z,0.9nm,0.5s,baz=318,slow=6.1,SNR=5.6
comp=Z,1.8nm,0.5s
HORU Horodok 59.42 315 P P 17 04 23.2 +1.3
COVR Voineasa-Covas 59.56 311 ⇑P P 17 04 25.7 +2.7
MLR Muntele Rosu 59.75 311 ⇑P P 17 04 26.6 +2.2
MLR Muntele Rosu 59.75 311 P P 17 04 26.8 +2.4
comp=Z,20nm,1.1s
RNPP5 Staryi Chortor 59.83 317 P P 17 04 25.6 +1.0
RNPP9 Sopachiv 59.84 318 P P 17 04 25.5 +0.8
RNPP8 Varash 59.85 318 P P 17 04 26.3 +1.5
BURAR Bucovina Array 60.22 313 ⇓P P 17 04 28.9 +1.4
BUR08 Bucovina Ar. S 60.23 313 P P 17 04 28.4 +0.8
BUR08 IAmb IAmb 17 04 29.9
comp=Z,2.2nm,0.7s
FINES FINESS Array B 60.64 329 P P 17 04 30.4 +0.5
comp=Z,1.2nm,0.5s,baz=90,slow=6.9,SNR=10
comp=Z,1.2nm,0.5s
ARR Arges 60.67 311 ⇓P P 17 04 31.7 +1.1
MARR Marisel-Cluj 61.67 312 ⇑P P 17 04 39.4 +2.0
KWP Kalwaria Pacla 61.85 316 P P 17 04 39.5 +1.1
comp=Z,29nm,1.1s
HERR Herculane 62.27 310 ⇓P P 17 04 43.1 +1.8
ARA0 ARCESS Array S 62.29 338 eP P 17 04 42.0 +1.0
ARCES ARCESS Array B 62.29 338 P P 17 04 41.6 +0.6
comp=Z,1.8nm,0.4s,baz=86,slow=8.1,SNR=37
comp=Z,1.8nm,0.4s

SURR	Surduc	62.41	311	⇑P		P	17 04 44.4 +2.2
MDVR	Moldovita	62.77	310	⇓P		P	17 04 47.0 +2.3
KTK1	Kautokeino	62.99	338	eP		P	17 04 46.5 +0.9
KTK1				IAmb		IAmb	17 04 46.8
	comp=Z,5.8nm,0.3s						
BILL	Biiibino	63.11	24	P		P	17 04 45.8 -0.6
HAMF	Hammerfest	63.12	339	eP		P	17 04 47.7 +1.3
HAMF				IAmb		IAmb	17 04 48.0
	comp=Z,13nm,0.7s						
NIE	Niedzica	63.43	315	P		P	17 04 50.7 +1.8
	comp=Z,5.3nm,1.1s						
NIE				pP		pP	17 05 14.3 -0.4
	comp=Z,5.3nm,1.1s						
JETT	Jettan, Norway	64.06	338	eP		P	17 04 54.0 +1.3
TRO	Tromso	64.58	338	eP		P	17 04 55.9 -0.2
TRO				IAmb		IAmb	17 04 58.7
	comp=Z,12nm,1.1s						
MORH	Mrgy, Hungar	64.80	312	⇑P		P	17 04 59.0 +1.1
MORC	Moravsky Berou	65.19	316	⇓P		P	17 05 01.8 +1.4
FAUS	Fauske	65.79	335	eP		P	17 05 04.2 +0.4
FAUS				IAmb		IAmb	17 05 05.9
	comp=Z,8.9nm,0.9s						
STEI	Steigen	65.82	336	eP		P	17 05 04.7 +0.7
STEI				IAmb		IAmb	17 05 06.0
	comp=Z,25nm,1.3s						
MOR8	Moi Rana	66.11	334	eP		P	17 05 05.5 -0.5
MOR8				IAmb		IAmb	17 05 07.5
	comp=Z,7.6nm,0.6s						
SPA0	Spitsbergen Ar	66.25	347	eP		P	17 05 07.8 +1.1
SPITS	Spitsbergen Ar	66.25	347	P		P	17 05 06.7 0.0
	comp=Z,12nm,0.8s,baz=104,slow=10,SNR=6.7						
	comp=Z,12nm,0.8s						
LOF	Lofoten	66.46	336	eP		P	17 05 08.1 -0.1
VAGH	Vaagaholmen	66.58	335	eP		P	17 05 10.0 +1.1
HFS	Hagfors	66.65	327	P		P	17 05 09.6 +0.1
	comp=Z,6.3nm,0.4s,baz=91,slow=5.8,SNR=43						
	comp=Z,6.3nm,0.4s						
LEIR	Leirfjorden	66.66	334	eP		P	17 05 10.2 +0.8
NC602	NORSAR Array S	67.67	328	eP		P	17 05 16.6 +0.6
NC602				IAmb		IAmb	17 05 17.1
	comp=Z,5.1nm,0.7s						
GERES	GERESS Array B	67.80	315	P		P	17 05 18.0 +0.9
	comp=Z,2.1nm,0.4s,baz=62,slow=7.2,SNR=12						
	comp=Z,2.1nm,0.4s						
NB2	NORSAR Subarra	67.80	329	P		P	17 05 16.6 -0.2
	comp=Z,1.6nm,0.5s,baz=84,slow=6.5						
NB2	NORSAR Subarra	67.80	329	P		P	17 05 16.6 -0.2
	baz=84,slow=6.5						
NOA	NORSAR Array B	67.80	329	P		P	17 05 16.8 0.0
	comp=Z,1.7nm,0.5s,baz=86,slow=6.2,SNR=10						
	comp=Z,1.7nm,0.5s						
OSL	Oslo	68.15	327	eP		P	17 05 20.0 +1.1
LESA	Schwarzleotal	68.69	314	iP		P	17 05 23.3 +0.6
	comp=Z,7.6nm,0.4s						
ABTA	Abfaltersbach	68.92	313	iP		P	17 05 25.0 +0.9
	comp=Z,1.4nm,0.5s						
SKAR	Skarslia	69.25	328	eP		P	17 05 27.4 +1.5
SKAR				IAmb		IAmb	17 05 28.2
	comp=Z,12nm,1.1s						
WTTA	Wattenberg	69.42	314	iP		P	17 05 27.5 +0.2
	comp=Z,2.8nm,0.3s						
WATA	Walderalm	69.44	314	iP		P	17 05 28.0 +0.6
	comp=Z,1.6nm,0.4s						
SQTA	Sankt Quirin	69.71	314	iP		P	17 05 29.3 +0.3
	comp=Z,4.2nm,0.4s						
FETA	Feichten	70.07	314	iP		P	17 05 31.5 +0.2
	comp=Z,1.3nm,0.4s						
EKA	Eskdalemuir Ar	76.42	324	P		P	17 06 08.9 +0.6
	comp=Z,1.1nm,0.4s,baz=69,slow=5.7,SNR=13						
	comp=Z,1.1nm,0.4s						
B22K	Teshekpuk Lake	76.69	19	IAmb		IAmb	17 06 52.7
	comp=Z,7.1nm,1.1s						
C23K	Itkillik River	77.77	19	IAmb		IAmb	17 06 17.0
	comp=Z,5.6nm,0.9s						
EUNU	Eureka	78.24	0	P		P	17 06 19.5 +1.5
EUNU				IAmb		IAmb	17 06 20.5
	comp=Z,12nm,1.1s						
ILAR	Eielson Array	81.73	22	P		P	17 06 36.1 -1.0
	comp=Z,0.8nm,0.5s,baz=306,slow=5.9,SNR=15						
	comp=Z,0.8nm,0.5s						
ESDC	Sonseca Array	82.42	310	P		P	17 06 42.0 +0.8
	comp=Z,1.1nm,0.9s,baz=92,slow=9.0,SNR=3.3						
	comp=Z,1.1nm,0.9s						
BOSA	Boshof	83.44	236	P		P	17 06 47.7 +1.1
	comp=Z,1.1nm,0.5s,baz=30,slow=2.1,SNR=2.1						
	comp=Z,1.1nm,0.5s						
INK	Inuvik	83.52	16	P		P	17 06 46.1 -0.1
MDT	Midelt	85.53	303	LR		LR	17 55 22.3
	comp=Z,28nm,20.1s,baz=87,slow=43						
YKA	Yellowknife Ar	92.79	13	P		P	17 07 28.7 -2.0
	comp=Z,0.3nm,0.7s,baz=334,slow=5.8,SNR=4.8						
	comp=Z,0.3nm,0.7s						
DBIC	Dimbokro	96.04	280	LR		LR	17 56 47.4
	comp=Z,30nm,19.2s,baz=143,slow=39						

*IDC **18** 16:56:45.1±3.7, 42°.49N×144°.16E, h0km, mb3.9/7, mbtmp3.7/10, ML2.7/3, MS3.5/3, Error ellipse: s-maj=71.5km s-min=37.9km az=118.0*
*MOS **18** 16:56:56.7±1.4, 42°.25N×143°.22E, h36km, mb4.0/1, Error ellipse: s-maj=16.9km s-min=11.0km az=47.8*
*SKHL **18** 16:56:56.4±0.2, 42°.20N×143°.00E, h63km±2km, mb4.5/4*
*JMA **18** 16:56:57.9±0.1, 42°.4N±0°.4×143°.1E±0°.5, h50km±1km, MV3.5/40, HIDAKA MOUNTAINS REGION*
ISC 18 16:56:57.1±0.8, 42°.30N±0°.06×143°.14E±0°.03, h58km±6km, n44, σ1§35/55, mb3.9/7, MS3.5/3, 1C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	Tokachihiroo	0.12	92	iP		Pn	16 57 05.8 -0.1
JTHR				eS		Sn	16 57 11.8 -0.5
JEM	Erimo	0.28	177	iP		Pn	16 57 07.4 +0.6
JEM				eS		Sn	16 57 14.6 +0.8
JNBK	Urakawa-nobuka	0.29	267	⇓iP		Pn	16 57 06.7 -0.2
JNBK				⇓eS		Sn	16 57 13.5 -0.5
JCH	Churui	0.36	27	iP		Pn	16 57 07.0 -0.5
JCH				eS		Sn	16 57 14.1 -0.9
JSHD	Hidakashinhida	0.51	283	⇓iP		Pn	16 57 09.2 +0.2
JSHD				⇓eS		Sn	16 57 18.0 +0.3
JBT2	Biratori 2	0.75	310	⇓iP		Pn	16 57 11.8 -0.1
JBT2				⇓eS		Sn	16 57 22.5 -0.1
JOB	Onbets	0.80	40	iP		Pn	16 57 13.1 +0.6
JOB				eS		Sn	16 57 24.8 +1.2
JFR	Furan	0.96	335	⇓iP		Pn	16 57 13.1 -1.5
JIAM	Iburiatsuma	0.96	290	P		Pn	16 57 15.9 +1.4
JAR	Ashorobuto	1.10	25	iP		Pn	16 57 16.2 -0.3
JAR				S		Sn	16 57 30.2 -0.6
JAK	Akkeshi	1.35	58	P		Pn	16 57 19.6 -0.1
JAK				eS		Sn	16 57 36.9 +0.4
JEW	Eniwo	1.36	294	⇓P		Pn	16 57 20.6 +0.7
JEW				⇓eS		Sn	16 57 38.5 +1.5
JAB	Ashibetsu	1.38	331	P		Pn	16 57 20.8 +0.6
AKK	Akkeshi	1.45	60	iP		Pn	16 57 20.9 -0.2
AKK				AMB		AMB	16 57 21.5
	60nm,0.3s						
AKK				iS		Sn	16 57 39.1 0.0
AKK				A		A	16 57 40.4
	2μm,0.5s						
AKK				A		A	16 57 40.4
	550nm,0.5s						
NMR	Nemuro--Hokkai	2.19	60	ePN		Pn	16 57 30.1 -1.0
NMR				eS		Sn	16 57 55.7 -1.3
NMR	Nemuro--Hokkai	2.19	60	iP		Pn	16 57 30.2 -0.9
NMR				eS		Sn	16 57 55.7 -1.3
RUSJ	Misakicho	2.38	40	ePN		Pn	16 57 35.5 +1.8
RUSJ				eS		Sn	16 58 04.8 +3.2
YUK	Yuzh-Kuril'sk	2.65	48	PN		Pn	16 57 38.6 +1.3
YUK				eS		Sn	16 58 09.6 +1.4
YUK				pmax	pmax		
	comp=E,28nm,0.1s						
YUK				pmax	pmax		
	comp=Z,79nm,0.1s						
YUK				smax	smax		
	comp=E,232nm,0.3s						
YUK				smax	smax		
	comp=N,129nm,0.4s						
YUK	Yuzh-Kuril'sk	2.65	48	eP		Pn	16 57 38.9 +1.6
YUK				AMB		AMB	16 57 40.6
	comp=N,60nm,0.2s						
YUK				eS		Sn	16 58 09.6 +1.4
YUK				A		A	16 58 13.8
	comp=N,130nm,0.3s						
YUK				A		A	16 58 13.8
	comp=N,230nm,0.3s						

SHO	Shikotan	3.13	59c	iPN		Pn	16 57 44.7 +0.8
SHO				iS		Sn	16 58 19.6 -0.5
SHO				pmax	pmax		
	comp=Z,20nm,0.1s						
SHO				smax	smax		
	comp=E,114nm,0.4s						
SHO				smax	smax		
	comp=N,40nm,0.1s						
SHO	Shikotan	3.13	59	iP		Pn	16 57 44.7 +0.8
SHO				AMB	AMB		16 57 47.0
	comp=N,40nm,0.2s						
SHO				iS		Sn	16 58 19.6 -0.5
SHO				A	A		16 58 22.2
	comp=N,40nm,0.3s						
SHO				A	A		16 58 22.2
	comp=N,110nm,0.3s						
KUR	Kuril'sk	4.51	48	PN		Pn	16 58 05.5 +2.6
KUR				eS		Sn	16 58 56.6 +2.6
KUR	Kuril'sk	4.51	48	eP		Pn	16 58 05.1 +2.2
KUR				AMB	AMB		16 58 06.3
	comp=N,30nm,0.3s						
KUR				eS		Sn	16 58 56.6 +2.6
KUR				A	A		16 58 59.1
	comp=N,20nm,0.3s						
KUR				A	A		16 58 59.1
	comp=N,20nm,0.3s						
MJAR	Matsushiro Arr	6.89	215	Pn		Pn	16 58 36.2 +0.6
	comp=N,0.1nm,0.3s,baz=40,slow=11,SNR=2.7						
	comp=N,0.8nm,0.5s						
USRK	Ussuriysk Ar.	8.36	287	Pn		Pn	16 58 55.9 +0.4
	comp=N,0.1nm,0.3s,baz=90,slow=11,SNR=1.2						
	comp=N,0.6nm,0.6s						
KSRS	Korea Array	12.64	253	Pn		Pn	16 59 57.6 +3.5
	comp=N,0.1nm,0.3s,baz=68,slow=5.2,SNR=1.5						
	comp=N,0.8nm,0.8s						
H11N2	WAKE ISLAND Hy	30.15	131	T		T	17 34 31.3
	baz=324,slow=75						
H11N1	WAKE ISLAND Hy	30.16	131	T		T	17 34 39.3
	baz=324,slow=75						
H11N3	WAKE ISLAND Hy	30.17	131	T		T	17 34 38.3
	baz=324,slow=75						
H11S1	WAKE ISLAND Hy	31.03	133	T		T	17 35 40.7
	baz=325,slow=76						
H11S3	WAKE ISLAND Hy	31.04	133	T		T	17 35 39.6
	baz=325,slow=76						
H11S2	WAKE ISLAND Hy	31.05	133	T		T	17 35 41.1
	baz=325,slow=76						
ZALV	Zalesovo Beam	39.55	308	P		P	17 04 21.7 -0.5
	comp=N,1.3nm,0.6s,baz=92,slow=11,SNR=3.3						
	comp=N,1.3nm,0.6s						
MKAR	Makanchi Array	42.65	298	P		P	17 04 47.7 -0.1
	comp=N,0.5nm,0.6s,baz=86,slow=9.2,SNR=3.5						
	comp=N,0.5nm,0.6s						
KURK	Kurchatov	43.91	304	P		P	17 04 58.0 +0.2
KURK	Kurchatov	43.91	304	eP		P	17 04 58.0 +0.2
KURBB	Kurchatov Arra	43.99	304	P		P	17 04 58.0 -0.5
	comp=N,1.7nm,0.7s,baz=76,slow=8.7,SNR=7.7						
	comp=N,1.7nm,0.7s						
BRDH	Bariadhala	46.87	262	LR		LR	17 28 42.0
	comp=N,92nm,18.0s,baz=244,slow=40						
BVAR	Borovoye Array	48.15	309	P		P	17 05 30.4 -0.7
	comp=N,1.0nm,0.4s,baz=70,slow=9.2,SNR=6.2						
	comp=N,1.0nm,0.4s						
AAK	Ala-Archa	49.32	295	P		P	17 05 40.5 0.0
	comp=N,0.4nm,0.3s,baz=135,slow=8.6,SNR=1.7						
	comp=N,0.4nm,0.3s						
FINES	FINESS Array B	64.80	332	P		P	17 07 26.7 -2.5
	comp=N,3.3nm,0.9s,baz=64,slow=6.9,SNR=3.7						
	comp=N,3.3nm,0.9s						
HFS	Hagfors	69.85	336	LR		LR	17 41 43.4
	comp=N,26nm,18.4s,baz=73,slow=39						
NOA	NORSAR Array B	69.85	337	LR		LR	17 41 34.1
	comp=N,18nm,19.2s,baz=240,slow=38						
BRTR	Keskin Array B	76.36	312	P		P	17 08 37.6 -2.6
	comp=N,0.5nm,0.8s,baz=46,slow=6.2,SNR=2.3						
	comp=N,0.5nm,0.8s						

*IDC **18** 17:09:33.8±1.6, 3°.83S×150°.08E, h0km, mb3.7/8, mbtmp3.7/8, MS3.2/7, Error ellipse: s-maj=68.5km s-min=22.2km az=120.0*
ISC 18 17:09:39.0±1.6, 3°.9S±0°.3×150°.1E±0°.4, h35km, n15, σ0§69/8, mb3.6/8, MS3.2/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	11.23	120	LR	LR	17 16 29.9	
	comp=Z,82nm,20.5s,baz=113,slow=37						
GUMO	Guam	18.12	344	LR	LR	17 19 00.4	
	comp=Z,116nm,20.4s,baz=123,slow=31						
WRA	Warramunga Arr	22.14	223	P		P	17 14 32.4 +0.5
	1.5nm,0.9s,baz=41,slow=11,SNR=7.7						
	1.5nm,0.9s						
ASAR	Alice Springs	25.11	217	P		P	17 15 00.8 0.0
	0.8nm,0.7s,baz=50,slow=8.6,SNR=11						
	0.8nm,0.7s						
FITZ	Fitzroy Crossi	27.78	238	P		P	17 15 24.4 -0.5
	2.9nm,0.8s,baz=52,slow=12,SNR=2.6						
	2.9nm,0.8s						
MSVF	Nonsavu	30.65	119	LR		LR	17 27 27.2
	comp=Z,80nm,20.4s,baz=313,slow=35						
JCJ	Chichijima	31.74	347	LR		LR	17 27 41.2
	comp=Z,18nm,19.5s,baz=176,slow=34						
JNU	Nakatsue	41.06	335	LR		LR	17 31 46.7
	comp=Z,33nm,18.7s,baz=332,slow=32						
KSRS	Korea Array	46.01	335	LR		LR	17 35 49.8
	comp=Z,22nm,20.9s,baz=180,slow=34						
ZALV	Zalesovo Beam	78.91	327	P		P	17 21 39.5 +0.8
	0.4nm,0.6s,baz=120,slow=5.2,SNR=1.6						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	81.42	322	P		P	17 21 52.5 +0.1
	0.3nm,0.6s,baz=117,slow=5.3,SNR=2.5						
	0.3nm,0.6s						
ILAR	Eielson Array	82.36	23	P		P	17 21 56.3 -0.7
	0.5nm,0.7s,baz=248,slow=5.5,SNR=4.7						
	0.5nm,0.7s						
BVAR	Borovoye Array	86.90	323	P		P	17 22 19.7 -0.5
	0.3nm,0.4s,baz=90,slow=4.3,SNR=1.9						
	0.3nm,0.4s						
ARTI	Arti	94.16	326	LR		LR	18 05 16.0
	comp=Z,32nm,20.2s,baz=110,slow=36						
YKA	Yellowknife Ar	95.89	28	P		P	17 23 02.5 +0.7
	0.2nm,0.7s,baz=268,slow=4.8,SNR=4.9						
	0.2nm,0.7s						

*IDC **18** 17:15:42.1±2.7, 4°.40S×133°.79E, h0km, mb3.6/3, mbtmp3.8/6, ML4.0/3, Error ellipse: s-maj=127.0km s-min=25.5km az=82.0*
*DJA **18** 17:15:47.4±0.3, 4°.5S±3°.×13°.4E±°, h10km, M4.3/15, mB4.9/3, mb4.4/6, MLv4.2/15, Mw(mB)4.2/3*
ISC 18 17:15:44.1±0.8, 4°.57S±0°.05×133°.78E±0°.08, h21km, n20, σ2§64/22, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.90	355	P		Pb	17 15 57.4 -3.7
FAKI	Fak Fak	2.24	317	P		Pn	17 16 18.9 -1.1
RKPI	Ransiki, Papua	3.06	8	P		Pn	17 16 30.3 -1.0
BNDI	Bandanaira	3.86	270	P		Pn	17 16 45.8 +3.5
BNDI				S		Sn	17 17 29.4 +2.3
BAKI	Biak	4.08	35	P		Pn	17 16 46.6 +1.2
SAUI	Saumlaki	4.19	216	P		Pb	17 16 54.8 -2.5
SWI	Sorong	4.46	326	P		Pn	17 16 48.3 -2.2
MSAI	Masohi	4.99	284	P		Pn	17 16 59.1 +1.3
SMPI	Sarmi	5.55	63	P		Pn	17 17 09.5 +4.0
	0.3nm55nm,1.6s						
AAI	Ambon	5.64	279	P		Pn	17 17 08.4 +1.6
NLAI	Namlea	6.79	281	P		Pn	17 17 24.7 +2.1
	0.2nm21nm,0.6s						
JAY	Jayapura	7.21	74	P		Pn	17 17 15.7 -13
SANI	Sanana	8.17	288	P		Pn	17 17 41.3 -0.2
SOEI	Soe	10.75	241	P		Pn	17 18 22.1 +5.0
WRA	Warramunga Arr	15.29	178	Pn		Pn	17 19 21.1 +2.2
	0.4nm,0.3s,baz=359,slow=13,SNR=14						
WRA				Sn		Sn	17 22 08.1 +0.2
	0.1nm,0.3s,baz=359,slow=23,SNR=3.5						
	0.6nm,0.3s						
FITZ	Fitzroy Crossi	15.63	210	Pn		Pn	17 19 25.0 +1.7
	1.3nm,0.3s,baz=41,slow=13,SNR=32						
FITZ				Sn		Sn	17 22 11.1 -4.9
	0.6nm,0.3s,baz=155,slow=14,SNR=3.8						
	3.6nm,0.3s						
ASAR	Alice Springs	18.99	180	P		Pn	17 20 08.0 +2.7
	0.5nm,0.3s,baz=360,slow=12,SNR=37						
ASAR				S		Sn	17 23 33.3 -4.2
	0.8nm,0.8s,baz=358,slow=25,SNR=4.0						
	4.8nm,0.7s						
MKAR	Makanchi Array	68.34	325	P		P	17 26 45.4 +1.3
	0.2nm,0.4s,baz=116,slow=7.9,SNR=5.5						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	72.48	327	P		P	17 27 10.9 +1.7
	0.2nm,0.6s,baz=130,slow=5.9,SNR=2.2						
	0.2nm,0.6s						
BVAR	Borovoye Array	78.07	326	P		P	17 27 40.0 -1.3
	0.5nm,0.6s,baz=116,slow=6.6,SNR=3.7						
	0.5nm,0.6s						

*IDC **18** 17:16:10.3±1.1, 6°.13S×142°.73E, h0km, mb3.7/4, mbtmp3.8/8, ML3.8/3, MS2.5/1, Error ellipse: s-maj=36.6km s-min=21.1km az=64.0*
ISC 18 17:16:14.2±0.8, 6°.2S±0°.1×142°.7E±0°.1, h28km, n8, σ1§14/10, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	4.13	332	Pn		Pn	17 17 15.0 -0.6
	4.1nm,0.3s,baz=188,slow=10,SNR=11						
JAY				Sn		Sn	17 18 03.1 0.0
	5.3nm,0.3s,baz=261,slow=14,SNR=4.8						
	15nm,0.4s						
PMG	Port Moresby	5.49	126	Pn		Pn	17 17 33.6 -0.5
	6.6nm,0.5s,baz=274,slow=1.5,SNR=8.4						
PMG				Sn		Sn	17 18 37.2 +0.8
	4.4nm,0.3s,baz=234,slow=22,SNR=8.4						
PMG				LR		LR	17 20 29.6
	comp=Z,50nm,21.0s,baz=268,slow=48						
WRA	Warramunga Arr	15.88	210	Pn		Pn	17 19 55.0 -1.0
	0.4nm,0.3s,baz=26,slow=14,SNR=6.3						
	2.1nm,0.7s						
ASAR	Alice Springs	19.31	205	P		P	17 20 37.9 +0.6
	0.4nm,0.3s,baz=31,slow=10.0,SNR=13						
	5.1nm,1.1s						
MKAR	Makanchi Array	74.93	322	P		P	17 27 54.7 +1.9
	0.7nm,0.9s,baz=106,slow=7.2,SNR=2.4						
	0.7nm,0.9s						
KURBB	Kurchatov Arra	78.82	324	P		P	17 28 15.9 +1.4
	0.3nm,0.8s,baz=108,slow=6.0,SNR=2.9						
	0.3nm,0.8s						
BVAR	Borovoye Array	84.40	325	P		P	17 28 43.9 -0.1
	1.2nm,0.8s,baz=121,slow=5.6,SNR=6.0						
	1.2nm,0.8s						
ILAR	Eielson Array	87.37	24	P		P	17 28 57.5 -0.9
	0.3nm,0.8s,baz=238,slow=5.2,SNR=1.9						
	0.3nm,0.8s						

*SNET **18** 17:33:25.0±0.7, 13°.16N×89°.26W, h51km±5km, ML3.7*
*CATAC **18** 17:33:25.3±0.5, 13°N±3°×8°9W±°, h29km±2km, M3.7/26, MLv3.7/26, Error ellipse: s-maj=7.5km s-min=3.9km az=22.0, confirmed*
*GCG **18** 17:33:26.3±0.5, 13°.19N×89°.37W, h48km±5km, MD3.9*
ISC 18 17:33:25.5±1.4, 13°.11N±0°.06×89°.31W±0°.04, h46km±10km, n145, σ0§49/148, 4C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.37	358	eP		Pn	17 33 35.1 +0.1
LALI				eS		Sn	17 33 41.8 0.0
LALI	Alcalda de L	0.37	358	S		Sn	17 33 42.0 +0.2
LALI	Alcalda de L	0.37	358	P		Pn	17 33 35.1 +0.1
LALI	Alcalda de L	0.37	358	S		Sn	17 33 42.0 +0.2
LALI	Alcalda de L	0.37	358	P		Pn	17 33 35.2 +0.1
LALI	Alcalda de L	0.37	358	eP		Pn	17 33 35.2 +0.1
LALI				iS		Sn	17 33 41.8 0.0
LALI	Alcalda de L	0.37	358	eP			17 33 35.2
LALI				iS			17 33 41.8
PANCS	Alcalda de	0.51	14	eP		Pn	17 33 36.6 -0.2
PANCS	Alcalda de	0.51	14	P		Pn	17 33 36.5 -0.2
PANCS	Alcalda de	0.51	14	S		Sn	17 33 44.9 +0.2
PANCS	Alcalda de	0.51	14	P		Pn	17 33 36.6 -0.2
PANCS	Alcalda de	0.51	14	S		Sn	17 33 44.9 +0.2
LOMA	Loma Larga	0.54	14	eP		Pn	17 33 37.0 -0.2
LOMA				eS		Sn	17 33 46.0 +0.4
LOMA	Loma Larga	0.54	14	P		Pn	17 33 37.1 -0.2
LOMA	Loma Larga	0.54	14	P		Pn	17 33 37.1 -0.2
LOMA	Loma Larga	0.54	14	S		Sn	17 33 46.4 +0.8
JAYA	Jayaque - finc	0.56	346	⇓iP		Pn	17 33 37.2 -0.2
JAYA				eS		Sn	17 33 45.3 -0.5
JAYA	Jayaque - finc	0.56	346	S		Sn	17 33 45.6 -0.3
JAYA	Jayaque - finc	0.56	346	P		Pn	17 33 37.1 -0.2
JAYA	Jayaque - finc	0.56	346	S		Sn	17 33 45.6 -0.3
JAYA	Jayaque - finc	0.56	346	P		Pn	17 33 37.2 -0.2
JAYA	Jayaque - finc	0.56	346	eP		Pn	17 33 37.2 -0.2
JAYA				iS		Sn	17 33 45.4 -0.4
JAYA	Jayaque - finc	0.56	346	eP			17 33 37.2
JAYA				iS			17 33 45.4
ITCA	Escuela Especi	0.56	3	P		Pn	17 33 37.3 -0.1
ITCA	Escuela Especi	0.56	3	P		Pn	17 33 45.7 +8.3
LFRS	El Faro	0.56	25	⇑iP		Pn	17 33 37.1 -0.3
LFRS				eS		Sn	17 33 46.1 +0.2
SEMO	Seminario San	0.59	8	P		Pn	17 33 37.6 -0.2
SEMO	Seminario San	0.59	8	P		Pn	17 33 47.8 +10
UTEC	Universidad Te	0.59	10	P		Pn	17 33 37.8 0.0
UTEC	Universidad Te	0.59	10	P		Pn	17 33 47.6 +10
PMON	Piamonte	0.59	359	⇓iP		Pn	17 33 37.7 -0.2
PMON	Piamonte	0.59	359	P		Pn	17 33 37.7 -0.2
PMON	Piamonte	0.59	359	S		Sn	17 33 47.4 +0.7
PMON	Piamonte	0.59	359	P		Pn	17 33 37.8 -0.2
PMON	Piamonte	0.59	359	S		Sn	17 33 47.5 +0.7
UEES	Universidad Ev	0.60	6	eP		Pn	17 33 37.7 -0.2
UEES	Universidad Ev	0.60	6	P		Pn	17 33 37.8 -0.1
UEES	Universidad Ev	0.60	6	S		Sn	17 33 47.5 +0.6
UEES	Universidad Ev	0.60	6	P		Pn	17 33 37.9 -0.1
UEES	Universidad Ev	0.60	6	S		Sn	17 33 47.4 +0.6
AEIL	Aeropuerto Ilo	0.61	18	eP		Pn	17 33 38.1 +0.1
IGN	Direccin Gen	0.61	13	P		Pn	17 33 38.2 +0.1
IGN	Direccin Gen	0.61	13	P		Pn	17 33 48.1 +10
UDBS	Universidad Do	0.62	14	P		Pn	17 33 38.1 0.0
BOQS	Boqueron	0.62	2	⇓iP		Pn	17 33

NUBE	**Las Nubes**	**0.91**	**330**	S	**Sn**	**17 33 54.2**	**+0.1**
NUBE	**Las Nubes**	**0.91**	**330**	S	**Sn**	**17 33 54.3**	**+0.1**
NUBE	**Las Nubes**	**0.91**	**330**	P	**Pn**	**17 33 41.8**	**-0.3**
NUBE	**Las Nubes**	**0.91**	**330**	*i* P	**Pn**	**17 33 41.8**	**-0.3**
NUBE				*i* S	**Sn**	**17 33 54.1**	**-0.1**
NUBE	**Las Nubes**	**0.91**	**330**	*i* P		17 33 41.8	
NUBE				*i* S		17 33 54.1	
SLOZ	**Alcaldia de Sa**	**1.02**	**333**	P	**Pn**	**17 33 43.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.02**	**333**	S	**Sn**	**17 33 57.7**	**+1.0**
PACA	**Pacayal**	**1.02**	**70**	*eP*	**Pn**	**17 33 43.6**	**+0.1**
PACA	**Pacayal**	**1.02**	**70**	P	**Pn**	**17 33 43.9**	**+0.3**
PACA	**Pacayal**	**1.02**	**70**	P	**Pn**	**17 33 43.9**	**+0.3**
LCY	**Lacayo**	**1.03**	**73**	*eP*	**Pn**	**17 33 43.7**	**0.0**
RANC	**El Ranchito**	**1.04**	**72**	⇑*iP*	**Pn**	**17 33 43.8**	**0.0**
RANC	**El Ranchito**	**1.04**	**72**	S	**Sn**	**17 33 58.4**	**+1.1**
RANC	**El Ranchito**	**1.04**	**72**	S	**Sn**	**17 33 58.2**	**+0.8**
RANC	**El Ranchito**	**1.04**	**72**	P	**Pn**	**17 33 43.9**	**+0.1**
RANC	**El Ranchito**	**1.04**	**72**	S	**Sn**	**17 33 58.3**	**+0.9**
RANC	**El Ranchito**	**1.04**	**72**	P	**Pn**	**17 33 44.0**	**+0.1**
BLLM	**Bellamira**	**1.09**	**72**	*eP*	**Pn**	**17 33 44.4**	**-0.1**
LLGN	**La Laguna**	**1.10**	**19**	P	**Pn**	**17 33 44.2**	**-0.5**
LLGN	**La Laguna**	**1.10**	**19**	P	**Pn**	**17 33 44.2**	**-0.5**
CAHU	**Cacacuatique**	**1.25**	**58**	*eP*	**Pn**	**17 33 46.2**	**-0.5**
MTO3	**Montecristo**	**1.28**	**358**	P	**Pn**	**17 33 46.7**	**-0.5**
MTO3	**Montecristo**	**1.28**	**358**	S	**Sn**	**17 34 03.4**	**+0.1**
MTO3	**Montecristo**	**1.28**	**358**	P	**Pn**	**17 33 46.8**	**-0.4**
LCND	**La Caada**	**1.39**	**82**	⇑*iP*	**Pn**	**17 33 48.5**	**0.0**
LCND	**La Caada**	**1.39**	**82**	P	**Pn**	**17 33 48.7**	**+0.2**
LCND	**La Caada**	**1.39**	**82**	P	**Pn**	**17 33 48.7**	**+0.2**
ESQI	**Esquipulas**	**1.44**	**359**	*eP*	**Pn**	**17 33 49.1**	**-0.1**
ESQI	**Esquipulas**	**1.44**	**359**	P	**Pn**	**17 33 49.3**	**0.0**
ESQI	**Esquipulas**	**1.44**	**359**	S	**Sn**	**17 34 07.2**	**+0.1**
ESQI	**Esquipulas**	**1.44**	**359**	P	**Pn**	**17 33 49.3**	**0.0**
CNCH	**Conchagua**	**1.44**	**83**	*eP*	**Pn**	**17 33 49.0**	**-0.3**
CNCH	**Conchagua**	**1.44**	**83**	P	**Pn**	**17 33 49.2**	**-0.1**
CNCH	**Conchagua**	**1.44**	**83**	S	**Sn**	**17 34 08.1**	**+0.9**
CNCH	**Conchagua**	**1.44**	**83**	P	**Pn**	**17 33 49.2**	**-0.1**
CSGN	**Cosiguina Volc**	**1.71**	**94**	P	**Pn**	**17 33 52.9**	**-0.1**
CSGN	**Cosiguina Volc**	**1.71**	**94**	S	**Sn**	**17 34 13.4**	**-0.3**
CSGN	**Cosiguina Volc**	**1.71**	**94**	P	**Pn**	**17 33 52.9**	**-0.1**
POTN	**Potosi Cosigui**	**1.76**	**93**	S	**Sn**	**17 34 14.9**	**+0.2**
POTN	**Potosi Cosigui**	**1.76**	**93**	P	**Pn**	**17 33 53.7**	**+0.2**
CHOHN	**Orocuina**	**2.12**	**80**	S	**Sn**	**17 34 24.4**	**+0.5**
CHOHN	**Orocuina**	**2.12**	**80**	P	**Pn**	**17 33 58.2**	**-0.5**
COMHN	**El Horno**	**2.15**	**52**	P	**Pn**	**17 33 58.0**	**-1.2**
TGUH	**Tegucigalpa,Un**	**2.19**	**64**	P	**Pn**	**17 33 59.1**	**-0.5**
CRIN	**San Cristobal**	**2.24**	**100**	S	**Sn**	**17 34 27.8**	**+1.1**
CRIN	**San Cristobal**	**2.24**	**100**	P	**Pn**	**17 34 00.6**	**+0.4**
YUSH	**Yuscaran**	**2.54**	**70**	P	**Pn**	**17 34 03.9**	**-0.5**
CNGN	**Cerro Negro**	**2.62**	**103**	S	**Sn**	**17 34 36.9**	**+0.9**
MOMN	**Momotombo**	**2.79**	**104**	P	**Pn**	**17 34 05.9**	**-1.9**
MOMN				S	**Sn**	**17 34 39.7**	**-0.5**
LIMN	**Finca el Limon**	**2.87**	**91**	P	**Pn**	**17 34 09.3**	**+0.5**
NISHN	**Nisperales Com**	**2.98**	**27**	P	**Pn**	**17 34 10.5**	**+0.1**
SAPS	**Ciudad Sandino**	**2.98**	**108**	S	**Sn**	**17 34 43.7**	**-1.2**
RCVN	**Varillal2**	**3.07**	**81**	P	**Pn**	**17 34 11.2**	**-0.5**
RCON	**San Juan de Ri**	**3.09**	**83**	P	**Pn**	**17 34 11.8**	**-0.2**
BOAB	**BOACO BROADBAN**	**3.61**	**100**	P	**Pn**	**17 34 18.2**	**-0.9**
BOAB	**BOACO BROADBAN**	**3.61**	**100**	S	**Sn**	**17 35 02.2**	**+1.7**

*IDC **18** 17:37:36.5±1.9,2°.31N×127°.64E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=164.0km s-min=27.9km az=68.0*
*DJA **18** 17:37:42.6±0.7,3°N±4°×12°8E±°,h16km±4km,M3.8/11, mb3.8/3,MLv3.8/11*

ISC 18 17:37:41.7±1.2,2.7N±0°.1×128°.51E±0°.09,h35km,n10, σ1°76/11,mb3.4/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.23**	**211**	P	**Pn**	**17 38 17.0**	**+0.8**
SGSI	**Sangihe**	**3.13**	**288**	P	**Pn**	**17 38 30.3**	**+1.8**
SWI	**Sorong**	**4.49**	**142**	P	**Pn**	**17 38 49.2**	**+2.0**
KMSI	**Cibinong**	**4.99**	**245**	P	**Pn**	**17 38 55.6**	**+1.4**
SANI	**Sanana**	**5.35**	**208**	P	**Pn**	**17 39 00.2**	**+1.1**
	0.1nm7.4nm,2.5s						
FAKI	**Fak Fak**	**6.72**	**146**	P	**Pn**	**17 39 19.6**	**+1.6**
	0.1nm12nm,1.3s						
LUWI	**Luwuk**	**6.83**	**237**	P	**Pn**	**17 39 21.0**	**+1.5**
WRA	**Warramunga Arr**	**23.22**	**166**	P	**P**	**17 42 44.8**	**-1.1**
	0.7nm,0.5s,baz=340,slow=11,SNR=5.0						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**26.73**	**169**	P	**P**	**17 43 16.5**	**-1.6**
	0.3nm,0.4s,baz=350,slow=7.7,SNR=14						
ASAR				PcP	**PcP**	**17 46 38.9**	**-2.2**
	0.2nm,0.6s,baz=355,slow=2.7,SNR=8.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.41**	**325**	P	**P**	**17 47 40.8**	**0.0**
	0.3nm,0.8s,baz=109,slow=7.8,SNR=1.6						
	0.3nm,0.8s						

RSNC 18 17:46:57.4±0.0,6°N±1°×7°4W±°,h123km±2km,M2.3,mb3.8, ML2.1,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.51**	**235**	P	Pn	17 47 15.3	-0.6
SPBC				S	Sn	17 47 29.8	0.0
RUSC	**La Rusia**	**0.57**	**96**	P	Pn	17 47 16.1	-0.6
RUSC				S	Sn	17 47 30.8	-0.4
BARC	**Barichara**	**0.79**	**36**	P	Pn	17 47 17.8	-0.3
BARC				S	Sn	17 47 33.4	-0.3
PTBC	**PUERTO BERRIO,**	**0.99**	**306**	P	Pn	17 47 18.3	-1.3
PTBC				S	Sn	17 47 35.6	-0.9
BRJC	**Barrancabermej**	**1.02**	**355**	P	Pn	17 47 20.0	+0.1
BRJC				S	Sn	17 47 37.3	+0.3
NORC	**Norcasia**	**1.27**	**252**	P	Pn	17 47 21.5	-1.0
NORC				S	Sn	17 47 41.9	+0.3
ROSC	**El Rosal**	**1.29**	**211**	P	Pn	17 47 23.2	+0.1
ROSC				S	Sn	17 47 44.8	+2.3
CHIC	**Chingaza**	**1.31**	**184**	P	Pn	17 47 22.5	-0.9
CHIC				S	Sn	17 47 42.6	-0.5
CVER	**Cruz Verde, Cu**	**1.48**	**197**	P	Pn	17 47 25.0	-0.3
CVER				S	Sn	17 47 46.3	-0.2
PAMC	**Pamplona, Colo**	**1.67**	**34**	P	Pn	17 47 27.2	-0.3
PAMC				S	Sn	17 47 49.8	-0.7
VILC	**Villavicencio,**	**1.83**	**181**	P	Pn	17 47 27.9	-1.2
VILC				S	Sn	17 47 52.8	-0.4
GUY2C	**Guyana, Caldas**	**1.85**	**247**	P	Pn	17 47 29.3	-0.4
GUY2C				S	Sn	17 47 55.4	+1.1
HELC	**Santa Helena**	**1.88**	**277**	P	Pn	17 47 29.6	-0.3
HELC				S	Sn	17 47 54.0	-0.7
TAMC	**Tame, Arauca**	**1.91**	**75**	P	Pn	17 47 29.3	-0.6
TAMC				S	Sn	17 47 54.5	-0.3
ZARC	**Zaragoza, Cauc**	**1.95**	**322**	P	Pn	17 47 30.6	+0.2
ZARC				S	Sn	17 47 55.5	-0.1
RECRC	**Villamaria, Ca**	**1.96**	**240**	P	Pn	17 47 32.5	+1.5
RECRC				S	Sn	17 47 57.8	+1.1
ANIL	**Santa Ana**	**2.27**	**230**	P	Pn	17 47 35.3	+0.6
ANIL				S	Sn	17 48 04.7	+1.5
OCAC	**Ocana**	**2.30**	**8**	P	Pn	17 47 35.3	+0.4
OCAC				S	Sn	17 48 05.3	+1.6
CBOC	**Ciudad Bolivar**	**2.35**	**268**	P	Pn	17 47 35.3	-0.3
CBOC				S	Sn	17 48 05.2	+0.3
PRAC	**Prado**	**2.54**	**209**	P	Pn	17 47 36.0	-1.9
PRAC				S	Sn	17 48 08.9	-0.1
ORTC	**Ortega, Tolima**	**2.58**	**218**	P	Pn	17 47 37.2	-1.2
ORTC				S	Sn	17 48 09.4	-0.5
DBBC	**Dabeiba**	**2.76**	**293**	P	Pn	17 47 40.5	-0.2
DBBC				S	Sn	17 48 13.8	-0.2
URMC	**La Uribe, Meta**	**2.78**	**195**	P	Pn	17 47 40.1	-1.0
URMC				S	Sn	17 48 13.8	-0.9
PLMC	**San Jos del P**	**2.82**	**249**	P	Pn	17 47 41.2	-0.3
PLMC				S	Sn	17 48 15.5	0.0
YOTC	**Yotoco, Valle**	**3.32**	**234**	P	Pn	17 47 49.6	+1.5
YOTC				S	Sn	17 48 27.3	0.0
APAC	**Apartado, Choc**	**3.50**	**304**	P	Pn	17 47 49.7	-0.6
APAC				S	Sn	17 48 31.5	+0.3
MACC	**Macarena, Meta**	**3.79**	**183**	P	Pn	17 47 54.0	-0.2
MACC				S	Sn	17 48 33.1	-5.1
SJCC	**San Jacinto, C**	**4.20**	**339**	P	Pn	17 47 57.8	-2.0
SJCC				S	Sn	17 48 44.9	-3.3
CRJC	**Cerrejon, Guaj**	**5.09**	**9**	P	Pn	17 48 10.7	-1.1
CRJC				S	Sn	17 49 05.8	-3.9

*KRNET **18** 17:51:10.2±0.1,41°.58N×79°.79E,mb2.7*
*SOME **18** 17:51:10.2,41°.67N×79°.80E,h5km*

*NNC **18** 17:51:13.9±2.0,41°.85N×80°.01E,h0km±7km,mb3.2, mpv2.9,Error ellipse: s-maj=13.9km s-min=10.5km az=161.0*

ISC 18 17:51:09.8±2.6,41°.63N±0°.09×79°.95E±0°.07,h6km±11km, n23,σ1°03/41,13C-6D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.44**	**307**	⇓*eP*	**Pn**	**17 51 36.2**	**-0.4**
PRZ				⇓*eS*	**Sb**	**17 51 55.2**	**-0.5**
SHLS	**Shalkode**	**1.57**	**347**	P	**Pb**	**17 51 39.3**	**0.0**
	20nm,0.2s						
SHLS				S	**Sn**	**17 51 56.5**	**-2.6**
	29nm,0.2s						
SHLS	**Shalkode**	**1.57**	**347**	*eP*	**Pb**	**17 51 39.3**	**0.0**
	13nm,0.2s						
SHLS				*eS*	**Sg**	**17 52 00.3**	**0.0**
	17nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.61**	**274**	⇑*iP*	**Pn**	**17 51 38.1**	**-1.1**
TARG				⇑*iS*	**Sn**	**17 51 58.5**	**-2.0**
UZB	**Uzynbulak**	**1.67**	**336**	*eP*	**Pb**	**17 51 40.7**	**-0.3**
	6.7nm,0.2s						
UZB				*eS*	**Sg**	**17 52 02.8**	**-0.6**
	18nm,0.2s						
PDGK	**Podgornoye**	**1.73**	**349**	⇑Pn	**Pb**	**17 51 41.7**	**-0.4**
	2.7nm,0.4s						
PDGK				⇑Sn	**Sb**	**17 52 04.8**	**+0.6**
	14nm,0.5s						
SATY	**Saty**	**1.83**	**322**	P	**Pg**	**17 51 45.6**	**+0.7**
	1.9nm,0.2s						
SATY				S	**Sb**	**17 52 07.6**	**+0.5**
	23nm,0.1s						
ZHN	**Zhinishke**	**1.91**	**324**	P	**Pg**	**17 51 47.1**	**+0.8**
	9.5nm,0.3s						
ZHN				S	**Sb**	**17 52 09.7**	**+0.5**
	39nm,0.2s						
ZHN	**Zhinishke**	**1.91**	**324**	*eP*	**Pb**	**17 51 45.1**	**+0.1**
	2.8nm,0.2s						
ZHN				*eS*	**Sg**	**17 52 09.9**	**-1.1**
	38nm,0.2s						
ANVS	**Anan'yevo**	**2.05**	**305**	⇑*iP*	**Pb**	**17 51 46.5**	**-1.1**
ANVS				⇑*iS*	**Sb**	**17 52 12.9**	**-0.5**
KDJ	**Kajisay**	**2.13**	**285**	⇑*iP*	**Pn**	**17 51 47.0**	**+0.9**
KDJ				⇑*iS*	**Sn**	**17 52 13.9**	**+1.0**
KURS	**Kuram**	**2.28**	**325**	Pg	**Pg**	**17 51 53.9**	**+0.5**
	2.3nm,0.5s						
KURS				Lg	Lg	17 52 21.4	
	6.3nm,0.4s						
TNSS	**Tian-Shan**	**2.64**	**303**	Pg	**Pg**	**17 51 59.6**	**-0.7**
	1.5nm,0.3s						
TNSS				Lg	Lg	17 52 31.2	
	5.1nm,0.4s						
TNSS	**Tian-Shan**	**2.64**	**303**	*eP*	**Pb**	**17 51 57.1**	**-0.6**
	1.3nm,0.2s						
TNSS				*eS*	**Sb**	**17 52 30.6**	**+0.2**
	4.0nm,0.2s						
KOTS	**Kotyrbulak**	**2.65**	**308**	Pg	**Pg**	**17 52 00.1**	**-0.4**
	2.0nm,0.2s						
KOTS				Lg	Lg	17 52 32.2	
	19nm,0.4s						
KOTS	**Kotyrbulak**	**2.65**	**308**	*eP*	**Pb**	**17 51 57.5**	**-0.2**
	1.8nm,0.3s						
KOTS				*eS*	**Sb**	**17 52 31.3**	**+0.9**
	14nm,0.3s						
DJR	**Jarkent**	**2.71**	**358**	Pg	**Pg**	**17 52 01.2**	**-0.4**
	0.5nm,0.1s						
DJR				Lg	Lg	17 52 34.2	
	5.0nm,0.4s						
DJR	**Jarkent**	**2.71**	**358**	*eP*	**Pb**	**17 51 59.1**	**+0.5**
	0.1nm,0.1s						
DJR				*eS*	**Sb**	**17 52 33.8**	**+1.7**
	5.2nm,0.4s						
KNOS	**Konyrlen**	**2.79**	**349**	Pg	**Pb**	**17 52 01.5**	**+1.4**
	0.3nm,0.1s						
KNOS				Lg	Lg	17 52 34.5	
	8.9nm,0.1s						
ULHL	**Ulahol**	**2.84**	**284**	⇑*iP*	**Pn**	**17 51 57.0**	**+1.2**
ULHL				⇑*iS*	**Sn**	**17 52 31.2**	**+0.8**
BOOM	**Boomskoye usch**	**3.11**	**287**	⇑*iP*	**Pn**	**17 52 00.8**	**+1.3**
BOOM				⇑*iS*	**Sn**	**17 52 37.6**	**+0.5**
TKM2	**Tokmak 2**	**3.48**	**293**	⇓*iP*	**Pn**	**17 52 06.2**	**+1.5**
TKM2				⇓*iS*	**Sn**	**17 52 46.9**	**+0.6**
MK31	**Makanchi Array**	**5.43**	**17**	⇓Pn	**Pn**	**17 52 31.7**	**+0.4**
	baz=200,slow=14,SNR=3.8						
MK31				⇑Sn	**Sn**	**17 53 31.7**	**-2.3**
	1.0nm,0.8s,baz=202,slow=24,SNR=4.1						
MK31				⇓Lg	Lg	17 53 57.5	
	1.1nm,0.8s,baz=204,slow=15,SNR=2.6						

IDC 18 18:04:22.9±6.5,6°.07S×149°.07E,h56km±65km,mb3.4/3, mbtmp3.9/5,ML4.2/1,Error ellipse: s-maj=92.2km s-min=38.4km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**210**	P	Pn	18 05 20.9	+1.7
	58nm,0.4s,baz=34,slow=4.8,SNR=52						
PMG				S	Sn	18 06 02.6	-0.3
	53nm,0.4s,baz=181,slow=13,SNR=7.8						
WRA	**Warramunga Arr**	**19.88**	**225**	P	P	18 08 50.4	+0.7
	0.8nm,0.3s,baz=51,slow=11,SNR=35						
	4.3nm,0.5s						
ASAR	**Alice Springs**	**22.79**	**218**	P	P	18 09 21.8	+0.8
	1.6nm,0.5s,baz=53,slow=9.7,SNR=50						
	1.6nm,0.5s						
ILAR	**Eielson Array**	**84.74**	**23**	P	P	18 16 50.8	+0.2
	0.4nm,1.0s,baz=242,slow=3.8,SNR=2.3						
	0.4nm,1.0s						
BVAR	**Borovoye Array**	**88.04**	**324**	P	P	18 17 05.8	-1.2
	0.3nm,0.4s,baz=95,slow=4.9,SNR=2.4						
	0.3nm,0.4s						

RSNC 18 18:11:52.4±0.0,6°N±1°×7°8W±°,h30km±4km,M2.3,ML2.1, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.68**	**89**	P	Pb	18 12 04.9	-0.9
SOLC				S	Sb	18 12 14.3	-0.6
PTAC	**Punta Ardita,**	**0.97**	**17**	P	Pn	18 12 09.4	-0.6
PTAC				S	Sn	18 12 21.7	-1.1
PIZC	**Pizarro, Choco**	**1.43**	**150**	P	Pb	18 12 18.5	0.0
CBOC	**Ciudad Bolivar**	**2.10**	**99**	P	Pn	18 12 26.0	+0.4
PLMC	**San Jos del P**	**2.22**	**126**	P	Pn	18 12 26.9	-0.3
PLMC				S	Sn	18 12 50.6	-3.1
APAC	**Apartado, Choc**	**2.25**	**42**	P	Pn	18 12 27.2	-0.4
APAC				S	Sn	18 12 56.0	+1.6
MALC	**Bahia Malaga**	**2.31**	**161**	P	Pn	18 12 28.5	+0.1
HELC	**Santa Helena**	**2.55**	**90**	P	Pn	18 12 30.2	-1.8
HELC				S	Sn	18 13 04.1	+1.9
AZU	**Azuero**	**2.68**	**306**	P	Pn	18 12 32.6	-0.9
AZU				S	Sn	18 13 03.1	-1.8
YOTC	**Yotoco, Valle**	**2.81**	**142**	P	Pn	18 12 35.6	+0.1
JAMC	**Jamundi, Valle**	**3.29**	**155**	P	Pn	18 12 41.1	-1.1
JAMC				S	Sn	18 13 18.5	-2.0
BCIP	**Isla Barro Col**	**3.41**	**330**	P	Pn	18 12 42.7	-0.9
BCIP				S	Sn	18 13 24.6	+1.6

*IDC **18** 18:15:24.0±2.2,21°.73N×143°.24E,h256km±19km, mb3.1/13,mbtmp3.7/14,Error ellipse: s-maj=23.6km s-min=14.9km az=90.0*

ISC 18 18:15:23.3±0.9,21°.7N±0°.1×143°.3E±0°.2,h250km,n14, σ0°53/16,mb3.3/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.48**	**350**	P	**Pn**	**18 16 45.3**	**+0.4**
	31nm,0.3s,baz=336,slow=20,SNR=6.9						
JCJ				S	**S**	**18 17 50.5**	**+0.2**
	32nm,0.6s,baz=289,slow=24,SNR=1.5						
KSRS	**Korea Array**	**20.57**	**323**	P	**P**	**18 19 43.8**	**+0.5**
	0.8nm,0.7s,baz=140,slow=10.0,SNR=3.0						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.64**	**274**	P	**P**	**18 22 47.4**	**-0.2**
	0.3nm,0.6s,baz=99,slow=7.2,SNR=4.0						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**42.27**	**193**	P	**P**	**18 22 53.0**	**+0.5**
	0.4nm,0.6s,baz=16,slow=9.3,SNR=7.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**45.98**	**192**	P	**P**	**18 23 22.2**	**+0.3**
	0.2nm,0.7s,baz=21,slow=8.0,SNR=1.7						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**54.27**	**322**	P	**P**	**18 24 23.2**	**-0.4**
	0.4nm,0.4s,baz=151,slow=3.4,SNR=3.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**54.76**	**313**	P	**P**	**18 24 26.8**	**-0.5**
	0.3nm,0.5s,baz=93,slow=7.9,SNR=4.6						
MKAR				PcP	**pwP**	**18 25 25.9**	**+0.5**
	0.2nm,0.6s,baz=80,slow=3.5,SNR=2.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.59**	**317**	P	**P**	**18 24 46.8**	**-0.2**
	0.7nm,0.4s,baz=94,slow=7.8,SNR=4.8						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**62.03**	**27**	P	**P**	**18 25 16.4**	**-0.6**
	0.3nm,0.9s,baz=261,slow=5.9,SNR=2.3						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**62.73**	**320**	P	**P**	**18 25 22.0**	**+0.2**
	1.4nm,0.4s,baz=92,slow=8.0,SNR=16						
	1.4nm,0.4s						
YKA	**Yellowknife Ar**	**76.44**	**28**	P	**P**	**18 26 45.6**	**+0.5**
	0.4nm,0.6s,baz=288,slow=5.5,SNR=5.1						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**78.96**	**342**	P	**P**	**18 26 58.7**	**-0.2**
	2.5nm,0.8s,baz=56,slow=6.7,SNR=5.8						
	2.5nm,0.8s						
FINES	**FINESS Array B**	**83.23**	**335**	P	**P**	**18 27 20.2**	**-1.2**
	1.1nm,0.6s,baz=57,slow=7.0,SNR=7.9						
	1.1nm,0.6s						
PDAR	**Pinedale Array**	**87.36**	**45**	P	**P**	**18 27 42.6**	**+0.1**
	0.2nm,0.5s,baz=285,slow=5.1,SNR=1.9						
	0.2nm,0.5s						

IDC 18 18:19:34.3±11.0,19°.49S×177°.89W,h559km±33km, mb3.0/3,mbtmp3.8/4,Error ellipse: s-maj=215.1km s-min=85.8km az=110.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.23**	**294**	P	P	18 20 58.4	-0.3
	2.1nm,0.5s,baz=115,slow=16,SNR=4.9						
STKA	**Stephens Creek**	**38.32**	**243**	P	P	18 26 06.8	-1.2
	0.9nm,0.5s,baz=95,slow=11,SNR=1.8						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**44.85**	**261**	P	P	18 26 58.9	-0.7
	0.6nm,0.7s,baz=97,slow=7.5,SNR=11						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**44.85**	**256**	P	P	18 27 00.4	+0.8
	4.0nm,0.6s,baz=88,slow=8.5,SNR=71						
ASAR				ScP	ScP	18 31 27.6	-1.1
	0.7nm,1.0s,baz=109,slow=3.5,SNR=2.9						
	4.0nm,0.6s						

IDC 18 18:41:18.6±11.0,6°.46S×128°.53E,h511km±169km, mb2.5/2,mbtmp3.2/4,Error ellipse: s-maj=123.5km s-min=72.7km az=73.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.54**	**158**	P	P	18 44 23.4	-0.6
	0.2nm,0.7s,baz=336,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**17.87**	**164**	P	P	18 44 57.6	+0.3
	0.1nm,0.3s,baz=342,slow=13,SNR=4.9						
MKAR	**Makanchi Array**	**66.98**	**327**	P	P	18 51 20.0	-0.3
	0.1nm,0.4s,baz=129,slow=6.2,SNR=4.3						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**71.29**	**329**	P	P	18 51 46.4	+0.3
	0.2nm,0.5s,baz=129,slow=5.2,SNR=4.7						
	0.2nm,0.5s						

*IDC **18** 18:50:22.1±1.6,31°.63S×177°.62W,h0km,mb4.1/4, mbtmp4.0/5,ML3.5/1,MS3.3/2,Error ellipse: s-maj=39.0km s-min=37.3km az=66.0*

ISC 18 18:50:25.7±1.3,31°.64S±0°.08×177°.7W±0°.2,h26km,n25, σ1°80/36,mb4.0/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.38**	**356**	P	**Pn**	**18 51 01.3**	**-1.7**
GLKZ				S	**Sn**	**18 51 29.0**	**-2.3**
MXZ	**Matakaoa Point**	**6.74**	**208**	S	**Sn**	**18 53 18.4**	**-0.5**
WMGZ	**Waiomatatini S**	**6.92**	**206**	P	**Pn**	**18 52 04.6**	**-0.8**
WMGZ				S	**Sn**	**18 53 24.1**	**+0.7**
PKGZ	**Pakihiroa**	**7.10**	**208**	P	**Pn**	**18 52 06.0**	**-1.8**
PKGZ				S	**Sn**	**18 53 27.1**	**-0.5**
HAZ	**Te Kaha**	**7.12**	**210**	P	**Pn**	**18 52 11.1**	**+2.9**
HAZ				S	**Sn**	**18 53 30.2**	**+2.0**
PUZ	**Puketiti**	**7.21**	**206**	P	**Pn**	**18 52 07.5**	**-1.8**
PUZ				S	**Sn**	**18 53 29.9**	**-0.5**
RUGZ	**Raukumara Rang**	**7.34**	**210**	P	**Pn**	**18 52 10.2**	**-1.2**
RUGZ				S	**Sn**	**18 53 34.6**	**+0.7**
TWGZ	**Tauwhareparae**	**7.40**	**207**	P	**Pn**	**18 52 10.0**	**-2.0**
TWGZ				S	**Sn**	**18 53 34.0**	**-1.3**
MWZ	**Matawai**	**7.72**	**209**	P	**Pn**	**18 52 14.7**	**-1.7**
MWZ				S	**Sn**	**18 53 41.5**	**-1.5**
URZ	**Urewera**	**7.84**	**211**	Pn	**Pn**	**18 52 16

KARP	**Karpathos**	**1.43**	**292**	P	Pn	19 35 12.2	+0.2
KARP				S	**Sn**	**19 35 29.2**	**-0.5**
235nm,0.4s							
KARP	**Karpathos**	**1.43**	**292**	P	Pn	19 35 12.2	+0.2
KARP				S	**Sn**	**19 35 29.1**	**-0.7**
IZZE	**Mula-Seydike**	**1.44**	**14**	P	Pn	19 35 11.9	-0.3
IZZE				S	Sn	19 35 26.5	-3.7
IZZE				*i* AML	AML	19 35 32.0	
comp=N,105nm,0.3s							
IZZE				*i* AML	AML	19 35 33.0	
comp=E,96nm,0.4s							
DEMR	**Demre-Antalya**	**1.51**	**37**	Pn	Pn	19 35 13.4	+0.4
FETY	**Fethiye**	**1.62**	**8**	Pn	Pn	19 35 14.3	-0.3
FETY	**Fethiye**	**1.62**	**8**	P	Pn	19 35 14.4	-0.1
FETY				S	Sn	19 35 29.8	-4.6
DALY	**Dalyan (Mula)**	**1.78**	**357**	Pn	Pn	19 35 16.2	-0.6
DALY				Sn	**Sn**	**19 35 37.0**	**-1.3**
SABU	**Mula-Dalaman**	**1.79**	**5**	P	Pn	19 35 17.5	+0.6
SABU				S	Sn	19 35 31.7	-6.9
SABU				*i* AML	AML	19 35 39.0	
comp=N,29nm,0.3s							
TURN	**Turunc**	**1.79**	**346**	Pn	Pn	19 35 16.6	-0.3
TURN				Sn	**Sn**	**19 35 37.0**	**-1.6**
TURN	**Turunc**	**1.79**	**346**	P	Pn	19 35 17.1	+0.2
TURN				S	Sn	19 35 35.3	-3.3
TURN				*i* AML	AML	19 35 39.0	
comp=N,37nm,0.2s							
TURN				*i* AML	AML	19 35 44.0	
comp=E,41nm,0.3s							
AKUM	**Antalya-Kumluc**	**1.81**	**44**	P	Pn	19 35 17.5	+0.5
AKUM				S	Sn	19 35 35.0	-3.9
KNIK	**Mula-Seydike**	**1.92**	**19**	P	Pn	19 35 19.5	+0.8
KNIK				S	**Sn**	**19 35 41.2**	**-0.6**
KNIK				*i* AML	AML	19 35 43.0	
comp=N,52nm,0.5s							
KNIK				*i* AML	AML	19 35 43.0	
comp=E,59nm,0.6s							
ELL	**Elmali**	**1.94**	**28**	Pn	**Pn**	**19 35 20.1**	**+1.1**
ELL	**Elmali**	**1.94**	**28**	P	**Pn**	**19 35 20.4**	**+1.4**
ELL				S	**Sn**	**19 35 43.6**	**+1.3**
DATC	**Datca-Mugla**	**1.95**	**332**	Pn	Pn	19 35 18.4	-0.6
DATC				Sn	**Sn**	**19 35 39.9**	**-2.5**
CAME	**Cameli-Denizli**	**1.95**	**12**	Pn	Pn	19 35 19.4	+0.2
DAT	**Datca**	**1.96**	**330**	Pn	Pn	19 35 18.6	-0.6
YAZI	**Mula-Dat§a-**	**1.97**	**327**	P	Pn	19 35 18.7	-0.6
ZKR	**Zakros**	**2.11**	**273**	Pn	Pn	19 35 21.5	+0.3
ZKR	**Zakros**	**2.11**	**273**	P	Pn	19 35 21.6	+0.3
ZKR				S	**Sn**	**19 35 46.1**	**-0.3**
45nm,0.5s							
ZKR	**Zakros**	**2.11**	**273**	P	Pn	19 35 21.6	+0.3
ZKR				S	**Sn**	**19 35 46.1**	**-0.3**
CAEL	**Denizli, Camel**	**2.13**	**12**	P	**Pn**	**19 35 22.5**	**+0.8**
CAEL				S	**Sn**	**19 35 45.8**	**-1.2**
CAEL				*i* AML	AML	19 35 50.0	
comp=E,53nm,0.8s							
CAEL				*i* AML	AML	19 36 01.0	
comp=N,44nm,0.6s							
YER	**Yerkesik**	**2.14**	**349**	Pn	Pn	19 35 20.9	-0.8
DNZT	**Denizli-Tavas-**	**2.25**	**5**	P	**Pn**	**19 35 24.1**	**+0.8**
DNZT				S	Sn	19 35 46.4	-3.5
DNZT				*i* AML	AML	19 35 51.0	
comp=E,28nm,0.5s							
MULA	**Mugla, Merkez-**	**2.25**	**350**	P	**Pn**	**19 35 24.2**	**+0.9**
MULA				S	**Sn**	**19 35 47.4**	**-2.5**
MULA				*i* AML	AML	19 35 50.0	
comp=E,57nm,0.5s							
MULA				*i* AML	AML	19 35 51.0	
comp=N,27nm,0.6s							
GOLH	**Golhisar**	**2.29**	**16**	P	**Pn**	**19 35 25.3**	**+1.5**
GOLH				S	**Sn**	**19 35 50.3**	**-0.5**
GOLH				*i* AML	AML	19 35 55.0	
comp=N,44nm,0.5s							
GOLH				*i* AML	AML	19 36 00.0	
comp=E,43nm,0.4s							
BDRM	**Kayabasi**	**2.30**	**332**	P	Pn	19 35 23.3	-0.6
BDRM				S	Sn	19 35 45.6	-5.4
BDRM				*i* AML	AML	19 35 53.0	
comp=E,16nm,0.5s							
KORT	**Korkueli**	**2.34**	**32**	Pn	**Pn**	**19 35 25.7**	**+1.2**
KORT	**Korkueli**	**2.34**	**32**	P	**Pn**	**19 35 26.0**	**+1.5**
KORT				S	**Sn**	**19 35 54.0**	**+1.9**
KORT				*i* AML	AML	19 36 04.0	
comp=E,29nm,0.6s							
KORT				*i* AML	AML	19 36 04.0	
comp=N,28nm,0.5s							
BODT	**Bodrum**	**2.35**	**330**	Pn	Pn	19 35 23.6	-0.9
ANTB	**Antalya**	**2.40**	**39**	Pn	**Pn**	**19 35 27.1**	**+1.9**
YKAV	**Yalikavak-Bodr**	**2.42**	**330**	Pn	Pn	19 35 24.7	-0.7
TAVA	**DENIZLI_Tavas**	**2.43**	**2**	P	**Pn**	**19 35 26.3**	**+0.6**
TAVA				S	**Sn**	**19 35 52.0**	**-2.3**
TAVA				*i* AML	AML	19 35 55.0	
comp=N,38nm,0.5s							
TAVA				*i* AML	AML	19 35 57.0	
comp=E,26nm,0.7s							
APMY	**Acipayam-Deniz**	**2.47**	**10**	Pn	**Pn**	**19 35 26.9**	**+0.7**
DNIZ	**Denizli-Tavas-**	**2.59**	**4**	P	**Pn**	**19 35 28.5**	**+0.5**
DNIZ				S	**Sn**	**19 35 55.2**	**-3.2**
DNIZ				*i* AML	AML	19 36 01.0	
comp=E,96nm,0.2s							
DNIZ				*i* AML	AML	19 36 04.0	
comp=N,70nm,0.6s							
BUCA	**Burdur, Bucak-**	**2.70**	**32**	P	**Pn**	**19 35 31.8**	**+2.4**
BUCA				S	**Sn**	**19 35 59.5**	**-1.4**
BUCA				*i* AML	AML	19 36 14.0	
comp=N,17nm,0.8s							
BUCA				*i* AML	AML	19 36 18.0	
comp=E,23nm,0.8s							
AYDN	**Tasoluk**	**2.72**	**345**	P	Pn	19 35 30.0	+0.4
AYDN				S	**Sn**	**19 35 58.1**	**-3.3**
AYDN				*i* AML	AML	19 36 04.0	
comp=N,28nm,0.2s							
AYDN				*i* AML	AML	19 36 05.0	
comp=E,18nm,0.3s							
INCE	**Denizli-Bozkur**	**2.74**	**13**	P	**Pn**	**19 35 30.9**	**+0.9**
INCE				S	**Sn**	**19 35 58.7**	**-3.3**
INCE				*i* AML	AML	19 36 07.0	
comp=E,16nm,0.4s							
INCE				*i* AML	AML	19 36 08.0	
comp=N,19nm,0.5s							
ESEN	**Aydn-Nazilli**	**2.78**	**353**	P	Pn	19 35 30.4	+0.1
ESEN				S	**Sn**	**19 36 00.4**	**-2.3**
ESEN				*i* AML	AML	19 36 04.0	
comp=E,18nm,0.8s							
ESEN				*i* AML	AML	19 36 06.0	
comp=N,12nm,0.5s							
AKMS	**Akamas**	**2.91**	**89⇑**	*i* P	**Pn**	**19 35 33.2**	**+1.0**
AKMS				S	**Sn**	**19 36 04.8**	**-1.2**
AKMS				AML	AML	19 36 07.4	
0.2nm,0.3s							
AKMS				AML	AML	19 36 09.1	
0.2nm,0.4s							
KEPZ	**Antalya-Kepez**	**2.95**	**50**	P	**Pn**	**19 35 34.5**	**+1.8**
KEPZ				S	**Sn**	**19 36 04.7**	**-2.3**
KEPZ				*i* AML	AML	19 36 09.0	
comp=E,17nm,0.5s							
KEPZ				*i* AML	AML	19 36 13.0	
comp=N,14nm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**3.00**	**346**	Pn	Pn	19 35 33.0	-0.5
ALAN	**Alanya-ANTALYA**	**3.04**	**59**	Pn	**Pn**	**19 35 36.4**	**+2.4**
GAZI	**Gazipasa**	**3.11**	**66**	P	Pn	19 35 35.3	+0.3
GAZI				S	Sn	19 36 04.4	-6.5
NATA	**Nata**	**3.12**	**94**	P	**Pn**	**19 35 36.3**	**+1.2**
NATA				S	**Sn**	**19 36 11.6**	**+0.5**
NATA				AML	AML	19 36 15.1	
0.3nm,0.6s							
NATA				AML	AML	19 36 15.2	
0.3nm,0.4s							
ALFC	**Alefka**	**3.13**	**87⇓**	*e* P	**Pn**	**19 35 36.0**	**+0.8**
ALFC				S	**Sn**	**19 36 11.6**	**+0.2**
ALFC				AML	AML	19 36 12.5	
0.2nm,0.4s							
ALFC				AML	AML	19 36 12.8	
0.2nm,0.4s							
IZMR	**zmir-demi**	**3.17**	**348**	P	Pn	19 35 34.7	-1.0
IZMR				S	Sn	19 36 05.8	-6.5
IZMR				*i* AML	AML	19 36 13.0	
comp=N,8.9nm,0.7s							
KIRA	**zmir-Kiraz**	**3.17**	**354**	P	Pn	19 35 34.6	-1.2
IDI	**Anoyia**	**3.20**	**276**	Pn	**Pn**	**19 35 36.9**	**+0.7**
ODEM	**Odemis-Izmir**	**3.29**	**350**	Pn	Pn	19 35 37.5	+0.1
APE	**Apeiranthos**	**3.33**	**309**	Pn	Pn	19 35 37.2	-0.8
APE	**Apeiranthos**	**3.33**	**309**	P	Pn	19 35 37.1	-0.9
PASA	**Karahalli, USA**	**3.35**	**9**	P	Pn	19 35 38.4	0.0
PASA				S	Sn	19 36 11.1	-5.9
PASA				*i* AML	AML	19 36 18.0	
comp=N,6.8nm,1.2s							
PASA				*i* AML	AML	19 36 19.0	
comp=E,7.8nm,0.6s							
LEF	**Lefka**	**3.37**	**87**	P	**Pn**	**19 35 39.9**	**+1.5**
APOL	**The Sanctuary**	**3.37**	**95**	P	**Pn**	**19 35 39.8**	**+1.3**
APOL				S	**Sn**	**19 36 18.3**	**+1.0**
APOL				AML	AML	19 36 20.6	
0.1nm,0.4s							
APOL				AML	AML	19 36 24.4	
0.1nm,0.2s							
SEDI	**Konya, Seydise**	**3.40**	**44**	P	**Pn**	**19 35 41.5**	**+2.5**
SEDI				S	**Sn**	**19 36 16.4**	**-1.8**
SEDI				*i* AML	AML	19 36 23.0	
comp=E,24nm,0.5s							
SEDI				*i* AML	AML	19 36 25.0	
comp=N,18nm,0.9s							
SEYD	**Seydisehir-KON**	**3.42**	**45**	Pn	**Pn**	**19 35 41.2**	**+2.0**
KULA	**Kula-Manisa**	**3.48**	**358**	Pn	Pn	19 35 40.1	+0.1
ASGA	**Asgata**	**3.67**	**93**	P	**Pn**	**19 35 43.5**	**+0.9**
ASGA				S	Sn	19 36 17.3	-7.4
ASGA				AML	AML	19 36 30.6	
0.1nm,0.2s							
ASGA				AML	AML	19 36 30.9	
0.2nm,0.5s							
USAK	**Uak-Merkez**	**3.68**	**3**	P	Pn	19 35 42.1	-0.6
USAK				*i* AML	AML	19 36 01.0	
comp=E,25nm,2.0s							
USAK				*i* AML	AML	19 36 11.0	
comp=N,19nm,1.9s							
USAK				S	Sn	19 36 18.5	-6.4
CSS	**Mathiatis**	**3.73**	**90**	P	**Pn**	**19 35 44.3**	**+0.9**
CSS	**Mathiatis**	**3.73**	**90**	P	**Pn**	**19 35 44.5**	**+1.1**
CSS				S	**Sn**	**19 36 23.7**	**-2.4**
CSS				AML	AML	19 36 30.2	
0.1nm,0.4s							
CSS				AML	AML	19 36 30.7	
0.1nm,0.3s							
YVAC	**Isparta, Yalva**	**3.78**	**31**	P	**Pn**	**19 35 47.2**	**+3.0**
YVAC				S	Sn	19 36 23.2	-4.4
YVAC				*i* AML	AML	19 36 30.0	
comp=E,5.0nm,0.5s							
YVAC				*i* AML	AML	19 36 31.0	
comp=N,5.0nm,0.5s							
SHUT	**Suhut-Afyon**	**3.79**	**21**	Pn	**Pn**	**19 35 45.0**	**+0.7**
DOGA	**KONYA_Doganhis**	**3.84**	**36**	P	**Pn**	**19 35 47.8**	**+2.7**
DOGA				S	**Sn**	**19 36 27.4**	**-1.7**
DOGA				*i* AML	AML	19 36 31.0	
comp=E,16nm,0.4s							
DOGA				*i* AML	AML	19 36 32.0	
comp=N,21nm,0.3s							
GVD	**Gavdhos**	**3.87**	**268**	Pn	**Pn**	**19 35 45.9**	**+0.6**
MVOU	**Mavrovouni**	**3.98**	**89**	P	**Pn**	**19 35 47.5**	**+0.7**
MVOU				S	**Sn**	**19 36 29.3**	**-2.8**
MVOU				AML	AML	19 36 39.3	
0.1nm,0.3s							
MVOU				AML	AML	19 36 40.9	
KKBE	**Karaman, Kazim**	**4.01**	**56**	P	**Pn**	**19 35 49.7**	**+2.4**
KKBE				S	**Sn**	**19 36 31.2**	**-1.8**
KKBE				*i* AML	AML	19 36 36.0	
comp=N,9.9nm,0.4s							
KKBE				*i* AML	AML	19 36 36.0	
comp=E,11nm,0.5s							
GULN	**MERSIN_Gulnar**	**4.04**	**72**	P	Pn	19 35 47.8	+0.1
GULN				S	Sn	19 36 29.4	-4.3
KONT	**Konya--Tatoy**	**4.09**	**44**	Pn	**Pn**	**19 35 50.3**	**+1.9**
KONT	**Konya--Tatoy**	**4.09**	**44**	P	**Pn**	**19 35 50.8**	**+2.5**
UCKU	**Afyonkarahisar**	**4.17**	**30**	P	**Pn**	**19 35 50.8**	**+1.1**
LADK	**Ladik-KONYA**	**4.27**	**41**	Pn	**Pn**	**19 35 52.4**	**+1.5**
KDHN	**Kadinhani**	**4.39**	**37**	P	**Pn**	**19 35 54.1**	**+1.6**
KDHN				S	**Sn**	**19 36 38.6**	**-3.8**
KDHN				*i* AML	AML	19 36 44.0	
comp=N,8.4nm,0.5s							
KDHN				*i* AML	AML	19 36 44.0	
comp=E,7.8nm,0.4s							
MMC7	**Mount Meron ar**	**5.84**	**108**	P	**Pn**	**19 36 13.1**	**+0.7**
MMC7	**Mount Meron ar**	**5.84**	**108**	S	**Sn**	**19 37 17.2**	**-0.9**
MMA0B	**Mount Meron ar**	**5.85**	**108**	P	Pn	19 36 12.4	-0.2
MMA0B	**Mount Meron ar**	**5.85**	**108**	S	**Sn**	**19 37 17.9**	**-0.4**
SLTI	**Sal'it**	**5.91**	**116**	P	Pn	19 36 13.1	-0.2
SLTI	**Sal'it**	**5.91**	**116**	S	**Sn**	**19 37 18.4**	**-1.3**
GEM	**Giv'at Ha'Em**	**5.99**	**106**	P	**Pn**	**19 36 14.8**	**+0.5**
GEM	**Giv'at Ha'Em**	**5.99**	**106**	S	**Sn**	**19 37 20.7**	**-0.8**
NATI	**Neve Ativ**	**6.03**	**105**	P	**Pn**	**19 36 15.9**	**+1.0**
NATI	**Neve Ativ**	**6.03**	**105**	S	**Sn**	**19 37 21.9**	**-0.5**
MMLI	**Mount Malkishu**	**6.10**	**113**	P	Pn	19 36 15.9	-0.1
MMLI	**Mount Malkishu**	**6.10**	**113**	S	**Sn**	**19 37 22.9**	**-1.5**
KSHT	**Keshet**	**6.18**	**107**	P	**Pn**	**19 36 17.9**	**+0.8**
KSHT	**Keshet**	**6.18**	**107**	S	**Sn**	**19 37 25.7**	**-0.7**
AMAZ	**Amatzia**	**6.21**	**123**	P	Pn	19 36 16.6	-0.8
AMAZ	**Amatzia**	**6.21**	**123**	S	**Sn**	**19 37 25.2**	**-1.8**
KZIT	**Kziot**	**6.26**	**130**	P	Pn	19 36 17.4	-0.7
KZIT	**Kziot**	**6.26**	**130**	S	**Sn**	**19 37 24.9**	**-3.3**
HMDT	**Nahal Hemdat**	**6.27**	**114**	P	Pn	19 36 18.1	0.0
HMDT	**Nahal Hemdat**	**6.27**	**114**	S	**Sn**	**19 37 27.4**	**-1.0**
YTIR	**Yattir**	**6.45**	**123**	P	Pn	19 36 20.4	-0.3
YTIR	**Yattir**	**6.45**	**123**	S	**Sn**	**19 37 31.2**	**-1.7**
DSI	**Dead Sea**	**6.51**	**120**	P	Pn	19 36 21.4	-0.1
DSI	**Dead Sea**	**6.51**	**120**	S	**Sn**	**19 37 32.4**	**-2.0**
MSBI	**Mazada**	**6.64**	**122**	P	Pn	19 36 22.9	-0.4
MSBI	**Mazada**	**6.64**	**122**	S	**Sn**	**19 37 35.4**	**-2.1**
GHAJ	**Ghor Haditha**	**6.79**	**121**	P	**Pn**	**19 36 26.9**	**+1.5**
GHAJ	**Ghor Haditha**	**6.79**	**121**	S	**Sn**	**19 37 39.4**	**-1.8**
KRMI	**Paran Flat**	**7.01**	**133**	P	Pn	19 36 27.6	-0.8
KRMI	**Paran Flat**	**7.01**	**133**	S	Sn	19 37 42.4	-4.3
PRNI	**Paran**	**7.02**	**130**	P	Pn	19 36 26.9	-1.6
PRNI	**Paran**	**7.02**	**130**	S	**Sn**	**19 37 43.4**	**-3.5**
HRFI	**Mount Harif**	**7.26**	**132**	P	Pn	19 36 30.9	-0.9
HRFI	**Mount Harif**	**7.26**	**132**	S	**Sn**	**19 37 49.7**	**-3.1**
MBRI	**Mt Berech**	**7.36**	**134**	P	Pn	19 36 32.6	-0.5
MBRI	**Mt Berech**	**7.36**	**134**	S	**Sn**	**19 37 52.2**	**-3.1**
EIL	**Elat**	**7.47**	**134**	P	Pn	19 36 33.6	-1.0
EIL	**Elat**	**7.47**	**134**	S	Sn	19 37 54.0	-4.0

*IDC **18** 19:43:50.6±2.3, 5°.18N×94°.02E, h0km, mb3.7/6, mbtmp3.8/7, ML4.8/1, Error ellipse: s-maj=97.7km s-min=22.1km az=59.0*

ISC 18 19:43:56.2±1.9, 5°.3N±0°.2×94°.2E±0°.3, h35km, n13, σ0s 39/7, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.92**	**19**	Pn	**Pn**	**19 47 11.2**	**+0.1**
1.6nm,0.3s,baz=209,slow=11,SNR=8.5							
2.5nm,0.3s							
H08S2	**Diego Garcia H**	**25.13**	**239**	T	T	20 15 15.4	
baz=59,slow=76,SNR=19							
H08S3	**Diego Garcia H**	**25.13**	**240**	T	T	20 15 15.3	
baz=59,slow=76,SNR=18							
H08S1	**Diego Carcia H**	**25.15**	**240**	T	T	20 15 16.5	
baz=59,slow=76,SNR=15							
MKAR	**Makanchi Array**	**42.63**	**348**	P	**P**	**19 51 49.3**	**+0.1**
1.3nm,0.7s,baz=167,slow=7.8,SNR=20							
1.3nm,0.7s							
WRA	**Warramunga Arr**	**46.78**	**124**	P	**P**	**19 52 22.7**	**+0.1**
0.5nm,0.7s,baz=304,slow=7.6,SNR=2.0							
0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**47.07**	**346**	P	**P**	**19 52 24.8**	**+0.4**
0.8nm,0.3s,baz=171,slow=6.8,SNR=3.5							
0.8nm,0.3s							
ASAR	**Alice Springs**	**48.27**	**128**	P	**P**	**19 52 34.1**	**0.0**
0.2nm,0.7s,baz=298,slow=7.5,SNR=4.6							
0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**49.13**	**353**	P	**P**	**19 52 39.7**	**-0.5**
0.8nm,0.4s,baz=179,slow=7.6,SNR=4.2							
0.8nm,0.4s							
BVAR	**Borovoye Array**	**51.46**	**342**	P	**P**	**19 52 57.6**	**-0.3**
0.4nm,0.6s,baz=148,slow=6.3,SNR=3.7							
0.4nm,0.6s							
H04N2	**CROZET ISLANDS**	**63.51**	**212**	T	T	21 02 38.6	
baz=50,slow=76,SNR=21							
H04N1	**CROZET ISLANDS**	**63.52**	**212**	T	T	21 02 08.3	
baz=50,slow=76,SNR=75							
H04N3	**CROZET ISLANDS**	**63.53**	**212**	T	T	21 02 07.7	
baz=50,slow=76,SNR=68							

IDC 18 19:43:59.0±5.6, 50°.08N×114°.74W, h0km, mbtmp3.3/1, ML3.2/1, Error ellipse: s-maj=69.6km s-min=39.7km az=69.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.40**	**222**	I	I	20 02 40.0	
baz=41,slow=321,SNR=3.9							
I10CA	**LAC DU BONNET**	**12.01**	**82**	I	I	20 59 40.0	
baz=274,slow=322,SNR=1.0							
YKA	**Yellowknife Ar**	**12.45**	**0**	Pn	Pn	19 46 53.1	-4.1
0.1nm,0.3s,baz=183,slow=18,SNR=7.1							
YKA				Sn	Sn	19 49 08.1	-8.4
0.1nm,0.3s,baz=181,slow=23,SNR=5.1							
YKA				Lg	Lg	19 50 19.3	
baz=185,slow=26,SNR=3.9							
0.6nm,0.7s							

IDC 18 19:50:52.5±2.2, 0°.16S×126°.27E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=191.9km s-min=28.5km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.19**	**159**	P	P	19 55 39.7	0.0
0.4nm,0.4s,baz=337,slow=10,SNR=7.9							
0.4nm,0.4s							
ASAR	**Alice Springs**	**24.51**	**163**	P	P	19 56 13.8	-0.1
1.0nm,0.7s,baz=337,slow=8.7,SNR=10							
1.0nm,0.7s							
MKAR	**Makanchi Array**	**60.50**	**327**	P	P	20 01 04.5	0.0
0.1nm,0.4s,baz=115,slow=6.7,SNR=1.8							
0.1nm,0.4s							

HEL 18 19:55:06.3±0.3, 67°.86N×20°.12E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**75**	PG	Pg	19 55 19.5	-0.7
LANU				SG	Sg	19 55 28.8	-0.9
KIF	**Kilpisjarvi**	**1.17**	**12**	PN	Pn	19 55 29.8	-0.1
KIF				MSG		19 55 43.1	
comp=Z,1.4nm,0.2s							
KIF				SB	Sb	19 55 44.6	-0.5
PAJU	**Pajala**	**1.43**	**125**	PG	Pn	19 55 31.4	-2.1
baz=304							
PAJU				SG	Sg	19 55 50.3	-1.8
HEF	**Hetta**	**1.43**	**66**	PG	Pn	19 55 31.8	-1.7
baz=249							
HEF				MSG		19 55 49.3	
comp=Z,0.8nm,0.2s							
HEF				SG	Sg	19 55 50.9	-1.4
ERTU	**Ertsjaerv**	**1.54**	**148**	PG	Pn	19 55 34.5	-0.5
ERTU				SG	Sn	19 55 54.1	-1.6
KLF	**Kolari**	**1.60**	**111**	PG	Pn	19 55 34.8	-1.1
baz=292							
KLF				MSG		19 55 54.2	
comp=Z,0.6nm,0.2s							
KLF				SN	Sn	19 55 55.8	-1.4
KTK1	**Kautokeino**	**1.63**	**44**	PN	Pb	19 55 36.9	-0.3
KALU	**Kalix**	**2.38**	**146**	PB	Pn	19 55 47.9	+1.3
KALU				SB	Sn	19 56 17.3	+0.9
TOF	**Tornio**	**2.44**	**135**	PB	Pn	19 55 48.4	+1.1
TOF				MSG		19 56 18.3	
comp=Z,0.9nm,0.2s							
TOF				SB	Sn	19 56 18.9	+1.2
ARA0	**ARCESS Array S**	**2.58**	**47**	SG	Sb	19 56 24.7	-1.1
RNF	**Rovaniemi**	**2.62**	**116**	PB	Pn	19 55 51.2	+1.5
RNF				SB	Sb	19 56 24.5	-2.0
RAJF	**Raja-Jooseppi**	**3.12**	**75**	SB	Sb	19 56 39.3	-1.8
KEV	**Kevo**	**3.14**	**50**	SN	Sn	19 56 35.7	+0.7
KEV				MSG		19 56 38.5	
comp=Z,0.6nm,0.2s							
VRF	**Varrio**	**3.60**	**87**	SN	Sn	19 56 45.6	-0.8
OLKF	**Oulanka, Finla**	**3.94**	**109**	SB	Sb	19 57 00.6	-4.2

UPP 18 19:55:47.9±0.0, 67°.19N×20°.66E, h0km, ML2.0, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**208**	P	Pg	19 55 49.6	+0.3
DUNU				S	Sg	19 55 50.9	+0.6
MASU	**Masugnsbyn**	**0.58**	**62**	P	Pg	19 55 59.1	0.0
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	19 56 02.2	-0.3
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	19 56 02.5	-0.3
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pg	19 56 04.0	-0.7
PAJU	**Pajala**	**0.97**	**99**	P	Pg	19 56 06.0	-0.5
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	19 56 06.6	-0.5
KOVU	**Salmi**	**1.06**	**350**	P	Pg	19 56 07.4	-0.7
KALU	**Kalix**	**1.72**	**140**	P	Pn	19 56 19.3	+0.4
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	19 56 19.1	-0.1

*HEL **18** 20:05:46.9±0.2, 67°.63N×33°.75E, h0km, ML1.4, Suspected explosion*

KOLA 18 20:05:46.6, 67°.65N×33°.75E, h0km, ML1.5, Error ellipse: s-maj=2.9km s-min=1.6km az=130.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**240**	P	Pg	20 05 49.5	0.0
APA0	**Apatity Array**	**0.29**	**262**	P	Pg	20 05 51.8	-0.4
APA0				S	Sg	20 05 55.5	-0.5
LVZ	**Lovozero**	**0.42**	**53**	P	Pg	20 05 54.2	-0.5
LVZ				S	Sg	20 06 00.1	-0.1
LVZ	**Lovozero**	**0.42**	**53**	PG	Pg	20 05 54.7	0.0
LVZ				SG	Sg	20 05 56.8	-3.4
KVDA	**Kovda**	**1.02**	**200**	P	Pg	20 06 05.1	-1.0
KVDA				S	Sg	20 06 18.0	-1.2
VRF	**Varrio**	**1.58**	**276**	PG	Pn	20 06 14.7	-1.2
VRF				MSG		20 06 34.3	
comp=Z,2.5nm,0.2s							
VRF				SG	Sn	20 06 36.2	-0.8
TERR	**Teriberka**	**1.64**	**17**	P	Pn	20 06 15.8	-0.8
TERR			

comp=Z,0.4nm,0.2s
KIF Kilpisjarvi 1.88 3 PG Pn 20 06 36.6 +0.9
KIF MSG 20 06 59.4
comp=Z,0.7nm,0.2s
KIF SG Sb 20 07 01.7 +0.1
KTK1 Kautokeino 2.14 27 SG Sb 20 07 08.4 -0.6
RAJF Raja-Jooseppi 3.24 62 PB Pn 20 06 56.6 +2.1

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*IDC **18** 20:23:10.1±23.0, 5°.29N×126°.43E, h309km±250km, mb3.0/7, mbtmp3.7/7, Error ellipse: s-maj=116.6km s-min=28.4km az=51.0*
ISC 18 20:23:09.3±1.0, **5°.3N**±0°.2×**126°.5E**±0°.5, **h300**km, **n7**, σ**0**§**44/7, mb3.2/7, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.26**	**163**	P	**P**	**20 28 18.2**	**+0.4**
	0.4nm,0.6s,baz=342,slow=9.3,SNR=3.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**29.70**	**166**	P	**P**	**20 28 48.0**	**-0.2**
	0.1nm,0.3s,baz=348,slow=8.9,SNR=0.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.15**	**325**	P	**P**	**20 32 17.9**	**-0.4**
	0.2nm,0.3s,baz=114,slow=7.3,SNR=9.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**60.30**	**327**	P	**P**	**20 32 46.6**	**-0.1**
	0.6nm,0.3s,baz=124,slow=7.4,SNR=1.9						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**65.89**	**327**	P	**P**	**20 33 23.1**	**-0.1**
	0.4nm,0.5s,baz=131,slow=6.6,SNR=2.3						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**83.76**	**25**	P	**P**	**20 35 04.6**	**-0.2**
	0.2nm,0.5s,baz=256,slow=6.1,SNR=2.1						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**88.89**	**340**	P	**P**	**20 35 30.1**	**+0.6**
	2.0nm,0.9s,baz=85,slow=4.8,SNR=1.4						
	2.0nm,0.9s						

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*ISN **18** 20:30:39.2±0.7, 34°.30N×45°.39E, h14km±17km, ML3.0*
*TEH **18** 20:30:39.4, 34°.31N×45°.51E, h11km±23km*
ISC 18 20:30:39.9±1.2, **34°.29N**±0°.04×**45°.44E**±0°.04, **h6**km±12km, **n14**, σ1§**05/19, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**30**	Pg	**Pg**	**20 30 44.6**	**-0.1**
KGS1				Sg	**Sg**	**20 30 48.6**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.43**	**115**	Pg	**Pg**	**20 30 48.1**	**-0.2**
IDHR	**Dehrash**	**0.88**	**62**	Pg	**Pb**	**20 30 55.9**	**-1.9**
IGHG	**Ghaleghazi**	**0.94**	**88**	Pg	**Pb**	**20 30 57.8**	**-1.0**
IGHG				Sg	**Sb**	**20 31 10.9**	**-0.7**
IBDR	**Badra**	**1.25**	**161**	*e*Pg	**Pb**	**20 31 04.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**20 31 21.0**	**-0.1**
IBDR				AML	AML	20 31 27.1
	comp=N,223nm,0.3s						
IBDR				AML	AML	20 31 27.2
	comp=E,334nm,0.3s						
KCHF	**Cheshme Sefid,**	**1.33**	**90**	Pg	**Pb**	**20 31 05.2**	**-0.2**
BHD	**Baghdad**	**1.35**	**221**	*e*Pn	**Pn**	**20 31 05.0**	**-0.4**
BHD				*e*Sn	**Sg**	**20 31 24.0**	**+0.7**
IKRK	**Kirkuk**	**1.43**	**321**	*e*Pn	**Pb**	**20 31 06.0**	**-1.0**
IKRK				*e*Sn	**Sg**	**20 31 26.0**	**+0.2**
IKRK				AML	AML	20 31 30.2
	comp=E,393nm,0.2s						
IKRK				AML	AML	20 31 31.0
	comp=N,320nm,0.7s						
SNQR	**Sonqor, Kerman**	**1.89**	**72**	Pn	**Pb**	**20 31 13.9**	**-1.2**
IKFM	**Kafar-mosalman**	**2.14**	**110**	Pn	**Pn**	**20 31 17.3**	**+1.1**
IDOB	**Doab**	**2.33**	**102**	Pn	**Pn**	**20 31 19.7**	**+0.6**
HGHA	**Hamedan- Ghaye**	**3.05**	**66**	Pn	**Pn**	**20 31 30.4**	**+1.4**
HAGD	**Aghdareh**	**3.10**	**79**	Pn	**Pn**	**20 31 30.2**	**+0.6**
IAZR	**Azarshahr**	**3.41**	**7**	Pn	**Pn**	**20 31 35.9**	**+2.0**

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*IDC **18** 20:49:23.3±1.4, 28°.52N×129°.89E, h0km, mb3.3/6, mbtmp3.3/6, MS3.3/1, Error ellipse: s-maj=52.2km s-min=30.9km az=60.0*
*JMA **18** 20:49:27.1±0.2, 28°.5N±0°.9×130°.1E±0°.7, h32km±1km, MV3.4/17, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
ISC 18 20:49:26.7±0.8, **28°.56N**±0°.05×**130°.16E**±0°.07, **h29**km, **n22**, σ1§**03/21, mb3.3/6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.29**	**213**	P	**Pb**	**20 49 33.7**	**-0.3**
JZK				S	**Sb**	**20 49 39.0**	**+0.1**
JAM	**Amami Oshima**	**0.51**	**253**	P	**Pb**	**20 49 36.4**	**-0.8**
JAM				*e*S	**Sb**	**20 49 43.1**	**-1.2**
JAMN	**Amaminishikomi**	**0.92**	**250**	*i* P	**Pn**	**20 49 42.9**	**-0.8**
JTAJ	**Takarajima**	**1.02**	**305**	*e*P	**Pn**	**20 49 45.3**	**+0.2**
JTK	**Tokunoshima**	**1.31**	**234**	*e*P	**Pn**	**20 49 49.2**	**+0.1**
JYAK	**Yakushimahirau**	**1.70**	**10**	*e*P	**Pb**	**20 49 57.2**	**-0.1**
JMTN	**Minamitane**	**1.94**	**19**	P	**Pb**	**20 50 00.4**	**-1.1**
JYRO	**Yoronjima**	**2.15**	**225**	*e*P	**Pn**	**20 50 00.9**	**+0.3**
JYRO				*e*S	**Sn**	**20 50 26.0**	**-0.3**
JTN	**Tanegashima 3**	**2.21**	**19**	*e*P	**Pb**	**20 50 04.0**	**-1.9**
JOW	**Kunigami**	**2.40**	**225**	*e*P	**Pn**	**20 50 04.0**	**0.0**
JIH	**Iheya**	**2.46**	**232**	*e*P	**Pn**	**20 50 04.9**	**0.0**
JKDJ	**Kitadaitoujima**	**2.79**	**158**	*e*S	**Sn**	**20 50 39.9**	**-2.3**
H11N2	**WAKE ISLAND Hy**	**34.55**	**96**	T	T	21 33 04.9	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**34.55**	**96**	T	T	21 33 05.0	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**34.57**	**96**	T	T	21 33 08.8	
	baz=290						
MKAR	**Makanchi Array**	**41.32**	**309**	P	**P**	**20 57 09.9**	**+0.2**
	0.1nm,0.3s,baz=111,slow=7.9,SNR=1.7						
	0.1nm,0.3s						
TIXI	**Tiksi**	**43.14**	**359**	LR	LR	21 15 34.2	
	comp=Z,33nm,18.0s,baz=199,slow=36						
KURBB	**Kurchatov Arra**	**44.40**	**314**	P	**P**	**20 57 33.8**	**-0.8**
	0.3nm,0.7s,baz=99,slow=9.1,SNR=4.8						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**48.39**	**175**	P	**P**	**20 58 06.9**	**+0.7**
	0.2nm,0.7s,baz=353,slow=7.8,SNR=1.9						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**49.72**	**317**	P	**P**	**20 58 15.9**	**-0.2**
	0.5nm,0.6s,baz=86,slow=7.9,SNR=4.4						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**75.69**	**26**	P	**P**	**21 01 11.2**	**+2.2**
	0.3nm,0.8s,baz=301,slow=5.6,SNR=4.2						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**76.95**	**308**	P	**P**	**21 01 17.2**	**+0.4**
	0.7nm,0.8s,baz=97,slow=6.0,SNR=3.9						
	0.7nm,0.8s						

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*ISK **18** 21:18:26.8, 34°.64N×32°.58E, h12km, ML3.4/53*
*IDC **18** 21:18:26.0±1.4, 34°.85N×32°.55E, h0km, mb3.6/5, mbtmp3.6/12, ML3.6/6, MS3.3/1, Error ellipse: s-maj=29.1km s-min=16.3km az=52.0*
*NEIC **18** 21:18:28.1±2.1, 34°.86N±0°.08×32°.51E±0°.02, h10km±2km, mb3.5/4, Error ellipse: s-maj=12.8km s-min=3.2km az=173.0*
*GRAL **18** 21:18:29.6±0.4, 34°.73N×32°.71E, h0km±120km, MD3.6*
*NIC **18** 21:18:29.4, 34°.86N×32°.68E, h26km±1km, Ml3.2/9*
*GII **18** 21:18:30.1±0.0, 34°.679N±0°.002×32°.689E±0°.001, h10km, Mws3.2, confirmed*
*HLW **18** 21:18:30.7, 34°.74N×32°.48E, h31km±12km, Ml3.3*
*AFAD **18** 21:18:30.0, 34°.68N×32°.77E, h14km±7km, MW3.7*
ISC 18 21:18:29.4±0.7, **34°.76N**±0°.02×**32°.58E**±0°.03, **h30**km±5km, **n220**, σ1§**71/251, mb3.5/6, 2C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.02**	**340⇑**	*e*P	**Pb**	**21 19 33.9**	**-0.7**
NATA				S	**Sb**	**21 18 38.5**	**+0.4**
NATA				AML	AML	21 18 38.7
	145nm,0.6s						
NATA				AML	AML	21 18 39.0
	163nm,0.2s						
APOL	**The Sanctuary**	**0.25**	**111⇑**	*i* P	**Pb**	**21 18 35.7**	**-0.6**
APOL				S	**Sb**	**21 18 40.7**	**-0.2**
APOL				AML	AML	21 18 42.8
	10nm,0.2s						
APOL				AML	AML	21 18 46.7
	14nm,0.4s						
AKMS	**Akamas**	**0.32**	**322⇓**	*i* P	**Pb**	**21 18 37.0**	**-0.3**
AKMS				S	**Sb**	**21 18 43.1**	**+0.5**
AKMS				AML	AML	21 18 44.1
	8.8nm,0.3s						
AKMS				AML	AML	21 18 44.3
	7.9nm,0.3s						
ALFC	**Alefka**	**0.39**	**3⇓**	*i* P	**Pb**	**21 18 36.8**	**-1.5**
ALFC				S	**Sb**	**21 18 42.1**	**-2.2**
ALFC				AML	AML	21 18 43.5
	16nm,0.3s						
ALFC				AML	AML	21 18 46.4
	14nm,0.2s						
LEF	**Lefka**	**0.44**	**36**	Pg	**Pb**	**21 18 37.3**	**-1.6**
LEF				Sg	**Sb**	**21 18 45.1**	**-0.3**
LEF	**Lefka**	**0.44**	**36**	P	**Pb**	**21 18 38.8**	**-0.2**
ASGA	**Asgata**	**0.55**	**87**	P	**Pb**	**21 18 39.3**	**-1.4**
ASGA				S	**Sb**	**21 18 48.0**	**-0.5**
ASGA				AML	AML	21 18 50.4
	8.0nm,0.4s						
ASGA				AML	AML	21 18 51.6
	6.2nm,0.5s						
AKDN	**Akdeniz- Kıbrı**	**0.62**	**31**	Pg	**Pb**	**21 18 41.5**	**-0.4**
AKDN				Sg	**Sn**	**21 18 52.2**	**+1.0**
CSS	**Mathiatis**	**0.65**	**72**	Pg	**Pb**	**21 18 40.8**	**-1.6**
CSS				Sg	**Sb**	**21 18 50.9**	**-0.3**
CSS	**Mathiatis**	**0.65**	**72**	Pg	**Pb**	**21 18 40.8**	**-1.6**
CSS				Sg	**Sb**	**21 18 50.5**	**-0.7**
CSS	**Mathiatis**	**0.65**	**72**	P	**Pb**	**21 18 41.4**	**-1.0**
CSS				S	**Sb**	**21 18 50.5**	**-0.7**
CSS	**Mathiatis**	**0.65**	**72**	P	**Pb**	**21 18 40.6**	**-1.8**
CSS				S	**Sb**	**21 18 49.3**	**-1.9**
CSS				AML	AML	21 18 56.1
	3.9nm,0.3s						
CSS				AML	AML	21 18 57.0
	4.8nm,0.3s						
CSS	**Mathiatis**	**0.65**	**72**	P	**Pb**	**21 18 40.8**	**-1.6**
ATHAL	**Athalassa**	**0.77**	**60**	P	**Pb**	**21 18 43.9**	**-0.5**
ATHAL				S	**Sn**	**21 18 55.9**	**+1.0**
ATHAL				AML	AML	21 18 56.9
	13nm,0.8s						
ATHAL				AML	AML	21 19 02.7
	11nm,0.5s						
AKIN	**Akıncılar- Kıb**	**0.77**	**71**	Pg	**Pb**	**21 18 43.3**	**-1.1**
AKIN				Sg	**Sn**	**21 18 54.8**	**-0.1**
MVOU	**Mavrovouni**	**0.90**	**73**	P	**Pb**	**21 18 45.5**	**-1.0**
MVOU				S	**Sn**	**21 18 59.6**	**+1.6**
MVOU				AML	AML	21 19 00.9
	2.9nm,0.5s						
MVOU				AML	AML	21 19 05.6
	1.9nm,0.6s						
LFK	**Lefkose**	**0.94**	**56**	Pg	**Pb**	**21 18 46.7**	**-0.5**
LFK				Sg	**Sn**	**21 19 01.1**	**+2.1**
PARAL	**Paralimni**	**1.23**	**79**	P	**Pb**	**21 18 52.4**	**+0.4**
PARAL				S	**Sb**	**21 19 10.6**	**+3.2**
PARAL				AML	AML	21 19 16.4
	2.8nm,0.9s						
PARAL				AML	AML	21 19 17.0
	1.8nm,0.6s						
BOZY	**Bozyazi-Mersin**	**1.38**	**14**	Pn	**Pb**	**21 18 54.3**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.45**	**18**	Pn	**Pb**	**21 18 55.3**	**-0.4**
GAZI	**Gazipasa**	**1.48**	**352**	Pn	**Pn**	**21 18 55.2**	**+1.1**
GAZI	**Gazipasa**	**1.48**	**352**	P	**Pn**	**21 18 54.4**	**+0.3**
GAZI				S	**Sn**	**21 19 12.4**	**0.0**
EREN	**Erenkoy**	**1.51**	**59**	Pn	**Pn**	**21 18 55.7**	**+1.3**
EREN	**Erenkoy**	**1.51**	**59**	P	**Pn**	**21 18 55.7**	**+1.3**
YORU	**Yoruktepe-Mers**	**1.54**	**26**	Pn	**Pn**	**21 18 56.3**	**+1.4**
AKK1	**Akkuyu-Mersin**	**1.59**	**29**	Pn	**Pn**	**21 18 57.1**	**+1.7**
AKKU	**Akkuyu-Mersin**	**1.60**	**29**	Pn	**Pn**	**21 18 56.8**	**+1.1**
OREN	**Orenkoy-Mersin**	**1.61**	**26**	Pn	**Pn**	**21 18 57.2**	**+1.4**
GULN	**MERSIN_Gulnar**	**1.62**	**29**	P	**Pn**	**21 18 55.8**	**-0.1**
TEPK	**Tepekoy-MERSIN**	**1.66**	**28**	Pn	**Pn**	**21 18 57.6**	**+1.1**
TISA	**Tisan-Mersin**	**1.66**	**32**	Pn	**Pn**	**21 18 57.6**	**+1.1**
BERE	**Bereket-Mersin**	**1.67**	**18**	Pn	**Pn**	**21 18 58.1**	**+1.4**
YESI	**Yesilovacik-Me**	**1.67**	**31**	Pn	**Pn**	**21 18 57.6**	**+1.0**
KARG	**Kargicak-Mersi**	**1.71**	**32**	Pn	**Pn**	**21 18 58.9**	**+1.7**
IKL	**Isikli**	**1.73**	**31**	Pn	**Pn**	**21 18 58.4**	**+1.0**
TEVE	**Tevekalti-Mers**	**1.81**	**23**	Pn	**Pn**	**21 19 00.8**	**+2.1**
ALAN	**Alanya-ANTALYA**	**1.84**	**346**	Pn	**Pn**	**21 19 00.4**	**+1.4**
KEBE	**Keben-Mersin**	**1.92**	**29**	Pn	**Pn**	**21 19 01.8**	**+1.7**
SILI	**Silifke-Mersin**	**1.94**	**34**	Pn	**Pn**	**21 19 01.9**	**+1.6**
SLFK	**Silifke-Mersin**	**1.97**	**34**	Pn	**Pn**	**21 19 01.9**	**+1.1**
KIZK	**Mersin**	**2.14**	**36**	Pn	**Pn**	**21 19 04.5**	**+1.4**
KIZK	**Mersin**	**2.14**	**36**	P	**Pn**	**21 19 04.4**	**+1.4**
KIZK				S	**Sn**	**21 19 27.0**	**-1.5**
KIZK				*i* AML	AML	21 19 43.0
	comp=N,90nm,0.5s						
HDMB	**Hadim**	**2.20**	**358**	Pn	**Pn**	**21 19 06.9**	**+2.8**
KEPZ	**Antalya-Kepez**	**2.28**	**340**	P	**Pn**	**21 19 06.1**	**+1.1**
KEPZ				S	**Sn**	**21 19 32.8**	**+0.8**
AKUM	**Antalya-Kumluc**	**2.40**	**311**	P	**Pb**	**21 19 11.5**	**-0.3**
KKBE	**Karaman, Kazim**	**2.47**	**7**	P	**Pb**	**21 19 11.5**	**-1.7**
KKBE				S	**Sb**	**21 19 41.9**	**-1.3**
KKBE				*i* AML	AML	21 19 43.0
	comp=E,158nm,0.5s						
KKBE				*i* AML	AML	21 19 47.0
	comp=N,120nm,0.9s						
KRMN	**Karaman**	**2.47**	**13**	Pn	**Pn**	**21 19 10.2**	**+2.5**
MERS	**Mersin**	**2.63**	**36**	Pn	**Pn**	**21 19 12.0**	**+2.1**
BHL	**Bhannes**	**2.69**	**108**	*e*P	**Pn**	**21 19 11.3**	**+0.6**
DQRL	**Deir Qamar**	**2.69**	**112**	*e*P	**Pn**	**21 19 11.2**	**+0.4**
SEYD	**Seydisehir-KON**	**2.71**	**347**	Pn	**Pn**	**21 19 13.3**	**+2.3**
HNTI	**Hanita**	**2.73**	**127**	P	**Pn**	**21 19 12.1**	**+0.9**
HNTI	**Hanita**	**2.73**	**127**	S	**Sn**	**21 19 44.0**	**+0.7**
SEDI	**Konya, Seydise**	**2.76**	**346**	P	**Pn**	**21 19 15.4**	**+3.6**
SEDI				S	**Sn**	**21 19 48.0**	**+3.8**
SEDI				*i* AML	AML	21 19 54.0
	comp=N,90nm,0.5s						
SEDI				*i* AML	AML	21 19 56.0
	comp=E,141nm,0.5s						
HWQ	**Hawqa**	**2.82**	**99**	*e*P	**Pn**	**21 19 13.1**	**+0.5**
HWQ				*e*S	**Sn**	**21 19 45.2**	**-0.5**
AKAS	**Kas**	**2.83**	**302**	Pn	**Pn**	**21 19 14.5**	**+1.8**
AKAS	**Kas**	**2.83**	**302**	Pn	**Pn**	**21 19 12.1**	**-0.6**
AKAS	**Kas**	**2.83**	**302**	P	**Pn**	**21 19 14.3**	**+1.5**
DED	**Mersin**	**2.84**	**39**	P	**Pn**	**21 19 14.6**	**+1.8**
QRWL	**Qaraoun**	**2.85**	**114**	*e*P	**Pn**	**21 19 13.5**	**+0.6**
KORT	**Korkueli**	**2.87**	**322**	Pn	**Pn**	**21 19 16.9**	**+3.6**
KORT	**Korkueli**	**2.87**	**322**	P	**Pb**	**21 19 18.7**	**-1.4**
ZAHL	**Zahle**	**2.88**	**107**	*e*P	**Pn**	**21 19 13.8**	**+0.4**
MMC7	**Mount Meron ar**	**2.92**	**126**	P	**Pn**	**21 19 14.5**	**+0.7**
MMC1	**Mount Meron ar**	**2.92**	**126**	P	**Pn**	**21 19 14.4**	**+0.6**
MMA0B	**Mount Meron ar**	**2.93**	**126**	P	**Pn**	**21 19 14.6**	**+0.6**
MMA0B	**Mount Meron ar**	**2.93**	**126**	S	**Sn**	**21 19 49.1**	**+0.9**
MMAI	**Mount Meron Ar**	**2.93**	**126**	Pn	**Pn**	**21 19 14.8**	**+0.9**
	41nm,0.3s,baz=314,slow=13,SNR=111						
MMAI				Sn	**Sn**	**21 19 49.2**	**+1.0**
	86nm,0.3s,baz=304,slow=24,SNR=5.4						
	34nm,0.3s						
KERG	**Konya-Eregli**	**2.93**	**25**	P	**Pn**	**21 19 17.3**	**+3.3**
KERG				S	**Sb**	**21 19 53.5**	**-2.9**
KERG				*i* AML	AML	21 19 59.0
	comp=N,126nm,0.4s						
KERG				*i* AML	AML	21 20 00.0
	comp=E,127nm,0.6s						
MMB1	**Mount Meron ar**	**2.93**	**126**	P	**Pn**	**21 19 14.7**	**+0.7**
OFRI	**`Ofer**	**2.93**	**136**	P	**Pn**	**21 19 14.8**	**+0.8**
OFRI	**`Ofer**	**2.93**	**136**	S	**Sn**	**21 19 48.8**	**+0.6**
OFRI	**`Ofer**	**2.93**	**136**	P	**Pn**	**21 19 14.8**	**+0.8**
ELL	**Elmali**	**2.94**	**313**	Pn	**Pn**	**21 19 16.6**	**+2.4**
ELL	**Elmali**	**2.94**	**313**	Pn	**Pn**	**21 19 13.2**	**-0.9**
BLGI	**Bet Lehem HaGe**	**2.97**	**132**	P	**Pn**	**21 19 15.4**	**+0.9**
BLGI	**Bet Lehem HaGe**	**2.97**	**132**	S	**Sn**	**21 19 49.9**	**+0.7**
BLGI	**Bet Lehem HaGe**	**2.97**	**132**	P	**Pn**	**21 19 15.6**	**+1.1**
BEIL	**Beino**	**2.98**	**93**	*e*P	**Pn**	**21 19 15.3**	**+0.6**
BEIL				*e*S	**Sn**	**21 19 49.3**	**-0.1**
RCY	**Rachaya**	**2.98**	**114**	*e*P	**Pn**	**21 19 15.3**	**+0.5**
RCY				*e*S	**Sn**	**21 19 49.3**	**-0.3**
SHBL	**Chebaa**	**2.98**	**117**	*e*P	**Pn**	**21 19 15.5**	**+0.7**
GEM	**Giv'at Ha'Em**	**3.00**	**120**	P	**Pn**	**21 19 15.8**	**+0.9**
GEM	**Giv'at Ha'Em**	**3.00**	**120**	S	**Sn**	**21 19 49.3**	**-0.4**
GEM	**Giv'at Ha'Em**	**3.00**	**120**	P	**Pn**	**21 19 15.4**	**+0.6**
KMER	**Konya-Meram**	**3.00**	**357**	P	**Pb**	**21 19 20.1**	**-2.2**
KMER				S	**Sn**	**21 19 54.1**	**+3.9**
KMER				*i* AML	AML	21 20 00.0
	comp=E,99nm,0.7s						
NATI	**Neve Ativ**	**3.02**	**119**	P	**Pn**	**21 19 16.4**	**+1.2**
NATI	**Neve Ativ**	**3.02**	**119**	S	**Sn**	**21 19 51.5**	**+1.2**
NATI	**Neve Ativ**	**3.02**	**119**	P	**Pn**	**21 19 16.4**	**+1.2**
ASUZ	**Hatay-Arsuz**	**3.03**	**59**	P	**Pn**	**21 19 16.5**	**+1.2**
BUCA	**Burdur, Bucak-**	**3.04**	**328**	P	**Pn**	**21 19 19.8**	**+4.3**
GULE	**Gulek**	**3.08**	**35**	P	**Pn**	**21 19 19.5**	**+3.3**
YESY	**Yesilyurt**	**3.16**	**17**	Pn	**Pn**	**21 19 20.4**	**+3.2**
KONT	**Konya--Tatoy**	**3.18**	**357**	Pn	**Pn**	**21 19 20.1**	**+2.7**
KONT	**Konya--Tatoy**	**3.18**	**357**	P	**Pn**	**21 19 21.5**	**+4.0**
KONT				S	**Sb**	**21 20 00.7**	**-2.9**
KONT				*i* AML	AML	21 20 05.0
	comp=N,45nm,0.8s						
KONT				*i* AML	AML	21 20 09.0
	comp=E,51nm,0.6s						
KARA	**Karaisali**	**3.20**	**38**	Pn	**Pn**	**21 19 20.1**	**+2.4**
FKH	**Fakeheh**	**3.21**	**98**	*e*P	**Pn**	**21 19 18.6**	**+0.8**
KSHT	**Keshet**	**3.22**	**123**	P	**Pn**	**21 19 18.8**	**+0.8**
KSHT	**Keshet**	**3.22**	**123**	S	**Sn**	**21 19 56.6**	**+1.1**
SLTI	**Sal'it**	**3.25**	**140**	P	**Pn**	**21 19 19.3**	**+1.0**
SLTI	**Sal'it**	**3.25**	**140**	S	**Sn**	**21 19 56.3**	**+0.3**
SLTI	**Sal'it**	**3.25**	**140**	P	**Pn**	**21 19 18.8**	**+0.5**
MMLI	**Mount Malkishu**	**3.32**	**134**	P	**Pn**	**21 19 20.1**	**+0.7**
MMLI	**Mount Malkishu**	**3.32**	**134**	S	**Sn**	**21 19 58.5**	**+0.7**
MMLI	**Mount Malkishu**	**3.32**	**134**	P	**Pn**	**21 19 19.8**	**+0.5**
TAHT	**Tahtakopru-Hat**	**3.35**	**60**	Pn	**Pn**	**21 19 21.6**	**+1.8**
FETY	**Fethiye**	**3.40**	**304**	Pn	**Pn**	**21 19 21.9**	**+1.4**
CEYT	**Ceyhan**	**3.41**	**48**	Pn	**Pn**	**21 19 22.7**	**+2.1**
DOGA	**KONYA_Doganhis**	**3.42**	**348**	P	**Pn**	**21 19 25.3**	**+4.6**
LADK	**Ladik-KONYA**	**3.44**	**357**	Pn	**Pn**	**21 19 23.7**	**+2.7**
CAME	**Cameli-Denizli**	**3.44**	**310**	Pn	**Pn**	**21 19 23.2**	**+2.2**
SALP	**Salfit**	**3.46**	**140**	P	**Pn**	**21 19 22.3**	**+1.0**
ISP	**Isparta**	**3.48**	**332**	Pn	**Pn**	**21 19 20.3**	**-1.2**
ISP	**Isparta**	**3.48**	**332**	P	**Pn**	**21 19 25.9**	**+4.4**
QRNJ	**Al-Qirein**	**3.48**	**133**	P	**Pn**	**21 19 23.0**	**+1.5**
CMRD	**Camardi-Nigde**	**3.49**	**33**	Pn	**Pn**	**21 19 24.3**	**+2.5**
HMDT	**Nahal Hemdat**	**3.51**	**135**	P	**Pn**	**21 19 23.0**	**+1.1**
HMDT	**Nahal Hemdat**	**3.51**	**135**	S	**Sn**	**21 20 03.4**	**+0.9**
HMDT	**Nahal Hemdat**	**3.51**	**135**	P	**Pn**	**21 19 23.4**	**+1.5**
SULT	**Sultanhani-AKS**	**3.51**	**12**	Pn	**Pn**	**21 19 24.7**	**+2.7**
UJAP	**Al Uja**	**3.70**	**138**	Pn	**Pn**	**21 19 24.4**	**-0.1**
UJAP	**Al Uja**	**3.70**	**138**	P	**Pn**	**21 19 25.4**	**+0.9**
UJAP	**Al Uja**	**3.70**	**138**	S	**Sn**	**21 20 07.9**	**+0.9**
UJAP	**Al Uja**	**3.70**	**138**	P	**Pn**	**21 19 26.1**	**+1.6**
BASM	**Basmaki-Afyon**	**3.75**	**328**	Pn	**Pn**	**21 19 27.9**	**+2.6**
AMAZ	**Amatzia**	**3.77**	**148**	P	**Pn**	**21 19 26.5**	**+1.0**
AMAZ	**Amatzia**	**3.77**	**148**	S	**Sn**	**21 20 09.9**	**+1.0**
AMAZ	**Amatzia**	**3.77**	**148**	P	**Pn**	**21 19 27.3**	**+1.8**
KOZT	**Kozan**	**3.78**	**43**	Pn	**Pn**	**21 19 27.7**	**+2.1**
APMY	**Acipayam-Deniz**	**3.79**	**317**	Pn	**Pn**	**21 19 28.4**	**+2.6**
DALY	**Dalyan (Mula)**	**3.79**	**304**	Pn	**Pn**	**21 19 27.3**	**+1.6**
GULA	**Gulagac**	**3.82**	**20**	Pn	**Pn**	**21 19 29.4**	**+3.2**
CHBY	**Cihanbeyli**	**3.82**	**4**	Pn	**Pn**	**21 19 29.1**	**+2.8**
ARG	**Arkhangelos**	**3.91**	**293**	Pn	**Pn**	**21 19 29.6**	**+2.2**
ARG	**Arkhangelos**	**3.91**	**293**	Pn	**Pn**	**21 19 26.2**	**-1.2**
DSI	**Dead Sea**	**3.96**	**143**	P	**Pn**	**21 19 29.0**	**+0.9**
DSI	**Dead Sea**	**3.96**	**143**	S	**Sn**	**21 20 14.3**	**+0.8**
DSI	**Dead Sea**	**3.96**	**143**	P	**Pn**	**21 19 29.5**	**+1.4**
YTIR	**Yattir**	**4.00**	**147**	P	**Pn**	**21 19 30.1**	**+1.4**
YTIR	**Yattir**	**4.00**	**147**	S	**Sn**	**21 20 16.0**	**+1.2**
YTIR	**Yattir**	**4.00**	**147**	P	**Pn**	**21 19 30.2**	**+1.4**
HSUJ	**Al Zarqa**	**4.02**	**130**	P	**Pn**	**21 19 31.1**	**+2.1**
TURN	**Turunc**	**4.05**	**301**	Pn	**Pn**	**21 19 30.9**	**+1.5**
SHUT	**Suhut-Afyon**	**4.12**	**337**	Pn	**Pn**	**21 19 33.6**	**+3.2**
KZIT	**Kziot**	**4.14**	**158**	P	**Pn**	**21 19 31.9**	**+1.4**
KZIT	**Kziot**	**4.14**	**158**	S	**Sn**	**21 20 19.3**	**+1.3**
KZIT	**Kziot**	**4.14**	**158**	P	**Pn**	**21 19 31.7**	**+1.1**
KIZT	**Kizilcal**	**4.15**	**352**	Pn	**Pn**	**21 19 34.7**	**+3.9**
MDBI	**Mazsada**	**4.16**	**145**	P	**Pn**	**21 19 31.6**	**+0.9**
MDBI	**Mazsada**	**4.16**	**145**	S	**Sn**	**21 20 18.8**	**+0.4**
MDBI	**

ZALV Zalesovo Beam 40.90 46 P **P 21 26 10.0 +1.3**
comp=Z,0.2nm,0.4s,baz=254,slow=10,SNR=1.6
comp=Z,0.2nm,0.4s

IDC 18 21:21:34.0±2.1, 9.91S×128.08E, h0km, mb3.4/1, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=62.1km s-min=25.6km az=74.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.47**	**196**	Pn	Pn	21 23 37.4	-0.8
	0.1nm,0.3s,baz=10.0,slow=15,SNR=1.9						
FITZ				Sn	Sn	21 25 16.1	+1.5
	0.3nm,0.3s,baz=149,slow=16,SNR=7.2						
	2.6nm,0.9s						
WRA	**Warramunga Arr**	**11.66**	**149**	Pn	Pn	21 24 21.6	-0.3
	0.1nm,0.3s,baz=333,slow=13,SNR=8.1						
WRA				Sn	Sn	21 26 35.2	+2.2
	0.1nm,0.3s,baz=337,slow=23,SNR=1.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**14.77**	**159**	Pn	Pn	21 25 05.0	+0.7
	0.1nm,0.3s,baz=335,slow=10,SNR=6.7						
ASAR				Sn	Sn	21 27 51.5	+2.6
	0.1nm,0.3s,baz=327,slow=22,SNR=4.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**69.65**	**328**	P	P	21 32 45.5	+0.1
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.0						
	0.3nm,0.7s						

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*SJA **18** 21:23:57.8±0.6, 21.15S×68.48W, h136km±5km, ML4.0, MW3.9*
*NEIC **18** 21:23:59.9±1.8, 21.14S±0.04×68.64W±0.06, h131km±8km, mb4.2/9, Error ellipse: s-maj=9.2km s-min=4.1km az=118.0*
*GUC **18** 21:24:01.0±0.6, 21.15S×68.59W, h125km±2km, ML3.9*
*IDC **18** 21:24:02.6±2.7, 21.12S×68.31W, h136km±25km, mb3.9/8, mbtmp4.3/10, Error ellipse: s-maj=27.6km s-min=16.7km az=93.0*
*VAO **18** 21:24:06.8±0.5, 20.92S×68.35W, h181km, mb4.1*
ISC 18 21:23:59.8±0.6, 21.14S±0.03×68.48W±0.04, h121km±6km, n101, σ1.59/118, mb4.1/7, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.95**	**275**		**Pn**	**21 24 21.1**	**-0.4**
PB01				Sn	**Sn**	**21 24 36.2**	**-1.7**
PB01	**IPOC Station P**	**0.95**	**275**	⇑*i*P	**Pn**	**21 24 21.4**	**-0.2**
PB01				*i*S	**Sn**	**21 24 37.3**	**-0.7**
PB01				IAML		21 24 39.6	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**0.95**	**275**	*e*P	**Pn**	**21 24 21.2**	**-0.4**
PB01				*e*S	**Sn**	**21 24 38.2**	**+0.3**
PB01				IAML		21 24 39.2	
	comp=Z,1μm,0.1s						
PB09	**IPOC Station P**	**0.97**	**227**	Pn	**Pn**	**21 24 22.2**	**+0.4**
PB09				Sn	**Sn**	**21 24 38.4**	**-0.1**
PB09	**IPOC Station P**	**0.97**	**227**	⇑*e*P	**Pn**	**21 24 22.5**	**+0.7**
PB09				*e*S	**Sn**	**21 24 39.0**	**+0.5**
PB09	**IPOC Station P**	**0.97**	**227**	*e*P	**Pn**	**21 24 22.5**	**+0.7**
PB09				*e*S	**Sn**	**21 24 39.5**	**+1.0**
PB09				IAML		21 24 40.5	
	comp=Z,2μm,0.6s						
PB08	**IPOC Station P**	**1.18**	**327**	Pn	**Pn**	**21 24 24.8**	**+0.7**
PB03	**IPOC Station P**	**1.50**	**232**	⇑*e*P	**Pn**	**21 24 27.3**	**-0.1**
PB03				*e*S	**Sn**	**21 24 47.6**	**-0.9**
PB03				IAML		21 24 48.3	
	comp=E,2μm,0.5s						
PB03	**IPOC Station P**	**1.50**	**232**	*e*P	**Pn**	**21 24 27.2**	**-0.1**
PB03				*e*S	**Sn**	**21 24 47.7**	**-0.7**
PB03				IAML		21 24 48.5	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	**1.69**	**289**	Pn	**Pn**	**21 24 28.6**	**-1.0**
TA01				Sn	**Sn**	**21 24 50.1**	**-2.2**
TA01	**Diego Aracena**	**1.69**	**289**	⇑*e*P	**Pn**	**21 24 29.1**	**-0.4**
TA01				*e*S	**Sn**	**21 24 50.6**	**-1.6**
TA01				IAML		21 24 51.8	
	comp=N,3μm,0.4s						
TA01	**Diego Aracena**	**1.69**	**289**	*e*P	**Pn**	**21 24 29.2**	**-0.4**
TA01				IAML		21 24 55.5	
	comp=Z,1μm,0.6s						
PB11	**IPOC Station P**	**1.76**	**321**	Pn	**Pn**	**21 24 30.3**	**-0.2**
PB11	**IPOC Station P**	**1.76**	**321**	⇓*e*P	**Pn**	**21 24 30.6**	**+0.1**
PB11				*e*S	**Sn**	**21 24 53.5**	**-0.5**
PB11				IAML		21 24 56.1	
	comp=E,2μm,0.5s						
PB11	**IPOC Station P**	**1.76**	**321**	*e*P	**Pn**	**21 24 30.6**	**+0.1**
PB11				*e*S	**Sn**	**21 24 54.7**	**+0.7**
PB11				IAML		21 24 59.2	
	comp=Z,1μm,0.4s						
TA02	**Huaiquique**	**1.77**	**299**	Pn	**Pn**	**21 24 30.0**	**-0.5**
TA02	**Huaiquique**	**1.77**	**299**	*e*P	**Pn**	**21 24 30.2**	**-0.4**
TA02				*e*S	**Sn**	**21 24 52.6**	**-1.4**
TA02	**Huaiquique**	**1.77**	**299**	*e*P	**Pn**	**21 24 30.6**	**0.0**
TA02				*e*S	**Sn**	**21 24 54.2**	**+0.3**
TA02				IAML		21 24 58.1	
	comp=Z,1μm,0.3s						
AF01	**San Pedro de A**	**1.83**	**171**	Pn	**Pn**	**21 24 33.1**	**+1.6**
AF01	**San Pedro de A**	**1.83**	**171**	*e*P	**Pn**	**21 24 32.9**	**+1.4**
AF01				IAML		21 25 02.6	
	comp=E,1μm,0.6s						
AF01	**San Pedro de A**	**1.83**	**171**	*e*P	Pn	21 24 48.9	+17
AF01				*e*S	**Sn**	**21 24 54.0**	**-1.7**
AF01				IAML		21 25 15.0	
	comp=Z,708nm,1.9s						
PB06	**IPOC Station P**	**1.86**	**213**	⇑*i*P	**Pn**	**21 24 31.9**	**+0.1**
PB06				*i*S	**Sn**	**21 24 55.8**	**-0.5**
PB06				IAML		21 24 56.8	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**1.86**	**213**	*e*P	**Pn**	**21 24 32.0**	**+0.1**
PB06				*e*S	**Sn**	**21 24 56.2**	**0.0**
PB06				IAML		21 24 57.0	
	comp=Z,767nm,0.8s						
PB05	**IPOC Station P**	**2.34**	**223**	Pn	**Pn**	**21 24 36.3**	**-1.5**
PB05	**IPOC Station P**	**2.34**	**223**	*e*P	**Pn**	**21 24 37.2**	**-0.5**
PB05				IAML		21 25 07.5	
	comp=E,444nm,0.4s						
PB05	**IPOC Station P**	**2.34**	**223**	*e*P	**Pn**	**21 24 37.0**	**-0.8**
PB05				*e*S	**Sn**	**21 25 05.2**	**-1.7**
PB05				IAML		21 25 08.4	
	comp=Z,243nm,0.5s						
YJA	**Yavi**	**2.94**	**111**	*e*P	**Pn**	**21 24 43.5**	**-2.3**
YJA				*e*S	**Sn**	**21 25 21.5**	**+0.3**
PB10	**IPOC Station P**	**3.05**	**219**	Pn	**Pn**	**21 24 45.7**	**-1.1**
PB10	**IPOC Station P**	**3.05**	**219**	⇑*e*P	**Pn**	**21 24 46.1**	**-0.6**
PB10				IAML		21 25 39.7	
	comp=N,210nm,0.7s						
PB10	**IPOC Station P**	**3.05**	**219**	*e*P	**Pn**	**21 24 46.1**	**-0.6**
PB10				*e*S	Sn	21 25 11.2	-12
PB12	**IPOC Station P**	**3.06**	**325**	Pn	**Pn**	**21 24 45.2**	**-1.8**
PB12	**IPOC Station P**	**3.06**	**325**	*e*P	**Pn**	**21 24 45.7**	**-1.2**
PB12	**IPOC Station P**	**3.06**	**325**	*e*P	**Pn**	**21 24 45.8**	**-1.1**
PB12				*e*S	Sn	21 25 10.9	-12
PB12				IAML		21 25 27.9	
	comp=Z,325nm,1.0s						
AP01	**Chacalluta**	**3.26**	**327**	Pn	**Pn**	**21 24 48.7**	**-1.0**
AP01	**Chacalluta**	**3.26**	**327**	*e*P	**Pn**	**21 24 50.7**	**+1.1**
AP01				IAML		21 25 38.0	
	comp=Z,473nm,0.7s						
PB18	**Visviri**	**3.65**	**345**	*e*P	**Pn**	**21 24 56.0**	**+0.8**
PB14	**IPOC Station P**	**3.90**	**207**	Pn	**Pn**	**21 24 56.9**	**-1.4**
PB14	**IPOC Station P**	**3.90**	**207**	*e*P	**Pn**	**21 24 58.0**	**-0.3**
PB14	**IPOC Station P**	**3.90**	**207**	*e*P	**Pn**	**21 24 57.7**	**-0.7**
PB14				*e*S	**Sn**	**21 25 40.5**	**-3.2**
PB14				IAML		21 26 02.4	
	comp=Z,162nm,0.6s						
GO02	**Mina Guanaco**	**4.14**	**194**	Pn	**Pn**	**21 25 00.5**	**-0.9**
GO02	**Mina Guanaco**	**4.14**	**194**	*e*P	**Pn**	**21 25 01.3**	**-0.1**
GO02				*e*S	**Sn**	**21 25 47.5**	**-1.8**
AZAP	**Zapla**	**4.40**	**135**	*e*P	**Pn**	**21 25 07.5**	**+2.6**
LPAZ	**La Paz**	**4.83**	**4**	Pn	**Pn**	**21 25 12.8**	**+1.6**
LPAZ	**La Paz**	**4.83**	**4**	P	**Pn**	**21 25 13.8**	**+2.7**
	comp=Z,15nm,0.4s,baz=186,slow=4.5,SNR=65						
LPAZ				S	**Sn**	**21 26 06.2**	**-0.3**
	comp=Z,5.8nm,0.5s,baz=254,slow=6.0,SNR=1.9						
LPAZ	**La Paz**	**4.83**	**4**	*e*P	Pn	21 25 14.1	+3.0
LPAZ	**La Paz**	**4.83**	**4**	*e*P	Pn	21 25 14.6	+3.5
AC01	**Pan de Azucar**	**5.36**	**201**	Pn	**Pn**	**21 25 15.2**	**-2.3**
AC02	**Maricunga**	**5.71**	**186**	Pn	**Pn**	**21 25 21.9**	**-0.8**
LCO	**Las Campanas**	**8.10**	**194**	Pn	Pn	21 25 50.1	-4.7
SIV	**San Ignacio**	**8.69**	**55**	P	**Pn**	**21 26 01.2**	**-1.5**
	comp=Z,21nm,0.5s,baz=248,slow=14,SNR=88						
SIV				S	**Sn**	**21 27 33.1**	**-5.9**
	baz=299,slow=19						
CFA	**Coronel Fontan**	**10.43**	**179**	P	**Pn**	**21 26 23.2**	**-2.8**
	comp=Z,1.4nm,0.3s,baz=314,slow=10,SNR=7.9						
CFA				S	**Sn**	**21 28 14.1**	**-7.0**
	comp=Z,1.1nm,0.4s,baz=218,slow=18,SNR=2.2						
PTLB	**Pontes e Lacer**	**10.52**	**59**	Pn	**Pn**	**21 26 26.0**	**-1.2**
PTLB	**Pontes e Lacer**	**10.52**	**59**	*e*P	Pn	21 26 29.4	+2.1
MT02	**Curacav**	**12.30**	**191**	Pn	**Pn**	**21 26 48.9**	**-2.0**
SALV	**Santo Antonio**	**13.19**	**69**	*e*P	**P**	**21 27 05.2**	**-2.9**
BO01	**Tunca**	**13.40**	**189**	Pn	**Pn**	**21 27 04.9**	**-0.3**
PDRB	**Porto dos Gac**	**14.71**	**52**	*e*P	**P**	**21 27 25.6**	**+0.7**
H03N1	**Juan Fernandez**	**15.36**	**215**	T	T	21 43 14.1	
	baz=43						
H03N2	**Juan Fernandez**	**15.37**	**215**	T	T	21 42 56.4	
	baz=43						
H03N3	**Juan Fernandez**	**15.38**	**215**	T	T	21 43 09.9	
	baz=43						
PTGB	**Pitanga**	**15.53**	**106**	*e*P	**P**	**21 27 37.8**	**+3.7**
BI02	**San Fabin de**	**15.66**	**188**	Pn	**Pn**	**21 27 32.6**	**-1.3**
BI02				IAmb	IAmb	21 27 35.3	
	comp=Z,12nm,0.9s						
ITAB	**Concordia**	**16.10**	**115**	*e*P	**P**	**21 27 42.2**	**+2.1**
LDASE	**Londrina, Braz**	**16.23**	**101**	*e*P	**P**	**21 27 43.0**	**+1.3**
CPSB	**Cacapava Do Su**	**16.38**	**127**	*e*P	**P**	**21 27 47.5**	**+4.3**
ARAG	**Araguaiana, MT**	**16.70**	**74**	*e*P	**P**	**21 27 49.9**	**+2.9**
ITRB	**Iturama**	**17.04**	**88**	*e*P	**P**	**21 27 51.8**	**+1.0**
FRTB	**Fartura**	**17.65**	**101**	*e*P	**Pn**	**21 27 58.7**	**+0.5**
TRQA	**Tornquist**	**17.77**	**163**		**P**	**21 27 57.6**	**-0.9**
TRQA				IAmb	IAmb	21 28 00.9	
	comp=Z,9.9nm,0.8s						
MAJ01	**Sao Joao Batis**	**18.80**	**113**	*e*P	**Pn**	**21 28 11.1**	**-0.7**
SNDB	**Serra Nova Dou**	**18.81**	**64**	*e*P	**Pn**	**21 28 10.1**	**-1.9**
NPGB	**Novo Progresso**	**18.90**	**44**	*e*P	**Pn**	**21 28 10.4**	**-2.7**
IPMB	**Ipameri, GO**	**19.35**	**84**	*e*P	**Pn**	**21 28 17.2**	**-1.2**
MACA	**Manacapuru-AM**	**19.41**	**24**	*e*P	**Pn**	**21 28 17.8**	**-1.2**
PLCA	**Paso Flores**	**19.61**	**185**	P	**P**	**21 28 19.3**	**+0.6**
PLCA	**Paso Flores**	**19.61**	**185**	P	**P**	**21 28 20.1**	**+1.4**
	comp=Z,7.5nm,0.9s,baz=0.5,slow=12,SNR=9.5						
PLCA	**Paso Flores**	**19.61**	**185**	*e*P	**Pn**	**21 28 23.9**	**+2.6**
LL04	**Puerto Octay**	**19.99**	**189**	P	**P**	**21 28 23.0**	**+0.3**
LL04				IAmb	IAmb	21 28 24.1	
	comp=Z,14nm,1.1s						
VAO	**Valinhos**	**20.02**	**99**	P	**P**	**21 28 22.3**	**-0.9**
VAO				IAmb	IAmb	21 28 24.6	
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**20.16**	**78**	P	**P**	**21 28 24.3**	**-0.6**
BDFB				IAmb	IAmb	21 28 25.7	
	comp=Z,5.8nm,0.6s						
BDFB	**Brasilia**	**20.16**	**78**	P	**P**	**21 28 24.4**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=245,slow=9.9,SNR=9.7						
	comp=Z,5.0nm,0.6s						
PMNB	**Patos De Minas**	**20.89**	**87**	*e*P	**P**	**21 28 32.5**	**-0.2**
LL01	**San Ignacio de**	**21.44**	**188**	P	**P**	**21 28 38.3**	**+0.2**
PRPB	**Parauapebas**	**23.41**	**53**	*e*P	**P**	**21 28 57.4**	**-0.7**
DIAM	**Diamantina, MG**	**23.51**	**87**	*e*P	**P**	**21 28 59.6**	**+0.4**
JANB	**Januaria**	**23.74**	**79**	*e*P	**P**	**21 29 00.3**	**-0.9**
SDBA	**SÃO DESIDERIO**	**24.16**	**73**	*e*P	**P**	**21 29 05.9**	**+1.0**
BOAV	**Boa Vista**	**24.65**	**19**	P	**P**	**21 29 09.6**	**+0.3**
BOAV	**Boa Vista**	**24.65**	**19**	*e*P	**P**	**21 29 09.8**	**+0.5**
SJMB	**Sao Joao De Ma**	**25.76**	**89**	*e*P	**P**	**21 29 19.5**	**+0.1**
GUA01	**Guaratinga, BA**	**27.49**	**85**	*e*P	**P**	**21 29 36.1**	**+1.2**
NBAN	**Anadia - AL**	**33.00**	**75**	*e*P	**P**	**21 30 22.3**	**-1.3**
CELP	**Cerrillos**	**39.01**	**3**	P	**P**	**21 31 13.5**	**-1.1**
SNAA	**Sanae**	**62.49**	**161**	P	**P**	**21 34 11.2**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=319,slow=14,SNR=2.6						
	comp=Z,2.0nm,0.8s						
SADO	**Sadowa**	**66.31**	**352**	P	**P**	**21 34 35.5**	**+0.4**
	comp=Z,4.0nm,1.0s,baz=58,slow=7.2,SNR=2.1						
	comp=Z,4.0nm,1.0s						
DBIC	**Dimbokro**	**68.24**	**73**	P	**P**	**21 34 48.0**	**0.0**
	comp=Z,4.6nm,0.7s,baz=208,slow=6.9,SNR=5.6						
	comp=Z,4.6nm,0.7s						
QSPA	**South Pole Qui**	**69.05**	**180**	P	**P**	**21 34 54.4**	**+2.1**
	comp=Z,1.3nm,0.5s,baz=213,slow=0.5,SNR=16						
	comp=Z,1.3nm,0.5s						
ULM	**Lac du Bonnet**	**75.09**	**342**	P	**P**	**21 35 28.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=140,slow=11,SNR=2.1						
	comp=Z,0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**76.85**	**70**	P	**P**	**21 35 39.0**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=252,slow=4.7,SNR=3.3						
	comp=Z,3.3nm,0.4s						
YKA	**Yellowknife Ar**	**90.98**	**340**	P	**P**	**21 36 50.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=135,slow=4.3,SNR=5.5						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**145.10**	**36**	PKPbc	**PKPdf**	**21 43 23.9**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=319,slow=3.2,SNR=29						
MKAR				pPKPbc	**pPKPdf**	**21 43 59.0**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=337,slow=2.8,SNR=2.5						

ATH 18 21:36:31.2, 37.63N×20.70E, h18km±4km, ML2.1/7, Manual Solution by F.Xalaris First location: 2019/03/18 21:37:28, This location: 2019/03/19 09:16:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.14**	**55**	P	Pg	21 36 35.3	0.0
LTHK				S	Sg	21 36 38.5	+0.5
LTHK	**Lithakia**	**0.14**	**55**	P	Pg	21 36 35.1	-0.2
LTHK				S	Sg	21 36 38.9	+0.8
KYPS	**Kipseli, Zakin**	**0.21**	**28**	P	Pg	21 36 36.6	+0.2
KYPS	**Kipseli, Zakin**	**0.21**	**28**	P	Pg	21 36 37.0	+0.7
KYPS				S	Sg	21 36 41.7	+1.8
ORTH	**Orthonies,Zaky**	**0.22**	**360**	P	Pg	21 36 36.5	0.0
ORTH				S	Sg	21 36 40.7	+0.6
ORTH	**Orthonies,Zaky**	**0.22**	**360**	P	Pb	21 36 36.4	0.0
ORTH				S	Sg	21 36 42.1	+2.0
CLEM	**Kyllini,Ilia,G**	**0.43**	**53**	P	Pb	21 36 40.9	+0.6
PSDA	**Pessada-Kefalo**	**0.49**	**349**	P	Pb	21 36 41.4	+0.1
PSDA	**Pessada-Kefalo**	**0.49**	**349**	P	Pb	21 36 41.5	+0.2
VLS	**Valsamata**	**0.55**	**351**	P	Pg	21 36 41.6	-0.6
VLS				S	Sb	21 36 50.2	+0.4
VLS	**Valsamata**	**0.55**	**351**	P	Pg	21 36 41.9	-0.4
VLS				S	Sn	21 36 51.7	-1.2
SMHA	**Samh**	**0.62**	**356**	P	Pg	21 36 43.6	+0.1
DMLN	**Damoulianata-K**	**0.66**	**337**	P	Pg	21 36 44.3	+0.1
YRMI	**Loutra Irminis**	**0.70**	**47**	P	Pg	21 36 45.4	+0.4
RLS	**Riolos of Patr**	**0.74**	**55**	P	Pg	21 36 45.9	+0.1
RLS				S	Sg	21 36 56.0	+0.3
RLS	**Riolos of Patr**	**0.74**	**55**	P	Pn	21 36 46.4	-0.3
AXS	**Araxos**	**0.78**	**43**	P	Pg	21 36 46.7	+0.2
AXS	**Araxos**	**0.78**	**43**	P	Pg	21 36 46.8	+0.3
AMT	**Artemida-Makis**	**0.81**	**97**	P	Pb	21 36 46.3	-0.4
AMT	**Artemida-Makis**	**0.81**	**97**	P	Pb	21 36 45.8	-1.0
AMT				S	Sg	21 36 58.0	+0.2
FSK	**Fiskardo**	**0.83**	**353**	P	Pg	21 36 47.4	-0.1
FSK				S	Sg	21 36 58.5	-0.1
FSK	**Fiskardo**	**0.83**	**353**	P	Pg	21 36 47.3	-0.1
FSK				S	Sn	21 37 00.8	+1.0
DRO	**Drossia**	**0.86**	**68**	P	Pg	21 36 48.1	0.0
DRO	**Drossia**	**0.86**	**68**	P	Pg	21 36 48.2	+0.1
EVGI	**Lefkada island**	**0.99**	**358**	P	Pb	21 36 49.9	+0.1
EVGI	**Lefkada island**	**0.99**	**358**	P	Pg	21 36 50.3	-0.1
EVGI				S	Sn	21 37 05.9	+2.3
ITM	**Ithomi**	**1.08**	**114**	P	Pb	21 36 49.9	-1.4
ITM	**Ithomi**	**1.08**	**114**	P	Pb	21 36 49.9	-1.4
NYDR	**Nydri-Lefkada**	**1.08**	**0**	P	Pn	21 36 51.4	0.0
LKD2	**Lefkada island**	**1.16**	**358**	P	Pg	21 36 53.3	-0.3
PVO	**Paravola**	**1.18**	**33**	P	Pg	21 36 54.4	+0.4
TSLK	**Tsoukalades, L**	**1.19**	**358**	P	Pg	21 36 54.4	+0.2
KLV	**Kalavryta, Ach**	**1.22**	**70**	P	Pg	21 36 54.7	-0.1
EFP	**Efpalio**	**1.24**	**50**	P	Pg	21 36 55.6	+0.4
GUR	**Goura**	**1.34**	**76**	P	Pb	21 36 55.7	-0.1

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*IDC **18** 21:46:01.1±1.0, 42.11S×88.15E, h0km, mb3.8/6, mbtmp3.8/6, MS3.7/20, Error ellipse: s-maj=38.1km s-min=24.0km az=96.0*
ISC 18 21:46:03.5±1.0, 42.1S±0.2×88.2E±0.2, h17km, n34, σ0.36/10, mb3.8/6, MS3.6/20, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**21.50**	**79**	T	T	22 13 01.0	
	baz=243,slow=74,SNR=45						
H01W3	**Cape Leeuwin H**	**21.51**	**79**	T	T	22 12 58.6	
	baz=243,slow=74,SNR=55						
H01W1	**Cape Leeuwin H**	**21.52**	**79**	T	T	22 12 58.5	
	baz=243,slow=74,SNR=49						
NWAO	**Narrogin (SRO)**	**24.71**	**78**	LR	LR	21 59 06.7	
	comp=Z,110nm,18.8s,baz=253,slow=32						
H04S1	**CROZET ISLANDS**	**26.15**	**247**	T	T	22 19 11.4	
	baz=92,slow=75,SNR=21						
H04S2	**CROZET ISLANDS**	**26.16**	**247**	T	T	22 19 11.9	
	baz=92,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**26.17**	**247**	T	T	22 19 10.7	
	baz=92,slow=75,SNR=44						
H04N2	**CROZET ISLANDS**	**26.27**	**249**	T	T	22 19 22.4	
	baz=93,slow=76,SNR=453						
H04N3	**CROZET ISLANDS**	**26.28**	**249**	T	T	22 19 21.8	
	baz=93,slow=76,SNR=436						
H04N1	**CROZET ISLANDS**	**26.29**	**249**	T	T	22 19 23.5	
	baz=93,slow=76,SNR=203						
MAW	**Mawson**	**28.98**	**200**	LR	LR	22 00 54.2	
	comp=Z,162nm,20.4s,baz=314,slow=31						
H08S2	**Diego Garcia H**	**37.01**	**334**	T	T	22 32 18.6	
	baz=160,slow=76,SNR=48						
H08S1	**Diego Garcia H**	**37.02**	**334**	T	T	22 32 19.1	
	baz=160,slow=76,SNR=38						
H08S3	**Diego Garcia H**	**37.03**	**334**	T	T	22 32 20.3	
	baz=160,slow=76,SNR=33						
LEM	**Lembang**	**39.13**	**32**	LR	LR	22 05 45.8	
	comp=Z,82nm,21.6s,baz=206,slow=30						
ASAR	**Alice Springs**	**42.02**	**79**	P	**P**	**21 53 53.9**	**-0.1**
	1.3nm,0.8s,baz=225,slow=7.2,SNR=14						
ASAR				PcP	**PcP**	**21 55 49.4**	**+0.4**
	1.0nm,0.6s,baz=224,slow=2.4,SNR=12						
ASAR				LR	LR	22 09 35.3	
	comp=Z,89nm,19.5s,baz=262,slow=34						
	1.3nm,0.8s						
STKA	**Stephens Creek**	**43.25**	**94**	LR	LR	22 08 41.6	
	comp=Z,74nm,19.1s,baz=209,slow=31						
WRA	**Warramunga Arr**	**44.65**	**75**	P	**P**	**21 54 15.6**	**+0.3**
	1.1nm,0.9s,baz=228,slow=7.7,SNR=4.9						
WRA				PcP	**PP**	**21 55 59.5**	**-0.1**
	0.3nm,0.5s,baz=233,slow=3.1,SNR=4.6						
WRA				LR	LR	22 11 30.1	
	comp=Z,53nm,18.3s,baz=340,slow=34						
	1.1nm,0.9s						
PSI	**Prapat**	**45.74**	**15**	LR	LR	22 09 42.1	
	comp=Z,222nm,18.1s,baz=204,slow=31						
VNDA	**Vanda**	**45.78**	**163**	P	**P**	**21 54 23.7**	**+0.2**
	0.7nm,0.7s,baz=283,slow=5.5,SNR=1.5						
VNDA				LR	LR	22 10 23.1	
	comp=Z,87nm,18.2s,baz=246,slow=32						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**48.05**	**180**	P	**P**	**21 54 41.5**	**-0.2**
	5.2nm,1.1s,baz=288,slow=6.4,SNR=14						
QSPA				LR	LR	22 13 12.4	
	comp=Z,107nm,19.2s,baz=316,slow=34						
	5.2nm,1.1s						
PALK	**Pallekele**	**49.60**	**350**	LR	LR	22 11 02.5	
	comp=Z,37nm,19.6s,baz=144,slow=30						
BOSA	**Boshof**	**51.97**	**264**	LR	LR	22 12 04.8	
	comp=Z,68nm,21.6s,baz=202,slow=30						
LBTB	**Lobatse**	**53.71**	**268**	LR	LR	22 14 48.3	
	comp=Z,52nm,18.4s,baz=160,slow=32						
CMAR	**Chiang Mai Arr**	**61.07**	**12**	P	**P**	**21 56 16.4**	**0.0**
	0.4nm,0.3s,baz=203,slow=6.6,SNR=7.9						
CMAR				LR	LR	22 19 44.2	
	comp=Z,41nm,18.5s,baz=155,slow=33						
	0.4nm,0.3s						
TSUM	**Tsumeb**	**63.12**	**268**	LR	LR	22 19 19.5	
	comp=Z,38nm,21.4s,baz=152,slow=32						
BRDH	**Bariadhala**	**64.53**	**4**	LR	LR	22 21 27.7	
	comp=Z,152nm,18.3s,baz=158,slow=33						
AAK	**Ala-Archa**	**85.25**	**350**	LR	LR	22 34 23.2	
	comp=Z,49nm,18.4s,baz=178,slow=34						
MKAR	**Makanchi Array**	**88.66**	**356**	P	**P**	**21 58 55.6**	**+0.4**
	0.1nm,0.4s,baz=181,slow=6.9,SNR=1.1						
MKAR				LR	LR	22 38 38.0	
	comp=Z,22nm,18.4s,baz=189,slow=36						
	0.1nm,0.4s						
SONM	**Songino Array**	**90.99**	**12**	LR	LR	22 37 29.5	
	comp=Z,54nm,22.0s,baz=242,slow=34						
AKTO	**Aktyubinsk**	**95.85**	**341**	LR	LR	22 40 41.6	
	comp=Z,26nm,20.5s,baz=269,slow=34						
BVAR	**Borovoye Array**	**95.98**	**349**	LR	LR	22 41 06.0	
	comp=Z,19nm,18.1s,baz=213,slow=34	

G16K	Koyuk River	7.74	245	Pn	Pn	21 54 41.6	+0.4
F15K	North Star Dit	8.29	251	Pn	Pn	21 54 49.8	+1.1

*IDC **18** 21:54:03.4±4.8, 6°.69S×128°.59E, h288km±49km, mb3.0/2, mbtmp3.8/5, Error ellipse: s-maj=65.4km s-min=17.6km az=67.0*

ISC 18 21:54:03.6±1.2, **6°.7S**±0°.1×**128°.64E**±0°.10, **h300**km, **n15**, σ1°**75**/17, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.22**	**44**	P	Pn	21 55 14.8	-8.9
SOEI	**Soe**	**5.27**	**235**	P	**Pn**	**21 55 22.0**	**-2.5**
DRS	**Darwin Rock St**	**6.09**	**159**	P	**Pn**	**21 55 32.3**	**-1.8**
MTN	**Manton Dam**	**6.56**	**158**	P	**Pn**	**21 55 37.5**	**-2.2**
KDU	**Kakadu**	**7.03**	**148**	P	**Pn**	**21 55 43.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**11.68**	**194**	P	**Pn**	**21 56 43.1**	**+0.8**
	1.7nm,0.3s,baz=26,slow=9.6,SNR=12						
FITZ				S	**S**	**21 58 51.7**	**-0.8**
	1.9nm,0.8s,baz=144,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.68**	**194**	P	**P**	**21 56 43.8**	**-0.2**
WRA	**Warramunga Arr**	**14.26**	**158**	P	**P**	**21 57 12.8**	**+0.2**
	0.6nm,0.3s,baz=334,slow=13,SNR=30						
WRA				S	**S**	**21 59 49.5**	**-0.1**
	0.4nm,0.3s,baz=338,slow=22,SNR=5.0						
COEN	**Coen**	**16.00**	**118**	P	**P**	**21 57 32.6**	**+0.9**
QIS	**Mount Isa**	**17.38**	**143**	P	**P**	**21 57 48.8**	**+2.1**
ASAR	**Alice Springs**	**17.59**	**164**	P	**Pn**	**21 57 51.0**	**-1.4**
	3.9nm,0.5s,baz=343,slow=11,SNR=56						
ASAR				S	**S**	**22 00 58.0**	**+2.0**
	0.6nm,0.6s,baz=340,slow=22,SNR=5.5						
AS01	**Alice Springs**	**17.60**	**164**	P	**Pn**	**21 57 52.0**	**-0.5**
WRKA	**Warakurna**	**18.21**	**181**	P	**P**	**21 57 59.0**	**+3.3**
MKAR	**Makanchi Array**	**67.26**	**327**	P	**P**	**22 04 26.9**	**+0.5**
	0.2nm,0.4s,baz=124,slow=7.7,SNR=8.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.58**	**329**	P	**P**	**22 04 53.0**	**+0.5**
	0.3nm,0.5s,baz=124,slow=5.4,SNR=5.0						
	0.3nm,0.5s						

IDC 18 21:59:03.4±5.3, **0°.37N**×**130°.42E**, **h0**km, **mb3.1**/3, **mbtmp3.1**/3, **Error ellipse: s-maj=394.4km s-min=30.1km az=70.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.55**	**169**	P	P	22 03 43.1	-0.6
	0.5nm,0.5s,baz=349,slow=11,SNR=2.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**24.13**	**172**	P	P	22 04 21.6	+0.4
	0.5nm,0.8s,baz=352,slow=12,SNR=5.6						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**62.41**	**325**	P	P	22 09 28.2	-0.1
	0.1nm,0.5s,baz=111,slow=7.9,SNR=1.2						
	0.1nm,0.5s						

*NEIC **18** 21:59:15.9±0.9, 18°.1N±0°.3×68°.72W±0°.05, h160km±12km, ML2.7/20, Md3.2/6(RSPR), Error ellipse: s-maj=47.9km s-min=7.2km az=182.0*
*RSPR **18** 21:59:16.2, 18°.15N×68°.77W, h159km±3km, MD3.2/6*
*SDD **18** 21:59:17.4±2.5, 18°.43N×68°.66W, h173km±14km, MD3.0, ML2.6, MW2.7*
*OSPL **18** 21:59:19.0±2.5, 18°.03N×68°.66W, h153km±27km, ML2.9*

ISC 18 21:59:17.3±1.2, **18°.16N**±0°.10×**68°.71W**±0°.03, **h150**km, **n54**, σ0°**98**/79, **23C-11D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.43**	**359**	*e*S	**Sn**	**21 59 55.0**	**+0.6**
PCDR	**Punta Cana, DR**	**0.47**	**41**		**Pn**	**21 59 38.3**	**-0.2**
PCDR					**Sn**	**21 59 55.3**	**+0.7**
PCDR				IAML		22 00 11.2	
	comp=E,93nm,1.9s						
PCDR				IAML		22 00 33.7	
	comp=N,200nm,2.1s						
PCDR	**Punta Cana, DR**	**0.47**	**41**	⇓*e*Pg	**Pn**	**21 59 38.5**	**0.0**
PCDR				⇑*e*Sg	**Sn**	**21 59 54.6**	**0.0**
PCDR				IAML		22 00 33.3	
	comp=N,188nm,1.6s						
PCDR	**Punta Cana, DR**	**0.47**	**41**	⇓*e*P	**Pn**	**21 59 38.7**	**+0.2**
PCDR	**Punta Cana, DR**	**0.47**	**41**	*e*S	**Sn**	**21 59 56.2**	**+1.5**
PCDR	**Punta Cana, DR**	**0.47**	**41**	*i* P	**Pn**	**21 59 38.5**	**0.0**
PCDR				IAML		21 59 54.6	
	comp=Z,110nm,1.3s						
PCDR				*e*S	**Sn**	**21 59 54.7**	**0.0**
MIDR	**Miches**	**0.88**	**338**	⇑*e*Pg	**Pn**	**21 59 41.0**	**-0.1**
MIDR				⇑*e*Sg	**Sn**	**21 59 59.5**	**+0.1**
MIDR				IAML		22 00 00.3	
	comp=N,46nm,0.6s						
DR12	**Loma Pena Alta**	**0.89**	**315**	Pn	**Pn**	**21 59 40.0**	**-1.2**
HATOM	**Hato Mayor del**	**0.89**	**315**	⇓*e*Pg	**Pn**	**21 59 40.4**	**-0.8**
HATOM				⇑*e*Sg	**Sn**	**21 59 58.1**	**-1.4**
HATOM				IAML		22 00 02.7	
	comp=N,29nm,1.0s						
IDE	**Isla Desecheo**	**1.19**	**79**		**Pn**	**21 59 44.5**	**+0.7**
IDE					**Sn**	**22 00 06.1**	**+2.0**
IDE	**Isla Desecheo**	**1.19**	**79**	⇓*e*P	**Pn**	**21 59 44.5**	**+0.7**
IDE	**Isla Desecheo**	**1.19**	**79**	*e*S	**Sn**	**22 00 06.1**	**+2.0**
CRPR	**Cabo Rojo, PR**	**1.53**	**95**	Pn	**Pn**	**21 59 46.8**	**-0.3**
CRPR				Sn	**Sn**	**22 00 09.8**	**-0.1**
CRPR				IAML		22 00 42.2	
	comp=E,34nm,2.2s						
CRPR				IAML		22 00 48.5	
	comp=N,35nm,2.8s						
CRPR	**Cabo Rojo, PR**	**1.53**	**95**	⇑*e*Pg	**Pn**	**21 59 47.6**	**+0.5**
CRPR				⇑*e*Sg	**Sn**	**22 00 10.8**	**+0.8**
CRPR				IAML		22 00 41.1	
	comp=N,38nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.53**	**95**	⇓*e*P	**Pn**	**21 59 47.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.53**	**95**	*e*S	**Sn**	**22 00 11.0**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.53**	**95**	⇓*i*P	**Pn**	**21 59 47.3**	**+0.2**
CRPR				*e*S	**Sn**	**22 00 07.4**	**-2.6**
CRPR				IAML		22 00 15.6	
	comp=Z,33nm,1.3s						
AGPR	**Aguadilla, PR**	**1.55**	**78**	Pn	**Pn**	**21 59 46.9**	**-0.4**
AGPR				Sn	**Sn**	**22 00 10.7**	**+0.4**
AGPR	**Aguadilla, PR**	**1.55**	**78**	⇑*e*Pg	**Pn**	**21 59 45.8**	**-1.5**
AGPR				⇑*e*Sg	**Sn**	**22 00 10.1**	**-0.3**
AGPR				IAML		22 00 42.1	
	comp=N,120nm,1.4s						
AGPR	**Aguadilla, PR**	**1.55**	**78**	⇓*e*P	**Pn**	**21 59 48.4**	**+1.1**
AGPR	**Aguadilla, PR**	**1.55**	**78**	*e*S	**Sn**	**22 00 12.0**	**+1.7**
AGPR	**Aguadilla, PR**	**1.55**	**78**	*i* P	**Pn**	**21 59 47.2**	**-0.1**
AGPR				*e*S	**Sn**	**22 00 11.3**	**+0.9**
AGPR				IAML		22 00 21.9	
	comp=Z,115nm,1.9s						
BANI	**BANI**	**1.58**	**279**	Pn	**Pn**	**21 59 47.5**	**-0.3**
BANI				IAML		22 00 14.6	
	comp=N,69nm,0.3s						
BANI				IAML		22 00 24.0	
	comp=E,58nm,1.9s						
BANI	**BANI**	**1.58**	**279**	*e*Pg	**Pn**	**21 59 48.4**	**+0.5**
BANI				⇑*e*Sg	**Sn**	**22 00 12.7**	**+1.4**
BANI				IAML		22 00 13.1	
	comp=N,65nm,0.3s						
MLPR	**Magueyes Islan**	**1.59**	**97**	⇑*e*Pg	**Pn**	**21 59 48.2**	**+0.4**
MLPR				⇑*e*Sg	**Sn**	**22 00 11.1**	**-0.2**
MLPR				IAML		22 00 53.8	
	comp=N,7.7nm,3.5s						
MLPR	**Magueyes Islan**	**1.59**	**97**	⇑*e*P	**Pn**	**21 59 48.2**	**+0.4**
MLPR	**Magueyes Islan**	**1.59**	**97**	*e*S	**Sn**	**22 00 12.4**	**+1.2**
AOPR	**Arecibo Observ**	**1.87**	**84**	Pn	**Pn**	**21 59 49.6**	**-1.4**
AOPR				Sn	**Sn**	**22 00 16.1**	**-0.6**
AOPR				IAML		22 00 20.7	
	comp=N,72nm,0.3s						
AOPR	**Arecibo Observ**	**1.87**	**84**	⇑*e*Pg	**Pn**	**21 59 49.8**	**-1.1**
AOPR				IAML		22 00 20.6	
	comp=N,66nm,0.5s						
AOPR	**Arecibo Observ**	**1.87**	**84**	⇓*e*P	**Pn**	**21 59 49.9**	**-1.1**
AOPR	**Arecibo Observ**	**1.87**	**84**	*e*S	**Sn**	**22 00 16.5**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.89**	**87**	Pn	**Pn**	**21 59 50.2**	**-0.9**
UUPR				Sn	**Sn**	**22 00 17.6**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.89**	**87**	*e*S	**Sn**	**22 00 19.1**	**+2.0**
ABDR	**Alto Bandera**	**1.93**	**290**	⇑*e*Pg	**Pn**	**21 59 52.7**	**+0.7**
ABDR				⇑*e*Sg	**Sn**	**22 00 18.5**	**-0.1**
ABDR				IAML		22 00 25.3	
	comp=N,21nm,0.5s						
OBIP	**Obispado Ponce**	**2.00**	**93**	Pn	**Pn**	**21 59 50.3**	**-2.2**
OBIP				Sn	**Sn**	**22 00 19.1**	**-0.3**
OBIP				IAML		22 00 21.4	
	comp=E,24nm,3.1s						
OBIP	**Obispado Ponce**	**2.00**	**93**	⇓*e*P	**Pn**	**21 59 52.2**	**-0.2**
OBIP	**Obispado Ponce**	**2.00**	**93**	*e*S	**Sn**	**22 00 20.4**	**+1.0**
CELP	**Cerrillos**	**2.03**	**92**	Pn	**Pn**	**21 59 51.9**	**-0.8**
CELP				Sn	**Sn**	**22 00 19.8**	**-0.1**
CELP	**Cerrillos**	**2.03**	**92**	⇑*e*Pg	**Pn**	**21 59 52.5**	**-0.2**
CELP				⇑*e*Sg	**Sn**	**22 00 20.4**	**+0.4**
CELP				IAML		22 00 25.2	
	comp=N,21nm,1.6s						
CELP	**Cerrillos**	**2.03**	**92**	⇓*e*P	**Pn**	**21 59 52.5**	**-0.2**
CELP	**Cerrillos**	**2.03**	**92**	*e*S	**Sn**	**22 00 20.5**	**+0.6**
ECPR	**Experimental S**	**2.23**	**86**	⇑*e*P	**Pn**	**21 59 55.0**	**-0.2**
ECPR	**Experimental S**	**2.23**	**86**	*e*S	**Sn**	**22 00 24.1**	**-0.3**
LOBA2	**Hotel Casa Bon**	**2.27**	**268**	⇑*e*Pg	**Pn**	**21 59 56.7**	**+0.4**
LOBA2				⇑*e*Sg	**Sn**	**22 00 23.7**	**-1.4**
PODR	**Polo**	**2.45**	**271**	⇑*e*Pg	**Pn**	**21 59 59.3**	**+1.4**
PODR				⇑*e*Sg	**Sn**	**22 00 29.3**	**+0.1**
PODR				IAML		22 00 49.5	
	comp=N,29nm,2.6s						
PODR	**Polo**	**2.45**	**271**	*i* P	**Pn**	**22 00 00.0**	**+2.1**
PODR				*e*S	**Sn**	**22 00 28.2**	**-1.0**
LOVI	**El Cajuil, Ovi**	**2.56**	**262**	*i* P	**Pn**	**21 59 59.4**	**+0.2**
LOVI				*e*S	**Sn**	**22 00 29.7**	**-1.6**
LOVI				IAML		22 00 34.4	
	comp=Z,62nm,0.8s						
PDPR	**Patillas Dam,**	**2.56**	**93**	⇑*e*P	**Pn**	**21 59 59.5**	**+0.4**
PDPR	**Patillas Dam,**	**2.56**	**93**	*e*S	**Sn**	**22 00 30.2**	**-1.2**
LONE3	**El Aguacate, B**	**2.65**	**280**	*e*S	**Sn**	**22 00 33.4**	**-0.2**
HUMP	**Col San Antoni**	**2.72**	**90**	Pn	**Pn**	**22 00 00.1**	**-1.0**
HUMP				Sn	**Sn**	**22 00 33.7**	**-1.2**
HUMP				IAML		22 00 36.3	
	comp=E,18nm,0.4s						
HUMP				IAML		22 00 37.8	
	comp=N,18nm,0.6s						
HUMP	**Col San Antoni**	**2.72**	**90**	⇓*e*P	**Pn**	**22 00 00.9**	**-0.2**
HUMP	**Col San Antoni**	**2.72**	**90**	*e*S	**Sn**	**22 00 33.6**	**-1.3**
LOBH	**Bahia de las A**	**2.80**	**264**	*e*S	**Sn**	**22 00 36.2**	**-0.6**
LOBH				IAML		22 00 39.5	
	comp=Z,50nm,1.9s						

*SDD **18** 22:07:54.6±1.9, 18°.21N×67°.62W, h31km±18km, MD2.5, ML2.0, MW2.5*
*NEIC **18** 22:07:54.3±1.7, 18°.18N±0°.08×67°.62W±0°.03, h26km±9km, ML2.0/20, Md2.6/11(RSPR), Error ellipse: s-maj=12.6km s-min=2.7km az=197.0*
*OSPL **18** 22:07:54.7±1.3, 18°.14N×67°.64W, h11km±27km, ML2.2*
*RSPR **18** 22:07:55.5, 18°.20N×67°.63W, h12km±1km, MD2.6/11*

ISC 18 22:07:54.4±1.0, **18°.19N**±0°.05×**67°.62W**±0°.02, **h24**km±8km, **n48**, σ0°**68**/67, **17C-8D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.24**	**36**		**Pb**	**22 08 00.5**	**0.0**
IDE					**Sb**	**22 08 04.7**	**-0.1**
IDE	**Isla Desecheo**	**0.24**	**36**	⇓*e*P	**Pb**	**22 08 00.5**	**0.0**
IDE	**Isla Desecheo**	**0.24**	**36**	*e*S	**Sb**	**22 08 04.7**	**-0.1**
LSP	**Las Mesas**	**0.51**	**92**		**Pb**	**22 08 04.8**	**0.0**
LSP					**Sb**	**22 08 12.2**	**+0.3**
LSP	**Las Mesas**	**0.51**	**92**	⇓*e*P	**Pb**	**22 08 04.8**	**0.0**
LSP	**Las Mesas**	**0.51**	**92**	*e*S	**Sb**	**22 08 12.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.52**	**110**		**Pb**	**22 08 04.6**	**-0.4**
CRPR					**Sb**	**22 08 12.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.52**	**110**	⇑*e*Pg	**Pb**	**22 08 05.0**	**0.0**
CRPR				⇑*e*Sg	**Sn**	**22 08 13.8**	**-0.6**
CRPR				IAML		22 08 14.9	
	comp=N,41nm,0.1s						
CRPR	**Cabo Rojo, PR**	**0.52**	**110**	⇓*e*P	**Pb**	**22 08 05.3**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.52**	**110**	*e*S	**Sb**	**22 08 13.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**0.52**	**110**	*i* P	**Pb**	**22 08 05.1**	**+0.2**
CRPR				*e*S	**Sb**	**22 08 10.4**	**-1.7**
CRPR				IAML		22 08 13.7	
	comp=Z,47nm,0.5s						
AGPR	**Aguadilla, PR**	**0.56**	**60**		**Pb**	**22 08 05.3**	**-0.3**
AGPR				IAML		22 08 09.9	
	comp=E,125nm,2.6s						
AGPR				Sg	**Sb**	**22 08 13.5**	**+0.3**
AGPR	**Aguadilla, PR**	**0.56**	**60**	⇓*e*Pg	**Pb**	**22 08 05.5**	**-0.1**
AGPR				⇑*e*Sg	**Sb**	**22 08 13.8**	**+0.5**
AGPR				IAML		22 08 14.1	
	comp=N,237nm,0.2s						
AGPR	**Aguadilla, PR**	**0.56**	**60**	⇑*e*P	**Pb**	**22 08 05.6**	**-0.1**
AGPR	**Aguadilla, PR**	**0.56**	**60**	*e*S	**Sb**	**22 08 13.8**	**+0.5**
AGPR	**Aguadilla, PR**	**0.56**	**60**	*i* P	**Pb**	**22 08 05.5**	**-0.1**
AGPR				*e*S	**Sb**	**22 08 13.6**	**+0.4**
AGPR				IAML		22 08 14.8	
	comp=Z,123nm,1.4s						
MLPR	**Magueyes Islan**	**0.59**	**112**	⇑*e*Pg	**Pb**	**22 08 06.1**	**0.0**
MLPR				⇑*e*Sg	**Sb**	**22 08 14.9**	**+0.7**
MLPR				IAML		22 08 16.9	
	comp=N,15nm,0.2s						
MLPR	**Magueyes Islan**	**0.59**	**112**	⇑*e*P	**Pb**	**22 08 06.1**	**0.0**
MLPR	**Magueyes Islan**	**0.59**	**112**	*e*S	**Sb**	**22 08 14.9**	**+0.7**
GBPR	**Guanica, Bosqu**	**0.74**	**107**		**Pb**	**22 08 09.5**	**+0.2**
GBPR					**Sn**	**22 08 20.0**	**+0.2**
GBPR	**Guanica, Bosqu**	**0.74**	**107**	⇓*e*P	**Pn**	**22 08 09.5**	**+0.2**
GBPR	**Guanica, Bosqu**	**0.74**	**107**	*e*S	**Sn**	**22 08 20.0**	**+0.2**
PCDR	**Punta Cana, DR**	**0.79**	**294**		**Pb**	**22 08 09.8**	**+0.4**
PCDR				Sg	**Sb**	**22 08 19.9**	**+0.2**
PCDR				IAML		22 08 26.2	
	comp=N,145nm,1.4s						
PCDR				IAML		22 08 33.8	
	comp=E,74nm,1.8s						
PCDR	**Punta Cana, DR**	**0.79**	**294**	⇑*e*Pg	**Pb**	**22 08 09.0**	**-0.4**
PCDR				⇑*e*Sg	**Sn**	**22 08 21.5**	**+0.5**
PCDR				IAML		22 08 57.0	
	comp=N,180nm,2.4s						
PCDR	**Punta Cana, DR**	**0.79**	**294**	⇓*e*P	**Pn**	**22 08 11.0**	**+1.0**
PCDR	**Punta Cana, DR**	**0.79**	**294**	*e*S	**Sb**	**22 08 19.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.79**	**294**	*i* P	**Pb**	**22 08 08.7**	**-0.7**
PCDR				*e*S	**Sb**	**22 08 19.2**	**-0.5**
PCDR				IAML		22 08 19.9	
	comp=Z,88nm,1.4s						
AOPR	**Arecibo Observ**	**0.84**	**79**		**Pb**	**22 08 09.5**	**-0.9**
AOPR					**Sb**	**22 08 21.3**	**0.0**
AOPR	**Arecibo Observ**	**0.84**	**79**	⇑*e*Pg	**Pb**	**22 08 09.2**	**-1.2**
AOPR				⇑*e*Sg	**Sb**	**22 08 21.3**	**0.0**
AOPR				IAML		22 08 22.2	
	comp=N,137nm,0.2s						
AOPR	**Arecibo Observ**	**0.84**	**79**	⇑*i*P	**Pb**	**22 08 10.0**	**-0.4**
AOPR	**Arecibo Observ**	**0.84**	**79**	*e*S	**Sb**	**22 08 21.4**	**0.0**
UUPR	**Utuado, UPR, P**	**0.86**	**86**		**Pn**	**22 08 11.1**	**+0.1**
UUPR					**Sb**	**22 08 22.4**	**+0.6**
UUPR	**Utuado, UPR, P**	**0.86**	**86**	*e*S	**Sb**	**22 08 22.0**	**+0.2**
OBIP	**Obispado Ponce**	**0.98**	**98**		**Pn**	**22 08 10.0**	**-2.6**
OBIP				Sg	**Sb**	**22 08 23.2**	**-2.0**
OBIP				IAML		22 08 41.0	
	comp=N,25nm,2.8s						
OBIP	**Obispado Ponce**	**0.98**	**98**	⇓*e*P	**Pn**	**22 08 11.7**	**-0.9**
OBIP	**Obispado Ponce**	**0.98**	**98**	*e*S	**Sb**	**22 08 25.4**	**+0.1**
CELP	**Cerrillos**	**1.00**	**96**		**Pn**	**22 08 12.6**	**-0.4**
CELP				IAML		22 08 28.9	
	comp=E,25nm,1.5s						
CELP	**Cerrillos**	**1.00**	**96**	⇑*e*Pg	**Pn**	**22 08 12.5**	**-0.4**
CELP				⇑*e*Sg	**Sn**	**22 08 26.5**	**+0.3**
CELP				IAML		22 08 32.3	
	comp=N,14nm,0.6s						
CELP	**Cerrillos**	**1.00**	**96**	⇓*e*P	**Pn**	**22 08 12.5**	**-0.4**
CELP	**Cerrillos**	**1.00**	**96**	*e*S	**Sn**	**22 08 27.0**	**+0.8**
ECPR	**Experimental S**	**1.21**	**84**	⇑*e*P	**Pn**	**22 08 16.3**	**+0.6**
ECPR	**Experimental S**	**1.21**	**84**	*e*S	**Sb**	**22 08 31.8**	**+0.1**
PDPR	**Patillas Dam,**	**1.53**	**96**	Pn	**Pn**	**22 08 19.7**	**-0.5**
PDPR				IAML		22 08 46.3	
	comp=N,13nm,0.3s						
PDPR	**Patillas Dam,**	**1.53**	**96**	⇑*e*P	**Pb**	**22 08 22.5**	**+0.4**
PDPR	**Patillas Dam,**	**1.53**	**96**	*e*S	**Sb**	**22 08 42.6**	**+1.4**
MIDR	**Miches**	**1.56**	**300**	⇑*e*Pg	**Pn**	**22 08 20.0**	**-0.7**
MIDR				⇑*e*Sg	**Sn**	**22 08 39.3**	**-0.8**
MIDR				IAML		22 08 42.3	
	comp=N,23nm,1.9s						
HUMP	**Col San Antoni**	**1.69**	**91**	Pn	**Pn**	**22 08 22.7**	**+0.3**
HUMP				IAML		22 08 49.3	
	comp=E,15nm,1.3s						
HUMP				IAML		22 09 15.4	
	comp=N,18nm,3.0s						
DR12	**Loma Pena Alta**	**1.77**	**290**	Pn	**Pn**	**22 08 24.2**	**+0.7**
DR12				IAML		22 08 35.8	
	comp=E,17nm,2.4s						
DR12				IAML		22 08 43.0	
	comp=N,20nm,2.3s						

*SKO **18** 22:17:14.8, 41°.20N×19°.89E, h0km, ML2.1*
*PDG **18** 22:17:14.6±0.1, 41°.28N×20°.01E, h10km, ML2.4/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*TIR **18** 22:17:14.9, 41°.30N×20°.04E, h4km±2km, Md2.7/5, Ml2.2/6*
*BEO **18** 22:17:15.6±0.4, 41°.29N×19°.99E, h3km±2km, ML2.0/7*

ISC 18 22:17:15.3±0.9, **41°.29N**±0°.03×**20°.01E**±0°.03, **h7**km±7km, **n30**, σ0°**98**/56, **2C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.12**	**297**	Pg	**Pg**	**22 17 18.0**	**0.0**
TIR				Sg	**Sg**	**22 17 20.4**	**+0.6**
TIR				AML	AML	22 17 22.2	
	2.7nm,0.4s						
TIR	**Tirane**	**0.12**	**297**	*e*Pg	**Pg**	**22 17 17.6**	**-0.4**
TIR				*e*Sg	**Sg**	**22 17 20.5**	**+0.6**
OHR	**Ohrid**	**0.62**	**107**	*i* Pg	**Pg**	**22 17 27.0**	**-0.3**
OHR				*i* Sg	**Sb**	**22 17 36.7**	**-0.7**
OHR				*e*Lg	Lg	22 17 37.3	
	comp=N,49nm,0.6s						
OHR				*e*Lg	Lg	22 17 37.8	
	comp=E,43nm,0.5s						
OHR	**Ohrid**	**0.62**	**107**	*e*Pg	**Pg**	**22 17 26.8**	**-0.5**
OHR				*e*Sg	**Sg**	**22 17 36.1**	**+0.7**
PUK	**Puka**	**0.76**	**353**	Pg	**Pg**	**22 17 29.8**	**-0.1**
PUK				Sg	**Sb**	**22 17 41.2**	**-0.2**
PUK				AML	AML	22 17 42.7	
	comp=E,0.9nm,0.3s						
PUK				AMd		22 18 11.5	
ULC	**Ulcinj**	**0.88**	**320**	*i* Pg	**Pg**	**22 17 31.2**	**-1.1**
ULC	**Ulcinj**	**0.88**	**320**	⇓*i*Pg	**Pg**	**22 17 30.9**	**-1.4**
ULC				*i* Sg	**Sb**	**22 17 45.5**	**+0.5**
KBN	**Korca**	**0.89**	**138**	Pg	**Pb**	**22 17 32.5**	**-0.6**
KBN				Sg	**Sb**	**22 17 44.9**	**-0.3**
KBN				AML	AML	22 17 50.3	
	comp=E,0.2nm,0.4s						
KBN				AMd		22 18 12.6	
BCI	**Bajram Curri**	**1.07**	**2**	Pg	**Pg**	**22 17 35.2**	**-0.7**
BCI				Sg	**Sn**	**22 17 51.8**	**-0.1**
BCI				AML	AML	22 17 53.7	
	comp=E,0.5nm,0.4s						
BCI				AMd		22 18 29.6	
DRME	**Dracevica, Mon**	**1.09**	**326**	⇓*i*Pg	**Pg**	**22 17 34.8**	**-1.4**
DRME				*e*Sg	**Sn**	**22 17 52.3**	**0.0**
FNA	**Florina**	**1.15**	**116**	Pg	**Pg**	**22 17 36.7**	**-0.7**
FNA				Sg	**Sn**	**22 17 54.2**	**+0.3**
FNA				AML	AML	22 17 57.7	
	comp=E,0.1nm,0.4s						
FNA				AMd		22 18 23.1	
FNA	**Florina**	**1.15**	**116**	*i* Pg	**Pg**	**22 17 36.1**	**-1.3**
FNA				*i* Sg	**Sn**	**22 17 53.7**	**-0.2**
FNA	**Florina**	**1.15**	**116**	*e*Pg	**Pg**	**22 17 35.8**	**-1.6**
FNA				*e*Sg	**Sb**	**22 17 53.2**	**+0.5**
LSK	**Leskovik**	**1.23**	**158**	Pg	**Pn**	**22 17 39.4**	**+0.5**
LSK				Sg	**Sn**	**22 17 56.8**	**+1.1**
LSK				AML	AML	22 18 11.2	
	comp=E,0.2nm,0.7s						
LSK				AMd		22 18 28.1	
PDG	**Podgorica**	**1.27**	**334**	*e*Pg	**Pg**	**22 17 37.5**	**-2.2**
PDG				*e*Sg	**Sg**	**22 17 55.6**	**-0.6**
PDG	**Podgorica**	**1.27**	**334**	⇑*i*Pg	**Pg**	**22 17 38.1**	**-1.6**
PDG				*i* Sg	**Sn**	**22 17 58.3**	**+1.6**
PVY	**Plav**	**1.30**	**358**	⇓*i*Pg	**Pg**	**22 17 39.0**	**-1.3**
PVY				*e*Sg	**Sn**	**22 17 59.9**	**+2.2**
BUM	**Brajici-Budva**	**1.31**	**321**	⇓*i*Pg	**Pn**	**22 17 39.1**	**-1.0**
BUM				*i* Sg	**Sn**	**22 18 00.0**	**+2.2**
CEME	**Cevo**	**1.50**	**327**	⇓*i*Pg	**Pn**	**22 17 42.2**	**-0.4**
CEME				*i* Sg	**Sg**	**22 18 05.0**	**+1.6**
IVA	**Berane**	**1.58**	**357**	⇑*i*Pn	**Pn**	**22 17 43.8**	**0.0**
IVA				*i* Sn	**Sg**	**22 18 07.1**	**+0.9**
KOME	**Kolasin**	**1.60**	**347**	*e*Pn	**Pn**	**22 17 44.1**	**0.0**
KOME				*i* Sn	**Sg**	**22 18 07.7**	**+0.9**
HCY	**Herceg Novi**	**1.62**	**316**	*e*Pn	**Pn**	**22 17 44.3**	**+0.1**
HCY				*i* Sn	**Sg**	**22 18 07.8**	**+0.5**
NKME	**Niksic**	**1.67**	**332**	*e*Pn	**Pn**	**22 17 45.1**	**+0.1**
NKME				*i* Sn	**Sg**	**22 18 09.1**	**+0.1**
TREB	**Trebinje**	**1.89

LEM			S		Sb	22 57 08.0	+0.6
SKJI	**Sukabumi**	**1.99 316**	P		Pn	22 56 50.3	+0.3
SKJI			S		Sn	22 57 13.6	-1.4
YOGI	**Yogyakarta**	**2.39 75**	P		Pn	22 56 55.2	-0.3
UGM	**Wanagama**	**2.59 79**	P		Pn	22 56 58.3	+0.1
SMRI	**Semarang**	**2.82 61**	P		Pn	22 57 00.8	-0.6
CGJI	**Cibinong**	**2.89 309**	P		Pn	22 57 02.2	-0.1
PCJI	**Pacitan**	**3.19 86**	P		Pn	22 57 07.3	+0.8
GMJI	**Gumukmas**	**5.43 89**	P		Pn	22 57 37.0	-0.3
	17nm,1.7s						
JAGI	**Jajag, Banyuwa**	**6.13 91**	P		Pn	22 57 46.6	-0.3

IDC 18 22:59:32.2±1.9, 5°70S×155°14E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=58.7km s-min=33.4km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**233**	P	P	23 04 55.8	+0.6
	0.9nm,0.3s,baz=57,slow=10.0,SNR=24						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**27.15**	**227**	P	P	23 05 17.2	-0.2
	0.4nm,0.5s,baz=56,slow=9.2,SNR=5.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**82.53**	**319**	P	P	23 11 57.5	+0.5
	0.5nm,0.6s,baz=95,slow=6.5,SNR=6.2						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**84.27**	**180**	P	P	23 12 05.1	-0.7
	1.1nm,1.1s,baz=225,slow=2.9,SNR=6.9						
	1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**85.94**	**322**	P	P	23 12 14.1	-0.2
	0.1nm,0.5s,baz=93,slow=6.5,SNR=1.6						
	0.1nm,0.5s						

*IDC **18** 23:08:40.6±2.4, 5°26S×131°77E, h0km, mb3.7/2, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=123.3km s-min=27.0km az=80.0*
*DJA **18** 23:08:49.9±0.6, 5°S±5°×13°1E±°, h145km±15km, M3.9/7, mB4.7/1, mb3.9/1, MLv3.9/7, Mw(mB)3.9/1*
ISC 18 23:08:48.4±1.0, 5°64S±0°08×131°38E±0°09, h54km, n10, σ2°27/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.85**	**307**	P	**Pn**	**23 09 20.4**	**+2.7**
FAKI	**Fak Fak**	**2.84**	**18**	P	**Pn**	**23 09 32.0**	**+0.6**
KMPI	**Kaimana, Papua**	**3.04**	**50**	P	**Pn**	**23 09 35.1**	**+1.0**
MSAI	**Masohi**	**3.34**	**313**	P	**Pn**	**23 09 38.5**	**+0.2**
SWI	**Sorong**	**4.75**	**359**	P	**Pn**	**23 09 56.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**13.59**	**204**	Pn	**Pn**	**23 12 00.8**	**+2.3**
	0.1nm,0.3s,baz=24,slow=12,SNR=0.9						
FITZ				Sn	**Sn**	**23 14 23.6**	**-4.4**
	0.1nm,0.3s,baz=207,slow=11,SNR=2.1						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**14.50**	**169**	Pn	**Pn**	**23 12 11.6**	**+0.9**
	0.1nm,0.3s,baz=357,slow=13,SNR=4.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**18.08**	**173**	P	**Pn**	**23 12 57.8**	**+1.9**
	0.2nm,0.3s,baz=345,slow=9.2,SNR=6.7						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**23 19 40.3**	**-0.9**
	0.3nm,0.4s,baz=116,slow=8.0,SNR=7.5						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**70.99**	**333**	P	**P**	**23 19 59.1**	**-1.2**
	0.3nm,0.3s,baz=132,slow=4.3,SNR=2.2						
	0.3nm,0.3s						

RSPR 18 23:17:56.2, 17°93N×65°42W, h22km±29km, 7C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.46**	**297**↑	*eP*	Pb	23 18 04.0	-1.7
HUMP	**Col San Antoni**	**0.46**	**297**	*eS*	Sb	23 18 10.8	-1.2
HUMP	**Col San Antoni**	**0.46**	**297**↑	*eP*	Pb	23 18 04.0	-1.7
HUMP	**Col San Antoni**	**0.46**	**297**	*eS*	Sb	23 18 10.8	-1.2
PDPR	**Patillas Dam,**	**0.58**	**278**↓	*eP*	Pb	23 18 05.9	-1.9
PDPR	**Patillas Dam,**	**0.58**	**278**	*eS*	Sb	23 18 14.3	-1.3
PDPR	**Patillas Dam,**	**0.58**	**278**↓	*eP*	Pb	23 18 06.0	-1.7
PDPR	**Patillas Dam,**	**0.58**	**278**	*eS*	Sb	23 18 14.4	-1.1
GCPR	**Guaynabo City**	**0.73**	**301**↑	*eP*	Pb	23 18 08.7	-1.6
GCPR	**Guaynabo City**	**0.73**	**301**	*eS*	Sb	23 18 18.9	-1.1
GCPR	**Guaynabo City**	**0.73**	**301**↑	*eP*	Pb	23 18 08.7	-1.6
GCPR	**Guaynabo City**	**0.73**	**301**	*eS*	Sb	23 18 18.8	-1.2
ECPR	**Experimental S**	**0.98**	**293**↑	*eP*	Pb	23 18 12.5	-1.9
ECPR	**Experimental S**	**0.98**	**293**↑	*eP*	Pb	23 18 12.5	-1.9
CELP	**Cerrillos**	**1.11**	**277**↑	*eP*	Pn	23 18 14.4	-2.1
AOPR	**Arecibo Observ**	**1.33**	**288**↓	*eP*	Pn	23 18 20.0	+0.5

*IDC **18** 23:29:51.6±1.1, 31°70S×177°87W, h0km, mb4.1/3, mbtmp4.0/5, ML4.3/2, MS3.2/3, Error ellipse: s-maj=37.1km s-min=30.3km az=106.0*
ISC 18 23:29:56.9±1.1, 31°75S±0°1×178°1W±0°2, h35km, n19, σ1°03/14, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.62**	**210**	Pn	**Pn**	**23 31 43.5**	**-1.9**
	1.3nm,0.3s,baz=352,slow=4.6,SNR=6.9						
URZ				Sn	**Sn**	**23 33 10.6**	**+0.1**
	3.6nm,0.3s,baz=147,slow=23,SNR=13						
	2.5nm,0.3s						
MSVF	**Nonsavu**	**14.36**	**345**	Pn	**Pn**	**23 33 16.8**	**-1.0**
	0.1nm,0.3s,baz=165,slow=20,SNR=1.7						
MSVF				LR	LR	23 37 57.1	
	comp=Z,90nm,19.6s,baz=152,slow=34						
	2.2nm,0.7s						
DZM	**Mont Dzumac**	**16.80**	**301**	LR	LR	23 39 39.8	
	comp=Z,147nm,18.5s,baz=50,slow=35						
RAR	**Rarotonga**	**19.42**	**62**	LR	LR	23 42 10.9	
	comp=Z,39nm,18.8s,baz=220,slow=38						
ASAR	**Alice Springs**	**42.98**	**268**	P	**P**	**23 37 54.2**	**+1.3**
	1.4nm,0.5s,baz=108,slow=7.8,SNR=11						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**23 38 03.5**	**+1.6**
	2.3nm,0.4s,baz=115,slow=8.0,SNR=23						
	2.3nm,0.4s						
QSPA	**South Pole Qui**	**58.39**	**180**	P	**P**	**23 39 49.8**	**+1.2**
	1.2nm,1.0s,baz=353,slow=7.6,SNR=2.2						
	1.2nm,1.0s						
H03N3	**Juan Fernandez**	**80.00**	**123**	T	T	01 11 03.3	
	baz=241						
H03N2	**Juan Fernandez**	**80.00**	**123**	T	T	01 11 19.7	
	baz=241						
H03N1	**Juan Fernandez**	**80.02**	**123**	T	T	01 11 10.0	
	baz=241						
MKAR	**Makanchi Array**	**118.56**	**310**	PKP	**PKPdf**	**23 48 40.1**	**-0.6**
	0.1nm,0.3s,baz=90,slow=1.4,SNR=1.5						
KURBB	**Kurchatov Arra**	**121.94**	**313**	PKP	**PKPdf**	**23 48 46.2**	**-0.8**
	0.2nm,0.5s,baz=109,slow=1.6,SNR=4.2						
BVAR	**Borovoye Array**	**127.29**	**315**	PKP	**PKPdf**	**23 48 57.4**	**+0.1**
	0.3nm,0.4s,baz=111,slow=3.7,SNR=2.5						
ARCES	**ARCESS Array B**	**139.86**	**347**	PKhKP	PKPpre	23 49 11.1	
	4.9nm,1.1s,baz=51,slow=1.8,SNR=1.5						
KBZ	**Khabaz**	**145.77**	**302**	PKPbc	**PKPab**	**23 49 32.8**	**+0.4**
	2.6nm,1.0s,baz=318,slow=4.2,SNR=3.8						
FINES	**FINESS Array B**	**146.35**	**339**	PKPbc	**PKPbc**	**23 49 32.8**	**-0.5**
	1.8nm,0.6s,baz=35,slow=2.2,SNR=8.4						
HFS	**Hagfors**	**150.52**	**348**	PKPbc	**PKiKP**	**23 49 45.1**	**+0.2**
	1.1nm,0.6s,baz=77,slow=7.8,SNR=4.2						
MMAI	**Mount Meron Ar**	**151.75**	**282**	PKPbc	**PKiKP**	**23 49 48.5**	**+0.1**
	1.4nm,0.3s,baz=89,slow=7.3,SNR=10						
AKASG	**Malin Array Be**	**152.29**	**321**	PKPbc	**PKPbc**	**23 49 48.6**	**0.0**
	0.7nm,0.5s,baz=58,slow=2.1,SNR=2.4						

*IDC **18** 23:44:51.7±1.8, 56°03N×149°87W, h0km, mb3.7/6, mbtmp3.6/11, ML3.3/5, MS2.7/3, Error ellipse: s-maj=37.6km s-min=22.3km az=13.0*
*NEIC **18** 23:44:53.0±1.6, 56°16N±0°07×149°97W±0°10, h10km±2km, ML3.6/52, ML3.3(AEIC), Error ellipse: s-maj=11.7km s-min=8.9km az=160.0*
*AEIC **18** 23:44:58.0±1.7, 56°26N±0°07×150°14W±0°10, h1km±7km, Error ellipse: s-maj=10.7km s-min=7.4km az=162.0*
ISC 18 23:44:53.9±0.8, 56°27N±0°07×150°03W±0°05, h10km, n134, σ1°18/132, mb3.8/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.03**	**299**	Pn	**Pn**	**23 45 27.9**	**-0.2**
OHAK				Sn	**Sn**	**23 45 51.5**	**-2.0**
OHAK	**Old Harbor**	**2.03**	**299**	P	**Pn**	**23 45 27.9**	**-0.2**
OHAK	**Old Harbor**	**2.03**	**299**	S	**Sn**	**23 45 51.6**	**-1.9**
KDAK	**Kodiak Island**	**2.06**	**318**		**Pn**	**23 45 28.9**	**+0.4**
KDAK				Sn	**Sn**	**23 45 52.7**	**-1.6**
KDAK	**Kodiak Island**	**2.06**	**318**	Pn	**Pn**	**23 45 28.5**	**0.0**
	3.8nm,0.3s,baz=247,slow=0.9,SNR=51						
KDAK				Sn	**Sn**	**23 45 52.0**	**-2.2**
	24nm,0.3s,baz=200,slow=20,SNR=38						
KDAK				LR	LR	23 46 25.7	
	comp=Z,65nm,20.7s,baz=341,slow=41						
	9.2nm,0.3s						
SII	**Sitkinak Islan**	**2.33**	**279**		**Pn**	**23 45 31.8**	**-0.4**
SII				Sn	**Sn**	**23 45 58.9**	**-1.9**
SII				IAML		23 46 12.7	
	comp=N,195nm,0.7s						
SII	**Sitkinak Islan**	**2.33**	**279**	P	**Pn**	**23 45 31.8**	**-0.4**
SII	**Sitkinak Islan**	**2.33**	**279**	S	**Sn**	**23 45 59.2**	**-1.6**
SYI	**Shuyak Island**	**2.67**	**332**	Pn	**Pn**	**23 45 37.5**	**+0.6**
SYI	**Shuyak Island**	**2.67**	**332**		**Sn**	**23 46 08.2**	**-1.0**
CHIR	**Chirikof Islan**	**3.17**	**264**	Pn	**Pn**	**23 45 43.0**	**-0.7**
CHIR	**Chirikof Islan**	**3.17**	**264**		**Sn**	**23 46 18.0**	**-3.6**
CHIR	**Chirikof Islan**	**3.17**	**264**	P	**Pn**	**23 45 43.2**	**-0.6**
Q19K	**Cape Douglas,**	**3.30**	**325**		**Pn**	**23 45 46.9**	**+1.3**
KAHG	**Katmai Hook Gl**	**3.31**	**314**		**Pn**	**23 45 47.7**	**+1.9**
CNPM	**China Poot**	**3.33**	**349**	Pn	**Pn**	**23 45 46.1**	**+0.2**
CNPM				IAML		23 46 33.1	
	comp=E,102nm,0.6s						
CNPM	**China Poot**	**3.33**	**349**		**Sn**	**23 46 23.8**	**-1.7**
ACHA	**Angle Creek He**	**3.47**	**306**	Pn	**Pn**	**23 45 49.1**	**+1.1**
BRSE	**Bradley Lake S**	**3.50**	**354**		**Pn**	**23 45 48.1**	**-0.2**
HOM	**Homer**	**3.50**	**346**	Pn	**Pn**	**23 45 48.7**	**+0.4**
BRLK	**Bradley Lake**	**3.53**	**353**		**Pn**	**23 45 48.6**	**-0.2**
BRLK				IAML		23 46 32.2	
	comp=E,70nm,1.4s						
ANCK	**Angle Creek**	**3.54**	**305**		**Pn**	**23 45 49.9**	**+1.0**
Q23K	**Middleton Isla**	**3.73**	**30**	Pn	**Pn**	**23 45 51.2**	**-0.2**
Q23K				IAML		23 46 49.5	
	comp=N,218nm,1.4s						
P19K	**Oil Pt**	**3.79**	**335**	Pn	**Pn**	**23 45 53.0**	**+0.6**
P19K				IAML		23 46 42.2	
	comp=N,195nm,0.6s						
P19K				IAML		23 46 42.3	
	comp=E,171nm,0.8s						
SEW	**Seward**	**3.86**	**4**	Pn	**Pn**	**23 45 53.1**	**0.0**
P23K	**Montague Islan**	**3.99**	**19**		**Pn**	**23 45 55.0**	**+0.1**
ILSW	**Iliamna Southw**	**4.07**	**337**		**Pn**	**23 45 55.1**	**-1.2**
ILSW				IAML		23 46 46.5	
	comp=N,62nm,0.7s						
ILSW				IAML		23 47 00.8	
	comp=E,69nm,0.8s						
P18K	**Big Mountain,**	**4.18**	**321**		**Pn**	**23 45 58.0**	**+0.2**
P18K				IAML		23 46 49.8	
	comp=E,37nm,0.5s						
P18K				IAML		23 46 51.7	
	comp=N,36nm,0.8s						
O22K	**Cooper Landing**	**4.22**	**2**		**Pn**	**23 45 58.5**	**+0.2**
SLKM	**Skilak Lake**	**4.25**	**359**	Pn	**Pn**	**23 45 58.7**	**+0.1**
SLKM				IAML		23 46 49.2	
	comp=E,76nm,0.3s						
SLKM				IAML		23 46 52.1	
	comp=N,72nm,0.5s						
O18K	**Koktuh Hills**	**4.52**	**325**		**Pn**	**23 46 02.5**	**+0.2**
O18K				IAML		23 46 56.6	
	comp=N,83nm,0.8s						
O18K				IAML		23 47 09.1	
	comp=E,76nm,0.7s						
HIN	**Hinchinbrook I**	**4.54**	**23**	Pn	**Pn**	**23 46 03.2**	**+0.7**
HIN				IAML		23 47 02.3	
	comp=N,105nm,1.4s						
O19K	**Port Alsworth**	**4.54**	**332**		**Pn**	**23 46 02.2**	**-0.4**
CHGN	**Chignik**	**4.67**	**274**	Pn	**Pn**	**23 46 04.5**	**+0.2**
CHGN				IAML		23 47 05.8	
	comp=E,47nm,1.2s						
CHGN				IAML		23 47 12.3	
	comp=N,37nm,1.2s						
PWL	**Port Wells**	**4.69**	**10**	Pn	**Pn**	**23 46 04.7**	**+0.1**
PWL				IAML		23 47 00.5	
	comp=E,60nm,0.5s						
PWL				IAML		23 47 07.9	
	comp=N,52nm,0.5s						
KAIM	**Kayak Island**	**4.72**	**37**	Pn	**Pn**	**23 46 05.0**	**0.0**
RC01	**Rabbit Creek A**	**4.83**	**2**	Pn	**Pn**	**23 46 06.3**	**-0.3**
RC01				IAML		23 47 02.8	
	comp=E,50nm,0.8s						
RC01				IAML		23 47 03.8	
	comp=N,35nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.84**	**26**		**Pn**	**23 46 06.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.84**	**26**	P	**Pn**	**23 46 06.9**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.84**	**26**	S	**Sn**	**23 46 59.9**	**-2.9**
KNK	**Knik Glacier**	**5.22**	**8**	Pn	**Pn**	**23 46 12.5**	**+0.5**
KNK				IAML		23 47 18.0	
	comp=N,26nm,0.6s						
KNK				IAML		23 47 24.9	
	comp=E,33nm,1.3s						
SUA	**Susitna One**	**5.22**	**356**	Pn	**Pn**	**23 46 11.7**	**-0.4**
SUA				IAML		23 47 22.0	
	comp=E,27nm,1.2s						
SUA				IAML		23 49 28.3	
	comp=N,26nm,1.4s						
STLK	**Strandline Lak**	**5.33**	**351**		**Pn**	**23 46 13.3**	**-0.1**
DIV	**Divide**	**5.35**	**23**	Pn	**Pn**	**23 46 14.5**	**+0.7**
PMR	**Palmer**	**5.36**	**5**	Pn	**Pn**	**23 46 13.6**	**-0.2**
SNH	**Sunshine Point**	**5.46**	**41**	Pn	**Pn**	**23 46 15.0**	**-0.2**
BMRM	**Bremner River**	**5.50**	**29**		**Pn**	**23 46 15.9**	**+0.1**
GHO	**Glory Hole Cre**	**5.55**	**5**		**Pn**	**23 46 16.9**	**+0.4**
CHNA	**Chernabura Isl**	**5.62**	**259**	P	**Pn**	**23 46 17.1**	**-0.2**
CHNA	**Chernabura Isl**	**5.62**	**259**	S	**Sn**	**23 47 19.3**	**-2.5**
CNBA	**Chernabura Isl**	**5.62**	**259**		**Pn**	**23 46 16.6**	**-0.8**
SML	**Sawmill**	**5.62**	**8**	Pn	**Pn**	**23 46 17.8**	**+0.4**
KLU	**Klutina**	**5.65**	**20**		**Pn**	**23 46 18.2**	**+0.3**
SCM	**Sheep Creek Mo**	**5.75**	**13**		**Pn**	**23 46 19.1**	**-0.2**
SKT	**Skwentna**	**5.78**	**353**	Pn	**Pn**	**23 46 19.6**	**0.0**
MESA	**MESA**	**5.79**	**44**	Pn	**Pn**	**23 46 19.1**	**-0.8**
M20K	**Styx River**	**5.85**	**345**	Pn	**Pn**	**23 46 21.0**	**+0.3**
SDPT	**Sand Point**	**5.96**	**265**	Pn	**Pn**	**23 46 22.1**	**0.0**
SDPT	**Sand Point**	**5.96**	**265**	P	**Pn**	**23 46 22.7**	**+0.6**
SDPT	**Sand Point**	**5.96**	**265**	S	**Sn**	**23 47 27.4**	**-3.0**
YAH	**Yahtse**	**5.99**	**43**		**Pn**	**23 46 23.2**	**+0.5**
VRDI	**Verde Repeater**	**6.03**	**32**		**Pn**	**23 46 23.4**	**+0.2**
GLB	**Gilahina Butte**	**6.11**	**29**	Pn	**Pn**	**23 46 24.2**	**+0.1**
CUT	**Chulitna**	**6.15**	**359**	Pn	**Pn**	**23 46 25.7**	**+1.0**
M24K	**Tolsona, Glenn**	**6.18**	**17**		**Pn**	**23 46 26.2**	**+1.1**
L19K	**White Mountain**	**6.42**	**339**	Pn	**Pn**	**23 46 28.4**	**0.0**
PCA	**Pinnacle**	**6.43**	**49**	Pn	**Pn**	**23 46 29.1**	**+0.5**
PNL	**Peninsula**	**6.60**	**55**	P	**Pn**	**23 46 32.0**	**+1.1**
BCPM	**Bancas Point**	**6.63**	**52**	Pn	**Pn**	**23 46 31.8**	**+0.6**
PPLA	**Purkeypile**	**6.74**	**352**	Pn	**Pn**	**23 46 34.0**	**+1.2**
L18K	**Granite Mounta**	**6.87**	**333**	Pn	**Pn**	**23 46 33.9**	**-0.7**
RND	**Reindeer**	**7.18**	**4**		**Pn**	**23 46 39.9**	**+1.0**
TRF	**Thorofare Moun**	**7.20**	**359**	Pn	**Pn**	**23 46 39.7**	**+0.4**
CAST	**Castle Rocks**	**7.24**	**353**	Pn	**Pn**	**23 46 40.5**	**+0.8**
L16K	**Owhat River**	**7.31**	**322**	Pn	**Pn**	**23 46 41.3**	**+0.7**
KTH	**Kantishna Hill**	**7.32**	**357**		**Pn**	**23 46 41.6**	**+0.8**
MENT	**Mentasta**	**7.41**	**23**		**Pn**	**23 46 43.4**	**+1.4**
MCK	**McKinley**	**7.50**	**4**	Pn	**Pn**	**23 46 44.9**	**+1.6**
L26K	**Log Cabin Wild**	**7.57**	**24**		**Pn**	**23 46 45.8**	**+1.7**
M14K	**Bethel**	**7.69**	**311**	Pn	**Pn**	**23 46 47.3**	**+1.5**
S31K	**Pelican**	**7.70**	**72**	Pn	**Pn**	**23 46 44.8**	**-1.2**
BPAW	**Bear Paw Mtn.**	**7.87**	**357**	Pn	**Pn**	**23 46 48.3**	**0.0**
RIDG	**Independent Ri**	**7.93**	**17**	Pn	**Pn**	**23 46 49.6**	**+0.5**
DOT	**Dot Lake**	**7.98**	**20**	Pn	**Pn**	**23 46 50.4**	**+0.6**
HYT	**Haines Junctio**	**7.98**	**50**	Pn	**Pn**	**23 46 50.5**	**+0.7**
BCAR	**Beaver Creek A**	**7.98**	**28**	Pn	**Pn**	**23 46 50.7**	**+0.9**
J19K	**Poorman**	**8.23**	**343**	Pn	**Pn**	**23 46 53.2**	**0.0**
WRH	**Wood River Hil**	**8.28**	**6**	Pn	**Pn**	**23 46 54.7**	**+0.8**
SCRK	**Sand Creek**	**8.29**	**19**	Pn	**Pn**	**23 46 54.5**	**+0.3**
L14K	**Kuka Creek**	**8.30**	**313**	Pn	**Pn**	**23 46 55.5**	**+1.4**
HDA	**Harding Lake**	**8.30**	**9**		**Pn**	**23 46 55.2**	**+1.0**
NEA2	**Nenana**	**8.36**	**3**	Pn	**Pn**	**23 46 55.5**	**+0.5**
SKAG	**Skagway**	**8.46**	**62**	Pn	**Pn**	**23 46 55.7**	**-0.6**
J17K	**VABM Dome**	**8.47**	**331**	Pn	**Pn**	**23 46 57.9**	**+1.5**
CCB	**Clear Creek Bu**	**8.47**	**7**	Pn	**Pn**	**23 46 57.4**	**+0.9**
BESE	**Bessie Mountai**	**8.51**	**68**	Pn	**Pn**	**23 46 55.8**	**-1.3**
S32K	**Killisnoo**	**8.55**	**76**	Pn	**Pn**	**23 46 56.6**	**-2.0**
O30N	**Mendenhall**	**8.57**	**53**	Pn	**Pn**	**23 46 57.5**	**-0.4**
R32K	**Eaglecrest**	**8.64**	**70**	Pn	**Pn**	**23 46 58.4**	**-0.4**
IL31		**8.67**	**9**	Pn	**Pn**	**23 47 01.2**	**+2.1**
ILAR	**Eielson Array**	**8.67**	**9**	Pn	**Pn**	**23 47 00.7**	**+1.6**
ILAR	**Eielson Array**	**8.67**	**9**	Pn	**Pn**	**23 46 58.9**	**-0.2**
	comp=N,0.5nm,0.3s,baz=196,slow=13,SNR=20						
ILAR				Sn	**Sn**	**23 48 31.8**	**-5.0**
	comp=N,0.4nm,0.3s,baz=203,slow=23,SNR=5.6						
ILAR				LR	LR	23 50 31.5	
	comp=N,77nm,19.1s,baz=278,slow=38						
	comp=N,1.1nm,0.4s						
J25K	**Salcha River,**	**8.68**	**13**	Pn	**Pn**	**23 47 00.2**	**+0.9**
I23K	**Minto, Yukon-K**	**8.91**	**2**		**Pn**	**23 47 02.3**	**-0.2**
POKR	**Poker Plat Res**	**8.97**	**7**	Pn	**Pn**	**23 47 01.8**	**-1.5**
WHY	**Whitehorse**	**9.07**	**55**	Pn	**Pn**	**23 47 05.6**	**+0.8**
M30M	**Minto, Yukon**	**9.23**	**41**	Pn	**Pn**	**23 47 07.8**	**+0.8**
P32M	**Atlin**	**9.29**	**62**	Pn	**Pn**	**23 47 06.7**	**-1.1**
U33K	**Whale Pass**	**9.43**	**84**	Pn	**Pn**	**23 47 07.2**	**-2.4**
DAWY	**Dawson**	**9.43**	**30**	Pn	**Pn**	**23 47 10.3**	**+0.6**
J14K	**Nanvaranak Lak**	**9.44**	**319**	Pn	**Pn**	**23 47 11.4**	**+1.7**
PRP	**Porcupine Dome**	**9.53**	**11**	Pn	**Pn**	**23 47 09.7**	**-1.4**
H24K	**Noodor Dome**	**9.65**	**5**	Pn	**Pn**	**23 47 14.2**	**+1.4**
K29M	**Barlow Dome**	**9.82**	**34**	Pn	**Pn**	**23 47 16.3**	**+1.3**
P33M	**Teslin, Yukon**	**9.89**	**59**	Pn	**Pn**	**23 47 16.1**	**+0.1**
Q32M	**Nakina River**	**9.90**	**67**	Pn	**Pn**	**23 47 16.9**	**+0.6**
M31M	**Drury Creek, Y**	**9.96**	**47**	Pn	**Pn**	**23 47 18.0**	**+1.1**
FYU	**Fort Yukon**	**10.58**	**10**	Pn	**Pn**	**23 47 26.1**	**+0.8**
DLBC	**Dease Lake**	**11.01**	**70**	Pn	**Pn**	**23 47 30.3**	**-1.1**
	comp=N,0.4nm,0.3s,baz=255,slow=9.0,SNR=5.3						
	comp=N,0.8nm,0.2s						
INK	**Inuvik**	**14.23**	**25**	Pn	**Pn**	**23 48 16.9**	**+1.8**
	comp=N,0.1nm,0.3s,baz=218,slow=15,SNR=6.9						
	comp=N,2.7nm,1.1s						
YKA	**Yellowknife Ar**	**18.89**	**56**	P	**Pn**	**23 49 13.9**	**-0.8**
	baz=270,slow=9.7,SNR=5.5						
	comp=N,0.2nm,0.6s						
PDAR	**Pinedale Array**	**29.07**	**100**	P	**P**	**23 50 53.1**	**-1.3**
	comp=N,0.1nm,0.7s,baz=335,slow=12,SNR=1.3						
	comp=N,0.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**48.52**	**239**	T	T	00 45 53.9	
	baz=30,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**48.52**	**239**	T	T	00 45 50.9	
	baz=30,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**48.53**	**239**	T	T	00 46 14.8	
	baz=30,slow=76,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**49.66**	**239**	T	T	00 48 01.2	
	baz=29,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**49.67**	**239**	T	T	00 47 59.1	
	baz=29,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**49.68**	**239**	T	T	00 47 52.3	
	baz=29,slow=76,SNR=9.5						
ARCES	**ARCESS Array B**	**54.46**	**2**	P	**P**	**23 54 21.7**	**+0.9**
	comp=N,3.3nm,0.9s,baz=19,slow=5.7,SNR=1.9						
	comp=N,3.3nm,0.9s						
SONM	**Songino Array**	**58.33**	**310**	P	**P**	**23 54 49.7**	**+0.9**
	comp=N,1.3nm,0.8s,baz=53,slow=7.4,SNR=3.8						
	comp=N,1.3nm,0.8s						
APG	**El Apazote**	**60.88**	**108**	LR	LR	00 23 09.6	
	comp=N,9.7nm,20.7s,baz=269,slow=38						
EKA	**Eskdalemuir Ar**	**65.53**	**20**	P	**P**	**23 55 37.6**	**+0.7**
	comp=N,1.7nm,0.9s,baz=336,slow=6.5,SNR=3.0						
	comp=N,1.7nm,0.9s						
BVAR	**Borovoye Array**	**66.11**	**335**	P	**P**	**23 55 42.6**	**+1.8**
	comp=N,0.3nm,0.7s,baz=25,slow=3.8,SNR=1.8						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.36**	**324**	P	**P**	**23 55 55.8**	**+0.7**
	comp=N,0.3nm,0.8s,baz=9.2,slow=4.5,SNR=2.5						
	comp=N,0.3nm,0.8s						

*NEIC **18** 23:50:48.7±2.1, 7°09S±0°10×156°06E±0°09, h92km±7km, mb4.6/49, Error ellipse: s-maj=14.9km s-min=12.4km az=217.0*
*IDC **18** 23:50:49.0±2.3, 7°13S×155°98E, h98km±20km, mb4.2/19, mbtmp4.5/23, MS3.4/15, Error ellipse: s-maj=15.0km s-min=13.3km az=65.0*
**ISC 18 23:50:48.7±0.

comp=Z,11nm,1.0s
BKZ Black Stump Fm 36.85 153 P **P** **23 57 48.2 +0.7**
THZ Tophouse 37.62 159 P **P** **23 57 54.6 +0.7**
TCW Tory Channel 37.64 157 P **P** **23 57 55.2 +1.2**
TUWZ Tuamarina 37.70 158 P **P** **23 57 56.3 +1.8**
MBWA Marble Bar 37.78 244 P **P** **23 57 54.7 -0.8**
MBWA IAmb IAmb 23 57 55.3
comp=Z,10nm,0.8s
PSA00 Pilbara Seismi 37.79 244 P **P** **23 57 55.1 -0.6**
PSA00 IAmb IAmb 23 58 12.3
comp=Z,9.3nm,1.1s
BFZ Birch Farm 37.99 155 P **P** **23 57 56.2 -0.7**
LTZ Lake Taylor 38.30 161 P **P** **23 58 00.8 +1.1**
LTZ IAmb IAmb 23 58 02.1
comp=Z,7.8nm,0.8s
PLWZ Palliser 38.33 157 P **P** **23 57 59.1 -0.7**
KHZ Kahutara 38.41 159 P **P** **23 58 01.0 +0.5**
GVZ Greta Valley S 38.73 160 P **P** **23 58 04.6 +1.4**
MJAR Matsushiro Arr 46.53 340 P **P** **23 59 05.5 -0.8**
comp=Z,2.5nm,0.6s,baz=172,slow=7.7,SNR=7.3
comp=Z,2.5nm,0.6s
KSRS Korea Array 51.53 331 P **P** **23 59 45.0 +0.6**
comp=Z,3.6nm,0.6s,baz=145,slow=7.6,SNR=13
KSRS LR LR 00 21 51.2
comp=Z,8.7nm,18.7s,baz=230,slow=36
comp=Z,3.6nm,0.6s
ASAJ Asahikawa 52.42 348 LR LR 00 23 18.3
comp=Z,24nm,18.2s,baz=87,slow=37
USRK Ussuriysk Ar. 55.50 339 P **P** **00 00 13.9 +0.6**
comp=Z,4.6nm,1.0s,baz=165,slow=6.0,SNR=3.6
comp=Z,4.6nm,1.0s
PETK Petropavlovsk- 60.00 1 P **P** **00 00 44.9 +0.2**
comp=Z,1.8nm,0.8s,baz=198,slow=6.6,SNR=2.4
PETK LR LR 00 22 54.2
comp=Z,29nm,21.7s,baz=145,slow=32
comp=Z,1.8nm,0.8s
SHEM Shemya Is, Ala 61.55 12 LR LR 00 23 37.9
comp=Z,38nm,20.9s,baz=334,slow=32
CMAR Chiang Mai Arr 61.78 295 P **P** **00 00 57.5 0.0**
comp=Z,8.2nm,0.9s,baz=115,slow=5.0,SNR=38
CMAR LR LR 00 27 32.1
comp=Z,23nm,18.6s,baz=165,slow=36
comp=Z,8.2nm,0.9s
CHTO Chiang Mai 61.90 296 P **P** **00 00 58.9 +0.7**
CHTO IAmb IAmb 00 01 00.4
comp=Z,10nm,1.1s
MA2 Magadan 66.60 357 LR LR 00 32 55.8
comp=Z,16nm,18.1s,baz=84,slow=38
ULN Ulaanbaatar 69.66 327 P **P** **00 01 49.3 +1.6**
SONM Songino Array 70.00 327 P **P** **00 01 51.1 +1.4**
SONM Songino Array 70.00 327 P **P** **00 01 50.9 +1.2**
comp=Z,12nm,0.5s,baz=144,slow=6.8,SNR=49
comp=Z,12nm,0.5s
E19K Redstone River 81.43 16 P **P** **00 02 56.6 +2.3**
BWN Browne 81.83 21 P **P** **00 02 55.7 -0.8**
QSPA South Pole Qui 82.87 180 P **P** **00 03 03.3 +1.2**
QSPA IAmb IAmb 00 03 04.2
comp=Z,8.3nm,1.1s
QSPA South Pole Qui 82.87 180 P **P** **00 03 02.5 +0.4**
comp=Z,3.1nm,0.5s,baz=180,slow=1.5,SNR=57
comp=Z,3.1nm,0.5s
ILAR Eielson Array 83.09 21 P **P** **00 03 03.4 +0.4**
comp=Z,0.5nm,0.8s,baz=247,slow=5.0,SNR=7.2
ILAR LR LR 00 41 12.4
comp=Z,19nm,18.4s,baz=86,slow=36
comp=Z,0.5nm,0.8s
MK31 Makanchi Array 84.18 318 P **P** **00 03 09.8 +0.8**
MK31 IAmb IAmb 00 03 10.8
comp=Z,8.2nm,0.7s
MKAR Makanchi Array 84.18 318 P **P** **00 03 09.8 +0.8**
MKAR Makanchi Array 84.18 318 P **P** **00 03 10.1 +1.0**
comp=Z,9.8nm,0.7s,baz=100,slow=5.9,SNR=132
comp=Z,9.8nm,0.7s
MAKZ Makanchi 84.39 318 P **P** **00 03 11.2 +1.1**
WUS Wushi 84.84 312 IAmb IAmb 00 03 14.8
comp=Z,5.0nm,0.7s
ZAA0 Zalesovo Array 84.86 326 IAmb IAmb 00 03 12.9
comp=Z,7.6nm,1.1s
ZALV Zalesovo Beam 84.86 326 P **P** **00 03 12.1 -0.2**
comp=Z,4.7nm,0.5s,baz=116,slow=5.6,SNR=22
comp=Z,4.7nm,0.5s
KDJ Kajisay 86.54 313 IAmb IAmb 00 03 23.2
comp=Z,10nm,1.2s
M31M Drury Creek, Y 86.90 26 P **P** **00 03 22.1 -0.1**
BBB Bella Bella 86.98 37 LR LR 00 33 59.1
comp=Z,46nm,21.0s,baz=310,slow=30
BOOM Boomskoye usch 87.52 313 IAmb IAmb 00 03 27.7
comp=Z,3.4nm,0.7s
KURK Kurchatov 87.57 322 P **P** **00 03 25.1 -0.5**
KURK IAmb IAmb 00 03 26.0
comp=Z,4.0nm,0.5s
KURBB Kurchatov Arra 87.60 322 P **P** **00 03 25.9 +0.1**
comp=Z,2.7nm,0.6s,baz=102,slow=4.6,SNR=41
comp=Z,2.7nm,0.6s
NIL Nilore 87.94 304 P **P** **00 03 28.3 +0.4**
YBH Yreka Blue Hor 88.18 48 LR LR 00 37 50.4
comp=Z,24nm,18.8s,baz=356,slow=32
AAK Ala-Archa 88.59 313 P **P** **00 03 31.6 +0.8**
AAK IAmb IAmb 00 03 32.4
comp=Z,3.0nm,0.8s
NRIK Noril'sk 89.19 341 P **P** **00 03 33.5 +0.7**
comp=Z,0.8nm,0.4s,baz=148,slow=12,SNR=2.3
comp=Z,0.8nm,0.4s
ARSB Arslanbob 89.47 312 IAmb IAmb 00 03 39.4
comp=Z,3.2nm,0.9s
BTK Batken 90.89 310 IAmb IAmb 00 03 43.0
comp=Z,6.6nm,1.1s
GAR Garm 91.12 309 IAmb IAmb 00 03 43.9
comp=Z,4.6nm,1.0s
KBL Kabul 91.53 304 P **P** **00 03 44.3 -0.5**
KBL IAmb IAmb 00 03 45.3
comp=Z,3.1nm,0.8s
SYO Syowa Base 92.56 199 ||*e*PcP **PcP** **00 03 50.8 +1.6**
BVAR Borovoye Array 93.02 323 P **P** **00 03 50.7 -0.3**
comp=Z,4.0nm,0.7s,baz=98,slow=5.1,SNR=33
comp=Z,4.0nm,0.7s
BRVK Borovoye 93.09 323 P **P** **00 03 50.0 -1.3**
BRVK IAmb IAmb 00 03 51.7
comp=Z,5.1nm,1.1s
YKA Yellowknife Ar 95.94 28 P **P** **00 04 05.0 +0.8**
comp=Z,0.1nm,0.6s,baz=267,slow=5.3,SNR=2.4
comp=Z,0.1nm,0.6s
PDAR Pinedale Array 97.99 48 LR LR 00 45 33.4
comp=Z,16nm,18.3s,baz=330,slow=34
FINES FINESS Array B 114.47 336 PKP **PKiKP** **00 09 16.9 +0.2**
comp=Z,3.3nm,0.9s,baz=95,slow=1.7,SNR=2.7
AKASG Malin Array Be 118.24 325 PKP **PKPdf** **00 09 24.2 -0.1**
comp=Z,0.5nm,0.4s,baz=68,slow=1.9,SNR=6.8
GERES GERESS Array B 127.69 329 PKP **PKiKP** **00 09 43.4 +0.2**
comp=Z,1.0nm,0.7s,baz=69,slow=3.3,SNR=4.1
ESDC Sonseca Array 142.94 334 PKP **PKPdf** **00 10 09.6 -1.6**
comp=Z,0.7nm,0.9s,baz=358,slow=2.6,SNR=2.7
BDFB Brasília 147.15 134 PKPbc **PKPbc** **00 10 20.6 -0.8**
comp=Z,10nm,0.6s,baz=206,slow=2.3,SNR=16
TORD Torodi Ar. Bea 154.07 285 PKPbc **PKPbc** **00 10 38.0 +0.1**
comp=Z,1.1nm,0.4s,baz=91,slow=2.5,SNR=1.2
TORD PKPab **PKPab** **00 10 51.1 -0.7**
comp=Z,1.6nm,0.3s,baz=73,slow=4.3,SNR=1.6

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*SJA **18** 23:56:41.7±0.7,30°.16S×71°.41W,h63km±4km,ML4.1, MW4.1*
*GUC **18** 23:56:43.1±0.8,30°.22S×71°.17W,h67km±3km,ML4.2*
*NEIC **18** 23:56:44.0±1.9,30°.18S±0°.04×71°.24W±0°.07,h69km±3km, mb4.0/6,Error ellipse: s-maj=9.2km s-min=5.9km az=113.0*
*IDC **18** 23:56:44.0±0.8,30°.23S×71°.29W,h67km±6km,mb4.0/4, mbtmp4.0/9,MS3.4/4,Error ellipse: s-maj=19.3km s-min=13.1km az=43.0*
ISC 18 23:56:43.3±0.5,**30°.16S**±0°.03×**71°.39W**±0°.04,**h66**km±5km, **n123,** σ1§40/148,**mb4.2**/6,**3C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.51**	**91**		**Pn**	**23 56 56.1**	**0.0**
GO04					**Sn**	**23 57 05.0**	**-0.6**
GO04	**Tololo Observa**	**0.51**	**91**	*i* P	**Pn**	**23 56 55.9**	**-0.3**
GO04				*i* S	**Sn**	**23 57 05.0**	**-0.6**
GO04	**Tololo Observa**	**0.51**	**91**	*e*P	Pn	23 56 51.1	-5.1
GO04				*e*P		23 56 55.2	
CO06	**Fray Jorge**	**0.55**	**202**		**Pn**	**23 56 57.5**	**+1.2**
CO06					**Sn**	**23 57 07.8**	**+1.9**
CO06	**Fray Jorge**	**0.55**	**202**	||*i* P	**Pn**	**23 56 57.5**	**+1.2**
CO06				*i* S	**Sn**	**23 57 07.3**	**+1.5**
CO03	**El Pedregal**	**0.91**	**138**		**Pn**	**23 56 59.9**	**-0.7**
CO03					**Sn**	**23 57 11.8**	**-1.6**
CO03	**El Pedregal**	**0.91**	**138** ⇑	*i* P	**Pn**	**23 56 59.8**	**-0.7**
CO03				*i* S	**Sn**	**23 57 11.7**	**-1.6**
CO03				IAML		23 57 12.2	
comp=E,11μm,0.2s							
CO03	**El Pedregal**	**0.91**	**138**	*e*P	**Pn**	**23 56 59.6**	**-0.9**
CO03				*e*S	**Sn**	**23 57 12.0**	**-1.3**
CO03				IAML		23 57 13.2	
comp=Z,6μm,0.3s							
CO01	**Juntas del Tor**	**1.14**	**81**		**Pn**	**23 57 03.6**	**0.0**
CO01				Sn	**Sn**	**23 57 16.7**	**-2.1**
CO01	**Juntas del Tor**	**1.14**	**81** ⇑	*i* P	**Pn**	**23 57 03.7**	**0.0**
CO01				IAML		23 57 18.7	
comp=N,10μm,0.3s							
CO01	**Juntas del Tor**	**1.14**	**81**	*e*P	**Pn**	**23 57 03.5**	**-0.2**
CO01				*e*S	**Sn**	**23 57 17.7**	**-1.1**
CO01				IAML		23 57 18.6	
comp=Z,2μm,0.2s							
LCO	**Las Campanas**	**1.30**	**28**	Pn	**Pn**	**23 57 06.9**	**+1.1**
LCO				Sn	**Sn**	**23 57 23.4**	**+1.0**
LCO	**Las Campanas**	**1.30**	**28**	*i* P	**Pn**	**23 57 06.6**	**+0.9**
LCO				*i* S	**Sn**	**23 57 23.6**	**+1.1**
LCO	**Las Campanas**	**1.30**	**28**	*e*P	**Pn**	**23 57 06.0**	**+0.3**
LCO				*e*S	**Sn**	**23 57 22.8**	**+0.4**
LCO				IAML		23 57 24.9	
comp=Z,7μm,0.3s							
AROD	**Rodeo**	**1.66**	**91**	*e*P	**Pn**	**23 57 11.8**	**+1.2**
ACDV	**Cuesta del Vie**	**1.97**	**91**	*e*P	**Pn**	**23 57 16.1**	**+1.5**
AC04	**Llanos de Chal**	**1.97**	**8**	Pn	**Pn**	**23 57 15.9**	**+1.4**
AC04	**Llanos de Chal**	**1.97**	**8** ⇑	*i* P	**Pn**	**23 57 15.9**	**+1.4**
AC04				IAML		23 57 47.1	
comp=N,1μm,0.3s							
AC04	**Llanos de Chal**	**1.97**	**8**	*e*P	**Pn**	**23 57 16.0**	**+1.4**
AC04				*e*S	Sn	23 57 28.2	-10
AC04				IAML		23 57 48.0	
comp=Z,853nm,0.6s							
ACCO	**Cerro Coronel**	**2.06**	**102**	*e*P	**Pn**	**23 57 18.4**	**+2.5**
DOCA	**Reserva Natura**	**2.14**	**112**	*e*P	**Pn**	**23 57 18.2**	**+1.1**
DOCA				*e*S	**Sn**	**23 57 43.9**	**+1.1**
DOCA				IAML		23 57 45.7	
comp=Z,500nm,0.6s							
VA06	**Catapilco**	**2.39**	**178**	Pn	**Pn**	**23 57 20.3**	**+0.2**
VA06	**Catapilco**	**2.39**	**178**	*i* P	**Pn**	**23 57 20.1**	**0.0**
VA06				IAML		23 58 02.1	
comp=E,2μm,0.5s							
RTLS	**Leoncito**	**2.43**	**133**	*e*P	**Pn**	**23 57 22.2**	**+1.3**
RTLS				*e*S	**Sn**	**23 57 52.9**	**+3.2**
RTLS				IAML		23 57 54.4	
comp=Z,2μm,0.3s							
AGUA	**GUANDACOL**	**2.61**	**76**	*e*P	**Pn**	**23 57 25.9**	**+2.7**
AGUA				*e*S	**Sn**	**23 57 59.2**	**+5.4**
AGUA				IAML		23 58 03.1	
comp=Z,830nm,0.3s							
VA03	**San Esteban**	**2.69**	**165**		**Pn**	**23 57 24.5**	**+0.1**
VA03	**San Esteban**	**2.69**	**165**	*i* P	**Pn**	**23 57 25.1**	**+0.7**
VA03				IAML		23 57 58.4	
comp=E,2μm,0.3s							
VA03	**San Esteban**	**2.69**	**165**	*e*P	**Pn**	**23 57 24.4**	**+0.1**
VA03				*e*S	**Sn**	**23 57 56.8**	**+1.0**
VA03				IAML		23 58 09.9	
comp=Z,779nm,0.6s							
ZON	**Zonda**	**2.71**	**121**		**Pn**	**23 57 24.1**	**-0.5**
ZON	**Zonda**	**2.71**	**121**	*e*P	**Pn**	**23 57 25.5**	**+0.9**
ZON				*e*S	**Sn**	**23 58 00.3**	**+4.1**
ZON				IAML		23 58 07.0	
comp=Z,271nm,0.4s							
RTLL	**Cerro Villicun**	**2.77**	**116**	*e*P	**Pn**	**23 57 26.0**	**+0.7**
RTLL				*e*S	Sn	23 57 47.5	-10
SJA	**San Juan**	**2.79**	**120**	*e*P	**Pn**	**23 57 22.0**	**-3.6**
SJA				IAML		23 57 58.1	
comp=Z,509nm,0.6s							
ROC1	**El Roble**	**2.82**	**174**	*e*P	**Pn**	**23 57 26.2**	**0.0**
VA01	**Torpederas**	**2.86**	**184**	Pn	**Pn**	**23 57 25.8**	**-0.7**
AC06	**Mina Casimiro**	**2.94**	**18**	Pn	**Pn**	**23 57 28.7**	**+1.0**
PEL	**Peldehue**	**3.03**	**169**	Pn	**Pn**	**23 57 29.6**	**+0.7**
PEL	**Peldehue**	**3.03**	**169**	IAML		23 58 06.9	
comp=N,812nm,0.3s							
PEL	**Peldehue**	**3.03**	**169**	*e*P	Pn	23 57 19.8	-9.1
PEL				*e*S	**Sn**	**23 58 04.3**	**+0.2**
CFA	**Coronel Fontan**	**3.07**	**119**	P	**Pn**	**23 57 29.7**	**+0.3**
comp=N,29nm,0.3s,baz=306,slow=14,SNR=120							
CFA				S	**Sn**	**23 58 03.1**	**-1.8**
comp=N,67nm,0.3s,baz=265,slow=6.3,SNR=5.2							
CFA	**Coronel Fontan**	**3.07**	**119**	*e*P	**Pn**	**23 57 30.0**	**+0.6**
CFA				*e*S	**Sn**	**23 58 05.3**	**+0.4**
MT02	**Curacav**	**3.09**	**176**		**Pn**	**23 57 29.9**	**+0.2**
MT02	**Curacav**	**3.09**	**176**	*e*P	**Pn**	**23 57 29.3**	**-0.5**
MT02				*e*S	**Sn**	**23 58 05.2**	**-0.4**
MT02				IAML		23 58 18.5	
comp=Z,508nm,0.6s							
VCA	**Vinchina**	**3.12**	**64**	*e*P	**Pn**	**23 57 33.3**	**+3.0**
VCA				*e*S	Sn	23 57 51.1	-15
VCA				IAML		23 58 11.3	
comp=Z,891nm,0.4s							
ASAL	**Salagasta**	**3.26**	**139**	*e*P	**Pn**	**23 57 33.8**	**+1.7**
ASAL				*e*S	**Sn**	**23 58 13.7**	**+4.0**
ASAL				IAML		23 58 19.5	
comp=Z,238nm,0.5s							
MT05	**Renca**	**3.27**	**170**	Pn	**Pn**	**23 57 32.2**	**+0.1**
MT05	**Renca**	**3.27**	**170**	*e*P	**Pn**	**23 57 32.7**	**+0.5**
MT05				*e*S	**Sn**	**23 58 10.0**	**+0.2**
MT05				IAML		23 58 21.7	
comp=Z,511nm,0.7s							
MT16	**CCHEN**	**3.34**	**167**		**Pn**	**23 57 33.7**	**+0.6**
MT16	**CCHEN**	**3.34**	**167**	IAML		23 58 15.5	
comp=E,396nm,0.4s							
ARCO	**CERRO ARCO**	**3.40**	**142**	*e*P	**Pn**	**23 57 36.1**	**+2.1**
ARCO				*e*S	Sn	23 57 58.7	-14
ARCO				IAML		23 58 20.7	
comp=Z,355nm,0.8s							
MT03	**Universidad Ad**	**3.40**	**167**		**Pn**	**23 57 34.4**	**+0.4**
MT03	**Universidad Ad**	**3.40**	**167**	*e*P	**Pn**	**23 57 35.1**	**+1.1**
MT03				*e*S	**Sn**	**23 58 14.3**	**+1.0**
MT03				IAML		23 58 15.4	
comp=Z,767nm,0.3s							
MT04	**Ro Olivares**	**3.40**	**162**	*e*P	**Pn**	**23 57 35.8**	**+1.6**
MT04				*e*S	**Sn**	**23 58 15.0**	**+1.6**
MT04				IAML		23 58 19.5	
comp=Z,369nm,0.8s							
AVFE	**Valle Fertil**	**3.44**	**99**	*e*P	**Pn**	**23 57 35.1**	**+0.6**
AVFE				IAML		23 58 17.5	
comp=Z,353nm,0.7s							
MT08	**Bocatoma Ro**	**3.47**	**161**		**Pn**	**23 57 36.4**	**+1.2**
MT08	**Bocatoma Ro**	**3.47**	**161**	*e*P	**Pn**	**23 57 32.5**	**-2.7**
MT08				*e*S	**Sn**	**23 58 18.5**	**+3.3**
MT08				IAML		23 58 37.4	
comp=Z,267nm,0.6s							
VA05	**Santo Domingo**	**3.49**	**183**		**Pn**	**23 57 34.4**	**-0.7**
MT09	**Talagante**	**3.62**	**175**		**Pn**	**23 57 36.7**	**-0.3**
AAGR	**Agrelo**	**3.64**	**144**	*e*P	**Pn**	**23 57 40.2**	**+2.9**
AAGR				*e*S	Sn	23 58 04.0	-15
AAGR				IAML		23 58 05.2	
comp=Z,252nm,0.4s							
MT01	**Popeta**	**3.69**	**178**		**Pn**	**23 57 38.0**	**+0.1**
MT01	**Popeta**	**3.69**	**178**	*e*P	**Pn**	**23 57 37.5**	**-0.4**
MT01				IAML		23 58 24.6	
comp=Z,352nm,0.4s							
MT13	**San Alfonso**	**3.69**	**166**	Pn	**Pn**	**23 57 38.7**	**+0.7**
MT13	**San Alfonso**	**3.69**	**166**	*e*P	**Pn**	**23 57 39.1**	**+1.1**
MT13				*e*S	**Sn**	**23 58 21.3**	**+1.0**
MT13				IAML		23 58 23.0	
comp=Z,512nm,0.6s							
LMEL	**Las Melosas**	**3.81**	**165**		**Pn**	**23 57 40.2**	**+0.5**
LMEL	**Las Melosas**	**3.81**	**165**	*e*P	**Pn**	**23 57 40.9**	**+1.2**
LMEL				*e*S	**Sn**	**23 58 24.2**	**+0.9**
AC02	**Maricunga**	**3.87**	**32**	Pn	**Pn**	**23 57 41.0**	**+0.2**
AC02	**Maricunga**	**3.87**	**32**	*e*P	**Pn**	**23 57 41.9**	**+1.1**
AC02				*e*S	**Sn**	**23 58 25.2**	**0.0**
AC02				IAML		23 58 47.5	
comp=Z,257nm,0.6s							
BO04	**La Punta**	**3.87**	**170**		**Pn**	**23 57 40.1**	**-0.3**
ACLC	**CERRO LA CRUZ**	**3.93**	**80**	*e*P	**Pn**	**23 57 42.1**	**+0.8**
ACLC				*e*S	**Sn**	**23 58 27.4**	**+1.1**
ACLC				IAML		23 58 29.6	
comp=Z,209nm,0.5s							
AC01	**Pan de Azucar**	**4.06**	**10**		**Pn**	**23 57 42.4**	**-0.6**
AC01	**Pan de Azucar**	**4.06**	**10**	*e*P	**Pn**	**23 57 42.4**	**-0.6**
AC01				*e*S	Sn	23 58 40.0	+11
AC01				IAML		23 59 06.5	
comp=Z,140nm,0.5s							
ACHE	**Chepes**	**4.19**	**105**	*e*S	**Sn**	**23 58 31.1**	**-1.6**
APLL	**PUNTA DE LOS L**	**4.21**	**94**	*e*P	**Pn**	**23 57 45.3**	**+0.3**
APLL				*e*S	**Sn**	**23 58 31.2**	**-1.9**
BO01	**Tunca**	**4.22**	**177**	Pn	**Pn**	**23 57 45.2**	**0.0**
BO01	**Tunca**	**4.22**	**177**	*e*P	**Pn**	**23 57 45.4**	**+0.2**
BO01				*e*S	**Sn**	**23 58 30.9**	**-2.3**
BO01				IAML		23 58 36.1	
comp=Z,147nm,0.2s							
BO02	**Sierra Bellavi**	**4.64**	**174**		**Pn**	**23 57 50.9**	**-0.1**
BO02	**Sierra Bellavi**	**4.64**	**174**	*e*P	**Pn**	**23 57 51.1**	**+0.1**
BO02				*e*S	**Sn**	**23 58 43.2**	**-0.4**
BO02				IAML		23 58 44.0	
comp=Z,363nm,0.2s							
CYA	**Choya**	**5.17**	**72**	*e*S	**Sn**	**23 58 54.7**	**-1.9**
CYA				IAML		23 58 55.6	
comp=Z,56nm,1.0s							
RFA	**San Rafael**	**5.22**	**152**	*e*P	**Pn**	**23 57 58.6**	**-0.2**
RFA				*e*S	Sn	23 58 37.4	-20
GO02	**Mina Guanaco**	**5.23**	**18**		**Pn**	**23 57 59.6**	**+0.3**
GO02	**Mina Guanaco**	**5.23**	**18**	*e*P	**Pn**	**23 57 59.0**	**-0.3**
ML02	**Panimavida**	**5.58**	**180**		**Pn**	**23 58 03.1**	**-0.6**
PB14	**IPOC Station P**	**5.59**	**9**	Pn	**Pn**	**23 58 03.2**	**-0.9**
BI02	**San Fabin de**	**6.48**	**179**		**Pn**	**23 58 15.7**	**-0.5**
H03N1	**Juan Fernandez**	**7.19**	**241**	P	**Pn**	**23 58 26.4**	**+1.0**
baz=113,slow=18,SNR=54							
H03N1				T	T	00 06 25.1	
baz=64							
H03N2	**Juan Fernandez**	**7.20**	**241**	P	**Pn**	**23 58 26.6**	**+1.0**
baz=113,slow=18,SNR=37							
H03N2				T	T	00 06 03.2	
baz=64,slow=74							
H03N3	**Juan Fernandez**	**7.20**	**241**	P	**Pn**	**23 58 26.8**	**+1.1**
baz=113,slow=18,SNR=44							
H03N3				T	T	00 06 01.9	
baz=64,slow=74							
H03S3	**Juan Fernandez**	**7.35**	**238**	P	**Pn**	**23 58 27.2**	**-0.5**
SNR=7.0							
PB05	**IPOC Station P**	**7.36**	**9**	Pn	**Pn**	**23 58 27.6**	**-0.6**
H03S1	**Juan Fernandez**	**7.36**	**238**	P	**Pn**	**23 58 27.0**	**-0.8**
H03S2	**Juan Fernandez**	**7.37**	**238**	P	**Pn**	**23 58 27.7**	**-0.2**
PB01	**IPOC Station P**	**9.24**	**11**	Pn	**Pn**	**23 58 51.9**	**-2.1**
TA01	**Diego Aracena**	**9.62**	**7**	Pn	**Pn**	**23 59 00.0**	**+1.0**
PLCA	**Paso Flores**	**10.57**	**177**	P	**Pn**	**23 59 13.5**	**+1.6**
comp=Z,0.9nm,0.7s,baz=24,slow=7.5,SNR=2.8							
TRQA	**Tornquist**	**11.08**	**138**	Pn	**Pn**	**23 59 17.2**	**-1.6**
CPUP	**Villa Florida**	**12.97**	**76**	P	**Pn**	**23 59 46.1**	**+1.4**
comp=Z,1.5nm,0.8s,baz=333,slow=10,SNR=1.9							
LPAZ	**La Paz**	**14.13**	**13**	P	**Pn**	**00 00 02.7**	**+1.9**
comp=Z,1.0nm,0.5s,baz=206,slow=8.1,SNR=5.0							
AY01	**Puyuhuapi**	**14.27**	**184**	P	**P**	**00 00 06.2**	**-0.9**
PLTB	**Pedras Altas**	**15.35**	**100**	Pn	**Pn**	**00 00 11.1**	**-4.8**
PLTB				IAmb	IAmb	00 00 25.7	
comp=Z,1.3nm,0.5s							
SIV	**San Ignacio**	**16.99**	**36**	P	**P**	**00 00 37.9**	**+0.3**
comp=Z,1.7nm,0.9s,baz=228,slow=12,SNR=7.6							
PTLB	**Pontes e Lacer**	**18.47**	**40**	P	**P**	**00 00 52.4**	**-1.4**
VILB	**Vilhena**	**20.02**	**34**	P	**P**	**00 01 11.0**	**+0.2**
VILB				IAmb	IAmb	00 01 16.0	
comp=Z,5.1nm,0.9s							
BDFB	**Brasília**	**25.86**	**61**	LR	LR	00 13 19.7	
comp=Z,51nm,18.8s,baz=5.8,slow=39							
BOAV	**Boa Vista**	**34.00**	**20**	P	**P**	**00 03 20.1**	**-0.7**
BOAV				IAmb	IAmb	00 03 35.7	
comp=Z,2.8nm,1.2s							
PMSA	**Palmer Station**	**34.93**	**175**	P	**P**	**00 03 30.2**	**+1.9**
MDP	**Montagnes des**	**39.40**	**30**	LR	LR	00 19 52.3	
comp=Z,31nm,19.8s,baz=295,slow=35							
CELP	**Cerrillos**	**48.18**	**6**	P	**P**	**00 05 16.6**	**-0.5**
CELP				IAmb	IAmb	00 05 16.8	
comp=Z,15nm,1.1s							
SNAA	**Sanae**	**54.94**	**159**	P	**P**	**00 06 06.7**	**-0.3**
comp=Z,1.3nm,0.5s,baz=235,slow=15,SNR=9.4							
comp=Z,1.3nm,0.5s							
QSPA	**South Pole Qui**	**60.06**	**180**	P	**P**	**00 06 43.6**	**+0.4**
comp=Z,3.0nm,0.6s,baz=173,slow=0.7,SNR=20							
QSPA				pP	**pP**	**00 07 01.1**	**+0.3**
comp=Z,0.7nm,0.6s,baz=23,slow=20,SNR=1.6							
comp=Z,3.0nm,0.6s							
BOSA	**Boshof**	**81.37**	**118**	P	**P**	**00 08 52.7**	**-0.5**
comp=Z,2.6nm,0.7s,baz=253,slow=3.0,SNR=6.7							
comp=Z,2.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**82.39**	**70**	P	**P**	**00 08 58.0**	**-0.5**
comp=Z,1.1nm,0.4s,baz=232,slow=3.2,SNR=1.0							
comp=Z,1.1nm,0.4s							
ULM	**Lac du Bonnet**	**82.95**	**344**	LR	LR	00 47 12.3	
comp=Z,44nm,19.1s,baz=296,slow=36							
FRB	**Frobisher Bay**	**93.62**	**1**	LR	LR	00 54 42.9	
comp=Z,27nm,18.5s,baz=120,slow=37							
WRA	**Warramunga Arr**	**124.36**	**210**	PKP	**PKPdf**	**00 15 35.0**	**-0.3**
comp=Z,0.1nm,0.4s,baz=149,slow=1.6,SNR=1.4							
WRA				pPKP	**pPKPdf**	**00 15 53.6**	**-0.9**
comp=Z,0.2nm,0.4s,baz=152,slow=1.8,SNR=1.7							
H11S2	**WAKE ISLAND Hyl**	**26.30**	**272**	T	T	02 34 55.4	
baz=115,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hyl**	**26.31**	**272**	T	T	02 35 05.8	
baz=115,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hyl**	**26.31**	**272**	T	T	02 35 01.7	
baz=115,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hyl**	**26.61**	**273**	T	T	02 35 17.3	
baz=116							
H11N1	**WAKE ISLAND Hyl**	**26.63**	**273**	T	T	02 35 19.9	
baz=116							
H11N2	**WAKE ISLAND Hyl**	**26.63**	**273**	T	T	02 35 23.2	
baz=116							
BVAR	**Borovoye Array**	**144.04**	**40**	PKP	**PKPdf**	**00 16 10.2**	**-0.6**
comp=Z,0.8nm,0.4s,baz=315,slow=2.4,SNR=6.5							
KURBB	**Kurchatov Arra**	**149.63**	**39**	PKPbc	**PKiKP**	**00 16 25.6**	**-0.3**
comp=Z,1.8nm,0.5s,baz=303,slow=3.1,SNR=26							
KURBB				pPKPbc	**pPKPbc**	**00 16 44.5**	**+0.4**
comp=Z,0.3nm,0.4s,baz=303,slow=3.1,SNR=3.0							
ZALV	**Zalesovo Beam**	**150.66**	**29**	PKPbc	**PKiKP**	**00 16 27.9**	**0.0**
comp=Z,7.8nm,0.6s,baz=298,slow=2.7,SNR=29							
ZALV				pPKPb

KSL				AML	AML	00 17 23.5	
	0.2nm,0.9s						
AKAS	**Kas**	**0.98**	**320**	Pg	**Pn**	**00 16 53.8**	**+0.2**
AKAS				Sg	**Sn**	**00 17 08.4**	**+1.8**
ELL	**Elmali**	**1.32**	**343**	Pn	**Pn**	**00 16 58.9**	**+0.6**
ELL	**Elmali**	**1.32**	**343**	P	**Pn**	**00 16 57.5**	**-0.8**
ELL				S	**Sn**	**00 17 12.2**	**-2.9**
ELL				AML	AML	00 17 28.0	
	0.3nm,0.6s						
ELL				AML	AML	00 17 35.8	
	0.2nm,0.8s						
ANTB	**Antalya**	**1.43**	**9**	Pn	**Pn**	**00 17 00.4**	**+0.7**
KORT	**Korkueli**	**1.51**	**359**	Pn	**Pn**	**00 17 01.5**	**+0.5**
FETY	**Fethiye**	**1.56**	**318**	Pn	**Pn**	**00 17 02.1**	**+0.6**
AKMS	**Akamas**	**1.67**	**106**	P	**Pn**	**00 17 03.6**	**+0.6**
AKMS				S	**Sn**	**00 17 23.7**	**+0.2**
AKMS				AML	AML	00 17 25.6	
	0.1nm,0.5s						
AKMS				AML	AML	00 17 29.8	
	0.1nm,0.3s						
CAME	**Cameli-Denizli**	**1.70**	**329**	Pn	**Pn**	**00 17 03.8**	**+0.2**
GAZI	**Gazipasa**	**1.74**	**64**	Pn	**Pn**	**00 17 03.8**	**-0.3**
GAZI				Sn	**Sn**	**00 17 24.9**	**-0.5**
ALFC	**Alefka**	**1.84**	**100**	P	**Pn**	**00 17 05.7**	**+0.2**
ALFC				S	**Sn**	**00 17 28.7**	**+0.7**
ALFC				AML	AML	00 17 34.5	
	0.1nm,0.2s						
ALFC				AML	AML	00 17 35.2	
	0.1nm,0.3s						
DALY	**Dalyan (Mula)**	**1.93**	**314**	Pn	**Pn**	**00 17 07.3**	**+0.7**
NATA	**Nata**	**1.93**	**111**	P	**Pn**	**00 17 07.5**	**+0.8**
NATA				S	**Sn**	**00 17 31.2**	**+1.2**
NATA				AML	AML	00 17 38.7	
	0.1nm,0.3s						
NATA				AML	AML	00 17 46.5	
	0.1nm,0.7s						
LEF	**Lefka**	**2.09**	**99**	Pn	**Pn**	**00 17 08.0**	**-0.8**
LEF				Sn	**Sn**	**00 17 32.1**	**-1.7**
APOL	**The Sanctuary**	**2.19**	**111**	P	**Pn**	**00 17 11.2**	**+0.9**
SEYD	**Seydisehir-KON**	**2.25**	**31**	Pn	**Pn**	**00 17 11.6**	**+0.5**
SEYD				Sn	**Sn**	**00 17 38.8**	**+0.8**
TEKE	**Tekeli-Mersin**	**2.32**	**73**	Pn	**Pn**	**00 17 12.3**	**+0.3**
TEKE				Sn	**Sn**	**00 17 39.3**	**-0.3**
ASGA	**Asgata**	**2.45**	**106**	P	**Pn**	**00 17 14.2**	**+0.4**
ASGA				AML	AML	00 17 44.1	
	0.1nm,1.0s						
ASGA				AML	AML	00 17 48.8	
BERE	**Bereket-Mersin**	**2.46**	**69**	Pn	**Pn**	**00 17 14.2**	**+0.1**
CSS	**Mathiatis**	**2.47**	**101**	Pn	**Pn**	**00 17 13.8**	**-0.3**
CSS	**Mathiatis**	**2.47**	**101**	P	**Pn**	**00 17 14.4**	**+0.3**
CSS				S	**Sn**	**00 17 44.0**	**+0.6**
CSS	**Mathiatis**	**2.47**	**101**	P	**Pn**	**00 17 15.0**	**+0.9**
CSS				S	**Sn**	**00 17 43.7**	**+0.3**
CSS				AML	AML	00 17 47.8	
CSS				AML	AML	00 17 53.0	
AKKU	**Akkuyu-Mersin**	**2.66**	**74**	Pn	**Pn**	**00 17 16.9**	**+0.2**
MVOU	**Mavrovouni**	**2.70**	**99**	P	**Pn**	**00 17 17.2**	**0.0**
IKL	**Isikli**	**2.79**	**73**	Pn	**Pn**	**00 17 18.7**	**+0.3**
KEBE	**Keben-Mersin**	**2.87**	**69**	Pn	**Pn**	**00 17 19.9**	**+0.3**
KRMN	**Karaman**	**2.88**	**53**	Pn	**Pn**	**00 17 20.2**	**+0.5**
KONT	**Konya--Tatoy**	**2.93**	**32**	Pn	**Pn**	**00 17 21.2**	**+0.8**
KIZK	**Mersin**	**3.21**	**71**	Pn	**Pn**	**00 17 24.8**	**+0.6**
MMC7	**Mount Meron ar**	**4.82**	**119**	P	**Pn**	**00 17 46.9**	**+0.4**
MMA0B	**Mount Meron ar**	**4.83**	**119**	P	**Pn**	**00 17 47.2**	**+0.5**
MMA0B	**Mount Meron ar**	**4.83**	**119**	S	**Sn**	**00 18 41.6**	**-0.2**
GEM	**Giv'at Ha'Em**	**4.92**	**116**	P	**Pn**	**00 17 49.1**	**+1.2**
GEM	**Giv'at Ha'Em**	**4.92**	**116**	S	**Sn**	**00 18 43.1**	**-0.8**
MMLI	**Mount Malkishu**	**5.18**	**125**	P	**Pn**	**00 17 52.2**	**+0.9**
MMLI	**Mount Malkishu**	**5.18**	**125**	S	**Sn**	**00 18 48.9**	**-1.2**
SALP	**Salfit**	**5.26**	**129**	P	**Pn**	**00 17 53.0**	**+0.6**
SALP	**Salfit**	**5.26**	**129**	S	**Sn**	**00 18 51.0**	**-1.2**
KZIT	**Kziot**	**5.67**	**142**	P	**Pn**	**00 17 58.6**	**+0.5**
KZIT	**Kziot**	**5.67**	**142**	S	**Sn**	**00 19 00.4**	**-2.0**

*AFAD **19** 00:21:52.8, 35°.60N×30°.43E, h24^{km}±2^{km}, ML2.4*
*ISK **19** 00:21:53.5, 35°.44N×30°.31E, h82^{km}, ML2.7/33*
*NIC **19** 00:21:54.5, 35°.48N×30°.43E, h20^{km}±1^{km}, Ml2.4/6*
*GII **19** 00:21:57.4±0.0, 35°.224N±0°.002×30°.652E±0°.001, h10^{km}, Mws2.8, confirmed*

ISC 19 00:21:52.0±1.3, 35°.47N±0°.04×30°.39E±0°.03, h16^{km}±10^{km}, n88, σ1^{s}55/102, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.85**	**357**	P	**Pb**	**00 22 07.1**	**-1.4**
AKUM				*i* AML	AML	00 22 31.0	
	comp=E,154nm,0.4s						
AKUM				*i* AML	AML	00 22 32.0	
	comp=N,136nm,0.4s						
KSL	**Kastellorizon**	**0.95**	**316**	P	**Pn**	**00 22 11.1**	**+0.4**
KSL				S	**Sn**	**00 22 26.4**	**+2.5**
AKAS	**Kas**	**0.99**	**320**	Pg	**Pn**	**00 22 12.9**	**+1.4**
AKAS				Sg	**Sn**	**00 22 27.4**	**+2.1**
AKAS	**Kas**	**0.99**	**320**	P	**Pb**	**00 22 11.2**	**+0.2**
AKAS				*i* AML	AML	00 22 31.0	
	comp=E,224nm,0.4s						
AKAS				*i* AML	AML	00 22 37.0	
	comp=N,296nm,0.6s						
ELL	**Elmali**	**1.34**	**343**	Pn	**Pg**	**00 22 17.5**	**-0.3**
ELL				Sn	**Sg**	**00 22 35.9**	**+0.7**
ELL	**Elmali**	**1.34**	**343**	P	**Pg**	**00 22 18.0**	**+0.2**
ELL				S	**Sg**	**00 22 36.3**	**+1.1**
IZZE	**Mula-Seydike**	**1.35**	**316**	P	**Pn**	**00 22 16.9**	**+0.6**
IZZE				*i* AML	AML	00 22 46.0	
	comp=E,90nm,0.4s						
IZZE				*i* AML	AML	00 22 47.0	
	comp=N,121nm,0.5s						
ANTB	**Antalya**	**1.44**	**8**	Pn	**Pg**	**00 22 19.4**	**-0.4**
KNIK	**Mula-Seydike**	**1.53**	**334**	P	**Pn**	**00 22 18.6**	**-0.2**
KNIK				*i* AML	AML	00 22 58.0	
	comp=E,52nm,0.5s						
KORT	**Korkueli**	**1.53**	**359**	Pn	**Pb**	**00 22 20.1**	**0.0**
KORT				Sn	**Sg**	**00 22 40.7**	**-0.7**
KORT	**Korkueli**	**1.53**	**359**	P	**Pn**	**00 22 19.4**	**+0.5**
FETY	**Fethiye**	**1.57**	**318**	Pn	**Pn**	**00 22 20.4**	**+1.0**
FETY	**Fethiye**	**1.57**	**318**	P	**Pn**	**00 22 20.2**	**+0.8**
AKMS	**Akamas**	**1.65**	**105**	P	**Pb**	**00 22 22.1**	**0.0**
AKMS				S	**Sb**	**00 22 43.3**	**+0.6**
AKMS				AML	AML	00 22 44.0	
	0.3nm,0.6s						
AKMS				AML	AML	00 22 48.3	
	0.2nm,0.7s						
CAME	**Cameli-Denizli**	**1.72**	**329**	Pn	**Pn**	**00 22 22.3**	**+0.9**
KEPZ	**Antalya-Kepez**	**1.73**	**34**	P	**Pn**	**00 22 21.0**	**-0.5**
KEPZ				*i* AML	AML	00 22 52.0	
	comp=N,42nm,1.2s						
GAZI	**Gazipasa**	**1.74**	**63**	Pn	**Pn**	**00 22 22.2**	**+0.6**
GAZI	**Gazipasa**	**1.74**	**63**	P	**Pb**	**00 22 22.7**	**-0.9**
GAZI				*i* AML	AML	00 22 48.0	
	comp=E,44nm,0.6s						
GAZI				*i* AML	AML	00 23 11.0	
	comp=N,45nm,0.6s						
SABU	**Mula-Dalaman**	**1.78**	**320**	P	**Pn**	**00 22 21.8**	**-0.3**
SABU				*i* AML	AML	00 23 02.0	
	comp=E,34nm,0.9s						
ALFC	**Alefka**	**1.83**	**99**	P	**Pb**	**00 22 24.4**	**-0.8**
ALFC				S	**Sn**	**00 22 46.8**	**+1.0**
ALFC				AML	AML	00 22 51.3	
	0.1nm,0.5s						
ALFC				AML	AML	00 22 54.6	
	0.1nm,0.5s						
CAEL	**Denizli, Camel**	**1.86**	**333**	P	**Pb**	**00 22 25.1**	**-0.7**
CAEL				*i* AML	AML	00 23 19.0	
	comp=N,85nm,1.1s						
CAEL				*i* AML	AML	00 23 20.0	
	comp=E,88nm,1.5s						
GOLH	**Golhisar**	**1.89**	**339**	P	**Pb**	**00 22 25.9**	**-0.2**
GOLH				*i* AML	AML	00 23 10.0	
	comp=N,53nm,0.6s						
GOLH				*i* AML	AML	00 23 14.0	
	comp=E,50nm,0.9s						
NATA	**Nata**	**1.91**	**110**	P	**Pb**	**00 22 26.0**	**-0.6**
NATA				S	**Sb**	**00 22 49.8**	**-0.4**
NATA				AML	AML	00 23 03.3	
	0.2nm,0.4s						
NATA				AML	AML	00 23 09.3	
	0.2nm,0.9s						
DALY	**Dalyan (Mula)**	**1.95**	**314**	Pn	**Pn**	**00 22 25.9**	**+1.5**
ARG	**Arkhangelos**	**1.99**	**293**	Pn	**Pn**	**00 22 25.9**	**+0.9**
LEF	**Lefka**	**2.07**	**99**	Pn	**Pb**	**00 22 28.3**	**-0.9**
LEF	**Lefka**	**2.07**	**99**	P	**Pb**	**00 22 29.2**	**0.0**
DNZT	**Denizli-Tavas-**	**2.12**	**329**	P	**Pn**	**00 22 27.6**	**+0.7**
TURN	**Turunc**	**2.17**	**307**	Pn	**Pn**	**00 22 28.6**	**+1.1**
TURN	**Turunc**	**2.17**	**307**	P	**Pn**	**00 22 24.3**	**-3.2**
APOL	**The Sanctuary**	**2.18**	**111**	P	**Pb**	**00 22 29.6**	**-1.4**
APOL				S	**Sb**	**00 22 56.8**	**-1.0**
APOL				AML	AML	00 23 07.3	
	0.1nm,0.5s						
APOL				AML	AML	00 23 12.5	
	0.1nm,0.7s						
APMY	**Acipayam-Deniz**	**2.18**	**337**	Pn	**Pn**	**00 22 29.0**	**+1.2**
HDMB	**Hadim**	**2.26**	**48**	Pn	**Pb**	**00 22 31.1**	**-1.4**
SEYD	**Seydisehir-KON**	**2.26**	**31**	Pn	**Pb**	**00 22 31.1**	**-1.4**
SEDI	**Konya, Seydise**	**2.26**	**29**	P	**Pb**	**00 22 31.7**	**-0.9**
SEDI				S	**Sb**	**00 22 58.5**	**-1.9**
SEDI				*i* AML	AML	00 23 23.0	
	comp=E,22nm,0.7s						
TEKE	**Tekeli-Mersin**	**2.31**	**72**	Pn	**Pb**	**00 22 32.0**	**-1.3**
TAVA	**DENIZLI_Tavas**	**2.32**	**330**	P	**Pn**	**00 22 29.2**	**-0.5**
TAVA				*i* AML	AML	00 23 06.0	
	comp=N,18nm,0.6s						
INCE	**Denizli-Bozkur**	**2.33**	**344**	P	**Pn**	**00 22 31.7**	**+1.9**
INCE				*i* AML	AML	00 23 37.0	
	comp=N,18nm,1.3s						
YER	**Yerkesik**	**2.38**	**315**	Pn	**Pn**	**00 22 31.8**	**+1.3**
DNIZ	**Denizli-Tavas-**	**2.41**	**334**	P	**Pn**	**00 22 32.5**	**+1.6**
DNIZ				*i* AML	AML	00 23 19.0	
	comp=E,56nm,0.5s						
DNIZ				*i* AML	AML	00 23 24.0	
	comp=N,65nm,0.4s						
ASGA	**Asgata**	**2.44**	**105**	P	**Pn**	**00 22 33.1**	**+1.9**
ASGA				S	**Sn**	**00 23 02.9**	**+2.2**
ASGA				AML	AML	00 23 06.2	
ASGA				AML	AML	00 23 06.3	
	0.1nm,0.5s						
CSS	**Mathiatis**	**2.46**	**101**	Pn	**Pb**	**00 22 34.0**	**-1.8**
CSS	**Mathiatis**	**2.46**	**101**	P	**Pn**	**00 22 33.6**	**+2.1**
CSS	**Mathiatis**	**2.46**	**101**	P	**Pn**	**00 22 32.8**	**+1.3**
CSS				S	**Sb**	**00 23 04.8**	**-1.1**
BERE	**Bereket-Mersin**	**2.46**	**68**	Pn	**Pb**	**00 22 34.0**	**-1.9**
BASM	**Basmaki-Afyon**	**2.46**	**354**	Pn	**Pn**	**00 22 33.5**	**+1.9**
BAGO	**Egridir - ISPA**	**2.54**	**7**	P	**Pn**	**00 22 32.5**	**-0.1**
LFK	**Lefkose**	**2.57**	**93**	Pn	**Pb**	**00 22 36.1**	**-1.7**
DAT	**Datca**	**2.60**	**300**	Pn	**Pn**	**00 22 34.2**	**+0.6**
KARP	**Karpathos**	**2.64**	**273**	Pn	**Pn**	**00 22 35.2**	**+1.2**
YAZI	**Mula-Dat§a-**	**2.67**	**298**	P	**Pn**	**00 22 35.8**	**+1.4**
YAZI				S	**Sn**	**00 23 02.0**	**-4.4**
YAZI				*i* AML	AML	00 23 16.0	
	comp=E,11nm,1.0s						
MVOU	**Mavrovouni**	**2.69**	**99**	P	**Pn**	**00 22 35.9**	**+1.2**
MVOU				S	**Sn**	**00 23 09.2**	**+2.3**
MVOU				AML	AML	00 23 17.1	
MVOU				AML	AML	00 23 28.3	
KKBE	**Karaman, Kazim**	**2.70**	**49**	P	**Pb**	**00 22 39.0**	**-1.0**
IKL	**Isikli**	**2.78**	**73**	Pn	**Pn**	**00 22 37.9**	**+2.0**
MLSB	**Milas**	**2.79**	**312**	Pn	**Pn**	**00 22 37.6**	**+1.6**
DOGA	**KONYA_Doganhis**	**2.83**	**21**	P	**Pn**	**00 22 37.4**	**+0.8**
DOGA				*i* AML	AML	00 23 41.0	
	comp=E,15nm,1.1s						
DOGA				*i* AML	AML	00 23 51.0	
	comp=N,16nm,0.9s						
KEBE	**Keben-Mersin**	**2.87**	**69**	Pn	**Pn**	**00 22 39.7**	**+2.6**
KRMN	**Karaman**	**2.88**	**53**	Pn	**Pn**	**00 22 39.9**	**+2.6**
YVAC	**Isparta, Yalva**	**2.88**	**13**	P	**Pn**	**00 22 39.0**	**+1.7**
KONT	**Konya--Tatoy**	**2.94**	**32**	Pn	**Pn**	**00 22 40.6**	**+2.5**
BODT	**Bodrum**	**2.96**	**303**	Pn	**Pn**	**00 22 39.5**	**+1.2**
AYDN	**Tasoluk**	**2.98**	**318**	P	**Pn**	**00 22 38.2**	**-0.5**
AYDN				*i* AML	AML	00 23 37.0	
	comp=E,11nm,0.7s						
AYDN				*i* AML	AML	00 23 51.0	
	comp=N,14nm,0.9s						
NAZL	**Nazilli-Aydin**	**3.01**	**327**	Pn	**Pn**	**00 22 40.9**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**3.19**	**322**	Pn	**Pn**	**00 22 42.4**	**+0.8**
KIZK	**Mersin**	**3.21**	**71**	Pn	**Pn**	**00 22 44.5**	**+2.8**
YESY	**Yesilyurt**	**3.55**	**48**	Pn	**Pn**	**00 22 48.9**	**+2.3**
MERS	**Mersin**	**3.62**	**66**	Pn	**Pn**	**00 22 50.0**	**+2.5**
MMC7	**Mount Meron ar**	**4.81**	**119**	P	**Pn**	**00 23 05.6**	**+1.8**
MMA0B	**Mount Meron ar**	**4.82**	**119**	P	**Pn**	**00 23 05.7**	**+1.8**
MMA0B	**Mount Meron ar**	**4.82**	**119**	S	**Sn**	**00 23 58.7**	**-0.8**
GEM	**Giv'at Ha'Em**	**4.91**	**116**	P	**Pn**	**00 23 07.2**	**+2.0**
GEM	**Giv'at Ha'Em**	**4.91**	**116**	S	**Sn**	**00 24 00.8**	**-0.8**
MMLI	**Mount Malkishu**	**5.16**	**124**	P	**Pn**	**00 23 10.5**	**+1.9**
MMLI	**Mount Malkishu**	**5.16**	**124**	S	**Sn**	**00 24 06.9**	**-1.0**
SALP	**Salfit**	**5.24**	**129**	P	**Pn**	**00 23 11.8**	**+2.0**
SALP	**Salfit**	**5.24**	**129**	S	**Sn**	**00 24 08.9**	**-1.0**
AMAZ	**Amatzia**	**5.45**	**135**	P	**Pn**	**00 23 14.9**	**+2.3**
AMAZ	**Amatzia**	**5.45**	**135**	S	**Sn**	**00 24 13.9**	**-1.1**
KZIT	**Kziot**	**5.65**	**142**	P	**Pn**	**00 23 17.4**	**+2.0**
KZIT	**Kziot**	**5.65**	**142**	S	**Sn**	**00 24 18.8**	**-1.2**
MSBI	**Mazada**	**5.87**	**134**	P	**Pn**	**00 23 19.9**	**+1.6**
MSBI	**Mazada**	**5.87**	**134**	S	**Sn**	**00 24 24.1**	**-1.1**
GHAJ	**Ghor Haditha**	**6.00**	**132**	P	**Pn**	**00 23 21.8**	**+1.7**
GHAJ	**Ghor Haditha**	**6.00**	**132**	S	**Sn**	**00 24 26.9**	**-1.6**
HRFI	**Mount Harif**	**6.68**	**143**	P	**Pn**	**00 23 31.8**	**+2.3**
HRFI	**Mount Harif**	**6.68**	**143**	S	**Sn**	**00 24 44.0**	**-1.4**
EIL	**Elat**	**6.94**	**145**	P	**Pn**	**00 23 34.7**	**+1.6**
EIL	**Elat**	**6.94**	**145**	S	**Sn**	**00 24 49.8**	**-2.0**

*IDC **19** 00:30:32.5±1.6, 21°.86S×179°.32W, h615^{km}±15^{km}, mb3.4/9, mbtmp4.4/11, Error ellipse: s-maj=32.2km s-min=14.5km az=144.0*
*NEIC **19** 00:30:33.5±0.7, 21°.5S±0°.1×179°.5W±0°.2, h606^{km}±12^{km}, mb4.3/18, Error ellipse: s-maj=25.0km s-min=12.9km az=118.0*

ISC 19 00:30:31.1±0.7, 21°.93S±0°.10×179°.2W±0°.1, h600^{km}, n38, σ1^{s}54/42, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.89**	**328**	P	**P**	**00 32 02.0**	**-1.4**
MSVF	**Nonsavu**	**4.89**	**328**	P	**P**	**00 32 04.8**	**+1.4**
	1.4nm,0.3s,baz=101,slow=16,SNR=2.3						
MSVF				S	**S**	**00 33 20.3**	**+1.8**
	0.9nm,0.2s,baz=120,slow=20,SNR=1.3						
FUTU	**Fugatoga**	**7.66**	**8**	P	**P**	**00 32 26.1**	**-1.3**
PINNC	**Pines Island,**	**12.34**	**264**	P	**P**	**00 33 13.9**	**+0.6**
DZM	**Mont Dzumac**	**13.28**	**267**	P	**P**	**00 33 22.6**	**-0.4**
DZM	**Mont Dzumac**	**13.28**	**267**	P	**P**	**00 33 23.0**	**+0.1**
	10nm,0.5s,baz=90,slow=20,SNR=16						
FUNA	**Funafuti**	**13.41**	**353**	P	**P**	**00 33 21.0**	**-3.4**
TOZ	**Tahuroa Road**	**16.39**	**195**	P	**P**	**00 33 55.8**	**+4.0**
TOZ				IAmb	IAmb	00 34 01.0	
	comp=Z,28nm,1.5s						
URZ	**Urewera**	**16.57**	**190**	P	**P**	**00 33 53.2**	**-0.3**
	comp=Z,5.8nm,0.3s,baz=322,slow=2.3,SNR=14						
URZ				S	**S**	**00 36 33.7**	**-4.6**
	comp=Z,3.8nm,0.4s,baz=85,slow=22,SNR=7.7						
EIDS	**Eidsvold**	**27.37**	**257**	P	**P**	**00 35 30.8**	**+0.5**
ARMA	**Armidale**	**27.41**	**246**	P	**P**	**00 35 32.2**	**+1.6**
ARMA				IAmb	IAmb	00 35 33.5	
	comp=Z,9.0nm,0.8s						
STKA	**Stephens Creek**	**36.13**	**246**	P	**P**	**00 36 45.3**	**+0.9**
STKA	**Stephens Creek**	**36.13**	**246**	P	**P**	**00 36 45.2**	**+0.9**
	comp=Z,3.4nm,0.5s,baz=92,slow=12,SNR=9.4						
	comp=Z,3.4nm,0.5s						
COEN	**Coen**	**36.55**	**276**	P	**P**	**00 36 47.8**	**-0.2**
AS31	**Alice Springs**	**43.08**	**258**	P	**P**	**00 37 40.2**	**+0.2**
AS31				IAmb	IAmb	00 37 40.8	
	comp=Z,3.5nm,0.7s						
ASAR	**Alice Springs**	**43.08**	**258**	P	**P**	**00 37 40.1**	**+0.1**
	comp=Z,11nm,0.6s,baz=92,slow=7.8,SNR=112						
ASAR				PcP	**PcP**	**00 39 15.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=98,slow=3.6,SNR=2.3						
ASAR				ScP	**ScP**	**00 42 08.4**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=107,slow=4.0,SNR=4.9						
	comp=Z,11nm,0.6s						
WR0	**Warramunga Arr**	**43.08**	**264**	P	**P**	**00 37 39.5**	**-0.6**
WR0				IAmb	IAmb	00 37 40.3	
	comp=Z,9.7nm,1.0s						
WB0	**Warramunga Arr**	**43.26**	**264**	P	**P**	**00 37 40.6**	**-0.8**
WB2	**Warramunga Arr**	**43.26**	**264**	P	**P**	**00 37 41.1**	**-0.4**
WB2				IAmb	IAmb	00 37 41.7	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**43.27**	**264**	P	**P**	**00 37 40.8**	**-0.7**
WRAB				IAmb	IAmb	00 37 41.7	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**43.27**	**264**	P	**P**	**00 37 41.0**	**-0.5**
WRA	**Warramunga Arr**	**43.27**	**264**	P	**P**	**00 37 41.0**	**-0.5**
	comp=Z,11nm,0.6s,baz=92,slow=8.0,SNR=445						
WRA				ScP	**ScP**	**00 42 08.8**	**-2.8**
	comp=Z,1.0nm,1.0s,baz=107,slow=4.2,SNR=4.3						
	comp=Z,11nm,0.6s						
WAKR	**Walker**	**82.18**	**43**	P	**P**	**00 41 51.9**	**+1.2**
PNTR	**Pine Nut**	**82.42**	**43**	P	**P**	**00 41 53.0**	**+1.1**
PNTR				IAmb	IAmb	00 41 53.9	
	comp=Z,5.8nm,0.8s						
DSP	**Deep Springs**	**82.47**	**45**	P	**P**	**00 41 52.5**	**+0.6**
NVAR	**Mina Array Bea**	**82.86**	**44**	P	**P**	**00 41 54.5**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=226,slow=7.8,SNR=5.7						
	comp=Z,1.1nm,0.7s						
PAHR	**Pah Rah Range**	**82.92**	**42**	P	**P**	**00 41 55.1**	**+0.8**
J05D	**Fort Rock, OR**	**83.94**	**39**	P	**P**	**00 42 00.4**	**+1.1**
J05D				IAmb	IAmb	00 42 01.5	
	comp=Z,4.8nm,0.9s						
M16K	**Timber Creek**	**84.28**	**10**	P	**P**	**00 42 01.0**	**+0.7**
M16K				IAmb	IAmb	00 42 08.6	
	comp=Z,20nm,1.5s						
U15A	**North Rim**	**85.78**	**48**	P	**P**	**00 42 09.8**	**+1.2**
U15A				IAmb	IAmb	00 42 10.8	
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**88.80**	**58**	P	**P**	**00 42 24.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=222,slow=1.7,SNR=6.8						
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	**P**	**00 42 25.8**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=146,slow=3.3,SNR=4.6						
	comp=Z,0.9nm,0.3s						
ILAR	**Eielson Array**	**89.97**	**13**	P	**P**	**00 42 25.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=226,slow=4.2,SNR=7.6						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**90.80**	**44**	P	**P**	**00 42 31.3**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=201,slow=3.7,SNR=5.3						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**96.07**	**319**	P	**P**	**00 42 55.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=107,slow=5.0,SNR=1.9						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**119.42**	**319**	PKP	**PKPdf**	**00 48 11.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=124,slow=1.3,SNR=2.8						
HFS	**Hagfors**	**140.75**	**350**	PKhKP	PKPpre	00 48 46.4	
	comp=Z,4.5nm,1.1s,baz=33,slow=3.5,SNR=7.6						
EKA	**Eskdalemuir Ar**	**146.52**	**4**	PKPbc	**PKPdf**	**00 49 04.7**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=2.9,slow=2.5,SNR=3.5						

*TEH **19** 00:54:05.6, 27°.27N×55°.29E, h10^{km}±47^{km}*

OMAN 19 00:53:58.5±0.1, 26°.57N×55°.16E, h10^{km}±1^{km}, ml2.5/9, Error ellipse: s-maj=2.3km s-min=1.8km az=305.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.02**	**120**	P	Pg	00 54 17.8	-0.2
	SNR=12						
SHME				S	Sb	00 54 32.1	+0.5
	SNR=6.9						
UMQ	**Umm Al-Quwin**	**1.13**	**156**	P	Pg	00 54 20.2	0.0
UMQ				S	Sn	00 54 36.1	+0.2
BNDS	**Bandar-Abbas**	**1.23**	**47**	Pg	Pn	00 54 21.6	-0.2
LAR1	**LAR**	**1.30**	**328**	Pg	Pb	00 54 23.1	0.0
MASF	**Masafi**	**1.49**	**143**	P	Pn	00 54 25.8	+0.4
MASF				S	Sb	00 54 45.6	+0.4
	SNR=9.2						
IBND	**Bandar-abas**	**1.51**	**54**	Pg	Pb	00 54 26.8	+0.2
MDH	**Madha**	**1.62**	**141**	P	Pn	00 54 27.4	+0.3
MDH				S	Sb	00 54 48.8	-0.3
NAZ	**Nazwa, Dubai**	**1.64**	**164**	P	Pn	00 54 27.1	-0.2
FAQ	**Al Faqa, Dubai**	**1.85**	**168**	P	Pn	00 54 30.2	-0.1
FAQ				S	Sb	00 54 55.0	-0.7
UOSS	**Minazif**	**1.87**	**150**	Pn	Pg	00 54 47.7	+13
UOSS	**Minazif**	**1.87**	**150**	P	Pn	00 54 30.5	0.0
UOSS				S	Sn	00 54 54.0	-0.1
ASUD	**Al Ashush, Dub**	**1.94**	**175**	P	Pn	00 54 31.7	+0.2
ASUD				S	Sb	00 54 57.7	-0.4
ASHO	**Ashiyiah**	**2.04**	**156**	P	Pn	00 54 32.6	-0.4
	SNR=6.4						
ASHO				S	Sn	00 54 59.2	+0.7
JASK	**Jask - Hormozg**	**2.53**	**105**	P	Pn	00 54 39.2	-0.4
JASK				S	Sn	00 55 12.7	+2

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REMY                                  Sg    Sg    01 13 25.5 +0.7
REMY  Saint-Rhmy-en     0.09 108      Pg    Pg    01 13 23.7 +0.3
REMY                                  Sg    Sg    01 13 25.4 +0.5
REMY  Saint-Rhmy-en     0.09 108      P     Pg    01 13 23.7 +0.3
REMY                                  S     Sg    01 13 25.5 +0.7
REMY  Saint-Rhmy-en     0.09 108      ⇓P    Pg    01 13 23.7 +0.3
REMY                                  S     Sg    01 13 25.5 +0.7
REMY                                  AML   AML
        comp=E,98µm,0.1s
REMY                                  AML   AML
        comp=N,114µm,0.3s
MRGE  Morge             0.10 167      ⇑Pg   Pg    01 13 23.6 +0.2
MRGE                                  Sg    Sg    01 13 25.3 +0.4
MRGE  Morge             0.10 167      P     Pg    01 13 23.6 +0.2
MRGE                                  S     Sg    01 13 25.3 +0.4
MRGE  Morge             0.10 167      P     Pg    01 13 23.6 +0.2
MRGE                                  S     Sg    01 13 25.4 +0.6
MRGE                                  AML   AML
        comp=N,204µm,0.4s
MRGE                                  AML   AML
        comp=E,269µm,0.2s
SEMOS Emosson Stauma    0.21 342      ⇑Pg   Pg    01 13 25.4  0.0
SEMOS                                 Sg    Sg    01 13 28.1 -0.1
OGSI  Sixt              0.28 316      Sg    Sg    01 13 30.0 -0.4
OGSI  Sixt              0.28 316      Pg    Pg    01 13 26.5 -0.1
OGSI                                  Sg    Sg    01 13 29.8 -0.5
SALAN Lac Salanfe       0.28 352      ⇑Pg   Pg    01 13 26.7  0.0
SALAN                                 Sg    Sg    01 13 30.3 -0.2
RSL   Roselend          0.33 238      Pg    Pg    01 13 27.7  0.0
RSL                                   Sg    Sg    01 13 31.8 -0.3
RSL   Roselend          0.33 238      Pg    Pg    01 13 27.7  0.0
RSL                                   Sg    Sg    01 13 31.7 -0.4
RSL   Roselend          0.33 238      P     Pg    01 13 27.8 +0.1
RSL                                   S     Sg    01 13 31.8 -0.3
DIX   Grande Dixence    0.34  51      Pg    Pg    01 13 27.9 -0.1
DIX   Grande Dixence    0.34  51      Pg    Pg    01 13 27.8 -0.1
DIX   Grande Dixence    0.34  51      Sg    Sg    01 13 32.4  0.0
DIX   Grande Dixence    0.34  51      P     Pg    01 13 27.9  0.0
DIX                                   S     Sg    01 13 32.5  0.0
LPL   La Plagne         0.41 211      ePg   Pg    01 13 29.1  0.0
LPL                                   eSg   Sg    01 13 34.0 -0.5
LPG   La Plagne         0.42 208      ePg   Pg    01 13 29.5 +0.2
LPG                                   eSg   Sg    01 13 34.7 -0.1
CIRO  Champorcher       0.46 125      Pg    Pg    01 13 30.2 +0.1
CIRO  Champorcher       0.46 125      P     Pg    01 13 30.3 +0.1
CIRO                                  S     Sg    01 13 36.0 -0.2
CIRO  Champorcher       0.46 125      P     Pg    01 13 30.2 +0.1
CIRO                                  S     Sg    01 13 36.3 +0.1
AIGLE Aigle             0.48 354      Pg    Pg    01 13 30.4  0.0
AIGLE Aigle             0.48 354      Sg    Sg    01 13 36.8 +0.1
SENIN Lac Senin/Sane    0.53  21      Pg    Pg    01 13 31.3 -0.1
SATI  Passo dei Sala    0.59  89      Pg    Pg    01 13 32.0 -0.6
TRAV  Traversella       0.61 125      Pg    Pg    01 13 32.9 -0.1
TRAV  Traversella       0.61 125      P     Pg    01 13 32.9 -0.1
EMBD  Embd, Matterta    0.66  58      Pg    Pg    01 13 33.8 -0.1
OGSM  Saint Maurice     0.97 255      Pg    Pg    01 13 40.0 +0.3
OGSM                                  Sg    Sg    01 13 52.4 +0.1
CABF  La Chapelle       0.99 319      ePg   Pg    01 13 40.2  0.0
CABF                                  eSg   Sg    01 13 53.3 +0.2
        comp=E,2.2nm,0.3s
OG35  Corcelles         1.03 280      Pn    Pn    01 13 42.1 -0.3
OG35                                  Sg    Sg    01 13 54.6 +0.2
OG35                                  Sn    Sn    01 13 58.3 +1.0
BRANT Les Verrieres     1.14 340      Pn    Pb    01 13 43.5  0.0
BRANT                                 Sn    Sn    01 14 00.3 +0.3
MBDF  Montbardon        1.15 189      eP    Pn    01 13 44.0 -0.2
MBDF                                  eSg   Sg    01 13 58.0 -0.3
        comp=E,1.0nm,0.2s
RIVEL MONT RIVEL        1.18 320      Pg    Pg    01 13 43.6 -0.2
RIVEL                                 Sg    Sb    01 13 59.7 +0.1
ORIF  Oris-en-Rattie    1.25 221      eSg   Sg    01 14 01.0 -0.2
VIVF  Saint-Julien-I    1.94 240      ePg   Pb    01 13 57.1  0.0
VIVF                                  eSg   Sb    01 14 21.9 +0.2
        comp=E,1.3nm,0.3s
```

*IDC **19** 01:28:12.4±1.1, 0.″36S×133.″32E, h0km, mb3.8/7, mbtmp3.9/9, ML3.9/2, MS3.0/2, Error ellipse: s-maj=59.3km s-min=17.3km az=80.0*
*DJA **19** 01:28:16.0±0.4, 0.″S±4.″×13.″3E±.″, h10km, M4.7/11, mb4.9/5, mB5.4/3, MLv4.5/11, Mw(mB)4.9/3*
ISC 19 01:28:17.4±0.9, 0.″37S±0.″08×133.″12E±0.″05, h32km, n20, σ1°06/22, mb3.9/7, Irian Jaya region

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
RKPI  Ransiki, Papua      1.55 137    P     Pn          01 28 43.5 +0.6
RKPI                                 S     Sb          01 29 04.6 -0.3
SWI   Sorong              1.92 255    P     Pn          01 28 48.4 +0.5
SWI                                  S     Sb          01 29 14.0 -1.4
FAKI  Fak Fak             2.68 199    P     Pn          01 28 58.9 +0.6
FAKI                                 S     Sn          01 29 31.1 +1.4
BAKI  Biak                3.10 105    P     Pn          01 29 05.0 +0.9
KMPI  Kaimana, Papua      3.32 170    P     Pn          01 29 08.3 +1.1
SRPI  Serui, Papua        3.46 116    P     Pn          01 29 10.0 +0.9
MSAI  Masohi              5.12 235    P     Pn          01 29 34.0 +2.0
BNDI  Bandanaira          5.23 218    P     Pn          01 29 34.1 +0.7
      11µm167nm,0.8s
NLAI  Namlea              6.65 245    P     Pn          01 29 53.9 +0.9
FITZ  Fitzroy Crossi     19.09 202    P     P           01 32 36.7 -0.8
      0.5nm,0.3s,baz=38,slow=13,SNR=10
FITZ                                 S     Sn          01 35 55.3 -16
      4.0nm,0.8s,baz=105,slow=14,SNR=3.5
      5.8nm,1.1s
WRA   Warramunga Arr     19.49 177    P     P           01 32 41.2 -0.7
      0.3nm,0.3s,baz=356,slow=13,SNR=12
WRA                                  S     S           01 36 05.2 -15
      2.4nm,0.7s,baz=351,slow=22,SNR=6.2
      1.3nm,0.7s
ASAR  Alice Springs      23.17 178    P     P           01 33 21.1 -0.3
      3.7nm,0.8s,baz=2.0,slow=10,SNR=26
ASAR                                 S     S           01 37 29.4 -1.7
      1.1nm,1.0s,baz=358,slow=25,SNR=4.2
      3.7nm,0.8s
STKA  Stephens Creek     32.35 166    P     P           01 34 43.5 -0.4
      2.9nm,0.8s,baz=353,slow=11,SNR=2.9
      2.9nm,0.8s
KSRS  Korea Array        37.94 353    LR    LR          01 51 04.9
      comp=Z,20nm,19.5s,baz=90,slow=36
ASAJ  Asahikawa          45.09  10    LR    LR          01 53 51.8
      comp=Z,20nm,20.3s,baz=126,slow=34
MKAR  Makanchi Array     64.57 324    P     P           01 38 53.1 +1.5
      0.4nm,0.7s,baz=108,slow=7.8,SNR=5.7
      0.4nm,0.7s
ZALV  Zalesovo Beam      67.17 331    P     P           01 39 08.1  0.0
      0.4nm,0.5s,baz=123,slow=5.3,SNR=1.6
      0.4nm,0.5s
KURBB Kurchatov Arra     68.64 326    P     P           01 39 17.9 +0.4
      0.9nm,0.8s,baz=120,slow=5.5,SNR=11
      0.9nm,0.8s
BVAR  Borovoye Array     74.24 326    P     P           01 39 52.1 +0.9
      1.6nm,0.8s,baz=122,slow=5.6,SNR=5.4
      1.6nm,0.8s
ILAR  Eielson Array      86.06  25    P     P           01 40 53.9 -0.9
      0.4nm,0.8s,baz=255,slow=5.5,SNR=4.2
      0.4nm,0.8s
```

*ROM **19** 01:47:39.6±0.1, 45.″855N±0.″006×7.″07E±0.″01, h11km, ML1.4/8, Error ellipse: s-maj=0.9km s-min=0.6km az=120.0*
*GEN **19** 01:47:39, 45.″88N×7.″03E, h7km±1km, Ml1.0*
*STR **19** 01:47:40.0±0.2, 46.″N±2.″×±.″, h3km, MLv2.0/22, Error ellipse: s-maj=0.0km s-min=0.0km az=104.2, preliminary*
*LDG **19** 01:47:40.0±0.1, 45.″86N×7.″05E, h5km, Md2.0/2, Ml2.0/13, Error ellipse: s-maj=1.5km s-min=1.1km az=98.0*
ZUR 19 01:47:39.9, 45.″88N×7.″02E, h4km±1km, MLh1.4/12, 7C-1D, Error ellipse: s-maj=3078.0km s-min=654.6km az=104.0, Northern Italy

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
REMY  Saint-Rhmy-en      0.10 113    ⇓Pg   Pg          01 47 42.4 +0.4
REMY                                 Sg    Sg          01 47 44.2 +0.7
REMY  Saint-Rhmy-en      0.10 113    Pg    Pg          01 47 42.4 +0.4
REMY                                 Sg    Sg          01 47 44.2 +0.6
REMY  Saint-Rhmy-en      0.10 113    P     Pg          01 47 42.4 +0.4
REMY                                 S     Sg          01 47 44.1 +0.6
REMY                                 AML   AML
        comp=E,360µm,0.1s
REMY                                 AML   AML
        comp=N,327µm,0.3s
REMY                                 AML   AML
        comp=E,360µm,0.1s
REMY                                 AML   AML
        comp=N,327µm,0.3s
REMY  Saint-Rhmy-en      0.10 113    P     Pg          01 47 42.4 +0.4
REMY                                 S     Sg          01 47 44.4 +0.9
MRGE  Morge              0.11 166    ⇑Pg   Pg          01 47 42.3 +0.1
MRGE                                 Sg    Sg          01 47 44.0 +0.3
MRGE  Morge              0.11 166    P     Pg          01 47 42.3 +0.2
MRGE                                 S     Sg          01 47 44.0 +0.3
MRGE  Morge              0.11 166    P     Pg          01 47 42.3 +0.1
MRGE                                 S     Sg          01 47 44.0 +0.3
MRGE                                 AML   AML
        comp=E,766µm,0.2s
MRGE                                 AML   AML
        comp=N,408µm,0.3s
MRGE                                 AML   AML
        comp=E,572µm,0.1s
MRGE                                 AML   AML
        comp=N,376µm,0.1s
SEMOS Emosson Stauma     0.20 342    ⇑Pg   Pg          01 47 44.1 +0.3
SEMOS                                Sg    Sg          01 47 46.9 +0.4
SMAO  Martigny, Rue      0.22  9     ⇑Pg   Pg          01 47 44.6 +0.4
OGSI  Sixt               0.27 315    Sg    Sg          01 47 48.6 +0.1
OGSI  Sixt               0.27 315    Pg    Pg          01 47 45.1 +0.1
OGSI                                 Sg    Sg          01 47 48.8 +0.3
SALAN Lac Salanfe        0.27 353    ⇑Pg   Pg          01 47 45.4 +0.3
SALAN                                Sg    Sg          01 47 49.0 +0.3
RSL   Roselend           0.34 236    Pg    Pg          01 47 46.3 -0.1
RSL                                  Sg    Sg          01 47 50.5 -0.3
RSL   Roselend           0.34 236    Pg    Pg          01 47 46.4  0.0
RSL                                  Sg    Sg          01 47 50.5 -0.3
RSL   Roselend           0.34 236    P     Pg          01 47 46.4  0.0
RSL                                  S     Sg          01 47 50.6 -0.2
DIX   Grande Dixence     0.34  53    ⇑Pg   Pg          01 47 46.5 +0.1
DIX                                  Sg    Sg          01 47 51.1 +0.2
DIX   Grande Dixence     0.34  53    Pg    Pg          01 47 46.4  0.0
DIX   Grande Dixence     0.34  53    P     Pg          01 47 46.6 +0.1
DIX                                  S     Sg          01 47 51.3 +0.4
DIX   Grande Dixence     0.34  53    P     Pg          01 47 46.5 +0.1
DIX                                  S     Sg          01 47 51.1 +0.2
DIX                                  AML   AML
        comp=E,362µm,0.3s
DIX                                  AML   AML
        comp=N,189µm,1.0s
DIX                                  AML   AML
        comp=E,361µm,0.3s
DIX                                  AML   AML
        comp=N,162µm,0.2s
GRYON Gryon              0.38  9     ⇑Pg   Pg          01 47 47.5 +0.3
GRYON                                Sg    Sg          01 47 52.4 +0.2
LPL   La Plagne          0.41 209    ePg   Pg          01 47 47.6 -0.3
LPL                                  eSg   Sg          01 47 51.8 -1.5
        comp=N,13nm,0.3s
LPG   La Plagne          0.42 207    ePg   Pg          01 47 48.1  0.0
LPG                                  eSg   Sg          01 47 52.5 -1.2
AIGLE Aigle              0.47 354    Pg    Pg          01 47 49.1 +0.3
CIRO  Champorcher        0.47 126    Pg    Pg          01 47 48.9  0.0
CIRO  Champorcher        0.47 126    Sg    Sg          01 47 54.9 -0.2
CIRO  Champorcher        0.47 126    P     Pg          01 47 48.9  0.0
CIRO                                 S     Sg          01 47 54.6 -0.5
CIRO  Champorcher        0.47 126    P     Pg          01 47 48.9  0.0
CIRO                                 S     Sg          01 47 54.9 -0.3
VANNI Vissoie, Val d     0.52  50    P     Pg          01 47 50.4 +0.5
VANNI                                S     Sg          01 47 56.8 +0.1
SENIN Lac Senin/Sane     0.52  22    ⇑Pg   Pg          01 47 50.1 +0.1
SENIN                                Sg    Sg          01 47 57.1 +0.3
SENIN Lac Senin/Sane     0.52  22    P     Pg          01 47 50.1 +0.1
SENIN                                S     Sg          01 47 57.1 +0.3
SATI  Passo dei Sala     0.59  90    Pg    Pg          01 47 50.8 -0.5
SATI  Passo dei Sala     0.59  90    Sg    Sg          01 47 58.6 -0.4
SATI  Passo dei Sala     0.59  90    P     Pg          01 47 50.5 -0.7
SATI                                 S     Sg          01 47 58.6 -0.3
SATI  Passo dei Sala     0.59  90    P     Pg          01 47 51.1 -0.2
SATI                                 S     Sg          01 47 58.1 -0.8
TRAV  Traversella        0.62 125    Pg    Pg          01 47 51.7 -0.2
TRAV  Traversella        0.62 125    Sg    Sg          01 47 59.6 -0.4
TRAV  Traversella        0.62 125    P     Pg          01 47 51.7 -0.2
TRAV  Traversella        0.62 125    P     Pg          01 47 51.6 -0.2
TRAV                                 AML   AML
        comp=E,14µm,0.2s
TRAV                                 AML   AML
        comp=N,19µm,0.1s
EMBD  Embd, Matterta     0.66  59    Sg    Sg          01 48 00.5 -0.6
EMBD  Embd, Matterta     0.66  59    Pg    Pg          01 47 52.3 -0.2
EMBD  Embd, Matterta     0.66  59    P     Pg          01 47 52.3 -0.3
EMBD                                 S     Sg          01 48 01.1 +0.1
MMK   Mattmark           0.68  75    P     Pg          01 47 52.6 -0.3
MMK                                  S     Sg          01 48 01.3 -0.4
MMK   Mattmark           0.68  75    P     Pg          01 47 52.7 -0.2
MMK                                  S     Sg          01 48 01.3 -0.5
OGMO  Fort Saint-Gob     0.71 200    Pg    Pg          01 47 53.2 -0.3
OGMO                                 Sg    Sg          01 48 02.7  0.0
OGMO  Fort Saint-Gob     0.71 200    P     Pg          01 47 53.1 -0.3
OGMO                                 S     Sg          01 48 01.6 -1.0
LAUCH Lauchernalp        0.75  44    S     Sg          01 48 04.5 +0.5
RSP   Reno Superiore     0.75 167    Pg    Pg          01 47 53.8 -0.4
SIMPL Simplonpass        0.78  62    P     Pg          01 47 54.5 -0.4
SIMPL                                S     Sg          01 48 04.5 -0.5
OGMY  Moye               0.79 271    Pg    Pb          01 47 56.0 -0.2
GIMEL St. Georges /      0.84 322    P     Pb          01 47 56.8 -0.3
GIMEL                                S     Sb          01 48 08.3 -0.5
BNI   Bardonecchia       0.86 196    P     Pg          01 47 55.4 -1.0
BNI                                  S     Sg          01 48 07.2 -0.3
TORNY Torny/Romont       0.90 357    Pn    Pn          01 47 59.6 +0.3
TORNY Torny/Romont       0.90 357    Sg    Sn          01 48 14.1 +1.3
OGSM  Saint Maurice      0.97 254    Pg    Pg          01 47 58.2 -0.2
OGSM                                 Pn    Pn          01 48 00.9 +0.6
OGSM                                 Sg    Sg          01 48 11.2 +0.3
RRL   Rocca Remolon      0.97 190    Pg    Pg          01 47 58.2 -0.2
RRL   Rocca Remolon      0.97 190    P     Pg          01 47 58.3 -0.2
RRL                                  S     Sg          01 48 10.4 -0.7
CABF  La Chapelle        0.98 319    ePg   Pb          01 47 59.7 +0.2
CABF                                 eSg   Sb          01 48 13.4 +0.6
        comp=N,6.7nm,0.3s
OG35  Corcelles          1.03 280    Pn    Pb          01 48 00.0 -0.2
OG35                                 Sg    Sg          01 48 13.2 +0.4
OG35                                 Sn    Sn          01 48 16.9 +0.9
BHB   Bricherasio        1.05 171    Pg    Pg          01 47 59.8 -0.2
BRANT Les Verrieres      1.13 340    Pn    Pb          01 48 02.2 +0.2
BRANT Les Verrieres      1.13 340    Sn    Sn          01 48 19.5 +0.9
MBDF  Montbardon         1.16 189    ePg   Pg          01 48 01.9 -0.3
MBDF                                 eSg   Sg          01 48 16.2 -1.1
RIVEL MONT RIVEL         1.17 320    Pn    Pn          01 48 03.6 +0.6
ORIF  Oris-en-Rattie     1.25 220    ePg   Pg          01 48 03.3 -0.6
ORIF                                 eSg   Sg          01 48 20.0 -0.1
        comp=N,7.3nm,0.3s
ORIF  Oris-en-Rattie     1.25 220    Pg    Pg          01 48 03.8 -0.1
PZZ   Stroppo            1.37 177    Pg    Pn          01 48 05.8 -0.2
PZZ   Stroppo            1.37 177    Sg    Sb          01 48 24.2 +0.1
CHMF  Charmoille         1.40 350    Pn    Pn          01 48 06.2  0.0
CHMF                                 Sn    Sn          01 48 25.7 +0.6
JAUF  Jausiers           1.46 188    Pg    Pb          01 48 07.8 +0.1
BOUC  Bouclans           1.47 339    Pn    Pn          01 48 07.1 -0.1
BOUC                                 Sn    Sg          01 48 28.0 +1.0
BOURR Bourrignon         1.52  5     Pn    Pg          01 48 09.2 +0.1
BOURR Bourrignon         1.52  5     Sn    Sg          01 48 30.6 +1.8
BALST Balsthal           1.53  17    Pn    Pg          01 48 09.5 +0.3
BALST Balsthal           1.53  17    Sn    Sg          01 48 30.6 +1.5
HINF  Hinteralfeld       1.94 357    ePg   Pg          01 48 18.5 +1.4
HINF                                 eSg   Sb          01 48 41.3 +0.8
        comp=N,0.8nm,0.2s
VIVF  Saint-Julien-I     1.95 239    ePg   Pb          01 48 16.0 +0.1
VIVF                                 eSg   Sb          01 48 40.5  0.0
        comp=N,4.8nm,0.3s
HAU   Haudompre          2.18 348    eSg   Sg          01 48 49.7 -0.1
        comp=N,0.9nm,0.2s
SMF   Signal de Mont     2.34 290    ePg   Pg          01 48 23.7 -0.9
SMF                                  eSg   Sb          01 48 53.1 +1.4
        comp=N,1.2nm,0.2s
LOR   Lormes             2.59 304    ePg   Pg          01 48 29.1 -0.3
        baz=120
LOR                                  eSg   Sb          01 49 00.3 +1.3
        comp=N,0.9nm,0.3s,baz=129
AVF   Avril sur Loir     2.70 291    eSg   Sg          01 49 04.6 -2.0
        comp=N,0.7nm,0.4s
SSF   Saint Saulge       2.70 297    eP    Pn          01 48 25.5 +1.4
SSF                                  eSg   Sb          01 49 04.4 +2.1
        comp=N,0.5nm,0.2s
BGF   Bois d'Agland      2.98 285    ePn   Pn          01 48 27.1 -0.8
BGF                                  eSg   Sg          01 49 14.2 -1.3
        comp=N,0.3nm,0.1s
TCF   Toulx Ste Croi     3.37 279    eSg   Sg          01 49 25.6 -2.6
        comp=N,0.4nm,0.2s
```

*NEIC **19** 01:51:58.0±1.0, 57.″4S±0.″1×24.″5W±0.″2, h10km±1km, mb4.6/16, Error ellipse: s-maj=24.7km s-min=15.4km az=45.0*
*IDC **19** 01:52:06.9±7.0, 57.″68S×25.″68W, h64km±60km, mb3.9/5, mbtmp4.2/6, ML4.1/1, MS3.4/3, Error ellipse: s-maj=41.5km s-min=23.2km az=73.0*
ISC 19 01:51:59.8±0.6, 57.″4S±0.″1×25.″0W±0.″1, h15km, n44, σ1°35/37, mb4.5/10, MS3.4/3, 5D, South Sandwich Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
HOPE  Hope Point         7.18 291    Pn    Pn          01 53 45.5 +1.5
VNA1  Neumayer--Stat    15.06 158    ⇓P    Pn          01 55 32.8 +1.1
      comp=Z,0.5nm,0.2s
VNA3  Neumayer Olymp    15.29 161    ⇓P    Pn          01 55 35.1 +0.4
      comp=Z,0.4nm,0.2s
VNA2  Neumayer--Watz    15.46 158    ⇓P    Pn          01 55 37.8 +0.9
      comp=Z,0.4nm,0.2s,baz=318,slow=13
SNAA  Sanae             16.99 156    P     Pn          01 55 55.6 -0.9
SNAA  Sanae             16.99 156    ⇓P    P           01 55 59.2 +0.8
      comp=Z,7.2nm,0.3s
SNAA  Sanae             16.99 156    P     P           01 55 59.2 +0.8
      comp=Z,0.7nm,0.3s,baz=308,slow=13,SNR=24
SNAA                                 S     Sn          01 58 51.0 -14
      comp=Z,1.1nm,0.8s,baz=15,slow=14,SNR=1.8
      comp=Z,2.2nm,0.5s
TROLL Troll, Antarti    18.47 153    ⇓P    Pn          01 56 20.0 +5.1
      comp=Z,12nm,0.2s
PLTB  Pedras Altas      32.31 310    P     P           01 58 28.2 +0.3
PLTB                                 IAmb  IAmb        01 59 01.3
      comp=Z,18nm,1.3s
QSPA  South Pole Qui    32.81 180    P     P           01 58 31.4 -0.8
QSPA                                 IAmb  IAmb        01 58 37.8
      comp=Z,9.9nm,1.4s
QSPA                                 PcP   PcP         02 01 15.8 -0.8
QSPA  South Pole Qui    32.81 180    P     P           01 58 31.7 -0.6
      comp=Z,1.6nm,0.5s,baz=30,slow=1.5,SNR=28
QSPA                                 PcP   PcP         02 01 15.9 -0.8
      comp=Z,0.8nm,0.7s,baz=296,slow=2.4,SNR=1.7
      comp=Z,1.6nm,0.5s
MAW   Mawson            38.32 142    LR    LR          02 13 12.4
      comp=Z,53nm,18.7s,baz=169,slow=33
SUR   Sutherland        39.91  71    LR    LR          02 12 17.8
      comp=Z,46nm,18.4s,baz=202,slow=30
BOSA  Boshof            45.21  72    LR    LR          02 14 37.6
      comp=Z,32nm,22.0s,baz=198,slow=30
VNDA  Vanda             45.23 182    P     P           02 00 15.5 -0.2
VNDA  Vanda             45.23 182    P     P           02 00 15.5 -0.2
      comp=Z,1.6nm,0.6s,baz=184,slow=7.0,SNR=11
      comp=Z,1.6nm,0.6s
H04S2 CROZET ISLANDS    45.91 111    T     T           02 50 54.3
      baz=226,slow=76,SNR=6.4
H04S3 CROZET ISLANDS    45.92 111    T     T           02 50 57.8
      baz=226,slow=76,SNR=5.3
H04S1 CROZET ISLANDS    45.93 111    T     T           02 50 57.7
      baz=226,slow=76,SNR=6.4
H10N1 ASCENSION HYDR    50.15  14    T     T           02 55 52.2
      baz=193
H10N3 ASCENSION HYDR    50.15  14    T     T           02 55 52.4
      baz=193,slow=74
H10N2 ASCENSION HYDR    50.16  14    T     T           02 55 57.7
      baz=193,slow=74
VILB  Vilhena           51.80 314    P     P           02 01 06.2 -0.7
VILB                                 IAmb  IAmb        02 01 25.2
      comp=Z,14nm,1.5s
LPAZ  La Paz            52.14 304    P     P           02 01 09.9 -0.3
LPAZ  La Paz            52.14 304    P     P           02 01 09.7 -0.5
      comp=Z,1.1nm,0.6s,baz=192,slow=11,SNR=6.3
      comp=Z,1.1nm,0.6s
CASY  Casey             52.19 159    P     P           02 01 09.4 +0.2
MAL2  Monte Alegre,     59.90 326    P     P           02 02 04.3 -0.7
VA02  Isla de Pascua    64.60 259    P     P           02 02 36.9 +0.6
DBIC  Dimbokro          65.97  22    P     P           02 02 42.7 -2.5
DBIC                                 IAmb  IAmb        02 02 44.9
      comp=Z,8.6nm,1.3s
DBIC  Dimbokro          65.97  22    P     P           02 02 48.8 +3.5
      comp=Z,1.7nm,0.5s,baz=159,slow=6.7,SNR=2.5
      comp=Z,1.7nm,0.5s
BOAV  Boa Vista         66.11 321    P     P           02 02 46.3 +0.1
BOAV                                 IAmb  IAmb        02 02 47.1
      comp=Z,2.5nm,0.7s
LTZ   Lake Taylor       79.10 193    P     P           02 04 01.9 -1.3
LTZ                                  IAmb  IAmb        02 04 15.4
      comp=Z,8.5nm,1.4s
THZ   Tophouse          80.03 194    P     P           02 04 07.3 -1.0
THZ                                  IAmb  IAmb        02 04 14.1
      comp=Z,20nm,1.4s
LCR2  La Lucha 2        82.33 302    P     P           02 04 21.1  0.0
IGPR  InterUniversit    82.52 321    P     P           02 04 21.2 -0.4
ASAR  Alice Springs     97.30 161    P     P           02 05 31.1 -1.1
      comp=Z,0.6nm,0.6s,baz=186,slow=4.8,SNR=7.0
      comp=Z,0.6nm,0.6s
WRA   Warramunga Arr    101.01 160   P     Pdif        02 05 47.3 -1.5
      comp=Z,0.3nm,0.7s,baz=201,slow=3.9,SNR=1.8
NVAR  Mina Array Bea    123.02 291   PKP   PKiKP       02 10 55.3 +0.1
      comp=Z,0.2nm,0.7s,baz=60,slow=3.2,SNR=1.8
FINES FINESS Array B    125.07  27   PKP   PKiKP       02 10 58.5 +0.3
      comp=Z,0.8nm,0.5s,baz=194,slow=3.1,SNR=10
ARCES ARCESS Array B    131.80  21   PKP   PKiKP       02 11 11.3 -0.2
      comp=Z,1.3nm,0.8s,baz=194,slow=1.3,SNR=7.2
YKA   Yellowknife Ar    138.00 316   PKP   PKPdf       02 11 22.2  0.0
      comp=Z,0.2nm,0.4s,baz=139,slow=2.0,SNR=9.0
INK   Inuvik            147.63 319   PKPbc PKPbc       02 11 42.0 +0.2
      comp=Z,2.0nm,0.5s,baz=49,slow=3.6,SNR=16
SONM  Songino Array     149.62  87   PKPbc PKiKP       02 11 48.9 +0.1
      comp=Z,2.0nm,0.5s,baz=215,slow=5.1,SNR=5.7
ILAR  Eielson Array     151.92 309   PKPbc PKiKP       02 11 52.7 -0.1
      comp=Z,1.9nm,0.5s,baz=133,slow=2.0,SNR=9.4
```

IDC 19 02:05:12.1±8.7, 30.″41S×178.″13W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=369.8km s-min=60.9km az=156.0, Kermadec Islands

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
ASAR  Alice Springs     43.00 267    P     P           02 13 12.8 -0.7
      0.4nm,0.5s,baz=102,slow=8.7,SNR=5.2
      0.4nm,0.5s
WRA   Warramunga Arr    43.99 272    P     P           02 13 21.5 +0.1
      0.9nm,0.7s,baz=116,slow=7.7,SNR=6.4
      0.9nm,0.7s
FINES FINESS Array B    145.11 340   PKPbc PKPbc       02 24 49.9 -0.4
      1.9nm,0.9s,baz=11,slow=2.8,SNR=4.5
```

*KOLA **19** 02:11:31.9, 78.″82N×10.″31E, h0km, ML3.6, Spitsbergen, Greenland sea*
*FCIAR **19** 02:11:33.0, 79.″06N×11.″76E, h10km, station OMEGA has station magnitude of 4.30 station ZFI2 has station magnitude of 4.40*
*NAO **19** 02:11:33.9±2.2, 78.″83N×10.″59E, h11km±18km, ML3.4*
*IDC **19** 02:11:34.1±0.8, 78.″90N×11.″04E, h0km, mb3.5/7, mbtmp3.6/10, ML2.8/3, MS3.4/2, Error ellipse: s-maj=26.4km s-min=10.3km az=43.0*
*BER **19** 02:11:36.3±3.0, 78.″92N×10.″76E, h12km±13km, ML2.9, MW3.3, ML3.4(NAO), Confirmed Earthquake*
ISC 19 02:11:33.9±1.1, 78.″75N±0.″04×10.″46E±0.″04, h14km±8km, n83, σ3°13/125, mb3.5/7, 4C, Svalbard region

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
KBS   Kingsbay           0.34  59    ⇑iP   Pg          02 11 40.4 -0.4
KBS                                  eS    Sg          02 11 43.8 -1.6
KBS                                  IAML                02 11 44.3
      comp=Z,6µm,0.2s
KBS   Kingsbay           0.34  59    Pg    Pg          02 11 40.3 -0.4
KBS                                  Lg    Lg          02 11 43.8
KBS   Kingsbay           0.34  59    P     Pg          02 11 39.7 -1.1
KBS                                  S     Sg          02 11 43.5 -1.9
KBS   Kingsbay           0.34  59    eP    Pg          02 11 40.2 -0.6
KBS                                  eS    Sg          02 11 43.3 -2.0
KBS   Kingsbay           0.34  59    ⇑iP   Pg          02 11 40.4 -0.4
KBS                                  iS    Sg          02 11 43.8 -1.6
BRBB  Barentsburg B      1.01 129    ⇑iP   Pn          02 11 54.4 +0.9
BRBB                                 eS    Sn          02 12 07.9 +0.4
BRBB  Barentsburg B      1.01 129    Pn    Pn          02 11 54.4 +0.9
BRBB                                 Lg    Lg          02 12 08.5
BRBB  Barentsburg B      1.01 129    P     Pn          02 11 53.9 +0.4
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BRBB			S	Sn	02 12 07.8	+0.4
BRBA	**Barentsburg A**	**1.03 131⇑**	*i* P	**Pn**	**02 11 54.9**	**+1.0**
BRBA			*e*S	Sn	**02 12 09.0**	**+0.9**
BRBA			IAML		02 12 12.5	
	comp=Z,2μm,0.3s					
BRBA	**Barentsburg A**	**1.03 131**	Pn	**Pn**	**02 11 54.9**	**+1.0**
BRBA			Lg	Lg	02 12 09.0	
SPA0	**Spitsbergen Ar**	**1.32 113**	Pn	**Pg**	**02 11 58.9**	**-0.4**
	baz=305,slow=14					
SPA0			Sg	**Sg**	**02 12 17.3**	**+0.8**
	baz=287,slow=22					
SPA0	**Spitsbergen Ar**	**1.32 113**	Pn	**Pg**	**02 11 58.9**	**-0.4**
	baz=305,slow=14					
SPA0			Lg	Lg	02 12 17.3	
	baz=287,slow=22					
SPA0	**Spitsbergen Ar**	**1.32 113**	*e*P	**Pg**	**02 11 59.2**	**-0.1**
SPA0			*e*S	**Sg**	**02 12 15.8**	**-0.7**
SPITS	**Spitsbergen Ar**	**1.32 113**	Pn	**Pb**	**02 11 58.8**	**+0.4**
	baz=302,slow=13					
SPITS			Sn	**Sg**	**02 12 16.1**	**-0.3**
	baz=313,slow=21					
SPITS	**Spitsbergen Ar**	**1.32 113**	P	**Pb**	**02 11 58.3**	**-0.1**
SPITS			S	**Sg**	**02 12 16.8**	**+0.3**
HSPB	**Hornsund (broa**	**2.06 146**	*e*P	**Pn**	**02 12 08.6**	**+0.6**
HSPB			*e*S	Sn	**02 12 35.2**	**+1.7**
HSPB			IAML		02 12 48.6	
	comp=Z,279nm,0.4s					
HSPB	**Hornsund (broa**	**2.06 146**	Pn	**Pn**	**02 12 08.5**	**+0.5**
HSPB			Sn	Sn	**02 12 35.1**	**+1.7**
HSPB	**Hornsund (broa**	**2.06 146**	P	**Pn**	**02 12 08.5**	**+0.5**
HSPB			S	Sn	**02 12 34.4**	**+0.9**
HOPEN	**Hopen**	**3.85 118**	*e*P	**Pn**	**02 12 32.9**	**+0.4**
HOPEN			*e*S	Sn	**02 13 15.4**	**-2.0**
HOPEN			IAML		02 13 19.5	
	comp=Z,126nm,0.2s					
HOPEN	**Hopen**	**3.85 118**	Pn	**Pn**	**02 12 32.7**	**+0.2**
HOPEN			Sn	Sn	**02 13 16.8**	**-0.6**
HOPEN			Lg	Lg	02 13 37.1	
HOPEN	**Hopen**	**3.85 118**	*e*P	**Pn**	**02 12 32.0**	**-0.6**
HOPEN			*e*S	Sn	**02 13 16.2**	**-1.3**
BJO1	**Bjornoya**	**4.71 151**	*e*S	Sn	**02 13 39.4**	**+0.8**
BJO1			*e*		02 14 05.6	
BJO1			IAML		02 14 17.4	
	comp=Z,183nm,1.2s					
NOR	**Nord**	**5.39 314**	*i* P	**Pn**	**02 12 53.2**	**-0.5**
NOR	**Nord**	**5.39 314**	Pn	**Pn**	**02 12 53.5**	**-0.2**
NOR	**Nord**	**5.39 314**	*i* P	**Pn**	**02 12 53.2**	**-0.5**
DAG	**Danmarks Havn**	**6.44 267**	*i* P	**Pn**	**02 13 10.0**	**+1.9**
DAG			*i* S	Sn	**02 14 16.2**	**-5.1**
DAG			IAML		02 14 40.1	
	comp=Z,8.7nm,0.2s					
DAG	**Danmarks Havn**	**6.44 267**	*i* P	**Pn**	**02 13 10.0**	**+1.9**
DAG			*i* S	Sn	**02 14 16.2**	**-5.1**
DAG			IAML		02 14 40.1	
	comp=Z,8.7nm,0.2s					
ZFI2	**Zemlya Franca-**	**6.82 55**	*e*P	**Pn**	**02 13 13.3**	**+0.1**
ZFI2			*e*S	Sn	**02 14 23.2**	**-7.3**
	comp=Z,119nm,1.2s					
OMEGA	**Omega**	**6.83 55**	*e*P	**Pn**	**02 13 13.3**	**-0.1**
OMEGA			*e*S	Sn	**02 14 23.2**	**-7.6**
	comp=Z,99nm,1.0s					
DBG	**Daneborg**	**8.32 254**	*i* P	**Pn**	**02 13 34.1**	**+0.3**
DBG			*i* S	Sn	**02 15 01.2**	**-6.2**
DBG			IAML		02 15 06.3	
	comp=Z,0.8nm,0.3s					
DBG	**Daneborg**	**8.32 254**	Pn	**Pn**	**02 13 33.3**	**-0.5**
DBG			Sn	Sn	**02 15 01.4**	**-5.9**
DBG	**Daneborg**	**8.32 254**	*i* P	**Pn**	**02 13 34.1**	**+0.3**
DBG			*i* S	Sn	**02 15 01.2**	**-6.2**
DBG			IAML		02 15 06.3	
	comp=Z,0.8nm,0.3s					
HAMF	**Hammerfest**	**8.83 150**	*e*P	**Pn**	**02 13 42.0**	**+1.2**
HAMF			*e*S	Sn	**02 15 13.8**	**-6.2**
HAMF			IAML		02 15 19.8	
	comp=Z,4.1nm,0.4s					
HAMF	**Hammerfest**	**8.83 150**	Pn	**Pn**	**02 13 41.9**	**+1.0**
HAMF			Sn	Sn	**02 15 13.7**	**-6.2**
JNW	**Jan Mayen West**	**9.12 222**	*e*P	**Pn**	**02 13 45.1**	**+0.3**
JNW			IAML		02 16 53.5	
	comp=Z,94nm,1.1s					
JETT	**Jettan, Norway**	**9.61 159**	*e*P	**Pn**	**02 13 53.3**	**+1.7**
JETT			*e*S	Sn	**02 15 36.5**	**-2.7**
JETT			IAML		02 16 21.4	
	comp=Z,2.6nm,0.3s					
JETT	**Jettan, Norway**	**9.61 159**	Pn	**Pn**	**02 13 53.5**	**+1.9**
VADS	**Vadso**	**9.96 140**	*e*P	**Pn**	**02 13 56.6**	**+0.3**
VADS			*e*S	Sn	**02 15 40.7**	**-7.1**
VADS			IAML		02 15 46.0	
	comp=Z,12nm,0.7s					
VADS	**Vadso**	**9.96 140**	Pn	**Pn**	**02 13 55.6**	**-0.7**
VADS			Sn	Sn	**02 15 40.8**	**-6.9**
VADS	**Vadso**	**9.96 140**	P	**Pn**	**02 13 57.2**	**+0.8**
VADS			S	Sn	**02 15 40.0**	**-7.7**
KEV	**Kevo**	**10.03 145**	*e*P	**Pn**	**02 13 57.6**	**+0.4**
KEV			*e*S	Sn	**02 15 42.5**	**-6.9**
KEV	**Kevo**	**10.03 145**	Pn	**Pn**	**02 13 57.5**	**+0.3**
KEV			Sn	Sn	**02 15 43.6**	**-5.7**
ARA0	**ARCESS Array S**	**10.08 149**	Pn	**Pn**	**02 13 57.6**	**-0.3**
	baz=342,slow=14					
ARA0			Sn	Sn	**02 15 44.5**	**-6.2**
	baz=1.3,slow=22					
ARA0			IAML		02 15 53.0	
	comp=Z,3.4nm,0.6s					
ARA0	**ARCESS Array S**	**10.08 149**	Pn	**Pn**	**02 13 57.6**	**-0.3**
	baz=342,slow=14					
ARA0			Sn	Sn	**02 15 44.5**	**-6.2**
	baz=1.3,slow=22					
ARCES	**ARCESS Array B**	**10.08 149**	Pn	**Pn**	**02 13 59.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=16					
ARCES			Sn	Sn	**02 15 44.8**	**-5.8**
	comp=Z,0.4nm,0.3s,baz=353,slow=20,SNR=5.8					
	comp=Z,2.6nm,0.8s					
ARCES	**ARCESS Array B**	**10.08 149**	P	**Pn**	**02 13 59.6**	**+1.7**
ARCES			S	Sn	**02 15 42.5**	**-8.2**
KIF	**Kilpisjarvi**	**10.19 159**	*e*P	**Pn**	**02 14 00.5**	**+1.2**
KIF			*e*S	Sn	**02 15 45.5**	**-7.6**
KIF	**Kilpisjarvi**	**10.19 159**	Pn	**Pn**	**02 14 00.4**	**+1.0**
KTK1	**Kautokeino**	**10.37 154**	*e*P	**Pn**	**02 14 03.1**	**+1.2**
KTK1			*e*S	Sn	**02 15 55.1**	**-2.6**
KTK1			IAML		02 16 37.5	
	comp=Z,2.6nm,0.6s					
LOF	**Lofoten**	**10.72 174**	*e*P	**Pn**	**02 14 07.9**	**+1.3**
LOF			*e*S	Sn	**02 16 01.4**	**-4.8**
LOF			IAML		02 16 06.6	
	comp=Z,3.6nm,0.7s					
LOF	**Lofoten**	**10.72 174**	Pn	**Pn**	**02 14 07.9**	**+1.3**
LOF			Sn	Sn	**02 16 01.5**	**-4.6**
STEI	**Steigen**	**10.96 170**	*e*P	**Pn**	**02 14 12.7**	**+2.7**
STEI			IAML		02 17 50.8	
	comp=Z,2.2nm,0.9s					
HEF	**Hetta**	**11.00 154**	*e*P	**Pn**	**02 14 13.4**	**+2.9**
HEF			*e*S	Sn	**02 16 09.8**	**-3.3**
FAUS	**Fauske**	**11.51 171**	*e*P	**Pn**	**02 14 21.4**	**+3.9**
FAUS			IAML		02 17 55.8	
	comp=Z,1.9nm,0.7s					
FAUS	**Fauske**	**11.51 171**	P	**Pn**	**02 14 21.6**	**+4.1**
TERR	**Teriberka**	**11.60 132**	P	**Pn**	**02 14 16.8**	**-1.8**
TERR			S	Sn	02 16 15.6	-12
SCO	**Scoresbysund**	**11.71 243**	*i* P	**Pn**	**02 14 19.6**	**-0.5**
SCO	**Scoresbysund**	**11.71 243**	*i* P	**Pn**	**02 14 19.6**	**-0.5**
VAGH	**Vaagaholmen**	**12.12 175**	*e*P	**Pn**	**02 14 26.9**	**+1.2**
VAGH			*e*S	Sn	**02 16 34.2**	**-6.2**
VAGH			IAML		02 16 59.9	
	comp=Z,2.9nm,0.7s					
NEEM	**North Greenlan**	**12.24 295**	*i* P	**Pn**	**02 14 25.6**	**-2.1**
NEEM			*i* S	Sn	02 16 31.4	-12
NEEM			IAML		02 16 37.5	
	comp=Z,1.8nm,0.3s					
NEEM	**North Greenlan**	**12.24 295**	*i* P	**Pn**	**02 14 25.6**	**-2.1**
NEEM			*i* S	Sn	02 16 31.4	-12
NEEM			IAML		02 16 37.5	
	comp=Z,1.8nm,0.3s					
KONS	**Konsvik**	**12.35 175**	*e*P	**Pn**	**02 14 30.9**	**+2.0**
KONS			IAML		02 18 54.6	
	comp=Z,3.9nm,0.9s					
KONS	**Konsvik**	**12.35 175**	Pn	**Pn**	**02 14 30.9**	**+2.0**
STOK	**Stokkvaagen**	**12.51 175**	*e*P	**Pn**	**02 14 32.8**	**+1.7**
STOK			IAML		02 18 26.9	
	comp=Z,3.8nm,0.9s					
STOK	**Stokkvaagen**	**12.51 175**	Pn	**Pn**	**02 14 32.8**	**+1.7**
MOR8	**Moi Rana**	**12.70 173**	*e*P	**Pn**	**02 14 35.7**	**+1.9**
MOR8			IAML		02 18 37.3	
	comp=Z,3.6nm,0.1s					
MOR8	**Moi Rana**	**12.70 173**	Pn	**Pn**	**02 14 35.9**	**+2.1**
LEIR	**Leirfjorden**	**12.73 175**	*e*P	**Pn**	**02 14 35.9**	**+1.7**
LEIR			*e*S	Sn	**02 16 48.6**	**-6.8**
LEIR			IAML		02 16 57.5	
	comp=Z,2.7nm,0.9s					
APA0	**Apatity Array**	**12.79 138**	P	**Pn**	**02 14 34.6**	**-0.4**
APA0			S	Sn	02 16 47.4	-10
SUMG	**Summit**	**13.13 268**	*i* P	**Pn**	**02 14 41.5**	**+1.6**
SUMG	**Summit**	**13.13 268**	*i* P	**Pn**	**02 14 41.5**	**+1.6**
KVDA	**Kovda**	**13.64 140**	P	**Pn**	**02 14 46.0**	**-0.6**
KVDA			S	Sn	02 17 04.6	-13
FINES	**FINESS Array B**	**18.05 155**	P	**P**	**02 15 46.6**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=353,slow=12,SNR=4.7					
	comp=Z,3.0nm,1.1s					
HFS	**Hagfors**	**18.74 175**	P	**Pn**	**02 15 55.1**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=1.3					
	comp=Z,1.6nm,0.8s					
AKASG	**Malin Array Be**	**28.96 155**	P	**P**	**02 17 34.2**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=353,slow=9.0,SNR=5.7					
	comp=Z,0.7nm,0.5s					
YKA	**Yellowknife Ar**	**35.30 319**	P	**P**	**02 18 29.1**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=9.8,slow=7.6,SNR=5.5					
YKA			PcP	**PcP**	**02 20 59.9**	**+2.3**
	comp=Z,0.1nm,0.6s,baz=6.0,slow=3.2,SNR=3.9					
	comp=Z,0.2nm,0.6s					
ILAR	**Eielson Array**	**36.07 344**	P	**P**	**02 18 36.1**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=359,slow=7.3,SNR=7.8					
	comp=Z,0.5nm,0.7s					
KURBB	**Kurchatov Arra**	**36.62 98**	P	**P**	**02 18 40.3**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=332,slow=7.8,SNR=2.3					
	comp=Z,0.2nm,0.4s					
BRTR	**Keskin Array B**	**40.24 152**	P	**P**	**02 19 13.3**	**+3.5**
	comp=Z,1.1nm,0.9s,baz=357,slow=6.2,SNR=4.3					
	comp=Z,1.1nm,0.9s					
MKAR	**Makanchi Array**	**41.02 96**	P	**P**	**02 19 17.8**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=346,slow=7.7,SNR=4.8					
	comp=Z,0.2nm,0.5s					
VAE	**Valguarnera**	**41.42 175**	LR	LR	02 38 30.2	
	comp=Z,43nm,19.8s,baz=278,slow=39					
KLR	**Kul'dur**	**47.65 49**	LR	LR	02 43 53.7	
	comp=Z,45nm,18.4s,baz=24,slow=41					
TXAR	**Lajitas Array**	**65.93 299**	P	**P**	**02 22 21.8**	**+2.7**
	comp=Z,0.5nm,0.7s,baz=56,slow=3.9,SNR=5.2					
	comp=Z,0.5nm,0.7s					

IDC 19 02:13:06.5±2.5, 31°.83S×177°.51W, h0km, mb3.8/2, mbtmp3.8/3, ML2.9/1, MS3.3/1, Error ellipse: s-maj=70.7km s-min=44.2km az=134.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.78**	**213**	Pn	Pn	02 15 00.4	-0.6
	0.2nm,0.3s,baz=109,slow=7.3,SNR=1.1						
URZ				Sn	Sn	02 16 26.0	-3.7
	1.4nm,0.3s,baz=250,slow=4.7,SNR=10						
	1.6nm,0.4s						
DZM	**Mont Dzumac**	**17.28**	**300**	LR	LR	02 22 38.0	
	comp=Z,91nm,18.6s,baz=130,slow=33						
ASAR	**Alice Springs**	**43.47**	**268**	P	P	02 21 11.8	+0.1
	0.3nm,0.3s,baz=105,slow=7.6,SNR=6.3						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**44.59**	**273**	P	P	02 21 20.6	0.0
	1.1nm,0.4s,baz=113,slow=8.2,SNR=10						
	1.1nm,0.4s						
FINES	**FINESS Array B**	**146.63**	**340**	PKPbc	PKPbc	02 32 49.8	+0.5
	2.7nm,0.7s,baz=29,slow=3.2,SNR=5.9						
BRTR	**Keskin Array B**	**153.63**	**296**	PKPbc	PKPbc	02 33 05.3	-2.1
	0.3nm,0.6s,baz=84,slow=1.7,SNR=1.6						

*NEIC **19** 02:31:08.7±1.5, 20°.1S±0°.1×172°.73W±0°.07, h10km±1km, mb4.8/25, Error ellipse: s-maj=21.3km s-min=11.4km az=353.0*

*IDC **19** 02:31:22.5±4.9, 20°.23S×173°.40W, h95km±39km, mb3.8/7, mbtmp4.2/10, MS3.1/4, Error ellipse: s-maj=38.4km s-min=23.5km az=126.0*

ISC 19 02:31:12.2±0.6, 20°.1S±0°.1×172°.75W±0°.07, h35km, n46, σ1§30/43, mb4.6/17, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.85**	**69**		**Pn**	**02 31 54.3**	**-0.9**
NIUE				Sn	**Sn**	**02 32 27.1**	**-1.1**
AFI	**Afiamalu**	**6.23**	**9**		**Pn**	**02 32 40.6**	**-1.2**
MSVF	**Nonsavu**	**9.03**	**284**	Pn	**Pn**	**02 33 19.4**	**-0.8**
MSVF	**Nonsavu**	**9.03**	**284**	P	**Pn**	**02 33 22.6**	**+2.4**
	15nm,0.8s,baz=123,slow=12,SNR=13						
MSVF				LR	LR	02 36 23.3	
	comp=Z,265nm,19.9s,baz=133,slow=36						
RAR	**Rarotonga**	**12.20**	**97**	LR	LR	02 38 51.4	
	comp=Z,36nm,18.3s,baz=264,slow=35						
PINNC	**Pines Island,**	**18.62**	**259**	P	**P**	**02 35 26.2**	**-0.6**
PINNC				IAmb	IAmb	02 35 29.0	
	comp=Z,114nm,1.4s						
DZM	**Mont Dzumac**	**19.52**	**261**		**P**	**02 35 35.4**	**-1.4**
DZM				IAmb	IAmb	02 35 38.4	
	comp=Z,20nm,0.8s						
DZM	**Mont Dzumac**	**19.52**	**261**	P	**P**	**02 35 35.4**	**-1.4**
	comp=Z,18nm,0.8s,baz=75,slow=18,SNR=10						
DZM				LR	LR	02 41 30.3	
	comp=Z,75nm,21.2s,baz=230,slow=32						
URZ	**Urewera**	**20.12**	**204**	P	Pn	02 35 45.5	+0.5
	comp=Z,5.1nm,0.6s,baz=116,slow=13,SNR=3.7						
PPT	**Papeete**	**22.07**	**87**	LR	LR	02 43 44.9	
	comp=Z,29nm,18.2s,baz=206,slow=33						
BFZ	**Birch Farm**	**22.57**	**202**	P	**P**	**02 36 09.9**	**+0.5**
BFZ				IAmb	IAmb	02 36 49.2	
	comp=Z,19nm,1.0s						
MRZ	**Mangatainoka R**	**22.79**	**203**	P	**P**	**02 36 11.5**	**-0.3**
QRZ	**Quartz Range**	**24.18**	**208**	P	**P**	**02 36 26.9**	**+1.6**
QRZ				IAmb	IAmb	02 36 33.5	
	comp=Z,12nm,0.7s						
LTZ	**Lake Taylor**	**25.89**	**206**	P	**P**	**02 36 40.3**	**-0.6**
HNR	**Honiara**	**28.41**	**288**	P	**P**	**02 37 02.2**	**-1.5**
ARMA	**Armidale**	**33.69**	**245**	P	**P**	**02 37 49.7**	**-0.6**
ARMA				IAmb	IAmb	02 37 51.7	
	comp=Z,16nm,1.5s						
CAN	**Canberra**	**36.85**	**238**	P	**P**	**02 38 17.3**	**-0.1**
CAN				IAmb	IAmb	02 38 35.9	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**42.41**	**244**	P	**P**	**02 39 03.5**	**-0.1**
STKA				IAmb	IAmb	02 39 07.2	
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**42.41**	**244**	P	**P**	**02 39 02.7**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=93,slow=13,SNR=6.8						
	comp=Z,2.5nm,0.8s						
COEN	**Coen**	**42.49**	**271**	P	**P**	**02 39 04.0**	**-0.5**
COEN				IAmb	IAmb	02 39 38.6	
	comp=Z,25nm,1.2s						
BBOO	**Buckleboo**	**47.14**	**244**	P	**P**	**02 39 41.4**	**+0.1**
BBOO				IAmb	IAmb	02 40 11.6	
	comp=Z,16nm,1.4s						
WR8	**Warramunga Arr**	**49.38**	**261**	P	**P**	**02 39 57.6**	**-1.3**
WR8				IAmb	IAmb	02 40 02.8	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**49.40**	**256**	P	**P**	**02 39 58.3**	**-0.7**
ASAR	**Alice Springs**	**49.40**	**256**	P	**P**	**02 39 57.7**	**-1.2**
ASAR	**Alice Springs**	**49.40**	**256**	P	**P**	**02 39 57.9**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=94,slow=7.5,SNR=40						
ASAR				PcP	**PcP**	**02 41 22.3**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=101,slow=3.8,SNR=2.1						
	comp=Z,3.3nm,0.6s						
WB0	**Warramunga Arr**	**49.52**	**261**	P	**P**	**02 39 58.9**	**-1.0**
WB0				IAmb	IAmb	02 39 59.4	
	comp=Z,8.9nm,0.7s						
WB2	**Warramunga Arr**	**49.52**	**261**	P	**P**	**02 39 59.1**	**-0.8**
WB2				IAmb	IAmb	02 39 59.6	
	comp=Z,8.9nm,1.0s						
WRA	**Warramunga Arr**	**49.53**	**261**	P	**P**	**02 39 58.7**	**-1.3**
WRA	**Warramunga Arr**	**49.53**	**261**	P	**P**	**02 39 58.7**	**-1.3**
	comp=Z,4.0nm,0.6s,baz=98,slow=8.1,SNR=48						
	comp=Z,4.0nm,0.6s						
FORT	**Forrest**	**53.97**	**246**	P	**P**	**02 40 32.5**	**-0.4**
MTN	**Manton Dam**	**54.10**	**268**	P	**P**	**02 40 32.3**	**-1.7**
MTN				IAmb	IAmb	02 40 34.2	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.96**	**261**	P	**P**	**02 41 01.5**	**-0.2**
SOEI	**Soe**	**61.43**	**270**	P	**P**	**02 41 24.5**	**-1.2**
PSA00	**Pilbara Seismi**	**62.55**	**256**	P	**P**	**02 41 32.7**	**-0.3**
MORW	**Morawa**	**64.53**	**247**	P	**P**	**02 41 46.4**	**+0.4**
GIRL	**Giralia**	**67.40**	**253**	P	**P**	**02 42 05.3**	**+0.8**
MJAR	**Matsushiro Arr**	**72.93**	**320**	P	**P**	**02 42 38.9**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=132,slow=7.0,SNR=2.4						
	comp=Z,1.6nm,0.6s						
PETK	**Petropavlovsk-**	**77.27**	**342**	P	P	02 43 06.8	+4.1
	comp=Z,2.2nm,0.9s,baz=190,slow=7.4,SNR=2.5						
	comp=Z,2.2nm,0.9s						
NVAR	**Mina Array Bea**	**77.42**	**41**	P	P	02 43 09.7	+5.5
	comp=Z,0.5nm,0.7s,baz=222,slow=7.6,SNR=4.7						
	comp=Z,0.5nm,0.7s						
BELA	**Belgrano 2**	**79.28**	**172**	P	**P**	**02 43 14.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**81.50**	**323**	P	**P**	**02 43 29.4**	**+3.5**
	comp=Z,0.8nm,0.5s,baz=157,slow=4.1,SNR=2.1						
	comp=Z,0.8nm,0.5s						
SYO	**Syowa Base**	**88.13**	**191⇑**	*e*P	**P**	**02 43 59.0**	**0.0**
BVAR	**Borovoye Array**	**121.93**	**321**	PKP	**PKiKP**	**02 50 05.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=90,slow=3.2,SNR=2.0						
ARCES	**ARCESS Array B**	**129.33**	**352**	PKP	**PKiKP**	**02 50 19.6**	**+2.6**
	comp=Z,2.9nm,1.0s,baz=50,slow=2.9,SNR=3.8						
AKASG	**Malin Array Be**	**144.88**	**336**	PKP	**PKiKP**	**02 50 47.1**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=39,slow=3.4,SNR=8.5						
BRTR	**Keskin Array B**	**150.09**	**317**	PKPbc	**PKiKP**	**02 50 60.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=90,slow=3.7,SNR=4.5						

*IDC **19** 02:39:32.3±1.4, 63°.21N×150°.85W, h100km±13km, mb3.3/7, mbtmp3.6/11, Error ellipse: s-maj=18.2km s-min=10.7km az=108.0*

*AEIC **19** 02:39:35.5±0.9, 63°.18N±0°.03×150°.42W±0°.08, h115km±4km, ML3.5, ML3.6/200(NEIC), Error ellipse: s-maj=5.0km s-min=4.9km az=126.0*

*NEIC **19** 02:39:35.1±0.8, 63°.19N±0°.03×150°.40W±0°.06, h119km±3km, Error ellipse: s-maj=5.0km s-min=4.0km az=182.0*

ISC 19 02:39:34.9±0.7, 63°.21N±0°.03×150°.45W±0°.04, h122km±6km, n258, σ0§83/246, mb3.5/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.25**	**17**		**Pn**	**02 39 52.3**	**+0.2**
TRF				IAML		02 40 05.8	
	comp=E,3μm,0.9s						
TRF	**Thorofare Moun**	**0.25**	**17**		**Sn**	**02 40 04.7**	**-0.3**
KTH	**Kantishna Hill**	**0.41**	**329**		**Pn**	**02 39 52.8**	**+0.3**
KTH	**Kantishna Hill**	**0.41**	**329**		**Sn**	**02 40 05.4**	**-0.5**
RND	**Reindeer**	**0.75**	**74**		**Pn**	**02 39 54.8**	**0.0**
RND				IAML		02 40 10.3	
	comp=E,1μm,0.4s						
RND				IAML		02 40 10.6	
	comp=N,1μm,0.3s						
RND	**Reindeer**	**0.75**	**74**		**Sn**	**02 40 09.6**	**-0.4**
CAST	**Castle Rocks**	**0.77**	**287**	Pn	**Pn**	**02 39 54.9**	**0.0**
CAST				IAML		02 40 10.1	
	comp=E,882nm,0.9s						
CAST				IAML		02 40 10.2	
	comp=N,1μm,0.8s						
CAST	**Castle Rocks**	**0.77**	**287**		**Sn**	**02 40 09.6**	**-0.5**
CUT	**Chulitna**	**0.81**	**174**		**Pn**	**02 39 55.2**	**0.0**
CUT	**Chulitna**	**0.81**	**174**		**Sn**	**02 40 10.7**	**0.0**
PPLA	**Purkeypile**	**0.85**	**249**	Pn	**Pn**	**02 39 56.0**	**+0.2**
PPLA	**Purkeypile**	**0.85**	**249**		**Sn**	**02 40 11.5**	**0.0**
MCK	**McKinley**	**0.86**	**52**		**Pn**	**02 39 56.1**	**+0.4**
MCK	**McKinley**	**0.86**	**52**		**Sn**	**02 40 11.0**	**-0.5**
BPAW	**Bear Paw Mtn.**	**0.93**	**345**	Pn	**Pn**	**02 39 56.4**	**+0.1**
BPAW					**Sn**	**02 40 11.7**	**-0.9**
BPAW				IAML		02 40 12.7	
	comp=E,2μm,1.0s						
BWN	**Browne**	**1.06**	**24**		**Pn**	**02 39 58.4**	**+0.8**
BWN				IAML		02 40 16.2	
	comp=E,1μm,1.0s						
CHUM	**Lake Minchumin**	**1.07**	**310**		**Pn**	**02 39 58.1**	**+0.5**
CHUM					**Sn**	**02 40 14.8**	**-0.2**
SKT	**Skwentna**	**1.33**	**202**	Pn	**Pn**	**02 40 00.3**	**-0.2**
SKT				IAML		02 40 21.4	
	comp=E,815nm,0.3s						
SKT				IAML		02 40 21.5	
	comp=N,1μm,0.4s						
M22K	**Willow**	**1.47**	**174**		**Pn**	**02 40 01.8**	**-0.1**
NEA2	**Nenana**	**1.52**	**23**		**Pn**	**02 40 02.5**	**-0.1**
NEA2				IAML		02 40 23.1	
	comp=E,811nm,0.6s						
NEA2				IAML		02 40 23.4	
	comp=N,758nm,0.7s						
NEA2	**Nenana**	**1.52**	**23**		**Sn**	**02 40 22.4**	**-1.2**
GHO	**Glory Hole Cre**	**1.61**	**153**		**Pn**	**02 40 03.5**	**-0.2**
GHO				IAML		02 40 29.1	
	comp=N,984nm,0.6s						
GHO				IAML		02 40 31.3	
	comp=E,1μm,0.6s						
GHO	**Glory Hole Cre**	**1.61**	**153**		**Sn**	**02 40 25.6**	**-0.1**
K20K	**Telida**	**1.64**	**277**		**Pn**	**02 40 04.3**	**+0.4**
WRH	**Wood River Hil**	**1.64**	**39**	Pn	**Pn**	**02 40 04.3**	**+0.3**
WRH				IAML		02 40 26.0	
	comp=N,272nm,0.9s						
WRH	**Wood River Hil**	**1.64**	**39**		**Sn**	**02 40 25.4**	**-0.8**
SML	**Sawmill**	**1.72**	**144**	Pn	**Pn**	**02 40 04.6**	**-0.4**
L20K	**Farewell, AK**	**1.73**	**247**		**Pn**	**02 40 05.2**	**0.0**
PMR	**Palmer**	**1.74**	**159**		**Pn**	**02 40 04.6**	**-0.5**
PMR				IAML		02 40 32.2	
	comp=E,498nm,0.4s						
PMR				IAML	

I20K Naaghedeneel 2.38 314 Pn 02 40 13.4 +0.4
I20K Naaghedeneel 2.38 314 IAML 02 41 01.6
comp=N,365nm,0.8s
I20K IAML 02 41 13.1
comp=E,395nm,0.9s
J19K Poorman 2.44 291 Pn 02 40 14.2 +0.4
J19K IAML 02 40 44.8
comp=N,138nm,0.5s
CAPN Captain Cook N 2.47 188 Sn 02 40 49.1 +4.6
CAPN Captain Cook N 2.47 188 Pn 02 40 15.9 +1.6
PWL Port Wells 2.56 156 Pn 02 40 14.8 -0.6
HARP HAARP 2.56 106 Pn 02 40 15.6 +0.1
RIDG Independent Ri 2.57 76 Pn **Pn 02 40 16.1 +0.4**
RIDG IAML 02 40 51.8
comp=N,322nm,0.5s
J25K Salcha River, 2.65 56 Pn 02 40 16.7 +0.1
J25K Salcha River, 2.65 56 IAML 02 40 48.5
comp=E,361nm,0.6s
J25K IAML 02 40 54.6
comp=N,305nm,0.5s
H23K Yukon River 2.66 8 Pn 02 40 17.1 +0.5
H23K Yukon River 2.66 8 IAML 02 40 49.4
comp=E,144nm,1.6s
H23K IAML 02 40 50.1
comp=N,108nm,1.8s
H21K Melozitna Rive 2.66 339 Pn 02 40 17.0 +0.3
H21K Melozitna Rive 2.66 339 IAML 02 40 48.4
comp=E,103nm,0.8s
SLKM Skilak Lake 2.71 178 Pn **Pn 02 40 17.6 +0.2**
SLKM IAML 02 41 03.0
comp=E,219nm,0.4s
SLKM IAML 02 41 03.8
comp=N,196nm,0.7s
H22K Ishtalitna Cre 2.73 352 Pn 02 40 18.0 +0.5
KLU Klutina 2.73 127 Pn 02 40 16.8 -0.8
O22K Cooper Landing 2.76 172 Pn 02 40 18.0 +0.1
RDT Redoubt 2.80 200 Pn 02 40 19.3 +0.7
DFR Drift River 2.83 203 Sn 02 40 20.7 -32
J18K Innoko River 2.83 278 Pn 02 40 19.4 +0.4
H24K Noodor Dome 2.86 22 Pn 02 40 19.7 +0.3
NCT North Crescent 2.90 205 Pn 02 40 20.3 +0.4
DOT Dot Lake 2.91 78 Pn **Pn 02 40 19.7 -0.2**
RDWB Redoubt West 2.96 204 Pn 02 40 21.4 +0.7
RDSO Redoubt South 2.97 202 Pn 02 40 21.5 +0.6
SCRK Sand Creek 2.99 72 Pn **Pn 02 40 21.2 +0.1**
SCRK IAML 02 40 58.1
comp=N,121nm,0.7s
SCRK IAML 02 40 58.3
comp=E,161nm,1.0s
H20K Anotleneega Mo 2.99 322 Pn 02 40 21.4 +0.3
RED Redoubt Volcan 3.01 202 Pn 02 40 22.1 +0.7
DIV Divide 3.03 131 Pn **Pn 02 40 20.3 -1.3**
L18K Granite Mounta 3.04 254 Pn 02 40 21.7 +0.1
M18K Stony River 3.04 238 Pn 02 40 21.3 -0.3
N19K Bonanza Creek 3.06 220 Pn 02 40 21.9 -0.2
MENT Mentasta 3.08 92 Pn 02 40 21.9 -0.2
MENT Mentasta 3.08 92 IAML 02 41 20.4
comp=N,296nm,0.6s
MENT Mentasta 3.08 92 P **Pn 02 40 22.0 -0.2**
WACK Wrangell Chich 3.09 111 Pn 02 40 22.1 -0.4
WAZA Wrangell Mount 3.12 109 Pn 02 40 22.2 -0.8
SEW Seward 3.15 171 Pn 02 40 22.6 -0.5
PRP Porcupine Dome 3.16 41 Pn **Pn 02 40 23.2 -0.1**
PRP IAML 02 41 05.8
comp=N,79nm,0.5s
PRP IAML 02 41 10.8
comp=E,76nm,0.8s
N25K Chitina, Valde 3.16 118 Pn 02 40 23.1 -0.3
N25K IAML 02 41 03.0
comp=E,246nm,0.5s
WASW Wrangell South 3.18 111 Pn 02 40 23.4 -0.2
GCSA Galena City Sc 3.23 301 Pn 02 40 24.5 +0.5
L26K Log Cabin Wild 3.23 90 Pn 02 40 23.7 -0.5
O20K Slope Mountain 3.31 199 Pn 02 40 25.5 +0.3
J26L Joseph Creek 3.31 64 Pn 02 40 25.5 +0.1
HIN Hinchinbrook I 3.39 145 Pn 02 40 25.5 -0.8
BRLK Bradley Lake 3.46 184 Pn 02 40 27.4 +0.1
BRLK IAML 02 41 19.4
comp=E,141nm,0.3s
BRLK IAML 02 41 20.9
comp=N,140nm,0.7s
EYAK Cordova Ski Ar 3.48 138 Pn 02 40 26.6 -0.8
EYAK Cordova Ski Ar 3.48 138 P **Pn 02 40 26.5 -0.8**
EYAK Cordova Ski Ar 3.48 138 S **Sn 02 41 08.2 +0.2**
BRSE Bradley Lake S 3.48 182 Pn 02 40 27.3 -0.2
H19K Roundabout Mou 3.49 314 Pn 02 40 27.7 +0.1
M26K Nabesna, AK 3.52 100 Pn 02 40 27.5 -0.5
M26K Nabesna, AK 3.52 100 IAML 02 41 25.4
comp=E,189nm,0.6s
M26K IAML 02 41 26.5
comp=N,172nm,0.7s
G23K Bananza Creek 3.52 3 Pn 02 40 28.9 +0.9
G23K Bananza Creek 3.52 3 IAML 02 41 09.3
comp=E,157nm,0.9s
G23K IAML 02 41 10.0
comp=N,90nm,0.7s
P23K Montague Islan 3.54 154 Pn 02 40 27.0 -1.2
O19K Port Alsworth 3.54 213 Pn **Pn 02 40 29.4 +1.2**
O19K IAML 02 41 10.8
comp=N,122nm,0.5s
O19K IAML 02 41 14.5
comp=E,185nm,0.5s
BMRM Bremner River 3.55 127 Pn 02 40 27.2 -1.3
G21K Allakaket 3.57 340 Pn 02 40 29.0 +0.4
G21K Allakaket 3.57 340 IAML 02 41 42.1
comp=E,58nm,1.0s
GLB Gilahina Butte 3.57 117 Pn **Pn 02 40 28.4 -0.3**
N18K Kilae Creek 3.61 228 Pn 02 40 29.3 +0.1
N18K Kilae Creek 3.61 228 IAML 02 41 11.3
comp=E,69nm,0.8s
N18K IAML 02 41 12.9
comp=N,73nm,1.1s
K17K Iditarod 3.62 266 Pn **Pn 02 40 29.6 +0.3**
K17K IAML 02 41 12.3
comp=E,98nm,1.3s
K17K IAML 02 41 14.3
comp=N,67nm,1.1s
H25L Birch Creek 3.66 31 Pn 02 40 29.9 +0.2
CNPM China Poot 3.72 186 Pn **Pn 02 40 30.5 -0.1**
G24K Hadweenzic Riv 3.73 19 Pn 02 40 31.1 +0.4
G24K Hadweenzic Riv 3.73 19 IAML 02 41 36.9
comp=N,43nm,1.2s
M17K Holitna River 3.73 244 Pn 02 40 30.5 -0.2
M17K Holitna River 3.73 244 IAML 02 41 30.4
comp=E,89nm,0.9s
M17K IAML 02 41 37.7
comp=N,64nm,0.9s
L17K Donlin 3.77 257 Pn 02 40 31.5 +0.2
GOAT Goat Mountain 3.78 132 Pn 02 40 30.6 -0.9
I26K Coal Creek Min 3.82 53 Pn 02 40 31.7 -0.1
I26K Coal Creek Min 3.82 53 IAML 02 41 20.1
comp=N,116nm,0.8s
I26K IAML 02 41 34.8
comp=E,103nm,0.9s
K27K Chicken 3.83 74 Pn 02 40 32.0 0.0
K27K Chicken 3.83 74 IAML 02 41 16.4
comp=N,157nm,0.6s
VRDI Verde Repeater 3.83 118 Pn **Pn 02 40 31.4 -0.9**
VRDI IAML 02 41 16.6
comp=N,116nm,0.9s
VRDI IAML 02 41 19.9
comp=E,107nm,0.7s
J17K VABM Dome 3.90 277 Pn 02 40 33.0 +0.1
L27K Beaver Creek, 3.92 88 Pn 02 40 32.6 -0.7
L27K IAML 02 41 36.4
comp=E,45nm,1.5s
L27K IAML 02 41 39.1
comp=N,54nm,1.3s
BCAR Beaver Creek A 3.94 88 Pn **Pn 02 40 32.8 -0.7**
H18K Honhosa River 3.97 303 Pn 02 40 34.3 +0.4
M27K Edge Creek, AK 4.03 98 Pn 02 40 34.9 0.0
M27K Edge Creek, AK 4.03 98 IAML 02 41 44.1
comp=N,146nm,1.3s
M27K IAML 02 41 44.9
comp=E,86nm,0.8s
COLD Coldfoot 4.04 1 Pn **Pn 02 40 35.3 +0.5**
FYU Fort Yukon 4.04 31 Pn **Pn 02 40 35.4 +0.6**
FYU IAML 02 41 20.5
comp=N,70nm,4.1s
FYU IAML 02 41 47.0
comp=E,63nm,3.2s
O18K Koktuh Hills 4.06 216 Pn 02 40 35.6 +0.4
O18K Koktuh Hills 4.06 216 IAML 02 42 07.0
comp=E,37nm,3.9s
O18K IAML 02 42 51.2
comp=N,38nm,4.0s
G19K Purcell Mounta 4.10 319 Pn 02 40 35.5 -0.1
HMT Hamilton 4.12 132 Pn 02 40 35.1 -0.8
N17K Nushagak Hills 4.17 233 Pn 02 40 36.5 -0.1
N17K IAML 02 41 26.2
comp=E,30nm,1.1s
N17K IAML 02 41 43.0
comp=N,31nm,2.6s
F21K Alatna River 4.23 344 Pn 02 40 38.4 +1.1
BALM Baldy 4.39 116 Pn 02 40 38.4 -1.2
KIAG Kiagna River 4.45 117 Pn 02 40 39.5 -0.9
G18K Tagagawik 4.45 311 Pn 02 40 40.8 +0.5
L16K Owhat River 4.45 254 Pn **Pn 02 40 40.3 0.0**
L16K IAML 02 41 31.5
comp=E,26nm,1.9s
L16K IAML 02 41 34.6
comp=N,29nm,0.9s
F20K Avaraart Lake 4.45 332 Pn 02 40 41.2 +0.9
F24K Squaw Lake 4.46 13 Pn 02 40 40.8 +0.3
F24K Squaw Lake 4.46 13 IAML 02 41 32.1
comp=E,30nm,1.4s
F24K IAML 02 41 33.8
comp=N,23nm,0.7s
H17K Granite Mounta 4.50 297 Pn **Pn 02 40 42.1 +1.1**
M16K Timber Creek 4.56 245 Pn 02 40 41.6 -0.1
M16K IAML 02 42 01.6
comp=N,29nm,4.8s
M16K IAML 02 42 06.7
comp=E,29nm,1.5s
J16K Anvik River 4.59 275 Pn 02 40 42.7 +0.5
I17K Unalakleet 4.63 283 Pn **Pn 02 40 43.9 +1.2**
I17K IAML 02 41 37.1
comp=E,26nm,1.2s
YUK2 White River 4.68 103 Pn 02 40 43.8 +0.3
SYI Shuyak Island 4.71 192 Sn 02 41 37.3 -0.1
SYI IAML 02 42 59.4
comp=N,77nm,2.1s
SYI Shuyak Island 4.71 192 Pn 02 40 44.0 +0.2
F19K Shaleruckik Mo 4.78 323 Pn 02 40 44.7 0.0
F25K Christian Rive 4.84 22 Pn 02 40 45.9 +0.3
YUK3 Moose Creek 4.85 103 Pn 02 40 46.0 +0.1
H27K Steamboat Moun 4.88 48 Pn 02 40 45.8 -0.3
E23K Chandalar 4.88 4 Pn **Pn 02 40 46.9 +0.8**
E23K IAML 02 41 44.5
comp=E,21nm,0.7s
E23K IAML 02 42 09.2
comp=N,19nm,0.9s
BMAR Burnt Mountain 4.90 28 Pn **Pn 02 40 46.7 +0.3**
E24K Your Creek 4.95 9 Pn 02 40 47.9 +0.8
E24K IAML 02 42 13.5
comp=E,22nm,1.1s
P17K Kvichak River 4.96 218 Pn 02 40 47.6 +0.5
E22K Anaktuvuk Pass 4.98 354 Pn **Pn 02 40 48.3 +0.9**
DAWY Dawson 5.01 75 Pn **Pn 02 40 47.6 -0.2**
KAHC Katmai Hardscr 5.09 208 Pn 02 40 49.0 0.0
I28M Miner Creek 5.09 59 Pn 02 40 49.3 +0.2
I28M IAML 02 41 50.0
comp=E,52nm,0.8s
I28M IAML 02 41 52.7
comp=N,52nm,0.8s
E19K Redstone River 5.12 329 Pn **Pn 02 40 50.2 +0.9**
E19K IAML 02 41 50.9
comp=N,17nm,1.3s
E19K IAML 02 42 19.4
comp=E,16nm,2.4s
KAHG Katmai Hook Gl 5.14 205 Pn 02 40 50.3 +0.7
K15K Wolf Creek Mou 5.17 265 Pn **Pn 02 40 50.4 +0.4**
K15K IAML 02 41 45.6
comp=E,19nm,3.8s
K15K IAML 02 43 32.8
comp=N,19nm,3.8s
F18K Selawik 5.19 315 Pn 02 40 50.5 +0.4
G27K Doyon Strip 5.19 42 Pn 02 40 50.0 -0.2
G27K IAML 02 42 20.6
comp=N,16nm,4.7s
G27K IAML 02 42 36.0
comp=E,18nm,2.5s
F26K Sheenjek River 5.21 27 Pn 02 40 51.1 +0.6
F26K IAML 02 42 32.8
comp=E,14nm,5.0s
RKAV Rock Avalanche 5.22 120 Pn 02 40 50.0 -0.7
E25K Arctic Village 5.33 20 Pn **Pn 02 40 52.7 +0.6**
H16K Elim 5.39 291 Pn 02 40 53.9 +0.9
E21K Killik River 5.45 346 Pn 02 40 55.8 +2.1
Q16K King Salmon 5.46 216 Pn 02 40 51.7 -2.1
TOLK Toolik Lake Re 5.47 3 Pn 02 40 54.9 +0.9
KDAK Kodiak Island 5.54 192 P **Pn 02 40 53.7 -1.3**
comp=E,8.0nm,0.7s,baz=338,slow=5.4,SNR=23
KDAK S **Sn 02 41 52.3 -5.2**
comp=E,7.0nm,0.3s,baz=252,slow=2.4,SNR=10
M29M Somme Creek 5.55 93 Pn 02 40 54.9 -0.3
ACHA Angle Creek He 5.55 208 Pn **Pn 02 40 55.7 +0.4**
L29M 5.59 86 Pn 02 40 55.3 -0.3
ANCK Angle Creek 5.60 208 Pn 02 40 56.3 +0.5
G16K Koyuk River 5.62 298 Pn 02 40 56.8 +0.8
F17K Baldwin Pennin 5.63 310 Pn **Pn 02 40 57.0 +0.9**
I29M Ogilvie Camp, 5.71 62 Pn **Pn 02 40 57.5 +0.2**
D22K Ayikyak River 5.77 352 Pn 02 40 59.1 +1.1
PCA Pinnacle 5.77 118 Pn 02 40 57.8 -0.4
D23K Nanushuk River 5.78 359 Pn 02 40 59.2 +1.0
K29M Barlow Dome 5.82 78 Pn **Pn 02 40 58.5 -0.3**
M14K Bethel 5.96 251 Pn 02 41 00.8 +0.3
E18K Tukpahlearik C 5.99 319 Pn **Pn 02 41 02.0 +1.0**
J14K Nanvaranak Lak 5.99 271 Pn 02 41 01.7 +0.7
H29M Whitestone 5.99 54 Pn 02 41 01.2 +0.2
D24K Happy Valley 6.01 6 Pn **Pn 02 41 03.3 +2.1**
L14K Kuka Creek 6.01 257 Pn **Pn 02 41 02.2 +1.0**
BCPM Bancas Point 6.11 117 Pn 02 41 02.2 -0.4
D19K Kuna River 6.16 333 Pn 02 41 04.7 +1.3
OHAK Old Harbor 6.17 194 P **Pn 02 41 03.4 0.0**
E27K Coleen River 6.19 32 Pn 02 41 03.6 0.0
M30M Minto, Yukon 6.28 90 Pn 02 41 04.3 -0.7
D25K Kavik River 6.36 13 Pn 02 41 07.6 +1.7
PNL Peninsula 6.38 119 P **Pn 02 41 06.1 -0.2**
PNL Peninsula 6.38 119 S **Sn 02 42 16.8 -0.9**
J30M Hart River 6.38 71 Pn 02 41 08.0 +1.5
G29M Pine Creek 6.43 49 Pn 02 41 07.2 +0.3
I30M Mount Dempster 6.46 66 Pn 02 41 07.6 +0.1
N30M Aishikik Lake 6.47 100 Pn 02 41 07.5 0.0
C24K Franklin Bluff 6.58 5 Pn 02 41 09.8 +0.9
F15K North Star Dit 6.63 298 Pn 02 41 10.1 +0.6
B21K Ikpikpuk River 6.65 347 Pn **Pn 02 41 10.6 +0.8**
C23K Itkillik River 6.66 360 Pn **Pn 02 41 11.5 +1.6**
EPYK Eagle Plains 6.67 56 Pn 02 41 10.3 +0.1
K13K Kusilvak Mount 6.69 265 Pn 02 41 10.4 0.0
M13K Dall Lake 6.72 251 Pn 02 41 11.9 +1.1
ANM Nome 6.72 288 Pn 02 41 11.8 +0.9
D17K Noatak River 6.92 316 Pn 02 41 14.9 +1.5
SII Sitkinak Islan 6.93 197 P **Pn 02 41 13.6 -0.1**
C27K Jago River 6.98 20 Pn 02 41 15.9 +1.6
C18K Utukok River 7.00 326 Pn 02 41 15.1 +0.5
RDOG Red Dog Mine 7.07 319 Pn **Pn 02 41 17.3 +1.7**
G30M tAoh Zraii Nji 7.09 52 Pn 02 41 16.0 +0.1
D27M Malcolm River 7.16 28 Pn **Pn 02 41 18.0 +1.2**
B22K Teshekpuk Lake 7.26 352 Pn **Pn 02 41 18.2 +0.2**
E29M Blow River 7.31 39 Pn 02 41 19.4 +0.6
B20K Meade River 7.33 342 Pn 02 41 19.0 +0.1
H31M Peel River 7.42 62 Pn **Pn 02 41 20.1 -0.2**
M31M Drury Creek, Y 7.45 91 Pn 02 41 20.6 -0.2
G31M Satah River 7.78 54 Pn 02 41 24.0 -1.0
CHIR Chirikof Islan 7.86 202 P **Pn 02 41 25.0 -1.3**
TNA Tin City 7.92 295 Pn 02 41 27.9 +0.9
C16K Lisburne Hills 7.95 316 Pn 02 41 28.4 +1.0
F31M Tsiigehtchic 8.16 51 Pn **Pn 02 41 29.9 -0.4**
INK Inuvik 8.62 46 Pn 02 41 36.6 +0.2
INK Inuvik 8.62 46 P **Pn 02 41 37.5 +1.1**
comp=E,2.5nm,0.7s,baz=249,slow=12,SNR=14
INK S **Sn 02 43 10.2 -1.5**
comp=E,1.8nm,0.6s,baz=197,slow=11,SNR=3.0
JIS Juneau Island 9.28 115 P **Pn 02 41 44.1 -1.2**
SIT Sitka 9.73 122 P Pn 02 41 51.4 0.0
YKA Yellowknife Ar 16.25 76 P **Pn 02 43 15.3 -0.4**
comp=E,0.9nm,0.8s,baz=286,slow=11,SNR=14
PDAR Pinedale Array 31.20 111 P **P 02 45 43.3 +0.8**
comp=E,0.9nm,0.8s,baz=316,slow=2.4,SNR=8.2
comp=E,0.9nm,0.8s
NVAR Mina Array Bea 31.45 127 P **P 02 45 45.1 +0.5**
comp=E,0.4nm,0.7s,baz=319,slow=8.6,SNR=4.6
comp=E,0.4nm,0.7s
TXAR Lajitas Array 45.14 116 P **P 02 47 41.0 +2.0**
comp=E,0.7nm,0.7s,baz=320,slow=5.5,SNR=7.4
comp=E,0.7nm,0.7s
ZALV Zalesovo Beam 55.50 324 P **P 02 48 54.5 -1.9**
comp=E,0.5nm,0.4s,baz=14,slow=6.5,SNR=2.7
comp=E,0.5nm,0.4s
EKA Eskdalemuir Ar 59.09 21 P **P 02 49 20.9 -0.7**
comp=E,1.1nm,0.9s,baz=333,slow=6.1,SNR=3.7
comp=E,1.1nm,0.9s
KURBB Kurchatov Arra 60.15 326 P **P 02 49 28.6 -0.4**
comp=E,0.3nm,0.5s,baz=28,slow=6.5,SNR=2.9
comp=E,0.3nm,0.5s
MKAR Makanchi Array 62.66 322 P **P 02 49 45.3 -0.7**
comp=E,0.3nm,0.5s,baz=39,slow=6.2,SNR=5.1
comp=E,0.3nm,0.5s

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*IDC **19** 02:46:05.2±1.4, 18°.10S×178°.30W, h609km±15km, mb2.7/6, mbtmp3.7/7, Error ellipse: s-maj=33.1km s-min=21.0km az=139.0*

ISC 19 02:46:04.3±1.1, 18°.1S±0°.2×178°.2W±0°.2, h600km, n7, σ1º00/7, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.63**	**276**	P	**P**	**02 47 27.3**	**-0.1**
	25nm,0.6s,baz=145,slow=5.0,SNR=16						
MSVF				S	**S**	**02 48 36.6**	**+1.4**
	12nm,1.1s,baz=160,slow=21,SNR=2.7						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**02 53 25.6**	**-1.1**
	0.3nm,0.4s,baz=94,slow=7.1,SNR=5.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**02 53 27.6**	**-0.2**
	0.5nm,0.5s,baz=90,slow=8.9,SNR=7.5						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**02 56 28.1**	**+0.2**
	0.8nm,0.6s,baz=266,slow=1.5,SNR=9.0						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**02 57 10.4**	**+0.6**
	0.4nm,0.7s,baz=259,slow=9.0,SNR=4.5						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**85.91**	**58**	P	P	02 57 44.0	+1.7
	0.3nm,0.7s,baz=230,slow=4.7,SNR=3.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**86.05**	**13**	P	**P**	**02 57 41.4**	**-0.6**
	0.2nm,0.4s,baz=222,slow=5.0,SNR=8.7						
	0.2nm,0.4s						

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*IDC **19** 02:48:46.4±1.1, 11°.49N×140°.76E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=50.7km s-min=23.6km az=80.0*

ISC 19 02:48:52.5±1.1, 11°.4N±0°.2×140°.8E±0°.4, h45km, n7, σ0º55/7, mb3.5/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.83**	**192**	P	**P**	**02 55 12.6**	**-0.7**
	0.7nm,0.9s,baz=8.6,slow=8.9,SNR=3.7						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**35.54**	**191**	P	**P**	**02 55 46.0**	**+0.5**
	0.2nm,0.4s,baz=3.0,slow=8.0,SNR=4.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.35**	**318**	P	**P**	**02 58 57.3**	**+0.3**
	0.3nm,0.7s,baz=98,slow=7.6,SNR=2.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**63.76**	**321**	P	**P**	**02 59 19.6**	**-0.1**
	0.9nm,0.7s,baz=105,slow=6.7,SNR=8.7						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**69.19**	**322**	P	**P**	**02 59 54.3**	**-0.2**
	0.8nm,0.6s,baz=101,slow=7.7,SNR=5.3						
	0.8nm,0.6s						
YKA	**Yellowknife Ar**	**86.56**	**27**	P	**P**	**03 01 30.4**	**-0.3**
	0.1nm,0.5s,baz=293,slow=5.3,SNR=3.7						
	0.1nm,0.5s						
LPAZ	**La Paz**	**151.49**	**103**	PKPbc	**PKiKP**	**03 08 44.4**	**+0.6**
	1.4nm,0.6s,baz=242,slow=5.0,SNR=5.7						

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*NEIC **19** 02:59:11.5±1.4, 12°.9N±0°.1×124°.0E±0°.2, h114km±8km, mb4.2/22, Error ellipse: s-maj=26.5km s-min=12.3km az=51.0*

*IDC **19** 02:59:12.2±2.9, 12°.90N×123°.98E, h124km±28km, mb3.4/13, mbtmp3.9/14, MS2.9/1, Error ellipse: s-maj=34.5km s-min=13.2km az=72.0*

ISC 19 02:59:09.7±0.6, 12°.9N±0°.1×124°.1E±0°.2, h100km, n45, σ0º76/39, mb4.1/25, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.31**	**291**	P	**Pn**	**03 00 01.0**	**+1.3**
	319nm,0.3s,baz=154,slow=7.1,SNR=9.1						
KSRS	**Korea Array**	**24.68**	**7**	P	**P**	**03 04 22.0**	**+0.8**
	2.0nm,0.7s,baz=184,slow=9.7,SNR=6.2						
	2.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**31.91**	**11**	P	**P**	**03 05 26.4**	**+0.8**
	2.2nm,0.6s,baz=196,slow=7.6,SNR=5.9						
	2.2nm,0.6s						
WB0	**Warramunga Arr**	**34.01**	**163**	P	**P**	**03 05 43.8**	**-0.4**
WB0				IAmb	IAmb	03 05 57.3	
	comp=Z,5.8nm,1.1s						
WRA	**Warramunga Arr**	**34.16**	**163**	P	**P**	**03 05 45.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=345,slow=8.2,SNR=4.8						
	comp=Z,0.6nm,0.8s						
WR8	**Warramunga Arr**	**34.22**	**162**	P	**P**	**03 05 45.8**	**-0.2**
WR8				IAmb	IAmb	03 06 07.6	
	comp=Z,6.7nm,1.2s						
ASAJ	**Asahikawa**	**34.91**	**24**	LR	LR	03 20 39.1	
	comp=Z,19nm,18.6s,baz=294,slow=37						
ASAR	**Alice Springs**	**37.59**	**165**	P	**P**	**03 06 14.1**	**-0.7**
ASAR	**Alice Springs**	**37.59**	**165**	P	**P**	**03 06 15.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=354,slow=7.8,SNR=17						
	comp=Z,1.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**41.28**	**77**	T	T	03 50 42.3	
	baz=270						
H11S1	**WAKE ISLAND Hy**	**41.30**	**77**	T	T	03 50 41.5	
	baz=270,slow=74						
H11S2	**WAKE ISLAND Hy**	**41.30**	**77**	T	T	03 50 50.2	
	baz=270,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.52**	**75**	T	T	03 51 01.9	
	baz=267,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**41.53**	**75**	T	T	03 51 03.3	
	baz=267,slow=74,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**41.54**	**75**	T	T	03 51 03.5	
	baz=267,slow=74,SNR=8.3						
BBOO	**Buckleboo**	**46.87**	**166**	P	**P**	**03 07 30.7**	**+0.8**
STKA	**Stephens Creek**	**47.58**	**160**	P	**P**	**03 07 35.7**	**+0.3**
STKA	**Stephens Creek**	**47.58**	**160**	P	**P**	**03 07 35.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=312,slow=7.9,SNR=3.5						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**48.66**	**322**	P	**P**	**03 07 43.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=125,slow=7.6,SNR=3.8						
MKAR				PcP	**PcP**	**03 09 06.7**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=138,slow=4.3,SNR=4.6						
	comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**51.31**	**331**	P	**P**	**03 08 02.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=99,slow=8.9,SNR=2.3						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**52.71**	**325**	P	**P**	**03 08 13.5**	**-0.5**
KURK				IAmb	IAmb	03 08 14.8	
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**52.72**	**325**	P	**P**	**03 08 13.4**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=120,slow=7.7,SNR=7.2						
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**58.31**	**325**	P	**P**	**03 08 54.0**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=131,slow=10,SNR=2.7						
	comp=Z,0.7nm,0.7s						
BRVK	**Borovoye**	**58.38**	**325**	P	**P**	**03 08 53.5**	**-1.0**
BRVK				IAmb	IAmb	03 09 00.5	
	comp=Z,2.4nm,1.2s						
C16K	**Lisburne Hills**	**70.92**	**22**	P	**P**	**03 10 15.8**	**+0.1**
C16K				IAmb	IAmb	03 10 24.7	
	comp=Z,4.3nm,1.5s						
OXZ	**Oxford**	**71.03**	**145**	P	**P**	**03 10 16.8**	**0.0**
F17K	**Baldwin Pennin**	**72.12**	**24**	P	**P**	**03 10 24.4**	**+1.4**
M16K	**Timber Creek**	**72.47**	**30**	P	**P**	**03 10 25.1**	**-0.1**
C18K	**Utukok River**	**72.49**	**22**	P	**P**	**03 10 25.7**	**+0.4**
E18K	**Tukpahlearik C**	**72.52**	**23**	P	**P**	**03 10 26.3**	**+0.9**
E18K				IAmb	IAmb	03 10 51.0	
	comp=Z,5.0nm,1.4s						
J17K	**VABM Dome**	**72.64**	**27**	P	**P**	**03 10 26.6**	**+0.4**
J17K				IAmb	IAmb	03 10 38.8	
	comp=Z,6.1nm,1.1s						
G18K	**Tagagawik**	**73.09**	**25**	P	**P**	**03 10 28.6**	**-0.3**
H18K	**Honhosa River**	**73.13**	**26**	P	**P**	**03 10 29.0**	**-0.1**
H18K				IAmb	IAmb	03 11 12.5	
	comp=Z,5.3nm,1.4s						
D19K	**Kuna River**	**73.59**	**22**	P	**P**	**03 10 32.5**	**+0.7**
D19K				IAmb	IAmb	03 10 34.3	
	comp=Z,9.1nm,1.5s						

L18K Granite Mounta 73.64 29 P P 03 10 33.1 +1.0
L18K IAmb IAmb 03 11 03.7
comp=Z,7.8nm,1.5s
E19K Redstone River 73.81 23 P P 03 10 33.4 +0.4
E19K IAmb IAmb 03 11 14.0
comp=Z,5.9nm,1.5s
H19K Roundabout Mou 73.96 25 P P 03 10 34.9 +1.1
H19K IAmb IAmb 03 10 35.7
comp=Z,2.8nm,0.8s
B20K Meade River 74.10 21 P P 03 10 35.7 +1.1
J20K Nowinta River 74.88 27 P P 03 10 40.5 +1.2
KIV Kislovodsk 75.02 312 P P 03 10 39.8 -0.9
ILAR Eielson Array 78.00 26 P P 03 10 55.8 -1.1
comp=Z,0.3nm,0.8s,baz=248,slow=6.1,SNR=2.5
comp=Z,0.3nm,0.8s
SPITS Spitsbergen Ar 81.03 349 P P 03 11 12.9 -0.2
comp=Z,8.2nm,1.0s,baz=80,slow=7.9,SNR=7.0
comp=Z,8.2nm,1.0s
FINES FINESS Array B 82.58 331 P P 03 11 20.5 -1.0
comp=Z,0.4nm,0.4s,baz=93,slow=5.6,SNR=3.8
comp=Z,0.4nm,0.4s
YKA Yellowknife Ar 92.20 23 P P 03 12 08.2 +0.2
comp=Z,0.2nm,0.5s,baz=299,slow=4.6,SNR=6.6
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 117.64 47 PKP PKPdf 03 17 45.2 +0.3
comp=Z,0.1nm,0.5s,baz=11,slow=2.0,SNR=4.3

*IDC **19** 03:01:52.5±1.6,2°.43N×128°.97E,h0km,mb3.8/5, mbtmp3.8/5,MS3.2/2,Error ellipse: s-maj=135.4km s-min=19.1km az=67.0*
*NEIC **19** 03:02:00.5±1.8,2°.1N±0°.1×128°.7E±0°.1,h35km±2km, mb4.2/12,Error ellipse: s-maj=21.3km s-min=18.0km az=284.0*
*DJA **19** 03:02:12.1±1.0,2°.N±4°×12°.8E±°,h20km±13km,M3.6/6, MLv3.6/6*
ISC 19 03:01:59.6±0.7,2°.18N±0°.10×128°.7E±0°.1,h35km,n25, σ1§26/23,mb4.0/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.93**	**223**	Pn	**Pn**	**03 02 30.4**	**+0.5**
TNTI	**Ternate**	**1.93**	**223**	P	Pn	03 02 35.8	+5.9
TNTI				S	**Sn**	**03 02 53.7**	**+0.8**
TOLI2	**Tolitoli**	**7.98**	**262**	Pn	**Pn**	**03 03 54.5**	**+1.4**
WB0	**Warramunga Arr**	**22.52**	**166**	P	**P**	**03 06 56.4**	**-0.1**
WB0				IAmb	IAmb	03 07 11.8	
comp=Z,6.9nm,1.2s
WRA Warramunga Arr 22.67 166 P P 03 06 57.1 -1.1
WRA Warramunga Arr 22.67 166 P P 03 06 58.0 -0.2
comp=Z,1.0nm,0.5s,baz=347,slow=11,SNR=11
comp=Z,1.0nm,0.5s
WB2 Warramunga Arr 22.68 166 P P 03 06 57.6 -0.5
WB2 IAmb IAmb 03 07 11.8
comp=Z,5.9nm,1.2s
WR8 Warramunga Arr 22.72 166 P P 03 06 58.5 -0.2
WR8 IAmb IAmb 03 07 03.7
comp=Z,7.2nm,1.3s
ASAR Alice Springs 26.19 169 P P 03 07 29.9 -1.2
comp=Z,0.4nm,0.6s,baz=354,slow=8.2,SNR=4.8
comp=Z,0.4nm,0.6s
JCJ Chichijima 27.95 26 LR LR 03 16 52.8
comp=Z,30nm,19.7s,baz=113,slow=33
BBOO Buckleboo 35.49 169 P P 03 08 51.8 -1.3
BBOO IAmb IAmb 03 09 08.0
comp=Z,13nm,1.4s
STKA Stephens Creek 36.02 161 P P 03 08 56.9 -0.7
STKA Stephens Creek 36.02 161 P P 03 08 56.9 -0.7
comp=Z,2.4nm,0.4s,baz=343,slow=8.3,SNR=11
comp=Z,2.4nm,0.4s
MKAR Makanchi Array 59.94 325 P P 03 12 00.5 -1.9
MKAR Makanchi Array 59.94 325 P P 03 12 00.7 -1.7
comp=Z,0.4nm,0.3s,baz=116,slow=7.9,SNR=10
comp=Z,0.4nm,0.3s
PLWZ Palliser 60.62 141 P P 03 12 07.9 +0.8
NIUE Niue 63.87 112 P P 03 12 30.8 +1.6
KURBB Kurchatov Arra 64.09 327 P P 03 12 27.9 -2.3
comp=Z,0.3nm,0.4s,baz=133,slow=5.5,SNR=5.5
comp=Z,0.3nm,0.4s
C18K Utukok River 80.81 20 P P 03 14 09.5 -0.1
L18K Granite Mounta 80.94 27 P P 03 14 11.1 +0.9
L18K IAmb IAmb 03 14 22.2
comp=Z,6.8nm,1.5s
Q19K Cape Douglas, 81.78 31 P P 03 14 17.2 +2.4
D19K Kuna River 81.86 21 P P 03 14 15.4 +0.3
D19K IAmb IAmb 03 14 25.0
comp=Z,2.0nm,1.2s
B21K Ikpikpuk River 83.34 20 P P 03 14 23.4 +0.8
INK Inuvik 90.87 22 LR LR 03 58 44.6
comp=Z,23nm,19.6s,baz=252,slow=38
QSPA South Pole Qui 92.09 180 P P 03 15 04.1 -1.0

*SDD **19** 03:20:33.6±0.5,18°.32N×68°.88W,h82km±7km,MD2.3, ML2.2,MW2.5*
*RSPR **19** 03:20:34.9,18°.13N×68°.98W,h9km±2km,MD3.2/5*
*NEIC **19** 03:20:35.1±1.8,18°.1N±0°.1×68°.93W±0°.03,h35km±2km, ML2.4/14,Md3.2/5(RSPR),Error ellipse: s-maj=17.4km s-min=4.1km az=356.0*
ISC 19 03:20:32.2±1.4,18°.5N±0°.2×68°.94W±0°.07,h100km,n29, σ1§93/31,2C-5D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.22**	**69**	⇓*eP*	**Pn**	**03 20 44.8**	**-1.7**
HIDR	**Higuey Centro**	**0.22**	**69**	*eS*	**Sn**	**03 20 52.8**	**-4.4**
MIDR	**Miches**	**0.48**	**347**	*ePg*	**Pn**	**03 20 48.3**	**+0.4**
MIDR				*eSg*	**Sn**	**03 20 59.5**	**0.0**
MIDR				IAML		03 20 59.7	
comp=N,54nm,0.4s
MIDR IAML 03 20 59.9
comp=N,52nm,0.2s
HATOM Hato Mayor del 0.50 303 *ePg* Pn 03 20 48.6 +0.5
HATOM *eSg* **Sn 03 20 59.2 -0.8**
HATOM IAML 03 20 59.7
comp=N,41nm,0.1s
PCDR Punta Cana, DR 0.53 90 Pn 03 20 46.9 -1.3
PCDR Punta Cana, DR 0.53 90 IAML 03 20 54.3
comp=N,118nm,1.8s
PCDR **Sn 03 20 56.8 -3.4**
PCDR IAML 03 20 57.1
comp=E,63nm,1.7s
PCDR Punta Cana, DR 0.53 90 *ePg* Pn 03 20 46.9 -1.3
PCDR *eSg* **Sn 03 20 56.7 -3.4**
PCDR IAML 03 21 37.1
comp=N,117nm,1.4s
PCDR Punta Cana, DR 0.53 90⇑*eP* Pn 03 20 46.9 -1.3
PCDR Punta Cana, DR 0.53 90 *eS* Sn 03 20 57.1 -3.1
CRPR Cabo Rojo, PR 1.81 106 Pn 03 21 03.4 +1.1
CRPR Cabo Rojo, PR 1.81 106 Sn 03 21 24.0 -1.2
CRPR Cabo Rojo, PR 1.81 106 IAML 03 21 16.7
comp=E,36nm,2.5s
CRPR IAML 03 21 17.7
comp=N,42nm,3.0s
CRPR Cabo Rojo, PR 1.81 106⇓*eP* Pn 03 21 03.4 +1.1
CRPR Cabo Rojo, PR 1.81 106 *eS* Sn 03 21 24.0 -1.2
MLPR Magueyes Islan 1.88 106⇓*eP* Pn 03 21 03.9 +0.7
MLPR Magueyes Islan 1.88 106 *eS* Sn 03 21 26.3 -0.5
AOPR Arecibo Observ 2.08 94 Pn 03 21 07.6 +1.8
AOPR Arecibo Observ 2.08 94 Sn 03 21 32.1 +0.6
AOPR IAML 03 21 50.4
comp=N,32nm,1.6s
AOPR Arecibo Observ 2.08 94⇑*eP* Pn 03 21 07.6 +1.8
AOPR Arecibo Observ 2.08 94 *eS* Sn 03 21 34.0 +2.5
UUPR Utuado, UPR, P 2.12 97 Pn 03 21 08.1 +1.8
UUPR Utuado, UPR, P 2.12 97⇓*eP* Pn 03 21 09.2 +2.8
UUPR Utuado, UPR, P 2.12 97 *eS* Sn 03 21 34.6 +2.1
SDDR Presa de Saban 2.28 282 Pn **Pn 03 21 11.3 +2.9**
SDDR IAML 03 21 30.4
comp=N,14nm,3.4s
CELP Cerrillos 2.28 101 Pn 03 21 08.9 +0.4
CELP IAML 03 21 41.4
comp=E,16nm,3.5s
CELP Cerrillos 2.28 101 Sn 03 21 36.7 +0.4
CELP Cerrillos 2.28 101⇓*eP* Pn 03 21 09.6 +1.1
CELP Cerrillos 2.28 101 *eS* Sn 03 21 36.7 +0.4
SJG San Juan 2.68 98 Pn **Pn 03 21 14.1 +0.4**
SJG IAML 03 22 00.3
comp=E,15nm,3.3s
SJG IAML 03 22 41.1
comp=E,14nm,3.5s

*NEIC **19** 03:20:44.3±1.1,60°.70N±0°.03×151°.63W±0°.06,h75km±4km, Error ellipse: s-maj=4.1km s-min=3.9km az=160.0*
AEIC 19 03:20:45.0±1.0,60°.70N±0°.02×151°.62W±0°.05,h74km±4km, ML2.6,ML2.8/138(NEIC),**Error ellipse: s-maj=4.0km s-min=2.5km az=106.0,Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.24**	**72**		Pn	03 20 57.0	+0.8
RDT	**Redoubt**	**0.41**	**253**		Pn	03 20 56.5	-0.9
RDT					Sn	03 21 06.0	-0.6
DFR	**Drift River**	**0.54**	**259**		Pn	03 20 57.8	-0.8
DFR					Sn	03 21 08.4	-0.2
SPCR	**Spurr Chakacha**	**0.58**	**331**		Pn	03 20 58.2	-0.8
RDJH	**Redoubt Jeurge**	**0.59**	**260**		Pn	03 20 58.6	-0.6
RDSO	**Redoubt South**	**0.60**	**247**		Pn	03 20 58.4	-0.9
RDSO					Sn	03 21 09.8	-0.1
SPCG	**Spurr Capps Gl**	**0.63**	**342**		Pn	03 20 58.8	-0.7
SPCG					Sn	03 21 10.4	+0.1
RED	**Redoubt Volcan**	**0.63**	**245**		Pn	03 20 58.7	-0.8
RDWB	**Redoubt West**	**0.64**	**252**		Pn	03 20 59.1	-0.6
NCT	**North Crescent**	**0.66**	**259**		Pn	03 20 59.2	-0.6
SPBG	**Spurr Blockage**	**0.68**	**327**		Pn	03 20 59.4	-0.6
SLKM	**Skilak Lake**	**0.71**	**105**		Pn	03 20 59.3	-1.1
SLKM	**Skilak Lake**	**0.71**	**105**		Sn	03 21 11.0	-0.8
O20K	**Slope Mountain**	**0.79**	**219**		Pn	03 21 01.0	-0.3
STLK	**Strandline Lak**	**0.81**	**353**		Pn	03 21 00.8	-0.7
STLK				IAML		03 21 15.9	
comp=E,136nm,0.4s
SUA Susitna One 0.88 28 Pn 03 21 01.8 -0.6
SUA Susitna One 0.88 28 Sn 03 21 15.3 +0.1
O22K Cooper Landing 0.96 102 Pn 03 21 03.1 -0.1
RC01 Rabbit Creek A 1.00 66 Pn 03 21 03.0 -0.7
RC01 IAML 03 21 17.9
comp=N,223nm,0.4s
RC01 IAML 03 21 19.9
comp=E,262nm,0.3s
RC01 Rabbit Creek A 1.00 66 Sn 03 21 17.6 0.0
BRLK Bradley Lake 1.00 158 Pn 03 21 03.0 -0.7
BRLK IAML 03 21 18.9
comp=E,174nm,0.1s
BRLK IAML 03 21 20.1
comp=N,233nm,0.1s
ILS Iliamna Low So 1.03 225 Pn 03 21 03.7 -0.4
HOM Homer 1.04 181 Pn 03 21 03.9 -0.2
HOM Homer 1.04 181 IAML 03 21 21.7
comp=N,287nm,0.8s
ILSW Iliamna Southw 1.04 227 Pn 03 21 03.9 -0.4
ILSW IAML 03 21 20.4
comp=E,208nm,0.7s
ILSW IAML 03 21 20.4
comp=N,160nm,0.3s
ILSW Iliamna Southw 1.04 227 Sn 03 21 19.1 +0.4
BRSE Bradley Lake S 1.05 155 Pn 03 21 03.6 -0.8
CNPM China Poot 1.19 171 Pn 03 21 05.3 -0.7
CNPM IAML 03 21 22.0
comp=E,129nm,0.4s
CNPM IAML 03 21 28.5
comp=N,98nm,0.4s
CNPM China Poot 1.19 171 Sn 03 21 21.5 -0.3
SEW Seward 1.23 118 Pn 03 21 05.8 -0.7
M22K Willow 1.29 34 Pn 03 21 07.4 +0.2
M22K **Sn 03 21 24.7 +0.8**
SKT Skwentna 1.29 2 Pn 03 21 07.0 -0.3
SKT IAML 03 21 25.1
comp=E,227nm,0.4s
SKT IAML 03 21 25.7
comp=N,187nm,0.3s
P19K Oil Pt 1.32 218 Sn 03 21 24.4 -0.4
P19K Oil Pt 1.32 218 Pn 03 21 07.7 -0.1
M20K Styx River 1.40 329 Pn 03 21 08.4 -0.4
N19K Bonanza Creek 1.41 276 Pn 03 21 08.0 -1.0
N19K IAML 03 21 26.8
comp=N,196nm,0.4s
O19K Port Alsworth 1.43 251 Pn 03 21 07.9 -1.2
O19K Port Alsworth 1.43 251 Sn 03 21 26.5 -0.7
PMR Palmer 1.51 52 Pn 03 21 09.4 -0.6
PMR IAML 03 21 33.0
comp=N,103nm,0.2s
PMR IAML 03 21 33.5
comp=E,80nm,0.6s
AU22 Augustine Moun 1.59 214 Pn 03 21 11.3 +0.1
AUL Augustine Lava 1.60 215 Pn 03 21 11.7 +0.3
PWL Port Wells 1.62 83 Pn 03 21 10.7 -1.0
PWL IAML 03 21 34.9
comp=E,133nm,0.6s
PWL IAML 03 21 36.9
comp=N,146nm,0.8s
GHO Glory Hole Cre 1.69 49 Pn 03 21 11.7 -0.9
GHO IAML 03 21 37.7
comp=E,139nm,0.4s
GHO IAML 03 21 37.7
comp=N,142nm,0.5s
KNK Knik Glacier 1.70 64 Pn 03 21 11.7 -1.0
KNK IAML 03 21 39.4
comp=E,144nm,0.9s
KNK IAML 03 21 40.4
comp=N,135nm,0.6s
KNK Knik Glacier 1.70 64 Sn 03 21 32.8 -0.9
M19K Big River Lodg 1.81 313 Pn 03 21 13.5 -0.6
M19K IAML 03 21 36.2
comp=E,47nm,0.7s
CUT Chulitna 1.83 20 Pn 03 21 14.7 +0.2
SML Sawmill 1.94 53 Pn **Pn 03 21 14.8 -1.1**
SML IAML 03 21 46.7
comp=N,76nm,0.8s
SML IAML 03 21 48.1
comp=E,77nm,0.8s
O18K Koktuh Hills 1.98 246 Pn 03 21 15.1 -1.3
O18K **Sn 03 21 38.6 -1.7**
O18K Koktuh Hills 1.98 246 IAML 03 21 39.4
comp=N,52nm,0.7s
O18K IAML 03 21 40.0
comp=E,43nm,0.2s
Q19K Cape Douglas, 2.05 211 Pn 03 21 16.7 -0.7
L20K Farewell, AK 2.09 330 Pn 03 21 17.4 -0.5
N18K Kilae Creek 2.10 271 Pn 03 21 16.8 -1.2
N18K Kilae Creek 2.10 271 IAML 03 21 42.0
comp=N,58nm,0.8s
N18K IAML 03 21 42.1
comp=E,40nm,0.2s
SYI Shuyak Island 2.13 191 Pn 03 21 18.1 -0.3
SYI **Sn 03 21 43.1 -0.8**
SYI Shuyak Island 2.13 191 IAML 03 21 49.5
comp=E,79nm,0.6s
SYI IAML 03 21 51.3
comp=N,51nm,0.6s
L19K White Mountain 2.15 315 Pn 03 21 18.5 -0.3
M23K Glacier View 2.18 58 Pn 03 21 18.1 -1.1
M18K Stony River 2.19 293 Pn 03 21 18.3 -0.9
P23K Montague Islan 2.21 107 Pn 03 21 17.9 -1.6
P23K **Sn 03 21 43.6 -2.2**
PPLA Purkeypile 2.23 353 Pn 03 21 19.8 -0.1
P18K Big Mountain, 2.23 236 Pn 03 21 18.6 -1.2
SCM Sheep Creek Mo 2.37 59 Pn 03 21 20.7 -1.0
SCM IAML 03 21 58.8
comp=E,61nm,1.2s
SCM IAML 03 22 04.3
comp=N,48nm,0.8s
KAHG Katmai Hook Gl 2.66 215 Pn 03 21 25.4 -0.3
KAHC Katmai Hardscr 2.68 221 Pn 03 21 25.1 -0.8
N17K Nushagak Hills 2.75 269 Pn 03 21 25.8 -0.9
N17K **Sn 03 21 57.0 -1.9**
N17K Nushagak Hills 2.75 269 IAML 03 21 57.6
comp=E,26nm,0.4s
N17K IAML 03 21 58.3
comp=N,23nm,0.6s
TRF Thorofare Moun 2.83 12 Pn 03 21 28.2 +0.1
TRF Thorofare Moun 2.83 12 IAML 03 22 05.9
comp=N,55nm,0.6s
TRF IAML 03 22 08.1
comp=E,40nm,0.5s
P17K Kvichak River 2.85 240 Pn 03 21 27.7 -0.5
P17K **Sn 03 22 00.5 -0.9**
L18K Granite Mounta 2.87 304 Pn 03 21 27.8 -0.7
L18K Granite Mounta 2.87 304 IAML 03 22 01.3
comp=N,23nm,0.8s
KLU Klutina 2.88 71 Pn 03 21 27.3 -1.3
KLU IAML 03 22 01.0
comp=N,35nm,0.4s
KLU IAML 03 22 02.2
comp=E,43nm,0.3s
O17K Koliganek Bris 2.88 254 Pn 03 21 27.7 -0.9
KTH Kantishna Hill 2.89 6 Pn 03 21 28.7 0.0
KTH Kantishna Hill 2.89 6 IAML 03 22 07.8
comp=E,39nm,0.9s
KTH IAML 03 22 08.1
comp=N,33nm,1.0s
DIV Divide 2.89 79 Pn 03 21 26.8 -1.9
DIV **Sn 03 21 59.3 -3.1**
K20K Telida 2.91 338 Pn 03 21 28.6 -0.4
M17K Holitna River 2.92 287 Pn 03 21 28.2 -0.9
M17K **Sn 03 22 01.5 -1.4**
M17K Holitna River 2.92 287 IAML 03 22 03.0
comp=N,48nm,0.9s
M17K IAML 03 22 20.1
comp=E,42nm,0.8s
KDAK Kodiak Island 2.96 190 Pn 03 21 27.8 -1.9
KDAK Kodiak Island 2.96 190 IAML 03 22 02.1
comp=E,15nm,1.1s
KDAK IAML 03 22 12.8
comp=E,16nm,0.8s
KAKN Katmai Knife C 2.98 218 Pn 03 21 29.3 -0.6
M24K Tolsona, Glenn 2.98 59 Pn 03 21 29.5 -0.4
M24K IAML 03 22 20.9
comp=E,45nm,0.7s
ACHA Angle Creek He 3.13 219 Pn 03 21 31.7 -0.3
ANCK Angle Creek 3.19 220 Pn 03 21 32.4 -0.4
Q16K King Salmon 3.26 234 Pn 03 21 33.6 0.0
O16K Kokwok River B 3.42 254 Pn 03 21 35.0 -0.8
O16K Kokwok River B 3.42 254 IAML 03 22 29.3
comp=E,12nm,1.0s
BPAW Bear Paw Mtn. 3.43 5 Pn **Pn 03 21 35.6 -0.5**
BPAW IAML 03 22 18.5
comp=N,24nm,0.4s
BPAW IAML 03 22 18.6
comp=E,22nm,0.8s
BMRM Bremner River 3.44 82 Pn 03 21 33.8 -2.5
L17K Donlin 3.52 297 Pn 03 21 36.4 -0.8
N25K Chitina, Valde 3.52 72 Pn 03 21 35.8 -1.6
N25K **Sn 03 22 16.7 -1.2**
N25K Chitina, Valde 3.52 72 IAML 03 22 17.6
comp=N,24nm,0.9s
N25K IAML 03 22 17.8
comp=E,16nm,1.1s
HARP HAARP 3.53 58 Pn 03 21 36.8 -0.7
N16K Nishlik Lake 3.54 270 Pn 03 21 36.9 -0.6
N16K **Sn 03 22 16.8 -1.2**
OHAK Old Harbor 3.59 195 Pn 03 21 36.2 -2.0
OHAK Old Harbor 3.59 195 IAML 03 22 16.5
comp=E,9.3nm,0.9s
M16K Timber Creek 3.61 278 Pn 03 21 37.7 -0.7
M16K Timber Creek 3.61 278 IAML 03 22 31.0
comp=E,12nm,0.9s
M16K IAML 03 22 31.3
comp=N,12nm,1.1s
P16K Nushagak River 3.62 245 Pn 03 21 38.2 -0.4
J18K Innoko River 3.67 321 Pn 03 21 38.9 -0.4
J20K Nowinta River 3.69 343 Pn 03 21 39.0 -0.5
WACK Wrangell Chich 3.74 67 Pn 03 21 39.1 -1.3
K17K Iditarod 3.77 305 Pn 03 21 40.0 -0.7
K17K Iditarod 3.77 305 IAML 03 22 23.2
comp=E,22nm,0.6s
K17K IAML 03 22 39.2
comp=N,17nm,1.1s
WASW Wrangell South 3.80 68 Pn 03 21 39.9 -1.3
J19K Poorman 3.80 332 Pn 03 21 40.4 -0.6
GLB Gilahina Butte 3.87 75 Pn 03 21 40.1 -1.9
GLB Gilahina Butte 3.87 75 IAML 03 22 30.6
comp=N,11nm,1.1s
GLB IAML 03 22 42.5
comp=E,6.8nm,1.0s
L16K Owhat River 3.94 288 Pn 03 21 42.0 -0.9
L16K Owhat River 3.94 288 IAML 03 22 43.4
comp=N,7.3nm,0.8s
K24K Donnelly Dome 4.15 39 Pn 03 21 45.2 -0.6
N15K Kwethluk River 4.23 267 Pn 03 21 46.2 -0.7
N15K Kwethluk River 4.23 267 IAML 03 22 36.0
comp=N,16nm,0.7s
N15K IAML 03 22 36.0
comp=E,14nm,1.1s
Q15K Ungalikthiuk R 4.40 253 Pn 03 21 48.6 -0.6
RIDG Independent Ri 4.40 43 Pn 03 21 49.7 +0.4
J17K VABM Dome 4.43 311 Pn 03 21 49.1 -0.6
M15K Kasigluk River 4.46 274 Pn 03 21 49.2 -0.8
M26K Nabesna, AK 4.47 64 Pn 03 21 49.2 -0.9
M26K Nabesna, AK 4.47 64 IAML 03 22 54.7
comp=N,5.1nm,1.1s
M26K IAML 03 23 01.8
comp=E,4.9nm,1.1s
I23K Minto, Yukon-K 4.59 12 Pn 03 21 51.5 -0.2
I23K Minto, Yukon-K 4.59 12 IAML 03 23 11.8
comp=E,4.5nm,1.2s
I23K IAML 03 23 16.2
comp=N,4.7nm,0.9s
DOT Dot Lake 4.62 47 Pn 03 21 51.4 -0.8
IL31 4.63 26 Pn 03 21 52.2 -0.1
SCRK Sand Creek 4.85 44 Pn 03 21 54.4 -1.1
SCRK Sand Creek 4.85 44 IAML 03 23 05.4
comp=N,6.7nm,0.7s
SCRK IAML 03 23 13.2
comp=E,6.6nm,1.1s
J25K Salcha River, 4.87 34 Pn 03 21 55.2 -0.5
M27K Edge Creek, AK 4.95 66 Pn 03 21 56.2 -0.7
M27K Edge Creek, AK 4.95 66 IAML 03 23 46.6
comp=E,3.7nm,1.1s
J16K Anvik River 4.97 305 Pn 03 21 56.5 -0.5
H21K Melozitna Rive 5.01 354 Pn 03 21 57.4 -0.1
K15K Wolf Creek Mou 5.01 293 Pn 03 21 56.5 -1.0
H20K Anotleneega Mo 5.04 344 Pn 03 21 56.8 -1.1
M14K Bethel 5.08 275 Pn 03 21 57.3 -1.1
M14K Bethel 5.08 275 IAML 03 24 06.1
comp=E,7.0nm,1.2s
H23K Yukon River 5.24 9 Pn 03 22 00.1 -0.5
YUK2 White River 5.32 73 Pn 03 22 00.5 -1.3
J26L Joseph Creek 5.33 41 Pn 03 22 01.4 -0.5
J26L Joseph Creek 5.33 41 IAML 03 23 12.1
comp=N,5.4nm,0.6s
L14K Kuka Creek 5.42 282 Pn 03 22 02.1 -1.0
H18K Honhosa River 5.43 328 Pn 03 22 02.4 -0.9
YUK3 Moose Creek 5.50 74 Pn 03 22 03.2 -1.2
PRP Porcupine Dome 5.57 27 Pn 03 22 05.7 +0.4
O28M Mount Upton 5.61 84 Pn 03 22 04.8 -1.2
H17K Granite Mounta 5.70 322 Pn 03 22 07.7 +0.7
G21K Allakaket 5.90 353 Pn 03 22 08.4 -1.3
G23K Bananza Creek 6.08 6 Pn 03 22 12.8 +0.6
F20K Avaraart Lake 6.63 346 Pn 03 22 19.5 -0.1

*NNC **19** 03:24:30.9±0.9,42°.98N×74°.88E,h0km,mb3.1,mpv2.3, Error ellipse: s-maj=12.7km s-min=3.8km az=4.0, Suspected Mining explosion.*
*KNET **19** 03:24:31.7±0.3,43°.04N×74°.90E,h7km±4km,ml1.2,Error ellipse: s-maj=1.5km s-min=1.1km az=34.0*
*SOME **19** 03:24:31.8,43°.08N×74°.93E*
ISC 19 03:24:31.0±0.9,42°.99N±0°.04×74°.92E±0°.02,h0km,n14, σ0§87/26,11C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.12**	**275**	⇑P	**Pg**	**03 24 34.4**	**+1.1**
CHMS	14nm,0.1s,SNR=60			⇑S	**Sg**	**03 24 36.5**	**+1.6**
CHMS	**Chumysh**	**0.12**	**275**	⇑P	**Pg**	**03 24 31.9**	**-1.5**
CHMS	30nm,0.1s 0.1nm,0.2s			⇑S	**Sg**	**03 24 34.6**	**-0.3**
KBK	**Karagaybulak**	**0.33**	**176**	⇑P	**Pb**	**03 24 39.8**	**0.0**
KBK	34nm,0.6s 11nm,0.1s,SNR=28			⇑S	**Sb**	**03 24 46.0**	**+0.1**
USP	**Ospenovka**	**0.41**	**313**	⇑P	**Pg**	**03 24 39.2**	**+0.3**
USP	26nm,0.3s 6.7nm,0.1s,SNR=57			⇑S	**Sg**	**03 24 44.7**	**+0.4**
AAK	**Ala-Archa**	**0.47**	**222**	⇓P	**Pb**	**03 24 41.6**	**-0.7**
AAK	13nm,0.2s 1.5nm,0.1s,SNR=7.7			⇓S	**Sb**	**03 24 49.0**	**-0.7**
TKM2	**Tokmak 2**	**0.50**	**97**	⇓P	**Pb**	**03 24 42.1**	**-0.8**
TKM2	11nm,0.3s 3.1nm,0.1s,SNR=6.3			⇑S	**Sb**	**03 24 49.4**	**-1.5**
TKM2	**Tokmak 2**	**0.50**	**97**	⇑P	**Pg**	**03 24 41.1**	**+0.5**
TKM2	7.6nm,0.1s 0.5nm,0.3s			⇑S	**Sg**	**03 24 49.0**	**+1.8**
	0.5nm,0.2s						

DGS	**Degeres**	0.68	68	P	Pg	03 24 43.9	0.0
	3.3nm,0.4s						
DGS				S	Sg	03 24 52.7	0.0
	5.1nm,0.5s						
KST	**Kastek**	0.77	85	P	Pb	03 24 46.7	-0.6
	4.7nm,0.7s						
KST				S	Sb	03 24 57.5	-0.9
	8.4nm,0.6s						
EKS2	**Erkin-Say**	0.90	249	⇓P	Pb	03 24 49.1	-0.4
	1.1nm,0.1s,SNR=7.0						
EKS2				⇓S	Sb	03 25 02.6	+0.5
	2.7nm,0.3s						
TNSS	**Tian-Shan**	1.49	87	P	Pg	03 24 59.7	+0.1
	2.9nm,0.2s						
TNSS				S	Sn	03 25 19.8	0.0
	3.6nm,0.4s						
CHKK	**Chushkaly**	1.74	59	P	Pg	03 25 04.7	+0.4
	3.2nm,0.3s						
CHKK				S	Sg	03 25 28.2	+1.3
	5.2nm,0.2s						
BTLS	**Baital**	2.15	343	Pg	Pb	03 25 10.9	+0.1
	1.1nm,0.1s						
BTLS				Lg	Lg	03 25 38.8	
	4.4nm,0.6s						
ARXS	**Arharly**	2.44	59	Pg	Pb	03 25 15.3	-0.6
	2.1nm,0.4s						
ARXS				Lg	Lg	03 25 47.6	
	6.3nm,0.6s						

MOS ***19*** *03:26:26.8±0.9, 54°.27S×7°.91E, h10km, mb5.1/19, Error ellipse: s-maj=24.9km s-min=10.4km az=83.5*
IDC ***19*** *03:26:26.1±0.4, 54°.18S×8°.14E, h0km, mb4.7/14, mbtmp4.7/15, ML4.2/1, MS4.4/42, Error ellipse: s-maj=18.4km s-min=15.7km az=77.0*
NEIC ***19*** *03:26:28.6±1.9, 54°.3S±0°.1×7°.9E±0°.2, h10km±1km, mb5.2/57, Error ellipse: s-maj=19.1km s-min=16.6km az=112.0*
GCMT ***19*** *03:26:29.6±0.1, 54°.19S±0°.01×8°.35E±0°.02, h12km, MW5.1/148, Moment Tensor Solution. s63,c77; s148,c232; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=5.27±.08; Mθθ=4.80±.07; Mφφ=0.46±.08; Mrθ=1.01±.25; Mθφ=-1.27±.07; Mφr=0.49±.29; Best double couple: M0=5.32700×10^16^ NP1:φs=103.00000°, δ=39.00000°, λ=93.00000°. NP2:φs=287.00000°, δ=51.00000°, λ=87.00000°. Principal axes: T 5.2610, Plg=6.0000°, Azm=15.0000°; N 0.1300, Plg=2.0000°, Azm=106.0000°; P -5.3940, Plg=84.0000°, Azm=215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 03:26:27.9±0.3, 54°.25S±0°.05×8°.05E±0°.07, h10km, n247, σ1§25/208, **mb5.1**/42, **MS4.4**/43, **6C-6D, Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**16.67**	**176**	*e*P	**Pn**	**03 30 21.4**	**+0.2**
NVL				*e*S	**Sn**	**03 33 26.8**	**+0.8**
NVL				pmax	pmax		
	comp=Z,43nm,0.8s						
NVL				MLR	MLR		
	comp=Z,1μm,18.0s						
TROLL	**Troll, Antarti**	**17.99**	**186**	⇓P	**P**	**03 30 39.0**	**+0.6**
	comp=Z,2μm,0.6s						
VNA1	**Neumayer--Stat**	**17.99**	**198**	⇓P	**P**	**03 30 39.9**	**+1.7**
	comp=Z,54nm,1.2s						
VNA2	**Neumayer--Watz**	**18.08**	**196**	⇓P	**Pn**	**03 30 38.9**	**+0.1**
	comp=Z,18nm,0.7s,baz=22,slow=12						
SNAA	**Sanae**	**18.12**	**191**	P	**P**	**03 30 40.6**	**+0.9**
SNAA	**Sanae**	**18.12**	**191**	⇓P	**P**	**03 30 40.4**	**+0.7**
	comp=Z,1μm,0.9s						
SNAA	**Sanae**	**18.12**	**191**	P	**P**	**03 30 41.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=10,slow=10,SNR=50						
SNAA				S	Sn	03 33 46.9	-14
	comp=Z,2.0nm,0.4s,baz=139,slow=23,SNR=5.6						
SNAA				LR	LR	03 35 59.1	
	comp=Z,3μm,22.0s,baz=72,slow=32						
	comp=Z,48nm,0.9s						
SNAA	**Sanae**	**18.12**	**191**	*i* P	**Pn**	**03 30 38.1**	**-1.3**
SNAA				pmax	pmax		
	comp=Z,44nm,0.9s						
VNA3	**Neumayer Olymp**	**18.74**	**198**	⇓P	**Pn**	**03 30 46.7**	**-0.2**
	comp=Z,46nm,0.7s						
SYO	**Syowa Base**	**20.69**	**148**	⇓*i*P	**P**	**03 31 06.2**	**-1.5**
SYO	**Syowa Base**	**20.69**	**148**	⇑*i*pP	pP	03 31 09.0	-0.4
SUR	**Sutherland**	**23.67**	**28**	P	**P**	**03 31 40.8**	**+1.1**
SUR	**Sutherland**	**23.67**	**28**	LR	LR	03 38 29.2	
	comp=Z,1μm,21.3s,baz=190,slow=31						
BELA	**Belgrano 2**	**28.04**	**198**	P	**P**	**03 32 19.1**	**+0.3**
BELA				IAmb	IAmb	03 32 29.0	
	comp=Z,74nm,1.4s						
H04S2	**CROZET ISLANDS**	**28.43**	**93**	T	T	04 02 29.5	
	baz=239,slow=75,SNR=40						
H04S3	**CROZET ISLANDS**	**28.43**	**93**	T	T	04 02 30.3	
	baz=239,slow=75,SNR=40						
H04S1	**CROZET ISLANDS**	**28.45**	**93**	T	T	04 02 30.0	
	baz=239,slow=75,SNR=53						
BOSA	**Boshof**	**28.52**	**33**	P	**P**	**03 32 22.1**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=195,slow=8.9,SNR=5.9						
BOSA				LR	LR	03 41 43.2	
	comp=Z,2μm,20.1s,baz=202,slow=32						
	comp=Z,2.7nm,0.9s						
MAW	**Mawson**	**28.66**	**139**	LR	LR	03 42 41.7	
	comp=Z,312nm,18.1s,baz=278,slow=34						
LBTB	**Lobatse**	**31.99**	**31**	LR	LR	03 43 37.7	
	comp=Z,1μm,20.9s,baz=198,slow=32						
WIN	**Windhoek**	**32.36**	**16**	P	**P**	**03 32 58.2**	**+0.5**
WIN				IAmb	IAmb	03 33 00.5	
	comp=Z,44nm,1.5s						
WIN	**Windhoek**	**32.36**	**16**	P	**P**	**03 32 58.2**	**+0.5**
WIN				pmax	pmax		
	comp=Z,44nm,1.5s						
TSUM	**Tsumeb**	**35.74**	**16**	P	**P**	**03 33 27.2**	**+0.3**
TSUM				IAmb	IAmb	03 33 36.2	
	comp=Z,29nm,1.1s						
TSUM	**Tsumeb**	**35.74**	**16**	LR	LR	03 45 17.7	
	comp=Z,2μm,21.4s,baz=185,slow=32						
QSPA	**South Pole Qui**	**35.99**	**180**	P	**P**	**03 33 28.3**	**-0.4**
QSPA				IAmb	IAmb	03 33 32.2	
	comp=Z,77nm,1.7s						
QSPA	**South Pole Qui**	**35.99**	**180**	P	**P**	**03 33 28.0**	**-0.7**
	comp=Z,13nm,0.9s,baz=248,slow=1.3,SNR=45						
QSPA				LR	LR	03 47 31.5	
	comp=Z,1μm,20.2s,baz=217,slow=35						
	comp=Z,13nm,0.9s						
PMSA	**Palmer Station**	**36.02**	**224**	LR	LR	03 44 57.1	
	comp=Z,839nm,21.9s,baz=110,slow=31						
LSZ	**Lusaka**	**41.95**	**30**	P	**P**	**03 34 18.6**	**-0.3**
LSZ	**Lusaka**	**41.95**	**30**	LR	LR	03 50 13.2	
	comp=Z,1μm,18.2s,baz=218,slow=34						
LSZ	**Lusaka**	**41.95**	**30**	P	**P**	**03 34 18.6**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,18nm,1.3s						
USHA	**Ushuaia**	**42.29**	**237**	LR	LR	03 47 36.1	
	comp=Z,354nm,19.5s,baz=149,slow=30						
VOI	**Vohitsoka**	**43.49**	**58**	P	**P**	**03 34 32.9**	**+1.4**
VOI				IAmb	IAmb	03 34 35.0	
	comp=Z,41nm,1.4s						
ABPO	**Ambohimpanom**	**46.16**	**56**	P	**P**	**03 34 53.7**	**+0.9**
ABPO	**Ambohimpanom**	**46.16**	**56**	P	**P**	**03 34 53.7**	**+0.9**
ABPO				pmax	pmax		
	comp=Z,12nm,1.1s						
CASY	**Casey**	**46.44**	**147**	P	**P**	**03 34 55.4**	**+1.1**
CASY				IAmb	IAmb	03 35 06.6	
	comp=Z,19nm,1.1s						
VNDA	**Vanda**	**47.49**	**173**	P	**P**	**03 35 03.8**	**+1.5**
VNDA				IAmb	IAmb	03 35 06.2	
	comp=Z,26nm,0.9s						
VNDA	**Vanda**	**47.49**	**173**	P	**P**	**03 35 03.5**	**+1.1**
	comp=Z,18nm,0.9s,baz=229,slow=7.4,SNR=29						
VNDA				LR	LR	03 55 05.4	
	comp=Z,1μm,18.1s,baz=186,slow=36						
	comp=Z,18nm,0.9s						
VNDA	**Vanda**	**47.49**	**173**	P	**P**	**03 35 03.8**	**+1.5**
VNDA				pmax	pmax		
	comp=Z,26nm,1.0s						
PLTB	**Pedras Altas**	**48.59**	**272**	*e*P	**P**	**03 35 12.7**	**+1.3**
TRQA	**Tornquist**	**49.06**	**259**	P	**P**	**03 35 15.0**	**0.0**
TRQA				IAmb	IAmb	03 35 18.4	
	comp=Z,41nm,1.7s						
TRQA	**Tornquist**	**49.06**	**259**	P	**P**	**03 35 15.0**	**0.0**
TRQA				pmax	pmax		
	comp=Z,41nm,1.7s						
CPSB	**Cacapava Do Su**	**49.48**	**273**	*e*P	**P**	**03 35 19.3**	**+1.0**
RIB01	**Linhares ES**	**50.67**	**294**	*e*P	**P**	**03 35 27.6**	**+0.2**
AY01	**Puyuhuapi**	**50.75**	**246**	P	**P**	**03 35 28.4**	**+0.7**
ITAB	**Concordia**	**51.07**	**277**	P	**P**	**03 35 31.4**	**+1.1**
LL02	**Futaleuf**	**51.14**	**248**	P	**P**	**03 35 30.5**	**-0.2**
LL02				IAmb	IAmb	03 35 32.8	
	comp=Z,23nm,1.0s						
SPB	**Sao Paulo**	**51.15**	**284**	*e*P	**P**	**03 35 31.7**	**+0.8**
SJMB	**Sao Joao De Ma**	**51.59**	**294**	*e*P	**P**	**03 35 33.7**	**-0.6**
PLCA	**Paso Flores**	**52.09**	**251**	P	**P**	**03 35 38.5**	**+0.6**
PLCA	**Paso Flores**	**52.09**	**251**	P	**P**	**03 35 37.4**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=147,slow=9.3,SNR=9.1						
PLCA				LR	LR	03 56 10.1	
	comp=Z,165nm,19.0s,baz=140,slow=34						
	comp=Z,5.2nm,0.9s						
LL06	**Loncomilla**	**52.76**	**247**	P	**P**	**03 35 41.6**	**-1.2**
LL03	**Petrohue**	**52.83**	**249**	P	**P**	**03 35 43.9**	**+0.5**
PTGB	**Pitanga**	**52.95**	**279**	*e*P	**P**	**03 35 45.3**	**+0.9**
LR05	**Currie**	**53.24**	**250**	P	**P**	**03 35 46.0**	**-0.4**
LR05				IAmb	IAmb	03 35 47.5	
	comp=Z,26nm,0.9s						
DIAM	**Diamantina, MG**	**53.27**	**291**	*e*P	**P**	**03 35 46.8**	**-0.2**
LDASE	**Londrina, Braz**	**53.42**	**281**	*e*P	**P**	**03 35 49.9**	**+2.1**
PMNB	**Patos De Minas**	**54.60**	**289**	*e*P	**P**	**03 35 57.5**	**+0.8**
CPUP	**Villa Florida**	**54.79**	**273**	P	**P**	**03 35 57.4**	**-0.4**
CPUP				IAmb	IAmb	03 35 59.1	
	comp=Z,22nm,0.9s						
CPUP	**Villa Florida**	**54.79**	**273**	P	**P**	**03 35 57.2**	**-0.6**
	comp=Z,19nm,0.9s,baz=127,slow=5.7,SNR=28						
CPUP				LR	LR	03 55 18.0	
	comp=Z,129nm,21.6s,baz=145,slow=32						
	comp=Z,19nm,0.9s						
CPUP	**Villa Florida**	**54.79**	**273**	P	**P**	**03 35 57.4**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,22nm,1.0s						
SJPY	**San Joaquin**	**55.08**	**275**	*e*P	**P**	**03 36 00.3**	**+0.4**
BI02	**San Fabin de**	**55.34**	**254**	P	**P**	**03 36 01.9**	**+0.1**
BI02				IAmb	IAmb	03 36 02.6	
	comp=Z,18nm,1.1s						
ITRB	**Iturama**	**55.88**	**284**	*e*P	**P**	**03 36 06.6**	**+0.9**
IPMB	**Ipameri, GO**	**56.04**	**287**	*e*P	**P**	**03 36 06.5**	**-0.4**
JANB	**Januaria**	**56.27**	**293**	*e*P	**P**	**03 36 07.6**	**-1.0**
BO02	**Sierra Bellavi**	**56.40**	**256**	P	**P**	**03 36 08.3**	**-1.0**
BO02				IAmb	IAmb	03 36 23.0	
	comp=Z,24nm,1.1s						
MBAR	**Mbarara**	**56.64**	**27**	P	**P**	**03 36 12.3**	**+1.0**
MBAR	**Mbarara**	**56.64**	**27**	*i* P	**P**	**03 36 12.9**	**+1.6**
MBAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NBAN	**Anadia - AL**	**56.70**	**304**	*e*P	**P**	**03 36 11.7**	**+0.1**
BO04	**La Punta**	**56.88**	**257**	P	**P**	**03 36 12.8**	**+0.1**
BO04				IAmb	IAmb	03 36 14.3	
	comp=Z,22nm,1.0s						
RPRD	**Ribas do Rio P**	**57.18**	**281**	*e*P	**P**	**03 36 16.2**	**+1.2**
MT09	**Talagante**	**57.25**	**256**	P	**P**	**03 36 15.9**	**+0.4**
MT09				IAmb	IAmb	03 36 37.5	
	comp=Z,26nm,1.0s						
CFA	**Coronel Fontan**	**57.25**	**260**	LR	LR	03 57 37.8	
	comp=Z,206nm,20.8s,baz=60,slow=33						
KIBK	**Kibwezi**	**57.27**	**36**	P	**P**	**03 36 17.3**	**+1.6**
KIBK				IAmb	IAmb	03 36 21.4	
	comp=Z,26nm,1.5s						
BDFB	**Brasilia**	**57.82**	**289**	P	**P**	**03 36 19.8**	**+0.2**
	comp=Z,20nm,0.9s,baz=134,slow=5.1,SNR=27						
BDFB				LR	LR	03 56 47.2	
	comp=Z,123nm,19.6s,baz=143,slow=32						
	comp=Z,20nm,0.9s						
NBCA	**Caruaru-PE**	**57.83**	**306**	*e*P	**P**	**03 36 19.8**	**+0.1**
C2SB	**Campadao do Su**	**58.03**	**283**	*e*P	**P**	**03 36 22.6**	**+1.6**
KMBO	**Kilima Mbogo**	**58.13**	**35**	P	**P**	**03 36 24.6**	**+2.6**
KMBO				IAmb	IAmb	03 36 27.4	
	comp=Z,36nm,2.0s						
KMBO	**Kilima Mbogo**	**58.13**	**35**	P	**P**	**03 36 24.3**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=196,slow=8.9,SNR=8.0						
KMBO				LR	LR	04 00 10.3	
	comp=Z,1μm,19.0s,baz=194,slow=35						
KMBO	**Kilima Mbogo**	**58.13**	**35**	*i* P	**P**	**03 36 24.0**	**+2.1**
AQDB	**Aquidauana**	**58.34**	**279**	P	**P**	**03 36 22.9**	**-0.2**
AQDB				IAmb	IAmb	03 36 24.3	
	comp=Z,20nm,1.0s						
AQDB	**Aquidauana**	**58.34**	**279**	*e*P	**P**	**03 36 23.2**	**0.0**
SDBA	**SAO DESIDERIO**	**58.78**	**294**	*e*P	**P**	**03 36 26.4**	**+0.1**
BDQN	**Bodoquena, MS**	**58.97**	**278**	*e*P	**P**	**03 36 27.2**	**-0.3**
CO01	**Juntas del Tor**	**59.53**	**260**	P	**P**	**03 36 32.4**	**+0.8**
CO01				IAmb	IAmb	03 37 37.0	
	comp=Z,38nm,1.6s						
ARAG	**Araguaiana, MT**	**59.90**	**286**	*e*P	**P**	**03 36 35.7**	**+1.7**
AC02	**Maricunga**	**61.32**	**263**	P	**P**	**03 36 44.2**	**0.0**
AC06	**Mina Casimiro**	**61.64**	**262**	P	**P**	**03 36 44.7**	**-1.1**
AC06				IAmb	IAmb	03 38 36.8	
	comp=Z,26nm,1.4s						
DBIC	**Dimbokro**	**61.65**	**345**	P	**P**	**03 36 45.5**	**-0.3**
DBIC				IAmb	IAmb	03 36 46.6	
	comp=Z,18nm,0.8s						
DBIC	**Dimbokro**	**61.65**	**345**	P	**P**	**03 36 44.8**	**-1.0**
	comp=Z,19nm,0.8s,baz=154,slow=7.3,SNR=28						
DBIC				LR	LR	03 57 07.9	
	comp=Z,215nm,21.6s,baz=147,slow=30						
	comp=Z,19nm,0.8s						
DBIC	**Dimbokro**	**61.65**	**345**	P	**P**	**03 36 45.5**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,18nm,0.9s						
LODK	**Lodwar**	**61.80**	**31**	P	**P**	**03 36 48.0**	**+1.0**
SALV	**Santo Antonio**	**61.95**	**282**	*e*P	**P**	**03 36 48.8**	**+0.9**
SNDB	**Serra Nova Dou**	**62.63**	**289**	*e*P	**P**	**03 36 52.8**	**+0.3**
PTLB	**Pontes e Lacer**	**64.30**	**279**	P	**P**	**03 37 03.1**	**-0.3**
PTLB				IAmb	IAmb	03 37 04.7	
	comp=Z,18nm,1.0s						
PTLB	**Pontes e Lacer**	**64.30**	**279**	*e*P	**P**	**03 37 03.2**	**-0.3**
PB05	**IPOC Station P**	**64.99**	**265**	P	**P**	**03 37 07.8**	**-0.3**
SIV	**San Ignacio**	**64.99**	**277**	LR	LR	04 01 32.5	
	comp=Z,174nm,20.6s,baz=116,slow=32						
PDRB	**Porto dos Gac**	**65.99**	**284**	*e*P	**P**	**03 37 15.0**	**+0.5**
CLDB	**Colider**	**66.06**	**285**	*e*P	**P**	**03 37 15.6**	**+0.6**
PB11	**IPOC Station P**	**67.06**	**268**	P	**P**	**03 37 20.4**	**-1.1**
PB11				IAmb	IAmb	03 37 24.0	
	comp=Z,20nm,1.1s						
TORD	**Torodi Ar. Bea**	**67.35**	**353**	P	**P**	**03 37 22.2**	**-0.8**
TORD				IAmb	IAmb	03 37 24.8	
	comp=Z,13nm,1.1s						
TORD	**Torodi Ar. Bea**	**67.35**	**353**	P	**P**	**03 37 22.2**	**-0.8**
	comp=Z,3.9nm,0.3s,baz=188,slow=4.2,SNR=3.7						
	comp=Z,3.9nm,0.3s						
LPAZ	**La Paz**	**68.88**	**271**	P	**P**	**03 37 32.7**	**-0.9**
LPAZ				IAmb	IAmb	03 37 47.9	
	comp=Z,11nm,0.8s						
LPAZ	**La Paz**	**68.88**	**271**	P	**P**	**03 37 33.9**	**+0.4**
	comp=Z,8.7nm,0.8s,baz=129,slow=4.7,SNR=32						
LPAZ				LR	LR	04 04 15.9	
	comp=Z,197nm,21.9s,baz=110,slow=33						
	comp=Z,8.7nm,0.8s						
LPAZ	**La Paz**	**68.88**	**271**	*e*P	**P**	**03 37 34.0**	**+0.4**
TMAB	**Tom-Au,PA,Br**	**68.91**	**297**	*e*P	**P**	**03 37 34.1**	**+1.1**
NPGB	**Novo Progresso**	**68.94**	**288**	*e*P	**P**	**03 37 33.7**	**+0.5**
H01W2	**Cape Leeuwin H**	**70.88**	**123**	T	T	04 56 04.3	
	baz=217,slow=75,SNR=20						
H01W3	**Cape Leeuwin H**	**70.89**	**123**	T	T	04 56 12.9	
	baz=217,slow=75,SNR=20						
H01W1	**Cape Leeuwin H**	**70.89**	**123**	T	T	04 56 02.0	
	baz=217,slow=75,SNR=23						
BBTS	**Babate**	**71.77**	**335**	LR	LR	04 02 35.2	
	comp=Z,110nm,20.4s,baz=24,slow=30						
ATD	**Arta Tunnel**	**71.85**	**36**	LR	LR	04 09 39.6	
	comp=Z,8.5nm,18.2s,baz=184,slow=36						
MAL2	**Monte Alegre,**	**72.45**	**292**	P	**P**	**03 37 54.6**	**0.0**
NWAO	**Narrogin (SRO)**	**73.98**	**124**	LR	LR	04 05 48.3	
	comp=Z,79nm,18.1s,baz=286,slow=32						
TAM	**Tamanrasset**	**76.75**	**358**	P	**P**	**03 38 18.6**	**-0.8**
TAM	**Tamanrasset**	**76.75**	**358**	P	**P**	**03 38 18.6**	**-0.8**
TAM				pmax	pmax		
	comp=Z,10.0nm,1.5s						
NNA	**Nana**	**77.40**	**267**	LR	LR	04 10 11.9	
	comp=Z,161nm,21.9s,baz=140,slow=34						
MDP	**Montagnes des**	**77.61**	**297**	LR	LR	04 08 36.2	
	comp=Z,84nm,19.6s,baz=122,slow=33						
MLZ	**Mavora Lakes**	**79.32**	**166**	P	**P**	**03 38 33.6**	**+0.2**
BOAV	**Boa Vista**	**79.60**	**289**	P	**P**	**03 38 34.9**	**-0.4**
BOAV	**Boa Vista**	**79.60**	**289**	*e*P	**P**	**03 38 35.3**	**0.0**
RPZ	**Rata Peaks**	**81.34**	**168**	P	**P**	**03 38 44.3**	**0.0**
RPZ				IAmb	IAmb	03 38 46.3	
	comp=Z,18nm,0.9s						
RPZ	**Rata Peaks**	**81.34**	**168**	LR	LR	04 12 43.6	
	comp=Z,248nm,22.0s,baz=224,slow=34						
ATAH	**Atahualpa**	**82.19**	**269**	LR	LR	04 13 59.5	
	comp=Z,105nm,21.9s,baz=155,slow=35						
INZ	**Inchbonnie**	**82.36**	**168**	P	**P**	**03 38 49.3**	**-0.4**
LTZ	**Lake Taylor**	**82.41**	**168**	P	**P**	**03 38 50.2**	**+0.2**
MRNZ	**Matariki Terra**	**83.83**	**168**	P	**P**	**03 38 56.4**	**-0.9**
RAYN	**Ar Rayn**	**83.90**	**34**	P	**P**	**03 38 58.0**	**+0.3**
RAYN	**Ar Rayn**	**83.90**	**34**	P	**P**	**03 38 58.0**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**85.32**	**142**	P	**P**	**03 39 05.1**	**+0.1**
STKA	**Stephens Creek**	**85.32**	**142**	P	**P**	**03 39 04.8**	**-0.2**
	comp=Z,10nm,0.9s,baz=187,slow=2.5,SNR=20						
	comp=Z,10nm,0.9s						
STKA	**Stephens Creek**	**85.32**	**142**	*e*P	**P**	**03 39 04.2**	**-0.8**
STKA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PALK	**Pallekele**	**85.88**	**72**	LR	LR	04 08 52.7	
	comp=Z,168nm,19.5s,baz=222,slow=30						
BKZ	**Black Stump Fm**	**86.43**	**171**	P	**P**	**03 39 10.3**	**-0.1**
BKZ				IAmb	IAmb	03 39 13.3	
	comp=Z,21nm,0.9s						
EIL	**Elat**	**86.75**	**23**	LR	LR	04 16 07.7	
	comp=Z,416nm,21.1s,baz=234,slow=34						
URZ	**Urewera**	**87.38**	**171**	LR	LR	04 17 08.3	
	comp=Z,258nm,18.8s,baz=225,slow=35						
MDT	**Midelt**	**87.39**	**349**	LR	LR	04 12 55.8	
	comp=Z,186nm,21.8s,baz=180,slow=32						
OTAV	**Otavalo**	**88.14**	**273**	*e*P	**P**	**03 39 22.1**	**+2.6**
PCRV	**Puerto La Cruz**	**88.29**	**290**	LR	LR	04 15 03.3	
	comp=Z,111nm,20.2s,slow=33						
BAUV	**El Baul**	**89.18**	**286**	P	**P**	**03 39 23.3**	**-0.5**
ROSC	**El Rosal**	**89.44**	**279**	LR	LR	04 16 19.6	
	comp=Z,235nm,21.0s,baz=110,slow=34						
ASAR	**Alice Springs**	**89.54**	**132**	P	**P**	**03 39 24.8**	**-0.7**
ASAR	**Alice Springs**	**89.54**	**132**	P	**P**	**03 39 25.1**	**-0.5**
	comp=Z,5.7nm,0.9s,baz=208,slow=4.7,SNR=36						
ASAR				LR	LR	04 13 55.3	
	comp=Z,49nm,19.4s,baz=188,slow=32						
	comp=Z,5.7nm,0.9s						
AS31	**Alice Springs**	**89.54**	**132**	P	**P**	**03 39 24.8**	**-0.7**
ASF	**Jabal al Asfar**	**89.61**	**24**	LR	LR	04 19 08.6	
	comp=Z,300nm,18.5s,baz=241,slow=35						
KEST	**Kesra**	**89.62**	**1**	LR	LR	04 17 39.2	
	comp=Z,233nm,18.6s,baz=239,slow=34						
MMAI	**Mount Meron Ar**	**90.06**	**23**	LR	LR	04 18 00.5	
	comp=Z,503nm,21.7s,baz=204,slow=34						
IDI	**Anoyia**	**90.35**	**14**	LR	LR	04 21 34.6	
	comp=Z,167nm,20.2s,baz=191,slow=37						
SDV	**Santo Domingo**	**90.60**	**284**	LR	LR	04 18 39.2	
	comp=Z,115nm,18.2s,baz=91,slow=35						
VAE	**Valguarnera**	**91.52**	**5**	LR	LR	04 20 07.4	
	comp=Z,294nm,18.3s,baz=172,slow=35						
RPSI	**Rantau Prapat**	**92.68**	**89**	P	**P**	**03 39 41.1**	**+1.0**
RPSI				IAmb	IAmb	03 39 44.2	
	comp=Z,12nm,1.0s						
PSI	**Prapat**	**92.76**	**89**	P	**P**	**03 39 41.1**	**+0.5**
PSI				pmax	pmax		
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**92.99**	**131**	P	**P**	**03 39 40.7**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=197,slow=2.9,SNR=5.1						
	comp=Z,1.5nm,0.9s						
WRA	**Warramunga Arr**	**92.99**	**131**	*e*P	**P**	**03 39 41.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ESDC	**Sonseca Array**	**94.12**	**351**	P	**P**	**03 39 46.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=169,slow=4.6,SNR=2.7						
ESDC				LR	LR	04 18 06.4	
	comp=Z,73nm,19.3s,baz=179,slow=33						
	comp=Z,0.3nm,0.4s						
EIDS	**Eidsvold**	**94.54**	**147**	P	**P**	**03 39 48.2**	**-0.4**
MARD	**Mardin**	**95.46**	**26**	P	**P**	**03 39 52.7**	**+0.3**
SJG	**San Juan**	**95.64**	**293**	LR	LR	04 16 34.9	
	comp=Z,50nm,22.0s,baz=111,slow=32						
BR131	**Keskin Array S**	**96.15**	**20**	P	**P**	**03 39 55.4**	**-0.1**
BR131	**Keskin Array S**	**96.15**	**20**	P	**P**	**03 39 55.4**	**-0.1**
BR131				pmax	pmax		
	comp=Z,12nm,1.8s						
BRTR	**Keskin Array B**	**96.15**	**20**	P	**P**	**03 39 56.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=190,slow=7.6,SNR=9.7						
BRTR				LR	LR	04 24 40.6	
	comp=Z,163nm,19.6s,baz=160,slow=36						
	comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**96.15**	**20**	*e*P	**P**	**03 39 56.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GNI	**Garni**	**99.17**	**28**	LR	LR	04 26 24.0	
	comp=Z,418nm,18.0s,baz=214,slow=36						
MODS	**Modra-Piesok**	**102.54**	**6**	*e*PP	**PKiKP**	**03 44 41.8**	**-2.9**
KOLS	**Kolonicke sedl**	**103.50**	**10**	*e*P	**Pdif**	**03 40 28.1**	**+0.1**
KOLS	**Kolonicke sedl**	**103.50**	**10**	*e*PDIFF	**Pdif**	**03 40 28.1**	**+0.1**
STHS	**Stebnicka Huta**	**103.89**	**9**	*e*P	**Pdif**	**03

NRIK	**Noril'sk**	**135.97**	**30**	*e*PKIKP	**PKiKP**	**03 45 49.8**	**+0.8**
NRIK				pmax	pmax		
comp=Z,1.0nm,0.4s							
NEEM	**North Greenlan**	**136.40**	**344**	*i* P	**PKPdf**	**03 45 46.3**	**-2.2**
PDAR	**Pinedale Array**	**138.43**	**280**	PKPdf	**PKPdf**	**03 45 52.8**	**-0.3**
PDAR	**Pinedale Array**	**138.43**	**280**	PKP	**PKPdf**	**03 45 50.5**	**-2.6**
comp=Z,2.4nm,0.9s,baz=131,slow=4.3,SNR=10							
CN2	**Changchun**	**138.94**	**78**	*e*PKP	**PKPdf**	**03 45 52.3**	**-1.4**
TULEG	**Thule**	**139.11**	**340**	*i* P	**PKPdf**	**03 45 52.1**	**-0.9**
NVAR	**Mina Array Bea**	**140.75**	**269**	PKhKP	PKPpre	03 45 51.3	
comp=Z,0.8nm,0.8s,baz=133,slow=3.5,SNR=4.7							
NVAR				PKP	pPKPdf	03 45 58.4	-0.9
comp=Z,1.4nm,0.8s,baz=89,slow=1.9,SNR=7.1							
BNX	**BinXian**	**141.21**	**77**	PKP	**PKPdf**	**03 45 57.8**	**+0.1**
PLID	**Pearl Lake**	**143.54**	**279**	PKPdf	**PKPdf**	**03 46 02.5**	**+0.3**
ZEA	**Zeya**	**145.22**	**65**	*e*PKIKP	**PKPbc**	**03 46 04.2**	**-0.1**
ZEA				pmax	pmax		
comp=Z,10.0nm,1.5s							
J05D	**Fort Rock, OR**	**145.54**	**273**	PKPdf	**PKPab**	**03 46 06.2**	**+0.1**
KLR	**Kul'dur**	**145.58**	**75**	PKPbc	**PKPdf**	**03 46 04.2**	**-1.1**
comp=Z,14nm,0.8s,baz=281,slow=4.4,SNR=42							
KLR	**Kul'dur**	**145.58**	**75**	*i* PKIKP	**PKPdf**	**03 46 03.7**	**-1.6**
KLR				pmax	pmax		
comp=Z,16nm,1.0s							
B08A	**Colville Reser**	**147.24**	**282**	PKPdf	**PKPdf**	**03 46 08.9**	**+0.7**
GNW	**Green Mountain**	**148.85**	**278**	PKPdf	**PKPbc**	**03 46 12.8**	**-1.9**
ASAJ	**Asahikawa**	**149.11**	**90**	PKPbc	**PKPbc**	**03 46 15.1**	**-0.5**
comp=Z,9.8nm,0.8s,baz=281,slow=16,SNR=3.9							
TIXI	**Tiksi**	**149.68**	**33**	PKPdf	**PKPbc**	**03 46 14.4**	**-1.7**
TIXI	**Tiksi**	**149.68**	**33**	PKHKP	PKPpre	03 46 14.4	
YKA	**Yellowknife Ar**	**149.79**	**309**	PKPdf	**PKPdf**	**03 46 13.7**	**+1.9**
YKA	**Yellowknife Ar**	**149.79**	**309**	PKPbc	**PKPbc**	**03 46 15.9**	**-0.7**
comp=Z,23nm,0.9s,baz=104,slow=2.2,SNR=18							
YKA	**Yellowknife Ar**	**149.79**	**309**	PKHKP	PKPpre	03 46 13.7	
E27K	**Coleen River**	**160.10**	**326**		**PKPab**	**03 47 06.7**	**+0.7**
DAWY	**Dawson**	**160.86**	**314**	PKPab	**PKPab**	**03 47 09.4**	**-0.1**
D23K	**Nanushuk River**	**162.27**	**335**		**PKPab**	**03 47 15.8**	**+0.4**
BILL	**Bilibino**	**162.79**	**28**		**PKPab**	**03 47 18.7**	**+1.0**
ILAR	**Eielson Array**	**163.62**	**320**		**PKPab**	**03 47 21.4**	**-0.1**
ILAR	**Eielson Array**	**163.62**	**320**	PKPab	**PKPab**	**03 47 21.5**	**0.0**
comp=Z,3.3nm,1.0s,baz=52,slow=2.9,SNR=18							
H17K	**Granite Mounta**	**167.70**	**335**		**PKPab**	**03 47 39.0**	**-0.4**

*ISK **19** 03:30:33.2, 41.°13N×23.°34E, h8km, ML3.2/14*
*PDG **19** 03:30:33.6±0.4, 41.°15N×23.°37E, h13km, ML3.1/8, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*SOF **19** 03:30:33.3, 41.°13N±0.°01×23.°34E±0.°01, h11km±1km, MD3.5/9*
*ATH **19** 03:30:34.0, 41.°10N×23.°35E, h12km±1km, ML3.1/35, Manual Solution by A.Papageorgiou First location: 2019/03/19 03:30:52, This location: 2019/03/19 09:29:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **19** 03:30:34.0, 41.°12N×23.°34E, h3km±1km, ML3.1/18, Error ellipse: s-maj=1.3km s-min=0.5km az=123.0*
*SKO **19** 03:30:34.3, 41.°14N×23.°33E, h0km, ML3.1*
*BEO **19** 03:30:34.0±0.3, 41.°15N×23.°33E, h8km±1km, ML3.2/12*
ISC 19 03:30:34.0±0.8, **41.°13N**±0.°01×**23.°34E**±0.°01, **h10**km±6km, **n178**, σ0§93/276, **28C-22D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.19**	**93**	P		**Pg**	**03 30 37.7**	**-0.2**
SRS				S		**Sg**	**03 30 40.9**	**+0.2**
4μm,0.3s								
SRS	**Serrai**	**0.19**	**93**	⇓*i*Pg		**Pg**	**03 30 37.8**	**-0.2**
SRS				*i* Sg		**Sg**	**03 30 41.0**	**+0.4**
SRS	**Serrai**	**0.19**	**93**	*e*Pg		**Pg**	**03 30 37.8**	**-0.2**
SRS				*e*Sg		**Sg**	**03 30 40.9**	**+0.2**
SRS	**Serrai**	**0.19**	**93**	P		**Pg**	**03 30 37.7**	**-0.2**
SRS				S		**Sg**	**03 30 40.5**	**-0.2**
NGRA	**Nigrita**	**0.25**	**152**	P		**Pg**	**03 30 39.4**	**+0.3**
NGRA				S		**Sg**	**03 30 42.5**	**0.0**
KNT	**Kendrikon**	**0.34**	**276**	P		**Pg**	**03 30 40.2**	**-0.5**
KNT				S		**Sg**	**03 30 44.6**	**-0.6**
6μm,0.2s								
KNT	**Kendrikon**	**0.34**	**276**	⇓*i*Pg		**Pg**	**03 30 40.3**	**-0.5**
KNT				*i* Sg		**Sg**	**03 30 44.9**	**-0.4**
KNT	**Kendrikon**	**0.34**	**276**	P		**Pg**	**03 30 40.2**	**-0.5**
KNT				S		**Sg**	**03 30 44.8**	**-0.4**
NVR	**Nevrokopi**	**0.45**	**60**	P		**Pg**	**03 30 43.4**	**+0.6**
NVR				S		**Sb**	**03 30 49.9**	**-0.9**
2μm,0.5s								
NVR	**Nevrokopi**	**0.45**	**60**	P		**Pg**	**03 30 43.3**	**+0.6**
NVR				S		**Sg**	**03 30 48.8**	**+0.1**
MMB	**Musomishta**	**0.52**	**36**	⇑*i*Pg		**Pg**	**03 30 43.5**	**-0.6**
MMB				Sg		**Sg**	**03 30 51.1**	**+0.2**
MMB	**Musomishta**	**0.52**	**36**	⇑*i*Pg		**Pg**	**03 30 43.5**	**-0.6**
MMB				*i* Sg		**Sg**	**03 30 51.1**	**+0.2**
HORT	**Hortiatis**	**0.56**	**199**	Pg		**Pg**	**03 30 44.9**	**0.0**
HORT				Sg		**Sg**	**03 30 53.0**	**+0.7**
HORT	**Hortiatis**	**0.56**	**199**	P		**Pg**	**03 30 44.9**	**0.0**
HORT				S		**Sg**	**03 30 53.0**	**+0.7**
5μm,0.4s								
HORT	**Hortiatis**	**0.56**	**199**	P		**Pg**	**03 30 44.9**	**0.0**
HORT				S		**Sg**	**03 30 52.1**	**-0.2**
THE	**Thessaloniki**	**0.57**	**210**	P		**Pg**	**03 30 45.0**	**-0.1**
THE				S		**Sg**	**03 30 52.7**	**+0.1**
4μm,0.2s								
THE	**Thessaloniki**	**0.57**	**210**	⇑*i*Pg		**Pg**	**03 30 45.0**	**-0.1**
THE				*i* Sg		**Sg**	**03 30 51.8**	**-0.8**
THE	**Thessaloniki**	**0.57**	**210**	P		**Pg**	**03 30 45.0**	**-0.1**
THE				S		**Sg**	**03 30 52.3**	**-0.3**
KOKK	**Kokkinochori,**	**0.59**	**122**	P		**Pg**	**03 30 45.1**	**-0.2**
KOKK				S		**Sg**	**03 30 53.7**	**+0.6**
662nm,0.2s								
KOKK	**Kokkinochori,**	**0.59**	**122**	P		**Pg**	**03 30 45.2**	**-0.1**
KOKK				S		**Sg**	**03 30 53.6**	**+0.6**
VAY	**Valandovo**	**0.61**	**289**	⇓*i*Pg		**Pg**	**03 30 45.3**	**-0.6**
VAY				*i* Sg		**Sg**	**03 30 53.6**	**-0.3**
VAY				*e*Lg		Lg	03 30 54.9	
comp=N,822nm,0.6s								
VAY				*e*Lg		Lg	03 30 55.1	
comp=E,667nm,0.5s								
VAY	**Valandovo**	**0.61**	**289**	*e*Pg		**Pg**	**03 30 45.3**	**-0.6**
VAY				*e*Sg		**Sg**	**03 30 54.0**	**+0.1**
KKB	**Krupnik**	**0.73**	**347**	⇑*i*Pg		**Pg**	**03 30 47.3**	**-0.8**
KKB				Sg		**Sg**	**03 30 57.8**	**+0.2**
KKB	**Krupnik**	**0.73**	**347**	⇑*i*Pg		**Pg**	**03 30 47.4**	**-0.8**
KKB				*i* Sg		**Sg**	**03 30 57.9**	**+0.2**
GRG	**Griva**	**0.73**	**257**	Pg		**Pg**	**03 30 47.5**	**-0.6**
GRG				Sg		**Sg**	**03 30 57.9**	**+0.2**
GRG	**Griva**	**0.73**	**257**	P		**Pg**	**03 30 47.5**	**-0.6**
GRG				S		**Sg**	**03 30 57.6**	**-0.1**
comp=E,2μm,0.3s								
GRG	**Griva**	**0.73**	**257**	⇓*i*Pg		**Pg**	**03 30 47.6**	**-0.5**
GRG				*i* Sg		**Sg**	**03 30 58.0**	**+0.3**
GRG	**Griva**	**0.73**	**257**	P		**Pg**	**03 30 47.6**	**-0.6**
GRG				S		**Sg**	**03 30 57.8**	**+0.1**
PLG	**Polygyros**	**0.76**	**174**	P		**Pg**	**03 30 48.0**	**-0.6**
PLG				S		**Sb**	**03 30 59.6**	**-0.1**
comp=E,2μm,0.3s								
PLG	**Polygyros**	**0.76**	**174**	P		**Pg**	**03 30 48.0**	**-0.6**
PLG				S		**Sg**	**03 30 58.6**	**+0.1**
KVLA	**Kavala**	**0.81**	**103**	P		**Pg**	**03 30 49.7**	**+0.1**
KVLA				S		**Sg**	**03 31 00.2**	**0.0**
KAVA	**Kavala**	**0.90**	**98**	P		**Pg**	**03 30 50.5**	**-0.7**
KAVA				S		**Sg**	**03 31 03.3**	**+0.5**
comp=E,2μm,0.3s								
KAVA	**Kavala**	**0.90**	**98**	P		**Pg**	**03 30 51.1**	**-0.1**
KAVA				S		**Sg**	**03 31 03.0**	**+0.2**
OUR	**Ouranopolis**	**0.93**	**148**	Pg		**Pg**	**03 30 51.7**	**-0.2**
OUR	**Ouranopolis**	**0.93**	**148**	P		**Pg**	**03 30 51.4**	**-0.5**
OUR				S		**Sb**	**03 31 04.7**	**+0.1**
comp=E,5μm,0.6s								
OUR	**Ouranopolis**	**0.93**	**148**	P		**Pg**	**03 30 52.1**	**+0.3**
OUR				S		**Sg**	**03 31 04.4**	**+0.4**
THAS	**Thassos island**	**1.17**	**116**	P		**Pg**	**03 30 55.6**	**-0.8**
THAS				S		**Sn**	**03 31 12.4**	**+0.1**
comp=E,948nm,0.4s								
THAS	**Thassos island**	**1.17**	**116**	P		**Pg**	**03 30 55.6**	**-0.8**
THAS				S		**Sg**	**03 31 11.1**	**-0.4**
KTI	**Kastanea**	**1.19**	**232**	P		**Pg**	**03 30 56.6**	**-0.2**
RZN	**Rozhen**	**1.19**	**61**	P		**Pg**	**03 30 55.7**	**-1.2**
LIT	**Litokhoron**	**1.22**	**213**	P		**Pb**	**03 30 56.1**	**-1.0**
LIT				S		**Sn**	**03 31 14.1**	**+0.5**
comp=E,420nm,0.3s								
LIT	**Litokhoron**	**1.22**	**213**	*i* Pg		**Pb**	**03 30 56.5**	**-0.6**
LIT	**Litokhoron**	**1.22**	**213**	P		**Pb**	**03 30 56.5**	**-0.6**
LIT				S		**Sg**	**03 31 12.5**	**-0.6**
XANC	**Avdira**	**1.23**	**96**	P		**Pb**	**03 30 57.0**	**-0.3**
XANC				S		**Sb**	**03 31 12.9**	**-0.2**
PAIG	**Paliouri**	**1.23**	**168**	Pn		**Pn**	**03 30 56.4**	**-0.8**
PAIG				Sn		**Sn**	**03 31 14.2**	**+0.4**
PAIG	**Paliouri**	**1.23**	**168**	P		**Pn**	**03 30 56.4**	**-0.8**
PAIG				S		**Sn**	**03 31 14.3**	**+0.4**
comp=E,1μm,0.5s								
PLNA	**Plana**	**1.35**	**3**	P		**Pn**	**03 30 58.8**	**-0.2**
KZN	**Kozani**	**1.45**	**236**	P		**Pb**	**03 31 01.4**	**+0.3**
KZN				S		**Sg**	**03 31 22.0**	**+1.4**
comp=E,672nm,0.7s								
KZN	**Kozani**	**1.45**	**236**	P		**Pb**	**03 31 01.2**	**0.0**
KZN				S		**Sn**	**03 31 19.6**	**+0.1**
PLD	**Plovdiv**	**1.46**	**46**	Pn		**Pn**	**03 31 00.2**	**-0.3**
PLD	**Plovdiv**	**1.46**	**46**	⇑*i*P		**Pn**	**03 31 00.5**	**+0.1**
PLD				S		**Sg**	**03 31 21.5**	**+0.4**
PLD	**Plovdiv**	**1.46**	**46**	*i* Pg		**Pn**	**03 31 00.6**	**+0.1**
PLD	**Plovdiv**	**1.46**	**46**	*e*Pg		**Pn**	**03 31 00.6**	**+0.1**
PLD				*e*Sg		**Sn**	**03 31 19.9**	**+0.2**
VTS	**Vitosha**	**1.49**	**357**	⇑*i*P		**Pn**	**03 31 00.9**	**-0.1**
VTS				S		**Sn**	**03 31 20.3**	**-0.3**
VTS	**Vitosha**	**1.49**	**357**	*e*Pg		**Pn**	**03 31 00.8**	**-0.2**
VTS				*e*Sg		**Sn**	**03 31 20.1**	**-0.5**
BOSS	**Bosilegrad**	**1.51**	**335**	*e*Pg		**Pn**	**03 31 01.4**	**+0.2**
BOSS				*e*Sg		**Sn**	**03 31 21.2**	**+0.3**
PGB	**Panagyurishte**	**1.52**	**24**	P		**Pn**	**03 31 01.9**	**+0.7**
PGB				S		**Sg**	**03 31 23.1**	**+0.3**
FNA	**Florina**	**1.53**	**258**	Pn		**Pn**	**03 31 01.4**	**0.0**
FNA	**Florina**	**1.53**	**258**	P		**Pn**	**03 31 01.5**	**0.0**
FNA				S		**Sb**	**03 31 22.3**	**+0.4**
comp=E,255nm,0.3s								
FNA	**Florina**	**1.53**	**258**	*i* Pn		**Pn**	**03 31 01.6**	**+0.2**
FNA	**Florina**	**1.53**	**258**	*e*Pg		**Pn**	**03 31 01.5**	**0.0**
FNA				*e*Sg		**Sn**	**03 31 21.4**	**0.0**
FNA	**Florina**	**1.53**	**258**	P		**Pn**	**03 31 01.4**	**0.0**
FNA				S		**Sn**	**03 31 21.7**	**+0.3**
SOF	**Sofia**	**1.55**	**1**	P		**Pb**	**03 31 02.9**	**+0.1**
KDZ	**Kurdzhali**	**1.58**	**71**	Pn		**Pn**	**03 31 02.4**	**+0.3**
KDZ				Sn		**Sn**	**03 31 23.2**	**+0.5**
KDZ	**Kurdzhali**	**1.58**	**71**	P		**Pn**	**03 31 02.2**	**+0.1**
KDZ				S		**Sg**	**03 31 24.4**	**-0.5**
LRSO	**Larissa Observ**	**1.63**	**207**	P		**Pn**	**03 31 02.7**	**0.0**
LRSO				S		**Sn**	**03 31 23.4**	**-0.3**
RDO	**Rodhopi**	**1.66**	**89**	Pn		**Pn**	**03 31 03.5**	**+0.4**
RDO	**Rodhopi**	**1.66**	**89**	P		**Pn**	**03 31 03.0**	**-0.1**
RDO				S		**Sn**	**03 31 24.9**	**+0.4**
comp=E,392nm,0.6s								
RDO	**Rodhopi**	**1.66**	**89**	P		**Pn**	**03 31 02.6**	**-0.5**
RDO				S		**Sn**	**03 31 24.5**	**0.0**
XOR	**Xorichti**	**1.76**	**184**	P		**Pn**	**03 31 04.8**	**+0.2**
XOR				S		**Sn**	**03 31 27.3**	**+0.1**
comp=E,490nm,0.3s								
XOR	**Xorichti**	**1.76**	**184**	P		**Pn**	**03 31 04.6**	**0.0**
XOR				S		**Sn**	**03 31 26.7**	**-0.5**
TRAN	**Tran**	**1.78**	**343**	P		**Pn**	**03 31 05.2**	**+0.3**
SMTH	**Samothraki Isl**	**1.79**	**111**	P		**Pn**	**03 31 04.3**	**-0.7**
SMTH	**Samothraki Isl**	**1.79**	**111**	P		**Pn**	**03 31 04.2**	**-0.7**
SMTH				S		**Sn**	**03 31 27.7**	**0.0**
NEO	**Neokhori**	**1.82**	**183**	P		**Pn**	**03 31 05.5**	**0.0**
NEO				S		**Sn**	**03 31 28.6**	**0.0**
comp=E,565nm,0.6s								
NEO	**Neokhori**	**1.82**	**183**	P		**Pn**	**03 31 05.4**	**0.0**
NEO				S		**Sn**	**03 31 27.8**	**-0.8**
THL	**Klokotos Trika**	**1.86**	**213**	P		**Pn**	**03 31 06.5**	**+0.6**
THL	**Klokotos Trika**	**1.86**	**213**	P		**Pn**	**03 31 06.1**	**+0.1**
THL				S		**Sn**	**03 31 29.5**	**-0.1**
LIA	**Limnos Island**	**1.86**	**131**	P		**Pn**	**03 31 05.5**	**-0.5**
LIA				S		**Sn**	**03 31 29.1**	**-0.4**
NEST	**Nestorio**	**1.88**	**248**	P		**Pn**	**03 31 07.0**	**+0.7**
NEST	**Nestorio**	**1.88**	**248**	P		**Pn**	**03 31 06.3**	**0.0**
NEST				S		**Sn**	**03 31 30.4**	**+0.2**
DIM	**Dimitrovgrad**	**1.91**	**61**	P		**Pb**	**03 31 08.1**	**-0.8**
KPRO	**Kipourio**	**1.91**	**233**	P		**Pn**	**03 31 07.6**	**+0.9**
KPRO				S		**Sb**	**03 31 32.8**	**-0.1**
KPRO	**Kipourio**	**1.91**	**233**	P		**Pn**	**03 31 07.1**	**+0.4**
KPRO				S		**Sn**	**03 31 30.8**	**-0.1**
PENT	**Pentalofos**	**1.92**	**242**	P		**Pn**	**03 31 07.7**	**+0.9**
PENT	**Pentalofos**	**1.92**	**242**	P		**Pn**	**03 31 07.6**	**+0.7**
OHR	**Ohrid**	**1.92**	**270**	*i* Pn		**Pn**	**03 31 07.7**	**+0.9**
OHR	**Ohrid**	**1.92**	**270**	*e*Pn		**Pn**	**03 31 07.7**	**+0.9**
OHR				*e*Sn		**Sn**	**03 31 30.4**	**-0.7**
AOS	**Alonnisos**	**2.00**	**168**	P		**Pn**	**03 31 07.7**	**-0.1**
BARS	**Barje**	**2.04**	**326**	*i* Pn		**Pn**	**03 31 09.1**	**+0.8**
BARS	**Barje**	**2.04**	**326**	*e*Pn		**Pn**	**03 31 08.5**	**+0.1**
BARS				*e*Sg		**Sb**	**03 31 37.7**	**+1.2**
ALN	**Alexandroupoli**	**2.06**	**96**	Pn		**Pn**	**03 31 08.8**	**+0.2**
GADA	**Gvkgeada**	**2.16**	**115**	Pn		**Pn**	**03 31 10.2**	**+0.2**
ENEZ	**Enez**	**2.16**	**100**	Pn		**Pn**	**03 31 10.4**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**2.18**	**101**	⇓P		**Pg**	**03 31 16.9**	**+1.1**
ZAPS	**Zavoj**	**2.21**	**346**	*e*Pn		**Pn**	**03 31 11.2**	**+0.5**
ZAPS				*e*Sn		**Sn**	**03 31 38.2**	**+0.1**
MPEP	**Malo Peshtene**	**2.25**	**7**	P		**Pn**	**03 31 11.9**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.31**	**204**	P		**Pn**	**03 31 12.5**	**+0.4**
MAKR				S		**Sn**	**03 31 40.6**	**0.0**
TETR	**Tetrakomo, Epi**	**2.38**	**222**	P		**Pn**	**03 31 13.9**	**+0.7**
TETR				S		**Sn**	**03 31 42.0**	**-0.5**
JAN	**Janina**	**2.41**	**233**	P		**Pn**	**03 31 13.5**	**+0.1**
JAN				S		**Sn**	**03 31 42.9**	**-0.1**
AXAR	**Agios Charalam**	**2.42**	**193**	P		**Pn**	**03 31 13.8**	**+0.3**
AXAR				S		**Sn**	**03 31 41.8**	**-1.5**
ERIK	**Erikli-Kesan**	**2.45**	**100**	Pn		**Pn**	**03 31 14.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.49**	**106**	Pn		**Pn**	**03 31 15.5**	**+1.0**
LKR	**Lokris**	**2.49**	**186**	P		**Pn**	**03 31 14.7**	**+0.1**
LKR				S		**Sn**	**03 31 43.9**	**-1.1**
EVR	**Evrytania**	**2.50**	**209**	P		**Pn**	**03 31 15.4**	**+0.6**
EVR				S		**Sn**	**03 31 45.2**	**-0.3**
BLKB	**Belogradchik**	**2.54**	**349**	*e*Pn		**Pn**	**03 31 15.5**	**+0.2**
KYMI	**Kymi, Euboea I**	**2.56**	**167**	P		**Pn**	**03 31 15.4**	**-0.2**
KYMI				S		**Sn**	**03 31 46.0**	**-0.7**
VALD	**Valchedram**	**2.56**	**1**	P		**Pn**	**03 31 16.4**	**+0.9**
COMU	**Canakkale**	**2.59**	**112**	Pn		**Pn**	**03 31 16.9**	**+0.9**
TIR	**Tirane**	**2.63**	**276**	*e*Pn		**Pn**	**03 31 17.7**	**+1.2**
SELS	**Selova**	**2.66**	**322**	*e*Pn		**Pn**	**03 31 17.1**	**+0.1**
SELS				*e*Sn		**Sn**	**03 31 48.3**	**-1.1**
SIGR	**SIGRI**	**2.71**	**134**	P		**Pn**	**03 31 17.7**	**+0.1**
SIGR				S		**Sn**	**03 31 49.4**	**-1.2**
ANX	**Ano Chora**	**2.76**	**204**	P		**Pn**	**03 31 19.0**	**+0.6**
ANX				S		**Sn**	**03 31 51.4**	**-0.4**
BOVS	**Bovan**	**2.78**	**335**	⇓P		**Pn**	**03 31 20.9**	**+2.3**
BOVS	**Bovan**	**2.78**	**335**	*e*Pn		**Pn**	**03 31 19.1**	**+0.5**
BOVS				*e*Sn		**Sn**	**03 31 52.6**	**+0.3**
IGT	**Igoumenitsa**	**2.80**	**236**	P		**Pn**	**03 31 20.3**	**+1.4**
IGT				S		**Sn**	**03 31 52.6**	**-0.1**
ZAGS	**Zajecar**	**2.81**	**343**	*e*Pn		**Pn**	**03 31 18.4**	**-0.5**
ZAGS				*e*Sn		**Sn**	**03 31 51.9**	**-0.9**
PVO	**Paravola**	**2.87**	**210**	P		**Pn**	**03 31 21.1**	**+1.3**
PVO				S		**Sn**	**03 31 53.2**	**-1.2**
SERG	**Sergoula**	**2.89**	**201**	P		**Pn**	**03 31 20.5**	**+0.4**
SERG				S		**Sn**	**03 31 53.7**	**-1.2**
VIL2	**Platees**	**2.91**	**181**	P		**Pn**	**03 31 21.1**	**+0.7**
EFP	**Efpalio**	**2.92**	**203**	P		**Pn**	**03 31 20.6**	**+0.2**
PVY	**Plav**	**2.92**	**301**	⇓*i*Pn		**Pn**	**03 31 21.4**	**+0.8**
PVY				*i* Sn		**Sn**	**03 31 58.1**	**+2.2**
ZIMR		**2.94**	**30**	⇓P		**Pg**	**03 31 28.7**	**-1.6**
GOCS	**Kraljevo Serbi**	**3.04**	**324**	*e*Pn		**Pn**	**03 31 22.1**	**-0.2**
KEK	**Kerkira**	**3.05**	**244**	P		**Pn**	**03 31 22.7**	**+0.4**
DION	**Dionisos Attik**	**3.08**	**171**	P		**Pn**	**03 31 23.0**	**+0.2**
TSLK	**Tsoukalades, L**	**3.09**	**223**	P		**Pn**	**03 31 23.4**	**+0.6**
IVA	**Berane**	**3.11**	**305**	⇑*i*Pn		**Pn**	**03 31 24.3**	**+1.2**
IVA				*i* Sn		**Sn**	**03 32 01.9**	**+1.5**
LTK	**Loutraki**	**3.12**	**185**	P		**Pn**	**03 31 23.7**	**+0.5**
BORS2	**Bor- Borsko je**	**3.12**	**342**	*e*Pn		**Pn**	**03 31 21.7**	**-1.5**
BORS2				*e*Sn		**Sn**	**03 31 59.0**	**-1.5**
LKD2	**Lefkada island**	**3.12**	**222**	P		**Pn**	**03 31 23.6**	**+0.4**
NYDR	**Nydri-Lefkada**	**3.15**	**221**	P		**Pn**	**03 31 23.8**	**+0.1**
SJES	**Sjenica**	**3.29**	**312**	*e*Pn		**Pn**	**03 31 26.2**	**+0.5**
DRME	**Dracevica, Mon**	**3.29**	**290**	⇑*i*Pn		**Pn**	**03 31 25.7**	**+0.1**
DRME				*i* Sn		**Sn**	**03 32 06.9**	**+2.1**
COPA	**Copaceanca**	**3.31**	**24**	⇑P		**Pb**	**03 31 34.9**	**+2.2**
PDG	**Podgorica**	**3.32**	**294**	⇑P		**Pn**	**03 31 28.2**	**+2.2**
PDG	**Podgorica**	**3.32**	**294**	*e*Pn		**Pn**	**03 31 26.9**	**+0.9**
PDG				*e*Sn		**Sn**	**03 32 05.0**	**-0.5**
PDG	**Podgorica**	**3.32**	**294**	⇓*i*Pn		**Pn**	**03 31 27.3**	**+1.3**
PDG				*i* Sn		**Sn**	**03 32 07.6**	**+2.1**
KOME	**Kolasin**	**3.33**	**302**	⇑*i*Pn		**Pn**	**03 31 27.6**	**+1.4**
KOME				*i* Sn		**Sn**	**03 32 07.7**	**+1.8**
GRUS	**Gruza**	**3.37**	**326**	*e*Pn		**Pn**	**03 31 26.6**	**-0.1**
RAZG	**Razgrad**	**3.38**	**43**	⇓P		**Pg**	**03 31 36.5**	**-2.3**
KUBS	**Kucevo**	**3.50**	**340**	*e*Pn		**Pn**	**03 31 26.8**	**-1.7**
SRE	**Strehaia**	**3.53**	**358**	⇑P		**Pb**	**03 31 34.7**	**-1.8**
CEME	**Cevo**	**3.60**	**295**	⇑*i*Pn		**Pn**	**03 31 31.2**	**+1.3**
CEME				*i* Sn		**Sn**	**03 32 13.8**	**+1.4**
HUMR	**Humele**	**3.60**	**19**	⇑P		**Pn**	**03 31 32.6**	**+2.7**
SGRR	**Singureni**	**3.65**	**31**	⇓P		**Pb**	**03 31 37.5**	**-1.1**
PLE	**Pljevlja**	**3.67**	**308**	⇓*i*Pn		**Pn**	**03 31 32.6**	**+1.7**
PLE				*i* Sn		**Sn**	**03 32 16.2**	**+1.9**
BAND	**Balkesir-Ban**	**3.69**	**101**	⇓P		**Pn**	**03 31 33.1**	**+1.9**
TRUS	**Trudelj**	**3.78**	**326**	*e*Pn		**Pn**	**03 31 32.1**	**-0.2**
HERR	**Herculane**	**3.81**	**350**	⇑P		**Pn**	**03 31 31.9**	**-0.9**
MDVR	**Moldovita**	**3.84**	**342**	⇓P		**Pn**	**03 31 33.5**	**+0.3**
MDVR	**Moldovita**	**3.84**	**342**	*e*Pn		**Pn**	**03 31 32.5**	**-0.7**
MDVR				*e*Sn		**Sn**	**03 32 18.0**	**-0.5**
DIVS	**Divibare**	**3.86**	**321**	*e*Pn		**Pn**	**03 31 33.1**	**-0.4**
BRY	**Bratogost**	**3.99**	**298**	⇑*i*Pn		**Pn**	**03 31 36.3**	**+0.9**
BRY				*i* Sn		**Sn**	**03 32 24.3**	**+2.0**
VRSS	**Vrsac**	**4.26**	**340**	*e*Pn		**Pn**	**03 31 38.2**	**-0.7**
VRSS				*e*Sn		**Sn**	**03 32 26.0**	**-2.6**
GZR	**Gura Zlata**	**4.28**	**355**	⇑P		**Pn**	**03 31 38.8**	**-0.5**
LOT	**Lotru**	**4.33**	**4**	⇓P		**Pn**	**03 31 41.3**	**+1.3**
ARR	**Arges**	**4.34**	**12**	⇑P		**Pn**	**03 31 40.5**	**+0.4**
TEKS	**Tekeris**	**4.42**	**322**	*e*Pn		**Pn**	**03 31 40.9**	**-0.3**
VOIR		**4.48**	**16**	⇑P		**Pn**	**03 31 43.7**	**+1.7**
BZS	**Buzias**	**4.66**	**345**	⇓P		**Pn**	**03 31 44.0**	**-0.4**
BZS	**Buzias**	**4.66**	**345**	*e*Pn		**Pn**	**03 31 43.6**	**-0.8**
BZS				*e*Sn		**Sn**	**03 32 37.0**	**-1.5**
SURR	**Surduc**	**4.71**	**350**	⇑P		**Pn**	**03 31 45.2**	**+0.2**
MLR	**Muntele Rosu**	**4

KDTR	Khodutka, Kamc	2.81	223	PN	Pn	03 32 43.0	+0.3
KDTR				S	Sn	03 33 14.8	-0.5
KDTR	Khodutka, Kamc	2.81	223	eP	Pn	03 32 43.1	+0.3
KDTR				eS	Sn	03 33 14.8	-0.5
BKI	Bering	3.10	63	PN	Pn	03 32 46.1	-0.6
BKI				S	Sn	03 33 19.9	-2.6
BKI	Bering	3.10	63	eP	Pn	03 32 46.1	-0.6
BKI				eS	Sn	03 33 20.0	-2.6
PAU	Pauzhetka	3.59	229	PN	Pn	03 32 55.1	+1.6
PAU	Pauzhetka	3.59	229	eP	Pn	03 32 55.2	+1.6
SKR	Severo-Kuril's	4.46	226	ePN	Pn	03 33 07.1	+1.6
SKR				eS	Sn	03 33 56.2	+0.1
SKR				pmax	pmax		
	comp=Z,114nm,0.8s						
SKR				smax	smax		
	comp=E,409nm,0.7s						
SKR				smax	smax		
	comp=N,584nm,0.8s						
SKR				MLR	MLR		
	comp=Z,300nm,16.0s						
SKR	Severo-Kuril's	4.46	226	eP	Pn	03 33 06.8	+1.3
SKR				eS	Sn	03 33 56.5	+0.5
PALN	Palana	5.23	353	PN	Pn	03 33 18.8	+2.9
PALN	Palana	5.23	353	eP	Pn	03 33 18.9	+2.9
OSSR	Ossora	5.46	10	PN	Pn	03 33 21.1	+2.1
OSSR	Ossora	5.46	10	eP	Pn	03 33 21.1	+2.1
SHEM	Shemya Is, Ala	7.86	93	LR	LR	03 36 34.2	
	comp=Z,94nm,21.6s,baz=223,slow=34						
MA2	Magadan	8.04	319		Pn	03 33 50.1	-4.3
MA2	Magadan	8.04	319	P	Pn	03 33 55.6	+1.3
	comp=Z,18nm,0.8s,baz=123,slow=9.7,SNR=25						
MA2				LR	LR	03 37 25.3	
	comp=Z,99nm,20.3s,baz=109,slow=41						
MA2	Magadan	8.04	319	i PN	Pn	03 33 53.4	-0.9
SEY	Seymchan	10.13	337	P	Pn	03 34 28.6	+5.7
	comp=Z,0.5nm,0.3s,baz=135,slow=12,SNR=7.1						
SEY	Seymchan	10.13	337	ePN	Pn	03 34 27.5	+4.6
SEY				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL	Bilibino	14.38	8	Pn	Pn	03 35 20.6	0.0
BILL	Bilibino	14.38	8	i P	Pn	03 35 20.2	-0.5
ASAJ	Asahikawa	15.57	239	P	Pn	03 35 38.0	+1.8
	comp=Z,4.5nm,0.5s,baz=86,slow=13,SNR=1.5						
ASAJ				LR	LR	03 41 15.3	
	comp=Z,98nm,20.1s,baz=132,slow=36						
SPIA	Saint Paul Isl	16.46	67	P	Pn	03 35 46.6	-0.7
	baz=270						
P08K	Saint George I	16.87	69	P	Pn	03 35 51.7	-0.7
	baz=273						
ERM	Erimo	16.87	232	Pn	Pn	03 35 49.7	-2.8
ERM				IAmb	IAmb	03 35 59.9	
	comp=Z,36nm,1.0s						
ERM	Erimo	16.87	232	P	Pn	03 35 49.7	-2.8
ERM				pmax	pmax		
	comp=Z,36nm,1.0s						
GAMB	Gambell	17.03	44	P	Pn	03 35 53.8	-0.6
	baz=247						
NIKH	Nikolski High	17.84	81	P	Pn	03 36 03.2	-1.2
	baz=285						
YAK	Yakutsk	18.39	309	LR	LR	03 43 41.5	
	comp=Z,66nm,19.8s,baz=100,slow=38						
M11K	Mekoryuk	18.72	57	P	P	03 36 13.7	-0.3
	baz=264						
KLR	Kul'dur	18.78	268	P	P	03 36 15.8	+0.9
	comp=Z,1.3nm,0.5s,baz=78,slow=12,SNR=4.8						
KLR	Kul'dur	18.78	268	i P	P	03 36 13.7	-1.1
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
UNV	Unalaska Valle	18.99	77	P	P	03 36 16.1	-1.0
	baz=283						
TNA	Tin City	19.22	41	P	Pn	03 36 21.6	+0.6
TNA	Tin City	19.22	41	P	P	03 36 19.6	+0.1
	baz=247,SNR=6.6						
K13K	Kusilvak Mount	19.65	52	P	Pn	03 36 25.8	-0.3
K13K				IAmb	IAmb	03 36 30.1	
	comp=Z,19nm,0.9s						
K13K	Kusilvak Mount	19.65	52	P	P	03 36 24.9	+0.7
	baz=261						
F14K	Arctic Creek	19.81	41	P	Pn	03 36 26.8	-1.1
	baz=250						
ZEA	Zeya	19.90	283	eP	P	03 36 27.4	+0.4
ANM	Nome	19.91	44	P	Pn	03 36 29.1	0.0
ANM	Nome	19.91	44	P	Pn	03 36 29.1	0.0
ANM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ANM	Nome	19.91	44	P	Pn	03 36 28.3	-0.8
	baz=253,SNR=6.4						
M13K	Dall Lake	20.13	57	P	P	03 36 30.1	+0.7
	baz=267						
J14K	Nanvaranak Lak	20.29	50	P	Pn	03 36 32.2	-1.3
J14K	Nanvaranak Lak	20.29	50	P	P	03 36 32.0	+0.8
	baz=260						
L14K	Kuka Creek	20.52	54	P	P	03 36 34.2	+0.5
	baz=265						
FALS	False Pass	20.54	73	P	P	03 36 33.8	0.0
	baz=282						
F15K	North Star Dit	20.55	42	P	Pn	03 36 36.2	-0.4
F15K				IAmb	IAmb	03 36 41.1	
	comp=Z,13nm,0.9s						
F15K	North Star Dit	20.55	42	P	Pn	03 36 35.2	-1.4
	baz=251,SNR=15						
G15K	Niukluk	20.58	44	P	Pn	03 36 35.9	-1.1
	baz=254,SNR=8.4						
M14K	Bethel	20.83	56	P	P	03 36 37.5	+0.5
M14K				IAmb	IAmb	03 36 45.5	
	comp=Z,26nm,1.1s						
M14K	Bethel	20.83	56	P	P	03 36 37.9	+0.9
	baz=267						
N14K	Kuskokwak Cree	20.95	58	P	P	03 36 39.0	+0.8
	baz=270						
L15K	Ungalak Mounta	21.12	53	P	P	03 36 41.2	+1.1
	baz=265						
K15K	Wolf Creek Mou	21.16	52	P	P	03 36 41.5	+1.0
	baz=264						
O14K	Tigyukauivet M	21.17	60	P	P	03 36 41.4	+0.7
	baz=272						
H16K	Elim	21.23	45	P	P	03 36 42.6	+1.3
	baz=257,SNR=5.4						
C16K	Lisburne Hills	21.27	35	P	P	03 36 42.0	+0.3
C16K	Lisburne Hills	21.27	35	P	P	03 36 43.1	+1.5
	baz=244						
G16K	Koyuk River	21.37	43	P	P	03 36 44.0	+1.3
	baz=255						
M15K	Kasigluk River	21.45	56	P	P	03 36 44.4	+0.7
	baz=268						
J16K	Anvik River	21.70	49	P	P	03 36 47.2	+0.9
	baz=262						
N15K	Kwethluk River	21.75	58	P	P	03 36 47.5	+0.6
	baz=270						
I17K	Unalakleet	21.75	48	P	P	03 36 49.1	+2.4
I17K				IAmb	IAmb	03 36 56.0	
	comp=Z,14nm,1.4s						
I17K	Unalakleet	21.75	48	P	P	03 36 47.5	+0.7
	baz=260						
D17K	Noatak River	21.82	37	P	P	03 36 48.4	+0.9
	baz=248,SNR=6.2						
O15K	Ungalikthiuk R	21.92	60	P	P	03 36 48.7	0.0
	baz=273						
RDOG	Red Dog Mine	22.01	36	P	P	03 36 50.4	+0.8
RDOG				IAmb	IAmb	03 36 52.8	
	comp=Z,8.2nm,0.8s						
RDOG	Red Dog Mine	22.01	36	P	P	03 36 50.4	+0.8
	baz=248						
E17K	Hotham Inlet	22.06	39	P	P	03 36 51.0	+0.9
	baz=251						
L16K	Owhat River	22.08	54	P	P	03 36 51.9	+1.5
L16K	Owhat River	22.08	54	P	P	03 36 50.6	+0.3
	baz=267						
C17K	DeLong Mountai	22.08	35	P	P	03 36 51.3	+0.9
	baz=246						
SDPT	Sand Point	22.08	71	P	P	03 36 50.5	+0.1
	baz=282						
G17K	Kiwalik Mounta	22.09	43	P	P	03 36 51.1	+0.7
	baz=256						
F17K	Baldwin Pennin	22.09	41	P	P	03 36 51.2	+0.8
	baz=254						
H17K	Granite Mounta	22.27	45	P	P	03 36 53.3	+0.8
	baz=259						
M16K	Timber Creek	22.31	55	P	P	03 36 53.1	+0.3
	baz=269						
J17K	VABM Dome	22.40	49	P	P	03 36 53.8	0.0
	baz=263						
N16K	Nishlik Lake	22.40	57	P	P	03 36 54.1	+0.2
	baz=271						
S14K	Fog Glacier	22.41	68	P	P	03 36 53.9	-0.2
	baz=280						
TIXI	Tiksi	22.61	334	P	P	03 36 54.1	-1.8
TIXI	Tiksi	22.61	334	LR	LR	03 46 48.3	
	comp=Z,99nm,18.1s,baz=40,slow=40						
TIXI	Tiksi	22.61	334	i P	P	03 36 53.7	-2.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
E18K	Tukpahlearik C	22.62	38	P	P	03 36 56.8	+0.7
E18K	Tukpahlearik C	22.62	38	P	P	03 36 56.5	+0.4
	baz=252						
CNBA	Chernabura Isl	22.70	72	P	P	03 36 57.1	0.0
CNBA				IAmb	IAmb	03 37 05.0	
	comp=Z,24nm,1.3s						
F18K	Selawik	22.75	41	P	P	03 36 57.7	+0.2
	baz=255						
O16K	Kokwok River B	22.77	59	P	P	03 36 57.7	-0.1
	baz=273						
C18K	Utukok River	22.82	35	P	P	03 36 58.6	+0.2
	baz=249						
P16K	Nushagak River	22.87	61	P	P	03 36 58.4	-0.4
	baz=275						
B18K	Kokolik River	22.89	33	P	P	03 36 59.7	+0.7
	baz=246						
H18K	Honhosa River	22.96	45	P	P	03 36 59.9	+0.3
	baz=260						
G18K	Tagagawik	22.98	43	P	P	03 36 57.9	-2.0
G18K	Tagagawik	22.98	43	P	P	03 37 00.3	+0.4
	baz=258						
O17K	Koliganek Bris	23.27	59	P	P	03 37 03.0	+0.3
	baz=274						
L18K	Granite Mounta	23.41	52	P	P	03 37 04.9	+0.8
	baz=268						
J18K	Innoko River	23.46	49	P	P	03 37 05.2	+0.7
	baz=266						
A19K	Wainwright	23.47	32	P	P	03 37 05.1	+0.6
	baz=245						
MJA0	Matsu Arr-Jizo	23.52	232	eP	P	03 37 08.0	+2.6
MJA0				pmax	pmax		
	comp=Z,5.0nm,1.0s						
F19K	Shaleruckik Mo	23.53	41	P	P	03 37 05.4	+0.2
F19K	Shaleruckik Mo	23.53	41	P	P	03 37 05.2	+0.1
	baz=257,SNR=9.5						
MAJO	Matsushiro	23.54	232	P	P	03 37 06.3	+0.7
MJAR	Matsushiro Arr	23.54	232	P	P	03 37 07.3	+1.8
	comp=Z,2.7nm,0.7s,baz=20,slow=11,SNR=8.0						
MJAR				LR	LR	03 45 59.6	
	comp=Z,61nm,21.6s,baz=43,slow=36						
	comp=Z,2.7nm,0.7s						
G19K	Purcell Mounta	23.66	42	P	P	03 37 06.8	+0.5
G19K	Purcell Mounta	23.66	42	P	P	03 37 06.9	+0.5
	baz=259						
H19K	Roundabout Mou	23.81	44	P	P	03 37 08.4	+0.7
H19K	Roundabout Mou	23.81	44	P	P	03 37 08.7	+1.0
	baz=261						
N18K	Kilae Creek	23.82	56	P	P	03 37 09.1	+1.2
N18K	Kilae Creek	23.82	56	P	P	03 37 08.0	+0.2
	baz=273						
M18K	Stony River	23.82	54	P	P	03 37 08.4	+0.6
	baz=271						
D19K	Kuna River	23.84	37	P	P	03 37 08.6	+0.6
D19K				IAmb	IAmb	03 37 10.3	
	comp=Z,10nm,1.0s						
D19K	Kuna River	23.84	37	P	P	03 37 09.3	+1.3
	baz=253						
E19K	Redstone River	23.88	39	P	P	03 37 09.4	+1.0
E19K				IAmb	IAmb	03 37 11.3	
	comp=Z,8.7nm,1.0s						
E19K	Redstone River	23.88	39	P	P	03 37 09.6	+1.2
	baz=256						
J19K	Poorman	23.99	48	P	P	03 37 10.2	+0.8
	baz=265						
O18K	Koktuh Hills	24.21	58	P	P	03 37 12.7	+1.2
O18K				IAmb	IAmb	03 37 15.4	
	comp=Z,10nm,1.1s						
O18K	Koktuh Hills	24.21	58	P	P	03 37 11.3	-0.2
	baz=275						
P18K	Big Mountain,	24.25	59	P	P	03 37 11.7	-0.1
	baz=276						
F20K	Avaraart Lake	24.36	41	P	P	03 37 13.4	+0.7
F20K	Avaraart Lake	24.36	41	P	P	03 37 13.6	+0.8
	baz=258						
D20K	Etivluk River	24.43	36	P	P	03 37 14.1	+0.7
	baz=254						
H20K	Anotleneega Mo	24.45	44	P	P	03 37 14.2	+0.6
	baz=263						
E20K	Nigu River	24.46	38	P	P	03 37 14.1	+0.3
	baz=255						
M19K	Big River Lodg	24.49	53	P	P	03 37 15.3	+1.3
M19K				IAmb	IAmb	03 37 25.7	
	comp=Z,15nm,1.5s						
M19K	Big River Lodg	24.49	53	P	P	03 37 14.9	+0.9
	baz=271						
N19K	Bonanza Creek	24.50	56	P	P	03 37 13.4	-0.7
	baz=274						
I20K	Naaghedeneel	24.55	46	P	P	03 37 15.6	+1.2
	baz=265						
B20K	Meade River	24.64	33	P	P	03 37 16.1	+0.9
B20K	Meade River	24.64	33	P	P	03 37 15.8	+0.6
	baz=251,SNR=23						
K20K	Teilida	24.64	50	P	P	03 37 16.1	+0.7
	baz=268						
J20K	Nowinta River	24.65	48	P	P	03 37 16.3	+0.9
J20K	Nowinta River	24.65	48	P	P	03 37 16.3	+0.9
	baz=266						
CHIR	Chirikof Islan	24.66	68	P	P	03 37 16.2	+0.6
	baz=284						
L20K	Farewell, AK	24.72	52	P	P	03 37 16.5	+0.3
	baz=270						
R18K	Karluk	24.92	64	P	P	03 37 18.0	+0.1
	baz=280						
M20K	Styx River	25.09	53	P	P	03 37 20.0	+0.5
	baz=272						
G21K	Allakaket	25.14	42	P	P	03 37 21.5	+1.6
G21K				IAmb	IAmb	03 37 23.7	
	comp=Z,8.9nm,1.2s						
G21K	Allakaket	25.14	42	P	P	03 37 20.8	+1.0
	baz=262						
C21K	Knifeblade Rid	25.19	36	P	P	03 37 21.4	+1.2
	baz=255						
P19K	Oil Pt	25.23	58	P	P	03 37 20.7	0.0
	baz=277						
F21K	Alatna River	25.26	41	P	P	03 37 22.1	+1.2
F21K	Alatna River	25.26	41	P	P	03 37 21.4	+0.5
	baz=260,SNR=7.8						
A21K	Barrow	25.27	30	P	P	03 37 21.1	+0.2
	baz=249						
SII	Sitkinak Islan	25.27	66	P	P	03 37 21.1	0.0
	baz=283						
E21K	Killik River	25.31	38	P	P	03 37 21.9	+0.5
E21K	Killik River	25.31	38	P	P	03 37 21.8	+0.5
	baz=258						
H21K	Melozitna Rive	25.33	44	P	P	03 37 22.3	+0.7
	baz=264						
B21K	Ikpikpuk River	25.37	35	P	P	03 37 22.8	+1.0
B21K				IAmb	IAmb	03 37 23.6	
	comp=Z,14nm,0.7s						
B21K	Ikpikpuk River	25.37	35	P	P	03 37 23.0	+1.1
	baz=254						
CHUM	Lake Minchumin	25.44	48	P	P	03 37 23.1	+0.6
	baz=269						
O20K	Slope Mountain	25.48	57	P	P	03 37 23.7	+0.6
	baz=276						
PPLA	Purkeypile	25.50	51	P	P	03 37 23.3	+0.1
	baz=271						
CAST	Castle Rocks	25.54	50	P	P	03 37 24.0	+0.5
	baz=270						
SPCR	Spurr Chakacha	25.57	55	P	P	03 37 23.9	0.0
	baz=274						
A22K	Sinclair Lake	25.66	32	P	P	03 37 25.2	+0.7
	baz=251						
STLK	Strandline Lak	25.73	54	P	P	03 37 26.2	+0.9
F22K	John River	25.80	40	P	P	03 37 26.7	+0.9
	baz=261						
Q20K	Shuyak Island	25.81	61	P	P	03 37 26.6	+0.7
	baz=280						
D22K	Ayikyak River	25.86	37	P	P	03 37 27.3	+0.9
D22K	Ayikyak River	25.86	37	P	P	03 37 27.3	+0.9
	baz=258						
KDAK	Kodiak Island	25.87	63	P	P	03 37 26.6	+0.2
	baz=281						
H22K	Ishtalitna Cre	25.94	44	P	P	03 37 27.9	+0.8
	baz=265						
B22K	Teshekpuk Lake	25.96	33	P	P	03 37 27.6	+0.4
B22K				IAmb	IAmb	03 37 32.3	
	comp=Z,11nm,1.1s						
B22K	Teshekpuk Lake	25.96	33	P	P	03 37 28.1	+0.9
	baz=254						
BPAW	Bear Paw Mtn.	26.03	48	P	P	03 37 29.8	+1.9
E22K	Anaktuvuk Pass	26.04	39	P	P	03 37 28.5	+0.5
E22K				IAmb	IAmb	03 37 29.7	
	comp=Z,8.0nm,1.2s						
E22K	Anaktuvuk Pass	26.04	39	P	P	03 37 28.5	+0.5
	baz=260						
SUA	Susitna One	26.25	54	P	P	03 37 30.9	+0.8
	baz=275						
TRF	Thorofare Moun	26.35	49	P	P	03 37 31.9	+1.0
	baz=271						
BRSE	Bradley Lake S	26.47	58	P	P	03 37 32.5	+0.5
	baz=279						
COLD	Coldfoot	26.52	41	P	P	03 37 32.7	+0.4
COLD	Coldfoot	26.52	41	P	P	03 37 33.2	+0.8
	baz=264						
G23K	Bananza Creek	26.55	42	P	P	03 37 33.2	+0.7
	baz=265						
D23K	Nanushuk River	26.59	37	P	P	03 37 33.4	+0.6
	baz=260						
H23K	Yukon River	26.68	44	P	P	03 37 34.7	+0.9
	baz=267						
I23K	Minto, Yukon-K	26.74	46	P	P	03 37 35.3	+1.0
	baz=269						
C23K	Itkillik River	26.77	35	P	P	03 37 35.4	+0.9
C23K				IAmb	IAmb	03 37 36.0	
	comp=Z,5.5nm,0.8s						
C23K	Itkillik River	26.77	35	P	P	03 37 35.3	+0.7
	baz=258						
E23K	Chandalar	26.84	39	P	P	03 37 36.1	+0.8
E23K				IAmb	IAmb	03 37 37.0	
	comp=Z,4.9nm,0.8s						
E23K	Chandalar	26.84	39	P	P	03 37 36.3	+1.0
	baz=263						
NEA2	Nenana	26.86	47	P	P	03 37 36.6	+1.2
	baz=270						
TOLK	Toolik Lake Re	26.93	38	P	P	03 37 36.4	+0.4
TOLK	Toolik Lake Re	26.93	38	P	P	03 37 36.8	+0.7
	baz=262						
MCK	McKinley	26.94	49	P	P	03 37 36.6	+0.4
	baz=272						
SEW	Seward	27.05	57	P	P	03 37 36.9	-0.2
	baz=279						
E24K	Your Creek	27.27	39	P	P	03 37 39.6	+0.6
E24K	Your Creek	27.27	39	P	P	03 37 39.8	+0.8
	baz=264						
D24K	Happy Valley	27.28	37	P	P	03 37 39.2	+0.1
	baz=262						
KNK	Knik Glacier	27.35	54	P	P	03 37 40.3	+0.5
	baz=277						
SML	Sawmill	27.37	53	P	P	03 37 40.3	+0.3
	baz=276						
C24K	Franklin Bluff	27.41	36	P	P	03 37 40.6	+0.4
	baz=261						
F24K	Squaw Lake	27.44	40	P	P	03 37 41.1	+0.4
	baz=266						
PWL	Port Wells	27.49	55	P	P	03 37 41.2	+0.1
	baz=278						
POKR	Poker Plat Res	27.56	46	P	P	03 37 41.9	+0.3
	baz=271						
G24K	Hadweenzic Riv	27.56	42	P	P	03 37 43.0	+1.4
G24K				IAmb	IAmb	03 37 44.2	
	comp=Z,8.2nm,0.8s						
G24K	Hadweenzic Riv	27.56	42	P	P	03 37 42.5	+0.9
	baz=268						
M23K	Glacier View	27.65	53	P	P	03 37 42.8	+0.2
	baz=277						
IL31		27.80	46	P	P	03 37 44.5	+0.8
ILAR	Eielson Array	27.80	46	P	P	03 37 44.0	+0.2
	comp=Z,1.8nm,0.8s,baz=258,slow=8.2,SNR=21						
ILAR				LR	LR	03 48 45.2	
	comp=Z,34nm,18.9s,baz=302,slow=36						
	comp=Z,1.8nm,0.8s						
SCM	Sheep Creek Mo	27.84	53	P	P	03 37 44.2	-0.1
	baz=277						
P23K	Montague Islan	28.09	57	P	P	03 37 46.3	0.0
	baz=280						
KSRS	Korea Array	28.10	248	LR	LR	03 49 33.7	
	comp=Z,29nm,18.9s,baz=70,slow=38						
G25K	Bearman Lake	28.11	42	P	P	03 37 47.5	+1.0
	baz=269						
D25K	Kavik River	28.16	37	P	P	03 37 47.6	+0.6
D25K				IAmb	IAmb	03 37 48.2	
	comp=Z,8.2nm,0.7s						
D25K	Kavik River	28.16	37	P	P	03 37 47.5	+0.5
	baz=264						
F25K	Christian Rive	28.31	40	P	P	03 37 49.1	+0.7
	baz=268						
K24K	Donnelly Dome	28.34	48	P	P	03 37 49.2	+0.6
	baz=275						
M24K	Tolsona, Glenn	28.34	52	P	P	03 37 49.5	+0.8
	baz=277						
PRP	Porcupine Dome	28.35	45	P	P	03 37 49.6	+0.7
PRP				IAmb	IAmb	03 37 51.1	
	comp=Z,9.1nm,1.1s						
PRP	Porcupine Dome	28.35	45	P	P	03 37 49.5	+0.7
	baz=272						
E25K	Arctic Village	28.36	39	P	P	03 37 50.0	+1.3
E25K	Arctic Village	28.36	39	P	P	03 37 49.2	+0.4
	baz=267						
J25K	Salcha River,	28.46	47	P	P	03 37 50.3	+0.6
	baz=273						
C26K	Camden Bay	28.73	36	P	P	03 37 53.3	+1.2
	baz=264						
RIDG	Independent Ri	28.76	48	P	P	03 37 52.7	+0.4
	baz=276						
EYAK	Cordova Ski Ar	28.79	55	P	P	03 37 53.3	+0.7
	baz=281						
F26K	Sheenjek River	28.88	40	P	P	03 37 54.2	+0.7
	baz=269						
G26K	Porcupine Rive	29.02	42	P	P	03 37 55.6	+1.0
	baz=271						
C27K	Jago River	29.13	36	P	P	03 37 56.7	+1.2
C27K				IAmb	IAmb	03 37 57.3	
	comp=Z,4.6nm,0.8s						
C27K	Jago River	29.13	36	P	P	03 37 56.5	+1.0
	baz=266						
E27K	Coleen River	29.85	39	P	P	03 38 03.3	+1.3
	baz=270						
JNU	Nakatsue	29.85	238	LR	LR	03 50 05.8	
	comp=Z,46nm,20.2s,baz=20,slow=36						
G27K	Doyon Strip	29.87	42	P	P	03 38 02.9	+0.8
	baz=273						
K27K	Chicken	29.94	48	P	P	03 38 03.8	+1.0
	baz=277						
H27K	Steamboat Moun	29.95	43	P	P	03 38 04.2	+1.3
	baz=274						
I27K	Kandik River	29.97	44	P	P	03 38 04.2	+1.2
	baz=275						
D27M	Malcolm River	30.08	37	P	P	03 38 04.8	+0.7
	baz=269						
L27K	Beaver Creek,	30.19	49	P	P	03 38 05.2	+0.2
	baz=279						
M27K	Edge Creek, AK	30.29	51	P	P	03 38 06.8	+0.7
	baz=280						
E28M	Babbage River	30.60	38	P	P	03 38 09.2	+0.6
	baz=272						
I28M	Miner Creek	30.68	45	P	P	03 38 10.4	+1.0
	baz=276						
MESA	MESA	30.72	55	P	P	03 38 10.3	+0.4
	baz=284						
E29M	Blow River	31.22	39	P	P	03 38 15.2	+1.2
	baz=273						
H29M	Whitestone	31.23	43	P	P	03 38 14.6	+0.5
	baz=277						
G29M	Pine Creek	31.29	42	P	P	03 38 16.3	+1.6
G29M				IAmb	IAmb	03 38 18.2	
	comp=Z,8.3nm,0.9s						
G29M	Pine Creek	31.29	42	P	P	03 38 15.4	+0.8
	baz=276						
I29M	Ogilvie Camp,	31.37	45	P	P	03 38 16.1	+0.7
	baz=278						
J29N	Klondike Camp	31.55	46	P	P	03 38 16.2	-0.8
	baz=280						
PINM	Pinnacle	31.56	55	P	P	03 38 16.3	-0.9
	baz=285						
M29M	Somme Creek	31.83	50	P	P	03 38 19.7	+0.1
	baz=283						
L29M	L29M	31.84	49	P	P	03 38 20.1	+0.6
	baz=282						
EPYK	Eagle Plains	31.87	42	P	P	03 38 20.9	+1.1
	baz=278						
K29M	Barlow Dome	31.96	47	P	P	03 38 20.6	-0.1
	baz=281						
G30M	tAoh Zraii Nji	31.99	41	P	P	03 38 21.9	+1.1
G30M				IAmb	IAmb	03 38 25.2	
	comp=Z,3.3nm,0.8s						
G30M	tAoh Zraii Nji	31.99	41	P	P	03 38 21.1	+0.2
	baz=277	

baz=276
I30M **Mount Dempster** 32.19 45 P **P** 03 38 22.9 +0.2
baz=280
G31M **Satah River** 32.76 41 P **P** 03 38 28.4 +1.0
baz=279
INK **Inuvik** 32.84 39 P **P** 03 38 29.4 +1.2
INK IAmb IAmb 03 38 30.1
comp=Z,3.1nm,0.7s
INK **Inuvik** 32.84 39 P **P** 03 38 29.4 +1.2
INK pmax pmax
comp=Z,3.0nm,0.7s
INK **Inuvik** 32.84 39 P **P** 03 38 29.1 +0.9
baz=277
F31M **Tsiigehtchic** 32.88 40 P **P** 03 38 29.5 +1.0
F31M IAmb IAmb 03 38 30.2
comp=Z,6.0nm,0.7s
F31M **Tsiigehtchic** 32.88 40 P **P** 03 38 28.9 +0.4
baz=278,SNR=6.2
H31M **Peel River** 32.92 43 P **P** 03 38 29.4 +0.4
baz=280
P30M **Million Dollar** 33.13 54 P **P** 03 38 31.6 +0.7
baz=287
N31M **Braeburn, Yuko** 33.30 51 P **P** 03 38 32.7 +0.4
baz=286
O30N **Mendenhall** 33.35 53 P **P** 03 38 32.4 -0.5
baz=287
PLBC **Pleasant Camp** 33.63 55 P **P** 03 38 35.3 +0.2
baz=288
M31M **Drury Creek, Y** 33.73 50 P **P** 03 38 36.2 +0.2
baz=286
WHY **Whitehorse** 33.96 52 P **P** 03 38 37.9 -0.2
baz=288
H11N2 **WAKE ISLAND Hy** 34.41 170 T T 04 15 25.1
baz=356
H11N3 **WAKE ISLAND Hy** 34.42 170 T T 04 15 29.9
baz=356,slow=74
H11N1 **WAKE ISLAND Hy** 34.42 170 T T 04 15 17.7
baz=356,slow=74
A36M **Sachs Harbour** 35.10 31 P **P** 03 38 48.6 +0.9
A36M IAmb IAmb 03 38 58.4
comp=Z,4.4nm,0.9s
A36M **Sachs Harbour** 35.10 31 P **P** 03 38 48.2 +0.5
baz=279
H11S1 **WAKE ISLAND Hy** 35.60 171 T T 04 16 25.9
baz=351,slow=76
NRIK **Noril'sk** 35.60 324 LR LR 03 54 32.3
comp=Z,64nm,19.1s,baz=129,slow=38
H11S3 **WAKE ISLAND Hy** 35.61 171 T T 04 16 35.8
baz=351,slow=76
H11S2 **WAKE ISLAND Hy** 35.62 171 T T 04 16 39.8
baz=351,slow=76
C36M **Paulatuk** 36.02 36 P **P** 03 38 56.5 +0.9
C36M IAmb IAmb 03 38 57.6
comp=Z,8.2nm,1.2s
C36M **Paulatuk** 36.02 36 P **P** 03 38 56.4 +0.9
baz=284
U33K **Whale Pass** 36.48 59 P **P** 03 39 00.2 +0.5
baz=295
TGTN **Hyland Airport** 36.70 49 P **P** 03 39 01.8 +0.3
baz=291
CRAG **Craig** 36.76 60 P **P** 03 39 02.9 +0.8
baz=296
DLBC **Dease Lake** 37.06 54 LR LR 03 54 23.6
comp=Z,62nm,18.8s,baz=280,slow=36
TOAD **Toad River Com** 39.16 52 P **P** 03 39 22.7 +0.4
baz=296
YKA **Yellowknife Ar** 42.14 44 P **P** 03 39 48.0 +1.2
comp=Z,1.3nm,0.7s,baz=300,slow=8.2,SNR=22
comp=Z,1.3nm,0.7s
RES **Resolute Bay** 42.33 23 P **P** 03 39 49.2 +1.1
RES IAmb IAmb 03 39 50.1
comp=Z,6.0nm,0.8s
RES **Resolute Bay** 42.33 23 P **P** 03 39 49.2 +1.1
RES pmax pmax
comp=Z,6.0nm,0.9s
SPITS **Spitsbergen Ar** 46.43 351 P **P** 03 40 21.0 +0.2
comp=Z,10nm,0.7s,baz=67,slow=6.4,SNR=12
comp=Z,10nm,0.7s
NEEM **North Greenlan** 47.38 9 *i* P **P** 03 40 28.3 -0.3
NEEM IAmb IAmb 03 40 29.5
comp=Z,13nm,0.9s
KURK **Kurchatov** 47.83 302 P **P** 03 40 29.6 -2.4
KURK IAmb IAmb 03 40 32.6
comp=Z,2.1nm,0.6s
KURK **Kurchatov** 47.83 302 P **P** 03 40 30.4 -1.6
KURBB **Kurchatov Arra** 47.93 302 P **P** 03 40 30.4 -2.5
comp=Z,1.5nm,0.6s,baz=58,slow=7.9,SNR=10
comp=Z,1.5nm,0.6s
MK31 **Makanchi Array** 48.36 296 P **P** 03 40 33.8 -2.5
MK31 **Makanchi Array** 48.36 296 *ce*P **P** 03 40 33.5 -2.8
MKAR **Makanchi Array** 48.36 296 P **P** 03 40 33.7 -2.6
comp=Z,1.7nm,0.6s,baz=56,slow=7.4,SNR=23
comp=Z,1.7nm,0.6s
KULLO **Kullorsuaq** 49.25 13 *i* P **P** 03 40 42.3 -0.4
KULLO IAmb IAmb 03 40 43.4
comp=Z,9.9nm,0.7s
DAG **Danmarks Havn** 49.59 360 P **P** 03 40 44.3 -0.9
DAG **Danmarks Havn** 49.59 360 *i* P **P** 03 40 43.8 -1.4
DAG IAmb IAmb 03 40 45.9
comp=Z,6.3nm,1.0s
BVAR **Borovoye Array** 50.37 308 P **P** 03 40 48.8 -2.7
comp=Z,1.8nm,0.4s,baz=62,slow=7.4,SNR=9.8
BVAR LR LR 04 03 31.1
comp=Z,48nm,20.4s,baz=238,slow=38
comp=Z,1.8nm,0.4s
UPNV **Upernavik** 50.99 13 *i* P **P** 03 40 55.7 -0.1
UPNV IAmb IAmb 03 40 56.4
comp=Z,6.0nm,0.8s
KEV **Kevo** 52.23 342 P **P** 03 41 04.0 -1.1
FCC **Fort Churchill** 52.45 39 P **P** 03 41 07.9 +1.0
FCC IAmb IAmb 03 41 08.4
comp=Z,4.5nm,0.9s
FCC **Fort Churchill** 52.45 39 P **P** 03 41 07.9 +1.0
FCC pmax pmax
comp=Z,5.0nm,1.0s
ARCES **ARCESS Array B** 52.70 342 P **P** 03 41 08.1 -0.5
comp=Z,2.3nm,0.7s,baz=36,slow=8.7,SNR=9.2
comp=Z,2.3nm,0.7s
SUMG **Summit** 53.07 7 P **P** 03 41 12.0 +0.2
SUMG **Summit** 53.07 7 P **P** 03 41 12.0 +0.2
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG **Summit** 53.07 7 *i* P **P** 03 41 11.0 -0.8
SUMG IAmb IAmb 03 41 13.8
comp=Z,16nm,1.0s
ARTI **Arti** 53.31 317 *c i* P **P** 03 41 10.8 -2.5
ARTI S **S** 03 48 36.9 -3.5
ARTI SS **SS** 03 52 15.7 -4.3
ARTI pmax pmax
comp=Z,5.0nm,1.0s
NVAR **Mina Array Bea** 54.88 71 P **P** 03 41 27.8 +2.5
comp=Z,1.2nm,0.6s,baz=300,slow=6.7,SNR=12
comp=Z,1.2nm,0.6s
ILULI **Ilulissat** 54.94 13 *i* P **P** 03 41 24.4 -0.5
ILULI IAmb IAmb 03 41 25.8
comp=Z,12nm,0.8s
ELK **Elko** 54.97 67 P **P** 03 41 28.0 +2.2
KIRV **Kirov** 55.10 324 *ce*P **P** 03 41 25.2 -1.0
ICESG **Greenland Ices** 56.36 9 *i* P **P** 03 41 35.2 -0.4
ICESG IAmb IAmb 03 41 36.8
comp=Z,6.8nm,0.8s
FRB **Frobisher Bay** 56.51 24 LR LR 04 07 13.7
comp=Z,49nm,18.7s,baz=122,slow=37
KLMR **Klimovskoe** 56.55 330 *e*P **P** 03 41 34.4 -2.2
KLMR pmax pmax
comp=Z,13nm,1.5s
PDAR **Pinedale Array** 56.58 62 P **P** 03 41 39.3 +1.9
comp=Z,0.6nm,0.7s,baz=290,slow=3.4,SNR=5.9
comp=Z,0.6nm,0.7s
DUG **Dugway, Tooele** 56.67 66 P **P** 03 41 39.9 +2.0
SFJD **Kangerlussuaq** 57.07 14 *i* P **P** 03 41 39.6 -0.6
SFJD IAmb IAmb 03 41 41.0
comp=Z,9.7nm,0.9s
ULM **Lac du Bonnet** 57.81 48 P **P** 03 41 46.2 +0.6
comp=Z,1.4nm,0.5s,baz=220,slow=4.1,SNR=3.9
comp=Z,1.4nm,0.5s
FINES **FINESS Array B** 59.61 337 P **P** 03 41 58.0 0.0
comp=Z,4.0nm,0.4s,baz=33,slow=8.5,SNR=45
comp=Z,4.0nm,0.4s
ISOG **Isortoq, Green** 59.88 10 *i* P **P** 03 41 59.0 -0.7
BORG **Borgarnes** 61.66 1 P **P** 03 42 13.7 +1.9
OBN **Obninsk** 62.16 328 *ce*P **P** 03 42 16.2 +0.9
OBN pmax pmax
comp=Z,4.0nm,0.5s
NB2 **NORSAR Subarra** 62.93 344 P **P** 03 42 20.3 -0.1
comp=Z,1.9nm,0.5s,baz=21,slow=6.9
NB2 **NORSAR Subarra** 62.93 344 P **P** 03 42 20.3 -0.1
NOA **NORSAR Array B** 62.93 344 P **P** 03 42 20.4 0.0
comp=Z,3.7nm,0.7s,baz=21,slow=6.6,SNR=21
comp=Z,3.7nm,0.7s
NORES **NORESS Array B** 63.16 344 P **P** 03 42 21.6 -0.3
HFS **Hagfors** 63.36 342 P **P** 03 42 22.9 -0.3
comp=Z,2.6nm,0.4s,baz=41,slow=4.7,SNR=27
comp=Z,2.6nm,0.4s
LPSR **Galich'ya Gora** 63.48 325 *e*P **P** 03 42 22.7 -1.4
LPSR pmax pmax
comp=Z,8.0nm,0.8s
TUC **Tucson** 63.54 71 P **P** 03 42 26.0 +1.1
VSR **Storozhevoye** 64.55 324 *e*P **P** 03 42 28.9 -2.2
VSR pmax pmax
comp=Z,4.0nm,0.8s
SCHQ **Schefferville** 64.63 28 P **P** 03 42 31.6 -0.1
comp=Z,3.1nm,0.9s,baz=340,slow=6.4,SNR=5.5
comp=Z,3.1nm,0.9s
VORD **Divnogorie** 64.71 324 *e*P **P** 03 42 29.0 -3.2
VORD pmax pmax
comp=Z,5.0nm,0.9s
MNK **Minsk** 65.26 332 *i* P **P** 03 42 33.5 -2.2
MNK *i* *PP **pP** 03 42 49.9 -0.9
MNK *i* 03 44 57.5
MNK *i* S **S** 03 51 12.1 -2.6
MNK *i* *SS **sS** 03 51 39.9 -0.3
MNK *i* SS **SS** 03 55 27.1 0.0
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK MLR MLR
comp=N,97nm,19.0s
MNK MLR MLR
comp=Z,63nm,17.0s
MNK MLR MLR
comp=E,98nm,20.0s
WMOK **Wichita Mounta** 68.16 61 P **P** 03 42 55.2 +0.6
AK22 **Malin Array Si** 68.22 329 P **P** 03 42 54.1 -0.5
AKASG **Malin Array Be** 68.23 329 P **P** 03 42 53.8 -0.8
comp=E,2.4nm,0.5s,baz=30,slow=6.1,SNR=12
comp=E,2.4nm,0.5s
AK11 **Malin Array Si** 68.27 329 P **P** 03 42 54.0 -0.9
AK02 **Malin Array Si** 68.27 329 P **P** 03 42 54.1 -0.8
AK19 **Malin Array Si** 68.27 330 P **P** 03 42 54.2 -0.8
AK08 **Malin Array Si** 68.28 329 P **P** 03 42 53.9 -1.1
AK09 **Malin Array Si** 68.28 329 P **P** 03 42 54.0 -1.0
AK16 **Malin Array Si** 68.29 329 P **P** 03 42 54.3 -0.8
AK17 **Malin Array Si** 68.29 329 P **P** 03 42 54.1 -1.0
MI28 **Mi28,Pidlybu** 68.49 330 P **P** 03 42 55.5 -0.8
RNPP9 **Sopachiv** 68.57 332 P **P** 03 42 56.4 -0.4
RNPP1 **Kostyukhnivka** 68.66 332 P **P** 03 42 57.5 +0.2
RNPP5 **Staryi Chortor** 68.73 332 P **P** 03 42 57.7 -0.1
KBZ **Khabaz** 69.36 317 P **P** 03 43 01.9 +0.1
comp=E,2.3nm,0.6s,baz=63,slow=9.0,SNR=10
comp=E,2.3nm,0.6s
KBZ **Khabaz** 69.36 317 *ce*P **P** 03 43 02.4 +0.6
KBZ pmax pmax
comp=Z,2.0nm,0.6s
TXAR **Lajitas Array** 69.75 68 P **P** 03 43 06.4 +1.8
comp=Z,1.4nm,0.7s,baz=305,slow=4.6,SNR=19
comp=Z,1.4nm,0.7s
EKA **Eskdalemuir Ar** 70.35 351 P **P** 03 43 07.8 +0.1
comp=Z,3.7nm,0.7s,baz=19,slow=5.3,SNR=23
comp=Z,3.7nm,0.7s
NDNU **Novodnistrovsk** 70.66 329 P **P** 03 43 09.0 -0.7
SORM **Soroca** 70.77 329 ⇑P **P** 03 43 08.9 -1.4
SORM **Soroca** 70.77 329 ⇑P **P** 03 43 08.9 -1.4
KWP **Kalwaria Pacla** 71.05 333 P **P** 03 43 12.7 +0.6
KWP **Kalwaria Pacla** 71.05 333 P **P** 03 43 12.7 +0.6
comp=Z,12nm,0.9s
KSP **Ksiaz** 71.53 337 P **P** 03 43 15.5 +0.5
KSP **Ksiaz** 71.53 337 P **P** 03 43 15.5 +0.5
comp=Z,6.3nm,1.3s
GNI **Garni** 71.56 314 P **P** 03 43 16.3 +0.7
GNI **Garni** 71.56 314 P **P** 03 43 16.3 +0.7
comp=Z,9.3nm,0.8s
KOLS **Kolonicke sedl** 71.80 333 *e*P **P** 03 43 16.7 0.0
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS **Kolonicke sedl** 71.80 333 *e*P **P** 03 43 16.7 0.0
CLL **Collm** 71.81 340 *i* P **P** 03 43 17.0 +0.4
CLL *e*SP **sP** 03 43 41.0 +3.1
CLL **Collm** 71.81 340 *i* P **P** 03 43 17.0 +0.4
NIE **Niedzica** 71.88 334 P **P** 03 43 18.2 +1.1
NIE **Niedzica** 71.88 334 P **P** 03 43 18.2 +1.1
comp=Z,1.8nm,2.4s
L56A **Greenwood** 71.93 42 P **P** 03 43 17.9 +0.3
DPC **Dobruska-Polom** 71.98 337 P **P** 03 43 18.8 +1.1
DPC **Dobruska-Polom** 71.98 337 P **P** 03 43 18.8 +1.1
O53A **New Philadelph** 72.02 45 P **P** 03 43 18.9 +0.8
O53A IAmb IAmb 03 43 35.1
comp=Z,14nm,1.4s
F64A **Sherman** 72.05 34 P **P** 03 43 18.6 +0.5
F64A IAmb IAmb 03 43 28.6
comp=Z,14nm,1.5s
BUR08 **Bucovina Ar. S** 72.15 330 P **P** 03 43 19.0 +0.1
BUR08 IAmb IAmb 03 43 19.9
comp=Z,2.6nm,0.7s
BURAR **Bucovina Array** 72.17 330 P **P** 03 43 18.8 -0.3
BURAR **Bucovina Array** 72.17 330 ⇓P **P** 03 43 19.0 0.0
BURAR **Bucovina Array** 72.17 330 ⇓P **P** 03 43 19.0 0.0
H62A **Milan** 72.22 36 P **P** 03 43 20.5 +1.2
LANS **Liptovska Anna** 72.34 335 *e*P **P** 03 43 20.6 +0.7
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS **Liptovska Anna** 72.34 335 *e*P **P** 03 43 20.6 +0.7
SSFO **Shawnee State** 72.46 48 P **P** 03 43 21.5 +0.7
SSFO IAmb IAmb 03 43 22.4
comp=Z,9.1nm,0.8s
DSB **Dublin** 72.71 352 P **P** 03 43 22.6 +0.7
L59A **Walton** 72.86 40 P **P** 03 43 23.1 0.0
L59A IAmb IAmb 03 43 33.5
comp=Z,8.6nm,1.2s
SSPA **Standing Stone** 73.06 43 P **P** 03 43 24.8 +0.6
SSPA IAmb IAmb 03 43 28.0
comp=Z,9.9nm,1.2s
KSPA **Keystone Colle** 73.12 41 P **P** 03 43 24.8 +0.2
KSPA IAmb IAmb 03 43 26.2
comp=Z,8.4nm,1.4s
COVR **Voineasa-Covas** 73.47 329 ⇑P **P** 03 43 28.3 +1.6
MODS **Modra-Piesok** 73.60 336 *e*P **P** 03 43 27.3 0.0
MODS pmax pmax
comp=Z,10.0nm,0.9s
MODS **Modra-Piesok** 73.60 336 *e*P **P** 03 43 27.3 0.0
DRGR 73.64 332 ⇑P **P** 03 43 27.3 -0.3
DRGR 73.64 332 ⇑P **P** 03 43 27.3 -0.3
MLR **Muntele Rosu** 73.87 329 P **P** 03 43 29.3 +0.2
MLR IAmb IAmb 03 43 31.1
comp=Z,5.3nm,0.6s
MLR **Muntele Rosu** 73.87 329 ⇓P **P** 03 43 30.2 +1.1
MLR **Muntele Rosu** 73.87 329 ⇓P **P** 03 43 30.2 +1.1
MLR **Muntele Rosu** 73.87 329 P **P** 03 43 29.8 +0.7
comp=Z,12nm,0.6s
GERES **GERESS Array B** 73.98 338 P **P** 03 43 30.1 +0.4
GERES **GERESS Array B** 73.98 338 P **P** 03 43 30.5 +0.8
comp=Z,2.0nm,0.7s,baz=40,slow=4.4,SNR=8.3
comp=Z,2.0nm,0.7s
SWET **Sewanee** 74.09 52 P **P** 03 43 31.1 +0.7
SWET IAmb IAmb 03 43 31.8
comp=Z,7.3nm,0.7s
R55A **Marlinton** 74.13 46 P **P** 03 43 31.6 +1.0
R55A IAmb IAmb 03 43 45.6
comp=Z,12nm,1.2s
VOIR 74.19 329 ⇓P **P** 03 43 31.7 +0.8
VOIR 74.19 329 ⇓P **P** 03 43 31.7 +0.8
VOIR 74.19 329 P **P** 03 43 31.1 +0.2
comp=Z,5.5nm,0.8s
CONA **Conrad Observa** 74.36 337 *i* P **P** 03 43 33.3 +1.4
comp=Z,4.6nm,1.1s
RONA **Rosalia, Austr** 74.47 336 *i* P **P** 03 43 33.9 +1.5
comp=Z,2.7nm,0.7s
MPLH **Magyarpolny** 74.66 335 P **P** 03 43 34.7 +1.2
comp=Z,18nm,1.6s
FPAL **Fort Paine** 74.80 52 P **P** 03 43 35.1 +0.6
FPAL IAmb IAmb 03 43 36.1
comp=Z,3.9nm,0.8s
GZR **Gura Zlata** 74.90 331 ⇑P **P** 03 43 35.4 +0.4
GZR **Gura Zlata** 74.90 331 ⇑P **P** 03 43 35.4 +0.4
LESA **Schwarzleotal** 75.55 338 *i* P **P** 03 43 40.7 +1.9
comp=Z,6.1nm,1.0s
SOKA **Soboth** 75.72 337 *i* P **P** 03 43 40.9 +1.1
comp=Z,2.0nm,0.5s
KBA **Koelnbreinsper** 75.73 338 *i* P **P** 03 43 41.6 +1.7
comp=Z,12nm,0.9s
KBA **Koelnbreinsper** 75.73 338 P **P** 03 43 41.2 +1.3
WTTA **Wattenberg** 75.93 339 *i* P **P** 03 43 42.3 +1.3
comp=Z,4.6nm,0.8s
OBKA **Obir** 76.00 337 *i* P **P** 03 43 42.5 +1.2
comp=Z,5.0nm,0.7s
R61A **Willards** 76.06 42 P **P** 03 43 42.0 +0.4
SQTA **Sankt Quirin** 76.06 339 *i* P **P** 03 43 42.9 +1.3
comp=Z,5.4nm,0.7s
MYKA **Terra Mystica** 76.09 338 *i* P **P** 03 43 42.1 +0.2
comp=Z,2.7nm,0.5s
ABTA **Abfaltersbach** 76.23 338 *i* P **P** 03 43 43.6 +1.0
comp=Z,3.8nm,0.7s
PRED **Cave del Predi** 76.28 338 P **P** 03 43 43.0 +0.1
BNN **Bunyan** 76.30 319 P **P** 03 43 43.5 +0.3
FETA **Feichten** 76.35 340 *i* P **P** 03 43 44.6 +1.2
comp=Z,4.0nm,0.8s
BR131 **Keskin Array S** 76.38 321 P **P** 03 43 43.9 +0.2
BR131 IAmb IAmb 03 43 44.6
comp=Z,2.2nm,0.8s
BR131 **Keskin Array S** 76.38 321 P **P** 03 43 43.9 +0.2
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** 76.38 321 P **P** 03 43 43.5 -0.2
BRTR **Keskin Array B** 76.38 321 P **P** 03 43 43.6 0.0
comp=Z,1.4nm,0.4s,baz=12,slow=2.9,SNR=15
comp=Z,1.4nm,0.4s
BR104 **Keskin Array S** 76.39 321 P **P** 03 43 44.1 +0.4
DAVOX **Davos/Dischmat** 76.75 340 LR LR 04 23 00.5
comp=Z,202nm,20.9s,baz=136,slow=40
FUORN **Ofenpass-Fuorn** 76.83 340 P **P** 03 43 47.3 +1.1
FUORN IAmb IAmb 03 43 53.4
comp=Z,5.1nm,0.9s
WR8 **Warramunga Arr** 77.06 206 P **P** 03 43 48.6 +1.2
WR8 IAmb IAmb 03 44 05.0
comp=Z,14nm,1.5s
CTI **Castel Tesino** 77.08 339 P **P** 03 43 47.4 -0.1
CTI IAmb IAmb 03 43 48.2
comp=Z,5.9nm,0.7s
CTI **Castel Tesino** 77.08 339 P **P** 03 43 47.4 -0.1
CTI pmax pmax
comp=Z,6.0nm,0.7s
WB2 **Warramunga Arr** 77.09 206 P **P** 03 43 47.5 0.0
WB2 IAmb IAmb 03 43 59.8
comp=Z,5.7nm,1.1s
WRA **Warramunga Arr** 77.09 206 P **P** 03 43 48.3 +0.8
comp=Z,0.5nm,0.7s,baz=16,slow=5.8,SNR=2.4
comp=Z,0.5nm,0.7s
TUE **Stuetta** 77.15 340 P **P** 03 43 48.9 +0.9
TUE IAmb IAmb 03 43 50.0
comp=Z,5.5nm,0.8s
TUE **Stuetta** 77.15 340 P **P** 03 43 48.8 +0.9
BORA **Eskisehir** 77.40 323 P **P** 03 43 49.4 +0.1
BORA IAmb IAmb 03 43 53.6
comp=Z,7.8nm,1.2s
TEOL **Teolo** 77.73 338 P **P** 03 43 51.3 +0.3
RDO **Rodhopi** 77.92 327 P **P** 03 43 52.1 +0.1
RDO IAmb IAmb 03 43 53.7
comp=Z,6.1nm,0.7s
PALK **Pallekele** 78.53 267 P **P** 03 43 55.6 -0.2
PDG **Podgorica** 78.62 332 P **P** 03 43 55.8 0.0
PUK **Puka** 78.80 332 P **P** 03 43 57.4 +0.4
ZCCA **Zocca** 78.84 339 P **P** 03 43 59.8 +2.6
BNI **Bardonecchia** 79.03 342 P **P** 03 43 59.1 +0.8
BNI IAmb IAmb 03 44 11.0
comp=Z,12nm,1.4s
BNI **Bardonecchia** 79.03 342 P **P** 03 43 59.1 +0.8
BNI pmax pmax
comp=Z,12nm,1.4s
MSSA **Maissana** 79.18 340 P **P** 03 43 59.1 0.0
OSSC **Osservatorio P** 79.57 338 P **P** 03 44 01.9 +0.7
FDMO **Fiordimonte** 79.62 337 P **P** 03 44 01.8 +0.4
FDMO IAmb IAmb 03 44 12.5
comp=Z,11nm,1.0s
NRCA **Norcia** 79.81 337 P **P** 03 44 03.2 +0.8
CAMP **Campotosto** 80.02 336 P **P** 03 44 04.9 +1.2
SGRT **San Giovanni R** 80.18 334 P **P** 03 44 03.9 -0.6
ELL **Elmali** 80.38 322 P **P** 03 44 05.5 -0.2
ELL **Elmali** 80.38 322 P **P** 03 44 05.6 -0.2
ELL pmax pmax
comp=Z,12nm,0.7s
ASAR **Alice Springs** 80.76 205 P **P** 03 44 09.6 +2.0
comp=Z,0.7nm,0.8s,baz=23,slow=6.3,SNR=4.8
comp=Z,0.7nm,0.8s
KEK **Kerkira** 80.98 331 P **P** 03 44 08.6 -0.2
ARG **Arkhangelos** 81.49 323 P **P** 03 44 11.1 -0.4
ARG **Arkhangelos** 81.49 323 P **P** 03 44 11.1 -0.4
ARG pmax pmax
comp=Z,46nm,1.5s
MMAI **Mount Meron Ar** 81.55 316 P **P** 03 44 12.5 +0.6
comp=Z,3.4nm,0.5s,baz=9.9,slow=3.4,SNR=5.6
comp=Z,3.4nm,0.5s
TIP **Timpagrande** 82.33 333 P **P** 03 44 16.1 +0.2
TIP IAmb IAmb 03 44 17.4
comp=Z,8.8nm,1.0s
KARP **Karpathos** 82.43 324 P **P** 03 44 15.0 -1.5
ITM **Ithomi** 82.68 328 P **P** 03 44 16.3 -1.4
PSA00 **Pilbara Seismi** 83.16 218 P **P** 03 44 20.6 +0.5
IDI **Anoyia** 83.45 325 P **P** 03 44 20.4 -1.4
RAYN **Ar Rayn** 85.12 304 P **P** 03 44 29.9 -0.5
RAYN IAmb IAmb 03 44 30.5
comp=Z,3.8nm,0.7s
RAYN **Ar Rayn** 85.12 304 P **P** 03 44 29.9 -0.5
RAYN pmax pmax
comp=Z,4.0nm,0.7s
ESDC **Sonseca Array** 85.90 349 P **P** 03 44 35.6 +1.5
comp=Z,1.2nm,0.7s,baz=4.1,slow=4.8,SNR=9.1
comp=Z,1.2nm,0.7s
PAB **San Pablo** 86.08 349 P **P** 03 44 36.0 +1.0
PAB **San Pablo** 86.08 349 P **P** 03 44 36.0 +1.0
PAB pmax pmax
comp=Z,13nm,1.5s
KEST **Kesra** 87.44 337 P **P** 03 44 42.4 +0.7
KEST **Kesra** 87.44 337 P **P** 03 44 42.4 +0.7
comp=Z,2.6nm,0.5s,baz=293,slow=6.8,SNR=5.0
comp=Z,2.6nm,0.5s
PLCA **Paso Flores** 143.40 90 PKP PKPbc 03 51 26.3 +1.1
comp=Z,2.3nm,1.0s,baz=320,slow=4.4,SNR=3.2
QSPA **South Pole Qui** 143.66 180 PKP PKPab 03 51 25.7 +1.3
comp=Z,2.2nm,1.0s,baz=23,slow=0.4,SNR=3.4

*IDC **19** 03:32:35.8±1.2, 54.°06S×8.°08E, h0km, mb4.2/6, mbtmp4.2/7, ML3.0/1, Error ellipse: s-maj=41.6km s-min=26.1km az=67.0*

ISC 19 03:32:37.2±1.1, 54.°1S±0.°1×8.°1E±0.°2, h10km, n16, σ0.°79/13, mb4.2/6, 5C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	18.14	198	⇑P	**Pn**	03 36 47.0	-1.8
comp=Z,7.2nm,1.2s							
TROLL	**Troll, Antarti**	18.14	186	⇑P	**Pn**	03 36 49.1	+0.1
comp=Z,300nm,0.6s							
VNA2	**Neumayer--Watz**	18.23	196	⇑P	**P**	03 36 50.1	0.0
comp=Z,6.8nm,0.8s,baz=4.8,slow=16							
SNAA	**Sanae**	18.27	191	⇑P	**P**	03 36 50.9	+0.2
comp=Z,244nm,1.2s							
SNAA	**Sanae**	18.27	191	P	**Pn**	03 36 50.1	-0.4
baz=2.0,slow=9.7,SNR=7.5							
comp=Z,14nm,1.1s							
VNA3	**Neumayer Olymp**	18.89	198	⇑P	**Pn**	03 36 57.8	-0.2
comp=Z,7.8nm,0.8s							
QSPA	**South Pole Qui**	36.14	180	P	**P**	03 39 39.3	+0.1
comp=Z,2.3nm,1.0s,baz=114,slow=10.0,SNR=2.8							
comp=Z,2.3nm,1.0s							
CPUP	**Villa Florida**	54.79	273	P	**P**	03 42 08.3	+1.3
comp=Z,2.4nm,0.9s,baz=75,slow=11,SNR=3.3							
comp=Z,2.4nm,0.9s							
BDFB	**Brasilia**	57.78	289	P	**P**	03 42 28.2	-0.4
comp=Z,4.3nm,1.0s,baz=166,slow=4.9,SNR=4.5							
comp=Z,4.3nm,1.0s							
DBIC	**Dimbokro**	61.51	345	P	**P**	03 42 53.3	-0.7
comp=Z,4.9nm,1.0s,baz=159,slow=6.1,SNR=4.3							
comp=Z,4.9nm,1.0s							
LPAZ	**La Paz**	68.89	271	P	**P**	03 43 42.8	-0.1
comp=Z,1.5nm,0.8s,baz=134,slow=8.6,SNR=5.0							
comp=Z,1.5nm,0.8s							
H01W2	**Cape Leeuwin H**	70.96	123	T	T	05 02 03.3	
baz=216							
H01W3	**Cape Leeuwin H**	70.97	123	T	T	05 02 00.7	
baz=216							
H01W1	**Cape Leeuwin H**	70.97	123	T	T	05 02 08.6	
baz=216							
ASAR	**Alice Springs**	89.64	132	P	**P**	03 45 35.7	+0.5
comp=Z,0.9nm,0.9s,baz=223,slow=3.8,SNR=4.2							
comp=Z,0.9nm,0.9s							
YKA	**Yellowknife Ar**	149.69	309	PKPbc	**PKiKP**	03 52 26.5	-0.1
comp=Z,3.0nm,0.9s,baz=102,slow=2.4,SNR=27							

ISN 19 03:39:46.7±0.6, 34°.33N×45°.49E, h14km±18km, ML3.1
TEH 19 03:39:47.2, 34°.30N×45°.50E, h11km
ISC 19 03:39:47.4±1.0, 34°.32N±0°.03×45°.51E±0°.04, h18km, n10, σ0°66/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**21**	Pg	**Pb**	**03 39 51.9**	**-0.3**
KGS1				Sg	**Sb**	**03 39 55.8**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.39**	**122**	Pg	**Pg**	**03 39 55.4**	**-0.3**
IDHR	**Dehrash**	**0.82**	**62**	Pg	**Pb**	**03 40 02.7**	**-0.6**
IGHG	**Ghaleghazi**	**0.88**	**89**	Pg	**Pb**	**03 40 04.6**	**+0.4**
IBDR	**Badra**	**1.26**	**164**	*e*Pg	**Pb**	**03 40 11.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**03 40 29.0**	**+0.8**
IBDR				AML	AML	03 40 33.4	
	comp=E,409nm,0.3s						
IBDR				AML	AML	03 40 35.0	
	comp=N,353nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.27**	**92**	Pg	**Pg**	**03 40 12.0**	**0.0**
BHD	**Baghdad**	**1.41**	**222**	*e*Pn	**Pg**	**03 40 14.0**	**-0.6**
BHD				*e*Sn	**Sg**	**03 40 33.0**	**+0.1**
IKRK	**Kirkuk**	**1.44**	**319**	*e*Pn	**Pb**	**03 40 14.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**03 40 34.0**	**0.0**
IKRK				AML	AML	03 40 37.8	
	comp=E,492nm,0.5s						
IKRK				AML	AML	03 40 38.2	
	comp=N,323nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.83**	**72**	Pn	**Pb**	**03 40 21.3**	**+0.8**
IDOB	**Doab**	**2.28**	**103**	Pn	**Pb**	**03 40 26.7**	**-1.5**

NEIC 19 03:52:39.6±1.8, 4°.85S±0°.08×129°.2E±0°.1, h197km±11km, mb4.4/11, Error ellipse: s-maj=20.8km s-min=10.5km az=69.0
DJA 19 03:52:42.5±0.7, 5°.5S±7°.×12°.9E±°, h200km±4km, M4.0/9, MLv4.0/9
IDC 19 03:52:43.2±3.7, 4°.97S×129°.18E, h235km±35km, mb3.4/3, mbtmp4.1/6, MS4.2/2, Error ellipse: s-maj=81.7km s-min=11.9km az=71.0
ISC 19 03:52:40.0±0.7, 4°.95S±0°.06×129°.42E±0°.06, h200km, n43, σ1§91/47, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.64**	**49**	P	**Pn**	**03 53 08.8**	**+1.1**
BNDI	**Bandanaira**	**0.64**	**49**	P	**Pn**	**03 53 10.3**	**+2.6**
BNDI				S	**Sn**	**03 53 31.9**	**+2.8**
MSAI	**Masohi**	**1.66**	**343**	P	**Pn**	**03 53 14.9**	**-0.4**
MSAI				S	**Sn**	**03 53 39.7**	**-3.0**
AAI	**Ambon**	**1.75**	**316**	P	**Pn**	**03 53 15.9**	**-0.2**
AAI				S	**Sn**	**03 53 44.4**	**+0.3**
NLAI	**Namlea**	**2.87**	**306**	P	**Pn**	**03 53 30.0**	**+1.8**
FAKI	**Fak Fak**	**3.46**	**55**		**Pn**	**03 53 35.3**	**0.0**
FAKI	**Fak Fak**	**3.46**	**55**	P	**Pn**	**03 53 35.1**	**-0.2**
FAKI	**Fak Fak**	**3.46**	**55**	P	**Pn**	**03 53 34.9**	**-0.4**
SWI	**Sorong**	**4.45**	**24**	P	**Pn**	**03 53 45.3**	**-2.2**
SANI	**Sanana**	**4.47**	**310**	P	**Pn**	**03 53 47.3**	**-0.5**
SANI	**Sanana**	**4.47**	**310**	P	**Pn**	**03 53 47.0**	**-0.8**
DRS	**Darwin Rock St**	**7.58**	**169**	P	**Pn**	**03 54 29.7**	**+1.9**
MTN	**Manton Dam**	**8.03**	**168**	Pn	**Pn**	**03 54 33.4**	**-0.3**
KDU	**Kakadu**	**8.26**	**159**	P	**Pn**	**03 54 37.8**	**+1.1**
KNRA	**Kununurra**	**10.68**	**183**	Pn	**Pn**	**03 55 08.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**13.59**	**195**		**Pn**	**03 55 46.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**13.59**	**195**	P	**Pn**	**03 55 46.0**	**+1.1**
	4.1nm,0.5s,baz=38,slow=12,SNR=20						
FITZ				S	**S**	**03 58 10.7**	**-5.7**
	2.7nm,0.8s,baz=230,slow=21,SNR=2.1						
FITZ	**Fitzroy Crossi**	**13.59**	**195**	P	**Pn**	**03 55 46.4**	**+1.5**
WB0	**Warramunga Arr**	**15.51**	**162**	P	**P**	**03 56 08.7**	**0.0**
WB0				IAmb	IAmb	03 56 11.9	
	comp=Z,6.5nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.56**	**256**	Pn	**Pn**	**03 56 11.9**	**+2.6**
JAGI				IAmb	IAmb	03 56 31.6	
	comp=Z,57nm,1.4s						
WRAB	**Tennant Creek**	**15.65**	**163**		**Pn**	**03 56 11.4**	**+1.2**
WRA	**Warramunga Arr**	**15.66**	**163**		**P**	**03 56 09.5**	**-0.8**
WRA	**Warramunga Arr**	**15.66**	**163**	P	**P**	**03 56 10.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=340,slow=12,SNR=44						
WRA				S	**S**	**03 58 57.5**	**-6.7**
	comp=Z,1.3nm,0.6s,baz=334,slow=21,SNR=6.2						
WB2	**Warramunga Arr**	**15.66**	**163**		**P**	**03 56 10.5**	**+0.2**
WR8	**Warramunga Arr**	**15.72**	**162**		**P**	**03 56 11.5**	**+0.6**
WR8				IAmb	IAmb	03 56 32.7	
	comp=Z,10nm,1.4s						
COEN	**Coen**	**16.24**	**124**		**Pn**	**03 56 18.8**	**+1.4**
AS31	**Alice Springs**	**19.11**	**167**		**P**	**03 56 49.8**	**+1.9**
AS31				IAmb	IAmb	03 56 50.3	
	comp=Z,5.5nm,0.5s						
ASAR	**Alice Springs**	**19.11**	**167**	P	**P**	**03 56 49.9**	**+1.9**
	comp=Z,11nm,0.5s,baz=350,slow=12,SNR=114						
ASAR				S	**S**	**04 00 14.1**	**0.0**
	comp=Z,1.7nm,0.8s,baz=348,slow=21,SNR=9.3						
AS01	**Alice Springs**	**19.12**	**167**	P	**P**	**03 56 49.1**	**+1.0**
WRKA	**Warakurna**	**20.01**	**183**	P	**P**	**03 56 58.3**	**+0.7**
	comp=Z,11nm,1.2s						
OOD	**Oodnadatta**	**23.49**	**166**	P	**P**	**03 57 32.8**	**+0.9**
BBOO	**Buckleboo**	**28.41**	**168**	P	**P**	**03 58 16.7**	**+0.7**
BBOO				IAmb	IAmb	03 58 22.0	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**28.41**	**168**	P	**P**	**03 58 16.7**	**+0.7**
STKA	**Stephens Creek**	**29.12**	**158**	P	**P**	**03 58 23.4**	**+1.1**
PSI	**Prapat**	**31.43**	**284**	LR	LR	04 13 50.3	
	comp=Z,320nm,18.1s,baz=202,slow=41						
MGBR	**Mount Gambier**	**34.18**	**164**	P	**P**	**03 59 08.9**	**+2.5**
BRDH	**Bariadhala**	**46.01**	**308**	LR	LR	04 22 30.5	
	comp=Z,310nm,19.9s,baz=232,slow=39						
KHZ	**Kahutara**	**54.04**	**140**	P	**P**	**04 01 44.5**	**+0.7**
KHZ				IAmb	IAmb	04 01 48.0	
	comp=Z,21nm,1.3s						
MKAR	**Makanchi Array**	**66.20**	**327**	P	**P**	**04 03 04.7**	**-1.7**
MKAR	**Makanchi Array**	**66.20**	**327**	P	**P**	**04 03 05.2**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=124,slow=7.9,SNR=9.3						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**70.47**	**328**	P	**P**	**04 03 31.4**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=131,slow=5.5,SNR=9.0						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**85.02**	**180**	P	**P**	**04 04 52.3**	**-0.6**
QSPA				IAmb	IAmb	04 04 54.7	
	comp=Z,6.3nm,1.3s						
QSPA	**South Pole Qui**	**85.02**	**180**	P	**P**	**04 04 51.5**	**-1.4**
	comp=Z,1.8nm,1.1s,baz=298,slow=3.7,SNR=3.0						
	comp=Z,1.8nm,1.1s						

BJI 19 04:01:33.0, 24°.80N×121°.86E, h74km, mB4.5/5, mb4.1/19, Ms4.0/3, Ms7 3.6/3
IDC 19 04:01:33.4±2.8, 24°.79N×121°.97E, h86km±27km, mb3.8/17, mbtmp4.2/19, MS3.6/4, Error ellipse: s-maj=16.9km s-min=14.2km az=55.0
ASIES 19 04:01:34.4, 24°.75N×121°.93E, h83km, ML4.9, Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.17; $M_{\theta\theta}$1.03; $M_{\phi\phi}$-1.55; $M_{r\theta}$0.74; $M_{\theta\phi}$-0.83; $M_{\phi r}$-2.03; Fault plane solution: $M_0$2.78785×10^{22} NP1:ϕ_s53.57000°, δ32.37000°, λ156.71000°. NP2:ϕ_s163.54000°, δ77.78000°, λ59.79000°. Principal axes: T Plg48.3230°, Azm41.2000°; N Plg29.4560°, Azm170.5760°; P Plg26.5860°, Azm276.9940°;
NEIC 19 04:01:34.2±1.0, 24°.71N±0°.06×121°.92E±0°.08, h85km±4km, mb4.4/47 Error ellipse: s-maj=12.2km s-min=6.8km az=123.0
NIED 19 04:01:34.4, 24°.71N×121°.94E, h83km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.46; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-0.77; $M_{r\theta}$1.11; $M_{\theta\phi}$-1.00; $M_{\phi r}$-1.70; Fault plane solution: $M_0$2.30000×10^{15} NP1:ϕ_s63.00000°, δ31.00000°, λ169.00000°. NP2:ϕ_s162.00000°, δ84.00000°, λ59.00000°.
TAP 19 04:01:34.4, 24°.75N×121°.93E, h83km, ML4.9, B
JMA 19 04:01:34.4±0.2, 24°.7N±0°.7×121°.9E±0°.6, h83km±2km, MV4.3/18, TAIWAN REGION
ISC 19 04:01:33.6±0.5, 24°.78N±0°.03×121°.93E±0°.02, h85km±3km, n304, σ1§30/413, mb4.3/44, 83C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**0**	⇑P	**Pn**	**04 01 46.5**	**+0.8**
EGS				*e*S	**Sn**	**04 01 55.2**	**+0.8**
NTC	**Toucheng**	**0.12**	**310**	*e*P	**Pn**	**04 01 46.7**	**+1.0**
NTC				*e*S	**Sn**	**04 01 55.5**	**+0.8**
ILA	**Ilan**	**0.17**	**266**	⇑P	**Pn**	**04 01 47.1**	**+1.3**
ILA				S	**Sn**	**04 01 56.4**	**+1.5**
TWC	**Suao**	**0.18**	**204**	⇑*i*P	**Pn**	**04 01 46.9**	**+1.0**
TWC				*e*S	**Sn**	**04 01 55.5**	**+0.5**
ESAO	**Su ao**	**0.21**	**202**	⇑*i*P	**Pn**	**04 01 47.1**	**+1.1**
ESAO				*e*S	**Sn**	**04 01 55.7**	**+0.5**
TIPB	**Shuangxi**	**0.22**	**334**	⇑*i*P	**Pn**	**04 01 46.9**	**+0.8**
TIPB				*e*S	**Sn**	**04 01 55.5**	**+0.2**
TWB1	**Santiao Chiao**	**0.24**	**13**	⇑*i*P	**Pn**	**04 01 46.9**	**+0.8**
TWB1				*e*S	**Sn**	**04 01 55.5**	**+0.1**
NDS	**Dongshan**	**0.24**	**234**	⇑P	**Pn**	**04 01 47.6**	**+1.5**
NDS				*e*S	**Sn**	**04 01 56.8**	**+1.4**
TWE	**Neicheng**	**0.25**	**257**	⇑*i*P	**Pn**	**04 01 47.4**	**+1.3**
TWE				*e*S	**Sn**	**04 01 56.6**	**+1.2**
FUSB	**Fushanzhiwuyua**	**0.31**	**267**	⇑*i*P	**Pn**	**04 01 47.8**	**+1.2**
FUSB				*e*S	**Sn**	**04 01 56.7**	**+0.5**
SXI1	**Grass Mountain**	**0.32**	**351**	⇑*i*P	**Pn**	**04 01 47.2**	**+0.6**
SXI1				*e*S	**Sn**	**04 01 56.8**	**+0.5**
NWF	**Wu-fen Shan**	**0.32**	**335**	⇑*i*P	**Pn**	**04 01 47.5**	**+0.8**
NWF				*e*S	**Sn**	**04 01 56.6**	**+0.2**
WFSB	**Wu-fen Shan**	**0.32**	**335**	⇑*i*P	**Pn**	**04 01 47.5**	**+1.0**
WFSB				S	**Sn**	**04 01 56.5**	**+0.4**
EWUT	**Wuta**	**0.36**	**203**	⇑*i*P	**Pn**	**04 01 48.0**	**+1.3**
EWUT				*e*S	**Sn**	**04 01 57.6**	**+1.1**
ENTT	**Nioudou**	**0.36**	**248**	⇑*i*P	**Pn**	**04 01 48.3**	**+1.5**
ENTT				S	**Sn**	**04 01 58.3**	**+1.8**
TWA	**Mucha**	**0.38**	**303**	⇑*i*P	**Pn**	**04 01 48.9**	**+2.0**
TWA				*e*S	**Sn**	**04 01 57.3**	**+0.5**
ENA	**Nanau**	**0.39**	**207**	⇑*i*P	**Pn**	**04 01 48.2**	**+1.2**
ENA				S	**Sn**	**04 01 58.5**	**+1.6**
NWLT	**Wulai**	**0.39**	**270**	⇑*i*P	**Pn**	**04 01 48.1**	**+1.1**
NWLT				*e*S	**Sn**	**04 01 57.5**	**+0.5**
NHY	**Taipei**	**0.42**	**309**	⇑*i*P	**Pn**	**04 01 48.2**	**+1.1**
NHY				*e*S	**Sn**	**04 01 58.1**	**+0.8**
LATG	**Datong**	**0.44**	**237**	⇑*i*P	**Pn**	**04 01 48.9**	**+1.5**
LATG				*e*S	**Sn**	**04 01 59.2**	**+1.5**
EOS2	**EOS2**	**0.45**	**142**	⇓*e*P	**Pn**	**04 01 48.6**	**+1.4**
TATO	**Taipei**	**0.45**	**296**		**Pn**	**04 01 48.3**	**+0.9**
TATO					**Sn**	**04 01 57.7**	**+0.1**
TATO	**Taipei**	**0.45**	**296**	P	**Pn**	**04 01 48.3**	**+0.9**
TATO	**Taipei**	**0.45**	**296**	S	**Sn**	**04 01 58.4**	**+0.8**
TAP	**Taipei**	**0.47**	**304**	⇑*i*P	**Pn**	**04 01 48.5**	**+1.0**
TAP				*i*S	**Sn**	**04 01 58.6**	**+0.8**
EAHA	**Aohua**	**0.48**	**202**	⇑P	**Pn**	**04 01 48.5**	**+0.8**
EAHA				*e*S	**Sn**	**04 01 59.8**	**+1.8**
YM01	**YM01**	**0.49**	**318**	⇑*i*P	**Pn**	**04 01 48.8**	**+0.9**
YM01				*i*S	**Sn**	**04 01 58.8**	**+0.5**
EHP	**Heping Village**	**0.50**	**201**	*e*P	**Pn**	**04 01 48.8**	**+1.0**
YM08	**YM08**	**0.51**	**323**	⇑*i*P	**Pn**	**04 01 48.6**	**+0.6**
YM08				*e*S	**Sn**	**04 01 58.6**	**-0.1**
YHNB	**Yeheng**	**0.52**	**258**	Pn	**Pn**	**04 01 48.6**	**+0.6**
YHNB				S	**Sn**	**04 01 58.7**	**0.0**
YHNB	**Yeheng**	**0.52**	**258**	P	**Pn**	**04 01 48.8**	**+0.8**
YHNB	**Yeheng**	**0.52**	**258**	S	**Sn**	**04 01 59.7**	**+0.9**
YHNB	**Yeheng**	**0.52**	**258**	⇑*i*P	**Pn**	**04 01 49.1**	**+1.0**
YHNB				*i*S	**Sn**	**04 01 58.8**	**0.0**
ZUZH	**Zhuzihu**	**0.52**	**318**	⇑*e*P	**Pn**	**04 01 48.9**	**+0.9**
ZUZH				*e*S	**Sn**	**04 01 58.8**	**+0.1**
NSK	**Sanguang**	**0.53**	**259**	⇑*i*P	**Pn**	**04 01 49.1**	**+1.0**
NSK				*i*S	**Sn**	**04 01 59.5**	**+0.6**
ANP	**Anpu**	**0.55**	**318**	⇑P	**Pn**	**04 01 49.0**	**+0.7**
TWS1	**Kuangyinshan**	**0.57**	**305**	⇑P	**Pn**	**04 01 48.7**	**+0.3**
TWY	**Chenhua**	**0.58**	**329**	⇓*e*P	**Pn**	**04 01 48.5**	**0.0**
EOS3	**EOS3**	**0.60**	**144**	⇓*e*P	**Pn**	**04 01 50.1**	**+1.6**
NNSB	**Datong**	**0.61**	**235**	⇑*i*P	**Pn**	**04 01 50.2**	**+1.3**
NNSB				*e*S	**Sn**	**04 02 01.1**	**+0.9**
NNS	**Nan Shan**	**0.61**	**237**	⇑*i*P	**Pn**	**04 01 50.1**	**+1.2**
NNS				*e*S	**Sn**	**04 02 01.0**	**+0.8**
NACB	**Ninganchiao**	**0.67**	**207**	Pn	**Pn**	**04 01 49.4**	**+0.3**
NACB				Sn	**Sn**	**04 02 00.9**	**-0.2**
NACB	**Ninganchiao**	**0.67**	**207**	P	**Pn**	**04 01 49.7**	**+0.3**
NACB	**Ninganchiao**	**0.67**	**207**	S	**Sn**	**04 02 02.4**	**+1.3**
NACB	**Ninganchiao**	**0.67**	**207**	⇑*i*P	**Pn**	**04 01 49.8**	**+0.3**
NACB				*e*S	**Sn**	**04 02 01.7**	**+0.5**
ETL	**Fush Village**	**0.68**	**205**	⇑P	**Pn**	**04 01 49.9**	**+0.4**
ETL				*e*S	**Sn**	**04 02 02.2**	**+1.0**
KSHI	**Guanxi Townshi**	**0.69**	**270**	⇑*i*P	**Pn**	**04 01 50.9**	**+1.4**
KSHI				*e*S	**Sn**	**04 02 03.3**	**+2.0**
ETLH	**Xiulin Townshi**	**0.70**	**216**	⇑*i*P	**Pn**	**04 01 50.5**	**+0.7**
ETLH				*e*S	**Sn**	**04 02 02.6**	**+0.8**
NCUH	**Zhongli**	**0.70**	**286**	⇑P	**Pn**	**04 01 51.0**	**+1.3**
NCUH				*e*S	**Sn**	**04 02 03.5**	**+1.8**
EOS4	**EOS4**	**0.74**	**152**	P	**Pn**	**04 01 50.6**	**+0.9**
NFF	**Wufeng Townshi**	**0.75**	**259**	⇑*i*P	**Pn**	**04 01 51.2**	**+1.0**
NFF				*i*S	**Sn**	**04 02 03.4**	**+0.7**
TWD	**Chiawan**	**0.76**	**204**	⇑*i*P	**Pn**	**04 01 50.6**	**+0.3**
TWD				*i*S	**Sn**	**04 02 02.6**	**0.0**
FUSS	**Fushou**	**0.82**	**230**	⇑*i*P	**Pn**	**04 01 52.7**	**+1.6**
FUSS				*i*S	**Sn**	**04 02 05.7**	**+1.5**
LIOB	**Emei**	**0.84**	**261**	⇑*i*P	**Pn**	**04 01 52.3**	**+1.1**
LIOB				S	**Sn**	**04 02 04.8**	**+0.5**
HWA	**Hwalien**	**0.85**	**201**	⇑*i*P	**Pn**	**04 01 52.0**	**+0.8**
HWA				*e*S	**Sn**	**04 02 05.5**	**+1.1**
NSTT	**Nanjuang**	**0.86**	**260**	⇑*i*P	**Pn**	**04 01 52.4**	**+1.1**
NSTT				*i*S	**Sn**	**04 02 05.3**	**+0.7**
PCYT	**Pengchaiyu**	**0.86**	**8**	⇓*i*P	**Pn**	**04 01 52.4**	**+1.1**
PCYT				*e*S	**Sn**	**04 02 06.3**	**+1.7**
SBCB	**Hsinchu**	**0.86**	**271**	*e*P	**Pn**	**04 01 52.6**	**+1.3**
SBCB				*i*S	**Sn**	**04 02 05.4**	**+0.8**
TWT	**Tachien**	**0.86**	**233**	⇑*i*P	**Pn**	**04 01 53.3**	**+1.8**
TWT				*i*S	**Sn**	**04 02 06.9**	**+1.9**
WHF	**Hehuan Shan**	**0.87**	**224**	⇓*i*P	**Pn**	**04 01 53.0**	**+1.0**
WHF				S	**Sn**	**04 02 06.6**	**+1.0**
HSN	**Hsinchu**	**0.88**	**272**	⇑*i*P	**Pn**	**04 01 52.4**	**+0.9**
HSN				S	**Sn**	**04 02 08.5**	**+0.7**
LXIB	**Xiulin Townshi**	**0.89**	**212**	⇑*i*P	**Pn**	**04 01 52.0**	**+0.2**
LXIB				*i*S	**Sn**	**04 02 05.8**	**+0.4**
ETM	**Tongmen**	**0.90**	**206**	⇑*i*P	**Pn**	**04 01 51.8**	**0.0**
TEYL	**Yanliau Villag**	**0.95**	**199**	*e*P	**Pn**	**04 01 50.9**	**-1.5**
TEYL				*e*S	**Sn**	**04 02 06.5**	**0.0**
JYNG	**Yonagunijimaku**	**0.98**	**109**	*i*P	**Pn**	**04 01 53.4**	**+0.7**
JYNG				S	**Sn**	**04 02 07.2**	**+0.3**
WHP	**Taichung City**	**1.03**	**241**	⇑*i*P	**Pn**	**04 01 55.0**	**+1.7**
WHP				*e*S	**Sn**	**04 02 09.4**	**+1.3**
YOJ	**Yonaguni jima**	**1.03**	**107**	Pn	**Pn**	**04 01 53.4**	**+0.2**
YOJ	**Yonaguni jima**	**1.03**	**107**	P	**Pn**	**04 01 53.9**	**+0.7**
YOJ	**Yonaguni jima**	**1.03**	**107**	P	**Sn**	**04 02 08.7**	**+0.7**
YOJ	**Yonaguni jima**	**1.03**	**107**	⇓*i*P	**Pn**	**04 01 53.9**	**+0.7**
YOJ				*e*S	**Sn**	**04 02 07.8**	**-0.2**
YOJ	**Yonaguni jima**	**1.03**	**107**	P	**Pn**	**04 01 54.0**	**+0.7**
YOJ				*e*S	**Sn**	**04 02 08.3**	**+0.3**
SHUL	**Shoufeng**	**1.04**	**199**	⇑*i*P	**Pn**	**04 01 54.2**	**+0.8**
SHUL				*e*S	**Sn**	**04 02 09.1**	**+0.9**
ESL	**Shilin**	**1.06**	**205**	⇑*i*P	**Pn**	**04 01 53.3**	**-0.4**
NMLH	**Miaoli**	**1.06**	**257**	⇑*i*P	**Pn**	**04 01 55.0**	**+1.3**
NMLH				S	**Sn**	**04 02 09.7**	**+0.9**
OWD	**Renai**	**1.07**	**220**	⇑*i*P	**Pn**	**04 01 55.0**	**+1.1**
OWD				*i*S	**Sn**	**04 02 10.4**	**+1.3**
WUSB	**Renai**	**1.08**	**224**	⇑*i*P	**Pn**	**04 01 55.5**	**+1.5**
WUSB				*e*S	**Sn**	**04 02 09.9**	**+0.6**
TEGC	**Jichi Village**	**1.12**	**199**	⇓*i*P	**Pn**	**04 01 55.1**	**+0.8**
TEGC				*e*S	**Sn**	**04 02 11.0**	**+1.1**
NSY	**Sanyi**	**1.12**	**252**	⇑*i*P	**Pn**	**04 01 54.9**	**+0.5**
NSY				*e*S	**Sn**	**04 02 10.8**	**+0.7**
TWQ1	**Liyutan**	**1.14**	**248**	⇑*i*P	**Pn**	**04 01 55.8**	**+1.2**
TWQ1				*i*S	**Sn**	**04 02 11.1**	**+0.8**
WARBT	**Fenglin Townsh**	**1.17**	**205**	⇑*i*P	**Pn**	**04 01 54.4**	**-0.6**
WARBT				*e*S	**Sn**	**04 02 09.9**	**-1.1**
WCS	**Beigang Elemen**	**1.17**	**233**	⇑*i*P	**Pn**	**04 01 56.5**	**+1.5**
WCS				*e*S	**Sn**	**04 02 12.3**	**+1.3**
EGFH	**Guangfu**	**1.20**	**203**	*e*P	**Pn**	**04 01 55.0**	**-0.3**
EGFH				*e*S	**Sn**	**04 02 10.7**	**-0.9**
VWDT	**VWDT**	**1.25**	**215**	⇑*i*P	**Pn**	**04 01 57.2**	**+1.3**
VWDT				*e*S	**Sn**	**04 02 13.8**	**+1.1**
WDJ	**Dajia District**	**1.25**	**250**	⇑*i*P	**Pn**	**04 01 57.4**	**+1.5**
WDJ				*i*S	**Sn**	**04 02 14.2**	**+1.4**
SMLT	**Sun Moon Lake**	**1.29**	**227**	⇑*i*P	**Pn**	**04 01 57.2**	**+0.5**
SMLT				S	**Sn**	**04 02 14.8**	**+0.8**
TCU	**Taichung**	**1.30**	**242**	⇑*i*P	**Pn**	**04 01 58.0**	**+1.4**
TCU				*e*S	**Sn**	**04 02 14.6**	**+0.7**
TYC	**Yuchr**	**1.31**	**229**	⇑*i*P	**Pn**	**04 01 58.1**	**+1.4**
TYC				*i*S	**Sn**	**04 02 15.9**	**+1.9**
SSLB	**Suanglung**	**1.33**	**222**	Pn	**Pn**	**04 01 58.1**	**+1.1**
SSLB	**Suanglung**	**1.33**	**222**	P	**Pn**	**04 01 58.4**	**+1.4**
SSLB	**Suanglung**	**1.33**	**222**	P	**Sn**	**04 02 16.5**	**+1.9**
SSLB	**Suanglung**	**1.33**	**222**	⇑*i*P	**Pn**	**04 01 58.2**	**+1.2**
SSLB				*e*S	**Sn**	**04 02 16.1**	**+1.5**
HGSD	**Ruisui**	**1.36**	**200**	⇑*i*P	**Pn**	**04 01 57.6**	**+0.3**
HGSD				*e*S	**Sn**	**04 02 15.6**	**+0.4**
EHY	**Hungye**	**1.38**	**204**	⇑*i*P	**Pn**	**04 01 56.8**	**-0.9**
EHYH	**Wanrong**	**1.39**	**203**	*e*P	**Pn**	**04 01 57.0**	**-0.6**
WCHH	**Zhanghua**	**1.43**	**241**	⇑*i*P	**Pn**	**04 01 59.4**	**+1.2**
WCHH				*e*S	**Sn**	**04 02 18.3**	**+1.5**
WNT	**Mingjian**	**1.45**	**232**	⇑P	**Pn**	**04 01 59.9**	**+1.4**
WNT				*i*S	**Sn**	**04 02 18.9**	**+1.7**
WJS	**Zhushan**	**1.45**	**229**	⇑P	**Pn**	**04 01 60.0**	**+1.5**
WJS				*e*S	**Sn**	**04 02 19.1**	**+1.8**
WHYT	**Xinyi Township**	**1.46**	**223**	⇑P	**Pn**	**04 02 00.3**	**+1.6**
WHYT				*e*S	**Sn**	**04 02 19.6**	**+2.1**
YULB	**Yu-li**	**1.50**	**203**	Pn	**Pn**	**04 01 57.7**	**-1.4**
YULB	**Yu-li**	**1.50**	**203**	P	**Pn**	**04 01 58.5**	**-0.6**
YULB	**Yu-li**	**1.50**	**203**	⇑*i*P	**Pn**	**04 01 58.2**	**-0.8**
ECBN	**Changbin**	**1.52**	**197**	⇑*i*P	**Pn**	**04 01 59.9**	**+0.5**
ECBN				*e*S	**Sn**	**04 02 19.0**	**+0.2**
EYUL	**Yuli**	**1.53**	**202**	*e*P	**Pn**	**04 02 00.1**	**+0.6**
ALS	**Alishan**	**1.63**	**219**	⇑*i*P	**Pn**	**04 02 02.7**	**+1.6**
ALS				*e*S	**Sn**	**04 02 24.0**	**+2.2**
CHN5	**Tsauling**	**1.64**	**225**	⇑*i*P	**Pn**	**04 02 02.3**	**+1.3**
CHN5				*e*S	**Sn**	**04 02 23.4**	**+1.6**
CHKH	**Chenggong**	**1.65**	**197**	⇑P	**Pn**	**04 02 01.2**	**+0.1**
CHKH				*i*S	**Sn**	**04 02 22.2**	**+0.3**
WDL	**Douliou City**	**1.65**	**231**	*e*P	**Pn**	**04 02 02.7**	**+1.6**
WDL				S	**Sn**	**04 02 24.2**	**+2.3**
WGK	**Gukeng**	**1.66**	**229**	*e*P	**Pn**	**04 02 02.6**	**+1.5**
WGK				*i*S	**Sn**	**04 02 23.7**	**+1.8**
WRL	**Guolierlin Hig**	**1.66**	**239**	*e*P	**Pn**	**04 02 02.2**	**+1.0**
WRL				*e*S	**Sn**	**04 02 23.4**	**+1.2**
WDLH	**Douliu**	**1.67**	**230**	⇑*i*P	**Pn**	**04 02 02.7**	**+1.4**
WDLH				S	**Sn**	**04 02 24.2**	**+1.9**
FULB	**Fuli**	**1.68**	**200**	P	**Pn**	**04 02 01.7**	**+0.3**
FULB				*e*S	**Sn**	**04 02 23.4**	**+0.9**
IRIF	**Iriomote-Funau**	**1.70**	**105**	P	**Pn**	**04 02 02.2**	**+0.6**
IRIF				*e*S	**Sn**	**04 02 23.3**	**+0.4**
CHKT	**Chengkung**	**1.75**	**197**	⇑*i*P	**Pn**	**04 02 02.3**	**-0.1**
CHKT				*e*S	**Sn**	**04 02 23.5**	**-0.6**
EHD	**Haiduan**	**1.75**	**202**	*e*P	**Pn**	**04 02 01.4**	**-1.0**
WTCT	**Ta-ch'eng**	**1.76**	**239**	*e*P	**Pn**	**04 02 03.1**	**+0.6**
WTCT				*e*S	**Sn**	**04 02 25.1**	**+0.7**
WTK	**Tuku**	**1.78**	**233**	*e*P	**Pn**	**04 02 04.0**	**+1.3**
WTK				*i*S	**Sn**	**04 02 26.7**	**+1.9**
ELDTW	**Lidau**	**1.79**	**208**	P	**Pn**	**04 02 03.0**	**+0.1**
ELDTW				*e*S	**Sn**	**04 02 25

DL2	Dalian	14.09	359	P	P	04 04 57.3 +3.1
DL2				pmax	pmax	
comp=Z,40nm,0.7s						
XAN	Xi'an	14.61	312	⇓P	P	04 05 00.1 0.0
XAN				pmax	pmax	
comp=Z,26nm,1.0s						
BJI	Beijing	15.97	344	P	Pn	04 05 12.8 -0.3
BJI				pP	pP	04 05 24.9 -6.5
BJI				sP	sP	04 05 34.3 -7.9
BJI				pmax	pmax	
comp=Z,2.0nm,0.4s						
JHJ	Hachijo jima 2	17.68	58	P	Pn	04 05 35.4 +1.1
comp=Z,123nm,0.8s,baz=240,slow=20,SNR=1.7						
JHJ2	Mitsune	17.70	58	P	Pn	04 05 35.7 +1.2
HHC	Hu-ho-hao-te	18.22	334	*e*P	Pn	04 05 42.8 +1.9
HHC				pmax	pmax	
comp=Z,9.0nm,0.7s						
HHC				pmax	pmax	
comp=Z,94nm,4.1s						
PZH	PanZhiHua	18.29	280	P	Pn	04 05 43.0 +1.2
PZH				pmax	pmax	
comp=Z,10.0nm,0.5s						
PZH				pmax	pmax	
comp=Z,80nm,4.5s						
LZH	Lanzhou	19.21	310	*e*P	Pn	04 05 56.8 +4.0
LZH				pP	pP	04 06 10.4 +2.8
LZH				pmax	pmax	
comp=Z,11nm,1.1s						
USRK	Ussuriysk Ar.	21.04	20	P	P	04 06 10.1 -0.4
comp=Z,2.2nm,0.7s,baz=220,slow=13,SNR=4.2						
comp=Z,2.2nm,0.7s						
BNX	BinXian	21.38	11	⇓P	P	04 06 15.3 +1.2
BNX				pmax	pmax	
comp=Z,7.0nm,1.9s						
CMAR	Chiang Mai Arr	22.26	258	P	P	04 06 23.2 -0.6
comp=Z,2.5nm,0.3s,baz=64,slow=8.8,SNR=8.4						
comp=Z,2.5nm,0.3s						
SONM	Songino Array	26.10	336	P	P	04 07 00.6 +1.2
SONM	Songino Array	26.10	336	P	P	04 06 58.2 -1.2
comp=Z,2.8nm,0.8s,baz=152,slow=9.0,SNR=9.9						
comp=Z,2.8nm,0.8s						
WMQ	Urumqi	33.74	313	*e*P	P	04 08 08.3 +1.2
WMQ				pmax	pmax	
comp=Z,18nm,0.7s						
MK31	Makanchi Array	38.39	315	P	P	04 08 47.4 +0.8
MKAR	Makanchi Array	38.39	315	P	P	04 08 47.2 +0.5
MKAR	Makanchi Array	38.39	315	P	P	04 08 46.7 +0.1
comp=Z,1.2nm,0.4s,baz=100,slow=9.6,SNR=23						
MKAR				PcP	PcP	04 10 57.2 -1.3
comp=Z,0.2nm,0.5s,baz=106,slow=4.7,SNR=2.4						
comp=Z,1.2nm,0.4s						
ZAA0	Zalesovo Array	40.12	326	P	P	04 09 01.7 +0.8
ZALV	Zalesovo Beam	40.12	326	P	P	04 09 00.7 -0.2
comp=Z,1.3nm,0.4s,baz=122,slow=7.6,SNR=7.4						
comp=Z,1.3nm,0.4s						
H11N1	WAKE ISLAND Hy	41.78	88	T	T	04 54 59.0
baz=283						
H11N2	WAKE ISLAND Hy	41.78	88	T	T	04 55 02.4
baz=283,slow=74						
H11N3	WAKE ISLAND Hy	41.79	88	T	T	04 55 01.5
baz=283,slow=74						
H11S3	WAKE ISLAND Hy	41.93	90	T	T	04 55 12.4
baz=283						
H11S1	WAKE ISLAND Hy	41.94	89	T	T	04 55 11.5
baz=283						
H11S2	WAKE ISLAND Hy	41.95	90	T	T	04 55 09.6
baz=283						
KURK	Kurchatov	42.08	319	P	P	04 09 16.7 -0.3
KURBB	Kurchatov Arra	42.10	319	P	P	04 09 17.2 +0.1
comp=Z,0.4nm,0.4s,baz=120,slow=7.7,SNR=8.4						
comp=Z,0.4nm,0.4s						
KK31	Karatay Array	45.66	307	P	P	04 09 46.7 +0.9
KKAR	Karatay Array	45.66	307	P	P	04 09 47.5 +1.7
WB0	Warramunga Arr	45.91	164	P	P	04 09 47.3 -0.6
WB0				IAmb	IAmb	04 09 49.0
comp=Z,11nm,1.4s						
WRA	Warramunga Arr	46.06	164	P	P	04 09 48.9 -0.2
WRA	Warramunga Arr	46.06	164	P	P	04 09 48.8 -0.2
comp=Z,0.9nm,0.4s,baz=345,slow=8.1,SNR=14						
comp=Z,0.9nm,0.4s						
WB2	Warramunga Arr	46.06	164	P	P	04 09 48.5 -0.6
WB2				IAmb	IAmb	04 09 52.0
comp=Z,7.3nm,1.1s						
WR0	Warramunga Arr	46.13	163	P	P	04 09 48.5 -1.2
WR0				IAmb	IAmb	04 10 04.7
comp=Z,8.8nm,1.3s						
BVAR	Borovoye Array	47.65	320	P	P	04 10 01.4 +0.2
comp=Z,1.2nm,0.5s,baz=106,slow=7.3,SNR=7.8						
comp=Z,1.2nm,0.5s						
ASAR	Alice Springs	49.53	166	P	P	04 10 15.7 -0.2
comp=Z,0.7nm,0.6s,baz=345,slow=6.8,SNR=8.6						
comp=Z,0.7nm,0.6s						
HNR	Honiara	50.30	128	LR	LR	04 30 18.0
comp=Z,110nm,19.5s,baz=336,slow=34						
ABKAR	Akbulak array	53.52	314	P	P	04 10 45.8 +0.5
ARTI	Arti	55.14	323	P	P	04 10 56.9 -0.1
ARTI				IAmb	IAmb	04 10 57.6
comp=Z,3.4nm,0.9s						
BBOO	Buckleboo	58.83	166	P	P	04 11 23.0 -0.3
TNA	Tin City	59.51	27	P	P	04 11 28.3 +0.8
K13K	Kusilvak Mount	60.66	31	P	P	04 11 36.6 +1.1
K13K				IAmb	IAmb	04 11 37.4
comp=Z,2.2nm,0.8s						
F15K	North Star Dit	60.87	27	P	P	04 11 38.0 +1.0
F15K				IAmb	IAmb	04 11 39.2
comp=Z,3.5nm,1.2s						
J14K	Nanvaranak Lak	61.20	30	P	P	04 11 39.6 +0.5
L14K	Kuka Creek	61.59	32	P	P	04 11 43.5 +1.7
L14K				IAmb	IAmb	04 11 44.2
comp=Z,4.4nm,0.8s						
M14K	Bethel	61.95	33	P	P	04 11 44.6 +0.5
F17K	Baldwin Pennin	62.29	26	P	P	04 11 47.5 +1.1
F17K				IAmb	IAmb	04 12 01.4
comp=Z,2.7nm,1.1s						
J17K	VABM Dome	63.24	30	P	P	04 11 53.4 +0.6
J17K				IAmb	IAmb	04 11 54.9
comp=Z,4.1nm,0.9s						
D19K	Kuna River	63.52	24	P	P	04 11 55.2 +0.6
D19K				IAmb	IAmb	04 11 56.2
comp=Z,4.6nm,0.9s						
B20K	Meade River	63.85	22	P	P	04 11 56.8 +0.2
E19K	Redstone River	63.87	25	P	P	04 11 57.2 +0.3
E19K				PcP	PcP	04 12 32.5 +0.6
H19K	Roundabout Mou	64.27	27	P	P	04 12 00.2 +0.7
H19K				PcP	PcP	04 12 34.4 +0.9
H19K				IAmb	IAmb	04 12 35.8
comp=Z,4.7nm,0.8s						
L18K	Granite Mounta	64.40	31	P	P	04 12 01.7 +1.3
B21K	Ikpikpuk River	64.75	23	P	P	04 12 03.1 +0.6
B21K				IAmb	IAmb	04 12 04.8
comp=Z,5.1nm,0.7s						
E21K	Killik River	65.05	24	P	P	04 12 05.1 +0.5
E21K				IAmb	IAmb	04 12 06.2
comp=Z,7.6nm,1.2s						
B22K	Teshekpuk Lake	65.11	22	P	P	04 12 05.7 +0.8
B22K				IAmb	IAmb	04 12 06.9
comp=Z,5.5nm,0.7s						
D22K	Ayikyak River	65.48	23	P	P	04 12 07.9 +0.5
E22K	Anaktuvuk Pass	65.88	24	P	P	04 12 10.2 +0.2
E22K				IAmb	IAmb	04 12 11.9
comp=Z,4.9nm,1.1s						
E23K	Chandalar	66.71	24	P	P	04 12 16.3 +1.0
E23K				IAmb	IAmb	04 12 18.0
comp=Z,3.1nm,0.9s						
C24K	Franklin Bluff	66.79	22	P	P	04 12 16.1 +0.4
C24K				IAmb	IAmb	04 12 18.0
comp=Z,5.7nm,0.9s						
D24K	Happy Valley	66.83	23	P	P	04 12 16.8 +0.9
D24K				IAmb	IAmb	04 12 17.5
comp=Z,7.4nm,1.1s						
E24K	Your Creek	67.12	24	P	P	04 12 18.9 +1.0
F24K	Squaw Lake	67.44	25	P	P	04 12 20.7 +0.8
F24K				IAmb	IAmb	04 12 21.8
comp=Z,5.5nm,1.1s						
D25K	Kavik River	67.66	23	P	P	04 12 21.6 +0.3
D25K				IAmb	IAmb	04 12 23.2
comp=Z,2.8nm,0.8s						
RND	Reindeer	67.81	29	P	P	04 12 22.1 -0.2
RND				IAmb	IAmb	04 12 25.0
comp=Z,6.2nm,0.9s						
F25K	Christian Rive	68.27	24	P	P	04 12 26.3 +1.1
F25K				IAmb	IAmb	04 12 27.4
comp=Z,5.8nm,1.1s						
ILAR	Eielson Array	68.38	27	P	P	04 12 25.4 -0.4
comp=Z,0.4nm,0.5s,baz=281,slow=5.5,SNR=10.0						
comp=Z,0.4nm,0.5s						
F26K	Sheenjek River	68.81	24	P	P	04 12 29.7 +1.2
F26K				IAmb	IAmb	04 12 30.0
comp=Z,4.0nm,1.1s						
SPITS	Spitsbergen Ar	69.05	348	P	P	04 12 29.6 -0.2
comp=Z,15nm,1.1s,baz=81,slow=11,SNR=9.3						
SPITS				LR	LR	04 48 11.6
comp=Z,82nm,19.0s,baz=150,slow=40						
comp=Z,15nm,1.1s						
ARCES	ARCESS Array B	69.25	338	P	P	04 12 30.9 -0.2
comp=Z,2.5nm,0.9s,baz=63,slow=8.7,SNR=5.8						
comp=Z,2.5nm,0.9s						
E28M	Babbage River	70.23	23	P	P	04 12 37.9 +0.7
E28M				IAmb	IAmb	04 12 38.2
comp=Z,5.8nm,1.2s						
L27K	Beaver Creek,	70.97	29	P	P	04 12 42.3 +0.5
L27K				IAmb	IAmb	04 13 17.0
comp=Z,8.3nm,1.4s						
FINES	FINESS Array B	71.28	330	P	P	04 12 43.3 -0.2
comp=Z,1.2nm,0.3s,baz=58,slow=5.9,SNR=14						
comp=Z,1.2nm,0.3s						
I30M	Mount Dempster	72.52	26	P	P	04 12 51.1 -0.1
AKASG	Malin Array Be	72.88	318	P	P	04 12 52.4 -0.9
comp=Z,0.6nm,0.5s,baz=63,slow=5.9,SNR=5.2						
comp=Z,0.6nm,0.5s						
BRTR	Keskin Array B	73.37	306	P	P	04 12 56.5 -0.1
comp=Z,1.1nm,0.7s,baz=96,slow=5.1,SNR=7.6						
comp=Z,1.1nm,0.7s						
P33M	Teslin, Yukon	76.01	30	P	P	04 13 12.4 +1.0
Q32M	Nakina River	76.81	31	P	P	04 13 17.2 +1.1
BBB	Bella Bella	82.10	36	LR	LR	04 50 48.3
comp=Z,65nm,20.2s,baz=52,slow=36						
YKA	Yellowknife Ar	82.16	23	P	P	04 13 43.8 -1.0
comp=Z,0.9nm,0.5s,baz=314,slow=5.6,SNR=3.6						
comp=Z,0.9nm,0.5s						
ITM	Ithomi	82.84	308	P	P	04 13 47.1 -1.8
BMRD	Maredsous	86.92	325	*e*PP	PP	04 17 34.2 +1.8
L04D	Klamath Falls	90.83	42	P	P	04 17 28.2 +0.3
NVAR	Mina Array Bea	95.53	43	P	P	04 14 49.1 -0.6
comp=Z,1.0nm,0.8s,baz=286,slow=4.7,SNR=8.9						
comp=Z,1.0nm,0.8s						
PTBC	PUERTO BERRIO	145.02	29	P	PKPbc	04 20 53.7 -7.7
PTBC	PUERTO BERRIO	145.02	29	P	PKPbc	04 20 53.7 -7.7
PAMC	Pamplona, Colo	145.04	26	P	PKPbc	04 21 00.8 -1.2
PAMC	Pamplona, Colo	145.04	26	P	PKPbc	04 21 00.8 -1.2
BAUV	El Baul	145.10	17		PKPbc	04 21 00.7 -0.9
BARC	Barichara	145.52	27	P	PKPdf	04 21 02.6 -0.5
BARC	Barichara	145.52	27	P	PKPdf	04 21 02.6 -0.5
GUY2C	Guyana, Caldas	145.76	32	P	PKPdf	04 21 02.3 -1.5
GUY2C	Guyana, Caldas	145.76	32	P	PKPdf	04 21 02.3 -1.5
MALC	Bahia Malaga	145.80	36	P	PKPdf	04 21 03.6 +0.3
MALC	Bahia Malaga	145.80	36	P	PKPdf	04 21 03.6 +0.3
SPBC	San Pablo de B	145.98	29	P	PKPdf	04 21 03.7 0.0
SPBC	San Pablo de B	145.98	29	P	PKPdf	04 21 03.7 0.0
RUSC	La Rusia	146.19	28	P	PKPdf	04 21 04.0 -0.5
RUSC	La Rusia	146.19	28	P	PKPdf	04 21 04.0 -0.5
YOTC	Yotoco, Valle	146.34	34	P	PKPdf	04 21 03.9 -0.4
YOTC	Yotoco, Valle	146.34	34	P	PKPdf	04 21 03.9 -0.4
JAMC	Jamundi, Valle	146.82	36	P	PKPdf	04 21 06.2 +0.9
JAMC	Jamundi, Valle	146.82	36	P	PKPdf	04 21 06.2 +0.9
ORTC	Ortega, Tolima	146.96	33	P	PKPdf	04 21 05.3 0.0
ORTC	Ortega, Tolima	146.96	33	P	PKPdf	04 21 05.3 0.0
CHIC	Chingaza	147.04	30	P	PKPbc	04 21 07.1 -0.9
CHIC	Chingaza	147.04	30	P	PKPbc	04 21 07.1 -0.9

NEIC 19 04:04:19.1±0.9, 35°.066N±0°.007×97°.57W±0°.01, h5km±1km, mb_Lg2.7/81, ML2.8/42, Error ellipse: s-maj=2.6km s-min=2.0km az=79.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.23	35	Pg	Pg	04 04 24.4	+0.7
FNO				Sg	Sg	04 04 27.0	+0.2
FNO				IAML		04 04 32.0	
comp=E,2μm,0.7s							
OKCSW	OKLAHOMA CITY	0.35	17	Pg	Pg	04 04 26.6	+0.6
OKCSW				IAML		04 04 35.2	
comp=N,553nm,0.3s							
OKCSW				IAML		04 04 35.2	
comp=E,790nm,0.6s							
X34A	Smith Ranch, M	0.51	205	Pg	Pb	04 04 31.0	+0.4
X34A				Sg	Sg	04 04 36.4	+0.7
W35A	Tecumseh	0.57	81	Pg	Pb	04 04 31.6	0.0
W35A				Sg	Sg	04 04 37.5	-0.1
W35A				IAML		04 04 43.8	
comp=E,252nm,0.4s							
W35A				IAML		04 04 46.4	
comp=N,268nm,0.5s							
ADOK	Arcadia Dam	0.61	15	Pg	Pg	04 04 31.1	+0.3
OK029	Liberty Lake	0.73	7	Pg	Pg	04 04 33.1	-0.1
OK029				IAML		04 04 48.0	
comp=N,275nm,0.2s							
WMOK	Wichita Mounta	1.05	252	Pg	Pg	04 04 39.5	+0.2
WMOK	Wichita Mounta	1.05	252		Pb	04 04 39.6	-0.2
WMOK				IAmb_Lg		04 04 54.8	
comp=Z,6.3nm,0.9s							
WMOK				IAML		04 05 06.5	
comp=Z,27nm,0.6s							
WMOK				IAML		04 05 08.2	
comp=Z,36nm,1.2s							
OK031	S. Brethren Rd	1.06	34	Pg	Pg	04 04 39.1	-0.4
CSTR	Hydro, Custer	1.08	303	Pg	Pg	04 04 39.9	0.0
OK052	Battle Ridge R	1.11	34	Pg	Pg	04 04 40.0	-0.4
DEOK	Depew	1.17	48	Pg	Pg	04 04 41.1	-0.4
DEOK				IAML		04 05 02.4	
comp=N,440nm,0.2s							
QUOK	Quay	1.30	32		Pn	04 04 43.5	-0.5
OK048	Pawnee Station	1.44	20		Pn	04 04 45.5	-0.3
CROK	Carrier	1.48	347		Pn	04 04 46.2	-0.2
WTFS	Witchita Falls	1.50	210		Pb	04 04 47.2	-0.1
OK051	E0350 and S346	1.55	22		Pn	04 04 47.3	-0.1
TUL3	Leonard	1.68	59		Pn	04 04 49.5	+0.5
OK038	West end E0370	1.70	326		Pn	04 04 49.7	+0.2
BLOK	Blackwell	1.71	9		Pn	04 04 50.2	+0.6
Z35A	Perchaven, San	1.75	171	Pn	Pn	04 04 50.6	+0.5
GC02	Grant County #	1.80	352	Pn	Pn	04 04 51.3	+0.6
OK032	Salt Plains WL	1.81	343	Pn	Pn	04 04 51.6	+0.6
OK032				IAmb_Lg		04 05 17.3	
comp=Z,34nm,0.7s							
KAN13	South Haven SW	1.94	2	Pn	Pn	04 04 52.7	-0.1
T35A	Sooner Cattle	2.03	25	Pn	Pn	04 04 55.0	+1.0
KAN09	Caldwell North	2.07	359	Pn	Pn	04 04 54.3	-0.1
KAN09				IAmb_Lg		04 05 28.5	
comp=Z,49nm,0.8s							
KAN01	Argonia South	2.09	356	IAmb_Lg		04 05 29.1	
comp=Z,36nm,0.7s							
SMWD	Samnorwood	2.20	272	IAmb_Lg		04 05 31.9	
comp=Z,30nm,0.8s							
PLPT	Palo Pinto	2.33	196	Pn	Pn	04 04 59.1	+1.0
TREL	Terrell	2.63	152	IAmb_Lg		04 05 48.4	
comp=Z,14nm,0.8s							
APMT	Aspermont	2.74	231	Pn	Pn	04 05 03.7	-0.1
U38A	Gravette	2.93	61	Pn	Pn	04 05 07.4	+1.1
DKNS	Dickens	3.11	244	IAmb_Lg		04 06 00.9	
comp=Z,15nm,1.1s							
HHAR	Hobbs	3.19	67	Pn	Pn	04 05 11.0	+1.1
MIAR	Mount Ida	3.32	98		Pn	04 05 14.3	+2.6
MIAR				IAmb_Lg		04 06 12.2	
comp=Z,15nm,0.8s							
237A	Washetta, Mont	3.39	154	IAmb_Lg		04 06 13.1	
comp=Z,13nm,0.8s							
SN07	Snyder 07	3.39	235	IAmb_Lg		04 06 10.1	
comp=Z,16nm,1.0s							
SN05	Snyder 5	3.52	233	IAmb_Lg		04 06 13.4	
comp=Z,11nm,0.9s							
POST	Post	3.83	240	Pn	Pn	04 05 19.1	+0.4
POST				IAmb_Lg		04 06 28.1	
comp=Z,14nm,0.8s							
WLAR	White Oak Lake	3.93	109	IAmb_Lg		04 06 30.8	
comp=Z,16nm,0.8s							
X40A	Basin Creek Fa	3.94	97		Pn	04 05 21.7	+1.5
X40A				IAmb_Lg		04 06 30.0	
comp=Z,19nm,0.8s							
BRDY	Brady	3.96	198	Pn	Pn	04 05 22.1	+1.7
BRDY				IAmb_Lg		04 06 32.4	
comp=Z,13nm,0.7s							
KSU1	Kansas State U	4.10	10	Pn	Pn	04 05 22.8	+0.4
CBKS	Cedar Bluff	4.12	336	Pn	Pn	04 05 24.4	+1.6
CBKS				IAmb_Lg		04 06 41.2	
comp=Z,18nm,0.8s							
435B	Jarrell	4.27	180	IAmb_Lg		04 06 39.6	
comp=Z,15nm,0.8s							
UALR	University of	4.30	92	IAmb_Lg		04 06 40.5	
comp=Z,15nm,0.9s							
WHAR	Wooly Hollow	4.33	86	Pn	Pn	04 05 25.9	+0.3
WHAR				IAmb_Lg		04 06 42.6	
comp=Z,19nm,0.8s							
Z41A	Richland Creek	4.34	113	IAmb_Lg		04 06 47.2	
comp=Z,20nm,0.9s							
RTBA	Rita Blanca	4.42	290	Pn	Pn	04 05 26.9	-0.1
MSTX	Muleshoe	4.44	257	IAmb_Lg		04 06 42.1	
comp=Z,8.6nm,1.1s							
FCAR	Ozark Folk Cen	4.52	78	Pn	Pn	04 05 28.0	-0.1
FCAR				IAmb_Lg		04 06 53.1	
comp=Z,11nm,0.7s							
MGMO	Mountain Grove	4.77	63	Pn	Pn	04 05 31.9	+0.2
MGMO				IAmb_Lg		04 07 01.3	
comp=Z,25nm,0.8s							
JCT	Junction City	4.95	203	Pn	Pn	04 05 33.5	-0.6
JCT				IAmb_Lg		04 07 04.4	
comp=Z,21nm,1.2s							
ODSA	Odessa	5.09	236	IAmb_Lg		04 07 02.8	
comp=Z,9.8nm,1.1s							
OZNA	Ozona	5.10	217	Pn	Pn	04 05 34.5	-1.7
R40A	Maddies Statio	5.34	51	IAmb_Lg		04 07 12.4	
comp=Z,12nm,0.7s							
P38A	Dawn	5.57	34	Pn	Pn	04 05 41.6	-1.0
P38A				IAmb_Lg		04 07 24.1	
comp=Z,13nm,0.8s							
T42A	Van Buren	5.60	68	Pn	Pn	04 05 40.9	-2.1
T42A				IAmb_Lg		04 07 26.5	
comp=Z,11nm,0.8s							
MNHN	Monahans	5.72	231	IAmb_Lg		04 07 27.7	
comp=Z,12nm,1.0s							
T25A	Trinidad	5.92	292	IAmb_Lg		04 07 29.6	
comp=Z,7.8nm,0.8s							
N35A	Tabor	5.98	14	IAmb_Lg		04 07 39.2	
comp=Z,20nm,0.8s							
DRIO	Del Rio	6.19	206	IAmb_Lg		04 07 48.1	
comp=Z,5.5nm,0.8s							
FVM	French Village	6.44	61	IAmb_Lg		04 07 49.4	
comp=Z,17nm,0.8s							
CGM3	Cape Girardeau	6.77	69	IAmb_Lg		04 07 56.4	
comp=Z,7.8nm,0.8s							
SDCO	Great Sand Dun	6.94	295	IAmb_Lg		04 08 07.3	
comp=Z,6.3nm,1.1s							
L34A	Svendsen Farm,	6.95	7	IAmb_Lg		04 08 15.2	
comp=Z,16nm,0.8s							
Q24A	Divide	7.21	305	IAmb_Lg		04 08 08.5	
comp=Z,9.9nm,1.0s							
SCIA	State Center	7.63	25	IAmb_Lg		04 08 37.9	
comp=Z,12nm,0.9s							

MEX 19 04:12:36.0±0.7, 14°.89N×92°.77W, h89km±11km, MD4.2
GCG 19 04:12:36.0±1.6, 14°.94N×92°.73W, h78km±12km, MD3.9

ISC 19 04:12:34.4±1.4, 14°.85N±0°.06×92°.79W±0°.04, h88km±10km, n26, σ1°88/50, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.51	83	*e*P	Pn	04 12 49.3	+0.3
THIG				*e*S	Sn	04 12 59.2	-0.7
THIG		0.51	83	*i* P	Pn	04 12 49.3	+0.3
THIG				*i* S	Sn	04 12 59.4	-0.5
THIG		0.51	83	*i* P		04 12 49.3	
THIG				*i* S		04 12 59.4	
PATR	El Naranjo	0.60	64	*e*P	Pn	04 12 49.9	-0.2
PATR				*e*S	Sn	04 13 00.7	-1.0
PAVE	Pavencul	0.69	60	*e*P	Pn	04 12 50.7	-0.2
PAVE				*e*S	Sn	04 13 02.8	-0.3
SMCA	Catarina	0.69	89	*e*P	Pn	04 12 50.9	+0.2
SMCA				*i* S	Sn	04 13 02.8	-0.1
SMCA	Catarina	0.69	89	*e*P		04 12 50.9	
SMCA				*i* S		04 13 02.8	
PCIG		0.95	334	*e*P	Pn	04 12 53.5	+0.1
PCIG				*e*S	Sn	04 13 07.2	-0.4
RTAL	Retalhuleu	1.11	107	*e*P	Pn	04 12 55.7	+0.5
RTAL				*e*S	Sn	04 13 11.1	+0.1
HUEH	Huehuetenango	1.33	69	*e*P	Pn	04 12 58.9	+0.7
HUEH				*e*S	Sn	04 13 17.2	+1.1
HUEH	Huehuetenango	1.33	69	*i* S	Sn	04 13 17.9	+1.8
HUEH	Huehuetenango	1.33	69	*i* S		04 13 17.9	
STG8	El Palmar, Qui	1.45	106	*e*P		04 12 56.9	
STG8				*e*S		04 13 12.8	
STG0	El Palmar, Qui	1.47	106	*e*P		04 12 57.1	
STG0				*i* S		04 13 13.2	
CCIG	Comitan	1.56	24	*e*P	Pn	04 13 00.8	-0.3
CCIG				*e*S	Sn	04 13 21.4	+0.3
CCIG	Comitan	1.56	24	*i* P	Pn	04 13 00.8	-0.3
CCIG				*i* S	Sn	04 13 21.7	+0.5
CCIG	Comitan	1.56	24	*i* P		04 13 00.8	
CCIG				*i* S		04 13 21.7	
CARR	Arriaga	1.76	322	*e*P	Pn	04 13 04.6	+1.2
CARR				*e*S	Sn	04 13 26.6	+1.1
TGIG		1.95	351	*e*P	Pn	04 13 07.4	+1.5
TGIG				*e*S	Sn	04 13 27.2	-2.7
FG8	Yepocapa, Chim	2.24	105	*i* S		04 13 30.1	
APG	El Apazote	2.26	86	*i* P	Pn	04 13 11.2	+1.0
APG	El Apazote	2.26	86	*i* P		04 13 11.2	
NILT	Santiago Nilte	2.45	314	*e*P	Pn	04 13 15.2	+2.7
NILT				*e*S	Sn	04 13 42.5	+0.8
UXUV	UXUV	2.78	332	*e*P	Pn	04 13 17.5	+0.5
UXUV				*e*S	Sn	04 13 43.5	-6.2
CMIG	Matias Romero	3.00	318	*e*P	Pn	04 13 21.8	+1.8
CMIG				*e*S	Sn	04 13 53.9	-1.2
HUIG	Huatulco	3.33	286	*e*P	Pn	04 13 23.6	-0.8
HUIG				*e*S	Sn	04 13 58.9	-4.1
PETF	Flores	3.49	53	*e*P	Pn	04 13 26.2	-0.3
PETF				*e*S	Sn	04 14 03.1	-3.7
NEUV	Arroyo Zacate	4.06	315	*e*P	Pn	04 13 37.2	+2.9
NEUV				*e*S	Sn	04 14 25.0	+4.3
PEIG	Puerto Escondi	4.35	286	*e*P	Pn	04 13 38.7	+0.4
PEIG				*e*S	Sn	04 14 28.6	+0.7
YOIG	Yosondua	4.99	294	*e*P	Pn	04 13 49.4	+2.1
YOIG				*e*S	Sn	04 14 42.2	-1.7
TOIG	Toxpalan	5.22	309	*e*P	Pn	04 13 51.1	+1.0
TOIG				*e

MSVF Nonsavu 10.35 105 P **Pn 04 22 52.7 -0.8**
14nm,0.9s,baz=301,slow=15,SNR=7.3
MSVF Nonsavu 10.35 105 P **Pn 04 22 49.1 -4.5**
GD1S Gladstone Soft 17.57 239 P **P 04 24 23.1 -1.0**
RK1H Rockhampton Ha 17.95 241 P **Pn 04 24 29.9 +0.4**
AUWSH Wavell State H 18.03 226 P **Pn 04 24 30.4 -0.1**
EIDS Eidsvold 18.35 235 P **Pn 04 24 34.2 -0.1**
EIDS Eidsvold 18.35 235 P **Pn 04 24 34.4 +0.1**
comp=Z,150nm,0.8s
EIDS Eidsvold 18.35 235 P **Pn 04 24 34.0 -0.3**
TW1H Toowoomba 1 Ha 18.87 227 P **Pn 04 24 40.6 +0.1**
TV1H Townsville Har 20.18 256 P **P 04 24 53.7 +1.2**
PMG Port Moresby 20.76 284 P **P 04 24 58.1 -0.6**
comp=Z,43nm,0.9s,baz=110,slow=5.9,SNR=7.3
comp=Z,43nm,0.9s
ARMA Armidale 20.93 222 P **P 04 25 01.4 +0.9**
ARMA Armidale 20.93 222 P **P 04 25 00.7 +0.2**
comp=Z,38nm,1.2s
ARMA Armidale 20.93 222 P **P 04 25 01.6 +1.1**
MTSU Mount Surprise 22.41 260 P **P 04 25 15.5 -0.5**
comp=Z,60nm,1.2s
MTSU Mount Surprise 22.41 260 P **P 04 25 16.1 +0.1**
TOZ Tahuroa Road 23.38 164 P **P 04 25 25.7 +0.9**
COEN Coen 23.61 270 P **P 04 25 26.8 -0.5**
comp=Z,54nm,1.4s
SYDH Sydney Hard Ro 23.80 217 P **P 04 25 29.7 +1.0**
HAZ Te Kaha 24.08 160 P **P 04 25 32.3 +1.0**
RUGZ Raukumara Rang 24.24 160 P **P 04 25 33.3 +0.5**
PKGZ Pakihiroa 24.28 159 P **P 04 25 34.1 +1.0**
URZ Urewera 24.33 161 LR LR 04 33 05.4
comp=Z,132nm,18.9s,baz=167,slow=31
URZ Urewera 24.33 161 P **P 04 25 33.9 +0.4**
WMGZ Waiomatatini S 24.36 159 S **S 04 29 44.3 +1.1**
QLP Quilpie 24.42 239 P **P 04 25 34.9 +0.4**
comp=Z,188nm,0.9s
QLP Quilpie 24.42 239 P **P 04 25 34.7 +0.3**
MWZ Matawai 24.53 161 P **P 04 25 36.1 +0.7**
PUZ Puketiti 24.53 159 P **P 04 25 34.8 -0.5**
KATZ Kakaramea 24.60 165 P **P 04 25 36.9 +0.8**
RTZ Ruatahuna 24.62 162 P **P 04 25 37.0 +0.8**
RTZ IAmb IAmb 04 25 38.2
comp=Z,65nm,1.6s
WTVZ West Tongariro 24.70 165 P **P 04 25 38.7 +1.7**
NNVZ North Ngauruho 24.72 165 P **P 04 25 38.6 +1.4**
CNGZ Carnagh Statio 24.88 160 P **P 04 25 38.9 +0.4**
RIGZ Rimuhau 24.94 161 P **P 04 25 39.2 +0.1**
RIGZ S **S 04 29 54.0 +1.5**
BKZ Black Stump Fm 24.99 163 P **P 04 25 40.5 +1.0**
BKZ IAmb IAmb 04 25 41.6
comp=Z,18nm,0.5s
BKZ Black Stump Fm 24.99 163 P **P 04 25 37.6 -1.9**
BKZ Black Stump Fm 24.99 163 P **P 04 25 40.6 +1.0**
YNG Young 25.56 219 P **P 04 25 45.1 +0.4**
comp=Z,3.8nm,0.9s
CMSA Cobar Meteorol 25.64 227 P **P 04 25 45.4 -0.1**
comp=Z,30nm,1.0s
CMSA Cobar Meteorol 25.64 227 P **P 04 25 45.1 -0.3**
CNB Canberra Magne 25.70 216 P **P 04 25 46.2 +0.1**
comp=Z,27nm,1.2s
QRZ Quartz Range 25.75 171 P **P 04 25 48.0 +1.7**
CAN Canberra 25.91 217 P **P 04 25 48.4 +0.4**
comp=Z,15nm,1.6s
MRZ Mangatainoka R 26.16 166 P **P 04 25 49.6 -0.5**
BFZ Birch Farm 26.35 165 P **P 04 25 51.3 -0.4**
THZ Tophouse 26.72 171 P **P 04 25 56.0 +0.9**
THZ Tophouse 26.72 171 P **P 04 25 55.5 +0.4**
QIS Mount Isa 27.05 255 P **P 04 25 58.0 -0.3**
comp=Z,41nm,1.1s
QIS Mount Isa 27.05 255 P **P 04 25 57.7 -0.6**
KHZ Kahutara 27.46 170 P **P 04 26 01.9 +0.3**
INZ Inchbonnie 27.48 174 P **P 04 26 03.2 +1.4**
INZ IAmb IAmb 04 26 04.0
comp=Z,18nm,0.8s
INZ Inchbonnie 27.48 174 P **P 04 26 02.6 +0.8**
LTZ Lake Taylor 27.63 172 P **P 04 26 04.0 +0.7**
LTZ IAmb IAmb 04 26 05.3
comp=Z,21nm,0.7s
LTZ Lake Taylor 27.63 172 P **P 04 26 03.9 +0.7**
TABU Tabubil 27.73 288 P **P 04 26 04.5 +0.1**
INKA Innaminka 27.73 239 P **P 04 26 04.8 +0.6**
STKA Stephens Creek 28.79 231 P **P 04 26 13.9 +0.3**
STKA Stephens Creek 28.79 231 P **P 04 26 14.1 +0.4**
comp=Z,188nm,1.1s
STKA Stephens Creek 28.79 231 P **P 04 26 13.7 0.0**
comp=Z,29nm,0.8s,baz=48,slow=7.7,SNR=51
STKA PcP **PcP 04 29 20.4 +0.2**
comp=Z,4.4nm,0.7s,baz=36,slow=5.0,SNR=5.2
STKA LR LR 04 37 11.9
comp=Z,78nm,18.4s,baz=31,slow=35
comp=Z,29nm,0.8s
STKA Stephens Creek 28.79 231 P **P 04 26 14.2 +0.5**
TOO Toolangi 29.51 217 P **P 04 26 19.8 -0.2**
TOO Toolangi 29.51 217 P **P 04 26 20.5 +0.6**
comp=Z,9.9nm,1.2s
ARPS Mount Arapiles 31.25 222 P **P 04 26 35.5 +0.2**
comp=Z,19nm,0.9s
HTT Hallett 31.51 230 P **P 04 26 37.9 +0.3**
comp=Z,35nm,1.3s
HTT Hallett 31.51 230 P **P 04 26 38.0 +0.3**
WR0 Warramunga Arr 31.75 257 P **P 04 26 38.0 -1.8**
WR0 IAmb IAmb 04 26 39.2
comp=Z,21nm,0.9s
WR0 Warramunga Arr 31.75 257 P **P 04 26 38.1 -1.8**
comp=Z,26nm,1.0s
WB0 Warramunga Arr 31.88 257 P **P 04 26 39.2 -1.8**
WB2 Warramunga Arr 31.92 257 P **P 04 26 40.0 -1.4**
WB2 IAmb IAmb 04 26 40.7
comp=Z,32nm,0.8s
WRAB Tennant Creek 31.92 257 P **P 04 26 39.9 -1.5**
WRAB IAmb IAmb 04 26 40.7
comp=Z,29nm,0.8s
WRA Warramunga Arr 31.93 257 P **P 04 26 39.2 -2.3**
WRA Warramunga Arr 31.93 257 P **P 04 26 39.4 -2.1**
comp=Z,25nm,0.8s,baz=86,slow=9.1,SNR=105
WRA PcP **PcP 04 29 28.0 -0.7**
comp=Z,1.0nm,0.9s,baz=95,slow=9.9,SNR=3.2
WRA ScP **ScP 04 33 02.3 +2.8**
comp=Z,3.8nm,1.0s,baz=88,slow=3.3,SNR=10
comp=Z,25nm,0.8s
OOD Oodnadatta 32.00 242 P **P 04 26 42.1 +0.2**
MOO Moorlands 32.17 209 P **P 04 26 43.8 +0.6**
comp=Z,45nm,1.4s
WHYH Whyalla 32.34 232 P **P 04 26 45.6 +0.7**
AS17 Alice Springs 32.62 250 P **P 04 26 46.0 -1.5**
comp=Z,83nm,0.9s
AS06 Alice Springs 32.64 250 P **P 04 26 46.5 -1.2**
comp=Z,80nm,0.9s
AS19 Alice Springs 32.65 250 P **P 04 26 47.0 -0.8**
AS01 Alice Springs 32.66 250 P **P 04 26 46.6 -1.2**
AS31 Alice Springs 32.70 250 P **P 04 26 47.4 -0.9**
AS31 Alice Springs 32.70 250 P **P 04 26 47.2 -0.9**
ASAR Alice Springs 32.70 250 P **P 04 26 47.4 -0.8**
ASAR Alice Springs 32.70 250 P **P 04 26 47.1 -1.1**
comp=Z,61nm,0.7s,baz=78,slow=9.2,SNR=508
ASAR PcP **PcP 04 29 30.7 -0.1**
comp=Z,1.2nm,0.7s,baz=105,slow=5.2,SNR=3.2
ASAR ScP **ScP 04 33 04.2 +2.0**
comp=Z,6.5nm,0.9s,baz=89,slow=3.2,SNR=28
ASAR LR LR 04 40 02.0
comp=Z,92nm,18.3s,baz=84,slow=36
comp=Z,61nm,0.7s
BBOO Buckleboo 33.41 233 P **P 04 26 54.3 +0.2**
BBOO Buckleboo 33.41 233 P **P 04 26 54.5 +0.3**
comp=Z,125nm,0.8s
BBOO Buckleboo 33.41 233 P **P 04 26 54.5 +0.3**
KDU Kakadu 34.10 270 P **P 04 26 59.3 -1.1**
comp=Z,20nm,1.3s
KDU Kakadu 34.10 270 P **P 04 26 59.4 -1.0**
RKPI Ransiki, Papua 35.67 289 P **P 04 27 14.2 +0.3**
comp=Z,58nm,0.9s
FAKI Fak Fak 36.89 286 P **P 04 27 23.7 -0.5**
FAKI Fak Fak 36.89 286 P **P 04 27 23.8 -0.5**
FAKI Fak Fak 36.89 286 P **P 04 27 23.7 -0.5**
comp=Z,72nm,1.1s
KNRA Kununurra 37.33 264 P **P 04 27 26.7 -1.2**
KNRA Kununurra 37.33 264 P **P 04 27 26.7 -1.2**
comp=Z,95nm,0.9s
WRKA Warakurna 37.95 249 P **P 04 27 32.1 -1.0**
comp=Z,47nm,0.9s
WRKA Warakurna 37.95 249 P **P 04 27 32.1 -1.0**
BNDI Bandanaira 38.53 282 P **P 04 27 38.1 +0.1**
SWI Sorong 38.60 288 P **P 04 27 38.6 0.0**
comp=Z,92nm,0.9s
FORT Forrest 39.21 240 P **P 04 27 43.5 0.0**
FORT Forrest 39.21 240 P **P 04 27 43.5 0.0**
comp=Z,243nm,0.8s
FORT Forrest 39.21 240 P **P 04 27 43.5 0.0**
FITZ Fitzroy Crossi 40.16 260 P **P 04 27 51.0 -0.5**
FITZ IAmb IAmb 04 27 51.8
comp=Z,17nm,0.8s
FITZ Fitzroy Crossi 40.16 260 P **P 04 27 50.7 -0.8**
comp=Z,23nm,0.9s
FITZ Fitzroy Crossi 40.16 260 LR LR 04 44 24.4
comp=Z,151nm,19.5s,baz=90,slow=36
FITZ Fitzroy Crossi 40.16 260 P **P 04 27 50.8 -0.7**
NLAI Namlea 41.60 283 P **P 04 28 04.2 +0.9**
comp=Z,1μmcomp=Z,111nm,1.5s
SANI Sanana 43.04 284 P **P 04 28 14.9 -0.1**
SANI Sanana 43.04 284 P **P 04 28 14.9 -0.1**
comp=Z,50nm,0.9s
KMBL Kambalda 44.51 241 P **P 04 28 26.1 -0.5**
comp=Z,70nm,0.8s
KMBL Kambalda 44.51 241 P **P 04 28 26.1 -0.5**
PSAD2 Pilbara Seismi 45.41 255 P **P 04 28 33.6 -0.2**
comp=Z,56nm,1.5s,comp=Z,0.0nm
PSA00 Pilbara Seismi 45.52 255 P **P 04 28 34.1 -0.6**
PSA00 IAmb IAmb 04 28 35.8
comp=Z,27nm,0.8s
PSA00 Pilbara Seismi 45.52 255 P **P 04 28 33.5 -1.2**
PSA00 IAmb IAmb 04 28 35.5
comp=Z,15nm,0.9s
PSA00 Pilbara Seismi 45.52 255 P P 04 28 29.6 -5.1
PSA00 Pilbara Seismi 45.52 255 P **P 04 28 34.6 -0.1**
PSAC1 Pilbara Seismi 45.56 255 P **P 04 28 34.6 -0.4**
comp=Z,50nm,0.9s
MBWA Marble Bar 45.64 255 P **P 04 28 35.3 -0.4**
comp=Z,80nm,0.8s
MBWA Marble Bar 45.64 255 P **P 04 28 35.4 -0.2**
MBWA Marble Bar 45.64 255 P **P 04 28 35.2 -0.4**
MEEK Meekatharra 46.79 248 P **P 04 28 44.1 -0.4**
comp=Z,57nm,1.0s
MEEK Meekatharra 46.79 248 P **P 04 28 44.2 -0.4**
KLBR Kellerberrin 48.03 241 P **P 04 28 53.4 -0.7**
KAPI Kappang 48.04 277 P **P 04 28 54.1 -0.3**
KAPI Kappang 48.04 277 P **P 04 28 54.6 +0.2**
KAPI Kappang 48.04 277 P **P 04 28 54.5 +0.1**
NWAO Narrogin (SRO) 48.66 240 P **P 04 28 58.5 -0.4**
comp=Z,108nm,1.3s
NWAO Narrogin (SRO) 48.66 240 LR LR 04 49 48.3
comp=Z,81nm,18.7s,baz=224,slow=36
NWAO Narrogin (SRO) 48.66 240 P **P 04 28 58.4 -0.4**
NWAO Narrogin (SRO) 48.66 240 P **P 04 28 58.1 -0.8**
NWAO pP **pP 04 29 28.4 -1.6**
BLDU Ballidu 48.80 243 P **P 04 28 59.0 -1.0**
comp=Z,14nm,1.9s
PLAI Plampang 49.01 272 P **P 04 29 01.3 -0.5**
PLAI Plampang 49.01 272 P **P 04 29 01.5 -0.2**
comp=Z,57nm,0.9s
TOLI2 Tolitoli 49.03 285 P **P 04 29 00.7 -1.2**
TOLI2 IAmb IAmb 04 29 01.9
comp=Z,50nm,1.7s
TOLI2 Tolitoli 49.03 285 P **P 04 29 01.2 -0.7**
MORW Morawa 49.24 245 P **P 04 29 02.7 -0.7**
MORW Morawa 49.24 245 P **P 04 29 02.6 -0.7**
comp=Z,50nm,0.8s
MORW Morawa 49.24 245 P **P 04 29 02.8 -0.5**
MUN Mundaring 49.39 241 P **P 04 29 03.8 -0.6**
comp=Z,37nm,1.3s
MUN Mundaring 49.39 241 P **P 04 29 04.1 -0.3**
TWSI Taliwang, Sumb 49.89 271 P **P 04 29 08.2 -0.2**
comp=Z,124nm,0.9s
MYLDM Lahad Datu 52.68 289 P **P 04 29 28.9 -0.3**
KKM Kota Kinabalu 55.11 289 P **P 04 29 46.6 -0.4**
KKM Kota Kinabalu 55.11 289 P **P 04 29 47.1 +0.1**
PCJI Pacitan 55.51 271 P **P 04 29 50.3 +0.5**
SBUM Sibu 57.50 283 P **P 04 30 03.3 -0.6**
SBUM Sibu 57.50 283 P **P 04 30 04.5 +0.6**
MJAR Matsushiro Arr 58.58 332 P **P 04 30 08.7 -2.2**
comp=Z,6.2nm,0.9s,baz=168,slow=7.1,SNR=8.7
comp=Z,6.2nm,0.9s
VNDA Vanda 62.24 181 P **P 04 30 36.2 +1.0**
comp=Z,1.9nm,0.7s,baz=0.2,slow=7.1,SNR=6.9
comp=Z,1.9nm,0.7s
VNDA Vanda 62.24 181 P **P 04 30 36.6 +1.3**
VNDA PcP **PcP 04 31 15.7 +1.9**
CASY Casey 63.05 202 P **P 04 30 41.3 +0.6**
CASY IAmb IAmb 04 30 41.8
comp=Z,11nm,0.9s
CASY Casey 63.05 202 P **P 04 30 41.0 +0.3**
CCD Concordia, Ant 64.34 192 P **P 04 30 50.0 +0.4**
KSRS Korea Array 64.40 326 P **P 04 30 49.4 -0.6**
comp=Z,3.2nm,0.8s,baz=139,slow=6.7,SNR=12
comp=Z,3.2nm,0.8s
NJ2 Nanjing 66.31 316 *e*P **P 04 31 06.4 +4.0**
NJ2 pmax pmax
comp=Z,12nm,0.7s
USA0B Ussuriysk Arra 67.56 333 P **P 04 31 10.5 +0.4**
USA0B IAmb IAmb 04 31 11.5
comp=Z,39nm,1.4s
USRK Ussuriysk Ar. 67.56 333 P **P 04 31 10.7 +0.7**
comp=Z,9.0nm,0.7s,baz=132,slow=4.2,SNR=15
comp=Z,9.0nm,0.7s
WHN Wuhan 68.56 312 ⇑P **P 04 31 16.5 -0.1**
PETK Petropavlovsk- 68.71 354 P **P 04 31 16.8 -0.3**
comp=Z,5.2nm,0.8s,baz=138,slow=7.8,SNR=6.2
comp=Z,5.2nm,0.8s
MDJ Mudanjiang 68.95 332 P **P 04 31 19.2 +0.4**
MDJ IAmb IAmb 04 31 20.1
comp=Z,22nm,0.9s
MDJ Mudanjiang 68.95 332 P **P 04 31 18.6 -0.2**
MDJ pmax pmax
comp=Z,31nm,0.8s
MDJ Mudanjiang 68.95 332 P **P 04 31 19.2 +0.4**
RPSI Rantau Prapat 70.18 279 P **P 04 31 26.1 -0.9**
RPSI IAmb IAmb 04 31 26.9
comp=Z,20nm,1.1s
CN2 Changchun 70.32 329 *e*P **P 04 31 26.8 -0.3**
CN2 *es*P sP 04 32 11.6 -3.7
CN2 pmax pmax
comp=Z,20nm,0.7s
BNX BinXian 70.81 331 ⇓P **P 04 31 29.6 -0.5**
BNX pmax pmax
comp=Z,28nm,0.7s
GSI Gunungsitoli 71.07 277 P **P 04 31 31.7 -0.7**
GSI IAmb IAmb 04 31 33.1
comp=Z,35nm,0.9s
KLR Kul'dur 71.68 336 P **P 04 31 35.6 +0.4**
comp=Z,6.8nm,0.8s,baz=147,slow=5.4,SNR=7.5
comp=Z,6.8nm,0.8s
ENH Enshi 71.97 309 P **P 04 31 37.2 -0.2**
ENH IAmb IAmb 04 31 37.8
comp=Z,22nm,0.9s
HNS HongShan 72.24 318 ⇓P **P 04 31 39.3 +0.5**
HNS sP **sP 04 32 33.8 +6.4**
HNS pmax pmax
comp=Z,16nm,0.8s
GYA Guiyang 72.29 305 ⇑P **P 04 31 40.0 +0.5**
GYA pmax pmax
comp=Z,24nm,0.8s
BJI Beijing 72.92 321 P **P 04 31 43.3 +0.5**
BJI pmax pmax
comp=Z,6.0nm,0.7s
XAN Xi'an 74.31 313 ⇓P **P 04 31 51.0 -0.1**
XAN pmax pmax
comp=Z,23nm,1.0s
QSPA South Pole Qui 74.67 180 P **P 04 31 53.3 +0.5**
QSPA South Pole Qui 74.67 180 P **P 04 31 52.9 +0.1**
comp=Z,8.0nm,0.8s,baz=338,slow=0.9,SNR=24
comp=Z,8.0nm,0.8s
KMI Kunming 74.86 302 P **P 04 31 56.1 +1.4**
KMI pmax pmax
comp=Z,30nm,1.0s
XLT XiLinHaoTe 75.36 324 *e*P **P 04 31 57.5 +0.5**
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,98nm,4.0s
XLT LR LR
comp=Z,330nm,20.5s
CMAR Chiang Mai Arr 75.44 294 P **P 04 31 57.9 -0.1**
CMAR Chiang Mai Arr 75.44 294 P **P 04 31 55.8 -2.2**
comp=Z,3.6nm,0.6s,baz=125,slow=4.1,SNR=4.2
CMAR LR LR 05 07 56.0
comp=Z,14nm,18.2s,baz=150,slow=38
comp=Z,3.6nm,0.6s
MA2 Magadan 75.90 351 P **P 04 31 59.4 -0.3**
MA2 Magadan 75.90 351 P **P 04 31 59.3 -0.3**
comp=Z,6.5nm,0.7s,baz=145,slow=5.0,SNR=8.5
comp=Z,6.5nm,0.7s
HHC Hu-ho-hao-te 76.23 320 *e*P **P 04 32 03.1 +1.0**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,76nm,3.6s
PZH PanZhiHua 76.26 303 P **P 04 32 02.4 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,5.3s
CD2 Chengdu 76.60 308 P **P 04 32 04.5 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.4s
BTO Baotou 77.07 319 *e*P **P 04 32 10.0 +3.2**
BTO pP **pP 04 32 44.3 +3.5**
BTO sP **sP 04 32 57.3 +1.9**
BTO S **S 04 41 47.3 +2.9**
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,61nm,4.2s
BTO LR LR
comp=Z,120nm,5.0s
TNCH TengChong 78.31 300 *e*P **P 04 32 14.5 +0.4**
TNCH pmax pmax
comp=Z,45nm,0.3s
TNCH pmax pmax
comp=Z,110nm,4.5s
SEY Seymchan 78.93 353 P **P 04 32 16.4 0.0**
comp=Z,3.6nm,0.7s,baz=142,slow=5.5,SNR=7.3
comp=Z,3.6nm,0.7s
LZH Lanzhou 78.93 312 *e*P **P 04 32 18.4 +1.1**
LZH pP pP 04 32 54.3 +2.7
LZH sP sP 04 33 06.5 +0.3
LZH pmax pmax
comp=Z,28nm,1.1s
KDAK Kodiak Island 79.96 20 LR LR 05 03 27.7
comp=Z,122nm,18.7s,baz=295,slow=32
YAK Yakutsk 82.70 343 P **P 04 32 35.7 -0.7**
comp=Z,30nm,0.7s,baz=146,slow=1.9,SNR=5.1
comp=Z,30nm,0.7s
ULN Ulaanbaatar 82.80 324 P **P 04 32 37.4 -0.1**
ULN IAmb IAmb 04 32 38.8
comp=Z,22nm,0.9s
SONM Songino Array 83.15 324 P **P 04 32 39.4 +0.1**
SONM IAmb IAmb 04 32 40.5
comp=Z,13nm,1.0s
SONM Songino Array 83.15 324 P **P 04 32 38.3 -1.0**
comp=Z,11nm,0.9s,baz=142,slow=5.8,SNR=27
comp=Z,11nm,0.9s
GTA Gaotai 83.29 314 P **P 04 32 41.3 +1.1**
GTA pmax pmax
comp=Z,16nm,1.0s
SHL Shillong 84.09 298 P **P 04 32 44.0 -0.7**
SHL IAmb IAmb 04 32 45.4
comp=Z,26nm,0.8s
SHL pP **pP 04 33 15.5 -3.9**
G18K Tagagawik 84.88 13 P **P 04 32 49.4 +1.9**
G19K Purcell Mounta 85.44 14 P **P 04 32 50.8 +0.6**
E18K Tukpahlearik C 85.78 12 P **P 04 32 52.8 +0.9**
F19K Shaleruckik Mo 85.86 13 P **P 04 32 52.3 +0.1**
BELA Belgrano 2 86.08 175 P **P 04 32 52.6 -0.8**
BELA IAmb IAmb 04 33 28.2
comp=Z,16nm,1.4s
E19K Redstone River 86.50 13 P **P 04 32 56.0 +0.5**
E19K IAmb IAmb 04 33 30.4
comp=Z,22nm,1.9s
IL31 87.04 18 P **P 04 32 57.7 -0.3**
IL31 **pP 04 33 31.4 -0.5**
IL31 IAmb IAmb 04 35 35.0
comp=Z,24nm,1.9s
ILAR Eielson Array 87.04 18 P **P 04 32 56.3 -1.8**
comp=Z,1.7nm,0.7s,baz=229,slow=4.0,SNR=23
comp=Z,1.7nm,0.7s
DSP Deep Springs 87.33 50 P **P 04 33 01.7 +1.6**
NVAR Mina Array Bea 87.48 49 P **P 04 32 59.5 -1.6**
comp=Z,1.0nm,0.9s,baz=231,slow=9.4,SNR=3.8
NVAR PKKPbc **PKKPbc 04 50 51.7 +0.6**
comp=Z,0.3nm,0.6s,baz=101,slow=6.2,SNR=3.5
NVAR LR LR 05 07 36.8
comp=Z,65nm,18.8s,baz=171,slow=32
B21K Ikpikpuk River 88.83 12 P **P 04 33 06.7 +0.3**
B21K IAmb IAmb 04 33 42.2
comp=Z,3.7nm,0.7s
DLBC Dease Lake 89.37 28 LR LR 05 03 33.5
comp=Z,50nm,21.0s,baz=238,slow=29
G08A Pilot Rock 89.60 43 P **P 04 33 10.8 +0.1**
ELIB Princess Elisa 89.65 191 *d*P **P 04 33 09.2 -1.5**
comp=Z,2.8nm,0.8s
MAYO Mayo, Yukon 89.87 22 P **P 04 33 13.3 +1.8**
D25K Kavik River 90.48 15 P **P 04 33 14.9 +0.6**
TROLL Troll, Antarti 92.26 185 ⇓P **P 04 33 22.4 -0.4**
comp=Z,469nm,0.7s
SNAA Sanae 92.94 183 P **P 04 33 25.2 -0.6**
SNAA Sanae 92.94 183 ⇓P **P 04 33 25.0 -0.8**
comp=Z,91nm,0.6s
SNAA Sanae 92.94 183 P **P 04 33 24.9 -0.8**
comp=Z,4.4nm,0.8s,baz=217,slow=6.1,SNR=20
comp=Z,4.4nm,0.8s
WMQ Urumqi 93.35 314 *e*P **P 04 33 29.4 +1.2**
WMQ pmax pmax
comp=Z,13nm,0.7s
VNA3 Neumayer Olymp 93.59 181 ⇓P **P 04 33 27.9 -0.9**
comp=Z,7.6nm,0.6s
VNA2 Neumayer-Watz 93.86 182 ⇓P **P 04 33 29.3 -0.7**
comp=Z,9.1nm,0.6s,baz=190,slow=4.9
PDAR Pinedale Array 95.18 47 PKKPbc PKKPbc 04 50 29.6 -2.2
comp=Z,0.3nm,0.7s,baz=98,slow=11,SNR=4.0
MK31 Makanchi Array 97.84 316 P **P 04 33 47.9 -0.5**
MK31 IAmb IAmb 04 33 49.8
comp=Z,3.3nm,0.9s
MKAR Makanchi Array 97.84 316 P **P 04 33 48.3 -0.2**
MKAR Makanchi Array 97.84 316 P **P 04 33 47.6 -0.8**
comp=Z,2.5nm,0.7s,baz=95,slow=6.0,SNR=25
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 97.98 27 P **P 04 33 47.2 -1.4**
comp=Z,0.6nm,0.7s,baz=258,slow=4.7,SNR=14
comp=Z,0.6nm,0.7s
ZAA0 Zalesovo Array 98.05 324 P **P 04 33 47.8 -1.4**
ZAA0 IAmb IAmb 04 33 48.9
comp=Z,5.1nm,0.8s
ZALV Zalesovo Beam 98.05 324 P **P 04 33 47.2 -1.9**
ZALV Zalesovo Beam 98.05 324 P **P 04 33 48.2 -1.0**
comp=Z,4.0nm,0.7s,baz=114,slow=4.2,SNR=16
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 101.08 320 P **Pdif 04 34 01.7 -1.1**
comp=Z,0.4nm,0.5s,baz=98,slow=4.3,SNR=5.0
BVAR Borovoye Array 106.40 321 Pdiff **Pdif 04 34 25.1 -1.3**
comp=Z,0.4nm,0.4s,baz=97,slow=3.4,SNR=4.0
ARCES ARCESS Array B 120.92 345 PKP **PKPdf 04 39 03.4 -0.7**
comp=Z,1.6nm,0.6s,baz=70,slow=1.8,SNR=18
RAYN Ar Rayn 125.04 288 PKPdf **PKPdf 04 39 13.3 0.0**
FINES FINESS Array B 126.40 338 PKP **PKiKP 04 39 14.9 -0.3**
comp=Z,4.2nm,1.0s,baz=106,slow=4.5,SNR=2.2
NB2 NORSAR Subarra131.29 345 PKPdf **PKiKP 04 39 25.0 -0.1**
comp=Z,6.4nm,1.4s,baz=31,slow=1.9
NB2 pPKP **SKPab 04 42 38.9 +1.9**
comp=Z,10nm,1.2s,baz=30,slow=3.1
NOA NORSAR Array B131.29 345 PKP **PKPdf 04 39 24.0 -0.1**
comp=Z,1.4nm,0.9s,baz=35,slow=2.0,SNR=5.0
NOA SKPbc **SKPab 04 42 38.6 +1.7**
comp=Z,2.1nm,0.9s,baz=30,slow=3.0,SNR=6.0
AKASG Malin Array Be 131.40 326 SKPbc **SKPab 04 42 38.6 +0.9**
comp=Z,1.6nm,0.7s,baz=53,slow=3.2,SNR=7.1
BRTR Keskin Array B 133.12 310 PKhKP PKPpre 04 39 22.2
comp=Z,0.7nm,0.9s,baz=77,slow=6.4,SNR=3.7
KOLS Kolonicke sedl 136.11 327 *e*PKP **PKiKP 04 39 34.7 -0.5**
STHS Stebnicka Huta 136.34 328 *e*PDIFF **Pdif 04 36 34.3 -5.4**
CLL Collm 138.73 336 *i* PKPdf **PKiKP 04 39 39.6 -0.8**
CLL *e*PKiKP **PKPdf 04 39 42.0 +3.8**
GERES GERESS Array B 140.32 333 PKP **PKPdf 04 39 42.2 +0.9**
comp=Z,0.9nm,0.8s,baz=132,slow=2.0,SNR=3.7
SOKA Soboth 141.27 329 *i* PKP **PKPdf 04 39 43.2 +0.1**
comp=Z,12nm,1.4s
OBKA Obir 141.63 330 *i* PKP **PKPdf 04 39 44.1 +0.3**
comp=Z,19nm,1.6s
LESA Schwarzleotal 141.84 332 *i* PKP PKPpre 04 39 40.0
comp=Z,8.2nm,1.6s
WATA Walderalm 142.39 333 *i* PKP PKPpre 04 39 43.1
comp=Z,4.8nm,0.9s
ABTA Abfaltersbach 142.42 332 *i* PKP PKPpre 04 39 40.5
comp=Z,9.6nm,1.3s
WTTA Wattenberg 142.42 333 *i* PKP PKPpre 04 39 40.9
comp=Z,7.1nm,1.1s
RETA Reutte 142.63 334 *i* PKP PKPpre 04 39 43.2
comp=Z,3.1nm,1.0s
SQTA Sankt Quirin 142.64 333 *i* PKP PKPpre 04 39 43.0
comp=Z,8.0nm,1.1s
FETA Feichten 143.00 333 *i* PKP PKPpre 04 39 43.7

comp=Z,14nm,1.2s
DAVA Damuels 143.16 334 *i* PKP PKPbc 04 39 44.2 +0.3
comp=Z,8.9nm,1.1s
FUORN Ofenpass-Fuorn 143.52 333 PKPdf PKPbc 04 39 45.9 +0.9
TUE Stuetta 144.02 334 PKPdf PKPbc 04 39 46.6 +0.2
KEST Kesra 151.86 320 PKPbc **PKiKP 04 40 07.9 -0.1**
comp=Z,6.5nm,0.7s,baz=124,slow=2.0,SNR=6.3
ESDC Sonseca Array 154.66 345 PKPab **PKPab 04 40 27.8 -1.1**
comp=Z,1.1nm,0.8s,baz=2.2,slow=4.3,SNR=5.5

*MOS **19** 04:21:07.5±0.8, 65°.42N×132°.45E, h9km, mb4.4/4, Error ellipse: s-maj=24.7km s-min=8.4km az=85.1*
*YARS **19** 04:21:08.8, 65°.37N×132°.72E, h9km, ML3.5/14*
*IDC **19** 04:21:08.8±1.1, 65°.42N×132°.44E, h0km, mb3.6/5, mbtmp3.8/8, ML4.4/3, MS3.2/1, Error ellipse: s-maj=19.3km s-min=10.3km az=99.0*
*NEIC **19** 04:21:09.7±1.1, 65°.35N±0°.06×132°.5E±0°.2, h10km±1km, mb4.4/20, Error ellipse: s-maj=13.5km s-min=9.0km az=233.0*
ISC 19 04:21:10.0±0.4, **65°.46N**±0°.03×**132°.48E**±0°.04, **h10**km, **n62**, σ2°.**43**/103, **mb4.2**/17, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTGS	**Batagay**	**2.37**	**20**	*e*P	**Pn**	**04 21 49.0**	**+0.2**
BTGS				*e*S	**Sb**	**04 22 23.5**	**+1.7**
BTGS	**Batagay**	**2.37**	**20**	*i* Pn	**Pn**	**04 21 49.2**	**+0.4**
BTGS				*i* Pg	**Pb**	**04 21 53.4**	**+0.7**
	22nm,0.2s						
BTGS				*i* Sn	**Sn**	**04 22 19.2**	**+1.3**
BTGS				*i* Sn	**Sn**	**04 22 19.2**	**+1.3**
BTGS				*i* Sg	**Sb**	**04 22 25.2**	**+3.4**
	86nm,0.4s						
BTGS				*i* Sg	**Sb**	**04 22 25.2**	**+3.4**
	88nm,0.4s						
YAK	**Yakutsk**	**3.66**	**201**		**Pn**	**04 22 04.3**	**-2.2**
YAK	**Yakutsk**	**3.66**	**201**	Pn	**Pn**	**04 22 05.8**	**-0.7**
	34nm,0.3s,baz=22,slow=7.1,SNR=15						
YAK				Pg	**Pb**	**04 22 15.0**	**+0.4**
	25nm,0.3s,baz=23,slow=9.5,SNR=17						
YAK				Sn	**Sn**	**04 22 49.2**	**-0.5**
	28nm,0.3s,baz=25,slow=7.7,SNR=14						
YAK				Lg	Lg	04 23 02.2	
	32nm,0.3s,baz=323,slow=20,SNR=19						
	48nm,0.3s						
YAK	**Yakutsk**	**3.66**	**201**	*e*P	**Pn**	**04 22 05.0**	**-1.5**
YAK				*e*		04 22 47.9	
YAK				pmax	pmax		
	comp=N,6.0nm,0.2s						
YAK				pmax	pmax		
	comp=Z,44nm,0.3s						
YAK				smax	smax		
	comp=E,195nm,0.9s						
YAK				smax	smax		
	comp=N,161nm,0.5s						
YAK	**Yakutsk**	**3.66**	**201**	*e*Pn	**Pn**	**04 22 06.4**	**-0.1**
YAK				*i* Pg	**Pb**	**04 22 14.5**	**-0.2**
	comp=N,150nm,0.8s						
YAK				*e*Sn	**Sn**	**04 22 48.7**	**-0.9**
YAK				*i* Sg	**Sb**	**04 23 01.1**	**+2.1**
	comp=N,414nm,0.6s						
YAK				*i* Sg	**Sb**	**04 23 01.1**	**+2.1**
	comp=N,379nm,0.5s						
TBGR	**Tabaga**	**3.87**	**200**	*e*P	**Pn**	**04 22 09.0**	**-0.4**
TBGR				*e*S	**Sn**	**04 22 53.2**	**-1.6**
TBGR	**Tabaga**	**3.87**	**200**	*e*Pn	**Pn**	**04 22 09.1**	**-0.3**
TBGR				*i* Pg	**Pb**	**04 22 18.1**	**-0.1**
	comp=N,16nm,0.5s						
TBGR				*e*Sn	**Sn**	**04 22 53.4**	**-1.4**
	comp=N,85nm,0.4s						
TBGR				*e*Sn	**Sn**	**04 22 53.4**	**-1.4**
	comp=N,121nm,0.5s						
TBGR				*i* Sg	**Sb**	**04 23 07.4**	**+2.5**
	comp=N,115nm,0.5s						
TBGR				*i* Sg	**Sb**	**04 23 07.4**	**+2.5**
	comp=N,51nm,0.5s						
BLSR	**Buluus**	**4.40**	**202**	*e*P	**Pn**	**04 22 16.1**	**-0.6**
BLSR				*e*S	**Sn**	**04 23 06.9**	**-1.0**
BLSR	**Buluus**	**4.40**	**202**	*e*Pn	**Pn**	**04 22 15.9**	**-0.8**
BLSR				*i* Pg	**Pb**	**04 22 27.8**	**+0.6**
	comp=N,11nm,0.5s						
BLSR				*e*Sn	**Sn**	**04 23 06.2**	**-1.7**
	comp=N,65nm,0.4s						
BLSR				*e*Sn	**Sn**	**04 23 06.2**	**-1.7**
	comp=N,53nm,0.4s						
BLSR				*i* Sg	**Sb**	**04 23 24.3**	**+4.1**
	comp=N,55nm,0.7s						
UNR	**Ust'-Nera**	**4.65**	**96**	*e*P	**Pn**	**04 22 20.2**	**+0.1**
UNR	**Ust'-Nera**	**4.65**	**96**	*e*Pn	**Pn**	**04 22 19.6**	**-0.6**
	comp=N,0.8nm,0.8s						
UNR				*i* Sn	**Sn**	**04 23 10.7**	**-3.4**
UNR				*i* Sg	**Sb**	**04 23 30.5**	**+3.1**
	comp=N,3.6nm,0.8s						
UNR				*i* Sg	**Sb**	**04 23 30.5**	**+3.1**
	comp=N,16nm,0.9s						
DEPR	**Deputatskiy**	**4.88**	**33**	*e*P	**Pn**	**04 22 24.1**	**+0.8**
DEPR				*e*S	**Sn**	**04 23 19.9**	**+0.3**
DEPR	**Deputatskiy**	**4.88**	**33**	*i* Pn	**Pn**	**04 22 23.8**	**+0.5**
	comp=N,8.0nm,0.5s						
DEPR				*i* Sn	**Sn**	**04 23 20.0**	**+0.3**
	comp=N,27nm,0.6s						
DEPR				*i* Sn	**Sn**	**04 23 20.0**	**+0.3**
	comp=N,54nm,0.6s						
DEPR				*i* Sg	**Sb**	**04 23 42.4**	**+8.5**
	comp=N,45nm,0.6s						
DEPR				*i* Sg	**Sb**	**04 23 42.4**	**+8.5**
	comp=N,50nm,0.7s						
USMR	**Ust'-Maya**	**5.14**	**169**	*e*P	**Pn**	**04 22 26.8**	**-0.2**
USMR				*e*S	**Sn**	**04 23 24.7**	**-1.6**
TIXI	**Tiksi**	**6.36**	**350**	Pn	**Pn**	**04 22 44.5**	**+1.0**
	comp=N,9.7nm,0.3s,baz=166,slow=14,SNR=59						
TIXI				Sn	**Sn**	**04 23 54.5**	**-1.6**
	comp=N,4.9nm,0.3s,baz=162,slow=13,SNR=1.7						
TIXI				Lg	Lg	04 24 30.3	
	comp=N,6.7nm,0.3s,baz=101,slow=20,SNR=4.9						
	comp=N,24nm,0.3s						
TIXI	**Tiksi**	**6.36**	**350**	*e*Pn	**Pn**	**04 22 44.8**	**+1.3**
	comp=N,109nm,0.5s						
TIXI				*i* Sn	**Sn**	**04 23 58.4**	**+2.3**
TIXI				*i* Sg	**Sg**	**04 24 30.9**	**-2.8**
	comp=N,411nm,0.5s						
TIXI				*i* Sg	**Sg**	**04 24 30.9**	**-2.8**
	comp=N,243nm,0.7s						
CGD	**Chagda**	**6.79**	**188**	*e*Pn	**Pn**	**04 22 49.3**	**-0.3**
	comp=N,3.9nm,0.3s						
CGD				*e*Sn	**Sn**	**04 24 02.9**	**-3.9**
	comp=N,42nm,0.4s						
CGD				*e*Sn	**Sn**	**04 24 02.9**	**-3.9**
	comp=N,60nm,0.5s						
CGD				*i* Sg	**Sb**	**04 24 37.5**	**+8.5**
	comp=N,53nm,0.5s						
CGD				*i* Sg	**Sb**	**04 24 37.5**	**+8.5**
	comp=N,64nm,0.5s						
ALDR	**Aldan**	**7.63**	**209**	*i* Pn	**Pn**	**04 23 01.8**	**+0.7**
	comp=N,7.2nm,0.1s						
ALDR				*i* Sn	**Sn**	**04 24 25.8**	**-1.7**
ALDR				*i* Sg	Sg	04 25 06.0	-8.6
	comp=N,20nm,0.6s						
ALDR				*i* Sg	Sg	04 25 06.0	-8.6
	comp=N,16nm,0.4s						
SEY	**Seymchan**	**9.03**	**97**	Pn	**Pn**	**04 23 19.6**	**-0.6**
	comp=N,0.6nm,0.3s,baz=258,slow=16,SNR=8.8						
SEY				Sn	**Sn**	**04 24 56.2**	**-5.6**
	comp=N,0.6nm,0.3s,baz=327,slow=18,SNR=4.3						
SEY				Lg	Lg	04 25 55.5	
	comp=N,2.1nm,0.3s,baz=9.5,slow=21,SNR=10						
	comp=N,1.0nm,0.3s						
MA2	**Magadan**	**10.28**	**116**	Sn	**Sn**	**04 25 29.7**	**-2.7**
	baz=337,slow=18						
MA2				Lg	Lg	04 26 32.2	
	comp=N,0.8nm,0.3s,baz=41,slow=18,SNR=15						
BOD	**Bodaibo**	**11.61**	**237**	*e*P	**Pn**	**04 23 52.9**	**-2.6**
BOD				*e*		04 25 57.1	
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BILL	**Bilibino**	**13.48**	**64**	Pn	**Pn**	**04 24 20.1**	**-0.9**
NRIK	**Noril'sk**	**17.37**	**303**	Pn	**Pn**	**04 25 09.0**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=58,slow=9.5,SNR=3.8						
NRIK				Lg	Lg	04 30 06.3	
	comp=Z,0.3nm,0.3s,baz=101,slow=8.9,SNR=4.3						
MOY	**Mondy**	**21.14**	**244**	*e*P	**P**	**04 26 00.2**	**+5.3**
SONM	**Songino Array**	**22.46**	**231**	P	**P**	**04 26 10.7**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=66,slow=3.5,SNR=3.1						
	comp=Z,0.8nm,0.7s						
ERM	**Erimo**	**24.25**	**160**	P	**P**	**04 26 25.3**	**-1.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**24.25**	**160**	P	**P**	**04 26 25.3**	**-1.5**
MJAR	**Matsushiro Arr**	**29.15**	**170**	LR	LR	04 39 27.6	
	comp=Z,14nm,18.3s,baz=228,slow=38						
KURK	**Kurchatov**	**30.91**	**268**	P	**P**	**04 27 26.3**	**-0.1**
KURBB	**Kurchatov Arra**	**31.02**	**268**	P	**P**	**04 27 26.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=47,slow=9.3,SNR=4.4						
	comp=Z,0.2nm,0.3s						
O18K	**Koktuh Hills**	**31.96**	**65**	P	**P**	**04 27 35.4**	**-0.2**
O18K				IAmb	IAmb	04 27 39.8	
	comp=Z,14nm,1.1s						
G27K	**Doyon Strip**	**32.20**	**48**	P	**P**	**04 27 39.3**	**+1.7**
MK31	**Makanchi Array**	**32.44**	**260**	P	**P**	**04 27 39.0**	**-0.9**
MK31	**Makanchi Array**	**32.44**	**260**	P	**P**	**04 27 39.0**	**-0.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MKAR	**Makanchi Array**	**32.44**	**260**	P	**P**	**04 27 38.7**	**-1.3**
MKAR	**Makanchi Array**	**32.44**	**260**	P	**P**	**04 27 38.5**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=36,slow=7.7,SNR=7.2						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**32.44**	**260**	P	**P**	**04 27 38.7**	**-1.3**
G29M	**Pine Creek**	**33.24**	**46**	P	**P**	**04 27 47.7**	**+1.0**
A36M	**Sachs Harbour**	**33.29**	**34**	P	**P**	**04 27 47.7**	**+0.7**
A36M				IAmb	IAmb	04 28 01.1	
	comp=Z,3.0nm,1.0s						
SCM	**Sheep Creek Mo**	**33.53**	**58**	P	**P**	**04 27 48.3**	**-1.1**
SCM	**Sheep Creek Mo**	**33.53**	**58**	P	**P**	**04 27 48.3**	**-1.1**
INK	**Inuvik**	**33.63**	**42**	P	**P**	**04 27 50.3**	**+0.3**
INK	**Inuvik**	**33.63**	**42**	P	**P**	**04 27 50.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
CNPM	**China Poot**	**33.67**	**63**	P	**P**	**04 27 49.9**	**-0.7**
K27K	**Chicken**	**33.86**	**52**	P	**P**	**04 27 52.6**	**+0.5**
K27K				IAmb	IAmb	04 28 16.0	
	comp=Z,7.8nm,1.5s						
F31M	**Tsiigehtchic**	**34.15**	**43**	P	**P**	**04 27 55.0**	**+0.5**
F31M				IAmb	IAmb	04 28 08.7	
	comp=Z,5.3nm,1.2s						
G31M	**Satah River**	**34.34**	**44**	P	**P**	**04 27 56.7**	**+0.5**
G31M				IAmb	IAmb	04 28 06.5	
	comp=Z,3.9nm,1.2s						
N25K	**Chitina, Valde**	**34.65**	**57**	P	**P**	**04 27 58.5**	**-0.6**
N25K				IAmb	IAmb	04 28 28.8	
	comp=Z,13nm,1.2s						
L29M	**L29M**	**35.78**	**51**	P	**P**	**04 28 09.3**	**+0.5**
L29M				IAmb	IAmb	04 28 12.5	
	comp=Z,9.5nm,1.2s						
TARG	**Taragay, Kyrgy**	**38.44**	**259**	P	**P**	**04 28 30.7**	**-1.3**
TARG	**Taragay, Kyrgy**	**38.44**	**259**	P	**P**	**04 28 30.7**	**-1.3**
TARG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SCO	**Scoresbysund**	**43.19**	**348**	P	**P**	**04 29 10.5**	**+0.3**
SCO				IAmb	IAmb	04 29 41.2	
	comp=Z,9.6nm,1.2s						
SCO	**Scoresbysund**	**43.19**	**348**	P	**P**	**04 29 10.5**	**+0.3**
NC204	**NORSAR Array S**	**46.41**	**325**	P	**P**	**04 29 36.5**	**+0.4**
GNI	**Garni**	**53.40**	**287**	P	**P**	**04 30 29.3**	**-0.3**
GNI				IAmb	IAmb	04 30 49.6	
	comp=Z,8.4nm,1.1s						
GNI	**Garni**	**53.40**	**287**	P	**P**	**04 30 29.3**	**-0.3**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BUR08	**Bucovina Ar. S**	**54.16**	**307**	P	**P**	**04 30 35.6**	**+0.6**
BUR08				IAmb	IAmb	04 30 58.2	
	comp=Z,4.4nm,1.3s						
BURAR	**Bucovina Array**	**54.18**	**307**	P	**P**	**04 30 36.9**	**+1.7**
BRTR	**Keskin Array B**	**58.07**	**296**	P	**P**	**04 31 04.1**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=37,slow=8.1,SNR=3.6						
	comp=Z,0.8nm,0.8s						
SCHQ	**Schefferville**	**59.13**	**13**	P	**P**	**04 31 08.3**	**-1.8**
WRA	**Warramunga Arr**	**85.14**	**178**	P	**P**	**04 33 45.7**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=2.1,slow=5.4,SNR=7.9						
	comp=Z,1.1nm,0.9s						

RSNC 19 04:24:55.7±0.0, **8°N**±1°×**7°6W**±°, **h19**km±2km, **M3.1, mB4.5, mb4.2, ML2.9, Mw(mB)3.7, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	**San Jos de Ur**	**0.21**	**130**	P	Pg	04 25 01.1	+0.1
UREC				S	Sg	04 25 05.5	+0.9
APAC	**Apartado, Choc**	**0.87**	**271**	P	Pb	04 25 11.0	-1.2
APAC				S	Sg	04 25 24.7	+0.4
ZARC	**Zaragoza, Cauc**	**0.92**	**115**	P	Pb	04 25 11.2	-1.9
ZARC				S	Sg	04 25 25.6	-0.4
DBBC	**Dabeiba**	**1.00**	**210**	P	Pb	04 25 12.0	-2.5
DBBC				S	Sb	04 25 26.2	-1.2
LCBC	**Los crdobas,**	**1.17**	**326**	P	Pn	04 25 14.9	-2.1
LCBC				S	Sn	04 25 32.7	+0.3
HELC	**Santa Helena**	**1.70**	**174**	P	Pn	04 25 24.5	-0.2
HELC				S	Sb	04 25 47.2	-0.5
CAPC	**Capurgana**	**1.79**	**294**	P	Pn	04 25 21.5	-4.2
CAPC				S	Sn	04 25 40.2	-7.8
PTBC	**PUERTO BERRIO,**	**1.82**	**137**	P	Pn	04 25 25.5	-0.6
PTBC				S	Sn	04 25 48.0	-0.7
CBOC	**Ciudad Bolivar**	**2.04**	**189**	P	Pn	04 25 28.4	-0.8
CBOC				S	Sb	04 25 57.1	-0.2
SJCC	**San Jacinto, C**	**2.06**	**14**	P	Pn	04 25 26.3	-3.1
SJCC				S	Sn	04 25 55.3	+0.7
BRJC	**Barrancabermej**	**2.14**	**115**	P	Pn	04 25 30.2	-0.3
BRJC				S	Sn	04 25 56.8	+0.2
PTAC	**Punta Ardita,**	**2.22**	**251**	P	Pn	04 25 28.5	-3.0
PTAC				S	Sn	04 25 56.8	-1.6
SOLC	**Bahia Solano**	**2.37**	**226**	P	Pn	04 25 30.2	-3.4
SOLC				S	Sn	04 26 00.6	-1.5
OCAC	**Ocana**	**2.38**	**81**	P	Pn	04 25 32.9	-1.0
OCAC				S	Sn	04 26 02.2	-0.5
ARGC	**Ariguani, Magd**	**2.43**	**36**	P	Pn	04 25 32.8	-1.6
NORC	**Norcasia**	**2.45**	**160**	P	Pn	04 25 34.4	-0.4
GUY2C	**Guyana, Caldas**	**2.67**	**173**	P	Pn	04 25 36.9	-1.2
SPBC	**San Pablo de B**	**2.75**	**144**	P	Pn	04 25 37.9	-1.0
BARC	**Barichara**	**2.81**	**117**	P	Pn	04 25 39.5	-0.4
PAMC	**Pamplona, Colo**	**3.02**	**100**	P	Pn	04 25 42.6	-0.4
RUSC	**La Rusia**	**3.27**	**127**	P	Pn	04 25 45.6	-0.8
RUSC				S	Sn	04 26 23.6	-1.5
ORTC	**Ortega, Tolima**	**3.98**	**173**	P	Pb	04 26 05.6	+0.3
TAMC	**Tame, Arauca**	**4.14**	**110**	P	Pn	04 25 58.2	+0.2
BCIP	**Isla Barro Col**	**4.28**	**288**	P	Pn	04 25 56.3	-3.6
SDV	**Santo Domingo**	**5.11**	**78**	P	Pn	04 26 11.4	-0.1
	487nm27nm,0.6s						
URIC	**Uribia, Colomb**	**5.26**	**44**	P	Pn	04 26 11.2	-2.2

*GCG **19** 04:26:07.5±2.2, 14°.57N×92°.63W, h54km±19km, MD4.5, MW3.6*
*MEX **19** 04:26:08.3±0.9, 14°.66N×92°.62W, h74km±12km, MD4.4*
*SNET **19** 04:26:09.7±1.2, 14°.61N×92°.55W, h60km±114km, ML4.3*
*CATAC **19** 04:26:10.8±0.5, 15°.N±4°×9°.2W±°, h20km±4km, M4.5/24, MLv4.5/24, Error ellipse: s-maj=9.2km s-min=6.8km az=161.2, confirmed*
*IDC **19** 04:26:11.4±2.1, 15°.00N×92°.57W, h80km±22km, mb3.5/4, mbtmp3.8/8, Error ellipse: s-maj=27.7km s-min=16.0km az=20.0*
ISC 19 04:26:07.4±0.9, **14°.57N**±0°.05×**92°.72W**±0°.03, **h59**km±9km, **n155**, σ1°.**85**/207, **mb3.8**/4, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.55**	**53**	*e*P	**Pn**	**04 26 19.2**	**-0.6**
THIG				*e*S	**Sn**	**04 26 27.9**	**-0.9**
THIG		**0.55**	**53**	*e*P	**Pn**	**04 26 19.0**	**-0.9**
THIG				*i* S	**Sn**	**04 26 28.4**	**-0.4**
THIG		**0.55**	**53**	*e*P		04 26 19.0	
THIG				*i* S		04 26 28.4	
SMCA	**Catarina**	**0.69**	**66**	*i* P	**Pn**	**04 26 20.8**	**-0.6**
SMCA				*e*S	**Sn**	**04 26 30.2**	**-1.4**
SMCA	**Catarina**	**0.69**	**66**	*i* P		04 26 20.8	
SMCA				*e*S		04 26 30.2	
PATR	**El Naranjo**	**0.72**	**41**	*e*P	**Pn**	**04 26 20.8**	**-1.2**
PATR				*e*S	**Sn**	**04 26 30.9**	**-1.8**
PAVE	**Pavencul**	**0.81**	**40**	*e*P	**Pn**	**04 26 22.1**	**-1.1**
PAVE				*e*S	**Sn**	**04 26 33.0**	**-1.7**
RTAL	**Retalhuleu**	**0.99**	**93**	*e*P	**Pn**	**04 26 24.7**	**-0.6**
RTAL				*e*S	**Sn**	**04 26 37.1**	**-1.5**
RTAL	**Retalhuleu**	**0.99**	**93**	P	**Pn**	**04 26 25.0**	**-0.3**
RTAL	**Retalhuleu**	**0.99**	**93**	S	**Sn**	**04 26 36.7**	**-1.9**
RTAL	**Retalhuleu**	**0.99**	**93**	P	**Pn**	**04 26 24.9**	**-0.3**
RTAL	**Retalhuleu**	**0.99**	**93**	S	**Sn**	**04 26 36.8**	**-1.8**
PCIG		**1.22**	**337**	*e*P	**Pn**	**04 26 28.4**	**+0.1**
PCIG				*e*S	**Sn**	**04 26 43.4**	**-0.6**
SOKI	**Kika Raxquin**	**1.30**	**79**	*e*P	**Pn**	**04 26 29.7**	**0.0**
SOKI				*i* S	**Sn**	**04 26 44.8**	**-1.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKI	**Kika Raxquin**	**1.30**	**79**	*e*P		04 26 29.7	
SOKI				*i* S		04 26 44.8	
STG8	**El Palmar, Qui**	**1.33**	**95**	*e*P		04 26 25.8	
STG8				*i* S		04 26 39.7	
STG0	**El Palmar, Qui**	**1.34**	**96**	*i* P		04 26 26.0	
STG0				*e*S		04 26 39.5	
HUEH	**Huehuetenango**	**1.39**	**58**	*e*P	**Pn**	**04 26 30.9**	**+0.2**
HUEH				*e*S	**Sn**	**04 26 48.9**	**+0.5**
HUEH	**Huehuetenango**	**1.39**	**58**	*e*P	**Pn**	**04 26 31.2**	**+0.4**
HUEH				*e*S	**Sn**	**04 26 49.3**	**+0.9**
HUEH	**Huehuetenango**	**1.39**	**58**	P	**Pn**	**04 26 31.5**	**+0.6**
HUEH	**Huehuetenango**	**1.39**	**58**	S	**Sn**	**04 26 49.3**	**+0.9**
HUEH	**Huehuetenango**	**1.39**	**58**	P	**Pn**	**04 26 31.4**	**+0.6**
HUEH	**Huehuetenango**	**1.39**	**58**	S	**Sn**	**04 26 49.6**	**+1.2**
HUEH	**Huehuetenango**	**1.39**	**58**	*e*P	**Pn**	**04 26 31.0**	**+0.2**
HUEH				*i* S	**Sn**	**04 26 49.2**	**+0.8**
HUEH	**Huehuetenango**	**1.39**	**58**	*e*P		04 26 31.0	
HUEH				*i* S		04 26 49.2	
CCIG	**Comitan**	**1.79**	**18**	*e*P	**Pn**	**04 26 37.2**	**+1.0**
CCIG				*e*S	**Sn**	**04 26 59.3**	**+1.4**
CCIG	**Comitan**	**1.79**	**18**	*i* P	**Pn**	**04 26 37.4**	**+1.2**
CCIG				*i* S	**Sn**	**04 26 59.3**	**+1.4**
CCIG	**Comitan**	**1.79**	**18**	*i* P		04 26 37.4	
CCIG				*i* S		04 26 59.3	
ESSG	**Sabana Grande**	**1.84**	**96**	*i* P	**Pn**	**04 26 36.2**	**-0.6**
ESSG				*e*S	**Sn**	**04 26 56.7**	**-2.3**
ESSG	**Sabana Grande**	**1.84**	**96**	*i* P		04 26 36.2	
ESSG				*e*S		04 26 56.7	
CARR	**Arriaga**	**2.02**	**326**	*e*P	**Pn**	**04 26 40.4**	**+1.2**
CARR				*e*S	**Sn**	**04 27 05.1**	**+1.8**
FG8	**Yepocapa, Chim**	**2.12**	**98**	*e*P		04 26 34.8	
FG8				*i* S		04 26 54.9	
TGBT	**Tuxtla Gutierr**	**2.22**	**351**	*e*P	**Pn**	**04 26 43.6**	**+1.7**
TGBT				*e*S	**Sn**	**04 27 07.9**	**-0.2**
APG	**El Apazote**	**2.23**	**79**	P	**Pn**	**04 26 42.1**	**0.0**
	7.1nm,0.3s,baz=192,slow=14,SNR=72						
APG				S	**Sn**	**04 27 09.7**	**+1.1**
	50nm,0.7s,baz=199,slow=13,SNR=24						
APG	**El Apazote**	**2.23**	**79**	*i* P	**Pn**	**04 26 42.1**	**0.0**
APG				*e*S	**Sn**	**04 27 10.5**	**+1.9**
APG	**El Apazote**	**2.23**	**79**	*i* P		04 26 42.1	
APG				*e*S		04 27 10.5	
TGIG		**2.23**	**350**	*e*P	**Pn**	**04 26 41.3**	**-0.7**
TGIG				*e*S	**Sn**	**04 27 07.3**	**-1.1**
TGIG		**2.23**	**350**	*e*P	**Pn**	**04 26 41.8**	**-0.2**
TGIG		**2.23**	**350**	*e*P		04 26 41.8	
NILT	**Santiago Nilte**	**2.69**	**318**	*e*P	**Pn**	**04 26 49.1**	**+0.8**
NILT				*e*S	**Sn**	**04 27 20.5**	**+0.7**
SLOZ	**Alcaldia de Sa**	**2.90**	**100**	S	**Sn**	**04 27 25.6**	**+0.8**
SLOZ	**Alcaldia de Sa**	**2.90**	**100**	P	**Pn**	**04 26 52.7**	**+1.5**
SLOZ	**Alcaldia de Sa**	**2.90**	**100**	P	**Pn**	**04 26 52.7**	**+1.5**
NUBE	**Las Nubes**	**2.93**	**103**	*e*P	**Pn**	**04 26 51.4**	**-0.3**
NUBE				*e*S	**Sn**	**04 27 24.7**	**-1.1**
NUBE	**Las Nubes**	**2.93**	**103**	S	**Sn**	**04 27 24.8**	**-1.0**
NUBE	**Las Nubes**	**2.93**	**103**	P	**Pn**	**04 26 51.9**	**+0.2**
NUBE	**Las Nubes**	**2.93**	**103**	P	**Pn**	**04 26 51.9**	**+0.2**
NUBE	**Las Nubes**	**2.93**	**103**	*e*P	**Pn**	**04 26 51.8**	**+0.2**
NUBE				*i* S	**Sn**	**04 27 24.7**	**-1.0**
NUBE	**Las Nubes**	**2.93**	**103**	*e*P		04 26 51.8	
NUBE				*i* S		04 27 24.7	
UXUV	**UXUV**	**3.06**	**334**	*e*P	**Pn**	**04 26 54.2**	**+1.0**
UXUV				*e*S	**Sn**	**04 27 26.4**	**-2.3**
SBLS	**San Blas**	**3.09**	**103**	*e*P	**Pn**	**04 26 55.1**	**+1.1**
SBLS				*e*S	**Sn**	**04 27 29.6**	**-0.3**
CEVE	**Cerro Verde**	**3.09**	**103**	*e*P	**Pn**	**04 26 55.2**	**+1.2**
CEVE				*e*S	**Sn**	**04 27 30.4**	**+0.5**
CEVE				IAML		04 27 44.3	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**3.09**	**103**	P	**Pn**	**04 26 55.2**	**+1.2**
CEVE	**Cerro Verde**	**3.09**	**103**	S	**Sn**	**04 27 30.4**	**+0.5**
CEVE	**Cerro Verde**	**3.09**	**103**	P	**Pn**	**04 26 55.3**	**+1.2**
UNIC	**Universidad Ca**	**3.13**	**100**	S	**Sn**	**04 27 30.9**	**+0.3**
UNIC	**Universidad Ca**	**3.13**	**100**	P	**Pn**	**04 26 56.2**	**+1.8**
CMIG	**Matias Romero**	**3.26**	**321**	P	**Pn**	**04 26 56.8**	**+0.8**
	comp=Z,27nm,0.3s,baz=108,slow=18,SNR=68						
CMIG	**Matias Romero**	**3.26**	**321**	*e*P	**Pn**	**04 26 56.7**	**+0.7**
CMIG				*e*S	**Sn**	**04 27 33.1**	**-0.5**
MTO3	**Montecristo**	**3.26**	**93**	P	**Pn**	**04 26 56.1**	**-0.2**
MTO3	**Montecristo**	**3.26**	**93**	P	**Pn**	**04 26 55.7**	**-0.5**
MTO3	**Montecristo**	**

VHO				*e*S		**Sn**	**04 28 06.8 +0.1**
SCIG	**Sabancuy**	**4.61**	**18**	*e*P		**Pn**	**04 27 13.4 -1.1**
SCIG				*e*S		**Sn**	**04 28 02.1 -4.7**
LCND	**La Caada**	**4.86**	**104**	P		**Pn**	**04 27 20.1 +2.2**
LCND	**La Caada**	**4.86**	**104**	P		**Pn**	**04 27 20.1 +2.2**
CNCH	**Conchagua**	**4.92**	**105**	P		**Pn**	**04 27 20.7 +1.9**
CNCH	**Conchagua**	**4.92**	**105**	P		**Pn**	**04 27 21.1 +2.2**
CNCH	**Conchagua**	**4.92**	**105**	S		**Sn**	**04 28 15.3 +0.8**
YOIG	**Yosondua**	**5.17**	**297**	*e*P		**Pn**	**04 27 23.8 +1.3**
YOIG				*e*S		**Sn**	**04 28 23.6 +2.6**
CSGN	**Cosiguina Volc**	**5.26**	**107**	S		**Sn**	**04 28 22.8 -0.2**
TOIG	**Toxpalan**	**5.45**	**311**	*e*P		**Pn**	**04 27 27.4 +1.3**
TOIG				*e*S		**Sn**	**04 28 27.9 +0.4**
PNIG	**Pinotepa**	**5.52**	**290**	*e*P		**Pn**	**04 27 28.1 +1.1**
PNIG				*e*S		**Sn**	**04 28 30.6 +1.4**
TXIG	**Tlaxiaco**	**5.54**	**299**	*e*P		**Pn**	**04 27 29.8 +2.3**
TXIG				*e*S		**Sn**	**04 28 31.2 +1.2**
HLIG	**Huajuapan de L**	**5.86**	**304**	*e*P		**Pn**	**04 27 33.9 +2.0**
HLIG				*e*S		**Sn**	**04 28 40.4 +2.5**
TPIG	**Tehuac#an**	**5.87**	**311**	*e*P		**Pn**	**04 27 34.8 +2.8**
TPIG				*e*S		**Sn**	**04 28 35.9 -2.1**
JAUV	**Jalcomulco**	**6.16**	**321**	*e*P		**Pn**	**04 27 35.2 -0.7**
JAUV				*e*S		**Sn**	**04 28 43.4 -1.7**
FTIG	**Fresnillo de T**	**6.17**	**303**	*e*P		**Pn**	**04 27 39.7 +3.7**
FTIG				*e*S		**Sn**	**04 28 47.3 +2.0**
LVIG	**Laguna Verde**	**6.22**	**326**	*e*P		**Pn**	**04 27 36.6 -0.1**
LVIG				*e*S		**Sn**	**04 28 40.7 -5.7**
POHV	**Veracruz**	**6.25**	**316**	*e*P		**Pn**	**04 27 40.3 +2.8**
MGIG	**Malinaltepec**	**6.27**	**296**	*e*P		**Pn**	**04 27 38.7 +1.2**
MGIG				*e*S		**Sn**	**04 28 49.2 +1.2**
TLIG	**Tlapa**	**6.36**	**299**	*e*P		**Pn**	**04 27 40.7 +2.1**
TLIG				*e*S		**Sn**	**04 28 52.8 +2.8**
CRIG	**Cruz Grande**	**6.54**	**290**	*e*P		**Pn**	**04 27 40.4 -0.6**
CRIG				*e*S		**Sn**	**04 28 53.6 -0.6**
TEIG	**Tepich**	**7.04**	**36**	P		**Pn**	**04 27 46.2 -1.7**
	baz=232,slow=20						
TEIG				S		**Sn**	**04 29 00.1 -6.5**
	baz=218,slow=19						
DAIG	**Los Arroyos**	**7.10**	**291**	*e*P		**Pn**	**04 27 49.0 +0.3**
DAIG				*e*S		**Sn**	**04 29 05.1 -3.0**
PBCV	**Popocatepetl**	**7.11**	**309**	*e*P		Pn	04 27 54.8 +5.7
PBCV				*e*S		**Sn**	**04 29 11.6 +3.0**
PBPN	**Popocatepetl**	**7.19**	**309**	*e*P		**Pn**	**04 27 54.0 +3.6**
PBXN	**Popocatepetl**	**7.20**	**309**	*e*S		**Sn**	**04 29 13.5 +2.4**
PPM	**Popocatepetl**	**7.21**	**309**	*e*P		**Pn**	**04 27 53.1 +2.5**
CXUV	**Coxquihui**	**7.25**	**321**	*e*P		**Pn**	**04 27 50.6 -0.2**
CXUV				*e*S		**Sn**	**04 29 09.3 -2.5**
YAIG	**Yautepec**	**7.43**	**306**	*e*P		**Pn**	**04 27 56.6 +3.3**
YAIG				*e*S		**Sn**	**04 29 16.5 +0.3**
PLIG	**Platanillo**	**7.53**	**301**	*e*P		**Pn**	**04 27 55.3 +0.6**
PLIG				*e*S		**Sn**	**04 29 18.8 +0.1**
MPVM	**San Francisco**	**7.58**	**308**	*e*P		**Pn**	**04 27 56.6 +1.1**
MPVM				*e*S		**Sn**	**04 29 19.4 -0.7**
CAIG	**El Cayaco**	**7.67**	**290**	*e*P		**Pn**	**04 27 58.8 +2.4**
CAIG				*e*S		**Sn**	**04 29 22.1 +0.1**
MZVM		**7.74**	**307**	*e*P		Pn	04 28 02.9 +5.5
MZVM				*e*S		**Sn**	**04 29 26.5 +2.8**
ARIG	**Puente Sto Nin**	**8.19**	**298**	*e*P		Pn	04 27 59.7 -4.0
JTS	**Las Juntas de**	**8.70**	**118**	P		**Pn**	**04 28 15.0 +4.4**
	comp=Z,6.6nm,0.4s,baz=314,slow=11,SNR=9.8						
CEGR	**Campo Tres**	**11.68**	**296**	*e*P		Pn	04 28 57.8 +6.3
TXAR	**Lajitas Array**	**17.84**	**327**	P		**P**	**04 30 12.8 +1.1**
	comp=Z,1.3nm,1.0s,baz=142,slow=12,SNR=7.6						
NVAR	**Mina Array Bea**	**32.79**	**321**	P		**P**	**04 32 37.0 +1.6**
	comp=Z,1.0nm,0.7s,baz=131,slow=6.8,SNR=9.6						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**50.31**	**347**	P		**P**	**04 34 56.0 -1.9**
	comp=Z,0.5nm,0.6s,baz=157,slow=7.3,SNR=10						
	comp=Z,0.5nm,0.6s						
DLBC	**Dease Lake**	**51.85**	**336**	P		**P**	**04 35 08.9 -0.6**
	comp=Z,1.0nm,0.6s,baz=150,slow=8.1,SNR=4.3						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**62.04**	**337**	P		**P**	**04 36 20.1 -1.4**
	comp=Z,0.9nm,1.0s,baz=123,slow=6.5,SNR=6.2						
	comp=Z,0.9nm,1.0s						

NEIC ***19*** *04:42:08.4±0.8, 17°.8S±0°.1×178°.2W±0°.2, h562km±9km, mb4.4/23, Error ellipse: s-maj=29.8km s-min=8.3km az=115.0*
IDC ***19*** *04:42:12.4±3.5, 18°.07S×178°.54W, h581km±13km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=74.4km s-min=26.4km az=38.0*
ISC 19 04:42:07.4±0.8, 17°.9S±0°.2×177°.9W±0°.1, h550km, n37, σ1§48/38, mb4.4/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.83**	**271**	P		**P**	**04 43 29.2 +1.1**
MSVF	**Nonsavu**	**3.83**	**271**	P		**P**	**04 43 30.2 +2.1**
	37nm,0.7s,baz=108,slow=5.0,SNR=29						
MSVF				S		**S**	**04 44 37.6 +3.8**
	1.2nm,0.2s,baz=105,slow=20,SNR=0.9						
URZ	**Urewera**	**20.77**	**191**	P		**P**	**04 46 10.0 -0.2**
	6.9nm,0.8s,baz=11,slow=5.2,SNR=4.6						
	6.9nm,0.8s						
RTZ	**Ruatahuna**	**21.14**	**191**	P		**P**	**04 46 13.9 +0.2**
RTZ				IAmb	IAmb	04 46 38.7	
	comp=Z,13nm,1.2s						
BKZ	**Black Stump Fm**	**21.77**	**192**	P		**P**	**04 46 18.4 -0.9**
BKZ				IAmb	IAmb	04 46 38.8	
	comp=Z,9.0nm,1.4s						
MRZ	**Mangatainoka R**	**23.39**	**193**	P		**P**	**04 46 34.1 +0.4**
MRZ				IAmb	IAmb	04 46 54.1	
	comp=Z,13nm,1.2s						
QRZ	**Quartz Range**	**24.31**	**198**	P		**P**	**04 46 42.1 +0.3**
QRZ				IAmb	IAmb	04 47 08.9	
	comp=Z,18nm,1.3s						
PLWZ	**Palliser**	**24.33**	**192**	P		**P**	**04 46 42.5 +0.4**
TUWZ	**Tuamarina**	**24.50**	**195**	P		**P**	**04 46 43.8 +0.3**
THZ	**Tophouse**	**25.07**	**196**	P		**P**	**04 46 49.2 +0.6**
THZ				IAmb	IAmb	04 47 30.7	
	comp=Z,20nm,1.5s						
DSZ	**Denniston Nort**	**25.37**	**198**	P		**P**	**04 46 52.3 +1.0**
KHZ	**Kahutara**	**25.52**	**195**	P		**P**	**04 46 52.7 +0.2**
KHZ				IAmb	IAmb	04 47 03.7	
	comp=Z,18nm,1.4s						
LTZ	**Lake Taylor**	**26.19**	**196**	P		**P**	**04 46 58.6 +0.1**
LTZ				IAmb	IAmb	04 47 02.3	
	comp=Z,4.4nm,0.8s						
INZ	**Inchbonnie**	**26.37**	**198**	P		**P**	**04 47 00.2 +0.2**
FOZ	**Fox Glacier**	**27.60**	**199**	P		**P**	**04 47 10.9 +0.1**
LBZ	**Lake Benmore**	**28.26**	**198**	P		**P**	**04 47 15.8 -0.8**
LBZ				IAmb	IAmb	04 47 24.6	
	comp=Z,22nm,1.5s						
WKZ	**Wanaka**	**29.02**	**199**	P		**P**	**04 47 22.8 -0.4**
MLZ	**Mavora Lakes**	**29.79**	**200**	P		**P**	**04 47 30.9 +1.1**
MLZ				IAmb	IAmb	04 47 35.2	
	comp=Z,14nm,1.0s						
DCZ	**Deep Cove**	**30.20**	**201**	P		**P**	**04 47 33.6 +0.4**
DCZ				IAmb	IAmb	04 47 35.7	
	comp=Z,18nm,1.3s						
WHZ	**Wether Hill Ro**	**30.31**	**200**	P		**P**	**04 47 35.1 +0.9**
WHZ				IAmb	IAmb	04 47 49.4	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**39.04**	**241**	P		**P**	**04 48 46.3 -1.0**
	comp=Z,2.7nm,0.9s,baz=77,slow=8.1,SNR=4.4						
	comp=Z,2.7nm,0.9s						
BBOO	**Buckleboo**	**43.82**	**241**	P		**P**	**04 49 23.7 -1.4**
BBOO				IAmb	IAmb	04 49 31.1	
	comp=Z,24nm,1.5s						
WR8	**Warramunga Arr**	**44.93**	**259**	P		**P**	**04 49 31.6 -2.2**
WB0	**Warramunga Arr**	**45.05**	**260**	P		**P**	**04 49 32.7 -2.0**
WRA	**Warramunga Arr**	**45.08**	**259**	P		**P**	**04 49 32.6 -2.5**
WRA	**Warramunga Arr**	**45.08**	**259**	P		**P**	**04 49 32.3 -2.8**
	comp=Z,0.7nm,0.6s,baz=94,slow=7.0,SNR=6.2						
	comp=Z,0.7nm,0.6s						
AS31	**Alice Springs**	**45.23**	**254**	P		**P**	**04 49 34.1 -2.1**
ASAR	**Alice Springs**	**45.23**	**254**	P		**P**	**04 49 33.7 -2.5**
ASAR	**Alice Springs**	**45.23**	**254**	P		**P**	**04 49 34.2 -1.9**
	comp=Z,5.2nm,0.6s,baz=87,slow=8.4,SNR=63						
	comp=Z,5.2nm,0.6s						
QSPA	**South Pole Qui**	**72.19**	**180**	P		**P**	**04 52 38.1 +1.5**
QSPA	**South Pole Qui**	**72.19**	**180**	P		**P**	**04 52 38.6 +2.0**
	comp=Z,2.2nm,0.8s,baz=39,slow=1.1,SNR=6.4						
	comp=Z,2.2nm,0.8s						
GLA	**Glamis**	**78.68**	**50**	P		**P**	**04 53 13.1 0.0**
SNAA	**Sanae**	**90.62**	**178**	P		**P**	**04 54 11.5 +0.5**
WMOK	**Wichita Mounta**	**91.46**	**54**	P		**P**	**04 54 16.0 +0.5**
WMOK				IAmb	IAmb	04 54 42.5	
	comp=Z,3.1nm,1.4s						
ABD	**La Joyeuse, An**	**119.53**	**81**	PKPdf		**PKPdf**	**04 59 55.4 -0.3**
GRHM	**Grahamstown, E**	**124.09**	**205**	PKPdf		**PKPdf**	**05 00 02.4 -1.8**
BURAR	**Bucovina Array**	**144.79**	**333**	PKPdf		**PKPdf**	**05 00 41.1 -0.9**

IDC ***19*** *04:44:57.5±2.2, 39°.72N×52°.29E, h0km, mb3.7/9, mbtmp3.8/15, ML3.7/6, Error ellipse: s-maj=39.8km s-min=12.9km az=172.0*
AZER ***19*** *04:45:02.6, 39°.81N×52°.20E, h26km, ml3.7*
TEH ***19*** *04:45:04.4, 39°.83N×52°.21E, h30km*
MOS ***19*** *04:45:04.0±1.8, 40°.35N×52°.12E, h26km, mb4.0/3, Error ellipse: s-maj=8.1km s-min=6.4km az=108.5*
ISC 19 04:45:05.4±1.0, 39°.93N±0°.05×52°.29E±0°.05, h56km±13km, n105, σ1§88/133, mb3.8/12, 8C, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.71**	**287**	Sn	**Sn**	**04 45 55.7**	**+2.2**
NDR	**Nardaran**	**1.88**	**291**	Sn	**Sn**	**04 46 00.5**	**+2.8**
GOBA	**Gobu**	**2.02**	**284**	Sn	**Sn**	**04 46 02.4**	**+1.3**
ALIB	**&Aumlli-Bayram**	**2.53**	**272**	Pn	**Pn**	**04 45 45.1**	**+1.2**
ALIB	**&Aumlli-Bayram**	**2.53**	**272**	Pn	**Pn**	**04 45 46.8**	**+2.8**
ALIB				Sn	**Sn**	**04 46 21.3**	**+7.8**
GBS	**Qobustan**	**2.64**	**284**	Pn	**Pn**	**04 45 46.6**	**+1.1**
GBS	**Qobustan**	**2.64**	**284**	Pn	**Pn**	**04 45 46.7**	**+1.1**
GBS				Sn	**Sn**	**04 46 17.5**	**+1.2**
ATGJ	**Altiaghaj**	**2.73**	**291**	Pn	**Pn**	**04 45 47.5**	**+0.7**
ATGJ	**Altiaghaj**	**2.73**	**291**	Pn	**Pn**	**04 45 46.6**	**-0.2**
ATGJ				Sn	**Sn**	**04 46 21.3**	**+2.7**
SIZA	**Siyzn**	**2.83**	**295**	Pn	**Pn**	**04 45 48.7**	**+0.5**
SIZA	**Siyzn**	**2.83**	**295**	Pn	**Pn**	**04 45 49.4**	**+1.2**
SIZA				Sn	**Sn**	**04 46 24.4**	**+3.2**
PQL	**Pirkuli**	**2.96**	**288**	Pn	**Pn**	**04 45 50.3**	**+0.4**
PQL	**Pirkuli**	**2.96**	**288**	Pn	**Pn**	**04 45 50.3**	**+0.4**
PQL				Sn	**Sn**	**04 46 27.9**	**+3.6**
SAAT	**Saatly**	**2.98**	**270**	Sn	**Sn**	**04 46 29.5**	**+5.0**
LKRN	**Lenkeran, Azer**	**2.98**	**247**	Pn	**Pn**	**04 45 50.0**	**-0.2**
LKRN	**Lenkeran, Azer**	**2.98**	**247**	Pn	**Pn**	**04 45 49.9**	**-0.2**
LKRN				Sn	**Sn**	**04 46 25.0**	**+0.3**
LKRN	**Lenkeran, Azer**	**2.98**	**247**	P	**Pn**	**04 45 50.0**	**-0.2**
ASTR	**Astara**	**3.04**	**244**	Pn	**Pn**	**04 45 50.2**	**-0.8**
ASTR	**Astara**	**3.04**	**244**	Pn	**Pn**	**04 45 50.4**	**-0.6**
ASTR				Sn	**Sn**	**04 46 26.0**	**-0.2**
GLBA	**Clilabad**	**3.09**	**258**	Pn	**Pn**	**04 45 51.5**	**-0.1**
GLBA	**Clilabad**	**3.09**	**258**	Pn	**Pn**	**04 45 51.6**	**-0.1**
GLBA				Sn	**Sn**	**04 46 27.7**	**+0.3**
KDMR	**Kurdemir**	**3.18**	**279**	Sn	**Sn**	**04 46 32.1**	**+2.6**
QUBA	**Quba, Azerbaij**	**3.22**	**297**	Pn	**Pn**	**04 45 54.2**	**+0.7**
QUBA				Sn	**Sn**	**04 46 33.8**	**+3.1**
IML	**Ismayilli**	**3.26**	**287**	Sn	**Sn**	**04 46 33.6**	**+2.0**
YRD	**Yardimli**	**3.30**	**253**	Pn	**Pn**	**04 45 53.8**	**-0.8**
YRD				Sn	**Sn**	**04 46 32.1**	**-0.6**
LRK	**Lerik**	**3.33**	**249**	Pn	**Pn**	**04 45 54.3**	**-0.7**
LRK				Sn	**Sn**	**04 46 32.0**	**-1.4**
XNQ	**Khinaliq**	**3.40**	**293**	Pn	**Pn**	**04 45 56.0**	**-0.1**
XNQ				Sn	**Sn**	**04 46 36.6**	**+1.4**
QSAR	**Qusar**	**3.45**	**299**	Pn	**Pn**	**04 45 57.3**	**+0.7**
QSAR				Sn	**Sn**	**04 46 38.0**	**+1.8**
MZPU	**Pul - Mazandar**	**3.53**	**190**	Pn	**Pn**	**04 45 57.6**	**-0.3**
KLST	**Kelardasht - M**	**3.54**	**196**	Pn	**Pn**	**04 45 57.3**	**-0.9**
QBL	**Gabala**	**3.55**	**288**	Pn	**Pn**	**04 45 57.1**	**-0.9**
QBL				Sn	**Sn**	**04 46 38.0**	**-0.7**
ZRD	**Zardab**	**3.55**	**277**	Pn	**Pn**	**04 45 58.4**	**+0.5**
ZRD				Sn	**Sn**	**04 46 40.5**	**+1.8**
GRMI	**Germi**	**3.59**	**253**	Pn	**Pn**	**04 45 58.1**	**-0.5**
IGLO	**Ghaloghah**	**3.63**	**160**	Pn	**Pn**	**04 45 59.5**	**+0.3**
BLQ	**Beylaqan**	**3.65**	**268**	Pn	**Pn**	**04 45 59.8**	**+0.4**
BLQ				Sn	**Sn**	**04 46 40.8**	**-0.3**
IPRN	**Peran**	**3.68**	**179**	Pn	**Pn**	**04 45 59.6**	**-0.3**
IALA	**Alasht**	**3.86**	**174**	Pn	**Pn**	**04 46 02.2**	**-0.3**
QRD	**Qoradiz**	**3.86**	**265**	Pn	**Pn**	**04 46 01.7**	**-0.6**
QRD				Sn	**Sn**	**04 46 45.6**	**-0.8**
IGZV	**Ghazvin**	**3.90**	**205**	Pn	**Pn**	**04 46 02.7**	**-0.3**
BRDA	**Brd**	**3.94**	**277**	Pn	**Pn**	**04 46 03.7**	**+0.5**
BRDA				Sn	**Sn**	**04 46 50.8**	**+2.7**
AGDM	**Agdam**	**3.98**	**274**	Pn	**Pn**	**04 46 03.5**	**-0.4**
AGDM				Sn	**Sn**	**04 46 50.1**	**+0.7**
MNGR	**Mingechevir, A**	**4.07**	**284**	P	**Pn**	**04 46 04.9**	**-0.1**
MNGR				Sn	**Sn**	**04 46 53.5**	**+2.2**
SEKA	**Sheki**	**4.09**	**290**	Pn	**Pn**	**04 46 05.9**	**+0.5**
SEKA				Sn	**Sn**	**04 46 52.6**	**+0.7**
SEKA	**Sheki**	**4.09**	**290**	P	**Pn**	**04 46 05.8**	**+0.5**
ISRB	**Sarab**	**4.18**	**241**	Pn	**Pn**	**04 46 06.4**	**-0.4**
GANJ	**Ganja**	**4.62**	**281**	Pn	**Pn**	**04 46 12.0**	**-0.7**
GANJ				Sn	**Sn**	**04 47 02.7**	**-2.3**
GANJ	**Ganja**	**4.62**	**281**	P	**Pn**	**04 46 12.0**	**-0.7**
ZKTA	**Zakatala**	**4.63**	**293**	Pn	**Pn**	**04 46 13.8**	**+1.0**
ZKTA				Sn	**Sn**	**04 47 05.4**	**+0.1**
VSHL	**Vashlovani**	**4.67**	**288**	P	**Pn**	**04 46 14.4**	**+1.0**
QABG	**Abgarm-Qazvin**	**4.73**	**208**	Pn	**Pn**	**04 46 14.4**	**+0.1**
IHSH	**Hashtrud**	**4.73**	**238**	Pn	**Pn**	**04 46 13.5**	**-1.0**
IRAZ	**Razeghan**	**4.89**	**203**	Pn	**Pn**	**04 46 17.2**	**+0.6**
ORD	**Ordubad**	**4.98**	**260**	Pn	**Pn**	**04 46 17.6**	**0.0**
ORD				Sn	**Sn**	**04 47 13.2**	**-0.7**
GDB	**GEDABAY**	**5.06**	**281**	Pn	**Pn**	**04 46 17.4**	**-1.4**
GDB				Sn	**Sn**	**04 47 13.5**	**-2.5**
IQOM	**Qom**	**5.17**	**191**	Pn	**Pn**	**04 46 20.3**	**-0.1**
SBZ	**Shahbuz**	**5.23**	**266**	Pn	**Pn**	**04 46 21.8**	**+0.7**
SBZ				Sn	**Sn**	**04 47 21.9**	**+1.8**
IMRD	**Marand**	**5.25**	**259**	Pn	**Pn**	**04 46 21.8**	**+0.4**
ISFR	**Sfrayin**	**5.32**	**121**	Pn	**Pn**	**04 46 23.3**	**+0.9**
QZX	**Qazax, Azerbai**	**5.40**	**284**	Pn	**Pn**	**04 46 22.2**	**-1.1**
QZX				Sn	**Sn**	**04 47 22.4**	**-1.6**
IAZR	**Azarshahr**	**5.42**	**248**	Pn	**Pn**	**04 46 23.7**	**-0.1**
ISHB	**Shabestar**	**5.45**	**255**	Pn	**Pn**	**04 46 24.5**	**+0.3**
DGRG	**David-gareji**	**5.48**	**288**	Pn	**Pn**	**04 46 24.9**	**+0.5**
DGRG				Sn	**Sn**	**04 47 26.5**	**+0.5**
DGRG	**David-gareji**	**5.48**	**288**	P	**Pn**	**04 46 24.2**	**-0.2**
SBZV	**Sabzevar**	**5.48**	**128**	Pn	**Pn**	**04 46 25.8**	**+1.1**
ISFB	**Sefidab**	**5.57**	**180**	Pn	**Pn**	**04 46 26.6**	**+0.9**
HAGD	**Aghdareh**	**5.68**	**207**	Pn	**Pn**	**04 46 27.7**	**+0.3**
GNI	**Garni**	**5.80**	**275**	Pn	**Pn**	**04 46 28.2**	**-0.7**
	1.2nm,0.3s,baz=108,slow=19,SNR=1.9						
	4.6nm,0.4s						
CHRG	**Chargali**	**6.06**	**296**	P	**Pn**	**04 46 31.9**	**-0.5**
TAPT	**Tabas- Tapeh t**	**6.35**	**141**	Pn	**Pn**	**04 46 37.4**	**+0.9**
NCK	**Nalchik**	**7.42**	**302**	*i* P	**Pn**	**04 46 48.8**	**-2.2**
KBZ	**Khabaz**	**7.98**	**301**	Pn	**Pn**	**04 46 58.4**	**-0.1**
	0.5nm,0.3s,baz=134,slow=1.7,SNR=14						
KBZ				Sn	**Sn**	**04 48 19.7**	**-7.6**
	baz=148,slow=12						
	0.9nm,0.2s						
KBZ	**Khabaz**	**7.98**	**301**	*i* P	**Pn**	**04 46 54.9**	**-3.6**
SHA1	**Shidzhatmaz**	**8.14**	**301**	*i* P	**Pn**	**04 47 00.6**	**-0.4**
KVAR	**Kislovodsk Arr**	**8.21**	**302**	Pn	**Pn**	**04 46 59.5**	**-2.3**
	baz=127,slow=20						
KVAR				Sn	Sn	04 48 23.7	-9.4
	baz=188,slow=9.4						
	1.4nm,0.3s						
KIV	**Kislovodsk**	**8.21**	**302**	*e*P	**Pn**	**04 46 59.3**	**-2.6**
KIV				*e*S	**Sn**	**04 48 30.8**	**-2.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AB31	**Akbulak array**	**10.80**	**28**	P	**Pn**	**04 47 34.7**	**-2.4**
AB31						04 49 29.5	
AKTO	**Aktyubinsk**	**11.25**	**19**	Pn	Pn	04 47 39.3	-4.0
	comp=Z,1.2nm,0.3s,baz=208,slow=8.8,SNR=8.7						
AKTO				Sn	Sn	04 49 38.2	-9.2
	comp=Z,1.0nm,0.3s,baz=218,slow=17,SNR=4.2						
	comp=Z,2.4nm,0.3s						
VRH	**Novokhopyorsk**	**13.47**	**330**	*e*P	Pn	04 48 07.5	-6.0
VRH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KK31	**Karatay Array**	**14.02**	**71**	*i* P	**Pn**	**04 48 20.7**	**-0.3**
VSR	**Storozhevoye**	**14.53**	**325**	*e*P	Pn	04 48 22.1	-5.6
VSR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPSR	**Galich'ya Gora**	**15.65**	**328**	*e*P	**Pn**	**04 48 36.0**	**-6.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARTI	**Arti**	**16.95**	**12**	P	**Pn**	**04 48 56.7**	**-1.8**
ARTI				S	**Sn**	**04 52 04.0**	**-1.9**
BRVK	**Borovoye**	**17.98**	**37**	*ce*P	**Pn**	**04 49 12.9**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BVA0	**Borovoye Array**	**18.01**	**37**	*i* P	**P**	**04 49 12.7**	**+1.3**
BVAR	**Borovoye Array**	**18.01**	**37**	P	**P**	**04 49 11.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=232,slow=8.9,SNR=17						
	comp=Z,3.8nm,0.5s						
KIRV	**Kirov**	**18.77**	**355**	*ce*P	**Pn**	**04 49 21.5**	**+1.0**
AKASG	**Malin Array Be**	**19.39**	**311**	*ce*P	**P**	**04 49 24.7**	**-1.8**
	comp=Z,2.0nm,0.3s,baz=57,slow=32,SNR=9.9						
	comp=Z,1.1nm,0.4s						
AKASG	**Malin Array Be**	**19.39**	**311**	*ce*P	**P**	**04 49 26.8**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	**Malin Array Si**	**19.39**	**311**	*ce*P	**P**	**04 49 26.2**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,19nm,2.8s						
KURBB	**Kurchatov Arra**	**21.23**	**51**	P	**P**	**04 49 46.8**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=252,slow=12,SNR=7.3						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**21.31**	**51**	*ce*P	**P**	**04 49 48.9**	**+1.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KLMR	**Klimovskoe**	**22.40**	**343**	*e*P	**P**	**04 49 57.7**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,13nm,1.6s						
NACGM	**Naroch**	**22.68**	**320**	*e*P	**P**	**04 50 08.8**	**+7.0**
	comp=Z,785nm,1.1s,baz=121						
MK31	**Makanchi Array**	**22.77**	**63**	*ce*P	**P**	**04 50 04.3**	**+1.3**
MKAR	**Makanchi Array**	**22.77**	**63**	P	**P**	**04 50 03.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=260,slow=8.9,SNR=9.3						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**22.77**	**63**	*ce*P	**P**	**04 50 06.0**	**+3.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**25.99**	**46**	P	**P**	**04 50 32.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=258,slow=7.2,SNR=2.1						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**26.86**	**332**	P	**P**	**04 50 41.1**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=159,slow=18,SNR=20						
	comp=Z,1.4nm,0.3s						
HFS	**Hagfors**	**31.32**	**323**	P	**P**	**04 51 20.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=106,slow=9.2,SNR=12						
	comp=Z,0.8nm,0.3s						
NORES	**NORESS Array B**	**32.54**	**323**	P	**P**	**04 51 31.5**	**+0.8**
NOA	**NORSAR Array B**	**32.80**	**324**	P	**P**	**04 51 33.7**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=128,slow=8.7,SNR=4.5						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**32.87**	**343**	P	**P**	**04 51 34.2**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=145,slow=9.6,SNR=5.3						
	comp=Z,1.2nm,0.7s						
EKA	**Eskdalemuir Ar**	**39.30**	**312**	P	**P**	**04 52 29.8**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=98,slow=8.5,SNR=10.0						
	comp=Z,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**77.38**	**354**	P	**P**	**04 56 54.0**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=15,slow=4.8,SNR=3.5						
	comp=Z,0.1nm,0.6s						
YKA	**Yellowknife Ar**	**77.38**	**354**	*ce*P	**P**	**04 56 55.9**	**+2.1**

IDC ***19*** *04:45:39.7±1.6, 37°.35N×29°.37E, h0km, mb3.5/2, mbtmp3.2/5, ML2.9/2, Error ellipse: s-maj=32.8km s-min=19.5km az=155.0*
ISK ***19*** *04:45:41.9, 37°.43N×29°.48E, h7km, ML2.7/13*
AFAD ***19*** *04:45:42.6, 37°.42N×29°.40E, h7km±2km, ML2.3*
**ISC

KURBB **Kurchatov Arra 6.75 227** Pn Pn 05 01 52.7 0.0
0.1nm,0.3s,baz=47,slow=14,SNR=7.3
KURBB Lg Lg 05 03 47.8
baz=41,slow=33,SNR=5.7
0.4nm,0.4s
MKAR Makanchi Array 9.08 197 Pn Pn 05 02 25.2 +0.5
0.1nm,0.3s,baz=11,slow=14,SNR=2.7
MKAR Sn Sn 05 03 59.1 -8.5
baz=17,slow=30,SNR=1.7
MKAR Lg Lg 05 04 55.6
0.1nm,0.3s,baz=18,slow=24,SNR=5.1
0.2nm,0.4s

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*DJA **19** 05:04:42.1±0.3, 7°S±4°×10°7E±°, h132km±3km, M4.8/25, mB5.3/6, mb5.0/8, MLv4.7/25, Mw(mB)4.8/6*
*NEIC **19** 05:04:42.3±1.7, 6°92S±0°07×107°04E±0°07, h155km±6km, mb4.5/32, Error ellipse: s-maj=11.1km s-min=9.7km az=215.0*
*IDC **19** 05:04:42.0±0.5, 6°74S×107°28E, h159km±3km, mb3.9/23, mbtmp4.3/23, Error ellipse: s-maj=16.2km s-min=8.0km az=53.0*
ISC 19 05:04:41.3±0.6, **7°04S**±0°04×**107°05E**±0°04, **h155**km±4km, **n139**, σ1§**49**/151, **mb4.3**/39, **1C, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.28**	**164**	P	**Pn**	**05 05 01.6**	**-0.8**
CNJI				S	**Sn**	**05 05 14.2**	**-4.3**
SKJI	**Sukabumi**	**0.49**	**274**	P	**Pn**	**05 05 03.2**	**0.0**
SKJI				S	**Sn**	**05 05 16.7**	**-3.1**
LEM	**Lembang**	**0.60**	**70**	P	**Pn**	**05 05 04.6**	**+0.6**
	11μm,0.6s,baz=201,slow=3.0,SNR=487						
LEM				S	**Sn**	**05 05 22.0**	**+0.9**
	4μm,1.0s,baz=7.7,slow=22,SNR=5.7						
LEM	**Lembang**	**0.60**	**70**	P	**Pn**	**05 05 04.4**	**+0.5**
LEM				S	**Sn**	**05 05 21.8**	**+0.7**
BBJI	**Bungbulang**	**0.73**	**126**	P	**Pn**	**05 05 04.0**	**-0.6**
BBJI	**Bungbulang**	**0.73**	**126**	S	**Sn**	**05 05 20.4**	**-2.0**
TNG	**Tangerang**	**0.95**	**335**	P	**Pn**	**05 05 07.2**	**+1.0**
SBJI	**Serang**	**1.29**	**315**	P	**Pn**	**05 05 10.5**	**+1.3**
SBJI				S	**Sn**	**05 05 30.2**	**-0.3**
JCJI	**Jatiwangi**	**1.33**	**66**	P	**Pn**	**05 05 08.6**	**-0.9**
CGJI	**Cibinong**	**1.41**	**287**	P	**Pn**	**05 05 11.3**	**+0.9**
CGJI				S	**Sn**	**05 05 32.1**	**-0.5**
KASI	**Kota Agung**	**2.95**	**300**	P	**Pn**	**05 05 30.1**	**+1.8**
YOGI	**Yogyakarta**	**3.31**	**104**	P	**Pn**	**05 05 32.4**	**-0.4**
SMRI	**Semarang**	**3.36**	**90**		**Pn**	**05 05 33.7**	**+0.2**
SMRI	**Semarang**	**3.36**	**90**	P	**Pn**	**05 05 34.6**	**+1.1**
SMRI	**Semarang**	**3.36**	**90**	P	**Pn**	**05 05 34.1**	**+0.6**
UGM	**Wanagama**	**3.55**	**104**		**Pn**	**05 05 35.6**	**-0.4**
UGM	**Wanagama**	**3.55**	**104**	P	**Pn**	**05 05 35.7**	**-0.2**
UGM	**Wanagama**	**3.55**	**104**	S	**Sn**	**05 06 16.7**	**-1.6**
UGM	**Wanagama**	**3.55**	**104**	P	**Pn**	**05 05 35.0**	**-0.9**
XMI	**Christmas Isla**	**3.65**	**202**	P	**Pn**	**05 05 35.3**	**-1.9**
XMI	**Christmas Isla**	**3.65**	**202**	S	**Sn**	**05 06 16.9**	**-3.7**
XMIS	**Christmas Isla**	**3.69**	**202**	Pn	**Pn**	**05 05 35.5**	**-2.2**
MDSI	**Maura Dua**	**3.82**	**311**	P	**Pn**	**05 05 40.9**	**+1.5**
PCJI	**Pacitan**	**4.25**	**106**	P	**Pn**	**05 05 43.9**	**-1.1**
TPI	**Tanjungpandan**	**4.29**	**8**	P	**Pn**	**05 05 45.3**	**-0.3**
NGJI	**Ngawi**	**4.39**	**95**	P	**Pn**	**05 05 48.4**	**+1.6**
MNAI	**Manna**	**4.87**	**303**		**Pn**	**05 05 54.4**	**+1.2**
MNAI	**Manna**	**4.87**	**303**	P	**Pn**	**05 05 54.9**	**+1.8**
PPBI	**Pangkal Pinang**	**4.93**	**349**	P	**Pn**	**05 05 55.5**	**+1.5**
GRJI	**Gresik**	**5.39**	**89**	P	**Pn**	**05 06 01.8**	**+1.8**
	1.4nm5μm515nm,1.0s						
KSI	**Kapahiang**	**5.57**	**307**	P	**Pn**	**05 06 03.7**	**+1.2**
	16μm404nm,0.6s						
ABJI	**Asem Bagus**	**7.16**	**96**	P	**Pn**	**05 06 25.9**	**+2.3**
	0.4nm76nm,1.1s						
JAGI	**Jajag, Banyuwa**	**7.18**	**102**		**Pn**	**05 06 23.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**7.18**	**102**	P	**Pn**	**05 06 24.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**7.18**	**102**	P	**Pn**	**05 06 24.7**	**+0.9**
	0.7nm102nm,1.1s						
SBUM	**Sibu**	**10.74**	**29**	Pn	**Pn**	**05 07 09.9**	**-1.3**
SBUM	**Sibu**	**10.74**	**29**	P	**Pn**	**05 07 13.3**	**+2.1**
	27nm,1.1s						
TOLI2	**Tolitoli**	**15.91**	**60**		**Pn**	**05 08 17.2**	**+0.2**
TOLI2				IAmb	IAmb	05 08 18.8	
	comp=Z,15nm,0.8s						
TOLI2	**Tolitoli**	**15.91**	**60**	P	**P**	**05 08 18.9**	**+1.4**
MYLDM	**Lahad Datu**	**16.67**	**44**		**P**	**05 08 24.2**	**-1.5**
MYLDM	**Lahad Datu**	**16.67**	**44**	P	**Pn**	**05 08 28.0**	**+1.9**
SOEI	**Soe**	**17.24**	**100**	P	**Pn**	**05 08 33.0**	**-0.2**
MBWA	**Marble Bar**	**18.64**	**140**	P	**P**	**05 08 48.4**	**+1.0**
MBWA				IAmb	IAmb	05 09 00.2	
	comp=Z,49nm,1.5s						
FITZ	**Fitzroy Crossi**	**21.19**	**123**	P	**P**	**05 09 15.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**21.19**	**123**	P	**P**	**05 09 14.5**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=256,slow=5.5,SNR=6.5						
FITZ				S	**S**	**05 13 05.6**	**+4.0**
	comp=Z,4.5nm,0.7s,baz=351,slow=23,SNR=6.1						
	comp=Z,5.3nm,0.9s						
KNRA	**Kununurra**	**22.93**	**114**	P	**P**	**05 09 32.3**	**+0.1**
KNRA				IAmb	IAmb	05 09 33.8	
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**23.50**	**160**	P	**P**	**05 09 38.8**	**+1.5**
MORW				IAmb	IAmb	05 09 46.6	
	comp=Z,21nm,1.4s						
FAKI	**Fak Fak**	**25.43**	**82**	P	**P**	**05 09 54.4**	**-0.6**
FAKI				IAmb	IAmb	05 09 55.4	
	comp=Z,20nm,1.3s						
CMAR	**Chiang Mai Arr**	**26.57**	**343**	P	**P**	**05 10 03.3**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=180,slow=8.2,SNR=12						
CMAR				ScP	**ScP**	**05 16 52.3**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=192,slow=3.4,SNR=6.3						
	comp=Z,1.7nm,0.8s						
WB0	**Warramunga Arr**	**29.39**	**118**	P	**P**	**05 10 31.1**	**+0.8**
WRA	**Warramunga Arr**	**29.41**	**119**	P	**P**	**05 10 31.1**	**+0.6**
WRA	**Warramunga Arr**	**29.41**	**119**	P	**P**	**05 10 30.9**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=308,slow=8.8,SNR=28						
WRA				PcP	**PcP**	**05 13 33.3**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=318,slow=2.8,SNR=2.1						
WRA				S	**S**	**05 15 11.0**	**-2.2**
	comp=Z,1.0nm,1.0s,baz=297,slow=17,SNR=3.7						
	comp=Z,2.8nm,0.6s						
WRAB	**Tennant Creek**	**29.41**	**119**	P	**P**	**05 10 31.2**	**+0.7**
WB2	**Warramunga Arr**	**29.42**	**119**	P	**P**	**05 10 31.0**	**+0.5**
WB2				IAmb	IAmb	05 10 32.2	
	comp=Z,9.1nm,1.1s						
WR0	**Warramunga Arr**	**29.59**	**118**	P	**P**	**05 10 32.8**	**+0.7**
ASAR	**Alice Springs**	**30.62**	**126**	P	**P**	**05 10 42.7**	**+1.5**
ASAR	**Alice Springs**	**30.62**	**126**	P	**P**	**05 10 42.3**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=305,slow=8.7,SNR=12						
ASAR				PcP	**PcP**	**05 13 36.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=274,slow=5.4,SNR=1.9						
ASAR				S	**S**	**05 15 30.8**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=293,slow=15,SNR=12						
ASAR				ScP	**ScP**	**05 17 05.0**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=344,slow=1.3,SNR=5.9						
	comp=Z,0.7nm,0.4s						
H08S2	**Diego Garcia H**	**34.28**	**267**	T	T	05 47 12.3	
	baz=91,slow=75,SNR=6.2						
H08S3	**Diego Garcia H**	**34.29**	**267**	T	T	05 47 09.0	
	baz=91,slow=75,SNR=7.6						
H08S1	**Diego Carcia H**	**34.30**	**267**	T	T	05 47 10.1	
	baz=91,slow=75,SNR=6.0						
STKA	**Stephens Creek**	**40.58**	**132**	P	**P**	**05 12 07.3**	**+1.4**
STKA	**Stephens Creek**	**40.58**	**132**	P	**P**	**05 12 06.8**	**+0.9**
	comp=Z,1.9nm,0.4s,baz=333,slow=8.9,SNR=4.6						
	comp=Z,1.9nm,0.4s						
KSRS	**Korea Array**	**48.37**	**22**	P	**P**	**05 13 04.4**	**-3.1**
	comp=Z,5.1nm,0.9s,baz=208,slow=8.9,SNR=15						
	comp=Z,5.1nm,0.9s						
MAJO	**Matsushiro**	**52.27**	**32**	P	**P**	**05 13 35.3**	**-1.6**
MAJO				IAmb	IAmb	05 13 39.5	
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**52.27**	**32**	P	**P**	**05 13 34.1**	**-2.8**
	comp=Z,4.9nm,0.7s,baz=212,slow=7.1,SNR=9.0						
	comp=Z,4.9nm,0.7s						
MJB9	**Matsu-Tunnel**	**52.27**	**32**	P	**P**	**05 13 36.5**	**-0.4**
MJB9				IAmb	IAmb	05 13 40.4	
	comp=Z,4.9nm,0.8s						
JMM	**Marumori**	**54.63**	**33**	P	**P**	**05 13 52.3**	**-1.7**
SONM	**Songino Array**	**54.64**	**359**	P	**P**	**05 13 53.8**	**-0.3**
SONM				IAmb	IAmb	05 13 54.7	
	comp=Z,6.2nm,0.9s						
SONM	**Songino Array**	**54.64**	**359**	P	**P**	**05 13 53.3**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=171,slow=6.5,SNR=15						
SONM				PcP	**PcP**	**05 14 54.7**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=182,slow=4.1,SNR=12						
SONM				ScP	**ScP**	**05 18 37.9**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=163,slow=6.2,SNR=5.3						
	comp=Z,4.3nm,0.8s						

ULN	**Ulaanbaatar**	**54.66**	**0**	P	**P**	**05 13 53.5**	**-0.9**
ULN				IAmb	IAmb	05 13 54.6	
	comp=Z,8.3nm,0.8s						
USA0B	**Ussuriysk Arra**	**55.75**	**22**	P	**P**	**05 14 01.4**	**-0.5**
USA0B				IAmb	IAmb	05 14 37.7	
	comp=Z,6.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**55.75**	**22**	P	**P**	**05 13 60.0**	**-2.0**
	comp=Z,2.3nm,0.5s,baz=212,slow=5.1,SNR=6.6						
	comp=Z,2.3nm,0.5s						
MK31	**Makanchi Array**	**57.94**	**340**	P	**P**	**05 14 15.6**	**-1.8**
MKAR	**Makanchi Array**	**57.94**	**340**	P	**P**	**05 14 15.4**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=156,slow=8.1,SNR=19						
MKAR				PcP	**PcP**	**05 15 07.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=126,slow=6.2,SNR=5.8						
MKAR				ScP	**ScP**	**05 18 52.8**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=129,slow=8.4,SNR=3.9						
	comp=Z,0.8nm,0.3s						
VOI	**Vohitsoka**	**59.84**	**249**	P	**P**	**05 14 34.1**	**+2.9**
KK31	**Karatay Array**	**59.92**	**330**	P	**P**	**05 14 32.9**	**+1.8**
KKAR	**Karatay Array**	**59.92**	**330**	P	**P**	**05 14 31.9**	**+0.7**
H04N2	**CROZET ISLANDS**	**61.27**	**221**	T	T	06 21 16.7	
	baz=68,slow=75,SNR=32						
H04N1	**CROZET ISLANDS**	**61.28**	**221**	T	T	06 21 23.7	
	baz=68,slow=75,SNR=77						
H04N3	**CROZET ISLANDS**	**61.28**	**221**	T	T	06 21 24.3	
	baz=68,slow=75,SNR=40						
KURBB	**Kurchatov Arra**	**62.51**	**340**	P	**P**	**05 14 46.6**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=157,slow=5.9,SNR=12						
KURBB				PcP	**PcP**	**05 15 25.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=154,slow=3.9,SNR=9.3						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**62.55**	**340**	P	**P**	**05 14 47.1**	**-1.5**
BVAR	**Borovoye Array**	**67.42**	**337**	P	**P**	**05 15 17.9**	**-2.1**
	comp=Z,1.6nm,0.5s,baz=126,slow=7.6,SNR=7.3						
	comp=Z,1.6nm,0.5s						
ABKAR	**Akbulak array**	**69.47**	**329**	P	**P**	**05 15 31.7**	**-1.2**
ABKAR	**Akbulak array**	**69.47**	**329**	P	**P**	**05 15 31.6**	**-1.3**
ABKAR				IAmb	IAmb	05 15 33.7	
	comp=Z,5.5nm,0.8s						
PETK	**Petropavlovsk-**	**73.60**	**29**	P	**P**	**05 15 56.1**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=147,slow=1.5,SNR=4.4						
	comp=Z,2.7nm,0.9s						
MA2	**Magadan**	**74.91**	**21**	P	**P**	**05 16 02.2**	**-2.7**
	comp=Z,13nm,1.6s						
SYO	**Syowa Base**	**75.48**	**200**	*eP*	**P**	**05 16 10.8**	**+2.7**
VNDA	**Vanda**	**75.92**	**169**	P	**P**	**05 16 12.6**	**+2.1**
VNDA	**Vanda**	**75.92**	**169**	P	**P**	**05 16 12.1**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=285,slow=20,SNR=3.1						
	comp=Z,1.0nm,0.5s						
KBZ	**Khabaz**	**76.71**	**318**	P	**P**	**05 16 16.0**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=179,slow=5.4,SNR=12						
	comp=Z,7.1nm,0.9s						
NRIK	**Noril'sk**	**77.39**	**353**	P	**P**	**05 16 17.6**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=151,slow=5.1,SNR=5.4						
	comp=Z,1.5nm,0.4s						
LBTB	**Lobatse**	**79.34**	**246**	P	**P**	**05 16 32.3**	**+1.7**
LBTB				IAmb	IAmb	05 16 33.8	
	comp=Z,4.7nm,0.8s						
BOSA	**Boshof**	**79.48**	**242**	P	**P**	**05 16 33.5**	**+2.1**
BOSA				IAmb	IAmb	05 16 34.7	
	comp=Z,11nm,1.4s						
BOSA	**Boshof**	**79.48**	**242**	P	**P**	**05 16 32.8**	**+1.4**
	comp=Z,1.5nm,0.4s,baz=69,slow=11,SNR=4.0						
	comp=Z,1.5nm,0.4s						
BR104	**Keskin Array S**	**81.89**	**312**	P	**P**	**05 16 43.4**	**-0.5**
	comp=Z,34nmcomp=Z,4.3nm,0.8s						
BR131	**Keskin Array S**	**81.89**	**312**	P	**P**	**05 16 44.2**	**+0.3**
BRTR	**Keskin Array B**	**81.89**	**312**	P	**P**	**05 16 43.5**	**-0.4**
BRTR	**Keskin Array B**	**81.89**	**312**	P	**P**	**05 16 42.9**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=143,slow=7.4,SNR=18						
	comp=Z,3.2nm,0.8s						
BR105	**Keskin Array S**	**81.91**	**312**	P	**P**	**05 16 44.0**	**0.0**
	comp=Z,4.2nm,0.9s						
BR106	**Keskin Array S**	**81.91**	**312**	P	**P**	**05 16 44.0**	**0.0**
	comp=Z,37nmcomp=Z,4.9nm,0.9s						
QSPA	**South Pole Qui**	**82.95**	**180**	P	**P**	**05 16 50.6**	**+1.7**
QSPA	**South Pole Qui**	**82.95**	**180**	P	**P**	**05 16 50.5**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=135,slow=2.1,SNR=13						
	comp=Z,1.0nm,0.5s						
AK09	**Malin Array Si**	**87.70**	**321**	P	**P**	**05 17 11.8**	**-0.7**
AK10	**Malin Array Si**	**87.72**	**321**	P	**P**	**05 17 10.9**	**-1.6**
AK08	**Malin Array Si**	**87.72**	**321**	P	**P**	**05 17 11.0**	**-1.6**
AK07	**Malin Array Si**	**87.73**	**321**	P	**P**	**05 17 11.7**	**-0.9**
AK05	**Malin Array Si**	**87.75**	**321**	P	**P**	**05 17 10.5**	**-2.2**
AKASG	**Malin Array Be**	**87.76**	**322**	P	**P**	**05 17 11.9**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=83,slow=5.0,SNR=12						
	comp=Z,1.5nm,0.5s						
AKBB	**Malin Array Si**	**87.76**	**322**	P	**P**	**05 17 11.2**	**-1.5**
AK02	**Malin Array Si**	**87.76**	**321**	P	**P**	**05 17 11.4**	**-1.3**
AK01	**Malin Array Si**	**87.76**	**322**	P	**P**	**05 17 12.0**	**-0.8**
AK03	**Malin Array Si**	**87.76**	**322**	P	**P**	**05 17 12.0**	**-0.8**
KIEV	**Kiev**	**87.77**	**322**	P	**P**	**05 17 12.6**	**-0.2**
KIEV				IAmb	IAmb	05 17 13.3	
	comp=Z,3.7nm,0.7s						
KIEV	**Kiev**	**87.77**	**322**	P	**P**	**05 17 11.2**	**-1.6**
AK12	**Malin Array Si**	**87.78**	**321**	P	**P**	**05 17 11.6**	**-1.3**
AK04	**Malin Array Si**	**87.80**	**322**	P	**P**	**05 17 12.3**	**-0.6**
AK15	**Malin Array Si**	**87.82**	**322**	P	**P**	**05 17 11.3**	**-1.7**
AK16	**Malin Array Si**	**87.82**	**321**	P	**P**	**05 17 12.1**	**-0.9**
AK17	**Malin Array Si**	**87.86**	**321**	P	**P**	**05 17 12.7**	**-0.5**
AK18	**Malin Array Si**	**87.86**	**322**	P	**P**	**05 17 11.7**	**-1.5**
AK21	**Malin Array Si**	**87.89**	**322**	P	**P**	**05 17 11.3**	**-2.0**
AK19	**Malin Array Si**	**87.89**	**322**	P	**P**	**05 17 11.4**	**-2.0**
AK20	**Malin Array Si**	**87.90**	**322**	P	**P**	**05 17 11.7**	**-1.7**
SNAA	**Sanae**	**89.51**	**197**	P	**P**	**05 17 23.1**	**+2.4**
	comp=Z,3.2nm,1.1s,baz=114,slow=18,SNR=3.2						
	comp=Z,3.2nm,1.1s						
BURAR	**Bucovina Array**	**89.67**	**318**	P	**P**	**05 17 23.7**	**+1.8**
BUR08	**Bucovina Ar. S**	**89.69**	**318**	P	**P**	**05 17 22.6**	**+0.6**
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**05 17 30.3**	**-1.2**
	comp=Z,7.4nm,1.1s,baz=149,slow=15,SNR=4.5						
	comp=Z,7.4nm,1.1s						
STHS	**Stebnicka Huta**	**92.57**	**319**	*eP*	**P**	**05 17 36.2**	**+0.9**
BELA	**Belgrano 2**	**92.62**	**188**	P	**P**	**05 17 37.1**	**+2.1**
BELA				IAmb	IAmb	05 18 00.3	
	comp=Z,5.5nm,1.5s						
ARCES	**ARCESS Array B**	**93.59**	**340**	P	**P**	**05 17 38.3**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=64,slow=6.9,SNR=1.6						
	comp=Z,1.7nm,0.9s						
LANS	**Liptovska Anna**	**93.69**	**319**	*eP*	**P**	**05 17 39.0**	**-1.5**
YKA	**Yellowknife Ar**	**116.88**	**20**	PKP	**PKPdf**	**05 23 06.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=47,slow=10,SNR=6.1						
NVAR	**Mina Array Bea**	**128.54**	**46**	SKPbc	SKPbc	05 26 37.1	
	comp=Z,0.5nm,0.7s,baz=241,slow=4.4,SNR=5.6						
PDAR	**Pinedale Array**	**131.99**	**36**	PKP	**PKPdf**	**05 23 34.6**	**-2.5**
	comp=Z,0.1nm,0.5s,baz=300,slow=9.0,SNR=1.6						
PDAR				SKPbc	**SKPbc**	**05 26 48.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=214,slow=0.7,SNR=10.0						
SCHQ	**Schefferville**	**132.09**	**355**	SKPbc	**SKPbc**	**05 26 47.7**	**-1.0**
	comp=Z,6.4nm,0.9s,baz=6.6,slow=4.6,SNR=7.0						
ULM	**Lac du Bonnet**	**132.86**	**20**	SKPbc	**SKPbc**	**05 26 49.8**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=350,slow=3.7,SNR=7.5						
TXAR	**Lajitas Array**	**143.55**	**49**	PKP	PKPbc	05 23 56.8	+0.5
	comp=Z,1.0nm,0.6s,baz=257,slow=0.7,SNR=16						
TXAR				SKPbc	**SKPbc**	**05 27 22.5**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=233,slow=1.7,SNR=7.1						
BDFB	**Brasilia**	**146.57**	**227**	PKPbc	**PKPab**	**05 24 07.5**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=162,slow=6.4,SNR=4.5						

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*NNC **19** 05:17:36.0±10.0, 38°13N×70°92E, h166km±183km, mb3.0, mpv3.8, Error ellipse: s-maj=118.4km s-min=71.2km az=4.0*
*SOME **19** 05:17:35.1, 39°10N×71°28E, h10km*
ISC 19 05:17:32.8±2.2, **38°9N**±0°1×**71°35E**±0°06, **h10**km, **n15**, σ2§**68**/21, **1C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.66**	**29**	P	**Pg**	**05 18 43.5**	**+0.6**
	SNR=21						
MRKS	**Merke**	**4.07**	**20**	*eP*	**Pg**	**05 18 47.7**	**-2.9**
	9.7nm,0.4s						
MRKS				*eS*	**Sg**	**05 19 39.5**	**-3.8**
	39nm,0.5s						
EKS2	**Erkin-Say**	**4.16**	**26**	P	**Pg**	**05 18 49.6**	**-2.8**
	SNR=7.9						
KK31	**Karatay Array**	**4.21**	**352**	Pn	**Pb**	**05 18 46.4**	**-0.5**
	4.4nm,0.2s,baz=189,slow=16,SNR=79						
KK31				∥Sn	**Sg**	**05 19 52.2**	**+4.2**
	7.9nm,0.3s,baz=172,slow=28,SNR=5.2						
BRLS	**Borolday**	**4.25**	**345**	*eP*	**Pb**	**05 18 47.1**	**-0.4**
	5.3nm,0.2s						
BRLS				*eS*	**Sb**	**05 19 38.4**	**-0.6**
	13nm,0.3s						
AAK	**Ala-Archa**	**4.40**	**32**	P	**Pg**	**05 18 54.9**	**-2.2**
	SNR=7.9						
AAK	**Ala-Archa**	**4.40**	**32**	∥Pn	**Pg**	**05 18 54.2**	**-3.0**
	9.1nm,0.6s						
AAK				Sn	**Sg**	**05 19 53.6**	**-0.6**
	20nm,0.9s						
KBK	**Karagaybulak**	**4.62**	**35**	P	**Pg**	**05 18 58.7**	**-2.5**
	SNR=16						
USP	**Ospenovka**	**4.94**	**28**	P	**Pb**	**05 19 00.5**	**+1.1**
	SNR=8.4						
TKM2	**Tokmak 2**	**5.12**	**38**	P	**Pb**	**05 19 05.0**	**+2.5**
	SNR=10						
TKM2	**Tokmak 2**	**5.12**	**38**	∥Pn	**Pb**	**05 19 04.8**	**+2.3**
	3.8nm,0.5s						
TKM2				∥Sn	**Sb**	**05 20 09.7**	**+5.5**
	10nm,0.5s						
TNSS	**Tian-Shan**	**5.89**	**44**	*eP*	**Pg**	**05 19 23.6**	**-2.0**
	0.3nm,0.0s						
TNSS				*eS*	**Sg**	**05 20 40.8**	**-1.2**
	1.3nm,0.2s						
KPKS	**Kokpek**	**7.15**	**48**	*eP*	**Pn**	**05 19 15.3**	**-2.2**
	2.4nm,0.4s						
KPKS				*eS*	Sn	05 20 26.8	-12
	6.2nm,0.5s						
AB31	**Akbulak array**	**13.16**	**325**	P	**Pn**	**05 20 41.2**	**+1.6**
	1.6nm,0.4s,baz=146,slow=12,SNR=23						
AKTO	**Aktyubinsk**	**14.88**	**325**	∥P	**Pn**	**05 21 05.1**	**+2.1**
	1.9nm,0.7s						

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*TEH **19** 05:18:28.1, 38°54N×44°50E, h6km±144km*
*AZER **19** 05:18:32.7, 38°79N×44°82E, h6km, ml2.7*
*AFAD **19** 05:18:33.0, 38°60N×44°33E, h28km±2km, ML2.4*
ISC 19 05:18:29.8±1.3, **38°59N**±0°03×**44°62E**±0°02, **h2**km±12km, **n25**, σ1§**31**/44, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.49**	**278**	P	**Pb**	**05 18 41.0**	**-0.3**
OZAP				S	**Sb**	**05 18 47.3**	**-1.8**
MAKU	**Maku**	**0.76**	**4**	Pg	**Pg**	**05 18 43.8**	**-0.7**
ISHB	**Shabestar**	**0.84**	**111**	Pg	**Pg**	**05 18 45.8**	**-0.1**
IMRD	**Marand**	**0.86**	**82**	Pg	**Pg**	**05 18 46.1**	**-0.1**
NAX	**Nakhchivan**	**0.90**	**49**	P	**Pb**	**05 18 47.3**	**-0.9**
NAX				S	**Sb**	**05 19 00.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.91**	**296**	P	**Pb**	**05 18 48.3**	**-0.1**
VMUR				S	**Sb**	**05 18 59.5**	**-1.5**
VMUR				*i* AML	AML	05 19 03.0	
	comp=E,120nm,0.4s						
SBZ	**Shahbuz**	**1.08**	**42**	P	**Pb**	**05 18 50.6**	**-0.7**
SBZ				S	**Sb**	**05 19 06.1**	**+0.1**
ORD	**Ordubad**	**1.13**	**72**	P	**Pg**	**05 18 51.4**	**0.0**
ORD				S	**Sb**	**05 19 07.2**	**+0.1**
HYR	**Heyderabad**	**1.14**	**9**	P	**Pb**	**05 18 51.5**	**-0.8**
HYR				S	**Sn**	**05 19 07.5**	**-1.6**
ITBZ	**Tabriz**	**1.25**	**106**	Pg	**Pg**	**05 18 52.7**	**-1.1**
GEVA	**Gevas**	**1.26**	**258**	P	**Pb**	**05 18 54.1**	**-0.1**
GEVA				S	**Sn**	**05 19 14.2**	**+2.1**
GEVA				*i* AML	AML	05 19 19.0	
	comp=N,68nm,0.5s						
IAZR	**Azarshahr**	**1.41**	**130**	Pg	**Pn**	**05 18 55.8**	**-0.8**
KOTA	**Agri, Merkez-K**	**1.63**	**318**	P	**Pg**	**05 19 02.6**	**+1.5**
KOTA				S	**Sg**	**05 19 22.7**	**+0.4**
DORK	**Agr/Tutak/Do**	**1.64**	**300**	P	**Pg**	**05 19 00.4**	**-0.8**
DORK				S	**Sb**	**05 19 20.8**	**-1.2**
DORK				*i* AML	AML	05 19 27.0	
	comp=N,61nm,0.8s			

EPAZ	Eden Park BICE	2.05 270	P	Pn	05 41 40.8 +0.6
PRGZ	Paritu Road	2.08 167	P	Pb	05 41 43.7 -0.2
AWAZ	Awhitu Peninsu	2.13 265	P	Pn	05 41 41.9 +0.5
RVAZ	Riverhead Bore	2.18 272	P	Pn	05 41 42.9 +0.8
WTAZ	Waiatarua	2.18 268	P	Pn	05 41 42.8 +0.6
WHHZ	Waihua	2.18 181	P	Pb	05 41 44.4 -1.3
NMHZ	Naumai	2.24 190	P	Pn	05 41 44.0 +1.0
BKZ	Black Stump Fm	2.36 195	P	Pn	05 41 45.9 +1.3
BKZ	Black Stump Fm	2.36 195	P	Pb	05 41 47.8 -0.8
RITZ	Rihia Road	2.37 208	P	Pg	05 41 50.7 -1.4
ARHZ	Aropaoanui	2.38 186	P	Pb	05 41 47.4 -1.6
KATZ	Kakaramea	2.44 211	P	Pb	05 41 49.9 -0.1
HIZ	Hauiti	2.52 229	P	Pn	05 41 47.3 +0.5
HIZ	Hauiti	2.52 229	P	Pn	05 41 46.4 -0.4
NTVZ	North Tongarir	2.55 210	P	Pb	05 41 58.9 -1.1
TMVZ	Te Maari	2.55 209	P	Pb	05 41 50.8 -1.2
KRVZ	Karewarewa	2.56 210	P	Pb	05 41 51.2 -0.9
WCZ	Waipu Caves	2.56 291	P	Pn	05 41 47.7 +0.4
ETVZ	East Tongariro	2.57 209	P	Pb	05 41 50.7 -1.5
MCHZ	McNeill Hill	2.59 190	P	Pb	05 41 49.9 -2.8
WTVZ	West Tongariro	2.60 211	P	Pb	05 41 52.0 -0.8
NNVZ	North Ngauruho	2.60 210	P	Pb	05 41 51.9 -0.9
OTVZ	Oturere	2.61 209	P	Pb	05 41 50.9 -2.1
KWHZ	Kaweka Forest	2.62 195	P	Pn	05 41 49.8 +1.6
TWVZ	Taurewa	2.63 213	P	Pn	05 41 49.2 +0.9
SNVZ	South Ngauruho	2.64 209	P	Pb	05 41 52.3 -1.2
NGZ	Ngauruhoe	2.65 210	P	Pb	05 41 52.6 -1.0
COVZ	Chateau Observ	2.69 210	P	Pb	05 41 53.9 -0.5
TUVZ	Tukino	2.70 208	P	Pb	05 41 54.0 -0.6
FWVZ	Far West T-bar	2.73 210	P	Pb	05 41 53.3 -1.8
MAVZ	Matarangi	2.74 209	P	Pb	05 41 54.8 -0.5
WHVZ	Whangaehu Hut	2.74 209	P	Pb	05 41 54.4 -0.9
TRVZ	Turoa	2.77 209	P	Pb	05 41 53.9 -1.9
WNVZ	Wahianoa	2.78 208	P	Pb	05 41 53.7 -2.2
MOVZ	Moawhango	2.79 205	P	Pn	05 41 52.6 +2.0
KRHZ	Kereru	2.84 195	P	Pn	05 41 53.0 +1.7
PKVZ	Pokaka	2.85 212	P	Pb	05 41 55.2 -1.7
KAHZ	Kahuranaki	2.92 186	P	Pn	05 41 53.7 +1.4
PNHZ	Pukenui	3.14 196	P	Pn	05 41 56.4 +1.1
PXZ	Pawanui	3.15 186	P	Pn	05 41 55.3 -0.2
WAZ	Wanganui	3.39 212	P	Pb	05 42 02.4 -3.7
OUZ	Omahuta	3.43 298	P	Pn	05 41 59.8 +0.6
OUZ	Omahuta	3.43 298	P	Pn	05 42 00.2 +0.9
NEZ	North Egmont	3.47 226	P	Pn	05 42 02.3 +2.5
PKE	Pukeiti	3.48 228	P	Pn	05 42 01.4 +1.4
KHEZ	Kahui Hut	3.53 226	P	Pn	05 42 02.1 +1.4
KHEZ	Kahui Hut	3.53 226	P	Pn	05 42 03.3 +2.5
BFZ	Birch Farm	3.87 192	P	Pn	05 42 05.0 -0.4
BFZ	Birch Farm	3.87 192	S	Sn	05 42 51.3 +0.8
BFZ	Birch Farm	3.87 192	P	Pn	05 42 04.8 -0.6
MRZ	Mangatainoka R	4.00 199	P	Pn	05 42 07.0 -0.1
HOWZ	Holdsworth Sta	4.24 199	P	Pn	05 42 09.7 -0.6
OGWZ	Otaki Gorge	4.26 202	P	Pn	05 42 11.3 +0.7
DUWZ	D'Urville Isla	4.71 213	P	Pn	05 42 18.2 +1.3
PAWZ	Paruwai Farm	4.71 197	P	Pn	05 42 16.3 -0.7
SNZO	South Karori	4.85 204	P	Pn	05 42 18.6 -0.2
TCW	Tory Channel	4.91 208	P	Pn	05 42 19.4 -0.2
NNZ	Nelson	5.29 214	P	Pn	05 42 27.1 +2.3
QRZ	Quartz Range	5.41 222	P	Pn	05 42 27.3 +0.8
QRZ	Quartz Range	5.41 222	P	Pn	05 42 27.9 +1.4
MRNZ	Matariki Terra	5.72 217	P	Pn	05 42 31.9 +1.2
THZ	Tophouse	5.94 214	P	Pn	05 42 38.0 +4.3
KHZ	Kahutara	6.23 207	P	Pn	05 42 36.6 -1.1
LTZ	Lake Taylor	7.04 212	P	Pn	05 42 49.2 +0.3

*WEL **19** 05:42:18.9, 36.°88S×177.°25E, h12km, ML3.5, Mw3.6, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}-0.64; $M_{\theta\theta}$-2.69; $M_{\phi\phi}$3.33; $M_{r\theta}$1.65; $M_{\theta\phi}$0.92; $M_{\phi r}$1.06; Fault plane solution: M_o3.74000×10^{14} NP1: ϕ_s231.00000°, δ83.00000°, λ-33.00000°. NP2: ϕ_s325.00000°, δ57.00000°, λ-171.00000°. Principal axes: T -3.6190, Plg17.0000°, Azm282.0000°; N -0.2480, Plg56.0000°, Azm40.0000°; P 3.8680, Plg28.0000°, Azm183.0000°; Stations used: HAZ OPRZ PUZ TOZ OBLIQUE FAULTING*

WEL 19 05:42:18.9±0.5, 37.°S±4.°×17.°7E±.°, h5km, M3.6/27, ML3.8/28, MLv3.6/27 Error ellipse: s-maj=6.6km s-min=2.8km az=40.3, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	White Island S	0.64	185	P	Pb	05 42 32.0	-0.6
WSRZ				S	Sb	05 42 41.0	-0.9
WIZ	White Island	0.65	184	P	Pg	05 42 32.0	+0.6
WIZ				S	Sg	05 42 39.8	-0.1
MYRZ	Mayor Island	0.90	243	P	Pb	05 42 37.5	+0.4
HAZ	Te Kaha	0.97	154	P	Pg	05 42 37.2	-0.4
HAZ				S	Sb	05 42 51.2	-0.2
WHRZ	Whale Island	1.00	193	P	Pb	05 42 38.5	-0.3
MXZ	Matakaoa Point	1.08	129	P	Pg	05 42 39.1	-0.6
MXZ				S	Sg	05 42 52.1	-1.6
OPRZ	Ohinepanea	1.11	210	P	Pg	05 42 39.6	-0.6
RUGZ	Rukumara Rang	1.14	163	P	Pg	05 42 39.9	-0.8
PKGZ	Pakihiroa	1.19	146	P	Pg	05 42 40.5	-1.2
MARZ	Manawahe	1.20	202	P	Pg	05 42 40.5	-1.3
WMGZ	Waiomatatini S	1.32	136	P	Pb	05 42 44.1	0.0
WMGZ				S	Sg	05 43 00.7	-0.6
URZ	Urewera	1.38	185	P	Pn	05 42 43.3	-1.5
KARZ	Kaharoa	1.39	215	P	Pb	05 42 45.5	+0.1
TWGZ	Tauwhareparae	1.42	156	P	Pg	05 42 46.3	+0.2
TWGZ				S	Sg	05 43 05.7	+1.1
PUZ	Puketiti	1.43	146	P	Pb	05 42 46.0	-0.1
PUZ				S	Sg	05 43 05.4	+0.4
MWZ	Matawai	1.47	172	P	Pn	05 42 44.4	-1.7
TARZ	Mount Tarawera	1.48	203	P	Pg	05 42 47.8	+0.5
NGRZ	Ngongotaha	1.49	214	P	Pg	05 42 49.0	+1.6
GRZ	Great Barrier	1.57	293	P	Pn	05 42 47.0	-0.5
RAGZ	Rawiri	1.62	175	P	Pn	05 42 47.2	-1.0
RAGZ				S	Sn	05 43 06.2	-3.3
TKGZ	Te Karaka	1.63	163	P	Pn	05 42 48.4	+0.2
TOZ	Tahuroa Road	1.64	238	P	Pn	05 42 47.3	-1.0
MUGZ	Murupara	1.64	193	P	Pn	05 42 47.1	-1.3
MKAZ	Moumakai	1.69	262	P	Pn	05 42 48.3	-0.8
WIAZ	Waiheke Island	1.70	272	P	Pn	05 42 48.9	-0.4
RTZ	Ruatahuna	1.75	187	P	Pn	05 42 48.2	-1.8
CNGZ	Carnagh Statio	1.77	155	P	Pb	05 42 51.7	-0.2
CNGZ				S	Sg	05 43 16.2	+0.3
ETAZ	East Tamaki Re	1.86	267	P	Pn	05 42 51.2	-0.3
RIGZ	Rimuhau	1.87	168	P	Pn	05 42 52.3	+0.8
MBAZ	Motutapu North	1.89	273	P	Pn	05 42 51.8	-0.1
SNGZ	Shannon Statio	1.90	178	P	Pn	05 42 52.9	+0.9
ABAZ	Army Bay	1.96	277	P	Pn	05 42 52.4	-0.5
MTHZ	Maungataniwha	2.00	189	P	Pn	05 42 52.6	-0.8
HBAZ	Herne Bay Bore	2.02	270	P	Pn	05 42 53.8	+0.1
RAHZ	Arahi	2.04	184	P	Pn	05 42 54.5	+0.5
AWAZ	Awhitu Peninsu	2.10	264	P	Pn	05 42 54.6	0.0
PRGZ	Paritu Road	2.10	166	P	Pn	05 42 55.5	+0.7
RVAZ	Riverhead Bore	2.15	272	P	Pn	05 42 55.6	+0.3
KNZ	Kokohu	2.17	171	P	Pn	05 42 55.6	0.0
NMHZ	Naumai	2.24	189	P	Pb	05 42 59.0	-1.0
MHGZ	Mahia Peninsul	2.33	167	P	Pn	05 42 58.2	+0.3
BKZ	Black Stump Fm	2.36	194	P	Pb	05 42 58.6	-0.2
RITZ	Rihia Road	2.37	207	P	Pb	05 43 01.2	-0.9
ARHZ	Aropaoanui	2.39	185	P	Pn	05 42 59.9	+1.2
KATZ	Kakaramea	2.43	210	P	Pb	05 43 02.2	-0.9
HIZ	Hauiti	2.50	229	P	Pn	05 42 59.9	-0.4
WCZ	Waipu Caves	2.53	291	P	Pn	05 43 00.5	-0.1
NTVZ	North Tongarir	2.54	209	P	Pb	05 43 03.6	-1.5
TMVZ	Te Maari	2.55	208	P	Pb	05 43 03.6	-1.6
KRVZ	Karewarewa	2.55	209	P	Pb	05 43 03.8	-1.5
ETVZ	East Tongariro	2.56	208	P	Pb	05 43 03.4	-2.0
WTVZ	West Tongariro	2.59	210	P	Pb	05 43 05.7	-0.2
NNVZ	North Ngauruho	2.59	209	P	Pb	05 43 06.2	+0.2
MCHZ	McNeill Hill	2.60	190	P	Pn	05 43 03.2	+1.6
OTVZ	Oturere	2.60	208	P	Pb	05 43 04.2	-2.0
TWVZ	Taurewa	2.62	213	P	Pb	05 43 07.2	+0.8
KWHZ	Kaweka Forest	2.62	194	P	Pn	05 43 03.2	+1.2
SNVZ	South Ngauruho	2.63	208	P	Pb	05 43 04.9	-1.8
NGZ	Ngauruhoe	2.64	209	P	Pb	05 43 05.3	-1.5
TUVZ	Tukino	2.70	207	P	Pb	05 43 06.0	-1.8
FWVZ	Far West T-bar	2.73	209	P	Pb	05 43 07.2	-1.0
MAVZ	Matarangi	2.73	209	P	Pb	05 43 07.4	-1.0
WHVZ	Whangaehu Hut	2.74	208	P	Pb	05 43 06.5	-2.0
TRVZ	Turoa	2.77	209	P	Pb	05 43 07.7	-1.3
WNVZ	Wahianoa	2.77	208	P	Pb	05 43 07.4	-1.6
MOVZ	Moawhango	2.79	205	P	Pn	05 43 05.3	+1.1
KRHZ	Kereru	2.85	194	P	Pn	05 43 05.6	+0.6
KAHZ	Kahuranaki	2.93	186	P	Pn	05 43 06.4	+0.2
PNHZ	Pukenui	3.14	195	P	Pn	05 43 08.8	-0.2
OUZ	Omahuta	3.39	298	P	Pn	05 43 12.9	+0.4
NEZ	North Egmont	3.45	225	P	Pn	05 43 14.3	+1.0
KHEZ	Kahui Hut	3.51	226	P	Pn	05 43 16.1	+1.8

IDC 19 05:42:56.9±1.8, 7.°16S×129.°14E, h0km, mb3.8/2, mbtmp3.7/5, ML3.6/3, MS2.8/1, Error ellipse: s-maj=86.3km s-min=25.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.58	282	LR	LR	05 48 42.0	
	comp=Z,54nm,18.9s,baz=208,slow=36						
FITZ	Fitzroy Crossi	11.39	197	Pn	Pn	05 45 41.4	+0.5
	0.2nm,0.3s,baz=27,slow=14,SNR=12						
FITZ				Sn	Sn	05 47 33.2	-16
	0.2nm,0.3s,baz=332,slow=22,SNR=2.1						
	3.3nm,1.0s						
WRA	Warramunga Arr	13.67	159	Pn	Pn	05 46 11.3	-0.8
	0.4nm,0.3s,baz=340,slow=14,SNR=14						
WRA				Sn	Sn	05 48 31.0	-14
	0.7nm,0.3s,baz=327,slow=24,SNR=12						
	0.6nm,0.5s						
ASAR	Alice Springs	17.03	165	P	Pn	05 46 57.0	+0.3
	0.2nm,0.3s,baz=346,slow=12,SNR=5.1						
ASAR				S	Sn	05 49 53.6	-13
	0.2nm,0.3s,baz=355,slow=26,SNR=4.0						
	0.6nm,0.5s						
MKAR	Makanchi Array	67.90	327	P	P	05 53 57.2	-0.1
	0.6nm,0.5s,baz=122,slow=7.8,SNR=11						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	72.21	329	P	P	05 54 23.9	+0.2
	0.4nm,0.5s,baz=132,slow=4.4,SNR=6.1						
	0.4nm,0.5s						

IDC 19 06:00:04.0±2.4, 50.°99S×130.°72E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/14, Error ellipse: s-maj=145.0km s-min=24.0km az=90.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	20.07	317	T	T	06 24 39.6	
	baz=144,slow=74,SNR=26						
H01W2	Cape Leeuwin H	20.08	317	T	T	06 24 41.2	
	baz=144,slow=74,SNR=30						
H01W3	Cape Leeuwin H	20.09	317	T	T	06 24 40.8	
	baz=144,slow=74,SNR=20						
NWAO	Narrogin (SRO)	20.59	326	LR	LR	06 10 38.8	
	comp=Z,107nm,19.4s,baz=189,slow=31						
STKA	Stephens Creek	20.72	27	P	P	06 04 46.0	+0.2
	1.3nm,0.5s,baz=177,slow=19,SNR=3.3						
STKA				LR	LR	06 11 29.0	
	comp=Z,219nm,18.8s,baz=204,slow=33						
	1.3nm,0.5s						
ASAR	Alice Springs	27.39	6	P	P	06 05 51.4	+0.4
	0.9nm,0.9s,baz=180,slow=9.3,SNR=10						
ASAR				LR	LR	06 15 16.7	
	comp=Z,119nm,21.2s,baz=182,slow=33						
	0.9nm,0.9s						
VNDA	Vanda	29.06	167	P	P	06 06 05.4	0.0
	0.6nm,0.5s,baz=335,slow=7.1,SNR=9.1						
	0.6nm,0.5s						
WRA	Warramunga Arr	31.12	7	P	P	06 06 23.5	-0.6
	0.6nm,0.8s,baz=187,slow=7.6,SNR=3.4						
WRA				LR	LR	06 17 44.9	
	comp=Z,108nm,19.4s,baz=244,slow=34						
	0.6nm,0.8s						
MAW	Mawson	36.18	217	LR	LR	06 19 54.1	
	comp=Z,134nm,19.2s,baz=103,slow=33						
QSPA	South Pole Qui	39.12	180	LR	LR	06 23 13.6	
	comp=Z,98nm,20.0s,baz=354,slow=36						
DZM	Mont Dzumac	40.05	57	LR	LR	06 20 34.7	
	comp=Z,96nm,21.1s,baz=186,slow=31						
KAPI	Kappang	46.74	345	LR	LR	06 26 50.6	
	comp=Z,40nm,18.6s,baz=158,slow=34						
HNR	Honiara	47.91	40	LR	LR	06 26 20.5	
	comp=Z,49nm,19.8s,baz=146,slow=33						
JAY	Jayapura	49.04	13	LR	LR	06 29 22.5	
	comp=Z,94nm,20.4s,baz=40,slow=36						
SNAA	Sanae	53.32	197	LR	LR	06 31 23.3	
	comp=Z,160nm,19.9s,baz=304,slow=35						
PALK	Pallekele	72.22	307	LR	LR	06 41 45.6	
	comp=Z,41nm,18.3s,baz=132,slow=35						
CMAR	Chiang Mai Arr	74.57	329	LR	LR	06 44 08.2	
	comp=Z,24nm,19.2s,baz=195,slow=36						
SUR	Sutherland	76.65	235	LR	LR	06 40 19.2	
	comp=Z,65nm,19.0s,baz=165,slow=32						

RSNC 19 06:08:04.7±0.0, 7.°N±1.°×7.°3W±.°, h150km±2km, M2.9, mB4.7, mb3.4, ML2.7, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.25	185	P	Pn	06 08 24.9	-0.5
BARC				S	Sn	06 08 40.0	-1.2
BRJC	Barrancabermej	0.59	283	P	Pn	06 08 26.6	0.0
BRJC				S	Sn	06 08 43.8	+0.6
PAMC	Pamplona, Colo	0.68	43	P	Pn	06 08 27.7	+0.1
PAMC				S	Sn	06 08 45.1	0.0
RUSC	La Rusia	0.94	175	P	Pn	06 08 28.8	-0.8
RUSC				S	Sn	06 08 47.1	-1.5
PTBC	PUERTO BERRIO,	1.32	257	P	Pn	06 08 31.3	-1.2
PTBC				S	Sn	06 08 53.1	-0.6
OCAC	Ocana	1.40	354	P	Pn	06 08 33.1	-0.3
OCAC				S	Sn	06 08 55.0	-0.4
TAMC	Tame, Arauca	1.42	106	P	Pn	06 08 33.3	-0.2
TAMC				S	Sn	06 08 55.0	-0.4
SPBC	San Pablo de B	1.49	218	P	Pn	06 08 33.6	-0.7
SPBC				S	Sn	06 08 55.6	-1.3
ZARC	Zaragoza, Cauc	1.81	291	P	Pn	06 08 37.3	-0.3
ZARC				S	Sn	06 09 02.7	-0.2
NORC	Norcasia	2.12	233	P	Pn	06 08 40.6	-0.7
NORC				S	Sn	06 09 09.0	-0.5
CHIC	Chingaza	2.27	195	P	Pn	06 08 42.7	-0.8
CHIC				S	Sn	06 09 13.0	-0.2
ROSC	El Rosal	2.30	210	P	Pn	06 08 44.6	+0.8
ROSC				S	Sn	06 09 16.1	+2.3
HELC	Santa Helena	2.44	255	P	Pn	06 08 45.6	+0.1
HELC				S	Sn	06 09 14.4	-2.4
CVER	Cruz Verde, Cu	2.48	202	P	Pn	06 08 46.2	+0.2
CVER				S	Sn	06 09 18.1	+0.3
UREC	San Jos de Ur	2.52	291	P	Pn	06 08 44.6	-1.5
UREC				S	Sn	06 09 14.8	-3.2
GUY2C	Guyana, Caldas	2.72	234	P	Pn	06 08 50.3	+1.3
GUY2C				S	Sn	06 09 24.3	+1.2
CBOC	Ciudad Bolivar	3.00	251	P	Pn	06 08 52.4	+0.2
CBOC				S	Sn	06 09 28.6	-0.3
DBBC	Dabeiba	3.03	274	P	Pn	06 08 52.2	-0.4
DBBC				S	Sn	06 09 27.7	-1.9
ARGC	Ariguani, Magd	3.19	340	P	Pn	06 08 54.9	+0.4
ARGC				S	Sn	06 09 33.7	+0.7
SDV	Santo Domingo	3.23	51	P	Pn	06 08 54.2	-0.9
SDV				S	Sn	06 09 31.3	-2.9
PRAC	Prado	3.55	209	P	Pn	06 08 58.6	-0.6
PRAC				S	Sn	06 09 40.5	-1.0
APAC	Apartado, Choc	3.55	287	P	Pn	06 08 58.5	-0.7
APAC				S	Sn	06 09 40.1	-1.3
ORTC	Ortega, Tolima	3.58	216	P	Pn	06 08 59.5	0.0
ORTC				S	Sn	06 09 42.6	+0.5
SJCC	San Jacinto, C	3.63	327	P	Pn	06 08 58.4	-1.9
SJCC				S	Sn	06 09 40.0	-3.5
URMC	La Uribe, Meta	3.77	199	P	Pn	06 09 01.7	-0.4
URMC				S	Sn	06 09 45.5	-1.1
CRJC	Cerrejon, Guaj	4.16	4	P	Pn	06 09 05.2	-2.0
CRJC				S	Sn	06 09 52.1	-3.7
YOTC	Yotoco, Valle	4.25	228	P	Pn	06 09 07.7	-0.8
YOTC				S	Sn	06 09 58.0	0.0
GUVC	San Jose del G	4.30	173	P	Pn	06 09 06.9	-2.1
GUVC				S	Sn	06 09 55.2	-3.8
SMRC	Santa Marta, M	4.42	346	P	Pn	06 09 09.8	-0.7
SMRC				S	Sn	06 09 57.5	-4.3
MACC	Macarena, Meta	4.71	188	P	Pn	06 09 11.8	-2.6
MACC				S	Sn	06 10 04.0	-4.8
URIC	Uribia, Colomb	4.97	13	P	Pn	06 09 15.3	-2.4
JAMC	Jamundi, Valle	5.02	224	P	Pn	06 09 19.0	+0.3
	3.6nm,1.2s						
GARC	Garzon, Huila	5.17	207	P	Pn	06 09 19.1	-1.6
POPC	Popayan, Colom	5.52	220	P	Pn	06 09 25.2	-0.2
	3.6nm,0.7s						
FLOC	Florencia	5.78	206	P	Pn	06 09 27.4	-1.2
GCUF	Volcan Galeras	6.96	217	P	Pn	06 09 44.2	-0.6

*IDC **19** 06:47:10.3±1.5, 5.°16S×125.°77E, h0km, mb3.9/2, mbtmp4.0/6, ML4.0/4, MS3.2/3, Error ellipse: s-maj=39.4km s-min=23.7km az=46.0*

*DJA **19** 06:47:12.4±0.3, 5.°S±5.°×12.°6E±.°, h10km, M4.6/11, mB5.1/3, mb4.9/6, MLv4.4/11, Mw(mB)4.4/3*

ISC 19 06:47:12.0±0.8, 5.°09S±0.°06×125.°73E±0.°07, h10km, n17, σ2°23/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	2.29	37	P	Pn	06 47 50.2	+0.4
SANI	Sanana	3.03	5	P	Pn	06 47 57.6	-2.4
BNDI	Bandanaira	4.20	83	P	Pn	06 48 16.3	+0.2
SOEI	Soe	4.86	197	P	Pb	06 48 41.6	+4.3
LUWI	Luwuk	4.99	324	P	Pb	06 48 42.2	+2.8
BSSI	Bau Bau, Buton	5.32	258	P	Pn	06 48 31.1	-0.4
	0.3nm80nm,0.6s						
BATI	Baumata	5.48	202	LR	LR	06 51 36.8	
	comp=Z,208nm,18.3s,baz=356,slow=49						
KAPI	Kappang	5.95	270	Pn	Pn	06 48 40.7	+0.4
	19nm,0.3s,baz=72,slow=7.6,SNR=34						
KAPI				Sn	Sn	06 49 45.7	-2.8
	2.7nm,0.3s,baz=36,slow=18,SNR=3.6						
	50nm,0.4s						
SPSI	Sidrap Palu	6.04	280	P	Pn	06 48 42.9	+1.4
TTSI	Tana Toraja	6.23	289	P	Pn	06 48 44.8	+0.7
FAKI	Fak Fak	6.85	72	P	Pn	06 48 54.1	+1.5
	0.2nm723nm53nm,0.7s						
FITZ	Fitzroy Crossi	12.93	180	Pn	Pn	06 50 13.6	-2.4
	0.7nm,0.3s,baz=8.3,slow=13,SNR=13						
FITZ				LR	LR	06 56 03.9	
	comp=Z,58nm,18.0s,baz=90,slow=42						
	2.5nm,0.4s						
WRA	Warramunga Arr	16.98	151	Pn	Pn	06 51 06.7	-3.1
	0.3nm,0.3s,baz=318,slow=14,SNR=9.7						
	0.7nm,0.5s						
ASAR	Alice Springs	20.08	158	P	P	06 51 46.4	+0.6
	0.2nm,0.3s,baz=337,slow=12,SNR=22						
	1.7nm,0.7s						
PMG	Port Moresby	21.69	103	P	P	06 52 01.4	-1.8
	9.2nm,0.7s,baz=270,slow=5.1,SNR=3.4						
	9.2nm,0.7s						
MKAR	Makanchi Array	64.34	328	P	P	06 57 48.5	+0.5
	0.2nm,0.5s,baz=123,slow=7.7,SNR=4.6						
	0.2nm,0.5s						
AAK	Ala-Archa	66.37	321	LR	LR	07 32 01.9	
	comp=Z,29nm,18.3s,baz=234,slow=40						

ASRS 19 07:09:08.0±0.8, 53.°68N×91.°15E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 19 07:09:38.0±1.0, 53.°68N×87.°95E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

IDC 19 07:10:49.4±63.0, 22.°74S×178.°37W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1140.0km s-min=164.7km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.55	247	P	P	07 17 55.7	-1.3
	0.9nm,0.4s,baz=63,slow=8.9,SNR=3.9						
	0.9nm,0.4s						
ASAR	Alice Springs	43.71	259	P	P	07 18 56.6	0.0
	0.3nm,0.3s,baz=96,slow=6.7,SNR=8.9						
	0.3nm,0.3s						
WRA	Warramunga Arr	43.99	264	P	P	07 18 59.4	+0.5
	0.8nm,0.3s,baz=97,slow=8.5,SNR=19						
	0.8nm,0.3s						

*IDC **19** 07:12:14.8±1.4, 52.°52N×152.°75E, h513km±16km, mb2.8/10, mbtmp3.7/13, Error ellipse: s-maj=17.4km s-min=15.4km az=164.0*

ISC 19 07:12:13.7±1.0, 52.°4N±0.°1×152.°7E±0.°1, h500km, n13, σ0°95/13, mb3.2/10, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.10	76	P	P	07 13 26.2	+0.9
	3.9nm,0.4s,baz=254,slow=3.4,SNR=31						
MA2	Magadan	7.23	352	P	P	07 14 03.6	+1.6
	2.7nm,0.4s,baz=154,slow=11,SNR=6.4						
SEY	Seymchan	10.52	359	P	P	07 14 37.6	+1.5
	2.0nm,0.4s,baz=159,slow=9.7,SNR=15						
ILAR	Eielson Array	32.43	44	P	P	07 18 01.1	-0.3
	0.2nm,0.5s,baz=262,slow=6.4,SNR=9.0						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	44.29	299	P	P	07 19 38.0	0.0
	0.9nm,0.4s,baz=58,slow=7.0,SNR=14						
	0.9nm,0.4s						
MKAR	Makanchi Array	44.32	292	P	P	07 19 38.2	-0.1
	0.5nm,0.4s,baz=61,slow=6.9,SNR=12						
	0.5nm,0.4s						
YKA	Yellowknife Ar	46.60	40	P	P	07 19 55.0	-0.5

PB08				*i* S	**Sn**	**07 24 12.9**	**-0.3**
PB08	**IPOC Station P**	**2.70**	**327**	Pg	**Pn**	**07 23 39.7**	**+1.9**
PB08				Sg	**Sn**	**07 24 13.6**	**+0.4**
PB08				IAML		07 24 15.7	
	comp=N,80nm,0.2s						
AOVT	**TarijaAcel**	**2.84**	**72**	Pg	**Pn**	**07 23 39.4**	**+0.2**
PB10	**IPOC Station P**	**2.92**	**248**	*e*P	**Pn**	**07 23 40.7**	**+0.7**
PB10				*i* S	**Sn**	**07 24 15.0**	**-2.3**
PB10				IAML		07 24 19.1	
	comp=N,70nm,0.5s						
TA01	**Diego Aracena**	**3.03**	**307**	*e*P	**Pn**	**07 23 41.6**	**+0.2**
TA01				*e*S	**Sn**	**07 24 17.5**	**-2.2**
TA01				IAML		07 24 21.1	
	comp=N,150nm,0.2s						
GO02	**Mina Guanaco**	**3.27**	**213⇑**	*e*P	**Pn**	**07 23 45.7**	**+1.2**
GO02				*e*S	**Sn**	**07 24 25.2**	**-0.2**
PB11	**IPOC Station P**	**3.28**	**324**	*e*P	**Pn**	**07 23 44.5**	**-0.1**
PB11				*i* S	**Sn**	**07 24 23.7**	**-1.6**
PB11	**IPOC Station P**	**3.28**	**324**	Pg	**Pn**	**07 23 44.4**	**-0.1**
SOEO	**Opoqueri**	**3.86**	**356**	Pg	**Pn**	**07 23 53.9**	**+1.8**
SOET	**ToroToro**	**4.62**	**22**	Pg	**Pn**	**07 24 02.3**	**+0.7**
AOEA	**Aiquile**	**4.78**	**28**	Pg	**Pn**	**07 24 03.7**	**0.0**
SOEJ	**Jacaque**	**5.46**	**354**	Pg	**Pn**	**07 24 14.6**	**+1.9**
BBOD	**La Paz, Gloria**	**5.84**	**351**	Pg	**Pn**	**07 24 18.9**	**+1.2**
LPAZ	**La Paz**	**6.13**	**355**	Pg	**Pn**	**07 24 22.3**	**+0.7**

*IDC **19** 07:33:44.4±1.1, 22°.84S×175°.66W, h0km, mb3.7/6, mbtmp3.7/8, ML4.7/2, Error ellipse: s-maj=45.3km s-min=25.2km az=153.0*

ISC 19 07:33:49.3±0.9, 23°.0S±0°.2×175°.7W±0°.2, h34km, n16, σ0°50/10, mb3.6/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.83**	**310**	Pn	**Pn**	**07 35 41.1**	**+0.1**
	1.0nm,0.3s,baz=142,slow=14,SNR=5.0						
	2.5nm,0.6s						
URZ	**Urewera**	**16.45**	**200**	Pn	**P**	**07 37 39.7**	**-0.2**
	0.7nm,0.3s,baz=22,slow=2.5,SNR=5.9						
	3.3nm,0.7s						
ASAR	**Alice Springs**	**46.09**	**259**	P	**P**	**07 42 10.4**	**0.0**
	0.4nm,0.7s,baz=102,slow=7.3,SNR=8.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**46.43**	**264**	P	**P**	**07 42 13.3**	**+0.2**
	0.3nm,0.6s,baz=104,slow=7.9,SNR=2.1						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**81.37**	**42**	P	**P**	**07 46 02.5**	**-0.3**
	0.4nm,0.7s,baz=253,slow=5.9,SNR=3.6						
	0.4nm,0.7s						
H03S2	**Juan Fernandez**	**82.85**	**124**	T	T	09 17 47.7	
	baz=246,slow=74,SNR=39						
H03S1	**Juan Fernandez**	**82.86**	**124**	T	T	09 17 49.4	
	baz=246,slow=74,SNR=40						
H03S3	**Juan Fernandez**	**82.87**	**124**	T	T	09 17 51.0	
	baz=246,slow=74,SNR=34						
H03N2	**Juan Fernandez**	**83.00**	**123**	T	T	09 17 55.5	
	baz=253,slow=73,SNR=81						
H03N3	**Juan Fernandez**	**83.00**	**123**	T	T	09 17 50.7	
	baz=253,slow=73,SNR=53						
H03N1	**Juan Fernandez**	**83.01**	**123**	T	T	09 17 50.0	
	baz=253,slow=73,SNR=84						
TXAR	**Lajitas Array**	**86.60**	**56**	P	**P**	**07 46 30.5**	**+0.9**
	0.5nm,0.8s,baz=201,slow=6.7,SNR=5.6						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**90.24**	**12**	P	**P**	**07 46 45.1**	**-0.7**
	0.7nm,1.0s,baz=202,slow=3.9,SNR=4.1						
	0.7nm,1.0s						
YKA	**Yellowknife Ar**	**97.85**	**24**	P	**P**	**07 47 20.6**	**-0.2**
	0.2nm,0.7s,baz=240,slow=4.7,SNR=5.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**117.29**	**316**	PKP	**PKPdf**	**07 52 30.7**	**-0.1**
	0.2nm,0.4s,baz=56,slow=1.7,SNR=2.3						
AKASG	**Malin Array Be**	**146.19**	**331**	PKPbc	**PKPdf**	**07 53 25.1**	**+0.3**
	1.3nm,0.6s,baz=38,slow=4.8,SNR=6.3						

*SDD **19** 07:58:08.3±1.0, 17°.95N×68°.88W, h106km±21km, MD2.5, ML2.1, MW2.4*
*NEIC **19** 07:58:09.6±1.5, 18°.0N±0°.2×68°.75W±0°.05, h81km±24km, ML2.4/16, Md3.0/6(RSPR), Error ellipse: s-maj=27.4km s-min=5.1km az=187.0*
*OSPL **19** 07:58:10.4±0.9, 17°.97N×68°.75W, h99km±17km, ML2.4*
*RSPR **19** 07:58:11.6, 18°.01N×68°.67W, h78km±5km, MD3.0/6*

ISC 19 07:58:07.3±1.7, 18°.1N±0°.1×68°.77W±0°.04, h111km±16km, n35, σ1°31/40, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.54**	**6⇓**	*e*P	**Pn**	**07 58 24.9**	**+0.4**
HIDR	**Higuey Centro**	**0.54**	**6**	*e*S	**Sn**	**07 58 36.0**	**-1.4**
PCDR	**Punta Cana, DR**	**0.59**	**39**		**Pn**	**07 58 25.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.59**	**39**	IAML		07 58 40.2	
	comp=E,94nm,2.3s						
PCDR	**Punta Cana, DR**	**0.59**	**39⇑**	*e*Pg	**Pn**	**07 58 25.9**	**+1.1**
PCDR			**⇓**	*e*Sg	**Sn**	**07 58 38.9**	**+0.9**
PCDR				IAML		07 59 22.1	
	comp=N,160nm,2.1s						
PCDR	**Punta Cana, DR**	**0.59**	**39⇑**	*e*P	**Pn**	**07 58 25.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.59**	**39**	*i* P	**Pn**	**07 58 25.8**	**+1.0**
PCDR				*e*S	**Sn**	**07 58 38.6**	**+0.5**
PCDR				IAML		07 58 39.9	
	comp=Z,77nm,1.2s						
DR12	**Loma Pena Alta**	**0.93**	**322**	Pn	**Pn**	**07 58 28.2**	**+0.3**
HATOM	**Hato Mayor del**	**0.93**	**322**	*e*Pg	**Pn**	**07 58 28.4**	**+0.5**
HATOM				*e*Sg	**Sn**	**07 58 41.8**	**-1.7**
HATOM				IAML		07 58 47.8	
	comp=N,24nm,1.6s						
MIDR	**Miches**	**0.96**	**344**	*e*Pg	**Pn**	**07 58 28.1**	**-0.1**
MIDR				*e*Sg	**Sn**	**07 58 43.9**	**0.0**
MIDR				IAML		07 58 51.6	
	comp=N,9.7nm,1.2s						
MIDR				IAML		07 59 29.8	
	comp=N,20nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.58**	**91**		**Pn**	**07 58 36.5**	**+1.3**
CRPR					**Sn**	**07 58 52.4**	**-3.9**
CRPR	**Cabo Rojo, PR**	**1.58**	**91**	IAML		07 58 58.6	
	comp=N,35nm,3.1s						
CRPR				IAML		07 59 01.1	
	comp=E,33nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.58**	**91**	*e*Pg	**Pn**	**07 58 36.2**	**+1.0**
CRPR				IAML		07 58 58.0	
	comp=N,36nm,3.1s						
CRPR	**Cabo Rojo, PR**	**1.58**	**91⇑**	*e*P	**Pn**	**07 58 36.5**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.58**	**91**	*e*S	**Sn**	**07 58 52.4**	**-3.9**
CRPR	**Cabo Rojo, PR**	**1.58**	**91⇑**	*i*P	**Pn**	**07 58 36.5**	**+1.3**
CRPR				IAML		07 58 57.1	
	comp=Z,36nm,2.7s						
MLPR	**Magueyes Islan**	**1.65**	**93**	*e*Pg	**Pn**	**07 58 36.9**	**+0.9**
MLPR				*e*Sg	**Sn**	**07 58 57.2**	**-0.5**
MLPR				IAML		07 59 37.8	
	comp=N,6.6nm,2.5s						
MLPR	**Magueyes Islan**	**1.65**	**93⇑**	*e*P	**Pn**	**07 58 36.6**	**+0.7**
MLPR	**Magueyes Islan**	**1.65**	**93**	*e*S	**Sn**	**07 58 56.3**	**-1.4**
AOPR	**Arecibo Observ**	**1.94**	**81**		**Pn**	**07 58 40.5**	**+0.9**
AOPR					**Sn**	**07 59 04.1**	**-0.2**
AOPR	**Arecibo Observ**	**1.94**	**81**	IAML		07 59 10.1	
	comp=E,31nm,1.3s						
AOPR				IAML		07 59 47.7	
	comp=N,25nm,2.3s						
AOPR	**Arecibo Observ**	**1.94**	**81⇑**	*e*P	**Pn**	**07 58 40.5**	**+0.9**
AOPR	**Arecibo Observ**	**1.94**	**81**	*e*S	**Sn**	**07 59 04.1**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.96**	**84**	Pn	**Pn**	**07 58 40.4**	**+0.5**
UUPR				IAML		07 59 11.5	
	comp=N,31nm,0.5s						
CELP	**Cerrillos**	**2.09**	**89**		**Pn**	**07 58 42.8**	**+1.4**
CELP					**Sn**	**07 59 07.3**	**-0.2**
CELP	**Cerrillos**	**2.09**	**89**	*e*Pg	**Pn**	**07 58 42.5**	**+1.1**
CELP				IAML		07 59 53.2	
	comp=N,10.0nm,1.2s						
CELP	**Cerrillos**	**2.09**	**89⇑**	*e*P	**Pn**	**07 58 42.8**	**+1.4**
CELP	**Cerrillos**	**2.09**	**89**	*e*S	**Sn**	**07 59 07.3**	**-0.2**
EMPR	**Esperanza - Ma**	**2.17**	**78**	Pn	**Pn**	**07 58 42.2**	**-0.3**
ECPR	**Experimental S**	**2.31**	**83⇑**	*e*P	**Pn**	**07 58 46.0**	**+1.7**
ECPR	**Experimental S**	**2.31**	**83**	*e*S	**Sn**	**07 59 12.2**	**-0.4**
LOVI	**El Cajuil, Ovi**	**2.48**	**265**	*e*S	**Sn**	**07 59 16.0**	**-0.7**
LOVI				IAML		07 59 24.9	
	comp=Z,71nm,1.2s						
GCPR	**Guaynabo City**	**2.57**	**84**	Pn	**Pn**	**07 58 47.6**	**-0.1**
GCPR				IAML		07 59 53.6	
	comp=N,16nm,2.7s						
GCPR				IAML		08 00 30.0	
	comp=E,13nm,3.1s						
LONE3	**El Aguacate, B**	**2.61**	**283**	*e*S	**Sn**	**07 59 19.8**	**0.0**
LONE3				IAML		07 59 23.6	
	comp=Z,9.3nm,2.3s						
LOBH	**Bahia de las A**	**2.73**	**266**	*e*S	**Sn**	**07 59 22.0**	**-0.6**
LOBH				IAML		07 59 27.1	
	comp=Z,42nm,2.4s						

*TRN **19** 07:58:12.9, 10°.48N×63°.30W, h106km, MD3.8, Gulf of Paria.*
*FUNV **19** 07:58:15.5, 10°.78N×63°.55W, h9km, MW2.9*

ISC 19 07:58:12.3±1.5, 10°.48N±0°.08×63°.31W±0°.05, h108km±20km, n22, σ1°34/33, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.34**	**257**	*e*P	**Pn**	**07 58 37.5**	**+0.4**
PCRV				*e*S	Sn	07 58 53.4	-2.5
PCRV	**Puerto La Cruz**	**1.34**	**257**	*e*P	**Pn**	**07 58 37.4**	**+0.4**
PCRV				*e*S	**Sn**	**07 58 56.2**	**+0.3**
PSKH	**Kent House, Po**	**1.77**	**83**	*e*P	**Pn**	**07 58 42.9**	**+0.7**
PSQC	**Port of Spain**	**1.77**	**84**	*e*P	**Pn**	**07 58 42.9**	**+0.6**
PSGH	**Port of Spain**	**1.78**	**84**	*e*P	**Pn**	**07 58 43.0**	**+0.7**
PSGH				*e*S	**Sn**	**07 59 05.6**	**+0.3**
TRN	**Trinidad (W)**	**1.88**	**85**	*e*P	**Pn**	**07 58 44.2**	**+0.6**
GRFF	**Grenada Fort F**	**2.20**	**44**	*e*P	**Pn**	**07 58 48.0**	**+0.4**
GRFF				*e*S	**Sn**	**07 59 13.8**	**-1.0**
GRGR	**Grenville**	**2.31**	**44**	*e*P	**Pn**	**07 58 48.3**	**-0.9**
GRGR				*e*S	**Sn**	**07 59 17.3**	**-0.2**
GRSS	**Sisters**	**2.46**	**42**	*e*P	**Pn**	**07 58 52.7**	**+1.6**
GCMP	**Grenada, Carri**	**2.72**	**43**	*e*P	**Pn**	**07 58 54.6**	**+0.1**
GCMP				*e*S	**Sn**	**07 59 26.9**	**-0.1**
TOSP	**Speyside**	**2.84**	**73**	*e*P	**Pn**	**07 58 57.5**	**+1.3**
SVOC	**Richmond Hill,**	**3.36**	**37**	*e*S	**Sn**	**07 59 41.7**	**-0.4**
SVB	**Belmont**	**3.43**	**36**	*e*P	**Pn**	**07 59 04.5**	**+0.5**
SVB				*e*S	**Sn**	**07 59 42.0**	**-2.0**
FUNV	**FUNVISIS**	**3.44**	**270**	*e*P	**Pn**	**07 59 05.0**	**+0.8**
TACV	**Tcata**	**3.67**	**265**	*e*P	**Pn**	**07 59 09.3**	**+2.1**
TACV				*e*S	**Sn**	**07 59 48.5**	**-1.3**
SLBI	**Saint Lucia, B**	**4.20**	**33**	*e*P	**Pn**	**07 59 15.0**	**+0.7**
SLBI				*e*S	**Sn**	**08 00 00.8**	**-1.6**
BENV	**Beln**	**4.25**	**264**	*e*P	**Pn**	**07 59 16.8**	**+1.8**
BENV				*e*S	**Sn**	**08 00 02.0**	**-1.8**
CACV	**CAICARA DEL OR**	**4.31**	**228**	*e*P	**Pn**	**07 59 15.9**	**+0.1**
CACV				*e*S	**Sn**	**08 00 02.0**	**-3.0**
BAUV	**El Baul**	**4.91**	**252**	*e*P	**Pn**	**07 59 26.2**	**+2.4**
BAUV				*e*S	**Sn**	**08 00 18.0**	**-1.5**
BAUV	**El Baul**	**4.91**	**252**	*e*P	**Pn**	**07 59 25.7**	**+1.9**
DSLB	**Salisbury**	**5.26**	**20**	*e*P	**Pn**	**07 59 28.6**	**-0.1**
TEPV	**Terepaima**	**5.81**	**266**	*e*P	**Pn**	**07 59 37.6**	**+1.5**

*IDC **19** 08:01:24.6±1.9, 11°.01N×126°.18E, h39km±16km, mb4.3/28, mbtmp4.5/29, ML4.8/2, MS3.8/31, Error ellipse: s-maj=20.1km s-min=10.1km az=74.0*
*NEIC **19** 08:01:24.7±2.0, 11°.04N±0°.06×126°.21E±0°.09, h35km±1km, mb4.9/102, Error ellipse: s-maj=15.4km s-min=10.6km az=85.0*
*BJI **19** 08:01:25.3, 10°.94N×126°.30E, h70km, mB4.9/24, mb4.7/62, Ms4.4/39, Ms7 4.2/41*
*DJA **19** 08:01:29.8±0.8, 11°.N±4°.×12°.6E±°, h88km±7km, M5.0/36, mb4.9/36, mB5.5/11, Mw(mB)5.0/11, MwMwp6.3/1, Mwp6.2/1*

ISC 19 08:01:27.0±0.5, 11°.01N±0°.04×126°.16E±0°.06, h55km±4km, h308km±pP-P, n504, σ1°36/485, mb4.8/131, MS4.0/39, 3C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.95**	**188**	Pn	Pn	08 02 21.7	-3.4
DAV	**Davao City (W)**	**3.95**	**188**	Pn	Pn	08 02 31.1	+6.0
	44nm,0.3s,baz=82,slow=12,SNR=7.7						
DAV				Sn	**Sn**	**08 03 10.1**	**-0.1**
	52nm,0.3s,baz=259,slow=20,SNR=4.2						
DAV				LR	LR	08 03 55.2	
	comp=Z,1μm,21.3s,baz=359,slow=38						
TGY	**Tagaytay City**	**5.96**	**302**	Pn	**Pn**	**08 02 52.0**	**-0.7**
	112nm,0.3s,baz=139,slow=9.3,SNR=5.0						
MYLDM	**Lahad Datu**	**9.54**	**233**	Pn	**Pn**	**08 03 38.3**	**-3.5**
KKM	**Kota Kinabalu**	**11.00**	**244**	Pn	**Pn**	**08 03 59.0**	**-2.8**
TOLI2	**Tolitoli**	**11.19**	**209**	Pn	**Pn**	**08 04 01.0**	**-3.3**
LUWI	**Luwuk**	**12.43**	**196**	Pn	**Pn**	**08 04 18.3**	**-3.0**
SANI	**Sanana**	**12.97**	**181**	P	**P**	**08 04 33.9**	**-3.6**
	33nm,1.3s						
TPUB	**Ta-pu**	**13.32**	**337**	Pn	Pn	08 04 28.8	-4.6
MSAI	**Masohi**	**14.52**	**169**	P	P	08 05 01.2	+6.5
FAKI	**Fak Fak**	**15.10**	**156**		**Pn**	**08 04 55.7**	**-1.4**
FAKI	**Fak Fak**	**15.10**	**156**	P	**Pn**	**08 04 56.4**	**-0.6**
	49nm,0.9s						
TTSI	**Tana Toraja**	**15.32**	**205**	P	**P**	**08 05 07.8**	**+4.2**
	39nm,1.1s						
BNDI	**Bandanaira**	**15.87**	**166**	P	**P**	**08 05 16.0**	**+6.3**
BNDI	**Bandanaira**	**15.87**	**166**	P	P	08 05 26.4	+17
JOW	**Kunigami**	**15.87**	**7**	LR	LR	08 11 16.7	
	comp=Z,525nm,18.8s,baz=176,slow=37						
SPSI	**Sidrap Palu**	**16.18**	**204**	P	P	08 05 22.1	+9.0
SBUM	**Sibu**	**16.24**	**239**		**P**	**08 05 12.6**	**-1.2**
SBUM	**Sibu**	**16.24**	**239**	P	**P**	**08 05 18.7**	**+4.9**
KAPI	**Kappang**	**17.15**	**202**	P	**Pn**	**08 05 21.4**	**-1.5**
KAPI	**Kappang**	**17.15**	**202**	P	**P**	**08 05 22.9**	**-1.0**
	0.7nm,0.3s,baz=12,slow=11,SNR=5.4						
KAPI				LR	LR	08 12 49.6	
	comp=Z,262nm,19.5s,baz=357,slow=40						
	7.2nm,0.6s						
QIZ	**Qiongzhong**	**17.66**	**299**	P	**Pn**	**08 05 30.8**	**+1.6**
QIZ				pP	**pP**	**08 05 41.8**	**+0.2**
QIZ				sP	**sP**	**08 05 50.9**	**+2.3**
QIZ				S	**S**	**08 08 50.8**	**+0.8**
QIZ				PcP	**PcP**	**08 10 03.0**	**-2.7**
QIZ				pmax	pmax		
	comp=Z,18nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,400nm,9.0s						
QIZ				LR	LR		
	comp=N,230nm,11.3s						
QIZ				LR	LR		
	comp=E,300nm,11.1s						
QIZ				LR	LR		
	comp=Z,380nm,16.3s						
SMPI	**Sarmi**	**17.96**	**135**	P	**P**	**08 05 34.2**	**+1.4**
	106nm,1.3s						
STKI	**Sintang**	**18.20**	**234**	P	Pn	08 05 45.0	+9.2
KSM	**Kuching**	**18.37**	**240**		**Pn**	**08 05 37.8**	**-0.1**
KSM	**Kuching**	**18.37**	**240**	P	Pn	08 05 43.9	+6.0
GUMO	**Guam**	**18.46**	**80**	LR	LR	08 11 40.8	
	comp=Z,213nm,20.1s,baz=259,slow=33						
JAY	**Jayapura**	**19.74**	**132**	LR	LR	08 12 37.3	
	comp=Z,380nm,19.9s,baz=313,slow=34						
SSE	**Sheshan**	**20.52**	**348**	P	**P**	**08 06 00.8**	**+0.1**
SSE				pP	Pn	08 06 11.4	+8.1
SSE				S	**S**	**08 09 45.6**	**-1.6**
SSE				pmax	pmax		
	comp=Z,37nm,1.1s						
SSE				pmax	pmax		
	comp=Z,120nm,3.5s						
SSE				LR	LR		
	comp=N,180nm,17.2s						
UBPT	**Khong Chiam**	**20.59**	**284**	P	Pn	08 06 02.1	-2.2
UBPT	**Khong Chiam**	**20.59**	**284**	P	Pn	08 06 04.8	+0.5
SOEI	**Soe**	**20.71**	**185**	P	**P**	**08 06 02.7**	**-0.3**
SOEI				IAmb	IAmb	08 06 14.0	
	comp=Z,43nm,0.8s						
SOEI	**Soe**	**20.71**	**185**	P	Pn	08 06 09.3	+3.5
SOEI	**Soe**	**20.71**	**185**	P	Pn	08 06 13.4	+7.6
CNSH	**ChangSha**	**21.12**	**326**	P	**P**	**08 06 06.9**	**-0.3**
CNSH				S	**S**	**08 10 02.5**	**+3.3**
CNSH				pmax	pmax		
	comp=Z,21nm,1.2s						
CNSH				LR	LR		
	comp=Z,430nm,14.8s						
CNSH				LR	LR		
	comp=Z,360nm,14.4s						
CNSH				LR	LR		
	comp=Z,530nm,15.4s						
BATI	**Baumata**	**21.22**	**187**	P	**P**	**08 06 07.7**	**-0.7**
	comp=Z,80nm,0.9s,baz=0.0,slow=2.0,SNR=3.9						
	comp=Z,80nm,0.9s						
BATI	**Baumata**	**21.22**	**187**	P	**P**	**08 06 13.2**	**+4.8**
	comp=Z,118nm,0.9s						
TWSI	**Taliwang, Sumb**	**21.68**	**206**	P	**P**	**08 06 14.7**	**+1.4**
	comp=Z,50nm,1.3s						
JCJ	**Chichijima**	**21.99**	**41**	LR	LR	08 13 57.8	
	comp=Z,241nm,19.7s,baz=132,slow=34						
NJ2	**Nanjing**	**22.01**	**343**	*e*P	**P**	**08 06 16.3**	**-0.3**
NJ2				pP	**pP**	**08 06 28.1**	**+0.5**
NJ2				sP	**pwP**	**08 06 37.5**	**+2.9**
NJ2				S	**S**	**08 10 18.4**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,130nm,4.3s						
TABU	**Tabubil**	**22.05**	**136**	P	**P**	**08 06 19.3**	**+2.0**
WHN	**Wuhan**	**22.33**	**332**	⇓P	**P**	**08 06 20.1**	**0.0**
WHN				S	**S**	**08 10 25.0**	**+2.8**
WHN				pmax	pmax		
	comp=Z,150nm,1.2s						
WHN				LR	LR		
	comp=Z,1μm,14.3s						
JNU	**Nakatsue**	**22.43**	**10**	LR	LR	08 15 22.1	
	comp=Z,182nm,18.9s,baz=187,slow=37						
JAGI	**Jajag, Banyuwa**	**22.74**	**212**	P	**P**	**08 06 24.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**22.74**	**212**	P	**P**	**08 06 29.3**	**+4.6**
JAGI	**Jajag, Banyuwa**	**22.74**	**212**	P	**P**	**08 06 26.4**	**+1.7**
	comp=Z,2μmcomp=Z,96nm,1.3s						
TPI	**Tanjungpandan**	**22.94**	**234**	P	**P**	**08 06 27.2**	**+0.5**
	comp=Z,96nm,1.3s						
NONG	**Nongkai**	**23.34**	**290**	P	**P**	**08 06 29.9**	**-0.8**
NGJI	**Ngawi**	**23.39**	**219**	P	**P**	**08 06 34.8**	**+3.7**
	comp=Z,89nm,1.1s						
SLVN	**Son La**	**23.68**	**298**	P	**P**	**08 06 31.7**	**-2.2**
SLVN	**Son La**	**23.68**	**298**	P	**P**	**08 06 33.0**	**-0.9**
DRS	**Darwin Rock St**	**23.75**	**168**	P	**P**	**08 06 36.4**	**+2.0**
PPBI	**Pangkal Pinang**	**23.83**	**238**	P	**P**	**08 06 40.1**	**+4.9**
MYKOM	**Kota Tinggi**	**23.97**	**249**	P	**P**	**08 06 37.3**	**+0.8**
MYKOM	**Kota Tinggi**	**23.97**	**249**	P	**P**	**08 06 39.2**	**+2.7**
GYA	**Guiyang**	**23.97**	**313**	⇓P	**P**	**08 06 37.3**	**+0.7**
GYA				S	**S**	**08 10 49.8**	**+0.1**
GYA				pmax	pmax		
	comp=Z,12nm,0.6s						
GYA				pmax	pmax		
	comp=Z,210nm,5.4s						
GYA				LR	LR		
	comp=Z,560nm,15.4s						
GYA				LR	LR		
	comp=Z,380nm,21.4s						
GYA				LR	LR		
	comp=Z,740nm,19.5s						
MTN	**Manton Dam**	**24.20**	**168**	P	**P**	**08 06 38.8**	**+0.3**
MTN				IAmb	IAmb	08 07 01.3	
	comp=Z,63nm,1.3s						
MTN	**Manton Dam**	**24.20**	**168**	P	**P**	**08 06 38.3**	**-0.2**
	comp=Z,31nm,1.0s						
MTN	**Manton Dam**	**24.20**	**168**	P	**P**	**08 06 41.3**	**+2.8**
KDU	**Kakadu**	**24.36**	**165**	P	**P**	**08 06 38.5**	**-1.5**
	comp=Z,56nm,0.8s						
KDU	**Kakadu**	**24.36**	**165**	P	**P**	**08 06 40.0**	**+0.1**
ENH	**Enshi**	**24.66**	**323**	P	**P**	**08 06 42.2**	**-0.5**
ENH				IAmb	IAmb	08 06 56.5	
	comp=Z,69nm,1.6s						
JHJ	**Hachijo jima 2**	**25.32**	**28**	LR	LR	08 16 04.3	
	comp=Z,266nm,19.5s,baz=312,slow=35						
KULM	**Kulim**	**25.87**	**259**	P	**P**	**08 06 53.2**	**-0.6**
KULM				IAmb	IAmb	08 06 57.4	
	comp=Z,19nm,0.8s						
KULM	**Kulim**	**25.87**	**259**	P	**P**	**08 06 56.4**	**+2.6**
SRIT	**Nakonsritamara**	**26.28**	**267**	P	**P**	**08 06 56.1**	**-1.4**
SRIT				IAmb	IAmb	08 07 01.4	
	comp=Z,45nm,1.0s						
SRIT	**Nakonsritamara**	**26.28**	**267**	P	**P**	**08 06 59.4**	**+1.9**
KSAR	**Wonju Array Be**	**26.37**	**3**	P	**P**	**08 06 56.1**	**-1.9**
KSRS	**Korea Array**	**26.38**	**3**	P	**P**	**08 06 58.0**	**-0.1**
	comp=Z,5.4nm,1.1s,baz=181,slow=8.0,SNR=12						
KSRS				LR	LR	08 17 56.8	
	comp=Z,282nm,19.3s,baz=195,slow=38						
	comp=Z,5.4nm,1.1s						
LYN	**LuoYang**	**26.56**	**334**	P	**P**	**08 07 00.3**	**+0.5**
LYN				S	**S**	**08 11 31.3**	**+0.8**
LYN				sS	sS	08 11 53.9	+2.2
LYN				pmax	pmax		
	comp=Z,18nm,0.7s						
LYN				pmax	pmax		
	comp=Z,120nm,3.6s						
LYN				LR	LR		
	comp=Z,340nm,14.8s						
LYN				LR	LR		
	comp=Z,170nm,16.2s						
LYN				LR	LR		
	comp=Z,300nm,15.1s						
KNRA	**Kununurra**	**26.64**	**174**	P	**P**	**08 07 00.6**	**0.0**
KNRA				IAmb	IAmb	08 07 17.0	
	comp=Z,22nm,0.7s						
KNRA	**Kununurra**	**26.64**	**174**	P	**P**	**08 07 01.2**	**+0.6**
	comp=Z,36nm,1.0s						
MDSI	**Maura Dua**	**26.75**	**236**	P	**P**	**08 07 02.6**	**+0.9**
	comp=Z,25nm,1.0s						
LWLI	**Liwa**	**27.16**	**235**	P	**P**	**08 07 06.3**	**+0.8**
CM31	**Chiang Mai Arr**	**27.32**	**289**	P	**P**	**08 07 03.7**	**-3.1**
CMAR	**Chiang Mai Arr**	**27.32**	**289**	P	**P**	**08 07 06.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.32**	**289**	P	**P**	**08 07 05.4**	**-1.5**
	comp=Z,3.4nm,0.6s,baz=104,slow=9.3,SNR=23						
CMAR				ScP	**ScP**	**08 14 04.0**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=74,slow=4.3,SNR=5.0						
CMAR				LR	LR	08

HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,63nm,4.9s
HHC LR LR
comp=Z,180nm,12.9s
HHC LR LR
comp=Z,230nm,14.9s
HHC LR LR
comp=Z,220nm,14.7s
MBWA Marble Bar 32.58 191 P P 08 07 51.6 -1.6
CN2 Changchun 32.68 359 *eP* **P 08 07 55.3 +1.4**
PSAC1 Pilbara Seismi 32.93 191 P P 08 07 55.4 -0.9
comp=Z,32nm,0.8s
PSA00 Pilbara Seismi 32.96 191 P P 08 07 56.1 -0.5
PSA00 Pilbara Seismi 32.96 191 P P 08 07 55.7 -0.9
comp=Z,28nm,1.0s
USA0B Ussuriysk Arra 33.45 8 P P 08 07 58.2 -2.5
USA0B IAmb IAmb 08 08 32.8
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 33.45 8 P P 08 07 60.0 -0.7
comp=Z,4.1nm,0.8s,baz=156,slow=7.4,SNR=6.1
comp=Z,4.1nm,0.8s
MDJ Mudanjiang 33.62 4 P P 08 08 02.6 +0.5
MDJ pmax pmax
comp=Z,15nm,1.2s
XLT XiLinHaoTe 33.92 347 *eP* **P 08 08 04.3 -0.5**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,64nm,4.3s
XLT LR LR
comp=Z,19nm,15.2s
XLT LR LR
comp=Z,140nm,9.0s
XLT LR LR
comp=Z,300nm,16.3s
QIS Mount Isa 34.04 157 P P 08 08 05.0 -1.0
comp=Z,102nm,1.1s
QIS Mount Isa 34.04 157 P P 08 08 05.8 -0.2
MTSU Mount Surprise 34.05 148 P P 08 08 04.2 -2.0
comp=Z,10nm,0.9s
BNX BinXian 34.63 2 ⇓P **P 08 08 10.6 -0.3**
BNX pmax pmax
comp=Z,13nm,1.1s
BRDH Bariadhala 34.93 294 LR LR 08 22 59.2
comp=Z,154nm,20.2s,baz=130,slow=37
AS06 Alice Springs 35.28 168 P **P 08 08 15.8 -1.0**
comp=Z,10nm,1.2s
AS31 Alice Springs 35.28 168 P P 08 08 15.2 -1.6
AS31 Alice Springs 35.28 168 P P 08 08 17.0 +0.2
comp=Z,3.1nm,0.6s
ASAR Alice Springs 35.28 168 P P 08 08 15.7 -1.0
comp=Z,4.1nm,0.7s,baz=343,slow=8.5,SNR=32
ASAR PcP **PcP 08 10 46.7 +0.2**
comp=Z,1.4nm,0.6s,baz=350,slow=2.4,SNR=4.4
ASAR ScP **ScP 08 14 28.1 +0.3**
comp=Z,1.7nm,0.9s,baz=341,slow=3.0,SNR=7.0
comp=Z,4.1nm,0.7s
AS01 Alice Springs 35.29 168 P P 08 08 18.0 +1.2
AS19 Alice Springs 35.33 168 P P 08 08 16.0 -1.2
comp=Z,8.3nm,0.7s
SHL Shillong 35.49 299 P P 08 08 17.5 -1.3
WRKA Warakurna 35.88 177 P P 08 08 21.2 -0.7
comp=Z,21nm,1.2s
WRKA Warakurna 35.88 177 P P 08 08 23.9 +2.0
ASAJ Asahikawa 35.92 20 LR LR 08 22 21.3
comp=Z,204nm,19.6s,baz=230,slow=35
GTA Gaotai 36.72 325 ⇑P **P 08 08 30.3 +1.2**
GTA PcP **PcP 08 10 52.3 +1.6**
GTA pmax pmax
comp=Z,44nm,0.8s
GTA LR LR
comp=Z,86nm,13.9s
GTA LR LR
comp=Z,160nm,13.9s
GTA LR LR
comp=Z,180nm,14.3s
LSA Lhasa 37.52 305 P P 08 08 36.1 -0.3
LSA IAmb IAmb 08 08 37.5
comp=Z,15nm,1.1s
GOMU GeErMu 37.84 317 P P 08 08 38.5 -0.3
GOMU pP pP 08 08 51.5 -0.5
GOMU sP sP 08 09 00.4 +2.4
GOMU S **S 08 14 27.6 +1.1**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU pmax pmax
comp=Z,220nm,4.6s
GOMU LR LR
comp=Z,510nm,15.3s
GOMU LR LR
comp=Z,610nm,18.0s
GOMU LR LR
comp=Z,1μm,17.4s
MEEK Meekatharra 38.13 191 P P 08 08 40.4 -0.5
comp=Z,39nm,0.8s
MEEK Meekatharra 38.13 191 P P 08 08 40.9 0.0
KLR Kul'dur 38.39 6 LR LR 08 24 33.5
comp=Z,164nm,19.7s,baz=208,slow=36
HNR Honiara 39.26 120 LR LR 08 23 39.0
comp=Z,113nm,21.6s,baz=240,slow=34
OOD Oodnadatta 39.66 167 P P 08 08 53.4 -0.3
ULN Ulaanbaatar 40.10 340 P P 08 08 57.5 +0.1
ULN IAmb IAmb 08 09 10.0
comp=Z,14nm,1.1s
ULN Ulaanbaatar 40.10 340 P P 08 08 57.5 +0.1
ULN pP **pP 08 09 09.1 -1.1**
H11N1 WAKE ISLAND Hy 40.13 72 T T 08 52 22.1
baz=264,slow=74,SNR=7.3
H11N2 WAKE ISLAND Hy 40.14 72 T T 08 52 28.8
baz=264,slow=74,SNR=6.0
H11N3 WAKE ISLAND Hy 40.15 72 T T 08 52 23.5
baz=264,slow=74,SNR=8.6
SONM Songino Array 40.30 339 P P 08 08 58.5 -0.4
SONM Songino Array 40.30 339 P P 08 08 58.7 -0.3
comp=Z,3.2nm,0.8s,baz=160,slow=9.4,SNR=15
SONM PcP **PcP 08 11 00.5 -1.2**
comp=Z,1.2nm,0.9s,baz=151,slow=3.3,SNR=2.1
comp=Z,3.2nm,0.8s
MORW Morawa 41.02 194 P P 08 09 04.8 -0.1
MORW IAmb IAmb 08 09 07.5
comp=Z,19nm,0.8s
MORW Morawa 41.02 194 P P 08 09 04.6 -0.4
comp=Z,30nm,0.8s
MORW Morawa 41.02 194 P P 08 09 07.0 +2.1
INKA Innaminka 41.03 160 P P 08 09 06.0 +1.0
QLP Quilpie 41.28 155 P P 08 09 07.1 0.0
comp=Z,34nm,1.5s
QLP Quilpie 41.28 155 P P 08 09 07.4 +0.3
FORT Forrest 41.58 178 P P 08 09 09.5 0.0
FORT Forrest 41.58 178 P P 08 09 10.1 +0.6
comp=Z,52nm,0.9s
FORT Forrest 41.58 178 P P 08 09 10.8 +1.3
KMBL Kambalda 42.33 185 P P 08 09 15.8 +0.2
comp=Z,41nm,0.7s
KMBL Kambalda 42.33 185 P P 08 09 17.2 +1.6
BLDU Ballidu 42.37 192 P P 08 09 15.2 -0.7
comp=Z,28nm,1.4s
BLDU Ballidu 42.37 192 P P 08 09 18.2 +2.3
LCRK Leigh Creek 42.81 165 P P 08 09 20.4 +0.9
KLBR Kellerberrin 43.11 191 P P 08 09 22.1 +0.1
MUN Mundaring 43.79 192 P P 08 09 27.1 -0.3
comp=Z,30nm,0.9s
NWAO Narrogin (SRO) 44.51 191 P P 08 09 32.0 -1.2
NWAO Narrogin (SRO) 44.51 191 P P 08 09 33.6 +0.5
comp=Z,124nm,1.1s
NWAO Narrogin (SRO) 44.51 191 P P 08 09 34.5 +1.4
NWAO Narrogin (SRO) 44.51 191 P P 08 09 34.1 +1.0
NWAO Narrogin (SRO) 44.51 191 P P 08 09 33.2 0.0
NWAO pP **pP 08 09 45.0 -1.4**
BBOO Buckleboo 44.58 168 P P 08 09 33.0 -0.7
BBOO Buckleboo 44.58 168 P P 08 09 33.6 -0.1
comp=Z,43nm,0.7s
BBOO Buckleboo 44.58 168 P P 08 09 33.7 0.0
PALK Pallekele 45.00 269 LR LR 08 28 11.4
comp=Z,75nm,20.0s,baz=83,slow=36
STKA Stephens Creek 45.13 161 P P 08 09 38.0 0.0
STKA Stephens Creek 45.13 161 P P 08 09 37.9 -0.2
comp=Z,140nm,0.8s
STKA Stephens Creek 45.13 161 P P 08 09 37.6 -0.4
comp=Z,22nm,0.7s,baz=337,slow=7.9,SNR=39
comp=Z,22nm,0.7s
STKA Stephens Creek 45.13 161 P P 08 09 38.3 +0.2
HTT Hallett 45.83 165 P P 08 09 43.9 +0.2
comp=Z,11nm,0.8s
HTT Hallett 45.83 165 P P 08 09 45.0 +1.3
CMSA Cobar Meteorol 46.26 157 P P 08 09 47.0 0.0
comp=Z,22nm,1.1s
CMSA Cobar Meteorol 46.26 157 P P 08 09 46.9 -0.1
WMQ Urumqi 46.58 322 *eP* **P 08 09 50.0 +0.4**
WMQ sP sP 08 10 16.3 +7.1
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ LR LR
comp=Z,550nm,16.5s
WMQ LR LR
comp=Z,360nm,12.1s
WMQ LR LR
comp=Z,190nm,13.9s
PETK Petropavlovsk- 49.02 25 P P 08 10 07.4 -0.7
comp=Z,4.3nm,0.9s,baz=202,slow=7.3,SNR=3.2
PETK LR LR 08 30 24.8
comp=Z,152nm,19.7s,baz=241,slow=36
comp=Z,4.3nm,0.9s
ARPS Mount Arapiles 49.76 163 P P 08 10 14.2 +0.2
comp=Z,44nm,0.7s
ARPS Mount Arapiles 49.76 163 P P 08 10 14.5 +0.6
ZSN Zaisan 50.21 324 *eP* **P 08 10 17.3 -0.1**
comp=Z,8.6nm,1.1s
CAN Canberra 50.89 156 P P 08 10 24.9 +2.3
WUS Wushi 50.93 315 P P 08 10 22.9 -0.1
WUS IAmb IAmb 08 10 50.7
comp=Z,14nm,1.5s
CNB Canberra Magne 51.03 156 P P 08 10 24.0 +0.3
comp=Z,34nm,1.4s
MK31 Makanchi Array 51.38 322 P P 08 10 26.5 +0.3
MK31 IAmb IAmb 08 10 27.5
comp=Z,12nm,0.8s
MKAR Makanchi Array 51.38 322 P P 08 10 26.4 +0.2
MKAR Makanchi Array 51.38 322 P P 08 10 26.2 0.0
comp=Z,12nm,0.6s,baz=117,slow=8.3,SNR=96
MKAR PcP **PcP 08 11 40.1 -0.2**
comp=Z,3.7nm,0.7s,baz=111,slow=4.6,SNR=2.2
MKAR ScP **ScP 08 15 33.2 +0.9**
comp=Z,3.1nm,1.2s,baz=116,slow=3.4,SNR=6.3
MKAR LR LR 08 34 56.0
comp=Z,137nm,18.1s,baz=130,slow=39
comp=Z,12nm,0.6s
DZM Mont Dzumac 51.40 130 P P 08 10 28.4 +1.7
DZM pP **pP 08 10 40.7 +1.8**
SHLS Shalkode 51.54 317 *eP* **P 08 10 25.1 -2.4**
comp=Z,15nm,1.1s
MAKZ Makanchi 51.58 322 P P 08 10 27.9 +0.3
MAKZ Makanchi 51.58 322 P P 08 10 27.6 -0.1
TOO Toolangi 51.61 160 P P 08 10 29.4 +1.5
TOO IAmb IAmb 08 10 32.8
comp=Z,18nm,1.6s
TOO Toolangi 51.61 160 P P 08 10 28.2 +0.3
comp=Z,6.5nm,1.4s
UZB Uzynbulak 51.83 317 *eP* **P 08 10 29.3 -0.4**
comp=Z,4.7nm,0.6s
SATY Saty 52.21 317 *eP* **P 08 10 32.2 -0.4**
comp=Z,5.4nm,0.7s
KSH Kashi 52.67 312 P P 08 10 37.1 +1.1
KSH pmax pmax
comp=Z,9.0nm,1.2s
KDJ Kajisay 52.69 315 P P 08 10 36.7 +0.5
TDK Taldyqorghan 52.99 319 *eP* **P 08 10 37.9 -0.3**
comp=Z,5.9nm,0.6s
TNSS Tian-Shan 53.19 316 *eP* **P 08 10 39.4 -0.8**
NIL Nilore 53.24 304 P P 08 10 39.5 -0.7
NIL Nilore 53.24 304 P P 08 10 39.5 -0.7
AAA Alma-Ata 53.27 316 *eP* **P 08 10 40.1 -0.2**
CHKK Chushkaly 53.47 317 *eP* **P 08 10 41.3 -0.4**
ZAA0 Zalesovo Array 53.94 331 P P 08 10 44.9 +0.1
ZAA0 IAmb IAmb 08 10 56.6
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 53.94 331 P P 08 10 44.4 -0.5
ZALV Zalesovo Beam 53.94 331 P P 08 10 44.0 -0.9
comp=Z,6.9nm,0.7s,baz=113,slow=6.6,SNR=20
ZALV LR LR 08 34 43.4
comp=Z,73nm,19.6s,baz=98,slow=37
comp=Z,6.9nm,0.7s
AAK Ala-Archa 54.73 315 P P 08 10 51.5 +0.4
AAK Ala-Archa 54.73 315 LR LR 08 37 34.3
comp=Z,150nm,18.2s,baz=92,slow=40
ARSB Arslanbob 55.39 313 P P 08 10 55.9 0.0
ARSB IAmb IAmb 08 11 37.0
comp=Z,20nm,1.4s
KURK Kurchatov 55.41 325 P P 08 10 55.4 -0.1
KURK Kurchatov 55.41 325 P P 08 10 55.6 0.0
KURK pP pP 08 11 07.5 -1.5
KURBB Kurchatov Arra 55.41 325 P P 08 10 55.3 -0.3
comp=Z,12nm,0.6s,baz=126,slow=7.1,SNR=84
comp=Z,12nm,0.6s
DRK Karamyk 55.75 310 P P 08 10 58.9 +0.2
DRK IAmb IAmb 08 11 10.8
comp=Z,11nm,0.6s
BTLS Baital 55.86 317 *eP* **P 08 10 58.6 -0.3**
comp=Z,5.0nm,0.8s
GAR Garm 56.74 310 P P 08 11 05.1 -0.5
KBL Kabul 56.83 304 P P 08 11 05.1 -1.3
KBL IAmb IAmb 08 11 06.2
comp=Z,8.3nm,0.7s
SIMJ Simiganj 57.66 309 P P 08 11 11.2 -0.8
SIMJ IAmb IAmb 08 11 13.3
comp=Z,7.0nm,0.8s
SIMJ Simiganj 57.66 309 P P 08 11 11.2 -0.8
SIMJ PcP **PcP 08 12 03.3 -1.4**
KK31 Karatay Array 57.66 314 P P 08 11 11.4 -0.5
KKAR Karatay Array 57.66 314 P P 08 11 11.4 -0.5
IUG Iuzhnay 57.74 313 *eP* **P 08 11 12.2 -0.3**
comp=Z,9.4nm,1.0s
BRLS Borolday 58.12 314 *eP* **P 08 11 15.0 0.0**
comp=Z,5.3nm,0.8s
BRZS Berezniki 58.53 323 *eP* **P 08 11 17.8 0.0**
comp=Z,6.9nm,1.1s
MSVF Nonsavu 58.66 119 LR LR 08 36 26.8
comp=Z,39nm,18.3s,baz=7.4,slow=36
TIXI Tiksi 60.62 1 P P 08 11 30.6 -1.1
TIXI IAmb IAmb 08 12 14.5
comp=Z,13nm,1.2s
BVAR Borovoye Array 61.01 325 P P 08 11 34.5 -0.2
comp=Z,14nm,0.9s,baz=111,slow=8.1,SNR=58
comp=Z,14nm,0.9s
BRVK Borovoye 61.08 325 P P 08 11 34.6 -0.5
BRVK Borovoye 61.08 325 P P 08 11 35.0 -0.2
BRVK pP pP 08 11 46.8 -1.9
NRIK Noril'sk 63.28 346 P P 08 11 49.0 -0.6
NRIK IAmb IAmb 08 11 51.8
comp=Z,6.9nm,0.9s
NRIK Noril'sk 63.28 346 P P 08 11 48.6 -1.0
comp=Z,6.6nm,0.9s,baz=138,slow=7.2,SNR=11
NRIK LR LR 08 41 46.4
comp=Z,128nm,19.8s,baz=160,slow=38
comp=Z,6.6nm,0.9s
AB31 Akbulak array 66.25 319 P P 08 12 08.8 -0.5
AB31 IAmb IAmb 08 12 10.0
comp=Z,14nm,0.8s
ABKAR Akbulak array 66.25 319 P P 08 12 08.5 -0.9
NIKH Nikolski High 66.29 37 P P 08 12 10.8 +1.4
baz=256
SPIA Saint Paul Isl 66.61 32 P P 08 12 12.2 +0.7
baz=253
THZ Tophouse 67.82 144 P P 08 12 19.2 -0.2
THZ IAmb IAmb 08 12 21.4
comp=Z,8.8nm,0.7s
GAMB Gambell 68.05 25 P P 08 12 21.3 +0.9
baz=249
RPZ Rata Peaks 68.05 147 P P 08 12 20.7 -0.1
RPZ Rata Peaks 68.05 147 P P 08 12 21.2 +0.4
comp=Z,14nm,1.0s,baz=291,slow=5.8,SNR=5.2
comp=Z,14nm,1.0s
URZ Urewera 68.28 139 LR LR 08 43 00.2
comp=Z,80nm,19.1s,baz=32,slow=37
RTZ Ruatahuna 68.40 139 P P 08 12 22.4 -0.8
BKZ Black Stump Fm 68.41 140 P P 08 12 23.0 -0.1
ARTI Arti 68.64 326 P P 08 12 23.4 -0.9
ARTI IAmb IAmb 08 12 24.4
comp=Z,10nm,0.7s
ARTI Arti 68.64 326 P P 08 12 23.0 -1.4
ARTI pP pP 08 12 35.0 -3.1
M11K Mekoryuk 69.50 29 P P 08 12 29.8 +0.3
baz=256
FALS False Pass 69.82 35 P P 08 12 31.6 0.0
baz=260
TNA Tin City 70.17 24 P P 08 12 34.1 +0.6
baz=252
K13K Kusilvak Mount 70.60 28 P P 08 12 36.9 +0.7
baz=257
F14K Arctic Creek 70.78 24 P P 08 12 37.9 +0.6
baz=254
M13K Dall Lake 70.89 30 P P 08 12 38.4 +0.4
baz=258
ANM Nome 70.93 25 P P 08 12 39.3 +1.1
baz=255
J14K Nanvaranak Lak 71.28 27 P P 08 12 41.6 +1.3
baz=257
L14K Kuka Creek 71.39 29 P P 08 12 39.7 -1.3
L14K IAmb IAmb 08 12 43.9
comp=Z,18nm,1.0s
L14K Kuka Creek 71.39 29 P P 08 12 42.2 +1.2
baz=259,SNR=5.2
F15K North Star Dit 71.52 24 P P 08 12 43.3 +1.5
baz=255
SDPT Sand Point 71.56 35 P P 08 12 43.0 +0.8
baz=262
G15K Niukluk 71.59 25 P P 08 12 42.9 +0.7
baz=256
N14K Kuskokwak Cree 71.61 30 P P 08 12 43.2 +0.8
baz=260
M14K Bethel 71.63 29 P P 08 12 39.8 -2.7
M14K IAmb IAmb 08 12 45.2
comp=Z,17nm,0.9s
M14K Bethel 71.63 29 P P 08 12 43.1 +0.6
baz=259,SNR=5.5
O14K Tigyukauivet M 71.71 31 P P 08 12 43.3 +0.3
baz=260
C16K Lisburne Hills 71.94 21 P P 08 12 45.2 +1.1
baz=254
CHNA Chernabura Isl 72.01 36 P P 08 12 45.9 +1.0
baz=263
L15K Ungalak Mounta 72.02 29 P P 08 12 45.7 +0.9
baz=260
K15K Wolf Creek Mou 72.11 28 P P 08 12 47.1 +1.8
baz=259
M15K Kasigluk River 72.23 30 P P 08 12 47.6 +1.5
baz=261
H16K Elim 72.26 25 P P 08 12 47.5 +1.3
baz=258,SNR=5.3
G16K Koyuk River 72.37 25 P P 08 12 48.4 +1.5
baz=258
O15K Ungalikthiuk R 72.43 31 P P 08 12 48.3 +1.0
baz=262
N15K Kwethluk River 72.44 30 P P 08 12 48.5 +1.1
baz=261
D17K Noatak River 72.61 22 P P 08 12 49.6 +1.4
baz=256,SNR=9.9
J16K Anvik River 72.71 27 P P 08 12 49.8 +0.9
baz=260
RDOG Red Dog Mine 72.76 22 P P 08 12 47.5 -1.6
RDOG IAmb IAmb 08 12 51.8
comp=Z,12nm,1.3s
RDOG Red Dog Mine 72.76 22 P P 08 12 50.2 +1.1
baz=256,SNR=6.5
C17K DeLong Mountai 72.77 21 P P 08 12 50.6 +1.4
baz=256
I17K Unalakleet 72.78 26 P P 08 12 50.4 +1.1
baz=260,SNR=5.3
E17K Hotham Inlet 72.95 23 P P 08 12 51.1 +0.9
baz=258
L16K Owhat River 72.97 29 P P 08 12 49.4 -1.0
L16K Owhat River 72.97 29 P P 08 12 51.5 +1.1
baz=261
F17K Baldwin Pennin 73.04 24 P P 08 12 52.0 +1.2
baz=258
G17K Kiwalik Mounta 73.09 25 P P 08 12 52.3 +1.1
baz=259
M16K Timber Creek 73.12 29 P P 08 12 52.2 +0.8
baz=262
N16K Nishlik Lake 73.14 30 P P 08 12 51.8 +0.3
baz=262
H17K Granite Mounta 73.30 25 P P 08 12 53.0 +0.7
baz=260
P16K Nushagak River 73.35 32 P P 08 12 53.4 +0.7
baz=264
O16K Kokwok River B 73.36 31 P P 08 12 54.1 +1.2
baz=263
J17K VABM Dome 73.41 27 P P 08 12 54.6 +1.5
baz=261
R16K Pilot Point 73.42 33 P P 08 12 54.7 +1.5
baz=264
B18K Kokolik River 73.46 21 P P 08 12 55.0 +1.8
baz=257,SNR=8.7
E18K Tukpahlearik C 73.48 23 IAmb IAmb 08 12 56.8
comp=Z,10.0nm,1.1s
E18K Tukpahlearik C 73.48 23 P P 08 12 54.7 +1.3
baz=259,SNR=7.7
C18K Utukok River 73.52 21 P P 08 12 54.9 +1.3
baz=258
L17K Donlin 73.58 28 P P 08 12 54.7 +0.6
baz=262
K17K Ididarod 73.66 28 P P 08 12 55.5 +0.9
baz=262
F18K Selawik 73.69 24 P P 08 12 56.2 +1.6
baz=260,SNR=6.4
O17K Koliganek Bris 73.89 31 P P 08 12 57.3 +1.5
baz=264
A19K Wainwright 73.89 20 P P 08 12 57.5 +1.8
baz=257
M17K Holitna River 73.90 29 P P 08 12 57.4 +1.5
baz=263
N17K Nushagak Hills 73.92 30 P P 08 12 57.3 +1.2
baz=264
G18K Tagagawik 73.97 24 P P 08 12 57.5 +1.1
baz=261
H18K Honhosa River 73.98 25 P P 08 12 57.9 +1.6
baz=261
Q16K King Salmon 74.01 32 P P 08 12 57.7 +1.1
baz=265
P17K Kvichak River 74.17 31 P P 08 12 58.6 +1.1
baz=265
L18K Granite Mounta 74.34 28 P P 08 13 00.1 +1.6
baz=264
CHIR Chirikof Islan 74.35 35 P P 08 12 59.7 +1.0
baz=266
F19K Shaleruckik Mo 74.47 23 P P 08 13 00.6 +1.4
baz=261
J18K Innoko River 74.47 27 P P 08 13 00.4 +1.2
baz=263
GCSA Galena City Sc 74.55 26 P P 08 13 01.1 +1.5
baz=263
N18K Kilae Creek 74.57 30 P P 08 13 01.2 +1.3
baz=265
D19K Kuna River 74.60 22 IAmb IAmb 08 13 02.6
comp=Z,13nm,1.1s
D19K Kuna River 74.60 22 P P 08 13 01.1 +1.1
baz=261,SNR=9.4
G19K Purcell Mounta 74.64 24 P P 08 13 01.9 +1.7
baz=262
M18K Stony River 74.68 29 P P 08 13 01.7 +1.2
baz=265
E19K Redstone River 74.77 23 P P 08 12 59.4 -1.5
E19K IAmb IAmb 08 13 03.7
comp=Z,17nm,1.2s
E19K Redstone River 74.77 23 P P 08 13 02.0 +1.0
baz=262
H19K Roundabout Mou 74.83 25 IAmb IAmb 08 13 04.6
comp=Z,9.7nm,1.0s
H19K Roundabout Mou 74.83 25 P P 08 13 02.7 +1.5
baz=263
O18K Koktuh Hills 74.84 31 P P 08 13 02.8 +1.3
baz=266
J19K Poorman 75.01 27 P P 08 13 03.3 +1.0
baz=264
R18K Karluk 75.09 33 P P 08 13 04.2 +1.3
baz=267
B20K Meade River 75.17 20 P P 08 13 04.8 +1.6
baz=261
D20K Etivluk River 75.18 22 P P 08 13 04.9 +1.6
baz=262,SNR=13
L19K White Mountain 75.20 28 P P 08 13 04.9 +1.4
baz=265
E20K Nigu River 75.27 22 P P 08 13 05.3 +1.4
baz=262
N19K Bonanza Creek 75.27 30 P P 08 13 04.9 +0.9
baz=266
F20K Avaraart Lake 75.30 23 P P 08 13 05.7 +1.8
baz=263
O19K Port Alsworth 75.31 31 P P 08 13 05.8 +1.7
baz=266
M19K Big River Lodg 75.39 29 P P 08 13 05.7 +1.1
baz=266
H20K Anotleneega Mo 75.47 25 P P 08 13 05.6 +0.6
baz=264
A21K Barrow 75.55 19 P P 08 13 06.2 +1.0
baz=261
I20K Naaghedeneel 75.58 26 P P 08 13 06.1 +0.6
baz=265

Q19K	Cape Douglas,	75.59	32	P	P	08 13 06.2 +0.4
	baz=267					
K20K	Telida	75.64	27	P	P	08 13 06.7 +0.7
	baz=266					
L20K	Farewell, AK	75.67	28	P	P	08 13 06.7 +0.5
	baz=266					
J20K	Nowinta River	75.67	26	P	P	08 13 06.9 +0.7
	baz=266					
OHAK	Old Harbor	75.71	34	P	P	08 13 07.2 +0.7
	baz=268					
C21K	Knifeblade Rid	75.89	21	P	P	08 13 08.6 +1.3
	baz=264					
M20K	Styx River	75.99	29	P	P	08 13 08.5 +0.4
	baz=267					
B21K	Ikpikpuk River	76.00	21	P	P	08 13 08.7 +0.8
	baz=264					
A22K	Sinclair Lake	76.04	19	P	P	08 13 08.9 +0.8
	baz=263					
KDAK	Kodiak Island	76.11	33	LR	LR	08 45 18.4
	comp=Z,63nm,19.2s,baz=101,slow=35					
KDAK	Kodiak Island	76.11	33	P	P	08 13 09.2 +0.5
	baz=268					
E21K	Killik River	76.11	22	P	P	08 13 09.3 +0.7
	baz=265					
G21K	Allakaket	76.12	24	IAmb	IAmb	08 13 11.4
	comp=Z,18nm,1.2s					
G21K	Allakaket	76.12	24	P	P	08 13 09.5 +0.8
	baz=266					
O20K	Slope Mountain	76.16	31	P	P	08 13 09.6 +0.5
	baz=268					
F21K	Alatna River	76.19	23	P	P	08 13 09.8 +0.8
	baz=265					
Q20K	Shuyak Island	76.23	32	P	P	08 13 10.0 +0.6
	baz=268					
H21K	Melozitna Rive	76.35	25	P	P	08 13 10.9 +1.0
	baz=266					
SPCR	Spurr Chakacha	76.40	30	P	P	08 13 11.1 +0.6
	baz=268					
CHUM	Lake Minchumin	76.46	27	P	P	08 13 12.0 +1.4
	baz=267					
GNI	Garni	76.46	309	LR	LR	08 50 37.5
	comp=Z,34nm,20.9s,baz=108,slow=39					
PPLA	Purkeypile	76.47	28	P	P	08 13 12.1 +1.2
	baz=268					
B22K	Teshekpuk Lake	76.48	20	P	P	08 13 11.7 +1.1
	baz=265					
CAST	Castle Rocks	76.54	27	P	P	08 13 10.0 -1.2
CAST				IAmb	IAmb	08 13 55.5
	comp=Z,29nm,1.7s					
CAST	Castle Rocks	76.54	27	P	P	08 13 12.5 +1.3
	baz=268					
D22K	Ayikyak River	76.62	22	P	P	08 13 12.7 +1.3
	baz=266					
F22K	John River	76.71	23	P	P	08 13 13.2 +1.2
	baz=266					
SKT	Skwentna	76.75	29	P	P	08 13 13.1 +0.7
	baz=268					
E22K	Anaktuvuk Pass	76.89	22	IAmb	IAmb	08 13 26.8
	comp=Z,38nm,2.0s					
E22K	Anaktuvuk Pass	76.89	22	P	P	08 13 14.3 +1.3
	baz=267					
CAPN	Captain Cook N	76.90	30	P	P	08 13 12.9 -0.2
	baz=269					
H22K	Ishtalitna Cre	76.95	25	P	P	08 13 14.6 +1.2
	baz=268					
BPAW	Bear Paw Mtn.	77.05	27	IAmb	IAmb	08 13 16.9
	comp=Z,16nm,1.1s					
BPAW	Bear Paw Mtn.	77.05	27	P	P	08 13 14.9 +0.9
	baz=268					
BRSE	Bradley Lake S	77.10	31	P	P	08 13 15.5 +1.1
	baz=270					
SUA	Susitna One	77.11	29	P	P	08 13 15.0 +0.5
	baz=269					
RAYN	Ar Rayn	77.20	292	P	P	08 13 14.0 -1.6
D23K	Nanushuk River	77.34	22	P	P	08 13 17.1 +1.6
	baz=268					
CUT	Chulitna	77.35	28	P	P	08 13 16.0 +0.4
	baz=269					
TRF	Thorofare Moun	77.35	27	P	P	08 13 16.3 +0.5
	baz=269					
C23K	Itkillik River	77.41	21	P	P	08 13 17.5 +1.7
	baz=267					
M22K	Willow	77.41	29	P	P	08 13 17.5 +1.5
	baz=270					
COLD	Coldfoot	77.46	23	IAmb	IAmb	08 13 21.0
	comp=Z,6.6nm,0.9s					
COLD	Coldfoot	77.46	23	P	P	08 13 17.8 +1.6
	baz=268					
G23K	Bananza Creek	77.52	24	IAmb	IAmb	08 13 19.5
	comp=Z,10nm,1.2s					
G23K	Bananza Creek	77.52	24	P	P	08 13 18.3 +1.7
	baz=269					
KBZ	Khabaz	77.64	313	P	P	08 13 17.5 -0.1
	comp=Z,3.9nm,0.9s,baz=36,slow=6.1,SNR=6.7					
	comp=Z,3.9nm,0.9s					
H23K	Yukon River	77.70	25	P	P	08 13 19.0 +1.4
	baz=269					
E23K	Chandalar	77.71	22	P	P	08 13 19.0 +1.3
	baz=269					
TOLK	Toolik Lake Re	77.74	22	P	P	08 13 17.9 +0.1
TOLK				IAmb	IAmb	08 13 58.1
	comp=Z,16nm,1.6s					
TOLK	Toolik Lake Re	77.74	22	P	P	08 13 18.9 +1.1
	baz=269					
SEW	Seward	77.74	31	P	P	08 13 18.8 +1.0
	baz=271					
I23K	Minto, Yukon-K	77.77	25	P	P	08 13 19.0 +1.1
	baz=270					
PMR	Palmer	77.88	29	P	P	08 13 19.6 +1.0
	baz=271					
NEA2	Nenana	77.89	26	P	P	08 13 19.7 +1.0
	baz=270					
MCK	McKinley	77.96	27	IAmb	IAmb	08 13 21.6
	comp=Z,12nm,0.9s					
MCK	McKinley	77.96	27	P	P	08 13 19.5 +0.4
	baz=270					
D24K	Happy Valley	78.02	21	IAmb	IAmb	08 13 22.1
	comp=Z,7.9nm,0.9s					
D24K	Happy Valley	78.02	21	P	P	08 13 20.5 +1.3
	baz=269					
C24K	Franklin Bluff	78.07	21	P	P	08 13 21.0 +1.5
	baz=269					
E24K	Your Creek	78.13	22	P	P	08 13 21.4 +1.4
	baz=270					
KNK	Knik Glacier	78.21	29	P	P	08 13 21.5 +1.0
	baz=271					
SML	Sawmill	78.26	29	P	P	08 13 22.1 +1.2
	baz=271					
PWL	Port Wells	78.28	30	P	P	08 13 22.1 +1.1
	baz=271					
F24K	Squaw Lake	78.36	23	P	P	08 13 22.8 +1.5
	baz=270					
H24K	Noodor Dome	78.39	25	P	P	08 13 22.6 +1.2
	baz=271					
COLA	College	78.41	26	P	P	08 13 22.7 +1.2
	baz=271					
CCB	Clear Creek Bu	78.44	26	P	P	08 13 20.8 -0.8
CCB				IAmb	IAmb	08 14 03.7
	comp=Z,26nm,2.0s					
G24K	Hadweenzic Riv	78.53	24	IAmb	IAmb	08 13 36.6
	comp=Z,11nm,1.3s					
G24K	Hadweenzic Riv	78.53	24	P	P	08 13 23.2 +1.1
	baz=271					
M23K	Glacier View	78.55	29	P	P	08 13 23.3 +0.9
	baz=272					
POKR	Poker Plat Res	78.58	26	P	P	08 13 23.3 +0.8
	baz=271					
SCM	Sheep Creek Mo	78.74	29	P	P	08 13 24.4 +1.0
	baz=272					
P23K	Montague Islan	78.78	31	P	P	08 13 24.5 +0.9
	baz=272					
HDA	Harding Lake	78.81	26	P	P	08 13 24.5 +0.8
	baz=272					
ILAR	Eielson Array	78.83	26	P	P	08 13 22.9 -0.9
	comp=Z,1.1nm,0.9s,baz=245,slow=3.9,SNR=14					
	comp=Z,1.1nm,0.9s					
D25K	Kavik River	78.89	21	P	P	08 13 25.2 +1.1
	baz=272					
G25K	Bearman Lake	79.08	24	P	P	08 13 26.6 +1.4
	baz=272					
H25L	Birch Creek	79.21	24	P	P	08 13 27.4 +1.5
	baz=273					
F25K	Christian Rive	79.22	23	P	P	08 13 27.4 +1.5
	baz=272					
E25K	Arctic Village	79.22	22	P	P	08 13 27.5 +1.5
	baz=272					
M24K	Tolsona, Glenn	79.27	29	P	P	08 13 27.8 +1.4
	baz=273					
Q23K	Middleton Isla	79.34	31	P	P	08 13 27.6 +1.0
	baz=274					
K24K	Donnelly Dome	79.36	27	P	P	08 13 27.8 +1.0
	baz=273					
PRP	Porcupine Dome	79.37	25	P	P	08 13 27.9 +1.0
	baz=273					
C26K	Camden Bay	79.38	21	P	P	08 13 28.2 +1.5
	baz=273					
KLU	Klutina	79.42	29	P	P	08 13 28.5 +1.3
	baz=273					
J25K	Salcha River,	79.49	26	P	P	08 13 28.8 +1.3
	baz=273					
EYAK	Cordova Ski Ar	79.57	30	P	P	08 13 29.6 +1.7
	baz=274					
BMAR	Burnt Mountain	79.64	23	P	P	08 13 28.7 +0.4
HARP	HAARP	79.72	28	P	P	08 13 30.0 +1.3
	baz=274					
RIDG	Independent Ri	79.77	27	IAmb	IAmb	08 13 31.1
	comp=Z,14nm,1.2s					
RIDG	Independent Ri	79.77	27	P	P	08 13 30.6 +1.6
	baz=274					
F26K	Sheenjek River	79.79	23	P	P	08 13 31.1 +2.0
	baz=274					
C27K	Jago River	79.81	21	P	P	08 13 29.1 0.0
C27K				IAmb	IAmb	08 13 43.1
	comp=Z,14nm,1.4s					
C27K	Jago River	79.81	21	P	P	08 13 30.9 +1.8
	baz=274					
G26K	Porcupine Rive	79.98	24	P	P	08 13 31.7 +1.7
	baz=274					
BMRM	Bremner River	80.10	30	P	P	08 13 32.4 +1.5
	baz=275					
SCRK	Sand Creek	80.13	27	P	P	08 13 32.1 +1.0
	baz=275					
J26L	Joseph Creek	80.27	26	P	P	08 13 32.7 +0.9
	baz=275					
KAIM	Kayak Island	80.28	31	P	P	08 13 32.8 +1.0
	baz=275					
I26K	Coal Creek Min	80.38	25	P	P	08 13 33.2 +1.0
	baz=275					
L26K	Log Cabin Wild	80.50	28	P	P	08 13 33.9 +0.9
	baz=275					
E27K	Coleen River	80.70	22	P	P	08 13 35.3 +1.4
	baz=276					
M26K	Nabesna, AK	80.73	28	P	P	08 13 35.6 +1.4
	baz=276					
D27M	Malcolm River	80.81	21	P	P	08 13 35.2 +0.7
	baz=276					
G27K	Doyon Strip	80.83	24	P	P	08 13 35.4 +0.8
	baz=276					
H27K	Steamboat Moun	80.95	24	P	P	08 13 36.7 +1.4
	baz=276					
K27K	Chicken	80.97	26	P	P	08 13 36.6 +1.2
	baz=276					
I27K	Kandik River	80.98	25	P	P	08 13 36.8 +1.3
	baz=276					
L27K	Beaver Creek,	81.19	27	P	P	08 13 37.4 +0.8
	baz=277					
M27K	Edge Creek, AK	81.25	28	P	P	08 13 38.2 +1.1
	baz=277					
E28M	Babbage River	81.41	22	P	P	08 13 38.7 +1.0
	baz=278					
MESA	MESA	81.48	30	P	P	08 13 39.3 +0.8
	baz=277					
D28M	Stokes Point	81.59	21	P	P	08 13 39.1 +0.6
	baz=279					
I28M	Miner Creek	81.70	25	IAmb	IAmb	08 13 42.4
	comp=Z,8.8nm,1.0s					
I28M	Miner Creek	81.70	25	P	P	08 13 40.1 +0.7
	baz=278					
YUK3	Moose Creek	81.99	29	P	P	08 13 40.8 -0.3
	baz=278					
E29M	Blow River	82.04	22	P	P	08 13 41.8 +0.8
	baz=280					
DAWY	Dawson	82.13	26	P	P	08 13 42.1 +0.5
	baz=279					
H29M	Whitestone	82.22	24	P	P	08 13 43.0 +1.1
	baz=279					
G29M	Pine Creek	82.24	23	P	P	08 13 42.7 +0.6
	baz=280					
O28M	Mount Upton	82.27	30	P	P	08 13 42.5 -0.2
	baz=278					
PINM	Pinnacle	82.33	30	P	P	08 13 43.1 +0.3
	baz=279					
I29M	Ogilvie Camp,	82.39	25	P	P	08 13 43.6 +0.7
	baz=280					
M29M	Somme Creek	82.81	28	P	P	08 13 46.1 +0.9
	baz=280					
PNL	Peninsula	82.83	31	P	P	08 13 46.1 +0.8
	baz=279					
EPYK	Eagle Plains	82.85	24	P	P	08 13 46.9 +1.6
	baz=281					
L29M	L29M	82.85	27	P	P	08 13 46.4 +1.1
	baz=280					
YUK4	Talbot Arm	82.91	29	P	P	08 13 46.7 +0.8
	baz=280					
G30M	tAoh Zraii Nji	82.92	23	P	P	08 13 47.2 +1.5
	baz=281					
F30M	Barrier River	82.96	22	P	P	08 13 47.5 +1.7
	baz=282					
K29M	Barlow Dome	82.98	26	P	P	08 13 47.6 +1.4
	baz=280					
YUK6	Outpost Mounta	83.12	29	P	P	08 13 48.2 +1.1
	baz=280					
I30M	Mount Dempster	83.21	25	P	P	08 13 48.5 +1.2
	baz=281					
SPITS	Spitsbergen Ar	83.28	349	LR	LR	08 55 51.9
	comp=Z,64nm,19.7s,baz=31,slow=39					
ARCES	ARCESS Array B	83.47	340	P	P	08 13 47.9 -0.6
	comp=Z,2.7nm,0.6s,baz=76,slow=5.1,SNR=10.0					
	comp=Z,2.7nm,0.6s					
M30M	Minto, Yukon	83.55	28	P	P	08 13 49.8 +0.8
	baz=281					
HYT	Haines Junctio	83.55	29	P	P	08 13 49.7 +0.6
	baz=281					
N30M	Aishikik Lake	83.63	29	P	P	08 13 49.9 +0.4
	baz=281					
INK	Inuvik	83.64	22	P	P	08 13 50.1 +0.8
	baz=284					
G31M	Satah River	83.69	23	P	P	08 13 50.6 +1.1
	baz=283					
F31M	Tsiigehtchic	83.77	22	P	P	08 13 50.8 +0.9
	baz=283					
H31M	Peel River	83.91	24	P	P	08 13 51.3 +0.6
	baz=283					
P30M	Million Dollar	83.95	30	P	P	08 13 51.4 +0.3
	baz=281					
N31M	Braeburn, Yuko	84.24	29	P	P	08 13 52.9 +0.3
	baz=282					
O30N	Mendenhall	84.24	29	P	P	08 13 52.9 +0.3
	baz=282					
M31M	Drury Creek, Y	84.72	28	P	P	08 13 55.4 +0.5
	baz=283					
WHY	Whitehorse	84.85	29	P	P	08 13 56.0 +0.3
	baz=283					
BRTR	Keskin Array B	84.99	309	P	P	08 13 55.6 -1.2
	comp=Z,0.7nm,0.8s,baz=67,slow=4.2,SNR=4.1					
	comp=Z,0.7nm,0.8s					
FARO	Faro, Yukon	85.19	28	P	P	08 13 58.2 +0.9
	baz=284					
FINES	FINESS Array B	85.20	332	P	P	08 13 56.6 -0.6
	comp=Z,2.2nm,0.5s,baz=77,slow=5.1,SNR=14					
	comp=Z,2.2nm,0.5s					
A36M	Sachs Harbour	85.25	17	IAmb	IAmb	08 14 00.1
	comp=Z,7.7nm,0.9s					
A36M	Sachs Harbour	85.25	17	P	P	08 13 58.2 +0.9
	baz=291					
SIT	Sitka	85.44	33	P	P	08 13 59.6 +1.0
	baz=283					
R32K	Eaglecrest	85.58	32	P	P	08 14 00.1 +0.9
	baz=284					
N32M	Quiet Lake	85.58	29	P	P	08 14 00.7 +1.4
	baz=285					
S32K	Killisnoo	85.74	32	P	P	08 14 01.4 +1.4
	baz=284					
AKASG	Malin Array Be	85.93	321	P	P	08 13 58.8 -2.3
AKASG				IAmb	IAmb	08 14 01.4
	comp=Z,12nm,1.2s					
AKASG	Malin Array Be	85.93	321	P	P	08 13 59.9 -1.3
	comp=Z,4.5nm,0.7s,baz=64,slow=4.9,SNR=20					
	comp=Z,4.5nm,0.7s					
AKBB	Malin Array Si	85.93	321	P	P	08 14 00.2 -0.9
KIEV	Kiev	85.94	321	P	P	08 13 59.1 -2.1
KIEV	Kiev	85.94	321	P	P	08 13 59.6 -1.6
C36M	Paulatuk	86.59	20	P	P	08 14 03.1 -0.9
U33K	Whale Pass	86.86	33	P	P	08 14 06.4 +0.9
	baz=285					
LUBAR	Lubar, Ukraine	87.02	320	P	P	08 14 04.9 -1.6
EUNU	Eureka	87.54	5	P	P	08 14 07.3 -1.2
EUNU				IAmb	IAmb	08 14 18.0
	comp=Z,11nm,1.6s					
DLBC	Dease Lake	87.82	31	P	P	08 14 10.9 +0.6
	baz=287					
KMBO	Kilima Mbogo	89.14	269	P	P	08 14 17.1 -0.5
	comp=Z,1.1nm,0.3s,baz=38,slow=9.1,SNR=3.2					
KMBO				LR	LR	08 51 14.7
	comp=Z,48nm,20.5s,baz=88,slow=34					
	comp=Z,1.1nm,0.3s					
BURAR	Bucovina Array	89.22	318	P	P	08 14 16.8 -0.4
BUR08	Bucovina Ar. S	89.23	318	P	P	08 14 16.0 -1.2
BUR08				IAmb	IAmb	08 14 17.7
	comp=Z,2.7nm,0.7s					
VNDA	Vanda	90.67	173	P	P	08 14 22.1 -0.9
	comp=Z,2.6nm,0.8s,baz=304,slow=7.2,SNR=5.0					
	comp=Z,2.6nm,0.8s					
RES	Resolute Bay	90.80	10	P	P	08 14 22.8 -1.0
RES				IAmb	IAmb	08 14 26.2
	comp=Z,6.4nm,1.4s					
HFS	Hagfors	91.35	332	P	P	08 14 25.3 -1.3
	comp=Z,1.6nm,0.6s,baz=108,slow=4.7,SNR=4.0					
HFS				LR	LR	08 59 02.7
	comp=Z,92nm,19.0s,baz=82,slow=38					
	comp=Z,1.6nm,0.6s					
NB2	NORSAR Subarra	92.06	334	P	P	08 14 28.2 -1.8
	comp=Z,1.4nm,0.8s,baz=64,slow=4.6					
NOA	NORSAR Array B	92.06	334	P	P	08 14 28.4 -1.5
	comp=Z,0.6nm,0.7s,baz=63,slow=4.6,SNR=2.9					
NOA				LR	LR	09 01 26.9
	comp=Z,80nm,18.3s,baz=40,slow=39					
	comp=Z,0.6nm,0.7s					
YKA	Yellowknife Ar	93.13	24	P	P	08 14 34.0 -0.9
	comp=Z,0.7nm,0.8s,baz=300,slow=4.8,SNR=11					
	comp=Z,0.7nm,0.8s					
VRAC	Vranov	94.12	322	LR	LR	09 01 47.3
	comp=Z,30nm,20.2s,baz=130,slow=38					
CLL	Collm	95.44	325	*i* P	P	08 14 45.6 0.0
	comp=Z,4.0nm,0.5s					
GERES	GERESS Array B	96.05	322	P	P	08 14 46.2 -2.5
	comp=Z,0.3nm,0.5s,baz=47,slow=5.9,SNR=3.7					
GERES				LR	LR	08 59 15.1
	comp=Z,38nm,18.8s,baz=98,slow=36					
	comp=Z,0.3nm,0.5s					
TXAR	Lajitas Array	117.42	49	PKP	PKPdf	08 20 07.1 -0.2
	comp=Z,0.4nm,0.9s,baz=331,slow=0.4,SNR=2.8					
PLCA	Paso Flores	146.92	156	PKPbc	PKPdf	08 21 02.4 +0.6
	comp=Z,4.9nm,0.9s,baz=210,slow=4.5,SNR=7.8					

NEIC ***19*** *08:10:39.8±1.7,38°.09N±0°.01×118°.05W±0°.02,h7km±5km, Error ellipse: s-maj=2.3km s-min=1.6km az=60.0*

REN 19 08:10:40.0±1.6,38°.08N±0°.01×118°.06W±0°.02,h4km, ML2.5/13,ML2.3/56(NEIC),Error ellipse: s-maj=2.6km s-min=1.6km az=60.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NV11	Mina Array Sit	0.36	348		Pg	08 10 47.1	+0.1
NV11					Sg	08 10 52.2	+0.5
NV08	Mina Array Sit	0.38	328		Pg	08 10 47.5	0.0
LHV	Little Huntoon	0.39	296		Pg	08 10 47.8	+0.3
LHV					Sg	08 10 53.4	+0.8
LHV				IAML		08 10 56.2	
	comp=N,447nm,0.4s						
LHV				IAML		08 10 59.2	
	comp=E,356nm,0.7s						
NVAR	Mina Array Bea	0.40	332	Pg	Pg	08 10 47.8	+0.1
NV09	Mina Array Sit	0.41	329		Pg	08 10 48.2	+0.1
MZP	Montezuma Peak	0.66	125		Pg	08 10 52.7	+0.1
MZP				IAML		08 11 02.5	
	comp=E,128nm,0.3s						
MZP				IAML		08 11 03.3	
	comp=N,104nm,0.3s						
RYN	Ryan	0.66	327		Pg	08 10 52.6	-0.1
RYN	Ryan	0.66	327	IAML		08 11 02.7	
	comp=N,129nm,0.2s						
RYN				IAML		08 11 03.9	
	comp=E,114nm,0.2s						
DSP	Deep Springs	0.71	174		Pg	08 10 53.7	0.0
DSP					Sg	08 11 03.8	+0.9
MCBM	Casa Benchmark	0.79	237		Pg	08 10 55.6	+0.4
LCH	Last Change Ra	0.91	158		Pg	08 10 57.3	-0.2
LCH					Sg	08 11 09.6	+0.4
MDPB	Devils Postpil	0.92	241	Pg	Pg	08 10 57.3	-0.4
GMN	Gold Mountain	1.00	140		Pg	08 10 59.2	-0.1
Q09A	Carvers	1.02	42		Pg	08 10 59.4	-0.3
Q09A					Sb	08 11 13.8	-0.6
TIN	Tinemaha, Big	1.03	187		Sb	08 11 14.3	-0.2
WAKR	Walker	1.16	292		Pg	08 11 02.0	-0.3
WAKR					Sg	08 11 17.1	-0.2
WAKR				IAML		08 11 21.4	
	comp=E,46nm,0.8s						
GRAC	Grapevine Rang	1.22	153		Pg	08 11 03.3	0.0
GRAC	Grapevine Rang	1.22	153	Pg	Pg	08 11 03.1	-0.2
GRAC				IAML		08 11 25.0	
	comp=N,88nm,0.4s						
GRAC				IAML		08 11 29.2	
	comp=E,92nm,0.3s						
PNTR	Pine Nut	1.57	310		Pn	08 11 08.2	-0.7
PNTR				IAML		08 11 31.7	
	comp=E,40nm,0.8s						
PNTR				IAML		08 11 32.5	
	comp=N,28nm,0.7s						
WCT	Wildcat Mounta	1.72	138		Pn	08 11 10.4	-0.5
WCT				IAML		08 11 37.3	
	comp=E,36nm,0.4s						
TPNV	Topopah Spring	1.83	127	Pn	Pn	08 11 12.2	-0.4
TPNV				IAML		08 11 44.3	
	comp=E,34nm,0.5s						
TPNV				IAML		08 11 44.9	
	comp=E,38nm,0.5s						
CMB	Columbia Colle	1.83	269		Pb	08 11 13.9	-0.4
CMB	Columbia Colle	1.83	269	Pn	Pn	08 11 12.1	-0.3
CMB				IAML		08 11 38.8	
	comp=E,8.5nm,0.5s						
CMB				IAML		08 11 40.8	
	comp=N,12nm,0.6s						
S11A	Rachel	1.88	103		Pn	08 11 14.2	+1.0
PAHR	Pah Rah Range	1.92	328		Pn	08 11 14.5	+0.7
R11B	Troy Canyon, C	1.97	81		Pn	08 11 13.6	-0.8
SDH	Striped Hills	1.98	136		Pn	08 11 14.7	+0.2
PEAR	Peavine Mounta	2.13	316		Pn	08 11 17.6	+1.0
MCY	Mercury	2.19	130		Pn	08 11 17.9	+0.5
GWY	Greenwater Val	2.19	149	Pn	Pb	08 11 19.2	-1.2
GWY				IAML		08 11 53.3	
	comp=E,16nm,0.5s						
GWY				IAML		08 12 05.7	
	comp=N,13nm,0.8s						
AFDM	Forest Hills D	2.44	292	Pn	Pb	08 11 23.4	-1.2
AFDM				IAML		08 11 59.0	
	comp=E,15nm,0.3s						
AFDM				IAML		08 11 59.8	
	comp=N,13nm,0.3s						
BEKR	Beckworth	2.53	316		Pn	08 11 22.6	+0.5
SHPR	Sheep Range	2.80	123	Pn	Pn	08 11 25.8	0.0
BBGB	Big Mountain B	2.81	239	Pn	Pn	08 11 25.8	-0.1
CCAC	Calif City Air	2.92	179	Pn	Pn	08 11 28.2	+0.8
CCAC				IAML		08 12 06.7	
	comp=N,10nm,3.8s						
CCAC				IAML		08 12 45.1	
	comp=E,9.6nm,3.5s						
GSC	Goldstone, Bar	2.95	160	Pn	Pn	08 11 27.8	0.0
GSC				IAML		08 12 35.5	
	comp=E,9.6nm,3.3s						
GSC				IAML		08 13 14.6	
	comp=N,7.2nm,2.9s						
ELK	Elko	3.45	39	Pn	Pn	08 11 34.4	-0.4
ELK				IAML		08 12 31.8	
	comp=N,4.2nm,0.4s						
LCMT	Little Creek M	3.98	104	Pn	Pn	08 11 41.6	-0.4

NEIC ***19*** *08:14:56.4±2.4,36°.72S±0°.08×177°.30E±0°.07,h10km±1km, mb4.6/9,Error ellipse: s-maj=13.7km s-min=8.7km az=6.0*

NOU ***19*** *08:15:01.0,36°.92S×177°.24E,h4km,MLv4.0/16,Off E. Coast of N. Island, N.Z.*

WEL ***19*** *08:15:01.4±0.7,37°.5S±5°×17°.7E±°,h5km,M3.9/39, ML4.2/30,MLv3.9/39,Error ellipse: s-maj=6.8km s-min=3.7km az=27.8,confirmed*

WEL ***19*** *08:15:01.4,36°.90S×177°.25E,h6km,ML3.9,Mw4.1, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15} Nm; M_{rr}-1.38; $M_{\theta\theta}$0.02; $M_{\phi\phi}$1.36; $M_{r\theta}$1.07; $M_{r\phi}$0.53;*

M_W0.81; Fault plane solution: $M_0$1.99000×10^{15} NP1: ϕ_s220.00000°,δ67.00000°,λ-71.00000°. NP2: ϕ_s359.00000°,δ29.00000°,λ-127.00000°. Principal axes: T -2.0276, Plg20.0000°, Azm296.0000°; N 0.0749, Plg17.0000°, Azm32.0000°; P 1.9527, Plg63.0000°, Azm160.0000°; Stations used: OPRZ PUZ TOZ MKAZ BKZ HIZ WCZ OTVZ WHVZ NORMAL FAULTING

ISC 19 08:14:59.7±1.2, 36.75S±0.04×177.29E±0.04, h33km±9km, n198, σ1°94/197, mb4.5/5, 1C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	White Island S	0.77	187	P	Pb	08 15 14.7	-0.1
WIZ	White Island	0.78	186	P	Pb	08 15 14.7	-0.2
WIZ				S	Sb	08 15 22.8	-2.4
MYRZ	Mayor Island	0.99	237	P	Pb	08 15 19.2	+0.8
HAZ	Te Kaha	1.08	159	P	Pb	08 15 19.3	-0.6
HAZ				S	Sb	08 15 34.4	+0.8
WHRZ	Whale Island	1.13	193	P	Pb	08 15 20.7	-0.1
MXZ	Matakaoa Point	1.15	135		Pb	08 15 21.2	+0.2
MXZ					Sb	08 15 34.8	-0.8
MXZ	Matakaoa Point	1.15	135	P	Pb	08 15 20.8	-0.2
MXZ	Matakaoa Point	1.15	135	S	Sb	08 15 35.7	+0.1
MXZ	Matakaoa Point	1.15	135	P	Pb	08 15 21.2	+0.2
MXZ				S	Sb	08 15 35.0	-0.6
TDHS	Te Araroa Dist	1.23	136	P	Pb	08 15 21.5	-0.9
OPRZ	Ohinepanea	1.24	208	P	Pn	08 15 21.6	+0.9
RUGZ	Raukumara Rang	1.25	166	P	Pb	08 15 22.3	-0.6
KUZ	Kuaotunu	1.26	270	P	Pb	08 15 23.6	+0.8
OPCS	Opotiki Colleg	1.26	180	P	Pn	08 15 21.1	+0.1
OPCS				S	Sn	08 15 35.4	-1.5
TGRZ	Tauranga	1.28	220	P	Pb	08 15 22.8	-0.3
PKGZ	Pakihiroa	1.28	151	P	Pb	08 15 23.1	-0.2
MAHZ	Manawahe	1.33	201	P	Pb	08 15 23.1	+1.1
WMGZ	Waiomatatini S	1.40	140	P	Pb	08 15 26.8	+1.6
LIRZ	Lichensteins R	1.45	210	P	Pb	08 15 25.3	-0.7
URZ	Urewera	1.52	185	P	Pn	08 15 25.7	+1.2
URZ	Urewera	1.52	185	S	Sn	08 15 44.2	+1.1
URZ	Urewera	1.52	185	P	Pn	08 15 26.0	+1.5
KARZ	Kaharoa	1.52	213	P	Pn	08 15 26.3	+1.7
TWGZ	Tauwhareparae	1.53	159	P	Pb	08 15 28.4	+1.0
PUZ	Puketiti	1.53	150	P	Pb	08 15 28.3	+0.9
KMRZ	Kaimai	1.53	224	P	Pb	08 15 26.6	-0.9
OMRZ	Omania	1.54	208	P	Pb	08 15 26.9	-0.8
GRZ	Great Barrier	1.56	288	P	Pb	08 15 29.1	+1.3
MWZ	Matawai	1.59	173	P	Pn	08 15 26.9	+1.3
TARZ	Mount Tarawera	1.61	203	P	Pb	08 15 27.9	-0.9
NGRZ	Ngongotaha	1.61	213	P	Pb	08 15 28.4	-0.4
UTU	Utuhina	1.67	211	P	Pb	08 15 29.5	-0.3
HLRZ	Highlands Stat	1.68	206	P	Pb	08 15 29.2	-0.8
RRRZ	Republican Roa	1.70	201	P	Pb	08 15 29.2	-1.2
TOZ	Tahuroa Road	1.73	235	Pn	Pb	08 15 30.1	-0.7
TOZ	Tahuroa Road	1.73	235	P	Pb	08 15 29.9	-0.9
WIAZ	Waiheke Island	1.73	268	P	Pb	08 15 31.1	+0.2
MKAZ	Moumakai	1.74	258	P	Pb	08 15 30.7	-0.3
TKGZ	Te Karaka	1.75	165	P	Pb	08 15 30.9	-0.1
RAGZ	Rawiri	1.75	177	P	Pb	08 15 29.8	-1.4
HSRZ	Hossack Road	1.77	208	P	Pb	08 15 34.4	+2.9
MUGZ	Murupara	1.77	193	P	Pn	08 15 29.5	+1.4
GRRZ	Galatos Road	1.85	210	P	Pb	08 15 31.7	-1.2
CNGZ	Carnagh Statio	1.88	157	P	Pb	08 15 33.9	+0.6
RTZ	Ruatahuna	1.88	187	Pn	Pn	08 15 31.4	+1.8
RTZ				Sn	Sn	08 15 53.0	+0.8
RTZ	Ruatahuna	1.88	187	P	Pn	08 15 31.4	+1.8
PRRZ	Plateau Road	1.89	202	P	Pn	08 15 31.8	+2.2
ETAZ	East Tamaki Re	1.91	263	P	Pb	08 15 33.8	0.0
MBAZ	Motutapu North	1.92	269	P	Pb	08 15 34.1	+0.1
KBAZ	Karaka Road Bo	1.95	259	P	Pb	08 15 39.6	+5.0
ALRZ	Allen Road	1.96	202	P	Pb	08 15 32.9	+2.2
ABAZ	Army Bay	1.98	274	P	Pb	08 15 35.4	+0.3
WPRZ	Whakapapatarin	1.98	206	P	Pb	08 15 39.5	+4.4
RIGZ	Rimuhau	1.99	169	P	Pb	08 15 34.9	-0.3
SNGZ	Shannon Statio	2.03	179	P	Pb	08 15 34.1	-1.8
EPAZ	Eden Park BICE	2.05	266	P	Pb	08 15 36.6	+0.5
HBAZ	Herne Bay Bore	2.06	266	P	Pb	08 15 36.9	+0.6
KUTZ	Kaahu Road	2.09	213	P	Pn	08 15 35.0	+2.5
TLZ	Tolley Road	2.10	221	P	Pn	08 15 34.9	+2.2
MTHZ	Maungataniwha	2.13	189	P	Pn	08 15 35.0	+2.0
AWAZ	Awhitu Peninsu	2.14	261	P	Pb	08 15 37.4	-0.4
RAHZ	Arahi	2.17	184	P	Pn	08 15 36.0	+2.5
RVAZ	Riverhead Bore	2.18	269	P	Pb	08 15 38.2	-0.2
WTAZ	Waiatarua	2.19	264	P	Pb	08 15 38.0	-0.6
MRHZ	Matea Rd	2.19	198	P	Pn	08 15 36.2	+2.3
PRGZ	Paritu Road	2.22	168	P	Pb	08 15 38.5	-0.7
KNZ	Kokohu	2.29	172	P	Pb	08 15 38.6	-1.7
WATZ	Wairara	2.31	212	P	Pb	08 15 39.9	-0.9
WHAZ	Waihua	2.33	181	P	Pb	08 15 39.9	-1.0
NMHZ	Naumai	2.38	189	P	Pn	08 15 39.2	+2.8
MHGZ	Mahia Peninsul	2.45	169	P	Pb	08 15 40.7	-2.3
BKZ	Black Stump Fm	2.49	194	Pn	Pn	08 15 39.9	+1.8
BKZ	Black Stump Fm	2.49	194	P	Pn	08 15 40.0	+2.0
BKZ	Black Stump Fm	2.49	194	P	Pn	08 15 39.9	+1.8
RITZ	Rihia Road	2.50	207	P	Pb	08 15 44.0	+0.2
WCZ	Waipu Caves	2.51	288	P	Pb	08 15 43.0	-1.0
ARHZ	Aropaoanui	2.52	185	P	Pb	08 15 42.2	-2.0
KATZ	Kakaramea	2.56	209	P	Pb	08 15 45.3	+0.3
HIZ	Hauiti	2.61	227	Pn	Pn	08 15 42.4	+2.8
HIZ	Hauiti	2.61	227	P	Pn	08 15 42.6	+3.0
HIZ	Hauiti	2.61	227	P	Pn	08 15 42.7	+3.0
NTVZ	North Tongarir	2.67	208	P	Pb	08 15 46.2	-0.7
TMVZ	Te Maari	2.67	207	P	Pb	08 15 46.1	-0.8
KRVZ	Karewarewa	2.68	209	P	Pb	08 15 46.6	-0.4
ETVZ	East Tongariro	2.69	207	P	Pn	08 15 44.2	+3.4
WTVZ	West Tongariro	2.72	209	P	Pb	08 15 47.2	-0.5
NNVZ	North Ngauruho	2.72	209	P	Pb	08 15 46.7	-1.1
OTVZ	Oturere	2.73	208	P	Pn	08 15 45.0	+3.6
MCHZ	McNeill Hill	2.73	190	P	Pb	08 15 45.1	-2.7
TWVZ	Taurewa	2.74	212	P	Pb	08 15 50.2	+2.1
KWHZ	Kaweka Forest	2.76	194	P	Pn	08 15 44.4	+2.7
SNVZ	South Ngauruho	2.76	208	P	Pn	08 15 45.5	+3.7
NGZ	Ngauruhoe	2.77	208	P	Pb	08 15 46.9	-1.6
COVZ	Chateau Observ	2.81	209	P	Pb	08 15 48.4	-0.9
TUVZ	Tukino	2.83	207	P	Pb	08 15 48.6	-1.0
FWVZ	Far West T-bar	2.85	208	P	Pb	08 15 48.8	-1.3
MAVZ	Matarangi	2.86	208	P	Pb	08 15 50.2	0.0
WHVZ	Whangaehu Hut	2.86	207	P	Pb	08 15 48.9	-1.3
TRVZ	Turoa	2.89	208	P	Pb	08 15 49.3	-1.4
WNVZ	Wahianoa	2.90	207	P	Pb	08 15 48.2	-2.6
MOVZ	Moawhango	2.92	204	P	Pb	08 15 49.4	-1.7
PKVZ	Pokaka	2.96	211	P	Pn	08 15 48.2	+3.7
KRHZ	Kereru	2.98	194	P	Pn	08 15 48.3	+3.6
MTVZ	Mangateitei	3.00	208	P	Pb	08 15 51.3	-0.8
KAHZ	Kahuranaki	3.06	186	P	Pn	08 15 48.8	+3.0
VRZ	Vera Road	3.10	219	P	Pn	08 15 49.8	+3.4
PNHZ	Pukenui	3.27	195	P	Pn	08 15 51.7	+3.0
PXZ	Pawanui	3.29	186	P	Pn	08 15 50.8	+1.8
OUZ	Omahuta	3.36	296	P	Pb	08 15 55.4	-3.1
OUZ	Omahuta	3.36	296	P	Pb	08 15 55.4	-3.1
TSZ	Takapari Road	3.47	197	P	Pn	08 15 54.5	+3.1
WAZ	Wanganui	3.51	210	P	Pb	08 15 57.5	-3.5
LREZ	Lake Rotokare	3.54	219	P	Pn	08 15 57.1	+4.8
PRHZ	Porangahau	3.55	188	P	Pn	08 15 54.6	+2.1
NEZ	North Egmont	3.56	224	P	Pn	08 15 57.6	+4.8
PKE	Pukeiti	3.57	226	P	Pn	08 15 56.8	+3.9
PREZ	Palmer Road	3.58	223	P	Pn	08 15 57.5	+4.5
KHEZ	Kahui Hut	3.62	224	P	Pb	08 15 58.9	-4.2
DVHZ	Dannevirke	3.65	194	P	Pn	08 15 55.8	+1.9
NBEZ	Newall Road No	3.69	226	P	Pn	08 15 58.3	+3.9
ANWZ	Angora Road	3.76	190	P	Pn	08 15 59.5	+4.2
POWZ	Post Office Ro	3.83	198	P	Pn	08 16 0.4	+5.1
PRWZ	Pori Road	3.94	195	P	Pn	08 16 01.6	+3.7
BFZ	Birch Farm	4.01	191		Pn	08 15 59.8	+1.0
BFZ	Birch Farm	4.01	191	P	Pn	08 15 59.8	+1.0
BFZ	Birch Farm	4.01	191	P	Pn	08 15 60.0	+1.2
MRZ	Mangatainoka R	4.13	198	Pn	Pn	08 16 02.0	+1.6
MRZ				Sn	Sn	08 16 47.6	0.0
MRZ	Mangatainoka R	4.13	198	P	Pn	08 16 02.2	+1.7
TIWZ	Tintock	4.17	195	P	Pn	08 16 04.4	+3.4
HOWZ	Holdsworth Sta	4.37	198	P	Pn	08 16 04.8	+1.0
OGWZ	Otaki Gorge	4.39	202	P	Pn	08 16 06.6	+2.6
TMWZ	Te Maipa	4.49	194	P	Pn	08 16 06.4	+1.0
KIW	Kapiti Island	4.51	204	P	Pn	08 16 08.0	+2.3
MTW	Mount Morrison	4.62	197	P	Pn	08 16 09.0	+1.9
CAW	Cannon Point	4.69	201	P	Pn	08 16 10.0	+1.9
TRWZ	Traveller	4.81	195	P	Pn	08 16 10.8	+1.0
DUWZ	D'Urville Isla	4.83	212	P	Pn	08 16 13.4	+3.4
PAWZ	Paruwai Farm	4.85	197	P	Pn	08 16 11.5	+1.2
MSWZ	Moikau Station	4.92	198	Pn	Pn	08 16 09.9	-1.5
MSWZ	Moikau Station	4.92	198	P	Pn	08 16 12.4	+1.0
SNZO	South Karori	4.98	203	Pn	Pn	08 16 13.3	+1.1
SNZO	South Karori	4.98	203	P	Pn	08 16 13.2	+1.1
BHW	Baring Head	5.02	201	Pn	Pn	08 16 11.7	-0.9
TCW	Tory Channel	5.04	207		Pn	08 16 12.2	-0.7
TCW	Tory Channel	5.04	207	P	Pn	08 16 15.0	+2.1
PLWZ	Palliser	5.07	198	Pn	Pn	08 16 12.3	-1.1
PLWZ	Palliser	5.07	198	P	Pn	08 16 14.6	+1.2
TUWZ	Tuamarina	5.35	208	Pn	Pn	08 16 15.5	-1.7
TUWZ	Tuamarina	5.35	208	P	Pn	08 16 19.7	+2.5
NNZ	Nelson	5.40	213		Pn	08 16 16.0	-1.9
NNZ	Nelson	5.40	213	P	Pn	08 16 22.6	+4.7
TKNZ	Takaka Hill	5.45	217		Pn	08 16 17.6	-1.1
TKNZ	Takaka Hill	5.45	217	P	Pn	08 16 23.5	+4.9
QRZ	Quartz Range	5.51	221		Pn	08 16 19.4	-0.1
QRZ	Quartz Range	5.51	221	P	Pn	08 16 22.6	+3.2
QRZ	Quartz Range	5.51	221	P	Pn	08 16 22.7	+3.2
CMWZ	Cape Campbell	5.53	205	Pn	Pn	08 16 18.6	-1.1
BSWZ	Blackbirch Sta	5.62	207	Pn	Pn	08 16 18.8	-2.2
BSWZ	Blackbirch Sta	5.62	207	P	Pn	08 16 23.9	+2.9
MRNZ	Matariki Terra	5.83	216	Pn	Pn	08 16 22.5	-1.3
MRNZ	Matariki Terra	5.83	216	P	Pn	08 16 27.0	+3.2
THZ	Tophouse	6.05	213	Pn	Pn	08 16 27.2	+0.3
THZ	Tophouse	6.05	213	P	Pn	08 16 28.8	+1.9
KHZ	Kahutara	6.36	206	Pn	Pn	08 16 31.2	+0.1
KHZ	Kahutara	6.36	206	P	Pn	08 16 31.5	+0.5
KHZ	Kahutara	6.36	206	P	Pn	08 16 31.7	+0.7
DSZ	Denniston Nort	6.56	219	Pn	Pn	08 16 32.8	-1.1
DSZ	Denniston Nort	6.56	219	P	Pn	08 16 39.8	+5.9
GVZ	Greta Valley S	7.02	206	Pn	Pn	08 16 40.1	0.0
LTZ	Lake Taylor	7.16	211	Pn	Pn	08 16 41.7	-0.4
INZ	Inchbonnie	7.47	215		Pn	08 16 44.8	-1.6
INZ	Inchbonnie	7.47	215	P	Pn	08 16 50.7	+4.3
OXZ	Oxford	7.70	210		Pn	08 16 47.4	-2.2
OXZ	Oxford	7.70	210	P	Pn	08 16 51.9	+2.3
MQZ	McQueen's Vall	7.80	206	Pn	Pn	08 16 49.1	-1.7
CTZ	Chatham Island	8.39	148	Pn	Pn	08 16 57.1	-1.8
CTZ	Chatham Island	8.39	148	P	Pn	08 17 02.6	+3.7
CTZ	Chatham Island	8.39	148	P	Pn	08 17 02.6	+3.7
RPZ	Rata Peaks	8.43	212	Pn	Pn	08 16 58.4	-1.1
RPZ	Rata Peaks	8.43	212	P	Pn	08 17 00.9	+1.4
RPZ	Rata Peaks	8.43	212	P	Pn	08 17 03.3	+3.7
FOZ	Fox Glacier	8.87	218	Pn	Pn	08 17 03.9	-1.5
ODZ	Otahua Downs	9.69	209	Pn	Pn	08 17 14.5	-2.2
ODZ	Otahua Downs	9.69	209	P	Pn	08 17 19.5	+2.8
JCZ	Jackson Bay	9.77	219	P	Pn	08 17 20.6	+2.6
JCZ	Jackson Bay	9.77	219	P	Pn	08 17 25.0	+7.1
WHZ	Wether Hill Ro	11.51	215	Pn	Pn	08 17 41.7	0.0
DCZ	Deep Cove	11.58	218	Pn	Pn	08 17 40.9	-1.7
FUTU	Fugatoga	22.72	12	P	P	08 19 55.9	-3.0
FUTU				IAmb	IAmb	08 19 56.8	
	comp=Z,34nm,1.0s						
WB2	Warramunga Arr	40.96	282	P	P	08 22 39.2	-0.3
WB2				IAmb	IAmb	08 22 39.4	
	comp=Z,15nm,1.5s						
WRA	Warramunga Arr	40.97	282	P	P	08 22 38.6	-0.9
WB0	Warramunga Arr	41.02	282	P	P	08 22 39.4	-0.6
VNDA	Vanda	41.42	185	P	P	08 22 44.3	+1.8
SBA	Scott Base	41.46	183	P	P	08 22 43.1	+0.3
SBA				IAmb	IAmb	08 22 50.4	
	comp=Z,24nm,1.4s						
PSA00	Pilbara Seismi	51.68	270	P	P	08 24 03.5	-0.1
PSA00				IAmb	IAmb	08 24 37.2	
	comp=Z,5.5nm,1.2s						
QSPA	South Pole Qui	53.38	180	P	P	08 24 16.3	+0.5
QSPA				IAmb	IAmb	08 24 23.1	
	comp=Z,6.1nm,1.0s						
SYO	Syowa Base	70.02	195	⇓eP	P	08 26 08.1	+0.5
SNAA	Sanae	71.88	180	P	P	08 26 19.1	+0.1

*ATH **19** 08:16:01.8, 37.63N×20.58E, h12km±2km, ML2.6/10, Manual Solution by I.Dede First location: 2019/03/19 08:16:18, This location: 2019/03/19 11:25:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

*THE **19** 08:16:02.6, 37.65N×20.61E, h8km±1km, ML2.7/6, Error ellipse: s-maj=1.6km s-min=0.7km az=42.0*

ISC 19 08:16:02.0±1.7, 37.63N±0.07×20.59E±0.06, h11km±7km, n29, σ0°56/52, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.19	81	P	Pg	08 16 06.3	+0.3
KRI1				S	Sg	08 16 08.8	0.0
	7μm,0.3s						
LTHK	Lithakia	0.21	69	P	Pg	08 16 06.5	0.0
LTHK				S	Sg	08 16 09.2	-0.4
	5μm,0.4s						
LTHK	Lithakia	0.21	69	P	Pg	08 16 06.2	-0.3
LTHK				S	Sg	08 16 09.2	-0.4
ORTH	Orthonies,Zaky	0.24	22	P	Pg	08 16 07.0	0.0
ORTH				S	Sg	08 16 10.4	+0.1
KYPS	Kipseli, Zakin	0.27	45	P	Pg	08 16 07.6	+0.2
KYPS				S	Sg	08 16 12.0	+0.9
RTZL	Ratzakli, Kefa	0.47	18	P	Pg	08 16 11.2	0.0
RTZL				S	Sg	08 16 18.0	+0.6
PSDA	Pessada-Kefalo	0.48	360	P	Pg	08 16 11.6	+0.2
PSDA				S	Sg	08 16 18.6	+0.8
PSDA	Pessada-Kefalo	0.48	360	P	Pg	08 16 11.4	0.0
PSDA				S	Sb	08 16 18.9	-0.6
CLEM	Kyllini,Ilia,G	0.51	59	P	Pg	08 16 12.4	+0.5
CLEM				S	Sb	08 16 19.8	-0.5
VLS	Valsamata	0.54	0	P	Pg	08 16 12.7	+0.1
VLS				S	Sg	08 16 20.3	+0.5
	652nm,0.3s						
VLS	Valsamata	0.54	0	P	Pg	08 16 12.7	+0.1
VLS				S	Sg	08 16 20.3	+0.5
SMHA	Samh	0.62	5	P	Pg	08 16 13.1	-1.0
SMHA				S	Sg	08 16 22.3	0.0
DMLN	Damoulianata-K	0.63	345	P	Pg	08 16 14.6	+0.4
DMLN				S	Sb	08 16 24.1	+0.3
	1μm,0.4s						
DMLN	Damoulianata-K	0.63	345	P	Pg	08 16 14.4	+0.2
DMLN				S	Sb	08 16 24.6	+0.8
RLS	Riolos of Patr	0.82	58	P	Pg	08 16 17.5	-0.3
RLS				S	Sb	08 16 29.7	+0.5
AXS	Araxos	0.84	48	P	Pg	08 16 17.9	-0.4
AXS				S	Sb	08 16 30.0	0.0
AMT	Artemida-Makis	0.90	96	P	Pb	08 16 19.6	0.0
AMT				S	Sn	08 16 33.2	-0.4
DRO	Drossia	0.95	70	P	Pg	08 16 20.3	0.0
DRO				S	Sb	08 16 33.7	+0.7
EVGI	Lefkada island	0.99	3	P	Pg	08 16 20.3	-0.8
EVGI				S	Sb	08 16 35.0	+0.8
	218nm,0.3s						
EVGI	Lefkada island	0.99	3	P	Pg	08 16 20.1	-0.9
EVGI				S	Sb	08 16 35.0	+0.8
NYDR	Nydri-Lefkada	1.08	5	P	Pg	08 16 21.8	-1.0
NYDR	Nydri-Lefkada	1.08	5	P	Pg	08 16 21.6	-1.2
NYDR				S	Sg	08 16 36.9	-0.1
LKD2	Lefkada island	1.16	3	P	Pb	08 16 23.1	-0.9
LKD2				S	Sn	08 16 41.3	+1.3
ITM	Ithomi	1.16	112	P	Pb	08 16 23.6	-0.4
TSLK	Tsoukalades, L	1.19	3	P	Pb	08 16 24.0	-0.6
KLV	Kalavryta, Ach	1.31	71	P	Pn	08 16 26.3	+0.1
SERG	Sergoula	1.40	56	P	Pn	08 16 27.5	0.0
ANX	Ano Chora	1.43	47	P	Pn	08 16 27.7	-0.2
ANX				S	Sb	08 16 47.0	+0.1
	180nm,0.8s						
ANX	Ano Chora	1.43	47	P	Pn	08 16 28.2	+0.2

*IDC **19** 08:17:42.4±2.1, 23.46S×179.13E, h545km±25km, mb2.9/7, mbtmp3.8/9, Error ellipse: s-maj=30.1km s-min=19.4km az=146.0*

*NEIC **19** 08:17:43.9±0.5, 23.2S±0.2×179.31E±0.08, h579km±10km, mb4.0/10, Error ellipse: s-maj=26.0km s-min=10.9km az=186.0*

ISC 19 08:17:42.1±0.6, 23.61S±0.07×179.4E±0.1, h550km, n48, σ1°86/58, mb3.6/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.99	347	P	P	08 19 20.1	-0.7
MSVF	Nonsavu	5.99	347	P	P	08 19 19.4	-1.4
	8.5nm,0.9s,baz=188,slow=9.6,SNR=4.5						
GLKZ	Green Lake	6.11	158	P	P	08 19 21.8	+0.2
PINNC	Pines Island,	11.06	273	P	P	08 20 11.6	+0.7
OUZ	Omahuta	12.62	202	P	P	08 20 29.8	+2.9
WCZ	Waipu Caves	13.04	199	P	P	08 20 34.6	+3.3
KUZ	Kuaotunu	13.47	193	P	P	08 20 36.6	+1.0
HAZ	Te Kaha	14.17	185	P	P	08 20 43.0	+0.3
HAZ				S	S	08 23 11.8	+0.2
WMGZ	Waiomatatini S	14.19	183	P	P	08 20 43.1	+0.1
WMGZ				S	S	08 23 11.9	-0.1
PKGZ	Pakihiroa	14.25	184	P	P	08 20 43.4	-0.3
PKGZ				S	S	08 23 12.4	-0.9
RUGZ	Raukumara Rang	14.38	186	P	P	08 20 46.3	+1.1
RUGZ				S	S	08 23 09.7	-6.3
PUZ	Puketiti	14.45	184	P	P	08 20 42.3	-3.4
PUZ				S	S	08 23 16.3	-0.7
URZ	Urewera	14.73	187	P	P	08 20 48.1	-0.5
	17nm,0.7s,baz=343,slow=5.1,SNR=6.9						
URZ				S	S	08 23 18.1	-4.1
	5.4nm,0.4s,baz=0.0,slow=20,SNR=7.8						
URZ	Urewera	14.73	187	P	P	08 20 48.0	-0.6
URZ				S	S	08 23 19.1	-3.1
MWZ	Matawai	14.76	186	P	P	08 20 49.0	0.0
MWZ				S	S	08 23 21.9	-1.0
CNGZ	Carnagh Statio	14.86	184	P	P	08 20 50.6	+0.7
CNGZ				S	S	08 23 22.1	-2.5
RAGZ	Rawiri	14.93	186	P	P	08 20 50.2	-0.6
MTHZ	Maungataniwha	15.35	188	P	P	08 20 56.9	+1.8
MTHZ				S	S	08 23 29.1	-4.3
RAHZ	Arahi	15.38	187	P	P	08 20 55.9	+0.6
TMVZ	Te Maari	15.77	191	P	P	08 21 00.1	+0.7
ETVZ	East Tongariro	15.79	191	P	P	08 20 59.6	+0.1
OTVZ	Oturere	15.83	191	P	P	08 20 59.0	-0.9
SNVZ	South Ngauruho	15.85	191	P	P	08 21 00.9	+0.6
MCHZ	McNeill Hill	15.95	188	P	P	08 21 01.6	+0.6
KWHZ	Kaweka Forest	15.96	188	P	P	08 21 00.2	-1.0
WNVZ	Wahianoa	16.00	191	P	P	08 21 02.0	+0.4
KAHZ	Kahuranaki	16.27	187	P	P	08 21 03.9	-0.2
KAHZ				S	S	08 23 45.7	-3.2
CAN	Canberra	28.82	239	P	P	08 22 57.5	+1.1
STKA	Stephens Creek	34.33	248	P	P	08 23 43.4	+0.1
STKA	Stephens Creek	34.33	248	P	P	08 23 43.1	-0.2
	0.6nm,0.4s,baz=96,slow=13,SNR=3.2						
	0.6nm,0.4s						
AS31	Alice Springs	41.55	260	P	P	08 24 41.2	-1.1
ASAR	Alice Springs	41.55	260	P	P	08 24 41.0	-1.2
	0.5nm,0.6s,baz=100,slow=8.0,SNR=5.3						
	0.5nm,0.6s						
WR8	Warramunga Arr	41.74	266	P	P	08 24 42.3	-1.5
WR8				IAmb	IAmb	08 25 10.0	
	comp=Z,4.5nm,1.2s						
WB0	Warramunga Arr	41.88	266	P	P	08 24 43.4	-1.5
WB0				IAmb	IAmb	08 25 05.2	
	comp=Z,5.6nm,1.3s						
WRA	Warramunga Arr	41.89	266	P	P	08 24 43.2	-1.7
WRA	Warramunga Arr	41.89	266	P	P	08 24 43.0	-1.9
	comp=Z,0.5nm,0.6s,baz=103,slow=8.2,SNR=26						
	comp=Z,0.5nm,0.6s						
KNRA	Kununurra	48.15	270	P	P	08 25 31.5	-1.4
KNRA				IAmb	IAmb	08 26 04.6	
	comp=Z,18nm,1.3s						
QSPA	South Pole Qui	66.47	180	P	P	08 27 39.6	+2.6
QSPA				IAmb	IAmb	08 27 47.7	
	comp=Z,2.3nm,1.1s						
QSPA	South Pole Qui	66.47	180	P	P	08 27 39.2	+2.2
	comp=Z,3.2nm,1.1s,baz=90,slow=2.0,SNR=2.9						
	comp=Z,3.2nm,1.1s						
BELA	Belgrano 2	76.78	173	P	P	08 28 38.4	+1.6
BCW	Bitter Crk WRg	82.17	47	P	P	08 29 03.9	-2.0
BCW				IAmb	IAmb	08 29 40.6	
	comp=Z,8.4nm,1.2s						
SNAA	Sanae	84.96	179	P	P	08 29 20.2	+1.0
SNAA				IAmb	IAmb	08 29 56.4	
	comp=Z,8.3nm,1.5s						
TXAR

comp=Z,8.1nm,0.6s
INZ Inchbonnie 82.41 168 P **P** 09 11 30.4 -0.1
INZ IAmb IAmb 09 11 30.9
comp=Z,8.8nm,0.8s
THZ Tophouse 83.54 169 P **P** 09 11 36.4 0.0
STKA Stephens Creek 85.36 142 P **P** 09 11 45.8 0.0
comp=Z,2.3nm,0.9s,baz=221,slow=9.3,SNR=4.5
comp=Z,2.3nm,0.9s
ASAR Alice Springs 89.57 132 P **P** 09 12 05.8 -0.5
ASAR Alice Springs 89.57 132 P **P** 09 12 05.4 -0.8
comp=Z,0.8nm,0.8s,baz=203,slow=4.8,SNR=7.1
comp=Z,0.8nm,0.8s
BVAR Borovoye Array 118.68 38 PKP **PKPdf** 09 17 55.1 -0.4
comp=Z,0.6nm,0.6s,baz=241,slow=1.5,SNR=4.2
RES Resolute Bay 144.59 333 **PKPdf** 09 18 43.8 +0.4
G08A Pilot Rock 145.38 277 **PKPab** 09 18 46.9 +0.9
YBH Yreka Blue Hor 145.47 269 **PKPbc** 09 18 46.3 +0.1
J05D Fort Rock, OR 145.55 273 PKPdf **PKPab** 09 18 47.6 +0.9
PINE Pine Mountain 145.68 274 **PKPab** 09 18 47.4 +0.2
DBO Dodson Butte 146.63 271 PKPbc **PKPab** 09 18 51.2 +0.5
YKAW1 Yellowknife Wh 149.70 309 PKPbc **PKPbc** 09 18 56.9 0.0
YKA Yellowknife Ar 149.76 309 PKPbc **PKPbc** 09 18 57.3 +0.2
YKA Yellowknife Ar 149.76 309 PKPbc **PKPbc** 09 18 56.9 -0.2
comp=Z,2.0nm,0.8s,baz=101,slow=2.4,SNR=40
YKAW3 Yellowknife Wh 149.78 309 PKPbc **PKPbc** 09 18 57.4 +0.3

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*WEL **19** 09:14:59.3±1.4, 32°S±5°×17°7W±1°9, h12km, M4.5/6, ML4.8/7, MLv4.5/6, Error ellipse: s-maj=25.2km s-min=4.4km az=102.5, confirmed*
*IDC **19** 09:15:03.5±2.8, 32°03S×177°75W, h0km, mb4.0/3, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=67.9km s-min=35.3km az=123.0*
*NEIC **19** 09:15:09.8±0.4, 32°7S±0°1×178°4W±0°2, h10km±2km, mb4.5/7, Error ellipse: s-maj=34.5km s-min=4.9km az=120.0*
ISC 19 09:15:01.2±1.4, 32°00S±0°07×177°2W±0°2, h10km, n30, σ1°84/36, mb4.4/8, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.79**	**347**	P	**Pn**	**09 15 43.9**	**-2.0**
GLKZ				S	**Sn**	**09 16 15.8**	**-3.7**
MXZ	**Matakaoa Point**	**6.66**	**212**	S	**Sn**	**09 17 54.1**	**-0.9**
WMGZ	**Waiomatatini S**	**6.83**	**210**	P	**Pn**	**09 16 41.3**	**0.0**
WMGZ				S	**Sn**	**09 17 57.6**	**-1.5**
PKGZ	**Pakihiroa**	**7.01**	**212**	S	**Sn**	**09 18 03.3**	**-0.4**
HAZ	**Te Kaha**	**7.06**	**214**	P	**Pn**	**09 16 42.5**	**-2.1**
HAZ				S	**Sn**	**09 18 06.3**	**+1.4**
PUZ	**Puketiti**	**7.11**	**210**	P	Pn	09 16 39.5	-5.7
PUZ				S	**Sn**	**09 18 05.4**	**-0.6**
RUGZ	**Raukumara Rang**	**7.28**	**214**	P	**Pn**	**09 16 47.3**	**-0.4**
RUGZ				S	**Sn**	**09 18 09.1**	**-1.4**
TWGZ	**Tauwhareparae**	**7.32**	**211**	P	**Pn**	**09 16 46.2**	**-1.9**
TWGZ				S	**Sn**	**09 18 10.9**	**-0.3**
CNGZ	**Carnagh Statio**	**7.48**	**209**	P	**Pn**	**09 16 48.7**	**-1.6**
CNGZ				S	**Sn**	**09 18 14.0**	**-1.1**
TKGZ	**Te Karaka**	**7.59**	**211**	S	**Sn**	**09 18 17.5**	**-0.4**
URZ	**Urewera**	**7.79**	**215**	Pn	**Pn**	**09 16 53.6**	**-0.9**
	0.3nm,0.3s,baz=38,slow=4.7,SNR=0.9						
URZ				Sn	**Sn**	**09 18 20.0**	**-2.7**
	1.3nm,0.3s,baz=81,slow=19,SNR=4.2						
	1.3nm,0.4s						
URZ	**Urewera**	**7.79**	**215**	P	**Pn**	**09 16 52.3**	**-2.1**
URZ				S	**Sn**	**09 18 20.0**	**-2.7**
RAGZ	**Rawiri**	**7.83**	**213**	S	**Sn**	**09 18 21.4**	**-2.6**
RIGZ	**Rimuhau**	**7.85**	**210**	P	**Pn**	**09 16 53.8**	**-1.6**
RIGZ				S	**Sn**	**09 18 21.3**	**-3.0**
RTZ	**Ruatahuna**	**8.13**	**214**	Pn	Pn	09 16 53.1	-6.2
OUZ	**Omahuta**	**8.31**	**245**	P	**Pn**	**09 17 05.0**	**+3.3**
BKZ	**Black Stump Fm**	**8.80**	**214**	Pn	Pn	09 17 01.8	-6.6
STKA	**Stephens Creek**	**34.80**	**259**	P	**P**	**09 21 53.8**	**+1.6**
	1.1nm,0.6s,baz=95,slow=11,SNR=3.2						
	1.1nm,0.6s						
BBOO	**Buckleboo**	**39.20**	**256**	P	**P**	**09 22 28.3**	**-1.3**
BBOO				IAmb	IAmb	09 23 05.5	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**43.71**	**268**	P	**P**	**09 23 07.3**	**+0.6**
ASAR	**Alice Springs**	**43.71**	**268**	P	**P**	**09 23 06.5**	**-0.2**
ASAR	**Alice Springs**	**43.71**	**268**	P	**P**	**09 23 06.6**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=112,slow=8.3,SNR=32						
	comp=Z,1.2nm,0.5s						
WR8	**Warramunga Arr**	**44.70**	**273**	P	**P**	**09 23 14.7**	**+0.1**
WR8				IAmb	IAmb	09 23 48.4	
	comp=Z,6.5nm,1.1s						
WRAB	**Tennant Creek**	**44.84**	**273**	P	**P**	**09 23 16.2**	**+0.5**
WRAB				IAmb	IAmb	09 23 53.1	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**44.84**	**273**	P	**P**	**09 23 15.6**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=114,slow=7.9,SNR=19						
	comp=Z,1.0nm,0.3s						
WB0	**Warramunga Arr**	**44.87**	**274**	P	**P**	**09 23 16.5**	**+0.5**
WB0				IAmb	IAmb	09 23 40.8	
	comp=Z,13nm,1.4s						
KNRA	**Kununurra**	**51.50**	**275**	P	**P**	**09 24 08.2**	**+1.0**
QSPA	**South Pole Qui**	**58.12**	**180**	P	**P**	**09 24 58.8**	**+4.1**
QSPA				IAmb	IAmb	09 25 24.9	
	comp=Z,6.4nm,1.5s						
SYO	**Syowa Base**	**75.72**	**193**	‖ *e*pP	pP	09 26 52.4	+5.5
FINES	**FINESS Array B**	**146.87**	**340**	PKPbc	**PKPab**	**09 34 45.8**	**+1.6**
	comp=Z,3.4nm,0.6s,baz=33,slow=3.3,SNR=21						

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*IDC **19** 09:35:21.2±4.8, 58°90N×27°26E, h0km, mbtmp3.7/1, ML1.8/2, Error ellipse: s-maj=54.9km s-min=41.9km az=71.0*
*HEL **19** 09:35:24.3±0.2, 59°18N×27°77E, h0km, ML1.6, Suspected explosion*
*EST **19** 09:35:24.5±0.0, 59°22N×27°83E, h0km, ML1.6(HEL), Explosion*
ISC 19 09:35:23.2±0.9, 59°19N±0°03×27°71E±0°04, h0km, n20, σ0°72/34, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.21**	**24**	*e*P	**Pg**	**09 35 27.4**	**+0.2**
EE04				*e*S	**Sg**	**09 35 29.4**	**-0.5**
VSU	**Vasula**	**0.89**	**215**	*e*P	**Pg**	**09 35 40.4**	**+0.2**
VSU				*e*S	**Sb**	**09 35 52.8**	**-1.0**
ARBE	**Arbavere**	**0.92**	**287**	*e*P	**Pb**	**09 35 42.1**	**0.0**
ARBE				*e*S	**Sb**	**09 35 54.3**	**-0.6**
EE07	**Piusa Caves, O**	**1.35**	**186**	*e*P	**Pb**	**09 35 49.5**	**+0.1**
EE07				*e*S	**Sb**	**09 36 07.2**	**-0.1**
VJF	**Virojoki**	**1.36**	**357**	*e*P	**Pg**	**09 35 48.2**	**-1.1**
VJF				MSG		09 36 05.5	
	comp=Z,5.0nm,0.2s						
VJF				*e*SB	**Sg**	**09 36 06.4**	**-0.5**
EE08	**Sarghaua, Vand**	**1.39**	**249**	*e*P	**Pb**	**09 35 50.2**	**+0.2**
EE08				*e*S	**Sn**	**09 36 09.2**	**+0.4**
PVF	**Pernaja**	**1.65**	**326**	*e*PN	**Pb**	**09 35 54.6**	**+0.1**
PVF				MSG		09 36 14.3	
	comp=Z,3.4nm,0.2s						
PVF				*e*SG	**Sn**	**09 36 15.5**	**+0.2**
HEL1	**Helsinki**	**1.75**	**306**	*e*PG	**Pb**	**09 35 56.4**	**+0.2**
HEL1				*e*S	**Sb**	**09 36 18.8**	**+0.2**
HEL1				MSG		09 36 20.7	
	comp=Z,2.6nm,0.1s						
MEF	**Metsahovi**	**1.98**	**303**	*e*PG	**Pb**	**09 36 00.4**	**+0.4**
MEF				MSG		09 36 23.9	
	comp=Z,3.5nm,0.2s						
MEF				*e*SG	**Sb**	**09 36 25.9**	**+0.8**
NUR	**Nurmijarvi**	**2.04**	**312**	*e*PG	**Pb**	**09 36 01.3**	**+0.2**
NUR				MSG		09 36 25.5	
	comp=Z,3.4nm,0.2s						
NUR				*e*SG	**Sg**	**09 36 28.1**	**-0.6**
MTSE	**Matsula**	**2.08**	**259**	*e*SG	**Sg**	**09 36 29.8**	**0.0**
RUF	**Ruokolahti**	**2.33**	**15**	*e*P	**Pn**	**09 36 03.2**	**+0.5**
RUF				MSG		09 36 33.2	
	comp=Z,2.2nm,0.2s						
RUF				*e*SG	**Sb**	**09 36 35.5**	**+0.2**
FIA0	**FINESS Array S**	**2.41**	**341**	*e*PB	**Pb**	**09 36 06.3**	**-1.1**
FIA0				MSG		09 36 35.8	
	comp=Z,2.5nm,0.2s						
FIA0				*e*SG	**Sb**	**09 36 38.3**	**+0.7**
FINES	**FINESS Array B**	**2.41**	**341**	Pn	**Pn**	**09 36 04.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=158,slow=15,SNR=7.7						
FINES				Sn	**Sb**	**09 36 39.0**	**+1.4**
	comp=Z,2.1nm,0.3s,baz=165,slow=26,SNR=28						
FIA1	**FINESS Array S**	**2.41**	**341**	*e*PB	**Pb**	**09 36 06.3**	**-1.1**
FIA1				*e*SG	**Sb**	**09 36 38.4**	**+0.8**
EE06	**Soera, Palade,**	**2.52**	**267**	*e*PG	**Pg**	**09 36 11.1**	**-0.4**
EE06				*e*SG	**Sg**	**09 36 43.3**	**-0.9**

KAF	**Kangasniemi**	**3.02**	**347**	MSG		09 36 53.4
	comp=Z,1.4nm,0.2s					
KAF				*e*SG	**Sb**	**09 36 56.8** **+1.7**
JOF	**Joensuu**	**4.13**	**23**	*e*P	**Pn**	**09 36 28.2** **+0.7**
I43RU	**DUBNA INFRASON**	**5.63**	**112**	I	I	10 08 35.2
	baz=303,slow=312,SNR=3.8					
ARCES	**ARCESS Array B**	**10.44**	**356**	Pn	**Pn**	**09 37 53.2** **-0.7**
	baz=175,slow=12,SNR=2.1					
	comp=Z,2.9nm,1.0s					

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*KRNET **19** 09:36:20.9±0.1, 41°30N×69°90E, h13km, mb2.6*
*ISU **19** 09:36:22, 41°04N×69°93E, h5km*
ISC 19 09:36:23.4±1.5, 41°17N±0°03×70°07E±0°06, h2km±12km, n14, σ1°82/28, 12C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.38**	**353**	P	**Pn**	**09 36 33.5**	**-2.7**
CHMG				S	**Sb**	**09 36 41.5**	**+2.0**
TRKS	**Terek-Say**	**0.88**	**66**	‖ *e*P	**Pg**	**09 36 39.5**	**-0.8**
TRKS				‖ *e*S	**Sg**	**09 36 53.0**	**+1.3**
BTK	**Batken**	**1.25**	**153**	‖ *e*P	**Pg**	**09 36 47.8**	**+0.4**
BTK				‖ *e*S	**Sn**	**09 37 07.1**	**+1.6**
CHMI	**Chimion**	**1.42**	**129**	P	**Pg**	**09 36 50.2**	**-0.5**
CHMI				S	**Sg**	**09 37 10.7**	**+1.5**
FRG	**Fergana**	**1.52**	**121**	P	**Pg**	**09 36 52.3**	**-0.3**
FRG				S	**Sg**	**09 37 14.5**	**+2.1**
ARK	**Arkit**	**1.55**	**66**	⇑ *e*P	**Pn**	**09 36 51.4**	**-0.8**
ARK				⇑ *e*S	**Sb**	**09 37 13.9**	**+0.8**
KK31	**Karatay Array**	**1.96**	**9**	Pn	**Pg**	**09 37 01.2**	**+0.2**
	4.3nm,0.5s,baz=193,slow=16,SNR=31						
KK31				‖ Sn	**Sg**	**09 37 29.7**	**+3.4**
	6.1nm,0.5s,baz=188,slow=22,SNR=10						
DRK	**Karamyk**	**2.14**	**141**	⇑ *e*P	**Pb**	**09 37 02.3**	**-0.9**
DRK				⇑ *e*S	**Sg**	**09 37 33.2**	**+0.9**
OHH	**Osh**	**2.16**	**107**	⇑ *e*P	**Pb**	**09 37 02.3**	**-1.0**
OHH				⇑ *e*S	**Sb**	**09 37 32.4**	**+1.9**
ARSB	**Arslanbob**	**2.20**	**85**	‖ *e*P	**Pb**	**09 37 02.3**	**-1.7**
ARSB				‖ *e*S	**Sb**	**09 37 32.4**	**+0.6**
MNAS	**Manas**	**2.24**	**53**	⇑ *e*P	**Pn**	**09 37 01.9**	**+0.1**
MNAS				⇑ *e*S	**Sb**	**09 37 31.2**	**-1.8**
SALK	**Salom-Alik**	**2.85**	**95**	⇑ *e*P	**Pb**	**09 37 11.9**	**-3.2**
SALK				⇑ *e*S	**Sb**	**09 37 48.9**	**-1.6**
SFK	**Sufi-Kurgan**	**2.86**	**113**	⇑ *e*P	**Pb**	**09 37 12.3**	**-3.0**
SFK				⇑ *e*S	**Sb**	**09 37 50.1**	**-0.7**
ARLS	**Aral**	**3.26**	**76**	‖ *e*P	**Pn**	**09 37 17.1**	**+1.3**
ARLS				‖ *e*S	**Sn**	**09 37 57.7**	**+2.4**

HEL 19 10:00:25.5±0.2, 61°61N×23°54E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.73**	**288**	PG	Pg	10 00 38.2	-1.4
KEF	**Keuruu**	**0.84**	**48**	PG	Pg	10 00 40.5	-1.1
KEF				MSG		10 00 51.4	
	comp=Z,2.5nm,0.2s						
KEF				SB	Sg	10 00 51.9	-0.6
RAF	**Rauma**	**1.04**	**236**	PG	Pg	10 00 43.9	-1.5
RAF				MSG		10 00 57.4	
	comp=Z,2.2nm,0.2s						
RAF				SG	Sg	10 00 57.9	-1.0
FIA0	**FINESS Array S**	**1.23**	**97**	PG	Pg	10 00 47.1	-1.9
	baz=277						
FIA0				MSG		10 01 02.6	
	comp=Z,1.2nm,0.2s						
FIA0				SB	Sg	10 01 04.3	-0.5
NUR	**Nurmijarvi**	**1.23**	**154**	PG	Pg	10 00 47.7	-1.3
NUR				MSG		10 01 02.8	
	comp=Z,1.5nm,0.2s						
KAF	**Kangasniemi**	**1.40**	**68**	PG	Pn	10 00 50.5	-1.8
KAF				MSG		10 01 07.8	
	comp=Z,1.8nm,0.2s						
KAF				SN	Sg	10 01 10.5	0.0
MEF	**Metsahovi**	**1.46**	**163**	PG	Pn	10 00 51.8	-1.3
MEF				MSG		10 01 09.3	
	comp=Z,3.3nm,0.2s						
MEF				SG	Sg	10 01 11.0	-1.3
VAF	**Ylistaro**	**1.49**	**345**	PG	Pn	10 00 53.1	-0.4
VAF				MSG		10 01 10.3	
	comp=Z,2.0nm,0.2s						
VAF				SG	Sg	10 01 12.8	-0.6
PVF	**Pernaja**	**1.55**	**132**	PN	Pn	10 00 53.9	-0.4
PVF				MSG		10 01 12.2	
	comp=Z,1.3nm,0.2s						
SUF	**Sumiainen**	**1.65**	**47**	PG	Pn	10 00 55.2	-0.6
SUF				MSG		10 01 15.0	
	comp=Z,1.0nm,0.2s						
SUF				SN	Sn	10 01 17.5	-0.2
OUF	**Merijarvi**	**2.82**	**11**	MSG		10 01 48.4	
	comp=Z,0.7nm,0.2s						
OUF				SG	Sb	10 01 52.2	+0.5
OUL	**Oulu**	**3.65**	**16**	SB	Sn	10 02 10.4	+3.7

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*IDC **19** 10:11:19.4±2.0, 31°86S×177°28W, h0km, mb3.9/3, mbtmp3.9/4, ML2.8/1, Error ellipse: s-maj=43.7km s-min=34.9km az=88.0*
ISC 19 10:11:18.8±1.5, 31°57S±0°07×177°3W±0°2, h10km, n21, σ1°50/30, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.37**	**346**	P	**Pn**	**10 11 57.4**	**-0.4**
GLKZ				S	**Sn**	**10 12 24.4**	**-2.6**
RIZ	**Raoul Island**	**2.39**	**346**	P	**Pn**	**10 11 56.7**	**-1.3**
MXZ	**Matakaoa Point**	**7.00**	**210**	S	**Sn**	**10 14 20.0**	**-1.2**
WMGZ	**Waiomatatini S**	**7.18**	**209**	P	**Pn**	**10 13 02.8**	**-1.0**
WMGZ				S	**Sn**	**10 14 26.0**	**+0.7**
PKGZ	**Pakihiroa**	**7.36**	**210**	P	**Pn**	**10 13 06.8**	**+0.5**
PKGZ				S	**Sn**	**10 14 30.0**	**+0.2**
HAZ	**Te Kaha**	**7.40**	**212**	P	**Pn**	**10 13 07.5**	**+0.7**
HAZ				S	**Sn**	**10 14 30.5**	**-0.3**
PUZ	**Puketiti**	**7.46**	**208**	P	**Pn**	**10 13 07.7**	**0.0**
PUZ				S	**Sn**	**10 14 30.1**	**-2.2**
RUGZ	**Raukumara Rang**	**7.62**	**212**	P	**Pn**	**10 13 10.3**	**+0.3**
RUGZ				S	**Sn**	**10 14 34.8**	**-1.6**
TWGZ	**Tauwhareparae**	**7.66**	**209**	P	**Pn**	**10 13 13.0**	**+2.5**
TWGZ				S	**Sn**	**10 14 37.2**	**-0.1**
CNGZ	**Carnagh Statio**	**7.83**	**207**	P	**Pn**	**10 13 12.4**	**-0.4**
TKGZ	**Te Karaka**	**7.94**	**209**	S	**Sn**	**10 14 43.1**	**-0.9**
MWZ	**Matawai**	**7.99**	**211**	P	**Pn**	**10 13 14.3**	**-0.6**
MWZ				S	**Sn**	**10 14 43.3**	**-2.1**
URZ	**Urewera**	**8.12**	**213**	Pn	**Pn**	**10 13 16.4**	**-0.2**
	0.1nm,0.3s,baz=350,slow=5.7,SNR=1.9						
URZ				Sn	**Sn**	**10 14 46.0**	**-2.4**
	2.1nm,0.3s,baz=106,slow=23,SNR=13						
	3.6nm,0.8s						
URZ	**Urewera**	**8.12**	**213**	P	**Pn**	**10 13 16.5**	**-0.2**
URZ				S	**Sn**	**10 14 45.4**	**-3.0**
RIGZ	**Rimuhau**	**8.20**	**208**	S	**Sn**	**10 14 49.9**	**-0.8**
MKAZ	**Moumakai**	**8.35**	**227**	P	**Pn**	**10 13 21.6**	**+1.7**
OUZ	**Omahuta**	**8.47**	**242**	P	Pn	10 13 28.2	+6.7
ASAR	**Alice Springs**	**43.69**	**268**	P	**P**	**10 19 26.1**	**+1.9**
	1.0nm,0.6s,baz=105,slow=7.9,SNR=12						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**44.79**	**273**	P	**P**	**10 19 34.5**	**+1.5**
	2.2nm,0.7s,baz=114,slow=7.6,SNR=14						
	2.2nm,0.7s						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**10 21 14.8**	**-0.4**
	1.0nm,0.8s,baz=52,slow=9.2,SNR=2.8						
	1.0nm,0.8s						
FINES	**FINESS Array B**	**146.46**	**340**	PKPbc	**PKPab**	**10 31 02.4**	**+2.0**
	2.7nm,1.0s,baz=48,slow=2.1,SNR=4.8						

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*STR **19** 10:23:01.5±1.2, 42°N±7°×1°0E±°, h9km±4km, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=8.6, preliminary*
*LDG **19** 10:23:03.4±0.3, 41°89N×9°68E, h5km, Ml2.9/11, Error ellipse: s-maj=5.9km s-min=5.7km az=148.0*
ISC 19 10:23:04.1±2.9, 42°0N±0°1×9°5E±0°1, h17km±11km, n30, σ1°18/47, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPL	**Sampolo**	**0.23**	**304**	Pg	**Pb**	**10 23 10.0**	**+0.1**
SMPL				Sg	**Sb**	**10 23 14.9**	**+1.2**
AJAC	**Base Areonaval**	**0.58**	**266**	Pg	**Pg**	**10 23 15.5**	**-0.1**
AJAC				Sg	**Sg**	**10 23 23.6**	**+0.2**
PGF	**Pioggiola**	**0.71**	**325**	*e*Pg	**Pn**	**10 23 18.6**	**-0.8**
PGF				*e*Sg	**Sn**	**10 23 29.9**	**-0.1**
	96nm,0.3s						
PGF	**Pioggiola**	**0.71**	**325**	Pg	**Pn**	**10 23 18.7**	**-0.8**
PGF				Sg	**Sn**	**10 23 29.8**	**-0.3**
MORSI	**Morsiglia**	**0.99**	**352**	Pg	**Pg**	**10 23 23.0**	**-0.4**
MGRO	**Montegrosso**	**2.43**	**329**	Pn	**Pn**	**10 23 43.5**	**+0.3**
CANO	**Canova, Maglio**	**2.44**	**337**	Pn	**Pn**	**10 23 43.5**	**+0.3**
SBF	**Sospel**	**2.45**	**321**	*e*Pn	**Pn**	**10 23 43.7**	**+0.4**
SBF				*e*Sn	**Sn**	**10 24 12.7**	**-0.2**
	34nm,0.3s						
TURF	**col de Turini**	**2.55**	**323**	Pn	**Pn**	**10 23 45.5**	**+0.6**
TURF				Sn	**Sn**	**10 24 16.6**	**+0.9**
PIAF	**les Granges de**	**2.57**	**327**	Pn	**Pn**	**10 23 45.5**	**+0.4**
PIAF				Sn	**Sn**	**10 24 17.7**	**+1.8**
GBOS	**Grotte di Boss**	**2.59**	**332**	Pn	**Pn**	**10 23 46.5**	**+1.1**
GBOS	**Grotte di Boss**	**2.59**	**332**	Sn	**Sb**	**10 24 19.3**	**-2.5**
LMR	**La Mourre**	**2.62**	**302**	*e*Pn	**Pn**	**10 23 45.8**	**+0.1**
LMR				*e*Sn	**Sn**	**10 24 16.4**	**-0.7**
	5.0nm,0.2s						
CALF	**Calern**	**2.63**	**314**	Pn	**Pn**	**10 23 46.2**	**+0.4**
CALF				Sn	**Sn**	**10 24 17.7**	**+0.3**
PCP	**Piancastagn**	**2.67**	**345**	Pn	**Pn**	**10 23 47.2**	**+0.7**
SPIF	**crte de Spivo**	**2.69**	**322**	Pn	**Pn**	**10 23 48.0**	**+1.3**
SPIF				Sn	**Sn**	**10 24 20.5**	**+1.6**
FLAF	**Flassans-sur-I**	**2.81**	**301**	Pn	**Pn**	**10 23 49.0**	**+0.8**
SALSA	**La sagne**	**2.84**	**313**	Pn	**Pn**	**10 23 49.8**	**+1.0**
SALSA				Sn	**Sn**	**10 24 23.5**	**+0.9**
TRIGF	**Trigance**	**2.91**	**309**	Pn	**Pn**	**10 23 50.8**	**+1.1**
TRIGF				Sn	**Sn**	**10 24 24.9**	**+0.5**
ARTF	**Artigues**	**3.19**	**302**	Pn	**Pn**	**10 23 54.5**	**+1.0**
ARTF				Sn	**Sn**	**10 24 32.3**	**+1.1**
MBDF	**Montbardon**	**3.42**	**325**	*e*Pn	**Pn**	**10 23 58.5**	**+1.7**
MBDF				*e*Sn	**Sn**	**10 24 38.2**	**+1.2**
	3.8nm,0.3s						
SMRF	**Simiane la Rot**	**3.54**	**306**	*e*Pn	**Pn**	**10 23 59.7**	**+1.4**
SMRF				*e*Sn	**Sn**	**10 24 40.1**	**+0.4**
	1.4nm,0.2s						
RUSF	**Rustrel**	**3.57**	**305**	Pn	**Pn**	**10 24 00.1**	**+1.3**
ORIF	**Oris-en-Rattie**	**3.98**	**319**	*e*Pn	**Pn**	**10 24 05.6**	**+1.2**
ORIF	**Oris-en-Rattie**	**3.98**	**319**	*e*P	**Pn**	**10 24 07.3**	**+2.9**
VIVF	**Saint-Julien-l**	**4.58**	**311**	*e*Pn	**Pn**	**10 24 13.2**	**+0.7**
LASF	**Ste Croix**	**4.67**	**299**	*e*Pn	**Pn**	**10 24 13.9**	**0.0**
LASF				*e*Sn	**Sn**	**10 25 07.1**	**-0.6**
	4.5nm,0.3s						
CABF	**La Chapelle**	**5.26**	**333**	*e*Sn	**Sn**	**10 25 19.8**	**-2.6**
	5.2nm,0.4s						
MTLF	**Montolieu**	**5.57**	**287**	*e*Pn	**Pn**	**10 24 25.7**	**-0.5**
MTLF				*e*Sn	**Sn**	**10 25 28.5**	**-1.4**
	2.6nm,0.3s						
CAF	**Calviac**	**6.20**	**301**	*e*Sn	**Sn**	**10 25 42.8**	**-2.4**
	0.6nm,0.2s						

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*IDC **19** 10:50:24.0±0.6, 22°21N×146°11E, h0km, mb4.2/26, mbtmp4.3/31, ML4.4/5, MS3.2/17, Error ellipse: s-maj=17.9km s-min=12.6km az=87.0*
*NEIC **19** 10:50:26.7±2.0, 22°36N±0°07×146°03E±0°04, h10km±1km, mb4.6/64, Error ellipse: s-maj=12.5km s-min=4.5km az=157.0*
*JMA **19** 10:50:29.4±0.3, 23°N±2°×14°6E±°, h0km, MV5.8/30, FAR E OFF OGASAWARA*
ISC 19 10:50:26.3±0.4, 22°40N±0°05×145°98E±0°08, h10km, n132, σ1°67/132, mb4.5/52, MS3.2/15, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**5.46**	**321**	*e*P	**Pn**	**10 51 50.8**	**+3.1**
JHH2				*e*S	**Sn**	**10 52 51.3**	**+0.7**
CBIJ	**Chichi jima**	**5.81**	**324**	*e*P	**Pn**	**10 51 54.6**	**+2.1**
CBIJ				*e*S	**Sn**	**10 52 59.5**	**+0.2**
JCJ	**Chichijima**	**5.81**	**324**		**Pn**	**10 51 54.9**	**+2.3**
JCJ	**Chichijima**	**5.81**	**324**	Pn	Pn	10 51 48.6	-3.9
	64nm,0.3s,baz=227,slow=19,SNR=31						
JCJ				Sn	Sn	10 52 52.7	-6.6
	95nm,0.3s,baz=107,slow=19,SNR=11						
GUMO	**Guam**	**8.83**	**187**	Pn	**Pn**	**10 52 34.7**	**+0.7**
GUMO	**Guam**	**8.83**	**187**	Pn	**Pn**	**10 52 32.6**	**-1.4**
	5.6nm,0.3s,baz=103,slow=5.7,SNR=2.5						
GUMO				Sn	**Sn**	**10 54 10.5**	**-3.1**
	6.0nm,0.3s,baz=345,slow=23,SNR=1.3						
	74nm,0.9s						
JHJ2	**Mitsune**	**11.98**	**334**	Pn	**Pn**	**10 53 16.7**	**-0.5**
JHJ	**Hachijo jima 2**	**12.00**	**334**	Pn	**Pn**	**10 53 18.1**	**+0.6**
	9.2nm,0.3s,baz=100,slow=24,SNR=1.5						
JHJ				Sn	**Sn**	**10 55 24.7**	**-6.7**
	15nm,0.3s,baz=60,slow=23,SNR=7.2						
	54nm,0.4s						
BSO1	**Boso 1**	**12.97**	**341**	*e*P	**Pn**	**10 53 29.6**	**-0.6**
BSO1				*e*S	**Sn**	**10 55 48.6**	**-5.8**
BSO3	**Boso 3**	**13.25**	**340**	*e*S	**Sn**	**10 55 56.6**	**-5.0**
BSO4	**Boso 4**	**13.48**	**340**	*e*P	**Pn**	**10 53 38.4**	**+0.8**
JOD2	**Odawara 2**	**14.16**

comp=Z,2.0nm,0.7s,baz=131,slow=8.0,SNR=7.6
comp=Z,2.0nm,0.7s
KLR Kul'dur 29.05 341 P P 10 56 28.3 +1.7
comp=Z,2.4nm,0.6s,baz=147,slow=6.5,SNR=7.9
comp=Z,2.4nm,0.6s
PETK Petropavlovsk- 31.94 13 P P 10 56 53.7 +1.6
comp=Z,1.3nm,0.7s,baz=201,slow=7.4,SNR=1.3
PETK LR LR 11 08 03.4
comp=Z,38nm,19.9s,baz=186,slow=33
comp=Z,1.3nm,0.7s
HNR Honiara 34.47 155 LR LR 11 12 00.6
comp=Z,38nm,19.1s,baz=23,slow=38
SHEM Shemya Is, Ala 37.14 28 LR LR 11 10 23.6
comp=Z,35nm,20.1s,baz=168,slow=32
MA2 Magadan 37.30 4 LR LR 11 10 12.0
comp=Z,27nm,20.9s,baz=92,slow=32
ULN Ulaanbaatar 40.10 319 P P 10 58 04.1 +1.8
ULN IAmb IAmb 10 58 05.3
comp=Z,14nm,0.8s
SONM Songino Array 40.49 319 P **P 10 58 07.1 +1.7**
SONM Songino Array 40.49 319 P **P 10 58 07.1 +1.7**
comp=Z,6.7nm,0.8s,baz=130,slow=9.0,SNR=30
SONM PcP **PcP 11 00 07.8 -0.3**
comp=Z,1.0nm,0.7s,baz=121,slow=3.8,SNR=3.8
comp=Z,6.7nm,0.8s
YAK Yakutsk 41.16 348 LR LR 11 17 26.1
comp=Z,36nm,19.1s,baz=130,slow=39
WB0 Warramunga Arr 43.41 196 P P 10 58 28.2 -1.2
WR0 Warramunga Arr 43.56 196 P P 10 58 30.3 -0.3
WR8 Warramunga Arr 43.56 196 P P 10 58 30.0 -0.7
WRAB Tennant Creek 43.58 196 P P 10 58 29.4 -1.4
WRAB IAmb IAmb 10 58 56.3
comp=Z,22nm,1.5s
WB2 Warramunga Arr 43.59 196 P P 10 58 28.5 -2.3
WB2 IAmb IAmb 10 58 35.2
comp=Z,11nm,1.1s
WRA Warramunga Arr 43.59 196 P P 10 58 30.2 -0.7
WRA Warramunga Arr 43.59 196 P P 10 58 28.9 -2.0
comp=Z,1.7nm,0.6s,baz=16,slow=8.7,SNR=12
comp=Z,1.7nm,0.6s
JAGI Jajag, Banyuwa 43.75 229 P P 10 58 31.4 -0.9
CHTO Chiang Mai 44.04 274 P P 10 58 33.2 -1.3
CM31 Chiang Mai Arr 44.12 274 P P 10 58 36.0 +0.8
CM31 IAmb IAmb 10 58 36.2
comp=Z,4.5nm,0.6s
CMAR Chiang Mai Arr 44.12 274 P P 10 58 33.8 -1.5
CMAR Chiang Mai Arr 44.12 274 P P 10 58 35.7 +0.4
comp=Z,1.1nm,0.4s,baz=56,slow=9.1,SNR=11
CMAR LR LR 11 19 29.8
comp=Z,19nm,18.0s,baz=75,slow=40
comp=Z,1.1nm,0.4s
FITZ Fitzroy Crossi 44.90 208 P P 10 58 40.2 -1.1
FITZ Fitzroy Crossi 44.90 208 P P 10 58 39.6 -1.7
comp=Z,4.7nm,0.6s,baz=18,slow=11,SNR=8.5
comp=Z,4.7nm,0.6s
KULM Kulim 46.95 256 P P 10 58 57.5 -0.2
KULM IAmb IAmb 10 59 04.1
comp=Z,11nm,1.1s
AS31 Alice Springs 47.27 195 P P 10 58 59.1 -0.9
ASAR Alice Springs 47.27 195 P P 10 58 58.0 -2.0
ASAR Alice Springs 47.27 195 P P 10 58 57.2 -2.8
comp=Z,0.6nm,0.6s,baz=23,slow=7.2,SNR=10
comp=Z,0.6nm,0.6s
BILL Bilibino 47.35 10 P P 10 59 00.4 +0.3
BILL IAmb IAmb 10 59 06.4
comp=Z,5.5nm,1.3s
SHL Shillong 49.25 285 P P 10 59 15.2 -0.4
K15K Wolf Creek Mou 53.25 28 P P 10 59 44.4 -0.4
K15K IAmb IAmb 11 00 12.0
comp=Z,9.9nm,1.4s
O16K Kokwok River B 53.85 31 P P 10 59 48.6 -0.6
O16K IAmb IAmb 10 59 56.3
comp=Z,8.1nm,1.1s
C16K Lisburne Hills 54.61 20 P P 10 59 55.8 +1.1
K17K Iditarod 54.80 28 P P 10 59 55.0 -1.1
K17K IAmb IAmb 11 00 14.3
comp=Z,5.6nm,0.9s
H17K Granite Mounta 54.98 25 P P 10 59 57.6 +0.2
ZAA0 Zalesovo Array 55.29 321 P P 11 00 00.6 +0.8
ZALV Zalesovo Beam 55.29 321 P P 11 00 00.8 +0.9
ZALV Zalesovo Beam 55.29 321 P P 11 00 00.6 +0.8
comp=Z,18nm,0.5s,baz=106,slow=7.9,SNR=76
ZALV PcP **PcP 11 01 00.1 -0.4**
comp=Z,2.9nm,0.6s,baz=123,slow=4.5,SNR=4.4
O18K Koktuh Hills 55.32 32 P P 10 59 59.4 -0.6
OHAK Old Harbor 55.66 35 P P 11 00 01.5 -1.0
H18K Honhosa River 55.67 25 P P 11 00 01.8 -0.6
H18K IAmb IAmb 11 00 47.4
comp=Z,9.9nm,1.5s
MK31 Makanchi Array 56.14 312 P P 11 00 07.3 +1.2
MK31 PcP **PcP 11 01 03.6 -0.4**
MKAR Makanchi Array 56.14 312 P P 11 00 07.0 +0.9
comp=Z,1.8nm,0.5s,baz=86,slow=8.4,SNR=26
MKAR PcP **PcP 11 01 03.6 -0.4**
comp=Z,2.2nm,0.7s,baz=78,slow=6.0,SNR=7.2
MKAR LR LR 11 26 11.8
comp=Z,34nm,19.3s,baz=208,slow=38
comp=Z,1.8nm,0.5s
KDAK Kodiak Island 56.15 35 LR LR 11 21 01.3
comp=Z,20nm,21.8s,baz=88,slow=33
SYI Shuyak Island 56.43 34 P P 11 00 07.7 -0.2
D19K Kuna River 57.08 21 P P 11 00 12.8 +0.3
CAST Castle Rocks 57.71 28 P P 11 00 16.3 -0.7
H21K Melozitna Rive 58.03 25 P P 11 00 18.7 -0.5
H21K IAmb IAmb 11 00 56.5
comp=Z,7.8nm,1.5s
NRIK Noril'sk 58.25 339 P P 11 00 21.7 +1.1
comp=Z,7.3nm,0.9s,baz=104,slow=8.2,SNR=9.9
NRIK LR LR 11 26 01.5
comp=Z,22nm,21.8s,baz=326,slow=37
comp=Z,7.3nm,0.9s
KURK Kurchatov 58.74 317 P P 11 00 24.9 +0.6
KURBB Kurchatov Arra 58.79 317 P P 11 00 25.5 +0.8
comp=Z,18nm,0.8s,baz=92,slow=7.7,SNR=110
comp=Z,18nm,0.8s
D22K Ayikyak River 59.07 22 P P 11 00 27.8 +1.5
D22K IAmb IAmb 11 00 57.4
comp=Z,5.4nm,1.3s
TARG Taragay, Kyrgy 59.42 306 P P 11 00 30.3 +0.6
TARG IAmb IAmb 11 00 31.6
comp=Z,4.2nm,1.1s
KDJ Kajisay 59.86 307 P P 11 00 33.6 +1.1
KDJ IAmb IAmb 11 00 34.1
comp=Z,2.7nm,0.6s
TOLK Toolik Lake Re 60.08 22 P P 11 00 34.8 +1.4
TOLK IAmb IAmb 11 00 58.6
comp=Z,4.8nm,1.1s
ILAR Eielson Array 60.23 27 P P 11 00 34.4 0.0
ILAR Eielson Array 60.23 27 P P 11 00 34.1 -0.4
comp=Z,0.4nm,0.7s,baz=257,slow=4.5,SNR=8.1
ILAR LR LR 11 28 47.1
comp=Z,35nm,18.1s,baz=332,slow=38
comp=Z,0.4nm,0.7s
BOOM Boomskoye usch 60.75 307 P P 11 00 39.9 +1.3
D25K Kavik River 61.37 22 P P 11 00 43.7 +1.5
D25K IAmb IAmb 11 01 05.6
comp=Z,2.5nm,0.8s
BMAR Burnt Mountain 61.64 24 P P 11 00 44.9 +0.9
AAK Ala-Archa 61.80 307 LR LR 11 28 32.3
comp=Z,24nm,18.2s,baz=278,slow=37
BCAR Beaver Creek A 62.23 29 P P 11 00 48.6 +0.5
I28M Miner Creek 63.24 27 P P 11 00 54.9 +0.1
I28M IAmb IAmb 11 01 18.0
comp=Z,5.0nm,1.4s
BVAR Borovoye Array 63.83 319 P P 11 00 60.0 +1.2
comp=Z,38nm,0.5s,baz=90,slow=7.5,SNR=128
BRVK Borovoye 63.89 319 P P 11 01 00.2 +1.0
KK31 Karatay Array 64.66 308 P P 11 01 05.1 +0.7
KK31 IAmb IAmb 11 01 06.0
comp=Z,5.1nm,0.8s
KKAR Karatay Array 64.66 308 P P 11 01 05.0 +0.5
KKAR IAmb IAmb 11 01 06.0
comp=Z,5.4nm,0.8s
SIMJ Simiganj 66.48 304 P P 11 01 16.4 -0.1
SIMJ IAmb IAmb 11 01 17.4
comp=Z,3.6nm,0.7s
KBL Kabul 67.26 299 P P 11 01 21.9 +0.3
KBL IAmb IAmb 11 01 22.8
comp=Z,5.9nm,0.8s
RTZ Ruatahuna 67.30 154 P P 11 01 23.3 +1.9
ARTI Arti 70.34 324 P P 11 01 40.1 +0.1
ABKAR Akbulak array 70.84 316 P P 11 01 43.5 +0.2
YKA Yellowknife Ar 74.62 28 P P 11 02 06.1 +0.7
YKA Yellowknife Ar 74.62 28 P P 11 02 05.3 -0.1
comp=Z,0.6nm,0.7s,baz=291,slow=5.7,SNR=11
comp=Z,0.6nm,0.7s

SPITS Spitsbergen Ar 75.58 351 P P 11 02 12.0 +1.2
comp=Z,9.8nm,1.0s,baz=72,slow=14,SNR=1.7
comp=Z,9.8nm,1.0s
ARCES ARCESS Array B 79.07 342 P P 11 02 30.8 +0.3
comp=Z,1.2nm,0.6s,baz=69,slow=6.8,SNR=6.0
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 80.67 52 P P 11 02 40.1 0.0
comp=Z,0.4nm,0.7s,baz=268,slow=5.7,SNR=5.2
comp=Z,0.4nm,0.7s
FINES FINESS Array B 83.65 335 P P 11 02 54.4 -0.5
comp=Z,5.3nm,0.7s,baz=57,slow=4.7,SNR=18
comp=Z,5.3nm,0.7s
KBZ Khabaz 83.73 315 P P 11 02 56.0 +0.4
comp=Z,3.5nm,0.9s,baz=83,slow=5.0,SNR=6.4
comp=Z,3.5nm,0.9s
PDAR Pinedale Array 85.06 46 P P 11 03 02.5 -0.3
comp=Z,0.4nm,0.8s,baz=208,slow=1.7,SNR=5.0
comp=Z,0.4nm,0.8s
AKASG Malin Array Be 88.42 325 P P 11 03 17.6 -1.1
comp=Z,2.6nm,0.5s,baz=52,slow=4.9,SNR=19
comp=Z,2.6nm,0.5s
AKBB Malin Array Si 88.42 325 P P 11 03 17.8 -0.9
KIEV Kiev 88.44 325 P P 11 03 17.7 -1.0
NC405 NORSAR Array S 88.99 340 P P 11 03 20.5 -0.7
HFS Hagfors 89.06 338 P P 11 03 20.4 -1.1
comp=Z,0.7nm,0.3s,baz=57,slow=5.5,SNR=7.2
comp=Z,0.7nm,0.3s
NB2 NORSAR Subarra 89.21 340 P P 11 03 21.6 -0.7
comp=Z,2.4nm,1.1s,baz=43,slow=5.1
NOA NORSAR Array B 89.21 340 P P 11 03 21.5 -0.7
comp=Z,0.9nm,0.7s,baz=43,slow=4.7,SNR=4.4
NOA LR LR 11 47 46.1
comp=Z,9.6nm,20.9s,baz=305,slow=38
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 91.73 314 P P 11 03 34.5 0.0
comp=Z,0.6nm,0.6s,baz=100,slow=7.9,SNR=3.6
comp=Z,0.6nm,0.6s
BURAR Bucovina Array 92.36 324 P P 11 03 37.5 +0.2
TXAR Lajitas Array 95.53 55 P P 11 03 51.7 -0.6
comp=Z,0.2nm,0.8s,baz=312,slow=5.7,SNR=2.0
comp=Z,0.2nm,0.8s
GERES GERESS Array B 97.29 330 LR LR 11 51 33.1
comp=Z,27nm,18.6s,baz=134,slow=38
PLCA Paso Flores 144.23 129 PKP **PKPdf 11 10 02.7 -0.1**
comp=Z,3.0nm,0.9s,baz=280,slow=6.1,SNR=4.0
LPAZ La Paz 147.30 85 PKPbc **PKPbc 11 10 10.7 -1.0**
comp=Z,3.7nm,0.8s,baz=287,slow=1.6,SNR=6.4

*NNC **19** 10:53:18.5±2.1,43°.73N×69°.71E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=11.7km s-min=8.2km az=133.0,
Suspected Mining explosion.
*SOME **19** 10:53:19.2,43°.73N×69°.85E*
*KRNET **19** 10:53:23.2±0.1,43°.74N×69°.62E,mb3.0*
ISC 19 10:53:18.0±1.8,43°.77N±0°.06×69°.93E±0°.08,h0km,n17,
σ1§31/25,9C-7D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.74**	**185**	P	**Pn**	**10 53 35.6**	**-0.2**
	4.7nm,0.1s						
BRLS				S	**Sn**	**10 53 47.7**	**-0.2**
	20nm,0.2s						
KK31	**Karatay Array**	**0.79**	**147**	⇑P	**Pb**	**10 53 34.8**	**+0.2**
	2.2nm,0.2s,baz=320,slow=17,SNR=191						
KK31				⇓S	**Sb**	**10 53 47.0**	**+1.0**
	9.4nm,0.2s,baz=319,slow=35,SNR=66						
IUG	**Iuzhnay**	**1.63**	**177**	P	**Pg**	**10 53 49.4**	**+0.3**
	61nm,0.3s						
IUG				S	**Sg**	**10 54 11.7**	**+1.4**
	118nm,0.4s						
MNAS	**Manas**	**2.28**	**123**	⇓*e*P	**Pg**	**10 54 03.3**	**+1.6**
MNAS				⇓*e*S	**Sg**	**10 54 33.1**	**+1.8**
TRKS	**Terek-Say**	**2.41**	**158**	⇑*e*P	**Pg**	**10 54 04.9**	**+0.7**
TRKS				⇑*e*S	**Sg**	**10 54 35.1**	**-0.4**
ARK	**Arkit**	**2.48**	**142**	⇑*e*P	**Pg**	**10 54 05.6**	**+0.1**
ARK				⇑*e*S	**Sg**	**10 54 36.3**	**-1.3**
MRKS	**Merke**	**2.62**	**112**	Pg	**Pg**	**10 54 10.1**	**+1.9**
	9.7nm,0.5s						
MRKS				Lg	Lg	10 54 46.9	
	18nm,0.4s						
BTLS	**Baital**	**3.21**	**65**	Pg	**Pb**	**10 54 16.3**	**+0.4**
	24nm,0.6s						
BTLS				Lg	Lg	10 54 57.0	
	3.2nm,0.3s						
ARSB	**Arslanbob**	**3.33**	**136**	⇑*e*P	**Pb**	**10 54 17.7**	**-0.3**
ARSB				⇑*e*S	**Sb**	**10 54 57.3**	**-1.8**
AAK	**Ala-Archa**	**3.53**	**107**	⇑Pg	**Pg**	**10 54 26.5**	**+0.9**
	7.5nm,0.4s						
AAK				⇓Lg	Lg	10 55 16.5	
	7.1nm,0.6s						
ARLS	**Aral**	**3.76**	**119**	⇓*e*P	**Pb**	**10 54 24.7**	**-0.6**
ARLS				⇓*e*S	**Sb**	**10 55 08.9**	**-2.5**
TKM2	**Tokmak 2**	**4.22**	**100**	⇓Pg	**Pg**	**10 54 39.7**	**+0.8**
	4.4nm,0.6s						
TKM2				⇑Lg	Lg	10 55 38.4	
	4.8nm,0.5s						
DGS	**Degeres**	**4.29**	**95**	Pg	**Pg**	**10 54 42.8**	**+2.7**
	5.8nm,0.5s						
DGS				Lg	Lg	10 55 42.7	
	16nm,0.7s						
KST	**Kastek**	**4.46**	**97**	Pg	**Pg**	**10 54 44.1**	**+0.7**
	6.1nm,0.7s						
KST				Lg	Lg	10 55 44.9	
	11nm,0.4s						
TNSS	**Tian-Shan**	**5.17**	**96**	Pg	**Pg**	**10 54 57.5**	**+0.4**
	1.7nm,0.4s						
TNSS				Lg	Lg	10 56 07.8	
	3.0nm,0.5s						
ARXS	**Arharly**	**5.72**	**83**	Pg	**Pg**	**10 55 07.7**	**+0.2**
	1.2nm,0.5s						
ARXS				Lg	Lg	10 56 25.5	
	3.3nm,0.3s						
BLB	**Baldybastay**	**6.18**	**84**	Pg	**Pg**	**10 55 14.6**	**-1.8**
	4.2nm,0.4s						
BLB				Lg	Lg	10 56 37.2	
	4.8nm,0.6s						

IDC 19 10:57:45.2±5.7,6°.88S×129°.56E,h256km±59km,mb3.1/1,
mbtmp3.7/4,MS3.2/1,Error ellipse: s-maj=83.8km
s-min=25.3km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**199**	P	Pn	11 00 26.0	0.0
	2.1nm,0.9s,baz=22,slow=13,SNR=1.4						
FITZ				S	S	11 02 32.9	-4.8
	2.6nm,0.8s,baz=45,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**13.79**	**161**	P	Pn	11 00 50.1	-0.6
	0.7nm,0.4s,baz=343,slow=12,SNR=13						
WRA				S	S	11 03 14.6	-8.9
	0.4nm,0.3s,baz=348,slow=24,SNR=8.0						
WRA				LR	LR	11 06 06.7	
	comp=Z,93nm,18.6s,baz=330,slow=36						
ASAR	**Alice Springs**	**17.21**	**166**	P	P	11 01 29.5	+0.6
	0.7nm,0.4s,baz=347,slow=10,SNR=15						
ASAR				S	S	11 04 34.5	-0.4
	0.2nm,0.8s,baz=326,slow=11,SNR=1.5						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	11 08 16.2	-0.1
	0.4nm,0.5s,baz=135,slow=7.1,SNR=4.5						
	0.4nm,0.5s						

*KOLA **19** 11:15:03.4,68°.10N×33°.01E,h0km,ML1.9,Error ellipse:*
s-maj=2.7km s-min=1.4km az=90.0,Olenegorsk City,
Mines
HEL 19 11:15:03.4±0.1,68°.05N×32°.98E,h0km,ML1.6,
Suspected explosion,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.45**	**179**	P	Pg	11 15 11.8	-0.1
APA0				S	Sg	11 15 18.6	+0.9
APA	**Apatity**	**0.51**	**161**	P	Pg	11 15 13.1	0.0
APA				S	Sg	11 15 20.6	+0.9
LVZ	**Lovozero**	**0.65**	**103**	P	Pg	11 15 15.3	-0.5
LVZ				S	Sg	11 15 23.4	-0.8
LVZ	**Lovozero**	**0.65**	**103**	PB	Pg	11 15 16.1	+0.3
LVZ				SG	Sg	11 15 23.4	-0.8
VRF	**Varrio**	**1.31**	**258**	PB	Pg	11 15 26.9	-1.6
VRF				MSG		11 15 43.1	
	comp=Z,6.1nm,0.2s						
VRF				SG	Sg	11 15 44.0	-1.5
KVDA	**Kovda**	**1.37**	**182**	P	Pg	11 15 28.2	-1.3
KVDA				S	Sg	11 15 47.0	-0.2
TERR	**Teriberka**	**1.40**	**33**	P	Pn	11 15 27.2	-2.8
TERR				S	Sg	11 15 44.5	-3.6
PRVG	**Vayda Guba**	**1.73**	**351**	P	Pn	11 15 34.1	-0.5
PRVG				S	Sn	11 15 55.6	-1.7
RAJF	**Raja-Jooseppi**	**1.79**	**286**	PB	Pn	11 15 34.9	-0.6
OLKF	**Oulanka, Finla**	**2.23**	**220**	PG	Pn	11 15 42.8	+1.3
OLKF				MSG		11 16 09.5	
	comp=Z,1.8nm,0.2s						
OLKF				SG	Sb	11 16 12.2	-0.4
KU6	**Riekki**	**2.37**	**212**	PG	Pb	11 15 45.2	-1.6
KU6				MSG		11 16 13.4	
	comp=Z,0.8nm,0.2s						
KU6				SG	Sb	11 16 16.4	-0.2
VADS	**Vadso**	**2.45**	**330**	P	Pn	11 15 45.3	+0.7
VADS				S	Sn	11 16 13.4	-1.7
KEV	**Kevo**	**2.76**	**311**	*e*P	Pn	11 15 47.5	-1.2
KEV	**Kevo**	**2.76**	**311**	PG	Pg	11 15 55.2	-0.9
KEV				MSG		11 16 24.5	
	comp=Z,4.0nm,0.2s						
KEV				SN	Sb	11 16 25.3	-2.4
KU2	**Taivalkoski**	**3.01**	**221**	PG	Pb	11 15 55.6	-2.1
	baz=41						
RNF	**Rovaniemi**	**3.06**	**245**	PN	Pn	11 15 53.0	0.0
RNF				SN	Sn	11 16 29.9	-0.3
ARA0	**ARCESS Array S**	**3.10**	**302**	*e*P	Pn	11 15 52.6	-0.9
ARA0	**ARCESS Array S**	**3.10**	**302**	PN	Pn	11 15 52.8	-0.7
ARA0				SN	Sb	11 16 34.5	-3.1
ARCES	**ARCESS Array B**	**3.10**	**302**	P	Pn	11 15 52.4	-1.1
ARCES				S	Sn	11 16 28.4	-2.8
RANF	**Ranua**	**3.17**	**233**	PN	Pn	11 15 54.2	-0.3
	baz=52						
RANF				SN	Sn	11 16 32.3	-0.7
HEF	**Hetta**	**3.49**	**280**	PB	Pb	11 16 05.4	-0.5
KLF	**Kolari**	**3.54**	**261**	PN	Pn	11 15 59.7	+0.1
KLF				SN	Sn	11 16 43.3	+1.3
KTK1	**Kautokeino**	**3.71**	**290**	SB	Sb	11 16 56.6	+1.4
PAJU	**Pajala**	**3.92**	**259**	PN	Pn	11 16 04.0	-0.8
PAJU				SN	Sn	11 16 51.0	-0.5
OUL	**Oulu**	**4.11**	**227**	SN	Sn	11 16 53.8	-2.1
LANU	**Lannavaara**	**4.12**	**275**	PN	Pn	11 16 07.1	-0.5
LANU				SB	Sb	11 17 09.5	+2.4
ERTU	**Ertsjaerv**	**4.44**	**255**	PN	Pn	11 16 10.8	-1.1
ERTU				SN	Sn	11 17 02.5	-1.8
OBF4	**Vikkela, Lumij**	**4.53**	**228**	PN	Pn	11 16 12.7	-0.4
	baz=43						
OBF4				SB	Sb	11 17 17.3	-1.5

HEL 19 11:16:24.6±0.1,63°.95N×28°.16E,h0km,ML1.2,
Suspected explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.58**	**196**	PG	Pg	11 16 35.2	-0.6
	baz=16						
NIF				SG	Sg	11 16 42.9	-0.4
RMF	**Romuvaara**	**0.82**	**70**	SN	Sg	11 16 50.0	-1.0
RMF	**Romuvaara**	**0.82**	**70**	PG	Pg	11 16 39.6	-0.8
RMF				SG	Sg	11 16 50.0	-1.0
RMF				MSG		11 16 50.0	
	comp=Z,1.9nm,0.2s						
SUF	**Sumiainen**	**1.53**	**217**	PN	Pn	11 16 52.8	-0.4
SUF				MSG		11 17 10.5	
	comp=Z,0.7nm,0.2s						
OUF	**Merijarvi**	**1.56**	**287**	PG	Pn	11 16 52.7	-0.8
OUF				MSG		11 17 11.3	
	comp=Z,1.2nm,0.2s						
OBF4	**Vikkela, Lumij**	**1.59**	**304**	PN	Pn	11 16 53.5	-0.4
	baz=119						
OBF4				MSG		11 17 12.0	
	comp=Z,1.2nm,0.2s						
KU1	**Kurvinen**	**1.73**	**20**	PG	Pn	11 16 55.6	-0.3
KU1				SG	Sb	11 17 19.1	-0.3
JOF	**Joensuu**	**1.75**	**125**	PG	Pn	11 16 55.9	-0.3
JOF				SG	Sn	11 17 18.7	-0.5
KU2	**Taivalkoski**	**1.77**	**1**	PG	Pb	11 16 57.8	0.0
KAF	**Kangasniemi**	**2.03**	**205**	PG	Pb	11 17 02.2	-0.1
KAF				MSG		11 17 25.0	
	comp=Z,1.2nm,0.2s						
KAF				SG	Sb	11 17 28.6	+0.6
KEF	**Keuruu**	**2.33**	**221**	PG	Pb	11 17 06.6	-0.9
KEF				MSG		11 17 33.8	
	comp=Z,1.2nm,0.2s						
KEF				SG	Sb	11 17 36.5	-0.4
RUF	**Ruokolahti**	**2.56**	**172**	PG	Pb	11 17 09.8	-1.6
RUF				MSG		11 17 40.3	
	comp=Z,0.9nm,0.2s						
RUF				SG	Sb	11 17 43.3	0.0
VAF	**Ylistaro**	**2.63**	**252**	MSG		11 17 42.1	
	comp=Z,0.8nm,0.2s						
VAF				SG	Sb	11 17 45.0	-0.2
FIA0	**FINESS Array S**	**2.69**	**202**	MSG		11 17 43.9	
	comp=Z,0.7nm,0.2s						
FIA0				SG	Sb	11 17 46.4	-0.7

*NEIC **19** 11:17:23.2±2.0,23°.6S±0°.1×179°.8W±0°.1,h486km±8km,*
mb4.2/16,Error ellipse: s-maj=21.4km s-min=12.5km
az=51.0
*IDC **19** 11:17:26.0±2.3,23°.43S×179°.90W,h532km±24km,mb3.3/4,*
mbtmp4.3/6,Error ellipse: s-maj=27.5km s-min=24.5km
az=127.0
ISC 19 11:17:25.6±0.5,23°.57S±0°.07×179°.83W±0°.09,h532km,
n52,σ1§94/58,mb4.1/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.92**	**164**	P	**P**	**11 19 03.1**	**+0.6**
MSVF	**Nonsavu**	**6.14**	**341**	P	**P**	**11 19 04.4**	**-0.5**
	8.3nm,0.9s,baz=163,slow=13,SNR=5.6						
FUTU	**Fugatoga**	**9.35**	**10**	P	**P**	**11 19 33.5**	**-3.3**
NIUE	**Niue**	**10.25**	**66**	P	**P**	**11 19 45.0**	**-0.9**
NIUE	**Niue**	**10.25**	**66**	P	**P**	**11 19 49.0**	**+3.0**
NIUE				S	**S**	**11 21 42.1**	**+0.7**
KUZ	**Kuaotunu**	**13.68**	**195**	P	P	11 20 28.1	+6.7
ETAZ	**East Tamaki Re**	**14.08**	**198**	P	P	11 20 33.5	+7.8
MKAZ	**Moumakai**	**14.16**	**197**	P	**P**	**11 20 30.2**	**+3.8**
HAZ	**Te Kaha**	**14.29**	**188**	P	**P**	**11 20 27.4**	**-0.3**
HAZ				S	**S**	**11 22 56.6**	**-1.3**
RUGZ	**Raukumara Rang**	**14.51**	**188**	P	**P**	**11 20 31.7**	**+1.6**
RUGZ				S	**S**	**11 23 00.6**	**-1.8**
PUZ	**Puketiti**	**14.55**	**186**	P	**P**	**11 20 31.7**	**+1.2**
PUZ				S	**S**	**11 23 03.8**	**+0.8**
KMRZ	**Kaimai**	**14.69**	**193**	P	**P**	**11 20 35.7**	**+3.8**
URZ	**Urewera**	**14.88**	**189**	P	**P**	**11 20 33.8**	**-0.1**
	6.4nm,0.4s,baz=38,slow=3.2,SNR=14						
URZ				S	**S**	**11 23 06.5**	**-2.6**
	2.9nm,0.4s,baz=52,slow=15,SNR=11						
URZ	**Urewera**	**14.88**	**189**	P	**P**	**11 20 30.5**	**-3.3**
URZ				S	**S**	**11 23 04.3**	**-4.8**
MWZ	**Matawai**	**14.89**	**188**	P	**P**	**11 20 32.5**	**-1.6**
MWZ				S	**S**	**11 23 04.6**	**-4.9**
RAHZ	**Arahi**	**15.52**	**189**	P	**P**	**11 20 41.0**	**+0.4**
RAHZ				S	**S**	**11 23 21.2**	**+0.2**
WATZ	**Wairara**	**15.56**	**193**	P	**P**	**11 20 43.4**	**+2.4**
HIZ	**Hauiti**	**15.57**	**196**	P	**P**	**11 20 45.7**	**+4.6**
TMVZ	**Te Maari**	**15.96**	**193**	P	**P**	**11 20 46.0**	**+0.9**
NGZ	**Ngauruhoe**	**16.04**	**193**	P	**P**	**11 20 46.6**	**+0.7**
KWHZ	**Kaweka Forest**	**16.12**	**191**	P	**P**	**11 20 43.0**	**-3.7**
KWHZ				S	**S**	**11 23 27.0**	**-4.4**
TCW	**Tory Channel**	**18.27**	**194**	P	**P**	**11 21 07.6**	**+1.0**
EIDS	**Eidsvold**	**26.52**	**260**	P	**P**	**11 22 21.6**	**+0.8**
EIDS				IAmb	IAmb	11 22 22.2	
	comp=Z,4.2nm,0.5s						
CAN	**Canberra**	**29.44**	**239**	P	**P**	**11 22 45.2**	**-1.1**
CAN				IAmb	IAmb	11 22 51.1	
	comp=Z,19nm,1.5s						
TOO	**Toolangi**	**32.76**	**237**	P	**P**	**11 23 15.7**	**+1.1**
TOO				IAmb	IAmb	11 23 53.2	
	comp=Z,6.3nm,1.4s						
STKA	**Stephens Creek**	**34.99**	**248**	P	**P**	**11 23 34.2**	**+0.8**
STKA	**Stephens Creek**	**34.99**	**248**	P	**P**	**11 23 34.0**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=86,slow=9.5,SNR=7.0						
	comp=Z,2.2nm,0.5s						
BBOO	**Buckleboo**	**39.72**	**247**	P	**P**	**11 24 10.4**	**-1.7**
AS31	**Alice Springs**	**42.24**	**260**	P	**P**	**11 24 32.7**	**+0.2**
ASAR	**Alice Springs**	**42.25**	**260**	P	**P**	**11 24 32.4**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=100,slow=7.1,SNR=50						

WB0 Warramunga Arr 42.58 266 P P 11 24 34.5 -0.5
WB0 IAmb IAmb 11 24 35.2
comp=Z,4.4nm,0.7s
WRAB Tennant Creek 42.58 266 P P 11 24 34.7 -0.4
WRA Warramunga Arr 42.59 266 P P 11 24 34.9 -0.2
WRA Warramunga Arr 42.59 266 P P 11 24 34.6 -0.5
comp=Z,3.3nm,0.5s,baz=92,slow=8.5,SNR=93
comp=Z,3.3nm,0.5s
FORT Forrest 46.58 249 P P 11 25 05.7 0.0
MTN Manton Dam 47.59 274 P P 11 25 13.3 -0.2
MTN IAmb IAmb 11 25 20.8
comp=Z,14nm,1.2s
KNRA Kununurra 48.85 269 P P 11 25 23.2 +0.3
FITZ Fitzroy Crossi 51.01 265 P P 11 25 39.4 +0.6
MORW Morawa 57.14 250 P P 11 26 21.7 -0.1
MORW IAmb IAmb 11 26 33.9
comp=Z,19nm,1.4s
QSPA South Pole Qui 66.51 180 P P 11 27 24.4 +2.1
QSPA IAmb IAmb 11 27 57.1
comp=Z,7.7nm,1.5s
QSPA South Pole Qui 66.51 180 P P 11 27 23.7 +1.4
comp=Z,1.7nm,1.1s,baz=9.2,slow=1.0,SNR=5.1
comp=Z,1.7nm,1.1s
ARCES ARCESS Array B 131.60 348 PKP PKPdf 11 35 36.6 -0.5
comp=Z,1.4nm,0.8s,baz=46,slow=5.2,SNR=4.5
HFS Hagfors 142.25 349 PKhKP PKPpre 11 35 52.9
comp=Z,2.4nm,0.4s,baz=67,slow=3.9,SNR=23
AKASG Malin Array Be 144.78 328 PKPdf PKPab 11 36 02.3 -0.5
AKASG Malin Array Be 144.78 328 PKP PKPdf 11 36 01.3 -0.3
comp=Z,1.2nm,0.5s,baz=45,slow=4.1,SNR=9.7
AKBB Malin Array Si 144.78 328 PKPdf PKPdf 11 36 01.6 0.0
KIEV Kiev 144.79 328 PKPdf PKPdf 11 36 01.6 0.0
MMAI Mount Meron Ar 147.71 295 PKPbc PKPbc 11 36 10.5 -0.4
comp=Z,0.9nm,0.3s,baz=94,slow=5.8,SNR=1.9
EKA Eskdalemuir Ar 148.18 4 PKPbc PKPbc 11 36 10.3 -0.9
comp=Z,0.4nm,0.4s,baz=7.4,slow=2.6,SNR=3.6
BURAR Bucovina Array 148.78 326 PKPbc PKiKP 11 36 14.6 +0.5
FUORN Ofenpass-Fuorn 155.61 343 PKPab PKPab 11 36 49.0 +0.9

NEIC 19 11:30:09.5±0.6, 31°.102N±0°.006×103°.25W±0°.01, h5km±1km, mb_Lg2.8/51, ML2.8/56, Error ellipse: s-maj=2.7km s-min=2.1km az=242.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	**Monahans**	**0.48**	**60**		Pg	11 30 18.8	0.0
MNHN				Sg	Sg	11 30 26.2	+1.1
PECS	**Pecos**	**0.59**	**297**		Pg	11 30 20.7	-0.2
PECS				Sg	Sg	11 30 29.4	+0.8
PECS				IAML		11 30 35.6	
	569nm,0.3s						
PECS				IAML		11 30 40.2	
	457nm,0.4s						
ALPN	**Alpine**	**0.80**	**205**		Pg	11 30 24.7	-0.1
ALPN				Sg	Sg	11 30 35.2	+0.1
ODSA	**Odessa**	**1.18**	**30**		Pg	11 30 31.4	-0.7
CLNB	**Carlsbad**	**1.28**	**335**		Pg	11 30 33.4	-0.6
CLN7	**Carlsbad 7**	**1.39**	**340**		Pn	11 30 35.6	0.0
HTMS	**Hat Mesa**	**1.41**	**347**		Pn	11 30 35.8	-0.1
GDL2	**Guadalupe Moun**	**1.45**	**319**		Pn	11 30 36.3	-0.2
SAND	**Sanderson**	**1.50**	**139**		Pb	11 30 37.8	0.0
SAND				IAML		11 31 02.3	
	158nm,0.9s						
SAND				IAML		11 31 02.3	
	150nm,0.6s						
VHRN	**Van Horn**	**1.52**	**259**		Pn	11 30 37.5	0.0
TX31	**Lajitas Ar. Si**	**1.80**	**192**	Pn	Pb	11 30 42.3	-0.7
OZNA	**Ozona**	**1.83**	**95**		Pb	11 30 43.0	-0.5
MNTX	**Cornudas Mount**	**1.92**	**289**	Pn	Pn	11 30 43.9	+1.0
MNTX				IAML		11 31 11.4	
	64nm,0.8s						
MNTX				IAML		11 31 13.9	
	58nm,0.3s						
MNTX				IAmb_Lg		11 31 14.6	
	comp=Z,34nm,0.8s						
SGCY	**Sterling City**	**1.99**	**65**		Pb	11 30 45.2	-1.0
SGCY				IAmb_Lg		11 31 15.4	
	comp=Z,68nm,1.2s						
CPRX	**Cap Rock**	**1.99**	**345**		Pb	11 30 45.2	-1.1
POST	**Post**	**2.46**	**37**		Pn	11 30 51.4	+1.1
SN05	**Snyder 5**	**2.68**	**48**	Pn	Pn	11 30 54.6	+1.3
SN05				IAmb_Lg		11 31 41.0	
	comp=Z,44nm,0.7s						
SN07	**Snyder 07**	**2.82**	**45**		Pn	11 30 56.5	+1.3
DRIO	**Del Rio**	**2.83**	**126**	Pn	Pn	11 30 56.8	+1.4
MSTX	**Muleshoe**	**2.89**	**8**	Pn	Pn	11 30 57.3	+1.0
MSTX				IAmb_Lg		11 31 45.7	
	comp=Z,21nm,0.7s						
JCT	**Junction City**	**3.03**	**101**	Pn	Pn	11 30 59.4	+1.3
DKNS	**Dickens**	**3.23**	**37**		Pn	11 31 01.8	+0.9
ABTX	**Abilene, Hawle**	**3.42**	**63**		Pn	11 31 04.7	+1.1
ABTX				IAmb_Lg		11 32 03.4	
	comp=Z,33nm,0.7s						
APMT	**Aspermont**	**3.46**	**49**	Pn	Pn	11 31 05.0	+1.0
BRDY	**Brady**	**3.65**	**86**	Pn	Pn	11 31 08.2	+1.6
BRDY				IAmb_Lg		11 32 12.7	
	comp=Z,30nm,0.8s						
HNDO	**Hondo**	**3.77**	**114**	Pn	Pn	11 31 10.0	+1.7
HNDO				IAmb_Lg		11 32 18.0	
	comp=Z,39nm,1.0s						
AMTX	**Amarillo**	**4.00**	**19**	IAmb_Lg		11 32 26.1	
	comp=Z,29nm,0.8s						
CRNM	**Carthage**	**4.09**	**315**	Pn	Pn	11 31 13.0	+0.1
BNM	**Barren Site**	**4.17**	**318**	Pn	Pn	11 31 14.2	+0.2
LENM	**Lemitar**	**4.38**	**315**	Pn	Pn	11 31 17.1	+0.3
PLPT	**Palo Pinto**	**4.53**	**67**	Pn	Pn	11 31 19.4	+0.7
PLPT				IAmb_Lg		11 32 41.2	
	comp=Z,14nm,0.8s						
HPIG		**4.66**	**208**		Pn	11 31 21.4	+0.7
HPIG				IAML		11 31 58.1	
	comp=N,7.9nm,0.4s						
HPIG				IAML		11 32 44.1	
	comp=E,11nm,0.6s						
ANMO	**Albuquerque**	**4.68**	**326**	IAmb_Lg		11 32 48.2	
	comp=Z,7.9nm,0.9s						
ANMO	**Albuquerque**	**4.68**	**326**	IAmb_Lg		11 32 48.2	
	comp=Z,10.0nm,0.9s						
ANMO	**Albuquerque**	**4.68**	**326**	IAmb_Lg		11 32 48.2	
	comp=Z,8.6nm,0.9s						
SMWD	**Samnorwood**	**4.72**	**32**	IAmb_Lg		11 32 49.4	
	comp=Z,27nm,0.9s						
WTFS	**Witchita Falls**	**4.84**	**55**		Pn	11 31 24.2	+1.2
WMOK	**Wichita Mounta**	**5.22**	**45**	IAmb_Lg		11 32 57.7	
	comp=Z,10nm,0.7s						
FW14	**Alvarado**	**5.32**	**74**	IAmb_Lg		11 33 08.8	
	comp=Z,21nm,0.8s						
RTBA	**Rita Blanca**	**5.34**	**4**	IAmb_Lg		11 33 11.5	
	comp=Z,13nm,1.1s						
Z35A	**Perchaven, San**	**5.55**	**65**	IAmb_Lg		11 33 20.6	
	comp=Z,17nm,0.8s						
T25A	**Trinidad**	**6.10**	**351**	IAmb_Lg		11 33 24.1	
	comp=Z,9.8nm,1.0s						
237A	**Washetta, Mont**	**6.42**	**80**	IAmb_Lg		11 33 46.8	
	comp=Z,17nm,0.8s						
W35A	**Tecumseh**	**6.70**	**51**	IAmb_Lg		11 33 54.4	
	comp=Z,7.9nm,0.7s						
OK029	**Liberty Lake**	**6.74**	**44**	IAmb_Lg		11 33 52.0	
	comp=Z,12nm,0.8s						
OK031	**S. Brethren Rd**	**7.21**	**46**	IAmb_Lg		11 34 00.6	
	comp=Z,7.9nm,0.9s						

*IDC **19** 11:37:00.1±1.8, 9°.81S×122°.04E, h0km, mb3.8/2, mbtmp3.5/5, ML3.1/3, Error ellipse: s-maj=150.4km s-min=26.3km az=58.0*
*DJA **19** 11:37:07.5±2.2, 10°S±5°×12°2E±°, h18km±22km, M3.6/7, MLv3.6/7*
ISC 19 11:37:05.3±0.8, 10°.25S±0°.06×121°.98E±0°.06, h35km, n11, σ3°.13/16, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.38**	**271**	P	**Pn**	**11 37 28.0**	**-0.1**
BASI				S	**Sn**	**11 37 45.4**	**+0.2**
MMRI	**Maumere**	**1.62**	**9**	P	**Pn**	**11 37 31.9**	**+0.5**
MMRI				S	**Sn**	**11 37 51.1**	**-0.1**
WSI	**Waingapu**	**1.76**	**289**	P	**Pn**	**11 37 34.0**	**+0.7**
WSI				S	**Sn**	**11 37 52.6**	**-1.9**
SOEI	**Soe**	**2.30**	**78**	P	Pn	11 37 48.6	+7.7
BSSI	**Bau Bau, Buton**	**4.34**	**340**	P	**Pn**	**11 38 08.9**	**+0.1**
PLAI	**Plampang**	**4.38**	**288**	P	**Pn**	**11 38 08.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**8.57**	**156**	Pn	**Pn**	**11 39 09.9**	**+3.1**
	0.1nm,0.3s,baz=340,slow=9.6,SNR=7.9						
FITZ				Sn	**Sn**	**11 40 40.7**	**-1.7**
	1.8nm,0.3s,baz=324,slow=18,SNR=11						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**15.32**	**130**	Pn	**Pn**	**11 40 39.4**	**+0.3**
	0.1nm,0.3s,baz=306,slow=14,SNR=5.6						
WRA				Sn	**Sn**	**11 43 20.1**	**-7.7**
	0.2nm,0.3s,baz=305,slow=25,SNR=6.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**17.53**	**141**	P	**P**	**11 41 10.3**	**+2.4**
	0.1nm,0.3s,baz=320,slow=13,SNR=7.5						
ASAR				S	**Sn**	**11 44 16.1**	**-5.3**
	0.4nm,0.6s,baz=317,slow=24,SNR=5.2						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**28.15**	**143**	P	**P**	**11 42 57.6**	**+3.3**
	1.4nm,0.5s,baz=332,slow=10,SNR=6.3						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**66.93**	**332**	P	**P**	**11 47 51.9**	**-2.2**
	0.2nm,0.6s,baz=134,slow=6.2,SNR=2.2						
	0.2nm,0.6s						

DJA 19 11:38:08.1±0.6, 9°S±8°×11°6E±°, h10km, M2.5/4, MLv2.5/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.49**	**90**	P	Pb	11 38 18.6	-0.2
TWSI				S	Sb	11 38 25.3	-0.7
TWSI	**Taliwang, Sumb**	**0.49**	**90**	P	Pb	11 38 18.7	-0.1
SRBI	**Singaraja**	**1.33**	**299**	P	Pg	11 38 33.7	-0.1
SRBI				S	Sb	11 38 50.4	0.0

*JMA **19** 11:49:07.5±0.2, 24°.2N±0°.8×123°.5E±0°.4, h55km±1km, MV3.0/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 19 11:49:07.5±1.3, 24°.06N±0°.06×123°.46E±0°.03, h50km±10km, n25, σ0°.67/33, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.31**	**91**	P	**Pn**	**11 49 17.1**	**+0.4**
HATJ				S	**Sn**	**11 49 24.1**	**+0.8**
IRIF	**Iriomote-Funau**	**0.37**	**42**	P	**Pn**	**11 49 16.9**	**-0.4**
IRIF				S	**Sn**	**11 49 23.9**	**-0.3**
JKRS	**Kuro-shima**	**0.53**	**71**	P	**Pn**	**11 49 19.3**	**+0.2**
JKRS				S	**Sn**	**11 49 28.1**	**+0.7**
YOJ	**Yonaguni jima**	**0.57**	**314**	P	**Pn**	**11 49 19.4**	**-0.2**
YOJ	**Yonaguni jima**	**0.57**	**314**	S	**Sn**	**11 49 28.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.57**	**314**	*i* P	**Pn**	**11 49 19.5**	**-0.1**
YOJ				S	**Sn**	**11 49 28.1**	**-0.3**
JYNG	**Yonagunijimaku**	**0.61**	**310**	*i* P	**Pn**	**11 49 20.0**	**-0.1**
JYNG				S	**Sn**	**11 49 28.8**	**-0.3**
JIJ	**Ishigaki jima**	**0.69**	**64**	*i* P	**Pn**	**11 49 20.6**	**-0.5**
JIJ				S	**Sn**	**11 49 30.2**	**-0.7**
JISG	**Ishigakijimahi**	**0.93**	**56**	*i* P	**Pn**	**11 49 23.5**	**-0.8**
JISG				S	**Sn**	**11 49 35.5**	**-1.2**
JTJ	**Tarama**	**1.27**	**63**	P	**Pn**	**11 49 28.6**	**-0.2**
JTJ				S	**Sn**	**11 49 44.9**	**+0.1**
NACB	**Ninganchiao**	**1.71**	**274**	P	**Pn**	**11 49 34.5**	**-0.3**
NACB	**Ninganchiao**	**1.71**	**274**	S	**Sn**	**11 49 55.1**	**-0.5**
JMJ	**Miyako jima 2**	**1.83**	**65**	P	**Pn**	**11 49 36.9**	**+0.4**
JMJ	**Miyako jima 2**	**1.83**	**65**	S	**Sn**	**11 49 59.3**	**+0.8**
YHNB	**Yeheng**	**2.00**	**288**	S	**Sn**	**11 50 03.8**	**+1.1**
TATO	**Taipei**	**2.02**	**297**	P	**Pn**	**11 49 39.7**	**+0.7**
TATO	**Taipei**	**2.02**	**297**	S	**Sn**	**11 50 03.7**	**+0.7**
YULB	**Yu-li**	**2.09**	**252**	P	**Pn**	**11 49 39.4**	**-0.7**
YULB	**Yu-li**	**2.09**	**252**	S	**Sn**	**11 50 04.3**	**-0.7**
SSLB	**Suanglung**	**2.31**	**264**	P	**Pn**	**11 49 43.3**	**+0.2**
SSLB	**Suanglung**	**2.31**	**264**	S	**Sn**	**11 50 10.6**	**+0.2**
TWGBT	**Beinan**	**2.51**	**241**	P	**Pn**	**11 49 45.4**	**-0.5**
TWGBT	**Beinan**	**2.51**	**241**	S	**Sn**	**11 50 14.0**	**-1.3**
TPUB	**Ta-pu**	**2.71**	**254**	P	**Pn**	**11 49 49.4**	**+0.9**
TPUB	**Ta-pu**	**2.71**	**254**	S	**Sn**	**11 50 21.1**	**+1.0**

*MOS **19** 12:11:36.7±1.5, 36°.44N×71°.43E, h108km, mb4.3/14, Error ellipse: s-maj=8.0km s-min=3.8km az=82.7*
*IDC **19** 12:11:37.3±0.7, 36°.28N×71°.45E, h110km±6km, mb3.7/19, mbtmp4.1/23, MS2.8/3, Error ellipse: s-maj=14.8km s-min=10.6km az=47.0*
*BJI **19** 12:11:37.5, 36°.68N×71°.14E, h118km, mB4.5/1, mb4.0/9*
*NEIC **19** 12:11:37.7±1.3, 36°.42N±0°.06×71°.21E±0°.08, h113km±6km, mb4.2/35, Error ellipse: s-maj=8.9km s-min=8.4km az=84.0*
*NNC **19** 12:11:39.1±3.0, 36°.57N×71°.02E, h108km±46km, mb4.3, mpv5.0, Error ellipse: s-maj=26.3km s-min=22.8km az=62.0*
ISC 19 12:11:36.5±0.5, 36°.26N±0°.04×71°.38E±0°.04, h104km±5km, h104km:pP-P, n203, σ2°.02/236, mb4.1/41, 11C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.56**	**229**	Pn	**Pn**	**12 12 18.6**	**+1.7**
KBL	**Kabul**	**2.56**	**229**	P	**Pn**	**12 12 18.8**	**+1.9**
	SNR=34						
KBL				S	**Sn**	**12 12 50.1**	**+2.3**
KBL	**Kabul**	**2.56**	**229**	PN	**Pn**	**12 12 18.6**	**+1.7**
GAR	**Garm**	**2.86**	**343**	Pn	**Pn**	**12 12 20.0**	**-0.7**
GAR				Sn	**Sn**	**12 12 51.9**	**-2.7**
NIL	**Nilore**	**3.03**	**149**		**Pn**	**12 12 26.4**	**+3.6**
NIL	**Nilore**	**3.03**	**149**	P	**Pn**	**12 12 26.6**	**+3.8**
NIL	**Nilore**	**3.03**	**149**	PN	**Pn**	**12 12 26.4**	**+3.6**
SIMJ	**Simiganj**	**3.04**	**322**	Pn	**Pn**	**12 12 21.6**	**-1.5**
SIMJ				Sn	**Sn**	**12 12 54.6**	**-4.3**
DRK	**Karamyk**	**3.23**	**6**		**Pn**	**12 12 26.3**	**+0.6**
DRK	**Karamyk**	**3.23**	**6**	PN	**Pn**	**12 12 26.3**	**+0.6**
JMU	**Jammu**	**4.58**	**140**	*e*P	**Pn**	**12 12 45.8**	**+2.2**
JMU				*e*S	**Sn**	**12 13 34.3**	**-1.4**
JMU				IAML		12 13 41.9	
	comp=E,463nm,0.5s						
JMU				IAML		12 14 00.8	
	comp=E,837nm,0.4s						
KSH	**Kashi**	**4.88**	**47**	P	**Pn**	**12 12 44.8**	**-2.9**
KSH				S	Sn	12 13 33.3	-10
KSH				smax	smax		
	comp=E,210nm,0.6s						
KSH				smax	smax		
	comp=E,380nm,0.8s						
ARSB	**Arslanbob**	**5.21**	**13**	Pn	**Pn**	**12 12 52.0**	**-0.2**
ARSB	**Arslanbob**	**5.21**	**13**	PN	**Pn**	**12 12 52.0**	**-0.2**
THN	**Thein Dam**	**5.24**	**136**	*e*P	**Pn**	**12 12 54.9**	**+2.4**
THN				*e*S	**Sn**	**12 13 53.7**	**+1.9**
THN				IAML		12 13 56.1	
	comp=E,429nm,0.3s						
THN				IAML		12 14 00.8	
	comp=E,336nm,0.3s						
DHRM	**DHARAMSHALA**	**5.71**	**133**	*e*P	**Pn**	**12 13 01.1**	**+1.9**
DHRM				*e*S	**Sn**	**12 14 03.7**	**+0.1**
DHRM				IAML		12 14 08.4	
	comp=E,995nm,0.9s						
DHRM				IAML		12 14 10.0	
	comp=E,499nm,0.9s						
IUG	**Iuzhnay**	**5.97**	**350**	*e*PN	**Pn**	**12 13 01.4**	**-1.0**
IUG	**Iuzhnay**	**5.97**	**350**	*e*P	**Pn**	**12 13 01.5**	**-1.0**
IUG				*e*S	**Sn**	**12 14 05.4**	**-4.1**
AML	**Almayashu**	**6.13**	**16**	P	**Pn**	**12 13 05.0**	**0.0**
	SNR=418						
CHM	**Chimkent**	**6.20**	**348**	*e*PN	**Pn**	**12 13 04.7**	**-0.8**
CHM	**Chimkent**	**6.20**	**348**	*e*P	**Pn**	**12 13 04.7**	**-0.8**
BHK	**Bhakra**	**6.40**	**138**	*e*P	**Pn**	**12 13 11.2**	**+2.9**
BHK				*e*S	**Sn**	**12 14 19.6**	**-0.3**
BHK				IAML		12 14 28.2	
	comp=E,260nm,0.6s						
UCH	**Uchtor**	**6.43**	**21**	P	**Pn**	**12 13 09.7**	**+0.5**
	SNR=11						
DZA	**Taraz**	**6.62**	**360**	*e*PN	**Pn**	**12 13 10.1**	**-1.1**
DZA	**Taraz**	**6.62**	**360**	*e*P	**Pn**	**12 13 10.1**	**-1.1**
EKS2	**Erkin-Say**	**6.66**	**15**	P	**Pn**	**12 13 12.1**	**+0.3**
	SNR=55						
AAK	**Ala-Archa**	**6.81**	**20**	P	**Pn**	**12 13 14.4**	**+0.4**
	comp=E,65nm,0.5s,baz=203,slow=8.1,SNR=171						
AAK				S	**Sn**	**12 14 28.5**	**-1.5**
	comp=E,25nm,0.7s,baz=162,slow=20,SNR=4.4						
AAK				LR	LR	12 15 22.0	
	comp=E,47nm,18.6s,baz=222,slow=33						
AAK	**Ala-Archa**	**6.81**	**20**	P	**Pn**	**12 13 14.5**	**+0.6**
AAK				S	**Sn**	**12 14 28.9**	**-1.1**
AAK	**Ala-Archa**	**6.81**	**20**	P	**Pn**	**12 13 14.3**	**+0.4**
	SNR=98						
AAK	**Ala-Archa**	**6.81**	**20**	⇓P	**Pn**	**12 13 14.2**	**+0.3**
	comp=E,82nm,0.8s						
AAK				⇑S	**Sn**	**12 14 28.7**	**-1.3**
	comp=E,85nm,1.1s						
AAK	**Ala-Archa**	**6.81**	**20**	*d* PN	**Pn**	**12 13 14.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,88nm,0.8s						
BRLS	**Borolday**	**6.86**	**351**	*e*PN	**Pn**	**12 13 09.9**	**-4.6**
BRLS	**Borolday**	**6.86**	**351**	*e*P	**Pn**	**12 13 09.9**	**-4.6**
KK31	**Karatay Array**	**6.87**	**355**	Pn	**Pn**	**12 13 13.4**	**-1.1**
KK31	**Karatay Array**	**6.87**	**355**	⇓P	**Pn**	**12 13 13.4**	**-1.1**
	comp=Z,70nm,0.3s,baz=179,slow=12,SNR=973						
KK31				⇓S	**Sn**	**12 14 26.5**	**-4.6**
	comp=Z,20nm,0.4s,baz=181,slow=20,SNR=5.8						
KK31	**Karatay Array**	**6.87**	**355**	PN	**Pn**	**12 13 13.4**	**-1.1**
KKAR	**Karatay Array**	**6.87**	**355**	Pn	**Pn**	**12 13 13.4**	**-1.2**
KKAR	**Karatay Array**	**6.87**	**355**	Pn	**Pn**	**12 13 13.4**	**-1.2**
KKAR	**Karatay Array**	**6.87**	**355**	PN	**Pn**	**12 13 13.4**	**-1.2**
KBK	**Karagaybulak**	**6.96**	**22**	P	**Pn**	**12 13 16.6**	**+0.7**
	SNR=18						
FRU1	**Bishkek**	**7.01**	**20**		**Pn**	**12 13 17.3**	**+0.8**
FRU1	**Bishkek**	**7.01**	**20**	PN	**Pn**	**12 13 17.3**	**+0.8**
SMLA	**Simla**	**7.04**	**135**	*e*P	**Pn**	**12 13 17.2**	**+0.4**
SMLA				*e*S	**Sn**	**12 14 35.9**	**+0.6**
SMLA				IAML		12 14 38.7	
	comp=E,264nm,0.4s						
SMLA				IAML		12 14 43.3	
	comp=E,212nm,0.7s						
BOOM	**Boomskoye usch**	**7.15**	**28**	Pn	**Pn**	**12 13 19.3**	**+0.7**
BOOM	**Boomskoye usch**	**7.15**	**28**	PN	**Pn**	**12 13 19.3**	**+0.7**
CHMS	**Chumysh**	**7.21**	**20**	P	**Pn**	**12 13 19.8**	**+0.5**
	SNR=13						
KDJ	**Kajisay**	**7.39**	**36**	Pn	**Pn**	**12 13 22.1**	**+0.3**
KDJ	**Kajisay**	**7.39**	**36**	PN	**Pn**	**12 13 22.1**	**+0.3**
USP	**Ospenovka**	**7.40**	**18**	P	**Pn**	**12 13 22.2**	**+0.4**
	SNR=7.9						
TKM2	**Tokmak 2**	**7.40**	**25**	P	**Pn**	**12 13 22.8**	**+0.7**
	SNR=15						
TKM2	**Tokmak 2**	**7.40**	**25**	⇓P	**Pn**	**12 13 22.2**	**+0.2**
	comp=E,79nm,1.0s						
TKM2	**Tokmak 2**	**7.40**	**25**	*i* PN	**Pn**	**12 13 22.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,79nm,1.0s						
TARG	**Taragay, Kyrgy**	**7.41**	**41**	Pn	**Pn**	**12 13 23.2**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.41**	**41**	PN	**Pn**	**12 13 23.2**	**+0.9**
KLP	**Kalpa**	**7.41**	**128**	*e*P	**Pn**	**12 13 22.7**	**+0.4**
KLP				IAML		12 14 48.3	
	comp=E,214nm,0.5s						
KLP				IAML		12 14 54.1	
	comp=E,205nm,0.6s						
WUS	**Wushi**	**7.86**	**49**		**Pn**	**12 13 30.4**	**+2.2**
TNSS	**Tian-Shan**	**8.01**	**31**	*e*PN	**Pn**	**12 13 28.8**	**-1.7**
TNSS	**Tian-Shan**	**8.01**	**31**	*e*P	**Pn**	**12 13 28.8**	**-1.7**
DDI	**Dehra Dun**	**8.14**	**135**	*e*S	**Sn**	**12 14 59.5**	**-3.0**
SATY	**Saty**	**8.68**	**36**	*e*PN	**Pn**	**12 13 37.8**	**-1.5**
SATY	**Saty**	**8.68**	**36**	*e*P	**Pn**	**12 13 37.9**	**-1.5**
CHKK	**Chushkaly**	**8.72**	**28**	*e*PN	**Pn**	**12 13 38.3**	**-1.4**
CHKK	**Chushkaly**	**8.72**	**28**	*e*P	**Pn**	**12 13 38.3**	**-1.4**
JOSI	**Joshimath**	**8.89**	**127**	*e*P	**Pn**	**12 13 43.8**	**+1.4**
JOSI				*e*S	**Sn**	**12 15 14.5**	**-6.5**
JOSI				IAML		12 15 22.8	
	comp=E,124nm,0.8s						
JOSI				IAML		12 15 25.4	
	comp=E,119nm,0.7s						
BTLS	**Baital**	**9.00**	**12**	*e*PN	**Pn**	**12 13 41.8**	**-1.7**
BTLS	**Baital**	**9.00**	**12**	*e*P	**Pn**	**12 13 41.8**	**-1.7**
NPLP	**NPLP New Delhi**	**9.04**	**146**	*e*S	**Sn**	**12 15 19.8**	**-4.4**
UZB	**Uzynbulak**	**9.05**	**38**	*e*PN	**Pn**	**12 13 43.0**	**-1.4**
UZB	**Uzynbulak**	**9.05**	**38**	*e*P	**Pn**	**12 13 43.0**	**-1.4**
AYAN	**Aya Nagar**	**9.15**	**146**	*e*S	**Sn**	**12 15 20.9**	**-6.0**
KUDL	**Kundal**	**9.18**	**150**	*e*P	**Pn**	**12 13 45.4**	**-0.7**
KUDL				*e*S	**Sn**	**12 15 22.2**	**-5.3**
KUDL				IAML		12 15 24.6	
	comp=E,148nm,0.6s						
KUDL				IAML		12 15 26.7	
	comp=N,105nm,0.7s						
SHLS	**Shalkode**	**9.28**	**40**	*e*P	**Pn**	**12 13 49.4**	**+1.9**
SHLS	**Shalkode**	**9.28**	**40**	*e*P	**Pn**	**12 13 49.4**	**+1.9**
JASL	**Jaisalmer**	**9.32**	**183**	*e*P	**Pn**	**12 13 47.7**	**-0.2**
JASL				*e*S	**Sn**	**12 15 24.4**	**-6.5**
ARXS	**Arharly**	**9.35**	**30**	*e*P	**Pn**	**12 13 47.3**	**-1.0**
LGTI	**Lohaghat**	**10.09**	**130**	*e*P	**Pn**	**12 13 57.4**	**-1.0**
LGTI				*e*S	Sn	12 15 41.4	-8.2
LGTI				IAML		12 15 47.5	
	comp=N,56nm,0.9s						
LGTI				IAML		12 15 48.9	
	comp=E,61nm,0.7s						
AJM	**Ajmer**	**10.14**	**163**	*e*P	**Pn**	**12 13 59.3**	**+0.1**
AJM				IAML		12 15 51.6	
	comp=E,56nm,0.2s						
AJM				IAML		12 15 52.3	
	comp=N,36nm,0.5s						
TDK	**Taldyqorghan**	**10.23**	**29**	*e*P	**Pn**	**12 13 58.6**	**-1.6**
TDK	**Taldyqorghan**	**10.23**	**29**	*e*P	**Pn**	**12 13 58.6**	**-1.6**
OTUK	**Ortayu**	**12.00**	**3**	⇑P	**Pn**	**12 14 20.7**	**-3.3**
	comp=N,27nm,1.1s						
OTUK	**Ortayu**	**12.00**	**3**	P	**Pn**	**12 14 20.6**	**-3.3**
JHNI	**Jhansi**	**12.39**	**148**	*e*P	**Pn**	**12 14 29.2**	**-0.1**
JHNI				*e*S	**Sn**	**12 16 37.8**	**-7.7**
JHNI				IAML		12 16 40.6	
	comp=E,50nm,0.7s						
JHNI				IAML		12

comp=Z,11nm,0.4s
GNI Garni 21.26 289⇑ *e*P P 12 16 18.6 +4.2
GNI pmax pmax
comp=Z,36nm,1.1s
SVE Sverdlovsk 21.80 344 *e*P P 12 16 20.2 +0.3
SVE pmax pmax
comp=Z,17nm,0.9s
ARTI Arti 21.97 340 P P 12 16 19.9 -1.7
ARTI Arti 21.97 340 P P 12 16 21.7 +0.1
comp=Z,14nm,0.8s,baz=156,slow=5.5,SNR=17
ARTI S **S 12 20 19.8 +2.3**
comp=Z,1.6nm,0.7s,baz=127,slow=12,SNR=1.3
ARTI LR LR 12 25 34.7
comp=Z,37nm,20.2s,baz=164,slow=38
comp=Z,14nm,0.8s
ARTI Arti 21.97 340*c* *i*P P 12 16 22.0 +0.4
ARTI 12 16 52.4
ARTI S **S 12 20 15.1 -2.4**
ARTI SS **SnSn 12 20 59.4 +6.0**
ARTI pmax pmax
comp=Z,21nm,0.9s
GTA Gaotai 22.64 73 *e*P P 12 16 31.8 +2.8
GTA pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 22.98 298 P P 12 16 32.7 +0.7
comp=Z,3.3nm,1.0s,baz=97,slow=12,SNR=5.8
KBZ S S 12 20 42.9 +8.7
comp=Z,0.9nm,0.6s,baz=94,slow=15,SNR=1.8
comp=Z,3.3nm,1.0s
KBZ Khabaz 22.98 298⇓ *e*P P 12 16 34.9 +2.9
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 23.15 298⇓ *e*P P 12 16 36.0 +2.0
KIV Kislovodsk 23.17 298 *e*P P 12 16 36.1 +2.1
KIV *e*S **S 12 20 38.8 +1.3**
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,15nm,14.0s
DOK Doka 23.24 225 P P 12 16 36.0 +1.3
WHFO Wadi Hawf 24.00 225 P P 12 16 42.6 +1.0
RAYN Ar Rayn 25.68 248 P P 12 16 58.8 +1.9
KIRV Kirov 26.59 334*de*P P 12 17 05.9 +1.3
ULN Ulaanbaatar 28.66 55⇑ *e*P P 12 17 24.4 +0.9
ULN pmax pmax
comp=Z,5.0nm,1.4s
BRTR Keskin Array B 29.80 288 P P 12 17 35.2 +1.6
comp=Z,0.6nm,0.7s,baz=80,slow=8.9,SNR=2.4
comp=Z,0.6nm,0.7s
CMAR Chiang Mai Arr 30.07 119 P P 12 17 37.3 +1.2
comp=Z,0.8nm,0.6s,baz=302,slow=8.2,SNR=7.3
CMAR pP **pP 12 18 01.5 +0.9**
comp=Z,1.1nm,0.8s,baz=305,slow=8.5,SNR=3.0
comp=Z,0.8nm,0.6s
CMAR Chiang Mai Arr 30.07 119*ce*P P 12 17 39.0 +2.9
CMAR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 30.32 319⇑ *e*P P 12 17 39.3 +1.5
OBN *e**PP **pP 12 18 05.2 +3.4**
OBN *e* 12 18 41.2
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,35nm,18.0s
AKASG Malin Array Be 33.33 309 P P 12 18 04.6 +0.3
comp=Z,0.7nm,0.5s,baz=84,slow=7.2,SNR=6.7
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 33.33 309*ce*P P 12 18 04.9 +0.6
AKASG pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 34.31 10 P P 12 18 13.2 +0.7
comp=Z,0.7nm,0.3s,baz=142,slow=3.1,SNR=1.6
comp=Z,0.7nm,0.3s
NRIK Noril'sk 34.31 10⇓ *e*P P 12 18 13.9 +1.4
MNK Minsk 34.88 315 *i* P P 12 18 17.4 -0.2
comp=E,13nm,0.8s
MNK *i* P P 12 18 17.4 -0.2
comp=N,21nm,0.9s
MNK *i* P P 12 18 17.4 -0.2
comp=Z,5.0nm,0.7s,baz=103
MNK *i* pP **pP 12 18 43.9 +2.1**
MNK *i* PP **PP 12 19 37.4 -1.2**
MNK *i* S **S 12 23 38.7 -2.2**
MNK *i* SS **SnSn 12 26 06.2 -0.1**
MNK *i* LRM MLR 12 33 45.2
MNK *i* LRM MLR 12 33 50.5
comp=E,25nm,13.1s
comp=E,401nm,21.8s
MNK *i* LRM MLR 12 33 58.5
comp=N,529nm,31.2s
MNK Minsk 34.88 315 *i* P P 12 18 17.4 -0.2
MNK *i* *PP **pP 12 18 43.9 +2.1**
MNK *i* 12 19 37.3
MNK *i* S **S 12 23 38.7 -2.2**
MNK *i* SS **SnSn 12 26 06.2 -0.1**
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=N,21nm,0.9s
MNK MLR MLR
comp=Z,25nm,13.0s
MNK MLR MLR
comp=E,401nm,22.0s
FINES FINESS Array B 37.85 326 P P 12 18 40.7 -2.0
FINES FINESS Array B 37.85 326 P P 12 18 43.5 +0.8
comp=E,4.9nm,0.9s,baz=178,slow=5.7,SNR=6.0
comp=E,4.9nm,0.9s
FINES FINESS Array B 37.85 326 *i* P P 12 18 46.0 +3.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
CN2 Changchun 41.45 62 *e*P P 12 19 13.3 +0.5
CN2 *e*pP pP 12 19 36.0 -2.5
ARCES ARCESS Array B 41.48 338 P P 12 19 13.4 +0.6
comp=Z,5.3nm,0.9s,baz=99,slow=7.5,SNR=14
comp=Z,5.3nm,0.9s
GERES GERESS Array B 43.31 306 P P 12 19 26.4 -1.6
GERES GERESS Array B 43.31 306 P P 12 19 26.4 -1.6
HFS Hagfors 43.44 322 P P 12 19 29.0 +0.3
comp=Z,2.5nm,0.7s,baz=88,slow=10,SNR=4.8
comp=Z,2.5nm,0.7s
HFS Hagfors 43.44 322 P P 12 19 29.0 +0.3
CLL Collm 43.58 309 *e*P P 12 19 32.0 +2.1
CLL Collm 43.58 309 *e*Px Px 12 19 32.0
CLL *i* PP **PcP 12 21 15.1 -0.6**
KSRS Korea Array 44.67 71 P P 12 19 38.2 -0.6
comp=Z,2.0nm,0.9s,baz=306,slow=6.8,SNR=3.8
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 44.75 323 P P 12 19 39.2 0.0
comp=Z,2.9nm,0.8s,baz=97,slow=7.9
NOA NORSAR Array B 44.75 323 P P 12 19 39.4 +0.1
comp=Z,1.7nm,0.7s,baz=96,slow=7.7,SNR=8.0
NOA LR LR 12 38 50.8
comp=Z,15nm,18.8s,baz=145,slow=36
comp=Z,1.7nm,0.7s
TIXI Tiksi 45.88 22⇓ *e*P P 12 19 48.1 +0.2
TIXI pmax pmax
comp=Z,9.0nm,2.4s
MJAR Matsushiro Arr 52.76 68 P P 12 20 40.9 +0.1
comp=Z,1.5nm,0.8s,baz=292,slow=9.8,SNR=4.2
comp=Z,1.5nm,0.8s
TORD Torodi Ar. Bea 66.02 269 P P 12 22 10.8 -1.5
TORD Torodi Ar. Bea 66.02 269 P P 12 22 12.6 +0.4
comp=Z,1.0nm,0.5s,baz=48,slow=6.9,SNR=3.2
comp=Z,1.0nm,0.5s
B20K Meade River 68.35 16 P P 12 22 24.1 -2.0
B21K Ikpikpuk River 69.21 16 P P 12 22 30.8 -0.7
D19K Kuna River 69.28 17 P P 12 22 31.8 -0.2
D19K IAmb IAmb 12 22 33.0
comp=Z,6.0nm,1.1s
E18K Tukpahlearik C 69.45 19 P P 12 22 33.5 +0.5
E18K IAmb IAmb 12 23 11.9
comp=Z,7.2nm,1.5s
F15K North Star Dit 69.56 21 P P 12 22 32.9 -0.8
F15K IAmb IAmb 12 22 38.6
comp=Z,4.6nm,1.2s
F17K Baldwin Pennin 70.00 20 P P 12 22 36.7 +0.4
F17K IAmb IAmb 12 23 10.0
comp=Z,3.9nm,1.2s
E19K Redstone River 70.29 18 P P 12 22 38.2 +0.1
TOLK Toolik Lake Re 71.08 15 P P 12 22 43.6 +0.7
TOLK IAmb IAmb 12 23 15.5
comp=Z,3.4nm,1.1s
F21K Alatna River 71.38 17 P P 12 22 44.5 -0.2
J14K Nanvaranak Lak 72.00 23 P P 12 22 46.9 -1.6
J14K IAmb IAmb 12 23 09.6
comp=Z,5.8nm,1.4s
C36M Paulatuk 74.08 6 P P 12 23 00.6 -0.1
C36M IAmb IAmb 12 23 30.6
comp=Z,2.3nm,0.7s
INK Inuvik 74.09 9 P P 12 22 60.0 -0.7
INK IAmb IAmb 12 23 03.1
comp=Z,5.8nm,1.4s
INK Inuvik 74.09 9 P P 12 23 00.0 -0.7
INK pmax pmax
comp=Z,6.0nm,1.4s
LBTB Lobatse 74.71 222 P P 12 23 06.7 +1.7
LBTB IAmb IAmb 12 23 07.2
comp=Z,7.7nm,1.2s
LBTB Lobatse 74.71 222 P P 12 23 06.7 +1.7
LBTB pmax pmax
comp=Z,8.0nm,1.3s
CAST Castle Rocks 74.81 19 P P 12 23 04.7 -0.4
CAST IAmb IAmb 12 23 06.8
comp=Z,2.8nm,0.9s
BWN Browne 74.84 17 P P 12 23 04.8 -0.3
KNRA Kununurra 74.84 123 P P 12 23 06.2 +0.4
F31M Tsiigehtchic 74.87 10 P P 12 23 05.6 +0.3
F31M IAmb IAmb 12 23 06.9
comp=Z,6.6nm,1.4s
IL31 Pn 74.92 16 P P 12 23 04.3 -1.2
ILAR Eielson Array 74.92 16 P P 12 23 04.5 -1.2
ILAR Eielson Array 74.92 16 P P 12 23 04.7 -1.0
comp=Z,0.5nm,0.9s,baz=328,slow=6.2,SNR=3.4
comp=Z,0.5nm,0.9s
PPLA Purkeypile 75.21 19 P P 12 23 07.5 0.0
G31M Satah River 75.29 10 P P 12 23 06.5 -1.1
G31M IAmb IAmb 12 23 44.6
comp=Z,4.1nm,1.3s
H29M Whitestone 75.30 12 P P 12 23 07.8 0.0
H31M Peel River 76.32 11 P P 12 23 13.3 -0.3
H31M IAmb IAmb 12 23 50.1
comp=Z,4.4nm,1.4s
PMR Palmer 77.10 19 P P 12 23 17.0 -0.9
PMR Palmer 77.10 19 P P 12 23 17.0 -0.9
PMR pmax pmax
comp=Z,11nm,1.3s
MORW Morawa 77.38 141 P P 12 23 20.7 +0.7
BCAR Beaver Creek A 77.52 15 P P 12 23 18.6 -1.8
BOSA Boshof 77.76 220 P P 12 23 22.5 +0.2
BOSA IAmb IAmb 12 23 24.0
comp=Z,4.8nm,0.8s
BOSA Boshof 77.76 220 P P 12 23 23.0 +0.8
comp=Z,4.9nm,0.8s,baz=38,slow=5.2,SNR=9.9
comp=Z,4.9nm,0.8s
BOSA Boshof 77.76 220 P P 12 23 23.0 +0.8
Q19K Cape Douglas, 78.04 22 P P 12 23 22.0 -1.3
YKA Yellowknife Ar 81.47 3 P P 12 23 41.8 +0.1
comp=Z,1.0nm,0.8s,baz=349,slow=5.3,SNR=23
YKA pP **pP 12 24 09.4 -0.4**
comp=Z,0.5nm,0.7s,baz=349,slow=5.5,SNR=4.0
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 81.47 3 *i* P P 12 23 42.2 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 81.61 122 P P 12 23 43.1 0.0
WRA Warramunga Arr 81.61 122 P P 12 23 42.1 -1.0
comp=Z,0.8nm,0.7s,baz=316,slow=5.2,SNR=5.0
WRA pP **pP 12 24 11.1 +0.2**
comp=Z,1.8nm,0.9s,baz=318,slow=5.2,SNR=5.1
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 81.61 122 P P 12 23 43.1 0.0
WB2 Warramunga Arr 81.62 122 P P 12 23 43.5 +0.4
WB2 IAmb IAmb 12 24 24.6
comp=Z,9.4nm,1.4s
WR0 Warramunga Arr 81.76 122 P P 12 23 44.2 +0.3
ASAR Alice Springs 83.87 125 P P 12 23 55.7 +0.9
ASAR Alice Springs 83.87 125 P P 12 23 54.6 -0.2
comp=Z,0.5nm,0.7s,baz=312,slow=5.7,SNR=10
ASAR pP **pP 12 24 23.0 +0.2**
comp=Z,1.2nm,0.8s,baz=324,slow=5.6,SNR=7.1
comp=Z,0.5nm,0.7s
ASAR Alice Springs 83.87 125 P P 12 23 55.7 +0.9
QSPA South Pole Qui 126.06 180 PKP PKPdf 12 30 24.0 -1.5
comp=Z,1.4nm,1.0s,baz=295,slow=2.5,SNR=2.8

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*JMA **19** 12:31:47.8±0.1, 43°.1N±0°.5×145°.8E±0°.6, h45km, MV2.6/36, OFF NEMURO PENINSULA*
*SKHL **19** 12:31:48.3±0.2, 43°.10N×145°.90E, h28km±2km, mb3.7/3*
ISC 19 12:31:47.1±2.7, 43°.03N±0°.09×145°.90E±0°.06, h39km±3km, n14, σ0°.67/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.36**	**341**	*i* P	**Pn**	**12 31 56.5**	**+0.6**
NEM2				S	**Sn**	**12 32 02.4**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.36**	**340**	*e*P	**Pn**	**12 31 56.5**	**+0.6**
NMR				*i* S	**Sn**	**12 32 02.4**	**-0.1**
JKHN	**Kushirohamanak**	**0.55**	**276**	*i* P	**Pn**	**12 31 58.8**	**+0.4**
JKHN				S	**Sn**	**12 32 06.8**	**+0.4**
AKK	**Akkeshi**	**0.78**	**270**	*e*P	**Pn**	**12 32 01.3**	**-0.2**
AKK				AMB	AMB	12 32 01.8	
AKK				*e*S	**Sn**	**12 32 11.0**	**-1.0**
AKK				A	A	12 32 12.2	
AKK				A	A	12 32 12.2	
JAK	**Akkeshi**	**0.88**	**268**	P	**Pn**	**12 32 03.2**	**+0.2**
JAK				*e*S	**Sn**	**12 32 14.6**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.99**	**319**	P	**Pn**	**12 32 04.7**	**+0.2**
JNSB				S	**Sn**	**12 32 17.1**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.01**	**358**	*e*P	**Pn**	**12 32 04.8**	**+0.1**
YUK				AMB	AMB	12 32 05.7	
YUK				*e*S	**Sn**	**12 32 17.1**	**-0.6**
YUK				A	A	12 32 19.4	
YUK				A	A	12 32 19.4	
JNK	**Nakash**	**1.03**	**303**	*i* P	**Pn**	**12 32 05.0**	**-0.1**
JNK				S	**Sn**	**12 32 17.0**	**-1.2**
JRA	**Rausu**	**1.07**	**328**	P	**Pn**	**12 32 05.8**	**+0.2**
JRA				S	**Sn**	**12 32 19.3**	**0.0**
SHO	**Shikotan**	**1.08**	**38**	*e*P	**Pn**	**12 32 05.8**	**+0.1**
SHO				AMB	AMB	12 32 09.1	
SHO				*i* S	**Sn**	**12 32 18.6**	**-0.9**
SHO				A	A	12 32 21.9	
SHO				A	A	12 32 21.9	
JOB	**Onbets**	**1.52**	**266**	P	**Pn**	**12 32 12.2**	**+0.4**
JAR	**Ashorobuto**	**1.58**	**281**	P	**Pn**	**12 32 13.3**	**+0.7**
JAR				S	**Sn**	**12 32 32.3**	**+0.5**
JTKR	**Abashiri--Toko**	**1.73**	**304**	P	**Pn**	**12 32 15.7**	**+1.1**
JTKR				S	**Sn**	**12 32 36.3**	**+0.9**
KUR	**Kuril'sk**	**2.62**	**32**	*e*S	**Sn**	**12 32 58.9**	**+1.5**
KUR				A	A	12 33 03.4	
KUR				A	A	12 33 03.4	

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*WEL **19** 12:32:17.1±1.6, 32°S±5°×17°7W±2°1, h12km, mB5.3/4, ML5.4/6, MLv5.2/6, Mw(mB)4.8/4, Error ellipse: s-maj=27.7km s-min=4.1km az=100.9, confirmed*
*IDC **19** 12:32:22.1±0.5, 31°.87S×178°.06W, h0km, mb4.4/17, mbtmp4.3/18, ML5.1/1, MS4.2/40, Error ellipse: s-maj=20.9km s-min=17.4km az=73.0*
*NEIC **19** 12:32:24.7±1.8, 31°.97S±0°.09×178°.2W±0°.1, h10km±1km, mb4.8/50, Error ellipse: s-maj=19.3km s-min=14.5km az=106.0*
*GCMT **19** 12:32:28.7±0.3, 31°.98S±0°.03×177°.59W±0°.02, h23km, MW5.0/83, Moment Tensor Solution. s36,c48; s83,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.94±.18; $M_{\theta\theta}$-0.47±.12; $M_{\phi\phi}$-2.47±.11; $M_{r\theta}$0.76±.20; $M_{\theta\phi}$-0.73±.07; $M_{\phi r}$1.81±.14; Best double couple: $M_0$3.44000×10^{16} NP1:ϕ_s196.00000°, δ28.00000°, λ86.00000°. NP2: ϕ_s21.00000°, δ62.00000°, λ92.00000°. Principal axes: T 3.5580, Plg72.0000°, Azm296.0000°; N -0.2330, Plg2.0000°, Azm200.0000°; P -3.3220, Plg17.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

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*NOU **19** 12:32:44.0, 33°.31S×178°.47W, h78km, MLv4.9/9, South of Kermadec Islands*
ISC 19 12:32:25.5±0.4, 31°.96S±0°.05×178°.04W±0°.07, h24km, n208, σ1°.83/177, mb4.8/43, MS4.3/38, 7C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.69**	**2**	P	**Pn**	**12 33 04.1**	**-3.2**
GLKZ				S	**Sn**	**12 33 36.8**	**-2.2**
RIZ	**Raoul Island**	**2.71**	**2**	P	**Pn**	**12 33 03.7**	**-3.8**
RIZ				S	**Sn**	**12 33 37.5**	**-1.9**
MXZ	**Matakaoa Point**	**6.35**	**207**	Pn	**Pn**	**12 33 55.7**	**-1.8**
MXZ	**Matakaoa Point**	**6.35**	**207**	P	**Pn**	**12 33 57.0**	**-0.5**
MXZ	**Matakaoa Point**	**6.35**	**207**	P	**Pn**	**12 33 54.6**	**-2.9**
MXZ				S	**Sn**	**12 35 08.0**	**-1.3**
WMGZ	**Waiomatatini S**	**6.53**	**206**	P	**Pn**	**12 33 57.1**	**-3.0**
WMGZ				S	**Sn**	**12 35 14.6**	**+0.8**
PKGZ	**Pakihiroa**	**6.70**	**207**	P	Pn	12 33 57.3	-5.1
PKGZ				S	**Sn**	**12 35 18.0**	**0.0**
HAZ	**Te Kaha**	**6.73**	**210**	P	**Pn**	**12 33 58.3**	**-4.4**
HAZ				S	**Sn**	**12 35 20.2**	**+1.7**
PUZ	**Puketiti**	**6.81**	**205**	P	**Pn**	**12 33 59.9**	**-4.0**
PUZ				S	**Sn**	**12 35 18.5**	**-2.2**
RUGZ	**Raukumara Rang**	**6.95**	**209**	P	Pn	12 34 00.9	-5.0
TWGZ	**Tauwhareparae**	**7.01**	**207**	P	**Pn**	**12 34 03.9**	**-2.8**
TWGZ				S	**Sn**	**12 35 24.8**	**-0.9**
CNGZ	**Carnagh Statio**	**7.20**	**204**	P	**Pn**	**12 34 05.9**	**-3.3**
MWZ	**Matawai**	**7.32**	**208**	P	**Pn**	**12 34 07.9**	**-3.1**
MWZ				S	**Sn**	**12 35 32.0**	**-1.3**
OPRZ	**Ohinepanea**	**7.36**	**216**	P	**Pn**	**12 34 10.9**	**-0.5**
URZ	**Urewera**	**7.44**	**211**	Pn	**Pn**	**12 34 09.7**	**-2.8**
	2.5nm,0.3s,baz=115,slow=19,SNR=18						
URZ				Sn	**Sn**	**12 35 33.2**	**-2.8**
	11nm,0.3s,baz=90,slow=20,SNR=13						
URZ	**Urewera**	**7.44**	**211**	P	**Pn**	**12 34 09.9**	**-2.6**
URZ	**Urewera**	**7.44**	**211**	P	**Pn**	**12 34 09.8**	**-2.6**
URZ				S	**Sn**	**12 35 33.5**	**-2.6**
WCZ	**Waipu Caves**	**7.47**	**236**	P	Pn	12 34 18.4	+5.5
RAGZ	**Rawiri**	**7.51**	**208**	P	**Pn**	**12 34 10.6**	**-2.9**
RAGZ				S	**Sn**	**12 35 35.7**	**-2.2**
RIGZ	**Rimuhau**	**7.56**	**206**	P	**Pn**	**12 34 10.6**	**-3.6**
RIGZ				S	**Sn**	**12 35 37.4**	**-1.7**
OUZ	**Omahuta**	**7.70**	**243**	P	Pn	12 34 21.4	+5.3
OUZ	**Omahuta**	**7.70**	**243**	P	**Pn**	**12 34 19.3**	**+3.2**
PRGZ	**Paritu Road**	**7.70**	**204**	P	**Pn**	**12 34 12.9**	**-3.2**
MUGZ	**Murupara**	**7.77**	**212**	P	**Pn**	**12 34 16.1**	**-0.9**
SNGZ	**Shannon Statio**	**7.78**	**208**	P	Pn	12 34 10.2	-7.1
RTZ	**Ruatahuna**	**7.79**	**210**	Pn	**Pn**	**12 34 15.5**	**-1.9**
TOZ	**Tahuroa Road**	**7.83**	**221**	Pn	**Pn**	**12 34 15.5**	**-2.4**
MHGZ	**Mahia Peninsul**	**7.90**	**204**	P	**Pn**	**12 34 15.6**	**-3.3**
RAHZ	**Arahi**	**8.00**	**208**	P	**Pn**	**12 34 20.1**	**-0.1**
MTHZ	**Maungataniwha**	**8.05**	**210**	P	**Pn**	**12 34 20.0**	**-0.9**
NMHZ	**Naumai**	**8.27**	**209**	P	**Pn**	**12 34 23.9**	**-0.1**
BKZ	**Black Stump Fm**	**8.46**	**210**	Pn	**Pn**	**12 34 23.9**	**-2.6**
BKZ	**Black Stump Fm**	**8.46**	**210**	P	**Pn**	**12 34 25.8**	**-0.7**
BKZ	**Black Stump Fm**	**8.46**	**210**	P	**Pn**	**12 34 26.1**	**-0.4**
MCHZ	**McNeill Hill**	**8.61**	**208**	P	**Pn**	**12 34 25.7**	**-2.9**
KWHZ	**Kaweka Forest**	**8.70**	**210**	P	**Pn**	**12 34 27.0**	**-2.9**
HIZ	**Hauiti**	**8.75**	**220**	P	**Pn**	**12 34 32.0**	**+1.5**
NTVZ	**North Tongarir**	**8.77**	**214**	P	**Pn**	**12 34 32.0**	**+1.0**
TMVZ	**Te Maari**	**8.77**	**214**	P	**Pn**	**12 34 28.7**	**-2.2**
ETVZ	**East Tongariro**	**8.79**	**214**	P	**Pn**	**12 34 30.5**	**-0.6**
NNVZ	**North Ngauruho**	**8.83**	**214**	P	**Pn**	**12 34 34.3**	**+2.6**
OTVZ	**Oturere**	**8.83**	**214**	P	**Pn**	**12 34 31.0**	**-0.7**
KAHZ	**Kahuranaki**	**8.84**	**206**	P	Pn	12 34 26.3	-5.5
SNVZ	**South Ngauruho**	**8.86**	**214**	P	**Pn**	**12 34 31.5**	**-0.7**
MTVZ	**Mangateitei**	**9.10**	**214**	P	**Pn**	**12 34 33.7**	**-1.6**
PNHZ	**Pukenui**	**9.21**	**209**	P	**Pn**	**12 34 33.3**	**-3.6**
NEZ	**North Egmont**	**9.70**	**219**	P	**Pn**	**12 34 48.1**	**+4.5**
BFZ	**Birch Farm**	**9.85**	**206**	P	**Pn**	**12 34 43.0**	**-2.5**
BFZ	**Birch Farm**	**9.85**	**206**	P	Pn	12 34 35.3	-10
TIWZ	**Tintock**	**10.07**	**207**	P	**Pn**	**12 34 45.2**	**-3.4**
MRZ	**Mangatainoka R**	**10.09**	**209**	P	Pn	12 34 43.9	-5.0
HOWZ	**Holdsworth Sta**	**10.32**	**208**	P	**Pn**	**12 34 47.9**	**-4.1**
SNZO	**South Karori**	**11.00**	**210**	P	**Pn**	**12 35 00.7**	**-0.6**
QRZ	**Quartz Range**	**11.66**	**218**	P	**Pn**	**12 35 09.5**	**-0.8**
CTZ	**Chatham Island**	**11.81**	**175**	P	**Pn**	**12 35 11.7**	**-0.7**
MRNZ	**Matariki Terra**	**11.97**	**215**	P	**Pn**	**12 35 14.6**	**+0.1**
THZ	**Tophouse**	**12.17**	**214**	Pn	**Pn**	**12 35 16.2**	**-1.2**
THZ	**Tophouse**	**12.17**	**214**	P	**Pn**	**12 35 16.0**	**-1.4**
KHZ	**Kahutara**	**12.40**	**210**	P	**Pn**	**12 35 17.0**	**-3.5**
DSZ	**Denniston Nort**	**12.70**	**217**	P	**Pn**	**12 35 25.8**	**+1.2**
GVZ	**Greta Valley S**	**13.07**	**210**	P	**Pn**	**12 35 29.4**	**-0.2**
LTZ	**Lake Taylor**	**13.26**	**213**	P	**Pn**	**12 35 28.7**	**-3.5**
AMCZ	**Amberley**	**13.40**	**211**	P	**Pn**	**12 35 36.9**	**+2.8**
INZ	**Inchbonnie**	**13.61**	**215**	Pn	**Pn**	**12 35 35.1**	**-1.8**
INZ	**Inchbonnie**	**13.61**	**215**	P	**Pn**	**12 35 34.8**	**-2.1**
OXZ	**Oxford**	**13.79**	**212**	P	**Pn**	**12 35 36.5**	**-3.0**
WVZ	**Waitaha Valley**	**14.21**	**216**	P	**Pn**	**12 35 45.5**	**+0.3**
RPZ	**Rata Peaks**	**14.54**	**213**	Pn	**Pn**	**12 35 45.1**	**-4.6**
	1.0nm,0.3s,baz=2.9,slow=20,SNR=2.7						
RPZ				Sn	Sn	12 38 15.8	-14
	2.7nm,0.3s,baz=323,slow=17,SNR=6.0						
RPZ	**Rata Peaks**	**14.54**	**213**	P	**Pn**	**12 35 48.0**	**-1.7**
MSVF	**Nonsavu**	**14.60**	**345**	Pn	**Pn**	**12 35 50.5**	**-0.2**
MSVF	**Nonsavu**	**14.60**	**345**	Pn	**Pn**	**12 35 50.2**	**-0.4**
	0.3nm,0.3s,baz=153,slow=13,SNR=7.0						
MSVF				LR	LR	12 40 35.4	
	comp=Z,2μm,18.1s,baz=170,slow=34						
	11nm,0.8s						
ARCZ	**Arundel**	**14.67**	**212**	P	**Pn**	**12 35 49.9**	**-1.5**
ODZ	**Otahua Downs**	**15.76**	**211**	P	**Pn**	**12 36 02.0**	**-3.9**
PINNC	**Pines Island,**	**15.90**	**302**	Pn	**Pn**	**12 36 08.2**	**+0.5**
PINNC				IAmb	IAmb	12 36 12.8	
	comp=Z,74nm,1.1s						
EAZ	**Earnscleugh**	**16.51**	**213**	P	**Pn**	**12 36 13.8**	**-1.6**
ONTNC	**Ouen Toro**	**16.80**	**301**	Pn	**Pn**	**12 36 17.7**	**-1.5**
ONTNC				IAmb	IAmb	12 36 38.2	
	comp=Z,104nm,1.3s						
DZM	**Mont Dzumac**	**16.96**	**302**		**Pn**	**12 36 19.6**	**-1.7**
DZM	**Mont Dzumac**	**16.96**	**302**	Pn	**P**	**12 36 25.5**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=105,slow=14,SNR=6.8						
DZM				LR	LR	12 41 55.1	
	comp=Z,3μm,18.4s,baz=162,slow=34						
MLZ	**Mavora Lakes**	**17.17**	**215**	Pn	**Pn**	**12 36 21.6**	**-2.2**
MLZ	**Mavora Lakes**	**17.17**	**215**	P	**Pn**	**12 36 24.5**	**+0.7**
FUTU	**Fugatoga**	**17.57**	**360**	Pn	**Pn**	**12 36 26.9**	**-1.9**
RAR	**Rarotonga**	**19.50**	**61**	LR	LR	12 43 32.7	
	comp=Z,97nm,20.5s,baz=262,slow=34						
FUNA	**Funafuti**	**23.46**	**353**	P	**P**	**12 37 31.3**	**-1.9**
FUNA				IAmb	IAmb	12 37 40.6	
	comp=Z,22nm,0.9s						
ARMA	**Armidale**	**25.96**	**265**	P	**P**	**12 37 55.7**	**-0.6**
ARMA				IAmb	IAmb	12 38 03.8	
	comp=Z,20nm,1.1s						
CAN	**Canberra**	**27.58**	**254**	P	**P**	**12 38 09.9**	**-0.9**
EIDS	**Eidsvold**	**27.82**	**276**	P	**P**	**12 38 11.6**	**-1.4**
EIDS				IAmb	IAmb	12 38 27.6	
	comp=Z,30nm,1.4s						
PPT	**Papeete**	**29.44**	**68**	LR	LR	12 47 09.9	
	comp=Z,184nm,21.6s,baz=258,slow=30						
HNR	**Honiara**	**30.31**	**313**	LR	LR	12 49 28.9	
	comp=Z,661nm,19.5s,baz=172,slow=34						
TOO	**Toolangi**	**30.35**	**249**	P	**P**	**12 38 36.2**	**+0.8**
STKA	**Stephens Creek**	**34.12**	**259**	P	**P**	**12 39 07.4**	**-1.1**
STKA	**Stephens Creek**	**34.12**	**259**	P	**P**	**12 39 09.6**	**+1.0**
	comp=Z,5.5nm,0.9s,baz=100,slow=9.1,SNR=8.0						
STKA				LR	LR	12 52 11.0	
	comp=Z,793nm,19.0s,baz=77,slow=35						
	comp=Z,5.5nm,0.9s						
BBOO	**Buckleboo**	**38.54**	**256**	P	**P**	**12 39 45.0**	**-1.2**
BBOO				IAmb	IAmb	12 39 50.7	
	comp=Z,34nm,1.4s						
AS31	**Alice Springs**	**43.02**	**269**	P	**P**	**12 40 23.3**	**0.0**
ASAR	**Alice Springs**	**43.02**	**269**	P	**P**	**12 40 23.3**	**0.0**
	comp=Z,11nm,0.8s,baz=105,slow=7.4,SNR=56						
ASAR				ScP	**ScP**	**12 46 07.0**	**+3.9**
	comp=Z,0.3nm,0.8s,baz=113,slow=3.9,SNR=1.6						
ASAR				S	**S**	**12 46 44.5**	**-3.2**
	comp=Z,0.4nm,0.8s,baz=101,slow=13,SNR=4.7						
ASAR				LR	LR	12 58 15.5	
	comp=Z,430nm,19.3s,baz=117,slow=36						
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**43.97**	**274**	P	**P**	**12 40 31.3**	**+0.3**
WB2	**Warramunga Arr**	**44.13**	**274**	P	**P**	**12 40 32.3**	**0.0**
WRAB	**Tennant Creek**	**44.14**	**274**	P	**P**	**12 40 32.2**	**-0.1**
WRA	**Warramunga Arr**	**44.15**	**274**	P	**P**	**12 40 32.0**	**-0.4**
**WRA

comp=Z,840nm,18.1s,baz=115,slow=35
comp=Z,8.0nm,0.5s
WB0 Warramunga Arr 44.17 274 P **P 12 40 32.5 -0.1**
FORT Forrest 45.64 257 P **P 12 40 44.0 -0.2**
VNDA Vanda 46.55 186 P **P 12 40 51.7 +1.1**
VNDA Vanda 46.55 186 P **P 12 40 51.8 +1.1**
comp=Z,0.9nm,0.8s,baz=41,slow=11,SNR=1.3
VNDA LR LR 12 56 56.8
comp=Z,290nm,19.8s,baz=16,slow=32
comp=Z,0.9nm,0.8s
JAY Jayapura 48.60 299 LR LR 13 00 06.7
comp=Z,199nm,20.1s,baz=329,slow=34
MTN Manton Dam 50.21 280 P **P 12 41 19.7 0.0**
KNRA Kununurra 50.81 276 P **P 12 41 23.4 -0.8**
KNRA IAmb IAmb 12 41 24.8
comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 52.34 271 P **P 12 41 36.0 +0.3**
FITZ Fitzroy Crossi 52.34 271 LR LR 13 03 24.8
comp=Z,1μm,19.0s,baz=115,slow=36
NWAO Narrogin (SRO) 53.83 250 LR LR 13 02 24.1
comp=Z,272nm,20.9s,baz=90,slow=34
PSA00 Pilbara Seismi 55.77 264 P **P 12 41 59.6 -1.1**
PSA00 IAmb IAmb 12 42 17.3
comp=Z,18nm,1.2s
GUMO Guam 57.57 316 LR LR 13 05 34.0
comp=Z,209nm,19.0s,baz=114,slow=35
QSPA South Pole Qui 58.16 180 P **P 12 42 19.2 +2.1**
QSPA South Pole Qui 58.16 180 P **P 12 42 19.0 +1.9**
comp=Z,5.0nm,0.8s,baz=348,slow=0.9,SNR=14
QSPA LR LR 13 05 23.2
comp=Z,418nm,18.8s,baz=46,slow=34
comp=Z,5.0nm,0.8s
NLAI Namlea 58.80 287 P **P 12 42 22.6 +0.5**
comp=Z,18nm,1.8s
SANI Sanana 60.39 288 P **P 12 42 33.2 +0.1**
comp=Z,21nm,1.5s
KAPI Kappang 63.86 281 LR LR 13 10 16.3
comp=Z,426nm,19.9s,baz=123,slow=36
DAV Davao City (W) 66.25 295 LR LR 13 12 04.5
comp=Z,122nm,19.8s,baz=321,slow=36
TOLI2 Tolitoli 66.45 287 P **P 12 43 13.8 +0.5**
TOLI2 IAmb IAmb 12 43 29.9
comp=Z,11nm,1.2s
PMSA Palmer Station 70.86 156 LR LR 13 14 21.3
comp=Z,164nm,18.2s,baz=140,slow=36
SYO Syowa Base 75.59 193⇑*e*P **P 12 44 07.6 -0.2**
SYO Syowa Base 75.59 193⇑*e*pP **P 12 44 09.6 +1.8**
TROLL Troll, Antarti 76.32 180 ⇑pP **P 12 44 13.3 +1.2**
comp=Z,450nm,0.9s
SNAA Sanae 76.60 178 P **P 12 44 14.7 +1.0**
SNAA Sanae 76.60 178 ⇑pP **P 12 44 15.0 +1.3**
comp=Z,134nm,0.8s
SNAA Sanae 76.60 178 P **P 12 44 14.5 +0.9**
comp=Z,9.0nm,1.0s,baz=211,slow=6.4,SNR=8.2
comp=Z,9.0nm,1.0s
VNA3 Neumayer Olymp 76.76 176 ⇑pP **P 12 44 14.6 +0.1**
comp=Z,18nm,0.8s
VNA2 Neumayer--Watz 77.19 177 ⇑pP **P 12 44 18.0 +1.1**
comp=Z,13nm,0.8s,baz=165,slow=3.0
VNA1 Neumayer--Stat 77.42 177 ⇑pP **P 12 44 20.5 +2.4**
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 79.50 326 P **P 12 44 29.1 -0.9**
comp=Z,1.2nm,0.9s,baz=122,slow=4.3,SNR=2.3
MJAR LR LR 13 13 16.8
comp=Z,75nm,19.9s,baz=142,slow=31
comp=Z,1.2nm,0.9s
H03S2 Juan Fernandez 79.64 123 T T 14 13 30.8
baz=235
H03S1 Juan Fernandez 79.65 123 T T 14 13 31.0
baz=235
H03S3 Juan Fernandez 79.65 123 T T 14 13 29.6
baz=235
H03N3 Juan Fernandez 79.84 123 T T 14 13 40.2
baz=241,slow=72
H03N2 Juan Fernandez 79.84 123 T T 14 13 42.0
baz=241,slow=72
H03N1 Juan Fernandez 79.85 123 T T 14 13 30.6
baz=241,slow=72
JNU Nakatsue 80.70 319 LR LR 13 15 25.2
comp=Z,107nm,21.4s,baz=144,slow=32
PLCA Paso Flores 81.47 133 P **P 12 44 41.5 +0.6**
comp=Z,3.9nm,1.0s,baz=177,slow=3.1,SNR=5.0
PLCA LR LR 13 14 49.2
comp=Z,185nm,18.3s,baz=215,slow=31
comp=Z,3.9nm,1.0s
ASAJ Asahikawa 83.80 333 LR LR 13 20 13.6
comp=Z,88nm,18.1s,baz=174,slow=34
SHEM Shemya Is, Ala 84.61 355 LR LR 13 19 09.0
comp=Z,127nm,18.4s,baz=110,slow=33
LPIG La Paz 85.38 58 LR LR 13 16 19.3
comp=Z,183nm,19.0s,baz=241,slow=31
KSRS Korea Array 85.51 320 P **P 12 45 00.2 -1.0**
comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=2.1
KSRS LR LR 13 18 16.9
comp=Z,79nm,21.7s,baz=160,slow=32
comp=Z,0.5nm,0.8s
PSI Prapat 85.56 276 LR LR 13 25 07.7
comp=Z,356nm,18.7s,baz=158,slow=37
PFO Pinyon Flats O 87.28 47 LR LR 13 23 06.6
comp=Z,159nm,18.1s,baz=246,slow=35
PETK Petropavlovsk- 87.31 346 P **P 12 45 10.3 +0.5**
comp=Z,3.3nm,0.8s,baz=185,slow=7.1,SNR=2.2
PETK LR LR 13 18 03.8
comp=Z,79nm,20.6s,baz=150,slow=31
comp=Z,3.3nm,0.8s
ISA Isabella, Lake 87.42 45 P **P 12 45 11.9 +1.0**
ISA IAmb IAmb 12 45 26.3
comp=Z,11nm,1.3s
CMB Columbia Colle 87.94 42 IAmb IAmb 12 45 16.1
comp=Z,4.2nm,1.1s
GSC Goldstone, Bar 88.19 46 P **P 12 45 14.4 -0.1**
AFDM Forest Hills D 88.25 41 P **P 12 45 15.7 +1.1**
AFDM IAmb IAmb 12 45 16.7
comp=Z,9.5nm,1.5s
USRK Ussuriysk Ar. 88.44 327 P **P 12 45 16.4 +1.0**
comp=Z,3.7nm,1.1s,baz=96,slow=5.7,SNR=6.5
USRK LR LR 13 24 54.5
comp=Z,73nm,18.1s,baz=127,slow=36
comp=Z,3.7nm,1.1s
113A Mohawk Valley, 88.44 49 P **P 12 45 17.0 +1.4**
113A IAmb IAmb 12 45 20.2
comp=Z,4.7nm,1.2s
WAKR Walker 88.80 42 P **P 12 45 19.2 +1.7**
GWY Greenwater Val 88.86 45 P **P 12 45 18.7 +0.9**
GWY IAmb IAmb 12 45 20.3
comp=Z,7.7nm,1.4s
DSP Deep Springs 88.88 44 IAmb IAmb 12 45 20.3
comp=Z,6.6nm,1.3s
PNTR Pine Nut 89.11 42 IAmb IAmb 12 45 36.0
comp=Z,5.4nm,1.0s
YBH Yreka Blue Hor 89.28 38 LR LR 13 16 31.7
comp=Z,115nm,21.4s,baz=216,slow=30
NVAR Mina Array Bea 89.40 43 P **P 12 45 21.7 +1.4**
NVAR Mina Array Bea 89.40 43 P **P 12 45 21.6 +1.3**
comp=Z,3.6nm,1.1s,baz=222,slow=7.8,SNR=12
comp=Z,3.6nm,1.1s
NV11 Mina Array Sit 89.49 43 IAmb IAmb 12 45 23.0
comp=Z,9.5nm,1.4s
TPNV Topopah Spring 89.62 45 IAmb IAmb 12 45 24.1
comp=Z,6.8nm,1.2s
Y14A Wickenburg 89.68 49 IAmb IAmb 12 45 24.4
comp=Z,7.5nm,1.3s
W13A Hualapai Mount 89.86 48 IAmb IAmb 12 45 25.6
comp=Z,8.6nm,1.3s
SHPR Sheep Range 89.99 46 P **P 12 45 23.7 +0.6**
TUC Tucson 90.11 51 P **P 12 45 24.8 +1.2**
TUC IAmb IAmb 12 45 26.9
comp=Z,5.4nm,1.1s
PRN Pahroc Range 90.64 45 P **P 12 45 26.3 +0.3**
PRN IAmb IAmb 12 45 29.2
comp=Z,9.7nm,1.3s
X16A Lo Mia Camp, P 90.99 49 P **P 12 45 28.8 +1.0**
X16A IAmb IAmb 12 45 31.7
comp=Z,7.9nm,1.2s
U15A North Rim 91.71 47 P **P 12 45 32.7 +1.5**
U15A IAmb IAmb 12 45 46.4
comp=Z,3.6nm,1.0s
KLR Kul'dur 92.36 330 P **P 12 45 34.2 +0.7**
comp=Z,1.5nm,0.6s,baz=142,slow=8.0,SNR=6.4
KLR LR LR 13 26 24.1
comp=Z,95nm,18.0s,baz=158,slow=35
comp=Z,1.5nm,0.6s
ELK Elko 92.71 43 LR LR 13 22 35.4
comp=Z,242nm,18.8s,baz=238,slow=32
TXAR Lajitas Array 93.25 57 P **P 12 45 39.2 +0.9**
comp=Z,0.6nm,0.9s,baz=198,slow=7.5,SNR=6.3
TXAR LR LR 13 21 34.6
comp=Z,48nm,18.0s,baz=236,slow=32
comp=Z,0.6nm,0.9s
CMIG Matias Romero 93.26 72 LR LR 13 20 52.8
comp=Z,47nm,18.2s,baz=177,slow=31
CMAR Chiang Mai Arr 93.88 289 P **P 12 45 42.3 +1.0**
comp=Z,0.2nm,0.3s,baz=147,slow=5.2,SNR=1.4
comp=Z,0.2nm,0.3s
ANMO Albuquerque 94.57 51 LR LR 13 21 07.5
comp=Z,92nm,19.8s,baz=49,slow=31
MA2 Magadan 94.78 345 LR LR 13 31 32.7
comp=Z,64nm,18.0s,baz=161,slow=38
NEW Newport 96.65 36 LR LR 13 22 43.7
comp=Z,196nm,20.0s,baz=226,slow=31
PDAR Pinedale Array 97.28 44 P Pdif 12 45 57.2 +0.6
comp=Z,0.5nm,0.9s,baz=229,slow=1.9,SNR=2.3
PDAR LR LR 13 25 15.9
comp=Z,91nm,18.9s,baz=240,slow=33
comp=Z,0.5nm,0.9s
SEY Seymchan 97.48 347 P **P 12 45 55.5 -1.2**
comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=3.8
comp=Z,0.3nm,0.3s
JTS Las Juntas de 97.96 83 LR LR 13 24 13.1
comp=Z,68nm,18.1s,baz=289,slow=32
CPUP Villa Florida 99.04 129 LR LR 13 27 54.8
comp=Z,61nm,19.5s,baz=267,slow=34
ILAR Eielson Array 99.45 13 LR LR 13 31 35.4
comp=Z,47nm,18.3s,baz=239,slow=36
MKAR Makanchi Array 118.74 309 PKP **PKPdf 12 51 11.6 +0.2**
comp=Z,0.5nm,0.5s,baz=149,slow=0.8,SNR=9.5
ZALV Zalesovo Beam 119.17 318 PKP **PKiKP 12 51 12.4 +0.5**
comp=Z,0.2nm,0.3s,baz=64,slow=3.4,SNR=2.3
KURBB Kurchatov Arra 122.13 313 PKP **PKPdf 12 51 17.5 -0.1**
comp=Z,1.3nm,0.5s,baz=113,slow=2.0,SNR=16
BVAR Borovoye Array 127.49 315 PKP **PKPdf 12 51 28.2 +0.4**
comp=Z,1.3nm,0.5s,baz=146,slow=3.5,SNR=5.9
ARCES ARCESS Array B 140.10 347 PKhKP PKPpre 12 51 46.8
comp=Z,1.7nm,0.7s,baz=46,slow=3.5,SNR=5.9
KBZ Khabaz 145.93 302 PKPbc **PKPdf 12 52 02.7 +0.7**
comp=Z,11nm,1.1s,baz=46,slow=2.3,SNR=14
FIA1 FINESS Array S 146.59 339 PKPdf **PKPbc 12 52 04.3 +0.1**
FINES FINESS Array B 146.59 339 PKPdf **PKPbc 12 52 03.9 -0.3**
FINES FINESS Array B 146.59 339 PKPbc **PKPdf 12 52 03.7 +1.1**
comp=Z,14nm,0.7s,baz=45,slow=4.1,SNR=33
NC303 NORSAR Array S 150.08 351 PKPdf **PKPdf 12 52 10.4 +2.1**
NB2 NORSAR Subarra 150.28 351 PKP **PKPbc 12 52 14.4 +0.5**
comp=Z,17nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 150.28 351 PKPbc **PKPbc 12 52 13.7 -0.2**
comp=Z,1.9nm,0.7s,baz=13,slow=4.1,SNR=6.6
HFS Hagfors 150.76 348 PKPbc **PKPbc 12 52 14.1 -0.9**
comp=Z,5.4nm,0.8s,baz=72,slow=4.8,SNR=6.9
MMAI Mount Meron Ar 151.84 281 PKPbc **PKPbc 12 52 17.8 -0.7**
comp=Z,5.7nm,0.6s,baz=85,slow=6.3,SNR=4.2
AKASG Malin Array Be 152.50 321 PKPbc **PKPbc 12 52 19.6 +0.3**
comp=Z,2.0nm,0.6s,baz=57,slow=2.1,SNR=14
KIEV Kiev 152.51 321 PKPdf **PKPdf 12 52 12.7 +0.4**
ILGA Ilgaz 153.03 299 PKPbc **PKiKP 12 52 21.8 +0.5**
BR131 Keskin Array S 153.28 296 PKPbc **PKPbc 12 52 21.2 -0.4**
BRTR Keskin Array B 153.28 296 PKPbc **PKPbc 12 52 21.3 -0.3**
BRTR Keskin Array B 153.28 296 PKPbc **PKPbc 12 52 21.8 +0.2**
comp=Z,1.7nm,0.5s,baz=142,slow=4.6,SNR=10
DBIC Dimbokro 154.05 164 PKPab **PKPab 12 52 36.3 -0.8**
comp=Z,2.7nm,0.9s,baz=203,slow=4.3,SNR=3.2
BURAR Bucovina Array 156.38 318 PKPab **PKPab 12 52 46.7 +0.2**
CLL Collm 159.02 340 *i* PKPdf **PKPdf 12 52 22.5 +1.5**
comp=Z,5.0nm,1.1s
CLL *i* PKPab **PKPab 12 52 56.7 -0.8**
comp=Z,17nm,1.5s
CLL *ex* x 12 53 08.0
CLL AMS AMS 14 06 00.0
comp=Z,100nm,21.0s
BRG Berggiesshubel 159.12 338 *e*PKP **PKPab 12 52 58.3 +0.3**
BRG Amp 12 52 59.6
comp=Z,13nm,1.3s
KHC Kasperske Hory 160.75 336 *e*PKPAB **PKPab 12 53 05.7 +0.5**
GERES GERESS Array B 160.95 336 PKPab **PKPab 12 53 05.8 -0.3**
comp=Z,0.2nm,0.3s,baz=37,slow=5.2,SNR=4.5
TORD Torodi Ar. Bea 161.28 179 PKPab **PKPab 12 53 08.7 +0.5**
TORD Torodi Ar. Bea 161.28 179 PKPab **PKPab 12 53 08.4 +0.2**
comp=Z,1.0nm,0.3s,baz=178,slow=3.1,SNR=3.8
FNA Florina 162.08 305 PKPab **PKPab 12 53 10.4 -1.0**

IDC 19 12:54:44.8±3.4, 32°.51S×178°.80W, h0km, mb3.5/3, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=67.1km s-min=33.6km az=66.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.64**	**209**	Pn	Pn	12 56 23.3	-0.3
	0.4nm,0.3s,baz=33,slow=10,SNR=1.7						
URZ				Sn	Sn	12 57 39.5	-0.5
	0.3nm,0.3s,baz=53,slow=20,SNR=6.2						
	4.8nm,0.8s						
ASAR	**Alice Springs**	**42.36**	**270**	P	P	13 02 41.0	+0.1
	0.4nm,0.8s,baz=108,slow=7.7,SNR=4.8						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**43.54**	**275**	P	P	13 02 50.4	-0.1
	0.2nm,0.3s,baz=114,slow=8.1,SNR=7.3						
	0.2nm,0.3s						
VNDA	**Vanda**	**45.94**	**186**	P	P	13 03 08.8	-0.1
	0.9nm,0.5s,baz=27,slow=6.8,SNR=7.8						
	0.9nm,0.5s						

*NOU **19** 13:26:46.0, 37°.41S×176°.75E, h247km, MLv3.5/14, North Island, New Zealand*
*WEL **19** 13:26:50.0±0.9, 37°S±7°×17°7E±°, h199km±8km, M2.8/19, MLv2.8/19, Error ellipse: s-maj=9.7km s-min=6.9km az=26.3, confirmed*

ISC 19 13:26:45.5±2.2, 37°.28S±0°.07×176°.72E±0°.07, h234km±13km, n90, σ1°67/100, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.58**	**219**	P	**Pn**	**13 27 17.9**	**+1.1**
OPRZ	**Ohinepanea**	**0.58**	**193**	P	**Pn**	**13 27 17.6**	**+0.8**
MARZ	**Manawahe**	**0.71**	**183**	P	**Pn**	**13 27 18.5**	**+1.2**
MARZ				S	**S**	**13 27 41.8**	**-0.6**
HAZ	**Te Kaha**	**0.97**	**120**	P	**Pn**	**13 27 19.5**	**+0.9**
HAZ				S	**S**	**13 27 42.6**	**-1.9**
RUGZ	**Raukumara Rang**	**1.03**	**132**	P	**Pn**	**13 27 19.7**	**+0.6**
RUGZ				S	**S**	**13 27 42.5**	**-3.0**
URZ	**Urewera**	**1.03**	**162**	P	**Pn**	**13 27 20.1**	**+1.2**
URZ	**Urewera**	**1.03**	**162**	P	**Pn**	**13 27 19.9**	**+1.0**
URZ				P	**S**	**13 27 43.7**	**-1.6**
TOZ	**Tahuroa Road**	**1.07**	**244**	P	**Pn**	**13 27 20.5**	**+1.3**
MUGZ	**Murupara**	**1.20**	**178**	P	**Pn**	**13 27 21.1**	**+1.1**
MUGZ				P	**S**	**13 27 45.9**	**-1.4**
PKGZ	**Pakihiroa**	**1.23**	**119**	P	**Pn**	**13 27 21.8**	**+1.5**
MWZ	**Matawai**	**1.24**	**149**	P	**Pn**	**13 27 21.4**	**+1.1**
MWZ				S	**S**	**13 27 46.4**	**-1.4**
PRRZ	**Plateau Road**	**1.25**	**192**	P	**Pn**	**13 27 21.8**	**+1.4**
MKAZ	**Moumakai**	**1.25**	**277**	P	**Pn**	**13 27 21.8**	**+1.4**
MXZ	**Matakaoa Point**	**1.30**	**103**	P	**Pn**	**13 27 22.2**	**+1.5**
MXZ	**Matakaoa Point**	**1.30**	**103**	P	**Pn**	**13 27 21.9**	**+1.2**
MXZ				P	**S**	**13 27 47.3**	**-1.0**
WPRZ	**Whakapapatarin**	**1.32**	**199**	P	**Pn**	**13 27 22.1**	**+1.2**
ALRZ	**Allen Road**	**1.32**	**193**	P	**Pn**	**13 27 22.3**	**+1.4**
RAGZ	**Rawiri**	**1.34**	**156**	P	**Pn**	**13 27 22.8**	**+1.7**
TWGZ	**Tauwhareparae**	**1.35**	**132**	P	**Pn**	**13 27 22.8**	**+1.7**
TWGZ				S	**S**	**13 27 48.7**	**-0.4**
RTZ	**Ruatahuna**	**1.35**	**171**	P	**Pn**	**13 27 22.6**	**+1.3**
RTZ				S	**S**	**13 27 47.9**	**-1.4**
WIAZ	**Waiheke Island**	**1.35**	**290**	P	**Pn**	**13 27 22.2**	**+1.0**
TLZ	**Tolley Road**	**1.41**	**221**	P	**Pn**	**13 27 23.5**	**+1.9**
GRZ	**Great Barrier**	**1.44**	**315**	P	**Pn**	**13 27 22.4**	**+0.6**
WMGZ	**Waiomatatini S**	**1.46**	**112**	P	**Pn**	**13 27 23.5**	**+1.6**
PUZ	**Puketiti**	**1.46**	**123**	P	**Pn**	**13 27 23.5**	**+1.5**
TKGZ	**Te Karaka**	**1.47**	**143**	P	**Pn**	**13 27 23.4**	**+1.5**
MBAZ	**Motutapu North**	**1.54**	**289**	P	**Pn**	**13 27 24.0**	**+1.4**
MRHZ	**Matea Rd**	**1.57**	**189**	P	**Pn**	**13 27 24.3**	**+1.4**
MTHZ	**Maungataniwha**	**1.58**	**176**	P	**Pn**	**13 27 24.4**	**+1.5**
SNGZ	**Shannon Statio**	**1.58**	**162**	P	**Pn**	**13 27 24.7**	**+1.7**
WATZ	**Wairara**	**1.63**	**208**	P	**Pn**	**13 27 25.4**	**+2.1**
RIGZ	**Rimuhau**	**1.65**	**150**	P	**Pn**	**13 27 25.6**	**+2.1**
RAHZ	**Arahi**	**1.66**	**170**	P	**Pn**	**13 27 25.6**	**+1.9**
CNGZ	**Carnagh Statio**	**1.69**	**136**	P	**Pn**	**13 27 25.9**	**+2.1**
NMHZ	**Naunai**	**1.82**	**178**	P	**Pn**	**13 27 27.4**	**+2.3**
RITZ	**Rihia Road**	**1.83**	**201**	P	**Pn**	**13 27 27.0**	**+2.0**
KATZ	**Kakaramea**	**1.88**	**205**	P	**Pn**	**13 27 28.0**	**+2.4**
PRGZ	**Paritu Road**	**1.88**	**151**	P	**Pn**	**13 27 27.3**	**+1.7**
BKZ	**Black Stump Fm**	**1.89**	**185**	P	**Pn**	**13 27 26.8**	**+1.1**
BKZ	**Black Stump Fm**	**1.89**	**185**	P	**S**	**13 27 56.5**	**-0.8**
BKZ	**Black Stump Fm**	**1.89**	**185**	P	**Pn**	**13 27 27.0**	**+1.3**
KNZ	**Kokohu**	**1.90**	**157**	P	**Pn**	**13 27 27.3**	**+1.7**
HIZ	**Hauiti**	**1.92**	**229**	P	**Pn**	**13 27 28.3**	**+2.5**
HIZ	**Hauiti**	**1.92**	**229**	P	**Pn**	**13 27 27.7**	**+1.8**
NTVZ	**North Tongarir**	**2.00**	**204**	P	**Pn**	**13 27 28.9**	**+2.2**
ARHZ	**Aropaoanui**	**2.00**	**174**	P	**Pn**	**13 27 28.7**	**+2.2**
TMVZ	**Te Maari**	**2.00**	**203**	P	**Pn**	**13 27 28.6**	**+1.9**
KRVZ	**Karewarewa**	**2.00**	**205**	P	**Pn**	**13 27 28.7**	**+1.9**
ETVZ	**East Tongariro**	**2.02**	**203**	P	**Pn**	**13 27 28.9**	**+2.0**
WTVZ	**West Tongariro**	**2.04**	**205**	P	**Pn**	**13 27 29.0**	**+1.9**
NNVZ	**North Ngauruho**	**2.04**	**205**	P	**Pn**	**13 27 29.3**	**+2.1**
TWVZ	**Taurewa**	**2.06**	**209**	P	**Pn**	**13 27 29.2**	**+2.0**
OTVZ	**Oturere**	**2.06**	**203**	P	**Pn**	**13 27 29.3**	**+2.0**
SNVZ	**South Ngauruho**	**2.09**	**204**	P	**Pn**	**13 27 29.5**	**+1.9**
NGZ	**Ngauruhoe**	**2.09**	**204**	P	**Pn**	**13 27 29.9**	**+2.3**
MHGZ	**Mahia Peninsul**	**2.10**	**154**	P	**Pn**	**13 27 29.5**	**+2.0**
COVZ	**Chateau Observ**	**2.13**	**205**	P	**Pn**	**13 27 29.8**	**+1.8**
KWHZ	**Kaweka Forest**	**2.16**	**186**	P	**Pn**	**13 27 30.0**	**+1.8**
TUVZ	**Tukino**	**2.16**	**202**	P	**Pn**	**13 27 30.1**	**+1.8**
MCHZ	**McNeill Hill**	**2.16**	**180**	P	**Pn**	**13 27 30.4**	**+2.3**
FWVZ	**Far West T-bar**	**2.18**	**205**	P	**Pn**	**13 27 30.4**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.19**	**204**	P	**Pn**	**13 27 30.5**	**+1.8**
TRVZ	**Turoa**	**2.22**	**204**	P	**Pn**	**13 27 30.8**	**+1.9**
WNVZ	**Wahianoa**	**2.23**	**203**	P	**Pn**	**13 27 30.7**	**+1.7**
PKVZ	**Pokaka**	**2.28**	**208**	P	**Pn**	**13 27 31.0**	**+1.7**
MTVZ	**Mangateitei**	**2.32**	**205**	P	**Pn**	**13 27 31.3**	**+1.5**
WCZ	**Waipu Caves**	**2.33**	**304**	P	**Pn**	**13 27 31.1**	**+1.3**
KRHZ	**Kereru**	**2.38**	**186**	P	**Pn**	**13 27 31.8**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.40**	**173**	P	**Pn**	**13 27 32.6**	**+2.2**
KAHZ	**Kahuranaki**	**2.52**	**177**	P	**Pn**	**13 27 33.6**	**+1.9**
PNHZ	**Pukenui**	**2.66**	**189**	P	**Pn**	**13 27 34.6**	**+1.2**
PXZ	**Pawanui**	**2.75**	**178**	P	**Pn**	**13 27 35.7**	**+1.5**
WPHZ	**Waipukurau**	**2.79**	**184**	P	**Pn**	**13 27 36.1**	**+1.5**
TSZ	**Takapari Road**	**2.84**	**192**	P	**Pn**	**13 27 36.4**	**+1.2**
PKE	**Pukeiti**	**2.88**	**227**	P	**Pn**	**13 27 39.0**	**+3.4**
KHEZ	**Kahui Hut**	**2.93**	**226**	P	**Pn**	**13 27 38.2**	**+2.0**
PRHZ	**Porangahau**	**2.99**	**181**	P	**Pn**	**13 27 38.2**	**+1.4**
DVHZ	**Dannevirke**	**3.05**	**188**	P	**Pn**	**13 27 38.4**	**+0.9**
OHWZ	**Ohakea**	**3.12**	**200**	P	**Pn**	**13 27 39.9**	**+1.6**
ANWZ	**Angora Road**	**3.18**	**183**	P	**Pn**	**13 27 40.5**	**+1.6**
POWZ	**Post Office Ro**	**3.20**	**193**	P	**Pn**	**13 27 40.1**	**+1.0**
POWZ				S	**S**	**13 28 20.0**	**-1.5**
OUZ	**Omahuta**	**3.25**	**308**	P	**Pn**	**13 27 41.3**	**+1.5**
OUZ	**Omahuta**	**3.25**	**308**	P	**Pn**	**13 27 40.9**	**+1.1**
BFZ	**Birch Farm**	**3.42**	**186**	P	**Pn**	**13 27 42.7**	**+1.0**
BFZ	**Birch Farm**	**3.42**	**186**	S	**S**	**13 28 25.6**	**-0.5**
SNZO	**South Karori**	**4.32**	**201**	P	**Pn**	**13 27 52.0**	**-0.3**
QRZ	**Quartz Range**	**4.81**	**221**	P	**Pn**	**13 27 58.3**	**-0.1**
KHZ	**Kahutara**	**5.69**	**204**	P	**Pn**	**13 28 09.2**	**0.0**
ODZ	**Otahua Downs**	**9.01**	**209**	P	**Pn**	**13 28 49.3**	**-2.1**
JCZ	**Jackson Bay**	**9.07**	**219**	P	**Pn**	**13 28 50.4**	**-2.0**

*NEIC **19** 13:29:29.3±1.1, 11°.5S±0°.1×166°.9E±0°.1, h161km±9km, mb4.4/39, Error ellipse: s-maj=18.9km s-min=16.3km az=87.0*
*NOU **19** 13:29:34.4, 11°.37S×166°.99E, h241km, mb4.3/37, Santa Cruz Islands*
*IDC **19** 13:29:37.8±2.8, 11°.80S×166°.79E, h249km±26km, mb3.6/11, mbtmp4.2/12, Error ellipse: s-maj=23.7km s-min=17.9km az=120.0*

ISC 19 13:29:37.0±0.5, 11°.67S±0°.06×166°.82E±0°.08, h242km, n92, σ1°11/93, mb4.2/32, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.34**	**318**	P	**Pn**	**13 30 11.0**	**-2.4**
LUES	**Luesalemba Tem**	**1.34**	**318**	S	**S**	**13 30 37.6**	**-4.3**
DVP	**Devils Point**	**6.16**	**168**	P	**Pn**	**13 31 06.6**	**-0.4**
NGOA	**Tingoa Renbel**	**6.62**	**270**	P	**Pn**	**13 31 11.8**	**-1.0**
HNR	**Honiara**	**7.12**	**288**	Pn	Pn	13 31 08.8	-10
TATA	**Tatamba Isabel**	**7.64**	**295**	P	**Pn**	**13 31 25.6**	**-0.2**
KOUNC	**Koumac, New Ca**	**9.16**	**195**	P	**Pn**	**13 31 48.3**	**+3.3**
YATNC	**Mamie plateau,**	**10.33**	**180**	P	**Pn**	**13 32 02.4**	**+2.5**
DZM	**Mont Dzumac**	**10.35**	**182**	Pn	**Pn**	**13 32 01.0**	**+0.8**
DZM	**Mont Dzumac**	**10.35**	**182**	P	**Pn**	**13 32 00.6**	**+0.4**
	6.2nm,0.3s,baz=301,slow=14,SNR=29						
DZM				S	**S**	**13 33 54.8**	**-1.7**
	4.4nm,0.8s,baz=44,slow=17,SNR=2.0						
DZM	**Mont Dzumac**	**10.35**	**182**	P	**Pn**	**13 32 01.5**	**+1.3**
ONTNC	**Ouen Toro**	**10.59**	**182**	P	**Pn**	**13 32 05.4**	**+2.4**
OUENC	**Ouen Island, N**	**10.69**	**180**	P	**Pn**	**13 32 06.8**	**+2.5**
PINNC	**Pines Island,**	**10.90**	**177**	P	**Pn**	**13 32 07.5**	**+0.5**
MSVF	**Nonsavu**	**12.42**	**120**		**Pn**	**13 32 25.4**	**-0.7**
BULU	**Kimbe**	**17.41**	**289**	P	**P**	**13 33 22.7**	**-1.2**
EIDS	**Eidsvold**	**20.18**	**225**	P	**P**	**13 33 53.5**	**0.0**
EIDS	**Eidsvold**	**20.18**	**225**	P	**P**	**13 33 53.5**	**0.0**
MTSU	**Mount Surprise**	**22.67**	**251**	P	**P**	**13 34 19.3**	**+1.4**
ARMA	**Armidale**	**23.38**	**215**	P	**P**	**13 34 24.5**	**+0.2**
ARMA				IAmb	IAmb	13 34 26.4	
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**23.38**	**215**	P	**P**	**13 34 24.6**	**+0.2**
CMSA	**Cobar Meteorol**	**27.77**	**221**	P	**P**	**13 35 03.3**	**-0.4**
URZ	**Urewera**	**28.03**	**163**	P	**P**	**13 35 05.9**	**+0.1**
CAN	**Canberra**	**28.56**	**212**	P	**P**	**13 35 10.2**	**-0.5**
CAN				IAmb	IAmb	13 35 50.8	
	comp=Z,15nm,1.4s						
BKZ	**Black Stump Fm**	**28.70**	**164**	P	**P**	**13 35 11.8**	**0.0**
BKZ				IAmb	IAmb	13 35 12.3	
	comp=Z,11nm,1.1s						
BKZ	**Black Stump Fm**	**28.70**	**164**	P	**P**	**13 35 11.2**	**-0.7**
INKA	**Innaminka**	**29.20**	**233**	P	**P**	**13 35 16.2**	**-0.1**
MRZ	**Mangatainoka R**	**29.89**	**167**	P	**P**	**13 35 22.4**	**+0.2**
BFZ	**Birch Farm**	**30.07**	**166**	P	**P**	**13 35 22.6**	**-1.2**
BFZ	**Birch Farm**	**30.07**	**166**	P	**P**	**13 35 23.0**	**-0.8**
STKA	**Stephens Creek**	**30.73**	**225**	P	**P**	**13 35 29.6**	**-0.2**
STKA	**Stephens Creek**	**30.73**	**225**	P	**P**	**13 35 29.4**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=24,slow=8.3,SNR=9.4						
	comp=Z,3.5nm,0.7s						
STKA	**Stephens Creek**	**30.73**	**225**	P	**P**	**13 35 29.8**	**0.0**
FOZ	**Fox Glacier**	**31.85**	**176**	P	**P**	**13 35 39.2**	**-0.1**
FOZ				IAmb	IAmb	13 36 06.9	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**32.09**	**251**	P	**P**	**13 35 40.6**	**-1.2**
WR0				IAmb	IAm

comp=Z,15nm,1.4s
JGF Kuroka 54.65 331 P P 13 38 41.4 +0.3
JGF IAmb IAmb 13 39 12.1
comp=Z,10nm,1.1s
MJB9 Matsu-Tunnel 55.02 332 P P 13 38 44.5 +0.8
MJB9 IAmb IAmb 13 39 22.0
comp=Z,13nm,1.4s
JSD Sado 56.22 333 P P 13 38 52.9 +0.8
KSRS Korea Array 60.99 325 P P 13 39 25.7 +0.7
comp=Z,0.6nm,0.5s,baz=125,slow=8.0,SNR=4.6
comp=Z,0.6nm,0.5s
CMAR Chiang Mai Arr 73.33 293 P P 13 40 44.4 +1.6
comp=Z,0.8nm,0.6s,baz=126,slow=5.4,SNR=7.3
comp=Z,0.8nm,0.6s
O16K Kokwok River B 76.42 18 P P 13 40 59.6 +0.1
O16K IAmb IAmb 13 41 38.6
comp=Z,6.2nm,1.2s
P18K Big Mountain, 77.14 19 P P 13 41 03.7 +0.1
P18K IAmb IAmb 13 41 23.3
comp=Z,25nm,1.5s
QSPA South Pole Qui 78.34 180 P P 13 41 09.9 -0.4
comp=Z,1.9nm,1.1s,baz=18,slow=3.2,SNR=2.4
comp=Z,1.9nm,1.1s
BILL Bilibino 79.50 360 P P 13 41 17.1 +0.8
SONM Songino Array 79.79 323 P P 13 41 20.5 +2.0
comp=Z,0.4nm,0.4s,baz=114,slow=7.1,SNR=2.8
comp=Z,0.4nm,0.4s
F15K North Star Dit 80.03 12 P P 13 41 20.0 +0.8
G16K Koyuk River 80.23 13 P P 13 41 21.2 +1.0
G16K IAmb IAmb 13 41 23.1
comp=Z,6.2nm,1.4s
CAST Castle Rocks 81.22 17 P P 13 41 26.2 +0.7
G18K Tagagawik 81.47 14 P P 13 41 27.4 +0.5
G18K IAmb IAmb 13 42 05.7
comp=Z,7.0nm,1.5s
E18K Tukpahlearik C 82.33 12 P P 13 41 32.8 +1.5
E18K IAmb IAmb 13 41 33.1
comp=Z,6.8nm,1.5s
WRH Wood River Hil 83.19 18 P P 13 41 35.9 +0.2
WRH IAmb IAmb 13 41 40.8
comp=Z,5.3nm,1.2s
C18K Utukok River 83.26 11 P P 13 41 37.1 +1.0
HDA Harding Lake 83.50 18 P P 13 41 38.0 +0.7
HDA IAmb IAmb 13 41 39.3
comp=Z,13nm,1.4s
IL31 83.77 18 P P 13 41 39.0 +0.4
IL31 IAmb IAmb 13 41 39.2
comp=Z,4.7nm,1.0s
ILAR Eielson Array 83.77 18 P P 13 41 39.3 +0.6
ILAR Eielson Array 83.77 18 P P 13 41 39.0 +0.3
comp=Z,2.0nm,0.6s,baz=240,slow=5.1,SNR=45
comp=Z,2.0nm,0.6s
G24K Hadweenzic Riv 84.97 17 P P 13 41 45.9 +1.3
G24K IAmb IAmb 13 42 29.2
comp=Z,5.8nm,1.4s
D22K Ayikyak River 85.26 14 P P 13 41 47.2 +1.1
D25K Kavik River 87.12 15 P P 13 41 55.9 +0.8
MKAR Makanchi Array 94.70 317 P P 13 42 31.2 +0.4
comp=Z,1.2nm,0.6s,baz=88,slow=6.3,SNR=13
comp=Z,1.2nm,0.6s
YKA Yellowknife Ar 95.04 27 P P 13 42 31.2 -0.7
comp=Z,0.2nm,0.6s,baz=260,slow=4.8,SNR=4.5
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 117.20 346 PKP PKPdf 13 47 52.3 -0.5
comp=Z,3.9nm,1.1s,baz=33,slow=2.6,SNR=5.5

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*NEIC **19** 13:37:56.3±0.6, 19°.34N±0°.02×155°.156W±0°.008, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.4km az=344.0*

HVO 19 13:37:55.7±0.6, **19°.34N**±0°.02×**155°.143W**±0°.008, **h6**km±2km, **ML2.5**/33, **ML2.5**/36(NEIC), **Error ellipse: s-maj=2.9km s-min=1.0km az=169.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.05**	**327**		Pg	13 37 57.7	+0.6
STCH	**Steam Cracks**	**0.05**	**21**	Pg	Pg	13 37 57.6	+0.5
STCH				Sg	Sg	13 37 59.1	+0.8
STCH				IAML		13 37 59.3	
comp=N,5μm,0.3s							
JCUZ	**Jacuzzi**	**0.06**	**42**		Pg	13 37 59.2	+1.9
NPOC	**North of Pu'u**	**0.06**	**31**		Pg	13 37 59.2	+1.8
PUH	**Pauahi**	**0.08**	**296**	Pg	Pg	13 37 58.1	+0.5
PUH				IAML		13 38 00.1	
comp=N,3μm,0.2s							
KKO	**Keanakako'i**	**0.13**	**296**		Pg	13 37 58.9	+0.5
KKO					Sg	13 38 01.3	+1.0
BYL	**Byron's Ledge**	**0.13**	**303**		Pg	13 37 58.9	+0.4
BYL					Sg	13 38 01.4	+1.0
BYL	**Byron's Ledge**	**0.13**	**303**	IAML		13 38 01.8	
comp=N,2μm,0.2s							
BYL				IAML		13 38 01.8	
comp=E,1μm,0.2s							
RIM	**Rim**	**0.14**	**294**		Pg	13 37 59.0	+0.5
RIM					Sg	13 38 01.3	+0.9
HATHI	**Halema'uma'u T**	**0.14**	**306**		Pg	13 37 59.0	+0.4
HATHI					Sg	13 38 01.4	+0.8
HATHI	**Halema'uma'u T**	**0.14**	**306**	IAML		13 38 02.0	
comp=E,921nm,0.3s							
HATHI				IAML		13 38 02.3	
comp=N,888nm,0.1s							
SBLHI	**Steaming Bluff**	**0.15**	**306**		Pg	13 37 59.1	+0.3
SBLHI					Sg	13 38 01.6	+0.8
SDHHI	**Sand Hill**	**0.15**	**289**		Pg	13 37 59.2	+0.4
SDHHI					Sg	13 38 01.6	+0.7
UWB	**Uwekahuna Bluf**	**0.15**	**303**		Pg	13 37 59.2	+0.3
UWB					Sg	13 38 01.7	+0.7
OBL	**Observatory Le**	**0.15**	**300**		Pg	13 37 59.3	+0.4
OBL					Sg	13 38 01.9	+0.9
JOKA	**Jonika Flow**	**0.16**	**55**		Pg	13 37 59.1	+0.1
JOKA					Sg	13 38 01.6	+0.5
JOKA	**Jonika Flow**	**0.16**	**55**	IAML		13 38 02.3	
comp=E,287nm,1.6s							
JOKA				IAML		13 38 02.3	
comp=N,549nm,1.8s							
HLP	**Hilina Pali**	**0.16**	**254**		Pg	13 37 59.6	+0.6
HLP					Sg	13 38 02.2	+1.0
HLP	**Hilina Pali**	**0.16**	**254**	IAML		13 38 03.7	
comp=E,1μm,0.1s							
HLP				IAML		13 38 03.9	
comp=N,1μm,0.2s							
WRMHI	**West Rim**	**0.16**	**294**		Pg	13 37 59.4	+0.3
WRMHI					Sg	13 38 01.9	+0.7
UWE	**Uwekahuna**	**0.16**	**299**		Pg	13 37 59.4	+0.4
UWE					Sg	13 38 02.2	+0.9
UWE	**Uwekahuna**	**0.16**	**299**	IAML		13 38 02.9	
comp=N,473nm,0.9s							
UWE				IAML		13 38 03.9	
comp=E,492nm,1.0s							
RSD	**Rainshed**	**0.18**	**314**		Pg	13 37 59.6	+0.3
RSD					Sg	13 38 02.6	+0.9
HTC	**Hot Caves**	**0.26**	**247**		Pg	13 38 01.1	+0.3
MLH	**Mauna Loa**	**0.28**	**304**		Pg	13 38 01.4	+0.3
MLH					Sg	13 38 05.5	+0.7
MLH	**Mauna Loa**	**0.28**	**304**	IAML		13 38 09.0	
comp=N,558nm,0.1s							
MLH				IAML		13 38 09.3	
comp=E,482nm,0.2s							
MWH	**Mokuaweoweo**	**0.45**	**289**	IAML		13 38 13.0	
comp=E,548nm,0.9s							
MWH				IAML		13 38 15.0	
comp=N,490nm,0.4s							
HPO	**Honuapo**	**0.46**	**237**		Pg	13 38 04.8	+0.2
POHA	**Pohakuloa**	**0.55**	**319**		Pg	13 38 06.0	-0.4
POHA				IAML		13 38 14.6	
comp=N,356nm,0.6s							

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*STR **19** 13:38:54.3±1.1, 46°.N±5°.×1°.3E±°, h5km, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=72.2, preliminary*
*ROM **19** 13:38:55.3±0.1, 46°.336N±0°.004×12°.385E±0°.004, h10km, ML2.5/78, Error ellipse: s-maj=0.4km s-min=0.2km az=171.0*
*VIE **19** 13:38:55.7±0.2, 46°.38N×12°.36E, h10km±3km, mb2.2/20, ml2.8/20, Error ellipse: s-maj=1.2km s-min=0.8km az=177.0*
*PRU **19** 13:38:59.1, 46°.45N×12°.39E, h10km*

ISC 19 13:38:55.8±0.8, **46°.37N**±0°.02×**12°.38E**±0°.01, **h7**km±5km, **n113**, σ1§**08**/153, **12D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIMO	**Cimolais**	**0.07**	**147**	⇓*e*Pg	**Pg**	**13 38 57.8**	**+0.1**
CIMO				*e*Sg	**Sg**	**13 38 59.1**	**+0.1**
CIMO	**Cimolais**	**0.07**	**147**	⇓P	**Pg**	**13 38 57.7**	**+0.1**
CIMO				S	**Sg**	**13 38 59.2**	**+0.1**
CIMO				AML	AML		
comp=E,5550μm,0.5s							
CIMO				AML	AML		
comp=N,3620μm,1.2s							
CIMO				AML	AML		
comp=E,5840μm,0.5s							
CIMO				AML	AML		
comp=N,3665μm,1.2s							
CIMO				AML	AML		
comp=N,3665μm,0.8s							
CIMO				AML	AML		
comp=N,3620μm,0.8s							
CIMO				AML	AML		
comp=E,5320μm,0.2s							
CIMO				AML	AML		
comp=E,5213μm,0.2s							
CSO	**Casso**	**0.10**	**203**	⇓*e*Pg	**Pg**	**13 38 58.1**	**-0.1**
CSO				*e*Sg	**Sg**	**13 38 59.8**	**-0.1**
AFL	**Alpe Faloria**	**0.21**	**319**	⇓*e*Pg	**Pg**	**13 38 60.0**	**-0.1**
AFL				*e*Sg	**Sg**	**13 39 03.0**	**0.0**
APGO	**Alpago**	**0.22**	**184**	⇓*e*Pg	**Pg**	**13 39 00.5**	**+0.3**
APGO				*e*Sg	**Sg**	**13 39 03.3**	**+0.2**
CSMI	**Casera Mimoias**	**0.23**	**53**	⇓*e*Pg	**Pg**	**13 39 00.8**	**+0.4**
CSMI				*e*Sg	**Sg**	**13 39 04.7**	**+1.0**
AGOR	**Agordo**	**0.25**	**249**	P	**Pg**	**13 39 00.8**	**+0.1**
MLNI	**Malnisio**	**0.27**	**144**	⇓*e*Pg	**Pg**	**13 39 01.2**	**+0.1**
MLNI				*e*Sg	**Sg**	**13 39 05.4**	**+0.6**
POLC	**Polcenigo**	**0.35**	**167**	P	**Pg**	**13 39 02.4**	**-0.3**
POLC				S	**Sg**	**13 39 07.6**	**+0.3**
CLUD	**Cludinico**	**0.36**	**76**	⇓*e*Pg	**Pg**	**13 39 02.8**	**+0.1**
CLUD				*e*Sg	**Sb**	**13 39 08.5**	**-1.7**
CLUD	**Cludinico**	**0.36**	**76**	P	**Pg**	**13 39 02.8**	**+0.1**
CLUD				S	**Sb**	**13 39 09.4**	**-0.9**
CLUD				AML	AML		
comp=E,490μm,0.5s							
CLUD				AML	AML		
comp=N,370μm,0.7s							
CLUD				AML	AML		
comp=N,386μm,0.4s							
CLUD				AML	AML		
comp=E,489μm,0.5s							
CLUD				AML	AML		
comp=E,501μm,0.5s							
CLUD				AML	AML		
comp=N,386μm,1.6s							
CLUD				AML	AML		
comp=N,365μm,0.5s							
CLUD				AML	AML		
comp=N,385μm,0.4s							
CLUD				AML	AML		
comp=E,489μm,0.5s							
CLUD				AML	AML		
comp=E,501μm,0.5s							
FRE8	**Fregona**	**0.36**	**183**	P	**Pg**	**13 39 02.4**	**-0.3**
CAE	**Caneva**	**0.37**	**174**	⇓*e*Pg	**Pg**	**13 39 02.5**	**-0.4**
CAE				*e*Sg	**Sg**	**13 39 08.1**	**+0.3**
CAE	**Caneva**	**0.37**	**174**	P	**Pg**	**13 39 02.6**	**-0.4**
CAE				S	**Sg**	**13 39 08.0**	**+0.3**
ABTA	**Abfaltersbach**	**0.39**	**13**	*i* Pg	**Pg**	**13 39 03.8**	**+0.4**
comp=E,6.8nm,0.1s,SNR=9.3							
ABTA				*e*Sg	**Sg**	**13 39 09.1**	**+0.6**
comp=E,37nm,0.2s							
DST2	**Trieste**	**0.40**	**108**	⇓P	**Pg**	**13 39 03.3**	**-0.1**
DST2				AML	AML		
comp=N,614μm,1.0s							
DST2				AML	AML		
comp=N,615μm,1.0s							
DST2				AML	AML		
comp=E,629μm,1.5s							
DST2				AML	AML		
comp=N,615μm,1.0s							
DST2				AML	AML		
comp=E,599μm,0.4s							
DST2				AML	AML		
comp=N,607μm,0.4s							
VARN	**Col Varnada, M**	**0.42**	**207**	⇓*e*Pg	**Pg**	**13 39 03.4**	**-0.7**
VARN				*e*Sg	**Sg**	**13 39 10.0**	**+0.4**
VARN	**Col Varnada, M**	**0.42**	**207**	P	**Pg**	**13 39 03.3**	**-0.7**
VARN				S	**Sg**	**13 39 10.2**	**+0.6**
VARN				AML	AML		
comp=N,662μm,1.6s							
VARN				AML	AML		
comp=N,658μm,1.6s							
VARN				AML	AML		
comp=E,854μm,0.9s							
VARN				AML	AML		
comp=N,662μm,1.6s							
VARN				AML	AML		
comp=N,658μm,0.4s							
VARN				AML	AML		
comp=N,662μm,0.4s							
VARN				AML	AML		
comp=E,847μm,0.9s							
VARN				AML	AML		
comp=N,608μm,0.4s							
VARN				AML	AML		
comp=N,607μm,0.4s							
FUSE	**Fusea**	**0.43**	**84**	*e*Pg	**Pg**	**13 39 04.1**	**0.0**
FUSE				*e*Sg	**Sb**	**13 39 11.2**	**-1.2**
FUSE	**Fusea**	**0.43**	**84**	P	**Pg**	**13 39 04.2**	**+0.1**
FUSE				S	**Sb**	**13 39 11.6**	**-0.8**
MPRI	**Monte Prat**	**0.44**	**107**	*e*Pg	**Pg**	**13 39 04.2**	**0.0**
MPRI				*e*Sg	**Sb**	**13 39 11.3**	**-1.4**
MPRI	**Monte Prat**	**0.44**	**107**	P	**Pg**	**13 39 04.0**	**-0.3**
MPRI				S	**Sg**	**13 39 10.7**	**+0.7**
MPRI				AML	AML		
comp=E,312μm,0.4s							
MPRI				AML	AML		
comp=N,437μm,0.3s							
MPRI				AML	AML		
comp=E,312μm,1.6s							
MPRI				AML	AML		
comp=N,333μm,0.3s							
MPRI				AML	AML		
comp=N,437μm,0.3s							
ZOU	**Zoufplan**	**0.45**	**65**	⇓*e*Pg	**Pg**	**13 39 04.7**	**+0.2**
ZOU				*e*Sg	**Sb**	**13 39 11.4**	**-1.7**
ZOU	**Zoufplan**	**0.45**	**65**	P	**Pg**	**13 39 04.7**	**+0.2**
ZOU				S	**Sb**	**13 39 12.2**	**-0.9**
ZOU				AML	AML		
comp=N,311μm,1.0s							
ZOU				AML	AML		
comp=N,316μm,0.6s							
ZOU				AML	AML		
comp=E,660μm,0.5s							
ZOU				AML	AML		
comp=E,680μm,0.5s							
ZOU				AML	AML		
comp=E,680μm,0.5s							
ZOU				AML	AML		
comp=E,659μm,0.5s							
BOO	**Bordano**	**0.50**	**96**	*e*Pg	**Pg**	**13 39 05.5**	**+0.1**
BOO	**Bordano**	**0.50**	**96**	P	**Pg**	**13 39 05.0**	**-0.4**
GEPF	**Gemona**	**0.53**	**100**	P	**Pg**	**13 39 05.9**	**-0.1**
GEPF				AML	AML		
comp=E,281μm,0.3s							
GEPF				AML	AML		
comp=N,322μm,0.6s							
GEPF				AML	AML		
comp=N,322μm,1.4s							
GEPF				AML	AML		
comp=E,281μm,0.3s							
GEPF				AML	AML		
comp=N,295μm,0.5s							
BUA	**Buia**	**0.54**	**106**	*e*Pg	**Pg**	**13 39 06.3**	**+0.2**
BRES	**Bressanone**	**0.56**	**306**	P	**Pg**	**13 39 06.2**	**-0.3**
BRES				AML	AML		
comp=E,764μm,0.7s							
BRES				AML	AML		
comp=N,1021μm,0.5s							
BRES				AML	AML		
comp=N,1020μm,0.5s							
PLRO	**Paularo**	**0.56**	**71**	*e*Pg	**Pb**	**13 39 07.1**	**-0.9**
PLRO	**Paularo**	**0.56**	**71**	P	**Pg**	**13 39 06.7**	**+0.1**
CRND	**Cornuda**	**0.58**	**202**	AML	AML		
comp=E,303μm,0.3s							
CRND				AML	AML		
comp=N,303μm,0.6s							
ZIAN	**Ziano**	**0.58**	**261**	*e*Pg	**Pg**	**13 39 06.9**	**0.0**
ZIAN	**Ziano**	**0.58**	**261**	P	**Pg**	**13 39 06.7**	**-0.2**
ZIAN				AML	AML		
comp=E,412μm,0.6s							
ZIAN				AML	AML		
comp=N,481μm,0.4s							
ZIAN				AML	AML		
comp=E,412μm,0.6s							
ZIAN				AML	AML		
comp=N,480μm,0.4s							
ZIAN				AML	AML		
comp=E,362μm,0.2s							
ZIAN				AML	AML		
comp=N,353μm,0.2s							
ZIAN				AML	AML		
comp=E,461μm,0.3s							
ZIAN				AML	AML		
comp=N,454μm,0.3s							
CTI	**Castel Tesino**	**0.60**	**238**	P	**Pg**	**13 39 07.0**	**-0.3**
CTI				AML	AML		
comp=E,666μm,0.2s							
CTI				AML	AML		
comp=N,1065μm,0.3s							
CTI				AML	AML		
comp=N,1064μm,0.3s							
CTI				AML	AML		
comp=E,665μm,0.2s							
CTI				AML	AML		
comp=N,1066μm,0.3s							
BAD	**Bernadia**	**0.61**	**102**	*e*Pg	**Pg**	**13 39 07.7**	**+0.1**
BAD	**Bernadia**	**0.61**	**102**	P	**Pg**	**13 39 07.1**	**-0.4**
VINO	**Villanova**	**0.63**	**100**	*e*Pg	**Pg**	**13 39 07.6**	**-0.4**
VINO	**Villanova**	**0.63**	**100**	P	**Pg**	**13 39 07.5**	**-0.5**
VINO				AML	AML		
comp=E,178μm,0.7s							
VINO				AML	AML		
comp=N,268μm,0.7s							
VINO				AML	AML		
comp=N,231μm,0.4s							
VINO				AML	AML		
comp=E,162μm,0.4s							
CGRP	**Cima Grappa**	**0.64**	**220**	*e*Pg	**Pg**	**13 39 07.5**	**-0.6**
CGRP	**Cima Grappa**	**0.64**	**220**	P	**Pg**	**13 39 07.1**	**-0.9**
CGRP				AML	AML		
comp=E,352μm,0.7s							
CGRP				AML	AML		
comp=E,335μm,0.8s							
CGRP				AML	AML		
comp=N,376μm,1.0s							
CGRP				AML	AML		
comp=N,391μm,1.0s							
CGRP				AML	AML		
comp=E,331μm,0.4s							
CGRP				AML	AML		
comp=N,337μm,0.6s							
CGRP				AML	AML		
comp=N,321μm,0.3s							
CGRP				AML	AML		
comp=E,353μm,0.7s							
PTCC	**Patocco-Chiusa**	**0.67**	**87**	P	**Pg**	**13 39 08.6**	**-0.1**
PTCC				AML	AML		
comp=E,207μm,0.5s							
PTCC				AML	AML		
comp=N,169μm,0.8s							
PTCC				AML	AML		
comp=N,148μm,0.2s							
PTCC				AML	AML		
comp=E,175μm,0.5s							
KOSI	**Kohlern**	**0.70**	**278**	P	**Pg**	**13 39 09.1**	**-0.2**
KOSI				AML	AML		
comp=N,680μm,0.3s							
KOSI				AML	AML		
comp=E,481μm,0.3s							
KOSI				AML	AML		
comp=N,679μm,0.3s							
KOSI				AML	AML		
comp=E,481μm,0.3s							
COLI	**Coloredo**	**0.73**	**109**	*e*Pg	**Pg**	**13 39 09.6**	**-0.2**
PANI	**Panarotta**	**0.80**	**247**	*e*Pg	**Pg**	**13 39 11.2**	**+0.1**
PANI	**Panarotta**	**0.80**	**247**	P	**Pg**	**13 39 10.7**	**-0.4**
PANI				AML	AML		
comp=E,245μm,0.3s							
PANI				AML	AML		
comp=N,319μm,0.3s							
PANI				AML	AML		
comp=N,318μm,0.3s							
PANI				AML	AML		
comp=E,245μm,0.3s							
PANI				AML	AML		
comp=N,319μm,0.3s							
LSR	**Lussari**	**0.80**	**82**	*e*Pg	**Pb**	**13 39 11.6**	**-0.5**
ACOM	**Acomizza, Ital**	**0.80**	**77**	*e*Pg	**Pb**	**13 39 11.8**	**-0.3**
ACOM	**Acomizza, Ital**	**0.80**	**77**	P	**Pg**	**13 39 11.0**	**-0.2**
ACOM				AML	AML		
comp=N,444μm,0.7s							
ACOM				AML	AML		
comp=N,444μm,0.7s							
ACOM				AML	AML		
comp=E,442μm,0.3s							
ACOM				AML	AML		
comp=E,433μm,0.3s							
ACOM				AML	AML		
comp=N,444μm,1.3s							
ACOM				AML	AML		
comp=N,444μm,1.3s							
ACOM				AML	AML		
comp=E,442μm,0.3s							
ACOM				AML	AML		
comp=E,433μm,0.3s							
ACOM				AML	AML		
comp=N,390μm,0.8s							
ACOM				AML	AML		
comp=N,390μm,0.3s							
APPI	**Appiano**	**0.81**	**278**	P	**Pg**	**13 39 11.0**	**-0.3**
APPI				AML	AML		
comp=E,498μm,1.5s							
APPI				AML	AML		
comp=N,488μm,0.9s							
APPI				AML	AML		
comp=N,488μm,1.1s							
APPI				AML	AML		
comp=N,487μm,0.1s							
APPI				AML	AML		
comp=E,414μm,0.3s							
PRED	**Cave del Predi**	**0.82**	**85**	*e*Pg	**Pb**	**13 39 11.9**	**-0.5**
PRED	**Cave del Predi**	**0.82**	**85**	P	**Pg**	**13 39 10.8**	**-0.8**
ROSI	**Rosskopf**	**0.87**	**310**	P	**Pg**	**13 39 12.2**	**-0.3**
ROSI				AML	AML		
comp=E,308μm,1.6s							
ROSI				AML	AML		
comp=N,348μm,0.5s							
ROSI				AML	AML		
comp=E,308μm,0.4s							
ROSI				AML	AML		
comp=E,271μm,0.4s							
ROSI				AML	AML		
comp=N,348μm,0.5s							
DRE	**Drenchia**	**0.90**	**102**	*e*Pg	**Pb**	**13 39 13.1**	**-0.6**
DRE	**Drenchia**	**0.90**	**102**	P	**Pg**	**13 39 12.4**	**-0.6**
MYKA	**Terra Mystica**	**0.91**	**73**	*e*Pg	**Pg**	**13 39 13.2**	**0.0**
comp=N,2.9nm,0.2s,SNR=8.9							
MYKA				*e*Sg	**Sb**	**13 39 26.4**	**+0.2**
comp=N,7.5nm,0.2s							
OZOL	**Ozolo**	**0.92**	**273**	*e*Pg	**Pg**	**13 39 13.2**	**-0.3**
OZOL	**Ozolo**	**0.92**	**273**	P	**Pg**	**13 39 12.6**	**-0.8**
OZOL				S	**Sg**	**13 39 25.6**	**+0.1**
OZOL				AML	AML		
comp=E,746μm,0.4s							
OZOL				AML	AML		
comp=E,746μm,0.4s							
OZOL				AML	AML		
comp=N,480μm,0.5s							
OZOL				AML	AML		
comp=E,827μm,0.4s							
OZOL				AML	AML		
comp=E,702μm,1.7s							
KBA	**Koelnbreinsper**	**0.97**	**43**	*i* Pg	**Pb**	**13 39 14.8**	**-0.2**
comp=E,5.9nm,0.2s,SNR=13							
KBA				*e*Sg	**Sb**	**13 39 27.4**	**-0.6**
comp=E,15nm,0.3s							
WTTA	**Wattenberg**	**1.03**	**330**	*i* Pg	**Pg**	**13 39 15.3**	**-0.3**
comp=E,4.7nm,0.1s,SNR=20							
WTTA				*e*Sg	**Sb**	**13 39 29.6**	**-0.2**
comp=E,51nm,0.3s							
WTTA	**Wattenberg**	**1.03**	**330**	P	**Pb**	**13 39 15.5**	**-0.6**
WTTA				AML	AML		
comp=E,190μm,0.4s							
WTTA				AML	AML		
comp=N,286μm,0.3s							
WTTA				AML	AML		
comp=E,190μm,1.6s							

*DJA **19** 14:35:22.8±0.6,3′N±2″×12″9E±″,h24km±4km,M4.9/44, mb5.1/44,mB5.3/16,MLv5.0/17,Mw(mB)4.8/16*
*IDC **19** 14:35:25.0±1.5,2′.50N×128′.64E,h58km±12km,mb4.0/21, mbtmp4.3/22,MS3.4/25,Error ellipse: s-maj=21.6km s-min=9.0km az=76.0*
*NEIC **19** 14:35:26.5±1.4,2′.43N±0′.07×128′.56E±0′.08,h63km±5km, mb4.9/61,Error ellipse: s-maj=12.8km s-min=9.3km az=54.0*
ISC 19 14:35:25.2±0.7,2′.47N±0′.04×128′.63E±0′.05,h56km±6km, n229,σ1§13/224,mb4.8/68,MS3.4/21,2C-2D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTTA				AML	AML		
	comp=N,286μm,1.7s						
WTTA				AML	AML		
	comp=E,190μm,0.4s						
WTTA				AML	AML		
	comp=N,286μm,0.3s						
LESA	**Schwarzleotal**	**1.07**	**11**	*i* Pg	**Pn**	**13 39 16.6**	**-0.7**
	comp=N,9.4nm,0.2s,SNR=17						
LESA				*i* Sg	**Sn**	**13 39 31.1**	**-1.4**
	comp=N,66nm,0.3s						
WATA	**Walderalm**	**1.11**	**330**	*i* Pg	**Pb**	**13 39 17.1**	**-0.3**
	comp=N,5.3nm,0.1s,SNR=7.9						
WATA				*i* Sg	**Sg**	**13 39 31.3**	**-0.2**
	comp=N,22nm,0.2s						
CARE	**Lago del Cares**	**1.17**	**273**	P	**Pb**	**13 39 17.5**	**-1.0**
CARE				AML	AML		
	comp=E,120μm,1.1s						
CARE				AML	AML		
	comp=N,189μm,0.3s						
CARE				AML	AML		
	comp=N,189μm,1.7s						
CARE				AML	AML		
	comp=E,120μm,0.9s						
CARE				AML	AML		
	comp=E,107μm,0.1s						
CARE				AML	AML		
	comp=N,189μm,0.3s						
SQTA	**Sankt Quirin**	**1.17**	**317**	*i* Pg	**Pb**	**13 39 18.0**	**-0.4**
	comp=N,7.7nm,0.2s,SNR=4.1						
SQTA				*e*Sg	**Sg**	**13 39 33.2**	**-0.2**
	comp=N,35nm,0.2s,SNR=4.4						
FETA	**Feichten**	**1.31**	**300**	*i* Pg	**Pn**	**13 39 20.1**	**-0.5**
	comp=N,11nm,0.2s,SNR=26						
FETA				*i* Sg	**Sn**	**13 39 37.7**	**-0.8**
	comp=N,11nm,0.1s						
OBKA	**Obir**	**1.50**	**84**	*e*Pg	**Pg**	**13 39 25.0**	**+0.4**
	comp=N,6.8nm,0.2s,SNR=13						
OBKA				*e*Sg	**Sg**	**13 39 45.3**	**+1.2**
	comp=N,66nm,0.5s						
RETA	**Reutte**	**1.57**	**316**	*e*Pg	**Pg**	**13 39 25.6**	**-0.3**
	comp=N,10nm,0.2s						
RETA				*e*Sg	**Sg**	**13 39 47.5**	**+1.2**
	comp=N,53nm,0.4s						
BIOA	**Bad Ischl, Aus**	**1.58**	**33**	*e*Pg	**Pg**	**13 39 26.6**	**+0.6**
	comp=N,10nm,0.4s						
BIOA				*e*Sg	**Sg**	**13 39 47.9**	**+1.5**
	comp=N,26nm,0.4s						
BRJN	**Brijuni**	**1.75**	**146**	*e*Pn	**Pb**	**13 39 27.8**	**-0.4**
RIY	**Rijeka**	**1.80**	**125**	*e*Pn	**Pb**	**13 39 28.6**	**-0.5**
NDIM	**Novi di Modena**	**1.81**	**216**	AML	AML		
	comp=N,926μm,1.0s						
NDIM				AML	AML		
	comp=N,922μm,1.0s						
NDIM				AML	AML		
	comp=E,360μm,1.6s						
NDIM				AML	AML		
	comp=E,1218μm,0.1s						
NDIM				AML	AML		
	comp=E,360μm,0.4s						
SOKA	**Soboth**	**1.85**	**79**	*e*Pg	**Pg**	**13 39 30.7**	**-0.6**
	comp=E,2.6nm,0.2s						
SOKA				*i* Sg	**Sg**	**13 39 55.1**	**-0.3**
	comp=E,12nm,0.5s						
DAVA	**Damuels**	**1.95**	**299**	*e*Pg	**Pg**	**13 39 33.0**	**-0.1**
	comp=E,13nm,0.3s,SNR=11						
DAVA				*i* Sg	**Sg**	**13 40 00.2**	**+1.9**
	comp=E,108nm,0.4s						
MOA	**Molln**	**1.96**	**40**	*e*Pg	**Pg**	**13 39 32.6**	**-0.7**
	comp=E,9.5nm,0.3s,SNR=12						
MOA				*e*Sg	**Sg**	**13 39 60.0**	**+1.3**
	comp=E,17nm,0.4s						
BOJS	**Bojanci**	**2.18**	**112**	AML	AML		
	comp=N,318μm,0.5s						
BOJS				AML	AML		
	comp=E,252μm,0.8s						
OZLJ	**Ozalj**	**2.28**	**108**	*e*Pn	**Pb**	**13 39 35.6**	**-1.5**
ARSA	**Arzberg**	**2.33**	**67**	*e*Pn	**Pb**	**13 39 36.8**	**-1.3**
	comp=E,3.3nm,0.3s						
ARSA				*e*Sn	**Sb**	**13 40 05.8**	**-1.3**
	comp=E,4.5nm,0.4s						
MUGIO	**Muggio**	**2.37**	**260**	AML	AML		
	comp=N,51μm,1.5s						
MUGIO				AML	AML		
	comp=E,36μm,1.0s						
MUGIO				AML	AML		
	comp=N,51μm,0.5s						
MUGIO				AML	AML		
	comp=E,36μm,1.0s						
CKRC	**Cesky Krumlov**	**2.78**	**27**	*e*PG	**Pg**	**13 39 48.5**	**-0.4**
CKRC				*e*SG	**Sg**	**13 40 23.3**	**-1.6**
	comp=E,9.4nm,0.9s						
GUT	**Gutenstein**	**2.80**	**309**	P	**Pg**	**13 39 48.6**	**-0.9**
GUT	**Gutenstein**	**2.80**	**309**	S	**Sg**	**13 40 25.0**	**-0.7**
VIRC	**Vir**	**2.81**	**137**	*e*Pn	**Pn**	**13 39 42.5**	**+1.5**
CONA	**Conrad Observa**	**2.84**	**55**	*e*Pn	**Pn**	**13 39 42.6**	**+1.0**
	comp=E,1.0nm,0.2s						
CONA				Sn	**Sb**	**13 40 20.0**	**-1.8**
	comp=E,4.2nm,0.5s						
KHC	**Kasperske Hory**	**2.88**	**16**	*e*PN	**Pn**	**13 39 43.7**	**+1.6**
KHC				*e*PG	**Pg**	**13 39 50.4**	**-0.5**
KHC				*e*SN	**Sb**	**13 40 20.1**	**-2.7**
KHC				*e*SG	**Sg**	**13 40 28.0**	**-0.2**
	comp=E,10.0nm,0.6s						
SLE	**Schleitheim**	**3.00**	**299**	P	**Pn**	**13 39 45.7**	**+1.9**
DUGI	**Dugi Otok**	**3.04**	**141**	*e*Pn	**Pn**	**13 39 45.8**	**+1.6**
MOSL	**Moslavina**	**3.14**	**102**	*e*Pn	**Pn**	**13 39 46.5**	**+0.9**
SULZ	**Cheisacher**	**3.15**	**293**	P	**Pb**	**13 39 48.7**	**-3.4**
SULZ	**Cheisacher**	**3.15**	**293**	S	**Sn**	**13 40 26.5**	**+2.9**
BFO	**Black Forest**	**3.38**	**307**	P	**Pn**	**13 39 51.2**	**+2.2**
BFO				S	**Sn**	**13 40 29.8**	**+0.4**
KIZ	**Kirchzarten**	**3.43**	**299**	P	**Pn**	**13 39 51.9**	**+2.2**
OPP	**Oppenau**	**3.56**	**308**	P	**Pn**	**13 39 53.3**	**+1.9**
OPP	**Oppenau**	**3.56**	**308**	S	**Sn**	**13 40 34.9**	**+1.3**
VOGT	**Vogtsburg - To**	**3.64**	**300**	P	**Pn**	**13 39 54.5**	**+2.0**
VOGT	**Vogtsburg - To**	**3.64**	**300**	S	**Sn**	**13 40 37.8**	**+2.1**
BOURR	**Bourrignon**	**3.68**	**288**	P	Pn	13 39 47.0	-6.1
BOURR	**Bourrignon**	**3.68**	**288**	S	**Sn**	**13 40 39.0**	**+2.3**
BABA	**Baden-Baden-Ne**	**3.68**	**311**	P	**Pn**	**13 39 55.5**	**+2.4**
BABA	**Baden-Baden-Ne**	**3.68**	**311**	S	**Sn**	**13 40 38.8**	**+2.0**
RSP	**Reno Superiore**	**3.79**	**253**	P	**Pn**	**13 39 54.6**	**0.0**
ECH	**Echery**	**4.01**	**299**	P	**Pn**	**13 39 59.5**	**+2.0**
ECH				S	**Sn**	**13 40 45.9**	**+1.1**
CHMF	**Charmoille**	**4.03**	**285**	P	**Pn**	**13 40 00.3**	**+2.4**
CHMF				S	**Sn**	**13 40 46.1**	**+0.7**
MORSI	**Morsiglia**	**4.04**	**213**	P	**Pn**	**13 39 58.3**	**+0.4**
MORSI				S	**Sn**	**13 40 45.0**	**-0.5**
BRANT	**Les Verrieres**	**4.11**	**280**	P	**Pn**	**13 40 01.0**	**+2.0**
BRANT	**Les Verrieres**	**4.11**	**280**	S	**Sn**	**13 40 47.9**	**+0.5**
JAUF	**Jausiers**	**4.42**	**246**	P	**Pn**	**13 40 04.1**	**+0.8**
CREF	**Crivoux**	**4.44**	**248**	P	**Pn**	**13 40 06.7**	**+3.0**
ETNF	**Estrennes**	**4.71**	**296**	P	**Pn**	**13 40 09.0**	**+1.8**
ETNF	**Estrennes**	**4.71**	**296**	S	**Sn**	**13 41 02.8**	**+0.7**
ABH	**Alteburg**	**4.78**	**319**	P	**Pn**	**13 40 09.7**	**+1.6**
ORIF	**Oris-en-Rattie**	**4.79**	**255**	P	**Pn**	**13 40 11.2**	**+2.8**
CLL	**Collm**	**4.96**	**5**	*e*Sg	**Sg**	**13 41 34.0**	**-0.9**
	comp=Z,9.0nm,0.7s						

IDC 19 13:46:58.9±999.0,53′.80N×3′.47E,h0km,Error ellipse: s-maj=3462.0km s-min=317.8km az=67.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**19.33**	**68**	I	I	15 44 20.0	
	baz=274,slow=320,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**32.99**	**73**	I	I	17 09 10.0	
	baz=298,slow=337,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**45.40**	**55**	I	I	18 23 00.0	
	baz=305,slow=333,SNR=1.0						

IDC 19 14:13:07.5±999.0,54′.31N×6′.16E,h0km,Error ellipse: s-maj=3299.0km s-min=307.0km az=69.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**17.67**	**70**	I	I	16 00 30.0	
	0.1nm,0.9s,baz=274,slow=312,SNR=2.6						
I31KZ	**AKTYUBINSK INF**	**31.33**	**76**	I	I	17 24 40.0	
	baz=298,slow=325,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**43.80**	**57**	I	I	18 40 00.0	
	baz=304,slow=331,SNR=2.3						

*BJI **19** 14:35:19.5, 1′.98N×128′.47E,h36km,mB4.8/10,mb4.5/44, Ms4.3/1,Ms7 4.0/1*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.11**	**217**	Pn	**Pn**	**14 35 57.0**	**-1.1**
TNTI	**Ternate**	**2.11**	**217**	P	**Pn**	**14 35 57.6**	**-0.5**
TNTI	**Ternate**	**2.11**	**217**	P	**Pn**	**14 35 57.4**	**-0.7**
TNTI				S	**Sn**	**14 36 23.4**	**+0.2**
SGSI	**Sangihe**	**3.33**	**291**	P	**Pn**	**14 36 14.6**	**-0.2**
SGSI				S	**Sn**	**14 36 53.2**	**0.0**
SWI	**Sorong**	**4.22**	**142**	P	**Pn**	**14 36 26.7**	**-0.4**
KMSI	**Cibinong**	**5.01**	**248**	P	**Pn**	**14 36 37.9**	**-0.1**
SANI	**Sanana**	**5.21**	**211**	P	**Pn**	**14 36 40.2**	**-0.4**
SANI	**Sanana**	**5.21**	**211**	P	**Pn**	**14 36 40.2**	**-0.4**
	0.3nm79nm,0.8s						
MSAI	**Masohi**	**5.78**	**177**	P	**Pn**	**14 36 49.5**	**+1.0**
	0.3nm75nm,0.6s						
NLAI	**Namlea**	**5.87**	**195**	P	**Pn**	**14 36 50.3**	**+0.6**
FAKI	**Fak Fak**	**6.46**	**146**	Pn	**Pn**	**14 36 57.6**	**-0.2**
FAKI	**Fak Fak**	**6.46**	**146**	P	**Pn**	**14 36 58.0**	**+0.2**
FAKI	**Fak Fak**	**6.46**	**146**	P	**Pn**	**14 36 57.6**	**-0.2**
	0.3nm1μm99nm,1.1s						
LUWI	**Luwuk**	**6.82**	**239**	Pn	**Pn**	**14 37 02.3**	**-0.4**
LUWI	**Luwuk**	**6.82**	**239**	P	**Pn**	**14 37 03.8**	**+1.1**
LUWI	**Luwuk**	**6.82**	**239**	P	**Pn**	**14 37 03.2**	**+0.5**
	1.1nm3μm345nm,0.8s						
MRSI	**Marisa**	**6.97**	**254**	P	**Pn**	**14 37 05.1**	**+0.3**
BNDI	**Bandanaira**	**7.06**	**170**	P	**Pn**	**14 37 07.2**	**+1.2**
	0.4nm3μm119nm,1.0s						
TOLI2	**Tolitoli**	**7.96**	**260**	Pn	**Pn**	**14 37 17.6**	**-0.7**
TOLI2	**Tolitoli**	**7.96**	**260**	P	**Pn**	**14 37 17.8**	**-0.6**
PCI	**Palu**	**9.41**	**249**	P	**Pn**	**14 37 37.8**	**-0.4**
	2μm65nm,0.7s						
BBSI	**Bau Bau**	**9.96**	**217**	P	**Pn**	**14 37 45.5**	**-0.2**
	110nm,1.0s						
TTSI	**Tana Toraja**	**10.37**	**238**	P	**Pn**	**14 37 49.8**	**-1.6**
MYLDM	**Lahad Datu**	**10.46**	**285**	Pn	**Pn**	**14 37 54.3**	**+1.7**
MYLDM	**Lahad Datu**	**10.46**	**285**	P	**Pn**	**14 37 55.2**	**+2.6**
MYLDM	**Lahad Datu**	**10.46**	**285**	S	**Sn**	**14 39 49.7**	**+1.3**
SPSI	**Sidrap Palu**	**10.92**	**234**	P	**Pn**	**14 37 57.7**	**-1.2**
	2μm163nm,0.8s						
SMPI	**Sarmi**	**11.01**	**114**	P	**Pn**	**14 37 57.9**	**-2.1**
	34nm,0.8s						
BKSI	**Bulukumba**	**11.49**	**228**	P	**Pn**	**14 38 06.9**	**+0.2**
	836nm81nm,0.6s						
KAPI	**Kappang**	**11.57**	**230**	Pn	**Pn**	**14 38 07.9**	**+0.1**
KAPI	**Kappang**	**11.57**	**230**	P	**Pn**	**14 38 08.1**	**+0.4**
	31nm,0.5s,baz=242,slow=10,SNR=10						
KAPI				LR	LR	14 42 53.6	
	comp=Z,169nm,19.8s,baz=46,slow=39						
KAPI	**Kappang**	**11.57**	**230**	P	**Pn**	**14 38 08.2**	**+0.4**
KKM	**Kota Kinabalu**	**12.88**	**286**	Pn	**Pn**	**14 38 26.2**	**+0.5**
KKM	**Kota Kinabalu**	**12.88**	**286**	P	**Pn**	**14 38 28.5**	**+2.7**
JAY	**Jayapura**	**13.04**	**112**	LR	LR	14 42 48.7	
	comp=Z,258nm,20.2s,baz=341,slow=34						
TGY	**Tagaytay City**	**13.84**	**327**	LR	LR	14 44 53.7	
	comp=Z,214nm,19.9s,baz=122,slow=41						
WBSI	**Waikabubak, Su**	**15.15**	**217**	P	**Pn**	**14 38 54.5**	**-1.4**
	48nm,0.9s						
MTN	**Manton Dam**	**15.41**	**171**	Pn	**Pn**	**14 38 57.6**	**-1.7**
MTN	**Manton Dam**	**15.41**	**171**	P	**Pn**	**14 38 57.9**	**-1.4**
	comp=Z,23nm,0.7s						
KDU	**Kakadu**	**15.53**	**166**	P	**Pn**	**14 38 57.3**	**-3.5**
PLAI	**Plampang**	**15.59**	**224**	P	**Pn**	**14 39 01.8**	**+0.3**
PLAI	**Plampang**	**15.59**	**224**	P	**Pn**	**14 39 00.4**	**-1.1**
	comp=Z,87nm,1.0s						
TWSI	**Taliwang, Sumb**	**16.16**	**226**	P	**Pn**	**14 39 08.5**	**-0.3**
	comp=Z,63nm,1.2s						
SBUM	**Sibu**	**16.40**	**270**	P	**P**	**14 39 13.4**	**-0.4**
SBUM	**Sibu**	**16.40**	**270**	P	**P**	**14 39 13.3**	**-0.4**
SRBI	**Singaraja**	**17.00**	**232**	P	**P**	**14 39 25.6**	**+5.2**
KMMI	**Kalianget**	**17.43**	**237**	P	**P**	**14 39 25.9**	**+0.8**
KNRA	**Kununurra**	**18.03**	**180**		**Pn**	**14 39 32.2**	**+0.3**
KNRA	**Kununurra**	**18.03**	**180**	P	**Pn**	**14 39 31.9**	**0.0**
	comp=Z,41nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.07**	**233**	P	**Pn**	**14 39 32.5**	**0.0**
JAGI				IAmb	IAmb	14 39 38.1	
	comp=Z,58nm,0.7s						
JAGI	**Jajag, Banyuwa**	**18.07**	**233**	P	**Pn**	**14 39 32.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**18.07**	**233**	P	**P**	**14 39 31.6**	**-0.7**
	comp=Z,105nm,0.9s						
KSM	**Kuching**	**18.34**	**267**	P	**P**	**14 39 34.0**	**-1.3**
GMJI	**Gumukmas**	**18.53**	**235**	P	**Pn**	**14 39 37.9**	**-0.1**
	comp=Z,59nm,0.8s						
GUMO	**Guam**	**19.49**	**55**	LR	LR	14 46 17.8	
	comp=Z,136nm,21.8s,baz=193,slow=34						
NGJI	**Ngawi**	**19.72**	**240**	P	**Pn**	**14 39 51.4**	**-0.9**
	comp=Z,180nm,0.9s						
PCJI	**Pacitan**	**20.38**	**239**	P	**P**	**14 39 58.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.65**	**188**	P	**P**	**14 39 59.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.65**	**188**	P	**P**	**14 39 59.6**	**-0.7**
	comp=Z,4.4nm,0.5s,baz=30,slow=7.6,SNR=22						
	comp=Z,4.4nm,0.5s						
UGM	**Wanagama**	**20.80**	**240**	P	**P**	**14 40 02.6**	**+0.5**
UGM	**Wanagama**	**20.80**	**240**	P	**P**	**14 40 02.6**	**+0.5**
PMG	**Port Moresby**	**21.91**	**123**	P	**P**	**14 40 14.0**	**+0.1**
	comp=Z,12nm,0.8s,baz=315,slow=5.2,SNR=8.8						
	comp=Z,12nm,0.8s						
YULB	**Yu-li**	**21.98**	**342**	P	**P**	**14 40 13.8**	**-0.9**
YULB	**Yu-li**	**21.98**	**342**	P	**P**	**14 40 16.5**	**+1.8**
TPUB	**Ta-pu**	**22.11**	**340**	P	**P**	**14 40 14.8**	**-1.3**
TPUB				IAmb	IAmb	14 40 39.1	
	comp=Z,104nm,1.6s						
SSLB	**Suanglung**	**22.46**	**341**	P	**P**	**14 40 20.4**	**+0.6**
SSLB				IAmb	IAmb	14 40 27.9	
	comp=Z,122nm,1.9s						
SSLB	**Suanglung**	**22.46**	**341**	P	**P**	**14 40 21.4**	**+1.6**
WB0	**Warramunga Arr**	**22.81**	**166**	P	**P**	**14 40 23.2**	**-0.4**
WB0				IAmb	IAmb	14 40 25.0	
	comp=Z,35nm,0.7s						
WRAB	**Tennant Creek**	**22.96**	**166**	P	**P**	**14 40 24.8**	**-0.2**
WRAB				IAmb	IAmb	14 40 26.5	
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr**	**22.96**	**166**	P	**P**	**14 40 24.8**	**-0.3**
	comp=Z,26nm,0.8s,baz=343,slow=10,SNR=73						
WRA				PcP	**PcP**	**14 44 13.3**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=336,slow=1.7,SNR=2.9						
WRA				S	**S**	**14 44 32.2**	**+0.9**
	comp=Z,3.3nm,1.1s,baz=340,slow=15,SNR=4.8						
WRA				ScP	**ScP**	**14 47 45.1**	**-1.9**
	comp=Z,3.4nm,0.6s,baz=342,slow=3.0,SNR=22						
WRA				LR	LR	14 52 01.8	
	comp=Z,117nm,18.8s,baz=352,slow=43						
	comp=Z,26nm,0.8s						
WB2	**Warramunga Arr**	**22.97**	**166**	P	**P**	**14 40 24.9**	**-0.3**
WB2				IAmb	IAmb	14 40 27.0	
	comp=Z,34nm,0.8s						
WR0	**Warramunga Arr**	**23.03**	**166**	P	**P**	**14 40 25.4**	**-0.3**
BBJI	**Bungbulang**	**23.14**	**245**	P	**P**	**14 40 25.3**	**-1.7**
YHNB	**Yeheng**	**23.16**	**343**	P	**P**	**14 40 28.9**	**+1.8**
CNJI	**Cibinong**	**23.55**	**245**	P	**P**	**14 40 28.9**	**-1.9**
	comp=Z,83nm,1.0s						
CGJI	**Cibinong**	**24.61**	**248**	P	**P**	**14 40 38.9**	**-1.6**
	comp=Z,152nm,0.8s						
QIS	**Mount Isa**	**25.29**	**155**	P	**P**	**14 40 47.4**	**+0.8**
	comp=Z,78nm,0.8s						
QIS	**Mount Isa**	**25.29**	**155**	P	**P**	**14 40 47.8**	**+1.2**
PSA00	**Pilbara Seismi**	**25.39**	**199**	P	**P**	**14 40 45.2**	**-2.3**
MDSI	**Maura Dua**	**25.39**	**254**	P	**P**	**14 40 47.6**	**0.0**
	comp=Z,33nm,1.1s						
MTSU	**Mount Surprise**	**25.65**	**144**	P	**P**	**14 40 50.9**	**+1.0**
	comp=Z,9.4nm,1.1s						
MTSU	**Mount Surprise**	**25.65**	**144**	P	**P**	**14 40 50.7**	**+0.8**
LWLI	**Liwa**	**25.65**	**253**	P	**P**	**14 40 54.9**	**+4.8**
UBPT	**Khong Chiam**	**26.14**	**301**	P	**P**	**14 40 54.2**	**-0.2**
AS06	**Alice Springs**	**26.47**	**169**	P	**P**	**14 40 57.6**	**+0.2**
	comp=Z,19nm,0.9s						
AS31	**Alice Springs**	**26.48**	**169**	P	**P**	**14 40 56.7**	**-0.6**
AS31	**Alice Springs**	**26.48**	**169**	P	**P**	**14 40 57.4**	**+0.1**
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**26.48**	**169**	P	**P**	**14 40 57.1**	**-0.3**
ASAR	**Alice Springs**	**26.48**	**169**	P	**P**	**14 40 57.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=349,slow=7.5,SNR=105						
ASAR				PcP	**PcP**	**14 44 20.9**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=354,slow=2.2,SNR=7.3						
ASAR				ScP	**ScP**	**14 47 55.2**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=347,slow=2.4,SNR=24						
ASAR				LR	LR	14 54 08.0	
	comp=Z,92nm,19.1s,baz=314,slow=42						
	comp=Z,2.4nm,0.5s						
AS19	**Alice Springs**	**26.53**	**169**	P	**P**	**14 40 57.6**	**-0.2**
	comp=Z,11nm,0.8s						
WRKA	**Warakurna**	**27.34**	**181**	P	**P**	**14 41 04.3**	**-0.9**
	comp=Z,16nm,0.8s						
WRKA	**Warakurna**	**27.34**	**181**	P	**P**	**14 41 04.9**	**-0.2**
PSI	**Prapat**	**29.68**	**271**	LR	LR	14 53 32.1	
	comp=Z,151nm,21.9s,baz=158,slow=37						
MEEK	**Meekatharra**	**30.51**	**198**	P	**P**	**14 41 33.0**	**-0.3**
JNU	**Nakatsue**	**30.57**	**4**	LR	LR	14 52 52.0	
	comp=Z,82nm,21.0s,baz=188,slow=34						
NJ2	**Nanjing**	**30.84**	**344**	*e*P	**P**	**14 41 38.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OOD	**Oodnadatta**	**30.84**	**168**	P	**P**	**14 41 36.4**	**+0.3**
GSI	**Gunungsitoli**	**31.06**	**268**	P	**P**	**14 41 36.8**	**-1.5**
GSI				IAmb	IAmb	14 41 38.1	
	comp=Z,24nm,1.1s						
GSI	**Gunungsitoli**	**31.06**	**268**	P	**P**	**14 41 38.6**	**+0.3**
	comp=Z,22nm,1.2s						
GYA	**Guiyang**	**31.84**	**321**	⇓P	**P**	**14 41 47.4**	**+2.3**
GYA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
INKA	**Innaminka**	**32.22**	**160**	P	**P**	**14 41 48.6**	**+0.4**
QLP	**Quilpie**	**32.58**	**153**	P	**P**	**14 41 51.4**	**0.0**
	comp=Z,21nm,1.0s						
QLP	**Quilpie**	**32.58**	**153**	P	**P**	**14 41 52.1**	**+0.7**
FORT	**Forrest**	**33.06**	**181**	P	**P**	**14 41 54.5**	**-1.1**
FORT				IAmb	IAmb	14 42 20.1	
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**33.06**	**181**	P	**P**	**14 41 55.2**	**-0.4**
ENH	**Enshi**	**33.08**	**329**	P	**P**	**14 41 55.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**33.15**	**301**	P	**P**	**14 41 55.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**33.15**	**301**	P	**P**	**14 41 56.6**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=116,slow=7.6,SNR=22						
CMAR				PcP	**PcP**	**14 44 38.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=121,slow=3.4,SNR=2.8						
CMAR				ScP	**ScP**	**14 48 18.6**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=144,slow=2.5,SNR=12						
CMAR				LR	LR	14 56 56.3	
	comp=Z,37nm,19.3s,baz=115,slow=39						
	comp=Z,1.9nm,0.7s						
CHTO	**Chiang Mai**	**33.30**	**301**	P	**P**	**14 41 57.2**	**-0.6**
CHTO	**Chiang Mai**	**33.30**	**301**	P	**P**	**14 41 57.6**	**-0.2**
CHTO				ScP	**ScP**	**14 48 19.3**	**+0.4**
HNR	**Honiara**	**33.36**	**111**	LR	LR	14 56 15.3	
	comp=Z,74nm,19.0s,baz=344,slow=38						
HNR	**Honiara**	**33.36**	**111**	P	**P**	**14 41 59.7**	**+1.3**
RK1H	**Rockhampton Ha**	**33.38**	**142**	P	**P**	**14 41 59.9**	**+1.5**
MORW	**Morawa**	**33.60**	**200**	P	**P**	**14 41 58.2**	**-2.0**
MORW				IAmb	IAmb	14 43 14.0	
	comp=Z,56nm,2.0s						
MORW	**Morawa**	**33.60**	**200**	P	**P**	**14 41 58.4**	**-1.9**
INU	**Inuyama**	**33.63**	**12**	P	**P**	**14 42 00.3**	**-0.1**
INU				IAmb	IAmb	14 42 30.4	
	comp=Z,51nm,1.9s						
LCRK	**Leigh Creek**	**33.98**	**165**	P	**P**	**14 42 03.7**	**+0.1**
BLDU	**Ballidu**	**34.81**	**198**	P	**P**	**14 42 08.7**	**-2.0**
KSRS	**Korea Array**	**34.82**	**359**	P	**P**	**14 42 10.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=176,slow=9.5,SNR=13						
KSRS				LR	LR	14 55 21.8	
	comp=Z,39nm,21.5s,baz=80,slow=34						
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**35.04**	**13**	P	**P**	**14 42 11.1**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=187,slow=9.1,SNR=7.2						
MJAR				LR	LR	14 55 54.8	
	comp=Z,59nm,19.3s,baz=198,slow=35						
	comp=Z,1.7nm,0.5s						
PZH	**PanZhiHua**	**35.17**	**315**	P	**P**	**14 42 16.4**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.1s						
EIDS	**Eidsvold**	**35.20**	**143**	P	**P**	**14 42 14.4**	**+0.2**
EIDS				IAmb	IAmb	14 42 15.7	
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**35.20**	**143**	P	**P**	**14 42 14.6**	**+0.4**
	comp=Z,22nm,1.0s						
KLBR	**Kellerberrin**	**35.41**	**196**	P	**P**	**14 42 15.1**	**-0.9**
BBOO	**

comp=Z,35nm,21.9s,baz=216,slow=33
ULN Ulaanbaatar 48.91 341 P **P** **14 44 05.0 -0.8**
ULN IAmb IAmb 14 44 06.5
comp=Z,7.2nm,0.8s
ULN Ulaanbaatar 48.91 341 P **P** **14 44 05.5 -0.2**
SONM Songino Array 49.11 340 P **P** **14 44 06.5 -0.7**
SONM Songino Array 49.11 340 P **P** **14 44 06.7 -0.5**
comp=Z,2.9nm,0.7s,baz=152,slow=8.9,SNR=16
SONM PcP **PcP** **14 45 29.8 -0.3**
comp=Z,0.5nm,0.4s,baz=158,slow=3.7,SNR=1.2
comp=Z,2.9nm,0.7s
MSVF Nonsavu 52.66 114 LR LR 15 04 51.0
comp=Z,63nm,20.1s,baz=346,slow=34
MSVF Nonsavu 52.66 114 P **P** **14 44 36.6 +2.2**
WMQ Urumqi 54.84 325 *e*P **P** **14 44 51.8 +1.9**
PETK Petropavlovsk- 55.90 21 P **P** **14 44 58.0 +0.7**
PETK Petropavlovsk- 55.90 21 P **P** **14 44 57.3 0.0**
comp=Z,2.0nm,0.5s,baz=189,slow=4.6,SNR=6.5
comp=Z,2.0nm,0.5s
PET Petropavlovsk 56.18 21 P **P** **14 44 59.7 +0.5**
PYZ Puysegur Point 58.93 150 P **P** **14 45 19.0 +0.3**
YAK Yakutsk 59.43 1 P **P** **14 45 21.9 0.0**
YAK Yakutsk 59.43 1 LR LR 15 12 59.4
comp=Z,25nm,18.8s,baz=223,slow=38
YAK Yakutsk 59.43 1 P **P** **14 45 21.8 0.0**
MA2 Magadan 59.48 13 P **P** **14 45 22.7 +0.5**
MA2 IAmb IAmb 14 45 24.5
comp=Z,7.5nm,1.0s
MA2 Magadan 59.48 13 LR LR 15 11 37.1
comp=Z,27nm,19.3s,baz=186,slow=36
MA2 Magadan 59.48 13 P **P** **14 45 23.8 +1.6**
MA2 PcP **PcP** **14 46 09.9 +0.6**
MK31 Makanchi Array 59.67 325 P **P** **14 45 23.0 -0.8**
MK31 IAmb IAmb 14 45 36.4
comp=Z,21nm,1.6s
MKAR Makanchi Array 59.67 325 P **P** **14 45 23.2 -0.7**
MKAR Makanchi Array 59.67 325 P **P** **14 45 23.0 -0.8**
comp=Z,4.2nm,0.5s,baz=115,slow=8.3,SNR=43
MKAR ScP **ScP** **14 50 05.4 -1.4**
comp=Z,1.1nm,0.8s,baz=118,slow=6.2,SNR=6.3
MKAR LR LR 15 12 19.0
comp=Z,58nm,18.2s,baz=113,slow=37
comp=Z,4.2nm,0.5s
MAKZ Makanchi 59.86 325 P **P** **14 45 24.5 -0.6**
MAKZ IAmb IAmb 14 45 38.1
comp=Z,7.8nm,0.8s
MAKZ Makanchi 59.86 325 P **P** **14 45 24.6 -0.6**
MAKZ PcP **PcP** **14 46 09.6 -1.6**
MAKZ ScP **ScP** **14 50 05.9 -1.7**
URZ Urewera 60.33 137 LR LR 15 11 19.7
comp=Z,99nm,20.6s,baz=32,slow=36
KDJ Kajisay 60.55 318 P **P** **14 45 29.8 -0.4**
KDJ IAmb IAmb 14 45 44.7
comp=Z,5.2nm,0.6s
AAK Ala-Archa 62.56 318 LR LR 15 14 39.7
comp=Z,39nm,21.9s,baz=108,slow=38
ZALV Zalesovo Beam 62.57 333 P **P** **14 45 42.2 -1.1**
comp=Z,1.2nm,0.7s,baz=120,slow=8.8,SNR=4.5
ZALV LR LR 15 13 54.7
comp=Z,33nm,19.1s,baz=98,slow=37
comp=Z,1.2nm,0.7s
SHEM Shemya Is, Ala 62.61 29 LR LR 15 12 19.7
comp=Z,5.7nm,18.9s,baz=273,slow=35
KURBB Kurchatov Arra 63.82 327 P **P** **14 45 50.8 -0.9**
comp=Z,3.3nm,0.6s,baz=124,slow=6.1,SNR=18
comp=Z,3.3nm,0.6s
KURK Kurchatov 63.82 327 P **P** **14 45 50.9 -0.8**
KURK PcP **PcP** **14 46 27.3 +0.2**
GAR Garm 64.17 313 P **P** **14 45 54.2 -0.2**
GAR IAmb IAmb 14 46 08.5
comp=Z,26nm,1.2s
KKAR Karatay Array 65.44 317 P **P** **14 46 02.6 +0.1**
TIXI Tiksi 69.08 0 P **P** **14 46 24.3 -0.5**
TIXI Tiksi 69.08 0 P **P** **14 46 24.2 -0.7**
BVAR Borovoye Array 69.41 327 P **P** **14 46 26.6 -0.7**
comp=Z,2.8nm,0.8s,baz=134,slow=4.3,SNR=10
comp=Z,2.8nm,0.8s
BRVK Borovoye 69.48 327 P **P** **14 46 27.0 -0.7**
NRIK Noril'sk 72.11 346 P **P** **14 46 42.6 -0.8**
NRIK IAmb IAmb 14 46 55.0
comp=Z,7.0nm,0.7s
NRIK Noril'sk 72.11 346 P **P** **14 46 42.5 -0.8**
comp=Z,1.7nm,0.5s,baz=140,slow=6.3,SNR=7.0
NRIK LR LR 15 24 58.2
comp=Z,16nm,18.8s,baz=184,slow=41
comp=Z,1.7nm,0.5s
ABKAR Akbulak array 74.32 321 P **P** **14 46 55.8 -1.0**
L16K Owhat River 79.31 27 P **P** **14 47 25.5 +0.9**
L16K IAmb IAmb 14 47 37.9
comp=Z,19nm,1.6s
RDOG Red Dog Mine 79.78 21 P **P** **14 47 27.9 +0.9**
RDOG IAmb IAmb 14 49 34.2
comp=Z,9.1nm,0.5s
KDAK Kodiak Island 81.94 32 P **P** **14 47 40.0 +1.3**
KDAK Kodiak Island 81.94 32 LR LR 15 21 33.9
comp=Z,30nm,21.3s,baz=82,slow=34
VNDA Vanda 81.95 173 P **P** **14 47 38.1 -0.3**
VNDA IAmb IAmb 14 48 20.4
comp=Z,40nm,1.9s
VNDA Vanda 81.95 173 P **P** **14 47 38.2 -0.3**
comp=Z,1.2nm,0.5s,baz=316,slow=5.8,SNR=7.3
comp=Z,1.2nm,0.5s
RAYN Ar Rayn 82.72 293 P **P** **14 47 42.7 -1.0**
PPLA Purkeypile 82.88 27 P **P** **14 47 44.4 +0.6**
CAST Castle Rocks 83.01 26 P **P** **14 47 45.2 +0.9**
CAST IAmb IAmb 14 49 08.5
comp=Z,25nm,1.9s
SKT Skwentna 83.05 28 P **P** **14 47 44.5 0.0**
SKT IAmb IAmb 14 47 45.8
comp=Z,15nm,1.3s
VOI Vohitsoka 83.35 248 P **P** **14 47 45.3 -1.7**
VOI IAmb IAmb 14 47 46.4
comp=Z,5.9nm,0.7s
FOMA Nahampoana Res 83.47 245 P **P** **14 47 46.6 -0.8**
FOMA IAmb IAmb 14 48 05.5
comp=Z,23nm,1.1s
SLKM Skilak Lake 83.50 29 P **P** **14 47 47.1 +0.3**
E22K Anaktuvuk Pass 83.83 22 P **P** **14 47 49.4 +1.0**
E22K IAmb IAmb 14 47 51.3
comp=Z,11nm,1.1s
RND Reindeer 84.45 27 P **P** **14 47 51.7 0.0**
TOLK Toolik Lake Re 84.72 21 P **P** **14 47 53.6 +0.7**
TOLK IAmb IAmb 14 50 56.3
comp=Z,22nm,1.9s
SCM Sheep Creek Mo 85.02 28 P **P** **14 47 55.3 +0.7**
ILAR Eielson Array 85.42 25 P **P** **14 47 55.6 -0.9**
comp=Z,0.6nm,1.1s,baz=254,slow=4.1,SNR=5.4
comp=Z,0.6nm,1.1s
KLU Klutina 85.67 29 P **P** **14 47 59.0 +1.1**
BMAR Burnt Mountain 86.50 23 P **P** **14 48 02.8 +1.0**
BCAR Beaver Creek A 87.63 27 P **P** **14 48 08.4 +1.0**
SYO Syowa Base 91.94 201‖*e*PcP **PcP** **14 48 29.6 +1.5**
ARCES ARCESS Array B 92.28 340 P **P** **14 48 27.7 -1.2**
comp=Z,1.4nm,0.7s,baz=64,slow=5.5,SNR=4.9
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 92.38 180 P **P** **14 48 29.4 -0.1**
comp=Z,1.7nm,0.8s,baz=152,slow=1.2,SNR=18
comp=Z,1.7nm,0.8s
BBB Bella Bella 96.16 37 LR LR 15 28 12.3
comp=Z,33nm,18.4s,baz=222,slow=33
RES Resolute Bay 98.70 11 P Pdif 14 48 57.8 -0.2
YKA Yellowknife Ar 99.85 25 P **Pdif** **14 49 03.1 -0.3**
comp=Z,0.4nm,0.9s,baz=298,slow=5.0,SNR=5.8
comp=Z,0.4nm,0.9s
TXAR Lajitas Array 120.84 54 PKP **PKiKP** **14 54 11.9 -0.2**
comp=Z,0.2nm,0.5s,baz=349,slow=1.3,SNR=3.6

*NIED **19** 14:35:49.8, 34°.36N×139°.23E, h7km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=1.95; $M_{\theta\theta}$=1.47; $M_{\phi\phi}$=3.43; $M_{r\theta}$=0.13; $M_{\theta\phi}$=-0.43; $M_{\phi r}$=-1.11; Fault plane solution: M_0=2.95000×10^14^ NP1: ϕ_s=156.00000°, δ=37.00000°, λ=-118.00000°. NP2: ϕ_s=9.00000°, δ=58.00000°, λ=-71.00000°.*
*JMA **19** 14:35:49.8±0.1, 34°.4N±0°.2×139°.2E±0°.3, h7km, MV3.1/38, NEAR NIIJIMA ISLAND*
JMA Felt III J1 at NEAR NIIJIMA ISLAND .
*IDC **19** 14:35:50.4±5.4, 34°.22N×138°.77E, h0km, mb3.4/3, mbtmp3.4/4, ML2.6/1, MS2.4/2, Error ellipse: s-maj=95.2km s-min=43.0km az=109.0*
ISC 19 14:35:49.2±0.9, 34°.37N±0°.04×139°.21E±0°.06, h7km±7km, n31, σ0°88/20, mb3.3/3, 3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSKK	**Shikinejimakit**	**0.04**	**182**	*i* P	**Pg**	**14 35 51.0**	**+0.4**
JSKK	**Shikinejimakit**	**0.04**	**182**	A	A	14 35 51.0	
	comp=N,387nm,0.2s,comp=E,292nm,0.3s						
JNIO	**Niijimaoohara**	**0.05**	**108**	*i* P	**Pg**	**14 35 50.9**	**+0.1**
JNIO				S	**Sg**	**14 35 52.0**	**0.0**
JNIO	**Niijimaoohara**	**0.05**	**108**	A	A	14 35 50.9	
	comp=N,344nm,0.5s,comp=E,565nm,0.6s						
JTHY	**Toshimahigashi**	**0.16**	**23**	*i* P	**Pg**	**14 35 53.9**	**+1.4**
JTHY	**Toshimahigashi**	**0.16**	**23**	A	A	14 35 53.9	
	comp=N,32nm,0.8s,comp=E,23nm,1.8s						
JKO	**Kozu shima**	**0.20**	**199**	*i* P	**Pg**	**14 35 53.9**	**+0.8**
JKO	**Kozu shima**	**0.20**	**199**	A	A	14 35 53.9	
	comp=N,36nm,1.4s,comp=E,36nm,0.4s						
JIM2	**Oshima 3**	**0.39**	**28**	‖*i* P	**Pb**	**14 35 57.6**	**-0.8**
JIM2	**Oshima 3**	**0.39**	**28**	A	A	14 35 57.6	
	comp=N,11nm,1.9s,comp=E,10.0nm,0.6s						
JMYK	**Miyake Tsubota**	**0.42**	**138**	P	**Pg**	**14 35 57.6**	**+0.4**
JIZS	**Izushimoda**	**0.44**	**321**	*i* P	**Pb**	**14 35 58.7**	**-0.6**
JIZS				S	**Sb**	**14 36 05.4**	**-0.7**
KTJ3	**Kamata3**	**0.57**	**348**	‖*i* P	**Pb**	**14 36 00.8**	**-0.7**
KTJ3				‖S	**Sb**	**14 36 08.9**	**-1.0**
JMKN	**Mikurajimanish**	**0.57**	**147**	P	**Pg**	**14 36 00.5**	**+0.2**
JOD2	**Odawara 2**	**0.89**	**353**	*i* P	**Pg**	**14 36 06.4**	**0.0**
JFNN	**Fujinakano**	**0.93**	**332**	*e*S	**Sb**	**14 36 20.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.31**	**340**	Pn	**Pb**	**14 36 30.0**	**-1.2**
	comp=E,1.5nm,0.3s,baz=169,slow=15,SNR=64						
MJAR				Sn	**Sb**	**14 37 00.6**	**+0.5**
	comp=E,0.6nm,0.3s,baz=263,slow=16,SNR=5.0						
MJAR				LR	LR	14 37 37.6	
	comp=E,61nm,19.8s,baz=183,slow=45						
	comp=E,34nm,0.6s						
KSRS	**Korea Array**	**9.66**	**292**	LR	LR	14 41 42.9	
	comp=E,34nm,19.1s,baz=110,slow=38						
TPUB	**Ta-pu**	**19.63**	**241**	P	**P**	**14 40 17.9**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**28.53**	**114**	T	T	15 11 29.6	
	baz=307,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.54**	**114**	T	T	15 11 31.0	
	baz=307,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.55**	**114**	T	T	15 11 30.4	
	baz=307,slow=75,SNR=60						
H11S3	**WAKE ISLAND Hy**	**29.12**	**116**	T	T	15 12 18.8	
	baz=310,slow=76,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**29.12**	**116**	T	T	15 12 16.8	
	baz=310,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.13**	**116**	T	T	15 12 18.1	
	baz=310,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**42.44**	**315**	P	**P**	**14 43 46.5**	**+2.1**
	comp=E,0.2nm,0.3s,baz=81,slow=8.9,SNR=1.6						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**44.07**	**304**	P	**P**	**14 43 58.2**	**+0.5**
	comp=E,0.3nm,0.7s,baz=98,slow=7.4,SNR=2.8						
	comp=E,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.27**	**310**	P	**P**	**14 44 14.8**	**-0.2**
	comp=E,0.1nm,0.2s,baz=88,slow=7.7,SNR=1.6						
	comp=E,0.1nm,0.2s						
H03N2	**Juan Fernandez**	**148.45**	**99**	T	T	17 41 28.8	
	baz=286,slow=75,SNR=11						
H03N3	**Juan Fernandez**	**148.46**	**99**	T	T	17 41 29.7	
	baz=286,slow=75,SNR=13						
H03N1	**Juan Fernandez**	**148.47**	**99**	T	T	17 41 27.5	
	baz=286,slow=75,SNR=16						

DJA 19 14:48:30.6±1.8, 11°.S±14°×11°.1E±°, h23km±28km, M4.0/10, mb4.1/3, MLv3.9/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.72**	**359**	P	Pn	14 49 11.9	-1.0
PCJI				S	Sn	14 49 45.1	0.0
UGM	**Wanagama**	**3.07**	**347**	P	Pn	14 49 17.4	-0.4
UGM				S	Sn	14 49 55.1	+1.2
GMJI	**Gumukmas**	**3.44**	**40**	P	Pn	14 49 22.9	+0.1
JAGI	**Jajag, Banyuwa**	**3.79**	**50**	P	Pn	14 49 28.2	+0.5
SMRI	**Semarang**	**3.93**	**349**	P	Pn	14 49 30.1	+0.5
SRBI	**Singaraja**	**4.86**	**55**	P	Pn	14 49 42.4	+0.1
TWSI	**Taliwang, Sumb**	**6.00**	**69**	P	Pn	14 49 58.2	+0.2
	0.1nm24nm,1.6s						
PLAI	**Plampang**	**6.80**	**73**	P	Pn	14 50 08.6	-0.4

*ISN **19** 14:52:07.5±0.3, 34°.71N×45°.52E, h8km±11km, ML2.8*
*TEH **19** 14:52:07.6, 34°.70N×45°.54E, h8km±50km*
ISC 19 14:52:08.7±1.1, 34°.71N±0°.04×45°.51E±0°.05, h18km, n10, σ1°52/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**163**	Pg	**Pb**	**14 52 12.2**	**-1.7**
GLG1	**Gilan-e-Gharb**	**0.68**	**151**	Pg	**Pb**	**14 52 20.2**	**-1.9**
GLG1				Sg	**Sb**	**14 52 30.5**	**-0.8**
IDHR	**Dehrash**	**0.72**	**91**	Pg	**Pb**	**14 52 20.8**	**-2.0**
IGHG	**Ghaleghazi**	**0.95**	**113**	Pg	**Pb**	**14 52 26.0**	**-0.9**
IKRK	**Kirkuk**	**1.18**	**306**	*e*Pg	**Pn**	**14 52 30.5**	**+0.2**
IKRK				*e*Sg	**Sg**	**14 52 47.0**	**0.0**
IKRK				AML	AML	14 52 51.5	
	comp=E,311nm,0.5s						
IKRK				AML	AML	14 52 52.0	
	comp=N,556nm,0.7s						
KCHF	**Cheshme Sefid,**	**1.34**	**109**	Pg	**Pb**	**14 52 33.2**	**-0.1**
BHD	**Baghdad**	**1.72**	**213**	*e*Pn	**Pb**	**14 52 39.3**	**-0.4**
BHD				*e*Sn	**Sg**	**14 53 02.7**	**-1.5**
BHD				AML	AML	14 53 23.9	
	comp=E,24nm,0.9s						
SNQR	**Sonqor, Kerman**	**1.75**	**85**	Pg	**Pb**	**14 52 39.9**	**-0.5**
MAHB	**Mahabad**	**2.05**	**4**	Pn	**Pb**	**14 52 44.6**	**-0.9**
RAFI	**Al-Rafai**	**3.02**	**170**	*e*Pn	**Pn**	**14 52 57.5**	**+1.8**
RAFI				*e*Sn	**Sn**	**14 53 34.0**	**+2.6**

*IDC **19** 15:29:48.8±1.0, 9°.60N×126°.06E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=92.0km s-min=21.0km az=69.0*
ISC 19 15:29:57.6±1.0, 9°.5N±0°.2×125°.9E±0°.5, h67km, n13, σ0°28/7, mb3.7/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.40**	**164**	P	**P**	**15 36 03.8**	**+0.2**
	1.1nm,1.1s,baz=341,slow=7.4,SNR=2.9						
	1.1nm,1.1s						
ASAR	**Alice Springs**	**33.87**	**167**	P	**P**	**15 36 33.8**	**-0.2**
	0.2nm,0.5s,baz=350,slow=7.1,SNR=13						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.46**	**73**	T	T	16 20 20.8	
	baz=262,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**40.47**	**73**	T	T	16 20 21.1	
	baz=262,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**40.48**	**73**	T	T	16 20 24.7	
	baz=262,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**40.81**	**71**	T	T	16 20 57.9	
	baz=263,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.82**	**71**	T	T	16 20 45.1	
	baz=263,slow=74,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**40.83**	**71**	T	T	16 20 50.0	
	baz=263,slow=74,SNR=9.1						
MKAR	**Makanchi Array**	**52.44**	**323**	P	**P**	**15 39 03.5**	**+0.1**
	0.4nm,0.5s,baz=120,slow=7.9,SNR=6.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**56.52**	**326**	P	**P**	**15 39 32.5**	**-0.4**
	0.2nm,0.4s,baz=123,slow=7.2,SNR=5.5						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**84.80**	**340**	P	**P**	**15 42 24.5**	**+0.1**
	1.8nm,0.9s,baz=82,slow=4.8,SNR=6.1						
	1.8nm,0.9s						
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**15 42 32.8**	**+0.3**
	0.6nm,0.4s,baz=64,slow=4.4,SNR=9.4						
	0.6nm,0.4s						
YKA	**Yellowknife Ar**	**94.59**	**24**	P	**P**	**15 43 10.7**	**-0.1**
	0.2nm,0.6s,baz=298,slow=5.0,SNR=2.7						
	0.2nm,0.6s						

*NEIC **19** 15:39:27.1±2.1, 48°.31N±0°.01×122°.07W±0°.03, h17km±6km, Error ellipse: s-maj=2.7km s-min=1.9km az=66.0*
SEA 19 15:39:27.9±1.9, 48°.30N±0°.01×122°.07W±0°.02, h12km, ML2.9/22, ML2.6/22(NEIC), **Error ellipse: s-maj=2.3km s-min=1.6km az=59.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCW	**Jim Creek**	**0.14**	**137**		Pg	15 39 31.0	-0.3
JCW					Sg	15 39 33.7	0.0
SVOH	**Skagit Valley**	**0.38**	**269**		Pg	15 39 34.8	-0.6
SVOH					Sg	15 39 39.8	-0.6
BEVT	**Boeing Everett**	**0.40**	**199**		Pg	15 39 35.9	0.0
ERW	**Mount Erie**	**0.40**	**293**		Pg	15 39 35.6	-0.3
EVGW	**Everett Gatewa**	**0.45**	**187**		Pg	15 39 36.8	+0.1
EVGW					Sb	15 39 44.0	-0.3
BLH	**Bald Hill**	**0.46**	**177**		Pg	15 39 36.6	-0.4
HTW	**Haystack Looko**	**0.53**	**157**		Pg	15 39 37.5	-0.9
A04D	**Lummi Island**	**0.60**	**315**		Pg	15 39 38.8	-0.8
A04D					Sb	15 39 48.3	-0.4
GPW	**Glacier Peak**	**0.65**	**106**		Pg	15 39 39.7	-0.9
C05A	**Tolt Reservoir**	**0.66**	**157**		Pg	15 39 39.5	-1.1
C05A					Sg	15 39 48.5	-0.7
TTW	**Tolt Reservoir**	**0.66**	**157**		Pg	15 39 39.6	-1.0
TTW					Sg	15 39 48.7	-0.6
KINR	**Kitsap County**	**0.67**	**215**		Pg	15 39 40.4	-0.5
KINR					Sb	15 39 50.6	-0.1
UWFH	**University of**	**0.68**	**292**		Pg	15 39 39.4	-1.6
SQM	**Sequim**	**0.69**	**252**		Pg	15 39 40.5	-0.7
SQM					Sg	15 39 50.6	+0.3
B013	**Quilcene**	**0.74**	**230**		Pg	15 39 40.9	-1.4
B013					Sg	15 39 51.1	-0.8
SP2	**Seward Park 2**	**0.75**	**189**		Pg	15 39 42.1	-0.4
ELW	**Echo Lake**	**0.81**	**170**		Pg	15 39 42.7	-0.9
C04A	**Brinnon**	**0.84**	**227**		Pg	15 39 42.2	-1.9
C04A					Sg	15 39 53.7	-1.3
VGZ	**Gonzales**	**0.84**	**278**		Pg	15 39 42.0	-2.2
SNB	**Saturna Island**	**0.87**	**304**		Pg	15 39 43.0	-1.8
SNB					Sg	15 39 54.6	-1.6
GMW	**Gold Mountain**	**0.89**	**213**		Pg	15 39 43.2	-1.9
GMW					Sg	15 39 55.3	-1.4
GNW	**Green Mountain**	**0.89**	**215**		Pg	15 39 43.2	-1.9
GNW					Sg	15 39 55.2	-1.5
GNW	**Green Mountain**	**0.89**	**215**	IAML		15 39 55.5	
	comp=E,188nm,0.3s						
RATT	**Rattlesnake La**	**0.89**	**168**		Pg	15 39 43.6	-1.5
CDMR	**Cedar Moraine**	**0.90**	**166**		Pg	15 39 43.9	-1.4
WRW	**Wenatchee Ridg**	**0.91**	**118**		Pg	15 39 43.8	-1.7
HDW	**Hoodsport**	**0.93**	**226**		Pg	15 39 43.6	-2.1
HDW					Sg	15 39 56.3	-1.5
B011	**North Saanich**	**0.98**	**292**		Pg	15 39 44.1	-2.7
PGC	**Sidney**	**0.98**	**292**		Pg	15 39 44.2	-2.7
PGC				IAML		15 39 59.2	
	comp=N,225nm,0.2s						
D05A	**Enumclaw**	**1.11**	**177**		Pb	15 39 47.6	-1.5
D05A				IAML		15 40 08.0	
	comp=N,120nm,0.4s						
HOPB	**Hope**	**1.17**	**21**		Pb	15 39 48.9	-1.3
OBC	**Olympics--Boni**	**1.37**	**260**		Pn	15 39 51.5	-1.4
LTY	**Liberty**	**1.41**	**137**		Pn	15 39 52.0	-1.4
LTY				IAML		15 40 12.8	
	comp=E,76nm,0.5s						
LTY				IAML		15 40 13.0	
	comp=N,121nm,0.7s						
CLRS	**Cowichan Lake**	**1.47**	**292**	Pn	Pn	15 39 51.5	-2.7
CLRS				IAML		15 40 12.6	
	comp=N,84nm,0.2s						
NLWA	**Neilton Lookou**	**1.51**	**234**	IAML		15 40 17.3	
	comp=N,86nm,0.5s						
NLWA				IAML		15 40 17.7	
	comp=N,98nm,0.4s						
LON	**Longmire**	**1.56**	**173**		Pn	15 39 54.3	-1.3
LON				IAML		15 40 15.4	
	comp=E,79nm,0.4s						
B08A	**Colville Reser**	**1.83**	**87**		Pn	15 39 58.8	-0.5
E03A	**Lebam**	**2.02**	**211**		Pn	15 40 01.5	-0.3
E03A	**Lebam**	**2.02**	**211**	IAML		15 40 32.3	
	comp=N,43nm,0.9s						
TXB	**Texada**	**2.10**	**313**		Pn	15 40 02.1	-0.8
ESD	**East Dome**	**2.10**	**181**		Pn	15 40 03.6	+0.5
MXC	**Moxie City**	**2.10**	**144**		Pn	15 40 02.7	-0.3
FL2	**Flat Top 2**	**2.11**	**185**		Pn	15 40 03.8	+0.6
HSR	**South Ridge**	**2.13**	**182**		Pn	15 40 04.0	+0.5
E07A	**Sunnyside**	**2.30**	**138**		Pn	15 40 05.1	-0.7
LLLB	**Lillooet**	**2.32**	**3**		Pn	15 40 05.1	-0.9
HAWA	**Hanford**	**2.57**	**137**	Pn	Pn	15 40 08.8	-0.7
HAWA				IAML		15 40 51.2	
	comp=N,28nm,0.4s						
HAWA				IAML		15 40 52.5	
	comp=N,31nm,0.5s						
C09A	**Chrisman Ranch**	**2.60**	**100**	Pn	Pn	15 40 09.0	-0.8
F07A	**Phinny Hill Vi**	**2.81**	**148**	Pn	Pn	15 40 12.1	-0.6
G08A	**Pilot Rock**	**3.69**	**143**	Pn	Pn	15 40 24.3	-0.7

*IDC **19** 15:47:06.4±1.6, 5°.56S×147°.37E, h214km±19km, mb3.3/6, mbtmp3.9/8, MS2.9/1, Error ellipse: s-maj=47.5km s-min=11.7km az=112.0*
*NEIC **19** 15:47:08.5±1.1, 5°.48S±0°.10×146°.96E±0°.10, h205km±5km, mb4.4/24, Error ellipse: s-maj=14.6km s-min=13.2km az=223.0*
ISC 19 15:47:06.9±0.5, 5°.51S±0°.06×146°.93E±0°.07, h195km, n44, σ1°19/47, mb4.3/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.47**	**7**	Pn	**Pn**	**15 48 04.6**	**+2.6**
PMG	**Port Moresby**	**3.88**	**177**	P	**Pn**	**15 48 08.3**	**+1.3**
	9.0nm,0.3s,baz=11,slow=4.4,SNR=13						
PMG				S	**Sn**	**15 48 54.2**	**-0.1**
	55nm,0.5s,baz=320,slow=16,SNR=3.6						
RABL	**Rabaul**	**5.38**	**76**	Pn	**Pn**	**15 48 26.1**	**0.0**
MTSU	**Mount Surprise**	**12.80**	**191**	P	**P**	**15 50 05.1**	**-0.7**
TATA	**Tatamba Isabel**	**13.10**	**103**	P	**P**	**15 50 09.7**	**+0.6**
ALEG	**Aligegeo Malai**	**14.03**	**104**	P	**P**	**15 50 20.1**	**+0.6**
KDU	**Kakadu**	**15.95**	**242**	P	**Pn**	**15 50 41.5**	**+0.5**
QIS	**Mount Isa**	**16.57**	**205**	P	**Pn**	**15 50 49.3**	**+1.0**
MTN	**Manton Dam**	**17.20**	**244**	P	**Pn**	**15 50 55.5**	**-0.5**
MTN				IAmb	IAmb	15 51 30.1	
	comp=Z,11nm,1.0s						
MTN	**Manton Dam**	**17.20**	**244**	P	**Pn**	**15 50 56.2**	**+0.2**
WB0	**Warramunga Arr**	**18.70**	**220**	P	**P**	**15 51 11.3**	**+0.5**
WR0	**Warramunga Arr**	**18.75**	**219**	P	**P**	**15 51 12.1**	**+0.8**
WR0				IAmb	IAmb	15 51 12.8	
	comp=Z,7.8nm,0.7s						
WRAB	**Tennant Creek**	**18.85**	**219**	P	**P**	**15 51 13.0**	**+0.7**
WRAB				IAmb	IAmb	15 51 14.0	
	comp=Z,25nm,1.2s						
WB2	**Warramunga Arr**	**18.86**	**219**	P	**P**	**15 51 13.2**	**+0.8**
WRA	**Warramunga Arr**	**18.86**	**219**	P	**P**	**15 51 13.1**	**+0.6**
	comp=Z,4.1nm,0.4s,baz=46,slow=11,SNR=69						
WRA				S	**S**	**15 54 34.1**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=48,slow=23,SNR=1.3						
EIDS	**Eidsvold**	**20.14**	**169**	P	**P**	**15 51 27.2**	**+1.0**
KNRA	**Kununurra**	**20.50**	**239**	P	**P**	**15 51 31.6**	**+1.6**
KNRA				IAmb	IAmb	15 52 04.3	
	comp=Z,24nm,1.4s						
QLP	**Quilpie**

PETK	**Petropavlovsk-**	**59.10**	**8**	P	**P**	**15 56 44.5**	**-2.1**
	comp=Z,2.7nm,0.9s,baz=163,slow=6.6,SNR=9.4						
	comp=Z,2.7nm,0.9s						
VNDA	**Vanda**	**72.40**	**177**	P	**P**	**15 58 11.0**	**-0.2**
MKAR	**Makanchi Array**	**77.08**	**320**	P	**P**	**15 58 37.9**	**-0.7**
MKAR	**Makanchi Array**	**77.08**	**320**	P	**P**	**15 58 37.1**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=110,slow=3.7,SNR=1.9						
	comp=Z,0.1nm,0.4s						
L14K	**Kuka Creek**	**77.15**	**22**	P	**P**	**15 58 38.5**	**-0.1**
L14K				IAmb	IAmb	15 58 38.8	
	comp=Z,8.0nm,1.4s						
K15K	**Wolf Creek Mou**	**78.17**	**22**	P	**P**	**15 58 44.2**	**-0.1**
K15K				IAmb	IAmb	15 59 04.4	
	comp=Z,17nm,1.5s						
ZALV	**Zalesovo Beam**	**78.56**	**328**	P	**P**	**15 58 45.3**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=115,slow=8.6,SNR=2.2						
	comp=Z,0.5nm,0.6s						
RND	**Reindeer**	**83.70**	**24**	P	**P**	**15 59 14.6**	**+1.0**
RND				IAmb	IAmb	15 59 26.4	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**85.06**	**23**	P	**P**	**15 59 17.2**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=252,slow=4.9,SNR=5.4						
	comp=Z,0.5nm,0.7s						

*MOS **19** 15:51:06.6±1.6, 54°.80N×126°.32E, h10km, mb4.0/2, Error ellipse: s-maj=16.7km s-min=9.2km az=100.7*
*SKHL **19** 15:51:07.1±0.1, 54°.80N×126°.40E, h8km±1km, mb4.2/3*
*IDC **19** 15:51:07.5±1.1, 54°.82N×126°.26E, h0km, mb3.6/3, mbtmp3.8/9, ML3.5/5, MS2.9/1, Error ellipse: s-maj=27.9km s-min=13.6km az=99.0*
*NEIC **19** 15:51:08.6±0.9, 54°.83N±0°.06×126°.2E±0°.2, h13km±5km, mb4.2/13, Error ellipse: s-maj=14.4km s-min=8.1km az=72.0*

ISC 19 15:51:08.3±0.5, 54°.88N±0°.04×126°.29E±0°.04, h10km, n51, σ1°99/58, mb4.2/9, 6C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**1.28**	**154**	*e*P	Pn	15 51 28.7	-3.5
ZEA				*e*		15 51 46.8	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.1s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.1s						
ZEA	**Zeya**	**1.28**	**154**	*e*Pg	Pn	15 51 28.7	-3.5
ZEA				AMB	AMB	15 51 30.0	
	comp=Z,60nm,0.2s						
ZEA				P	**Pb**	**15 51 30.7**	**-1.8**
ZEA				P	**Pg**	**15 51 32.6**	**-0.2**
ZEA				*e*Sg	**Sb**	**15 51 44.4**	**-4.5**
ZEA				A	A	15 51 47.0	
	comp=Z,1μm,0.3s						
BMKR	**Bomnak**	**1.49**	**96**	*e*P	Pn	15 51 33.0	-2.1
BMKR				*e*S	**Sn**	**15 51 52.0**	**-2.6**
BMKR				pmax	pmax		
	comp=Z,30nm,0.3s						
BMKR				smax	smax		
	comp=N,390nm,0.4s						
BMKR	**Bomnak**	**1.49**	**96**	*e*Pg	Pn	15 51 33.0	-2.1
BMKR				AMB	AMB	15 51 34.2	
	comp=N,30nm,0.3s						
BMKR				P	**Pb**	**15 51 36.9**	**+0.9**
BMKR				*e*Sg	**Sn**	**15 51 52.0**	**-2.6**
BMKR				A	A	15 51 54.2	
	comp=N,390nm,0.4s						
BMKR				A	A	15 51 54.2	
	comp=N,410nm,0.4s						
OCTB	**Oktyabr'skiy**	**2.33**	**142**	*e*rx	rx	15 51 46.7	
OCTB				*e*Pg	**Pn**	**15 51 47.3**	**+0.6**
OCTB				AMB	AMB	15 51 48.8	
	comp=N,50nm,0.3s						
OCTB				P	**Pb**	**15 51 50.5**	**+0.1**
OCTB				*e*rx	rx	15 52 15.6	
OCTB				*e*Sg	**Sn**	**15 52 16.8**	**+1.4**
OCTB				A	A	15 52 17.4	
	comp=N,950nm,0.5s						
TUP	**Tupik**	**3.71**	**265**	*e*Pn	**Pn**	**15 52 05.5**	**-0.2**
TUP				*e*Pg	**Pb**	**15 52 15.0**	**+1.1**
TUP				*e*Sg	**Sb**	**15 53 04.0**	**+5.1**
EKMR	**Ekimchan**	**4.33**	**112**	*e*P	**Pn**	**15 52 12.5**	**-1.7**
EKMR	**Ekimchan**	**4.33**	**112**	*e*Pn	**Pn**	**15 52 12.5**	**-1.7**
EKMR				P	Pb	15 52 16.0	-8.5
EKMR				*e*Sg	**Sb**	**15 53 21.1**	**+4.3**
EKMR				A	A	15 53 29.1	
	comp=N,110nm,0.5s						
CRS	**Chara**	**4.95**	**297**	*e*Sg	**Sg**	**15 53 44.7**	**-2.3**
KLR	**Kul'dur**	**6.58**	**147**	Pn	**Pn**	**15 52 44.3**	**-0.8**
	comp=N,1.1nm,0.3s,baz=333,slow=14,SNR=17						
KLR				Sn	Sn	15 53 52.9	-7.3
	comp=N,1.2nm,0.3s,baz=213,slow=20,SNR=6.8						
KLR				Lg	Lg	15 54 29.6	
	comp=N,3.2nm,0.3s,baz=316,slow=12,SNR=5.7						
	comp=N,3.8nm,0.4s						
KLR	**Kul'dur**	**6.58**	**147⇑**	*e*P	**Pn**	**15 52 44.4**	**-0.7**
KLR	**Kul'dur**	**6.58**	**147**	*e*Pn	**Pn**	**15 52 44.1**	**-1.0**
KLR				*e*Sg	**Sb**	**15 54 29.2**	**+7.7**
HIA	**Hailar**	**6.92**	**218**	Pn	**Pn**	**15 52 48.1**	**-1.7**
HIA	**Hailar**	**6.92**	**218⇑**	*e*P	**Pn**	**15 52 49.2**	**-0.6**
YAK	**Yakutsk**	**7.38**	**13**		**Pn**	**15 52 54.9**	**-1.1**
YAK	**Yakutsk**	**7.38**	**13**	Pn	**Pn**	**15 52 54.8**	**-1.2**
	comp=N,32nm,0.3s,baz=190,slow=5.4,SNR=35						
YAK				Sn	**Sn**	**15 54 19.1**	**-0.6**
	comp=N,2.8nm,0.3s,baz=195,slow=20,SNR=1.9						
YAK				Lg	Lg	15 54 52.1	
	comp=N,8.4nm,0.3s,baz=230,slow=22,SNR=11						
YAK				LR	LR	15 55 50.8	
	comp=N,74nm,18.5s,baz=96,slow=38						
YAK	**Yakutsk**	**7.38**	**13**	*e*P	Pn	15 52 54.2	-1.8
YAK				*e*		15 54 17.1	
YAK				pmax	pmax		
	comp=Z,64nm,0.6s						
YAK				pmax	pmax		
	comp=E,12nm,0.4s						
YAK				pmax	pmax		
	comp=N,18nm,0.3s						
YAK				smax	smax		
	comp=N,10.0nm,0.6s						
YAK				smax	smax		
	comp=E,3.0nm,0.4s						
GRNR	**Gornyy**	**7.39**	**120⇑**	*i*P	**Pn**	**15 52 58.5**	**+2.3**
GRNR				pmax	pmax		
	comp=N,2.0nm,0.6s						
GRNR				pmax	pmax		
	comp=E,2.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GRNR				MLR	MLR		
	comp=N,140nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,250nm,11.0s						
GRNR	**Gornyy**	**7.39**	**120**	*e*Sg	Sb	15 54 55.8	+11
GRNR				A	A	15 55 03.1	
	comp=Z,20nm,1.1s						
USA0B	**Ussuriysk Arra**	**11.31**	**159⇑**	*e*P	**Pn**	**15 53 50.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.31**	**159**	Pn	**Pn**	**15 53 50.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=1.6						
	comp=Z,0.9nm,0.6s						
VLA	**Vladivostok**	**12.33**	**160⇑**	*e*P	**Pn**	**15 54 01.4**	**-2.3**
ULN	**Ulaanbaatar**	**13.89**	**248**	Pn	**Pn**	**15 54 23.3**	**-1.9**
ULN	**Ulaanbaatar**	**13.89**	**248**	P	**Pn**	**15 54 23.3**	**-1.9**
SONM	**Songino Array**	**14.26**	**249**	Pn	**Pn**	**15 54 29.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=56,slow=12,SNR=8.7						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**14.26**	**249**	*e*P	**Pn**	**15 54 32.6**	**+2.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**15.60**	**48**	Pn	**Pn**	**15 54 48.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=240,slow=12,SNR=3.9						
	comp=Z,0.5nm,0.6s						
TIXI	**Tiksi**	**16.87**	**3**	Pn	**Pn**	**15 55 01.1**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=201,slow=7.8,SNR=6.0						
	comp=Z,2.6nm,0.4s						
TIXI	**Tiksi**	**16.87**	**3⇑**	*e*P	**Pn**	**15 55 03.9**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**16.87**	**3**	P	**Pn**	**15 55 03.9**	**-0.2**
JSD	**Sado**	**18.71**	**149**	P	**P**	**15 55 25.8**	**-1.0**
JSD				IAmb	IAmb	15 55 35.3	
	comp=Z,24nm,1.4s						
BVAR	**Borovoye Array**	**32.21**	**290**	P	**P**	**15 57 36.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=54,slow=7.3,SNR=1.6						
	comp=Z,0.3nm,0.5s						
F15K	**North Star Dit**	**34.06**	**44**	P	**P**	**15 57 52.2**	**0.0**
F15K				IAmb	IAmb	15 58 12.9	
	comp=Z,3.9nm,1.4s						
ANM	**Nome**	**34.08**	**46**	P	**P**	**15 57 52.8**	**+0.4**
ANM				IAmb	IAmb	15 57 56.0	
	comp=Z,4.1nm,1.4s						
ANM	**Nome**	**34.08**	**46**	P	**P**	**15 57 52.8**	**+0.4**
ANM				pmax	pmax		
	comp=Z,4.0nm,1.4s						
M16K	**Timber Creek**	**38.11**	**50**	P	**P**	**15 58 27.1**	**+0.2**
M16K				IAmb	IAmb	15 59 10.6	
	comp=Z,7.4nm,1.1s						
CAST	**Castle Rocks**	**39.94**	**44**	P	**P**	**15 58 43.0**	**+0.8**
BMAR	**Burnt Mountain**	**40.86**	**36**	P	**P**	**15 58 51.3**	**+1.4**
STLK	**Strandline Lak**	**40.95**	**46**	P	**P**	**15 58 51.5**	**+0.9**
STLK				IAmb	IAmb	15 59 06.2	
	comp=Z,5.5nm,1.3s						
ILAR	**Eielson Array**	**41.31**	**40**	P	**P**	**15 58 53.5**	**0.0**
	comp=Z,1.0nm,1.0s,baz=283,slow=7.5,SNR=5.3						
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**41.31**	**40**	*e*P	**P**	**15 58 55.9**	**+2.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
G27K	**Doyon Strip**	**42.16**	**36**	P	**P**	**15 59 02.0**	**+1.5**
K27K	**Chicken**	**43.49**	**40**	P	**P**	**15 59 11.4**	**+0.2**
K27K				IAmb	IAmb	15 59 35.5	
	comp=Z,6.0nm,1.4s						
EUNU	**Eureka**	**44.01**	**8**	P	**P**	**15 59 16.1**	**+0.7**
BCAR	**Beaver Creek A**	**44.13**	**41**	P	**P**	**15 59 16.6**	**+0.2**
VRDI	**Verde Repeater**	**44.52**	**44**	P	**P**	**15 59 20.3**	**+0.5**
G31M	**Satah River**	**44.54**	**34**	P	**P**	**15 59 19.8**	**+0.2**
G31M				IAmb	IAmb	15 59 38.0	
	comp=Z,5.7nm,1.5s						
EYMN	**Ely**	**72.71**	**26**	P	**P**	**16 02 36.4**	**+0.3**
WRA	**Warramunga Arr**	**74.84**	**172**	P	**P**	**16 02 50.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=350,slow=6.9,SNR=4.7						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**74.84**	**172**	*e*P	**P**	**16 02 51.1**	**+2.4**
WB2	**Warramunga Arr**	**74.84**	**172**	P	**P**	**16 02 48.4**	**-0.4**

*IDC **19** 16:03:16.3±0.9, 50°.99N×157°.87E, h0km, mb3.5/9, mbtmp3.5/11, ML4.5/1, MS2.8/4, Error ellipse: s-maj=21.4km s-min=16.9km az=96.0*
*NEIC **19** 16:03:21.7±1.3, 51°.0N±0°.1×157°.9E±0°.1, h37km±8km, mb4.2/17, Error ellipse: s-maj=15.4km s-min=12.5km az=173.0*
*MOS **19** 16:03:21.0±0.7, 50°.84N×157°.65E, h45km, mb4.3/2, Error ellipse: s-maj=15.5km s-min=4.1km az=84.0*
*KRSC **19** 16:03:22.4±1.4, 51°.05N×157°.88E, h40km±17km, Ml4.2, Felt [II-III] at Severo-Kurilsk.*

ISC 19 16:03:23.0±1.3, 50°.98N±0°.07×157°.84E±0°.06, h49km±12km, n111, σ1°66/114, mb3.9/19, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.81**	**307**	PN	**Pn**	**16 03 38.6**	**+0.5**
PAU				S	**Sn**	**16 03 50.4**	**+1.2**
PAU	**Pauzhetka**	**0.81**	**307**	*e*P	**Pn**	**16 03 38.7**	**+0.5**
PAU				*e*S	**Sn**	**16 03 50.4**	**+1.2**
SKR	**Severo-Kuril's**	**1.13**	**255⇑**	*i*PN	Pn	16 03 38.1	-4.3
SKR				*i* S	**Sn**	**16 03 56.1**	**-0.8**
SKR				pmax	pmax		
	comp=Z,60nm,0.4s						
SKR				smax	smax		
	comp=E,4μm,0.4s						
SKR				smax	smax		
	comp=N,5μm,0.3s						
SKR	**Severo-Kuril's**	**1.13**	**255**	*e*P	**Pn**	**16 03 42.8**	**+0.4**
SKR				*e*S	**Sn**	**16 03 57.6**	**+0.7**
RUS	**Russkaya**	**1.52**	**16**	PN	**Pn**	**16 03 47.4**	**-0.2**
RUS				S	**Sn**	**16 04 05.0**	**-1.2**
RUS	**Russkaya**	**1.52**	**16**	*e*P	**Pn**	**16 03 47.5**	**-0.2**
RUS				*e*S	**Sn**	**16 04 05.0**	**-1.2**
GRL	**Gorelyy**	**1.58**	**5**	PN	**Pn**	**16 03 48.5**	**-0.2**
GRL				S	**Sn**	**16 04 08.0**	**0.0**
GRL	**Gorelyy**	**1.58**	**5**	*e*P	**Pn**	**16 03 48.6**	**-0.2**
GRL				*e*S	**Sn**	**16 04 08.1**	**0.0**
KRMR	**Karymshinskiy**	**1.86**	**5**	PN	**Pn**	**16 03 53.2**	**+0.8**
KRMR				S	**Sn**	**16 04 15.7**	**+1.0**
KRMR	**Karymshinskiy**	**1.86**	**5**	*e*P	**Pn**	**16 03 53.3**	**+0.8**
KRMR				*e*S	**Sn**	**16 04 15.8**	**+1.0**
APC	**Apacha**	**1.99**	**348**	PN	**Pn**	**16 03 55.0**	**+0.8**
APC	**Apacha**	**1.99**	**348**	*e*P	**Pn**	**16 03 55.1**	**+0.8**
PET	**Petropavlovsk**	**2.11**	**13**	Pn	**Pn**	**16 03 53.3**	**-2.5**
PET	**Petropavlovsk**	**2.11**	**13**	PN	**Pn**	**16 03 55.5**	**-0.2**
PET				S	**Sn**	**16 04 20.1**	**-0.6**
PET	**Petropavlovsk**	**2.11**	**13**	*e*P	**Pn**	**16 03 55.6**	**-0.2**
PET				*e*S	**Sn**	**16 04 20.1**	**-0.6**
DALK	**Dalny**	**2.13**	**15**	PN	**Pn**	**16 03 55.9**	**-0.2**
DALK				S	**Sn**	**16 04 20.4**	**-0.9**
DALK	**Dalny**	**2.13**	**15**	*e*P	**Pn**	**16 03 55.9**	**-0.2**
DALK				*e*S	**Sn**	**16 04 20.5**	**-0.9**
PEA0B	**Petropavlovsk-**	**2.13**	**358**		**Pn**	**16 03 53.6**	**-2.5**
PEA0B	**Petropavlovsk-**	**2.13**	**358⇓**	*e*PN	**Pn**	**16 03 57.0**	**+0.8**
PETK	**Petropavlovsk-**	**2.13**	**358**	Pn	**Pn**	**16 03 53.6**	**-2.5**
PETK	**Petropavlovsk-**	**2.13**	**358**	Pn	**Pn**	**16 03 55.2**	**-0.9**
	comp=N,11nm,0.5s,baz=245,slow=31,SNR=7.1						
PETK				Sn	**Sn**	**16 04 20.4**	**-1.1**
	comp=N,13nm,0.3s,baz=202,slow=23,SNR=5.7						
PETK				LR	LR	16 04 59.8	
	comp=N,100nm,19.8s,baz=189,slow=49						
INSR	**Institute**	**2.14**	**12**	PN	**Pn**	**16 03 56.8**	**+0.6**
INSR				S	**Sn**	**16 04 21.7**	**+0.1**
INSR	**Institute**	**2.14**	**12**	*e*P	**Pn**	**16 03 56.8**	**+0.6**
INSR				*e*S	**Sn**	**16 04 21.8**	**+0.1**
UGLR	**Uglovaya**	**2.31**	**15**	PN	**Pn**	**16 04 00.0**	**+1.3**
UGLR	**Uglovaya**	**2.31**	**15**	*e*P	**Pn**	**16 04 00.0**	**+1.3**
AVH	**Avacha**	**2.36**	**13**	PN	**Pn**	**16 04 00.8**	**+1.6**
AVH	**Avacha**	**2.36**	**13**	*e*P	**Pn**	**16 04 00.8**	**+1.6**
KOK	**Koryaka**	**2.37**	**12**	PN	**Pn**	**16 04 00.9**	**+1.5**
KOK	**Koryaka**	**2.37**	**12**	*e*P	**Pn**	**16 04 00.9**	**+1.5**
SDLR	**Sedlovina**	**2.39**	**15**	PN	**Pn**	**16 03 59.5**	**-0.3**
SDLR	**Sedlovina**	**2.39**	**15**	*e*P	**Pn**	**16 03 59.5**	**-0.3**
KRER	**Koryakskii**	**2.40**	**13**	PN	**Pn**	**16 04 01.6**	**+1.7**
KRER	**Koryakskii**	**2.40**	**13**	*e*P	**Pn**	**16 04 01.6**	**+1.7**
KRX	**Arik**	**2.44**	**11**	PN	**Pn**	**16 04 01.8**	**+1.4**
KRX	**Arik**	**2.44**	**11**	*e*P	**Pn**	**16 04 01.8**	**+1.4**
SPN	**Mys Shipunski**	**2.51**	**32**	PN	**Pn**	**16 04 03.6**	**+2.3**
SPN	**Mys Shipunski**	**2.51**	**32**	*e*P	**Pn**	**16 04 03.7**	**+2.3**
SPN				*e*S	**Sn**	**16 04 30.0**	**-0.7**
GNL	**Ganaly**	**2.72**	**1**	PN	**Pn**	**16 04 05.5**	**+1.2**
GNL	**Ganaly**	**2.72**	**1**	*e*P	**Pn**	**16 04 05.6**	**+1.2**
KII	**Karymskiy**	**3.22**	**17**	PN	**Pn**	**16 04 14.2**	**+3.2**
KII	**Karymskiy**	**3.22**	**17**	*e*P	**Pn**	**16 04 14.2**	**+3.2**
TUMD	**Tumrok D**	**4.50**	**19**	PN	**Pn**	**16 04 32.1**	**+3.5**
TUMD	**Tumrok D**	**4.50**	**19**	*e*P	**Pn**	**16 04 32.2**	**+3.5**
TUMD				*e*S	**Sn**	**16 05 22.0**	**+2.3**
ESO	**Esso**	**4.98**	**6**	PN	**Pn**	**16 04 36.8**	**+1.7**
ESO	**Esso**	**4.98**	**6**	*e*P	**Pn**	**16 04 36.9**	**+1.7**
KMNR	**Kamenistaya**	**5.00**	**16**	PN	**Pn**	**16 04 39.6**	**+4.2**
KMNR	**Kamenistaya**	**5.00**	**16**	*e*P	**Pn**	**16 04 39.7**	**+4.2**
KPT	**Kopyto**	**5.20**	**15**	PN	**Pn**	**16 04 41.4**	**+3.2**
KPT	**Kopyto**	**5.20**	**15**	*e*P	**Pn**	**16 04 41.4**	**+3.2**
KIRR	**Kirishev**	**5.20**	**16**	PN	**Pn**	**16 04 41.8**	**+3.5**
KIRR	**Kirishev**	**5.20**	**16**	*e*P	**Pn**	**16 04 41.9**	**+3.5**
BZGR	**Bezymyannyi-Gr**	**5.25**	**18**	PN	**Pn**	**16 04 41.9**	**+2.9**
BZGR	**Bezymyannyi-Gr**	**5.25**	**18**	*e*P	**Pn**	**16 04 42.0**	**+2.9**
SRDR	**Sredinnyy**	**5.46**	**11**	PN	Pn	16 04 46.7	+4.9
SRDR	**Sredinnyy**	**5.46**	**11**	*e*P	Pn	16 04 46.7	+4.9
KLY	**Klyuchi**	**5.60**	**16**	PN	**Pn**	**16 04 47.5**	**+3.9**
KLY	**Klyuchi**	**5.60**	**16**	*e*P	**Pn**	**16 04 47.5**	**+3.9**
MA2	**Magadan**	**9.51**	**338**	Pn	**Pn**	**16 05 38.2**	**+1.1**
	comp=N,0.4nm,0.3s,baz=162,slow=13,SNR=5.3						
	comp=N,1.2nm,0.3s						
MA2	**Magadan**	**9.51**	**338⇑**	*e*PN	**Pn**	**16 05 38.9**	**+1.8**
ASAJ	**Asahikawa**	**12.36**	**242**	Pn	Pn	16 06 22.0	+5.8
	comp=N,0.3nm,0.3s,baz=51,slow=15,SNR=4.9						
ADK	**Adak**	**15.89**	**77**	Pn	**Pn**	**16 07 00.9**	**-2.2**
ADK	**Adak**	**15.89**	**77**	P	**Pn**	**16 07 00.9**	**-2.2**
ADK				pmax	pmax		
	comp=Z,94nm,1.4s						
KLR	**Kul'dur**	**16.80**	**274**	LR	LR	16 14 05.0	
	comp=Z,30nm,19.2s,baz=53,slow=39						
BILL	**Bilibino**	**17.61**	**11**	P	**Pn**	**16 07 23.4**	**-1.0**
BILL	**Bilibino**	**17.61**	**11**	*e*P	**Pn**	**16 07 23.5**	**-1.0**
ZEA	**Zeya**	**18.81**	**290⇓**	*e*P	**P**	**16 07 38.7**	**+0.4**
YAK	**Yakutsk**	**18.90**	**317**	LR	LR	16 15 05.6	
	comp=Z,29nm,18.6s,baz=96,slow=38						
YAK	**Yakutsk**	**18.90**	**317⇓**	*e*P	**P**	**16 07 40.2**	**+1.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INU	**Inuyama**	**21.67**	**232**	P	**P**	**16 08 08.8**	**-0.5**
INU				IAmb	IAmb	16 08 19.4	
	comp=Z,17nm,1.3s						
K13K	**Kusilvak Mount**	**23.09**	**47**	P	**P**	**16 08 22.8**	**-1.3**
K13K				IAmb	IAmb	16 08 27.8	
	comp=Z,15nm,1.5s						
E18K	**Tukpahlearik C**	**26.18**	**35**	P	**P**	**16 08 51.8**	**-0.6**
H19K	**Roundabout Mou**	**27.34**	**40**	P	**P**	**16 09 02.7**	**-0.2**
B20K	**Meade River**	**28.20**	**31**	P	**P**	**16 09 10.0**	**-0.5**
B20K				IAmb	IAmb	16 09 28.4	
	comp=Z,3.9nm,1.4s						
E22K	**Anaktuvuk Pass**	**29.59**	**36**	P	**P**	**16 09 21.3**	**-1.6**
E22K				IAmb	IAmb	16 09 23.4	
	comp=Z,4.8nm,1.5s						
C23K	**Itkillik River**	**30.34**	**33**	P	**P**	**16 09 29.1**	**-0.3**
ILAR	**Eielson Array**	**31.31**	**43**	P	**P**	**16 09 36.5**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=281,slow=11,SNR=2.1						
	comp=Z,0.1nm,0.5s						
D25K	**Kavik River**	**31.73**	**34**	P	**P**	**16 09 41.5**	**-0.2**
D25K				IAmb	IAmb	16 10 10.5	
	comp=Z,1.4nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**31.99**	**164**	T	T	16 43 34.4	
	baz=349,slow=76,SNR=174						
H11N3	**WAKE ISLAND Hy**	**32.01**	**164**	T	T	16 43 37.7	
	baz=349,slow=76,SNR=146						
H11N1	**WAKE ISLAND Hy**	**32.01**	**164**	T	T	16 43 35.1	
	baz=349,slow=76,SNR=166						
SONM	**Songino Array**	**33.07**	**285**	P	**P**	**16 09 52.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=66,slow=3.5,SNR=2.0						
	comp=Z,0.3nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**33.16**	**164**	T	T	16 44 52.9	
	baz=350,slow=76,SNR=170						
H11S3	**WAKE ISLAND Hy**	**33.17**	**165**	T	T	16 44 59.0	
	baz=350,slow=76,SNR=155						
H11S2	**WAKE ISLAND Hy**	**33.17**	**164**	T	T	16 44 54.4	
	baz=350,slow=76,SNR=133						
GRNB	**Grenville Isla**	**42.38**	**57**	P	**P**	**16 11 12.0**	**-0.1**
YKA	**Yellowknife Ar**	**45.67**	**40**	P	**P**	**16 11 38.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=291,slow=12,SNR=1.7						
	comp=Z,0.2nm,0.7s						
KURK	**Kurchatov**	**47.68**	**302**	P	**P**	**16 11 54.5**	**+0.3**
KURK				IAmb	IAmb	16 11 55.8	
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**47.68**	**302**	P	**P**	**16 11 55.1**	**+0.9**
KURBB	**Kurchatov Arra**	**47.78**	**302**	P	**P**	**16 11 55.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=61,slow=7.5,SNR=3.0						
MK31	**Makanchi Array**	**47.83**	**296**	P	**P**	**16 11 55.4**	**0.0**
MK31				IAmb	IAmb	16 12 05.2	
	comp=Z,2.3nm,1.5s						
MK31	**Makanchi Array**	**47.83**	**296**	P	**P**	**16 11 55.4**	**0.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.5s						
MKAR	**Makanchi Array**	**47.83**	**296**	P	**P**	**16 11 55.4**	**0.0**
MKAR	**Makanchi Array**	**47.83**	**296**	P	**P**	**16 11 55.7**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=60,slow=6.4,SNR=5.5						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**47.83**	**296**	*e*P	**P**	**16 11 56.2**	**+0.8**
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**16 12 16.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=41,slow=7.9,SNR=4.8						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**54.86**	**341**	LR	LR	16 39 10.1	
	comp=Z,17nm,20.8s,baz=154,slow=39						
CMAR	**Chiang Mai Arr**	**56.37**	**257**	P	**P**	**16 13 00.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=44,slow=7.9,SNR=4.0						
	comp=Z,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**56.37**	**257**	*i* P	**P**	**16 13 02.7**	**+3.5**
ABKAR	**Akbulak array**	**58.10**	**310**	P	**P**	**16 13 11.2**	**+0.2**
DUG	**Dugway, Tooele**	**59.76**	**62**	P	**P**	**16 13 22.7**	**-0.1**
DUG				IAmb	IAmb	16 13 43.7	
	comp=Z,5.1nm,1.5s						
DUG	**Dugway, Tooele**	**59.76**	**62**	P	**P**	**16 13 22.7**	**-0.1**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TXAR	**Lajitas Array**	**72.78**	**65**	P	**P**	**16 14 46.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=301,slow=4.7,SNR=5.9						
	comp=Z,0.3nm,0.4s						
WB0	**Warramunga Arr**	**73.40**	**203**	P	**P**	**16 14 48.7**	**-1.0**
WB0				IAmb	IAmb	16 15 10.6	
	comp=Z,6.3nm,1.4s						
WB2	**Warramunga Arr**	**73.58**	**203**	P	**P**	**16 14 50.8**	**+0.1**
WRA	**Warramunga Arr**	**73.58**	**203**	P	**P**	**16 14 50.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=16,

PAU	Pauzhetka	0.95	309	eP		Pn		16 06 50.9	+0.3
PAU				eS		Sn		16 07 02.9	+0.1
SKR	Severo-Kuril's	1.20	261c	i PN		Pn		16 06 54.9	+0.9
SKR				eS		Sn		16 07 09.7	+0.6
SKR	Severo-Kuril's	1.20	261	eP		Pn		16 06 55.0	+0.9
SKR				eS		Sn		16 07 09.8	+0.6
RUS	Russkaya	1.59	12	PN		Pn		16 06 58.9	-0.5
RUS				S		Sn		16 07 17.0	-1.7
RUS	Russkaya	1.59	12	eP		Pn		16 06 59.0	-0.5
RUS				eS		Sn		16 07 17.0	-1.7
GRL	Gorelyy	1.68	2	PN		Pn		16 07 00.9	+0.2
GRL				S		Sn		16 07 20.2	-0.8
GRL	Gorelyy	1.68	2	eP		Pn		16 07 01.0	+0.2
GRL				eS		Sn		16 07 20.2	-0.8
KRMR	Karymshinskiy	1.96	3	PN		Pn		16 07 05.1	+0.7
KRMR	Karymshinskiy	1.96	3	eP		Pn		16 07 05.2	+0.7
APC	Apacha	2.11	346	PN		Pn		16 07 06.7	+0.2
APC	Apacha	2.11	346	eP		Pn		16 07 06.8	+0.2
PET	Petropavlovsk	2.19	11	ePN		Pn		16 07 07.9	+0.3
PET				eS		Sn		16 07 32.3	-1.1
PET				pmax		pmax			
	comp=Z,28nm,0.5s								
PET				smax		smax			
	comp=E,248nm,0.6s								
PET				smax		smax			
	comp=N,402nm,0.6s								
PET	Petropavlovsk	2.19	11	eP		Pn		16 07 07.8	+0.1
PET				eS		Sn		16 07 32.3	-1.1
DALK	Dalny	2.21	12	PN		Pn		16 07 08.0	+0.2
DALK				S		Sn		16 07 32.3	-1.6
DALK	Dalny	2.21	12	eP		Pn		16 07 08.1	+0.2
DALK				eS		Sn		16 07 32.4	-1.6
INSR	Institute	2.23	10	PN		Pn		16 07 08.9	+0.8
INSR				S		Sn		16 07 34.2	-0.1
INSR	Institute	2.23	10	eP		Pn		16 07 08.9	+0.8
INSR				eS		Sn		16 07 34.3	-0.1
PEA0B	Petropavlovsk-	2.24	356⇑	ePN		Pn		16 07 09.8	+1.4
PETK	Petropavlovsk-	2.24	356	P		Pn		16 07 09.6	+1.2
	comp=N,9.0nm,0.5s,baz=159,slow=12,SNR=9.1								
PETK				S		Sn		16 07 36.9	+2.1
	comp=N,26nm,0.6s,baz=255,slow=17,SNR=7.2								
UGLR	Uglovaya	2.39	12	PN		Pn		16 07 11.3	+0.8
UGLR	Uglovaya	2.39	12	eP		Pn		16 07 11.3	+0.8
AVH	Avacha	2.44	11	PN		Pn		16 07 12.6	+1.5
AVH	Avacha	2.44	11	eP		Pn		16 07 12.6	+1.5
NLC	Nalytchevo	2.45	20	PN		Pn		16 07 09.9	-1.2
NLC	Nalytchevo	2.45	20	eP		Pn		16 07 10.0	-1.2
KOK	Koryaka	2.45	9	PN		Pn		16 07 12.8	+1.5
KOK	Koryaka	2.45	9	eP		Pn		16 07 12.8	+1.5
SDLR	Sedlovina	2.47	13	PN		Pn		16 07 11.7	+0.2
SDLR	Sedlovina	2.47	13	eP		Pn		16 07 11.8	+0.2
KRX	Arik	2.52	9	PN		Pn		16 07 13.8	+1.5
KRX	Arik	2.52	9	eP		Pn		16 07 13.8	+1.5
SPN	Mys Shipunski	2.56	29	PN		Pn		16 07 13.2	+0.6
SPN				S		Sn		16 07 42.0	-0.5
SPN	Mys Shipunski	2.56	29	eP		Pn		16 07 13.2	+0.6
SPN				eS		Sn		16 07 42.0	-0.5
GNL	Ganaly	2.82	359	PN		Pn		16 07 17.4	+1.0
GNL	Ganaly	2.82	359	eP		Pn		16 07 17.5	+1.0
KII	Karymskiy	3.29	15	PN		Pn		16 07 24.5	+1.7
KII	Karymskiy	3.29	15	eP		Pn		16 07 24.5	+1.7
TUMD	Tumrok D	4.57	18	PN		Pn		16 07 44.0	+3.6
TUMD				S		Sn		16 08 36.0	+3.9
TUMD	Tumrok D	4.57	18	eP		Pn		16 07 44.1	+3.7
TUMD				eS		Sn		16 08 36.1	+3.9
KMNR	Kamenistaya	5.07	15	PN		Pn		16 07 51.5	+4.2
KMNR	Kamenistaya	5.07	15	eP		Pn		16 07 51.6	+4.3
ESO	Esso	5.08	5	PN		Pn		16 07 50.7	+3.4
ESO	Esso	5.08	5	eP		Pn		16 07 50.7	+3.5
BZGR	Bezymyannyi-Gr	5.33	17	PN		Pn		16 07 55.2	+4.4
BZGR	Bezymyannyi-Gr	5.33	17	eP		Pn		16 07 55.2	+4.4
KBTR	Krutoberegovo	6.07	26	PN		Pn		16 08 01.9	+1.1
KBTR	Krutoberegovo	6.07	26	eP		Pn		16 08 02.0	+1.1
ASAJ	Asahikawa	12.40	243	P		P		16 09 34.5	-4.4
	comp=N,7.7nm,0.8s,baz=41,slow=9.3,SNR=6.0								
ZEA	Zeya	18.94	291	eP		Pn		16 10 52.0	0.0
H11N2	WAKE ISLAND Hy	31.87	164	T		T		16 46 46.1	
	baz=349,slow=76,SNR=90								
H11N3	WAKE ISLAND Hy	31.89	164	T		T		16 46 47.0	
	baz=349,slow=76,SNR=75								
H11N1	WAKE ISLAND Hy	31.89	164	T		T		16 46 47.3	
	baz=349,slow=76,SNR=72								
H11S1	WAKE ISLAND Hy	33.03	165	T		T		16 48 14.6	
	baz=350,slow=76,SNR=88								
H11S3	WAKE ISLAND Hy	33.04	165	T		T		16 48 14.3	
	baz=350,slow=76,SNR=85								
H11S2	WAKE ISLAND Hy	33.05	165	T		T		16 48 16.0	
	baz=350,slow=76,SNR=65								
KURK	Kurchatov	47.81	303	P		P		16 15 07.6	+0.6
KURBB	Kurchatov Arra	47.91	302	P		P		16 15 07.6	-0.2
	comp=N,1.2nm,0.3s,baz=62,slow=7.4,SNR=2.0								
	comp=N,1.2nm,0.3s								
MKAR	Makanchi Array	47.95	296	P		P		16 15 08.1	-0.2
	comp=N,0.2nm,0.5s,baz=58,slow=7.2,SNR=5.1								
	comp=N,0.2nm,0.5s								
MKAR	Makanchi Array	47.95	296	i P		P		16 15 07.5	-0.8
BVAR	Borovoye Array	50.75	309	P		P		16 15 27.0	-2.5
	comp=N,0.7nm,0.6s,baz=56,slow=8.8,SNR=4.9								
	comp=N,0.7nm,0.6s								
CMAR	Chiang Mai Arr	56.44	258	P		P		16 16 13.4	+1.9
	comp=N,0.4nm,0.4s,baz=38,slow=5.7,SNR=2.2								
	comp=N,0.4nm,0.4s								
TXAR	Lajitas Array	72.73	65	P		P		16 17 58.8	+0.8
	comp=N,0.4nm,0.6s,baz=302,slow=4.2,SNR=4.6								
	comp=N,0.4nm,0.6s								
WRA	Warramunga Arr	73.52	203	P		P		16 18 02.8	+0.5
	comp=N,0.2nm,0.5s,baz=12,slow=6.0,SNR=1.1								
	comp=N,0.2nm,0.5s								
ASAR	Alice Springs	77.20	203	P		P		16 18 24.4	+1.0
	comp=N,0.3nm,0.8s,baz=13,slow=4.7,SNR=6.4								
	comp=N,0.3nm,0.8s								

SJA ***19*** *16:23:17.1±0.8, 22°.63S×66°.24W, h268km±7km, ML4.3, MW4.0*
VAO ***19*** *16:23:19.3±0.4, 22°.73S×66°.33W, h253km, mb4.3*
NEIC ***19*** *16:23:19.3±1.1, 22°.70S±0°.09×66°.3W±0°.1, h252km±10km, mb4.6/7, Error ellipse: s-maj=15.8km s-min=12.6km az=95.0*
IDC ***19*** *16:23:21.4±1.8, 22°.68S×66°.13W, h266km±17km, mb3.7/6, mbtmp4.3/11, Error ellipse: s-maj=23.3km s-min=15.5km az=100.0*

ISC 19 16:23:19.0±0.5,**22°.69S**±0°.04×**66°.37W**±0°.04,**h250**km, **n128**,σ1°**03**/131,**mb4.0**/7,**8C-5D**,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	0.94	57	⇓iP	Pn	16 23 55.4	+1.1
YJA				i S	S	16 24 21.1	-0.8
YJA	Yavi	0.94	57	i S	S	16 24 21.3	-0.6
YJA				IAML		16 24 23.3	
	comp=Z,176nm,0.5s						
SALTA		1.53	179	⇑iP	Pn	16 23 59.3	+1.3
SALTA				i S	S	16 24 29.7	+0.8
SALTA		1.53	179	i S	S	16 24 29.7	+0.8
SALTA				IAML		16 24 31.1	
	comp=Z,29nm,0.9s						
AF01	San Pedro de A	1.69	261		Pn	16 24 01.1	+2.0
AF01	San Pedro de A	1.69	261	⇑iP	Pn	16 24 01.3	+2.2
PB09	IPOC Station P	2.80	288	Pn	Pn	16 24 11.4	+1.9
PB09	IPOC Station P	2.80	288	⇑iP	Pn	16 24 11.5	+1.9
PB09	IPOC Station P	2.80	288	eS	S	16 24 49.9	+0.4
PB09				IAML		16 24 52.3	
	comp=Z,235nm,0.8s						
PB06	IPOC Station P	2.96	269	i P	Pn	16 24 12.3	+1.2
PB06	IPOC Station P	2.96	269	i S	S	16 24 52.6	+0.2
PB06				IAML		16 24 59.1	
	comp=Z,345nm,0.2s						
PB03	IPOC Station P	3.19	281	⇑iP	Pn	16 24 14.9	+1.2
PB03	IPOC Station P	3.19	281	eS	S	16 24 56.5	-0.6
PB03				IAML		16 25 00.2	
	comp=Z,578nm,0.6s						
PB01	IPOC Station P	3.33	299		Pn	16 24 16.3	+1.1
PB01	IPOC Station P	3.33	299	⇑iP	Pn	16 24 16.4	+1.1
PB01	IPOC Station P	3.33	299	i S	S	16 24 59.1	-0.5
PB01				IAML		16 25 02.0	
	comp=Z,224nm,0.2s						
PB05	IPOC Station P	3.54	267		Pn	16 24 18.4	+0.8
PB05	IPOC Station P	3.54	267	⇑iP	Pn	16 24 18.4	+0.8
PB05	IPOC Station P	3.54	267	eS	S	16 25 02.5	-1.5
PB05				IAML		16 25 05.0	
	comp=Z,294nm,0.4s						
GO02	Mina Guanaco	3.84	229	Pn	Pn	16 24 21.9	+0.7
GO02	Mina Guanaco	3.84	229	i S	S	16 25 10.2	-0.3
PB10	IPOC Station P	3.94	257	Pn	Pn	16 24 22.5	+0.5
PB10	IPOC Station P	3.94	257	⇑iP	Pn	16 24 22.6	+0.5
PB10				i S	S	16 25 10.2	-1.9
PB10	IPOC Station P	3.94	257	eS	S	16 25 10.3	-1.8
PB10				IAML		16 25 13.4	
	comp=Z,499nm,0.5s						
PATCX	Punta Patache	3.98	297		Pn	16 24 22.9	+0.3
PATCX	Punta Patache	3.98	297	i P	Pn	16 24 23.3	+0.7
PATCX				i S	S	16 25 11.5	-1.6
PATCX				IAML		16 25 13.9	
	comp=Z,360nm,0.8s						
HMBC	Humberstone	4.06	306		Pn	16 24 23.3	-0.3
HMBC	Humberstone	4.06	306	i S	S	16 25 13.1	-1.8
HMBC				IAML		16 25 14.8	
	comp=Z,664nm,0.4s						
TA01	Diego Aracena	4.13	300	Pn	Pn	16 24 24.4	+0.2
PB14	IPOC Station P	4.17	242	Pn	Pn	16 24 25.5	+0.4
PB14	IPOC Station P	4.17	242	i P	Pn	16 24 25.9	+0.8
PB14				IAML		16 25 20.0	
	comp=Z,532nm,0.3s						
PB11	IPOC Station P	4.23	313	Pn	Pn	16 24 26.0	+0.3
PB11	IPOC Station P	4.23	313	eS	S	16 25 16.4	-2.3
PB11				IAML		16 25 19.1	
	comp=Z,281nm,0.3s						
TA02	Huaiquique	4.25	304		Pn	16 24 25.7	0.0
AC02	Maricunga	4.83	211	Pn	Pn	16 24 33.7	+0.6
AC02	Maricunga	4.83	211	i P	Pn	16 24 33.9	+0.8
AC02				IAML		16 25 45.6	
	comp=Z,449nm,0.7s						
AC01	Pan de Azucar	5.17	227	Pn	Pn	16 24 36.3	-0.5
AC01	Pan de Azucar	5.17	227	eS	S	16 25 21.8	-17
AC01				IAML		16 25 41.5	
	comp=Z,237nm,0.3s						
PB12	IPOC Station P	5.49	317	Pn	Pn	16 24 39.9	-1.1
AC06	Mina Casimiro	5.88	217	Pn	Pn	16 24 44.7	-1.0
LPAZ	La Paz	6.58	345	Pn	Pn	16 24 55.5	+0.4
LPAZ	La Paz	6.58	345	P	Pn	16 24 56.7	+1.6
	comp=Z,8.1nm,0.3s,baz=155,slow=5.3,SNR=42						
LPAZ				S	S	16 26 11.3	-0.7
	comp=Z,33nm,1.1s,baz=344,slow=17,SNR=8.2						
LPAZ	La Paz	6.58	345	eP	Pn	16 24 56.4	+1.3
CO01	Juntas del Tor	7.99	204		Pn	16 25 12.4	+0.1
SIV	San Ignacio	8.33	38	P	Pn	16 25 15.4	-1.2
	comp=Z,48nm,0.7s,baz=218,slow=7.5,SNR=153						
GO04	Tololo Observa	8.44	207		Pn	16 25 16.8	-1.2
CPUP	Villa Florida	9.00	116	P	Pn	16 25 23.4	-1.5
	comp=Z,1.6nm,0.7s,baz=293,slow=12,SNR=1.4						
CFA	Coronel Fontan	9.03	190	P	Pn	16 25 23.4	-1.9
	comp=Z,3.1nm,0.3s,baz=42,slow=16,SNR=28						
SJPY	San Joaquin	9.68	106	eP	Pn	16 25 32.9	-0.6
PTLB	Pontes e Lacer	9.93	45	Pn	Pn	16 25 35.3	-1.4
PTLB	Pontes e Lacer	9.93	45	eP	Pn	16 25 35.7	-1.0
AQDB	Aquidauana	10.17	79		Pn	16 25 39.3	-0.5
AQDB	Aquidauana	10.17	79	eP	Pn	16 25 40.0	+0.3
VA03	San Esteban	10.69	199		Pn	16 25 47.6	+1.3
MT08	Bocatoma Ro	11.19	196	P	P	16 25 55.2	-1.5
VILB	Vilhena	11.32	32	eP	Pn	16 25 55.0	+0.7
MT02	Curacav	11.34	201		Pn	16 25 52.7	-1.6
PSAL	Palomas, Salto	11.44	139	eP	Pn	16 25 56.6	+1.0
MT13	San Alfonso	11.54	197	Pn	Pn	16 25 56.5	-0.4
MT09	Talagante	11.77	199		Pn	16 25 59.6	-0.2
MT01	Popeta	11.93	200		Pn	16 26 00.7	-0.9
RPRD	Ribas do Rio P	11.99	82	eP	Pn	16 26 02.2	-0.3
SALV	Santo Antonio	12.13	58	eP	Pn	16 26 04.1	-0.2
BO01	Tunca	12.37	198	Pn	Pn	16 26 07.1	0.0
TBOT	Tacuaremb	12.89	136	eP	Pn	16 26 13.9	+0.4
C2SB	Chapadao do Su	13.25	75	eP	Pn	16 26 18.1	0.0
PTGB	Pitanga	13.26	102	eP	Pn	16 26 18.2	0.0
ITAB	Concordia	13.68	112		Pn	16 26 23.1	-0.1
ITAB	Concordia	13.68	112	eP	Pn	16 26 23.4	+0.1
CPSB	Cacapava Do Su	13.88	126	eP	Pn	16 26 25.1	-0.6
LDASE	Londrina, Braz	14.06	96	eP	Pn	16 26 27.8	-0.1
PDRB	Porto dos Gac	14.35	41	eP	P	16 26 32.3	+0.5
PLTB	Pedras Altas	14.50	131	P	Pn	16 26 32.1	-1.1
PLTB	Pedras Altas	14.50	131	eP	Pn	16 26 32.5	-0.7
ITRB	Iturama	15.23	82	eP	Pn	16 26 41.8	-0.2
ARAG	Araguaiana, MT	15.40	66	eP	Pn	16 26 44.6	+0.5
CNLB	Canela	15.43	119	eP	P	16 26 43.6	0.0
FRTB	Fartura	15.49	96	eP	P	16 26 44.4	+0.1
CLDB	Colider	15.50	42	eP	Pn	16 26 45.3	0.0
MAJ01	Sao Joao Batis	16.41	110	eP	P	16 26 54.0	-0.3
TER01	Tubaro-SC	16.60	114	eP	P	16 26 55.5	-0.9
BB19B	Bebedouro	16.64	88	eP	P	16 26 57.3	+0.3
SPB	Sao Paulo	17.45	97	P	P	16 27 05.1	-0.5
SPB				IAmb	IAmb	16 27 06.5	
	comp=Z,27nm,0.9s						
SPB	Sao Paulo	17.45	97	eP	P	16 27 05.8	+0.2
IPMB	Ipameri, GO	17.66	78	eP	P	16 27 08.3	+0.3
SNDB	Serra Nova Dou	17.89	56	eP	P	16 27 10.0	-0.6
VAO	Valinhos	17.89	95	P	P	16 27 09.9	-0.7
VAO	Valinhos	17.89	95	eP	P	16 27 10.3	-0.3
LR05	Currie	18.13	194	P	P	16 27 14.0	+1.2
LR05				IAmb	IAmb	16 27 14.7	
	comp=Z,44nm,0.5s						
PLCA	Paso Flores	18.33	190	P	P	16 27 16.0	+0.9
PLCA	Paso Flores	18.33	190	P	P	16 27 15.9	+0.7
	comp=Z,5.3nm,0.7s,baz=7.2,slow=12,SNR=14						
PLCA	Paso Flores	18.33	190	eP	P	16 27 14.0	-1.2
BDFB	Brasilia	18.70	71	P	P	16 27 19.1	-0.2
BDFB				IAmb	IAmb	16 27 20.9	
	comp=Z,31nm,1.0s						
BDFB	Brasilia	18.70	71	P	P	16 27 19.1	-0.2
	comp=Z,26nm,0.7s,baz=244,slow=12,SNR=30						
NPGB	Novo Progresso	18.83	36	eP	P	16 27 22.2	+1.6
PMNB	Patos De Minas	19.11	81	eP	P	16 27 23.6	-0.1
PARB	Paraibuna	19.11	96	eP	P	16 27 23.9	+0.2
MACA	Manacapuru-AM	20.18	17	eP	P	16 27 36.3	+1.2
DIAM	Diamantina, MG	21.70	83	eP	P	16 27 50.6	+0.1
JANB	Januaria	22.19	74	eP	P	16 27 54.0	-1.0
DUB01	Friburgo-RJ	22.20	93	eP	P	16 27 54.9	0.0
SDBA	SAO DESIDERIO	22.85	67	eP	P	16 27 59.5	-1.5
CAM01	Campos-RJ	22.89	93	eP	P	16 28 00.5	-0.7
PRPB	Paraiapebas	22.91	47	eP	P	16 28 00.8	-0.7
SJMB	Sao Joao De Ma	23.88	85	eP	P	16 28 09.5	-0.7
RIB01	Linhares ES	24.47	87	eP	P	16 28 14.7	-0.9
BOAV	Boa Vista	25.58	14	eP	P	16 28 25.5	0.0
GUA01	Guaratinga, BA	25.73	81	eP	P	16 28 26.5	-0.4
CMC01	Camacan, BA	26.38	79	eP	P	16 28 31.8	-1.0
NBPB	Pedra_Branca-C	30.97	61	eP	P	16 29 12.2	-1.1
NBAN	Anadia - AL	31.59	71	eP	P	16 29 17.4	-1.4
RCBR	Riachuelo	33.84	65	eP	P	16 29 38.3	0.0
VNA3	Neumayer Olymp	58.20	161	⇓P	P	16 32 38.6	-8.1
VNA2	Neumayer--Watz	58.76	161	⇓P	P	16 32 52.8	+2.3
	baz=159,slow=3.1						
SNAA	Sanae	60.39	161	⇓P	P	16 33 03.4	+1.7
SNAA	Sanae	60.39	161	P	P	16 33 03.2	+1.5
	comp=Z,1.0nm,0.4s,baz=312,slow=11,SNR=10						
	comp=Z,1.0nm,0.4s						
TROLL	Troll, Antarti	62.10	161	⇓P	P	16 33 15.1	+1.9
	comp=Z,8.8nm,0.2s						
SDMD	Soldier's Deli	62.55	351	P	P	16 33 16.8	+0.5
SDMD				IAmb	IAmb	16 33 22.7	
	comp=Z,5.3nm,0.7s						
DBIC	Dimbokro	66.84	72	P	P	16 33 43.4	-1.2
	comp=Z,2.4nm,0.4s,baz=234,slow=7.5,SNR=8.5						
	comp=Z,2.4nm,0.4s						
SYO	Syowa Base	74.56	159	⇑eP	P	16 34 28.0	-2.0
TORD	Torodi Ar. Bea	75.56	69	P	P	16 34 35.8	-0.9
TORD				IAmb	IAmb	16 34 36.8	
	comp=Z,3.0nm,0.6s						
TORD	Torodi Ar. Bea	75.56	69	P	P	16 34 35.6	-1.0
	comp=Z,3.6nm,0.3s,baz=260,slow=5.5,SNR=52						
	comp=Z,3.6nm,0.3s						
BOSA	Boshof	80.81	117	P	P	16 35 04.7	-0.8
	comp=Z,1.0nm,0.5s,baz=227,slow=3.7,SNR=5.8						
	comp=Z,1.0nm,0.5s						
ESDC	Sonseca Array	85.05	43	P	P	16 35 27.7	+1.0
	comp=Z,2.5nm,0.9s,baz=246,slow=4.6,SNR=11						
	comp=Z,2.5nm,0.9s						
YKA	Yellowknife Ar	93.10	340	P	P	16 36 05.8	+1.9
	comp=Z,0.3nm,0.8s,baz=130,slow=4.0,SNR=5.3						
	comp=Z,0.3nm,0.8s						
WRA	Warramunga Arr	133.05	207	PKP	PKiKP	16 42 06.8	+0.1
	comp=Z,0.4nm,0.8s,baz=144,slow=1.9,SNR=1.4						
ZALV	Zalesovo Beam	141.97	28	PKP	PKPdf	16 42 22.0	+1.3
	comp=Z,0.5nm,0.4s,baz=294,slow=2.3,SNR=3.5						
MKAR	Makanchi Array	145.15	39	PKPbc	PKPab	16 42 28.3	+1.2
	comp=Z,1.6nm,0.3s,baz=319,slow=2.7,SNR=42						

JMA ***19*** *16:23:40.5±0.4, 23°N±2°×12°3E±°, h46km, MV2.3/9, NEAR*

ISHIGAKIJIMA ISLAND
TAP ***19*** *16:23:41.9, 23°.04N×122°.61E, h59km±1km, ML2.8, D*

ISC 19 16:23:36.7±1.2,**23°.03N**±0°.03×**122°.73E**±0°.03,**h16**km±9km, **n97**,σ0°**77**/150,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	1.15	341	P	Pg	16 24 00.5	+1.6
EOS4				S	Sg	16 24 13.8	-0.2
LDUT	Ludao	1.21	253	eP	Pb	16 23 59.6	+0.2
LDUT				S	Sb	16 24 14.0	-0.8
CHKH	Chenggong	1.24	278	P	Pg	16 24 00.9	+0.3
CHKH				S	Sb	16 24 14.7	-0.8
CHKT	Chengkung	1.26	274	i P	Pg	16 24 00.7	-0.3
CHKT				i S	Sb	16 24 14.5	-1.6
HGSD	Ruisui	1.28	291	P	Pg	16 24 01.4	-0.1
HGSD				S	Sb	16 24 16.6	-0.3
EOS3	EOS3	1.31	343	eP	Pg	16 24 02.8	+0.8
SHUL	Shoufeng	1.31	306	P	Pg	16 24 02.5	+0.5
SHUL				eS	Sb	16 24 17.5	-0.2
EDH	Donghe	1.31	268	P	Pg	16 24 02.1	+0.1
EDH				S	Sn	16 24 16.7	-1.0
FULB	Fuli	1.33	278	P	Pg	16 24 02.3	-0.1
FULB				S	Sn	16 24 17.2	-1.0
EYUL	Yuli	1.33	284	eP	Pg	16 24 02.6	+0.1
EYUL				eS	Sb	16 24 18.4	+0.1
EHYH	Wanrong	1.35	290	eP	Pg	16 24 02.5	-0.3
EGFH	Guangfu	1.35	298	eP	Pg	16 24 02.4	-0.5
EGFH				eS	Sb	16 24 19.3	+0.4
YULB	Yu-li	1.36	286	P	Pg	16 24 03.1	0.0
YULB	Yu-li	1.36	286	i P	Pg	16 24 03.0	0.0
YULB				S	Sb	16 24 19.6	+0.4
EHY	Hungye	1.38	291	i P	Pg	16 24 03.0	-0.3
EHY				S	Sn	16 24 18.6	-0.7
ECS	Chishang	1.39	273	P	Pg	16 24 03.4	-0.1
ECS				eS	Sb	16 24 20.3	+0.3
EHD	Haiduan	1.41	275	P	Pb	16 24 02.6	-0.1
EHD				eS	Sn	16 24 19.3	-0.8
WARBT	Fenglin Townsh	1.41	299	P	Pg	16 24 03.4	-0.5
WARBT				S	Sn	16 24 18.9	-1.3
ESL	Shilin	1.42	304	i P	Pb	16 24 03.3	+0.3
ESL				i S	Sn	16 24 19.4	-1.1
JYNG	Yonagunijimaku	1.43	8	P	Pg	16 24 04.8	+0.4
JYNG				eS	Sg	16 24 22.0	-1.0
YOJ	Yonaguni jima	1.45	10	P	Pg	16 24 04.9	+0.2
YOJ	Yonaguni jima	1.45	10	P	Pg	16 24 05.6	+0.9
YOJ				eS	Sg	16 24 22.9	-0.7
EOS2	EOS2	1.46	342	eP	Pg	16 24 04.0	-0.8
LAY	Lan-yu	1.47	228	P	Pg	16 24 04.8	-0.2
ETM	Tongmen	1.47	310	P	Pg	16 24 04.7	-0.3
LYUB	Lan-yu	1.47	226	eP	Pg	16 24 04.6	-0.4
TWD	Chiawan	1.48	316	eP	Pb	16 24 04.2	+0.3
LONT	Longtian	1.48	266	P	Pg	16 24 05.3	+0.1
LONT				S	Sb	16 24 22.6	+0.2
TTN	Taitung	1.48	260	eP	Pb	16 24 04.4	+0.4
TTN				eS	Sb	16 24 22.1	-0.4
TWGBT	Beinan	1.53	263	P	Pg	16 24 06.0	-0.2
TWGBT	Beinan	1.53	263	P	Pg	16 24 06.5	+0.2
TWGBT				eS	Sb	16 24 23.8	-0.2
TWG	Pinlang	1.54	263	P	Pg	16 24 06.2	-0.2
TWG				S	Sn	16 24 22.8	-0.6
NACB	Ninganchiao	1.54	318	P	Pb	16 24 04.9	-0.1
NACB	Ninganchiao	1.54	318	P	Pb	16 24 05.3	+0.3
NACB				S	Sn	16 24 22.6	-0.8
LXIB	Xiulin Townshi	1.56	310	P	Pb	16 24 05.8	+0.4
LXIB				eS	Sn	16 24 23.5	-0.5
ELDTW	Lidau	1.58	276	P	Pb	16 24 06.0	+0.2
ELDTW				S	Sn	16 24 22.6	-1.9
IRIF	Iriomote-Funau	1.59	35	eP	Pg	16 24 06.9	-0.5
VWDT	VWDT	1.63	297	P	P

*NEIC **19** 16:25:27.0±1.6, 51°.27N±0°.07×178°.41W±0°.07, h35km±2km, mb4.1/48, ML3.6(AEIC), Error ellipse: s-maj=11.1km s-min=7.2km az=183.0*

*AEIC **19** 16:25:27.7±2.1, 51°.38N±0°.08×178°.33W±0°.07, h47km±5km, Error ellipse: s-maj=11.2km s-min=6.7km az=178.0*

*IDC **19** 16:25:28.1±3.0, 51°.48N×178°.39W, h54km±25km, mb3.5/19, mbtmp3.8/22, ML4.1/2, MS3.1/12, Error ellipse: s-maj=23.3km s-min=12.6km az=167.0*

ISC 19 16:25:27.1±0.6, 51°.32N±0°.08×178°.40W±0°.04, h45km, n116, σ1$03/105, mb4.0/33, MS3.1/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.50	333		Pn	16 25 38.9	+0.8
GASW	Gareloi Southw	0.54	329		Pn	16 25 39.1	+0.5
GANO	Gareloi North	0.56	334		Pn	16 25 39.3	+0.4
TASE	Tanaga Southea	0.57	23		Pn	16 25 39.1	+0.1
TAFP	Tanaga Falls P	0.64	24		Pn	16 25 39.8	-0.1
TAFP					Sn	16 25 49.6	+0.5
KIWB	Kanaga Island	0.95	55		Pn	16 25 43.7	-0.2
KIWB				Sn	Sn	16 25 55.9	-0.4
KICM	Kanaga Island	0.96	51		Pn	16 25 44.3	+0.1
KIRH	Kanaga Island	1.00	54		Pn	16 25 44.8	0.0
KIRH					Sn	16 25 57.9	+0.2
ADK	Adak	1.21	61		Pn	16 25 47.3	-0.3
GSCK	Great Sitkin C	1.56	63		Pn	16 25 52.9	+0.6
GSCK					Sn	16 26 12.7	+1.3
GSTR	Great Sitkin T	1.65	61		Pn	16 25 54.8	+1.1
ATKA	Atka Island	2.76	70		Pn	16 26 08.9	+0.1
ATKA	Atka Island	2.76	70		Sn	16 26 42.0	+1.2
SHEM	Shemya Is, Ala	4.84	290	P	Pn	16 26 39.4	+2.0
	8.3nm,0.3s,baz=203,slow=2.7,SNR=8.1						
SHEM				S	Sn	16 27 31.5	-0.6
	34nm,0.9s,baz=72,slow=20,SNR=1.5						
SHEM				LR	LR	16 28 31.8	
	comp=Z,191nm,19.4s,baz=184,slow=38						
	25nm,0.6s						
NIKH	Nikolski High	6.11	71	Pn	Pn	16 26 55.7	+1.0
SPIA	Saint Paul Isl	7.56	36	Pn	Pn	16 27 18.0	+3.4
UNV	Unalaska Valle	7.68	66	Pn	Pn	16 27 16.7	+0.5
M11K	Mekoryuk	11.36	32	Pn	Pn	16 28 06.9	+0.4
M13K	Dall Lake	12.40	37	Pn	Pn	16 28 19.9	-0.8
K15K	Wolf Creek Mou	14.31	33		P	16 28 54.5	+1.7
M16K	Timber Creek	14.49	40	P	P	16 28 56.3	+1.4
PETK	Petropavlovsk-	14.75	286	P	Pn	16 28 54.3	+1.7
	3.0nm,0.9s,baz=98,slow=19,SNR=1.6						
PETK				LR	LR	16 34 08.9	
	comp=Z,65nm,21.9s,baz=74,slow=35						
N17K	Nushagak Hills	14.98	44	P	P	16 29 01.4	+1.1
N17K				IAmb	IAmb	16 29 01.9	
	comp=Z,16nm,1.4s						
J16K	Anvik River	15.30	32	Pn	Pn	16 29 01.4	+1.7
J16K				IAmb	IAmb	16 29 38.8	
	comp=Z,11nm,1.4s						
M17K	Holitna River	15.31	41	Pn	Pn	16 29 01.0	+1.0
M17K				IAmb	IAmb	16 29 37.3	
	comp=Z,13nm,1.1s						
N18K	Kilae Creek	15.62	44	P	P	16 29 08.2	+0.8
N18K				IAmb	IAmb	16 29 39.5	
	comp=Z,17nm,1.5s						
J17K	VABM Dome	15.88	33	P	P	16 29 12.2	+1.9
L18K	Granite Mounta	16.05	39	Pn	P	16 29 11.2	-1.0
KDAK	Kodiak Island	16.25	56	P	Pn	16 29 09.6	-2.2
	comp=Z,0.8nm,0.3s,baz=306,slow=1.5,SNR=19						
	comp=Z,2.1nm,0.4s						
L19K	White Mountain	16.77	41	P	P	16 29 22.6	+2.4
H18K	Honhosa River	17.30	29	P	P	16 29 27.5	+1.6
CNPM	China Poot	17.36	51		P	16 29 26.9	+0.1
G18K	Tagagawik	17.74	27		P	16 29 31.9	+1.1
SKT	Skwentna	18.08	43	P	P	16 29 35.9	+1.3
SKT				IAmb	IAmb	16 29 56.2	
	comp=Z,21nm,1.3s						
SLKM	Skilak Lake	18.14	49		Pn	16 29 36.8	+1.4
SLKM				IAmb	IAmb	16 30 08.9	
	comp=Z,32nm,1.4s						
C16K	Lisburne Hills	18.16	16	P	Pn	16 29 36.8	+1.4
BILL	Bilibino	18.37	342	P	Pn	16 29 38.9	+0.8
CAST	Castle Rocks	18.49	39		Pn	16 29 41.3	+1.7
KTH	Kantishna Hill	19.01	39	P	Pn	16 29 46.4	+0.5
KTH				IAmb	IAmb	16 29 50.0	
	comp=Z,13nm,0.8s						
MA2	Magadan	19.19	307	LR	LR	16 36 10.7	
	comp=Z,58nm,22.0s,baz=85,slow=34						
C18K	Utukok River	19.26	19	P	Pn	16 29 48.9	+0.1
E19K	Redstone River	19.26	25	P	Pn	16 29 48.8	-0.1
I21K	Tanana	19.43	34	P	Pn	16 29 50.8	0.0
SEY	Seymchan	19.46	318	P	Pn	16 29 51.0	-0.2
	comp=Z,0.7nm,0.7s,baz=76,slow=18,SNR=4.6						
G21K	Allakaket	19.70	30	P	Pn	16 29 53.8	-0.3
G21K				IAmb	IAmb	16 29 54.7	
	comp=Z,6.2nm,0.9s						
HIN	Hinchinbrook I	19.89	50	P	Pn	16 29 56.1	-0.2
F21K	Alatna River	20.16	28	P	Pn	16 29 58.3	-1.1
F21K				IAmb	IAmb	16 30 30.1	
	comp=Z,7.0nm,1.3s						
G23K	Bananza Creek	20.95	32	P	P	16 30 06.2	+0.4
N25K	Chitina, Valde	21.07	48	P	P	16 30 08.6	+1.4
ILAR	Eielson Array	21.14	38	P	P	16 30 07.3	-0.5
	comp=Z,0.4nm,0.7s,baz=233,slow=9.0,SNR=8.9						
ILAR				PcP	PcP	16 34 11.3	-0.6
	comp=Z,0.3nm,0.4s,baz=278,slow=3.2,SNR=5.6						
	comp=Z,0.4nm,0.7s						
B20K	Meade River	21.21	20	P	P	16 30 08.9	+0.3
B20K				IAmb	IAmb	16 30 20.3	
	comp=Z,5.3nm,1.0s						
D22K	Ayikyak River	21.48	25	P	P	16 30 12.0	+0.5
D22K				IAmb	IAmb	16 30 39.7	
	comp=Z,6.9nm,1.2s						
D23K	Nanushuk River	22.09	27	P	P	16 30 18.2	+0.2
D23K				IAmb	IAmb	16 30 32.0	
	comp=Z,9.2nm,1.2s						
C23K	Itkillik River	22.66	25	P	P	16 30 24.0	-0.1
C23K				IAmb	IAmb	16 30 25.6	
	comp=Z,5.0nm,0.8s						
D24K	Happy Valley	22.73	27	P	P	16 30 24.6	-0.2
D24K				IAmb	IAmb	16 30 26.8	
	comp=Z,11nm,1.5s						
E25K	Arctic Village	23.15	31	P	P	16 30 29.0	-0.2
E25K				IAmb	IAmb	16 30 35.7	
	comp=Z,6.2nm,1.4s						
YAK	Yakutsk	29.65	311	LR	LR	16 43 11.3	
	comp=Z,44nm,19.3s,baz=80,slow=36						
KLR	Kul'dur	31.44	286	LR	LR	16 43 44.5	
	comp=Z,49nm,20.3s,baz=70,slow=35						
USA0B	Ussuriysk Arra	33.55	278	P	P	16 32 02.5	+0.2
USA0B				IAmb	IAmb	16 32 28.0	
	comp=Z,3.2nm,1.0s						
USRK	Ussuriysk Ar.	33.55	278	P	P	16 32 02.2	-0.1
	comp=Z,1.9nm,0.5s,baz=56,slow=9.1,SNR=15						
	comp=Z,1.9nm,0.5s						
H11N2	WAKE ISLAND Hy	33.58	206	T	T	17 07 54.5	
	baz=17,slow=76,SNR=218						
H11N3	WAKE ISLAND Hy	33.59	206	T	T	17 07 57.8	
	baz=17,slow=76,SNR=297						
H11N1	WAKE ISLAND Hy	33.60	206	T	T	17 07 53.4	
	baz=17,slow=76,SNR=242						
MJAR	Matsushiro Arr	34.02	261	LR	LR	16 43 31.5	
	comp=Z,26nm,21.2s,baz=96,slow=32						
H11S1	WAKE ISLAND Hy	34.80	205	T	T	17 09 28.6	
	baz=17,slow=76,SNR=496						
H11S2	WAKE ISLAND Hy	34.82	205	T	T	17 09 22.7	
	baz=17,slow=76,SNR=262						
H11S3	WAKE ISLAND Hy	34.82	205	T	T	17 09 31.1	
	baz=17,slow=76,SNR=256						
YKA	Yellowknife Ar	35.09	46	P	P	16 32 14.3	-1.1
	comp=Z,0.2nm,0.6s,baz=282,slow=8.4,SNR=4.4						
YKA				PcP	PcP	16 34 46.5	+0.5
	comp=Z,0.6nm,0.9s,baz=288,slow=3.5,SNR=7.3						
	comp=Z,0.2nm,0.6s						
JGF	Kuroka	35.16	261	P	P	16 32 17.5	+1.1
YBH	Yreka Blue Hor	38.64	82	LR	LR	16 47 03.1	
	comp=Z,51nm,18.5s,baz=339,slow=34						
NEW	Newport	38.67	70	P	P	16 32 47.2	+1.1
NEW				IAmb	IAmb	16 32 47.4	
	comp=Z,2.5nm,0.8s						
KSRS	Korea Array	39.89	271	P	P	16 32 57.3	+1.0
	comp=Z,1.1nm,0.8s,baz=56,slow=9.3,SNR=4.9						
	comp=Z,1.1nm,0.8s						
HATC	Hat Creek Radi	39.93	82	P	P	16 32 58.8	+2.0
JNU	Nakatsue	40.81	264	LR	LR	16 49 26.5	
	comp=Z,12nm,19.8s,baz=37,slow=35						
PNTR	Pine Nut	42.10	83	P	P	16 33 16.4	+1.6
PNTR				IAmb	IAmb	16 33 37.9	
	comp=Z,4.1nm,0.8s						
LYMT	Lyon Mountain	42.15	69	P	P	16 33 15.6	+0.5
BOZ	Bozeman (W)	43.27	70	P	P	16 33 24.5	+0.4
BOZ				IAmb	IAmb	16 33 25.1	
	comp=Z,2.4nm,0.8s						
YHL	Hebgen Lake	43.94	71		P	16 33 30.2	+0.6
YHL				IAmb	IAmb	16 33 42.2	
	comp=Z,6.2nm,1.3s						
TPNV	Topopah Spring	45.51	83	P	P	16 33 43.5	+1.4
TPNV				IAmb	IAmb	16 34 00.2	
	comp=Z,2.0nm,1.0s						
PD31	Pinedale Array	46.09	72	P	P	16 33 47.2	+0.5
PD31				IAmb	IAmb	16 33 57.9	
	comp=Z,3.4nm,1.1s						
PDAR	Pinedale Array	46.09	72	P	P	16 33 47.2	+0.5
PDAR	Pinedale Array	46.09	72	P	P	16 33 46.2	-0.5
	comp=Z,1.0nm,0.5s,baz=328,slow=3.1,SNR=12						
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	46.90	297	P	P	16 33 53.4	+0.6
	comp=Z,0.3nm,0.4s,baz=57,slow=6.0,SNR=2.5						
SONM				PcP	PcP	16 35 23.9	-1.0
	comp=Z,0.6nm,0.6s,baz=85,slow=1.7,SNR=3.6						
	comp=Z,0.3nm,0.4s						
U15A	North Rim	48.30	81	P	P	16 34 05.5	+1.5
U15A				IAmb	IAmb	16 34 21.8	
	comp=Z,5.2nm,1.5s						
PV13	Radium Mtn., P	49.33	77	P	P	16 34 12.6	+0.7
SPITS	Spitsbergen Ar	50.45	356	P	P	16 34 18.5	-1.1
	comp=Z,1.3nm,0.4s,baz=23,slow=7.2,SNR=6.7						
	comp=Z,1.3nm,0.4s						
ZALV	Zalesovo Beam	54.26	314	PcP	PcP	16 35 51.4	-0.3
	comp=Z,0.8nm,0.5s,baz=68,slow=3.9,SNR=4.1						
ARCES	ARCESS Array B	58.20	350	P	P	16 35 14.3	-1.6
	comp=Z,2.5nm,1.0s,baz=17,slow=7.4,SNR=6.4						
	comp=Z,2.5nm,1.0s						
P40A	Paris	58.37	65	P	P	16 35 16.8	-0.7
TXAR	Lajitas Array	58.41	81	P	P	16 35 18.1	0.0
	comp=Z,0.3nm,0.6s,baz=314,slow=5.3,SNR=3.5						
TXAR				LR	LR	16 59 11.1	
	comp=Z,22nm,18.4s,baz=304,slow=35						
	comp=Z,0.3nm,0.6s						
LVZ	Lovozero	58.56	346	P	P	16 35 16.8	-1.7
KURBB	Kurchatov Arra	59.35	314	P	P	16 35 24.4	+0.2
	comp=Z,0.6nm,0.3s,baz=54,slow=3.7,SNR=0.8						
	comp=Z,0.6nm,0.3s						
MKAR	Makanchi Array	60.27	309	P	P	16 35 29.5	-1.1
	comp=Z,0.2nm,0.4s,baz=57,slow=6.3,SNR=7.6						
	comp=Z,0.2nm,0.4s						
BVAR	Borovoye Array	61.10	320	P	P	16 35 35.7	-0.4
	comp=Z,0.9nm,0.4s,baz=57,slow=5.2,SNR=8.1						
	comp=Z,0.9nm,0.4s						
DAV	Davao City (W)	63.69	247	LR	LR	17 10 26.2	
	comp=Z,7.8nm,18.0s,baz=316,slow=42						
KIRV	Kirov	63.74	334	LR	LR	17 06 02.8	
	comp=Z,28nm,20.5s,baz=34,slow=38						
CPCT	Cooper Cave	65.49	64	P	P	16 36 05.4	0.0
FPAL	Fort Paine	65.53	65	P	P	16 36 05.5	-0.2
FINES	FINESS Array B	65.90	347	P	P	16 36 05.5	-2.2
	comp=Z,3.8nm,1.1s,baz=22,slow=6.2,SNR=4.2						
	comp=Z,3.8nm,1.1s						
NOA	NORSAR Array B	67.73	355	LR	LR	17 07 47.3	
	comp=Z,5.7nm,18.6s,baz=0.0,slow=38						
ABKAR	Akbulak array	68.14	323	P	P	16 36 22.2	+0.1
HFS	Hagfors	68.48	354	P	P	16 36 23.4	-0.6
	comp=Z,3.4nm,1.0s,baz=27,slow=13,SNR=2.3						
	comp=Z,3.4nm,1.0s						
KKAR	Karatay Array	68.61	313	P	P	16 36 25.4	+0.3
CMAR	Chiang Mai Arr	71.27	276	P	P	16 36 41.5	-0.2
	comp=Z,0.3nm,0.5s,baz=18,slow=4.9,SNR=4.6						
	comp=Z,0.3nm,0.5s						
EKA	Eskdalemuir Ar	73.64	3	P	P	16 36 54.4	-0.9
	comp=Z,0.4nm,0.5s,baz=1.6,slow=2.9,SNR=1.5						
	comp=Z,0.4nm,0.5s						
AKASG	Malin Array Be	75.68	342	P	P	16 37 05.5	-1.7
	comp=Z,0.3nm,0.4s,baz=23,slow=5.0,SNR=1.7						
	comp=Z,0.3nm,0.4s						
BUR08	Bucovina Ar. S	79.36	344	P	P	16 37 27.9	0.0
BUR08				IAmb	IAmb	16 37 43.7	
	comp=Z,3.2nm,1.5s						
BURAR	Bucovina Array	79.38	344	P	P	16 37 27.6	-0.4
WR0	Warramunga Arr	82.07	224	P	P	16 37 42.4	-0.1
WRA	Warramunga Arr	82.14	224	P	P	16 37 42.4	-0.5
	comp=Z,0.5nm,0.7s,baz=25,slow=5.3,SNR=2.5						
	comp=Z,0.5nm,0.7s						
ASAR	Alice Springs	85.61	223	P	P	16 38 01.1	+0.6
ASAR	Alice Springs	85.61	223	P	P	16 38 00.9	+0.4
	comp=Z,0.8nm,0.9s,baz=24,slow=5.5,SNR=14						
	comp=Z,0.8nm,0.9s						
H03N2	Juan Fernandez	120.89	106	T	T	18 56 36.8	
	baz=317,slow=77,SNR=36						
H03N1	Juan Fernandez	120.90	106	T	T	18 56 38.9	
	baz=317,slow=77,SNR=34						
H03N3	Juan Fernandez	120.90	106	T	T	18 56 37.4	
	baz=317,slow=77,SNR=32						
BOSA	Boshof	151.20	313	PKPbc	PKPbc	16 45 15.2	-0.1
	comp=Z,3.1nm,0.7s,baz=37,slow=2.4,SNR=8.6						

NEIC 19 16:38:04.6±0.5, 36°.11N±0°.01×97°.84W±0°.02, h5km±2km, mb_Lg2.6/25, ML2.7/62, Error ellipse: s-maj=3.0km s-min=2.2km az=276.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.41	344		Pg	16 38 13.1	+0.5
CROK				IAML		16 38 21.6	
	comp=N,1μm,0.2s						
OK029	Liberty Lake	0.44	134		Pg	16 38 13.5	+0.3
OK029				IAML		16 38 20.3	
	comp=N,520nm,0.3s						
ADOK	Arcadia Dam	0.59	140	Pg	Pg	16 38 16.5	+0.4
GC02	Grant County #	0.74	359		Pg	16 38 19.0	+0.1
OK032	Salt Plains WL	0.76	337		Pg	16 38 18.8	-0.4
OK048	Pawnee Station	0.79	67		Pg	16 38 19.4	-0.4
OK048				IAML		16 38 33.9	
	comp=N,232nm,0.1s						
OK038	West end E0370	0.81	297		Pg	16 38 20.0	-0.3
BLOK	Blackwell	0.83	38		Pg	16 38 20.6	+0.1
BLOK				IAML		16 38 37.9	
	comp=N,369nm,0.2s						
CSTR	Hydro, Custer	0.83	236		Pg	16 38 20.8	+0.3
OK031	S. Brethren Rd	0.83	100		Pg	16 38 20.7	+0.1
OK031				IAML		16 38 37.2	
	comp=N,178nm,0.2s						
OK052	Battle Ridge R	0.85	97	IAML		16 38 35.6	
	comp=N,192nm,0.2s						
OK052				IAML		16 38 36.7	
	comp=N,189nm,0.2s						
OK051	E0350 and S346	0.91	64	IAML		16 38 42.2	
	comp=N,367nm,0.2s						
FNO	Franklin	0.92	157		Pg	16 38 22.2	-0.1
FNO				IAML		16 38 37.9	
	comp=E,247nm,0.5s						
QUOK	Quay	0.92	86	IAML		16 38 39.3	
	comp=E,227nm,0.2s						
QUOK				IAML		16 38 43.3	
	comp=N,221nm,0.2s						
KAN17	Caldwell West	0.94	4	IAML		16 38 37.0	
	comp=E,238nm,0.2s						
KAN17				IAML		16 38 40.9	
	comp=N,354nm,0.2s						
KAN13	South Haven SW	0.95	18		Pg	16 38 22.8	-0.1
NOKA	Waynoka	1.02	301		Pg	16 38 24.0	-0.3
NOKA				IAML		16 38 43.0	
	comp=N,249nm,0.3s						
NOKA				IAML		16 38 48.6	
	comp=E,275nm,0.3s						
KAN01	Argonia South	1.05	4		Pg	16 38 24.6	-0.2
KAN01				IAML		16 38 40.4	
	comp=N,184nm,0.1s						
KAN01				IAML		16 38 41.1	
	comp=E,240nm,0.1s						
DEOK	Depew	1.12	103	IAML		16 38 42.4	
	comp=E,212nm,0.1s						
DEOK				IAML		16 38 43.6	
	comp=N,117nm,0.2s						
W35A	Tecumseh	1.24	140		Pg	16 38 27.7	-0.7
W35A				IAML		16 38 46.0	
	comp=E,225nm,0.5s						
W35A				IAML		16 38 48.6	
	comp=N,158nm,0.5s						
T35A	Sooner Cattle	1.34	53		Pn	16 38 29.9	-0.2
WMOK	Wichita Mounta	1.57	210		Pn	16 38 32.9	-0.2
TUL3	Leonard	1.68	96		Pn	16 38 34.8	+0.2
DKNS	Dickens	3.51	227	IAmb_Lg		16 40 00.5	
	comp=Z,10nm,0.8s						
Z38A	Mt. Pleasant	3.69	140	IAmb_Lg		16 40 05.5	
	comp=Z,18nm,0.8s						
SN07	Snyder 07	3.92	221	IAmb_Lg		16 40 15.3	
	comp=Z,16nm,0.9s						
POST	Post	4.28	226	IAmb_Lg		16 40 27.5	
	comp=Z,15nm,1.2s						
MGMO	Mountain Grove	4.60	75	IAmb_Lg		16 40 41.4	
	comp=Z,8.2nm,0.8s						
FCAR	Ozark Folk Cen	4.64	91	IAmb_Lg		16 40 32.6	
	comp=Z,12nm,1.2s						
R40A	Maddies Statio	4.96	62	IAmb_Lg		16 40 41.2	
	comp=Z,8.1nm,0.9s						
SGCY	Sterling City	4.99	214	IAmb_Lg		16 40 54.3	
	comp=Z,8.1nm,0.8s						
CCM	Cathedral Cave	5.62	68	IAmb_Lg		16 41 07.5	
	comp=Z,9.9nm,0.8s						
OGNE	Ogallala	5.84	327	IAmb_Lg		16 41 10.3	
	comp=Z,9.6nm,0.7s						
N38A	Joes South For	5.91	36	IAmb_Lg		16 41 13.4	
	comp=Z,11nm,0.7s						
HNDO	Hondo	6.67	191	IAmb_Lg		16 41 40.6	
	comp=Z,5.1nm,0.8s						
PECS	Pecos	6.89	228	IAmb_Lg		16 41 45.7	
	comp=Z,5.2nm,0.9s						

NNC 19 17:06:05.2±2.8, 36°.72N×70°.45E, h101km±80km, mb3.0, mpv3.6, 2C-4D, Error ellipse: s-maj=29.3km s-min=20.3km az=133.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.38	0	⇑P	Pn	17 07 37.1	+0.6
	0.5nm,0.3s,baz=182,slow=13,SNR=11						
KK31				⇑S	Sn	17 08 47.7	-0.2
	2.0nm,0.3s,baz=193,slow=26,SNR=7.5						
AAK	Ala-Archa	6.68	27	⇓P	Pn	17 07 41.0	+0.2
	1.5nm,0.3s						
AAK				⇓S	Sn	17 08 56.8	+1.2
	9.3nm,0.5s						
TKM2	Tokmak 2	7.35	31	⇓P	Pn	17 07 49.3	-0.7
	5.9nm,0.5s						
TKM2				⇓S	Sn	17 09 12.2	+0.3
	2.6nm,0.7s						
AB31	Akbulak array	14.68	332	P	Pn	17 09 27.8	+0.2
	0.2nm,0.3s,baz=160,slow=12,SNR=9.2						

*IDC **19** 17:39:30.8±1.0, 37°.19S×177°.60E, h159km±8km, mb4.3/8, mbtmp4.6/10, Error ellipse: s-maj=21.2km s-min=16.2km az=69.0*

*NOU **19** 17:39:31.4, 37°.48S×177°.44E, h161km, mb4.5/43, Off E. Coast of N. Island, N.Z.*

*NEIC **19** 17:39:32.3±1.6, 37°.29S±0°.08×177°.43E±0°.09, h165km±5km, mb4.6/35, Error ellipse: s-maj=11.3km s-min=9.8km az=191.0*

*WEL **19** 17:39:34.2±0.8, 37°.5S±5°.×17°.7E±°., h137km±8km, M4.2/29, ML4.4/25, MLv4.2/29, Error ellipse: s-maj=7.2km s-min=5.4km az=4.4, confirmed*

ISC 19 17:39:32.5±0.5, 37°.34S±0°.04×177°.33E±0°.04, h171km±4km, n213, σ1$36/220, mb4.6/26, 6C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	White Island S	0.21	215	P	Pn	17 39 54.0	-1.4
WIZ	White Island	0.21	211	P	Pn	17 39 53.7	-1.7
HAZ	Te Kaha	0.55	139	P	Pn	17 39 55.8	-0.6
HAZ				S	Sn	17 40 12.4	-2.6
WHRZ	Whale Island	0.58	209	P	Pn	17 39 56.8	+0.1
OPCS	Opotiki Colleg	0.67	183	P	Pn	17 39 55.5	-1.6
OPCS				S	Sn	17 40 14.1	-2.0
RUGZ	Raukumara Rang	0.68	156	P	Pn	17 39 56.5	-0.8
RUGZ				S	Sn	17 40 13.9	-2.7
OPRZ	Ohinepanea	0.79	231	P	Pn	17 39 57.7	-0.2
OPRZ				S	Sn	17 40 16.5	-0.9
PKGZ	Pakihiroa	0.79	131	P	Pn	17 39 58.1	+0.2
PKGZ				S	Sn	17 40 16.3	-1.2
MXZ	Matakaoa Point	0.81	106		Pn	17 39 57.3	-0.7
MXZ	Matakaoa Point	0.81	106	P	Pn	17 39 56.8	-1.2
MXZ	Matakaoa Point	0.81	106	P	Pn	17 39 57.4	-0.6
MXZ				S	Sn	17 40 15.5	-2.0
MARZ	Manawahe	0.82	219	P	Pn	17 39 58.3	+0.2
MYRZ	Mayor Island	0.87	274	P	Pn	17 39 57.7	-0.7
URZ	Urewera	0.93	191	P	Pn	17 39 58.7	-0.1
	2μm,0.3s,baz=18,slow=2.2,SNR=3323						
URZ				S	Sn	17 40 17.6	-1.5
	662nm,0.3s,baz=136,slow=10,SNR=5.1						
URZ				LR	LR	17 40 34.2	
	comp=Z,379nm,19.6s,baz=68,slow=56						
URZ	Urewera	0.93	191	P	Pn	17 39 58.9	+0.2
URZ				S	Sn	17 40 18.2	-1.0
TGRZ	Tauranga	0.93	245	P	Pn	17 39 58.7	-0.1
TWGZ	Tauwhareparae	0.98	148	P	Pn	17 40 00.1	+0.8
TWGZ				S	Sn	17 40 20.0	+0.1
WMGZ	Waiomatatini S	0.98	119	P	Pn	17 39 59.3	+0.1
WMGZ				S	Sn	17 40 18.9	-0.9
LIRZ	Lichensteins R	1.00	228	P	Pn	17 39 59.8	+0.5
MWZ	Matawai	1.00	171	P	Pn	17 39 59.8	+0.4
MWZ				S	Sn	17 40 20.1	-0.1
PUZ	Puketiti	1.03	135	P	Pn	17 39 59.9	+0.3
PUZ				S	Sn	17 40 19.6	-1.0
OMRZ	Omania	1.07	225	P	Pn	17 40 00.5	+0.5
KARZ	Kaharoa	1.09	232	P	Pn	17 40 00.6	+0.5
KARZ				S	Sn	17 40 21.1	-0.3
TARZ	Mount Tarawera	1.10	216	P	Pn	17 40 01.1	+0.9
RAGZ	Rawiri	1.15	177	P	Pn	17 40 01.2	+0.5
RAGZ				S	Sn	17 40 23.3	+0.8
TKGZ	Te Karaka	1.17	160	P	Pn	17 40 01.3	+0.7
TKGZ				S	Sn	17 40 22.2	-0.3
NGRZ	Ngongotaha	1.18	230	P	Pn	17 40 01.7	+0.9
RRRZ	Republican Roa	1.18	213	P	Pn	17 40 01.5	+0.7
HLRZ	Highlands Stat	1.19	220	P	Pn	17 40 01.9

THZ Tophouse 5.58 216 Pn 17 40 51.2 -2.7
KHZ Kahutara 5.84 209 Pn 17 40 54.6 -2.6
KHZ Kahutara 5.84 209 P **Pn 17 40 54.6 -2.6**
KHZ Kahutara 5.84 209 S **Sn 17 41 59.8 -4.1**
DSZ Denniston Nort 6.13 222 Pn 17 40 57.5 -3.6
GVZ Greta Valley S 6.51 209 Pn 17 41 02.9 -3.2
LTZ Lake Taylor 6.67 214 Pn Pn 17 41 04.4 -3.9
AMCZ Amberley 6.83 210 Pn Pn 17 41 07.2 -3.1
INZ Inchbonnie 7.02 218 Pn Pn 17 41 08.8 -4.0
OXZ Oxford 7.21 212 Pn Pn 17 41 10.8 -4.5
MQZ McQueen's Vall 7.28 208 Pn 17 41 12.3 -3.9
CTZ Chatham Island 7.87 146 Pn **Pn 17 41 23.7 -0.3**
CTZ Chatham Island 7.87 146 P **Pn 17 41 20.4 -3.6**
RPZ Rata Peaks 7.96 215 Pn Pn 17 41 21.8 -3.4
RPZ Rata Peaks 7.96 215 P Pn 17 41 22.2 -2.9
16nm,0.3s,baz=220,slow=1.6,SNR=65
RPZ S Sn 17 42 46.9 -7.3
31nm,0.4s,baz=344,slow=20,SNR=12
RPZ Rata Peaks 7.96 215 P **Pn 17 41 23.5 -1.7**
FOZ Fox Glacier 8.42 220 Pn Pn 17 41 27.4 -3.9
LBZ Lake Benmore 8.87 215 Pn Pn 17 41 33.7 -3.6
ODZ Otahua Downs 9.19 211 Pn 17 41 37.9 -3.5
ODZ Otahua Downs 9.19 211 P **Pn 17 41 39.7 -1.7**
JCZ Jackson Bay 9.34 221 P **Pn 17 41 42.2 -1.3**
WKZ Wanaka 9.75 217 Pn Pn 17 41 44.7 -4.2
MLZ Mavora Lakes 10.58 218 Pn Pn 17 41 55.9 -3.9
SYZ Scrubby Hill 11.02 211 P **Pn 17 42 04.0 -1.3**
WHZ Wether Hill Ro 11.05 216 Pn Pn 17 42 01.1 -4.7
DCZ Deep Cove 11.14 220 Pn Pn 17 42 02.3 -4.6
PYZ Puysegur Point 11.86 219 Pn Pn 17 42 11.8 -4.4
PYZ Puysegur Point 11.86 219 P **Pn 17 42 15.3 -1.0**
30nm,1.1s
DZM Mont Dzumac 17.89 325 P **P 17 43 28.6 -0.7**
DZM Mont Dzumac 17.89 325 P **P 17 43 29.5 +0.2**
6.3nm,0.8s,baz=167,slow=11,SNR=6.8
DZM Mont Dzumac 17.89 325 P **Pn 17 43 30.8 -0.2**
LKBA Tubou, Lakemba 19.34 11 P **P 17 43 44.7 -0.1**
MSVF Nonsavu 19.55 2 P **P 17 43 45.0 -2.2**
MSVF IAmb IAmb 17 43 52.0
comp=Z,21nm,1.1s
MSVF Nonsavu 19.55 2 P **P 17 43 45.0 -2.2**
comp=Z,6.1nm,0.7s,baz=178,slow=8.9,SNR=8.8
MSVF Nonsavu 19.55 2 P **Pn 17 43 48.2 -2.2**
KOUNC Koumac, New Ca 20.22 322 P **P 17 43 55.8 +1.5**
ARMA Armidale 22.39 280 P **P 17 44 17.8 +0.9**
TOO Toolangi 25.21 260 P **P 17 44 44.4 +1.9**
EIDS Eidsvold 25.31 291 **P 17 44 43.7 +0.3**
EIDS Eidsvold 25.31 291 **P 17 44 44.6 +1.3**
CMSA Cobar Meteorol 26.65 273 P **P 17 44 56.4 +1.0**
STKA Stephens Creek 29.79 270 P **P 17 45 24.3 +1.1**
STKA Stephens Creek 29.79 270 P **P 17 45 25.2 +1.9**
comp=Z,2.7nm,0.3s,baz=100,slow=10.0,SNR=12
comp=Z,2.7nm,0.3s
STKA Stephens Creek 29.79 270 P **P 17 45 23.8 +0.6**
QLP Quilpie 29.92 281 P **P 17 45 25.6 +1.2**
HTT Hallett 31.41 265 P **P 17 45 38.5 +1.0**
INKA Innaminka 32.12 277 P **P 17 45 44.7 +1.0**
TV1H Townsville Har 32.16 296 P **P 17 45 45.3 +1.2**
TATA Tatamba Isabel 32.91 327 P **P 17 45 51.3 +0.6**
LCRK Leigh Creek 33.01 270 P **P 17 45 52.2 +0.8**
BBOO Buckleboo 33.88 265 P **P 17 45 59.8 +0.8**
BBOO IAmb IAmb 17 46 07.8
comp=Z,19nm,1.4s
BBOO Buckleboo 33.88 265 P **P 17 45 59.6 +0.6**
comp=Z,11nm,1.5s
MTSU Mount Surprise 34.68 294 P **P 17 46 07.0 +1.1**
OOD Oodnadatta 36.12 273 P **P 17 46 18.7 +0.6**
QIS Mount Isa 36.72 286 P **P 17 46 24.2 +0.9**
COEN Coen 38.27 298 P **P 17 46 36.9 +0.5**
AS01 Alice Springs 39.45 278 P **P 17 46 46.6 +0.5**
AS31 Alice Springs 39.48 278 P **P 17 46 46.5 0.0**
ASAR Alice Springs 39.48 278 P **P 17 46 47.0 +0.6**
ASAR Alice Springs 39.48 278 P **P 17 46 47.3 +0.9**
comp=Z,8.2nm,0.5s,baz=123,slow=8.5,SNR=126
ASAR PcP **PcP 17 48 49.5 -1.2**
comp=Z,1.2nm,0.4s,baz=121,slow=3.8,SNR=5.9
comp=Z,8.2nm,0.5s
RABL Rabaul 40.25 319 P **P 17 46 53.3 +0.6**
WR0 Warramunga Arr 40.96 283 P **P 17 46 58.6 0.0**
FORT Forrest 40.96 264 P **P 17 46 58.9 +0.4**
FORT Forrest 40.96 264 P **P 17 46 58.9 +0.4**
WB1 Warramunga Ar. 41.11 283 P **P 17 47 00.7 +0.9**
WB2 Warramunga Arr 41.12 283 P **P 17 47 00.3 +0.4**
WB2 IAmb IAmb 17 47 01.3
comp=Z,9.1nm,0.6s
WRAB Tennant Creek 41.12 283 P **P 17 47 00.3 +0.4**
WRAB IAmb IAmb 17 47 01.3
comp=Z,7.4nm,0.6s
WRA Warramunga Arr 41.13 283 P **P 17 47 00.5 +0.6**
comp=Z,5.0nm,0.3s,baz=127,slow=6.3,SNR=72
WRA PcP **PcP 17 48 56.3 +0.3**
comp=Z,0.7nm,0.6s,baz=120,slow=3.1,SNR=3.4
comp=Z,5.0nm,0.3s
WB0 Warramunga Arr 41.19 283 P **P 17 47 00.8 +0.4**
WB0 IAmb IAmb 17 47 01.7
comp=Z,10nm,0.5s
WRKA Warakurna 43.26 272 P **P 17 47 17.6 +0.4**
KMBL Kambalda 45.61 260 P **P 17 47 36.3 +0.6**
CASY Casey 47.20 210 P **P 17 47 48.3 +0.8**
CASY IAmb IAmb 17 48 11.4
comp=Z,13nm,1.2s
MTN Manton Dam 47.82 288 P **P 17 47 52.4 -0.6**
MTN IAmb IAmb 17 48 17.5
comp=Z,37nm,1.4s
KNRA Kununurra 47.91 283 P **P 17 47 53.5 -0.2**
KNRA IAmb IAmb 17 48 20.2
comp=Z,19nm,1.1s
JAY Jayapura 48.29 307 P **P 17 47 57.5 +0.8**
comp=Z,8.3nm,0.4s,baz=173,slow=8.1,SNR=3.1
comp=Z,8.3nm,0.4s
NWAO Narrogin (SRO) 48.63 256 P **P 17 47 57.7 -1.3**
NWAO Narrogin (SRO) 48.63 256 P **P 17 47 58.8 -0.2**
KLBR Kellerberrin 48.75 258 P **P 17 47 57.9 -2.1**
FITZ Fitzroy Crossi 48.97 278 P **P 17 48 02.0 +0.2**
FITZ Fitzroy Crossi 48.97 278 P **P 17 48 02.3 +0.5**
comp=Z,19nm,1.2s
MUN Mundaring 49.80 257 P **P 17 48 08.3 +0.4**
MEEK Meekatharra 50.22 264 P **P 17 48 11.5 +0.3**
MORW Morawa 51.16 260 P **P 17 48 17.3 -0.8**
MORW IAmb IAmb 17 48 36.3
comp=Z,10nm,1.1s
PSA00 Pilbara Seismi 51.72 271 P **P 17 48 21.9 -0.5**
PSA00 IAmb IAmb 17 48 31.5
comp=Z,17nm,1.1s
MBWA Marble Bar 52.02 271 P **P 17 48 24.9 +0.3**
BELA Belgrano 2 63.42 173 P **P 17 49 44.2 +1.0**
BELA IAmb IAmb 17 49 50.6
comp=Z,4.7nm,0.9s
SYO Syowa Base 69.46 195⇓ *e*P **P 17 50 23.5 +1.9**
SYO Syowa Base 69.46 195⇑ *e*PcP **PcP 17 50 44.0 +0.3**
TROLL Troll, Antarti 70.89 182 ⇑P **P 17 50 32.6 +2.1**
comp=Z,90nm,0.3s
SNAA Sanae 71.29 180 P **P 17 50 33.0 +0.2**
SNAA IAmb IAmb 17 50 36.8
comp=Z,13nm,1.4s
SNAA Sanae 71.29 180 ⇑P **P 17 50 35.1 +2.3**
comp=Z,60nm,0.6s
SNAA Sanae 71.29 180 P **P 17 50 34.6 +1.9**
comp=Z,2.8nm,0.7s,baz=190,slow=9.8,SNR=10
comp=Z,2.8nm,0.7s
KKM Kota Kinabalu 71.36 293 P **P 17 50 33.5 -0.6**
VNA3 Neumayer Olymp 71.60 178 ⇑P **P 17 50 36.8 +2.2**
comp=Z,11nm,0.8s
VNA2 Neumayer--Watz 71.98 178 ⇑P **P 17 50 39.6 +2.8**
comp=Z,13nm,0.7s,baz=165,slow=6.8
VNA1 Neumayer--Stat 72.24 178 ⇑P **P 17 50 40.0 +1.7**
comp=Z,3.4nm,0.4s
KSM Kuching 72.81 286 P **P 17 50 41.9 -0.8**
KSM IAmb IAmb 17 51 21.7
comp=Z,14nm,1.1s
YULB Yu-li 80.17 309 P **P 17 51 23.6 -0.1**
TPUB Ta-pu 80.52 309 P **P 17 51 26.2 +0.5**
PLCA Paso Flores 80.53 134 P **P 17 51 26.1 +0.4**
SSLB Suanglung 80.68 309 P **P 17 51 25.8 -0.7**
JNU Nakatsue 82.40 322 P **P 17 51 34.8 -0.5**
JNU IAmb IAmb 17 51 36.4
comp=Z,9.2nm,0.9s
GSI Gunungsitoli 82.64 277 P **P 17 51 36.0 -1.0**
GSI IAmb IAmb 17 51 39.4
comp=Z,11nm,0.8s
JKA Kamikawa-asahi 86.98 336 P **P 17 51 58.8 +0.9**
KSRS Korea Array 87.31 323 P **P 17 52 01.1 +1.4**
comp=Z,3.8nm,0.7s,baz=144,slow=5.8,SNR=20
comp=Z,3.8nm,0.7s
KSAR Wonju Array Be 87.32 323 P **P 17 52 00.6 +0.9**
KS19 Wonju Array Si 87.38 323 P **P 17 52 01.0 +1.0**
KS19 IAmb IAmb 17 52 02.2
comp=Z,9.6nm,1.0s
PEA0B Petropavlovsk- 91.68 348 P **P 17 52 19.5 -0.2**
PETK Petropavlovsk- 91.68 348 P **P 17 52 19.7 0.0**
PETK Petropavlovsk- 91.68 348 P **P 17 52 19.4 -0.3**
comp=Z,3.4nm,0.8s,baz=164,slow=5.6,SNR=8.8
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 92.17 291 P **P 17 52 23.9 +1.0**
comp=Z,1.3nm,0.6s,baz=145,slow=3.5,SNR=9.1
comp=Z,1.3nm,0.6s
ILAR Eielson Array 105.58 15 PKKP 18 09 16.6
comp=Z,0.5nm,0.8s,baz=9.4,slow=5.8,SNR=5.0
YKA Yellowknife Ar 113.38 28 PKiKP **PKiKP 17 57 48.2 -0.7**
comp=Z,0.1nm,0.7s,baz=226,slow=1.5,SNR=4.2
MKAR Makanchi Array 119.14 308 PKP **PKPdf 17 57 58.9 -1.7**
comp=Z,0.3nm,0.5s,baz=153,slow=0.4,SNR=8.0
KURBB Kurchatov Arra 122.91 311 PKP **PKPdf 17 58 06.2 -1.4**
comp=Z,1.3nm,0.8s,baz=122,slow=1.8,SNR=7.6
BVAR Borovoye Array 128.44 312 PKP **PKPdf 17 58 16.9 -1.2**
comp=Z,0.7nm,0.6s,baz=119,slow=1.8,SNR=4.9
SPITS Spitsbergen Ar 138.28 354 PKP **PKPdf 17 58 37.0 +1.0**
comp=Z,7.9nm,1.0s,baz=20,slow=4.6,SNR=1.6
VADS Vadso 143.01 342 *e*PKPdf **PKPdf 17 58 40.8 -3.8**
ARA0 ARCESS Array S 144.34 343 *e*PKPbc **PKPab 17 58 45.5 -0.1**
ARCES ARCESS Array B 144.34 343 PKP **PKPab 17 58 45.2 -0.4**
comp=Z,8.7nm,0.5s,baz=41,slow=2.9,SNR=105
KBZ Khabaz 145.14 295 PKPbc **PKPbc 17 58 48.6 -0.5**
comp=Z,2.0nm,0.8s,baz=95,slow=4.7,SNR=6.2
KTK1 Kautokeino 145.26 344 *e*PKPbc **PKPbc 17 58 47.6 -1.2**
JETT Jettan, Norway 145.40 346 *e*PKPdf **PKPdf 17 58 49.0 +0.1**
TRO Tromso 145.61 347 *e*PKPdf **PKPdf 17 58 48.8 -0.4**
JMIC Jan Mayen 146.15 3 *e*PKPdf **PKPdf 17 58 50.6 +0.5**
STEI Steigen 147.76 347 *e*PKPdf **PKPdf 17 58 55.0 +2.2**
EIL Elat 147.87 267 PKPbc **PKPdf 17 58 55.7 +1.5**
comp=Z,3.8nm,0.7s,baz=207,slow=2.3,SNR=3.7
FAUS Fauske 148.24 347 *e*PKPbc **PKPbc 17 58 56.6 -0.6**
MMAI Mount Meron Ar 148.72 274 PKPbc **PKPbc 17 59 00.3 +0.7**
comp=Z,4.6nm,0.4s,baz=83,slow=4.5,SNR=7.5
DBIC Dimbolro 149.40 176 PKPbc **PKPbc 17 59 02.5 +0.7**
comp=Z,3.4nm,0.8s,baz=156,slow=4.7,SNR=3.3
KONS Konsvik 149.41 348 *e*PKPbc **PKPbc 17 58 59.8 -0.4**
STOK Stokkvaagen 149.58 348 *e*PKPbc **PKPbc 17 59 00.0 -0.5**
LEIR Leirfjorden 149.77 347 *e*PKPbc **PKPbc 17 59 00.4 -0.7**
FINES FINESS Array B 149.94 333 PKPbc **PKPbc 17 59 00.3 -1.2**
comp=Z,2.9nm,0.4s,baz=44,slow=4.0,SNR=32
NSS Namsos 151.41 347 *e*PKPbc **PKPbc 17 59 03.3 -1.6**
BRTR Keskin Array B 151.62 286 PKPbc **PKPbc 17 59 05.7 -0.7**
comp=Z,2.9nm,0.6s,baz=138,slow=4.3,SNR=9.2
AKASG Malin Array Be 153.69 311 PKPbc **PKPbc 17 59 08.5 -2.0**
comp=Z,0.3nm,0.3s,baz=56,slow=3.1,SNR=6.7
AKASG PKPab **PKPab 17 59 23.4 -0.6**
comp=Z,1.1nm,0.8s,baz=63,slow=3.6,SNR=7.1
AKN Aaknes 154.43 349 *e*PKPdf **PKPdf 17 59 03.6 +0.4**
NOA NORSAR Array B 154.72 344 PKPab **PKPab 17 59 26.4 -1.7**
comp=Z,1.2nm,0.8s,baz=28,slow=3.2,SNR=3.3
HFS Hagfors 154.91 341 PKPab **PKPab 17 59 27.4 -1.4**
comp=Z,1.0nm,0.4s,baz=67,slow=3.7,SNR=6.0
TORD Torodi Ar. Bea 155.59 190 PKPab **PKPab 17 59 33.9 +1.0**
comp=Z,1.4nm,0.3s,baz=163,slow=4.5,SNR=3.6
EKA Eskimuir Ar 162.00 1 PKPab **PKPab 17 59 58.1 -1.6**
comp=Z,1.0nm,0.7s,baz=350,slow=2.6,SNR=3.5
GERES GERESS Array B 163.45 319 PKPab **PKPab 18 00 06.4 -0.1**
comp=Z,0.5nm,0.5s,baz=41,slow=4.3,SNR=5.9

BJI ***19*** *17:39:53.6, 10˚.43N×126˚.31E, h33km, mB4.9/1, mb4.4/18, Ms4.1/4, Ms7 3.9/4*
IDC ***19*** *17:39:54.2±0.7, 10˚.99N×126˚.29E, h0km, mb4.2/19, mbtmp4.3/21, ML4.5/2, MS3.4/16, Error ellipse: s-maj=31.1km s-min=14.5km az=61.0*
NEIC ***19*** *17:39:56.2±1.8, 11˚.02N±0˚.05×126˚.24E±0˚.05, h10km±1km, mb4.6/71, Error ellipse: s-maj=11.9km s-min=3.5km az=138.0*
ISC 19 17:40:00.5±1.6, **10˚.98N**±0˚.06×**126˚.19E**±0˚.09, **h45**km±15km, **n125**, σ1§08/120, **mb4.5**/53, **MS3.4**/13, **1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
					Op	ISC		
DAV	**Davao City (W)**	**3.93**	**189**	Pn	**Pn**		**17 40 56.4**	**-2.0**
DAV	**Davao City (W)**	**3.93**	**189**	Pn	**Pn**		**17 41 00.7**	**+2.4**
62nm,0.3s,baz=331,slow=2.9,SNR=2.4								
DAV				LR	LR		17 42 38.9	
comp=Z,245nm,20.7s,baz=334,slow=42								
TGY	**Tagaytay City**	**6.00**	**302**	Pn	**Pn**		**17 41 27.3**	**+0.6**
18nm,0.3s,baz=280,slow=5.1,SNR=4.2								
61nm,0.3s								
MYLDM	**Lahad Datu**	**9.55**	**233**	Pn	**Pn**		**17 42 14.8**	**-0.6**
FAKI	**Fak Fak**	**15.07**	**156**		**Pn**		**17 43 31.1**	**+0.6**
SBUM	**Sibu**	**16.25**	**240**	P	**Pn**		**17 43 46.8**	**+1.1**
KAPI	**Kappang**	**17.13**	**202**	LR	LR		17 50 42.8	
comp=Z,101nm,19.8s,baz=346,slow=38								
QIZ	**Qiongzhong**	**17.69**	**299**	P	**Pn**		**17 44 02.8**	**-0.9**
QIZ				S	**Sn**		**17 47 22.6**	**+2.5**
QIZ				LR	LR			
comp=N,110nm,15.3s								
QIZ				LR	LR			
comp=E,140nm,18.8s								
QIZ				LR	LR			
comp=Z,210nm,17.1s								
GUMO	**Guam**	**18.43**	**80**	LR	LR		17 50 36.7	
comp=Z,120nm,18.1s,baz=312,slow=35								
JAY	**Jayapura**	**19.70**	**132**	P	**P**		**17 44 23.6**	**-2.8**
1.0nm,0.3s,baz=296,slow=18,SNR=2.2								
9.7nm,0.7s								
JNU	**Nakatsue**	**22.46**	**10**	LR	LR		17 53 49.1	
comp=Z,95nm,19.6s,baz=184,slow=37								
JAGI	**Jajag, Banyuwa**	**22.73**	**212**	P	**P**		**17 44 57.4**	**-1.5**
ENH	**Enshi**	**24.69**	**323**	P	**P**		**17 45 16.1**	**-1.4**
KULM	**Kulim**	**25.89**	**259**	P	**P**		**17 45 28.5**	**-0.1**
KULM				IAmb	IAmb		17 45 45.6	
comp=Z,24nm,1.4s								
JSG	**Sagara**	**26.00**	**23**	P	**P**		**17 45 29.1**	**-0.2**
SRIT	**Nakonsritamara**	**26.30**	**267**	P	**P**		**17 45 31.9**	**-0.3**
SRIT				IAmb	IAmb		17 45 37.0	
comp=Z,16nm,1.1s								
KSAR	**Wonju Array Be**	**26.39**	**3**	P	**P**		**17 45 32.2**	**-0.5**
KSRS	**Korea Array**	**26.41**	**3**	P	**P**		**17 45 32.7**	**-0.2**
comp=Z,1.7nm,0.9s,baz=179,slow=11,SNR=9.7								
KSRS				LR	LR		17 56 42.7	
comp=Z,101nm,19.0s,baz=180,slow=38								
comp=Z,1.7nm,0.9s								
JGF	**Kuroka**	**26.53**	**21**	P	**P**		**17 45 35.2**	**+1.1**
JGF				IAmb	IAmb		17 46 00.8	
comp=Z,16nm,1.3s								
LYN	**LuoYang**	**26.60**	**334**	*e*P	**P**		**17 45 38.0**	**+3.4**
LYN				pmax	pmax			
comp=Z,18nm,0.6s								
KNRA	**Kununurra**	**26.61**	**174**	P	**P**		**17 45 36.8**	**+1.9**
KNRA				IAmb	IAmb		17 46 05.9	
comp=Z,33nm,1.4s								
CM31	**Chiang Mai Arr**	**27.36**	**289**	P	**P**		**17 45 39.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**27.36**	**289**	P	**P**		**17 45 40.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**27.36**	**289**	P	**P**		**17 45 41.0**	**-0.7**
comp=Z,1.7nm,0.9s,baz=95,slow=6.8,SNR=10								
CMAR				LR	LR		17 55 55.4	
comp=Z,36nm,19.6s,baz=110,slow=35								
comp=Z,1.7nm,0.9s								
CHTO	**Chiang Mai**	**27.43**	**290**	P	**P**		**17 45 41.4**	**-1.0**
MJAR	**Matsushiro Arr**	**27.67**	**21**	LR	LR		17 56 36.4	
comp=Z,122nm,18.4s,baz=196,slow=36								
FITZ	**Fitzroy Crossi**	**28.90**	**181**	P	**P**		**17 45 55.2**	**-0.1**
WB0	**Warramunga Arr**	**31.60**	**165**	P	**P**		**17 46 18.6**	**-0.6**
WRA	**Warramunga Arr**	**31.76**	**165**	P	**P**		**17 46 19.7**	**-0.9**
comp=Z,1.7nm,0.6s,baz=344,slow=8.7,SNR=14								
comp=Z,1.7nm,0.6s								
WR8	**Warramunga Arr**	**31.81**	**165**	P	**P**		**17 46 20.2**	**-0.8**
WR8				IAmb	IAmb		17 47 01.3	
comp=Z,11nm,1.2s								
MBWA	**Marble Bar**	**32.56**	**191**	P	**P**		**17 46 27.3**	**-0.3**
CN2	**Changchun**	**32.71**	**359**	*e*P	**P**		**17 46 29.6**	**+0.9**
CN2				*e*sP	pwP		17 46 43.0	-4.8
PSA00	**Pilbara Seismi**	**32.94**	**191**	P	**P**		**17 46 31.5**	**+0.5**
PSA00				IAmb	IAmb		17 46 32.2	
comp=Z,16nm,0.9s								
ASAR	**Alice Springs**	**35.25**	**168**	PcP	**PcP**		**17 49 21.8**	**+0.5**
comp=Z,1.0nm,0.8s,baz=314,slow=2.7,SNR=4.5								
SHL	**Shillong**	**35.53**	**299**	P	**P**		**17 46 51.9**	**-1.8**
ASAJ	**Asahikawa**	**35.93**	**20**	LR	LR		18 01 16.8	
comp=Z,66nm,19.4s,baz=204,slow=36								
GTA	**Gaotai**	**36.76**	**325**	⇑P	**P**		**17 47 05.9**	**+2.0**
GTA				pP	sP		17 47 17.3	-2.1
GTA				PcP	**PcP**		**17 49 27.8**	**+2.2**
GTA				pmax	pmax			
comp=Z,170nm,1.0s								
KLR	**Kul'dur**	**38.41**	**6**	LR	LR		18 03 08.7	
comp=Z,42nm,19.9s,baz=194,slow=36								
ULN	**Ulaanbaatar**	**40.13**	**340**	P	**P**		**17 47 31.1**	**-1.1**
SONM	**Songino Array**	**40.33**	**339**	P	**P**		**17 47 33.6**	**-0.2**
SONM	**Songino Array**	**40.33**	**339**	P	**P**		**17 47 34.4**	**+0.6**
comp=Z,2.8nm,0.9s,baz=155,slow=8.9,SNR=14								
SONM				PcP	**PcP**		**17 49 36.7**	**+0.1**
comp=Z,0.5nm,0.7s,baz=144,slow=5.4,SNR=2.2								
comp=Z,2.8nm,0.9s								
MORW	**Morawa**	**41.00**	**194**	P	**P**		**17 47 39.8**	**+0.5**
MORW				IAmb	IAmb		17 47 41.5	
comp=Z,12nm,1.1s								
FORT	**Forrest**	**41.56**	**178**	P	**P**		**17 47 45.7**	**+1.9**
FORT				IAmb	IAmb		17 48 12.5	
comp=Z,17nm,0.9s								
NWAO	**Narrogin (SRO)**	**44.49**	**191**	P	**P**		**17 48 08.3**	**+0.8**
BBOO	**Buckleboo**	**44.55**	**168**	P	**P**		**17 48 10.8**	**+2.7**
BBOO				IAmb	IAmb		17 48 13.0	
comp=Z,6.8nm,0.7s								
PALK	**Pallekele**	**45.03**	**269**	LR	LR		18 06 55.7	
comp=Z,26nm,18.5s,baz=79,slow=36								
STKA	**Stephens Creek**	**45.09**	**161**	P	**P**		**17 48 12.6**	**+0.2**
STKA	**Stephens Creek**	**45.09**	**161**	P	**P**		**17 48 13.0**	**+0.6**
comp=Z,5.1nm,0.8s,baz=342,slow=7.6,SNR=8.8								
comp=Z,5.1nm,0.8s								
WUS	**Wushi**	**50.97**	**315**	P	**P**		**17 48 58.1**	**+0.1**
YAK	**Yakutsk**	**51.03**	**2**	P	**P**		**17 48 57.6**	**-0.2**
YAK				IAmb	IAmb		17 49 10.0	
comp=Z,5.9nm,0.8s								
DZM	**Mont Dzumac**	**51.36**	**130**	LR	LR		18 10 35.0	
comp=Z,74nm,18.5s,baz=157,slow=36								
MK31	**Makanchi Array**	**51.42**	**322**	P	**P**		**17 49 01.4**	**+0.3**
MK31				IAmb	IAmb		17 49 03.2	
comp=Z,4.3nm,0.8s								
MK31				PcP	**PcP**		**17 50 14.7**	**-0.5**
MKAR	**Makanchi Array**	**51.42**	**322**	P	**P**		**17 49 02.1**	**+1.0**
MKAR				PcP	**PcP**		**17 50 15.4**	**+0.3**
MKAR	**Makanchi Array**	**51.42**	**322**	P	**P**		**17 49 02.2**	**+1.1**
comp=Z,2.8nm,0.6s,baz=115,slow=8.2,SNR=47								
MKAR				PcP	**PcP**		**17 50 17.0**	**+1.9**
comp=Z,1.9nm,0.8s,baz=89,slow=6.1,SNR=4.1								
MKAR				LR	LR		18 10 55.4	
comp=Z,44nm,19.6s,baz=100,slow=36								
comp=Z,2.8nm,0.6s								
MAKZ	**Makanchi**	**51.62**	**322**	P	**P**		**17 49 02.9**	**+0.3**
MAKZ				IAmb	IAmb		17 49 04.8	
comp=Z,15nm,1.4s								
MAKZ				PcP	**PcP**		**17 50 15.7**	**-0.2**
MA2	**Magadan**	**51.88**	**16**	LR	LR		18 11 20.2	
comp=Z,16nm,19.4s,baz=222,slow=36								
NIL	**Nilore**	**53.27**	**304**	P	**P**		**17 49 14.0**	**-1.1**
NIL				IAmb	IAmb		17 49 16.0	
comp=Z,8.2nm,0.9s								
ZAA0	**Zalesovo Array**	**53.97**	**331**	P	**P**		**17 49 19.2**	**-0.5**
ZAA0				IAmb	IAmb		17 49 21.1	
comp=Z,4.9nm,0.9s								
ZALV	**Zalesovo Beam**	**53.97**	**331**	P	**P**		**17 49 19.4**	**-0.4**
ZALV	**Zalesovo Beam**	**53.97**	**331**	P	**P**		**17 49 20.5**	**+0.7**
comp=Z,6.2nm,0.9s,baz=116,slow=6.0,SNR=16								
ZALV				LR	LR		18 13 09.2	
comp=Z,28nm,18.1s,baz=96,slow=37								
comp=Z,6.2nm,0.9s								
AAK	**Ala-Archa**	**54.77**	**315**	LR	LR		18 16 00.5	
comp=Z,57nm,18.6s,baz=85,slow=40								
ARSB	**Arslanbob**	**55.43**	**313**	P	**P**		**17 49 30.9**	**+0.1**
ARSB				IAmb	IAmb		17 49 32.0	
comp=Z,3.7nm,0.8s								
KURK	**Kurchatov**	**55.44**	**325**	P	**P**		**17 49 30.6**	**+0.1**
KURBB	**Kurchatov Arra**	**55.45**	**325**	P	**P**		**17 49 31.3**	**+0.8**
comp=Z,9.3nm,1.1s,baz=124,slow=6.9,SNR=37								
comp=Z,9.3nm,1.1s								
DRK	**Karamyk**	**55.78**	**310**	P	**P**		**17 49 32.9**	**-0.6**
DRK				IAmb	IAmb		17 49 35.2	
comp=Z,5.7nm,0.9s								
GAR	**Garm**	**56.78**	**310**	P	**P**		**17 49 40.1**	**-0.4**
KBL	**Kabul**	**56.87**	**304**	P	**P**		**17 49 40.4**	**-0.9**
KBL				IAmb	IAmb		17 49 41.9	
comp=Z,3.8nm,0.8s								
CHGR	**Chuyangaron**	**57.58**	**309**	P	**P**		**17 49 45.4**	**-0.7**
SIMJ	**Simiganj**	**57.70**	**309**	P	**P**		**17 49 46.0**	**-1.0**
KK31	**Karatay Array**	**57.70**	**314**	P	**P**		**17 49 46.6**	**-0.1**
KK31				IAmb	IAmb		17 49 48.1	
comp=Z,5.7nm,0.9s								
KKAR	**Karatay Array**	**57.70**	**314**	P	**P**		**17 49 46.4**	**-0.4**
KKAR	**Karatay Array**	**57.70**	**314**	IAmb	IAmb		17 49 48.1	
comp=Z,3.4nm,0.9s								
MSVF	**Nonsavu**	**58.62**	**119**	LR	LR		18 13 53.4	
comp=Z,34nm,19.2s,baz=193,slow=35								
TIXI	**Tiksi**	**60.65**	**1**	P	**P**		**17 50 06.4**	**-0.2**
TIXI				IAmb	IAmb		17 50 09.3	
comp=Z,4.5nm,1.2s								
BVAR	**Borovoye Array**	**61.04**	**325**	P	**P**		**17 50 10.6**	**+1.0**
comp=Z,6.4nm,0.8s,baz=111,slow=8.3,SNR=25								
comp=Z,6.4nm,0.8s								
BRVK	**Borovoye**	**61.11**	**325**	P	**P**		**17 50 10.2**	**+0.1**
NRIK	**Noril'sk**	**63.31**	**346**	P	**P**		**17 50 24.7**	**+0.2**
NRIK				IAmb	IAmb		17 50 50.3	
comp=Z,5.2nm,1.2s								
NRIK	**Noril'sk**	**63.31**	**346**	P	**P**		**17 50 24.6**	**+0.1**
comp=Z,1.6nm,0.5s,baz=149,slow=5.8,SNR=5.0								
comp=Z,1.6nm,0.5s								
AB31	**Akbulak array**	**66.29**	**319**	P	**P**		**17 50 44.0**	**-0.2**
AB31				IAmb	IAmb		17 50 45.6	
comp=Z,7.0nm,0.9s								
ABKAR	**Akbulak array**	**66.29**	**319**	P	**P**		**17 50 43.6**	**-0.7**
ABKAR				IAmb	IAmb		17 50 45.6	
comp=Z,7.0nm,0.9s								
ABKAR	**Akbulak array**	**66.29**	**319**	P	**P**		**17 50 44.3**	**+0.1**

comp=Z,2.1nm,0.8s
BRTR Keskin Array B 85.02 309 P P 17 52 30.6 -1.2
comp=Z,0.5nm,0.8s,baz=45,slow=4.3,SNR=1.9
comp=Z,0.5nm,0.8s
FIA1 FINESS Array S 85.23 332 P P 17 52 31.8 -0.4
FINES FINESS Array B 85.23 332 P P 17 52 31.6 -0.6
FINES FINESS Array B 85.23 332 P P 17 52 32.6 +0.5
comp=Z,2.2nm,0.8s,baz=77,slow=6.1,SNR=5.8
comp=Z,2.2nm,0.8s
AK09 Malin Array Si 85.95 321 P P 17 52 35.3 -0.7
AK08 Malin Array Si 85.96 321 P P 17 52 35.9 -0.1
AK03 Malin Array Si 85.97 321 P P 17 52 35.6 -0.4
AKASG Malin Array Be 85.97 321 P P 17 52 35.1 -0.9
AKASG IAmb IAmb 17 52 37.1
comp=Z,6.4nm,1.2s
AKASG Malin Array Be 85.97 321 P P 17 52 35.6 -0.4
comp=Z,1.1nm,0.5s,baz=67,slow=4.7,SNR=9.6
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 85.97 321 P P 17 52 35.4 -0.7
AKBB IAmb IAmb 17 52 36.9
comp=Z,9.3nm,1.1s
AKBB Malin Array Si 85.97 321 P P 17 52 34.1 -2.0
KIEV Kiev 85.98 321 P P 17 52 35.1 -1.0
KIEV IAmb IAmb 17 52 36.8
comp=Z,7.7nm,1.1s
AK11 Malin Array Si 86.01 321 P P 17 52 35.0 -1.3
LUBAR Lubar, Ukraine 87.06 320 P P 17 52 41.2 -0.2
BRIU Brid 90.48 319 P P 17 52 55.8 -1.8
YKA Yellowknife Ar 93.14 24 P P 17 53 09.2 -0.5
comp=Z,0.2nm,0.8s,baz=304,slow=4.6,SNR=2.4
comp=Z,0.2nm,0.8s
PLCA Paso Flores 146.88 156 PKPbc PKPab 17 59 39.9 +0.1
comp=Z,1.7nm,0.9s,baz=225,slow=8.6,SNR=2.3

*IDC **19** 17:41:03.8±0.8, 40°.76N×35°.45E, h0km, mb3.5/2, mbtmp3.4/6, ML3.5/4, MS3.9/2, Error ellipse: s-maj=13.4km s-min=7.5km az=152.0*
*ISK **19** 17:41:04.4, 40°.83N×35°.34E, h2km, ML3.8/21*
*AFAD **19** 17:41:04.6, 40°.82N×35°.32E, h11km±3km, MW3.7*
*CFUSG **19** 17:41:06.8, 40°.90N×35°.47E, h70km, mb3.0/7, North Turkey Magtype MSH 3.1 from 7 stations*
ISC 19 17:41:03.9±1.1, 40°.84N±0°.02×35°.37E±0°.02, h2km±9km, n80, σ1s41/123, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVZ	**Havza**	**0.35**	**47**	P	**Pb**	**17 41 12.8**	**-0.1**
HAVZ				S	**Sb**	**17 41 18.1**	**-0.8**
YARM	**Yarimca-Ladik(**	**0.35**	**76**	Pg	**Pb**	**17 41 12.9**	**-0.1**
YARM				Sg	**Sb**	**17 41 18.9**	**-0.1**
AMSY	**Amasya-Merkez**	**0.40**	**119**	P	**Pn**	**17 41 18.8**	**+2.0**
AMSY				S	**Sb**	**17 41 24.8**	**+4.4**
AYAZ	**Ayas K¶y, M**	**0.42**	**248**	P	**Pg**	**17 41 13.1**	**+1.1**
AYAZ				S	**Sg**	**17 41 18.2**	**+0.7**
KIZO	**Buyukkizoglu-L**	**0.43**	**81**	Pg	**Pb**	**17 41 14.2**	**0.0**
KIZO				Sg	**Sb**	**17 41 21.3**	**+0.1**
KVT	**Kavak**	**0.56**	**64**	Pg	**Pb**	**17 41 16.4**	**-0.1**
KVT				Sg	**Sn**	**17 41 25.5**	**-3.4**
COAL	**Corum-Alaca**	**0.65**	**207**	P	**Pg**	**17 41 17.5**	**+1.1**
COAL				S	**Sg**	**17 41 25.5**	**+0.7**
KAGI	**orum-Kargı**	**0.74**	**294**	P	**Pg**	**17 41 18.2**	**+0.1**
KAGI				S	**Sg**	**17 41 26.1**	**-1.7**
CKRK	**Yozgat, Cekere**	**0.77**	**173**	P	**Pb**	**17 41 19.6**	**-0.4**
CKRK				S	**Sb**	**17 41 30.0**	**-0.9**
DIKM	**Dikmen**	**0.82**	**354**	Pg	**Pb**	**17 41 21.1**	**+0.3**
DIKM				Sg	**Sb**	**17 41 32.9**	**+0.6**
CORM	**Corum**	**0.87**	**221**	Pg	**Pg**	**17 41 21.5**	**+1.0**
CORM				Sg	**Sb**	**17 41 34.3**	**+0.5**
BOYA	**Sinop/Boyabat-**	**0.87**	**323**	P	**Pg**	**17 41 20.9**	**+0.3**
BOYA				S	**Sg**	**17 41 29.0**	**-2.9**
TOKA	**Tokat**	**0.98**	**121**	P	**Pn**	**17 41 24.9**	**+0.1**
TOKA				S	**Sn**	**17 41 37.9**	**-1.3**
TOKT	**Tokat**	**1.03**	**120**	Pg	**Pn**	**17 41 25.4**	**0.0**
TOKT				Sg	**Sn**	**17 41 39.6**	**-0.8**
SUNG	**orum-Sungurl**	**1.08**	**233**	P	**Pb**	**17 41 25.0**	**-0.3**
SUNG				S	**Sb**	**17 41 38.8**	**-1.0**
YOZG	**Bozok Univ. Me**	**1.14**	**203**	P	**Pb**	**17 41 26.4**	**0.0**
YOZG				S	**Sb**	**17 41 40.4**	**-1.4**
HACI	**Hacifakili, Ak**	**1.16**	**166**	P	**Pn**	**17 41 27.0**	**-0.3**
HACI				S	**Sn**	**17 41 43.4**	**-0.4**
YENC	**ankr-Yen**	**1.17**	**263**	P	**Pn**	**17 41 26.7**	**-0.7**
SNOP	**Sinop**	**1.19**	**354**	Pn	**Pg**	**17 41 27.8**	**+1.1**
YOZ	**Yozgat**	**1.20**	**182**	Pn	**Pn**	**17 41 27.4**	**-0.3**
ILGA	**Ilgaz**	**1.27**	**280**	P	**Pn**	**17 41 28.3**	**-0.7**
ILGA				S	**Sb**	**17 41 43.8**	**-1.8**
KMON	**Kastamonu**	**1.32**	**295**	Pn	**Pn**	**17 41 29.6**	**+0.2**
CANT	**Cankiri**	**1.35**	**261**	Pn	**Pn**	**17 41 29.6**	**-0.2**
DELI	**KIRIKKALE**	**1.39**	**233**	P	**Pn**	**17 41 29.7**	**-0.7**
DELI				S	**Sn**	**17 41 46.3**	**-3.0**
CDAG	**Cicekdag**	**1.43**	**213**	P	**Pn**	**17 41 31.3**	**+0.3**
CDAG				S	**Sn**	**17 41 48.7**	**-1.7**
SEYI	**Kastamonu-Seyd**	**1.47**	**304**	P	**Pn**	**17 41 32.2**	**+0.7**
SEYI				S	**Sn**	**17 41 49.2**	**-2.1**
SIRC	**Yozgat**	**1.51**	**187**	P	**Pb**	**17 41 32.6**	**0.0**
SIRC				S	**Sn**	**17 41 51.1**	**-1.1**
ELDT	**Eldivan**	**1.52**	**258**	P	**Pn**	**17 41 32.3**	**+0.1**
ELDT				S	**Sn**	**17 41 50.5**	**-2.2**
BZK	**Bozkurt**	**1.52**	**318**	Pn	**Pb**	**17 41 33.8**	**+0.9**
SVSK	**Karacayir**	**1.54**	**126**	Pn	**Pg**	**17 41 34.1**	**+0.7**
RSDY	**Resadiye-TOKAT**	**1.55**	**106**	Pn	**Pg**	**17 41 33.9**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.56**	**154**	P	**Pg**	**17 41 34.1**	**+0.3**
CUSAR				S	**Sg**	**17 41 54.4**	**+0.3**
PELI	**Kastamonı-Ara**	**1.63**	**287**	P	**Pn**	**17 41 34.2**	**+0.6**
PELI				S	**Sn**	**17 41 51.5**	**-3.7**
GOKD	**Ankara-Kalecik**	**1.64**	**243**	P	**Pn**	**17 41 34.2**	**+0.5**
GOKD				S	**Sn**	**17 41 53.4**	**-2.0**
SCER	**sogukcermik**	**1.66**	**125**	P	**Pg**	**17 41 36.5**	**+0.8**
SCER				S	**Sb**	**17 41 55.4**	**-1.2**
KOZK	**Kozakli-Nevseh**	**1.67**	**194**	Pn	**Pb**	**17 41 35.6**	**+0.2**
AKPI	**Kirsehir/Akpin**	**1.70**	**219**	P	**Pn**	**17 41 35.1**	**+0.5**
AKPI				S	**Sn**	**17 41 56.6**	**-0.4**
BR131	**Keskin Array S**	**1.73**	**231**	Pn	**Pn**	**17 41 35.9**	**+0.8**
BRTR	**Keskin Array B**	**1.73**	**231**	Pn	**Pn**	**17 41 36.1**	**+1.0**
	58nm,0.3s,baz=68,slow=15,SNR=1125						
BRTR				Lg	Lg	17 41 59.7	
	54nm,0.3s,baz=61,slow=20,SNR=29						
MCUR	**KIREHR**	**1.79**	**202**	P	**Pb**	**17 41 37.5**	**0.0**
MCUR				S	**Sn**	**17 41 58.6**	**-0.7**
KESK	**Krkkale-Ke**	**1.82**	**229**	P	**Pn**	**17 41 37.1**	**+0.7**
KESK				S	**Sn**	**17 41 59.3**	**-0.8**
ORDU	**Ordu-Boztepe**	**1.89**	**84**	P	**Pb**	**17 41 38.5**	**-0.5**
CUAYA	**Sivas-Altinyay**	**1.89**	**146**	P	**Pg**	**17 41 39.4**	**-0.6**
CUAYA				S	**Sg**	**17 42 03.6**	**-1.0**
GUNE	**Kayseri**	**1.94**	**174**	P	**Pb**	**17 41 39.7**	**-0.3**
GUNE				S	**Sb**	**17 42 03.8**	**-0.9**
KAMT	**Kaman**	**1.94**	**222**	Pn	**Pn**	**17 41 39.3**	**+1.3**
BNN	**Bunyan**	**2.01**	**169**	Pn	**Pb**	**17 41 40.9**	**-0.4**
KIRS	**Kirsehir-Merke**	**2.04**	**214**	P	**Pb**	**17 41 42.2**	**+0.6**
CUZAR	**Zara_SIVAS**	**2.06**	**117**	P	**Pb**	**17 41 41.2**	**-0.8**
AVNS	**Nevsehir-Avano**	**2.07**	**191**	P	**Pb**	**17 41 43.0**	**+0.8**
AVNS				S	**Sn**	**17 42 06.6**	**+0.6**
CIDE	**Kastamonu/Cide**	**2.10**	**301**	P	**Pn**	**17 41 41.3**	**+1.2**
KBUK	**KARABUK-Merkez**	**2.12**	**282**	P	**Pn**	**17 41 40.3**	**0.0**
DERS	**Karabk-Eskip**	**2.14**	**271**	P	**Pn**	**17 41 40.7**	**0.0**
ANTO	**Ankara**	**2.20**	**245**	Pn	**Pn**	**17 41 42.7**	**+1.3**
LOD	**Lodumlu**	**2.21**	**245**	Pn	**Pn**	**17 41 43.0**	**+1.4**
CUKAN	**kangal_SIVAS**	**2.21**	**133**	P	**Pb**	**17 41 42.9**	**-1.7**
KURC	**Kurucasile-Bar**	**2.22**	**298**	Pn	**Pn**	**17 41 43.4**	**+1.7**
SUSE	**Susehri**	**2.25**	**105**	P	**Pb**	**17 41 43.8**	**-1.4**
SUSE				S	**Sg**	**17 42 13.3**	**-2.7**
AFSR	**Afar-Bala (An**	**2.25**	**233**	Pn	**Pn**	**17 41 43.6**	**+1.5**
SERE	**Sereflikochisa**	**2.34**	**217**	Pn	**Pn**	**17 41 45.3**	**+1.8**
ESPY	**Espiye-Giresun**	**2.54**	**87**	Pn	**Pb**	**17 41 48.6**	**-1.6**
SARI	**SarD1z-Kayseri**	**2.56**	**161**	Pn	**Pb**	**17 41 48.6**	**-1.9**
ALUC	**Giresun/Alucra**	**2.63**	**100**	P	**Pb**	**17 41 50.3**	**-1.5**
DARE	**Darende-Malaty**	**2.79**	**144**	Pn	**Pb**	**17 41 51.7**	**-2.7**
YAL	**Yalta**	**3.76**	**347**	*e*P	**Pn**	**17 42 03.2**	**+0.4**
YAL				Pm		17 42 03.5	
	comp=Z,13nm,0.4s						
YAL				*e*S	**Sn**	**17 42 46.4**	**-1.2**
YAL				Sm		17 42 48.2	
	comp=N,26nm,0.4s						
YAL				Sm		17 42 48.2	
	comp=E,9.0nm,0.3s						
ALU	**Alushta**	**3.91**	**350**	*e*P	**Pn**	**17 42 04.9**	**0.0**
ALU				Pm		17 42 05.0	
	comp=Z,9.0nm,0.2s						
ALU				*e*S	**Sn**	**17 42 48.3**	**-3.0**
ALU				Sm		17 42 49.8	
	comp=E,26nm,0.5s						
ALU				Sm		17 42 49.9	
	comp=N,4.0nm,0.1s						
SEV	**Sevastopol'**	**3.92**	**342**	*e*P	**Pn**	**17 42 05.1**	**+0.1**
SEV				Pm		17 42 06.9	
	comp=Z,7.0nm,0.3s						
SEV				*e*S	**Sn**	**17 42 50.8**	**-0.7**
SEV				Sm		17 42 52.9	
	comp=N,13nm,0.3s						
SEV				Sm		17 42 53.0	
	comp=E,5.0nm,0.3s						
SUDU	**Sudak**	**4.06**	**356**	*e*P	**Pn**	**17 42 07.5**	**+0.5**
SUDU				Pm		17 42 12.5	
	comp=Z,20nm,0.4s						
SUDU				*e*S	**Sn**	**17 42 53.7**	**-1.4**
SUDU				Sm		17 42 58.2	
	comp=N,104nm,0.5s						
SUDU				Sm		17 42 58.2	
	comp=E,9.0nm,0.2s						
FEO	**Feodosiya**	**4.18**	**0**	*e*S	**Sn**	**17 42 55.6**	**-2.4**
FEO				Sm		17 42 59.6	
	comp=N,66nm,0.4s						
FEO				Sm		17 42 59.6	
	comp=E,12nm,0.2s						
SIM	**Simferopol'**	**4.21**	**348**	*e*P	**Pn**	**17 42 10.1**	**+1.0**
SIM				Pm		17 42 10.3	
	comp=Z,27nm,0.4s						
SIM				*e*S	**Sn**	**17 42 59.0**	**+0.1**
SIM				Sm		17 43 02.0	
	comp=N,12nm,0.4s						
SIM				Sm		17 43 02.0	
	comp=E,22nm,0.3s						
DNZ2	**Donuzlav2**	**4.80**	**342**	*e*P	**Pn**	**17 42 18.7**	**+1.5**
DNZ2				Pm		17 42 19.2	
	comp=Z,57nm,0.4s						
DNZ2				*e*S	**Sn**	**17 43 12.9**	**-0.5**
DNZ2				Sm		17 43 15.0	
	comp=N,12nm,0.5s						
DNZ2				Sm		17 43 15.0	
	comp=E,24nm,0.6s						
TARU	**Tarkhankut**	**4.99**	**336**	*e*P	**Pn**	**17 42 19.7**	**-0.1**
TARU				Pm		17 42 21.2	
	comp=Z,9.0nm,0.5s						
TARU				*e*S	**Sn**	**17 43 16.5**	**-1.5**
TARU				Sm		17 43 24.9	
	comp=N,3.0nm,0.3s						
TARU				Sm		17 43 24.9	
	comp=E,10.0nm,0.3s						
KVAR	**Kislovodsk Arr**	**6.25**	**58**	Pn	**Pn**	**17 42 38.7**	**+1.5**
	baz=285,slow=18						
KVAR				Sn	**Sn**	**17 43 52.4**	**+3.2**
	baz=100,slow=19						
	comp=E,1.6nm,0.3s						
KBZ	**Khabaz**	**6.28**	**60**	Pn	**Pn**	**17 42 39.4**	**+1.9**
	comp=E,0.6nm,0.3s,baz=239,slow=11,SNR=16						
KBZ				Sn	**Sn**	**17 43 52.0**	**+2.2**
	comp=E,0.1nm,0.3s,baz=350,slow=16,SNR=2.1						
	comp=E,2.6nm,0.5s						
MMAI	**Mount Meron Ar**	**7.81**	**180**	Pn	**Pn**	**17 43 00.7**	**+2.2**
	comp=E,1.0nm,0.3s,baz=12,slow=15,SNR=3.4						
MLR	**Muntele Rosu**	**8.31**	**307**	Pn	**Pn**	**17 43 08.6**	**+3.1**
	comp=E,0.2nm,0.3s,baz=129,slow=13,SNR=1.4						
MLR				Sn	**Sn**	**17 44 41.4**	**+1.4**
	comp=E,0.3nm,0.3s,baz=256,slow=11,SNR=2.1						
	comp=E,0.6nm,0.4s						
AKASG	**Malin Array Be**	**10.76**	**339**	Pn	**Pn**	**17 43 37.1**	**-1.7**
	comp=E,0.8nm,0.3s,baz=159,slow=13,SNR=4.4						
AKASG				Sn	**Sn**	**17 45 38.5**	**-1.1**
	comp=E,0.5nm,0.3s,baz=223,slow=12,SNR=1.9						
	comp=E,0.2nm,0.3s						
FINES	**FINESS Array B**	**21.40**	**348**	P	**P**	**17 45 54.7**	**+2.1**
	comp=E,2.4nm,1.0s,baz=158,slow=16,SNR=2.0						
	comp=E,2.4nm,1.0s						
KURBB	**Kurchatov Arra**	**31.27**	**57**	P	**P**	**17 47 26.4**	**+1.4**
	comp=E,0.4nm,0.6s,baz=276,slow=9.2,SNR=2.1						
	comp=E,0.4nm,0.6s						
TIXI	**Tiksi**	**52.90**	**23**	LR	LR	18 16 58.0	
	comp=E,93nm,18.5s,baz=194,slow=41						
JHJ	**Hachijo jima 2**	**78.71**	**56**	LR	LR	18 29 39.4	
	comp=E,68nm,19.3s,baz=318,slow=37						

*IDC **19** 17:43:52.9±1.4, 0°.93N×122°.99E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=178.1km s-min=26.5km az=63.0*
*DJA **19** 17:44:00.6±1.9, 1°.N±3°×12°.3E±°, h20km±19km, M4.2/14, mB4.9/1, mb4.3/7, MLv4.2/14, Mw(mB)4.1/1*
ISC 19 17:43:59.6±0.9, 0°.98N±0°.09×122°.82E±0°.05, h35km, n15, σ1s86/17, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.01**	**240**	P	**Pn**	**17 44 19.4**	**+2.1**
MRSI				S	**Sn**	**17 44 31.1**	**+0.8**
KMSI	**Cibinong**	**1.23**	**109**	P	**Pn**	**17 44 22.3**	**+2.0**
KMSI				S	**Sn**	**17 44 39.3**	**+3.6**
LUWI	**Luwuk**	**2.01**	**181**	P	**Pn**	**17 44 31.1**	**+0.1**
PCI	**Palu**	**3.52**	**238**	P	**Pn**	**17 44 51.6**	**-0.2**
SANI	**Sanana**	**4.37**	**134**	P	**Pn**	**17 45 02.5**	**-1.0**
TTSI	**Tana Toraja**	**5.00**	**217**	P	**Pn**	**17 45 14.4**	**+2.2**
SPSI	**Sidrap Palu**	**5.78**	**212**	P	**Pn**	**17 45 24.5**	**+1.6**
	0.1nm20nm,1.1s						
NLAI	**Namlea**	**5.99**	**134**	P	**Pn**	**17 45 26.3**	**+0.5**
	900nm28nm,0.8s						
BBSI	**Bau Bau**	**6.43**	**182**	P	**Pn**	**17 45 32.5**	**+0.6**
WRA	**Warramunga Arr**	**23.67**	**152**	P	**P**	**17 49 04.6**	**-3.5**
	1.0nm,0.6s,baz=332,slow=10.0,SNR=4.3						
	1.0nm,0.6s						
SONM	**Songino Array**	**48.80**	**345**	P	**P**	**17 52 41.3**	**-0.1**
	0.8nm,1.0s,baz=155,slow=7.8,SNR=3.0						
	0.8nm,1.0s						
MKAR	**Makanchi Array**	**57.69**	**328**	P	**P**	**17 53 47.4**	**+0.7**
	0.4nm,0.5s,baz=125,slow=8.5,SNR=9.3						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**61.35**	**336**	P	**P**	**17 54 10.3**	**-1.4**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=1.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.03**	**330**	P	**P**	**17 54 16.0**	**-0.3**
	0.6nm,0.8s,baz=130,slow=6.0,SNR=4.7						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**67.55**	**329**	P	**P**	**17 54 50.9**	**-1.5**
	0.2nm,0.3s,baz=138,slow=6.7,SNR=1.8						
	0.2nm,0.3s						

*IDC **19** 17:55:08.8±1.8, 4°.23S×152°.44E, h163km±15km, mb3.7/17, mbtmp4.1/18, Error ellipse: s-maj=18.9km s-min=10.3km az=114.0*
*NEIC **19** 17:55:09.1±1.4, 4°.20S±0°.10×152°.4E±0°.1, h159km±5km, mb4.5/37, Error ellipse: s-maj=16.2km s-min=12.4km az=48.0*
ISC 19 17:55:07.5±0.4, 4°.20S±0°.06×152°.42E±0°.07, h150km, n83, σ0s98/88, mb4.3/35, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.26**	**272**		**Pn**	**17 55 30.2**	**+2.3**
MANU	**Manus Island**	**5.48**	**293**		**Pn**	**17 56 28.8**	**+1.5**
PMG	**Port Moresby**	**7.35**	**225**	Pn	**Pn**	**17 56 53.5**	**+1.2**
PMG	**Port Moresby**	**7.35**	**225**	P	**Pn**	**17 56 54.0**	**+1.7**
	14nm,0.4s,baz=353,slow=6.5,SNR=15						
PMG				S	**Sn**	**17 58 15.6**	**+1.1**
	55nm,0.6s,baz=17,slow=18,SNR=8.9						
TATA	**Tatamba Isabel**	**8.44**	**120**	P	**Pn**	**17 57 08.0**	**+1.2**
HNR	**Honiara**	**9.10**	**125**	Pn	**Pn**	**17 57 13.9**	**-1.7**
HNR	**Honiara**	**9.10**	**125**	P	Pn	17 57 08.5	-7.1
	12nm,0.4s,baz=199,slow=16,SNR=1.8						
JAY	**Jayapura**	**11.81**	**278**	P	**P**	**17 57 57.2**	**-1.2**
	14nm,0.7s,baz=70,slow=3.5,SNR=4.8						
COEN	**Coen**	**13.31**	**223**	Pn	**Pn**	**17 58 09.9**	**-0.9**
RK1H	**Rockhampton Ha**	**19.17**	**185**	P	**P**	**17 59 20.5**	**+1.0**
FAKI	**Fak Fak**	**20.17**	**273**	P	**P**	**17 59 31.0**	**+0.5**
FAKI	**Fak Fak**	**20.17**	**273**	P	Pn	17 59 35.5	+1.5
QIS	**Mount Isa**	**20.49**	**216**	P	**P**	**17 59 35.1**	**+1.3**
EIDS	**Eidsvold**	**21.09**	**183**	P	**P**	**17 59 40.5**	**+0.4**
EIDS	**Eidsvold**	**21.09**	**183**	P	**P**	**17 59 40.2**	**+0.1**
DZM	**Mont Dzumac**	**22.37**	**144**		**P**	**17 59 54.5**	**+0.9**
DZM				IAmb	IAmb	17 59 55.8	
	comp=Z,27nm,1.3s						
DRS	**Darwin Rock St**	**22.79**	**248**	P	**P**	**17 59 58.0**	**+0.5**
WB0	**Warramunga Arr**	**23.41**	**227**	P	**P**	**18 00 03.7**	**+0.5**
WB0				IAmb	IAmb	18 00 04.5	
	comp=Z,20nm,0.9s						
WR0	**Warramunga Arr**	**23.43**	**227**	P	**P**	**18 00 03.7**	**+0.4**
WR0				IAmb	IAmb	18 00 05.8	
	comp=Z,18nm,1.0s						
WRAB	**Tennant Creek**	**23.55**	**227**	P	**P**	**18 00 04.5**	**+0.1**
WB2	**Warramunga Arr**	**23.56**	**227**	P	**P**	**18 00 05.1**	**+0.6**
WRA	**Warramunga Arr**	**23.57**	**227**	P	**P**	**18 00 04.3**	**-0.2**
WRA	**Warramunga Arr**	**23.57**	**227**	P	**P**	**18 00 05.0**	**+0.5**
	comp=Z,15nm,0.5s,baz=53,slow=9.9,SNR=130						
WRA				PcP	**PcP**	**18 03 45.6**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=59,slow=2.0,SNR=4.8						
WRA				S	**S**	**18 04 05.6**	**-2.1**
	comp=Z,4.7nm,0.9s,baz=44,slow=16,SNR=10						
WRA				ScP	**ScP**	**18 07 09.7**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=48,slow=3.3,SNR=1.6						
	comp=Z,15nm,0.5s						
QLP	**Quilpie**	**23.59**	**199**	P	**P**	**18 00 04.3**	**-0.4**
KNRA	**Kununurra**	**25.91**	**242**	P	**P**	**18 00 26.6**	**+0.8**
KNRA				IAmb	IAmb	18 00 42.4	
	comp=Z,19nm,1.2s						
ARMA	**Armidale**	**26.09**	**182**	P	**P**	**18 00 28.2**	**+0.8**
ARMA				IAmb	IAmb	18 00 29.7	
	comp=Z,6.2nm,0.8s						
AS31	**Alice Springs**	**26.34**	**221**	P	**P**	**18 00 29.8**	**+0.1**
ASAR	**Alice Springs**	**26.34**	**221**	P	**P**	**18 00 29.5**	**-0.2**
ASAR	**Alice Springs**	**26.34**	**221**	P	**P**	**18 00 29.9**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=55,slow=9.1,SNR=72						
ASAR				PcP	**PcP**	**18 03 51.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=58,slow=2.8,SNR=1.7						
ASAR				S	**S**	**18 04 48.2**	**-3.6**
	comp=Z,0.9nm,0.7s,baz=43,slow=14,SNR=5.5						
ASAR				ScP	**ScP**	**18 07 17.4**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=28,slow=3.5,SNR=2.8						
	comp=Z,1.2nm,0.4s						
OOD	**Oodnadatta**	**28.37**	**212**	P	**P**	**18 00 47.6**	**-0.1**
STKA	**Stephens Creek**	**29.35**	**199**	P	**P**	**18 00 56.0**	**-0.3**
STKA	**Stephens Creek**	**29.35**	**199**	P	**P**	**18 00 55.9**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=23,slow=13,SNR=4.3						
	comp=Z,1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.62**	**240**	P	**P**	**18 00 58.4**	**-0.4**
WRKA	**Warakurna**	**31.09**	**226**	P	**P**	**18 01 11.4**	**-0.5**
CAN	**Canberra**	**31.13**	**185**	P	**P**	**18 01 13.3**	**+1.2**
CAN				IAmb	IAmb	18 01 41.4	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**32.32**	**206**	P	**P**	**18 01 21.5**	**-0.9**
FORT	**Forrest**	**35.02**	**218**	P	**P**	**18 01 45.6**	**-0.2**
MBWA	**Marble Bar**	**35.94**	**239**	P	**P**	**18 01 53.3**	**-0.6**
MBWA				IAmb	IAmb	18 01 54.4	
	comp=Z,16nm,0.9s						
PSA00	**Pilbara Seismi**	**36.01**	**238**	P	**P**	**18 01 52.9**	**-1.5**
PSA00	**Pilbara Seismi**	**36.01**	**238**	P	**P**	**18 01 53.0**	**-1.5**
PSA00				IAmb	IAmb	18 01 56.6	
	comp=Z,12nm,1.0s						
QRZ	**Quartz Range**	**40.70**	**156**	P	**P**	**18 02 33.7**	**+0.3**
QRZ				IAmb	IAmb	18 02 35.8	
	comp=Z,7.1nm,0.9s						
MXZ	**Matakaoa Point**	**40.78**	**148**	P	**P**	**18 02 35.5**	**+1.4**
RTZ	**Ruatahuna**	**40.90**	**150**	P	**P**	**18 02 35.9**	**+0.8**
RTZ				IAmb	IAmb	18 03 09.0	
	comp=Z,15nm,1.1s						
BKZ	**Black Stump Fm**	**41.09**	**151**	P	**P**	**18 02 37.4**	**+0.8**
BKZ				IAmb	IAmb	18 02 52.1	
	comp=Z,12nm,1.3s						
GIRL	**Giralia**	**41.23**	**240**	P	**P**	**18 02 38.1**	**+0.2**
THZ	**Tophouse**	**41.65**	**157**	P	**P**	**18 02 42.3**	**+1.2**
TCW	**Tory Channel**	**41.74**	**155**	P	**P**	**18 02 43.0**	**+1.1**
TUWZ	**Tuamarina**	**41.79**	**156**	P	**P**	**18 02 43.8**	**+1.6**
MRZ	**Mangatainoka R**	**41.86**	**153**	P	**P**	**18 02 42.4**	**-0.4**
MRZ				IAmb	IAmb	18 02 57.6	
	comp=Z,10nm,1.1s						
BFZ	**Birch Farm**	**42.18**	**153**	P	**P**	**18 02 44.8**	**-0.6**
LTZ	**Lake Taylor**	**42.28**	**158**		**P**	**18 02 46.4**	**+0.1**
LTZ				IAmb	IAmb	18 03 10.8	
	comp=Z,11nm,1.3s						
MSWZ	**Moikau Station**	**42.33**	**154**	P	**P**	**18 02 45.9**	**-0.7**
JNU	**Nakatsue**	**42.36**	**333**		**P**	**18 02 47.0**	**+0.1**
JNU				IAmb	IAmb	18 02 55.5	
	comp=Z,18nm,1.3s						
MORW	**Morawa**	**42.43**	**230**		**P**	**18 02 46.5**	**-1.1**
MORW				IAmb	IAmb	18 03 24.0	
	comp=Z,23nm,1.4s						
MLZ	**Mavora Lakes**	**43.24**	**164**	P	**P**	**18 02 54.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**43.54**	**225**	P	**P**	**18 02 56.4**	**-0.1**
KSRS	**Korea Array**	**47.30**	**333**	P	**P**	**18 03 26.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=143,slow=8.3,SNR=5.1						
	comp=Z,0.6nm,0.6s						
ENH	**Enshi**	**53.47**	**313**	P	**P**	**18 04 11.8**	**-0.7**
ENH

BKNI			Sn	Sg	18 17 56.1	+0.2
BKNI	**Bangkinang**	**1.11 43**	P	Pg	18 17 41.4	0.0
BKNI			S	Sg	18 17 57.9	+2.0
SISI	**Saibi**	**1.45 235**	P	Pn	18 17 45.8	0.0
SISI			S	Sb	18 18 06.0	+0.8
MNSI	**Mandailing Nat**	**1.46 331**	P	Pn	18 17 45.9	-0.1
PBSI	**Pulau Batu**	**2.05 282**	P	Pn	18 17 54.5	+0.4
PBSI			S	Sn	18 18 21.0	+1.5
PPSI	**Pulau Pagai**	**2.27 187**	P	Pn	18 17 58.6	+1.5
GSI	**Gunungsitoli**	**3.24 303**	Pn	Pn	18 18 12.1	+1.6
GSI			Sn	Sn	18 18 52.3	+3.3
GSI	**Gunungsitoli**	**3.24 303**	P	Pn	18 18 11.6	+1.1
RPSI	**Rantau Prapat**	**3.45 337**	Pn	Pn	18 18 14.5	+1.2
RPSI	**Rantau Prapat**	**3.45 337**		Pb	18 18 18.5	-2.4
PSI	**Prapat**	**3.54 337**	P	Pn	18 18 18.5	+3.7
	9.6nm,0.3s,baz=198,slow=6.8,SNR=17					
PSI			LR	LR	18 20 03.9	
	comp=Z,287nm,18.5s,baz=171,slow=45					
	19nm,0.4s					
KSI	**Kapahiang**	**3.90 144**	P	Pn	18 18 19.4	-0.1
MYKOM	**Kota Tinggi**	**4.23 58**	Pn	Pn	18 18 25.5	+1.4
TSI	**Tuntungan**	**4.32 337**	P	Pn	18 18 27.4	+2.0
MNAI	**Manna**	**4.68 145**	Pn	Pn	18 18 33.9	+3.6
MNAI	**Manna**	**4.68 145**	P	Pn	18 18 30.6	+0.3
MDSI	**Maura Dua**	**5.56 136**	P	Pn	18 18 43.2	+0.9
	0.1nm26nm,0.8s					
KULM	**Kulim**	**5.76 4**	Pn	Pn	18 18 46.3	+1.2
BSI	**Banda Aceh**	**7.76 320**	P	Pn	18 19 13.4	+0.8
SRIT	**Nakonsritamara**	**9.05 356**	Pn	Pn	18 19 29.4	-1.0
CMAR	**Chiang Mai Arr**	**18.88 356**	LR	LR	18 28 55.3	
	comp=Z,51nm,20.5s,baz=215,slow=36					
KAPI	**Kappang**	**19.95 103**	LR	LR	18 30 05.8	
	comp=Z,81nm,18.8s,baz=272,slow=38					
TOLI2	**Tolitoli**	**20.56 86**	P	P	18 21 57.3	-1.2
TOLI2			IAmb	IAmb	18 22 03.6	
	comp=Z,15nm,1.2s					
PALK	**Pallekele**	**21.00 292**	LR	LR	18 28 36.4	
	comp=Z,64nm,20.7s,baz=109,slow=32					
DAV	**Davao City (W)**	**26.33 73**	P	P	18 22 57.6	+1.8
	comp=Z,162nm,0.4s,baz=45,slow=6.6,SNR=4.1					
H08S2	**Diego Garcia H**	**28.60 255**	T	T	18 51 27.3	
	baz=78,slow=74					
H08S3	**Diego Garcia H**	**28.60 255**	T	T	18 51 18.3	
	baz=78,slow=74					
H08S1	**Diego Carcia H**	**28.61 255**	T	T	18 51 24.9	
	baz=78					
NWAO	**Narrogin (SRO)**	**35.99 155**	LR	LR	18 36 36.1	
	comp=Z,38nm,21.0s,baz=58,slow=32					
WB0	**Warramunga Arr**	**38.50 122**	P	P	18 24 40.4	-1.8
WRA	**Warramunga Arr**	**38.53 122**	P	P	18 24 41.9	-0.6
	comp=Z,0.9nm,0.9s,baz=298,slow=8.2,SNR=2.8					
	comp=Z,0.9nm,0.9s					
WB2	**Warramunga Arr**	**38.54 122**	P	P	18 24 40.6	-1.9
WB2			IAmb	IAmb	18 25 07.2	
	comp=Z,8.4nm,1.5s					
ASAR	**Alice Springs**	**39.92 128**	P	P	18 24 53.5	-0.6
	comp=Z,0.7nm,0.7s,baz=300,slow=8.0,SNR=15					
ASAR			PcP	PcP	18 27 00.7	+1.0
	comp=Z,0.3nm,0.7s,baz=297,slow=3.1,SNR=2.2					
	comp=Z,0.7nm,0.7s					
KSRS	**Korea Array**	**45.59 31**	LR	LR	18 48 34.0	
	comp=Z,15nm,18.7s,baz=210,slow=41					
BBOO	**Buckleboo**	**46.54 137**	P	P	18 25 46.2	-1.2
RER	**Riviere de l'E**	**48.06 242**	P	P	18 25 59.5	-0.1
CHGR	**Chuyangaron**	**48.33 327**	P	P	18 25 59.8	-1.6
SIMJ	**Simiganj**	**48.41 327**	P	P	18 26 00.1	-1.9
SIMJ			IAmb	IAmb	18 26 06.6	
	comp=Z,3.1nm,0.9s					
SONM	**Songino Array**	**48.43 6**	P	P	18 26 03.5	+1.5
	comp=Z,0.4nm,0.7s,baz=188,slow=9.9,SNR=2.6					
	comp=Z,0.4nm,0.7s					
MK31	**Makanchi Array**	**49.67 344**	P	P	18 26 09.9	-1.5
MKAR	**Makanchi Array**	**49.67 344**	P	P	18 26 10.2	-1.2
MKAR	**Makanchi Array**	**49.67 344**	P	P	18 26 12.2	+0.8
	comp=Z,0.9nm,0.6s,baz=144,slow=7.5,SNR=12					
MKAR			LR	LR	18 50 09.9	
	comp=Z,22nm,18.3s,baz=142,slow=40					
	comp=Z,0.9nm,0.6s					
STKA	**Stephens Creek**	**49.95 133**	P	P	18 26 15.7	+1.9
	comp=Z,0.8nm,0.4s,baz=294,slow=10.0,SNR=1.9					
	comp=Z,0.8nm,0.4s					
KURBB	**Kurchatov Arra**	**54.20 343**	P	P	18 26 45.5	+0.5
	comp=Z,0.4nm,0.3s,baz=160,slow=7.1,SNR=2.6					
	comp=Z,0.4nm,0.3s					
ZAA0	**Zalesovo Array**	**55.75 349**	P	P	18 26 54.3	-1.9
ZAA0			IAmb	IAmb	18 26 57.8	
	comp=Z,2.5nm,0.8s					
ZALV	**Zalesovo Beam**	**55.75 349**	P	P	18 26 54.1	-2.1
ZALV	**Zalesovo Beam**	**55.75 349**	P	P	18 26 57.1	+0.8
	comp=Z,2.0nm,0.7s,baz=168,slow=6.5,SNR=9.5					
	comp=Z,2.0nm,0.7s					
KLR	**Kul'dur**	**56.45 24**	LR	LR	18 53 58.7	
	comp=Z,26nm,18.1s,baz=193,slow=39					
BVAR	**Borovoye Array**	**58.88 339**	P	P	18 27 18.4	0.0
	comp=Z,1.4nm,0.6s,baz=142,slow=7.5,SNR=8.4					
	comp=Z,1.4nm,0.6s					
ABKAR	**Akbulak array**	**60.47 331**	P	P	18 27 28.2	-1.2
ABKAR			IAmb	IAmb	18 27 29.7	
	comp=Z,2.0nm,0.8s					
H04N2	**CROZET ISLANDS**	**62.17 216**	T	T	19 33 43.2	
	baz=57,slow=75,SNR=10					
H04N1	**CROZET ISLANDS**	**62.18 216**	T	T	19 33 48.6	
	baz=57,slow=75,SNR=8.4					
AKTO	**Aktyubinsk**	**62.18 331**	P	P	18 27 40.9	-0.1
	comp=Z,1.3nm,0.7s,baz=141,slow=3.0,SNR=3.5					
	comp=Z,1.3nm,0.7s					
H04N3	**CROZET ISLANDS**	**62.19 216**	T	T	19 33 40.8	
	baz=57,slow=75,SNR=8.4					
ARTI	**Arti**	**65.99 336**	P	P	18 28 05.1	-0.8
	comp=Z,2.0nm,0.6s,baz=333,slow=2.3,SNR=2.5					
	comp=Z,2.0nm,0.6s					
YAK	**Yakutsk**	**66.22 15**	LR	LR	19 00 09.2	
	comp=Z,52nm,18.4s,baz=266,slow=39					
KBZ	**Khabaz**	**67.37 319**	P	P	18 28 14.9	0.0
	comp=Z,1.3nm,0.9s,baz=299,slow=7.5,SNR=3.7					
	comp=Z,1.3nm,0.9s					
BR131	**Keskin Array S**	**72.53 312**	P	P	18 28 45.7	-1.2
BR131			IAmb	IAmb	18 29 25.3	
	comp=Z,5.4nm,1.5s					
BRTR	**Keskin Array B**	**72.53 312**	P	P	18 28 44.9	-2.1
BRTR	**Keskin Array B**	**72.53 312**	P	P	18 28 46.3	-0.7
	comp=Z,0.7nm,0.8s,baz=121,slow=3.2,SNR=4.4					
	comp=Z,0.7nm,0.8s					
TIXI	**Tiksi**	**74.33 9**	LR	LR	19 04 55.6	
	comp=Z,29nm,18.2s,baz=206,slow=38					
ARCES	**ARCESS Array B**	**85.16 340**	P	P	18 29 56.9	+1.4
	comp=Z,2.9nm,1.0s,baz=103,slow=5.6,SNR=3.9					
	comp=Z,2.9nm,1.0s					

*KRNET **19** 18:42:38.8±0.1,41.°15N×78.°89E,h17km,mb2.7*
*SOME **19** 18:42:39.8,41.°27N×78.°92E,h10km*
*NNC **19** 18:42:40.7±2.8,41.°26N×78.°94E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=19.3km s-min=12.5km az=159.0

ISC 19 18:42:39.7±2.4,41.°2N±0.°1×78.°89E±0.°05,h10km,n29,
σ1°15/45,9C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrg**	**0.99**	**305**	⇑*i*P	**Pg**	18 42 57.8	-1.1
TARG				⇑*i*S	**Sg**	18 43 11.8	-0.1
PRZ	**Przheval'sk**	**1.37**	**345**	⇓*e*P	**Pn**	18 43 05.0	-0.1
PRZ				⇓*e*S	**Sn**	18 43 23.8	+0.3
KDJ	**Kajisay**	**1.61**	**308**	⇓*i*P	**Pn**	18 43 08.5	+0.2
KDJ				⇓*i*S	**Sb**	18 43 30.1	+0.1
ANVS	**Anan'yevo**	**1.86**	**331**	⇑*e*P	**Pb**	18 43 13.3	-0.6
ANVS				⇑*i*S	**Sg**	18 43 38.7	-0.8
SATY	**Saty**	**1.93**	**349**	Pg	**Pb**	18 43 14.5	-0.6
	8.4nm,0.3s						
SATY				Lg	Lg	18 43 40.5	
	24nm,0.1s						
UZB	**Uzynbulak**	**1.99**	**3**	Pg	**Pb**	18 43 15.1	-1.0
	12nm,0.4s						
UZB				Lg	Lg	18 43 41.7	
	20nm,0.2s						
UZB	**Uzynbulak**	**1.99**	**3**	*e*P	**Pb**	18 43 15.1	-1.0
	12nm,0.4s						
UZB				*e*S	**Sb**	18 43 40.8	-0.2
	20nm,0.2s						
ZHN	**Zhinishke**	**2.04**	**351**	Pg	**Pb**	18 43 16.1	-0.7
	8.5nm,0.1s						
ZHN				Lg	Lg	18 43 43.4	
	77nm,0.2s						
ZHN	**Zhinishke**	**2.04**	**351**	*e*P	**Pb**	18 43 16.1	-0.7
	8.5nm,0.1s						
ZHN				*e*S	**Sb**	18 43 42.4	+0.1
	77nm,0.2s						
SHLS	**Shalkode**	**2.04**	**12**	Pg	**Pg**	18 43 17.9	-0.9
	32nm,0.2s						
SHLS				Lg	Lg	18 43 45.4	
	32nm,0.4s						
SHLS	**Shalkode**	**2.04**	**12**	*e*P	**Pg**	18 43 17.9	-0.9
	32nm,0.2s						
SHLS				*e*S	**Sg**	18 43 45.4	0.0
	32nm,0.4s						
PDGK	**Podgornoye**	**2.21**	**11**	⇑Pn	**Pn**	18 43 17.5	+0.8
	16nm,0.6s						
PDGK				⇓Sn	**Sb**	18 43 47.4	-0.1
	21nm,0.5s						
TNSS	**Tian-Shan**	**2.37**	**323**	Pg	**Pb**	18 43 22.8	+0.1
	4.2nm,0.3s						
TNSS				Lg	Lg	18 43 53.6	
	8.7nm,0.3s						
TNSS	**Tian-Shan**	**2.37**	**323**	*e*P	**Pb**	18 43 22.8	+0.1
	4.2nm,0.3s						
TNSS				*e*S	**Sb**	18 43 53.6	+1.5
	8.7nm,0.3s						
KOTS	**Kotyrbulak**	**2.46**	**328**	Pg	**Pb**	18 43 24.1	0.0
	5.5nm,0.3s						
KOTS				Lg	Lg	18 43 56.3	
	29nm,0.3s						
KOTS	**Kotyrbulak**	**2.46**	**328**	*e*P	**Pb**	18 43 24.1	0.0
	5.5nm,0.3s						
KOTS				*e*S	**Sb**	18 43 56.3	+1.8
	29nm,0.3s						
BOOM	**Boomskoye usch**	**2.57**	**302**	⇑*e*P	**Pn**	18 43 23.4	+1.8
BOOM				⇑*e*S	**Sb**	18 43 56.0	-1.8
MTBS	**Maitube**	**2.69**	**318**	Pg	**Pb**	18 43 26.1	-1.8
	2.3nm,0.3s						
MTBS				Lg	Lg	18 43 59.5	
	9.7nm,0.4s						
MTBS	**Maitube**	**2.69**	**318**	*e*P	**Pb**	18 43 28.2	+0.2
	1.3nm,0.1s						
MTBS				*e*S	**Sb**	18 44 02.8	+1.8
	9.7nm,0.3s						
KST	**Kastek**	**2.88**	**312**	Pg	**Pb**	18 43 30.7	-0.5
	2.6nm,0.3s						
KST				Lg	Lg	18 44 08.3	
	15nm,0.5s						
KST	**Kastek**	**2.88**	**312**	*e*P	**Pb**	18 43 31.1	-0.1
	1.5nm,0.1s						
KST				*e*S	**Sb**	18 44 08.0	+1.5
	15nm,0.5s						
BLB	**Baldybastay**	**2.95**	**354**	Pg	**Pb**	18 43 32.5	0.0
	22nm,0.4s						
BLB				Lg	Lg	18 44 09.9	
	16nm,0.4s						
TKM2	**Tokmak 2**	**3.02**	**307**	⇑Pn	**Pn**	18 43 29.8	+2.0
	1.3nm,0.5s						
TKM2				⇑Sn	**Sg**	18 44 13.8	-2.8
	5.4nm,0.7s						
CHKK	**Chushkaly**	**3.04**	**333**	Pg	**Pb**	18 43 34.1	+0.2
	1.6nm,0.3s						
CHKK				Lg	Lg	18 44 14.0	
	14nm,0.4s						
CHKK	**Chushkaly**	**3.04**	**333**	*e*P	**Pb**	18 43 34.1	+0.2
	0.6nm,0.1s						
CHKK				*e*S	**Sb**	18 44 13.1	+2.1
	12nm,0.3s						
DGS	**Degeres**	**3.11**	**313**	Pg	**Pb**	18 43 35.9	+0.7
	3.1nm,0.3s						
DGS				Lg	Lg	18 44 16.1	
	8.1nm,0.6s						
ARXS	**Arharly**	**3.15**	**346**	Pg	**Pb**	18 43 35.7	-0.1
	4.3nm,0.4s						
ARXS				Lg	Lg	18 44 16.5	
	7.5nm,0.4s						
DJR	**Jarkent**	**3.24**	**12**	Pg	**Pb**	18 43 36.2	-1.2
	1.0nm,0.2s						
DJR				Lg	Lg	18 44 17.8	
	11nm,0.3s						
DJR	**Jarkent**	**3.24**	**12**	*e*P	**Pb**	18 43 38.0	+0.6
	0.8nm,0.1s						
DJR				*e*S	**Sb**	18 44 19.6	+2.7
	13nm,0.5s						

IDC 19 18:45:16.5±3.1,32.°19S×177.°99W,h0km,mb3.4/2,
mbtmp3.5/3,ML2.8/1,Error ellipse: s-maj=74.3km
s-min=37.1km az=117.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.26**	**212**	Pn	Pn	18 47 03.9	+0.2
	0.2nm,0.3s,baz=46,slow=18,SNR=2.1						
URZ				Sn	Sn	18 48 26.3	-0.5
	1.6nm,0.3s,baz=274,slow=20,SNR=8.6						
	6.7nm,1.0s						
ASAR	**Alice Springs**	**43.05**	**269**	P	P	18 53 18.5	+0.3
	0.3nm,0.7s,baz=109,slow=8.0,SNR=4.6						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.20**	**274**	P	P	18 53 27.2	-0.3
	0.4nm,0.4s,baz=112,slow=8.1,SNR=7.3						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**146.82**	**339**	PKPbc	PKPbc	19 04 59.0	-0.9
	0.6nm,0.5s,baz=19,slow=4.7,SNR=6.5						

*IDC **19** 19:16:47.2±2.5,5.°84S×146.°44E,h109km±26km,mb3.1/5,*
mbtmp3.5/8,Error ellipse: s-maj=33.2km s-min=19.2km
az=66.0

ISC 19 19:16:46.6±1.1,5.°77S±0.°10×146.°4E±0.°2,h100km,n8,
σ0°90/9,mb3.4/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**169**	P	**Pn**	19 17 42.8	+1.2
	11nm,0.3s,baz=335,slow=8.2,SNR=20						
PMG				S	**Sn**	19 18 23.4	-0.8
	36nm,0.3s,baz=185,slow=22,SNR=20						
JAY	**Jayapura**	**6.56**	**299**	P	**Pn**	19 18 21.0	+0.4
	15nm,0.9s,baz=143,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**18.35**	**219**	P	**P**	19 20 53.5	0.0
	0.3nm,0.6s,baz=36,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**21.49**	**213**	P	**P**	19 21 26.4	-1.1
	0.2nm,0.7s,baz=37,slow=10,SNR=6.7						
	0.2nm,0.7s						
KSRS	**Korea Array**	**46.34**	**340**	P	**P**	19 25 03.0	+0.4
	0.4nm,0.4s,baz=167,slow=7.5,SNR=2.9						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**52.64**	**298**	P	**P**	19 25 51.1	+0.2
	1.3nm,0.6s,baz=121,slow=6.1,SNR=12						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**76.96**	**321**	P	**P**	19 28 27.4	-1.0
	0.1nm,0.4s,baz=100,slow=5.9,SNR=2.3						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**85.50**	**23**	P	**P**	19 29 12.8	-0.3
	0.3nm,0.8s,baz=236,slow=6.4,SNR=4.3						
	0.3nm,0.8s						

*IDC **19** 19:18:24.4±1.7,34.°63N×80.°22E,h0km,mb3.4/5,*
mbtmp3.2/10,ML2.6/5,Error ellipse: s-maj=63.0km
s-min=18.9km az=61.0

ISC 19 19:18:30.2±1.2,34.°8N±0.°2×80.°5E±0.°2,h35km,n10,
σ0°85/10,mb3.3/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.13**	**331**	P	**Pn**	19 20 39.9	+0.4
	0.1nm,0.3s,baz=185,slow=11,SNR=1.3						
AAK				Lg	Lg	19 23 16.0	
	0.1nm,0.3s,baz=244,slow=2.7,SNR=4.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**12.09**	**6**	Pn	**Pn**	19 21 20.1	+0.2
	0.1nm,0.3s,baz=184,slow=14,SNR=5.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**15.91**	**356**	Pn	**Pn**	19 22 09.6	-1.6
	baz=181,slow=11,SNR=6.0						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**19.42**	**8**	P	**Pn**	19 22 53.7	-0.8
	0.1nm,0.3s,baz=198,slow=9.1,SNR=1.8						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**19.60**	**342**	P	**Pn**	19 22 56.3	-0.5
	baz=155,slow=11,SNR=2.8						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**23.11**	**130**	P	**P**	19 23 33.1	0.0
	0.2nm,0.4s,baz=316,slow=10.0,SNR=2.0						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**43.26**	**325**	P	**P**	19 26 27.1	-0.8
	0.8nm,0.7s,baz=126,slow=7.1,SNR=1.3						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**74.11**	**19**	P	**P**	19 30 03.0	+0.6
	0.3nm,0.7s,baz=318,slow=6.3,SNR=4.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**77.12**	**131**	P	**P**	19 30 19.9	-0.3
	0.2nm,0.7s,baz=319,slow=5.3,SNR=1.5						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**82.32**	**7**	P	**P**	19 30 48.5	+0.7
	0.2nm,0.6s,baz=342,slow=5.3,SNR=3.9						
	0.2nm,0.6s						

DJA 19 19:30:30.8±0.5,3.°N±2.°×12.°5E±.°,h18km±3km,M4.0/15,
mb4.2/6,MLv3.9/15,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.97**	**31**	P	Pb	19 30 49.0	-0.2
KMSI	**Cibinong**	**2.49**	**205**	P	Pn	19 31 10.8	+0.4
KMSI				S	Sn	19 31 39.7	-0.7
TNTI	**Ternate**	**3.12**	**131**	P	Pn	19 31 20.1	+0.9
TNTI				S	Sn	19 31 57.1	+1.0
MRSI	**Marisa**	**3.88**	**233**	P	Pn	19 31 28.1	-1.4
LUWI	**Luwuk**	**4.47**	**210**	P	Pn	19 31 39.8	+2.1
LUWI				S	Sn	19 32 32.2	+2.9
SANI	**Sanana**	**4.96**	**169**	P	Pn	19 31 43.7	-0.8
NLAI	**Namlea**	**6.40**	**161**	P	Pn	19 32 03.6	-0.6
	0.1nm18nm,0.9s						
MSAI	**Masohi**	**7.29**	**148**	P	Pn	19 32 16.4	-0.1

DJA 19 19:32:46.0±0.7,3.°S±5.°×11.°9E±.°,h12km±4km,M2.5/5,
MLv2.5/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**101**	P	Pb	19 32 54.5	-0.5
TTSI				S	Sb	19 33 01.4	+0.4
SPSI	**Sidrap Palu**	**1.04**	**161**	P	Pb	19 33 05.6	-0.4
SPSI				S	Sg	19 33 20.0	+0.2
BKSI	**Bulukumba**	**2.44**	**164**	P	Pn	19 33 25.9	+0.3

*IDC **19** 19:34:03.9±2.7,8.°58S×118.°97E,h113km±30km,mb3.4/5,*
mbtmp3.9/9,Error ellipse: s-maj=37.7km s-min=19.4km
az=34.0
*DJA **19** 19:34:09.0±0.4,9.°S±5.°×11.°9E±.°,h136km±8km,M4.2/13,*
mb4.3/3,MLv4.1/13

ISC 19 19:34:07.7±0.8,8.°69S±0.°06×119.°30E±0.°04,h170km,n32,
σ1°49/36,mb3.7/4,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.95**	**174**	P	**Pn**	19 34 33.5	-0.6
WBSI				S	**Sn**	19 34 52.0	-2.5
WSI	**Waingapu**	**1.39**	**135**	P	**Pn**	19 34 37.6	-0.1
WSI				S	**Sn**	19 34 58.7	-2.2
PLAI	**Plampang**	**1.51**	**265**	P	**Pn**	19 34 39.0	+0.1
PLAI	**Plampang**	**1.51**	**265**	S	**Sn**	19 35 01.0	-2.0
PLAI	**Plampang**	**1.51**	**265**	P	**Pn**	19 34 39.2	+0.3
PLAI				S	**Sn**	19 35 01.1	-1.9
BASI	**Baing, Sumba**	**1.98**	**140**	P	**Pn**	19 34 44.3	+0.5
BASI				S	**Sn**	19 35 11.7	-0.1
BSSI	**Bau Bau, Buton**	**2.79**	**25**	P	**Pn**	19 34 51.6	-1.8
MMRI	**Maumere**	**2.91**	**89**	P	**Pn**	19 34 54.7	-0.1
MMRI	**Maumere**	**2.91**	**89**	S	**Sn**	19 35 30.2	-1.1
MMRI	**Maumere**	**2.91**	**89**	P	**Pn**	19 34 54.3	-0.5
BKSI	**Bulukumba**	**3.44**	**14**	P	**Pn**	19 35 00.2	-1.3
DNP	**Denpasar**	**4.04**	**270**	P	**Pn**	19 35 11.6	+2.5
SRBI	**Singaraja**	**4.09**	**278**	P	**Pn**	19 35 10.5	+0.9
BATI	**Baumata**	**4.56**	**110**	P	**Pn**	19 35 16.9	+1.0
	47nm,0.3s,baz=275,slow=12						
BATI				S	**Sn**	19 36 10.8	+1.7
	23nm,0.3s,baz=337,slow=20,SNR=2.3						
SOEI	**Soe**	**5.02**	**103**	P	**Pn**	19 35 22.4	+0.5
SOEI	**Soe**	**5.02**	**103**	P	**Pn**	19 35 22.3	+0.4
JAGI	**Jajag, Banyuwa**	**5.09**	**272**	S	**Sn**	19 36 19.2	-2.3
JAGI	**Jajag, Banyuwa**	**5.09**	**272**	P	**Pn**	19 35 21.2	-1.5
JAGI	**Jajag, Banyuwa**	**5.09**	**272**	P	**Pn**	19 35 23.4	+0.7
	0.3nm27nm,0.8s						
GMJI	**Gumukmas**	**5.80**	**274**	P	**Pn**	19 35 34.3	+2.2
FITZ	**Fitzroy Crossi**	**11.20**	**147**	P	**Pn**	19 36 44.9	+1.8
	8.0nm,0.8s,baz=331,slow=10,SNR=22						
FITZ				S	**Sn**	19 38 43.8	-3.6
	8.6nm,0.7s,baz=190,slow=22,SNR=9.8						
FITZ	**Fitzroy Crossi**	**11.20**	**147**	P	**Pn**	19 36 42.5	-0.6
LEM	**Lembang**	**11.72**	**278**	P	Pn	19 36 42.4	-7.7
	6.1nm,0.3s,baz=111,slow=19,SNR=1.3						
DRS	**Darwin Rock St**	**11.99**	**109**	P	**Pn**	19 36 53.6	+0.2
MTN	**Manton Dam**	**12.34**	**111**	P	**Pn**	19 36 58.0	+0.2
KDU	**Kakadu**	**13.54**	**108**	P	**Pn**	19 37 13.4	+0.2
WRA	**Warramunga Arr**	**18.35**	**129**	P	**Pn**	19 38 12.6	+1.0
	1.6nm,0.8s,baz=307,slow=12,SNR=13						
ASAR	**Alice Springs**	**20.43**	**139**	P	Pn	19 38 35.9	-0.4
	0.4nm,0.4s,baz=312,slow=10,SNR=8.6						
	0.4nm,0.4s						
SONM	**Songino Array**	**57.43**	**350**	P	**P**	19 43 40.0	+1.3
	0.4nm,0.5s,baz=155,slow=8.6,SNR=3.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**64.32**	**333**	P	**P**	19 44 26.4	+1.3
	1.0nm,0.6s,baz=146,slow=7.7,SNR=13						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**68.82**	**334**	P	**P**	19 44 54.5	+1.0
	0.4nm,0.5s,baz=137,slow=5.7,SNR=9.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**68.86**	**339**	P	**P**	19 44 53.9	+0.2
	0.7nm,0.4s,baz=136,slow=4.7,SNR=5.7						
	0.7nm,0.4s						

IDC 19 19:39:24.5±784.0,52.°73N×5.°38E,h0km,Error ellipse:
s-maj=352.5km s-min=137.7km az=108.0,The
Netherlands

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

YMR Madison River 2.95 261 Pn Pn 20 18 45.9 -0.2
YMR IAML 20 19 49.7
comp=E,107nm,2.1s
YMR IAML 20 20 06.2
comp=N,86nm,3.4s
YHL Hebgen Lake 3.07 265 Pn **Pn 20 18 48.0 +0.2**
YHL IAML 20 19 42.3
comp=N,79nm,2.3s
YHL IAML 20 20 10.6
comp=E,86nm,2.0s
YHB Horse Butte 3.09 263 Pn 20 18 47.1 -1.0
YHB IAML 20 19 41.9
comp=N,70nm,2.2s
YHB IAML 20 20 14.1
comp=E,40nm,4.0s
LOHW Long Hollow 3.11 240 Pn 20 18 48.4 +0.1
BW06 Boulder Array 3.12 219 Pn **Pn 20 18 49.7 +1.3**
PD31 Pinedale Array 3.12 219 Pn 20 18 49.3 +0.9
PDAR Pinedale Array 3.12 219 Pn 20 18 49.6 +1.2
PDAR Pinedale Array 3.12 219 Pn **Pn 20 18 51.0 +2.6**
comp=E,4.7nm,0.3s,baz=41,slow=20,SNR=96
PDAR Lg Lg 20 19 29.4
comp=E,7.6nm,0.3s,baz=35,slow=29,SNR=4.9
comp=E,3.4nm,0.3s
MOOW Moose Ponds 3.13 243 Pn 20 18 48.9 +0.3
QLMT Earthquake Lak 3.25 265 Pn 20 18 50.1 -0.1
SNOW Snow King Moun 3.28 239 Pn **Pn 20 18 52.5 +1.8**
SNOW IAML 20 20 50.5
comp=E,73nm,3.1s
SNOW IAML 20 20 54.6
comp=E,61nm,3.7s
FXWY Fox Creek 3.36 243 Pn 20 18 52.1 +0.3
BOZ Bozeman (W) 3.36 278 Pn 20 18 52.2 +0.4
BOZ IAML 20 19 48.6
comp=E,58nm,2.2s
TPAW Teton Pass 3.39 241 Pn 20 18 52.0 -0.2
TPAW IAML 20 20 22.7
comp=E,30nm,3.5s
EGMT Eagleton 3.43 326 Pn 20 18 53.0 +0.4
EGMT IAML 20 20 04.5
comp=E,59nm,1.6s
EGMT IAML 20 20 10.6
comp=E,67nm,1.8s
DGMT Dagmar 3.74 29 Pn **Pn 20 18 56.9 0.0**
HRY Holter Researc 3.76 295 Pn 20 18 56.6 -0.6
AHID Auburn Hatcher 3.91 233 Pn 20 18 59.2 0.0
LRM Limekiln Ridge 3.96 281 Pn **Pn 20 19 00.9 +0.9**
DLMT Dillon 4.03 274 Pn 20 19 00.6 -0.3
DLMT IAML 20 20 34.1
comp=E,52nm,2.0s
LYMT Lyon Mountain 4.15 297 Pn 20 19 00.1 -2.5
MCMT McKenzie Canyo 4.25 267 Pn 20 19 00.9 -3.0
E28A Huff 4.53 70 Pn **Pn 20 19 08.1 +0.4**
OVMT Ovando 4.63 296 Pn 20 19 08.7 -0.4
BPMT Black Pine Rid 4.75 287 Pn 20 19 09.4 -1.4
HWUT Hardware Ranch 4.96 225 Pn 20 19 12.2 -1.5
HWUT IAML 20 20 42.8
comp=E,28nm,2.3s
HWUT IAML 20 20 57.0
comp=E,18nm,2.3s
RDMU Red Mountain 5.04 204 Pn 20 19 14.1 -0.8
RDMU IAML 20 21 13.0
comp=E,24nm,3.0s
MSO Missoula 5.17 291 Pn 20 19 14.0 -2.6
MSO IAML 20 20 49.5
comp=E,22nm,2.6s
O20A White River Ci 5.18 192 Pn **Pn 20 19 13.8 -2.9**
TCUT Toone Canyon 5.26 220 Pn 20 19 14.4 -3.6
BSUT Blindstream Ca 5.47 213 Pn 20 19 17.6 -3.4
HVU Hansel Valley 5.49 233 Pn Pn 20 19 16.4 -4.6
OGNE Ogallala 5.55 139 Pn 20 19 22.8 +1.0
HLID Hailey 5.64 256 Pn 20 19 23.0 0.0
P18A Preston Nutter 6.11 205 Pn **Pn 20 19 31.0 +1.4**
PLID Pearl Lake 6.45 272 Pn **Pn 20 19 35.7 +1.5**
I10CA LAC DU BONNET 8.86 52 I I 21 15 40.0
comp=E,0.3nm,2.1s,baz=236,slow=314,SNR=14
ULM Lac du Bonnet 8.96 52 Pn **Pn 20 20 09.4 +1.0**
comp=E,0.6nm,0.3s,baz=239,slow=10,SNR=7.1
ULM Lg Lg 20 22 44.3
comp=E,0.4nm,0.3s,baz=134,slow=21,SNR=4.4
comp=E,2.3nm,0.4s

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*IDC **19** 20:28:19.1±4.8, 22°.27S×179°.95E, h600km±33km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=108.7km s-min=23.7km az=140.0*

ISC 19 20:28:16.5±2.1, 22°.5S±0°.3×179°.7W±0°.3, h600km, n8, σ0§44/7, mb3.9/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.17**	**335**	P	**P**	**20 29 51.1**	**+0.1**
	3.9nm,0.4s,baz=243,slow=23,SNR=18						
STKA	**Stephens Creek**	**35.57**	**246**	P	**P**	**20 34 25.2**	**+0.1**
	2.5nm,0.5s,baz=101,slow=10,SNR=12						
	2.5nm,0.5s						
ASAR	**Alice Springs**	**42.60**	**259**	P	**P**	**20 35 22.0**	**+0.3**
	2.2nm,0.5s,baz=100,slow=7.2,SNR=31						
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**42.84**	**264**	P	**P**	**20 35 23.0**	**-0.6**
	3.2nm,0.8s,baz=96,slow=8.1,SNR=69						
	3.2nm,0.8s						
HFS	**Hagfors**	**141.20**	**349**	PKhKP	PKPpre	20 46 35.9	
	1.3nm,0.5s,baz=76,slow=6.3,SNR=8.6						
AKASG	**Malin Array Be**	**143.92**	**329**	PKP	**PKPdf**	**20 46 44.7**	**+0.4**
	1.0nm,0.3s,baz=44,slow=3.9,SNR=14						
BRTR	**Keskin Array B**	**146.94**	**309**	PKPbc	**PKiKP**	**20 46 54.5**	**-0.3**
	0.7nm,0.6s,baz=151,slow=3.3,SNR=5.1						
EKA	**Eskdalemuir Ar**	**147.06**	**4**	PKPbc	**PKiKP**	**20 46 54.1**	**-0.3**
	0.4nm,0.4s,baz=10.0,slow=2.3,SNR=4.6						

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*NEIC **19** 21:02:55.8±1.0, 44°.04N±0°.04×105°.27W±0°.10, h0km±1km, ML3.0/20, Error ellipse: s-maj=12.6km s-min=5.8km az=113.0*
*IDC **19** 21:02:57.3±3.0, 43°.53N×105°.31W, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=76.6km s-min=10.9km az=152.0*

ISC 19 21:02:58.3±1.5, 44°.01N±0°.07×105°.38W±0°.10, h0km, n17, σ1§10/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.60**	**212**		**Pn**	**21 03 26.9**	**-1.1**
K22A	IAML					21 03 55.0	
	180nm,0.3s						
LAO	**LASA Array**	**2.74**	**348**	Pn	**Pn**	**21 03 42.7**	**-0.9**
RLMT	**Red Lodge**	**2.99**	**293**	Pn	**Pn**	**21 03 47.0**	**-0.3**
RLMT	IAML					21 04 39.4	
	36nm,0.6s						
RLMT	IAML					21 04 47.8	
	39nm,2.2s						
PD31	**Pinedale Array**	**3.29**	**249**	Pn	**Pn**	**21 03 51.7**	**+0.3**
PDAR	**Pinedale Array**	**3.29**	**249**	Pn	**Pn**	**21 03 52.2**	**+0.9**
	1.1nm,0.3s,baz=60,slow=17,SNR=24						
PDAR	Lg				Lg	21 04 36.9	
	3.8nm,0.3s,baz=68,slow=27,SNR=3.2						
	1.1nm,0.4s						
YMP	**Mirror Lake PI**	**3.50**	**284**	Pn	**Pn**	**21 03 52.6**	**-1.7**
YMP	IAML					21 04 52.7	
	comp=E,34nm,0.7s						
YMP	IAML					21 05 08.7	
	comp=N,28nm,0.7s						
LOHW	**Long Hollow**	**3.81**	**266**	Pn	**Pn**	**21 03 58.3**	**-0.1**
LOHW	IAML					21 05 22.7	
	comp=N,14nm,3.7s						
MOOW	**Moose Ponds**	**3.89**	**268**	Pn	**Pn**	**21 03 59.7**	**+0.1**
OGNE	**Ogallala**	**3.94**	**140**	Pn	**Pn**	**21 03 58.0**	**-2.0**
YHL	**Hebgen Lake**	**4.24**	**283**	Pn	**Pn**	**21 04 03.5**	**-0.9**
YHL	IAML					21 05 20.4	
	comp=E,22nm,1.4s						
YHL	IAML					21 05 25.9	
	comp=N,17nm,1.4s						
BOZ	**Bozeman (W)**	**4.72**	**292**	Pn	**Pn**	**21 04 10.9**	**0.0**
BOZ	IAML					21 05 34.2	
	comp=N,12nm,2.7s						
BOZ	IAML					21 05 37.4	
	comp=N,7.4nm,2.0s						
EGMT	**Eagleton**	**5.04**	**324**	Pn	**Pn**	**21 04 15.1**	**-0.1**
LRM	**Limekiln Ridge**	**5.34**	**292**	Pn	**Pn**	**21 04 19.2**	**-0.3**
LYMT	**Lyon Mountain**	**5.69**	**304**	Pn	**Pn**	**21 04 23.1**	**-1.2**
P18A	**Preston Nutter**	**5.70**	**221**	Pn	**Pn**	**21 04 25.1**	**+0.7**
I10CA	**LAC DU BONNET**	**8.88**	**43**	I	I	22 00 40.0	
	comp=N,0.2nm,1.3s,baz=225,slow=318,SNR=4.3						
ULM	**Lac du Bonnet**	**8.99**	**43**	Pn	**Pn**	**21 05 10.9**	**+1.6**
	comp=N,0.2nm,0.3s,baz=229,slow=11,SNR=1.8						
ULM	Lg				Lg	21 07 42.9	
	comp=N,0.2nm,0.3s,baz=154,slow=11,SNR=4.9						
	comp=N,0.8nm,0.4s						

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*NNC **19** 21:22:15.0±5.3, 36°.80N×70°.54E, h159km±89km, mb3.2, mpv4.4, Error ellipse: s-maj=47.8km s-min=35.3km az=14.0*

ISC 19 21:22:11.6±3.6, 36°.6N±0°.2×70°.5E±0°.1, h100km, n13, σ1§18/16, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.07**	**23**	P	**Pn**	**21 23 40.4**	**+1.2**
	SNR=158						
UCH	**Uchtor**	**6.44**	**28**	P	**Pn**	**21 23 45.4**	**+1.1**
	SNR=5.3						
KK31	**Karatay Array**	**6.51**	**0**	⇓P	**Pn**	**21 23 46.5**	**+1.6**
	8.7nm,0.3s,baz=195,slow=17,SNR=115						
KK31				⇓S	**Sn**	**21 24 56.6**	**-1.0**
	5.4nm,0.3s,baz=188,slow=22,SNR=14						
EKS2	**Erkin-Say**	**6.58**	**22**	P	**Pn**	**21 23 47.0**	**+1.1**
	SNR=34						
AAK	**Ala-Archa**	**6.79**	**26**	P	**Pn**	**21 23 49.6**	**+0.8**
	SNR=32						
AAK	**Ala-Archa**	**6.79**	**26**	⇑P	**Pn**	**21 23 49.4**	**+0.6**
	8.6nm,0.4s						
AAK				⇑S	**Sn**	**21 25 05.4**	**+0.7**
	16nm,0.5s						
KBK	**Karagaybulak**	**6.97**	**28**	P	**Pn**	**21 23 52.1**	**+0.8**
	SNR=18						
CHMS	**Chumysh**	**7.20**	**26**	P	**Pn**	**21 23 54.8**	**+0.6**
	SNR=19						
USP	**Ospenovka**	**7.35**	**24**	P	**Pn**	**21 23 56.6**	**+0.3**
	SNR=13						
TKM2	**Tokmak 2**	**7.45**	**30**	P	**Pn**	**21 23 58.0**	**+0.2**
	SNR=40						
TKM2	**Tokmak 2**	**7.45**	**30**	⇑P	**Pn**	**21 23 57.6**	**-0.2**
	17nm,0.4s						
TKM2				⇓S	**Sn**	**21 25 19.8**	**-1.1**
	5.7nm,0.8s						
AB31	**Akbulak array**	**14.82**	**332**	P	**Pn**	**21 25 36.1**	**+0.2**
	0.3nm,0.4s,baz=143,slow=12,SNR=5.8						
AKTO	**Aktyubinsk**	**16.51**	**331**	⇑P	**Pn**	**21 25 54.4**	**-2.6**
	0.5nm,0.4s						

IDC 19 21:34:49.9±3.2, 10°.78N×121°.73E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=382.5km s-min=26.7km az=63.0, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.96**	**158**	P	P	21 41 26.9	+0.4
	0.8nm,0.8s,baz=338,slow=8.6,SNR=3.4						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**36.25**	**161**	P	P	21 41 54.6	-0.4
	0.4nm,0.4s,baz=342,slow=8.5,SNR=9.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**48.98**	**325**	P	P	21 43 38.2	-0.1
	0.6nm,0.7s,baz=108,slow=4.7,SNR=6.6						
	0.6nm,0.7s						

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*BJI **19** 22:12:20.2, 1°.87N×129°.21E, h40km, mB4.9/15, mb4.7/57, Ms4.3/5, Ms7 4.0/7*
*IDC **19** 22:12:21.6±0.6, 2°.60N×128°.94E, h0km, mb4.5/20, mbtmp4.5/20, MS3.5/9, Error ellipse: s-maj=27.9km s-min=12.6km az=78.0*
*NEIC **19** 22:12:25.3±1.6, 2°.58N±0°.06×128°.94E±0°.08, h20km±5km, mb4.9/81, Error ellipse: s-maj=11.3km s-min=9.1km az=97.0*
*DJA **19** 22:12:25.0±0.3, 3°N±3°×12°9E±°, h10km, M4.8/23, mb4.9/23, mB5.4/11, MLv4.7/15, Mw(mB)4.8/11*

ISC 19 22:12:26.8±0.4, 2°.57N±0°.05×128°.91E±0°.07, h35km, n176, σ1§11/165, mb4.8/79, MS3.6/7, 2C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.36**	**221**	Pn	**Pn**	**22 13 03.0**	**-0.1**
TNTI				Sn	**Sn**	**22 13 31.2**	**+0.3**
TNTI	**Ternate**	**2.36**	**221**	P	**Pn**	**22 13 03.4**	**+0.3**
SGSI	**Sangihe**	**3.56**	**288**	P	**Pn**	**22 13 20.5**	**+1.0**
SWI	**Sorong**	**4.14**	**145**	P	**Pn**	**22 13 26.2**	**-1.3**
KMSI	**Cibinong**	**5.31**	**248**	P	**Pn**	**22 13 44.9**	**+1.2**
SANI	**Sanana**	**5.44**	**213**	P	**Pn**	**22 13 46.3**	**+0.8**
	44nm,0.9s						
DAV	**Davao City (W)**	**5.57**	**324**	Pn	**Pn**	**22 13 45.7**	**-1.5**
MSAI	**Masohi**	**5.88**	**180**	P	**Pn**	**22 13 50.9**	**-0.5**
	83nm,0.7s						
NLAI	**Namlea**	**6.05**	**197**	P	**Pn**	**22 13 53.6**	**-0.2**
	0.1nm26nm,0.5s						
FAKI	**Fak Fak**	**6.39**	**149**	Pn	**Pn**	**22 13 57.8**	**-0.7**
FAKI	**Fak Fak**	**6.39**	**149**	P	**Pn**	**22 13 57.9**	**-0.6**
RKPI	**Ransiki, Papua**	**6.64**	**128**	P	**Pn**	**22 14 03.8**	**+1.8**
	0.5nm144nm,0.8s						
LUWI	**Luwuk**	**7.11**	**240**	Pn	**Pn**	**22 14 08.7**	**+0.3**
LUWI	**Luwuk**	**7.11**	**240**	P	**Pn**	**22 14 10.2**	**+1.8**
	0.6nm2μm82nm,0.6s						
BNDI	**Bandanaira**	**7.11**	**172**	P	**Pn**	**22 14 07.8**	**-0.6**
	0.5nm60nm,0.9s						
MRSI	**Marisa**	**7.27**	**254**	P	**Pn**	**22 14 13.4**	**+2.8**
	0.4nm2μm99nm,0.5s						
TOLI2	**Tolitoli**	**8.26**	**260**	Pn	**Pn**	**22 14 24.1**	**0.0**
KDI	**Kendari**	**9.03**	**224**	P	**Pn**	**22 14 33.1**	**-1.7**
BBSI	**Bau Bau**	**10.21**	**218**	P	**Pn**	**22 14 53.6**	**+2.7**
	57nm,1.1s						
TTSI	**Tana Toraja**	**10.66**	**239**	P	**Pn**	**22 14 57.2**	**0.0**
	2μm64nm,0.8s						
MYLDM	**Lahad Datu**	**10.71**	**284**	Pn	**Pn**	**22 14 58.0**	**+0.2**
SPSI	**Sidrap Palu**	**11.21**	**235**	P	**Pn**	**22 15 06.5**	**+1.9**
	676nm38nm,0.7s						
BKSI	**Bulukumba**	**11.77**	**228**	P	**Pn**	**22 15 12.4**	**+0.1**
	44nm,0.6s						
KAPI	**Kappang**	**11.86**	**231**	LR	LR	22 20 31.5	
	comp=Z,87nm,20.6s,baz=56,slow=41						
JAY	**Jayapura**	**12.82**	**113**	LR	LR	22 20 13.2	
	comp=Z,247nm,18.5s,baz=330,slow=37						
KKM	**Kota Kinabalu**	**13.12**	**286**	Pn	**Pn**	**22 15 30.7**	**-0.2**
BATI	**Batmata**	**13.73**	**202**	LR	LR	22 21 11.9	
	comp=Z,309nm,18.9s,baz=14,slow=38						
SBUM	**Sibu**	**16.68**	**270**	Pn	**Pn**	**22 16 17.4**	**-0.6**
KNRA	**Kununurra**	**18.13**	**180**		**Pn**	**22 16 35.9**	**0.0**
KSM	**Kuching**	**18.62**	**267**	P	**P**	**22 16 39.6**	**-2.0**
GUMO	**Guam**	**19.20**	**54**	LR	LR	22 24 23.0	
	comp=Z,89nm,18.6s,baz=39,slow=38						
FITZ	**Fitzroy Crossi**	**20.79**	**189**	P	**P**	**22 17 04.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.79**	**189**	P	**P**	**22 17 06.2**	**+1.2**
	2.7nm,0.5s,baz=24,slow=12,SNR=7.1						
	2.7nm,0.5s						
YULB	**Yu-li**	**21.98**	**341**	P	**P**	**22 17 15.8**	**-2.0**
YULB				IAmb	IAmb	22 17 35.5	
	comp=Z,81nm,1.9s						
TPUB	**Ta-pu**	**22.12**	**339**	P	**P**	**22 17 17.3**	**-2.1**
TPUB				IAmb	IAmb	22 17 20.3	
	comp=Z,41nm,0.7s						
WB0	**Warramunga Arr**	**22.84**	**167**	P	**P**	**22 17 26.8**	**-0.3**
WRA	**Warramunga Arr**	**23.00**	**167**	P	**P**	**22 17 27.7**	**-1.0**
WRA	**Warramunga Arr**	**23.00**	**167**	P	**P**	**22 17 28.2**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=349,slow=10,SNR=20						
	comp=Z,3.0nm,0.7s						
WR0	**Warramunga Arr**	**23.06**	**166**	P	**P**	**22 17 28.7**	**-0.6**
QIZ	**Qiongzhong**	**24.82**	**313**	P	**P**	**22 17 47.0**	**+1.1**
QIZ				S	**S**	**22 22 08.1**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,24nm,1.2s						
MBWA	**Marble Bar**	**25.24**	**200**	P	**P**	**22 17 49.1**	**-0.6**
MBWA				IAmb	IAmb	22 18 14.4	
	comp=Z,49nm,1.5s						
PSA00	**Pilbara Seismi**	**25.58**	**200**	P	**P**	**22 17 52.5**	**-0.3**
PSA00				IAmb	IAmb	22 18 06.8	
	comp=Z,35nm,1.4s						
MDSI	**Maura Dua**	**25.69**	**254**	P	**P**	**22 17 57.4**	**+3.5**
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**26.53**	**170**	P	**P**	**22 18 01.1**	**-0.3**
ASAR	**Alice Springs**	**26.53**	**170**	P	**P**	**22 18 01.4**	**0.0**
	comp=Z,1.6nm,0.5s,baz=355,slow=6.3,SNR=21						
	comp=Z,1.6nm,0.5s						
NJ2	**Nanjing**	**30.82**	**343**	*e*P	**P**	**22 18 42.8**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ENH	**Enshi**	**33.13**	**328**	P	**P**	**22 18 59.5**	**-0.4**
ENH				IAmb	IAmb	22 19 01.7	
	comp=Z,20nm,0.9s						
FORT	**Forrest**	**33.17**	**181**	P	**P**	**22 19 00.7**	**+0.6**
FORT				IAmb	IAmb	22 19 34.1	
	comp=Z,21nm,0.9s						
CMAR	**Chiang Mai Arr**	**33.34**	**300**	P	**P**	**22 19 00.6**	**-1.2**
CMAR	**Chiang Mai Arr**	**33.34**	**300**	P	**P**	**22 19 03.0**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=118,slow=7.3,SNR=25						
CMAR				LR	LR	22 33 32.0	
	comp=Z,47nm,18.4s,baz=110,slow=38						
	comp=Z,2.8nm,0.8s						
CHTO	**Chiang Mai**	**33.48**	**301**	P	**P**	**22 19 02.6**	**-0.5**
CHTO				IAmb	IAmb	22 19 05.4	
	comp=Z,12nm,1.1s						
KMI	**Kunming**	**33.74**	**314**	P	**P**	**22 19 07.4**	**+1.9**
KMI				sP	pwP	22 19 18.3	+0.1
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
MORW	**Morawa**	**33.79**	**201**	P	**P**	**22 19 04.5**	**-1.1**
MORW				IAmb	IAmb	22 19 05.4	
	comp=Z,24nm,1.5s						
KSAR	**Wonju Array Be**	**34.72**	**359**	P	**P**	**22 19 12.8**	**-0.6**
KSRS	**Korea Array**	**34.73**	**359**	P	**P**	**22 19 14.7**	**+1.1**
	comp=Z,8.7nm,0.8s,baz=177,slow=10,SNR=30						
	comp=Z,8.7nm,0.8s						
KS19	**Wonju Array Si**	**34.78**	**359**	P	**P**	**22 19 13.1**	**-0.9**
KS19				IAmb	IAmb	22 19 15.2	
	comp=Z,10nm,0.7s						
MJAR	**Matsushiro Arr**	**34.88**	**13**	P	**P**	**22 19 13.7**	**-1.2**
	comp=Z,2.9nm,0.5s,baz=183,slow=8.9,SNR=11						
	comp=Z,2.9nm,0.5s						
EIDS	**Eidsvold**	**35.12**	**144**	P	**P**	**22 19 17.3**	**+0.2**
EIDS				IAmb	IAmb	22 19 28.8	
	comp=Z,12nm,0.9s						
PZH	**PanZhiHua**	**35.30**	**315**	P	**P**	**22 19 19.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
BBOO	**Buckleboo**	**35.83**	**170**	P	**P**	**22 19 23.6**	**+0.5**
STKA	**Stephens Creek**	**36.31**	**162**	P	**P**	**22 19 28.0**	**+0.7**
STKA	**Stephens Creek**	**36.31**	**162**	P	**P**	**22 19 27.5**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=344,slow=8.6,SNR=16						
	comp=Z,3.0nm,0.3s						
JSD	**Sado**	**36.32**	**13**	P	**P**	**22 19 26.4**	**-0.9**
JSD				IAmb	IAmb	22 20 13.2	
	comp=Z,46nm,1.9s						
XAN	**Xi'an**	**36.45**	**331**	⇑P	**P**	**22 19 29.0**	**+0.5**
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
JMM	**Marumori**	**36.78**	**16**	P	**P**	**22 19 31.5**	**+0.4**
JMM				IAmb	IAmb	22 19 34.8	
	comp=Z,27nm,0.9s						
TNCH	**TengChong**	**36.83**	**310**	*e*P	**P**	**22 19 32.4**	**+0.4**
TNCH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NWAO	**Narrogin (SRO)**	**36.99**	**196**	P	**P**	**22 19 32.0**	**-1.1**
HNS	**HongShan**	**37.04**	**341**	⇓P	**P**	**22 19 34.8**	**+1.4**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJT	**Baijiatuau**	**39.03**	**344**	P	**P**	**22 19 49.7**	**-0.4**
BJI	**Beijing**	**39.05**	**344**	P	**P**	**22 19 50.8**	**+0.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARMA	**Armidale**	**39.32**	**148**	P	**P**	**22 19 52.6**	**-0.2**
JTM	**Tenmabayashi**	**39.60**	**15**	P	**P**	**22 19 55.3**	**+0.4**
JTM				IAmb	IAmb	22 19 57.3	
	comp=Z,57nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**40.23**	**64**	T	T	23 03 23.9	
	baz=247,slow=79,SNR=22						
H11S2	**WAKE ISLAND Hy**	**40.25**	**64**	T	T	23 03 18.9	
	baz=247,slow=79,SNR=18						
H11S1	**WAKE ISLAND Hy**	**40.25**	**64**	T	T	23 03 25.6	
	baz=247,slow=79,SNR=20						
LZH	**Lanzhou**	**40.62**	**328**	*e*P	**P**	**22 20 05.4**	**+1.8**
LZH				sP	sP	22 20 21.8	+4.5
LZH				pmax	pmax		
	comp=Z,27nm,0.9s						
LZH				LR	LR		
	comp=Z,160nm,14.8s						
LZH				LR	LR		
	comp=Z,170nm,12.5s						
LZH				LR	LR		
	comp=Z,210nm,15.3s						
H11N1	**WAKE ISLAND Hy**	**40.82**	**62**	T	T	23 04 05.5	
	baz=250,slow=75,SNR=57						
H11N2	**WAKE ISLAND Hy**	**40.83**	**62**	T	T	23 04 12.0	
	baz=250,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**40.83**	**62**	T	T	23 04 10.2	
	baz=250,slow=75,SNR=44						
CN2	**Changchun**	**41.17**	**356**	*e*P	**P**	**22 20 10.0**	**+2.2**
HHC	**Hu-ho-hao-te**	**41.20**	**340**	*e*P	**P**	**22 20 11.5**	**+3.2**
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,53nm,4.5s						
USA0B	**Ussuriysk Arra**	**41.54**	**3**	P	**P**	**22 20 11.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**41.54**	**3**	P	**P**	**22 20 11.9**	**+1.0**
	comp=Z,10nm,0.6s,baz=174,slow=6.5,SNR=26						
	comp=Z,10nm,0.6s						
MDJ	**Mudanjiang**	**41.88**	**1**	P	**P**	**22 20 13.9**	**+0.3**
MDJ				IAmb	IAmb	22 20 15.7	
	comp=Z,21nm,1.1s						
MDJ	**Mudanjiang**	**41.88**	**1**	P	**P**	**22 20 14.8**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,22nm,1.2s						
SHL	**Shillong**	**42.32**	**306**	P	**P**	**22 20 17.7**	**-0.1**
BNX	**BinXian**	**43.02**	**358**	⇑P	**P**	**22 20 24.0**	**+1.2**
BNX				pmax	pmax		
	comp=Z,8.0nm,2.3s						
LSA	**Lhasa**	**44.84**	**311**	P	**P**	**22 20 39.2**	**+0.9**
LSA				IAmb	IAmb	22 20 41.0	
	comp=Z,24nm,1.1s						
LSA	**Lhasa**	**44.84**	**311**	P	**P**	**22 20 40.1**	**+1.7**
LSA				pmax	pmax		
	comp=Z,21nm,1.1s						
GTA	**Gaotai**	**45.22**	**328**	*e*P	**P**	**22 20 42.5**	**+1.7**
GTA				pP	pwP	22 20 53.3	+0.2
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GOMU	**GeErMu**	**45.95**	**321**	P	**P**	**22 20 47.5**	**+0.6**
GOMU				sP	sP	22 21 02.3	+1.8
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH	**HeiHe**	**47.53**	**359**	*e*P	**P**	**22 20 58.9**	**+0.3**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PALK	**Pallekele**	**48.24**	**277**	P	**P**	**22 21 04.5**	**-0.3**
ULN	**Ulaanbaatar**	**48.91**	**341**	P	**P**	**22 21 09.5**	**0.0**
SONM	**Songino Array**	**49.10**	**340**	P	**P**	**22 21 10.7**	**-0.2**
SONM	**Songino Array**	**49.10**	**340**	P	**P**	**22 21 10.9**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=160,slow=7.5,SNR=10						
	comp=Z,0.8nm,0.4s						
WMQ	**Urumqi**	**54.92**	**324**	*e*P	**P**	**22 21 55.8**	**+1.5**
WMQ				pP	pP	22 22 04.6	+0.3
WMQ				pmax	pmax		
	comp=Z,39nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,84nm,3.7s						
WMQ				LR	LR		
	comp=Z,41nm,14.9s						
PEA0B	**Petropavlovsk-**	**55.71**	**21**	P	**P**	**22 22

h212km±3km,h213km:pP-P,n584,σ1°46/603,mb5.0/128,
57C-61D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.52**	**310**	P	**Pn**	**22 16 11.9**	**+0.2**
TAVE	**Taveuni**	**5.33**	**315**	P	**Pn**	**22 16 31.6**	**-2.6**
NIUE	**Niue**	**5.88**	**77**	P	**Pn**	**22 16 37.2**	**-4.0**
NIUE	**Niue**	**5.88**	**77**	P	**Pn**	**22 16 37.0**	**-4.1**
	comp=Z,2μm,0.8s						
NIUE				S	S	22 17 38.9	-10
NIUE	**Niue**	**5.88**	**77**	P	**Pn**	**22 16 37.1**	**-4.0**
NIUE	**Niue**	**5.88**	**77**	P	**Pn**	**22 16 37.1**	**-4.0**
NIUE				S	S	22 17 39.1	-10
MSVF	**Nonsavu**	**6.30**	**295**		**Pn**	**22 16 47.2**	**+0.6**
MSVF	**Nonsavu**	**6.30**	**295**	P	**Pn**	**22 16 47.1**	**+0.5**
	comp=Z,281nm,0.8s,baz=240,slow=20,SNR=195						
MSVF				S	**S**	**22 17 58.3**	**-0.7**
	comp=Z,49nm,0.9s,baz=227,slow=20,SNR=7.7						
MSVF	**Nonsavu**	**6.30**	**295**	P	**Pn**	**22 16 47.7**	**+1.1**
MSVF	**Nonsavu**	**6.30**	**295**	*d*P	**Pn**	**22 16 47.6**	**+1.0**
FUTU	**Fugatoga**	**6.52**	**341**		**Pn**	**22 16 48.4**	**-1.1**
YSA	**Yasawairara**	**7.20**	**301**	P	**Pn**	**22 16 58.5**	**+0.2**
AFI	**Afiamalu**	**7.71**	**32**	Pn	Pn	22 16 58.4	-6.6
AFI	**Afiamalu**	**7.71**	**32**	P	Pn	22 16 59.0	-6.0
AFI	**Afiamalu**	**7.71**	**32**	P	**Pn**	**22 17 05.2**	**+0.2**
AFI				pmax	pmax		
	comp=Z,45nm,0.5s						
GLKZ	**Green Lake**	**8.87**	**191**	P	**Pn**	**22 17 17.9**	**-1.8**
GLKZ				S	**S**	**22 18 55.5**	**-4.0**
FUNA	**Funafuti**	**12.82**	**338**		**Pn**	**22 18 07.8**	**-2.4**
MARNC	**Mare, Loyalty**	**14.97**	**264**	P	**P**	**22 18 39.5**	**+2.4**
RAR	**Rarotonga**	**15.16**	**95**	P	**P**	**22 18 39.4**	**+0.2**
RAR	**Rarotonga**	**15.16**	**95**	P	**P**	**22 18 39.6**	**+0.3**
	comp=Z,29nm,0.5s,baz=232,slow=7.5,SNR=5.9						
RAR				S	**S**	**22 21 22.3**	**-4.6**
	comp=Z,5.0nm,0.3s,baz=187,slow=18,SNR=1.0						
RAR	**Rarotonga**	**15.16**	**95**	P	**Pn**	**22 18 34.9**	**-4.1**
RAR	**Rarotonga**	**15.16**	**95**	P	**P**	**22 18 39.4**	**+0.2**
DVP	**Devils Point**	**15.22**	**278**	P	**P**	**22 18 43.3**	**+3.4**
PINNC	**Pines Island,**	**15.56**	**259**		**Pn**	**22 18 46.7**	**+2.9**
PINNC	**Pines Island,**	**15.56**	**259**	P	**Pn**	**22 18 47.6**	**+3.8**
YATNC	**Mamie plateau,**	**16.04**	**262**	P	**Pn**	**22 18 51.2**	**+1.6**
DZM	**Mont Dzumac**	**16.45**	**262**		**Pn**	**22 18 55.6**	**+0.9**
DZM	**Mont Dzumac**	**16.45**	**262**	P	**Pn**	**22 18 54.8**	**+0.1**
	comp=Z,208nm,0.6s,baz=83,slow=20,SNR=116						
DZM				S	**S**	**22 21 49.5**	**-5.8**
	comp=Z,8.2nm,1.0s,baz=122,slow=18,SNR=1.3						
DZM	**Mont Dzumac**	**16.45**	**262**	P	**Pn**	**22 18 55.8**	**+1.1**
ONTNC	**Ouen Toro**	**16.45**	**261**	P	**P**	**22 18 54.0**	**+0.5**
ONTNC	**Ouen Toro**	**16.45**	**261**	P	**Pn**	**22 18 56.5**	**+1.9**
OUZ	**Omahuta**	**17.27**	**210**	P	**Pn**	**22 19 04.5**	**+0.5**
GRZ	**Great Barrier**	**17.36**	**204**	P	**Pn**	**22 19 04.9**	**-0.2**
WCZ	**Waipu Caves**	**17.54**	**207**	P	**Pn**	**22 19 07.6**	**+0.4**
MXZ	**Matakaoa Point**	**17.68**	**195**	P	**Pn**	**22 19 08.8**	**0.0**
MXZ	**Matakaoa Point**	**17.68**	**195**	P	**Pn**	**22 19 09.1**	**+0.2**
WMGZ	**Waiomatatini S**	**17.90**	**195**	P	**P**	**22 19 10.3**	**+1.2**
WMGZ				S	**S**	**22 22 13.0**	**-11**
WIAZ	**Waiheke Island**	**17.96**	**204**	P	**Pn**	**22 19 12.0**	**-0.2**
HAZ	**Te Kaha**	**18.00**	**196**	P	**Pn**	**22 19 12.0**	**-0.6**
HAZ				S	S	22 22 14.7	-11
PKGZ	**Pakihiroa**	**18.03**	**195**	P	**Pn**	**22 19 12.9**	**0.0**
PKGZ				S	S	22 22 13.0	-13
MBAZ	**Motutapu North**	**18.03**	**204**	P	**Pn**	**22 19 13.0**	**0.0**
PUZ	**Puketiti**	**18.18**	**195**	P	**Pn**	**22 19 13.6**	**-1.1**
PUZ				S	S	22 22 17.6	-11
RUGZ	**Raukumara Rang**	**18.22**	**196**	P	**P**	**22 19 13.0**	**+0.2**
RUGZ				S	**S**	**22 22 21.6**	**-8.5**
MKAZ	**Moumakai**	**18.23**	**203**	P	**Pn**	**22 19 14.9**	**-0.4**
TWGZ	**Tauwhareparae**	**18.34**	**195**	P	**Pn**	**22 19 16.6**	**-0.1**
TWGZ				S	**S**	**22 22 23.3**	**-9.2**
KOUNC	**Koumac, New Ca**	**18.49**	**266**	P	**Pn**	**22 19 17.6**	**-0.9**
MWZ	**Matawai**	**18.61**	**196**	P	**Pn**	**22 19 18.7**	**-1.1**
MWZ				S	**S**	**22 22 27.6**	**-10**
TKGZ	**Te Karaka**	**18.63**	**195**	P	**P**	**22 19 18.1**	**+1.2**
TKGZ				S	**S**	**22 22 30.0**	**-7.8**
URZ	**Urewera**	**18.65**	**197**	P	**P**	**22 19 17.2**	**-0.1**
	comp=Z,81nm,0.3s,baz=72,slow=4.7,SNR=92						
URZ				S	**S**	**22 22 34.8**	**-3.5**
	comp=Z,64nm,0.7s,baz=330,slow=22,SNR=13						
URZ	**Urewera**	**18.65**	**197**	P	**P**	**22 19 16.0**	**-1.2**
URZ	**Urewera**	**18.65**	**197**	P	**P**	**22 19 15.6**	**-1.7**
URZ				S	**S**	**22 22 30.4**	**-7.9**
TOZ	**Tahuroa Road**	**18.67**	**202**	P	**P**	**22 19 18.7**	**+1.3**
TOZ	**Tahuroa Road**	**18.67**	**202**	P	**Pn**	**22 19 19.7**	**-0.7**
RTZ	**Ruatahuna**	**19.02**	**197**	P	**P**	**22 19 22.0**	**+0.6**
KNZ	**Kokohu**	**19.22**	**195**	P	**P**	**22 19 25.2**	**+1.8**
MTHZ	**Maungataniwha**	**19.28**	**197**	P	**P**	**22 19 23.6**	**-0.5**
HIZ	**Hauiti**	**19.59**	**202**	P	**Pn**	**22 19 29.9**	**-1.5**
HIZ	**Hauiti**	**19.59**	**202**	P	**P**	**22 19 29.5**	**+2.1**
BKZ	**Black Stump Fm**	**19.67**	**198**	P	**P**	**22 19 26.8**	**-1.5**
LUES	**Luesalemba Tem**	**19.99**	**297**	P	**P**	**22 19 30.7**	**-1.2**
KHEZ	**Kahui Hut**	**20.59**	**203**	P	**P**	**22 19 39.3**	**+1.2**
BFZ	**Birch Farm**	**21.15**	**197**	P	**P**	**22 19 43.1**	**-0.8**
SNZO	**South Karori**	**22.17**	**199**	P	**P**	**22 19 54.1**	**+0.2**
SNZO	**South Karori**	**22.17**	**199**	P	**P**	**22 19 54.0**	**+0.1**
QRZ	**Quartz Range**	**22.47**	**203**	P	**P**	**22 19 56.9**	**+0.2**
KHZ	**Kahutara**	**23.54**	**200**	P	**P**	**22 20 06.5**	**+0.2**
PPT	**Papeete**	**25.12**	**88**	P	**P**	**22 20 21.6**	**+0.6**
	comp=Z,15nm,0.3s,baz=208,slow=1.9,SNR=3.5						
ALEG	**Aligegeo Malai**	**25.39**	**294**	P	**P**	**22 20 22.1**	**-1.3**
RPZ	**Rata Peaks**	**25.53**	**202**	P	**P**	**22 20 25.1**	**+0.7**
HNR	**Honiara**	**25.70**	**292**	P	**P**	**22 20 25.1**	**-1.2**
HNR	**Honiara**	**25.70**	**292**	P	**P**	**22 20 24.5**	**-1.7**
	comp=Z,35nm,0.3s,baz=168,slow=10,SNR=5.3						
	comp=Z,35nm,0.3s						
HNR	**Honiara**	**25.70**	**292**	P	**P**	**22 20 25.1**	**-1.2**
HNR				pmax	pmax		
	comp=Z,183nm,1.4s						
SAVO	**Savo Central**	**25.95**	**292**	P	**P**	**22 20 29.3**	**+0.8**
TATA	**Tatamba Isabel**	**26.33**	**294**	P	**P**	**22 20 30.1**	**-1.8**
JCZ	**Jackson Bay**	**26.68**	**205**	P	**P**	**22 20 34.7**	**-0.1**
ODZ	**Otahua Downs**	**26.83**	**201**	P	**P**	**22 20 36.6**	**+0.6**
SYZ	**Scrubby Hill**	**28.65**	**202**	P	**P**	**22 20 53.8**	**+1.7**
EIDS	**Eidsvold**	**30.67**	**255**	P	**P**	**22 21 09.9**	**-0.3**
EIDS				IAmb	IAmb	22 21 11.3	
	comp=Z,40nm,0.8s						
EIDS	**Eidsvold**	**30.67**	**255**	P	**P**	**22 21 10.2**	**+0.1**
	comp=Z,59nm,1.5s						
EIDS	**Eidsvold**	**30.67**	**255**	P	**P**	**22 21 10.6**	**+0.4**
ARMA	**Armidale**	**30.76**	**245**	P	**P**	**22 21 11.6**	**+0.5**
ARMA				IAmb	IAmb	22 21 13.0	
	comp=Z,20nm,0.8s						
ARMA	**Armidale**	**30.76**	**245**	P	**P**	**22 21 12.1**	**+0.9**
	comp=Z,33nm,1.0s						
ARMA	**Armidale**	**30.76**	**245**	P	**P**	**22 21 12.0**	**+0.9**
MGCD	**Mangrove Creek**	**31.82**	**240**	P	**P**	**22 21 20.8**	**+0.6**
	comp=Z,34nm,0.5s						
MGCD	**Mangrove Creek**	**31.82**	**240**	P	**P**	**22 21 21.3**	**+1.1**
CNB	**Canberra Magne**	**33.78**	**237**	P	**P**	**22 21 38.3**	**+1.0**
	comp=Z,31nm,0.7s						
CNB	**Canberra Magne**	**33.78**	**237**	P	**P**	**22 21 38.2**	**+0.9**
CAN	**Canberra**	**34.07**	**237**	P	**P**	**22 21 40.2**	**+0.4**
CAN				IAmb	IAmb	22 21 41.2	
	comp=Z,18nm,0.7s						
CAN	**Canberra**	**34.07**	**237**	P	**P**	**22 21 40.1**	**+0.4**
	comp=Z,26nm,0.6s						
CAN	**Canberra**	**34.07**	**237**	P	**P**	**22 21 40.3**	**+0.5**
CAN	**Canberra**	**34.07**	**237**	P	**P**	**22 21 40.2**	**+0.4**
CAN				pmax	pmax		
	comp=Z,18nm,0.7s						
CAN	**Canberra**	**34.07**	**237**	P	**P**	**22 21 40.3**	**+0.5**
CAN				pP	**pwP**	**22 22 25.6**	**-0.4**
TV1H	**Townsville Har**	**34.98**	**265**	P	**P**	**22 21 49.3**	**+1.7**
CMSA	**Cobar Meteorol**	**35.98**	**244**	P	**P**	**22 21 55.7**	**-0.3**
	comp=Z,65nm,1.2s						
CMSA	**Cobar Meteorol**	**35.98**	**244**	P	**P**	**22 21 56.0**	**0.0**
QLP	**Quilpie**	**36.86**	**253**	P	**P**	**22 22 02.9**	**-0.6**
	comp=Z,81nm,0.7s						
QLP	**Quilpie**	**36.86**	**253**	P	**P**	**22 22 03.2**	**-0.3**
PATS	**Pohnpei**	**37.13**	**314**	P	**P**	**22 22 05.3**	**-0.6**
PMG	**Port Moresby**	**37.20**	**282**	P	**P**	**22 22 05.5**	**-1.0**
	comp=Z,112nm,0.9s,baz=96,slow=5.0,SNR=18						
	comp=Z,112nm,0.9s						
PMG	**Port Moresby**	**37.20**	**282**	P	**P**	**22 22 06.3**	**-0.2**
TOO	**Toolangi**	**37.41**	**235**	P	**P**	**22 22 07.8**	**-0.3**
TOO	**Toolangi**	**37.41**	**235**	P	**P**	**22 22 09.1**	**+1.0**
	comp=Z,13nm,1.0s						
TOO	**Toolangi**	**37.41**	**235**	P	**P**	**22 22 07.8**	**-0.3**
TOO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MTSU	**Mount Surprise**	**37.48**	**267**	P	**P**	**22 22 08.8**	**-0.1**
	comp=Z,116nm,0.7s						
MTSU	**Mount Surprise**	**37.48**	**267**	P	**P**	**22 22 08.8**	**-0.1**
TAU	**Tasmania Unive**	**37.94**	**226**	P	**P**	**22 22 12.6**	**+0.2**
TAU				IAmb	IAmb	22 22 49.2	
	comp=Z,44nm,1.4s						
TAU	**Tasmania Unive**	**37.94**	**226**	P	**P**	**22 22 12.6**	**+0.2**
TAU				pmax	pmax		
	comp=Z,44nm,1.4s						
BRAT	**Ballarat**	**38.60**	**235**	P	**P**	**22 22 19.3**	**+1.4**
COEN	**Coen**	**39.48**	**273**	P	**P**	**22 22 24.9**	**-0.6**
STKA	**Stephens Creek**	**39.48**	**245**	P	**P**	**22 22 25.0**	**-0.4**
STKA	**Stephens Creek**	**39.48**	**245**	P	**P**	**22 22 25.4**	**0.0**
	comp=Z,86nm,0.7s						
STKA	**Stephens Creek**	**39.48**	**245**	P	**P**	**22 22 25.3**	**0.0**
	comp=Z,11nm,0.6s,baz=88,slow=9.3,SNR=15						
	comp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**39.48**	**245**	P	**P**	**22 22 25.5**	**+0.2**
STKA	**Stephens Creek**	**39.48**	**245**	*d*P	**P**	**22 22 25.1**	**-0.2**
ARPS	**Mount Arapiles**	**40.05**	**237**	P	**P**	**22 22 30.2**	**+0.3**
	comp=Z,23nm,1.0s						
ARPS	**Mount Arapiles**	**40.05**	**237**	P	**P**	**22 22 30.3**	**+0.3**
MANU	**Manus Island**	**40.20**	**292**	P	**P**	**22 22 30.8**	**-0.7**
QIS	**Mount Isa**	**41.49**	**262**	P	**P**	**22 22 41.4**	**-0.6**
	comp=Z,13nm,0.7s						
QIS	**Mount Isa**	**41.49**	**262**	P	**P**	**22 22 41.1**	**-0.9**
HTT	**Hallett**	**41.89**	**243**	P	**P**	**22 22 44.6**	**-0.4**
	comp=Z,32nm,1.2s						
HTT	**Hallett**	**41.89**	**243**	P	**P**	**22 22 45.0**	**-0.1**
LCRK	**Leigh Creek**	**42.27**	**247**	P	**P**	**22 22 47.7**	**-0.4**
WAKE	**Wake Island**	**43.08**	**336**	P	**P**	**22 22 52.8**	**-1.7**
BBOO	**Buckleboo**	**44.23**	**244**	P	**P**	**22 23 02.9**	**-0.9**
BBOO				IAmb	IAmb	22 23 06.3	
	comp=Z,30nm,0.5s						
BBOO	**Buckleboo**	**44.23**	**244**	P	**P**	**22 23 03.0**	**-0.7**
	comp=Z,41nm,0.7s						
BBOO	**Buckleboo**	**44.23**	**244**	P	**P**	**22 23 02.7**	**-1.0**
OOD	**Oodnadatta**	**44.46**	**251**	P	**P**	**22 23 06.0**	**+0.4**
JAY	**Jayapura**	**45.86**	**287**	P	**P**	**22 23 16.8**	**0.0**
	comp=Z,197nm,0.9s,baz=165,slow=4.8,SNR=32						
	comp=Z,197nm,0.9s						
JAY	**Jayapura**	**45.86**	**287**	P	**P**	**22 23 16.9**	**+0.1**
	comp=Z,2μmcomp=Z,218nm,1.3s						
AS06	**Alice Springs**	**46.30**	**257**	P	**P**	**22 23 19.9**	**-0.2**
	comp=Z,199nm,0.8s						
AS19	**Alice Springs**	**46.30**	**256**	P	**P**	**22 23 19.9**	**-0.2**
	comp=Z,90nm,0.8s						
GENI	**Genyem**	**46.30**	**287**	P	**P**	**22 23 20.7**	**+0.5**
AS01	**Alice Springs**	**46.31**	**256**	P	**P**	**22 23 19.5**	**-0.8**
AS31	**Alice Springs**	**46.35**	**256**	P	**P**	**22 23 20.2**	**-0.4**
AS31				IAmb	IAmb	22 23 21.4	
	comp=Z,22nm,0.7s						
AS31	**Alice Springs**	**46.35**	**256**	P	**P**	**22 23 20.6**	**0.0**
	comp=Z,31nm,0.8s						
ASAR	**Alice Springs**	**46.35**	**256**	P	**P**	**22 23 20.1**	**-0.4**
ASAR	**Alice Springs**	**46.35**	**256**	P	**P**	**22 23 19.8**	**-0.8**
	comp=Z,88nm,0.7s,baz=89,slow=8.3,SNR=481						
ASAR				ScP	**ScP**	**22 28 27.4**	**+2.1**
	comp=Z,3.7nm,0.7s,baz=99,slow=4.1,SNR=8.6						
ASAR				S	**S**	**22 29 48.5**	**-3.4**
	comp=Z,2.9nm,0.9s,baz=93,slow=15,SNR=9.7						
	comp=Z,88nm,0.7s						
ASAR	**Alice Springs**	**46.35**	**256**	P	**P**	**22 23 20.2**	**-0.4**
WB0	**Warramunga Arr**	**46.45**	**262**	P	**P**	**22 23 20.5**	**-0.9**
WB0				IAmb	IAmb	22 23 21.3	
	comp=Z,77nm,0.7s						
WRAB	**Tennant Creek**	**46.46**	**262**	*d*P	**P**	**22 23 20.2**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,80nm,0.9s						
WRA	**Warramunga Arr**	**46.47**	**262**	P	**P**	**22 23 20.1**	**-1.4**
WRA	**Warramunga Arr**	**46.47**	**262**	P	**P**	**22 23 20.6**	**-0.9**
	comp=Z,54nm,0.8s,baz=96,slow=7.5,SNR=355						
WRA				ScP	**ScP**	**22 28 27.7**	**+2.0**
	comp=Z,2.7nm,1.1s,baz=91,slow=3.7,SNR=5.1						
WRA				S	**S**	**22 29 49.3**	**-4.2**
	comp=Z,0.6nm,0.6s,baz=94,slow=14,SNR=4.8						
	comp=Z,54nm,0.8s						
SMPI	**Sarmi**	**47.88**	**287**	P	**P**	**22 23 32.8**	**+0.4**
	comp=Z,145nm,0.9s						
KDU	**Kakadu**	**49.85**	**271**	P	**P**	**22 23 46.5**	**-0.8**
	comp=Z,113nm,1.0s						
KDU	**Kakadu**	**49.85**	**271**	P	**P**	**22 23 46.7**	**-0.6**
BAKI	**Biak**	**50.56**	**286**	P	**P**	**22 23 54.5**	**+1.8**
FORT	**Forrest**	**51.02**	**247**	P	**P**	**22 23 55.0**	**-0.9**
FORT	**Forrest**	**51.02**	**247**	P	**P**	**22 23 54.9**	**-1.1**
FORT	**Forrest**	**51.02**	**247**	P	**P**	**22 23 55.0**	**-0.9**
MTN	**Manton Dam**	**51.06**	**270**	P	**P**	**22 23 55.7**	**-0.6**
MTN	**Manton Dam**	**51.06**	**270**	P	**P**	**22 23 55.8**	**-0.6**
	comp=Z,115nm,0.6s						
MTN	**Manton Dam**	**51.06**	**270**	P	**P**	**22 23 55.8**	**-0.6**
WRKA	**Warakurna**	**51.28**	**254**	P	**P**	**22 23 57.4**	**-0.6**
	comp=Z,38nm,0.8s						
WRKA	**Warakurna**	**51.28**	**254**	P	**P**	**22 23 57.2**	**-0.8**
GUMO	**Guam**	**51.30**	**308**	P	**P**	**22 23 57.0**	**-1.1**
GUMO	**Guam**	**51.30**	**308**	P	**P**	**22 23 57.1**	**-0.9**
	comp=Z,94nm,0.3s,baz=175,slow=11,SNR=4.6						
DRS	**Darwin Rock St**	**51.39**	**270**	P	**P**	**22 23 58.3**	**-0.6**
KMPI	**Kaimana, Papua**	**51.73**	**282**	P	**P**	**22 24 02.6**	**+1.2**
	comp=Z,174nm,1.0s						
RKPI	**Ransiki, Papua**	**52.17**	**285**	P	**P**	**22 24 07.0**	**+2.4**
	comp=Z,37nm,0.6s						
SAUI	**Saumlaki**	**52.39**	**276**	P	**P**	**22 24 06.0**	**-0.2**
SAUI	**Saumlaki**	**52.39**	**276**	P	**P**	**22 24 08.1**	**+1.9**
	comp=Z,150nm,1.1s						
KNRA	**Kununurra**	**52.55**	**266**	P	**P**	**22 24 07.1**	**-0.3**
KNRA	**Kununurra**	**52.55**	**266**	P	**P**	**22 24 06.9**	**-0.5**
	comp=Z,238nm,0.7s						
FAKI	**Fak Fak**	**53.36**	**282**	P	**P**	**22 24 12.7**	**-0.6**
FAKI	**Fak Fak**	**53.36**	**282**	P	**P**	**22 24 12.7**	**-0.6**
FAKI	**Fak Fak**	**53.36**	**282**	P	**P**	**22 24 12.9**	**-0.4**
	comp=Z,80nm,1.3s						
DRV	**Dumont d'Urvil**	**53.96**	**200**	P	**P**	**22 24 18.4**	**+1.6**
DRV				sP	**sP**	**22 25 31.1**	**+4.6**
FITZ	**Fitzroy Crossi**	**54.90**	**262**	P	**P**	**22 24 24.6**	**+0.2**
FITZ				IAmb	IAmb	22 24 26.3	
	comp=Z,28nm,1.6s						
FITZ	**Fitzroy Crossi**	**54.90**	**262**	P	**P**	**22 24 24.2**	**-0.2**
	comp=Z,13nm,0.3s,baz=110,slow=6.2,SNR=3.6						
	comp=Z,13nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.90**	**262**	P	**P**	**22 24 24.7**	**+0.3**
BNDI	**Bandanaira**	**54.90**	**279**	P	**P**	**22 24 24.9**	**+0.4**
	comp=Z,5μmcomp=Z,143nm,1.5s						
SWI	**Sorong**	**55.09**	**284**	P	**P**	**22 24 25.6**	**-0.2**
	comp=Z,2μmcomp=Z,205nm,1.0s						
KMBL	**Kambalda**	**56.27**	**245**	P	**P**	**22 24 32.6**	**-1.4**
AAI	**Ambon**	**56.80**	**279**	P	**P**	**22 24 38.7**	**+0.8**
	comp=Z,72nm,0.7s						
SBA	**Scott Base**	**57.97**	**184**	P	**P**	**22 24 48.2**	**+3.2**
SBA	**Scott Base**	**57.97**	**184**	P	**P**	**22 24 48.3**	**+3.2**
SBA				pmax	pmax		
	comp=Z,62nm,1.1s						
SBA	**Scott Base**	**57.97**	**184**	P	**P**	**22 24 49.1**	**+4.0**
SBA				pP	**PcP**	**22 25 37.7**	**+3.0**
NLAI	**Namlea**	**57.98**	**279**	P	**P**	**22 24 47.5**	**+1.4**
	comp=Z,1μmcomp=Z,58nm,1.0s						
VNDA	**Vanda**	**58.05**	**186**	P	**P**	**22 24 48.4**	**+2.7**
VNDA				IAmb	IAmb	22 24 50.1	
	comp=Z,25nm,1.1s						
VNDA	**Vanda**	**58.05**	**186**	P	**P**	**22 24 48.2**	**+2.6**
	comp=Z,14nm,0.9s,baz=2.6,slow=9.1,SNR=19						
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**58.05**	**186**	P	**P**	**22 24 48.4**	**+2.7**
VNDA				pmax	pmax		
	comp=Z,25nm,1.1s						
VNDA	**Vanda**	**58.05**	**186**	P	**P**	**22 24 48.9**	**+3.2**
VNDA				PcP	**pwP**	**22 25 37.7**	**+2.0**
VNDA				sP	sP	22 26 04.6	+8.7
SOEI	**Soe**	**58.40**	**271**	P	**P**	**22 24 49.9**	**+0.7**
SOEI	**Soe**	**58.40**	**271**	P	**P**	**22 24 50.6**	**+1.4**
BATI	**Baumata**	**58.83**	**270**	P	**P**	**22 24 53.1**	**+1.1**
	comp=Z,85nm,0.5s,baz=98,slow=2.4,SNR=9.5						
	comp=Z,85nm,0.5s						
TNTI	**Ternate**	**59.31**	**284**	P	**P**	**22 24 54.7**	**-0.6**
TNTI	**Ternate**	**59.31**	**284**	P	**P**	**22 24 55.8**	**+0.5**
	comp=Z,1μmcomp=Z,83nm,1.1s						
SANI	**Sanana**	**59.45**	**280**	P	**P**	**22 24 55.2**	**-1.1**
	comp=Z,85nm,1.0s						
PSA00	**Pilbara Seismi**	**59.51**	**256**	P	**P**	**22 24 55.6**	**-1.0**
PSA00				IAmb	IAmb	22 24 57.8	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**59.51**	**256**	P	**P**	**22 24 55.5**	**-1.2**
PSA00				IAmb	IAmb	22 25 48.6	
	comp=Z,26nm,1.4s						
PSA00	**Pilbara Seismi**	**59.51**	**256**	P	**P**	**22 24 56.0**	**-0.6**
	comp=Z,26nm,0.7s						
PSA00	**Pilbara Seismi**	**59.51**	**256**	P	**P**	**22 24 55.9**	**-0.7**
PSAC1	**Pilbara Seismi**	**59.55**	**257**	P	**P**	**22 24 56.3**	**-0.6**

NOU ***19*** *22:15:13.9,20.°39S×175.°68W,h217km,mb5.1/84,Tonga Islands*

MOS ***19*** *22:15:15.0±0.9,20.°34S×176.°27W,h209km,mb5.0/25, Error ellipse: s-maj=9.6km s-min=8.6km az=91.9*

NEIC ***19*** *22:15:15.1±1.8,20.°37S±0.°09×176.°03W±0.°09, h205km±5km,mb5.0/105,Error ellipse: s-maj=13.6km s-min=12.2km az=155.0*

GCMT ***19*** *22:15:17.1±0.2,20.°50S±0.°01×175.°78W±0.°01, h212km±1km,MW5.2/136,Moment Tensor Solution. s87,c112; s136,c218; Duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr1.94±.15; Mθθ2.45±.18; Mφφ-4.39±.16; Mrθ-4.37±.14; Mθφ0.47±.15; Mφr-5.83±.12; Best double couple: M0:8.23500×10^16^ NP1:φs319.00000°,δ25.00000°, λ18.00000°. NP2:φs213.00000°,δ83.00000°,λ114.00000°. Principal axes: T 8.2590, Plg47.0000°, Azm148.0000°; N -0.0470, Plg24.0000°, Azm30.0000°; P -8.2120, Plg33.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***19*** *22:15:17.0±1.7,20.°42S×176.°23W,h217km±14km, mb4.5/24,mbtmp5.1/25 Error ellipse: s-maj=10.6km s-min=9.4km az=154.0*

ISC 19 22:15:15.3±0.4,**20.°53S**±0.°04×**175.°98W**±0.°04,

comp=Z,27nm,0.6s
MBWA Marble Bar 59.69 257 P P 22 24 56.7 -1.2
MBWA IAmb IAmb 22 24 59.3
comp=Z,24nm,0.6s
MBWA Marble Bar 59.69 257 P P 22 24 57.4 -0.5
comp=Z,36nm,0.7s
MBWA Marble Bar 59.69 257 P P 22 24 56.9 -0.9
MBWA Marble Bar 59.69 257 P P 22 24 57.0 -0.9
MBWA pP **pwP 22 25 47.7 -0.7**
MEEK Meekatharra 59.70 251 P P 22 24 56.9 -1.0
KLBR Kellerberrin 59.76 245 P P 22 24 58.7 +0.5
NWAO Narrogin (SRO) 60.05 243 P P 22 24 59.7 -0.4
NWAO IAmb IAmb 22 25 09.0
comp=Z,78nm,1.8s
NWAO Narrogin (SRO) 60.05 243 P P 22 25 00.7 +0.6
NWAO Narrogin (SRO) 60.05 243 P P 22 24 59.7 -0.4
NWAO pmax pmax
comp=Z,78nm,1.8s
BLDU Ballidu 60.77 246 P P 22 25 01.2 -3.9
BLDU Ballidu 60.77 246 P P 22 25 04.1 -1.0
MUN Mundaring 61.02 244 P P 22 25 07.4 +0.7
MORW Morawa 61.57 247 P P 22 25 09.7 -0.8
MORW IAmb IAmb 22 25 59.3
comp=Z,26nm,1.2s
MORW Morawa 61.57 247 P P 22 25 09.8 -0.6
LUWI Luwuk 62.81 280 P P 22 25 19.6 +0.7
LUWI Luwuk 62.81 280 P P 22 25 20.3 +1.4
LUWI Luwuk 62.81 280 P P 22 25 20.2 +1.4
comp=Z,2µmcomp=Z,73nm,1.1s
CCD Concordia, Ant 62.91 195 P P 22 25 21.5 +2.4
CCD pP **pwP 22 26 11.0 +0.9**
KAPI Kappang 64.18 274 P P 22 25 28.7 +0.9
comp=Z,11nm,0.8s,baz=90,slow=8.1,SNR=3.6
comp=Z,11nm,0.8s
GIRL Giralia 64.37 254 P P 22 25 29.6 +0.7
CASY Casey 64.74 205 P P 22 25 32.2 +1.7
CASY IAmb IAmb 22 25 33.3
comp=Z,32nm,0.8s
CASY Casey 64.74 205 P P 22 25 32.3 +1.7
PLAI Plampang 64.77 270 P P 22 25 32.0 +0.3
PLAI Plampang 64.77 270 P P 22 25 33.2 +1.5
comp=Z,93nm,1.2s
TOLI2 Tolitoli 65.47 281 P P 22 25 37.0 +0.9
TOLI2 IAmb IAmb 22 25 41.6
comp=Z,19nm,0.7s
TOLI2 Tolitoli 65.47 281 P P 22 25 37.9 +1.7
PCI Palu 65.57 279 P P 22 25 38.7 +1.9
comp=Z,2µmcomp=Z,74nm,0.9s
JAGI Jajag, Banyuwa 68.28 269 P P 22 25 52.8 -1.1
JAGI Jajag, Banyuwa 68.28 269 P P 22 25 54.7 +0.8
MYLDM Lahad Datu 69.18 284 P P 22 25 58.8 -0.6
QSPA South Pole Qui 69.54 180 P P 22 26 03.1 +2.3
QSPA IAmb IAmb 22 26 04.5
comp=Z,49nm,0.9s
QSPA South Pole Qui 69.54 180 P P 22 26 03.4 +2.5
comp=Z,39nm,0.9s,baz=27,slow=1.5,SNR=59
comp=Z,39nm,0.9s
QSPA South Pole Qui 69.54 180 P P 22 26 03.2 +2.3
QSPA pP **pwP 22 26 52.3 0.0**
JGF Kuroka 71.21 321 P P 22 26 10.1 -1.2
JGF IAmb IAmb 22 27 54.1
comp=Z,78nm,1.9s
MJAR Matsushiro Arr 71.38 322 P P 22 26 11.2 -1.0
comp=Z,7.8nm,0.7s,baz=158,slow=5.6,SNR=19
comp=Z,7.8nm,0.7s
MAJO Matsushiro 71.38 322 P P 22 26 11.1 -1.2
MAJO Matsushiro 71.38 322 *de*P **P 22 26 11.4 -0.8**
MAJO pmax pmax
comp=Z,12nm,0.7s
MAJO Matsushiro 71.38 322 P P 22 26 11.4 -0.8
MJB9 Matsu-Tunnel 71.38 322 P P 22 26 12.3 0.0
MJB9 IAmb IAmb 22 26 13.3
comp=Z,14nm,0.9s
KKM Kota Kinabalu 71.60 284 P P 22 26 14.0 -0.2
KKM IAmb IAmb 22 26 16.6
comp=Z,21nm,0.6s
KKM Kota Kinabalu 71.60 284 P P 22 26 14.5 +0.3
UGM Wanagama 71.86 268 P P 22 26 15.0 -0.7
UGM Wanagama 71.86 268 P P 22 26 15.5 -0.2
JMN Monobe 72.07 318 P P 22 26 15.7 -0.7
JMN IAmb IAmb 22 26 17.7
comp=Z,71nm,1.3s
ADK Adak 72.11 360 P P 22 26 15.7 -0.5
ADK Adak 72.11 360 P P 22 26 15.7 -0.5
ADK pmax pmax
comp=Z,236nm,1.9s
JSD Sado 72.40 324 P P 22 26 17.6 -0.6
JSD IAmb IAmb 22 26 18.8
comp=Z,25nm,1.4s
SBUM Sibu 73.88 279 P P 22 26 27.4 -0.1
YOJ Yonaguni jima 74.32 304 P P 22 26 29.3 -0.5
YOJ Yonaguni jima 74.32 304 P P 22 26 29.3 -0.5
YOJ pmax pmax
comp=Z,245nm,1.5s
YULB Yu-li 75.11 302 P P 22 26 33.1 -1.3
YULB IAmb IAmb 22 26 35.8
comp=Z,17nm,0.6s
YULB Yu-li 75.11 302 P P 22 26 33.2 -1.2
NACB Ninganchiao 75.27 303 P P 22 26 34.2 -1.0
NACB IAmb IAmb 22 26 35.2
comp=Z,48nm,1.2s
NACB Ninganchiao 75.27 303 P P 22 26 34.4 -0.8
KSM Kuching 75.30 277 P P 22 26 34.4 -1.2
KSM IAmb IAmb 22 26 36.9
comp=Z,27nm,0.8s
SSLB Suanglung 75.58 303 P P 22 26 35.4 -1.6
SSLB IAmb IAmb 22 26 36.3
comp=Z,22nm,0.5s
SSLB Suanglung 75.58 303 P P 22 26 35.8 -1.3
TPUB Ta-pu 75.59 302 P P 22 26 35.4 -1.8
TPUB IAmb IAmb 22 26 35.9
comp=Z,42nm,0.8s
TNG Tangerang 76.06 269 P PcP 22 26 47.9 -3.4
TNG P P 22 26 47.8 +7.8
YSS Yuzhno-Sakhali 76.79 332 *e*P **P 22 26 43.4 +0.1**
YSS *e*PP **pwP 22 27 34.5 -1.6**
YSS *e*S **S 22 36 09.2 -3.4**
YSS pmax pmax
comp=Z,20nm,0.5s
PEA0B Petropavlovsk- 76.81 344 P **P 22 26 42.8 -0.5**
PEA0B Petropavlovsk- 76.81 344⇑*e*P **P 22 26 43.7 +0.5**
PETK Petropavlovsk- 76.81 344 P **P 22 26 42.8 -0.4**
comp=Z,19nm,0.8s,baz=117,slow=7.8,SNR=16
comp=Z,19nm,0.8s
KMRM Mail Ridge 77.59 38 P **P 22 26 49.2 +1.2**
KMRM IAmb IAmb 22 29 30.0
comp=Z,55nm,1.5s
ISA Isabella, Lake 78.02 45 P **P 22 26 51.4 +0.9**
ISA Isabella, Lake 78.02 45 P **P 22 26 51.4 +0.9**
ISA pmax pmax
comp=Z,11nm,1.2s
KSRS Korea Array 78.18 318 P **P 22 26 51.5 +0.3**
comp=Z,6.2nm,1.1s,baz=145,slow=6.4,SNR=13
comp=Z,6.2nm,1.1s
PFO Pinyon Flats O 78.19 47⇓*e*P **P 22 26 53.6 +2.0**
PFO pmax pmax
comp=Z,12nm,1.4s
KSAR Wonju Array Be 78.20 318 P **P 22 26 51.3 0.0**
KSAR Wonju Array Be 78.20 318 P **P 22 26 51.3 0.0**
LWLI Liwa 78.87 269 P **P 22 26 56.3 +0.6**
comp=Z,88nm,0.7s
MDSI Maura Dua 78.94 269 P **P 22 26 54.5 -1.4**
comp=Z,32nm,0.9s
WAKR Walker 79.09 42 P **P 22 26 57.1 +0.7**
PIX Pinacate 79.19 50 P **P 22 26 57.4 +0.6**
BELA Belgrano 2 79.28 172 P **P 22 26 57.6 +1.0**
BELA IAmb IAmb 22 26 59.2
comp=Z,22nm,0.9s
MSHR Mys Shultsa 79.47 323⇑*e*P **P 22 26 55.5 -2.6**
113A Mohawk Valley, 79.61 49 P **P 22 26 59.7 +0.6**
PSTR Posyet 79.71 323 *c i*P **P 22 27 00.2 +0.8**
NVAR Mina Array Bea 79.76 42 P **P 22 27 00.5 +0.4**
NVAR Mina Array Bea 79.76 42 P **P 22 27 01.5 +1.4**
comp=Z,2.5nm,0.6s,baz=223,slow=7.6,SNR=9.3
comp=Z,2.5nm,0.6s
OHAK Old Harbor 79.76 12 P **P 22 26 57.1 -2.2**
TYV Tymovskoe 79.86 335 *e*P **P 22 26 59.7 -0.3**
TYV pmax pmax
comp=Z,16nm,1.1s
TYV pmax pmax
comp=Z,400nm,5.8s
USA0B Ussuriysk Arra 80.07 325 P **P 22 27 01.7 +0.4**
USA0B IAmb IAmb 22 28 32.8
comp=Z,54nm,1.8s
USA0B Ussuriysk Arra 80.07 325⇑*e*P **P 22 27 02.5 +1.2**
USRK Ussuriysk Ar. 80.07 325 P **P 22 27 02.2 +0.9**
comp=Z,3.0nm,0.7s,baz=136,slow=2.8,SNR=8.9
comp=Z,3.0nm,0.7s
MNAI Manna 80.13 269 P **P 22 27 02.1 -0.3**
TPNV Topopah Spring 80.22 45 P **P 22 27 03.6 +1.1**
TPNV Topopah Spring 80.22 45 P **P 22 27 03.6 +1.1**
TPNV pmax pmax
comp=Z,11nm,1.6s
KDAK Kodiak Island 80.42 12 P **P 22 27 03.5 +0.6**
KDAK IAmb IAmb 22 29 48.5
comp=Z,30nm,1.2s
KDAK Kodiak Island 80.42 12 P **P 22 27 03.5 +0.6**
KDAK pmax pmax
comp=Z,30nm,1.3s
J05D Fort Rock, OR 80.97 37 P **P 22 27 07.2 +0.9**
P18K Big Mountain, 81.44 11 P **P 22 27 08.2 -0.1**
P18K IAmb IAmb 22 27 18.6
comp=Z,24nm,1.4s
TUC Tucson 81.52 51 P **P 22 27 10.3 +0.9**
TUC Tucson 81.52 51 P **P 22 27 10.3 +0.9**
TUC pmax pmax
comp=Z,11nm,1.2s
MDJ Mudanjiang 81.65 324 P **P 22 27 09.3 -0.3**
MDJ IAmb IAmb 22 27 11.5
comp=Z,22nm,1.0s
MAW Mawson 82.17 199 P **P 22 27 13.6 +1.6**
MAW IAmb IAmb 22 29 04.6
comp=Z,33nm,1.4s
MAW Mawson 82.17 199 P **P 22 27 13.8 +1.8**
comp=Z,18nm,0.7s,baz=179,slow=0.5,SNR=2.2
comp=Z,18nm,0.7s
CNPM China Poot 82.31 12 P **P 22 27 12.8 +0.1**
CNPM IAmb IAmb 22 28 44.1
comp=Z,58nm,1.6s
MG03 Isla Dawson 82.39 145 P **P 22 27 15.6 +2.1**
I07A Izee 82.45 37 P **P 22 27 15.3 +1.3**
G08A Pilot Rock 83.50 37 P **P 22 27 20.5 +1.1**
ZAIG Zacatecas 83.52 63 P **P 22 27 19.8 -0.3**
KLR Kul'dur 83.53 329⇓*e*P **P 22 27 19.4 +0.2**
KLR pmax pmax
comp=Z,9.0nm,1.5s
GAMB Gambell 84.10 2 P **P 22 27 22.3 +0.6**
GAMB IAmb IAmb 22 28 21.7
comp=Z,29nm,1.4s
MA2 Magadan 84.33 344 P **P 22 27 20.8 -2.3**
MA2 IAmb IAmb 22 27 24.9
comp=Z,13nm,0.5s
MA2 Magadan 84.33 344⇑*i*P **P 22 27 21.1 -1.9**
MA2 pmax pmax
comp=Z,26nm,1.7s
H03S2 Juan Fernandez 84.40 124 T T 00 00 26.8
baz=248,slow=74,SNR=179
H03S1 Juan Fernandez 84.42 124 T T 00 00 28.7
baz=248,slow=74,SNR=240
H03S3 Juan Fernandez 84.42 124 T T 00 00 18.0
baz=248,slow=74,SNR=220
COYC Coyhaique 84.83 137 P **P 22 27 27.7 +1.7**
DIV Divide 84.94 14 P **P 22 27 26.3 +0.2**
DIV IAmb IAmb 22 27 35.8
comp=Z,55nm,1.7s
CUT Chulitna 85.14 12 P **P 22 27 26.9 -0.1**
CUT IAmb IAmb 22 27 27.7
comp=Z,47nm,1.3s
SCM Sheep Creek Mo 85.22 13 P **P 22 27 27.9 +0.4**
SCM IAmb IAmb 22 29 14.1
comp=Z,83nm,2.0s
SCM Sheep Creek Mo 85.22 13 P **P 22 27 27.9 +0.4**
SCM pmax pmax
comp=Z,83nm,2.0s
TXAR Lajitas Array 85.48 57 P **P 22 27 30.6 +1.0**
TXAR Lajitas Array 85.48 57 P **P 22 27 31.5 +1.9**
comp=Z,6.1nm,1.0s,baz=216,slow=5.9,SNR=30
comp=Z,6.1nm,1.0s
KULM Kulim 85.65 277 P **P 22 27 30.8 +0.1**
GLB Gilahina Butte 85.67 15 P **P 22 27 30.3 +0.5**
GLB IAmb IAmb 22 28 24.9
comp=Z,50nm,1.9s
ANMO Albuquerque 85.95 50 P **P 22 27 32.8 +0.8**
ANMO Albuquerque 85.95 50⇑*e*P **P 22 27 33.4 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
LL02 Futaleuf 85.96 135 P **P 22 27 33.8 +2.1**
LL02 IAmb IAmb 22 27 35.4
comp=Z,36nm,1.1s
TNA Tin City 86.04 3 P **P 22 27 31.6 +0.2**
KTH Kantishna Hill 86.08 11 P **P 22 27 30.9 -0.8**
TRF Thorofare Moun 86.10 11 P **P 22 27 31.6 -0.4**
TRF IAmb IAmb 22 27 33.8
comp=Z,12nm,0.6s
RND Reindeer 86.33 12 P **P 22 27 33.2 +0.3**
RND IAmb IAmb 22 27 35.0
comp=Z,13nm,0.7s
RND Reindeer 86.33 12 P **P 22 27 33.2 +0.3**
RND pmax pmax
comp=Z,13nm,0.7s
LL03 Petrohue 86.42 133 P **P 22 27 35.4 +1.4**
MCK McKinley 86.61 12 P **P 22 27 34.3 +0.1**
MCK IAmb IAmb 22 27 35.7
comp=Z,11nm,0.7s
MCK McKinley 86.61 12 P **P 22 27 34.3 +0.1**
MCK pmax pmax
comp=Z,11nm,0.7s
ELIB Princess Elisa 86.81 186 *d*P **P 22 27 36.8 +1.3**
comp=Z,22nm,0.9s
SEY Seymchan 86.85 346⇓*i*P **P 22 27 35.3 0.0**
SEY pmax pmax
comp=Z,22nm,0.8s
LR05 Currie 87.07 132 P **P 22 27 38.8 +1.7**
LR05 IAmb IAmb 22 27 40.7
comp=Z,43nm,1.1s
SYO Syowa Base 87.10 192⇑*e*P **P 22 27 37.4 +0.7**
SYO Syowa Base 87.10 192⇑*e*PcP **PcP 22 27 39.4 +0.9**
GSI Gunungsitoli 87.12 272 P **P 22 27 37.8 -0.1**
BJT Baijiatuau 87.25 315 P **P 22 27 36.5 -1.2**
BJT Baijiatuau 87.25 315 P **P 22 27 36.6 -1.2**
BJT pmax pmax
comp=Z,15nm,1.3s
WRH Wood River Hil 87.44 12 P **P 22 27 37.9 -0.2**
WRH IAmb IAmb 22 28 29.7
comp=Z,26nm,1.4s
BCAR Beaver Creek A 87.56 15 P **P 22 27 37.6 -1.2**
ENH Enshi 87.63 303 P **P 22 27 38.8 -1.1**
TROLL Troll, Antarti 87.69 180⇑P **P 22 27 40.8 +1.1**
comp=Z,290nm,0.4s
PDAR Pinedale Array 87.70 42 P **P 22 27 40.5 +0.3**
comp=Z,0.5nm,0.6s,baz=204,slow=3.3,SNR=5.4
SRIT Nakonsritamara 87.80 280 P **P 22 27 41.5 +0.5**
SRIT IAmb IAmb 22 27 43.6
comp=Z,22nm,0.8s
SCRK Sand Creek 87.84 14 P **P 22 27 40.7 +0.5**
COLA College 87.85 12⇓*e*P **P 22 27 39.7 -0.3**
COLA pmax pmax
comp=Z,18nm,1.6s
PLCA Paso Flores 87.87 133 P **P 22 27 42.6 +1.5**
PLCA IAmb IAmb 22 27 44.1
comp=Z,14nm,1.1s
PLCA Paso Flores 87.87 133 P **P 22 27 43.1 +2.1**
comp=Z,8.0nm,1.0s,baz=208,slow=4.8,SNR=8.4
comp=Z,8.0nm,1.0s
SNAA Sanae 87.92 178 P **P 22 27 41.5 +0.9**
SNAA Sanae 87.92 178⇑P **P 22 27 41.4 +0.9**
comp=Z,185nm,0.8s
SNAA Sanae 87.92 178 P **P 22 27 42.0 +1.4**
comp=Z,7.5nm,0.8s,baz=187,slow=9.3,SNR=13
comp=Z,7.5nm,0.8s
ILAR Eielson Array 87.94 12 P **P 22 27 40.9 +0.4**
ILAR Eielson Array 87.94 12 P **P 22 27 40.4 -0.2**
comp=Z,1.8nm,0.6s,baz=217,slow=5.0,SNR=26
comp=Z,1.8nm,0.6s
ILAR Eielson Array 87.94 12 P **P 22 27 40.9 +0.4**
VNA3 Neumayer Olymp 87.97 176⇑P **P 22 27 42.2 +1.3**
comp=Z,17nm,0.7s
POKR Poker Plat Res 88.14 12 P **P 22 27 41.0 -0.5**
VNA2 Neumayer--Watz 88.44 176⇑P **P 22 27 44.4 +1.4**
comp=Z,23nm,1.0s,baz=173,slow=5.2
ZEA Zeya 88.59 330 *e*P **P 22 27 44.5 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.7s
VNA1 Neumayer--Stat 88.65 176⇑P **P 22 27 45.2 +1.3**
comp=Z,38nm,1.0s
NVL N'lazarevskaya 88.78 183 *e*P P 22 27 55.2 +11
NVL pmax pmax
comp=Z,16nm,0.9s
BILL Bilibino 89.28 353⇓*e*P **P 22 27 47.4 +0.7**
BILL pmax pmax
comp=Z,3.0nm,0.6s
COLD Coldfoot 89.58 10 P **P 22 27 49.0 +0.9**
I28M Miner Creek 90.01 14 P **P 22 27 50.9 +0.6**
ABTX Abilene, Hawle 90.01 55 P **P 22 27 51.7 +0.7**
ABTX IAmb IAmb 22 27 53.3
comp=Z,8.7nm,0.9s
SRDT SRDT 90.30 285 P **P 22 27 53.4 +0.8**
BMAR Burnt Mountain 90.74 12 P **P 22 27 53.7 +0.1**
CMAR Chiang Mai Arr 91.92 289 P **P 22 28 00.4 +0.3**
CMAR Chiang Mai Arr 91.92 289 P **P 22 28 00.8 +0.7**
comp=Z,5.3nm,0.8s,baz=116,slow=2.7,SNR=33
CMAR PP **PP 22 31 45.5 +2.7**
comp=Z,1.2nm,0.3s,baz=115,slow=6.3,SNR=6.2
comp=Z,5.3nm,0.8s
CHTO Chiang Mai 92.04 289 P **P 22 28 00.9 +0.2**
CHTO IAmb IAmb 22 28 02.4
comp=Z,8.5nm,0.8s
CHTO Chiang Mai 92.04 289 P **P 22 28 00.9 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 92.86 337⇓*e*P **P 22 28 02.7 -0.7**
YAK pmax pmax
comp=Z,7.0nm,0.5s
INK Inuvik 93.82 15 P **P 22 28 08.1 +0.4**
INK Inuvik 93.82 15 P **P 22 28 08.1 +0.4**
INK pmax pmax
comp=Z,6.0nm,1.2s
YKA Yellowknife Ar 95.76 24 P **P 22 28 17.2 +0.5**
comp=Z,0.3nm,0.7s,baz=242,slow=4.8,SNR=5.8
comp=Z,0.3nm,0.7s
ECSD EROS Data Cent 96.59 46 P **P 22 28 21.4 +0.5**
ECSD IAmb IAmb 22 28 22.8
comp=Z,26nm,1.9s
ULN Ulaanbaatar 96.63 319⇓*e*P **P 22 28 20.6 -0.6**
ULN pmax pmax
comp=Z,7.0nm,1.7s
SONM Songino Array 97.03 318 P Pdif 22 28 23.3 +0.2
comp=Z,0.4nm,0.5s,baz=137,slow=4.3,SNR=3.8
comp=Z,0.4nm,0.5s
TIXI Tiksi 99.27 345⇓*e*P **Pdif 22 28 31.1 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 111.71 321 PKiKP **PKiKP 22 33 24.4 0.0**
comp=Z,1.1nm,0.5s,baz=6.7,slow=1.3,SNR=6.1
MK31 Makanchi Array 112.60 313 *c i*PKIKP **PKiKP 22 33 26.0 -0.3**
MKAR Makanchi Array 112.60 313 Pdiff **Pdif 22 29 33.1 +0.9**
comp=Z,0.1nm,0.3s,baz=94,slow=5.4,SNR=4.3
MKAR PKiKP **PKiKP 22 33 26.5 +0.1**
comp=Z,1.6nm,0.4s,baz=169,slow=0.9,SNR=47
MKAR PKKPbc **PKKPbc 22 44 17.1 +0.1**
comp=Z,0.6nm,0.8s,baz=267,slow=3.9,SNR=6.2
KURK Kurchatov 115.30 317 *c i*PKIKP **PKiKP 22 33 31.5 +0.2**
KURK pmax pmax
comp=Z,10.0nm,2.5s
KURBB Kurchatov Arra 115.36 317 PKP **PKiKP 22 33 31.6 +0.2**
comp=Z,1.9nm,0.6s,baz=92,slow=1.8,SNR=21
D62A Allapoint, All 116.17 47 PKPdf **PKPdf 22 33 32.5 -0.6**
BOOM Boomskoye usch 116.73 308 PKPdf **PKPdf 22 33 34.0 -0.6**
BOOM Boomskoye usch 116.73 308 PKiKP **PKPdf 22 33 34.0 -0.6**
SCHQ Schefferville 117.53 38 PKP **PKiKP 22 33 35.6 +0.1**
comp=Z,2.5nm,0.9s,baz=252,slow=11,SNR=2.9
AAK Ala-Archa 117.81 308 PKPdf **PKPdf 22 33 36.1 -0.6**
AAK Ala-Archa 117.81 308 *i*PKIKP **PKPdf 22 33 36.1 -0.6**
BATG Bathurst New B 118.22 47 PKPdf **PKPdf 22 33 36.5 -0.5**
BVAR Borovoye Array 120.32 320 PKP **PKiKP 22 33 41.4 +0.3**
comp=Z,3.8nm,0.4s,baz=112,slow=2.5,SNR=34
BVAR PKKPbc **PKKPbc 22 43 50.2 +0.2**
comp=Z,0.4nm,0.4s,baz=329,slow=2.5,SNR=4.5
BRVK Borovoye 120.38 320 PKPdf **PKPdf 22 33 40.6 -0.4**
BRVK Borovoye 120.38 320⇑*i*PKIKP **PKiKP 22 33 41.2 +0.1**
VOI Vohitsoka 120.64 227 PKPdf **PKiKP 22 33 43.2 +0.4**
KKAR Karatay Array 120.75 309 PKPdf **PKPdf 22 33 41.8 -0.3**
KKAR Karatay Array 120.75 309 PKiKP **PKPdf 22 33 41.8 -0.3**
GAR Garm 120.81 304 PKPdf **PKiKP 22 33 42.7 +0.1**
KBL Kabul 121.57 299 PKPdf **PKiKP 22 33 44.3 -0.1**
KBL Kabul 121.57 299 PKiKP **PKiKP 22 33 44.3 -0.1**
SPITS Spitsbergen Ar 122.00 357 PKP **PKiKP 22 33 44.1 +0.4**
comp=Z,12nm,1.1s,baz=44,slow=6.1,SNR=11
ARTI Arti 126.41 326 PKPdf **PKiKP 22 33 53.3 +0.4**
ARTI Arti 126.41 326 *i* PKIKP **PKiKP 22 33 53.5 +0.5**
ARTI 22 35 51.8
ARTI 22 40 42.4
ARTI SS SS 22 52 40.5 +2.8
BOSA Boshof 127.01 204 PKPdf **PKiKP 22 33 55.2 -0.1**
BOSA Boshof 127.01 204 PKP **PKiKP 22 33 55.8 +0.5**
comp=Z,1.8nm,0.6s,baz=183,slow=2.2,SNR=6.0
HRA Herat 127.17 298 **PKPdf 22 33 54.7 -0.2**
ABKAR Akbulak array 127.41 317 PKPdf **PKiKP 22 33 55.7 +0.5**
ABKAR Akbulak array 127.41 317 PKPdf **PKiKP 22 33 55.4 +0.2**
ARCES ARCESS Array B 129.28 350 PKP **PKiKP 22 33 58.1 -0.2**
comp=Z,3.4nm,0.7s,baz=3.0,slow=0.9,SNR=29
FINES FINESS Array B 136.32 345 PKhKP PKPpre 22 34 00.1
comp=Z,0.7nm,0.4s,baz=34,slow=2.6,SNR=8.6
FINES SKPbc **SKPab 22 37 29.1 0.0**
comp=Z,2.6nm,0.8s,baz=51,slow=3.8,SNR=4.7
OBN Obninsk 137.67 333⇓*i*PKIKP **PKiKP 22 34 16.0 +0.3**
OBN *e* 22 37 03.1
OBN pmax pmax
comp=Z,10.0nm,1.6s
NOA NORSAR Array B 139.22 355 PKhKP PKPpre 22 34 07.6
comp=Z,0.4nm,0.5s,baz=11,slow=3.2,SNR=1.5
HFS Hagfors 139.84 353 PKhKP PKPpre 22 34 09.1
comp=Z,2.3nm,0.5s,baz=83,slow=3.6,SNR=18
KBZ Khabaz 140.28 315 *i*PKIKP **PKiKP 22 34 21.8 +0.4**
SHA1 Shidzhatmaz 140.43 315⇓*e*PKIKP **PKPdf 22 34 18.8 -0.7**
KMBO Kilima Mbogo 140.99 241 PKhKP PKPpre 22 34 18.7
comp=Z,0.8nm,0.4s,baz=42,slow=5.1,SNR=3.8
BORU Boraas 142.39 352 *i* P PKPpre 22 34 17.0
ONAU Onsala 142.73 353 *i* P PKPpre 22 34 18.2
BLEU Blekinge 143.21 349 *i* P PKPab 22 34 19.2 -0.7
ANN Anapa 143.31 319 *i* PKIKP PKPbc 22 34 21.9 -0.1
ANN *e* 22 37 37.7
ANN pmax pmax
comp=Z,20nm,0.8s
DRUM Mains of Drumt 143.35 6 *e*P PKPbc 22 34 21.4 -0.3
DEL Delary 143.37 351 *i* P PKPab 22 34 20.9 +0.4
LAWE Loch Awe, Argy 143.64 9 *e*P PKPbc 22 34 22.8 +0.3
INVG Invergeldie, C 143.66 8 *e*P PKPbc 22 34 23.0 +0.5
BJUU Bjuv 143.88 351 *i* P PKPbc 22 34 22.9 -0.3
AKASG Malin Array Be 143.94 333 PKhKP PKPpre 22 34 22.6
comp=Z,13nm,0.7s,baz=41,slow=4.5,SNR=65
AKASG SKPbc **SKiKP 22 37 46.6 +2.0**
comp=Z,0.4nm,0.3s,baz=48,slow=2.0,SNR=6.7
AKBB Malin Array Si 143.94 333 *c i*PKIKP PKPab 22 34 23.0 +0.1
KIEV Kiev 143.95 333 ⇓P PKPab 22 34 22.7 -0.3
KIEV Kiev 143.95 333 ⇓PKIKP PKPab 22 34 22.7 -0.3
LUNU Lund 144.25 351 *i* P **PKPab 22 34 23.6 -0.4**
BSD Bornholm Skovb 144.51 349 *i* P **PKPab 22 34 24.7 -0.3**
EKA Eskdalemuir Ar 144.84 7 PKP **PKPdf 22 34 26.5 -0.1**
comp=Z,2.7nm,0.4s,baz=332,slow=2.6,SNR=29
GAL1 Galloway 145.09 9 *e*P **PKPab 22 34 27.6 +0.4**
SIM Simferopol' 145.22 321 *e*PKIKP **PKPab 22 34 28.2 +0.2**
SIM pmax pmax
comp=Z,84nm,1.2s
EDMD Edmundbyers 145.46 6 *e*P **PKPab 22 34 28.7 +0.1**
KESW Keswick, Cumbr 145.57 7 *e*P **PKPbc 22 34 28.6 +0.1**
R9F13 Warsaw-Wawer 145.68 341 *e*PKP **PKPab 22 34 30.7 +1.2**
GKP Gorka Klasztor 145.77 346 *e*PKP **PKPdf 22 34 28.6 +0.3**
BEL Belsk 146.13 341 *e*PKP **PKPab 22 34 31.3 +0.1**
SORM Soroca 146.20 330 ⇓P **PKPbc 22 34 30.6 +0.1**
SORM Soroca 146.20 330 ⇓PKP2 **PKPbc 22 34 30.6 +0.1**
MBAR Mbarara 146.46 234 *d i*PKP2 **PKPab 22 34 34.2 +0.3**
WME Myndd Eilian 146.57 9 *e*P **PKPbc 22 34 31.8 +0.4**
WLF1 Llynfaes 146.66 9 *e*P **PKPbc 22 34 32.0 +0.3**
MILM Milestii Mici 146.84 328 ⇓P **PKPbc 22 34 32.3 -0.1**
MILM Milestii Mici 146.84 328 ⇓PKP2 **PKPbc 22 34 32.3 -0.1**
LBWR Ladybower, Pea 146.89 6 *e*P **PKPab 22 34 33.6 -0.6**
FOEL Foel Wylfa 147.22 8 *e*P **PKPbc 22 34 33.5 +0.2**
KWP Kalwaria Pacla 147.38 337 *e*PKP **PKPbc 22 34 34.7 +0.9**
HLM1 Long Mynd 147.63 8 *e*P **PKPbc 22 34 34.9 +0.5**
PRAR RASCA 147.74 331 ⇑P **PKPbc 22 34 35.8 +0.9**
OJC Ojcow 147.85 341 *e*PKP **PKiKP 22 34 36.3 -0.5**
BIR Birlad 147.88 329 ⇓P **PKiKP 22 34 36.3 -0.7**
BIR Birlad 147.88 329 ⇓PKP2 **PKiKP 22 34 36.3 -0.7**
VLDR Vladesti 147.95 328 ⇑P **PKPbc 22 34 36.2 +0.8**
BURAR Bucovina Array 147.99 333 ⇓P **PKiKP 22 34 36.7 -0.6**
BURAR Bucovina Array 147.99 333 ⇓PKP2 **PKiKP 22 34 36.7 -0.6**
TLCR 148.02 326 ⇑P **PKPbc 22 34 35.7 0.0**
TLCR 148.02 326 ⇑PKP2 **PKPbc 22 34 35.7 0.0**
STHS Stebnicka Huta 148.07 339 *e*PKP2 **PKPbc 22 34 35.6 -0.1**
STHS Stebnicka Huta 148.07 339 *e*PKP **PKPbc 22 34 35.6 -0.1**
STHS *e* 22 34 40.1

SCTR	Scanteiesti	148.11 327	⇑P	PKPbc	22 34 35.8	-0.1
KOLS	Kolonicke sedl	148.11 337	*e*PKP2	PKiKP	22 34 37.3	-0.1
KOLS	Kolonicke sedl	148.11 337	*e*PKP	PKiKP	22 34 37.3	-0.1
MCH1	Michaelchurch	148.12 8	*e*P	PKPbc	22 34 35.9	+0.2
GHRR		148.13 328	⇑P	PKiKP	22 34 36.8	-0.7
TESR	Tescani	148.17 330	⇓P	PKPbc	22 34 36.0	0.0
KSP	Ksiaz	148.24 345	*e*PKP	PKiKP	22 34 37.3	-0.3
BR131	Keskin Array S	148.25 314	*d*PKP2	PKPbc	22 34 36.4	-0.3
BRTR	Keskin Array B	148.25 314		PKPbc	22 34 36.3	-0.3
BRTR	Keskin Array B	148.25 314	PKPbc	PKPbc	22 34 36.7	0.0
	comp=Z,6.8nm,0.6s,baz=135,slow=4.7,SNR=54					
BRTR	Keskin Array B	148.25 314	PKP2	PKPbc	22 34 36.3	-0.3
KIRS	Kirsehir-Merke	148.34 312	⇓P	PKPbc	22 34 37.0	+0.2
CFR	Carcaliu	148.38 327	⇓P	PKPbc	22 34 37.2	+0.6
NIE	Niedzica	148.39 340	*e*PKP	PKiKP	22 34 38.0	+0.1
ONER	Baraj Valea Uz	148.42 330	⇓P	PKiKP	22 34 38.0	-0.1
TPGR	Topolog	148.45 326	⇑P	PKPbc	22 34 37.1	+0.3
CLL	Collm	148.49 349	*e*PKIKP	PKPdf	22 34 34.0	+1.2
CLL			*i*		22 34 37.4	
CLL			*i*		22 35 29.7	
CLL			pmax	pmax		
	comp=Z,3.0nm,0.9s					
CLL			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CLL	Collm	148.49 349	*e*PKPdf	PKPdf	22 34 34.0	+1.2
	comp=Z,3.0nm,0.9s					
CLL			*i* PKPbc	PKiKP	22 34 37.4	-0.7
	comp=Z,10.0nm,0.6s					
CLL			*i* PKiKP	PKPab	22 34 39.6	-1.0
	comp=Z,13nm,0.5s					
CLL			*i* x	x	22 34 44.3	
	comp=Z,14nm,0.9s					
CLL			*i* pPKPbc	pPKPbc	22 35 29.7	-0.4
	comp=Z,19nm,1.5s					
CLL			*i* pPKiKP	pPKiKP	22 35 31.6	-0.3
	comp=Z,35nm,1.3s					
CLL			*ex*	x	22 38 03.0	
OSTC	Ostas	148.53 345	⇑*e*PKP	PKiKP	22 34 38.4	+0.2
OSTC	Ostas	148.53 345	*e*PKP2	PKiKP	22 34 38.4	+0.2
CHVC	Chvalec	148.54 345	⇑*e*PKP	PKiKP	22 34 38.0	-0.3
CHVC	Chvalec	148.54 345	*e*PKP2	PKiKP	22 34 38.0	-0.3
VRI	Vrincioaia	148.60 329	⇓P	PKPbc	22 34 37.2	0.0
VRI	Vrincioaia	148.60 329	⇓PKP2	PKPbc	22 34 37.2	0.0
UPC	Upice	148.62 345	⇑*e*PKP	PKiKP	22 34 38.2	-0.2
UPC	Upice	148.62 345	*e*PKP2	PKiKP	22 34 38.2	-0.2
PLOR	Plostina	148.65 329	⇓P	PKPbc	22 34 36.4	-0.9
PLOR	Plostina	148.65 329	⇓PKP2	PKPbc	22 34 36.4	-0.9
BMR	Baia Mare	148.67 334	⇑P	PKiKP	22 34 38.0	-0.6
DPC	Dobruska-Polom	148.69 345	⇑*e*PKP	PKiKP	22 34 38.5	-0.1
DPC	Dobruska-Polom	148.69 345	*e*PKP2	PKiKP	22 34 38.5	-0.1
STEB	Steborice	148.69 343	⇑*e*PKP	PKiKP	22 34 38.1	-0.5
STEB			*e*PKPAB	PKPab	22 34 42.3	+0.8
BRG	Berggiesshubel	148.73 348	*e*PKP	PKiKP	22 34 38.4	-0.2
BRG			Amp		22 34 40.3	
	comp=Z,5.9nm,0.5s					
BRG			pPKP	pPKPab	22 35 34.0	+0.3
BRG			Amp		22 35 34.8	
	comp=Z,12nm,1.1s					
ANTO	Ankara	148.75 314	⇑P	PKPbc	22 34 38.4	+0.6
ANTO	Ankara	148.75 314	⇑PKP2	PKPbc	22 34 38.4	+0.6
ARCR	ARCALIA	148.78 333	⇓P	PKiKP	22 34 38.7	-0.1
HARR	Harsova	148.82 326	⇑P	PKiKP	22 34 38.9	-0.1
HARR	Harsova	148.82 326	⇑PKP2	PKiKP	22 34 38.9	-0.1
KRLC	Kraliky	148.83 344	⇑*e*PKP	PKiKP	22 34 38.8	-0.1
KRLC			*e*PKPAB	PKPab	22 34 43.3	+1.2
KRLC	Kraliky	148.83 344	*e*PKP2	PKiKP	22 34 38.8	-0.1
COVR	Voineasa-Covas	148.87 329	⇑P	PKPbc	22 34 38.4	+0.5
OZUR		148.88 330	⇓P	PKiKP	22 34 38.9	-0.2
LANS	Liptovska Anna	148.89 340	*e*PKP2	PKiKP	22 34 40.2	+1.2
LANS	Liptovska Anna	148.89 340	*e*PKP	PKiKP	22 34 40.2	+1.2
LANS			*e*		22 34 44.6	
MORC	Moravsky Berou	148.90 343	*e*PKP	PKiKP	22 34 39.2	+0.1
MORC	Moravsky Berou	148.90 343	⇑P	PKiKP	22 34 39.4	+0.4
MORC	Moravsky Berou	148.90 343	⇑PKP2	PKiKP	22 34 39.4	+0.4
PVCC	Panska Ves	148.93 347	⇑*e*PKP	PKiKP	22 34 39.0	0.0
PVCC			*e*PKPAB	PKPab	22 34 44.4	+1.9
PVCC	Panska Ves	148.93 347	*e*PKP2	PKiKP	22 34 39.0	0.0
KECS	Kecovo	149.13 338	*e*PKP2	PKPab	22 34 44.9	+1.5
KECS	Kecovo	149.13 338	*e*PKP	PKPab	22 34 44.9	+1.5
DOPR	Dopca	149.17 330	⇑P	PKiKP	22 34 39.4	-0.3
MAUC	Maruska	149.19 342	⇑*e*PKP	PKiKP	22 34 39.8	+0.1
MLR	Muntele Rosu	149.25 329	⇑P	PKiKP	22 34 39.5	-0.5
MLR	Muntele Rosu	149.25 329	⇑PKP2	PKiKP	22 34 39.5	-0.5
CBBR	Cluj-Babes-Bol	149.37 333	⇓P	PKiKP	22 34 40.0	-0.1
PRA	Prague	149.39 347	⇑*e*PKP	PKiKP	22 34 40.2	+0.2
PRA	Prague	149.39 347	*e*PKP2	PKiKP	22 34 40.2	+0.2
CJR	Cluj-Napoca	149.39 333	⇑P	PKiKP	22 34 39.9	-0.3
CJR	Cluj-Napoca	149.39 333	⇑PKP2	PKiKP	22 34 39.9	-0.3
PRU	Pruhonice	149.44 347	⇑*e*PKP	PKiKP	22 34 40.0	-0.1
MMAI	Mount Meron Ar	149.47 301	PKPbc	PKiKP	22 34 41.0	+0.2
	comp=Z,3.3nm,0.3s,baz=64,slow=11,SNR=12					
LEHL	Lehliu	149.54 327	⇓P	PKiKP	22 34 40.6	+0.1
VRAC	Vranov	149.58 344	*e*PKP	PKiKP	22 34 40.3	-0.1
MARR	Marisel-Cluj	149.62 334	⇑P	PKiKP	22 34 40.6	-0.1
JAVC	Velka Javorina	149.69 342	*e*PKP	PKiKP	22 34 42.2	+1.5
DRGR		149.70 334	⇑P	PKiKP	22 34 40.8	0.0
DRGR		149.70 334	⇑PKP2	PKiKP	22 34 40.8	0.0
VOIR		149.72 330	⇓P	PKPbc	22 34 40.4	+0.4
VOIR		149.72 330	⇓PKP2	PKPbc	22 34 40.4	+0.4
GHAJ	Ghor Haditha	149.77 297	PKPbc	PKPbc	22 34 40.7	+0.3
PSZ	Piszkesteto	149.82 339	⇓P	PKiKP	22 34 41.4	+0.4
PSZ	Piszkesteto	149.82 339	⇓PKP2	PKiKP	22 34 41.4	+0.4
KRUC	Moravsky	149.86 344	*e*PKP	PKiKP	22 34 41.2	+0.2
TREC	Trest	149.88 345	⇑*e*PKP	PKiKP	22 34 41.1	0.0
TREC	Trest	149.88 345	*e*PKP2	PKiKP	22 34 41.1	0.0
MEM	Membach	149.95 357	*d*PKP	PKiKP	22 34 41.5	+0.4
ARR	Arges	149.97 330	⇑P	PKiKP	22 34 42.4	+0.9
SMOL	Smolenice	150.07 342	*e*PKP2	PKiKP	22 34 42.5	+1.0
BCLA	Clavier	150.16 358	*d*PKP	PKPab	22 34 47.0	-0.5
MODS	Modra-Piesok	150.24 342	*e*PKP2	PKiKP	22 34 43.2	+1.4
MODS	Modra-Piesok	150.24 342	*e*PKP	PKiKP	22 34 43.2	+1.4
MODS			*e*		22 34 48.4	
BORA	Eskisehir	150.29 316	PKPbc	PKPbc	22 34 41.4	-0.2
BMRD	Maredsous	150.29 359	*d*PKP	PKiKP	22 34 41.9	+0.1
LOT	Lotru	150.30 331	⇑P	PKiKP	22 34 41.9	-0.3
RCHB	Rochefort	150.43 358	*d*PKP	PKiKP	22 34 42.4	+0.3
SRO	Srobarova	150.43 340	*e*PKIKP	PKiKP	22 34 42.2	0.0
SRO	Srobarova	150.43 340	*e*PKP	PKiKP	22 34 42.2	0.0
SRO			*e*		22 34 49.7	
KHC	Kasperske Hory	150.46 347	⇑*e*PKP	PKiKP	22 34 42.5	+0.2
KHC			*e*PKPAB	PKPab	22 34 50.0	+1.1
KHC	Kasperske Hory	150.46 347	*e*PKIKP	PKiKP	22 34 42.5	+0.2
DOU	Dourbes	150.50 359	*d*PKP	PKiKP	22 34 42.5	+0.2
SIRR	Siria	150.55 335	⇓P	PKiKP	22 34 42.8	+0.2
CKRC	Cesky Krumlov	150.59 346	⇑*e*PKP	PKiKP	22 34 43.0	+0.4
CKRC	Cesky Krumlov	150.59 346	*e*PKIKP	PKiKP	22 34 43.0	+0.4
GERES	GERESS Array B	150.70 347	PKPbc	PKiKP	22 34 43.1	+0.2
	comp=Z,2.4nm,0.6s,baz=26,slow=2.0,SNR=22					
SURR	Surduc	150.77 334	⇓P	PKiKP	22 34 42.9	0.0
GZR	Gura Zlata	150.78 332	⇓P	PKPbc	22 34 42.1	-0.4
GZR	Gura Zlata	150.78 332	⇓PKIKP	PKPbc	22 34 42.1	-0.4
WLF	Walferdange	150.88 357	*d*PKP	PKiKP	22 34 43.8	+0.7
WLF			*dp*PKP	pPKPbc	22 35 36.8	+0.5
CONA	Conrad Observa	151.04 343	*i* PKiKP	PKiKP	22 34 44.2	+0.6
	comp=Z,5.2nm,0.9s					
BZS	Buzias	151.09 334	⇓P	PKiKP	22 34 43.8	+0.2
BZS	Buzias	151.09 334	⇓PKIKP	PKiKP	22 34 43.8	+0.2
VLAD	Vladila	151.09 329	⇓P	PKiKP	22 34 44.3	+0.6
RONA	Rosalia, Austr	151.13 343	*i* PKiKP	PKiKP	22 34 44.3	+0.5
	comp=Z,3.2nm,0.4s,SNR=14					
HERR	Herculane	151.34 332	⇑P	PKiKP	22 34 44.1	-0.1
BAND	Balkesir-Ban	151.50 319	⇓P	PKiKP	22 34 44.6	0.0
MOA	Molln	151.52 345	*i* PKiKP	PKiKP	22 34 44.6	+0.1
	comp=Z,0.7nm,0.2s					
MORH	Mrgy, Hungar	151.72 338	⇑P	PKiKP	22 34 45.6	+0.7
MDVR	Moldovita	151.73 333	⇓P	PKiKP	22 34 45.2	+0.2
VALD	Valchedram	151.79 329	*e*P	PKiKP	22 34 46.3	+1.2
BIOA	Bad Ischl, Aus	151.81 346	*i* PKiKP	PKiKP	22 34 45.6	+0.5
	comp=Z,2.0nm,0.3s					
MPEP	Malo Peshtene	151.89 329	*e*P	PKiKP	22 34 46.4	+1.0
LESA	Schwarzleotal	152.27 347	*i* PKiKP	PKiKP	22 34 46.8	+0.6
	comp=Z,1.1nm,0.3s					
KDZ	Kurdzhali	152.29 324	*e*P	PKiKP	22 34 46.4	+0.1
SOKA	Soboth	152.41 344	*i* PKiKP	PKiKP	22 34 46.6	+0.1
	comp=Z,1.2nm,0.4s					
PERS	Pernice	152.43 343	*i* PKPbc	PKiKP	22 34 48.2	+1.7
PERS			*i* PKPab	PKPab	22 34 57.5	+0.3
RETA	Reutte	152.56 350	*i* PKiKP	PKiKP	22 34 47.1	+0.4
	comp=Z,1.0nm,0.3s					
WATA	Walderalm	152.57 349	*i* PKiKP	PKiKP	22 34 47.4	+0.6
	comp=Z,1.5nm,0.2s					
WTTA	Wattenberg	152.63 349	*i* PKiKP	PKiKP	22 34 47.5	+0.5
	comp=Z,2.6nm,0.4s					
VTS	Vitosha	152.69 328	*e*P	PKiKP	22 34 47.5	+0.2
OBKA	Obir	152.70 344	*e*PKiKP	PKiKP	22 34 47.6	+0.6
	comp=Z,0.8nm,0.4s					
PLNA	Plana	152.70 328	*e*P	PKiKP	22 34 48.6	+1.4
SQTA	Sankt Quirin	152.75 349	*i* PKiKP	PKiKP	22 34 47.6	+0.4
	comp=Z,2.2nm,0.4s					
MYKA	Terra Mystica	152.81 345	*i* PKiKP	PKiKP	22 34 47.5	+0.3
	comp=Z,2.8nm,0.4s					
DAVA	Damuels	152.89 351	*e*PKiKP	PKiKP	22 34 48.2	+0.6
	comp=Z,1.7nm,0.4s					
ABTA	Abfaltersbach	152.95 347	*i* PKP	PKPbc	22 34 47.3	-0.1
	comp=Z,2.7nm,0.5s,SNR=6.7					
FETA	Feichten	153.02 350	*i* PKiKP	PKiKP	22 34 48.3	+0.5
	comp=Z,0.7nm,0.3s					
CRNS	Crni Vrh	153.17 344	*i* PKPbc	PKiKP	22 34 48.0	0.0
MMB	Musomishta	153.20 326	*e*P	PKiKP	22 34 48.2	0.0
ESDC	Sonseca Array	159.73 18	PKP	PKPdf	22 34 49.1	+0.2
	comp=Z,1.0nm,1.0s,baz=355,slow=3.3,SNR=4.1					
ESDC			PKPab	PKPab	22 35 30.1	+1.4
	comp=Z,1.3nm,0.7s,baz=332,slow=3.9,SNR=10					
DBIC	Dimbokro	163.75 147	PKP	PKPdf	22 34 54.4	+0.6
	comp=Z,3.4nm,0.8s,baz=207,slow=2.3,SNR=3.3					
DBIC			PKPab	PKPab	22 35 46.9	0.0
	comp=Z,2.8nm,0.8s,baz=210,slow=8.1,SNR=3.1					
KEST	Kesra	164.15 344	PKPab	PKPab	22 35 48.5	+0.3
	comp=Z,4.2nm,0.9s,baz=59,slow=5.9,SNR=4.9					

*JMA **19** 22:32:00.5±0.2, 43.°1N±0.°6×145.°8E±0.°7, h52km±1km, MV2.5/35, OFF NEMURO PENINSULA*
*SKHL **19** 22:32:01.9±0.4, 43.°10N×145.°80E, h30km±1km, mb3.9/3*
ISC 19 22:32:00.7±1.7, 43.°10N±0.°08×145.°82E±0.°06, h46km±10km, n14, σ0s74/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.27	348	*i* P	Pn	22 32 09.4	+0.2
NEM2				S	Sn	22 32 15.5	+0.4
NMR	Nemuro--Hokkai	0.27	346	*i* P	Pn	22 32 09.3	+0.1
NMR				AMB	AMB	22 32 09.5	
	40nm,0.3s						
NMR				*e*S	Sn	22 32 14.6	-0.6
NMR				A	A	22 32 15.7	
	160nm,0.2s						
NMR				A	A	22 32 15.7	
	290nm,0.2s						
JKHN	Kushirohamanak	0.48	268	P	Pn	22 32 11.8	+0.4
JKHN				S	Sn	22 32 19.8	+0.6
AKK	Akkeshi	0.72	263	*i* P	Pn	22 32 14.3	-0.2
AKK				AMB	AMB	22 32 14.4	
	20nm,0.2s						
AKK				*e*S	Sn	22 32 23.9	-0.6
AKK				A	A	22 32 25.6	
	80nm,0.2s						
AKK				A	A	22 32 25.6	
	90nm,0.2s						
JAK	Akkeshi	0.83	263	P	Pn	22 32 15.7	-0.2
JAK				S	Sn	22 32 27.1	0.0
JNSB	Nemuroshibetsu	0.90	319	P	Pn	22 32 16.5	-0.4
JNSB				*e*S	Sn	22 32 28.9	+0.2
YUK	Yuzh-Kuril'sk	0.93	2	*e*P	Pn	22 32 17.5	+0.1
YUK				AMB	AMB	22 32 18.3	
	100nm,0.3s						
YUK				*e*S	Sn	22 32 28.9	-0.7
YUK				A	A	22 32 30.3	
	240nm,0.2s						
YUK				A	A	22 32 30.3	
	130nm,0.2s						
JNK	Nakash	0.93	301	*i* P	Pn	22 32 16.8	-0.6
JNK				S	Sn	22 32 28.6	-1.1
JRA	Rausu	0.97	329	P	Pn	22 32 17.8	-0.2
JRA				*e*S	Sn	22 32 30.5	-0.2
SHO	Shikotan	1.06	44	*e*P	Pn	22 32 18.8	-0.4
SHO				*i* S	Sn	22 32 31.5	-1.3
SHO				A	A	22 32 31.8	
	60nm,0.2s						
SHO				A	A	22 32 31.8	
	50nm,0.2s						
JOB	Onbets	1.47	263	*e*P	Pn	22 32 24.6	-0.1
JOB				*e*S	Sn	22 32 42.5	-0.2
JAR	Ashorobuto	1.51	278	P	Pn	22 32 25.5	+0.2
JAR				S	Sn	22 32 44.0	+0.2
JTKR	Abashiri--Toko	1.64	303	P	Pn	22 32 27.4	+0.5
JTKR				*e*S	Sn	22 32 47.8	+1.0
KUR	Kuril'sk	2.59	34	*e*S	Sn	22 33 12.6	+2.3
KUR				A	A	22 33 15.4	
	20nm,0.3s						
KUR				A	A	22 33 15.4	
	10.0nm,0.3s						

*IDC **19** 22:49:21.0±1.3, 25.°79N×44.°89W, h0km, mb3.8/8, mbtmp3.8/8, MS3.4/8, Error ellipse: s-maj=41.4km s-min=26.9km az=144.0*
ISC 19 22:49:22.8±1.2, 25.°8N±0.°2×44.°9W±0.°2, h12km, n21, σ0s88/8, mb4.0/8, MS3.4/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKL	Tuckaleechee C	34.64	296	LR	LR	23 07 12.0	
	comp=Z,54nm,21.0s,baz=77,slow=31						
DBIC	Dimbokro	42.66	109	LR	LR	23 11 54.1	
	comp=Z,32nm,18.7s,baz=145,slow=32						
H10N2	ASCENSION HYDR	44.62	134	T	T	23 45 03.1	
	baz=319,slow=75,SNR=21						
H10N3	ASCENSION HYDR	44.62	134	T	T	23 45 05.4	
	baz=319,slow=75,SNR=27						
H10N1	ASCENSION HYDR	44.64	134	T	T	23 45 04.5	
	baz=319,slow=75,SNR=31						
H10S3	ASCENSION HYDR	45.37	136	T	T	23 45 59.5	
	baz=319,slow=74,SNR=29						
H10S2	ASCENSION HYDR	45.38	136	T	T	23 46 00.4	
	baz=261,slow=74,SNR=30						
LPAZ	La Paz	47.54	211	P	P	22 57 59.1	+0.1
	1.0nm,0.5s,baz=16,slow=5.8,SNR=4.2						
	1.0nm,0.5s						
NOA	NORSAR Array B	51.49	31	LR	LR	23 16 08.1	
	comp=Z,16nm,18.6s,baz=45,slow=31						
TXAR	Lajitas Array	51.74	288	P	P	22 58 29.4	-1.1
	0.1nm,0.3s,baz=52,slow=6.3,SNR=2.1						
	0.1nm,0.3s						
ANMO	Albuquerque	53.16	296	LR	LR	23 20 19.8	
	comp=Z,26nm,18.3s,baz=180,slow=35						
PDAR	Pinedale Array	54.76	305	P	P	22 58 53.2	+0.6
	0.2nm,0.5s,baz=14,slow=5.3,SNR=4.6						
	0.2nm,0.5s						
YKA	Yellowknife Ar	58.10	329	LR	LR	23 22 42.7	
	comp=Z,30nm,20.3s,baz=336,slow=34						
ARCES	ARCESS Array B	59.24	23	P	P	22 59 22.9	-0.8
	3.3nm,1.0s,baz=266,slow=8.9,SNR=3.6						
	3.3nm,1.0s						
AKASG	Malin Array Be	60.61	45	P	P	22 59 32.9	-0.5
	0.5nm,0.4s,baz=284,slow=5.7,SNR=4.2						
	0.5nm,0.4s						
ILAR	Eielson Array	71.89	334	P	P	23 00 46.2	+0.8
	0.5nm,0.7s,baz=74,slow=4.2,SNR=6.7						
	0.5nm,0.7s						
BVAR	Borovoye Array	83.56	33	P	P	23 01 51.5	+0.8
	0.8nm,0.8s,baz=323,slow=3.7,SNR=4.1						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	89.02	32	P	P	23 02 18.2	+0.6
	0.9nm,0.2s,baz=320,slow=7.3,SNR=4.3						
	0.9nm,0.2s						
SEY	Seymchan	90.52	352	LR	LR	23 42 26.8	
	comp=Z,41nm,19.2s,baz=238,slow=35						
MA2	Magadan	93.97	352	LR	LR	23 44 09.8	
	comp=Z,20nm,18.3s,baz=126,slow=35						
SHEM	Shemya Is, Ala	94.73	337	LR	LR	23 45 24.8	
	comp=Z,32nm,18.8s,baz=90,slow=36						

*IDC **19** 23:07:09.5±1.6, 21.°06S×178.°28W, h482km±16km, mb3.4/9, mbtmp4.3/12, Error ellipse: s-maj=19.3km s-min=15.8km az=126.0*
*NOU **19** 23:07:09.7, 21.°11S×178.°09W, h480km, MLv4.6/9, Fiji Islands Region*
*NEIC **19** 23:07:09.2±2.3, 21.°1S±0.°1×178.°10W±0.°06, h481km±6km, mb4.2/21, Error ellipse: s-maj=17.8km s-min=7.3km az=164.0*
ISC 19 23:07:10.2±0.5, 21.°04S±0.°09×178.°2W±0.°1, h495km, n92, σ1s02/91, mb4.1/18, 7C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	2.85	349	P	P	23 08 19.3	-0.6
TAVE	Taveuni	4.60	339	P	P	23 08 33.1	-0.4
MSVF	Nonsavu	4.82	313		P	23 08 34.9	-0.6
MSVF	Nonsavu	4.82	313	P	P	23 08 35.4	-0.1
	203nm,0.6s,baz=131,slow=7.4,SNR=285						
MSVF	Nonsavu	4.82	313	P	P	23 08 35.1	-0.4
YSA	Yasawairara	5.87	317	P	P	23 08 44.8	-0.4
FUTU	Fugatoga	6.70	1	P	P	23 08 52.0	-1.3
AFI	Afiamalu	9.39	42	P	P	23 09 17.6	-3.7
DZM	Mont Dzumac	14.30	263	P	P	23 10 13.5	+0.2
DZM	Mont Dzumac	14.30	263	P	P	23 10 12.9	-0.5
	4.9nm,0.6s,baz=95,slow=17,SNR=5.9						
DZM	Mont Dzumac	14.30	263	P	P	23 10 14.7	+1.4
	14nm,1.1s						
URZ	Urewera	17.62	192	P	P	23 10 45.5	-1.7
	4.3nm,0.3s,baz=82,slow=5.8,SNR=8.0						
URZ	Urewera	17.62	192	P	P	23 10 46.3	-0.9
RTZ	Ruatahuna	17.99	192	P	P	23 10 48.4	-2.4
RTZ				IAmb	IAmb	23 10 56.2	
	comp=Z,14nm,1.1s						
BKZ	Black Stump Fm	18.62	193	P	P	23 10 56.4	-0.1
BFZ	Birch Farm	20.13	192	P	P	23 11 10.2	0.0
QRZ	Quartz Range	21.23	200	P	P	23 11 19.4	-0.8
BBOO	Buckleboo	42.12	244	P	P	23 14 16.8	-1.6
BBOO				IAmb	IAmb	23 14 18.6	
	comp=Z,9.1nm,1.1s						
ASAR	Alice Springs	44.19	257	P	P	23 14 35.1	+0.3
ASAR	Alice Springs	44.19	257	P	P	23 14 34.2	-0.6
	comp=Z,3.4nm,0.9s,baz=89,slow=8.3,SNR=26						
ASAR				PcP	PcP	23 16 09.5	+0.4
	comp=Z,1.9nm,0.8s,baz=100,slow=4.8,SNR=7.7						
ASAR				ScP	ScP	23 19 17.1	+3.4
	comp=Z,0.9nm,0.7s,baz=111,slow=4.6,SNR=7.5						
	comp=Z,3.4nm,0.9s						
WB0	Warramunga Arr	44.30	263	P	P	23 14 34.7	-1.0
WB0				IAmb	IAmb	23 14 35.2	
	comp=Z,4.8nm,0.7s						
WB2	Warramunga Arr	44.31	263	P	P	23 14 34.6	-1.1
WRA	Warramunga Arr	44.32	263	P	P	23 14 34.7	-1.1
WRA	Warramunga Arr	44.32	263	P	P	23 14 34.7	-1.1
	comp=Z,0.8nm,0.4s,baz=96,slow=6.9,SNR=13						
WRA				PcP	PcP	23 16 09.5	0.0
	comp=Z,0.4nm,0.5s,baz=100,slow=4.2,SNR=3.7						
	comp=Z,0.8nm,0.4s						
KNRA	Kununurra	50.41	267	P	P	23 15 21.4	-0.4
KNRA				IAmb	IAmb	23 15 21.6	
	comp=Z,7.7nm,0.9s						
VNDA	Vanda	57.35	185	P	P	23 16 10.9	+0.9
QSPA	South Pole Qui	69.03	180	P	P	23 17 26.1	+0.6
QSPA				IAmb	IAmb	23 17 34.5	
	comp=Z,3.9nm,1.1s						
QSPA	South Pole Qui	69.03	180	P	P	23 17 26.4	+0.9
	comp=Z,4.0nm,0.7s,baz=78,slow=0.9,SNR=22						
	comp=Z,4.0nm,0.7s						
ADK	Adak	72.62	1	P	P	23 17 45.8	-0.8
KSRS	Korea Array	77.15	319	P	P	23 18 12.9	+0.6
	comp=Z,0.6nm,0.4s,baz=112,slow=3.4,SNR=4.1						
	comp=Z,0.6nm,0.4s						
BELA	Belgrano 2	79.05	173	P	P	23 18 22.0	0.0
O02D	Mt. Diablo Mer	79.83	40	P	P	23 18 28.3	+1.5
NVAR	Mina Array Bea	81.56	43	P	P	23 18 37.3	+1.2
	comp=Z,0.7nm,0.6s,baz=257,slow=4.5,SNR=4.0						
	comp=Z,0.7nm,0.6s						
O16K	Kokwok River B	82.02	10	P	P	23 18 36.9	-0.7
O16K				IAmb	IAmb	23 18 38.1	
	comp=Z,6.4nm,0.8s						
P18K	Big Mountain,	82.34	12	P	P	23 18 39.4	+0.2
P18K				IAmb	IAmb	23 18 40.6	
	comp=Z,13nm,1.1s						
O18K	Koktuh Hills	82.78	11	P	P	23 18 41.2	-0.2
M16K	Timber Creek	83.25	9	P	P	23 18 45.0	+1.3
N19K	Bonanza Creek	83.80	11	P	P	23 18 46.3	-0.3
N19K				IAmb	IAmb	23 18 60.0	
	comp=Z,6.4nm,1.1s						
K15K	Wolf Creek Mou	84.11	8	P	P	23 18 48.9	+0.9
U15A	North Rim	84.48	48	P	P	23 18 52.7	+1.8
M19K	Big River Lodg	84.83	11	P	P	23 18 52.0	+0.4
M19K				IAmb	IAmb	23 18 52.6	
	comp=Z,4.2nm,0.9s						
ELIB	Princess Elisa	86.08	187	*d*P

BGS 19 23:21:32.7±0.7, 48°.15N×4°.60W, h10km±76km, ML2.6
LDG 19 23:21:32.2±0.1, 48°.16N×4°.56W, h10km, Ml3.3/29, Error ellipse: s-maj=2.5km s-min=2.0km az=72.0
STR 19 23:21:32.0±0.7, 48°.N±3°×°±°, h13km±2km, MLv3.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=64.8, preliminary
ISC 19 23:21:30.9±1.3, **48°.12N**±0°.03×**4°.46W**±0°.05, **h18**km±3km, **n91**, σ1.**972**/129, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLIV	**Plomelin**	**0.28**	**132**	Pg	**Pn**	**23 21 39.6**	**-0.5**
OLIV				Sg	**Sb**	**23 21 44.9**	**+3.0**
LOCF	**Locquirec - 29**	**0.77**	**43**	Pg	**Pn**	**23 21 46.9**	**+0.1**
LOCF				Sg	**Sn**	**23 21 57.2**	**-0.8**
ROSF	**Rostrenen**	**0.82**	**74**	*e*Pg	**Pn**	**23 21 48.3**	**+0.7**
ROSF				*e*Sg	**Sn**	**23 22 01.2**	**+1.9**
152nm,0.2s							
ROSF	**Rostrenen**	**0.82**	**74**	Pg	**Pn**	**23 21 48.0**	**+0.4**
ROSF				Sg	**Sn**	**23 22 01.2**	**+1.9**
QUIF	**Quistinic**	**0.89**	**102**	*e*Pg	**Pn**	**23 21 50.5**	**+2.0**
QUIF				*e*Sg	**Sn**	**23 22 04.3**	**+3.4**
287nm,0.3s							
SGMF	**Saint Gilles**	**1.28**	**83**	*e*Pg	**Pg**	**23 21 55.7**	**+0.1**
SGMF				*e*Sg	**Sg**	**23 22 14.4**	**+2.1**
56nm,0.2s							
PLEF	**Pleven - 22200**	**1.47**	**74**	Pn	**Pb**	**23 21 58.0**	**+0.3**
PLEF				Sn	**Sg**	**23 22 18.6**	**+0.3**
JSA	**Saint Aubin**	**1.86**	**54**	*e*P	**Pn**	**23 22 02.8**	**+1.0**
JSA				IAML		23 22 36.2	
comp=N,46nm,0.3s							
JSA				IAML		23 22 37.7	
comp=E,60nm,0.4s							
JSA	**Saint Aubin**	**1.86**	**54**	Pn	**Pn**	**23 22 02.5**	**+0.7**
JSA	**Saint Aubin**	**1.86**	**54**	Sn	**Sb**	**23 22 27.4**	**+0.3**
JRS	**Jersey**	**1.90**	**55**	*e*P	**Pn**	**23 22 03.4**	**+1.0**
JRS				IAML		23 22 38.1	
comp=N,48nm,0.2s							
JRS				IAML		23 22 39.0	
comp=E,49nm,0.4s							
JDC	**Jersey Dam (Cr**	**1.92**	**55**	*e*P	**Pn**	**23 22 03.6**	**+0.9**
JDC				IAML		23 22 39.6	
comp=E,177nm,0.2s							
JDC				IAML		23 22 39.9	
comp=N,305nm,0.2s							
JLP	**Les Platons**	**1.93**	**53**	*e*P	**Pn**	**23 22 03.6**	**+0.9**
JDG	**Jersey Dam (Ga**	**1.93**	**55**	*e*P	**Pn**	**23 22 03.7**	**+0.9**
JDG				IAML		23 22 36.5	
comp=E,30nm,0.2s							
JDG				IAML		23 22 39.8	
comp=N,39nm,0.3s							
CCA1	**Carnmenellis**	**2.13**	**347**	*e*P	**Pn**	**23 22 04.9**	**-0.7**
CCA1				IAML		23 22 35.3	
comp=N,9.6nm,0.3s							
CCA1				IAML		23 22 40.8	
comp=E,16nm,0.2s							
CCA1	**Carnmenellis**	**2.13**	**347**	Pn	**Pn**	**23 22 04.8**	**-0.8**
CCA1	**Carnmenellis**	**2.13**	**347**	Sn	**Sn**	**23 22 31.5**	**-0.2**
LOUF	**Saint-Loup**	**2.19**	**74**	Pn	**Pn**	**23 22 08.0**	**+1.7**
LOUF				Sn	**Sb**	**23 22 36.7**	**+0.1**
DYA	**Yadsworthy**	**2.35**	**8**	*e*P	**Pn**	**23 22 08.2**	**-0.3**
DYA				IAML		23 22 49.7	
comp=N,32nm,0.3s							
DYA				IAML		23 22 50.3	
comp=E,16nm,0.4s							
DYA	**Yadsworthy**	**2.35**	**8**	Pn	**Pn**	**23 22 08.3**	**-0.3**
DYA	**Yadsworthy**	**2.35**	**8**	Sn	**Sn**	**23 22 37.7**	**+0.8**
GRR	**Gorron**	**2.42**	**82**	*e*Pn	**Pn**	**23 22 11.7**	**+2.2**
GRR	**Gorron**	**2.42**	**82**	*e*Pg	**Pg**	**23 22 17.3**	**0.0**
GRR				*e*Sg	**Sg**	**23 22 49.6**	**+0.9**
comp=E,40nm,0.3s							
FLN	**La Foliniere**	**2.73**	**75**	*e*Pn	**Pn**	**23 22 15.8**	**+2.1**
FLN	**La Foliniere**	**2.73**	**75**	*e*Pg	**Pg**	**23 22 23.1**	**0.0**
FLN				*e*Sg	**Sg**	**23 22 59.6**	**+1.1**
comp=E,60nm,0.3s							
LDF	**La Druitiere**	**2.93**	**79**	*e*Pn	**Pn**	**23 22 18.8**	**+2.2**
LDF	**La Druitiere**	**2.93**	**79**	*e*Pg	**Pg**	**23 22 27.5**	**+0.4**
LDF				*e*Sn	**Sn**	**23 22 52.5**	**+1.2**
LDF				*e*Sg	**Sg**	**23 23 05.6**	**+0.6**
comp=E,32nm,0.3s							
SDOF	**Saint-Denis-d'**	**2.94**	**134**	Pn	**Pn**	**23 22 18.5**	**+1.9**
SDOF				Sn	**Sb**	**23 22 56.9**	**-1.2**
MFF	**Saint Martin d**	**3.30**	**116**	*e*Pn	**Pn**	**23 22 24.5**	**+2.9**
MFF	**Saint Martin d**	**3.30**	**116**	*e*Pg	**Pg**	**23 22 34.5**	**+0.4**
MFF				*e*Sn	**Sn**	**23 23 01.9**	**+1.6**
MFF				*e*Sg	**Sg**	**23 23 16.6**	**-0.2**
comp=E,18nm,0.3s							
CHIF	**Chize**	**3.40**	**124**	Pn	**Pn**	**23 22 24.8**	**+1.8**
CHIF				Sn	**Sb**	**23 23 09.0**	**-2.6**
SWN1	**Swindon**	**3.81**	**26**	*e*P	**Pn**	**23 22 29.4**	**+0.7**
RSBS	**Rosebush, Pemb**	**3.85**	**357**	*e*P	**Pn**	**23 22 29.0**	**-0.2**
RSBS				IAML		23 23 12.9	
comp=N,5.2nm,0.5s							
RSBS				IAML		23 23 14.8	
comp=E,6.0nm,0.5s							
MCH1	**Michaelchurch**	**4.00**	**13**	*e*P	**Pn**	**23 22 31.4**	**+0.1**
MCH1				IAML		23 23 17.0	
comp=N,5.9nm,0.1s							
MCH1				IAML		23 23 18.6	
comp=E,4.3nm,0.1s							
HMNX	**Herstmonceux**	**4.17**	**47**	*e*P	**Pn**	**23 22 34.2**	**+0.7**
HMNX				IAML		23 23 46.7	
comp=E,29nm,0.4s							
HMNX				IAML		23 23 52.2	
comp=N,35nm,0.8s							
HLM1	**Long Mynd**	**4.52**	**12**	*e*P	**Pn**	**23 22 39.2**	**+0.8**
HLM1				IAML		23 23 30.9	
comp=N,3.0nm,0.2s							
HLM1				IAML		23 23 30.9	
comp=E,3.1nm,0.2s							
LFF	**La Frestale**	**4.79**	**130**	*e*Pn	**Pn**	**23 22 43.4**	**+1.3**
LFF	**La Frestale**	**4.79**	**130**	*e*P	Pn	23 22 47.0	+4.9
LFF	**La Frestale**	**4.79**	**130**	*e*Pg	**Pg**	**23 23 02.0**	**-0.6**
LFF				*e*Sn	**Sn**	**23 23 37.0**	**-0.1**
LFF				*e*Sg	**Sg**	**23 24 03.7**	**-0.9**
comp=E,14nm,0.4s							
TCF	**Toulx Ste Croi**	**4.90**	**109**	*e*Pn	**Pn**	**23 22 45.4**	**+1.8**
TCF	**Toulx Ste Croi**	**4.90**	**109**	*e*P	Pn	23 22 48.9	+5.3
TCF	**Toulx Ste Croi**	**4.90**	**109**	*e*Pg	**Pg**	**23 23 04.5**	**-0.2**
TCF				*e*Sn	**Sn**	**23 23 39.6**	**-0.2**
TCF				*e*Sg	**Sg**	**23 24 07.1**	**-1.0**
comp=E,8.6nm,0.4s							
RJF	**Les Rejaudoux**	**4.98**	**122**	*e*Pn	**Pn**	**23 22 46.6**	**+1.9**
RJF	**Les Rejaudoux**	**4.98**	**122**	*e*P	**Pn**	**23 22 48.7**	**+4.0**
RJF	**Les Rejaudoux**	**4.98**	**122**	*e*Pg	**Pg**	**23 23 04.6**	**-1.6**
RJF				*e*Sn	**Sn**	**23 23 42.3**	**+0.5**
RJF				*e*Sg	**Sg**	**23 24 09.9**	**-0.7**
comp=E,19nm,0.3s							
CWF	**Charnwood Fore**	**5.05**	**22**	*e*P	**Pn**	**23 22 45.6**	**0.0**
CWF				IAML		23 23 41.8	
comp=E,3.5nm,0.2s							
CWF				IAML		23 23 42.0	
comp=N,3.0nm,0.4s							
BGF	**Bois d'Agland**	**5.20**	**105**	*e*Pn	**Pn**	**23 22 49.3**	**+1.5**
BGF	**Bois d'Agland**	**5.20**	**105**	*e*Pg	**Pg**	**23 23 09.8**	**-0.7**
BGF				*e*Sn	**Sn**	**23 23 47.1**	**-0.2**
BGF				*e*Sg	**Sg**	**23 24 18.1**	**+0.2**
comp=N,16nm,0.3s							
VERF	**Verneugheol**	**5.31**	**114**	Pn	**Pn**	**23 22 50.5**	**+1.1**
AVF	**Avril sur Loir**	**5.46**	**101**	*e*Pn	**Pn**	**23 22 53.1**	**+1.8**
AVF	**Avril sur Loir**	**5.46**	**101**	*e*P	Pn	23 22 56.9	+5.6
AVF	**Avril sur Loir**	**5.46**	**101**	*e*Pg	**Pg**	**23 23 14.4**	**-1.0**
AVF				*e*Sn	**Sn**	**23 23 53.2**	**-0.4**
AVF				*e*Sg	**Sg**	**23 24 25.6**	**-0.5**
SSF	**Saint Saulge**	**5.49**	**98**	*e*Pn	**Pn**	**23 22 53.3**	**+1.6**
SSF	**Saint Saulge**	**5.49**	**98**	*e*P	Pn	23 22 57.6	+5.9
SSF	**Saint Saulge**	**5.49**	**98**	*e*Pg	**Pg**	**23 23 14.4**	**-1.6**
SSF				*e*Sn	**Sn**	**23 23 53.2**	**-1.2**
SSF				*e*Sg	**Sg**	**23 24 25.8**	**-1.2**
comp=N,4.6nm,0.4s							
SJPF	**Ste Jean**	**5.49**	**154**	*e*Pn	**Pn**	**23 22 53.1**	**+1.3**
SJPF	**Ste Jean**	**5.49**	**154**	*e*P	Pn	23 22 56.8	+5.0
SJPF				*e*Sn	**Sn**	**23 23 52.4**	**-2.1**
CAF	**Calviac**	**5.52**	**123**	*e*Pn	**Pn**	**23 22 53.8**	**+1.7**
CAF	**Calviac**	**5.52**	**123**	*e*P	Pn	23 22 57.5	+5.4
CAF				*e*Sn	**Sn**	**23 23 52.3**	**-2.8**
CAF				*e*Sg	**Sg**	**23 24 27.7**	**-0.2**
comp=N,6.2nm,0.3s							
LOR	**Lormes**	**5.68**	**95**	*e*Pn	**Pn**	**23 22 54.7**	**+0.4**
LOR	**Lormes**	**5.68**	**95**	*e*P	**Pn**	**23 22 59.0**	**+4.7**
LOR	**Lormes**	**5.68**	**95**	*e*Pg	**Pg**	**23 23 17.6**	**-2.0**
LOR				*e*Sn	**Sn**	**23 23 56.9**	**-2.2**
LOR				*e*Sg	**Sg**	**23 24 32.8**	**-0.3**
comp=N,9.3nm,0.4s							
SMF	**Signal de Mont**	**5.83**	**102**	*e*Pn	**Pn**	**23 22 56.6**	**+0.3**
SMF	**Signal de Mont**	**5.83**	**102**	*e*Pg	**Pg**	**23 23 19.9**	**-2.5**
SMF				*e*Sn	**Sn**	**23 23 59.9**	**-2.7**
SMF				*e*Sg	**Sg**	**23 24 36.3**	**-1.4**
ETSF	**Etsaut**	**5.89**	**151**	*e*Pn	**Pn**	**23 22 58.4**	**+1.1**
ETSF	**Etsaut**	**5.89**	**151**	*e*P	Pn	23 23 02.2	+4.9
ETSF				*e*Sn	**Sn**	**23 24 03.2**	**-1.2**
comp=N,1.6nm,0.3s							
BAIF	**Baives**	**6.02**	**68**	*e*Pn	**Pn**	**23 23 00.2**	**+1.3**
BAIF	**Baives**	**6.02**	**68**	*e*P	Pn	23 23 04.1	+5.2
BAIF				*e*Sn	**Sn**	**23 24 05.7**	**-1.6**
comp=N,2.2nm,0.3s							
EPF	**Esparros**	**6.10**	**145**	*e*Pn	**Pn**	**23 23 01.6**	**+1.5**
EPF				*e*Sn	**Sn**	**23 24 08.5**	**-0.9**
comp=N,3.4nm,0.2s							
SFTF	**Sexfontaines**	**6.35**	**86**	*e*Pn	**Pn**	**23 23 04.4**	**+0.8**
SFTF	**Sexfontaines**	**6.35**	**86**	*e*P	Pn	23 23 09.4	+5.8
SFTF				*e*Sn	**Sn**	**23 24 14.0**	**-1.7**
comp=N,17nm,0.2s							
MEZF	**Maizieres J'vi**	**6.36**	**83**	*e*Pn	**Pn**	**23 23 04.8**	**+1.2**
MEZF	**Maizieres J'vi**	**6.36**	**83**	*e*P	Pn	23 23 09.5	+5.9
MEZF				*e*Sn	**Sn**	**23 24 13.2**	**-2.5**
comp=N,4.2nm,0.3s							
GIVF	**Givet**	**6.41**	**68**	*e*Pn	**Pn**	**23 23 05.8**	**+1.5**
GIVF	**Givet**	**6.41**	**68**	*e*P	Pn	23 23 09.7	+5.4
GIVF				*e*Sn	**Sn**	**23 24 16.1**	**-0.9**
comp=N,2.8nm,0.3s							
MTLF	**Montolieu**	**6.68**	**133**	*e*Pn	**Pn**	**23 23 10.0**	**+1.9**
MTLF	**Montolieu**	**6.68**	**133**	*e*P	**Pn**	**23 23 12.7**	**+4.6**
MTLF				*e*Sn	**Sn**	**23 24 22.2**	**-1.4**
PAGF	**Fort de Pagny**	**6.80**	**83**	*e*Pn	**Pn**	**23 23 11.0**	**+1.2**
PAGF	**Fort de Pagny**	**6.80**	**83**	*e*P	Pn	23 23 15.5	+5.7
PAGF				*e*Sn	**Sn**	**23 24 26.2**	**-0.5**
comp=N,1.9nm,0.3s							
LASF	**Ste Croix**	**7.05**	**122**	*e*Pn	**Pn**	**23 23 16.2**	**+3.0**
LASF				*e*Sn	**Sn**	**23 24 29.8**	**-3.0**
comp=N,167nm,1.8s							
VIVF	**Saint-Julien-l**	**7.09**	**114**	*e*Pn	**Pn**	**23 23 15.2**	**+1.4**
VIVF				*e*Sn	**Sn**	**23 24 32.6**	**-1.3**
comp=N,3.3nm,0.4s							
HAU	**Haudompre**	**7.24**	**87**	*e*Pn	**Pn**	**23 23 16.7**	**+0.9**
HAU	**Haudompre**	**7.24**	**87**	*e*P	Pn	23 23 21.7	+5.9
HAU				*e*Sn	**Sn**	**23 24 35.3**	**-2.3**
comp=N,3.4nm,0.3s							
HAU				*e*Sg	**Sg**	**23 25 20.8**	**-2.4**
CABF	**La Chapelle**	**7.32**	**98**	*e*Pn	**Pn**	**23 23 18.3**	**+1.4**
CABF				*e*Sn	**Sn**	**23 24 37.8**	**-1.7**
CABF				*e*Sg	**Sg**	**23 25 24.7**	**-0.9**
HINF	**Hinteralfeld**	**7.60**	**88**	*e*Pn	**Pn**	**23 23 21.7**	**+1.0**
HINF	**Hinteralfeld**	**7.60**	**88**	*e*P	Pn	23 23 26.9	+6.2
HINF				*e*Sn	**Sn**	**23 24 42.4**	**-4.0**
comp=N,1.3nm,0.3s							
HINF				*e*Sg	Sb	23 25 31.6	+19
ORIF	**Oris-en-Rattie**	**7.81**	**110**	*e*Pn	**Pn**	**23 23 24.8**	**+1.1**
ORIF				*e*Sn	**Sn**	**23 24 49.5**	**-2.2**
CDF	**Champ du Feu**	**7.84**	**83**	*e*Pn	**Pn**	**23 23 25.1**	**+1.1**
CDF	**Champ du Feu**	**7.84**	**83**	*e*P	Pn	23 23 29.5	+5.5
CDF				*e*Sn	**Sn**	**23 24 46.3**	**-6.0**
comp=N,1.2nm,0.3s							
LPL	**La Plagne**	**8.10**	**105**	*e*Pn	**Pn**	**23 23 29.6**	**+1.8**
LPG	**La Plagne**	**8.12**	**105**	*e*Pn	**Pn**	**23 23 30.8**	**+2.7**
LPG				*e*Sn	**Sn**	**23 24 57.2**	**-2.4**

SGS 19 23:37:16.5, 26°.43N×35°.68E, h10km, Ml1.9
HLW 19 23:37:17.5, 26°.31N×35°.02E, h11km±9km, Md2.5, Ml2.0
ISC 19 23:37:10.5±1.0, **26°.35N**±0°.05×**35°.47E**±0°.04, **h10**km, **n64**, σ0.**970**/65, **Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WJHS		**0.91**	**65**	S	**Sg**	**23 37 39.6**	**-0.2**
WJHS		**0.91**	**65**	P	**Pn**	**23 37 29.7**	**+0.3**
WJHS		**0.91**	**65**	S	**Sg**	**23 37 39.7**	**-0.2**
WJHS		**0.91**	**65**	P	**Pn**	**23 37 29.7**	**+0.3**
EWJHS	**Al Wajh**	**1.08**	**100**	P	**Pn**	**23 37 33.1**	**+1.3**
EWJHS	**Al Wajh**	**1.08**	**100**	S	**Sb**	**23 37 45.9**	**+0.4**
EWJHS	**Al Wajh**	**1.08**	**100**	P	**Pn**	**23 37 33.1**	**+1.3**
EWJHS	**Al Wajh**	**1.08**	**100**	S	**Sb**	**23 37 45.7**	**+0.3**
NADB	**Abo Dabab**	**1.34**	**221**	P	**Pg**	**23 37 37.7**	**+1.6**
BIDS	**Bi'r al Bayda'**	**1.42**	**69**	P	**Pg**	**23 37 38.0**	**+0.2**
BIDS	**Bi'r al Bayda'**	**1.42**	**69**	S	**Sn**	**23 37 54.3**	**-0.9**
BIDS	**Bi'r al Bayda'**	**1.42**	**69**	S	**Sn**	**23 37 54.4**	**-0.9**
BIDS	**Bi'r al Bayda'**	**1.42**	**69**	P	**Pg**	**23 37 38.1**	**+0.2**
UMJ05	**UMJ05**	**1.51**	**104**	P	**Pg**	**23 37 39.6**	**0.0**
UMJ05	**UMJ05**	**1.51**	**104**	S	**Sb**	**23 37 57.9**	**0.0**
UMJ05	**UMJ05**	**1.51**	**104**	P	**Pg**	**23 37 39.8**	**+0.2**
UMJ11	**UMJ11**	**1.61**	**116**	P	**Pg**	**23 37 41.6**	**+0.1**
UMJ11	**UMJ11**	**1.61**	**116**	S	**Sn**	**23 37 59.8**	**-0.1**
UMJ11	**UMJ11**	**1.61**	**116**	P	**Pg**	**23 37 41.6**	**+0.1**
UMJ11	**UMJ11**	**1.61**	**116**	S	**Sn**	**23 37 59.8**	**-0.1**
UMJ12	**UMJ12**	**1.73**	**120**	S	**Sn**	**23 38 01.9**	**-0.8**
UMJ12	**UMJ12**	**1.73**	**120**	P	**Pg**	**23 37 43.3**	**-0.3**
UMJ12	**UMJ12**	**1.73**	**120**	S	**Sn**	**23 38 02.7**	**0.0**
UMJ12	**UMJ12**	**1.73**	**120**	P	**Pg**	**23 37 43.3**	**-0.3**
UMJ06	**UMJ06**	**1.78**	**110**	S	**Sn**	**23 38 04.0**	**0.0**
UMJ06				P	**Pb**	**23 37 43.8**	**+0.6**
UMJ06	**UMJ06**	**1.78**	**110**	S	**Sn**	**23 38 04.0**	**0.0**
UMJ06	**UMJ06**	**1.78**	**110**	P	**Pb**	**23 37 43.8**	**+0.6**
UMJ04	**UMJ04**	**1.81**	**108**	S	**Sn**	**23 38 05.7**	**+0.9**
UMJ04	**UMJ04**	**1.81**	**108**	P	**Pg**	**23 37 44.7**	**-0.6**
UMJ04	**UMJ04**	**1.81**	**108**	P	**Pg**	**23 37 44.9**	**-0.4**
UMJ01	**UMJ01**	**1.84**	**111**	S	**Sn**	**23 38 04.4**	**-1.1**
UMJ01	**UMJ01**	**1.84**	**111**	P	**Pb**	**23 37 44.5**	**+0.3**
HHRG	**Al Ghardaqah**	**1.91**	**297**	P	**Pn**	**23 37 43.3**	**+0.1**
HAGS	**Hagol**	**2.02**	**193**	P	**Pg**	**23 37 48.4**	**-0.8**
UMJ08	**UMJ08**	**2.03**	**111**	P	**Pb**	**23 37 47.5**	**0.0**
LNY09	**LNY09**	**2.19**	**115**	S	**Sn**	**23 38 14.8**	**+0.6**
LNY09	**LNY09**	**2.19**	**115**	P	**Pb**	**23 37 49.9**	**-0.3**
LNY09	**LNY09**	**2.19**	**115**	P	**Pb**	**23 37 49.9**	**-0.3**
LNY09	**LNY09**	**2.19**	**115**	S	**Sn**	**23 38 14.8**	**+0.6**
LNY04	**LNY04**	**2.23**	**118**	P	**Pb**	**23 37 50.4**	**-0.6**
LNY04	**LNY04**	**2.23**	**118**	S	**Sn**	**23 38 15.4**	**+0.1**
LNY04	**LNY04**	**2.23**	**118**	P	**Pb**	**23 37 50.2**	**-0.8**
LNY04	**LNY04**	**2.23**	**118**	S	**Sn**	**23 38 15.3**	**-0.1**
LNY13	**LNY13**	**2.27**	**121**	S	**Sn**	**23 38 16.7**	**+0.4**
LNY13	**LNY13**	**2.27**	**121**	P	**Pb**	**23 37 50.9**	**-0.8**
LNY13	**LNY13**	**2.27**	**121**	P	**Pb**	**23 37 50.8**	**-0.9**
LNY11	**LNY11**	**2.31**	**116**	P	**Pb**	**23 37 51.9**	**-0.6**
LNY11	**LNY11**	**2.31**	**116**	S	**Sn**	**23 38 18.2**	**+0.8**
LNY11	**LNY11**	**2.31**	**116**	S	**Sn**	**23 38 15.7**	**-1.7**
LNY11	**LNY11**	**2.31**	**116**	P	**Pb**	**23 37 51.9**	**-0.6**
LNY12	**LNY12**	**2.33**	**117**	P	**Pb**	**23 37 52.1**	**-0.7**
LNY12	**LNY12**	**2.33**	**117**	S	**Sn**	**23 38 18.3**	**+0.4**
LNY12	**LNY12**	**2.33**	**117**	P	**Pb**	**23 37 52.1**	**-0.7**
LNY03	**LNY03**	**2.35**	**114**	P	**Pb**	**23 37 52.7**	**-0.4**
LNY03	**LNY03**	**2.35**	**114**	P	**Pb**	**23 37 52.7**	**-0.4**
LNY06	**LNY06**	**2.37**	**118**	P	**Pb**	**23 37 52.7**	**-0.7**
LNY06	**LNY06**	**2.37**	**118**	P	**Pb**	**23 37 52.7**	**-0.7**
LNY05	**LNY05**	**2.39**	**123**	P	**Pb**	**23 37 52.7**	**-1.0**
LNY05	**LNY05**	**2.39**	**123**	P	**Pb**	**23 37 52.7**	**-1.0**
LNY10	**LNY10**	**2.41**	**116**	P	**Pb**	**23 37 53.4**	**-0.6**
LNY01	**LNY01**	**2.51**	**116**	P	**Pb**	**23 37 54.8**	**-0.9**
LNY08	**LNY08**	**2.52**	**121**	P	**Pb**	**23 37 54.7**	**-1.2**
LNY08	**LNY08**	**2.52**	**121**	P	**Pb**	**23 37 54.7**	**-1.2**
BRNS	**Bernies**	**2.78**	**207**	P	**Pb**	**23 37 59.2**	**-1.1**

IDC 19 23:38:56.0±2.4, 14°.71N×92°.73W, h0km, mb4.1/7, mbtmp4.0/10, ML3.6/2, MS3.4/11, Error ellipse: s-maj=79.2km s-min=20.3km az=37.0
GCG 19 23:38:56.4±1.8, 14°.09N×93°.40W, h35km±31km, MD4.7, MW3.9
MEX 19 23:38:57.4±0.9, 14°.18N×93°.42W, h10km±24km, MD4.2
NEIC 19 23:39:01.6±1.9, 14°.39N±0°.07×93°.26W±0°.05, h35km±12km, mb4.2/52, Md4.2/68(MEX), Error ellipse: s-maj=10.4km s-min=6.4km az=198.0
ISC 19 23:38:55.8±1.9, **14°.33N**±0°.05×**93°.33W**±0°.03, **h8**km±11km, **n150**, σ2.**814**/182, **mb4.2**/21, **MS3.4**/10, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.18**	**61**		**Pn**	**23 39 18.6**	**-0.1**
THIG					**Sg**	**23 39 34.2**	**+0.3**
THIG		**1.18**	**61**	*e*P	**Pn**	**23 39 18.6**	**-0.1**
THIG				*e*S	**Sg**	**23 39 34.2**	**+0.3**
THIG		**1.18**	**61**	*i*P	**Pn**	**23 39 18.6**	**-0.1**
THIG				*i*S	**Sg**	**23 39 35.4**	**+1.5**
THIG		**1.18**	**61**	*i*P		23 39 18.6	
THIG				*i*S		23 39 35.4	
PATR	**El Naranjo**	**1.32**	**53**	*e*P	**Pn**	**23 39 20.1**	**-0.7**
PATR				*e*S	**Sg**	**23 39 38.2**	**-0.2**
SMCA	**Catarina**	**1.32**	**66**	*e*P	**Pn**	**23 39 20.1**	**-0.5**
SMCA	**Catarina**	**1.32**	**66**	*e*P		23 39 20.1	
PCIG		**1.38**	**4**		**Pn**	**23 39 20.7**	**-0.6**
PCIG					**Sg**	**23 39 39.1**	**-1.0**
PCIG		**1.38**	**4**	*e*P	**Pn**	**23 39 20.7**	**-0.6**
PCIG				*e*S	**Sg**	**23 39 39.1**	**-1.0**
PAVE	**Pavencul**	**1.41**	**52**	*e*P	**Pn**	**23 39 21.7**	**-0.3**
PAVE				*e*S	**Sg**	**23 39 41.0**	**-0.3**
RTAL	**Retalhuleu**	**1.60**	**83**	Pn	**Pn**	**23 39 24.3**	**-0.1**
RTAL	**Retalhuleu**	**1.60**	**83**	*e*P	**Pn**	**23 39 24.1**	**-0.3**
RTAL				*e*S	**Sb**	**23 39 45.9**	**0.0**
STG8	**El Palmar, Qui**	**1.92**	**86**	*e*P		23 39 25.8	
STG8				*e*S		23 39 49.1	
SOKI	**Kika Raxquin**	**1.93**	**75**	*e*P	**Pn**	**23 39 29.7**	**+0.3**
SOKI	**Kika Raxquin**	**1.93**	**75**	*e*P		23 39 29.7	
STG0	**El Palmar, Qui**	**1.93**	**87**	*e*P		23 39 25.9	
CARR	**Arriaga**	**1.99**	**344**	*e*P	**Pn**	**23 39 30.0**	**+0.2**
CARR				*e*S	**Sb**	**23 39 56.3**	**-1.0**
HUEH	**Huehuetenango**	**2.02**	**61**	Pn	**Pn**	**23 39 31.2**	**+0.7**
HUEH				Sn	**Sn**	**23 39 54.8**	**-1.3**
HUEH	**Huehuetenango**	**2.02**	**61**	*e*P	**Pb**	**23 39 31.9**	**-1.1**
HUEH				*e*S	**Sg**	**23 40 01.6**	**+0.7**
HUEH	**Huehuetenango**	**2.02**	**61**	*i*P	**Pb**	**23 39 32.2**	**-0.8**
HUEH	**Huehuetenango**	**2.02**	**61**	*i*P		23 39 32.2	
CCIG	**Comitan**	**2.26**	**30**	Pn	**Pb**	**23 39 35.5**	**-1.5**
CCIG	**Comitan**	**2.26**	**30**	*e*P	**Pb**	**23 39 35.9**	**-1.2**
CCIG				*e*S	**Sg**	**23 40 08.1**	**-0.4**
CCIG	**Comitan**	**2.26**	**30**	*i*P	**Pb**	**23 39 36.1**	**-0.9**
CCIG				*i*S	**Sg**	**23 40 07.2**	**-1.3**
CCIG	**Comitan**	**2.26**	**30**	*i*P		23 39 36.1	
CCIG				*i*S		23 40 07.2	
ESSG	**Sabana Grande**	**2.42**	**88**	*i*S	**Sn**	**23 40 06.3**	**+0.5**
ESSG	**Sabana Grande**	**2.42**	**88**	*i*S		23 40 06.3	
TGIG		**2.45**	**5**		**Pn**	**23 39 37.8**	**+1.6**
TGIG					**Sb**	**23 40 08.6**	**-1.9**
TGIG		**2.45**	**5**	*e*P	**Pn**	**23 39 37.8**	**+1.6**
TGIG				*e*S	**Sb**	**23 40 08.6**	**-1.9**
TGIG		**2.45**	**5**	*e*P	**Pn**	**23 39 37.7**	**+1.6**
TGIG				*i*S	**Sb**	**23 40 09.2**	**-1.3**
TGIG		**2.45**	**5**	*e*P		23 39 37.7	
TGIG				*i*S		23 40 09.2	
TGBT	**Tuxtla Gutierr**	**2.45**	**5**		**Pb**	**23 39 38.2**	**-1.9**
TGBT					**Sb**	**23 40 09.0**	**-1.4**
TGBT	**Tuxtla Gutierr**	**2.45**	**5**	*e*P	**Pb**	**23 39 38.2**	**-1.9**
TGBT				*e*S	**Sb**	**23 40 09.0**	**-1.4**
NILT	**Santiago Nilte**	**2.55**	**331**	*e*P	**Pn**	**23 39 36.8**	**-0.6**
NILT				*e*S	**Sn**	**23 40 09.3**	**+0.6**
APG	**El Apazote**	**2.85**	**76**	Pn	**Pn**	**23 39 41.9**	**0.0**
1.6nm,0.3s,baz=206,slow=14,SNR=29							
APG	**El Apazote**	**2.85**	**76**	*

	comp=Z,7.9nm,0.8s					
APMT	Aspermont	19.90	343	P	Pn	23 43 29.3 -0.2
POST	Post	20.08	340	P	P	23 43 30.1 +0.2
POST				IAmb	IAmb	23 43 32.9
	comp=Z,8.0nm,0.9s					
MIAR	Mount Ida	20.13	359	P	Pn	23 43 32.8 +0.6
MIAR				IAmb	IAmb	23 43 38.9
	comp=Z,11nm,1.0s					
CLNB	Carlsbad	20.29	333	P	Pn	23 43 34.2 0.0
HTMS	Hat Mesa	20.36	334	P	P	23 43 34.4 +1.3
DKNS	Dickens	20.45	342	P	P	23 43 34.7 +0.8
DKNS				IAmb	IAmb	23 43 42.9
	comp=Z,7.1nm,0.7s					
CPRX	Cap Rock	20.95	335	P	P	23 43 41.3 +2.0
ROSC	El Rosal	20.96	115	P	P	23 43 42.4 +2.5
ROSC				IAmb	IAmb	23 43 49.0
	comp=Z,14nm,0.8s					
FNO	Franklin	21.16	351	P	P	23 43 43.3 +1.8
MSTX	Muleshoe	21.35	338	P	P	23 43 44.1 +0.5
FCAR	Ozark Folk Cen	21.50	3	P	P	23 43 46.5 +1.4
FCAR				IAmb	IAmb	23 43 48.5
	comp=Z,7.6nm,0.7s					
RUSC	La Rusia	21.61	111	P	P	23 43 48.2 +1.2
RUSC				IAmb	IAmb	23 43 53.4
	comp=Z,16nm,1.0s					
SMWD	Samnorwood	21.61	344	P	P	23 43 47.3 +0.9
TUL3	Leonard	21.61	355	P	P	23 43 47.8 +1.5
U38A	Gravette	22.04	358	P	P	23 43 51.5 +0.6
U38A				IAmb	IAmb	23 43 53.3
	comp=Z,6.6nm,1.0s					
PBMO	Poplar Bluff	22.51	6	P	P	23 43 56.0 0.0
PBMO				IAmb	IAmb	23 43 57.5
	comp=Z,10.0nm,0.8s					
MGMO	Mountain Grove	22.75	2	P	P	23 43 57.7 -0.9
MGMO				IAmb	IAmb	23 44 20.3
	comp=Z,10nm,1.4s					
SDV	Santo Domingo	22.87	101	LR	LR	23 54 45.7
	comp=Z,51nm,18.4s,baz=290,slow=42					
TKL	Tuckaleechee C	22.91	20	LR	LR	23 54 38.1
	comp=Z,83nm,18.1s,baz=200,slow=42					
CRNM	Carthage	23.01	330	P	P	23 44 02.3 +0.8
BNM	Barren Site	23.12	331	P	P	23 44 04.5 +1.8
DUN6	Lazy B Ranch	23.15	324	P	P	23 44 05.3 +2.4
SBM	South Baldy	23.24	330	P	P	23 44 05.9 +1.8
KAN12	Harper NE Stat	23.25	351	P	P	23 44 03.3 -0.5
LENM	Lemitar	23.30	330	P	P	23 44 07.2 +2.8
RTBA	Rita Blanca	23.57	341	P	P	23 44 06.9 -0.2
ANMO	Albuquerque	23.70	332	P	P	23 44 09.8 +1.3
ANMO	Albuquerque	23.70	332	LR	LR	23 55 40.2
	comp=Z,35nm,20.1s,baz=262,slow=42					
TUC	Tucson	23.96	321	P	P	23 44 12.4 +1.5
TUC				IAmb	IAmb	23 44 14.6
	comp=Z,6.0nm,1.1s					
T25A	Trinidad	24.77	338	P	P	23 44 20.0 +1.6
WUAZ	Wupatki	26.61	326	P	P	23 44 36.8 +1.8
WUAZ				IAmb	IAmb	23 44 42.5
	comp=Z,3.3nm,0.8s					
PV23	Carpenter Ridg	27.75	333	P	P	23 44 46.8 +1.5
PV23				IAmb	IAmb	23 44 49.5
	comp=Z,5.4nm,0.7s					
PD31	Pinedale Array	31.60	337	P	P	23 45 21.9 +2.4
PDAR	Pinedale Array	31.60	337	P	P	23 45 20.1 +0.7
PDAR	Pinedale Array	31.60	337	P	P	23 45 20.7 +1.3
	comp=Z,0.9nm,0.9s,baz=147,slow=8.5,SNR=4.8					
	comp=Z,0.9nm,0.9s					
NV11	Mina Array Sit	32.53	322	P	P	23 45 28.8 +1.3
NV11				IAmb	IAmb	23 45 31.1
	comp=Z,3.0nm,0.9s					
NVAR	Mina Array Bea	32.62	322	P	P	23 45 29.7 +1.4
NVAR	Mina Array Bea	32.62	322	P	P	23 45 30.6 +2.2
	comp=Z,2.0nm,0.8s,baz=145,slow=8.8,SNR=6.8					
	comp=Z,2.0nm,0.8s					
SADO	Sadowa	32.65	19	LR	LR	23 59 59.5
	comp=Z,66nm,18.7s,baz=250,slow=39					
SNOW	Snow King Moun	32.66	336	P	P	23 45 29.6 +0.9
LOHW	Long Hollow	32.72	336	P	P	23 45 29.5 +0.3
LOHW				IAmb	IAmb	23 45 31.2
	comp=Z,4.2nm,1.1s					
TPAW	Teton Pass	32.76	336	P	P	23 45 29.8 +0.3
TPAW				IAmb	IAmb	23 45 34.2
	comp=Z,4.6nm,1.0s					
YNE	Yellowstone No	33.70	338	P	P	23 45 38.8 +1.0
YNE				IAmb	IAmb	23 45 41.9
	comp=Z,4.4nm,1.1s					
HLID	Hailey	34.28	332	P	P	23 45 44.3 +1.6
HLID				IAmb	IAmb	23 45 45.3
	comp=Z,2.3nm,0.9s					
MCMT	McKenzie Canyo	34.63	335	P	P	23 45 47.6 +1.8
ULM	Lac du Bonnet	35.89	357	P	P	23 45 54.3 -2.0
	comp=Z,2.2nm,0.8s,baz=186,slow=9.4,SNR=4.6					
	comp=Z,2.2nm,0.8s					
PLID	Pearl Lake	36.18	332	P	P	23 45 59.7 +0.6
LYMT	Lyon Mountain	36.20	338	P	P	23 45 59.7 +0.4
EGMT	Eagleton	36.26	341	P	P	23 46 00.0 +0.4
NEW	Newport	39.14	335	LR	LR	00 05 51.1
	comp=Z,34nm,21.9s,baz=252,slow=41					
YKA	Yellowknife Ar	50.42	347	P	P	23 47 53.9 +0.3
	comp=Z,5.1nm,0.8s,baz=156,slow=7.4,SNR=65					
	comp=Z,5.1nm,0.8s					
FRB	Frobisher Bay	52.29	14	LR	LR	00 10 08.0
	comp=Z,28nm,18.9s,baz=326,slow=36					
BCAR	Beaver Creek A	59.23	337	P	P	23 48 57.9 +0.4
SFJD	Kangerlussuaq	59.60	18	LR	LR	00 16 10.8
	comp=Z,81nm,18.2s,baz=176,slow=38					
ILAR	Eielson Array	62.03	337	P	P	23 49 16.8 +0.2
	comp=Z,1.5nm,1.0s,baz=137,slow=4.9,SNR=11					
	comp=Z,1.5nm,1.0s					
BMAR	Burnt Mountain	62.55	340	P	P	23 49 20.2 +0.2
B20K	Meade River	67.80	341	P	P	23 49 54.8 +0.9
F17K	Baldwin Pennin	68.19	336		P	23 49 57.0 +0.6
F15K	North Star Dit	69.37	335		P	23 50 04.0 +0.2
F15K				IAmb	IAmb	23 50 35.9
	comp=Z,4.8nm,1.4s					
JMIC	Jan Mayen	74.87	20	LR	LR	00 23 08.0
	comp=Z,67nm,18.9s,baz=263,slow=36					
ESDC	Sonseca Array	80.53	51	P	P	23 51 06.2 -2.7
	comp=Z,0.8nm,0.7s,baz=282,slow=5.0,SNR=5.1					
	comp=Z,0.8nm,0.7s					
NOA	NORSAR Array B	84.47	28	LR	LR	00 28 17.1
	comp=Z,21nm,16.3s,baz=0.0,slow=35					
ARCES	ARCESS Array B	86.23	18	P	P	23 51 36.4 -1.3
	comp=Z,3.0nm,1.0s,baz=268,slow=5.4,SNR=3.9					
	comp=Z,3.0nm,1.0s					
FINES	FINESS Array B	90.75	25	LR	LR	00 33 12.1
	comp=Z,25nm,19.4s,baz=204,slow=36					
CMAR	Chiang Mai Arr	145.25	339	PKPbc	PKPbc	23 58 34.5 -0.2
	comp=Z,1.4nm,0.5s,baz=339,slow=4.4,SNR=11					

*AUST **19** 23:46:14.9±0.2, 32°.S±2°.×11°.7E±°., h3km±2km, mb4.3/3, ML3.1/11, Error ellipse: s-maj=5.2km s-min=3.5km az=32.0*
*CUPWA **19** 23:46:16.3±0.5, 32°.26S×116°.98E, h4km±16km, ML3.1, Region: WESTERN AUSTRALIA*

ISC 19 23:46:15.4±0.9, **32°.27S**±0°.03×**116°.99E**±0°.03, **h12**km±9km, **n26**, σ0°67/32, **Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PING	Pingelly	0.24	179	P	Pg	23 46 20.8	+0.3
PING				S	Sg	23 46 24.1	+0.2
MECK	Meckering	0.64	1	P	Pg	23 46 27.9	+0.1
MECK				S	Sg	23 46 36.0	-0.3
NWAO	Narrogin (SRO)	0.69	162	P	Pg	23 46 28.9	+0.1
NWAO	Narrogin (SRO)	0.69	162	P	Pg	23 46 28.9	+0.1
NWAO				S	Sg	23 46 37.8	-0.1
MUN	Mundaring	0.72	294	P	Pg	23 46 29.0	-0.5
MUN	Mundaring	0.72	294	P	Pg	23 46 29.0	-0.5
MUN				S	Sg	23 46 38.4	-0.6
KLBR	Kellerberrin	0.94	44	P	Pg	23 46 33.2	-0.4
KLBR	Kellerberrin	0.94	44	P	Pg	23 46 33.2	-0.4
CARL	Carlisle	0.94	287	P	Pb	23 46 34.4	+0.6
AUKUL	Kulin High Sch	1.06	112	P	Pg	23 46 35.5	-0.4
AUKUL	Kulin High Sch	1.06	112	P	Pg	23 46 35.5	-0.4
AUKUL				S	Sg	23 46 49.3	-0.4
MTKN	Mount Kenneth	1.08	288	P	Pb	23 46 37.0	+0.9
AUHAR	St Anne's Scho	1.23	228	P	Pg	23 46 38.5	-0.7
AUHAR	St Anne's Scho	1.23	228	S	Sg	23 46 55.2	-0.1
KOO6	Koorda	1.50	16	P	Pn	23 46 42.5	+0.3
KOO6	Koorda	1.50	16	S	Sb	23 47 02.8	+0.6
BLDU	Ballidu	1.67	352	P	Pn	23 46 44.7	+0.2
BLDU	Ballidu	1.67	352	S	Sn	23 47 06.6	+0.8
BR4	Bonnie Rock 4	1.98	36	P	Pn	23 46 49.4	+0.6
BR4	Bonnie Rock 4	1.98	36	S	Sb	23 47 17.2	+1.2
BR4				SG	Sb	23 47 17.2	+1.2
MORW	Morawa	3.29	345	P	Pn	23 47 07.0	+0.2
KMBL	Kambalda	4.26	79	P	Pn	23 47 20.1	-0.1
MEEK	Meekatharra	5.79	15	P	Pn	23 47 41.0	-0.1
	comp=Z,13nm,2.7s,comp=Z,0.1nm					
FORT	Forrest	9.57	84	P	Pn	23 48 31.3	-1.6
	comp=Z,0.1nmcomp=Z,21nm,1.3s					
GIRL	Giralia	9.90	345	P	Pn	23 48 36.3	-1.2
	comp=Z,127nm,1.8s,comp=Z,0.3nm					
PSAD3	Pilbara Seismi	10.87	14	P	Pn	23 48 51.8	+0.9

*IDC **19** 23:54:16.1±2.9, 20°.93S×177°.89W, h517km±26km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=47.3km s-min=19.0km az=155.0*

ISC 19 23:54:13.9±1.5, **21°.1S**±0°.3×**177°.8W**±0°.2, **h495**km, **n10**, σ1°03/9, **mb3.6**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.18	310	P	P	23 55 43.6	+1.1
	44nm,0.4s,baz=143,slow=6.5,SNR=159						
JAY	Jayapura	44.43	289	P	P	00 01 40.1	-0.3
	5.9nm,0.3s,baz=154,slow=5.1,SNR=7.0						
	5.9nm,0.3s						
ASAR	Alice Springs	44.58	257	P	P	00 01 41.7	+0.2
	1.9nm,0.4s,baz=92,slow=8.0,SNR=34						
	1.9nm,0.4s						
WRA	Warramunga Arr	44.72	263	P	P	00 01 42.4	-0.2
	2.2nm,0.6s,baz=98,slow=8.6,SNR=18						
	2.2nm,0.6s						
MJAR	Matsushiro Arr	70.83	324	P	P	00 04 38.6	-1.6
	1.5nm,0.5s,baz=156,slow=6.1,SNR=4.6						
	1.5nm,0.5s						
KSRS	Korea Array	77.49	319	P	P	00 05 18.0	+0.1
	0.6nm,0.3s,baz=118,slow=6.3,SNR=2.4						
	0.6nm,0.3s						
NVAR	Mina Array Bea	81.34	43	P	P	00 05 38.4	-0.1
	0.7nm,0.7s,baz=270,slow=7.2,SNR=2.2						
	0.7nm,0.7s						
TXAR	Lajitas Array	87.22	57	P	P	00 06 08.7	+1.1
	0.7nm,0.8s,baz=220,slow=6.9,SNR=6.9						
	0.7nm,0.8s						
PDAR	Pinedale Array	89.28	43	P	P	00 06 16.0	-1.1
	0.5nm,0.8s,baz=282,slow=1.4,SNR=4.4						
	0.5nm,0.8s						
AKASG	Malin Array Be	143.65	331	PKP	PKPab	00 12 48.5	-1.9
	0.4nm,0.4s,baz=38,slow=4.0,SNR=5.1						

*ISK **19** 23:57:48.9, 39°.73N×25°.58E, h7km, ML3.2/24*
*ATH **19** 23:57:50.0, 39°.71N×25°.59E, h16km±3km, ML2.8/33, Manual Solution by E.Daskalaki First location: 2019/03/19 23:58:51, This location: 2019/03/20 12:41:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **19** 23:57:50.1, 39°.71N×25°.60E, h11km, ML3.1/8, Error ellipse: s-maj=0.7km s-min=0.3km az=107.0*
*AFAD **19** 23:57:51.2, 39°.71N×25°.67E, h7km, ML3.3*
*SOF **19** 23:57:51.4, 39°.94N±0°.04×25°.53E±0°.02, h10km±1km, MD3.1/8*

ISC 19 23:57:49.7±0.9, **39°.71N**±0°.01×**25°.60E**±0°.02, **h15**km±7km, **n139**, σ0°79/194, **10C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.37	68	Pg	Pg	23 57 56.9	-0.4
BOZC				Sg	Sg	23 58 02.4	-0.1
BOZC	Bozcaada	0.37	68	P	Pg	23 57 57.0	-0.4
BOZC				S	Sg	23 57 59.4	-3.1
LIA	Limnos Island	0.38	301	P	Pg	23 57 57.5	+0.1
LIA				S	Sg	23 58 03.1	+0.5
	4μm,0.2s						
LIA	Limnos Island	0.38	301	P	Pg	23 57 57.4	+0.1
LIA				S	Sg	23 58 03.0	+0.5
KOCA	Canakkale, Ayv	0.46	116	P	Pg	23 57 59.1	+0.1
EFSA	Agios Efstrati	0.50	251	P	Pb	23 58 00.1	-0.1
EFSA				S	Sb	23 58 07.2	-0.1
GOAD	anakkale-G¶	0.51	27	P	Pg	23 57 59.9	0.0
GOAD				*i* AML	AML	23 58 13.0	
	comp=E,2μm,0.5s						
SIGR	SIGRI	0.53	158	Pg	Pg	23 58 00.1	-0.1
SIGR				Sg	Sg	23 58 08.2	+0.9
SIGR	SIGRI	0.53	158	P	Pg	23 58 00.4	+0.2
SIGR				S	Sb	23 58 08.4	+0.2
	4μm,0.6s						
SIGR	SIGRI	0.53	158	P	Pg	23 58 00.2	0.0
SIGR				S	Sg	23 58 08.0	+0.7
GADA	Gvkgeada	0.54	25	Pg	Pg	23 57 59.9	-0.4
GADA				Sg	Sg	23 58 07.5	0.0
ECEA	Canakkale, Ece	0.56	52	P	Pg	23 58 01.2	+0.5
ECEA				S	Sg	23 58 07.7	-0.5
EZNE	Ezine-Canakkal	0.59	85	Pg	Pg	23 58 01.1	-0.3
EZNE				Sg	Sg	23 58 09.6	+0.4
PRK	Paraskevi	0.69	131	P	Pg	23 58 03.4	+0.1
PRK				S	Sb	23 58 13.5	+0.6
	1μm,0.3s						
PRK	Paraskevi	0.69	131	P	Pg	23 58 03.4	+0.1
PRK				S	Sb	23 58 13.3	+0.5
CNKL	anakkale-Mer	0.70	59	P	Pg	23 58 02.9	-0.5
CNKL				S	Sg	23 58 09.1	-3.7
BAYC	CANAKKALE_Bayr	0.73	87	P	Pg	23 58 03.5	-0.5
BAYC				S	Sg	23 58 12.8	-0.8
SMTH	Samothraki Isl	0.77	356	P	Pg	23 58 04.4	-0.3
SMTH				S	Sb	23 58 15.5	+0.4
	968nm,0.3s						
SMTH	Samothraki Isl	0.77	356	P	Pg	23 58 04.3	-0.3
SMTH				S	Sb	23 58 15.1	0.0
COMU	Canakkale	0.78	59	Pg	Pg	23 58 04.5	-0.4
AYVA	Ayvalik	0.93	115	P	Pb	23 58 07.3	-0.2
AYVA				S	Sb	23 58 19.9	+0.1
AYVA				*i* AML	AML	23 58 23.0	
	comp=N,985nm,0.8s						
GELI	Tayfur-Gelibol	0.96	44	Pg	Pb	23 58 07.9	-0.2
GELI				Sg	Sb	23 58 21.1	+0.4
ENZZ	Sultanice-Enez	0.99	24	Pg	Pb	23 58 08.1	-0.5
CAVK	Edirne/Enez-Ca	1.08	24	P	Pb	23 58 09.9	-0.1
CAVK				S	Sb	23 58 22.6	-1.3
CAVK	Edirne/Enez-Ca	1.08	24	⇑P	Pb	23 58 09.9	-0.1
CAVK				⇑S	Sg	23 58 24.7	+0.1
LPK	Lapseki	1.11	53	Pn	Pb	23 58 10.4	-0.3
ENEZ	Enez	1.11	22	Pn	Pb	23 58 10.2	-0.5
ENEZ				Sn	Sg	23 58 26.0	+0.2
ENEZ	Enez	1.11	22	P	Pb	23 58 10.5	-0.2
ENEZ				S	Sg	23 58 26.4	+0.7
	782nm,0.3s						
THAS	Thassos island	1.13	323	P	Pb	23 58 10.9	0.0
THAS				S	Sg	23 58 26.4	+0.2
	750nm,0.2s						
THAS	Thassos island	1.13	323	P	Pb	23 58 10.5	-0.4
THAS				S	Sb	23 58 25.3	0.0
BUHA	Balikesir, Bur	1.16	100	P	Pn	23 58 11.6	+0.2
BUHA				S	Sb	23 58 24.8	-1.5
CANM	Can-anakkale	1.16	74	Pn	Pb	23 58 11.9	+0.5
CANM				Sn	Sg	23 58 27.5	+0.3
SKY	Skiros Island	1.16	225	P	Pn	23 58 11.2	-0.3
SKY				S	Sg	23 58 27.4	+0.1
	1μm,0.2s						
SKY	Skiros Island	1.16	225	P	Pn	23 58 10.9	-0.5
SKY				S	Sb	23 58 26.5	+0.1
ALEX	Alexandroupoli	1.17	11	P	Pb	23 58 12.1	+0.4
ALEX				S	Sn	23 58 27.5	+0.2
ERIK	Erikli-Kesan	1.19	36	Pn	Pn	23 58 11.7	-0.1
ERIK				Sn	Sg	23 58 28.7	+0.5
DKL	Dikili	1.19	122	Pn	Pb	23 58 12.7	+0.7
DKL	Dikili	1.19	122	P	Pb	23 58 12.4	+0.4
DKL				S	Sb	23 58 27.9	+0.7
CAND	Candarli	1.20	128	Pn	Pb	23 58 12.6	+0.5
CAND				Sn	Sg	23 58 29.9	+1.5
KARB	zmir-Karabur	1.22	149	P	Pn	23 58 12.6	+0.3
KARB				S	Sb	23 58 26.9	-1.0
EAG2	Marmaro, Chios	1.23	161	P	Pb	23 58 12.8	+0.2
EAG2				S	Sb	23 58 28.7	+0.5
ALN	Alexandroupoli	1.24	16	Pn	Pn	23 58 12.3	-0.2
ALN	Alexandroupoli	1.24	16	P	Pn	23 58 12.3	-0.2
ALN				S	Sg	23 58 29.6	-0.1
	220nm,0.5s						
IZMD	zmir-Dikili-	1.25	125	P	Pb	23 58 13.4	+0.2
YENI	Yenice-Canakka	1.28	79	Pn	Pb	23 58 13.8	+0.2
FOCM	Foa	1.32	138	Pn	Pb	23 58 14.6	+0.3
ZEDA	zmir-Bergama	1.36	122	P	Pn	23 58 14.9	+0.7
ZEDA				S	Sn	23 58 31.4	-0.6
XANC	Avdira	1.37	339	P	Pn	23 58 14.2	-0.1
OUR	Ouranopolis	1.39	297	Pn	Pn	23 58 14.6	0.0
OUR	Ouranopolis	1.39	297	P	Pn	23 58 14.7	0.0
OUR	Ouranopolis	1.39	297	P	Pn	23 58 14.7	0.0
AOS	Alonnisos	1.44	249	P	Pn	23 58 15.8	+0.5
RDO	Rodhopi	1.44	358	Pn	Pn	23 58 15.5	+0.3
RDO	Rodhopi	1.44	358	P	Pn	23 58 15.6	+0.3
RDO	Rodhopi	1.44	358	P	Pn	23 58 15.2	-0.1
KRBG	Karabiga-Canak	1.47	62	Pn	Pb	23 58 16.6	-0.2
KRBG				Sn	Sb	23 58 36.6	+1.3
PAIG	Paliouri	1.50	279	Pn	Pn	23 58 16.1	0.0
PAIG	Paliouri	1.50	279	P	Pn	23 58 16.1	0.0
KAVA	Kavala	1.54	328	P	Pn	23 58 16.9	+0.3
KAVA	Kavala	1.54	328	P	Pn	23 58 16.8	+0.1
KAVA				S	Sn	23 58 35.4	-0.8
KVLA	Kavala	1.54	323	P	Pn	23 58 16.9	+0.2
KVLA				S	Sn	23 58 35.9	-0.5
URLA	Izmir	1.55	150	P	Pn	23 58 16.7	-0.1
URLA				S	Sn	23 58 35.8	-0.9
RKY	Sarkoy-Tekirda	1.56	50	Pn	Pb	23 58 18.1	-0.2
BALY	Balya	1.56	88	P	Pn	23 58 17.7	+0.8
BALY				S	Sn	23 58 36.6	-0.3
SART	Tekirdag	1.56	50	P	Pb	23 58 18.1	-0.2
SART				S	Sb	23 58 38.1	+0.2
SART				*i* AML	AML	23 58 46.0	
	comp=N,491nm,0.9s						
KYMI	Kymi, Euboea I	1.58	228	P	Pn	23 58 16.9	-0.4
KYMI	Kymi, Euboea I	1.58	228	P	Pn	23 58 16.6	-0.6
UKOP	Uzunkopru-Edir	1.62	29	Pn	Pb	23 58 19.1	-0.3
ZEYE	Izmir, Urla-Ze	1.62	154	P	Pn	23 58 17.9	+0.1
ZEYE				S	Sn	23 58 35.2	-3.2
KOKK	Kokkinochori,	1.66	313	P	Pn	23 58 18.3	0.0
KOKK	Kokkinochori,	1.66	313	P	Pn	23 58 18.2	-0.1
STEP	BALIKESIR_Sava	1.67	101	P	Pn	23 58 19.3	+0.9
STEP				S	Sn	23 58 39.5	-0.1
BLCB	Balcova	1.73	139	Pn	Pn	23 58 20.4	+1.1
PLG	Polygyros	1.79	293	P	Pn	23 58 20.4	+0.3
PLG	Polygyros	1.79	293	P	Pn	23 58 20.1	0.0
BKES	Balkesir-Mer	1.79	88	P	Pn	23 58 21.2	+1.0
BKES				S	Sn	23 58 41.4	-1.3
NEO	Neokhori	1.88	259	P	Pn	23 58 21.6	+0.2
NEO	Neokhori	1.88	259	P	Pn	23 58 21.9	+0.5
XOR	Xorichti	1.90	260	P	Pn	23 58 21.7	+0.1
KARY	Karystos	1.90	209	P	Pn	23 58 21.5	-0.2
KARY	Karystos	1.90	209	P	Pn	23 58 21.1	-0.5
AKHS	Akhisar	1.90	115	P	Pn	23 58 22.4	+0.7
DGB	zmir	1.93	148	P	Pn	23 58 21.4	-0.6
DGB				S	Sn	23 58 43.8	-3.0
KDZ	Kurdzhali	1.93	354	Pn	Pn	23 58 22.4	+0.3
KDZ	Kurdzhali	1.93	354	⇑*i*P	Pn	23 58 22.2	+0.1
KDZ				S	Sn	23 58 45.8	-0.3
BAND	Balkesir-Ban	2.02	71	P	Pn	23 58 23.8	+0.5
BAND				S	Sn	23 58 49.3	+0.9
BAND	Balkesir-Ban	2.02	71	⇓P	Pn	23 58 24.7	+1.4
BAND				⇑S	Sb	23 58 51.3	+1.1
DION	Dionisos Attik	2.08	219	P	Pn	23 58 24.2	0.0
DION	Dionisos Attik	2.08	219	P	Pn	23 58 24.1	-0.1
SRS	Serrai	2.08	313	P	Pn	23 58 24.5	+0.3
SRS	Serrai	2.08	313	P	Pn	23 58 24.2	0.0
RZN	Rozhen	2.09	342	*i* P	Pn	23 58 25.2	+0.7
RZN				S	Sn	23 58 50.0	-0.3
HORT	Hortiatis	2.12	296	Pn	Pn	23 58 24.9	+0.2
HORT	Hortiatis	2.12	296	P	Pn	23 58 25.2	+0.5
PTL	Penteli	2.14	220	P	Pn	23 58 24.9	-0.1
DURS	Dursunbey	2.22	92	P	Pn	23 58 27.0	+0.9
ATHU	Athens Univers	2.24	220	P	Pn	23 58 26.1	-0.3
LKR	Lokris	2.28	243	P	Pn	23 58 27.3	+0.5
EDRB	Edirne	2.31	22	Pn	Pn	23 58 28.0	+0.8
MMB	Musomishta	2.32	323	*i* P	Pn	23 58 28.5	+1.1
MMB				S	Sn	23 58 56.8	+1.1
VLY	Voula,Athens	2.33	218	P	Pn	23 58 27.2	-0.3
DIM	Dimitrovgrad	2.34	360	*i* P	Pn	23 58 28.3	+0.7
DIM				S	Sb	23 59 01.9	+1.6
VIL2	Platees	2.35	231	P	Pn	23 58 28.2	+0.3
LIT	Litokhoron	2.43	280	P	Pn	23 58 29.5	+0.6
PLD	Plovdiv	2.52	345	Pn	Pn	23 58 30.6	+0.4
PLD	Plovdiv	2.52	345	*i* P	Pn	23 58 30.8	+0.6
PLD				S	Sb	23 59 05.7	+0.1
KNT	Kendrikon	2.52	306	P	Pn	23 58 31.0	+0.8
APE	Apeiranthos	2.63	181	⇓P	Pn	23 58 32.1	+0.3
APE	Apeiranthos	2.63	181	P	Pn	23 58 32.2	+0.4
LTK	Loutraki	2.66	232	P	Pn	23 58 33.1	+1.1
MET4	Agioi Theodoro	2.70	220	P	Pn	23 58 32.6	0.0
MAKR	Makrakomi, Fth	2.78	257	P	Pn	23 58 34.5	+0.7
VAY	Valandovo	2.82	306	*e*Pn	Pg	23 58 41.9	-1.9
KALE	Kalithea	3.00	245	P	Pn	23 58 37.3	+0.5
PGB	Panagyurishte	3.01	339	*i* P	Pn	23 58 37.9	+1.0
PGB				S	Sn	23 59 12.3	-0.3
KRND	KRANIDI	3.01	220	P	Pn	23 58 36.6	-0.4
EVR	Evrytania	3.05	256	P	Pn	23 58 39.0	+1.5
SERG	Sergoula	3.05	246	P	Pn	23 58 37.9	+0.4
ANX	Ano Chora	3.07	250	P	Pn	23 58 38.6	+0.8
GUR	Goura	3.10	236	P	Pn	23 58 38.5

STKA	Stephens Creek	26.29 192	P		P	00 13 55.2	+2.3
	1.1nm,0.5s,baz=332,slow=12,SNR=3.1						
	1.1nm,0.5s						
PSI	Prapat	49.71 279	LR		LR	00 42 49.4	
	comp=Z,44nm,18.4s,baz=161,slow=42						
SONM	Songino Array	64.96 330	LR		LR	00 50 04.4	
	comp=Z,9.8nm,18.1s,baz=40,slow=39						
MKAR	Makanchi Array	78.17 320	P		P	00 20 16.2	+0.3
	0.5nm,0.9s,baz=122,slow=4.6,SNR=3.7						
	0.5nm,0.9s						
QSPA	South Pole Qui	83.84 180	P		P	00 20 46.2	+0.4
	0.8nm,0.6s,baz=288,slow=3.7,SNR=3.3						
	0.8nm,0.6s						
NVAR	Mina Array Bea	96.73 52	P		P	00 21 46.8	-0.6
	0.3nm,0.4s,baz=271,slow=3.6,SNR=1.8						
	0.3nm,0.4s						
TORD	Torodi Ar. Bea	146.00 284	PKPbc		PKPdf	00 27 56.0	-0.1
	2.3nm,0.4s,baz=82,slow=4.0,SNR=1.5						

*BEO **20** 00:20:13.9±0.8, 39°.46N×25°.74E, h0km, ML3.6/8*
*ATH **20** 00:20:17.5, 39°.70N×25°.63E, h15km±1km, ML3.2/32, Manual Solution by A.Fokaefs First location: 2019/03/20 00:21:18, This location: 2020/09/26 18:06:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*ISK **20** 00:20:17.2, 39°.73N×25°.57E, h8km, ML3.5/29*
*THE **20** 00:20:18.5, 39°.70N×25°.59E, h14km, ML3.4/8, Error ellipse: s-maj=0.9km s-min=0.5km az=104.0*
*SOF **20** 00:20:20.3, 39°.94N±0°.03×25°.55E±0°.02, h15km±3km, MD3.3/7*
*AFAD **20** 00:20:20.4, 39°.74N×25°.78E, h4km±1km, MW3.6*

ISC 20 00:20:17.8±0.9, 39°.71N±0°.01×25°.62E±0°.01, h14km±7km, n181, σ1°09/239, 22C-14D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	68	Pg	Pg	00 20 25.2	+0.1
BOZC	Bozcaada	0.36	68	P	Pg	00 20 25.2	+0.1
BOZC				S	Sg	00 20 27.8	-2.2
LIA	Limnos Island	0.39	299	P	Pg	00 20 25.6	0.0
LIA				S	Sg	00 20 31.6	+0.8
	12μm,0.5s						
LIA	Limnos Island	0.39	299	P	Pg	00 20 25.5	0.0
LIA				S	Sg	00 20 30.9	0.0
KOCA	Canakkale, Ayv	0.45	117	P	Pg	00 20 27.2	+0.4
KOCA				S	Sg	00 20 32.1	-0.7
GPNR	Gulpinar-Canak	0.47	122	Pg	Pg	00 20 27.7	+0.6
GOAD	anakkale-G¶	0.50	26	P	Pg	00 20 28.0	+0.3
GOAD				S	Sg	00 20 31.9	-2.6
EFSA	Agios Efstrati	0.52	251	P	Pg	00 20 28.2	+0.2
EFSA				S	Sg	00 20 35.8	+0.9
GADA	Gvkgeada	0.53	24	Pg	Pg	00 20 28.3	+0.1
GADA				Sg	Sg	00 20 35.9	+0.7
SIGR	SIGRI	0.53	160	Pg	Pg	00 20 28.8	+0.6
SIGR				Sg	Sg	00 20 36.8	+1.5
SIGR	SIGRI	0.53	160	P	Pg	00 20 28.4	+0.2
SIGR				S	Sg	00 20 36.4	+1.1
	12μm,0.5s						
SIGR	SIGRI	0.53	160	P	Pg	00 20 28.4	+0.2
SIGR				S	Sg	00 20 34.7	-0.6
ECEA	Canakkale, Ece	0.54	52	P	Pg	00 20 28.7	+0.2
ECEA				S	Sg	00 20 34.1	-1.6
EZNE	Ezine-Canakkal	0.58	85	Pg	Pg	00 20 29.2	+0.1
EZNE				Sg	Sb	00 20 37.9	+0.2
PRK	Paraskevi	0.68	132	P	Pg	00 20 31.6	+0.4
PRK				S	Sb	00 20 42.1	+1.3
	4μm,0.5s						
PRK	Paraskevi	0.68	132	P	Pg	00 20 31.5	+0.4
PRK				S	Sg	00 20 39.6	-0.5
CNKL	anakkale-Mer	0.69	59	P	Pg	00 20 31.1	-0.2
CNKL				S	Sg	00 20 38.1	-2.2
BAYC	CANAKKALE_Bayr	0.71	87	P	Pg	00 20 31.6	-0.1
BAYC				S	Sg	00 20 39.7	-1.4
COMU	Canakkale	0.76	59	Pg	Pg	00 20 32.8	+0.2
COMU				Sg	Sb	00 20 44.2	+1.0
SMTH	Samothraki Isl	0.76	355	P	Pg	00 20 32.5	-0.1
SMTH				S	Sn	00 20 45.3	-0.3
	3μm,0.4s						
SMTH	Samothraki Isl	0.76	355	P	Pg	00 20 32.6	-0.1
SMTH				S	Sb	00 20 43.7	+0.5
AYVA	Ayvalik	0.92	116	P	Pb	00 20 35.5	0.0
GELI	Tayfur-Gelibol	0.95	43	Pg	Pb	00 20 36.1	0.0
GELI				Sg	Sn	00 20 49.9	-0.2
ENZZ	Sultanice-Enez	0.98	24	Pg	Pb	00 20 36.6	0.0
ENZZ				Sg	Sn	00 20 50.6	-0.3
CAVK	Edirne/Enez-Ca	1.07	23	P	Pb	00 20 38.1	+0.1
CAVK				S	Sb	00 20 49.5	-2.4
CAVK	Edirne/Enez-Ca	1.07	23	⇑P	Pb	00 20 38.3	+0.2
CAVK				⇑S	Sn	00 20 53.2	+0.2
LPK	Lapseki	1.10	53	Pn	Pb	00 20 38.9	+0.3
ENEZ	Enez	1.10	21	Pn	Pb	00 20 38.8	+0.1
ENEZ	Enez	1.10	21	P	Pb	00 20 38.9	+0.2
ENEZ				S	Sn	00 20 54.7	+0.8
	2μm,0.3s						
THAS	Thassos island	1.13	323	P	Pb	00 20 38.6	-0.6
THAS				S	Sb	00 20 53.7	0.0
	2μm,0.6s						
THAS	Thassos island	1.13	323	P	Pb	00 20 39.0	-0.2
THAS				S	Sb	00 20 53.4	-0.3
CANM	Can-anakkale	1.14	74	Pn	Pb	00 20 38.9	-0.5
BUHA	Balikesir, Bur	1.14	100	P	Pb	00 20 39.7	+0.3
BUHA				S	Sb	00 20 53.3	-0.8
SKY	Skiros Island	1.18	225	P	Pn	00 20 39.2	-0.7
SKY				S	Sb	00 20 55.6	+0.6
	6603μm,0.4s						
SKY	Skiros Island	1.18	225	P	Pn	00 20 39.0	-0.8
ERIK	Erikli-Kesan	1.18	35	Pn	Pn	00 20 39.9	0.0
DKL	Dikili	1.18	122	Pn	Pb	00 20 41.1	+1.1
DKL	Dikili	1.18	122	P	Pn	00 20 40.5	+0.6
CAND	Candarli	1.19	129	Pn	Pb	00 20 41.2	+1.1
KARB	zmir-Karabur	1.21	149	P	Pn	00 20 40.2	-0.2
KARB				S	Sb	00 20 53.8	-2.2
EAG2	Marmaro, Chios	1.22	162	P	Pn	00 20 40.0	-0.5
EAG2				S	Sb	00 20 56.0	-0.4
ALN	Alexandroupoli	1.23	15	Pn	Pn	00 20 40.4	-0.2
ALN	Alexandroupoli	1.23	15	P	Pn	00 20 40.3	-0.3
ALN				S	Sg	00 20 57.8	+0.3
	602nm,0.4s						
IZMD	zmir-Dikili-	1.25	125	P	Pn	00 20 41.5	+0.6
IZMD				S	Sb	00 20 55.7	-1.4
FOCM	Foa	1.32	139	Pn	Pb	00 20 43.1	+0.8
ZEDA	zmir-Bergama	1.35	123	P	Pn	00 20 43.0	+0.7
XANC	Avdira	1.37	338	P	Pn	00 20 42.3	-0.2
OUR	Ouranopolis	1.41	297	Pn	Pn	00 20 42.5	-0.5
OUR	Ouranopolis	1.41	297	P	Pn	00 20 42.7	-0.3
OUR				S	Sn	00 21 01.1	-0.2
OUR	Ouranopolis	1.41	297	P	Pn	00 20 42.8	-0.3
RDO	Rodhopi	1.44	357	Pn	Pn	00 20 43.5	0.0
RDO	Rodhopi	1.44	357	P	Pn	00 20 43.5	0.0
RDO				S	Sb	00 21 02.6	+0.1
RDO	Rodhopi	1.44	357	P	Pn	00 20 43.3	-0.1
AOS	Alonnisos	1.45	249	P	Pn	00 20 43.6	-0.1
AOS				S	Sn	00 21 03.0	+0.5
PAIG	Paliouri	1.51	279	Pn	Pn	00 20 43.9	-0.5
PAIG	Paliouri	1.51	279	P	Pn	00 20 44.0	-0.5
KAVA	Kavala	1.54	327	P	Pn	00 20 44.9	0.0
KAVA	Kavala	1.54	327	P	Pn	00 20 44.8	0.0
RKY	Sarkoy-Tekirda	1.54	50	Pn	Pb	00 20 46.3	+0.1
BALY	Balya	1.54	88	P	Pn	00 20 46.0	+1.0
BALY				S	Sn	00 21 03.0	-1.8
SART	Tekirdag	1.54	50	P	Pn	00 20 46.1	+1.1
SART				S	Sn	00 21 05.0	+0.1
KVLA	Kavala	1.55	323	P	Pn	00 20 45.0	0.0
URLA	Izmir	1.55	150	P	Pn	00 20 45.0	0.0
URLA				S	Sn	00 21 02.4	-2.5
KYMI	Kymi, Euboea I	1.60	228	P	Pn	00 20 45.1	-0.6
KYMI				S	Sn	00 21 06.0	-0.1
KYMI	Kymi, Euboea I	1.60	228	P	Pn	00 20 45.0	-0.6
UKOP	Uzunkopru-Edir	1.61	28	Pn	Pn	00 20 46.9	+1.0
ZEYE	Izmir, Urla-Ze	1.62	155	P	Pn	00 20 45.9	-0.1
ZEYE				S	Sn	00 21 03.0	-3.7
STEP	BALIKESIR_Sava	1.66	101	P	Pn	00 20 47.5	+1.0
STEP				S	Sn	00 21 07.4	-0.2
KOKK	Kokkinochori,	1.66	312	P	Pn	00 20 46.5	-0.1
KOKK				S	Sn	00 21 07.0	-0.7
KOKK	Kokkinochori,	1.66	312	P	Pn	00 20 46.2	-0.4
BLCB	Balcova	1.72	140	Pn	Pn	00 20 48.9	+1.5
BKES	Balkesir-Mer	1.78	89	P	Pn	00 20 48.5	+0.3
BKES				S	Sn	00 21 09.9	-0.8
PLG	Polygyros	1.80	292	P	Pn	00 20 48.4	0.0
PLG				S	Sn	00 21 11.5	+0.4
PLG	Polygyros	1.80	292	P	Pn	00 20 48.5	0.0
AKHS	Akhisar	1.89	115	P	Pn	00 20 50.7	+0.9
AKHS				S	Sn	00 21 14.3	+0.9
XOR	Xorichti	1.91	260	P	Pn	00 20 49.4	-0.6
XOR	Xorichti	1.91	260	P	Pn	00 20 49.5	-0.6
KARY	Karystos	1.91	209	P	Pn	00 20 49.5	-0.6
KARY	Karystos	1.91	209	P	Pn	00 20 49.4	-0.6
DGB	zmir	1.93	149	P	Pn	00 20 51.0	+0.9
DGB				S	Sn	00 21 11.4	-2.8
KDZ	Kurdzhali	1.93	354	Pn	Pn	00 20 50.6	+0.3
KDZ	Kurdzhali	1.93	354	⇑P	Pn	00 20 50.6	+0.3
KDZ				S	Sn	00 21 13.7	-0.7
BAND	Balkesir-Ban	2.01	70	⇑P	Pb	00 20 53.5	-0.6
BAND				⇑S	Sb	00 21 20.4	+1.4
SRS	Serrai	2.09	313	ePn	Pn	00 20 52.2	-0.3
SRS				eSn	Sb	00 21 22.5	+1.1
RZN	Rozhen	2.09	342	i P	Pn	00 20 53.1	+0.4
RZN				S	Sn	00 21 17.7	-0.9
DION	Dionisos Attik	2.10	219	P	Pn	00 20 52.1	-0.4
HORT	Hortiatis	2.13	295	Pn	Pn	00 20 52.8	-0.2
HORT	Hortiatis	2.13	295	P	Pn	00 20 53.4	+0.4
HORT	Hortiatis	2.13	295	P	Pn	00 20 53.2	+0.2
PTL	Penteli	2.15	220	P	Pn	00 20 52.7	-0.6
DURS	Dursunbey	2.21	92	P	Pn	00 20 55.4	+1.3
DURS				S	Sn	00 21 19.9	-1.4
ATHU	Athens Univers	2.25	220	P	Pn	00 20 54.1	-0.6
LKR	Lokris	2.30	243	P	Pn	00 20 55.1	-0.2
EDRB	Edirne	2.30	21	Pn	Pn	00 20 56.7	+1.4
MMB	Musomishta	2.32	323	i P	Pn	00 20 56.9	+1.2
MMB				S	Sn	00 21 24.4	+0.3
DIM	Dimitrovgrad	2.33	359	i P	Pn	00 20 56.6	+0.8
DIM				eS	Sb	00 21 29.9	+1.5
VLY	Voula,Athens	2.34	218	P	Pn	00 20 55.5	-0.4
KIRK	Kırklareli	2.35	28	P	Pn	00 20 56.0	0.0
VIL2	Platees	2.37	232	P	Pn	00 20 56.1	-0.2
IZMR	zmir-demi	2.40	130	P	Pn	00 20 57.8	+1.0
AXAR	Agios Charalam	2.49	249	P	Pn	00 20 58.1	+0.2
DEMI	Demirci	2.49	105	P	Pn	00 20 59.3	+1.3
VIZE	Kirklareli, Vi	2.52	41	P	Pn	00 20 58.3	-0.1
VIZE				S	Sn	00 21 28.3	-0.5
PLD	Plovdiv	2.52	345	Pn	Pn	00 20 59.4	+1.0
PLD	Plovdiv	2.52	345	i P	Pn	00 20 59.3	+0.9
PLD				S	Sg	00 21 36.6	-2.3
PLD	Plovdiv	2.52	345	ePn	Pn	00 20 59.1	+0.7
PLD				eSn	Sb	00 21 33.9	+0.1
YYLC	Yaylacik	2.52	75	P	Pn	00 21 00.1	+1.6
KNT	Kendrikon	2.53	306	P	Pn	00 20 59.2	+0.7
ELBA	Catalca	2.58	55	P	Pn	00 21 00.2	+1.0
APE	Apeiranthos	2.64	182	Pn	Pn	00 21 01.3	+1.3
APE	Apeiranthos	2.64	182	⇑P	Pn	00 21 01.4	+1.4
MET4	Agioi Theodoro	2.71	221	P	Pn	00 21 01.1	0.0
GRG	Griva	2.76	298	Pn	Pn	00 21 02.3	+0.6
MAKR	Makrakomi, Fth	2.79	257	P	Pn	00 21 03.0	+0.9
VAY	Valandovo	2.83	306	i Pn	Pg	00 21 12.1	+0.1
VAY	Valandovo	2.83	306	eSn	Sb	00 21 40.5	-2.1
PGB	Panagyurishte	3.01	339	i P	Pn	00 21 06.0	+0.9
KALE	Kalithea	3.01	245	P	Pn	00 21 05.6	+0.4
KRND	KRANIDI	3.02	221	P	Pn	00 21 05.6	+0.3
EVR	Evrytania	3.06	256	P	Pn	00 21 07.7	+1.8
ANX	Ano Chora	3.08	250	P	Pn	00 21 06.8	+0.6
GUR	Goura	3.11	236	P	Pn	00 21 07.2	+0.5
EFP	Efpalio	3.16	247	P	Pn	00 21 07.8	+0.6
KLV	Kalavryta, Ach	3.18	240	P	Pn	00 21 07.7	+0.2
PVO	Paravola	3.37	252	P	Pn	00 21 11.6	+1.6
VTS	Vitosha	3.42	329	i P	Pn	00 21 12.2	+1.3
VTS	Vitosha	3.42	329	ePn	Pn	00 21 12.0	+1.1
VTS				eSn	Sb	00 21 55.9	-3.8
FNA	Florina	3.42	290	Pn	Pn	00 21 11.9	+1.1
FNA	Florina	3.42	290	ePn	Pn	00 21 11.4	+0.6
FNA	Florina	3.42	290	P	Pn	00 21 11.7	+0.9
DRO	Drossia	3.52	241	P	Pn	00 21 12.9	+0.7
NEST	Nestorio	3.58	283	P	Pn	00 21 14.4	+1.4
RLS	Riolos of Patr	3.64	244	P	Pn	00 21 15.1	+1.4
BOSS	Bosilegrad	3.66	321	ePn	Pn	00 21 15.5	+1.5
BOSS				eSn	Sn	00 22 00.0	+3.0
VLI	Veliai	3.66	216	P	Pn	00 21 14.0	0.0
AMT	Artemida-Makis	3.76	236	P	Pn	00 21 16.8	+1.4
ITM	Ithomi	3.85	230	Pn	Pn	00 21 18.4	+1.8
ITM	Ithomi	3.85	230	P	Pn	00 21 18.1	+1.5
MPEP	Malo Peshtene	3.91	339	i P	Pn	00 21 18.8	+1.4
RAZG	Razgrad	3.91	9	⇑P	Pn	00 21 18.7	+1.2
OHR	Ohrid	3.94	292	ePn	Pn	00 21 17.8	-0.1
ZAPS	Zavoj	4.21	320	ePn	Pn	00 21 23.1	+1.5
BARS	Barje	4.23	318	ePn	Pn	00 21 22.0	+0.2
VLAD	Vladila	4.38	348	⇓P	Pn	00 21 24.9	+0.9
ICOR	Ion Corvin	4.69	20	⇑P	Pn	00 21 29.8	+1.6
ZAGS	Zajecar	4.82	329	ePn	Pn	00 21 30.4	+0.5
HUMR	Humele	4.84	355	⇑P	Pn	00 21 31.2	+1.0
SELS	Selova	4.87	317	ePn	Pn	00 21 31.6	+0.9
BOVS	Bovan	4.90	324	⇓P	Pn	00 21 32.9	+1.9
BOVS	Bovan	4.90	324	ePn	Pn	00 21 31.9	+0.9
BORS2	Bor- Borsko je	5.14	330	ePn	Pn	00 21 34.9	+0.6
SJES	Sjenica	5.53	312	ePn	Pn	00 21 41.1	+1.3
KUBS	Kucevo	5.54	329	ePn	Pn	00 21 40.0	+0.1
GRUS	Gruza	5.56	320	ePn	Pn	00 21 41.0	+0.9
HERR	Herculane	5.69	336	⇓P	Pn	00 21 42.0	+0.2
ARR	Arges	5.70	353	⇑P	Pn	00 21 43.1	+1.0
NEHR	Nehoiu	5.74	5	⇑P	Pn	00 21 45.0	+2.4
VOIR		5.74	356	⇑P	Pn	00 21 43.3	+0.6
CFR	Carcaliu	5.77	18	⇓P	Pn	00 21 44.3	+1.3
MLR	Muntele Rosu	5.78	3	⇑P	Pn	00 21 44.2	+1.3
MDVR	Moldovita	5.84	332	⇓P	Pn	00 21 44.9	+0.9
MDVR	Moldovita	5.84	332	ePn	Pn	00 21 44.4	+0.4
LOT	Lotru	5.89	347	⇓P	Pn	00 21 45.4	+0.6
GZR	Gura Zlata	6.06	341	⇓P	Pn	00 21 47.6	+0.6
SPBR	Spulber	6.09	7	⇓P	Pn	00 21 49.5	+2.1
COVR	Voineasa-Covas	6.15	4	⇑P	Pn	00 21 50.6	+2.4
PLOR	Plostina	6.18	7	⇓P	Pn	00 21 51.2	+2.5
VRI	Vrincioaia	6.21	7	⇑P	Pn	00 21 51.4	+2.4
DOPR	Dopca	6.26	359	⇑P	Pn	00 21 51.5	+1.8
OZUR		6.38	1	⇓P	Pn	00 21 53.3	+1.8
KIRS	Kirsehir-Merke	6.45	92	⇑P	Pn	00 21 54.7	+2.3
MDB	Medias	6.49	352	⇑P	Pn	00 21 55.1	+2.1
SURR	Surduc	6.57	338	⇓P	Pn	00 21 54.6	+0.7
BZS	Buzias	6.60	335	⇑P	Pn	00 21 55.0	+0.7
BZS	Buzias	6.60	335	ePn	Pn	00 21 54.5	+0.1
ONER	Baraj Valea Uz	6.65	5	⇑P	Pn	00 21 57.5	+2.4
TESR	Tescani	6.84	7	⇑P	Pn	00 22 00.1	+2.3
SIRR	Siria	7.17	337	⇑P	Pn	00 22 03.2	+0.9
MARR	Marisel-Cluj	7.20	346	⇓P	Pn	00 22 03.2	+0.4
DRGR		7.39	344	⇓P	Pn	00 22 06.6	+1.3
BURAR	Bucovina Array	7.91	358	⇓P	Pn	00 22 15.0	+2.6

*IDC **20** 00:34:05.7±1.1, 33°.96N×137°.33E, h330km±11km, mb2.8/4, mbtmp3.6/8, Error ellipse: s-maj=27.4km s-min=18.0km az=97.0*
*JMA **20** 00:34:05.5±0.4, 34°.N±2°.×13°.7E±°, h341km±3km, MV2.5/26, SE OFF KII PENINSULA*

ISC 20 00:34:06.1±0.9, 34°.00N±0°.09×137°.33E±0°.06, h335km±7km, n21, σ0°97/28, mb2.8/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	Miekihoku	0.91	286	P	Pn	00 34 50.4	+0.5
JKN2				eS	S	00 35 24.7	-0.2
JAO	Obara	1.27	357	P	Pn	00 34 52.7	+1.2
JTNC	Tanabenakahech	1.44	263	P	Pn	00 34 53.0	+0.5
JTNC				eS	S	00 35 29.1	-0.4
JOD2	Odawara 2	1.92	48	eP	Pn	00 34 56.3	+0.9
JWT	Wachi	2.04	309	P	Pn	00 34 56.9	+0.5
JWT				S	S	00 35 35.2	-1.4
JRY	Ryogami san	2.39	32	P	Pn	00 35 00.6	+1.5
JRY				eS	S	00 35 42.9	+1.4
JAI	Aioi	2.40	266	P	Pn	00 34 59.5	+0.3
MJAR	Matsushiro Arr	2.64	16	P	Pn	00 35 00.9	-0.2
	2.9nm,0.4s,baz=196,slow=8.9,SNR=7.1						
MJAR				S	S	00 35 44.6	-0.6
	2.6nm,0.7s,baz=174,slow=12,SNR=5.6						
JMN	Monobe	2.88	266	P	Pn	00 35 03.8	+0.4
JAG	Ashikaga	2.98	35	P	Pn	00 35 04.1	0.0
JAG				S	S	00 35 47.7	-3.0
BSO1	Boso 1	3.09	77	eP	Pn	00 35 04.6	0.0
BSO1				eS	S	00 35 50.6	-1.0
JSZ	Suzu	3.44	0	eP	Pn	00 35 09.0	+0.6
JHS	Saijyo	3.62	287	P	Pn	00 35 10.9	+0.6
JTO	Tosashimizu	3.95	255	eP	Pn	00 35 14.1	+0.3
JNU	Nakatsue	5.46	263	P	Pn	00 35 30.3	0.0
	6.2nm,0.7s,baz=101,slow=6.5,SNR=4.1						
USRK	Ussuriysk Ar.	11.00	339	P	Pn	00 36 35.3	-0.6
	2.1nm,0.7s,baz=138,slow=9.7,SNR=4.3						
KLR	Kul'dur	15.77	346	P	P	00 37 29.4	-0.3
	1.5nm,0.4s,baz=175,slow=12,SNR=7.4						
MKAR	Makanchi Array	42.99	304	P	P	00 41 33.8	+0.5
	0.1nm,0.6s,baz=90,slow=10,SNR=1.9						
	0.1nm,0.6s						
WRA	Warramunga Arr	53.72	183	P	P	00 42 54.1	-0.5
	0.2nm,0.3s,baz=0.0,slow=7.6,SNR=10						
	0.2nm,0.3s						
ILAR	Eielson Array	53.82	31	P	P	00 42 55.9	+1.1
	0.2nm,0.7s,baz=281,slow=5.4,SNR=2.2						
	0.2nm,0.7s						
FINES	FINESS Array B	69.92	332	P	P	00 44 40.9	-0.3
	3.1nm,1.1s,baz=49,slow=4.2,SNR=2.2						
	3.1nm,1.1s						

*IDC **20** 00:57:02.8±2.8, 23°.40S×112°.49W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=102.5km s-min=41.7km az=38.0*

ISC 20 00:57:04.2±2.5, 23°.5S±0°.5×112°.5W±0°.4, h10km, n13, σ0°46/7, mb3.6/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	31.06	116	T	T	01 36 07.1	
	baz=286,slow=75,SNR=15						
H03N3	Juan Fernandez	31.07	116	T	T	01 36 08.3	
	baz=286,slow=75,SNR=16						
H03N1	Juan Fernandez	31.08	116	T	T	01 36 08.8	
	baz=286,slow=75,SNR=24						
LPAZ	La Paz	42.24	89	P	P	01 04 58.6	0.0
	0.4nm,0.5s,baz=254,slow=8.8,SNR=3.5						
	0.4nm,0.5s						
NVAR	Mina Array Bea	61.79	355	P	P	01 07 22.9	-0.4
	0.5nm,0.5s,baz=140,slow=2.8,SNR=2.1						
	0.5nm,0.5s						
PDAR	Pinedale Array	65.94	2	P	P	01 07 50.4	-0.2
	0.2nm,0.6s,baz=198,slow=3.7,SNR=2.7						
	0.2nm,0.6s						
YKA	Yellowknife Ar	85.66	359	P	P	01 09 43.2	+0.7
	0.7nm,1.1s,baz=180,slow=5.6,SNR=4.6						
	0.7nm,1.1s						
H11S2	WAKE ISLAND Hy	89.13	290	T	T	02 48 38.3	
	baz=114,slow=75,SNR=9.9						
H11S1	WAKE ISLAND Hy	89.14	290	T	T	02 48 39.3	
	baz=114,slow=75,SNR=5.9						
H11S3	WAKE ISLAND Hy	89.14	290	T	T	02 48 39.9	
	baz=114,slow=75,SNR=5.2						
BRTR	Keskin Array B	147.17	52	PKPbc	PKPdf	01 16 45.5	-0.3
	0.4nm,0.8s,baz=260,slow=2.3,SNR=3.5						
KBZ	Khabaz	151.41	39	PKPbc	PKiKP	01 16 58.9	+0.1
	1.3nm,0.7s,baz=216,slow=5.1,SNR=5.4						
KURBB	Kurchatov Arra	151.54	345	PKPbc	PKiKP	01 16 58.7	-0.1
	0.4nm,0.7s,baz=52,slow=1.6,SNR=2.7						

*IDC **20** 01:02:49.0±1.0, 35°.17N×75°.83E, h0km, mb3.7/10, mbtmp3.6/15, ML3.3/5, Error ellipse: s-maj=25.4km s-min=17.0km az=55.0*

ISC 20 01:02:54.2±0.9, 35°.15N±0°.09×75°.9E±0°.1, h35km, n15, σ1°37/17, mb3.7/9, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.55	352	Pn	Pn	01 04 43.8	+1.9
	0.3nm,0.3s,baz=138,slow=13,SNR=4.6						
AAK				Sn	Sn	01 06 06.9	+0.7
	baz=348,slow=12						
	0.6nm,0.3s						
MKAR	Makanchi Array	12.60	21	Pn	Pn	01 05 51.2	+0.4
	0.2nm,0.3s,baz=192,slow=12,SNR=8.8						
MKAR				Sn	Sn	01 08 10.8	+0.9
	0.1nm,0.3s,baz=194,slow=22,SNR=5.1						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	15.58	6	Pn	Pn	01 06 28.3	-2.8
	0.2nm,0.3s,baz=196,slow=10,SNR=32						
	0.1nm,0.4s						
BVAR	Borovoye Array	18.28	349	P	P	01 07 03.3	-1.5
	baz=156,slow=11,SNR=6.1						
	1.3nm,0.6s						
ZALV	Zalesovo Beam	19.82	16	P	P	01 07 20.2	-1.4
	0.6nm,0.3s,baz=221,slow=8.8,SNR=18						
	2.4nm,0.5s						
AKTO	Aktyubinsk	20.03	325	P	P	01 07

DNZT			S	Sg	01 42 00.7	-0.7
DNZT			S	Sg	01 42 00.7	-0.7
DNIZ	**Denizli-Tavas-**	0.39 299	P	Pg	01 41 56.2	-0.2
TAVA	**DENIZLI_Tavas**	0.44 274	P	Pg	01 41 56.8	-0.6
TAVA			S	Sg	01 42 02.1	-1.0
CAME	**Cameli-Denizli**	0.51 195	Pg	Pg	01 41 57.9	-0.8
BRDR	**BURDUR-Merkez**	0.54 61	P	Pg	01 41 59.1	-0.2
BRDR			S	Sb	01 42 07.8	-0.5
KNIK	**Mula-Seydike**	0.60 171	P	Pg	01 41 59.9	-0.4
BASM	**Basmaki-Afyon**	0.67 44	Pg	Pg	01 42 01.0	-0.7
SABU	**Mula-Dalaman**	0.73 213	P	Pg	01 42 01.4	-1.4
SABU			S	Sg	01 42 11.8	-0.5
ELL	**Elmali**	0.78 152	Pg	Pg	01 42 02.9	-0.8
ELL			Sg	Sb	01 42 14.9	-0.1
KORT	**Korkueli**	0.83 121	Pg	Pb	01 42 04.5	-0.8
KORT	**Korkueli**	0.83 121	P	Pg	01 42 03.7	-1.1
KORT			S	Sb	01 42 16.3	-0.3
FETY	**Fethiye**	0.86 201	Pg	Pg	01 42 04.9	-0.3
FETY			Sg	Sb	01 42 17.5	+0.3
FETY	**Fethiye**	0.86 201	P	Pb	01 42 05.0	-0.6
BUCA	**Burdur, Bucak-**	0.88 97	P	Pg	01 42 05.2	-0.6
BUCA			S	Sb	01 42 17.8	-0.1
DALY	**Dalyan (Mula)**	0.90 226	Pg	Pg	01 42 05.7	-0.2
BCK	**Bucak**	0.90 88	Pg	Pb	01 42 05.7	-0.7
PASA	**Karahalli, USA**	0.91 1	P	Pg	01 42 05.3	-1.0
PASA			S	Sb	01 42 18.9	0.0
ISP	**Isparta**	0.93 65	Pg	Pg	01 42 06.1	-0.5
ISP	**Isparta**	0.93 65	P	Pg	01 42 05.6	-1.0
ISP			S	Sb	01 42 19.6	+0.3
MULA	**Mugla, Merkez-**	0.93 259	P	Pg	01 42 05.8	-0.8
MULA			S	Sb	01 42 19.9	+0.6
ESEN	**Aydn-Nazilli**	0.95 293	P	Pg	01 42 06.6	-0.5
ESEN			S	Sg	01 42 18.1	-1.4
KZIL	**AFYON_Kizioren**	0.98 33	P	Pg	01 42 06.5	-1.1
YER	**Yerkesik**	0.99 253	Pg	Pg	01 42 06.9	-0.8
IZZE	**Mula-Seydike**	1.02 191	P	Pb	01 42 08.1	-0.3
NAZL	**Nazilli-Aydin**	1.07 300	Pg	Pb	01 42 09.0	-0.3
ANTB	**Antalya**	1.09 119	Pn	Pn	01 42 09.5	-0.5
KIRA	**zmir-Kiraz**	1.13 312	P	Pb	01 42 09.6	-0.9
KIRA			S	Sg	01 42 24.2	-1.1
AFYN	**Afyon-Dinar-K**	1.17 44	P	Pb	01 42 09.7	-1.4
AFYN			S	Sg	01 42 25.5	-1.0
TURN	**Turunc**	1.18 236	Pn	Pg	01 42 11.6	+0.3
TURN	**Turunc**	1.18 236	P	Pg	01 42 10.9	-0.4
TURN			S	Sg	01 42 26.3	-0.3
BAGO	**Egridir - ISPA**	1.19 62	P	Pb	01 42 09.9	-1.4
AKAS	**Kas**	1.21 175	Pn	Pg	01 42 11.8	-0.2
AKAS	**Kas**	1.21 175	P	Pg	01 42 11.8	-0.2
KULA	**Kula-Manisa**	1.25 330	Pn	Pg	01 42 12.5	-0.2
AYDN	**Tasoluk**	1.28 281	P	Pn	01 42 12.2	-0.5
BNAZ	**Uak-Banaz**	1.28 15	P	Pn	01 42 12.4	-0.4
BNAZ			S	Sn	01 42 30.2	+0.1
KSL	**Kastellorizon**	1.29 176	P	Pg	01 42 13.4	-0.1
KSL			S	Sg	01 42 30.7	+0.5
945nm,0.5s						
AKUM	**Antalya-Kumluc**	1.32 147	P	Pg	01 42 13.8	-0.2
USAK	**Uak-Merkez**	1.32 345	P	Pn	01 42 12.9	-0.4
AYDB	**Zeytinkoy-Aydi**	1.35 293	Pn	Pb	01 42 13.9	-0.2
MLSB	**Milas**	1.35 264	Pn	Pb	01 42 13.7	-0.4
ODEM	**Odemis-Izmir**	1.38 308	Pn	Pb	01 42 14.2	-0.5
IZMR	**zmir-demi**	1.39 301	P	Pb	01 42 14.1	-0.6
IZMR			S	Sb	01 42 31.0	-1.4
SHUT	**Suhut-Afyon**	1.41 37	Pn	Pb	01 42 14.5	-0.7
AFYO	**Afyonkarahisar**	1.50 26	P	Pb	01 42 16.3	-0.4
AFYO			S	Sg	01 42 37.5	+0.5
SHAP	**Saphane-Kutahy**	1.59 353	Pn	Pb	01 42 17.9	-0.4
GEDZ	**Gediz**	1.60 359	Pn	Pb	01 42 18.1	-0.4
ARG	**Arkhangelos**	1.62 222	Pn	Pb	01 42 18.4	-0.3
ARG	**Arkhangelos**	1.62 222	P	Pb	01 42 18.2	-0.5
ARG			S	Sg	01 42 40.3	-0.6
1μm,0.5s						
YVAC	**Isparta, Yalva**	1.64 59	P	Pb	01 42 18.5	-0.5
GDZ	**Gediz**	1.65 1	P	Pn	01 42 17.9	+0.1
BDRM	**Kayabasi**	1.65 258	P	Pb	01 42 18.6	-0.7
DAT	**Datca**	1.66 245	Pn	Pb	01 42 19.0	-0.5
SIMA	**Simav-Kutahya**	1.69 347	Pn	Pb	01 42 18.8	-1.1
DEMI	**Demirci**	1.71 340	P	Pn	01 42 18.2	-0.4
DEMI			S	Sn	01 42 39.3	-1.3
KURO	**Afyon-Bolvadin**	1.74 41	P	Pb	01 42 19.4	-1.4
BODT	**Bodrum**	1.76 258	Pn	Pb	01 42 20.1	-0.9
DDIM	**Aydin, Didim**	1.77 271	P	Pn	01 42 19.0	-0.3
DDIM			S	Sn	01 42 39.8	-2.1
YAZI	**Mula-Dat§a-**	1.77 245	P	Pn	01 42 19.8	+0.3
YAZI			S	Sn	01 42 42.4	+0.3
GORD	**Gordes-Manisa**	1.79 326	Pn	Pb	01 42 20.3	-1.2
GCAM	**G?zelcaml?**	1.79 279	Pn	Pn	01 42 19.9	+0.3
GCAM	**G?zelcaml?**	1.79 279	P	Pn	01 42 19.9	+0.3
GCAM			S	Sn	01 42 40.5	-1.9
KEPZ	**Antalya-Kepez**	1.79 107	P	Pb	01 42 21.0	-0.6
SEDI	**Konya, Seydise**	1.82 89	P	Pb	01 42 21.8	-0.6
SEYD	**Seydisehir-KON**	1.89 90	Pn	Pb	01 42 21.9	-1.5
AKHS	**Akhisar**	1.94 318	P	Pn	01 42 21.8	0.0
EMET	**Ktahya-Emet**	1.94 357	P	Pn	01 42 22.3	+0.5
TVSB	**Tavsanli**	2.01 360	Pn	Pn	01 42 23.3	+0.5
NISR	**Nisiros**	2.04 247	P	Pb	01 42 24.7	-1.2
NISR			S	Sn	01 42 49.7	+1.1
712nm,0.5s						
BLCB	**Balcova**	2.13 297	Pn	Pn	01 42 24.8	+0.4
DGB	**zmir**	2.13 287	P	Pn	01 42 24.4	0.0
SOMA	**Soma-Manisa**	2.29 319	Pn	Pn	01 42 27.1	+0.5
KARP	**Karpathos**	2.65 225	P	Pn	01 42 32.7	+1.2
KARP			S	Sb	01 43 05.9	-2.8
668nm,0.8s						
PRK	**Paraskevi**	3.09 307	P	Pn	01 42 38.3	+0.8
PRK			S	Sn	01 43 16.3	+1.8
272nm,0.8s						
BAND	**Balkesir-Ban**	3.10 340	⇑P	Pn	01 42 38.3	+0.6
APE	**Apeiranthos**	3.16 265	P	Pn	01 42 39.5	+1.0
APE	**Apeiranthos**	3.16 265	⇑P	Pn	01 42 39.4	+0.8
APE	**Apeiranthos**	3.16 265	P	Pn	01 42 38.1	-0.4
APE	**Apeiranthos**	3.16 265	S	Sn	01 43 16.6	+0.3
SIGR	**SIGRI**	3.34 303	P	Pn	01 42 41.6	+0.6
SIGR			S	Sn	01 43 22.3	+1.5
110nm,0.6s						
THR5	**Thira Island,**	3.45 254	P	Pn	01 42 44.6	+2.1
ANTO	**Ankara**	3.56 46	⇑P	Pn	01 42 45.5	+1.4
KIRS	**Kirsehir-Merke**	3.89 63	⇓P	Pn	01 42 50.3	+1.6
CSS	**Mathiatis**	3.99 127	P	Pn	01 42 49.1	-0.8
CSS	**Mathiatis**	3.99 127	S	Sn	01 43 36.4	-0.3
BRTR	**Keskin Array B**	3.99 54	Pn	Pn	01 42 51.4	+1.3
3.7nm,0.3s,baz=235,slow=18,SNR=158						
BRTR			Sn	Sn	01 43 37.0	0.0
0.8nm,0.3s,baz=228,slow=24,SNR=10						
11nm,0.5s						
CAVK	**Edirne/Enez-Ca**	4.14 323	⇑P	Pn	01 42 53.5	+1.5
LIA	**Limnos Island**	4.15 308	P	Pn	01 42 53.2	+1.1
IDI	**Anoyia**	4.27 241	Pn	Pn	01 42 54.8	+1.0
21nm,0.3s,baz=55,slow=12,SNR=86						
IDI			Sn	Sn	01 43 42.9	-0.8
6.8nm,0.3s,baz=122,slow=21,SNR=8.3						
MMA0B	**Mount Meron ar**	6.56 130	P	Pn	01 43 24.9	-0.5
MMA0B	**Mount Meron ar**	6.56 130	S	Sn	01 44 39.4	-0.9
MMAI	**Mount Meron Ar**	6.56 130	Pn	Pn	01 43 26.1	+0.8
5.2nm,0.3s,baz=316,slow=12,SNR=15						
MMAI			Sn	Sn	01 44 38.4	-1.9
4.3nm,0.3s,baz=325,slow=26,SNR=2.6						
2.7nm,0.3s						
GEM	**Giv'at Ha'Em**	6.59 128	P	Pn	01 43 25.6	-0.1
GEM	**Giv'at Ha'Em**	6.59 128	S	Sn	01 44 39.7	-1.2
OFRI	**`Ofer**	6.60 135	P	Pn	01 43 25.4	-0.5
OFRI	**`Ofer**	6.60 135	S	Sn	01 44 40.4	-0.8
NATI	**Neve Ativ**	6.61 127	P	Pn	01 43 25.9	+0.1
NATI	**Neve Ativ**	6.61 127	S	Sn	01 44 40.9	-0.2
SLTI	**Sal'it**	6.92 137	P	Pn	01 43 30.4	+0.2
SLTI	**Sal'it**	6.92 137	S	Sn	01 44 47.9	-1.0
MMLI	**Mount Malkishu**	6.99 134	P	Pn	01 43 30.4	-0.7
MMLI	**Mount Malkishu**	6.99 134	S	Sn	01 44 49.5	-1.2
TIRR	**Tirgusor**	7.06 354	⇑P	Pn	01 43 33.3	+1.3
HMDT	**Nahal Hemdat**	7.18 134	P	Pn	01 43 33.6	-0.1
HMDT	**Nahal Hemdat**	7.18 134	S	Sn	01 44 55.0	-0.4
UJAP	**Al Uja**	7.37 136	P	Pn	01 43 36.4	0.0
UJAP	**Al Uja**	7.37 136	S	Sn	01 44 59.5	-0.6
AMAZ	**Amatzia**	7.41 141	P	Pn	01 43 36.6	-0.3
AMAZ	**Amatzia**	7.41 141	S	Sn	01 45 01.5	+0.3
TPGR	**Topolog**	7.45 354	⇑P	Pn	01 43 38.1	+0.7
DSI	**Dead Sea**	7.62 138	P	Pn	01 43 39.4	-0.4
DSI	**Dead Sea**	7.62 138	S	Sn	01 45 06.2	0.0
YTIR	**Yattir**	7.65 141	P	Pn	01 43 40.1	-0.1
YTIR	**Yattir**	7.65 141	S	Sn	01 45 06.5	-0.6
KZIT	**Kziot**	7.69 146	P	Pn	01 43 40.6	-0.1
KZIT	**Kziot**	7.69 146	S	Sn	01 45 07.8	-0.1
MSBI	**Mazada**	7.81 140	P	Pn	01 43 41.9	-0.5
MSBI	**Mazada**	7.81 140	S	Sn	01 45 10.0	-0.9
GHAJ	**Ghor Haditha**	7.93 139	P	Pn	01 43 43.9	-0.1
GHAJ	**Ghor Haditha**	7.93 139	S	Sn	01 45 13.5	-0.3
ASF	**Jabal al Asfar**	8.06 128	Pn	Pn	01 43 47.4	+1.5
0.3nm,0.3s,baz=136,slow=14,SNR=2.2						
ASF			Sn	Sn	01 45 19.1	+2.0
baz=78,slow=22						
0.9nm,0.3s						
PRNI	**Paran**	8.43 145	P	Pn	01 43 50.4	-0.6
PRNI	**Paran**	8.43 145	S	Sn	01 45 25.7	-0.5
MLR	**Muntele Rosu**	8.47 343	Pn	Pn	01 43 53.2	+1.7
0.6nm,0.3s,baz=41,slow=20,SNR=5.2						
1.3nm,0.4s						
MLR	**Muntele Rosu**	8.47 343	⇑P	Pn	01 43 53.6	+2.1
KRMI	**Paran Flat**	8.51 148	P	Pn	01 43 51.6	-0.4
KRMI	**Paran Flat**	8.51 148	S	Sn	01 45 28.4	+0.2
VOIR		8.65 339	⇑P	Pn	01 43 55.8	+1.8
PLOR	**Plostina**	8.67 347	⇑P	Pn	01 43 56.4	+2.3
VRI	**Vrincioaia**	8.67 347	⇓P	Pn	01 43 56.3	+2.2
HRFI	**Mount Harif**	8.72 146	P	Pn	01 43 54.9	0.0
HRFI	**Mount Harif**	8.72 146	S	Sn	01 45 32.5	-0.7
COVR	**Voineasa-Covas**	8.75 345	⇑P	Pn	01 43 57.7	+2.4
MBRI	**Mt Berech**	8.87 148	P	Pn	01 43 56.9	-0.2
MBRI	**Mt Berech**	8.87 148	S	Sn	01 45 36.7	-0.4
EIL	**Elat**	9.00 148	Pn	Pn	01 44 00.1	+1.4
0.9nm,0.3s,baz=333,slow=11,SNR=8.5						
EIL			Sn	Sn	01 45 34.6	-5.4
0.4nm,0.3s,baz=56,slow=15,SNR=1.6						
3.5nm,0.6s						
EIL	**Elat**	9.00 148	P	Pn	01 43 57.9	-0.8
EIL	**Elat**	9.00 148	S	Sn	01 45 39.2	-0.8
DOPR	**Dopca**	9.05 342	⇑P	Pn	01 44 01.5	+2.1
HERR	**Herculane**	9.14 327	⇑P	Pn	01 44 01.1	+0.6
MDVR	**Moldovita**	9.38 324	⇑P	Pn	01 44 04.7	+0.8
GZR	**Gura Zlata**	9.40 330	⇑P	Pn	01 44 05.0	+0.8
BZS	**Buzias**	10.06 327	⇓P	Pn	01 44 13.5	+0.3
LANS	**Liptovska Anna**	13.77 331	*e*PN	Pn	01 45 03.5	-0.4
GERES	**GERESS Array B**	16.16 320	Pn	Pn	01 45 35.7	-0.1
0.2nm,0.5s,baz=145,slow=12,SNR=1.6						
FINES	**FINESS Array B**	24.12 356	P	**P**	01 47 04.8	+0.4
1.5nm,0.6s,baz=158,slow=12,SNR=7.4						
1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	34.62 233	P	**P**	01 48 38.4	+0.2
2.2nm,0.3s,baz=32,slow=8.8,SNR=1.7						
2.2nm,0.3s						
KURBB	**Kurchatov Arra**	36.98 53	P	**P**	01 48 58.4	+0.3
0.5nm,0.6s,baz=275,slow=8.8,SNR=5.3						
0.5nm,0.6s						
MKAR	**Makanchi Array**	39.62 59	P	**P**	01 49 21.7	+1.3
0.3nm,0.5s,baz=271,slow=8.9,SNR=4.9						
0.3nm,0.5s						

*UPA **20** 01:49:57.8±1.4, 8°.09N×77°.88W, h66km±10km, MW4.0*
*RSNC **20** 01:49:59.2±0.0, 8°.N±2°×7°.8W±°, h-2km±3km, M2.1, ML2.1*

ISC 20 01:49:57.6±1.4, 8°.13N±0°.04×77°.76W±0°.03, h22km±7km, n13, σ1°98/20, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
UPD2	**Meteti**	**0.48**	**329**	⇓*P*		**Pn**	01 50 10.5	+1.3
UPD2				*i*	*S*	**Sn**	01 50 19.1	+2.0
UPD2				*i*	*S*		01 50 19.4	
CAPC	**Capurgana**	**0.65**	**39**	*P*		**Pb**	01 50 09.2	-1.0
CAPC				*S*		**Sb**	01 50 16.6	-2.2
PTAC	**Punta Ardita,**	**0.98**	**183**	*e*P		**Pb**	01 50 15.0	-0.8
PTAC				*e*S		**Sb**	01 50 28.0	-0.4
APAC	**Apartado, Choc**	**1.19**	**101**	*P*		**Pn**	01 50 18.0	-1.0
APAC				*S*		**Sb**	01 50 33.8	-0.7
LCBC	**Los crdobas,**	**1.56**	**62**	*P*		**Pb**	01 50 25.7	0.0
LCBC				*S*		**Sb**	01 50 46.8	+1.8
LCBC	**Los crdobas,**	**1.56**	**62**	*e*P		**Pb**	01 50 25.1	-0.6
LCBC				*e*S		**Sb**	01 50 44.7	-0.3
TABO3	**Taboga, Panama**	**1.89**	**290**	*e*P		**Pn**	01 50 26.4	-2.1
UPA	**Univ. de Panam**	**1.94**	**296**	*e*P		**Pn**	01 50 25.9	-3.5
UREC	**San Jos de Ur**	**2.24**	**100**	*e*P		**Pn**	01 50 34.5	+1.0
BCIP	**Isla Barro Col**	**2.29**	**297**	*P*		**Pb**	01 50 39.4	+1.1
BCIP				*S*		**Sb**	01 51 09.8	+3.5
BCIP	**Isla Barro Col**	**2.29**	**297**	*e*P		**Pn**	01 50 32.1	-2.0
AZU	**Azuero**	**2.51**	**262**	*e*P		**Pn**	01 50 35.3	-1.8
CBOC	**Ciudad Bolivar**	**2.84**	**142**	*P*		**Pn**	01 50 44.4	+2.5

IDC 20 02:17:11.2±2.3, 6°.75S×146°.32E, h0km, mb3.3/2, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=57.7km s-min=19.7km az=71.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**2.77**	**163**	*Pn*		*Pn*	02 17 57.8	+1.0
8.3nm,0.3s,baz=287,slow=2.1,SNR=2.6								
PMG				*Lg*		*Lg*	02 18 39.0	
2.2nm,0.3s,baz=323,slow=18,SNR=1.4								
WRA	**Warramunga Arr**	**17.53**	**220**	*P*		*Pn*	02 21 17.7	+0.5
0.1nm,0.3s,baz=43,slow=12,SNR=7.6								
0.4nm,0.6s								
ASAR	**Alice Springs**	**20.62**	**214**	*P*		*P*	02 21 51.3	-1.1
0.3nm,0.5s,baz=54,slow=9.3,SNR=5.8								
0.3nm,0.5s								
MKAR	**Makanchi Array**	**77.65**	**321**	*P*		*P*	02 29 09.8	+0.2
0.2nm,0.3s,baz=108,slow=6.5,SNR=5.0								
0.2nm,0.3s								

IDC 20 02:20:29.7±3.0, 31°.58S×177°.66W, h0km, mb4.0/3, mbtmp3.9/4, ML3.3/1, MS3.3/3, Error ellipse: s-maj=73.4km s-min=43.8km az=130.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
URZ	**Urewera**	**7.92**	**211**	*Pn*		*Pn*	02 22 25.7	-0.4
0.4nm,0.3s,baz=130,slow=15,SNR=1.9								
URZ					Sn	Sn	02 23 53.8	-2.6
2.3nm,0.3s,baz=320,slow=20,SNR=8.5								
3.7nm,0.6s								
STKA	**Stephens Creek**	**34.51**	**259**	*P*		*P*	02 27 20.6	+0.9
0.9nm,0.5s,baz=111,slow=14,SNR=3.1								
0.9nm,0.5s								
ASAR	**Alice Springs**	**43.35**	**268**	*P*		*P*	02 28 33.0	-0.8
0.8nm,0.6s,baz=106,slow=7.4,SNR=12								
0.8nm,0.6s								
WRA	**Warramunga Arr**	**44.44**	**273**	*P*		*P*	02 28 42.7	0.0
1.8nm,0.5s,baz=115,slow=7.9,SNR=16								
1.8nm,0.5s								
NWAO	**Narrogin (SRO)**	**54.26**	**250**	*LR*		*LR*	02 49 07.4	
comp=Z,28nm,18.9s,baz=95,slow=32								
GUMO	**Guam**	**57.52**	**315**	*LR*		*LR*	02 53 11.5	
comp=Z,15nm,21.2s,baz=74,slow=34								
ASAJ	**Asahikawa**	**83.62**	**332**	*LR*		*LR*	03 04 42.9	
comp=Z,23nm,18.9s,baz=162,slow=32								
FINES	**FINESS Array B**	**146.35**	**340**	*PKPbc*		*PKPdf*	02 40 10.9	+0.4
0.7nm,0.4s,baz=46,slow=4.5,SNR=9.3								

*ISK **20** 02:30:55.6, 36°.43N×28°.71E, h5km, ML2.5/17*
*AFAD **20** 02:30:55.8, 36°.42N×28°.70E, h7km±3km, ML2.3*
*ATH **20** 02:30:56.2, 36°.39N×28°.73E, h7km±2km, ML2.3/8, Manual Solution by A.Fokaefs First location: 2019/03/20 02:32:28, This location: 2020/07/14 16:57:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

ISC 20 02:30:56.1±1.0, 36°.43N±0°.02×28°.71E±0°.02, h9km±11km, n49, σ0°56/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FETY	**Fethiye**	**0.37**	**55**	*Pg*		**Pg**	02 31 03.5	+0.1
FETY					*Sg*	**Sb**	02 31 09.7	-1.0
RDI1	**Rhodes Town Ha**	**0.39**	**274**	*P*		**Pb**	02 31 04.3	-0.8
RODB	**Rodos**	**0.39**	**273**	*P*		**Pb**	02 31 04.6	-0.6
RODB				*S*		**Sb**	02 31 10.3	-1.0
DALY	**Dalyan (Mula)**	**0.39**	**354**	*Pg*		**Pg**	02 31 03.9	+0.1
DALY				*Sg*		**Sb**	02 31 10.6	-0.8
IZZE	**Mula-Seydike**	**0.42**	**88**	*P*		**Pg**	02 31 04.0	-0.3
IZZE				*S*		**Sg**	02 31 09.8	0.0
SABU	**Mula-Dalaman**	**0.45**	**28**	*P*		**Pg**	02 31 05.4	+0.5
SABU				*S*		**Sg**	02 31 11.8	+0.9
TURN	**Turunc**	**0.51**	**313**	*Pg*		**Pb**	02 31 06.7	-0.5
TURN				*Sg*		**Sb**	02 31 14.7	0.0
TURN	**Turunc**	**0.51**	**313**	*P*		**Pg**	02 31 05.4	-0.6
ARG	**Arkhangelos**	**0.51**	**246**	*Pg*		**Pg**	02 31 06.4	+0.3
ARG	**Arkhangelos**	**0.51**	**246**	*P*		**Pg**	02 31 06.2	+0.2
ARG				*S*		**Sb**	02 31 13.8	-0.9
CAME	**Cameli-Denizli**	**0.70**	**43**	*Pg*		**Pb**	02 31 10.0	-0.6
CAME				*Sg*		**Sb**	02 31 20.7	+0.2
AKAS	**Kas**	**0.75**	**105**	*Pg*		**Pb**	02 31 11.3	-0.1
AKAS				*Sg*		**Sb**	02 31 22.4	+0.6
AKAS	**Kas**	**0.75**	**105**	*P*		**Pb**	02 31 11.2	-0.1
AKAS				*i*	AML	AML	02 31 26.0	
comp=N,171nm,0.7s								
AKAS				*i*	AML	AML	02 31 28.0	
comp=E,152nm,0.6s								
KSL	**Kastellorizon**	**0.76**	**111**	*P*		**Pg**	02 31 10.2	-0.5
KSL				*S*		**Sg**	02 31 20.5	-0.2
YER	**Yerkesik**	**0.79**	**334**	*Pg*		**Pb**	02 31 11.9	-0.1
KNIK	**Mula-Seydike**	**0.81**	**59**	*P*		**Pg**	02 31 11.8	0.0
KNIK				*S*		**Sb**	02 31 23.5	-0.1
KNIK				*i*	AML	AML	02 31 27.0	
comp=N,84nm,0.5s								
CAEL	**Denizli, Camel**	**0.85**	**35**	*P*		**Pb**	02 31 13.2	0.0
CAEL				*S*		**Sb**	02 31 24.1	-0.6
MULA	**Mugla, Merkez-**	**0.89**	**340**	*P*		**Pb**	02 31 13.6	0.0
DNZT	**Denizli-Tavas-**	**0.89**	**17**	*P*		**Pg**	02 31 12.7	-0.5
DATC	**Datca-Mugla**	**0.91**	**292**	*Pg*		**Pb**	02 31 14.3	+0.4
DAT	**Datca**	**0.96**	**289**	*Pg*		**Pn**	02 31 15.5	-0.3
ELL	**Elmali**	**1.02**	**71**	*Pg*		**Pn**	02 31 16.3	-0.4
ELL	**Elmali**	**1.02**	**71**	*P*		**Pn**	02 31 16.3	-0.4
YAZI	**Mula-Dat§a-**	**1.04**	**285**	*P*		**Pg**	02 31 15.9	-0.2
YAZI				*S*		**Sg**	02 31 29.7	0.0
TAVA	**DENIZLI_Tavas**	**1.05**	**9**	*P*		**Pn**	02 31 16.9	-0.1
TAVA				*S*		**Sb**	02 31 30.6	+0.2
TAVA				*i*	AML	AML	02 31 37.0	
comp=E,73nm,0.4s								
GOLH	**Golhisar**	**1.06**	**40**	*P*		**Pb**	02 31 16.5	-0.1
GOLH				*S*		**Sb**	02 31 31.2	+0.5
GOLH				*i*	AML	AML	02 31 35.0	
comp=E,80nm,0.4s								
GOLH				*i*	AML	AML	02 31 39.0	
comp=N,57nm,0.4s								
MLSB	**Milas**	**1.15**	**320**	*Pn*		**Pn**	02 31 18.9	+0.6
APMY	**Acipayam-Deniz**	**1.15**	**24**	*Pn*		**Pn**	02 31 18.8	+0.4
BDRM	**Kayabasi**	**1.20**	**303**	*P*		**Pg**	02 31 19.0	-0.2
BDRM				*S*		**Sb**	02 31 35.1	+0.5
DNIZ	**Denizli-Tavas-**	**1.23**	**12**	*P*		**Pn**	02 31 20.6	+1.1
DNIZ				*S*		**Sg**	02 31 34.4	-1.2
NISR	**Nisiros**	**1.28**	**279**	*P*		**Pg**	02 31 20.9	+0.1
BODT	**Bodrum**	**1.29**	**300**	*Pn*		**Pg**	02 31 21.2	+0.3
AKUM	**Antalya-Kumluc**	**1.32**	**94**	*P*		**Pg**	02 31 22.4	+0.9
AYDN	**Tasoluk**	**1.40**	**332**	*P*		**Pg**	02 31 23.1	+0.1
AYDN				*S*		**Sb**	02 31 40.2	-0.2
AYDN				*i*	AML	AML	02 31 48.0	
comp=E,73nm,0.3s								
AYDN				*i*	AML	AML	02 31 49.0	
comp=N,62nm,0.3s								
ESEN	**Aydn-Nazilli**	**1.40**	**348**	*P*		**Pg**	02 31 22.7	-0.3
ESEN				*S*		**Sb**	02 31 40.0	-0.4
ESEN				*i*	AML	AML	02 31 46.0	
comp=E,50nm,0.3s								
KORT	**Korkueli**	**1.44**	**66**	*Pn*		**Pg**	02 31 24.5	+0.8
KORT	**Korkueli**	**1.44**	**66**	*P*		**Pg**	02 31

comp=Z,10nm,0.8s
MSVF Nonsavu 48.60 137 P **P 02 49 02.8 +1.1**
MSVF IAmb IAmb 02 49 17.0
comp=Z,11nm,1.4s
STKA Stephens Creek 50.67 184 P **P 02 49 16.5 -0.5**
STKA IAmb IAmb 02 49 38.7
comp=Z,14nm,1.1s
STKA Stephens Creek 50.67 184 P **P 02 49 16.5 -0.5**
comp=Z,0.7nm,0.4s,baz=5.5,slow=11,SNR=3.5
comp=Z,0.7nm,0.4s
BBOO Buckleboo 52.24 190 P **P 02 49 28.2 -0.4**
BBOO IAmb IAmb 02 49 54.9
comp=Z,13nm,1.4s
K13K Kusilvak Mount 55.09 26 P **P 02 49 50.0 +1.1**
K13K IAmb IAmb 02 49 51.3
comp=Z,5.5nm,0.8s
M14K Bethel 55.74 28 P **P 02 49 54.3 +0.8**
K15K Wolf Creek Mou 56.57 27 P **P 02 50 00.4 +1.0**
I17K Unalakleet 57.59 25 P **P 02 50 07.4 +1.0**
I17K IAmb IAmb 02 50 09.1
comp=Z,12nm,1.4s
ZALV Zalesovo Beam 57.61 322 P **P 02 50 05.6 -1.2**
comp=Z,1.0nm,0.7s,baz=110,slow=8.1,SNR=2.6
comp=Z,1.0nm,0.7s
N17K Nushagak Hills 57.83 30 P **P 02 50 09.2 +0.9**
MK31 Makanchi Array 58.05 314 P **P 02 50 10.5 +0.4**
MKAR Makanchi Array 58.05 314 P **P 02 50 10.9 +0.8**
MKAR Makanchi Array 58.05 314 P **P 02 50 10.7 +0.7**
comp=Z,0.9nm,0.6s,baz=90,slow=9.8,SNR=12
comp=Z,0.9nm,0.6s
H17K Granite Mounta 58.34 24 P **P 02 50 12.5 +0.7**
L18K Granite Mounta 58.63 28 P **P 02 50 14.8 +1.0**
L18K IAmb IAmb 02 50 19.9
comp=Z,11nm,1.4s
E18K Tukpahlearik C 59.17 21 P **P 02 50 18.0 +0.6**
E18K IAmb IAmb 02 50 19.5
comp=Z,6.3nm,1.2s
J19K Poorman 59.70 26 P **P 02 50 21.6 +0.5**
J19K IAmb IAmb 02 50 39.6
comp=Z,8.1nm,1.4s
H19K Roundabout Mou 59.91 24 P **P 02 50 23.1 +0.7**
H19K IAmb IAmb 02 50 31.6
comp=Z,6.2nm,1.3s
D19K Kuna River 60.49 21 P **P 02 50 27.4 +1.0**
PPLA Purkeypile 60.83 28 P **P 02 50 29.1 +0.3**
KURK Kurchatov 60.86 318 P **P 02 50 29.3 +0.1**
KURBB Kurchatov Arra 60.91 318 P **P 02 50 29.3 -0.1**
comp=Z,1.5nm,0.6s,baz=98,slow=7.3,SNR=17
comp=Z,1.5nm,0.6s
CAST Castle Rocks 61.02 27 P **P 02 50 30.4 +0.4**
CAST IAmb IAmb 02 50 32.1
comp=Z,5.3nm,0.9s
H21K Melozitna Rive 61.38 25 P **P 02 50 33.6 +1.2**
B20K Meade River 61.44 19 P **P 02 50 32.8 +0.2**
B20K IAmb IAmb 02 50 34.6
comp=Z,5.4nm,0.7s
I21K Tanana 61.56 25 P **P 02 50 34.7 +1.1**
I21K IAmb IAmb 02 50 35.5
comp=Z,6.5nm,1.1s
BPAW Bear Paw Mtn. 61.67 27 P **P 02 50 34.2 -0.2**
BPAW IAmb IAmb 02 50 36.0
comp=Z,8.8nm,1.0s
B21K Ikpikpuk River 62.09 20 P **P 02 50 37.7 +0.7**
SML Sawmill 62.31 29 P **P 02 50 38.8 +0.1**
D22K Ayikyak River 62.47 21 P **P 02 50 40.5 +0.9**
D22K IAmb IAmb 02 50 41.8
comp=Z,5.8nm,0.7s
G23K Bananza Creek 62.77 24 P **P 02 50 42.6 +1.0**
KLU Klutina 63.38 30 P **P 02 50 46.0 +0.2**
KLU IAmb IAmb 02 50 52.6
comp=Z,11nm,1.3s
TOLK Toolik Lake Re 63.48 22 P **P 02 50 46.9 +0.6**
IL31 63.56 26 P **P 02 50 45.7 -1.0**
ILAR Eielson Array 63.56 26 P **P 02 50 46.0 -0.8**
ILAR Eielson Array 63.56 26 P **P 02 50 45.8 -1.0**
comp=Z,1.6nm,0.7s,baz=256,slow=5.2,SNR=30
comp=Z,1.6nm,0.7s
PAX Paxson 63.84 28 P **P 02 50 48.9 +0.1**
PAX IAmb IAmb 02 51 23.6
comp=Z,4.9nm,1.2s
J25K Salcha River, 64.17 27 P **P 02 50 49.9 -0.9**
J25K IAmb IAmb 02 51 28.9
comp=Z,5.9nm,1.5s
RIDG Independent Ri 64.24 28 P **P 02 50 50.8 -0.5**
RIDG IAmb IAmb 02 50 52.3
comp=Z,4.9nm,0.8s
RTZ Ruatahuna 64.50 153 P **P 02 50 52.0 -1.2**
QRZ Quartz Range 64.62 157 P **P 02 50 53.9 -0.1**
SCRK Sand Creek 64.66 27 P **P 02 50 53.9 -0.2**
J26L Joseph Creek 64.92 27 P **P 02 50 55.3 -0.5**
J26L IAmb IAmb 02 50 56.7
comp=Z,6.3nm,1.1s
L27K Beaver Creek, 65.50 29 P **P 02 50 59.9 +0.5**
BVAR Borovoye Array 66.07 320 P **P 02 51 03.3 +0.1**
comp=Z,2.5nm,0.4s,baz=96,slow=7.6,SNR=20
comp=Z,2.5nm,0.4s
KKAR Karatay Array 66.35 309 P **P 02 51 05.3 +0.1**
I28M Miner Creek 66.57 26 P **P 02 51 06.5 +0.2**
I28M IAmb IAmb 02 51 48.3
comp=Z,6.4nm,1.4s
M29M Somme Creek 66.99 29 P **P 02 51 10.0 +1.0**
L29M L29M 67.18 29 P **P 02 51 11.0 +0.9**
L29M IAmb IAmb 02 51 12.3
comp=Z,4.4nm,0.8s
K29M Barlow Dome 67.49 28 P **P 02 51 13.1 +1.0**
K29M IAmb IAmb 02 51 13.7
comp=Z,3.2nm,0.8s
M30M Minto, Yukon 67.77 29 P **P 02 51 14.5 +0.8**
BESE Bessie Mountai 68.72 34 P **P 02 51 21.1 +1.3**
H31M Peel River 68.91 26 P **P 02 51 20.8 +0.1**
H31M IAmb IAmb 02 51 22.9
comp=Z,5.9nm,1.2s
G31M Satah River 68.95 25 P **P 02 51 21.2 +0.3**
G31M IAmb IAmb 02 51 22.1
comp=Z,9.6nm,1.1s
INK Inuvik 69.26 23 P **P 02 51 22.4 -0.4**
INK IAmb IAmb 02 51 23.8
comp=Z,4.0nm,0.9s
T35M Bob Quinn 71.29 35 P **P 02 51 37.0 +1.6**
T35M IAmb IAmb 02 51 58.8
comp=Z,12nm,1.4s
A36M Sachs Harbour 71.94 19 P **P 02 51 39.1 +0.1**
A36M IAmb IAmb 02 51 40.2
comp=Z,5.0nm,0.8s
C36M Paulatuk 72.63 22 P **P 02 51 42.7 -0.3**
C36M IAmb IAmb 02 51 43.8
comp=Z,4.7nm,0.9s
ABKAR Akbulak array 72.93 317 P **P 02 51 44.2 -1.0**
NLWA Neilton Lookou 76.81 44 P **P 02 52 08.6 +1.0**
I02E Swisshome, OR 77.62 48 P **P 02 52 12.9 +0.9**
YKA Yellowknife Ar 77.92 28 P **P 02 52 12.3 -0.9**
YKA Yellowknife Ar 77.92 28 P **P 02 52 13.2 -0.1**
comp=Z,1.8nm,0.7s,baz=291,slow=5.7,SNR=44
comp=Z,1.8nm,0.7s
DBO Dodson Butte 78.29 48 P **P 02 52 16.7 +0.8**
KCPM Cahto Peak 78.94 52 P **P 02 52 20.1 +0.6**
RES Resolute Bay 79.25 14 P **P 02 52 20.8 +0.4**
O02D Mt. Diablo Mer 79.40 51 P **P 02 52 23.0 +1.0**
O02D IAmb IAmb 02 52 54.5
comp=Z,8.0nm,1.4s
E07A Sunnyside 79.68 44 P **P 02 52 24.3 +1.0**
E07A IAmb IAmb 02 52 25.0
comp=Z,6.2nm,0.8s
HATC Hat Creek Radi 80.19 50 P **P 02 52 27.2 +1.0**
NEW Newport 80.94 42 P **P 02 52 30.0 0.0**
PNTR Pine Nut 82.07 52 P **P 02 52 36.7 +0.4**
ARCES ARCESS Array B 82.15 342 P **P 02 52 35.0 -0.8**
comp=Z,2.1nm,0.9s,baz=68,slow=3.3,SNR=4.3
comp=Z,2.1nm,0.9s
NVAR Mina Array Bea 83.24 52 P **P 02 52 42.9 +0.6**
NVAR Mina Array Bea 83.24 52 P **P 02 52 43.0 +0.7**
comp=Z,5.5nm,0.7s,baz=269,slow=5.7,SNR=34
comp=Z,5.5nm,0.7s
DSP Deep Springs 83.83 53 P **P 02 52 45.6 +0.6**
HRY Holter Researc 84.85 42 P **P 02 52 50.5 +0.3**
BOZ Bozeman (W) 85.40 43 P **P 02 52 53.2 +0.2**
BOZ IAmb IAmb 02 52 54.0
comp=Z,2.8nm,0.7s
KBZ Khabaz 85.73 315 P **P 02 52 54.8 +0.4**
comp=Z,0.5nm,0.5s,baz=124,slow=3.6,SNR=2.1
comp=Z,0.5nm,0.5s
FINES FINESS Array B 86.51 335 P **P 02 52 55.8 -2.1**
comp=Z,1.9nm,0.3s,baz=69,slow=4.5,SNR=34
comp=Z,1.9nm,0.3s
TPAW Teton Pass 86.66 45 P **P 02 52 59.3 0.0**

FFC Flin Flon 87.05 32 P **P 02 53 00.1 -0.5**
FFC IAmb IAmb 02 53 01.6
comp=Z,4.2nm,0.8s
PDAR Pinedale Array 87.88 45 P **P 02 53 04.2 -0.9**
comp=Z,0.3nm,0.4s,baz=240,slow=1.3,SNR=7.4
comp=Z,0.3nm,0.4s
FCC Fort Churchill 88.58 27 P **P 02 53 07.2 -0.4**
FCC IAmb IAmb 02 53 08.1
comp=Z,8.0nm,1.4s
PV11 David Mesa, Pa 90.18 49 P **P 02 53 15.8 -0.1**
HFS Hagfors 92.02 338 P **P 02 53 20.9 -2.8**
comp=Z,3.8nm,1.0s,baz=48,slow=2.2,SNR=7.2
comp=Z,3.8nm,1.0s
ULM Lac du Bonnet 92.57 34 P **P 02 53 25.4 -1.1**
comp=Z,1.7nm,0.8s,baz=304,slow=3.6,SNR=3.5
comp=Z,1.7nm,0.8s
BRTR Keskin Array B 93.69 314 P **P 02 53 31.0 -1.0**
comp=Z,0.7nm,0.9s,baz=26,slow=5.4,SNR=4.4
comp=Z,0.7nm,0.9s
TXAR Lajitas Array 97.96 55 P **P 02 53 50.6 -1.0**
comp=Z,0.2nm,0.8s,baz=318,slow=6.4,SNR=1.6
comp=Z,0.2nm,0.8s
MT01 Popeta 144.23 122 PKPdf **PKPab 02 59 49.0 +0.5**
BO02 Sierra Bellavi 144.34 124 PKPdf **PKPab 02 59 49.4 +0.3**
GO04 Tololo Observa 145.42 116 PKPdf 02 59 52.0 -0.5
LCO Las Campanas 145.69 114 PKPbc **PKPdf 02 59 53.6 +0.5**
HMBC Humberstone 146.82 98 PKPbc **PKPdf 02 59 56.3 +1.3**
AC02 Maricunga 147.36 110 PKPbc **PKPbc 02 59 58.8 -0.2**
LPAZ La Paz 148.01 91 PKPbc **PKPdf 02 59 58.0 +0.3**
comp=Z,3.7nm,0.6s,baz=244,slow=2.1,SNR=8.3
CPUP Villa Florida 157.84 113 PKPab **PKPab 03 00 43.3 -1.6**
comp=Z,2.7nm,0.9s,baz=255,slow=3.2,SNR=3.8

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*SFS **20** 02:41:20.8, 36.°97N×9.°10W, h31km, ML2.9/14, ML3.1/15, MLv2.9/15*
*MDD **20** 02:41:20.9±0.6, 36.°98N×9.°07W, h34km±2km, mb_Lg2.8/10, Error ellipse: s-maj=5.3km s-min=3.4km az=76.0*
*IGIL **20** 02:41:21.8, 36.°98N×9.°05W, h29km, ML2.0*
*INMG **20** 02:41:21.7±1.5, 36.°97N×9.°05W, h29km±3km, ML2.0, Error ellipse: s-maj=4.6km s-min=2.6km az=77.0, #DIST_RANGE: LOCAL #IPMA_REGION: SW Cabo S.Vicente*
*CNRM **20** 02:41:26.4, 36.°10N×8.°89W, h10km*
ISC 20 02:41:17.9±1.3, 36.°90N±0.°03×9.°15W±0.°05, h45km±10km, n77, σ1.991/125, 5C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.35**	**48**	↑*i*Pg	**Pn**	**02 41 28.0**	**+0.9**
PFVI				*e*Sg	**Sn**	**02 41 32.6**	**-1.0**
PFVI				*i* AML	AML	02 41 33.2	
PFVI				*i* AML	AML	02 41 33.2	
PFVI				*i* AML	AML	02 41 33.5	
PFVI	**Vila Bisbo**	**0.35**	**48**	S	**Sn**	**02 41 32.5**	**-1.2**
PFVI				P	**Pn**	**02 41 27.9**	**+0.8**
MORF	**Marmelete**	**0.57**	**44**	*e*P	**Pn**	**02 41 30.8**	**+1.1**
MORF				*e*S	**Sn**	**02 41 37.1**	**-1.2**
MORF				IAML		02 41 38.2	
comp=E,157nm,0.1s							
MORF	**Marmelete**	**0.57**	**44**	↑*e*P	**Pn**	**02 41 30.8**	**+1.1**
MORF				*e*S	**Sn**	**02 41 37.8**	**-0.5**
MORF				*i* AML	AML	02 41 37.9	
MORF				*i* AML	AML	02 41 38.1	
MORF				*i* AML	AML	02 41 38.3	
PTEO	**Sao Teotonio**	**0.73**	**28**	↑*e*P	**Pn**	**02 41 33.0**	**+1.1**
PTEO				*e*S	**Sn**	**02 41 42.0**	**0.0**
PTEO				*i* AML	AML	02 41 42.3	
PTEO				*i* AML	AML	02 41 42.4	
PBDV	**Barranco-do-Ve**	**1.04**	**70**	*e*P	**Pn**	**02 41 37.7**	**+1.7**
PBDV				*e*S	**Sn**	**02 41 49.4**	**+0.1**
PBDV				*i* AML	AML	02 41 49.8	
PBDV				*i* AML	AML	02 41 52.9	
PBDV				*i* AML	AML	02 41 53.9	
PCVE	**Castro Verde**	**1.15**	**50**	*e*P	**Pn**	**02 41 39.2**	**+1.6**
PCVE				*e*S	**Sn**	**02 41 52.6**	**+0.4**
PCVE				*i* AML	AML	02 41 53.0	
PCVE				*i* AML	AML	02 41 53.3	
PCVE				*i* AML	AML	02 41 53.7	
PCVE	**Castro Verde**	**1.15**	**50**	S	**Sn**	**02 41 50.8**	**-1.4**
PCVE				P	**Pn**	**02 41 39.1**	**+1.6**
MESJ	**Messejana**	**1.20**	**38**	*e*P	**Pn**	**02 41 39.4**	**+1.2**
MESJ				*e*S	**Sn**	**02 41 52.7**	**-0.6**
MESJ				IAML		02 41 54.5	
comp=N,15nm,0.1s							
MESJ	**Messejana**	**1.20**	**38**	*e*P	**Pn**	**02 41 39.4**	**+1.2**
MESJ				*e*S	**Sn**	**02 41 53.2**	**-0.1**
MESJ				*i* AML	AML	02 41 54.6	
MESJ				*i* AML	AML	02 41 54.6	
MESJ				*i* AML	AML	02 41 55.0	
PVAQ	**Vaqueiros**	**1.25**	**66**	*e*P	**Pn**	**02 41 40.6**	**+1.7**
PVAQ				*i* AML	AML	02 41 57.3	
PVAQ	**Vaqueiros**	**1.25**	**66**	P	**Pn**	**02 41 40.4**	**+1.5**
PVAQ				S	**Sn**	**02 41 54.0**	**-0.6**
EGRO	**El Granado**	**1.48**	**64**	P	**Pn**	**02 41 43.7**	**+1.7**
EGRO				S	**Sn**	**02 41 59.5**	**-0.6**
EGRO	**El Granado**	**1.48**	**64**	Pn	**Pn**	**02 41 44.1**	**+2.1**
EGRO				Sn	**Sn**	**02 41 59.2**	**-0.9**
EGRO				*i* Vmb_Lg		02 42 04.3	
PBEJ	**Beja**	**1.52**	**42**	*e*P	**Pn**	**02 41 43.6**	**+1.0**
PBEJ				*e*S	**Sn**	**02 42 00.0**	**-0.6**
PBEJ				*i* AML	AML	02 42 09.2	
PBEJ				*i* AML	AML	02 42 12.8	
EVO	**Evora**	**1.86**	**29**	*e*P	**Pn**	**02 41 48.2**	**+0.9**
EVO				*e*S	**Sn**	**02 42 09.0**	**-0.6**
EVO				*i* AML	AML	02 42 09.9	
EVO				*i* AML	AML	02 42 10.9	
EVO				*i* AML	AML	02 42 10.9	
EVO	**Evora**	**1.86**	**29**	P	**Pn**	**02 41 48.2**	**+0.9**
EVO				S	**Sn**	**02 42 08.6**	**-1.1**
PMAFR	**Mafra**	**2.06**	**357**	*e*P	**Pn**	**02 41 51.9**	**+1.9**
PMAFR				*e*S	**Sn**	**02 42 14.8**	**+0.4**
PMAFR				*i* AML	AML	02 42 15.1	
PMAFR				*i* AML	AML	02 42 16.1	
PMAFR				*i* AML	AML	02 42 16.3	
PMAFR	**Mafra**	**2.06**	**357**	P	**Pn**	**02 41 51.7**	**+1.7**
PMAFR				S	**Sn**	**02 42 14.6**	**+0.2**
PBAR	**Barrancos**	**2.11**	**52**	*e*P	**Pn**	**02 41 51.9**	**+1.2**
PBAR				*e*S	**Sn**	**02 42 14.7**	**-0.9**
PBAR				*i* AML	AML	02 42 17.3	
PBAR				*i* AML	AML	02 42 18.1	
PBAR				*i* AML	AML	02 42 18.4	
PBAR	**Barrancos**	**2.11**	**52**	P	**Pn**	**02 41 51.9**	**+1.2**
PBAR				S	**Sn**	**02 42 15.2**	**-0.4**
EMIN	**Mina Concepcio**	**2.16**	**66**	P	**Pn**	**02 41 53.1**	**+1.8**
EMIN				S	**Sn**	**02 42 15.1**	**-1.8**
EMIN	**Mina Concepcio**	**2.16**	**66**	Pn	**Pn**	**02 41 53.7**	**+2.4**
EMIN				Sn	**Sn**	**02 42 15.0**	**-1.8**
PMTG	**Montargil**	**2.29**	**18**	↑*e*P	**Pn**	**02 41 54.0**	**+0.9**
PMTG				*e*S	**Sn**	**02 42 18.3**	**-1.7**
PMTG				*i* AML	AML	02 42 19.8	
PMTG				*i* AML	AML	02 42 20.5	
PMTG				*i* AML	AML	02 42 20.9	
PESTR	**Estremoz**	**2.32**	**32**	*e*P	**Pn**	**02 41 54.3**	**+0.7**
PESTR				*e*S	**Sn**	**02 42 20.2**	**-0.8**
PESTR				*i* AML	AML	02 42 23.4	
PESTR	**Estremoz**	**2.32**	**32**	P	**Pn**	**02 41 53.9**	**+0.2**
EBAD	**Badajoz**	**2.51**	**42**	P	**Pn**	**02 41 57.0**	**+0.8**
EBAD				S	**Sn**	**02 42 25.0**	**-0.6**
EBAD	**Badajoz**	**2.51**	**42**	Pn	**Pn**	**02 41 56.9**	**+0.8**
EBAD				Sn	**Sn**	**02 42 23.3**	**-2.2**
EBAD				*i* Vmb_Lg		02 42 54.3	
PSBE	**So Bento**	**2.63**	**6**	*e*P	**Pn**	**02 41 60.0**	**+2.2**
ESPR	**Espera**	**2.64**	**90**	P	**Pn**	**02 42 00.3**	**+2.4**
ESPR				S	**Sn**	**02 42 29.3**	**+0.5**
ESPR	**Espera**	**2.64**	**90**	Pn	**Pn**	**02 42 00.4**	**+2.4**
ESPR				Sn	**Sn**	**02 42 26.8**	**-2.0**
ESPR				*i* Vmb_Lg		02 42 31.1	
PMRV	**Marv??o**	**2.88**	**28**	↑*e*P	**Pn**	**02 42 02.2**	**+0.9**
PMRV				*e*S	**Sn**	**02 42 32.7**	**-2.0**
PMRV				*i* AML	AML	02 42 35.1	
PMRV				*i* AML	AML	02 42 35.1	
LIJA	**Lijar**	**3.00**	**89**	P	**Pn**	**02 42 07.2**	**+4.1**
PCAS	**Casmilo, Conde**	**3.19**	**9**	*e*P	**Pn**	**02 42 07.3**	**+1.8**
PCAS				*e*S	**Sn**	**02 42 42.1**	**-0.2**
PCAS				*i* AML	AML	02 42 43.5	
ECAB	**El Cabril**	**3.19**	**67**	P	**Pn**	**02 42 07.3**	**+1.6**
ECAB				S	**Sn**	**02 42 41.0**	**-1.5**
ECAB	**El Cabril**	**3.19**	**67**	Pn	**Pn**	**02 42 07.2**	**+1.6**
ECAB				Sn	**Sn**	**02 42 39.9**	**-2.5**
ECAB				*i* Vmb_Lg		02 42 42.9	
PCBR	**Castelo Branco**	**3.22**	**24**	*e*P	**Pn**	**02 42 07.1**	**+1.2**
PCBR				*e*S	**Sn**	**02 42 41.8**	**-1.2**
MTE	**Manteigas**	**3.72**	**19**	*e*P	**Pn**	**02 42 13.7**	**+0.9**
MTE				*e*S	**Sn**	**02 42 53.3**	**-2.0**
MTE				*i* AML	AML	02 42 54.5	
MTE				*i* AML	AML	02 42 55.7	
EADA	**Adamuz**	**3.85**	**69**	P	**Pn**	**02 42 16.1**	**+1.5**
EADA				S	**Sn**	**02 42 56.7**	**-1.9**
EADA	**Adamuz**	**3.85**	**69**	Pn	**Pn**	**02 42 16.2**	**+1.6**
EADA				Sn	**Sn**	**02 42 56.0**	**-2.6**
EADA				*i* Vmb_Lg		02 42 58.5	
PVIS	**Viseu**	**3.94**	**14**	*e*P	**Pn**	**02 42 17.1**	**+1.3**
PVIS				*e*S	**Sn**	**02 42 59.5**	**-1.2**
EPLA	**Plasencia**	**3.98**	**36**	Pn	**Pn**	**02 42 16.9**	**+0.6**
EPLA				Sn	**Sn**	**02 42 57.5**	**-4.2**
EPLA				*i* Vmb_Lg		02 43 01.4	
ZHG	**ZHG**	**4.01**	**148**	P	**Pn**	**02 42 18.2**	**+1.3**
ZHG	**ZHG**	**4.01**	**148**	S	**Sn**	**02 42 58.8**	**-3.8**
EGOR	**Sierra Gorda,**	**4.04**	**85**	P	**Pn**	**02 42 21.1**	**+3.7**
EGOR				S	**Sn**	**02 43 03.5**	**0.0**
EGOR	**Sierra Gorda,**	**4.04**	**85**	Pn	**Pn**	**02 42 20.4**	**+3.0**
EGOR				Sn	**Sn**	**02 43 01.9**	**-1.6**
EGOR				*i* Vmb_Lg		02 44 38.8	
ELGU	**Los Guajares,**	**4.43**	**89**	P	**Pn**	**02 42 26.6**	**+3.9**
ELGU				S	**Sn**	**02 43 11.9**	**-1.1**
ELGU	**Los Guajares,**	**4.43**	**89**	Pn	**Pn**	**02 42 26.3**	**+3.7**
ELGU				Sn	**Sn**	**02 43 10.8**	**-2.1**
MVO	**Moncorvo**	**4.57**	**21**	*e*P	**Pn**	**02 42 25.6**	**+1.1**
MVO				*e*S	**Sn**	**02 43 14.6**	**-1.7**
EQUE	**Quentar**	**4.58**	**84**	Pn	**Pn**	**02 42 27.4**	**+2.7**
EQUE				Sn	**Sn**	**02 43 15.0**	**-1.6**
EQUE				*i* Vmb_Lg		02 44 46.0	
POLO	**Lamas de Olo**	**4.59**	**13**	*e*P	**Pn**	**02 42 26.2**	**+1.4**
POLO				*e*S	**Sn**	**02 43 14.7**	**-2.3**
PAB	**San Pablo**	**4.62**	**54**	Pn	**Pn**	**02 42 26.3**	**+1.1**
PAB				Sn	**Sn**	**02 43 13.1**	**-4.4**
PAB				*i* Vmb_Lg		02 44 17.7	
PSIM	**Granatula de C**	**4.68**	**64**	Pn	**Pn**	**02 42 27.4**	**+1.4**
PSIM				Sn	**Sn**	**02 43 15.7**	**-3.4**
IFR	**Ifrane**	**4.72**	**134**	P	**Pn**	**02 42 28.4**	**+1.7**
IFR				S	**Sn**	**02 43 18.4**	**-1.7**
LCRM	**LCR**	**4.75**	**131**	P	**Pn**	**02 42 29.9**	**+2.7**
LCRM	**LCR**	**4.75**	**131**	S	**Sn**	**02 43 19.2**	**-1.9**
AKLM	**AKL**	**4.92**	**117**	P	**Pn**	**02 42 32.2**	**+2.9**
AKLM	**AKL**	**4.92**	**117**	S	**Sn**	**02 43 23.0**	**-2.0**
ELOB	**Lobios**	**5.03**	**9**	Pn	**Pn**	**02 42 32.0**	**+1.1**
ELOB				Sn	**Sn**	**02 43 23.8**	**-4.0**
ELOB				*i* Vmb_Lg		02 43 29.1	
PGAV	**Gavieira, Arco**	**5.11**	**7**	*e*P	**Pn**	**02 42 33.4**	**+1.5**
PGAV				*e*S	**Sn**	**02 43 26.0**	**-3.6**
PBRG	**Braganca**	**5.24**	**20**	*e*P	**Pn**	**02 42 34.8**	**+1.0**
PBRG				*e*S	**Sn**	**02 43 30.1**	**-2.8**
EAH	**EAH**	**5.25**	**184**	P	**Pn**	**02 42 34.0**	**+0.2**
EAH	**EAH**	**5.25**	**184**	S	Sn	02 43 27.7	-5.4
MD31	**MD31**	**5.40**	**137**	P	**Pn**	**02 42 37.1**	**+1.1**
MD31	**MD31**	**5.40**	**137**	S	**Sn**	**02 43 33.2**	**-3.7**
MDT	**Midelt**	**5.53**	**136**	P	**Pn**	**02 42 39.0**	**+1.3**
MDT	**Midelt**	**5.53**	**136**	S	**Sn**	**02 43 35.4**	**-4.7**
UCM	**Universidad Co**	**5.74**	**52**	P	**Pn**	**02 42 42.1**	**+1.5**
UCM				S	**Sn**	**02 43 42.8**	**-2.4**
TIO	**Tiouine**	**6.16**	**165**	P	**Pn**	**02 42 49.1**	**+2.7**
TIO				S	**Sn**	**02 43 54.3**	**-1.4**
TIO	**Tiouine**	**6.16**	**165**	P	**Pn**	**02 42 47.1**	**+0.7**
TIO	**Tiouine**	**6.16**	**165**	S	Sn	02 43 50.6	-5.0
OUZM	**OUZ**	**6.30**	**161**	P	**Pn**	**02 42 49.3**	**+1.0**
OUZM	**OUZ**	**6.30**	**161**	S	Sn	02 43 53.8	-5.1
TTIG	**Tnine Tigouga,**	**6.36**	**174**	P	**Pn**	**02 42 49.1**	**-0.1**
TTIG	**Tnine Tigouga,**	**6.36**	**174**	S	Sn	02 43 54.9	-5.7
TZRR	**Tazzarine**	**6.79**	**153**	P	**Pn**	**02 42 55.7**	**+0.7**
TZRR	**Tazzarine**	**6.79**	**153**	S	Sn	02 44 04.8	-6.2

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*NEIC **20** 02:59:10.1±1.5, 61.°53N±0.°02×149.°92W±0.°05, h46km±6km, Error ellipse: s-maj=3.9km s-min=3.1km az=134.0*
AEIC 20 02:59:11.1±1.0, 61.°50N±0.°02×149.°94W±0.°05, h38km±6km, ML2.7, ML2.9/170(NEIC), Error ellipse: s-maj=3.4km s-min=3.0km az=137.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.27**	**341**		Pn	02 59 17.8	-1.5
M22K				IAML		02 59 25.1	
comp=N,980nm,0.6s							
M22K				IAML		02 59 28.8	
comp=E,918nm,0.4s							
FIS	**Fire Island**	**0.38**	**201**		Pn	02 59 19.8	0.0
FIS					Sn	02 59 28.6	+2.1
SUA	**Susitna One**	**0.39**	**265**		Pn	02 59 19.5	-0.6
SUA					Sn	02 59 26.7	-0.3
SUA				IAML		02 59 27.5	
comp=E,1μm,0.4s							
PMR	**Palmer**	**0.40**	**76**		Pn	02 59 19.3	-0.8
PMR					Sn	02 59 26.3	-0.5
PMR				IAML		02 59 26.7	
comp=N,1μm,0.4s							
PMR				IAML		02 59 26.7	
comp=E,906nm,0.4s							
RC01	**Rabbit Creek A**	**0.42**	**167**		Pn	02 59 19.5	-1.0
RC01					Sn	02 59 26.9	-0.4
RC01				IAML		02 59 31.2	
comp=E,1μm,0.2s							
GHO	**Glory Hole Cre**	**0.56**	**60**		Pn	02 59 21.4	-1.3
GHO				IAML		02 59 30.9	
comp=E,876nm,0.7s							
GHO	**Glory Hole Cre**	**0.56**	**60**		Sn	02 59 30.5	-0.2
KNK	**Knik Glacier**	**0.72**	**96**	Pn	Pn	02 59 23.9	-0.8
SML	**Sawmill**	**0.83**	**67**		Pn	02 59 24.7	-1.5
SML				IAML		02 59 43.0	
comp=N,261nm,0.5s							
SKT	**Skwentna**	**0.90**	**303**	Pn	Pn	02 59 25.3	-1.9
SKT	**Skwentna**	**0.90**	**303**		Sn	02 59 38.1	-0.9
STLK	**Strandline Lak**	**0.91**	**271**	Pn	Pn	02 59 26.2	-1.2
STLK				IAML		02 59 39.4	
comp=E,389nm,0.2s							
CUT	**Chulitna**	**0.92**	**350**	Pn	Pn	02 59 26.2	-1.3
CUT	**Chulitna**	**0.92**	**350**		Sn	02 59 38.9	-0.6
CAPN	**Captain Cook N**	**0.94**	**219**	Pn	Pn	02 59 28.2	+0.6
SLKM	**Skilak Lake**	**1.00**	**188**	Pn	Pn	02 59 27.1	-1.5
SLKM	**Skilak Lake**	**1.00**	**188**		Sn	02 59 42.0	+0.5
PWL	**Port Wells**	**1.01**	**129**	Pn	Pn	02 59 27.2	-1.5
SPCG	**Spurr Capps Gl**	**1.02**	**259**		Pn	02 59 28.2	-0.7
O22K	**Cooper Landing**	**1.03**	**174**	Pn	Pn	02 59 27.5	-1.4
M23K	**Glacier View**	**1.10**	**73**		Pn	02 59 29.4	-0.4
SPCR	**Spurr Chakacha**	**1.14**	**256**		Pn	02 59 29.7	-0.8
SPBG	**Spurr Blockage**	**1.20**	**260**		Pn	02 59 30.7	-0.6
SCM	**Sheep Creek Mo**	**1.29**	**74**	Pn	Pn	02 59 32.1	-0.5
SCM				IAML		02 59 50.9	
comp=N,307nm,0.6s							
SEW	**Seward**	**1.42**	**170**	Pn	Pn	02 59 33.5	-0.7
GLI	**Glacier Island**	**1.51**	**113**	Pn	Pn	02 59 34.7	-0.9
RDT	**Redoubt**	**1.52**	**233**		Pn	02 59 35.0

comp=N,129nm,0.7s
TRF IAML 03 00 10.0
comp=E,85nm,0.4s
RND Reindeer 1.98 14 Pn Pn 02 59 41.5 -0.6
RND IAML 03 00 12.9
comp=N,60nm,0.6s
HIN Hinchinbrook I 2.01 122 Pn Pn 02 59 41.1 -1.3
HIN IAML 03 00 17.4
comp=E,100nm,0.7s
HIN IAML 03 00 19.7
comp=N,98nm,0.8s
HOM Homer 2.03 205 Pn Pn 02 59 42.1 -0.6
DIV Divide 2.04 99 Pn Pn 02 59 41.7 -1.2
CNPM China Poot 2.08 199 Pn Pn 02 59 41.6 -1.7
CNPM IAML 03 00 16.5
comp=E,105nm,0.5s
L20K Farewell, AK 2.10 300 Pn 02 59 43.3 -0.4
KTH Kantishna Hill 2.11 348 Pn Pn 02 59 43.5 -0.4
KTH IAML 03 00 11.6
comp=E,104nm,0.5s
KTH IAML 03 00 11.9
comp=N,112nm,0.6s
M19K Big River Lodg 2.16 283 Pn Pn 02 59 43.8 -0.7
M19K IAML 03 00 13.0
comp=N,42nm,0.5s
CAST Castle Rocks 2.17 334 Pn Pn 02 59 43.6 -1.0
CAST IAML 03 00 25.6
comp=E,53nm,0.6s
ILSW Iliamna Southw 2.19 227 Pn Pn 02 59 41.4 -3.6
EYAK Cordova Ski Ar 2.25 113 Pn Pn 02 59 44.1 -1.6
MCK McKinley 2.29 11 Pn Pn 02 59 45.9 -0.4
N19K Bonanza Creek 2.31 255 Pn Pn 02 59 45.6 -1.0
L19K White Mountain 2.43 289 Pn Pn 02 59 47.4 -0.8
HARP HAARP 2.43 66 Pn 02 59 48.5 +0.3
P19K Oil Pt 2.46 223 Pn Pn 02 59 47.9 -0.7
N25K Chitina, Valde 2.56 85 Pn Pn 02 59 49.3 -0.7
N25K IAML 03 00 29.4
comp=E,40nm,0.4s
N25K IAML 03 00 29.9
comp=N,57nm,0.5s
PAX Paxson 2.56 53 Pn Pn 02 59 50.4 +0.3
BMRM Bremner River 2.63 99 Pn Pn 02 59 50.6 -0.4
CHUM Lake Minchumin 2.63 336 Pn 02 59 50.2 -0.7
BPAW Bear Paw Mtn. 2.66 350 Pn Pn 02 59 49.7 -1.6
BPAW IAML 03 00 28.8
comp=E,36nm,0.4s
K20K Telida 2.68 316 Pn Pn 02 59 50.5 -1.0
K20K IAML 03 00 44.7
comp=E,31nm,0.7s
BWN Browne 2.69 4 Pn Pn 02 59 52.0 +0.2
BWN IAML 03 00 43.6
comp=E,79nm,0.8s
GOAT Goat Mountain 2.70 108 Pn 02 59 50.6 -1.2
WACK Wrangell Chich 2.71 77 Pn 02 59 52.0 -0.3
M18K Stony River 2.82 272 Pn 02 59 52.9 -0.6
GLB Gilahina Butte 2.94 88 Pn Pn 02 59 54.4 -0.8
GLB IAML 03 00 37.4
comp=N,33nm,0.7s
GLB IAML 03 00 41.6
comp=E,32nm,0.8s
N18K Kilae Creek 3.00 257 Pn Pn 02 59 54.9 -1.2
HMT Hamilton 3.01 110 Pn Pn 02 59 54.4 -1.7
O18K Koktuh Hills 3.07 240 Pn Pn 02 59 56.0 -1.0
O18K IAML 03 00 59.2
comp=N,28nm,1.0s
WRH Wood River Hil 3.10 15 Pn Pn 02 59 56.3 -1.1
WRH IAML 03 00 51.5
comp=N,19nm,1.4s
WRH IAML 03 00 54.4
comp=E,20nm,0.9s
NEA2 Nenana 3.13 7 Pn Pn 02 59 55.9 -1.9
VRDI Verde Repeater 3.13 92 Pn Pn 02 59 58.8 +0.7
VRDI IAML 03 00 47.3
comp=N,23nm,0.6s
SYI Shuyak Island 3.15 204 Pn Pn 02 59 57.7 -0.3
SYI IAML 03 00 37.9
comp=N,23nm,1.4s
SYI IAML 03 00 45.6
comp=E,23nm,1.1s
Q19K Cape Douglas, 3.17 217 Pn Pn 02 59 57.7 -0.7
HDA Harding Lake 3.23 24 Pn Pn 02 59 58.9 -0.2
HDA IAML 03 00 43.2
comp=E,24nm,0.4s
HDA IAML 03 00 53.8
comp=N,30nm,0.9s
RIDG Independent Ri 3.25 44 Pn Pn 02 59 58.9 -0.7
RIDG IAML 03 00 46.6
comp=E,32nm,0.9s
RIDG IAML 03 00 55.5
comp=N,33nm,0.7s
L18K Granite Mounta 3.28 286 Pn Pn 02 59 58.9 -1.0
CCB Clear Creek Bu 3.31 16 Pn Pn 02 59 59.4 -0.7
CCB IAML 03 00 55.1
comp=E,19nm,1.0s
J20K Nowinta River 3.31 326 Pn Pn 02 59 59.5 -0.7
J20K IAML 03 00 39.0
comp=N,40nm,0.6s
J20K IAML 03 01 02.1
comp=E,36nm,0.6s
M26K Nabesna, AK 3.40 72 Pn Pn 03 00 00.5 -1.0
M26K IAML 03 00 59.5
comp=E,14nm,1.1s
M26K IAML 03 01 06.4
comp=N,17nm,0.5s
COLA College 3.52 15 Pn Pn 03 00 03.0 0.0
IL31 3.57 22 Pn Pn 03 00 03.0 -0.7
ILAR Eielson Array 3.57 22 Pn Pn 03 00 03.4 -0.3
M17K Holitna River 3.60 272 Pn Pn 03 00 03.3 -0.9
M17K IAML 03 00 47.0
comp=N,33nm,0.5s
M17K IAML 03 01 13.8
comp=E,34nm,1.4s
J19K Poorman 3.62 316 Pn Pn 03 00 03.5 -1.0
J19K IAML 03 01 05.7
comp=E,17nm,0.7s
J19K IAML 03 01 18.3
comp=N,17nm,0.9s
N17K Nushagak Hills 3.66 258 Pn Pn 03 00 04.4 -0.6
I23K Minto, Yukon-K 3.67 4 Pn Pn 03 00 04.0 -1.2
I23K IAML 03 01 05.7
comp=N,15nm,1.4s
I23K IAML 03 01 10.7
comp=E,13nm,1.3s
BALM Baldy 3.70 94 Pn 03 00 05.0 -0.7
SCRK Sand Creek 3.70 45 Pn Pn 03 00 06.7 +1.0
SCRK IAML 03 01 10.4
comp=E,14nm,0.8s
KIAG Kiagna River 3.71 96 Pn 03 00 05.1 -0.8
J18K Innoko River 3.71 305 Pn Pn 03 00 05.0 -0.8
J18K IAML 03 01 10.7
comp=E,11nm,0.7s
J25K Salcha River, 3.75 32 Pn Pn 03 00 06.7 +0.3
J25K IAML 03 00 55.6
comp=E,19nm,0.6s
J25K IAML 03 01 00.4
comp=N,19nm,0.7s
POKR Poker Plat Res 3.81 16 Pn Pn 03 00 07.2 +0.2
POKR IAML 03 01 11.2
comp=N,13nm,0.8s
I21K Tanana 3.81 347 Pn Pn 03 00 06.1 -1.0
I21K IAML 03 00 51.4
comp=N,12nm,0.8s
I21K IAML 03 00 52.2
comp=E,11nm,0.5s
I20K Naaghedeneel 3.90 330 Pn Pn 03 00 07.3 -0.9
M27K Edge Creek, AK 3.91 74 Pn Pn 03 00 08.1 -0.4
O17K Koliganek Bris 3.93 247 Pn 03 00 08.3 -0.4
L17K Donlin 4.02 283 Pn 03 00 09.1 -0.8
K17K Iditarod 4.12 291 Pn Pn 03 00 10.1 -1.2
K17K IAML 03 01 28.1
comp=N,9.9nm,1.5s
K17K IAML 03 01 33.2
comp=E,13nm,0.8s
J26L Joseph Creek 4.19 41 Pn Pn 03 00 13.2 +0.8
J26L IAML 03 01 10.9
comp=E,13nm,0.7s
J26L IAML 03 01 11.3
comp=N,16nm,0.7s
H23K Yukon River 4.35 2 Pn Pn 03 00 13.6 -0.9
H21K Melozitna Rive 4.37 344 Pn Pn 03 00 13.9 -0.9
H21K IAML 03 01 21.2
comp=E,8.6nm,0.7s
M16K Timber Creek 4.38 268 Pn Pn 03 00 14.0 -1.0
M16K IAML 03 01 34.4
comp=N,8.2nm,1.1s
N16K Nishlik Lake 4.42 260 Pn 03 00 15.2 -0.3
H24K Noodor Dome 4.45 11 Pn Pn 03 00 16.1 +0.2
H24K IAML 03 01 34.2
comp=E,7.8nm,1.4s
O16K Kokwok River B 4.46 248 Pn 03 00 15.6 -0.4
O16K Kokwok River B 4.46 248 IAML 03 00 57.8
comp=E,7.8nm,1.4s
H22K Ishtalitna Cre 4.46 352 Pn 03 00 16.1 +0.1
PRP Porcupine Dome 4.49 24 Pn 03 00 17.1 +0.5
PRP Porcupine Dome 4.49 24 IAML 03 01 16.6
comp=N,12nm,0.7s
PRP IAML 03 01 30.7
comp=E,7.2nm,1.1s
L16K Owhat River 4.56 277 Pn Pn 03 00 16.7 -0.7
L16K IAML 03 01 41.8
comp=N,6.9nm,1.2s
H20K Anotleneega Mo 4.58 333 Pn 03 00 17.0 -0.7
J17K VABM Dome 4.65 298 Pn Pn 03 00 17.4 -1.2
J17K IAML 03 02 04.8
comp=N,5.6nm,1.5s
I26K Coal Creek Min 4.89 36 Pn Pn 03 00 22.6 +0.7
I26K IAML 03 01 27.6
comp=N,10nm,0.6s
I26K IAML 03 01 50.6
comp=E,11nm,1.1s
H19K Roundabout Mou 4.98 327 Pn Pn 03 00 21.0 -2.2
H19K IAML 03 01 54.4
comp=E,8.9nm,1.2s
H19K IAML 03 01 55.4
comp=N,10nm,1.4s
N15K Kwethluk River 5.14 259 Pn Pn 03 00 24.2 -1.3
N15K IAML 03 02 03.7
comp=N,9.8nm,1.3s
N15K IAML 03 03 06.3
comp=E,12nm,1.2s
G23K Bananza Creek 5.23 360 Pn Pn 03 00 25.3 -1.3
J16K Anvik River 5.27 295 Pn Pn 03 00 25.7 -1.5
J16K IAML 03 02 06.9
comp=E,3.7nm,1.4s
J16K IAML 03 02 10.0
comp=N,4.2nm,1.3s
G21K Allakaket 5.28 344 Pn Pn 03 00 27.0 -0.2
G21K IAML 03 01 28.2
comp=E,6.8nm,1.1s
H18K Honhosa River 5.28 318 Pn Pn 03 00 26.4 -0.8
G24K Hadweenzic Riv 5.33 11 Pn Pn 03 00 28.8 +0.8
G24K IAML 03 01 42.8
comp=N,4.0nm,0.8s
M29M Somme Creek 5.50 75 Pn Pn 03 00 28.9 -1.5
K15K Wolf Creek Mou 5.54 283 Pn Pn 03 00 29.8 -1.1
G19K Purcell Mounta 5.63 329 Pn Pn 03 00 30.6 -1.5
H17K Granite Mounta 5.68 312 Pn Pn 03 00 32.4 -0.3
COLD Coldfoot 5.75 359 Pn Pn 03 00 32.6 -1.1
G18K Tagagawik 5.87 323 Pn Pn 03 00 34.2 -1.1
F21K Alatna River 5.95 347 Pn Pn 03 00 36.6 +0.1
I28M Miner Creek 5.98 44 Pn Pn 03 00 38.9 +2.0
F24K Squaw Lake 6.11 7 Pn Pn 03 00 39.4 +0.8
F20K Avaraart Lake 6.11 338 Pn Pn 03 00 38.6 0.0
L14K Kuka Creek 6.12 274 Pn Pn 03 00 39.0 +0.3
N30M Aishikik Lake 6.16 85 Pn Pn 03 00 38.9 -0.5
G17K Kiwalik Mounta 6.25 315 Pn 03 00 40.2 -0.3
F19K Shaleruckik Mo 6.35 331 Pn Pn 03 00 40.4 -1.6
BMAR Burnt Mountain 6.39 19 Pn Pn 03 00 42.5 0.0
F25K Christian Rive 6.39 15 Pn Pn 03 00 42.9 +0.4
H16K Elim 6.41 305 Pn 03 00 42.6 -0.2
G27K Doyon Strip 6.44 31 Pn Pn 03 00 43.3 +0.1
J14K Nanvaranak Lak 6.51 287 Pn Pn 03 00 43.5 -0.6
E24K Your Creek 6.63 5 Pn Pn 03 00 44.6 -1.3
F26K Sheenjek River 6.70 19 Pn Pn 03 00 47.0 +0.3
E19K Redstone River 6.76 335 Pn Pn 03 00 47.2 -0.3
G16K Koyuk River 6.80 310 Pn Pn 03 00 47.5 -0.5
K13K Kusilvak Mount 7.01 280 Pn 03 00 50.7 -0.2
F17K Baldwin Pennin 7.02 320 Pn Pn 03 00 51.1 0.0
TOLK Toolik Lake Re 7.17 1 Pn Pn 03 00 54.7 +1.4
G15K Niukluk 7.26 305 Pn 03 00 54.4 0.0
D22K Ayikyak River 7.50 352 Pn Pn 03 00 57.9 +0.2
D23K Nanushuk River 7.51 358 Pn Pn 03 00 57.2 -0.6
E18K Tukpahlearik C 7.51 327 Pn Pn 03 00 58.2 +0.3
ANM Nome 7.66 300 Pn Pn 03 00 59.6 -0.2
F15K North Star Dit 7.79 309 Pn Pn 03 01 02.1 +0.4
B21K Ikpikpuk River 8.38 349 Pn Pn 03 01 09.8 +0.1
C27K Jago River 8.55 15 Pn Pn 03 01 12.7 +0.6
TNA Tin City 8.99 305 Pn Pn 03 01 18.4 +0.3
B22K Teshekpuk Lake 8.99 352 Pn Pn 03 01 17.8 -0.3

*IDC **20** 03:03:34.1±0.7,6.'12N×125.'89E,h142km±6km,mb3.8/8, mbtmp4.2/8,Error ellipse: s-maj=59.3km s-min=13.3km az=72.0*
*NEIC **20** 03:03:34.5±1.1,6.'07N±0.'10×126.'0E±0.'2,h130km±7km, mb4.5/13,Error ellipse: s-maj=25.4km s-min=10.9km az=66.0*
ISC 20 03:03:33.0±0.6,6.'09N±0.'06×126.'1E±0.'1,h127km,n32, σ1§16/36,mb4.3/13,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.09**	**334**	Pn	**Pn**	**03 03 58.3**	**+1.8**
DAV				Sn	**Sn**	**03 04 15.8**	**+1.4**
DAV	**Davao City (W)**	**1.09**	**334**	P	**Pn**	**03 03 57.9**	**+1.4**
	251nm,0.2s,baz=115,slow=1.2,SNR=13						
DAV				S	**Sn**	**03 04 16.7**	**+2.3**
	875nm,0.3s,baz=120,slow=19,SNR=12						
TNTI	**Ternate**	**5.43**	**166**		**Pn**	**03 04 52.2**	**+0.2**
TOLI2	**Tolitoli**	**7.23**	**227**		**Pn**	**03 05 15.8**	**-0.3**
FAKI	**Fak Fak**	**10.87**	**145**	Pn	**Pn**	**03 06 06.4**	**+1.3**
SBUM	**Sibu**	**14.27**	**256**	P	**P**	**03 06 54.4**	**+1.6**
MTN	**Manton Dam**	**19.47**	**165**	P	**P**	**03 07 50.9**	**+0.9**
MTN				IAmb	IAmb	03 07 52.6	
	comp=Z,16nm,1.2s						
KNRA	**Kununurra**	**21.79**	**173**	P	**P**	**03 08 16.8**	**+1.9**
KNRA				IAmb	IAmb	03 08 41.1	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.03**	**181**	P	**P**	**03 08 37.0**	**+0.6**
WB0	**Warramunga Arr**	**26.96**	**163**	P	**P**	**03 09 02.8**	**-0.1**
WRA	**Warramunga Arr**	**27.11**	**163**	P	**P**	**03 09 03.2**	**-1.1**
WRA	**Warramunga Arr**	**27.11**	**163**	P	**P**	**03 09 04.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=342,slow=9.0,SNR=18						
	comp=Z,0.9nm,0.3s						
WR8	**Warramunga Arr**	**27.18**	**162**	P	**P**	**03 09 04.8**	**0.0**
WR8				IAmb	IAmb	03 09 36.5	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**30.54**	**166**	P	**P**	**03 09 34.8**	**+0.2**
ASAR	**Alice Springs**	**30.54**	**166**	P	**P**	**03 09 34.8**	**+0.1**
ASAR	**Alice Springs**	**30.54**	**166**	P	**P**	**03 09 35.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=346,slow=6.6,SNR=30						
ASAR				PcP	**PcP**	**03 12 30.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=350,slow=2.8,SNR=4.6						
	comp=Z,1.3nm,0.3s						
FORT	**Forrest**	**36.70**	**177**	P	**P**	**03 10 28.4**	**+0.5**
FORT				IAmb	IAmb	03 10 55.7	
	comp=Z,19nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.70**	**192**	P	**P**	**03 10 53.1**	**+0.2**
BBOO	**Buckleboo**	**39.83**	**167**	P	**P**	**03 10 55.1**	**+1.1**
STKA	**Stephens Creek**	**40.55**	**159**	P	**P**	**03 11 01.0**	**+1.0**
STKA				IAmb	IAmb	03 11 01.9	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**40.55**	**159**	P	**P**	**03 11 00.5**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=331,slow=9.4,SNR=12						
	comp=Z,3.6nm,0.5s						
SONM	**Songino Array**	**44.87**	**341**	PcP	**PcP**	**03 13 13.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=150,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**03 12 51.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=119,slow=8.1,SNR=5.5						
MKAR				PcP	**PcP**	**03 13 51.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=124,slow=4.1,SNR=5.3						
	comp=Z,0.3nm,0.3s						
FRU1	**Bishkek**	**58.17**	**317**	P	**P**	**03 13 12.5**	**-1.3**
KURK	**Kurchatov**	**59.42**	**327**	P	**P**	**03 13 20.3**	**-1.9**
KURK				IAmb	IAmb	03 13 22.2	
	comp=Z,4.2nm,1.5s						
GAR	**Garm**	**59.86**	**312**	P	**P**	**03 13 24.6**	**-1.0**
GAR				IAmb	IAmb	03 13 24.8	
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**83.27**	**26**	P	**P**	**03 15 44.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=242,slow=4.9,SNR=11						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**88.02**	**340**	P	**P**	**03 16 06.9**	**-1.7**
	comp=Z,3.0nm,0.8s,baz=59,slow=4.7,SNR=3.8						
	comp=Z,3.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**88.06**	**349**	P	**P**	**03 16 07.6**	**-1.0**
	comp=Z,7.3nm,0.8s,baz=78,slow=7.8,SNR=5.5						
	comp=Z,7.3nm,0.8s						
FINES	**FINESS Array B**	**89.46**	**332**	P	**P**	**03 16 14.6**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=66,slow=6.2,SNR=4.8						
	comp=Z,1.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**121.54**	**289**	PKPdf	**PKPdf**	**03 22 11.5**	**-1.2**
SHEL	**Horse Pasture**	**131.80**	**254**	PKPdf	**PKPdf**	**03 22 30.7**	**-1.5**

*NEIC **20** 03:16:02.3±1.0,19.'336N±0.'007×155.'072W±0.'006, h5km±1km,Error ellipse: s-maj=2.8km s-min=1.4km az=335.0*
HVO 20 03:16:02.3±1.1,19.'38N±0.'01×155.'08W±0.'01,h6km±2km, ML3.3/46,ML3.3/44(NEIC),Error ellipse: s-maj=2.1km s-min=1.0km az=140.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.02**	**287**		Pg	03 16 05.2	+1.7
NPOC	**North of Pu'u**	**0.03**	**299**		Pg	03 16 05.5	+1.9
STCH	**Steam Cracks**	**0.04**	**280**	Pg	Pg	03 16 04.2	+0.5
STCH				Sg	Sg	03 16 05.6	+0.8
KNHH	**Kane Nui o Ham**	**0.08**	**271**	Pg	Pg	03 16 04.8	+0.5
JOKA	**Jonika Flow**	**0.09**	**53**	Pg	Pg	03 16 04.5	0.0
JOKA				Sg	Sg	03 16 06.1	+0.2
JOKA				IAML		03 16 06.8	
	comp=E,14μm,0.6s						
PUH	**Pauahi**	**0.13**	**268**	Pg	Pg	03 16 05.4	+0.3
PUH				Sg	Sg	03 16 07.6	+0.7
BYL	**Byron's Ledge**	**0.17**	**281**	Pg	Pg	03 16 06.1	+0.3
BYL				Sg	Sg	03 16 08.6	+0.4
BYL				IAML		03 16 10.9	
	comp=E,5μm,0.3s						
HATHI	**Halema'uma'u T**	**0.17**	**285**	Pg	Pg	03 16 06.0	+0.1
HATHI				Sg	Sg	03 16 08.7	+0.4
HATHI				IAML		03 16 10.7	
	comp=E,5μm,0.5s						
KKO	**Keanakako'i**	**0.17**	**276**		Pg	03 16 06.3	+0.4
KKO					Sg	03 16 09.4	+1.1
RIM	**Rim**	**0.18**	**275**		Pg	03 16 06.4	+0.4
RIM					Sg	03 16 09.4	+0.9
SBLHI	**Steaming Bluff**	**0.18**	**285**		Pg	03 16 06.2	+0.2
SBLHI					Sg	03 16 09.2	+0.7
UWB	**Uwekahuna Bluf**	**0.19**	**284**		Pg	03 16 06.3	+0.2
UWB					Sg	03 16 09.4	+0.7
OBL	**Observatory Le**	**0.20**	**282**		Pg	03 16 06.5	+0.3
OBL					Sg	03 16 09.5	+0.6
SDHHI	**Sand Hill**	**0.20**	**273**		Pg	03 16 06.6	+0.3
SDHHI					Sg	03 16 09.7	+0.7
RSD	**Rainshed**	**0.20**	**294**		Pg	03 16 06.8	+0.4
RSD					Sg	03 16 10.1	+0.9
UWE	**Uwekahuna**	**0.20**	**282**		Pg	03 16 06.7	+0.3
UWE				IAML		03 16 12.6	
	comp=E,6μm,0.5s						
UWE				IAML		03 16 13.5	
	comp=N,6μm,0.7s						
WRMHI	**West Rim**	**0.21**	**278**		Pg	03 16 06.7	+0.2
WRMHI					Sg	03 16 09.9	+0.6
HLP	**Hilina Pali**	**0.23**	**249**		Pg	03 16 07.2	+0.4
HLP				IAML		03 16 13.1	
	comp=N,7μm,0.2s						
HLP				IAML		03 16 13.1	
	comp=E,4μm,0.2s						
MLH	**Mauna Loa**	**0.31**	**292**		Pg	03 16 08.6	+0.2
MLH				IAML		03 16 16.6	
	comp=E,3μm,0.2s						
MLH				IAML		03 16 17.1	
	comp=N,4μm,0.2s						
HTC	**Hot Caves**	**0.33**	**245**		Pb	03 16 09.7	-0.9
HMH	**Humu'ula Sheep**	**0.44**	**301**		Pg	03 16 11.1	+0.2
HMH	**Humu'ula Sheep**	**0.44**	**301**		Sb	03 16 18.3	-1.3
MLOA	**Mauna Loa Obse**	**0.49**	**289**	Pg	Pg	03 16 12.1	+0.2
MWH	**Mokuaweoweo**	**0.50**	**282**		Pg	03 16 12.1	+0.1
MWH				IAML		03 16 20.5	
	comp=N,3μm,0.5s						
MWH	**Mokuaweoweo**	**0.50**	**282**		Sg	03 16 19.4	+0.8
KHU	**Kahuku**	**0.52**	**255**		Pg	03 16 12.3	-0.1
KHU				IAML		03 16 24.5	
	comp=E,2μm,0.4s						
KHU	**Kahuku**	**0.52**	**255**		Sg	03 16 19.4	+0.2
HPO	**Honuapo**	**0.53**	**237**		Sg	03 16 19.6	+0.1
HPO	**Honuapo**	**0.53**	**237**		Pg	03 16 12.2	-0.4
ALEP	**Alea Permanent**	**0.56**	**287**		Pg	03 16 12.5	-0.6
ALEP					Sg	03 16 20.7	+0.4
POHA	**Pohakuloa**	**0.57**	**312**		Sg	03 16 20.6	-0.2
POHA	**Pohakuloa**	**0.57**	**312**		Pg	03 16 12.9	-0.4
POHA				IAML		03 16 21.0	
	comp=E,3μm,0.7s						
POHA				IAML		03 16 21.8	
	comp=E,2μm,0.3s						
HUH	**Hualalai**	**0.77**	**293**		Pg	03 16 17.2	0.0
HUH	**Hualalai**	**0.77**	**293**		Sg	03 16 26.2	-1.1
HPAH	**Hawaii Prepara**	**0.87**	**318**		Sg	03 16 27.1	-3.3
HPAH	**Hawaii Prepara**	**0.87**	**318**		Pg	03 16 16.9	-2.1
HPAH				IAML		03 16 35.0	
	comp=E,1μm,0.3s						
HPAH				IAML		03 16 35.4	
	comp=N,844nm,0.4s						
KKH	**Kailua Kona**	**0.93**	**288**		Pg	03 16 17.6	-2.6
MHA	**Mahukona**	**1.12**	**316**	Pg	Pg	03 16 20.5	-3.3

*IDC **20** 03:16:14.2±3.5,59.'04S×149.'68E,h0km,mb3.8/3, mbtmp3.8/4,ML2.9/1,Error ellipse: s-maj=226.7km s-min=23.0km az=80.0*
ISC 20 03:16:15.2±3.0,59.'0S±0.'3×15.'0E±.',h10km,n16,σ1§01/7, mb3.7/3,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.04**	**172**	P	**Pn**	**03 20 38.0**	**+0.3**
	baz=304,slow=11,SNR=3.2						
	2.9nm,1.1s						
H01W1	**Cape Leeuwin H**	**33.71**	**300**	T	T	03 58 14.3	
	baz=146,slow=74,SNR=16						
H01W2	**Cape Leeuwin H**	**33.72**	**300**	T	T	03 58 16.5	
	baz=146,slow=74,SNR=24						
H01W3	**Cape Leeuwin H**	**33.73**	**300**	T	T	03 58 15.1	
	baz=146,slow=74,SNR=18						
ASAR	**Alice Springs**	**37.12**	**335**	P	**P**	**03 23 26.6**	**+0.8**
	0.9nm,0.7s,baz=164,slow=9.7,SNR=11						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**40.63**	**337**	P	**P**	**03 23 55.6**	**+0.3**
	1.6nm,0.9s,baz=168,slow=7.8,SNR=4.9						
	1.6nm,0.9s						
SNAA	**Sanae**	**48.26**	**191**	P	**P**	**03 24 56.0**	**+0.4**
	1.0nm,0.6s,baz=146,slow=15,SNR=5.9						
	1.0nm,0.6s						
H04S2	**CROZET ISLANDS**	**55.13**	**236**	T	T	04 25 41.8	
	baz=140,slow=75,SNR=7.8						
H04S1	**CROZET ISLANDS**	**55.13**	**236**	T	T	04 25 39.8	
	baz=140,slow=75,SNR=7.5						
H04S3	**CROZET ISLANDS**	**55.15**	**236**	T	T	04 25 33.7	
	baz=140,slow=75,SNR=6.6						
H08S2	**Diego Garcia H**	**77.09**	**277**	T	T	04 52 21.5	
	baz=148,slow=76,SNR=8.6						
H08S1	**Diego Carcia H**	**77.10**	**277**	T	T	04 52 19.2	
	baz=148,slow=76,SNR=7.5						
H08S3	**Diego Garcia H**	**77.11**	**277**	T	T	04 52 24.3	
	baz=148,slow=76,SNR=7.2						
AKASG	**Malin Array Be**	**146.01**	**282**	PKPbc	**PKPdf**	**03 35 53.4**	**+0.3**
	0.3nm,0.5s,baz=138,slow=1.5,SNR=4.1						
FINES	**FINESS Array B**	**152.80**	**299**	PKPbc	**PKPbc**	**03 36 09.9**	**-0.9**
	1.9nm,0.8s,baz=111,slow=3.1,SNR=6.2						
GERES	**GERESS Array B**	**152.86**	**267**	PKPbc	**PKPbc**	**03 36 09.9**	**-1.5**
	0.4nm,0.5s,baz=128,slow=1.6,SNR=2.7						

*NEIC **20** 03:19:11.0±1.9,15.'41S±0.'09×173.'3W±0.'1,h10km±1km, mb4.6/48,Error ellipse: s-maj=23.7km s-min=12.7km az=291.0*
*IDC **20** 03:19:25.7±4.6,15.'75S×173.'26W,h155km±39km,mb3.4/9, mbtmp3.9/10,Error ellipse: s-maj=75.7km s-min=18.5km az=147.0*
ISC 20 03:19:10.0±0.6,15.'37S±0.'09×173.'4W±0.'1,h10km,n72, σ1§23/68,mb4.5/31,2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.11**	**47**		**Pn**	**03 19 45.6**	**+0.2**
NIUE	**Niue**	**4.93**	**139**		**Pn**	**03 20 23.5**	**-0.7**
MSVF	**Nonsavu**	**8.56**	**253**	P	Pn	03 21 27.5	+13
	11nm,0.9s,baz=82,slow=13,SNR=9.0						
DZM	**Mont Dzumac**	**20.24**	**248**	P	Pn	03 23 49.4	+1.8
DZM	**Mont Dzumac**	**20.24**	**248**	P	Pn	03 23 48.8	+1.2
	4.6nm,0.9s,baz=162,slow=6.4,SNR=4.6						
	4.6nm,0.9s						

MXZ	**Matakaoa Point**	**23.30**	**197**	P	**P**	**03 24 20.6**	**+2.5**
TOZ	**Tahuroa Road**	**24.36**	**202**	P	**P**	**03 24 30.4**	**+2.2**
TOZ				IAmb	IAmb	03 24 32.4	
	comp=Z,19nm,1.3s						
RTZ	**Ruatahuna**	**24.67**	**198**	P	**P**	**03 24 30.6**	**-0.5**
RTZ				IAmb	IAmb	03 24 34.6	
	comp=Z,16nm,0.8s						
BKZ	**Black Stump Fm**	**25.32**	**199**	P	**P**	**03 24 37.1**	**+0.1**
BFZ	**Birch Farm**	**26.79**	**198**	P	**P**	**03 24 50.8**	**+0.6**
MRZ	**Mangatainoka R**	**26.97**	**199**	P	**P**	**03 24 53.0**	**+1.1**
MRZ				IAmb	IAmb	03 25 02.6	
	comp=Z,21nm,1.5s						
MSWZ	**Moikau Station**	**27.76**	**199**	P	**P**	**03 25 01.3**	**+2.3**
PLWZ	**Palliser**	**27.90**	**198**	P	**P**	**03 25 03.8**	**+3.6**
QRZ	**Quartz Range**	**28.17**	**203**	P	**P**	**03 25 04.6**	**+2.0**
TUWZ	**Tuamarina**	**28.20**	**200**	P	**P**	**03 25 05.1**	**+2.3**
KHZ	**Kahutara**	**29.21**	**200**	P	**P**	**03 25 13.4**	**+1.6**
KHZ				IAmb	IAmb	03 25 19.5	
	comp=Z,7.5nm,0.8s						
DSZ	**Denniston Nort**	**29.24**	**203**	P	**P**	**03 25 11.9**	**-0.3**
DSZ				IAmb	IAmb	03 25 25.8	
	comp=Z,17nm,1.1s						
LTZ	**Lake Taylor**	**29.97**	**201**	P	**P**	**03 25 19.3**	**+0.7**
LTZ				IAmb	IAmb	03 25 36.3	
	comp=Z,12nm,1.3s						
FOZ	**Fox Glacier**	**31.53**	**204**	P	**P**	**03 25 33.2**	**+1.0**
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**03 27 17.5**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=28,slow=8.4,SNR=3.9						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**48.86**	**240**	P	**P**	**03 27 55.7**	**-0.3**
WR8	**Warramunga Arr**	**49.74**	**257**	P	**P**	**03 28 02.7**	**-0.3**
WR8				IAmb	IAmb	03 28 12.3	
	comp=Z,9.9nm,1.5s						
WB0	**Warramunga Arr**	**49.85**	**257**	P	**P**	**03 28 04.4**	**+0.6**
WB0				IAmb	IAmb	03 28 36.9	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**03 28 02.5**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=95,slow=8.2,SNR=6.3						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**03 28 05.7**	**-0.4**
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**03 28 05.3**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=88,slow=8.2,SNR=22						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**03 30 46.8**	**-1.1**
	comp=Z,2.1nm,1.0s,baz=228,slow=9.5,SNR=5.6						
	comp=Z,2.1nm,1.0s						
H04D	**Lebanon**	**75.30**	**35**	P	**P**	**03 30 52.9**	**-0.5**
J05D	**Fort Rock, OR**	**75.37**	**37**	P	**P**	**03 30 54.4**	**+0.4**
J05D				IAmb	IAmb	03 30 55.6	
	comp=Z,8.4nm,1.0s						
PINE	**Pine Mountain**	**75.86**	**36**	P	**P**	**03 30 58.0**	**+1.2**
PINE				IAmb	IAmb	03 30 59.1	
	comp=Z,6.8nm,1.0s						
N15K	**Kwethluk River**	**76.04**	**7**	P	**P**	**03 30 58.0**	**+0.8**
M14K	**Bethel**	**76.41**	**6**	P	**P**	**03 30 59.3**	**0.0**
L14K	**Kuka Creek**	**76.93**	**5**	P	**P**	**03 31 04.0**	**+1.8**
K15K	**Wolf Creek Mou**	**77.97**	**6**	P	**P**	**03 31 09.8**	**+1.7**
MTPU	**Mount Pierson**	**78.14**	**45**	P	**P**	**03 31 10.5**	**+0.5**
L18K	**Granite Mounta**	**78.45**	**8**	P	**P**	**03 31 12.0**	**+1.3**
L18K				IAmb	IAmb	03 31 12.3	
	comp=Z,4.0nm,1.0s						
M19K	**Big River Lodg**	**78.47**	**9**	P	**P**	**03 31 11.0**	**+0.1**
M19K				IAmb	IAmb	03 31 42.6	
	comp=Z,10nm,1.4s						
SUA	**Susitna One**	**78.67**	**11**	P	**P**	**03 31 12.5**	**+0.4**
K17K	**Iditarod**	**78.73**	**7**	P	**P**	**03 31 13.7**	**+1.5**
K17K				IAmb	IAmb	03 31 17.1	
	comp=Z,9.2nm,1.4s						
J16K	**Anvik River**	**79.03**	**6**	P	**P**	**03 31 15.7**	**+1.8**
J16K				IAmb	IAmb	03 31 16.0	
	comp=Z,6.2nm,0.8s						
J17K	**VABM Dome**	**79.30**	**6**	P	**P**	**03 31 17.0**	**+1.6**
J17K				IAmb	IAmb	03 31 28.5	
	comp=Z,9.3nm,1.5s						
PLID	**Pearl Lake**	**79.48**	**37**	P	**P**	**03 31 16.9**	**-0.2**
HLID	**Hailey**	**79.58**	**39**	P	**P**	**03 31 18.1**	**+0.5**
HLID				IAmb	IAmb	03 31 19.0	
	comp=Z,4.5nm,1.1s						
I17K	**Unalakleet**	**79.61**	**6**	P	**P**	**03 31 18.7**	**+1.6**
J18K	**Innoko River**	**79.64**	**8**	P	**P**	**03 31 18.0**	**+0.8**
SCM	**Sheep Creek Mo**	**79.67**	**12**	P	**P**	**03 31 17.6**	**+0.2**
TXAR	**Lajitas Array**	**80.56**	**56**	P	**P**	**03 31 23.8**	**+0.7**
TXAR	**Lajitas Array**	**80.56**	**56**	P	**P**	**03 31 22.6**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=224,slow=6.4,SNR=6.0						
	comp=Z,0.7nm,0.9s						
TRF	**Thorofare Moun**	**80.59**	**10**	P	**P**	**03 31 22.2**	**-0.4**
TRF				IAmb	IAmb	03 31 22.4	
	comp=Z,4.3nm,1.0s						
J20K	**Nowinta River**	**80.67**	**8**	P	**P**	**03 31 23.3**	**+0.6**
J20K				IAmb	IAmb	03 31 32.4	
	comp=Z,7.3nm,1.4s						
TNA	**Tin City**	**80.80**	**2**	P	**P**	**03 31 24.5**	**+1.2**
RND	**Reindeer**	**80.81**	**11**	P	**P**	**03 31 24.6**	**+1.0**
RND				IAmb	IAmb	03 31 47.9	
	comp=Z,6.4nm,1.4s						
G16K	**Koyuk River**	**80.95**	**5**	P	**P**	**03 31 25.4**	**+1.2**
H18K	**Honhosa River**	**81.09**	**6**	P	**P**	**03 31 25.4**	**+0.4**
H19K	**Roundabout Mou**	**81.67**	**7**	P	**P**	**03 31 29.2**	**+1.2**
G18K	**Tagagawik**	**81.78**	**6**	P	**P**	**03 31 28.9**	**+0.3**
WRH	**Wood River Hil**	**81.92**	**11**	P	**P**	**03 31 29.3**	**0.0**
WRH				IAmb	IAmb	03 31 30.6	
	comp=Z,4.5nm,1.0s						
F17K	**Baldwin Pennin**	**82.08**	**5**	P	**P**	**03 31 31.1**	**+1.0**
F17K				IAmb	IAmb	03 31 46.1	
	comp=Z,4.6nm,1.5s						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**03 31 30.6**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=222,slow=3.6,SNR=6.7						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**82.41**	**11**	P	**P**	**03 31 31.6**	**-0.4**
ILAR	**Eielson Array**	**82.41**	**11**	P	**P**	**03 31 31.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=223,slow=5.5,SNR=21						
	comp=Z,0.6nm,0.5s						
J25K	**Salcha River,**	**82.56**	**12**	P	**P**	**03 31 33.4**	**+0.5**
LYMT	**Lyon Mountain**	**82.67**	**37**	P	**P**	**03 31 34.4**	**+0.3**
F19K	**Shaleruckik Mo**	**82.78**	**6**	P	**P**	**03 31 34.4**	**+0.6**
F19K				IAmb	IAmb	03 31 56.7	
	comp=Z,4.0nm,1.2s						
J26L	**Joseph Creek**	**82.83**	**13**	P	**P**	**03 31 35.9**	**+1.6**
J26L				IAmb	IAmb	03 32 10.8	
	comp=Z,5.5nm,1.4s						
YKA	**Yellowknife Ar**	**90.06**	**23**	P	**P**	**03 32 08.7**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=239,slow=4.5,SNR=5.7						
	comp=Z,0.7nm,1.0s						
SYO	**Syowa Base**	**92.63**	**191**	*e*PcP	**PcP**	**03 32 23.4**	**+1.1**
SYO	**Syowa Base**	**92.63**	**191**	*e*sP	sP	03 32 27.0	+1.6
ARCES	**ARCESS Array B**	**124.59**	**352**	PKP	**PKPdf**	**03 38 06.4**	**-2.8**
	comp=Z,3.7nm,0.9s,baz=354,slow=0.9,SNR=1.9						
KHC	**Kasperske Hory**	**145.86**	**352**	*e*PKP	**PKPdf**	**03 38 50.0**	**+0.9**
GERES	**GERESS Array B**	**146.12**	**352**	PKPbc	**PKPdf**	**03 38 49.0**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=2.5,slow=2.3,SNR=4.4						
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	**PKPdf**	**03 38 50.2**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=35,slow=4.5,SNR=6.2						

*IDC **20** 03:37:17.3±2.3, 5°.27S×153°.90E, h0km, mb3.7/7, mbtmp3.7/7, MS2.8/1, Error ellipse: s-maj=83.2km s-min=26.1km az=115.0*

ISC 20 03:37:26.9±2.1, 5°.4S±0°.3×153°.9E±0°.5, h74km, n9, σ0s56/8, mb3.6/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.86**	**335**	LR	LR	03 48 36.4	
	comp=Z,28nm,21.7s,baz=60,slow=33						
WRA	**Warramunga Arr**	**23.89**	**231**	P	**P**	**03 42 33.6**	**-0.4**
	1.0nm,0.7s,baz=51,slow=9.7,SNR=7.8						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**26.47**	**225**	P	**P**	**03 42 57.3**	**-0.1**
	0.2nm,0.4s,baz=42,slow=10.0,SNR=6.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**67.39**	**327**	P	**P**	**03 48 14.7**	**+0.1**
	0.4nm,0.5s,baz=144,slow=6.0,SNR=3.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**81.47**	**319**	P	**P**	**03 49 36.5**	**+0.3**
	1.0nm,0.4s,baz=113,slow=7.1,SNR=26						
	1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**82.23**	**326**	P	**P**	**03 49 39.4**	**-0.6**
	1.1nm,0.4s,baz=94,slow=4.6,SNR=4.7						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**82.29**	**22**	P	**P**	**03 49 39.8**	**-0.2**
	0.2nm,0.7s,baz=238,slow=5.1,SNR=1.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**84.92**	**322**	P	**P**	**03 49 53.4**	**-0.3**
	0.5nm,0.7s,baz=107,slow=4.1,SNR=4.8						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.51**	**288**	PKPbc	**PKiKP**	**03 57 14.9**	**+0.9**

1.2nm,0.3s,baz=88,slow=2.3,SNR=2.0

*SJA **20** 03:48:51.8±0.8, 29°.99S×71°.45W, h64km±5km, ML3.7, MW3.7*
*GUC **20** 03:48:53.7±0.7, 30°.12S×71°.23W, h59km±2km, ML4.1*

ISC 20 03:48:53.3±1.3, 29°.98S±0°.03×71°.45W±0°.05, h52km±13km, n52, σ1s30/81, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.60**	**109**	*e*P	**Pn**	**03 49 06.0**	**-0.1**
GO04				*i* S	**Sn**	**03 49 14.9**	**-0.5**
GO04	**Tololo Observa**	**0.60**	**109**	*e*P	**Pn**	**03 49 06.0**	**-0.1**
GO04				*e*S	**Sn**	**03 49 15.3**	**-0.2**
CO06	**Fray Jorge**	**0.71**	**193**	*i*/*e*P	**Pn**	**03 49 08.3**	**+1.0**
CO06				*i* S	**Sn**	**03 49 19.2**	**+1.6**
CO03	**El Pedregal**	**1.08**	**143**	*e*P	**Pn**	**03 49 11.6**	**-0.7**
CO03				*i* S	**Sn**	**03 49 24.8**	**-1.5**
CO03				IAML		03 49 25.4	
	comp=E,7μm,0.2s						
CO03	**El Pedregal**	**1.08**	**143**	*e*P	Pn	03 49 06.0	-6.3
CO03				*e*P		03 49 11.4	
CO03				*e*S	**Sn**	**03 49 25.4**	**-1.0**
CO03				IAML		03 49 26.0	
	comp=Z,3μm,0.3s						
LCO	**Las Campanas**	**1.16**	**34**	*e*P	**Pn**	**03 49 14.0**	**+0.4**
LCO				*e*S	**Sn**	**03 49 29.6**	**+1.1**
LCO				IAML		03 49 32.0	
	comp=Z,1μm,0.4s						
CO01	**Juntas del Tor**	**1.18**	**90**	*e*P	**Pn**	**03 49 13.5**	**-0.2**
CO01				*i* S	**Sn**	**03 49 28.1**	**-0.8**
CO01				IAML		03 49 28.6	
	comp=E,5μm,0.3s						
CO01	**Juntas del Tor**	**1.18**	**90**	*e*P	**Pn**	**03 49 13.6**	**-0.2**
CO01				*e*S	**Sn**	**03 49 28.4**	**-0.5**
CO01				IAML		03 49 28.4	
	comp=Z,3μm,0.5s						
AROD	**Rodeo**	**1.73**	**97**	*e*P	**Pn**	**03 49 21.9**	**+0.7**
AROD				*e*S	**Sn**	**03 49 43.9**	**+1.5**
AC04	**Llanos de Chal**	**1.80**	**11**	*e*P	**Pn**	**03 49 22.7**	**+0.8**
AC04				*e*S	**Sn**	**03 49 40.0**	**-3.5**
AC04				IAML		03 49 50.2	
	comp=Z,337nm,0.5s						
ACDV	**Cuesta del Vie**	**2.03**	**96**	*e*P	**Pn**	**03 49 26.7**	**+1.4**
ACDV				*e*S	**Sn**	**03 49 46.4**	**-3.1**
ACCO	**Cerro Coronel**	**2.15**	**107**	*e*P	**Pn**	**03 49 29.4**	**+2.4**
ACCO				*e*S	**Sn**	**03 49 47.6**	**-5.2**
DOCA	**Reserva Natura**	**2.27**	**116**	*e*P	**Pn**	**03 49 29.9**	**+1.2**
DOCA				*e*S	**Sn**	**03 49 57.5**	**+2.0**
VA06	**Catapilco**	**2.58**	**177**	*e*P	**Pn**	**03 49 32.2**	**-0.4**
VA06				IAML		03 50 12.1	
	comp=N,1μm,0.2s						
RTLS	**Leoncito**	**2.60**	**135**	*e*P	**Pn**	**03 49 34.3**	**+1.2**
RTLS				*e*S	Sn	03 49 52.3	-11
RTLS				IAML		03 50 08.7	
	comp=Z,576nm,0.5s						
AGUA	**GUANDACOL**	**2.62**	**80**	*e*P	**Pn**	**03 49 35.9**	**+2.6**
AGUA				IAML		03 50 10.6	
	comp=Z,270nm,0.3s						
ZON	**Zonda**	**2.85**	**124**	*e*P	**Pn**	**03 49 37.2**	**+0.8**
ZON				*e*S	Sn	03 49 58.5	-11
ZON				IAML		03 50 00.5	
	comp=Z,135nm,0.3s						
VA03	**San Esteban**	**2.88**	**165**	*e*P	**Pn**	**03 49 37.2**	**+0.4**
VA03				*e*S	**Sn**	**03 50 09.2**	**-1.2**
VA03				IAML		03 50 13.3	
	comp=E,852nm,0.1s						
VA03	**San Esteban**	**2.88**	**165**	*e*P	**Pn**	**03 49 37.2**	**+0.4**
VA03				*e*S	**Sn**	**03 50 11.9**	**+1.5**
VA03				IAML		03 50 14.4	
	comp=Z,276nm,0.2s						
RTLL	**Cerro Villicun**	**2.90**	**118**	*e*P	**Pn**	**03 49 38.0**	**+1.0**
RTLL				*e*S	Sn	03 49 51.8	-19
SJA	**San Juan**	**2.93**	**123**	*e*P	Pn	03 49 53.5	+16
SJA				*e*S	Sn	03 49 58.9	-13
ROC1	**El Roble**	**3.01**	**173**	*e*P	**Pn**	**03 49 38.5**	**-0.3**
ROC1				*e*S	**Sn**	**03 50 14.9**	**+1.1**
VCA	**Vinchina**	**3.09**	**67**	*e*P	**Pn**	**03 49 37.8**	**-1.9**
VCA				IAML		03 50 04.0	
	comp=Z,414nm,0.4s						
VCA				*e*S	Sn	03 50 04.1	-11
CFA	**Coronel Fontan**	**3.21**	**121**	*e*S	**Sn**	**03 50 19.4**	**+1.2**
PEL	**Peldehue**	**3.23**	**168**	*e*P	**Pn**	**03 49 41.4**	**-0.1**
PEL				*e*S	**Sn**	**03 50 17.3**	**-1.4**
PEL				IAML		03 50 22.4	
	comp=E,367nm,0.3s						
PEL	**Peldehue**	**3.23**	**168**	*e*P	**Pn**	**03 49 41.5**	**-0.1**
PEL				*e*S	**Sn**	**03 50 19.8**	**+1.0**
MT02	**Curacav**	**3.29**	**175**	*e*P	**Pn**	**03 49 41.5**	**-0.7**
MT02				IAML		03 50 25.9	
	comp=E,190nm,0.4s						
MT02	**Curacav**	**3.29**	**175**	*e*P	**Pn**	**03 49 41.6**	**-0.7**
MT02				*e*S	**Sn**	**03 50 19.5**	**-0.6**
MT02				IAML		03 50 36.0	
	comp=Z,115nm,0.7s						
MT05	**Renca**	**3.46**	**170**	*e*P	**Pn**	**03 49 44.5**	**-0.2**
MT05				*e*S	**Sn**	**03 50 23.5**	**-1.0**
MT05	**Renca**	**3.46**	**170**	*e*P	**Pn**	**03 49 44.9**	**+0.2**
MT05				*e*S	**Sn**	**03 50 24.8**	**+0.3**
MT05				IAML		03 50 27.1	
	comp=Z,254nm,0.2s						
FCH	**Farellones**	**3.49**	**164**	*e*P	**Pn**	**03 49 45.9**	**+0.5**
FCH				IAML		03 50 29.1	
	comp=N,191nm,0.4s						
MT14	**Cerro Calı¡n**	**3.50**	**167**	*e*P	**Pn**	**03 49 45.5**	**+0.2**
MT14				*e*S	**Sn**	**03 50 24.4**	**-1.0**
MT14				IAML		03 50 27.0	
	comp=N,380nm,0.2s						
AVFE	**Valle Fertil**	**3.52**	**102**	*e*P	**Pn**	**03 49 46.0**	**+0.4**
AVFE				*e*S	Sn	03 50 08.6	-17
AVFE				IAML		03 50 11.6	
	comp=Z,87nm,0.4s						
MT16	**CCHEN**	**3.53**	**167**	*e*P	**Pn**	**03 49 45.9**	**+0.2**
MT16				*e*S	**Sn**	**03 50 25.2**	**-1.1**
MT03	**Universidad Ad**	**3.60**	**167**	*e*P	**Pn**	**03 49 46.9**	**+0.2**
MT03				*e*S	**Sn**	**03 50 27.3**	**-0.6**
MT03				IAML		03 50 29.6	
	comp=N,514nm,0.3s						
MT03	**Universidad Ad**	**3.60**	**167**	*e*P	**Pn**	**03 49 47.5**	**+0.9**
MT03				*e*S	**Sn**	**03 50 28.5**	**+0.6**
MT03				IAML		03 50 30.4	
	comp=Z,270nm,0.1s						
MT04	**Ro Olivares**	**3.60**	**162**	*e*P	**Pn**	**03 49 48.0**	**+1.3**
MT04				IAML		03 50 32.4	
	comp=E,266nm,0.2s						
MT04	**Ro Olivares**	**3.60**	**162**	*e*P	**Pn**	**03 49 48.2**	**+1.4**
MT04				*e*S	**Sn**	**03 50 29.3**	**+1.2**
MT04				IAML		03 50 31.8	
	comp=Z,98nm,0.2s						
MT08	**Bocatoma Ro**	**3.67**	**161**	*e*P	**Pn**	**03 49 49.1**	**+1.4**
MT08	**Bocatoma Ro**	**3.67**	**161**	*e*P	**Pn**	**03 49 45.0**	**-2.7**
MT08				*e*S	**Sn**	**03 50 29.5**	**-0.3**
MT08				IAML		03 50 40.3	
	comp=Z,64nm,0.7s						
MT15	**Las Vizcachas**	**3.70**	**168**	*e*P	**Pn**	**03 49 48.3**	**+0.3**
MT15				*e*S	**Sn**	**03 50 29.4**	**-1.0**
AC02	**Maricunga**	**3.74**	**34**	*e*P	**Pn**	**03 49 49.9**	**+1.0**
AC02				IAML		03 50 32.8	
	comp=Z,185nm,1.0s						
AC02				*e*S	**Sn**	**03 50 33.1**	**+1.1**
MT09	**Talagante**	**3.81**	**174**	*e*P	**Pn**	**03 49 49.1**	**-0.5**
MT12	**Pirque**	**3.82**	**169**	*e*P	**Pn**	**03 49 49.7**	**0.0**
MT12				*i* S	**Sn**	**03 50 32.4**	**-1.0**
MT01	**Popeta**	**3.88**	**178**	*e*P	**Pn**	**03 49 49.6**	**-0.8**
MT01	**Popeta**	**3.88**	**178**	*e*S	**Sn**	**03 50 34.1**	**-0.7**
MT01				IAML		03 50 36.9	
	comp=Z,143nm,0.1s						
MT13	**San Alfonso**	**3.89**	**165**	*e*P	**Pn**	**03 49 51.3**	**+0.7**
MT13				*e*S	**Sn**	**03 50 34.2**	**-0.9**
MT13	**San Alfonso**	**3.89**	**165**	*e*S	**Sn**	**03 50 35.6**	**+0.6**
MT13				IAML		03 50 37.2	
	comp=Z,211nm,0.2s						
LMEL	**Las Melosas**	**4.00**	**165**	*e*P	**Pn**	**03 49 52.8**	**+0.6**
LMEL				*i* S	**Sn**	**03 50 37.2**	**-0.8**
LMEL	**Las Melosas**	**4.00**	**165**	*e*P	**Pn**	**03 49 53.3**	**+1.0**
BO04	**La Punta**	**4.07**	**170**	*e*P	**Pn**	**03 49 52.5**	**-0.5**
BO01	**Tunca**	**4.41**	**176**	IAML		03 51 14.5	
	comp=Z,36nm,0.6s						

*AEIC **20** 04:06:20.1±2.7, 52°.6N±0°.1×162°.9W±0°.1, h7km±9km, Error ellipse: s-maj=17.4km s-min=8.9km az=161.0*

NEIC 20 04:06:16.9±1.3, 52°.68N±0°.07×163°.1W±0°.1, h10km±2km, ML2.9(AEIC), Error ellipse: s-maj=12.5km s-min=9.3km az=147.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**2.09**	**350**		Pn	04 06 52.0	0.0
ISLZ					Sn	04 07 16.6	-1.4
SSLS	**Shishaldin Sou**	**2.11**	**345**		Sn	04 07 18.1	-0.6
AKSA	**Akutan Strait**	**2.15**	**314**		Sn	04 07 18.6	-0.8
FALS	**False Pass**	**2.19**	**355**		Pn	04 06 53.2	-0.1
FALS					Sn	04 07 19.6	-0.8
ISNN	**Isanotski Nort**	**2.20**	**349**		Pn	04 06 54.0	+0.5
ZRO	**Akutan Zero**	**2.25**	**310**		Pn	04 06 54.3	+0.2
UNV	**Unalaska Valle**	**2.38**	**301**		Pn	04 06 55.9	+0.1
UNV					Sn	04 07 23.1	-1.9
MTBL	**Makushin Table**	**2.53**	**302**		Sn	04 07 28.1	-0.7
MAPS	**Pakushin South**	**2.59**	**297**		Pn	04 06 59.6	+0.8
MAPS					Sn	04 07 28.9	-1.5
HAG	**Hague Volcano**	**2.73**	**14**		Pn	04 07 01.1	+0.4
HAG					Sn	04 07 32.9	-0.9
PVV	**Pavlof Volcano**	**2.80**	**15**		Sn	04 07 34.8	-0.7
SDPT	**Sand Point**	**3.08**	**29**	Pn	Pn	04 07 05.5	+0.1

*NOU **20** 04:12:49.5, 39°.41S×175°.24E, h109km, MLv3.6/20, North Island, New Zealand*
*WEL **20** 04:12:52.2±0.8, 39°.5±6°×17°.5E±°, h86km±7km, M3.0/29, ML3.1/29, MLv3.0/29, Error ellipse: s-maj=7.7km s-min=5.8km az=162.3, confirmed*

ISC 20 04:12:49.4±1.3, 39°.38S±0°.03×175°.21E±0°.03, h113km±6km, n154, σ1s11/168, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.14**	**51**	P	**Pn**	**04 13 05.5**	**+0.3**
PKVZ				S	**Sn**	**04 13 16.0**	**-1.0**
ORCS	**Ohakune Ruapeh**	**0.16**	**105**	P	**Pn**	**04 13 04.3**	**-0.9**
ORCS				S	**Sn**	**04 13 14.5**	**-2.5**
MTVZ	**Mangateitei**	**0.20**	**93**	P	**Pn**	**04 13 05.8**	**+0.4**
TRVZ	**Turoa**	**0.27**	**74**	P	**Pn**	**04 13 06.2**	**+0.4**
TRVZ				S	**Sn**	**04 13 16.9**	**-1.1**
FWVZ	**Far West T-bar**	**0.29**	**66**	P	**Pn**	**04 13 06.2**	**+0.4**
FWVZ				S	**Sn**	**04 13 17.0**	**-1.2**
MAVZ	**Matarangi**	**0.29**	**68**	P	**Pn**	**04 13 06.3**	**+0.4**
WNVZ	**Wahianoa**	**0.30**	**81**	P	**Pn**	**04 13 06.3**	**+0.5**
WHVZ	**Whangaehu Hut**	**0.31**	**72**	P	**Pn**	**04 13 06.3**	**+0.4**
COVZ	**Chateau Observ**	**0.31**	**56**	P	**Pn**	**04 13 06.1**	**+0.3**
TWVZ	**Taurewa**	**0.35**	**30**	P	**Pn**	**04 13 06.2**	**+0.3**
TUVZ	**Tukino**	**0.36**	**73**	P	**Pn**	**04 13 06.6**	**+0.6**
NGZ	**Ngauruhoe**	**0.36**	**57**	P	**Pn**	**04 13 06.4**	**+0.4**
SNVZ	**South Ngauruho**	**0.38**	**61**	P	**Pn**	**04 13 06.7**	**+0.5**
WTVZ	**West Tongariro**	**0.39**	**49**	P	**Pn**	**04 13 06.6**	**+0.4**
NNVZ	**North Ngauruho**	**0.40**	**52**	P	**Pn**	**04 13 06.7**	**+0.4**
OTVZ	**Oturere**	**0.41**	**59**	P	**Pn**	**04 13 06.8**	**+0.5**
WAZ	**Wanganui**	**0.42**	**205**	P	**Pn**	**04 13 07.4**	**+1.2**
WAZ				S	**Sn**	**04 13 19.2**	**+0.4**
MOVZ	**Moawhango**	**0.42**	**94**	P	**Pn**	**04 13 06.8**	**+0.3**
MOVZ				S	**Sn**	**04 13 17.1**	**-1.7**
VRZ	**Vera Road**	**0.43**	**305**	P	**Pn**	**04 13 06.9**	**+0.7**
VRZ				S	**Sn**	**04 13 18.6**	**-0.2**
KRVZ	**Karewarewa**	**0.44**	**50**	P	**Pn**	**04 13 06.7**	**+0.3**
NTVZ	**North Tongarir**	**0.46**	**53**	P	**Pn**	**04 13 06.9**	**+0.4**
ETVZ	**East Tongariro**	**0.46**	**58**	P	**Pn**	**04 13 07.1**	**+0.6**
TMVZ	**Te Maari**	**0.46**	**56**	P	**Pn**	**04 13 06.9**	**+0.4**
KATZ	**Kakaramea**	**0.55**	**43**	P	**Pn**	**04 13 07.6**	**+0.5**
LREZ	**Lake Rotokare**	**0.63**	**262**	P	**Pn**	**04 13 08.9**	**+1.3**
RITZ	**Rihia Road**	**0.64**	**52**	P	**Pn**	**04 13 08.5**	**+0.8**
WATZ	**Wairara**	**0.78**	**32**	P	**Pn**	**04 13 09.7**	**+0.8**
DREZ	**Durham Road**	**0.81**	**283**	P	**Pn**	**04 13 10.5**	**+1.5**
PREZ	**Palmer Road**	**0.82**	**272**	P	**Pn**	**04 13 10.8**	**+1.7**
OHWZ	**Ohakea**	**0.83**	**175**	P	**Pn**	**04 13 11.3**	**+2.1**
OHWZ				S	**Sn**	**04 13 25.6**	**+1.4**
HATZ	**Hinemaiaia**	**0.84**	**55**	P	**Pn**	**04 13 09.8**	**+0.5**
HATZ				S	**Sn**	**04 13 23.2**	**-1.1**
NEZ	**North Egmont**	**0.87**	**277**	P	**Pn**	**04 13 11.3**	**+1

PRGZ	Paritu Road	2.13	79	P	Pn	04 13 24.9	+0.7
PLWZ	Palliser	2.19	179	P	Pn	04 13 25.6	+0.6
MYRZ	Mayor Island	2.24	21	P	Pn	04 13 27.5	+1.8
TKGZ	Te Karaka	2.26	66	P	Pn	04 13 26.6	+0.8
MKAZ	Moumakai	2.27	359	P	Pn	04 13 27.1	+1.2
TUWZ	Tuamarina	2.27	205	P	Pn	04 13 27.2	+1.3
NNZ	Nelson	2.31	217	P	Pn	04 13 27.3	+0.8
RUGZ	Raukumara Rang	2.39	55	P	Pn	04 13 27.5	-0.2
TKNZ	Takaka Hill	2.39	225	P	Pn	04 13 28.4	+0.8
TWGZ	Tauwhareparae	2.47	62	P	Pn	04 13 29.4	+0.8
CMWZ	Cape Campbell	2.49	197	P	Pn	04 13 30.1	+1.3
CNGZ	Carnagh Statio	2.50	70	P	Pn	04 13 29.5	+0.6
QRZ	Quartz Range	2.52	234	P	Pn	04 13 29.8	+0.7
QRZ	Quartz Range	2.52	234	P	Pn	04 13 30.0	+0.8
BSWZ	Blackbirch Sta	2.55	203	P	Pn	04 13 30.1	+0.5
HAZ	Te Kaha	2.58	52	P	Pn	04 13 29.7	-0.4
KUZ	Kuaotunu	2.66	9	P	Pn	04 13 32.0	+1.0
KUZ	Kuaotunu	2.66	9	P	Pn	04 13 32.0	+1.0
PKGZ	Pakihiroa	2.71	57	P	Pn	04 13 31.4	-0.2
PUZ	Puketiti	2.71	62	P	Pn	04 13 31.7	-0.1
MRNZ	Matariki Terra	2.76	222	P	Pn	04 13 33.0	+0.7
WMGZ	Waiomatatini S	2.95	59	P	Pn	04 13 34.8	-0.1
THZ	Tophouse	2.96	216	P	Pn	04 13 35.4	+0.4
MXZ	Matakaoa Point	3.03	54	P	Pn	04 13 35.9	0.0
MXZ	Matakaoa Point	3.03	54	P	Pn	04 13 36.5	+0.6
KHZ	Kahutara	3.29	202	P	Pn	04 13 39.4	+0.2
KHZ	Kahutara	3.29	202	S	Sn	04 14 17.7	-0.1
KHZ	Kahutara	3.29	202	P	Pn	04 13 39.5	+0.2
DSZ	Denniston Nort	3.51	227	P	Pn	04 13 42.9	+0.6
GVZ	Greta Valley S	3.95	204	P	Pn	04 13 47.6	-0.5
LTZ	Lake Taylor	4.06	212	P	Pn	04 13 48.9	-0.8
INZ	Inchbonnie	4.39	219	P	Pn	04 13 54.3	+0.3
OKCZ	Okains Bay	4.63	200	P	Pn	04 13 56.2	-1.1
WVZ	Waitaha Valley	5.00	221	P	Pn	04 14 04.8	+2.6
WACZ	Wakanui South	5.21	208	P	Pn	04 14 04.0	-1.0
RPZ	Rata Peaks	5.34	214	P	Pn	04 14 06.6	-0.2
RPZ	Rata Peaks	5.34	214	P	Pn	04 14 06.8	0.0
GCSZ	Gaunt Creek Bo	5.38	221	P	Pn	04 14 06.7	-0.7
ARCZ	Arundel	5.48	212	P	Pn	04 14 08.4	-0.2
FOZ	Fox Glacier	5.80	223	P	Pn	04 14 11.7	-1.3
ODZ	Otahua Downs	6.60	209	P	Pn	04 14 22.7	-1.1
ODZ	Otahua Downs	6.60	209	P	Pn	04 14 22.5	-1.3
JCZ	Jackson Bay	6.72	224	P	Pn	04 14 24.0	-1.5
CTZ	Chatham Island	7.52	128	P	Pn	04 14 38.5	+2.3

*IDC **20** 04:17:28.3±4.1, 33°93N×136°55E, h344km±101km, mb2.7/2, mbtmp3.5/4, Error ellipse: s-maj=197.1km s-min=24.5km az=61.0*
*JMA **20** 04:17:29.6±0.3, 34°N±1°×136°7E±1°0, h360km±2km, MV3.0/30, SE OFF KII PENINSULA*
ISC 20 04:17:28.9±1.0, 34°11N±0°10×136°77E±0°07, h350km, n19, σ1§42/22, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.29	350	P	Pn	04 18 14.8	+2.1
JKN2	Miekihoku	0.43	288	P	Pn	04 18 14.7	+1.8
TTO1	TONANKAI O.B.S	0.49	178	P	Pn	04 18 15.3	+2.5
JWY	Kouya	0.98	277	P	Pn	04 18 16.3	+1.7
JTNC	Tanabenakahech	1.00	253	P	Pn	04 18 16.2	+1.6
JYTA	Yamagatataniai	1.48	359	P	Pn	04 18 18.6	+1.8
JWT	Wachi	1.62	317	P	Pn	04 18 19.1	+1.5
JWT				eS	S	04 18 57.4	+0.6
JAI	Aioi	1.95	261	P	Pn	04 18 21.0	+1.2
JKG	Kaga	2.19	351	eP	Pn	04 18 22.7	+1.3
JMN	Monobe	2.43	262	eP	Pn	04 18 24.7	+1.3
MJAR	Matsushiro Arr	2.70	26	P	Pn	04 18 26.6	+1.1
	2.1nm,0.6s,baz=195,slow=9.4,SNR=4.8						
JHS	Saijyo	3.14	287	eP	Pn	04 18 30.6	+1.1
JAG	Ashikaga	3.19	43	eP	Pn	04 18 31.0	+1.1
JAG				eS	S	04 19 18.6	-0.4
BSO1	Boso 1	3.53	80	eP	Pn	04 18 33.1	+0.6
BSO1				eS	S	04 19 24.3	+0.4
JTO	Tosashimizu	3.54	250	eP	Pn	04 18 34.0	+0.7
JNA	Nagahama	3.61	262	eP	Pn	04 18 35.1	+1.2
USRK	Ussuriysk Ar.	10.73	341	P	P	04 19 55.9	-0.3
	5.6nm,0.5s,baz=148,slow=10.0,SNR=13						
MKAR	Makanchi Array	42.54	304	P	P	04 24 50.4	-0.8
	0.2nm,0.5s,baz=99,slow=6.5,SNR=3.6						
	0.2nm,0.5s						
WRA	Warramunga Arr	53.80	183	P	P	04 26 15.2	-1.4
	0.2nm,0.3s,baz=0.2,slow=7.6,SNR=8.4						
	0.2nm,0.3s						

*JMA **20** 04:29:26.1±0.1, 41°3N±0°6×142°5E±0°7, h37km, MV3.3/30, E OFF AOMORI PREF*
*IDC **20** 04:29:28.6±2.9, 41°26N×142°54E, h71km±20km, mb3.5/6, mbtmp3.7/9, Error ellipse: s-maj=35.1km s-min=17.8km az=118.0*
ISC 20 04:29:24.2±1.1, 41°17N±0°08×142°62E±0°07, h27km, n27, σ1§53/24, mb3.9/6, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.94	25	P	Pn	04 29 42.1	+0.5
JEM				S	Sb	04 29 54.5	+0.6
JARK	Aomorirokkasho	0.96	261	⇓iP	Pb	04 29 42.8	+0.7
JARK				⇓eS	Sb	04 29 54.8	+0.4
JAHD	Aomorihigashid	0.97	276	⇓P	Pb	04 29 42.7	+0.3
JNBK	Urakawa-nobuka	1.11	5	⇓P	Pn	04 29 44.8	+0.8
JANG	Nango	1.15	227	P	Pb	04 29 45.7	+0.3
JOT	Ohata	1.20	281	⇓P	Pn	04 29 45.9	+0.7
JTM	Tenmabayashi	1.23	252	⇓P	Pb	04 29 47.4	+0.6
JKB	Kayabe	1.39	302	P	Pn	04 29 48.0	+0.2
JCH	Churui	1.55	21	P	Pn	04 29 51.1	+1.1
JBT2	Biratori 2	1.62	353	P	Pn	04 29 52.1	+1.1
JSR	Shiriuchi	1.69	283	P	Pn	04 29 53.5	+1.5
JNB	Noboribetsu	1.75	318	P	Pn	04 29 52.9	+0.2
ASAJ	Asahikawa	2.95	360	P	Pn	04 30 11.1	+1.9
	14nm,0.5s,baz=220,slow=13,SNR=14						
ASAJ				S	Sn	04 30 45.8	+2.2
	11nm,0.4s,baz=333,slow=30,SNR=4.1						
MJAR	Matsushiro Arr	5.76	218	P	Pn	04 30 52.3	+4.5
	1.7nm,0.3s,baz=28,slow=11,SNR=4.6						
USRK	Ussuriysk Ar.	8.39	295	P	Pn	04 31 25.4	+1.5
	1.5nm,0.7s,baz=106,slow=15,SNR=1.4						
H11N2	WAKE ISLAND Hy	29.73	129	T	T	05 07 00.3	
	baz=322,slow=75						
H11N1	WAKE ISLAND Hy	29.74	129	T	T	05 07 08.9	
	baz=322,slow=75						
H11N3	WAKE ISLAND Hy	29.75	129	T	T	05 07 10.9	
	baz=322,slow=75						
H11S1	WAKE ISLAND Hy	30.58	130	T	T	05 08 09.5	
	baz=324,slow=76						
H11S3	WAKE ISLAND Hy	30.58	130	T	T	05 08 02.0	
	baz=324,slow=76						
H11S2	WAKE ISLAND Hy	30.59	130	T	T	05 08 12.5	
	baz=324,slow=76						
ZALV	Zalesovo Beam	39.94	309	P	P	04 36 54.7	-1.0
	0.6nm,0.4s,baz=94,slow=7.5,SNR=3.7						
	0.6nm,0.4s						
MKAR	Makanchi Array	42.84	299	P	P	04 37 19.1	-0.6
	0.5nm,0.6s,baz=82,slow=10.0,SNR=5.0						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	44.30	305	P	P	04 37 30.1	-1.3
	1.6nm,0.6s,baz=78,slow=8.9,SNR=9.4						
	1.6nm,0.6s						
ILAR	Eielson Array	45.53	34	P	P	04 37 40.4	-0.6
	0.4nm,0.9s,baz=277,slow=7.5,SNR=5.3						
	0.4nm,0.9s						
FINES	FINESS Array B	65.61	332	P	P	04 40 03.5	-1.7
	3.1nm,1.0s,baz=28,slow=7.0,SNR=2.3						
	3.1nm,1.0s						
HFS	Hagfors	70.71	336	P	P	04 40 35.3	-1.9
	1.2nm,0.8s,baz=35,slow=5.3,SNR=1.4						
	1.2nm,0.8s						

*IDC **20** 04:38:53.0±1.6, 28°20N×128°08E, h0km, mb3.4/5, mbtmp3.4/5, MS3.0/3, Error ellipse: s-maj=56.8km s-min=18.3km az=65.0*
*JMA **20** 04:38:54.4±0.3, 28°1N±0°6×128°0E±0°8, h14km±3km, MV3.2/12, NW OFF OKINAWAJIMA IS*
ISC 20 04:38:53.2±1.8, 28°14N±0°05×128°02E±0°06, h4km±12km, n19, σ0§93/24, mb3.2/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.90	113	P	Pg	04 39 10.8	+0.3
JTK				S	Sg	04 39 22.4	+0.3
JOKE	Okinoerabujima	0.92	147	eP	Pg	04 39 11.7	+0.8
JOKE				eS	Sg	04 39 23.5	+0.8
JAMN	Amaminishikomi	1.03	84	P	Pb	04 39 13.6	-0.1
JAMN				S	Sb	04 39 26.9	-0.6
JIH	Iheya	1.10	182	P	Pg	04 39 14.0	-0.3
JIH				eS	Sg	04 39 28.8	+0.2
JYRO	Yoronjima	1.18	161	eP	Pg	04 39 15.7	-0.1
JYRO				eS	Sg	04 39 31.4	+0.4
JOW	Kunigami	1.32	170	Pn	Pn	04 39 17.6	-0.9
	88nm,0.3s,baz=354,slow=16,SNR=22						
JOW				Sn	Sb	04 39 34.4	-1.6
	91nm,0.3s,baz=68,slow=27,SNR=14						
JOW	Kunigami	1.32	170	P	Pn	04 39 17.9	-0.6
JOW				S	Sb	04 39 34.6	-1.3
JAM	Amami Oshima	1.43	79	P	Pg	04 39 20.3	-0.3
JAM				eS	Sg	04 39 38.8	-0.3
JTAJ	Takarajima	1.45	46	eP	Pb	04 39 20.6	-0.3
JNTH	Nagotoyohara	1.61	180	eP	Pn	04 39 22.5	0.0
JNTH				eS	Sn	04 39 42.9	-0.9
JNU	Nakatsue	5.54	26	Pn	Pb	04 40 23.6	-7.1
	1.5nm,0.3s,baz=206,slow=8.5,SNR=11						
KSRS	Korea Array	9.29	360	LR	LR	04 44 59.7	
	comp=Z,117nm,18.2s,baz=175,slow=40						
USRK	Ussuriysk Ar.	16.34	10	LR	LR	04 48 38.2	
	comp=Z,56nm,18.3s,baz=195,slow=36						
SONM	Songino Array	25.87	325	P	P	04 44 26.1	-0.1
	0.3nm,0.5s,baz=143,slow=13,SNR=4.6						
	0.3nm,0.5s						
CMAR	Chiang Mai Arr	28.32	256	LR	LR	04 58 11.1	
	comp=Z,24nm,18.6s,baz=210,slow=41						
MKAR	Makanchi Array	40.14	310	P	P	04 46 30.9	+0.6
	0.3nm,0.7s,baz=119,slow=7.5,SNR=3.9						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	43.36	315	P	P	04 46 55.7	-0.9
	0.3nm,0.7s,baz=101,slow=8.4,SNR=3.4						
	0.3nm,0.7s						
WRA	Warramunga Arr	48.19	172	P	P	04 47 36.2	+1.2
	0.7nm,0.9s,baz=355,slow=8.0,SNR=2.8						
	0.7nm,0.9s						
ASAR	Alice Springs	51.82	173	P	P	04 48 04.9	+2.4
	0.3nm,0.6s,baz=3.3,slow=6.9,SNR=1.8						
	0.3nm,0.6s						

*IDC **20** 04:44:05.0±1.9, 47°91N×154°88E, h0km, mb3.8/10, mbtmp3.8/11, ML2.7/1, MS3.3/7, Error ellipse: s-maj=47.5km s-min=22.5km az=160.0*
*NEIC **20** 04:44:06.8±1.0, 47°9N±0°1×155°0E±0°2, h10km±2km, mb4.3/24, Error ellipse: s-maj=26.8km s-min=14.2km az=135.0*
*KRSC **20** 04:44:13.4±2.8, 48°30N×156°08E, h52km±39km, Ml3.9*
ISC 20 04:44:11.1±0.9, 48°1N±0°1×154°9E±0°1, h33km, n64, σ1§27/55, mb4.2/22, MS3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.66	17	eP	Pn	04 44 52.9	+1.3
SKR				eS	Sn	04 45 20.4	-2.3
PAU	Pauzhetka	3.55	20	eP	Pn	04 45 05.6	+1.8
PAU				eS	Sn	04 45 42.7	-1.8
GRL	Gorelyy	4.86	23	eP	Pn	04 45 21.6	-0.2
RUS	Russkaya	4.88	27	eP	Pn	04 45 19.9	-2.1
PEA0B	Petropavlovsk-	5.28	19	Pn	Pn	04 45 28.3	+0.7
PETK	Petropavlovsk-	5.28	19	Pn	Pn	04 45 28.3	+0.7
PETK	Petropavlovsk-	5.28	19	Pn	Pn	04 45 28.1	+0.5
	1.3nm,0.3s,baz=192,slow=12,SNR=20						
PETK				Sn	Sn	04 46 22.8	-4.4
	baz=226,slow=8.8						
	2.8nm,0.4s						
UGLR	Uglovaya	5.65	25	eP	Pn	04 45 34.3	+1.6
KOK	Koryaka	5.67	23	eP	Pn	04 45 33.6	+0.6
AVH	Avacha	5.68	24	eP	Pn	04 45 34.5	+1.5
SDLR	Sedlovina	5.73	25	eP	Pn	04 45 33.0	-0.8
KRX	Arik	5.74	23	eP	Pn	04 45 34.6	+0.7
GNL	Ganaly	5.88	18	eP	Pn	04 45 36.3	+0.4
ASAJ	Asahikawa	9.45	249	Pn	Pn	04 46 24.6	-0.1
	1.4nm,0.3s,baz=84,slow=21,SNR=4.3						
ERM	Erimo	10.32	238	Pn	Pn	04 46 34.5	-2.1
MA2	Magadan	11.71	350	LR	LR	04 52 00.2	
	comp=Z,67nm,18.6s,baz=120,slow=40						
SHEM	Shemya Is, Ala	13.06	62	LR	LR	04 51 19.4	
	comp=Z,24nm,20.4s,baz=50,slow=33						
KSRS	Korea Array	22.39	251	P	P	04 49 04.5	-1.8
	0.8nm,0.6s,baz=53,slow=9.6,SNR=6.0						
	0.8nm,0.6s						
J14K	Nanvaranak Lak	27.13	42	P	P	04 49 49.9	-0.7
J14K				IAmb	IAmb	04 49 59.0	
	comp=Z,8.7nm,1.2s						
K15K	Wolf Creek Mou	27.95	43	P	P	04 49 56.4	-1.7
JOW	Kunigami	29.73	234	LR	LR	05 00 48.3	
	comp=Z,364nm,19.7s,baz=96,slow=34						
H11N2	WAKE ISLAND Hy	29.96	157	T	T	05 21 54.9	
	baz=344						
H11N1	WAKE ISLAND Hy	29.98	157	T	T	05 21 55.2	
	baz=344,slow=74						
H11N3	WAKE ISLAND Hy	29.98	157	T	T	05 22 01.0	
	baz=344,slow=74						
H11S1	WAKE ISLAND Hy	31.08	158	T	T	05 23 29.7	
	baz=345,slow=76						
H11S3	WAKE ISLAND Hy	31.09	158	T	T	05 23 30.3	
	baz=345,slow=76						
H11S2	WAKE ISLAND Hy	31.10	158	T	T	05 23 17.4	
	baz=345,slow=76						
B20K	Meade River	31.61	29	P	P	04 50 30.7	+0.4
B20K				IAmb	IAmb	04 50 37.8	
	comp=Z,11nm,1.5s						
B21K	Ikpikpuk River	32.35	30	P	P	04 50 37.4	+0.6
B21K				IAmb	IAmb	04 50 53.3	
	comp=Z,5.5nm,1.2s						
B22K	Teshekpuk Lake	32.93	29	P	P	04 50 42.0	+0.1
BRLK	Bradley Lake	33.00	49	P	P	04 50 40.7	-1.9
E22K	Anaktuvuk Pass	33.02	33	P	P	04 50 42.4	-0.4
C23K	Itkillik River	33.75	31	P	P	04 50 49.0	-0.1
C23K				IAmb	IAmb	04 51 11.9	
	comp=Z,4.6nm,1.4s						
E23K	Chandalar	33.82	34	P	P	04 50 50.1	+0.3
E23K				IAmb	IAmb	04 51 33.8	
	comp=Z,4.8nm,1.5s						
ILAR	Eielson Array	34.70	40	P	P	04 50 54.9	-2.4
ILAR	Eielson Array	34.70	40	P	P	04 50 57.9	+0.6
	comp=Z,0.4nm,1.1s,baz=279,slow=6.2,SNR=1.8						
	comp=Z,0.4nm,1.1s						
KLU	Klutina	35.29	45	P	P	04 51 01.9	-0.6
KLU				IAmb	IAmb	04 51 44.2	
	comp=Z,11nm,1.4s						
E27K	Coleen River	36.83	34	P	P	04 51 15.8	+0.3
MK31	Makanchi Array	47.39	297	P	P	04 52 41.6	-0.2
MKAR	Makanchi Array	47.39	297	P	P	04 52 41.5	-0.3
MKAR	Makanchi Array	47.39	297	P	P	04 52 41.2	-0.7
	comp=Z,1.1nm,0.6s,baz=66,slow=8.4,SNR=12						
MKAR				LR	LR	05 14 07.0	
	comp=Z,36nm,19.3s,baz=96,slow=38						
	comp=Z,1.1nm,0.6s						
EUNU	Eureka	47.52	12	P	P	04 52 43.2	+0.8
EUNU				IAmb	IAmb	04 53 13.5	
	comp=Z,6.6nm,1.4s						
MAKZ	Makanchi	47.57	297	P	P	04 52 43.2	0.0
MAKZ				IAmb	IAmb	04 52 44.6	
	comp=Z,2.5nm,1.2s						
KURK	Kurchatov	47.61	303	P	P	04 52 43.5	0.0
KURK				IAmb	IAmb	04 52 44.1	
	comp=Z,2.4nm,0.6s						
KURBB	Kurchatov Arra	47.71	303	P	P	04 52 43.5	-0.7
	comp=Z,1.8nm,0.6s,baz=68,slow=8.4,SNR=15						
	comp=Z,1.8nm,0.6s						
RES	Resolute Bay	49.12	19	P	P	04 52 56.3	+1.5
BVAR	Borovoye Array	50.92	309	P	P	04 53 07.9	-0.8
	comp=Z,0.8nm,0.5s,baz=63,slow=7.3,SNR=3.7						
	comp=Z,0.8nm,0.5s						
GNW	Green Mountain	52.60	58	P	P	04 53 20.5	-0.8
GNW				IAmb	IAmb	04 53 27.9	
	comp=Z,5.2nm,1.4s						
CMAR	Chiang Mai Arr	53.88	257	LR	LR	05 17 46.5	
	comp=Z,28nm,18.3s,baz=145,slow=38						
AB31	Akbulak array	58.47	310	P	P	04 54 03.6	+0.2
AB31				IAmb	IAmb	04 54 06.0	
	comp=Z,3.7nm,1.4s						
ABKAR	Akbulak array	58.47	310	P	P	04 54 03.7	+0.2
ABKAR	Akbulak array	58.47	310	P	P	04 54 03.6	+0.2
ABKAR				IAmb	IAmb	04 54 06.0	
	comp=Z,3.7nm,1.4s						
SUMG	Summit	59.22	5	P	P	04 54 09.6	+0.8
FINES	FINESS Array B	63.29	335	LR	LR	05 26 40.0	
	comp=Z,31nm,20.2s,baz=84,slow=40						
NOA	NORSAR Array B	67.29	342	P	P	04 55 03.3	+1.3
	comp=Z,0.9nm,0.8s,baz=44,slow=9.7,SNR=4.7						
	comp=Z,0.9nm,0.8s						
NBO00	NORSAR Array S	67.39	342	P	P	04 55 02.4	-0.2
BORG	Borgarnes	67.41	358	P	P	04 55 02.7	+0.1
HFS	Hagfors	67.57	340	P	P	04 55 04.1	+0.4
	comp=Z,1.1nm,0.5s,baz=48,slow=2.1,SNR=6.8						
	comp=Z,1.1nm,0.5s						
S22A	4UR Ranch, Cre	67.89	58	P	P	04 55 07.6	+1.1
SCHQ	Schefferville	71.55	24	P	P	04 55 30.8	+2.4
EKA	Eskdalemuir Ar	75.26	347	P	P	04 55 50.3	+0.2
	comp=Z,0.9nm,0.6s,baz=17,slow=5.8,SNR=5.4						
	comp=Z,0.9nm,0.6s						
TXAR	Lajitas Array	75.75	62	P	P	04 55 53.1	-0.5
	comp=Z,0.3nm,0.6s,baz=326,slow=5.9,SNR=5.1						
	comp=Z,0.3nm,0.6s						
GERES	GERESS Array B	77.72	335	P	P	04 56 05.1	+0.7
	comp=Z,0.4nm,0.6s,baz=31,slow=5.4,SNR=2.7						
	comp=Z,0.4nm,0.6s						
DAVOX	Davos/Dischmat	80.66	336	LR	LR	05 39 34.0	
	comp=Z,32nm,18.3s,baz=347,slow=41						

*SNET **20** 04:51:42.9±1.0, 12°86N×88°33W, h56km±15km, ML3.0*
CATAC 20 04:51:42.2±0.5, 13°N±3°×8°8W±°, h34km±4km, M3.4/29, MLv3.4/29, 3C-1D, Error ellipse: s-maj=8.1km s-min=2.2km az=28.8, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.62	337	eP	Pb	04 51 55.0	+0.2
ALJI				eS	Sb	04 52 04.1	+0.8
ALJI	Alcalda de J	0.62	337	P	Pb	04 51 55.3	+0.6
ALJI	Alcalda de J	0.62	337	S	Sb	04 52 04.8	+1.5
ALJI	Alcalda de J	0.62	337	P	Pb	04 51 55.1	+0.3
ALJI	Alcalda de J	0.62	337	P	Pb	04 51 55.1	+0.4
ALJI	Alcalda de J	0.62	337	S	Sb	04 52 04.2	+0.9
LCY	Lacayo	0.67	2	eP	Pb	04 51 55.7	+0.1
RANC	El Ranchito	0.68	3	↑iP	Pb	04 51 55.8	0.0
RANC	El Ranchito	0.68	3	S	Sb	04 52 06.5	+1.4
RANC	El Ranchito	0.68	3	P	Pb	04 51 56.0	+0.2
RANC	El Ranchito	0.68	3	S	Sb	04 52 06.6	+1.6
RANC	El Ranchito	0.68	3	P	Pb	04 51 55.9	+0.1
RANC	El Ranchito	0.68	3	S	Sb	04 52 06.6	+1.5
BLLM	Bellamira	0.69	7	eP	Pb	04 51 55.8	-0.1
LCND	La Caada	0.69	37	eP	Pn	04 51 55.6	+0.1
LCND	La Caada	0.69	37	P	Pb	04 51 56.0	0.0
LCND	La Caada	0.69	37	P	Pn	04 51 55.6	+0.1
CNCH	Conchagua	0.70	42	↓eP	Pn	04 51 55.8	0.0
CNCH	Conchagua	0.70	42	P	Pb	04 51 56.2	0.0
CNCH	Conchagua	0.70	42	S	Sb	04 52 07.4	+1.7
CNCH	Conchagua	0.70	42	P	Pn	04 51 55.9	+0.1
PACA	Pacayal	0.71	360	eP	Pb	04 51 56.2	-0.1
PACA				eS	Sb	04 52 07.0	+1.0
PACA	Pacayal	0.71	360	P	Pb	04 51 56.4	+0.1
PACA	Pacayal	0.71	360	S	Sb	04 52 07.0	+1.0
PACA	Pacayal	0.71	360	P	Pb	04 51 56.3	0.0
CNRM	Centro Naciona	0.73	12	eP	Pb	04 51 56.4	-0.2
CNRM	Centro Naciona	0.73	12	P	Pb	04 51 56.5	-0.1
CNRM	Centro Naciona	0.73	12	S	Sb	04 52 07.7	+1.3
CNRM	Centro Naciona	0.73	12	P	Pb	04 52 07.7	+11
TECA	Tecapa	0.76	346	eP	Pb	04 51 56.9	-0.3
TECA				eP	Pn	04 51 57.0	+0.4
TECA				eS	Sb	04 52 07.6	+0.3
TECA				IAML		04 52 09.7	
	comp=Z,379nm,0.2s						
CSGN	Cosiguina Volc	0.78	73	P	Pn	04 51 57.0	+0.3
CSGN				S	Sb	04 52 08.2	+0.5
CSGN	Cosiguina Volc	0.78	73	P	Pn	04 51 56.9	+0.1
POTN	Potosi Cosigui	0.83	73	P	Pn	04 51 57.7	+0.2
POTN				S	Sb	04 52 09.7	+0.6
POTN	Potosi Cosigui	0.83	73	P	Pn	04 51 57.6	+0.2
PQSS	Presa 15 de Se	0.90	345	eP	Pn	04 51 58.6	+0.3
PQSS	Presa 15 de Se	0.90	345	S	Sb	04 52 11.8	+0.8
PQSS	Presa 15 de Se	0.90	345	P	Pn	04 51 58.4	+0.1
PQSS	Presa 15 de Se	0.90	345	S	Sb	04 52 11.4	+0.4
PQSS	Presa 15 de Se	0.90	345	P	Pn	04 51 58.5	+0.2
TECO	Alcaldia de Te	0.90	330	S	Sn	04 52 10.4	+0.2
TECO	Alcaldia de Te	0.90	330	P	Pb	04 52 10.1	+11
UESV	Universidad de	0.99	333	eP	Pn	04 51 59.9	+0.2
UESV	Universidad de	0.99	333	P	Pn	04 51 59.9	+0.2
UESV	Universidad de	0.99	333	S	Sb	04 52 13.2	-0.5
UESV	Universidad de	0.99	333	P	Pn	04 51 59.9	+0.3
UESV	Universidad de	0.99	333	S	Sb	04 52 13.5	-0.2
COEG	Centro de Oper	1.02	328	eP	Pn	04 52 00.2	0.0
COEG				IAML		04 52 18.8	
	comp=Z,332nm,0.2s						
COEG	Centro de Oper	1.02	328	S	Sn	04 52 13.6	+0.4
COEG	Centro de Oper	1.02	328	P	Pn	04 52 00.5	+0.3
COEG	Centro de Oper	1.02	328	S	Sn	04 52 13.2	-0.1
COEG	Centro de Oper	1.02	328	P	Pn	04 51 60.0	-0.2
SC

TGUH	Tegucigalpa,Un	1.65 38	P	Pn	04 52 08.9	0.0
CEVE	Cerro Verde	1.66 310	P	Pn	04 52 09.2	+0.1
LEVN	Ruinas Leon Vi	1.70 102	S	Sn	04 52 31.5	+1.5
UNIC	Universidad Ca	1.71 316	S	Sn	04 52 30.6	+0.3
UNIC	Universidad Ca	1.71 316	P	Pn	04 52 09.0	-0.6
MOMN	Momotombo	1.77 101	P	Pn	04 52 10.2	-0.3
MOMN			S	Sn	04 52 31.0	-0.8
NUBE	Las Nubes	1.82 309	eP	Pn	04 52 11.2	-0.1
NUBE	Las Nubes	1.82 309	P	Pn	04 52 11.3	0.0
NUBE	Las Nubes	1.82 309	S	Sn	04 52 32.3	-0.9
NUBE	Las Nubes	1.82 309	P	Pn	04 52 11.2	0.0
MTO3	Montecristo	1.92 328	P	Pb	04 52 14.9	-1.9
MTO3	Montecristo	1.92 328	P	Pn	04 52 12.8	+0.1
MTO3	Montecristo	1.92 328	P	Pn	04 52 13.8	+1.1
LIMN	Finca el Limon	1.93 81	P	Pn	04 52 12.4	-0.3
SAPS	Ciudad Sandino	1.96 107	S	Sn	04 52 35.5	-0.9
UNAN	Cigeo UNAN	2.10 107	S	Sn	04 52 39.3	-0.7
R4DEC	Barrio San Lui	2.11 106	S	Sn	04 52 40.7	+0.6
RCVN	Varillal2	2.23 68	P	Pn	04 52 16.3	-0.5
RCVN	Varillal2	2.23 68	P	Pn	04 52 16.9	+0.1
RCON	San Juan de Ri	2.23 71	P	Pn	04 52 16.9	0.0
RCON	San Juan de Ri	2.23 71	P	Pn	04 52 17.1	+0.2
NANN	Nandasmo	2.30 110	S	Sn	04 52 45.4	+0.6
RCPN	Sur Rio San Ju	2.30 70	P	Pn	04 52 18.0	+0.2
RCPN	Sur Rio San Ju	2.30 70	P	Pn	04 52 18.2	+0.4
MATN	Matagalpa	2.34 85	P	Pn	04 52 18.1	-0.2
MATN	Matagalpa	2.34 85	S	Sn	04 52 45.7	-0.3
MATN	Matagalpa	2.34 85	P	Pn	04 52 18.1	-0.3
BOAB	BOACO BROADBAN	2.61 96	P	Pn	04 52 21.5	-0.4
BOAB	BOACO BROADBAN	2.61 96	S	Sn	04 52 53.5	+1.1

*IDC **20** 04:59:55.0±2.7, 54°.33N×87°.15E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=22.6km s-min=16.4km az=58.0*
*NNC **20** 04:59:58.0±2.3, 54°.51N×87°.07E, h15km±21km, mb3.0, mpv2.6, Error ellipse: s-maj=23.5km s-min=13.6km az=14.0, Suspected Mining explosion.*
*ASRS **20** 04:59:57.0±0.8, 54°.33N×86°.95E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

ISC 20 04:59:56.5±4.4, 54°.5N±0°.2×87°.0E±0°.2, h0km, n9, σ1§99/15, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.35 249		I	I	05 06 50.0	
	baz=73,slow=336,SNR=2.8						
ZAA0	Zalesovo Array	1.35 249		⇓P	Pn	05 00 23.2	+0.6
	0.1nm,0.2s						
ZAA0				⇓S	Sn	05 00 42.5	+1.2
	0.4nm,0.3s						
ZALV	Zalesovo Beam	1.35 249		Pg	Pg	05 00 21.6	-0.8
	1.2nm,0.3s,baz=72,slow=14,SNR=24						
ZALV				Lg	Lg	05 00 38.5	
	1.8nm,0.3s,baz=74,slow=27,SNR=10						
KURK	Kurchatov	6.31 237		⇑Pn	Pn	05 01 28.6	-2.1
	0.9nm,0.8s						
KURK				⇑Sn	Sn	05 02 44.6	+1.2
	0.4nm,0.4s						
KURK				⇓Lg	Lg	05 03 20.3	
	3.6nm,1.0s						
KURBB	Kurchatov Arra	6.41 237		Pn	Pn	05 01 31.6	-0.5
	0.1nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Sn	Sn	05 02 46.5	+0.5
	baz=50,slow=39,SNR=1.5						
KURBB				Lg	Lg	05 03 21.4	
	baz=58,slow=33,SNR=5.5						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	6.41 237		⇓Pn	Pn	05 01 33.7	+1.6
	0.3nm,0.4s						
KURBB				⇑Sn	Sn	05 02 45.7	-0.3
	2.5nm,0.7s						
KURBB				⇑Lg	Lg	05 03 24.2	
	5.0nm,1.1s						
MK31	Makanchi Array	8.22 203		⇑Pn	Pn	05 01 59.5	+2.5
	0.1nm,0.3s,baz=31,slow=14,SNR=14						
MK31				⇑Sn	Sn	05 03 32.6	+2.0
	0.2nm,0.5s						
MK31				⇓Lg	Lg	05 04 18.3	
	0.4nm,0.6s,baz=20,slow=29,SNR=3.9						
MKAR	Makanchi Array	8.22 203		Pn	Pn	05 01 55.0	-2.0
	0.1nm,0.3s,baz=26,slow=13,SNR=9.0						
MKAR				Sn	Sn	05 03 26.4	-4.2
	0.1nm,0.3s,baz=35,slow=28,SNR=3.6						
MKAR				Lg	Lg	05 04 12.9	
	baz=17,slow=30,SNR=5.5						
	0.1nm,0.3s						
MAKZ	Makanchi	8.28 204		⇑Pn	Pn	05 01 59.1	+1.2
	0.4nm,0.4s						
MAKZ				⇑Sn	Sn	05 03 33.8	+1.7
	0.6nm,0.6s						
MAKZ				⇓Lg	Lg	05 04 19.4	
	0.3nm,0.5s						

*IDC **20** 05:12:31.3±0.8, 27°.88N×127°.62E, h0km, mb3.7/7, mbtmp3.7/8, ML3.3/1, MS3.1/9, Error ellipse: s-maj=36.2km s-min=13.4km az=64.0*
*NIED **20** 05:12:32.0, 28°.09N×128°.02E, h11km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.58; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-0.14; $M_{r\theta}$-0.87; $M_{\theta\phi}$0.54; $M_{\phi r}$-0.81; Fault plane solution: $M_0$1.44000×10^{15} NP1: ϕ_s273.00000°, δ22.00000°, λ-46.00000°. NP2:ϕ_s46.00000°, δ75.00000°, λ-105.00000°.*
*JMA **20** 05:12:32.0±0.2, 28°.1N±0°.4×128°.0E±0°.6, h11km±2km, MV3.5/13, NW OFF OKINAWAJIMA IS*

ISC 20 05:12:32.4±2.1, 28°.05N±0°.05×128°.04E±0°.08, h9km±14km, n28, σ1§04/27, mb3.6/7, MS3.0/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.83 146		P	Pg	05 12 48.4	0.0
JTK	Tokunoshima	0.85 108		P	Pg	05 12 48.5	-0.2
JTK				S	Sg	05 13 00.4	+0.7
JIH	Iheya	1.01 184		P	Pb	05 12 51.7	-0.4
JIH				S	Sb	05 13 05.7	+0.1
JAMN	Amaminishikomi	1.02 79		P	Pb	05 12 51.4	-0.9
JAMN				S	Sg	05 13 04.9	-0.3
JYRO	Yoronjima	1.08 160		P	Pb	05 12 53.0	-0.4
JYRO				S	Sg	05 13 08.4	+1.2
JOW	Kunigami	1.23 170		Pn	Pn	05 12 55.1	-0.7
	171nm,0.3s,baz=349,slow=17,SNR=28						
JOW				Sn	Sb	05 13 11.6	-0.3
	141nm,0.3s,baz=182,slow=26,SNR=17						
JOW	Kunigami	1.23 170		P	Pn	05 12 55.2	-0.7
JOW				S	Sb	05 13 11.8	-0.1
JAM	Amami Oshima	1.43 75		P	Pn	05 12 58.2	-0.3
JTAJ	Takarajima	1.50 43		eP	Pn	05 12 58.8	-0.7
JNTH	Nagotoyohara	1.53 181		P	Pn	05 12 59.8	-0.1
JNTH				eS	Sn	05 13 19.5	-0.4
JAGN	Aguni-jima	1.62 206		P	Pn	05 13 00.7	-0.5
JNU	Nakatsue	5.62 25		Pn	Pn	05 14 00.8	+4.7
	0.8nm,0.3s,baz=224,slow=18,SNR=13						
	35nm,0.9s						
KSRS	Korea Array	9.38 359		LR	LR	05 18 28.0	
	comp=Z,86nm,18.2s,baz=180,slow=37						
MJAR	Matsushiro Arr	12.06 43		LR	LR	05 20 26.4	
	comp=Z,31nm,20.1s,baz=220,slow=38						
USRK	Ussuriysk Ar.	16.43 10		Pn	P	05 16 28.9	+3.0
	0.2nm,0.3s,baz=188,slow=9.9,SNR=3.4						
DAV	Davao City (W)	21.00 187		LR	LR	05 25 22.4	
	comp=Z,33nm,20.9s,baz=88,slow=37						
GUMO	Guam	21.28 129		LR	LR	05 24 38.0	
	comp=Z,49nm,20.1s,baz=71,slow=34						
KLR	Kul'dur	21.34 7		LR	LR	05 25 23.1	
	comp=Z,28nm,20.9s,baz=360,slow=36						
SONM	Songino Array	25.95 325		P	P	05 18 05.1	-0.2
	0.7nm,0.6s,baz=134,slow=11,SNR=5.4						
	0.7nm,0.6s						
JAY	Jayapura	32.74 156		LR	LR	05 31 27.8	
	comp=Z,29nm,19.6s,baz=356,slow=35						
MKAR	Makanchi Array	40.22 310		P	P	05 20 08.2	-1.2
	1.3nm,0.9s,baz=99,slow=7.5,SNR=7.9						
MKAR				PcP	PcP	05 22 12.9	-0.4
	0.3nm,0.7s,baz=95,slow=3.3,SNR=2.2						
	1.3nm,0.9s						
ZALV	Zalesovo Beam	40.71 322		P	P	05 20 11.3	-1.9
	0.2nm,0.3s,baz=141,slow=9.3,SNR=2.1						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	43.43 315		P	P	05 20 34.8	-0.7
	1.0nm,0.6s,baz=103,slow=8.8,SNR=7.5						
	1.0nm,0.6s						

TIXI	Tiksi	43.65 0		LR	LR	05 39 11.0
	comp=Z,36nm,18.6s,baz=206,slow=36					
WRA	Warramunga Arr	48.10 172		P	P	05 21 12.1 -0.6
	1.3nm,0.8s,baz=354,slow=7.9,SNR=12					
	1.3nm,0.8s					
ASAR	Alice Springs	51.73 173		P	P	05 21 40.0 -0.3
	0.5nm,0.8s,baz=356,slow=8.2,SNR=5.6					
ASAR				LR	LR	05 43 14.2
	comp=Z,21nm,19.7s,baz=40,slow=36					
	0.5nm,0.8s					
JMIC	Jan Mayen	76.61 347		LR	LR	06 01 28.6
	comp=Z,39nm,18.2s,baz=26,slow=38					
YKA	Yellowknife Ar	76.95 25		P	P	05 24 27.3 +2.3
	0.5nm,0.9s,baz=292,slow=5.5,SNR=5.3					
	0.5nm,0.9s					

*TEH **20** 05:34:19.9, 38°.53N×44°.53E, h8km±152km*
*AFAD **20** 05:34:22.8, 38°.58N×44°.59E, h8km±2km, ML2.4*
*AZER **20** 05:34:23.6, 38°.67N×44°.77E, h8km, ml2.5*

ISC 20 05:34:22.5±1.2, 38°.56N±0°.03×44°.63E±0°.02, h8km±10km, n27, σ1§44/44, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.51 282		P	Pb	05 34 32.9	-0.9
OZAP				S	Sb	05 34 39.6	-1.9
OZAP				i AML	AML	05 34 43.0	
	comp=E,229nm,0.5s						
MAKU	Maku	0.80 3		Pg	Pg	05 34 35.8	-2.0
ISHB	Shabestar	0.82 109		Pg	Pg	05 34 37.7	-0.6
IMRD	Marand	0.85 79		Pg	Pg	05 34 38.2	-0.7
NAX	Nakhchivan	0.91 47		P	Pg	05 34 39.2	-0.8
NAX				S	Sg	05 34 52.9	+0.9
VMUR	Van-Muradiye	0.93 298		P	Pg	05 34 39.8	-0.6
VMUR				S	Sb	05 34 52.8	-0.8
VMUR				i AML	AML	05 35 00.0	
	comp=E,94nm,0.4s						
VMUR				i AML	AML	05 35 01.0	
	comp=N,94nm,0.6s						
TVAN	Van	0.96 269		P	Pg	05 34 41.0	0.0
YOVA	Hakkari_Yksek	1.01 196		P	Pn	05 34 44.3	+1.2
YOVA				S	Sb	05 34 56.9	+1.1
SBZ	Shahbuz	1.10 40		P	Pg	05 34 42.7	-1.0
SBZ				S	Sg	05 34 58.0	0.0
ORD	Ordubad	1.13 71		P	Pg	05 34 43.3	-0.8
ORD				S	Sg	05 34 59.0	+0.2
HYR	Heyderabad	1.17 8		P	Pg	05 34 44.5	-0.5
HYR				S	Sn	05 35 01.0	-0.4
ITBZ	Tabriz	1.23 105		Pg	Pn	05 34 44.5	-1.7
GEVA	Gevas	1.26 259		P	Pb	05 34 45.3	-1.2
GEVA				S	Sn	05 35 03.8	+0.1
IGDI	IGDIR	1.38 342		P	Pn	05 34 47.8	-0.2
IGDI	IGDIR	1.38 342		P	Pg	05 34 49.2	+0.4
IGDI				S	Sg	05 35 12.0	+5.2
ADCV	BITLIS_Adilcev	1.51 280		P	Pg	05 34 52.3	+0.8
ADCV				i AML	AML	05 35 16.0	
	comp=N,56nm,0.5s						
ADCV				i AML	AML	05 35 16.0	
	comp=E,57nm,0.6s						
GNI	Garni	1.59 3		Pg	Pn	05 34 50.8	-0.3
DORK	Agr/Tutak/Do	1.66 300		P	Pn	05 34 52.5	+0.4
DORK				S	Sn	05 35 12.0	-1.7
DORK				i AML	AML	05 35 19.0	
	comp=N,44nm,0.8s						
DORK				i AML	AML	05 35 22.0	
	comp=E,44nm,1.0s						
KOTA	Agri, Merkez-K	1.66 319		P	Pn	05 34 51.7	-0.4
KOTA				S	Sn	05 35 13.3	-0.5
PERV	Siirt/Pervari-	1.75 250		P	Pg	05 34 55.6	-0.5
PERV				i AML	AML	05 35 25.0	
	comp=E,42nm,0.5s						
PERV				i AML	AML	05 35 32.0	
	comp=N,49nm,1.0s						
IHRS	Heris	1.91 96		Pn	Pn	05 34 56.5	+1.0
GDB	GEDABAY	2.33 22		P	Pb	05 35 03.9	-0.9
GDB				S	Sb	05 35 34.5	+0.8
GANJ	Ganja	2.46 32		P	Pb	05 35 05.6	-1.4
GANJ				S	Sb	05 35 39.2	+1.8
QZX	Qazax, Azerbai	2.56 13		P	Pb	05 35 08.3	-0.4
QZX				S	Sg	05 35 44.0	-0.7
YRD	Yardimli	2.85 82		P	Pn	05 35 11.2	+2.8
YRD				S	Sb	05 35 51.8	+3.1
LRK	Lerik	2.91 87		P	Pb	05 35 13.5	-1.1
LRK				S	Sg	05 35 54.8	-1.1
DGRG	David-gareji	2.94 11		P	Pb	05 35 16.1	+0.9
DGRG				S	Sg	05 35 57.9	+0.9

NEIC 20 05:37:31.3±0.9, 28°.44N±0°.02×99°.20W±0°.02, h5km±2km, mb_Lg2.8/37, ML2.8/6, Error ellipse: s-maj=3.9km s-min=2.9km az=143.0, Southern Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNDO	Hondo	1.09 356			Pg	05 37 50.6	-1.6
HNDO				Sg	Sg	05 38 06.2	-0.2
HNDO				IAML		05 38 07.1	
	205nm,0.7s						
HNDO				IAML		05 38 07.6	
	224nm,0.3s						
735A	Kenedy	1.29 71			Pn	05 37 54.7	-1.3
735A				IAML		05 38 14.4	
	136nm,0.6s						
735A				IAmb_Lg		05 38 15.5	
	comp=Z,62nm,1.0s						
DRIO	Del Rio	1.59 309			Pn	05 37 59.7	-0.5
DRIO					Sn	05 38 20.0	-1.0
JCT	Junction City	2.10 346			Pn	05 38 06.5	-0.7
MLDN	Muldoon	2.29 54		IAmb_Lg		05 38 43.7	
	comp=Z,35nm,1.1s						
435B	Jarrell	2.73 31			Pn	05 38 15.2	-0.6
BRDY	Brady	2.84 3		Pn	Pn	05 38 17.0	-0.5
BRDY				IAmb_Lg		05 38 59.7	
	comp=Z,33nm,0.8s						
SAND	Sanderson	2.97 301		Pn	Pn	05 38 19.3	+0.1
OZNA	Ozona	2.99 326		Pn	Pn	05 38 20.5	+1.0
SGCY	Sterling City	3.85 335			Pn	05 38 29.7	-1.6
TXAR	Lajitas Array	4.02 284		Pn	Pn	05 38 33.8	+0.1
TX31	Lajitas Ar. Si	4.02 284			Pn	05 38 34.2	+0.5
ABTX	Abilene, Hawle	4.19 355			Pn	05 38 35.9	-0.1
ALPN	Alpine	4.33 298			Pn	05 38 38.5	+0.6
FW07	Weatherford	4.42 16		IAmb_Lg		05 39 56.5	
	comp=Z,26nm,1.0s						
SN05	Snyder 5	4.66 342		IAmb_Lg		05 40 10.8	
	comp=Z,23nm,0.9s						
FW06	Azle	4.74 17		IAmb_Lg		05 40 14.4	
	comp=Z,22nm,1.2s						
Z35A	Perchaven, San	5.15 18		IAmb_Lg		05 40 26.5	
	comp=Z,16nm,1.0s						

WEL 20 05:41:38.3±0.5, 34°S±6°×18°0W±1°2, h33km, M4.0/1, ML4.7/3, MLv4.0/1, Error ellipse: s-maj=17.0km s-min=4.1km az=111.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	3.94 199		P	Pn	05 42 38.2	+1.7
WMGZ				S	Sn	05 43 23.8	+2.2
HAZ	Te Kaha	4.08 206		P	Pn	05 42 40.0	+1.6
HAZ				S	Sn	05 43 24.2	-0.7
PKGZ	Pakihiroa	4.08 202		P	Pn	05 42 39.9	+1.5
PKGZ				S	Sn	05 43 24.9	-0.1
PUZ	Puketiti	4.22 199		P	Pn	05 42 40.7	+0.4
PUZ				S	Sn	05 43 28.5	0.0
RUGZ	Raukumara Rang	4.31 205		P	Pn	05 42 42.4	+0.8
KUZ	Kuaotunu	4.39 232		P	Pn	05 42 43.6	+1.0
TWGZ	Tauwhareparae	4.40 201		P	Pn	05 42 45.9	+3.1
TWGZ				S	Sn	05 43 34.5	+1.6
CNGZ	Carnagh Statio	4.62 198		P	Pn	05 42 45.7	-0.1
OPRZ	Ohinepanea	4.68 216		P	Pn	05 42 46.8	+0.2
TKGZ	Te Karaka	4.68 201		P	Pn	05 42 48.5	+1.9
MWZ	Matawai	4.69 205		P	Pn	05 42 46.6	-0.2
MWZ				S	Sn	05 43 38.7	-1.3
MARZ	Manawahe	4.74 214		P	Pn	05 42 49.5	+2.1
MARZ				S	Sn	05 43 40.9	-0.2
URZ	Urewera	4.78 209		P	Pn	05 42 48.3	+0.4
URZ				S	Sn	05 43 39.9	-2.2
WIAZ	Waiheke Island	4.81 234		P	Pn	05 42 49.9	+1.6
RIGZ	Rimuhau	4.95 201		P	Pn	05 42 51.0	+0.7
MKAZ	Moumakai	4.97 231		P	Pn	05 42 51.3	+0.8

KMRZ	Kaimai	4.99 220		P	Pn	05 42 52.2	+1.2
WCZ	Waipu Caves	5.00 247		P	Pn	05 42 49.8	-1.2
MUGZ	Murupara	5.10 210		P	Pn	05 42 52.4	0.0
PRGZ	Paritu Road	5.12 199		P	Pn	05 42 52.9	+0.3
GLKZ	Green Lake	5.12 21		P	Pn	05 42 49.4	-3.3
GLKZ				S	Sn	05 43 50.2	-0.6
RTZ	Ruatahuna	5.14 208		P	Pn	05 42 51.0	-1.9
SNGZ	Shannon Statio	5.16 204		P	Pn	05 42 53.8	+0.6
TOZ	Tahuroa Road	5.16 224		P	Pn	05 42 55.1	+1.9
KNZ	Kokohu	5.27 200		P	Pn	05 42 55.3	+0.6
MHGZ	Mahia Peninsul	5.33 198		P	Pn	05 42 55.7	+0.1
ALRZ	Allen Road	5.36 212		P	Pn	05 42 55.3	-0.6
RAHZ	Arahi	5.36 205		P	Pn	05 42 55.2	-0.8
MTHZ	Maungataniwha	5.40 207		P	Pn	05 42 55.8	-0.7
WHHZ	Waihua	5.46 203		P	Pn	05 42 57.8	+0.5
NMHZ	Naumai	5.62 206		P	Pn	05 42 59.5	-0.2
ARHZ	Aropaoanui	5.70 204		P	Pn	05 42 59.9	-0.8
BKZ	Black Stump Fm	5.80 208		P	Pn	05 43 00.6	-1.5
BKZ				S	Sn	05 44 02.1	-5.4
MCHZ	McNeill Hill	5.97 205		P	Pn	05 43 02.7	-1.7
KATZ	Kakaramea	5.99 214		P	Pn	05 43 04.0	-0.7
CKHZ	Cape Kidnapper	6.04 202		P	Pn	05 43 04.0	-1.2
KWHZ	Kaweka Forest	6.05 207		P	Pn	05 43 03.3	-2.3
HIZ	Hauiti	6.07 222		P	Pn	05 43 06.5	+0.9
NTVZ	North Tongarir	6.09 214		P	Pn	05 43 05.3	-0.9
TMVZ	Te Maari	6.10 213		P	Pn	05 43 04.7	-1.5
ETVZ	East Tongariro	6.11 213		P	Pn	05 43 04.9	-1.5
WTVZ	West Tongariro	6.15 214		P	Pn	05 43 06.1	-0.8
NNVZ	North Ngauruho	6.15 214		P	Pn	05 43 06.3	-0.7
OTVZ	Oturere	6.15 213		P	Pn	05 43 05.1	-1.9
SNVZ	South Ngauruho	6.18 213		P	Pn	05 43 05.5	-1.9
TWVZ	Taurewa	6.18 215		P	Pn	05 43 05.8	-1.6
NGZ	Ngauruhoe	6.19 214		P	Pn	05 43 06.8	-0.7
KAHZ	Kahuranaki	6.22 203		P	Pn	05 43 05.6	-2.2
TUVZ	Tukino	6.24 213		P	Pn	05 43 07.4	-0.8
KRHZ	Kereru	6.26 207		P	Pn	05 43 05.5	-2.9
FWVZ	Far West T-bar	6.28 213		P	Pn	05 43 07.3	-1.4
MOVZ	Moawhango	6.31 212		P	Pn	05 43 06.8	-2.3
WNVZ	Wahianoa	6.32 213		P	Pn	05 43 07.6	-1.6
PXZ	Pawanui	6.44 202		P	Pn	05 43 08.6	-2.2
PNHZ	Pukenui	6.56 207		P	Pn	05 43 09.3	-3.3
DVHZ	Dannevirke	6.92 205		P	Pn	05 43 13.8	-3.6
ANWZ	Angora Road	6.96 203		P	Pn	05 43 14.8	-3.0
NEZ	North Egmont	7.02 221		P	Pn	05 43 18.8	0.0
KHEZ	Kahui Hut	7.08 221		P	Pn	05 43 19.4	-0.3
POWZ	Post Office Ro	7.14 207		P	Pn	05 43 17.4	-3.0
PRWZ	Pori Road	7.21 205		P	Pn	05 43 18.3	-3.1
BFZ	Birch Farm	7.23 203		P	Pn	05 43 17.7	-3.9
TIWZ	Tintock	7.44 205		P	Pn	05 43 21.0	-3.5
MRZ	Mangatainoka R	7.45 207		P	Pn	05 43 19.5	-5.1
HOWZ	Holdsworth Sta	7.68 206		P	Pn	05 43 21.8	-6.0
TMWZ	Te Maipa	7.73 204		P	Pn	05 43 23.9	-4.7
OGWZ	Otaki Gorge	7.74 208		P	Pn	05 43 23.2	-5.4
KIW	Kapiti Island	7.88 209		P	Pn	05 43 25.2	-5.4
CAW	Cannon Point	8.03 208		P	Pn	05 43 26.6	-6.0
TRWZ	Traveller	8.06 204		P	Pn	05 43 27.8	-5.2
PAWZ	Paruwai Farm	8.13 205		P	Pn	05 43 28.0	-6.1
MSWZ	Moikau Station	8.23 206		P	Pn	05 43 29.8	-5.6
DUWZ	D'Urville Isla	8.27 214		P	Pn	05 43 29.8	-6.1
PLWZ	Palliser	8.36 205		P	Pn	05 43 30.8	-6.4
TUWZ	Tuamarina	8.76 211		P	Pn	05 43 36.6	-6.0
NNZ	Nelson	8.85 215		P	Pn	05 43 37.0	-6.7
QRZ	Quartz Range	8.97 219		P	Pn	05 43 38.4	-7.2
BSWZ	Blackbirch Sta	9.02 211		P	Pn	05 43 39.9	-6.4
MRNZ	Matariki Terra	9.28 216		P	Pn	05 43 42.4	-7.3
THZ	Tophouse	9.49 214		P	Pn	05 43 45.6	-7.1
KHZ	Kahutara	9.74 210		P	Pn	05 43 48.4	-7.7

*VAO **20** 05:41:42.2±0.3, 15°.30S×70°.70W, h191km, mb4.5*
*NEIC **20** 05:41:43.0±1.6, 15°.40S±0°.06×70°.60W±0°.09, h191km±4km, mb4.5/177, Error ellipse: s-maj=12.3km s-min=8.2km az=77.0*
*IDC **20** 05:41:43.7±0.7, 15°.29S×70°.41W, h197km±5km, mb3.9/18, mbtmp4.4/24, MS2.9/3, Error ellipse: s-maj=13.5km s-min=7.6km az=51.0*
*RSNC **20** 05:41:43.8±0.6, 15°S±9°×7°1W±°, h192km±8km, M4.4, mB5.0, mb4.6, ML3.7, Mw(mB)4.6*

ISC 20 05:41:42.7±0.3, 15°.45S±0°.04×70°.62W±0°.05, h193km, n212, σ1§47/160, mb4.5/87, 8C-5D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	2.40 153			Pn	05 42 28.8	+3.3
PB18	Visviri	2.40 153		⇑iP	Pn	05 42 28.8	+3.3
PB18				i S	Sn	05 43 03.1	+4.2
LPAZ	La Paz	2.54 110			Pn	05 42 29.1	+1.9
LPAZ	La Paz	2.54 110		P	Pn	05 42 28.9	+1.7
	421nm,0.4s,baz=335,slow=8.1,SNR=1031						
LPAZ				S	Sn	05 43 01.1	-0.6
	255nm,0.5s,baz=183,slow=22,SNR=12						
LPAZ				LR	LR	05 43 46.5	
	comp=Z,138nm,20.4s,baz=236,slow=51						
LPAZ	La Paz	2.54 110		eP	Pn	05 42 29.0	+1.7
LPAZ	La Paz	2.54 110		P	Pn	05 42 28.9	+1.7
AP01	Chacalluta	2.92 175			Pn	05 42 31.8	+0.8
AP01	Chacalluta	2.92 175		⇑iP	Pn	05 42 31.8	+0.8
AP01				i S	Sn	05 43 07.9	-1.0
PB12	IPOC Station P	3.16 175			Pn	05 42 34.3	+0.3
PB12	IPOC Station P	3.16 175		⇑iP	Pn	05 42 34.4	+0.4
PB12				i S	Sn	05 43 12.8	-1.4
PX02	IPOC Station P	3.52 174		eP	Pn	05 42 37.8	-0.5
PX02				i S	Sn	05 43 20.0	-2.1
PB11	IPOC Station P	4.39 168			Pn	05 42 49.5	+0.2
PB11	IPOC Station P	4.39 168		⇑iP	Pn	05 42 49.3	+0.1
PB11				i S	Sn	05 43 39.0	-2.7
HMBC	Humberstone	4.86 172			Pn

CFA Coronel Fontan 16.23 173 P **Pn 05 45 21.8 +1.6**
1.9nm,0.3s,baz=228,slow=21,SNR=18
CFA S **S 05 48 14.1 -5.6**
0.8nm,0.3s,baz=194,slow=17,SNR=6.8
CPUP Villa Florida 16.46 133 P **Pn 05 45 23.2 +0.3**
CPUP IAmb IAmb 05 45 26.6
comp=Z,9.1nm,0.7s
CPUP Villa Florida 16.46 133 P **P 05 45 22.8 +0.6**
comp=Z,7.9nm,0.6s,baz=314,slow=10,SNR=16
CPUP Villa Florida 16.46 133 *eP* **Pn 05 45 23.4 +0.4**
SJPY San Joaquin 16.59 127 *eP* **Pn 05 45 25.7 +1.1**
RPRD Ribas do Rio P 16.85 110 *eP* **Pn 05 45 28.7 +1.0**
NPGB Novo Progresso 17.13 63 *eP* **P 05 45 29.8 +0.2**
OTAV Otavalo 17.40 333 Pn **Pn 05 45 35.3 +0.6**
OTAV Otavalo 17.40 333 *eP* **P 05 45 31.4 -1.6**
FLOC Florencia 17.64 343 P **P 05 45 34.2 -1.0**
FLOC IAmb IAmb 05 46 15.3
comp=Z,30nm,1.2s
ARAG Araguaiana, MT 18.12 93 *eP* **P 05 45 41.6 +1.2**
MT13 San Alfonso 18.22 179 IAmb IAmb 05 45 50.1
comp=Z,32nm,1.2s
MT09 Talagante 18.25 181 IAmb IAmb 05 45 51.4
comp=Z,21nm,0.8s
TUMC Tumaco 18.94 334 P **P 05 45 51.3 +2.0**
SNDB Serra Nova Dou 19.09 82 *eP* **P 05 45 51.5 +0.6**
BO02 Sierra Bellavi 19.27 180 IAmb IAmb 05 45 56.6
comp=Z,18nm,0.8s
PTGB Pitanga 19.70 121 *eP* **P 05 45 57.7 +0.2**
ITRB Iturama 19.77 105 *eP* **P 05 45 57.9 -0.3**
LDASE Londrina, Braz 20.00 116 *eP* **P 05 46 01.4 +0.6**
BOAV Boa Vista 20.35 30 P **P 05 46 04.8 +0.3**
BOAV Boa Vista 20.35 30 *eP* **P 05 46 04.6 +0.2**
ROSC El Rosal 20.49 349 P **P 05 46 06.2 -0.1**
comp=Z,4.9nm,0.4s,baz=212,slow=18,SNR=5.1
comp=Z,4.9nm,0.4s
ITAB Concordia 20.80 127 P **P 05 46 09.1 -0.1**
ITAB Concordia 20.80 127 *eP* **P 05 46 08.9 -0.3**
TBOT Tacuaremb 20.99 143 *eP* **P 05 46 11.9 +0.8**
BI02 San Fabin de 21.14 181 P **P 05 46 15.1 +2.4**
RUSC La Rusia 21.34 353 P **P 05 46 12.7 -2.8**
CPSB Cacapava Do Su 21.68 136 *eP* **P 05 46 19.4 +1.0**
BB19B Bebedouro 21.70 108 *eP* **P 05 46 18.6 -0.1**
BDFB Brasilia 21.78 94 P **P 05 46 17.2 -2.4**
comp=Z,2.7nm,0.6s,baz=269,slow=12,SNR=5.7
comp=Z,2.7nm,0.6s
PRPB Parauapebas 22.39 68 *eP* **P 05 46 25.2 -0.2**
PLTB Pedras Altas 22.46 139 P **P 05 46 25.7 -0.1**
PLTB IAmb IAmb 05 46 28.1
comp=Z,28nm,0.9s
PLTB Pedras Altas 22.46 139 *eP* **P 05 46 27.2 +1.4**
CNLB Canela 22.85 130 *eP* **P 05 46 29.8 +0.4**
SPB Sao Paulo 23.28 114 *eP* **P 05 46 34.2 +0.9**
LR03 Panguipulli 24.14 183 P **P 05 46 40.7 -0.2**
SDV Santo Domingo 24.18 360 P **P 05 46 41.5 -0.2**
SDV IAmb IAmb 05 46 48.8
comp=Z,12nm,0.6s
SDV Santo Domingo 24.18 360 LR LR 05 56 47.8
comp=Z,48nm,21.4s,baz=94,slow=38
SDV Santo Domingo 24.18 360 *eP* **P 05 46 40.1 -1.6**
LR05 Currie 24.72 183 P **P 05 46 47.0 +0.8**
PLCA Paso Flores 25.20 180 IAmb IAmb 05 46 53.3
comp=Z,21nm,1.2s
PLCA Paso Flores 25.20 180 P **P 05 46 51.8 +1.2**
comp=Z,6.9nm,0.8s,baz=359,slow=10,SNR=23
PLCA PcP **PcP 05 50 20.4 +1.4**
comp=Z,1.9nm,0.7s,baz=323,slow=4.3,SNR=6.7
comp=Z,6.9nm,0.8s
PLCA Paso Flores 25.20 180 *eP* **P 05 46 52.6 +2.0**
DIAM Diamantina, MG 25.93 100 *eP* **P 05 46 57.0 -0.6**
PCRV Puerto La Cruz 26.14 13 LR LR 05 58 48.6
comp=Z,34nm,21.3s,slow=40
LL01 San Ignacio de 26.88 183 IAmb IAmb 05 47 07.4
comp=Z,6.9nm,0.7s
AY03 Cochrane 31.76 183 IAmb IAmb 05 47 51.9
comp=Z,12nm,0.8s
HUMP Col San Antoni 33.70 8 P **P 05 48 04.9 -0.9**
UUPR Utuado, UPR, P 33.71 7 P **P 05 48 05.6 -0.1**
HUEH Huehuetenango 36.88 325 P **P 05 48 32.3 -0.8**
TEIG Tepich 39.47 333 P **P 05 48 54.7 +0.3**
baz=343,slow=19,SNR=1.0
CMIG Matias Romero 40.23 323 P **P 05 49 01.2 +0.4**
comp=Z,3.2nm,0.6s,baz=95,slow=6.8,SNR=5.5
comp=Z,3.2nm,0.6s
ZAIG Zacatecas 49.20 320 P **P 05 50 13.5 +1.6**
TKL Tuckaleechee C 52.33 346 P **P 05 50 34.6 -0.1**
comp=Z,5.3nm,0.9s,baz=176,slow=14,SNR=2.2
comp=Z,5.3nm,0.9s
DRIO Del Rio 53.19 327 IAmb IAmb 05 50 42.9
comp=Z,6.3nm,0.8s
WHTX Lake Whitney, 53.73 332 IAmb IAmb 05 50 47.9
comp=Z,11nm,0.8s
FW06 Azle 54.60 332 IAmb IAmb 05 50 53.1
comp=Z,16nm,1.1s
OZNA Ozona 54.64 328 IAmb IAmb 05 50 53.0
comp=Z,5.1nm,0.8s
TXAR Lajitas Array 54.77 324 P **P 05 50 52.6 -0.1**
TXAR Lajitas Array 54.77 324 P **P 05 50 53.1 +0.4**
comp=Z,2.0nm,0.6s,baz=150,slow=9.1,SNR=24
TXAR PcP **PcP 05 51 53.4 +0.7**
comp=Z,0.4nm,0.5s,baz=126,slow=4.0,SNR=4.0
comp=Z,2.0nm,0.6s
PLPT Palo Pinto 54.81 331 IAmb IAmb 05 50 55.2
comp=Z,10nm,0.5s
FCAR Ozark Folk Cen 54.97 339 IAmb IAmb 05 50 53.5
comp=Z,5.1nm,0.7s
ABTX Abilene, Hawle 55.28 330 IAmb IAmb 05 50 58.9
comp=Z,22nm,1.1s
CGM3 Cape Girardeau 55.44 342 IAmb IAmb 05 50 57.0
comp=Z,13nm,1.3s
T42A Van Buren 55.65 340 IAmb IAmb 05 50 58.1
comp=Z,5.5nm,0.6s
MNHN Monahans 55.83 327 IAmb IAmb 05 51 01.8
comp=Z,8.5nm,0.7s
APMT Aspermont 56.08 330 IAmb IAmb 05 51 04.2
comp=Z,14nm,0.7s
W35A Tecumseh 56.15 334 P **P 05 51 01.9 -0.5**
W35A IAmb IAmb 05 51 03.5
comp=Z,13nm,1.1s
MGMO Mountain Grove 56.16 339 IAmb IAmb 05 51 02.5
comp=Z,7.4nm,1.0s
SN07 Snyder 07 56.27 329 IAmb IAmb 05 51 05.2
comp=Z,7.5nm,0.6s
POST Post 56.55 329 IAmb IAmb 05 51 07.9
comp=Z,8.7nm,0.8s
VHRN Van Horn 56.62 324 IAmb IAmb 05 51 07.3
comp=Z,7.1nm,0.8s
WMOK Wichita Mounta 56.63 332 IAmb IAmb 05 51 07.7
comp=Z,3.1nm,0.5s
DKNS Dickens 56.75 330 IAmb IAmb 05 51 08.6
comp=Z,6.8nm,0.5s
R40A Maddies Statio 57.18 340 IAmb IAmb 05 51 09.2
comp=Z,6.8nm,0.5s
MSTX Muleshoe 57.91 329 IAmb IAmb 05 51 18.1
comp=Z,13nm,1.1s
KAN13 South Haven SW 58.00 335 IAmb IAmb 05 51 16.8
comp=Z,14nm,0.7s
OK032 Salt Plains WL 58.12 334 IAmb IAmb 05 51 17.3
comp=Z,15nm,0.8s
P40A Paris 58.23 341 IAmb IAmb 05 51 22.5
comp=Z,12nm,1.4s
P38A Dawn 58.81 339 IAmb IAmb 05 51 21.1
comp=Z,4.6nm,0.5s
319A Douglas 59.54 322 IAmb IAmb 05 51 27.9
comp=Z,5.6nm,0.5s
RTBA Rita Blanca 59.86 330 IAmb IAmb 05 51 29.7
comp=Z,16nm,1.5s
X18A Snowflake 62.19 324 IAmb IAmb 05 51 46.5
comp=Z,6.0nm,1.1s
SDCO Great Sand Dun 62.24 329 IAmb IAmb 05 51 47.7
comp=Z,12nm,1.1s
X16A Lo Mia Camp, P 62.98 323 IAmb IAmb 05 51 52.4
comp=Z,8.8nm,1.2s
Q24A Divide 63.03 330 IAmb IAmb 05 51 51.6
comp=Z,5.6nm,1.0s
Y14A Wickenburg 63.57 321 IAmb IAmb 05 51 54.9
comp=Z,3.4nm,0.6s
WUAZ Wupatki 63.71 324 IAmb IAmb 05 51 56.7
comp=Z,8.2nm,1.1s
ISCO Idaho Springs 63.91 331 IAmb IAmb 05 51 58.0
comp=Z,4.1nm,0.8s
BRIGG Briggsdale 63.92 332 IAmb IAmb 05 51 58.2
comp=Z,14nm,1.1s
PV15 Paradox Valley 64.20 328 IAmb IAmb 05 52 02.1
comp=Z,14nm,0.9s
PV13 Radium Mtn., P 64.24 327 IAmb IAmb 05 51 59.6
comp=Z,5.7nm,0.8s
U15A North Rim 64.88 324 IAmb IAmb 05 52 04.5
comp=Z,4.4nm,0.7s
BELA Belgrano 2 64.94 172 P **P 05 52 02.2 +1.1**
BELA IAmb IAmb 05 52 03.6
comp=Z,4.9nm,0.8s
O20A White River Ci 65.44 329 IAmb IAmb 05 52 07.3
comp=Z,4.8nm,0.9s
KNB Kanab 65.60 324 IAmb IAmb 05 52 09.3
comp=Z,13nm,0.9s
SRU San Rafael Swe 65.84 327 IAmb IAmb 05 52 09.7
comp=Z,4.9nm,0.7s
V12A Nelson 65.90 322 IAmb IAmb 05 52 10.6
comp=Z,13nm,1.4s
VNA3 Neumayer Olymp 66.30 162 ⇓P **P 05 52 11.4 +1.5**
comp=Z,8.2nm,0.9s
VNA1 Neumayer--Stat 66.50 161 ⇓P **P 05 52 13.8 +2.6**
comp=Z,12nm,0.9s
K22A Casper 66.57 332 IAmb IAmb 05 52 14.0
comp=Z,16nm,1.3s
SHPR Sheep Range 66.61 322 P **P 05 52 12.4 -0.2**
VNA2 Neumayer--Watz 66.87 161 ⇓P **P 05 52 15.0 +1.4**
comp=Z,6.3nm,0.8s,baz=285,slow=7.3
GWY Greenwater Val 67.30 321 IAmb IAmb 05 52 19.4
comp=Z,4.8nm,0.7s
AGMN Agassiz Nation 67.33 342 IAmb IAmb 05 52 18.1
comp=Z,4.4nm,0.7s
WCT Wildcat Mounta 67.68 321 IAmb IAmb 05 52 22.4
comp=Z,13nm,1.3s
PDAR Pinedale Array 68.08 330 P **P 05 52 21.2 -0.6**
PDAR Pinedale Array 68.08 330 P **P 05 52 21.6 -0.2**
comp=Z,1.2nm,0.6s,baz=115,slow=8.9,SNR=24
comp=Z,1.2nm,0.6s
SNAA Sanae 68.50 162 P **P 05 52 24.6 +0.8**
SNAA IAmb IAmb 05 52 26.4
comp=Z,11nm,0.8s
SNAA Sanae 68.50 162 ⇓P **P 05 52 25.4 +1.6**
comp=Z,211nm,0.6s
SNAA Sanae 68.50 162 P **P 05 52 25.1 +1.2**
comp=Z,11nm,0.7s,baz=283,slow=7.9,SNR=43
comp=Z,11nm,0.7s
DBIC Dimbokro 68.73 76 P **P 05 52 24.8 -1.3**
comp=Z,3.5nm,0.5s,baz=246,slow=7.2,SNR=7.3
comp=Z,3.5nm,0.5s
ULM Lac du Bonnet 69.08 343 IAmb IAmb 05 52 27.5
comp=Z,7.2nm,0.9s
ULM Lac du Bonnet 69.08 343 P **P 05 52 26.9 -0.6**
comp=Z,5.2nm,0.5s,baz=153,slow=6.2,SNR=12
comp=Z,5.2nm,0.5s
ELK Elko 69.55 325 P **P 05 52 31.5 +0.6**
comp=Z,1.8nm,0.8s,baz=168,slow=7.4,SNR=7.0
comp=Z,1.8nm,0.8s
LAO LASA Array 69.65 335 IAmb IAmb 05 52 34.8
comp=Z,8.0nm,0.8s
RLMT Red Lodge 69.74 332 IAmb IAmb 05 52 34.7
comp=Z,11nm,1.4s
NVAR Mina Array Bea 69.75 322 P **P 05 52 33.5 +1.2**
comp=Z,1.3nm,0.7s,baz=126,slow=5.4,SNR=9.8
comp=Z,1.3nm,0.7s
LKWY Lake 69.84 331 IAmb IAmb 05 52 36.5
comp=Z,9.6nm,1.1s
YNE Yellowstone No 69.99 331 IAmb IAmb 05 52 36.2
comp=Z,13nm,0.8s
YMR Madison River 70.18 331 IAmb IAmb 05 52 37.6
comp=Z,13nm,1.2s
TROLL Troll, Antarti 70.22 162 ⇓P **P 05 52 36.1 +1.7**
comp=Z,352nm,0.6s
DGMT Dagmar 70.30 337 IAmb IAmb 05 52 37.1
comp=Z,8.2nm,0.7s
YHB Horse Butte 70.36 331 IAmb IAmb 05 52 39.1
comp=Z,12nm,1.3s
YHL Hebgen Lake 70.42 331 IAmb IAmb 05 52 39.9
comp=Z,13nm,1.2s
PNTR Pine Nut 70.95 322 P **P 05 52 41.0 +1.6**
PNTR IAmb IAmb 05 52 42.6
comp=Z,7.4nm,0.8s
PAHR Pah Rah Range 71.22 322 IAmb IAmb 05 52 44.0
comp=Z,9.3nm,0.9s
MFID Camas Ranch 71.71 327 IAmb IAmb 05 52 46.5
comp=Z,9.2nm,0.9s
EGMT Eagleton 72.18 334 IAmb IAmb 05 52 48.6
comp=Z,16nm,1.2s
MSO Missoula 73.19 331 IAmb IAmb 05 52 55.7
comp=Z,11nm,1.4s
QSPA South Pole Qui 74.71 180 P **P 05 53 02.8 +1.7**
QSPA IAmb IAmb 05 53 04.2
comp=Z,11nm,1.0s
QSPA South Pole Qui 74.71 180 P **P 05 53 02.4 +1.3**
comp=Z,6.2nm,0.8s,baz=172,slow=1.0,SNR=16
comp=Z,6.2nm,0.8s
PINE Pine Mountain 74.73 325 IAmb IAmb 05 53 05.1
comp=Z,8.8nm,1.2s
E09A Wood Farm, Sta 75.03 328 IAmb IAmb 05 53 05.6
comp=Z,10nm,1.4s
I05D Terrebonne, OR 75.30 325 IAmb IAmb 05 53 07.5
comp=Z,8.8nm,0.7s
TORD Torodi Ar. Bea 76.96 72 P **P 05 53 13.0 -1.5**
TORD Torodi Ar. Bea 76.96 72 P **P 05 53 13.2 -1.4**
comp=Z,6.5nm,0.7s,baz=272,slow=5.4,SNR=9.7
comp=Z,6.5nm,0.7s
VNDA Vanda 82.50 190 P **P 05 53 44.2 +1.0**
comp=Z,3.0nm,1.0s,baz=105,slow=5.4,SNR=5.0
comp=Z,3.0nm,1.0s
SYO Syowa Base 82.71 160 ⇑*eP* **P 05 53 43.0 -1.4**
ESDC Sonseca Array 82.73 46 P **P 05 53 44.0 -1.1**
comp=Z,2.3nm,0.9s,baz=244,slow=4.5,SNR=10
comp=Z,2.3nm,0.9s
TSUM Tsumeb 83.39 108 P **P 05 53 48.8 -0.2**
TSUM IAmb IAmb 05 53 50.7
comp=Z,8.8nm,0.8s
YKA Yellowknife Ar 84.97 341 P **P 05 53 55.8 0.0**
YKA Yellowknife Ar 84.97 341 P **P 05 53 56.1 +0.4**
comp=Z,4.5nm,0.8s,baz=140,slow=5.1,SNR=94
comp=Z,4.5nm,0.8s
ILAR Eielson Array 98.11 335 P **P 05 54 55.8 -1.1**
comp=Z,0.2nm,0.7s,baz=141,slow=2.6,SNR=3.4
comp=Z,0.2nm,0.7s
KBZ Khabaz 117.47 49 PKP **PKPdf 06 00 05.3 -0.1**
comp=Z,1.9nm,0.8s,baz=297,slow=2.3,SNR=5.7
STKA Stephens Creek 123.71 213 PKP **PKPdf 06 00 18.9 +0.9**
comp=Z,2.9nm,0.5s,baz=99,slow=3.9,SNR=7.6
AKTO Aktyubinsk 126.05 38 PKP **PKPdf 06 00 22.5 +0.7**
comp=Z,2.5nm,0.8s,baz=287,slow=4.3,SNR=6.0
BVAR Borovoye Array 131.58 31 SKPbc **SKPbc 06 03 39.2 -0.4**
comp=Z,1.4nm,0.7s,baz=289,slow=4.5,SNR=5.8
ASAR Alice Springs 134.33 212 PKP **PKPdf 06 00 38.9 +0.5**
comp=Z,2.7nm,0.6s,baz=140,slow=2.2,SNR=16
ASAR SKPbc **SKPbc 06 03 50.1 0.0**
comp=Z,0.4nm,0.6s,baz=133,slow=3.7,SNR=4.2
KURBB Kurchatov Arra 137.00 29 PKP **PKPdf 06 00 43.1 +0.7**
comp=Z,1.8nm,0.7s,baz=309,slow=2.8,SNR=13
KURBB SKP 06 03 58.3
comp=Z,1.5nm,0.7s,baz=314,slow=3.6,SNR=13
ZALV Zalesovo Beam 137.05 21 PKP **PKPdf 06 00 43.4 +1.0**
comp=Z,8.7nm,0.7s,baz=291,slow=2.4,SNR=38
ZALV SKP 06 03 57.8
comp=Z,4.5nm,0.9s,baz=305,slow=5.1,SNR=12
WRA Warramunga Arr 137.12 216 PKP **PKPdf 06 00 44.4 +0.7**
comp=Z,3.3nm,0.5s,baz=144,slow=1.9,SNR=20
WRA SKP 06 03 59.1
comp=Z,0.7nm,0.6s,baz=141,slow=3.0,SNR=3.7
MKAR Makanchi Array 141.46 30 PKhKP PKPpre 06 00 46.5
comp=Z,0.3nm,0.5s,baz=346,slow=3.4,SNR=5.0
MKAR PKP **PKPdf 06 00 51.5 +0.7**
comp=Z,1.3nm,0.7s,baz=344,slow=2.2,SNR=10
MKAR SKPbc **SKPbc 06 04 08.7 -1.0**
comp=Z,3.7nm,1.1s,baz=327,slow=2.6,SNR=12
KLR Kul'dur 141.67 336 PKP **PKPdf 06 00 50.4 -0.7**
comp=Z,1.1nm,0.5s,baz=27,slow=4.7,SNR=5.2
USRK Ussuriysk Ar. 145.51 331 PKPbc **PKPbc 06 00 59.4 +1.1**
comp=Z,12nm,0.7s,baz=35,slow=2.1,SNR=28
MJAR Matsushiro Arr 146.85 315 PKPbc **PKPbc 06 01 03.4 +0.8**
comp=Z,21nm,0.7s,baz=87,slow=2.0,SNR=43
SONM Songino Array 147.61 4 PKPbc **PKPdf 06 01 03.3 +1.8**
comp=Z,8.6nm,0.7s,baz=329,slow=1.6,SNR=39
KSRS Korea Array 152.61 327 PKP **PKPdf 06 01 10.2 +0.7**
comp=Z,3.9nm,0.9s,baz=29,slow=1.0,SNR=12
KSRS PKPbc **PKPbc 06 01 17.3 +0.7**
comp=Z,8.3nm,0.8s,baz=21,slow=1.6,SNR=22

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*IDC **20** 05:49:13.0±0.9, 27°.84N×127°.62E, h0km, mb3.6/6, mbtmp3.7/7, ML3.5/1, MS3.3/16, Error ellipse: s-maj=37.8km s-min=14.5km az=67.0*
*NIED **20** 05:49:13.3, 28°.08N×128°.01E, h13km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.61; $M_{\theta\theta}$1.66; $M_{\phi\phi}$-1.05; $M_{r\theta}$-2.00; $M_{\theta\phi}$0.79; $M_{\phi r}$-2.00; Fault plane solution: $M_0$3.24000×10^{15} NP1: ϕ_s=298.00000°, δ26.00000°, λ-16.00000°. NP2:ϕ_s=43.00000°, δ83.00000°, λ-115.00000°.*
*JMA **20** 05:49:13.3±0.2, 28°.1N±0°.4×128°.0E±0°.5, h13km±2km, MV3.7/13, NW OFF OKINAWAJIMA IS*

ISC 20 05:49:13.8±1.7, 28°.01N±0°.05×128°.03E±0°.06, h11km±11km, n33, σ1°.04/24, mb3.7/6, MS3.2/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.80**	**143**	P	**Pg**	**05 49 29.7**	**+0.4**
JOKE				*eS*	**Sn**	**05 49 41.5**	**-1.5**
JTK	**Tokunoshima**	**0.84**	**105**	P	**Pb**	**05 49 29.9**	**-0.6**
JTK				S	**Sg**	**05 49 41.8**	**+0.7**
JIH	**Iheya**	**0.97**	**184**	P	**Pn**	**05 49 32.8**	**-0.5**
JIH				S	**Sn**	**05 49 46.9**	**-0.2**
JAMN	**Amaminishikomi**	**1.03**	**77**	P	**Pb**	**05 49 32.8**	**-0.9**
JAMN				S	**Sb**	**05 49 47.1**	**-0.2**
JYRO	**Yoronjima**	**1.05**	**159**	P	**Pg**	**05 49 34.1**	**+0.1**
JYRO				S	**Sn**	**05 49 48.3**	**-0.7**
JOW	**Kunigami**	**1.19**	**170**	Pn	**Pg**	**05 49 36.4**	**-0.3**
JOW	342nm,0.3s,baz=358,slow=14,SNR=192			Sn	**Sg**	**05 49 53.1**	**+1.0**
	191nm,0.3s,baz=157,slow=21,SNR=16						
JOW	**Kunigami**	**1.19**	**170**	P	**Pg**	**05 49 36.4**	**-0.3**
JAM	**Amami Oshima**	**1.44**	**73**	P	**Pn**	**05 49 39.6**	**-0.3**
JAM				S	**Sn**	**05 49 58.0**	**-0.8**
JNTH	**Nagotoyohara**	**1.48**	**180**	P	**Pb**	**05 49 40.8**	**-0.6**
JTAJ	**Takarajima**	**1.54**	**42**	P	**Pn**	**05 49 39.8**	**-1.4**
JAGN	**Aguni-jima**	**1.58**	**207**	P	**Pb**	**05 49 42.0**	**-1.1**
JNU	**Nakatsue**	**5.66**	**25**	Pn	Pn	05 50 43.0	+5.2
	1.4nm,0.3s,baz=188,slow=5.5,SNR=18						
	79nm,0.9s						
KSRS	**Korea Array**	**9.42**	**359**	Pn	Pn	05 51 36.2	+6.7
	0.2nm,0.3s,baz=50,slow=29,SNR=2.1						
KSRS				LR	LR	05 55 19.2	
	comp=Z,244nm,18.2s,baz=180,slow=38						
JHJ	**Hachijo jima 2**	**11.33**	**60**	LR	LR	05 56 09.4	
	comp=Z,74nm,21.4s,baz=314,slow=35						
MJAR	**Matsushiro Arr**	**12.10**	**43**	LR	LR	05 57 20.2	
	comp=Z,83nm,19.8s,baz=222,slow=39						
USRK	**Ussuriysk Ar.**	**16.47**	**10**	LR	LR	05 58 57.6	
	comp=Z,80nm,18.4s,baz=184,slow=35						
DAV	**Davao City (W)**	**20.95**	**187**	LR	LR	06 02 01.5	
	comp=Z,41nm,20.1s,baz=340,slow=37						
KLR	**Kul'dur**	**21.38**	**7**	LR	LR	06 02 05.2	
	comp=Z,60nm,20.0s,baz=196,slow=36						
SONM	**Songino Array**	**25.98**	**325**	P	**P**	**05 54 47.1**	**+0.4**
	0.7nm,0.9s,baz=139,slow=9.6,SNR=5.4						
	0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.31**	**257**	LR	LR	06 07 39.7	
	comp=Z,28nm,20.5s,baz=215,slow=40						
PETK	**Petropavlovsk-**	**33.29**	**33**	LR	LR	06 08 20.3	
	comp=Z,43nm,21.6s,baz=206,slow=34						
KAPI	**Kappang**	**33.79**	**195**	LR	LR	06 08 31.7	
	comp=Z,34nm,21.1s,baz=5.0,slow=34						
YAK	**Yakutsk**	**34.04**	**1**	LR	LR	06 09 54.5	
	comp=Z,59nm,18.0s,baz=130,slow=36						
MA2	**Magadan**	**35.20**	**20**	LR	LR	06 10 09.3	
	comp=Z,22nm,21.4s,baz=162,slow=35						
ZALV	**Zalesovo Beam**	**40.74**	**322**	LR	LR	06 15 39.5	
	comp=Z,43nm,21.6s,baz=135,slow=39						
KURBB	**Kurchatov Arra**	**43.46**	**315**	P	**P**	**05 57 15.5**	**-1.2**
	0.2nm,0.4s,baz=101,slow=8.3,SNR=1.7						
	0.2nm,0.4s						
TIXI	**Tiksi**	**43.69**	**0**	LR	LR	06 15 52.5	
	comp=Z,74nm,18.3s,baz=191,slow=36						
NRIK	**Noril'sk**	**47.51**	**342**	LR	LR	06 19 00.8	
	comp=Z,48nm,19.3s,baz=164,slow=38						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**05 57 53.0**	**-0.4**
	1.7nm,0.9s,baz=353,slow=8.0,SNR=4.6						
	1.7nm,0.9s						
BVAR	**Borovoye Array**	**48.84**	**317**	P	**P**	**05 57 59.1**	**-0.1**
	0.3nm,0.4s,baz=98,slow=7.4,SNR=1.9						
BVAR				LR	LR	06 20 25.7	
	comp=Z,91nm,19.4s,baz=88,slow=38						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**05 58 21.9**	**+1.0**
	0.8nm,0.8s,baz=358,slow=7.1,SNR=5.9						
	0.8nm,0.8s						
STKA	**Stephens Creek**	**60.94**	**167**	LR	LR	06 25 51.0	
	comp=Z,33nm,19.8s,baz=37,slow=36						
YKA	**Yellowknife Ar**	**76.99**	**25**	P	**P**	**06 01 09.2**	**+2.9**
	0.9nm,1.0s,baz=299,slow=5.4,SNR=8.7						
	0.9nm,1.0s						

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*ASRS **20** 06:00:31.0±0.7, 54°.22N×86°.41E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 06:00:35.4±2.5, 54°.16N×86°.32E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=18.6km s-min=10.9km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**257**	I	I	06 06 00.0	
	baz=76,slow=339,SNR=2.0						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	06 00 51.7	-1.1
	1.9nm,0.3s,baz=72,slow=17,SNR=20						
ZALV				Lg	Lg	06 01 06.3	
	4.9nm,0.3s,baz=79,slow=32,SNR=17						
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	06 02 05.3	+0.8
	0.2nm,0.3s,baz=53,slow=13,SNR=5.2						
KURBB				Sn	Sn	06 03 12.4	-0.8
	baz=192,slow=29						
KURBB				Lg	Lg	06 03 43.8	
	baz=25,slow=27,SNR=1.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 02 31.4	+1.2
	0.1nm,0.3s,baz=21,slow=12,SNR=6.7						
MKAR				Sn	Sn	06 03 59.0	-0.3
	baz=30,slow=29						
MKAR				Lg	Lg	06 04 43.3	
	0.1nm,0.3s,baz=24,slow=28,SNR=1.6						
	0.2nm,0.3s						

ANF 20 06:19:01.2±0.2, 65°.82N×128°.76W, h93km±7km, ML3.5/25, Error ellipse: s-maj=2.0km s-min=1.2km az=79.0, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H31M	**Peel River**	**2.30**	**272**	P	Pn	06 19 37.1	-0.3
	baz=87						
H31M				S	Sn	06 20 05.9	+0.7
	baz=87						
G31M	**Satah River**	**2.48**	**299**	P	Pn	06 19 39.3	-0.4
	baz=114,SNR=492						
G31M				S	Sn	06 20 10.9	+1.5
	baz=114						
F31M	**Tsiigehtchic**	**2.57**	**312**	P	Pn	06 19 40.5	-0.3
	baz=127,SNR=39						
F31M				S	Sn	06 20 12.4	+1.0
	baz=127						
INK	**Inuvik**	**3.12**	**325**	P	Pn	06 19 47.9	-0.3
	baz=141,SNR=99						
INK				S	Sn	06 20 25.5	+1.0
	baz=141						
G30M	**tAoh Zraii Nji**	**3.22**	**295**	P	Pn	06 19 48.9	-0.8
	baz=108						
G30M				S	Sn	06 20 28.0	+0.9
	baz=108						
I30M	**Mount Dempster**	**3.23**	**263**	P	Pn	06 19 50.3	+0.4
	baz=76						
I30M				S	Sn	06 20 27.5	0.0
	baz=76						
EPYK	**Eagle Plains**	**3.29**	**283**	P	Pn	06 19 50.4	-0.2
	baz=96,SNR=9.6						
EPYK				S	Sn	06 20 30.1	+1.4
	baz=96						
F30M	**Barrier River**	**3.32**	**306**	P	Pn	06 19 51.0	0.0
	baz=120						
F30M				S	Sn	06 20 31.2	+1.7
	baz=120						
J30M	**Hart River**	**3.43**	**252**	P	Pn	06 19 53.0	+0.4
	baz=65						
J30M				S	Sn	06 20 32.9	+0.7
	baz=65						
WRGLY	**Wrigley**	**3.46**	**136**	P	Pn	06 19 53.1	+0.2
	baz=321,SNR=8.5						
WRGLY				S	Sn	06 20 33.0	+0.1
	baz=321						
MAYO	**Mayo, Yukon**	**3.79**	**237**	S	Sn	06 20 39.3	-1.5
	baz=51						
G29M	**Pine Creek**	**3.89**	**291**	P	Pn	06 19 58.0	-0.7
	baz=102,SNR=11						

G29M			S	Sn	06 20 43.1	-0.1
	baz=102					
H29M	**Whitestone**	**3.95 280**	P	Pn	06 19 59.1	-0.3
	baz=91					
H29M			S	Sn	06 20 45.6	+1.1
	baz=91					
C36M	**Paulatuk**	**3.97 25**	P	Pn	06 19 59.0	-0.7
	baz=209					
C36M			S	Sn	06 20 44.4	-0.7
	baz=209					
I29M	**Ogilvie Camp,**	**3.99 268**	S	Sn	06 20 45.7	0.0
	baz=79					
FARO	**Faro, Yukon**	**4.13 211**	P	Pn	06 20 01.4	-0.5
	baz=27,SNR=23					
FARO			S	Sn	06 20 48.2	-0.9
	baz=27					
J29N	**Klondike Camp**	**4.22 255**	S	Sn	06 20 52.7	+1.2
	baz=67					
K29M	**Barlow Dome**	**4.24 246**	P	Pn	06 20 03.1	-0.4
	baz=58					
K29M			S	Sn	06 20 50.8	-1.0
	baz=58					
TGTN	**Hyland Airport**	**4.32 177**	P	Pn	06 20 04.6	+0.1
	baz=357					
TGTN			S	Sn	06 20 52.0	-1.7
	baz=357					
M31M	**Drury Creek, Y**	**4.40 217**	P	Pn	06 20 05.2	-0.4
	baz=32,SNR=13					
M31M			S	Sn	06 20 54.7	-0.8
	baz=32					
E29M	**Blow River**	**4.41 310**	P	Pn	06 20 05.9	+0.3
	baz=122					
E29M			S	Sn	06 20 57.1	+1.4
	baz=122					
I28M	**Miner Creek**	**4.65 271**	P	Pn	06 20 08.7	-0.3
	baz=80					
I28M			S	Sn	06 21 00.6	-1.1
	baz=80					
M30M	**Minto, Yukon**	**4.79 231**	P	Pn	06 20 10.0	-0.8
	baz=44,SNR=20					
M30M			S	Sn	06 21 03.6	-1.5
	baz=44					
DAWY	**Dawson**	**4.85 254**	P	Pn	06 20 12.3	+0.6
	baz=64,SNR=78					
DAWY			S	Sn	06 21 07.8	+1.2
	baz=64					
L29M	**L29M**	**4.88 240**	P	Pn	06 20 12.1	-0.1
	baz=52					
L29M			S	Sn	06 21 07.8	+0.4
	baz=52					
E28M	**Babbage River**	**5.04 309**	P	Pn	06 20 14.0	-0.2
	baz=119					
E28M			S	Sn	06 21 10.7	-0.3
	baz=119					
N32M	**Quiet Lake**	**5.07 204**	P	Pn	06 20 14.2	-0.6
	baz=21					
H27K	**Steamboat Moun**	**5.23 280**	P	Pn	06 20 16.1	-0.7
	baz=89					
H27K			S	Sn	06 21 16.1	+0.5
	baz=89					
G27K	**Doyon Strip**	**5.30 287**	P	Pn	06 20 17.4	-0.3
	baz=95					
G27K			S	Sn	06 21 17.1	-0.3
	baz=95					
I27K	**Kandik River**	**5.32 274**	P	Pn	06 20 17.8	-0.2
	baz=82					
I27K			S	Sn	06 21 18.0	+0.2
	baz=82					
N31M	**Braeburn, Yuko**	**5.36 219**	P	Pn	06 20 18.4	-0.2
	baz=33,SNR=14					
N31M			S	Sn	06 21 19.4	+0.5
	baz=33					
M29M	**Somme Creek**	**5.43 236**	P	Pn	06 20 19.2	-0.5
	baz=47					
M29M			S	Sn	06 21 18.9	-1.9
	baz=47					
E27K	**Coleen River**	**5.56 301**	P	Pn	06 20 20.8	-0.5
	baz=109					
E27K			S	Sn	06 21 23.8	0.0
	baz=109					
WTLY	**Watson Lake, Y**	**5.73 180**	S	Sn	06 21 27.2	-0.7
	baz=0.2					
N30M	**Aishikik Lake**	**5.74 224**	P	Pn	06 20 23.5	-0.2
	baz=37					
N30M			S	Sn	06 21 26.7	-1.4
	baz=37					
D27M	**Malcolm River**	**5.80 312**	S	Sn	06 21 30.0	+0.3
	baz=120					
P33M	**Teslin, Yukon**	**5.92 200**	P	Pn	06 20 25.7	-0.7
	baz=16,SNR=20					
K27K	**Chicken**	**5.94 259**	P	Pn	06 20 26.1	-0.4
	baz=66					
K27K			S	Sn	06 21 32.4	-0.7
	baz=66					
I26K	**Coal Creek Min**	**6.00 272**	P	Pn	06 20 26.9	-0.3
	baz=78					
I26K			S	Sn	06 21 33.8	-0.6
	baz=78					
O30N	**Mendenhall**	**6.05 217**	P	Pn	06 20 28.1	+0.1
	baz=30,SNR=21					
KOTAN	**Kotaneelee Air**	**6.10 157**	S	Sn	06 21 36.2	-0.7
	baz=342					
G26K	**Porcupine Rive**	**6.14 287**	S	Sn	06 21 37.8	-0.2
	baz=94					
YUK4	**Talbot Arm**	**6.29 229**	P	Pn	06 20 29.9	-1.6
	baz=40,SNR=17					
YUK4			S	Sn	06 21 37.9	-4.0
	baz=40					
L27K	**Beaver Creek,**	**6.29 250**	P	Pn	06 20 31.5	+0.1
	baz=58					
L27K			S	Sn	06 21 41.9	+0.2
	baz=58					
BVCY	**Beaver Creek**	**6.30 243**	P	Pn	06 20 31.6	+0.1
	baz=52,SNR=13					
BVCY			S	Sn	06 21 42.1	+0.1
	baz=52					
A36M	**Sachs Harbour**	**6.33 10**	S	Sn	06 21 41.6	-0.7
	baz=193					
HYT	**Haines Junctio**	**6.37 222**	P	Pn	06 20 32.6	+0.1
	baz=34,SNR=12					
HYT			S	Sn	06 21 42.5	-1.2
	baz=34					
F26K	**Sheenjek River**	**6.37 294**	P	Pn	06 20 31.3	-1.0
	baz=100					
F26K			S	Sn	06 21 42.4	-1.2
	baz=100					
J26L	**Joseph Creek**	**6.38 265**	P	Pn	06 20 32.0	-0.5
	baz=71					
J26L			S	Sn	06 21 43.0	-0.8
	baz=71					
YUK6	**Outpost Mounta**	**6.52 226**	P	Pn	06 20 34.6	0.0
	baz=37,SNR=30					
YUK6			S	Sn	06 21 47.5	0.0
	baz=37					
R33M	**Jennings River**	**6.53 190**	P	Pn	06 20 34.8	+0.1
	baz=8.0					
R33M			S	Sn	06 21 47.0	-0.6
	baz=8.0					
P32M	**Atlin**	**6.65 202**	P	Pn	06 20 36.0	-0.2
	baz=18					
M27K	**Edge Creek, AK**	**6.71 245**	P	Pn	06 20 36.9	-0.2
	baz=53					
SCRK	**Sand Creek**	**6.74 261**	P	Pn	06 20 37.2	-0.2
	baz=67,SNR=8.3					
P30M	**Million Dollar**	**6.83 217**	P	Pn	06 20 38.6	0.0
	baz=30					
P30M			S	Sn	06 21 54.6	-0.2
	baz=30					
C27K	**Jago River**	**6.84 311**	P	Pn	06 20 38.9	+0.3
	baz=117					
C27K			S	Sn	06 21 54.2	-0.6
	baz=117					
F25K	**Christian Rive**	**6.92 293**	P	Pn	06 20 39.2	-0.7
	baz=97					
PRP	**Porcupine Dome**	**6.93 275**	P	Pn	06 20 39.2	-0.9
	baz=80					
PRP			S	Sn	06 21 55.1	-2.3
	baz=80					
Q32M	**Nakina River**	**7.07 195**	P	Pn	06 20 42.2	+0.1
	baz=12					
J25K	**Salcha River,**	**7.09 268**	P	Pn	06 20 41.9	-0.2
	baz=73					
M26K	**Nabesna, AK**	**7.11 248**	P	Pn	06 20 42.4	0.0
	baz=55					
PLBC	**Pleasant Camp**	**7.28 212**	P	Pn	06 20 45.0	+0.4
	baz=26,SNR=5.5					
C26K	**Camden Bay**	**7.34 311**	P	Pn	06 20 45.8	+0.4
	baz=116					
D25K	**Kavik River**	**7.58 305**	P	Pn	06 20 48.6	-0.2
	baz=109,SNR=5.9					
PINM	**Pinnacle**	**7.76 228**	P	Pn	06 20 50.7	-0.6
	baz=37					
F24K	**Squaw Lake**	**7.78 291**	P	Pn	06 20 50.3	-1.2
	baz=94					
E24K	**Your Creek**	**8.05 295**	P	Pn	06 20 54.9	-0.4
	baz=97					
D24K	**Happy Valley**	**8.37 302**	P	Pn	06 20 59.3	-0.2
	baz=104					
E23K	**Chandalar**	**8.47 295**	P	Pn	06 21 00.5	-0.5
	baz=96					
C24K	**Franklin Bluff**	**8.49 306**	P	Pn	06 21 00.5	-0.5
	baz=108					
TOLK	**Toolik Lake Re**	**8.54 299**	P	Pn	06 21 02.0	+0.2
	baz=100					
C23K	**Itkillik River**	**9.16 306**	P	Pn	06 21 09.6	-0.6
	baz=106					

SJA 20 06:29:11.6±0.8, 31°.91S×69°.53W, h122km±4km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.23**	**60**	*eP*	Pn	06 29 29.1	+0.3
RTLS				*eS*	Sn	06 29 42.0	+0.1
RTLS				IAML		06 29 43.8	
	comp=Z,1μm,0.2s						
ZON	**Zonda**	**0.81**	**63**	*eP*	Pn	06 29 32.9	+0.8
ZON				*eS*	Sn	06 29 48.4	+0.8
ZON				IAML		06 29 50.8	
	comp=Z,707nm,0.4s						
SJA	**San Juan**	**0.91**	**65**	*eP*	Pn	06 29 29.6	-3.3
SJA				*eS*	Sn	06 29 50.4	+1.2
DOCA	**Reserva Natura**	**1.03**	**22**	*eP*	Pn	06 29 35.2	+0.6
DOCA				*eS*	Sn	06 29 52.5	+0.7
DOCA				IAML		06 29 53.4	
	comp=Z,1μm,0.6s						
RTLL	**Cerro Villicun**	**1.07**	**57**	*eP*	Pn	06 29 35.3	+0.8
RTLL				*eS*	Sn	06 29 52.8	+0.9
CFA	**Coronel Fontan**	**1.14**	**75**	*eP*	Pn	06 29 36.0	+0.7
CFA				*eS*	Sn	06 29 54.1	+1.0
VA03	**San Esteban**	**1.21**	**225**	*eP*	Pn	06 29 36.6	+0.6
VA03				*eS*	Sn	06 29 55.8	+1.3
VA03				IAML		06 29 56.1	
	comp=Z,364nm,0.7s						
ACCO	**Cerro Coronel**	**1.38**	**17**	*eP*	Pn	06 29 40.0	+1.9
ACCO				*eS*	Sn	06 30 00.9	+2.7
CO03	**El Pedregal**	**1.46**	**317**	*eP*	Pn	06 29 39.4	+0.6
CO03				*eS*	Sn	06 30 02.0	+2.6
CO03				IAML		06 30 04.5	
	comp=Z,346nm,0.7s						
PEL	**Peldehue**	**1.57**	**218**	*eP*	Pn	06 29 40.1	+0.2
PEL				*eS*	Sn	06 30 02.2	+0.7
MT04	**Ro Olivares**	**1.57**	**199**	*eP*	Pn	06 29 41.5	+1.3
MT04				*eS*	Sn	06 30 04.4	+2.4
MT08	**Bocatoma Ro**	**1.58**	**195**	*eP*	Pn	06 29 41.8	+1.4
MT08				*eS*	Sn	06 30 00.7	-1.5
ROC1	**El Roble**	**1.64**	**229**	*eP*	Pn	06 29 40.8	-0.2
ROC1				*eS*	Sn	06 30 03.1	-0.3
AROD	**Rodeo**	**1.74**	**2**	*eP*	Pn	06 29 44.0	+1.7
AROD				*eS*	Sn	06 30 08.0	+2.3
ACDV	**Cuesta del Vie**	**1.77**	**12**	*eP*	Pn	06 29 44.2	+1.6
ACDV				*eS*	Sn	06 30 02.8	-3.3
ACDV				IAML		06 30 09.1	
	comp=Z,163nm,0.8s						
MT03	**Universidad Ad**	**1.78**	**207**	*eP*	Pn	06 29 43.4	+0.9
MT03				*eS*	Sn	06 30 07.1	+0.9
MT03				IAML		06 30 08.8	
	comp=Z,408nm,0.3s						
MT05	**Renca**	**1.79**	**214**	*eP*	Pn	06 29 43.1	+0.5
MT05				*eS*	Sn	06 30 07.7	+1.4
MT05				IAML		06 30 08.5	
	comp=Z,207nm,0.2s						
MT02	**Curacav**	**1.91**	**225**	*eP*	Pn	06 29 43.5	-0.5
MT02				*eS*	Sn	06 30 08.3	-0.5
MT13	**San Alfonso**	**1.93**	**199**	*eP*	Pn	06 29 45.6	+1.2
MT13				*eS*	Sn	06 30 11.7	+2.2
MT13				IAML		06 30 12.3	
	comp=Z,143nm,0.2s						
CO01	**Juntas del Tor**	**1.99**	**346**	*eP*	Pn	06 29 47.5	+2.2
CO01				*eS*	Sn	06 30 14.1	+3.1
LMEL	**Las Melosas**	**2.01**	**196**	*eP*	Pn	06 29 46.4	+1.0
LMEL				*eS*	Sn	06 30 14.3	+3.1
GO04	**Tololo Observa**	**2.05**	**328**	*eP*	Pn	06 29 46.2	+0.2
GO04				*eS*	Sn	06 30 13.0	+0.7
VA01	**Torpederas**	**2.10**	**238**	*eP*	Pn	06 29 34.4	-12
AVFE	**Valle Fertil**	**2.17**	**55**	*eP*	Pn	06 29 48.3	+1.0
AVFE				*eS*	Sn	06 30 16.1	+1.4
AVFE				IAML		06 30 18.9	
	comp=Z,87nm,0.3s						
MT01	**Popeta**	**2.42**	**216**	*eP*	Pn	06 29 49.6	-0.9
MT01				*eS*	Sn	06 30 12.7	-7.7
MT01				IAML		06 30 21.2	
	comp=Z,67nm,0.3s						
ACHE	**Chepes**	**2.56**	**74**	*eP*	Pn	06 29 53.5	+1.1
ACHE				*eS*	Sn	06 30 24.5	+0.8
AGUA	**GUANDACOL**	**2.58**	**21**	*eP*	Pn	06 29 54.4	+1.8
AGUA				*eS*	Sn	06 30 27.0	+2.9
AGUA				IAML		06 30 28.4	
	comp=Z,192nm,0.2s						
BO01	**Tunca**	**2.79**	**207**	*eP*	Pn	06 29 54.5	-0.8
BO01				IAML		06 30 29.3	
	comp=Z,56nm,0.3s						
BO02	**Sierra Bellavi**	**3.06**	**200**	*eP*	Pn	06 29 58.9	+0.2
BO02				IAML		06 30 39.8	
	comp=Z,78nm,0.4s						
ACLC	**CERRO LA CRUZ**	**3.33**	**43**	*eS*	Sn	06 30 59.3	+18
VCA	**Vinchina**	**3.37**	**20**	IAML		06 31 14.4	
	comp=Z,115nm,0.7s						
AC04	**Llanos de Chal**	**3.93**	**340**	*eS*	Sn	06 30 58.1	+2.4
AC04				IAML		06 31 28.2	
	comp=Z,53nm,2.8s						
ML02	**Panimavida**	**4.15**	**202**	*eP*	Pn	06 30 11.2	-1.8
ML02				*eS*	Sn	06 30 52.7	-8.2
ML02				IAML		06 31 19.0	
	comp=Z,38nm,3.5s						
BI02	**San Fabin de**	**4.95**	**196**	*eP*	Pn	06 30 22.7	-1.2
AC02	**Maricunga**	**5.07**	**4**	*eP*	Pn	06 30 27.1	+1.1
AC02				IAML		06 32 00.7	
	comp=Z,24nm,4.7s						

ASRS ***20*** *06:30:03.0±0.8, 53°.96N×86°.61E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC ***20*** *06:30:04.6±2.0, 53°.93N×86°.64E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=18.4km s-min=7.9km az=27.0, Suspected Mining explosion.*

IDC ***20*** *06:30:05.9±2.4, 53°.91N×86°.57E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=19.9km s-min=12.3km az=58.0*

ISC 20 06:30:05.7±4.1, 53°.9N±0°.2×86°.6E±0°.2, h0km, n9, σ1s46/13, 7C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**274**	I	I	06 36 20.0	
	baz=91,slow=342,SNR=2.1						
ZAA0	**Zalesovo Array**	**1.05**	**274**	⇑P	**Pg**	**06 30 24.8**	**-0.8**
	0.2nm,0.4s						
ZAA0				⇑S	**Sb**	**06 30 40.1**	**-0.7**
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**1.05**	**274**	Pg	**Pg**	**06 30 24.8**	**-0.9**
	1.0nm,0.3s,baz=88,slow=17,SNR=8.6						
ZALV				Lg	Lg	06 30 39.6	
	3.2nm,0.3s,baz=98,slow=29,SNR=13						
KURK	**Kurchatov**	**5.83**	**240**	⇑Pn	**Pn**	**06 31 35.5**	**+2.2**
	0.2nm,0.3s						
KURK				⇑Lg	Lg	06 33 10.5	
	2.4nm,1.0s						
KURBB	**Kurchatov Arra**	**5.93**	**240**	Pn	**Pn**	**06 31 36.7**	**+2.0**
	0.2nm,0.3s,baz=56,slow=14,SNR=27						
KURBB				Sn	**Sn**	**06 32 42.7**	**-0.6**
	baz=62,slow=20						
KURBB				Lg	Lg	06 33 14.4	
	baz=49,slow=32,SNR=3.6						
	0.5nm,0.2s						
KURBB	**Kurchatov Arra**	**5.93**	**240**	⇓Pn	**Pn**	**06 31 36.1**	**+1.4**
	0.7nm,0.3s						
KURBB				⇓Lg	Lg	06 33 14.1	
	3.8nm,0.8s						
MK31	**Makanchi Array**	**7.62**	**203**	⇑Pn	**Pn**	**06 31 59.1**	**+1.1**
	0.1nm,0.3s,baz=25,slow=13						
MK31				⇑Sn	**Sn**	**06 33 25.4**	**+0.4**
	0.2nm,0.5s						
MK31				⇓Lg	Lg	06 34 10.0	
	2.2nm,0.9s,baz=20,slow=28						
MKAR	**Makanchi Array**	**7.62**	**203**	Pn	**Pn**	**06 31 58.7**	**+0.8**
	0.2nm,0.3s,baz=25,slow=13,SNR=14						
MKAR				Sn	**Sn**	**06 33 24.8**	**-0.2**
	baz=22,slow=28,SNR=2.7						
MKAR				Lg	Lg	06 34 07.9	
	0.1nm,0.3s,baz=25,slow=29,SNR=6.3						
	0.3nm,0.2s						
MAKZ	**Makanchi**	**7.68**	**204**	⇑Pn	**Pn**	**06 31 56.5**	**-2.3**
	0.3nm,0.6s						
MAKZ				⇓Sn	**Sn**	**06 33 27.3**	**+0.8**
	0.5nm,0.7s						
MAKZ				⇓Lg	Lg	06 34 08.1	
	0.9nm,1.0s						

AEIC ***20*** *06:30:37.8±0.6, 53°.4N±0°.1×163°.3W±0°.1, h14km±9km, Error ellipse: s-maj=17.8km s-min=6.9km az=141.0*

NEIC 20 06:30:36.6±0.6, 53°.5N±0°.2×163°.3W±0°.3, h13km±27km, ML2.6(AEIC), Error ellipse: s-maj=37.1km s-min=6.4km az=143.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.27**	**324**		Pn	06 31 00.1	-0.1
ISLZ	**Isanotski Laza**	**1.30**	**350**		Pn	06 31 00.4	-0.2
ISLZ					Sb	06 31 17.4	-0.2
SSLS	**Shishaldin Sou**	**1.33**	**343**		Pn	06 31 01.1	+0.1
WECS	**Westdahl Cape**	**1.38**	**322**		Pn	06 31 01.7	0.0
FALS	**False Pass**	**1.41**	**358**		Pn	06 31 02.3	+0.3
ISNN	**Isanotski Nort**	**1.41**	**349**		Pb	06 31 02.9	+0.1
AKSA	**Akutan Strait**	**1.57**	**297**		Pn	06 31 03.9	-0.4
AKSA					Sn	06 31 24.3	-0.1
AHB	**Akutan Harbor**	**1.63**	**295**		Pn	06 31 04.9	-0.1
ZRO	**Akutan Zero**	**1.71**	**293**		Pn	06 31 05.7	-0.4
UNV	**Unalaska Valle**	**1.94**	**283**		Pn	06 31 09.2	0.0
UNV					Sn	06 31 33.2	-0.3
MREP	**Makushin Rep't**	**2.07**	**281**		Pn	06 31 11.6	+0.3
MAPS	**Pakushin South**	**2.19**	**281**		Pn	06 31 13.1	+0.3
MAPS					Sn	06 31 38.6	-1.1

BJI ***20*** *06:34:22.6, 37°.17N×29°.23E, h11km, mB5.4/84, mb5.1/83, Ms5.5/96, Ms7 5.2/94*

ISK ***20*** *06:34:25.7, 37°.43N×29°.45E, h5km, ML5.6/57*

IDC ***20*** *06:34:25.8±0.4, 37°.50N×29°.49E, h0km, mb5.0/35, mbtmp5.1/51, ML3.9/10, MS5.1/80, Error ellipse: s-maj=9.1km s-min=8.2km az=162.0*

MOS ***20*** *06:34:26.1±0.9, 37°.43N×29°.55E, h11km, mb5.7/58, MS5.2/41, Error ellipse: s-maj=3.4km s-min=2.2km az=103.7*

ISC-PP ***20*** *06:34:27, 37°.41N×29°.53E, h13km, Mwppsm5.8, Moment Tensor Solution. s45 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.57±.12; $M_{\theta\theta}$0.47±.19; $M_{\phi\phi}$0.09±.18; $M_{r\theta}$-0.16±.16; $M_{\theta\phi}$0.31±.17; $M_{r\phi}$0.32±.28; Fault plane solution: $M_0$7.41000×10^{17} NP1:ϕ_s85.50000°, δ50.90000°, λ307.10000°. NP2:ϕ_s215.30000°, δ51.80000°, λ-126.50000°.*

NEIC ***20*** *06:34:27.8±2.3, 37°.41N±0°.04×29°.53E±0°.06, h8km±1km, mb5.7/724, Ms_20 5.3/549, Mwb5.5/67, Mwr5.7/27, Mww5.7/77 Error ellipse: s-maj=7.9km s-min=7.2km az=146.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.36; $M_{\theta\theta}$1.00; $M_{\phi\phi}$1.35; $M_{r\theta}$0.22; $M_{\theta\phi}$-1.34; $M_{r\phi}$-0.35; Fault plane solution: $M_0$2.48000×10^{17} NP1:ϕ_s136.99000°, δ40.31000°, λ-92.65000°. NP2: ϕ_s320.46000°, δ49.74000°, λ-87.75000°. Principal axes: T 2.5589, Plg5.0000°, Azm49.0000°; N -0.1665, Plg2.0000°, Azm139.0000°; P -2.3924, Plg85.0000°, Azm249.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}-4.64; $M_{\theta\theta}$2.96; $M_{\phi\phi}$1.68; $M_{r\theta}$-0.16; $M_{\theta\phi}$-2.09; $M_{r\phi}$-0.65; Fault plane solution: $M_0$4.62000×10^{17} NP1:ϕ_s119.34000°, δ43.87000°, λ-100.44000°. NP2:ϕ_s313.67000°, δ47.03000°, λ-80.12000°. Principal axes: T 4.5146, Plg2.0000°, Azm37.0000°; N 0.2118, Plg7.0000°, Azm127.0000°; P -4.7264, Plg83.0000°, Azm294.0000°;*

NIC ***20*** *06:34:27.5, 37°.49N×29°.44E, h5km±31km, Ml5.1/9*

AFAD ***20*** *06:34:27.6, 37°.44N×29°.43E, h11km, MW5.5*

THE ***20*** *06:34:27.8, 37°.52N×29°.55E, h0km±1km, ML5.6/7, Error ellipse: s-maj=3.9km s-min=1.3km az=60.0*

HLW ***20*** *06:34:28.1, 37°.53N×29°.19E, h29km±20km, Ml5.0*

IPGP ***20*** *06:34:28.0, 37°.43N×29°.56E, h7km, Mw5.7, Fault plane solution: NP1:ϕ_s147.00000°, δ42.00000°, λ-84.00000°. NP2:ϕ_s318.00000°, δ48.00000°, λ-96.00000°.*

NEIC ***20*** *06:34:28.2, 37°.43N×29°.53E, h18km*

NEIC ***20*** *06:34:28.2, 37°.23N×29°.00E, h18km, Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.92; $M_{\theta\theta}$2.07; $M_{\phi\phi}$2.85; $M_{r\theta}$0.26; $M_{\theta\phi}$-1.40; $M_{r\phi}$~0.79; Fault plane solution: $M_0$4.49000×10^{17} NP1: ϕ_s140.44000°, δ40.01000°, λ-93.94000°. NP2: ϕ_s325.58000°, δ50.10000°, λ-86.70000°. Principal axes: T 3.9773, Plg5.0000°, Azm53.0000°; N 1.0217, Plg3.0000°, Azm143.0000°; P -4.9990, Plg84.0000°, Azm260.0000°;*

GCMT ***20*** *06:34:28.8±0.1, 37°.37N±0°.01×29°.38E±0°.01, h12km, MW5.7/170, Moment Tensor Solution. s140, c258; s170, c381; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-4.37±.03; $M_{\theta\theta}$1.96±.03; $M_{\phi\phi}$2.41±.03; $M_{r\theta}$-0.37±.09; $M_{\theta\phi}$-1.46±.03; $M_{r\phi}$0.16±.09; Best double couple: $M_0$4.03600×10^{17} NP1:ϕ_s321.00000°, δ42.00000°, λ-87.00000°. NP2:ϕ_s137.00000°, δ48.00000°, λ-93.00000°. Principal axes: T 3.6790, Plg3.0000°, Azm229.0000°; N 0.7140, Plg2.0000°, Azm139.0000°; P -4.3930, Plg87.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MCSM ***20*** *06:34:28.3±0.4, 38°.N±3°.×3°.0E±°, h12km±3km, mb5.4, mB5.9, Mw(mB)5.5*

MED_RC ***20*** *06:34:28.0±0.1, 37°.38N×29°.46E, h11km, MW5.7/50, Moment Tensor Solution. Body waves: s8, c8; Mantle waves: s50, c76; Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.21±.07; $M_{\theta\theta}$1.79±.05; $M_{\phi\phi}$2.42±.05; $M_{r\theta}$0.47±.19; $M_{\theta\phi}$-1.76±.04; $M_{r\phi}$0.91±.22; Best double couple: $M_0$4.16000×10^{17} NP1:ϕ_s309.00000°, δ43.00000°, λ-106.00000°. NP2:ϕ_s151.00000°, δ49.00000°, λ-75.00000°. Principal axes: T 3.9100, Plg3.0000°, Azm231.0000°; N 0.5000, Plg11.0000°, Azm321.0000°; P -4.4200, Plg78.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

PDG ***20*** *06:34:28.8, 37°.43N×29°.44E, h11km, mb5.7/2*

NEIC ***20*** *06:34:28.2, 37°.43N×29°.53E, h10km*

NEIC ***20*** *06:34:28.2, 37°.43N×29°.53E, h10km*

GII ***20*** *06:34:29.5±0.0, 37°.380N±0°.003×29°.390E±0°.001, h40km, Mws5.7, confirmed*

BEO ***20*** *06:34:34.0±0.8, 38°.01N×29°.49E, h0km, ML5.4/3*

NAO ***20*** *06:34:48.1, 39°.54N×28°.69E, h10km, mb5.8*

ISC 20 06:34:27.2±0.3, 37°.42N±0°.01×29°.50E±0°.01, h7km±1km, h7km:pP-P, n2198, σ1s72/1997, mb5.7/511, MS5.3/400, 160C-62D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.16**	**288**	Pg	**Pg**	**06 34 30.6**	**0.0**
GOLH	**Golhisar**	**0.19**	**164**	P	**Pg**	**06 34 31.6**	**+0.6**
GOLH				S	**Sg**	**06 34 35.6**	**+1.8**
INCE	**Denizli-Bozkur**	**0.29**	**12**	P	**Pg**	**06 34 33.5**	**+0.4**
INCE				S	**Sg**	**06 34 37.4**	**+0.5**
CAEL	**Denizli, Camel**	**0.33**	**205**	P	**Pg**	**06 34 34.1**	**+0.4**
CAEL				S	**Sb**	**06 34 43.1**	**+2.1**
DNZT	**Denizli-Tavas-**	**0.40**	**249**	P	**Pg**	**06 34 34.7**	**-0.3**
DNZT				S	**Sg**	**06 34 40.2**	**-0.1**
DNIZ	**Denizli-Tavas-**	**0.42**	**299**	P	**Pg**	**06 34 35.1**	**-0.2**
DNIZ				S	**Sg**	**06 34 41.4**	**+0.6**
**TA

BRDR	BURDUR-Merkez	0.53 58	P	Pg	Pn	06 34 38.0 +0.6
BRDR			S	Sn	Pn	06 34 49.0 -1.4
KNIK	Mula-Seydike	0.58 174	P	Pb	Pn	06 34 39.1 -0.6
KNIK			S	Sb	Pn	06 34 48.4 +0.2
BASM	Basmaki-Afyon	0.66 41	Pg	Pg	Pn	06 34 39.8 -0.2
BASM			Sg	Sb	Pn	06 34 51.1 +0.5
SABU	Mula-Dalaman	0.73 215	P	Pg	Pn	06 34 40.8 -0.4
SABU			S	Sg	Pn	06 34 51.1 +0.4
ELL	Elmali	0.75 154	Pg	Pg	Pn	06 34 41.7 +0.1
ELL	Elmali	0.75 154		Pg	Pn	06 34 41.5 -0.1
ELL	Elmali	0.75 154	P	Pg	Pn	06 34 41.5 -0.1
ELL	Elmali	0.75 154 ⇑P		Pg	Pn	06 34 41.6 -0.1
ELL	Elmali	0.75 154	S	Sn	Pn	06 34 55.0 -0.9
KORT	Korkueli	0.80 121	Pg	Pg	Pn	06 34 42.4 -0.2
KORT	Korkueli	0.80 121	P	Pg	Pn	06 34 42.9 +0.3
KORT			S	Sn	Pn	06 34 57.0 -0.2
BUCA	Burdur, Bucak-	0.85 96	P	Pg	Pn	06 34 43.5 0.0
FETY	Fethiye	0.85 203	Pg	Pg	Pn	06 34 42.5 -1.0
FETY	Fethiye	0.85 203	P	Pg	Pn	06 34 43.2 -0.3
BCK	Bucak	0.87 87	Pg	Pg	Pn	06 34 43.5 -0.4
BCK	Bucak	0.87 87	P	Pb	Pn	06 34 44.8 +0.2
KHL	Karahalli	0.90 1	Pg	Pg	Pn	06 34 44.1 -0.4
DALY	Dalyan (Mula)	0.90 228	Pg	Pg	Pn	06 34 43.3 -1.2
ISP	Isparta	0.91 64	Pg	Pg	Pn	06 34 44.4 -0.2
ISP	Isparta	0.91 64		Pg	Pn	06 34 44.7 +0.1
ISP	Isparta	0.91 64 *i* P		Pg	Pn	06 34 44.0 -0.6
ISP	Isparta	0.91 64 ⇑P		Pg	Pn	06 34 44.3 -0.3
ISP	Isparta	0.91 64	P	Pg	Pn	06 34 44.6 +0.1
PASA	Karahalli, USA	0.92 360	P	Pg	Pn	06 34 43.7 -1.3
PASA			S	Sn	Pn	06 34 59.8 -0.4
MULA	Mugla, Merkez-	0.95 260	P	Pg	Pn	06 34 44.0 -1.5
KZIL	AFYON_Kizioren	0.98 31	P	Pg	Pn	06 34 45.1 -0.9
KZIL			S	Sn	Pn	06 35 03.0 +1.4
ESEN	Aydn-Nazilli	0.99 293	P	Pg	Pn	06 34 44.3 -1.8
IZZE	Mula-Seydike	1.01 193	P	Pg	Pn	06 34 45.7 -0.8
YER	Yerkesik	1.01 254	P	Pg	Pn	06 34 45.8 -0.7
ANTB	Antalya	1.06 119	Pn	Pb	Pn	06 34 47.9 +0.1
NAZL	Nazilli-Aydin	1.10 300	Pg	Pg	Pn	06 34 47.4 -0.8
KIRA	zmir-Kiraz	1.16 312	P	Pg	Pn	06 34 47.7 -1.7
BAGO	Egridir - ISPA	1.17 61	P	Pg	Pn	06 34 48.8 -0.9
AKAS	Kas	1.19 176	Pn	Pg	Pn	06 34 49.8 -0.2
AKAS	Kas	1.19 176		Pn	Pn	06 34 50.8 +0.4
AKAS	Kas	1.19 176	P	Pg	Pn	06 34 48.9 -1.1
TURN	Turunc	1.19 238	Pn	Pg	Pn	06 34 48.4 -1.6
TURN	Turunc	1.19 238	P	Pg	Pn	06 34 47.7 -2.3
DEMR	Demre-Antalya	1.23 164	Pn	Pn	Pn	06 34 50.9 +0.2
KSL	Kastellorizon	1.27 177	P	Pg	Pn	06 34 52.1 +0.5
KSL			S	Sn	Pn	06 35 12.8 +4.2
	110µm,1.1s					
KSL	Kastellorizon	1.27 177	P	Pb	Pn	06 34 51.4 0.0
KSL			S	Sn	Pn	06 35 12.6 +4.0
KULA	Kula-Manisa	1.27 329	Pn	Pn	Pn	06 34 50.3 -1.2
AKUM	Antalya-Kumluc	1.29 148	P	Pb	Pn	06 34 51.8 +0.1
BNAZ	Uak-Banaz	1.29 13	P	Pn	Pn	06 34 50.8 -0.9
AYDN	Tasoluk	1.31 281	P	Pn	Pn	06 34 50.8 -1.1
USAK	Uak-Merkez	1.34 344	P	Pn	Pn	06 34 51.8 -0.6
AYDB	Zeytinkoy-Aydi	1.38 293	Pn	Pn	Pn	06 34 52.4 -0.5
SHUT	Suhut-Afyon	1.40 36	Pn	Pn	Pn	06 34 53.1 -0.2
ODEM	Odemis-Izmir	1.41 308	Pn	Pn	Pn	06 34 52.8 -0.5
AFYO	Afyonkarahisar	1.50 25	P	Pn	Pn	06 34 54.6 -0.1
DATC	Datca-Mugla	1.61 246	Pn	Pn	Pn	06 34 55.6 -0.4
SHAP	Saphane-Kutahy	1.61 352	Pn	Pn	Pn	06 34 56.0 -0.1
YVAC	Isparta, Yalva	1.62 58	P	Pb	Pn	06 34 56.9 -0.6
GEDZ	Gediz	1.62 358	Pn	Pn	Pn	06 34 56.4 +0.2
ARG	Arkhangelos	1.63 223	Pn	Pn	Pn	06 34 56.4 +0.1
ARG	Arkhangelos	1.63 223	P	Pn	Pn	06 34 56.1 -0.1
ARG			S	Sg	Pn	06 35 20.6 +1.0
	102µm,1.2s					
ARG	Arkhangelos	1.63 223		Pn	Pn	06 34 56.3 +0.1
ARG	Arkhangelos	1.63 223	P	Pn	Pn	06 34 56.3 0.0
ARG	Arkhangelos	1.63 223 ⇑P		Pn	Pn	06 34 56.2 0.0
ARG	Arkhangelos	1.63 223	P	Pn	Pn	06 34 56.7 +0.4
ARG			S	Sg	Pn	06 35 20.1 +0.5
MNVG	Manavgat-Antal	1.66 112	Pn	Pb	Pn	06 34 57.7 -0.3
GDZ	Gediz	1.66 360	P	Pn	Pn	06 34 57.0 +0.1
BDRM	Kayabasi	1.68 258	P	Pn	Pn	06 34 56.4 -0.5
DAT	Datca	1.68 246	Pn	Pn	Pn	06 34 57.2 +0.1
SIMA	Simav-Kutahya	1.71 346	Pn	Pn	Pn	06 34 57.2 -0.2
SMAA	Simav-Kutahya	1.72 347	Pn	Pn	Pn	06 34 57.9 +0.3
DEMI	Demirci	1.73 339	P	Pn	Pn	06 34 57.0 -0.7
KURO	Afyon-Bolvadin	1.73 40	P	Pn	Pn	06 34 57.8 0.0
KEPZ	Antalya-Kepez	1.76 107	P	Pn	Pn	06 34 58.3 +0.2
BODT	Bodrum	1.78 259	Pn	Pn	Pn	06 34 58.8 +0.5
GOMA	Golmarmara-Man	1.79 316	Pn	Pn	Pn	06 34 57.9 -0.5
YKAV	Yalikavak-Bodr	1.79 261	Pn	Pn	Pn	06 34 59.2 +0.7
YAZI	Mula-Dat§a-	1.79 246	P	Pn	Pn	06 34 58.6 +0.1
DDIM	Aydin, Didim	1.79 272	P	Pn	Pn	06 34 58.2 -0.3
DIDI	Didim-Aydin	1.80 269	Pn	Pn	Pn	06 34 58.7 +0.2
SEDI	Konya, Seydise	1.80 88	P	Pb	Pn	06 35 00.5 0.0
GORD	Gordes-Manisa	1.81 325	Pn	Pn	Pn	06 34 58.6 -0.2
GCAM	G?zelcaml?	1.82 279	Pn	Pn	Pn	06 34 58.9 +0.1
GCAM	G?zelcaml?	1.82 279	P	Pn	Pn	06 34 58.2 -0.7
DOGA	KONYA_Doganhis	1.85 68	P	Pb	Pn	06 35 00.5 -0.9
SEYD	Seydisehir-KON	1.86 90	Pn	Pb	Pn	06 35 01.2 -0.4
BYAT	Afyon-Bayat	1.92 37	P	Pn	Pn	06 35 00.6 +0.3
UCKU	Afyonkarahisar	1.95 51	P	Pn	Pn	06 35 00.8 +0.1
EMET	Ktahya-Emet	1.96 356	P	Pn	Pn	06 35 01.1 +0.2
AKHS	Akhisar	1.97 318	P	Pn	Pn	06 34 59.1 -1.9
AKS	Akhisar	1.97 318	Pn	Pn	Pn	06 35 00.7 -0.2
AUKIR	Kirka- Seyitga	2.02 23	P	Pb	Pn	06 35 04.4 +0.1
TVSB	Tavsanli	2.02 359	Pn	Pb	Pn	06 35 03.1 -1.2
NISR	Nisiros	2.06 248	P	Pb	Pn	06 35 03.6 -1.3
NISR			S	Sb	Pn	06 35 31.7 +1.0
	159µm,2.2s					
ANDZ	Kutahya, Merke	2.11 9	P	Pn	Pn	06 35 02.2 -0.7
GMLD	Gumuldur	2.15 288	Pn	Pn	Pn	06 35 04.1 +0.8
DGB	zmir	2.17 288	P	Pn	Pn	06 35 02.4 -1.2
BLCB	Balcova	2.17 297	Pn	Pn	Pn	06 35 04.2 +0.6
DST	Dursunbey	2.28 343	Pn	Pn	Pn	06 35 05.5 +0.2
DST	Dursunbey	2.28 343	P	Pn	Pn	06 35 05.6 +0.2
CIFT	Cifteler, Eski	2.29 32	Pn	Pn	Pn	06 35 06.1 +0.6
DURS	Dursunbey	2.32 340	P	Pn	Pn	06 35 04.3 -1.5
SOMA	Soma-Manisa	2.32 319	Pn	Pn	Pn	06 35 05.6 -0.1
CTIK	Konya-Celtik	2.33 46	P	Pn	Pn	06 35 05.6 -0.4
KONT	Konya--Tatoy	2.33 76	Pn	Pb	Pn	06 35 07.8 -1.7
KONT	Konya--Tatoy	2.33 76	P	Pn	Pn	06 35 07.6 +1.7
KDHN	Kadinhani	2.34 61	P	Pn	Pn	06 35 06.7 +0.6
SGAZ	Eskisehir, Sey	2.35 26	P	Pn	Pn	06 35 05.7 -0.6
DOMA	Ktahya-Doman	2.37 4	P	Pn	Pn	06 35 04.9 -1.6
KIZT	Kizilcal	2.38 52	Pn	Pn	Pn	06 35 07.1 +0.4
STEP	BALIKESIR_Sava	2.40 325	P	Pn	Pn	06 35 06.0 -0.9
LADK	Ladik-KONYA	2.40 70	Pn	Pn	Pn	06 35 08.1 +1.1
ZEDA	zmir-Bergama	2.45 310	P	Pn	Pn	06 35 06.6 -0.9
URLA	Izmir	2.48 293	P	Pn	Pn	06 35 07.6 -0.3
ZEYE	Izmir, Urla-Ze	2.51 290	P	Pn	Pn	06 35 07.2 -1.1
AUBOZ	BOZOYUK	2.52 9	P	Pn	Pn	06 35 08.2 -0.4
FOCM	Foa	2.53 301	Pn	Pn	Pn	06 35 09.4 +0.7
GAZI	Gazipasa	2.55 117	P	Pn	Pn	06 35 07.8 -1.2
AUKUT	KUTAHYA	2.56 9	P	Pn	Pn	06 35 01.1 -8.1
BORA	Eskisehir	2.57 17		Pn	Pn	06 35 09.5 +0.3
BORA	Eskisehir	2.57 17	P	Pn	Pn	06 35 08.1 -1.2
SVRH	Sivrihisar-ESK	2.57 38	Pn	Pn	Pn	06 35 10.4 +1.1
AUSIV	SIVRIHISAR	2.58 38	P	Pn	Pn	06 35 09.8 +0.4
BKES	Balkesir-Mer	2.61 332	P	Pn	Pn	06 35 08.6 -1.2
CAND	Candarli	2.62 307	Pn	Pn	Pn	06 35 10.2 +0.4
DKL	Dikili	2.62 310	Pn	Pn	Pn	06 35 10.2 +0.3
DKL	Dikili	2.62 310 ⇑P		Pn	Pn	06 35 10.0 +0.2
KARP	Karpathos	2.65 226	Pn	Pn	Pn	06 35 11.5 +1.1
KARP	Karpathos	2.65 226	P	Pn	Pn	06 35 11.5 +1.1
KARP			S	Sb	Pn	06 35 45.8 -2.0
	55µm,0.9s					
KARP	Karpathos	2.65 226		Pn	Pn	06 35 11.6 +1.1
KARP	Karpathos	2.65 226 *eP*		Pb	Pn	06 35 13.6 -1.4
KARP	Karpathos	2.65 226 ⇑P		Pn	Pn	06 35 11.3 +1.0
KARP	Karpathos	2.65 226	P	Pn	Pn	06 35 11.6 +1.3
KARP			S	Sb	Pn	06 35 45.9 -1.9
ORLT	Orhaneli	2.66 350	Pn	Pn	Pn	06 35 11.4 +0.9
CESE	eme	2.69 291	Pn	Pn	Pn	06 35 11.4 +0.6
ULDT	Uludag	2.73 354	P	Pn	Pn	06 35 10.2 -1.4
KARB	zmir-Karabur	2.73 298	P	Pn	Pn	06 35 11.1 -0.3
BALY	Balya	2.74 328	P	Pn	Pn	06 35 11.4 -0.2
BILE	Bilecik/Merkez	2.75 6	P	Pn	Pn	06 35 11.2 -0.5
KKBE	Karaman, Kazim	2.75 93	P	Pn	Pn	06 35 13.4 +1.6
SUSR	Susurluk-Balik	2.77 337	Pn	Pn	Pn	06 35 12.7 +0.8
CAVI	Cavuskoy	2.79 5	Pn	Pn	Pn	06 35 13.4 +1.2
BUHA	Balikesir, Bur	2.81 318	P	Pn	Pn	06 35 11.8 -0.7
ALIN	Konya, Altinte	2.82 71	P	Pn	Pn	06 35 13.8 +1.2
IGD	Bursa	2.85 355	P	Pn	Pn	06 35 11.4 -1.6
AVDN	Avdancik/Bursa	2.88 355	P	Pn	Pn	06 35 12.1 -1.3
CBEY	Konya-Cihanbey	2.89 63	P	Pn	Pn	06 35 14.9 +1.2
AUMIH	MIHALICIK	2.90 32	P	Pn	Pn	06 35 14.1 +0.3
AYVA	Ayvalik	2.90 311	P	Pn	Pn	06 35 12.4 -1.3
YYLC	Yaylacik	2.93 350	P	Pn	Pn	06 35 13.8 -0.2
KCTX	Karacabey (Bur	2.98 343	Pn	Pn	Pn	06 35 15.8 +1.0
GONE	Gonen-Balikesi	2.98 332	Pn	Pn	Pn	06 35 15.7 +0.9
MDNY	Mudanya-Bursa	2.98 351	Pn	Pn	Pn	06 35 15.9 +1.1
KRSK	Karsak	2.98 357	P	Pn	Pn	06 35 14.6 -0.3
HISA	Bilecik-Osmane	3.06 6	P	Pn	Pn	06 35 15.4 -0.5
YENI	Yenice-Canakka	3.07 326	Pn	Pn	Pn	06 35 16.9 +0.9
SUSU	Bolu-G¶lyn‑	3.10 19	P	Pn	Pn	06 35 16.6 +0.1
GEYV	SAKARYA_Geyve	3.12 11	P	Pn	Pn	06 35 16.0 -0.7
PRK	Paraskevi	3.12 307	P	Pn	Pn	06 35 17.1 +0.3
PRK			S	Sn	Pn	06 35 55.1 +0.8
	60µm,0.8s					
PRK	Paraskevi	3.12 307	P	Pn	Pn	06 35 17.0 +0.3
BAND	Balkesir-Ban	3.12 340	P	Pn	Pn	06 35 15.4 -1.4
BAND	Balkesir-Ban	3.12 340 ⇑P		Pn	Pn	06 35 16.7 -0.1
KURT	Yalova, Merkez	3.17 356	P	Pn	Pn	06 35 15.6 -1.9
APE	Apeiranthos	3.18 265	P	Pn	Pn	06 35 18.3 +0.6
APE			S	Sn	Pn	06 35 57.3 +1.4
	17µm,1.9s					
APE	Apeiranthos	3.18 265 ⇑P		Pn	Pn	06 35 18.2 +0.5
APE	Apeiranthos	3.18 265 *i* P		Pn	Pn	06 35 18.5 +0.8
APE	Apeiranthos	3.18 265	P	Pn	Pn	06 35 16.7 -1.0
APE	Apeiranthos	3.18 265	P	Pn	Pn	06 35 18.1 +0.5
APE			S	Sb	Pn	06 36 06.1 +3.1
EDC	Edincik	3.19 337	P	Pn	Pn	06 35 18.2 +0.5
KKUL	Konya-Kulu	3.21 56	P	Pn	Pn	06 35 19.1 +1.0
AKMS	Akamas	3.32 135	P	Pn	Pn	06 35 21.7 +2.1
AKMS			S	Sb	Pn	06 36 04.0 -2.9
AKMS			AML	AML	Pn	06 36 21.0
	20nm,1.0s					
AKMS			AML	AML	Pn	06 36 33.1
	20nm,1.0s					
MDUB	Mudurnu	3.32 23	Pn	Pn	Pn	06 35 21.2 +1.6
MDUB	Mudurnu	3.32 23 ⇑P		Pn	Pn	06 35 20.6 +1.0
BTAS	Taskesti	3.35 20	P	Pn	Pn	06 35 19.8 -0.2
KOCA	Canakkale, Ayv	3.35 309	P	Pn	Pn	06 35 19.8 -0.2
SIGR	SIGRI	3.38 303	P	Pn	Pn	06 35 20.5 +0.3
SIGR			S	Sn	Pn	06 36 00.3 -0.2
	21µm,0.8s					
THR8	Santorini-Mono	3.38 254	P	Pn	Pn	06 35 21.3 +1.1
ALFC	Alefka	3.38 131	P	Pn	Pn	06 35 21.9 +1.6
ALFC			S	Sn	Pn	06 36 04.1 +3.5
ALFC			AML	AML	Pn	06 36 21.3
	11nm,1.3s					
ALFC			AML	AML	Pn	06 36 30.4
	15nm,0.9s					
CMBO	Columbo, Santo	3.41 255	P	Pn	Pn	06 35 21.7 +1.0
SEMS	Kocaeli-K¶lrfe	3.45 3	P	Pn	Pn	06 35 20.7 -0.6
THR5	Thira Island,	3.47 254	P	Pn	Pn	06 35 22.7 +1.1
GULN	MERSIN_Gulnar	3.48 110	P	Pn	Pn	06 35 24.7 +3.1
ZKR	Zakros	3.51 230	P	Pn	Pn	06 35 23.3 +1.2
ZKR			S	Sn	Pn	06 36 05.9 +2.1
KIBS	BOLU	3.51 31	P	Pn	Pn	06 35 22.1 -0.1
BBAL	Bala	3.55 52	P	Pn	Pn	06 35 23.9 +1.1
ANTO	Ankara	3.55 46		Pn	Pn	06 35 24.2 +1.4
ANTO	Ankara	3.55 46	P	Pn	Pn	06 35 24.4 +1.6
ANTO			S	Sb	Pn	06 36 09.8 -4.0
ANTO	Ankara	3.55 46 ⇑P		Pn	Pn	06 35 24.5 +1.6
ANTO	Ankara	3.55 46	P	Pn	Pn	06 35 24.2 +1.4
ANTO	Ankara	3.55 46 ⇑P		Pn	Pn	06 35 24.4 +1.6
AKSY	AKSARAY - Alti	3.58 69	P	Pn	Pn	06 35 23.3 +0.1
CNKL	anakkale-Mer	3.59 318	P	Pn	Pn	06 35 22.5 -0.6
KAYN	Sakarya, Kayna	3.60 10	P	Pn	Pn	06 35 23.1 -0.2
BOZC	Bozcaada	3.62 313	P	Pn	Pn	06 35 22.0 -1.6
NATA	Nata	3.63 136	P	Pn	Pn	06 35 26.0 +2.2
NATA			S	Sn	Pn	06 36 10.8 +4.0
NATA			AML	AML	Pn	06 36 42.4
	43nm,0.8s					
NATA			AML	AML	Pn	06 36 43.0
	62nm,1.1s					
ISK	Istanbul-Kandi	3.65 355	P	Pn	Pn	06 35 25.2 +1.1
ECEA	Canakkale, Ece	3.69 316	P	Pn	Pn	06 35 24.3 -0.2
KAND	Kocaeli-Kandir	3.71 8	P	Pn	Pn	06 35 24.4 -0.4
SART	Tekirdag	3.73 332	P	Pn	Pn	06 35 24.6 -0.6
BOLU	Bolu-Merkez-Mu	3.76 26	P	Pn	Pn	06 35 25.3 -0.3
APOL	The Sanctuary	3.87 134	P	Pn	Pn	06 35 29.4 +2.4
APOL			S	Sb	Pn	06 36 18.4 -4.3
APOL			AML	AML	Pn	06 36 52.2
	12nm,1.1s					
APOL			AML	AML	Pn	06 36 52.6
	13nm,1.0s					
KIRS	Kirsehir-Merke	3.88 63 ⇑P		Pn	Pn	06 35 29.0 +1.8
ATHAL	Athalassa	3.89 125	P	Pn	Pn	06 35 29.3 +2.0
ATHAL			S	Sb	Pn	06 36 19.6 -3.6
ATHAL			AML	AML	Pn	06 36 58.9
	38nm,1.6s					
ATHAL			AML	AML	Pn	06 37 08.6
	34nm,2.6s					
CSS	Mathiatis	3.96 127		Pn	Pn	06 35 28.5 +0.2
CSS	Mathiatis	3.96 127 ⇑P		Pn	Pn	06 35 29.1 +0.8
CSS	Mathiatis	3.96 127	P	Pn	Pn	06 35 29.2 +1.0
CSS	Mathiatis	3.96 127	P	Pn	Pn	06 35 29.6 +1.3
CSS			S	Sn	Pn	06 36 19.8 +4.9
CSS			AML	AML	Pn	06 36 48.6
	10nm,1.2s					
CSS			AML	AML	Pn	06 36 50.1
	6.0nm,1.1s					
BRTR	Keskin Array B	3.98 53	Pn	Pn	Pn	06 35 30.1 +1.4
	484nm,0.6s,baz=233,slow=15,SNR=1579					
BRTR			Sn	Sn	Pn	06 36 14.9 -0.7
	30nm,0.3s,baz=234,slow=24,SNR=8.3					
BR131	Keskin Array S	3.98 53	Pn	Pn	Pn	06 35 30.0 +1.4
BR131				Pb	Pn	06 35 30.1 -7.5
BR131	Keskin Array S	3.98 53	P	Pn	Pn	06 35 30.1 +1.4
BR131			S	Sn	Pn	06 36 18.1 +2.4
BR131	Keskin Array S	3.98 53 *i* P		Pn	Pn	06 35 30.1 +1.4
ASGA	Asgata	4.02 130	P	Pn	Pn	06 35 30.9 +1.8
ASGA			S	Sb	Pn	06 36 22.7 -4.4
ASGA			AML	AML	Pn	06 36 50.1
	12nm,1.5s					
ASGA			AML	AML	Pn	06 36 50.4
	10nm,0.9s					
MVOU	Mavrovouni	4.12 124	P	Pn	Pn	06 35 31.5 +1.1
MVOU			S	Sn	Pn	06 36 22.1 +3.3
MVOU			AML	AML	Pn	06 36 48.2
	6.2nm,0.9s					
MVOU			AML	AML	Pn	06 36 55.3
	7.1nm,1.2s					
CAVK	Edirne/Enez-Ca	4.17 323 ⇑P		Pn	Pn	06 35 32.0 +0.8
IDI	Anoyia	4.28 242		Pn	Pn	06 35 33.4 +0.6
IDI	Anoyia	4.28 242	S	Sn	Pn	06 36 20.9 -2.2
IDI			P	Pn	Pn	06 35 33.1 +0.3
IDI	Anoyia	4.28 242	Pn	Pn	Pn	06 35 33.7 +0.9
	129nm,0.3s,baz=57,slow=14,SNR=629					
IDI			Sn	Sn	Pn	06 36 22.1 -0.9
	210nm,0.3s,baz=345,slow=16,SNR=5.5					
	2µm,0.7s					
ALN	Alexandroupoli	4.38 323		Pn	Pn	06 35 34.2 +0.1
ALN	Alexandroupoli	4.38 323	P	Pn	Pn	06 35 34.2 +0.1
ALN	Alexandroupoli	4.38 323 ⇑P		Pn	Pn	06 35 34.4 +0.2
PARAL	Paralimni	4.40 122	P	Pn	Pn	06 35 36.8 +2.5
PARAL			S	Sb	Pn	06 36 33.6 -4.4
PARAL			AML	AML	Pn	06 37 06.7
	12nm,1.3s					
PARAL			AML	AML	Pn	06 37 14.7
	12nm,1.2s					
ATH	Athens Observa	4.62 279	P	Pn	Pn	06 35 39.0 +1.7
RDO	Rodhopi	4.82 322		Pn	Pn	06 35 40.5 +0.4
RDO	Rodhopi	4.82 322 ⇑P		Pn	Pn	06 35 40.6 +0.4
ILGA	Ilgaz	4.89 41	Pn	Pn	Pn	06 35 42.2 +1.0
CIDE	Kastamonu/Cide	5.19 30 ⇓P		Pn	Pn	06 35 46.8 +1.7
OUR	Ouranopolis	5.19 306	P	Pn	Pn	06 35 46.2 +1.0
PAIG	Paliouri	5.19 301	P	Pn	Pn	06 35 46.9 +1.7
BNN	Bunyan	5.21 72 ⇑P		Pn	Pn	06 35 48.3 +2.8
KDZ	Kurdzhali	5.29 324	P	Pn	Pn	06 35 47.2 +0.6
PLG	Polygyros	5.56 304	P	Pn	Pn	06 35 52.5 +2.1
BZK	Bozkurt	5.71 36	Pn	Pn	Pn	06 35 53.8 +1.5
BZK	Bozkurt	5.71 36 ⇑P		Pn	Pn	06 35 54.1 +1.7
SRS	Serrai	5.88 311 *e*Pn		Pn	Pn	06 35 55.2 +0.5
SRS			*e*Sn	Sn	Pn	06 36 57.4 -4.9
PLD	Plovdiv	5.97 324	P	Pn	Pn	06 35 57.1 +1.2
PLD	Plovdiv	5.97 324 *e*Pn		Pn	Pn	06 35 56.5 +0.6
PLD			*e*Sn	Sn	Pn	06 36 58.8 -5.7
THE	Thessaloniki	6.01 304 *i* P		Pn	Pn	06 35 59.1 +2.6
ITM	Ithomi	6.04 270		Pn	Pn	06 35 58.9 +2.0
ITM	Ithomi	6.04 270 ⇑P		Pn	Pn	06 35 59.2 +2.4
LIT	Litokhoron	6.09 298	Pn	Pn	Pn	06 35 58.4 +0.8
LIT	Litokhoron	6.09 298	P	Pn	Pn	06 35 58.4 +0.8
LIT	Litokhoron	6.09 298 ⇑P		Pn	Pn	06 35 58.2 +0.6
HWQ	Hawqa	6.11 119 *eP*		Pn	Pn	06 35 59.2 +1.3
BHL	Bhannes	6.12 123 *eP*		Pn	Pn	06 35 58.4 +0.3
BEIL	Beino	6.14 116 *eP*		Pn	Pn	06 35 59.9 +1.6
GAZ	Gaziantep	6.16 90	Pn	Pn	Pn	06 36 01.2 +2.6
GAZ	Gaziantep	6.16 90 ⇑P		Pn	Pn	06 36 01.4 +2.9
GAZ	Gaziantep	6.16 90	P	Pn	Pn	06 36 00.7 +2.2
GAZ			S	Sb	Pn	06 37 24.5 -4.1
TOKA	Tokat	6.17 60	Pn	Pn	Pn	06 36 01.8 +3.1
DQRL	Deir Qamar	6.18 125 *eP*		Pn	Pn	06 35 59.9 +0.9
PSN	Preselentsi	6.29 351	P	Pn	Pn	06 36 01.6 +1.3
KNT	Kendrikon	6.33 308	P	Pn	Pn	06 36 02.5 +1.6
HNTI	Hanita	6.35 131	P	Pn	Pn	06 36 01.8 +0.7
HNTI	Hanita	6.35 131	S	Sn	Pn	06 37 13.9 0.0
QRWL	Qaraoun	6.36 126 *eP*		Pn	Pn	06 36 02.5 +1.2
MANR	Mangalia	6.42 354 ⇓P		Pn	Pn	06 36 03.1 +0.9
FKH	Fakeheh	6.45 117 *eP*		Pn	Pn	06 36 04.6 +2.0
RCY	Rachaya	6.49 125 *eP*		Pn	Pn	06 36 04.7 +1.5
SHBL	Chebaa	6.52 127 *eP*		Pn	Pn	06 36 04.5 +0.9
MMA0B	Mount Meron ar	6.53 131	P	Pn	Pn	06 36 04.5 +0.8
MMA0B	Mount Meron ar	6.53 131	S	Sn	Pn	06 37 18.3 -0.2
MMAI	Mount Meron Ar	6.53 131	Pn	Pn	Pn	06 36 05.1 +1.3
	907nm,0.8s,baz=303,slow=13,SNR=233					
MMAI			Sn	Sn	Pn	06 37 17.9 -0.6
	131nm,0.3s,baz=315,slow=26,SNR=6.0					
GRG	Griva	6.54 305	P	Pn	Pn	06 36 06.3 +2.5
RAZG	Razgrad	6.55 341 ⇓P		Pn	Pn	06 36 04.4 +0.6
GEM	Giv'at Ha'Em	6.56 128 ⇑P		Pn	Pn	06 36 05.3 +1.2
GEM	Giv'at Ha'Em	6.56 128	P	Pn	Pn	06 36 04.9 +0.9
GEM	Giv'at Ha'Em	6.56 128	S	Sn	Pn	06 37 19.1 0.0
OFRI	`Ofer	6.57 135	P	Pn	Pn	06 36 04.8 +0.5
OFRI	`Ofer	6.57 135	S	Sn	Pn	06 37 19.5 +0.1
NATI	Neve Ativ	6.57 127	P	Pn	Pn	06 36 04.8 +0.6
BLGI	Bet Lehem HaGe	6.61 133	P	Pn	Pn	06 36 05.6 +0.9
VAY	Valandovo	6.63 308 *e*Pn		Pn	Pn	06 36 06.5 +1.6
KZN	Kozani	6.68 298	P	Pn	Pn	06 36 07.9 +2.2
MFTR	Murfatlar	6.80 353 ⇓P		Pn	Pn	06 36 08.4 +1.2
KSHT	Keshet	6.81 129	P	Pn	Pn	06 36 08.7 +1.3
KSHT	Keshet	6.81 129	S	Sn	Pn	06 37 25.7 +0.4
SLTI	Sal'it	6.89 137	P	Pn	Pn	06 36 08.7 +0.2
SLUM	Salum	6.89 212	P	Pn	Pn	06 36 07.4 -1.2
MMLI	Mount Malkishu	6.96 134	P	Pn	Pn	06 36 10.0 +0.5
MMLI	Mount Malkishu	6.96 134	S	Sn	Pn	06 37 29.1 +0.2
ZIMR		6.98 335 ⇑P		Pn	Pn	06 36 11.1 +1.4
VTS	Vitosha	7.07 319 *e*Pn		Pn	Pn	06 36 12.2 +1.0
VTS			*e*Sn	Sn	Pn	06 37 26.4 -5.4

PUNG Punghina 8.46 326 ⇑P Pn 06 36 29.9 -0.2
MTUR Matau 8.48 338 ⇑P Pn 06 36 31.7 +1.3
VLDR Vladesti 8.48 353 ⇓P Pn 06 36 31.5 +1.1
KRMI Paran Flat 8.48 148 P Pn 06 36 29.9 -0.6
MLR Muntele Rosu 8.49 343 Pn **Pn 06 36 32.4 +1.8**
MLR Muntele Rosu 8.49 343 Pn **Pn 06 36 31.2 +0.6**
comp=Z,78nm,0.4s,baz=168,slow=4.2,SNR=117
MLR Sn **Sn 06 38 03.9 -2.8**
baz=168,slow=14
MLR Muntele Rosu 8.49 343 ⇑P Pn 06 36 32.2 +1.6
MLR Muntele Rosu 8.49 343 P **Pn 06 36 32.4 +1.8**
ZNM Zenema 8.51 160 P **Pn 06 36 32.4 +1.7**
ODBI Odobesti 8.53 348 ⇑P Pn 06 36 32.8 +1.8
SUDU Sudak 8.54 27⇑*i*P Pn 06 36 32.2 +1.1
SUDU Sudak 8.54 27⇓*i*P Pn 06 36 32.2 +1.1
SUDU Pm 06 36 41.9
comp=Z,115nm,0.6s
VARL Varlezi 8.56 352 ⇓P Pn 06 36 33.2 +1.8
BOVS Bovan 8.58 319 ⇑P Pn 06 36 32.7 +1.0
BOVS Bovan 8.58 319 *e*Pn Pn 06 36 32.6 +0.9
PANC Panciu 8.62 349 ⇓P Pn 06 36 33.1 +0.8
SELS Selova 8.63 315 *e*Pn Pn 06 36 33.4 +1.0
SRE Strehaia 8.65 329 ⇑P Pn 06 36 32.6 -0.1
VOIR 8.67 339 ⇑P Pn 06 36 33.8 +0.7
VOIR 8.67 339 P **Pn 06 36 33.3 +0.2**
PLOR Plostina 8.69 347 ⇑P Pn 06 36 34.3 +1.0
PLOR Plostina 8.69 347 P **Pn 06 36 34.1 +0.9**
VRI Vrincioaia 8.69 347 ⇓P Pn 06 36 34.2 +1.0
VRI Vrincioaia 8.69 347 P **Pn 06 36 34.1 +0.9**
HRFI Mount Harif 8.69 146 P **Pn 06 36 33.5 +0.2**
HRFI Mount Harif 8.69 146 S **Sn 06 38 09.3 -2.3**
PUK Puka 8.72 305 *i* P Pn 06 36 39.2 +5.5
ARR Arges 8.74 337 ⇓P Pn 06 36 34.3 +0.4
BORS2 Bor- Borsko je 8.75 322 *e*Pn **Pn 06 36 32.6 -1.4**
BCI Bajram Curri 8.77 307 *i* P **Pn 06 36 37.3 +3.0**
COVR Voineasa-Covas 8.77 345 ⇑P Pn 06 36 35.5 +1.1
GHRR 8.77 350 ⇓P Pn 06 36 36.1 +1.7
FEO Feodosiya 8.79 28 *e*P **Pn 06 36 36.1 +1.5**
FEO Feodosiya 8.79 28 *e*P **Pn 06 36 36.1 +1.5**
FEO Pm 06 36 41.7
comp=Z,19nm,0.3s
SWA2 8.83 204 P **Pn 06 36 34.1 -1.0**
MBRI Mt Berech 8.85 148 P **Pn 06 36 35.4 -0.1**
NBNS Bani Suef 8.90 170 P **Pn 06 36 37.3 +1.1**
DJES Djerdap 8.95 326 ⇑P Pn 06 36 36.6 -0.2
PVY Plav 8.96 308⇑*i*P Pn 06 36 39.7 +2.7
EIL Elat 8.97 148 Pn **Pn 06 36 37.6 +0.5**
comp=Z,188nm,0.6s,baz=342,slow=13,SNR=79
EIL Sn **Sn 06 38 14.3 -4.1**
comp=Z,22nm,0.3s,baz=338,slow=19,SNR=2.3
EIL LR LR 06 41 11.7
comp=Z,11μm,20.8s,baz=326,slow=45
EIL Elat 8.97 148 ⇑P Pn 06 36 37.0 -0.2
EIL Elat 8.97 148 P **Pn 06 36 36.8 -0.4**
GOCS Kraljevo Serbi 8.98 316 *e*Pn **Pn 06 36 37.7 +0.4**
MARD Mardin 8.98 87 Pn **Pn 06 36 38.2 +0.8**
SCTE Santa Cesarea 9.01 290 *i* P Pn 06 36 43.5 +5.8
SCTE Santa Cesarea 9.01 290 Pn **Pn 06 36 39.7 +2.0**
DOPR Dopca 9.07 342 ⇓P Pn 06 36 39.9 +1.4
LEOM Leova 9.09 355 P **Pn 06 36 40.2 +1.5**
LOT Lotru 9.10 334 ⇑P Pn 06 36 39.5 +0.6
OZUR 9.10 343 ⇓P Pn 06 36 40.4 +1.5
TNR Turnu Rosu 9.11 336 ⇑P Pn 06 36 40.2 +1.3
ULC Ulcinj 9.11 303⇑*i*P Pn 06 36 42.6 +3.6
IVA Berane 9.14 310⇓*i*P Pn 06 36 42.1 +2.5
HERR Herculane 9.16 327 ⇑P Pn 06 36 39.6 -0.1
ONER Baraj Valea Uz 9.20 346 ⇓P Pn 06 36 41.9 +1.7
DRME Dracevica, Mon 9.25 304 *e*Pn **Pn 06 36 44.2 +3.3**
GRUS Gruza 9.28 317 *e*Pn **Pn 06 36 42.1 +0.8**
SJES Sjenica 9.32 312 *e*Pn **Pn 06 36 43.3 +1.4**
SJES Sjenica 9.32 312 *e*Pn **Pn 06 36 43.5 +1.6**
PDG Podgorica 9.32 306 *e*Pn **Pn 06 36 45.1 +3.3**
PDG Podgorica 9.32 306 *e*Pn **Pn 06 36 44.1 +2.3**
PDG Podgorica 9.32 306⇑*i*P Pn 06 36 45.1 +3.3
TESR Tescani 9.33 348 ⇓P Pn 06 36 42.2 +0.2
MDVR Moldovita 9.41 324 ⇑P Pn 06 36 43.2 +0.1
MDVR Moldovita 9.41 324 *e*Pn **Pn 06 36 43.1 0.0**
GZR Gura Zlata 9.43 330 ⇑P Pn 06 36 43.3 0.0
ANN Anapa 9.49 37*c i*P **Pn 06 36 45.4 +1.2**
ANN *e*S **Sn 06 38 35.3 +4.2**
ANN pmax pmax
comp=E,95nm,1.0s
ANN pmax pmax
comp=Z,454nm,1.8s
ANN pmax pmax
comp=N,300nm,2.1s
ANN MLR MLR
comp=Z,9μm,8.0s
ANN MLR MLR
comp=E,9μm,9.0s
ANN MLR MLR
comp=N,3μm,6.0s
BUM Brajici-Budva 9.49 304⇑*i*P Pn 06 36 47.9 +3.6
MILM Milestii Mici 9.50 357⇓*e*P Pn 06 36 44.4 +0.1
comp=N,2μm,2.7s
MILM Milestii Mici 9.50 357 *e*S **Sn 06 38 31.0 -0.3**
MILM *e*PP **PnPn 06 36 55.0 +3.0**
MILM *e*Li 06 39 04.0
MILM *e*Lq LQ 06 39 18.0
comp=N,29μm,18.4s
MILM LRM MLR 06 41 04.0
comp=N,15μm,15.8s
MILM Milestii Mici 9.50 357 ⇓P Pn 06 36 44.9 +0.6
MILM Milestii Mici 9.50 357*de*P **Pn 06 36 44.5 +0.1**
MILM *e*S **Sn 06 38 31.0 -0.3**
MILM pmax pmax
comp=Z,2μm,2.7s
MILM MLR MLR
comp=Z,15μm,15.8s
MDB Medias 9.51 338 ⇓P Pn 06 36 45.7 +1.3
KIS Kishinev 9.58 357 *e*P **Pn 06 36 45.0 -0.4**
comp=Z,400nm,0.7s
KIS Kishinev 9.58 357 *e*S **Sn 06 38 32.0 -1.3**
KIS *e*PP **PnPn 06 36 59.0 +5.9**
KIS *e*Li 06 39 02.0
KIS LqM 06 40 02.0
comp=Z,12μm,21.0s
KIS LRM MLR 06 40 53.0
comp=Z,7μm,15.0s
KIS Kishinev 9.58 357 *e*P **Pn 06 36 45.0 -0.4**
KIS *e*S **Sn 06 38 32.0 -1.3**
KIS pmax pmax
comp=Z,900nm,4.6s
KIS MLR MLR
comp=Z,7μm,15.0s
TRUS Trudelj 9.67 317 *e*Pn **Pn 06 36 46.9 +0.2**
NKME Niksic 9.68 307⇓*i*P Pn 06 36 49.9 +3.1
PLE Pljevlja 9.71 311⇑*i*P Pn 06 36 50.0 +2.7
DEV Deva 9.78 332 ⇑P Pn 06 36 49.5 +1.3
DEV Deva 9.78 332 P **Pn 06 36 49.1 +0.9**
DEV pmax pmax
comp=Z,323nm,1.1s
DIVS Divibare 9.82 316 *e*Pn **Pn 06 36 49.1 +0.4**
HCY Herceg Novi 9.82 304 *e*Pn **Pn 06 36 51.7 +2.9**
HCY Herceg Novi 9.82 304⇑*i*P Pn 06 36 50.5 +1.7
VRSS Vrsac 9.84 324 *e*Pn **Pn 06 36 49.0 -0.1**
RUDO Rudo 9.88 312 *e*Pn **Pn 06 36 49.5 -0.1**
SOC Sochi 9.92 48*c i*P **Pn 06 36 51.9 +1.9**
SOC *e* 06 38 47.7
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,11μm,12.0s
UPM Unac-Piva 9.93 309 *e*Pn **Pn 06 36 53.2 +2.7**
UPM Unac-Piva 9.93 309⇑*i*P Pn 06 36 53.1 +2.6
AVAS Avala Beograd 9.94 320 *e*Pn **Pn 06 36 49.8 -0.5**
GURO Guroymak-BITLI 9.96 80 ⇑P Pn 06 36 56.1 +5.3
BBLS Lazi&#263i 10.01 313 *e*Pn **Pn 06 36 52.5 +1.2**
BBLS Lazi&#263i 10.01 313 *e*Pn **Pn 06 36 52.1 +0.8**
BRY Bratogost 10.01 307 *e*Pn **Pn 06 36 54.3 +2.8**
BRY Bratogost 10.01 307⇓*i*P Pn 06 36 54.1 +2.6
BEO Beograd 10.04 320 P **Pn 06 36 53.1 +1.5**
VSLR Vesyoloye 10.04 50 *i* P **Pn 06 36 53.9 +2.2**
TREB Trebinje 10.04 305 *e*Pn Pn 06 36 56.8 +5.0
BZS Buzias 10.09 327 ⇓P Pn 06 36 51.9 -0.5
BZS Buzias 10.09 327 *e*Pn **Pn 06 36 51.6 -0.8**
BZS *e*Sn Sn 06 38 36.1 -10
BZS Buzias 10.09 327 ⇑P Pn 06 36 51.5 -0.8
TIP Timpagrande 10.16 284 ⇑P Pn 06 36 53.7 +0.2
TIP Timpagrande 10.16 284 ⇑P Pn 06 36 54.9 +1.4
TIP Timpagrande 10.16 284 P **Pn 06 36 54.4 +0.9**
comp=Z,5μmcomp=Z,480nm,1.0s

CJR Cluj-Napoca 10.26 337 ⇑P Pn 06 36 55.7 +0.8
CJR Cluj-Napoca 10.26 337 P **Pn 06 36 56.8 +2.0**
TEKS Tekeris 10.36 317 *e*Pn **Pn 06 36 56.5 +0.4**
TEKS Tekeris 10.36 317 *e*Pn **Pn 06 36 55.3 -0.8**
ARCR ARCALIA 10.38 340 ⇑P Pn 06 36 57.4 +1.1
MARR Marisel-Cluj 10.39 335 ⇓P Pn 06 36 57.7 +1.1
HAPS Han Pijesak,BI 10.40 313 *e*Pn **Pn 06 36 58.2 +1.4**
MATE Matera 10.46 292 ⇑P Pn 06 36 58.0 +0.6
MATE Matera 10.46 292 *e*P **Pn 06 36 58.5 +1.1**
MATE Matera 10.46 292 ⇑P Pn 06 36 58.1 +0.6
BAL3X Bal3x, Balta 10.51 0 P **Pn 06 36 57.7 -0.4**
STON Ston 10.54 305 *e*Pn **Pn 06 37 00.0 +1.5**
STON Ston 10.54 305 *e*Pn **Pn 06 37 00.1 +1.5**
SIRR Siria 10.59 329 ⇑P Pn 06 36 59.5 +0.2
FRGS Fruska Gora 10.62 320 *e*Pn **Pn 06 37 00.3 +0.7**
FRGS Fruska Gora 10.62 320 *e*Pn **Pn 06 36 59.2 -0.4**
DRGR 10.63 334 ⇑P Pn 06 37 00.4 +0.5
DRGR 10.63 334 P **Pn 06 37 00.4 +0.5**
DRGR pmax pmax
comp=Z,141nm,1.1s
BURAR Bucovina Array 10.66 344 Pn **Pn 06 37 01.6 +1.3**
BURAR Bucovina Array 10.66 344 ⇓P Pn 06 37 00.9 +0.6
SOI Samo 10.66 278 P **Pn 06 37 02.4 +2.1**
SOI pmax pmax
comp=Z,495nm,1.4s
SORM Soroca 10.74 356 ⇓P Pn 06 37 01.8 +0.5
SORM Soroca 10.74 356 P **Pn 06 37 00.7 -0.6**
CEL Celeste 10.79 279 Pn **Pn 06 37 03.4 +1.3**
CEL Celeste 10.79 279 ⇑P Pn 06 37 02.6 +0.5
CEL Celeste 10.79 279 P **Pn 06 37 03.4 +1.3**
comp=Z,14μmcomp=Z,976nm,1.6s
GMB Gambarie 10.84 278 P **Pn 06 37 05.9 +3.0**
MRVN Minervino Murg 10.94 294 ⇑P Pn 06 37 04.4 +0.4
CUC Castrocucco 10.99 288 ⇑P Pn 06 37 06.5 +1.6
LABN Labinsk 11.12 46 *e*P **Pn 06 37 10.0 +3.4**
LABN *e*S Sn 06 39 20.3 +9.1
LABN pmax pmax
comp=E,87nm,1.5s
LABN pmax pmax
comp=N,83nm,0.8s
LABN pmax pmax
comp=Z,442nm,1.3s
LABN MLR MLR
comp=Z,19μm,9.0s
LABN MLR MLR
comp=N,17μm,9.0s
LABN MLR MLR
comp=E,32μm,10.0s
BMR Baia Mare 11.15 339 ⇑P Pn 06 37 08.2 +1.2
BMR Baia Mare 11.15 339 P **Pn 06 37 07.7 +0.7**
BMR pmax pmax
comp=Z,397nm,1.0s
NDNU Novodnistrovsk 11.28 353 P **Pn 06 37 07.2 -1.4**
KSV Kosov 11.36 345 P **Pn 06 37 09.8 0.0**
HAGA Augusta 11.42 274 ⇑P Pn 06 37 10.9 +0.3
NEUR Neytrino 11.64 56 *i* P Pn 06 37 08.6 -5.2
ERBR Yeremizino-Bor 11.67 41 *e*P **Pn 06 37 15.9 +1.9**
ERBR *e*S **Sn 06 39 28.8 +4.4**
ERBR pmax pmax
comp=Z,887nm,1.9s
ERBR pmax pmax
comp=N,136nm,0.7s
ERBR pmax pmax
comp=E,218nm,1.0s
ERBR MLR MLR
comp=Z,6μm,7.0s
ERBR MLR MLR
comp=N,3μm,6.0s
ERBR MLR MLR
comp=E,4μm,5.0s
TRSU Trosnyk 11.69 338 P **Pn 06 37 14.5 +0.2**
BLY Banja Luka 11.82 312 *e*Pn **Pn 06 37 17.7 +1.7**
BLY Banja Luka 11.82 312 ⇑P Pn 06 37 17.7 +1.7
SHA1 Shidzhatmaz 11.82 54 *i* P **Pn 06 37 18.7 +2.4**
BERU Beregovo 11.91 337 P **Pn 06 37 17.4 +0.1**
MORH Mrgy, Hungar 11.94 321 ⇑P Pn 06 37 18.3 +0.6
MORH Mrgy, Hungar 11.94 321 P **Pn 06 37 18.0 +0.4**
comp=E,3μmcomp=E,129nm,1.4s
KIV Kislovodsk 11.94 53 P **Pn 06 37 22.2 +4.3**
KIV P **Pn 06 37 22.2 +4.3**
KIV S **Sn 06 39 33.8 +2.5**
KIV S **Sn 06 39 33.8 +2.5**
KIV Kislovodsk 11.94 53 *e*P **Pn 06 37 20.7 +2.8**
KIV *e*S **Sn 06 39 33.4 +2.0**
KIV pmax pmax
comp=Z,114nm,1.1s
KIV MLR MLR
comp=Z,2μm,13.0s
KIV Kislovodsk 11.94 53 *i* P **Pn 06 37 20.9 +3.0**
SNR=51
KIV Kislovodsk 11.94 53 ⇑P Pn 06 37 21.1 +3.2
KVAR Kislovodsk Arr 11.95 53 Pn **Pn 06 37 19.2 +1.2**
baz=264,slow=19
KVAR LR LR 06 42 50.9
comp=Z,5μm,18.5s,baz=118,slow=42
comp=Z,3.8nm,0.6s
KBZ Khabaz 11.97 54 Pn **Pn 06 37 19.1 +1.0**
comp=Z,0.3nm,0.3s,baz=254,slow=9.9,SNR=33
comp=Z,8.3nm,0.9s
KBZ Khabaz 11.97 54*ce*P **Pn 06 37 21.2 +3.1**
VAE Valguarnera 11.99 275 Pn **Pn 06 37 19.8 +1.3**
comp=Z,145nm,0.9s,baz=134,slow=0.4,SNR=24
VAE Sn **Sn 06 39 31.6 -0.9**
comp=Z,3.5nm,0.3s,baz=0.0,slow=7.1,SNR=1.2
HORU Horodok 11.99 350 P **Pn 06 37 16.8 -1.7**
A050A Mlekovaca 12.07 310 *e*Pn **Pn 06 37 21.8 +2.3**
MUKU Mukachevo 12.10 338 P **Pn 06 37 19.6 -0.2**
A051A Mrakovica 12.13 313 *e*Pn **Pn 06 37 21.8 +1.4**
KOVH Kovagotottos 12.13 319 ⇑P Pn 06 37 20.9 +0.6
WDD Wied Dalam 12.13 267 Pn **Pn 06 37 21.6 +1.2**
WDD Wied Dalam 12.13 267 ⇑P Pn 06 37 21.4 +1.0
GNI Garni 12.21 72 Pn **Pn 06 37 26.0 +4.4**
comp=Z,0.7nm,0.3s,baz=330,slow=1.0,SNR=24
GNI LR LR 06 42 20.7
comp=Z,16μm,19.0s,baz=274,slow=39
comp=Z,42nm,0.9s
GNI Garni 12.21 72 P **Pn 06 37 25.6 +4.0**
GNI P **Pn 06 37 25.6 +4.0**
GNI Garni 12.21 72 *i* P **Pn 06 37 26.2 +4.7**
HOLU Holmets 12.25 337 P **Pn 06 37 22.3 +0.4**
GIB Gibilmanna 12.27 277 ⇑P Pn 06 37 22.2 -0.1
LUBAR Lubar, Ukraine 12.56 355 P **Pn 06 37 24.9 -1.2**
PSZ Piszkesteto 12.63 329 ⇑P Pn 06 37 28.5 +1.2
PSZ Piszkesteto 12.63 329 P **Pn 06 37 28.2 +0.9**
PSZ pmax pmax
comp=Z,311nm,1.6s
PSZ Piszkesteto 12.63 329 *e*P **Pn 06 37 29.1 +1.8**
PSZ Piszkesteto 12.63 329 ⇑P Pn 06 37 28.4 +1.2
KOLS Kolonicke sedl 12.65 338 *e*P **Pn 06 37 29.5 +2.1**
KOLS Kolonicke sedl 12.65 338 *e*PN **Pn 06 37 29.5 +2.1**
BUD Budapest 12.67 326 P **Pn 06 37 29.8 +2.1**
BUD pmax pmax
comp=Z,200nm,1.6s
GOF Gofitskoye 12.72 49*ce*P **Pn 06 37 31.0 +2.6**
KECS Kecovo 12.86 332 *e*P **Pn 06 37 32.0 +1.6**
KECS Kecovo 12.86 332 *e*PN **Pn 06 37 31.9 +1.6**
KECS Kecovo 12.86 332 *e*P Pn 06 37 37.9 +7.6
CLTB Caltabellotta 12.93 276 ⇑P Pn 06 37 33.1 +1.7
ZAG Zagreb 13.12 314 P **Pn 06 37 36.5 +2.6**
ZAG pmax pmax
comp=Z,269nm,1.4s
AK07 Malin Array Si 13.13 359 P **Pn 06 37 32.1 -1.8**
MPLH Magyarpolny 13.14 322 P **Pn 06 37 34.0 -0.2**
comp=Z,11μmcomp=Z,638nm,1.2s
KWP Kalwaria Pacla 13.15 340 *e*P **Pn 06 37 34.5 +0.2**
KWP Kalwaria Pacla 13.15 340 P **Pn 06 37 34.7 +0.4**
KWP pmax pmax
comp=Z,165nm,1.9s
KWP Kalwaria Pacla 13.15 340 ⇑P Pn 06 37 35.1 +0.9
AK06 Malin Array Si 13.16 359 P **Pn 06 37 32.6 -1.8**
AK10 Malin Array Si 13.18 359 P **Pn 06 37 33.1 -1.4**
PTJ Puntijarka 13.18 314 P **Pn 06 37 36.2 +1.4**
AK09 Malin Array Si 13.19 359 P **Pn 06 37 32.9 -1.9**
AK13 Malin Array Si 13.19 359 P **Pn 06 37 33.5 -1.3**
AK05 Malin Array Si 13.20 359 P **Pn 06 37 33.5 -1.3**
AK14 Malin Array Si 13.21 359 P **Pn 06 37 33.7 -1.3**
AK08 Malin Array Si 13.21 359 P **Pn 06 37 33.7 -1.3**
AK12 Malin Array Si 13.22 359 P **Pn 06 37 33.8 -1.4**
AK02 Malin Array Si 13.23 359 P **Pn 06 37 34.0 -1.3**
SRO Srobarova 13.24 325 P **Pn 06 37 38.0 +2.6**
SRO pmax pmax
comp=Z,374nm,1.5s
SRO Srobarova 13.24 325 *e*PN **Pn 06 37 37.3 +1.9**

AK16 Malin Array Si 13.25 359 P **Pn 06 37 34.4 -1.1**
AK11 Malin Array Si 13.26 359 P **Pn 06 37 34.5 -1.1**
AK17 Malin Array Si 13.26 359 P **Pn 06 37 34.4 -1.3**
AK01 Malin Array Si 13.27 359 P **Pn 06 37 34.5 -1.3**
KIEV Kiev 13.27 359 Pn **Pn 06 37 34.8 -1.1**
KIEV Kiev 13.27 359 P **Pn 06 37 34.8 -1.1**
KIEV Kiev 13.27 359 *i* P **Pn 06 37 34.9 -1.0**
SNR=15
KIEV Kiev 13.27 359 ⇑P Pn 06 37 34.2 -1.6
KIEV Kiev 13.27 359 P **Pn 06 37 34.6 -1.2**
comp=Z,13μmcomp=Z,449nm,1.5s
AK15 Malin Array Si 13.27 359 P **Pn 06 37 34.6 -1.3**
AKASG Malin Array Be 13.28 359 Pn 06 37 33.6 -2.4
AKASG Malin Array Be 13.28 359 Pn **Pn 06 37 34.0 -1.9**
comp=Z,1.9nm,0.3s,baz=178,slow=12,SNR=21
AKASG Sn **Sn 06 40 05.4 +1.7**
comp=Z,3.2nm,0.3s,baz=186,slow=26,SNR=5.1
AKASG LR LR 06 42 35.7
comp=Z,5μm,21.4s,baz=184,slow=37
comp=Z,6.8nm,0.6s
AKASG Malin Array Be 13.28 359 P **Pn 06 37 34.0 -1.9**
AKBB Malin Array Si 13.28 359*ce*P **Pn 06 37 35.3 -0.6**
AKBB Malin Array Si 13.28 359 P **Pn 06 37 34.6 -1.3**
AK04 Malin Array Si 13.30 359 P **Pn 06 37 34.9 -1.3**
AK18 Malin Array Si 13.30 359 P **Pn 06 37 34.9 -1.3**
AQU L'Aquila 13.30 297 P **Pn 06 37 38.3 +2.0**
AQU L'Aquila 13.30 297 P **Pn 06 37 40.3 +3.9**
AQU pmax pmax
comp=Z,223nm,1.3s
AK19 Malin Array Si 13.30 359 P **Pn 06 37 35.0 -1.3**
AK03 Malin Array Si 13.30 359 P **Pn 06 37 35.0 -1.3**
AK20 Malin Array Si 13.32 359 P **Pn 06 37 35.2 -1.3**
AK22 Malin Array Si 13.34 359 P **Pn 06 37 35.5 -1.3**
AK23 Malin Array Si 13.34 359 P **Pn 06 37 35.5 -1.3**
KOGS Kog 13.35 317 *e*Pn **Pn 06 37 37.1 +0.2**
AK21 Malin Array Si 13.36 359 P **Pn 06 37 35.7 -1.3**
BOJS Bojanci 13.38 312 *e*Pn **Pn 06 37 38.5 +1.1**
BOJS *e*Sn **Sn 06 40 05.7 -0.5**
BOJS *e* 06 41 45.2
BOJS Bojanci 13.38 312 *e*Pn **Pn 06 37 36.4 -0.9**
MI28 Mi28,Pidlybu 13.57 355 P **Pn 06 37 38.9 -1.0**
GBRS Gornja Briga 13.65 311 *e*Pn **Pn 06 37 42.0 +0.9**
NIE Niedzica 13.71 334 *e*P **Pn 06 37 43.6 +1.6**
NIE Niedzica 13.71 334 P **Pn 06 37 43.7 +1.8**
NIE pmax pmax
comp=Z,53nm,1.7s
LANS Liptovska Anna 13.79 331 *e*P **Pn 06 37 45.2 +2.1**
LANS Liptovska Anna 13.79 331 *e*PN **Pn 06 37 45.1 +2.0**
LANS Liptovska Anna 13.79 331 *e*P **P 06 37 54.9 +3.2**
CESX Cesi 13.96 297 Pn **Pn 06 37 45.5 +0.2**
SOP Sopron 13.98 321 P **Pn 06 37 46.7 +1.1**
SOP pmax pmax
comp=Z,138nm,2.1s
CEY Cerknica 13.99 311 *e*Pn **Pn 06 37 47.3 +1.5**
MODS Modra-Piesok 14.12 325 *e*P **Pn 06 37 47.6 +0.1**
MODS Modra-Piesok 14.12 325 *e*PN **Pn 06 37 47.6 +0.1**
RONA Rosalia, Austr 14.12 321 *e*Pn **Pn 06 37 48.4 +0.8**
comp=Z,219nm,1.4s,SNR=59
RONA Sn **Sn 06 40 29.9 +5.4**
comp=Z,32nm,1.5s
SKDS Skadanscina 14.14 310 *e*Pn **Pn 06 37 47.8 -0.1**
SMOL Smolenice 14.15 325 *e*P **Pn 06 37 49.2 +1.2**
SOKA Soboth 14.16 315 *e*Pn **Pn 06 37 48.1 0.0**
comp=Z,122nm,1.6s,SNR=31
SOKA Sn **Sn 06 40 27.2 +1.8**
comp=Z,33nm,1.4s
ARSA Arzberg 14.23 318 *e*Pn **Pn 06 37 49.7 +0.6**
comp=Z,374nm,1.9s,SNR=93
ARSA Sn **Sn 06 40 33.0 +5.8**
comp=Z,37nm,1.5s
ARSA Arzberg 14.23 318 Pn **Pn 06 37 50.1 +1.0**
ARSA Arzberg 14.23 318 ⇑P Pn 06 37 49.7 +0.6
JAVC Velka Javorina 14.30 327 *e*PN **Pn 06 37 51.4 +1.4**
OBKA Obir 14.34 314 *e*Pn **Pn 06 37 50.7 +0.2**
comp=Z,225nm,1.4s,SNR=29
OBKA Sn **Sn 06 40 34.9 +5.1**
comp=Z,32nm,1.6s
OBKA Obir 14.34 314 *e*Pn **Pn 06 37 51.3 +0.8**
CONA Conrad Observa 14.50 321 *e*Pn **Pn 06 37 53.1 +0.3**
comp=Z,165nm,1.3s,SNR=73
CONA Sn **Sn 06 40 40.8 +7.1**
comp=Z,56nm,1.9s
OJC Ojcow 14.56 335 *e*P **Pn 06 37 53.1 -0.4**
OJC Ojcow 14.56 335 ⇑P Pn 06 37 53.4 -0.1
OJC Ojcow 14.56 335 P **Pn 06 37 53.0 -0.6**
comp=Z,4μmcomp=Z,188nm,1.7s
MAUC Maruska 14.62 328 *e*P **Pn 06 37 55.7 +1.3**
MAK Makhachkala 14.83 62 *e*P **P 06 38 01.0 -2.1**
MAK *e*S Sn 06 40 50.8 +9.3
MAK pmax pmax
comp=Z,914nm,1.6s
MAK MLR MLR
comp=Z,12μm,9.0s
OKC Ostrava-Krasne 14.86 330 *e*P **P 06 38 05.7 +2.3**
OKC Ostrava-Krasne 14.86 330 *e*P **P 06 38 05.7 +2.3**
MYKA Terra Mystica 14.93 313 *e*Pn **Pn 06 37 58.5 0.0**
comp=Z,156nm,1.4s,SNR=23
MYKA Sn **Sn 06 40 51.9 +7.8**
comp=Z,43nm,1.7s
PTCC Patocco-Chiusa 14.98 312 ⇑P Pn 06 37 59.3 +0.1
KRUC Moravsky 15.02 325 *e*PN **Pn 06 37 59.4 -0.4**
KRUC Moravsky 15.02 325 *e*S **S 06 41 05.0 +0.9**
MORC Moravsky Berou 15.06 329 IAmb IAmb 06 38 08.8
comp=Z,807nm,2.0s
MORC Moravsky Berou 15.06 329 *e*PN **Pn 06 38 01.0 +0.7**
MORC Moravsky Berou 15.06 329 *e*S **S 06 41 03.1 -1.8**
MORC Moravsky Berou 15.06 329 ⇓P Pn 06 38 00.3 0.0
MORC Moravsky Berou 15.06 329 ⇑P Pn 06 38 00.9 +0.7
VRAC Vranov 15.11 326 Pn **Pn 06 38 00.6 -0.3**
comp=Z,0.4nm,0.3s,baz=146,slow=14,SNR=21
VRAC LR LR 06 43 43.1
comp=Z,3μm,20.3s,baz=146,slow=37
comp=Z,21nm,1.1s
VRAC Vranov 15.11 326 *e*PN **Pn 06 38 00.9 0.0**
VRAC Vranov 15.11 326 *e*S **S 06 41 07.1 +1.1**
VRAC Vranov 15.11 326 ⇑P Pn 06 38 01.0 0.0
VORD Divnogorie 15.23 24 *e*P **Pn 06 38 03.1 +0.6**
VORD pmax pmax
comp=Z,90nm,1.0s
MOA Molln 15.28 318 *e*Pn **Pn 06 38 03.5 +0.3**
comp=Z,65nm,1.2s,SNR=47
MOA Sn **Sn 06 40 53.1 +0.6**
comp=Z,24nm,1.2s
KBA Koelnbreinsper 15.34 314 *e*Pn **Pn 06 38 04.4 +0.3**
comp=Z,66nm,1.9s,SNR=21
KBA Sn **Sn 06 40 54.1 -0.2**
comp=Z,15nm,1.1s
KBA Koelnbreinsper 15.34 314 ⇑P Pn 06 38 04.4 +0.3
VSR Storozhevoye 15.41 23 *e*P **Pn 06 38 04.8 0.0**
VSR *e*S **Sn 06 40 53.3 -2.4**
VSR pmax pmax
comp=Z,450nm,1.6s
VSR smax smax
comp=E,1μm,9.5s
BIOA Bad Ischl, Aus 15.52 316 *e*Pn **Pn 06 38 07.0 +0.6**
comp=E,94nm,1.1s,SNR=23
BIOA Sn **Sn 06 40 58.9 +0.3**
comp=E,48nm,1.3s
TEOL Teolo 15.53 306 IAmb IAmb 06 38 11.1
comp=Z,823nm,1.7s
KRLC Kraliky 15.60 328 *e*P **P 06 38 09.8 -1.9**
KRLC *e*pP **pP 06 38 13.6 -0.4**
KRLC AMS AMS 06 45 10.0
comp=Z,11μm,12.0s
KRLC Kraliky 15.60 328 *e*P **P 06 38 09.8 -1.9**
KRLC MLR MLR
comp=Z,11μm,12.0s
TREC Trest 15.61 324 AMS AMS 06 45 00.0
comp=Z,20μm,10.7s
ABTA Abfaltersbach 15.65 312 *e*Pn **Pn 06 38 07.7 -0.4**
comp=Z,8.5nm,0.5s,SNR=14
ABTA Sn **Sn 06 41 09.4 +7.6**
comp=Z,32nm,1.2s
BEL Belsk 15.67 340 *e*P **Pn 06 38 09.2 +1.0**
BEL Belsk 15.67 340 P **Pn 06 38 09.7 +1.5**
BEL pmax pmax
comp=Z,421nm,2.2s
VORR Voronezh 15.82 23 *e*P **Pn 06 38 11.2 +1.0**
VORR *e*S **Sn 06 41 07.5 +1.9**
VORR pmax pmax
comp=Z,1μm,2.7s
VORR smax smax
comp=E,600nm,6.6s
VORR MLR MLR

comp=Z,2μm,13.0s
CTI Castel Tesino 15.84 309 Pn Pn 06 38 10.3 -0.3
CTI IAmb IAmb 06 38 18.7
comp=Z,1μm,1.8s
CTI Castel Tesino 15.84 309 P Pn 06 38 10.3 -0.3
CTI pmax pmax
comp=Z,1μm,1.8s
CKRC Cesky Krumlov 15.86 321 *e*P **P 06 38 16.5 +1.9**
CKRC *e*S **S 06 41 14.4 -6.9**
CKRC AMS AMS 06 45 00.0
comp=Z,21μm,10.8s
CKRC Cesky Krumlov 15.86 321 *e*P **P 06 38 16.5 +1.9**
CKRC *e*S **S 06 41 14.4 -6.9**
CKRC MLR MLR
comp=Z,21μm,10.8s
VSL Villasalto 15.90 284 IAmb IAmb 06 38 18.7
comp=Z,940nm,1.6s
VSL Villasalto 15.90 284 ⇑P **Pn 06 38 12.5 +1.2**
LESA Schwarzleotal 15.91 314 *e*Pn **Pn 06 38 11.6 +0.1**
comp=Z,245nm,1.7s,SNR=51
LESA Sn **Sn 06 41 10.1 +2.0**
comp=Z,17nm,1.0s
R9F13 Warsaw-Wawer 15.92 341 *e*P **Pn 06 38 12.4 +0.9**
comp=Z,14nm,0.9s
R9F13 *e* 06 38 46.8
R9F13 *e*S **Sn 06 41 10.3 +2.2**
VLC Villacollemand 15.94 301 P **Pn 06 38 12.4 +0.5**
DPC Dobruska-Polom 16.00 328 *e*P **Pn 06 38 13.7 +1.1**
DPC *e*pP **pP 06 38 17.7 -0.8**
DPC AMS AMS 06 45 30.0
comp=Z,17μm,10.0s
DPC Dobruska-Polom 16.00 328 *e*P **Pn 06 38 13.7 +1.1**
DPC MLR MLR
comp=Z,17μm,10.0s
DPC Dobruska-Polom 16.00 328 P **Pn 06 38 12.6 0.0**
comp=Z,5μmcomp=Z,184nm,2.2s
GEC2 GERESS Array S 16.19 320 P **Pn 06 38 16.1 +1.0**
GEC2 pmax pmax
comp=Z,341nm,1.5s
GERES GERESS Array B 16.19 320 Pn **Pn 06 38 16.6 +1.5**
GERES GERESS Array B 16.19 320 Pn **Pn 06 38 15.6 +0.5**
baz=318,slow=1.8,SNR=49
GERES LR LR 06 44 48.6
comp=Z,3μm,21.1s,baz=128,slow=39
comp=Z,32nm,1.1s
GERES GERESS Array B 16.19 320 P **Pn 06 38 16.6 +1.5**
OSTC Ostas 16.20 328 AMS AMS 06 45 40.0
comp=Z,20μm,9.9s
UPC Upice 16.25 328 *e*P **P 06 38 19.9 +1.0**
UPC AMS AMS 06 45 40.0
comp=Z,14μm,9.8s
UPC Upice 16.25 328 P **Pn 06 38 16.0 +0.2**
UPC pmax pmax
comp=Z,243nm,1.8s
KEST Kesra 16.28 270 Pn **Pn 06 38 17.5 +1.2**
KEST IAmb IAmb 06 38 21.2
comp=Z,1μm,1.7s
KEST Kesra 16.28 270 Pn **Pn 06 38 17.1 +0.9**
comp=Z,1.2nm,0.3s,baz=77,slow=6.8,SNR=49
KEST Sn **Sn 06 41 15.9 -1.1**
comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=1.7
KEST LR LR 06 46 37.2
comp=Z,4μm,18.5s,baz=72,slow=45
comp=Z,132nm,1.1s
KEST Kesra 16.28 270 P **Pn 06 38 16.2 -0.1**
KEST P **Pn 06 38 16.2 -0.1**
KEST S **Sn 06 41 13.1 -3.9**
KEST S **Sn 06 41 13.1 -3.9**
VRH Novokhopyorsk 16.29 28 *e*P **Pn 06 38 16.0 -0.2**
VRH *e*S **Sn 06 41 16.2 -0.8**
VRH pmax pmax
comp=Z,260nm,1.2s
VRH smax smax
comp=N,2μm,13.0s
CHVC Chvalec 16.30 328 AMS AMS 06 45 40.0
comp=N,17μm,10.1s
ZVC Zvikov 16.33 322 *e*P **P 06 38 21.5 +1.8**
ZVC *e*S **S 06 41 34.0 +3.2**
ZVC AMS AMS 06 45 10.0
comp=N,19μm,8.9s
GOPC GO Pecny, Ondr 16.37 324 AMS AMS 06 45 30.0
comp=N,18μm,9.9s
KSP Ksiaz 16.39 329 *e*P **Pn 06 38 17.2 -0.3**
KSP Ksiaz 16.39 329 P **Pn 06 38 17.2 -0.3**
KSP pmax pmax
comp=Z,247nm,2.2s
KSP Ksiaz 16.39 329 ⇑P **Pn 06 38 17.0 -0.5**
KSP Ksiaz 16.39 329 P **Pn 06 38 17.6 +0.1**
comp=Z,6μmcomp=Z,247nm,2.2s
WTTA Wattenberg 16.43 312 *e*Pn **Pn 06 38 18.8 +0.6**
comp=Z,273nm,1.4s,SNR=63
WTTA Sn **Sn 06 41 23.2 +2.4**
comp=Z,38nm,1.5s
WTTA Wattenberg 16.43 312 P **P 06 38 19.7 -1.4**
WTTA pmax pmax
comp=Z,354nm,1.8s
KHC Kasperske Hory 16.43 320 *e*P **Pn 06 38 18.0 -0.1**
KHC *e*pP **sP 06 38 25.0 +0.7**
KHC *e*S **S 06 41 28.7 -4.3**
KHC AMS AMS 06 45 20.0
comp=Z,32μm,10.3s
KHC Kasperske Hory 16.43 320 *e*P **Pn 06 38 18.0 -0.1**
KHC *e*S **S 06 41 28.7 -4.3**
KHC MLR MLR
comp=Z,32μm,10.3s
KHC Kasperske Hory 16.43 320 ⇑P **Pn 06 38 18.0 -0.1**
KHC Kasperske Hory 16.43 320 P **Pn 06 38 18.4 +0.3**
comp=Z,5μmcomp=Z,222nm,1.5s
WATA Walderalm 16.50 313 *e*Pn **Pn 06 38 19.6 +0.5**
comp=Z,311nm,1.7s,SNR=47
WATA Sn **Sn 06 41 24.3 +1.8**
comp=Z,44nm,1.4s
PGF Pioggiola 16.51 294 P **P 06 38 22.3 +0.4**
PGF pmax pmax
comp=Z,190nm,1.5s
PGF Pioggiola 16.51 294 ⇑P **P 06 38 20.7 -1.3**
PRU Pruhonice 16.53 324 *e*P **P 06 38 23.5 +1.5**
PRU AMS AMS 06 45 30.0
comp=Z,18μm,9.5s
PRU Pruhonice 16.53 324 *e*P **P 06 38 23.5 +1.5**
PRU MLR MLR
comp=Z,18μm,9.5s
LPSR Galich'ya Gora 16.55 21 *e*P **Pn 06 38 19.3 -0.3**
LPSR *e*S **Sn 06 41 18.9 -4.6**
LPSR pmax pmax
comp=Z,233nm,1.0s
LPSR smax smax
comp=E,3μm,13.0s
LPSR MLR MLR
comp=Z,5μm,16.0s
PRA Prague 16.64 324 *e*P **P 06 38 24.8 +1.6**
PRA AMS AMS 06 45 40.0
comp=Z,18μm,9.7s
PRA Prague 16.64 324 *e*P **P 06 38 24.8 +1.6**
PRA MLR MLR
comp=Z,18μm,9.7s
SQTA Sankt Quirin 16.66 312 *e*Pn **Pn 06 38 21.8 +0.6**
comp=Z,316nm,1.6s,SNR=43
SQTA Sn **Sn 06 41 30.2 +3.9**
comp=Z,52nm,1.5s
WET Wettzell 16.80 319 P **Pn 06 38 23.6 +0.8**
WET pmax pmax
comp=Z,379nm,1.5s
FETA Feichten 16.85 311 *e*Pn **Pn 06 38 24.2 +0.6**
comp=Z,709nm,2.2s,SNR=139
FETA Sn **Sn 06 41 35.3 +4.2**
comp=Z,23nm,1.5s
PVCC Panska Ves 16.90 326 AMS AMS 06 45 50.0
comp=Z,20μm,10.7s
PVCC Panska Ves 16.90 326 P **P 06 38 27.8 +1.7**
PVCC pmax pmax
comp=Z,730nm,1.6s
FUORN Ofenpass-Fuorn 16.95 309 IAmb IAmb 06 38 32.4
comp=Z,897nm,1.9s
RETA Reutte 17.05 312 *e*Pn **Pn 06 38 26.6 +0.5**
comp=Z,383nm,2.5s,SNR=35
RETA Sn **Sn 06 41 39.4 +3.6**
comp=Z,24nm,1.2s
FUR Furstenfeldbru 17.11 315 P **P 06 38 28.9 +0.5**
FUR pmax pmax
comp=Z,340nm,1.6s
MNK Minsk 17.12 357 *i*P **Pn 06 38 22.8 -3.9**
comp=E,166nm,1.1s
MNK *i*P **Pn 06 38 22.8 -3.9**
comp=N,71nm,1.1s
MNK *i*P **Pn 06 38 22.8 -3.9**
comp=Z,145nm,0.9s,baz=176
MNK *i*PP **sP 06 38 32.4 +0.6**
MNK *i*PPP PPP 06 38 40.1
MNK *i*S **Sn 06 41 31.7 -5.5**
MNK *i*SS **S 06 41 46.3 -0.6**
MNK *i*SSS SSS 06 41 59.0
MNK *i*LQ LQ 06 43 23.2
MNK *i*LR LR 06 44 23.8
MNK *i*LRM MLR 06 45 26.8
comp=N,10μm,15.2s
MNK *i*LRM MLR 06 45 51.6
comp=E,7μm,15.7s
MNK *i*LRM MLR 06 45 51.6
comp=Z,8μm,15.7s
MNK Minsk 17.12 357 *i*P **Pn 06 38 22.8 -3.9**
MNK *i*S **Sn 06 41 31.6 -5.5**
MNK pmax pmax
comp=Z,145nm,0.9s
MNK pmax pmax
comp=N,71nm,1.1s
MNK pmax pmax
comp=E,166nm,1.1s
MNK MLR MLR
comp=N,10μm,15.0s
MNK MLR MLR
comp=E,7μm,16.0s
MNK MLR MLR
comp=Z,8μm,16.0s
RICC Richard 17.12 325 *e*P **P 06 38 30.6 +2.1**
RICC AMS AMS 06 45 50.0
comp=Z,18μm,10.5s
SUW Suwalki 17.16 347 *e*P **Pn 06 38 24.7 -2.5**
SUW Suwalki 17.16 347 IAmb IAmb 06 38 36.2
comp=Z,549nm,1.1s
SUW Suwalki 17.16 347 P **Pn 06 38 26.4 -0.8**
SUW pmax pmax
comp=Z,479nm,1.2s
SUW Suwalki 17.16 347 *e*P **P 06 38 29.7 +0.9**
SUW Suwalki 17.16 347 ⇑P **Pn 06 38 27.7 +0.5**
DAVOX Davos/Dischmat 17.26 309 P **Pn 06 38 29.4 +0.6**
comp=Z,0.6nm,0.3s,baz=121,slow=10,SNR=46
DAVOX LR LR 06 46 12.2
comp=Z,6μm,21.9s,baz=110,slow=41
comp=Z,87nm,1.2s
KBD Kabd 17.27 113 P **Pn 06 38 28.4 -0.4**
KBD S **Sn 06 41 42.7 +1.5**
BRG Berggiesshubel 17.43 325 *e*P **Pn 06 38 31.1 +0.5**
BRG Amp 06 38 41.7
comp=Z,871nm,1.6s
BRG Berggiesshubel 17.43 325 S **S 06 41 53.0 -0.1**
BRG Berggiesshubel 17.43 325 P **P 06 38 31.3 -0.6**
BRG pmax pmax
comp=Z,297nm,1.5s
TUE Stuetta 17.47 308 IAmb IAmb 06 38 40.3
comp=Z,769nm,1.6s
TUE Stuetta 17.47 308 ⇑P **P 06 38 33.2 +0.7**
TUE Stuetta 17.47 308 P **Pn 06 38 31.9 +0.6**
comp=Z,32μmcomp=Z,1μm,1.7s
HSKC Hora Svate Kat 17.48 324 AMS AMS 06 46 00.0
comp=Z,20μm,9.4s
DAVA Damuels 17.49 310 *e*Pn **P 06 38 32.8 0.0**
comp=Z,259nm,1.5s,SNR=62
DAVA *e*Sn **Sn 06 41 50.4 +3.9**
comp=Z,54nm,1.6s
DAVA Damuels 17.49 310 ⇑P **P 06 38 32.8 0.0**
NACGM Naroch 17.58 355 *e*P **Pn 06 38 30.2 -2.3**
baz=173
CRHA Rehia 17.62 271 P **P 06 38 34.1 -0.2**
NKC Novy Kostel 17.70 322 *e*P **P 06 38 36.1 +1.1**
NKC *e*x x 06 38 40.6
NKC AMS AMS 06 46 10.0
comp=Z,20μm,11.2s
NKC Novy Kostel 17.70 322 P **Pn 06 38 34.4 +0.4**
NKC pmax pmax
comp=Z,116nm,2.4s
GKP Gorka Klasztor 18.00 336 *e*P **Pn 06 38 37.3 -0.3**
GKP Gorka Klasztor 18.00 336 P **P 06 38 38.9 +0.8**
GKP pmax pmax
comp=Z,263nm,1.9s
GKP Gorka Klasztor 18.00 336 *e*P **P 06 38 39.4 +1.3**
IIGN Ignalina 18.07 354 *e*P **Pn 06 38 38.0 -0.5**
CAEH 'Ain El Ouahch 18.07 275 P **P 06 38 40.6 +1.4**
CBBAR Babar 18.12 270 P **P 06 38 40.8 +1.0**
CLL Collm 18.15 325 *e*P **Pn 06 38 39.0 -0.6**
CLL pmax pmax
comp=Z,550nm,1.7s
CLL Collm 18.15 325 P **P 06 38 39.9 0.0**
comp=Z,6μmcomp=Z,170nm,2.2s
CLL Collm 18.15 325 *e*P **Pn 06 38 39.0 -0.6**
comp=Z,43nm,1.2s
CLL *e*Plp 06 38 40.0
comp=Z,2μm,15.2s
CLL *i*sP **pP 06 38 42.1 -0.1**
comp=Z,550nm,1.7s
CLL *i*Pmax 06 38 43.2
CLL *i*PP **PnPn 06 38 50.9 +0.3**
CLL *es*PP 06 38 56.0
CLL *e*x x 06 40 06.0
CLL *e*S **S 06 42 10.0 +2.1**
CLL LH 06 45 00.0
comp=N,6μm,19.1s
CLL LH 06 45 00.0
comp=E,6μm,21.2s
CLL AMS AMS 06 47 00.0
CKFL Kef-Lekhel 18.24 274 P **P 06 38 42.7 +1.6**
ISO Isola 18.26 299 P **P 06 38 42.3 +1.1**
ISO pmax pmax
comp=Z,125nm,2.5s
CSGS Sigus 18.29 273 P **P 06 38 42.8 +1.1**
OBN Obninsk 18.34 13 P **Pn 06 38 40.1 -1.8**
comp=Z,33nm,0.4s,baz=216,slow=5.1,SNR=20
OBN S **Sn 06 42 03.4 -3.2**
comp=Z,25nm,0.4s,baz=251,slow=18,SNR=1.9
OBN LR LR 06 46 13.3
comp=Z,8μm,18.6s,baz=201,slow=39
OBN Obninsk 18.34 13*c i*P **Pn 06 38 40.0 -1.8**
OBN *i*S **Sn 06 42 02.9 -3.8**
OBN pmax pmax
comp=Z,1μm,2.5s
OBN MLR MLR
comp=Z,7μm,20.0s
OBN Obninsk 18.34 13 P **Pn 06 38 39.6 -2.2**
comp=Z,10μmcomp=Z,218nm,1.9s
MOX Moxa 18.37 322 P **P 06 38 43.5 +1.1**
MOX pmax pmax
comp=Z,284nm,1.4s
CASM Ain Smara 18.45 273 P **Pn 06 38 44.5 +1.2**
PABE Paberze 18.47 350 *e*P **P 06 38 42.6 -0.8**
SLE Schleitheim 18.54 311 P **Pn 06 38 44.7 +0.3**
SLE pmax pmax
comp=Z,360nm,1.3s
STU Stuttgart 18.60 314 P **Pn 06 38 46.7 +1.6**
STU pmax pmax
comp=Z,277nm,1.3s
STU Stuttgart 18.60 314 *e*P **Pn 06 38 46.1 +1.0**
STU Stuttgart 18.60 314 ⇑P **Pn 06 38 45.7 +0.6**
COAT Oued Athmania 18.62 273 P **Pn 06 38 47.5 +2.1**
RUE Ruedersdorf 18.66 329 *e*P **Pn 06 38 46.2 +0.5**
BNI Bardonecchia 18.74 301 IAmb IAmb 06 38 56.2
comp=Z,671nm,1.7s
BNI Bardonecchia 18.74 301 P **Pn 06 38 48.1 +1.2**
BNI pmax pmax
comp=Z,176nm,1.4s
BNI Bardonecchia 18.74 301 ⇑P **Pn 06 38 47.9 +1.0**
DFRA Djebel Bou Aff 18.88 275 P **Pn 06 38 51.2 +2.5**
BFO Black Forest 18.90 312 P **Pn 06 38 50.6 +1.9**
BFO IAmb IAmb 06 38 58.6
comp=Z,962nm,1.6s
BFO Black Forest 18.90 312 P **Pn 06 38 50.6 +1.9**
BFO pmax pmax
comp=Z,962nm,1.6s
BFO Black Forest 18.90 312 ⇑P **Pn 06 38 49.2 +0.5**
VSVD Vaisvydziai 18.94 350 *e*P **P 06 38 48.5 0.0**
MOS Moscow 19.13 14 *e*P **P 06 38 48.5 -2.1**
MOS *e*S **Sn 06 42 24.3 -1.4**
MOS pmax pmax
comp=Z,6μm,3.2s
MOS pmax pmax
comp=Z,929nm,1.9s
MOS pmax pmax
comp=N,6μm,3.7s
MOS pmax pmax
comp=E,2μm,3.7s
MOS smax smax
comp=E,2μm,4.4s
MOS smax smax
comp=N,4μm,5.0s
MOS MLR MLR
comp=Z,7μm,16.0s
ORIF Oris-en-Rattie 19.25 300 P **Pn 06 38 53.0 0.0**
ORIF pmax pmax
comp=Z,137nm,1.5s
ORIF Oris-en-Rattie 19.25 300 ⇑P **Pn 06 38 52.7 -0.3**
PBUR Paburge 19.30 347 *e*P **Pn 06 38 53.7 +0.3**
RUSF Rustrel 19.30 297 ⇑P **Pn 06 38 56.5 +2.8**
SET Setif 19.32 274 P **Pn 06 38 55.0 +1.0**
RAYN Ar Rayn 19.51 131 P **Pn 06 38 56.2 -0.1**
RAYN Ar Rayn 19.51 131 P **Pn 06 38 58.1 +1.8**
RAYN S **S 06 42 36.5 +0.8**
RAYN Ar Rayn 19.51 131 P **Pn 06 38 56.2 -0.1**
RAYN pmax pmax
comp=Z,163nm,1.0s
RAYN Ar Rayn 19.51 131 *i*P **Pn 06 38 56.7 +0.4**
SNR=26
RAYN Ar Rayn 19.51 131 ⇑P **Pn 06 38 56.7 +0.4**
CAZD Ain Tagrout 19.52 274 P **Pn 06 38 56.6 +0.2**
ECH Echery 19.55 311 IAmb IAmb 06 39 06.3
comp=Z,351nm,1.2s
ECH Echery 19.55 311 ⇑P **Pn 06 38 56.1 -0.4**
FLTG Flechtingen 19.65 325 ⇑P **P 06 38 56.7 +0.4**
TNS Taunus Mts 19.77 317 P **Pn 06 38 58.6 -0.6**
TNS pmax pmax
comp=Z,310nm,2.0s
MAHO Mahon 19.84 285 P **Pn 06 39 00.9 +0.9**
CTCHA Tamokra 19.88 275 P **Pn 06 39 01.9 +1.4**
SSB Saint Sauveur 20.26 301 P **P 06 39 02.7 -0.3**
SSB pmax pmax
comp=Z,68nm,2.2s
SSB Saint Sauveur 20.26 301 ⇑P **P 06 39 02.9 -0.1**
BSD Bornholm Skovb 20.29 335 P **P 06 39 02.5 -0.7**
BSD pmax pmax
comp=Z,687nm,1.2s
BSD Bornholm Skovb 20.29 335 *e*P **P 06 39 03.3 +0.1**
BSD Bornholm Skovb 20.29 335 *i*P **P 06 39 01.6 -1.7**
BSD IAmb IAmb 06 39 10.8
comp=Z,765nm,1.1s
BSD Bornholm Skovb 20.29 335 ⇑P **P 06 39 02.2 -1.0**
RGN Rugen 20.40 332 P **P 06 39 05.4 +1.0**
RGN Rugen 20.40 332 ⇑P **P 06 39 04.5 +0.1**
ABSD Ouled Sidi Bra 20.44 272 P Pn 06 39 07.6 +0.4
SLIT Slitere, Latvi 20.77 349 *e*P Pn 06 39 09.9 -0.9
WLF Walferdange 20.78 313 IAmb IAmb 06 39 17.7
comp=Z,376nm,1.2s
WLF Walferdange 20.78 313 P **P 06 39 09.5 +0.8**
WLF Walferdange 20.78 313 *d*P **P 06 39 09.3 +0.6**
comp=Z,136nm,1.3s
WLF Walferdange 20.78 313 P **P 06 39 09.4 +0.8**
WLF pmax pmax
comp=Z,251nm,2.5s
WLF Walferdange 20.78 313 ⇑P **P 06 39 09.3 +0.6**
ETOS Mallorca 20.96 285 P Pn 06 39 12.1 -1.1
EJON La Jonquera 20.97 292 P **P 06 39 09.7 -1.1**
BLEU Blekinge 21.00 338 *i*P **P 06 39 07.9 -3.1**
BUG Bochum--Univer 21.06 319 P **P 06 39 12.2 +0.6**
BUG pmax pmax
comp=Z,249nm,1.4s
VSU Vasula 21.13 356*ce*P **P 06 39 11.7 -0.6**
VSU pmax pmax
comp=Z,1μm,2.0s
VSU MLR MLR
comp=Z,5μm,16.0s
VSU Vasula 21.13 356 *e*P **P 06 39 11.7 -0.6**
VSU Vasula 21.13 356 ⇑P **P 06 39 10.6 -1.7**
BSEG Bad Segeberg 21.15 327 P **P 06 39 12.5 -0.1**
BSEG pmax pmax
comp=Z,400nm,1.7s
SAKB Bahrain 21.18 117 P **P 06 39 14.9 +1.8**
SAKB S **S 06 43 10.4 +1.6**
BHOU Houvegnez 21.19 315 *d*P **P 06 39 13.8 +0.7**
comp=Z,70nm,1.4s
LUNU Lund 21.21 334 *i*P **P 06 39 11.3 -1.9**
BTNL Ternell 21.23 316 *d*P **P 06 39 14.6 +1.1**
comp=Z,79nm,0.0s
ABRIN Birine 21.25 273 P **P 06 39 13.6 -0.3**
LOR Lormes 21.27 306 P **P 06 39 14.4 +0.5**
LOR pmax pmax
comp=Z,180nm,1.6s
LOR Lormes 21.27 306 ⇑P **P 06 39 12.9 -1.0**
EMHD Djebel Mahouad 21.27 275 P **P 06 39 15.6 +1.5**
IBBN Ibbenburen 21.30 321 ⇑P **P 06 39 14.8 +0.6**
MEM Membach 21.31 316 *d*P **P 06 39 15.3 +0.9**
comp=Z,98nm,1.6s
MEM Membach 21.31 316 P **P 06 39 15.4 +1.1**
MEM pmax pmax
comp=Z,247nm,1.7s
RCHB Rochefort 21.54 314 *d*P **P 06 39 16.8 0.0**
comp=Z,96nm,1.7s
RCHB *d*PcP **PcP 06 43 19.9 +0.9**
BSTI Sart Tilman 21.55 315 *d*P **P 06 39 17.8 +1.0**
MTLF Montolieu 21.55 294 P **P 06 39 17.6 +0.6**
MTLF pmax pmax
comp=Z,307nm,1.4s
MTLF Montolieu 21.55 294 ⇑P **P 06 39 17.4 +0.4**
SHMA Al-Shehemyia 21.56 116 P **P 06 39 19.1 +2.0**
SNR=12
SHMA S **S 06 43 18.0 +1.7**
BEBN Eben Emael 21.59 316 *d*P **P 06 39 18.1 +0.9**
BCLA Clavier 21.62 315 *d*P **P 06 39 18.4 +0.8**
comp=Z,133nm,1.8s
ADJF Tadmit 21.62 269 P P 06 39 10.6 -7.3
MTSE Matsula 21.63 352 *e*P **P 06 39 18.1 +0.5**
BJUU Bjuv 21.70 335 *i*P **P 06 39 16.5 -2.0**
ABKD Sidi Amar 21.71 276 P **P 06 39 19.8 +1.0**
BGES Gesves 21.72 314 *d*P **P 06 39 19.5 +0.7**
comp=Z,128nm,1.6s
AFDJ Sidi Ladjel 21.74 273 P **P 06 39 18.0 -1.1**
DEL Delary 21.74 336 *i*P **P 06 39 17.0 -1.8**
BMRD Maredsous 21.87 314 *d*P **P 06 39 20.6 +0.3**
comp=Z,115nm,1.0s
DOU Dourbes 21.88 313 *d*P **P 06 39 20.4 0.0**
comp=Z,105nm,1.2s
DOU *d*PcP **PcP 06 43 20.4 +0.7**
EDDR Deurdeur 21.89 275 P **P 06 39 21.2 +0.4**
EARB Arib 22.00 275 P **P 06 39 21.5 -0.4**
EZEK Zmalet El Emir 22.08 272 P **P 06 39 23.8 +1.0**
ARBE Arbavere 22.15 355 *e*P **P 06 39 24.6 +1.4**
SMRA Abu-Samra 22.15 119 P **P 06 39 24.0 +0.5**
SNR=18
SMRA S **S 06 43 26.8 -1.0**
CEST Esterri de Car 22.19 292 P **P 06 39 25.1 +1.1**
EBGR Bougara 22.21 274 P **P 06 39 23.6 -0.6**
EPOB Poblet 22.27 289 ⇑P **P 06 39 26.2 +1.4**
EBNH Beni Haoua 22.31 276 P **P 06 39 24.6 -0.6**
UCC Uccle 22.33 315 IAmb IAmb 06 39 37.2
comp=Z,261nm,1.3s
UCC Uccle 22.33 315 *d*P **P 06 39 25.8 +0.5**
comp=Z,78nm,1.5s
PUL Pulkovo 22.38 1*ce*P **P 06 39 25.8 +0.2**
PUL pmax pmax
comp=Z,977nm,1.6s
PUL MLR MLR
comp=Z,6μm,15.0s
EBNR Beni Rached 22.38 276 P **P 06 39 26.7 +0.7**
TRNA Turayna 22.43 118 P **P 06 39 27.7 +1.2**
SNR=13
TRNA S **S 06 43 32.7 -0.4**
SSRD Sdr. Stenderup 22.52 330 *i*P **P 06 39 26.9 -0.3**
SSRD IAmb IAmb 06 39 33.6
comp=Z,392nm,0.9s
CLF Chambon-Foret 22.53 307 IAmb IAmb 06 39 32.4
comp=Z,605nm,1.4s
CLF Chambon-Foret 22.53 307 ⇑P **P 06 39 27.9 +0.4**
FABU Falkenberg 22.55 336 *i*P **P 06 39 27.3 -0.2**
EADEB Ain Deheb 22.67 272 P **P 06 39 29.0 -0.2**
EANR 'Ain N'Sour 22.79 275 P **P 06 39 30.8 +0.4**
BORU Boraas 23.04 337 *i*P **P 06 39 31.4 -1.2**
MEF Metsahovi 23.05 353 *e*P **P 06 39 33.6 +0.9**
ONAU Onsala 23.12 335 *i*P **P 06 39 33.3 -0.3**
OJGS Djebel Guires 23.16 274 P **P 06 39 32.1 -2.2**
SLWR Sila 23.19 119 P **P 06 39 35.0 +0.5**
SLWR P **P 06 39 35.0 +0.5**
SLWR S **S 06 43 45.9 -0.7**
SLWR S **S 06 43 45.9 -0.7**
ESMB Sidi M'hamed B 23.28 274 P **P 06 39 37.2 +1.8**
MUD Monsted U'grnd 23.40 331 P **P 06 39 36.3 0.0**
MUD pmax pmax
comp=Z,360nm,1.4s
MUD Monsted U'grnd 23.40 331 *i*P **P 06 39 36.1 -0.2**

MUD IAmb IAmb 06 39 44.7
comp=Z,538nm,1.3s
MUD Monsted U'grnd 23.40 331 ⇑P **P 06 39 36.6 +0.3**
JRN Qarnain Island 23.46 115 P **P 06 39 38.7 +1.4**
SNR=9.4
JRN S **S 06 43 50.2 -0.9**
OVD Ostervraa, Den 23.65 333 *i* P **P 06 39 39.7 +0.9**
OVD IAmb IAmb 06 39 51.4
comp=Z,429nm,1.1s
TJOU Tjoern 23.73 336 *i* P **P 06 39 38.1 -1.4**
MFF Saint Martin d 23.74 302 P **P 06 39 39.3 -0.5**
MFF Saint Martin d 23.74 302 ⇑P **P 06 39 39.4 -0.5**
GOET G??ttrup 23.80 332 *i* P **P 06 39 41.0 +0.8**
GOET IAmb IAmb 06 39 51.3
comp=Z,3μm,2.3s
ECHE Chera 23.89 285 P **P 06 39 41.3 -0.1**
GHWR Ruwais 24.09 117 P **P 06 39 44.2 +0.9**
GHWR S **S 06 44 00.1 -1.0**
RAF Rauma 24.12 351 *e*P **P 06 39 43.9 +0.6**
AKTO Aktyubinsk 24.14 48 P **P 06 39 43.4 -0.2**
comp=Z,25nm,0.6s,baz=254,slow=7.7,SNR=82
AKTO S **S 06 44 02.1 +0.5**
comp=Z,8.0nm,1.1s,baz=26,slow=20,SNR=1.4
AKTO LR LR 06 53 14.9
comp=Z,5μm,19.1s,baz=262,slow=47
comp=Z,25nm,0.6s
FINES FINESS Array B 24.14 356 P **P 06 39 43.5 +0.1**
FINES FINESS Array B 24.14 356 P **P 06 39 43.4 -0.1**
comp=Z,48nm,0.6s,baz=156,slow=11,SNR=145
FINES LR LR 06 49 46.5
comp=Z,5μm,19.2s,baz=152,slow=38
comp=Z,48nm,0.6s
FINES FINESS Array B 24.14 356 P **P 06 39 43.6 +0.1**
I31KZ AKTYUBINSK INF 24.14 48 I I 09 02 50.0
baz=247,slow=323,SNR=0.9
CART Cartagena 24.15 280 P **P 06 39 41.0 -2.7**
KLMR Klimovskoe 24.30 12*d i*P **P 06 39 44.4 -0.5**
KLMR S **S 06 44 06.5 +2.7**
KLMR pmax pmax
comp=Z,695nm,1.9s
EMUR La Murta 24.30 280 P **P 06 39 43.8 -1.4**
STRU Stroemstad 24.67 337 *i* P **P 06 39 47.0 -1.3**
TLOR Lorca, Murcia 24.68 280 P **P 06 39 46.6 -2.0**
KIRV Kirov 24.84 25 P **P 06 39 49.1 -0.7**
comp=Z,44nm,0.6s,baz=212,slow=3.7,SNR=16
KIRV S **S 06 44 16.5 +4.0**
comp=Z,4.5nm,0.5s,baz=168,slow=20,SNR=1.0
comp=Z,44nm,0.6s
KIRV Kirov 24.84 25*ce*P **P 06 39 48.6 -1.2**
HFS Hagfors 24.87 341 P **P 06 39 49.5 -0.6**
comp=Z,57nm,0.9s,baz=148,slow=8.7,SNR=50
HFS LR LR 06 49 55.7
comp=Z,3μm,20.2s,baz=144,slow=38
comp=Z,57nm,0.9s
AB31 Akbulak array 24.93 52 P **P 06 39 50.5 -0.3**
ABKAR Akbulak array 24.93 52 P **P 06 39 51.3 +0.5**
ABKAR Akbulak array 24.93 52 P **P 06 39 51.3 +0.5**
ABKAR Akbulak array 24.93 52 ⇑P **P 06 39 50.6 -0.1**
MZWR Madinat Zayed 24.93 116 P **P 06 39 51.6 +0.6**
MZWR S **S 06 44 14.0 -0.7**
KEF Keuruu 24.94 355 *e*P **P 06 39 51.0 +0.3**
HOMB Homborsund 24.97 333 *e*P **P 06 39 50.6 -0.4**
HOMB IAmb IAmb 06 40 01.8
comp=Z,2μm,2.6s
HOMB *e*S **S 06 44 18.2 +3.5**
HOMB IAMs_20 IAMs_20 06 52 07.8
comp=Z,16μm,11.7s
HOMB Homborsund 24.97 333 *i* P **P 06 39 49.6 -1.3**
MZR Muzera 25.13 118 P **P 06 39 53.1 +0.3**
SNR=23
MZR S **S 06 44 19.3 +1.4**
MZR Muzera 25.13 118 *i* P **P 06 39 53.0 +0.2**
SNR=25
UMQ Umm Al-Quwin 25.19 111 P **P 06 39 55.0 +1.8**
SNR=6.1
UMQ S **S 06 44 19.6 +0.8**
UMQ Umm Al-Quwin 25.19 111 *i* P **P 06 39 54.4 +1.1**
SNR=8.6
ENIJ Nijar 25.20 279 P **P 06 39 51.1 -2.3**
AJN Ajban 25.24 113 P **P 06 39 55.2 +1.5**
SNR=9.3
AJN S **S 06 44 21.1 +1.4**
AJN Ajban 25.24 113 P **P 06 39 53.2 -0.6**
SHME Shamm 25.25 109 P **P 06 39 53.9 0.0**
SNR=6.9
SHME S **S 06 44 18.4 -1.5**
SHME Shamm 25.25 109 *i* P **P 06 39 52.9 -1.0**
SNR=18
TAM Tamanrasset 25.26 241 P **P 06 39 54.7 +0.6**
TAM Tamanrasset 25.26 241 P **P 06 39 54.7 +0.6**
TAM pmax pmax
comp=Z,242nm,0.8s
TAM Tamanrasset 25.26 241 ⇑P **P 06 39 55.0 +0.9**
BANOM Banah 25.44 109 P **P 06 39 55.5 -0.1**
BANOM S **S 06 44 21.8 -1.1**
BANOM Banah 25.44 109 *i* P **P 06 39 55.4 -0.3**
SNR=12
ASUD Al Ashush, Dub 25.46 113 P **P 06 39 56.6 +0.9**
SNR=7.9
ASUD S **S 06 44 23.8 +0.7**
ASUD Al Ashush, Dub 25.46 113 *i* P **P 06 39 56.5 +0.8**
SNR=16
NAZ Nazwa, Dubai 25.49 112 P **P 06 39 53.8 -2.3**
SNR=14
NAZ P **P 06 39 53.8 -2.3**
SNR=14
NAZ S **S 06 44 23.1 -0.5**
NAZ S **S 06 44 23.1 -0.5**
NAZ Nazwa, Dubai 25.49 112 *i* P **P 06 39 55.4 -0.6**
SNR=34
SNART Snartemo 25.49 332 *e*P **P 06 39 56.4 +0.7**
SNART IAmb IAmb 06 40 03.8
comp=Z,991nm,1.8s
SNART *e*S **S 06 44 33.2 +10**
SNART *e* 06 50 09.7
SNART IAMs_20 IAMs_20 06 52 08.3
comp=Z,18μm,12.6s
SNART Snartemo 25.49 332 *i* P **P 06 39 57.8 +2.0**
OSL Oslo 25.53 338 *e*P **P 06 39 55.8 -0.3**
OSL IAmb IAmb 06 40 02.8
comp=Z,516nm,1.5s
OSL *e*S **S 06 44 26.6 +2.9**
OSL *e*ScP **ScP 06 47 07.6 +0.8**
OSL *e* 06 49 26.1
OSL IAMs_20 IAMs_20 06 51 44.6
comp=Z,13μm,13.3s
JOF Joensuu 25.55 2 *e*P **P 06 39 56.5 +0.2**
UCM Universidad Co 25.58 287 P **P 06 39 57.0 +0.2**
FAQ Al Faqa, Dubai 25.58 112 P **P 06 39 58.0 +1.1**
SNR=15
FAQ S **S 06 44 23.4 -1.7**
FAQ Al Faqa, Dubai 25.58 112 *i* P **P 06 39 57.0 +0.2**
SNR=9.4
MASF Masafi 25.64 110 P **P 06 39 58.0 +0.5**
SNR=10
MASF S **S 06 44 24.3 -1.8**
MSFE Esma-Masafi 25.65 110 *i* P **P 06 39 56.9 -0.7**
SNR=26
KONO Kongsberg 25.65 336 *e*P **P 06 39 57.5 +0.3**
KONO IAmb IAmb 06 40 04.1
comp=Z,910nm,1.5s
KONO *e*S **S 06 44 33.2 +7.6**
KONO *e*ScP **ScP 06 47 04.5 -2.7**
KONO IAMs_20 IAMs_20 06 52 16.4
comp=Z,9μm,10.4s
KONO Kongsberg 25.65 336 P **P 06 39 57.5 +0.3**
KONO Kongsberg 25.65 336 *i* P **P 06 39 57.0 -0.2**
KONO pmax pmax
comp=Z,636nm,1.4s
KONO Kongsberg 25.65 336 ⇑P **P 06 39 56.5 -0.7**
ELAN Lanestosa 25.66 293 ⇑P **P 06 39 58.9 +1.3**
JSA Saint Aubin 25.68 307 ⇑P **P 06 39 56.2 -1.3**
EBER Berja 25.75 279 P **P 06 39 57.0 -1.6**
MDH Madha 25.79 110 P **P 06 39 59.5 +0.7**
SNR=10.0
MDH S **S 06 44 26.3 -2.0**
MDH Madha 25.79 110 *i* P **P 06 39 58.4 -0.4**
SNR=20
UOSS Minazif 25.92 111 P **P 06 40 00.0 0.0**
UOSS IAmb IAmb 06 40 06.1
comp=Z,128nm,0.9s
UOSS Minazif 25.92 111 P **P 06 40 00.3 +0.3**
UOSS P **P 06 40 00.3 +0.3**
UOSS S **S 06 44 27.3 -3.1**
UOSS S **S 06 44 27.3 -3.1**

UOSS Minazif 25.92 111 *i* P **P 06 39 59.3 -0.6**
SNR=28
HATD Hatta, Dubai 25.93 111 P **P 06 40 01.0 +0.9**
SNR=15
HATD S **S 06 44 28.8 -1.9**
HATD Hatta, Dubai 25.93 111 *i* P **P 06 39 59.6 -0.5**
SNR=30
NC602 NORSAR Array S 25.95 340 *e*P **P 06 40 00.5 +0.6**
NC602 IAmb IAmb 06 40 07.2
comp=Z,1μm,2.5s
NC602 *e*S **S 06 44 34.0 +3.7**
NC602 *e* 06 48 42.4
NC602 IAMs_20 IAMs_20 06 51 59.9
comp=Z,15μm,12.4s
ASHO Ashiyiah 25.96 112 P **P 06 40 01.0 +0.6**
SNR=22
ASHO S **S 06 44 29.4 -1.8**
ASHO Ashiyiah 25.96 112 *i* P **P 06 40 00.2 -0.2**
SNR=51
VAF Ylistaro 25.99 353 P **P 06 40 00.4 +0.2**
VAF pmax pmax
comp=Z,222nm,1.4s
VAF Ylistaro 25.99 353 *e*P **P 06 40 00.6 +0.4**
ALNE Al Ain 26.10 113 P **P 06 40 02.1 +0.4**
SNR=24
ALNE S **S 06 44 32.4 -1.0**
ALNE Al Ain 26.10 113 *i* P **P 06 40 01.8 +0.1**
SNR=17
WMELI Melilla 26.14 275 P **P 06 40 02.2 +0.3**
ESDC Sonseca Array 26.18 285 P **P 06 40 02.6 +0.3**
ESDC Sonseca Array 26.18 285 P **P 06 40 02.1 -0.2**
comp=Z,26nm,0.8s,baz=75,slow=9.4,SNR=73
ESDC PcP **PcP 06 43 29.6 +0.4**
comp=Z,3.4nm,0.9s,baz=102,slow=5.3,SNR=1.9
ESDC ScP **ScP 06 47 09.0 -0.3**
comp=Z,1.2nm,0.9s,baz=104,slow=6.2,SNR=4.2
ESDC LR LR 06 50 51.9
comp=Z,3μm,18.4s,baz=68,slow=38
comp=Z,26nm,0.8s
ROSF Rostrenen 26.18 305 P **P 06 40 01.1 -1.0**
ROSF pmax pmax
comp=Z,79nm,1.2s
ROSF Rostrenen 26.18 305 ⇑P **P 06 40 00.5 -1.7**
NC405 NORSAR Array S 26.22 340 IAmb IAmb 06 40 10.6
comp=Z,192nm,1.6s
NB201 NORSAR Array S 26.28 340 IAmb IAmb 06 40 11.3
comp=Z,154nm,1.2s
NB2 NORSAR Subarra 26.30 340 P **P 06 40 02.5 -0.6**
comp=Z,658nm,2.0s,baz=145,slow=10
NB2 NORSAR Subarra 26.30 340 P **P 06 40 02.5 -0.6**
baz=145,slow=10
NOA NORSAR Array B 26.30 340 P **P 06 40 02.4 -0.6**
comp=Z,20nm,0.9s,baz=145,slow=9.4,SNR=31
NOA LR LR 06 51 25.1
comp=Z,4μm,20.3s,baz=155,slow=39
comp=Z,20nm,0.9s
NBO00 NORSAR Array S 26.41 339 IAmb IAmb 06 40 12.8
comp=Z,263nm,1.4s
PAB San Pablo 26.49 285 P **P 06 40 05.7 +0.5**
PAB San Pablo 26.49 285 P **P 06 40 05.7 +0.5**
PAB pmax pmax
comp=Z,60nm,1.0s
PAB San Pablo 26.49 285 ⇑P **P 06 40 04.9 -0.3**
UMZA Um Al Zommool 26.50 116 P **P 06 40 05.4 +0.2**
UMZA P **P 06 40 05.4 +0.2**
UMZA S **S 06 44 40.4 +0.7**
UMZA S **S 06 44 40.4 +0.7**
BLS5 Blasjo 26.54 333 *e*P **P 06 40 06.7 +1.4**
BLS5 IAmb IAmb 06 40 15.8
comp=Z,96nm,1.2s
BLS5 *e*S **S 06 44 48.1 +8.3**
BLS5 *e* 06 48 42.9
BLS5 IAMs_20 IAMs_20 06 52 58.6
comp=Z,12μm,10.8s
HRA Herat 26.63 87 P **P 06 40 06.1 -0.5**
SOHO SOHO 26.63 112 P **P 06 40 06.4 0.0**
SOHO S **S 06 44 41.2 -0.5**
SOHO SOHO 26.63 112 *i* P **P 06 40 06.1 -0.3**
SNR=52
JASK Jask - Hormozg 26.66 107 P **P 06 40 07.9 +1.2**
SNR=12
JASK S **S 06 44 41.9 -0.2**
EGOR Sierra Gorda, 26.67 280 ⇑P **P 06 40 06.8 0.0**
KMY Karmoy 26.84 332 *e*P **P 06 40 09.4 +1.5**
KMY IAmb IAmb 06 40 12.2
comp=Z,468nm,2.1s
KMY *e*S **S 06 44 51.8 +7.6**
KMY IAMs_20 IAMs_20 06 52 51.0
comp=Z,8μm,13.5s
ODD1 Odda 26.84 334 *e*P **P 06 40 09.3 +1.3**
ODD1 IAmb IAmb 06 40 23.6
comp=Z,139nm,1.3s
ODD1 *e*S **S 06 44 47.0 +2.6**
ODD1 *e* 06 48 49.5
ODD1 IAMs_20 IAMs_20 06 53 16.5
comp=Z,11μm,11.5s
SKAR Skarslia 26.86 337 *e*P **P 06 40 09.0 +0.8**
SKAR IAmb IAmb 06 40 19.2
comp=Z,150nm,1.3s
SKAR *e*S **S 06 44 47.9 +3.0**
SKAR *e*ScP **ScP 06 47 19.8 +9.0**
SKAR IAMs_20 IAMs_20 06 52 28.1
comp=Z,8μm,11.9s
EMAL Malaga-Limoner 26.99 279 P P 06 40 02.2 -7.3
MCH1 Michaelchurch 27.03 313 ⇑P **P 06 40 08.5 -1.3**
ARTI Arti 27.05 36 P **P 06 40 09.2 -0.7**
ARTI IAmb IAmb 06 40 38.3
comp=Z,130nm,1.1s
ARTI Arti 27.05 36 P **P 06 40 09.3 -0.6**
comp=Z,15nm,0.6s,baz=240,slow=10,SNR=25
comp=Z,15nm,0.6s
ARTI Arti 27.05 36⇑*e*P **P 06 40 10.0 +0.1**
ARTI pmax pmax
comp=Z,287nm,2.5s
ARQ Araqi 27.10 114 P **P 06 40 11.0 +0.4**
SNR=19
ARQ P **P 06 40 11.0 +0.4**
SNR=19
ARQ S **S 06 44 48.0 -1.1**
ARQ S **S 06 44 48.0 -1.1**
HOQ Hoqain 27.53 112 P **P 06 40 14.2 -0.3**
HOQ P **P 06 40 14.2 -0.3**
HOQ S **S 06 44 58.3 +2.4**
HOQ S **S 06 44 58.3 +2.4**
BER Bergen 27.63 334 *e*P **P 06 40 11.0 -4.0**
BER IAmb IAmb 06 40 24.7
comp=Z,207nm,1.6s
BER *e*S **S 06 45 02.7 +6.1**
BER *e* 06 49 29.8
BER IAMs_20 IAMs_20 06 53 34.9
comp=Z,8μm,13.3s
DOMB Dombas 27.71 339 *e*P **P 06 40 16.4 +0.5**
DOMB IAmb IAmb 06 40 25.3
comp=Z,132nm,1.2s
DOMB *e*S **S 06 45 04.5 +6.4**
DOMB *e* 06 49 20.5
DOMB IAMs_20 IAMs_20 06 53 10.7
comp=Z,18μm,11.7s
LIJA Lijar 27.73 280 P **P 06 40 13.8 -2.4**
ASK Askoy 27.75 334 *e*P **P 06 40 16.7 +0.6**
ASK IAmb IAmb 06 40 25.8
comp=Z,289nm,1.6s
ASK *e*S **S 06 45 03.3 +4.8**
ASK *e* 06 49 38.8
ASK IAMs_20 IAMs_20 06 53 51.2
comp=Z,12μm,11.8s
OUL Oulu 27.78 357 P **P 06 40 16.3 0.0**
OUL pmax pmax
comp=Z,109nm,1.5s
HYA Hoyanger 27.91 336 *e*P **P 06 40 17.2 -0.2**
HYA IAmb IAmb 06 40 32.3
comp=Z,486nm,2.0s
HYA *e*S **S 06 45 02.4 +1.3**
HYA *e* 06 49 42.3
HYA IAMs_20 IAMs_20 06 53 25.2
comp=Z,7μm,13.1s
BSY Bisya 27.95 114 P **P 06 40 18.4 0.0**
SNR=6.2
BSY S **S 06 45 05.9 +3.3**
PBRG Braganca 28.12 290 *e*P **P 06 40 19.3 -0.4**
PBRG *i* Amb 06 40 37.2
comp=Z,111nm,1.5s
BIDO Bidbid 28.17 111 P **P 06 40 20.1 -0.1**
BIDO P **P 06 40 20.1 -0.1**
BIDO S **S 06 45 07.9 +1.9**

BIDO S **S 06 45 07.9 +1.9**
SUE Sulen 28.30 335 *e*P **P 06 40 22.2 +1.2**
SUE IAmb IAmb 06 40 23.3
comp=Z,299nm,1.9s
SUE *e*S **S 06 45 15.9 +8.6**
SUE *e* 06 49 46.8
SUE IAMs_20 IAMs_20 06 54 10.6
comp=Z,12μm,10.3s
SVE Sverdlovsk 28.35 37*ce*P **P 06 40 21.7 +0.2**
SVE *e*S **S 06 45 10.7 +2.5**
SVE pmax pmax
comp=Z,158nm,2.0s
IFR Ifrane 28.37 273 P **P 06 40 23.2 +1.1**
MVO Moncorvo 28.38 289 *e*P **P 06 40 21.6 -0.5**
MVO *i* Amb 06 40 43.5
comp=Z,124nm,1.2s
MVO *e*S **S 06 45 11.4 +2.2**
MVO *i* AMs_20 06 53 55.8
comp=Z,2μm,16.0s
SMDO Samad 28.39 112 P **P 06 40 22.1 -0.2**
SNR=10.0
SMDO P **P 06 40 22.1 -0.2**
SNR=10.0
SMDO S **S 06 45 12.9 +3.3**
SMDO S **S 06 45 12.9 +3.3**
EKA Eskdalemuir Ar 28.41 320 P **P 06 40 20.9 -1.1**
comp=Z,34nm,1.0s,baz=112,slow=8.5,SNR=38
EKA PcP **PcP 06 43 34.0 -0.2**
comp=Z,5.4nm,0.8s,baz=114,slow=2.7,SNR=5.2
comp=Z,34nm,1.0s
AKN Aaknes 28.42 338 *e*P **P 06 40 23.6 +1.5**
AKN IAmb IAmb 06 40 27.6
comp=Z,4μm,4.7s
AKN *e*S **S 06 45 14.7 +5.5**
AKN *e* 06 50 24.6
AKN IAMs_20 IAMs_20 06 54 01.8
comp=Z,11μm,10.7s
ESK Eskdalemuir 28.42 320 P **P 06 40 21.0 -1.2**
ESK IAmb IAmb 06 40 33.0
comp=Z,193nm,1.6s
ESK Eskdalemuir 28.42 320 P **P 06 40 21.0 -1.2**
ESK pmax pmax
comp=Z,193nm,1.6s
ATD Arta Tunnel 28.43 152 LR LR 06 52 16.0
comp=Z,60nm,18.6s,baz=340,slow=38
DOK Doka 28.56 124 P **P 06 40 23.7 0.0**
DOK P **P 06 40 23.7 0.0**
DOK P **P 06 40 23.7 0.0**
DOK S **S 06 45 11.3 -0.8**
DOK S **S 06 45 11.3 -0.8**
DOK S **S 06 45 11.3 -0.8**
MOL Molde 28.56 339 *e*P **P 06 40 24.4 +1.0**
MOL *e*S **S 06 45 19.3 +7.9**
MOL *e* 06 49 54.7
MOL IAMs_20 IAMs_20 06 53 43.8
comp=Z,12μm,11.1s
FOO Floro 28.60 336 *e*P **P 06 40 24.1 +0.5**
FOO IAmb IAmb 06 40 27.8
comp=Z,79nm,1.3s
FOO *e*S **S 06 45 16.9 +4.9**
FOO *e* 06 49 59.1
FOO IAMs_20 IAMs_20 06 53 39.5
comp=Z,7μm,12.4s
WSAR Wadi Sarin 28.71 111 LR LR 06 53 57.2
comp=Z,35nm,20.2s,baz=350,slow=41
PBAR Barrancos 28.76 283 *e*P **P 06 40 24.9 -0.4**
PBAR *i* Amb 06 40 47.3
comp=Z,139nm,1.8s
WHFO Wadi Hawf 28.83 126 P **P 06 40 25.6 -0.6**
SNR=16
WHFO S **S 06 45 14.0 -2.5**
MTE Manteigas 28.84 288 *e*P **P 06 40 26.1 0.0**
MTE *i* Amb 06 40 32.5
comp=Z,103nm,1.8s
MTE *e*S **S 06 45 18.1 +1.7**
MTE *i* AMs_20 06 50 49.9
comp=Z,2μm,18.0s
MTE Manteigas 28.84 288 *e*P **P 06 40 27.0 +0.9**
MTE Manteigas 28.84 288 ⇑P **P 06 40 26.6 +0.5**
JMDO Jabal Madar 28.84 113 P **P 06 40 26.4 +0.2**
SNR=9.8
PMRV Marv??o 28.84 285 *e*P **P 06 40 25.6 -0.5**
PMRV *i* Amb 06 40 31.3
comp=Z,81nm,1.7s
PMRV *i* AMs_20 06 53 20.8
comp=Z,3μm,16.0s
PCBR Castelo Branco 28.85 286 *e*P **P 06 40 26.1 0.0**
PCBR *i* Amb 06 40 31.5
comp=Z,105nm,1.6s
POLO Lamas de Olo 28.94 290 *e*P **P 06 40 27.2 +0.1**
ABTO Aybut 28.95 127 P **P 06 40 27.1 -0.1**
SNR=23
ABTO S **S 06 45 16.6 -1.7**
ABTO S S 06 45 17.2 -1.2
PESTR Estremoz 29.08 284 *e*P **P 06 40 27.5 -0.7**
PESTR *i* Amb 06 40 33.1
comp=Z,96nm,1.7s
NSS Namsos 29.09 344 *e*P **P 06 40 30.2 +2.3**
NSS IAmb IAmb 06 40 41.1
comp=Z,146nm,1.3s
NSS *e*S **S 06 45 22.4 +2.8**
NSS *e* 06 49 29.8
NSS IAMs_20 IAMs_20 06 53 20.6
comp=Z,8μm,12.1s
PGAV Gavieira, Arco 29.25 291 *e*P **P 06 40 30.0 +0.2**
PGAV *e*S **S 06 45 25.6 +2.7**
PGAV *i* AMs_20 06 55 25.9
comp=Z,2μm,18.0s
WBK Wadi Bani Khal 29.33 112 P **P 06 40 30.9 +0.3**
SNR=9.0
WBK S **S 06 45 26.2 +1.8**
IWEX Carrickbyrne, 29.36 312 P **P 06 40 30.2 -0.3**
DSB Dublin 29.38 314 IAmb IAmb 06 40 40.8
comp=Z,167nm,1.8s
DSB Dublin 29.38 314 P **P 06 40 30.4 -0.3**
RBK Rabkut 29.42 126 P **P 06 40 31.5 +0.2**
RBK P **P 06 40 31.5 +0.2**
RBK P **P 06 40 31.5 +0.2**
RBK S **S 06 45 24.7 -1.0**
RBK S **S 06 45 24.7 -1.0**
RBK S **S 06 45 24.7 -1.0**
NGCH Negor - Chabah 29.43 105 P **P 06 40 33.0 +1.7**
NGCH S **S 06 45 25.4 -0.3**
PBEJ Beja 29.43 283 *e*P **P 06 40 31.2 -0.2**
PBEJ *i* Amb 06 40 37.7
comp=Z,194nm,2.1s
PVAQ Vaqueiros 29.43 281 *e*P **P 06 40 31.1 -0.2**
PVAQ *i* Amb 06 40 36.5
comp=Z,161nm,1.9s
PVAQ *i* AMs_20 06 54 58.2
comp=Z,1μm,18.0s
EVO Evora 29.46 284 *e*P **P 06 40 31.0 -0.5**
EVO *i* Amb 06 40 35.8
comp=Z,78nm,2.0s
EVO Evora 29.46 284 P **P 06 40 29.7 -1.8**
COI Coimbra 29.52 287 IAMs_20 IAMs_20 06 53 31.2
comp=Z,5μm,18.0s
PMTG Montargil 29.54 285 *e*P **P 06 40 31.5 -0.7**
PMTG *i* Amb 06 40 35.9
comp=Z,72nm,2.2s
MHTO MHTO 29.61 116 P **P 06 40 32.8 -0.2**
SNR=18
MHTO S **S 06 45 27.8 -0.8**
PBDV Barranco-do-Ve 29.64 281 *e*P **P 06 40 33.3 +0.1**
PBDV *i* Amb 06 40 38.7
comp=Z,208nm,2.0s
PCVE Castro Verde 29.64 282 *e*P **P 06 40 32.9 -0.3**
PCVE *i* Amb 06 40 37.5
comp=Z,112nm,2.1s
MESJ Messejana 29.74 282 *e*P **P 06 40 33.9 -0.2**
MESJ IAmb IAmb 06 40 37.5
comp=Z,336nm,2.2s
MESJ *e*S **S 06 45 30.8 +0.3**
MESJ Messejana 29.74 282 *e*P **P 06 40 33.9 -0.2**
MESJ *i* Amb 06 40 38.5
comp=Z,98nm,2.2s
MESJ Messejana 29.74 282 *e*P **P 06 40 33.9 -0.2**
MESJ *e*S **S 06 45 30.8 +0.3**
DMTO DMTO 29.75 124 P **P 06 40 34.1 -0.2**
SNR=17
DMTO P **P 06 40 34.1 -0.2**
SNR=17
DMTO S **S 06 45 29.6 -1.2**
DMTO S **S 06 45 29.6 -1.2**

PSBE	**So Bento**	**29.91**	**286**	*e*P	**P**	**06 40 35.5**	**-0.1**
JLN	**Jalan Bani Buh**	**29.94**	**112**	P	**P**	**06 40 35.8**	**-0.1**
	SNR=11						
JLN				P	**P**	**06 40 35.8**	**-0.1**
	SNR=11						
JLN				S	**S**	**06 45 35.2**	**+1.5**
JLN				S	**S**	**06 45 35.2**	**+1.5**
DQM	**DQM**	**29.99**	**118**	P	**P**	**06 40 34.8**	**-1.5**
	SNR=7.4						
DQM				P	**P**	**06 40 34.8**	**-1.5**
	SNR=7.4						
MOR8	**Moi Rana**	**30.09**	**348**	*e*P	**P**	**06 40 37.5**	**+0.6**
MOR8				IAmb	IAmb	06 40 42.0	
	comp=Z,309nm,2.0s						
MOR8				*e*S	**S**	**06 45 36.5**	**+1.2**
MOR8				*e*		06 49 32.7	
MOR8				IAMs_20	IAMs_20	06 54 43.9	
	comp=Z,11μm,9.3s						
MORF	**Marmelete**	**30.18**	**282**	*e*P	**P**	**06 40 37.9**	**-0.1**
MORF				IAmb	IAmb	06 40 40.2	
	comp=Z,495nm,2.9s						
MORF				*e*S	**S**	**06 45 38.0**	**+0.5**
MORF	**Marmelete**	**30.18**	**282**	*e*P	**P**	**06 40 37.9**	**-0.1**
PTEO	**Sao Teotonio**	**30.19**	**282**	*e*P	**P**	**06 40 38.1**	**+0.1**
PTEO				*i* Amb		06 40 44.5	
	comp=Z,257nm,2.0s						
AVE	**Averroes**	**30.25**	**273**	P	**P**	**06 40 34.3**	**-4.4**
LEIR	**Leirfjorden**	**30.26**	**347**	*e*P	**P**	**06 40 38.6**	**+0.2**
LEIR				IAmb	IAmb	06 40 41.9	
	comp=Z,84nm,1.4s						
LEIR				*e*S	**S**	**06 45 44.0**	**+6.0**
LEIR				*e*		06 49 34.3	
LEIR				IAMs_20	IAMs_20	06 54 55.5	
	comp=Z,10μm,8.6s						
APA	**Apatity**	**30.28**	**3**	*i*P	**P**	**06 40 37.4**	**-1.1**
APA				*i*		06 41 32.4	
APA				*i* S	**S**	**06 45 36.0**	**-2.2**
APA				pmax	pmax		
	comp=Z,28nm,1.0s						
APA				MLR	MLR		
	comp=Z,9μm,15.0s						
LIS	**Lisbon**	**30.30**	**284**	*e*P	**P**	**06 40 39.0**	**0.0**
LIS				IAmb	IAmb	06 40 43.8	
	comp=Z,106nm,0.9s						
LIS	**Lisbon**	**30.30**	**284**	*e*P	**P**	**06 40 39.2**	**+0.2**
PFVI	**Vila Bisbo**	**30.36**	**281**	*e*P	**P**	**06 40 39.5**	**-0.1**
STOK	**Stokkvaagen**	**30.48**	**347**	*e*P	**P**	**06 40 42.7**	**+2.5**
STOK				IAmb	IAmb	06 40 51.2	
	comp=Z,646nm,2.2s						
STOK				*e*S	**S**	**06 45 46.9**	**+5.5**
STOK				IAMs_20	IAMs_20	06 55 11.3	
	comp=Z,9μm,8.6s						
IDGL	**Inch Island, C**	**30.61**	**317**	P	**P**	**06 40 41.0**	**-0.5**
KONS	**Konsvik**	**30.61**	**347**	*e*P	**P**	**06 40 42.0**	**+0.6**
LVZ	**Lovozero**	**30.66**	**4**	*i* P	**P**	**06 40 41.8**	**-0.1**
LVZ				pmax	pmax		
	comp=Z,124nm,1.6s						
VAGH	**Vaagaholmen**	**30.79**	**347**	*e*P	**P**	**06 40 43.2**	**+0.2**
VAGH				IAmb	IAmb	06 40 46.7	
	comp=Z,1μm,2.8s						
VAGH				*e*S	**S**	**06 45 50.7**	**+4.4**
VAGH				*e*		06 49 54.8	
VAGH				IAMs_20	IAMs_20	06 55 15.0	
	comp=Z,10μm,8.2s						
TIO	**Tiouine**	**30.95**	**269**	P	**P**	**06 40 45.6**	**+0.6**
SIMJ	**Simiganj**	**30.98**	**75**	P	**P**	**06 40 44.8**	**-0.4**
FAUS	**Fauske**	**31.07**	**349**	*e*P	**P**	**06 40 48.8**	**+3.4**
FAUS				IAmb	IAmb	06 40 53.9	
	comp=Z,117nm,1.2s						
FAUS				*e*S	**S**	**06 45 53.3**	**+2.6**
FAUS				*e*		06 49 34.3	
FAUS				IAMs_20	IAMs_20	06 55 28.9	
	comp=Z,7μm,11.5s						
IGLA	**Glengowla, Co**	**31.16**	**313**	P	**P**	**06 40 45.8**	**-0.6**
IUG	**Iuzhnay**	**31.29**	**69**	*e*P	**P**	**06 40 47.6**	**-0.3**
IUG				pmax	pmax		
	comp=Z,111nm,1.2s						
IUG	**Iuzhnay**	**31.29**	**69**	*e*P	**P**	**06 40 47.6**	**-0.3**
	comp=Z,112nm,1.2s						
VAL	**Valentia**	**31.33**	**310**	P	**P**	**06 40 47.3**	**-0.6**
KK31	**Karatay Array**	**31.57**	**67**	*i* P	**P**	**06 40 49.9**	**-0.3**
KKAR	**Karatay Array**	**31.57**	**67**	P	**P**	**06 40 50.2**	**0.0**
KKAR	**Karatay Array**	**31.57**	**67**	P	**P**	**06 40 50.2**	**0.0**
STEI	**Steigen**	**31.59**	**350**	*e*P	**P**	**06 40 50.0**	**0.0**
STEI				IAmb	IAmb	06 40 59.1	
	comp=Z,188nm,1.1s						
STEI				*e*S	**S**	**06 46 03.4**	**+4.7**
STEI				*e*		06 49 52.7	
STEI				IAMs_20	IAMs_20	06 56 15.2	
	comp=Z,8μm,9.6s						
KTK1	**Kautokeino**	**31.83**	**356**	*e*P	**P**	**06 40 51.4**	**-0.8**
KTK1				*e*S	**S**	**06 45 59.7**	**-2.9**
GAR	**Garm**	**31.93**	**74**	IAmb	IAmb	06 41 10.7	
	comp=Z,83nm,0.9s						
KBL	**Kabul**	**31.97**	**83**	P	**P**	**06 40 52.9**	**-1.2**
KBL	**Kabul**	**31.97**	**83**	P	**P**	**06 40 54.0**	**-0.1**
KBL	**Kabul**	**31.97**	**83**	P	**P**	**06 40 52.9**	**-1.2**
KBL				pmax	pmax		
	comp=Z,17nm,1.0s						
LOF	**Lofoten**	**32.02**	**349**	*e*S	**S**	**06 46 08.5**	**+3.0**
LOF				*e*		06 50 01.6	
LOF				IAMs_20	IAMs_20	06 55 59.6	
	comp=Z,11μm,9.8s						
DZA	**Taraz**	**32.19**	**67**	*e*P	**P**	**06 40 55.5**	**-0.2**
DZA	**Taraz**	**32.19**	**67**	*e*P	**P**	**06 40 55.5**	**-0.2**
BRVK	**Borovoye**	**32.19**	**48**	P	**P**	**06 40 55.5**	**0.0**
BRVK	**Borovoye**	**32.19**	**48**	P	**P**	**06 40 55.9**	**+0.4**
BRVK				S	**S**	**06 46 11.7**	**+3.3**
BRVK	**Borovoye**	**32.19**	**48**	*ce*P	**P**	**06 40 56.1**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,168nm,2.5s						
BRVK				MLR	MLR		
	comp=Z,5μm,23.0s						
ARA0	**ARCESS Array S**	**32.24**	**357**	*e*P	**P**	**06 40 56.0**	**+0.2**
ARA0				IAmb	IAmb	06 41 03.1	
	comp=Z,626nm,2.1s						
ARA0				*e*S	**S**	**06 46 07.6**	**-1.4**
ARA0				*e*ScS	**ScS**	**06 51 28.1**	**+1.8**
ARA0				IAMs_20	IAMs_20	06 56 32.9	
	comp=Z,7μm,11.6s						
ARCES	**ARCESS Array B**	**32.24**	**357**	P	**P**	**06 40 55.5**	**-0.3**
	comp=Z,37nm,0.9s,baz=163,slow=5.1,SNR=32						
ARCES				PcP	**PcP**	**06 43 43.2**	**-0.7**
	comp=Z,7.0nm,1.0s,baz=194,slow=1.9,SNR=1.3						
ARCES				LR	LR	06 53 51.6	
	comp=Z,4μm,20.6s,baz=162,slow=36						
	comp=Z,37nm,0.9s						
BVA0	**Borovoye Array**	**32.24**	**48**	*i* P	**P**	**06 40 55.6**	**-0.4**
BVAR	**Borovoye Array**	**32.24**	**48**	P	**P**	**06 40 56.0**	**0.0**
	comp=Z,4.4nm,0.7s,baz=244,slow=6.4,SNR=34						
BVAR				LR	LR	06 56 54.5	
	comp=Z,4μm,21.2s,baz=263,slow=42						
	comp=Z,4.4nm,0.7s						
BVAR	**Borovoye Array**	**32.24**	**48**	P	**P**	**06 40 56.0**	**0.0**
KEV	**Kevo**	**32.42**	**358**	P	**P**	**06 40 57.1**	**-0.2**
KEV				IAmb	IAmb	06 42 01.0	
	comp=Z,157nm,1.5s						
KEV				IAMs_20	IAMs_20	06 54 57.0	
	comp=Z,6μm,18.0s						
KEV	**Kevo**	**32.42**	**358**	P	**P**	**06 40 57.1**	**-0.2**
KEV				pmax	pmax		
	comp=Z,157nm,1.5s						
KEV				MLR	MLR		
	comp=Z,6μm,18.0s						
JETT	**Jettan, Norway**	**32.57**	**354**	*e*P	**P**	**06 40 58.9**	**+0.2**
JETT				IAmb	IAmb	06 41 08.0	
	comp=Z,265nm,1.4s						
JETT				*e*S	**S**	**06 46 15.9**	**+1.8**
JETT				*e*		06 50 07.4	
JETT				IAMs_20	IAMs_20	06 54 58.0	
	comp=Z,8μm,12.5s						
VADS	**Vadso**	**32.76**	**360**	*e*P	**P**	**06 41 00.6**	**+0.3**
VADS				IAmb	IAmb	06 41 07.9	
	comp=Z,134nm,1.2s						
VADS				*e*S	**S**	**06 46 20.1**	**+3.1**
VADS				IAMs_20	IAMs_20	06 54 36.9	
	comp=Z,7μm,15.8s						
TRO	**Tromso**	**32.77**	**353**	*e*P	**P**	**06 41 00.4**	**+0.1**
TRO				IAmb	IAmb	06 41 09.8	
	comp=Z,192nm,1.2s						
TRO				*e*S	**S**	**06 46 20.1**	**+2.9**
TRO				IAMs_20	IAMs_20	06 54 58.8	
	comp=Z,7μm,12.0s						
OTUK	**Ortayu**	**32.83**	**57**	P	**P**	**06 41 01.0**	**-0.2**
BRZS	**Berezniki**	**33.19**	**54**	*e*P	**P**	**06 41 03.9**	**-0.4**
BRZS	**Berezniki**	**33.19**	**54**	*e*P	**P**	**06 41 04.0**	**-0.4**
HAMF	**Hammerfest**	**33.43**	**356**	*e*P	**P**	**06 41 02.7**	**-3.4**
HAMF				IAmb	IAmb	06 41 23.6	
	comp=Z,1μm,3.0s						
HAMF				*e*S	**S**	**06 46 30.3**	**+3.0**
HAMF				IAMs_20	IAMs_20	06 58 33.9	
	comp=Z,7μm,12.3s						
EKS2	**Erkin-Say**	**34.00**	**67**	P	**P**	**06 41 12.2**	**+0.5**
	SNR=7.5						
BTLS	**Baital**	**34.01**	**63**	*e*P	**P**	**06 41 11.3**	**-0.1**
BTLS	**Baital**	**34.01**	**63**	*e*P	**P**	**06 41 11.3**	**-0.1**
LODK	**Lodwar**	**34.26**	**170**	P	**P**	**06 41 15.4**	**+1.4**
LODK				IAmb	IAmb	06 41 20.2	
	comp=Z,170nm,2.0s						
LODK	**Lodwar**	**34.26**	**170**	P	**P**	**06 41 15.8**	**+1.8**
	SNR=28						
AAK	**Ala-Archa**	**34.53**	**67**	P	**P**	**06 41 16.8**	**+0.6**
AAK	**Ala-Archa**	**34.53**	**67**	P	**P**	**06 41 16.9**	**+0.7**
	comp=Z,9.6nm,0.8s,baz=262,slow=7.4,SNR=26						
	comp=Z,9.6nm,0.8s						
AAK	**Ala-Archa**	**34.53**	**67**	P	**P**	**06 41 17.0**	**+0.7**
AAK				P	**P**	**06 41 17.0**	**+0.7**
AAK	**Ala-Archa**	**34.53**	**67**	P	**P**	**06 41 17.0**	**+0.7**
	SNR=10						
AAK	**Ala-Archa**	**34.53**	**67**	*ce*P	**P**	**06 41 17.3**	**+1.0**
AAK				pmax	pmax		
	comp=Z,54nm,1.7s						
AAK	**Ala-Archa**	**34.53**	**67**	*i* P	**P**	**06 41 17.2**	**+0.9**
	SNR=13						
TOA0	**Torodi Ar. Sit**	**34.63**	**233**	P	**P**	**06 41 17.0**	**-0.2**
TOA0				S	**S**	**06 46 45.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**34.63**	**233**	P	**P**	**06 41 16.5**	**-0.7**
TORD				IAmb	IAmb	06 41 22.5	
	comp=Z,105nm,0.7s						
TORD	**Torodi Ar. Bea**	**34.63**	**233**	P	**P**	**06 41 17.0**	**-0.2**
	comp=Z,76nm,0.7s,baz=32,slow=9.9,SNR=396						
TORD				PcP	**PcP**	**06 43 51.6**	**+0.1**
	comp=Z,9.0nm,0.9s,baz=32,slow=5.9,SNR=2.0						
	comp=Z,76nm,0.7s						
CHMS	**Chumysh**	**34.68**	**66**	P	**P**	**06 41 17.9**	**+0.5**
	SNR=8.4						
KBK	**Karagaybulak**	**34.86**	**67**	P	**P**	**06 41 20.5**	**+1.4**
	SNR=6.7						
TKM2	**Tokmak 2**	**35.30**	**66**	P	**P**	**06 41 23.4**	**+0.4**
	SNR=13						
TKM2	**Tokmak 2**	**35.30**	**66**	P	**P**	**06 41 22.4**	**-0.6**
NIL	**Nilore**	**35.57**	**83**	P	**P**	**06 41 25.2**	**+0.1**
NIL	**Nilore**	**35.57**	**83**	P	**P**	**06 41 25.2**	**+0.1**
NIL				pmax	pmax		
	comp=Z,53nm,1.0s						
BOOM	**Boomskoye usch**	**35.61**	**67**	IAmb	IAmb	06 41 46.1	
	comp=Z,122nm,1.4s						
ULHL	**Ulahol**	**35.87**	**67**	P	**P**	**06 41 28.8**	**+0.9**
	SNR=20						
KSH	**Kashi**	**36.14**	**72**	P	**P**	**06 41 28.3**	**-1.8**
KSH				sP	sP	06 41 36.0	+2.3
KSH				S	**S**	**06 47 14.8**	**+4.7**
KSH				pmax	pmax		
	comp=Z,17nm,1.0s						
KSH				pmax	pmax		
	comp=Z,620nm,7.6s						
KSH				LR	LR		
	comp=Z,2μm,13.7s						
KSH				LR	LR		
	comp=Z,2μm,11.7s						
KSH				LR	LR		
	comp=Z,2μm,14.8s						
CHKK	**Chushkaly**	**36.20**	**65**	*e*P	**P**	**06 41 30.2**	**-0.2**
CHKK	**Chushkaly**	**36.20**	**65**	*e*P	**P**	**06 41 30.2**	**-0.2**
AAA	**Alma-Ata**	**36.23**	**66**	*e*P	**P**	**06 41 30.4**	**-0.3**
AAA				pmax	pmax		
	comp=Z,100nm,1.3s						
AAA	**Alma-Ata**	**36.23**	**66**	*e*P	**P**	**06 41 30.4**	**-0.3**
	comp=Z,100nm,1.3s						
TNSS	**Tian-Shan**	**36.27**	**66**	*e*P	**P**	**06 41 30.9**	**-0.6**
TNSS	**Tian-Shan**	**36.27**	**66**	*e*P	**P**	**06 41 31.0**	**-0.6**
JASL	**Jaisalmer**	**36.33**	**95**	*e*P	**P**	**06 41 31.4**	**-0.3**
ARXS	**Arharly**	**36.76**	**64**	*e*P	**P**	**06 41 33.9**	**-1.4**
KURBB	**Kurchatov Arra**	**36.97**	**53**	P	**P**	**06 41 36.7**	**-0.2**
	comp=Z,24nm,0.7s,baz=276,slow=8.6,SNR=80						
KURBB				PcP	**PcP**	**06 43 57.0**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=265,slow=3.5,SNR=0.7						
KURBB				LR	LR	06 58 42.9	
	comp=Z,3μm,22.0s,baz=259,slow=40						
	comp=Z,24nm,0.7s						
KURBB	**Kurchatov Arra**	**36.97**	**53**	P	**P**	**06 41 36.2**	**-0.7**
KURK	**Kurchatov**	**37.03**	**53**	P	**P**	**06 41 36.9**	**-0.5**
KURK				IAmb	IAmb	06 41 43.5	
	comp=Z,174nm,1.1s						
KURK	**Kurchatov**	**37.03**	**53**	P	**P**	**06 41 37.6**	**+0.3**
KURK				P	**P**	**06 41 37.6**	**+0.3**
KURK				S	**S**	**06 47 25.5**	**+2.3**
KURK				S	**S**	**06 47 25.5**	**+2.3**
KURK	**Kurchatov**	**37.03**	**53**	*ce*P	**P**	**06 41 37.4**	**0.0**
KURK				pmax	pmax		
	comp=Z,169nm,1.7s						
TDK	**Taldyqorghan**	**37.09**	**62**	*e*P	**P**	**06 41 37.6**	**-0.4**
TDK	**Taldyqorghan**	**37.09**	**62**	*e*P	**P**	**06 41 37.7**	**-0.4**
SATY	**Saty**	**37.33**	**66**	*e*P	**P**	**06 41 39.8**	**-0.4**
SATY	**Saty**	**37.33**	**66**	*e*P	**P**	**06 41 39.8**	**-0.4**
ZHN	**Zhinishke**	**37.33**	**65**	*e*P	**P**	**06 41 39.9**	**-0.3**
ZHN	**Zhinishke**	**37.33**	**65**	*e*P	**P**	**06 41 39.9**	**-0.3**
SRGN	**SRI GANGA NAGA**	**37.42**	**88**	*e*P	P	06 41 35.0	-5.9
BJO1	**Bjornoya**	**37.50**	**355**	*e*P	**P**	**06 41 42.2**	**+1.1**
BJO1				IAmb	IAmb	06 42 06.0	
	comp=Z,164nm,1.2s						
BJO1				*e*S	**S**	**06 47 33.0**	**+3.2**
BJO1				IAMs_20	IAMs_20	06 58 59.5	
	comp=Z,4μm,14.0s						
BKNR	**BIKANER**	**37.73**	**91**	*e*P	**P**	**06 41 39.0**	**-4.5**
UZB	**Uzynbulak**	**37.76**	**65**	*e*P	**P**	**06 41 43.5**	**-0.3**
UZB	**Uzynbulak**	**37.76**	**65**	*e*P	**P**	**06 41 43.6**	**-0.3**
MBAR	**Mbarara**	**37.85**	**178**	P	**P**	**06 41 45.8**	**+1.0**
MBAR	**Mbarara**	**37.85**	**178**	IAMs_20	IAMs_20	06 58 28.2	
	comp=Z,3μm,18.0s						
MBAR	**Mbarara**	**37.85**	**178**	P	**P**	**06 41 45.5**	**+0.7**
MBAR				P	**P**	**06 41 45.5**	**+0.7**
MBAR				P	**P**	**06 41 45.5**	**+0.7**
MBAR				S	**S**	**06 47 37.8**	**+1.3**
MBAR				S	**S**	**06 47 37.8**	**+1.3**
MBAR				S	**S**	**06 47 37.8**	**+1.3**
MBAR	**Mbarara**	**37.85**	**178**	*i* P	**P**	**06 41 46.6**	**+1.8**
MBAR				pmax	pmax		
	comp=Z,99nm,1.1s						
THN	**Thein Dam**	**37.93**	**83**	*e*P	**P**	**06 41 44.9**	**-0.2**
PDGK	**Podgornoye**	**38.07**	**65**	P	**P**	**06 41 45.8**	**-0.7**
WUS	**Wushi**	**38.24**	**68**	IAmb	IAmb	06 41 57.5	
	comp=Z,258nm,1.7s						
DHRM	**DHARAMSHALA**	**38.45**	**83**	*e*P	**P**	**06 41 49.2**	**-0.7**
BHK	**Bhakra**	**38.85**	**85**	*e*P	**P**	**06 41 53.4**	**+0.3**
BHK				IAmb	IAmb	06 42 00.8	
	comp=Z,112nm,1.1s						
JNE	**Jan Mayen East**	**38.94**	**341**	*e*S	**S**	**06 47 56.4**	**+4.9**
JNE				*e*SS	**SS**	**06 50 42.8**	**+0.1**
JNE				IAMs_20	IAMs_20	06 59 53.5	
	comp=Z,5μm,18.3s						
JMIC	**Jan Mayen**	**38.99**	**341**	LR	LR	06 57 44.2	
	comp=Z,2μm,18.7s,baz=120,slow=36						
JNW	**Jan Mayen West**	**38.99**	**341**	*e*S	**S**	**06 47 55.8**	**+3.5**
JNW				*e*SS	**SS**	**06 50 50.2**	**+6.4**
JNW				IAMs_20	IAMs_20	07 00 02.6	
	comp=Z,5μm,12.6s						
KMBO	**Kilima Mbogo**	**39.02**	**168**	P	**P**	**06 41 55.6**	**+0.8**
KMBO	**Kilima Mbogo**	**39.02**	**168**	P	**P**	**06 41 56.9**	**+2.1**
	comp=Z,5.4nm,0.9s,baz=353,slow=7.9,SNR=22						
KMBO				LR	LR	07 02 52.3	
	comp=Z,1μm,18.3s,baz=339,slow=44						
	comp=Z,5.4nm,0.9s						
KMBO	**Kilima Mbogo**	**39.02**	**168**	P	**P**	**06 41 54.2**	**-0.5**
KMBO	**Kilima Mbogo**	**39.02**	**168**	*i* P	**P**	**06 41 57.3**	**+2.5**
KMBO	**Kilima Mbogo**	**39.02**	**168**	*i* P	**P**	**06 41 56.7**	**+1.9**
	SNR=19						
HOPEN	**Hopen**	**39.24**	**358**	IAmb	IAmb	06 41 56.4	
	comp=Z,162nm,1.2s						
HOPEN				*e*P	**P**	**06 41 58.1**	**+2.5**
HOPEN				*e*PP	**PP**	**06 43 26.4**	**+1.0**
HOPEN				*e*S	**S**	**06 47 57.3**	**+1.4**
HOPEN				IAMs_20	IAMs_20	06 59 36.8	
	comp=Z,6μm,12.8s						
MAKZ	**Makanchi**	**39.39**	**59**	P	**P**	**06 41 57.1**	**-0.3**
MAKZ	**Makanchi**	**39.39**	**59**	P	**P**	**06 41 57.1**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,144nm,1.9s						
MACI	**Morro de la Ar**	**39.40**	**270**	P	**P**	**06 41 58.6**	**+0.8**
MACI				IAmb	IAmb	06 42 06.9	
	comp=Z,180nm,1.0s						
AJM	**Ajmer**	**39.50**	**93**	*e*P	**P**	**06 41 58.3**	**-0.2**
AJM				IAmb	IAmb	06 42 07.7	
	comp=Z,131nm,0.6s						
SMLA	**Simla**	**39.55**	**85**	*e*P	**P**	**06 41 57.4**	**-1.4**
SMLA				IAmb	IAmb	06 42 04.9	
	comp=Z,164nm,1.0s						
MK31	**Makanchi Array**	**39.61**	**59**	*i* P	**P**	**06 41 59.2**	**0.0**
MKAR	**Makanchi Array**	**39.61**	**59**	P	**P**	**06 41 59.2**	**+0.1**
	comp=Z,11nm,0.5s,baz=279,slow=6.5,SNR=61						
MKAR				LR	LR	07 01 33.6	
	comp=Z,2μm,18.5s,baz=272,slow=41						
	comp=Z,11nm,0.5s						
KKR	**Kurukshetra**	**39.74**	**86**	*e*P	**P**	**06 42 00.4**	**0.0**
RTK	**Rohtak**	**39.79**	**88**	*e*P	**P**	**06 41 58.6**	**-2.3**
KUDL	**Kundal**	**40.23**	**89**	*e*P	**P**	**06 42 03.9**	**-0.6**
KUDL				IAmb	IAmb	06 42 37.8	
	comp=Z,161nm,1.4s						
GNR	**GANAUR**	**40.23**	**88**	*e*P	**P**	**06 42 03.0**	**-1.5**
KLP	**Kalpa**	**40.26**	**83**	*e*P	**P**	**06 42 03.4**	**-1.7**
KLP				IAmb	IAmb	06 42 15.2	
	comp=Z,146nm,0.9s						
BORG	**Borgarnes**	**40.33**	**329**	LR	LR	07 01 17.4	
	comp=Z,2μm,19.1s,baz=110,slow=40						
KIBK	**Kibwezi**	**40.35**	**167**	P	**P**	**06 42 07.2**	**+1.5**
KIBK	**Kibwezi**	**40.35**	**167**	P	**P**	**06 42 06.9**	**+1.2**
	SNR=10.0						
BHGR	**Bahadurgarh**	**40.35**	**88**	*e*P	**P**	**06 42 04.1**	**-1.4**
HNLY	**HANLEY**	**40.37**	**81**	*e*P	**P**	**06 42 05.5**	**-0.8**
HNLY				IAmb	IAmb	06 42 20.2	
	comp=Z,113nm,1.0s						
NPLP	**NPLP New Delhi**	**40.56**	**88**	*e*P	**P**	**06 42 06.4**	**-0.9**
NPLP				IAmb	IAmb	06 42 16.2	
	comp=Z,143nm,0.9s						
NDI	**New Delhi**	**40.58**	**88**	*e*P	**P**	**06 42 06.1**	**-1.2**
AYAN	**Aya Nagar**	**40.59**	**88**	*e*P	**P**	**06 42 07.0**	**-0.5**
LDR	**Lodi Road**	**40.62**	**88**	*e*P	**P**	**06 42 05.8**	**-1.9**
SONA	**Sohna**	**40.66**	**89**	*e*P	**P**	**06 42 07.3**	**-0.7**
JMIU	**JAMIA UNIVERSI**	**40.69**	**88**	*e*P	**P**	**06 42 07.5**	**-0.8**
MERT	**Meerut**	**40.87**	**87**	*e*P	**P**	**06 42 08.6**	**-1.1**
ZAA0	**Zalesovo Array**	**40.90**	**48**	P	**P**	**06 42 09.0**	**-0.7**
ZAA0				IAmb	IAmb	06 42 15.3	
	comp=Z,229nm,1.8s						
ZALV	**Zalesovo Beam**	**40.90**	**48**	P	**P**	**06 42 08.9**	**-0.8**
ZALV	**Zalesovo Beam**	**40.90**	**48**	P	**P**	**06 42 09.2**	**-0.5**
	comp=Z,15nm,0.6s,baz=268,slow=7.3,SNR=51						
ZALV				LR	LR	07 02 53.5	
	comp=Z,2μm,21.9s,baz=268,slow=42						
	comp=Z,15nm,0.6s						
ASOR	**Ausora**	**40.99**	**88⇑**	*e*P	**P**	**06 42 10.0**	**-0.8**
SPA0	**Spitsbergen Ar**	**41.24**	**356**	*e*P	**P**	**06 42 13.4**	**+1.2**
SPA0				IAmb	IAmb	06 42 24.2	
	comp=Z,293nm,1.5s						
SPA0				*e*PP	**PP**	**06 43 49.0**	**+1.8**
SPA0				*e*S	**S**	**06 48 29.2**	**+3.3**
SPA0				*e*SS	**SS**	**06 51 31.8**	**+3.2**
SPA0				IAMs_20	IAMs_20	07 00 32.4	
	comp=Z,3μm,16.0s						
SPITS	**Spitsbergen Ar**	**41.24**	**356**	P	**P**	**06 42 09.7**	**-2.6**
	comp=Z,58nm,1.2s,baz=125,slow=5.2,SNR=9.0						
SPITS				PcP	**PcP**	**06 44 11.1**	**+0.2**
	comp=Z,43nm,1.2s,baz=188,slow=5.2,SNR=4.2						
SPITS				LR	LR	07 00 22.7	
	comp=Z,2μm,19.5s,baz=133,slow=38						
	comp=Z,58nm,1.2s						
SPITS	**Spitsbergen Ar**	**41.24**	**356**	P	**P**	**06 42 12.8**	**+0.6**
ZSN	**Zaisan**	**41.28**	**58**	*e*P	**P**	**06 42 12.8**	**-0.2**
ZSN	**Zaisan**	**41.28**	**58**	*e*P	**P**	**06 42 12.8**	**-0.2**
ACRG	**Accra**	**41.64**	**228**	P	**P**	**06 42 17.0**	**+0.8**
JOSI	**Joshimath**	**41.67**	**84**	*e*P	**P**	**06 42 15.6**	**-1.1**
JOSI				IAmb	IAmb	06 42 27.1	
	comp=Z,184nm,1.1s						
TKRD	**Thakurdwara**	**41.69**	**86**	*e*P	**P**	**06 42 13.7**	**-2.8**
KBS	**Kingsbay**	**42.23**	**355**	IAMs_20	IAMs_20	07 01 24.8	
	comp=Z,4μm,19.0s						
GUNA	**GUNA**	**42.50**	**93**	*e*P	**P**	**06 42 22.6**	**-0.7**
GUNA				IAmb	IAmb	06 42 32.3	
	comp=Z,171nm,1.1s						
SCO	**Scoresbysund**	**42.55**	**337**	P	**P**	**06 42 23.7**	**+0.7**
SCO	**Scoresbysund**	**42.55**	**337**	P	**P**	**06 42 23.7**	**+0.7**
SCO				pmax	pmax		
	comp=Z,152nm,1.6s						
SCO	**Scoresbysund**	**42.55**	**337**	*i* P	**P**	**06 42 23.1**	**+0.1**
SCO				IAmb	IAmb	06 42 33.0	
	comp=Z,58nm,1.1s						
BART	**Pico Bartolome**	**42.78**	**288**	*e*P	P	06 42 20.4	-5.0
BART				*i* Amb		06 42 25.0	
	comp=Z,65nm,1.3s						
PSMN	**Pico do Norte,**	**42.93**	**287**	*e*P	**P**	**06 42 23.8**	**-2.8**
PSMN				*e*P	**pP**	**06 42 26.4**	**-2.8**
PSMN				*i* Amb		06 42 32.5	
	comp=Z,234nm,2.0s						
PGRON	**Lagoa das Cont**	**42.94**	**288**	*e*P	**P**	**06 42 28.6**	**

comp=Z,80nm,1.2s
PICO Pico 45.02 290 *e*P **P 06 42 43.2 -0.2**
PICO *i* Amb 06 42 46.9
comp=Z,128nm,1.6s
CALA Caldeira 45.20 290 *e*P **P 06 42 44.5 -0.3**
CALA *i* Amb 06 42 46.8
comp=Z,136nm,1.3s
NGP Nagpur 45.64 96 *e*P **P 06 42 47.7 -0.8**
NGP IAmb IAmb 06 43 07.8
comp=Z,72nm,1.1s
ALBI Allahabad 45.75 90 *e*P **P 06 42 47.8 -1.5**
BBTS Babate 46.59 253 LR LR 07 04 43.5
comp=Z,2μm,19.9s,baz=304,slow=39
VAR Varanasi 46.72 89 *e*P **P 06 42 52.7 -4.1**
MNGI Mangalore 47.13 109⇑*e*P **P 06 43 00.1 0.0**
NOR Nord 47.19 352 *i* P **P 06 42 58.9 -0.9**
NOR IAmb IAmb 06 43 09.8
comp=Z,56nm,1.1s
HYB Hyderabad 47.30 101 *e*P **P 06 43 00.1 -1.4**
HYB IVmB_BB 06 43 01.2
comp=Z,662nm,2.4s
HYB *e*PcP **PcP 06 44 32.2 -0.4**
HYB *e*PP **PP 06 44 55.6 +3.0**
HYB *e*ScP **ScP 06 48 26.5 -0.5**
HYB *e*S **S 06 49 56.0 +0.5**
HYB IVMs_BB IVMs_BB 07 04 48.5
comp=Z,656nm,20.0s
BLSP Bilaspur 47.58 93 *e*P **P 06 43 02.2 -1.4**
BLSP IAmb IAmb 06 43 10.6
comp=Z,100nm,1.1s
ISOG Isortoq, Green 47.79 328 *i* P **P 06 43 05.8 +1.1**
ISOG IAmb IAmb 06 43 12.7
comp=Z,452nm,1.7s
SUMG Summit 48.16 338 IAmb IAmb 06 43 18.2
comp=Z,110nm,1.3s
SUMG Summit 48.16 338 *i* P **P 06 43 07.3 -0.6**
SUMG IAmb IAmb 06 43 17.9
comp=Z,86nm,1.2s
ICESG Greenland Ices 48.20 333 *i* P **P 06 43 07.3 -0.9**
ICESG IAmb IAmb 06 43 16.8
comp=Z,133nm,1.3s
JHSG JHARSUGUGA 49.07 93 *e*P **P 06 43 11.9 -3.3**
KNTI KHUNTI 49.61 90 *e*P **P 06 43 17.3 -2.0**
BOK Bokaro 49.73 89 *e*P **P 06 43 18.4 -1.8**
BOK IAmb IAmb 06 43 22.5
comp=Z,138nm,1.2s
RAGD RAYAGADA 50.15 96 *e*P **P 06 43 22.0 -1.4**
RAGD IAmb IAmb 06 43 30.6
comp=Z,135nm,1.0s
GTK Tadong 50.21 83 *e*P **P 06 43 22.9 -1.1**
GTK IAmb IAmb 06 43 50.9
comp=Z,99nm,1.1s
SALM Salem 50.50 107 *e*P **P 06 43 25.0 -1.0**
SALM IAmb IAmb 06 43 42.6
comp=Z,129nm,0.9s
KOD Kodaikanal 50.84 109 *e*P **P 06 43 28.6 -0.4**
KOD IAmb IAmb 06 43 35.6
comp=Z,154nm,1.0s
VIS Vishakhapatnam 50.88 97 *e*P **P 06 43 27.3 -1.7**
VIS IAmb IAmb 06 43 31.2
comp=Z,139nm,0.9s
MOY Mondy 50.89 50 *e*P **P 06 43 28.9 +0.1**
MOY pmax pmax
comp=Z,91nm,2.3s
NRS Narsarsuaq 50.97 323 IAmb IAmb 06 43 38.5
comp=Z,170nm,1.1s
NRS Narsarsuaq 50.97 323 *i* P **P 06 43 29.0 0.0**
NRS IAmb IAmb 06 43 38.8
comp=Z,151nm,1.0s
GOMU GeErMu 51.34 70 P **P 06 43 32.4 -0.3**
GOMU sP sP 06 43 37.3 +0.9
GOMU PP **PP 06 45 28.4 -1.1**
GOMU S **S 06 50 51.8 -0.7**
GOMU ScS **ScS 06 53 22.8 -1.2**
GOMU SS **SS 06 54 29.4 +1.6**
GOMU pmax pmax
comp=Z,24nm,1.5s
GOMU pmax pmax
comp=Z,780nm,6.7s
GOMU LR LR
comp=Z,2μm,18.2s
GOMU LR LR
comp=Z,3μm,19.1s
GOMU LR LR
comp=Z,4μm,19.9s
TRD Trivandrum 51.59 112 *e*P **P 06 43 33.1 -1.1**
NEEM North Greenlan 51.76 344 *i* P **P 06 43 33.2 -1.9**
NEEM IAmb IAmb 06 43 40.1
comp=Z,404nm,2.2s
SACV Santiago Islan 51.88 259 P **P 06 43 37.8 +1.3**
SACV IAmb IAmb 06 43 39.2
comp=Z,90nm,1.0s
ILULI Ilulissat 52.29 334 *i* P **P 06 43 37.0 -1.8**
ILULI IAmb IAmb 06 43 39.2
comp=Z,55nm,1.1s
SFJD Kangerlussuaq 52.40 331 P **P 06 43 39.0 -0.6**
SFJD Kangerlussuaq 52.40 331 LR LR 07 08 24.0
comp=Z,3μm,18.6s,baz=84,slow=39
SFJD Kangerlussuaq 52.40 331 P **P 06 43 39.0 -0.6**
SFJD pmax pmax
comp=Z,82nm,1.4s
SFJD MLR MLR
comp=Z,3μm,20.0s
SFJD Kangerlussuaq 52.40 331 *i* P **P 06 43 38.2 -1.4**
SFJD IAmb IAmb 06 43 41.7
comp=Z,445nm,2.3s
LSZ Lusaka 52.43 182 P **P 06 43 40.9 +0.4**
LSZ Lusaka 52.43 182 IAMs_20 IAMs_20 07 07 12.7
comp=Z,3μm,18.0s
LSZ Lusaka 52.43 182 LR LR 07 07 24.3
comp=Z,2μm,19.2s,baz=353,slow=38
LSZ Lusaka 52.43 182 P **P 06 43 39.4 -1.1**
LSZ S **S 06 51 09.9 +2.9**
LSZ Lusaka 52.43 182 P **P 06 43 40.9 +0.4**
LSZ pmax pmax
comp=Z,26nm,1.0s
LSZ MLR MLR
comp=Z,3μm,18.0s
UMMG Uummannaq 52.47 335 *i* P **P 06 43 38.9 -1.2**
UMMG IAmb IAmb 06 43 50.4
comp=Z,148nm,1.4s
ZAK Zakamensk 52.61 51 *e*P **P 06 43 41.6 0.0**
ZAK pmax pmax
comp=Z,35nm,1.4s
TAWA Tawang 52.66 81 *e*P **P 06 43 41.9 -0.8**
IRK Irkutsk 52.72 48 *e*P **P 06 43 41.6 -0.6**
IRK *e* 06 45 40.3
IRK pmax pmax
comp=Z,170nm,2.2s
GUWA GUWAHATI 53.18 83 *e*P **P 06 43 43.6 -2.4**
GUWA IAmb IAmb 06 43 58.3
comp=Z,426nm,9.2s
NUUK Nuuk 53.33 327 *i* P **P 06 43 45.6 -0.9**
NUUK IAmb IAmb 06 43 54.5
comp=Z,147nm,1.2s
UPNV Upernavik 53.44 338 *i* P **P 06 43 46.0 -1.2**
UPNV IAmb IAmb 06 43 55.8
comp=Z,87nm,1.0s
KULLO Kullorsuaq 53.47 341 *i* P **P 06 43 45.6 -1.8**
KULLO IAmb IAmb 06 43 47.7
comp=Z,69nm,1.2s
SHL Shillong 53.63 84 P **P 06 43 47.1 -2.4**
SHL Shillong 53.63 84 *e*P **P 06 43 46.7 -2.9**
SHL IAmb IAmb 06 43 56.5
comp=Z,122nm,1.0s
SHL Shillong 53.63 84 P **P 06 43 47.1 -2.4**
SHL pmax pmax
comp=Z,25nm,1.0s
GTA Gaotai 53.82 65 P **P 06 43 49.8 -0.9**
GTA pP sP 06 43 54.8 +0.4
GTA PP **PP 06 45 51.9 +0.4**
GTA S **S 06 51 21.9 -3.9**
GTA SS **SS 06 55 09.4 +3.0**
GTA pmax pmax
comp=Z,17nm,1.2s
GTA pmax pmax
comp=Z,330nm,10.0s
GTA LR LR
comp=Z,1μm,17.5s
GTA LR LR
comp=Z,2μm,17.9s
GTA LR LR
comp=Z,2μm,19.1s
SBV Sambava 54.13 155 P **P 06 43 53.3 +0.4**
SNR=8.0

ZIRO ZIRO 54.25 81 *e*P **P 06 43 53.6 -0.5**
ITAN ITANAGAR 54.33 81 *e*P **P 06 43 52.4 -2.1**
KAAM Kaadhehdhoo 54.36 122 P **P 06 43 53.7 -1.1**
KAAM IAmb IAmb 06 44 03.1
comp=Z,74nm,1.0s
KAAM Kaadhehdhoo 54.36 122 P **P 06 43 54.0 -0.7**
PALK Pallekele 55.18 110 P **P 06 43 59.8 -1.0**
PALK Pallekele 55.18 110 LR LR 07 09 02.1
comp=Z,614nm,19.7s,baz=316,slow=38
PALK Pallekele 55.18 110 P **P 06 44 00.1 -0.7**
PALK Pallekele 55.18 110 P **P 06 43 59.8 -1.0**
PALK pmax pmax
comp=Z,32nm,1.1s
PALK MLR MLR
comp=Z,2μm,19.0s
KOHI KOHIMA 55.31 82 *e*P **P 06 43 58.8 -3.0**
SONM Songino Array 55.34 53 P **P 06 44 00.8 -0.8**
SONM Songino Array 55.34 53 P **P 06 44 01.5 -0.1**
comp=Z,5.1nm,1.0s,baz=284,slow=9.2,SNR=28
SONM LR LR 07 13 01.0
comp=Z,2μm,18.3s,baz=302,slow=42
comp=Z,5.1nm,1.0s
IMP Imphal 55.62 83 *e*P **P 06 44 02.8 -1.1**
IMP IAmb IAmb 06 44 12.9
comp=Z,139nm,1.3s
ULN Ulaanbaatar 55.74 53 P **P 06 44 03.7 -0.8**
ULN Ulaanbaatar 55.74 53 P **P 06 44 04.1 -0.5**
ULN P **P 06 44 04.1 -0.5**
ULN S **S 06 51 51.7 +0.1**
ULN S **S 06 51 51.7 +0.1**
ULN Ulaanbaatar 55.74 53 *e*P **P 06 44 04.5 -0.1**
ULN pmax pmax
comp=Z,49nm,1.4s
TULEG Thule 55.86 344 IAmb IAmb 06 44 12.7
comp=Z,59nm,1.1s
TULEG Thule 55.86 344 *i* P **P 06 44 04.0 -0.7**
TULEG IAmb IAmb 06 44 04.4
comp=Z,47nm,1.0s
LKP Lekhapani 55.91 80 *e*P **P 06 44 05.3 -0.5**
BOD Bodaibo 56.50 40 *e*P **P 06 44 08.5 -1.1**
BOD pmax pmax
comp=Z,675nm,1.7s
TSUM Tsumeb 57.43 193 P **P 06 44 17.4 +0.8**
TSUM Tsumeb 57.43 193 LR LR 07 09 58.0
comp=Z,4μm,21.6s,baz=7.5,slow=37
TIXI Tiksi 57.80 22 P **P 06 44 17.9 -0.6**
TIXI IAmb IAmb 06 44 24.4
comp=Z,80nm,1.4s
TIXI Tiksi 57.80 22 LR LR 07 12 34.0
comp=Z,3μm,19.5s,baz=312,slow=40
TIXI Tiksi 57.80 22 *i* P **P 06 44 18.5 0.0**
TIXI pmax pmax
comp=Z,110nm,2.6s
TIXI MLR MLR
comp=Z,3μm,19.0s
LZH Lanzhou 58.07 67⇓P **P 06 44 20.8 -0.5**
LZH pP sP 06 44 25.8 +0.8
LZH PP **PP 06 46 30.5 +0.9**
LZH S **S 06 52 19.6 -3.0**
LZH sS sS 06 52 35.9 +8.8
LZH SS **SS 06 56 19.0 +5.5**
LZH pmax pmax
comp=Z,50nm,1.2s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,3μm,13.2s
LZH LR LR
comp=Z,4μm,15.1s
OPO Ambohidratompo 58.13 160 LR LR 07 09 46.2
comp=Z,1μm,21.9s,baz=180,slow=36
CIT Chita 58.22 46 *e*P **P 06 44 21.2 -0.7**
CIT *e* 06 45 14.2
CIT pmax pmax
comp=Z,136nm,2.6s
ABPO Ambohimpanom 58.57 160 P **P 06 44 24.4 -0.3**
ABPO Ambohimpanom 58.57 160 P **P 06 44 24.4 -0.3**
ABPO pmax pmax
comp=Z,23nm,1.2s
ABPO MLR MLR
comp=Z,1μm,21.0s
GRTLG Ghanzi 58.99 189 *i* P **P 06 44 29.3 +1.8**
TNCH TengChong 59.13 81⇑P **P 06 44 28.5 -0.3**
TNCH PP **PP 06 46 40.8 +1.6**
TNCH S **S 06 52 33.3 -3.3**
TNCH pmax pmax
comp=Z,380nm,5.3s
TNCH LR LR
comp=Z,640nm,19.9s
TNCH LR LR
comp=Z,690nm,16.2s
TNCH LR LR
comp=Z,1μm,22.1s
CD2 Chengdu 60.34 72 P **P 06 44 36.3 -0.6**
CD2 PP **PP 06 46 48.3 -1.4**
CD2 S **S 06 52 49.9 -1.9**
CD2 SS **SS 06 56 50.3 +1.3**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,460nm,6.3s
CD2 LR LR
comp=Z,2μm,25.0s
CD2 LR LR
comp=Z,2μm,27.9s
KGCAE Kacgae 60.34 188 *i* P **P 06 44 38.6 +1.8**
FRB Frobisher Bay 60.50 330 P **P 06 44 37.1 -0.3**
comp=Z,102nm,1.0s,baz=69,slow=7.4,SNR=60
FRB LR LR 07 12 21.9
comp=Z,1μm,19.6s,baz=69,slow=38
comp=Z,102nm,1.0s
BTO Baotou 60.52 60 *e*P **P 06 44 35.4 -2.7**
BTO pP **pP 06 44 39.8 -1.0**
BTO sP **sP 06 44 42.1 +0.3**
BTO S **S 06 52 47.4 -6.7**
BTO pmax pmax
comp=Z,23nm,0.5s
BTO pmax pmax
comp=Z,780nm,3.7s
BTO LR LR
comp=Z,2μm,11.3s
BTO LR LR
comp=Z,1μm,11.2s
BTO LR LR
comp=Z,2μm,23.0s
LPHEP Lephephe 60.56 184 *i* P **P 06 44 40.1 +1.9**
KDWAN Kaudwane 60.65 185 *i* P **P 06 44 40.7 +1.8**
WIN Windhoek 60.80 193 IAmb IAmb 06 44 49.5
comp=Z,125nm,1.6s
PZH PanZhiHua 60.91 78 P **P 06 44 39.3 -1.7**
PZH PP **PP 06 47 00.3 +5.3**
PZH S **S 06 52 54.3 -5.2**
PZH SS **SS 06 57 01.0 +2.6**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,300nm,6.2s
PZH LR LR
comp=Z,1μm,21.1s
PZH LR LR
comp=Z,860nm,19.1s
PZH LR LR
comp=Z,1μm,24.0s
DRLN Deer Lake 61.02 312 P **P 06 44 39.1 -2.0**
DRLN IAmb IAmb 06 44 52.4
comp=Z,63nm,1.4s
DGPR DIGLIPUR 61.06 95 *e*P **P 06 44 40.7 -1.2**
DGPR IAmb IAmb 06 44 49.1
comp=Z,99nm,1.2s
VOI Vohitsoka 61.22 162 P **P 06 44 41.8 -1.0**
VOI IAMs_20 IAMs_20 07 12 21.2
comp=Z,2μm,19.0s
VOI Vohitsoka 61.22 162 P **P 06 44 43.8 +0.9**
HHC Hu-ho-hao-te 61.47 59⇓*i*P **P 06 44 44.4 -0.1**
HHC pP sP 06 44 49.8 +1.5
HHC PP **PP 06 47 02.6 +3.1**
HHC S **S 06 52 59.6 -6.6**
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,490nm,5.7s
HHC LR LR
comp=Z,1μm,19.2s

HHC LR LR
comp=Z,1μm,21.6s
HHC LR LR
comp=Z,2μm,24.0s
YAK Yakutsk 62.14 32 IAMs_20 IAMs_20 07 16 52.8
comp=Z,2μm,18.0s
YAK Yakutsk 62.14 32 LR LR 07 15 21.7
comp=Z,2μm,18.8s,baz=289,slow=40
YAK Yakutsk 62.14 32 *e*P **P 06 44 46.6 -1.9**
YAK *e**PP **pP 06 44 49.1 -2.2**
YAK *e* 06 47 04.1
YAK *e*S **S 06 53 12.8 -0.9**
YAK *e**SS **sS 06 53 22.2 +3.9**
YAK *e*SS **SS 06 57 12.6 -3.2**
YAK *e*SSS SSS 07 00 02.4
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,28nm,1.4s
YAK pmax pmax
comp=Z,58nm,1.5s
YAK smax smax
comp=E,471nm,6.3s
YAK smax smax
comp=N,381nm,5.8s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK MLR MLR
comp=N,1μm,15.0s
LBTB Lobatse 62.21 184 P **P 06 44 50.8 +1.3**
LBTB IAmb IAmb 06 44 57.5
comp=Z,73nm,1.1s
LBTB Lobatse 62.21 184 LR LR 07 14 14.6
comp=Z,2μm,19.0s,baz=1.5,slow=38
LBTB Lobatse 62.21 184 P **P 06 44 50.8 +1.3**
LBTB pmax pmax
comp=Z,73nm,1.1s
RES Resolute Bay 62.37 346 P **P 06 44 49.9 +0.1**
RES Resolute Bay 62.37 346 LR LR 07 13 55.1
comp=Z,1μm,18.5s,baz=38,slow=38
RES Resolute Bay 62.37 346 P **P 06 44 49.9 +0.1**
RES pmax pmax
comp=Z,42nm,1.3s
RES MLR MLR
comp=Z,1μm,20.0s
KMI Kunming 62.38 78⇓P **P 06 44 50.0 -1.0**
KMI PP **PP 06 47 11.3 +3.2**
KMI S **S 06 53 18.6 +0.3**
KMI pmax pmax
comp=Z,21nm,1.1s
KMI pmax pmax
comp=Z,400nm,6.1s
KMI LR LR
comp=Z,610nm,20.9s
KMI LR LR
comp=Z,860nm,20.1s
KMI LR LR
comp=Z,1μm,26.4s
CHTO Chiang Mai 62.70 87 P **P 06 44 50.8 -2.1**
CHTO IAmb IAmb 06 44 54.0
comp=Z,53nm,1.5s
CHTO Chiang Mai 62.70 87 P **P 06 44 51.1 -1.8**
CHTO P **P 06 44 51.1 -1.8**
CHTO P **pP 06 44 51.9 -3.8**
CHTO P **pP 06 44 51.9 -3.8**
CHTO S **S 06 53 20.6 -1.3**
CHTO S **S 06 53 20.6 -1.3**
CHTO Chiang Mai 62.70 87 P **P 06 44 50.8 -2.1**
CHTO pmax pmax
comp=Z,53nm,1.5s
XAN Xi'an 62.71 67⇓P **P 06 44 51.8 -1.1**
XAN pP sP 06 44 57.8 +1.2
XAN S **S 06 53 26.4 +4.5**
XAN pmax pmax
comp=Z,25nm,1.0s
XAN pmax pmax
comp=Z,560nm,6.2s
XAN LR LR
comp=Z,2μm,15.9s
XAN LR LR
comp=Z,2μm,15.1s
XAN LR LR
comp=Z,3μm,20.6s
CMAR Chiang Mai Arr 62.89 87 P **P 06 44 52.5 -1.7**
comp=Z,5.0nm,0.6s,baz=299,slow=7.9,SNR=38
CMAR LR LR 07 18 16.2
comp=Z,732nm,19.6s,baz=300,slow=42
comp=Z,5.0nm,0.6s
HIA Hailar 62.94 47 IAmb IAmb 06 45 01.9
comp=Z,90nm,1.3s
MAKGR Makgori 63.05 185 *i* P **P 06 44 57.0 +1.9**
XLT XiLinHaoTe 63.10 54⇓*i*P **P 06 44 54.5 -0.9**
XLT pP sP 06 44 59.8 +0.7
XLT sP pP 06 45 03.6 +5.5
XLT PP **PP 06 47 16.8 +3.0**
XLT S **S 06 53 22.3 -4.3**
XLT sS sS 06 53 37.3 +6.2
XLT ScS **SKKSac 06 54 44.4 -4.4**
XLT pmax pmax
comp=Z,15nm,1.2s
XLT pmax pmax
comp=Z,420nm,10.0s
XLT LR LR
comp=Z,210nm,18.3s
XLT LR LR
comp=Z,780nm,23.4s
XLT LR LR
comp=Z,2μm,17.9s
RER Riviere de l'E 63.30 152 P **P 06 44 56.8 +0.1**
TIY Taiyuan 63.50 62 *e*P **P 06 44 58.8 +0.7**
TIY PP **PP 06 47 20.5 +3.1**
TIY S **S 06 53 33.5 +1.8**
TIY SS **SS 06 57 38.1 -0.2**
TIY pmax pmax
comp=Z,430nm,4.3s
TIY LR LR
comp=Z,1μm,16.3s
TIY LR LR
comp=Z,1μm,16.1s
TIY LR LR
comp=Z,1μm,24.5s
SCHQ Scheffervilla 63.72 320 IAmb IAmb 06 45 13.0
comp=Z,61nm,1.1s
SCHQ Scheffervilla 63.72 320 P **P 06 44 57.1 -2.0**
comp=Z,11nm,0.8s,baz=68,slow=5.5,SNR=19
SCHQ LR LR 07 12 47.4
comp=Z,1μm,18.6s,baz=70,slow=36
comp=Z,11nm,0.8s
FOMA Nahampoana Res 64.21 162 P **P 06 45 02.7 +0.1**
FOMA IAMs_20 IAMs_20 07 14 12.4
comp=Z,2μm,20.0s
POGA Pongola 64.46 178 IAmb IAmb 06 45 09.9
comp=Z,131nm,1.9s
POGA IAMs_20 IAMs_20 07 13 30.2
comp=Z,2μm,20.0s
GYA Guiyang 64.74 75⇓P **P 06 45 07.9 +1.4**
GYA S **S 06 53 45.8 -1.7**
GYA SKS **SKSac 06 54 58.4 -3.4**
GYA pmax pmax
comp=Z,65nm,0.8s
GYA pmax pmax
comp=Z,410nm,9.0s
GYA LR LR
comp=Z,930nm,25.1s
GYA LR LR
comp=Z,470nm,18.2s
GYA LR LR
comp=Z,1μm,42.8s
BJI Beijing 64.97 58 P **P 06 45 07.3 -0.2**
BJI sP **sP 06 45 14.3 +3.0**
BJI PP **PP 06 47 32.8 +2.7**
BJI S **S 06 53 45.0 -4.6**
BJI pmax pmax
comp=Z,7.0nm,1.7s
BJI pmax pmax
comp=Z,230nm,7.7s
BJI LR LR
comp=Z,920nm,20.2s
BJI LR LR
comp=Z,610nm,17.2s
BJI LR LR
comp=Z,1μm,19.9s

BJT	**Baijiatuau**	**64.97**	**58**	IAMs_20	IAMs_20	07 16 10.7	
	comp=Z,2μm,20.0s						
ZEA	**Zeya**	**64.98**	**41**	*e*P	**P**	**06 45 07.8**	**+0.4**
ZEA				*e*		06 45 40.3	
ZEA				*e*		06 47 29.7	
ZEA				*e*S	**S**	**06 53 51.0**	**+1.6**
ZEA				*e*		06 55 05.1	
ZEA				*e*SS	**SS**	**06 58 03.8**	**+3.4**
ZEA				pmax	pmax		
	comp=E,200nm,4.4s						
ZEA				pmax	pmax		
	comp=Z,300nm,4.0s						
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=E,20nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,5μm,1.2s						
ZEA				pmax	pmax		
	comp=E,100nm,2.7s						
ZEA				pmax	pmax		
	comp=Z,200nm,3.1s						
ZEA				smax	smax		
	comp=E,300nm,10.5s						
ZEA				MLR	MLR		
	comp=E,2μm,16.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,15.0s						
LYN	**LuoYang**	**65.04**	**65**	P	**P**	**06 45 07.3**	**-0.8**
LYN				pP	sP	06 45 12.8	+0.9
LYN				PP	**PP**	**06 47 32.8**	**+1.9**
LYN				S	**S**	**06 53 53.4**	**+2.7**
LYN				sS	sS	06 53 57.8	+2.6
LYN				pmax	pmax		
	comp=Z,16nm,0.6s						
LYN				pmax	pmax		
	comp=Z,620nm,6.1s						
LYN				LR	LR		
	comp=Z,3μm,18.2s						
LYN				LR	LR		
	comp=Z,1μm,13.1s						
LYN				LR	LR		
	comp=Z,4μm,16.1s						
GBN	**Guysborough**	**65.19**	**309**	IAmb	IAmb	06 45 18.3	
	comp=Z,45nm,1.1s						
HNS	**HongShan**	**65.23**	**61**	⇓P	**P**	**06 45 08.9**	**-0.4**
HNS				pP	**sP**	**06 45 13.9**	**+0.8**
HNS				PcP	**PcP**	**06 45 42.9**	**+1.1**
HNS				PP	**PP**	**06 47 33.4**	**+0.9**
HNS				S	**S**	**06 53 47.8**	**-5.2**
HNS				SS	**SS**	**06 58 10.8**	**+5.7**
HNS				pmax	pmax		
	comp=Z,16nm,1.3s						
HNS				pmax	pmax		
	comp=Z,400nm,6.3s						
HNS				LR	LR		
	comp=Z,1μm,21.0s						
HNS				LR	LR		
	comp=Z,1μm,19.6s						
HNS				LR	LR		
	comp=Z,1μm,20.0s						
BOSA	**Boshof**	**65.81**	**184**	P	**P**	**06 45 12.8**	**-0.2**
	comp=Z,8.4nm,0.8s,baz=5.6,slow=5.9,SNR=14						
BOSA				LR	LR	07 14 17.2	
	comp=Z,821nm,19.4s,baz=9.0,slow=36						
	comp=Z,8.4nm,0.8s						
ICQ	**Pointe Anglais**	**66.56**	**315**	P	**P**	**06 45 16.7**	**-1.0**
ICQ				IAmb	IAmb	06 45 22.6	
	comp=Z,41nm,1.1s						
ICQ				IAMs_20	IAMs_20	07 12 22.1	
	comp=Z,2μm,22.0s						
HEH	**HeiHe**	**66.82**	**44**	*e*P	**P**	**06 45 18.9**	**-0.4**
HEH				pP	**sP**	**06 45 24.3**	**+1.2**
HEH				PcP	**PcP**	**06 45 46.3**	**-1.8**
HEH				S	**S**	**06 54 11.3**	**-0.6**
HEH				pmax	pmax		
	comp=Z,42nm,1.1s						
HEH				pmax	pmax		
	comp=Z,710nm,6.4s						
HEH				LR	LR		
	comp=Z,4μm,18.2s						
HEH				LR	LR		
	comp=Z,3μm,19.1s						
HEH				LR	LR		
	comp=Z,4μm,15.8s						
HAL	**Halifax**	**66.85**	**309**	IAmb	IAmb	06 45 29.3	
	comp=Z,62nm,1.1s						
LMN	**Caledonia Moun**	**66.98**	**311**	IAmb	IAmb	06 45 32.3	
	comp=Z,70nm,1.4s						
BATG	**Bathurst New B**	**67.00**	**313**	IAMs_20	IAMs_20	07 12 47.1	
	comp=Z,1μm,21.0s						
TIA	**Tai'an**	**67.51**	**61**	P	**P**	**06 45 23.1**	**-0.9**
TIA				S	**S**	**06 54 19.6**	**-1.1**
TIA				pmax	pmax		
	comp=Z,21nm,1.0s						
TIA				pmax	pmax		
	comp=Z,510nm,6.8s						
TIA				LR	LR		
	comp=Z,2μm,20.8s						
TIA				LR	LR		
	comp=Z,510nm,18.7s						
TIA				LR	LR		
	comp=Z,3μm,19.4s						
GULI	**GuiLin**	**68.19**	**74**	P	**P**	**06 45 27.8**	**-0.6**
GULI				S	**S**	**06 54 27.3**	**-1.9**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.8s						
GULI				pmax	pmax		
	comp=Z,360nm,7.0s						
GULI				LR	LR		
	comp=Z,800nm,23.4s						
GULI				LR	LR		
	comp=Z,480nm,25.9s						
GULI				LR	LR		
	comp=Z,800nm,24.7s						
WHN	**Wuhan**	**68.43**	**68**	P	**P**	**06 45 29.8**	**0.0**
WHN				S	**S**	**06 54 31.3**	**-0.5**
WHN				pmax	pmax		
	comp=Z,950nm,9.0s						
WHN				LR	LR		
	comp=Z,2μm,12.0s						
WHN				LR	LR		
	comp=Z,2μm,13.1s						
WHN				LR	LR		
	comp=Z,3μm,14.7s						
CNSH	**ChangSha**	**68.61**	**70**	P	**P**	**06 45 31.5**	**+0.5**
CNSH				S	**S**	**06 54 31.1**	**-3.0**
CNSH				pmax	pmax		
	comp=Z,390nm,5.9s						
CNSH				LR	LR		
	comp=Z,460nm,14.7s						
CNSH				LR	LR		
	comp=Z,590nm,16.7s						
CNSH				LR	LR		
	comp=Z,570nm,18.7s						
D62A	**Allapoint, All**	**68.84**	**314**	IAmb	IAmb	06 45 37.6	
	comp=Z,41nm,1.0s						
SNY	**Shenyang**	**68.92**	**53**	⇓P	**P**	**06 45 31.8**	**-0.9**
SNY				PP	**PP**	**06 48 04.0**	**-0.5**
SNY				pmax	pmax		
	comp=Z,320nm,9.2s						
SNY				LR	LR		
	comp=Z,2μm,18.7s						
SNY				LR	LR		
	comp=Z,590nm,15.4s						
SNY				LR	LR		
	comp=Z,3μm,18.0s						
G65A	**Princeton**	**68.98**	**311**	IAmb	IAmb	06 45 33.5	
	comp=Z,54nm,1.4s						
CN2	**Changchun**	**69.05**	**50**	*e*P	**P**	**06 45 32.8**	**-0.7**
CN2				*e*pP	sP	06 45 39.0	+1.7
CN2				*e*S	**S**	**06 54 34.5**	**-4.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,600nm,4.0s						
CN2				LR	LR		
	comp=Z,800nm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
F64A	**Sherman**	**69.09**	**312**	P	**P**	**06 45 32.9**	**-0.8**
F64A				IAMs_20	IAMs_20	07 14 11.3	
	comp=Z,1μm,21.0s						
DL2	**Dalian**	**69.18**	**57**	P	**P**	**06 45 32.1**	**-2.3**
DL2				PP	**PP**	**06 48 10.4**	**+3.6**
DL2				S	**S**	**06 54 33.4**	**-7.1**
DL2				pmax	pmax		
	comp=Z,46nm,1.0s						
DL2				pmax	pmax		
	comp=Z,570nm,5.5s						
DL2				LR	LR		
	comp=Z,1μm,20.9s						
DL2				LR	LR		
	comp=Z,2μm,20.7s						
DL2				LR	LR		
	comp=Z,2μm,14.7s						
BNX	**BinXian**	**69.19**	**48**	⇓P	**P**	**06 45 33.3**	**-1.0**
BNX				sP	**sP**	**06 45 38.3**	**+0.2**
BNX				S	**S**	**06 54 37.4**	**-3.0**
BNX				pmax	pmax		
	comp=Z,22nm,2.1s						
BNX				pmax	pmax		
	comp=Z,450nm,6.3s						
BNX				LR	LR		
	comp=Z,1μm,15.9s						
BNX				LR	LR		
	comp=Z,1μm,16.7s						
BNX				LR	LR		
	comp=Z,2μm,16.4s						
LMQ	**La Malbaie**	**69.32**	**314**	IAMs_20	IAMs_20	07 17 33.3	
	comp=Z,2μm,18.0s						
A36M	**Sachs Harbour**	**69.45**	**352**	IAmb	IAmb	06 45 37.4	
	comp=Z,89nm,1.1s						
A36M				IAMs_20	IAMs_20	07 17 12.8	
	comp=Z,2μm,22.0s						
A36M	**Sachs Harbour**	**69.45**	**352**	P	**P**	**06 45 35.9**	**+0.5**
	baz=21						
LDAQ	**Lac Daran**	**69.61**	**315**	IAmb	IAmb	06 45 50.1	
	comp=Z,58nm,1.4s						
LDAQ				IAMs_20	IAMs_20	07 14 16.0	
	comp=Z,1μm,22.0s						
KLR	**Kul'dur**	**69.75**	**43**	LR	LR	07 21 23.9	
	comp=Z,2μm,19.1s,baz=308,slow=40						
KLR	**Kul'dur**	**69.75**	**43**	*i* P	**P**	**06 45 37.0**	**-0.7**
KLR				pmax	pmax		
	comp=Z,54nm,1.4s						
SOE	**Somerset East**	**69.87**	**184**	IAmb	IAmb	06 46 35.3	
	comp=Z,162nm,1.9s						
SOE				IAMs_20	IAMs_20	07 15 37.6	
	comp=Z,2μm,21.0s						
SUR	**Sutherland**	**69.92**	**188**	P	**P**	**06 45 40.3**	**+1.3**
SUR	**Sutherland**	**69.92**	**188**	LR	LR	07 18 04.7	
	comp=Z,2μm,18.0s,baz=16,slow=37						
PKME	**Peaks-Kenny Pk**	**69.97**	**312**	IAMs_20	IAMs_20	07 17 51.6	
	comp=Z,1μm,19.0s						
BILL	**Bilibino**	**69.97**	**16**	P	**P**	**06 45 38.6**	**-0.1**
BILL	**Bilibino**	**69.97**	**16**	IAMs_20	IAMs_20	07 17 28.1	
	comp=Z,2μm,21.0s						
BILL	**Bilibino**	**69.97**	**16**	*i* P	**P**	**06 45 38.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,151nm,1.5s						
SEY	**Seymchan**	**70.10**	**24**	LR	LR	07 19 08.2	
	comp=Z,2μm,19.3s,baz=322,slow=38						
SEY	**Seymchan**	**70.10**	**24**	*i* P	**P**	**06 45 40.0**	**+0.4**
SEY				pmax	pmax		
	comp=Z,78nm,1.5s						
SEY				MLR	MLR		
	comp=Z,2μm,18.0s						
WVL	**Waterville**	**70.57**	**312**	IAMs_20	IAMs_20	07 19 48.6	
	comp=Z,1μm,18.0s						
G62A	**West of Eustis**	**70.73**	**312**	IAmb	IAmb	06 45 45.1	
	comp=Z,66nm,1.5s						
G62A				IAMs_20	IAMs_20	07 18 12.6	
	comp=Z,1μm,18.0s						
NJ2	**Nanjing**	**70.90**	**64**	⇓P	**P**	**06 45 43.8**	**-1.3**
NJ2				S	**S**	**06 54 58.1**	**-2.8**
NJ2				pmax	pmax		
	comp=Z,18nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,350nm,4.6s						
NJ2				LR	LR		
	comp=Z,1μm,19.9s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
NJ2				LR	LR		
	comp=Z,1μm,22.7s						
MDJ	**Mudanjiang**	**71.10**	**48**	IAMs_20	IAMs_20	07 22 07.5	
	comp=Z,2μm,19.0s						
MDJ	**Mudanjiang**	**71.10**	**48**	P	**P**	**06 45 46.8**	**+0.7**
MDJ				PP	**PP**	**06 48 26.0**	**+2.8**
MDJ				S	**S**	**06 55 01.8**	**-1.0**
MDJ				SS	**SS**	**06 59 43.8**	**+8.4**
MDJ				pmax	pmax		
	comp=Z,13nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,480nm,7.8s						
MDJ				LR	LR		
	comp=Z,950nm,17.4s						
MDJ				LR	LR		
	comp=Z,2μm,17.4s						
MDJ				LR	LR		
	comp=Z,2μm,15.7s						
QIZ	**Qiongzhong**	**71.19**	**80**	P	**P**	**06 45 46.0**	**-1.0**
QIZ				PP	**PP**	**06 48 23.9**	**-0.8**
QIZ				S	**S**	**06 55 00.3**	**-4.3**
QIZ				ScS	**SKSac**	**06 55 50.1**	**-0.5**
QIZ				SS	**SS**	**06 59 36.6**	**-1.4**
QIZ				pmax	pmax		
	comp=Z,19nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,320nm,7.0s						
QIZ				LR	LR		
	comp=Z,690nm,19.6s						
QIZ				LR	LR		
	comp=Z,820nm,19.0s						
QIZ				LR	LR		
	comp=Z,830nm,14.3s						
GRNR	**Gornyy**	**71.32**	**40**	⇓*i* P	**P**	**06 45 47.1**	**-0.2**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
I63A	**Otisfield**	**71.41**	**311**	IAMs_20	IAMs_20	07 20 22.8	
	comp=Z,1μm,18.0s						
H62A	**Milan**	**71.45**	**312**	IAMs_20	IAMs_20	07 18 46.0	
	comp=Z,1μm,18.0s						
A21K	**Barrow**	**71.47**	**2**	P	**P**	**06 45 49.2**	**+1.4**
	baz=355,SNR=9.1						
GZH	**Guangzhou**	**71.67**	**75**	P	**P**	**06 45 48.8**	**-1.0**
GZH				pP	**sP**	**06 45 54.4**	**+0.8**
GZH				S	**S**	**06 55 09.8**	**-0.2**
GZH				pmax	pmax		
	comp=Z,540nm,7.0s						
GZH				LR	LR		
	comp=Z,910nm,15.9s						
GZH				LR	LR		
	comp=Z,830nm,15.4s						
GZH				LR	LR		
	comp=Z,2μm,19.0s						
C36M	**Paulatuk**	**71.77**	**350**	IAmb	IAmb	06 45 50.5	
	comp=Z,94nm,1.3s						
C36M				IAMs_20	IAMs_20	07 19 01.4	
	comp=Z,1μm,19.0s						
C36M	**Paulatuk**	**71.77**	**350**	P	**P**	**06 45 49.7**	**+0.1**
	baz=22,SNR=35						
A22K	**Sinclair Lake**	**71.83**	**2**	P	**P**	**06 45 51.4**	**+1.4**
	baz=356,SNR=55						
MA2	**Magadan**	**71.91**	**27**	P	**P**	**06 45 50.2**	**-0.4**
MA2				IAmb	IAmb	06 46 03.2	
	comp=Z,57nm,1.0s						
MA2	**Magadan**	**71.91**	**27**	LR	LR	07 21 46.9	
	comp=Z,2μm,18.4s,baz=306,slow=40						
MA2	**Magadan**	**71.91**	**27**	*i* P	**P**	**06 45 50.7**	**0.0**
MA2				pmax	pmax		
	comp=Z,82nm,1.4s						
I62A	**Tamworth**	**71.96**	**312**	IAMs_20	IAMs_20	07 20 40.4	
	comp=Z,1μm,18.0s						
PSI	**Prapat**	**72.01**	**101**	LR	LR	07 20 59.3	
	comp=Z,568nm,19.6s,baz=298,slow=39						
RPSI	**Rantau Prapat**	**72.08**	**101**	IAmb	IAmb	06 46 09.3	
	comp=Z,59nm,1.2s						
MNTQ	**Montreal, Queb**	**72.36**	**314**	IAmb	IAmb	06 45 54.5	
	comp=Z,84nm,1.5s						
MNTQ				IAMs_20	IAMs_20	07 19 33.8	
	comp=Z,2μm,18.0s						
A19K	**Wainwright**	**72.41**	**4**	P	**P**	**06 45 55.2**	**+1.8**
	baz=351						
B22K	**Teshekpuk Lake**	**72.53**	**1**	IAmb	IAmb	06 45 56.2	
	comp=Z,89nm,1.0s						
B22K	**Teshekpuk Lake**	**72.53**	**1**	P	**P**	**06 45 55.5**	**+1.4**
	baz=358,SNR=68						
FRNY	**Flat Rock**	**72.72**	**313**	IAMs_20	IAMs_20	07 18 05.5	
	comp=Z,1μm,19.0s						
BCX	**Boston College**	**72.74**	**310**	IAMs_20	IAMs_20	07 17 08.1	
	comp=Z,1μm,19.0s						
USA0B	**Ussuriysk Arra**	**72.75**	**47**	IAmb	IAmb	06 46 03.3	
	comp=Z,62nm,1.3s						
USA0B	**Ussuriysk Arra**	**72.75**	**47**	*i* P	**P**	**06 45 54.0**	**-2.0**
USRK	**Ussuriysk Ar.**	**72.75**	**47**	P	**P**	**06 45 54.7**	**-1.3**
	comp=Z,13nm,0.8s,baz=286,slow=5.3,SNR=18						
USRK				LR	LR	07 22 33.0	
	comp=Z,1μm,18.4s,baz=316,slow=40						
	comp=Z,13nm,0.8s						
L64A	**Middleborough**	**72.76**	**310**	IAMs_20	IAMs_20	07 16 55.8	
	comp=Z,1μm,22.0s						
B20K	**Meade River**	**72.77**	**2**	P	**P**	**06 45 57.0**	**+1.5**
	baz=354,SNR=114						
WES	**Weston**	**72.80**	**310**	IAmb	IAmb	06 45 58.1	
	comp=Z,65nm,1.2s						
M65A	**Busby, Falmout**	**72.86**	**309**	P	**P**	**06 45 56.8**	**+0.2**
	baz=55						
HRV	**Adam Dziewonsk**	**72.87**	**311**	P	**P**	**06 45 57.2**	**+0.5**
HRV	**Adam Dziewonsk**	**72.87**	**311**	IAMs_20	IAMs_20	07 22 04.7	
	comp=Z,1μm,18.0s						
HRV	**Adam Dziewonsk**	**72.87**	**311**	P	**P**	**06 45 57.2**	**+0.5**
HRV				pmax	pmax		
	comp=Z,41nm,1.3s						
HRV				MLR	MLR		
	comp=Z,1μm,18.0s						
C26K	**Camden Bay**	**72.89**	**358**	P	**P**	**06 45 57.8**	**+1.4**
	baz=4.6,SNR=47						
VLDQ	**Val d'Or**	**72.93**	**318**	IAmb	IAmb	06 45 59.0	
	comp=Z,138nm,1.7s						
VLDQ				IAMs_20	IAMs_20	07 19 06.6	
	comp=Z,1μm,18.0s						
C23K	**Itkillik River**	**73.05**	**0**	P	**P**	**06 45 58.9**	**+1.6**
	baz=360						
SSE	**Sheshan**	**73.09**	**64**	P	**P**	**06 45 57.8**	**-0.4**
SSE				S	**S**	**06 55 24.5**	**-1.6**
SSE				pmax	pmax		
	comp=Z,13nm,0.6s						
SSE				pmax	pmax		
	comp=Z,200nm,8.2s						
SSE				LR	LR		
	comp=Z,410nm,16.9s						
SSE				LR	LR		
	comp=Z,560nm,17.9s						
C27K	**Jago River**	**73.15**	**358**	IAmb	IAmb	06 46 00.6	
	comp=Z,124nm,1.4s						
C27K	**Jago River**	**73.15**	**358**	P	**P**	**06 45 59.1**	**+1.2**
	baz=5.6						
C24K	**Franklin Bluff**	**73.16**	**359**	P	**P**	**06 45 59.3**	**+1.4**
	baz=1.4						
K62A	**Royalston**	**73.19**	**311**	IAmb	IAmb	06 46 00.3	
	comp=Z,61nm,1.4s						
B18K	**Kokolik River**	**73.20**	**4**	P	**P**	**06 45 59.8**	**+1.7**
	baz=351						
D28M	**Stokes Point**	**73.21**	**356**	P	**P**	**06 45 59.5**	**+1.3**
	baz=9.7						
B21K	**Ikpikpuk River**	**73.22**	**2**	IAmb	IAmb	06 46 00.5	
	comp=Z,94nm,0.9s						
B21K	**Ikpikpuk River**	**73.22**	**2**	P	**P**	**06 45 59.8**	**+1.5**
	baz=356						
INCN	**Inchon**	**73.26**	**56**	IAMs_20	IAMs_20	07 22 14.9	
	comp=Z,2μm,22.0s						
VLA	**Vladivostok**	**73.32**	**48**	*i* P	**P**	**06 45 57.3**	**-2.0**
VLA				pmax	pmax		
	comp=Z,28nm,0.7s						
FCC	**Fort Churchill**	**73.33**	**333**	IAmb	IAmb	06 46 07.2	
	comp=Z,81nm,1.3s						
D27M	**Malcolm River**	**73.41**	**356**	IAmb	IAmb	06 46 02.0	
	comp=Z,76nm,1.4s						
D27M	**Malcolm River**	**73.41**	**356**	P	**P**	**06 46 00.5**	**+0.9**
	baz=7.8						
LONY	**Lake Ozonia**	**73.42**	**314**	IAMs_20	IAMs_20	07 20 07.0	
	comp=Z,1μm,18.0s						
D25K	**Kavik River**	**73.53**	**358**	IAmb	IAmb	06 46 02.0	
	comp=Z,72nm,1.1s						
D25K				IAMs_20	IAMs_20	07 20 00.5	
	comp=Z,1μm,20.0s						
D25K	**Kavik River**	**73.53**	**358**	P	**P**	**06 46 01.2**	**+1.0**
	baz=3.4						
L61B	**Northampton**	**73.58**	**311**	IAMs_20	IAMs_20	07 22 38.4	
	comp=Z,1μm,18.0s						
WBO	**Williamsburg**	**73.59**	**314**	IAMs_20	IAMs_20	07 20 11.5	
	comp=Z,1μm,18.0s						
NCB	**Newcomb**	**73.60**	**313**	IAmb	IAmb	06 46 03.3	
	comp=Z,92nm,1.9s						
NCB				IAMs_20	IAMs_20	07 19 49.7	
	comp=Z,1μm,19.0s						
C21K	**Knifeblade Rid**	**73.69**	**2**	P	**P**	**06 46 02.7**	**+1.6**
	baz=356						
UCCT	**U. Connecticut**	**73.69**	**310**	IAmb	IAmb	06 46 05.4	
	comp=Z,84nm,1.6s						
UCCT				IAMs_20	IAMs_20	07 17 45.3	
	comp=Z,1μm,20.0s						
D24K	**Happy Valley**	**73.73**	**359**	IAmb	IAmb	06 46 03.4	
	comp=Z,69nm,1.0s						
D24K	**Happy Valley**	**73.73**	**359**	P	**P**	**06 46 02.5**	**+1.2**
	baz=1.3						
INK	**Inuvik**	**73.82**	**354**	LR	LR	07 21 42.2	
	comp=Z,617nm,20.6s,baz=14,slow=38						
INK	**Inuvik**	**73.82**	**354**	P	**P**	**06 46 01.7**	**-0.1**
	baz=14,SNR=39						
D23K	**Nanushuk River**	**73.93**	**0**	IAMs_20	IAMs_20	07 21 39.0	
	comp=Z,1μm,18.0s						
D23K	**Nanushuk River**	**73.93**	**0**	P	**P**	**06 46 04.1**	**+1.6**
	baz=360,SNR=84						
C18K	**Utukok River**	**73.94**	**4**	IAmb	IAmb	06 46 04.4	
	comp=Z,98nm,0.9s						
C18K	**Utukok River**	**73.94**	**4**	P	**P**	**06 46 03.7**	**+1.0**
	baz=351						
E28M	**Babbage River**	**73.97**	**356**	IAmb	IAmb	06 46 04.4	
	comp=Z,69nm,1.1s						
E28M	**Babbage River**	**73.97**	**356**	P	**P**	**06 46 03.6**	**+0.9**
	baz=9.0,SNR=58						
C17K	**DeLong Mountai**	**73.99**	**5**	P	**P**	**06 46 03.9**	**+1.0**
	baz=350						
D22K	**Ayikyak River**	**74.00**	**1**	P	**P**	**06 46 04.3**	**+1.4**
	baz=358						
C16K	**Lisburne Hills**	**74.03**	**6**	IAmb	IAmb	06 46 04.9	
	comp=Z,96nm,1.1s						
C16K				IAMs_20	IAMs_20	07 24 09.9	
	comp=Z,1μm,19.0s						
C16K	**Lisburne Hills**	**74.03**	**6**	P	**P**	**06 46 03.5**	**+0.4**
	baz=348						
J59A	**Piesco**	**74.06**	**313**	IAMs_20	IAMs_20	07 20 57.0	
	comp=Z,2μm,18.0s						
D20K	**Etivluk River**	**74.08**	**2**	P	**P**	**06 46 04.5**	**+1.1**
	baz=355						
E29M	**Blow River**	**74.08**	**355**	P	**P**	**06 46 04.5**	**+1.1**
	baz=10						
KSAR	**Wonju Array Be**	**74.11**	**55**	P	**P**	**06 46 02.6**	**-1.4**
KSAR	**Wonju Array Be**	**74.11**	**55**	P	**P**	**06 46 02.6**	**-1.4**
KSRS	**Korea Array**	**74.12**	**55**	P	**P**	**06 46 03.2**	**-0.9**
	comp=Z,7.9nm,0.7s,baz=301,slow=5.0,SNR=22						
KSRS				LR	LR	07 23 02.5	
	comp=Z,2μm,19.2s,baz=320,slow=39						
	comp=Z,7.9nm,0.7s						
D19K	**Kuna River**	**74.25**	**3**	IAMs_20	IAMs_20	07 20 12.5	
	comp=Z,1μm,20.0s						
D19K	**Kuna River**	**74.25**	**3**	P	**P**	**06 46 05.4**	**+1.0**
	baz=354						
TOLK	**Toolik Lake Re**	**74.25**	**360**	P	**P**	**06 46 05.8**	**+1.4**
	baz=0.7,SNR=41						
TYV	**Tymovskoe**	**74.36**	**37**	*e*P	**P**	**06 46 05.5**	**+0.2**
TYV				*e*S	**S**	**06 55 40.2**	**+0.5**
TYV				pmax	pmax		
	comp=Z,23nm,1.6s						
TYV				pmax	pmax		
	comp=Z,600nm,3.8s						
TYV				smax	smax		
	comp=N,500nm,6.2s						
TYV				smax	smax		
	comp=E,600nm,6.2s						
RCBR	**Riachuelo**	**74.41**	**250**	P	**P**	**06 46 06.9**	**+0.7**
RCBR				IAmb	IAmb	06 46 14.3	
	comp=Z,98nm,1.4s						
RCBR	**Riachuelo**	**74.41**	**250**	IAMs_20	IAMs_20	07 18 37.4	
	comp=Z,2μm,21.0s						
RCBR	**Riachuelo**	**74.41**	**250**	P	**P**	**06 46 06.9**	**+0.7**
RCBR				pmax	pmax		
	comp=Z,98nm,1.4s						
RCBR				MLR	MLR		
	comp=Z,2μm,21.0s						
RCBR	**Riachuelo**	**74.41**	**250**	*e*P	**P**	**06 46 07.6**	**+1.4**
E21K	**Killik River**	**74.42**	**1**	IAmb	IAmb	06 46 06.8	
	comp=Z,54nm,0.9s						
E21K	**Killik River**	**74.42**	**1**	P	**P**	**06 46 06.0**	**+0.6**
	baz=357						
RDOG	**Red Dog Mine**	**74.43**	**5**	IAmb	IAmb	06 46 06.7	

comp=Z,72nm,1.1s
RDOG IAMs_20 IAMs_20 07 18 19.3
RDOG Red Dog Mine 74.43 5 P P 06 46 05.9 +0.5
baz=350,SNR=14
E27K Coleen River 74.50 357 IAmb IAmb 06 46 08.2
comp=Z,135nm,1.5s
E27K Coleen River 74.50 357 P P 06 46 06.8 +0.9
baz=7.3
E20K Nigu River 74.55 2 P P 06 46 07.3 +1.0
baz=355
QZH Quanzhou 74.62 70 P P 06 46 08.5 +1.2
QZH S S 06 55 46.8 +3.3
QZH pmax pmax
comp=Z,350nm,8.9s
QZH LR LR
comp=Z,1μm,20.6s
QZH LR LR
comp=Z,640nm,16.2s
QZH LR LR
comp=Z,1μm,17.0s
F31M Tsiigehtchic 74.69 353 IAMs_20 IAMs_20 07 23 39.3
comp=Z,1μm,18.0s
F31M Tsiigehtchic 74.69 353 P P 06 46 07.2 +0.3
baz=14,SNR=72
F30M Barrier River 74.69 354 P P 06 46 07.3 +0.3
baz=12,SNR=49
E25K Arctic Village 74.71 358 IAMs_20 IAMs_20 07 20 49.9
comp=Z,1μm,20.0s
E25K Arctic Village 74.71 358 P P 06 46 08.3 +1.2
baz=4.0,SNR=81
E22K Anaktuvuk Pass 74.76 1 IAmb IAmb 06 46 09.9
comp=Z,184nm,1.6s
E22K Anaktuvuk Pass 74.76 1 P P 06 46 08.5 +1.1
baz=359
D17K Noatak River 74.77 5 P P 06 46 08.1 +0.7
baz=350
E24K Your Creek 74.81 359 IAmb IAmb 06 46 11.9
comp=Z,97nm,1.6s
E24K Your Creek 74.81 359 P P 06 46 08.8 +1.1
baz=1.6
E23K Chandalar 74.84 360 IAmb IAmb 06 46 10.8
comp=Z,171nm,1.4s
E23K Chandalar 74.84 360 P P 06 46 09.3 +1.4
baz=0.7
J57A Williamstown 74.97 313 IAMs_20 IAMs_20 07 19 31.9
comp=Z,1μm,20.0s
F26K Sheenjek River 75.09 357 IAmb IAmb 06 46 12.3
comp=Z,191nm,1.6s
F26K Sheenjek River 75.09 357 P P 06 46 10.8 +1.4
baz=5.2,SNR=80
L59A Walton 75.15 312 IAmb IAmb 06 46 12.2
comp=Z,108nm,1.3s
L59A IAMs_20 IAMs_20 07 20 20.7
comp=Z,1μm,19.0s
PAL Palisades 75.18 310 IAMs_20 IAMs_20 07 18 37.6
comp=Z,1μm,20.0s
E18K Tukpahlearik C 75.20 4 IAmb IAmb 06 46 11.3
comp=Z,79nm,1.1s
E18K Tukpahlearik C 75.20 4 P P 06 46 10.7 +0.8
baz=352
BKNI Bangkinang 75.20 101 IAMs_20 IAMs_20 07 25 27.4
comp=Z,1μm,19.0s
DELO Deloro Mine 75.22 315 IAMs_20 IAMs_20 07 22 40.3
comp=Z,1μm,19.0s
PECO Prince Edward 75.22 314 IAmb IAmb 06 46 12.4
comp=Z,141nm,1.8s
UGL Uglegorsk 75.23 39 *e*P **P 06 46 10.1 -0.2**
UGL *e*S **S 06 55 49.8 +0.3**
UGL pmax pmax
comp=Z,100nm,1.7s
UGL MLR MLR
comp=Z,2μm,14.0s
G31M Satah River 75.24 353 IAmb IAmb 06 46 10.8
comp=Z,75nm,1.1s
G31M Satah River 75.24 353 P P 06 46 10.2 +0.1
baz=13,SNR=33
F25K Christian Rive 75.24 358 P P 06 46 11.7 +1.5
baz=3.9
TRNY Table Rock, Ra 75.28 311 IAMs_20 IAMs_20 07 18 41.5
comp=Z,1μm,21.0s
E19K Redstone River 75.32 3 IAmb IAmb 06 46 12.8
comp=Z,97nm,0.9s
E19K Redstone River 75.32 3 P P 06 46 11.5 +0.9
baz=354
G30M tAoh Zraii Nji 75.35 354 P P 06 46 10.6 -0.2
baz=12,SNR=25
F24K Squaw Lake 75.36 359 IAmb IAmb 06 46 13.2
comp=Z,101nm,1.1s
F24K Squaw Lake 75.36 359 P P 06 46 12.6 +1.7
baz=2.1
BMAR Burnt Mountain 75.37 358 P P 06 46 12.4 +1.4
F22K John River 75.38 1 P P 06 46 12.5 +1.5
baz=359
E17K Hotham Inlet 75.46 5 P P 06 46 11.8 +0.5
baz=351
G29M Pine Creek 75.55 355 IAmb IAmb 06 46 13.1
comp=Z,82nm,1.1s
G29M Pine Creek 75.55 355 P P 06 46 12.5 +0.5
baz=10
ODNJ Ogdensburg 75.55 311 IAmb IAmb 06 46 14.2
comp=Z,100nm,1.5s
ODNJ IAMs_20 IAMs_20 07 21 24.5
comp=Z,1μm,18.0s
F21K Alatna River 75.65 1 P P 06 46 13.8 +1.3
baz=358
COLD Coldfoot 75.67 360 P P 06 46 13.8 +1.2
baz=0.2,SNR=20
K57A Scipio Center 75.68 313 IAMs_20 IAMs_20 07 20 04.8
comp=Z,1μm,20.0s
BINY Binghamton 75.70 312 IAmb IAmb 06 46 14.4
comp=Z,59nm,1.1s
BRNJ Basking Ridge 75.77 310 IAmb IAmb 06 46 14.9
comp=Z,79nm,1.2s
BRNJ IAMs_20 IAMs_20 07 18 45.3
comp=Z,2μm,22.0s
F20K Avaraart Lake 75.78 2 IAmb IAmb 06 46 15.6
comp=Z,155nm,1.4s
F20K IAMs_20 IAMs_20 07 22 07.0
comp=Z,1μm,20.0s
F20K Avaraart Lake 75.78 2 P P 06 46 14.2 +1.0
baz=356
G26K Porcupine Rive 75.83 357 P P 06 46 15.1 +1.6
baz=5.5
G27K Doyon Strip 75.87 356 IAmb IAmb 06 46 16.6
comp=Z,161nm,1.7s
G27K Doyon Strip 75.87 356 P P 06 46 15.0 +1.2
baz=7.2
SADO Sadowa 75.91 316 IAmb IAmb 06 46 15.2
comp=Z,57nm,1.2s
SADO IAMs_20 IAMs_20 07 19 12.6
comp=Z,1μm,19.0s
SADO Sadowa 75.91 316 P P 06 46 13.6 -0.8
comp=Z,17nm,1.0s,baz=69,slow=6.4,SNR=12
SADO LR LR 07 19 23.2
comp=Z,1μm,18.6s,baz=66,slow=36
comp=Z,17nm,1.0s
F19K Shaleruckik Mo 75.92 3 P P 06 46 14.3 +0.3
baz=354
KSPA Keystone Colle 75.96 312 IAmb IAmb 06 46 15.9
comp=Z,62nm,1.1s
KSPA IAMs_20 IAMs_20 07 23 36.3
comp=Z,2μm,18.0s
EPYK Eagle Plains 75.99 354 P P 06 46 14.6 +0.1
baz=11,SNR=38
F18K Selawik 76.06 4 P P 06 46 15.4 +0.6
baz=352
NBCA Caruaru-PE 76.07 248 *e*P **P 06 46 16.8 +1.1**
G25K Bearman Lake 76.08 358 P P 06 46 16.5 +1.6
baz=3.5
F17K Baldwin Pennin 76.13 4 IAmb IAmb 06 46 16.4
comp=Z,48nm,0.9s
F17K Baldwin Pennin 76.13 4 P P 06 46 15.7 +0.5
baz=351
G24K Hadweenzic Riv 76.18 359 IAmb IAmb 06 46 17.6
comp=Z,64nm,1.1s
G24K Hadweenzic Riv 76.18 359 P P 06 46 16.9 +1.4
baz=2.4,SNR=30
G23K Bananza Creek 76.19 360 IAmb IAmb 06 46 18.4
comp=Z,160nm,1.5s
G23K Bananza Creek 76.19 360 P P 06 46 16.8 +1.2
baz=0.3
H29M Whitestone 76.26 355 IAmb IAmb 06 46 27.3
comp=Z,64nm,0.9s
H29M Whitestone 76.26 355 P P 06 46 16.5 +0.5
baz=9.8
LUPA Lehigh Univers 76.31 311 IAmb IAmb 06 46 17.8
comp=Z,109nm,1.9s

YKA Yellowknife Ar 76.32 344 P P 06 46 15.6 -0.8
YKA Yellowknife Ar 76.32 344 P P 06 46 16.2 -0.2
comp=Z,27nm,1.1s,baz=27,slow=5.8,SNR=173
YKA LR LR 07 20 56.1
comp=Z,1μm,20.4s,baz=24,slow=37
comp=Z,27nm,1.1s
H31M Peel River 76.34 353 IAmb IAmb 06 46 25.0
comp=Z,151nm,1.4s
H31M Peel River 76.34 353 P P 06 46 16.7 +0.2
baz=13
G21K Allakaket 76.36 1 P P 06 46 17.6 +1.0
baz=358
H27K Steamboat Moun 76.44 356 P P 06 46 18.5 +1.4
baz=7.3
TNA Tin City 76.45 7 IAmb IAmb 06 46 18.2
comp=Z,64nm,1.1s
TNA Tin City 76.45 7 P P 06 46 17.4 +0.4
baz=346,SNR=36
H25L Birch Creek 76.58 358 P P 06 46 19.6 +1.8
baz=3.8,SNR=66
F15K North Star Dit 76.61 6 IAMs_20 IAMs_20 07 25 54.9
comp=Z,1μm,19.0s
F15K North Star Dit 76.61 6 P P 06 46 18.6 +0.7
baz=348,SNR=54
G19K Purcell Mounta 76.64 3 P P 06 46 19.0 +0.8
baz=355
L56A Greenwood 76.66 313 IAmb IAmb 06 46 20.4
comp=Z,80nm,1.2s
L56A IAMs_20 IAMs_20 07 24 25.6
comp=Z,1μm,18.0s
F14K Arctic Creek 76.69 7 P P 06 46 19.0 +0.6
baz=347
G18K Tagagawik 76.82 3 P P 06 46 19.8 +0.6
baz=353,SNR=99
YSS Yuzhno-Sakhali 76.97 40 P P 06 46 19.9 -0.4
YSS IAMs_20 IAMs_20 07 24 12.3
comp=Z,1μm,19.0s
YSS Yuzhno-Sakhali 76.97 40 *e*P **P 06 46 20.0 -0.4**
YSS *e* 06 49 09.9
YSS *e*S **S 06 56 04.7 -4.0**
YSS *e*PS **PnS 06 56 55.5 +9.2**
YSS pmax pmax
comp=Z,700nm,4.2s
YSS pmax pmax
comp=N,300nm,3.4s
YSS pmax pmax
comp=E,200nm,4.8s
YSS pmax pmax
comp=Z,130nm,1.1s
NBPB Pedra_Branca-C 77.00 253 *e*P **P 06 46 22.0 +1.0**
H22K Ishtalitna Cre 77.01 0 P P 06 46 22.1 +1.9
baz=359
H24K Noodor Dome 77.05 359 P P 06 46 21.6 +1.0
baz=2.1,SNR=20
I27K Kandik River 77.07 356 P P 06 46 21.6 +1.0
baz=7.2,SNR=51
H23K Yukon River 77.08 360 P P 06 46 22.3 +1.6
baz=0.7
I30M Mount Dempster 77.09 354 IAmb IAmb 06 46 22.0
comp=Z,74nm,1.0s
I30M IAMs_20 IAMs_20 07 25 13.9
comp=Z,1μm,19.0s
I30M Mount Dempster 77.09 354 P P 06 46 21.2 +0.4
baz=11
WVNY West Valley, N 77.09 314 IAmb IAmb 06 46 22.1
comp=Z,60nm,1.1s
WVNY IAMs_20 IAMs_20 07 24 55.1
comp=Z,1μm,18.0s
G16K Koyuk River 77.10 5 IAmb IAmb 06 46 22.7
comp=Z,73nm,0.9s
G16K IAMs_20 IAMs_20 07 26 14.7
comp=Z,1μm,20.0s
G16K Koyuk River 77.10 5 P P 06 46 21.5 +0.8
baz=350
G17K Kiwalik Mounta 77.10 4 P P 06 46 21.1 +0.4
baz=352,SNR=71
I29M Ogilvie Camp, 77.11 355 IAmb IAmb 06 46 21.8
comp=Z,85nm,0.9s
I29M Ogilvie Camp, 77.11 355 P P 06 46 21.2 +0.4
baz=9.9,SNR=46
I28M Miner Creek 77.13 355 IAMs_20 IAMs_20 07 25 38.9
comp=Z,1μm,20.0s
I28M Miner Creek 77.13 355 P P 06 46 21.3 +0.2
baz=8.6
NBAN Anadia - AL 77.22 247 *e*P **P 06 46 23.1 +1.0**
H21K Melozitna Rive 77.24 1 P P 06 46 23.1 +1.6
baz=358,SNR=75
MVL Millersville 77.27 311 IAmb IAmb 06 46 24.0
comp=Z,79nm,1.2s
H19K Roundabout Mou 77.28 3 IAmb IAmb 06 46 23.4
comp=Z,70nm,1.0s
H19K Roundabout Mou 77.28 3 P P 06 46 22.8 +1.1
baz=355
PRP Porcupine Dome 77.32 358 IAmb IAmb 06 46 34.3
comp=Z,193nm,1.6s
PRP Porcupine Dome 77.32 358 P P 06 46 23.2 +1.1
baz=4.0,SNR=26
H20K Anotleneega Mo 77.36 2 P P 06 46 23.2 +1.0
baz=356
G15K Niukluk 77.37 6 P P 06 46 22.6 +0.4
baz=349
WRGLY Wrigley 77.39 348 P P 06 46 23.4 +1.1
baz=22,SNR=33
I26K Coal Creek Min 77.44 357 IAmb IAmb 06 46 24.4
comp=Z,70nm,1.1s
I26K Coal Creek Min 77.44 357 P P 06 46 23.6 +0.9
baz=5.9
H18K Honhosa River 77.57 3 P P 06 46 24.2 +0.8
baz=354,SNR=48
E46A Sault Ste Mari 77.64 320 IAmb IAmb 06 46 24.9
comp=Z,72nm,1.1s
E46A IAMs_20 IAMs_20 07 19 07.2
comp=Z,1μm,21.0s
ANM Nome 77.67 7 IAMs_20 IAMs_20 07 21 25.1
comp=Z,2μm,22.0s
ANM Nome 77.67 7 P P 06 46 24.6 +0.6
baz=348,SNR=71
R61A Willards 77.68 309 IAMs_20 IAMs_20 07 19 48.9
comp=Z,1μm,22.0s
H17K Granite Mounta 77.71 4 IAmb IAmb 06 46 26.0
comp=Z,90nm,1.6s
H17K Granite Mounta 77.71 4 P P 06 46 24.5 +0.4
baz=352,SNR=19
I21K Tanana 77.72 1 IAmb IAmb 06 46 26.4
comp=Z,85nm,1.1s
I21K Tanana 77.72 1 P P 06 46 25.6 +1.4
baz=359
J30M Hart River 77.72 354 P P 06 46 25.4 +1.0
baz=11
GAMB Gambell 77.74 9 IAmb IAmb 06 46 25.1
comp=Z,112nm,1.8s
GAMB Gambell 77.74 9 P P 06 46 24.5 +0.2
baz=343,SNR=12
I23K Minto, Yukon-K 77.76 360 IAmb IAmb 06 46 28.6
comp=Z,103nm,1.4s
I23K Minto, Yukon-K 77.76 360 P P 06 46 25.6 +1.3
baz=0.9,SNR=30
POKR Poker Plat Res 77.77 359 P P 06 46 25.7 +1.2
baz=2.4,SNR=31
SSPA Standing Stone 77.79 312 P P 06 46 24.2 -0.8
SSPA Standing Stone 77.79 312 IAMs_20 IAMs_20 07 23 21.6
comp=Z,1μm,18.0s
H16K Elim 77.86 5 P P 06 46 25.5 +0.6
baz=350,SNR=88
J29N Klondike Camp 78.00 355 IAmb IAmb 06 46 35.3
comp=Z,45nm,0.9s
J29N Klondike Camp 78.00 355 P P 06 46 27.0 +1.1
baz=9.9,SNR=20
COLA College 78.02 359 P P 06 46 25.9 +0.1
COLA College 78.02 359 *i* P **P 06 46 25.8 0.0**
COLA pmax pmax
comp=Z,179nm,1.6s
COLA College 78.02 359 P P 06 46 26.7 +0.9
baz=2.1
GCSA Galena City Sc 78.04 3 P P 06 46 27.1 +1.2
baz=355,SNR=15
I20K Naaghedeneel 78.07 2 P P 06 46 27.5 +1.4
baz=357
ERPA Erie 78.07 314 IAmb IAmb 06 46 28.0
comp=Z,123nm,1.1s
ERPA IAMs_20 IAMs_20 07 21 36.9
comp=Z,1μm,19.0s
IL31 78.10 358 IAmb IAmb 06 46 28.5
comp=Z,130nm,1.6s
ILAR Eielson Array 78.10 358 P P 06 46 26.3 0.0
ILAR Eielson Array 78.10 358 P P 06 46 26.4 +0.1
comp=Z,12nm,1.0s,baz=351,slow=4.0,SNR=64
ILAR LR LR 07 23 07.2
comp=Z,660nm,19.5s,baz=338,slow=37
comp=Z,12nm,1.0s
J25K Salcha River, 78.22 358 IAmb IAmb 06 46 30.7
comp=Z,72nm,1.6s
J25K Salcha River, 78.22 358 P P 06 46 27.5 +0.4
baz=4.1
CCB Clear Creek Bu 78.24 359 IAmb IAmb 06 46 29.0
comp=Z,121nm,1.4s
J26L Joseph Creek 78.26 357 IAmb IAmb 06 46 29.4
comp=Z,111nm,1.6s
J26L Joseph Creek 78.26 357 P P 06 46 27.8 +0.4
baz=5.6,SNR=38
NEA2 Nenana 78.31 359 IAmb IAmb 06 46 28.8
comp=Z,96nm,1.3s
NEA2 Nenana 78.31 359 P P 06 46 28.0 +0.5
baz=1.1,SNR=21
ALLY Alegheny Colle 78.46 314 IAmb IAmb 06 46 29.4
comp=Z,90nm,1.3s
ALLY IAMs_20 IAMs_20 07 21 42.2
comp=Z,946nm,18.0s
I49A Point Hope 78.46 317 IAmb IAmb 06 46 34.3
comp=Z,72nm,1.0s
I49A IAMs_20 IAMs_20 07 19 48.1
comp=Z,2μm,19.0s
DAWY Dawson 78.47 355 IAmb IAmb 06 46 30.7
comp=Z,155nm,1.4s
DAWY Dawson 78.47 355 P P 06 46 29.3 +0.8
baz=8.9,SNR=53
HDA Harding Lake 78.47 358 P P 06 46 28.7 +0.3
baz=2.8,SNR=51
K29M Barlow Dome 78.55 354 IAmb IAmb 06 46 30.6
comp=Z,76nm,1.4s
K29M Barlow Dome 78.55 354 P P 06 46 29.7 +0.7
baz=10,SNR=30
P57A Homestead Farm 78.59 311 IAmb IAmb 06 46 30.4
comp=Z,70nm,1.2s
P57A IAMs_20 IAMs_20 07 22 38.9
comp=Z,1μm,20.0s
JNU Nakatsue 78.62 57 IAMs_20 IAMs_20 07 24 42.0
comp=Z,1μm,22.0s
JNU Nakatsue 78.62 57 LR LR 07 25 03.7
comp=Z,1μm,21.5s,baz=303,slow=39
MAYO Mayo, Yukon 78.65 353 P P 06 46 30.3 +0.9
baz=12,SNR=30
K27K Chicken 78.67 356 P P 06 46 30.6 +1.1
baz=6.8
J20K Nowinta River 78.70 2 P P 06 46 30.7 +1.1
baz=357,SNR=70
I17K Unalakleet 78.70 5 IAmb IAmb 06 46 31.2
comp=Z,64nm,1.1s
I17K Unalakleet 78.70 5 P P 06 46 30.5 +0.8
baz=352
ASAJ Asahikawa 78.77 42 LR LR 07 26 17.7
comp=Z,1μm,18.0s,baz=335,slow=40
SCRK Sand Creek 78.81 357 P P 06 46 31.4 +1.0
baz=5.2,SNR=55
BPAW Bear Paw Mtn. 78.81 0 IAmb IAmb 06 46 31.2
comp=Z,63nm,1.1s
BPAW Bear Paw Mtn. 78.81 0 P P 06 46 30.6 +0.3
baz=360,SNR=31
J19K Poorman 78.84 2 P P 06 46 31.5 +1.1
baz=356,SNR=70
CBN Corbin Frederi 79.01 310 IAMs_20 IAMs_20 07 27 10.1
comp=Z,1μm,20.0s
CHUM Lake Minchumin 79.02 1 P P 06 46 32.4 +1.0
baz=358,SNR=36
K24K Donnelly Dome 79.04 358 P P 06 46 32.1 +0.5
baz=3.8,SNR=41
RIDG Independent Ri 79.08 357 P P 06 46 32.7 +0.9
baz=4.5,SNR=38
K50A Casco 79.12 316 IAmb IAmb 06 46 33.7
comp=Z,147nm,1.2s
K50A IAMs_20 IAMs_20 07 20 08.6
comp=Z,1μm,19.0s
DOT Dot Lake 79.14 357 IAmb IAmb 06 46 33.9
comp=Z,91nm,1.2s
MCK McKinley 79.18 359 IAmb IAmb 06 46 33.9
comp=Z,166nm,1.4s
MCK McKinley 79.18 359 P P 06 46 32.4 +0.1
baz=1.2,SNR=34
FFC Flin Flon 79.22 334 P P 06 46 31.1 -1.6
FFC Flin Flon 79.22 334 P P 06 46 31.1 -1.6
FFC pmax pmax
comp=Z,58nm,1.2s
FFC MLR MLR
comp=Z,2μm,18.0s
M52A Chesterland 79.22 314 IAmb IAmb 06 46 34.4
comp=Z,112nm,1.2s
M52A IAMs_20 IAMs_20 07 23 25.4
comp=Z,1μm,18.0s
PEA0B Petropavlovsk- 79.28 29 *i* P **P 06 46 34.4 +1.3**
PETK Petropavlovsk- 79.28 29 LR LR 07 24 28.7
comp=Z,2μm,22.0s,baz=315,slow=38
J17K VABM Dome 79.29 4 IAmb IAmb 06 46 35.0
comp=Z,130nm,1.1s
J17K VABM Dome 79.29 4 P P 06 46 33.7 +0.8
baz=353,SNR=47
J16K Anvik River 79.31 5 IAmb IAmb 06 46 35.1
comp=Z,128nm,1.3s
J16K Anvik River 79.31 5 P P 06 46 33.8 +0.8
baz=352,SNR=30
L29M L29M 79.32 354 IAmb IAmb 06 46 39.6
comp=Z,88nm,1.3s
L29M L29M 79.32 354 P P 06 46 34.0 +0.9
baz=9.9
J18K Innoko River 79.33 3 IAmb IAmb 06 46 35.7
comp=Z,171nm,1.4s
J18K Innoko River 79.33 3 P P 06 46 34.1 +1.0
baz=355,SNR=36
KTH Kantishna Hill 79.36 0 IAmb IAmb 06 46 35.6
comp=Z,115nm,1.3s
N53A Lisbon 79.40 314 IAmb IAmb 06 46 34.7
comp=Z,69nm,1.1s
N53A IAMs_20 IAMs_20 07 22 20.2
comp=Z,1μm,20.0s
TRF Thorofare Moun 79.47 360 IAmb IAmb 06 46 35.8
comp=Z,181nm,1.7s
TRF Thorofare Moun 79.47 360 P P 06 46 33.7 -0.4
baz=0.1,SNR=16
CAST Castle Rocks 79.49 1 IAmb IAmb 06 46 36.0
comp=Z,112nm,1.2s
CAST Castle Rocks 79.49 1 P P 06 46 33.9 -0.1
baz=359,SNR=47
K20K Telida 79.52 2 IAmb IAmb 06 46 36.5
comp=Z,126nm,1.3s
K20K Telida 79.52 2 P P 06 46 35.0 +0.8
baz=357
O54A Avella 79.54 313 IAMs_20 IAMs_20 07 22 04.9
comp=Z,1μm,18.0s
MCWV Mont Chateau 79.57 312 IAmb IAmb 06 46 35.9
comp=Z,90nm,1.1s
Q56A Snyder Ridge, 79.57 311 IAmb IAmb 06 46 36.5
comp=Z,98nm,1.1s
Q56A IAMs_20 IAMs_20 07 23 47.9
comp=Z,1μm,19.0s
BCAR Beaver Creek A 79.61 356 P P 06 46 35.0 +0.3
L27K Beaver Creek, 79.62 356 IAmb IAmb 06 46 37.5
comp=Z,166nm,1.7s
L27K IAMs_20 IAMs_20 07 26 56.5
comp=Z,1μm,19.0s
L27K Beaver Creek, 79.62 356 P P 06 46 35.9 +1.1
baz=7.0,SNR=35
J14K Nanvaranak Lak 79.62 6 IAmb IAmb 06 46 36.0
comp=Z,61nm,0.9s
J14K IAMs_20 IAMs_20 07 22 46.5
comp=Z,1μm,22.0s
J14K Nanvaranak Lak 79.62 6 P P 06 46 35.2 +0.6
baz=349,SNR=17
PET Petropavlovsk 79.71 28 *e*P **P 06 46 31.8 -3.6**
PET *e* 06 49 40.3
PET *e*S **S 06 56 30.9 -7.1**
PET pmax pmax
comp=Z,500nm,15.8s
PET pmax pmax
comp=Z,400nm,14.3s
PET MLR MLR
comp=Z,2μm,21.0s
FARO Faro, Yukon 79.73 352 IAmb IAmb 06 46 45.2
comp=Z,69nm,1.1s
FARO IAMs_20 IAMs_20 07 22 01.6
comp=Z,1μm,21.0s
FARO Faro, Yukon 79.73 352 P P 06 46 36.8 +1.4
baz=14,SNR=37
L26K Log Cabin Wild 79.73 357 IAmb IAmb 06 46 38.0
comp=Z,124nm,1.4s
L26K Log Cabin Wild 79.73 357 P P 06 46 36.5 +1.2
baz=5.7,SNR=33
M30M Minto, Yukon 79.73 354 IAMs_20 IAMs_20 07 26 41.7

comp=Z,1µm,18.0s
M30M Minto, Yukon 79.73 354 P **P 06 46 35.9 +0.5**
baz=11,SNR=23
TGTN Hyland Airport 79.75 349 P **P 06 46 37.5 +2.0**
baz=18,SNR=48
MENT Mentasta 79.83 357 IAmb IAmb 06 46 46.2
comp=Z,95nm,1.1s
M31M Drury Creek, Y 79.87 352 IAmb IAmb 06 46 38.8
comp=Z,143nm,1.4s
M31M Drury Creek, Y 79.87 352 P **P 06 46 37.2 +1.1**
baz=13,SNR=44
PAX Paxson 79.87 358 P **P 06 46 36.2 0.0**
baz=4.0,SNR=10
T59A Double "B" Far 79.90 309 IAmb IAmb 06 46 38.0
comp=Z,141nm,1.8s
T59A IAMs_20 IAMs_20 07 20 41.7
comp=Z,1µm,22.0s
O53A New Philadelph 79.98 313 IAmb IAmb 06 46 38.6
comp=Z,91nm,1.1s
O53A IAMs_20 IAMs_20 07 20 58.6
comp=Z,1µm,20.0s
F42A Maple Grove Fa 80.00 321 IAMs_20 IAMs_20 07 22 00.6
comp=Z,1µm,20.0s
M29M Somme Creek 80.00 354 IAMs_20 IAMs_20 07 24 39.7
comp=Z,947nm,18.0s
M29M Somme Creek 80.00 354 P **P 06 46 38.2 +1.2**
baz=9.6
AAM Ann Arbor 80.01 316 IAMs_20 IAMs_20 07 20 45.0
comp=Z,1µm,19.0s
K17K Iditarod 80.01 4 IAmb IAmb 06 46 38.9
comp=Z,165nm,1.2s
K17K Iditarod 80.01 4 P **P 06 46 37.6 +0.8**
baz=354,SNR=32
J47A Sunmer 80.01 317 IAmb IAmb 06 46 38.5
comp=Z,97nm,1.1s
J47A IAMs_20 IAMs_20 07 20 55.1
comp=Z,1µm,20.0s
PPLA Purkeypile 80.01 1 IAmb IAmb 06 46 48.8
comp=Z,68nm,1.0s
PPLA Purkeypile 80.01 1 P **P 06 46 37.1 +0.1**
baz=359,SNR=19
EYMN Ely 80.08 324 IAMs_20 IAMs_20 07 22 31.3
comp=Z,1µm,18.0s
JTM Tenmabayashi 80.12 46 IAmb IAmb 06 46 45.4
comp=Z,125nm,1.1s
PMBI Palembang 80.13 101 IAMs_20 IAMs_20 07 27 29.2
comp=Z,1µm,18.0s
BVCY Beaver Creek 80.20 355 P **P 06 46 39.4 +1.4**
baz=7.7,SNR=35
N51A Ashland 80.21 314 IAmb IAmb 06 46 39.4
comp=Z,104nm,1.2s
N51A IAMs_20 IAMs_20 07 26 50.5
comp=Z,1µm,18.0s
K15K Wolf Creek Mou 80.23 5 IAmb IAmb 06 46 40.4
comp=Z,124nm,1.2s
K15K IAMs_20 IAMs_20 07 22 02.6
comp=Z,1µm,21.0s
K15K Wolf Creek Mou 80.23 5 P **P 06 46 39.0 +1.0**
baz=351,SNR=18
COWI Conover 80.26 322 IAmb IAmb 06 46 46.5
comp=Z,80nm,1.3s
COWI IAMs_20 IAMs_20 07 22 13.4
comp=Z,1µm,19.0s
M50A Fremont 80.26 315 IAMs_20 IAMs_20 07 24 18.9
comp=Z,1µm,18.0s
M27K Edge Creek, AK 80.32 356 IAMs_20 IAMs_20 07 27 17.1
comp=Z,1µm,19.0s
M27K Edge Creek, AK 80.32 356 P **P 06 46 40.0 +1.3**
baz=6.9,SNR=35
ULM Lac du Bonnet 80.32 328 IAmb IAmb 06 46 47.1
comp=Z,73nm,1.2s
ULM Lac du Bonnet 80.32 328 P **P 06 46 37.4 -1.3**
comp=Z,25nm,1.1s,baz=39,slow=6.0,SNR=33
ULM LR LR 07 23 57.6
comp=Z,2µm,18.2s,baz=44,slow=37
comp=Z,25nm,1.1s
K13K Kusilvak Mount 80.33 7 IAmb IAmb 06 46 39.6
comp=Z,59nm,0.9s
K13K IAMs_20 IAMs_20 07 23 17.3
comp=Z,1µm,21.0s
K13K Kusilvak Mount 80.33 7 P **P 06 46 39.0 +0.4**
baz=349
M26K Nabesna, AK 80.34 356 IAmb IAmb 06 46 41.2
comp=Z,111nm,1.4s
M26K Nabesna, AK 80.34 356 P **P 06 46 39.6 +0.9**
baz=6.0
KOTAN Kotaneelee Air 80.38 347 P **P 06 46 40.2 +1.3**
baz=21,SNR=16
L20K Farewell, AK 80.41 2 P **P 06 46 39.5 +0.5**
baz=357,SNR=22
HARP HAARP 80.43 357 P **P 06 46 40.1 +1.0**
baz=4.2,SNR=9.2
O52A Adamsville 80.43 314 IAmb IAmb 06 46 40.7
comp=Z,98nm,1.2s
ERM Erimo 80.48 44 IAMs_20 IAMs_20 07 25 37.4
comp=Z,2µm,20.0s
CUT Chulitna 80.52 360 P **P 06 46 39.2 -0.3**
baz=0.1,SNR=5.7
SKR Severo-Kuril's 80.52 31 *e*P P 06 46 54.0 +14
SKR *e* 06 49 38.3
SKR *e*S **SKSac 06 56 57.9 -0.2**
SKR pmax pmax
comp=Z,1µm,5.0s
SKR MLR MLR
comp=Z,1µm,16.0s
L18K Granite Mounta 80.58 3 IAmb IAmb 06 46 42.4
comp=Z,123nm,1.3s
L18K Granite Mounta 80.58 3 P **P 06 46 40.8 +0.9**
baz=355,SNR=28
P53A Whipple 80.58 313 IAmb IAmb 06 46 42.0
comp=Z,139nm,1.1s
P53A IAMs_20 IAMs_20 07 20 42.6
comp=Z,2µm,22.0s
L17K Donlin 80.59 4 P **P 06 46 40.9 +1.0**
baz=354,SNR=18
JOW Kunigami 80.61 64 IAMs_20 IAMs_20 07 28 41.0
comp=Z,2µm,21.0s
R55A Marlinton 80.62 311 IAmb IAmb 06 46 41.6
comp=Z,71nm,1.2s
R55A IAMs_20 IAMs_20 07 20 50.6
comp=Z,1µm,21.0s
MDSI Maura Dua 80.64 103 P **P 06 46 38.2 -2.7**
L19K White Mountain 80.68 2 IAmb IAmb 06 46 42.9
comp=Z,147nm,1.4s
L19K White Mountain 80.68 2 P **P 06 46 41.5 +1.0**
baz=356,SNR=30
MDP Montagnes des 80.68 269 LR LR 07 20 58.8
comp=Z,446nm,21.5s,baz=50,slow=35
N31M Braeburn, Yuko 80.71 353 IAmb IAmb 06 46 42.5
comp=Z,142nm,1.5s
N31M IAMs_20 IAMs_20 07 23 46.6
comp=Z,1µm,22.0s
N31M Braeburn, Yuko 80.71 353 P **P 06 46 41.0 +0.3**
baz=12,SNR=17
H43A Windswept, Lux 80.72 320 IAMs_20 IAMs_20 07 21 01.6
comp=Z,1µm,20.0s
N32M Quiet Lake 80.75 352 IAmb IAmb 06 46 50.8
comp=Z,124nm,1.1s
N32M Quiet Lake 80.75 352 P **P 06 46 41.7 +0.8**
baz=14
M24K Tolsona, Glenn 80.75 358 P **P 06 46 41.9 +1.0**
baz=3.4,SNR=14
YUK3 Moose Creek 80.81 355 P **P 06 46 42.5 +1.0**
baz=8.0,SNR=42
L15K Ungalak Mounta 80.84 5 P **P 06 46 42.2 +0.9**
baz=351
N30M Aishikik Lake 80.86 354 P **P 06 46 42.0 +0.5**
baz=11,SNR=18
P52A Corning 80.92 313 IAmb IAmb 06 46 43.2
comp=Z,100nm,1.2s
P52A IAMs_20 IAMs_20 07 23 09.4
comp=Z,989nm,18.0s
T57A Hurt 80.93 310 IAmb IAmb 06 46 44.0
comp=Z,248nm,2.0s
SKT Skwentna 80.94 0 IAmb IAmb 06 46 52.3
comp=Z,70nm,1.0s
SKT Skwentna 80.94 0 P **P 06 46 41.5 -0.4**
baz=359,SNR=24
L16K Owhat River 80.94 4 IAmb IAmb 06 46 44.3
comp=Z,205nm,1.9s
L16K Owhat River 80.94 4 P **P 06 46 42.6 +0.8**
baz=353
M19K Big River Lodg 80.97 2 IAmb IAmb 06 46 43.8
comp=Z,77nm,1.3s
M19K Big River Lodg 80.97 2 P **P 06 46 42.9 +0.9**
baz=357,SNR=18
ACSO Alum Creek Sta 81.01 314 IAmb IAmb 06 46 43.8
comp=Z,102nm,1.2s

ACSO IAMs_20 IAMs_20 07 23 18.7
comp=Z,1µm,20.0s
M20K Styx River 81.02 1 IAmb IAmb 06 46 44.0
comp=Z,94nm,1.2s
M20K Styx River 81.02 1 P **P 06 46 42.3 -0.1**
baz=358
SCM Sheep Creek Mo 81.06 358 P **P 06 46 43.4 +0.8**
baz=2.5,SNR=34
E38A The Farm, Brul 81.07 323 IAMs_20 IAMs_20 07 23 10.7
comp=Z,1µm,18.0s
L14K Kuka Creek 81.08 6 IAmb IAmb 06 46 44.8
comp=Z,107nm,1.4s
L14K IAMs_20 IAMs_20 07 23 43.2
comp=Z,1µm,22.0s
L14K Kuka Creek 81.08 6 P **P 06 46 43.3 +0.7**
baz=350
SML Sawmill 81.10 359 IAmb IAmb 06 46 44.7
comp=Z,190nm,1.5s
SML Sawmill 81.10 359 P **P 06 46 43.0 +0.3**
baz=1.7,SNR=11
M23K Glacier View 81.11 359 P **P 06 46 43.2 +0.4**
baz=2.2,SNR=19
YUK4 Talbot Arm 81.11 354 P **P 06 46 43.4 +0.4**
baz=9.5,SNR=29
GHO Glory Hole Cre 81.14 359 IAmb IAmb 06 46 44.3
comp=Z,122nm,1.2s
M22K Willow 81.17 360 P **P 06 46 43.3 +0.3**
baz=0.2,SNR=23
WTLY Watson Lake, Y 81.18 349 IAmb IAmb 06 46 45.2
comp=Z,72nm,1.1s
WTLY IAMs_20 IAMs_20 07 25 37.1
comp=Z,1µm,19.0s
WTLY Watson Lake, Y 81.18 349 P **P 06 46 44.5 +1.3**
baz=17,SNR=48
MAJO Matsushiro 81.20 51 P **P 06 46 42.4 -1.3**
MAJO Matsushiro 81.20 51 P **P 06 46 42.4 -1.3**
MAJO pmax pmax
comp=Z,58nm,1.3s
MAJO MLR MLR
comp=Z,900nm,19.0s
MJAR Matsushiro Arr 81.20 51 P **P 06 46 42.9 -0.8**
comp=Z,8.9nm,0.9s,baz=317,slow=4.5,SNR=18
MJAR LR LR 07 26 31.2
comp=Z,744nm,18.3s,baz=322,slow=38
comp=Z,8.9nm,0.9s
N25K Chitina, Valde 81.20 357 IAmb IAmb 06 46 45.2
comp=Z,114nm,1.6s
N25K Chitina, Valde 81.20 357 P **P 06 46 43.8 +0.5**
baz=4.7,SNR=10
INU Inuyama 81.22 52 IAMs_20 IAMs_20 07 27 33.7
comp=Z,1µm,19.0s
N49A Columbus Grove 81.22 315 IAmb IAmb 06 46 44.7
comp=Z,115nm,1.2s
N49A IAMs_20 IAMs_20 07 24 58.3
comp=Z,1µm,18.0s
JGF Kuroka 81.28 52 IAmb IAmb 06 46 51.9
comp=Z,58nm,1.2s
PMR Palmer 81.33 359 IAmb IAmb 06 46 45.8
comp=Z,171nm,1.4s
PMR Palmer 81.33 359 P **P 06 46 44.2 +0.4**
baz=1.1,SNR=23
M18K Stony River 81.34 3 P **P 06 46 44.7 +0.8**
baz=356
KLU Klutina 81.36 358 IAmb IAmb 06 46 58.1
comp=Z,80nm,1.2s
KLU Klutina 81.36 358 P **P 06 46 44.8 +0.6**
baz=3.6,SNR=14
M17K Holitna River 81.36 3 IAmb IAmb 06 46 46.8
comp=Z,129nm,1.1s
M17K Holitna River 81.36 3 P **P 06 46 45.5 +1.4**
baz=354
G40A Rib Lake 81.38 322 IAMs_20 IAMs_20 07 22 36.9
comp=Z,1µm,20.0s
WHY Whitehorse 81.43 352 IAmb IAmb 06 46 53.7
comp=Z,72nm,1.2s
WHY Whitehorse 81.43 352 P **P 06 46 44.6 0.0**
baz=12,SNR=11
Q52A Bidwell 81.44 313 IAmb IAmb 06 46 46.1
comp=Z,99nm,1.1s
Q52A IAMs_20 IAMs_20 07 25 16.3
comp=Z,1µm,19.0s
O30N Mendenhall 81.44 353 IAmb IAmb 06 46 54.2
comp=Z,72nm,1.2s
O30N IAMs_20 IAMs_20 07 24 09.0
comp=Z,1µm,22.0s
O30N Mendenhall 81.44 353 P **P 06 46 44.9 +0.3**
baz=12,SNR=18
SUA Susitna One 81.46 0 IAmb IAmb 06 46 46.0
comp=Z,116nm,1.1s
SUA Susitna One 81.46 0 P **P 06 46 45.3 +0.5**
baz=360,SNR=16
YUK6 Outst Mounta 81.48 354 P **P 06 46 45.9 +0.9**
baz=9.7,SNR=16
KNK Knik Glacier 81.50 359 IAmb IAmb 06 46 54.9
comp=Z,84nm,0.9s
KNK Knik Glacier 81.50 359 P **P 06 46 45.7 +0.9**
baz=1.6,SNR=21
HYT Haines Junctio 81.52 354 P **P 06 46 46.1 +1.0**
baz=10,SNR=47
VRDI Verde Repeater 81.53 357 IAmb IAmb 06 46 47.4
comp=Z,175nm,1.7s
P51A Williamsport 81.56 314 IAmb IAmb 06 46 45.5
comp=Z,51nm,1.1s
TMAB Tom-Au,PA,Br 81.60 261 *e*P **P 06 46 46.8 +0.7**
W59A Clinton 81.60 308 IAMs_20 IAMs_20 07 22 31.9
comp=Z,1µm,22.0s
V58A Windy Hill, Pi 81.62 309 IAmb IAmb 06 46 47.5
comp=Z,128nm,1.6s
V58A IAMs_20 IAMs_20 07 21 32.2
comp=Z,2µm,22.0s
P33M Teslin, Yukon 81.63 351 IAmb IAmb 06 46 47.7
comp=Z,82nm,1.4s
P33M IAMs_20 IAMs_20 07 24 49.0
comp=Z,2µm,21.0s
P33M Teslin, Yukon 81.63 351 P **P 06 46 46.0 +0.3**
baz=14,SNR=22
L46A Eue Claire 81.64 317 IAmb IAmb 06 46 46.9
comp=Z,73nm,1.2s
L46A IAMs_20 IAMs_20 07 21 44.3
comp=Z,1µm,20.0s
S54A Dingess, Beckl 81.65 312 IAmb IAmb 06 46 46.4
comp=Z,61nm,1.2s
S54A IAMs_20 IAMs_20 07 24 59.8
comp=Z,1µm,18.0s
M16K Timber Creek 81.66 4 IAMs_20 IAMs_20 07 27 30.5
comp=Z,951nm,18.0s
M16K Timber Creek 81.66 4 P **P 06 46 46.5 +0.8**
baz=353
M11K Melozyuk 81.69 8 P **P 06 46 47.1 +1.3**
baz=347
I42A Draeger Farm, 81.71 320 IAMs_20 IAMs_20 07 21 42.8
comp=Z,1µm,22.0s
SPCR Spurr Chakacha 81.72 1 P **P 06 46 45.8 -0.2**
baz=359,SNR=8.6
DIV Divide 81.72 358 IAmb IAmb 06 46 55.9
comp=Z,49nm,1.0s
M14K Bethel 81.72 6 IAmb IAmb 06 46 48.1
comp=Z,110nm,1.1s
M14K Bethel 81.72 6 P **P 06 46 46.9 +0.9**
baz=351
O28M Mount Upton 81.79 355 P **P 06 46 47.4 +0.7**
baz=8.2,SNR=19
TOAD Toad River Com 81.80 347 P **P 06 46 47.5 +1.0**
baz=20,SNR=62
O49A Covington 81.81 315 IAmb IAmb 06 46 47.7
comp=Z,113nm,1.1s
RC01 Rabbit Creek A 81.83 360 P **P 06 46 47.0 +0.4**
baz=0.6,SNR=12
BMRM Bremner River 81.84 357 IAmb IAmb 06 46 57.7
comp=Z,116nm,1.3s
BMRM Bremner River 81.84 357 P **P 06 46 46.1 -0.6**
baz=4.7,SNR=13
M15K Kasigluk River 81.88 5 P **P 06 46 47.5 +0.7**
baz=352
JMM Marumori 81.89 48 IAmb IAmb 06 46 54.7
comp=Z,92nm,1.0s
M13K Dall Lake 81.94 6 P **P 06 46 48.4 +1.3**
baz=350,SNR=12
Q51A Peebles 82.03 314 IAmb IAmb 06 46 49.1
comp=Z,132nm,1.2s
Q51A IAMs_20 IAMs_20 07 24 00.6
comp=Z,1µm,19.0s
U56A King 82.04 310 IAmb IAmb 06 46 49.8
comp=Z,98nm,1.2s
PWL Port Wells 82.05 359 IAmb IAmb 06 46 57.5
comp=Z,92nm,1.1s
PWL Port Wells 82.05 359 P **P 06 46 48.4 +0.6**
baz=1.7,SNR=9.6

N19K Bonanza Creek 82.06 2 IAmb IAmb 06 46 50.1
comp=Z,116nm,1.1s
N19K Bonanza Creek 82.06 2 P **P 06 46 48.6 +0.7**
baz=357
N47A Urbana 82.09 316 IAmb IAmb 06 46 48.9
comp=Z,74nm,1.0s
N47A IAMs_20 IAMs_20 07 21 59.3
comp=Z,1µm,19.0s
ISLE Juniper Island 82.09 356 IAmb IAmb 06 46 50.2
comp=Z,124nm,1.5s
O29M Mount Kennedy 82.13 354 IAmb IAmb 06 46 50.4
comp=Z,143nm,1.6s
O29M Mount Kennedy 82.13 354 P **P 06 46 48.8 +0.4**
baz=9.5
N18K Kilae Creek 82.15 3 IAmb IAmb 06 46 50.9
comp=Z,132nm,1.4s
N18K Kilae Creek 82.15 3 P **P 06 46 49.5 +1.2**
baz=356
CAPN Captain Cook N 82.16 0 P **P 06 46 49.5 +1.3**
baz=359
SSFO Shawnee State 82.16 313 IAmb IAmb 06 46 49.1
comp=Z,64nm,1.1s
P30M Million Dollar 82.17 353 P **P 06 46 49.6 +1.1**
baz=11
R33M Jennings River 82.18 350 P **P 06 46 50.3 +1.6**
baz=16
N16K Nishlik Lake 82.22 4 P **P 06 46 50.0 +1.4**
baz=353
O48B Farmland 82.22 315 IAMs_20 IAMs_20 07 26 35.7
comp=Z,1µm,18.0s
K43A Burlington 82.24 319 IAmb IAmb 06 46 50.1
comp=Z,120nm,1.4s
N17K Nushagak Hills 82.25 3 IAmb IAmb 06 46 50.7
comp=Z,60nm,1.2s
N17K Nushagak Hills 82.25 3 P **P 06 46 50.0 +1.3**
baz=355,SNR=11
YAH Yahtse 82.30 356 IAmb IAmb 06 46 57.2
comp=Z,144nm,1.5s
EYAK Cordova Ski Ar 82.30 358 IAmb IAmb 06 46 59.5
comp=Z,96nm,1.0s
EYAK Cordova Ski Ar 82.30 358 P **P 06 46 50.2 +1.2**
baz=3.8,SNR=9.6
P32M Atlin 82.34 351 IAmb IAmb 06 46 50.7
comp=Z,122nm,1.8s
P32M Atlin 82.34 351 P **P 06 46 49.5 +0.1**
baz=13,SNR=9.8
L44A Lake County Fo 82.39 318 IAMs_20 IAMs_20 07 24 56.0
comp=Z,1µm,18.0s
N15K Kwethluk River 82.44 5 IAmb IAmb 06 46 52.3
comp=Z,117nm,1.3s
N15K Kwethluk River 82.44 5 P **P 06 46 50.8 +1.0**
baz=352,SNR=7.5
O22K Cooper Landing 82.44 360 P **P 06 46 50.4 +0.6**
baz=0.6,SNR=6.5
P49A Miami Univ. Ec 82.47 315 IAmb IAmb 06 46 51.0
comp=Z,96nm,1.3s
PINM Pinnacle 82.47 355 P **P 06 46 51.0 +1.0**
baz=8.2,SNR=13
MESA MESA 82.50 356 P **P 06 46 51.3 +1.0**
baz=6.8,SNR=5.1
X58A Rowland 82.56 308 IAmb IAmb 06 46 52.6
comp=Z,112nm,1.5s
X58A IAMs_20 IAMs_20 07 22 35.2
comp=Z,2µm,22.0s
N14K Kuskokwak Cree 82.57 6 P **P 06 46 51.4 +1.0**
baz=351
I40A Norwalk 82.57 321 IAmb IAmb 06 46 51.0
comp=Z,56nm,1.2s
W57A Gilead 82.58 309 IAmb IAmb 06 46 51.5
comp=Z,66nm,1.1s
W57A IAMs_20 IAMs_20 07 22 22.7
comp=Z,1µm,22.0s
BGLC Bering Glacier 82.63 356 P **P 06 46 52.2 +1.5**
baz=5.7
SKAG Skagway 82.65 352 IAmb IAmb 06 47 00.9
comp=Z,123nm,1.5s
SKAG Skagway 82.65 352 P **P 06 46 51.6 +0.7**
baz=12,SNR=11
O19K Port Alsworth 82.68 2 IAmb IAmb 06 46 52.5
comp=Z,94nm,1.4s
O19K Port Alsworth 82.68 2 P **P 06 46 51.0 0.0**
baz=357,SNR=9.6
TGY Tagaytay City 82.70 78 LR LR 07 29 02.4
comp=Z,834nm,21.4s,baz=261,slow=40
PLBC Pleasant Camp 82.77 353 P **P 06 46 52.7 +1.2**
baz=11,SNR=9.3
Q32M Nakina River 82.78 351 P **P 06 46 52.8 +0.9**
baz=14
U54A Nelsons Funny 82.80 311 IAMs_20 IAMs_20 07 21 05.3
comp=Z,1µm,22.0s
SEW Seward 82.82 359 P **P 06 46 52.2 +0.4**
baz=0.8,SNR=6.6
PNL Peninsula 82.83 354 P **P 06 46 52.4 +0.6**
baz=8.8
O20K Slope Mountain 82.83 1 P **P 06 46 51.6 -0.4**
baz=358
V55A Taylorsville 82.87 310 IAmb IAmb 06 46 54.1
comp=Z,66nm,1.2s
V55A IAMs_20 IAMs_20 07 24 57.3
comp=Z,910nm,19.0s
KAIM Kayak Island 82.87 357 P **P 06 46 51.8 -0.3**
baz=4.8
P23K Montague Islan 82.90 358 P **P 06 46 52.5 +0.4**
baz=2.4
P48A Milroy 82.92 315 IAmb IAmb 06 46 52.6
comp=Z,71nm,1.1s
ILSW Iliamna Southw 82.92 1 IAmb IAmb 06 46 53.3
comp=Z,129nm,1.7s
DLBC Dease Lake 82.97 349 IAmb IAmb 06 46 54.9
comp=Z,48nm,1.3s
DLBC Dease Lake 82.97 349 LR LR 07 27 26.6
comp=Z,997nm,18.4s,baz=19,slow=38
DLBC Dease Lake 82.97 349 P **P 06 46 54.1 +1.4**
baz=16,SNR=11
O18K Koktuh Hills 83.00 2 P **P 06 46 53.5 +0.7**
baz=356,SNR=14
O17K Koliganek Bris 83.00 3 P **P 06 46 53.8 +1.1**
baz=355
M44A Midewin, Midew 83.02 318 IAMs_20 IAMs_20 07 22 35.6
comp=Z,993nm,20.0s
JFWS Jewell Farm 83.09 320 IAMs_20 IAMs_20 07 22 24.3
comp=Z,1µm,22.0s
JFWS Jewell Farm 83.09 320 IAmb IAmb 06 47 02.2
comp=Z,52nm,1.1s
R50A Paris 83.09 314 IAmb IAmb 06 46 54.9
comp=Z,106nm,1.4s
R50A IAMs_20 IAMs_20 07 24 33.9
comp=Z,1µm,19.0s
O16K Kokwok River B 83.13 4 IAMs_20 IAMs_20 07 29 11.4
comp=Z,1µm,19.0s
O16K Kokwok River B 83.13 4 P **P 06 46 54.3 +0.9**
baz=354,SNR=6.8
BRLK Bradley Lake 83.17 0 IAmb IAmb 06 46 54.5
comp=Z,73nm,1.2s
Y58A Scranton 83.19 308 IAMs_20 IAMs_20 07 22 29.9
comp=Z,1µm,21.0s
BRSE Bradley Lake S 83.19 0 P **P 06 46 54.0 +0.3**
baz=360
BIRD Birdtown, Kers 83.20 309 IAmb IAmb 06 46 55.7
comp=Z,68nm,1.3s
BIRD IAMs_20 IAMs_20 07 22 18.2
comp=Z,1µm,21.0s
P19K Oil Pt 83.25 1 P **P 06 46 53.3 -0.8**
baz=358
O14K Tigyukauivet M 83.27 6 P **P 06 46 54.8 +0.7**
baz=351
HOM Homer 83.27 1 P **P 06 46 54.1 +0.1**
baz=359
CMC01 Camacan, BA 83.35 245 *e*P **P 06 46 56.6 +1.5**
GCPR Guaynabo City 83.37 288 IAmb IAmb 06 47 00.7
comp=Z,52nm,1.1s
CNPM China Poot 83.40 0 IAmb IAmb 06 47 02.1
comp=Z,77nm,1.2s
O15K Ungalikthiuk R 83.44 5 P **P 06 46 55.6 +0.6**
baz=352,SNR=6.0
P18K Big Mountain, 83.46 2 P **P 06 46 54.5 -0.6**
baz=356
BESE Bessie Mountai 83.46 352 IAmb IAmb 06 47 05.6
comp=Z,42nm,1.2s
SJG San Juan 83.54 288 P **P 06 46 55.1 -1.1**
SJG San Juan 83.54 288 LR LR 07 20 24.3
comp=Z,272nm,21.4s,baz=60,slow=33
SJG San Juan 83.54 288 P **P 06 46 55.1 -1.1**
SJG pmax pmax
comp=Z,34nm,1.1s
SJG MLR MLR
comp=Z,500nm,22.0s
Y57A Sumter 83.57 308 IAMs_20 IAMs_20 07 23 16.0

comp=Z,1μm,22.0s
R49A Shelbyville 83.57 314 IAMs_20 IAMs_20 07 24 56.6
comp=Z,878nm,18.0s
IGPR InterUniversit 83.60 288 IAmb IAmb 06 46 59.8
comp=Z,104nm,1.3s
P17K Kvichak River 83.61 3 P **P** **06 46 56.4 +0.6**
baz=355
S34M Telegraph Cree 83.64 350 IAmb IAmb 06 47 04.4
comp=Z,40nm,0.9s
S34M Telegraph Cree 83.64 350 P **P** **06 46 57.6 +1.6**
baz=15,SNR=23
P16K Nushagak River 83.70 4 P **P** **06 46 57.4 +1.1**
baz=354
R32K Eaglecrest 83.72 352 IAmb IAmb 06 47 07.1
comp=Z,49nm,1.2s
R32K Eaglecrest 83.72 352 P **P** **06 46 57.7 +1.3**
baz=13
R31K City Hall, Gus 83.72 352 P **P** **06 46 57.4 +1.0**
baz=12
BLO Bloomington 83.73 315 IAmb IAmb 06 46 57.2
comp=Z,83nm,1.1s
BLO IAMs_20 IAMs_20 07 23 34.7
comp=Z,1μm,21.0s
MDND Maddock 83.74 328 IAMs_20 IAMs_20 07 25 50.9
comp=Z,1μm,18.0s
P46A Rosedale 83.80 316 IAmb IAmb 06 46 57.1
comp=Z,52nm,1.2s
P46A IAMs_20 IAMs_20 07 22 51.5
comp=Z,1μm,21.0s
TZTN Tazewell 83.81 312 IAmb IAmb 06 46 58.4
comp=Z,69nm,1.3s
TZTN IAMs_20 IAMs_20 07 23 58.1
comp=Z,1μm,21.0s
F33A 5 Mile Ranch, 83.85 325 IAmb IAmb 06 47 05.0
comp=Z,62nm,1.4s
F33A IAMs_20 IAMs_20 07 23 10.0
comp=Z,1μm,19.0s
CELP Cerrillos 83.89 288 IAmb IAmb 06 47 01.3
comp=Z,100nm,1.4s
UUPR Utuado, UPR, P 83.89 288 IAmb IAmb 06 47 00.9
comp=Z,30nm,0.9s
PAULI Pauline 83.92 310 IAmb IAmb 06 46 58.8
comp=Z,57nm,1.0s
JSC Jenkinsville 83.94 309 IAmb IAmb 06 46 58.8
comp=Z,55nm,1.2s
JSC IAMs_20 IAMs_20 07 22 29.6
comp=Z,1μm,21.0s
V53A Saluda 83.96 311 IAmb IAmb 06 46 58.9
comp=Z,44nm,1.1s
Q19K Cape Douglas, 83.97 2 P **P** **06 46 58.6 +0.8**
baz=357
CSU Charleston Sou 84.04 307 IAMs_20 IAMs_20 07 27 10.6
comp=Z,1μm,20.0s
Q16K King Salmon 84.12 3 P **P** **06 46 58.7 +0.3**
baz=355
S31K Pelican 84.22 352 P **P** **06 46 60.0 +1.0**
baz=11
WCI Wyandotte Cave 84.25 315 P **P** **06 46 59.0 -0.6**
WCI IAmb IAmb 06 47 00.1
comp=Z,90nm,1.1s
WCI Wyandotte Cave 84.25 315 IAMs_20 IAMs_20 07 27 10.6
comp=Z,1μm,18.0s
WCI Wyandotte Cave 84.25 315 P **P** **06 46 59.0 -0.6**
WCI pmax pmax
comp=Z,90nm,1.1s
WCI MLR MLR
comp=Z,1μm,18.0s
HDIL Hopedale 84.27 318 IAMs_20 IAMs_20 07 29 59.9
comp=Z,961nm,18.0s
Q20K Shuyak Island 84.31 1 P **P** **06 46 59.4 0.0**
baz=358
GUA01 Guaratinga, BA 84.36 244 *eP* **P** **06 47 01.6 +1.3**
T35M Bob Quinn 84.41 349 IAmb IAmb 06 47 02.2
comp=Z,42nm,1.3s
T35M Bob Quinn 84.41 349 P **P** **06 47 01.5 +1.5**
baz=16,SNR=7.3
JHJ Hachijo jima 2 84.41 52 LR LR 07 27 01.2
comp=Z,948nm,21.4s,baz=342,slow=37
BG3 Lake Jocassee 84.49 310 IAmb IAmb 06 47 01.7
comp=Z,50nm,1.3s
BG3 IAMs_20 IAMs_20 07 26 55.1
comp=Z,968nm,20.0s
ABR01 Abrolhos, BA 84.49 243 *eP* **P** **06 47 00.9 0.0**
S32K Killisnoo 84.52 351 IAmb IAmb 06 47 08.8
comp=Z,75nm,1.6s
S32K Killisnoo 84.52 351 P **P** **06 47 01.1 +0.7**
baz=13
TKL Tuckaleechee C 84.55 311 IAmb IAmb 06 47 02.0
comp=Z,67nm,1.1s
TKL Tuckaleechee C 84.55 311 P **P** **06 47 00.7 -0.4**
comp=Z,24nm,0.8s,baz=72,slow=6.4,SNR=16
TKL LR LR 07 27 10.0
comp=Z,932nm,18.1s,baz=45,slow=37
comp=Z,24nm,0.8s
HODGE Hodges 84.59 309 IAmb IAmb 06 47 02.1
comp=Z,42nm,1.2s
LEM Lembang 84.76 103 LR LR 07 28 08.0
comp=Z,1μm,20.1s,baz=329,slow=38
OLIL Olney 84.92 316 IAMs_20 IAMs_20 07 23 25.0
comp=Z,1μm,20.0s
T33K Petersburg 84.95 350 P **P** **06 47 03.5 +0.8**
baz=14
N41A Harden Midland 84.99 319 IAmb IAmb 06 47 03.1
comp=Z,85nm,1.1s
N41A IAMs_20 IAMs_20 07 26 36.8
comp=Z,1μm,18.0s
SIT Sitka 85.01 352 P **P** **06 47 02.4 -0.5**
baz=12
W52A Murphy 85.02 311 IAMs_20 IAMs_20 07 23 24.2
comp=Z,1μm,22.0s
P43A Skaggs, Pawnee 85.05 317 IAMs_20 IAMs_20 07 26 29.4
comp=Z,1μm,18.0s
SHEM Shemya Is, Ala 85.09 21 LR LR 07 28 18.6
comp=Z,939nm,19.8s,baz=325,slow=38
DGMT Dagmar 85.09 331 IAMs_20 IAMs_20 07 26 05.4
comp=Z,1μm,21.0s
CPCT Cooper Cave 85.13 312 IAMs_20 IAMs_20 07 27 00.1
comp=Z,1μm,18.0s
KDAK Kodiak Island 85.14 1 P **P** **06 47 04.0 +0.4**
KDAK Kodiak Island 85.14 1 LR LR 07 27 12.8
comp=Z,463nm,20.8s,baz=199,slow=37
KDAK Kodiak Island 85.14 1 P **P** **06 47 04.0 +0.4**
KDAK pmax pmax
comp=Z,103nm,1.2s
KDAK Kodiak Island 85.14 1 P **P** **06 47 03.6 0.0**
baz=358
U49A Red Boiling Sp 85.15 313 IAMs_20 IAMs_20 07 25 40.3
comp=Z,1μm,20.0s
R16K Pilot Point 85.18 4 P **P** **06 47 03.0 -0.8**
baz=354
E28A Huff 85.20 328 IAMs_20 IAMs_20 07 26 59.6
comp=Z,997nm,18.0s
WRAK Wrangell Islan 85.26 350 P **P** **06 47 05.1 +0.9**
baz=14,SNR=6.6
PRPB Parauapebas 85.28 259 *eP* **P** **06 47 06.0 +0.9**
R18K Karluk 85.31 2 P **P** **06 47 03.6 -0.8**
baz=357
SCIA State Center 85.33 321 IAmb IAmb 06 47 12.5
comp=Z,53nm,1.1s
SCIA IAMs_20 IAMs_20 07 23 46.4
comp=Z,1μm,21.0s
U35K Hyder 85.40 349 P **P** **06 47 05.9 +1.0**
baz=16
SDBA SAO DESIDERIO 85.41 251 *eP* **P** **06 47 06.4 +0.7**
T47A Sharon Grove 85.58 314 IAMs_20 IAMs_20 07 27 02.7
comp=Z,926nm,18.0s
ECSD EROS Data Cent 85.60 324 IAMs_20 IAMs_20 07 26 01.4
comp=Z,1μm,18.0s
U33K Whale Pass 85.66 350 P **P** **06 47 07.0 +0.8**
baz=14
OHAK Old Harbor 85.69 2 IAmb IAmb 06 47 07.7
comp=Z,142nm,1.7s
OHAK Old Harbor 85.69 2 P **P** **06 47 07.1 +0.7**
baz=358
CLTN Cedars of Leba 85.76 313 IAmb IAmb 06 47 08.2
comp=Z,74nm,1.3s
GOGA Godfrey 85.88 309 IAMs_20 IAMs_20 07 23 30.0
comp=Z,1μm,21.0s
Y52A Lilburn 85.94 310 IAMs_20 IAMs_20 07 27 20.5
comp=Z,930nm,20.0s
X51A Calhoun 85.94 311 IAMs_20 IAMs_20 07 29 01.5
comp=Z,877nm,18.0s
SUSD Miller 86.12 326 IAMs_20 IAMs_20 07 25 15.2
comp=Z,1μm,21.0s
SWET Sewanee 86.13 312 IAmb IAmb 06 47 09.9
comp=Z,145nm,1.7s
SWET IAMs_20 IAMs_20 07 27 12.5
comp=Z,1μm,18.0s

SLM Saint Louis 86.16 317 IAMs_20 IAMs_20 07 24 24.7
comp=Z,1μm,20.0s
N38A Joes South For 86.16 320 IAmb IAmb 06 47 14.5
comp=Z,81nm,0.9s
N38A IAMs_20 IAMs_20 07 24 07.6
comp=Z,1μm,21.0s
154A Montrose 86.20 309 IAMs_20 IAMs_20 07 24 56.5
comp=Z,1μm,22.0s
V35K Ketchikan 86.21 349 IAmb IAmb 06 47 19.1
comp=Z,75nm,1.3s
V35K IAMs_20 IAMs_20 07 31 34.1
comp=Z,1μm,21.0s
V35K Ketchikan 86.21 349 P **P** **06 47 08.7 -0.2**
baz=15
SIUC Southern Illin 86.26 316 IAMs_20 IAMs_20 07 25 21.5
comp=Z,1μm,18.0s
CRAG Craig 86.29 350 P **P** **06 47 08.8 -0.6**
baz=14
V48A Smith Brothers 86.29 313 IAmb IAmb 06 47 10.4
comp=Z,85nm,1.2s
S44A Carbondale 86.29 316 IAMs_20 IAMs_20 07 25 21.9
comp=Z,1μm,18.0s
SII Sitkinak Islan 86.33 2 P **P** **06 47 09.6 0.0**
baz=357
S14K Fog Glacier 86.34 5 P **P** **06 47 10.0 +0.3**
baz=353
CHGN Chignik 86.40 4 P **P** **06 47 09.0 -0.9**
baz=354
FPAL Fort Paine 86.41 311 IAmb IAmb 06 47 11.8
comp=Z,97nm,1.4s
T45A Paducah 86.43 315 IAmb IAmb 06 47 10.4
comp=Z,97nm,1.1s
T45A IAMs_20 IAMs_20 07 28 27.3
comp=Z,1μm,18.0s
P40A Paris 86.47 319 IAmb IAmb 06 47 11.5
comp=Z,70nm,1.2s
P40A IAMs_20 IAMs_20 07 24 56.0
comp=Z,986nm,20.0s
RIB01 Linhares ES 86.58 243 *eP* **P** **06 47 12.2 +0.9**
WVT Waverly 86.60 314 P **P** **06 47 09.3 -2.0**
WVT IAmb IAmb 06 47 10.8
comp=Z,72nm,1.1s
WVT Waverly 86.60 314 IAMs_20 IAMs_20 07 24 53.7
comp=Z,1μm,20.0s
WVT Waverly 86.60 314 P **P** **06 47 09.3 -2.0**
WVT pmax pmax
comp=Z,72nm,1.1s
WVT MLR MLR
comp=Z,1μm,20.0s
JANB Januaria 86.66 248 *eP* **P** **06 47 12.8 +1.0**
SJMB Sao Joao De Ma 86.75 244 *eP* **P** **06 47 13.4 +1.3**
CGM3 Cape Girardeau 86.80 316 IAMs_20 IAMs_20 07 25 27.9
comp=Z,1μm,20.0s
L34A Svendsen Farm, 86.83 323 IAmb IAmb 06 47 26.1
comp=Z,45nm,1.1s
SDDR Presa de Saban 86.86 291 IAMs_20 IAMs_20 07 24 27.6
comp=Z,974nm,21.0s
CHIR Chirikof Islan 87.02 3 P **P** **06 47 13.4 +0.4**
baz=356
HICK Hickman 87.10 315 IAMs_20 IAMs_20 07 28 56.9
comp=Z,1μm,18.0s
CCM Cathedral Cave 87.12 317 P **P** **06 47 12.8 -1.0**
CCM IAmb IAmb 06 47 14.1
comp=Z,57nm,1.1s
CCM Cathedral Cave 87.12 317 IAMs_20 IAMs_20 07 26 17.3
comp=Z,1μm,19.0s
CCM Cathedral Cave 87.12 317 P **P** **06 47 12.8 -1.0**
CCM pmax pmax
comp=Z,57nm,1.1s
CCM MLR MLR
comp=Z,1μm,19.0s
152A Waverly Hall 87.15 310 IAMs_20 IAMs_20 07 24 08.8
comp=Z,1μm,21.0s
P38A Dawn 87.18 320 IAmb IAmb 06 47 14.1
comp=Z,69nm,1.6s
P38A IAMs_20 IAMs_20 07 27 39.6
comp=Z,992nm,18.0s
SDPT Sand Point 87.20 6 P **P** **06 47 13.3 -0.5**
baz=352
TIGA Tifton 87.29 308 IAMs_20 IAMs_20 07 25 50.5
comp=Z,1μm,21.0s
PARMO Parma 87.31 315 IAMs_20 IAMs_20 07 28 37.3
comp=Z,912nm,18.0s
N35A Tabor 87.32 322 IAMs_20 IAMs_20 07 27 15.1
comp=Z,1μm,19.0s
X48A Hartselle 87.32 312 IAMs_20 IAMs_20 07 26 48.9
comp=Z,897nm,20.0s
Y49A Blount Mountai 87.36 311 IAmb IAmb 06 47 15.5
comp=Z,64nm,1.1s
GRNB Grenville Isla 87.38 348 IAmb IAmb 06 47 25.4
comp=Z,80nm,1.2s
FALS False Pass 87.42 7 P **P** **06 47 15.2 +0.3**
baz=350
PVMO Portageville 87.46 315 IAMs_20 IAMs_20 07 29 00.3
comp=Z,1μm,18.0s
EGMT Eagleton 87.50 334 IAMs_20 IAMs_20 07 28 37.0
comp=Z,1μm,19.0s
R40A Maddies Statio 87.50 318 IAMs_20 IAMs_20 07 27 54.2
comp=Z,1μm,19.0s
PLAL Pickwick Lake 87.55 313 IAMs_20 IAMs_20 07 27 11.9
comp=Z,1μm,20.0s
LNXT Lenox 87.56 315 IAMs_20 IAMs_20 07 29 10.2
comp=Z,938nm,20.0s
PBMO Poplar Bluff 87.60 316 IAMs_20 IAMs_20 07 25 53.1
comp=Z,1μm,19.0s
HALT Halls 87.61 315 IAMs_20 IAMs_20 07 24 47.5
comp=Z,1μm,21.0s
ALF01 Guarapari-ES 87.68 242 *eP* **P** **06 47 17.1 +0.5**
PEBM Pemiscott Bayo 87.76 315 IAMs_20 IAMs_20 07 29 25.5
comp=Z,1μm,18.0s
CHNA Chernabura Isl 87.78 5 P **P** **06 47 16.3 -0.3**
baz=353
T42A Van Buren 87.78 316 IAMs_20 IAMs_20 07 25 24.9
comp=Z,1μm,21.0s
K30B Basset 87.81 325 IAMs_20 IAMs_20 07 26 49.7
comp=Z,862nm,19.0s
GNAR Gosnell 87.96 315 IAMs_20 IAMs_20 07 29 23.6
comp=Z,1μm,19.0s
UNV Unalaska Valle 88.05 9 P **P** **06 47 17.7 -0.2**
baz=347
DIAM Diamantina, MG 88.27 245 *eP* **P** **06 47 21.0 +1.4**
LRAL Lakeview Retre 88.28 311 IAMs_20 IAMs_20 07 28 32.4
comp=Z,1μm,18.0s
S39A Bolivar 88.50 318 IAMs_20 IAMs_20 07 27 23.4
comp=Z,915nm,18.0s
MET Memphis--Engin 88.52 314 IAMs_20 IAMs_20 07 25 21.4
comp=Z,1μm,20.0s
LCAR Lake Charles 88.52 316 IAMs_20 IAMs_20 07 29 24.3
comp=Z,882nm,19.0s
NIKH Nikolski High 88.57 11 P **P** **06 47 21.0 +0.6**
baz=346
BOAV Boa Vista 88.58 272 *eP* **P** **06 47 21.4 +0.3**
250A Grady 88.58 310 IAMs_20 IAMs_20 07 30 36.4
comp=Z,1μm,19.0s
NMDO Nuevo Mundo 88.58 295 IAmb IAmb 06 47 23.0
comp=Z,64nm,1.4s
NMDO IAMs_20 IAMs_20 07 27 17.8
comp=Z,631nm,20.0s
HBAR Harrisburg 88.61 315 IAMs_20 IAMs_20 07 24 41.9
comp=Z,1μm,22.0s
BBB Bella Bella 88.65 346 LR LR 07 30 17.8
comp=Z,647nm,18.7s,baz=22,slow=38
Z47A Carrollton 88.81 312 IAmb IAmb 06 47 22.2
comp=Z,44nm,1.1s
Z47A IAMs_20 IAMs_20 07 29 02.3
comp=Z,1μm,18.0s
CAM01 Campos-RJ 89.12 242 *eP* **P** **06 47 24.6 +1.3**
KSU1 Kansas State U 89.14 321 IAmb IAmb 06 47 30.9
comp=Z,61nm,1.2s
KSU1 IAMs_20 IAMs_20 07 28 50.3
comp=Z,1μm,19.0s
FCAR Ozark Folk Cen 89.19 316 IAmb IAmb 06 47 28.6
comp=Z,34nm,1.1s
FCAR IAMs_20 IAMs_20 07 26 18.0
comp=Z,1μm,21.0s
Y45A Yeager Farm, C 89.19 313 IAMs_20 IAMs_20 07 26 39.5
comp=Z,1μm,20.0s
NEW Newport 89.66 338 IAMs_20 IAMs_20 07 32 09.8
comp=Z,944nm,20.0s
NEW Newport 89.66 338 LR LR 07 30 06.6
comp=Z,578nm,18.6s,baz=24,slow=37
WHAR Wooly Hollow 89.72 316 IAmb IAmb 06 47 26.3
comp=Z,44nm,1.1s
BDFB Brasilia 89.78 250 P **P** **06 47 28.1 +1.3**
comp=Z,48nm,0.9s,baz=61,slow=5.8,SNR=47
BDFB LR LR 07 28 07.3
comp=Z,2μm,21.0s,baz=57,slow=36
comp=Z,48nm,0.9s

146A Union 89.79 312 IAmb IAmb 06 47 26.9
comp=Z,79nm,1.3s
146A IAMs_20 IAMs_20 07 29 43.3
comp=Z,1μm,18.0s
DUB01 Friburgo-RJ 89.79 242 *eP* **P** **06 47 27.7 +1.1**
RLMT Red Lodge 89.80 332 IAmb IAmb 06 47 36.4
comp=Z,55nm,1.4s
HHAR Hobbs 89.88 318 IAMs_20 IAMs_20 07 26 42.3
comp=Z,1μm,20.0s
JCJ Chichijima 89.98 55 LR LR 07 30 34.5
comp=Z,1μm,21.9s,baz=287,slow=38
CHIV Chivirico 89.99 295 IAmb IAmb 06 47 29.8
comp=Z,95nm,1.6s
SNDB Serra Nova Dou 90.00 255 *eP* **P** **06 47 29.7 +2.0**
U38A Gravette 90.00 318 IAMs_20 IAMs_20 07 28 17.5
comp=Z,851nm,20.0s
UALR University of 90.12 316 IAmb IAmb 06 47 28.2
comp=Z,39nm,1.1s
UALR IAMs_20 IAMs_20 07 27 11.9
comp=Z,1μm,22.0s
CBB Campbell River 90.13 344 IAMs_20 IAMs_20 07 33 06.1
comp=Z,1μm,18.0s
NPGB Novo Progresso 90.16 261 *eP* **P** **06 47 28.5 0.0**
YNE Yellowstone No 90.17 333 IAmb IAmb 06 47 30.1
comp=Z,67nm,1.2s
YNE IAMs_20 IAMs_20 07 29 44.8
comp=Z,1μm,20.0s
OGNE Ogallala 90.28 325 IAmb IAmb 06 47 36.8
comp=Z,101nm,1.6s
OGNE IAMs_20 IAMs_20 07 29 55.1
comp=Z,952nm,18.0s
C09A Chrisman Ranch 90.41 339 IAmb IAmb 06 47 37.9
comp=Z,38nm,1.1s
CCAR Cane Creek 90.43 315 IAMs_20 IAMs_20 07 26 34.1
comp=Z,1μm,20.0s
DAV Davao City (W) 90.56 81 LR LR 07 33 26.2
comp=Z,320nm,20.4s,baz=318,slow=39
X40A Basin Creek Fa 90.61 316 IAMs_20 IAMs_20 07 27 36.7
comp=Z,1μm,21.0s
YHL Hebgen Lake 90.73 333 IAmb IAmb 06 47 33.2
comp=Z,48nm,1.3s
T35A Sooner Cattle 90.76 320 IAmb IAmb 06 47 41.5
comp=Z,42nm,1.2s
T35A IAMs_20 IAMs_20 07 34 01.3
comp=Z,832nm,19.0s
DLMT Dillon 90.79 334 IAmb IAmb 06 47 39.9
comp=Z,37nm,1.4s
DLMT IAMs_20 IAMs_20 07 30 11.9
comp=Z,1μm,20.0s
YMR Madison River 90.81 333 IAmb IAmb 06 47 41.6
comp=Z,32nm,1.0s
YHB Horse Butte 90.82 333 IAmb IAmb 06 47 40.7
comp=Z,33nm,1.1s
H17A Grant Village 90.91 333 IAmb IAmb 06 47 35.3
comp=Z,40nm,1.2s
346A Big Creek Wild 90.92 312 IAmb IAmb 06 47 32.8
comp=Z,42nm,0.9s
346A IAMs_20 IAMs_20 07 30 22.3
comp=Z,971nm,18.0s
VBMS Vicksburg 90.94 313 IAMs_20 IAMs_20 07 32 10.9
comp=Z,1μm,18.0s
MIAR Mount Ida 90.98 316 IAMs_20 IAMs_20 07 25 05.4
comp=Z,1μm,22.0s
KAN09 Caldwell North 91.16 320 IAmb IAmb 06 47 33.5
comp=Z,98nm,1.5s
KAN13 South Haven SW 91.18 320 IAmb IAmb 06 47 41.3
comp=Z,54nm,1.2s
BLOK Blackwell 91.24 320 IAmb IAmb 06 47 34.2
comp=Z,90nm,1.6s
OK048 Pawnee Station 91.36 320 IAmb IAmb 06 47 42.5
comp=Z,52nm,1.3s
IPMB Ipameri, GO 91.40 248 *eP* **P** **06 47 35.2 +1.0**
MAN01 Ângra dos Reis 91.42 242 *eP* **P** **06 47 34.7 +0.6**
MOOW Moose Ponds 91.52 332 IAmb IAmb 06 47 43.7
comp=Z,48nm,1.8s
MOOW IAMs_20 IAMs_20 07 30 36.6
comp=Z,1μm,20.0s
E09A Wood Farm, Sta 91.54 338 IAmb IAmb 06 47 35.6
comp=Z,41nm,1.4s
DEOK Depew 91.57 319 IAmb IAmb 06 47 42.6
comp=Z,66nm,1.2s
LTY Liberty 91.57 340 IAMs_20 IAMs_20 07 29 00.4
comp=Z,1μm,21.0s
BRIGG Briggsdale 91.59 327 IAMs_20 IAMs_20 07 29 06.7
comp=Z,890nm,18.0s
OK052 Battle Ridge R 91.61 319 IAMs_20 IAMs_20 07 34 37.0
comp=Z,1μm,18.0s
OK031 S. Brethren Rd 91.66 319 IAMs_20 IAMs_20 07 34 39.3
comp=Z,948nm,18.0s
FXWY Fox Creek 91.72 332 IAmb IAmb 06 47 37.6
comp=Z,34nm,1.4s
TPAW Teton Pass 91.82 332 IAMs_20 IAMs_20 07 31 03.5
comp=Z,1μm,20.0s
CROK Carrier 91.83 320 IAmb IAmb 06 47 36.4
comp=Z,48nm,1.5s
CROK IAMs_20 IAMs_20 07 32 45.6
comp=Z,826nm,18.0s
GNW Green Mountain 91.85 342 IAmb IAmb 06 47 37.6
comp=Z,40nm,1.4s
GNW IAMs_20 IAMs_20 07 32 20.6
comp=Z,1μm,20.0s
BW06 Boulder Array 91.92 331 IAMs_20 IAMs_20 07 28 52.4
comp=Z,1μm,21.0s
PDAR Pinedale Array 91.92 331 P **P** **06 47 35.0 -1.6**
PDAR Pinedale Array 91.92 331 P **P** **06 47 35.2 -1.3**
comp=Z,3.0nm,0.8s,baz=58,slow=4.3,SNR=30
PDAR LR LR 07 32 23.7
comp=Z,907nm,18.2s,baz=10.0,slow=38
comp=Z,3.0nm,0.8s
MACA Manacapuru-AM 92.04 268 *eP* **P** **06 47 37.9 +0.6**
HAWA Hanford 92.05 339 IAmb IAmb 06 47 38.5
comp=Z,38nm,1.4s
MXC Moxie City 92.09 340 IAmb IAmb 06 47 45.5
comp=Z,52nm,1.9s
OK029 Liberty Lake 92.10 319 IAMs_20 IAMs_20 07 34 58.0
comp=Z,755nm,18.0s
OK038 West end E0370 92.23 321 IAmb IAmb 06 47 42.8
comp=Z,30nm,1.0s
NLWA Neilton Lookou 92.27 342 IAmb IAmb 06 47 46.8
comp=Z,48nm,1.6s
W35A Tecumseh 92.30 319 IAmb IAmb 06 47 39.0
comp=Z,86nm,1.5s
W35A IAMs_20 IAMs_20 07 31 50.1
comp=Z,1μm,18.0s
FNO Franklin 92.49 319 IAMs_20 IAMs_20 07 32 39.2
comp=Z,751nm,18.0s
SDV Santo Domingo 92.61 283 P **P** **06 47 40.1 -0.1**
SDV IAmb IAmb 06 47 41.2
comp=Z,32nm,1.0s
SDV Santo Domingo 92.61 283 LR LR 07 24 35.9
comp=Z,296nm,21.8s,baz=76,slow=32
SDV Santo Domingo 92.61 283 *eP* **P** **06 47 40.1 -0.1**
F07A Phinny Hill Vi 92.61 339 IAmb IAmb 06 47 41.5
comp=Z,52nm,1.5s
ARAG Araguaiana, MT 92.69 252 *eP* **P** **06 47 41.8 +1.7**
Z38A Mt. Pleasant 92.71 316 IAMs_20 IAMs_20 07 27 10.4
comp=Z,1μm,22.0s
BMO Blue Mountains 92.78 337 IAMs_20 IAMs_20 07 30 44.6
comp=Z,1μm,20.0s
ISCO Idaho Springs 92.79 327 IAMs_20 IAMs_20 07 29 30.6
comp=Z,1μm,21.0s
CLDB Colider 92.82 259 *eP* **P** **06 47 41.6 +0.8**
ELIS Ellis County 92.90 321 IAmb IAmb 06 47 49.5
comp=Z,25nm,1.1s
E03A Lebam 92.98 342 IAmb IAmb 06 47 54.7
comp=Z,34nm,1.1s
E03A IAMs_20 IAMs_20 07 32 19.6
comp=Z,1μm,21.0s
KAPI Kappang 93.22 94 LR LR 07 35 47.1
comp=Z,419nm,18.1s,baz=298,slow=40
X34A Smith Ranch, M 93.22 319 IAmb IAmb 06 47 51.4
comp=Z,30nm,1.2s
Q24A Divide 93.28 326 IAMs_20 IAMs_20 07 30 28.5
comp=Z,961nm,20.0s
G06A Carlson Farm, 93.42 339 IAmb IAmb 06 47 45.0
comp=Z,46nm,1.5s
BB19B Bebedouro 93.55 246 *eP* **P** **06 47 45.0 +1.0**
MFID Camas Ranch 93.59 335 IAMs_20 IAMs_20 07 30 58.2
comp=Z,884nm,20.0s
WMOK Wichita Mounta 93.61 320 IAMs_20 IAMs_20 07 35 46.8
comp=Z,769nm,19.0s
WMOK Wichita Mounta 93.61 320 IAmb IAmb 06 47 52.7
comp=Z,38nm,1.4s
HOOD Mount Hood Mea 93.62 340 IAmb IAmb 06 47 52.8
comp=Z,46nm,1.5s
VAO Valinhos 93.63 244 IAMs_20 IAMs_20 07 33 49.7
comp=Z,1μm,20.0s
VAO Valinhos 93.63 244 *eP* **P** **06 47 45.9 +1.4**

NATX	Nacogdoches	93.66	315	IAMs_20	IAMs_20	07 28 44.5
	comp=Z,1µm,21.0s					
HWUT	Hardware Ranch	93.67	332	IAmb	IAmb	06 47 50.1
	comp=Z,22nm,0.9s					
RDMU	Red Mountain	93.79	330	IAmb	IAmb	06 47 45.5
	comp=Z,36nm,1.4s					
Z35A	Perchaven, San	93.89	318	IAmb	IAmb	06 47 53.8
	comp=Z,25nm,1.0s					
Z35A				IAMs_20	IAMs_20	07 29 19.3
	comp=Z,1µm,20.0s					
HVU	Hansel Valley	93.97	333	IAmb	IAmb	06 47 47.1
	comp=Z,40nm,1.4s					
PDRB	Porto dos Gac	94.00	259	*e*P	P	06 47 47.4 +1.1
ITRB	Iturama	94.05	248	*e*P	P	06 47 46.6 +0.2
I07A	Izee	94.15	338	IAmb	IAmb	06 47 48.7
	comp=Z,44nm,1.6s					
WTFS	Witchita Falls	94.20	319	IAmb	IAmb	06 47 47.9
	comp=Z,52nm,1.4s					
RTBA	Rita Blanca	94.23	323	IAmb	IAmb	06 47 47.5
	comp=Z,66nm,1.8s					
SPB	Sao Paulo	94.34	244	IAMs_20	IAMs_20	07 23 15.3
	comp=Z,1µm,22.0s					
SPB	Sao Paulo	94.34	244	*e*P	P	06 47 49.6 +2.1
SDCO	Great Sand Dun	94.44	326	IAMs_20	IAMs_20	07 32 39.1
	comp=Z,971nm,19.0s					
I05D	Terrebonne, OR	94.44	339	IAmb	IAmb	06 47 49.8
	comp=Z,38nm,1.5s					
I05D				IAMs_20	IAMs_20	07 34 15.1
	comp=Z,987nm,18.0s					
T25A	Trinidad	94.44	325	IAmb	IAmb	06 47 56.0
	comp=Z,43nm,1.6s					
T25A				IAMs_20	IAMs_20	07 30 37.5
	comp=Z,1µm,20.0s					
FW14	Alvarado	94.57	317	IAMs_20	IAMs_20	07 30 57.4
	comp=Z,835nm,20.0s					
H04D	Lebanon	94.65	340	IAmb	IAmb	06 47 50.3
	comp=Z,63nm,1.5s					
PINE	Pine Mountain	94.83	339	IAmb	IAmb	06 47 52.3
	comp=Z,55nm,1.5s					
PLPT	Palo Pinto	94.86	318	IAmb	IAmb	06 47 50.7
	comp=Z,43nm,1.3s					
HNVL	Huntsville, TX	94.87	315	IAmb	IAmb	06 47 58.0
	comp=Z,61nm,1.7s					
AMTX	Amarillo	94.96	322	IAMs_20	IAMs_20	07 29 59.6
	comp=Z,986nm,18.0s					
S22A	4UR Ranch, Cre	95.03	327	IAMs_20	IAMs_20	07 32 35.3
	comp=Z,966nm,18.0s					
WHTX	Lake Whitney,	95.03	317	IAMs_20	IAMs_20	07 31 15.4
	comp=Z,943nm,20.0s					
C2SB	Chapadao do Su	95.33	251	*e*P	P	06 47 52.1 -0.1
PV23	Carpenter Ridg	95.36	329	IAmb	IAmb	06 47 58.0
	comp=Z,18nm,0.8s					
DUG	Dugway, Tooele	95.37	332	IAMs_20	IAMs_20	07 34 33.3
	comp=Z,1µm,19.0s					
J05D	Fort Rock, OR	95.38	339	IAmb	IAmb	06 47 54.6
	comp=Z,47nm,1.5s					
TEFE	Tefe	95.40	270	*e*P	P	06 47 52.9 +0.2
APMT	Aspermont	95.40	320	IAmb	IAmb	06 47 60.0
	comp=Z,53nm,1.9s					
ABTX	Abilene, Hawle	95.70	319	IAmb	IAmb	06 47 54.6
	comp=Z,45nm,1.4s					
ABTX				IAMs_20	IAMs_20	07 33 57.2
	comp=Z,876nm,18.0s					
FRTB	Fartura	95.71	245	*e*P	P	06 47 54.1 +0.2
ELK	Elko	95.77	334	LR	LR	07 33 59.5
	comp=Z,2µm,18.2s,baz=26,slow=37					
SALV	Santo Antonio	95.77	255	*e*P	P	06 47 56.2 +1.9
SN07	Snyder 07	95.98	320	IAmb	IAmb	06 48 02.3
	comp=Z,30nm,1.7s					
MSTX	Muleshoe	96.23	322	IAMs_20	IAMs_20	07 31 46.8
	comp=Z,1µm,21.0s					
BRDY	Brady	96.41	318	IAmb	IAmb	06 48 07.7
	comp=Z,21nm,1.2s					
TCRU	Three Creeks R	96.61	331	IAmb	IAmb	06 51 48.2
	comp=Z,25nm,1.5s					
L04D	Klamath Falls	96.67	339	IAmb	IAmb	06 47 59.4
	comp=Z,42nm,1.6s					
LDASE	Londrina, Braz	96.87	246	*e*P	P	06 47 59.9 +0.7
SPR3	Spring Creek 3	96.98	332	IAmb	IAmb	06 48 02.1
	comp=Z,26nm,1.4s					
ANMO	Albuquerque	97.18	325	IAMs_20	IAMs_20	07 34 13.3
	comp=Z,1µm,18.0s					
ANMO	Albuquerque	97.18	325	IAMs_20	IAMs_20	07 34 22.3
	comp=Z,1µm,19.0s					
ANMO	Albuquerque	97.18	325	LR	LR	07 34 43.2
	comp=Z,756nm,18.2s,baz=206,slow=37					
ANMO	Albuquerque	97.18	325	*i*P	P	06 47 59.6 -1.2
ANMO				pmax	pmax	
	comp=Z,3.0nm,1.5s					
YBH	Yreka Blue Hor	97.23	339	LR	LR	07 35 37.8
	comp=Z,1µm,18.1s,baz=8.0,slow=38					
VILB	Vilhena	97.51	260	*e*P	Pdif	06 48 03.9 +1.5
HATC	Hat Creek Radi	97.72	338	IAmb	IAmb	06 48 08.7
	comp=Z,32nm,1.1s					
OZNA	Ozona	97.82	319	IAmb	IAmb	06 48 04.5
	comp=Z,38nm,1.4s					
Y22D	IRIS PASSCAL I	98.12	325	P	P	06 48 04.0 -0.9
	baz=34					
PTLB	Pontes e Lacer	98.16	257	IAmb	IAmb	06 48 22.0
	comp=Z,18nm,1.4s					
PTLB				IAMs_20	IAMs_20	07 34 50.4
	comp=Z,919nm,20.0s					
PTLB	Pontes e Lacer	98.16	257	*e*P	Pdif	06 48 07.2 +2.0
MNHN	Monahans	98.33	320	IAmb	IAmb	06 48 05.4
	comp=Z,23nm,1.6s					
DRIO	Del Rio	98.73	318	IAmb	IAmb	06 48 13.8
	comp=Z,12nm,0.9s					
WUAZ	Wupatki	98.85	329	IAMs_20	IAMs_20	07 34 45.6
	comp=Z,1µm,20.0s					
PECS	Pecos	98.87	321	IAmb	IAmb	06 48 16.0
	comp=Z,29nm,1.5s					
NVAR	Mina Array Bea	98.89	335		P	06 48 08.4 -0.1
NVAR	Mina Array Bea	98.89	335	P	P	06 48 08.2 -0.3
	comp=Z,1.5nm,1.0s,baz=9.9,slow=7.2,SNR=5.7					
NVAR				PP	PP	06 52 07.5 -1.5
	comp=Z,1.5nm,0.9s,baz=26,slow=8.1,SNR=5.5					
NVAR				LR	LR	07 36 02.9
	comp=Z,2µm,19.1s,baz=30,slow=37					
	comp=Z,1.5nm,1.0s					
SAND	Sanderson	99.11	319	IAmb	IAmb	06 48 10.3
	comp=Z,52nm,2.0s					
BDQN	Bodoquena, MS	99.28	251	*e*P	Pdif	06 48 10.3 +0.3
AFDM	Forest Hills D	99.28	337	IAMs_20	IAMs_20	07 35 51.5
	comp=Z,1µm,21.0s					
SIV	San Ignacio	99.98	258	LR	LR	07 33 35.6
	comp=Z,788nm,20.7s,baz=91,slow=36					
W13A	Hualapai Mount	100.23	330	IAMs_20	IAMs_20	07 34 10.2
	comp=Z,891nm,18.0s					
TXAR	Lajitas Array	100.41	320	P	Pdif	06 48 14.2 -1.0
	comp=Z,2.4nm,0.9s,baz=66,slow=4.3,SNR=19					
TXAR				PP	PP	06 52 18.8 -1.9
	comp=Z,2.4nm,1.2s,baz=30,slow=6.6,SNR=3.7					
PETF	Flores	101.46	302	IAMs_20	IAMs_20	07 38 47.3
	comp=Z,698nm,20.0s					
BLYC	Blythe	101.66	330	IAMs_20	IAMs_20	07 35 35.0
	comp=Z,1µm,22.0s					
HDC	Heredia	102.10	293	IAMs_20	IAMs_20	07 31 10.1
	comp=Z,742nm,22.0s					
113A	Mohawk Valley,	102.22	329	IAMs_20	IAMs_20	07 42 59.7
	comp=Z,665nm,18.0s					
HERN	Volcan Telica	102.32	296	IAMs_20	IAMs_20	07 37 46.6
	comp=Z,791nm,19.0s					
SYO	Syowa Base	106.38	176	*e*Pdif	Pdif	06 48 41.5 +1.1
AP01	Chacalluta	108.59	261	IAMs_20	IAMs_20	07 34 08.8
	comp=Z,651nm,21.0s					
WRA	Warramunga Arr	113.39	98	PKiKP	PKiKP	06 53 05.0 -1.1
	comp=Z,0.8nm,0.8s,baz=315,slow=1.6,SNR=3.7					
ASAR	Alice Springs	115.03	101	PKP	PKPdf	06 53 07.2 -2.0
	comp=Z,0.5nm,0.6s,baz=305,slow=2.0,SNR=4.3					
PLCA	Paso Flores	119.92	240	PKPdf	PKiKP	06 53 18.8 +0.5
PLCA	Paso Flores	119.92	240	PKP	PKPdf	06 53 17.7 -0.5
	comp=Z,6.3nm,0.9s,baz=106,slow=2.4,SNR=9.2					
PLCA				PKP2ab		07 10 07.0
	comp=Z,1.3nm,0.9s,baz=346,slow=6.0,SNR=3.1					
PLCA	Paso Flores	119.92	240	PKIKP	PKiKP	06 53 18.8 +0.5
STKA	Stephens Creek	124.95	106	PKP	PKPdf	06 53 26.4 -1.6
	comp=Z,3.8nm,1.1s,baz=308,slow=13,SNR=3.9					
QSPA	South Pole Qui	127.27	180	PKPdf	PKPdf	06 53 30.5 -0.9
QSPA	South Pole Qui	127.27	180	PKP	PKPdf	06 53 29.8 -1.6
	comp=Z,5.2nm,0.8s,baz=236,slow=1.7,SNR=16					
EIDS	Eidsvold	129.43	94	IAMs_20	IAMs_20	07 56 03.2
	comp=Z,598nm,20.0s					
DZM	Mont Dzumac	139.97	80	*e*PP	PP	06 56 49.8 -3.7
	comp=Z,116nm,22.4s					
DZM	Mont Dzumac	139.97	80	*e*SS	SS	07 15 15.4 -0.8
	comp=Z,658nm,33.2s					
DZM	Mont Dzumac	139.97	80	*e*LQ	LQ	07 33 24.7
	comp=Z,1µm,33.7s					
DZM				*e*LR	LR	07 39 21.2
	comp=Z,1µm,24.4s					
DCZ	Deep Cove	147.57	118		PKPbc	06 54 11.6 -0.2
TAOE	Nuku Hiva Isla	150.05	339	*e*PKP2	PKPdf	06 54 13.1 -1.1
	comp=Z,177nm,26.1s					
TAOE	Nuku Hiva Isla	150.05	339	*e*PP	PP	06 57 50.3 -1.9
	comp=Z,117nm,27.6s					
TAOE	Nuku Hiva Isla	150.05	339	*e*SS	SS	07 17 10.4 +1.5
	comp=Z,2µm,36.0s					
TAOE	Nuku Hiva Isla	150.05	339	*e*LR	LR	07 43 57.5
	comp=Z,576nm,25.0s					
PPT2	Papeete2	160.23	357	*e*PKP2	PKPdf	06 54 24.6 -3.2
	comp=Z,76nm,27.5s					
PPT2	Papeete2	160.23	357	*e*PP	PP	06 58 49.9 +1.1
	comp=Z,139nm,25.8s					
PPT2	Papeete2	160.23	357	*e*SS	SS	07 19 02.8 +4.1
	comp=Z,753nm,27.0s					
PPT2	Papeete2	160.23	357	*e*LR	LR	07 48 42.7
	comp=Z,2µm,26.8s					
PPT2				*e*LR	LR	07 48 45.0
	comp=Z,1µm,27.2s					
RKT	Rikitea	160.47	313	*e*P	PKPdf	06 54 25.0 -2.9
	comp=Z,942nm,35.8s					
RKT	Rikitea	160.47	313	*e*PP	PP	06 58 55.3 +4.4
	comp=Z,588nm,28.8s					
RKT	Rikitea	160.47	313	*e*LR	LR	07 48 45.1
	comp=Z,2µm,26.2s					
TBI	Tubuai	165.94	356	*e*P	PKPdf	06 54 33.2 +0.1
	comp=Z,622nm,29.8s					
TBI	Tubuai	165.94	356	*e*PP	PP	06 59 13.7 -5.2
	comp=Z,661nm,27.0s					
TBI	Tubuai	165.94	356	*e*SS	SS	07 20 00.0 +2.3
	comp=Z,4µm,31.2s					
TBI	Tubuai	165.94	356	*e*LR	LR	07 51 18.3
	comp=Z,1µm,25.8s					
TBI				*e*LR	LR	07 51 23.1
	comp=Z,5µm,25.5s					

*IDC **20** 06:38:17.6±0.8, 37°.54N×29°.46E, h0km, mb4.1/13, mbtmp4.2/20, ML3.8/7, Error ellipse: s-maj=15.4km s-min=13.0km az=2.0*
*AFAD **20** 06:38:19.6, 37°.44N×29°.44E, h13km, MW4.8*
*ISK **20** 06:38:19.0, 37°.47N×29°.42E, h7km, ML4.5/49*
*HLW **20** 06:38:24.7, 36°.97N×29°.42E, h10km±22km, Md4.3, Ml4.7*
ISC 20 06:38:19.5±0.8, 37°.48N±0°.02×29°.43E±0°.02, h13km±5km, n139, σ1§12/156, mb4.1/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.10	268	Pg	Pg	06 38 21.8	-0.8
APMY				Sg	Sg	06 38 25.1	+0.2
GOLH	Golhisar	0.26	157	P	Pg	06 38 24.3	-0.7
GOLH				S	Sg	06 38 28.8	+0.1
INCE	Denizli-Bozkur	0.26	26	P	Pg	06 38 24.8	-0.2
INCE				S	Sb	06 38 30.1	-0.4
DNIZ	Denizli-Tavas-	0.35	296	P	Pg	06 38 26.4	-0.2
DNIZ				S	Sg	06 38 31.8	+0.4
CAEL	Denizli, Camel	0.36	195	P	Pg	06 38 25.8	-1.0
CAEL				S	Sb	06 38 33.1	-0.3
TAVA	DENIZLI_Tavas	0.41	269	P	Pg	06 38 27.3	-0.4
TAVA				S	Sb	06 38 34.5	-0.4
CAME	Cameli-Denizli	0.54	191	Pg	Pg	06 38 29.2	-0.9
CAME				Sg	Sg	06 38 37.9	+0.6
BRDR	BURDUR-Merkez	0.55	66	P	Pg	06 38 29.5	-0.7
KNIK	Mula-Seydike	0.64	170	P	Pg	06 38 30.4	-1.5
KNIK				S	Sb	06 38 41.4	+0.1
BASM	Basmaki-Afyon	0.66	48	Pg	Pg	06 38 31.8	-0.6
SABU	Mula-Dalaman	0.75	210	P	Pg	06 38 33.3	-0.7
ELL	Elmali	0.82	152	Pg	Pg	06 38 34.4	-0.9
ELL				Sg	Sb	06 38 47.2	+0.6
KHL	Karahalli	0.85	5	Pg	Pg	06 38 35.9	0.0
KORT	Korkueli	0.87	123	Pg	Pg	06 38 36.5	+0.2
KORT	Korkueli	0.87	123	P	Pg	06 38 34.3	-2.0
PASA	Karahalli, USA	0.87	3	P	Pb	06 38 36.9	+0.4
FETY	Fethiye	0.88	199	Pg	Pg	06 38 36.7	+0.2
FETY				Sg	Sb	06 38 49.1	+0.8
FETY	Fethiye	0.88	199	P	Pg	06 38 36.8	+0.3
DALY	Dalyan (Mula)	0.91	224	Pg	Pg	06 38 36.7	-0.3
BUCA	Burdur, Bucak-	0.91	99	P	Pg	06 38 35.3	-1.7
MULA	Mugla, Merkez-	0.91	257	P	Pg	06 38 36.0	-1.1
BCK	Bucak	0.92	91	Pg	Pb	06 38 37.7	+0.4
ESEN	Aydn-Nazilli	0.92	291	P	Pg	06 38 36.0	-1.2
ESEN				S	Sg	06 38 49.6	+0.3
ISP	Isparta	0.93	68	Pg	Pb	06 38 37.7	+0.2
KZIL	AFYON_Kizioren	0.96	35	P	Pg	06 38 37.2	-0.8
YER	Yerkesik	0.98	250	Pg	Pg	06 38 38.4	0.0
NAZL	Nazilli-Aydin	1.03	299	Pg	Pg	06 38 39.4	+0.1
IZZE	Mula-Seydike	1.05	189	P	Pg	06 38 38.6	-1.0
KIRA	zmir-Kiraz	1.09	312	P	Pg	06 38 39.5	-1.0
ANTB	Antalya	1.13	120	Pn	Pg	06 38 41.2	0.0
ANTB				Sn	Sn	06 38 57.7	+1.4
TURN	Turunc	1.18	234	Pn	Pb	06 38 41.7	0.0
TURN	Turunc	1.18	234	P	Pg	06 38 42.5	+0.3
BAGO	Egridir - ISPA	1.19	64	P	Pb	06 38 40.6	-1.3
KULA	Kula-Manisa	1.21	330	Pn	Pb	06 38 42.4	+0.2
MANT	Manisa	1.23	326	P	Pn	06 38 42.9	+0.4
AKAS	Kas	1.25	174	Pn	Pg	06 38 43.8	+0.3
AKAS	Kas	1.25	174	P	Pg	06 38 43.5	0.0
AYDN	Tasoluk	1.25	279	P	Pn	06 38 42.1	-0.6
KEMT	Kemer-ANTALYA	1.25	134	Pn	Pg	06 38 43.5	0.0
BNAZ	Uak-Banaz	1.25	16	P	Pn	06 38 41.8	-1.0
USAK	Uak-Merkez	1.28	345	P	Pn	06 38 43.3	+0.2
DEMR	Demre-Antalya	1.29	163	Pn	Pg	06 38 44.2	-0.1
AYDB	Zeytinkoy-Aydi	1.31	292	Pn	Pn	06 38 43.7	+0.1
MLSB	Milas	1.33	263	Pn	Pn	06 38 43.5	-0.3
ODEM	Odemis-Izmir	1.34	307	Pn	Pn	06 38 44.3	+0.4
IZMR	zmir-demi	1.35	300	P	Pn	06 38 43.3	-0.6
SHUT	Suhut-Afyon	1.39	39	Pn	Pb	06 38 45.7	+0.3
SHAP	Saphane-Kutahy	1.56	354	Pn	Pb	06 38 48.1	0.0
GEDZ	Gediz	1.57	359	Pn	Pn	06 38 48.1	+1.1
DATC	Datca-Mugla	1.59	244	Pn	Pn	06 38 48.1	+0.9
GDZ	Gediz	1.61	1	P	Pn	06 38 47.6	-0.2
YVAC	Isparta, Yalva	1.64	60	P	Pn	06 38 48.6	+0.6
ARG	Arkhangelos	1.64	220	Pn	Pn	06 38 49.1	+1.2
BDRM	Kayabasi	1.64	256	P	Pn	06 38 48.6	+0.7
SIMA	Simav-Kutahya	1.65	348	Pn	Pn	06 38 48.6	+0.5
DAT	Datca	1.66	244	Pn	Pn	06 38 49.3	+1.0
SMAA	Simav-Kutahya	1.66	348	Pn	Pn	06 38 49.3	+1.0
DEMI	Demirci	1.67	340	P	Pn	06 38 48.9	+0.5
GOMA	Golmarmara-Man	1.72	316	Pn	Pn	06 38 48.5	-0.5
MNVG	Manavgat-Antal	1.72	113	Pn	Pb	06 38 50.7	-0.2
KURO	Afyon-Bolvadin	1.73	43	P	Pn	06 38 49.8	+0.6
GORD	Gordes-Manisa	1.74	326	Pn	Pn	06 38 50.6	+1.2
BODT	Bodrum	1.74	257	Pn	Pn	06 38 50.3	+0.9
DIDI	Didim-Aydin	1.75	267	Pn	Pn	06 38 50.5	+1.1
YKAV	Yalikavak-Bodr	1.75	259	Pn	Pn	06 38 50.3	+0.8
GCAM	G?zelcaml?	1.76	278	Pn	Pn	06 38 50.6	+1.0
GCAM	G?zelcaml?	1.76	278	P	Pn	06 38 49.6	0.0
YAZI	Mula-Dat§a-	1.77	244	P	Pn	06 38 50.9	+1.2
KEPZ	Antalya-Kepez	1.82	108	P	Pn	06 38 51.4	+0.8
SEDI	Konya, Seydise	1.85	90	P	Pn	06 38 52.4	+1.4
DOGA	KONYA_Doganhis	1.88	70	P	Pn	06 38 52.6	+1.2
AKHS	Akhisar	1.90	318	P	Pn	06 38 51.7	+0.2
AKS	Akhisar	1.90	318	Pn	Pn	06 38 52.1	+0.6
EMET	Ktahya-Emet	1.90	357	P	Pn	06 38 52.5	+0.9
BYAT	Afyon-Bayat	1.91	39	P	Pn	06 38 52.6	+0.8
SEYD	Seydisehir-KON	1.92	91	Pn	Pn	06 38 53.4	+1.6
UCKU	Afyonkarahisar	1.95	53	P	Pn	06 38 53.3	+1.0
TVSB	Tavsanli	1.97	1	Pn	Pn	06 38 53.8	+1.2
GMLD	Gumuldur	2.08	288	Pn	Pb	06 38 56.1	-1.0
BLCB	Balcova	2.10	296	Pn	Pn	06 38 54.4	+0.1
DGB	zmir	2.10	287	P	Pn	06 38 54.7	+0.4
DST	Dursunbey	2.22	344	Pn	Pn	06 38 56.9	+0.9
SOMA	Soma-Manisa	2.25	319	Pn	Pn	06 38 57.6	+1.3
DURS	Dursunbey	2.25	341	P	Pn	06 38 57.0	+0.6
CIFT	Cifteler, Eski	2.28	34	Pn	Pn	06 38 57.6	+0.8
CTIK	Konya-Celtik	2.33	48	P	Pn	06 38 58.9	+1.3
STEP	BALIKESIR_Sava	2.33	325	P	Pn	06 38 57.8	+0.3
KDHN	Kadinhani	2.36	63	P	Pn	06 38 58.4	+0.4
KONT	Konya--Tatoy	2.37	78	Pn	Pn	06 38 59.1	+1.1
KONT	Konya--Tatoy	2.37	78	P	Pn	06 38 59.3	+1.3
ZEDA	zmir-Bergama	2.38	309	P	Pn	06 38 58.7	+0.6
KIZT	Kizilcal	2.38	53	Pn	Pn	06 38 58.4	+0.1
LADK	Ladik-KONYA	2.43	72	Pn	Pn	06 39 00.6	+1.7
ZEYE	Izmir, Urla-Ze	2.44	289	P	Pn	06 38 59.4	+0.4
FOCM	Foa	2.46	301	Pn	Pn	06 39 00.4	+1.1
BKES	Balkesir-Mer	2.54	333	P	Pn	06 39 01.0	+0.6
CAND	Candarli	2.54	306	Pn	Pn	06 39 01.8	+1.4
DKL	Dikili	2.55	309	Pn	Pn	06 39 01.9	+1.5
ORLT	Orhaneli	2.60	351	Pn	Pn	06 39 02.7	+1.5
BALY	Balya	2.67	328	P	Pn	06 39 03.1	+0.9
SUSR	Susurluk-Balik	2.70	337	Pn	Pn	06 39 04.3	+1.8
BILE	Bilecik/Merkez	2.71	7	P	Pn	06 39 03.7	+1.0
BUHA	Balikesir, Bur	2.74	318	P	Pn	06 39 03.9	+0.8
CAVI	Cavuskoy	2.74	7	Pn	Pn	06 39 05.0	+1.9
CBEY	Konya-Cihanbey	2.91	64	P	Pn	06 39 06.9	+1.4
GONE	Gonen-Balikesi	2.91	333	Pn	Pn	06 39 06.8	+1.4
KCTX	Karacabey (Bur	2.91	344	Pn	Pn	06 39 07.5	+2.0
MDNY	Mudanya-Bursa	2.92	352	Pn	Pn	06 39 07.4	+1.8
YENI	Yenice-Canakka	3.00	326	Pn	Pn	06 39 08.3	+1.7
BRTR	Keskin Array B	3.99	54	Pn	Pn	06 39 21.2	+0.8
	27nm,0.3s,baz=209,slow=30,SNR=28						
BRTR				Sn	Sn	06 40 07.3	+0.2
	7.0nm,0.3s,baz=224,slow=25,SNR=4.4						
	62nm,0.4s						
IDI	Anoyia	4.27	241	Pn	Pn	06 39 26.0	+1.8
	36nm,0.3s,baz=251,slow=3.3,SNR=7.9						
IDI				Sn	Sn	06 40 16.8	+3.0
	16nm,0.3s,baz=307,slow=15,SNR=3.6						
	113nm,0.6s						
DB3	El Dabaa	6.46	187	P	Pn	06 39 53.3	-1.0
MMAI	Mount Meron Ar	6.61	131	Pn	Pn	06 39 56.6	+0.3
	24nm,0.3s,baz=316,slow=13,SNR=12						
MMAI				Sn	Sn	06 41 08.8	-2.7
	65nm,0.3s,baz=308,slow=27,SNR=10						
SLUM	Salum	6.91	212	P	Pn	06 40 00.1	-0.4
KOT	Kottamia	7.79	164	P	Pn	06 40 12.4	-0.1
HHAG	Hagoal	7.82	163	P	Pn	06 40 12.0	-1.0
HNAT	Natroun	7.88	172	P	Pn	06 40 13.0	-0.8
ASF	Jabal al Asfar	8.10	129	Pn	Pn	06 40 18.7	+1.9
	2.7nm,0.3s,baz=323,slow=7.5,SNR=1.1						
ASF				Sn	Sn	06 41 50.4	+2.1
	3.7nm,0.3s,baz=114,slow=20,SNR=2.0						
	49nm,1.0s						
MLR	Muntele Rosu	8.43	343	Pn	Pn	06 40 23.0	+1.8
	1.3nm,0.3s,baz=117,slow=2.4,SNR=5.6						
SWA2		8.86	203	P	Pn	06 40 26.9	-0.2
NBNS	Bani Suef	8.96	169	P	Pn	06 40 28.3	-0.3
EIL	Elat	9.04	148	Pn	Pn	06 40 29.9	+0.3
	1.4nm,0.3s,baz=351,slow=19,SNR=1.2						
EIL				Sn	Sn	06 42 05.6	-5.7
	2.1nm,0.3s,baz=338,slow=5.4,SNR=2.0						
	91nm,1.0s						
HFRF	Wahat Farafira	10.34	186	P	Pn	06 40 46.6	-0.8
HHRG	Al Ghardaqah	10.80	160	P	Pn	06 40 55.4	+1.5
GNI	Garni	12.24	73	Pn	Pn	06 41 15.9	+2.4
	2.9nm,0.3s,baz=72,slow=20,SNR=1.9						
	8.0nm,0.5s						
GERES	GERESS Array B	16.12	320	Pn	Pn	06 42 07.8	+2.2
	baz=131,slow=12,SNR=1.5						
	1.7nm,0.7s						
FINES	FINESS Array B	24.09	356	P	P	06 43 34.7	+0.4
	4.7nm,0.6s,baz=145,slow=11,SNR=4.6						
	4.7nm,0.6s						
AKTO	Aktyubinsk	24.14	48	P	P	06 43 35.4	+0.4
	3.6nm,0.7s,baz=225,slow=11,SNR=1.2						
	3.6nm,0.7s						
HFS	Hagfors	24.80	341	P	P	06 43 39.7	-1.1
	6.0nm,0.9s,baz=133,slow=10.0,SNR=1.8						
	6.0nm,0.9s						
ESDC	Sonseca Array	26.12	285	P	P	06 43 52.3	-0.8
	1.3nm,0.8s,baz=89,slow=9.5,SNR=1.3						
	1.3nm,0.8s						
NOA	NORSAR Array B	26.23	340	P	P	06 43 51.9	-2.0
	1.7nm,0.9s,baz=155,slow=8.4,SNR=1.6						
	1.7nm,0.9s						
EKA	Eskdalemuir Ar	28.33	320	P	P	06 44 11.5	-1.2
	1.5nm,0.9s,baz=117,slow=9.7,SNR=1.1						
	1.5nm,0.9s						
ARCES	ARCESS Array B	32.19	357	P	P	06 44 45.2	-1.5
	4.0nm,0.8s,baz=176,slow=8.5,SNR=1.6						
	4.0nm,0.8s						
TORD	Torodi Ar. Bea	34.63	233	P	P	06 45 09.1	+0.6
	5.1nm,0.4s,baz=33,slow=8.9,SNR=24						
	5.1nm,0.4s						
KURBB	Kurchatov Arra	36.98	53	P	P

ISK 20 06:41:56.6, 37.°48N×29.°40E, h7km, ML4.0/51
AFAD 20 06:41:56.5, 37.°47N×29.°40E, h7km±2km, MW4.5
ISC 20 06:41:57.1±0.8, 37.°47N±0.°02×29.°41E±0.°02, h12km±5km, n112, σ1°09/130, mb3.7/6, 7C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**273**	Pg	**Pg**	**06 41 58.9**	**-1.0**
GOLH	**Golhisar**	**0.26**	**152**	P	**Pg**	**06 42 02.0**	**-0.6**
GOLH				S	**Sg**	**06 42 06.9**	**+0.6**
INCE	**Denizli-Bozkur**	**0.28**	**29**	P	**Pg**	**06 42 02.5**	**-0.5**
INCE				S	**Sg**	**06 42 07.3**	**+0.5**
DNIZ	**Denizli-Tavas-**	**0.33**	**298**	P	**Pg**	**06 42 03.6**	**-0.3**
DNIZ				S	**Sb**	**06 42 09.4**	**-0.9**
CAEL	**Denizli, Camel**	**0.35**	**192**	P	**Pg**	**06 42 03.5**	**-0.7**
CAEL				S	**Sg**	**06 42 09.1**	**+0.1**
DNZT	**Denizli-Tavas-**	**0.36**	**238**	P	**Pg**	**06 42 04.1**	**-0.2**
DNZT				S	**Sg**	**06 42 09.3**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.39**	**270**	P	**Pg**	**06 42 04.9**	**-0.1**
TAVA				S	**Sg**	**06 42 10.8**	**+0.5**
CAME	**Cameli-Denizli**	**0.53**	**189**	Pg	**Pg**	**06 42 07.5**	**0.0**
CAME				Sg	**Sb**	**06 42 15.5**	**-0.5**
BRDR	**BURDUR-Merkez**	**0.57**	**66**	P	**Pg**	**06 42 07.4**	**-0.9**
BRDR				S	**Sb**	**06 42 18.2**	**+1.2**
KNIK	**Mula-Seydike**	**0.63**	**168**	P	**Pg**	**06 42 09.4**	**0.0**
KNIK				S	**Sb**	**06 42 18.6**	**-0.4**
BASM	**Basmaki-Afyon**	**0.68**	**48**	Pg	**Pg**	**06 42 10.4**	**0.0**
SABU	**Mula-Dalaman**	**0.73**	**209**	P	**Pg**	**06 42 10.9**	**-0.4**
SABU				S	**Sb**	**06 42 21.4**	**-0.3**
ELL	**Elmali**	**0.82**	**151**	Pg	**Pg**	**06 42 12.9**	**-0.1**
KHL	**Karahalli**	**0.86**	**6**	Pg	**Pg**	**06 42 13.3**	**-0.5**
FETY	**Fethiye**	**0.87**	**197**	Pg	**Pg**	**06 42 13.4**	**-0.5**
FETY				Sg	**Sb**	**06 42 26.6**	**+0.9**
PASA	**Karahalli, USA**	**0.88**	**4**	P	**Pg**	**06 42 12.2**	**-2.0**
DALY	**Dalyan (Mula)**	**0.89**	**223**	Pg	**Pg**	**06 42 13.9**	**-0.3**
DALY				Sg	**Sn**	**06 42 27.2**	**-0.8**
KORT	**Korkueli**	**0.89**	**121**	Pg	**Pg**	**06 42 14.2**	**0.0**
KORT	**Korkueli**	**0.89**	**121**	P	**Pg**	**06 42 12.8**	**-1.4**
MULA	**Mugla, Merkez-**	**0.89**	**257**	P	**Pg**	**06 42 13.2**	**-1.1**
ESEN	**Aydn-Nazilli**	**0.90**	**292**	P	**Pg**	**06 42 13.6**	**-0.9**
BUCA	**Burdur, Bucak-**	**0.93**	**98**	P	**Pg**	**06 42 14.2**	**-0.8**
BCK	**Bucak**	**0.94**	**90**	Pg	**Pg**	**06 42 15.1**	**-0.2**
ISP	**Isparta**	**0.95**	**68**	Pg	**Pg**	**06 42 15.3**	**-0.2**
YER	**Yerkesik**	**0.96**	**250**	Pg	**Pg**	**06 42 15.3**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.98**	**36**	P	**Pg**	**06 42 15.4**	**-0.7**
NAZL	**Nazilli-Aydin**	**1.01**	**300**	Pg	**Pb**	**06 42 16.5**	**-0.1**
IZZE	**Mula-Seydike**	**1.04**	**188**	P	**Pb**	**06 42 16.0**	**-0.9**
KIRA	**zmir-Kiraz**	**1.08**	**313**	P	**Pb**	**06 42 16.7**	**-1.1**
ANTB	**Antalya**	**1.15**	**119**	Pn	**Pg**	**06 42 19.3**	**+0.2**
TURN	**Turunc**	**1.16**	**234**	Pn	**Pn**	**06 42 19.1**	**0.0**
TURN	**Turunc**	**1.16**	**234**	P	**Pb**	**06 42 18.6**	**-0.4**
KULA	**Kula-Manisa**	**1.20**	**331**	Pn	**Pn**	**06 42 19.6**	**-0.2**
BAGO	**Egridir - ISPA**	**1.21**	**64**	P	**Pg**	**06 42 20.3**	**-0.2**
AYDN	**Tasoluk**	**1.23**	**280**	P	**Pn**	**06 42 19.1**	**-1.1**
AKAS	**Kas**	**1.24**	**173**	Pn	**Pb**	**06 42 20.7**	**+0.2**
AKAS	**Kas**	**1.24**	**173**	P	**Pn**	**06 42 19.9**	**-0.5**
BNAZ	**Uak-Banaz**	**1.27**	**17**	P	**Pn**	**06 42 20.0**	**-0.7**
USAK	**Uak-Merkez**	**1.28**	**346**	P	**Pn**	**06 42 20.5**	**-0.4**
DEMR	**Demre-Antalya**	**1.29**	**162**	Pn	**Pn**	**06 42 20.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**292**	Pn	**Pg**	**06 42 21.7**	**-0.3**
MLSB	**Milas**	**1.31**	**263**	Pn	**Pb**	**06 42 21.7**	**+0.1**
ODEM	**Odemis-Izmir**	**1.33**	**308**	Pn	**Pb**	**06 42 21.9**	**-0.1**
IZMR	**zmir-demi**	**1.33**	**301**	P	**Pn**	**06 42 21.2**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.37**	**146**	P	**Pb**	**06 42 22.6**	**+0.1**
SHUT	**Suhut-Afyon**	**1.41**	**39**	Pn	**Pb**	**06 42 23.7**	**+0.3**
SHAP	**Saphane-Kutahy**	**1.56**	**355**	Pn	**Pb**	**06 42 25.5**	**-0.5**
DATC	**Datca-Mugla**	**1.56**	**244**	Pn	**Pn**	**06 42 25.2**	**+0.5**
GEDZ	**Gediz**	**1.57**	**0**	Pn	**Pb**	**06 42 25.7**	**-0.5**
ARG	**Arkhangelos**	**1.62**	**220**	Pn	**Pb**	**06 42 26.5**	**-0.3**
GDZ	**Gediz**	**1.62**	**2**	P	**Pn**	**06 42 25.0**	**-0.5**
DAT	**Datca**	**1.64**	**244**	Pn	**Pb**	**06 42 26.7**	**-0.6**
SIMA	**Simav-Kutahya**	**1.65**	**348**	Pn	**Pb**	**06 42 26.8**	**-0.6**
YVAC	**Isparta, Yalva**	**1.66**	**60**	P	**Pn**	**06 42 26.3**	**+0.3**
DEMI	**Demirci**	**1.67**	**341**	P	**Pn**	**06 42 26.2**	**0.0**
SMAA	**Simav-Kutahya**	**1.67**	**348**	Pn	**Pb**	**06 42 27.2**	**-0.5**
GOMA	**Golmarmara-Man**	**1.71**	**317**	Pn	**Pb**	**06 42 27.5**	**-0.9**
BODT	**Bodrum**	**1.72**	**257**	Pn	**Pb**	**06 42 27.5**	**+0.7**
DIDI	**Didim-Aydin**	**1.73**	**268**	Pn	**Pb**	**06 42 28.3**	**-0.4**
YKAV	**Yalikavak-Bodr**	**1.73**	**259**	Pn	**Pb**	**06 42 28.0**	**-0.8**
GORD	**Gordes-Manisa**	**1.74**	**326**	Pn	**Pn**	**06 42 27.9**	**+0.8**
GCAM	**G?zelcaml?**	**1.74**	**278**	Pn	**Pb**	**06 42 28.5**	**-0.5**
SEDI	**Konya, Seydise**	**1.87**	**90**	P	**Pn**	**06 42 29.7**	**+0.8**
AKS	**Akhisar**	**1.89**	**319**	Pn	**Pn**	**06 42 29.8**	**+0.7**
SEYD	**Seydisehir-KON**	**1.94**	**91**	Pn	**Pn**	**06 42 31.0**	**+1.1**
TVSB	**Tavsanli**	**1.98**	**1**	Pn	**Pn**	**06 42 30.8**	**+0.3**
GMLD	**Gumuldur**	**2.07**	**288**	Pn	**Pn**	**06 42 32.9**	**+1.4**
BLCB	**Balcova**	**2.08**	**297**	Pn	**Pn**	**06 42 32.9**	**+1.1**
DST	**Dursunbey**	**2.22**	**344**	Pn	**Pn**	**06 42 33.8**	**0.0**
SOMA	**Soma-Manisa**	**2.24**	**319**	Pn	**Pn**	**06 42 34.8**	**+0.8**
CIFT	**Cifteler, Eski**	**2.29**	**34**	Pn	**Pn**	**06 42 35.4**	**+0.6**
KONT	**Konya--Tatoy**	**2.39**	**78**	Pn	**Pn**	**06 42 37.2**	**+1.1**
FOCM	**Foa**	**2.45**	**301**	Pn	**Pn**	**06 42 38.0**	**+1.2**
LADK	**Ladik-KONYA**	**2.45**	**72**	Pn	**Pn**	**06 42 38.2**	**+1.2**
CAND	**Candarli**	**2.53**	**307**	Pn	**Pn**	**06 42 39.2**	**+1.2**
DKL	**Dikili**	**2.54**	**310**	Pn	**Pn**	**06 42 38.7**	**+0.7**
SVRH	**Sivrihisar-ESK**	**2.58**	**39**	Pn	**Pn**	**06 42 40.0**	**+1.2**
KARP	**Karpathos**	**2.64**	**224**	Pn	**Pn**	**06 42 40.5**	**+1.1**
SUSR	**Susurluk-Balik**	**2.70**	**338**	Pn	**Pn**	**06 42 40.9**	**+0.6**
GONE	**Gonen-Balikesi**	**2.91**	**333**	Pn	**Pn**	**06 42 44.2**	**+1.1**
KCTX	**Karacabey (Bur**	**2.91**	**344**	Pn	**Pn**	**06 42 44.3**	**+1.1**
BRTR	**Keskin Array B**	**4.01**	**54**	Pn	**Pn**	**06 42 59.5**	**+1.1**
	1.8nm,0.3s,baz=239,slow=15,SNR=5.6						
BRTR				Sn	**Sn**	**06 43 45.9**	**+0.5**
	1.1nm,0.3s,baz=220,slow=22,SNR=4.1 6.6nm,0.6s						
IDI	**Anoyia**	**4.24**	**241**	Pn	**Pn**	**06 43 03.5**	**+2.0**
	23nm,0.5s,baz=44,slow=4.6,SNR=10						
IDI				Sn	**Sn**	**06 43 52.2**	**+1.1**
	8.6nm,0.3s,baz=119,slow=6.3,SNR=6.2						
DB3	**El Dabaa**	**6.45**	**187**	S	**Sn**	**06 44 40.9**	**-4.4**
MMAI	**Mount Meron Ar**	**6.62**	**130**	Pn	**Pn**	**06 43 34.3**	**+0.1**
	18nm,0.3s,baz=308,slow=14,SNR=8.7						
MMAI				Sn	**Sn**	**06 44 46.4**	**-3.1**
	17nm,0.3s,baz=300,slow=26,SNR=8.4 15nm,0.3s						
SLUM	**Salum**	**6.89**	**211**	P	**Pn**	**06 43 37.6**	**-0.3**
TIRR	**Tirgusor**	**7.03**	**354**	⇓P	**Pn**	**06 43 40.8**	**+1.1**
TPGR	**Topolog**	**7.42**	**355**	⇓P	**Pn**	**06 43 46.4**	**+1.2**
ASF	**Jabal al Asfar**	**8.11**	**128**	Pn	**Pn**	**06 43 55.0**	**+0.3**
	0.6nm,0.3s,baz=329,slow=5.9,SNR=1.7						
ASF				Sn	**Sn**	**06 45 27.4**	**+1.0**
	0.8nm,0.3s,baz=158,slow=19,SNR=1.8 7.9nm,0.8s						
RYAN	**Fayoum**	**8.39**	**175**	P	**Pn**	**06 43 58.9**	**+0.4**
MTUR	**Matau**	**8.41**	**339**	⇑P	**Pn**	**06 44 00.4**	**+1.6**
MLR	**Muntele Rosu**	**8.43**	**343**	Pn	**Pn**	**06 44 00.1**	**+1.0**
	1.5nm,0.3s,baz=186,slow=4.5,SNR=6.1						
MLR				Sn	**Sn**	**06 45 34.2**	**+0.1**
	0.3nm,0.3s,baz=308,slow=19,SNR=0.8 5.3nm,0.5s						
MLR	**Muntele Rosu**	**8.43**	**343**	⇑P	**Pn**	**06 44 01.1**	**+2.0**
BOVS	**Bovan**	**8.50**	**319**	⇑P	**Pn**	**06 44 01.5**	**+1.5**
PLOR	**Plostina**	**8.63**	**347**	⇑P	**Pn**	**06 44 02.0**	**+0.3**
COVR	**Voineasa-Covas**	**8.71**	**345**	⇑P	**Pn**	**06 44 04.1**	**+1.3**
DOPR	**Dopca**	**9.01**	**342**	⇑P	**Pn**	**06 44 08.9**	**+2.0**
LOT	**Lotru**	**9.03**	**334**	⇓P	**Pn**	**06 44 07.7**	**+0.5**
OZUR		**9.04**	**344**	⇓P	**Pn**	**06 44 07.8**	**+0.6**
EIL	**Elat**	**9.04**	**148**	Pn	**Pn**	**06 44 06.6**	**-0.9**
	2.4nm,0.3s,baz=344,slow=18,SNR=2.8						
EIL				Sn	**Sn**	**06 45 43.4**	**-5.8**
	1.5nm,0.3s,baz=304,slow=16,SNR=3.5 14nm,0.5s						
HERR	**Herculane**	**9.09**	**327**	⇑P	**Pn**	**06 44 08.0**	**0.0**
MDVR	**Moldovita**	**9.33**	**324**	⇓P	**Pn**	**06 44 12.6**	**+1.3**
GZR	**Gura Zlata**	**9.35**	**330**	⇓P	**Pn**	**06 44 11.9**	**+0.2**
HKAT	**Jabal Katrina**	**9.71**	**155**	P	**Pn**	**06 44 18.1**	**+1.3**
SORM	**Soroca**	**10.69**	**356**	⇓P	**Pn**	**06 44 30.3**	**+0.4**
GERES	**GERESS Array B**	**16.11**	**320**	Pn	**P**	**06 45 49.1**	**+2.4**
	baz=134,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**24.09**	**356**	P	**P**	**06 47 12.2**	**0.0**
	3.8nm,0.9s,baz=150,slow=8.8,SNR=3.4 3.8nm,0.9s						
ESDC	**Sonseca Array**	**26.10**	**285**	P	**P**	**06 47 31.7**	**+1.0**
	1.8nm,0.9s,baz=83,slow=10,SNR=5.3 1.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**34.61**	**233**	P	**P**	**06 48 46.4**	**+0.4**
	2.6nm,0.6s,baz=33,slow=8.7,SNR=9.4 2.6nm,0.6s						
KURBB	**Kurchatov Arra**	**37.00**	**53**	P	**P**	**06 49 04.6**	**-1.6**
	1.1nm,0.9s,baz=276,slow=8.6,SNR=2.8 1.1nm,0.9s						
MKAR	**Makanchi Array**	**39.65**	**59**	P	**P**	**06 49 28.8**	**+0.2**
	0.8nm,0.8s,baz=280,slow=5.8,SNR=2.6 0.8nm,0.8s						
YKA	**Yellowknife Ar**	**76.26**	**344**	P	**P**	**06 53 44.4**	**-0.7**
	0.4nm,0.9s,baz=26,slow=5.3,SNR=2.9 0.4nm,0.9s						

AFAD 20 06:44:59.1, 37.°41N×29.°41E, h7km±1km, ML2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.21**	**144**	P	Pg	06 45 03.6	+0.3
GOLH				*i* AML	AML	06 45 07.0	
	comp=N,2μm,0.2s						
GOLH				S	Sg	06 45 07.0	+1.0
GOLH				*i* AML	AML	06 45 08.0	
	comp=E,2μm,0.2s						
GOLH	**Golhisar**	**0.21**	**144**	P	Pg	06 45 03.5	+0.2
GOLH				*i* AML	AML	06 45 07.0	
	comp=N,2μm,0.2s						
GOLH				S	Sg	06 45 07.0	+1.0
GOLH				*i* AML	AML	06 45 08.0	
	comp=E,2μm,0.4s						
INCE	**Denizli-Bozkur**	**0.33**	**23**	P	Pg	06 45 04.9	-0.7
INCE				S	Sg	06 45 10.4	+0.3
DNZT	**Denizli-Tavas-**	**0.33**	**248**	P	Pg	06 45 06.2	+0.6
DNZT				S	Sg	06 45 11.4	+1.4
DNZT	**Denizli-Tavas-**	**0.33**	**248**	P	Pg	06 45 06.3	+0.7
DNZT				S	Sg	06 45 11.1	+1.1
DNIZ	**Denizli-Tavas-**	**0.37**	**307**	P	Pg	06 45 06.3	0.0
DNIZ				S	Sg	06 45 12.3	+1.1
DNIZ				*i* AML	AML	06 45 13.0	
	comp=E,1μm,0.3s						
DNIZ				*i* AML	AML	06 45 13.0	
	comp=N,995nm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.37**	**307**	P	Pg	06 45 06.3	0.0
DNIZ				S	Sb	06 45 12.8	-1.2
DNIZ				*i* AML	AML	06 45 13.0	
	comp=E,1μm,0.3s						
DNIZ				*i* AML	AML	06 45 13.0	
	comp=N,1μm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.40**	**279**	P	Pg	06 45 07.3	+0.4
TAVA				*i* AML	AML	06 45 14.0	
	comp=N,161nm,0.2s						
TAVA				*i* AML	AML	06 45 14.0	
	comp=E,137nm,0.3s						
TAVA				S	S	06 45 14.0	+1.8
TAVA	**DENIZLI_Tavas**	**0.40**	**279**	P	Pg	06 45 07.4	+0.5
TAVA				S	Sb	06 45 13.9	-1.1
TAVA				*i* AML	AML	06 45 14.0	
	comp=E,183nm,0.5s						
TAVA				*i* AML	AML	06 45 14.0	
	comp=N,130nm,0.1s						
KNIK	**Mula-Seydike**	**0.57**	**167**	P	Pg	06 45 08.7	-1.5
KNIK				S	Sb	06 45 19.2	-0.8
KNIK				*i* AML	AML	06 45 25.0	
	comp=E,166nm,0.4s						
BRDR	**BURDUR-Merkez**	**0.59**	**60**	P	Pg	06 45 09.8	-0.8

IDC 20 06:45:34.5±1.0, 37.°49N×29.°47E, h0km, mb3.6/5, mbtmp3.7/11, ML3.7/5, Error ellipse: s-maj=16.6km s-min=15.2km az=147.0
ISK 20 06:45:34.8, 37.°43N×29.°40E, h3km, ML3.5/38
AFAD 20 06:45:34.2, 37.°43N×29.°41E, h7km±3km, ML3.2
ISC 20 06:45:35.1±0.9, 37.°43N±0.°02×29.°42E±0.°02, h7km±6km, n66, σ1°12/93, mb3.5/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.10**	**293**	Pg	**Pg**	**06 45 37.1**	**-0.3**
APMY				Sg	**Sg**	**06 45 39.5**	**+0.5**
GOLH	**Golhisar**	**0.23**	**150**	P	**Pg**	**06 45 39.2**	**-0.4**
GOLH				*i* AML	AML	06 45 43.0	
	comp=N,2μm,0.2s						
GOLH				*i* AML	AML	06 45 43.0	
	comp=E,4μm,0.5s						
GOLH				S	**Sg**	**06 45 43.2**	**+0.5**
INCE	**Denizli-Bozkur**	**0.30**	**24**	P	**Pg**	**06 45 40.5**	**-0.6**
INCE				S	**Sg**	**06 45 45.8**	**+0.7**
INCE				*i* AML	AML	06 45 46.0	
	comp=E,4μm,0.4s						
CAEL	**Denizli, Camel**	**0.32**	**194**	P	**Pg**	**06 45 40.6**	**-0.7**
CAEL				S	**Sg**	**06 45 46.3**	**+0.7**
CAEL				*i* AML	AML	06 45 49.0	
	comp=N,1μm,0.4s						
CAEL				*i* AML	AML	06 45 53.0	
	comp=E,1μm,0.4s						
DNZT	**Denizli-Tavas-**	**0.35**	**244**	P	**Pg**	**06 45 41.1**	**-0.9**
DNIZ	**Denizli-Tavas-**	**0.36**	**303**	P	**Pg**	**06 45 41.6**	**-0.5**
DNIZ				S	**Sg**	**06 45 46.5**	**-0.3**
DNIZ				*i* AML	AML	06 45 49.0	
	comp=E,6μm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.40**	**275**	P	**Pg**	**06 45 42.5**	**-0.4**
TAVA				S	**Sg**	**06 45 48.5**	**+0.2**
TAVA				*i* AML	AML	06 45 50.0	
	comp=E,2μm,0.4s						
TAVA				*i* AML	AML	06 45 50.0	
	comp=N,3μm,0.7s						
CAME	**Cameli-Denizli**	**0.50**	**191**	Pg	**Pg**	**06 45 43.7**	**-1.0**
BRDR	**BURDUR-Merkez**	**0.57**	**63**	P	**Pg**	**06 45 44.4**	**-1.8**
BRDR				S	**Sg**	**06 45 53.6**	**-0.2**
BRDR				*i* AML	AML	06 46 02.0	
	comp=E,3μm,0.6s						
BRDR				*i* AML	AML	06 46 02.0	
	comp=N,2μm,0.5s						
KNIK	**Mula-Seydike**	**0.60**	**168**	P	**Pg**	**06 45 44.7**	**-2.0**
KNIK				S	**Sb**	**06 45 55.3**	**-1.4**
KNIK				*i* AML	AML	06 45 58.0	
	comp=E,1μm,0.3s						
KNIK				*i* AML	AML	06 46 00.0	
	comp=N,1μm,0.4s						
BASM	**Basmaki-Afyon**	**0.70**	**46**	Pg	**Pb**	**06 45 49.1**	**-0.6**
BASM				Sg	**Sb**	**06 45 59.9**	**+0.3**
SABU	**Mula-Dalaman**	**0.71**	**211**	P	**Pg**	**06 45 46.5**	**-2.2**
SABU				S	**Sg**	**06 45 58.0**	**+0.2**
SABU				*i* AML	AML	06 46 00.0	
	comp=E,2μm,0.6s						
SABU				*i* AML	AML	06 46 03.0	
	comp=N,2μm,0.5s						
ELL	**Elmali**	**0.79**	**150**	Pg	**Pb**	**06 45 50.8**	**-0.4**
ELL				Sg	**Sb**	**06 46 02.4**	**+0.2**
FETY	**Fethiye**	**0.84**	**199**	Pg	**Pb**	**06 45 51.5**	**-0.6**
FETY				Sg	**Sb**	**06 46 03.8**	**+0.2**
KORT	**Korkueli**	**0.86**	**120**	Pg	**Pb**	**06 45 52.2**	**-0.3**
KORT	**Korkueli**	**0.86**	**120**	P	**Pg**	**06 45 51.7**	**+0.1**
KORT				S	**Sb**	**06 46 03.5**	**-0.8**
KORT				*i* AML	AML	06 46 09.0	
	comp=E,1μm,0.5s						
KORT				*i* AML	AML	06 46 12.0	
	comp=N,795nm,0.6s						
DALY	**Dalyan (Mula)**	**0.87**	**225**	Pg	**Pb**	**06 45 52.2**	**-0.3**
MULA	**Mugla, Merkez-**	**0.89**	**259**	P	**Pb**	**06 45 52.2**	**-0.8**
KHL	**Karahalli**	**0.89**	**5**	Pg	**Pb**	**06 45 53.1**	**+0.1**
BUCA	**Burdur, Bucak-**	**0.92**	**96**	P	**Pg**	**06 45 51.6**	**-1.1**
BUCA				S	**Sb**	**06 46 06.0**	**+0.2**
BUCA				*i* AML	AML	06 46 10.0	
	comp=N,621nm,0.8s						
BUCA				*i* AML	AML	06 46 12.0	
	comp=E,565nm,0.7s						
PASA	**Karahalli, USA**	**0.92**	**3**	P	**Pg**	**06 45 50.8**	**-1.9**
PASA				S	**Sb**	**06 46 06.4**	**+0.5**
PASA				*i* AML	AML	06 46 10.0	
	comp=E,881nm,1.1s						
PASA				*i* AML	AML	06 46 11.0	
	comp=N,595nm,0.5s						
ESEN	**Aydn-Nazilli**	**0.92**	**294**	P	**Pg**	**06 45 51.9**	**-1.0**
ESEN				S	**Sg**	**06 46 03.5**	**-1.4**
ESEN				*i* AML	AML	06 46 10.0	
	comp=N,776nm,0.5s						
ESEN				*i* AML	AML	06 46 10.0	
	comp=E,571nm,0.7s						
BCK	**Bucak**	**0.93**	**88**	Pg	**Pb**	**06 45 53.6**	**-0.1**
YER	**Yerkesik**	**0.95**	**252**	Pg	**Pb**	**06 45 53.7**	**-0.3**
YER				Sg	**Sb**	**06 46 07.5**	**+0.6**
ISP	**Isparta**	**0.96**	**66**	Pg	**Pb**	**06 45 54.3**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.00**	**35**	P	**Pg**	**06 45 52.0**	**-2.3**
KZIL				S	**Sn**	**06 46 10.1**	**-0.2**
KZIL				*i* AML	AML	06 46 15.0	
	comp=N,797nm,0.8s						
KZIL				*i* AML	AML	06 46 17.0	
	comp=E,912nm,0.6s						
NAZL	**Nazilli-Aydin**	**1.04**	**301**	Pg	**Pg**	**06 45 54.6**	**-0.4**
ANTB	**Antalya**	**1.12**	**118**	Pn	**Pn**	**06 45 57.2**	**0.0**
TURN	**Turunc**	**1.15**	**235**	Pn	**Pn**	**06 45 57.3**	**-0.3**
TURN	**Turunc**	**1.15**	**235**	P	**Pn**	**06 45 57.5**	**0.0**
TURN				S	**Sb**	**06 46 12.4**	**+0.1**
TURN				*i* AML	AML	06 46 16.0	
	comp=N,792nm,0.6s						
TURN				*i* AML	AML	06 46 17.0	
	comp=E,623nm,0.5s						
AKAS	**Kas**	**1.21**	**173**	Pn	**Pn**	**06 45 58.5**	**-0.1**
AKAS	**Kas**	**1.21**	**173**	P	**Pg**	**06 45 57.8**	**-0.5**
KULA	**Kula-Manisa**	**1.23**	**331**	Pn	**Pn**	**06 45 59.3**	**+0.4**
KULA				Sn	**Sn**	**06 46 16.5**	**+0.6**
DEMR	**Demre-Antalya**	**1.26**	**162**	Pn	**Pn**	**06 45 59.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**293**	Pn	**Pb**	**06 46 00.7**	**+0.5**
MLSB	**Milas**	**1.31**	**265**	Pn	**Pb**	**06 45 59.7**	**-0.5**
AKUM	**Antalya-Kumluc**	**1.33**	**146**	P	**Pb**	**06 46 00.9**	**+0.4**
AKUM				S	**Sn**	**06 46 20.5**	**+2.3**
AKUM				*i* AML	AML	06 46 27.0	
	comp=N,400nm,0.7s						
ODEM	**Odemis-Izmir**	**1.36**	**309**	Pn	**Pn**	**06 45 59.9**	**-0.7**
SHUT	**Suhut-Afyon**	**1.43**	**38**	Pn	**Pb**	**06 46 01.9**	**-0.3**
DATC	**Datca-Mugla**	**1.56**	**245**	Pn	**Pg**	**06 46 04.1**	**-0.9**
SHAP	**Saphane-Kutahy**	**1.59**	**355**	Pn	**Pb**	**06 46 04.9**	**-0.1**
ARG	**Arkhangelos**	**1.60**	**221**	Pn	**Pb**	**06 46 04.6**	**-0.3**
GEDZ	**Gediz**	**1.61**	**360**	Pn	**Pg**	**06 46 05.2**	**-0.8**
DAT	**Datca**	**1.63**	**245**	Pn	**Pb**	**06 46 05.1**	**-0.5**
SIMA	**Simav-Kutahya**	**1.68**	**348**	Pn	**Pb**	**06 46 06.3**	**-0.2**
SMAA	**Simav-Kutahya**	**1.70**	**348**	Pn	**Pb**	**06 46 06.4**	**-0.4**
BODT	**Bodrum**	**1.72**	**258**	Pn	**Pb**	**06 46 06.9**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.73**	**260**	Pn	**Pb**	**06 46 06.7**	**-0.6**
GCAM	**G?zelcaml?**	**1.76**	**279**	Pn	**Pb**	**06 46 06.9**	**-0.8**
GORD	**Gordes-Manisa**	**1.77**	**327**	Pn	**Pb**	**06 46 07.5**	**-0.4**
TVSB	**Tavsanli**	**2.01**	**1**	Pn	**Pb**	**06 46 11.3**	**-0.8**
BLCB	**Balcova**	**2.11**	**298**	Pn	**Pb**	**06 46 12.1**	**-1.5**
SOMA	**Soma-Manisa**	**2.27**	**320**	Pn	**Pb**	**06 46 14.8**	**-1.7**
CIFT	**Cifteler, Eski**	**2.32**	**33**	Pn	**Pn**	**06 46 14.8**	**+1.0**
DKL	**Dikili**	**2.57**	**310**	Pn	**Pn**	**06 46 16.7**	**-0.4**
BRTR	**Keskin Array B**	**4.02**	**54**	Pn	**Pn**	**06 46 37.5**	**+0.2**
	1.3nm,0.3s,baz=242,slow=17,SNR=13						
BRTR				Sn	**Sn**	**06 47 25.1**	**+0.3**
	0.7nm,0.3s,baz=221,slow=24,SNR=6.5 4.8nm,0.6s						
IDI	**Anoyia**	**4.24**	**241**	Pn	**Pn**	**06 46 41.6**	**+1.4**
	11nm,0.4s,baz=57,slow=12,SNR=6.2						
IDI				Sn	**Sn**	**06 47 32.7**	**+2.8**
	3.6nm,0.3s,baz=204,slow=3.7,SNR=3.9						
MMAI	**Mount Meron Ar**	**6.59**	**130**	Pn	**Pn**	**06 47 12.6**	**+0.1**
	6.0nm,0.3s,baz=317,slow=12,SNR=5.2						
MMAI				Sn	**Sn**	**06 48 26.9**	**-1.0**
	3.2nm,0.3s,baz=285,slow=22,SNR=2.7 3.0nm,0.3s						
ASF	**Jabal al Asfar**	**8.08**	**128**	Pn	**Pn**	**06 47 34.0**	**+1.0**
	0.3nm,0.3s,baz=352,slow=19,SNR=1.3						
ASF				Sn	**Sn**	**06 49 07.5**	**+2.8**
	0.5nm,0.3s,baz=241,slow=19,SNR=1.6 1.5nm,0.4s						
MLR	**Muntele Rosu**	**8.46**	**343**	Pn	**Pn**	**06 47 40.7**	**+2.5**
	0.3nm,0.3s,baz=133,slow=19,SNR=1.0						
MLR				Sn	**Sn**	**06 49 14.4**	**+0.4

ISP	Isparta	0.92	67	Pg	Pb	06 47 29.9	-0.7
MULA	Mugla, Merkez-	0.93	257	P	Pg	06 47 29.3	-0.9
MULA				S	Sb	06 47 43.4	+0.2
MULA				*i* AML	AML	06 47 48.0	
	comp=E,1μm,0.5s						
MULA				*i* AML	AML	06 47 49.0	
	comp=N,530nm,0.8s						
ESEN	Aydn-Nazilli	0.94	291	P	Pg	06 47 29.7	-0.6
YER	Yerkesik	0.99	251	Pg	Pb	06 47 31.6	-0.2
NAZL	Nazilli-Aydin	1.04	299	Pg	Pb	06 47 32.6	-0.1
IZZE	Mula-Seydike	1.05	190	P	Pg	06 47 31.5	-0.9
IZZE				S	Sb	06 47 46.6	+0.1
IZZE				*i* AML	AML	06 47 52.0	
	comp=E,1μm,0.4s						
IZZE				*i* AML	AML	06 47 53.0	
	comp=N,2μm,0.4s						
ANTB	Antalya	1.11	120	Pn	Pn	06 47 34.1	-0.1
TURN	Turunc	1.19	235	Pn	Pn	06 47 35.6	+0.4
KULA	Kula-Manisa	1.22	329	Pn	Pb	06 47 35.4	-0.3
AKAS	Kas	1.24	174	Pn	Pn	06 47 36.5	+0.4
AKAS	Kas	1.24	174	P	Pb	06 47 36.0	-0.1
AKAS				S	Sn	06 47 56.6	+3.6
AKAS				*i* AML	AML	06 47 58.0	
	comp=E,603nm,0.8s						
AKAS				*i* AML	AML	06 48 02.0	
	comp=N,792nm,0.4s						
DEMR	Demre-Antalya	1.28	163	Pn	Pb	06 47 37.2	+0.5
AYDB	Zeytinkoy-Aydi	1.33	291	Pn	Pb	06 47 37.9	+0.3
MLSB	Milas	1.35	263	Pn	Pg	06 47 37.9	-0.3
AKUM	Antalya-Kumluc	1.35	148	P	Pg	06 47 39.0	+0.8
AKUM				S	Sn	06 47 59.0	+3.5
AKUM				*i* AML	AML	06 48 15.0	
	comp=N,171nm,0.9s						
ODEM	Odemis-Izmir	1.36	307	Pn	Pg	06 47 38.2	-0.2
SHUT	Suhut-Afyon	1.39	38	Pn	Pg	06 47 38.7	-0.3
SHAP	Saphane-Kutahy	1.56	353	Pn	Pb	06 47 41.0	-0.5
GEDZ	Gediz	1.57	359	Pn	Pb	06 47 41.3	-0.4
DATC	Datca-Mugla	1.60	244	Pn	Pb	06 47 41.9	-0.2
ARG	Arkhangelos	1.64	221	Pn	Pb	06 47 42.9	0.0
SIMA	Simav-Kutahya	1.65	347	Pn	Pb	06 47 42.5	-0.6
DAT	Datca	1.67	244	Pn	Pb	06 47 43.0	-0.4
GORD	Gordes-Manisa	1.75	325	Pn	Pn	06 47 43.5	+0.4
BODT	Bodrum	1.76	257	Pn	Pb	06 47 44.5	-0.3
YKAV	Yalikavak-Bodr	1.77	259	Pn	Pn	06 47 43.5	+0.3
GCAM	G?zelcaml?	1.78	278	Pn	Pb	06 47 44.2	-1.0
TVSB	Tavsanli	1.98	0	Pn	Pn	06 47 47.1	+0.9
GMLD	Gumuldur	2.10	288	Pn	Pb	06 47 49.7	-0.9
BLCB	Balcova	2.12	296	Pn	Pn	06 47 49.1	+1.1
SOMA	Soma-Manisa	2.26	319	Pn	Pn	06 47 49.8	-0.2
DKL	Dikili	2.56	309	Pn	Pn	06 47 55.4	+1.2
BRTR	Keskin Array B	3.98	54	Pn	Pn	06 48 14.5	+0.8
	2.5nm,0.3s,baz=238,slow=17,SNR=18						
BRTR				Sn	Sn	06 48 59.1	-1.5
	0.5nm,0.3s,baz=230,slow=24,SNR=3.6						
	6.4nm,0.4s						
IDI	Anoyia	4.28	241	Pn	Pn	06 48 19.3	+1.5
	4.5nm,0.3s,baz=58,slow=16,SNR=6.5						
IDI				Sn	Sn	06 49 07.9	0.0
	2.8nm,0.3s,baz=35,slow=22,SNR=1.9						
	22nm,0.5s						
MMAI	Mount Meron Ar	6.59	131	Pn	Pn	06 48 49.6	0.0
	3.3nm,0.3s,baz=313,slow=12,SNR=5.3						
MMAI				Sn	Sn	06 50 02.4	-2.6
	3.9nm,0.3s,baz=307,slow=27,SNR=4.0						
ASF	Jabal al Asfar	8.08	129	Sn	Sn	06 50 44.2	+2.5
	0.2nm,0.3s,baz=257,slow=17,SNR=1.8						
FINES	FINESS Array B	24.09	356	P	P	06 52 27.6	-0.4
	3.2nm,0.9s,baz=173,slow=13,SNR=2.3						
	3.2nm,0.9s						
TORD	Torodi Ar. Bea	34.64	233	P	P	06 54 02.4	+0.2
	1.4nm,0.9s,baz=38,slow=8.7,SNR=3.7						
	1.4nm,0.9s						
KURBB	Kurchatov Arra	36.97	53	P	P	06 54 21.5	-0.3
	0.2nm,0.5s,baz=277,slow=8.7,SNR=2.7						
	0.2nm,0.5s						
MKAR	Makanchi Array	39.61	59	P	P	06 54 44.1	-0.1
	0.2nm,0.5s,baz=270,slow=10,SNR=2.3						
	0.2nm,0.5s						

*IDC **20** 06:51:29.8±0.9, 14°.10N×56°.79E, h0km, mb3.9/11, mbtmp3.9/11, ML1.6/1, Error ellipse: s-maj=26.3km s-min=20.8km az=40.0*

ISC 20 06:51:32.1±0.9, 14°.1N±0°.1×56°.8E±0°.2, h15km, n17, σ0=94/15, mb4.1/11, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.28	11	Pn	Pn	06 53 46.4	+1.0
	baz=52,slow=19,SNR=1.5						
KMBO	Kilima Mbogo	24.53	234	P	P	06 56 53.5	+1.9
	1.2nm,0.3s,baz=46,slow=9.3,SNR=3.6						
	1.2nm,0.3s						
MKAR	Makanchi Array	38.99	28	P	P	06 58 58.1	+0.3
	0.6nm,0.6s,baz=205,slow=6.4,SNR=4.4						
	0.6nm,0.6s						
CMAR	Chiang Mai Arr	40.66	78	P	P	06 59 12.3	+0.2
	1.3nm,0.3s,baz=284,slow=7.0,SNR=5.6						
	1.3nm,0.3s						
AKASG	Malin Array Be	42.80	334	P	P	06 59 28.6	-0.5
	0.3nm,0.4s,baz=139,slow=7.1,SNR=5.5						
	0.3nm,0.4s						
FINES	FINESS Array B	52.19	342	P	P	07 00 42.7	+0.7
	3.3nm,0.7s,baz=134,slow=8.3,SNR=7.3						
FINES				PcP	PcP	07 01 54.1	+0.6
	4.3nm,0.8s,baz=125,slow=7.1,SNR=5.3						
	3.3nm,0.7s						
HFS	Hagfors	55.66	336	P	P	07 01 07.4	0.0
	1.7nm,0.8s,baz=115,slow=10,SNR=2.0						
	1.7nm,0.8s						
ESDC	Sonseca Array	58.67	308	P	P	07 01 28.9	-0.3
	1.1nm,0.6s,baz=75,slow=5.6,SNR=7.6						
	1.1nm,0.6s						
ARCES	ARCESS Array B	58.79	348	P	P	07 01 29.0	-0.4
	0.7nm,0.6s,baz=139,slow=7.5,SNR=4.8						
	0.7nm,0.6s						
EKA	Eskdalemuir Ar	61.55	326	P	P	07 01 46.7	-1.8
	0.6nm,0.6s,baz=105,slow=8.3,SNR=2.0						
	0.6nm,0.6s						
H01W3	Cape Leeuwin H	73.00	134	T	T	08 22 36.3	
	baz=302,slow=76,SNR=13						
H01W2	Cape Leeuwin H	73.01	134	T	T	08 22 38.3	
	baz=302,slow=76,SNR=14						
H01W1	Cape Leeuwin H	73.02	134	T	T	08 22 40.5	
	baz=302,slow=76,SNR=14						
WRA	Warramunga Arr	83.44	112	P	P	07 03 58.8	-0.8
	1.7nm,1.0s,baz=289,slow=3.8,SNR=4.7						
	1.7nm,1.0s						
ASAR	Alice Springs	84.18	116	P	P	07 04 02.7	-0.7
	0.9nm,0.8s,baz=288,slow=5.2,SNR=7.0						
	0.9nm,0.8s						
PDAR	Pinedale Array	122.05	348	PKP	PKiKP	07 10 26.9	-0.1
	0.4nm,0.7s,baz=48,slow=2.1,SNR=2.9						
NVAR	Mina Array Bea	127.56	355	PKP	PKiKP	07 10 38.2	+0.2
	0.5nm,0.6s,baz=346,slow=7.5,SNR=2.3						

*IDC **20** 06:51:57.8±0.8, 37°.44N×29°.44E, h0km, mb3.9/9, mbtmp3.9/16, ML3.4/5, Error ellipse: s-maj=14.8km s-min=14.3km az=141.0*

*ISK **20** 06:51:57.9, 37°.44N×29°.42E, h5km, ML4.1/35*

*AFAD **20** 06:51:58.4, 37°.43N×29°.40E, h7km±2km, MW4.2*

*THE **20** 06:51:58.2, 37°.55N×29°.69E, h0km±1km, ML4.2/5, Error ellipse: s-maj=3.9km s-min=1.1km az=61.0*

*GII **20** 06:51:58.7±0.0, 37°.408N±0°.003×29°.489E±0°.001, h3km, Mws4.0, confirmed*

*NIC **20** 06:52:00.7, 37°.39N×29°.45E, h5km±31km, Ml3.4/5*

ISC 20 06:51:58.4±1.0, 37°.46N±0°.02×29°.45E±0°.02, h4km±7km, n121, σ0=24/170, mb3.7/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.12	278	Pg	Pg	06 52 00.9	+0.1
GOLH	Golhisar	0.24	157	P	Pg	06 52 03.4	+0.4
GOLH				S	Sg	06 52 07.1	+0.9
INCE	Denizli-Bozkur	0.27	22	P	Pb	06 52 04.7	-1.3
INCE				S	Sb	06 52 09.7	-1.3
CAEL	Denizli, Camel	0.35	197	P	Pg	06 52 04.9	-0.3
CAEL				S	Sg	06 52 10.3	+0.5
DNIZ	Denizli-Tavas-	0.36	298	P	Pg	06 52 06.0	+0.4
DNIZ				S	Sg	06 52 11.5	+1.1
DNZT	Denizli-Tavas-	0.38	242	P	Pg	06 52 05.4	-0.3
DNZT				P	Pb	06 52 05.7	-2.1
DNZT				S	Sg	06 52 10.8	+0.1
DNZT				S	Sg	06 52 10.8	+0.1
TAVA	DENIZLI_Tavas	0.42	272	P	Pg	06 52 06.7	+0.1
TAVA				S	Sg	06 52 12.3	+0.1
CAME	Cameli-Denizli	0.52	193	Pg	Pg	06 52 07.8	-0.7
CAME				Sg	Sg	06 52 15.5	+0.2
BRDR	BURDUR-Merkez	0.55	64	P	Pb	06 52 09.6	-1.1
BRDR				S	Sb	06 52 19.6	+0.8
KNIK	Mula-Seydike	0.62	170	P	Pg	06 52 09.7	-0.6
KNIK				S	Sg	06 52 20.0	+1.6
BASM	Basmaki-Afyon	0.67	46	Pg	Pg	06 52 11.5	+0.3
BASM				Sg	Sb	06 52 21.8	-0.5
SABU	Mula-Dalaman	0.74	211	P	Pg	06 52 11.5	-1.1
SABU				S	Sg	06 52 22.5	+0.4
ELL	Elmali	0.80	152	Pg	Pg	06 52 13.7	0.0
ELL	Elmali	0.80	152	P	Pg	06 52 13.4	-0.4
ELL				S	Sb	06 52 26.0	-0.1
KORT	Korkueli	0.85	122	Pg	Pg	06 52 15.2	+0.4
KORT	Korkueli	0.85	122	P	Pb	06 52 15.6	-0.3
KORT				S	Sn	06 52 29.5	-0.8
KHL	Karahalli	0.87	4	Pg	Pb	06 52 15.2	-0.9
FETY	Fethiye	0.87	200	Pg	Pg	06 52 14.3	-0.8
FETY	Fethiye	0.87	200	P	Pb	06 52 16.7	+0.6
PASA	Karahalli, USA	0.89	2	P	Pg	06 52 15.3	-0.2
PASA				S	Sn	06 52 30.7	-0.6
BUCA	Burdur, Bucak-	0.90	98	P	Pb	06 52 16.2	-0.4
BUCA				S	Sb	06 52 30.1	+1.2
DALY	Dalyan (Mula)	0.90	225	Pg	Pg	06 52 15.2	-0.5
BCK	Bucak	0.91	89	Pg	Pb	06 52 16.4	-0.4
MULA	Mugla, Merkez-	0.92	258	P	Pg	06 52 15.8	-0.2
ISP	Isparta	0.93	66	Pg	Pg	06 52 16.4	+0.1
ISP	Isparta	0.93	66	P	Pb	06 52 16.5	-0.7
ISP				S	Sb	06 52 30.8	+0.9
ESEN	Aydn-Nazilli	0.94	292	P	Pg	06 52 16.5	+0.1
ESEN				S	Sg	06 52 28.0	-0.5
KZIL	AFYON_Kizioren	0.97	34	P	Pg	06 52 16.9	-0.2
KZIL				S	Sn	06 52 35.5	+2.2
YER	Yerkesik	0.98	251	Pg	Pg	06 52 16.7	-0.6
IZZE	Mula-Seydike	1.03	190	P	Pg	06 52 18.3	+0.1
IZZE				S	Sn	06 52 36.8	+2.2
NAZL	Nazilli-Aydin	1.05	299	Pg	Pg	06 52 18.3	-0.2
KIRA	zmir-Kiraz	1.11	312	P	Pg	06 52 19.6	-0.2
KIRA				S	Sb	06 52 35.3	+0.2
ANTB	Antalya	1.11	120	Pn	Pg	06 52 19.9	+0.1
AFYN	Afyon-Dinar-K	1.17	45	P	Pb	06 52 20.8	-0.5
AFYN				P	Pn	06 52 21.0	-0.6
AFYN				S	Sn	06 52 41.8	+3.7
TURN	Turunc	1.18	235	Pn	Pg	06 52 20.4	-0.6
TURN	Turunc	1.18	235	P	Pg	06 52 20.3	-0.6
BAGO	Egridir - ISPA	1.19	63	P	Pg	06 52 19.2	-2.1
KULA	Kula-Manisa	1.23	330	Pn	Pb	06 52 21.9	-0.3
AKAS	Kas	1.23	174	Pn	Pg	06 52 21.5	-0.5
AKAS	Kas	1.23	174	P	Pg	06 52 22.0	0.0
KEMT	Kemer-ANTALYA	1.23	133	Pn	Pg	06 52 22.1	+0.1
AYDN	Tasoluk	1.26	280	P	Pg	06 52 22.4	-0.2
AYDN				S	Sb	06 52 39.6	+0.2
BNAZ	Uak-Banaz	1.27	16	P	Pb	06 52 22.6	-0.4
BNAZ				S	Sn	06 52 41.4	+0.8
DEMR	Demre-Antalya	1.27	163	Pn	Pg	06 52 22.5	-0.3
USAK	Uak-Merkez	1.30	345	P	Pn	06 52 23.4	-0.1
USAK				S	Sn	06 52 41.4	+0.1
KSL	Kastellorizon	1.31	175	P	Pg	06 52 23.6	+0.1
KSL				S	Sn	06 52 43.8	+2.5
	2μm,1.1s						
KSL	Kastellorizon	1.31	175	P	Pg	06 52 23.3	-0.2
KSL				S	Sn	06 52 43.3	+2.0
AYDB	Zeytinkoy-Aydi	1.33	292	Pn	Pg	06 52 23.4	-0.5
MLSB	Milas	1.34	264	Pn	Pg	06 52 23.6	-0.5
ODEM	Odemis-Izmir	1.36	307	Pn	Pg	06 52 24.1	-0.4
IZMR	zmir-demi	1.36	300	P	Pg	06 52 24.1	-0.5
IZMR				P	Pn	06 52 24.3	0.0
IZMR				S	Sn	06 52 44.1	+1.4
SHUT	Suhut-Afyon	1.40	38	Pn	Pb	06 52 25.4	+0.2
AFYO	Afyonkarahisar	1.49	27	P	Pg	06 52 26.6	-0.4
SHAP	Saphane-Kutahy	1.57	354	Pn	Pb	06 52 27.9	-0.3
GEDZ	Gediz	1.59	359	Pn	Pb	06 52 27.9	-0.5
DATC	Datca-Mugla	1.59	245	Pn	Pn	06 52 27.2	-0.1
ARG	Arkhangelos	1.63	221	Pn	Pn	06 52 27.8	-0.1
ARG	Arkhangelos	1.63	221	P	Pn	06 52 28.2	+0.3
ARG				S	Sg	06 52 53.5	+2.8
	4μm,0.8s						
ARG	Arkhangelos	1.63	221	P	Pb	06 52 28.9	-0.1
ARG				S	Sg	06 52 52.4	+1.7
GDZ	Gediz	1.63	1	P	Pb	06 52 27.8	-0.2
YVAC	Isparta, Yalva	1.64	60	P	Pg	06 52 29.3	-0.5
DAT	Datca	1.66	245	Pn	Pn	06 52 28.2	-0.2
SIMA	Simav-Kutahya	1.67	347	Pn	Pn	06 52 28.5	0.0
SMAA	Simav-Kutahya	1.68	348	Pn	Pb	06 52 29.1	-0.9
GOMA	Golmarmara-Man	1.74	316	Pn	Pn	06 52 29.2	-0.2
BODT	Bodrum	1.75	258	Pn	Pn	06 52 29.5	0.0
DIDI	Didim-Aydin	1.76	268	Pn	Pn	06 52 29.5	-0.1
YKAV	Yalikavak-Bodr	1.76	260	Pn	Pn	06 52 29.6	0.0
GORD	Gordes-Manisa	1.76	326	Pn	Pn	06 52 29.5	-0.3
GCAM	G?zelcaml?	1.77	279	Pn	Pn	06 52 29.8	-0.1
NISR	Nisiros	2.04	246	P	Pb	06 52 35.4	-0.6
NISR				S	Sg	06 53 04.2	+0.3
	4μm,1.0s						
KARP	Karpathos	2.65	225	P	Pn	06 52 42.8	+0.8
KARP				S	Sb	06 53 18.8	-0.5
	2μm,0.6s						
KARP	Karpathos	2.65	225	P	Pn	06 52 42.8	+0.8
KARP				S	Sn	06 53 17.1	+2.6
PRK	Paraskevi	3.07	307	P	Pn	06 52 47.6	-0.1
PRK				S	Sn	06 53 27.4	+2.6
	995nm,0.9s						
SIGR	SIGRI	3.32	303	P	Pn	06 52 51.9	+0.7
AKMS	Akamas	3.37	135	P	Pn	06 52 54.1	+2.2
AKMS				S	Sn	06 53 33.3	+1.0
AKMS				AML	AML	06 53 54.6	
	0.3nm,0.7s						
AKMS				AML	AML	06 53 57.4	
	0.3nm,0.7s						
ALFC	Alefka	3.43	131	P	Pn	06 52 54.6	+2.0
ALFC				S	Sn	06 53 35.8	+2.1
ALFC				AML	AML	06 53 49.6	
	0.3nm,0.6s						
ALFC				AML	AML	06 54 03.8	
	0.2nm,1.0s						
ZKR	Zakros	3.50	229	P	Pn	06 52 55.3	+1.6
ZKR	Zakros	3.50	229	P	Pn	06 52 55.2	+1.6
ZKR				S	Sn	06 53 38.1	+2.6
NATA	Nata	3.68	136	P	Pn	06 52 58.4	+2.3
NATA				S	Sn	06 53 42.7	+2.8
NATA				AML	AML	06 54 11.0	
	1.5nm,1.2s						
NATA				AML	AML	06 54 13.3	
	1.1nm,1.4s						
BRTR	Keskin Array B	3.99	54	Pn	Pn	06 53 01.7	+1.2
	2.5nm,0.3s,baz=243,slow=17,SNR=35						
BRTR				Sn	Sn	06 53 48.2	+0.5
	1.3nm,0.3s,baz=223,slow=24,SNR=11						
	17nm,0.6s						
CSS	Mathiatis	4.01	127	P	Pn	06 53 00.8	+0.2
CSS	Mathiatis	4.01	127	S	Sn	06 53 48.3	+0.3
CSS	Mathiatis	4.01	127	P	Pn	06 53 02.4	+1.8
CSS				S	Sb	06 53 54.4	-4.0
CSS				AML	AML	06 54 18.6	
	0.2nm,0.9s						
CSS				AML	AML	06 54 21.0	
	0.2nm,0.8s						
ASGA	Asgata	4.07	130	P	Pn	06 53 04.0	+2.5
ASGA				S	Sn	06 53 53.5	+4.0
ASGA				AML	AML	06 54 16.4	
	0.2nm,0.9s						
ASGA				AML	AML	06 54 20.7	
	0.3nm,0.8s						
MVOU	Mavrovouni	4.17	124	P	Pb	06 53 07.7	-4.6
IDI	Anoyia	4.26	241	Pn	Pn	06 53 04.9	+0.7
	34nm,0.6s,baz=58,slow=12,SNR=25						
IDI				Sn	Sn	06 53 53.8	-0.7
	5.6nm,0.3s,baz=181,slow=6.3,SNR=8.4						
SMTH	Samothraki Isl	4.29	316	P	Pn	06 53 04.8	+0.4
MMA0B	Mount Meron ar	6.59	131	P	Pn	06 53 35.8	-0.3
MMA0B	Mount Meron ar	6.59	131	S	Sn	06 54 51.9	+0.2
MMAI	Mount Meron Ar	6.59	131	Pn	Pn	06 53 36.0	0.0
	14nm,0.5s,baz=304,slow=12,SNR=13						
MMAI				Sn	Sn	06 54 50.6	-1.1
	4.6nm,0.3s,baz=316,slow=24,SNR=2.1						
GEM	Giv'at Ha'Em	6.61	128	P	Pn	06 53 36.8	+0.4
GEM	Giv'at Ha'Em	6.61	128	S	Sn	06 54 52.1	-0.1
NATI	Neve Ativ	6.63	127	P	Pn	06 53 37.1	+0.5
NATI	Neve Ativ	6.63	127	S	Sn	06 54 52.1	-0.4
MMLI	Mount Malkishu	7.01	134	P	Pn	06 53 41.8	0.0
MMLI	Mount Malkishu	7.01	134	S	Sn	06 55 01.7	-0.4
DSI	Dead Sea	7.64	138	P	Pn	06 53 50.6	0.0
DSI	Dead Sea	7.64	138	S	Sn	06 55 17.2	-0.4
ASF	Jabal al Asfar	8.08	129	Pn	Pn	06 53 57.2	+0.5
	0.4nm,0.3s,baz=309,slow=6.5,SNR=3.0						
ASF				Sn	Sn	06 55 29.5	+1.0
	baz=30,slow=20						
	1.9nm,0.3s						
MLR	Muntele Rosu	8.45	343	Pn	Pn	06 54 04.1	+2.5
	0.4nm,0.3s,baz=198,slow=12,SNR=6.2						
MLR				Sn	Sn	06 55 36.0	-1.4
	baz=165,slow=12						
	4.8nm,0.6s						
PRNI	Paran	8.46	145	P	Pn	06 54 01.1	-0.6
PRNI	Paran	8.46	145	S	Sn	06 55 37.2	-0.5
KRMI	Paran Flat	8.54	148	P	Pn	06 54 03.1	+0.3
KRMI	Paran Flat	8.54	148	S	Sn	06 55 39.9	+0.4
HRFI	Mount Harif	8.74	146	P	Pn	06 54 05.4	-0.3
MBRI	Mt Berech	8.90	148	P	Pn	06 54 08.4	+0.5
MBRI	Mt Berech	8.90	148	S	Sn	06 55 48.2	-0.3
EIL	Elat	9.02	148	Pn	Pn	06 54 08.7	-0.8
	1.1nm,0.3s,baz=355,slow=7.5,SNR=8.8						
EIL				Sn	Sn	06 55 45.6	-5.8
	0.6nm,0.3s,baz=315,slow=18,SNR=2.0						
	10nm,0.6s						
EIL	Elat	9.02	148	P	Pn	06 54 09.4	-0.1
EIL	Elat	9.02	148	S	Sn	06 55 50.7	-0.7
GERES	GERESS Array B	16.14	320	Pn	P	06 55 48.2	-1.2
	baz=133,slow=11,SNR=7.8						
	1.2nm,0.8s						
FINES	FINESS Array B	24.10	356	P	P	06 57 13.8	-1.1
	3.7nm,0.8s,baz=152,slow=10.0,SNR=6.3						
	3.7nm,0.8s						
ESDC	Sonseca Array	26.13	285	P	P	06 57 33.0	-0.6
	2.0nm,0.9s,baz=81,slow=9.0,SNR=6.8						
	2.0nm,0.9s						
NOA	NORSAR Array B	26.25	340	P	P	06 57 35.3	+0.9
	0.4nm,0.5s,baz=151,slow=7.8,SNR=2.1						
	0.4nm,0.5s						
TORD	Torodi Ar. Bea	34.62	233	P	P	06 58 48.2	-0.6
	2.8nm,0.6s,baz=32,slow=9.2,SNR=21						
	2.8nm,0.6s						
MKAR	Makanchi Array	39.62	59	P	P	06 59 31.4	+0.4
	0.6nm,0.5s,baz=282,slow=7.2,SNR=3.9						
	0.6nm,0.5s						
ZALV	Zalesovo Beam	40.91	48	P	P	06 59 42.4	+0.8
	1.1nm,0.7s,baz=260,slow=8.2,SNR=3.8						
	1.1nm,0.7s						
YKA	Yellowknife Ar	76.28	344	P	P	07 03 47.9	0.0
	0.5nm,0.9s,baz=30,slow=5.2,SNR=7.2						
	0.5nm,0.9s						
ILAR	Eielson Array	78.07	358	P	P	07 03 58.1	+0.2
	0.5nm,0.9s,baz=356,slow=3.5,SNR=6.7						
	0.5nm,0.9s						
BDFB	Brasilia	89.76	250	P	P	07 04 58.7	+0.3
	4.2nm,0.9s,baz=141,slow=7.3,SNR=5.8						
	4.2nm,0.9s						

*IDC **20** 06:59:16.0±0.8, 14°.03N×56°.77E, h0km, mb3.9/11, mbtmp3.9/11, ML1.4/1, MS4.0/1, Error ellipse: s-maj=22.3km s-min=20.0km az=157.0*

*GCMT **20** 06:59:20.0±0.4, 14°.21N±0°.03×56°.41E±0°.03, h24km±1km, MW4.9/72, Moment Tensor Solution. s22,c23; s72,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.66±.25; $M_{\theta\theta}$2.44±.15; $M_{\phi\phi}$0.22±.14; $M_{r\theta}$-0.08±.16; $M_{\theta\phi}$-0.81±.09; $M_{r\phi}$1.68±.21; Best double couple: $M_0$3.11500×10^{16} NP1:ϕ_S267.00000°, δ43.00000°, λ-127.00000°. NP2: ϕ_S133.00000°, δ57.00000°, λ-61.00000°. Principal axes: T 2.7870, Plg7.0000°, Azm202.0000°; N 0.6630, Plg24.0000°, Azm296.0000°; P -3.4440, Plg65.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 20 06:59:19.2±0.9, 14°.0N±0°.1×56°.8E±0°.1, h20km, n17, σ0=93/13, mb4.0/11, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.33	11	Pn	Pn	07 01 33.5	+0.9
	baz=253,slow=19,SNR=2.3						
KMBO	Kilima Mbogo	24.49	234	P	P	07 04 39.2	+1.5
	1.0nm,0.3s,baz=41,slow=9.5,SNR=13						
	1.0nm,0.3s						
MMAI	Mount Meron Ar	27.10	318	LR	LR	07 15 42.7	
	comp=Z,312nm,18.3s,baz=100,slow=36						
MKAR	Makanchi Array	39.04	28	P	P	07 06 46.0	+1.4
	0.7nm,0.7s,baz=210,slow=7.0,SNR=5.1						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	40.55	21	P	P	07 06 57.5	+0.4
	0.5nm,0.8s,baz=218,slow=8.4,SNR=4.5						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	40.68	78	P	P	07 06 58.7	0.0
	1.1nm,0.3s,baz=270,slow=8.0,SNR=4.3						
	1.1nm,0.3s						
AKASG	Malin Array Be	42.84	334	P	P	07 07 15.3	-0.5
	0.2nm,0.3s,baz=138,slow=7.1,SNR=4.5						
	0.2nm,0.3s

PRK	**Paraskevi**	**0.72 131**	P	**Pb**	**06 59 49.9**	**-0.6**
PRK			S	**Sb**	**07 00 00.3**	**-0.3**
SMTH	**Samothraki Isl**	**0.75 358**	P	**Pb**	**06 59 51.0**	**-0.2**
SMTH			S	**Sn**	**07 00 03.3**	**-1.3**
2μm,0.4s						
SMTH	**Samothraki Isl**	**0.75 358**	P	**Pb**	**06 59 51.0**	**-0.2**
SMTH			S	**Sb**	**07 00 01.7**	**0.0**
COMU	**Canakkale**	**0.79 61**	Pg	**Pb**	**06 59 51.2**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.97 45**	Pg	**Pb**	**06 59 54.3**	**-0.6**
ENZZ	**Sultanice-Enez**	**0.99 26**	Pg	**Pb**	**06 59 54.8**	**-0.4**
ENZZ			Sg	**Sb**	**07 00 09.2**	**+0.7**
THAS	**Thassos island**	**1.10 324**	P	**Pb**	**06 59 57.1**	**0.0**
THAS			S	**Sb**	**07 00 12.0**	**+0.3**
1μm,0.7s						
THAS	**Thassos island**	**1.10 324**	P	**Pn**	**06 59 58.0**	**+0.4**
THAS			S	**Sb**	**07 00 12.0**	**+0.3**
ENEZ	**Enez**	**1.11 23**	Pn	**Pb**	**06 59 56.9**	**-0.4**
ENEZ	**Enez**	**1.11 23**	P	**Pb**	**06 59 57.3**	**0.0**
ENEZ			S	**Sn**	**07 00 13.4**	**0.0**
LPK	**Lapseki**	**1.12 54**	Pn	**Pb**	**06 59 57.3**	**-0.2**
SKY	**Skiros Island**	**1.15 224**	P	**Pg**	**06 59 57.2**	**-0.5**
SKY			S	**Sb**	**07 00 13.6**	**+0.4**
2μm,0.4s						
SKY	**Skiros Island**	**1.15 224**	P	**Pg**	**06 59 57.6**	**-0.1**
SKY			S	**Sb**	**07 00 13.6**	**+0.4**
ALEX	**Alexandroupoli**	**1.17 12**	P	**Pn**	**06 59 58.4**	**0.0**
ALEX			S	**Sb**	**07 00 13.7**	**+0.2**
CANM	**Can-anakkale**	**1.18 75**	Pn	**Pn**	**06 59 58.8**	**+0.1**
ERIK	**Erikli-Kesan**	**1.20 37**	Pn	**Pb**	**06 59 58.3**	**-0.4**
DKL	**Dikili**	**1.22 122**	Pn	**Pn**	**06 59 59.5**	**+0.3**
CAND	**Candarli**	**1.22 128**	Pn	**Pn**	**06 59 59.7**	**+0.5**
ALN	**Alexandroupoli**	**1.23 17**	Pn	**Pg**	**06 59 58.9**	**-0.4**
ALN	**Alexandroupoli**	**1.23 17**	P	**Pg**	**06 59 59.0**	**-0.4**
ALN			S	**Sn**	**07 00 16.1**	**-0.3**
370nm,0.4s						
EAG2	**Marmaro, Chios**	**1.24 160**	P	**Pn**	**06 59 59.8**	**+0.2**
EAG2			S	**Sb**	**07 00 15.8**	**0.0**
YENI	**Yenice-Canakka**	**1.31 80**	Pn	**Pn**	**07 00 00.9**	**+0.5**
OUR	**Ouranopolis**	**1.37 297**	Pn	**Pn**	**07 00 01.4**	**+0.1**
OUR	**Ouranopolis**	**1.37 297**	P	**Pn**	**07 00 01.3**	**+0.1**
OUR			S	**Sg**	**07 00 18.8**	**-0.8**
922nm,0.6s						
OUR	**Ouranopolis**	**1.37 297**	P	**Pn**	**07 00 01.4**	**+0.1**
AOS	**Alonnisos**	**1.42 248**	P	**Pn**	**07 00 02.1**	**+0.2**
AOS			S	**Sg**	**07 00 21.6**	**+0.4**
958nm,0.8s						
RDO	**Rodhopi**	**1.43 359**	Pn	**Pn**	**07 00 01.9**	**-0.2**
RDO	**Rodhopi**	**1.43 359**	P	**Pn**	**07 00 01.9**	**-0.2**
RDO			S	**Sb**	**07 00 20.4**	**-0.7**
338nm,0.7s						
RDO	**Rodhopi**	**1.43 359**	P	**Pn**	**07 00 02.0**	**0.0**
PAIG	**Paliouri**	**1.47 279**	Pn	**Pn**	**07 00 02.7**	**0.0**
PAIG	**Paliouri**	**1.47 279**	P	**Pn**	**07 00 02.6**	**-0.1**
PAIG			S	**Sn**	**07 00 21.8**	**-0.4**
288nm,0.6s						
KRBG	**Karabiga-Canak**	**1.49 62**	Pn	**Pg**	**07 00 03.6**	**-0.6**
CESE	**eme**	**1.50 157**	Pn	**Pb**	**07 00 03.8**	**0.0**
KAVA	**Kavala**	**1.51 328**	P	**Pn**	**07 00 03.4**	**+0.2**
KAVA			S	**Sn**	**07 00 22.0**	**-1.3**
KAVA	**Kavala**	**1.51 328**	P	**Pn**	**07 00 03.5**	**+0.3**
KAVA			S	**Sn**	**07 00 22.3**	**-1.0**
KVLA	**Kavala**	**1.52 324**	P	**Pn**	**07 00 03.1**	**-0.2**
KVLA			S	**Sn**	**07 00 22.1**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.57 51**	Pn	**Pb**	**07 00 04.4**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.57 227**	P	**Pn**	**07 00 03.3**	**-0.8**
KYMI			S	**Sn**	**07 00 25.0**	**+0.2**
448nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.57 227**	P	**Pn**	**07 00 03.6**	**-0.5**
KYMI			S	**Sn**	**07 00 24.6**	**-0.2**
SOMA	**Soma-Manisa**	**1.62 110**	Pn	**Pb**	**07 00 05.9**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.63 30**	Pn	**Pb**	**07 00 05.3**	**-0.7**
KOKK	**Kokkinochori,**	**1.63 313**	P	**Pn**	**07 00 05.0**	**+0.1**
KOKK			S	**Sn**	**07 00 25.4**	**-0.8**
KOKK	**Kokkinochori,**	**1.63 313**	P	**Pn**	**07 00 04.9**	**0.0**
KOKK			S	**Sn**	**07 00 25.6**	**-0.6**
GONE	**Gonen-Balikesi**	**1.66 78**	Pn	**Pn**	**07 00 05.7**	**+0.4**
BLCB	**Balcova**	**1.75 139**	Pn	**Pb**	**07 00 07.6**	**-0.6**
PLG	**Polygyros**	**1.76 293**	P	**Pn**	**07 00 07.5**	**+0.8**
NEO	**Neokhori**	**1.86 258**	P	**Pn**	**07 00 08.7**	**+0.6**
EDC	**Edincik**	**1.87 70**	Pn	**Pn**	**07 00 08.9**	**+0.7**
XOR	**Xorichti**	**1.87 260**	P	**Pn**	**07 00 08.5**	**+0.3**
XOR			S	**Sn**	**07 00 33.2**	**+1.0**
XOR	**Xorichti**	**1.87 260**	P	**Pn**	**07 00 08.1**	**-0.1**
KARY	**Karystos**	**1.90 208**	P	**Pn**	**07 00 07.9**	**-0.7**
KDZ	**Kurdzhali**	**1.92 355**	Pn	**Pn**	**07 00 09.0**	**+0.1**
SUSR	**Susurluk-Balik**	**1.95 82**	Pn	**Pn**	**07 00 10.0**	**+0.7**
BAND	**Balkesir-Ban**	**2.04 71**	⇑P	**Pb**	**07 00 12.9**	**-0.2**
BAND			⇑S	**Sb**	**07 00 39.1**	**+0.3**
SRS	**Serrai**	**2.06 313**	*e*Pn	**Pn**	**07 00 11.0**	**+0.2**
SRS			*e*Sn	**Sb**	**07 00 38.4**	**-0.9**
SRS	**Serrai**	**2.06 313**	P	**Pn**	**07 00 11.1**	**+0.3**
DION	**Dionisos Attik**	**2.08 218**	P	**Pn**	**07 00 11.3**	**+0.3**
HORT	**Hortiatis**	**2.09 296**	P	**Pn**	**07 00 11.6**	**+0.3**
PTL	**Penteli**	**2.13 219**	P	**Pn**	**07 00 11.0**	**-0.8**
GORD	**Gordes-Manisa**	**2.18 111**	Pn	**Pn**	**07 00 12.9**	**+0.5**
KCTX	**Karacabey (Bur**	**2.21 75**	Pn	**Pn**	**07 00 13.7**	**+0.8**
EDRB	**Edirne**	**2.31 22**	Pn	**Pb**	**07 00 16.6**	**-1.0**
DST	**Dursunbey**	**2.36 92**	Pn	**Pn**	**07 00 15.4**	**+0.5**
ODEM	**Odemis-Izmir**	**2.42 126**	Pn	**Pn**	**07 00 16.5**	**+0.6**
PLD	**Plovdiv**	**2.51 346**	*e*Pn	**Pn**	**07 00 17.6**	**+0.7**
PLD			*e*Sn	**Sn**	**07 00 47.9**	**+0.1**
SLVT	**Silivri**	**2.52 52**	Pn	**Pn**	**07 00 18.2**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.53 134**	Pn	**Pn**	**07 00 18.9**	**+1.5**
ARMT	**Armutlu**	**2.66 70**	Pn	**Pn**	**07 00 20.4**	**+1.3**
KULA	**Kula-Manisa**	**2.69 116**	Pn	**Pn**	**07 00 20.3**	**+0.8**
VAY	**Valandovo**	**2.79 306**	*e*Pn	**Pn**	**07 00 23.5**	**+2.7**
VTS	**Vitosha**	**3.39 329**	*e*Pn	**Pn**	**07 00 30.4**	**+1.2**
VTS			*e*Sn	**Sn**	**07 01 08.7**	**-1.2**
BOSS	**Bosilegrad**	**3.63 321**	*e*Pn	**Pn**	**07 00 34.1**	**+1.7**
BOSS			*e*Sn	**Sn**	**07 01 15.7**	**+0.2**
ZAPS	**Zavoj**	**4.18 329**	*e*Pn	**Pn**	**07 00 41.6**	**+1.6**
BARS	**Barje**	**4.20 319**	*e*Pn	**Pn**	**07 00 40.6**	**+0.5**
BARS			*e*Sn	**Sn**	**07 01 30.2**	**+0.7**
ZAGS	**Zajecar**	**4.79 330**	*e*Pn	**Pn**	**07 00 48.7**	**+0.4**
SELS	**Selova**	**4.84 318**	*e*Pn	**Pn**	**07 00 49.0**	**0.0**
BOVS	**Bovan**	**4.87 325**	⇑P	**Pn**	**07 00 50.7**	**+1.4**
BOVS	**Bovan**	**4.87 325**	*e*Pn	**Pn**	**07 00 50.2**	**+0.8**
HERR	**Herculane**	**5.67 337**	⇑P	**Pn**	**07 01 01.5**	**+1.2**
VOIR		**5.73 356**	⇑P	**Pn**	**07 01 02.4**	**+1.1**
MLR	**Muntele Rosu**	**5.78 3**	⇑P	**Pn**	**07 01 04.1**	**+2.2**
GZR	**Gura Zlata**	**6.04 341**	⇑P	**Pn**	**07 01 06.2**	**+0.7**
COVR	**Voineasa-Covas**	**6.14 4**	⇓P	**Pn**	**07 01 09.2**	**+2.3**
PLOR	**Plostina**	**6.18 7**	⇑P	**Pn**	**07 01 08.7**	**+1.2**
VRI	**Vrincioaia**	**6.20 8**	⇑P	**Pn**	**07 01 09.3**	**+1.5**
DOPR	**Dopca**	**6.25 359**	⇓P	**Pn**	**07 01 10.1**	**+1.8**
VRSS	**Vrsac**	**6.25 331**	*e*Pn	**Pn**	**07 01 09.7**	**+1.4**
BZS	**Buzias**	**6.58 335**	⇓P	**Pn**	**07 01 14.3**	**+1.5**
BURAR	**Bucovina Array**	**7.90 358**	⇓P	**Pn**	**07 01 34.0**	**+3.0**

*NNC **20** 07:01:28.2±1.4, 51°.46N×74°.18E, h0km, mb2.9, mpv2.6,*
Error ellipse: s-maj=21.6km s-min=9.7km az=29.0,
Suspected Mining explosion.
*IDC **20** 07:01:28.2±1.0, 51°.81N×74°.41E, h0km, mbtmp2.5/4,*
ML1.8/3, Error ellipse: s-maj=27.0km s-min=8.2km
az=29.0

ISC 20 07:01:26.4±0.9, 51°.84N±0°.07×74°.42E±0°.05, h0km, n11,
σ1§40/14, 5C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.73 297**		⇓Pn	**Pb**	**07 02 15.0**	**-1.1**
1.9nm,0.6s,baz=132,slow=16,SNR=15							
BVA0				⇓Sn	**Sb**	**07 02 49.3**	**-0.9**
7.8nm,0.7s,baz=128,slow=29,SNR=12							
BVAR	**Borovoye Array**	**2.73 297**		Pn	**Pn**	**07 02 13.2**	**+1.7**
0.1nm,0.3s,baz=111,slow=16,SNR=13							
BVAR				Sn	**Sn**	**07 02 47.3**	**+2.0**
0.6nm,0.3s,baz=114,slow=28,SNR=31							
1.9nm,0.4s							
BRVK	**Borovoye**	**2.81 297**		⇓Pn	**Pb**	**07 02 15.8**	**-1.6**
2.5nm,0.6s							
BRVK				⇑Sn	**Sb**	**07 02 51.4**	**-0.9**
12nm,0.6s							
KURBB	**Kurchatov Arra**	**2.86 114**		Pn	**Pn**	**07 02 14.8**	**+1.6**
0.1nm,0.3s,baz=299,slow=16,SNR=8.7							
KURBB				Lg	Lg	07 02 57.5	
0.3nm,0.3s,baz=291,slow=30,SNR=9.5							
0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**2.86 114**		⇑Pg	**Pg**	**07 02 20.0**	**-1.2**
2.0nm,0.6s							
KURBB				⇑Lg	Lg	07 02 59.1	
19nm,0.6s							
KURK	**Kurchatov**	**2.87 111**		⇑Pg	**Pg**	**07 02 20.2**	**-1.1**
0.6nm,0.5s							
KURK				⇓Lg	Lg	07 02 58.1	
6.3nm,1.1s							
OTUK	**Ortayu**	**3.84 201**		Pg	**Pb**	**07 02 34.4**	**-0.7**
1.1nm,0.6s							
OTUK				Lg	Lg	07 03 19.1	
5.0nm,0.7s							
ZALV	**Zalesovo Beam**	**6.64 67**		Pn	**Pn**	**07 03 06.2**	**+1.1**
1.2nm,0.6s,baz=250,slow=16,SNR=4.1							
ZALV				Sn	**Sn**	**07 04 22.6**	**+1.1**
0.1nm,0.3s,baz=260,slow=22,SNR=1.9							
I46RU	**ZALESOVO INFRA**	**6.64 67**		I	I	07 41 20.0	
baz=254,slow=331,SNR=3.3							
MK31	**Makanchi Array**	**7.21 131**		⇑Lg	Lg	07 05 12.5	
1.5nm,0.7s,baz=323,slow=30,SNR=4.9							
MKAR	**Makanchi Array**	**7.21 131**		Pn	**Pn**	**07 03 13.9**	**+0.9**
baz=314,slow=16,SNR=1.3							
MKAR				Sn	**Sn**	**07 04 35.4**	**-0.1**
baz=318,slow=23							
MKAR				Lg	Lg	07 05 13.1	
0.1nm,0.3s,baz=314,slow=25,SNR=5.7							
0.1nm,0.4s							

*NNC **20** 07:07:04.0±7.3, 51°.50N×82°.37E, h0km, mb2.7, mpv2.3,*
Error ellipse: s-maj=66.9km s-min=34.1km az=20.0,
Suspected Mining explosion.
*IDC **20** 07:07:10.5±1.6, 51°.36N×81°.82E, h0km, mbtmp1.9/1, Error*
ellipse: s-maj=17.1km s-min=12.9km az=140.0

ISC 20 07:07:10.9±1.3, 51°.37N±0°.07×81°.73E±0°.06, h0km, n8,
σ0§94/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.07 253**		⇓Pn	**Pn**	**07 07 46.1**	**-0.7**
0.6nm,0.6s							
KURK				⇓Sn	**Sg**	**07 08 17.5**	**+0.3**
2.9nm,0.8s							
KURBB	**Kurchatov Arra**	**2.15 251**		Pg	**Pb**	**07 07 50.0**	**-0.7**
0.1nm,0.3s,baz=71,slow=18,SNR=4.3							
KURBB				Lg	Lg	07 08 20.3	
0.1nm,0.3s,baz=73,slow=31,SNR=3.4							
KURBB	**Kurchatov Arra**	**2.15 251**		⇑Pn	**Pn**	**07 07 48.5**	**+0.5**
0.6nm,0.4s							
KURBB				⇓Sn	**Sb**	**07 08 19.1**	**+1.1**
6.4nm,0.8s							
ZALV	**Zalesovo Beam**	**3.20 35**		Pg	**Pb**	**07 08 08.1**	**-0.4**
0.1nm,0.3s,baz=213,slow=16,SNR=1.8							
ZALV				Lg	Lg	07 08 51.3	
0.2nm,0.3s,baz=234,slow=27,SNR=2.7							
I46RU	**ZALESOVO INFRA**	**3.20 35**		I	I	07 25 30.0	
baz=212,slow=337,SNR=7.4							
MAKZ	**Makanchi**	**4.56 178**		⇑Pg	**Pb**	**07 08 31.0**	**-0.9**
0.8nm,0.6s							
MAKZ				⇑Lg	Lg	07 09 32.9	
0.7nm,0.7s							
MK31	**Makanchi Array**	**4.59 175**		⇑Pg	**Pb**	**07 08 31.4**	**-0.9**
0.1nm,0.3s,baz=5.0,slow=15,SNR=4.1							
MK31				⇓Lg	Lg	07 09 34.4	
0.8nm,0.6s,baz=10,slow=28,SNR=6.1							
MKAR	**Makanchi Array**	**4.59 175**		Pn	**Pn**	**07 08 22.5**	**+0.9**
0.2nm,0.8s,baz=9.6,slow=14,SNR=1.3							
MKAR				Lg	Lg	07 09 36.5	
0.3nm,0.3s,baz=3.0,slow=30,SNR=7.6							

ISK 20 07:13:03.3, 37°.37N×29°.44E, h5km, ML2.0/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.15 313**		Pg	Pg	07 13 06.9	+0.5
APMY				Sg	Sg	07 13 09.5	+1.0
BASM	**Basmaki-Afyon**	**0.73 41**		Pg	Pg	07 13 17.7	+0.3
FETY	**Fethiye**	**0.79 201**		Pg	Pg	07 13 18.8	+0.4
KORT	**Korkueli**	**0.81 117**		Pg	Pg	07 13 19.3	+0.4
DALY	**Dalyan (Mula)**	**0.84 229**		Pg	Pg	07 13 19.8	+0.4
YER	**Yerkesik**	**0.95 256**		Pg	Pb	07 13 22.0	-0.3
NAZL	**Nazilli-Aydin**	**1.09 303**		Pn	Pb	07 13 24.4	-0.2
TURN	**Turunc**	**1.13 239**		Pn	Pb	07 13 25.2	0.0
KULA	**Kula-Manisa**	**1.30 332**		Pn	Pb	07 13 28.5	+0.3
AYDB	**Zeytinkoy-Aydi**	**1.36 296**		Pn	Pg	07 13 29.4	0.0
ODEM	**Odemis-Izmir**	**1.41 310**		Pn	Pb	07 13 30.1	0.0
ODEM				Sn	Sn	07 13 49.8	+1.1

AFAD 20 07:13:38.0, 37°.44N×29°.40E, h7km±2km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.30 28**		P	Pg	07 13 43.2	-0.8
INCE				S	Sg	07 13 48.7	+0.7
INCE				*i* AML	AML	07 13 49.0	
comp=N,287nm,0.2s							
INCE				*i* AML	AML	07 13 49.0	
comp=E,239nm,0.2s							
DNZT	**Denizli-Tavas-**	**0.34 241**		P	Pg	07 13 45.0	+0.3
DNZT				S	Sb	07 13 50.9	-1.1
DNZT				*i* AML	AML	07 13 51.0	
comp=N,92nm,0.1s							
DNZT				*i* AML	AML	07 13 51.0	
comp=E,106nm,0.2s							
DNIZ	**Denizli-Tavas-**	**0.34 303**		P	Pg	07 13 44.9	+0.2
DNIZ				S	Sg	07 13 50.4	+1.2
TAVA	**DENIZLI_Tavas**	**0.39 274**		P	Pg	07 13 46.1	+0.5
TAVA				S	Sg	07 13 52.0	+1.4
TAVA				*i* AML	AML	07 13 52.0	
comp=N,107nm,0.1s							
TAVA				*i* AML	AML	07 13 52.0	
comp=E,75nm,0.3s							
BRDR	**BURDUR-Merkez**	**0.59 64**		P	Pg	07 13 49.5	+0.2
BRDR				S	Sb	07 13 59.6	+0.4
BRDR				*i* AML	AML	07 14 01.0	
comp=E,60nm,0.2s							
BRDR				*i* AML	AML	07 14 02.0	
comp=N,56nm,0.2s							

IDC 20 07:16:33.4±2.0, 2°.85N×128°.17E, h0km, mb3.4/4,
mbtmp3.4/4, Error ellipse: s-maj=155.2km
s-min=22.8km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.45 165**		P	P	07 21 43.5	-1.1
0.7nm,0.7s,baz=345,slow=11,SNR=6.4							
0.7nm,0.7s							
ASAR	**Alice Springs**	**26.94 168**		P	P	07 22 17.6	+0.9
0.1nm,0.5s,baz=351,slow=8.6,SNR=1.7							
0.1nm,0.5s							
MKAR	**Makanchi Array**	**59.09 325**		P	P	07 26 36.1	+0.4
0.4nm,0.5s,baz=122,slow=7.9,SNR=6.8							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**63.25 327**		P	P	07 27 03.3	-0.4
0.3nm,0.4s,baz=127,slow=6.4,SNR=5.1							
0.3nm,0.4s							

*SOME **20** 07:17:03.1, 42°.30N×83°.58E, h5km*
*NNC **20** 07:17:06.8±2.1, 42°.20N×83°.35E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=15.6km s-min=8.1km az=147.0

ISC 20 07:17:02.7±2.3, 42°.32N±0°.10×83°.64E±0°.08, h10km, n23,
σ2§80/35, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.66 296**		Pg	**Pg**	**07 17 52.3**	**-1.4**
6.6nm,0.3s							
KTMS				Lg	Lg	07 18 28.7	
38nm,0.3s							
KTMS	**Ketmen**	**2.66 296**		*e*P	**Pg**	**07 17 52.3**	**-1.4**
6.6nm,0.3s							
KTMS				*e*S	**Sg**	**07 18 28.7**	**+0.5**
38nm,0.3s							
SHLS	**Shalkode**	**3.19 287**		Pg	**Pb**	**07 17 56.5**	**-3.0**
19nm,0.3s							
SHLS				Lg	Lg	07 18 35.3	
122nm,0.3s							
SHLS	**Shalkode**	**3.19 287**		*e*P	**Pb**	**07 17 56.5**	**-3.0**
19nm,0.3s							
SHLS				*e*S	**Sb**	**07 18 35.3**	**-3.1**
122nm,0.3s							
DJR	**Jarkent**	**3.45 307**		Pg	**Pb**	**07 18 06.1**	**+2.1**
1.4nm,0.1s							
DJR				Lg	Lg	07 18 51.5	
18nm,0.4s							
DJR	**Jarkent**	**3.45 307**		*e*P	**Pb**	**07 18 06.1**	**+2.1**
1.4nm,0.1s							
DJR				*e*S	**Sg**	**07 18 51.5**	**-2.0**
18nm,0.4s							
UZB	**Uzynbulak**	**3.50 285**		Pg	**Pb**	**07 18 06.5**	**+1.7**
3.9nm,0.2s							
UZB				Lg	Lg	07 18 52.2	
28nm,0.3s							
UZB	**Uzynbulak**	**3.50 285**		*e*P	**Pb**	**07 18 06.5**	**+1.7**
3.9nm,0.2s							
UZB				*e*S	**Sg**	**07 18 52.2**	**-2.8**
28nm,0.3s							
KNOS	**Konyrlen**	**3.84 304**		Pg	**Pb**	**07 18 12.8**	**+2.2**
3.0nm,0.2s							
KNOS				Lg	Lg	07 19 03.0	
14nm,0.4s							
ZHN	**Zhinishke**	**3.92 284**		Pg	**Pg**	**07 18 16.2**	**-1.6**
8.1nm,0.3s							
ZHN				Lg	Lg	07 19 09.5	
44nm,0.2s							
ZHN	**Zhinishke**	**3.92 284**		*e*P	**Pg**	**07 18 16.2**	**-1.6**
8.1nm,0.3s							
ZHN				*e*S	**Sg**	**07 19 09.5**	**+0.8**
44nm,0.2s							
SATY	**Saty**	**3.93 283**		Pg	**Pg**	**07 18 17.0**	**-0.9**
5.8nm,0.2s							
SATY				Lg	Lg	07 19 10.2	
31nm,0.2s							
BLB	**Baldybastay**	**4.17 297**		Pg	**Pg**	**07 18 19.8**	**-2.7**
9.5nm,0.3s							
BLB				Lg	Lg	07 19 15.3	
19nm,0.4s							
KAPS	**Kapalarasan**	**4.29 315**		Pg	**Pb**	**07 18 21.6**	**+3.4**
3.8nm,0.2s							
KAPS				Lg	Lg	07 19 19.1	
15nm,0.2s							
MK31	**Makanchi Array**	**4.57 348**		⇑Pn	**Pb**	**07 18 19.3**	**-3.7**
0.3nm,0.3s,baz=168,slow=12,SNR=20							
MK31				Pg	**Pg**	**07 18 32.8**	**+2.5**
5.0nm,0.4s,baz=166,slow=15,SNR=20							
MK31				⇑Sn	**Sb**	**07 19 15.7**	**-2.4**
1.2nm,0.3s							
MK31				⇑Lg	Lg	07 19 33.4	
16nm,0.7s,baz=158,slow=28,SNR=4.6							
MAKZ	**Makanchi**	**4.64 346**		⇓Pn	**Pb**	**07 18 20.5**	**-3.7**
0.4nm,0.3s							
MAKZ				⇑Pg	**Pg**	**07 18 34.0**	**+2.5**
2.5nm,0.6s							
MAKZ				⇑Sn	**Sb**	**07 19 16.4**	**-3.7**
2.0nm,0.6s							
MAKZ				⇑Lg	Lg	07 19 37.5	
8.7nm,0.8s							
ARXS	**Arharly**	**4.64 296**		Pg	**Pg**	**07 18 28.6**	**-3.0**
4.5nm,0.4s							
ARXS				Lg	Lg	07 19 30.7	
18nm,0.5s							
MDOK	**Medeo**	**4.92 282**		*e*P	**Pn**	**07 18 21.6**	**+4.7**
3.8nm,0.2s							
MDOK				*e*S	**Sn**	**07 19 19.1**	**+5.1**
15nm,0.2s							
TNSS	**Tian-Shan**	**4.98 280**		Pg	**Pg**	**07 18 34.9**	**-3.2**
2.2nm,0.3s							
TNSS				Lg	Lg	07 19 40.9	
4.3nm,0.7s							
TNSS	**Tian-Shan**	**4.98 280**		*e*P	**Pg**	**07 18 34.9**	**-3.2**
2.2nm,0.3s							
TNSS				*e*S	**Sg**	**07 19 40.9**	**-1.8**
4.3nm,0.7s							
ZSN	**Zaisan**	**5.20 9**		Pg	**Pg**	**07 18 39.9**	**-2.3**
4.4nm,0.3s							
ZSN				Lg	Lg	07 19 50.1	
15nm,0.7s							
ZSN	**Zaisan**	**5.20 9**		*e*P	**Pg**	**07 18 39.9**	**-2.3**
4.4nm,0.3s							
ZSN				*e*S	**Sg**	**07 19 50.1**	**+0.5**
15nm,0.7s							
DGS	**Degeres**	**5.86 282**		Pg	**Pg**	**07 18 51.4**	**-3.5**
1.9nm,0.5s							
DGS				Lg	Lg	07 20 09.4	
11nm,0.6s							

*IDC **20** 07:19:36.0±4.0, 69°.70N×144°.36W, h0km, mb3.0/2,*
mbtmp3.4/7, ML3.6/5, Error ellipse: s-maj=60.0km
s-min=30.6km az=133.0
*AEIC **20** 07:19:36.5±1.6, 69°.51N±0°.06×144°.6W±0°.1, h16km±6km,*
ML3.6, ML3.7/120(NEIC), Error ellipse: s-maj=8.6km
s-min=5.2km az=189.0
*NEIC **20** 07:19:37.8±0.9, 69°.58N±0°.05×144°.5W±0°.1, h14km±5km,*
Error ellipse: s-maj=7.2km s-min=5.2km az=157.0

ISC 20 07:19:37.1±0.7, 69°.58N±0°.04×144°.54W±0°.03, h14km,
n177, σ1§10/159, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.29 80**			**Pg**	**07 19 43.0**	**-0.2**
C27K				IAML		07 19 48.9	
comp=E,12μm,0.3s							
C27K				IAML		07 19 49.2	
comp=N,10μm,0.5s							
C27K	**Jago River**	**0.29 80**			**Sg**	**07 19 47.2**	**-0.2**
C26K	**Camden Bay**	**0.37 339**			**Pg**	**07 19 45.4**	**+0.9**
C26K					**Sb**	**07 19 51.5**	**+0.4**
C26K	**Camden Bay**	**0.37 339**		IAML		07 19 53.7	
comp=N,11μm,0.3s							
C26K				IAML		07 19 58.2	
comp=E,4μm,0.9s							
**D

D22K	Ayikyak River	2.99 260	IAML			07 21 17.5
	comp=N,320nm,0.7s					
E22K	Anaktuvuk Pass	3.01 245			Pn	07 20 24.9 +0.5
FYU	Fort Yukon	3.04 185	Pn		Pn	07 20 26.1 +1.5
FYU			IAML			07 21 22.4
	comp=N,313nm,1.3s					
G24K	Hadweenzic Riv	3.09 202			Pn	07 20 25.8 +0.4
G24K	Hadweenzic Riv	3.09 202	IAML			07 21 12.8
	comp=E,278nm,0.9s					
COLD	Coldfoot	3.15 224	Pn		Pn	07 20 27.2 +1.0
B22K	Teshekpuk Lake	3.15 288	Pn		Pn	07 20 27.4 +1.2
H25L	Birch Creek	3.36 189			Pn	07 20 29.8 +0.7
F22K	John River	3.49 237			Pn	07 20 31.6 +0.7
B21K	Ikpikpuk River	3.53 275			Pn	07 20 32.7 +1.3
B21K	Ikpikpuk River	3.53 275	IAML			07 21 43.5
	comp=N,188nm,1.1s					
B21K			IAML			07 21 47.2
	comp=E,165nm,0.9s					
G23K	Bananza Creek	3.53 218			Pn	07 20 31.8 +0.3
G23K	Bananza Creek	3.53 218	IAML			07 21 33.4
	comp=E,156nm,0.7s					
H27K	Steamboat Moun	3.55 160			Pn	07 20 32.5 +0.7
E21K	Killik River	3.58 256			Pn	07 20 33.3 +1.1
E21K	Killik River	3.58 256	IAML			07 21 46.2
	comp=E,148nm,1.2s					
E21K			IAML			07 21 46.6
	comp=N,138nm,1.0s					
G29M	Pine Creek	3.61 135			Pn	07 20 33.4 +0.8
G29M			IAML			07 21 40.2
	comp=N,166nm,0.6s					
G29M			IAML			07 21 45.0
	comp=E,194nm,0.8s					
C21K	Knifeblade Rid	3.65 268			Pn	07 20 34.3 +1.2
F30M	Barrier River	3.77 117			Pn	07 20 36.2 +1.6
A22K	Sinclair Lake	3.82 297			Pn	07 20 36.3 +1.0
H24K	Noodor Dome	3.96 200			Pn	07 20 37.8 +0.3
H24K	Noodor Dome	3.96 200	IAML			07 21 43.4
	comp=E,97nm,0.8s					
G30M	tAoh Zraii Nji	4.04 126			Pn	07 20 40.1 +1.7
G30M	tAoh Zraii Nji	4.04 126	IAML			07 21 48.6
	comp=N,79nm,0.9s					
F21K	Alatna River	4.06 239			Pn	07 20 39.6 +0.8
PRP	Porcupine Dome	4.09 186	Pn		Pn	07 20 40.6 +1.2
PRP			IAML			07 21 49.1
	comp=N,80nm,0.8s					
H29M	Whitestone	4.10 142			Pn	07 20 40.3 +1.1
H29M	Whitestone	4.10 142	IAML			07 21 29.8
	comp=E,98nm,0.7s					
H29M			IAML			07 21 57.4
	comp=N,96nm,0.8s					
I27K	Kandik River	4.14 163			Pn	07 20 41.1 +1.2
INK	Inuvik	4.17 103	Pn		Pn	07 20 41.1 +0.9
INK	Inuvik	4.17 103	Pn		Pn	07 20 40.3 +0.1
	comp=N,0.4nm,0.3s,baz=295,slow=11,SNR=59					
INK			Sn		Sn	07 21 25.6 -3.0
	comp=N,3.8nm,0.3s,baz=64,slow=29,SNR=7.5					
INK			Lg	Lg		07 21 46.2
	comp=N,5.3nm,0.3s,baz=188,slow=22,SNR=5.6					
	comp=N,3.8nm,0.3s					
H23K	Yukon River	4.22 209			Pn	07 20 41.6 +0.6
H23K			IAML			07 21 52.8
	comp=E,94nm,0.9s					
H23K			IAML			07 22 03.2
	comp=N,80nm,0.7s					
I26K	Coal Creek Min	4.32 172	Pn		Pn	07 20 43.4 +1.1
EPYK	Eagle Plains	4.36 134			Pn	07 20 44.2 +1.3
B20K	Meade River	4.40 282	Pn		Pn	07 20 44.6 +1.3
D20K	Etivluk River	4.40 264			Pn	07 20 45.2 +1.8
E20K	Nigu River	4.41 258			Pn	07 20 45.0 +1.4
A21K	Barrow	4.42 299			Pn	07 20 45.0 +1.4
I28M	Miner Creek	4.50 155			Pn	07 20 46.1 +1.2
I28M	Miner Creek	4.50 155	IAML			07 21 38.6
	comp=N,69nm,0.5s					
I28M			IAML			07 21 39.7
	comp=E,67nm,0.8s					
F31M	Tsiigehtchic	4.51 113	Pn		Pn	07 20 45.6 +0.7
F31M			IAML			07 22 03.8
	comp=N,63nm,1.1s					
F31M			IAML			07 22 05.4
	comp=E,58nm,0.8s					
H22K	Ishtalitna Cre	4.52 218			Pn	07 20 45.5 +0.4
G21K	Allakaket	4.56 232			Pn	07 20 45.7 +0.2
G21K	Allakaket	4.56 232	IAML			07 22 15.6
	comp=E,83nm,1.1s					
POKR	Poker Plat Res	4.62 195			Pn	07 20 47.3 +0.9
POKR			IAML			07 22 16.2
	comp=E,61nm,1.3s					
POKR			IAML			07 22 18.4
	comp=N,54nm,1.0s					
G31M	Satah River	4.65 120	Pn		Pn	07 20 48.2 +1.3
G31M			IAML			07 22 10.5
	comp=N,75nm,1.4s					
I23K	Minto, Yukon-K	4.82 205			Pn	07 20 49.9 +0.7
I23K			IAML			07 22 20.9
	comp=E,60nm,0.8s					
F20K	Avaraart Lake	4.86 244			Pn	07 20 50.7 +1.0
F20K	Avaraart Lake	4.86 244	IAML			07 22 22.4
	comp=N,56nm,1.0s					
I29M	Ogilvie Camp,	4.86 148			Pn	07 20 50.4 +0.6
I29M			IAML			07 21 48.3
	comp=N,70nm,0.6s					
I29M			IAML			07 21 49.0
	comp=E,44nm,0.6s					
COLA	College	4.89 197			Pn	07 20 51.3 +1.2
IL31		4.91 192	Pn		Pn	07 20 51.7 +1.3
ILAR	Eielson Array	4.91 192	Pn		Pn	07 20 50.9 +0.5
ILAR	Eielson Array	4.91 192	Pn		Pn	07 20 50.7 +0.3
	comp=E,3.1nm,0.3s,baz=3.9,slow=13,SNR=162					
ILAR			Sn		Sn	07 21 45.8 -1.1
	comp=E,3.8nm,0.3s,baz=9.6,slow=24,SNR=8.2					
ILAR			Lg	Lg		07 22 07.8
	comp=E,4.8nm,0.3s,baz=3.5,slow=31,SNR=4.0					
	comp=E,5.1nm,0.3s					
D19K	Kuna River	5.00 264	Pn		Pn	07 20 52.7 +1.1
J25K	Salcha River,	5.00 184			Pn	07 20 52.7 +1.1
J25K	Salcha River,	5.00 184	IAML			07 22 15.1
	comp=E,64nm,0.8s					
J25K			IAML			07 22 18.4
	comp=N,42nm,0.6s					
H21K	Melozitna Rive	5.04 223			Pn	07 20 53.0 +0.8
H21K	Melozitna Rive	5.04 223	IAML			07 22 26.3
	comp=N,45nm,1.2s					
J26L	Joseph Creek	5.11 175			Pn	07 20 54.3 +1.1
J26L	Joseph Creek	5.11 175	IAML			07 21 58.3
	comp=N,46nm,0.6s					
J26L			IAML			07 22 18.4
	comp=E,50nm,0.8s					
CCB	Clear Creek Bu	5.11 196	Pn		Pn	07 20 53.8 +0.7
CCB			IAML			07 22 23.9
	comp=E,39nm,0.4s					
E19K	Redstone River	5.13 252			Pn	07 20 53.9 +0.6
E19K	Redstone River	5.13 252	IAML			07 21 52.6
	comp=N,53nm,0.7s					
E19K			IAML			07 22 38.1
	comp=E,46nm,0.9s					
I21K	Tanana	5.26 217			Pn	07 20 55.8 +0.6
I21K	Tanana	5.26 217	IAML			07 22 26.6
	comp=E,42nm,1.2s					
HDA	Harding Lake	5.28 191			Pn	07 20 56.6 +1.2
HDA			IAML			07 22 28.2
	comp=E,53nm,1.0s					
HDA			IAML			07 22 29.3
	comp=N,47nm,0.9s					
NEA2	Nenana	5.31 202			Pn	07 20 56.5 +0.6
WRH	Wood River Hil	5.31 197	Pn		Pn	07 20 56.8 +0.9
WRH			IAML			07 22 36.2
	comp=E,51nm,1.3s					
I30M	Mount Dempster	5.38 140			Pn	07 20 57.7 +0.7
I30M	Mount Dempster	5.38 140	IAML			07 22 00.3
	comp=N,46nm,0.6s					
H31M	Peel River	5.42 129			Pn	07 20 57.2 -0.2
H31M	Peel River	5.42 129	IAML			07 22 41.3
	comp=E,29nm,1.3s					
SCRK	Sand Creek	5.63 178	Pn		Pn	07 21 01.9 +1.6
F19K	Shaleruckik Mo	5.64 247			Pn	07 21 00.9 +0.5
K27K	Chicken	5.66 169			Pn	07 21 01.8 +1.2
H20K	Anotleneega Mo	5.70 229			Pn	07 21 01.3 +0.1
J29N	Klondike Camp	5.71 151			Pn	07 21 03.1 +1.7
A19K	Wainwright	5.74 284			Pn	07 21 02.9 +1.2
K24K	Donnelly Dome	5.82 185			Pn	07 21 04.2 +1.3
G19K	Purcell Mounta	5.86 240			Pn	07 21 03.0 -0.4
RIDG	Independent Ri	5.86 181			Pn	07 21 04.9 +1.4
DAWY	Dawson	5.89 157	Pn		Pn	07 21 05.2 +1.3
J30M	Hart River	5.95 144			Pn	07 21 05.7 +0.9
DOT	Dot Lake	5.96 178			Pn	07 21 05.8 +1.0
C18K	Utukok River	6.03 269			Pn	07 21 06.2 +0.5
BPAW	Bear Paw Mtn.	6.06 208	Pn		Pn	07 21 06.9 +0.8
B18K	Kokolik River	6.08 276			Pn	07 21 06.5 +0.2
H19K	Roundabout Mou	6.10 234			Pn	07 21 07.1 +0.4
MCK	McKinley	6.12 199	Pn		Pn	07 21 08.0 +1.0
I20K	Naaghedeneel	6.16 224			Pn	07 21 08.2 +0.8
E18K	Tukpahlearik C	6.28 258			Pn	07 21 10.0 +0.8
K29M	Barlow Dome	6.39 151			Pn	07 21 12.0 +1.2
F18K	Selawik	6.39 249			Pn	07 21 11.4 +0.8
RND	Reindeer	6.43 198			Pn	07 21 12.1 +0.8
CHUM	Lake Minchumin	6.49 212			Pn	07 21 12.7 +0.7
G18K	Tagagawik	6.50 242			Pn	07 21 12.6 +0.4
L26K	Log Cabin Wild	6.60 175			Pn	07 21 15.0 +1.4
J20K	Nowinta River	6.60 219			Pn	07 21 14.4 +0.8
BCAR	Beaver Creek A	6.63 169	Pn		Pn	07 21 15.3 +1.3
L27K	Beaver Creek,	6.63 169			Pn	07 21 15.3 +1.2
PAX	Paxson	6.64 184			Pn	07 21 16.0 +1.7
MENT	Mentasta	6.67 177			Pn	07 21 15.9 +1.3
C17K	DeLong Mountai	6.78 269			Pn	07 21 15.7 -0.3
A36M	Sachs Harbour	6.80 60	Pn		Pn	07 21 16.2 0.0
RDOG	Red Dog Mine	6.82 266	Pn		Pn	07 21 16.6 -0.1
E17K	Hotham Inlet	6.87 257			Pn	07 21 17.2 +0.1
CAST	Castle Rocks	6.87 210			Pn	07 21 18.0 +0.7
H18K	Honhosa River	6.93 237			Pn	07 21 18.7 +0.6
L29M	L29M	6.98 155			Pn	07 21 20.1 +1.2
F17K	Baldwin Pennin	7.01 251			Pn	07 21 19.2 +0.1
D17K	Noatak River	7.02 263			Pn	07 21 18.9 -0.5
J19K	Poorman	7.10 223			Pn	07 21 20.9 +0.4
C36M	Paulatuk	7.19 82	Pn		Pn	07 21 21.6 -0.1
HARP	HAARP	7.21 182			Pn	07 21 23.1 +1.1
M26K	Nabesna, AK	7.23 174			Pn	07 21 24.3 +2.0
K20K	Telida	7.31 216			Pn	07 21 23.5 +0.2
M27K	Edge Creek, AK	7.33 170			Pn	07 21 25.2 +1.5
BVCY	Beaver Creek	7.34 167			Pn	07 21 25.5 +1.6
PPLA	Purkeypile	7.38 208	Pn		Pn	07 21 25.1 +0.7
G17K	Kiwalik Mounta	7.39 244			Pn	07 21 24.7 +0.3
H17K	Granite Mounta	7.54 239			Pn	07 21 27.1 +0.6
M29M	Somme Creek	7.57 158			Pn	07 21 28.3 +1.3
C16K	Lisburne Hills	7.60 270			Pn	07 21 26.7 -0.5
WACK	Wrangell Chich	7.62 179			Pn	07 21 29.3 +1.5
G16K	Koyuk River	8.00 247			Pn	07 21 32.8 0.0
YUK3	Moose Creek	8.01 166			Pn	07 21 35.0 +1.9
L20K	Farewell, AK	8.07 213			Pn	07 21 33.9 +0.2
SKT	Skwentna	8.14 204			Pn	07 21 36.1 +1.4
H16K	Elim	8.47 243			Pn	07 21 39.2 0.0
J17K	VABM Dome	8.48 230			Pn	07 21 38.9 -0.4
M20K	Styx River	8.49 209			Pn	07 21 40.5 +1.0
I17K	Unalakleet	8.55 236			Pn	07 21 40.6 +0.3
F15K	North Star Dit	8.57 253			Pn	07 21 40.0 -0.5
STLK	Strandline Lak	8.65 204			Pn	07 21 43.0 +1.3
M19K	Big River Lodg	8.69 212			Pn	07 21 43.1 +0.9
N30M	Aishikik Lake	8.71 156			Pn	07 21 44.1 +1.6
L18K	Granite Mounta	8.88 220			Pn	07 21 45.2 +0.4
YUK5	Granite Creek	8.92 159			Pn	07 21 47.0 +1.5
WRGLY	Wrigley	10.52 117	Pn		Pn	07 22 07.3 +0.1
DLBC	Dease Lake	12.81 144	Pn		Pn	07 22 35.7 -2.8
	comp=E,0.4nm,0.3s,baz=354,slow=5.5,SNR=9.6					
	comp=E,1.9nm,1.1s					
YKA	Yellowknife Ar	13.94 106			Pn	07 22 50.9 -3.0
YKA	Yellowknife Ar	13.94 106	Pn		Pn	07 22 47.9 -5.9
	comp=E,0.3nm,0.3s,baz=73,slow=9.6,SNR=19					
YKA			Sn	Sn		07 25 14.7 -13
	comp=E,0.3nm,0.3s,baz=317,slow=23,SNR=6.2					
	comp=E,0.2nm,0.4s					
RES	Resolute Bay	15.61 49	Pn		Pn	07 23 13.8 -2.5
	comp=E,0.5nm,0.3s,baz=263,slow=13,SNR=15					
RES			Sn	Sn		07 25 55.4 -13
	comp=E,0.5nm,0.3s,baz=138,slow=21,SNR=6.0					
	comp=E,1.6nm,0.4s					
PDAR	Pinedale Array	32.30 128	P		P	07 26 07.0 +1.6
	comp=E,0.2nm,0.6s,baz=31,slow=3.5,SNR=4.0					
	comp=E,0.2nm,0.6s					
TXAR	Lajitas Array	46.51 128	P		P	07 28 06.4 +2.6
	comp=E,0.1nm,0.5s,baz=346,slow=8.7,SNR=3.7					
	comp=E,0.1nm,0.5s					

*IDC **20** 07:20:22.9±0.9, 37°.47N×29°.45E, h0km, mb3.8/10, mbtmp3.8/15, ML3.8/4, MS3.9/3, Error ellipse: s-maj=19.5km s-min=15.1km az=155.0*
*GII **20** 07:20:22.9±0.0, 37°.40N±0°.05×29°.44E±0°.02, h2km, Mws3.4, confirmed*
*ISK **20** 07:20:22.7, 37°.44N×29°.40E, h5km, ML3.7/38*
*AFAD **20** 07:20:24.3, 37°.43N×29°.40E, h3km±2km, MW3.8*
*THE **20** 07:20:25.0, 37°.45N×29°.48E, h1km±1km, ML3.7/7, Error ellipse: s-maj=3.8km s-min=1.4km az=70.0*
ISC 20 07:20:23.9±0.9, 37°.44N±0°.02×29°.43E±0°.02, h9km±6km, n116, σ1§21/155, mb3.7/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.11	287	Pg	Pg	07 20 25.9	-0.7
GOLH	Golhisar	0.23	153	P	Pg	07 20 28.8	+0.1
GOLH				S	Sg	07 20 32.7	+0.9
INCE	Denizli-Bozkur	0.29	23	P	Pg	07 20 29.6	-0.2
INCE				S	Sb	07 20 34.6	-1.9
CAEL	Denizli, Camel	0.33	195	P	Pg	07 20 30.1	-0.4
DNIZ	Denizli-Tavas-	0.36	301	P	Pg	07 20 30.9	-0.2
DNIZ				S	Sb	07 20 36.8	-1.6
DNZT	Denizli-Tavas-	0.36	243	P	Pg	07 20 30.6	-0.5
DNZT				P	Pg	07 20 30.6	-0.5
DNZT				S	Sg	07 20 36.3	+0.4
TAVA	DENIZLI_Tavas	0.41	274	P	Pg	07 20 31.5	-0.5
CAME	Cameli-Denizli	0.51	192	Pg	Pg	07 20 33.1	-0.7
CAME				Sg	Sb	07 20 41.6	-1.0
BRDR	BURDUR-Merkez	0.56	63	P	Pg	07 20 34.4	-0.5
BRDR				S	Sb	07 20 45.0	+0.7
KNIK	Mula-Seydike	0.61	169	P	Pg	07 20 34.7	-1.0
BASM	Basmaki-Afyon	0.69	46	Pg	Pb	07 20 36.7	-1.4
SABU	Mula-Dalaman	0.72	211	P	Pg	07 20 36.6	-1.2
SABU				S	Sb	07 20 48.3	-0.3
ELL	Elmali	0.79	151	Pg	Pb	07 20 38.7	-1.2
FETY	Fethiye	0.85	199	Pg	Pg	07 20 39.8	-0.5
FETY	Fethiye	0.85	199	P	Pn	07 20 41.9	-0.2
KORT	Korkueli	0.86	121	Pg	Pb	07 20 41.0	-0.1
KORT				Sg	Sn	07 20 54.1	-0.9
KORT	Korkueli	0.86	121	P	Pb	07 20 40.8	-0.3
DALY	Dalyan (Mula)	0.88	225	Pg	Pg	07 20 40.4	-0.4
KHL	Karahalli	0.88	5	Pg	Pb	07 20 40.9	-0.6
MULA	Mugla, Merkez-	0.90	258	P	Pg	07 20 40.3	-1.0
PASA	Karahalli, USA	0.91	3	P	Pg	07 20 39.8	-1.6
PASA				S	Sb	07 20 53.3	-0.8
BUCA	Burdur, Bucak-	0.91	97	P	Pb	07 20 41.5	-0.4
BUCA				S	Sn	07 20 55.1	-1.1
BCK	Bucak	0.92	88	Pg	Pb	07 20 41.7	-0.5
BCK				Sg	Sn	07 20 56.5	-0.1
ESEN	Aydn-Nazilli	0.93	293	P	Pg	07 20 41.2	-0.5
ESEN				S	Sg	07 20 53.6	-0.3
ISP	Isparta	0.95	66	Pg	Pb	07 20 41.8	-0.8
ISP				Sg	Sn	07 20 57.1	-0.2
ISP	Isparta	0.95	66	P	Pg	07 20 41.0	-1.2
ISP				S	Sn	07 20 56.9	-0.4
YER	Yerkesik	0.96	252	Pg	Pg	07 20 42.0	-0.5
YER				Sg	Sb	07 20 56.4	+0.7
KZIL	AFYON_Kizioren	0.99	34	P	Pb	07 20 42.3	-1.0
KZIL				S	Sn	07 20 59.0	+0.6
IZZE	Mula-Seydike	1.02	189	P	Pb	07 20 43.0	-0.7
NAZL	Nazilli-Aydin	1.04	300	Pg	Pb	07 20 43.8	-0.4
KIRA	zmir-Kiraz	1.11	313	P	Pg	07 20 44.0	-1.3
KIRA				S	Sb	07 21 00.2	+0.2
ANTB	Antalya	1.12	119	Pn	Pn	07 20 46.2	+0.5
TURN	Turunc	1.16	235	Pn	Pg	07 20 45.5	-0.6
TURN	Turunc	1.16	235	P	Pg	07 20 45.0	-1.1
TURN				S	Sn	07 21 04.4	+2.2
AFYN	Afyon-Dinar-K	1.19	45	P	Pn	07 20 46.6	-0.3
AFYN				P	Pb	07 20 46.7	0.0
AFYN				S	Sn	07 21 07.4	+4.2
BAGO	Egridir - ISPA	1.21	63	P	Pb	07 20 46.2	-0.9
AKAS	Kas	1.22	173	Pn	Pn	07 20 47.6	+0.4
KULA	Kula-Manisa	1.23	331	Pn	Pb	07 20 46.9	-0.5
AYDN	Tasoluk	1.25	281	P	Pg	07 20 46.6	-1.3
AYDN				S	Sn	07 21 05.2	+0.5
DEMR	Demre-Antalya	1.26	162	Pn	Pn	07 20 48.2	+0.5
BNAZ	Uak-Banaz	1.29	16	P	Pg	07 20 47.3	-1.3
BNAZ				S	Sn	07 21 08.4	+2.7
KSL	Kastellorizon	1.29	174	P	Pn	07 20 49.0	+0.8
KSL				S	Sn	07 21 06.6	+1.0
	2μm,1.0s						
USAK	Uak-Merkez	1.31	346	P	Pg	07 20 47.9	-1.2
USAK				S	Sb	07 21 05.8	0.0
AYDB	Zeytinkoy-Aydi	1.32	293	Pn	Pn	07 20 48.5	-0.2
MLSB	Milas	1.32	264	Pn	Pb	07 20 48.7	-0.3
ODEM	Odemis-Izmir	1.36	308	Pn	Pg	07 20 49.1	-0.9
IZMR	zmir-demi	1.36	301	P	Pn	07 20 48.9	-0.2
IZMR				S	Sn	07 21 07.7	+0.4
SHUT	Suhut-Afyon	1.42	38	Pn	Pb	07 20 50.3	-0.4
AFYO	Afyonkarahisar	1.51	27	P	Pg	07 20 52.5	-0.4
AFYO				S	Sn	07 21 16.2	+5.1
DATC	Datca-Mugla	1.57	245	Pn	Pg	07 20 53.1	-0.9
SHAP	Saphane-Kutahy	1.59	354	Pn	Pb	07 20 53.1	-0.4
GEDZ	Gediz	1.60	359	Pn	Pb	07 20 53.1	-0.6
ARG	Arkhangelos	1.61	221	Pn	Pb	07 20 53.6	-0.3
ARG	Arkhangelos	1.61	221	P	Pb	07 20 53.5	-0.3
ARG				S	Sg	07 21 16.3	+0.7
	2μm,0.7s						
GDZ	Gediz	1.65	1	P	Pn	07 20 53.2	+0.1
YVAC	Isparta, Yalva	1.66	59	P	Pb	07 20 54.2	-0.5
YVAC				S	Sg	07 21 17.5	+0.4
SIMA	Simav-Kutahya	1.68	348	Pn	Pb	07 20 54.5	-0.5
SMAA	Simav-Kutahya	1.69	348	Pn	Pb	07 20 54.7	-0.6
BODT	Bodrum	1.73	258	Pn	Pb	07 20 54.9	-1.0
GOMA	Golmarmara-Man	1.74	317	Pn	Pb	07 20 55.1	-0.9
YKAV	Yalikavak-Bodr	1.74	260	Pn	Pn	07 20 54.9	+0.5
DIDI	Didim-Aydin	1.74	269	Pn	Pn	07 20 55.0	+0.6
KURO	Afyon-Bolvadin	1.75	42	P	Pn	07 20 54.8	+0.1
KURO				S	Sg	07 21 22.1	+1.8
GCAM	G?zelcaml?	1.76	279	Pn	Pb	07 20 55.5	-0.9
GORD	Gordes-Manisa	1.77	326	Pn	Pn	07 20 54.6	-0.2
SEYD	Seydisehir-KON	1.92	90	Pn	Pb	07 20 58.5	-0.7
AKS	Akhisar	1.92	319	Pn	Pn	07 20 57.5	+0.7
BYAT	Afyon-Bayat	1.94	39	P	Pb	07 20 57.9	-1.6
BYAT				S	Sg	07 21 31.3	+5.1
TVSB	Tavsanli	2.00	1	Pn	Pn	07 20 58.4	+0.3
NISR	Nisiros	2.02	246	P	Pn	07 20 58.8	+0.7
NISR				S	Sb	07 21 25.4	-0.6
	2μm,2.0s						
BLCB	Balcova	2.11	297	Pn	Pn	07 21 00.4	+1.0
SOMA	Soma-Manisa	2.27	320	Pn	Pn	07 21 01.7	+0.1
KARP	Karpathos	2.63	225	P	Pn	07 21 07.8	+1.2
KARP				S	Sn	07 21 40.3	+1.7
	1μm,0.7s						
PRK	Paraskevi	3.07	307	P	Pn	07 21 13.3	+0.7
PRK				S	Sn	07 21 52.1	+2.7
	678nm,0.8s						
SIGR	SIGRI	3.32	303	P	Pn	07 21 15.6	-0.4
SIGR				S	Sn	07 21 58.2	+2.6
	235nm,1.1s						
ZKR	Zakros	3.48	229	P	Pn	07 21 20.5	+2.2
ZKR				S	Sn	07 22 00.9	+1.3
	185nm,1.0s						
CSS	Mathiatis	4.01	127	P	Pn	07 21 25.7	+0.1
CSS	Mathiatis	4.01	127	S	Sn	07 22 13.3	+0.6
BRTR	Keskin Array B	4.01	54	Pn	Pn	07 21 26.8	+1.1
	4.9nm,0.3s,baz=241,slow=17,SNR=66						
BRTR				Sn	Sn	07 22 13.1	+0.2
	baz=210,slow=17						
	16nm,0.7s						
IDI	Anoyia	4.25	241	Pn	Pn	07 21 30.4	+1.5
	24nm,0.4s,baz=61,slow=13,SNR=22						
IDI				Sn	Sn	07 22 18.1	-0.5
	11nm,0.3s,baz=329,slow=14,SNR=6.8						
SMTH	Samothraki Isl	4.29	316	P	Pn	07 21 29.8	+0.4
MMA0B	Mount Meron ar	6.59	130	P	Pn	07 22 00.1	-0.9
MMA0B	Mount Meron ar	6.59	130	S	Sn	07 23 16.2	-0.1
MMAI	Mount Meron Ar	6.59	130	Pn	Pn	07 22 01.2	+0.2
	7.9nm,0.3s,baz=313,slow=12,SNR=15						
MMAI				Sn	Sn	07 23 14.1	-2.2
	3.9nm,0.3s,baz=313,slow=24,SNR=2.4						
	10.0nm,0.4s						
GEM	Giv'at Ha'Em	6.62	128	P	Pn	07 22 01.2	-0.2
GEM	Giv'at Ha'Em	6.62	128	S	Sn	07 23 17.0	+0.1
NATI	Neve Ativ	6.63	127	P	Pn	07 22 00.8	-0.7
NATI	Neve Ativ	6.63	127	S	Sn	07 23 17.7	+0.5
MMLI	Mount Malkishu	7.01	134	P	Pn	07 22 07.0	+0.3
MMLI	Mount Malkishu	7.01	134	S	Sn	07 23 26.9	+0.2
DSI	Dead Sea	7.64	138	P	Pn	07 22 15.1	-0.4
DSI	Dead Sea	7.64	138	S	Sn	07 23 41.5	-0.7
ASF	Jabal al Asfar	8.08	128	Pn	Pn	07 22 21.9	+0.4
	0.4nm,0.3s,baz=328,slow=9.5,SNR=2.0						
ASF				Sn	Sn	07 23 54.5	+1.4
	baz=162,slow=19						
	1.6nm,0.5s						
PRNI	Paran	8.45	145	P	Pn	07 22 26.4	-0.2
PRNI	Paran	8.45	145	S	Sn	07 24 02.4	+0.2
MLR	Muntele Rosu	8.46	343	Pn	Pn	07 22 23.4	-3.3
	0.7nm,0.3s,baz=43,slow=1.5,SNR=4.2						
HRFI	Mount Harif	8.74	146	P	Pn	07 22 30.1	-0.4
HRFI	Mount Harif	8.74	146	S	Sn	07 24 09.0	-0.2
MBRI	Mt Berech	8.89	147	P	Pn	07 22 32.7	0.0
MBRI	Mt Berech	8.89	147	S	Sn	07 24 12.6	-0.4
EIL	Elat	9.02	148	Pn	Pn	07 22 34.4	+0.1
	1.6nm,0.3s,baz=323,slow=3.0,SNR=8.5						
EIL				Sn	Sn	07 24 10.6	-5.4
	0.6nm,0.3s,baz=352,slow=16,SNR=4.7						
	5.3nm,0.5s						
EIL	Elat	9.02	148	P	Pn	07 22 34.1	-0.2

MOCB Sg **S** **07 22 27.4 -1.5**
MOCB IAML 07 22 29.0
comp=E,68nm,0.6s
PB05 IPOC Station P 2.39 257 *e*P **Pn** **07 22 00.3 +0.7**
PB05 *e*S **S** **07 22 30.9 -1.6**
PB05 IAML 07 22 33.4
comp=E,43nm,0.3s
PB05 IPOC Station P 2.39 257 Pg **Pn** **07 22 00.3 +0.7**
PB08 IPOC Station P 2.58 327 *e*P **Pn** **07 22 04.0 +1.9**
PB08 IPOC Station P 2.58 327 Pg **Pn** **07 22 04.1 +2.1**
PATCX Punta Patache 2.75 303 *e*P **Pn** **07 22 04.4 +0.6**
AOVT TarijaAcel 2.87 75 Pg **Pn** **07 22 06.1 +0.9**
PB10 IPOC Station P 2.90 246 Pg **Pn** **07 22 06.7 +1.3**
HMBC Humberstone 2.90 314 IAML 07 22 43.5
comp=E,39nm,0.2s
HMBC Humberstone 2.90 314 Pg **Pn** **07 22 06.5 +1.0**
TA01 Diego Aracena 2.92 307 Pg **Pn** **07 22 06.7 +1.1**
PB11 IPOC Station P 3.16 324 *e*P **Pn** **07 22 09.2 +0.6**
PB11 IAML 07 22 48.4
comp=E,31nm,0.3s
PB11 IPOC Station P 3.16 324 Pg **Pn** **07 22 09.2 +0.6**
PB11 Sg **S** **07 22 47.3 -1.4**
PB11 IAML 07 22 49.0
comp=E,14nm,0.3s
GO02 Mina Guanaco 3.32 212 *e*P **Pn** **07 22 11.6 +0.9**
PB14 IPOC Station P 3.39 227 *e*P **Pn** **07 22 12.2 +0.6**
PB12 IPOC Station P 4.46 326 Pg **Pn** **07 22 24.4 -0.3**
AOEA Aiquile 4.72 29 Pg **Pn** **07 22 28.9 +0.6**

IDC 20 07:23:22.4±1.7, **52°.61N**×**85°.74E, h0**km, **mbtmp2.8**/2, **ML2.6**/2, **Error ellipse: s-maj=20.4km s-min=12.0km az=95.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**338**	I	I	07 33 00.0	
	0.1nm,0.6s,baz=153,slow=335,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.45**	**338**	Pg	Pn	07 23 48.8	-1.0
	0.6nm,0.3s,baz=159,slow=15,SNR=8.4						
ZALV				Lg	Lg	07 24 08.9	
	1.9nm,0.3s,baz=160,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**4.91**	**249**	Pn	Pn	07 24 37.4	0.0
	0.1nm,0.3s,baz=63,slow=14,SNR=4.4						
KURBB				Lg	Lg	07 25 56.6	
	baz=109,slow=23						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**6.24**	**202**	Pn	Pn	07 24 57.6	+1.9
	0.3nm,0.3s,baz=24,slow=14,SNR=9.8						
	0.3nm,0.3s						

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*IDC **20** 07:23:54.6±4.9, 6°.24S×146°.98E, h120km±55km, mb3.2/4, mbtmp3.6/6, Error ellipse: s-maj=57.0km s-min=30.6km az=138.0*

ISC 20 07:23:51.2±1.4, **6°.0S**±0°.1×**146°.8E**±0°.2, **h78**km, **n6**, σ1§**05**/7, **mb3.6**/4, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.40**	**174**	P	**Pn**	**07 24 42.8**	**+0.8**
	33nm,0.3s,baz=354,slow=6.3,SNR=25						
PMG				S	**Sn**	**07 25 21.0**	**-0.2**
	12nm,0.3s,baz=120,slow=23,SNR=6.5						
WRA	**Warramunga Arr**	**18.41**	**220**	P	**P**	**07 27 59.2**	**-1.1**
	0.5nm,0.6s,baz=38,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**21.51**	**214**	P	**P**	**07 28 33.8**	**-0.1**
	0.2nm,0.5s,baz=52,slow=9.0,SNR=5.8						
	0.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.90**	**238**	P	**P**	**07 28 57.2**	**-0.7**
	2.8nm,0.8s,baz=63,slow=9.5,SNR=1.9						
	2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**53.08**	**298**	P	**P**	**07 33 02.2**	**+1.2**
	0.8nm,0.3s,baz=112,slow=5.9,SNR=1.9						
	0.8nm,0.3s						
ILAR	**Eielson Array**	**85.56**	**23**	P	**P**	**07 36 19.8**	**-0.8**
	0.3nm,0.6s,baz=254,slow=5.2,SNR=5.3						
	0.3nm,0.6s						

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*IDC **20** 07:28:15.8±0.8, 28°.03N×128°.20E, h0km, mb3.8/8, mbtmp3.8/11, ML3.3/2, MS4.2/2, Error ellipse: s-maj=42.2km s-min=12.4km az=92.0*
*JMA **20** 07:28:15.6±0.2, 28°.1N±0°.4×128°.0E±0°.6, h14km±2km, MD4.0/15, MV4.1/15, NW OFF OKINAWAJIMA IS*

ISC 20 07:28:16.1±1.7, **28°.02N**±0°.04×**128°.17E**±0°.06, **h4**km±**11**km, **n32**, σ0§**92**/36, **mb3.9**/8, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.73**	**109**	P	**Pb**	**07 28 32.2**	**+0.7**
JTK				*e*S	**Sn**	**07 28 43.9**	**-1.1**
JTK	**Tokunoshima**	**0.73**	**109**	A	A	07 28 32.2	
	comp=N,12nm,0.7s,comp=E,17nm,0.6s						
JOKE	**Okinoerabujima**	**0.75**	**151**	P	**Pb**	**07 28 32.3**	**+0.6**
JOKE				*e*S	**Sn**	**07 28 44.4**	**-0.9**
JOKE	**Okinoerabujima**	**0.75**	**151**	A	A	07 28 32.3	
	comp=N,7.0nm,0.7s,comp=E,6.0nm,0.3s						
JAMN	**Amaminishikomi**	**0.92**	**76**	P	**Pn**	**07 28 35.1**	**-0.7**
JAMN				S	**Sn**	**07 28 49.4**	**-0.2**
JAMN	**Amaminishikomi**	**0.92**	**76**	A	A	07 28 35.1	
	comp=N,4.0nm,0.4s,comp=E,4.0nm,0.3s						
JIH	**Iheya**	**1.00**	**190**	P	**Pg**	**07 28 35.4**	**+0.1**
JIH				S	**Sb**	**07 28 49.5**	**0.0**
JIH	**Iheya**	**1.00**	**190**	A	A	07 28 35.4	
	comp=N,12nm,0.5s,comp=E,5.0nm,1.2s						
JYRO	**Yoronjima**	**1.02**	**166**	P	**Pb**	**07 28 36.5**	**+0.1**
JYRO				*e*S	**Sn**	**07 28 52.1**	**-0.1**
JYRO	**Yoronjima**	**1.02**	**166**	A	A	07 28 36.5	
	comp=N,7.0nm,0.5s,comp=E,6.0nm,0.7s						
JOW	**Kunigami**	**1.19**	**175**	Pn	**Pg**	**07 28 39.0**	**+0.1**
	comp=E,443nm,0.3s,baz=9.5,slow=14,SNR=96						
JOW				Sn	**Sn**	**07 28 55.9**	**-0.3**
	comp=E,374nm,0.3s,baz=167,slow=26,SNR=22						
JOW	**Kunigami**	**1.19**	**175**	P	**Pg**	**07 28 39.0**	**+0.1**
JOW				*e*S	**Sb**	**07 28 55.3**	**+0.3**
JAM	**Amami Oshima**	**1.33**	**73**	*e*P	**Pb**	**07 28 41.4**	**-0.2**
JAM				*e*S	**Sn**	**07 28 59.8**	**+0.1**
JTAJ	**Takarajima**	**1.45**	**39**	P	**Pn**	**07 28 41.9**	**-1.2**
JTAJ				*e*S	**Sn**	**07 29 00.9**	**-1.8**
JNTH	**Nagotoyohara**	**1.50**	**185**	*e*P	**Pn**	**07 28 43.5**	**-0.4**
JNTH				*e*S	**Sn**	**07 29 03.4**	**-0.5**
JZK	**Kikaishima**	**1.62**	**79**	*e*P	**Pg**	**07 28 47.1**	**-0.1**
JAGN	**Aguni-jima**	**1.65**	**210**	*e*P	**Pn**	**07 28 44.2**	**-1.6**
JAGN				*e*S	**Sn**	**07 29 05.3**	**-2.1**
JJT3	**Tamagusuku3**	**1.90**	**190**	*e*P	**Pn**	**07 28 49.6**	**+0.2**
JNU	**Nakatsue**	**5.60**	**24**	Pn	**Pn**	**07 29 41.2**	**+1.0**
	comp=E,1.6nm,0.3s,baz=174,slow=7.9,SNR=12						
	comp=E,8.1nm,0.6s						
KSRS	**Korea Array**	**9.41**	**359**	Pn	**Pn**	**07 30 33.0**	**+0.6**
	comp=E,0.6nm,0.5s,baz=208,slow=26,SNR=1.7						
MJAR	**Matsushiro Arr**	**12.01**	**42**	Pn	**Pn**	**07 31 07.6**	**-0.6**
	comp=E,0.1nm,0.3s,baz=246,slow=13,SNR=1.3						
	comp=E,0.8nm,0.3s						
USRK	**Ussuriysk Ar.**	**16.43**	**10**	Pn	**P**	**07 32 11.9**	**+1.4**
	baz=199,slow=11						
KLR	**Kul'dur**	**21.36**	**6**	P	**P**	**07 33 05.3**	**+1.0**
	comp=E,0.8nm,0.6s,baz=54,slow=8.2,SNR=4.2						
	comp=E,0.8nm,0.6s						
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**07 33 50.7**	**+0.1**
	comp=E,2.1nm,0.9s,baz=139,slow=11,SNR=7.8						
	comp=E,2.1nm,0.9s						
JAY	**Jayapura**	**32.67**	**156**	LR	LR	07 48 06.9	
	comp=E,335nm,19.2s,baz=358,slow=36						
WRA	**Warramunga Arr**	**48.05**	**172**	P	**P**	**07 36 58.1**	**+1.3**
	comp=E,2.7nm,0.7s,baz=353,slow=8.4,SNR=11						
	comp=E,2.7nm,0.7s						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**07 37 24.9**	**+0.4**
	comp=E,1.7nm,0.9s,baz=0.4,slow=7.3,SNR=12						
	comp=E,1.7nm,0.9s						
STKA	**Stephens Creek**	**60.92**	**167**	P	**P**	**07 38 31.1**	**+0.8**
	comp=E,1.3nm,0.5s,baz=336,slow=7.8,SNR=5.1						
	comp=E,1.3nm,0.5s						
ILAR	**Eielson Array**	**62.90**	**29**	P	**P**	**07 38 43.6**	**+0.4**
	comp=E,0.3nm,0.6s,baz=297,slow=7.9,SNR=6.7						
	comp=E,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**76.93**	**25**	P	**P**	**07 40 07.8**	**-1.7**
	comp=E,0.7nm,0.8s,baz=295,slow=5.9,SNR=11						
	comp=E,0.7nm,0.8s						
PDAR	**Pinedale Array**	**91.80**	**39**	P	**P**	**07 41 26.8**	**+1.0**
	comp=E,0.5nm,0.8s,baz=298,slow=1.6,SNR=4.4						
	comp=E,0.5nm,0.8s						
KEST	**Kesra**	**94.30**	**314**	LR	LR	08 28 38.8	
	comp=E,104nm,18.4s,baz=289,slow=38						

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*ASRS **20** 07:31:21.0±1.6, 53°.77N×91°.04E, h0km, M3.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC 20 07:31:35.0±4.2, **53°.54N**×**90°.34E, h12**km±**22**km, **mb3.7, mpv3.4, 8C-6D, Error ellipse: s-maj=25.6km s-min=23.0km az=83.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.31**	**279**	⇑Pn	Pn	07 32 28.1	+1.5
	2.9nm,0.8s						
ZAA0				⇓Lg	Lg	07 33 19.9	
	18nm,0.8s						
KURK	**Kurchatov**	**7.75**	**253**	⇓Pn	Pn	07 33 25.5	-2.0
	3.4nm,0.8s						
KURK				⇑Sn	Sn	07 34 55.6	+0.5
	8.1nm,0.7s						
KURK				⇑Lg	Lg	07 35 43.2	
	36nm,1.0s						
KURBB	**Kurchatov Arra**	**7.84**	**253**	⇑Pn	Pn	07 33 26.5	-2.3
	2.6nm,0.4s						
KURBB				⇓Sn	Sn	07 34 56.6	-0.8
	36nm,0.8s						
KURBB				⇓Lg	Lg	07 35 48.9	
	102nm,0.8s						
MK31	**Makanchi Array**	**8.50**	**221**	⇑Pn	Pn	07 33 36.3	-1.6
	0.6nm,0.6s,baz=33,slow=7.1,SNR=11						
MK31				⇑Sn	Sn	07 35 17.4	+3.8
	7.0nm,0.8s,baz=33,slow=25,SNR=4.5						
MK31				⇓Lg	Lg	07 36 04.3	
	44nm,1.2s,baz=39,slow=26,SNR=4.1						
MAKZ	**Makanchi**	**8.61**	**222**	⇑Pn	Pn	07 33 39.8	+0.5
	1.2nm,0.8s						
MAKZ				⇓Sn	Sn	07 35 18.4	+2.0
	4.7nm,0.6s						
MAKZ				⇑Lg	Lg	07 36 07.6	
	24nm,1.1s						

AFAD 20 07:31:46.1, 37°.48N×**29°.39E, h7**km±**2**km, **ML1.8, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.27**	**150**	P	Pg	07 31 52.0	+0.5
GOLH				*i* AML	AML	07 31 56.0	
	comp=N,272nm,0.2s						
GOLH				*i* AML	AML	07 31 56.0	
	comp=E,350nm,0.4s						
GOLH				S	Sg	07 31 56.1	+0.9
INCE	**Denizli-Bozkur**	**0.28**	**32**	P	Pg	07 31 51.4	-0.2
INCE				*i* AML	AML	07 31 56.0	
	comp=N,140nm,0.3s						
INCE				*i* AML	AML	07 31 56.0	
	comp=E,142nm,0.5s						
INCE				S	Sg	07 31 56.1	+0.8
DNIZ	**Denizli-Tavas-**	**0.32**	**298**	P	Pg	07 31 52.7	+0.3
DNIZ				S	Sb	07 31 58.4	-1.2
DNIZ				*i* AML	AML	07 32 02.0	
	comp=N,183nm,0.2s						
DNIZ				*i* AML	AML	07 32 03.0	
	comp=E,210nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.38**	**269**	P	Pg	07 31 54.2	+0.7
TAVA				S	Sg	07 31 59.8	+1.3
TAVA				*i* AML	AML	07 32 04.0	
	comp=N,60nm,0.3s						
TAVA				*i* AML	AML	07 32 05.0	
	comp=E,45nm,0.4s						

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*IDC **20** 07:32:07.7±6.7, 22°.48S×179°.06E, h620km±60km, mb3.0/3, mbtmp4.0/5, Error ellipse: s-maj=191.0km s-min=22.0km az=156.0*

ISC 20 07:32:06.5±1.6, **22°.7S**±0°.3×**179°.2E**±0°.2, **h612**km, **n7**, σ0§**55**/7, **mb3.7**/3, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.01**	**348**	P	**P**	**07 33 40.4**	**0.0**
	6.7nm,0.4s,baz=250,slow=2.3,SNR=18						
DZM	**Mont Dzumac**	**11.80**	**270**	P	**P**	**07 34 43.7**	**+0.3**
	4.4nm,0.6s,baz=73,slow=14,SNR=5.8						
ASAR	**Alice Springs**	**41.50**	**259**	P	**P**	**07 39 02.2**	**-0.1**
	1.9nm,1.0s,baz=89,slow=7.5,SNR=9.8						
	1.9nm,1.0s						
WRA	**Warramunga Arr**	**41.75**	**265**	P	**P**	**07 39 04.1**	**-0.1**
	2.0nm,0.6s,baz=103,slow=8.0,SNR=9.7						
	2.0nm,0.6s						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**07 44 04.9**	**+0.6**
	0.7nm,0.7s,baz=216,slow=7.2,SNR=10						
	0.7nm,0.7s						
HFS	**Hagfors**	**141.19**	**348**	PKP	**PKPdf**	**07 50 27.3**	**-0.6**
	1.9nm,0.4s,baz=36,slow=1.7,SNR=12						
AKASG	**Malin Array Be**	**143.52**	**328**	PKP	**PKPdf**	**07 50 31.8**	**-0.6**
	0.6nm,0.6s,baz=25,slow=0.5,SNR=6.0						

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*AFAD **20** 07:32:26.1, 37°.44N×29°.41E, h7km±5km, ML2.3*
*ISK **20** 07:32:26.3, 37°.45N×29°.39E, h9km, ML2.5/17*

ISC 20 07:32:26.4±0.9, **37°.44N**±0°.02×**29°.40E**±0°.02, **h11**km±**7**km, **n24**, σ0§**58**/33, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**290**	Pg	**Pg**	**07 32 28.8**	**-0.1**
APMY				Sg	**Sg**	**07 32 30.7**	**-0.1**
GOLH	**Golhisar**	**0.24**	**148**	P	**Pg**	**07 32 31.1**	**-0.5**
GOLH				S	**Sg**	**07 32 35.7**	**+0.7**
GOLH				*i* AML	AML	07 32 36.0	
	comp=N,2μm,0.3s						
GOLH				*i* AML	AML	07 32 36.0	
	comp=E,1μm,0.2s						
INCE	**Denizli-Bozkur**	**0.30**	**28**	P	**Pg**	**07 32 31.8**	**-0.7**
INCE				S	**Sg**	**07 32 37.2**	**+0.6**
INCE				*i* AML	AML	07 32 38.0	
	comp=N,1μm,0.3s						
INCE				*i* AML	AML	07 32 38.0	
	comp=E,1μm,0.3s						
CAEL	**Denizli, Camel**	**0.33**	**191**	P	**Pg**	**07 32 32.3**	**-0.7**
CAEL				S	**Sb**	**07 32 38.6**	**-1.1**
CAEL				*i* AML	AML	07 32 43.0	
	comp=N,1μm,0.4s						
CAEL				*i* AML	AML	07 32 43.0	
	comp=E,810nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.34**	**303**	P	**Pg**	**07 32 32.8**	**-0.5**
DNIZ				S	**Sb**	**07 32 39.5**	**-0.4**
DNIZ				*i* AML	AML	07 32 41.0	
	comp=E,823nm,0.4s						
DNIZ				*i* AML	AML	07 32 46.0	
	comp=N,763nm,0.6s						
TAVA	**DENIZLI_Tavas**	**0.39**	**273**	P	**Pg**	**07 32 34.0**	**-0.1**
TAVA				S	**Sb**	**07 32 40.4**	**-0.9**
TAVA				*i* AML	AML	07 32 46.0	
	comp=N,177nm,0.5s						
TAVA				*i* AML	AML	07 32 46.0	
	comp=E,233nm,0.4s						
CAME	**Cameli-Denizli**	**0.51**	**189**	Pg	**Pg**	**07 32 35.9**	**-0.4**
CAME				Sg	**Sb**	**07 32 44.4**	**-0.4**
BRDR	**BURDUR-Merkez**	**0.58**	**64**	P	**Pg**	**07 32 36.7**	**-1.1**
BRDR				S	**Sg**	**07 32 46.1**	**+0.5**
BRDR				*i* AML	AML	07 32 52.0	
	comp=N,159nm,0.5s						
BRDR				*i* AML	AML	07 32 52.0	
	comp=E,242nm,0.4s						
KNIK	**Mula-Seydike**	**0.61**	**167**	P	**Pg**	**07 32 37.0**	**-1.3**
KNIK				*i* AML	AML	07 32 51.0	
	comp=E,69nm,0.5s						
KNIK				*i* AML	AML	07 32 52.0	
	comp=N,78nm,0.5s						
BASM	**Basmaki-Afyon**	**0.70**	**47**	Pg	**Pg**	**07 32 39.9**	**-0.1**
ELL	**Elmali**	**0.81**	**149**	Pg	**Pb**	**07 32 42.8**	**+0.3**
ELL				Sg	**Sb**	**07 32 54.1**	**+0.6**
FETY	**Fethiye**	**0.84**	**197**	Pg	**Pg**	**07 32 42.7**	**0.0**
DALY	**Dalyan (Mula)**	**0.86**	**224**	Pg	**Pb**	**07 32 43.4**	**0.0**
KORT	**Korkueli**	**0.88**	**120**	Pg	**Pb**	**07 32 44.2**	**+0.4**
YER	**Yerkesik**	**0.94**	**251**	Pg	**Pg**	**07 32 44.5**	**0.0**
BCK	**Bucak**	**0.95**	**89**	Pg	**Pb**	**07 32 45.0**	**0.0**
ISP	**Isparta**	**0.97**	**67**	Pg	**Pb**	**07 32 45.5**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.02**	**301**	Pg	**Pg**	**07 32 45.5**	**-0.5**
TURN	**Turunc**	**1.14**	**234**	Pn	**Pn**	**07 32 48.4**	**+0.1**
KULA	**Kula-Manisa**	**1.22**	**332**	Pn	**Pn**	**07 32 49.8**	**+0.3**
AKAS	**Kas**	**1.22**	**172**	Pn	**Pn**	**07 32 50.3**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**293**	Pn	**Pg**	**07 32 51.1**	**-0.2**
MLSB	**Milas**	**1.30**	**264**	Pn	**Pb**	**07 32 50.9**	**0.0**
ODEM	**Odemis-Izmir**	**1.33**	**309**	Pn	**Pb**	**07 32 51.7**	**+0.2**

ISK 20 07:33:25.0, 37°.44N×**29°.39E, h5**km, **ML1.7**/15, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**297**	Pg	Pg	07 33 26.6	-0.2
APMY				Sg	Sg	07 33 28.9	+0.8
CAME	**Cameli-Denizli**	**0.50**	**188**	Pg	Pg	07 33 35.3	+0.7
CAME				Sg	Sg	07 33 42.3	+1.2
BASM	**Basmaki-Afyon**	**0.71**	**47**	Pg	Pg	07 33 39.1	+0.4
BASM				Sg	Sb	07 33 49.2	-0.8
ELL	**Elmali**	**0.80**	**149**	Pg	Pb	07 33 41.1	-0.4
FETY	**Fethiye**	**0.84**	**197**	Pg	Pb	07 33 41.8	-0.2
DALY	**Dalyan (Mula)**	**0.85**	**224**	Pg	Pb	07 33 41.9	-0.4
KORT	**Korkueli**	**0.88**	**119**	Pg	Pg	07 33 41.8	-0.1
YER	**Yerkesik**	**0.93**	**251**	Pg	Pb	07 33 43.3	-0.4
NAZL	**Nazilli-Aydin**	**1.02**	**301**	Pg	Pb	07 33 45.1	0.0
TURN	**Turunc**	**1.13**	**235**	Pn	Pn	07 33 47.4	0.0
ANTB	**Antalya**	**1.14**	**118**	Pn	Pn	07 33 47.5	-0.1
AKAS	**Kas**	**1.21**	**172**	Pn	Pb	07 33 48.6	+0.1
KULA	**Kula-Manisa**	**1.22**	**332**	Pn	Pn	07 33 48.8	0.0
AYDB	**Zeytinkoy-Aydi**	**1.29**	**294**	Pn	Pb	07 33 50.3	+0.4
ODEM	**Odemis-Izmir**	**1.34**	**309**	Pn	Pg	07 33 50.9	+0.3

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*IDC **20** 07:44:09.5±2.2, 61°.63N×152°.07W, h80km±20km, mb3.6/11, mbtmp3.9/15, MS3.5/3, Error ellipse: s-maj=24.0km s-min=17.6km az=76.0*
*NEIC **20** 07:44:11.0±1.8, 61°.60N±0°.04×151°.75W±0°.06, h97km±1km, Error ellipse: s-maj=5.1km s-min=4.5km az=168.0*
*AEIC **20** 07:44:12.6±0.9, 61°.55N±0°.03×151°.68W±0°.07, h88km±5km, ML3.7, ML3.9/206(NEIC), Error ellipse: s-maj=4.9km s-min=4.5km az=197.0*

ISC 20 07:44:10.7±0.6, **61°.56N**±0°.04×**151°.66W**±0°.04, **h96**km±5km, **n226**, σ1§**05**/194, **mb4.0**/11, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.10**	**235**		**Pn**	**07 44 23.9**	**-0.3**
STLK				IAML		07 44 33.5	
	comp=E,2μm,0.6s						
STLK				IAML		07 44 33.5	
	comp=N,2μm,0.7s						
STLK	**Strandline Lak**	**0.10**	**235**		**Sn**	**07 44 33.2**	**-1.1**
SPCG	**Spurr Capps Gl**	**0.32**	**213**		**Pn**	**07 44 24.7**	**-0.3**
SPCG					**Sn**	**07 44 34.5**	**-1.2**
SKT	**Skwentna**	**0.43**	**8**		**Pn**	**07 44 25.5**	**-0.1**
SKT				IAML		07 44 37.4	
	comp=N,5μm,0.5s						
SKT				IAML		07 44 37.5	
	comp=E,4μm,0.3s						
SKT	**Skwentna**	**0.43**	**8**		**Sn**	**07 44 36.4**	**-0.3**
SUA	**Susitna One**	**0.45**	**102**		**Pn**	**07 44 26.4**	**+0.7**
SUA				IAML		07 44 37.9	
	comp=N,5μm,0.7s						
SUA				IAML		07 44 38.3	
	comp=E,6μm,0.7s						
SUA	**Susitna One**	**0.45**	**102**		**Sn**	**07 44 37.4**	**+0.4**
SPBG	**Spurr Blockage**	**0.46**	**229**		**Pn**	**07 44 25.6**	**-0.2**
SPBG					**Sn**	**07 44 36.9**	**-0.2**
M22K	**Willow**	**0.76**	**74**		**Pn**	**07 44 29.2**	**+1.0**
M22K	**Willow**	**0.76**	**74**		**Sn**	**07 44 42.4**	**+1.1**
M20K	**Styx River**	**0.77**	**295**		**Pn**	**07 44 28.4**	**-0.1**
M20K					**Sn**	**07 44 41.2**	**-0.6**
FIS	**Fire Island**	**0.81**	**120**		**Pn**	**07 44 30.3**	**+1.6**
FIS	**Fire Island**	**0.81**	**120**	IAML		07 44 47.2	
	comp=E,4μm,0.7s						
FIS				IAML		07 44 47.5	
	comp=N,4μm,0.6s						
RC01	**Rabbit Creek A**	**1.04**	**116**	Pn	**Pn**	**07 44 31.9**	**+0.7**
RC01				IAML		07 44 51.3	
	comp=N,1μm,0.3s						
RC01				IAML		07 44 52.8	
	comp=E,1μm,0.3s						
RDT	**Redoubt**	**1.05**	**201**		**Sn**	**07 44 47.1**	**+0.1**
CUT	**Chulitna**	**1.07**	**37**		**Pn**	**07 44 32.7**	**+1.2**
CUT	**Chulitna**	**1.07**	**37**		**Sn**	**07 44 49.0**	**+1.7**
DFR	**Drift River**	**1.09**	**208**		**Pn**	**07 44 32.1**	**+0.2**
RDJH	**Redoubt Jeurge**	**1.12**	**210**		**Sn**	**07 44 48.8**	**+0.3**
NCT	**North Crescent**	**1.18**	**212**		**Sn**	**07 44 49.9**	**+0.3**
PMR	**Palmer**	**1.21**	**87**	Pn	**Pn**	**07 44 33.6**	**+0.5**
PMR				IAML		07 44 53.3	
	comp=N,1μm,0.6s						
PMR				IAML		07 44 54.5	
	comp=E,1μm,0.4s						
PMR	**Palmer**	**1.21**	**87**	P	**Pn**	**07 44 33.6**	**+0.5**
PMR	**Palmer**	**1.21**	**87**	S	**Sn**	**07 44 50.8**	**+0.8**
RDWB	**Redoubt West**	**1.22**	**209**		**Sn**	**07 44 50.6**	**+0.1**
SLKM	**Skilak Lake**	**1.27**	**146**	Pn	**Pn**	**07 44 34.1**	**+0.2**
SLKM				IAML		07 44 55.1	
	comp=N,2μm,0.3s						
SLKM				IAML		07 44 58.3	
	comp=E,1μm,0.6s						
GHO	**Glory Hole Cre**	**1.32**	**79**		**Pn**	**07 44 35.1**	**+0.5**
M19K	**Big River Lodg**	**1.35**	**286**		**Pn**	**07 44 35.0**	**+0.2**
M19K	**Big River Lodg**	**1.35**	**286**	IAML		07 44 53.9	
	comp=E,746nm,0.9s						
PPLA	**Purkeypile**	**1.36**	**350**		**Pn**	**07 44 35.8**	**+0.6**
O22K	**Cooper Landing**	**1.43**	**138**		**Pn**	**07 44 36.5**	**+0.6**
KNK	**Knik Glacier**	**1.54**	**94**		**Pn**	**07 44 37.5**	**+0.3**
KNK				IAML		07 45 03.7	
	comp=N,2μm,0.6s						
KNK				IAML		07 45 05.1	
	comp=E,2μm,0.4s						
N19K	**Bonanza Creek**	**1.56**	**243**		**Pn**	**07 44 37.7**	**+0.2**
SML	**Sawmill**	**1.60**	**80**	Pn	**Pn**	**07 44 38.4**	**+0.4**
SML				IAML		07 45 03.9	
	comp=N,2μm,0.7s						
SML				IAML		07 45 05.6	
	comp=E,2μm,0.7s						
L19K	**White Mountain**	**1.64**	**294**		**Pn**	**07 44 39.0**	**+0.5**
L19K				IAML		07 45 01.0	
	comp=E,614nm,0.9s						
L19K				IAML		07 45 01.1	
	comp=N,684nm,0.9s						
ILSW	**

BPAW IAML 07 45 24.6
comp=N,507nm,0.5s
BPAW IAML 07 45 24.7
comp=E,560nm,0.5s
P23K Montague Islan 2.61 125 Pn 07 44 50.4 -0.6
KLU Klutina 2.75 89 Pn **Pn 07 44 52.8 -0.2**
KLU IAML 07 45 26.4
comp=E,388nm,0.5s
KLU IAML 07 45 41.2
comp=N,746nm,0.5s
HIN Hinchinbrook I 2.77 113 Pn 07 44 51.9 -1.4
HIN IAML 07 45 41.6
comp=E,628nm,0.8s
HIN IAML 07 45 44.1
comp=N,642nm,0.7s
M17K Holitna River 2.78 269 Pn 07 44 53.8 +0.4
M17K Holitna River 2.78 269 IAML 07 45 27.6
comp=E,332nm,0.8s
P18K Big Mountain, 2.80 221 Pn **Pn 07 44 54.3 +0.6**
BWN Browne 2.81 20 IAML 07 45 37.0
comp=E,510nm,0.7s
BWN IAML 07 45 41.6
comp=N,555nm,0.8s
Q19K Cape Douglas, 2.82 201 IAML 07 45 47.2
comp=N,539nm,0.7s
J20K Nowinta River 2.87 338 Pn **Pn 07 44 54.8 +0.4**
J20K IAML 07 45 28.5
comp=E,287nm,0.8s
J20K IAML 07 45 30.5
comp=N,477nm,0.9s
N17K Nushagak Hills 2.88 251 Pn **Pn 07 44 55.0 +0.3**
SYI Shuyak Island 2.98 187 Pn 07 44 56.4 +0.4
SYI IAML 07 45 37.9
comp=N,391nm,0.8s
SYI IAML 07 45 38.4
comp=E,362nm,0.8s
EYAK Cordova Ski Ar 3.04 107 Pn 07 44 55.8 -1.0
EYAK Cordova Ski Ar 3.04 107 P **Pn 07 44 56.3 -0.5**
EYAK Cordova Ski Ar 3.04 107 S **Sn 07 45 32.2 -0.2**
PAX Paxson 3.22 61 Pn 07 45 00.2 +0.9
Q17K Koliganek Bris 3.22 239 Pn 07 44 59.8 +0.6
NEA2 Nenana 3.27 20 IAML 07 45 38.6
comp=E,212nm,0.9s
NEA2 IAML 07 45 41.6
comp=N,162nm,0.8s
K17K Iditarod 3.33 293 Pn **Pn 07 45 01.3 +0.7**
K17K IAML 07 45 54.4
comp=E,121nm,1.1s
WRH Wood River Hil 3.34 28 Pn 07 45 00.8 0.0
WRH IAML 07 45 46.1
comp=N,140nm,0.5s
P17K Kvichak River 3.36 227 Pn 07 45 02.1 +1.1
N25K Chitina, Valde 3.37 86 IAML 07 45 56.0
comp=E,383nm,0.8s
I20K Naaghedeneel 3.49 340 Pn 07 45 03.7 +0.9
GOAT Goat Mountain 3.51 103 Pn 07 45 02.4 -0.7
CCB Clear Creek Bu 3.56 28 IAML 07 45 47.4
comp=N,118nm,0.6s
CCB IAML 07 45 53.2
comp=E,121nm,0.5s
M16K Timber Creek 3.57 265 Pn 07 45 04.2 +0.4
HDA Harding Lake 3.58 35 IAML 07 45 52.3
comp=E,336nm,0.5s
WASW Wrangell South 3.58 81 Pn 07 45 04.8 +0.5
WAZA Wrangell Mount 3.60 78 Pn 07 45 05.8 +1.3
N16K Nishlik Lake 3.63 256 Pn 07 45 05.4 +0.7
I21K Tanana 3.64 358 Pn 07 45 05.4 +0.6
I21K Tanana 3.64 358 IAML 07 45 49.2
comp=N,103nm,1.4s
I21K IAML 07 45 50.5
comp=E,207nm,0.9s
L16K Owhat River 3.73 276 Pn 07 45 06.5 +0.4
O16K Kokwok River B 3.74 241 Pn 07 45 06.4 +0.3
COLA College 3.75 26 Pn 07 45 07.0 +0.8
COLA College 3.75 26 P **Pn 07 45 07.0 +0.8**
I23K Minto, Yukon-K 3.75 15 IAML 07 45 53.8
comp=E,107nm,0.8s
I23K IAML 07 45 54.7
comp=N,150nm,0.8s
GLB Gilahina Butte 3.76 88 IAML 07 46 10.0
comp=E,247nm,0.5s
GLB IAML 07 46 10.2
comp=N,340nm,0.6s
KDAK Kodiak Island 3.82 187 Pn 07 45 06.7 -0.6
KDAK Kodiak Island 3.82 187 IAML 07 46 09.5
comp=N,140nm,0.8s
KDAK IAML 07 46 12.9
comp=N,143nm,0.8s
KDAK Kodiak Island 3.82 187 P **Pn 07 45 06.3 -1.0**
comp=N,19nm,0.3s,baz=243,slow=5.1,SNR=98
KDAK S **Sn 07 45 47.9 -3.2**
comp=N,47nm,0.6s,baz=66,slow=3.4,SNR=8.4
KDAK LR LR 07 47 00.6
comp=N,325nm,21.5s,baz=125,slow=44
Q16K King Salmon 3.82 223 Pn 07 45 08.3 +1.0
ACHA Angle Creek He 3.83 210 Pn **Pn 07 45 08.3 +0.7**
ILAR Eielson Array 3.88 32 P **Pn 07 45 08.4 +0.4**
comp=N,89nm,0.4s,baz=221,slow=14,SNR=490
ILAR S **Sn 07 45 48.1 -4.5**
comp=N,25nm,0.5s,baz=225,slow=16,SNR=6.3
J17K VABM Dome 3.91 301 Pn **Pn 07 45 08.6 +0.2**
VRDI Verde Repeater 3.96 91 IAML 07 46 19.9
comp=N,194nm,0.7s
VRDI IAML 07 46 20.5
comp=E,112nm,0.8s
MENT Mentasta 3.96 66 Pn 07 45 10.0 +0.8
MENT Mentasta 3.96 66 P **Pn 07 45 10.3 +1.1**
P16K Nushagak River 4.04 234 Pn 07 45 11.2 +0.9
POKR Poker Flat Res 4.05 26 IAML 07 46 07.8
comp=E,105nm,0.8s
POKR IAML 07 46 17.8
comp=N,96nm,0.9s
H21K Melozitna Rive 4.15 353 Pn 07 45 12.3 +0.7
H21K Melozitna Rive 4.15 353 IAML 07 45 59.7
comp=E,86nm,0.8s
H21K IAML 07 45 59.9
comp=N,62nm,1.0s
L26K Log Cabin Wild 4.15 66 Pn 07 45 13.2 +1.5
M26K Nabesna, AK 4.17 75 Pn 07 45 13.4 +1.3
J25K Salcha River, 4.19 40 IAML 07 46 13.6
comp=N,213nm,0.5s
H20K Anotleneega Mo 4.20 341 Pn 07 45 13.2 +0.7
R18K Karluk 4.25 201 Pn 07 45 13.2 +0.1
R18K Karluk 4.25 201 IAML 07 46 02.4
comp=E,161nm,0.5s
R18K IAML 07 46 02.8
comp=N,155nm,0.4s
SCRK Sand Creek 4.28 52 IAML 07 46 16.7
comp=N,223nm,0.5s
SCRK IAML 07 46 20.0
comp=E,211nm,0.5s
H22K Ishtalitna Cre 4.35 2 Pn 07 45 15.3 +0.8
N15K Kwethluk River 4.36 255 Pn 07 45 15.3 +0.8
N15K Kwethluk River 4.36 255 IAML 07 46 36.1
comp=E,62nm,1.0s
H23K Yukon River 4.38 11 Pn 07 45 16.1 +1.2
H23K Yukon River 4.38 11 IAML 07 46 06.2
comp=N,135nm,1.1s
H23K IAML 07 46 07.4
comp=E,89nm,0.7s
OHAK Old Harbor 4.43 192 IAML 07 46 09.3
comp=N,58nm,0.8s
M15K Kasigluk River 4.47 263 Pn 07 45 16.3 +0.3
H19K Roundabout Mou 4.52 334 Pn 07 45 17.2 +0.5
H19K Roundabout Mou 4.52 334 IAML 07 46 29.1
comp=E,48nm,0.9s
H24K Noodor Dome 4.61 20 IAML 07 46 11.0
comp=E,62nm,0.8s
H24K IAML 07 46 12.4
comp=N,65nm,0.8s
M27K Edge Creek, AK 4.69 76 IAML 07 46 41.1
comp=E,106nm,0.9s
M27K IAML 07 46 44.9
comp=N,172nm,1.0s
L15K Ungalak Mounta 4.70 276 Pn 07 45 19.5 +0.5
O15K Ungalikthiuk R 4.71 243 Pn 07 45 20.0 +0.7
J26L Joseph Creek 4.72 48 IAML 07 46 27.2
comp=N,153nm,0.8s
PRP Porcupine Dome 4.83 32 IAML 07 46 21.7
comp=E,105nm,0.6s
PRP IAML 07 46 30.8
comp=N,88nm,0.8s
L27K Beaver Creek, 4.83 68 IAML 07 46 46.1
comp=N,81nm,1.2s
L27K IAML 07 46 50.7
comp=E,91nm,0.8s

BCAR Beaver Creek A 4.85 68 Pn **Pn 07 45 21.9 +0.7**
MESA MESA 4.94 102 Pn 07 45 22.9 +0.2
YAH Yahtse 4.98 100 Pn 07 45 23.7 +0.5
YAH Yahtse 4.98 100 IAML 07 46 47.2
comp=E,102nm,0.8s
YAH IAML 07 46 56.1
comp=N,114nm,0.8s
H17K Granite Mounta 5.04 316 IAML 07 46 22.5
comp=E,35nm,0.7s
G21K Allakaket 5.04 352 Pn 07 45 24.6 +0.8
G21K Allakaket 5.04 352 IAML 07 46 22.9
comp=E,56nm,0.6s
G21K IAML 07 46 23.3
comp=N,54nm,0.8s
K27K Chicken 5.05 56 Pn 07 45 24.6 +0.8
K27K Chicken 5.05 56 IAML 07 46 33.9
comp=E,94nm,0.5s
K27K IAML 07 46 36.3
comp=N,101nm,0.7s
M14K Bethel 5.06 265 Pn 07 45 24.8 +0.8
M14K IAML 07 46 53.8
comp=E,45nm,1.5s
SII Sitkinak Islan 5.18 196 P **Pn 07 45 26.4 +0.6**
RKAV Rock Avalanche 5.18 100 Pn 07 45 27.0 +1.1
G19K Purcell Mounta 5.19 335 IAML 07 46 25.9
comp=E,30nm,1.0s
G23K Bananza Creek 5.22 7 Pn 07 45 27.5 +1.2
G23K Bananza Creek 5.22 7 IAML 07 46 28.3
comp=N,75nm,0.6s
G23K IAML 07 46 37.9
comp=E,40nm,0.9s
L14K Kuka Creek 5.30 272 Pn 07 45 28.1 +0.9
L14K Kuka Creek 5.30 272 IAML 07 47 06.2
comp=N,36nm,1.4s
L14K IAML 07 47 28.1
comp=E,41nm,1.2s
G18K Tagagawik 5.35 328 Pn 07 45 29.0 +1.0
I26K Coal Creek Min 5.36 42 Pn 07 45 29.1 +1.1
CHX Chaix Hills 5.37 102 Pn 07 45 29.2 +0.9
H25L Birch Creek 5.38 26 Pn 07 45 29.9 +1.5
G24K Hadweenzic Riv 5.48 18 Pn 07 45 30.9 +1.2
SAMH Samovar Hills 5.51 100 Pn 07 45 31.5 +1.3
O28M Mount Upton 5.61 93 Pn 07 45 32.6 +0.9
COLD Coldfoot 5.73 6 Pn 07 45 34.2 +1.2
F21K Alatna River 5.74 353 Pn 07 45 34.3 +1.0
FYU Fort Yukon 5.76 26 Pn 07 45 35.0 +1.5
G25K Bearman Lake 5.76 22 Pn 07 45 34.0 +0.5
PCA Pinnacle 5.77 100 Pn 07 45 34.7 +1.0
F20K Avaraart Lake 5.79 344 Pn 07 45 35.4 +1.5
F19K Shaleruckik Mo 5.93 336 Pn 07 45 36.5 +0.7
F22K John River 5.98 358 Pn 07 45 37.9 +1.4
I27K Kandik River 6.04 43 Pn 07 45 38.9 +1.4
G16K Koyuk River 6.14 313 Pn 07 45 38.6 0.0
K13K Kusilvak Mount 6.19 279 Pn 07 45 40.2 +0.9
F24K Squaw Lake 6.20 14 Pn 07 45 40.2 +0.7
M29M Somme Creek 6.28 76 Pn 07 45 41.9 +1.2
PNL Peninsula 6.33 102 Pn 07 45 41.1 -0.1
E19K Redstone River 6.39 340 Pn 07 45 42.7 +0.6
F17K Baldwin Pennin 6.46 323 Pn 07 45 44.1 +1.1
H27K Steamboat Moun 6.47 39 Pn 07 45 44.5 +1.3
L29M L29M 6.49 70 Pn 07 45 44.1 +0.6
O29M Mount Kennedy 6.50 95 Pn 07 45 44.2 +0.5
I28M Miner Creek 6.53 48 Pn 07 45 45.1 +1.0
G15K Niukluk 6.56 307 Pn 07 45 45.0 +0.7
E23K Chandalar 6.58 7 Pn 07 45 46.4 +1.6
F25K Christian Rive 6.58 20 Pn 07 45 46.0 +1.3
BMAR Burnt Mountain 6.63 24 Pn **Pn 07 45 46.4 +1.0**
YUK7 Dusty Glacier 6.64 93 Pn 07 45 47.2 +1.4
E24K Your Creek 6.68 10 Pn 07 45 47.5 +1.4
G27K Doyon Strip 6.84 35 Pn 07 45 49.1 +0.9
ANM Nome 6.92 302 Pn 07 45 50.1 +0.8
E20K Nigu River 7.00 346 Pn 07 45 51.8 +1.4
E18K Tukpahlearik C 7.03 331 Pn 07 45 52.2 +1.4
E25K Arctic Village 7.08 19 Pn 07 45 52.5 +1.1
E17K Hotham Inlet 7.08 326 Pn 07 45 52.7 +1.2
F15K North Star Dit 7.12 311 Pn 07 45 53.7 +1.7
TOLK Toolik Lake Re 7.17 6 Pn 07 45 53.8 +1.1
P30M Million Dollar 7.32 95 Pn 07 45 55.6 +0.7
D23K Nanushuk River 7.45 3 Pn 07 45 58.0 +1.5
H29M Whitestone 7.49 46 Pn 07 45 58.1 +1.1
F14K Arctic Creek 7.64 307 Pn 07 46 00.1 +1.1
C21K Knifeblade Rid 7.74 352 Pn 07 46 01.9 +1.5
SDPT Sand Point 7.75 220 P **Pn 07 46 03.1 +2.5**
E27K Coleen River 7.90 28 Pn 07 46 02.8 +0.2
G29M Pine Creek 7.99 42 Pn 07 46 04.5 +0.6
TNA Tin City 8.28 306 Pn 07 46 08.5 +0.7
C24K Franklin Bluff 8.29 7 Pn 07 46 09.4 +1.7
SKAG Skagway 8.32 97 P **Pn 07 46 09.6 +1.2**
E28M Babbage River 8.71 31 Pn 07 46 13.7 +0.1
B20K Meade River 8.78 348 Pn 07 46 14.7 +0.2
B22K Teshekpuk Lake 8.85 356 Pn 07 46 14.9 -0.5
F30M Barrier River 9.11 41 Pn 07 46 19.7 +0.7
G31M Satah River 9.26 47 Pn 07 46 19.9 -1.1
SIT Sitka 9.48 111 P **Pn 07 46 24.1 0.0**
F31M Tsiigehtchic 9.69 45 Pn 07 46 26.0 -0.9
INK Inuvik 10.21 41 P **Pn 07 46 34.7 +0.8**
comp=E,6.5nm,0.5s,baz=238,slow=17,SNR=56
INK S **Sn 07 48 23.2 -3.0**
comp=E,1.8nm,0.7s,baz=307,slow=15,SNR=1.5
DLBC Dease Lake 11.25 97 P **Pn 07 46 48.0 -0.3**
comp=E,0.9nm,0.5s,baz=287,slow=11,SNR=4.7
DLBC S **Sn 07 48 47.8 -4.1**
comp=E,1.6nm,0.8s,baz=344,slow=15,SNR=1.1
C36M Paulatuk 13.74 44 Pn **Pn 07 47 18.8 -2.2**
YKA Yellowknife Ar 17.25 71 P **Pn 07 48 06.1 +0.9**
comp=E,0.3nm,0.6s,baz=282,slow=11,SNR=5.6
SPITS Spitsbergen Ar 40.31 4 P **P 07 51 37.2 -0.7**
comp=E,14nm,1.0s,baz=15,slow=6.6,SNR=4.2
comp=E,14nm,1.0s
NRIK Noril'sk 42.79 333 P **P 07 51 57.8 -0.3**
comp=E,1.4nm,0.3s,baz=43,slow=6.8,SNR=5.3
comp=E,1.4nm,0.3s
TXAR Lajitas Array 44.95 113 P **P 07 52 18.8 +2.8**
comp=E,0.3nm,0.8s,baz=332,slow=11,SNR=4.2
comp=E,0.3nm,0.8s
LPIG La Paz 46.77 124 LR LR 08 10 46.5
comp=E,118nm,19.1s,baz=0.0,slow=34
ARCES ARCESS Array B 49.18 1 P **P 07 52 47.6 -0.6**
comp=E,2.0nm,0.7s,baz=354,slow=6.7,SNR=5.8
ARCES PcP **PcP 07 54 10.2 +0.3**
comp=E,6.6nm,1.1s,baz=4.6,slow=6.8,SNR=3.6
comp=E,2.0nm,0.7s
JNU Nakatsue 55.62 277 LR LR 08 15 55.8
comp=E,56nm,22.0s,baz=304,slow=34
ZALV Zalesovo Beam 56.51 324 P **P 07 53 41.6 -0.6**
comp=E,1.2nm,0.5s,baz=36,slow=5.9,SNR=4.7
comp=E,1.2nm,0.5s
FINES FINESS Array B 57.31 1 P **P 07 53 47.5 -0.3**
comp=E,0.5nm,0.6s,baz=358,slow=7.1,SNR=3.7
comp=E,0.5nm,0.6s
EKA Eskdalemuir Ar 60.84 20 P **P 07 54 12.5 +0.3**
comp=E,0.3nm,0.4s,baz=324,slow=5.2,SNR=3.6
comp=E,0.3nm,0.4s
BVAR Borovoye Array 60.99 332 P **P 07 54 12.9 -0.5**
comp=E,0.8nm,0.5s,baz=32,slow=5.5,SNR=4.7
comp=E,0.8nm,0.5s
KURBB Kurchatov Arra 61.21 326 P **P 07 54 14.1 -0.7**
comp=E,0.6nm,0.5s,baz=28,slow=5.8,SNR=4.9
comp=E,0.6nm,0.5s
MKAR Makanchi Array 63.62 322 P **P 07 54 29.7 -1.3**
comp=E,0.3nm,0.5s,baz=33,slow=6.7,SNR=4.4
comp=E,0.3nm,0.5s
AKASG Malin Array Be 68.09 359 P **P 07 54 59.8 +0.2**
comp=E,1.4nm,0.3s,baz=4.0,slow=6.4,SNR=8.4
comp=E,1.4nm,0.3s
BOSA Boshof 146.99 5 PKPbc **PKPdf 08 03 41.7 +2.1**
comp=E,2.3nm,0.8s,baz=82,slow=3.9,SNR=3.9
QSPA South Pole Qui 151.37 180 PKPbc **PKPbc 08 03 52.2 +0.8**
comp=E,1.6nm,0.6s,baz=244,slow=0.3,SNR=13

*IDC **20** 07:46:27.9±4.9, 5°.64S×129°.12E, h266km±53km, mb3.2/2, mbtmp4.0/5, Error ellipse: s-maj=63.8km s-min=20.2km az=61.0*
*DJA **20** 07:46:36.9±0.7, 5°.S±8°.×12°.9E±°, h281km±9km, M4.0/7, mb3.7/1, MLv4.1/7*
ISC 20 07:46:28.7±0.8, **5°.96S**±0°.06×**129°.05E**±0°.09, **h264**km, **n12**, σ2°**03**/**17**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.60**	**357**	P	**Pn**	**07 47 19.1**	**+1.2**
MSAI				S	**S**	**07 47 57.7**	**+0.6**
NLAI	**Namlea**	**3.33**	**324**	P	Pn	07 47 31.1	+5.5
NLAI				S	**S**	**07 48 13.6**	**+2.7**
FAKI	**Fak Fak**	**4.39**	**47**	P	**Pn**	**07 47 40.6**	**+2.9**
FAKI				S	**S**	**07 48 33.1**	**+0.4**
SWI	**Sorong**	**5.52**	**24**	P	**Pn**	**07 47 52.8**	**+1.6**
BBSI	**Bau Bau**	**6.47**	**274**	P	Pn	07 48 13.2	+10
BATI	**Baumata**	**6.80**	**231**	P	**Pn**	**07 48 09.4**	**+2.3**
	137nm,0.4s,baz=64,slow=2.9,SNR=18						
BATI				S	**S**	**07 49 26.7**	**+0.3**
	15nm,0.3s,baz=18,slow=3.2,SNR=1.5						
FITZ	**Fitzroy Crossi**	**12.52**	**195**	P	**P**	**07 49 20.5**	**+0.2**
	2.2nm,0.5s,baz=12,slow=12,SNR=7.2						
FITZ				S	**S**	**07 51 38.8**	**+1.1**
	2.5nm,0.7s,baz=273,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**14.82**	**160**	P	**Pn**	**07 49 48.1**	**+1.8**
	1.6nm,0.3s,baz=341,slow=12,SNR=41						
WRA				S	**S**	**07 52 27.5**	**-2.0**
	0.4nm,0.6s,baz=329,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**18.22**	**166**	P	**Pn**	**07 50 25.4**	**-0.8**
	3.8nm,0.5s,baz=345,slow=11,SNR=59						
ASAR				S	**S**	**07 53 36.5**	**-0.9**
	2.0nm,1.1s,baz=345,slow=21,SNR=6.5						
TGY	**Tagaytay City**	**21.50**	**338**	P	**P**	**07 50 54.0**	**-3.1**
	211nm,0.4s,baz=173,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**66.84**	**327**	P	**P**	**07 56 49.9**	**-2.6**
	0.4nm,0.4s,baz=127,slow=8.2,SNR=9.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**71.14**	**329**	P	**P**	**07 57 16.2**	**-2.4**
	0.5nm,0.5s,baz=133,slow=5.2,SNR=5.8						
	0.5nm,0.5s						

AFAD 20 07:48:00.9, 37°.48N×29°.45E, h7km±4km**, ML1.8, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNIZ	**Denizli-Tavas-**	**0.36**	**294**	P	Pg	07 48 07.9	0.0
DNZT	**Denizli-Tavas-**	**0.39**	**240**	S	Sg	07 48 14.4	+0.8
KNIK	**Mula-Seydike**	**0.64**	**171**	P	Pg	07 48 13.6	+0.4
KNIK				*i* AML	AML	07 48 25.0	
	comp=N,29nm,0.4s						
KNIK				S	Sb	07 48 25.1	+1.5
KNIK				*i* AML	AML	07 48 26.0	
	comp=E,33nm,0.7s						
SABU	**Mula-Dalaman**	**0.76**	**211**	P	Pb	07 48 16.1	-0.3
SABU				*i* AML	AML	07 48 27.0	
	comp=N,66nm,0.3s						
SABU				S	Sb	07 48 27.5	+0.6
SABU				*i* AML	AML	07 48 28.0	
	comp=E,45nm,0.4s						
FETY	**Fethiye**	**0.89**	**199**	P	Pg	07 48 17.7	-0.3
FETY				S	Sn	07 48 35.7	+2.7
KIRA	**zmir-Kiraz**	**1.10**	**311**	P	Pn	07 48 22.6	-0.2
KIRA				S	Sn	07 48 39.8	+1.5
KIRA				*i* AML	AML	07 48 40.0	
	comp=N,22nm,0.3s						
KIRA				*i* AML	AML	07 49 08.0	
	comp=E,21nm,1.9s						
TURN	**Turunc**	**1.19**	**234**	P	Pg	07 48 21.8	-1.9
TURN				S	Sb	07 48 39.8	+0.4
TURN				*i* AML	AML	07 48 44.0	
	comp=N,25nm,0.4s						
TURN				*i* AML	AML	07 48 45.0	
	comp=E,31nm,0.4s						
AYDN	**Tasoluk**	**1.26**	**279**	P	Pg	07 48 25.1	0.0
AYDN				S	Sn	07 48 43.0	+0.9
AYDN				*i* AML	AML	07 48 44.0	
	comp=E,18nm,0.3s						
AYDN				*i* AML	AML	07 48 45.0	
	comp=N,28nm,0.7s						

*AFAD **20** 07:48:02.3, 37°.45N×29°.37E, h7km±5km, ML2.2*
ISK 20 07:48:02.3, 37°.43N×29°.36E, h9km**, ML2.1**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.06**	**311**	Pg	Pg	07 48 04.6	+0.2
APMY				Sg	Sg	07 48 06.2	+0.3
GOLH	**Golhisar**	**0.25**	**140**	P	Pg	07 48 06.3	-1.2
GOLH				*i* AML	AML	07 48 11.0	
	comp=N,941nm,0.2s						
GOLH				*i* AML	AML	07 48 11.0	
	comp=E,1μm,0.2s						
GOLH				S	Sg	07 48 12.0	+1.1
DNZT	**Denizli-Tavas-**	**0.31**	**240**	P	Pg	07 48 07.1	-1.3
DNZT				S	Sg	07 48 13.6	+1.1
CAEL	**Denizli, Camel**	**0.31**	**186**	P	Pb	07 48 09.6	-0.6
CAEL				*i* AML	AML	07 48 15.0	
	comp=E,417nm,0.6s						
CAEL				S	Sb	07 48 15.3	-0.1
CAEL				*i* AML	AML	07 48 16.0	
	comp=N,482nm,0.5s						
DNIZ	**Denizli-Tavas-**	**0.32**	**307**	P	Pb	07 48 09.6	-0.7
DNIZ				*i* AML	AML	07 48 15.0	
	comp=E,349nm,0.3s						
DNIZ				S	Sb	07 48 16.1	+0.5
DNIZ				*i* AML	AML	07 48 21.0	
	comp=N,279nm,0.4s						
INCE	**Denizli-Bozkur**	**0.33**	**32**	P	Pg	07 48 06.3	-2.5
INCE				S	Sg	07 48 12.8	-0.4
TAVA	**DENIZLI_Tavas**	**0.36**	**276**	P	Pg	07 48 09.6	+0.2
TAVA				S	Sb	07 48 16.9	+0.3
TAVA				*i* AML	AML	07 48 20.0	
	comp=N,60nm,0.5s						
TAVA				*i* AML	AML	07 48 20.0	
	comp=E,76nm,0.7s						
TAVA	**DENIZLI_Tavas**	**0.36**	**276**	P	Pg	07 48 09.6	+0.2
TAVA				S	Sb	07 48 16.1	-0.5
TAVA				*i* AML	AML	07 48 20.0	
	comp=E,76nm,0.7s						
CAME	**Cameli-Denizli**	**0.49**	**185**	Pg	Pg	07 48 11.5	-0.4
CAME				Sg	Sb	07 48 19.6	-0.9
BASM	**Basmaki-Afyon**	**0.73**	**48**	Pg	Pg	07 48 16.5	0.0
BASM				Sg	Sb	07 48 27.4	-0.1
ELL	**Elmali**	**0.81**	**147**	Pg	Pb	07 48 18.5	-0.2
ELL				Sg	Sb	07 48 30.1	+0.3
FETY	**Fethiye**	**0.82**	**196**	Pg	Pg	07 48 18.4	+0.2
DALY	**Dalyan (Mula)**	**0.83**	**223**	Pg	Pb	07 48 18.9	0.0
KORT	**Korkueli**	**0.90**	**118**	Pg	Pb	07 48 20.1	-0.1
YER	**Yerkesik**	**0.91**	**251**	Pg	Pb	07 48 20.5	+0.3
TURN	**Turunc**	**1.11**	**234**	Pn	Pn	07 48 24.2	+0.3
AKAS	**Kas**	**1.21**	**171**	Pn	Pg	07 48 26.2	+0.6
KULA	**Kula-Manisa**	**1.21**	**333**	Pn	Pg	07 48 25.6	0.0
AYDB	**Zeytinkoy-Aydi**	**1.27**	**294**	Pn	Pg	07 48 27.1	+0.4
ODEM	**Odemis-Izmir**	**1.32**	**310**	Pn	Pn	07 48 26.9	-0.1

*AFAD **20** 07:58:59.3, 37°.72N×29°.54E, h7km±4km, ML2.5*
*ISK **20** 07:59:06.7, 37°.35N×29°.29E, h5km, ML2.4/9*
ISC 20 07:59:03.3±1.8, **37°.64N**±0°.09×**29°.41E**±0°.07, **h12**km, **n13**, σ1°**39**/**15**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.19**	**207**	Pg	**Pb**	**07 59 09.7**	**+0.9**
APMY				Sg	**Sg**	**07 59 12.1**	**+1.7**
DNIZ	**Denizli-Tavas-**	**0.29**	**267**	P	**Pg**	**07 59 08.3**	**-1.1**
DNIZ				S	**Sg**	**07 59 13.9**	**+0.5**
DNIZ				*i* AML	AML	07 59 19.0	
	comp=N,642nm,0.2s						
DNIZ				*i* AML	AML	07 59 20.0	
	comp=E,784nm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.43**	**246**	P	**Pg**	**07 59 09.9**	**-2.0**
TAVA				S	**Sb**	**07 59 21.5**	**+2.1**
TAVA				*i* AML	AML	07 59 28.0	
	comp=E,142nm,0.4s						
TAVA				*i* AML	AML	07 59 36.0	
	comp=N,223nm,0.8s						
DNZT	**Denizli-Tavas-**	**0.47**	**221**	P	**Pb**	**07 59 14.1**	**+0.5**
DNZT				S	**Sg**	**07 59 20.2**	**+1.3**
CAEL	**Denizli, Camel**	**0.52**	**188**	S	**Sg**	**07 59 21.0**	**+0.5**
BASM	**Basmaki-Afyon**	**0.58**	**61**	Pg	Pn	07 59 23.1	+5.6
CAME	**Cameli-Denizli**	**0.70**	**187**	Pg	**Pg**	**07 59 15.1**	**-1.8**
ISP	**Isparta**	**0.90**	**78**	Pn	Pn	07 59 28.1	+6.2
ELL	**Elmali**	**0.97**	**156**	Pg	**Pn**	**07 59 22.1**	**-0.8**
KORT	**Korkueli**	**0.98**	**130**	Pg	**Pn**	**07 59 24.3**	**+1.2**
DALY	**Dalyan (Mula)**	**1.02**	**217**	Pg	**Pb**	**07 59 21.4**	**-1.5**
YER	**Yerkesik**	**1.03**	**241**	Pg	**Pb**	**07 59 23.1**	**0.0**
TURN	**Turunc**	**1.27**	**228**	Pg	**Pn**	**07 59 26.6**	**-0.2**

*ASRS **20** 08:00:01.0±0.9, 54°.40N×86°.97E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 08:00:02.0±3.5, 54°46N×87°07E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=30.4km s-min=20.4km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.42	250	I	I	08 07 10.0	
	baz=71,slow=337,SNR=5.8						
ZALV	Zalesovo Beam	1.42	250	Pg	Pn	08 00 26.9	-2.2
	0.6nm,0.3s,baz=64,slow=16,SNR=6.9						
ZALV				Lg	Lg	08 00 47.5	
	0.9nm,0.3s,baz=70,slow=26,SNR=5.7						
KURBB	Kurchatov Arra	6.47	237	Pn	Pn	08 01 38.8	+0.4
	baz=52,slow=14,SNR=2.7						
	0.3nm,0.4s						
MKAR	Makanchi Array	8.25	204	Pn	Pn	08 02 04.4	+1.6
	0.1nm,0.3s,baz=24,slow=13,SNR=3.0						
MKAR				Lg	Lg	08 04 26.6	
	baz=14,slow=18						
	0.1nm,0.3s						

GII 20 08:00:27.0±0.0, 37°41N×29°41E, h10km, Mws3.9, confirmed
IDC 20 08:00:27.1±0.8, 37°46N×29°46E, h0km, mb3.9/7, mbtmp3.9/14, ML3.6/5, MS3.6/6, Error ellipse: s-maj=16.5km s-min=14.3km az=173.0
AFAD 20 08:00:27.8, 37°40N×29°41E, h7km±3km, MW3.9
ISK 20 08:00:27.5, 37°41N×29°41E, h6km, ML3.9/38
THE 20 08:00:28.2, 37°49N×29°60E, h0km±1km, ML3.9/7, Error ellipse: s-maj=4.1km s-min=1.2km az=55.0
NIC 20 08:00:30.0, 37°38N×29°46E, h8km±3km, Ml3.6/6
HLW 20 08:00:32.4, 37°16N×29°50E, h27km±17km, Ml3.6

ISC 20 08:00:28.1±0.9, 37°41N±0°01×29°44E±0°02, h9km±6km, n129, σ1°30/171, mb3.8/7, MS3.9/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.13	302	Pg	Pg	08 00 30.8	-0.4
GOLH	Golhisar	0.19	150	P	Pg	08 00 32.3	0.0
CAEL	Denizli, Camel	0.30	199	P	Pg	08 00 33.8	-0.3
CAEL				S	Sg	08 00 39.1	+1.0
INCE	Denizli-Bozkur	0.32	20	P	Pg	08 00 34.2	-0.4
INCE				S	Sg	08 00 39.4	+0.4
DNZT	Denizli-Tavas-	0.35	249	P	Pg	08 00 34.8	-0.3
DNZT				S	Sg	08 00 39.5	-0.3
DNIZ	Denizli-Tavas-	0.39	305	P	Pg	08 00 35.3	-0.5
DNIZ				S	Sg	08 00 41.5	+0.5
TAVA	DENIZLI_Tavas	0.42	278	P	Pg	08 00 36.0	-0.4
TAVA				S	Sg	08 00 42.3	+0.3
CAME	Cameli-Denizli	0.47	193	Pg	Pg	08 00 36.7	-0.7
CAME				Sg	Sg	08 00 44.3	+0.7
KNIK	Mula-Seydike	0.57	169	P	Pg	08 00 38.4	-0.8
KNIK				S	Sb	08 00 47.7	-0.9
BRDR	BURDUR-Merkez	0.57	59	P	Pg	08 00 38.9	-0.5
BRDR				S	Sb	08 00 48.9	+0.2
SABU	Mula-Dalaman	0.69	213	P	Pg	08 00 40.4	-1.1
SABU				S	Sg	08 00 50.7	+0.2
BASM	Basmaki-Afyon	0.71	43	Pg	Pb	08 00 41.9	-0.8
ELL	Elmali	0.76	150	Pg	Pb	08 00 42.8	-0.7
ELL	Elmali	0.76	150	P	Pg	08 00 41.6	-1.1
ELL				S	Sb	08 00 55.1	+1.2
FETY	Fethiye	0.82	200	Pg	Pg	08 00 43.4	-0.5
KORT	Korkueli	0.83	119	Pg	Pb	08 00 44.7	-0.1
KORT	Korkueli	0.83	119	P	Pg	08 00 42.9	-1.3
KORT				S	Sn	08 00 58.5	-0.1
DALY	Dalyan (Mula)	0.86	227	Pg	Pg	08 00 44.2	-0.5
DALY				Sg	Sg	08 00 56.4	+0.6
BUCA	Burdur, Bucak-	0.90	95	P	Pg	08 00 45.0	-0.5
BUCA				S	Sn	08 00 59.8	-0.3
MULA	Mugla, Merkez-	0.90	261	P	Pg	08 00 44.7	-0.8
MULA				S	Sb	08 00 58.8	+0.7
BCK	Bucak	0.92	86	Pg	Pb	08 00 45.5	-0.8
KHL	Karahalli	0.92	4	Pg	Pg	08 00 45.6	-0.3
ESEN	Aydn-Nazilli	0.95	295	P	Pg	08 00 45.7	-0.8
ESEN				S	Sg	08 00 57.7	-1.1
ISP	Isparta	0.96	64	Pg	Pg	08 00 45.5	-1.1
ISP	Isparta	0.96	64	P	Pg	08 00 45.3	-1.2
ISP				S	Sb	08 00 59.3	-0.5
YER	Yerkesik	0.96	254	Pg	Pg	08 00 46.0	-0.6
IZZE	Mula-Seydike	0.98	190	P	Pb	08 00 47.1	-0.2
NAZL	Nazilli-Aydin	1.07	302	Pg	Pg	08 00 47.7	-1.0
ANTB	Antalya	1.09	117	Pn	Pn	08 00 49.2	-0.4
KIRA	zmir-Kiraz	1.14	314	P	Pg	08 00 48.6	-1.5
KIRA				S	Sb	08 01 05.8	+0.8
TURN	Turunc	1.14	237	Pn	Pg	08 00 49.2	-0.9
TURN	Turunc	1.14	237	P	Pg	08 00 49.3	-0.9
TURN				S	Sn	08 01 07.9	+1.9
AKAS	Kas	1.18	173	Pn	Pn	08 00 50.8	-0.1
AFYN	Afyon-Dinar-K	1.21	44	P	Pg	08 00 50.1	-1.3
AFYN				P	Pn	08 00 51.1	-0.2
AFYN				S	Sn	08 01 09.9	+2.0
BAGO	Egridir - ISPA	1.22	61	P	Pg	08 00 50.1	-1.5
DEMR	Demre-Antalya	1.23	162	Pn	Pn	08 00 51.7	+0.3
KSL	Kastellorizon	1.26	175	P	Pg	08 00 52.5	+0.2
KSL				S	Sn	08 01 12.4	+3.5
	3μm,0.8s						
KSL	Kastellorizon	1.26	175	P	Pg	08 00 52.3	0.0
KSL				S	Sn	08 01 12.1	+3.2
KSL				AML	AML	08 01 21.3	
	5.5nm,0.7s						
KSL				AML	AML	08 01 22.0	
	4.0nm,0.7s						
AYDN	Tasoluk	1.27	282	P	Pn	08 00 51.8	-0.3
AYDN				S	Sn	08 01 09.6	+0.4
KULA	Kula-Manisa	1.27	331	Pn	Pn	08 00 51.7	-0.4
AKUM	Antalya-Kumluc	1.30	146	P	Pg	08 00 53.2	+0.1
BNAZ	Uak-Banaz	1.32	15	P	Pn	08 00 52.7	-0.2
BNAZ				S	Sn	08 01 13.2	+2.6
MLSB	Milas	1.33	266	Pn	Pn	08 00 52.9	0.0
AYDB	Zeytinkoy-Aydi	1.34	294	Pn	Pn	08 00 52.7	-0.5
USAK	Uak-Merkez	1.35	346	P	Pn	08 00 52.8	-0.4
USAK				S	Sb	08 01 11.1	+0.1
IZMR	zmir-demi	1.39	302	P	Pn	08 00 53.1	-0.5
IZMR				P	Pb	08 00 53.4	-0.8
IZMR				S	Sg	08 01 12.9	+0.2
ODEM	Odemis-Izmir	1.39	309	Pn	Pn	08 00 53.7	0.0
SHUT	Suhut-Afyon	1.45	37	Pn	Pb	08 00 54.7	-0.6
AFYO	Afyonkarahisar	1.54	26	P	Pb	08 00 56.6	-0.3
AFYO				S	Sg	08 01 21.4	+3.8
ARG	Arkhangelos	1.59	222	Pn	Pn	08 00 56.5	+0.1
ARG	Arkhangelos	1.59	222	P	Pb	08 00 57.4	-0.2
ARG				S	Sg	08 01 21.6	+2.5
	3μm,0.8s						
ARG	Arkhangelos	1.59	222	P	Pn	08 00 56.9	+0.5
ARG				S	Sg	08 01 19.7	+0.5
SHAP	Saphane-Kutahy	1.62	354	Pn	Pn	08 00 57.2	+0.2
DAT	Datca	1.63	246	Pn	Pn	08 00 57.3	+0.1
GEDZ	Gediz	1.64	359	Pn	Pn	08 00 57.6	+0.4
YVAC	Isparta, Yalva	1.67	58	P	Pn	08 00 58.0	+0.4
GDZ	Gediz	1.68	1	P	Pn	08 00 57.8	0.0
GDZ				S	Sg	08 01 25.5	+3.2
SIMA	Simav-Kutahya	1.71	348	Pn	Pn	08 00 58.4	+0.1
SMAA	Simav-Kutahya	1.73	348	Pn	Pn	08 00 58.9	+0.4
BODT	Bodrum	1.73	259	Pn	Pn	08 00 58.7	+0.3
DEMI	Demirci	1.73	341	S	Sg	08 01 24.4	+0.5
YKAV	Yalikavak-Bodr	1.74	261	Pn	Pn	08 00 58.9	+0.3
DIDI	Didim-Aydin	1.75	270	Pn	Pn	08 00 58.8	+0.2
GOMA	Golmarmara-Man	1.77	318	Pn	Pn	08 00 59.4	+0.5
KURO	Afyon-Bolvadin	1.78	41	S	Sg	08 01 27.9	+2.6
GCAM	G?zelcaml?	1.78	280	Pn	Pn	08 00 59.2	+0.2
GORD	Gordes-Manisa	1.80	327	Pn	Pn	08 00 59.2	-0.2
SEYD	Seydisehir-KON	1.91	89	Pn	Pn	08 01 01.7	+0.7
NISR	Nisiros	2.01	248	P	Pn	08 01 03.6	+1.4
NISR				S	Sg	08 01 32.5	-0.3
	3μm,1.2s						
TVSB	Tavsanli	2.04	1	Pn	Pn	08 01 02.9	+0.1
BLCB	Balcova	2.13	298	Pn	Pn	08 01 04.5	+0.6
DST	Dursunbey	2.29	344	Pn	Pn	08 01 06.6	+0.5
SOMA	Soma-Manisa	2.30	320	Pn	Pn	08 01 06.8	+0.5
KARP	Karpathos	2.61	225	P	Pn	08 01 12.0	+1.5
KARP				S	Sb	08 01 46.1	-1.1
	2μm,0.8s						
KARP	Karpathos	2.61	225	P	Pn	08 01 11.9	+1.5
KARP				S	Sb	08 01 46.6	-0.6
PRK	Paraskevi	3.10	307	P	Pn	08 01 17.8	+0.7
PRK				S	Sb	08 01 58.6	-2.6
	840nm,0.7s						
APE	Apeiranthos	3.14	265	P	Pn	08 01 18.6	+0.8
APE	Apeiranthos	3.14	265	P	Pn	08 01 18.3	+0.5
AKMS	Akamas	3.34	135	P	Pn	08 01 22.1	+1.6
AKMS				S	Sn	08 02 02.0	+1.6
AKMS				AML	AML	08 02 20.8	
	0.6nm,1.2s						
AKMS				AML	AML	08 02 20.8	
	0.6nm,0.8s						
SIGR	SIGRI	3.35	304	P	Pn	08 01 21.0	+0.4
SIGR				S	Sn	08 02 03.9	+3.5
	310nm,0.9s						
ALFC	Alefka	3.40	130	P	Pn	08 01 23.5	+2.1
ALFC				S	Sn	08 02 02.9	+1.1
ALFC				AML	AML	08 02 18.3	
	0.5nm,0.5s						
ALFC				AML	AML	08 02 18.8	
	0.4nm,0.5s						
ZKR	Zakros	3.46	230	P	Pn	08 01 24.5	+2.3
ZKR				S	Sn	08 02 06.8	+3.4
	408nm,0.7s						
ZKR	Zakros	3.46	230	P	Pn	08 01 24.6	+2.3
ZKR				S	Sn	08 02 06.2	+2.8
NATA	Nata	3.65	135	P	Pn	08 01 27.2	+2.4
NATA				S	Sb	08 02 13.5	-3.6
NATA				AML	AML	08 02 33.9	
	1.5nm,0.9s						
NATA				AML	AML	08 02 38.9	
	1.5nm,1.0s						
CSS	Mathiatis	3.98	127	P	Pn	08 01 28.9	-0.5
CSS	Mathiatis	3.98	127	S	Sn	08 02 15.5	-0.7
CSS	Mathiatis	3.98	127	P	Pn	08 01 32.5	+3.1
CSS				S	Sb	08 02 22.8	-3.9
CSS				AML	AML	08 02 36.9	
	0.3nm,0.8s						
CSS				AML	AML	08 02 42.1	
	0.2nm,0.7s						
BRTR	Keskin Array B	4.03	54	Pn	Pn	08 01 31.0	+0.9
	4.5nm,0.3s,baz=230,slow=17,SNR=77						
BRTR				Sn	Sn	08 02 18.2	+0.8
	3.3nm,0.3s,baz=230,slow=25,SNR=14						
BRTR				LR	LR	08 03 38.5	
	comp=Z,365nm,19.8s,baz=260,slow=48						
	17nm,0.6s						
ASGA	Asgata	4.04	129	P	Pn	08 01 32.2	+2.0
ASGA				S	Sn	08 02 21.5	+3.9
ASGA				AML	AML	08 02 41.5	
	0.4nm,1.0s						
ASGA				AML	AML	08 02 43.8	
	0.3nm,0.8s						
IDI	Anoyia	4.24	241	Pn	Pn	08 01 35.0	+2.1
	58nm,0.6s,baz=58,slow=13,SNR=40						
IDI				Sn	Sn	08 02 24.0	+1.5
	9.6nm,0.3s,baz=90,slow=12,SNR=10						
SMTH	Samothraki Isl	4.32	316	P	Pn	08 01 34.2	+0.2
HNTI	Hanita	6.37	131	P	Pn	08 02 01.2	-1.0
HNTI	Hanita	6.37	131	S	Sn	08 03 14.4	-0.7
MMAOB	Mount Meron ar	6.56	130	P	Pn	08 02 04.1	-0.7
MMAI	Mount Meron Ar	6.56	130	Pn	Pn	08 02 05.6	+0.8
	8.1nm,0.3s,baz=307,slow=11,SNR=16						
MMAI				Sn	Sn	08 03 18.5	-1.3
	11nm,0.3s,baz=304,slow=29,SNR=6.4						
GEM	Giv'at Ha'Em	6.59	128	P	Pn	08 02 05.2	0.0
GEM	Giv'at Ha'Em	6.59	128	S	Sn	08 03 19.4	-1.0
NATI	Neve Ativ	6.60	127	P	Pn	08 02 05.5	+0.2
NATI	Neve Ativ	6.60	127	S	Sn	08 03 19.6	-1.0
SLUM	Salum	6.85	212	P	Pn	08 02 09.4	+0.6
MMLI	Mount Malkishu	6.98	133	P	Pn	08 02 09.8	-0.8
SALP	Salfit	7.12	137	P	Pn	08 02 12.1	-0.4
DSI	Dead Sea	7.61	138	P	Pn	08 02 18.5	-0.7
DSI	Dead Sea	7.61	138	S	Sn	08 03 44.7	-0.8
ASF	Jabal al Asfar	8.05	128	Pn	Pn	08 02 26.3	+1.0
	1.6nm,0.3s,baz=355,slow=17,SNR=9.5						
ASF				Sn	Sn	08 03 59.7	+3.1
	1.0nm,0.3s,baz=248,slow=19,SNR=3.7						
	1.6nm,0.3s						
PRNI	Paran	8.42	145	P	Pn	08 02 29.7	-0.6
MLR	Muntele Rosu	8.49	343	Pn	Pn	08 02 33.5	+2.1
	0.6nm,0.3s,baz=169,slow=10,SNR=5.4						
	3.4nm,0.6s						
HRFI	Mount Harif	8.70	146	P	Pn	08 02 33.3	-0.9
HRFI	Mount Harif	8.70	146	S	Sn	08 04 11.9	-0.5
SWA2		8.79	203	P	Pn	08 02 35.6	+0.2
MBRI	Mt Berech	8.86	147	P	Pn	08 02 36.0	-0.3
MBRI	Mt Berech	8.86	147	S	Sn	08 04 16.1	-0.2
EIL	Elat	8.98	148	Pn	Pn	08 02 38.9	+0.9
	3.1nm,0.3s,baz=335,slow=9.7,SNR=13						
EIL				Sn	Sn	08 04 09.1	-10
	2.4nm,0.3s,baz=343,slow=11,SNR=5.5						
	8.1nm,0.4s						
HKAT	Jabal Katrina	9.65	155	P	Pn	08 02 47.0	-0.3
HKAT				S	Sn	08 04 25.3	-11
TAMRE	El Minia	9.78	172	P	Pn	08 02 48.3	-0.6
HFRF	Wahat Farafira	10.27	186	P	Pn	08 02 55.0	-0.7
GNI	Garni	12.26	72	LR	LR	08 09 03.2	
	comp=Z,152nm,19.1s,baz=309,slow=42						
GERES	GERESS Array B	16.17	320	Pn	P	08 04 17.4	-1.4
	baz=112,slow=12,SNR=11						
	1.7nm,0.8s						
FINES	FINESS Array B	24.16	356	P	P	08 05 44.4	+0.1
	3.3nm,0.6s,baz=155,slow=11,SNR=12						
	3.3nm,0.6s						
ESDC	Sonseca Array	26.14	285	P	P	08 06 03.5	+0.9
	1.8nm,0.9s,baz=86,slow=10,SNR=7.2						
	1.8nm,0.9s						
BVAR	Borovoye Array	32.29	48	LR	LR	08 23 54.8	
	comp=Z,78nm,19.0s,baz=324,slow=44						
TORD	Torodi Ar. Bea	34.59	233	P	P	08 07 17.4	0.0
	3.3nm,0.5s,baz=34,slow=9.2,SNR=5.5						
	3.3nm,0.5s						
KURBB	Kurchatov Arra	37.02	53	P	P	08 07 38.1	+0.2
	2.2nm,0.7s,baz=276,slow=8.9,SNR=21						
	2.2nm,0.7s						
MKAR	Makanchi Array	39.66	59	P	P	08 08 00.5	+0.2
	0.8nm,0.6s,baz=280,slow=6.8,SNR=14						
	0.8nm,0.6s						
YKA	Yellowknife Ar	76.32	344	P	P	08 12 15.9	-1.1
	0.8nm,1.1s,baz=26,slow=5.1,SNR=7.8						
	0.8nm,1.1s						
ILAR	Eielson Array	78.12	358	P	P	08 12 26.4	-0.7
	0.3nm,0.8s,baz=345,slow=3.2,SNR=4.2						
	0.3nm,0.8s						
NEW	Newport	89.66	338	LR	LR	08 57 59.8	
	comp=Z,51nm,18.1s,baz=209,slow=38						
PDAR	Pinedale Array	91.91	331	LR	LR	08 59 31.2	
	comp=Z,65nm,18.8s,baz=210,slow=39						
SIV	San Ignacio	99.93	258	LR	LR	09 01 28.1	
	comp=Z,27nm,19.1s,baz=291,slow=37						

IDC 20 08:03:12.0±1.0, 33°15S×179°71W, h0km, mb4.5/4, mbtmp4.5/4, Error ellipse: s-maj=39.1km s-min=26.1km az=51.0
WEL 20 08:03:25.5±0.6, 34°S±4°×17°9W±°, h12km, M4.3/22, mB4.9/12, ML4.6/26, MLv4.5/22, Mw(mB)4.1/12, Error ellipse: s-maj=12.7km s-min=4.3km az=107.8, confirmed
NOU 20 08:03:39.4, 34°58S×179°22E, h235km, MLv4.3/13, South of Kermadec Islands

ISC 20 08:03:21.0±0.7, 33°93S±0°05×179°03W±0°09, h10km, n92, σ2°48/79, mb5.1/7, 5D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.22	210	P	Pb	08 04 31.5	-3.8
MXZ	Matakaoa Point	4.22	210	P	Pn	08 04 29.5	+4.1
MXZ				S	Sn	08 05 17.0	+2.3
WMGZ	Waiomatatini S	4.40	207	P	Pn	08 04 33.2	+5.3
WMGZ				S	Sn	08 05 21.9	+2.7
PKGZ	Pakihiroa	4.58	210	P	Pn	08 04 34.4	+4.1
HAZ	Te Kaha	4.61	213	P	Pn	08 04 35.5	+4.7
HAZ				S	Sn	08 05 26.1	+1.8
PUZ	Puketiti	4.68	207	P	Pn	08 04 35.6	+3.9
PUZ				S	Sn	08 05 26.5	+0.4
GLKZ	Green Lake	4.75	12	P	Pn	08 04 36.5	+3.8
GLKZ				S	Sn	08 05 31.1	+3.4
RUGZ	Raukumara Rang	4.83	213	P	Pn	08 04 37.9	+4.0
RUGZ				S	Sn	08 05 28.9	-1.1
TWGZ	Tauwhareparae	4.88	209	P	Pn	08 04 39.8	+5.3
TWGZ				S	Sn	08 05 32.1	+1.0
CNGZ	Carnagh Statio	5.06	205	P	Pn	08 04 41.0	+4.0
GRZ	Great Barrier	5.08	241	P	Pn	08 04 37.9	+0.7
KUZ	Kuaotunu	5.13	235	P	Pn	08 04 38.1	+0.3
KUZ	Kuaotunu	5.13	235	P	Pn	08 04 39.9	+2.1
TKGZ	Te Karaka	5.16	208	P	Pn	08 04 42.0	+3.8
TKGZ				S	Sn	08 05 38.5	+0.6
MWZ	Matawai	5.20	211	P	Pn	08 04 41.9	+3.0
MWZ				S	Sn	08 05 37.1	-2.0
OPRZ	Ohinepanea	5.30	221	P	Pn	08 04 42.4	+2.2
URZ	Urewera	5.33	215	P	Pn	08 04 43.6	+3.0
URZ	Urewera	5.33	215	P	Pn	08 04 42.6	+1.9
MARZ	Manawahe	5.34	219	P	Pn	08 04 44.7	+3.9
TGRZ	Tauranga	5.38	224	P	Pn	08 04 45.2	+3.8
RAGZ	Rawiri	5.39	211	P	Pn	08 04 44.4	+2.9
RIGZ	Rimuhau	5.42	208	P	Pn	08 04 44.8	+2.9
RIGZ				S	Sn	08 05 43.1	-1.3
WIAZ	Waiheke Island	5.56	237	P	Pn	08 04 45.7	+1.9
PRGZ	Paritu Road	5.57	206	P	Pn	08 04 47.2	+3.2
PRGZ				S	Sn	08 05 45.8	-2.2
OMRZ	Omania	5.59	220	P	Pn	08 04 48.1	+3.9
KARZ	Kaharoa	5.60	222	P	Pn	08 04 47.4	+3.1
TARZ	Mount Tarawera	5.61	219	P	Pn	08 04 49.3	+4.6
KMRZ	Kaimai	5.65	225	P	Pn	08 04 48.2	+3.1
SNGZ	Shannon Statio	5.66	210	P	Pn	08 04 47.7	+2.5
SNGZ				S	Sn	08 05 47.5	-2.7
MUGZ	Murupara	5.67	216	P	Pn	08 04 46.9	+1.7
RTZ	Ruatahuna	5.68	213	P	Pn	08 04 46.8	+1.3
MKAZ	Moumakai	5.70	235	P	Pn	08 04 47.9	+2.2
MBAZ	Motutapu North	5.71	239	P	Pn	08 04 48.3	+2.4
KNZ	Kokohu	5.73	207	P	Pn	08 04 47.8	+1.7
KNZ				S	Sn	08 05 48.9	-3.1
MHGZ	Mahia Peninsul	5.77	204	P	Pn	08 04 49.7	+3.0
ETAZ	East Tamaki Re	5.78	237	P	Pn	08 04 49.2	+2.3
WCZ	Waipu Caves	5.80	248	P	Pn	08 04 46.3	-0.8
HSRZ	Hossack Road	5.81	220	P	Pn	08 04 51.7	+4.5
TOZ	Tahuroa Road	5.84	228	P	Pn	08 04 50.1	+2.5
PRRZ	Plateau Road	5.87	218	P	Pn	08 04 51.0	+2.9
RAHZ	Arahi	5.88	211	P	Pn	08 04 50.1	+1.9
GRRZ	Galatos Road	5.91	220	P	Pn	08 04 50.9	+2.3
MTHZ	Maungataniwha	5.93	213	P	Pn	08 04 50.6	+1.6
ALRZ	Allen Road	5.94	218	P	Pn	08 04 52.0	+3.0
WHHZ	Waihua	5.95	209	P	Pn	08 04 51.2	+2.0
WPRZ	Whakapapatarin	6.00	219	P	Pn	08 04 53.4	+3.4
AWAZ	Awhitu Peninsu	6.03	237	P	Pn	08 04 52.6	+2.3
MRHZ	Matea Rd	6.12	216	P	Pn	08 04 53.7	+2.2
NMHZ	Naumai	6.15	212	P	Pn	08 04 53.4	+1.4
KUTZ	Kaahu Road	6.16	221	P	Pn	08 04 55.5	+3.4
ARHZ	Aropaoanui	6.21	210	P	Pn	08 04 53.9	+1.2
TLZ	Tolley Road	6.21	223	P	Pn	08 04 56.2	+3.4
OUZ	Omahuta	6.22	256	P	Pn	08 04 50.2	-2.6
OUZ	Omahuta	6.22	256	P	Pn	08 04 50.3	-2.5
BKZ	Black Stump Fm	6.35	213	P	Pn	08 04 55.5	+0.8
BKZ	Black Stump Fm	6.35	213	P	Pn	08 04 55.0	+0.4
WATZ	Wairara	6.37	220	P	Pn	08 04 58.0	+3.0
MCHZ	McNeill Hill	6.49	211	P	Pn	08 04 57.1	+0.6
RITZ	Rihia Road	6.51	218	P	Pn	08 04 59.7	+2.9
CKHZ	Cape Kidnapper	6.51	208	P	Pn	08 04 59.9	+3.0
KWHZ	Kaweka Forest	6.59	212	P	Pn	08 04 57.9	0.0
TMVZ	Te Maari	6.69	218	P	Pn	08 05 00.4	+1.0
NTVZ	North Tongariр	6.69	218	P	Pn	08 04 59.9	+0.4
ETVZ	East Tongariro	6.70	218	P	Pn	08 05 00.6	+1.0
KAHZ	Kahuranaki	6.71	208	P	Pn	08 05 00.3	+0.7
NNVZ	North Ngauruho	6.75	218	P	Pn	08 05 02.9	+2.7
WTVZ	West Tongariro	6.75	218	P	Pn	08 05 01.8	+1.6
KRHZ	Kereru	6.79	212	P	Pn	08 05 00.6	-0.1
TUVZ	Tukino	6.83	217	P	Pn	08 05 03.0	+1.6
KHEZ	Kahui Hut	7.74	224	P	Pn	08 05 10.9	-2.9
SNZO	South Karori	8.88	212	P	Pn	08 05 26.7	-2.7
QRZ	Quartz Range	9.61	222	P	Pn	08 05 34.7	-4.7
CTZ	Chatham Island	9.97	170	P	Pn	08 05 54.2	+10
KHZ	Kahutara	10.29	212	P	Pn	08 05 44.3	-4.3
RPZ	Rata Peaks	12.45	215	P	Pn	08 06 12.3	-5.9
ODZ	Otahua Downs	13.65	213	P	Pn	08 06 28.0	-6.6
JCZ	Jackson Bay	13.85	219	P	Pn	08 06 29.3	-8.2
ASAR	Alice Springs	42.18	271	P	P	08 11 01.9	-12
	1.8nm,0.6s,baz=114,slow=8.2,SNR=26						
	1.8nm,0.6s						
WRA	Warramunga Arr	43.49	276	P	P	08 11 11.7	-13
	0.7nm,0.3s,baz=116,slow=8.0,SNR=22						
	0.7nm,0.3s						
QSPA	South Pole Qui	56.19	180	P	P	08 12 59.8	-1.1
	24nm,0.5s,baz=30,slow=1.9,SNR=368						
	24nm,0.5s						
TROLL	Troll, Antarti	74.35	181	⇓P	P	08 14 55.3	-3.2
	comp=Z,79nm,0.3s						
SNAA	Sanae	74.66	179	⇓P	P	08 14 56.6	-3.6
	comp=Z,70nm,0.4s						
SNAA	Sanae	74.66	179	P	P	08 14 56.8	-3.5
	comp=Z,2.6nm,0.5s,baz=197,slow=11,SNR=38						
	comp=Z,2.6nm,0.5s						
VNA3	Neumayer Olymp	74.85	176	⇓P	P	08 14 58.0	-3.3
	comp=Z,16nm,0.4s						
VNA2	Neumayer--Watz	75.27	177	⇓P	P	08 15 00.4	-3.3
	comp=Z,16nm,0.4s,baz=183,slow=6.2						
VNA1	Neumayer--Stat	75.51	177	⇓P	P	08 15 02.0	-3.0
	comp=Z,9.2nm,0.5s						
ARCES	ARCESS Array B	141.82	346	PKhKP	PKPpre	08 22

SHUT	Suhut-Afyon	1.39	42	Pn	Pb	08 07 56.1	-0.2
SHUT				Sn	Sn	08 08 15.8	+1.1
SHAP	Saphane-Kutahy	1.51	356	Pn	Pn	08 07 57.8	+0.4
GEDZ	Gediz	1.52	1	Pn	Pn	08 07 56.9	-0.8
SIMA	Simav-Kutahya	1.59	349	Pn	Pb	08 07 59.2	-0.5
DAT	Datca	1.63	242	Pn	Pb	08 07 59.9	-0.5
ARG	Arkhangelos	1.64	218	Pn	Pb	08 07 59.9	-0.5
GORD	Gordes-Manisa	1.68	326	Pn	Pn	08 08 00.4	+0.7
BODT	Bodrum	1.70	255	Pn	Pn	08 08 00.7	+0.7
GCAM	G?zelcaml?	1.71	277	Pn	Pn	08 08 00.7	+0.7
TVSB	Tavsanli	1.93	2	Pn	Pn	08 08 03.6	+0.3
SEYD	Seydisehir-KON	1.97	93	Pn	Pn	08 08 04.5	+0.7
BLCB	Balcova	2.03	296	Pn	Pn	08 08 05.4	+0.9

*AEIC **20** 08:34:20.5±1.6, 52.°76N±0.°06×168.°23W±0.°09, h22km±8km, Error ellipse: s-maj=10.1km s-min=6.2km az=142.0*

NEIC 20 08:34:21.4±1.4, 52.°82N±0.°06×168.°24W±0.°07, h26km±10km, ML3.2(AEIC), Error ellipse: s-maj=10.7km s-min=1.4km az=143.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.40	293		Pb	08 34 29.7	-0.4
NIKH	Nikolski High	0.40	293		Sb	08 34 37.0	+1.0
OKTU	Okmok Mt. Tuli	0.58	12		Pb	08 34 33.5	+0.5
OKFG	Magazine Ridge	0.62	18		Pb	08 34 33.8	0.0
OKFG					Sn	08 34 44.8	+1.0
OKWE	Okmok W'ng Wal	0.65	0		Pb	08 34 34.6	+0.4
MAPS	Pakushin South	1.26	38		Pn	08 34 42.8	-0.5
MGOD	Makushin Gods	1.28	40		Pn	08 34 43.2	-0.4
MGOD					Sb	08 35 01.0	+0.2
UNV	Unalaska Valle	1.46	45		Pn	08 34 45.6	-0.4
UNV	Unalaska Valle	1.46	45		Sn	08 35 04.0	-0.4
MTBL	Makushin Table	1.48	38		Pn	08 34 46.8	+0.3
AKRB	Akutan Reef Bi	1.85	44		Pn	08 34 52.0	+0.6
ZRO	Akutan Zero	1.86	46		Pn	08 34 52.0	+0.4
ZRO					Sn	08 35 15.8	+1.6
LVA	Lava Point	1.88	44		Pn	08 34 52.8	+0.9
AKBBA	Akutan Broad B	1.88	46		Pn	08 34 52.7	+0.8
AKGG	Akutan Green G	1.93	43		Pn	08 34 53.3	+0.8
ISLZ	Isanotski Laza	3.30	53		Pn	08 35 11.8	+0.4
FALS	False Pass	3.51	53		Pn	08 35 14.7	+0.5
ATKA	Atka Island	3.69	263		Pn	08 35 16.9	+0.2
ATKA					Sn	08 36 00.7	+1.4

*IDC **20** 08:39:48.3±0.8, 27.°76N×127.°50E, h0km, mb3.5/8, mbtmp3.5/10, ML3.4/2, MS3.3/2, Error ellipse: s-maj=34.0km s-min=13.2km az=60.0*

*JMA **20** 08:39:48.7±0.3, 28.°1N±0.°5×128.°0E±0.°7, h15km±3km, MD3.9/15, MV3.6/15, NW OFF OKINAWAJIMA IS*

*NIED **20** 08:39:48.7, 28.°11N×128.°03E, h15km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.53; $M_{\theta\theta}$1.19; $M_{\phi\phi}$-0.66; $M_{r\theta}$-1.10; $M_{\theta\phi}$0.37; $M_{\phi r}$-1.18; Fault plane solution: $M_0$1.94000×10^{15} NP1: ϕ_s298.00000°, δ30.00000°, λ-19.00000°. NP2: ϕ_s45.00000°, δ81.00000°, λ-118.00000°.*

ISC 20 08:39:49.8±1.5, 27.°97N±0.°05×128.°03E±0.°05, h10km±10km, n27, σ1§82/30, mb3.4/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.77	142	eP	Pg	08 40 05.3	+0.6
JOKE				eS	Sg	08 40 17.1	+2.4
JTK	Tokunoshima	0.83	102	P	Pg	08 40 05.0	-0.9
JTK				S	Sg	08 40 16.4	-0.4
JTK	Tokunoshima	0.83	102	A	A	08 40 05.0	
	comp=N,8.0nm,0.8s,comp=E,10.0nm,0.4s						
JIH	Iheya	0.93	184	i P	Pn	08 40 08.4	-0.6
JIH				S	Sn	08 40 22.6	+0.3
JIH	Iheya	0.93	184	A	A	08 40 08.4	
	comp=N,6.0nm,0.5s,comp=E,6.0nm,2.3s						
JYRO	Yoronjima	1.01	158	eP	Pg	08 40 09.5	+0.3
JYRO				S	Sn	08 40 24.9	+0.7
JAMN	Amaminishikomi	1.05	75	P	Pn	08 40 07.8	-2.7
JAMN				eS	Sb	08 40 21.4	-2.3
JOW	Kunigami	1.15	169	Pn	Pn	08 40 11.9	-0.1
	comp=E,217nm,0.3s,baz=348,slow=14,SNR=55						
JOW				Sn	Sn	08 40 28.3	+0.5
	comp=E,229nm,0.3s,baz=198,slow=30,SNR=16						
JOW	Kunigami	1.15	169	P	Pn	08 40 11.8	-0.1
JOW				S	Sn	08 40 28.6	+0.8
JOW	Kunigami	1.15	169	A	A	08 40 11.8	
	comp=N,3.0nm,2.0s,comp=E,3.0nm,1.1s						
JNTH	Nagotoyohara	1.44	180	eP	Pg	08 40 16.4	-1.1
JNTH				S	Sg	08 40 36.1	-0.2
JAM	Amami Oshima	1.46	72	P	Pn	08 40 14.0	-2.1
JAM				S	Sn	08 40 33.2	-2.1
JAGN	Aguni-jima	1.54	207	P	Pg	08 40 18.2	-1.3
JTAJ	Takarajima	1.57	41	eP	Pn	08 40 14.5	-3.2
JZK	Kikaishima	1.75	78	eP	Pn	08 40 20.1	-0.1
JJT3	Tamagusuku3	1.83	187	eP	Pg	08 40 22.6	-2.3
JNU	Nakatsue	5.69	25	Pn	Pn	08 41 17.8	+3.4
	comp=E,1.4nm,0.3s,baz=198,slow=9.6,SNR=9.7						
	comp=E,33nm,1.0s						
KSRS	Korea Array	9.46	359	Pn	Pn	08 42 09.2	+3.1
	comp=E,0.2nm,0.3s,baz=237,slow=22,SNR=1.8						
KSRS				LR	LR	08 45 53.7	
	comp=E,145nm,18.3s,baz=185,slow=38						
	comp=E,1.4nm,0.9s						
SONM	Songino Array	26.01	325	P	P	08 45 24.3	+1.2
	comp=E,0.7nm,0.6s,baz=140,slow=7.0,SNR=4.3						
	comp=E,0.7nm,0.6s						
YAK	Yakutsk	34.08	1	LR	LR	08 59 57.6	
	comp=E,42nm,18.2s,baz=110,slow=35						
MKAR	Makanchi Array	40.26	310	P	P	08 47 24.3	-2.6
	comp=E,0.5nm,0.8s,baz=105,slow=9.4,SNR=5.9						
	comp=E,0.5nm,0.8s						
ZALV	Zalesovo Beam	40.77	322	P	P	08 47 28.8	-2.1
	comp=E,0.4nm,0.5s,baz=113,slow=3.7,SNR=3.9						
	comp=E,0.4nm,0.5s						
KURBB	Kurchatov Arra	43.49	315	P	P	08 47 51.7	-1.5
	comp=E,0.5nm,0.6s,baz=103,slow=9.0,SNR=4.3						
	comp=E,0.5nm,0.6s						
WRA	Warramunga Arr	48.02	172	P	P	08 48 29.5	+0.3
	comp=E,1.5nm,0.9s,baz=346,slow=7.9,SNR=4.7						
	comp=E,1.5nm,0.9s						
BVAR	Borovoye Array	48.87	317	P	P	08 48 33.8	-1.8
	comp=E,0.2nm,0.3s,baz=77,slow=6.4,SNR=4.0						
	comp=E,0.2nm,0.3s						
ASAR	Alice Springs	51.65	173	P	P	08 48 54.5	-2.3
	comp=E,0.2nm,0.6s,baz=350,slow=8.0,SNR=4.4						
	comp=E,0.2nm,0.6s						
YKA	Yellowknife Ar	77.03	25	P	P	08 51 45.9	+3.2
	comp=E,0.2nm,0.8s,baz=299,slow=6.3,SNR=2.8						
	comp=E,0.2nm,0.8s						

*IDC **20** 08:53:11.6±0.8, 28.°14N×128.°29E, h0km, mb3.7/9, mbtmp3.7/9, MS3.6/20, Error ellipse: s-maj=29.4km s-min=15.8km az=80.0*

*JMA **20** 08:53:13.1±0.3, 28.°1N±0.°4×128.°0E±0.°6, h15km±2km, MV3.7/16, NW OFF OKINAWAJIMA IS*

*NIED **20** 08:53:13.1, 28.°11N×128.°02E, h15km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.66; $M_{\theta\theta}$2.48; $M_{\phi\phi}$-0.82; $M_{r\theta}$-2.20; $M_{\theta\phi}$1.44; $M_{\phi r}$-1.38; Fault plane solution: $M_0$3.53000×10^{15} NP1: ϕ_s275.00000°, δ25.00000°, λ-53.00000°. NP2: ϕ_s55.00000°, δ70.00000°, λ-106.00000°.*

ISC 20 08:53:13.2±1.4, 28.°07N±0.°04×128.°12E±0.°05, h11km±9km, n42, σ0§98/32, mb3.7/9, MS3.6/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.79	111	P	Pn	08 53 29.4	-0.8
JTK				S	Sn	08 53 41.4	-0.7
JOKE	Okinoerabujima	0.81	150	P	Pn	08 53 30.0	-0.6
JOKE				S	Sb	08 53 42.0	+1.7
JAMN	Amaminishikomi	0.95	79	P	Pn	08 53 32.2	-0.3
JAMN				eS	Sn	08 53 46.1	+0.1
JIH	Iheya	1.04	187	P	Pg	08 53 32.8	-0.4
JIH				S	Sg	08 53 47.2	+0.5
JYRO	Yoronjima	1.08	164	eP	Pb	08 53 34.1	+0.2
JYRO				S	Sg	08 53 48.7	+0.6
JOW	Kunigami	1.24	173	Pn	Pn	08 53 36.6	+0.1
	198nm,0.3s,baz=8.9,slow=12,SNR=105						
JOW				Sn	Sb	08 53 53.3	+0.6
	165nm,0.3s,baz=122,slow=28,SNR=12						
JOW	Kunigami	1.24	173	P	Pn	08 53 36.5	+0.1
JOW				S	Sb	08 53 53.2	+0.6
JAM	Amami Oshima	1.36	75	P	Pg	08 53 38.9	-0.5
JTAJ	Takarajima	1.44	41	eP	Pg	08 53 39.2	-1.8
JNTH	Nagotoyohara	1.54	183	eP	Pn	08 53 41.0	+0.3
JNTH				eS	Sn	08 54 00.8	+0.1
JZK	Kikaishima	1.66	81	eP	Pg	08 53 45.6	+0.6
JAGN	Aguni-jima	1.67	208	P	Pn	08 53 41.8	-0.5
JJT3	Tamagusuku3	1.94	189	eP	Pb	08 53 48.1	-0.4
JKE	Kume jima 2	2.10	215	eP	Pn	08 53 48.0	-0.3
JNU	Nakatsue	5.57	25	Pn	Pn	08 54 39.1	+3.0
	0.9nm,0.3s,baz=220,slow=11,SNR=17						
KSRS	Korea Array	9.36	359	LR	LR	08 59 18.6	
	comp=Z,368nm,18.2s,baz=190,slow=40						
JHJ	Hachijo jima 2	11.24	61	LR	LR	09 00 10.1	
	comp=Z,71nm,20.0s,baz=262,slow=38						
MJAR	Matsushiro Arr	12.01	43	LR	LR	09 00 46.6	
	comp=Z,96nm,20.7s,baz=222,slow=38						
USRK	Ussuriysk Ar.	16.40	10	LR	LR	09 02 57.9	
	comp=Z,129nm,19.1s,baz=179,slow=36						
DAV	Davao City (W)	21.02	187	LR	LR	09 05 39.9	
	comp=Z,62nm,21.8s,baz=336,slow=36						
GUMO	Guam	21.24	129	LR	LR	09 04 59.3	
	comp=Z,114nm,19.8s,baz=328,slow=33						
SONM	Songino Array	25.98	325	P	P	08 58 47.0	+1.0
	0.8nm,0.7s,baz=136,slow=10,SNR=8.4						
SONM				LR	LR	09 10 06.0	
	comp=Z,114nm,18.1s,baz=80,slow=39						
	0.8nm,0.7s						
CMAR	Chiang Mai Arr	28.39	257	LR	LR	09 11 31.6	
	comp=Z,53nm,18.4s,baz=40,slow=38						
JAY	Jayapura	32.73	156	LR	LR	09 13 21.5	
	comp=Z,61nm,18.4s,baz=359,slow=37						
PETK	Petropavlovsk-	33.20	33	P	P	08 59 49.4	-0.5
	3.5nm,0.7s,baz=242,slow=36,SNR=7.2						
PETK				LR	LR	09 12 32.1	
	comp=Z,72nm,20.8s,baz=178,slow=35						
	3.5nm,0.7s						
H11N2	WAKE ISLAND Hy	36.29	95	T	T	09 38 04.7	
	baz=290						
H11N1	WAKE ISLAND Hy	36.29	95	T	T	09 38 04.0	
	baz=290						
H11N3	WAKE ISLAND Hy	36.31	95	T	T	09 38 06.3	
	baz=290						
MKAR	Makanchi Array	40.26	310	P	P	09 00 50.4	+0.3
	1.0nm,0.8s,baz=101,slow=11,SNR=7.4						
MKAR				LR	LR	09 18 17.2	
	comp=Z,95nm,18.8s,baz=132,slow=37						
	1.0nm,0.8s						
KURBB	Kurchatov Arra	43.47	315	P	P	09 01 16.6	+0.3
	0.8nm,0.6s,baz=101,slow=9.0,SNR=8.3						
	0.8nm,0.6s						
TIXI	Tiksi	43.63	0	LR	LR	09 19 52.1	
	comp=Z,111nm,18.6s,baz=189,slow=37						
NRIK	Noril'sk	47.48	342	LR	LR	09 23 31.3	
	comp=Z,133nm,18.7s,baz=85,slow=38						
WRA	Warramunga Arr	48.10	172	P	P	09 01 53.8	+0.7
	0.7nm,0.6s,baz=350,slow=8.0,SNR=3.3						
	0.7nm,0.6s						
BVAR	Borovoye Array	48.85	317	P	P	09 01 58.7	+0.1
	0.7nm,0.6s,baz=90,slow=7.2,SNR=2.1						
BVAR				LR	LR	09 24 06.4	
	comp=Z,228nm,18.6s,baz=95,slow=38						
	0.7nm,0.6s						
ASAR	Alice Springs	51.73	173	P	P	09 02 21.3	+0.6
	0.3nm,0.5s,baz=350,slow=9.9,SNR=7.1						
ASAR				LR	LR	09 23 17.7	
	comp=Z,40nm,21.8s,baz=56,slow=35						
	0.3nm,0.5s						
ARTI	Arti	56.00	321	LR	LR	09 31 29.9	
	comp=Z,50nm,18.2s,baz=50,slow=41						
STKA	Stephens Creek	60.98	167	LR	LR	09 29 39.1	
	comp=Z,34nm,19.8s,baz=13,slow=36						
ILAR	Eielson Array	62.88	29	P	P	09 03 36.8	-2.2
	0.8nm,1.1s,baz=278,slow=8.2,SNR=3.3						
	0.8nm,1.1s						
AKASG	Malin Array Be	74.08	319	LR	LR	09 39 58.6	
	comp=Z,118nm,19.9s,baz=50,slow=38						
YKA	Yellowknife Ar	76.91	25	P	P	09 05 05.0	-0.2
	0.7nm,1.1s,baz=297,slow=5.9,SNR=5.1						
	0.7nm,1.1s						
NOA	NORSAR Array B	77.63	334	LR	LR	09 42 47.0	
	comp=Z,44nm,18.4s,baz=270,slow=38						
FRB	Frobisher Bay	87.55	7	LR	LR	09 49 48.1	
	comp=Z,38nm,18.2s,baz=276,slow=39						

*ASRS **20** 08:55:10.0±0.6, 54.°19N×87.°04E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 08:55:11.2±3.0, 54.°24N×87.°25E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=26.9km s-min=18.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	259	I	I	09 02 45.0	
	baz=78,slow=338,SNR=1.9						
ZALV	Zalesovo Beam	1.46	259	Pg	Pn	08 55 37.4	-1.4
	1.5nm,0.3s,baz=80,slow=17,SNR=12						
ZALV				Lg	Lg	08 55 57.7	
	1.2nm,0.3s,baz=74,slow=30,SNR=5.2						
KURBB	Kurchatov Arra	6.45	239	Pn	Pn	08 56 48.4	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=6.4						
KURBB				Lg	Lg	08 58 34.6	
	baz=57,slow=32,SNR=5.1						
	0.8nm,0.4s						
MKAR	Makanchi Array	8.10	205	Pn	Pn	08 57 10.8	+0.8
	0.1nm,0.3s,baz=28,slow=14,SNR=5.4						
MKAR				Lg	Lg	08 59 29.1	
	baz=28,slow=31,SNR=1.4						
	0.1nm,0.3s						

ISK 20 08:57:13.6, 37.°38N×29.°38E, h1km, ML2.5/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.11	326	Pg	Pg	08 57 16.4	+0.6
APMY				Sg	Sg	08 57 18.6	+1.3
CAME	Cameli-Denizli	0.44	188	Pg	Pg	08 57 21.7	-0.3
BASM	Basmaki-Afyon	0.76	44	Pg	Pb	08 57 29.1	-0.5
FETY	Fethiye	0.78	198	Pg	Pb	08 57 29.7	-0.3
DALY	Dalyan (Mula)	0.81	226	Pg	Pb	08 57 30.2	-0.2
YER	Yerkesik	0.91	255	Pg	Pb	08 57 32.1	-0.1
AKAS	Kas	1.16	171	Pn	Pn	08 57 36.8	-0.2

AFAD 20 08:57:39.8, 37.°44N×29.°37E, h7km±4km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.26	144	P	Pg	08 57 44.7	-0.1
GOLH				i AML	AML	08 57 48.0	
	comp=N,631nm,0.2s						
GOLH				i AML	AML	08 57 48.0	
	comp=E,1μm,0.2s						
GOLH				S	Sg	08 57 49.6	+1.3
DNZT	Denizli-Tavas-	0.32	239	P	Pn	08 57 50.5	-0.6
DNZT				S	Sg	08 57 51.3	+0.9
DNZT				i AML	AML	08 58 00.0	
	comp=N,54nm,1.0s						
DNZT				i AML	AML	08 58 00.0	
	comp=E,55nm,0.7s						
CAEL	Denizli, Camel	0.32	187	P	Pn	08 57 50.5	-0.6
CAEL				S	Sb	08 57 52.1	-1.4

TRN 20 09:03:27.3, 17.°89N×60.°92W, h35km, MD4.0, Far North-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.85	255	eP	Pn	09 03 43.6	+0.7
ANWB				eS	Sn	09 03 56.2	+2.1
ANBD	Bethesda, Anti	1.16	224	eP	Pn	09 03 47.6	+0.5
ANBD				eS	Sn	09 04 03.1	+1.3
MBWH		1.67	227	eP	Pn	09 03 55.3	+1.3
MBWH				eS	Sn	09 04 17.0	+2.7
MBFL	Flemmings, Mon	1.68	228	eP	Pn	09 03 55.6	+1.4
SKI	Saint Kitts	1.82	253	eP	Pn	09 03 58.2	+2.1
SKI				eS	Sn	09 04 20.6	+2.5
TBG	Guadaloupe-3	2.14	199	eP	Pn	09 04 02.2	+1.7
TBG				eS	Sn	09 04 27.0	+1.1
DSLB	Salisbury	2.48	191	eP	Pn	09 04 07.6	+2.3
DSLB				eS	Sn	09 04 35.9	+1.5
MDN	Morne-Daniel	2.60	190	eS	Sn	09 04 38.6	+1.4
BIM	Bigot	3.36	182	eP	Pn	09 04 19.6	+2.2
BIM				eS	Sn	09 04 57.5	+1.5
SLBI	Saint Lucia, B	3.84	181	eP	Pn	09 04 24.9	+0.9
SLBI				eS	Sn	09 05 09.6	+1.6

*ASRS **20** 09:05:23.0±1.5, 54.°04N×86.°51E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 09:05:25.4±2.6, 54.°02N×86.°48E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=21.4km s-min=12.0km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	267	I	I	09 11 13.9	
	baz=85,slow=338,SNR=7.9						
ZALV	Zalesovo Beam	0.98	267	Pg	Pg	09 05 43.5	-0.6
	1.3nm,0.3s,baz=85,slow=18,SNR=15						
ZALV				Lg	Lg	09 05 58.0	
	2.2nm,0.3s,baz=90,slow=32,SNR=9.1						
KURBB	Kurchatov Arra	5.94	238	Pn	Pn	09 06 55.0	+0.5
	0.1nm,0.3s,baz=56,slow=14,SNR=10						
	0.6nm,0.4s						
MKAR	Makanchi Array	7.71	202	Pn	Pn	09 07 19.8	+0.9
	0.1nm,0.3s,baz=25,slow=14,SNR=6.6						
MKAR				Sn	Sn	09 08 47.6	+0.8
	baz=26,slow=28,SNR=1.8						
MKAR				Lg	Lg	09 09 30.2	
	baz=20,slow=26,SNR=2.2						
	0.2nm,0.3s						

*NNC **20** 09:13:20.9±3.1, 51.°52N×75.°00E, h18km±42km, mb3.0, mpv2.6, Error ellipse: s-maj=91.5km s-min=24.9km az=32.0, Suspected Mining explosion.*

*IDC **20** 09:13:20.2±1.2, 51.°64N×75.°39E, h0km, mbtmp2.6/2, ML1.9/1, Error ellipse: s-maj=21.3km s-min=8.5km az=29.0*

ISC 20 09:13:19.6±1.2, 51.°6N±0.°1×75.°31E±0.°08, h0km, n9, σ1§15/11, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.24	114	Pg	Pb	09 13 59.8	-1.2
	0.1nm,0.3s,baz=298,slow=19,SNR=8.3						
KURBB				Lg	Lg	09 14 29.6	
	0.2nm,0.3s,baz=296,slow=32,SNR=9.8						
KURBB	Kurchatov Arra	2.24	114	⇑Pn	Pn	09 13 59.2	+1.2
	1.8nm,0.6s						
KURBB				⇓Sn	Sb	09 14 28.7	-0.6
	20nm,0.7s						
KURK	Kurchatov	2.26	111	⇓Pn	Pb	09 14 00.3	-0.8
	2.3nm,0.7s						
KURK				⇑Sn	Sb	09 14 29.2	-0.4
	7.7nm,0.7s						
BVA0	Borovoye Array	3.35	298	⇓Pg	Pb	09 14 18.9	-0.9
	1.3nm,0.6s,baz=114,slow=17,SNR=5.3						
BVA0				⇑Lg	Lg	09 15 05.5	
	5.1nm,0.8s,baz=116,slow=28,SNR=7.5						
BVAR	Borovoye Array	3.35	298	Pg	Pb	09 14 19.4	-0.4
	baz=109,slow=16,SNR=4.7						
BVAR				Lg	Lg	09 15 06.1	
	0.1nm,0.3s,baz=112,slow=27,SNR=9.4						
BRVK	Borovoye	3.42	298	⇑Pg	Pb	09 14 19.9	-1.1
	1.7nm,0.7s						
BRVK				⇓Lg	Lg	09 15 06.0	
	6.7nm,0.9s						
I46RU	ZALESOVO INFRA	6.24	64	I	I	09 48 00.0	
	baz=250,slow=328,SNR=5.9						
ZALV	Zalesovo Beam	6.24	64	Pn	Pn	09 14 54.0	+1.2
	0.1nm,0.3s,baz=254,slow=15,SNR=2.5						
ZALV				Lg	Lg	09 16 35.6	
	0.2nm,0.3s,baz=255,slow=34,SNR=2.5						
	0.4nm,0.4s						
MKAR	Makanchi Array	6.62	134	Pn	Pn	09 14 59.7	+1.6
	0.4nm,0.8s,baz=316,slow=10,SNR=1.6						
MKAR				Sn	Sn	09 16 13.7	-0.5
	baz=320,slow=27,SNR=3.1						
MKAR				Lg	Lg	09 16 50.9	
	0.3nm,0.3s,baz=319,slow=27,SNR=8.1						

*IDC **20** 09:21:47.7±0.7, 2.°37N×126.°94E, h0km, mb3.9/11, mbtmp4.0/11, MS2.8/2, Error ellipse: s-maj=43.1km s-min=13.8km az=72.0*

*DJA **20** 09:21:53.0±0.3, 2.°N±3.°×12.°7E±.°, h10km, M4.2/8, mb4.6/1, MLv4.0/8*

*NEIC **20** 09:21:55.1±1.1, 2.°40N±0.°09×127.°03E±0.°07, h48km±11km, mb4.3/15, Error ellipse: s-maj=16.1km s-min=4.4km az=217.0*

ISC 20 09:21:54.9±0.6, 2.°41N±0.°06×127.°0E±0.°1, h53km, n38, σ0§97/40, mb4.1/18, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.67	167	Pn	Pn	09 22 21.7	-0.1
TNTI	Ternate	1.67	167	P	Pn	09 22 20.8	-1.0
TNTI				S	Sn	09 22 43.3	+1.2
SGSI	Sangihe	1.93	311	P	Pn	09 22 24.5	-0.8
SANI	Sanana	4.54	193	P	Pn	09 22 59.6	-1.5
LUWI	Luwuk	5.43	231	Pn	Pn	09 23 15.4	+2.1
LUWI	Luwuk	5.43	231	P	Pn	09 23 12.1	-1.2
TOLI2	Tolitoli	6.33	258	Pn	Pn	09 23 24.2	-1.5
FAKI	Fak Fak	7.47	135	Pn	Pn	09 23 40.0	-1.3
MYLDM	Lahad Datu	8.90	288	Pn	Pn	09 24 01.7	+0.8
KNRA	Kununurra	18.05	174	P	P	09 26 01.5	-0.5
KNRA				IAmb	IAmb	09 26 21.4	
	comp=Z,19nm,1.5s						
FITZ	Fitzroy Crossi	20.42	184	P	P	09 26 27.5	-0.3
FITZ	Fitzroy Crossi	20.42	184	P	P	09 26 26.6	-1.3
	comp=Z,1.8nm,0.4s,baz=18,slow=11,SNR=6.4						
	comp=Z,1.8nm,0.4s						
SSLB	Suanglung	22.04	345	P	P	09 26 45.5	+0.3
SSLB				IAmb	IAmb	09 27 09.2	
	comp=Z,24nm,1.4s						
WB0	Warramunga Arr	23.21	162	P	P	09 26 56.2	-1.3
WB0				IAmb	IAmb	09 27 00.2	
	comp=Z,9.7nm,1.2s						
WRA	Warramunga Arr	23.36	162	P	P	09 26 57.0	-1.9
WRA	Warramunga Arr	23.36	162	P	P	09 26 57.2	-1.7
	comp=Z,2.3nm,0.6s,baz=340,slow=9.2,SNR=25						
WRA				PcP	PcP	09 30 45.4	+0.8
	comp=Z,1.4nm,1.0s,baz=337,slow=2.7,SNR=3.5						
	comp=Z,2.3nm,0.6s						
WR8	Warramunga Arr	23.42	162

comp=Z,0.7nm,0.5s,baz=118,slow=7.1,SNR=9.2
comp=Z,0.7nm,0.5s
KURBB Kurchatov Arra 62.98 328 P P 09 32 16.6 +0.4
comp=Z,1.0nm,0.6s,baz=128,slow=6.3,SNR=17
comp=Z,1.0nm,0.6s
KURK Kurchatov 62.98 328 P **P 09 32 17.2 +1.1**
KURK IAmb IAmb 09 32 18.0
comp=Z,1.9nm,0.7s
BVAR Borovoye Array 68.56 327 P **P 09 32 52.2 +0.2**
comp=Z,0.6nm,0.5s,baz=123,slow=10,SNR=4.2
comp=Z,0.6nm,0.5s
NRIK Noril'sk 71.76 346 P **P 09 33 10.5 -0.8**
comp=Z,0.9nm,0.4s,baz=133,slow=8.4,SNR=1.7
comp=Z,0.9nm,0.4s
ABKAR Akbulak array 73.33 321 P **P 09 33 21.8 +0.8**

*IDC **20** 09:25:59.7±0.6, 12°.80S×45°.41E, h0km, mb4.1/12, mbtmp4.1/15, ML4.6/3, MS3.3/2, Error ellipse: s-maj=23.8km s-min=17.8km az=77.0*
*NEIC **20** 09:26:01.2±1.4, 12°.80S±0°.09×45°.4E±0°.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=19.8km s-min=14.3km az=260.0*
ISC 20 09:26:00.5±0.5, 12°.89S±0°.05×45°.46E±0°.07, h10km, n45, σ1s99/48, mb4.3/16, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.38**	**98**	P	**Pn**	09 27 07.9	+0.7
SBV				S	**Sn**	09 27 54.1	-4.2
OPO	**Ambohidratompo**	**5.89**	**164**	Pn	**Pn**	09 27 30.0	+1.9
4.5nm,0.3s,baz=333,slow=13,SNR=294							
OPO				Sn	**Sn**	09 28 31.5	-4.2
6.1nm,0.3s,baz=309,slow=13,SNR=16							
94nm,0.3s							
OPO	**Ambohidratompo**	**5.89**	**164**	P	**Pn**	09 27 30.2	+2.1
OPO				S	**Sn**	09 28 30.5	-5.2
FIRM	**Firavahana**	**5.94**	**167**	P	**Pn**	09 27 31.0	+2.2
FIRM				S	**Sn**	09 28 31.0	-5.9
ATG	**Ambohiby**	**6.00**	**173**	P	**Pn**	09 27 31.0	+1.5
ATG				S	Sn	09 28 29.8	-8.6
ABPO	**Ambohimpanom**	**6.33**	**165**		**Pn**	09 27 35.9	+1.9
MDSM	**Mandiavato**	**6.34**	**166**	P	**Pn**	09 27 36.3	+2.0
MDSM				S	Sn	09 28 39.0	-7.9
AVY	**Angavokely**	**6.39**	**160**	P	**Pn**	09 27 36.4	+1.4
AVY				S	Sn	09 28 38.8	-9.4
DGRM	**Ambatolahisoa**	**6.40**	**172**	P	**Pn**	09 27 37.1	+2.1
ABM	**Ambohimiarambe**	**7.09**	**165**	P	**Pn**	09 27 46.6	+2.0
ABM				S	**Sn**	09 29 05.4	0.0
VOI	**Vohitsoka**	**9.06**	**172**		**Pn**	09 28 13.2	+1.6
VOI	**Vohitsoka**	**9.06**	**172**	P	**Pn**	09 28 12.7	+1.2
FOMA	**Nahampoana Res**	**12.11**	**173**	Pn	**Pn**	09 28 54.1	+0.9
KIBK	**Kibwezi**	**12.79**	**324**		**Pn**	09 29 01.7	-1.0
RER	**Riviere de l'E**	**12.82**	**131**	Pn	**Pn**	09 29 03.9	+0.9
KMBO	**Kilima Mbogo**	**14.24**	**325**	Pn	**Pn**	09 29 21.1	-1.4
0.6nm,0.3s,baz=124,slow=15,SNR=3.1							
KMBO				Sn	**Sn**	09 31 58.8	-2.0
0.7nm,0.3s,baz=52,slow=16,SNR=3.9							
1.3nm,0.3s							
LSZ	**Lusaka**	**16.92**	**260**		**Pn**	09 29 57.3	-0.4
LSZ	**Lusaka**	**16.92**	**260**	Pn	**Pn**	09 29 57.0	-0.7
0.7nm,0.3s,baz=81,slow=8.2,SNR=10							
6.2nm,0.6s							
LBTB	**Lobatse**	**22.28**	**234**	P	**P**	09 30 59.1	+0.9
LBTB				IAmb	IAmb	09 31 02.9	
comp=Z,19nm,1.5s							
LBTB	**Lobatse**	**22.28**	**234**	LR	LR	09 39 15.7	
comp=Z,35nm,19.7s,baz=174,slow=36							
BOSA	**Boshof**	**24.46**	**227**	P	**P**	09 31 20.8	+0.8
BOSA				IAmb	IAmb	09 31 22.2	
comp=Z,7.4nm,1.2s							
BOSA	**Boshof**	**24.46**	**227**	P	**P**	09 31 20.4	+0.4
comp=Z,1.9nm,0.6s,baz=68,slow=8.4,SNR=7.4							
comp=Z,1.9nm,0.6s							
TSUM	**Tsumeb**	**27.49**	**253**	P	**P**	09 31 45.8	-1.7
TSUM				IAmb	IAmb	09 31 46.1	
comp=Z,7.2nm,1.4s							
SUR	**Sutherland**	**29.77**	**225**	P	**P**	09 32 07.5	-0.1
RAYN	**Ar Rayn**	**36.19**	**0**	P	**P**	09 33 01.7	-1.8
KK31	**Karatay Array**	**60.26**	**21**	P	**P**	09 36 09.3	+0.2
KK31				IAmb	IAmb	09 36 20.6	
comp=Z,4.6nm,1.4s							
KKAR	**Karatay Array**	**60.26**	**21**	P	**P**	09 36 09.4	+0.3
KDJ	**Kajisay**	**62.04**	**26**	P	**P**	09 36 21.1	-0.3
KDJ				IAmb	IAmb	09 36 25.5	
comp=Z,5.0nm,1.1s							
ABKAR	**Akbulak array**	**63.18**	**11**	P	**P**	09 36 28.0	-0.6
AKTO	**Aktyubinsk**	**64.01**	**9**	P	**P**	09 36 34.9	+0.8
comp=Z,2.4nm,1.0s,baz=238,slow=5.3,SNR=4.3							
comp=Z,2.4nm,1.0s							
GERES	**GERESS Array B**	**67.58**	**338**	P	**P**	09 36 56.4	-0.9
comp=Z,0.3nm,0.2s,baz=167,slow=4.8,SNR=6.7							
comp=Z,0.3nm,0.2s							
MKAR	**Makanchi Array**	**67.97**	**26**	P	**P**	09 36 59.7	0.0
MKAR	**Makanchi Array**	**67.97**	**26**	P	**P**	09 36 58.2	-1.4
comp=Z,0.9nm,1.1s,baz=210,slow=3.4,SNR=4.4							
comp=Z,0.9nm,1.1s							
ESDC	**Sonseca Array**	**69.60**	**321**	P	**P**	09 37 12.1	+2.1
comp=Z,1.5nm,0.8s,baz=129,slow=5.8,SNR=9.6							
comp=Z,1.5nm,0.8s							
ARTI	**Arti**	**69.86**	**8**	LR	LR	10 11 38.6	
comp=Z,50nm,18.4s,baz=305,slow=39							
ZALV	**Zalesovo Beam**	**74.52**	**23**	P	**P**	09 37 39.8	+0.6
comp=Z,0.5nm,0.5s,baz=260,slow=7.4,SNR=3.9							
comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**75.67**	**351**	P	**P**	09 37 46.4	+0.8
comp=Z,4.0nm,1.0s,baz=150,slow=5.8,SNR=4.0							
comp=Z,4.0nm,1.0s							
QSPA	**South Pole Qui**	**77.20**	**180**	P	**P**	09 37 56.8	+2.2
comp=Z,2.8nm,1.0s,baz=241,slow=2.1,SNR=5.3							
comp=Z,2.8nm,1.0s							
EKA	**Eskdalemuir Ar**	**79.25**	**334**	P	**P**	09 38 06.7	+0.8
comp=Z,2.5nm,0.9s,baz=172,slow=5.7,SNR=3.7							
comp=Z,2.5nm,0.9s							
SONM	**Songino Array**	**81.06**	**37**	P	**P**	09 38 18.0	+2.0
comp=Z,0.4nm,0.4s,baz=229,slow=5.5,SNR=3.8							
comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**83.53**	**113**	P	**P**	09 38 30.7	+1.3
comp=Z,1.3nm,0.6s,baz=258,slow=4.6,SNR=18							
comp=Z,1.3nm,0.6s							
WRA	**Warramunga Arr**	**84.66**	**109**	P	**P**	09 38 36.5	+1.3
comp=Z,3.1nm,1.0s,baz=261,slow=3.6,SNR=8.9							
comp=Z,3.1nm,1.0s							
YKA	**Yellowknife Ar**	**128.46**	**348**	PKP	**PKPdf**	09 45 05.5	-1.7
comp=Z,0.1nm,0.4s,baz=24,slow=2.1,SNR=3.7							
PDAR	**Pinedale Array**	**143.21**	**329**	PKP	PKPbc	09 45 34.0	+1.6
comp=Z,0.6nm,0.8s,baz=77,slow=3.2,SNR=5.3							
TXAR	**Lajitas Array**	**147.02**	**305**	PKPbc	**PKPbc**	09 45 43.9	-0.5
comp=Z,0.7nm,0.7s,baz=106,slow=3.7,SNR=7.9							

*NIED **20** 09:31:50.8, 32°.79N×130°.66E, h11km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=2.14; Mθθ=2.09; Mφφ=0.05; Mrθ=-0.23; Mθφ=0.27; Mφr=0.72; Fault plane solution: M0=2.25000×10^14 NP1: φs=278.00000°, δ=43.00000°, λ=-66.00000°. NP2: φs=67.00000°, δ=52.00000°, λ=-111.00000°.*
JMA 20 09:31:50.8±0.0, 32°.8N±0°.1×130°.7E±0°.1, h11km, MV3.5/20, NW KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.21**	**328**	*i* P	Pg	09 31 55.4	+0.2
JTA				S	Sg	09 31 58.5	+0.2
JIU3	**Izumi3**	**0.27**	**152**	*i* P	Pg	09 31 56.3	0.0
JTZ	**Takazaki**	**0.95**	**158**	*i* P	Pg	09 32 09.2	0.0
JTZ				S	Sg	09 32 21.4	-0.2

*MED_RC **20** 09:56:40.0±1.7, 45°.35N×0°.35W, h10km, MW4.0/7, Moment Tensor Solution. Mantle waves: s7,c7; Duration: 1s3 Moment tensor: Scale 10^15 Nm; Mrr=0.10±.16; Mθθ=0.47±.20; Mφφ=0.36±.12; Mrθ=0.55±.67; Mθφ=-0.74±.12; Mφr=-0.59±.32; Best double couple: M0=1.13000×10^15 NP1: φs=201.00000°, δ=56.00000°, λ=15.00000°. NP2: φs=103.00000°, δ=78.00000°, λ=145.00000°. Principal axes: T 1.3100, Plg=33.0000°, Azm=57.0000°; N -0.3700, Plg=53.0000°, Azm=266.0000°; P -0.9400, Plg=14.0000°, Azm=156.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*BGS **20** 09:56:40.6±0.6, 45°.24N×0°.27W, h10km, ML4.5, ML4.5*
*NEIC **20** 09:56:40.9±1.6, 45°.33N±0°.06×0°.39W±0°.09, h10km±2km, mb4.5/2, Error ellipse: s-maj=11.8km s-min=9.4km az=131.0*
*IDC **20** 09:56:41.4±1.5, 45°.48N×0°.61W, h0km, mb3.6/4, mbtmp3.8/9, ML4.2/4, Error ellipse: s-maj=27.3km s-min=20.1km az=168.0*
*BGR **20** 09:56:42.4±0.5, 45°.30N×0°.40W, h10km, ML4.8/11, Error ellipse: s-maj=11.1km s-min=7.8km az=129.0*
*LDG **20** 09:56:43.0±0.1, 45°.31N×0°.31W, h8km, Md4.6/1, Ml4.9/46, Error ellipse: s-maj=1.4km s-min=1.1km az=93.0*
*STR **20** 09:56:43.4±0.2, 45°.76N±2°.×°.±°., h10km, MLv4.9/49, Error ellipse: s-maj=0.0km s-min=0.0km az=72.6, preliminary*
*INMG **20** 09:56:44.0±3.2, 45°.27N×0°.37W, h24km±10km, ML3.5, Error ellipse: s-maj=6.1km s-min=4.4km az=124.0, #DIST_RANGE: REGIONAL #IPMA_REGION: France*
ISC 20 09:56:40.8±0.5, 45°.32N±0°.01×0°.29W±0°.02, h7km, n271, σ2s22/403, mb3.8/6, 23D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRVF	**chteau la Riv**	**0.37**	**182**	Pg	**Pg**	09 56 50.0	+2.0
LRVF				Sg	**Sg**	09 56 54.4	+1.5
CHIF	**Chize**	**0.82**	**354**	Pg	**Pg**	09 56 58.6	+2.1
CHIF				Sg	**Sb**	09 57 10.2	+1.7
LFF	**La Frestale**	**0.82**	**117**	*e*Pg	**Pg**	09 56 57.9	+1.3
LFF				*e*Sg	**Sg**	09 57 09.6	+2.3
16μm,0.3s							
UNIO	**Chateau-d'Oler**	**0.86**	**312**	Pg	**Pg**	09 56 58.8	+1.5
UNIO				Pn	**Pn**	09 57 01.0	+1.7
UNIO				Sn	**Sn**	09 57 13.3	+1.2
SDOF	**Saint-Denis-d'**	**1.07**	**313**	Pg	**Pg**	09 57 02.2	+0.9
SDOF				Sn	**Sn**	09 57 19.3	+2.1
RJF	**Les Rejaudoux**	**1.27**	**90**	*e*Pg	**Pn**	09 57 06.8	+1.8
RJF				*e*Sg	**Sb**	09 57 23.0	+1.3
24μm,0.3s							
MFF	**Saint Martin d**	**1.28**	**4**	*e*Pn	**Pn**	09 57 06.2	+1.1
MFF	**Saint Martin d**	**1.28**	**4**	*e*Pg	**Pb**	09 57 07.5	+2.2
MFF				*e*Sg	**Sb**	09 57 23.2	+1.2
5μm,0.3s							
MFF	**Saint Martin d**	**1.28**	**4**	Pn	**Pn**	09 57 06.2	+1.1
MFF				Pg	**Pb**	09 57 07.5	+2.2
MONQ	**Montcuq**	**1.42**	**132**	Pn	**Pn**	09 57 08.1	+1.0
MONQ				Pg	**Pb**	09 57 09.1	+1.5
MONQ				Sn	**Sb**	09 57 27.4	+1.5
CAF	**Calviac**	**1.71**	**102**	*e*Pn	**Pn**	09 57 11.8	+0.7
CAF	**Calviac**	**1.71**	**102**	*e*Pg	**Pb**	09 57 14.2	+1.6
CAF				*e*Sg	**Sn**	09 57 35.8	+2.6
5μm,0.2s							
TERF	**Tercis-les-Bai**	**1.74**	**200**	Pn	**Pn**	09 57 12.0	+0.6
TERF				Pg	**Pg**	09 57 16.1	+1.9
TERF				Sg	**Sg**	09 57 39.2	+2.5
CRAS	**Crastes**	**1.76**	**155**	Pn	**Pn**	09 57 12.4	+0.8
CRAS				Pg	**Pb**	09 57 14.9	+1.6
CRAS				Sg	**Sg**	09 57 38.7	+1.5
URDF	**Urds**	**1.90**	**187**	Pn	**Pn**	09 57 13.9	+0.4
URDF				Pg	**Pg**	09 57 18.6	+1.5
URDF				Sg	**Sg**	09 57 43.8	+2.2
VERF	**Verneugheol**	**2.00**	**77**	Pn	**Pn**	09 57 15.8	+0.8
VERF				Pg	**Pb**	09 57 19.5	+2.1
TCF	**Toulx Ste Croi**	**2.00**	**60**	*e*Pn	**Pn**	09 57 15.8	+0.8
TCF	**Toulx Ste Croi**	**2.00**	**60**	*e*Pg	**Pb**	09 57 19.9	+2.4
TCF				*e*Sg	**Sb**	09 57 45.5	+2.9
2μm,0.2s							
FRNF	**Fournols**	**2.01**	**87**	Pn	**Pn**	09 57 16.3	+1.1
FRNF				Pg	**Pb**	09 57 20.2	+2.5
LEUC	**Leucamp**	**2.09**	**105**	Pn	**Pn**	09 57 17.3	+1.0
ORDF	**Ordiarp**	**2.16**	**193**	Pn	**Pn**	09 57 17.1	-0.1
ORDF				Pg	**Pb**	09 57 22.9	+2.8
OSSF	**Osses**	**2.18**	**199**	Pn	**Pn**	09 57 17.5	+0.1
OSSF				Pg	**Pb**	09 57 23.3	+2.8
PYLO	**Lourdes**	**2.23**	**175**	Pn	**Pn**	09 57 18.1	-0.1
PYLO				Pg	**Pb**	09 57 24.2	+2.8
EALK	**Alkurruntz**	**2.27**	**203**	Pn	**Pn**	09 57 18.9	+0.1
SJPF	**Ste Jean**	**2.31**	**197**	*e*Pn	**Pn**	09 57 18.8	-0.4
SJPF	**Ste Jean**	**2.31**	**197**	*e*Pg	**Pb**	09 57 24.6	+1.9
SJPF				*e*Sg	**Sb**	09 57 54.4	+3.0
ETSF	**Etsaut**	**2.43**	**185**	*e*Pn	**Pn**	09 57 20.5	-0.4
ETSF	**Etsaut**	**2.43**	**185**	*e*P	**Pn**	09 57 23.7	+2.8
ETSF	**Etsaut**	**2.43**	**185**	*e*Pg	**Pb**	09 57 27.0	+2.2
ETSF				*e*Sg	**Sb**	09 57 55.5	+0.5
698nm,0.3s							
CFF	**Clermont-Ferra**	**2.43**	**78**	Pn	**Pn**	09 57 22.3	+1.4
CFF				Pg	**Pg**	09 57 28.7	+1.4
LBL	**Lubilhac**	**2.50**	**91**	Pn	**Pn**	09 57 23.3	+1.4
LBL				Pg	**Pb**	09 57 30.4	+1.8
BGF	**Bois d'Agland**	**2.51**	**59**	*e*Pn	**Pn**	09 57 22.8	+0.8
BGF	**Bois d'Agland**	**2.51**	**59**	*e*Pg	**Pb**	09 57 29.3	+3.1
BGF				*e*Sg	**Sg**	09 58 03.0	+1.5
8μm,0.4s							
MLS	**Moulis**	**2.56**	**157**	Pn	**Pn**	09 57 23.1	+0.3
MLS				Pg	**Pb**	09 57 29.7	+2.6
MTLF	**Montolieu**	**2.67**	**137**	*e*Pn	**Pn**	09 57 25.0	+0.7
MTLF	**Montolieu**	**2.67**	**137**	*e*Pg	**Pb**	09 57 32.0	+3.0
MTLF				*e*Sn	**Sn**	09 57 57.2	+0.3
MTLF				*e*Sg	**Sg**	09 58 06.7	0.0
4μm,0.7s							
ECHI	**Chisagues Biel**	**2.68**	**172**	Pn	**Pn**	09 57 24.6	+0.2
EARA	**Aranguren**	**2.71**	**200**	Pn	**Pn**	09 57 26.2	+1.4
DUNF	**Dun**	**2.75**	**146**	Pn	**Pn**	09 57 26.0	+0.7
SALF	**Salau**	**2.77**	**157**	Pn	**Pn**	09 57 25.8	+0.1
COLF	**Collangettes**	**2.81**	**85**	Pn	**Pn**	09 57 27.2	+1.0
COLF				Pg	**Pb**	09 57 35.4	+4.0
HYF	**Humbligny**	**2.81**	**45**	*e*Pn	**Pn**	09 57 27.1	+0.9
HYF	**Humbligny**	**2.81**	**45**	*e*Pg	**Pg**	09 57 35.7	+1.0
HYF				*e*Sg	**Sg**	09 58 12.3	+1.2
AVF	**Avril sur Loir**	**2.93**	**59**	*e*Pn	**Pn**	09 57 28.1	+0.3
AVF	**Avril sur Loir**	**2.93**	**59**	*e*Pg	**Pb**	09 57 37.4	+4.1
AVF				*e*Sg	**Sb**	09 58 14.1	+4.7
626nm,0.3s							
CEST	**Esterri de Car**	**2.94**	**157**		**Pn**	09 57 28.3	+0.3
FNEB	**Nbias**	**2.97**	**144**	Pn	**Pn**	09 57 29.3	+1.0
FNEB				Pg	**Pb**	09 57 37.6	+3.6
GRR	**Gorron**	**3.09**	**353**	*e*Pg	**Pb**	09 57 37.7	+1.6
GRR				*e*Sg	**Sg**	09 58 20.5	+0.4
1μm,0.3s							
PAND	**Andorre**	**3.10**	**154**	Pn	**Pn**	09 57 31.0	+0.7
PAND				Pg	**Pb**	09 57 39.6	+3.3
CARF	**Carcanieres**	**3.12**	**146**	Pn	**Pn**	09 57 31.3	+0.8
SSF	**Saint Saulge**	**3.16**	**55**	*e*Pn	**Pn**	09 57 31.3	+0.4
SSF	**Saint Saulge**	**3.16**	**55**	*e*Pg	**Pb**	09 57 41.3	+4.1
SSF				*e*Sn	**Sn**	09 58 07.3	-1.6
SSF				*e*Sg	**Sb**	09 58 20.7	+4.8
860nm,0.4s							
SMF	**Signal de Mont**	**3.17**	**64**	*e*Pn	**Pn**	09 57 31.4	+0.3
SMF	**Signal de Mont**	**3.17**	**64**	*e*Pg	**Pb**	09 57 41.9	+4.5
SMF				*e*Sg	**Sg**	09 58 23.2	+0.6
436nm,0.2s							
LASF	**Ste Croix**	**3.21**	**111**	*e*Pn	**Pn**	09 57 33.0	+1.4
LASF	**Ste Croix**	**3.21**	**111**	*e*Pg	**Pb**	09 57 41.9	+3.8
LASF				*e*Sg	**Sb**	09 58 22.7	+5.3
1μm,0.3s							
CLF	**Chambon-Foret**	**3.23**	**32**		**Pn**	09 57 32.8	+1.0
QUIF	**Quistinic**	**3.27**	**324**	*e*Pn	**Pn**	09 57 33.5	+1.2
QUIF	**Quistinic**	**3.27**	**324**	*e*Pg	**Pb**	09 57 42.8	+3.8
QUIF				*e*Sn	**Sn**	09 58 08.9	-2.5
QUIF				*e*Sg	**Sg**	09 58 26.3	+0.7
305nm,0.2s							
CLAF	**Gruissan**	**3.27**	**131**	Pn	**Pn**	09 57 33.7	+1.4
CLAF				Pg	**Pg**	09 57 43.8	+0.5
LDF	**La Druitiere**	**3.28**	**2**	*e*Pg	**Pb**	09 57 43.0	+3.8
LDF				*e*Sn	**Sn**	09 58 10.9	-0.8
LDF				*e*Sg	**Sb**	09 58 25.0	+5.7
1μm,0.3s							
SGMF	**Saint Gilles**	**3.32**	**333**	*e*Pn	**Pn**	09 57 34.2	+1.1
SGMF	**Saint Gilles**	**3.32**	**333**	*e*Pg	**Pb**	09 57 44.2	+4.2
SGMF				*e*Sg	**Sg**	09 58 27.1	-0.3
768nm,0.4s							
VALC	**Valcebollere**	**3.39**	**149**	Pn	**Pn**	09 57 35.4	+1.2
VALC				Pg	**Pb**	09 57 45.5	+4.3
SSB	**Saint Sauveur**	**3.41**	**89**		**Pn**	09 57 35.4	+1.0
SSB	**Saint Sauveur**	**3.41**	**89**	Pn	**Pn**	09 57 35.4	+1.0
SSB				Pg	**Pg**	09 57 46.3	+0.2
FILF	**Fillols**	**3.44**	**142**	Pn	**Pn**	09 57 34.8	0.0
FILF				Pg	**Pb**	09 57 45.1	+3.0
FLN	**La Foliniere**	**3.45**	**358**	*e*Pn	**Pn**	09 57 35.6	+0.8
FLN	**La Foliniere**	**3.45**	**358**	*e*Pg	**Pb**	09 57 46.2	+4.1
baz=176							
FLN				*e*Sg	**Sg**	09 58 30.9	-0.5
1μm,0.2s							
PLEF	**Pleven - 22200**	**3.47**	**337**	Pn	**Pn**	09 57 36.0	+0.8
LOR	**Lormes**	**3.47**	**54**	Pg	**Pb**	09 57 47.1	+4.6
LOR	**Lormes**	**3.47**	**54**	Pn	**Pn**	09 57 35.4	+0.1
VIVF	**Saint-Julien-l**	**3.55**	**96**	*e*Pn	**Pn**	09 57 37.3	+1.0
VIVF	**Saint-Julien-l**	**3.55**	**96**	*e*Pg	**Pb**	09 57 48.0	+4.2
VIVF				*e*Sn	**Sn**	09 58 17.3	-1.1
VIVF				*e*Sg	**Sb**	09 58 32.9	+5.8
1μm,0.3s							
ROSF	**Rostrenen**	**3.65**	**327**	*e*Pn	**Pn**	09 57 38.5	+0.9
ROSF	**Rostrenen**	**3.65**	**327**	*e*Pg	**Pb**	09 57 49.3	+3.8
ROSF				*e*Sg	**Sb**	09 58 35.1	+5.2
588nm,0.4s							
ROSF	**Rostrenen**	**3.65**	**327**	Pn	**Pn**	09 57 38.6	+1.0
SJAF	**Saint Jean de**	**3.65**	**140**	Pn	**Pn**	09 57 38.3	+0.6
SJAF				Pg	**Pg**	09 57 50.4	-0.2
EJON	**La Jonquera**	**3.68**	**140**	Pn	**Pn**	09 57 39.5	+1.4
EJON				Sn	**Sn**	09 58 18.7	-3.0
PLYF	**Puligny Montra**	**3.86**	**63**	Pn	**Pn**	09 57 40.8	+0.3
JSA	**Saint Aubin**	**4.08**	**342**	*e*P	**Pn**	09 57 44.1	+0.7
JSA				*e*S	**Sn**	09 58 29.2	-2.2
JSA				IAML		09 58 57.6	
comp=N,254nm,0.3s							
JSA				IAML		09 58 59.0	
comp=E,773nm,0.4s							
JSA	**Saint Aubin**	**4.08**	**342**	Pn	**Pn**	09 57 43.9	+0.5
LOCF	**Locquirec - 29**	**4.08**	**327**	Pn	**Pn**	09 57 44.2	+0.7
SAUF	**chteau de Sau**	**4.09**	**108**	Pn	**Pn**	09 57 45.4	+1.7
SAUF				Pg	**Pg**	09 57 59.8	+0.7
OG35	**Corcelles**	**4.17**	**78**	Pn	**Pn**	09 57 45.7	+0.8
OG35				Pg	**Pg**	09 58 01.3	+0.6
OGSM	**Saint Maurice**	**4.22**	**84**	Pn	**Pn**	09 57 47.5	+2.0
OGSM				Pg	**Pg**	09 58 02.2	+0.6
RUSF	**Rustrel**	**4.35**	**106**	Pn	**Pn**	09 57 48.5	+1.3
OGMY	**Moye**	**4.37**	**80**	Pn	**Pn**	09 57 48.8	+1.2
OGMY				Pg	**Pg**	09 58 04.9	+0.4
ORIF	**Oris-en-Rattie**	**4.39**	**93**	*e*Pn	**Pn**	09 57 49.8	+2.0
ORIF	**Oris-en-Rattie**	**4.39**	**93**	*e*Pg	**Pg**	09 58 05.7	+0.9
ORIF				*e*Sg	**Sg**	09 58 59.9	-1.7
comp=E,397nm,0.4s							
ORIF	**Oris-en-Rattie**	**4.39**	**93**	Pn	**Pn**	09 57 49.9	+2.0
SMRF	**Simiane la Rot**	**4.40**	**106**	*e*Pn	**Pn**	09 57 49.3	+1.4
SMRF	**Simiane la Rot**	**4.40**	**106**	*e*Pg	**Pg**	09 58 04.9	-0.1
SMRF				*e*Sg	**Sg**	09 59 00.1	-1.8
comp=E,186nm,0.3s							
ARBF	**Arbois**	**4.42**	**112**	Pn	**Pn**	09 57 50.0	+1.7
ARBF				Pg	**Pg**	09 58 07.0	+1.5
BSTF	**la Bastide-des**	**4.48**	**107**	Pn	**Pn**	09 57 50.4	+1.3
BSTF				Pg	**Pg**	09 58 10.0	+3.5
RIVEL	**MONT RIVEL**	**4.56**	**69**	Pn	**Pn**	09 57 51.1	+0.9
CABF	**La Chapelle**	**4.63**	**72**	*e*Pn	**Pn**	09 57 51.8	+0.6
CABF	**La Chapelle**	**4.63**	**72**	*e*Pg	**Pg**	09 58 08.9	-0.5
CABF				*e*Sn	**Sn**	09 58 42.8	-2.4
CABF				*e*Sg	**Sg**	09 59 09.1	-0.3
comp=E,229nm,0.4s							
LEPF	**PUYLOUBIER**	**4.65**	**111**	Pn	**Pn**	09 57 52.9	+1.4
SFTF	**Sexfontaines**	**4.66**	**50**	*e*Pn	**Pn**	09 57 50.8	-0.7
SFTF	**Sexfontaines**	**4.66**	**50**	*e*Pg	**Pg**	09 58 09.7	-0.3
SFTF				*e*Sn	**Sn**	09 58 44.0	-1.9
SFTF				*e*Sg	**Sg**	09 59 09.4	-1.0
comp=E,7μm,0.6s							
ARTF	**Artigues**	**4.70**	**110**	Pn	**Pn**	09 57 53.0	+1.0
ARTF				Sn	**Sn**	09 58 44.5	-2.2
BLAF	**les Blancs**	**4.72**	**105**	Pn	**Pn**	09 57 53.6	+1.1
GIMEL	**St. Georges /**	**4.73**	**73**	Pn	**Pn**	09 57 53.9	+1.3
GIMEL				Pg	**Pg**	09 58 12.0	+0.6
MEZF	**Maizieres J'vi**	**4.85**	**47**	*e*Pn	**Pn**	09 57 54.2	+0.1
baz=231							
MEZF	**Maizieres J'vi**	**4.85**	**47**	*e*Pg	**Pg**	09 58 13.6	0.0
MEZF				*e*Sg	**Sg**	09 59 13.5	-2.9
comp=E,749nm,0.5s							
OGDI	**Digne**	**4.85**	**102**	Pn	**Pn**	09 57 55.0	+0.8
OGMO	**Fort Saint-Gob**	**4.93**	**89**	Pn	**Pn**	09 57 57.9	+2.6
BOUC	**Bouclans**	**4.93**	**65**	P

comp=N,270nm,0.5s
RCHB Rochefort 6.10 36 *d*P **Pn 09 58 11.7 +0.4**
RCHB *d*S **Sn 09 59 15.2 -6.1**
RCHB Rochefort 6.10 36 *e*Pn **Pn 09 58 11.9 +0.6**
RCHB *e*Sg **Sg 09 59 53.8 -2.8**
WLF Walferdange 6.16 43 **Pn 09 58 11.3 -0.7**
WLF Walferdange 6.16 43 Pn **Pn 09 58 12.1 0.0**
WLF Sn **Sn 09 59 19.5 -3.3**
WLF Walferdange 6.16 43 *d*P **Pn 09 58 12.5 +0.4**
WLF *d*S **Sn 09 59 17.6 -5.1**
WLF Walferdange 6.16 43 *e*Pn **Pn 09 58 13.4 +1.3**
WLF *e*Sg **Sg 09 59 56.6 -1.8**
BGES Gesves 6.22 34 *d*P **Pn 09 58 13.5 +0.5**
BGES *d*S **Sn 09 59 20.0 -4.3**
ESBB Sonseca Array 6.26 207 **Pn 09 58 12.4 -1.1**
ESDC Sonseca Array 6.26 207 Pn **Pn 09 58 13.2 -0.3**
ESDC Sonseca Array 6.26 207 Pn **Pn 09 58 13.5 -0.1**
comp=N,2.1nm,0.3s,baz=30,slow=13,SNR=21
ESDC Sn **Sn 09 59 20.6 -4.8**
comp=N,8.9nm,0.3s,baz=24,slow=24,SNR=6.8
comp=N,3.3nm,0.3s
UCC Uccle 6.30 28 Pn **Pn 09 58 13.4 -0.6**
UCC Uccle 6.30 28 *d*P **Pn 09 58 14.4 +0.4**
UCC *d*S Sn 09 59 17.8 -8.4
UCC Uccle 6.30 28 *e*Pn **Pn 09 58 15.0 +0.9**
UCC *e*Sg **Sg 10 00 04.9 +1.9**
HTL Hartland 6.33 335 *e*P **Pn 09 58 14.8 +0.3**
HTL IAML 10 00 18.8
comp=E,160nm,0.5s
HTL IAML 10 00 20.4
comp=N,172nm,0.5s
BCLA Clavier 6.34 34 *d*P **Pn 09 58 14.9 +0.4**
BCLA *d*S **Sn 09 59 23.2 -3.9**
MAHO Mahon 6.38 147 Pn **Pn 09 58 15.5 +0.4**
MVO Moncorvo 6.44 232 *e*Pn **Pn 09 58 16.5 +0.5**
MVO *e*Sn **Sn 09 59 27.0 -2.8**
MVO *i* AML AML 09 59 35.0
MVO *i* AML AML 09 59 52.7
MVO *i* AML AML 10 00 15.4
PAB San Pablo 6.50 209 **Pn 09 58 16.6 -0.4**
BSTI Sart Tilman 6.57 35 *d*P **Pn 09 58 18.4 +0.6**
BHOU Houvegnez 6.58 38 *d*P **Pn 09 58 18.5 +0.6**
BHOU *d*S **Sn 09 59 32.0 -1.1**
STRD Stroud 6.58 350 *e*P **Pn 09 58 17.6 -0.3**
BFO Black Forest 6.63 60 **Pn 09 58 19.4 +0.8**
BFO Black Forest 6.63 60 *e*Pn **Pn 09 58 19.4 +0.8**
BFO *e*Sg **Sg 10 00 12.0 -1.7**
PCAB Cabril 6.68 240 *e*Pn **Pn 09 58 19.8 +0.5**
PCAB *e*Sn **Sn 09 59 31.5 -4.2**
PCAB *i* AML AML 09 59 44.4
PCAB *i* AML AML 09 59 49.0
PCAB *i* AML AML 09 59 54.6
PGAV Gavieira, Arco 6.69 243 *e*Pn **Pn 09 58 18.8 -0.7**
PGAV *e*Sn **Sn 09 59 30.9 -5.1**
PGAV *i* AML AML 09 59 41.5
PGAV *i* AML AML 09 59 45.5
PGAV *i* AML AML 09 59 53.1
WILA Wila 6.70 69 *e*Sg **Sg 10 00 14.1 -1.7**
MONM Monmouth 6.73 347 *e*P **Pn 09 58 20.1 +0.1**
POLO Lamas de Olo 6.74 237 *e*Pn **Pn 09 58 20.4 +0.2**
POLO *e*Sn **Sn 09 59 33.4 -3.9**
POLO *i* AML AML 09 59 42.1
POLO *i* AML AML 09 59 47.6
POLO *i* AML AML 10 00 21.4
PVRL Vila Real 6.76 236 *e*Pn **Pn 09 58 20.6 +0.2**
MEM Membach 6.77 36 *d*P **Pn 09 58 21.7 +1.2**
MEM *d*S **Sn 09 59 33.4 -4.4**
MEM Membach 6.77 36 *e*Pn **Pn 09 58 21.8 +1.2**
MEM *e*Sg **Sg 10 00 16.8 -1.2**
BEBN Eben Emael 6.78 34 *d*P Pn 09 58 14.1 -6.5
BEBN *d*S **Sn 09 59 36.8 -1.2**
BTNL Ternell 6.80 37 *d*P **Pn 09 58 21.2 +0.2**
BTNL *d*S **Sn 09 59 34.7 -4.0**
TUE Stuetta 6.82 77 **Pn 09 58 24.0 +2.6**
MCH1 Michaelchurch 6.92 346 *e*P **Pn 09 58 22.3 -0.2**
PLONS Plons/SG 6.93 72 *e*Sg **Sg 10 00 22.4 -0.8**
MSSA Maissana 7.05 95 Pn **Pn 09 58 24.9 +0.5**
PVIS Viseu 7.22 233 *e*Pn **Pn 09 58 26.7 -0.1**
PVIS *e*Sn **Sn 09 59 44.1 -5.0**
DAVOX Davos/Dischmat 7.23 75 Pn **Pn 09 58 29.8 +2.8**
comp=N,3.1nm,0.3s,baz=223,slow=5.7,SNR=8.1
DAVOX Sn Sn 10 00 01.7 +12
comp=N,2.3nm,0.3s,baz=322,slow=11,SNR=3.8
DAVOX Lg Lg 10 00 36.5
comp=N,3.8nm,0.3s,baz=146,slow=18,SNR=3.5
comp=N,6.3nm,0.3s
MTE Manteigas 7.25 230 Pn **Pn 09 58 27.2 0.0**
MTE Manteigas 7.25 230 *e*Pn **Pn 09 58 27.5 +0.3**
MTE *e*Sn **Sn 09 59 43.8 -5.9**
MTE *i* AML AML 09 59 53.5
MTE *i* AML AML 09 59 58.1
MTE *i* AML AML 10 00 40.9
PGF Pioggiola 7.26 109 *e*Pn **Pn 09 58 26.5 -0.8**
PGF *e*Sn **Sn 09 59 45.7 -4.2**
comp=N,22nm,0.4s
DAVA Damuels 7.31 71 *e*Pn **Pn 09 58 29.3 +1.2**
comp=N,0.8nm,0.1s
DAVA Damuels 7.31 71 *e*Pn **Pn 09 58 28.9 +0.8**
STU Stuttgart 7.34 59 *e*Sg **Sg 10 00 35.3 -1.0**
HLM1 Long Mynd 7.40 348 *e*P **Pn 09 58 29.2 +0.1**
WACR West Acre 7.43 4 *e*P **Pn 09 58 29.7 +0.1**
FUORN Ofenpass-Fuorn 7.47 76 **Pn 09 58 33.0 +2.7**
UBR Ueberruh 7.55 68 *e*Pn **Pn 09 58 32.8 +1.5**
UBR *e*Sg **Sg 10 00 42.4 -0.8**
PCBR Castelo Branco 7.62 227 *e*Pn **Pn 09 58 32.5 +0.4**
PCBR *e*Sn **Sn 09 59 52.2 -6.6**
PCBR *i* AML AML 09 59 52.5
PCBR *i* AML AML 10 00 58.7
PCBR *i* AML AML 10 01 06.3
TNS Taunus Mts 7.66 47 *e*Pn **Pn 09 58 32.2 -0.5**
EADA Adamuz 7.83 206 Sn **Sn 09 59 57.9 -6.2**
EADA Pn **Pn 09 58 35.4 +0.2**
FETA Feichten 7.84 74 *e*Pn **Pn 09 58 37.6 +2.3**
comp=N,6.9nm,0.6s
COI Coimbra 7.86 232 **Pn 09 58 34.4 -1.1**
PMRV Marv??o 7.89 224 *e*Pn **Pn 09 58 36.4 +0.5**
PMRV *e*Sn **Sn 09 59 58.7 -6.7**
PMRV *i* AML AML 09 59 59.3
PMRV *i* AML AML 10 00 08.3
PMRV *i* AML AML 10 00 08.9
BUG Bochum--Univer 7.92 37 *e*Sg **Sg 10 00 54.7 -0.1**
PCAS Casmilo, Conde 8.01 232 *e*Pn **Pn 09 58 38.0 +0.4**
PCAS *e*Sn **Sn 10 00 02.8 -5.7**
PCAS *i* AML AML 10 01 05.5
PCAS *i* AML AML 10 01 21.4
PCAS *i* AML AML 10 01 30.6
WTSB Winterswijk 8.14 33 *e*Sn Sn 10 00 03.5 -7.8
LBWR Ladybower, Pea 8.14 354 *e*P **Pn 09 58 38.6 -0.7**
ECAB El Cabril 8.19 210 Sn Sn 10 00 04.3 -8.6
ECAB Pn **Pn 09 58 39.9 -0.2**
SQTA Sankt Quirin 8.19 72 *e*Pn **Pn 09 58 41.8 +1.7**
comp=N,11nm,0.2s
EBAD Badajoz 8.25 220 Pn **Pn 09 58 41.1 +0.4**
EBAD Sn **Sn 10 00 07.3 -6.9**
KASTN Kahler Asten 8.27 41 *e*Pn **Pn 09 58 40.8 -0.3**
KASTN *e*Sg **Sg 10 01 05.5 -0.3**
CTI Castel Tesino 8.39 81 Pn **Pn 09 58 43.8 +1.0**
CASP Castiglione de 8.42 104 Pn **Pn 09 58 42.0 -1.2**
PESTR Estremoz 8.43 223 Pn **Pn 09 58 42.3 -1.0**
PESTR Estremoz 8.43 223 *e*Pn **Pn 09 58 44.8 +1.6**
PESTR *e*Sn Sn 10 00 10.5 -8.1
PESTR *i* AML AML 10 00 14.3
PESTR *i* AML AML 10 00 23.2
PESTR *i* AML AML 10 00 48.0
TEOL Teolo 8.43 85 Pn **Pn 09 58 42.7 -0.6**
EQTA Presa de Quent 8.45 197 Pn **Pn 09 58 44.4 +0.8**
WATA Walderalm 8.46 72 *e*Pn **Pn 09 58 44.5 +0.7**
comp=N,8.5nm,0.5s
WTTA Wattenberg 8.49 73 *e*Pn **Pn 09 58 46.7 +2.5**
comp=N,3.1nm,0.2s
WTTA Wattenberg 8.49 73 *e*Pn **Pn 09 58 46.9 +2.7**
WPS Cemaes, Angles 8.54 343 *e*P **Pn 09 58 45.2 +0.5**
PMTG Montargil 8.58 226 *e*Pn **Pn 09 58 45.2 -0.2**
PMTG *e*Sn Sn 10 00 14.3 -8.1
PMTG *i* AML AML 10 00 15.8
PMTG *i* AML AML 10 00 24.9
PMTG *i* AML AML 10 01 30.6
EGOR Sierra Gorda, 8.69 201 Pn **Pn 09 58 47.9 +0.8**
EGOR Sn **Sn 10 00 23.0 -2.3**
PBAR Barrancos 8.74 218 *e*Pn **Pn 09 58 47.5 0.0**
PBAR *e*Sn Sn 10 00 19.0 -7.3
PBAR *i* AML AML 10 00 19.8
PBAR *i* AML AML 10 00 20.7
PBAR *i* AML AML 10 00 22.6
PBAR Barrancos 8.74 218 Pn **Pn 09 58 47.1 -0.4**
PBAR Sn Sn 10 00 18.5 -7.8
ELGU Los Guajares, 8.81 198 Pn **Pn 09 58 50.2 +1.6**
DSB Dublin 8.87 336 Pn **Pn 09 58 48.9 -0.3**
EVO Evora 8.89 223 *e*Pn **Pn 09 58 52.5 +2.9**
GRFO Grafenberg 8.93 57 Pn **Pn 09 58 48.7 -1.4**
GRA1 Grafenberg Arr 8.93 57 Pn **Pn 09 58 48.5 -1.7**
GRF Grafenberg Arr 8.93 57 *e*Pn **Pn 09 58 49.3 -0.9**
GDLE Glaisdale, N Y 9.12 358 *e*P **Pn 09 58 51.2 -1.5**
LESA Schwarzleotal 9.21 72 *e*Pn **Pn 09 58 55.6 +1.6**
comp=N,9.9nm,0.5s
VSL Villasalto 9.22 126 Pn **Pn 09 58 54.2 +0.1**
PBEJ Beja 9.23 220 *e*Sn Sn 10 00 29.5 -8.8
RJOB Jochberg 9.34 70 *e*Pn **Pn 09 58 58.1 +2.3**
EGRO El Granado 9.47 217 Pn **Pn 09 58 57.2 -0.3**
EGRO Sn **Sn 10 00 36.9 -7.2**
MESJ Messejana 9.54 221 Pn **Pn 09 58 58.2 -0.3**
MESJ Messejana 9.54 221 *e*Pn **Pn 09 59 00.1 +1.6**
MESJ *e*Sn **Sn 10 00 38.8 -7.2**
EDMD Edmundbyers 9.58 354 *e*P **Pn 09 58 57.8 -1.2**
KBA Koelnbreinsper 9.62 75 *e*Pn **Pn 09 59 02.4 +2.7**
comp=N,2.7nm,0.6s
KBA Koelnbreinsper 9.62 75 *e*Pn **Pn 09 59 02.7 +3.0**
PCVE Castro Verde 9.63 220 *e*Pn **Pn 09 58 59.4 -0.3**
PCVE *e*Sn Sn 10 00 39.9 -8.2
PVAQ Vaqueiros 9.68 218 Pn **Pn 09 58 59.6 -0.8**
PRED Cave del Predi 9.73 78 Pn **Pn 09 59 01.8 +0.7**
PBDV Barranco-do-Ve 9.90 218 *e*Pn **Pn 09 59 04.5 +0.9**
PBDV *e*Sn Sn 10 00 44.1 -11
NRCA Norcia 9.96 100 Pn **Pn 09 59 05.9 +1.5**
PTEO Sao Teotonio 10.02 222 *e*Pn **Pn 09 59 05.0 0.0**
PTEO *e*Sn Sn 10 00 50.3 -7.3
GEC2 GERESS Array S 10.17 65 **Pn 09 59 06.2 -1.1**
GEC2 GERESS Array S 10.17 65 *e*Pn **Pn 09 59 08.7 +1.5**
GERES GERESS Array B 10.17 65 Pn **Pn 09 59 06.0 -1.2**
GERES GERESS Array B 10.17 65 Pn **Pn 09 59 08.5 +1.3**
comp=N,0.2nm,0.3s,baz=260,slow=14,SNR=14
GERES Sn Sn 10 00 55.0 -6.5
comp=N,0.2nm,0.3s,baz=258,slow=24,SNR=5.0
GERES Lg Lg 10 02 07.0
comp=N,0.3nm,0.3s,baz=257,slow=27,SNR=4.5
comp=N,1.7nm,0.3s
KHC Kasperske Hory 10.17 63 *e*PN **Pn 09 59 08.4 +1.2**
KHC *e*SN **Sn 10 00 57.9 -3.6**
ESK Eskdalemuir 10.18 351 Pn **Pn 09 59 05.5 -1.7**
MORF Marmelete 10.18 221 Pn **Pn 09 59 06.0 -1.2**
MORF Marmelete 10.18 221 *e*Pn **Pn 09 59 06.8 -0.5**
MORF *e*Sn Sn 10 00 54.1 -7.5
EKA Eskdalemuir Ar 10.19 351 Pn **Pn 09 59 05.5 -1.9**
baz=164,slow=15
EKA Sn Sn 10 00 53.2 -8.5
baz=170,slow=25
comp=N,1.7nm,0.3s
PFVI Vila Bisbo 10.40 221 *e*Pn **Pn 09 59 10.5 +0.2**
PFVI *e*Sn Sn 10 00 59.2 -7.7
CKRC Cesky Krumlov 10.56 65 *e*PN **Pn 09 59 12.9 +0.5**
CKRC *e*SN **Sn 10 01 07.8 -3.0**
CLL Collm 10.68 51 *e*Pn **Pn 09 59 16.0 +1.9**
CLL *e*x x 10 00 34.0
CLL *e*Sg 10 02 23.0
comp=Z,26nm,0.8s
CONA Conrad Observa 11.41 71 *e*Pn **Pn 09 59 25.3 +1.1**
comp=Z,0.5nm,0.2s
KRUC Moravsky 11.95 66 *e*PN **Pn 09 59 33.7 +2.3**
VRAC Vranov 12.13 65 Lg Lg 10 03 09.2
comp=Z,0.7nm,0.3s,baz=56,slow=9.3,SNR=5.0
VRAC Vranov 12.13 65 *e*PN **Pn 09 59 34.9 +1.0**
HFS Hagfors 17.02 24 Pn **Pn 10 00 34.2 -4.8**
comp=Z,1.9nm,0.9s,baz=210,slow=14,SNR=1.2
HFS Sn Sn 10 03 31.0 -17
comp=Z,0.1nm,0.3s,baz=211,slow=16,SNR=1.6
FINES FINESS Array B 22.29 34 P **P 10 01 37.9 -0.4**
FINES FINESS Array B 22.29 34 P **P 10 01 39.6 +1.2**
comp=Z,1.5nm,0.7s,baz=246,slow=10,SNR=4.0
comp=Z,1.5nm,0.7s
FIA1 FINESS Array S 22.30 34 P **P 10 01 38.2 -0.2**
FIA1 IAmb IAmb 10 02 05.6
comp=Z,6.4nm,0.8s
BRTR Keskin Array B 25.50 91 P **P 10 02 15.1 +5.4**
comp=Z,1.1nm,0.7s,baz=292,slow=9.0,SNR=5.1
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 27.52 19 P **P 10 02 28.0 +0.4**
comp=Z,1.5nm,0.6s,baz=231,slow=7.7,SNR=6.4
comp=Z,1.5nm,0.6s
KEV Kevo 28.04 20 **P 10 02 30.2 -2.0**
KEV IAmb IAmb 10 02 44.7
comp=Z,20nm,1.1s
YKA Yellowknife Ar 60.48 331 P **P 10 06 51.6 +0.8**
comp=Z,0.1nm,0.5s,baz=46,slow=6.8,SNR=7.4
comp=Z,0.1nm,0.5s

KRSC 20 09:57:10.7±0.9, 55°.06N×164°.73E, h42km±21km, MI3.8,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.73**	**78**	*e*P		09 57 25.9	+1.4
BKI				*e*S		09 57 35.4	+0.9
KBTR	**Krutoberegovo**	**1.58**	**317**	*e*P		09 57 36.6	+0.4
KBTR				*e*S		09 57 55.1	-0.3
KBG	**Krutoberegovo**	**1.66**	**317**	*e*P		09 57 37.5	+0.3
MKZ	**Mys Kozlova**	**1.81**	**255**	*e*P		09 57 41.9	+2.6
MKZ				*e*S		09 58 03.0	+2.0
SMKR	**Semkarok**	**2.39**	**311**	*e*P		09 57 49.9	+2.5
ZLN	**Zelenaya**	**2.43**	**295**	*e*P		09 57 51.7	+3.8
BZGR	**Bezymyannyi-Gr**	**2.46**	**293**	*e*P		09 57 51.7	+3.4
TUMD	**Tumrok D**	**2.49**	**275**	*e*P		09 57 52.1	+3.4
CIRR	**Tsirk**	**2.50**	**297**	*e*P		09 57 52.3	+3.4
BZWR	**Bezymyannyi-We**	**2.57**	**292**	*e*P		09 57 53.8	+3.9
KLY	**Klyuchi**	**2.63**	**300**	*e*P		09 57 52.4	+1.8
KRSR	**Krestovskiy**	**2.63**	**298**	*e*P		09 57 53.3	+2.5
KIRR	**Kirishev**	**2.65**	**291**	*e*P		09 57 55.1	+4.0
KMNR	**Kamenistaya**	**2.66**	**287**	*e*P		09 57 55.0	+3.9
KPT	**Kopyto**	**2.72**	**291**	*e*P		09 57 56.2	+4.3
KOZ	**Kozyrevsk**	**2.94**	**292**	*e*P		09 57 59.6	+4.8
SRDR	**Sredninny**	**3.10**	**296**	*e*P		09 58 01.5	+4.3
KII	**Karymskiy**	**3.24**	**254**	*e*P		09 58 00.9	+1.8
SPN	**Mys Shipunski**	**3.40**	**237**	*e*P		09 58 04.5	+3.4
ESO	**Esso**	**3.54**	**287**	*e*P		09 58 06.7	+3.6
NLC	**Nalytchevo**	**3.69**	**241**	*e*S		09 58 49.7	+2.3
SDLR	**Sedlovina**	**3.87**	**245**	*e*P		09 58 12.3	+4.5
UGLR	**Uglovaya**	**3.94**	**244**	*e*P		09 58 13.4	+4.7
AVH	**Avacha**	**3.96**	**245**	*e*P		09 58 13.9	+5.0
KRX	**Arik**	**3.96**	**247**	*e*P		09 58 13.7	+4.7
KOK	**Koryaka**	**4.00**	**246**	*e*P		09 58 14.3	+4.8
DALK	**Dalny**	**4.07**	**242**	*e*P		09 58 14.2	+3.8
GNL	**Ganaly**	**4.20**	**254**	*e*P		09 58 17.2	+4.9
KRMR	**Karymshinskiy**	**4.50**	**243**	*e*P		09 58 20.9	+4.6
GRL	**Gorelyy**	**4.68**	**240**	*e*P		09 58 22.4	+3.6
KDTR	**Khodutka, Kamc**	**5.14**	**233**	*e*P		09 58 28.2	+3.2
TILK	**Tilichiki**	**5.45**	**7**	*e*P		09 58 33.6	+4.3

*IDC **20** 10:01:46.3±1.7, 1°.38S×122°.19E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=430.3km s-min=27.3km az=60.0*
*DJA **20** 10:01:50.2±0.3, 2°.5S±2°.×12°.1E±°, h10km, M4.1/11, MLv4.1/11*
ISC 20 10:01:49.2±0.9, 2°.19S±0°.05×121°.12E±0°.06, h10km, n13, σ1°.27/17, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.37**	**23**	P		**10 02 16.3**	**+1.9**
TTSI	**Tana Toraja**	**1.56**	**237**	P		**10 02 15.8**	**-1.2**
TTSI				S		**10 02 36.9**	**-0.4**
PCI	**Palu**	**1.81**	**315**	P		**10 02 21.1**	**+0.6**
PCI				S		**10 02 45.6**	**+0.4**
LUWI	**Luwuk**	**2.00**	**55**	P		**10 02 23.7**	**+0.6**
SPSI	**Sidrap Palu**	**2.23**	**217**	P		**10 02 27.2**	**+1.0**
SPSI				S		**10 02 55.0**	**+1.2**
MRSI	**Marisa**	**2.77**	**17**	P		**10 02 34.5**	**+0.8**
BKSI	**Bulukumba**	**3.27**	**198**	P		**10 02 42.1**	**+1.5**
BKSI				Pg		**10 02 48.6**	**+1.2**
BBSI	**Bau Bau**	**3.58**	**156**	P		**10 02 45.0**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.98**	**189**	P		**10 02 51.2**	**+0.8**
SANI	**Sanana**	**4.86**	**89**	P		**10 03 02.0**	**-0.5**
WRA	**Warramunga Arr**	**21.87**	**145**	P		**10 06 41.0**	**-1.4**

0.4nm,0.8s,baz=324,slow=11,SNR=2.7
0.4nm,0.8s
ASAR Alice Springs 24.68 151 P **P 10 07 11.5 +0.9**
0.6nm,0.6s,baz=327,slow=8.9,SNR=7.8
0.6nm,0.6s
MKAR Makanchi Array 59.52 330 P **P 10 11 50.3 -2.4**
0.3nm,0.7s,baz=133,slow=7.7,SNR=4.4
0.3nm,0.7s

*IDC **20** 10:08:13.7±2.2, 19°.16S×177°.59W, h577km±22km, mb3.2/6, mbtmp4.1/7, Error ellipse: s-maj=27.9km s-min=24.8km az=165.0*
*NEIC **20** 10:08:13.8±0.8, 19°.1S±0°.3×177°.50W±0°.06, h581km±16km, mb4.2/16, Error ellipse: s-maj=40.8km s-min=3.5km az=169.0*
ISC 20 10:08:13.0±0.7, 19°.2S±0°.1×177°.6W±0°.1, h570km, n30, σ0°.75/32, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.41**	**288**	P		**10 09 41.1**	**+1.6**
MSVF	**Nonsavu**	**4.41**	**288**	P		**10 09 40.6**	**+1.1**
9.1nm,0.7s,baz=252,slow=17,SNR=10							
NIUE	**Niue**	**7.21**	**91**	P		**10 10 05.0**	**+1.2**
AFI	**Afiamalu**	**7.61**	**48**	P		**10 10 06.7**	**-1.1**
DZM	**Mont Dzumac**	**15.26**	**256**	P		**10 11 24.9**	**+0.1**
DZM				IAmb	IAmb	10 11 33.5	
comp=Z,9.7nm,1.0s							
HIZ	**Hauiti**	**20.38**	**197**			**10 12 09.3**	**-2.1**
EIDS	**Eidsvold**	**29.63**	**252**	P		**10 13 32.9**	**-0.3**
EIDS				IAmb	IAmb	10 13 56.3	
comp=Z,10nm,1.4s							
TOO	**Toolangi**	**37.03**	**232**	P		**10 14 36.2**	**+0.8**
STKA	**Stephens Creek**	**38.76**	**243**	P		**10 14 49.2**	**-0.3**
comp=Z,3.0nm,0.8s,baz=99,slow=9.2,SNR=5.6							
comp=Z,3.0nm,0.8s							
BBOO	**Buckleboo**	**43.52**	**242**	P		**10 15 27.3**	**+0.1**
WR8	**Warramunga Arr**	**45.06**	**261**	P		**10 15 38.6**	**-0.5**
WR8				IAmb	IAmb	10 15 58.6	
comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**45.19**	**261**	P		**10 15 39.6**	**-0.5**
WB0				IAmb	IAmb	10 15 40.3	
comp=Z,14nm,1.4s							
WB2	**Warramunga Arr**	**45.20**	**261**	P		**10 15 40.0**	**-0.2**
WB2				IAmb	IAmb	10 15 53.9	
comp=Z,6.5nm,1.1s							
WRA	**Warramunga Arr**	**45.21**	**261**	P		**10 15 39.9**	**-0.5**
comp=Z,1.2nm,0.5s,baz=97,slow=7.6,SNR=31							
WRA				PcP	**PcP**	**10 17 07.8**	**-0.5**
comp=Z,0.7nm,0.8s,baz=96,slow=3.8,SNR=3.5							
comp=Z,1.2nm,0.5s							
AS31	**Alice Springs**	**45.24**	**255**	P		**10 15 40.7**	**+0.2**
ASAR	**Alice Springs**	**45.24**	**255**	P		**10 15 40.2**	**-0.4**
ASAR	**Alice Springs**	**45.24**	**255**	P		**10 15 40.4**	**-0.2**
comp=Z,5.1nm,0.8s,baz=86,slow=8.7,SNR=47							
ASAR				PcP	**PcP**	**10 17 07.8**	**-0.5**
comp=Z,0.8nm,0.7s,baz=100,slow=3.6,SNR=7.3							
comp=Z,5.1nm,0.8s							
MTN	**Manton Dam**	**49.58**	**269**	P		**10 16 12.8**	**-0.3**
FORT	**Forrest**	**50.22**	**246**	P		**10 16 17.0**	**-0.4**
KNRA	**Kununurra**	**51.18**	**265**	P		**10 16 24.6**	**0.0**
KNRA				IAmb	IAmb	10 16 25.1	
comp=Z,9.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.63**	**261**	P		**10 16 42.2**	**+0.1**
PSA00	**Pilbara Seismi**	**58.38**	**256**	P		**10 17 14.3**	**-0.6**
PSA00				IAmb	IAmb	10 17 21.1	
comp=Z,25nm,1.5s							
MBWA	**Marble Bar**	**58.56**	**256**	P		**10 17 15.6**	**-0.5**
MBWA				IAmb	IAmb	10 17 25.1	
comp=Z,23nm,1.4s							
QSPA	**South Pole Qui**	**70.90**	**180**	P		**10 18 33.6**	**+0.5**
QSPA	**South Pole Qui**	**70.90**	**180**	P		**10 18 33.4**	**+0.3**
comp=Z,3.2nm,1.0s,baz=38,slow=0.7,SNR=11							
comp=Z,3.2nm,1.0s							
TXAR	**Lajitas Array**	**85.98**	**57**	P		**10 19 53.8**	**-0.3**
comp=Z,0.4nm,0.9s,baz=242,slow=4.9,SNR=3.8							
comp=Z,0.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**90.06**	**289**	P		**10 20 13.9**	**+0.7**
comp=Z,0.7nm,0.6s,baz=120,slow=4.2,SNR=7.0							
comp=Z,0.7nm,0.6s							
AKASG	**Malin Array Be**	**142.04**	**332**	PKP	**PKPdf**	**10 26 39.7**	**-0.9**
comp=Z,0.2nm,0.3s,baz=44,slow=0.8,SNR=2.1							
BRTR	**Keskin Array B**	**146.23**	**314**	PKPbc	**PKPdf**	**10 26 49.2**	**+0.8**
comp=Z,1.0nm,0.7s,baz=66,slow=3.4,SNR=5.5							
MMAI	**Mount Meron Ar**	**147.49**	**302**	PKPbc	**PKPbc**	**10 26 54.3**	**+0.2**
comp=Z,0.7nm,0.3s,baz=82,slow=3.1,SNR=2.3							

*IDC **20** 10:15:03.0±1.1, 26°.44N×124°.47E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=40.8km s-min=21.7km az=68.0*
ISC 20 10:15:24.0±1.1, 26°.5N±0°.2×124°.5E±0°.3, h197km, n6, σ0°.97/6, mb3.2/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**25.58**	**331**	P		**10 20 33.9**	**-1.0**
0.5nm,0.4s,baz=138,slow=11,SNR=3.3							
0.5nm,0.4s							
PETK	**Petropavlovsk-**	**36.28**	**34**	P		**10 22 08.6**	**+0.3**
5.0nm,1.0s,baz=232,slow=9.0,SNR=6.4							
5.0nm,1.0s							
MKAR	**Makanchi Array**	**38.85**	**313**	P		**10 22 31.2**	**+1.2**
0.4nm,0.7s,baz=112,slow=9.3,SNR=6.3							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**42.34**	**317**	P		**10 22 58.0**	**-0.4**
0.5nm,0.6s,baz=104,slow=8.7,SNR=6.2							
0.5nm,0.6s							
WRA	**Warramunga Arr**	**47.16**	**167**	P		**10 23 36.5**	**-0.4**
1.0nm,0.9s,baz=348,slow=7.7,SNR=3.4							
1.0nm,0.9s							
ASAR	**Alice Springs**	**50.72**	**169**	P		**10 24 04.0**	**+0.2**
0.4nm,0.6s,baz=351,slow=8.1,SNR=4.5							
0.4nm,0.6s							

*ISK **20** 10:20:24.6, 37°.48N×29°.39E, h3km, ML1.9/12*
AFAD 20 10:20:24.2, 37°.50N×29°.39E, h7km±4km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APMY	**Acipayam-Deniz**	**0.07**	**249**	Pg	Pg	10 20 26.5	+0.3
APMY				Sg	Sg	10 20 27.8	+0.3
INCE	**Denizli-Bozkur**	**0.26**	**35**	P	Pg	10 20 29.3	-0.1
INCE				S	Sg	10 20 33.3	+0.5
INCE				*i* AML	AML	10 20 34.0	
comp=N,441nm,0.4s							
INCE				*i* AML	AML	10 20 34.0	
comp=E,432nm,0.1s							
GOLH	**Golhisar**	**0.29**	**152**	P	Pg	10 20 27.6	-2.4
GOLH				S	Sb	10 20 35.8	-1.2
GOLH				*i* AML	AML	10 20 39.0	
comp=N,136nm,0.6s							
GOLH				*i* AML	AML	10 20 39.0	
comp=E,151nm,0.5s							
GOLH	**Golhisar**	**0.29**	**152**	P	Pg	10 20 28.4	-1.6
GOLH				S	Sb	10 20 35.8	-1.2
GOLH				*i* AML	AML	10 20 39.0	
comp=N,136nm,0.6s							
GOLH				*i* AML	AML	10 20 39.0	
comp=E,151nm,0.5s							
DNIZ	**Denizli-Tavas-**	**0.31**	**295**	P	Pg	10 20 30.9	+0.6
DNIZ				S	Sb	10 20 36.6	-0.7
DNIZ				*i* AML	AML	10 20 37.0	
comp=N,248nm,0.1s							
DNIZ				*i* AML	AML	10 20 37.0	
comp=E,469nm,0.2s							
DNIZ	**Denizli-Tavas-**	**

CAEL			S	Sb	10 20 38.2	-1.2
CAEL			*i* AML	AML	10 20 42.0	
comp=E,138nm,0.9s						
CAEL			*i* AML	AML	10 20 44.0	
comp=N,102nm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.38 265**	P	Pg	10 20 31.7	+0.1
TAVA			*i* AML	AML	10 20 38.0	
comp=N,88nm,0.2s						
TAVA			*i* AML	AML	10 20 38.0	
comp=E,64nm,0.3s						
TAVA			S	Sb	10 20 38.2	-1.2
CAME	**Cameli-Denizli**	**0.56 187**	Pg	Pg	10 20 34.9	-0.1
BRDR	**BURDUR-Merkez**	**0.57 69**	P	Pg	10 20 35.0	-0.2
BRDR			S	Sb	10 20 44.8	-0.2
BRDR			*i* AML	AML	10 20 45.0	
comp=E,81nm,0.5s						
BRDR			*i* AML	AML	10 20 47.0	
comp=N,60nm,0.2s						
BRDR	**BURDUR-Merkez**	**0.57 69**	P	Pg	10 20 33.3	-1.9
BRDR			S	Sb	10 20 44.0	-1.0
BRDR			*i* AML	AML	10 20 45.0	
comp=E,81nm,0.5s						
BRDR			*i* AML	AML	10 20 47.0	
comp=N,60nm,0.2s						
KNIK	**Mula-Seydike**	**0.67 167**	P	Pg	10 20 35.8	-1.3
KNIK			S	Sg	10 20 45.6	-0.2
KNIK	**Mula-Seydike**	**0.67 167**	P	Pg	10 20 37.4	+0.4
KNIK			S	Sb	10 20 47.2	-0.5
KNIK			*i* AML	AML	10 20 49.0	
comp=E,24nm,0.5s						
KNIK			*i* AML	AML	10 20 52.0	
comp=N,22nm,0.4s						
BASM	**Basmaki-Afyon**	**0.67 51**	Pg	Pb	10 20 38.5	+0.2
SABU	**Mula-Dalaman**	**0.75 207**	P	Pg	10 20 36.6	-2.0
SABU			S	Sb	10 20 49.7	-0.4
SABU			*i* AML	AML	10 20 50.0	
comp=N,29nm,0.4s						
SABU			*i* AML	AML	10 20 53.0	
comp=E,33nm,0.5s						
SABU	**Mula-Dalaman**	**0.75 207**	P	Pg	10 20 37.4	-1.2
SABU			S	Sb	10 20 49.7	-0.4
ELL	**Elmali**	**0.86 151**	Pg	Pb	10 20 41.5	0.0
ELL			Sg	Sb	10 20 53.7	+0.5
FETY	**Fethiye**	**0.90 196**	Pg	Pb	10 20 42.2	+0.1
DALY	**Dalyan (Mula)**	**0.90 221**	Pg	Pb	10 20 42.5	+0.4
DALY			Sg	Sb	10 20 55.3	+1.1
KORT	**Korkueli**	**0.91 123**	Pg	Pb	10 20 42.8	+0.3
YER	**Yerkesik**	**0.95 248**	Pg	Pb	10 20 43.5	+0.4
NAZL	**Nazilli-Aydin**	**0.99 299**	Pg	Pn	10 20 44.6	+0.1
TURN	**Turunc**	**1.16 232**	Pn	Pn	10 20 47.5	+0.6
AYDB	**Zeytinkoy-Aydi**	**1.27 291**	Pn	Pg	10 20 49.4	+0.8
AKAS	**Kas**	**1.27 172**	Pn	Pg	10 20 49.5	+0.8

IDC 20 10:24:54.9±999.0, 47°.87N×46°.40E, h0km, Error ellipse: s-maj=3738.0km s-min=179.3km az=67.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.05**	**67**	I	I	11 10 20.0	
0.4nm,0.6s,baz=258,slow=309,SNR=8.5							
I46RU	**ZALESOVO INFRA**	**24.75**	**61**	I	I	12 57 20.0	
baz=272,slow=316,SNR=0.7							
I34MN	**SONGINO INFRAS**	**39.38**	**67**	I	I	14 26 40.0	
baz=288,slow=333,SNR=0.5							

DJA ***20*** *10:27:31.3±0.3, 12°.N±3°.×9°.3E±°, h66km±6km, M5.0/14, mb4.8/14, mB5.3/4, MLv5.1/6, Mw(mB)4.8/4*
BJI ***20*** *10:27:33.5, 11°.77N×92°.88E, h69km, mB4.7/15, mb4.4/41, Ms4.1/6, Ms7 3.9/7*
IDC ***20*** *10:27:35.0±1.9, 11°.72N×92°.86E, h71km±16km, mb4.0/31, mbtmp4.3/34, MS3.4/28, Error ellipse: s-maj=14.2km s-min=10.8km az=50.0*
NEIC ***20*** *10:27:35.2±1.8, 11°.92N±0°.07×92°.85E±0°.08, h57km±6km, mb4.9/89, Error ellipse: s-maj=11.3km s-min=9.5km az=80.0*
BKK ***20*** *10:27:36.2±0.5, 12°.N±4°.×9°.3E±°, h0km, M4.6/10, mB5.0/6, mb4.9/10, Mjma4.2/10, ML4.7/5, MLv4.8/7, Mw(mB)4.3/6*
NDI ***20*** *10:27:36.8, 11°.96N×92°.72E, h55km, mb4.8, ML4.5, mb4.9(NEIC)*
ISC 20 10:27:34.4±0.4, 11°.83N±0°.04×92°.84E±0°.04, h62km±3km, h62km:pP-P, n213, σ1$20/203, mb4.8/87, 2C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.20**	**211**	Pn	**Pn**	**10 27 44.2**	**+0.2**
PBA					**Sn**	**10 27 52.4**	**+1.4**
PBA	**Port Blair**	**0.20**	**211**	*e*P	**Pn**	**10 27 44.4**	**+0.4**
PBA				*e*S	**Sn**	**10 27 53.2**	**+2.3**
PBA				IAML		10 27 54.1	
comp=E,51μm,0.4s							
PBA				*e*S		10 27 54.4	
PBA				IAML		10 27 56.2	
comp=E,33μm,0.3s							
DGPR	**DIGLIPUR**	**1.35**	**4**	*e*P	**Pn**	**10 27 56.6**	**-0.5**
DGPR				*e*S	**Sn**	**10 28 15.8**	**+1.7**
DGPR				*e*S		10 28 15.8	
DGPR				IAML		10 28 26.4	
comp=E,8μm,0.9s							
CMBY	**CAMPBELL BAY**	**4.90**	**167**	*e*P	**Pn**	**10 28 46.3**	**+0.7**
CMBY				*e*S	**Sn**	**10 29 41.0**	**0.0**
CMBY				*e*S		10 29 41.4	
CMBY				IAML		10 29 43.2	
comp=E,356nm,0.4s							
CMBY				IAML		10 29 47.6	
comp=E,1μm,0.5s							
RNTT	**Ranong**	**6.04**	**113**	P	**Pn**	**10 29 03.3**	**+2.1**
comp=E,1.2nmcomp=E,0.9nmcomp=E,4μmcomp=E,256nm,0.8s							
KHLT	**Khaolaem Dam**	**6.33**	**62**	P	**Pn**	**10 29 06.9**	**+1.8**
comp=E,0.3nmcomp=E,0.3nmcomp=E,718nmcomp=E,83nm,0.7s							
BSI	**Banda Aceh**	**6.74**	**159**	P	**Pn**	**10 29 08.3**	**-2.5**
comp=E,0.2nmcomp=E,29nm,0.8s							
BSI				S	**Sn**	**10 30 23.2**	**-3.0**
comp=E,0.2nmcomp=E,29nm,0.8s							
SRIT	**Nakonsritamara**	**7.38**	**115**	Pn	**Pn**	**10 29 21.6**	**+2.0**
SRIT				Sn	**Sn**	**10 30 42.9**	**+0.9**
UTHA	**Uthaitani**	**7.41**	**59**	P	**Pn**	**10 29 22.0**	**+2.0**
comp=E,22nm,0.7s							
MLSI	**Meulaboh, Aceh**	**8.29**	**155**	P	**Pn**	**10 29 30.1**	**-2.0**
comp=E,120nm,0.9s							
NAYO	**Nakonayok**	**8.62**	**72**	P	**Pn**	**10 29 38.0**	**+1.5**
comp=E,4.3nmcomp=E,229nm,1.1s							
CM31	**Chiang Mai Arr**	**8.84**	**41**	Pn	**Pn**	**10 29 39.0**	**-0.5**
CM31				Sn	**Sn**	**10 31 14.9**	**-2.8**
CMAR	**Chiang Mai Arr**	**8.84**	**41**	Pn	**Pn**	**10 29 40.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**8.84**	**41**	P	**Pn**	**10 29 40.8**	**+1.3**
comp=E,7.0nm,0.6s,baz=235,slow=15,SNR=43							
CMAR				S	**Sn**	**10 31 14.9**	**-2.8**
comp=E,12nm,0.9s,baz=235,slow=28,SNR=6.0							
CMAR				LR	LR	10 33 33.3	
comp=E,53nm,18.7s,baz=220,slow=40							
CHTO	**Chiang Mai**	**9.10**	**40**	Pn	**Pn**	**10 29 43.0**	**-0.1**
CHTO				Sn	**Sn**	**10 31 20.8**	**-3.4**
CHAI	**Chaiyaphum**	**9.76**	**64**	P	**Pn**	**10 29 54.8**	**+2.7**
KULM	**Kulim**	**10.08**	**129**	Pn	**Pn**	**10 29 58.1**	**+1.5**
KULM				Sn	**Sn**	**10 31 50.4**	**+2.1**
PSI	**Prapat**	**10.80**	**146**	P	**Pn**	**10 30 06.5**	**0.0**
comp=E,4.1nm,0.4s,baz=153,slow=14,SNR=4.3							
RPSI	**Rantau Prapat**	**10.89**	**146**	Pn	**Pn**	**10 30 08.0**	**+0.4**
RPSI	**Rantau Prapat**	**10.89**	**146**		**Pn**	**10 30 06.5**	**-1.1**
VIS	**Vishakhapatnam**	**10.91**	**304**	*e*P	**Pn**	**10 30 06.8**	**-1.0**
VIS				*e*S	Sn	10 31 53.8	-15
RAGD	**RAYAGADA**	**11.67**	**310**	*e*P	**Pn**	**10 30 18.1**	**-0.1**
RAGD				*e*S	Sn	10 32 15.2	-12
RAGD				IAML		10 32 18.6	
comp=E,142nm,1.3s							
RAGD				IAML		10 32 19.8	
comp=N,120nm,1.7s							
MDRS	**Chennai**	**12.37**	**277**	*e*S	Sn	10 32 30.3	-14
MDRS				*e*S	S	10 32 32.5	-36
VJD	**Vijayawada**	**12.71**	**293**	*e*P	**Pn**	**10 30 32.4**	**0.0**
VJD				*e*S	Sn	10 32 39.2	-13
UBPT	**Khong Chiam**	**12.75**	**73**	Pn	**Pn**	**10 30 29.9**	**-3.0**
PALK	**Pallekele**	**12.80**	**250**	P	**Pn**	**10 30 34.0**	**+0.3**
comp=N,3.9nm,0.8s,baz=57,slow=12,SNR=7.3							
PALK				S	Sn	10 32 41.9	-13
comp=N,32nm,0.6s,baz=93,slow=3.6,SNR=13							
PALK				LR	LR	10 34 40.6	
comp=N,176nm,21.7s,baz=60,slow=33							

IMP	**Imphal**	**12.98**	**4**	*e*P	**Pn**	**10 30 34.1**	**-2.0**
IMP				IAmb	IAmb	10 30 38.0	
comp=Z,61nm,0.8s							
BOK	**Bokaro**	**13.62**	**332**	*e*P	**Pn**	**10 30 43.9**	**-0.8**
BOK				*e*S	Sn	10 32 58.3	-16
BOK				IAML		10 33 19.6	
comp=N,52nm,0.7s							
SHL	**Shillong**	**13.70**	**356**	Pn	Pn	10 30 41.0	-5.0
SHL	**Shillong**	**13.70**	**356**	*e*P	**Pn**	**10 30 45.1**	**-0.9**
SHL				IAmb	IAmb	10 30 49.3	
comp=Z,29nm,0.8s							
SHL				*e*S	Sn	10 33 04.5	-12
SHL				*e*S	S	10 33 06.3	-30
KOHI	**KOHIMA**	**13.87**	**5**	*e*P	**Pn**	**10 30 45.2**	**-3.0**
KOHI				*e*S	Sn	10 33 04.2	-17
GUWA	**GUWAHATI**	**14.34**	**356**	*e*P	**Pn**	**10 30 52.4**	**-1.8**
GUWA				*e*S	Sn	10 33 19.2	-13
HYB	**Hyderabad**	**14.90**	**294**	*e*P	**Pn**	**10 31 01.5**	**-0.1**
HYB				*e*		10 33 32.3	
HYB				*e*S	**Sn**	**10 33 45.0**	**-0.7**
KOD	**Kodaikanal**	**15.18**	**266**	*e*P	**Pn**	**10 31 08.2**	**+2.7**
KOD				*e*S	Sn	10 33 36.7	-16
ITAN	**ITANAGAR**	**15.26**	**3**	IAmb	IAmb	10 31 14.4	
comp=Z,54nm,1.0s							
ZIRO	**ZIRO**	**15.65**	**3**	*e*P	**Pn**	**10 31 11.0**	**-0.4**
ZIRO				IAmb	IAmb	10 31 11.7	
comp=Z,64nm,0.8s							
ZIRO				*ex*	x	10 33 53.7	
NGP	**Nagpur**	**16.14**	**307**	*e*P	**Pn**	**10 31 17.7**	**+0.2**
NGP				*ex*	x	10 34 03.4	
KMI	**Kunming**	**16.21**	**34**	P	**P**	**10 31 21.3**	**+0.7**
KMI				pmax	pmax		
comp=Z,12nm,1.1s							
LSA	**Lhasa**	**17.86**	**355**		**Pn**	**10 31 37.8**	**-1.3**
QIZ	**Qiongzhong**	**17.88**	**64**	P	**Pn**	**10 31 39.8**	**+0.8**
QIZ				S	**S**	**10 34 59.3**	**-1.4**
QIZ				pmax	pmax		
comp=Z,150nm,6.5s							
QIZ				LR	LR		
comp=Z,180nm,18.7s							
QIZ				LR	LR		
comp=Z,150nm,15.8s							
QIZ				LR	LR		
comp=Z,130nm,15.4s							
BHPL	**Bhopal**	**18.56**	**310**	*e*P	**Pn**	**10 31 48.4**	**+1.2**
BHPL				IAmb	IAmb	10 32 02.7	
comp=Z,11nm,0.7s							
BHPL				*e*S	Sn	10 34 57.0	-17
GUNA	**GUNA**	**19.46**	**313**	*e*S	S	10 35 16.9	-16
KSM	**Kuching**	**20.15**	**119**	P	**P**	**10 32 04.0**	**+0.2**
SBUM	**Sibu**	**21.34**	**114**	P	**P**	**10 32 16.9**	**+0.3**
CD2	**Chengdu**	**21.51**	**26**	P	**P**	**10 32 18.8**	**+0.4**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
ENH	**Enshi**	**23.99**	**38**	P	**P**	**10 32 42.6**	**-0.8**
ENH				IAmb	IAmb	10 32 44.0	
comp=Z,32nm,1.0s							
GOMU	**GeErMu**	**24.33**	**4**	P	**P**	**10 32 47.8**	**+0.9**
GOMU				pP	pP	10 33 01.1	-0.8
GOMU				sP	sP	10 33 07.8	-1.4
LZH	**Lanzhou**	**26.12**	**21**	*e*P	**P**	**10 33 05.3**	**+2.4**
LZH				pP	pP	10 33 20.5	+2.7
LZH				sP	sP	10 33 29.5	+4.4
LZH				pmax	pmax		
comp=Z,14nm,1.0s							
XAN	**Xi'an**	**26.54**	**31**	⇑P	**P**	**10 33 05.8**	**-0.7**
XAN				pmax	pmax		
comp=Z,12nm,0.8s							
H08S3	**Diego Garcia H**	**27.99**	**227**	T	T	11 02 07.9	
baz=46,slow=76,SNR=22							
H08S2	**Diego Garcia H**	**28.00**	**227**	T	T	11 02 06.7	
baz=46,slow=76,SNR=22							
H08S1	**Diego Garcia H**	**28.01**	**227**	T	T	11 02 04.5	
baz=46,slow=76,SNR=20							
LYN	**LuoYang**	**28.82**	**35**	*e*P	**P**	**10 33 27.3**	**+0.4**
LYN				pmax	pmax		
comp=Z,24nm,0.5s							
NJ2	**Nanjing**	**31.27**	**46**	*e*P	**P**	**10 33 50.8**	**+2.2**
NJ2				pmax	pmax		
comp=Z,12nm,0.7s							
KSH	**Kashi**	**31.38**	**334**	P	**P**	**10 33 48.9**	**-0.6**
KSH				pmax	pmax		
comp=Z,6.0nm,0.9s							
KAPI	**Kappang**	**31.56**	**121**	LR	LR	10 46 04.4	
comp=Z,38nm,21.6s,baz=276,slow=35							
HNS	**HongShan**	**32.14**	**34**	⇑P	**P**	**10 33 56.6**	**+0.5**
HNS				pP	**pP**	**10 34 09.5**	**-1.8**
HNS				pmax	pmax		
comp=Z,22nm,0.8s							
WMQ	**Urumqi**	**32.19**	**353**	*e*P	**P**	**10 33 58.8**	**+2.2**
LUWI	**Luwuk**	**32.36**	**111**	P	**P**	**10 33 57.8**	**-0.5**
LUWI				IAmb	IAmb	10 34 37.6	
comp=Z,23nm,0.8s							
BTO	**Baotou**	**32.42**	**25**	*e*P	**P**	**10 33 57.8**	**-0.8**
BTO				pP	**pP**	**10 34 12.3**	**-1.5**
BTO				S	**S**	**10 39 07.4**	**-1.5**
BTO				pmax	pmax		
comp=Z,19nm,0.6s							
BTO				pmax	pmax		
comp=Z,170nm,4.6s							
BTO				LR	LR		
comp=Z,240nm,6.3s							
BTO				LR	LR		
comp=Z,180nm,4.6s							
BTO				LR	LR		
comp=Z,200nm,5.1s							
TARG	**Taragay, Kyrgy**	**32.57**	**339**	P	**P**	**10 34 00.0**	**-0.3**
KDJ	**Kajisay**	**33.14**	**338**	P	**P**	**10 34 06.6**	**+1.5**
DRK	**Karamyk**	**33.27**	**330**	P	**P**	**10 34 08.3**	**+2.0**
DRK				IAmb	IAmb	10 34 23.4	
comp=Z,9.8nm,0.7s							
HHC	**Hu-ho-hao-te**	**33.27**	**26**	*e*P	**P**	**10 34 07.8**	**+1.7**
HHC				pmax	pmax		
comp=Z,10.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,80nm,4.7s							
SHLS	**Shalkode**	**33.30**	**342**	*e*P	**P**	**10 34 06.0**	**-0.5**
UZB	**Uzynbulak**	**33.43**	**341**	*e*P	**P**	**10 34 08.4**	**+0.9**
SATY	**Saty**	**33.55**	**341**	*e*P	**P**	**10 34 09.2**	**+0.7**
GAR	**Garm**	**33.67**	**327**	P	**P**	**10 34 10.3**	**+0.7**
GAR				IAmb	IAmb	10 34 25.9	
comp=Z,20nm,1.1s							
BOOM	**Boomskoye usch**	**33.91**	**337**	P	**P**	**10 34 11.5**	**-0.3**
TNSS	**Tian-Shan**	**34.02**	**339**	*e*P	**P**	**10 34 13.3**	**+0.3**
SIMJ	**Simiganj**	**34.12**	**326**	P	**P**	**10 34 14.3**	**+0.7**
SIMJ	**Simiganj**	**34.12**	**326**	P	**P**	**10 34 14.0**	**+0.4**
SIMJ				pP	**pP**	**10 34 28.3**	**-0.5**
SIMJ				sP	**sP**	**10 34 36.2**	**+0.1**
ARSB	**Arslanbob**	**34.16**	**333**	P	**P**	**10 34 15.4**	**+1.5**
ARSB				IAmb	IAmb	10 34 31.5	
comp=Z,10nm,0.9s							
BTK	**Batken**	**34.20**	**329**	P	**P**	**10 34 16.2**	**+2.1**
BTK				IAmb	IAmb	10 34 33.4	
comp=Z,9.6nm,0.8s							
AAK	**Ala-Archa**	**34.60**	**336**	P	**P**	**10 34 18.2**	**+0.6**
AAK	**Ala-Archa**	**34.60**	**336**	LR	LR	10 50 08.2	
comp=Z,74nm,18.3s,baz=148,slow=39							
AAK	**Ala-Archa**	**34.60**	**336**	P	**P**	**10 34 19.6**	**+1.9**
BJI	**Beijing**	**34.85**	**32**	P	**P**	**10 34 20.3**	**+0.7**
BJI				pmax	pmax		
comp=Z,3.0nm,0.9s							
MK31	**Makanchi Array**	**35.98**	**348**	P	**P**	**10 34 29.9**	**+0.6**
MKAR	**Makanchi Array**	**35.98**	**348**	P	**P**	**10 34 29.9**	**+0.6**
comp=Z,1.1nm,0.3s,baz=171,slow=9.1,SNR=22							
MKAR				LR	LR	10 52 02.7	
comp=Z,45nm,20.0s,baz=156,slow=41							
comp=Z,1.1nm,0.3s							
MAKZ	**Makanchi**	**36.06**	**347**	P	**P**	**10 34 30.9**	**+0.9**
MAKZ	**Makanchi**	**36.06**	**347**	P	**P**	**10 34 30.4**	**+0.4**
MAKZ				pP	**pP**	**10 34 45.5**	**+0.2**
ZSN	**Zaisan**	**36.14**	**351**	*e*P	**P**	**10 34 30.9**	**+0.3**
DZA	**Taraz**	**36.15**	**333**	*e*P	**P**	**10 34 31.5**	**+0.7**
comp=Z,5.1nm,0.4s							
IUG	**Iuzhnay**	**36.17**	**331**	*e*P	**P**	**10 34 31.9**	**+0.8**
comp=Z,5.4nm,0.4s							
JOW	**Kunigami**	**36.46**	**61**	P	**P**	**10 34 34.0**	**+0.3**
comp=Z,4.8nm,0.3s,baz=166,slow=8.0,SNR=1.6							
comp=Z,4.8nm,0.3s							
KK31	**Karatay Array**	**36.69**	**332**	P	**P**	**10 34 36.2**	**+0.8**
KKAR	**Karatay Array**	**36.69**	**332**	P	**P**	**10 34 36.2**	**+0.8**
BTLS	**Baital**	**36.80**	**338**	*e*P	**P**	**10 34 36.1**	**-0.2**
BRLS	**Borolday**	**36.94**	**332**	*e*P	**P**	**10 34 37.6**	**+0.1**
SONM	**Songino Array**	**37.65**	**15**	P	**P**	**10 34 44.6**	**+1.0**
SONM	**Songino Array**	**37.65**	**15**	P	**P**	**10 34 44.6**	**+1.0**
comp=Z,1.0nm,0.4s,baz=201,slow=8.5,SNR=9.4							
SONM				PcP	**PcP**	**10 36 59.3**	**-0.7**
comp=Z,1.1nm,0.5s,baz=215,slow=3.7,SNR=5.5							
SONM				LR	LR	10 52 07.3	
comp=Z,72nm,21.9s,baz=230,slow=39							
comp=Z,1.0nm,0.4s							
XLT	**XiLinHaoTe**	**37.72**	**28**	*e*P	**P**	**10 34 47.9**	**+3.7**
XLT				pP	pP	10 35 03.6	+4.0
XLT				sP	sP	10 35 12.9	+6.1
XLT				pmax	pmax		
comp=Z,3.0nm,0.6s							
XLT				pmax	pmax		
comp=Z,95nm,4.3s							
KSAR	**Wonju Array Be**	**40.42**	**45**	P	**P**	**10 35 07.0**	**+0.3**
KURBB	**Kurchatov Arra**	**40.43**	**346**	P	**P**	**10 35 07.2**	**+0.6**
comp=Z,1.4nm,0.8s,baz=162,slow=7.8,SNR=13							
KURBB				LR	LR	10 54 37.0	
comp=Z,40nm,19.6s,baz=178,slow=40							
comp=Z,1.4nm,0.8s							
KS19	**Wonju Array Si**	**40.44**	**45**	P	**P**	**10 35 06.8**	**-0.2**
KSRS	**Korea Array**	**40.46**	**45**	P	**P**	**10 35 06.7**	**-0.3**
comp=Z,4.5nm,0.6s,baz=238,slow=8.1,SNR=22							
KSRS				LR	LR	10 51 57.8	
comp=Z,30nm,21.5s,baz=250,slow=36							
comp=Z,4.5nm,0.6s							
KURK	**Kurchatov**	**40.49**	**346**	P	**P**	**10 35 07.7**	**+0.6**
JNU	**Nakatsue**	**40.72**	**52**	P	**P**	**10 35 09.3**	**0.0**
comp=Z,7.1nm,0.9s,baz=155,slow=4.4,SNR=2.7							
comp=Z,7.1nm,0.9s							
BRZS	**Berezniki**	**41.52**	**340**	*e*P	**P**	**10 35 16.2**	**+0.7**
PSA00	**Pilbara Seismi**	**42.48**	**141**	P	**P**	**10 35 23.0**	**-0.8**
ZAA0	**Zalesovo Array**	**42.50**	**353**	P	**P**	**10 35 23.4**	**-0.1**
ZALV	**Zalesovo Beam**	**42.50**	**353**	P	**P**	**10 35 23.5**	**0.0**
ZALV	**Zalesovo Beam**	**42.50**	**353**	P	**P**	**10 35 23.8**	**+0.2**
comp=Z,1.2nm,0.3s,baz=173,slow=8.8,SNR=9.3							
ZALV				LR	LR	10 58 03.1	
comp=Z,27nm,20.2s,baz=282,slow=43							
comp=Z,1.2nm,0.3s							
SAUI	**Saumlaki**	**43.01**	**115**	P	**P**	**10 35 29.2**	**+1.0**
JMN	**Monobe**	**43.28**	**53**	P	**P**	**10 35 31.5**	**+1.3**
JMN				IAmb	IAmb	10 35 32.6	
comp=Z,20nm,0.9s							
BNX	**BinXian**	**44.77**	**34**	⇓P	**P**	**10 35 41.6**	**-0.3**
BNX				pmax	pmax		
comp=Z,12nm,0.9s							
BVAR	**Borovoye Array**	**44.86**	**341**	P	**P**	**10 35 43.0**	**+0.4**
comp=Z,1.1nm,0.5s,baz=140,slow=7.7,SNR=8.6							
comp=Z,1.1nm,0.5s							
RAYN	**Ar Rayn**	**46.39**	**291**	P	**P**	**10 35 55.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**46.56**	**39**	P	**P**	**10 35 56.1**	**+0.1**
comp=Z,3.6nm,0.7s,baz=252,slow=6.1,SNR=14							
comp=Z,3.6nm,0.7s							
MJB9	**Matsu-Tunnel**	**47.57**	**51**	P	**P**	**10 36 04.9**	**+0.8**
MJB9				IAmb	IAmb	10 36 06.4	
comp=Z,32nm,1.9s							
MAJO	**Matsushiro**	**47.57**	**51**	P	**P**	**10 36 04.7**	**+0.6**
MAJO				PcP	**PcP**	**10 37 33.7**	**+0.5**
MJAR	**Matsushiro Arr**	**47.57**	**51**	P	**P**	**10 36 04.8**	**+0.7**
comp=Z,3.8nm,0.9s,baz=248,slow=7.0,SNR=6.9							
MJAR				PcP	**PcP**	**10 37 32.8**	**-0.5**
comp=Z,3.9nm,0.7s,baz=242,slow=2.8,SNR=10							
MJAR				LR	LR	10 56 10.1	
comp=Z,23nm,18.6s,baz=230,slow=36							
comp=Z,3.8nm,0.9s							
KLR	**Kul'dur**	**49.22**	**33**	LR	LR	10 58 55.6	
comp=Z,32nm,18.0s,baz=224,slow=38							
JMM	**Marumori**	**49.95**	**50**	P	**P**	**10 36 21.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**50.23**	**153**	P	**P**	**10 36 23.3**	**-1.0**
NWAO				pP	**pP**	**10 36 38.4**	**-1.7**
NWAO				PcP	**PcP**	**10 37 46.0**	**+3.2**
GUMO	**Guam**	**50.70**	**82**	LR	LR	10 58 44.5	
comp=Z,19nm,18.4s,baz=92,slow=37							
GNI	**Garni**	**50.81**	**313**	LR	LR	11 00 36.8	
comp=Z,24nm,18.0s,baz=104,slow=39							
WB0	**Warramunga Arr**	**51.57**	**127**	P	**P**	**10 36 33.7**	**-1.0**
WB0				IAmb	IAmb	10 36 34.1	
comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**51.62**	**127**	P	**P**	**10 36 34.4**	**-0.7**
WRA	**Warramunga Arr**	**51.62**	**127**	P	**P**	**10 36 33.7**	**-1.4**
comp=Z,6.9nm,0.7s,baz=304,slow=8.6,SNR=54							
WRA				PcP	**PcP**	**10 37 47.1**	**-1.1**
comp=Z,1.4nm,0.5s,baz=316,slow=3.0,SNR=9.2							
WRA				ScP	**ScP**	**10 41 37.5**	**-2.3**
comp=Z,0.6nm,0.8s,baz=312,slow=4.2,SNR=2.7							
WRA				LR	LR	11 00 10.9	
comp=Z,40nm,18.9s,baz=7.5,slow=38							
comp=Z,6.9nm,0.7s							
WRAB	**Tennant Creek**	**51.62**	**127**	P	**P**	**10 36 33.8**	**-1.4**
WRAB				IAmb	IAmb	10 36 34.7	
comp=Z,11nm,0.7s							
WB2	**Warramunga Arr**	**51.63**	**127**	P	**P**	**10 36 33.9**	**-1.2**
WB2				IAmb	IAmb	10 36 34.6	
comp=Z,10nm,0.7s							
WR0	**Warramunga Arr**	**51.79**	**127**	P	**P**	**10 36 35.1**	**-1.3**
WR0				IAmb	IAmb	10 36 35.9	
comp=Z,16nm,1.1s							
ARTI	**Arti**	**51.82**	**336**	LR	LR	11 00 31.0	
comp=Z,99nm,18.1s,baz=142,slow=38							
KBZ	**Khabaz**	**53.35**	**316**	P	**P**	**10 36 47.9**	**+0.4**
comp=Z,0.7nm,0.5s,baz=18,slow=21,SNR=2.3							
comp=Z,0.7nm,0.5s							
ASAJ	**Asahikawa**	**53.36**	**43**	P	**P**	**10 36 48.1**	**+0.5**
comp=Z,11nm,0.8s,baz=38,slow=26,SNR=2.4							
comp=Z,11nm,0.8s							
ASAR	**

ARCES LR LR 11 11 53.9
comp=Z,57nm,21.0s,baz=242,slow=37
comp=Z,2.2nm,0.7s
GERES GERESS Array B 74.06 318 P **P 10 39 04.5 +0.5**
comp=Z,0.7nm,0.5s,baz=102,slow=4.6,SNR=5.8
comp=Z,0.7nm,0.5s
HFS Hagfors 74.42 329 P **P 10 39 05.8 +0.1**
comp=Z,2.0nm,0.4s,baz=108,slow=4.8,SNR=16
HFS LR LR 11 17 19.4
comp=Z,34nm,21.7s,baz=272,slow=40
comp=Z,2.0nm,0.4s
LBTB Lobatse 75.05 240 LR LR 11 06 55.9
comp=Z,35nm,19.5s,baz=124,slow=32
SHEM Shemya Is, Ala 75.40 38 P **P 10 39 11.3 -0.2**
comp=Z,32nm,0.8s,baz=304,slow=4.7,SNR=4.5
NB2 NORSAR Subarra 75.69 330 P **P 10 39 12.2 -0.8**
comp=Z,1.4nm,0.7s,baz=93,slow=5.6
NOA NORSAR Array B 75.69 330 P **P 10 39 12.3 -0.8**
comp=Z,0.7nm,0.6s,baz=39,slow=22,SNR=2.3
NOA LR LR 11 14 12.3
comp=Z,34nm,20.2s,baz=275,slow=37
comp=Z,0.7nm,0.6s
SPITS Spitsbergen Ar 75.73 348 P **P 10 39 13.4 +0.4**
comp=Z,32nm,1.1s,baz=113,slow=5.5,SNR=5.0
BOSA Boshof 76.63 237 P **P 10 39 18.9 -0.3**
comp=Z,0.8nm,0.6s,baz=78,slow=7.9,SNR=1.3
comp=Z,0.8nm,0.6s
SUR Sutherland 81.55 234 LR LR 11 13 52.3
comp=Z,37nm,18.2s,baz=175,slow=34
C16K Lisburne Hills 83.43 22 P **P 10 39 54.9 0.0**
EKA Eskdalemuir Ar 83.77 325 P **P 10 39 56.5 -0.3**
comp=Z,1.7nm,0.6s,baz=90,slow=4.8,SNR=7.4
comp=Z,1.7nm,0.6s
ANM Nome 84.42 25 P **P 10 40 00.8 +0.8**
C18K Utukok River 84.79 21 P **P 10 40 02.5 +0.7**
C18K IAmb IAmb 10 40 03.3
comp=Z,10nm,1.1s
E18K Tukpahlearik C 85.41 22 **P 10 40 05.8 +0.9**
F17K Baldwin Pennin 85.49 23 **P 10 40 06.4 +1.1**
D19K Kuna River 85.90 20 P **P 10 40 08.1 +0.7**
D19K IAmb IAmb 10 41 35.7
comp=Z,15nm,1.2s
H17K Granite Mounta 86.53 24 **P 10 40 11.2 +0.7**
E19K Redstone River 86.61 21 **P 10 40 11.2 +0.4**
F19K Shaleruckik Mo 86.65 22 P **P 10 40 11.6 +0.5**
B22K Teshekpuk Lake 86.66 18 **P 10 40 11.1 +0.1**
B22K IAmb IAmb 10 40 12.2
comp=Z,8.2nm,0.7s
J16K Anvik River 86.82 26 **P 10 40 12.7 +0.8**
H18K Honhosa River 87.06 24 P **P 10 40 13.6 +0.5**
D22K Ayikyak River 87.55 19 P **P 10 40 15.8 +0.4**
D22K IAmb IAmb 10 40 17.0
comp=Z,6.9nm,0.8s
ESDC Sonseca Array 87.71 310 P **P 10 40 17.0 +0.2**
comp=Z,0.8nm,0.7s,baz=78,slow=4.9,SNR=4.5
comp=Z,0.8nm,0.7s
C23K Itkillik River 87.75 18 P **P 10 40 16.8 +0.5**
C23K IAmb IAmb 10 40 17.8
comp=Z,6.6nm,0.8s
F21K Alatna River 88.03 21 P **P 10 40 18.1 +0.4**
D23K Nanushuk River 88.15 19 P **P 10 40 19.0 +0.8**
D23K IAmb IAmb 10 40 20.0
comp=Z,11nm,1.0s
TOLK Toolik Lake Re 88.66 19 **P 10 40 21.3 +0.5**
TOLK IAmb IAmb 10 40 22.2
comp=Z,5.2nm,0.8s
E23K Chandalar 88.94 19 IAmb IAmb 10 42 17.8
comp=Z,7.0nm,0.8s
H21K Melozitna Rive 88.97 22 P **P 10 40 23.3 +1.1**
J20K Nowinta River 89.12 24 **P 10 40 24.1 +1.2**
J20K IAmb IAmb 10 40 25.8
comp=Z,12nm,1.4s
I21K Tanana 89.50 22 P **P 10 40 26.0 +1.4**
MDT Midelt 89.83 303 LR LR 11 28 15.4
comp=Z,19nm,18.6s,baz=22,slow=40
C27K Jago River 89.90 17 IAmb IAmb 10 43 38.5
comp=Z,5.0nm,0.6s
CAST Castle Rocks 90.28 24 IAmb IAmb 10 40 30.1
comp=Z,9.3nm,0.8s
F25K Christian Rive 90.47 19 IAmb IAmb 10 40 31.3
comp=Z,4.7nm,0.7s
H24K Noodor Dome 90.66 21 IAmb IAmb 10 42 30.1
comp=Z,3.8nm,0.8s
NEA2 Nenana 90.87 22 IAmb IAmb 10 40 32.7
comp=Z,3.1nm,0.8s
BMAR Burnt Mountain 90.90 19 P **P 10 40 32.5 +1.3**
SKT Skwentna 91.17 25 **P 10 40 32.8 +0.3**
IL31 91.58 22 **P 10 40 33.6 -0.6**
ILAR Eielson Array 91.58 22 P **P 10 40 33.4 -0.9**
comp=Z,1.8nm,0.7s,baz=299,slow=4.4,SNR=24
ILAR LR LR 11 24 33.8
comp=Z,37nm,18.0s,baz=253,slow=37
comp=Z,1.8nm,0.7s
PRP Porcupine Dome 91.66 21 **P 10 40 35.5 +0.6**
PRP IAmb IAmb 10 40 36.4
comp=Z,6.4nm,0.8s
E28M Babbage River 91.71 17 IAmb IAmb 10 40 38.7
comp=Z,11nm,1.6s
G27K Doyon Strip 92.19 19 IAmb IAmb 10 44 01.1
comp=Z,13nm,1.9s
E29M Blow River 92.32 17 IAmb IAmb 10 40 41.1
comp=Z,10nm,1.6s
A36M Sachs Harbour 92.65 11 IAmb IAmb 10 40 40.7
comp=Z,7.2nm,0.9s
J26L Joseph Creek 92.92 21 IAmb IAmb 10 40 41.8
comp=Z,7.3nm,1.0s
SCRK Sand Creek 93.07 22 IAmb IAmb 10 40 42.5
comp=Z,4.5nm,0.6s
INK Inuvik 93.56 16 P **P 10 40 43.4 0.0**
INK IAmb IAmb 10 44 25.2
comp=Z,14nm,1.9s
INK Inuvik 93.56 16 P **P 10 40 43.1 -0.3**
comp=Z,1.2nm,0.5s,baz=338,slow=5.1,SNR=15
comp=Z,1.2nm,0.5s
I28M Miner Creek 93.58 19 IAmb IAmb 10 40 44.7
comp=Z,3.1nm,0.8s
L26K Log Cabin Wild 93.85 22 IAmb IAmb 10 40 48.8
comp=Z,4.9nm,1.0s
DAWY Dawson 94.63 20 IAmb IAmb 10 40 49.6
comp=Z,3.9nm,1.0s
I30M Mount Dempster 94.87 19 IAmb IAmb 10 40 50.6
comp=Z,3.3nm,0.7s
H31M Peel River 95.09 18 IAmb IAmb 10 41 46.9
comp=Z,10nm,1.4s
SFJD Kangerlussuaq 97.00 346 LR LR 11 34 19.2
comp=Z,49nm,18.1s,baz=38,slow=41
YKA Yellowknife Ar 102.89 13 P **Pdif 10 41 25.3 -0.2**
comp=Z,0.1nm,0.7s,baz=337,slow=5.0,SNR=4.1
PLID Pearl Lake 117.63 23 **PKiKP 10 46 14.3 +0.2**
PDAR Pinedale Array 121.92 19 PKP **PKPdf 10 46 22.0 -0.4**
comp=Z,0.7nm,0.6s,baz=329,slow=1.7,SNR=10
NVAR Mina Array Bea 122.14 29 PKP **PKPdf 10 46 22.4 -0.5**
comp=Z,1.1nm,0.5s,baz=331,slow=1.6,SNR=4.4
R11B Troy Canyon, C 123.45 27 **PKiKP 10 46 26.1 +0.5**
TXAR Lajitas Array 136.09 21 PKP **PKPdf 10 46 48.8 -0.7**
comp=Z,0.5nm,0.4s,baz=235,slow=0.1,SNR=17
PLCA Paso Flores 147.71 204 PKPbc **PKPdf 10 47 10.9 +1.2**
comp=Z,3.5nm,0.8s,baz=171,slow=3.5,SNR=9.1

*OSUNB **20** 10:32:35.0±0.2, 5°.05S×39°.52W, h0km, mR2.8/6, Error ellipse: s-maj=1.9km s-min=1.7km az=0.0*
*VAO **20** 10:32:37.9, 5°.18S×39°.42W, h0km±3km, mbR2.9*
ISC 20 10:32:35.4±2.2, 5°.05S±0°.07×39°.49W±0°.05, h3km±17km, n14, σ1§41/25, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBPB	**Pedra_Branca-C**	**0.49**	**191**	P	**Pg**	**10 32 44.8**	**-0.1**
NBPB				S	**Sg**	**10 32 50.3**	**-1.0**
NBPB	**Pedra_Branca-C**	**0.49**	**191**	*e*P	**Pg**	**10 32 44.8**	**-0.1**
NBPB				*e*S	**Sg**	**10 32 50.9**	**-0.5**
NBCL	**Cascavel-CE**	**1.45**	**56**	P	**Pn**	**10 33 02.7**	**+0.2**
NBCL				S	**Sn**	**10 33 20.8**	**-1.3**
SBBR	**Sobral**	**1.51**	**329**	P	**Pn**	**10 33 04.5**	**+1.0**
SBBR				S	**Sn**	**10 33 22.8**	**-0.9**
NBMO	**Morrinhos-CE**	**1.82**	**342**	P	**Pn**	**10 33 08.8**	**+1.2**
NBMO				S	**Sn**	**10 33 31.2**	**0.0**
NBPS	**Pedro II - PI**	**2.06**	**289**	P	**Pn**	**10 33 11.3**	**+0.3**
NBPS				S	**Sb**	**10 33 39.3**	**-0.1**
NBPA	**Parau_RN**	**2.47**	**106**	P	**Pn**	**10 33 16.5**	**-0.1**
NBPA				S	**Sb**	**10 33 51.1**	**-0.2**
RCBR	**Riachuelo**	**3.66**	**102**	P	**Pn**	**10 33 32.8**	**-0.1**
RCBR				S	**Sn**	**10 34 15.5**	**-1.1**
RCBR	**Riachuelo**	**3.66**	**102**	*e*P	**Pn**	**10 33 33.3**	**+0.3**
RCBR				*e*S	**Sn**	**10 34 16.6**	**0.0**
NBPV	**Pedro Velho**	**4.39**	**108**	P	**Pn**	**10 33 42.8**	**-0.3**
NBPV				S	**Sn**	**10 34 36.5**	**+1.7**
NBCA	**Caruaru-PE**	**4.68**	**133**	*e*P	**Pn**	**10 33 47.5**	**+0.5**
ROSB	**Rosrio**	**5.09**	**295**	P	**Pn**	**10 33 51.4**	**-1.3**
ROSB				S	**Sn**	**10 34 48.2**	**-3.9**
TMAB	**Tom-Au,PA,Br**	**8.99**	**287**	*e*P	**Pn**	**10 34 49.5**	**+3.3**
SDBA	**SAO DESIDERIO**	**9.05**	**216**	*e*P	**Pn**	**10 34 48.7**	**+1.5**

*SJA **20** 11:16:36.7±0.6, 23°.33S×67°.86W, h153km±15km, ML3.6, MW3.7*
*GUC **20** 11:16:37.6±0.7, 23°.32S×67°.92W, h154km±4km, ML3.7*
*NEIC **20** 11:16:37.7±2.0, 23°.36S±0°.06×67°.8W±0°.1, h142km±5km, mb4.4/12, Error ellipse: s-maj=13.9km s-min=8.3km az=100.0*
*VAO **20** 11:16:37.2±1.0, 23°.20S×67°.85W, h128km, mb4.2*
*IDC **20** 11:16:38.5±2.8, 23°.25S×67°.56W, h136km±26km, mb3.8/5, mbtmp4.1/9, Error ellipse: s-maj=33.0km s-min=20.4km az=116.0*
ISC 20 11:16:37.3±0.6, 23°.35S±0°.03×67°.85W±0°.04, h138km±6km, n93, σ1§59/119, mb4.3/8, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.50**	**323**	Pn	**Pn**	**11 16 58.4**	**+0.7**
AF01				Sn	**Sn**	**11 17 14.6**	**+1.5**
AF01	**San Pedro de A**	**0.50**	**323**	*e*P	**Pn**	**11 16 58.5**	**+0.7**
AF01				*i* S	**Sn**	**11 17 14.7**	**+1.5**
AF01				IAML		11 17 16.1	
comp=N,2μm,0.2s							
AF01	**San Pedro de A**	**0.50**	**323**	*e*P	**Pn**	**11 16 54.9**	**-2.9**
AF01				*e*S	**Sn**	**11 17 18.8**	**+5.7**
AF01				IAML		11 17 33.5	
comp=Z,1μm,0.9s							
SALTA		**1.64**	**122**	*e*P	**Pn**	**11 17 04.2**	**-3.9**
SALTA				*e*P		11 17 09.4	
PB06	**IPOC Station P**	**1.71**	**292**	*e*P	**Pn**	**11 17 09.4**	**+0.8**
PB06				*i* S	**Sn**	**11 17 32.7**	**+0.3**
PB06	**IPOC Station P**	**1.71**	**292**	*e*P	**Pn**	**11 17 09.4**	**+0.8**
PB06				IAML		11 17 35.0	
comp=Z,768nm,0.2s							
PB09	**IPOC Station P**	**2.01**	**320**		**Pn**	**11 17 13.1**	**+1.0**
PB09				Sn	**Sn**	**11 17 39.0**	**+0.3**
PB09	**IPOC Station P**	**2.01**	**320**	*e*P	**Pn**	**11 17 13.1**	**+1.0**
PB09				*i* S	**Sn**	**11 17 39.2**	**+0.5**
PB09				IAML		11 17 43.6	
comp=N,275nm,0.2s							
PB09	**IPOC Station P**	**2.01**	**320**	*e*P	**Pn**	**11 17 13.4**	**+1.3**
PB09				IAML		11 17 46.8	
comp=Z,259nm,0.6s							
PB03	**IPOC Station P**	**2.18**	**306**	*e*P	**Pn**	**11 17 14.6**	**+0.5**
PB03				*i* S	**Sn**	**11 17 42.0**	**-0.4**
PB03				IAML		11 17 47.9	
comp=E,579nm,0.4s							
PB03	**IPOC Station P**	**2.18**	**306**	*e*P	**Pn**	**11 17 14.7**	**+0.5**
PB03				IAML		11 17 46.4	
comp=Z,742nm,0.2s							
PB05	**IPOC Station P**	**2.22**	**282**		**Pn**	**11 17 14.7**	**+0.1**
PB05				Sn	**Sn**	**11 17 42.6**	**-0.6**
PB05	**IPOC Station P**	**2.22**	**282**	*e*P	**Pn**	**11 17 14.6**	**+0.1**
PB05				*i* S	**Sn**	**11 17 43.0**	**-0.1**
PB05				IAML		11 17 49.4	
comp=E,286nm,0.4s							
PB05	**IPOC Station P**	**2.22**	**282**	*e*P	**Pn**	**11 17 14.7**	**+0.1**
PB05				IAML		11 17 54.3	
comp=Z,169nm,0.8s							
GO02	**Mina Guanaco**	**2.40**	**221**		**Pn**	**11 17 18.1**	**+1.1**
GO02				Sn	**Sn**	**11 17 48.6**	**+1.2**
GO02	**Mina Guanaco**	**2.40**	**221**	*e*P	**Pn**	**11 17 18.1**	**+1.1**
GO02				*i* S	**Sn**	**11 17 48.6**	**+1.2**
GO02	**Mina Guanaco**	**2.40**	**221**	*e*P	**Pn**	**11 17 18.1**	**+1.1**
YJA	**Yavi**	**2.46**	**62**	*e*P	**Pn**	**11 17 19.1**	**+1.3**
YJA				*e*S	**Sn**	**11 17 45.1**	**-3.7**
PB10	**IPOC Station P**	**2.49**	**266**		**Pn**	**11 17 18.4**	**+0.7**
PB10				Sn	**Sn**	**11 17 48.1**	**-0.7**
PB10	**IPOC Station P**	**2.49**	**266**	*e*P	**Pn**	**11 17 18.1**	**+0.3**
PB10				*i* S	**Sn**	**11 17 48.4**	**-0.5**
PB10				IAML		11 17 54.6	
comp=E,191nm,0.2s							
PB10	**IPOC Station P**	**2.49**	**266**	*e*P	**Pn**	**11 17 18.6**	**+0.9**
PB10				IAML		11 17 53.1	
comp=Z,221nm,1.0s							
SLA	**San Lorenzo**	**2.54**	**123**	*e*P	**Pn**	**11 17 21.4**	**+2.8**
PB14	**IPOC Station P**	**2.66**	**241**		**Pn**	**11 17 20.4**	**+0.2**
PB14				Sn	**Sn**	**11 17 52.9**	**-0.3**
PB14	**IPOC Station P**	**2.66**	**241**	*e*P	**Pn**	**11 17 20.4**	**+0.2**
PB14				IAML		11 17 55.4	
comp=Z,284nm,0.3s							
PB01	**IPOC Station P**	**2.75**	**326**		**Pn**	**11 17 21.4**	**+0.2**
PB01				Sn	**Sn**	**11 17 54.3**	**-0.8**
PB01	**IPOC Station P**	**2.75**	**326**	*e*P	**Pn**	**11 17 21.3**	**+0.2**
PB01				*i* S	**Sn**	**11 17 54.2**	**-0.8**
PB01				IAML		11 17 54.6	
comp=E,249nm,0.2s							
PB01	**IPOC Station P**	**2.75**	**326**	*e*P	**Pn**	**11 17 21.4**	**+0.2**
PB01				IAML		11 17 58.9	
comp=Z,172nm,0.4s							
FSA	**Cafayete**	**3.23**	**149**	*e*P	**Pn**	**11 17 30.8**	**+3.3**
PATCX	**Punta Patache**	**3.30**	**319**		**Pn**	**11 17 28.8**	**+0.6**
PATCX				Sn	**Sn**	**11 18 04.7**	**-2.8**
PATCX	**Punta Patache**	**3.30**	**319**	*e*P	**Pn**	**11 17 28.4**	**+0.1**
PATCX				*e*S	**Sn**	**11 18 04.8**	**-2.8**
PATCX				IAML		11 18 15.3	
comp=E,248nm,0.4s							
PATCX	**Punta Patache**	**3.30**	**319**	*e*P	**Pn**	**11 17 28.9**	**+0.6**
PATCX				IAML		11 18 17.5	
comp=Z,100nm,0.4s							
PB08	**IPOC Station P**	**3.42**	**339**		**Pn**	**11 17 30.9**	**+0.8**
PB08				Sn	**Sn**	**11 18 10.3**	**-0.5**
PB08	**IPOC Station P**	**3.42**	**339**	*e*P	**Pn**	**11 17 30.9**	**+0.8**
PB08				*i* S	**Sn**	**11 18 11.3**	**+0.5**
PB08				IAML		11 18 16.2	
comp=E,70nm,0.1s							
PB08	**IPOC Station P**	**3.42**	**339**	*e*P	**Pn**	**11 17 30.8**	**+0.8**
PB08				IAML		11 18 14.6	
comp=Z,41nm,0.5s							
TA01	**Diego Aracena**	**3.52**	**322**	Pn	**Pn**	**11 17 30.4**	**-0.5**
TA01				Sn	**Sn**	**11 18 11.1**	**-1.4**
TA01	**Diego Aracena**	**3.52**	**322**	*e*P	**Pn**	**11 17 30.4**	**-0.5**
TA01				IAML		11 18 16.1	
comp=Z,47nm,0.2s							
HMBC	**Humberstone**	**3.60**	**328**	Pn	**Pn**	**11 17 31.0**	**-1.2**
HMBC				Sn	**Sn**	**11 18 12.5**	**-2.0**
AC02	**Maricunga**	**3.66**	**198**		**Pn**	**11 17 34.5**	**+1.3**
AC02	**Maricunga**	**3.66**	**198**	*e*P	**Pn**	**11 17 34.5**	**+1.3**
AC02				IAML		11 18 23.4	
comp=Z,50nm,0.3s							
AC01	**Pan de Azucar**	**3.74**	**221**		**Pn**	**11 17 33.2**	**-0.7**
AC01				Sn	**Sn**	**11 18 16.4**	**-1.3**
AC01	**Pan de Azucar**	**3.74**	**221**	*e*P	**Pn**	**11 17 33.1**	**-0.7**
AC01				IAML		11 18 20.3	
comp=Z,109nm,0.2s							
PB11	**IPOC Station P**	**3.95**	**334**	Pn	**Pn**	**11 17 35.8**	**-1.0**
PB11	**IPOC Station P**	**3.95**	**334**	*e*P	**Pn**	**11 17 36.0**	**-0.8**
PB11				*e*S	**Sn**	**11 18 23.0**	**+0.1**
PB11				IAML		11 18 30.7	
comp=Z,43nm,0.4s							
AC06	**Mina Casimiro**	**4.59**	**209**		**Pn**	**11 17 43.7**	**-1.4**
PB12	**IPOC Station P**	**5.25**	**333**	Pn	**Pn**	**11 17 52.2**	**-1.9**
PB12	**IPOC Station P**	**5.25**	**333**	*e*P	**Pn**	**11 17 51.8**	**-2.2**
PB12				IAML		11 18 53.9	
comp=Z,20nm,0.8s							
AP01	**Chacalluta**	**5.47**	**334**	Pn	**Pn**	**11 17 56.6**	**-0.3**
AC04	**Llanos de Chal**	**5.64**	**210**	Pn	**Pn**	**11 17 56.2**	**-2.9**
PB18	**Visviri**	**5.93**	**345**	Pn	**Pn**	**11 18 01.4**	**-2.2**
LCO	**Las Campanas**	**6.19**	**204**		**Pn**	**11 18 04.0**	**-2.7**
CO01	**Juntas del Tor**	**6.90**	**196**	Pn	**Pn**	**11 18 14.2**	**-1.9**
LPAZ	**La Paz**	**7.03**	**358**	Pn	**Pn**	**11 18 18.8**	**+0.3**
LPAZ	**La Paz**	**7.03**	**358**	P	**Pn**	**11 18 19.0**	**+0.6**
comp=Z,1.7nm,0.3s,baz=127,slow=3.8,SNR=14							
LPAZ				S	**Sn**	**11 19 37.1**	**-0.3**
comp=Z,0.6nm,0.4s,baz=227,slow=24,SNR=1.0							
LPAZ	**La Paz**	**7.03**	**358**	*e*P	**Pn**	**11 18 15.4**	**-3.0**
GO04	**Tololo Observa**	**7.29**	**201**	Pn	**Pn**	**11 18 20.8**	**-0.6**
CFA	**Coronel Fontan**	**8.23**	**182**	S	**Sn**	**11 19 59.0**	**-6.4**
comp=Z,2.2nm,0.3s,baz=247,slow=22,SNR=6.4							
SIV	**San Ignacio**	**9.71**	**42**	P	**Pn**	**11 18 50.2**	**-3.6**
comp=Z,16nm,0.4s,baz=247,slow=9.5,SNR=40							
SIV				S	Sn	11 20 27.8	-14
comp=Z,1.0nm,0.4s,baz=254,slow=20,SNR=1.5							
BDQN	**Bodoquena, MS**	**10.70**	**76**	*e*P	**Pn**	**11 19 06.3**	**-0.7**
PTLB	**Pontes e Lacer**	**11.37**	**48**	Pn	**Pn**	**11 19 13.7**	**-2.1**
PTLB	**Pontes e Lacer**	**11.37**	**48**	*e*P	**Pn**	**11 19 13.8**	**-2.1**
VILB	**Vilhena**	**12.64**	**36**	Pn	**Pn**	**11 19 30.6**	**-1.8**
VILB	**Vilhena**	**12.64**	**36**	*e*P	**Pn**	**11 19 30.6**	**-1.8**
SALV	**Santo Antonio**	**13.64**	**59**	*e*P	**Pn**	**11 19 45.1**	**-0.1**
PTGB	**Pitanga**	**14.49**	**99**	*e*P	**Pn**	**11 19 57.2**	**+1.1**
CPSB	**Cacapava Do Su**	**14.65**	**122**	*e*P	**P**	**11 19 59.9**	**-0.6**
PDRB	**Porto dos Gac**	**15.76**	**44**	*e*P	**Pn**	**11 20 11.5**	**-0.4**
ARAG	**Araguaiana, MT**	**16.91**	**66**	*e*P	**P**	**11 20 25.7**	**0.0**
CLDB	**Colider**	**16.92**	**45**	*e*P	**Pn**	**11 20 26.0**	**+0.1**
PLCA	**Paso Flores**	**17.48**	**187**	P	**P**	**11 20 31.8**	**0.0**
PLCA	**Paso Flores**	**17.48**	**187**	P	**Pn**	**11 20 35.5**	**+2.9**
comp=Z,1.6nm,1.1s,baz=30,slow=7.9,SNR=6.6							
IPMB	**Ipameri, GO**	**19.13**	**77**	*e*P	**P**	**11 20 49.7**	**-0.3**
TBTG	**Tabatinga, AM**	**19.16**	**354**	P	**Pn**	**11 20 51.1**	**-1.4**
VAO	**Valinhos**	**19.21**	**93**	P	**P**	**11 20 50.0**	**-0.8**
VAO	**Valinhos**	**19.21**	**93**	*e*P	**P**	**11 20 50.5**	**-0.3**
LL01	**San Ignacio de**	**19.35**	**190**	P	**P**	**11 20 52.4**	**+0.4**
SNDB	**Serra Nova Dou**	**19.39**	**57**	*e*P	**P**	**11 20 51.1**	**-1.6**
TEFE	**Tefe**	**19.97**	**9**	*e*P	**P**	**11 20 57.8**	**-1.2**
NPGB	**Novo Progresso**	**20.18**	**39**	*e*P	**P**	**11 21 01.8**	**+0.5**
BDFB	**Brasilia**	**20.20**	**71**	P	**P**	**11 21 00.9**	**-0.7**
BDFB				IAmb	IAmb	11 21 01.1	
comp=Z,10nm,0.8s							
BDFB	**Brasilia**	**20.20**	**71**	P	**P**	**11 21 00.6**	**-1.0**
comp=Z,6.9nm,0.6s,baz=252,slow=12,SNR=13							
MACA	**Manacapuru-AM**	**21.24**	**20**	P	**P**	**11 21 11.3**	**-1.2**
MACA				IAmb	IAmb	11 21 14.2	
comp=Z,13nm,0.7s							
BOAV	**Boa Vista**	**26.57**	**17**	P	**P**	**11 22 02.1**	**-0.6**
BOAV				IAmb	IAmb	11 22 04.1	
comp=Z,14nm,1.5s							
QSPA	**South Pole Qui**	**66.85**	**180**	P	**P**	**11 27 16.0**	**+1.8**
QSPA	**South Pole Qui**	**66.85**	**180**	P	**P**	**11 27 16.0**	**+1.8**
comp=Z,0.7nm,0.5s,baz=2.1,slow=1.7,SNR=19							
comp=Z,0.7nm,0.5s							
DBIC	**Dimbokro**	**68.34**	**72**	P	**P**	**11 27 24.1**	**-0.1**
DBIC	**Dimbokro**	**68.34**	**72**	P	**P**	**11 27 24.0**	**-0.2**
comp=Z,2.3nm,0.6s,baz=280,slow=4.1,SNR=4.4							
comp=Z,2.3nm,0.6s							
BATG	**Bathurst New B**	**70.31**	**1**	P	**P**	**11 27 36.5**	**+0.9**
BATG				IAmb	IAmb	11 27 51.4	
comp=Z,10nm,1.3s							
TORD	**Torodi Ar. Bea**	**77.07**	**69**	P	**P**	**11 28 15.6**	**-0.2**
TORD				IAmb	IAmb	11 28 16.3	
comp=Z,3.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.07**	**69**	P	**P**	**11 28 15.4**	**-0.4**
comp=Z,2.2nm,0.5s,baz=266,slow=5.2,SNR=9.9							
comp=Z,2.2nm,0.5s							
BOSA	**Boshof**	**81.72**	**117**	P	**P**	**11 28 41.2**	**+0.2**
BOSA				IAmb	IAmb	11 28 44.9	
comp=Z,12nm,1.3s							
BOSA	**Boshof**	**81.72**	**117**	P	**P**	**11 28 41.4**	**+0.3**
comp=Z,6.5nm,1.2s,baz=48,slow=7.8,SNR=2.7							
comp=Z,6.5nm,1.2s							
YKA	**Yellowknife Ar**	**93.25**	**340**	P	**P**	**11 29 36.6**	**+0.9**
comp=Z,0.2nm,0.6s,baz=127,slow=4.6,SNR=3.8							
comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**146.51**	**38**	PKPbc	**PKPab**	**11 36 03.0**	**-0.6**
comp=Z,0.6nm,0.6s,baz=320,slow=3.1,SNR=6.7							

*SSNC **20** 11:28:27.7±5.0, 19°.59N×70°.66W, h14km±39km, MD3.1, ML2.9*
*OSPL **20** 11:28:27.8±3.1, 19°.80N×70°.93W, h0km±21km, ML2.7*
*SDD **20** 11:28:29.3±1.9, 19°.67N×70°.89W, h23km±9km, MD3.4, ML3.0, MW3.4*
ISC 20 11:28:28.5±1.0, 19°.73N±0°.03×70°.91W±0°.03, h23km±8km, n25, σ1§57/43, 12C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAO1	**Mao**	**0.24**	**223**	⇑*e*Pg	**Pb**	**11 28 33.9**	**-0.6**
MAO1				⇑*e*Sg	**Sb**	**11 28 39.6**	**+0.9**
SODR	**Sosua Marina B**	**0.31**	**86**	⇓*e*Pg	**Pb**	**11 28 35.2**	**-0.4**
SODR				⇑*e*Sg	**Sb**	**11 28 42.0**	**+1.5**
SODR				IAML		11 28 50.0	
comp=N,882nm,0.6s							
SODR				IAML		11 28 50.1	
comp=N,882nm,0.6s							
SC01	**Santiago de lo**	**0.35**	**150**	⇓*e*Pg	**Pb**	**11 28 34.8**	**-1.3**
SC01				⇑*e*Sg	**Sb**	**11 28 40.9**	**-0.4**
SC01				IAML		11 28 41.1	
comp=N,790nm,0.1s							
SC01				IAML		11 28 41.2	
comp=N,777nm,0.1s							
SC01	**Santiago de lo**	**0.35**	**150**	*i* P	**Pb**	**11 28 34.9**	**-1.2**
SC01				*e*S	**Sb**	**11 28 41.0**	**-0.3**
SC01				IAML		11 28 43.2	
comp=Z,659nm,0.3s							
MCDR	**Montecristi**	**0.72**	**283**	⇑*e*Pg	**Pn**	**11 28 43.2**	**-0.1**
MCDR				IAML		11 28 59.3	
comp=N,366nm,0.4s							
MCDR				IAML		11 28 59.4	
comp=N,366nm,0.4s							
REDR	**Restauracion**	**0.72**	**219**	⇑*e*Pg	**Pn**	**11 28 44.4**	**+1.2**
REDR				⇑*e*Sg	**Sn**	**11 28 56.8**	**+3.2**
REDR				IAML		11 28 57.4	
comp=N,755nm,0.2s							
REDR				IAML		11 28 57.4	
comp=N,755nm,0.2s							
SDDR	**Presa de Saban**	**0.83**	**206**	*e*P	**Pb**	**11 28 42.4**	**-1.8**
SDDR				*e*S	**Sb**	**11 28 53.4**	**-1.5**
SDDR				IAML		11 28 55.0	
comp=N,287nm,0.3s							
SDDR				IAML		11 28 56.6	
comp=N,239nm,0.5s							
SDDR	**Presa de Saban**	**0.83**	**206**	⇓*e*Pg	**Pb**	**11 28 42.6**	**-1.6**
SDDR				⇑*e*Sg	**Sb**	**11 28 54.3**	**-0.6**
SDDR				IAML		11 28 55.0	
comp=N,292nm,0.3s							
SDDR				IAML		11 28 55.1	
comp=N,292nm,0.3s							
SDDR	**Presa de Saban**	**0.83**	**206**	*i* P	**Pb**	**11 28 42.6**	**-1.6**
SDDR				*e*S	**Sb**	**11 28 54.3**	**-0.6**
SDDR				IAML		11 28 55.1	
comp=Z,211nm,0.3s							
ABDR	**Alto Bandera**	**0.95**	**164**	⇓*e*Pg

LOBH	**Bahia de las A**	**1.98 201**	*i* P	**Pb**	**11 29 02.9**	**-1.0**
MASC	**Masc**	**3.16 279**	*e*P	**Pn**	**11 29 15.2**	**-1.5**
MASC			*e*S	**Sb**	**11 29 59.2**	**-2.8**
MASC			*e*Sg	Sn	11 30 05.9	+12
QMBU	**Quimbuelo**	**3.70 278**	*e*P	**Pn**	**11 29 24.1**	**-0.2**
QMBU			*e*S	**Sn**	**11 30 06.8**	**-0.4**
NMDO	**Nuevo Mundo**	**3.92 283**	*e*P	Pb	11 29 45.9	+9.0
NMDO			*e*S	**Sn**	**11 30 11.6**	**-0.8**
GTBY	**Guantanamo Bay**	**3.96 274**	*e*S	**Sn**	**11 30 17.9**	**+4.4**
RCC	**Rio Carpintero**	**4.51 274**	*e*P	**Pn**	**11 29 34.1**	**-1.3**
RCC			*e*S	**Sn**	**11 30 29.7**	**+2.5**

*IDC **20** 11:33:09.3±1.0, 8°.32S×125°.26E, h0km, mb4.0/6, mbtmp3.9/9, ML3.9/3, MS2.9/1, Error ellipse: s-maj=56.1km s-min=20.0km az=70.0*
*DJA **20** 11:33:11.6±0.8, 8°.5S±4°×12°.5E±°, h10km, M4.3/7, mB5.5/1, mb4.8/2, MLv4.0/7, Mw(mB)5.0/1*
ISC 20 11:33:13.1±0.8, 8°.41S±0°.06×125°.37E±0°.08, h35km, n17, σ1°99/18, mb4.0/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.73 219**		P	**Pn**	**11 33 41.7**	**+0.9**
MMRI	**Maumere**	**3.11 266**		P	**Pn**	**11 33 58.5**	**-1.2**
MMRI				S	**Sn**	**11 34 34.5**	**-1.2**
BBSI	**Bau Bau**	**4.02 316**		P	**Pn**	**11 34 10.9**	**-1.3**
KDI	**Kendari**	**5.20 328**		P	**Pn**	**11 34 27.1**	**-1.4**
	5μm260nm,1.0s						
BSSI	**Bau Bau, Buton**	**5.34 295**		P	**Pn**	**11 34 28.2**	**-2.2**
FITZ	**Fitzroy Crossi**	**9.63 178**		Pn	**Pn**	**11 35 31.4**	**+2.0**
	0.7nm,0.3s,baz=0.3,slow=6.5,SNR=27						
FITZ				Sn	**Sn**	**11 37 15.1**	**-1.3**
	1.0nm,0.3s,baz=131,slow=18,SNR=6.2						
	2.1nm,0.3s						
WRA	**Warramunga Arr**	**14.38 144**		Pn	**Pn**	**11 36 34.6**	**+0.3**
	0.7nm,0.3s,baz=322,slow=12,SNR=22						
WRA				Sn	**Sn**	**11 39 07.7**	**-4.9**
	0.2nm,0.3s,baz=320,slow=24,SNR=1.9						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**17.23 153**		P	**P**	**11 37 13.6**	**+1.1**
	0.2nm,0.3s,baz=320,slow=11,SNR=11						
ASAR				S	**Sn**	**11 40 19.2**	**-2.7**
	0.5nm,0.7s,baz=330,slow=24,SNR=5.1						
ASAR				LR	LR	11 45 01.3	
	comp=Z,34nm,18.1s,baz=281,slow=41						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.32 316**		P	**P**	**11 40 21.8**	**-0.6**
	0.8nm,0.4s,baz=145,slow=7.0,SNR=6.8						
	0.8nm,0.4s						
MJAR	**Matsushiro Arr**	**46.31 14**		P	**P**	**11 41 36.5**	**+0.9**
	2.2nm,0.9s,baz=187,slow=9.2,SNR=3.2						
	2.2nm,0.9s						
H08S2	**Diego Garcia H**	**52.33 267**		T	T	12 38 33.3	
	baz=95,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**52.34 267**		T	T	12 38 34.2	
	baz=95,slow=76,SNR=29						
H08S1	**Diego Carcia H**	**52.35 267**		T	T	12 38 35.1	
	baz=95,slow=76,SNR=29						
MKAR	**Makanchi Array**	**66.99 329**		P	**P**	**11 44 03.6**	**+1.2**
	1.3nm,0.6s,baz=132,slow=7.9,SNR=13						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**70.90 336**		P	**P**	**11 44 27.3**	**+0.8**
	0.4nm,0.3s,baz=137,slow=6.6,SNR=4.5						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**71.39 331**		P	**P**	**11 44 30.0**	**+0.4**
	0.5nm,0.2s,baz=137,slow=5.4,SNR=5.7						
	0.5nm,0.2s						
QSPA	**South Pole Qui**	**81.58 180**		P	**P**	**11 45 29.4**	**+2.2**
	0.5nm,0.6s,baz=165,slow=18,SNR=1.2						
	0.5nm,0.6s						

*AFAD **20** 11:50:01.9, 37°.39N×29°.45E, h7km±2km, ML2.2*
*ISK **20** 11:50:02.4, 37°.43N×29°.44E, h14km, ML2.5/7*
ISC 20 11:50:02.5±0.9, 37°.42N±0°.04×29°.43E±0°.03, h15km±7km, n11, σ0°68/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.12 296**		Pg	**Pg**	**11 50 06.0**	**0.0**
APMY				Sg	**Sg**	**11 50 08.7**	**+0.3**
INCE	**Denizli-Bozkur**	**0.31 22**		P	**Pg**	**11 50 08.2**	**-0.7**
INCE				S	**Sg**	**11 50 13.5**	**0.0**
DNIZ	**Denizli-Tavas-**	**0.37 303**		P	**Pg**	**11 50 09.7**	**-0.4**
DNIZ				*i* AML	AML	11 50 16.0	
	comp=E,998nm,0.3s						
DNIZ				S	**Sb**	**11 50 16.5**	**-0.1**
DNIZ				*i* AML	AML	11 50 17.0	
	comp=N,676nm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.41 276**		P	**Pb**	**11 50 11.2**	**-0.3**
TAVA				*i* AML	AML	11 50 17.0	
	comp=N,121nm,0.7s						
TAVA				S	**Sg**	**11 50 17.2**	**+0.6**
TAVA				*i* AML	AML	11 50 21.0	
	comp=E,110nm,0.3s						
CAME	**Cameli-Denizli**	**0.49 192**		Pg	**Pb**	**11 50 12.5**	**-0.3**
CAME				Sg	**Sb**	**11 50 20.1**	**+0.3**
BRDR	**BURDUR-Merkez**	**0.57 61**		P	**Pg**	**11 50 12.7**	**-1.0**
BRDR				S	**Sb**	**11 50 23.9**	**+1.7**
BASM	**Basmaki-Afyon**	**0.70 44**		Pg	**Pb**	**11 50 16.1**	**-0.3**
KORT	**Korkueli**	**0.84 120**		Pg	**Pb**	**11 50 19.2**	**+0.3**
DALY	**Dalyan (Mula)**	**0.87 226**		Pg	**Pn**	**11 50 19.8**	**-0.3**
YER	**Yerkesik**	**0.96 253**		Pg	**Pn**	**11 50 21.6**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.05 301**		Pg	**Pn**	**11 50 23.1**	**+0.4**

*ISK **20** 11:56:43.3, 37°.42N×29°.40E, h10km, ML1.3/6*
AFAD 20 11:56:39.3, 37°.59N×29°.41E, h7km±2km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.14 217**		Pg	Pg	11 56 45.9	+3.6
APMY				Sg	Sg	11 56 48.3	+3.9
INCE	**Denizli-Bozkur**	**0.18 47**		P	Pg	11 56 40.2	-2.8
INCE				S	Sg	11 56 49.2	+3.7
INCE	**Denizli-Bozkur**	**0.18 47**		P	Pg	11 56 40.2	-2.8
INCE				S	Sg	11 56 45.9	+0.4
INCE				*i* AML	AML	11 56 48.0	
	comp=E,23nm,0.2s						
INCE				*i* AML	AML	11 56 49.0	
	comp=N,31nm,0.1s						
DNIZ	**Denizli-Tavas-**	**0.30 278**		P	Pg	11 56 45.9	+0.7
DNIZ				S	Sb	11 56 55.7	+3.5
DNIZ				*i* AML	AML	11 56 57.0	
	comp=N,178nm,0.3s						
DNIZ				*i* AML	AML	11 56 57.0	
	comp=E,314nm,0.2s						
DNIZ	**Denizli-Tavas-**	**0.30 278**		P	Pg	11 56 45.9	+0.7
DNIZ				S	Sb	11 56 56.5	+4.3
DNIZ				*i* AML	AML	11 56 57.0	
	comp=N,178nm,0.3s						
DNIZ				*i* AML	AML	11 56 57.0	
	comp=E,314nm,0.2s						
GOLH	**Golhisar**	**0.37 161**		P	Pg	11 56 41.8	-4.7
GOLH				S	Sg	11 56 52.5	+1.1
TAVA	**DENIZLI_Tavas**	**0.41 253**		P	Pg	11 56 45.9	-1.4
TAVA				*i* AML	AML	11 56 51.0	
	comp=N,18nm,0.3s						
TAVA				S	Sb	11 56 57.3	+1.8
TAVA				*i* AML	AML	11 56 58.0	
	comp=E,27nm,0.1s						
DNZT	**Denizli-Tavas-**	**0.43 225**		P	Pg	11 56 48.4	+0.6
DNZT				S	Sb	11 56 54.9	-1.2
DNZT				S	Sb	11 56 54.9	-1.2
DNZT				*i* AML	AML	11 56 58.0	
	comp=N,30nm,0.5s						
DNZT				*i* AML	AML	11 57 00.0	
	comp=E,33nm,0.6s						
CAEL	**Denizli, Camel**	**0.47 189**		P	Pg	11 56 47.5	-0.8
CAEL				S	Sb	11 56 56.5	-0.6
CAEL				*i* AML	AML	11 56 58.0	
	comp=N,52nm,0.7s						
CAEL				*i* AML	AML	11 56 59.0	
	comp=E,69nm,0.5s						
BRDR	**BURDUR-Merkez**	**0.53 78**		P	Pn	11 56 54.9	+1.6
BRDR				S	Sn	11 57 05.5	+2.9
BRDR				*i* AML	AML	11 57 08.0	
	comp=N,24nm,0.4s						
BRDR				*i* AML	AML	11 57 17.0	
	comp=E,18nm,0.5s						
BRDR	**BURDUR-Merkez**	**0.53 78**		S	Sn	11 57 04.7	+2.1
CAME	**Cameli-Denizli**	**0.65 188**		Pg	Pb	11 56 52.7	-0.3
CAME				Sg	Sg	11 57 00.3	+0.1
KNIK	**Mula-Seydike**	**0.75 170**		S	Sb	11 57 05.5	+0.3
KORT	**Korkueli**	**0.95 128**		Pg	Pn	11 57 00.7	+1.5
DALY	**Dalyan (Mula)**	**0.98 218**		Pg	Pn	11 57 00.2	+0.8
TURN	**Turunc**	**1.23 229**		Pn	Pg	11 57 05.4	+2.4
AYDB	**Zeytinkoy-Aydi**	**1.26 287**		Pn	Pg	11 57 08.1	+4.7

NOU 20 12:04:35.1, 22°.03S×169°.11E, h0km, MLv3.7/12, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.14 298**		P	Pg	12 04 56.5	-0.5
MARNC	**Mare, Loyalty**	**1.14 298**		S	Sn	12 05 14.2	-0.5
PINNC	**Pines Island,**	**1.65 249**		P	Pn	12 05 05.0	-0.3
PINNC	**Pines Island,**	**1.65 249**		S	Sg	12 05 30.7	+2.7
YATNC	**Mamie plateau,**	**2.06 269**		P	Pn	12 05 10.9	-0.1
YATNC	**Mamie plateau,**	**2.06 269**		S	Sn	12 05 37.7	+0.3
OUENC	**Ouen Island, N**	**2.14 259**		P	Pn	12 05 12.2	+0.1
OUENC	**Ouen Island, N**	**2.14 259**		S	Sn	12 05 39.2	-0.1
DZM	**Mont Dzumac**	**2.47 269**		P	Pn	12 05 16.7	-0.1
ONTNC	**Ouen Toro**	**2.48 263**		P	Pn	12 05 17.0	+0.3
ONTNC	**Ouen Toro**	**2.48 263**		S	Sn	12 05 45.5	-2.2

IDC 20 12:05:01.7±4.6, 21°.38S×168°.94E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, MS2.6/2, Error ellipse: s-maj=136.0km s-min=37.3km az=146.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.42 253**		Pn	Pn	12 05 43.4	+0.8
	10nm,0.3s,baz=68,slow=19,SNR=16						
DZM				LR	LR	12 06 04.4	
	comp=Z,41nm,22.0s,baz=120,slow=26						
	23nm,0.3s						
MSVF	**Nonsavu**	**9.33 69**		LR	LR	12 10 13.0	
	comp=Z,104nm,21.4s,baz=316,slow=33						
WRA	**Warramunga Arr**	**32.37 266**		P	P	12 11 32.4	-0.8
	0.4nm,0.6s,baz=96,slow=8.0,SNR=6.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**32.39 259**		P	P	12 11 32.6	-0.8
	0.6nm,0.5s,baz=88,slow=9.1,SNR=16						
	0.6nm,0.5s						
SONM	**Songino Array**	**88.76 323**		P	P	12 17 58.4	+1.0
	0.5nm,0.7s,baz=134,slow=4.2,SNR=3.9						
	0.5nm,0.7s						

*NEIC **20** 12:06:01.8±1.1, 36°.070N±0°.008×117°.68W±0°.01, h1km±1km, Error ellipse: s-maj=1.3km s-min=1.2km az=104.0*
PAS 20 12:06:02.4±1.1, 36°.068N±0°.008×117°.69W±0°.01, h0km±1km, ML3.2/240, ML2.9/118(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=106.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCSM	**Coso Springs S**	**0.08 238**			Pg	12 06 05.8	+1.9
MFS	**McCloud Flat S**	**0.15 290**			Pg	12 06 05.4	+0.2
MFS					Sg	12 06 08.0	+0.9
MPMC	**Manual Prospec**	**0.16 94**			Pg	12 06 05.6	+0.2
MPMC					Sg	12 06 08.3	+0.8
WVPM	**Volcano Peak E**	**0.16 222**			Pg	12 06 05.8	+0.4
WVPM					Sg	12 06 08.5	+1.0
WRVM	**Rose V. Centra**	**0.18 250**			Pg	12 06 06.0	+0.3
WRVM					Sg	12 06 08.8	+0.8
CLC	**China Lake**	**0.26 164**			Pg	12 06 07.6	+0.2
TOW	**Tower One**	**0.27 194**			Pg	12 06 08.1	+0.7
TOW					Sb	12 06 13.2	-2.0
WNMM	**Nine Mile Cany**	**0.29 218**			Pg	12 06 08.2	+0.4
WNMM					Sg	12 06 12.6	+1.1
SRTC	**Snort**	**0.38 188**			Pg	12 06 10.3	+0.7
SRTC					Sb	12 06 16.6	-1.9
CWC	**Cottonwood Cre**	**0.49 319**			Pg	12 06 12.0	+0.2
CWC					Sg	12 06 18.6	+0.5
CGO	**Cerro Gordo**	**0.49 349**			Pg	12 06 12.2	+0.4
CGO					Sg	12 06 19.6	+1.4
WORM	**Onyx Ranch**	**0.58 231**			Pg	12 06 13.7	+0.1
WORM					Sg	12 06 21.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.59 180**			Pg	12 06 13.7	0.0
LRMC					Sg	12 06 22.4	+1.2
CCCA	**Chr Cany lake**	**0.60 154**			Pg	12 06 14.2	+0.3
CCCA					Sg	12 06 23.2	+1.6
WBSM	**Bird Springs**	**0.65 215**			Pg	12 06 14.7	-0.1
WBSM					Sg	12 06 23.8	+0.7
WHFM	**Hanning Flat**	**0.65 236**			Pg	12 06 14.9	0.0
WHFM					Sg	12 06 23.4	0.0
ISA	**Isabella, Lake**	**0.76 238**			Pg	12 06 15.6	-1.2
ISA				IAML		12 06 27.5	
	comp=N,600nm,0.3s						
ISA				IAML		12 06 27.5	
	comp=E,387nm,0.4s						
ISA				Sg	Sg	12 06 27.0	+0.3
FURC	**Furnace Creek,**	**0.78 59**			Pg	12 06 17.6	+0.4
FURC					Sg	12 06 28.5	+1.2
WASM	**Alta Sierra Ca**	**0.78 245**			Pg	12 06 17.4	+0.1
WASM					Sg	12 06 27.9	+0.5
DTP	**Desert Tortois**	**0.81 189**			Pg	12 06 17.5	-0.3
DTP					Sg	12 06 29.0	+0.6
GWY	**Greenwater Val**	**0.83 82**			Pg	12 06 17.0	-1.3
GWY				Sg	Sg	12 06 29.7	+0.6
GWY				IAML		12 06 34.4	
	comp=N,646nm,0.5s						
SPG2	**Springville 2**	**0.89 279**			Pg	12 06 19.0	-0.3
SPG2					Sg	12 06 30.9	0.0
CCAC	**Calif City Air**	**0.95 197**			Pg	12 06 20.4	-0.3
CCAC				Sg	Sg	12 06 33.2	+0.2
CCAC				IAML		12 06 37.4	
	comp=E,588nm,0.9s						
GRAC	**Grapevine Rang**	**0.96 15**			Pg	12 06 19.3	-1.5
GRAC				Sg	Sg	12 06 34.1	+0.9
GSC	**Goldstone, Bar**	**1.05 137**			Sg	12 06 36.4	+0.4
GSC	**Goldstone, Bar**	**1.05 137**			Pg	12 06 22.2	-0.3
TIN	**Tinemaha, Big**	**1.08 336**			Pg	12 06 22.9	-0.1
TIN					Sg	12 06 37.8	+0.8
WCT	**Wildcat Mounta**	**1.12 49**			Pg	12 06 22.6	-1.2
WCT					Sg	12 06 38.4	0.0
WCT				IAML		12 06 39.1	
	comp=N,261nm,0.3s						
SHOC	**Shoshone, Teco**	**1.16 98**			Sb	12 06 40.8	+0.1
VES	**Vestal, Richgr**	**1.16 259**			Pg	12 06 24.5	-0.1
TEJ	**El Tejon**	**1.17 225**			Pg	12 06 24.3	-0.5
HYS	**Haystack Butte**	**1.21 175**			Pg	12 06 24.6	-0.8
TPO	**Tropico Hills**	**1.27 201**			Pg	12 06 26.1	-0.5
RRX	**Edison Barstow**	**1.32 155**			Pg	12 06 27.6	0.0
DSP	**Deep Springs**	**1.32 350**			Pg	12 06 26.7	-1.0
SBB	**Saddle Back Bu**	**1.38 185**			Pg	12 06 28.7	-0.1
VOG	**Valley Oaks Go**	**1.40 281**			Pn	12 06 28.9	-0.1
TPNV	**Topopah Spring**	**1.45 52**			Pn	12 06 28.8	-1.3
LRRC	**Littlerock Res**	**1.56 190**			Sn	12 06 50.4	-1.9
TUQ	**Turquoise Moun**	**1.56 113**			Pn	12 06 30.5	-1.1
DSCC	**Desert Studies**	**1.58 125**			Pn	12 06 30.4	-1.2
HOLC	**Holcomb Ridge**	**1.61 185**			Pn	12 06 31.3	-0.8
MZP	**Montezuma Peak**	**1.65 8**			Pn	12 06 32.4	-0.4
BENR	**Benton**	**1.79 337**			Pb	12 06 35.8	-0.4
BCW	**Bitter Crk WRg**	**1.80 232**			Pn	12 06 35.4	+0.6
BCW				IAML		12 07 09.0	
	comp=E,135nm,1.2s						
BCW				IAML		12 07 13.2	
	comp=N,152nm,1.1s						
MCSM	**Casa Diablo Ho**	**1.86 329**			Pb	12 06 36.9	-0.5
MDPB	**Devils Postpil**	**1.92 325**			Pn	12 06 36.7	+0.1
MDPB				IAML		12 07 03.8	
	comp=N,100nm,0.2s						
MDPB				IAML		12 07 04.3	
	comp=E,138nm,0.3s						
PASC	**Pasadena Art C**	**1.94 192**		Pn	Pn	12 06 35.8	-0.7
SHPR	**Sheep Range**	**2.09 77**		Pn	Pn	12 06 38.5	-0.2
GMRC	**Granite Mounta**	**2.09 127**			Pn	12 06 37.0	-1.7
S11A	**Rachel**	**2.21 44**		Pn	Pn	12 06 40.1	-0.4
LHV	**Little Huntoon**	**2.27 344**		Pn	Pn	12 06 42.0	+0.8
LHV				IAML		12 07 26.3	
	comp=E,51nm,0.7s						
LHV				IAML		12 07 28.7	
	comp=N,53nm,0.9s						
V12A	**Nelson**	**2.33 98**		Pn	Pn	12 06 41.0	-0.9
V12A				IAML		12 07 19.2	
	comp=N,59nm,0.6s						
V12A				IAML		12 07 27.3	
	comp=E,50nm,0.7s						
TPC	**Twentynine Pal**	**2.37 145**			Pn	12 06 41.8	-0.8
NV11	**Mina Array Sit**	**2.39 351**		Pn	Pn	12 06 42.9	0.0
NVAR	**Mina Array Bea**	**2.41 348**		Pn	Pn	12 06 43.3	0.0
ELS	**Elsinore Mount**	**2.42 175**			Pn	12 06 43.2	-0.1
ELS				IAML		12 07 26.0	
	comp=E,40nm,0.8s						
PRN	**Pahroc Range**	**2.50 57**		Pn	Pn	12 06 44.4	0.0
RYN	**Ryan**	**2.64 346**		Pn	Pn	12 06 46.8	+0.4
PFO	**Pinyon Flats O**	**2.65 157**		Pn	Pn	12 06 46.3	-0.1
PFO				IAML		12 07 37.4	
	comp=E,38nm,1.2s						
BBGB	**Big Mountain B**	**2.76 282**		Pn	Pn	12 06 49.0	+1.1
Q09A	**Carvers**	**2.79 8**		Pn	Pn	12 06 47.9	-0.5
WAKR	**Walker**	**2.81 331**		Pn	Pn	12 06 49.8	+1.1
R11B	**Troy Canyon, C**	**2.83 36**		Pn	Pn	12 06 47.1	-1.8
CMB	**Columbia Colle**	**2.92 313**		Pn	Pn	12 06 52.1	+2.0
CMB				IAML		12 07 33.2	
	comp=N,54nm,0.4s						
CMB				IAML		12 07 34.3	
	comp=E,51nm,0.3s						
BORC	**Borrego Spring**	**2.98 159**			Pn	12 06 51.3	+0.4
SAO	**San Andreas Ge**	**3.11 284**		Pn	Pn	12 06 52.4	-0.3
W13A	**Hualapai Mount**	**3.24 106**		Pn	Pn	12 06 54.4	-0.3
W13A				IAML		12 07 49.0	
	comp=E,29nm,1.0s						
W13A				IAML		12 07 52.4	
	comp=N,30nm,0.8s						
PNTR	**Pine Nut**	**3.38 334**		Pn	Pn	12 06 57.1	+0.6
PNTR				IAML		12 08 15.2	
	comp=E,30nm,1.2s						
PNTR				IAML		12 08 44.1	
	comp=N,21nm,1.1s						
BLYC	**Blythe**	**3.48 131**		Pn	Pn	12 06 55.0	-2.7
BLYC				IAML		12 07 59.9	
	comp=E,22nm,0.8s						
BLYC				IAML		12 08 00.6	
	comp=N,26nm,0.8s						
LCMT	**Little Creek M**	**3.70 74**		Pn	Pn	12 07 00.5	-0.4
YUH	**Yuha Desert**	**3.71 156**		Pn	Pn	12 07 00.9	0.0
CBX	**Cerro Bola**	**3.84 167**		Pn	Pn	12 07 03.3	+0.5
PAHR	**Pah Rah Range**	**3.87 340**		Pn	Pn	12 07 04.2	+1.0
AFDM	**Forest Hills D**	**3.88 319**		Pn	Pn	12 07 04.2	+0.9
PSUT	**Pine Spring**	**3.92 50**		Pn	Pn	12 07 03.5	-0.5
SPR3	**Spring Creek 3**	**3.96 41**		Pn	Pn	12 07 04.7	+0.1
SPR3				IAML		12 08 08.1	
	comp=E,21nm,0.8s						
SPR3				IAML		12 08 10.8	
	comp=N,16nm,0.9s						
KNB	**Kanab**	**4.03 75**		Pn	Pn	12 07 04.4	-1.1
KNB				IAML		12 08 27.1	
	comp=N,12nm,1.1s						
ESJX	**Sierra Juarez**	**4.30 160**		Pn	Pn	12 07 07.7	-1.5
ESJX				IAML		12 08 53.2	
	comp=E,11nm,0.1s						
ESJX				IAML		12 08 53.5	
	comp=N,9.8nm,0.1s						
U15A	**North Rim**	**4.37 84**		Pn	Pn	12 07 07.4	-2.9
U15A				IAML		12 08 35.0	
	comp=E,12nm,1.1s						
U15A				IAML		12 08 37.2	
	comp=N,9.6nm,0.9s						
Y14A	**Wickenburg**	**4.39 118**		Pn	Pn	12 07 07.8	-2.6
Y14A				IAML		12 08 28.5	
	comp=E,19nm,0.7s						
PKCU	**Pink Cliffs**	**4.53 71**		Pn	Pn	12 07 10.5	-2.0
PKCU				IAML		12 08 32.1	
	comp=N,12nm,1.0s						
PKCU				IAML		12 08 41.1	
	comp=E,17nm,1.2s						
113A	**Mohawk Valley,**	**4.62 134**		Pn	Pn	12 07 10.4	-3.0
113A				IAML		12 08 39.2	
	comp=E,11nm,1.4s						
MTPU	**Mount Pierson**	**4.82 64**		Pn	Pn	12 07 14.3	-2.2
TCRU	**Three Creeks R**	**4.88 57**		Pn	Pn	12 07 15.6	-1.7
TCRU				IAML		12 08 49.0	
	comp=N,13nm,1.1s						
TCRU				IAML		12 08 51.8	
	comp=E,11nm,1.1s						
VTX	**Valle De La Tr**	**4.93 161**		Pn	Pn	12 07 15.6	-2.1
VTX				IAML		12 08 38.8	
	comp=E,6.4nm,0.8s						
VTX				IAML		12 08 43.9	
	comp=N,6.2nm,0.9s						
MSU	**Marysvale**	**5.02 59**		Pn	Pn	12 07 18.4	-0.7
ELK	**Elko**	**5.05 22**		Pn	Pn	12 07 18.4	-1.2
ELK				IAML		12 08 46.0	
	comp=N,10nm,0.8s						
ELK				IAML		12 08 46.4	
	comp=N,7.0nm,0.7s						
WUAZ	**Wupatki**	**5.16 94**		Pn	Pn	12 07 15.5	-5.5
WUAZ				IAML		12 08 50.2	
	comp=N,11nm,1.4s						
WUAZ				IAML		12 09 07.6	
	comp=N,9.7nm,1.1s						
X16A	**Lo Mia Camp, P**	**5.37 106**		Pn	Pn	12 07 18.4	-5.5
X16A				IAML		12 08 59.5	
	comp=N,4.4nm,1.1s						
X16A				IAML		12 10 04.3	
	comp=E,6.3nm,4.8s						
HATC	**Hat Creek Radi**	**5.59 329**		Pn	Pn	12 07 24.5	-2.3
DUG	**Dugway, Tooele**	**5.63 42**		Pn	Pn	12 07 24.1	-3.3
TMUT	**Trail Mountain**	**6.06 56**		Pn	Pn	12 07 31.6	-1.9

*NEIC **20** 12:17:59.7±0.8, 19°.96N±0°.04×155°.49W±0°.06, h35km±9km, Error ellipse: s-maj=8.4km s-min=5.9km az=63.0*
HVO 20 12:18:01.2±1.4, 19°.97N±0°.04×155°.49W±0°.05, h31km±7km, ML3.0/41, ML3.0/46(NEIC), Error ellipse: s-maj=8.5km s-min=3.9km az=49.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.20 287**			Pb	12 18 07.0	-0.7
HPAH					Sb	12 18 11.1	-1.0
POHA	**Pohakuloa**	**0.22 190**			Pb	12 18 06.8	-1.2
POHA					Sb	12 18 11.4	-1.2
POHA	**Pohakuloa**	**0.22 190**		IAML		12 18 11.6	
	3μm,0.2s						
POHA				IAML		12 18 11.9	
	2μm,0.4s						
HMH	**Humu'ula Sheep**	**0.37 179**			Pb	12 18 09.2	-0.8
HMH					Sb	12 18 14.

comp=E,424nm,0.5s
WRMHI **West Rim** **0.59 162** Pb 12 18 11.4 -1.8
WRMHI Pn 12 18 19.1 +5.4
BYL Byron's Ledge **0.60 159** Pb 12 18 11.5 -1.9
BYL Sg Sb 12 18 19.1 -2.6
KKO Keanakako'i **0.61 160** Pb 12 18 11.7 -1.9
KKO Pn 12 18 19.5 +5.5
RIM Rim **0.61 160** Pb 12 18 11.7 -1.9
RIM Pn 12 18 19.7 +5.8
SDHHI Sand Hill **0.61 162** Pb 12 18 11.7 -1.9
CPH Captain Cook **0.63 220** Pb 12 18 11.9 -1.9
PUH Pauahi **0.65 156** Pb 12 18 12.1 -2.1
PUH Sg Sb 12 18 20.1 -2.9
PUH IAML 12 18 20.5
comp=N,723nm,0.3s
PUH IAML 12 18 20.6
comp=E,987nm,0.2s
KNHH Kane Nui o Ham **0.66 153** Pb 12 18 12.4 -2.0
STCH Steam Cracks **0.68 149** Pn Pb 12 18 12.6 -2.1
STCH Sn Sb 12 18 20.6 -3.3
NPOC North of Pu'u **0.68 148** Pb 12 18 12.6 -2.1
NPOC Sb 12 18 20.7 -3.2
JCUZ Jacuzzi **0.69 148** Pb 12 18 12.7 -2.2
JCUZ Sb 12 18 20.8 -3.4
HLP Hilina Pali **0.69 166** Pn Pb 12 18 12.8 -2.1
HLP Sn Sb 12 18 21.3 -3.0
HLP IAML 12 18 21.7
comp=N,817nm,0.1s
HLP IAML 12 18 21.9
comp=E,731nm,0.2s
JOKA Jonika Flow **0.70 139** Pb 12 18 12.9 -2.2
JOKA IAML 12 18 22.0
comp=N,422nm,0.5s
KHU Kahuku **0.73 189** Pb 12 18 13.4 -2.3
KHU Sb 12 18 22.2 -3.3
KHU IAML 12 18 22.7
comp=E,808nm,0.1s
HTC Hot Caves **0.73 173** Pn 12 18 13.5 -2.1
HPO Honuapo **0.88 184** Pn 12 18 16.0 -1.5
HLK Haleakala **1.06 318** Pn 12 18 18.1 -2.1
HLK Sn 12 18 29.9 -4.2
HLK IAML 12 18 36.1
comp=N,225nm,4.0s
HON Honolulu **2.71 300** Pn 12 18 40.7 -2.0

*IDC **20** 12:45:42.0±0.7,37°.50N×29°.41E,h0^{km},mb4.0/16, mbtmp3.9/25,ML4.1/7,MS3.3/13,Error ellipse: s-maj=15.4km s-min=12.4km az=172.0*
*AFAD **20** 12:45:42.6,37°.42N×29°.40E,h7^{km}±3^{km},MW4.1*
*ISK **20** 12:45:42.5,37°.46N×29°.41E,h6^{km},ML4.1/43*
*MOS **20** 12:45:42.5±1.0,37°.48N×29°.44E,h10^{km},mb4.3/11,Error ellipse: s-maj=5.9km s-min=4.6km az=99.1*
*GII **20** 12:45:42.7±0.0,37°.33N±0°.04×29°.45E±0°.01,h1^{km}, Mws4.3,confirmed*
*MED_RC **20** 12:45:43.0±0.4,37°.45N×29°.40E,h12^{km}±2^{km},MW4.3/11, Moment Tensor Solution.Mantle waves: s11,c12; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.75±.66; $M_{\theta\theta}$1.51±.37; $M_{\phi\phi}$1.25±.40; $M_{r\theta}$1.12±.56; $M_{\theta\phi}$-1.44±.22; $M_{\phi r}$-2.52±.84; Best double couple: $M_0$3.92000×10^{15} NP1:ϕ_s118.00000°,δ25.00000°, λ-118.00000°. NP2:ϕ_s328.00000°,δ68.00000°, λ-78.00000°. Principal axes: T 3.8400, Plg22.0000°, Azm49.0000°; N 0.1600, Plg12.0000°, Azm144.0000°; P -4.0000, Plg65.0000°, Azm260.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **20** 12:45:43.1,37°.54N×29°.66E,h0^{km}±1^{km},ML4.1/7 Error ellipse: s-maj=3.7km s-min=1.2km az=64.0*
*NEIC **20** 12:45:44.5±1.7,37°.41N±0°.05×29°.47E±0°.06,h10^{km}±1^{km}, mb4.5/49,Mwr4.2/13,Error ellipse: s-maj=7.7km s-min=7.7km az=181.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.27; $M_{\theta\theta}$1.18; $M_{\phi\phi}$0.09; $M_{r\theta}$0.19; $M_{\theta\phi}$-1.16; $M_{\phi r}$-1.51; Fault plane solution: $M_0$2.27000×10^{15} NP1:ϕ_s92.33000°,δ38.39000°, λ-145.24000°. NP2:ϕ_s333.79000°,δ69.26000°, λ-56.94000°. Principal axes: T 2.2269, Plg18.0000°, Azm40.0000°; N 0.0841, Plg31.0000°, Azm141.0000°; P -2.3110, Plg54.0000°, Azm284.0000°;*
*NEIC **20** 12:45:44.6,37°.39N×29°.51E,h10^{km}*
ISC 20 12:45:43.0±1.0,37°.44N±0°.02×29°.44E±0°.02,h2^{km}±6^{km}, n268,σ1^{s}08/299,mb4.4/48,MS3.3/7,24C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.11**	**287**	Pg	**Pg**		**12 45 45.5**	**+0.3**
GOLH	**Golhisar**	**0.23**	**154**	P	**Pg**		**12 45 47.7**	**+0.4**
GOLH				S	**Sg**		**12 45 51.7**	**+1.5**
INCE	**Denizli-Bozkur**	**0.29**	**22**	P	**Pg**		**12 45 48.7**	**+0.1**
INCE				S	**Sg**		**12 45 54.4**	**+2.0**
CAEL	**Denizli, Camel**	**0.33**	**197**	P	**Pg**		**12 45 49.0**	**-0.3**
CAEL				S	**Sb**		**12 45 55.5**	**-1.9**
DNZT	**Denizli-Tavas-**	**0.37**	**244**	P	**Pg**		**12 45 49.5**	**-0.5**
DNZT				P	**Pb**		**12 45 49.6**	**-2.6**
DNZT				S	**Sg**		**12 45 55.1**	**+0.3**
DNZT				S	**Sg**		**12 45 55.1**	**+0.3**
DNIZ	**Denizli-Tavas-**	**0.37**	**300**	P	**Pg**		**12 45 49.8**	**-0.3**
DNIZ				S	**Sg**		**12 45 55.7**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.42**	**274**	P	**Pg**		**12 45 50.6**	**-0.4**
TAVA				S	**Sg**		**12 45 56.8**	**+0.3**
CAME	**Cameli-Denizli**	**0.51**	**192**	Pg	**Pg**		**12 45 52.2**	**-0.5**
CAME				Sg	**Sg**		**12 46 00.5**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.56**	**62**	P	**Pg**		**12 45 53.4**	**-0.3**
BRDR				S	**Sb**		**12 46 04.2**	**+0.3**
KNIK	**Mula-Seydike**	**0.60**	**170**	P	**Pg**		**12 45 54.0**	**-0.6**
BASM	**Basmaki-Afyon**	**0.68**	**45**	Pg	**Pg**		**12 45 55.6**	**-0.5**
BASM				Sg	**Sg**		**12 46 06.2**	**+1.3**
SABU	**Mula-Dalaman**	**0.72**	**212**	P	**Pg**		**12 45 55.5**	**-1.3**
ELL	**Elmali**	**0.79**	**151**	Pg	**Pg**		**12 45 58.1**	**+0.1**
ELL				Sg	**Sb**		**12 46 10.3**	**-0.3**
ELL	**Elmali**	**0.79**	**151**	Pg	**Pg**		**12 45 57.8**	**-0.3**
ELL	**Elmali**	**0.79**	**151**	P	**Pg**		**12 45 57.8**	**-0.3**
KORT	**Korkueli**	**0.85**	**121**	Pg	**Pg**		**12 46 00.2**	**+0.9**
FETY	**Fethiye**	**0.85**	**200**	Pg	**Pg**		**12 45 59.4**	**+0.1**
FETY				Sg	**Sb**		**12 46 11.9**	**-0.4**
FETY	**Fethiye**	**0.85**	**200**	P	**Pg**		**12 45 59.4**	**+0.1**
DALY	**Dalyan (Mula)**	**0.88**	**226**	Pg	**Pg**		**12 45 59.8**	**-0.1**
DALY				Sg	**Sg**		**12 46 12.1**	**+0.8**
KHL	**Karahalli**	**0.89**	**4**	Pg	**Pg**		**12 45 59.9**	**-0.1**
BUCA	**Burdur, Bucak-**	**0.90**	**97**	P	**Pg**		**12 45 59.0**	**-1.3**
BCK	**Bucak**	**0.92**	**88**	Pg	**Pg**		**12 46 00.7**	**+0.1**
BCK	**Bucak**	**0.92**	**88**	P	**Pg**		**12 46 00.7**	**+0.1**
ISP	**Isparta**	**0.94**	**66**	Pg	**Pg**		**12 46 00.6**	**-0.5**
ISP				Sg	**Sb**		**12 46 15.1**	**0.0**
ISP	**Isparta**	**0.94**	**66**	Pg	**Pg**		**12 46 00.1**	**-0.9**
ISP	**Isparta**	**0.94**	**66**	*i* P	**Pg**		**12 45 59.9**	**-1.2**
YER	**Yerkesik**	**0.97**	**252**	Pg	**Pg**		**12 46 01.1**	**-0.5**
YER	**Yerkesik**	**0.97**	**252**	P	**Pg**		**12 46 00.9**	**-0.7**
NAZL	**Nazilli-Aydin**	**1.05**	**300**	Pg	**Pg**		**12 46 02.5**	**-0.6**
ANTB	**Antalya**	**1.11**	**119**	Pn	**Pb**		**12 46 05.1**	**+0.2**
TURN	**Turunc**	**1.16**	**236**	Pn	**Pg**		**12 46 05.2**	**-0.1**
AKAS	**Kas**	**1.21**	**174**	Pn	**Pn**		**12 46 07.3**	**+0.3**
AKAS	**Kas**	**1.21**	**174**		**Pg**		**12 46 05.9**	**-0.3**
KEMT	**Kemer-ANTALYA**	**1.22**	**133**	Pn	**Pn**		**12 46 07.1**	**0.0**
KULA	**Kula-Manisa**	**1.24**	**330**	Pn	**Pg**		**12 46 06.4**	**-0.3**
DEMR	**Demre-Antalya**	**1.26**	**163**	Pn	**Pg**		**12 46 07.7**	**+0.6**
MANT	**Manisa**	**1.26**	**327**	Pn	**Pg**		**12 46 06.4**	**-0.8**
MANT				Sn	**Sg**		**12 46 24.1**	**+0.6**
KSL	**Kastellorizon**	**1.29**	**175**	P	**Pg**		**12 46 08.2**	**+0.5**
KSL				S	**Sn**		**12 46 28.4**	**+2.5**
	3μm,1.0s							
AYDB	**Zeytinkoy-Aydi**	**1.33**	**293**	Pn	**Pn**		**12 46 07.5**	**-1.2**
MLSB	**Milas**	**1.33**	**264**	Pn	**Pn**		**12 46 07.7**	**-0.9**
ODEM	**Odemis-Izmir**	**1.36**	**308**	Pn	**Pn**		**12 46 07.9**	**-1.2**
SHUT	**Suhut-Afyon**	**1.42**	**38**	Pn	**Pn**		**12 46 08.9**	**-1.0**
DATC	**Datca-Mugla**	**1.57**	**245**	Pn	**Pn**		**12 46 11.8**	**-0.1**
SHAP	**Saphane-Kutahy**	**1.59**	**354**	Pn	**Pn**		**12 46 11.5**	**-0.7**
GEDZ	**Gediz**	**1.60**	**359**	Pn	**Pn**		**12 46 12.2**	**-0.2**
ARG	**Arkhangelos**	**1.61**	**221**	Pn	**Pn**		**12 46 12.4**	**0.0**
ARG	**Arkhangelos**	**1.61**	**221**	P	**Pb**		**12 46 13.2**	**-0.2**
ARG				S	**Sg**		**12 46 38.3**	**+3.5**
	3μm,0.8s							
ARG	**Arkhangelos**	**1.61**	**221**		**Pn**		**12 46 12.9**	**+0.5**
ARG	**Arkhangelos**	**1.61**	**221**	P	**Pn**		**12 46 12.9**	**+0.5**
DAT	**Datca**	**1.65**	**245**	Pn	**Pn**		**12 46 13.1**	**+0.1**
SIMA	**Simav-Kutahya**	**1.68**	**348**	Pn	**Pn**		**12 46 13.1**	**-0.4**
SMAA	**Simav-Kutahya**	**1.70**	**348**	Pn	**Pn**		**12 46 13.5**	**-0.2**
BODT	**Bodrum**	**1.74**	**258**	Pn	**Pn**		**12 46 13.7**	**-0.5**
GOMA	**Golmarmara-Man**	**1.75**	**317**	Pn	**Pn**		**12 46 13.7**	**-0.6**
YKAV	**Yalikavak-Bodr**	**1.75**	**260**	Pn	**Pn**		**12 46 13.7**	**-0.6**
DIDI	**Didim-Aydin**	**1.75**	**269**	Pn	**Pn**		**12 46 13.7**	**-0.6**
GCAM	**G?zelcaml?**	**1.77**	**279**	Pn	**Pn**		**12 46 14.1**	**-0.5**
GORD	**Gordes-Manisa**	**1.77**	**326**	Pn	**Pn**		**12 46 14.1**	**-0.6**
SEYD	**Seydisehir-KON**	**1.91**	**90**	Pn	**Pn**		**12 46 16.9**	**+0.2**
AKS	**Akhisar**	**1.93**	**319**	Pn	**Pn**		**12 46 16.3**	**-0.5**
TVSB	**Tavsanli**	**2.01**	**1**	Pn	**Pn**		**12 46 17.5**	**-0.5**
NISR	**Nisiros**	**2.02**	**247**	P	**Pn**		**12 46 19.3**	**+1.2**
NISR				S	**Sg**		**12 46 48.5**	**+0.5**
	6μm,1.0s							
GMLD	**Gumuldur**	**2.10**	**288**	Pn	**Pn**		**12 46 19.4**	**+0.3**
BLCB	**Balcova**	**2.12**	**297**	Pn	**Pn**		**12 46 18.7**	**-0.7**
DST	**Dursunbey**	**2.25**	**344**	Pn	**Pn**		**12 46 20.5**	**-0.8**
DST	**Dursunbey**	**2.25**	**344**	P	**Pn**		**12 46 19.9**	**-1.4**
SOMA	**Soma-Manisa**	**2.28**	**319**	Pn	**Pn**		**12 46 20.5**	**-1.1**
BORA	**Eskisehir**	**2.56**	**18**	Pn	**Pn**		**12 46 26.6**	**+1.0**
KARP	**Karpathos**	**2.63**	**225**	P	**Pn**		**12 46 27.2**	**+0.7**
KARP				S	**Sb**		**12 47 03.1**	**-0.6**
	2μm,0.9s							
KARP	**Karpathos**	**2.63**	**225**	Pn	**Pn**		**12 46 26.4**	**-0.1**
PRK	**Paraskevi**	**3.07**	**307**	P	**Pn**		**12 46 32.4**	**-0.1**
PRK				S	**Sn**		**12 47 11.8**	**+2.0**
	1μm,0.8s							
PRK	**Paraskevi**	**3.07**	**307**	P	**Pn**		**12 46 32.3**	**-0.2**
BAND	**Balkesir-Ban**	**3.09**	**341**	⇓P	**Pn**		**12 46 32.9**	**+0.1**
MDUB	**Mudurnu**	**3.32**	**24**		**Pn**		**12 46 36.4**	**+0.3**
SIGR	**SIGRI**	**3.33**	**303**	P	**Pn**		**12 46 37.1**	**+1.1**
SIGR				S	**Sn**		**12 47 18.4**	**+2.3**
	612nm,0.8s							
ZKR	**Zakros**	**3.49**	**229**	P	**Pn**		**12 46 39.2**	**+1.0**
ZKR				S	**Sn**		**12 47 23.4**	**+3.4**
	532nm,0.9s							
ANTO	**Ankara**	**3.58**	**46**		**Pn**		**12 46 39.9**	**+0.4**
ANTO	**Ankara**	**3.58**	**46**	⇑P	**Pn**		**12 46 40.1**	**+0.6**
ANTO	**Ankara**	**3.58**	**46**	P	**Pn**		**12 46 39.9**	**+0.4**
KIRS	**Kirsehir-Merke**	**3.91**	**63**	⇑P	**Pn**		**12 46 45.1**	**+1.0**
CSS	**Mathiatis**	**4.00**	**127**		**Pn**		**12 46 46.7**	**+1.4**
BR131	**Keskin Array S**	**4.00**	**54**		**Pn**		**12 46 45.9**	**+0.4**
BR131	**Keskin Array S**	**4.00**	**54**	*i* P	**Pn**		**12 46 45.8**	**+0.4**
BRTR	**Keskin Array B**	**4.00**	**54**	Pn	**Pn**		**12 46 45.9**	**+0.4**
	5.4nm,0.3s,baz=232,slow=15,SNR=79							
BRTR				Sn	**Sn**		**12 47 31.8**	**-1.3**
	1.7nm,0.3s,baz=237,slow=25,SNR=4.8							
BRTR				LR	LR		12 48 54.8	
	comp=Z,512nm,21.6s,baz=228,slow=48							
	28nm,0.5s							
CAVK	**Edirne/Enez-Ca**	**4.13**	**323**	⇑P	**Pn**		**12 46 47.2**	**+0.2**
IDI	**Anoyia**	**4.25**	**241**	Pn	**Pn**		**12 46 50.2**	**+1.4**
	53nm,0.5s,baz=56,slow=14,SNR=27							
IDI				Sn	**Sn**		**12 47 39.0**	**0.0**
	3.0nm,0.3s,baz=347,slow=8.1,SNR=3.7							
ALN	**Alexandroupoli**	**4.34**	**324**		**Pn**		**12 46 50.0**	**0.0**
ALN	**Alexandroupoli**	**4.34**	**324**	P	**Pn**		**12 46 50.0**	**0.0**
RDO	**Rodhopi**	**4.78**	**322**		**Pn**		**12 46 56.0**	**+0.1**
ILGA	**Ilgaz**	**4.90**	**41**		**Pn**		**12 46 57.4**	**-0.5**
OUR	**Ouranopolis**	**5.14**	**306**	P	**Pn**		**12 47 01.3**	**+0.3**
CIDE	**Kastamonu/Cide**	**5.20**	**30**	⇓P	**Pn**		**12 47 02.3**	**+0.6**
BNN	**Bunyan**	**5.24**	**72**	Pn	**Pn**		**12 47 04.0**	**+1.5**
BZK	**Bozkurt**	**5.72**	**37**	Pn	**Pn**		**12 47 09.5**	**+0.5**
SRS	**Serrai**	**5.83**	**311**	P	**Pn**		**12 47 10.1**	**-0.4**
SRS				pmax	pmax			
	comp=Z,31nm,0.6s							
PLD	**Plovdiv**	**5.93**	**324**	P	**Pn**		**12 47 12.7**	**+1.0**
PLD				pmax	pmax			
	comp=Z,165nm,0.6s							
ITM	**Ithomi**	**5.99**	**270**	Pn	**Pn**		**12 47 12.9**	**+0.2**
LIT	**Litokhoron**	**6.04**	**298**		**Pn**		**12 47 14.4**	**+1.0**
LIT	**Litokhoron**	**6.04**	**298**	P	**Pn**		**12 47 14.4**	**+1.0**
TOKA	**Tokat**	**6.20**	**60**	Pn	**Pn**		**12 47 15.8**	**+0.2**
GAZ	**Gaziantep**	**6.20**	**90**	Pn	**Pn**		**12 47 15.1**	**-0.5**
HNTI	**Hanita**	**6.39**	**131**	P	**Pn**		**12 47 17.3**	**-0.9**
HNTI	**Hanita**	**6.39**	**131**	S	**Sn**		**12 48 31.1**	**-0.7**
RAZG	**Razgrad**	**6.51**	**341**	⇑P	**Pn**		**12 47 20.5**	**+0.7**
MMA0B	**Mount Meron ar**	**6.58**	**130**	P	**Pn**		**12 47 20.3**	**-0.5**
MMA0B	**Mount Meron ar**	**6.58**	**130**	S	**Sn**		**12 48 35.6**	**-0.9**
MMAI	**Mount Meron Ar**	**6.58**	**130**	Pn	**Pn**		**12 47 21.0**	**+0.2**
	comp=Z,13nm,0.3s,baz=319,slow=11,SNR=25							
MMAI				Sn	**Sn**		**12 48 33.2**	**-3.2**
	comp=Z,3.6nm,0.3s,baz=312,slow=19,SNR=2.0							
MMAI				LR	LR		12 50 29.5	
	comp=Z,212nm,18.5s,baz=305,slow=43							
	comp=Z,20nm,0.4s							
GEM	**Giv'at Ha'Em**	**6.61**	**128**	P	**Pn**		**12 47 20.5**	**-0.6**
GEM	**Giv'at Ha'Em**	**6.61**	**128**	S	**Sn**		**12 48 35.6**	**-1.5**
NATI	**Neve Ativ**	**6.62**	**127**	P	**Pn**		**12 47 21.0**	**-0.3**
NATI	**Neve Ativ**	**6.62**	**127**	S	**Sn**		**12 48 36.1**	**-1.2**
KSHT	**Keshet**	**6.85**	**129**	P	**Pn**		**12 47 23.8**	**-0.8**
KSHT	**Keshet**	**6.85**	**129**	S	**Sn**		**12 48 42.3**	**-0.8**
MMLI	**Mount Malkishu**	**7.00**	**134**	P	**Pn**		**12 47 25.3**	**-1.3**
MMLI	**Mount Malkishu**	**7.00**	**134**	S	**Sn**		**12 48 45.6**	**-1.2**
TIRR	**Tirgusor**	**7.05**	**354**	Pn	**Pn**		**12 47 27.5**	**+0.3**
TIRR	**Tirgusor**	**7.05**	**354**	P	**Pn**		**12 47 27.5**	**+0.3**
FNA	**Florina**	**7.10**	**301**		**Pn**		**12 47 27.9**	**0.0**
FNA	**Florina**	**7.10**	**301**	P	**Pn**		**12 47 27.9**	**0.0**
KBN	**Korca**	**7.45**	**298**	Pn	**Pn**		**12 47 33.4**	**+0.7**
KBN	**Korca**	**7.45**	**298**	P	**Pn**		**12 47 33.4**	**+0.7**
TPGR	**Topolog**	**7.45**	**354**	⇑P	**Pn**		**12 47 33.1**	**+0.4**
MSBI	**Mazada**	**7.83**	**140**	P	**Pn**		**12 47 36.8**	**-1.0**
MSBI	**Mazada**	**7.83**	**140**	S	**Sn**		**12 49 05.6**	**-1.4**
GHAJ	**Ghor Haditha**	**7.94**	**139**		**Pn**		**12 47 38.1**	**-1.3**
ASF	**Jabal al Asfar**	**8.07**	**128**	Pn	**Pn**		**12 47 41.7**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=20,slow=23,SNR=6.4							
ASF				Sn	**Sn**		**12 49 12.2**	**-1.1**
	baz=356,slow=8.0							
	comp=Z,4.0nm,0.6s							
SIM	**Simferopol'**	**8.29**	**24**	*e*P	**Pn**		**12 47 45.3**	**+1.2**
MTUR	**Matau**	**8.45**	**338**	⇑P	**Pn**		**12 47 47.0**	**+0.6**
MLR	**Muntele Rosu**	**8.46**	**343**	Pn	**Pn**		**12 47 46.3**	**-0.3**
MLR	**Muntele Rosu**	**8.46**	**343**	Pn	**Pn**		**12 47 45.7**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=334,slow=3.5,SNR=6.3							
	comp=Z,4.6nm,0.4s							
MLR	**Muntele Rosu**	**8.46**	**343**	⇑P	**Pn**		**12 47 47.0**	**+0.4**
MLR	**Muntele Rosu**	**8.46**	**343**	P	**Pn**		**12 47 46.3**	**-0.3**
VOIR		**8.64**	**339**	⇑P	**Pn**		**12 47 49.4**	**+0.3**
PLOR	**Plostina**	**8.66**	**347**	⇑P	**Pn**		**12 47 50.4**	**+1.1**
VRI	**Vrincioaia**	**8.66**	**347**	⇓P	**Pn**		**12 47 50.3**	**+1.1**
PUK	**Puka**	**8.67**	**305**	Pn	**Pn**		**12 47 50.7**	**+1.2**
COVR	**Voineasa-Covas**	**8.74**	**345**	⇑P	**Pn**		**12 47 52.0**	**+1.7**
EIL	**Elat**	**9.01**	**148**	Sn	**Sn**		**12 49 30.5**	**-5.6**
	comp=Z,1.2nm,0.3s,baz=143,slow=20,SNR=1.8							
EIL				LR	LR		12 52 35.6	
	comp=Z,57nm,20.7s,baz=249,slow=46							
DOPR	**Dopca**	**9.04**	**342**	⇓P	**Pn**		**12 47 55.6**	**+1.1**
OZUR		**9.07**	**344**	⇑P	**Pn**		**12 47 55.6**	**+0.8**
HERR	**Herculane**	**9.12**	**327**	⇑P	**Pn**		**12 47 56.0**	**+0.4**
ONER	**Baraj Valea Uz**	**9.17**	**347**	⇓P	**Pn**		**12 47 57.6**	**+1.3**
MDVR	**Moldovita**	**9.37**	**324**	⇓P	**Pn**		**12 47 59.0**	**0.0**
GZR	**Gura Zlata**	**9.39**	**330**	⇑P	**Pn**		**12 47 59.0**	**-0.3**
SOC	**Sochi**	**9.94**	**49**	*e*P	**Pn**		**12 48 04.3**	**-2.5**
SOC				*e*			12 49 54.8	
SOC				MLR	MLR			
	comp=Z,198nm,14.0s							
TIP	**Timpagrande**	**10.12**	**284**		**Pn**		**12 48 08.3**	**-1.0**
TIP	**Timpagrande**	**10.12**	**284**	⇑P	**Pn**		**12 48 09.3**	**0.0**
MARR	**Marisel-Cluj**	**10.35**	**335**	⇓P	**Pn**		**12 48 13.4**	**+0.8**
BURAR	**Bucovina Array**	**10.63**	**344**	Pn	**Pn**		**12 48 16.8**	**+0.5**
BUR08	**Bucovina Ar. S**	**10.66**	**344**	Pn	**Pn**		**12 48 17.4**	**+0.6**
GEVA	**Gevas**	**10.80**	**81**	Pn	**Pn**		**12 48 16.6**	**-2.2**
CUC	**Castrocucco**	**10.95**	**288**	Pn	**Pn**		**12 48 20.3**	**-0.3**
SHA1	**Shidzhatmaz**	**11.85**	**54**	*i* P	**Pn**		**12 48 35.5**	**+2.4**
KIV	**Kislovodsk**	**11.97**	**53**	*e*P	**Pn**		**12 48 35.3**	**+0.6**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,70nm,13.0s							
KBZ	**Khabaz**	**12.00**	**54**	Pn	**Pn**		**12 48 34.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=272,slow=6.7,SNR=4.8							
KBZ	**Khabaz**	**12.00**	**54**	*e*P	**Pn**		**12 48 36.9**	**+2.0**
KBZ				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GNI	**Garni**	**12.24**	**73**	LR	LR		12 52 54.7	
	comp=Z,72nm,18.7s,baz=277,slow=35							
GNI	**Garni**	**12.24**	**73**	*e*P	**Pn**		**12 48 37.2**	**-1.3**
GNI				pmax	pmax			
	comp=Z,14nm,1.4s							
AKASG	**Malin Array Be**	**13.26**	**359**	Pn	**Pn**		**12 48 50.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=177,slow=32,SNR=0.9							
AKASG				LR	LR		12 54 44.8	
	comp=Z,51nm,19.0s,baz=237,slow=41							
	comp=Z,0.2nm,0.4s							
GUMA	**Gualdo di Mace**	**13.52**	**300**	Pn	**Pn**		**12 48 56.5**	**+0.8**
NRCA	**Norcia**	**13.60**	**298**	Pn	**Pn**		**12 48 57.6**	**+0.7**
MAK	**Makhachkala**	**14.86**	**63**	*e*P	Pn		12 49 08.2	-5.8
MAK				pmax	pmax			
	comp=Z,41nm,0.3s							
MAK				MLR	MLR			
	comp=Z,81nm,17.0s							
VRAC	**Vranov**	**15.07**	**326**	Pn	**Pn**		**12 49 16.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=150,slow=12,SNR=4.5							
	comp=Z,2.3nm,0.5s							
GEC2	**GERESS Array S**	**16.14**	**320**	Pn	**Pn**		**12 49 31.1**	**+0.1**
GERES	**GERESS Array B**	**16.14**	**320**	Pn	**Pn**		**12 49 32.1**	**+1.1**
GERES	**GERESS Array B**	**16.14**	**320**	Pn	**Pn**		**12 49 30.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=133,slow=9.8,SNR=18							
GERES	**GERESS Array B**	**16.14**	**320**	P	**Pn**		**12 49 32.1**	**+1.1**
KHC	**Kasperske Hory**	**16.39**	**320**	*e*P	**P**		**12 49 37.5**	**+0.5**
KHC	**Kasperske Hory**	**16.39**	**320**	*ce*P	**P**		**12 49 37.9**	**+0.9**
KHC				pmax	pmax			
	comp=Z,19nm,2.5s							
WET	**Wettzell**	**16.75**	**320**	P	**P**		**12 49 42.3**	**+1.3**
WET				pmax	pmax			
	comp=Z,11nm,1.3s							
PVCC	**Panska Ves**	**16.86**	**326**	P	**P**		**12 49 44.2**	**+2.1**
PVCC				pmax	pmax			
	comp=Z,15nm,1.4s							
MNK	**Minsk**	**17.10**	**357**	*i* P	**Pn**		**12 49 42.6**	**-0.3**
	comp=E,21nm,0.7s							
MNK				*i* P	**Pn**		**12 49 42.6**	**-0.3**
	comp=N,35nm,0.8s							
MNK				*i* P	**Pn**		**12 49 42.6**	**-0.3**
	comp=Z,19nm,0.7s,baz=175							
MNK				*i* PP	**PnPn**		**12 49 52.3**	**-0.3**
MNK				*i* PPP	PPP		12 50 00.1	
MNK				*i* S	**Sn**		**12 52 53.5**	**0.0**
MNK				*i* SS	**SnSn**		**12 53 08.2**	**+1.5**
MNK				*i* SSS	SSS		12 53 20.9	
MNK				*i* LQ	LQ		12 54 31.9	
MNK				*i* LR	LR		12 56 04.3	
MNK				*i* LRM	MLR		12 56 34.3	
	comp=N,98nm,13.8s							
MNK				*i* LRM	MLR		12 58 06.1	
	comp=Z,91nm,16.3s							
MNK				*i* LRM	MLR		12 58 36.7	
	comp=E,87nm,14.5s							
MNK	**Minsk**	**17.10**	**357**	*i* P	**Pn**		**12 49 42.6**	**-0.3**
MNK				*i* S	**Sn**		**12 52 53.4**	**0.0**
MNK				pmax	pmax			
	comp=Z,19nm,0.7s							
MNK				pmax	pmax			
	comp=E,21nm,0.7s							
MNK				pmax	pmax			
	comp=N,35nm,0.8s							
MNK				MLR	MLR			
	comp=N,98nm,14.0s							
MNK				MLR	MLR			
	comp=Z,91nm,16.0s							
MNK				MLR	MLR			
	comp=E,87nm,15.0s							
DAVOX	**Davos/Dischmat**	**17.22**	**309**	P	**Pn**		**12 49 44.0**	**-0.7**
	comp=E,0.2nm,0.3s,baz=120,slow=12,SNR=3.1							
DAVOX				LR	LR		12 56 13.9	
	comp=E,133nm,20.4s,baz=68,slow=37							
	comp=E,3.4nm,0.9s							
DAVOX	**Davos/Dischmat**	**17.22**	**309**	P	**P

comp=Z,1.0nm,0.5s
NRIK Noril'sk 44.34 26 P **P 12 53 53.2 -0.9**
comp=Z,1.3nm,0.3s,baz=200,slow=3.3,SNR=3.8
comp=Z,1.3nm,0.3s
SONM Songino Array 55.36 53 P **P 12 55 17.7 -0.7**
comp=Z,0.4nm,0.4s,baz=290,slow=6.5,SNR=4.7
comp=Z,0.4nm,0.4s
TIXI Tiksi 57.80 22 *i* P **P 12 55 35.4 +0.2**
TIXI pmax pmax
comp=Z,10.0nm,2.7s
CMAR Chiang Mai Arr 62.93 87 P **P 12 56 09.5 -1.6**
comp=Z,0.4nm,0.3s,baz=304,slow=10,SNR=5.1
comp=Z,0.4nm,0.3s
BILL Bilibino 69.97 16 P **P 12 56 57.0 +1.6**
BILL IAmb IAmb 12 56 59.4
comp=Z,4.5nm,1.0s
BILL Bilibino 69.97 16 *ce* P **P 12 56 58.4 +3.0**
BILL pmax pmax
comp=Z,7.0nm,1.3s
SEY Seymchan 70.11 24 P **P 12 56 55.7 -0.6**
comp=Z,0.4nm,0.6s,baz=166,slow=23,SNR=2.2
comp=Z,0.4nm,0.6s
SEY Seymchan 70.11 24 *ce* P **P 12 56 56.8 +0.5**
SEY pmax pmax
comp=Z,6.0nm,1.7s
MA2 Magadan 71.91 27 *ce* P **P 12 57 08.6 +1.3**
MA2 pmax pmax
comp=Z,6.0nm,1.7s
B22K Teshekpuk Lake 72.51 1 P **P 12 57 11.7 +1.1**
B22K IAmb IAmb 12 57 15.3
comp=Z,6.1nm,1.2s
B20K Meade River 72.75 2 P **P 12 57 13.3 +1.2**
C23K Itkillik River 73.03 0 P **P 12 57 14.3 +0.5**
C27K Jago River 73.13 357 P **P 12 57 14.9 +0.5**
C27K IAmb IAmb 12 57 19.2
comp=Z,3.5nm,1.1s
B21K Ikpikpuk River 73.21 1 P **P 12 57 16.1 +1.2**
D27M Malcolm River 73.39 356 P **P 12 57 17.4 +1.3**
D27M IAmb IAmb 12 57 28.9
comp=Z,5.3nm,1.4s
D25K Kavik River 73.51 358 P **P 12 57 18.0 +1.3**
D25K IAmb IAmb 12 57 21.2
comp=Z,6.1nm,1.3s
D23K Nanushuk River 73.91 0 P **P 12 57 20.0 +1.0**
D23K IAmb IAmb 12 57 24.0
comp=Z,5.0nm,1.1s
C18K Utukok River 73.93 4 P **P 12 57 19.5 +0.3**
E28M Babbage River 73.95 356 P **P 12 57 19.8 +0.5**
E28M IAmb IAmb 12 57 36.3
comp=Z,5.1nm,1.4s
D22K Ayikyak River 73.98 1 P **P 12 57 20.6 +1.1**
D22K IAmb IAmb 12 57 23.8
comp=Z,4.3nm,1.2s
C16K Lisburne Hills 74.02 6 P **P 12 57 21.8 +2.2**
C16K IAmb IAmb 12 57 23.6
comp=Z,6.5nm,1.2s
E29M Blow River 74.06 355 P **P 12 57 20.2 +0.3**
BBSR BB Station 74.10 299 P **P 12 57 22.0 +1.3**
TOLK Toolik Lake Re 74.23 360 P **P 12 57 21.9 +0.9**
F31M Tsiigehtchic 74.66 353 P **P 12 57 23.4 0.0**
F31M IAmb IAmb 12 57 26.5
comp=Z,5.0nm,1.1s
E25K Arctic Village 74.69 358 P **P 12 57 24.4 +0.7**
E22K Anaktuvuk Pass 74.74 0 P **P 12 57 24.7 +0.7**
E22K IAmb IAmb 12 57 32.7
comp=Z,8.3nm,1.4s
E23K Chandalar 74.82 360 P **P 12 57 25.5 +1.0**
E23K IAmb IAmb 12 57 28.8
comp=Z,7.1nm,1.4s
J57A Williamstown 74.92 313 P **P 12 57 26.6 +1.3**
J57A IAmb IAmb 12 57 30.6
comp=Z,5.6nm,0.9s
F26K Sheenjek River 75.07 357 P **P 12 57 27.6 +1.8**
E18K Tukpahlearik C 75.18 4 P **P 12 57 27.9 +1.5**
F25K Christian Rive 75.22 358 P **P 12 57 27.9 +1.2**
F25K IAmb IAmb 12 57 30.9
comp=Z,5.1nm,1.4s
G30M tAoh Zraii Nji 75.33 354 P **P 12 57 27.9 +0.5**
G30M IAmb IAmb 12 57 29.8
comp=Z,6.6nm,1.4s
F24K Squaw Lake 75.34 359 P **P 12 57 28.1 +0.7**
F24K IAmb IAmb 12 57 32.4
comp=Z,4.1nm,1.0s
BMAR Burnt Mountain 75.36 358 P **P 12 57 28.3 +0.8**
COLD Coldfoot 75.66 360 P **P 12 57 30.4 +1.3**
COLD IAmb IAmb 12 57 33.1
comp=Z,5.2nm,1.1s
F20K Avaraart Lake 75.76 2 P **P 12 57 31.0 +1.3**
F20K IAmb IAmb 12 57 33.4
comp=Z,5.6nm,1.3s
F19K Shaleruckik Mo 75.91 3 P **P 12 57 32.5 +1.9**
F19K IAmb IAmb 12 57 34.2
comp=Z,6.8nm,1.3s
YKA Yellowknife Ar 76.29 344 P **P 12 57 31.5 -1.3**
comp=Z,1.2nm,1.1s,baz=28,slow=5.6,SNR=9.9
comp=Z,1.2nm,1.1s
YKA Yellowknife Ar 76.29 344 *ce* P **P 12 57 35.0 +2.2**
YKA pmax pmax
comp=Z,1.0nm,1.0s
G21K Allakaket 76.35 1 P **P 12 57 33.5 +0.4**
G19K Purcell Mounta 76.62 3 P **P 12 57 36.7 +2.0**
G19K IAmb IAmb 12 57 39.0
comp=Z,7.2nm,1.4s
G18K Tagagawik 76.80 3 P **P 12 57 36.6 +0.9**
H23K Yukon River 77.06 360 P **P 12 57 38.3 +1.1**
I26K Coal Creek Min 77.42 357 P **P 12 57 39.9 +0.7**
I26K IAmb IAmb 12 57 43.5
comp=Z,6.7nm,1.2s
ILAR Eielson Array 78.08 358 P **P 12 57 41.8 -1.1**
comp=Z,0.6nm,1.0s,baz=337,slow=2.3,SNR=4.4
comp=Z,0.6nm,1.0s
DAWY Dawson 78.44 355 P **P 12 57 45.9 +0.9**
DAWY IAmb IAmb 12 57 49.0
comp=Z,5.3nm,1.2s
K27K Chicken 78.64 356 P **P 12 57 46.5 +0.5**
K27K IAmb IAmb 12 57 50.7
comp=Z,5.2nm,1.1s
J19K Poorman 78.82 2 P **P 12 57 47.6 +0.6**
BDFB Brasilia 89.75 250 P **P 12 58 42.6 -0.7**
comp=Z,5.1nm,0.9s,baz=75,slow=7.6,SNR=4.5
comp=Z,5.1nm,0.9s

IDC 20 13:00:05.7±45.0, 16°.72S×175°.26W, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=858.9km s-min=162.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.84**	**241**	P	P	13 07 57.9	+0.3
	2.5nm,0.5s,baz=69,slow=10.0,SNR=7.0						
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**47.82**	**258**	P	P	13 08 45.2	-0.2
	1.2nm,0.5s,baz=95,slow=7.2,SNR=20						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**48.01**	**253**	P	P	13 08 46.5	-0.4
	9.1nm,0.6s,baz=89,slow=8.5,SNR=212						
	9.1nm,0.6s						

NIED ***20*** *13:11:26.0, 28°.12N×128°.02E, h8km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.32; $M_{\theta\theta}$0.64; $M_{\phi\phi}$-0.32; $M_{r\theta}$-0.66; $M_{\theta\phi}$0.29; $M_{\phi r}$-0.50; Fault plane solution: $M_0$1.01000×10^{16} NP1: ϕ_s293.00000°, δ27.00000°, λ-28.00000°. NP2:ϕ_s49.00000°, δ78.00000°, λ-114.00000°.*
IDC ***20*** *13:11:26.1±0.7, 28°.01N×127°.95E, h0km, mb3.7/10, mbtmp3.6/12, ML3.0/1, MS3.8/60 Error ellipse: s-maj=28.3km s-min=12.5km az=74.0*
JMA ***20*** *13:11:26.0±0.3, 28°.1N±0°.5×128°.0E±0°.7, h8km±2km, MD4.6/17, MV4.2/17, NW OFF OKINAWAJIMA IS*
JMA Felt I J1 at NW OFF OKINAWAJIMA IS .
NEIC ***20*** *13:11:27.7±2.2, 27°.97N±0°.04×128°.06E±0°.06, h10km±1km, mb4.4/17, Error ellipse: s-maj=11.6km s-min=2.9km az=231.0*

ISC 20 13:11:27.2±1.5, 28°.04N±0°.04×128°.06E±0°.05, h7km±10km, n119, σ1$00/65, mb4.1/19, MS3.9/54, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.82**	**146**	P	**Pg**	**13 11 43.2**	**+0.2**
JOKE				*eS*	**Sb**	**13 11 55.8**	**+0.8**
JOKE	**Okinoerabujima**	**0.82**	**146**	A	A	13 11 43.2	
	comp=N,22nm,5.2s,comp=E,14nm,5.7s						
JTK	**Tokunoshima**	**0.83**	**108**	P	**Pg**	**13 11 42.9**	**-0.4**
JTK				*eS*	**Sg**	**13 11 54.5**	**+0.5**
JTK	**Tokunoshima**	**0.83**	**108**	A	A	13 11 42.9	
	comp=N,43nm,0.7s,comp=E,57nm,0.5s						
JIH	**Iheya**	**1.01**	**185**	P	**Pg**	**13 11 46.5**	**-0.1**
JIH				*eS*	**Sb**	**13 12 00.5**	**0.0**
JIH	**Iheya**	**1.01**	**185**	A	A	13 11 46.5	
	comp=N,10.0nm,7.8s,comp=E,11nm,7.7s						
JAMN	**Amaminishikomi**	**1.01**	**78**	P	**Pg**	**13 11 45.4**	**-1.2**
JAMN				*eS*	**Sg**	**13 11 59.1**	**-0.6**
JAMN	**Amaminishikomi**	**1.01**	**78**	A	A	13 11 45.4	
	comp=N,8.0nm,3.3s,comp=E,10.0nm,8.0s						
JYRO	**Yoronjima**	**1.07**	**161**	*eP*	**Pg**	**13 11 47.5**	**-0.4**
JYRO				*eS*	**Sb**	**13 12 03.0**	**+0.7**
JYRO	**Yoronjima**	**1.07**	**161**	A	A	13 11 47.5	
	comp=N,12nm,5.8s,comp=E,11nm,9.3s						
JOW	**Kunigami**	**1.22**	**171**		**Pb**	**13 11 49.8**	**-0.8**
JOW	**Kunigami**	**1.22**	**171**	Pn	**Pb**	**13 11 49.9**	**-0.8**
	comp=E,336nm,0.3s,baz=60,slow=9.2,SNR=157						
JOW				Sn	**Sn**	**13 12 06.9**	**-0.6**
	comp=E,499nm,0.3s,baz=123,slow=28,SNR=20						
JOW	**Kunigami**	**1.22**	**171**	*eP*	**Pb**	**13 11 49.9**	**-0.8**
JOW				*eS*	**Sn**	**13 12 06.9**	**-0.6**
JOW	**Kunigami**	**1.22**	**171**	A	A	13 11 49.9	
	comp=N,9.0nm,8.1s,comp=E,10.0nm,1.4s						
JAM	**Amami Oshima**	**1.42**	**75**	*eP*	**Pn**	**13 11 52.1**	**-1.3**
JAM				*eS*	**Sn**	**13 12 10.3**	**-2.0**
JAM	**Amami Oshima**	**1.42**	**75**	A	A	13 11 52.1	
	comp=N,10.0nm,3.2s,comp=E,10.0nm,9.2s						
JTAJ	**Takarajima**	**1.50**	**42**	*eP*	**Pn**	**13 11 52.6**	**-2.0**
JTAJ	**Takarajima**	**1.50**	**42**	A	A	13 11 52.6	
	comp=N,12nm,8.3s,comp=E,8.0nm,4.1s						
JNTH	**Nagotoyohara**	**1.52**	**181**	*eP*	**Pn**	**13 11 54.9**	**+0.1**
JNTH				*eS*	**Sb**	**13 12 14.7**	**-0.5**
JAGN	**Aguni-jima**	**1.62**	**207**	*eP*	**Pn**	**13 11 55.7**	**-0.5**
JAGN				*eS*	**Sn**	**13 12 16.5**	**-0.8**
JAGN	**Aguni-jima**	**1.62**	**207**	A	A	13 11 55.7	
	comp=N,7.0nm,5.7s,comp=E,13nm,7.3s						
JZK	**Kikaishima**	**1.71**	**80**	*eP*	**Pn**	**13 11 58.3**	**+0.8**
JZK	**Kikaishima**	**1.71**	**80**	A	A	13 11 58.3	
	comp=N,35nm,2.3s,comp=E,37nm,2.2s						
JJT3	**Tamagusuku3**	**1.91**	**187**	*eP*	**Pb**	**13 12 01.6**	**-0.7**
JJT3	**Tamagusuku3**	**1.91**	**187**	A	A	13 12 01.6	
	comp=N,18nm,4.1s,comp=E,16nm,5.3s						
JKE	**Kume jima 2**	**2.05**	**214**	*eP*	**Pb**	**13 12 04.8**	**0.0**
JMZ	**Minamidaito 2**	**3.59**	**127**		**Pn**	**13 12 22.5**	**-0.8**
JNU	**Nakatsue**	**5.62**	**25**		**Pn**	**13 12 54.2**	**+3.0**
JNU	**Nakatsue**	**5.62**	**25**	Pn	Pn	13 12 56.6	+5.4
	comp=E,2.4nm,0.3s,baz=172,slow=4.6,SNR=17						
YHNB	**Yeheng**	**6.87**	**242**	Pn	**Pn**	**13 13 10.7**	**+2.3**
JMN	**Monobe**	**7.56**	**40**	Pn	**Pn**	**13 13 18.9**	**+1.0**
SSLB	**Suanglung**	**7.67**	**238**	Pn	**Pn**	**13 13 17.7**	**-1.8**
TPUB	**Ta-pu**	**8.20**	**236**	Pn	**Pn**	**13 13 27.5**	**+0.9**
KSRS	**Korea Array**	**9.39**	**359**	Pn	**Pn**	**13 13 42.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=170,slow=13,SNR=5.7						
KSRS				LR	LR	13 17 32.1	
	comp=E,1μm,18.1s,baz=180,slow=39						
	comp=E,1.6nm,1.0s						
JGF	**Kuroka**	**10.92**	**44**	Pn	**Pn**	**13 14 06.3**	**+2.3**
JHJ	**Hachijo jima 2**	**11.30**	**61**	LR	LR	13 18 32.0	
	comp=E,176nm,19.4s,baz=251,slow=37						
MJAR	**Matsushiro Arr**	**12.06**	**43**	Pn	**Pn**	**13 14 20.8**	**+1.2**
	comp=E,0.4nm,0.5s,baz=227,slow=14,SNR=1.7						
MJAR				LR	LR	13 19 32.7	
	comp=E,247nm,20.6s,baz=225,slow=40						
JCJ	**Chichijima**	**12.57**	**91**	LR	LR	13 19 02.8	
	comp=E,300nm,18.4s,baz=142,slow=36						
ENH	**Enshi**	**16.38**	**282**	P	**P**	**13 15 20.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**16.43**	**10**	Pn	**P**	**13 15 23.5**	**+2.5**
	comp=E,0.1nm,0.3s,baz=203,slow=13,SNR=6.4						
USRK				LR	LR	13 21 31.8	
	comp=E,272nm,19.5s,baz=192,slow=37						
ASAJ	**Asahikawa**	**19.84**	**32**	LR	LR	13 24 18.0	
	comp=E,175nm,18.8s,baz=180,slow=39						
DAV	**Davao City (W)**	**20.99**	**187**	LR	LR	13 24 05.5	
	comp=E,198nm,21.1s,baz=335,slow=36						
GUMO	**Guam**	**21.26**	**129**	LR	LR	13 23 13.1	
	comp=E,210nm,19.5s,baz=324,slow=33						
KLR	**Kul'dur**	**21.35**	**7**	P	**P**	**13 16 15.7**	**+0.8**
	comp=E,1.3nm,0.8s,baz=142,slow=8.4,SNR=2.6						
KLR				LR	LR	13 24 17.8	
	comp=E,213nm,19.7s,baz=186,slow=36						
	comp=E,1.3nm,0.8s						
ULN	**Ulaanbaatar**	**25.66**	**326**	P	**P**	**13 16 57.5**	**-0.2**
ULN				IAmb	IAmb	13 17 04.5	
	comp=Z,8.4nm,1.2s						
SONM	**Songino Array**	**25.96**	**325**	P	**P**	**13 17 01.3**	**+0.7**
SONM	**Songino Array**	**25.96**	**325**	P	**P**	**13 17 00.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=137,slow=10,SNR=7.3						
SONM				LR	LR	13 28 29.9	
	comp=Z,261nm,18.5s,baz=133,slow=40						
	comp=Z,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.34**	**257**	LR	LR	13 30 05.4	
	comp=Z,117nm,21.3s,baz=80,slow=40						
JAY	**Jayapura**	**32.73**	**156**	LR	LR	13 29 01.5	
	comp=Z,121nm,20.6s,baz=334,slow=32						
PETK	**Petropavlovsk-**	**33.25**	**33**	LR	LR	13 30 45.2	
	comp=Z,96nm,21.6s,baz=224,slow=35						
BRDH	**Bariadhala**	**33.25**	**269**	LR	LR	13 32 36.0	
	comp=Z,202nm,18.6s,baz=100,slow=38						
KAPI	**Kappang**	**33.83**	**195**	LR	LR	13 32 40.1	
	comp=Z,73nm,19.7s,baz=3.0,slow=38						
YAK	**Yakutsk**	**34.01**	**1**	LR	LR	13 32 07.0	
	comp=Z,226nm,20.3s,baz=156,slow=36						
MA2	**Magadan**	**35.16**	**20**	LR	LR	13 32 19.3	
	comp=Z,66nm,21.4s,baz=220,slow=36						
H11N2	**WAKE ISLAND Hy**	**36.34**	**94**	T	T	13 56 18.4	
	baz=290,slow=74,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**36.34**	**95**	T	T	13 56 17.4	
	baz=290,slow=74,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**36.36**	**95**	T	T	13 56 20.1	
	baz=290,slow=74,SNR=6.1						
SEY	**Seymchan**	**38.34**	**18**	LR	LR	13 35 55.8	
	comp=Z,155nm,18.1s,baz=163,slow=38						
MK31	**Makanchi Array**	**40.23**	**310**	P	**P**	**13 19 04.0**	**-0.5**
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**13 19 04.1**	**-0.4**
MKAR	**Makanchi Array**	**40.23**	**310**	P	**P**	**13 19 03.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=103,slow=8.1,SNR=11						
MKAR				LR	LR	13 36 04.1	
	comp=Z,136nm,19.3s,baz=153,slow=37						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**40.73**	**322**	P	**P**	**13 19 07.8**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=111,slow=8.5,SNR=2.1						
ZALV				LR	LR	13 37 32.9	
	comp=Z,143nm,18.6s,baz=112,slow=38						
	comp=Z,0.5nm,0.4s						
SHEM	**Shemya Is, Ala**	**41.90**	**41**	LR	LR	13 38 20.2	
	comp=Z,15nm,20.6s,baz=346,slow=38						
KURBB	**Kurchatov Arra**	**43.45**	**315**	P	**P**	**13 19 30.1**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=102,slow=8.8,SNR=6.7						
	comp=Z,1.6nm,0.6s						
TIXI	**Tiksi**	**43.65**	**0**	LR	LR	13 38 05.0	
	comp=Z,312nm,19.1s,baz=194,slow=37						
FITZ	**Fitzroy Crossi**	**45.93**	**183**	P	**P**	**13 19 51.2**	**+0.4**
FITZ				IAmb	IAmb	13 20 18.6	
	comp=Z,5.2nm,1.5s						
FITZ	**Fitzroy Crossi**	**45.93**	**183**	LR	LR	13 41 30.5	
	comp=Z,32nm,18.3s,baz=14,slow=39						
NRIK	**Noril'sk**	**47.49**	**342**	LR	LR	13 41 25.1	
	comp=Z,149nm,21.4s,baz=138,slow=38						
WB0	**Warramunga Arr**	**47.92**	**172**	P	**P**	**13 20 06.2**	**-0.1**
WB0				IAmb	IAmb	13 20 19.0	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**48.09**	**172**	P	**P**	**13 20 07.1**	**-0.6**
WRA	**Warramunga Arr**	**48.09**	**172**	P	**P**	**13 20 07.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=352,slow=8.3,SNR=9.1						
WRA				LR	LR	13 39 45.9	
	comp=Z,77nm,20.9s,baz=44,slow=35						
	comp=Z,1.2nm,0.7s						
HNR	**Honiara**	**48.37**	**136**	LR	LR	13 39 38.7	
	comp=Z,52nm,20.8s,baz=41,slow=35						
BVAR	**Borovoye Array**	**48.83**	**317**	P	**P**	**13 20 13.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=98,slow=7.6,SNR=6.8						
BVAR				LR	LR	13 42 20.8	
	comp=Z,456nm,18.2s,baz=97,slow=38						
	comp=Z,0.6nm,0.6s						
PALK	**Pallekele**	**49.24**	**254**	LR	LR	13 42 28.6	
	comp=Z,71nm,18.9s,baz=76,slow=38						
ASAR	**Alice Springs**	**51.72**	**173**	P	**P**	**13 20 35.7**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=359,slow=8.0,SNR=9.0						
	comp=Z,0.7nm,0.9s						
ABKAR	**Akbulak array**	**55.31**	**312**	P	**P**	**13 21 00.0**	**-1.4**
M13K	**Dall Lake**	**55.52**	**34**	P	**P**	**13 21 03.7**	**+1.0**
ARTI	**Arti**	**55.98**	**321**	LR	LR	13 45 52.0	
	comp=Z,109nm,20.5s,baz=94,slow=37						
RDOG	**Red Dog Mine**	**56.48**	**25**	P	**P**	**13 21 08.6**	**-0.9**
RDOG				IAmb	IAmb	13 21 16.0	
	comp=Z,3.2nm,0.7s						
E19K	**Redstone River**	**58.58**	**26**	P	**P**	**13 21 24.8**	**+0.5**
E19K				IAmb	IAmb	13 21 35.1	
	comp=Z,6.6nm,1.4s						
D22K	**Ayikyak River**	**60.29**	**24**	P	**P**	**13 21 36.0**	**-0.2**
D22K				IAmb	IAmb	13 22 01.0	
	comp=Z,2.7nm,1.0s						
KIRV	**Kirov**	**60.69**	**324**	LR	LR	13 50 11.6	
	comp=Z,176nm,19.8s,baz=88,slow=38						
STKA	**Stephens Creek**	**60.97**	**167**	LR	LR	13 47 45.1	
	comp=Z,26nm,20.6s,baz=27,slow=36						
D23K	**Nanushuk River**	**61.01**	**24**	P	**P**	**13 21 41.4**	**+0.4**
D23K				IAmb	IAmb	13 22 11.5	
	comp=Z,2.9nm,1.1s						
KDAK	**Kodiak Island**	**61.16**	**37**	LR	LR	13 50 51.5	
	comp=Z,35nm,18.4s,baz=90,slow=39						
E23K	**Chandalar**	**61.46**	**25**	P	**P**	**13 21 43.5**	**-0.7**
E23K				IAmb	IAmb	13 22 09.9	
	comp=Z,3.5nm,1.1s						
NWAO	**Narrogin (SRO)**	**61.50**	**190**	LR	LR	13 49 53.7	
	comp=Z,26nm,20.5s,baz=246,slow=38						
H23K	**Yukon River**	**61.69**	**28**	P	**P**	**13 21 46.2**	**+0.5**
F24K	**Squaw Lake**	**62.17**	**26**	P	**P**	**13 21 48.3**	**-0.6**
F24K				IAmb	IAmb	13 22 00.5	
	comp=Z,5.5nm,1.5s						
G24K	**Hadweenzic Riv**	**62.42**	**27**	P	**P**	**13 21 50.0**	**-0.6**
ILAR	**Eielson Array**	**62.92**	**29**	P	**P**	**13 21 54.7**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=285,slow=6.6,SNR=4.4						
ILAR				LR	LR	13 52 19.0	
	comp=Z,52nm,18.8s,baz=216,slow=39						
	comp=Z,0.2nm,0.6s						
BMAR	**Burnt Mountain**	**63.44**	**26**	P	**P**	**13 21 57.6**	**+0.2**
M26K	**Nabesna, AK**	**65.08**	**31**	P	**P**	**13 22 07.6**	**-0.6**
SPITS	**Spitsbergen Ar**	**67.03**	**348**	LR	LR	13 54 18.0	
	comp=Z,72nm,18.5s,baz=359,slow=38						
GNI	**Garni**	**67.71**	**305**	LR	LR	13 56 00.6	
	comp=Z,38nm,18.4s,baz=79,slow=40						
KBZ	**Khabaz**	**67.90**	**309**	LR	LR	13 54 01.5	
	comp=Z,65nm,19.3s,baz=298,slow=38						
ARCES	**ARCESS Array B**	**68.27**	**338**	LR	LR	13 56 54.1	
	comp=Z,96nm,18.2s,baz=98,slow=40						
OBN	**Obninsk**	**68.31**	**322**	LR	LR	13 52 54.7	
	comp=Z,108nm,18.1s,baz=17,slow=36						
FINES	**FINESS Array B**	**71.22**	**330**	LR	LR	13 58 36.1	
	comp=Z,171nm,18.2s,baz=59,slow=40						
AKASG	**Malin Array Be**	**74.06**	**319**	LR	LR	13 58 20.6	
	comp=Z,189nm,19.1s,baz=60,slow=38						
BRTR	**Keskin Array B**	**75.81**	**308**	LR	LR	13 59 36.2	
	comp=Z,61nm,18.7s,baz=352,slow=38						
BBB	**Bella Bella**	**76.21**	**38**	LR	LR	13 57 23.0	
	comp=Z,26nm,19.6s,baz=321,slow=36						
JMIC	**Jan Mayen**	**76.62**	**347**	LR	LR	14 00 45.4	
	comp=Z,44nm,18.1s,baz=105,slow=39						
YKA	**Yellowknife Ar**	**76.95**	**25**	P	**P**	**13 23 20.0**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=301,slow=5.9,SNR=6.9						
YKA				LR	LR	14 01 09.4	
	comp=Z,53nm,19.1s,baz=322,slow=39						
	comp=Z,0.9nm,1.0s						
HFS	**Hagfors**	**77.15**	**332**	LR	LR	14 02 11.8	
	comp=Z,124nm,20.3s,baz=44,slow=40						
MMAI	**Mount Meron Ar**	**77.34**	**301**	LR	LR	14 01 46.4	
	comp=Z,49nm,18.1s,baz=60,slow=39						
NOA	**NORSAR Array B**	**77.63**	**334**	LR	LR	14 01 01.6	
	comp=Z,88nm,20.3s,baz=40,slow=38						
MLR	**Muntele Rosu**	**78.35**	**315**	LR	LR	14 03 49.8	
	comp=Z,80nm,19.0s,baz=44,slow=40						
EIL	**Elat**	**79.13**	**298**	LR	LR	14 03 23.8	
	comp=Z,61nm,18.9s,baz=67,slow=39						
URZ	**Urewera**	**80.35**	**143**	LR	LR	13 55 27.9	
	comp=Z,62nm,20.5s,baz=48,slow=33						
VRAC	**Vranov**	**81.84**	**322**	LR	LR	14 03 36.6	
	comp=Z,138nm,19.0s,baz=48,slow=38						
GERES	**GERESS Array B**	**83.67**	**323**	LR	LR	14 06 31.6	
	comp=Z,168nm,18.2s,baz=68,slow=40						
NEW	**Newport**	**84.26**	**38**	LR	LR	14 03 31.8	
	comp=Z,21nm,19.3s,baz=290,slow=37						
SFJD	**Kangerlussuaq**	**85.25**	**359**	LR	LR	14 03 21.8	
	comp=Z,83nm,19.8s,baz=359,slow=36						
DAVOX	**Davos/Dischmat**	**86.97**	**323**	LR	LR	14 07 51.0	
	comp=Z,163nm,18.3s,baz=58,slow=39						
KMBO	**Kilima Mbogo**	**91.23**	**269**	LR	LR	14 07 53.6	
	comp=Z,45nm,18.1s,baz=84,slow=37						
PPT	**Papeete**	**91.62**	**109**	LR	LR	14 02 20.1	
	comp=Z,52nm,19.6s,baz=334,slow=33						
KEST	**Kesra**	**94.22**	**314**	LR	LR	14 13 25.0	
	comp=Z,51nm,19.3s,baz=336,slow=40						
ESDC	**Sonseca Array**	**99.16**	**324**	LR	LR	14 15 52.3	
	comp=Z,62nm,19.5s,baz=16,slow=39						

AZER ***20*** *13:13:43.4, 39°.36N×44°.35E, h9km, ml3.1*
TEH ***20*** *13:13:43.8, 39°.32N×44°.30E, h10km±148km*
AFAD ***20*** *13:13:44.1, 39°.40N×44°.42E, h2km, ML2.5*

ISC 20 13:13:44.4±1.1, 39°.34N±0°.02×44°.41E±0°.02, h11km±10km, n41, σ1$34/72, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.21**	**86**	Pg	**Pb**	**13 13 50.0**	**-0.5**
HYR	**Heyderabad**	**0.51**	**42**	P	**Pb**	**13 13 55.5**	**0.0**
HYR				S	**Sb**	**13 14 03.6**	**+0.6**
IGDI	**IGDIR**	**0.58**	**334**	P	**Pb**	**13 13 55.5**	**-1.2**
IGDI				S	**Sb**	**13 14 03.2**	**-1.8**
IGDI				*i* AML	AML	13 14 05.0	
	comp=N,609nm,0.6s						
IGDI	**IGDIR**	**0.58**	**334**	P	**Pb**	**13 13 55.8**	**-1.0**
IGDI				S	**Sb**	**13 14 04.4**	**-0.7**
DYDN	**Diyadin**	**0.59**	**290**	P	**Pb**	**13 13 56.1**	**-0.9**
DYDN				S	**Sb**	**13 14 05.1**	**-0.3**
DYDN				*i* AML	AML	13 14 12.0	
	comp=E,320nm,1.1s						
VMUR	**Van-Muradiye**	**0.74**	**242**	P	**Pb**	**13 13 59.2**	**-0.2**
VMUR				S	**Sb**	**13 14 08.0**	**-1.6**
VMUR				*i* AML	AML	13 14 13.0	
	comp=E,182nm,0.4s						
OZAP	**Van, Ozalp-Mer**	**0.75**	**206**	P	**Pn**	**13 14 00.4**	**-0.8**
OZAP				S

AGDM	Agdam	2.22	69	Pg	Pg	13 14 28.4	+1.4
AGDM				Sg	Sg	13 14 58.1	+2.4
DGRG	David-gareji	2.23	19	Pn	Pg	13 14 25.5	-1.7
DGRG				Sn	Sb	13 14 52.3	-0.2
QRD	Qoradiz	2.26	86	Pg	Pg	13 14 27.4	-0.4
QRD				Sg	Sg	13 14 59.3	+2.2
IHRS	Heris	2.30	116	Pn	Pb	13 14 26.2	+0.2
BRDA	Brd	2.33	66	Pg	Pg	13 14 29.3	+0.3
BRDA				Sg	Sg	13 14 57.7	-1.5
MNGR	Mingechevir, A	2.50	54	Sg	Sg	13 15 03.0	-1.9
GRMI	Germi	2.77	100	Pn	Pb	13 14 33.5	-0.4
SEKA	Sheki	2.84	48	Pg	Pg	13 14 37.6	-1.1
SEKA				Sg	Sg	13 15 15.8	+0.2
ZKTA	Zakatala	2.85	36	Pg	Pg	13 14 37.3	-1.8
ZKTA				Sg	Sb	13 15 12.3	+2.0
YRD	Yardimli	3.01	97	Pg	Pb	13 14 38.3	+0.1
YRD				Sg	Sg	13 15 22.0	+0.8
QBL	Gabala	3.08	58	Pg	Pb	13 14 38.8	-0.5
QBL				Sg	Sg	13 15 22.0	-1.3
GLBA	Clilabad	3.10	91	Sg	Sg	13 15 23.9	+0.1
LRK	Lerik	3.14	102	Pg	Pb	13 14 40.7	+0.3
LRK				Sg	Sg	13 15 25.0	-0.5
XNQ	Khinaliq	3.39	56	Pg	Pb	13 14 44.8	+0.1
XNQ				Sg	Sg	13 15 33.0	-0.4
LKRN	Lenkeran, Azer	3.46	99	Sg	Sg	13 15 33.9	-1.7
ASTR	Astara	3.51	101	Pg	Pb	13 14 47.0	+0.5
ASTR				Sg	Sg	13 15 37.6	+0.5
PQL	Pirkuli	3.52	64	Pg	Pb	13 14 46.4	-0.5
PQL				Sg	Sg	13 15 35.9	-1.7

*WEL **20** 13:15:58.2±0.9, 32°S±6°×17°8W±1°8, h12km, M4.3/2, ML4.8/6, MLv4.3/2, Error ellipse: s-maj=24.0km s-min=4.1km az=106.6, confirmed*
*IDC **20** 13:16:02.6±3.1, 31°84S×178°23W, h0km, mb3.8/2, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=69.8km s-min=37.0km az=113.0*
ISC 20 13:15:59.7±1.7, 31°85S±0°09×177°7W±0°2, h18km, n20, σ1§80/28, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.59	356	P	Pn	13 16 40.1	-0.6
GLKZ				S	Sn	13 17 10.7	-1.0
MXZ	Matakaoa Point	6.57	209	S	Sn	13 18 49.1	-0.9
WMGZ	Waiomatatini S	6.75	207	S	Sn	13 18 57.2	+2.8
HAZ	Te Kaha	6.96	211	P	Pn	13 17 39.9	-0.9
HAZ				S	Sn	13 19 01.5	+2.1
PUZ	Puketiti	7.03	207	P	Pn	13 17 40.4	-1.4
PUZ				S	Sn	13 19 01.3	-0.1
RUGZ	Raukumara Rang	7.18	211	P	Pn	13 17 42.9	-1.0
RUGZ				S	Sn	13 19 06.1	+1.0
TWGZ	Tauwhareparae	7.23	208	S	Sn	13 19 06.6	+0.3
KUZ	Kuaotunu	7.31	226	S	Sn	13 19 05.7	-2.3
CNGZ	Carnagh Statio	7.41	206	P	Pn	13 17 43.1	-3.9
CNGZ				S	Sn	13 19 13.3	+2.7
MWZ	Matawai	7.55	210	P	Pn	13 17 47.9	-1.1
MWZ				S	Sn	13 19 13.8	-0.3
URZ	Urewera	7.67	212	Pn	Pn	13 17 51.8	+1.3
	0.3nm,0.3s,baz=58,slow=19,SNR=1.6						
URZ				Sn	Sn	13 19 17.7	+0.7
	1.6nm,0.3s,baz=21,slow=18,SNR=13 6.7nm,1.0s						
URZ	Urewera	7.67	212	P	Pn	13 17 48.9	-1.7
URZ				S	Sn	13 19 16.1	-1.0
RIGZ	Rimuhau	7.78	207	P	Pn	13 17 49.4	-2.6
RIGZ				S	Sn	13 19 18.6	-1.0
PRGZ	Paritu Road	7.92	206	S	Sn	13 19 21.7	-1.5
MUGZ	Murupara	8.01	213	S	Sn	13 19 23.2	-2.1
SNGZ	Shannon Statio	8.01	209	S	Sn	13 19 24.6	-0.7
ASAR	Alice Springs	43.30	268	P	P	13 24 02.9	+2.2
	0.8nm,0.6s,baz=107,slow=7.4,SNR=15 0.8nm,0.6s						
WRA	Warramunga Arr	44.42	273	P	P	13 24 11.8	+2.1
	1.0nm,0.5s,baz=112,slow=8.0,SNR=22 1.0nm,0.5s						
QSPA	South Pole Qui	58.26	180	P	P	13 26 04.9	+12
	1.8nm,1.1s,baz=297,slow=9.9,SNR=2.4						
FINES	FINESS Array B	146.59	339	PKPbc	PKiKP	13 35 43.9	+1.7
	2.5nm,0.9s,baz=44,slow=2.6,SNR=5.4						

*CATAC **20** 13:21:43.2±0.5, 14°N±3°×9°1W±°, h9km±3km, M3.8/20, MLv3.8/20, Error ellipse: s-maj=7.0km s-min=3.7km az=31.5, confirmed*
*SNET **20** 13:21:44.6±1.6, 13°75N×91°21W, h75km, ML3.6*
*GCG **20** 13:21:44.4±2.2, 13°90N×91°25W, h71km±17km, MD4.0, ML3.0, MW3.4*
ISC 20 13:21:43.4±1.8, 13°81N±0°07×91°21W±0°05, h10km±11km, n67, σ0§86/74, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	El Palmar, Qui	0.63	348	eP		13 22 01.6	
STG8	El Palmar, Qui	0.65	348	eP		13 22 02.3	
STG8				i S		13 22 15.9	
ESSG	Sabana Grande	0.68	33	eP	Pn	13 21 58.8	-0.5
ESSG				eS	Sn	13 22 09.6	-0.3
ESSG	Sabana Grande	0.68	33	eP		13 21 58.8	
ESSG				eS		13 22 09.6	
ESSJ	San Jos, E	0.73	110	eP		13 21 56.7	
ESSJ				i S		13 22 07.4	
RTAL	Retalhuleu	0.85	326	P	Pn	13 22 11.3	+10
RTAL	Retalhuleu	0.85	326	P	Pg	13 21 59.7	-0.1
RTAL	Retalhuleu	0.85	326	S	Sb	13 22 12.7	+0.8
SOKI	Kika Raxquin	1.02	349	eP	Pb	13 22 03.4	-0.1
SOKI				i S	Sn	13 22 18.1	-0.8
SOKI				IAML		13 22 24.2	
	comp=Z,369nm,0.4s						
SOKI	Kika Raxquin	1.02	349	eP		13 22 03.4	
SOKI				i S		13 22 18.1	
SOKI				IAML		13 22 24.2	
	comp=Z,369nm,0.4s						
FAME	Alcaldia de Sa	1.16	88	S	Sb	13 22 20.4	-0.4
APG	El Apazote	1.39	31	i P	Pg	13 22 10.1	0.0
APG				i S	Sg	13 22 30.7	+2.5
APG	El Apazote	1.39	31	i P		13 22 10.1	
APG				i S		13 22 30.7	
NUBE	Las Nubes	1.39	86	eP	Pn	13 22 08.7	-0.5
NUBE				eS	Sb	13 22 26.9	-0.6
NUBE	Las Nubes	1.39	86	P	Pn	13 22 08.7	-0.5
NUBE	Las Nubes	1.39	86	P	Pn	13 22 08.6	-0.5
NUBE	Las Nubes	1.39	86	eP	Pn	13 22 08.6	-0.5
NUBE				i S	Sb	13 22 26.7	-0.9
NUBE	Las Nubes	1.39	86	eP		13 22 08.6	
NUBE				i S		13 22 26.7	
LOAL	Lomas de Alarc	1.40	82	P	Pb	13 22 09.3	-0.4
LOAL	Lomas de Alarc	1.40	82	S	Sg	13 22 28.1	-0.4
LOAL	Lomas de Alarc	1.40	82	P	Pb	13 22 09.3	-0.4
SLOZ	Alcaldia de Sa	1.40	81	P	Pn	13 22 09.1	0.0
SLOZ	Alcaldia de Sa	1.40	81	P	Pn	13 22 09.2	0.0
SLOZ	Alcaldia de Sa	1.40	81	S	Sg	13 22 28.1	-0.4
HUEH	Huehuetenango	1.52	349	S	Sg	13 22 32.9	+0.3
CEVE	Cerro Verde	1.54	89	eP	Pn	13 22 11.2	-0.1
CEVE				eS	Sn	13 22 31.6	+0.1
CEVE	Cerro Verde	1.54	89	P	Pn	13 22 11.1	-0.1
CEVE	Cerro Verde	1.54	89	P	Pn	13 22 11.2	-0.1
SBLS	San Blas	1.54	89	eP	Pn	13 22 11.1	-0.1
UNIC	Universidad Ca	1.62	84	P	Pn	13 22 12.4	+0.2
UNIC	Universidad Ca	1.62	84	S	Sb	13 22 33.7	-0.4
JAYA	Jayaque - finc	1.72	95	eP	Pn	13 22 13.0	-0.6
JAYA				eS	Sn	13 22 34.8	-0.9
JAYA	Jayaque - finc	1.72	95	P	Pn	13 22 13.0	-0.6
JAYA	Jayaque - finc	1.72	95	P	Pn	13 22 13.1	-0.6
JAYA	Jayaque - finc	1.72	95	S	Sn	13 22 35.6	-0.2
JAYA	Jayaque - finc	1.72	95	eP	Pn	13 22 12.8	-0.8
JAYA				eS	Sn	13 22 34.4	-1.3
JAYA	Jayaque - finc	1.72	95	eP		13 22 12.8	
JAYA				eS		13 22 34.4	
CEDA	San Andres	1.76	90	S	Sb	13 22 37.9	-0.2
PMON	Piamonte	1.84	93	eP	Pn	13 22 15.4	+0.1
PMON	Piamonte	1.84	93	P	Pn	13 22 15.4	+0.1
PMON	Piamonte	1.84	93	S	Sn	13 22 39.0	+0.2
PMON	Piamonte	1.84	93	P	Pn	13 22 15.5	+0.1
LALI	Alcalda de L	1.86	100	P	Pn	13 22 15.1	-0.3
ITCA	Escuela Especi	1.88	94	P	Pn	13 22 16.6	+0.8
ITCA	Escuela Especi	1.88	94	S	Sn	13 22 40.4	+0.7
MTO3	Montecristo	1.89	72	P	Pn	13 22 16.0	0.0
MTO3	Montecristo	1.89	72	P	Pn	13 22 16.2	+0.2
ESQI	Esquipulas	1.96	67	eP	Pn	13 22 17.5	+0.6
ESQI	Esquipulas	1.96	67	P	Pn	13 22 17.3	+0.5
ESQI	Esquipulas	1.96	67	P	Pn	13 22 17.5	+0.6
PANCS	Alcalda de	1.98	95	P	Pn	13 22 17.2	0.0
IGN	Direccin Gen	1.98	93	S	Sn	13 22 43.1	+1.0
LOMA	Loma Larga	1.99	95	eP	Pn	13 22 17.6	+0.3
LOMA	Loma Larga	1.99	95	P	Pn	13 22 17.6	+0.3
UDBS	Universidad Do	2.00	92	P	Pn	13 22 17.7	+0.3
UDBS	Universidad Do	2.00	92	S	Sb	13 22 44.2	-0.8
PAVA	Las Pavas	2.21	92	P	Pn	13 22 20.4	+0.1
LLGN	La Laguna	2.23	81	P	Pn	13 22 21.3	+0.7
LLGN	La Laguna	2.23	81	S	Sb	13 22 50.6	-1.0
COEG	Centro de Oper	2.27	95	P	Pn	13 22 21.3	+0.1
COEG	Centro de Oper	2.27	95	S	Sn	13 22 50.8	+1.5
UESV	Universidad de	2.36	94	S	Sb	13 22 53.8	-1.5
TECO	Alcaldia de Te	2.38	96	S	Sn	13 22 53.6	+1.8
SCLA	Alcaldia de Sa	2.41	92	P	Pn	13 22 23.5	+0.5
SCLA	Alcaldia de Sa	2.41	92	S	Sb	13 22 54.8	-2.1
PQSS	Presa 15 de Se	2.58	94	P	Pn	13 22 25.6	+0.2
PQSS	Presa 15 de Se	2.58	94	S	Sn	13 22 58.7	+1.8
CCIG	Comitan	2.62	340	S	Sb	13 23 01.0	-1.8
PACA	Pacayal	2.83	97	S	Sn	13 23 04.4	+1.4
PACA	Pacayal	2.83	97	P	Pn	13 22 29.7	+0.9
RANC	El Ranchito	2.86	97	P	Pn	13 22 30.3	+0.9
RANC	El Ranchito	2.86	97	S	Sn	13 23 05.9	+1.9
LCND	La Caada	3.27	98	P	Pn	13 22 34.9	+0.1
CNCH	Conchagua	3.33	99	P	Pn	13 22 36.6	+0.9
CNCH	Conchagua	3.33	99	S	Sn	13 23 17.2	+1.8

*NEIC **20** 13:22:42.9±2.2, 17°7S±0°1×178°2W±0°1, h492km±7km, mb4.7/79, Error ellipse: s-maj=16.4km s-min=13.3km az=143.0*
*IDC **20** 13:22:42.5±1.3, 17°65S×178°31W, h486km±14km, mb4.2/32, mbtmp5.0/34, Error ellipse: s-maj=10.8km s-min=8.8km az=135.0*
*NOU **20** 13:22:43.2, 17°75S×178°19W, h501km, mb4.8/87, Fiji Islands Region*
ISC 20 13:22:43.2±0.3, 17°70S±0°05×178°26W±0°05, h500km, n701, σ1§02/716, mb4.7/102, 23C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	3.37	2		P	13 23 57.7	+0.8
FUTU	Fugatoga	3.37	2	P	P	13 23 57.6	+0.7
MSVF	Nonsavu	3.52	269	P	P	13 24 00.6	+2.6
MSVF	Nonsavu	3.52	269	P	P	13 24 00.7	+2.7
	2µm,0.8s,baz=137,slow=19,SNR=1142						
MSVF				S	S	13 25 02.5	+3.6
	95nm,0.8s,baz=96,slow=21,SNR=5.5						
MSVF	Nonsavu	3.52	269	P	P	13 24 00.6	+2.6
AFI	Afiamalu	7.28	60		P	13 24 29.2	-3.2
AFI	Afiamalu	7.28	60	P	P	13 24 30.0	-2.5
NIUE	Niue	8.03	101	P	P	13 24 39.3	-0.6
NIUE	Niue	8.03	101	P	P	13 24 40.3	+0.4
	comp=Z,192nm,0.6s						
NIUE	Niue	8.03	101	P	P	13 24 40.4	+0.4
NIUE	Niue	8.03	101	P	P	13 24 37.7	-2.2
NIUE				S	S	13 26 20.9	+5.2
FUNA	Funafuti	9.45	344	P	P	13 24 54.4	-0.5
FUNA	Funafuti	9.45	344	P	P	13 24 54.6	-0.3
GLKZ	Green Lake	11.52	179	P	P	13 25 15.2	-1.4
GLKZ				S	S	13 27 22.6	-0.3
PINNC	Pines Island,	14.29	248	P	P	13 25 45.9	-0.1
PINNC	Pines Island,	14.29	248	P	P	13 25 46.4	+0.4
YATNC	Mamie plateau,	14.63	250	P	P	13 25 49.1	-0.5
OUENC	Ouen Island, N	14.77	249	P	P	13 25 50.6	-0.4
DZM	Mont Dzumac	15.04	251	P	P	13 25 52.4	-1.5
DZM	Mont Dzumac	15.04	251	P	P	13 25 53.0	-0.9
	comp=Z,12nm,0.4s,baz=91,slow=23,SNR=22						
DZM				S	S	13 28 35.3	+4.1
	comp=Z,9.0nm,1.0s,baz=294,slow=4.3,SNR=3.1						
DZM	Mont Dzumac	15.04	251	P	P	13 25 53.0	-0.9
ONTNC	Ouen Toro	15.09	250	P	P	13 25 53.4	-1.0
ONTNC	Ouen Toro	15.09	250	P	P	13 25 53.8	-0.6
KOUNC	Koumac, New Ca	16.74	257	P	P	13 26 10.8	-0.9
RAR	Rarotonga	17.77	104	P	P	13 26 22.4	+0.8
	comp=Z,27nm,0.7s,baz=267,slow=9.6,SNR=6.2						
OUZ	Omahuta	18.90	201	P	P	13 26 33.3	+1.6
OUZ	Omahuta	18.90	201	P	P	13 26 33.6	+1.9
GRZ	Great Barrier	19.30	196	P	P	13 26 36.4	+1.0
WCZ	Waipu Caves	19.32	198	P	P	13 26 37.6	+2.0
KUZ	Kuaotunu	19.71	194	P	P	13 26 39.8	+0.7
KUZ	Kuaotunu	19.71	194	P	P	13 26 40.1	+1.1
MXZ	Matakaoa Point	20.02	188	P	P	13 26 40.4	-1.5
MXZ	Matakaoa Point	20.02	188	P	P	13 26 40.5	-1.4
MXZ	Matakaoa Point	20.02	188	P	P	13 26 40.4	-1.5
MYRZ	Mayor Island	20.10	193	P	P	13 26 43.9	+1.2
MKAZ	Moumakai	20.19	195	P	P	13 26 44.6	+1.1
WMGZ	Waiomatatini S	20.26	188	P	P	13 26 42.9	-1.2
HAZ	Te Kaha	20.29	189	P	P	13 26 41.7	-2.6
PKGZ	Pakihiroa	20.35	188	P	P	13 26 43.1	-1.8
RUGZ	Raukumara Rang	20.51	189	P	P	13 26 44.9	-1.6
PUZ	Puketiti	20.53	188	P	P	13 26 45.0	-1.6
TGRZ	Tauranga	20.53	192	P	P	13 26 47.1	+0.6
OPRZ	Ohinepanea	20.59	192	P	P	13 26 47.0	-0.1
TWGZ	Tauwhareparae	20.67	188	P	P	13 26 45.7	-2.1
MARZ	Manawahe	20.70	191	P	P	13 26 47.6	-0.5
TOZ	Tahuroa Road	20.70	194	P	P	13 26 47.1	-1.0
TOZ	Tahuroa Road	20.70	194	P	P	13 26 48.8	+0.8
KMRZ	Kaimai	20.71	193	P	P	13 26 48.9	+0.7
OMRZ	Omania	20.87	192	P	P	13 26 49.1	-0.6
URZ	Urewera	20.89	190	P	P	13 26 46.5	-3.3
	comp=Z,94nm,0.6s,baz=344,slow=2.8,SNR=78						
URZ				S	S	13 30 06.2	-3.5
	comp=Z,12nm,0.9s,baz=297,slow=18,SNR=3.3						
URZ	Urewera	20.89	190	P	P	13 26 46.4	-3.3
URZ	Urewera	20.89	190	P	P	13 26 46.4	-3.3
MWZ	Matawai	20.89	189	P	P	13 26 47.1	-2.8
CNGZ	Carnagh Statio	20.94	188	P	P	13 26 48.7	-1.5
RAGZ	Rawiri	21.07	189	P	P	13 26 49.4	-2.1
HSRZ	Hossack Road	21.10	192	P	P	13 26 50.1	-1.6
MUGZ	Murupara	21.16	191	P	P	13 26 50.3	-2.0
RTZ	Ruatahuna	21.26	190	P	P	13 26 51.5	-1.8
ALRZ	Allen Road	21.32	192	P	P	13 26 51.6	-2.1
PRGZ	Paritu Road	21.42	188	P	P	13 26 53.7	-0.9
MTHZ	Maungataniwha	21.51	190	P	P	13 26 53.5	-2.0
RAHZ	Arahi	21.53	190	P	P	13 26 51.9	-3.7
WATZ	Wairara	21.59	193	P	P	13 26 55.9	-0.2
HIZ	Hauiti	21.60	195	P	P	13 26 57.9	+1.7
HIZ	Hauiti	21.60	195	P	P	13 26 58.0	+1.8
MHGZ	Mahia Peninsul	21.64	188	P	P	13 26 56.1	-0.5
WHHZ	Waihua	21.66	190	P	P	13 26 56.0	-0.8
NMHZ	Naumai	21.75	190	P	P	13 26 56.2	-1.5
KATZ	Kakaramea	21.85	193	P	P	13 26 58.2	-0.4
BKZ	Black Stump Fm	21.88	191	P	P	13 26 56.0	-2.9
BKZ	Black Stump Fm	21.88	191	P	P	13 26 55.9	-2.9
NTVZ	North Tongarir	21.97	193	P	P	13 26 58.1	-1.6
TMVZ	Te Maari	21.98	193	P	P	13 26 58.3	-1.5
ETVZ	East Tongariro	22.00	193	P	P	13 26 56.9	-3.1
WTVZ	West Tongariro	22.01	193	P	P	13 26 58.3	-1.7
NNVZ	North Ngauruho	22.02	193	P	P	13 26 59.0	-1.2
OTVZ	Oturere	22.04	193	P	P	13 26 57.9	-2.5
NGZ	Ngauruhoe	22.06	193	P	P	13 26 59.5	-1.0
SNVZ	South Ngauruho	22.06	193	P	P	13 26 59.1	-1.5
COVZ	Chateau Observ	22.10	193	P	P	13 26 59.9	-1.0
MCHZ	McNeill Hill	22.11	190	P	P	13 26 58.8	-2.1
TUVZ	Tukino	22.14	193	P	P	13 26 59.4	-1.9
KWHZ	Kaweka Forest	22.14	191	P	P	13 26 58.8	-2.4
FWVZ	Far West T-bar	22.15	193	P	P	13 27 01.0	-0.4
WNVZ	Wahianoa	22.21	193	P	P	13 27 00.6	-1.3
MOVZ	Moawhango	22.25	192	P	P	13 27 00.7	-1.5
KRHZ	Kereru	22.36	191	P	P	13 27 01.1	-2.1
KAHZ	Kahuranaki	22.42	190	P	P	13 27 02.1	-1.5
NEZ	North Egmont	22.50	196	P	P	13 27 07.8	+3.3
KHEZ	Kahui Hut	22.55	196	P	P	13 27 05.8	+0.9
KHEZ	Kahui Hut	22.55	196	P	P	13 27 07.8	+3.0
LREZ	Lake Rotokare	22.61	195	P	P	13 27 05.9	+0.6
PNHZ	Pukenui	22.66	191	P	P	13 27 04.0	-1.7
PXZ	Pawanui	22.66	190	P	P	13 27 03.9	-1.8
NMEZ	Namu Road	22.70	196	P	P	13 27 08.5	+2.5
WAZ	Wanganui	22.75	194	P	P	13 27 07.3	+0.7
TSZ	Takapari Road	22.84	191	P	P	13 27 06.7	-0.8
PRHZ	Porangahau	22.92	190	P	P	13 27 07.2	-0.9
DVHZ	Dannevirke	23.04	191	P	P	13 27 07.3	-1.9
ANWZ	Angora Road	23.14	190	P	P	13 27 09.6	-0.5
PRWZ	Pori Road	23.32	191	P	P	13 27 10.2	-1.4
BFZ	Birch Farm	23.39	191	P	P	13 27 10.1	-2.2
BFZ	Birch Farm	23.39	191	P	P	13 27 10.2	-2.2
MRZ	Mangatainoka R	23.50	192	P	P	13 27 11.0	-2.2
MRZ	Mangatainoka R	23.50	192	P	P	13 27 11.1	-2.2
OGWZ	Otaki Gorge	23.73	192	P	P	13 27 12.9	-2.4
MSWZ	Moikau Station	24.29	192	P	P	13 27 18.1	-2.2
TCW	Tory Channel	24.30	194	P	P	13 27 18.2	-2.2
SNZO	South Karori	24.30	193	P	P	13 27 18.0	-2.3
SNZO	South Karori	24.30	193	P	P	13 27 18.6	-1.7
BHW	Baring Head	24.36	193	P	P	13 27 19.4	-1.4
QRZ	Quartz Range	24.38	197	P	P	13 27 20.3	-0.8
QRZ	Quartz Range	24.38	197	P	P	13 27 20.7	-0.4
THZ	Tophouse	25.16	196	P	P	13 27 26.1	-1.9
DSZ	Denniston Nort	25.44	198	P	P	13 27 29.1	-1.4
KHZ	Kahutara	25.62	194	P	P	13 27 29.9	-2.1
CTZ	Chatham Island	26.00	177	P	P	13 27 34.4	-0.9
INZ	Inchbonnie	26.45	197	P	P	13 27 37.8	-1.5
PPT	Papeete	27.32	94	P	P	13 27 48.5	+1.1
	comp=Z,34nm,0.6s,baz=70,slow=2.9,SNR=11 comp=Z,34nm,0.6s						
PPTF	Pamatai, Papee	27.33	94	P	P	13 27 48.4	+0.8
RPZ	Rata Peaks	27.47	197	P	P	13 27 47.7	-0.6
	comp=Z,8.4nm,0.6s,baz=331,slow=1.8,SNR=7.0 comp=Z,8.4nm,0.6s						
RPZ	Rata Peaks	27.47	197	P	P	13 27 48.0	-0.3
FOZ	Fox Glacier	27.66	199	P	P	13 27 48.5	-1.5
JCZ	Jackson Bay	28.48	200	P	P	13 27 56.3	-1.0
ODZ	Otahua Downs	28.81	196	P	P	13 27 58.9	-1.1
TW1H	Toowoomba 1 Ha	29.11	245	P	P	13 28 04.0	+1.0
EIDS	Eidsvold	29.48	250	P	P	13 28 05.8	-0.4
	comp=Z,41nm,0.8s						
EIDS	Eidsvold	29.48	250	P	P	13 28 05.9	-0.3
ARMA	Armidale	30.17	240	P	P	13 28 12.4	+0.1
ARMA	Armidale	30.17	240	P	P	13 28 12.7	+0.5
ARMA	Armidale	30.17	240	P	P	13 28 12.9	+0.6
DCZ	Deep Cove	30.25	201	P	P	13 28 11.9	-0.6
SYZ	Scrubby Hill	30.60	197	P	P	13 28 15.2	-0.3
MGCD	Mangrove Creek	31.54	235	P	P	13 28 23.9	+0.1
SYDH	Sydney Hard Ro	32.03	234	P	P	13 28 29.0	+1.0
TV1H	Townsville Har	33.15	262	P	P	13 28 37.3	-0.5
CNB	Canberra Magne	33.67	232	P	P	13 28 42.7	+0.6
	comp=Z,122nm,0.9s						
CNB	Canberra Magne	33.67	232	P	P	13 28 42.4	+0.3
CAN	Canberra	33.95	232	P	P	13 28 44.5	+0.2
CAN	Canberra	33.95	232	P	P	13 28 44.6	+0.2
	comp=Z,59nm,0.9s						
CAN	Canberra	33.95	232	P	P	13 28 44.4	0.0
MILA	Mila	34.53	229	P	P	13 28 49.4	+0.1
	comp=Z,13nm,1.1s						
CMSA	Cobar Meteorol	35.38	240	P	P	13 28 56.5	+0.1
	comp=Z,117nm,0.8s						
CMSA	Cobar Meteorol	35.38	240	P	P	13 28 56.1	-0.3
MTSU	Mount Surprise	35.58	263	P	P	13 28 57.7	-0.5
	comp=Z,8.3nm,0.6s						
MTSU	Mount Surprise	35.58	263	P	P	13 28 57.7	-0.5
QLP	Quilpie	35.75	249	P	P	13 28 59.3	-0.2
	comp=Z,219nm,0.7s						
QLP	Quilpie	35.75	249	P	P	13 28 59.3	-0.2
TOO	Toolangi	37.42	231	P	P	13 29 13.7	+0.5
TOO	Toolangi	37.42	231	P	P	13 29 13.7	+0.5
	comp=Z,73nm,1.0s						
CORO	Coronation Par	37.90	224	P	P	13 29 18.2	+1.2
MOO	Moorlands	38.35	223	P	P	13 29 21.1	+0.5
	comp=Z,44nm,1.1s						
MOO	Moorlands	38.35	223	P	P	13 29 21.1	+0.5
TAU	Tasmania Unive	38.50	222	P	P	13 29 22.1	+0.3
GEXS	Deakin Univers	38.53	230	P	P	13 29 23.0	+0.8
BRAT	Ballarat	38.57	231	P	P	13 29 23.9	+1.4
STKA	Stephens Creek	38.86	241	P	P	13 29 25.7	+0.7
STKA	Stephens Creek	38.86	241	P	P	13 29 25.5	+0.5
	comp=Z,435nm,1.4s						
STKA	Stephens Creek	38.86	241	P	P	13 29 25.7	+0.7
	comp=Z,53nm,0.5s,baz=88,slow=9.6,SNR=106 comp=Z,53nm,0.5s						
STKA	Stephens Creek	38.86	241	P	P	13 29 25.7	+0.7
INKA	Innaminka	38.96	248	P	P	13 29 26.7	+0.8
QIS	Mount Isa	39.84	259	P	P	13 29 32.0	-1.1
	comp=Z,5.0nm,0.5s						
QIS	Mount Isa	39.84	259	P	P	13 29 32.6	-0.5
ARPS	Mount Arapiles	39.90	233	P	P	13 29 33.4	+0.1
	comp=Z,95nm,0.8s						
ARPS	Mount Arapiles	39.90	233	P	P	13 29 33.3	+0.1
M

VNDA	Vanda	60.67	185	P	P	13 32 05.9	+1.0
	comp=Z,2.2nm,0.4s,baz=4.2,slow=6.4,SNR=8.0						
	comp=Z,2.2nm,0.4s						
MORW	Morawa	60.70	246	P	P	13 32 05.5	-0.5
	comp=Z,20nm,2.7s						
MORW	Morawa	60.70	246	P	P	13 32 05.5	-0.5
PLAI	Plampang	62.64	269	P	P	13 32 19.8	+0.9
JHJ	Hachijo jima 2	64.50	322	P	P	13 32 30.4	0.0
	comp=Z,79nm,0.5s,baz=224,slow=19,SNR=2.4						
	comp=Z,79nm,0.5s						
CASY	Casey	66.39	205	P	P	13 32 41.8	+0.1
JMM	Marumori	67.35	326	P	P	13 32 48.9	+0.9
MJAR	Matsushiro Arr	67.82	323	P	P	13 32 50.8	-0.3
	comp=Z,10nm,0.8s,baz=159,slow=5.8,SNR=22						
	comp=Z,10nm,0.8s						
MAJO	Matsushiro	67.83	323	P	P	13 32 50.7	-0.4
MAJO				IAmb	IAmb	13 32 52.0	
	comp=Z,18nm,1.0s						
MAJO	Matsushiro	67.83	323	P	P	13 32 51.1	0.0
MJB9	Matsu-Tunnel	67.83	323	P	P	13 32 51.5	+0.4
MJB9				IAmb	IAmb	13 32 53.0	
	comp=Z,18nm,1.0s						
KKM	Kota Kinabalu	68.83	284	P	P	13 32 58.0	+0.3
KKM	Kota Kinabalu	68.83	284	P	P	13 32 58.5	+0.7
UGM	Wanagama	69.80	268	P	P	13 33 04.5	+1.0
JNU	Nakatsue	70.09	316	P	P	13 33 04.5	-0.3
	comp=Z,16nm,1.1s,baz=110,slow=2.7,SNR=4.0						
	comp=Z,16nm,1.1s						
JNU	Nakatsue	70.09	316	P	P	13 33 05.3	+0.5
NIKH	Nikolski High	70.84	6	P	P	13 33 08.6	-0.2
	baz=189						
YOJ	Yonaguni jima	70.95	305	P	P	13 33 10.6	+0.6
ASAJ	Asahikawa	71.16	331	P	P	13 33 12.3	+1.4
	comp=Z,14nm,0.7s,baz=224,slow=8.4,SNR=18						
	comp=Z,14nm,0.7s						
TWGBT	Beinan	71.67	302	P	P	13 33 14.7	+0.4
NACB	Ninganchiao	71.92	304	P	P	13 33 17.1	+1.3
UNV	Unalaska Valle	71.96	7	P	P	13 33 16.2	+0.9
	baz=192						
SSLB	Suanglung	72.24	303	P	P	13 33 17.5	-0.2
TPUB	Ta-pu	72.27	302	P	P	13 33 16.6	-1.3
QSPA	South Pole Qui	72.36	180	P	P	13 33 18.8	+1.1
	comp=Z,22nm,0.8s,baz=347,slow=0.5,SNR=105						
	comp=Z,22nm,0.8s						
KSM	Kuching	72.80	277	P	P	13 33 22.0	+0.9
FALS	False Pass	73.36	9	P	P	13 33 24.6	+1.3
	baz=195						
PEA0B	Petropavlovsk-	73.51	345	P	P	13 33 24.2	-0.1
PETK	Petropavlovsk-	73.51	345	P	P	13 33 23.7	-0.6
PETK	Petropavlovsk-	73.51	345	P	P	13 33 24.4	+0.1
	comp=Z,24nm,0.9s,baz=118,slow=6.8,SNR=14						
	comp=Z,24nm,0.9s						
CHNA	Chernabura Isl	73.97	11	P	P	13 33 26.8	0.0
	baz=198						
SDPT	Sand Point	74.31	10	P	P	13 33 28.9	+0.2
	baz=198						
P08K	Saint George I	74.37	5	P	P	13 33 29.5	+0.5
	baz=189						
KSRS	Korea Array	74.64	318	P	P	13 33 32.2	+1.2
	comp=Z,3.0nm,0.7s,baz=119,slow=6.0,SNR=6.9						
	comp=Z,3.0nm,0.7s						
SPIA	Saint Paul Isl	74.89	5	P	P	13 33 32.2	+0.3
	baz=188						
CHGN	Chignik	75.58	11	P	P	13 33 36.7	+0.8
	baz=199						
CHIR	Chirikof Islan	75.69	13	P	P	13 33 36.1	-0.4
	baz=202						
SAO	San Andreas Ge	76.17	44	P	P	13 33 40.1	+0.4
SAO				IAmb	IAmb	13 33 41.9	
	comp=Z,24nm,0.8s						
SII	Sitkinak Islan	76.68	13	P	P	13 33 42.4	+0.4
	baz=204						
KMRM	Mail Ridge	76.76	40	P	P	13 33 44.2	+1.4
R16K	Pilot Point	76.93	11	P	P	13 33 43.8	+0.6
	baz=200						
ESJX	Sierra Juarez	77.46	50	P	P	13 33 48.0	+1.0
ESJX				IAmb	IAmb	13 33 49.7	
	comp=Z,24nm,1.1s						
OHAK	Old Harbor	77.49	14	P	P	13 33 46.6	+0.3
	baz=204						
R18K	Karluk	77.55	13	P	P	13 33 46.5	-0.1
	baz=203						
PFO	Pinyon Flats O	77.91	49	P	P	13 33 50.0	+0.6
O14K	Tigyukauivet M	77.92	9	P	P	13 33 48.4	-0.2
	baz=196						
Q16K	King Salmon	78.14	11	P	P	13 33 49.6	-0.2
	baz=201						
KDAK	Kodiak Island	78.16	14	P	P	13 33 49.9	0.0
	comp=Z,16nm,0.6s,baz=106,slow=5.4,SNR=11						
	comp=Z,16nm,0.6s						
KDAK	Kodiak Island	78.16	14	P	P	13 33 49.6	-0.3
	baz=205						
P16K	Nushagak River	78.24	11	P	P	13 33 51.0	+0.7
	baz=200						
YBH	Yreka Blue Hor	78.27	39	P	P	13 33 51.6	+0.6
YBH	Yreka Blue Hor	78.27	39	P	P	13 33 52.4	+1.3
	comp=Z,8.9nm,0.7s,baz=200,slow=2.4,SNR=31						
	comp=Z,8.9nm,0.7s						
SLBS	Sierra La Lagu	78.33	60	P	P	13 33 53.2	+1.5
M11K	Mekoryuk	78.41	6	P	P	13 33 51.4	+0.2
	baz=192						
Q18K	Katmai Hardscr	78.44	12	P	P	13 33 51.2	-0.4
	baz=202						
WAKR	Walker	78.47	43	P	P	13 33 53.4	+1.0
WAKR				IAmb	IAmb	13 33 54.7	
	comp=Z,27nm,1.0s						
N14K	Kuskokwak Cree	78.51	8	P	P	13 33 51.8	0.0
	baz=196						
P17K	Kvichak River	78.67	11	P	P	13 33 52.4	-0.3
	baz=201						
PNTR	Pine Nut	78.69	43	P	P	13 33 54.1	+0.6
PNTR				IAmb	IAmb	13 33 55.8	
	comp=Z,40nm,0.9s						
O16K	Kokwok River B	78.75	10	P	P	13 33 52.5	-0.6
	baz=200						
L04D	Klamath Falls	78.80	39	P	P	13 33 54.9	+1.0
L04D				IAmb	IAmb	13 33 55.9	
	comp=Z,23nm,1.0s						
DSP	Deep Springs	78.82	45	P	P	13 33 55.0	+1.0
DSP				IAmb	IAmb	13 33 56.5	
	comp=Z,24nm,1.0s						
Q20K	Shuyak Island	78.95	13	P	P	13 33 53.6	-0.6
	baz=205						
N15K	Kwethluk River	78.97	9	P	P	13 33 53.9	-0.4
	baz=198						
Q19K	Cape Douglas,	78.98	13	P	P	13 33 54.1	-0.3
	baz=204						
GWY	Greenwater Val	79.08	46	P	P	13 33 56.1	+0.4
P18K	Big Mountain,	79.08	12	P	P	13 33 53.8	-1.1
P18K				IAmb	IAmb	13 33 55.4	
	comp=Z,42nm,0.9s						
P18K	Big Mountain,	79.08	12	P	P	13 33 54.2	-0.7
	baz=202						
O17K	Koliganek Bris	79.09	11	P	P	13 33 54.5	-0.4
	baz=200						
RYN	Ryan	79.13	44	P	P	13 33 56.1	+0.3
NVAR	Mina Array Bea	79.17	44	P	P	13 33 57.2	+1.1
	comp=Z,19nm,0.8s,baz=225,slow=9.2,SNR=117						
	comp=Z,19nm,0.8s						
M14K	Bethel	79.27	8	P	P	13 33 56.1	+0.3
	baz=196						
M15K	Kasigluk River	79.39	9	P	P	13 33 56.8	+0.3
	baz=197						
WCT	Wildcat Mounta	79.43	46	P	P	13 33 57.9	+0.5
N16K	Nishlik Lake	79.47	10	P	P	13 33 57.4	+0.5
	baz=199						
O18K	Koktuh Hills	79.52	12	P	P	13 33 56.8	-0.4
	baz=202						
P19K	Oil Pt	79.73	13	P	P	13 33 58.6	+0.3
	baz=204						
L14K	Kuka Creek	79.75	8	P	P	13 33 58.4	+0.1
	baz=195						
TPNV	Topopah Spring	79.77	46	P	P	13 33 59.6	+0.3
N17K	Nushagak Hills	79.79	10	P	P	13 33 58.8	+0.2
	baz=200						
M16K	Timber Creek	79.96	9	P	P	13 34 00.4	+0.9
M16K				IAmb	IAmb	13 34 01.8	
	comp=Z,50nm,1.1s						
M16K	Timber Creek	79.96	9	P	P	13 34 00.7	+1.2
	baz=199						
KLR	Kul'dur	80.00	329	P	P	13 34 00.7	+0.7
	comp=Z,4.3nm,1.0s,baz=122,slow=4.9,SNR=6.9						
	comp=Z,4.3nm,1.0s						
O19K	Port Alsworth	80.00	12	P	P	13 33 59.9	+0.3
	baz=203						
HOM	Homer	80.07	13	P	P	13 33 59.9	-0.2
	baz=206						
K13K	Kusilvak Mount	80.09	6	P	P	13 34 00.7	+0.5
	baz=193						
N18K	Kilae Creek	80.16	11	P	P	13 34 00.4	-0.2
	baz=202						
L15K	Ungalak Mounta	80.23	8	P	P	13 34 01.2	+0.4
	baz=196						
O20K	Slope Mountain	80.25	13	P	P	13 34 01.3	+0.2
	baz=205						
BRSE	Bradley Lake S	80.35	14	P	P	13 34 01.1	-0.4
	baz=206						
PINE	Pine Mountain	80.53	38	P	P	13 34 04.3	+1.2
PINE				IAmb	IAmb	13 34 05.5	
	comp=Z,39nm,1.0s						
L16K	Owhat River	80.54	9	P	P	13 34 02.6	+0.2
	baz=198						
N19K	Bonanza Creek	80.54	12	P	P	13 34 01.8	-0.8
	baz=203						
M17K	Holitna River	80.57	10	P	P	13 34 03.1	+0.5
M17K				IAmb	IAmb	13 34 04.8	
	comp=Z,38nm,0.9s						
M17K	Holitna River	80.57	10	P	P	13 34 03.4	+0.8
	baz=200						
E03A	Lebam	80.70	35	P	P	13 34 04.2	+0.6
E03A				IAmb	IAmb	13 34 05.7	
	comp=Z,34nm,1.0s						
K15K	Wolf Creek Mou	80.81	8	P	P	13 34 04.6	+0.6
K15K	Wolf Creek Mou	80.81	8	P	P	13 34 04.5	+0.6
	baz=196						
M18K	Stony River	80.93	11	P	P	13 34 04.7	+0.2
	baz=202						
SEW	Seward	80.97	14	P	P	13 34 04.3	-0.4
	baz=208						
J14K	Nanvaranak Lak	81.01	7	P	P	13 34 04.8	0.0
	baz=194						
MA2	Magadan	81.03	345	P	P	13 34 03.8	-1.3
	comp=Z,20nm,1.2s						
L17K	Donlin	81.12	9	P	P	13 34 06.4	+0.9
	baz=199						
CAPN	Captain Cook N	81.18	13	P	P	13 34 05.6	-0.1
	baz=206						
O22K	Cooper Landing	81.24	14	P	P	13 34 05.7	-0.4
	baz=207						
SPCR	Spurr Chakacha	81.35	12	P	P	13 34 06.4	-0.4
	baz=205						
GAMB	Gambell	81.37	3	P	P	13 34 07.0	+0.4
GAMB	Gambell	81.37	3	P	P	13 34 07.0	+0.4
	baz=186,SNR=5.3						
L18K	Granite Mounta	81.46	10	P	P	13 34 08.0	+0.8
	baz=201						
G06A	Carlson Farm,	81.55	37	P	P	13 34 08.7	+0.5
M19K	Big River Lodg	81.57	11	P	P	13 34 07.5	-0.3
	baz=203						
K17K	Iditarod	81.67	9		P	13 34 08.6	+0.2
K17K				IAmb	IAmb	13 34 10.3	
	comp=Z,21nm,1.1s						
K17K	Iditarod	81.67	9	P	P	13 34 08.5	+0.2
	baz=199						
L19K	White Mountain	81.74	11	P	P	13 34 09.0	+0.2
	baz=202						
RC01	Rabbit Creek A	81.78	14	P	P	13 34 09.0	+0.1
	baz=207						
M20K	Styx River	81.79	12	P	P	13 34 09.0	-0.1
	baz=204						
LCMT	Little Creek M	81.88	47	P	P	13 34 11.3	+1.1
J16K	Anvik River	81.89	8	P	P	13 34 09.7	+0.3
J16K				IAmb	IAmb	13 34 10.9	
	comp=Z,22nm,0.7s						
J16K	Anvik River	81.89	8	P	P	13 34 10.3	+0.9
	baz=197						
SUA	Susitna One	81.89	13	P	P	13 34 08.8	-0.8
	baz=206						
PWL	Port Wells	81.90	14	P	P	13 34 09.3	-0.3
	baz=209						
CBB	Campbell River	81.95	31	P	P	13 34 10.6	+0.6
UBPT	Khong Chiam	82.00	289	P	P	13 34 11.1	+0.1
BBB	Bella Bella	82.06	29	P	P	13 34 11.1	+0.6
	comp=Z,6.4nm,0.8s,baz=334,slow=2.0,SNR=5.6						
	comp=Z,6.4nm,0.8s						
KAIM	Kayak Island	82.08	16	P	P	13 34 11.2	+0.7
	baz=212						
SPR3	Spring Creek 3	82.11	45	P	P	13 34 11.7	+0.2
L20K	Farewell, AK	82.19	11	P	P	13 34 11.2	+0.2
	baz=203						
SKT	Skwentna	82.19	12	P	P	13 34 11.8	+0.8
	baz=206						
J17K	VABM Dome	82.20	9	P	P	13 34 11.1	+0.1
	baz=198						
PSUT	Pine Spring	82.21	46	P	P	13 34 12.3	+0.4
EYAK	Cordova Ski Ar	82.26	16	P	P	13 34 10.9	-0.5
	baz=211						
CRAG	Craig	82.26	24	P	P	13 34 10.8	-0.7
	baz=223						
U15A	North Rim	82.27	48	P	P	13 34 13.6	+1.2
U15A				IAmb	IAmb	13 34 15.0	
	comp=Z,37nm,0.9s						
M22K	Willow	82.29	13	P	P	13 34 10.9	-0.5
	baz=207						
KNK	Knik Glacier	82.36	14	P	P	13 34 11.1	-0.7
	baz=208						
PMR	Palmer	82.36	14	P	P	13 34 11.7	-0.1
PMR	Palmer	82.36	14	P	P	13 34 11.3	-0.5
	baz=208						
ELK	Elko	82.40	43	P	P	13 34 13.1	+0.2
ELK				IAmb	IAmb	13 34 14.8	
	comp=Z,19nm,1.0s						
ELK	Elko	82.40	43	P	P	13 34 13.8	+0.9
	comp=Z,12nm,0.9s,baz=249,slow=4.8,SNR=53						
	comp=Z,12nm,0.9s						
I17K	Unalakleet	82.45	8	P	P	13 34 11.8	-0.4
	baz=197,SNR=6.4						
BGLC	Bering Glacier	82.55	17	P	P	13 34 12.2	-0.6
	baz=213						
G08A	Pilot Rock	82.55	38	P	P	13 34 14.0	+0.6
G08A				IAmb	IAmb	13 34 15.3	
	comp=Z,34nm,1.2s						
ANM	Nome	82.60	6	P	P	13 34 13.0	0.0
	baz=192						
J18K	Innoko River	82.63	10	P	P	13 34 13.3	+0.1
J18K				IAmb	IAmb	13 34 14.5	
	comp=Z,26nm,0.9s						
J18K	Innoko River	82.63	10	P	P	13 34 13.1	-0.1
	baz=201						
SML	Sawmill	82.73	14	P	P	13 34 13.7	-0.1
	baz=209						
U33K	Whale Pass	82.74	24	P	P	13 34 13.0	-0.8
	baz=223						
V35K	Ketchikan	82.75	25	P	P	13 34 13.4	-0.5
	baz=224						
CUT	Chulitna	82.84	13	P	P	13 34 13.9	-0.3
	baz=207,SNR=5.9						
M23K	Glacier View	82.86	14	P	P	13 34 14.7	+0.3
	baz=209						
PPLA	Purkeypile	82.90	12	P	P	13 34 13.8	-0.9
	baz=205						
BMRM	Bremner River	82.91	16	P	P	13 34 14.5	-0.2
BMRM				IAmb	IAmb	13 34 15.1	
	comp=Z,15nm,0.7s						
BMRM	Bremner River	82.91	16	P	P	13 34 14.5	-0.2
	baz=212						
K20K	Telida	82.97	11	P	P	13 34 14.7	-0.2
	baz=203,SNR=8.0						
MESA	MESA	82.97	17	P	P	13 34 15.0	-0.3
	baz=215						
SCM	Sheep Creek Mo	82.99	14	P	P	13 34 14.9	-0.2
	baz=210,SNR=7.6						
H16K	Elim	82.99	7	P	P	13 34 14.9	0.0
	baz=195,SNR=16						
S31K	Pelican	83.00	21	P	P	13 34 14.3	-0.8
	baz=220						
KLU	Klutina	83.03	15	P	P	13 34 15.5	+0.2
	baz=211						
G15K	Niukluk	83.15	6	P	P	13 34 16.2	+0.5
	baz=194,SNR=16						
KULM	Kulim	83.15	278	P	P	13 34 16.9	0.0
S32K	Killisnoo	83.20	22	P	P	13 34 16.3	+0.1
	baz=221						
WRAK	Wrangell Islan	83.26	24	P	P	13 34 16.4	0.0
	baz=224						
J19K	Poorman	83.30	10	P	P	13 34 16.5	0.0
J19K				IAmb	IAmb	13 34 17.5	
	comp=Z,10nm,0.7s						
J19K	Poorman	83.30	10	P	P	13 34 16.5	0.0
	baz=202						
PNL	Peninsula	83.31	19	P	P	13 34 17.1	+0.4
PNL	Peninsula	83.31	19	P	P	13 34 16.4	-0.3
	baz=217						
MSU	Marysvale	83.34	46	P	P	13 34 18.0	+0.4
TNA	Tin City	83.37	4	P	P	13 34 16.7	-0.1
	baz=190,SNR=17						
CAST	Castle Rocks	83.39	12	P	P	13 34 15.5	-1.6
CAST	Castle Rocks	83.39	12	P	P	13 34 15.6	-1.4
	baz=205,SNR=28						
PINM	Pinnacle	83.40	18	P	P	13 34 16.7	-0.5
	baz=216						
F14K	Arctic Creek	83.41	5	P	P	13 34 16.9	-0.1
	baz=191,SNR=11						
N25K	Chitina, Valde	83.46	15	P	P	13 34 16.9	-0.5
	baz=212,SNR=9.3						
M24K	Tolsona, Glenn	83.50	15	P	P	13 34 17.7	+0.1
	baz=211,SNR=8.3						
R31K	City Hall, Gus	83.51	21	P	P	13 34 17.5	-0.2
	baz=220						
H17K	Granite Mounta	83.56	8	P	P	13 34 17.5	-0.3
	baz=198						
G16K	Koyuk River	83.71	7	P	P	13 34 18.4	-0.1
	baz=195						
J20K	Nowinta River	83.71	10	P	P	13 34 18.6	0.0
	baz=203						
CHUM	Lake Minchumin	83.77	11	P	P	13 34 17.5	-1.4
	baz=205,SNR=11						
TRF	Thorofare Moun	83.77	12	P	P	13 34 17.8	-1.3
	baz=207,SNR=18						
F15K	North Star Dit	83.78	6	P	P	13 34 18.9	-0.1
	baz=193						
GCSA	Galena City Sc	83.81	9	P	P	13 34 19.3	+0.3
	baz=200,SNR=10						
R32K	Eaglecrest	83.83	22	P	P	13 34 19.0	-0.3
	baz=221						
O28M	Mount Upton	83.97	18	P	P	13 34 19.7	-0.5
	baz=216						
H18K	Honhosa River	83.98	8	P	P	13 34 20.0	+0.1
	baz=199						
RPSI	Rantau Prapat	83.98	275	P	P	13 34 21.1	0.0
RPSI				IAmb	IAmb	13 34 22.2	
	comp=Z,17nm,0.7s						
HARP	HAARP	83.99	15	P	P	13 34 20.2	+0.1
	baz=212,SNR=5.9						
G17K	Kiwalik Mounta	84.01	7	P	P	13 34 20.4	+0.4
	baz=197						
O29M	Mount Kennedy	84.07	19	P	P	13 34 20.8	+0.2
	baz=218						
PLBC	Pleasant Camp	84.11	20	P	P	13 34 20.9	+0.2
	baz=220,SNR=6.2						
MAW	Mawson	84.11	200	P	P	13 34 21.3	+0.7
	comp=Z,20nm,0.9s,baz=20,slow=1.7,SNR=1.7						
	comp=Z,20nm,0.9s						
BPAW	Bear Paw Mtn.	84.22	12	P	P	13 34 21.2	0.0
	baz=206						
I20K	Naaghedeneel	84.23	10	P	P	13 34 21.2	+0.2
	baz=203						
MCK	McKinley	84.30	13	P	P	13 34 20.4	-1.1
	baz=208,SNR=11						
PAX	Paxson	84.41	14	P	P	13 34 21.3	-0.9
	baz=211						
P30M	Million Dollar	84.43	19	P	P	13 34 23.1	+0.8
	baz=219						
SKAG	Skagway	84.45	20	P	P	13 34 23.0	+0.7
	baz=221						
T35M	Bob Quinn	84.47	24	P	P	13 34 22.9	+0.4
	baz=225						
M26K	Nabesna, AK	84.54	16	P	P	13 34 22.6	-0.2
	baz=214,SNR=20						
H19K	Roundabout Mou	84.60	9	P	P	13 34 23.3	+0.4
	baz=201						
YUK6	Outpost Mounta	84.64	18	P	P	13 34 23.2	-0.4
	baz=218						
G18K	Tagagawik	84.64	8	P	P	13 34 23.4	+0.2
	baz=199						
YUK3	Moose Creek	84.70	17	P	P	13 34 23.8	0.0
	baz=216,SNR=14						
S34M	Telegraph Cree	84.79	23	P	P	13 34 24.6	+0.6
	baz=224,SNR=10						
M27K	Edge Creek, AK	84.79	16	P	P	13 34 24.4	+0.2
M27K				IAmb	IAmb	13 34 25.7	
	comp=Z,32nm,1.1s						
M27K	Edge Creek, AK	84.79	16	P	P	13 34 24.6	+0.5
	baz=214						
HYT	Haines Junctio	84.81	19	P	P	13 34 24.6	+0.4
	baz=219,SNR=6.0						
H20K	Anotleneega Mo	84.81	10	P	P	13 34 24.0	0.0
	baz=202						
F17K	Baldwin Pennin	84.85	7	P	P	13 34 23.7	-0.4
	baz=196						
YUK4	Talbot Arm	84.88	18	P	P	13 34 25.1	+0.5
	baz=218						
L26K	Log Cabin Wild	84.97	15	P	P	13 34 24.6	-0.3
	baz=213,SNR=7.0						
I21K	Tanana	85.01	11	P	P	13 34 24.6	-0.4
	baz=205,SNR=9.3						
NEA2	Nenana	85.04	12	P	P	13 34 24.1	-1.0
	baz=208						
K24K	Donnelly Dome	85.05	14	P	P	13 34 25.2	0.0
	baz=211,SNR=16						
G19K	Purcell Mounta	85.09	8	P	P	13 34 24.7	-0.6
	baz=200						
P32M	Atlin	85.09	21	P	P	13 34 25.1	-0.5
	baz=222						
BVCY	Beaver Creek	85.11	16	P	P	13 34 25.7	+0.1
	baz=215,SNR=11						
Q32M	Nakina River	85.13	22	P	P	13 34 26.4	+0.5
Q32M				IAmb	IAmb	13 34 27.2	
	comp=Z,12nm,0.7s						
Q32M	Nakina River	85.13	22	P	P	13 34 25.9	0.0
	baz=223						
F18K	Selawik	85.19	7	P	P	13 34 26.0	+0.3
	baz=198						
O30N	Mendenhall	85.20	19	P	P	13 34 26.2	+0.1
	baz=220,SNR=8.0						
RIDG	Independent Ri	85.22	14	P	P	13 34 25.8	-0.3
RIDG				IAmb	IAmb	13 34 26.9	
	comp=Z,23nm,1.0s						
RIDG	Independent Ri	85.22	14	P	P	13 34 25.7	-0.3
	baz=212,SNR=8.6						
NEW	Newport	85.25	36	P	P	13 34 26.6	+0.1
	comp=Z,6.3nm,0.7s,baz=240,slow=3.6,SNR=12						
	comp=Z,6.3nm,0.7s						
H21K	Melozitna Rive	85.30	10	P	P	13 34 26.2	-0.2
	baz=204						
HDA	Harding Lake	85.32	13	P	P	13 34 25.7	-0.8
	baz=210,SNR=11						
DOT	Dot Lake	85.32	15	P	P	13 34 26.3	-0.3
DOT				IAmb	IAmb	13 34 27.4	
	comp=Z,17nm,0.8s						
L27K	Beaver Creek,	85.39	16	P	P	13 34 26.7	-0.2
	baz=214						
BCAR	Beaver Creek A	85.40	16	P	P	13 34 26.9	0.0
E17K	Hotham Inlet	85.40	6	P	P	13 34 26.7	-0.1
	baz=196						
N30M	Aishikik Lake	85.43	18	P	P	13 34 25.9	-1.3
	baz=219						
PV10	Paradox Valley	85.46	47	P	P	13 34 28.2	+0.1
PV10				IAmb	IAmb	13 34 29.2	
	comp=Z,13nm,0.8s						
I23K	Minto, Yukon-K	85.47	12	P	P	13 34 26.1	-1.0
	baz=207,SNR=6.4						
WHY	Whitehorse	85.51	20	P	P	13 34 28.2	+0.6
	baz=221,SNR=7.2						
COLA	College	85.53	13	P	P	13 34 26.8	-0.7
COLA	College	85.53	13	P	P	13 34 27.0	-0.5
	baz=209						
DLBC	Dease Lake	85.58	23	P	P	13 34 28.6	+0.7
	comp=Z,6.0nm,0.7s,baz=217,slow=5.9,SNR=14						
	comp=Z,6.0nm,0.7s						
DLBC	Dease Lake	85.58	23	P	P	13 34 28.4	+0.4
	baz=225,SNR=5.8						
SCRK	Sand Creek	85.62	14	P	P	13 34 28.1	0.0
	baz=212,SNR=8.3						
ILAR	Eielson Array	85.65	13	P	P	13 34 27.1	-0.9
	comp=Z,3.8nm,0.4s,baz=225,slow=5.4,SNR=141						
ILAR				PKKP	PKKPbc	13 52 27.0	-3.4
	comp=Z,0.2nm,0.6s,baz=333,slow=1.2,SNR=5.4						
	comp=Z,3.8nm,0.4s				

baz=211
N31M Braeburn, Yuko 85.85 19 P **P 13 34 29.7 +0.6**
baz=220
P33M Teslin, Yukon 85.86 21 P **P 13 34 29.6 +0.4**
baz=223,SNR=5.6
E18K Tukpahlearik C 85.86 7 P **P 13 34 29.2 +0.2**
baz=197
D17K Noatak River 85.88 6 P **P 13 34 29.6 +0.6**
baz=194
R33M Jennings River 85.91 22 P **P 13 34 29.8 +0.2**
baz=224,SNR=8.6
G21K Allakaket 85.98 10 P **P 13 34 29.0 -0.6**
baz=204
H23K Yukon River 86.04 11 P **P 13 34 29.3 -0.6**
baz=207
K27K Chicken 86.13 15 P **P 13 34 31.0 +0.6**
baz=214
F20K Avarart Lake 86.13 9 P **P 13 34 30.2 0.0**
baz=201
J26L Joseph Creek 86.16 14 P **P 13 34 30.7 +0.1**
baz=213
BILL Bilibino 86.23 354 P **P 13 34 30.8 0.0**
BILL IAmb IAmb 13 34 31.9
comp=Z,18nm,1.0s
RDOG Red Dog Mine 86.24 6 P **P 13 34 31.2 +0.4**
baz=195
C16K Lisburne Hills 86.24 5 P **P 13 34 32.1 +1.4**
baz=192
E19K Redstone River 86.31 8 P **P 13 34 31.0 -0.2**
baz=200
H24K Noodor Dome 86.38 12 P **P 13 34 30.1 -1.5**
baz=209
M30M Minto, Yukon 86.39 18 P **P 13 34 31.2 -0.5**
M30M IAmb IAmb 13 34 32.4
comp=Z,12nm,0.7s
M30M Minto, Yukon 86.39 18 P **P 13 34 31.9 +0.2**
baz=219,SNR=14
L29M L29M 86.42 17 P **P 13 34 32.5 +0.6**
baz=218,SNR=10.0
N32M Quiet Lake 86.46 20 P **P 13 34 32.6 +0.5**
baz=222
FXWY Fox Creek 86.55 42 P **P 13 34 33.6 +0.4**
PRP Porcupine Dome 86.58 13 P **P 13 34 32.2 -0.5**
baz=211,SNR=6.0
C17K DeLong Mountai 86.62 6 P **P 13 34 32.4 -0.2**
baz=194
F21K Alatna River 86.63 9 P **P 13 34 32.3 -0.4**
baz=204
G23K Bananza Creek 86.75 11 P **P 13 34 33.3 0.0**
baz=207
S22A 4UR Ranch, Cre 86.76 49 P **P 13 34 35.0 +0.6**
M31M Drury Creek, Y 86.83 19 P **P 13 34 33.6 -0.1**
baz=221
DAWY Dawson 86.84 16 P **P 13 34 34.1 +0.3**
DAWY Dawson 86.84 16 P **P 13 34 33.8 0.0**
baz=217,SNR=7.0
I26K Coal Creek Min 86.93 14 P **P 13 34 34.0 -0.2**
baz=213
C18K Utukok River 86.98 6 P **P 13 34 34.0 -0.4**
baz=196
PD31 Pinedale Array 87.10 43 P **P 13 34 35.6 -0.2**
PD31 IAmb IAmb 13 34 37.2
comp=Z,17nm,1.3s
PDAR Pinedale Array 87.10 43 P **P 13 34 35.4 -0.3**
PDAR Pinedale Array 87.10 43 P **P 13 34 36.0 +0.3**
comp=Z,6.2nm,0.8s,baz=213,slow=3.2,SNR=50
PDAR PP **PP 13 38 05.5 -3.1**
comp=Z,0.7nm,0.9s,baz=239,slow=10,SNR=4.1
comp=Z,6.2nm,0.8s
F22K John River 87.10 10 P **P 13 34 34.6 -0.3**
baz=205
H25L Birch Creek 87.17 13 P **P 13 34 34.6 -0.6**
baz=211
K29M Barlow Dome 87.17 17 P **P 13 34 35.9 +0.4**
baz=218,SNR=7.1
FARO Faro, Yukon 87.17 19 P **P 13 34 35.6 +0.2**
baz=222
COLD Coldfoot 87.18 11 P **P 13 34 35.3 0.0**
COLD IAmb IAmb 13 34 36.5
comp=Z,12nm,1.0s
COLD Coldfoot 87.18 11 P **P 13 34 35.2 0.0**
baz=207,SNR=16
D19K Kuna River 87.18 7 P **P 13 34 35.3 0.0**
baz=199
WTLY Watson Lake, Y 87.20 22 P **P 13 34 36.0 +0.4**
baz=226
E20K Nigu River 87.20 8 P **P 13 34 35.4 -0.1**
baz=201
G24K Hadweenzic Riv 87.21 12 P **P 13 34 34.8 -0.6**
baz=209
LKWY Lake 87.39 42 P **P 13 34 39.1 +2.0**
LKWY IAmb IAmb 13 34 40.5
comp=Z,17nm,1.0s
MAYO Mayo, Yukon 87.44 18 P **P 13 34 37.4 +0.8**
baz=220,SNR=7.3
I27K Kandik River 87.54 14 P **P 13 34 36.9 -0.2**
baz=215
G25K Bearman Lake 87.54 12 P **P 13 34 36.8 -0.1**
baz=210
D20K Etivluk River 87.57 8 P **P 13 34 37.0 -0.1**
baz=200
B18K Kokolik River 87.61 6 P **P 13 34 37.0 -0.3**
baz=196
E21K Killik River 87.68 9 P **P 13 34 36.9 -0.7**
baz=203
TOAD Toad River Com 87.71 25 P **P 13 34 38.4 +0.4**
baz=230
E22K Anaktuvuk Pass 87.73 10 P **P 13 34 37.5 -0.4**
baz=205
I28M Miner Creek 87.82 15 P **P 13 34 38.2 -0.3**
baz=216
F24K Squaw Lake 87.85 11 **P 13 34 38.4 0.0**
F24K IAmb IAmb 13 34 39.3
comp=Z,9.2nm,0.6s
F24K Squaw Lake 87.85 11 P **P 13 34 38.5 0.0**
baz=209
E23K Chandalar 88.02 10 P **P 13 34 39.3 0.0**
baz=207
J30M Hart River 88.07 17 P **P 13 34 39.4 -0.2**
baz=220
H27K Steamboat Moun 88.08 14 P **P 13 34 39.5 -0.1**
baz=215,SNR=6.6
I29M Ogilvie Camp, 88.16 16 P **P 13 34 39.6 -0.3**
baz=218
G26K Porcupine Rive 88.18 13 P **P 13 34 40.0 +0.1**
baz=213
C21K Knifeblade Rid 88.23 8 P **P 13 34 40.1 0.0**
baz=202
E24K Your Creek 88.24 11 P **P 13 34 40.1 -0.1**
baz=208
D22K Ayikyak River 88.28 9 P **P 13 34 40.3 0.0**
baz=204
F25K Christian Rive 88.35 12 P **P 13 34 41.2 +0.4**
baz=211
TGTN Hyland Airport 88.36 22 P **P 13 34 41.0 0.0**
baz=227
BMAR Burnt Mountain 88.42 12 P **P 13 34 41.4 +0.3**
A19K Wainwright 88.50 6 P **P 13 34 40.9 -0.4**
baz=196
G27K Doyon Strip 88.53 14 P **P 13 34 41.5 -0.2**
baz=215
TOLK Toolik Lake Re 88.55 10 P **P 13 34 42.1 +0.3**
baz=207
I30M Mount Dempster 88.56 16 P **P 13 34 41.5 -0.4**
baz=219
D23K Nanushuk River 88.66 10 P **P 13 34 42.4 +0.2**
baz=206
B21K Ikpikpuk River 88.69 8 P **P 13 34 42.1 -0.1**
baz=202
B20K Meade River 88.73 7 P **P 13 34 42.4 0.0**
baz=200
F26K Sheenjek River 88.73 12 P **P 13 34 42.9 +0.3**
baz=212
E25K Arctic Village 88.82 12 P **P 13 34 43.0 +0.1**
baz=211
H29M Whitestone 88.83 15 P **P 13 34 43.1 +0.1**
baz=218
CM31 Chiang Mai Arr 88.95 290 P **P 13 34 45.5 +0.8**
CM31 IAmb IAmb 13 34 47.5
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 88.95 290 P **P 13 34 46.6 +1.9**
comp=Z,14nm,0.3s,baz=112,slow=5.2,SNR=20
comp=Z,14nm,0.3s
KOTAN Kotaneelee Air 88.99 24 P **P 13 34 44.4 +0.5**
baz=231
CHTO Chiang Mai 89.06 290 P **P 13 34 45.7 +0.5**
CHTO IAmb IAmb 13 34 47.5
comp=Z,14nm,1.1s

D24K Happy Valley 89.13 10 P **P 13 34 44.3 0.0**
baz=208
EPYK Eagle Plains 89.36 16 P **P 13 34 45.1 -0.4**
baz=219
ELIB Princess Elisa 89.39 187 *d*P **P 13 34 45.8 -0.1**
comp=Z,17nm,0.8s
SYO Syowa Base 89.39 193⇑ *e*P **P 13 34 45.3 -0.4**
SYO Syowa Base 89.39 193⇑ *e*PcP **PcP 13 34 46.6 -0.1**
YAK Yakutsk 89.43 338 P **P 13 34 45.0 -0.8**
comp=Z,5.4nm,0.4s,baz=82,slow=8.6,SNR=4.9
comp=Z,5.4nm,0.4s
C23K Itkillik River 89.46 9 P **P 13 34 45.8 -0.1**
C23K IAmb IAmb 13 34 47.0
comp=Z,9.8nm,0.8s
C23K Itkillik River 89.46 9 P **P 13 34 46.0 +0.2**
baz=206
G29M Pine Creek 89.46 15 P **P 13 34 45.8 -0.2**
baz=218
B22K Teshekpuk Lake 89.51 8 P **P 13 34 46.0 0.0**
baz=204
H31M Peel River 89.55 17 P **P 13 34 46.7 +0.3**
baz=221
C24K Franklin Bluff 89.66 10 P **P 13 34 46.4 -0.3**
C24K IAmb IAmb 13 34 48.0
comp=Z,14nm,0.8s
C24K Franklin Bluff 89.66 10 P **P 13 34 47.3 +0.5**
baz=208
E27K Coleen River 89.68 13 P **P 13 34 47.0 +0.1**
baz=215
D25K Kavik River 89.71 11 P **P 13 34 46.5 -0.6**
baz=210
A22K Sinclair Lake 89.92 7 P **P 13 34 47.7 -0.2**
baz=202
G30M tAoh Zraii Nji 89.96 15 P **P 13 34 48.1 -0.2**
baz=220
A21K Barrow 90.03 7 P **P 13 34 48.8 +0.4**
baz=200
G31M Satah River 90.42 16 P **P 13 34 50.0 -0.3**
baz=221
C27K Jago River 90.46 11 P **P 13 34 50.4 -0.1**
baz=213
E28M Babbage River 90.47 13 P **P 13 34 50.6 +0.1**
baz=216
C26K Camden Bay 90.48 11 P **P 13 34 50.8 +0.3**
baz=212
TROLL Troll, Antarti 90.52 180 ⇑P **P 13 34 51.4 +0.3**
comp=Z,1µm,1.1s
F30M Barrier River 90.55 15 P **P 13 34 50.8 -0.2**
baz=220
E29M Blow River 90.66 14 P **P 13 34 51.1 -0.3**
baz=218
D27M Malcolm River 90.68 12 P **P 13 34 51.5 -0.1**
baz=215
SNAA Sanae 90.81 179 P **P 13 34 51.6 -0.7**
SNAA IAmb IAmb 13 34 53.3
comp=Z,7.5nm,0.8s
SNAA Sanae 90.81 179 ⇑P **P 13 34 52.2 -0.2**
comp=Z,156nm,0.8s
SNAA Sanae 90.81 179 P **P 13 34 52.1 -0.2**
comp=Z,6.2nm,0.8s,baz=146,slow=23,SNR=8.4
comp=Z,6.2nm,0.8s
F31M Tsiigehtchic 90.94 16 P **P 13 34 52.6 -0.1**
baz=222
VNA3 Neumayer Olymp 90.94 176 ⇑P **P 13 34 53.1 +0.1**
comp=Z,38nm,0.7s
WRGLY Wrigley 91.17 22 P **P 13 34 53.7 -0.2**
baz=231
D28M Stokes Point 91.22 13 P **P 13 34 53.8 -0.2**
baz=217
PLCA Paso Flores 91.37 134 P **P 13 34 56.5 +0.9**
comp=Z,2.3nm,1.0s,baz=246,slow=2.5,SNR=4.1
comp=Z,2.3nm,1.0s
VNA2 Neumayer--Watz 91.38 177 ⇑P **P 13 34 55.1 +0.2**
comp=Z,20nm,0.8s,baz=163,slow=4.1
VNA1 Neumayer--Stat 91.61 177 ⇑P **P 13 34 57.0 +1.0**
comp=Z,33nm,0.9s
INK Inuvik 91.64 15 P **P 13 34 55.2 -0.7**
comp=Z,9.1nm,1.0s,baz=228,slow=4.2,SNR=26
comp=Z,9.1nm,1.0s
INK Inuvik 91.64 15 P **P 13 34 55.4 -0.5**
baz=222
SONM Songino Array 93.49 319 P **P 13 35 04.5 -0.6**
SONM IAmb IAmb 13 35 06.2
comp=Z,10nm,1.7s
SONM Songino Array 93.49 319 P **P 13 35 05.4 +0.3**
comp=Z,1.6nm,0.8s,baz=115,slow=5.3,SNR=8.3
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 94.08 25 P **P 13 35 07.0 -0.2**
comp=Z,3.9nm,0.8s,baz=247,slow=4.7,SNR=58
YKA PKKPbc **PKKPdf 13 52 06.3 -1.6**
comp=Z,0.1nm,0.4s,baz=168,slow=4.1,SNR=4.8
comp=Z,3.9nm,0.8s
C36M Paulatuk 94.85 17 P **P 13 35 09.8 -0.8**
baz=231
TIXI Tiksi 95.99 345 P **P 13 35 14.6 -1.1**
TIXI Tiksi 95.99 345 P **P 13 35 14.9 -0.8**
comp=Z,1.4nm,0.4s,baz=106,slow=4.7,SNR=11
comp=Z,1.4nm,0.4s
A36M Sachs Harbour 96.24 14 P **P 13 35 16.4 -0.4**
baz=230
ZALV Zalesovo Beam 108.16 322 PKiKP **PKiKP 13 40 12.7 -1.0**
comp=Z,0.9nm,0.6s,baz=210,slow=2.3,SNR=4.8
MKAR Makanchi Array 109.09 314 PKiKP **PKiKP 13 40 14.9 -0.8**
comp=Z,0.7nm,0.5s,baz=236,slow=1.1,SNR=10
MKAR PKKPbc **PKKPbc 13 51 24.2 -1.0**
comp=Z,0.3nm,0.7s,baz=270,slow=3.4,SNR=4.1
KURBB Kurchatov Arra 111.82 318 PKiKP **PKiKP 13 40 19.9 -0.8**
comp=Z,1.3nm,0.7s,baz=87,slow=1.7,SNR=18
KURBB PKKPbc **PKKPbc 13 51 15.6 -0.9**
comp=Z,0.1nm,0.5s,baz=274,slow=4.2,SNR=4.9
FRB Frobisher Bay 114.43 27 PKiKP **PKiKP 13 40 25.6 +0.3**
comp=Z,1.4nm,0.3s,baz=96,slow=3.3,SNR=3.0
BVAR Borovoye Array 116.77 321 PKP **PKiKP 13 40 29.8 -0.5**
comp=Z,2.5nm,0.5s,baz=108,slow=2.9,SNR=12
SPITS Spitsbergen Ar 119.06 357 PKP **PKiKP 13 40 33.8 -0.3**
comp=Z,18nm,1.0s,baz=36,slow=1.7,SNR=4.8
ARTI Arti 122.86 326 PKP **PKiKP 13 40 41.7 -0.3**
comp=Z,3.8nm,0.4s,baz=118,slow=2.4,SNR=9.1
ARCES ARCESS Array B 126.13 350 PKP **PKPdf 13 40 47.5 -0.3**
comp=Z,5.4nm,0.7s,baz=45,slow=1.5,SNR=14
BOSA Boshof 128.66 207 PKP **PKiKP 13 40 54.4 -0.4**
comp=Z,2.5nm,0.8s,baz=128,slow=4.4,SNR=5.2
FINES FINESS Array B 133.02 344 PKP **PKiKP 13 41 01.2 -1.1**
comp=Z,2.1nm,0.6s,baz=48,slow=2.8,SNR=7.3
NOA NORSAR Array B 136.18 353 PKP **PKPdf 13 41 07.1 +0.1**
comp=Z,1.4nm,0.7s,baz=28,slow=4.6,SNR=4.1
HFS Hagfors 136.75 351 PKP **PKPdf 13 41 08.2 +0.3**
comp=Z,10nm,1.1s,baz=37,slow=2.0,SNR=3.9
KMBO Kilima Mbogo 140.35 246 PKP **PKPdf 13 41 17.1 +0.8**
comp=Z,1.0nm,0.3s,baz=58,slow=4.1,SNR=5.1
AKASG Malin Array Be 140.44 333 PKhKP PKPpre 13 41 07.8
comp=Z,1.1nm,0.3s,baz=46,slow=4.1,SNR=10
AKASG SKPbc **SKiKP 13 44 06.2 0.0**
comp=Z,0.2nm,0.3s,baz=45,slow=2.3,SNR=5.0
EKA Eskdalemuir Ar 142.24 5 PKhKP PKPpre 13 41 13.1
comp=Z,1.3nm,0.7s,baz=348,slow=3.2,SNR=4.2
KWP Kalwaria Pacla 143.83 337 *e*PKP **PKPdf 13 41 20.7 -0.6**
WLF1 Llynfaes 144.16 6 *e*P **PKPab 13 41 20.7 -0.4**
OJC Ojcow 144.46 340 *e*PKP **PKPab 13 41 22.3 -0.1**
BUR08 Bucovina Ar. S 144.48 332 **PKPab 13 41 22.8 +0.1**
BURAR Bucovina Array 144.49 332 ⇑P **PKPab 13 41 23.1 +0.4**
STNC Stoke 144.54 4 *e*P **PKPab 13 41 22.4 -0.1**
GHRR 144.60 329 ⇑P **PKPab 13 41 24.1 +1.0**
TESR Tescani 144.65 330 ⇑P **PKPab 13 41 23.3 +0.1**
LLW Llanuwychllyn 144.66 6 *e*P PKPbc 13 41 22.2 -0.3
KOLS Kolonicke sedl 144.67 336 *e*PKP **PKPab 13 41 23.4 +0.2**
BRTR Keskin Array B 144.74 315 PKP **PKPab 13 41 23.4 -0.5**
comp=Z,11nm,0.8s,baz=69,slow=1.7,SNR=43
BRTR SKPbc **SKiKP 13 44 16.5 +0.9**
comp=Z,1.3nm,0.9s,baz=201,slow=1.1,SNR=4.0
KIRS Kirsehir-Merke 144.83 314 ⇑P **PKPab 13 41 24.1 -0.1**
CFR Carcaliu 144.84 327 ⇓P **PKPab 13 41 23.9 0.0**
ONER Baraj Valea Uz 144.90 330 ⇓P **PKPab 13 41 24.9 +0.7**
TPGR Topolog 144.91 326 ⇑P **PKPab 13 41 24.5 +0.3**
KSP Ksiaz 144.95 344 *e*PKP **PKPab 13 41 24.4 +0.2**
NIE Niedzica 144.98 339 *e*PKP **PKPab 13 41 24.2 -0.2**
WACR West Acre 145.03 1 *e*P **PKPab 13 41 23.5 -0.9**
HLM1 Long Mynd 145.06 5 *e*P **PKPbc 13 41 23.5 -0.3**
VRI Vrincioaia 145.07 329 ⇑P **PKPab 13 41 24.7 -0.2**
PLOR Plostina 145.12 329 ⇑P **PKPab 13 41 25.4 +0.3**
OSTC Ostas 145.23 344 *e*PKP **PKPab 13 41 25.4 +0.1**
ARCR ARCALIA 145.28 333 ⇓P **PKPab 13 41 25.1 -0.5**
CLL Collm 145.29 348 ⇓/PKPbc **PKPab 13 41 24.6 -0.9**
comp=Z,78nm,1.4s
UPC Upice 145.33 344 *e*PKP **PKPab 13 41 25.0 -0.7**
STEB Steborice 145.35 342 *e*PKP **PKPab 13 41 25.2 -0.6**
OZUR 145.36 330 ⇓P **PKPab 13 41 25.9 -0.1**

DPC Dobruska-Polom 145.39 344 *e*PKP **PKPab 13 41 25.7 -0.3**
LANS Liptovska Anna 145.49 339 *e*PKP **PKPab 13 41 26.7 +0.3**
BRG Berggiesshubel 145.50 346 *i*PKP **PKPab 13 41 25.5 -0.8**
BRG Amp 13 41 26.2
comp=Z,18nm,0.8s
MORC Moravsky Berou 145.56 342 *e*PKP **PKPab 13 41 25.9 -0.8**
MORC Moravsky Berou 145.56 342 ⇑P **PKPbc 13 41 25.4 0.0**
MCH1 Michaelchurch 145.57 5 *e*P **PKPbc 13 41 24.7 -0.5**
DOPR Dopca 145.65 330 ⇓P **PKPab 13 41 26.7 -0.4**
PVCC Panska Ves 145.67 345 *e*PKP **PKPab 13 41 26.6 -0.4**
ISR Istrita 145.69 328 ⇓P **PKPab 13 41 26.9 -0.4**
KECS Kecovo 145.71 338 *e*PKP **PKPab 13 41 26.8 -0.4**
MLR Muntele Rosu 145.72 329 ⇑P **PKPab 13 41 26.4 -1.1**
MONM Monmouth 145.74 5 *e*P **PKPbc 13 41 25.5 -0.2**
MAUC Maruska 145.83 341 *e*PKP **PKPab 13 41 27.0 -0.8**
STRD Stroud 145.85 4 *e*P **PKPbc 13 41 26.0 -0.1**
HSKC Hora Svate Kat 145.86 347 *e*PKP **PKPab 13 41 26.6 -1.2**
CJR Cluj-Napoca 145.90 333 ⇓P **PKPab 13 41 26.9 -1.2**
MARR Marisel-Cluj 146.13 333 ⇑P **PKPab 13 41 27.9 -1.2**
MMAI Mount Meron Ar 146.15 303 PKPbc **PKPbc 13 41 27.5 -0.1**
comp=Z,10nm,0.5s,baz=75,slow=3.1,SNR=15
PRU Pruhonice 146.18 345 *e*PKP **PKPbc 13 41 27.4 +0.3**
GOPC GO Pecny, Ondr 146.19 345 *e*PKP **PKPbc 13 41 27.5 +0.4**
VOIR 146.20 330 ⇑P **PKPab 13 41 28.0 -1.3**
DRGR 146.21 334 ⇓P **PKPab 13 41 28.1 -1.3**
VRAC Vranov 146.25 342 *e*PKP **PKPab 13 41 28.0 -1.4**
VRAC Vranov 146.25 342 ⇓P **PKPab 13 41 28.0 -1.4**
JAVC Velka Javorina 146.33 341 *e*PKP **PKPab 13 41 29.0 -0.8**
PSZ Piszkesteto 146.40 338 ⇓P **PKPab 13 41 28.5 -1.5**
ARR Arges 146.45 330 ⇑P **PKPab 13 41 29.6 -0.8**
KRUC Moravsky 146.53 342 *e*PKP **PKPbc 13 41 28.4 +0.3**
ZVC Zvikov 146.77 345 *e*PKP **PKPbc 13 41 29.1 +0.4**
MODS Modra-Piesok 146.88 341 *e*PKP **PKiKP 13 41 30.3 -0.8**
UCC Uccle 146.91 357 *d*PKP **PKPbc 13 41 29.2 +0.2**
MEM Membach 146.99 355 *d*PKP **PKPbc 13 41 29.0 -0.2**
BSTI Sart Tilman 147.05 356 *d*PKP **PKPbc 13 41 29.8 +0.4**
SIRR Siria 147.07 334 ⇑P **PKiKP 13 41 31.2 -0.3**
KHC Kasperske Hory 147.21 346 *e*PKP **PKPdf 13 41 26.0 -0.9**
KHC *ex* x 13 41 30.2
KHC *ex* x 13 41 33.7
BGES Gesves 147.28 356 *d*PKP **PKPbc 13 41 29.9 -0.1**
GZR Gura Zlata 147.28 332 ⇓P **PKPbc 13 41 29.9 -0.4**
SURR Surduc 147.28 333 ⇑P **PKPbc 13 41 29.9 -0.3**
CKRC Cesky Krumlov 147.32 345 *e*PKP **PKiKP 13 41 30.8 -1.2**
BMRD Maredsous 147.38 356 *d*PKP **PKPbc 13 41 30.3 0.0**
GERES GERESS Array B 147.44 345 PKPbc **PKPbc 13 41 30.4 -0.3**
comp=Z,1.8nm,0.6s,baz=34,slow=2.8,SNR=41
RCHB Rochefort 147.50 356 *d*PKP **PKPbc 13 41 30.2 -0.4**
DOU Dourbes 147.60 357 *d*PKP **PKPbc 13 41 30.1 -0.8**
BZS Buzias 147.61 334 ⇓P **PKiKP 13 41 31.4 -1.3**
CONA Conrad Observa 147.71 342 *i*PKiKP **PKiKP 13 41 32.1 -0.8**
comp=Z,13nm,0.6s,SNR=13
RONA Rosalia, Austr 147.78 341 *i*PKiKP **PKiKP 13 41 32.2 -0.8**
comp=Z,13nm,0.6s,SNR=6.4
HERR Herculane 147.84 332 ⇑P **PKPbc 13 41 31.8 +0.1**
WLF Walferdange 147.91 355 *d*PKP **PKiKP 13 41 32.3 -0.8**
MOA Molln 148.22 344 *e*PKiKP **PKiKP 13 41 33.1 -0.8**
comp=Z,3.1nm,0.4s
MDVR Moldovita 148.23 332 ⇑P **PKiKP 13 41 33.2 -0.8**
MORH Mrgy, Hungar 148.29 337 ⇓P **PKPbc 13 41 32.5 -0.2**
LESA Schwarzleotal 149.02 346 *i*PKiKP **PKiKP 13 41 34.7 -0.9**
comp=Z,10nm,0.4s,SNR=7.6
SOKA Soboth 149.08 342 *e*PKP **PKPbc 13 41 34.7 -0.1**
comp=Z,1.8nm,0.3s
BOVS Bovan 149.12 331 ⇓P **PKiKP 13 41 35.2 -0.6**
KBA Koelnbreinsper 149.18 344 *i*PKP **PKPbc 13 41 34.7 -0.4**
comp=Z,12nm,0.5s,SNR=6.5
WATA Walderalm 149.35 347 *i*PKiKP **PKiKP 13 41 35.5 -0.8**
comp=Z,16nm,0.6s,SNR=5.5
RETA Reutte 149.38 348 *e*PKiKP **PKiKP 13 41 35.8 -0.5**
comp=Z,4.2nm,0.3s
WTTA Wattenberg 149.41 347 *i*PKiKP **PKiKP 13 41 35.9 -0.7**
comp=Z,28nm,0.6s,SNR=9.8
MYKA Terra Mystica 149.51 344 *i*PKP **PKPbc 13 41 35.3 -0.5**
comp=Z,12nm,0.5s,SNR=5.3
SQTA Sankt Quirin 149.54 347 *i*PKiKP **PKiKP 13 41 36.0 -0.7**
comp=Z,9.4nm,0.4s,SNR=8.3
ABTA Abfaltersbach 149.69 345 *i*PKP **PKPbc 13 41 36.0 -0.3**
comp=Z,19nm,0.6s,SNR=9.3
DAVA Damuels 149.74 349 *i*PKiKP **PKiKP 13 41 37.1 -0.1**
comp=Z,14nm,0.7s,SNR=7.4
FETA Feichten 149.83 348 *e*PKiKP **PKiKP 13 41 36.7 -0.7**
comp=Z,14nm,0.8s,SNR=8.8
POLO Lamas de Olo 155.02 17 *e*PKPab **PKPab 13 42 06.5 +0.2**
MVO Moncorvo 155.42 16 *e*PKPab **PKPab 13 42 07.3 -0.7**
PVIS Viseu 155.60 18 *e*PKPab **PKPab 13 42 08.9 +0.1**
MTE Manteigas 155.99 18 *e*PKPab **PKPab 13 42 10.5 0.0**
ESDC Sonseca Array 157.54 12 PKPab **PKPab 13 42 17.2 0.0**
comp=Z,2.7nm,0.9s,baz=338,slow=4.9,SNR=10
DBIC Dimbokro 167.29 149 PKP **PKPdf 13 41 51.7 -0.7**
comp=Z,2.2nm,0.6s,baz=169,slow=9.4,SNR=3.8

IDC ***20*** *13:43:32.4±0.8, 4°.81N×94°.18E, h0km, mb4.1/12, mbtmp4.1/13, ML3.7/1, MS3.3/1, Error ellipse: s-maj=37.3km s-min=15.1km az=55.0*
NEIC ***20*** *13:43:37.8±1.3, 4°.74N±0°.09×94°.2E±0°.1, h35km±2km, mb4.2/21, Error ellipse: s-maj=17.8km s-min=14.2km az=74.0*
DJA ***20*** *13:43:39.1±1.0, 5°N±4°×9°4E±1°0, h47km±33km, M4.5/11, mb4.7/4, MLv4.3/11*
ISC 20 13:43:36.7±0.5, 4.78N±0°.05×94°.14E±0°.06, h34km, n64, σ1§45/57, mb4.1/23, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.35**	**58**	P	**Pn**	**13 43 57.6**	**-1.6**
BSI				S	**Sn**	**13 44 11.5**	**-4.5**
CMBY	**CAMPBELL BAY**	**2.23**	**354**	*e*P	**Pn**	**13 44 11.9**	**+0.7**
CMBY				*e*S	**Sb**	**13 44 42.2**	**-1.4**
CMBY				IAML		13 44 59.8	
	comp=N,914nm,0.6s						
CMBY				IAML		13 45 01.9	
	comp=E,692nm,0.6s						
MLSI	**Meulaboh, Aceh**	**2.31**	**103**	P	**Pn**	**13 44 12.9**	**+0.5**
LHMI	**Lhok Sumawe**	**2.83**	**81**		**Pn**	**13 44 20.3**	**+0.8**
LHMI	**Lhok Sumawe**	**2.83**	**81**	P	**Pn**	**13 44 19.8**	**+0.3**
SNSI	**Sinabang, Aceh**	**3.21**	**137**	P	**Pn**	**13 44 25.1**	**+0.4**
GSI	**Gunungsitoli**	**4.86**	**135**		**Pn**	**13 44 48.3**	**+0.7**
GSI	**Gunungsitoli**	**4.86**	**135**	P	**Pn**	**13 44 48.2**	**+0.7**
GSI				S	**Sn**	**13 45 40.3**	**-2.4**
PSI	**Prapat**	**5.16**	**112**	Pn	**Pn**	**13 44 51.9**	**+0.2**
	comp=E,2.7nm,0.3s,baz=323,slow=14,SNR=7.7						
	comp=E,4.9nm,0.3s						
RPSI	**Rantau Prapat**	**5.20**	**113**	Pn	**Pn**	**13 44 49.8**	**-2.3**
RPSI	**Rantau Prapat**	**5.20**	**113**		**Pn**	**13 44 51.9**	**-0.3**
PBSI	**Pulau Batu**	**6.33**	**139**	P	**Pn**	**13 45 07.3**	**-0.4**
	comp=E,0.3nmcomp=E,60nm,0.9s						
KULM	**Kulim**	**6.50**	**85**		**Pn**	**13 45 10.5**	**+0.5**
SRIT	**Nakonsritamara**	**6.62**	**55**		**Pn**	**13 45 11.9**	**+0.3**
PALK	**Pallekele**	**13.59**	**281**	Sn	**Sn**	**13 49 10.3**	**-7.0**
	comp=E,1.0nm,0.3s,baz=180,slow=21,SNR=6.7						
PALK				LR	LR	13 51 39.6	
	comp=E,108nm,18.9s,baz=94,slow=36						
CMAR	**Chiang Mai Arr**	**14.38**	**19**	LR	LR	13 52 52.5	
	comp=E,14nm,20.3s,baz=200,slow=39						
CHTO	**Chiang Mai**	**14.72**	**18**	Pn	**Pn**	**13 47 04.3**	**+1.8**
H08S2	**Diego Garcia H**	**24.88**	**240**	T	T	14 14 47.4	
	baz=60,slow=76,SNR=170						
H08S3	**Diego Garcia H**	**24.88**	**240**	T	T	14 14 53.4	
	baz=60,slow=76,SNR=178						
H08S1	**Diego Carcia H**	**24.89**	**240**	T	T	14 14 57.1	
	baz=60,slow=76,SNR=86						
LSA	**Lhasa**	**24.95**	**354**	P	**P**	**13 48 58.2**	**+0.7**
LSA				IAmb	IAmb	13 49 00.3	
	comp=Z,5.5nm,0.8s						
NIL	**Nilore**	**34.69**	**328**	P	**P**	**13 50 24.9**	**+1.5**
NIL				IAmb	IAmb	13 50 32.9	
	comp=Z,6.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**38.49**	**127**	P	**P**	**13 50 55.6**	**-0.3**
FITZ				IAmb	IAmb	13 50 59.2	
	comp=Z,3.6nm,1.4s						
TARG	**Taragay, Kyrgy**	**39.58**	**341**		**P**	**13 51 05.2**	**-0.1**
TARG				IAmb	IAmb	13 51 16.1	
	comp=Z,2.3nm,0.9s						
KNRA	**Kununurra**	**39.85**	**121**	P	**P**	**13 51 06.4**	**-0.9**
KDJ	**Kajisay**	**40.15**	**340**	P	**P**	**13 51 10.5**	**+0.8**
KDJ				IAmb	IAmb	13 51 28.4	
	comp=Z,2.1nm,0.6s						
MTN	**Manton Dam**	**40.71**	**116**	P	**P**	**13 51 14.9**	**+0.4**
BOOM	**Boomskoye usch**	**40.90**	**339**	P	**P**	**13 51 16.2**	**+0.3**
MK31	**Makanchi Array**	**43.09**	**348**	P	**P**	**13 51 34.7**	**+1.1**

MK31 IAmb IAmb 13 51 47.6
comp=Z,2.7nm,0.9s
MKAR Makanchi Array 43.09 348 P **P** **13 51 34.1 +0.5**
MKAR Makanchi Array 43.09 348 P **P** **13 51 34.2 +0.7**
comp=Z,2.5nm,0.7s,baz=161,slow=7.7,SNR=14
comp=Z,2.5nm,0.7s
MAKZ Makanchi 43.17 348 P **P** **13 51 35.0 +0.8**
MAKZ IAmb IAmb 13 51 35.4
comp=Z,2.7nm,0.7s
SONM Songino Array 44.17 12 P **P** **13 51 41.5 -0.8**
SONM Songino Array 44.17 12 P **P** **13 51 41.9 -0.5**
comp=Z,1.0nm,0.7s,baz=198,slow=6.2,SNR=3.5
comp=Z,1.0nm,0.7s
WB0 Warramunga Arr 46.49 123 P **P** **13 52 01.3 +0.3**
WRA Warramunga Arr 46.52 123 P **P** **13 52 00.5 -0.8**
WRA Warramunga Arr 46.52 123 P **P** **13 52 02.1 +0.8**
comp=Z,3.4nm,0.8s,baz=301,slow=9.2,SNR=19
comp=Z,3.4nm,0.8s
KURBB Kurchatov Arra 47.53 347 P **P** **13 52 09.4 +0.7**
comp=Z,1.3nm,0.8s,baz=170,slow=6.7,SNR=19
comp=Z,1.3nm,0.8s
KURK Kurchatov 47.60 347 P **P** **13 52 10.1 +0.9**
KURK IAmb IAmb 13 52 24.7
comp=Z,3.9nm,0.7s
ASAR Alice Springs 47.98 128 P **P** **13 52 12.2 -0.4**
ASAR Alice Springs 47.98 128 P **P** **13 52 13.5 +0.9**
comp=Z,1.2nm,0.6s,baz=299,slow=7.8,SNR=24
comp=Z,1.2nm,0.6s
AS31 Alice Springs 47.98 128 P **P** **13 52 12.8 +0.1**
ZAA0 Zalesovo Array 49.61 353 P **P** **13 52 24.5 0.0**
ZAA0 IAmb IAmb 13 52 29.3
comp=Z,5.0nm,1.1s
ZALV Zalesovo Beam 49.61 353 P **P** **13 52 24.4 -0.2**
ZALV Zalesovo Beam 49.61 353 P **P** **13 52 25.0 +0.4**
comp=Z,2.2nm,0.6s,baz=163,slow=5.7,SNR=12
comp=Z,2.2nm,0.6s
BVAR Borovoye Array 51.91 342 P **P** **13 52 42.4 +0.4**
comp=Z,1.5nm,0.7s,baz=139,slow=9.8,SNR=9.0
comp=Z,1.5nm,0.7s
BRVK Borovoye 51.97 342 P **P** **13 52 42.1 -0.2**
BRVK IAmb IAmb 13 53 01.5
comp=Z,2.2nm,0.8s
ABKAR Akbulak array 52.95 333 P **P** **13 52 50.6 +0.9**
H04N2 CROZET ISLANDS 63.10 212 T T 15 02 47.5
baz=50,slow=75,SNR=68
H04N1 CROZET ISLANDS 63.11 212 T T 15 02 45.2
baz=50,slow=75,SNR=62
H04N3 CROZET ISLANDS 63.12 212 T T 15 02 43.8
baz=50,slow=75,SNR=68
H04S1 CROZET ISLANDS 63.49 211 T T 15 03 08.0
baz=48
H04S3 CROZET ISLANDS 63.50 211 T T 15 03 05.6
baz=48
H04S2 CROZET ISLANDS 63.51 211 T T 15 03 08.5
baz=48
BRTR Keskin Array B 64.46 312 P **P** **13 54 11.3 +1.1**
comp=Z,0.6nm,0.6s,baz=106,slow=7.2,SNR=4.7
comp=Z,0.6nm,0.6s
TIXI Tiksi 70.25 11 P **P** **13 54 45.3 -0.7**
TIXI IAmb IAmb 13 54 45.4
comp=Z,3.7nm,1.0s
BURAR Bucovina Array 72.34 319 P **P** **13 54 59.9 +0.6**
FIA1 FINESS Array S 75.44 333 P **P** **13 55 17.3 +0.3**
FINES FINESS Array B 75.44 333 P **P** **13 55 17.3 +0.3**
comp=Z,0.9nm,0.4s,baz=112,slow=6.0,SNR=8.5
comp=Z,0.9nm,0.4s
SUR Sutherland 78.59 236 P **P** **13 55 34.5 -1.1**
GERES GERESS Array B 80.13 319 P **P** **13 55 45.7 +2.2**
comp=Z,1.1nm,0.7s,baz=108,slow=4.3,SNR=7.2
comp=Z,1.1nm,0.7s
HFS Hagfors 81.12 330 P **P** **13 55 49.2 +0.8**
comp=Z,1.0nm,0.5s,baz=98,slow=5.5,SNR=4.7
comp=Z,1.0nm,0.5s
VNDA Vanda 89.92 168 P **P** **13 56 32.0 +0.1**
comp=Z,1.5nm,0.3s,baz=232,slow=1.0,SNR=18
comp=Z,1.5nm,0.3s
CPUP Villa Florida 145.31 229 PKPbc **PKPbc** **14 03 12.5 +1.0**
comp=Z,2.2nm,0.7s,baz=17,slow=4.8,SNR=3.8

*IDC **20** 13:45:27.2±0.8, 27°.83N×127°.52E, h0km, mb3.9/8, mbtmp3.9/12, ML3.2/4, MS3.8/37, Error ellipse: s-maj=29.5km s-min=12.6km az=64.0*
*JMA **20** 13:45:27.5±0.3, 28°.1N±0°.5×128°.0E±0°.7, h11km±2km, MV3.7/17, NW OFF OKINAWAJIMA IS*
*NEIC **20** 13:45:27.8±1.8, 27°.95N±0°.05×128°.09E±0°.09, h10km±1km, mb4.4/17, Error ellipse: s-maj=13.2km s-min=7.9km az=86.0*
*NIED **20** 13:45:27.5, 28°.10N×128°.01E, h11km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.55; Mθθ3.81; Mφφ-1.26; Mrθ-5.16; Mθφ2.90; Mφr-3.76; Fault plane solution: M0 7.52000×10^15 NP1: φs=275.00000°, δ19.00000°, λ-48.00000°. NP2:φs=51.00000°, δ76.00000°, λ-103.00000°.*

ISC 20 13:45:27.5±1.4, 27°.99N±0°.04×128°.03E±0°.04, h9km±9km, n84, σ1.19/64, mb4.3/16, MS3.7/33, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.79**	**142**	*eP*	**Pn**	**13 45 44.4**	**-0.4**
JOKE				*eS*	**Sn**	**13 45 56.8**	**+0.1**
JTK	**Tokunoshima**	**0.84**	**104**	*eP*	**Pg**	**13 45 44.1**	**+0.5**
JTK				*eS*	**Sb**	**13 45 56.3**	**+0.7**
JIH	**Iheya**	**0.95**	**184**	*eP*	**Pn**	**13 45 47.5**	**+0.5**
JIH				*eS*	**Sn**	**13 46 01.7**	**+0.9**
JYRO	**Yoronjima**	**1.03**	**159**	*eP*	**Pn**	**13 45 48.7**	**+0.6**
JYRO				*eS*	**Sn**	**13 46 04.1**	**+1.4**
JAMN	**Amaminishikomi**	**1.04**	**76**	*eP*	**Pg**	**13 45 47.0**	**-0.4**
JAMN				*eS*	**Sg**	**13 46 00.4**	**-0.6**
JOW	**Kunigami**	**1.17**	**169**	Pn	**Pn**	**13 45 50.0**	**-0.1**
JOW				Sn	**Sn**	**13 46 07.2**	**+1.0**
JOW	**Kunigami**	**1.17**	**169**	Pn	**Pn**	**13 45 50.5**	**+0.4**
JOW	283nm,0.3s,baz=8.5,slow=16,SNR=63			Sn	**Sn**	**13 46 07.8**	**+1.6**
	184nm,0.3s,baz=80,slow=27,SNR=17						
JOW	**Kunigami**	**1.17**	**169**	*eP*	**Pn**	**13 45 50.9**	**+0.7**
JOW				*eS*	**Sn**	**13 46 07.8**	**+1.6**
JAM	**Amami Oshima**	**1.45**	**73**	*eP*	**Pn**	**13 45 53.7**	**-0.3**
JAM				*eS*	**Sn**	**13 46 12.3**	**-0.8**
JNTH	**Nagotoyohara**	**1.46**	**180**	*eP*	**Pg**	**13 45 55.0**	**-0.5**
JNTH				*eS*	**Sg**	**13 46 14.5**	**0.0**
JTAJ	**Takarajima**	**1.55**	**41**	*eP*	**Pn**	**13 45 54.6**	**-0.7**
JTAJ				*eS*	**Sn**	**13 46 13.8**	**-1.9**
JAGN	**Aguni-jima**	**1.56**	**207**	*eP*	**Pg**	**13 45 56.5**	**-0.9**
JZK	**Kikaishima**	**1.74**	**79**	*eP*	**Pn**	**13 45 59.1**	**+1.1**
JJT3	**Tamagusuku3**	**1.85**	**187**	*eP*	**Pg**	**13 46 01.8**	**-1.2**
JKE	**Kume jima 2**	**1.99**	**214**	*eP*	**Pg**	**13 46 04.4**	**-1.3**
JMZ	**Minamidaito 2**	**3.58**	**126**	Pn	**Pn**	**13 46 21.5**	**-1.7**
JNU	**Nakatsue**	**5.67**	**25**		**Pn**	**13 46 52.6**	**+0.5**
JNU	**Nakatsue**	**5.67**	**25**	Pn	Pn	13 46 57.4	+5.3
	0.8nm,0.3s,baz=193,slow=4.2,SNR=9.3						
	30nm,0.8s						
YOJ	**Yonaguni jima**	**5.71**	**233**	Pn	**Pn**	**13 46 53.7**	**+1.1**
YHNB	**Yeheng**	**6.83**	**243**		**Pn**	**13 47 08.9**	**+1.0**
YULB	**Yu-li**	**7.60**	**235**	Pn	**Pn**	**13 47 19.0**	**+0.4**
JMN	**Monobe**	**7.61**	**40**	Pn	**Pn**	**13 47 19.9**	**+1.1**
SSLB	**Suanglung**	**7.62**	**238**	Pn	**Pn**	**13 47 20.1**	**+1.2**
TPUB	**Ta-pu**	**8.15**	**237**	Pn	**Pn**	**13 47 25.2**	**-0.9**
KSRS	**Korea Array**	**9.44**	**359**	Pn	**Pn**	**13 47 46.9**	**+3.2**
	0.1nm,0.3s,baz=180,slow=13,SNR=1.7						
KSRS				LR	LR	13 51 31.3	
	comp=Z,818nm,18.2s,baz=190,slow=38						
	0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**12.11**	**43**	Pn	Pn	13 48 28.1	+7.7
	0.1nm,0.3s,baz=227,slow=14,SNR=5.9						
MJAR				LR	LR	13 53 46.3	
	comp=Z,187nm,20.6s,baz=221,slow=40						
	0.6nm,0.5s						
JCJ	**Chichijima**	**12.59**	**91**	LR	LR	13 53 05.1	
	comp=Z,193nm,18.7s,baz=130,slow=35						
BJT	**Baijiatuau**	**15.50**	**324**		**P**	**13 49 11.5**	**+0.7**
BJT				IAmb	IAmb	13 49 16.9	
	comp=Z,16nm,0.9s						
ENH	**Enshi**	**16.36**	**282**	P	**P**	**13 49 21.7**	**+1.2**
ENH				IAmb	IAmb	13 49 22.8	
	comp=Z,30nm,1.3s						
USRK	**Ussuriysk Ar.**	**16.49**	**10**	Pn	**P**	**13 49 24.8**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=191,slow=13,SNR=11						
USRK				LR	LR	13 55 32.2	
	comp=Z,189nm,20.0s,baz=187,slow=36						
	comp=Z,7.0nm,0.8s						
DAV	**Davao City (W)**	**20.93**	**187**	LR	LR	13 58 37.2	
	comp=Z,129nm,19.8s,baz=316,slow=38						
GUMO	**Guam**	**21.25**	**129**	LR	LR	13 57 05.2	
	comp=Z,224nm,20.1s,baz=316,slow=32						
KLR	**Kul'dur**	**21.40**	**7**	LR	LR	13 58 06.9	
	comp=Z,154nm,19.8s,baz=185,slow=35						
HIA	**Hailar**	**22.18**	**346**	P	**P**	**13 50 26.1**	**+2.2**
HIA				IAmb	IAmb	13 50 39.6	
	comp=Z,5.3nm,0.4s						
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**13 51 01.3**	**+0.5**
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**13 51 00.8**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=137,slow=11,SNR=16						
SONM				LR	LR	14 02 27.7	
	comp=Z,186nm,18.4s,baz=140,slow=39						
	comp=Z,3.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.30**	**257**	LR	LR	14 04 04.6	
	comp=Z,91nm,19.4s,baz=60,slow=40						
JAY	**Jayapura**	**32.69**	**156**	LR	LR	14 02 22.4	
	comp=Z,114nm,21.1s,baz=310,slow=31						
BRDH	**Bariadhala**	**33.23**	**269**	LR	LR	14 06 26.3	
	comp=Z,152nm,20.0s,baz=100,slow=38						
PETK	**Petropavlovsk-**	**33.31**	**33**	LR	LR	14 04 45.8	
	comp=Z,72nm,20.9s,baz=230,slow=34						
KAPI	**Kappang**	**33.77**	**195**	LR	LR	14 06 51.4	
	comp=Z,72nm,19.2s,baz=354,slow=38						
YAK	**Yakutsk**	**34.06**	**1**	LR	LR	14 06 06.4	
	comp=Z,162nm,20.8s,baz=154,slow=36						
MKAR	**Makanchi Array**	**40.25**	**310**	P	**P**	**13 53 04.3**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=100,slow=10.0,SNR=7.6						
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**40.75**	**322**	P	**P**	**13 53 07.7**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.0,SNR=3.8						
ZALV				LR	LR	14 11 51.0	
	comp=Z,217nm,19.4s,baz=104,slow=39						
	comp=Z,0.6nm,0.4s						
TARG	**Taragay, Kyrgy**	**42.86**	**302**	P	**P**	**13 53 26.5**	**-0.1**
TARG				IAmb	IAmb	13 53 32.3	
	comp=Z,6.6nm,0.9s						
KDJ	**Kajisay**	**43.34**	**303**	P	**P**	**13 53 30.0**	**-0.2**
KURK	**Kurchatov**	**43.44**	**315**	P	**P**	**13 53 30.2**	**-0.5**
KURBB	**Kurchatov Arra**	**43.47**	**315**	P	**P**	**13 53 30.2**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=105,slow=8.4,SNR=6.7						
KURBB				LR	LR	14 13 13.0	
	comp=Z,166nm,19.1s,baz=163,slow=38						
	comp=Z,1.3nm,0.6s						
TIXI	**Tiksi**	**43.71**	**0**	LR	LR	14 11 38.6	
	comp=Z,233nm,20.3s,baz=194,slow=36						
NRIK	**Noril'sk**	**47.53**	**342**	P	**P**	**13 54 03.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=140,slow=5.0,SNR=1.6						
NRIK				LR	LR	14 15 44.4	
	comp=Z,279nm,18.9s,baz=129,slow=38						
	comp=Z,0.8nm,0.3s						
WRA	**Warramunga Arr**	**48.04**	**172**	P	**P**	**13 54 05.2**	**-2.1**
WRA	**Warramunga Arr**	**48.04**	**172**	P	**P**	**13 54 08.0**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=352,slow=8.2,SNR=4.7						
	comp=Z,1.2nm,0.9s						
KK31	**Karatay Array**	**48.27**	**304**	P	**P**	**13 54 08.8**	**-0.2**
KK31				IAmb	IAmb	13 54 10.3	
	comp=Z,4.2nm,1.1s						
KKAR	**Karatay Array**	**48.27**	**304**	P	**P**	**13 54 08.5**	**-0.4**
KKAR	**Karatay Array**	**48.27**	**304**	P	**P**	**13 54 08.4**	**-0.6**
KKAR				IAmb	IAmb	13 54 10.3	
	comp=Z,4.4nm,1.1s						
HNR	**Honiara**	**48.34**	**136**	LR	LR	14 15 26.5	
	comp=Z,39nm,18.6s,baz=184,slow=37						
GAR	**Garm**	**48.65**	**299**	P	**P**	**13 54 11.7**	**-0.4**
BVAR	**Borovoye Array**	**48.86**	**317**	P	**P**	**13 54 12.6**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=98,slow=8.4,SNR=11						
	comp=Z,3.3nm,0.9s						
BRVK	**Borovoye**	**48.93**	**317**	P	**P**	**13 54 12.3**	**-1.5**
PALK	**Pallekele**	**49.21**	**254**	LR	LR	14 16 46.4	
	comp=Z,73nm,18.2s,baz=58,slow=39						
SIMJ	**Simiganj**	**49.70**	**298**	P	**P**	**13 54 19.6**	**-0.6**
SIMJ				IAmb	IAmb	13 54 25.8	
	comp=Z,5.7nm,1.2s						
KBL	**Kabul**	**50.24**	**293**	P	**P**	**13 54 23.3**	**-1.1**
ASAR	**Alice Springs**	**51.66**	**173**	P	**P**	**13 54 36.0**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=358,slow=8.9,SNR=6.2						
ASAR				LR	LR	14 15 24.1	
	comp=Z,51nm,21.7s,baz=12,slow=35						
	comp=Z,0.5nm,0.8s						
ABKAR	**Akbulak array**	**55.33**	**312**	P	**P**	**13 55 00.8**	**-0.7**
D22K	**Ayikyak River**	**60.35**	**24**	P	**P**	**13 55 35.2**	**-1.4**
D22K				IAmb	IAmb	13 55 45.5	
	comp=Z,6.2nm,1.4s						
KDAK	**Kodiak Island**	**61.22**	**37**	LR	LR	14 24 06.9	
	comp=Z,38nm,19.7s,baz=71,slow=38						
DZM	**Muntl Dzumac**	**62.07**	**139**	LR	LR	14 22 12.6	
	comp=Z,66nm,18.1s,slow=35						
BMAR	**Burnt Mountain**	**63.50**	**26**	P	**P**	**13 55 58.5**	**+0.7**
F26K	**Sheenjek River**	**63.62**	**25**	P	**P**	**13 55 58.6**	**0.0**
F26K				IAmb	IAmb	13 56 23.0	
	comp=Z,4.5nm,1.5s						
SPITS	**Spitsbergen Ar**	**67.08**	**348**	LR	LR	14 31 24.6	
	comp=Z,23nm,21.5s,baz=86,slow=41						
GNI	**Garni**	**67.73**	**305**	LR	LR	14 28 34.3	
	comp=Z,59nm,18.1s,baz=60,slow=38						
KBZ	**Khabaz**	**67.92**	**309**	LR	LR	14 31 09.2	
	comp=Z,62nm,18.3s,baz=352,slow=40						
ARCES	**ARCESS Array B**	**68.31**	**338**	LR	LR	14 33 23.6	
	comp=Z,96nm,18.2s,baz=68,slow=42						
AKASG	**Malin Array Be**	**74.09**	**319**	LR	LR	14 32 01.2	
	comp=Z,138nm,19.9s,baz=62,slow=38						
YKA	**Yellowknife Ar**	**77.01**	**25**	P	**P**	**13 57 17.2**	**-3.3**
	comp=Z,0.5nm,0.9s,baz=304,slow=5.4,SNR=5.6						
MMAI	**Mount Meron Ar**	**77.34**	**301**	LR	LR	14 37 45.7	
	comp=Z,25nm,18.2s,baz=70,slow=41						
MLR	**Muntele Rosu**	**78.37**	**315**	LR	LR	14 35 09.4	
	comp=Z,177nm,18.7s,baz=46,slow=38						
VRAC	**Vranov**	**81.87**	**322**	LR	LR	14 36 05.7	
	comp=Z,139nm,18.1s,baz=0.0,slow=37						
GERES	**GERESS Array B**	**83.70**	**323**	LR	LR	14 38 52.5	
	comp=Z,216nm,18.2s,baz=32,slow=38						
SFJD	**Kangerlussuaq**	**85.31**	**359**	LR	LR	14 37 36.5	
	comp=Z,37nm,19.3s,baz=359,slow=37						
DAVOX	**Davos/Dischmat**	**87.00**	**323**	LR	LR	14 38 49.4	
	comp=Z,130nm,18.8s,baz=107,slow=37						
PPT	**Papeete**	**91.62**	**109**	LR	LR	14 36 08.3	
	comp=Z,20nm,19.9s,baz=90,slow=33						
PFO	**Pinyon Flats O**	**93.47**	**49**	LR	LR	14 34 11.4	
	comp=Z,24nm,20.5s,baz=235,slow=31						
ESDC	**Sonseca Array**	**99.20**	**324**	LR	LR	14 48 55.6	
	comp=Z,133nm,18.3s,baz=12,slow=38						

*NIED **20** 13:49:21.0, 28°.11N×127°.99E, h10km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr=0.21; Mθθ1.04; Mφφ-0.82; Mrθ-1.11; Mθφ0.21; Mφr-0.81; Fault plane solution: M0 1.65000×10^15 NP1: φs=310.00000°, δ33.00000°, λ-9.00000°. NP2:φs=48.00000°, δ85.00000°, λ-123.00000°.*
*JMA **20** 13:49:21.0±0.4, 28°.1N±0°.6×128°.0E±0°.8, h10km±3km, MV3.5/15, NW OFF OKINAWAJIMA IS*
*IDC **20** 13:49:21.4±1.1, 27°.79N×127°.56E, h0km, mb3.6/5, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=45.1km s-min=14.8km az=60.0*

ISC 20 13:49:21.2±1.5, 28°.06N±0°.04×128°.02E±0°.05, h10km±10km, n19, σ0.95/26, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.85**	**145**	*eP*	**Pn**	**13 49 38.3**	**-0.9**
JOKE				*eS*	**Sn**	**13 49 50.6**	**-1.3**
JTK	**Tokunoshima**	**0.87**	**108**	P	**Pg**	**13 49 38.2**	**+0.3**
JTK				*eS*	**Sg**	**13 49 50.1**	**+0.9**
JIH	**Iheya**	**1.03**	**183**	P	**Pg**	**13 49 40.9**	**-0.1**
JIH				*eS*	**Sn**	**13 49 55.5**	**-0.6**
JAMN	**Amaminishikomi**	**1.03**	**80**	P	**Pg**	**13 49 40.7**	**-0.3**
JAMN				S	**Sg**	**13 49 55.0**	**+0.5**
JYRO	**Yoronjima**	**1.10**	**160**	P	**Pg**	**13 49 42.2**	**-0.1**
JYRO				*eS*	**Sg**	**13 49 58.0**	**+1.3**
JOW	**Kunigami**	**1.25**	**170**	Pn	**Pb**	**13 49 44.5**	**-0.3**
	169nm,0.3s,baz=20,slow=9.0,SNR=20						
JOW				Sn	**Sg**	**13 50 02.8**	**+1.4**
	157nm,0.3s,baz=138,slow=26,SNR=7.6						
JOW	**Kunigami**	**1.25**	**170**	P	**Pb**	**13 49 44.5**	**-0.3**
JAM	**Amami Oshima**	**1.44**	**76**	P	**Pb**	**13 49 47.1**	**-1.0**
JAM				*eS*	**Sb**	**13 50 06.0**	**-0.5**
JTAJ	**Takarajima**	**1.50**	**43**	*eP*	**Pg**	**13 49 48.7**	**-1.3**
JNTH	**Nagotoyohara**	**1.54**	**180**	*eP*	**Pb**	**13 49 48.8**	**-1.0**
JNTH				*eS*	**Sb**	**13 50 08.9**	**-0.4**
JAGN	**Aguni-jima**	**1.62**	**205**	*eP*	**Pg**	**13 49 50.8**	**-1.6**
JZK	**Kikaishima**	**1.74**	**81**	*eP*	**Pb**	**13 49 53.2**	**-0.1**
JJT3	**Tamagusuku3**	**1.92**	**186**	*eP*	**Pb**	**13 49 55.9**	**-0.5**
JNU	**Nakatsue**	**5.61**	**25**	Pn	Pb	13 50 52.1	-7.2
	0.9nm,0.3s,baz=305,slow=3.2,SNR=6.5						
	24nm,0.8s						
SONM	**Songino Array**	**25.93**	**325**	P	**P**	**13 54 55.3**	**+1.6**
	1.1nm,0.7s,baz=140,slow=10,SNR=4.8						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**40.19**	**310**	P	**P**	**13 56 58.5**	**+0.8**
	0.6nm,0.8s,baz=109,slow=9.5,SNR=4.3						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**48.11**	**172**	P	**P**	**13 58 01.1**	**-0.3**
	0.7nm,0.7s,baz=353,slow=8.1,SNR=2.6						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**48.80**	**317**	P	**P**	**13 58 07.5**	**+1.1**
	0.8nm,0.7s,baz=97,slow=8.2,SNR=4.3						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**51.74**	**173**	P	**P**	**13 58 28.8**	**-0.2**
	0.3nm,0.7s,baz=2.5,slow=7.1,SNR=5.9						
	0.3nm,0.7s						

IDC 20 13:56:30.2±723.0, 54°.54N×1°.32W, h0km, Error ellipse: s-maj=300.7km s-min=179.8km az=81.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.92**	**115**	I	I	15 00 49.6	
	baz=305,slow=329,SNR=1.7						
I37NO	**I37NO**	**17.21**	**24**	I	I	15 37 50.0	
	baz=218,slow=318,SNR=1.1						
I43RU	**DUBNA INFRASON**	**21.67**	**68**	I	I	16 08 24.6	
	baz=284,slow=320						
I31KZ	**AKTYUBINSK INF**	**35.45**	**72**	I	I	17 33 40.0	
	baz=303,slow=328,SNR=0.6						

*GCG **20** 14:19:20.0±2.9, 14°.99N×94°.43W, h29km±102km, MD4.4*
*MEX **20** 14:19:22.1±1.2, 15°.10N×94°.34W, h19km±88km, MD4.2*

ISC 20 14:19:12.4±1.5, 14°.87N±0°.05×94°.38W±0°.03, h13km±12km, n19, σ1.27/38, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.40**	**53**	*eP*	**Pg**	**14 19 41.6**	**+2.4**
PCIG				*i* S	**Sb**	**14 19 56.0**	**-0.2**
CARR	**Arriaga**	**1.45**	**18**	*eP*	**Pg**	**14 19 41.3**	**+1.1**
CARR				*i* S	**Sn**	**14 19 55.4**	**-1.8**
NILT	**Santiago Nilte**	**1.70**	**352**	*eP*	**Pg**	**14 19 44.9**	**-0.3**
NILT				*eS*	**Sn**	**14 20 02.0**	**-1.5**
HUIG	**Huatulco**	**1.89**	**299**	*eP*	**Pg**	**14 19 49.5**	**+0.8**
HUIG				*i* S	**Sn**	**14 20 07.6**	**-0.5**
HUIG	**Huatulco**	**1.89**	**299**	*eP*	**Pg**	**14 19 49.3**	**+0.6**
HUIG				*i* S	**Sn**	**14 20 08.6**	**+0.4**
HUIG	**Huatulco**	**1.89**	**299**	*eP*		14 19 49.3	
HUIG				*i* S		14 20 08.6	
PATR	**El Naranjo**	**2.09**	**83**	*eP*	**Pg**	**14 19 52.9**	**+0.4**
PATR				*eS*	**Sb**	**14 20 15.7**	**-0.7**
PAVE	**Pavencul**	**2.16**	**81**	*eP*	**Pg**	**14 19 54.1**	**+0.3**
PAVE				*eS*	**Sn**	**14 20 16.1**	**+1.1**
TGIG		**2.25**	**32**	*eP*	**Pg**	**14 19 54.3**	**-1.3**
TGIG				*i* S	**Sn**	**14 20 19.3**	**+2.0**
TGIG		**2.25**	**32**	*i* P	**Pg**	**14 19 54.4**	**-1.3**
TGIG				*i* S	**Sb**	**14 20 20.2**	**-0.8**
TGIG		**2.25**	**32**	*i* P		14 19 54.4	
TGIG				*i* S		14 20 20.2	
CMIG	**Matias Romero**	**2.26**	**348**	*eP*	**Pb**	**14 19 53.5**	**+0.3**
CMIG				*i* S	**Sn**	**14 20 15.9**	**-1.5**
TGBT	**Tuxtla Gutierr**	**2.27**	**33**	*i* P	**Pb**	**14 19 53.5**	**+0.2**
TGBT				*eS*	**Sn**	**14 20 19.3**	**+1.8**
UXUV	**UXUV**	**2.45**	**5**	*eP*	**Pb**	**14 19 56.9**	**+0.6**
UXUV				*eS*	**Sn**	**14 20 23.8**	**+1.9**
CCIG	**Comitan**	**2.58**	**57**	*eP*	**Pg**	**14 20 00.7**	**-1.2**
CCIG				*i* S	**Sn**	**14 20 26.6**	**+1.2**
CCIG	**Comitan**	**2.58**	**57**	*eP*	**Pg**	**14 20 01.7**	**-0.3**
CCIG				*i* S	**Sb**	**14 20 31.7**	**+1.2**
CCIG	**Comitan**	**2.58**	**57**	*eP*		14 20 01.7	
CCIG				*i* S		14 20 31.7	
RTAL	**Retalhuleu**	**2.62**	**97**	*eP*	**Pg**	**14 20 02.3**	**-0.4**
RTAL				*eS*	**Sb**	**14 20 32.4**	**+1.0**
HUEH	**Huehuetenango**	**2.82**	**80**	*eP*	**Pb**	**14 20 01.2**	**-1.6**
HUEH				*eS*	**Sb**	**14 20 36.3**	**-1.0**
PEIG	**Puerto Escondi**	**2.89**	**293**	*eP*	**Pb**	**14 20 03.9**	**0.0**
PEIG				*i* S	**Sn**	**14 20 32.2**	**-0.8**
STG8	**El Palmar, Qui**	**2.96**	**98**	*eP*		14 20 02.4	
STG0	**El Palmar, Qui**	**2.98**	**98**	*eP*		14 20 03.1	
NEUV	**Arroyo Zacate**	**3.14**	**334**	*eP*	**Pb**	**14 20 05.8**	**-2.3**
NEUV				*i* S	**Sn**	**14 20 40.9**	**+1.9**
YOIG	**Yosondua**	**3.63**	**303**	*eP*	**Pb**	**14 20 16.2**	**-0.4**
YOIG				*i* S	**Sn**	**14 20 53.5**	**+2.0**

*GII **20** 14:20:01.9±0.0, 37°.37N±0°.07×29°.45E±0°.02, h1km, Mws3.4, confirmed*
*IDC **20** 14:20:04.7±1.0, 37°.50N×29°.49E, h0km, mb3.9/5, mbtmp3.8/12, ML3.5/5, Error ellipse: s-maj=16.6km s-min=16.1km az=12.0*
*ISK **20** 14:20:04.9, 37°.48N×29°.41E, h6km, ML3.5/29*
*THE **20** 14:20:05.8, 37°.59N×29°.48E, h0km±2km, ML3.4/4, Error ellipse: s-maj=3.8km s-min=1.1km az=33.0*
*AFAD **20** 14:20:05.4, 37°.46N×29°.38E, h7km±2km, ML3.5*

ISC 20 14:20:05.3±0.8, 37°.48N±0°.02×29°.46E±0°.02, h9km±6km, n69, σ1.66/86, mb3.9/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.13**	**269**	Pg

620nm,0.6s
DAT Datca 1.68 244 Pn **Pn 14 20 35.3 +0.3**
GORD Gordes-Manisa 1.75 325 Pn **Pn 14 20 36.3 +0.3**
BODT Bodrum 1.77 257 Pn **Pn 14 20 36.3 +0.2**
GCAM G?zelcaml? 1.79 278 Pn **Pn 14 20 36.8 +0.5**
KARP Karpathos 2.67 225 P **Pn 14 20 49.3 +0.7**
KARP S **Sb 14 21 24.8 -1.5**
438nm,0.6s
PRK Paraskevi 3.07 306 P **Pn 14 20 54.2 +0.2**
SIGR SIGRI 3.33 303 P **Pn 14 20 56.8 -0.7**
ZKR Zakros 3.52 229 P **Pn 14 21 01.9 +1.6**
ZKR S **Sn 14 21 44.8 +2.7**
102nm,0.7s
BRTR Keskin Array B 3.97 54 Pn **Pn 14 21 07.1 +0.6**
3.3nm,0.3s,baz=235,slow=18,SNR=59
BRTR Sn **Sn 14 21 54.5 +1.3**
0.8nm,0.3s,baz=228,slow=21,SNR=4.8
4.6nm,0.3s
CSS Mathiatis 4.01 128 P **Pn 14 21 03.3 -3.7**
CSS Mathiatis 4.01 128 S **Sn 14 21 51.3 -2.7**
IDI Anoyia 4.29 241 Pn **Pn 14 21 12.4 +1.6**
14nm,0.6s,baz=59,slow=14,SNR=17
IDI Sn **Sn 14 22 03.8 +2.8**
1.7nm,0.3s,baz=313,slow=16,SNR=4.0
MMA0B Mount Meron ar 6.59 131 P **Pn 14 21 39.2 -3.2**
MMA0B Mount Meron ar 6.59 131 S **Sn 14 22 55.5 -2.2**
MMAI Mount Meron Ar 6.59 131 Pn **Pn 14 21 43.4 +1.0**
7.6nm,0.3s,baz=315,slow=13,SNR=29
MMAI Sn **Sn 14 22 58.3 +0.6**
4.1nm,0.3s,baz=314,slow=26,SNR=5.1
GEM Giv'at Ha'Em 6.62 128 P **Pn 14 21 40.3 -2.4**
GEM Giv'at Ha'Em 6.62 128 S **Sn 14 22 55.7 -2.6**
KSHT Keshet 6.86 129 P **Pn 14 21 42.7 -3.5**
KSHT Keshet 6.86 129 S **Sn 14 23 02.8 -1.5**
MMLI Mount Malkishu 7.01 134 P **Pn 14 21 45.3 -2.9**
MMLI Mount Malkishu 7.01 134 S **Sn 14 23 04.8 -3.3**
ASF Jabal al Asfar 8.08 129 Pn **Pn 14 22 04.6 +1.6**
1.0nm,0.3s,baz=336,slow=16,SNR=6.0
ASF Sn **Sn 14 23 38.4 +3.9**
0.2nm,0.3s,baz=158,slow=21,SNR=1.4
1.2nm,0.3s
MLR Muntele Rosu 8.43 343 Pn **Pn 14 22 09.4 +1.7**
0.5nm,0.3s,baz=130,slow=9.2,SNR=2.0
1.8nm,0.5s
PRNI Paran 8.46 145 P **Pn 14 22 05.2 -2.9**
PRNI Paran 8.46 145 S **Sn 14 23 40.5 -3.3**
MBRI Mt Berech 8.90 148 P **Pn 14 22 11.5 -2.7**
MBRI Mt Berech 8.90 148 S **Sn 14 23 52.5 -2.3**
EIL Elat 9.03 148 Pn **Pn 14 22 16.6 +0.7**
1.1nm,0.3s,baz=349,slow=16,SNR=8.2
5.6nm,0.5s
GERES GERESS Array B 16.13 320 Pn **P 14 23 55.6 +0.1**
baz=128,slow=13,SNR=6.0
0.9nm,0.9s
FINES FINESS Array B 24.09 356 P **P 14 25 20.7 -0.1**
3.6nm,1.1s,baz=156,slow=19,SNR=4.9
3.6nm,1.1s
TORD Torodi Ar. Bea 34.65 233 P **P 14 26 54.6 -0.5**
5.4nm,0.5s,baz=39,slow=8.9,SNR=1.9
5.4nm,0.5s
KURBB Kurchatov Arra 36.96 53 P **P 14 27 15.4 +0.8**
0.3nm,0.3s,baz=274,slow=8.9,SNR=6.0
0.3nm,0.3s
MKAR Makanchi Array 39.60 59 P **P 14 27 38.0 +1.0**
0.3nm,0.6s,baz=279,slow=6.4,SNR=4.1
0.3nm,0.6s
KLR Kul'dur 69.72 43 P **P 14 31 16.2 +0.7**
0.7nm,0.5s,baz=194,slow=4.2,SNR=1.6
0.7nm,0.5s

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*NIED **20** 14:25:43.6,30°.73N×138°.12E,h511km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.10; $M_{\theta\theta}$=2.03; $M_{\phi\phi}$=1.08; $M_{r\theta}$=-0.46; $M_{\theta\phi}$=1.72; $M_{\phi r}$=-0.23; Fault plane solution: M_0=3.26000×10^{15} NP1: ϕ_s=231.00000°,δ41.00000°,λ-93.00000°. NP2:ϕ_s=55.00000°, δ49.00000°,λ-87.00000°.*
*JMA **20** 14:25:43.6±0.3,31°.N±2°.×13°.8E±°.,h511km±3km,MV4.4/29, NEAR TORISHIMA IS*
*IDC **20** 14:25:45.0±0.9,30°.57N×137°.83E,h488km±10km, mb3.4/27,mbtmp4.3/34,Error ellipse: s-maj=12.3km s-min=8.3km az=84.0*
ISC 20 14:25:43.6±0.5,30°.53N±0°.06×138°.08E±0°.07,h477km,n73, σ1§37/90,mb3.8/31,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.92**	**30**	*eP*	**P**	**14 26 54.3**	**+2.1**
JHJ	**Hachijo jima 2**	**2.96**	**29**	P	**P**	**14 26 54.6**	**+2.2**
	174nm,0.3s,baz=314,slow=16,SNR=47						
JHJ				S	**S**	**14 27 44.5**	**-3.8**
	155nm,0.4s,baz=67,slow=23,SNR=4.4						
JHJ2	**Mitsune**	**2.97**	**29**	P	**P**	**14 26 54.6**	**+2.2**
JTNC	**Tanabenakahech**	**3.89**	**328**	P	**P**	**14 27 01.3**	**+1.8**
JTNC				S	**S**	**14 28 02.5**	**+1.1**
JIE	**Ise**	**4.02**	**344**	P	**P**	**14 27 02.9**	**+2.4**
JIE				S	**S**	**14 28 05.0**	**+1.6**
BSO1	**Boso 1**	**4.78**	**30**	P	**P**	**14 27 07.7**	**+1.1**
BSO1				*e*S	**S**	**14 28 15.2**	**+0.7**
JOD2	**Odawara 2**	**4.79**	**10**	*e*P	**P**	**14 27 08.2**	**+0.8**
INU	**Inuyama**	**4.89**	**350**	P	**P**	**14 27 10.1**	**+1.9**
CBIJ	**Chichi jima**	**4.97**	**133**	S	**S**	**14 28 18.3**	**-0.5**
JCJ	**Chichijima**	**4.97**	**133**	P	**P**	**14 27 09.2**	**+0.1**
	54nm,0.3s,baz=303,slow=20,SNR=2.7						
JCJ				S	**S**	**14 28 16.0**	**-2.8**
	221nm,0.4s,baz=303,slow=23,SNR=12						
JTO	**Tosashimizu**	**5.06**	**299**	P	**P**	**14 27 11.3**	**+1.4**
JGF	**Kuroka**	**5.09**	**353**	P	**P**	**14 27 11.6**	**+1.5**
JRY	**Ryogami san**	**5.51**	**7**	P	**P**	**14 27 14.9**	**+0.8**
MJAR	**Matsushiro Arr**	**6.00**	**1**	P	**P**	**14 27 18.9**	**0.0**
	26nm,0.7s,baz=184,slow=9.9,SNR=53						
MAJO	**Matsushiro**	**6.00**	**1**	P	**P**	**14 27 19.0**	**+0.2**
JHS	**Saijyo**	**6.11**	**318**	P	**P**	**14 27 21.1**	**+1.1**
JNU	**Nakatsue**	**6.65**	**295**	P	**P**	**14 27 26.5**	**+1.1**
	100nm,0.6s,baz=118,slow=2.6,SNR=104						
JNU	**Nakatsue**	**6.65**	**295**	P	**P**	**14 27 26.5**	**+1.1**
JFFD	**Fukushimafurud**	**6.86**	**17**	P	**P**	**14 27 27.9**	**+0.4**
JFFD				S	**S**	**14 28 48.3**	**-4.4**
ONAJ	**Iwakimizuishiy**	**6.93**	**18**	P	**P**	**14 27 29.5**	**+1.3**
ONAJ				S	**S**	**14 28 52.5**	**-1.5**
JSD	**Sado**	**7.49**	**1**	P	**P**	**14 27 34.0**	**+0.1**
JMM	**Marumori**	**7.65**	**16**	P	**P**	**14 27 36.7**	**+1.1**
JMM	**Marumori**	**7.65**	**16**	S	**S**	**14 29 05.4**	**-2.2**
KSRS	**Korea Array**	**10.89**	**312**	P	**P**	**14 28 10.1**	**-0.2**
	16nm,0.7s,baz=124,slow=10,SNR=54						
ASAJ	**Asahikawa**	**14.02**	**14**	P	**P**	**14 28 45.3**	**+1.7**
	16nm,0.7s,baz=220,slow=11,SNR=25						
USRK	**Ussuriysk Ar.**	**14.47**	**342**	P	**P**	**14 28 48.9**	**+0.5**
	60nm,0.7s,baz=157,slow=11,SNR=81						
KLR	**Kul'dur**	**19.28**	**347**	P	**P**	**14 29 37.6**	**+0.9**
	6.6nm,0.7s,baz=174,slow=7.0,SNR=23						
SONM	**Songino Array**	**29.75**	**315**	P	**P**	**14 31 09.3**	**-0.9**
	1.0nm,0.5s,baz=134,slow=8.7,SNR=6.8						
SONM				pP	**pP**	**14 32 32.0**	**-0.8**
	0.7nm,0.8s,baz=102,slow=6.3,SNR=4.5						
SONM				PcP	**PcP**	**14 33 58.5**	**-0.8**
	0.5nm,0.5s,baz=111,slow=2.0,SNR=5.1						
	1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.41**	**260**	P	**P**	**14 32 14.4**	**-0.8**
	1.9nm,0.7s,baz=52,slow=6.8,SNR=22						
	1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**44.54**	**318**	P	**P**	**14 33 10.4**	**-1.2**
	0.8nm,0.4s,baz=99,slow=8.1,SNR=3.9						
ZALV				PcP	**PcP**	**14 34 44.0**	**-0.7**
	1.6nm,0.5s,baz=113,slow=2.1,SNR=8.3						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**45.53**	**307**	P	**P**	**14 33 18.6**	**-0.8**
	1.8nm,0.7s,baz=93,slow=9.4,SNR=25						
MKAR				PcP	**pP**	**14 34 47.6**	**-1.2**
	1.3nm,0.6s,baz=93,slow=4.1,SNR=11						
MKAR				ScP	**ScP**	**14 37 53.1**	**-2.1**
	0.9nm,0.9s,baz=87,slow=5.1,SNR=5.5						
	1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**48.07**	**312**	P	**P**	**14 33 37.7**	**-0.9**
	2.3nm,0.6s,baz=92,slow=7.2,SNR=47						
KURBB				PcP	**PcP**	**14 34 56.4**	**-1.0**
	0.6nm,0.6s,baz=96,slow=3.9,SNR=4.5						
	2.3nm,0.6s						
NRIK	**Noril'sk**	**48.14**	**338**	P	**P**	**14 33 38.2**	**-0.6**
	1.0nm,0.4s,baz=113,slow=7.7,SNR=2.3						
	1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**49.81**	**196**	P	**P**	**14 33 52.1**	**+0.3**
	3.3nm,0.8s,baz=2.2,slow=5.2,SNR=7.5						
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**50.31**	**185**	P	**P**	**14 33 55.9**	**+0.3**
	3.4nm,0.6s,baz=360,slow=7.6,SNR=36						
	3.4nm,0.6s						
BVAR	**Borovoye Array**	**53.08**	**316**	P	**P**	**14 34 14.4**	**-0.8**
	1.8nm,0.5s,baz=91,slow=7.1,SNR=13						
BVAR				PcP	**PcP**	**14 35 15.8**	**-0.2**
	1.4nm,0.5s,baz=90,slow=4.4,SNR=7.4						
BVAR				ScP	**ScP**	**14 38 25.7**	**-1.8**
	0.4nm,0.5s,baz=112,slow=3.9,SNR=2.2						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**54.04**	**185**	P	**P**	**14 34 22.9**	**+0.5**
	1.6nm,0.7s,baz=23,slow=12,SNR=41						
ASAR				PcP	**PcP**	**14 35 21.7**	**+1.6**
	0.4nm,0.5s,baz=4.1,slow=4.9,SNR=2.5						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**56.48**	**30**	P	**P**	**14 34 39.8**	**+0.8**
	0.9nm,0.7s,baz=257,slow=5.0,SNR=15						
	0.9nm,0.7s						
STKA	**Stephens Creek**	**62.16**	**177**	P	**P**	**14 35 18.2**	**+0.8**
	1.6nm,0.7s,baz=354,slow=5.7,SNR=5.2						
	1.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**66.35**	**349**	P	**P**	**14 35 43.9**	**+0.3**
	9.8nm,0.9s,baz=217,slow=6.7,SNR=1.1						
	9.8nm,0.9s						
ARCES	**ARCESS Array B**	**69.10**	**340**	P	**P**	**14 36 00.5**	**-0.1**
	3.7nm,0.6s,baz=56,slow=11,SNR=34						
	3.7nm,0.6s						
YKA	**Yellowknife Ar**	**70.82**	**28**	P	**P**	**14 36 12.2**	**+1.2**
	1.7nm,0.8s,baz=296,slow=6.2,SNR=23						
	1.7nm,0.8s						
KBZ	**Khabaz**	**73.04**	**311**	P	**P**	**14 36 23.8**	**-0.4**
	4.8nm,0.8s,baz=74,slow=4.9,SNR=16						
	4.8nm,0.8s						
KIV	**Kislovodsk**	**73.08**	**311**	P	**P**	**14 36 25.4**	**+0.8**
	4.7nm,0.6s						
FINES	**FINESS Array B**	**73.26**	**332**	P	**P**	**14 36 24.7**	**-0.4**
	3.2nm,0.5s,baz=61,slow=5.7,SNR=32						
	3.2nm,0.5s						
AK03	**Malin Array Si**	**77.70**	**322**	P	**P**	**14 36 49.1**	**-1.0**
AKASG	**Malin Array Be**	**77.72**	**322**	P	**P**	**14 36 49.1**	**-1.1**
	1.9nm,0.4s,baz=52,slow=5.5,SNR=17						
	1.9nm,0.4s						
AKBB	**Malin Array Si**	**77.72**	**322**	P	**P**	**14 36 49.3**	**-0.9**
KIEV	**Kiev**	**77.73**	**322**	P	**P**	**14 36 49.3**	**-1.0**
	47nm,2.2s						
AK09	**Malin Array Si**	**77.73**	**322**	P	**P**	**14 36 49.2**	**-1.1**
AK08	**Malin Array Si**	**77.74**	**322**	P	**P**	**14 36 49.3**	**-1.0**
AK02	**Malin Array Si**	**77.75**	**322**	P	**P**	**14 36 49.3**	**-1.1**
AK10	**Malin Array Si**	**77.76**	**322**	P	**P**	**14 36 49.4**	**-1.0**
AK21	**Malin Array Si**	**77.77**	**322**	P	**P**	**14 36 49.4**	**-1.1**
HFS	**Hagfors**	**78.83**	**335**	P	**P**	**14 36 55.2**	**-0.9**
	4.5nm,0.4s,baz=102,slow=3.6,SNR=24						
	4.5nm,0.4s						
LUBAR	**Lubar, Ukraine**	**78.93**	**322**	P	**P**	**14 36 55.0**	**-1.8**
NB2	**NORSAR Subarra**	**79.07**	**337**	P	**P**	**14 36 56.9**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**79.07**	**337**	P	**P**	**14 36 56.9**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=45,slow=5.1,SNR=12						
	comp=Z,2.9nm,0.6s						
HORU	**Horodok**	**80.05**	**322**	P	**P**	**14 37 03.6**	**+0.9**
BRTR	**Keskin Array B**	**81.04**	**311**	P	**P**	**14 37 07.6**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=96,slow=3.7,SNR=11						
	comp=Z,2.5nm,0.9s						
NVAR	**Mina Array Bea**	**81.18**	**51**	P	**P**	**14 37 11.1**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=310,slow=6.5,SNR=5.7						
	comp=Z,0.9nm,0.6s						
ODBI	**Odobesti**	**81.70**	**319**	P	**P**	**14 37 12.1**	**+0.7**
	comp=Z,22nm,0.4s						
KWP	**Kalwaria Pacla**	**81.74**	**324**	P	**P**	**14 37 11.5**	**0.0**
VRI	**Vrincioaia**	**81.83**	**319**	P	**P**	**14 37 11.8**	**-0.3**
	comp=Z,1.1nm,1.0s						
MLR	**Muntele Rosu**	**82.50**	**319**	P	**P**	**14 37 15.0**	**-0.6**
MMAI	**Mount Meron Ar**	**83.40**	**304**	P	**P**	**14 37 20.1**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=27,slow=5.6,SNR=5.2						
	comp=Z,2.5nm,0.6s						
PDAR	**Pinedale Array**	**84.25**	**43**	P	**P**	**14 37 25.7**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=336,slow=3.3,SNR=4.9						
	comp=Z,0.3nm,0.5s						
GERES	**GERESS Array B**	**86.70**	**327**	P	**P**	**14 37 34.9**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=37,slow=4.8,SNR=1.4						
	comp=Z,0.5nm,0.6s						
SCHQ	**Schefferville**	**92.32**	**14**	P	**P**	**14 38 02.4**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=228,slow=14,SNR=3.1						
	comp=Z,3.4nm,0.9s						
TXAR	**Lajitas Array**	**96.33**	**51**	P	**P**	**14 38 21.7**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=321,slow=5.4,SNR=2.6						
TXAR				pP	**pP**	**14 40 11.8**	**+3.8**
	comp=Z,0.3nm,0.7s,baz=316,slow=4.7,SNR=3.5						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**119.62**	**309**	PKP	**PKPdf**	**14 43 38.3**	**-1.0**
	comp=Z,6.5nm,0.3s,baz=48,slow=2.1,SNR=1.9						
QSPA	**South Pole Qui**	**120.29**	**180**	PKP	**PKPdf**	**14 43 39.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=290,slow=2.3,SNR=12						
LPAZ	**La Paz**	**152.17**	**65**	PKPbc	**PKiKP**	**14 44 47.6**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=233,slow=2.1,SNR=4.4						

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*NEIC **20** 14:29:49.5±0.8,3°.6N±0°.1×128°.2E±0°.1,h72km±10km, mb4.5/25,Error ellipse: s-maj=17.6km s-min=15.6km az=82.0*
*DJA **20** 14:29:51.4±0.5,3°N±4°×12°8E±°,h77km±6km,M4.5/13, mB5.0/7,mb4.5/13,MLv4.6/13,Mw(mB)4.4/7*
*IDC **20** 14:29:55.4±7.7,3°.46N×128°.26E,h138km±74km,mb3.8/13, mbtmp4.2/13,Error ellipse: s-maj=32.3km s-min=15.0km az=86.0*
ISC 20 14:29:49.8±0.6,3°.55N±0°.07×128°.21E±0°.08,h84km,n63, σ0§88/59,mb4.5/22,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.68**	**273**	P	**Pn**	**14 30 31.0**	**+0.1**
SGSI				S	**Sn**	**14 31 01.9**	**-0.6**
TNTI	**Ternate**	**2.88**	**197**	Pn	**Pn**	**14 30 33.4**	**-0.2**
TNTI	**Ternate**	**2.88**	**197**	P	**Pn**	**14 30 33.3**	**-0.3**
KMSI	**Cibinong**	**5.16**	**235**	P	**Pn**	**14 31 05.5**	**+1.0**
SWI	**Sorong**	**5.34**	**145**	P	**Pn**	**14 31 07.1**	**+0.1**
	0.5nm2μm104nm,0.5s						
SANI	**Sanana**	**5.99**	**202**	P	**Pn**	**14 31 14.2**	**-1.7**
	0.2nm2μm26nm,0.6s						
MRSI	**Marisa**	**6.97**	**244**	P	**Pn**	**14 31 30.8**	**+1.6**
LUWI	**Luwuk**	**7.09**	**230**	Pn	**Pn**	**14 31 31.3**	**+0.4**
FAKI	**Fak Fak**	**7.59**	**148**		**Pn**	**14 31 37.7**	**0.0**
FAKI	**Fak Fak**	**7.59**	**148**	P	**Pn**	**14 31 38.2**	**+0.5**
	0.1nm572nm40nm,0.9s						
TOLI2	**Tolitoli**	**7.81**	**252**		**Pn**	**14 31 40.0**	**-0.7**
APSI	**Ampana**	**7.91**	**236**	P	**Pn**	**14 31 42.3**	**+0.1**
	0.3nm1μm74nm,1.1s						
BBSI	**Bau Bau**	**10.60**	**212**	P	**Pn**	**14 32 19.5**	**+0.7**
	20nm,1.4s						
TTSI	**Tana Toraja**	**10.64**	**232**	P	**Pn**	**14 32 18.0**	**-1.4**
	14nm,0.7s						
BKSI	**Bulukumba**	**11.95**	**223**	P	**Pn**	**14 32 37.2**	**0.0**
	14nm,1.3s						
MTN	**Manton Dam**	**16.54**	**170**		**P**	**14 33 38.5**	**+0.7**
MTN				IAmb	IAmb	14 34 01.2	
	comp=Z,59nm,1.5s						
JAGI	**Jajag, Banyuwa**	**18.41**	**230**	P	**Pn**	**14 34 00.6**	**+1.0**
JAGI				IAmb	IAmb	14 34 20.6	
	comp=Z,44nm,1.3s						
YULB	**Yu-li**	**20.83**	**342**	P	**P**	**14 34 22.8**	**-2.0**
YULB				IAmb	IAmb	14 34 49.2	
	comp=Z,27nm,1.3s						
TPUB	**Ta-pu**	**20.96**	**340**	P	**P**	**14 34 25.5**	**-0.6**
TPUB				IAmb	IAmb	14 35 03.8	
	comp=Z,20nm,1.1s						
SSLB	**Suanglung**	**21.31**	**341**	P	**P**	**14 34 29.4**	**-0.5**
SSLB				IAmb	IAmb	14 34 54.0	
	comp=Z,40nm,1.5s						
FITZ	**Fitzroy Crossi**	**21.66**	**187**	P	**P**	**14 34 33.3**	**-0.2**
WB0	**Warramunga Arr**	**23.95**	**166**	P	**P**	**14 34 56.6**	**+0.1**
WRA	**Warramunga Arr**	**24.11**	**166**	P	**P**	**14 34 58.8**	**+1.0**
WRA	**Warramunga Arr**	**24.11**	**166**	P	**P**	**14 34 56.9**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=344,slow=10.0,SNR=6.5						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**27.61**	**169**	P	**P**	**14 35 30.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=349,slow=9.2,SNR=1.4						
ASAR				PcP	**PcP**	**14 38 43.3**	**-2.0**
	comp=Z,0.2nm,0.9s,baz=342,slow=2.4,SNR=1.3						
	comp=Z,0.2nm,0.4s						
INU	**Inuyama**	**32.68**	**13**	P	**P**	**14 36 13.6**	**-0.5**
JGF	**Kuroka**	**33.00**	**14**	P	**P**	**14 36 16.4**	**-0.5**
JGF				IAmb	IAmb	14 36 26.9	
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**33.75**	**360**	P	**P**	**14 36 24.4**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=173,slow=8.8,SNR=7.1						
	comp=Z,2.5nm,0.8s						
MAJO	**Matsushiro**	**34.10**	**14**	P	**P**	**14 36 26.2**	**-0.3**
MAJO				IAmb	IAmb	14 36 28.3	
	comp=Z,4.3nm,0.5s						
MJAR	**Matsushiro Arr**	**34.10**	**14**	P	**P**	**14 36 26.3**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=180,slow=9.0,SNR=12						
	comp=Z,3.7nm,0.6s						
MJB9	**Matsu-Tunnel**	**34.10**	**14**	P	**P**	**14 36 26.6**	**+0.1**
MJB9				IAmb	IAmb	14 36 29.3	
	comp=Z,4.3nm,0.5s						
JMM	**Marumori**	**36.05**	**17**	P	**P**	**14 36 43.0**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**40.46**	**66**	T	T	15 20 38.8	
	baz=253,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**40.47**	**65**	T	T	15 20 39.1	
	baz=253,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**40.47**	**66**	T	T	15 20 39.9	
	baz=253,slow=75,SNR=11						
USRK	**Ussuriysk Ar.**	**40.62**	**4**	P	**P**	**14 37 22.9**	**+1.5**
	comp=Z,7.3nm,0.8s,baz=184,slow=7.5,SNR=10.0						
	comp=Z,7.3nm,0.8s						
USA0B	**Ussuriysk Arra**	**40.62**	**4**	P	**P**	**14 37 22.5**	**+1.1**
H11N1	**WAKE ISLAND Hy**	**41.00**	**64**	T	T	15 21 34.9	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**41.01**	**64**	T	T	15 21 31.6	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**41.02**	**64**	T	T	15 21 40.3	
	baz=257						
ASAJ	**Asahikawa**	**42.35**	**15**	P	**P**	**14 37 37.0**	**+1.5**
	comp=Z,4.3nm,0.5s,baz=228,slow=9.3,SNR=8.1						
	comp=Z,4.3nm,0.5s						
JKA	**Kamikawa-asahi**	**42.35**	**15**	P	**P**	**14 37 37.0**	**+1.4**
KLR	**Kul'dur**	**45.62**	**3**	P	**P**	**14 38 01.2**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=207,slow=7.4,SNR=7.7						
	comp=Z,1.1nm,0.5s						
PEA0B	**Petropavlovsk-**	**55.05**	**21**	P	**P**	**14 39 14.2**	**+1.4**
PETK	**Petropavlovsk-**	**55.05**	**21**	P	**P**	**14 39 12.9**	**+0.2**
PETK	**Petropavlovsk-**	**55.05**	**21**	P	**P**	**14 39 13.4**	**+0.7**
	comp=Z,8.8nm,0.9s,baz=192,slow=5.7,SNR=12						
	comp=Z,8.8nm,0.9s						
MK31	**Makanchi Array**	**58.55**	**325**	P	**P**	**14 39 37.8**	**+0.1**
MK31				IAmb	IAmb	14 39 38.8	
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array**	**58.55**	**325**	P	**P**	**14 39 37.6**	**0.0**
MKAR	**Makanchi Array**	**58.55**	**325**	P	**P**	**14 39 38.5**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=113,slow=8.1,SNR=46						
	comp=Z,1.8nm,0.4s						
MAKZ	**Makanchi**	**58.74**	**325**	P	**P**	**14 39 39.0**	**0.0**
MAKZ				IAmb	IAmb	14 39 40.1	
	comp=Z,2.1nm,0.7s						
KDJ	**Kajisay**	**59.47**	**318**	P	**P**	**14 39 45.1**	**+0.8**
KDJ				IAmb	IAmb	14 39 46.3	
	comp=Z,3.1nm,1.0s						
KURK	**Kurchatov**	**62.69**	**327**	P	**P**	**14 40 05.8**	**+0.1**
KURK				IAmb	IAmb	14 40 06.7	
	comp=Z,6.7nm,1.4s						
KURBB	**Kurchatov Arra**	**62.69**	**327**	P	**P**	**14 40 06.0**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=127,slow=6.2,SNR=26						
	comp=Z,1.9nm,0.5s						
GAR	**Garm**	**63.14**	**312**	P	**P**	**14 40 09.1**	**0.0**
GAR				IAmb	IAmb	14 40 10.3	
	comp=Z,11nm,1.3s						
KKAR	**Karatay Array**	**64.38**	**317**	P	**P**	**14 40 17.4**	**+0.4**
BVAR	**Borovoye Array**	**68.28**	**327**	P	**P**	**14 40 41.8**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=89,slow=4.1,SNR=8.7						
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**68.35**	**327**	P	**P**	**14 40 41.5**	**-0.7**
ABKAR	**Akbulak array**	**73.23**	**321**	P	**P**	**14 41 10.7**	**-1.1**
M14K	**Bethel**	**77.14**	**28**	P	**P**	**14 41 34.9**	**+0.9**
C18K	**Utukok River**	**79.71**	**21**	P	**P**	**14 41 48.8**	**+0.6**
H18K	**Honhosa River**	**79.86**	**24**	P	**P**	**14 41 50.4**	**+1.4**
ILAR	**Eielson Array**	**84.63**	**25**	P	**P**	**14 42 13.5**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=259,slow=6.3,SNR=3.2						
	comp=Z,0.6nm,1.0s						
ARCES	**ARCESS Array B**	**91.13**	**340**	P	**P**	**14 42 43.3**	**-1.5**
	comp=Z,3.6nm,1.0s,baz=101,slow=5.4,SNR=1.7						
	comp=Z,3.6nm,1.0s						

IDC 20 14:44:06.4±7.5,53°.86N×162°.88E,h118km±51km,mb3.5/4, mbtmp3.8/5,MS3.1/1,Error ellipse: s-maj=79.1km s-min=62.8km az=145.0,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.18**	**258**	P	Pn	14 44 54.9	-0.1
	5.8nm,0.5s,baz=74,slow=29,SNR=46						
PETK				S	Sn	14 45 33.0	+0.6
	3.9nm,0.9s,baz=19,slow=20,SNR=1.4						
NRIK	**Noril'sk**	**36.25**	**325**	P	P	14 50 57.3	-0.2
	0.9nm,0.3s,baz=96,slow=8.6,SNR=3.5						

PACA			*e*S	Sn	14 45 30.8	+1.1
PACA	**Pacayal**	**0.87 53**	P	Pb	14 45 18.6	+0.6
PACA	**Pacayal**	**0.87 53**	P	Pb	14 45 18.4	+0.4
RANC	**El Ranchito**	**0.88 56**	*e*P	Pb	14 45 18.1	0.0
RANC			*e*S	Sn	14 45 31.6	+1.7
RANC	**El Ranchito**	**0.88 56**	P	Pb	14 45 18.4	+0.3
RANC	**El Ranchito**	**0.88 56**	P	Pb	14 45 18.2	+0.1
VSM	**San Miguel**	**0.89 57**	*e*P	Pb	14 45 18.6	+0.3
CEDA	**San Andres**	**0.92 338**	S	Sn	14 45 31.0	+0.2
BLLM	**Bellamira**	**0.93 58**	*e*P	Pb	14 45 18.9	+0.1
CNRM	**Centro Naciona**	**1.00 58**	S	Sb	14 45 34.4	+1.6
CEVE	**Cerro Verde**	**1.05 327**	*e*P	Pn	14 45 20.4	0.0
CEVE	**Cerro Verde**	**1.05 327**	P	Pn	14 45 20.2	-0.1
CEVE	**Cerro Verde**	**1.05 327**	S	Sb	14 45 35.4	+1.0
CEVE	**Cerro Verde**	**1.05 327**	P	Pn	14 45 20.4	0.0
SBLS	**San Blas**	**1.05 328**	*e*P	Pn	14 45 20.5	0.0
SNJE	**San Jose**	**1.07 329**	*e*P	Pn	14 45 20.6	-0.1
UNIC	**Universidad Ca**	**1.14 334**	P	Pn	14 45 21.6	0.0
UNIC	**Universidad Ca**	**1.14 334**	S	Sb	14 45 36.9	-0.1
LCND	**La Caada**	**1.18 72**	*e*P	Pn	14 45 22.2	+0.3
LCND	**La Caada**	**1.18 72**	P	Pn	14 45 22.4	+0.5
LCND	**La Caada**	**1.18 72**	P	Pn	14 45 22.3	+0.3
NUBE	**Las Nubes**	**1.19 323**	*e*P	Pn	14 45 22.0	-0.3
NUBE			*e*S	Sn	14 45 37.3	-0.5
NUBE	**Las Nubes**	**1.19 323**	P	Pn	14 45 22.0	-0.4
LLGN	**La Laguna**	**1.21 4**	S	Sn	14 45 38.3	+0.1
LLGN	**La Laguna**	**1.21 4**	P	Pn	14 45 22.6	0.0
CNCH	**Conchagua**	**1.22 74**	*e*P	Pn	14 45 22.7	0.0
CNCH			*e*S	Sb	14 45 39.7	+0.4
CNCH	**Conchagua**	**1.22 74**	P	Pn	14 45 22.6	-0.1
CNCH	**Conchagua**	**1.22 74**	P	Pn	14 45 22.6	-0.1
LOAL	**Lomas de Alarc**	**1.27 326**	P	Pn	14 45 23.7	+0.4
SLOZ	**Alcaldia de Sa**	**1.30 326**	P	Pn	14 45 23.8	+0.1
SLOZ	**Alcaldia de Sa**	**1.30 326**	S	Sb	14 45 40.8	-0.6
FAME	**Alcaldia de Sa**	**1.30 313**	S	Sn	14 45 40.4	+0.1
CSGN	**Cosiguina Volc**	**1.44 89**	P	Pn	14 45 26.4	+0.7
CSGN			S	Sb	14 45 44.8	-0.9
MTO3	**Montecristo**	**1.48 348**	P	Pn	14 45 26.0	-0.3
MTO3	**Montecristo**	**1.48 348**	S	Sn	14 45 44.4	-0.5
MTO3	**Montecristo**	**1.48 348**	P	Pn	14 45 26.0	-0.3
POTN	**Potosi Cosigui**	**1.50 88**	P	Pn	14 45 27.0	+0.7
POTN			S	Sb	14 45 46.1	-1.0
ESQI	**Esquipulas**	**1.63 350**	P	Pn	14 45 28.6	+0.3
ESQI	**Esquipulas**	**1.63 350**	S	Sn	14 45 49.5	+1.0
CRIN	**San Cristobal**	**1.96 97**	S	Sn	14 45 58.0	+1.6
CRIN	**San Cristobal**	**1.96 97**	P	Pn	14 45 34.5	+1.8
TEL3	**Telica 3**	**2.17 100**	P	Pn	14 45 35.6	-0.1
HERN	**Volcan Telica**	**2.18 99**	P	Pb	14 45 39.5	-0.7
PACN	**Al O del Volca**	**2.24 101**	S	Sn	14 46 02.3	-1.0
PLRN	**Geotermica Pol**	**2.25 99**	S	Sn	14 46 01.3	-2.2
CNGA	**Al SSO del Vol**	**2.33 101**	S	Sn	14 46 04.8	-0.7
CNGN	**Cerro Negro**	**2.33 101**	S	Sn	14 46 05.2	-0.4
MOMN	**Momotombo**	**2.50 102**	S	Sn	14 46 09.8	0.0

ROM 20 14:45:36.1±0.0, 42°.857N±0°.003×13°.204E±0°.004, h10km, ML2.1/42, 2C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=34.0, Central Italy

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.06 350**	P	Pg	14 45 38.8	+0.3
MC2			S	Sg	14 45 40.5	+0.2
NRCA	**Norcia**	**0.07 250**	⇑P	Pg	14 45 39.0	+0.5
NRCA			S	Sg	14 45 40.7	+0.5
NRCA			AML	AML		
	comp=N,7710μm,0.1s					
NRCA			AML	AML		
	comp=N,8295μm,0.2s					
NRCA			AML	AML		
	comp=E,7455μm,0.1s					
NRCA			AML	AML		
	comp=N,7705μm,0.2s					
NRCA			AML	AML		
	comp=E,8210μm,0.1s					
MMO1	**Montemonaco**	**0.10 65**	P	Pg	14 45 39.1	+0.3
MMO1			S	Sg	14 45 41.0	+0.2
FEMA	**Monte Fema**	**0.15 313**	P	Pg	14 45 40.1	+0.4
FEMA			S	Sg	14 45 43.0	+0.8
FEMA			AML	AML		
	comp=E,912μm,0.2s					
FEMA			AML	AML		
	comp=N,796μm,1.2s					
FEMA			AML	AML		
	comp=N,797μm,1.2s					
MTRA	**Matera**	**0.17 125**	P	Pg	14 45 40.4	+0.4
MTRA			S	Sg	14 45 43.5	+0.9
MTRA			AML	AML		
	comp=E,1215μm,0.1s					
MTRA			AML	AML		
	comp=E,1210μm,0.1s					
MTRA			AML	AML		
	comp=N,1090μm,0.4s					
MTRA			AML	AML		
	comp=N,1090μm,1.6s					
MTRA			AML	AML		
	comp=N,1080μm,0.2s					
FDMO	**Fiordimonte**	**0.20 335**	P	Pg	14 45 40.8	+0.4
FDMO			S	Sg	14 45 44.2	+0.9
FDMO			AML	AML		
	comp=N,928μm,0.2s					
FDMO			AML	AML		
	comp=E,609μm,0.2s					
GUMA	**Gualdo di Mace**	**0.23 25**	P	Pb	14 45 41.7	-0.7
GUMA			S	Sg	14 45 45.8	+1.7
GUMA			AML	AML		
	comp=N,2535μm,1.6s					
GUMA			AML	AML		
	comp=N,2150μm,0.6s					
GUMA			AML	AML		
	comp=N,2150μm,1.4s					
GUMA			AML	AML		
	comp=E,1675μm,0.3s					
GUMA			AML	AML		
	comp=E,1750μm,0.3s					
MF5	**Montefalcone A**	**0.23 55**	P	Pg	14 45 41.7	+0.7
MF5			S	Sg	14 45 46.0	+1.8
MF5			AML	AML		
	comp=E,1145μm,0.7s					
MF5			AML	AML		
	comp=E,1145μm,1.3s					
MF5			AML	AML		
	comp=N,830μm,0.5s					
SMA1	**SAN MARTINO**	**0.25 157**	P	Pg	14 45 41.7	+0.5
SMA1			S	Sg	14 45 46.3	+1.6
SMA1			AML	AML		
	comp=N,190μm,0.4s					
SMA1			AML	AML		
	comp=E,210μm,0.4s					
CESI	**CESI - Serrava**	**0.27 304**	⇑P	Pg	14 45 42.1	+0.5
CESI			S	Sb	14 45 46.5	-1.1
CESI			AML	AML		
	comp=N,892μm,0.2s					
CESI			AML	AML		
	comp=E,696μm,0.6s					
GAVE	**Gavelli**	**0.28 234**	⇓P	Pg	14 45 42.5	+0.6
GAVE			S	Sb	14 45 47.2	-0.9
GAVE			AML	AML		
	comp=E,486μm,0.5s					
GAVE			AML	AML		
	comp=E,486μm,1.5s					
GAVE			AML	AML		
	comp=N,464μm,0.4s					
LNSS	**Leonessa**	**0.28 205**	P	Pg	14 45 42.5	+0.6
LNSS			S	Sb	14 45 47.2	-0.9
LNSS			AML	AML		
	comp=E,502μm,0.9s					
LNSS			AML	AML		
	comp=N,561μm,0.5s					
LNSS			AML	AML		
	comp=E,477μm,0.4s					
LNSS			AML	AML		
	comp=N,561μm,0.5s					
PF6	**Pievefavera**	**0.29 358**	P	Pg	14 45 42.1	0.0
MML1	**Montelago di S**	**0.31 326**	P	Pg	14 45 42.8	+0.4
RM33	**Pellescritta (**	**0.35 179**	P	Pg	14 45 43.7	+0.6
RM33			AML	AML		
	comp=N,124μm,0.4s					
RM33			AML	AML		
	comp=E,136μm,0.1s					
CAMP	**Campotosto**	**0.35 155**	P	Pg	14 45 43.4	+0.2
CAMP			S	Sg	14 45 49.1	+1.1
CAMP			AML	AML		
	comp=N,73μm,1.2s					
CAMP			AML	AML		
	comp=N,73μm,0.8s					
CAMP			AML	AML		
	comp=E,136μm,1.1s					
OFFI	**Offida**	**0.36 77**	P	Pb	14 45 44.0	-0.6
MOMA	**Monte Martano**	**0.47 264**	P	Pg	14 45 45.7	+0.4
MOMA			S	Sb	14 45 52.7	-0.9
MOMA			AML	AML		
	comp=N,172μm,0.2s					
MOMA			AML	AML		
	comp=E,220μm,0.2s					

ROM 20 14:46:03.3±0.1, 42°.865N±0°.004×13°.201E±0°.006, h10km, ML1.5/16, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.5km az=304.0, Central Italy

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05 351**	P	Pg	14 46 05.8	+0.2
MC2			S	Sg	14 46 07.5	+0.3
NRCA	**Norcia**	**0.07 244**	P	Pg	14 46 06.0	+0.4
NRCA			S	Sg	14 46 07.6	+0.3
NRCA			AML	AML		
	comp=E,1700μm,0.2s					
NRCA			AML	AML		
	comp=N,2110μm,1.2s					
NRCA			AML	AML		
	comp=E,1770μm,0.2s					
NRCA			AML	AML		
	comp=N,2180μm,0.1s					
NRCA			AML	AML		
	comp=N,2177μm,0.1s					
NRCA			AML	AML		
	comp=E,1758μm,0.1s					
NRCA			AML	AML		
	comp=N,2054μm,0.1s					
NRCA			AML	AML		
	comp=E,1570μm,0.1s					
MMO1	**Montemonaco**	**0.10 69**	P	Pg	14 46 06.2	+0.2
MMO1			S	Sg	14 46 08.2	+0.3
FEMA	**Monte Fema**	**0.15 311**	P	Pg	14 46 07.2	+0.5
MTRA	**Matera**	**0.18 127**	P	Pg	14 46 07.4	+0.2
MTRA			S	Sg	14 46 10.6	+0.7
MTRA			AML	AML		
	comp=N,153μm,0.1s					
MTRA			AML	AML		
	comp=N,205μm,0.7s					
MTRA			AML	AML		
	comp=E,230μm,0.1s					
MTRA			AML	AML		
	comp=E,234μm,0.1s					
FDMO	**Fiordimonte**	**0.19 334**	P	Pg	14 46 07.8	+0.4
FDMO			S	Sg	14 46 11.0	+0.8
FDMO			AML	AML		
	comp=N,224μm,0.2s					
FDMO			AML	AML		
	comp=E,142μm,0.1s					
GUMA	**Gualdo di Mace**	**0.22 26**	P	Pg	14 46 08.8	+0.8
GUMA			S	Sg	14 46 12.8	+1.7
MF5	**Montefalcone A**	**0.23 57**	P	Pg	14 46 08.7	+0.6
MF5			S	Sg	14 46 13.2	+1.9
MF5			AML	AML		
	comp=E,213μm,0.2s					
MF5			AML	AML		
	comp=N,165μm,0.2s					
SMA1	**SAN MARTINO**	**0.25 157**	P	Pb	14 46 10.0	-0.1
CESI	**CESI - Serrava**	**0.26 303**	⇓P	Pg	14 46 09.2	+0.5
CESI			S	Sb	14 46 13.5	-1.2
CESI			AML	AML		
	comp=N,180μm,0.1s					
CESI			AML	AML		
	comp=E,116μm,0.2s					
SAP2	**Sant'Angelo in**	**0.27 32**	P	Pg	14 46 09.6	+0.7
GAVE	**Gavelli**	**0.28 233**	P	Pb	14 46 10.6	0.0
GAVE			S	Sb	14 46 14.3	-1.2
PF6	**Pievefavera**	**0.28 359**	P	Pg	14 46 09.6	+0.5
LNSS	**Leonessa**	**0.29 204**	P	Pg	14 46 09.8	+0.7
LNSS			S	Sb	14 46 14.4	-1.1
MML1	**Montelago di S**	**0.30 326**	P	Pg	14 46 09.8	+0.4
RM33	**Pellescritta (**	**0.35 178**	P	Pb	14 46 11.8	-0.1
RM33			S	Sb	14 46 16.8	-0.7
CAMP	**Campotosto**	**0.36 155**	P	Pg	14 46 10.8	+0.2
CAMP			S	Sg	14 46 16.2	+0.8
TERO	**Teramo**	**0.38 129**	⇑P	Pg	14 46 10.9	0.0
TERO			AML	AML		
	comp=E,37μm,0.1s					
TERO			AML	AML		
	comp=N,45μm,0.1s					

*IDC **20** 14:46:27.2±1.9, 37°.59N×29°.26E, h0km, mb2.9/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=50.4km s-min=22.7km az=144.0*
*ISK **20** 14:46:29.7, 37°.42N×29°.41E, h3km, ML3.0/17*
ISC 20 14:46:29.8±0.9, 37°.45N±0°.03×29°.40E±0°.03, h10km±7km, n21, σ0°.75/26, Turkey

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08 289**	Pg	**Pg**	**14 46 32.1**	**-0.2**
APMY			Sg	**Sg**	**14 46 33.9**	**-0.1**
CAME	**Cameli-Denizli**	**0.51 189**	Pg	**Pg**	**14 46 39.8**	**+0.1**
CAME			Sg	**Sg**	**14 46 47.3**	**+0.9**
BASM	**Basmaki-Afyon**	**0.70 47**	Pg	**Pb**	**14 46 43.9**	**-0.3**
BASM			Sg	**Sb**	**14 46 54.5**	**+0.6**
ELL	**Elmali**	**0.81 150**	Pg	**Pg**	**14 46 45.3**	**-0.1**
FETY	**Fethiye**	**0.85 198**	Pg	**Pb**	**14 46 46.2**	**-0.4**
DALY	**Dalyan (Mula)**	**0.87 224**	Pg	**Pb**	**14 46 46.8**	**-0.1**
KORT	**Korkuelì**	**0.88 120**	Pg	**Pg**	**14 46 47.0**	**+0.2**
YER	**Yerkesik**	**0.94 251**	Pg	**Pn**	**14 46 48.4**	**-0.8**
BCK	**Bucak**	**0.95 89**	Pg	**Pb**	**14 46 48.4**	**0.0**
ISP	**Isparta**	**0.97 67**	Pg	**Pn**	**14 46 49.1**	**-0.5**
NAZL	**Nazilli-Aydin**	**1.02 301**	Pg	**Pn**	**14 46 50.3**	**+0.1**
TURN	**Turunc**	**1.14 234**	Pn	**Pn**	**14 46 52.4**	**+0.6**
KULA	**Kula-Manisa**	**1.22 332**	Pn	**Pn**	**14 46 53.6**	**+0.6**
AKAS	**Kas**	**1.22 172**	Pn	**Pb**	**14 46 53.4**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.30 293**	Pn	**Pn**	**14 46 55.6**	**+1.5**
MLSB	**Milas**	**1.30 264**	Pn	**Pn**	**14 46 55.4**	**+1.3**
ODEM	**Odemis-Izmir**	**1.34 309**	Pn	**Pn**	**14 46 56.1**	**+1.5**
BRTR	**Keskin Array B**	**4.03 54**	Pn	**Pn**	**14 47 32.1**	**+0.5**
	0.4nm,0.3s,baz=241,slow=17,SNR=11					
BRTR			Sn	**Sn**	**14 48 19.7**	**+0.7**
	0.2nm,0.3s,baz=226,slow=25,SNR=7.5					
	2.6nm,0.7s					
MMAI	**Mount Meron Ar**	**6.61 130**	Pn	**Pn**	**14 48 07.9**	**+0.9**
	2.8nm,0.3s,baz=316,slow=13,SNR=8.8					
MMAI			Sn	**Sn**	**14 49 22.5**	**0.0**
	0.9nm,0.3s,baz=310,slow=20,SNR=1.6					
	4.8nm,0.5s					
TORD	**Torodi Ar. Bea**	**34.59 233**	P	**P**	**14 53 17.7**	**-1.3**
	7.8nm,0.3s,baz=31,slow=8.3,SNR=1.4					
MKAR	**Makanchi Array**	**39.66 59**	P	**P**	**14 54 01.4**	**-0.5**
	0.1nm,0.4s,baz=263,slow=6.8,SNR=1.5					
	0.1nm,0.4s					

*SJA **20** 14:46:57.7±0.7, 23°.95S×66°.78W, h220km±7km, ML3.5, MW3.3*
*GUC **20** 14:47:00.0±0.7, 23°.94S×67°.14W, h240km±7km, ML3.7*
ISC 20 14:46:54.6±2.1, 23°.98S±0°.04×66°.69W±0°.06, h237km±16km, n28, σ2°.39/51, 7C-1D, Jujuy Province

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.40 128**	*e*P	**Pn**	**14 47 27.9**	**+1.5**
SLA	**San Lorenzo**	**1.31 125**	*e*P	**Pn**	**14 47 27.7**	**-2.8**
SLA			*e*S	**S**	**14 48 00.1**	**+1.5**
AZAP	**Zapla**	**1.50 100**	*e*P	**Pn**	**14 47 34.5**	**+2.4**
AF01	**San Pedro de A**	**1.71 306**	*e*P	**Pn**	**14 47 36.0**	**+2.1**
AF01			*i* S	**S**	**14 48 03.4**	**-1.1**
AF01	**San Pedro de A**	**1.71 306**	*e*P	Pn	14 47 39.0	+5.1
AF01			*e*S	**S**	**14 48 08.7**	**+4.1**
YJA	**Yavi**	**2.09 31**	*e*P	**Pn**	**14 47 40.5**	**+3.0**
YJA			*e*S	**S**	**14 48 07.2**	**-3.8**
FSA	**Cafayete**	**2.22 163**	*e*P	**Pn**	**14 47 35.7**	**-2.6**
GO02	**Mina Guanaco**	**2.90 245**	⇑*i*P	**Pn**	**14 47 47.4**	**+1.9**
GO02			*e*S	**S**	**14 48 24.0**	**-1.5**
GO02			IAML		14 48 25.5	
	comp=N,179nm,0.3s					
GO02	**Mina Guanaco**	**2.90 245**	*e*P	**Pn**	**14 47 47.5**	**+1.9**
GO02			*e*S	**S**	**14 48 24.9**	**-0.6**
PB06	**IPOC Station P**	**2.94 295**	⇑*e*P	**Pn**	**14 47 47.6**	**+1.7**
PB06			*e*S	**S**	**14 48 23.6**	**-2.6**
PB06			IAML		14 48 26.1	
	comp=E,141nm,0.1s					
PB06	**IPOC Station P**	**2.94 295**	*e*P	**Pn**	**14 47 47.6**	**+1.7**
PB06			*e*S	**S**	**14 48 23.9**	**-2.3**
PB06			IAML		14 48 26.1	
	comp=Z,110nm,0.3s					
PB09	**IPOC Station P**	**3.21 312**	⇑*e*P	**Pn**	**14 47 51.1**	**+2.2**
PB09			*e*S	**S**	**14 48 30.0**	**-1.6**
PB09			IAML		14 48 35.0	
	comp=N,46nm,0.2s					
PB09	**IPOC Station P**	**3.21 312**	*e*P	**Pn**	**14 47 51.0**	**+2.1**
PB09			*e*S	**S**	**14 48 30.6**	**-1.0**
PB09			IAML		14 48 33.7	
	comp=Z,50nm,0.3s					
PB03	**IPOC Station P**	**3.42 304**	⇑*e*P	**Pn**	**14 47 52.8**	**+1.5**
PB03			*e*S	**S**	**14 48 32.7**	**-3.2**
PB03	**IPOC Station P**	**3.42 304**	*e*P	**Pn**	**14 47 52.4**	**+1.1**
PB03			*e*S	**S**	**14 48 33.4**	**-2.5**
PB03			IAML		14 48 35.4	
	comp=Z,100nm,0.2s					
PB05	**IPOC Station P**	**3.42 288**	⇓*e*P	**Pn**	**14 47 52.5**	**+1.3**
PB05			*e*S	**S**	**14 48 31.7**	**-4.1**
PB05	**IPOC Station P**	**3.42 288**	*e*P	**Pn**	**14 47 52.8**	**+1.5**
PB05			*e*S	**S**	**14 48 32.5**	**-3.4**
PB05			IAML		14 48 37.5	
	comp=Z,31nm,0.3s					
PB14	**IPOC Station P**	**3.45 259**	⇑*e*P	**Pn**	**14 47 53.3**	**+1.5**
PB14			*e*S	**S**	**14 48 33.3**	**-3.6**
PB14	**IPOC Station P**	**3.45 259**	*e*P	**Pn**	**14 47 53.5**	**+1.7**
PB14			*e*S	**S**	**14 48 34.8**	**-2.0**
PB14			IAML		14 48 36.2	
	comp=Z,53nm,0.1s					
PB10	**IPOC Station P**	**3.58 277**	⇑*e*P	**Pn**	**14 47 54.6**	**+1.7**
PB10			*e*S	**S**	**14 48 35.9**	**-3.0**
PB10	**IPOC Station P**	**3.58 277**	*e*P	**Pn**	**14 47 54.9**	**+2.0**
PB10			*e*S	**S**	**14 48 36.8**	**-2.1**
AC02	**Maricunga**	**3.60 217**	*e*P	**Pn**	**14 47 57.2**	**+3.6**
AC02			*e*S	**S**	**14 48 43.0**	**+2.8**
AC02			IAML		14 49 02.2	
	comp=Z,31nm,4.2s					
PB01	**IPOC Station P**	**3.91 318**	⇑*e*P	**Pn**	**14 47 58.7**	**+1.8**
PB01			*e*S	**S**	**14 48 43.9**	**-2.3**
PB01	**IPOC Station P**	**3.91 318**	*e*P	**Pn**	**14 47 58.4**	**+1.4**
PB01			*e*S	**S**	**14 48 44.3**	**-1.8**
PB01			IAML		14 48 47.9	
	comp=Z,48nm,0.2s					
AC01	**Pan de Azucar**	**4.15 238**	*e*P	**Pn**	**14 48 01.0**	**+1.3**
AC01			*e*S	**S**	**14 48 48.9**	**-2.4**
AC01			IAML		14 49 11.9	
	comp=Z,50nm,3.2s					
PATCX	**Punta Patache**	**4.49 314**	*e*P	**Pn**	**14 48 05.7**	**+1.7**
PATCX			*e*S	**S**	**14 48 57.2**	**-1.7**
PATCX			IAML		14 49 03.3	
	comp=Z,32nm,2.1s					
TA01	**Diego Aracena**	**4.69 316**	*e*P	**Pn**	**14 48 08.1**	**+1.8**
TA01			IAML		14 49 08.2	
	comp=Z,26nm,3.0s					
HMBC	**Humberstone**	**4.73 321**	*e*P	**Pn**	**14 48 09.3**	**+2.4**
HMBC			*e*S	**S**	**14 49 01.6**	**-2.6**
HMBC			IAML		14 49 05.5	
	comp=Z,75nm,0.4s					

*NEIC **20** 14:51:54.3±1.7, 40°.62N±0°.03×117°.52W±0°.04, h10km±2km, Error ellipse: s-maj=7.8km s-min=3.1km az=311.0*
REN 20 14:51:55.4±1.4, 40°.65N±0°.03×117°.56W±0°.05, h8km±5km, ML3.5/8, ML3.1/54(NEIC), Error ellipse: s-maj=7.0km s-min=1.3km az=133.0, Nevada

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**1.69 236**		Pn	14 52 24.4	-1.1
ELK	**Elko**	**1.77 86**		Pn	14 52 26.0	-0.6
ELK	**Elko**	**1.77 86**	IAML		14 52 51.6	
	218nm,0.2s					
ELK			IAML		14 52 52.1	
	229nm,0.2s					
Q09A	**Carvers**	**1.84 171**		Pn	14 52 26.6	-0.9
WVOR	**Wild Horse Val**	**1.95 336**		Pn	14 52 30.0	+0.9
PEAR	**Peavine Mounta**	**2.12 241**		Pn	14 52 30.7	-0.7
RYN	**Ryan**	**2.15 200**		Pn	14 52 30.8	-1.0
PNTR	**Pine Nut**	**2.21 226**		Pn	14 52 32.1	-0.6
PNTR	**Pine Nut**	**2.21 226**	IAML		14 53 06.0	
	comp=E,135nm,0.9s					
PNTR			IAML		14 53 08.1	
	comp=N,171nm,0.8s					
NV11	**Mina Array Sit**	**2.27 192**		Pn	14 52 32.5	-0.8
NV11	**Mina Array Sit**	**2.27 192**	IAML		14 53 06.3	
	comp=N,66nm,0.7s					
NV11			IAML		14 53 06.3	
	comp=E,94nm,0.7s					
BEKR	**Beckworth**	**2.28 251**		Pn	14 52 33.3	-0.3
NVAR	**Mina Array Bea**	**2.29 195**		Pn	14 52 32.2	-1.6
NV09	**Mina Array Sit**	**2.29 195**		Pn	14 52 33.2	-0.6
NV08	**Mina Array Sit**	**2.32 195**		Pn	14 52 33.2	-0.9
LHV	**Little Huntoon**	**2.51 197**		Pn	14 52 36.1	-0.4
LHV	**Little Huntoon**	**2.51 197**	IAML		14 53 17.7	
	comp=N,138nm,0.4s					
WAKR	**Walker**	**2.59 215**		Pn	14 52 38.3	+0.4
WAKR	**Walker**	**2.59 215**	IAML		14 53 18.2	
	comp=N,66nm,0.4s					
WAKR			IAML		14 53 18.5	
	comp=E,39nm,0.4s					
Q12A	**Willow Creek R**	**2.65 127**		Pn	14 52 39.0	+0.3
R11B	**Troy Canyon, C**	**2.76 146**		Pn	14 52 38.9	-1.3
R11B			IAML		14 53 23.8	
	comp=E,60nm,0.3s					
R11B			IAML		14 53 26.0	
	comp=N,47nm,0.3s					
HATC	**Hat Creek Radi**	**2.97 274**	Pn	Pn	14 52 44.2	+1.3
HATC			IAML		14 53 40.3	
	comp=E,62nm,1.8s					
HATC			IAML		14 54 08.3	
	comp=N,46nm,3.8s					
SPR3	**Spring Creek 3**	**2.99 123**		Pn	14 52 44.9	+1.5
SPR3	**Spring Creek 3**	**2.99 123**	IAML		14 53 33.4	
	comp=N,76nm,0.4s					
SPR3			IAML		14 53 35.0	
	comp=E,58nm,0.5s					
AFDM	**Forest Hills D**	**3.13 238**		Pn	14 52 45.4	+0.2
DSP	**Deep Springs**	**3.29 186**		Pn	14 52 47.1	-0.3
S11A	**Rachel**	**3.32 154**		Pn	14 52 46.5	-1.4
CMB	**Columbia Colle**	**3.41 221**		Pn	14 52 49.9	+0.9
BHPR	**Bishop**	**3.43 192**		Pn	14 52 50.0	+0.6
PSUT	**Pine Spring**	**3.56 125**		Pn	14 52 51.0	-0.2
DUG	**Dugway, Tooele**	**3.65 96**		Pn	14 52 52.1	-0.3
DUG			IAML		14 53 56.1	
	comp=E,33nm,0.8s					
DUG			IAML		14 53 59.7	
	comp=E,31nm,0.6s					
HLID	**Hailey**	**3.73 38**		Pn	14 52 54.7	+1.2
HLID			IAML		14 53 53.8	
	comp=E,26nm,0.5s					
HLID			IAML		14 53 58.2	
	comp=E,32nm,0.7s					
PRN	**Pahroc Range**	**3.79 148**		Pn	14 52 53.5	-0.7
J05D	**Fort Rock, OR**	**3.80 315**		Pn	14 52 54.0	-0.4
J05D			IAML		14 54 08.1	
	comp=N,16nm,4.9s					
J05D			IAML		14 54 20.5	
	comp=E,22nm,4.6s					
TPNV	**Topopah Spring**	**3.84 164**		Pn	14 52 55.1	+0.1
WCT	**Wildcat Mounta**	**3.92 169**		Pn	14 52 55.6	-0.5
WCT			IAML		14 54 02.9	
	comp=N,31nm,0.5s					
WCT			IAML		14 54 03.4	
	comp=E,31nm,0.7s					
NSP	**Numbskull Pass**	**4.06 165**		Pn	14 52 58.9	+0.9
AMDNV	**Amargosa**	**4.31 166**		Pn	14 53 02.4	+1.1
MSU	**Marysvale**	**4.68 115**	Pn	Pn	14 53 05.1	-1.5

IDC 20 15:05:10.4±2.9, 32°.19S×177°.65W, h0km, mb3.9/2, mbtmp3.9/3, Error ellipse: s-maj=70.4km s-min=37.9km az=118.0, South of Kermadec Islands

| Code

ASAR PcP PcP 15 15 03.0 -0.4
0.2nm,0.7s,baz=105,slow=3.9,SNR=2.2
0.9nm,0.6s
WRA Warramunga Arr 44.49 274 P P 15 13 23.6 -0.2
1.1nm,0.5s,baz=112,slow=7.9,SNR=15
1.1nm,0.5s
FINES FINESS Array B 146.93 339 PKPbc PKPbc 15 24 53.2 -0.9
1.1nm,0.5s,baz=44,slow=4.2,SNR=1.6

*IDC **20** 15:05:48.5±6.6, 20°.26S×179°.28W, h606km±39km, mb2.5/3, mbtmp3.4/4, Error ellipse: s-maj=181.3km s-min=26.8km az=144.0*
ISC 20 15:05:47.2±2.1, 20°.5S±0°.4×179°.1W±0°.3, h600km, n7, σ0.86/7, mb3.0/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.83**	**315**	P	**P**	**15 07 11.5**	**-0.2**
	3.0nm,0.5s,baz=191,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**43.48**	**257**	P	**P**	**15 12 59.5**	**+0.3**
	0.5nm,0.5s,baz=94,slow=8.2,SNR=18						
ASAR				PcP	**PcP**	**15 14 34.0**	**+0.5**
	0.2nm,0.6s,baz=97,slow=4.1,SNR=1.9						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.55**	**262**	P	**P**	**15 12 59.7**	**0.0**
	0.2nm,0.4s,baz=97,slow=7.5,SNR=13						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**88.55**	**13**	P	**P**	**15 17 37.4**	**+0.8**
	0.1nm,0.4s,baz=206,slow=5.2,SNR=0.9						
	0.1nm,0.4s						
HFS	**Hagfors**	**139.36**	**350**	PKhKP	PKPpre	15 24 00.5	
	4.5nm,1.0s,baz=25,slow=3.8,SNR=2.0						
AKASG	**Malin Array Be**	**142.49**	**330**	PKP	**PKPdf**	**15 24 11.3**	**-1.2**
	1.4nm,0.5s,baz=40,slow=4.0,SNR=8.6						
GERES	**GERESS Array B**	**149.90**	**343**	PKPbc	**PKPbc**	**15 24 30.1**	**-0.7**
	0.3nm,0.6s,baz=27,slow=4.9,SNR=3.5						

IDC 20 15:13:54.0±999.0, 54°.13N×1°.48E, h0km, Error ellipse: s-maj=517.2km s-min=180.3km az=106.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.27**	**120**	I	I	16 09 52.6	
	baz=309,slow=326,SNR=1.7						
I43RU	**DUBNA INFRASON**	**20.30**	**68**	I	I	17 17 53.6	
	baz=277,slow=324,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**34.02**	**73**	I	I	18 40 20.0	
	baz=300,slow=329,SNR=0.5						

*IDC **20** 15:19:07.9±1.6, 37°.39N×29°.55E, h0km, mb3.1/2, mbtmp3.1/4, ML3.2/2, MS2.6/1, Error ellipse: s-maj=35.2km s-min=20.8km az=141.0*
*THE **20** 15:19:07.3, 37°.70N×29°.46E, h10km±17km, ML3.1/4, Error ellipse: s-maj=24.0km s-min=1.8km az=20.0*
*AFAD **20** 15:19:08.0, 37°.40N×29°.43E, h7km±1km, ML3.1*
*ISK **20** 15:19:08.1, 37°.40N×29°.42E, h7km, ML3.2/18*
ISC 20 15:19:08.3±1.0, 37°.41N±0°.02×29°.45E±0°.02, h6km±7km, n36, σ0.99/51, mb3.0/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.13**	**298**	Pg	**Pg**	**15 19 11.2**	**+0.1**
APMY				Sg	**Sg**	**15 19 13.8**	**+0.8**
GOLH	**Golhisar**	**0.19**	**152**	P	**Pg**	**15 19 12.5**	**+0.4**
GOLH				S	**Sg**	**15 19 14.7**	**-0.1**
GOLH				*i* AML	AML	15 19 16.0	
	comp=E,6μm,0.5s						
GOLH				*i* AML	AML	15 19 18.0	
	comp=N,4μm,0.5s						
CAEL	**Denizli, Camel**	**0.30**	**200**	P	**Pg**	**15 19 14.1**	**-0.1**
CAEL				S	**Sb**	**15 19 19.9**	**-1.7**
CAEL				*i* AML	AML	15 19 22.0	
	comp=N,5μm,0.4s						
CAEL				*i* AML	AML	15 19 22.0	
	comp=E,5μm,0.5s						
INCE	**Denizli-Bozkur**	**0.32**	**19**	P	**Pg**	**15 19 14.6**	**0.0**
INCE				*i* AML	AML	15 19 20.0	
	comp=E,3μm,0.4s						
INCE				S	**Sb**	**15 19 20.4**	**-1.6**
INCE				*i* AML	AML	15 19 21.0	
	comp=N,5μm,0.3s						
DNZT	**Denizli-Tavas-**	**0.36**	**249**	P	**Pg**	**15 19 15.2**	**-0.2**
DNZT				*i* AML	AML	15 19 21.0	
	comp=N,2μm,0.6s						
DNZT				*i* AML	AML	15 19 21.0	
	comp=E,2μm,0.3s						
DNZT				S	**Sg**	**15 19 21.2**	**+1.1**
DNIZ	**Denizli-Tavas-**	**0.39**	**304**	P	**Pg**	**15 19 16.0**	**0.0**
DNIZ				S	**Sg**	**15 19 20.6**	**-0.5**
DNIZ				*i* AML	AML	15 19 22.0	
	comp=N,4μm,0.3s						
DNIZ				*i* AML	AML	15 19 23.0	
	comp=E,6μm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.43**	**278**	P	**Pg**	**15 19 16.7**	**0.0**
TAVA				S	**Sg**	**15 19 23.0**	**+0.7**
TAVA				*i* AML	AML	15 19 23.0	
	comp=E,1μm,0.2s						
TAVA				*i* AML	AML	15 19 24.0	
	comp=N,1μm,0.2s						
CAME	**Cameli-Denizli**	**0.48**	**194**	Pg	**Pg**	**15 19 16.9**	**-0.7**
CAME				Sg	**Sb**	**15 19 24.8**	**-1.8**
BRDR	**BURDUR-Merkez**	**0.56**	**59**	P	**Pg**	**15 19 19.2**	**0.0**
BRDR				S	**Sb**	**15 19 27.5**	**-1.5**
BRDR				*i* AML	AML	15 19 33.0	
	comp=E,1μm,0.5s						
BRDR				*i* AML	AML	15 19 36.0	
	comp=N,1μm,0.5s						
BASM	**Basmaki-Afyon**	**0.70**	**43**	Pg	**Pg**	**15 19 21.8**	**+0.1**
BASM				Sg	**Sb**	**15 19 32.7**	**-0.2**
ELL	**Elmali**	**0.76**	**151**	Pg	**Pb**	**15 19 23.0**	**-1.0**
FETY	**Fethiye**	**0.83**	**201**	Pg	**Pg**	**15 19 23.6**	**-0.6**
KORT	**Korkueli**	**0.83**	**119**	Pg	**Pb**	**15 19 24.9**	**-0.3**
DALY	**Dalyan (Mula)**	**0.87**	**227**	Pg	**Pg**	**15 19 24.3**	**-0.7**
BCK	**Bucak**	**0.91**	**86**	Pg	**Pb**	**15 19 26.6**	**0.0**
ISP	**Isparta**	**0.95**	**64**	Pg	**Pn**	**15 19 27.3**	**-1.0**
YER	**Yerkesik**	**0.97**	**254**	Pg	**Pg**	**15 19 26.6**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.07**	**301**	Pg	**Pg**	**15 19 28.6**	**-0.3**
TURN	**Turunc**	**1.15**	**237**	Pn	**Pg**	**15 19 30.1**	**-0.3**
AKAS	**Kas**	**1.18**	**174**	Pn	**Pn**	**15 19 31.2**	**-0.3**
KSL	**Kastellorizon**	**1.26**	**175**	P	**Pg**	**15 19 32.7**	**+0.2**
KSL				S	**Sn**	**15 19 53.8**	**+4.0**
	440nm,0.8s						
KULA	**Kula-Manisa**	**1.27**	**331**	Pn	**Pg**	**15 19 32.5**	**-0.1**
MLSB	**Milas**	**1.34**	**266**	Pn	**Pb**	**15 19 33.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**294**	Pn	**Pn**	**15 19 33.5**	**-0.3**
ODEM	**Odemis-Izmir**	**1.39**	**309**	Pn	**Pn**	**15 19 33.9**	**-0.5**
SHUT	**Suhut-Afyon**	**1.44**	**37**	Pn	**Pg**	**15 19 35.7**	**-0.2**
ARG	**Arkhangelos**	**1.59**	**222**	Pn	**Pb**	**15 19 37.4**	**-0.8**
ARG	**Arkhangelos**	**1.59**	**222**	P	**Pb**	**15 19 37.2**	**-1.0**
ARG				S	**Sg**	**15 20 00.2**	**+0.6**
	508nm,0.6s						
KARP	**Karpathos**	**2.62**	**225**	P	**Pn**	**15 19 51.3**	**+0.1**
KARP				S	**Sn**	**15 20 24.9**	**+1.6**
	215nm,0.6s						
ZKR	**Zakros**	**3.47**	**230**	P	**Pn**	**15 20 03.1**	**+0.2**
ZKR				S	**Sn**	**15 20 46.0**	**+1.6**
	55nm,0.6s						
BRTR	**Keskin Array B**	**4.02**	**54**	Pn	**Pn**	**15 20 11.8**	**+1.2**
	0.5nm,0.3s,baz=233,slow=15,SNR=14						
BRTR				Sn	**Sn**	**15 20 57.5**	**-0.5**
	0.2nm,0.3s,baz=231,slow=25,SNR=8.0						
	2.4nm,0.7s						
MMAI	**Mount Meron Ar**	**6.55**	**130**	Pn	**Pn**	**15 20 46.2**	**+0.9**
	2.1nm,0.3s,baz=314,slow=11,SNR=6.7						
MMAI				Sn	**Sn**	**15 21 58.9**	**-1.5**
	1.8nm,0.3s,baz=320,slow=29,SNR=4.2						
	1.2nm,0.3s						
GNI	**Garni**	**12.24**	**72**	LR	LR	15 27 51.5	
	comp=Z,33nm,21.5s,baz=228,slow=43						
TORD	**Torodi Ar. Bea**	**34.60**	**233**	P	**P**	**15 25 58.6**	**+0.4**
	45nm,0.3s,baz=37,slow=8.6,SNR=5.1						
KURBB	**Kurchatov Arra**	**37.01**	**53**	P	**P**	**15 26 18.8**	**+0.2**
	0.2nm,0.6s,baz=275,slow=8.9,SNR=2.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**39.65**	**59**	P	**P**	**15 26 41.0**	**+0.2**
	0.1nm,0.6s,baz=282,slow=9.9,SNR=2.1						
	0.1nm,0.6s						

*BJI **20** 15:23:56.6, 15°.55S×167°.65E, h120km, mB6.3/82, mb5.8/99*
*NEIC **20** 15:23:58.7±1.8, 15°.60S±0°.07×167°.66E±0°.04, h119km±1km, mb5.8/482, Mwb6.2/76, Mww6.3/76, Error ellipse: s-maj=12.6km s-min=6.5km az=9.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr2.74; Mθθ-0.49; Mφφ-2.25; Mrθ-0.04; Mθφ-0.05; Mφr-1.25; Fault plane solution: M0 2.82000×1018 NP1:φs1.56000°, δ31.63000°, λ89.92000°. NP2:φs181.66000°, δ58.37000°, λ90.05000°. Principal axes: T 3.0358, Plg77.0000°, Azm92.0000°; N -0.4908, Plg0.0000°, Azm2.0000°; P -2.5450, Plg13.0000°, Azm272.0000°;*
*IDC **20** 15:23:58.8±0.4, 15°.60S×167°.67E, h124km±2km, mb5.4/29, mbtmp5.8/30, MS5.3/45 Error ellipse: s-maj=9.6km s-min=8.5km az=79.0*
*NOU **20** 15:23:59.8, 15°.61S×167°.58E, h120km, ML6.1/197, Vanuatu Islands*
*NEIC **20** 15:23:59.5, 15°.62S×167°.61E, h130km*
*MOS **20** 15:23:59.8±1.0, 15°.53S×167°.54E, h122km, mb6.0/41, MS5.6/11, Error ellipse: s-maj=6.9km s-min=5.5km az=119.9*
*NEIC **20** 15:23:59.4, 15°.59S×167°.62E, h124km*
*NEIC **20** 15:23:59.5, 15°.62S×167°.40E, h130km, Moment Tensor Solution. Duration: 6s9 Moment tensor: Scale 1018Nm; Mrr2.68; Mθθ-0.02; Mφφ-2.66; Mrθ-0.24; Mθφ0.03; Mφr-1.59; Fault plane solution: M0 3.12000×1018 NP1: φs354.72000°, δ29.80000°, λ81.93000°. NP2: φs184.01000°, δ60.52000°, λ94.60000°. Principal axes: T 3.1381, Plg74.0000°, Azm106.0000°; N -0.0359, Plg4.0000°, Azm2.0000°; P -3.1022, Plg15.0000°, Azm271.0000°;*
*IPGP **20** 15:23:59.0, 15°.62S×167°.61E, h124km, Mw6.3, Fault plane solution: NP1:φs3.00000°, δ31.00000°, λ90.00000°. NP2:φs183.00000°, δ59.00000°, λ90.00000°.*
*GCMT **20** 15:24:01.7±0.0, 15°.58S×167°.48E, h130km, MW6.3/181, Moment Tensor Solution. s172, c406; s181, c726; Duration: 3s3 Moment tensor: Scale 1018Nm; Mrr2.51±.01; Mθθ0.19±.01; Mφφ-2.70±.01; Mrθ-0.12±.01; Mθφ-0.42±.01; Mφr-1.76±.01; Best double couple: M0 3.17200×1018 NP1:φs11.00000°, δ28.00000°, λ95.00000°. NP2:φs186.00000°, δ62.00000°, λ87.00000°. Principal axes: T 3.0490, Plg73.0000°, Azm90.0000°; N 0.2490, Plg2.0000°, Azm187.0000°; P -3.2950, Plg17.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 20 15:23:59.2±0.2, 15°.64S±0°.03×167°.66E±0°.03, h131km±1km, h132km: pP-P, n1923, σ1.66/2050, mb5.8/424, 206C-54D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.14**	**166**	P	**Pn**	**15 24 35.0**	**0.0**
DVP	**Devils Point**	**2.14**	**166**	S	**Sn**	**15 25 03.7**	**+1.3**
LUES	**Luesalemba Tem**	**5.23**	**341**	P	**Pn**	**15 25 14.3**	**-1.1**
LUES	**Luesalemba Tem**	**5.23**	**341**	S	**Sn**	**15 26 14.9**	**+0.1**
MARNC	**Mare, Loyalty**	**5.82**	**177**	P	**Pn**	**15 25 22.7**	**-0.6**
MARNC	**Mare, Loyalty**	**5.82**	**177**	⇑P	**Pn**	**15 25 22.8**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.84**	**213**	P	**Pn**	**15 25 24.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.84**	**213**	S	**Sn**	**15 26 30.3**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.84**	**213**	⇑P	**Pn**	**15 25 23.7**	**0.0**
YATNC	**Mamie plateau,**	**6.43**	**186**	P	**Pn**	**15 25 30.9**	**-0.6**
YATNC	**Mamie plateau,**	**6.43**	**186**	S	**Sn**	**15 26 45.0**	**+1.3**
DZM	**Mont Dzumac**	**6.50**	**190**	Pn	**Pn**	**15 25 32.6**	**0.0**
DZM	**Mont Dzumac**	**6.50**	**190**	P	**Pn**	**15 25 33.0**	**+0.4**
	327nm,0.3s,baz=36,slow=13,SNR=909						
DZM				S	**Sn**	**15 26 43.8**	**-1.8**
	baz=360,slow=19						
DZM				LR	LR	15 27 45.9	
	comp=Z,38μm,21.6s,baz=72,slow=35						
DZM	**Mont Dzumac**	**6.50**	**190**	P	**Pn**	**15 25 33.2**	**+0.6**
DZM	**Mont Dzumac**	**6.50**	**190**	⇑P	**Pn**	**15 25 32.9**	**+0.2**
I22FR	**PORTLAGUERRE I**	**6.56**	**187**	I	I	16 05 50.0	
	baz=1.6,slow=318,SNR=1.9						
ONTNC	**Ouen Toro**	**6.73**	**190**	Pn	**Pn**	**15 25 36.4**	**+0.8**
ONTNC	**Ouen Toro**	**6.73**	**190**	P	**Pn**	**15 25 37.0**	**+1.4**
ONTNC	**Ouen Toro**	**6.73**	**190**	S	**Sn**	**15 26 51.4**	**+0.4**
ONTNC	**Ouen Toro**	**6.73**	**190**	⇑P	**Pn**	**15 25 36.3**	**+0.7**
OUENC	**Ouen Island, N**	**6.79**	**186**	P	**Pn**	**15 25 37.8**	**+1.4**
PINNC	**Pines Island,**	**6.94**	**182**	Pn	**Pn**	**15 25 38.9**	**+0.5**
PINNC	**Pines Island,**	**6.94**	**182**	P	**Pn**	**15 25 40.2**	**+1.8**
NGOA	**Tingoa Renbel**	**8.42**	**298**	P	**Pn**	**15 25 58.1**	**-0.3**
NGOA	**Tingoa Renbel**	**8.42**	**298**	S	**Sn**	**15 27 29.4**	**-2.5**
YSA	**Yasawairara**	**9.59**	**98**	P	**Pn**	**15 26 16.7**	**+2.6**
ALEG	**Aligegeo Malai**	**9.65**	**314**	P	**Pn**	**15 26 14.4**	**-0.5**
HNR	**Honiara**	**9.73**	**308**	Pn	**Pn**	**15 26 16.3**	**+0.4**
HNR	**Honiara**	**9.73**	**308**	P	**Pn**	**15 26 16.4**	**+0.5**
	23μm,0.6s,baz=294,slow=20,SNR=2176						
HNR				S	**Sn**	**15 28 02.1**	**-1.5**
	9μm,1.0s,baz=82,slow=17,SNR=3.9						
HNR				LR	LR	15 29 47.5	
	comp=Z,69μm,21.2s,baz=174,slow=36						
HNR	**Honiara**	**9.73**	**308**	P	**Pn**	**15 26 16.1**	**+0.1**
HNR	**Honiara**	**9.73**	**308**	S	**Sn**	**15 28 04.1**	**+0.5**
HNR	**Honiara**	**9.73**	**308**	⇑P	**Pn**	**15 26 16.3**	**+0.4**
SAVO	**Savo Central**	**10.01**	**309**	P	**Pn**	**15 26 19.8**	**0.0**
MSVF	**Nonsavu**	**10.18**	**103**	Pn	**Pn**	**15 26 25.4**	**+3.4**
MSVF	**Nonsavu**	**10.18**	**103**	P	**Pn**	**15 26 26.2**	**+4.2**
	103nm,0.9s,baz=258,slow=5.9,SNR=32						
MSVF	**Nonsavu**	**10.18**	**103**	P	**Pn**	**15 26 24.8**	**+2.8**
MSVF	**Nonsavu**	**10.18**	**103**	*i* P	**Pn**	**15 26 26.5**	**+4.5**
MSVF	**Nonsavu**	**10.18**	**103**	⇑P	**Pn**	**15 26 26.6**	**+4.6**
TATA	**Tatamba Isabel**	**10.53**	**312**	P	**Pn**	**15 26 27.4**	**+0.7**
TATA	**Tatamba Isabel**	**10.53**	**312**	S	**Sn**	**15 28 23.1**	**+0.2**
DGTI	**Dogotuki**	**11.64**	**95**	P	**Pn**	**15 26 44.0**	**+2.6**
TAVE	**Taveuni**	**12.00**	**97**	P	**Pn**	**15 26 48.1**	**+2.0**
LKBA	**Tubou, Lakemba**	**13.20**	**103**	P	**P**	**15 27 04.8**	**-2.0**
FUNA	**Funafuti**	**13.31**	**59**	Pn	**Pn**	**15 27 03.7**	**+0.5**
FUNA	**Funafuti**	**13.31**	**59**	P	**P**	**15 27 06.0**	**-2.1**
FUNA	**Funafuti**	**13.31**	**59**	⇑P	**P**	**15 27 05.8**	**-2.3**
FUTU	**Fugatoga**	**13.81**	**86**	Pn	**Pn**	**15 27 10.7**	**+1.2**
FUTU	**Fugatoga**	**13.81**	**86**	P	**P**	**15 27 12.5**	**-1.1**
GD1S	**Gladstone Soft**	**17.52**	**240**	P	**Pn**	**15 27 56.7**	**+1.2**
LHI	**Lord Howe Isla**	**17.65**	**205**	P	**Pn**	**15 27 58.6**	**+1.7**
	comp=Z,0.0nmcomp=Z,173nm,1.2s						
RK1H	**Rockhampton Ha**	**17.91**	**242**	P	**Pn**	**15 28 00.6**	**+0.5**
AUWSH	**Wavell State H**	**17.92**	**227**	P	**Pn**	**15 28 01.4**	**+1.2**
GC1S	**Gold Coast 1 S**	**18.08**	**224**	P	**Pn**	**15 28 03.0**	**+1.0**
EIDS	**Eidsvold**	**18.28**	**235**		**Pn**	**15 28 05.0**	**+0.5**
EIDS	**Eidsvold**	**18.28**	**235**	P	**Pn**	**15 28 05.0**	**+0.5**
	comp=Z,0.0nmcomp=Z,761nm,1.7s						
EIDS	**Eidsvold**	**18.28**	**235**	⇑P	**Pn**	**15 28 05.2**	**+0.7**
TW1H	**Toowoomba 1 Ha**	**18.77**	**228**	P	**Pn**	**15 28 10.1**	**-0.2**
RABL	**Rabaul**	**19.01**	**305**	P	**P**	**15 28 09.6**	**-1.4**
RABL	**Rabaul**	**19.01**	**305**	⇑P	**P**	**15 28 09.2**	**-1.8**
BULU	**Kimbe**	**19.76**	**299**	P	**P**	**15 28 20.2**	**+1.1**
AFI	**Afiamalu**	**19.96**	**88**	P	**P**	**15 28 21.2**	**-0.2**
AFI	**Afiamalu**	**19.96**	**88**	P	**Pn**	**15 28 23.0**	**-1.4**
AFI	**Afiamalu**	**19.96**	**88**	P	**Pn**	**15 28 23.3**	**-1.1**
AFI				pmax	pmax		
	comp=Z,391nm,1.2s						
AFI	**Afiamalu**	**19.96**	**88**	⇑P	**P**	**15 28 22.3**	**+0.9**
OUZ	**Omahuta**	**20.22**	**166**	⇑P	Pn	15 28 26.3	-0.8
TV1H	**Townsville Har**	**20.22**	**257**	P	**P**	**15 28 24.8**	**+0.8**
RMQ	**Roma**	**20.65**	**235**	P	Pn	15 28 30.6	-1.7
	comp=Z,139nm,1.3s						
RMQ	**Roma**	**20.65**	**235**	P	**P**	**15 28 29.9**	**+1.3**
ARMA	**Armidale**	**20.79**	**222**	P	**P**	**15 28 30.9**	**+0.7**
ARMA	**Armidale**	**20.79**	**222**	P	Pn	15 28 32.2	-1.9
	comp=Z,0.0nmcomp=Z,352nm,1.1s						
ARMA	**Armidale**	**20.79**	**222**	P	**P**	**15 28 31.6**	**+1.4**
ARMA	**Armidale**	**20.79**	**222**	⇑P	Pn	15 28 32.1	-1.9
PMG	**Port Moresby**	**20.94**	**285**	P	**P**	**15 28 33.1**	**+1.4**
	comp=Z,784nm,1.0s,baz=100,slow=5.9,SNR=69						
	comp=Z,784nm,1.0s						
NIUE	**Niue**	**21.66**	**102**	P	**P**	**15 28 38.2**	**-1.3**
NIUE	**Niue**	**21.66**	**102**	P	**P**	**15 28 38.6**	**-0.9**
NIUE	**Niue**	**21.66**	**102**	P	**P**	**15 28 39.2**	**-0.3**
NIUE	**Niue**	**21.66**	**102**	⇑P	**P**	**15 28 43.3**	**+3.8**
KUZ	**Kuaotunu**	**22.21**	**163**	P	**P**	**15 28 47.8**	**+2.8**
NTLH	**Newcastle Hard**	**22.46**	**217**	P	**P**	**15 28 48.9**	**+1.4**
MTSU	**Mount Surprise**	**22.47**	**260**	P	**P**	**15 28 48.6**	**+0.8**
	comp=Z,713nm,1.1s						
MTSU	**Mount Surprise**	**22.47**	**260**	P	**P**	**15 28 49.0**	**+1.2**
MGCD	**Mangrove Creek**	**23.03**	**218**	P	**P**	**15 28 54.2**	**+1.3**
	comp=Z,188nm,1.1s						
MGCD	**Mangrove Creek**	**23.03**	**218**	P	**P**	**15 28 54.6**	**+1.6**
TOZ	**Tahuroa Road**	**23.08**	**164**	P	**P**	**15 28 54.7**	**+1.4**
RIV	**Riverview**	**23.45**	**216**	P	**P**	**15 28 58.2**	**+1.4**
	comp=Z,0.0nmcomp=Z,539nm,1.3s						
RIV	**Riverview**	**23.45**	**216**	P	**P**	**15 28 58.7**	**+1.9**
RIV				pmax	pmax		
	comp=Z,539nm,1.3s						
RIV	**Riverview**	**23.45**	**216**	⇑P	**P**	**15 28 58.6**	**+1.8**
SYDH	**Sydney Hard Ro**	**23.64**	**217**	P	**P**	**15 28 59.7**	**+1.2**
HIZ	**Hauiti**	**23.65**	**166**	P	**P**	**15 29 00.5**	**+1.9**
HIZ	**Hauiti**	**23.65**	**166**	P	**P**	**15 29 00.6**	**+2.0**
COEN	**Coen**	**23.73**	**271**	P	**P**	**15 28 59.0**	**-0.5**
COEN	**Coen**	**23.73**	**271**	P	**P**	**15 29 00.5**	**+1.0**
	comp=Z,0.0nmcomp=Z,716nm,2.2s						
COEN	**Coen**	**23.73**	**271**	P	**P**	**15 29 01.2**	**+1.7**
COEN	**Coen**	**23.73**	**271**	⇑P	**P**	**15 29 00.3**	**+0.8**
MXZ	**Matakaoa Point**	**23.79**	**159**	P	**P**	**15 29 00.5**	**+0.7**
MXZ	**Matakaoa Point**	**23.79**	**159**	P	**P**	**15 29 02.6**	**+2.8**
URZ	**Urewera**	**24.03**	**161**	P	**P**	**15 29 02.7**	**+0.8**
	comp=Z,68nm,0.5s,baz=6.1,slow=2.1,SNR=60						
URZ				S	**S**	**15 33 10.1**	**+0.5**
	comp=Z,36nm,1.0s,baz=251,slow=22,SNR=2.5						
URZ				LR	LR	15 36 51.1	
	comp=Z,7μm,20.8s,baz=61,slow=32						
	comp=Z,68nm,0.5s						
URZ	**Urewera**	**24.03**	**161**	P	**P**	**15 29 03.1**	**+1.1**
WOLH	**Wollongong Har**	**24.03**	**216**	P	**P**	**15 29 03.5**	**+1.5**
PATS	**Pohnpei**	**24.17**	**337**	P	**P**	**15 29 02.6**	**-0.8**
PATS	**Pohnpei**	**24.17**	**337**	P	**P**	**15 29 02.8**	**-0.6**
	comp=Z,0.0nmcomp=Z,922nm,2.2s						
PATS	**Pohnpei**	**24.17**	**337**	P	**P**	**15 29 03.8**	**+0.3**
PATS	**Pohnpei**	**24.17**	**337**	⇑P	**P**	**15 29 03.2**	**-0.3**
KHEZ	**Kahui Hut**	**24.22**	**168**	P	**P**	**15 29 06.3**	**+2.5**
RTZ	**Ruatahuna**	**24.32**	**162**	P	**P**	**15 29 04.8**	**+0.1**
RTZ				IAmb	IAmb	15 29 07.9	
	comp=Z,670nm,1.3s						
QLP	**Quilpie**	**24.37**	**240**	P	**P**	**15 29 06.2**	**+0.9**
	comp=Z,0.0nmcomp=Z,899nm,1.3s						
QLP	**Quilpie**	**24.37**	**240**	P	**P**	**15 29 06.6**	**+1.4**
QLP	**Quilpie**	**24.37**	**240**	⇑P	**P**	**15 29 06.1**	**+0.9**
BKZ	**Black Stump Fm**	**24.69**	**163**	P	**P**	**15 29 08.4**	**+0.4**
BKZ	**Black Stump Fm**	**24.69**	**163**	P	**P**	**15 29 08.7**	**+0.6**
QRZ	**Quartz Range**	**25.45**	**171**	P	**P**	**15 29 16.6**	**+1.7**
CMSA	**Cobar Meteorol**	**25.53**	**228**	⇓P	**P**	**15 29 16.5**	**+0.8**
	comp=Z,0.0nmcomp=Z,396nm,0.6s						
CMSA	**Cobar Meteorol**	**25.53**	**228**	P	**P**	**15 29 16.5**	**+0.8**
CNB	**Canberra Magne**	**25.54**	**217**	⇑P	**P**	**15 29 17.0**	**+1.1**
	comp=Z,0.0nmcomp=Z,333nm,1.2s						
CNB	**Canberra Magne**	**25.54**	**217**	P	**P**	**15 29 17.2**	**+1.3**
CAN	**Canberra**	**25.76**	**217**	P	**P**	**15 29 18.8**	**+1.0**
	comp=Z,0.0nmcomp=Z,107nm,1.3s						
CAN	**Canberra**	**25.76**	**217**	P	**P**	**15 29 19.0**	**+1.2**
CAN				pmax	pmax		
	comp=Z,107nm,1.3s						
CAN	**Canberra**	**25.76**	**217**	⇑P	**P**	**15 29 18.8**	**+1.0**
MRZ	**Mangatainoka R**	**25.87**	**166**	P	**P**	**15 29 17.9**	**-0.7**
MRZ				IAmb	IAmb	15 29 20.8	
	comp=Z,436nm,1.7s						
BFZ	**Birch Farm**	**26.05**	**165**	IAmb	IAmb	15 29 25.0	
	comp=Z,123nm,0.7s						
BFZ	**Birch Farm**	**26.05**	**165**	P	**P**	**15 29 20.4**	**+0.1**
TCW	**Tory Channel**	**26.12**	**169**	P	**P**	**15 29 21.3**	**+0.4**
SNZO	**South Karori**	**26.30**	**168**	P	**P**	**15 29 22.5**	**0.0**
SNZO				IAmb	IAmb	15 29 29.7	
	comp=Z,690nm,1.8s						
SNZO	**South Karori**	**26.30**	**168**	P	**P**	**15 29 23.7**	**+1.2**
SNZO	**South Karori**	**26.30**	**168**	⇑P	**P**	**15 29 22.4**	**0.0**
MILA	**Mila**	**26.92**	**214**	⇑P	**P**	**15 29 28.8**	**+0.6**
	comp=Z,50nm,1.8s						
MILA	**Mila**	**26.92**	**214**	⇑P	**P**	**15 29 29.5**	**+1.3**
QIS	**Mount Isa**	**27.09**	**255**	P	**P**	**15 29 30.2**	**+0.3**
	comp=Z,0.0nmcomp=Z,197nm,1.4s						
QIS	**Mount Isa**	**27.09**	**255**	P	**P**	**15 29 30.8**	**+0.9**
KHZ	**Kahutara**	**27.16**	**170**	P	**P**	**15 29 29.9**	**-0.3**
KHZ	**Kahutara**	**27.16**	**170**	⇑P	**P**	**15 29 29.6**	**-0.6**
INZ	**Inchbonnie**	**27.19**	**174**	IAmb	IAmb	15 29 34.9	
	comp=Z,238nm,0.9s						
LTZ	**Lake Taylor**	**27.34**	**173**	IAmb	IAmb	15 29 37.0	
	comp=Z,196nm,0.8s						
GVZ	**Greta Valley S**	**27.63**	**171**	IAmb	IAmb	15 29 38.2	
	comp=Z,104nm,0.6s						
INKA	**Innamin

comp=Z,182nm,1.1s
MOO Moorlands 31.98 209 P **P 15 30 13.7 +0.9**
comp=Z,0.0nmcomp=Z,309nm,1.1s
MOO Moorlands 31.98 209 P **P 15 30 14.0 +1.2**
WRA Warramunga Arr 31.98 257 P **P 15 30 11.5 -1.6**
WRA Warramunga Arr 31.98 257 P **P 15 30 12.2 -1.0**
comp=Z,86nm,0.9s,baz=86,slow=8.9,SNR=145
WRA PcP **PcP 15 33 00.1 -0.2**
comp=Z,36nm,1.0s,baz=85,slow=2.7,SNR=5.2
WRA S **S 15 35 10.4 -4.8**
comp=Z,25nm,1.0s,baz=92,slow=14,SNR=5.0
WRA ScP **ScP 15 36 31.9 +0.2**
comp=Z,43nm,1.2s,baz=73,slow=3.7,SNR=5.4
WRA PKiKP **PKiKP 15 40 27.3 -1.2**
comp=Z,6.2nm,0.8s,baz=339,slow=0.3,SNR=12
WRA LR LR 15 43 17.7
comp=Z,17μm,18.8s,baz=87,slow=36
WRA P3KPbc 16 01 41.1
comp=Z,2.0nm,1.0s,baz=276,slow=3.2,SNR=6.6
comp=Z,86nm,0.9s
WHYH Whyalla 32.26 232 P **P 15 30 16.5 +1.1**
TAU Tasmania Unive 32.28 209 P **P 15 30 16.0 +0.6**
TAU IAmb IAmb 15 30 46.7
comp=Z,142nm,1.1s
TAU Tasmania Unive 32.28 209 P **P 15 30 16.3 +0.9**
TAU Tasmania Unive 32.28 209 ⇑P **P 15 30 16.1 +0.7**
TAU Tasmania Unive 32.28 209 P **P 15 30 16.3 +0.9**
TAU pP **pwP 15 30 45.2 -1.6**
TAU PcP **PcP 15 33 01.9 +1.3**
GHSS Government Hou 32.36 228 **P 15 30 16.8 +0.6**
AS01 Alice Springs 32.67 250 P **P 15 30 19.4 +0.2**
AS31 Alice Springs 32.71 251 P **P 15 30 19.1 -0.5**
AS31 Alice Springs 32.71 251 P **P 15 30 19.0 -0.5**
comp=Z,0.0nmcomp=Z,68nm,1.1s
ASAR Alice Springs 32.71 251 P **P 15 30 19.2 -0.3**
comp=Z,111nm,0.7s,baz=77,slow=8.8,SNR=453
ASAR PcP **PcP 15 33 02.5 +0.3**
comp=Z,31nm,0.8s,baz=96,slow=3.1,SNR=4.2
ASAR S **S 15 35 22.3 -4.3**
comp=Z,3.5nm,0.9s,baz=82,slow=19,SNR=1.2
ASAR ScP **ScP 15 36 34.5 +0.2**
comp=Z,34nm,1.0s,baz=84,slow=3.3,SNR=11
ASAR PKiKP **PKiKP 15 40 27.6 -1.4**
comp=Z,4.8nm,0.9s,baz=110,slow=1.5,SNR=6.8
ASAR LR LR 15 43 38.7
comp=Z,9μm,18.6s,baz=84,slow=36
ASAR PKKP **PKKPdf 15 55 23.7 0.0**
comp=Z,0.5nm,0.8s,baz=308,slow=1.6,SNR=4.2
ASAR P3KPbc 16 01 35.3
comp=Z,1.4nm,1.0s,baz=268,slow=2.8,SNR=6.5
comp=Z,111nm,0.7s
BBOO Buckleboo 33.33 233 IAmb IAmb 15 31 34.1
comp=Z,168nm,1.0s
BBOO Buckleboo 33.33 233 P **P 15 30 25.6 +0.9**
comp=Z,0.0nmcomp=Z,92nm,1.0s
BBOO Buckleboo 33.33 233 P **P 15 30 26.0 +1.3**
SRPI Serui, Papua 33.85 291 P **P 15 30 30.2 +0.7**
comp=Z,4μmcomp=Z,194nm,1.0s
H11S2 WAKE ISLAND Hy 33.92 358 T T 16 05 46.0
baz=181,slow=74
H11S3 WAKE ISLAND Hy 33.93 358 T T 16 05 36.0
baz=181
H11S1 WAKE ISLAND Hy 33.94 358 T T 16 06 10.3
baz=181,slow=74
KDU Kakadu 34.22 270 P **P 15 30 32.1 -0.5**
comp=Z,0.0nmcomp=Z,373nm,1.3s
KDU Kakadu 34.22 270 P **P 15 30 33.4 +0.8**
KDU Kakadu 34.22 270 ⇑P **P 15 30 32.3 -0.3**
BAKI Biak 34.27 292 P **P 15 30 34.5 +1.4**
comp=Z,15μmcomp=Z,8μmcomp=Z,283nm,1.7s
H11N1 WAKE ISLAND Hy 35.14 359 T T 16 07 08.2
baz=183,slow=76,SNR=9.5
H11N3 WAKE ISLAND Hy 35.14 359 T T 16 06 55.1
baz=183,slow=76,SNR=6.9
H11N2 WAKE ISLAND Hy 35.15 359 T T 16 07 21.7
baz=183,slow=76,SNR=11
KMPI Kaimana, Papua 35.45 286 P **P 15 30 44.6 +1.4**
MTN Manton Dam 35.48 270 IAmb IAmb 15 31 12.4
comp=Z,240nm,1.1s
MTN Manton Dam 35.48 270 P **P 15 30 38.9 -4.6**
MTN Manton Dam 35.48 270 P **P 15 30 44.4 +0.9**
MTN Manton Dam 35.48 270 ⇑P **P 15 30 43.0 -0.5**
DRS Darwin Rock St 35.77 270 P **P 15 30 47.0 +1.1**
RKPI Ransiki, Papua 35.87 290 P **P 15 30 48.3 +1.5**
SAUI Saumlaki 36.35 278 P **P 15 30 51.9 +1.0**
SAUI Saumlaki 36.35 278 P **P 15 30 51.1 +0.2**
GUMO Guam 36.76 321 P **P 15 30 53.9 -0.4**
GUMO Guam 36.76 321 LR LR 15 44 34.5
comp=Z,8μm,21.9s,baz=132,slow=34
GUMO Guam 36.76 321 ⇑P **P 15 30 54.9 +0.6**
GUMO Guam 36.76 321 P **P 15 30 54.8 +0.6**
GUMO pP **pP 15 31 23.1 -0.1**
GUMO sP **sP 15 31 38.4 +0.3**
FAKI Fak Fak 37.08 286 P **P 15 30 57.0 -0.1**
FAKI Fak Fak 37.08 286 P **P 15 30 57.9 +0.8**
FAKI Fak Fak 37.08 286 P **P 15 30 57.0 -0.1**
comp=Z,13μmcomp=Z,378nm,0.9s
FAKI Fak Fak 37.08 286 ⇑P **P 15 30 57.2 +0.1**
KNRA Kununurra 37.41 265 P **P 15 30 58.6 -1.3**
comp=Z,0.0nmcomp=Z,427nm,1.0s
WRKA Warakurna 37.96 249 P **P 15 31 04.0 -0.5**
comp=Z,0.0nmcomp=Z,156nm,1.3s
WRKA Warakurna 37.96 249 P **P 15 31 05.7 +1.3**
WRKA Warakurna 37.96 249 ⇑P **P 15 31 04.3 -0.1**
BNDI Bandanaira 38.70 283 P **P 15 31 12.0 +1.3**
BNDI Bandanaira 38.70 283 P **P 15 31 10.9 +0.2**
BNDI Bandanaira 38.70 283 ⇑P **P 15 31 10.8 +0.2**
XMAS Kiritimati 38.72 66 P **P 15 31 14.1 +3.3**
XMAS Kiritimati 38.72 66 ⇑P **P 15 31 12.0 +1.2**
XMAS Kiritimati 38.72 66 P **P 15 31 14.3 +3.5**
SWI Sorong 38.79 289 P **P 15 31 12.1 +0.7**
comp=Z,9μmcomp=Z,8μmcomp=Z,362nm,0.8s
FORT Forrest 39.16 240 P **P 15 31 14.0 -0.4**
FORT Forrest 39.16 240 P **P 15 31 13.9 -0.4**
comp=Z,0.0nmcomp=Z,313nm,0.7s
FORT Forrest 39.16 240 P **P 15 31 15.6 +1.2**
FORT Forrest 39.16 240 ⇑P **P 15 31 14.9 +0.6**
JOHN Johnston Islan 39.26 36 P **P 15 31 16.4 +1.2**
JOHN Johnston Islan 39.26 36 P **P 15 31 17.4 +2.2**
JOHN Johnston Islan 39.26 36 P **P 15 31 17.6 +2.4**
JOHN pP **pwP 15 31 46.6 -0.7**
MSAI Masohi 40.01 284 P **P 15 31 21.1 -0.5**
comp=Z,8μmcomp=Z,6μmcomp=Z,161nm,0.7s
FITZ Fitzroy Crossi 40.22 260 P **P 15 31 23.3 0.0**
comp=Z,0.0nmcomp=Z,79nm,1.0s
FITZ Fitzroy Crossi 40.22 260 P **P 15 31 23.8 +0.5**
comp=Z,291nm,0.8s,baz=94,slow=7.8,SNR=278
FITZ PP **PP 15 32 59.5 +1.0**
comp=Z,94nm,1.1s,baz=98,slow=15,SNR=1.3
FITZ LR LR 15 48 11.0
comp=Z,21μm,19.4s,baz=90,slow=36
comp=Z,291nm,0.8s
FITZ Fitzroy Crossi 40.22 260 ⇑P **P 15 31 23.4 +0.2**
AAI Ambon 40.59 283 P **P 15 31 25.4 -0.9**
comp=Z,10μmcomp=Z,12μmcomp=Z,144nm,0.9s
PPT Papeete 40.97 99 P **P 15 31 30.9 +1.5**
comp=Z,126nm,0.8s,baz=162,slow=5.0,SNR=14
comp=Z,126nm,0.8s
PPTF Pamatai, Papee 40.98 99 P **P 15 31 30.6 +1.1**
PPTF IAmb IAmb 15 31 37.8
comp=Z,156nm,1.0s
PPTF Pamatai, Papee 40.98 99 P **P 15 31 32.7 +3.1**
PPTF Pamatai, Papee 40.98 99 ⇑P **P 15 31 31.2 +1.7**
NLAI Namlea 41.76 283 P **P 15 31 37.3 +1.4**
SOEI Soe 42.67 273 P **P 15 31 43.8 +0.4**
SOEI Soe 42.67 273 P **P 15 31 44.6 +1.1**
SOEI Soe 42.67 273 P **P 15 31 43.6 +0.1**
comp=Z,9μmcomp=Z,10μmcomp=Z,219nm,1.3s
SOEI Soe 42.67 273 ⇑P **P 15 31 44.5 +1.1**
TNTI Ternate 43.01 289 P **P 15 31 46.8 +0.8**
comp=Z,8μmcomp=Z,11μmcomp=Z,268nm,2.6s
BATI Baumata 43.16 272 LR LR 15 49 59.0
comp=Z,13μm,18.1s,slow=36
SANI Sanana 43.22 284 P **P 15 31 47.1 -0.6**
SANI Sanana 43.22 284 P **P 15 31 48.7 +1.0**
SANI Sanana 43.22 284 P **P 15 31 47.4 -0.3**
comp=Z,16μmcomp=Z,195nm,1.0s
SANI Sanana 43.22 284 ⇑P **P 15 31 48.0 +0.3**
KMBL Kambalda 44.47 241 P **P 15 31 57.5 -0.1**
comp=Z,246nm,1.0s
KMBL Kambalda 44.47 241 P **P 15 31 58.1 +0.5**
MMRI Maumere 44.87 273 P **P 15 31 59.6 -1.3**
MMRI Maumere 44.87 273 P **P 15 32 02.4 +1.5**
MMRI Maumere 44.87 273 P **P 15 32 00.0 -0.9**
comp=Z,8μmcomp=Z,9μmcomp=Z,613nm,1.1s

BBSI Bau Bau 45.36 278 P **P 15 32 04.9 +0.1**
comp=Z,11μmcomp=Z,13μmcomp=Z,242nm,1.1s
PSA00 Pilbara Seismi 45.56 255 P **P 15 32 06.0 -0.3**
PSA00 IAmb IAmb 15 32 36.7
comp=Z,227nm,1.6s
PSA00 Pilbara Seismi 45.56 255 IAmb IAmb 15 32 36.6
comp=Z,282nm,1.2s
PSA00 Pilbara Seismi 45.56 255 P **P 15 32 07.2 +0.9**
comp=Z,216nm,1.5s
PSA00 Pilbara Seismi 45.56 255 P **P 15 32 07.1 +0.8**
MBWA Marble Bar 45.67 256 P **P 15 32 07.3 +0.2**
comp=Z,0.0nmcomp=Z,247nm,1.5s
MBWA Marble Bar 45.67 256 P **P 15 32 07.8 +0.6**
MBWA S **S 15 38 40.7 +0.2**
MBWA Marble Bar 45.67 256 P **P 15 32 07.6 +0.4**
MBWA Marble Bar 45.67 256 ⇑P **P 15 32 07.8 +0.6**
SGSI Sangihe 45.89 291 P **P 15 32 10.8 +1.8**
comp=Z,17μmcomp=Z,396nm,1.1s
KMSI Cibinong 46.04 286 P **P 15 32 10.8 +0.7**
BASI Baing, Sumba 46.13 271 P **P 15 32 10.9 +0.1**
comp=Z,9μmcomp=Z,8μmcomp=Z,543nm,1.3s
WSI Waingapu 46.51 271 P **P 15 32 12.9 -0.9**
comp=Z,8μmcomp=Z,14μmcomp=Z,329nm,1.0s
LUWI Luwuk 46.58 284 P **P 15 32 14.1 -0.3**
MEEK Meekatharra 46.79 248 P **P 15 32 16.1 +0.3**
comp=Z,0.0nmcomp=Z,180nm,1.2s
MEEK Meekatharra 46.79 248 P **P 15 32 16.7 +0.8**
BSSI Bau Bau, Buton 47.17 276 P **P 15 32 20.2 +1.2**
comp=Z,8μmcomp=Z,6μmcomp=Z,236nm,2.2s
DAV Davao City (W) 47.39 295 P **P 15 32 20.5 -0.1**
comp=Z,188nm,0.4s,baz=220,slow=4.8,SNR=1.7
DAV pP **pP 15 32 48.9 -1.9**
comp=Z,247nm,0.4s,baz=236,slow=16,SNR=2.0
DAV LR LR 15 51 40.5
comp=Z,2μm,18.6s,baz=140,slow=35
comp=Z,188nm,0.4s
DAV Davao City (W) 47.39 295 P **P 15 32 21.4 +0.8**
DAV S **S 15 39 07.2 +2.1**
DAV Davao City (W) 47.39 295 P **P 15 32 21.0 +0.4**
WBSI Waikabubak, Su 47.39 271 P **P 15 32 20.7 0.0**
comp=Z,8μmcomp=Z,6μmcomp=Z,343nm,0.9s
APSI Ampana 47.67 283 P **P 15 32 23.8 +1.0**
comp=Z,13μmcomp=Z,715nm,1.3s
BKSI Bulukumba 47.75 277 P **P 15 32 24.4 +1.0**
comp=Z,6μmcomp=Z,324nm,1.0s
MRSI Marisa 47.90 285 P **P 15 32 24.1 -0.4**
KLBR Kellerberrin 47.99 241 P **P 15 32 25.2 +0.1**
KAPI Kappang 48.19 277 P **P 15 32 27.1 +0.3**
KAPI Kappang 48.19 277 P **P 15 32 27.5 +0.7**
comp=Z,60nm,0.8s,baz=130,slow=5.1,SNR=23
KAPI pP **pP 15 32 55.9 -1.1**
comp=Z,390nm,0.9s,baz=83,slow=7.1,SNR=17
comp=Z,60nm,0.8s
KAPI Kappang 48.19 277 P **P 15 32 27.7 +1.0**
KAPI S **S 15 39 17.7 +1.3**
KAPI Kappang 48.19 277 *i* P **P 15 32 26.5 -0.3**
KAPI pmax pmax
comp=Z,323nm,2.0s
KAPI Kappang 48.19 277 ⇑P **P 15 32 27.3 +0.5**
KAPI Kappang 48.19 277 P **P 15 32 27.5 +0.7**
KAPI pP **pP 15 32 56.5 -0.5**
SPSI Sidrap Palu 48.47 279 P **P 15 32 28.9 -0.1**
comp=Z,7μmcomp=Z,5μmcomp=Z,325nm,1.2s
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 29.7 -0.1**
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 29.4 -0.4**
comp=Z,426nm,1.0s
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 30.6 +0.8**
NWAO S **S 15 39 21.9 0.0**
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 30.1 +0.3**
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 30.2 +0.4**
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 29.7 -0.1**
NWAO pmax pmax
comp=Z,259nm,0.9s
NWAO Narrogin (SRO) 48.61 240 P **P 15 32 29.6 -0.1**
NWAO pP **pP 15 32 59.1 +0.1**
TTSI Tana Toraja 48.70 280 P **P 15 32 32.2 +1.5**
comp=Z,7μmcomp=Z,6μmcomp=Z,220nm,1.6s
BLDU Ballidu 48.77 243 P **P 15 32 30.0 -1.1**
comp=Z,49nm,1.7s
BLDU Ballidu 48.77 243 P **P 15 32 30.9 -0.2**
PLAI Plampang 49.12 272 P **P 15 32 35.3 +1.4**
PLAI Plampang 49.12 272 P **P 15 32 34.7 +0.8**
comp=Z,10μmcomp=Z,11μmcomp=Z,497nm,1.0s
JCJ Chichijima 49.15 330 P **P 15 32 33.7 -0.2**
JCJ Chichijima 49.15 330 P **P 15 32 35.1 +1.2**
JCJ Chichijima 49.15 330 ⇑P **P 15 32 33.9 0.0**
TOLI2 Tolitoli 49.21 285 P **P 15 32 34.1 -0.5**
TOLI2 Tolitoli 49.21 285 P **P 15 32 35.2 +0.6**
MORW Morawa 49.22 245 P **P 15 32 34.6 +0.1**
MORW IAmb IAmb 15 32 36.1
comp=Z,133nm,0.8s
MORW Morawa 49.22 245 P **P 15 32 34.1 -0.4**
comp=Z,0.0nmcomp=Z,201nm,0.8s
MORW Morawa 49.22 245 P **P 15 32 35.4 +0.9**
MORW Morawa 49.22 245 ⇑P **P 15 32 34.6 +0.1**
MUN Mundaring 49.35 241 P **P 15 32 35.6 +0.2**
comp=Z,0.0nmcomp=Z,113nm,1.2s
MUN Mundaring 49.35 241 P **P 15 32 36.7 +1.3**
MUN Mundaring 49.35 241 P **P 15 32 36.4 +1.0**
PCI Palu 49.38 283 P **P 15 32 37.8 +1.9**
KIP Kipapa 49.91 43 P **P 15 32 39.7 0.0**
KIP IAmb IAmb 15 32 42.9
comp=Z,152nm,0.8s
KIP Kipapa 49.91 43 P **P 15 32 42.2 +2.5**
KIP Kipapa 49.91 43 P **P 15 32 42.1 +2.4**
KIP Kipapa 49.91 43 P **P 15 32 39.7 0.0**
KIP pmax pmax
comp=Z,152nm,0.9s
KIP Kipapa 49.91 43 P **P 15 32 39.9 +0.2**
TWSI Taliwang, Sumb 50.01 272 P **P 15 32 40.7 +0.1**
comp=Z,8μmcomp=Z,14μmcomp=Z,372nm,1.0s
BYL Byron's Ledge 50.44 48 IAmb IAmb 15 33 34.6
comp=Z,97nm,0.9s
HATHI Halema'uma'u T 50.44 48 IAmb IAmb 15 33 00.7
comp=Z,120nm,1.0s
PUH Pauahi 50.44 48 IAmb IAmb 15 32 47.1
comp=Z,181nm,0.9s
POHA Pohakuloa 50.47 47 P **P 15 32 44.8 +0.5**
POHA Pohakuloa 50.47 47 P **P 15 32 46.2 +1.9**
POHA Pohakuloa 50.47 47 ⇑P **P 15 32 45.9 +1.6**
MHA Mahukona 50.50 46 P **P 15 32 45.9 +1.8**
MHA Mahukona 50.50 46 P **P 15 32 45.9 +1.8**
GIRL Giralia 50.73 253 P **P 15 32 47.7 +1.7**
comp=Z,0.0nmcomp=Z,376nm,1.4s
GIRL Giralia 50.73 253 P **P 15 32 47.9 +1.9**
GIRL Giralia 50.73 253 ⇑P **P 15 32 48.7 +2.7**
TAOE Nuku Hiva Isla 51.35 89 P **P 15 32 51.7 +0.9**
TAOE Nuku Hiva Isla 51.35 89 P **P 15 32 53.2 +2.4**
TAOE Nuku Hiva Isla 51.35 89 ⇑P **P 15 32 52.8 +2.0**
DNP Denpasar 51.63 271 P **P 15 32 53.4 +0.6**
SRBI Singaraja 51.76 272 P **P 15 32 55.0 +1.2**
SMKI Samarinda 52.01 282 P **P 15 32 57.2 +1.6**
comp=Z,13μmcomp=Z,12μmcomp=Z,231nm,1.1s
BKB Balikpapan 52.04 281 P **P 15 32 56.6 +0.8**
comp=Z,14μmcomp=Z,144nm,0.9s
JAGI Jajag, Banyuwa 52.69 271 P **P 15 33 02.1 +1.4**
JAGI Jajag, Banyuwa 52.69 271 P **P 15 33 00.5 -0.2**
comp=Z,8μmcomp=Z,7μmcomp=Z,522nm,1.1s
JAGI Jajag, Banyuwa 52.69 271 ⇑P **P 15 33 00.2 -0.5**
ABJI Asem Bagus 52.77 272 P **P 15 33 01.1 -0.1**
comp=Z,11μmcomp=Z,148nm,1.9s
KMMI Kalianget 53.21 273 P **P 15 33 05.8 +1.4**
comp=Z,11μmcomp=Z,8μmcomp=Z,264nm,1.1s
GMJI Gumukmas 53.42 271 P **P 15 33 06.3 +0.3**
comp=Z,5μmcomp=Z,177nm,1.3s
MTKI Muara Teweh, K 54.03 280 P **P 15 33 09.1 -1.4**
DRV Dumont d'Urvil 54.15 193 P **P 15 33 11.1 +0.7**
DRV pmax pmax
comp=Z,714nm,1.3s
DRV Dumont d'Urvil 54.15 193 P **P 15 33 10.7 +0.3**
DRV pP **pP 15 33 41.8 +0.5**
JMZ Minamidaito 2 54.36 319 ⇑P **P 15 33 14.4 +1.9**
JHJ2 Mitsune 55.29 332 ⇑P **P 15 33 20.3 +1.2**
KKM Kota Kinabalu 55.30 289 P **P 15 33 20.8 +1.1**
KKM Kota Kinabalu 55.30 289 ⇑P **P 15 33 20.3 +0.5**
JHJ Hachijo jima 2 55.31 332 LR LR 15 55 22.9
comp=Z,1μm,20.4s,baz=150,slow=34
NGJI Ngawi 55.54 272 P **P 15 33 23.1 +1.8**
comp=Z,13μmcomp=Z,11μmcomp=Z,150nm,1.0s
PCJI Pacitan 55.62 271 P **P 15 33 20.6 -1.3**
comp=Z,8μmcomp=Z,10μmcomp=Z,306nm,1.0s
UGM Wanagama 56.32 271 P **P 15 33 27.3 +0.4**
UGM Wanagama 56.32 271 P **P 15 33 27.9 +1.0**
comp=Z,8μmcomp=Z,7μmcomp=Z,262nm,1.3s

YOGI Yogyakarta 56.56 271 P **P 15 33 27.9 -0.7**
comp=Z,7μmcomp=Z,241nm,1.0s
SMRI Semarang 56.60 272 P **P 15 33 30.3 +1.4**
SMRI Semarang 56.60 272 P **P 15 33 29.2 +0.3**
comp=Z,108nm,0.8s
SMRI Semarang 56.60 272 ⇑P **P 15 33 31.3 +2.4**
JOW Kunigami 56.96 317 LR LR 15 54 41.4
comp=Z,3μm,21.8s,baz=118,slow=32
JOW Kunigami 56.96 317 P **P 15 33 32.6 +1.4**
JOW Kunigami 56.96 317 ⇑P **P 15 33 32.3 +1.1**
SZP Santa 57.03 303 P **P 15 33 33.2 +1.5**
JAM Amami Oshima 57.21 320 P **P 15 33 34.7 +1.9**
JSG Sagara 57.34 331 P **P 15 33 35.2 +1.6**
JSG Sagara 57.34 331 ⇑P **P 15 33 34.2 +0.6**
JSG Sagara 57.34 331 *e*P **P 15 33 33.7 0.0**
JOD2 Odawara 2 57.42 332 P **P 15 33 33.6 -0.6**
STKI Sintang 57.59 280 P **P 15 33 36.0 +0.1**
comp=Z,11μmcomp=Z,10μmcomp=Z,137nm,0.8s
SBUM Sibu 57.67 283 P **P 15 33 36.6 +0.2**
SBUM IAmb IAmb 15 34 38.9
comp=Z,201nm,1.9s
SBUM Sibu 57.67 283 P **P 15 33 37.6 +1.2**
SBUM Sibu 57.67 283 ⇑P **P 15 33 37.2 +0.8**
JIE Ise 57.81 330 *e*P **P 15 33 37.3 +0.3**
JRY Ryogami san 58.13 333 P **P 15 33 39.1 -0.1**
INU Inuyama 58.44 331 P **P 15 33 42.2 +0.9**
INU Inuyama 58.44 331 ⇑P **P 15 33 41.3 0.0**
INU Inuyama 58.44 331 P **P 15 33 41.5 +0.1**
INU pP **pP 15 34 11.6 -0.8**
JGF Kuroka 58.49 331 P **P 15 33 41.3 -0.4**
JGF Kuroka 58.49 331 P **P 15 33 41.9 +0.2**
JGF Kuroka 58.49 331 ⇑P **P 15 33 41.4 -0.3**
JGF Kuroka 58.49 331 P **P 15 33 41.4 -0.3**
JMN Monobe 58.71 327 P **P 15 33 44.8 +1.5**
JMN Monobe 58.71 327 ⇑P **P 15 33 43.9 +0.6**
JMN Monobe 58.71 327 P **P 15 33 43.9 +0.6**
JCJI Jatiwangi 58.83 272 P **P 15 33 43.7 -0.7**
comp=Z,12μmcomp=Z,340nm,0.8s
MJAR Matsushiro Arr 58.88 332 P **P 15 33 43.7 -0.6**
comp=Z,106nm,0.8s,baz=173,slow=7.8,SNR=182
MJAR pP **pP 15 34 14.0 -1.0**
comp=Z,74nm,0.9s,baz=161,slow=6.6,SNR=6.7
MJAR PKP2bc 16 03 24.7
comp=Z,0.7nm,0.3s,baz=278,slow=0.9,SNR=6.2
comp=Z,106nm,0.8s
MAJO Matsushiro 58.88 332 P **P 15 33 43.7 -0.7**
MAJO Matsushiro 58.88 332 P **P 15 33 44.1 -0.3**
MAJO Matsushiro 58.88 332 *c i*P **P 15 33 43.7 -0.7**
MAJO pmax pmax
comp=Z,265nm,1.1s
MAJO Matsushiro 58.88 332 ⇑P **P 15 33 43.9 -0.4**
MAJO Matsushiro 58.88 332 P **P 15 33 44.0 -0.4**
MAJO pP **pP 15 34 14.3 -0.7**
MAJO sP **sP 15 34 29.1 0.0**
MAT Matsushiro 58.88 332 P **P 15 33 43.9 -0.4**
JMM Marumori 58.90 335 P **P 15 33 45.7 +1.3**
JMM Marumori 58.90 335 ⇑P **P 15 33 44.8 +0.3**
JMM Marumori 58.90 335 P **P 15 33 45.0 +0.5**
JGN Niukaw 59.02 332 P **P 15 33 45.1 -0.3**
YOJ Yonaguni jima 59.05 312 P **P 15 33 45.5 -0.2**
YOJ Yonaguni jima 59.05 312 P **P 15 33 47.8 +2.1**
YOJ Yonaguni jima 59.05 312 ⇑P **P 15 33 45.9 +0.2**
KSM Kuching 59.15 281 P **P 15 33 47.2 +0.5**
KSM Kuching 59.15 281 ⇑P **P 15 33 47.1 +0.4**
JWT Wachi 59.16 329 P **P 15 33 46.6 +0.3**
BBJI Bungbulang 59.19 271 P **P 15 33 46.7 -0.3**
LEM Lembang 59.37 271 S **S 15 41 49.9 +2.4**
comp=Z,8.1nm,0.4s,baz=280,slow=22,SNR=6.9
LEM Lembang 59.37 271 P **P 15 33 48.9 +0.5**
comp=Z,8μmcomp=Z,374nm,0.8s
TWGBT Beinan 59.48 309 P **P 15 33 50.3 +1.5**
TWG Pinlang 59.49 309 P **P 15 33 49.0 +0.2**
JAD Aida 59.51 328 P **P 15 33 49.0 +0.4**
YULB Yu-li 59.66 310 IAmb IAmb 15 34 23.3
comp=Z,102nm,0.8s
YULB Yu-li 59.66 310 P **P 15 33 51.4 +1.4**
CNJI Cibinong 59.73 271 P **P 15 33 50.1 -0.5**
comp=Z,157nm,0.8s
JNU Nakatsue 59.87 324 S **S 15 41 54.2 +1.3**
comp=Z,10nm,0.9s,baz=303,slow=22,SNR=6.7
JNU Nakatsue 59.87 324 P **P 15 33 52.4 +1.1**
JNU Nakatsue 59.87 324 ⇑P **P 15 33 51.4 +0.1**
JNU Nakatsue 59.87 324 P **P 15 33 51.0 -0.3**
NACB Ninganchiao 59.90 311 P **P 15 33 52.7 +1.1**
JYA Atsumi 59.96 335 P **P 15 33 52.6 +0.9**
JHS Saijyo 60.09 328 P **P 15 33 53.0 +0.3**
JOM Ohasama 60.09 337 P **P 15 33 53.0 +0.4**
TPUB Ta-pu 60.10 309 P **P 15 33 52.8 -0.2**
JSD Sado 60.10 333 P **P 15 33 53.4 +0.7**
JSD Sado 60.10 333 ⇑P **P 15 33 53.1 +0.4**
JSD Sado 60.10 333 P **P 15 33 53.1 +0.4**
SSLB Suanglung 60.14 310 P **P 15 33 52.6 -0.7**
SSLB Suanglung 60.14 310 P **P 15 33 53.3 0.0**
SKJI Sukabumi 60.35 271 P **P 15 33 54.2 -0.7**
YHNB Yeheng 60.35 311 P **P 15 33 55.6 +0.8**
TPI Tanjungpandan 60.40 276 P **P 15 33 55.1 -0.1**
comp=Z,9μmcomp=Z,5μmcomp=Z,121nm,0.9s
XMI Christmas Isla 60.42 267 P **P 15 33 57.3 +1.9**
XMI Christmas Isla 60.42 267 ⇑P **P 15 33 56.4 +1.0**
XMIS Christmas Isla 60.45 267 P **P 15 33 54.8 -0.8**
XMIS Christmas Isla 60.45 267 P **P 15 33 57.3 +1.7**
TATO Taipei 60.46 311 P **P 15 33 55.6 +0.3**
TATO Taipei 60.46 311 P **P 15 33 54.9 -0.4**
TATO P **P 15 33 55.1 -0.2**
TATO S **S 15 42 00.0 -0.5**
TATO Taipei 60.46 311 P **P 15 33 56.6 +1.3**
TATO Taipei 60.46 311 P **P 15 33 55.1 -0.2**
TATO pP **pP 15 34 25.6 -1.3**
SBJI Serang 60.98 272 P **P 15 33 59.1 -0.1**
comp=Z,11μmcomp=Z,11μmcomp=Z,391nm,0.8s
CGJI Cibinong 61.28 271 P **P 15 34 00.1 -1.1**
JTM Tenmabayashi 61.32 337 P **P 15 34 01.8 +0.9**
JTM Tenmabayashi 61.32 337 ⇑P **P 15 34 01.2 +0.3**
JTM Tenmabayashi 61.32 337 P **P 15 34 01.2 +0.3**
ERM Erimo 61.66 339 P **P 15 34 03.9 +0.8**
ERM IAmb IAmb 15 34 06.8
comp=Z,148nm,0.9s
ERM Erimo 61.66 339 P **P 15 34 04.9 +1.8**
ERM Erimo 61.66 339 *ce*P **P 15 34 04.1 +1.0**
ERM pmax pmax
comp=Z,383nm,1.7s
ERM Erimo 61.66 339 ⇑P **P 15 34 04.2 +1.0**
JEM Erimo 61.66 339 P **P 15 34 04.9 +1.8**
JEM Erimo 61.66 339 P **P 15 34 04.7 +1.5**
JTU Tsushima 61.74 325 ⇑P **P 15 34 04.7 +0.9**
JOT Ohata 61.85 338 P **P 15 34 05.6 +1.2**
VNDA Vanda 61.97 181 P **P 15 34 05.3 +0.6**
VNDA Vanda 61.97 181 P **P 15 34 05.7 +0.9**
comp=Z,38nm,0.8s,baz=1.0,slow=6.3,SNR=38
VNDA pP **pP 15 34 35.7 -0.7**
comp=Z,79nm,1.2s,baz=12,slow=6.9,SNR=3.4
VNDA LR LR 15 57 22.1
comp=Z,1μm,21.7s,baz=38,slow=32
VNDA PKPPKP **P'P'df 16 03 12.8 -0.2**
comp=Z,3.1nm,0.9s,baz=215,slow=18,SNR=5.9
comp=Z,38nm,0.8s
BLSI Bandar Lampung 62.02 272 P **P 15 34 05.1 -1.1**
comp=Z,238nm,0.9s
PPBI Pangkal Pinang 62.02 276 P **P 15 34 06.9 +0.7**
SBA Scott Base 62.23 180 P **P 15 34 08.1 +1.6**
SBA Scott Base 62.23 180 P **P 15 34 08.1 +1.6**
SBA pmax pmax
comp=Z,390nm,1.2s
SBA Scott Base 62.23 180 P **P 15 34 07.8 +1.2**
SBA pP **pP 15 34 39.3 +1.1**
SBA sP **sP 15 34 53.9 +1.3**
KNMB Chin-men Tao 62.45 309 P **P 15 34 09.3 +0.6**
KNMB IAmb IAmb 15 34 13.5
comp=Z,85nm,0.7s
QZH Quanzhou 62.56 309 ⇑ *i*P **P 15 34 10.3 +0.8**
QZH pP **pP 15 34 39.9 -1.3**
QZH sP **sP 15 34 57.9 +2.4**
QZH S **S 15 42 24.3 -2.9**
QZH pmax pmax
comp=Z,220nm,0.8s
QZH pmax pmax
comp=Z,2μm,5.4s
QZH LR LR
comp=Z,3μm,16.5s
QZH LR LR
comp=Z,2μm,19.2s
QZH LR LR
comp=Z,5μm,21.3s

YUK	**Yuzh-Kuril'sk**	**62.63 342**	*e*P	**P**	**15 34 10.0 +0.5**
YUK					15 34 53.3
YUK			*i* S	**S**	**15 42 27.0 -0.3**
YUK			*i* SS	**SS**	**15 46 28.0 -6.5**
YUK			pmax	pmax	
	comp=Z,1μm,1.6s				
YUK			pmax	pmax	
	comp=N,631nm,1.7s				
YUK			pmax	pmax	
	comp=E,441nm,0.9s				
YUK			pmax	pmax	
	comp=Z,723nm,1.6s				
CASY	**Casey**	**62.83 202**	P	**P**	**15 34 11.2 +0.5**
CASY	**Casey**	**62.83 202**	⇑P	**P**	**15 34 11.3 +0.6**
CASY	**Casey**	**62.83 202**	P	**P**	**15 34 11.2 +0.5**
CASY			pP	**pP**	**15 34 42.7 +0.4**
CASY			sP	**sP**	**15 34 58.7 +2.1**
JEW	**Eniwo**	**62.98 339**	*e*P	**P**	**15 34 11.6 -0.2**
PMBI	**Palembang**	**63.12 275**	P	**P**	**15 34 14.3 +0.9**
PMBI	**Palembang**	**63.12 275**	P	**P**	**15 34 15.1 +1.6**
PMBI	**Palembang**	**63.12 275**	P	**P**	**15 34 14.9 +1.4**
	comp=Z,12μmcomp=Z,464nm,0.9s				
KUR	**Kuril'sk**	**63.19 344**	*e*P	**P**	**15 34 13.4 +0.2**
KUR			S	**S**	**15 42 33.7 -0.5**
KUR			pmax	pmax	
	comp=Z,989nm,1.8s				
KUR			pmax	pmax	
	comp=Z,5μm,5.1s				
LWLI	**Liwa**	**63.25 272**	P	**P**	**15 34 13.4 -1.1**
MDSI	**Maura Dua**	**63.27 273**	P	**P**	**15 34 12.4 -2.1**
	comp=Z,7μmcomp=Z,5μmcomp=Z,175nm,0.7s				
MDSI			pP	**pP**	**15 34 42.8 -3.3**
	comp=Z,7μmcomp=Z,5μmcomp=Z,175nm,0.7s				
JSH	**Shimam**	**63.31 337**	P	**P**	**15 34 14.6 +0.6**
JMP	**Maruseppu**	**63.37 341**	P	**P**	**15 34 15.4 +0.9**
JKA	**Kamikawa-asahi**	**63.72 340**	⇑P	**P**	**15 34 18.0 +1.3**
ASAJ	**Asahikawa**	**63.72 340**	LR	LR	15 57 50.4
	comp=Z,3μm,21.1s,baz=166,slow=32				
ASAJ	**Asahikawa**	**63.72 340**	⇑P	**P**	**15 34 18.0 +1.3**
ASAJ	**Asahikawa**	**63.72 340**	P	**P**	**15 34 18.0 +1.3**
TJN	**Taejon**	**64.22 325**	P	**P**	**15 34 21.9 +1.7**
TJN	**Taejon**	**64.22 325**	*i* P	**P**	**15 34 19.8 -0.4**
SSE	**Sheshan**	**64.43 316**	P	**P**	**15 34 22.6 +0.9**
SSE			S	**S**	**15 42 51.3 +1.2**
SSE			pmax	pmax	
	comp=Z,51nm,0.9s				
SSE			pmax	pmax	
	comp=Z,730nm,6.1s				
SSE			LR	LR	
	comp=Z,1μm,19.7s				
SSE			LR	LR	
	comp=Z,650nm,19.6s				
SSE	**Sheshan**	**64.43 316**	P	**P**	**15 34 21.7 0.0**
SSE			pP	**pP**	**15 34 52.0 -1.4**
SSE			PcP	**PcP**	**15 34 54.9 0.0**
SSE			sP	**sP**	**15 35 07.3 -0.4**
TPRI	**Tanjung Pinang**	**64.46 279**	P	**P**	**15 34 22.2 -0.1**
	comp=Z,9μmcomp=Z,5μmcomp=Z,92nm,0.9s				
MNAI	**Manna**	**64.48 273**	P	**P**	**15 34 21.6 -0.8**
MNAI	**Manna**	**64.48 273**	⇑P	**P**	**15 34 21.8 -0.6**
HKC	**Hong Kong Obse**	**64.54 304**	⇑P	**P**	**15 34 24.0 +1.5**
HKPS	**Hong Kong Po S**	**64.55 304**	IAmb	IAmb	15 34 25.9
	comp=Z,169nm,0.9s				
HKPS	**Hong Kong Po S**	**64.55 304**	P	**P**	**15 34 25.0 +2.3**
KSRS	**Korea Array**	**64.69 326**	P	**P**	**15 34 23.8 +0.5**
	comp=Z,49nm,0.8s,baz=141,slow=7.0,SNR=66				
KSRS			pP	**pP**	**15 34 53.4 -1.5**
	comp=Z,59nm,0.9s,baz=138,slow=6.9,SNR=8.4				
KSRS			LR	LR	16 01 30.7
	comp=Z,2μm,19.9s,baz=125,slow=35				
KSRS			PKPPKP	**P'P'df**	**16 03 08.8 +1.1**
	comp=Z,3.6nm,1.1s,baz=353,slow=4.0,SNR=5.2				
	comp=Z,49nm,0.8s				
KSAR	**Wonju Array Be**	**64.71 326**	P	**P**	**15 34 23.2 -0.1**
KSAR	**Wonju Array Be**	**64.71 326**	P	**P**	**15 34 23.3 -0.1**
KS19	**Wonju Array Si**	**64.76 326**	IAmb	IAmb	15 34 55.8
	comp=Z,86nm,0.9s				
KSI	**Kapahiang**	**65.02 273**	P	**P**	**15 34 24.4 -1.6**
	comp=Z,9μmcomp=Z,9μmcomp=Z,219nm,0.7s				
MYKOM	**Kota Tinggi**	**65.37 279**	P	**P**	**15 34 29.2 +1.1**
MYKOM	**Kota Tinggi**	**65.37 279**	⇑P	**P**	**15 34 28.6 +0.5**
INCN	**Inchon**	**65.42 325**	P	**P**	**15 34 29.3 +1.3**
INCN			IAmb	IAmb	15 35 01.4
	comp=Z,199nm,1.1s				
INCN	**Inchon**	**65.42 325**	P	**P**	**15 34 30.0 +2.0**
INCN			S	**S**	**15 43 03.0 +0.9**
INCN	**Inchon**	**65.42 325**	P	**P**	**15 34 29.8 +1.8**
INCN	**Inchon**	**65.42 325**	⇑P	**P**	**15 34 28.8 +0.8**
INCN	**Inchon**	**65.42 325**	P	**P**	**15 34 29.8 +1.8**
INCN			pP	**pP**	**15 35 00.4 +0.7**
INCN			sP	**sP**	**15 35 16.7 +2.8**
GZH	**Guangzhou**	**65.60 305**	P	**P**	**15 34 29.6 +0.2**
GZH			pP	**PcP**	**15 34 59.8 -0.1**
GZH			sP	**sP**	**15 35 16.6 +1.0**
GZH			S	**S**	**15 43 04.3 -0.4**
GZH			ScS	**SKSac**	**15 44 04.9 -7.8**
GZH			pmax	pmax	
	comp=Z,130nm,1.3s				
GZH			pmax	pmax	
	comp=Z,2μm,4.3s				
GZH			LR	LR	
	comp=Z,3μm,18.7s				
GZH			LR	LR	
	comp=Z,4μm,22.5s				
GZH			LR	LR	
	comp=Z,6μm,23.5s				
YSS	**Yuzhno-Sakhali**	**66.20 342**	P	**P**	**15 34 33.8 +1.1**
YSS	**Yuzhno-Sakhali**	**66.20 342**	P	**P**	**15 34 34.4 +1.7**
YSS	**Yuzhno-Sakhali**	**66.20 342**	*oe*P	**P**	**15 34 33.9 +1.2**
YSS			*e**PP	**pP**	**15 35 04.5 +0.6**
YSS			*e*S	**S**	**15 43 10.6 -0.5**
YSS			*e**SS	**sS**	**15 44 10.1 +4.8**
YSS			*e*SS	**SS**	**15 47 25.2 -4.8**
YSS			*e*SSS	SSS	15 50 24.6
YSS			pmax	pmax	
	comp=Z,2μm,4.1s				
YSS			pmax	pmax	
	comp=Z,530nm,0.9s				
YSS			smax	smax	
	comp=N,1μm,8.2s				
YSS			smax	smax	
	comp=E,1μm,7.9s				
YSS	**Yuzhno-Sakhali**	**66.20 342**	⇑P	**P**	**15 34 34.1 +1.4**
YSS	**Yuzhno-Sakhali**	**66.20 342**	P	**P**	**15 34 33.8 +1.1**
YSS			pP	**pP**	**15 35 05.0 +1.1**
YSS			sP	**sP**	**15 35 20.8 +3.0**
QIZ	**Qiongzhong**	**66.50 299**	IAmb	IAmb	15 35 08.8
	comp=Z,152nm,1.2s				
QIZ	**Qiongzhong**	**66.50 299**	P	**P**	**15 34 36.9 +1.6**
QIZ			pP	**pP**	**15 35 06.6 -0.7**
QIZ			PP	**PP**	**15 37 04.3 +0.8**
QIZ			S	**S**	**15 43 16.1 +0.3**
QIZ			sS	**sS**	**15 44 06.3 -3.1**
QIZ			SS	**SS**	**15 47 33.8 -1.8**
QIZ			pmax	pmax	
	comp=Z,80nm,1.0s				
QIZ			pmax	pmax	
	comp=Z,1μm,6.3s				
QIZ			LR	LR	
	comp=Z,6μm,32.7s				
QIZ	**Qiongzhong**	**66.50 299**	P	**P**	**15 34 37.1 +1.8**
QIZ	**Qiongzhong**	**66.50 299**	P	**P**	**15 34 36.7 +1.4**
QIZ			pP	**pP**	**15 35 06.9 -0.4**
NJ2	**Nanjing**	**66.58 316**	⇑*i*P	**P**	**15 34 36.0 +0.5**
NJ2			pP	**pP**	**15 35 05.8 -1.6**
NJ2			sP	**sP**	**15 35 22.9 +1.3**
NJ2			S	**S**	**15 43 16.8 +0.5**
NJ2			sS	**sS**	**15 44 07.8 -0.7**
NJ2			ScS	**SKSac**	**15 44 16.8 -3.1**
NJ2			pmax	pmax	
	comp=Z,130nm,1.1s				
NJ2			pmax	pmax	
	comp=Z,2μm,6.4s				
TEY	**Ternei**	**66.65 337**	⇓*e*P	**P**	**15 34 34.6 -1.0**
TEY			*e*		15 43 13.6
TEY			pmax	pmax	
	comp=N,200nm,3.0s				
TEY			pmax	pmax	
	comp=Z,700nm,3.3s				
TEY			pmax	pmax	
	comp=E,200nm,4.7s				
SKR	**Severo-Kuril's**	**66.81 352**	*e*P	**P**	**15 34 36.6 +0.1**
SKR			*e*S	**S**	**15 43 20.4 +2.2**
SKR			pmax	pmax	
	comp=Z,1μm,5.0s				
SKR			MLR	MLR	
	comp=Z,2μm,17.0s				
MSHR	**Mys Shultsa**	**66.95 331**	*i* P	**P**	**15 34 37.8 +0.2**
VLA	**Vladivostok**	**67.05 332**	*i* P	**P**	**15 34 37.2 -1.0**
VLA			pmax	pmax	
	comp=Z,424nm,2.0s				
PSTR	**Posyet**	**67.17 331**	*e*P	**P**	**15 34 40.1 +1.1**
BKNI	**Bangkinang**	**67.61 277**	P	**P**	**15 34 41.9 -0.5**
BKNI	**Bangkinang**	**67.61 277**	P	**P**	**15 34 40.7 -1.7**
BKNI	**Bangkinang**	**67.61 277**	P	**P**	**15 34 44.0 +1.6**
BKNI	**Bangkinang**	**67.61 277**	P	**P**	**15 34 41.2 -1.2**
	comp=Z,9μmcomp=Z,361nm,0.9s				
BKNI			pP	**pP**	**15 35 12.9 -1.7**
	comp=Z,9μmcomp=Z,361nm,0.9s				
PPSI	**Pulau Pagai**	**67.74 273**	P	**P**	**15 34 40.9 -2.3**
	comp=Z,7μmcomp=Z,337nm,0.8s				
USRK	**Ussuriysk Ar.**	**67.86 333**	P	**P**	**15 34 44.2 +0.9**
	comp=Z,125nm,0.7s,baz=119,slow=4.1,SNR=111				
	comp=Z,125nm,0.7s				
USA0B	**Ussuriysk Arra**	**67.86 333**	*i* P	**P**	**15 34 44.1 +0.8**
PPI	**Padang Panjang**	**68.00 276**	P	**P**	**15 34 44.4 -0.5**
SHEM	**Shemya Is, Ala**	**68.31 4**	P	**P**	**15 34 47.2 +1.3**
	comp=Z,78nm,0.9s,baz=96,slow=1.7,SNR=5.1				
SHEM			LR	LR	15 58 55.4
	comp=Z,5μm,21.3s,baz=184,slow=31				
	comp=Z,78nm,0.9s				
UGL	**Uglegorsk**	**68.31 342**	⇑*i*P	**P**	**15 34 47.0 +1.0**
UGL			*e*		15 37 17.0
UGL			*e*S	**S**	**15 43 32.2 -4.0**
UGL			*e*		15 44 33.3
UGL			pmax	pmax	
	comp=Z,5μm,5.9s				
UGL			pmax	pmax	
	comp=Z,500nm,1.0s				
UGL			smax	smax	
	comp=E,2μm,7.0s				
UGL			smax	smax	
	comp=N,5μm,8.5s				
COCO	**West Island**	**68.55 263**	P	**P**	**15 34 48.0 -0.2**
COCO	**West Island**	**68.55 263**	P	**P**	**15 34 49.4 +1.1**
COCO			S	**S**	**15 43 44.4 +3.9**
COCO	**West Island**	**68.55 263**	P	**P**	**15 34 50.3 +2.1**
COCO	**West Island**	**68.55 263**	⇑P	**P**	**15 34 49.5 +1.3**
CNSH	**ChangSha**	**68.57 309**	P	**P**	**15 34 48.6 +0.5**
CNSH			S	**S**	**15 43 37.3 -2.9**
CNSH			pmax	pmax	
	comp=N,75nm,1.2s				
CNSH			LR	LR	
	comp=N,3μm,14.8s				
CNSH			LR	LR	
	comp=N,4μm,14.3s				
CNSH			LR	LR	
	comp=N,4μm,24.2s				
UBPT	**Khong Chiam**	**68.67 294**	P	**P**	**15 34 50.3 +1.4**
PET	**Petropavlovsk**	**68.82 354**	P	**P**	**15 34 49.3 +0.2**
PET			IAmb	IAmb	15 34 51.3
	comp=Z,336nm,1.4s				
PET	**Petropavlovsk**	**68.82 354**	*ce*P	**P**	**15 34 49.8 +0.8**
PET			*e**PP	**pwP**	**15 35 22.9 -1.4**
PET			*i* S	**S**	**15 43 44.1 +2.0**
PET			pmax	pmax	
	comp=Z,3μm,5.6s				
PET			pmax	pmax	
	comp=Z,101nm,0.5s				
PET			pmax	pmax	
	comp=Z,2μm,15.7s				
PET	**Petropavlovsk**	**68.82 354**	⇑P	**P**	**15 34 49.4 +0.4**
PET	**Petropavlovsk**	**68.82 354**	P	**P**	**15 34 48.8 -0.2**
	comp=Z,4μmcomp=Z,176nm,1.5s				
WHN	**Wuhan**	**68.82 312**	P	**P**	**15 34 50.1 +0.5**
WHN			pP	**pP**	**15 35 20.8 -0.9**
WHN			S	**S**	**15 43 41.6 -1.5**
WHN			pmax	pmax	
	comp=Z,400nm,0.7s				
WHN			pmax	pmax	
	comp=Z,5μm,3.4s				
PEA0B	**Petropavlovsk-**	**69.00 354**	*ce*P	**P**	**15 34 50.9 +0.7**
PETK	**Petropavlovsk-**	**69.00 354**	P	**P**	**15 34 50.1 0.0**
PETK	**Petropavlovsk-**	**69.00 354**	P	**P**	**15 34 50.8 +0.6**
	comp=Z,51nm,0.6s,baz=158,slow=6.0,SNR=78				
	comp=Z,51nm,0.6s				
SISI	**Saibi**	**69.01 275**	P	**P**	**15 34 49.4 -1.8**
	comp=Z,6μmcomp=Z,90nm,1.0s				
GULI	**GuiLin**	**69.05 305**	sS	**sS**	**15 44 37.9 -2.1**
GULI			pmax	pmax	
	comp=Z,300nm,0.9s				
GULI			pmax	pmax	
	comp=Z,2μm,6.2s				
GULI			LR	LR	
	comp=N,3μm,19.1s				
GULI			LR	LR	
	comp=E,4μm,17.1s				
GULI			LR	LR	
	comp=Z,3μm,24.7s				
MNSI	**Mandailing Nat**	**69.14 277**	P	**P**	**15 34 50.2 -1.8**
	comp=Z,8μmcomp=Z,6μmcomp=Z,304nm,0.9s				
DL2	**Dalian**	**69.24 323**	P	**P**	**15 34 52.5 +0.5**
DL2			pP	**pP**	**15 35 22.5 -1.5**
DL2			sP	**sP**	**15 35 38.8 +0.7**
DL2			S	**S**	**15 43 47.6 -0.1**
DL2			sS	**sS**	**15 44 41.8 +0.6**
DL2			pmax	pmax	
	comp=Z,510nm,0.9s				
DL2			pmax	pmax	
	comp=Z,3μm,4.5s				
MDJ	**Mudanjiang**	**69.25 332**	P	**P**	**15 34 53.0 +1.1**
MDJ			pP	pP	15 35 23.8 +0.1
MDJ			S	**S**	**15 43 49.8 +2.2**
MDJ			ScS	**ScS**	**15 44 42.6 +2.0**
MDJ			pmax	pmax	
	comp=Z,580nm,1.1s				
MDJ			pmax	pmax	
	comp=Z,5μm,5.2s				
MDJ			LR	LR	
	comp=Z,1μm,16.0s				
MDJ			LR	LR	
	comp=Z,2μm,18.1s				
MDJ			LR	LR	
	comp=Z,3μm,20.8s				
MDJ	**Mudanjiang**	**69.25 332**	P	**P**	**15 34 53.5 +1.6**
MDJ	**Mudanjiang**	**69.25 332**	P	**P**	**15 34 53.0 +1.1**
MDJ			pP	**pP**	**15 35 24.0 +0.3**
KULM	**Kulim**	**69.50 282**	IAmb	IAmb	15 35 55.1
	comp=Z,301nm,1.6s				
KULM	**Kulim**	**69.50 282**	P	**P**	**15 34 55.4 +1.3**
KULM	**Kulim**	**69.50 282**	⇑P	**P**	**15 34 54.2 +0.1**
TYV	**Tymovskoe**	**69.75 343**	*e*P	**P**	**15 34 56.1 +1.3**
TYV			*e*S	**S**	**15 43 55.6 +2.5**
TYV			pmax	pmax	
	comp=Z,4μm,4.9s				
TYV			pmax	pmax	
	comp=Z,244nm,1.3s				
TYV			smax	smax	
	comp=N,3μm,10.6s				
TYV			smax	smax	
	comp=E,2μm,10.6s				
PBSI	**Pulau Batu**	**70.15 276**	P	**P**	**15 34 57.5 -0.6**
	comp=E,10μmcomp=E,214nm,0.9s				
SNY	**Shenyang**	**70.16 326**	⇑P	**P**	**15 34 57.8 +0.2**
SNY			PcP	**PcP**	**15 35 21.8 +3.2**
SNY			S	**S**	**15 43 55.0 -3.3**
SNY			pmax	pmax	
	comp=E,81nm,0.7s				
SNY			LR	LR	
	comp=E,1μm,16.8s				
SNY			LR	LR	
	comp=E,630nm,16.6s				
SNY			LR	LR	
	comp=E,3μm,18.5s				
TIA	**Tai'an**	**70.26 318**	P	**P**	**15 34 58.3 0.0**
TIA			pP	**pP**	**15 35 29.3 -1.1**
TIA			PP	**PP**	**15 37 38.9 +3.1**
TIA			S	**S**	**15 43 59.5 -0.3**
TIA			pmax	pmax	
	comp=E,170nm,0.7s				
TIA			pmax	pmax	
	comp=E,2μm,6.4s				
TIA			LR	LR	
	comp=E,4μm,18.7s				
TIA			LR	LR	
	comp=E,2μm,21.6s				
TIA			LR	LR	
	comp=E,6μm,25.0s				
RPSI	**Rantau Prapat**	**70.33 279**	IAmb	IAmb	15 35 30.7
	comp=Z,141nm,1.1s				
PSI	**Prapat**	**70.36 279**	P	**P**	**15 35 00.1 +0.5**
CN2	**Changchun**	**70.61 329**	⇑P	**P**	**15 35 00.9 +0.6**
CN2			*ep*P	pwP	15 35 34.0 -0.2
CN2			*e*S	**S**	**15 44 04.1 +0.6**
CN2			pmax	pmax	
	comp=Z,40nm,0.6s				
CN2			pmax	pmax	
	comp=Z,6μm,4.0s				
TSI	**Tuntungan**	**70.92 279**	P	**P**	**15 35 01.5 -1.3**
	comp=Z,9μmcomp=Z,6μmcomp=Z,194nm,0.8s				
BNX	**BinXian**	**71.11 331**	⇑P	**P**	**15 35 03.4 +0.2**
BNX			PcP	**PcP**	**15 35 22.9 +0.3**
BNX			pP	**pP**	**15 35 35.6 +0.4**
BNX			S	**S**	**15 44 08.8 -0.4**
BNX			pmax	pmax	
	comp=Z,400nm,0.9s				
BNX			pmax	pmax	
	comp=Z,4μm,7.2s				
BNX			LR	LR	
	comp=Z,1μm,19.4s				
BNX			LR	LR	
	comp=Z,2μm,15.8s				
BNX			LR	LR	
	comp=Z,3μm,22.3s				
GSI	**Gunungsitoli**	**71.21 277**	P	**P**	**15 35 05.7 +1.1**
GSI	**Gunungsitoli**	**71.21 277**	P	**P**	**15 35 02.5 -2.1**
	comp=Z,11μmcomp=Z,6μmcomp=Z,326nm,0.8s				
GSI	**Gunungsitoli**	**71.21 277**	⇑P	**P**	**15 35 04.8 +0.2**
NIKH	**Nikolski High**	**71.27 15**	P	**P**	**15 35 03.8 -0.2**
	baz=204				
SRIT	**Nakonsritamara**	**71.56 285**	IAmb	IAmb	15 35 40.8
	comp=Z,92nm,1.0s				
SRIT	**Nakonsritamara**	**71.56 285**	P	**P**	**15 35 08.3 +1.7**
GRNR	**Gornyy**	**71.57 340**	⇑*i*P	**P**	**15 35 07.6 +1.7**
GRNR			*e*S	**S**	**15 44 19.0 +4.7**
GRNR			pmax	pmax	
	comp=E,80nm,1.3s				
GRNR			pmax	pmax	
	comp=Z,310nm,1.3s				
GRNR			pmax	pmax	
	comp=N,70nm,1.2s				
GRNR			smax	smax	
	comp=E,5.0nm,0.9s				
NONG	**Nongkai**	**71.83 295**	P	**P**	**15 35 08.8 +0.7**
KLR	**Kul'dur**	**71.98 336**	LR	LR	16 02 49.0
	comp=E,1μm,21.6s,baz=143,slow=32				
KLR	**Kul'dur**	**71.98 336**	*e*P	**P**	**15 35 07.0 -1.4**
KLR			pmax	pmax	
	comp=Z,599nm,1.8s				
NAYO	**Nakonayok**	**72.00 291**	P	**P**	**15 35 10.7 +1.5**
ENH	**Enshi**	**72.23 309**	P	**P**	**15 35 10.4 +0.1**
NKL	**Nikolayevsk**	**72.34 343**	*e*P	**P**	**15 35 07.4 -3.0**
NKL			*e*S	**S**	**15 44 22.1 -0.8**
NKL			pmax	pmax	
	comp=N,173nm,1.0s				
NKL			pmax	pmax	
	comp=E,507nm,1.9s				
NKL			pmax	pmax	
	comp=Z,2μm,1.9s				
NKL			smax	smax	
	comp=E,884nm,5.9s				
NKL			smax	smax	
	comp=N,742nm,8.4s				
NKL			MLR	MLR	
	comp=E,3μm,13.0s				
NKL			MLR	MLR	
	comp=N,3μm,20.0s				
NKL			MLR	MLR	
	comp=Z,7μm,19.0s				
LYN	**LuoYang**	**72.38 315**	⇑P	**P**	**15 35 12.0 +0.9**
LYN			pP	pP	15 35 42.9 -0.4
LYN			S	**S**	**15 44 21.4 -2.8**
LYN			pmax	pmax	
	comp=Z,730nm,0.8s				
LYN			pmax	pmax	
	comp=Z,4μm,8.8s				
SLVN	**Son La**	**72.52 299**	IAmb	IAmb	15 35 46.3
	comp=Z,339nm,1.8s				
SLVN	**Son La**	**72.52 299**	P	**P**	**15 35 13.8 +1.5**
HNS	**HongShan**	**72.52 318**	⇑P	**P**	**15 35 13.0 +1.1**
HNS			PcP	**PcP**	**15 35 33.4 +4.6**
HNS			pP	**pP**	**15 35 43.9 -0.2**
HNS			S	**S**	**15 44 27.1 +1.4**
HNS			sS	**sS**	**15 45 19.1 -0.9**
HNS			pmax	pmax	
	comp=Z,350nm,0.9s				
HNS			LR	LR	
	comp=Z,3μm,18.6s				
HNS			LR	LR	
	comp=Z,5μm,17.4s				
HNS			LR	LR	
	comp=Z,4μm,19.1s				
GYA	**Guiyang**	**72.53 305**	⇑P	**P**	**15 35 13.0 +0.7**
GYA			pP	pP	15 35 43.3 -1.4
GYA			PP	**PP**	**15 37 56.1 +0.5**
GYA			S	**S**	**15 44 27.4 +0.8**
GYA			SS	**SS**	**15 49 09.5 +1.0**
GYA			pmax	pmax	
	comp=Z,58nm,0.8s				
GYA			pmax	pmax	
	comp=Z,2μm,4.8s				
GYA			LR	LR	
	comp=Z,1μm,14.4s				
GYA			LR	LR	
	comp=Z,2μm,17.9s				
GYA			LR	LR	
	comp=Z,2μm,17.5s				
UNV	**Unalaska Valle**	**72.66 16**	P	**P**	**15 35 12.3 0.0**
	baz=206				
SNSI	**Sinabang, Aceh**	**72.72 278**	P	**P**	**15 35 12.0 -1.6**
	comp=Z,7μmcomp=Z,224nm,0.9s				
LHMI	**Lhok Sumawe**	**72.98 281**	P	**P**	**15 35 16.4 +1.3**
LHMI	**Lhok Sumawe**	**72.98 281**	P	**P**	**15 35 14.2 -0.9**
	comp=Z,6μmcomp=Z,82nm,0.9s				
BJT	**Baijiatuau**	**73.19 321**	P	**P**	**15 35 16.2 +0.4**
BJT			IAmb	IAmb	15 35 18.6
	comp=Z,182nm,0.8s				
BJT	**Baijiatuau**	**73.19 321**	P	**P**	**15 35 17.4 +1.6**
BJT	**Baijiatuau**	**73.19 321**	P	**P**	**15 35 16.2 +0.4**
BJT			pmax	pmax	
	comp=Z,182nm,0.8s				
MLSI	**Meulaboh, Aceh**	**73.20 279**	P	**P**	**15 35 13.4 -3.0**
	comp=Z,10μmcomp=Z,8μmcomp=Z,304nm,0.8s				
BJI	**Beijing**	**73.20 321**	P	**P**	**15 35 16.6 +0.8**
BJI			pP	**pP**	**15 35 47.8 -0.3**
BJI			sP	**sP**	**15 36 03.3 +1.1**
BJI			S	**S**	**15 44 32.9 -0.4**
BJI			pmax	pmax	
	comp=Z,120nm,0.9s				
BJI			pmax	pmax	
	comp=Z,2μm,4.5s				
BJI			LR	LR	
	comp=Z,1μm,16.3s				
BJI			LR	LR	
	comp=Z,1μm,19.6s				
BJI			LR	LR	
	comp=Z,2μm,20.6s				
SRDT	**SRDT**	**73.99 290**	P	**P**	**15 35 22.2 +1.2**
TIY	**Taiyuan**	**74.18 317**	*e*P	**P**	**15 35 23.0 +1.3**
TIY			pP	**pP**	**15 35 53.3 -0.8**
TIY			sP	**sP**	**15 36 08.3 +0.2**
TIY			S	**S**	**15 44 47.5 +3.0**
TIY			SS	**SS**	**15 49 36.3 +3.2**
TIY			pmax	pmax	
	comp=Z,240nm,0.9s				
TIY			pmax	pmax	
	comp=Z,3μm,3.9s				
TIY			LR	LR	
	comp=Z,830nm,17.2s				
TIY			LR	LR	
	comp=Z,1μm,22.0s				
TIY			LR	LR	
	comp=Z,2μm,22.7s				
FALS	**False Pass**	**74.39 17**	P	**P**	**15 35 21.0 -1.4**
	baz=209				
QSPA	**South Pole Qui**	**74.40 180**	P	**P**	**15 35 23.2 +0.7**
	comp=Z,208nm,0.9s,baz=359,slow=1.0,SNR=303				
	comp=Z,208nm,0.9s				
P08K	**Saint George I**	**74.45 13**	P	**P**	**15 35 22.1 -0.5**
	baz=203				
HEH	**HeiHe**	**74.53 335**	*e*P	**P**	**15 35 22.8 -0.5**
HEH			sP	**sP**	**15 36 09.4 +0.6**
HEH			S	**S**	**15 44 47.3 -0.5**
HEH			sS	**sS**	**15 45 42.3 -0.8**
HEH			SS	**SS**	**15 49 36.1 -1.7**

HEH				pmax	pmax		
	comp=Z,200nm,0.9s						
HEH				pmax	pmax		
	comp=Z,4μm,4.5s						
XAN	**Xi'an**	**74.58**	**313**	⇑P	**P**	**15 35 24.8**	**+0.8**
XAN				pP	pP	15 35 56.1	-0.3
XAN				S	**S**	**15 44 49.4**	**+0.3**
XAN				ScS	**SKKSac**	**15 45 21.1**	**+0.5**
XAN				pmax	pmax		
	comp=Z,450nm,0.7s						
XAN				pmax	pmax		
	comp=Z,4μm,8.7s						
XAN				LR	LR		
	comp=Z,3μm,22.7s						
XAN				LR	LR		
	comp=Z,3μm,21.3s						
XAN				LR	LR		
	comp=Z,7μm,20.6s						
BSI	**Banda Aceh**	**74.62**	**280**	P	**P**	**15 35 22.4**	**-2.3**
	comp=Z,10μmcomp=Z,7μmcomp=Z,207nm,0.9s						
SPIA	**Saint Paul Isl**	**74.84**	**12**	P	**P**	**15 35 24.5**	**-0.4**
	baz=202						
KMI	**Kunming**	**75.10**	**302**	⇑P	**P**	**15 35 29.0**	**+1.5**
KMI				pP	pP	15 35 59.8	-0.3
KMI				S	**S**	**15 44 53.8**	**-1.8**
KMI				pmax	pmax		
	comp=Z,220nm,1.0s						
KMI				pmax	pmax		
	comp=Z,2μm,4.2s						
KMI				LR	LR		
	comp=Z,980nm,21.0s						
KMI				LR	LR		
	comp=Z,1μm,17.5s						
KMI				LR	LR		
	comp=Z,4μm,24.0s						
CHNA	**Chernabura Isl**	**75.50**	**19**	P	**P**	**15 35 29.0**	**+0.3**
	baz=212						
XLT	**XiLinHaoTe**	**75.66**	**324**	⇑*i*P	**P**	**15 35 30.8**	**+0.7**
XLT				PcP	**PcP**	**15 35 44.0**	**+1.7**
XLT				pP	pP	15 36 02.4	+0.2
XLT				PP	**PP**	**15 38 18.8**	**-2.9**
XLT				S	**S**	**15 44 57.0**	**-3.7**
XLT				SKS	**SKSac**	**15 45 17.8**	**-10**
XLT				sS	sS	15 45 58.6	+2.4
XLT				pmax	pmax		
	comp=Z,340nm,1.0s						
XLT				pmax	pmax		
	comp=Z,4μm,4.2s						
CM31	**Chiang Mai Arr**	**75.66**	**294**	IAmb	IAmb	15 35 33.9	
	comp=Z,146nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.66**	**294**	P	**P**	**15 35 31.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**75.66**	**294**	P	**P**	**15 35 31.9**	**+1.4**
	comp=Z,84nm,0.8s,baz=131,slow=4.5,SNR=255						
CMAR				pP	**pP**	**15 36 02.3**	**-0.9**
	comp=Z,45nm,0.9s,baz=125,slow=4.4,SNR=3.6						
CMAR				PKKPbc	**PKKPbc**	**15 54 48.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=285,slow=3.6,SNR=4.3						
CMAR				PKPPKP	**P'P'df**	**16 02 49.1**	**-2.0**
	comp=Z,0.9nm,1.1s,baz=328,slow=1.9,SNR=4.5						
CMAR				LR	LR	16 09 40.3	
	comp=Z,780nm,19.0s,baz=105,slow=36						
	comp=Z,84nm,0.8s						
SDPT	**Sand Point**	**75.67**	**18**	P	**P**	**15 35 29.2**	**-0.5**
	baz=212						
CHTO	**Chiang Mai**	**75.79**	**294**	P	**P**	**15 35 32.0**	**+0.8**
CHTO				IAmb	IAmb	15 35 34.3	
	comp=Z,121nm,0.9s						
CHTO	**Chiang Mai**	**75.79**	**294**	P	**P**	**15 35 32.3**	**+1.1**
CHTO				P	**P**	**15 35 32.9**	**+1.6**
CHTO				S	**S**	**15 45 04.8**	**+1.8**
CHTO	**Chiang Mai**	**75.79**	**294**	P	**P**	**15 35 32.4**	**+1.1**
CHTO	**Chiang Mai**	**75.79**	**294**	⇑P	**P**	**15 35 32.3**	**+1.1**
MA2	**Magadan**	**76.19**	**351**	P	**P**	**15 35 31.6**	**-1.0**
MA2				IAmb	IAmb	15 36 06.8	
	comp=Z,80nm,0.8s						
MA2	**Magadan**	**76.19**	**351**	LR	LR	16 05 50.9	
	comp=Z,1μm,19.9s,baz=168,slow=33						
MA2	**Magadan**	**76.19**	**351**	P	**P**	**15 35 33.3**	**+0.7**
MA2	**Magadan**	**76.19**	**351**	*ce*P	**P**	**15 35 31.9**	**-0.7**
MA2				pmax	pmax		
	comp=Z,417nm,2.5s						
MA2	**Magadan**	**76.19**	**351**	⇑P	**P**	**15 35 32.0**	**-0.7**
MA2	**Magadan**	**76.19**	**351**	P	**P**	**15 35 32.4**	**-0.2**
	comp=Z,5μmcomp=Z,186nm,2.6s						
CMBY	**CAMPBELL BAY**	**76.38**	**281**	*e*P	**P**	**15 35 34.6**	**-0.1**
CMBY				IAmb	IAmb	15 35 47.8	
	comp=Z,146nm,1.0s						
PZH	**PanZhiHua**	**76.50**	**303**	P	**P**	**15 35 35.5**	**+0.2**
PZH				pP	**pP**	**15 36 06.8**	**-1.2**
PZH				sP	**sP**	**15 36 22.9**	**+0.8**
PZH				S	**S**	**15 45 11.3**	**+0.6**
PZH				sS	**sS**	**15 46 07.9**	**+2.8**
PZH				pmax	pmax		
	comp=Z,100nm,0.8s						
PZH				pmax	pmax		
	comp=Z,2μm,5.4s						
HHC	**Hu-ho-hao-te**	**76.51**	**320**	⇑*i*P	**P**	**15 35 36.3**	**+1.3**
HHC				pP	pP	15 36 07.0	-0.6
HHC				sP	sP	15 36 20.5	-1.1
HHC				S	**S**	**15 45 08.9**	**-1.4**
HHC				sS	sS	15 46 06.0	+0.1
HHC				pmax	pmax		
	comp=Z,220nm,0.9s						
HHC				pmax	pmax		
	comp=Z,2μm,6.5s						
HHC				LR	LR		
	comp=Z,2μm,16.7s						
HHC				LR	LR		
	comp=Z,1μm,17.7s						
HHC				LR	LR		
	comp=Z,3μm,19.6s						
S14K	**Fog Glacier**	**76.74**	**18**	P	**P**	**15 35 34.3**	**-1.6**
	baz=212						
CD2	**Chengdu**	**76.86**	**308**	P	**P**	**15 35 38.0**	**+0.9**
CD2				pP	pP	15 36 07.5	-2.4
CD2				sP	sP	15 36 22.5	-1.4
CD2				S	**S**	**15 45 15.9**	**+1.6**
CD2				SS	**SS**	**15 50 17.0**	**+3.1**
CD2				pmax	pmax		
	comp=Z,100nm,0.9s						
CD2				pmax	pmax		
	comp=Z,2μm,6.5s						
CD2				LR	LR		
	comp=Z,3μm,20.2s						
CD2				LR	LR		
	comp=Z,4μm,23.9s						
CHGN	**Chignik**	**77.10**	**19**	P	**P**	**15 35 36.2**	**-1.6**
	baz=213						
HIA	**Hailar**	**77.25**	**330**	IAmb	IAmb	15 35 41.4	
	comp=Z,190nm,1.0s						
HIA	**Hailar**	**77.25**	**330**	P	**P**	**15 35 39.2**	**+0.3**
ZEA	**Zeya**	**77.27**	**337**	*e*P	**P**	**15 35 40.4**	**+1.6**
ZEA				*e**PP	**pwP**	**15 36 12.5**	**-1.4**
ZEA				*e**SP	**sP**	**15 36 28.3**	**+3.7**
ZEA				*e*S	**S**	**15 45 22.4**	**+4.7**
ZEA				*e*		15 46 19.5	
ZEA				pmax	pmax		
	comp=N,190nm,0.8s						
ZEA				pmax	pmax		
	comp=E,60nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,320nm,0.9s						
ZEA				pmax	pmax		
	comp=N,800nm,5.0s						
ZEA				pmax	pmax		
	comp=Z,600nm,3.9s						
ZEA				pmax	pmax		
	comp=E,400nm,2.3s						
ZEA				smax	smax		
	comp=E,2μm,11.5s						
ZEA				smax	smax		
	comp=N,3μm,12.3s						
BTO	**Baotou**	**77.35**	**319**	*e*P	**P**	**15 35 41.8**	**+2.1**
BTO				pP	**pP**	**15 36 11.4**	**-1.0**
BTO				PP	**PP**	**15 38 32.3**	**-3.7**
BTO				S	**S**	**15 45 21.6**	**+2.2**
BTO				SS	**SS**	**15 50 23.4**	**+2.3**
BTO				pmax	pmax		
	comp=N,250nm,0.9s						
BTO				pmax	pmax		
	comp=N,1μm,5.0s						
BTO				LR	LR		
	comp=N,4μm,20.9s						
BTO				LR	LR		
	comp=N,3μm,14.7s						
BTO				LR	LR		
	comp=N,4μm,18.6s						
CHIR	**Chirikof Islan**	**77.60**	**20**	P	**P**	**15 35 39.7**	**-0.8**
	baz=216						
R16K	**Pilot Point**	**78.41**	**18**	P	**P**	**15 35 45.1**	**+0.1**
	baz=214						
TNCH	**TengChong**	**78.55**	**300**	⇑P	**P**	**15 35 47.4**	**+0.6**
TNCH				PcP	**PcP**	**15 35 56.9**	**+1.5**
TNCH				pP	pP	15 36 19.0	-0.7
TNCH				sP	sP	15 36 32.5	-1.1
TNCH				S	**S**	**15 45 31.8**	**-1.2**
TNCH				sS	sS	15 46 27.3	-1.3
TNCH				SS	**SS**	**15 50 37.3**	**-2.5**
TNCH				pmax	pmax		
	comp=N,140nm,2.1s						
TNCH				pmax	pmax		
	comp=N,2μm,5.1s						
TNCH				LR	LR		
	comp=N,930nm,15.5s						
TNCH				LR	LR		
	comp=N,1μm,18.8s						
TNCH				LR	LR		
	comp=N,3μm,29.6s						
M11K	**Mekoryuk**	**78.63**	**13**	P	**P**	**15 35 46.5**	**+0.4**
	baz=206						
SII	**Sitkinak Islan**	**78.68**	**20**	P	**P**	**15 35 46.5**	**0.0**
	baz=217						
O14K	**Tigyukauivet M**	**78.81**	**16**	P	**P**	**15 35 46.6**	**-0.6**
	baz=210						
PBA	**Port Blair**	**78.94**	**285**	P	**P**	**15 35 48.3**	**-0.6**
PBA				IAmb	IAmb	15 37 24.0	
	comp=Z,110nm,1.0s						
PBA	**Port Blair**	**78.94**	**285**	P	**P**	**15 35 49.1**	**+0.3**
PBA	**Port Blair**	**78.94**	**285**	*e*P	**P**	**15 35 49.8**	**+0.9**
PBA				IAmb	IAmb	15 35 59.4	
	comp=Z,54nm,0.7s						
O15K	**Ungalikthiuk R**	**79.12**	**16**	P	**P**	**15 35 48.4**	**-0.5**
	baz=212						
LZH	**Lanzhou**	**79.20**	**312**	⇑P	**P**	**15 35 51.9**	**+1.8**
LZH				pP	pP	15 36 23.0	+0.2
LZH				S	**S**	**15 45 42.3**	**+2.8**
LZH				SS	**SS**	**15 50 50.9**	**+1.7**
LZH				pmax	pmax		
	comp=Z,350nm,1.0s						
LZH				pmax	pmax		
	comp=Z,3μm,5.2s						
LZH				LR	LR		
	comp=Z,2μm,18.4s						
LZH				LR	LR		
	comp=Z,2μm,18.0s						
LZH				LR	LR		
	comp=Z,4μm,21.0s						
SEY	**Seymchan**	**79.22**	**353**	LR	LR	16 07 43.7	
	comp=Z,3μm,20.7s,baz=161,slow=33						
SEY	**Seymchan**	**79.22**	**353**	*e*P	**P**	**15 35 47.2**	**-2.1**
SEY				pmax	pmax		
	comp=Z,259nm,1.9s						
DGPR	**DIGLIPUR**	**79.25**	**287**	*e*P	**P**	**15 35 49.0**	**-1.5**
N14K	**Kuskokwak Cree**	**79.28**	**15**	P	**P**	**15 35 49.7**	**0.0**
	baz=210						
M13K	**Dall Lake**	**79.30**	**14**	P	**P**	**15 35 50.9**	**+1.2**
	baz=208						
R18K	**Karluk**	**79.39**	**20**	P	**P**	**15 35 50.3**	**-0.1**
	baz=217						
OHAK	**Old Harbor**	**79.50**	**20**	P	**P**	**15 35 50.4**	**-0.5**
	baz=218						
P16K	**Nushagak River**	**79.51**	**17**	P	**P**	**15 35 50.5**	**-0.5**
	baz=214						
Q16K	**King Salmon**	**79.61**	**18**	P	**P**	**15 35 51.1**	**-0.4**
	baz=215						
N15K	**Kwethluk River**	**79.90**	**16**	IAmb	IAmb	15 37 05.1	
	comp=Z,212nm,1.2s						
N15K	**Kwethluk River**	**79.90**	**16**	P	**P**	**15 35 53.5**	**+0.4**
	baz=212						
M14K	**Bethel**	**79.93**	**15**	IAmb	IAmb	15 37 00.4	
	comp=Z,167nm,1.1s						
M14K	**Bethel**	**79.93**	**15**	P	**P**	**15 35 53.3**	**+0.1**
	baz=210,SNR=6.8						
O16K	**Kokwok River B**	**79.95**	**17**	P	**P**	**15 35 52.0**	**-1.3**
	baz=213						
Q18K	**Katmai Hardscr**	**80.09**	**19**	P	**P**	**15 35 53.8**	**-0.5**
	baz=216,SNR=8.2						
P17K	**Kvichak River**	**80.10**	**18**	P	**P**	**15 35 53.3**	**-0.8**
	baz=215						
KDAK	**Kodiak Island**	**80.18**	**20**	P	**P**	**15 35 55.5**	**+0.9**
KDAK	**Kodiak Island**	**80.18**	**20**	P	**P**	**15 35 55.1**	**+0.5**
	comp=Z,34nm,0.9s,baz=352,slow=3.6,SNR=7.4						
KDAK				LR	LR	16 07 31.0	
	comp=Z,2μm,19.3s,baz=61,slow=33						
	comp=Z,34nm,0.9s						
KDAK	**Kodiak Island**	**80.18**	**20**	P	**P**	**15 35 54.5**	**-0.1**
	baz=219						
M15K	**Kasigluk River**	**80.20**	**15**	P	**P**	**15 35 54.8**	**+0.2**
	baz=211						
L14K	**Kuka Creek**	**80.28**	**14**	IAmb	IAmb	15 37 05.2	
	comp=Z,128nm,1.1s						
L14K	**Kuka Creek**	**80.28**	**14**	P	**P**	**15 35 55.5**	**+0.5**
	baz=209						
K13K	**Kusilvak Mount**	**80.36**	**13**	P	**P**	**15 35 55.9**	**+0.4**
	baz=207						
O17K	**Koliganek Bris**	**80.39**	**17**	P	**P**	**15 35 55.4**	**-0.3**
	baz=214						
N16K	**Nishlik Lake**	**80.51**	**16**	P	**P**	**15 35 57.2**	**+0.9**
	baz=213,SNR=9.2						
P18K	**Big Mountain,**	**80.62**	**18**	P	**P**	**15 35 56.7**	**-0.3**
P18K				IAmb	IAmb	15 36 00.5	
	comp=Z,102nm,0.9s						
P18K	**Big Mountain,**	**80.62**	**18**	P	**P**	**15 35 56.4**	**-0.6**
	baz=216,SNR=24						
Q19K	**Cape Douglas,**	**80.74**	**19**	P	**P**	**15 35 57.4**	**-0.2**
	baz=218						
GAMB	**Gambell**	**80.76**	**9**	P	**P**	**15 35 57.7**	**+0.2**
	baz=200,SNR=14						
L15K	**Ungalak Mounta**	**80.85**	**14**	P	**P**	**15 35 58.0**	**-0.2**
	baz=210,SNR=7.3						
Q20K	**Shuyak Island**	**80.89**	**20**	P	**P**	**15 35 58.4**	**0.0**
	baz=219						
M16K	**Timber Creek**	**80.92**	**16**	IAmb	IAmb	15 37 04.7	
	comp=Z,151nm,1.1s						
M16K	**Timber Creek**	**80.92**	**16**	P	**P**	**15 35 59.0**	**+0.5**
	baz=212,SNR=9.0						
N17K	**Nushagak Hills**	**80.98**	**17**	P	**P**	**15 35 58.8**	**-0.1**
	baz=214						
O18K	**Koktuh Hills**	**81.00**	**18**	P	**P**	**15 35 58.2**	**-0.8**
	baz=216						
MAW	**Mawson**	**81.19**	**202**	P	**P**	**15 36 00.8**	**+0.8**
MAW	**Mawson**	**81.19**	**202**	P	**P**	**15 36 01.2**	**+1.3**
	comp=Z,0.0nmcomp=Z,41nm,1.2s						
MAW	**Mawson**	**81.19**	**202**	P	**P**	**15 36 00.8**	**+0.8**
	comp=Z,133nm,1.0s,baz=119,slow=7.1,SNR=11						
MAW				LR	LR	16 07 01.6	
	comp=Z,2μm,21.6s,baz=84,slow=32						
	comp=Z,133nm,1.0s						
MAW	**Mawson**	**81.19**	**202**	⇑P	**P**	**15 36 01.3**	**+1.3**
J14K	**Nanvaranak Lak**	**81.32**	**13**	IAmb	IAmb	15 37 12.5	
	comp=Z,102nm,1.0s						
J14K	**Nanvaranak Lak**	**81.32**	**13**	P	**P**	**15 36 01.2**	**+0.7**
	baz=208						
L16K	**Owhat River**	**81.37**	**15**	P	**P**	**15 36 01.4**	**+0.5**
	baz=212,SNR=5.6						
K15K	**Wolf Creek Mou**	**81.38**	**14**	IAmb	IAmb	15 37 13.0	
	comp=Z,167nm,1.1s						
K15K	**Wolf Creek Mou**	**81.38**	**14**	P	**P**	**15 36 01.3**	**+0.4**
	baz=210,SNR=8.6						
P19K	**Oil Pt**	**81.44**	**19**	P	**P**	**15 36 01.5**	**+0.1**
	baz=218						
N18K	**Kilae Creek**	**81.47**	**17**	P	**P**	**15 36 01.7**	**+0.2**
	baz=215						
O19K	**Port Alsworth**	**81.54**	**18**	P	**P**	**15 36 01.3**	**-0.4**
	baz=217,SNR=11						
M17K	**Holitna River**	**81.64**	**16**	IAmb	IAmb	15 37 51.8	
	comp=Z,177nm,1.7s						
M17K	**Holitna River**	**81.64**	**16**	P	**P**	**15 36 03.3**	**+1.0**
	baz=214						
LKP	**Lekhapani**	**81.65**	**301**	*e*P	**P**	**15 36 03.3**	**+0.1**
ILSW	**Iliamna Southw**	**81.73**	**19**	P	**P**	**15 36 02.3**	**-0.6**
HOM	**Homer**	**81.95**	**20**	P	**P**	**15 36 04.2**	**+0.3**
	baz=219						
O20K	**Slope Mountain**	**81.97**	**19**	P	**P**	**15 36 03.8**	**-0.4**
	baz=218						
N19K	**Bonanza Creek**	**81.99**	**18**	P	**P**	**15 36 03.9**	**-0.4**
	baz=217						
L17K	**Donlin**	**82.03**	**15**	P	**P**	**15 36 04.8**	**+0.5**
	baz=213						
CIT	**Chita**	**82.04**	**330**	*e*P	**P**	**15 36 05.6**	**+0.9**
CIT				*e*		15 36 36.8	
CIT				*e*		15 36 56.8	
CIT				*e*		15 39 10.2	
CIT				*e*S	**S**	**15 46 08.4**	**+0.3**
CIT				*e*		15 47 34.4	
CIT				pmax	pmax		
	comp=Z,1μm,2.0s						
M18K	**Stony River**	**82.16**	**17**	P	**P**	**15 36 05.4**	**+0.4**
	baz=215						
BRLK	**Bradley Lake**	**82.28**	**20**	IAmb	IAmb	15 37 10.8	
	comp=Z,112nm,1.1s						
BRSE	**Bradley Lake S**	**82.31**	**20**	P	**P**	**15 36 05.9**	**0.0**
	baz=220						
IMP	**Imphal**	**82.32**	**298**	*e*P	**P**	**15 36 06.6**	**-0.2**
IMP				IAmb	IAmb	15 36 09.0	
	comp=Z,219nm,0.9s						
IMP				IAMs_20	IAMs_20	15 49 05.8	
	comp=Z,1μm,14.0s						
J16K	**Anvik River**	**82.45**	**14**	P	**P**	**15 36 07.3**	**+0.8**
	baz=211						
KOHI	**KOHIMA**	**82.50**	**299**	*e*P	**P**	**15 36 07.3**	**-0.5**
KOHI				IAmb	IAmb	15 36 42.1	
	comp=Z,221nm,1.0s						
K17K	**Iditarod**	**82.52**	**15**	IAmb	IAmb	15 37 05.6	
	comp=Z,172nm,1.4s						
K17K	**Iditarod**	**82.52**	**15**	P	**P**	**15 36 07.7**	**+0.8**
	baz=213						
L18K	**Granite Mounta**	**82.52**	**16**	P	**P**	**15 36 07.7**	**+0.8**
	baz=214						
ANM	**Nome**	**82.58**	**11**	P	**P**	**15 36 07.8**	**+0.7**
	baz=206						
M19K	**Big River Lodg**	**82.89**	**17**	IAmb	IAmb	15 36 11.7	
	comp=Z,238nm,1.6s						
M19K	**Big River Lodg**	**82.89**	**17**	P	**P**	**15 36 09.3**	**+0.5**
	baz=217,SNR=18						
J17K	**VABM Dome**	**82.91**	**14**	P	**P**	**15 36 09.5**	**+0.7**
	baz=212						
I17K	**Unalakleet**	**82.95**	**14**	IAmb	IAmb	15 37 20.2	
	comp=Z,106nm,1.4s						
I17K	**Unalakleet**	**82.95**	**14**	P	**P**	**15 36 10.1**	**+1.1**
	baz=211						
CAPN	**Captain Cook N**	**82.96**	**19**	P	**P**	**15 36 09.3**	**+0.2**
	baz=220						
SPCR	**Spurr Chakacha**	**82.97**	**18**	P	**P**	**15 36 08.4**	**-1.0**
	baz=219,SNR=5.3						
L19K	**White Mountain**	**82.99**	**17**	P	**P**	**15 36 09.9**	**+0.6**
	baz=216						
YAK	**Yakutsk**	**83.00**	**343**	P	**P**	**15 36 09.4**	**+0.1**
YAK	**Yakutsk**	**83.00**	**343**	LR	LR	16 08 34.9	
	comp=Z,2μm,21.6s,baz=136,slow=32						
YAK	**Yakutsk**	**83.00**	**343**	*c i*P	**P**	**15 36 09.6**	**+0.3**
YAK				*e**PP	**pP**	**15 36 42.5**	**+0.9**
YAK				*e*		15 39 26.5	
YAK				*e*S	**S**	**15 46 15.3**	**-2.0**
YAK				*e*SS	**SS**	**15 51 47.4**	**+3.1**
YAK				*e*SSS	SSS	15 55 16.9	
YAK				pmax	pmax		
	comp=Z,720nm,1.0s						
YAK				pmax	pmax		
	comp=E,111nm,1.5s						
YAK				pmax	pmax		
	comp=N,175nm,1.3s						
YAK				pmax	pmax		
	comp=Z,408nm,2.7s						
YAK				pmax	pmax		
	comp=E,205nm,2.6s						
YAK				pmax	pmax		
	comp=N,266nm,3.0s						
YAK				smax	smax		
	comp=N,538nm,2.5s						
YAK				smax	smax		
	comp=E,791nm,5.3s						
YAK	**Yakutsk**	**83.00**	**343**	⇑P	**P**	**15 36 09.4**	**+0.1**
SEW	**Seward**	**83.01**	**20**	IAmb	IAmb	15 36 47.0	
	comp=Z,83nm,0.8s						
SEW	**Seward**	**83.01**	**20**	P	**P**	**15 36 09.4**	**+0.1**
	baz=221						
TNA	**Tin City**	**83.03**	**10**	⇑P	**P**	**15 36 10.9**	**+1.6**
TNA	**Tin City**	**83.03**	**10**	P	**P**	**15 36 10.0**	**+0.6**
	baz=204,SNR=32						
PAF	**Port-aux-Franc**	**83.05**	**221**	P	**P**	**15 36 10.6**	**+0.5**
PAF	**Port-aux-Franc**	**83.05**	**221**	⇑P	**P**	**15 36 11.1**	**+1.1**
ULN	**Ulaanbaatar**	**83.08**	**324**	P	**P**	**15 36 11.1**	**+0.7**
ULN	**Ulaanbaatar**	**83.08**	**324**	P	**P**	**15 36 11.1**	**+0.7**
ULN				S	**S**	**15 46 20.5**	**+1.4**
ULN	**Ulaanbaatar**	**83.08**	**324**	*i* P	**P**	**15 36 11.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,563nm,0.9s						
ULN	**Ulaanbaatar**	**83.08**	**324**	⇑P	**P**	**15 36 11.3**	**+1.0**
O22K	**Cooper Landing**	**83.20**	**20**	P	**P**	**15 36 10.6**	**+0.2**
	baz=221,SNR=7.5						
G15K	**Niukluk**	**83.22**	**12**	P	**P**	**15 36 10.9**	**+0.5**
	baz=207,SNR=28						
F14K	**Arctic Creek**	**83.22**	**11**	P	**P**	**15 36 11.0**	**+0.6**
	baz=205						
M20K	**Styx River**	**83.24**	**18**	IAmb	IAmb	15 37 54.6	
	comp=Z,143nm,1.7s						
M20K	**Styx River**	**83.24**	**18**	P	**P**	**15 36 10.3**	**-0.4**
	baz=218						
H16K	**Elim**	**83.27**	**13**	P	**P**	**15 36 11.0**	**+0.4**
	baz=209						
SONM	**Songino Array**	**83.44**	**324**	P	**P**	**15 36 12.7**	**+0.5**
SONM	**Songino Array**	**83.44**	**324**	P	**P**	**15 36 12.8**	**+0.6**
	comp=Z,163nm,0.8s,baz=122,slow=2.9,SNR=322						
SONM				S	**S**	**15 46 16.4**	**-6.4**
	comp=Z,4.8nm,1.2s,baz=158,slow=6.2,SNR=4.7						
SONM				PKKPbc	**PKKPbc**	**15 54 32.1**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=274,slow=4.0,SNR=4.7						
SONM				PKPPKP	**P'P'df**	**16 02 35.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=260,slow=0.7,SNR=4.1						
	comp=Z,163nm,0.8s						
BILL	**Bilibino**	**83.45**	**359**	P	**P**	**15 36 12.0**	**+0.4**
BILL	**Bilibino**	**83.45**	**359**	*ce*P	**P**	**15 36 11.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,429nm,2.5s						
L20K	**Farewell, AK**	**83.50**	**17**	P	**P**	**15 36 12.4**	**+0.4**
	baz=217						
BRDH	**Bariadhala**	**83.55**	**296**	LR	LR	16 11 26.5	
	comp=Z,1μm,22.0s,baz=106,slow=34						
J18K	**Innoko River**	**83.55**	**15**	IAmb	IAmb	15 36 14.9	
	comp=Z,140nm,1.6s						
J18K	**Innoko River**	**83.55**	**15**	P	**P**	**15 36 12.7**	**+0.5**
	baz=214						
GTA	**Gaotai**	**83.56**	**314**	⇑P	**P**	**15 36 14.5**	**+1.5**
GTA				pP	pP	15 36 46.3	+0.2
GTA				S	**SKSac**	**15 46 23.0**	**-0.5**
GTA				SS	**SS**	**15 51 57.4**	**+3.5**
GTA				pmax	pmax		
	comp=Z,37nm,1.0s						
GTA				pmax	pmax		
	comp=Z,2μm,10.0s						
GTA				LR	LR		
	comp=Z,770nm,19.1s						
GTA				LR	LR		
	comp=Z,2μm,19.9s						
GTA				LR	LR		
	comp=Z,2μm,22.7s						
P23K	**Montague Islan**	**83.62**	**21**	P	**P**	**15 36 12.3**	**-0.2**
	baz=223						
SUA	**Susitna One**	**83.63**	**19**	IAmb	IAmb	15 36 50.4	
	comp=Z,106nm,1.0s						
SUA	**Susitna One**	**83.63**	**19**	P	**P**	**15 36 11.9**	**-0.8**
	baz=220,SNR=7.1						
RC01	**Rabbit Creek A**	**83.66**	**19**	IAmb	IAmb	15 36 14.7	
	comp=Z,188nm,1.2s						
RC01	**Rabbit Creek A**	**83.66**	**19**	P	**P**	**15 36 12.2**	**-0.6**
	baz=221,SNR=5.4						
F15K	**North Star Dit**	**83.74**	**11**	IAmb	IAmb	15 37 09.3	
	comp=Z,126nm,1.5s						
F15K	**North Star Dit**	**83.74**	**11**	P	**P**	**15 36 13.6**	**+0.6**
	baz=207,SNR=17						
SKT	**Skwentna**	**83.79**	**18**	P	**P**	**15 36 12.1**	**-1.3**
	baz=219,SNR=5.6						
G16K	**Koyuk River**	**83.91**	**12**	P	**P**	**15 36 14.6**	**+0.7**
	baz=209						
PWL	**Port Wells**	**83.94**	**20**	IAmb	IAmb	15 37 24.2	
	comp=Z,177nm,0.9s						
PWL	**Port Wells**	**83.94**	**20**	P	**P**	**15 36 14.1**	**-0.2**
	ba

PMR	Palmer	84.23	19	P	P	15 36 16.8	+1.2
PMR	Palmer	84.23	19	P	P	15 36 15.2	-0.4
	baz=222,SNR=12						
J19K	Poorman	84.26	15	P	P	15 36 16.1	+0.4
	baz=215						
KMPM	Mount Pierce	84.27	45	IAmb	IAmb	15 36 51.3	
	comp=Z,310nm,1.6s						
PPLA	Purkeypile	84.31	17	P	P	15 36 15.3	-0.9
PPLA				IAmb	IAmb	15 37 14.4	
	comp=Z,140nm,1.5s						
PPLA	Purkeypile	84.31	17	P	P	15 36 15.1	-1.1
	baz=219,SNR=5.7						
KNK	Knik Glacier	84.31	20	IAmb	IAmb	15 37 53.3	
	comp=Z,98nm,1.1s						
KNK	Knik Glacier	84.31	20	P	P	15 36 16.0	-0.1
	baz=222,SNR=9.5						
KCPM	Cahto Peak	84.32	46	IAmb	IAmb	15 36 51.4	
	comp=Z,295nm,1.6s						
SHL	Shillong	84.32	298	IAmb	IAmb	15 36 19.4	
	comp=Z,292nm,0.9s						
SHL	Shillong	84.32	298	P	P	15 36 17.3	+0.1
	SNR=129						
SHL				P	PcP	15 36 17.8	-2.9
	SNR=129						
SHL				S	SKSac	15 46 28.2	-1.0
SHL	Shillong	84.32	298	eP	P	15 36 17.3	+0.1
SHL				IAmb	IAmb	15 36 19.1	
	comp=Z,209nm,0.8s						
SHL				IAMs_20	IAMs_20	15 47 58.3	
	comp=Z,2μm,15.4s						
SHL	Shillong	84.32	298	⇑P	P	15 36 17.6	+0.4
G17K	Kiwalik Mounta	84.36	13	P	P	15 36 16.7	+0.5
	baz=211,SNR=21						
GHO	Glory Hole Cre	84.43	19	IAmb	IAmb	15 37 53.3	
	comp=Z,211nm,1.4s						
KMRM	Mail Ridge	84.47	46	IAmb	IAmb	15 36 20.7	
	comp=Z,73nm,0.9s						
CUT	Chulitna	84.49	18	P	P	15 36 15.7	-1.2
	baz=220						
H18K	Honhosa River	84.56	14	P	P	15 36 16.9	-0.3
	baz=213,SNR=12						
GCSA	Galena City Sc	84.57	14	P	P	15 36 17.6	+0.3
	baz=214						
EYAK	Cordova Ski Ar	84.59	21	P	P	15 36 17.3	-0.1
	baz=225						
KAIM	Kayak Island	84.62	22	P	P	15 36 17.8	+0.2
	baz=226						
SAO	San Andreas Ge	84.63	50	⇑P	P	15 36 20.2	+1.9
SML	Sawmill	84.64	19	IAmb	IAmb	15 37 21.1	
	comp=Z,172nm,1.2s						
SML	Sawmill	84.64	19	P	P	15 36 17.9	+0.1
	baz=222,SNR=5.6						
GUWA	GUWAHATI	84.70	299	eP	P	15 36 18.6	-0.3
GUWA				IAmb	IAmb	15 36 52.8	
	comp=Z,164nm,0.9s						
KHMM	Horse Mountain	84.73	45	IAmb	IAmb	15 37 08.7	
	comp=Z,133nm,1.4s						
CAST	Castle Rocks	84.75	17	IAmb	IAmb	15 37 25.5	
	comp=Z,127nm,1.0s						
CAST	Castle Rocks	84.75	17	P	P	15 36 17.4	-0.8
	baz=219,SNR=61						
J20K	Nowinta River	84.79	16	IAmb	IAmb	15 37 15.7	
	comp=Z,128nm,1.2s						
J20K	Nowinta River	84.79	16	P	P	15 36 18.6	+0.2
	baz=217,SNR=34						
M23K	Glacier View	84.83	20	P	P	15 36 18.4	-0.3
	baz=223						
BBGB	Big Mountain B	84.86	50	IAmb	IAmb	15 36 54.6	
	comp=Z,242nm,1.3s						
SCM	Sheep Creek Mo	84.99	20	IAmb	IAmb	15 37 29.7	
	comp=Z,124nm,0.9s						
SCM	Sheep Creek Mo	84.99	20	P	P	15 36 19.5	-0.1
	baz=223,SNR=8.6						
DIV	Divide	85.00	21	IAmb	IAmb	15 37 56.9	
	comp=Z,203nm,1.7s						
TAWA	Tawang	85.04	300	eP	P	15 36 22.1	+1.2
TAWA				IAmb	IAmb	15 36 55.9	
	comp=Z,966nm,1.8s						
TAWA				IAMs_20	IAMs_20	15 49 18.8	
	comp=Z,1μm,17.4s						
F17K	Baldwin Pennin	85.05	12	IAmb	IAmb	15 37 19.6	
	comp=Z,325nm,1.8s						
F17K	Baldwin Pennin	85.05	12	P	P	15 36 20.4	+0.8
	baz=210,SNR=40						
CHUM	Lake Minchumin	85.05	17	P	P	15 36 19.1	-0.5
	baz=218,SNR=16						
O02D	Mt. Diablo Mer	85.08	46	IAmb	IAmb	15 36 55.4	
	comp=Z,346nm,1.8s						
G18K	Tagagawik	85.12	13	P	P	15 36 19.1	-1.0
G18K				IAmb	IAmb	15 37 00.5	
	comp=Z,88nm,1.1s						
G18K	Tagagawik	85.12	13	P	P	15 36 20.0	0.0
	baz=212,SNR=48						
BGLC	Bering Glacier	85.17	22	P	P	15 36 20.6	+0.3
	baz=227						
KTH	Kantishna Hill	85.18	17	IAmb	IAmb	15 37 27.5	
	comp=Z,104nm,0.9s						
I20K	Naaghedeneel	85.20	15	IAmb	IAmb	15 37 02.2	
	comp=Z,215nm,1.1s						
I20K	Naaghedeneel	85.20	15	P	P	15 36 21.2	+0.7
	baz=216						
KLU	Klutina	85.20	20	P	P	15 36 20.1	-0.5
	baz=224,SNR=8.1						
BMRM	Bremner River	85.28	21	IAmb	IAmb	15 37 58.4	
	comp=Z,172nm,1.5s						
BMRM	Bremner River	85.28	21	P	P	15 36 20.6	-0.4
	baz=226,SNR=5.6						
TRF	Thorofare Moun	85.29	18	IAmb	IAmb	15 37 29.6	
	comp=Z,102nm,0.9s						
TRF	Thorofare Moun	85.29	18	P	P	15 36 20.2	-0.9
	baz=220,SNR=14						
H19K	Roundabout Mou	85.32	14	IAmb	IAmb	15 37 18.4	
	comp=Z,195nm,1.3s						
H19K	Roundabout Mou	85.32	14	P	P	15 36 21.4	+0.4
	baz=214,SNR=39						
L02F	Cave Junction	85.38	44	IAmb	IAmb	15 36 56.5	
	comp=Z,174nm,1.9s						
BCW	Bitter Crk WRg	85.43	52	P	P	15 36 22.7	+0.3
BCW				IAmb	IAmb	15 36 57.4	
	comp=Z,182nm,1.2s						
BOD	Bodaibo	85.45	334	⇓iP	P	15 36 21.4	-0.4
BOD				pmax	pmax		
	comp=Z,57nm,2.0s						
E17K	Hotham Inlet	85.49	12	P	P	15 36 22.8	+1.0
	baz=209						
F18K	Selawik	85.51	12	P	P	15 36 22.0	+0.1
	baz=211,SNR=56						
M24K	Tolsona, Glenn	85.56	20	P	P	15 36 22.4	+0.1
	baz=224						
K02D	Willamette Mer	85.57	44	IAmb	IAmb	15 36 58.2	
	comp=Z,130nm,1.5s						
BPAW	Bear Paw Mtn.	85.59	17	IAmb	IAmb	15 38 04.2	
	comp=Z,210nm,1.7s						
BPAW	Bear Paw Mtn.	85.59	17	P	P	15 36 21.3	-1.1
	baz=220,SNR=7.2						
H20K	Anotleneega Mo	85.67	15	P	P	15 36 23.1	+0.4
	baz=216,SNR=43						
RND	Reindeer	85.68	18	IAmb	IAmb	15 37 30.8	
	comp=Z,140nm,1.0s						
G19K	Purcell Mounta	85.68	14	IAmb	IAmb	15 37 03.6	
	comp=Z,134nm,0.9s						
G19K	Purcell Mounta	85.68	14	P	P	15 36 23.2	+0.4
	baz=214,SNR=99						
MESA	MESA	85.70	23	IAmb	IAmb	15 37 47.2	
	comp=Z,94nm,1.1s						
MESA	MESA	85.70	23	P	P	15 36 23.1	-0.2
	baz=228						
N25K	Chitina, Valde	85.73	21	P	P	15 36 23.1	-0.2
	baz=226,SNR=11						
YBH	Yreka Blue Hor	85.80	45	P	P	15 36 24.4	+0.4
YBH				IAmb	IAmb	15 36 58.6	
	comp=Z,172nm,1.8s						
YBH	Yreka Blue Hor	85.80	45	LR	LR	16 12 15.2	
	comp=Z,1μm,18.0s,baz=240,slow=34						
YBH	Yreka Blue Hor	85.80	45	P	P	15 36 24.4	+0.4
YBH				pmax	pmax		
	comp=Z,172nm,1.8s						
D17K	Noatak River	85.80	11	P	P	15 36 24.3	+1.0
	baz=208,SNR=80						
GOMU	GeErMu	85.85	309	P	P	15 36 25.3	+0.5
GOMU				pP	pP	15 36 56.5	-1.6
GOMU				sP	sP	15 37 05.8	-6.1
GOMU				PP	PP	15 39 48.6	+2.2
GOMU				S	S	15 46 50.8	+3.3
GOMU				sS	sS	15 47 42.1	-2.9
GOMU				SS	SS	15 52 31.6	+3.5
GOMU				pmax	pmax		
	comp=Z,67nm,2.5s						
GOMU				pmax	pmax		
	comp=Z,4μm,7.6s						
GOMU				LR	LR		
	comp=Z,2μm,21.4s						
GOMU				LR	LR		
	comp=Z,2μm,22.3s						
GOMU				LR	LR		
	comp=Z,4μm,21.6s						
AFDM	Forest Hills D	85.86	48	IAmb	IAmb	15 36 58.5	
	comp=Z,162nm,1.4s						
VRDI	Verde Repeater	85.87	21	IAmb	IAmb	15 38 06.3	
	comp=Z,243nm,2.0s						
MCK	McKinley	85.90	18	P	P	15 36 23.1	-0.9
	baz=222,SNR=15						
YAH	Yahtse	85.90	23	P	P	15 36 23.8	-0.5
CMB	Columbia Colle	85.91	49	IAmb	IAmb	15 36 58.8	
	comp=Z,103nm,1.4s						
C16K	Lisburne Hills	85.93	10	IAmb	IAmb	15 37 18.2	
	comp=Z,333nm,2.0s						
C16K	Lisburne Hills	85.93	10	P	P	15 36 24.6	+0.7
	baz=206						
E18K	Tukpahlearik C	86.03	12	IAmb	IAmb	15 37 05.3	
	comp=Z,82nm,1.0s						
E18K	Tukpahlearik C	86.03	12	P	P	15 36 24.9	+0.4
	baz=210,SNR=80						
DBO	Dodson Butte	86.03	43	IAmb	IAmb	15 36 59.5	
	comp=Z,205nm,1.9s						
PASC	Pasadena Art C	86.08	53	P	P	15 36 25.7	+0.1
PASC				IAmb	IAmb	15 36 59.8	
	comp=Z,125nm,1.2s						
HARP	HAARP	86.11	20	P	P	15 36 24.4	-0.6
	baz=225,SNR=9.0						
F19K	Shaleruckik Mo	86.11	13	IAmb	IAmb	15 37 22.0	
	comp=Z,163nm,1.2s						
F19K	Shaleruckik Mo	86.11	13	P	P	15 36 25.0	+0.1
	baz=213,SNR=76						
RDOG	Red Dog Mine	86.15	11	IAmb	IAmb	15 37 35.2	
	comp=Z,125nm,1.2s						
RDOG	Red Dog Mine	86.15	11	P	P	15 36 25.6	+0.6
	baz=208,SNR=56						
I21K	Tanana	86.16	16	IAmb	IAmb	15 37 33.7	
	comp=Z,161nm,1.0s						
I21K	Tanana	86.16	16	P	P	15 36 25.0	-0.1
	baz=219						
I03D	Drain, OR	86.21	43	IAmb	IAmb	15 37 01.1	
	comp=Z,144nm,1.6s						
HATC	Hat Creek Radi	86.27	46	IAmb	IAmb	15 37 19.7	
	comp=Z,153nm,1.2s						
PINM	Pinnacle	86.28	23	P	P	15 36 25.3	-0.7
	baz=230,SNR=6.1						
H21K	Melozitna Rive	86.32	15	IAmb	IAmb	15 37 34.6	
	comp=Z,90nm,1.1s						
H21K	Melozitna Rive	86.32	15	P	P	15 36 26.4	+0.4
	baz=218,SNR=27						
PNL	Peninsula	86.34	24	P	P	15 36 25.6	-0.6
	baz=230						
LSA	Lhasa	86.36	302	P	P	15 36 28.5	+0.9
LSA				pmax	pmax		
	comp=Z,19nm,0.7s						
LSA				LR	LR		
	comp=Z,740nm,18.7s						
LSA				LR	LR		
	comp=Z,2μm,28.7s						
LSA	Lhasa	86.36	302	P	P	15 36 28.3	+0.8
LSA	Lhasa	86.36	302	P	P	15 36 28.4	+0.8
PAX	Paxson	86.41	20	P	P	15 36 26.0	-0.6
	baz=225,SNR=5.5						
ISA	Isabella, Lake	86.42	52	IAmb	IAmb	15 37 01.9	
	comp=Z,219nm,1.4s						
SIT	Sitka	86.43	27	P	P	15 36 26.2	-0.4
	baz=234						
C17K	DeLong Mountai	86.47	10	P	P	15 36 26.9	+0.2
	baz=208						
ELS	Elsinore Mount	86.48	54	IAmb	IAmb	15 37 02.2	
	comp=Z,225nm,1.6s						
ZAK	Zakamensk	86.50	325	eP	P	15 36 26.9	-0.4
ZAK				e		15 36 58.4	
ZAK				e		15 46 40.5	
ZAK				pmax	pmax		
	comp=Z,210nm,1.8s						
NEA2	Nenana	86.50	17	P	P	15 36 25.8	-1.1
	baz=221,SNR=6.7						
CRAG	Craig	86.53	29	P	P	15 36 27.3	+0.2
	baz=236						
S31K	Pelican	86.58	26	P	P	15 36 27.2	-0.1
	baz=233						
CBX	Cerro Bola	86.60	55	P	P	15 36 28.6	+0.3
CBX				IAmb	IAmb	15 37 03.0	
	comp=Z,173nm,1.3s						
HEBO	Mount Hebo	86.61	41	IAmb	IAmb	15 36 30.9	
	comp=Z,98nm,1.0s						
BUCK	Buck Mountain	86.66	42	IAmb	IAmb	15 37 35.5	
	comp=Z,139nm,1.4s						
WRH	Wood River Hil	86.70	18	IAmb	IAmb	15 37 37.2	
	comp=Z,68nm,0.9s						
F20K	Avaraart Lake	86.74	14	IAmb	IAmb	15 37 27.0	
	comp=Z,144nm,1.4s						
F20K	Avaraart Lake	86.74	14	P	P	15 36 28.4	+0.5
	baz=215						
E19K	Redstone River	86.75	13	IAmb	IAmb	15 37 27.2	
	comp=Z,246nm,1.4s						
E19K	Redstone River	86.75	13	P	P	15 36 28.6	+0.5
	baz=214,SNR=65						
O28M	Mount Upton	86.75	23	P	P	15 36 27.5	-1.0
	baz=230,SNR=14						
WAKR	Walker	86.78	49	IAmb	IAmb	15 37 03.9	
	comp=Z,230nm,1.4s						
G21K	Allakaket	86.83	15	IAmb	IAmb	15 37 38.7	
	comp=Z,82nm,1.1s						
G21K	Allakaket	86.83	15	P	P	15 36 28.8	+0.4
	baz=217						
M26K	Nabesna, AK	86.83	21	P	P	15 36 28.2	-0.4
	baz=227,SNR=18						
I23K	Minto, Yukon-K	86.84	17	P	P	15 36 27.6	-0.8
	baz=221,SNR=5.6						
H22K	Ishtalitna Cre	86.87	16	P	P	15 36 28.6	-0.1
	baz=219,SNR=23						
U33K	Whale Pass	86.89	29	P	P	15 36 29.3	+0.4
	baz=236						
PNTR	Pine Nut	86.89	48	P	P	15 36 29.6	-0.1
PNTR				IAmb	IAmb	15 37 04.2	
	comp=Z,154nm,1.4s						
IRK	Irkutsk	86.89	327	eP	P	15 36 27.5	-1.6
IRK				eS	S	15 46 53.8	-2.4
IRK				pmax	pmax		
	comp=Z,482nm,2.0s						
K24K	Donnelly Dome	86.91	19	P	P	15 36 28.9	-0.1
	baz=224,SNR=13						
CCB	Clear Creek Bu	86.91	18	IAmb	IAmb	15 38 10.1	
	comp=Z,216nm,1.8s						
G03D	McMinnville, O	86.92	41	IAmb	IAmb	15 36 32.2	
	comp=Z,63nm,0.9s						
MENT	Mentasta	86.96	20	P	P	15 36 29.6	+0.4
H04D	Lebanon	86.96	42	IAmb	IAmb	15 37 04.0	
	comp=Z,277nm,1.9s						
C18K	Utukok River	86.98	11	IAmb	IAmb	15 37 09.0	
	comp=Z,87nm,0.9s						
C18K	Utukok River	86.98	11	P	P	15 36 29.5	+0.4
	baz=210						
VTX	Valle De La Tr	86.98	56	IAmb	IAmb	15 37 05.1	
	comp=Z,158nm,1.3s						
HDA	Harding Lake	86.99	18	P	P	15 36 28.3	-0.9
	baz=223						
S32K	Killisnoo	87.00	27	P	P	15 36 28.8	-0.6
	baz=235						
F03A	Seaside	87.05	41	IAmb	IAmb	15 37 41.1	
	comp=Z,242nm,1.7s						
R31K	City Hall, Gus	87.06	26	P	P	15 36 29.5	-0.1
	baz=234						
O29M	Mount Kennedy	87.06	24	P	P	15 36 29.2	-0.6
	baz=231						
ESJX	Sierra Juarez	87.06	56	P	P	15 36 31.3	+0.7
ESJX				IAmb	IAmb	15 37 05.8	
	comp=Z,125nm,1.4s						
COLA	College	87.06	17	P	P	15 36 28.4	-1.2
COLA	College	87.06	17	P	P	15 36 29.2	-0.3
COLA	College	87.06	17	iP	P	15 36 28.1	-1.4
COLA				pmax	pmax		
	comp=Z,69nm,0.9s						
COLA	College	87.06	17	⇑P	P	15 36 28.6	-0.9
COLA	College	87.06	17	P	P	15 36 28.6	-0.9
	baz=222						
L26K	Log Cabin Wild	87.14	20	P	P	15 36 29.3	-0.8
	baz=227,SNR=12						
RIDG	Independent Ri	87.15	19	IAmb	IAmb	15 37 39.0	
	comp=Z,78nm,1.0s						
RIDG	Independent Ri	87.15	19	P	P	15 36 29.5	-0.7
	baz=225,SNR=14						
V35K	Ketchikan	87.17	30	P	P	15 36 29.7	-0.5
	baz=237						
M27K	Edge Creek, AK	87.19	21	P	P	15 36 30.0	-0.5
	baz=228,SNR=10						
PFO	Pinyon Flats O	87.22	54	P	P	15 36 32.0	+0.8
PFO				IAmb	IAmb	15 37 05.9	
	comp=Z,92nm,1.2s						
PFO	Pinyon Flats O	87.22	54	LR	LR	16 10 43.9	
	comp=Z,4μm,18.6s,baz=253,slow=32						
PFO	Pinyon Flats O	87.22	54	P	P	15 36 32.4	+1.1
PFO				pmax	pmax		
	comp=Z,157nm,3.5s						
YUK8	Steele Glacier	87.24	23	P	P	15 36 30.9	0.0
	baz=230						
OZB	Mount Ozzard	87.24	37	⇑P	P	15 36 32.5	+1.7
IL31		87.27	18	IAmb	IAmb	15 38 12.9	
	comp=Z,72nm,1.1s						
ILAR	Eielson Array	87.27	18	P	P	15 36 28.7	-1.9
ILAR	Eielson Array	87.27	18	P	P	15 36 29.1	-1.5
	comp=Z,32nm,0.8s,baz=236,slow=4.4,SNR=154						
ILAR				pP	pP	15 37 01.0	-2.3
	comp=Z,21nm,0.8s,baz=238,slow=5.5,SNR=5.3						
ILAR				PKiKP	PKiKP	15 41 34.2	0.0
	comp=Z,1.3nm,0.7s,baz=267,slow=2.6,SNR=5.2						
ILAR				PKKP	PKKPdf	15 54 17.6	-0.2
	comp=Z,3.4nm,1.0s,baz=43,slow=0.9,SNR=9.1						
ILAR				PKPPKP	P'P'df	16 02 27.2	+0.5
	comp=Z,2.5nm,1.1s,baz=11,slow=1.9,SNR=9.1						
ILAR				LR	LR	16 11 02.8	
	comp=Z,2μm,20.4s,baz=225,slow=32						
	comp=Z,32nm,0.8s						
PAHR	Pah Rah Range	87.29	48	IAmb	IAmb	15 37 05.9	
	comp=Z,203nm,1.6s						
YUK3	Moose Creek	87.30	22	P	P	15 36 30.4	-0.7
	baz=229,SNR=12						
H23K	Yukon River	87.31	16	IAmb	IAmb	15 38 13.8	
	comp=Z,215nm,1.6s						
H23K	Yukon River	87.31	16	P	P	15 36 30.5	-0.2
	baz=221						
YUH	Yuha Desert	87.31	55	IAmb	IAmb	15 37 06.4	
	comp=Z,128nm,1.2s						
E03A	Lebam	87.31	40	P	P	15 36 31.9	+0.8
E03A				IAmb	IAmb	15 36 35.4	
	comp=Z,124nm,1.1s						
BBB	Bella Bella	87.32	34	P	P	15 36 32.0	+0.9
	comp=Z,21nm,0.8s,baz=309,slow=5.0,SNR=7.7						
BBB				LR	LR	16 06 55.6	
	comp=Z,2μm,21.6s,baz=246,slow=30						
	comp=Z,21nm,0.8s						
BBB	Bella Bella	87.32	34	⇑P	P	15 36 31.7	+0.7
JPG	JALPAIGURI	87.33	298	⇑eP	P	15 36 31.4	-0.3
DOT	Dot Lake	87.34	19	IAmb	IAmb	15 37 39.4	
	comp=Z,57nm,1.0s						
T33K	Petersburg	87.36	28	P	P	15 36 30.5	-0.6
	baz=236						
POKR	Poker Plat Res	87.36	17	IAmb	IAmb	15 38 13.2	
	comp=Z,112nm,1.4s						
POKR	Poker Plat Res	87.36	17	P	P	15 36 30.2	-0.9
	baz=223,SNR=12						
LHV	Little Huntoon	87.37	49	IAmb	IAmb	15 37 06.7	
	comp=Z,188nm,1.4s						
F21K	Alatna River	87.40	14	IAmb	IAmb	15 37 43.0	
	comp=Z,70nm,1.1s						
F21K	Alatna River	87.40	14	P	P	15 36 31.2	0.0
	baz=217,SNR=23						
PLBC	Pleasant Camp	87.42	25	P	P	15 36 30.8	-0.6
	baz=233,SNR=7.5						
WRAK	Wrangell Islan	87.42	29	P	P	15 36 31.4	-0.1
	baz=237						
DSP	Deep Springs	87.43	50	IAmb	IAmb	15 37 06.9	
	comp=Z,178nm,1.3s						
J05D	Fort Rock, OR	87.43	44	P	P	15 36 32.2	+0.1
J05D				IAmb	IAmb	15 36 34.2	
	comp=Z,128nm,1.6s						
D19K	Kuna River	87.44	12	IAmb	IAmb	15 37 53.0	
	comp=Z,104nm,1.1s						
D19K	Kuna River	87.44	12	P	P	15 36 31.6	+0.2
	baz=213,SNR=39						
WISH	Wishkah	87.44	40	IAmb	IAmb	15 36 34.3	
	comp=Z,172nm,1.5s						
F04D	Rainier, OR	87.46	41	IAmb	IAmb	15 36 37.1	
	comp=Z,60nm,0.7s						
RYN	Ryan	87.49	49	IAmb	IAmb	15 37 07.0	
	comp=Z,191nm,1.6s						
B18K	Kokolik River	87.50	10	P	P	15 36 32.3	+0.8
	baz=209						
R32K	Eaglecrest	87.50	27	P	P	15 36 30.9	-0.9
	baz=235						
NLWA	Neilton Lookou	87.50	39	IAmb	IAmb	15 36 34.2	
	comp=Z,136nm,1.6s						
YUK6	Outpost Mounta	87.55	23	P	P	15 36 31.3	-1.0
	baz=231						
GSC	Goldstone, Bar	87.55	52	IAmb	IAmb	15 37 07.5	
	comp=Z,246nm,1.6s						
BVCY	Beaver Creek	87.58	21	P	P	15 36 31.7	-0.5
	baz=229						
NVAR	Mina Array Bea	87.58	49	P	P	15 36 32.7	-0.3
NVAR	Mina Array Bea	87.58	49	P	P	15 36 33.6	+0.7
	comp=Z,9.5nm,0.8s,baz=231,slow=7.4,SNR=53						
NVAR				pP	pP	15 37 04.8	-1.7
	comp=Z,31nm,1.0s,baz=232,slow=7.6,SNR=9.0						
NVAR				PKiKP	PKiKP	15 41 37.5	+1.6
	comp=Z,0.5nm,0.7s,baz=318,slow=3.8,SNR=1.9						
NVAR				PKKPbc	PKKPbc	15 54 22.8	+0.4
	comp=Z,3.4nm,0.7s,baz=80,slow=2.8,SNR=16						
NVAR				PKPPKP	P'P'df	16 02 30.2	+1.7
	comp=Z,2.3nm,0.9s,baz=90,slow=3.4,SNR=5.9						
NVAR				LR	LR	16 11 00.5	
	comp=Z,3μm,18.7s,baz=252,slow=32						
	comp=Z,9.5nm,0.8s						
P30M	Million Dollar	87.58	24	P	P	15 36 31.7	-0.6
	baz=232						
SCRK	Sand Creek	87.59	19	IAmb	IAmb	15 37 42.3	
	comp=Z,59nm,0.9s						
SCRK	Sand Creek	87.59	19	P	P	15 36 32.1	-0.2
	baz=226,SNR=18						
J25K	Salcha River,	87.61	18	IAmb	IAmb	15 37 42.9	
	comp=Z,60nm,0.8s						
J25K	Salcha River,	87.61	18	P	P	15 36 31.9	-0.4
	baz=225,SNR=40						
E20K	Nigu River	87.64	13	P	P	15 36 32.9	+0.5
	baz=215						
L27K	Beaver Creek,	87.68	21	P	P	15 36 32.4	-0.2
	baz=228						
GTK	Tadong	87.68	299	eP	P	15 36 33.8	+0.2
GTK				IAmb	IAmb	15 36 35.6	
	comp=Z,88nm,0.9s						
NV11	Mina Array Sit	87.69	49	IAmb	IAmb	15 37 07.9	
	comp=Z,190nm,1.5s						
BCAR	Beaver Creek A	87.69	21	P	P	15 36 31.8	-0.9
YUK4	Talbot Arm	87.69	23	P	P	15 36 33.1	+0.2
	baz=231,SNR=7.6						
H24K	Noodor Dome	87.77	17	P	P	15 36 31.7	-1.3
	baz=222						
HYT	Haines Junctio	87.80	24	P	P	15 36 32.7	-0.7
	baz=232,SNR=7.9						
CBB	Campbell River	87.81	36	IAmb	IAmb	15 36 36.4	
	comp=Z,72nm,1.1s						
SKAG	Skagway	87.85	25	P	P	15 36 34.9	+1.5
SKAG	Skagway	87.85	25	P	P	15 36 32.8	-0.6
	baz=234,SNR=9.2						
G23K	Bananza Creek	87.85	16	IAmb	IAmb	15 38 16.1	
	comp=Z,200nm,1.6s						
G23K	Bananza Creek	87.85	16	P	P	15 36 33.3	-0.1
	baz=220,SNR=12						
D20K	Etivluk River	87.92	12	P	P	15 36 34.2	+0.6
	baz=214						
F22K	John River	87.94	14

baz=225,SNR=13
WCT Wildcat Mounta 88.22 51 IAmb IAmb 15 37 10.6
comp=Z,170nm,1.3s
K27K Chicken 88.24 20 P **P 15 36 35.0 -0.2**
baz=228
U35K Hyder 88.25 30 P **P 15 36 35.4 0.0**
baz=239
E21K Killik River 88.27 13 P **P 15 36 35.4 +0.1**
baz=217
PGC Sidney 88.31 38 IAmb IAmb 15 36 38.5
comp=Z,63nm,1.1s
GLA Glamis 88.31 55 P **P 15 36 37.0 +0.7**
GLA IAmb IAmb 15 37 11.7
comp=Z,194nm,1.3s
GLA Glamis 88.31 55 P **P 15 36 37.0 +0.7**
GLA pmax pmax
comp=Z,194nm,1.3s
O30N Mendenhall 88.32 24 P **P 15 36 35.1 -0.6**
baz=233,SNR=8.8
N30M Aishikik Lake 88.35 23 P **P 15 36 34.2 -1.7**
baz=232
A19K Wainwright 88.36 10 P **P 15 36 36.5 +0.9**
baz=210
MOY Mondy 88.39 325 *e*P **P 15 36 35.7 -0.6**
MOY pmax pmax
comp=Z,369nm,2.9s
M29M Somme Creek 88.45 22 P **P 15 36 36.4 0.0**
baz=231,SNR=5.9
E22K Anaktuvuk Pass 88.51 14 IAmb IAmb 15 37 22.8
comp=Z,226nm,1.7s
E22K Anaktuvuk Pass 88.51 14 P **P 15 36 36.9 +0.4**
baz=219,SNR=19
G24K Hadweenzic Riv 88.52 16 IAmb IAmb 15 38 31.8
comp=Z,87nm,1.3s
G24K Hadweenzic Riv 88.52 16 P **P 15 36 36.6 +0.1**
baz=223,SNR=18
TPNV Topopah Spring 88.56 51 IAmb IAmb 15 37 12.4
comp=Z,205nm,1.4s
TPNV Topopah Spring 88.56 51 ⇑P **P 15 36 37.6 +0.1**
P32M Atlin 88.59 26 P **P 15 36 36.3 -0.7**
baz=235,SNR=8.1
H25L Birch Creek 88.66 17 P **P 15 36 37.1 0.0**
baz=224
C21K Knifeblade Rid 88.67 13 P **P 15 36 37.9 +0.8**
baz=216,SNR=45
T35M Bob Quinn 88.70 29 P **P 15 36 37.2 -0.3**
baz=238
HALK Hakmana 88.72 277 ⇑P **P 15 36 39.3 +0.7**
WHY Whitehorse 88.73 25 P **P 15 36 36.9 -0.9**
baz=234,SNR=5.9
I26K Coal Creek Min 88.77 19 IAmb IAmb 15 37 45.7
comp=Z,58nm,1.1s
I26K Coal Creek Min 88.77 19 P **P 15 36 37.4 -0.3**
baz=227
BLYC Blythe 88.78 55 IAmb IAmb 15 37 13.7
comp=Z,171nm,1.2s
S34M Telegraph Cree 88.79 28 P **P 15 36 38.0 +0.1**
baz=238,SNR=9.8
WVOR Wild Horse Val 88.85 45 P **P 15 36 38.0 -0.8**
WVOR Wild Horse Val 88.85 45 ⇑P **P 15 36 39.0 +0.2**
Q32M Nakina River 88.86 27 P **P 15 36 38.3 -0.1**
baz=237,SNR=6.2
N31M Braeburn, Yuko 88.87 24 P **P 15 36 37.3 -1.0**
baz=234,SNR=8.9
B20K Meade River 88.89 11 IAmb IAmb 15 37 59.2
comp=Z,162nm,1.6s
B20K Meade River 88.89 11 P **P 15 36 38.9 +0.8**
baz=214
D22K Ayikyak River 88.90 13 IAmb IAmb 15 37 24.3
comp=Z,92nm,0.9s
D22K Ayikyak River 88.90 13 P **P 15 36 39.1 +0.9**
baz=218
BOK Bokaro 88.92 295 *e*P **P 15 36 40.1 +0.8**
BOK IAMs_20 IAMs_20 15 48 32.7
comp=Z,3μm,17.7s
G25K Bearman Lake 88.94 17 P **P 15 36 38.0 -0.4**
baz=224,SNR=11
E23K Chandalar 88.98 15 IAmb IAmb 15 38 15.0
comp=Z,90nm,1.3s
E23K Chandalar 88.98 15 P **P 15 36 39.1 +0.3**
baz=221
L29M L29M 88.99 22 P **P 15 36 38.5 -0.3**
baz=231,SNR=10
F24K Squaw Lake 89.01 16 P **P 15 36 39.1 +0.2**
baz=222,SNR=29
PALK Pallekele 89.02 278 P **P 15 36 39.9 -0.2**
PALK IAmb IAmb 15 37 14.1
comp=Z,70nm,0.9s
PALK Pallekele 89.02 278 P **P 15 36 40.2 +0.1**
PALK S **SKSac 15 47 00.3 +2.1**
FYU Fort Yukon 89.04 17 IAmb IAmb 15 38 30.2
comp=Z,106nm,1.8s
113A Mohawk Valley, 89.06 56 IAmb IAmb 15 37 15.0
comp=Z,166nm,1.5s
B21K Ikpikpuk River 89.08 12 IAmb IAmb 15 37 57.5
comp=Z,95nm,1.0s
B21K Ikpikpuk River 89.08 12 P **P 15 36 39.8 +0.7**
baz=216
M30M Minto, Yukon 89.14 22 P **P 15 36 38.5 -1.1**
baz=233,SNR=20
DAWY Dawson 89.16 21 P **P 15 36 38.7 -0.9**
baz=230,SNR=12
S11A Rachel 89.18 51 P **P 15 36 40.5 0.0**
V12A Nelson 89.19 53 IAmb IAmb 15 37 15.4
comp=Z,150nm,1.4s
SHPR Sheep Range 89.22 52 IAmb IAmb 15 37 15.9
comp=Z,120nm,1.3s
KNTI KHUNTI 89.23 294 *e*P **P 15 36 40.0 -0.9**
LPIG La Paz 89.24 65 LR LR 16 09 21.9
comp=Z,1μm,20.7s,baz=245,slow=30
E24K Your Creek 89.28 15 P **P 15 36 40.5 +0.5**
baz=222
J08A Circle Bar Ran 89.31 44 IAmb IAmb 15 37 26.0
comp=Z,90nm,1.2s
P33M Teslin, Yukon 89.32 25 P **P 15 36 39.8 -0.7**
baz=236,SNR=6.2
F07A Phinny Hill Vi 89.34 42 P **P 15 36 40.6 -0.1**
F07A IAmb IAmb 15 36 43.4
comp=Z,42nm,0.9s
MXC Moxie City 89.38 41 IAmb IAmb 15 37 16.3
comp=Z,109nm,1.7s
ELIB Princess Elisa 89.40 190 *d*P **P 15 36 40.9 0.0**
ELIB comp=Z,78nm,1.2s *d*pP **pP 15 37 13.3 -1.1**
LTY Liberty 89.41 40 IAmb IAmb 15 37 16.3
comp=Z,198nm,1.9s
D23K Nanushuk River 89.42 14 IAmb IAmb 15 37 50.4
comp=Z,85nm,0.9s
D23K Nanushuk River 89.42 14 P **P 15 36 41.7 +1.0**
baz=220
TOLK Toolik Lake Re 89.44 14 IAmb IAmb 15 37 53.3
comp=Z,106nm,1.4s
TOLK Toolik Lake Re 89.44 14 P **P 15 36 41.2 +0.4**
baz=221,SNR=15
SLBS Sierra La Lagu 89.44 65 ⇑P **P 15 36 43.2 +1.3**
VIS Vishakhapatnam 89.44 288 *e*P **P 15 36 40.9 -1.0**
VIS IAMs_20 IAMs_20 15 48 39.7
comp=Z,4μm,20.9s
I27K Kandik River 89.45 19 P **P 15 36 42.0 +1.1**
baz=228
MALK Mahakanadarawa 89.48 279 P **P 15 36 41.8 -0.4**
R11B Troy Canyon, C 89.54 50 IAmb IAmb 15 37 16.8
comp=Z,114nm,1.4s
DLBC Dease Lake 89.56 28 PKPPKP 16 02 24.3
comp=Z,2.4nm,1.0s,baz=0.0,slow=6.1,SNR=3.0
DLBC LR LR 16 14 25.3
comp=Z,2μm,18.0s,baz=244,slow=34
DLBC Dease Lake 89.56 28 P **P 15 36 41.2 -0.5**
baz=238,SNR=12
PRN Pahroc Range 89.61 51 P **P 15 36 43.1 +0.7**
E07A Sunnyside 89.65 41 IAmb IAmb 15 36 45.0
comp=Z,55nm,0.9s
R33M Jennings River 89.66 27 P **P 15 36 41.3 -0.9**
baz=238,SNR=15
F25K Christian Rive 89.66 16 P **P 15 36 42.2 +0.3**
baz=224,SNR=17
K29M Barlow Dome 89.66 21 P **P 15 36 40.5 -1.5**
baz=232,SNR=11
G26K Porcupine Rive 89.72 17 P **P 15 36 42.6 +0.5**
baz=226
G08A Pilot Rock 89.73 43 IAmb IAmb 15 36 45.4
comp=Z,72nm,1.1s
W13A Hualapai Mount 89.73 53 IAmb IAmb 15 37 18.2
comp=Z,131nm,1.2s
N32M Quiet Lake 89.74 25 P **P 15 36 40.4 -2.0**
baz=236
RAGD RAYAGADA 89.76 290 *e*P **P 15 36 42.7 -0.7**
RAGD IAmb IAmb 15 36 47.0
comp=Z,92nm,1.2s
HAWA Hanford 89.79 41 IAmb IAmb 15 37 18.3
comp=Z,228nm,1.7s
HAWA Hanford 89.79 41 ⇑P **P 15 36 43.7 +0.9**
J29N Klondike Camp 89.80 21 P **P 15 36 41.0 -1.6**
baz=231
M31M Drury Creek, Y 89.83 23 P **P 15 36 41.2 -1.5**
baz=235
BMAR Burnt Mountain 89.83 17 P **P 15 36 42.3 -0.4**
I28M Miner Creek 89.87 19 P **P 15 36 42.3 -0.7**
baz=230
H27K Steamboat Moun 89.89 18 P **P 15 36 43.7 +0.7**
baz=228,SNR=12
B22K Teshekpuk Lake 89.91 12 IAmb IAmb 15 37 29.1
comp=Z,119nm,1.2s
B22K Teshekpuk Lake 89.91 12 P **P 15 36 43.6 +0.7**
baz=217,SNR=36
D24K Happy Valley 90.00 14 IAmb IAmb 15 38 30.3
comp=Z,64nm,1.1s
D24K Happy Valley 90.00 14 P **P 15 36 43.8 +0.4**
baz=222
Y14A Wickenburg 90.04 55 IAmb IAmb 15 37 19.3
comp=Z,75nm,1.3s
E25K Arctic Village 90.06 16 P **P 15 36 43.8 +0.1**
baz=225,SNR=14
MAYO Mayo, Yukon 90.09 22 P **P 15 36 42.9 -1.0**
baz=233
A21K Barrow 90.09 11 P **P 15 36 44.0 +0.3**
baz=214
C23K Itkillik River 90.11 13 IAmb IAmb 15 37 55.8
comp=Z,110nm,1.1s
C23K Itkillik River 90.11 13 P **P 15 36 44.7 +0.9**
baz=220,SNR=43
A22K Sinclair Lake 90.14 11 P **P 15 36 44.9 +1.0**
baz=216
F26K Sheenjek River 90.14 17 P **P 15 36 44.4 +0.3**
baz=226,SNR=14
HSIG 90.17 60 IAmb IAmb 15 37 19.9
comp=Z,81nm,1.2s
JHSG JHARSUGUGA 90.19 292 *e*P **P 15 36 45.8 +0.5**
FARO Faro, Yukon 90.24 24 P **P 15 36 43.7 -0.9**
baz=236
G27K Doyon Strip 90.24 18 P **P 15 36 44.8 +0.2**
baz=228
I29M Ogilvie Camp, 90.34 20 P **P 15 36 43.9 -1.2**
baz=231
D08A Wollman Farm, 90.43 41 IAmb IAmb 15 37 21.3
comp=Z,176nm,1.8s
C24K Franklin Bluff 90.46 14 IAmb IAmb 15 37 55.5
comp=Z,68nm,0.8s
C24K Franklin Bluff 90.46 14 P **P 15 36 45.9 +0.5**
baz=222
J30M Hart River 90.52 21 P **P 15 36 45.5 -0.5**
baz=233
ELK Elko 90.62 48 IAmb IAmb 15 37 21.8
comp=Z,117nm,1.4s
ELK Elko 90.62 48 ⇑P **P 15 36 48.0 +0.7**
BMO Blue Mountains 90.65 43 IAmb IAmb 15 37 21.2
comp=Z,118nm,1.5s
BMO Blue Mountains 90.65 43 ⇑P **P 15 36 46.7 -0.4**
B08A Colville Reser 90.68 40 IAmb IAmb 15 37 21.8
comp=Z,153nm,1.8s
SPR3 Spring Creek 3 90.69 50 IAmb IAmb 15 37 22.2
comp=Z,148nm,1.3s
D25K Kavik River 90.72 15 P **P 15 36 46.9 +0.1**
baz=224
E09A Wood Farm, Sta 90.72 42 IAmb IAmb 15 37 22.3
comp=Z,123nm,1.5s
PMSA Palmer Station 90.79 160 LR LR 16 10 02.5
comp=Z,840nm,19.6s,baz=224,slow=30
PMSA Palmer Station 90.79 160 *e*P **P 15 36 48.9 +1.6**
H29M Whitestone 90.86 19 P **P 15 36 45.7 -1.7**
baz=231
PSUT Pine Spring 90.88 50 IAmb IAmb 15 37 23.2
comp=Z,114nm,1.5s
I30M Mount Dempster 90.90 20 P **P 15 36 46.7 -1.1**
baz=233,SNR=13
TIXI Tiksi 90.93 349 P **P 15 36 46.5 -1.1**
TIXI Tiksi 90.93 349 LR LR 16 16 15.7
comp=Z,2μm,19.8s,baz=151,slow=34
TIXI Tiksi 90.93 349 *i* P **P 15 36 46.7 -0.9**
TIXI pmax pmax
comp=Z,159nm,1.1s
WTLY Watson Lake, Y 90.97 27 P **P 15 36 47.7 -0.4**
baz=240,SNR=11
C09A Chrisman Ranch 91.12 40 IAmb IAmb 15 37 23.1
comp=Z,91nm,1.7s
MFID Camas Ranch 91.13 45 IAmb IAmb 15 37 23.8
comp=Z,136nm,1.7s
E27K Coleen River 91.18 17 P **P 15 36 48.9 0.0**
baz=228
TUC Tucson 91.30 57 P **P 15 36 52.1 +1.7**
TUC pmax pmax
comp=Z,8.0nm,2.3s
G29M Pine Creek 91.41 19 P **P 15 36 49.0 -1.0**
baz=232,SNR=11
X16A Lo Mia Camp, P 91.42 55 IAmb IAmb 15 37 26.4
comp=Z,96nm,1.1s
EPYK Eagle Plains 91.48 19 P **P 15 36 49.6 -0.8**
baz=233,SNR=6.1
C26K Camden Bay 91.50 15 P **P 15 36 50.7 +0.4**
baz=225,SNR=24
C27K Jago River 91.60 15 IAmb IAmb 15 38 35.4
comp=Z,55nm,1.4s
C27K Jago River 91.60 15 P **P 15 36 50.9 +0.1**
baz=226
BLSP Bilaspur 91.75 292 *e*P **P 15 36 51.8 -0.8**
BLSP IAmb IAmb 15 36 53.5
comp=Z,67nm,1.1s
BLSP IAMs_20 IAMs_20 15 49 03.6
comp=Z,2μm,17.7s
TGTN Hyland Airport 91.90 26 P **P 15 36 51.7 -0.7**
baz=240,SNR=11
H31M Peel River 91.93 20 P **P 15 36 50.9 -1.5**
baz=235,SNR=7.2
TOAD Toad River Com 91.95 29 P **P 15 36 52.4 -0.3**
baz=243,SNR=40
MTPU Mount Pierson 91.97 51 IAmb IAmb 15 37 29.3
comp=Z,90nm,1.2s
TROLL Troll, Antarti 91.99 185 ⇑P **P 15 36 52.9 0.0**
comp=Z,73μm,1.6s
TROLL ⇓pP **pP 15 37 26.0 -0.2**
G30M tAoh Zraii Nji 92.01 19 P **P 15 36 51.9 -0.9**
baz=233,SNR=23
NEW Newport 92.01 40 P **P 15 36 53.2 0.0**
NEW Newport 92.01 40 LR LR 16 15 48.3
comp=Z,1μm,18.1s,baz=244,slow=34
E28M Babbage River 92.03 17 IAmb IAmb 15 38 51.9
comp=Z,81nm,1.8s
E28M Babbage River 92.03 17 P **P 15 36 52.8 0.0**
baz=230,SNR=23
D27M Malcolm River 92.06 16 P **P 15 36 53.1 +0.1**
baz=229
HLID Hailey 92.15 45 IAmb IAmb 15 37 28.9
comp=Z,78nm,1.6s
DUG Dugway, Tooele 92.18 49 IAmb IAmb 15 37 29.0
comp=Z,81nm,1.5s
NVL N'lazarevskaya 92.21 188 *e*P **P 15 36 54.0 +0.3**
NVL *e**PP **pP 15 37 25.9 -1.2**
NVL *e*S **SKSac 15 47 14.2 -0.2**
NVL pmax pmax
comp=Z,171nm,1.2s
319A Douglas 92.25 58 IAmb IAmb 15 37 30.2
comp=Z,100nm,1.1s
BGU Big Grassy Mou 92.26 48 IAmb IAmb 15 37 29.2
comp=Z,63nm,1.5s
E29M Blow River 92.37 18 P **P 15 36 54.0 -0.4**
baz=232
F30M Barrier River 92.52 19 P **P 15 36 54.5 -0.6**
baz=234,SNR=9.2
G31M Satah River 92.60 20 P **P 15 36 54.7 -0.7**
baz=235,SNR=10
SNAA Sanae 92.67 183 P **P 15 36 55.1 -0.9**
SNAA Sanae 92.67 183 ⇑P **P 15 36 55.6 -0.4**
comp=Z,947nm,0.7s
SNAA ⇓pP **pP 15 37 28.5 -0.8**
SNAA Sanae 92.67 183 P **P 15 36 55.6 -0.4**
comp=Z,103nm,0.7s,baz=202,slow=6.0,SNR=103
SNAA LR LR 16 15 07.4
comp=Z,983nm,22.0s,baz=152,slow=33
comp=Z,103nm,0.7s
HVU Hansel Valley 92.71 47 IAmb IAmb 15 37 31.4
comp=Z,80nm,1.4s
D28M Stokes Point 92.72 17 P **P 15 36 56.0 +0.1**
baz=231
KOD Kodaikanal 92.89 280 *e*P **P 15 36 58.7 +0.4**
KOD IAmb IAmb 15 37 32.4
comp=Z,45nm,1.0s
TRD Trivandrum 92.92 278 *e*P **P 15 36 59.8 +1.7**
TRD IAMs_20 IAMs_20 15 50 28.8
comp=Z,2μm,15.2s
Q16A Castle Valley 93.00 51 IAmb IAmb 15 37 33.4
comp=Z,86nm,1.4s
F31M Tsiigehtchic 93.06 19 P **P 15 36 56.9 -0.6**
baz=235
KOTAN Kotaneelee Air 93.07 28 P **P 15 36 57.2 -0.6**
baz=244
VNA3 Neumayer Olymp 93.32 181 ⇑P **P 15 36 58.3 -0.6**
comp=Z,85nm,0.6s
VNA3 ⇓pP **pP 15 37 31.3 -1.0**
TCUT Toone Canyon 93.49 48 IAmb IAmb 15 37 42.8
comp=Z,31nm,1.0s
VNA2 Neumayer--Watz 93.59 182 ⇑P **P 15 36 59.8 -0.3**
comp=Z,95nm,0.7s,baz=176,slow=4.4
VNA2 ⇓pP **pP 15 37 32.8 -0.7**
baz=156,slow=5.0
INK Inuvik 93.62 19 P **P 15 36 59.2 -0.9**
INK Inuvik 93.62 19 PKPPKP 16 02 16.0
comp=Z,1.7nm,1.0s,baz=37,slow=7.4,SNR=4.9
INK LR LR 16 14 21.6
comp=Z,1μm,21.9s,baz=227,slow=32
INK Inuvik 93.62 19 P **P 15 36 59.2 -0.9**
INK pmax pmax
comp=Z,23nm,1.4s
INK Inuvik 93.62 19 P **P 15 36 59.2 -0.9**
baz=236
WMQ Urumqi 93.63 314 ⇑*i*P **P 15 37 01.1 +0.3**
WMQ pP pP 15 37 33.0 -1.1
WMQ PP **PP 15 40 48.6 +0.9**
WMQ SKS **SKSac 15 47 22.0 -1.2**
WMQ S **S 15 47 56.4 -2.1**
WMQ sS sS 15 48 56.3 -0.6
WMQ pmax pmax
comp=Z,82nm,1.3s
WMQ pmax pmax
comp=Z,2μm,5.3s
WMQ LR LR
comp=Z,2μm,24.0s
WMQ LR LR
comp=Z,2μm,19.3s
WMQ LR LR
comp=Z,2μm,23.9s
HYB Hyderabad 93.74 287 *e*P **P 15 37 01.4 -0.5**
HYB IVmB_BB 15 37 02.4
comp=Z,909nm,2.6s
HYB *e*pP **pP 15 37 32.9 -2.6**
HYB *e*sP **sP 15 37 45.4 -3.8**
HYB *e* 15 38 15.3
HYB *e*PP **PP 15 40 49.7 +0.6**
HYB *e* 15 44 59.8
HYB *e*S **SKSac 15 47 22.9 -1.9**
HYB *e*SP **SP 15 49 21.2 +6.1**
HYB *e*SS **SS 15 54 21.8 -0.5**
BSUT Blindstream Ca 93.78 49 IAmb IAmb 15 37 37.8
comp=Z,39nm,1.1s
VNA1 Neumayer--Stat 93.89 181 ⇑P **P 15 37 01.0 -0.4**
comp=Z,129nm,1.0s
LKN LUCKNOW 94.10 296 *e*P **P 15 37 01.3 -2.0**
BNDA BANDA 94.24 295 *e*P **P 15 37 00.4 -3.5**
NGP Nagpur 94.25 291 *e*P **P 15 37 03.5 -0.6**
NGP IAmb IAmb 15 37 05.1
comp=Z,52nm,0.9s
NGP IAMs_20 IAMs_20 15 49 34.0
comp=Z,3μm,16.1s
PV10 Paradox Valley 94.44 52 IAmb IAmb 15 37 39.2
comp=Z,68nm,1.1s
FXWY Fox Creek 94.51 46 P **P 15 37 04.3 -0.8**
PV13 Radium Mtn., P 94.54 52 P **P 15 37 05.7 +0.3**
PV13 IAmb IAmb 15 37 39.7
comp=Z,56nm,1.7s
KAAM Kaadhehdhoo 94.62 269 P **P 15 37 05.9 0.0**
LYMT Lyon Mountain 94.66 43 P **P 15 37 05.1 -0.6**
WRGLY Wrigley 94.68 25 P **P 15 37 04.4 -0.7**
baz=244,SNR=7.3
PV07 Paradox Valley 94.75 52 IAmb IAmb 15 37 40.6
comp=Z,43nm,1.2s
YHL Hebgen Lake 94.76 45 IAmb IAmb 15 37 41.0
comp=Z,36nm,1.4s
LOHW Long Hollow 94.80 46 P **P 15 37 06.1 -0.2**
Y22D IRIS PASSCAL I 94.91 56 P **P 15 37 08.0 +1.0**
baz=254
PDAR Pinedale Array 95.29 47 P **P 15 37 07.9 -0.7**
PDAR Pinedale Array 95.29 47 P **P 15 37 08.5 -0.2**
comp=Z,1.3nm,0.7s,baz=203,slow=1.1,SNR=10
PDAR PP **PP 15 41 01.1 +0.3**
comp=Z,15nm,1.3s,baz=242,slow=3.2,SNR=6.8
PDAR PKiKP **PKiKP 15 41 51.1 +2.3**
comp=Z,3.1nm,1.0s,baz=234,slow=5.4,SNR=3.8
PDAR PKKP **PKKPbc 15 54 01.9 -0.9**
comp=Z,5.2nm,0.8s,baz=94,slow=4.2,SNR=18
PDAR PKPPKP **P'P'df 16 02 13.6 -0.4**
comp=Z,0.8nm,0.9s,baz=66,slow=1.4,SNR=5.8
PDAR LR LR 16 16 50.2
comp=Z,982nm,18.4s,baz=258,slow=33
USHA Ushuaia 95.31 151 LR LR 16 10 49.6
comp=Z,1μm,20.2s,baz=229,slow=30
LGTI Lohaghat 95.34 299 *e*P **P 15 37 08.1 -0.8**
LGTI IAmb IAmb 15 37 10.2
comp=Z,20nm,0.8s
PTH Pithoragarh 95.39 299 *e*P **P 15 37 06.5 -2.9**
FRKB FARRUKHABAD 95.39 297 *e*P **P 15 37 06.4 -2.8**
ANMO Albuquerque 95.51 55 P **P 15 37 09.6 -0.2**
ANMO IAmb IAmb 15 37 44.2
comp=Z,24nm,1.1s
ANMO Albuquerque 95.51 55 LR LR 16 16 48.3
comp=Z,2μm,18.0s,baz=62,slow=33
ANMO Albuquerque 95.51 55 *i* P **P 15 37 09.1 -0.7**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
O20A White River Ci 95.51 50 P **P 15 37 10.2 +0.5**
O20A IAmb IAmb 15 37 44.0
comp=Z,46nm,1.1s
VHRN Van Horn 95.64 60 IAmb IAmb 15 37 46.3
comp=Z,60nm,1.6s
JHNI Jhansi 95.80 295 *e*P **P 15 37 09.1 -2.0**
JHNI IAmb IAmb 15 37 58.9
comp=Z,24nm,1.1s
S22A 4UR Ranch, Cre 95.94 53 IAmb IAmb 15 37 46.7
comp=Z,37nm,1.4s
AKL Akola 95.98 290 *e*P **P 15 37 11.7 -0.4**
AKL IAmb IAmb 15 37 44.7
comp=Z,44nm,0.9s
JOSI Joshimath 96.19 300 *e*P **P 15 37 12.8 -0.3**
JOSI IAmb IAmb 15 37 19.4
comp=Z,52nm,1.1s
BHPL Bhopal 96.24 292 *e*P **P 15 37 12.8 -0.3**
BHPL IAMs_20 IAMs_20 15 49 55.0
comp=Z,2μm,19.4s
NRDN NARMADA NAGAR 96.34 292 *e*P **P 15 37 15.7 +2.1**
NRDN IAmb IAmb 15 37 17.1
comp=Z,52nm,1.0s
NRDN IAMs_20 IAMs_20 15 50 03.0
comp=Z,2μm,18.9s
TX31 Lajitas Ar. Si 96.38 61 IAmb IAmb 15 37 48.9
comp=Z,58nm,1.9s
TXAR Lajitas Array 96.38 61 P **P 15 37 13.3 -0.5**
TXAR Lajitas Array 96.38 61 P **P 15 37 13.6 -0.2**
comp=Z,1.4nm,0.7s,baz=224,slow=4.2,SNR=14
TXAR pP **pP 15 37 46.8 -0.3**
comp=Z,2.9nm,0.8s,baz=225,slow=5.1,SNR=6.0
TXAR PP **PP 15 41 08.8 -0.6**
comp=Z,3.9nm,1.1s,baz=228,slow=6.6,SNR=7.3
TXAR PKKPbc **PKKPbc 15 53 58.5 -0.6**
comp=Z,1.8nm,0.8s,baz=112,slow=4.4,SNR=10
TXAR PKPPKP **P'P'df 16 02 11.1 -1.7**
comp=Z,1.4nm,1.0s,baz=177,slow=2.5,SNR=3.5
TXAR LR LR 16 15 50.5
comp=Z,697nm,18.4s,baz=249,slow=32
ZSN Zaisan 96.58 317 *e*P **P 15 37 13.8 -0.4**
ZSN pmax pmax
comp=Z,83nm,1.0s
ZSN Zaisan 96.58 317 *e*P **P 15 37 13.9 -0.3**
comp=Z,83nm,1.0s
GUNA GUNA 96.66 294 *e*P **P 15 37 13.9 -1.1**
GUNA IAMs_20 IAMs_20 15 49 57.9
comp=Z,2μm,16.9s
C36M Paulatuk 97.12 19 IAmb IAmb 15 37 16.5
comp=Z,27nm,0.9s
C36M Paulatuk 97.12 19 P **P 15 37 14.8 -1.1**
baz=244
ISCO Idaho Springs 97.38 51 P **P 15 37 18.3 0.0**
ISCO Idaho Springs 97.38 51 P **P 15 37 18.3 0.0**

ISCO pmax pmax
comp=Z,23nm,1.5s
KLP Kalpa 97.52 301 *e*P **P 15 37 19.0 -0.1**
GOA Goa 97.65 284 *e*P **P 15 37 19.1 -0.6**
NPLP NPLP New Delhi 97.75 297 IAMs_20 IAMs_20 15 51 36.7
comp=Z,1μm,16.5s
KAD Karad 97.75 286 *e*P **P 15 37 19.1 -1.0**
KAD IAmb IAmb 15 37 21.7
comp=Z,25nm,0.3s
A36M Sachs Harbour 97.93 17 IAmb IAmb 15 37 20.9
comp=Z,38nm,0.9s
A36M Sachs Harbour 97.93 17 P **P 15 37 19.1 -0.5**
baz=244
MK31 Makanchi Array 98.11 316 IAmb IAmb 15 37 55.6
comp=Z,36nm,0.9s
MK31 Makanchi Array 98.11 316 *ce*P Pdif 15 37 21.4 +0.3
MKAR Makanchi Array 98.11 316 P **P 15 37 20.8 -0.3**
MKAR Makanchi Array 98.11 316 P **P 15 37 21.1 0.0**
comp=Z,20nm,0.6s,baz=98,slow=5.0,SNR=104
MKAR pP **pP 15 37 53.0 -1.5**
comp=Z,45nm,0.8s,baz=100,slow=6.4,SNR=10
MKAR PKiKP **PKiKP 15 41 53.6 +0.2**
comp=Z,9.9nm,0.8s,baz=93,slow=1.5,SNR=22
MKAR S **SKSac 15 47 45.5 -1.0**
comp=Z,2.6nm,0.9s,baz=91,slow=5.8,SNR=5.0
MKAR PKKPbc **PKKPbc 15 53 51.9 -3.1**
comp=Z,1.8nm,0.7s,baz=324,slow=1.3,SNR=7.4
MKAR LR LR 16 20 54.2
comp=Z,1μm,21.3s,baz=93,slow=35
comp=Z,20nm,0.6s
YKA Yellowknife Ar 98.18 27 P **P 15 37 19.6 -1.3**
YKA Yellowknife Ar 98.18 27 P **P 15 37 19.9 -1.0**
comp=Z,29nm,0.8s,baz=255,slow=4.8,SNR=144
YKA PKiKP **PKiKP 15 41 53.0 0.0**
comp=Z,0.8nm,0.6s,baz=264,slow=1.5,SNR=7.3
YKA PKKPbc **PKKPbc 15 53 52.3 -3.1**
comp=Z,2.2nm,0.8s,baz=61,slow=2.5,SNR=12
YKA PKPPKP **P'P'df 16 02 08.8 +2.1**
comp=Z,1.3nm,1.1s,baz=35,slow=2.3,SNR=5.7
YKA LR LR 16 20 55.2
comp=Z,898nm,18.1s,baz=249,slow=35
comp=Z,29nm,0.8s
KUDL Kundal 98.22 297 *e*P **P 15 37 21.4 -0.5**
KUDL IAmb IAmb 15 37 54.2
comp=Z,38nm,1.5s
MAKZ Makanchi 98.33 316 P **P 15 37 21.5 -0.5**
MAKZ Makanchi 98.33 316 P **P 15 37 21.5 -0.5**
MAKZ pmax pmax
comp=Z,181nm,1.8s
SMLA Simla 98.33 300 *e*P **P 15 37 21.7 -0.7**
SMLA IAmb IAmb 15 37 57.9
comp=Z,29nm,0.9s
SMLA IAMs_20 IAMs_20 15 51 27.3
comp=Z,1μm,16.2s
ZALV Zalesovo Beam 98.34 324 P **P 15 37 21.0 -0.9**
ZALV Zalesovo Beam 98.34 324 P **P 15 37 21.1 -0.7**
comp=Z,48nm,0.7s,baz=112,slow=4.4,SNR=127
ZALV pP **pP 15 37 54.2 -0.6**
comp=Z,56nm,0.9s,baz=108,slow=4.8,SNR=8.8
ZALV PKiKP **PKiKP 15 41 53.4 -0.1**
comp=Z,8.1nm,0.6s,baz=240,slow=0.7,SNR=8.6
ZALV LR LR 16 23 05.2
comp=Z,766nm,18.9s,baz=96,slow=36
comp=Z,48nm,0.7s
ZALV Zalesovo Beam 98.34 324 *i*P **P 15 37 21.1 -0.7**
ZALV pmax pmax
comp=Z,49nm,0.6s
OZNA Ozona 98.89 60 IAmb IAmb 15 38 01.9
comp=Z,16nm,1.0s
WUS Wushi 98.97 310 IAmb IAmb 15 39 30.0
comp=Z,20nm,1.2s
SHLS Shalkode 99.23 312 *e*P **Pdif 15 37 24.4 -1.8**
SHLS pmax pmax
comp=Z,52nm,1.9s
SHLS Shalkode 99.23 312 *e*P **Pdif 15 37 24.5 -1.8**
comp=Z,52nm,1.9s
DHRM DHARAMSHALA 99.30 301 *e*P **Pdif 15 37 25.7 -1.3**
UZB Uzynbulak 99.54 312 *e*P **Pdif 15 37 27.2 -0.5**
UZB Uzynbulak 99.54 312 *e*P **Pdif 15 37 27.2 -0.5**
SATY Saty 99.96 312 *e*P **Pdif 15 37 28.9 -0.6**
SATY Saty 99.96 312 *e*P **Pdif 15 37 28.9 -0.6**
ZHN Zhinishke 99.96 312 *e*P **Pdif 15 37 27.3 -2.2**
ZHN pmax pmax
comp=Z,53nm,3.3s
SEM Semipalatinsk 100.25 319 *e*P **Pdif 15 37 30.3 -0.5**
SEM pmax pmax
comp=Z,82nm,2.3s
SEM Semipalatinsk 100.25 319 *e*P **Pdif 15 37 30.3 -0.5**
comp=Z,82nm,2.3s
TDK Taldyqorghan 100.36 314 *e*P **Pdif 15 37 30.6 -0.5**
TDK pmax pmax
comp=Z,101nm,2.1s
TDK Taldyqorghan 100.36 314 *e*P **Pdif 15 37 30.6 -0.5**
comp=Z,101nm,2.1s
SRGN SRI GANGA NAGA 100.83 298 IAMs_20 IAMs_20 15 51 55.4
comp=Z,1μm,18.5s
TNSS Tian-Shan 101.00 312 *e*P **Pdif 15 37 33.3 -1.2**
TNSS Tian-Shan 101.00 312 *e*P **Pdif 15 37 33.4 -1.2**
KSH Kashi 101.05 308 P **Pdif 15 37 36.8 +2.3**
KSH PP **PP 15 41 45.9 +1.1**
KSH SKS **SKSac 15 48 04.9 +3.3**
KSH S **Sdif 15 49 06.9 +4.8**
KSH SS **SS 15 56 08.6 +4.1**
KSH pmax pmax
comp=Z,6.0nm,1.9s
KSH pmax pmax
comp=Z,540nm,6.7s
KSH LR LR
comp=Z,700nm,18.6s
KSH LR LR
comp=Z,1μm,18.2s
KSH LR LR
comp=Z,2μm,20.3s
NRIK Noril'sk 101.05 339 P **Pdif 15 37 33.4 -0.1**
comp=Z,85nm,0.9s,baz=96,slow=4.5,SNR=101
NRIK pP pP 15 38 07.2 +0.6
comp=Z,21nm,0.6s,baz=109,slow=2.2,SNR=4.0
NRIK PKiKP **PKiKP 15 41 58.6 +0.7**
comp=Z,10nm,0.8s,baz=140,slow=4.8,SNR=6.4
KURK Kurchatov 101.33 320 P **Pdif 15 37 34.7 -0.5**
KURK P **Pdif 15 37 35.4 +0.1**
KURK Kurchatov 101.33 320 P **Pdif 15 37 35.6 +0.4**
KURBB Kurchatov Arra 101.37 319 P **Pdif 15 37 35.6 +0.2**
comp=Z,5.7nm,0.7s,baz=98,slow=4.3,SNR=61
KURBB pP **pPdif 15 38 07.8 -1.1**
comp=Z,5.8nm,0.9s,baz=97,slow=4.4,SNR=3.7
KURBB PP **PP 15 41 48.6 +1.9**
comp=Z,4.3nm,1.0s,baz=105,slow=8.7,SNR=6.2
KURBB PKiKP **PKiKP 15 41 59.1 0.0**
comp=Z,23nm,0.8s,baz=109,slow=1.2,SNR=4.8
KURBB PKKPbc **PKKPbc 15 53 43.0 -2.8**
comp=Z,2.2nm,0.9s,baz=281,slow=3.1,SNR=7.0
PLCA Paso Flores 102.22 139 P **Pdif 15 37 39.4 -0.3**
comp=Z,2.2nm,0.8s,baz=217,slow=5.0,SNR=5.9
PLCA PP **PP 15 41 52.2 -0.5**
comp=Z,10.0nm,1.2s,baz=211,slow=6.2,SNR=6.0
PLCA PKKPbc **PKKPbc 15 53 42.4 -0.5**
comp=Z,1.5nm,0.7s,baz=87,slow=5.0,SNR=5.5
PLCA PKPPKP **P'P'df 16 01 58.7 -3.1**
comp=Z,4.8nm,1.2s,baz=18,slow=3.2,SNR=3.3
AAK Ala-Archa 102.71 311 PKKPbc PKKPbc 15 53 39.4 -2.4
comp=Z,4.7nm,0.8s,baz=185,slow=2.7,SNR=9.8
AAK Ala-Archa 102.71 311 P **Pdif 15 37 42.7 +0.9**
AAK Ala-Archa 102.71 311 P **Pdif 15 37 42.9 +1.1**
BTLS Baital 103.41 313 *e*P **Pdif 15 37 44.0 -0.6**
BTLS Baital 103.41 313 *e*Pdif **Pdif 15 37 44.1 -0.6**
BRZS Berezniki 104.98 318 *e*P **Pdif 15 37 51.1 -0.4**
BRZS Berezniki 104.98 318 *e*Pdif **Pdif 15 37 51.2 -0.4**
DZA Taraz 105.05 311 *e*P **Pdif 15 37 51.6 -0.5**
DZA Taraz 105.05 311 *e*Pdif **Pdif 15 37 51.6 -0.5**
IUG Iuzhnay 105.91 310 *e*P **Pdif 15 37 55.2 -0.8**
IUG pmax pmax
comp=Z,28nm,2.3s
IUG Iuzhnay 105.91 310 *e*Pdif **Pdif 15 37 55.2 -0.8**
comp=Z,28nm,2.3s
ULM Lac du Bonnet 105.97 42 PKiKP **PKiKP 15 42 07.5 0.0**
comp=Z,5.1nm,0.6s,baz=269,slow=1.1,SNR=12
ULM PKKPbc **PKKPbc 15 53 30.4 -1.7**
comp=Z,2.1nm,0.6s,baz=100,slow=5.3,SNR=4.4
ULM PKKP **PKKPdf 15 53 43.1 -0.2**
comp=Z,2.9nm,0.6s,baz=99,slow=7.1,SNR=5.5
ULM PKPPKP **P'P'df 16 01 54.1 +1.3**
comp=Z,3.5nm,1.1s,baz=66,slow=3.9,SNR=4.5
BRLS Borolday 106.16 311 *e*P **Pdif 15 37 56.9 -0.1**
BRLS Borolday 106.16 311 *e*Pdif **Pdif 15 37 56.9 -0.1**
BVAR Borovoye Array 106.68 321 Pdiff **Pdif 15 37 59.2 +0.2**
comp=Z,6.5nm,0.6s,baz=92,slow=4.8,SNR=16
BVAR PKiKP **PKiKP 15 42 08.8 0.0**
comp=Z,26nm,0.7s,baz=80,slow=1.2,SNR=24
OPO Ambohidratompo 112.25 242 PKiKP **PKiKP 15 42 20.7 +0.2**
comp=Z,8.2nm,0.6s,baz=357,slow=1.0,SNR=12
SVE Sverdlovsk 112.26 325 ⇑PKiKP **PKiKP 15 42 19.6 +0.5**
SVE pmax pmax
comp=Z,97nm,1.5s
JLN Jalan Bani Buh 112.34 288 P **PKiKP 15 42 14.7 -5.6**
WBK Wadi Bani Khal 112.81 288 P **PKiKP 15 42 20.0 -1.2**
MHTO MHTO 113.50 286 P **PKiKP 15 42 21.7 -0.8**
SNR=12
ARTI Arti 113.54 325 Pdiff **Pdif 15 38 29.6 +0.2**
comp=Z,2.9nm,0.5s,baz=119,slow=2.9,SNR=5.7
ARTI PKiKP **PKiKP 15 42 21.5 -0.1**
comp=Z,98nm,0.8s,baz=129,slow=1.3,SNR=51
ARTI PKKPbc **PKKPbc 15 53 05.1 -2.7**
comp=Z,6.0nm,0.7s,baz=53,slow=2.6,SNR=7.8
ARTI Arti 113.54 325 *i*PKiKP **PKiKP 15 42 20.8 -0.8**
ARTI 15 43 13.2
ARTI 15 49 20.7
ARTI SP SP 15 52 33.4 -3.8
ARTI SS **SS 15 58 49.6 -2.5**
ARTI SSS SSS 16 03 05.3
JMDO Jabal Madar 113.57 288 P **PKiKP 15 42 19.5 -3.2**
SMDO Samad 113.71 289 P **PKiKP 15 42 23.3 +0.2**
DQM DQM 113.74 285 P **PKiKP 15 42 23.0 0.0**
NOR Nord 113.97 1 *i*P **PKiKP 15 42 21.9 +0.1**
JASK Jask - Hormozg 114.21 292 P PKPdf 15 42 23.7 -0.1
AKTO Aktyubinsk 114.39 319 Pdiff **Pdif 15 38 33.5 +0.1**
comp=Z,1.1nm,0.5s,baz=112,slow=2.0,SNR=4.7
AKTO PKP **PKiKP 15 42 23.5 +0.1**
comp=Z,56nm,0.6s,baz=94,slow=3.1,SNR=71
AKTO PKKPbc **PKKPbc 15 53 03.4 -1.3**
comp=Z,6.3nm,0.9s,baz=270,slow=6.0,SNR=8.1
BSY Bisya 114.44 288 P PKPdf 15 42 23.7 -0.7
HOQ Hoqain 114.45 289 P PKPdf 15 42 23.9 -0.5
ARQ Araqi 115.14 289 P **PKiKP 15 42 25.9 +0.2**
NEEM North Greenlan 115.20 9 *i*P **PKiKP 15 42 23.4 -1.2**
SOHO SOHO 115.22 290 P **PKPdf 15 42 25.5 -0.3**
SOHO SOHO 115.22 290 *i*P **PKPdf 15 42 25.1 -0.7**
SNR=44
O52A Adamsville 115.52 53 **PKPdf 15 42 24.6 -1.3**
MDH Madha 115.56 291 P **PKPdf 15 42 24.3 -2.1**
UOSS Minazif 115.61 290 PKPdf **PKPdf 15 42 24.7 -1.8**
UOSS Minazif 115.61 290 P **PKPdf 15 42 25.9 -0.6**
UOSS Minazif 115.61 290 *i*P **PKPdf 15 42 25.8 -0.8**
SNR=23
KBS Kingsbay 115.63 355 *i*P **PKiKP 15 42 25.1 0.0**
HATD Hatta, Dubai 115.66 290 P **PKPdf 15 42 26.0 -0.7**
SNR=17
HATD Hatta, Dubai 115.66 290 *i*P **PKPdf 15 42 26.2 -0.4**
SNR=36
MSFE Esma-Masafi 115.69 291 *i*P **PKPdf 15 42 26.4 -0.3**
SNR=19
MASF Masafi 115.69 291 P **PKPdf 15 42 26.7 0.0**
SNR=7.4
ASHO Ashiyiah 115.71 290 P **PKPdf 15 42 26.4 -0.3**
SNR=12
ASHO Ashiyiah 115.71 290 *i*P **PKPdf 15 42 26.3 -0.5**
SNR=20
SHME Shamm 115.78 292 P **PKPdf 15 42 26.6 -0.2**
DMTO DMTO 115.82 282 P **PKPdf 15 42 27.0 -0.1**
SNR=8.5
SPA0 Spitsbergen Ar 115.87 354 *e*PKPdf **PKiKP 15 42 25.2 -0.4**
SPA0 *e*PS **PS 15 53 17.1 +3.2**
SPITS Spitsbergen Ar 115.87 354 PKP **PKiKP 15 42 25.2 -0.4**
comp=Z,67nm,1.0s,baz=82,slow=6.0,SNR=23
SPITS PKKPbc **PKKPbc 15 52 58.9 -1.5**
comp=Z,13nm,1.0s,baz=197,slow=4.5,SNR=7.3
CZSB Cruzeiro do Su 115.88 107 PKPdf **PKPdf 15 42 25.9 -1.4**
ALNE Al Ain 115.92 289 P **PKiKP 15 42 27.2 0.0**
SNR=9.2
ALNE Al Ain 115.92 289 *i*P **PKPdf 15 42 27.1 -0.1**
SNR=12
NAZ Nazwa, Dubai 116.10 290 P **PKPdf 15 42 26.9 -0.6**
SNR=7.1
NAZ Nazwa, Dubai 116.10 290 *i*P **PKPdf 15 42 27.1 -0.3**
SNR=20
HOPEN Hopen 116.11 351 *e*PKPdf **PKPdf 15 42 22.2 -3.8**
HOPEN *e*SP SP 15 52 58.4 -1.1
HOPEN IVMs_BB IVMs_BB 16 29 18.5
comp=Z,3μm,4.0s
FAQ Al Faqa, Dubai 116.14 290 P **PKPdf 15 42 27.4 -0.1**
FAQ Al Faqa, Dubai 116.14 290 P **PKPdf 15 42 27.2 -0.3**
KULLO Kullorsuaq 116.15 12 *i*P **PKPdf 15 42 24.5 -1.7**
UMZA Um Al Zommool 116.31 288 P **PKPdf 15 42 26.6 -1.3**
ASUD Al Ashush, Dub 116.36 290 P **PKiKP 15 42 28.4 +0.4**
SNR=5.5
ASUD Al Ashush, Dub 116.36 290 *i*P **PKiKP 15 42 28.1 +0.1**
SNR=14
LPAZ La Paz 116.46 117 PKP **PKPdf 15 42 28.8 -0.4**
comp=Z,3.4nm,0.8s,baz=328,slow=0.6,SNR=9.5
LPAZ PKKPbc **PKKPbc 15 52 55.9 -1.5**
comp=Z,2.2nm,0.7s,baz=30,slow=12,SNR=4.3
LPAZ PKKP **PKKPdf 15 53 23.4 +0.3**
comp=Z,2.3nm,0.9s,baz=64,slow=2.9,SNR=2.5
RBK Rabkut 116.49 282 P **PKiKP 15 42 28.9 +0.5**
SNR=23
BLA Blacksburg 116.65 56 PKPdf **PKPdf 15 42 27.6 -0.6**
BLA Blacksburg 116.65 56 PKiKP **PKPdf 15 42 27.6 -0.6**
DOK Doka 116.72 283 P **PKPdf 15 42 28.5 -0.3**
SNR=22
WHFO Wadi Hawf 116.96 282 P **PKPdf 15 42 29.0 -0.3**
SNR=22
ABTO Aybut 117.32 282 P **PKiKP 15 42 30.3 +0.2**
SNR=18
UPNV Upernavik 117.57 13 *i*P **PKPdf 15 42 27.0 -1.9**
KIRV Kirov 117.84 329 PKP **PKPdf 15 42 29.8 0.0**
comp=Z,121nm,0.7s,baz=147,slow=1.2,SNR=30
KIRV PKKPbc **PKKPbc 15 52 49.5 -3.3**
comp=Z,13nm,0.7s,baz=80,slow=3.9,SNR=4.8
KIRV Kirov 117.84 329 *c*i PKiKP **PKiKP 15 42 29.9 +0.1**
MZR Muzera 117.88 288 P **PKiKP 15 42 31.6 +0.6**
SNR=10.0
MZR Muzera 117.88 288 *i*P **PKiKP 15 42 31.6 +0.6**
SNR=30
ROSC El Rosal 118.26 93 PKP **PKPdf 15 42 31.3 -1.2**
comp=Z,12nm,0.4s,baz=189,slow=19,SNR=6.5
GHWR Ruwais 118.53 289 P **PKiKP 15 42 32.4 +0.2**
BJO1 Bjornoya 118.64 351 *e*PP **PP 15 43 51.6 +1.4**
BJO1 *e*SP SP 15 53 19.6 -2.7
BJO1 IVMs_BB IVMs_BB 16 21 15.8
comp=Z,5μm,3.8s
JRN Qarnain Island 118.64 290 P **PKiKP 15 42 32.4 0.0**
NUUG Nuugaatsiaq 119.08 14 *i*P **PKPdf 15 42 30.0 -1.8**
K57A Scipio Center 119.37 50 PKPdf **PKPdf 15 42 31.4 -1.9**
CPUP Villa Florida 119.56 133 PKP **PKiKP 15 42 34.2 0.0**
comp=Z,6.4nm,0.8s,baz=256,slow=2.7,SNR=9.1
CPUP PKKPbc **PKKPbc 15 52 46.8 +0.9**
comp=Z,3.6nm,0.8s,baz=58,slow=4.2,SNR=7.5
CPUP PKKP **PKKPdf 15 53 15.4 -1.0**
comp=Z,7.3nm,0.9s,baz=33,slow=2.4,SNR=6.8
SLWR Sila 119.62 289 P **PKiKP 15 42 34.6 +0.3**
LVZ Lovozero 119.78 341 PKPdf **PKiKP 15 42 33.7 +0.3**
LVZ Lovozero 119.78 341 PKIKP **PKiKP 15 42 33.7 +0.3**
VADS Vadso 119.85 345 *e*PKPdf **PKPdf 15 42 32.9 -0.5**
VADS *e*PP **PP 15 43 58.6 0.0**
VADS *e*SP SP 15 53 32.8 -0.5
VADS *e*SS **SS 16 00 13.8 +0.8**
VADS IVMs_BB IVMs_BB 16 32 13.1
comp=Z,3μm,3.6s
UMMG Uummannaq 119.94 14 *i*P **PKPdf 15 42 32.1 -1.3**
TRNA Turayna 120.11 290 P **PKiKP 15 42 35.3 +0.1**
APA Apatity 120.36 341 ⇓*i*PKIKP **PKPdf 15 42 33.2 -1.2**
APA pmax pmax
comp=Z,88nm,0.8s
SHMA Al-Shehemyia 120.41 291 P **PKiKP 15 42 36.2 +0.4**
SMRA Abu-Samra 120.46 290 P **PKPdf 15 42 35.6 -0.2**
SNR=5.6
KEV Kevo 120.69 345 PKPdf **PKiKP 15 42 35.3 +0.2**
KEV Kevo 120.69 345 PKIKP **PKiKP 15 42 35.3 +0.2**
SAKB Bahrain 120.80 291 P **PKPdf 15 42 36.5 +0.1**
HAMF Hammerfest 120.82 347 *e*PKPdf **PKPdf 15 42 34.5 -0.7**
HAMF *e*PP **PP 15 44 03.6 -1.6**
HAMF *e*SP SP 15 53 42.0 +0.1
HAMF *e*SS **SS 16 00 25.4 0.0**
HAMF IVMs_BB IVMs_BB 16 22 42.0
comp=Z,5μm,3.7s
SUMG Summit 121.07 9 PKPdf **PKPdf 15 42 35.4 -0.8**
SUMG Summit 121.07 9 PKIKP **PKPdf 15 42 35.4 -0.8**
SUMG Summit 121.07 9 *i*P **PKPdf 15 42 34.4 -1.7**
DBG Daneborg 121.17 2 *i*P **PKPdf 15 42 34.9 -0.9**
ARA0 ARCESS Array S 121.22 345 *e*PKPdf **PKPdf 15 42 35.7 -0.4**
ARA0 *e*PP **PP 15 44 05.8 -2.2**
ARA0 *e*SKSac **SKSac 15 49 22.1 -0.3**
ARA0 *e*SP **SP 15 53 47.0 +1.4**
ARA0 *e*SS **SS 16 00 32.3 +1.7**
ARA0 IVMs_BB IVMs_BB 16 20 19.5
comp=Z,3μm,4.0s
ARCES ARCESS Array B 121.22 345 PKPdf **PKPdf 15 42 35.2 -0.8**
ARCES ARCESS Array B 121.22 345 PKP **PKPdf 15 42 35.6 -0.4**
comp=Z,91nm,0.6s,baz=69,slow=2.3,SNR=206
ARCES pPKP **pPKPdf 15 43 10.3 -0.6**
comp=Z,22nm,0.7s,baz=14,slow=1.5,SNR=2.4
ARCES PKKPab **PKKPab 15 52 37.7 -0.7**
comp=Z,3.9nm,0.6s,baz=218,slow=2.5,SNR=19
ILULI Ilulissat 121.23 15 *i*P **PKPdf 15 42 34.1 -1.9**
SJPY San Joaquin 121.26 133 *e*P **PKiKP 15 42 38.2 +0.6**
KLMR Klimovskoe 121.66 333 *e*PKIKP **PKPdf 15 42 35.3 -1.7**
KLMR *e* 15 43 10.1
KLMR *e* 15 44 09.8
KLMR SP SP 15 53 50.1 +0.2
KLMR pmax pmax
comp=Z,258nm,0.9s
KLMR MLR MLR
comp=Z,2μm,20.0s
KTK1 Kautokeino 122.15 346 *e*PKPdf **PKPdf 15 42 36.9 -0.9**
KTK1 *e*PP **PP 15 44 15.0 +0.7**
KTK1 *e*SP SP 15 53 57.0 +3.2
KTK1 *e*SS **SS 16 00 40.8 -1.6**
KTK1 IVMs_BB IVMs_BB 16 24 21.2
comp=Z,2μm,3.8s
JETT Jettan, Norway 122.38 347 *e*PKPdf **PKPdf 15 42 37.8 -0.5**
JETT *e* 15 42 37.8
MAK Makhachkala 122.49 311 *i*P **Pdif 15 39 05.0 -4.5**
MAK *i* 15 42 38.3
MAK *e* 15 43 12.1
MAK *e* 15 44 12.9
MAK *e* 15 49 30.3
MAK *e*PS **PS 15 54 11.3 -3.1**
MAK *e*SS SS 16 00 43.5 -5.0
MAK pmax pmax
comp=Z,294nm,0.7s
AKT Akhty 122.54 309 *i*PKIKP **PKPdf 15 42 39.6 +0.1**
AKT *e**PP **pPKPdf 15 43 15.0 +1.0**
AKT *e* 15 44 17.3
AKT pmax pmax
comp=Z,185nm,0.8s
TRO Tromso 122.63 348 *e*PKPdf **PKPdf 15 42 37.9 -0.7**
TRO *e*PP **PP 15 44 13.6 -3.8**
TRO *e*SP SP 15 54 00.2 +2.2
TRO *e*SS **SS 16 00 48.5 +0.2**
TRO IVMs_BB IVMs_BB 16 27 39.6
comp=Z,3μm,4.3s
SUR Sutherland 122.67 213 PKPdf **PKPdf 15 42 39.5 -0.7**
SUR Sutherland 122.67 213 PKP **PKiKP 15 42 40.9 +0.4**
comp=Z,46nm,1.0s,baz=98,slow=3.5,SNR=18
SUR Sutherland 122.67 213 P **PKiKP 15 42 40.6 +0.1**
SUR P **PKPdf 15 42 41.5 +1.2**
SDV Santo Domingo 122.79 89 PKPdf **PKPdf 15 42 39.1 -1.8**
SDV Santo Domingo 122.79 89 *e*P **PKPdf 15 42 39.7 -1.2**
SCHQ Schefferville 122.84 34 PKP **PKPdf 15 42 38.8 -0.8**
comp=Z,11nm,0.7s,baz=351,slow=4.1,SNR=13
SCHQ PKKPbc **PKKPab 15 52 32.5 +0.6**
comp=Z,12nm,0.7s,baz=61,slow=7.3,SNR=13
BOSA Boshof 122.92 220 PKKPbc PKPpre 15 42 22.8
comp=Z,4.5nm,0.8s,baz=344,slow=16,SNR=5.3
BOSA PKP **PKPdf 15 42 40.8 0.0**
comp=Z,56nm,1.1s,baz=178,slow=5.9,SNR=14
BOSA PKKPbc **PKKPbc 15 52 32.9 -0.7**
comp=Z,2.9nm,0.8s,baz=310,slow=2.4,SNR=4.6
SFJD Kangerlussuaq 122.93 17 PKPdf **PKPdf 15 42 39.2 -0.1**
SFJD Kangerlussuaq 122.93 17 PKIKP **PKPdf 15 42 39.2 -0.1**
SFJD Kangerlussuaq 122.93 17 *i*P **PKPdf 15 42 37.1 -2.2**
HRV Adam Dziewonsk 123.02 49 PKPdf **PKPdf 15 42 39.2 -1.1**
HRV Adam Dziewonsk 123.02 49 PKIKP **PKPdf 15 42 39.2 -1.1**
KBD Kabd 123.42 295 P **PKiKP 15 42 42.0 +0.3**
M65A Busby, Falmout 123.84 50 P **PKPdf 15 42 40.4 -1.5**
baz=279
ICESG Greenland Ices 123.87 11 *i*P **PKPdf 15 42 39.4 -2.2**
PKME Peaks-Kenny Pk 124.11 46 PKPdf **PKPdf 15 42 41.5 -0.7**
PTGB Pitanga 124.23 135 *e*P **PKiKP 15 42 44.7 +1.1**
VRH Novokhopyorsk 124.33 322 *e*PKIKP **PKiKP 15 42 42.9 +0.1**
VRH pmax pmax
comp=Z,406nm,0.8s
PTLB Pontes e Lacer 124.42 122 PKPdf **PKPdf 15 42 41.8 -1.9**
PTLB Pontes e Lacer 124.42 122 *e*P **PKiKP 15 42 44.6 +0.6**
NUUK Nuuk 124.53 20 *i*P **PKPdf 15 42 41.4 -1.1**
VILB Vilhena 124.79 118 *e*P **PKiKP 15 42 45.3 +0.4**
STEI Steigen 124.80 348 *e*PKPdf **PKPdf 15 42 42.7 -0.1**
STEI *e*PP **PP 15 44 32.1 +0.2**
STEI *e*SP SP 15 54 17.1 +0.1
STEI *e*SS **SS 16 01 18.3 +2.6**
STEI IVMs_BB IVMs_BB 16 25 42.6
comp=Z,2μm,4.3s
MOS Moscow 124.85 328 *i*PKIKP **PKPdf 15 42 41.6 -1.7**
MOS *e* 15 43 15.9
MOS pmax pmax
comp=Z,353nm,0.9s
MOS MLR MLR
comp=Z,1μm,21.0s
SCO Scoresbysund 124.86 4 *i*P **PKPdf 15 42 42.0 -0.9**
TEFE Tefe 124.89 106 *e*P **PKPdf 15 42 43.5 -1.2**
LOF Lofoten 124.97 348 *e*PKPdf **PKPdf 15 42 43.3 +0.1**
GNI Garni 124.98 308 PKPdf **PKiKP 15 42 44.8 +0.1**
GNI Garni 124.98 308 PKP **PKiKP 15 42 45.2 +0.6**
comp=Z,96nm,0.8s,baz=48,slow=0.3,SNR=58
GNI Garni 124.98 308 P **PKiKP 15 42 45.2 +0.6**
GNI Garni 124.98 308 P **PKiKP 15 42 44.9 +0.3**
LBTB Lobatse 125.22 223 PKP **PKPdf 15 42 45.4 +0.1**
comp=Z,38nm,0.9s,baz=144,slow=4.1,SNR=18
GOF Gofitskoye 125.23 314 *ce*PKIKP **PKiKP 15 42 45.0 +0.2**
RAYN Ar Rayn 125.23 288 PKPdf **PKPdf 15 42 45.0 -0.1**
RAYN Ar Rayn 125.23 288 P **PKiKP 15 42 45.9 +0.4**
RAYN Ar Rayn 125.23 288 PKIKP **PKPdf 15 42 45.0 -0.1**
RAYN Ar Rayn 125.23 288 *i*P **PKPdf 15 42 45.3 +0.2**
SNR=141
FAUS Fauske 125.25 347 *e*PKPdf **PKiKP 15 42 44.0 -0.1**
FAUS *e*SP SP 15 54 25.4 +4.4
FAUS *e*SS **SS 16 01 25.4 +4.0**
FAUS IVMs_BB IVMs_BB 16 30 05.4
comp=Z,2μm,4.1s
LPSR Galich'ya Gora 125.44 324 *e*PKIKP **PKiKP 15 42 45.4 +0.5**
LPSR pmax pmax
comp=Z,588nm,1.0s
VORR Voronezh 125.64 323 *e*PKIKP **PKiKP 15 42 46.0 +0.6**
VORR pmax pmax
comp=Z,613nm,0.9s
KBZ Khabaz 125.64 313 PKP **PKiKP 15 42 45.6 0.0**
comp=Z,72nm,0.9s,baz=85,slow=1.0,SNR=35
KBZ Khabaz 125.64 313 *ce*PKIKP **PKiKP 15 42 45.9 +0.3**
OBN Obninsk 125.66 328 PKPdf **PKPdf 15 42 44.4 -0.4**
OBN Obninsk 125.66 328 PKP **PKiKP 15 42 45.2 -0.1**
comp=Z,162nm,0.7s,baz=84,slow=0.9,SNR=43
OBN Obninsk 125.66 328 ⇑P **PKiKP 15 42 45.5 +0.3**
OBN Obninsk 125.66 328 *c*i PKIKP **PKPdf 15 42 44.7 -0.2**
OBN *i* 15 43 18.6
OBN *i* 15 44 42.7
OBN *e*PPP PPP 15 47 17.9
OBN *e* 15 49 41.8
OBN pmax pmax
comp=Z,431nm,1.3s
KIV Kislovodsk 125.74 313 PKPdf **PKPdf 15 42 45.0 -0.6**
KIV Kislovodsk 125.74 313 P **PKiKP 15 42 46.6 +0.6**
KIV Kislovodsk 125.74 313 ⇓P **PKiKP 15 42 46.5 +0.6**
KIV Kislovodsk 125.74 313 *i*PKIKP **PKiKP 15 42 45.9 -0.1**
KIV *e* 15 44 37.6
KIV *e* 15 49 37.5
KIV *e*PS **PS 15 54 41.4 -1.8**
KIV *e*SS SS 16 01 29.3 -0.3
KIV *e*SSS SSS 16 06 09.2
KIV pmax pmax
comp=Z,144nm,1.0s
KIV MLR MLR
comp=Z,765nm,23.0s
KIV Kislovodsk 125.74 313 *i*P **PKPdf 15 42 45.8 +0.2**
SNR=38
LDASE Londrina, Braz 125.76 135 *e*P **PKiKP 15 42 46.9 +0.3**
RPRD Ribas do Rio P 125.79 130 *e*P **PKiKP 15 42 47.5 +0.8**
SHA1 Shidzhatmaz 125.81 313 *i*PKIKP **PKPdf 15 42 45.2 -0.7**
VSR Storozhevoye 125.83 323 *e*PKIKP **PKPdf 15 42 44.2 -1.1**
VSR pmax pmax
comp=Z,220nm,0.9s
VORD Divnogorie 125.85 322 *e*PKIKP **PKPdf 15 42 43.5 -1.9**
VORD pmax pmax
comp=Z,210nm,1.0s
PUL Pulkovo 126.12 335 *ce*PKIKP **PKiKP 15 42 47.4 +1.3**

PUL pmax pmax
comp=Z,453nm,1.0s
LPHEP Lephephe 126.17 225 *i* P **PKiKP 15 42 47.8 +0.3**
VAGH Vaagaholmen 126.23 348 *e*PKPdf **PKPdf 15 42 45.0 -0.6**
VAGH *e*PP **PP 15 44 43.3 +1.8**
VAGH *e*SP SP 15 54 31.4 +1.9
VAGH IVMs_BB IVMs_BB 16 30 10.3
comp=Z,3μm,3.9s
MOR8 Moi Rana 126.45 347 *e*PKPdf **PKPdf 15 42 45.4 -0.8**
MOR8 *e*PP **PP 15 44 42.3 -0.7**
MOR8 *e*SS SS 16 01 38.0 +1.5
MOR8 IVMs_BB IVMs_BB 16 25 31.8
comp=Z,3μm,4.6s
KONS Konsvik 126.46 348 *e*PKPdf **PKPdf 15 42 46.2 +0.1**
STOK Stokkvaagen 126.62 348 *e*PKPdf **PKPdf 15 42 46.4 0.0**
STOK *e*PP **PP 15 44 46.9 +2.8**
STOK *e*SS SS 16 01 42.9 +4.5
SKOMA Sekoma 126.65 222 *i* P **PKiKP 15 42 49.0 +0.5**
PHPEN Phepeng 126.66 221 *i* P **PKiKP 15 42 48.8 +0.4**
FINES FINESS Array B 126.70 338 PKPdf **PKPdf 15 42 46.5 -0.1**
FINES FINESS Array B 126.70 338 PKhKP PKPpre 15 42 34.4
comp=Z,7.7nm,1.1s,baz=90,slow=3.8,SNR=6.6
FINES PKP **PKPdf 15 42 46.7 0.0**
comp=Z,154nm,1.0s,baz=146,slow=3.7,SNR=8.8
LEIR Leirfjorden 126.79 347 *e*PKPdf **PKPdf 15 42 46.8 0.0**
LEIR *e*PP **PP 15 44 44.1 -1.1**
LEIR *e*SS SS 16 01 44.5 +4.0
LEIR IVMs_BB IVMs_BB 16 27 14.5
comp=Z,3μm,5.3s
ERBR Yeremizino-Bor 126.80 316 *i* PKIKP **PKiKP 15 42 48.3 +0.4**
ERBR *e* 15 43 21.7
ERBR *e* 15 44 42.6
ERBR *e*SS SS 16 01 39.9 -2.5
ERBR pmax pmax
comp=Z,387nm,1.1s
FRTB Fartura 126.84 136 *e*P **PKiKP 15 42 49.1 +0.3**
LABN Labinsk 126.93 314 *i* PKIKP **PKiKP 15 42 49.5 +1.3**
LABN *e* 15 44 44.2
LABN *e* 15 49 42.2
LABN *e*SS SS 16 01 38.4 -5.8
LABN pmax pmax
comp=Z,122nm,1.3s
SALV Santo Antonio 126.96 124 *e*P **PKiKP 15 42 49.3 +0.2**
KDWAN Kaudwane 126.96 224 *i* P **PKiKP 15 42 49.5 +0.4**
ISOG Isortoq, Green 127.02 14 *i* P **PKPdf 15 42 45.1 -2.0**
KIBK Kibwezi 127.08 255 PKP **PKPdf 15 42 46.5 -2.5**
KIBK Kibwezi 127.08 255 P **PKiKP 15 42 50.7 +1.2**
SNR=19
ANGG Ammassalik, Gr 127.25 13 *i* P **PKiKP 15 42 48.0 -0.2**
C2SB Chapadao do Su 127.48 129 *e*P **PKiKP 15 42 50.9 +0.8**
VSLR Vesyoloye 127.72 313 *i* PKIKP **PKPdf 15 42 49.0 -0.3**
SOC Sochi 127.91 313 *i* PKIKP **PKPdf 15 42 48.7 -0.9**
SOC *e* 15 44 53.3
SOC *e* 15 49 40.8
SOC *e*PS **PS 15 55 00.5 -1.5**
SOC *e*SS SS 16 01 51.2 -5.2
SOC *e*SSS SSS 16 06 37.0
SOC pmax pmax
comp=Z,94nm,0.9s
KHAM Kharkiv 128.01 322 PKP **PKiKP 15 42 50.3 +0.1**
SPB Sao Paulo 128.07 138 *e*P **PKiKP 15 42 51.5 +0.3**
UUPR Utuado, UPR, P 128.07 79 PKPdf **PKPdf 15 42 49.2 -1.4**
KMBO Kilima Mbogo 128.25 256 PKP **PKiKP 15 42 52.0 -0.1**
comp=Z,33nm,1.0s,baz=70,slow=2.0,SNR=53
KMBO Kilima Mbogo 128.25 256 P **PKiKP 15 42 53.1 +1.0**
KMBO Kilima Mbogo 128.25 256 *i* PKIKP **PKPdf 15 42 51.2 -0.3**
KMBO Kilima Mbogo 128.25 256 *i* P **PKiKP 15 42 52.0 -0.1**
SNR=28
EMPR Esperanza - Ma 128.28 79 PKPdf **PKPdf 15 42 49.0 -1.9**
VSU Vasula 128.39 335 *ce*PKIKP **PKPdf 15 42 49.0 -1.0**
VSU pmax pmax
comp=Z,231nm,1.0s
PDRB Porto dos Gac 128.39 119 *e*P **PKiKP 15 42 52.1 0.0**
NSS Namsos 128.40 347 *e*PKPdf **PKPdf 15 42 50.1 +0.2**
LKGWB Lokgwabe 128.66 220 *i* P **PKPdf 15 42 52.1 +0.2**
MACA Manacapuru-AM 128.67 107 *e*P **PKPdf 15 42 52.3 +0.3**
ITRB Iturama 128.71 132 *e*P **PKiKP 15 42 52.7 +0.1**
NRS Narsarsuaq 128.74 20 *i* P **PKPdf 15 42 50.0 -0.6**
VAO Valinhos 128.79 138 PKPdf **PKPdf 15 42 50.7 -1.3**
VAO Valinhos 128.79 138 *e*P **PKiKP 15 42 53.2 +0.5**
KGCAE Kacgae 128.94 222 *i* P **PKiKP 15 42 53.0 -0.1**
ANN Anapa 129.13 316 *c i*PKIKP **PKPdf 15 42 51.1 -0.7**
ANN *e* 15 44 59.2
ANN *e* 15 49 47.5
ANN *e*SS SS 16 02 14.4 +3.2
ANN pmax pmax
comp=Z,110nm,1.3s
PLTM Poltava 129.18 322 PKP **PKPdf 15 42 52.0 +0.2**
LSZ Lusaka 129.54 234 PKPdf **PKPdf 15 42 52.9 -0.8**
LSZ Lusaka 129.54 234 PKP **PKiKP 15 42 54.2 -0.2**
comp=Z,22nm,0.6s,baz=156,slow=2.4,SNR=32
LSZ Lusaka 129.54 234 P **PKiKP 15 42 54.2 -0.2**
CLDB Colider 129.56 119 *e*P **PKiKP 15 42 54.6 +0.3**
ARAG Araguaiana, MT 130.11 127 *e*P **PKiKP 15 42 55.6 +0.2**
KOOLE Kule 130.12 220 *i* P **PKiKP 15 42 55.5 0.0**
MNK Minsk 130.29 330 *i* PKIKP **PKPdf 15 42 52.1 -1.6**
MNK *i* 15 43 26.9
MNK *i* 15 45 07.3
MNK *i* PPP PPP 15 47 56.2
MNK *i* 15 49 51.2
MNK *i* SS SS 16 02 25.0 +0.5
MNK *i* SSS SSS 16 07 15.5
MNK pmax pmax
comp=Z,180nm,0.9s
MNK pmax pmax
comp=E,51nm,1.0s
MNK pmax pmax
comp=N,38nm,1.0s
MNK MLR MLR
comp=N,777nm,20.0s
MNK MLR MLR
comp=Z,2μm,21.0s
MNK MLR MLR
comp=E,1μm,22.0s
BORG Borgarnes 130.56 5 PKP **PKPdf 15 42 54.0 +0.1**
comp=E,15nm,0.8s,baz=274,slow=0.3,SNR=5.2
BORG SKPbc **SKPab 15 46 06.4 +0.7**
comp=E,48nm,0.9s,baz=96,slow=3.3,SNR=4.7
BOAV Boa Vista 130.77 101 *e*P **PKiKP 15 42 56.6 -0.2**
MOL Molde 131.07 348 *e*PKPdf **PKiKP 15 42 56.9 +1.0**
DOMB Dombas 131.22 347 *e*PKPdf **PKiKP 15 42 56.5 +0.2**
SIM Simferopol' 131.29 317 *i* PKIKP **PKiKP 15 42 57.5 +0.6**
SIM *e* 15 45 15.0
SIM *e*PS **SP 15 55 14.0 -1.1**
SIM pmax pmax
comp=Z,160nm,6.6s
SIM pmax pmax
comp=Z,300nm,6.9s
IPMB Ipameri, GO 131.37 132 *e*P **PKiKP 15 42 57.6 -0.4**
AKN Aaknes 131.53 348 *e*PKPdf **PKPdf 15 42 56.3 +0.3**
LODK Lodwar 131.53 261 PKPdf **PKiKP 15 42 58.0 -0.5**
LODK Lodwar 131.53 261 P **PKiKP 15 42 59.2 +0.7**
SNR=15
NB2 NORSAR Subarra 131.59 345 PKPdf **PKPdf 15 42 56.0 -0.1**
comp=Z,271nm,2.5s,baz=31,slow=1.9
NB2 pPKP **SKPab 15 46 11.5 +1.2**
comp=Z,741nm,2.5s,baz=38,slow=3.8
NB2 NORSAR Subarra 131.59 345 PKPdf **PKPdf 15 42 56.0 -0.1**
baz=31,slow=1.9
NOA NORSAR Array B 131.59 345 PKhKP PKPpre 15 42 43.8
comp=Z,12nm,1.1s,baz=52,slow=2.0,SNR=9.6
NOA PKP **PKPdf 15 42 56.1 0.0**
comp=Z,34nm,0.7s,baz=33,slow=2.0,SNR=57
NOA SKPbc **SKPab 15 46 11.1 +0.9**
comp=Z,48nm,1.0s,baz=32,slow=2.8,SNR=14
AK03 Malin Array Si 131.68 326 PKP **PKPdf 15 42 56.5 0.0**
AKASG Malin Array Be 131.69 326 PKPdf **PKPdf 15 42 55.9 -0.6**
AKASG Malin Array Be 131.69 326 PKhKP PKPpre 15 42 41.6
comp=Z,2.0nm,0.6s,baz=50,slow=3.6,SNR=8.2
AKASG PKP **PKPdf 15 42 56.3 -0.2**
comp=Z,1.9nm,0.7s,baz=64,slow=1.8,SNR=4.7
AKASG SKPbc **SKPbc 15 46 09.6 -0.6**
comp=Z,19nm,0.6s,baz=51,slow=4.5,SNR=19
AKBB Malin Array Si 131.69 326 PKPdf **PKPdf 15 42 55.6 -0.9**
AKBB Malin Array Si 131.69 326 *ce*PKIKP **PKPdf 15 42 56.7 +0.2**
AKBB Malin Array Si 131.69 326 PKP **PKPdf 15 42 56.6 +0.1**
HFS Hagfors 131.69 343 PKhKP PKPpre 15 42 42.6
comp=Z,4.3nm,0.7s,baz=90,slow=1.4,SNR=9.8
HFS PKP **PKPdf 15 42 56.4 +0.2**
comp=Z,33nm,0.7s,baz=103,slow=3.2,SNR=26
HFS SKPbc **SKPab 15 46 11.5 +0.8**
comp=Z,26nm,0.9s,baz=66,slow=3.6,SNR=9.0
HFS PKKP **PKKPdf 15 52 50.0 -4.2**
comp=Z,1.4nm,0.8s,baz=193,slow=5.9,SNR=4.4
AK01 Malin Array Si 131.70 326 PKP **PKPdf 15 42 56.6 +0.1**
AK09 Malin Array Si 131.70 325 PKP **PKPdf 15 42 56.6 +0.1**
KIEV Kiev 131.70 326 ⇑P **PKPdf 15 42 56.5 0.0**
KIEV Kiev 131.70 326 *i* P **PKPdf 15 42 56.1 -0.5**
SNR=12
KIEV Kiev 131.70 326 PKP **PKPdf 15 42 56.6 0.0**
AK08 Malin Array Si 131.71 326 PKP **PKPdf 15 42 56.6 0.0**
AK04 Malin Array Si 131.71 326 PKP **PKPdf 15 42 56.6 0.0**
AK23 Malin Array Si 131.71 326 PKP **PKPdf 15 42 56.6 0.0**
AK02 Malin Array Si 131.72 326 PKP **PKPdf 15 42 56.6 0.0**
NC602 NORSAR Array S 131.77 345 *e*PKPdf **PKPdf 15 42 56.0 -0.4**
NPGB Novo Progresso 131.80 115 *e*P **PKPdf 15 42 58.4 +0.5**
QNGWA Qangwa 131.96 224 *i* P **PKPdf 15 42 57.1 -1.1**
PMNB Patos De Minas 132.25 134 *e*P **PKiKP 15 42 59.8 0.0**
BZK Bozkurt 132.41 313 PKPdf **PKPdf 15 42 57.9 -0.2**
ASF Jabal al Asfar 132.48 299 PKP **PKPdf 15 42 59.2 +0.4**
comp=Z,51nm,0.9s,baz=160,slow=1.6,SNR=29
ASF SKPbc **SKPbc 15 46 14.1 +0.3**
comp=Z,69nm,1.0s,baz=133,slow=1.6,SNR=14
FKH Fakeheh 132.55 302 *e*P **PKiKP 15 42 60.0 0.0**
SKAR Skarslia 132.60 346 *e*PKPdf **PKiKP 15 42 59.3 +0.1**
SKAR *e*PP **PP 15 45 22.6 -0.5**
SKAR *e*SKPdf **SKiKP 15 46 28.6 +5.5**
SKAR *e*SP **SP 15 55 29.0 +4.0**
SKAR *e*SS **SS 16 02 57.0 +4.9**
SKAR IVMs_BB IVMs_BB 16 31 36.1
comp=Z,2μm,4.8s
HYA Hoyanger 132.62 348 *e*PKPdf **PKiKP 15 42 59.7 +0.7**
HYA *e*SP SP 15 55 27.5 +2.6
HYA *e*SS **SS 16 02 52.1 0.0**
BEIL Beino 132.68 303 *e*P **PKiKP 15 43 00.3 +0.2**
SNDB Serra Nova Dou 132.69 123 *e*P **PKiKP 15 43 00.6 0.0**
SUW Suwalki 132.77 332 *e*PKP **PKPdf 15 42 58.9 +0.4**
SUW *e*SKPdf **SKPab 15 46 17.5 +2.0**
HWQ Hawqa 132.92 302 *e*P **PKPdf 15 42 59.9 +0.3**
BDFB Brasilia 133.03 130 PKP **PKPdf 15 42 59.9 -0.4**
comp=Z,12nm,0.8s,baz=173,slow=1.3,SNR=10.0
RNPP9 Sopachiv 133.06 328 PKP **PKPdf 15 42 59.6 +0.5**
RNPP8 Varash 133.12 328 PKP **PKPdf 15 42 59.6 +0.4**
RCY Rachaya 133.15 301 *e*P **PKiKP 15 43 00.9 -0.4**
RNPP5 Staryi Chortor 133.17 328 PKP **PKPdf 15 42 59.6 +0.3**
CIDE Kastamonu/Cide 133.18 313 ⇓P **PKPdf 15 42 59.5 -0.1**
KONO Kongsberg 133.20 345 *e*PKPdf **PKiKP 15 43 00.4 0.0**
KONO *e*SKPdf **SKiKP 15 46 23.5 -0.8**
KONO *e*SS **SS 16 03 05.4 +6.2**
KONO IVMs_BB IVMs_BB 16 31 13.4
comp=Z,2μm,4.7s
KONO Kongsberg 133.20 345 PKPdf **PKiKP 15 42 59.9 -0.5**
KONO Kongsberg 133.20 345 PKIKP **PKiKP 15 42 59.9 -0.5**
BHL Bhannes 133.23 302 *e*P **PKPdf 15 43 00.5 +0.4**
SHBL Chebaa 133.26 301 *e*P **PKiKP 15 43 01.4 0.0**
QRWL Qaraoun 133.27 301 *e*P **PKiKP 15 43 01.2 -0.2**
STRU Stroemstad 133.32 344 *i* P **PKPdf 15 42 59.5 +0.1**
DQRL Deir Qamar 133.33 302 *e*P **PKiKP 15 43 01.4 -0.2**
PURM Purcari 133.35 320 PKP **PKPdf 15 43 00.0 +0.2**
KIRS Kirsehir-Merke 133.35 309 ⇓P **PKPdf 15 43 00.5 +0.4**
BRTR Keskin Array B 133.38 310 PKPpre PKPpre 15 42 48.0
BRTR PKPdf **PKPdf 15 43 00.2 -0.1**
BRTR Keskin Array B 133.38 310 PKhKP PKPpre 15 42 50.9
comp=Z,3.0nm,0.8s,baz=119,slow=4.5,SNR=12
BRTR PKP **PKPdf 15 43 00.1 -0.2**
comp=Z,66nm,1.0s,baz=133,slow=2.6,SNR=56
BRTR SKPbc **SKPbc 15 46 17.1 +0.4**
comp=Z,12nm,1.0s,baz=100,slow=3.5,SNR=7.1
BRTR Keskin Array B 133.38 310 PKIKP **PKPdf 15 43 00.2 -0.1**
BR104 Keskin Array S 133.38 310 PKP **PKPdf 15 43 00.2 -0.1**
BR106 Keskin Array S 133.39 310 PKP **PKPdf 15 43 00.2 -0.1**
BR105 Keskin Array S 133.40 310 PKP **PKPdf 15 43 00.2 -0.1**
SORM Soroca 133.49 323 ⇓P **PKPdf 15 43 00.3 +0.3**
SORM Soroca 133.49 323 PKP **PKPdf 15 43 00.1 +0.1**
MMAI Mount Meron Ar 133.59 301 PKhKP PKPpre 15 42 49.7
comp=Z,1.7nm,0.5s,baz=93,slow=8.4,SNR=5.4
MMAI PKP **PKiKP 15 43 01.8 -0.2**
comp=Z,95nm,1.0s,baz=70,slow=5.8,SNR=42
MMAI SKPab **SKPab 15 46 19.9 0.0**
comp=Z,36nm,0.8s,baz=67,slow=4.6,SNR=19
ODD1 Odda 133.67 347 *e* PKPdf 15 42 50.1 -10
ODD1 *e*PKPdf **PKiKP 15 43 00.8 -0.6**
KIS Kishinev 133.77 321 *e*PKP **PKPdf 15 43 00.0 -0.6**
comp=Z,130nm,0.7s
KIS Kishinev 133.77 321 *e*PP PP 15 45 27.0 -4.1
KIS *i* SKP 15 46 30.0
KIS LQM 16 29 35.0
comp=Z,550nm,25.0s
KIS *e*L L 16 40 23.0
KIS LRM MLR 16 41 46.0
comp=Z,700nm,20.0s
KIS Kishinev 133.77 321 *e*PKIKP **PKPdf 15 43 00.0 -0.6**
KIS *e* 15 45 27.0
KIS pmax pmax
comp=Z,430nm,3.4s
MILM Milestii Mici 133.81 321 *e*PKP **PKPdf 15 42 58.0 -2.6**
comp=Z,480nm,1.2s
MILM Milestii Mici 133.81 321 *e*PP PP 15 45 33.0 +1.6
MILM Milestii Mici 133.81 321 *e*PKIKP **PKPdf 15 42 58.0 -2.6**
MILM *e* 15 45 33.0
MILM pmax pmax
comp=Z,480nm,1.2s
ANTO Ankara 133.95 311 PKPdf **PKPdf 15 43 01.5 +0.3**
ANTO Ankara 133.95 311 P **PKiKP 15 43 02.3 -0.3**
ANTO Ankara 133.95 311 ⇓P **PKPdf 15 43 01.6 +0.3**
ANTO Ankara 133.95 311 PKIKP **PKPdf 15 43 01.5 +0.3**
BORU Boraas 134.03 341 *i* P **PKPdf 15 43 01.1 +0.3**
BLEU Blekinge 134.09 339 *i* P **PKPdf 15 43 00.4 -0.5**
BLS5 Blasjo 134.15 347 *e*PKPdf **PKPdf 15 43 01.6 +0.7**
DRBR Darabani 134.45 324 ⇓P **PKPdf 15 43 02.0 +0.2**
EIL Elat 134.48 296 PKP **PKiKP 15 43 03.4 -0.5**
comp=Z,69nm,1.0s,baz=5.6,slow=1.5,SNR=24
EIL SKPbc **SKPbc 15 46 20.5 +0.1**
comp=Z,87nm,1.2s,baz=85,slow=2.9,SNR=11
ONAU Onsala 134.49 342 *i* P **PKPdf 15 43 01.9 +0.4**
MBAR Mbarara 134.50 253 P **PKiKP 15 43 04.6 +0.1**
MBAR Mbarara 134.50 253 *i* PKIKP **PKPdf 15 43 02.8 -0.4**
TSUM Tsumeb 134.55 221 PKPdf **PKPdf 15 43 02.5 -0.6**
TSUM Tsumeb 134.55 221 PKhKP PKPpre 15 42 51.1
comp=Z,3.2nm,0.6s,baz=130,slow=2.9,SNR=3.7
TSUM PKP **PKPdf 15 43 03.8 +0.7**
comp=Z,11nm,0.6s,baz=138,slow=3.3,SNR=10
TSUM SKP 15 46 26.1
comp=Z,15nm,1.2s,baz=140,slow=6.2,SNR=4.9
FABU Falkenberg 134.57 341 *i* P **PKPdf 15 43 01.9 +0.2**
KMY Karmoy 134.60 347 *e*PKPdf **PKiKP 15 43 03.1 -0.1**
TLCR 134.62 319 ⇓P **PKPdf 15 43 02.8 +0.6**
DEL Delary 134.63 340 *i* P **PKPdf 15 43 02.2 +0.3**
HOMB Homborsund 134.69 345 *i* P **PKPdf 15 43 02.4 +0.5**
R9F13 Warsaw-Wawer 134.87 331 *e*PKPdfd 15 43 04.4
R9F13 *ep*PKPdf pPKPdf 15 43 39.5 +2.5
R9F13 *e* 15 46 24.3
R9F13 *e* 15 46 36.7
R9F13 *e*SKS **SKSdf 15 50 04.6 +3.3**
R9F13 *e* 15 55 41.3
VARL Varlezi 134.88 321 ⇑P **PKiKP 15 43 03.5 -0.7**
CSS Mathiatis 134.89 304 PKPdf **PKPdf 15 43 02.9 -0.2**
SNART Snartemo 134.95 346 *i* P **PKiKP 15 43 03.5 -0.3**
TPGR Topolog 135.02 319 ⇑P **PKiKP 15 43 03.9 -0.6**
NEGRR Negrea 135.04 320 ⇑P **PKPdf 15 43 02.7 -0.3**
CFR Carcaliu 135.05 319 ⇓P **PKPdf 15 43 03.1 +0.1**
OVD Ostervraa, Den 135.05 343 *i* P **PKPdf 15 43 02.9 +0.3**
GHRR 135.07 321 ⇓P **PKiKP 15 43 03.9 -0.6**
IZVR Izvoarele 135.10 320 ⇑P **PKPdf 15 43 03.3 +0.2**
PRAR RASCA 135.12 323 ⇓P **PKPdf 15 43 03.8 +0.6**
TIRR Tirgusor 135.20 318 ⇑P **PKPdf 15 43 03.8 +0.5**
BJUU Bjuv 135.23 340 *i* P **PKiKP 15 43 04.0 -0.5**
EFOR EFORIE 135.23 318 ⇑P **PKiKP 15 43 04.6 -0.3**
COSR Cosmesti PH 135.23 321 ⇓P **PKPdf 15 43 02.7 -0.6**
BEL Belsk 135.29 331 *e*PKP **PKiKP 15 43 04.3 -0.5**
BEL *e*SKPdf **SKPab 15 46 26.7 +0.2**
TESR Tescani 135.31 322 ⇓P **PKPdf 15 43 03.5 0.0**
MFTR Murfatlar 135.32 318 ⇓P **PKPdf 15 43 03.7 +0.1**
PANC Panciu 135.32 321 ⇑P **PKPdf 15 43 04.1 +0.6**
BSD Bornholm Skovb 135.34 338 *i* P **PKPdf 15 43 03.6 +0.3**
MANR Mangalia 135.37 318 ⇓P **PKiKP 15 43 04.8 -0.4**
HARR Harsova 135.40 319 ⇑P **PKiKP 15 43 04.5 -0.7**
LUNU Lund 135.44 339 *i* P **PKPdf 15 43 02.9 -0.5**
ONER Baraj Valea Uz 135.55 322 ⇓P **PKiKP 15 43 05.1 -0.5**
BURAR Bucovina Array 135.56 324 PKPpre PKPpre 15 42 53.9
BURAR PKPdf **PKiKP 15 43 05.3 -0.3**
BURAR Bucovina Array 135.56 324 ⇑P **PKiKP 15 43 05.1 -0.5**
GOET G??ttrup 135.57 343 *i* P **PKiKP 15 43 05.5 +0.3**
VRI Vrincioaia 135.58 321 ⇑P **PKPdf 15 43 04.7 +0.6**
SJMB Sao Joao De Ma 135.61 139 *e*P **PKiKP 15 43 06.0 -0.5**
PLOR Plostina 135.64 321 ⇑P **PKPdf 15 43 04.3 +0.1**
RIB01 Linhares ES 135.64 141 *e*P **PKiKP 15 43 06.2 -0.3**
ICOR Ion Corvin 135.75 318 ⇓P **PKPdf 15 43 04.4 +0.1**
PSN Preselentsi 135.75 318 *e*P **PKPdf 15 43 05.1 +0.7**
KWP Kalwaria Pacla 135.75 328 *e*PKP **PKPdf 15 43 05.0 +0.7**
KWP *e*PP **PP 15 45 49.9 +6.4**
KWP *e*SKPdf **SKPdf 15 46 27.7 +0.5**
GKP Gorka Klasztor 135.84 335 *e*PKP **PKiKP 15 43 05.6 -0.3**
GKP *e*PP **PP 15 45 43.0 -0.8**
GKP *e*SKPdf **SKPdf 15 46 27.5 +0.3**
COVR Voineasa-Covas 135.91 321 ⇑P **PKPdf 15 43 04.5 -0.2**
OZUR 136.03 322 ⇑P **PKPdf 15 43 05.1 +0.2**
ISR Istrita 136.06 320 ⇓P **PKPdf 15 43 04.6 -0.5**
NEHR Nehoiu 136.06 321 ⇓P **PKPdf 15 43 05.5 +0.5**
MUD Monsted U'grnd 136.09 343 *i* P **PKiKP 15 43 07.2 +1.0**
LEHL Lehliu 136.21 319 ⇑P **PKPdf 15 43 06.0 +0.8**
MLR Muntele Rosu 136.25 321 PKP **PKPdf 15 43 05.3 -0.1**
comp=Z,65nm,1.0s,baz=42,slow=3.1,SNR=35
MLR SKPbc **SKPbc 15 46 24.8 -0.8**
comp=Z,22nm,1.2s,baz=146,slow=2.2,SNR=6.7
DOPR Dopca 136.34 322 ⇓P **PKiKP 15 43 06.5 -0.7**
ARCR ARCALIA 136.34 324 ⇑P **PKiKP 15 43 06.5 -0.6**
KOLS Kolonicke sedl 136.41 327 *e*PKIKP **PKiKP 15 43 07.2 0.0**
KOLS Kolonicke sedl 136.41 327 *e*PKP **PKiKP 15 43 07.2 0.0**
KOLS *e* 15 46 29.8
PRD Provadia 136.43 317 *e*P **PKiKP 15 43 07.0 -0.4**
NEF NEVSHA 136.47 317 *e*P **PKiKP 15 43 06.9 -0.6**
BMR Baia Mare 136.49 325 ⇓P **PKPdf 15 43 05.6 0.0**
STHS Stebnicka Huta 136.64 328 *e*PKIKP **PKiKP 15 43 07.1 -0.6**
STHS Stebnicka Huta 136.64 328 *e*PKP **PKiKP 15 43 07.1 -0.6**
STHS *e* 15 46 30.8
SSRD Sdr. Stenderup 136.79 342 *i* P **PKiKP 15 43 09.6 +1.9**
OJC Ojcow 136.83 330 *e*PKP **PKPdf 15 43 06.3 +0.1**
OJC *e*PP **PP 15 45 52.2 +2.1**
RAZG Razgrad 136.83 318 ⇓P **PKPdf 15 43 07.0 +0.6**
SGRR Singureni 136.86 319 ⇓P **PKiKP 15 43 07.4 -0.8**
CBBR Cluj-Babes-Bol 136.97 324 ⇑P **PKPdf 15 43 07.3 +0.8**
CJR Cluj-Napoca 136.98 324 ⇓P **PKPdf 15 43 07.6 +0.9**
PRPB Parauapebas 137.03 117 *e*P **PKiKP 15 43 08.9 -0.7**
MESR Meseseni 137.10 325 ⇑P **PKiKP 15 43 07.9 -0.7**
NIE Niedzica 137.11 329 *e*PKP **PKiKP 15 43 08.1 -0.5**
NIE *e*PP **PP 15 45 53.6 +1.6**
NIE *e*SKPdf **SKiKP 15 46 32.7 0.0**
BAND Balkesir-Ban 137.15 313 ⇓P **PKPdf 15 43 07.0 -0.1**
TNR Turnu Rosu 137.17 322 ⇑P **PKPdf 15 43 07.5 +0.5**
MARR Marisel-Cluj 137.27 324 ⇓P **PKPdf 15 43 07.3 0.0**
SZH Strazhitsa 137.31 318 *e*P **PKPdf 15 43 07.8 +0.5**
HUMR Humele 137.32 320 ⇑P **PKPdf 15 43 07.6 +0.4**
SDBA SAO DESIDERIO 137.40 129 *e*P **PKPdf 15 43 09.3 +0.9**
DRGR 137.44 324 ⇑P **PKPdf 15 43 08.3 +0.8**
EDRB Edirne 137.46 316 P **PKPdf 15 43 08.0 +0.4**
AKAS Kas 137.47 307 PKPpre PKPpre 15 42 58.0
KSL Kastellorizon 137.52 307 P **PKPdf 15 43 08.8 +0.9**
LOT Lotru 137.57 322 ⇑P **PKPdf 15 43 07.5 -0.3**
LANS Liptovska Anna 137.70 329 *e*PKIKP **PKiKP 15 43 09.9 0.0**
LANS Liptovska Anna 137.70 329 *e*PKP **PKiKP 15 43 09.9 0.0**
LANS *e* 15 46 34.7
BORR Bors 137.78 325 ⇓P **PKPdf 15 43 08.2 +0.2**
DEV Deva 137.84 323 ⇑P **PKPdf 15 43 07.9 -0.3**
PVL Pavlikeni 137.90 318 *e*P **PKPdf 15 43 08.6 +0.2**
STEB Steborice 137.98 331 *e*PKPpre PKPpre 15 42 58.2
STEB *e*PKPDF **PKiKP 15 43 09.4 -1.0**
KSP Ksiaz 138.01 333 *e*PKP **PKPdf 15 43 09.3 +0.9**
KSP *e*PP **PP 15 45 59.7 +2.4**
KSP *e*SKPdf **SKiKP 15 46 34.6 +0.1**
GUA01 Guaratinga, BA 138.06 139 *e*P **PKPdf 15 43 10.2 +0.7**
GZR Gura Zlata 138.19 323 ⇑P **PKPdf 15 43 09.5 +0.6**
MORC Moravsky Berou 138.20 331 *e*PKP **PKPdf 15 43 09.6 +0.8**
MORC *e*PP **PP 15 45 56.6 -2.1**
MORC *e* 15 46 35.0
MORC Moravsky Berou 138.20 331 ⇑P **PKPdf 15 43 09.0 +0.2**
OSTC Ostas 138.25 333 *e*SKP 15 46 33.9
PSZ Piszkesteto 138.28 327 ⇑P **PKPdf 15 43 08.6 -0.4**
SIRR Siria 138.33 324 ⇑P **PKPdf 15 43 09.5 +0.4**
SRE Strehaia 138.34 321 ⇓P **PKPdf 15 43 09.7 +0.5**
KRLC Kraliky 138.34 332 *e*PP **PP 15 45 58.3 -1.2**
ALN Alexandroupoli 138.34 315 P **PKPdf 15 43 09.1 -0.2**
MAUC Maruska 138.35 330 *e*PKPDF **PKiKP 15 43 10.7 -0.5**
MAUC *e*SKP 15 46 35.8
DPC Dobruska-Polom 138.35 332 *e*PKPpre PKPpre 15 43 01.7
DPC *e*PKPDF **PKPdf 15 43 09.1 0.0**
DPC *e*SKP 15 46 35.7
DPC Dobruska-Polom 138.35 332 *e*PKHKP PKPpre 15 43 01.7
DPC *e* 15 43 09.1
SURR Surduc 138.36 323 ⇑P **PKPdf 15 43 09.1 -0.1**
UPC Upice 138.38 333 *e*SKP 15 46 35.5
RDO Rodhopi 138.58 315 P **PKPdf 15 43 08.2 -1.5**
BAIL Bailesti 138.59 320 ⇓P **PKPdf 15 43 10.1 +0.4**
EZN Ezine 138.60 313 P **PKPdf 15 43 10.8 +1.0**
HERR Herculane 138.69 322 ⇓P **PKPdf 15 43 10.3 +0.5**
MPEP Malo Peshtene 138.69 319 *e*P **PKPdf 15 43 10.1 +0.2**
VALD Valchedram 138.71 320 *e*P **PKiKP 15 43 11.4 -0.6**
BZS Buzias 138.73 324 ⇑P **PKPdf 15 43 09.3 -0.5**
DJES Djerdap 138.74 322 ⇓P **PKPdf 15 43 09.4 -0.5**
JAVC Velka Javorina 138.77 330 *e*PKP **PKiKP 15 43 11.7 -0.4**
JAVC *e* 15 46 36.5
PRK Paraskevi 138.88 313 P **PKPdf 15 43 07.7 -2.6**
SMTH Samothraki Isl 138.88 315 P **PKPdf 15 43 10.1 -0.2**
VRAC Vranov 138.97 331 PKhKP PKPpre 15 43 02.0
comp=Z,6.0nm,0.7s,baz=56,slow=2.8,SNR=5.6
VRAC PKP **PKPdf 15 43 10.6 +0.4**
comp=Z,33nm,0.8s,baz=44,slow=1.9,SNR=24
VRAC SKPbc **SKPbc 15 46 33.2 0.0**
comp=Z,27nm,1.0s,baz=92,slow=2.3,SNR=7.2
VRAC Vranov 138.97 331 *e*PKP **PKPdf 15 43 10.6 +0.4**
VRAC *e*PP **PP 15 46 03.8 +0.4**
VRAC *e* 15 46 36.6
VRAC Vranov 138.97 331 ⇓P **PKPdf 15 43 10.1 -0.1**
PVCC Panska Ves 138.98 334 *e*PP **PP 15 46 06.7 +3.4**
BRG Berggiesshubel 138.99 335 *e*PKP PKPdf 15 43 02.0 -8.2
BRG Amp 15 43 07.5
comp=Z,26nm,0.8s
BRG Berggiesshubel 138.99 335 P **PKiKP 15 43 11.8 -0.6**
BRG Amp 15 43 15.2
comp=Z,131nm,0.9s
BRG Berggiesshubel 138.99 335 P PKiKP 15 43 22.5 +10
BRG Amp 15 43 24.9
comp=Z,29nm,1.0s
CLL Collm 139.03 336 ⇓*e*PKHKP PKPpre 15 43 01.0
CLL *i* 15 43 11.8
CLL *e* 15 43 47.0
CLL pmax pmax
comp=Z,19nm,0.8s
CLL pmax pmax
comp=Z,61nm,1.0s
LAWE Loch Awe, Argy 139.11 354 *e*P **PKPdf 15 43 04.2 -6.0**
SMOL Smolenice 139.12 330 *e*PKIKP **PKiKP 15 43 12.4 -0.4**
SMOL *e* 15 46 06.6
CMC01 Camacan, BA 139.15 138 *e*P **PKPdf 15 43 12.6 +1.1**
MDVR Moldovita 139.16 322 ⇑P **PKPdf 15 43 11.4 +0.7**
SRO Srobarova 139.16 328 *e*PKIKP **PKiKP 15 43 13.0 +0.2**
SRO Srobarova 139.16 328 *e*PKP **PKiKP 15 43 13.0 +0.2**
KRUC Moravsky 139.24 331 *e*PKP **PKiKP 15 43 12.1 -0.9**
KRUC *e*PP **PP 15 46 03.4 -1.6**
KRUC *e* 15 46 37.4
MODS Modra-Piesok 139.29 330 *e*PKIKP **PKiKP 15 43 12.6 -0.5**
MODS *e* 15 46 07.6
MODS Modra-Piesok 139.29 330 *e*PKP **PKiKP 15 43 12.6 -0.5**
MODS *e*PP **PP 15 46 07.6 +2.2**
MODS *e* 15 46 38.5
PLNA Plana 139.34 318 *e*P **PKPdf 15 43 12.3 +1.1**
KAVA Kavala 139.34 316 P **PKPdf 15 43 11.2 +0.1**
GOPC GO Pecny, Ondr 139.35 333 *e*PKPpre PKPpre 15 43 06.4
GOPC *e*PKPDF **PKiKP 15 43 13.3 +0.1**
GOPC *

TREC			*e*PKPDF	**PKiKP**	**15 43 13.4**	**-0.1**
TREC	**Trest**	**139.49 332**	*e*PKIKP	**PKPdf**	**15 43 06.5**	**-4.6**
KARP	**Karpathos**	**139.57 307**	P	**PKPdf**	**15 43 11.5**	**-0.2**
MMB	**Musomishta**	**139.58 317**	*e*P	**PKPdf**	**15 43 06.4**	**-5.2**
EKA	**Eskdalemuir Ar**	**139.75 352**	PKhKP	PKPpre	15 43 01.9	
	comp=Z,10nm,0.7s,baz=8.1,slow=2.1,SNR=18					
EKA			SKPbc	**SKPbc**	**15 46 36.0**	**+0.9**
	comp=Z,14nm,1.0s,baz=32,slow=1.9,SNR=5.4					
KOKK	**Kokkinochori,**	**139.76 316**	P	**PKPdf**	**15 43 11.9**	**0.0**
ESK	**Eskdalemuir**	**139.78 352**	PKPpre	PKPpre	15 43 02.2	
ESK	**Eskdalemuir**	**139.78 352**	*e*P	**PKPdf**	**15 43 04.5**	**-6.9**
ESK	**Eskdalemuir**	**139.78 352**	PKHKP	PKPpre	15 43 02.2	
BOVS	**Bovan**	**139.80 321** ⇑P		**PKPdf**	**15 43 12.5**	**+0.6**
KKB	**Krupnik**	**139.84 318**	*e*P	**PKPdf**	**15 43 12.0**	**0.0**
SRS	**Serrai**	**139.90 317**	P	PKPdf	15 43 04.3	-7.8
ZVC	**Zvikov**	**139.96 333**	*e*PKPpre	PKPpre	15 43 04.5	
ZVC			*e*SKP		15 46 38.8	
OUR	**Ouranopolis**	**140.00 315**	P	**PKPdf**	**15 43 12.3**	**0.0**
MORH	**Mrgy, Hungar**	**140.02 326** ⇓P		**PKPdf**	**15 43 13.0**	**+0.8**
FRGS	**Fruska Gora**	**140.03 324**	*e*P	**PKPdf**	**15 43 05.8**	**-6.5**
RONA	**Rosalia, Austr**	**140.24 330**	*i* PKP	**PKPdf**	**15 43 06.3**	**-6.3**
	comp=Z,286nm,1.5s,SNR=16					
RONA			*e*PP	**PP**	**15 46 12.5**	**+1.3**
	comp=Z,930nm,3.0s					
RONA			*e*SKP		15 46 41.2	
	comp=Z,40nm,1.0s					
CONA	**Conrad Observa**	**140.29 330**	*i* PKP	**PKPdf**	**15 43 06.7**	**-6.0**
	comp=Z,325nm,1.8s,SNR=10					
CONA			*e*PP	**PP**	**15 46 09.9**	**-1.6**
	comp=Z,2μm,4.7s					
CONA			*e*SKP		15 46 37.4	
	comp=Z,741nm,2.9s					
KNT	**Kendrikon**	**140.33 317**	P	**PKPdf**	**15 43 12.6**	**-0.3**
CKRC	**Cesky Krumlov**	**140.37 332**	*e*PKPpre	PKPpre	15 43 05.7	
CKRC			*e*PKPDF	**PKiKP**	**15 43 14.9**	**-0.4**
CKRC			*e*SKP		15 46 39.1	
CKRC	**Cesky Krumlov**	**140.37 332**	*e*PKHKP	PKPpre	15 43 05.7	
TMAB	**Tom-Au,PA,Br**	**140.38 114**	*e*P	**PKPdf**	**15 43 14.8**	**+1.0**
PAIG	**Paliouri**	**140.39 315**	P	**PKPdf**	**15 43 12.8**	**-0.2**
GAL1	**Galloway**	**140.41 353**	*e*P	**PKPdf**	**15 43 07.2**	**-5.3**
KHC	**Kasperske Hory**	**140.46 333**	*e*PKPpre	PKPpre	15 43 07.0	
KHC			*e*PKPDF	**PKiKP**	**15 43 15.5**	**0.0**
KHC			*e*PP	**PP**	**15 46 12.5**	**+0.1**
KHC			*e*SKP		15 46 39.8	
KHC			*e*SS	SS	16 04 26.2	+0.2
KHC			AMS	AMS	16 42 20.0	
	comp=Z,2μm,20.2s					
KHC	**Kasperske Hory**	**140.46 333**	*e*PKHKP	PKPpre	15 43 07.0	
KHC			*e*		15 46 12.5	
KHC			*e*		16 04 26.2	
KHC			MLR	MLR		
	comp=Z,2μm,20.2s					
IDGL	**Inch Island, C**	**140.47 356**	PKPdif	**PKPdf**	**15 43 12.3**	**-0.4**
VAY	**Valandovo**	**140.47 317**	*i* P	**PKPdf**	**15 43 10.9**	**-2.2**
HORT	**Hortiatis**	**140.47 316**	P	**PKPdf**	**15 43 13.3**	**0.0**
TEKS	**Tekeris**	**140.56 324** ⇑*i*P		**PKPdf**	**15 43 07.1**	**-6.1**
AOS	**Alonnisos**	**140.59 314**	P	**PKPdf**	**15 43 12.0**	**-1.4**
GERES	**GERESS Array B**	**140.62 333**	PKPpre	PKPpre	15 43 05.8	
GERES	**GERESS Array B**	**140.62 333**	PKhKP	PKPpre	15 43 06.5	
	comp=Z,4.6nm,0.8s,baz=31,slow=3.1,SNR=25					
GERES			PKP	**PKPdf**	**15 43 14.0**	**+0.7**
	comp=Z,44nm,0.9s,baz=56,slow=1.8,SNR=29					
GERES			SKPbc	**SKiKP**	**15 46 39.4**	**-0.7**
	comp=Z,23nm,0.9s,baz=50,slow=2.1,SNR=12					
GERES			PKKP	**PKKPdf**	**15 52 30.3**	**-6.6**
	comp=Z,1.4nm,0.8s,baz=182,slow=6.8,SNR=3.6					
ARSA	**Arzberg**	**140.93 330**	*e*PKP	**PKPdf**	**15 43 06.6**	**-7.2**
	comp=Z,507nm,3.0s					
ARSA			*e*PP	**PP**	**15 46 15.7**	**+0.3**
	comp=Z,748nm,3.4s					
ARSA			*e*SKP		15 46 37.6	
	comp=Z,440nm,3.1s					
XOR	**Xorichti**	**140.98 314**	P	**PKPdf**	**15 43 08.2**	**-6.0**
NEO	**Neokhori**	**140.99 314**	P	**PKPdf**	**15 43 13.8**	**-0.4**
GRFO	**Grafenberg**	**141.01 336**	PKPpre	PKPpre	15 43 05.8	
GRFO	**Grafenberg**	**141.01 336**	PKHKP	PKPpre	15 43 05.8	
DION	**Dionisos Attik**	**141.03 312**	P	**PKPdf**	**15 43 14.0**	**-0.3**
BBLS	**Lazi&#263i**	**141.04 323** ⇑*i*P		**PKPdf**	**15 43 07.7**	**-6.5**
SJES	**Sjenica**	**141.05 322** ⇑*i*P		**PKPdf**	**15 43 07.2**	**-7.1**
PTL	**Penteli**	**141.09 312**	P	**PKPdf**	**15 43 13.3**	**-1.1**
MOA	**Molln**	**141.09 331**	*i* PKP	**PKPdf**	**15 43 10.0**	**-4.1**
	comp=Z,174nm,1.7s,SNR=19					
LIT	**Litokhoron**	**141.12 316**	P	**PKPdf**	**15 43 07.1**	**-7.3**
HAPS	**Han Pijesak,BI**	**141.17 323**	*e*P	**PKPdf**	**15 43 09.1**	**-5.4**
RUDO	**Rudo**	**141.20 322** ⇑*i*P		**PKPdf**	**15 43 06.9**	**-7.5**
IVA	**Berane**	**141.32 321** ⇑*i*PKP		**PKPdf**	**15 43 09.1**	**-5.7**
PLE	**Pljevlja**	**141.36 322** ⇑*i*PKP		**PKPdf**	**15 43 09.8**	**-5.0**
LBWR	**Ladybower, Pea**	**141.40 350**	*e*P	**PKPdf**	**15 43 07.8**	**-6.7**
IDI	**Anoyia**	**141.41 307**	PKP	**PKPdf**	**15 43 09.1**	**-6.0**
IDI	**Anoyia**	**141.41 307**	PKhKP	PKPpre	15 43 09.8	
	comp=Z,13nm,0.3s,baz=254,slow=5.2,SNR=20					
ILTH	**Belurgan, Co L**	**141.41 354**	PKPdif	**PKPdf**	**15 43 15.0**	**+0.6**
VILL	**Villia**	**141.44 313**	P	**PKPdf**	**15 43 14.6**	**-0.5**
GROS	**Grobnik**	**141.49 329**	*e*PKPdf	**PKPdf**	**15 43 08.3**	**-6.7**
KZN	**Kozani**	**141.50 316**	P	**PKPdf**	**15 43 14.3**	**-0.8**
BIOA	**Bad Ischl, Aus**	**141.50 332**	PKP	**PKPdf**	**15 43 07.9**	**-7.0**
	comp=Z,856nm,4.2s,SNR=26					
FNA	**Florina**	**141.52 317**	P	**PKPdf**	**15 43 14.8**	**-0.3**
KOME	**Kolasin**	**141.56 321** ⇑*i*PKP		**PKPdf**	**15 43 09.1**	**-6.1**
SOKA	**Soboth**	**141.57 329**	*i* PKP	**PKPdf**	**15 43 10.7**	**-4.4**
	comp=Z,213nm,1.3s,SNR=23					
SOKA			*e*PP	**PP**	**15 46 19.3**	**0.0**
	comp=Z,520nm,2.8s					
SOKA			*e*SKP		15 46 41.6	
	comp=Z,115nm,1.6s					
AXAR	**Agios Charalam**	**141.63 314**	P	**PKPdf**	**15 43 14.2**	**-1.1**
PHP	**Peshkopia**	**141.64 319**	P	**PKPdf**	**15 43 14.3**	**-1.0**
THL	**Klokotos Trika**	**141.70 315**	P	**PKPdf**	**15 43 14.2**	**-1.2**
OHR	**Ohrid**	**141.72 318**	*i* P	**PKPdf**	**15 43 10.9**	**-4.6**
UPM	**Unac-Piva**	**141.72 322** ⇑*i*P		**PKPdf**	**15 43 13.7**	**-1.9**
UPM	**Unac-Piva**	**141.72 322** ⇑*i*PKP		**PKPdf**	**15 43 10.2**	**-5.4**
A051A	**Mrakovica**	**141.73 326**	*e*P	**PKPdf**	**15 43 10.1**	**-5.3**
BLY	**Banja Luka**	**141.75 325** ⇑*i*P		**PKPdf**	**15 43 10.0**	**-5.3**
MAKR	**Makrakomi, Fth**	**141.88 314**	P	**PKPdf**	**15 43 11.9**	**-3.9**
NEST	**Nestorio**	**141.92 317**	P	**PKPdf**	**15 43 17.0**	**+1.1**
OBKA	**Obir**	**141.92 330**	*e*PKP	**PKPdf**	**15 43 09.5**	**-6.2**
	comp=Z,828nm,4.7s					
OBKA			*e*PP	**PP**	**15 46 21.6**	**+0.1**
	comp=Z,931nm,3.4s					
OBKA	**Obir**	**141.92 330** ⇑*i*P		**PKPdf**	**15 43 09.4**	**-6.3**
KPRO	**Kipourio**	**141.94 316**	P	**PKPdf**	**15 43 15.2**	**-0.7**
PDG	**Podgorica**	**141.96 321** ⇑*i*P		**PKPdf**	**15 43 10.8**	**-5.0**
PDG	**Podgorica**	**141.96 321** ⇑P		**PKPdf**	**15 43 15.2**	**-0.5**
PDG	**Podgorica**	**141.96 321** ⇑*i*PKP		**PKPdf**	**15 43 10.3**	**-5.5**
CWF	**Charnwood Fore**	**141.97 349**	*e*P	**PKPdf**	**15 43 08.8**	**-6.7**
IMMV	**Iera Moni Meta**	**142.03 308**	P	**PKPdf**	**15 43 11.7**	**-4.4**
BTNL	**Ternell**	**142.08 341**	*d*PKPdf	**PKPdf**	**15 43 11.3**	**-4.5**
KBA	**Koelnbreinsper**	**142.09 331**	*i* PKP	**PKPdf**	**15 43 10.2**	**-5.9**
	comp=Z,554nm,3.1s,SNR=29					
KBA			*e*PP	**PP**	**15 46 23.2**	**+0.6**
	comp=Z,646nm,4.1s					
CEME	**Cevo**	**142.10 321** ⇑*i*PKP		**PKPdf**	**15 43 10.4**	**-5.7**
MEM	**Membach**	**142.10 341**	*d*PKPdf	**PKPdf**	**15 43 11.3**	**-4.5**
ELMS	**Elmsett, Ipswi**	**142.11 347**	*e*P	**PKPdf**	**15 43 11.2**	**-4.5**
BRY	**Bratogost**	**142.12 322** ⇑*i*P		**PKPdf**	**15 43 11.4**	**-4.8**
BRY	**Bratogost**	**142.12 322** ⇑*i*PKP		**PKPdf**	**15 43 10.8**	**-5.4**
LESA	**Schwarzleotal**	**142.13 332**	*i* PKP	**PKPdf**	**15 43 11.8**	**-4.2**
	comp=Z,291nm,1.4s,SNR=36					
LESA			*e*PP	**PP**	**15 46 23.4**	**+0.7**
	comp=Z,995nm,3.7s					
DRME	**Dracevica, Mon**	**142.14 321** ⇑*i*P		**PKPdf**	**15 43 11.6**	**-4.5**
DRME	**Dracevica, Mon**	**142.14 321** ⇑*i*PKP		**PKPdf**	**15 43 09.8**	**-6.3**
EVR	**Evrytania**	**142.15 314**	P	**PKPdf**	**15 43 15.5**	**-0.9**
KALE	**Kalíthea**	**142.16 314**	P	**PKiKP**	**15 43 19.1**	**-0.3**
DSB	**Dublin**	**142.18 354**	PKPdif	**PKPdf**	**15 43 14.0**	**-1.8**
ANX	**Ano Chora**	**142.22 314**	P	**PKPdf**	**15 43 16.4**	**-0.1**
GUR	**Goura**	**142.22 313**	P	**PKPdf**	**15 43 12.6**	**-3.9**
IGLA	**Glengowla, Co**	**142.23 357**	PKPdif	**PKPdf**	**15 43 13.3**	**-2.6**
ULC	**Ulcinj**	**142.23 320** ⇑*i*PKP		**PKPdf**	**15 43 10.9**	**-5.4**
BUM	**Brajici-Budva**	**142.25 321** ⇑*i*PKP		**PKPdf**	**15 43 11.7**	**-4.7**
BSTI	**Sart Tilman**	**142.26 341**	*d*PKPdf	**PKPdf**	**15 43 11.6**	**-4.5**
LJU	**Ljubljana**	**142.26 329**	*e*PKPdf	**PKPdf**	**15 43 12.8**	**-3.4**
LJU			*i* PKiKP	**PKiKP**	**15 43 17.9**	**-1.4**
LJU			*e*PP	**PP**	**15 46 22.5**	**-1.0**
LJU			*e*		15 46 43.0	
BOJS	**Bojanci**	**142.27 328** ⇑*i*P		**PKPdf**	**15 43 12.1**	**-4.1**
MYKA	**Terra Mystica**	**142.27 330**	*i* PKP	**PKPdf**	**15 43 12.1**	**-4.2**
	comp=Z,489nm,2.9s,SNR=17					
MYKA			*e*PP	**PP**	**15 46 23.8**	**+0.2**
	comp=Z,580nm,2.8s					
MYKA			*e*SKP		15 46 42.8	
	comp=Z,636nm,4.5s					
A050A	**Klekovaca**	**142.28 326** ⇑*i*P		**PKPdf**	**15 43 11.3**	**-5.1**

EFP	**Efpalio**	**142.31 314**	P	**PKPdf**	**15 43 12.9**	**-3.6**
KLV	**Kalavryta, Ach**	**142.31 313**	P	**PKPdf**	**15 43 12.1**	**-4.5**
TREB	**Trebinje**	**142.34 322** ⇑*i*P		**PKPdf**	**15 43 12.7**	**-3.8**
LSK	**Leskovik**	**142.35 317**	P	**PKPdf**	**15 43 13.4**	**-3.3**
ANKY	**Antikythira Is**	**142.39 309**	P	**PKPdf**	**15 43 12.8**	**-3.9**
HCY	**Herceg Novi**	**142.41 322** ⇑*i*P		**PKPdf**	**15 43 11.9**	**-4.7**
HCY	**Herceg Novi**	**142.41 322** ⇑*i*PKP		**PKPdf**	**15 43 11.1**	**-5.5**
UCC	**Uccle**	**142.43 343** *d*PKPdf		**PKPdf**	**15 43 12.1**	**-4.2**
HLM1	**Long Mynd**	**142.44 351** *e*P		**PKPdf**	**15 43 12.5**	**-3.9**
PRED	**Cave del Predi**	**142.44 330** PKPpre		PKPpre	15 43 11.9	
BCLA	**Clavier**	**142.49 341** *d*PKPdf		**PKPdf**	**15 43 12.8**	**-3.7**
CEY	**Cerknica**	**142.53 329** ⇑*i*P		**PKPdf**	**15 43 12.3**	**-4.4**
BGES	**Gesves**	**142.58 342** *d*PKPdf		**PKPdf**	**15 43 12.7**	**-3.9**
ROBS	**Robic**	**142.62 330** *e*PKPdf		**PKPdf**	**15 43 10.9**	**-5.9**
ROBS			*i* PKiKP	**PKiKP**	**15 43 17.6**	**-2.4**
STON	**Ston**	**142.63 323** ⇑*i*P		**PKPdf**	**15 43 12.0**	**-4.9**
DRO	**Drossia**	**142.66 313** P		**PKPdf**	**15 43 14.6**	**-2.6**
WATA	**Walderalm**	**142.69 333** *e*PKP		**PKPdf**	**15 43 12.3**	**-4.8**
	comp=Z,236nm,1.2s					
WATA			*e*PP	**PP**	**15 46 27.0**	**+0.9**
	comp=Z,740nm,3.9s					
WATA			*e*SKP		15 46 47.0	
	comp=Z,39nm,1.1s					
ABTA	**Abfaltersbach**	**142.72 332** *i* PKP		**PKPdf**	**15 43 12.4**	**-4.7**
	comp=Z,285nm,1.1s,SNR=48					
ABTA			*e*PP	**PP**	**15 46 25.7**	**-0.6**
	comp=Z,440nm,2.9s					
WTTA	**Wattenberg**	**142.72 333** *e*PKP		**PKPdf**	**15 43 12.6**	**-4.6**
	comp=Z,1000nm,2.9s					
WTTA			*e*PP	**PP**	**15 46 27.7**	**+1.3**
	comp=Z,843nm,3.1s					
WTTA			*e*SKP		15 46 46.9	
	comp=Z,68nm,1.2s					
RCHB	**Rochefort**	**142.74 341** *d*PKPdf		**PKPdf**	**15 43 13.1**	**-3.8**
BMRD	**Maredsous**	**142.75 342** *d*PKPdf		**PKPdf**	**15 43 12.4**	**-4.5**
AXS	**Araxos**	**142.78 314** P		**PKPdf**	**15 43 15.4**	**-2.0**
RLS	**Riolos of Patr**	**142.78 313** P		**PKPdf**	**15 43 15.9**	**-1.5**
IGT	**Igoumenitsa**	**142.84 316** P		**PKPdf**	**15 43 14.3**	**-3.2**
ITM	**Ithomi**	**142.85 312** P		**PKPdf**	**15 43 13.7**	**-3.9**
WLF	**Walferdange**	**142.87 340** PKP		**PKPdf**	**15 43 12.6**	**-4.6**
WLF	**Walferdange**	**142.87 340** *d*PKPdf		**PKPdf**	**15 43 14.2**	**-3.0**
SRN	**Sarande**	**142.88 317** P		**PKPdf**	**15 43 14.1**	**-3.4**
RETA	**Reutte**	**142.93 334** *i* PKP		**PKPdf**	**15 43 13.6**	**-3.8**
	comp=Z,712nm,2.2s,SNR=26					
SQTA	**Sankt Quirin**	**142.94 333** *e*PKP		**PKPdf**	**15 43 13.3**	**-4.2**
	comp=Z,593nm,1.8s					
SQTA			*e*PP	**PP**	**15 46 27.6**	**0.0**
	comp=Z,944nm,4.4s					
MCH1	**Michaelchurch**	**142.97 350** *e*P		**PKPdf**	**15 43 13.0**	**-4.3**
TSLK	**Tsoukalades, L**	**142.98 315** P		**PKPdf**	**15 43 14.7**	**-3.0**
DOU	**Dourbes**	**142.99 342** *d*PKPdf		**PKPdf**	**15 43 14.2**	**-3.2**
LKD2	**Lefkada island**	**143.00 315** P		**PKPdf**	**15 43 15.7**	**-2.1**
NYDR	**Nydri-Lefkada**	**143.00 315** P		**PKPdf**	**15 43 14.4**	**-3.3**
STRD	**Stroud**	**143.04 349** *e*P		PKPbc	15 43 14.2	-0.4
EVGI	**Lefkada island**	**143.08 315** P		PKPbc	15 43 15.2	+0.1
IWEX	**Carrickbyrne,**	**143.08 354** PKPdif		PKPbc	15 43 16.0	+1.4
MONM	**Monmouth**	**143.09 350** *e*P		PKPbc	15 43 14.1	-0.6
KEK	**Kerkira**	**143.10 317** P		PKPbc	15 43 16.0	+0.8
FSK	**Fiskardo**	**143.22 315** P		PKPbc	15 43 15.4	-0.1
BFO	**Black Forest**	**143.23 337** PKPpre		PKPpre	15 43 15.0	
BFO	**Black Forest**	**143.23 337** PKIKP		PKPbc	15 43 15.0	-0.2
RTZL	**Ratzakli, Kefa**	**143.26 314** P		PKPbc	15 43 15.9	+0.3
FETA	**Feichten**	**143.30 333** *i* PKP		PKPab	15 43 14.3	-0.1
	comp=Z,693nm,1.4s,SNR=80					
FETA			*i* PP	**PP**	**15 46 28.2**	**-1.7**
	comp=Z,927nm,4.2s,SNR=6.0					
FETA			*e*SKP		15 46 47.2	
	comp=Z,149nm,2.3s					
VLS	**Valsamata**	**143.34 314** P		PKPbc	15 43 16.3	+0.4
LTHK	**Lithakia**	**143.39 313** P		PKPbc	15 43 15.5	-0.5
HMNX	**Herstmonceux**	**143.40 347** *e*P		PKPbc	15 43 15.1	-0.5
DAVA	**Damuels**	**143.46 334** *i* PKP		PKPbc	15 43 15.7	-0.3
	comp=Z,825nm,1.9s,SNR=60					
DAVA			*e*SKP		15 46 48.9	
	comp=Z,52nm,1.3s					
DMLN	**Damoulianata-K**	**143.46 314** P		PKPbc	15 43 15.9	-0.3
VAL	**Valentia**	**143.75 358** PKP		PKPab	15 43 14.3	-1.4
VAL	**Valentia**	**143.75 358** PKPdif		PKPbc	15 43 17.2	+0.7
SCTE	**Santa Cesarea**	**143.78 318** PKPdif		PKPbc	15 43 17.0	0.0
DAVOX	**Davos/Dischmat**	**143.85 334** PKP		PKPbc	15 43 18.2	+0.9
	comp=Z,130nm,0.6s,baz=250,slow=0.9,SNR=125					
DAVOX			SKPbc	**SKiKP**	**15 46 46.7**	**-0.1**
	comp=Z,31nm,0.9s,baz=237,slow=3.0,SNR=3.9					
HTL	**Hartland**	**144.17 352** *e*P		**PKPab**	**15 43 15.6**	**-1.8**
MATE	**Matera**	**144.55 320** ⇑P		PKPbc	15 43 19.4	0.0
DYA	**Yadsworthy**	**144.63 351** *e*P		**PKPab**	**15 43 15.3**	**-3.8**
CCA1	**Carnmenellis**	**145.06 352** *e*P		**PKPbc**	**15 43 17.0**	**-3.6**
TIP	**Timpagrande**	**145.37 318** ⇑P		**PKPbc**	**15 43 22.1**	**0.0**
AQU	**L'Aquila**	**145.39 325** PKP		**PKPdf**	**15 43 20.8**	**-1.1**
NBAN	**Anadia - AL**	**145.45 135** *e*P		**PKPdf**	**15 43 22.5**	**-0.2**
JSA	**Saint Aubin**	**145.52 348** *e*P		**PKPdf**	**15 43 16.2**	**-5.5**
VLC	**Villacolmenad**	**145.64 330** PKP		**PKPdf**	**15 43 20.8**	**-1.4**
CESX	**Cesi**	**145.66 327** PKPdf		**PKPdf**	**15 43 21.2**	**-1.1**
NBPB	**Pedra_Branca-C**	**145.79 126** *e*P		**PKPdf**	**15 43 23.1**	**-0.2**
NBCA	**Caruaru-PE**	**146.66 134** *e*P		**PKPdf**	**15 43 25.5**	**+0.6**
VAE	**Valguarnera**	**147.85 318** PKPbc		**PKPbc**	**15 43 29.3**	**0.0**
	comp=Z,49nm,1.0s,baz=291,slow=1.9,SNR=7.8					
SHEL	**Horse Pasture**	**147.94 192**		**PKPbc**	**15 43 28.6**	**-1.4**
SHEL	**Horse Pasture**	**147.94 192**	PKIKP	**PKPbc**	**15 43 28.6**	**-1.4**
RCBR	**Riachuelo**	**148.39 131** *e*P		**PKPdf**	**15 43 29.1**	**+1.4**
EJON	**La Jonquera**	**150.25 337** PKP		**PKPdf**	**15 43 27.9**	**-1.9**
H07S1	**FLORES T-PHASB**	**151.15 31** *e*PKP		**PKiKP**	**15 43 37.7**	**-0.1**
MAHO	**Mahon**	**151.81 332** PKP		**PKPdf**	**15 43 32.2**	**-0.1**
KEST	**Kesra**	**152.14 320** PKPbc		**PKiKP**	**15 43 40.6**	**+0.5**
	comp=Z,32nm,0.9s,baz=200,slow=2.8,SNR=14					
ETOS	**Mallorca**	**152.55 334** PKP		**PKPdf**	**15 43 35.0**	**+1.6**
CAEH	**'Ain El Ouahch**	**152.90 325** P		**PKPdf**	**15 43 35.7**	**+1.7**
PCED	**Cedros**	**152.95 29** *e*PKP		**PKPdf**	**15 43 33.1**	**-0.9**
CALA	**Caldeira**	**152.99 29** *e*PKP		**PKPdf**	**15 43 36.5**	**+2.3**
ROSA	**Rosais**	**153.09 28** *e*PKP		**PKPdf**	**15 43 27.9**	**-6.3**
PICO	**Pico**	**153.18 29** *e*PKP		**PKPdf**	**15 43 33.5**	**-0.9**
PCAN	**Candelaria**	**153.18 29** *e*PKP		**PKPdf**	**15 43 35.8**	**+1.4**
PMAN	**Manadas**	**153.23 28** *e*PKP		**PKPdf**	**15 43 28.7**	**-5.7**
PPNO	**Prainha do Nor**	**153.28 29** *e*PKP		**PKPdf**	**15 43 31.1**	**-3.5**
PID	**Ribeirinha**	**153.37 28** *e*PKP		**PKPdf**	**15 43 31.1**	**-3.5**
CASM	**Ain Smara**	**153.47 324** P		**PKPdf**	**15 43 38.4**	**+3.5**
PBRG	**Braganca**	**153.48 351** *e*PKPdf		**PKPdf**	**15 43 34.6**	**-0.1**
PBRG			*e*tx	tx	15 43 43.0	
PBRG			*e*PKPab	**PKPab**	**15 43 56.3**	**+1.2**
PBRG			*e*PP	**PP**	**15 47 30.8**	**+2.3**
PGAV	**Gavieira, Arco**	**153.53 353** *e*PKPdf		**PKPdf**	**15 43 34.9**	**0.0**
PGAV			*e*tx	tx	15 43 43.8	
PGAV			*e*PKPab	**PKPab**	**15 43 55.7**	**+0.3**
PGAV			*e*PP	**PP**	**15 47 30.9**	**+2.2**
DFRA	**Djebel Bou Aff**	**153.61 325** P		**PKPdf**	**15 43 35.2**	**0.0**
PCAB	**Cabril**	**153.75 353** *e*PKPdf		**PKPdf**	**15 43 36.0**	**+0.9**
PCAB			*e*tx	tx	15 43 44.5	
PCAB			*e*PKPab	**PKPab**	**15 43 57.7**	**+1.4**
PCAB			*e*PP	**PP**	**15 47 31.2**	**+1.3**
EIBI	**Ibiza**	**153.78 335** PKP		**PKPdf**	**15 43 34.4**	**-0.7**
POLO	**Lamas de Olo**	**154.05 352** *e*PKPdf		**PKPdf**	**15 43 35.4**	**-0.2**
POLO			*e*tx	tx	15 43 45.5	
POLO			*e*PKPab	**PKPab**	**15 43 59.4**	**+1.8**
POLO			*e*PP	**PP**	**15 47 32.6**	**+0.9**
SET	**Setif**	**154.12 326** P		**PKPdf**	**15 43 37.0**	**+1.1**
PVRL	**Vila Real**	**154.14 352** *e*PKPdf		**PKPdf**	**15 43 36.1**	**+0.4**
PVRL			*e*tx	tx	15 43 45.8	
PVRL			*e*PKPab	**PKPab**	**15 43 60.0**	**+2.1**
ECHE	**Chera**	**154.14 340** PKP		**PKPdf**	**15 43 35.6**	**-0.1**
MVO	**Moncorvo**	**154.15 351** *e*PKPdf		**PKPdf**	**15 43 36.6**	**+0.9**
MVO			*e*tx	tx	15 43 45.7	
MVO			*e*PKPab	**PKPab**	**15 43 59.4**	**+1.4**
MVO			*e*PP	**PP**	**15 47 34.0**	**+1.8**
UCM	**Universidad Co**	**154.17 344** PKP		**PKPdf**	**15 43 35.3**	**-0.4**
PVIS	**Viseu**	**154.71 352** *e*PKPdf		**PKPdf**	**15 43 36.2**	**-0.3**
PVIS			*e*PKPab	**PKPab**	**15 44 01.8**	**+1.4**
PVIS			*e*PP	**PP**	**15 47 36.8**	**+1.5**
PSET	**Sete Cidades**	**154.94 26** *e*PKP		**PKPdf**	**15 43 30.7**	**-6.2**
ESDC	**Sonseca Array**	**154.96 345**		**PKPdf**	**15 43 36.8**	**-0.1**
ESDC			PKPab	**PKPab**	**15 44 01.2**	**-0.2**
ESDC	**Sonseca Array**	**154.96 345** PKP		**PKPdf**	**15 43 38.2**	**+1.4**
	comp=Z,11nm,1.1s,baz=355,slow=3.1,SNR=32					
ESDC			PKPbc	**PKPbc**	**15 43 45.7**	**0.0**
	comp=Z,17nm,0.8s,baz=20,slow=2.0,SNR=27					
ESDC			PKPab	**PKPab**	**15 44 01.4**	**0.0**
	comp=Z,75nm,1.0s,baz=12,slow=3.6,SNR=30					
ESDC			PP	**PP**	**15 47 33.6**	**-3.3**
	comp=Z,15nm,1.0s,baz=34,slow=5.8,SNR=6.4					
MTE	**Manteigas**	**154.98 351** *e*PKPdf		**PKPdf**	**15 43 37.1**	**+0.3**
MTE			*e*PKPab	**PKPab**	**15 44 03.0**	**+1.4**
MTE			*e*PP	**PP**	**15 47 38.3**	**+1.5**
CMLA	**Cha da Macela**	**155.07 25** *e*PKP		**PKPdf**	**15 43 36.6**	**-0.4**

PGRON	**Lagoa das Cont**	**155.12 25** *e*PKP		**PKPdf**	**15 43 36.3**	**-0.9**
BART	**Pico Bartolome**	**155.20 25** *e*PKP		**PKPdf**	**15 43 38.7**	**+1.4**
COI	**Coimbra**	**155.28 353** *e*PKPdf		**PKPdf**	**15 43 36.4**	**-0.8**
COI			*e*PKPab	**PKPab**	**15 44 04.2**	**+1.5**
COI			*e*PP	**PP**	**15 47 40.5**	**+2.0**
PCAS	**Casmilo, Conde**	**155.44 353** *e*PKPdf		**PKPdf**	**15 43 37.5**	**+0.1**
PCAS			*e*PKPab	**PKPab**	**15 44 04.9**	**+1.4**
PCAS			*e*PP	**PP**	**15 47 40.6**	**+1.2**
PCBR	**Castelo Branco**	**155.51 351** *e*PKPdf		**PKPdf**	**15 43 37.0**	**-0.6**
PCBR			*e*tx	tx	15 43 47.5	
PCBR			*e*PKPab	**PKPab**	**15 44 05.3**	**+1.6**
PCBR			*e*PP	**PP**	**15 47 40.5**	**+0.8**
PMRV	**Marv??o**	**155.90 351** *e*PKPdf		**PKPdf**	**15 43 37.9**	**-0.2**
PMRV			*e*tx	tx	15 43 47.9	
PMRV			*e*PKPab	**PKPab**	**15 44 06.7**	**+1.2**
PMRV			*e*PP	**PP**	**15 47 44.1**	**+2.1**
PSMN	**Pico do Norte,**	**155.91

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRMS	**Tiraumea**	**0.07**	**95**	P	**Pb**	**15 45 43.4**	**-0.3**
TRMS				S	**Sb**	**15 45 47.3**	**-0.2**
TIWZ	**Tintock**	**0.11**	**185**	P	**Pb**	**15 45 43.9**	**-0.1**
TIWZ				S	**Sb**	**15 45 47.8**	**-0.2**
PRWZ	**Pori Road**	**0.12**	**26**	P	**Pb**	**15 45 43.9**	**-0.1**
PRWZ				S	**Sb**	**15 45 48.2**	**+0.2**
MRZ	**Mangatainoka R**	**0.24**	**271**	P	**Pb**	**15 45 44.9**	**-0.2**
MRZ				S	**Sn**	**15 45 49.7**	**+0.3**
BFZ	**Birch Farm**	**0.26**	**94**	P	Pn	15 45 45.4	-0.2
BFZ	**Birch Farm**	**0.26**	**94**	P	Pn	15 45 51.8	+6.2
BFZ	**Birch Farm**	**0.26**	**94**	P	**Pn**	**15 45 45.6**	**0.0**
BFZ				S	**Sb**	**15 45 51.4**	**+1.0**
POWZ	**Post Office Ro**	**0.29**	**340**	P	**Pb**	**15 45 45.6**	**-0.2**
POWZ				S	**Sb**	**15 45 51.3**	**+0.4**
WDPS	**Woodville Poli**	**0.33**	**356**	P	**Pb**	**15 45 46.1**	**-0.1**
WDPS				S	**Sb**	**15 45 51.8**	**+0.2**
CPWZ	**Castlepoint**	**0.34**	**137**	P	**Pn**	**15 45 47.5**	**+0.8**
CPWZ				S	**Sn**	**15 45 53.9**	**+1.6**
CPFS	**Castlepoint Fi**	**0.34**	**134**	P	**Pn**	**15 45 47.5**	**+0.8**
WRCS	**Masterton Wair**	**0.34**	**214**	P	**Pn**	**15 45 46.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**0.37**	**231**	P	**Pb**	**15 45 47.0**	**+0.2**
HOWZ				S	**Sn**	**15 45 53.2**	**-0.1**
DVHZ	**Dannevirke**	**0.42**	**29**	P	**Pb**	**15 45 47.6**	**+0.1**
DVHZ				S	**Sn**	**15 45 54.4**	**-0.1**
TMWZ	**Te Maipa**	**0.44**	**181**	P	**Pn**	**15 45 48.5**	**+0.3**
ANWZ	**Angora Road**	**0.48**	**65**	P	**Pn**	**15 45 49.0**	**+0.3**
OGWZ	**Otaki Gorge**	**0.57**	**254**	P	**Pn**	**15 45 50.2**	**+0.2**
MTW	**Mount Morrison**	**0.58**	**211**	P	**Pn**	**15 45 50.1**	**+0.1**
TSZ	**Takapari Road**	**0.61**	**4**	P	**Pn**	**15 45 50.4**	**0.0**
OHWZ	**Ohakea**	**0.64**	**316**	P	**Pb**	**15 45 51.9**	**+1.0**
PRHZ	**Porangahau**	**0.69**	**52**	P	**Pb**	**15 45 51.5**	**+0.6**
WPHZ	**Waipukurau**	**0.73**	**35**	P	**Pb**	**15 45 52.9**	**+0.4**
TRWZ	**Traveller**	**0.75**	**192**	P	**Pn**	**15 45 52.5**	**+0.1**
CAW	**Cannon Point**	**0.77**	**235**	P	**Pb**	**15 45 53.1**	**-0.1**
KIW	**Kapiti Island**	**0.78**	**255**	P	**Pb**	**15 45 53.5**	**+0.3**
PNHZ	**Pukenui**	**0.79**	**17**	P	**Pb**	**15 45 53.4**	**+0.1**
PAWZ	**Paruwai Farm**	**0.80**	**206**	P	**Pn**	**15 45 53.2**	**+0.1**
MSWZ	**Moikau Station**	**0.90**	**213**	P	**Pn**	**15 45 54.4**	**0.0**
PXZ	**Pawanui**	**0.97**	**50**	P	**Pn**	**15 45 55.6**	**+0.2**
PLWZ	**Palliser**	**1.03**	**208**	P	**Pn**	**15 45 56.0**	**-0.2**
WEL	**Wellington**	**1.06**	**234**	P	**Pn**	**15 45 57.1**	**+0.5**
BHW	**Baring Head**	**1.07**	**226**	P	**Pn**	**15 45 56.9**	**0.0**
KRHZ	**Kereru**	**1.08**	**20**	P	**Pn**	**15 45 57.7**	**+0.7**
SNZO	**South Karori**	**1.11**	**234**	P	**Pn**	**15 45 57.6**	**+0.3**
SNZO	**South Karori**	**1.11**	**234**	S	**Sb**	**15 46 12.5**	**-0.4**
KAHZ	**Kahuranaki**	**1.15**	**41**	P	**Pn**	**15 45 58.4**	**+0.5**
WAZ	**Wanganui**	**1.15**	**322**	P	**Pb**	**15 46 00.2**	**+0.8**
MOVZ	**Moawhango**	**1.26**	**355**	P	**Pb**	**15 46 00.8**	**-0.6**
KWHZ	**Kaweka Forest**	**1.30**	**18**	P	**Pb**	**15 46 00.8**	**+0.8**
MTVZ	**Mangateitei**	**1.32**	**345**	P	**Pb**	**15 46 02.2**	**-0.2**
TCW	**Tory Channel**	**1.34**	**246**	P	**Pn**	**15 46 00.8**	**+0.3**
WNVZ	**Wahianoa**	**1.36**	**350**	P	**Pb**	**15 46 02.6**	**-0.4**
MCHZ	**McNeill Hill**	**1.36**	**27**	P	**Pn**	**15 46 01.5**	**+0.7**
TRVZ	**Turoa**	**1.39**	**349**	P	**Pb**	**15 46 03.3**	**-0.4**
WHVZ	**Whangaehu Hut**	**1.40**	**350**	P	**Pb**	**15 46 03.6**	**-0.2**
TUVZ	**Tukino**	**1.41**	**352**	P	**Pb**	**15 46 03.6**	**-0.3**
MAVZ	**Matarangi**	**1.42**	**349**	P	**Pb**	**15 46 03.9**	**-0.3**
FWVZ	**Far West T-bar**	**1.43**	**349**	P	**Pb**	**15 46 03.8**	**-0.6**
PKVZ	**Pokaka**	**1.44**	**343**	P	**Pb**	**15 46 04.0**	**-0.4**
COVZ	**Chateau Observ**	**1.49**	**349**	P	**Pb**	**15 46 04.7**	**-0.5**
SNVZ	**South Ngauruho**	**1.49**	**352**	P	**Pb**	**15 46 04.6**	**-0.7**
NGZ	**Ngauruhoe**	**1.50**	**351**	P	**Pb**	**15 46 04.9**	**-0.6**
DUWZ	**D'Urville Isla**	**1.51**	**264**	P	**Pn**	**15 46 03.6**	**+0.7**
OTVZ	**Oturere**	**1.51**	**353**	P	**Pb**	**15 46 04.8**	**-0.8**
ETVZ	**East Tongariro**	**1.53**	**355**	P	**Pb**	**15 46 05.0**	**-1.0**
NNVZ	**North Ngauruho**	**1.55**	**352**	P	**Pb**	**15 46 05.8**	**-0.9**
TMVZ	**Te Maari**	**1.55**	**354**	P	**Pb**	**15 46 05.2**	**-1.2**
BKZ	**Black Stump Fm**	**1.56**	**17**	P	**Pn**	**15 46 04.1**	**+0.5**
BKZ	**Black Stump Fm**	**1.56**	**17**	S	**Sn**	**15 46 24.4**	**+1.6**
BKZ	**Black Stump Fm**	**1.56**	**17**	P	**Pn**	**15 46 04.1**	**+0.5**
WTVZ	**West Tongariro**	**1.57**	**351**	P	**Pb**	**15 46 05.5**	**-1.0**
NTVZ	**North Tongarir**	**1.57**	**354**	P	**Pb**	**15 46 05.5**	**-1.2**
KRVZ	**Karewarewa**	**1.58**	**353**	P	**Pb**	**15 46 05.9**	**-0.9**
TWVZ	**Taurewa**	**1.63**	**347**	P	**Pb**	**15 46 06.5**	**-1.2**
ARHZ	**Aropaoanui**	**1.63**	**31**	P	**Pn**	**15 46 05.1**	**+0.6**
LREZ	**Lake Rotokare**	**1.66**	**316**	P	**Pb**	**15 46 08.4**	**+0.3**
TUWZ	**Tuamarina**	**1.67**	**242**	P	**Pn**	**15 46 05.7**	**+0.7**
CMWZ	**Cape Campbell**	**1.67**	**229**	P	**Pb**	**15 46 10.5**	**+2.3**
RITZ	**Rihia Road**	**1.69**	**359**	P	**Pb**	**15 46 07.8**	**-0.7**
KATZ	**Kakaramea**	**1.69**	**355**	P	**Pb**	**15 46 07.9**	**-0.8**
NMHZ	**Naumai**	**1.71**	**24**	P	**Pn**	**15 46 06.7**	**+1.0**
VRZ	**Vera Road**	**1.77**	**330**	P	**Pb**	**15 46 08.4**	**-1.5**
BSWZ	**Blackbirch Sta**	**1.85**	**235**	P	**Pn**	**15 46 07.4**	**-0.2**
MRHZ	**Matea Rd**	**1.87**	**12**	P	**Pn**	**15 46 08.5**	**+0.6**
PREZ	**Palmer Road**	**1.88**	**314**	P	**Pb**	**15 46 10.7**	**-1.1**
MTHZ	**Maungataniwha**	**1.95**	**22**	P	**Pn**	**15 46 09.3**	**+0.4**
WATZ	**Wairara**	**1.96**	**356**	P	**Pn**	**15 46 10.1**	**+1.0**
NEZ	**North Egmont**	**1.96**	**315**	P	**Pb**	**15 46 13.0**	**-0.3**
RAHZ	**Arahi**	**1.97**	**28**	P	**Pn**	**15 46 09.6**	**+0.4**
NNZ	**Nelson**	**1.99**	**253**	P	**Pb**	**15 46 11.7**	**-1.9**
KHEZ	**Kahui Hut**	**1.99**	**313**	P	**Pb**	**15 46 13.3**	**-0.4**
NMEZ	**Namu Road**	**1.99**	**308**	P	**Pb**	**15 46 13.3**	**-0.4**
NBEZ	**Newall Road No**	**2.09**	**311**	P	**Pb**	**15 46 14.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.16**	**46**	P	**Pn**	**15 46 11.4**	**-0.4**
SNGZ	**Shannon Statio**	**2.18**	**31**	P	**Pn**	**15 46 12.1**	**-0.1**
RTZ	**Ruatahuna**	**2.21**	**23**	P	**Pn**	**15 46 13.1**	**+0.5**
TKNZ	**Takaka Hill**	**2.26**	**260**	P	**Pn**	**15 46 13.9**	**+0.8**
MUGZ	**Murupara**	**2.29**	**17**	P	**Pn**	**15 46 14.3**	**+0.7**
HIZ	**Hauiti**	**2.29**	**339**	P	**Pn**	**15 46 14.9**	**+1.3**
HIZ	**Hauiti**	**2.29**	**339**	P	**Pn**	**15 46 16.2**	**+2.6**
PRGZ	**Paritu Road**	**2.32**	**42**	P	**Pn**	**15 46 13.3**	**-0.7**
TLZ	**Tolley Road**	**2.35**	**353**	P	**Pb**	**15 46 18.8**	**-1.3**
HSRZ	**Hossack Road**	**2.37**	**7**	P	**Pn**	**15 46 15.0**	**+0.4**
RIGZ	**Rimuhau**	**2.43**	**37**	P	**Pn**	**15 46 14.9**	**-0.6**
RAGZ	**Rawiri**	**2.46**	**29**	P	**Pn**	**15 46 15.5**	**-0.5**
MRNZ	**Matariki Terra**	**2.49**	**252**	P	**Pn**	**15 46 17.0**	**+0.8**
KHZ	**Kahutara**	**2.49**	**225**	P	**Pn**	**15 46 16.1**	**-0.2**
KHZ	**Kahutara**	**2.49**	**225**	S	**Sn**	**15 46 45.0**	**-0.5**
KHZ	**Kahutara**	**2.49**	**225**	P	**Pn**	**15 46 15.6**	**-0.7**
THZ	**Tophouse**	**2.51**	**243**	P	**Pn**	**15 46 16.2**	**-0.5**
QRZ	**Quartz Range**	**2.56**	**265**	P	**Pn**	**15 46 17.7**	**+0.3**
QRZ	**Quartz Range**	**2.56**	**265**	P	**Pn**	**15 46 17.8**	**+0.5**
URZ	**Urewera**	**2.58**	**22**	P	**Pn**	**15 46 17.0**	**-0.5**
MWZ	**Matawai**	**2.65**	**29**	P	**Pn**	**15 46 17.5**	**-1.0**
CNGZ	**Carnagh Statio**	**2.81**	**40**	P	**Pn**	**15 46 20.2**	**-0.6**
WHRZ	**Whale Island**	**2.93**	**17**	P	**Pn**	**15 46 20.3**	**-2.0**
TOZ	**Tahuroa Road**	**2.95**	**354**	P	**Pn**	**15 46 21.8**	**-0.8**
TWGZ	**Tauwhareparae**	**2.96**	**34**	P	**Pn**	**15 46 22.9**	**+0.1**
RUGZ	**Raukumara Rang**	**3.03**	**28**	P	**Pn**	**15 46 23.0**	**+0.8**
GVZ	**Greta Valley S**	**3.14**	**222**	P	**Pn**	**15 46 24.0**	**-1.3**
HAZ	**Te Kaha**	**3.25**	**27**	P	**Pn**	**15 46 26.2**	**-0.5**
DSZ	**Denniston Nort**	**3.27**	**249**	P	**Pn**	**15 46 27.4**	**+0.3**
LTZ	**Lake Taylor**	**3.44**	**231**	P	**Pn**	**15 46 28.3**	**-1.1**
WMGZ	**Waiomatatini S**	**3.45**	**35**	P	**Pn**	**15 46 28.6**	**-0.9**
OKCZ	**Okains Bay**	**3.71**	**214**	P	**Pn**	**15 46 32.3**	**-0.9**
CTZ	**Chatham Island**	**6.35**	**121**	P	**Pn**	**15 47 09.0**	**-0.3**

IDC 20 15:55:33.4±2.7, 18°62S×177°73W, h614km±27km, mb2.8/4, mbtmp3.7/5, Error ellipse: s-maj=42.7km s-min=33.7km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.11**	**282**	P	P	15 57 00.8	0.0
	4.1nm,0.7s,baz=244,slow=24,SNR=2.4						
WRA	**Warramunga Arr**	**45.15**	**260**	P	P	16 02 57.0	-0.3
	0.8nm,0.3s,baz=97,slow=7.9,SNR=28						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**45.23**	**255**	P	P	16 02 58.0	+0.1
	1.3nm,0.6s,baz=87,slow=8.2,SNR=39						
ASAR				PcP	PcP	16 04 24.4	0.0
	0.9nm,1.1s,baz=108,slow=3.8,SNR=4.2						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**71.44**	**180**	P	P	16 05 52.9	0.0
	1.0nm,0.9s,baz=195,slow=8.8,SNR=1.0						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**86.44**	**13**	P	P	16 07 11.5	-0.1
	0.1nm,0.5s,baz=211,slow=6.0,SNR=1.4						
	0.1nm,0.5s						

*CATAC **20** 16:04:24.5±0.6, 13°N±4°×9°0W±°, h19km±4km, M3.5/15, MLv3.5/15, Error ellipse: s-maj=8.2km s-min=6.0km az=174.9, confirmed*
*SNET **20** 16:04:25.4±1.4, 13°55N×90°46W, h50km, ML3.6*
*GCG **20** 16:04:25.3±1.0, 13°53N×90°45W, h23km±7km, MD3.7*

ISC 20 16:04:23.6±2.2, 13°44N±0°09×90°50W±0°08, h20km±6km, n58, σ0°36/69, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.62**	**49**	S	**Sn**	**16 04 46.4**	**-0.2**
FG8	**Yepocapa, Chim**	**0.82**	**356**	*eP*		16 04 44.0	
NUBE	**Las Nubes**	**0.84**	**56**	*eP*	**Pb**	**16 04 40.1**	**+0.4**
NUBE				*eS*	**Sn**	**16 04 51.7**	**-0.6**
NUBE	**Las Nubes**	**0.84**	**56**	P	**Pb**	**16 04 40.1**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**56**	P	**Pb**	**16 04 40.1**	**+0.4**
NUBE	**Las Nubes**	**0.84**	**56**	*i P*	**Pb**	**16 04 40.1**	**+0.4**
NUBE				*eS*	**Sn**	**16 04 51.3**	**-0.9**
NUBE	**Las Nubes**	**0.84**	**56**	*i P*		16 04 40.1	
NUBE				*eS*		16 04 51.3	
LOAL	**Lomas de Alarc**	**0.90**	**51**	P	**Pn**	**16 04 41.2**	**+0.1**
LOAL	**Lomas de Alarc**	**0.90**	**51**	S	**Sn**	**16 04 53.6**	**+0.1**
LOAL	**Lomas de Alarc**	**0.90**	**51**	P	**Pn**	**16 04 41.3**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**50**	*eP*	**Pn**	**16 04 41.3**	**0.0**
SLOZ				*eS*	**Sn**	**16 04 54.0**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**50**	P	**Pn**	**16 04 41.3**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.91**	**50**	S	**Sn**	**16 04 54.1**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.91**	**50**	P	**Pn**	**16 04 41.3**	**0.0**
CEVE	**Cerro Verde**	**0.94**	**65**	*eP*	**Pb**	**16 04 41.7**	**+0.4**
CEVE				*eS*	**Sn**	**16 04 54.3**	**-0.5**
CEVE	**Cerro Verde**	**0.94**	**65**	P	**Pb**	**16 04 41.8**	**+0.4**
CEVE	**Cerro Verde**	**0.94**	**65**	P	**Pb**	**16 04 41.6**	**+0.4**
SBLS	**San Blas**	**0.94**	**65**	*eP*	**Pb**	**16 04 41.7**	**+0.3**
SBLS				*eS*	**Sn**	**16 04 54.2**	**-0.7**
SNJE	**San Jose**	**0.97**	**64**	*eP*	**Pb**	**16 04 42.0**	**+0.2**
SNJE				*eP*	**Pb**	**16 04 42.1**	**+0.2**
SNJE				*eS*	**Sn**	**16 04 55.1**	**-0.4**
ESSG	**Sabana Grande**	**0.99**	**341**	*eP*	**Pb**	**16 04 42.3**	**+0.1**
ESSG	**Sabana Grande**	**0.99**	**341**	*eP*		16 04 42.3	
JAYA	**Jayaque - finc**	**1.05**	**78**	*eP*	**Pb**	**16 04 43.0**	**-0.2**
JAYA				*eS*	**Sb**	**16 04 56.3**	**-0.2**
JAYA	**Jayaque - finc**	**1.05**	**78**	P	**Pb**	**16 04 42.8**	**-0.3**
JAYA	**Jayaque - finc**	**1.05**	**78**	P	**Pb**	**16 04 42.8**	**-0.3**
JAYA	**Jayaque - finc**	**1.05**	**78**	*i P*	**Pb**	**16 04 42.9**	**-0.2**
JAYA				*i S*	**Sb**	**16 04 56.2**	**-0.2**
JAYA	**Jayaque - finc**	**1.05**	**78**	*i P*		16 04 42.9	
JAYA				*i S*		16 04 56.2	
UNIC	**Universidad Ca**	**1.07**	**60**	S	**Sn**	**16 04 57.6**	**-0.3**
UNIC	**Universidad Ca**	**1.07**	**60**	P	**Pb**	**16 04 43.5**	**0.0**
CEDA	**San Andres**	**1.14**	**71**	P	**Pn**	**16 04 44.7**	**+0.3**
CEDA	**San Andres**	**1.14**	**71**	S	**Sn**	**16 04 59.7**	**+0.3**
LALI	**Alcalda de L**	**1.15**	**87**	S	**Sb**	**16 04 59.3**	**0.0**
PMON	**Piamonte**	**1.19**	**76**	*eP*	**Pn**	**16 04 45.0**	**-0.1**
PMON				*eS*	**Sn**	**16 05 00.5**	**-0.2**
PMON	**Piamonte**	**1.19**	**76**	P	**Pn**	**16 04 45.2**	**0.0**
PMON	**Piamonte**	**1.19**	**76**	P	**Pn**	**16 04 45.1**	**0.0**
ITCA	**Escuela Especi**	**1.21**	**79**	S	**Sb**	**16 05 01.1**	**-0.2**
ITCA	**Escuela Especi**	**1.21**	**79**	P	**Pn**	**16 04 46.2**	**+0.7**
BOQS	**Boqueron**	**1.22**	**76**	*eP*	**Pn**	**16 04 45.9**	**+0.1**
BOQS				*eS*	**Sn**	**16 05 01.5**	**-0.3**
UEES	**Universidad Ev**	**1.26**	**77**	S	**Sn**	**16 05 02.2**	**-0.3**
UEES	**Universidad Ev**	**1.26**	**77**	P	**Pn**	**16 04 46.2**	**0.0**
PANCS	**Alcalda de**	**1.30**	**82**	P	**Pn**	**16 04 46.8**	**+0.2**
PANCS	**Alcalda de**	**1.30**	**82**	S	**Sn**	**16 05 03.1**	**-0.4**
LOMA	**Loma Larga**	**1.31**	**81**	S	**Sn**	**16 05 03.6**	**-0.3**
LOMA	**Loma Larga**	**1.31**	**81**	P	**Pn**	**16 04 46.7**	**-0.2**
LOMA	**Loma Larga**	**1.31**	**81**	P	**Pn**	**16 04 47.4**	**+0.5**
IGN	**Direccin Gen**	**1.32**	**78**	S	**Sb**	**16 05 04.4**	**0.0**
UDBS	**Universidad Do**	**1.34**	**78**	P	**Pn**	**16 04 47.7**	**+0.5**
UDBS	**Universidad Do**	**1.34**	**78**	S	**Sb**	**16 05 05.0**	**+0.2**
LFRS	**El Faro**	**1.41**	**82**	*eP*	**Pn**	**16 04 48.9**	**+0.6**
MTO3	**Montecristo**	**1.46**	**49**	P	**Pn**	**16 04 49.2**	**+0.1**
MTO3	**Montecristo**	**1.46**	**49**	S	**Sb**	**16 05 08.8**	**+0.2**
MTO3	**Montecristo**	**1.46**	**49**	P	**Pn**	**16 04 49.1**	**0.0**
MTO3	**Montecristo**	**1.46**	**49**	*eP*	**Pn**	**16 04 49.0**	**-0.1**
MTO3	**Montecristo**	**1.46**	**49**	*eP*		16 04 49.0	
PAVA	**Las Pavas**	**1.55**	**80**	P	**Pn**	**16 04 50.4**	**+0.2**
PAVA	**Las Pavas**	**1.55**	**80**	S	**Sb**	**16 05 10.1**	**-0.7**
APG	**El Apazote**	**1.56**	**1**	*i P*	**Pb**	**16 04 51.7**	**-0.3**
APG	**El Apazote**	**1.56**	**1**	*i P*		16 04 51.7	
ESQI	**Esquipulas**	**1.59**	**45**	P	**Pn**	**16 04 51.0**	**+0.4**
ESQI	**Esquipulas**	**1.59**	**45**	S	**Sb**	**16 05 11.9**	**-0.1**
COEG	**Centro de Oper**	**1.59**	**83**	P	**Pn**	**16 04 50.9**	**+0.3**
COEG	**Centro de Oper**	**1.59**	**83**	S	**Sn**	**16 05 10.4**	**-0.2**
LLGN	**La Laguna**	**1.68**	**64**	P	**Pn**	**16 04 52.3**	**+0.4**
UESV	**Universidad de**	**1.68**	**83**	S	**Sn**	**16 05 12.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.74**	**81**	P	**Pn**	**16 04 53.5**	**+0.8**

IDC 20 16:08:50.2±2.1, 4°45N×126°78E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=201.5km s-min=22.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.35**	**163**	P	P	16 14 18.4	-0.7
	0.5nm,1.0s,baz=343,slow=9.6,SNR=1.7						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**28.79**	**166**	P	P	16 14 50.9	+0.8
	0.1nm,0.7s,baz=349,slow=9.2,SNR=1.2						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**57.00**	**325**	P	P	16 18 38.0	+0.1
	0.2nm,0.3s,baz=118,slow=7.4,SNR=6.5						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**61.17**	**327**	P	P	16 19 06.7	+0.1
	0.4nm,0.5s,baz=128,slow=6.1,SNR=9.7						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**66.75**	**327**	P	P	16 19 42.9	-0.5
	0.3nm,0.5s,baz=101,slow=4.6,SNR=2.1						
	0.3nm,0.5s						

*IDC **20** 16:17:06.0±2.9, 17°29N×101°34W, h0km, mb3.6/4, mbtmp3.4/6, ML3.4/2, MS3.8/1, Error ellipse: s-maj=65.5km s-min=20.8km az=20.0*
*NEIC **20** 16:17:07.8±2.4, 17°33N±0°04×101°28W±0°03, h10km±1km, mb4.1/6, Md4.2/105(MEX), Error ellipse: s-maj=8.1km s-min=3.1km az=216.0*
*MEX **20** 16:17:09.8±0.5, 17°37N×101°31W, h12km±5km, MD4.2*

ISC 20 16:17:08.0±0.9, 17°36N±0°03×101°27W±0°02, h17km±6km, n109, σ1°52/182, mb3.8/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET2	**Petatlan**	**0.18**	**3**	*eP*	**Pg**	**16 17 13.1**	**+0.5**
PET2				*i S*	**Sg**	**16 17 16.5**	**+0.9**
ZIIG	**Zihuatanejo**	**0.31**	**323**		**Pb**	**16 17 15.0**	**-0.1**
ZIIG					**Sb**	**16 17 19.4**	**-0.4**
ZIIG	**Zihuatanejo**	**0.31**	**323**	*eP*	**Pb**	**16 17 15.0**	**-0.1**
ZIIG				*i S*	**Sb**	**16 17 19.4**	**-0.4**
UON	**La Union**	**0.80**	**320**	*i P*	**Pg**	**16 17 22.6**	**-1.0**
UON				*i S*	**Sg**	**16 17 33.0**	**-1.2**
ATYC	**Atoyac**	**0.81**	**100**	*i P*	**Pg**	**16 17 24.0**	**+0.1**
ATYC				*i S*	**Sg**	**16 17 35.1**	**+0.4**
CAIG	**El Cayaco**	**1.01**	**108**		**Pb**	**16 17 26.4**	**-0.5**
CAIG					**Sg**	**16 17 40.1**	**-0.7**
CAIG	**El Cayaco**	**1.01**	**108**	*eP*	**Pb**	**16 17 26.4**	**-0.5**
CAIG				*i S*	**Sg**	**16 17 40.1**	**-0.7**
ARIG	**Puente Sto Nin**	**1.27**	**44**		**Pn**	**16 17 29.9**	**-1.1**
ARIG					**Sb**	**16 17 45.5**	**-2.2**
ARIG	**Puente Sto Nin**	**1.27**	**44**	*eP*	**Pn**	**16 17 29.9**	**-1.1**
ARIG				*eS*	**Sb**	**16 17 45.5**	**-2.2**
ACP2	**Acapulco**	**1.41**	**110**		**Pn**	**16 17 32.8**	**0.0**
ACP2					**Sn**	**16 17 50.3**	**-0.7**
ACP2	**Acapulco**	**1.41**	**110**	*eP*	**Pn**	**16 17 32.8**	**0.0**
ACP2				*i S*	**Sn**	**16 17 50.3**	**-0.7**
VNTA	**La Mica**	**1.46**	**107**	*eP*	**Pn**	**16 17 34.4**	**+0.8**
VNTA				*i S*	**Sn**	**16 17 52.3**	**0.0**
DAIG	**Los Arroyos**	**1.58**	**102**		**Pn**	**16 17 34.6**	**-0.7**
DAIG					**Sn**	**16 17 57.1**	**+1.7**
DAIG	**Los Arroyos**	**1.58**	**102**	*eP*	**Pn**	**16 17 34.6**	**-0.7**
DAIG				*eS*	**Sn**	**16 17 57.1**	**+1.7**
TEJU	**Tejupilco**	**1.87**	**34**	*eP*	**Pn**	**16 17 40.0**	**+0.7**
TEJU				*eS*	**Sn**	**16 18 01.3**	**-1.2**
PLIG	**Platanillo**	**1.97**	**58**		**Pn**	**16 17 40.3**	**-0.4**
PLIG					**Sn**	**16 18 04.1**	**-1.0**
PLIG	**Platanillo**	**1.97**	**58**	*eP*	**Pn**	**16 17 40.3**	**-0.4**
PLIG				*eS*	**Sn**	**16 18 04.1**	**-1.0**
CRIG	**Cruz Grande**	**2.14**	**106**		**Pn**	**16 17 43.0**	**+0.1**
CRIG					**Sb**	**16 18 12.6**	**0.0**
CRIG	**Cruz Grande**	**2.14**	**106**	*eP*	**Pn**	**16 17 43.0**	**+0.1**
CRIG				*i S*	**Sb**	**16 18 12.6**	**0.0**
MMIG	**Aquila**	**2.18**	**295**		**Pn**	**16 17 42.3**	**-1.2**
MMIG					**Sn**	**16 18 07.3**	**-2.8**
MMIG	**Aquila**	**2.18**	**295**	*i P*	**Pn**	**16 17 42.3**	**-1.2**
MMIG				*i S*	**Sn**	**16 18 07.3**	**-2.8**
MOIG	**Morelia**	**2.31**	**2**	Pn	**Pn**	**16 17 46.0**	**+0.5**
MOIG	**Morelia**	**2.31**	**2**	*eP*	**Pn**	**16 17 46.9**	**+1.4**
MOIG				*i S*	**Sn**	**16 18 11.5**	**-2.1**
MAVM	**Malinalco, Edo**	**2.32**	**46**		Sn	16 18 04.2	-10
MAVM	**Malinalco, Edo**	**2.32**	**46**	*eP*	Pn	16 17 31.9	-14
MAVM				*i S*	Sn	16 18 04.2	-10
MGIG	**Malinaltepec**	**2.52**	**92**		**Pn**	**16 17 49.6**	**+1.2**
MGIG					**Sn**	**16 18 18.3**	**-0.5**
MGIG	**Malinaltepec**	**2.52**	**92**	*eP*	**Pn**	**16 17 49.6**	**+1.2**
MGIG				*i S*	**Sn**	**16 18 18.3**	**-0.5**
YAIG	**Yautepec**	**2.58**	**54**		**Pn**	**16 17 49.6**	**+0.5**
YAIG					**Sn**	**16 18 19.7**	**-0.4**
YAIG	**Yautepec**	**2.58**	**54**	*eP*	**Pn**	**16 17 49.6**	**+0.5**
YAIG				*i S*	**Sn**	**16 18 19.7**	**-0.4**
TLIG	**Tlapa**	**2.59**	**85**	Pn	**Pn**	**16 17 50.4**	**+1.1**
TLIG	**Tlapa**	**2.59**	**85**	*eP*	**Pn**	**16 17 51.0**	**+1.8**
TLIG				*eS*	**Sn**	**16 18 19.9**	**-0.5**
AOVM	**Tlapan**	**2.65**	**44**		**Pn**	**16 17 51.9**	**+1.5**
AOVM					**Sn**	**16 18 21.7**	**-0.7**
AOVM	**Tlapan**	**2.65**	**44**	*eP*	**Pn**	**16 17 51.9**	**+1.5**
AOVM				*eS*	**Sn**	**16 18 21.7**	**-0.7**
TLVM	**San Miguel Top**	**2.73**	**47**	*eP*	**Pn**	**16 17 50.7**	**-0.6**
TLVM				*i S*	**Sn**	**16 18 23.1**	**-1.1**
CJVM	**Cuajimalpa**	**2.75**	**43**	*eP*	**Pb**	**16 17 54.4**	**-2.4**
CJVM				*i S*	**Sn**	**16 18 25.2**	**+0.8**
CNCY	**Coyoacan**	**2.79**	**45**	*eS*	**Sn**	**16 18 24.1**	**-1.3**
UNM	**Universidad Na**	**2.79**	**45**	Pn	**Pb**	**16 17 54.9**	**-2.7**
UNM	**Universidad Na**	**2.79**	**45**	*eP*	**Pn**	**16 17 52.3**	**+0.1**
UNM				*i S*	**Sn**	**16 18 23.8**	**-1.8**
MPVM	**San Francisco**

baz=335,slow=77,SNR=60
H03N3 Juan Fernandez 54.85 157 T T 17 25 57.1
baz=335,slow=77,SNR=21
INK Inuvik 54.86 346 P **P** **16 26 36.6 -0.4**
INK IAmb IAmb 16 26 38.0
comp=Z,3.0nm,1.0s
J26L Joseph Creek 55.03 339 P **P** **16 26 40.4 +1.9**
J26L IAmb IAmb 16 26 45.2
comp=Z,3.9nm,1.4s
ILAR Eielson Array 56.34 338 P **P** **16 26 48.1 +0.3**
comp=Z,0.5nm,1.0s,baz=157,slow=9.3,SNR=5.4
comp=Z,0.5nm,1.0s
KMBO Kilima Mbogo 136.15 73 PKP **PKPdf** **16 36 30.9 +1.1**
comp=Z,0.9nm,0.2s,baz=93,slow=15,SNR=3.7
CMAR Chiang Mai Arr 139.23 330 PKP **PKPdf** **16 36 35.6 +0.6**
comp=Z,0.2nm,0.4s,baz=31,slow=4.2,SNR=2.8

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*RSNC **20** 16:23:00.0±0.4,3˚S±4˚×7˚8W±˚, h80km, M5.3, mb5.5, mB5.8, ML5.0, Mw(mB)5.5, MwMwp4.7, Mwp5.1*
*MOS **20** 16:23:22.2±1.2,2˚.78S×77˚.42W, h34km, mb5.2/36, Error ellipse: s-maj=12.2km s-min=5.8km az=110.2*
*NEIC **20** 16:23:22.9±1.7,2˚.76S±0˚.05×77˚.33W±0˚.06, h32km±3km, mb5.1/405, Error ellipse: s-maj=9.5km s-min=6.8km az=50.0*
*IDC **20** 16:23:23.3±0.4,2˚.72S×77˚.30W, h38km±2km, mb4.6/25, mbtmp4.8/30, ML4.9/5, MS4.7/23, Error ellipse: s-maj=14.5km s-min=9.2km az=65.0*
*IGQ **20** 16:23:24.0±0.4,3˚S±2˚×7˚7W±˚, h40km, MLv5.6/13*
*BJI **20** 16:23:23.0,2˚.80S×77˚.30W, h32km, mB5.8/5, Ms5.3/4, Ms7 5.0/6*
*VAO **20** 16:23:24.7±0.3,2˚.84S×77˚.23W, h46km, mb5.4*
ISC 20 16:23:22.5±0.3,2˚.85S±0˚.03×77˚.37W±0˚.04, h42km±2km, h42km;pP-P,n861,σ1°30/749,mb5.1/251,MS4.7/21, 18C-19D,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**1.16 255**		⇑P	**Pn**	**16 23 41.4**	**-1.0**
SANGA	**Volcan Sangay**	**1.28 309**		⇓P	**Pn**	**16 23 43.8**	**-0.5**
SANGA				S	**Sn**	**16 24 00.5**	**+0.4**
AZOG	**Ecuador-Azogue**	**1.48 274**		⇑P	**Pn**	**16 23 46.9**	**0.0**
AZOG				S	**Sn**	**16 24 05.6**	**+0.4**
PUYO	**Puyo, Santa Ro**	**1.50 334**		⇓P	**Pn**	**16 23 46.9**	**-0.1**
PUYO				S	**Sn**	**16 24 09.2**	**+3.7**
ACUE	**Ecuador-Cuenca**	**1.58 268**		P	**Pn**	**16 23 48.7**	**+0.3**
ACUE				S	**Sn**	**16 24 10.0**	**+2.1**
BPAT	**Tungurahua Vol**	**1.71 322**		⇓P	**Pn**	**16 23 49.9**	**-0.4**
BPAT				S	**Sn**	**16 24 14.1**	**+2.9**
BMAS	**Trigal station**	**1.74 321**		⇓P	**Pn**	**16 23 49.2**	**-1.3**
BMAS				S	**Sn**	**16 24 12.9**	**+1.2**
BULB	**Ulba Tungurahu**	**1.75 324**		⇓P	**Pn**	**16 23 50.3**	**-0.4**
BULB				S	**Sn**	**16 24 14.5**	**+2.6**
BBIL	**Ulba Tungurahu**	**1.78 321**		⇓P	**Pn**	**16 23 51.0**	**-0.2**
BBIL				S	**Sn**	**16 24 15.2**	**+2.4**
POND	**Pondoa**	**1.79 323**		⇓P	**Pn**	**16 23 50.9**	**-0.3**
POND				S	**Sn**	**16 24 14.6**	**+1.8**
BIL2	**Estacion Bilba**	**1.79 321**		P	**Pn**	**16 23 52.7**	**+1.5**
JUI6	**Juive**	**1.79 322**		P	**Pn**	**16 23 50.8**	**-0.4**
IGUA	**Igualata**	**1.85 317**		⇓P	**Pn**	**16 23 52.9**	**+0.6**
ATEN	**Tena**	**1.89 347**		S	**Sn**	**16 24 19.9**	**+5.0**
ARDO	**Archidona, Ten**	**1.90 347**		P	**Pn**	**16 23 52.4**	**-0.1**
ARDO				S	**Sn**	**16 24 20.8**	**+5.6**
TAMH	**Tambohuasha Ch**	**1.92 313**		P	**Pn**	**16 23 54.3**	**+1.2**
COHC	**Cochancay**	**1.92 282**		Pn	**Pn**	**16 23 54.3**	**+1.6**
COHC				Sn	**Sn**	**16 24 18.0**	**+2.4**
COHC	**Cochancay**	**1.92 282**		P	**Pn**	**16 23 54.3**	**+1.6**
COHC				S	**Sn**	**16 24 18.3**	**+2.7**
JSCH	**Cashca Tororas**	**1.96 305**		P	**Pn**	**16 23 54.8**	**+1.2**
AZAM	**Ecuador-Zamora**	**1.99 233**		P	**Pn**	**16 23 54.5**	**+0.8**
AZAM				S	**Sn**	**16 24 20.0**	**+2.5**
PIAT	**Ana Tenorio**	**2.05 334**		P	**Pn**	**16 23 54.7**	**-0.1**
PIS1	**Pisayambo**	**2.05 330**		P	**Pn**	**16 23 55.2**	**+0.2**
AGRD	**Ecuador-Guaran**	**2.07 308**		P	**Pn**	**16 23 56.6**	**+1.5**
AGRD				S	**Sn**	**16 24 22.2**	**+2.3**
ALJ1	**Ecuador-Loja-U**	**2.14 238**		P	**Pn**	**16 23 57.5**	**+1.5**
MILO	**Milagro-Astudi**	**2.25 285**		P	**Pn**	**16 23 59.2**	**+2.0**
VCES	**Cotopaxi**	**2.28 333**		P	**Pn**	**16 23 58.6**	**+0.4**
BRRN	**Barrancas-Volc**	**2.33 332**		P	**Pn**	**16 23 59.7**	**+0.8**
TAMB	**Tambo**	**2.37 335**		P	**Pn**	**16 24 00.0**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.37 333**		P	**Pn**	**16 24 00.3**	**+0.8**
SLOR	**San Lorenzo -**	**2.39 332**			**Pn**	**16 24 00.9**	**+1.3**
SLOR	**San Lorenzo -**	**2.39 332**		P	**Pn**	**16 24 00.7**	**+1.1**
BTAM	**Cotopaxi Volca**	**2.39 335**		P	**Pn**	**16 24 00.7**	**+0.9**
SRAM	**San Ramn-Vol**	**2.41 330**		P	**Pn**	**16 24 01.6**	**+1.9**
BVC2	**Cotopaxi Volca**	**2.42 335**		P	**Pn**	**16 24 01.1**	**+1.0**
BREF	**Cotopaxi Volca**	**2.42 334**		P	**Pn**	**16 24 01.4**	**+1.2**
VC1	**Cotopaxi 1**	**2.43 335**		P	**Pn**	**16 24 01.1**	**+1.0**
BNAS	**Cotopaxi Volca**	**2.43 333**		P	**Pn**	**16 24 02.3**	**+2.1**
CAMI	**Rancho Maria**	**2.44 332**		P	**Pn**	**16 24 01.9**	**+1.6**
GONZ	**Gonzanam**	**2.44 236**		P	**Pn**	**16 24 02.6**	**+2.4**
ANTM	**Antisana-La Mi**	**2.45 340**		P	**Pn**	**16 24 00.9**	**+0.4**
SUCR	**Mariscal Sucre**	**2.47 333**		P	**Pn**	**16 24 02.5**	**+1.9**
ANTS	**Antisana-Sarah**	**2.47 341**		P	**Pn**	**16 24 01.1**	**+0.2**
ANTG	**Antisana-Guama**	**2.50 339**		P	**Pn**	**16 24 01.4**	**+0.3**
PITA	**Cotopaxi Volc**	**2.51 335**		P	**Pn**	**16 24 02.7**	**+1.4**
ILLI	**Illinizas Sur**	**2.52 327**		⇓P	**Pn**	**16 24 02.9**	**+1.5**
TOMA	**Boca Toma-Volc**	**2.57 336**		P	**Pn**	**16 24 04.2**	**+2.2**
ZUMB	**Zumba**	**2.67 221**		⇑P	**Pn**	**16 24 04.2**	**+1.1**
AQUE	**Quevedo**	**2.77 310**		P	**Pn**	**16 24 07.0**	**+2.5**
GGPT	**Toaza - Volcan**	**2.89 334**		P	Pn	16 24 11.3	+4.8
JUA2	**San Juan 2**	**2.90 335**		P	Pn	16 24 11.9	+5.3
HPAL	**Hacienda Las P**	**2.91 334**		P	**Pn**	**16 24 09.1**	**+2.4**
PINO	**Pino**	**2.95 335**		⇑P	**Pn**	**16 24 09.0**	**+1.6**
YANA	**Yana**	**2.97 336**		P	**Pn**	**16 24 11.3**	**+3.8**
CASC	**Dorado de Casc**	**2.97 1**		P	**Pn**	**16 24 08.7**	**+1.4**
CAYA	**Cayambe**	**2.97 348**		P	**Pn**	**16 24 09.9**	**+2.3**
OTAV	**Otavalo**	**3.25 341**			**Pn**	**16 24 12.1**	**+0.6**
OTAV	**Otavalo**	**3.25 341**		P	**Pn**	**16 24 12.1**	**+0.6**
OTAV	**Otavalo**	**3.25 341**		*eP*	**Pn**	**16 24 13.0**	**+1.6**
PAC1	**Pacto, Paraso**	**3.41 335**		P	**Pn**	**16 24 16.7**	**+3.4**
PTLC	**Puerto Leguiza**	**3.96 41**		P	**Pn**	**16 24 19.3**	**-1.4**
PTLC	**Puerto Leguiza**	**3.96 41**		P	**Pn**	**16 24 19.3**	**-1.4**
ATAH	**Atahualpa**	**4.37 193**		Pn	**Pn**	**16 24 29.9**	**+3.1**
	294nm,0.3s,baz=23,slow=9.5,SNR=950						
ATAH				Sn	**Sn**	**16 25 21.3**	**+4.6**
	219nm,0.3s,baz=350,slow=9.3,SNR=9.3						
ATAH				LR	LR	16 26 48.9	
	comp=Z,15μm,18.9s,baz=8.6,slow=46						
FLOC	**Florencia**	**4.73 21**			**Pn**	**16 24 31.9**	**+0.5**
FLOC	**Florencia**	**4.73 21**		P	**Pn**	**16 24 32.2**	**+0.8**
FLOC	**Florencia**	**4.73 21**		P	**Pn**	**16 24 31.6**	**+0.2**
FLOC	**Florencia**	**4.73 21**		P	**Pn**	**16 24 32.2**	**+0.8**
TUMC	**Tumaco**	**4.84 344**			**Pn**	**16 24 34.5**	**+1.6**
GARC	**Garzon, Huila**	**5.35 21**		P	**Pn**	**16 24 41.0**	**+0.9**
GARC	**Garzon, Huila**	**5.35 21**		P	**Pn**	**16 24 41.0**	**+0.9**
MACC	**Macarena, Meta**	**6.09 35**		P	**Pn**	**16 24 51.6**	**+1.5**
	21μm1μm,0.5s						
MACC	**Macarena, Meta**	**6.09 35**		P	**Pn**	**16 24 51.6**	**+1.5**
	21μm1μm,0.5s						
CZSB	**Cruzeiro do Su**	**6.71 136**		Pn	**Pn**	**16 24 59.3**	**+0.7**
CZSB	**Cruzeiro do Su**	**6.71 136**		*eP*	**Pn**	**16 24 59.5**	**+0.9**
PRAC	**Prado**	**6.98 21**		P	**Pn**	**16 25 04.1**	**+1.8**
	6μm169nm,0.5s						
PRAC	**Prado**	**6.98 21**		P	**Pn**	**16 25 04.1**	**+1.8**
	6μm169nm,0.5s						
ORTC	**Ortega, Tolima**	**7.05 18**		P	**Pn**	**16 25 05.2**	**+2.0**
	6μm183nm,0.8s						
ORTC	**Ortega, Tolima**	**7.05 18**		P	**Pn**	**16 25 05.2**	**+2.0**
	6μm183nm,0.8s						
TBTG	**Tabatinga, AM**	**7.57 100**			**Pn**	**16 25 11.4**	**+1.2**
TBTG	**Tabatinga, AM**	**7.57 100**		*eP*	**Pn**	**16 25 11.5**	**+1.2**
VILC	**Villavicencio,**	**7.84 28**		P	**Pn**	**16 25 18.4**	**+4.3**
	3μm18μm899nm,0.6s						
VILC	**Villavicencio,**	**7.84 28**		P	**Pn**	**16 25 18.4**	**+4.3**
	3μm18μm899nm,0.6s						
CVER	**Cruz Verde, Cu**	**8.03 24**		P	Pn	16 25 21.5	+4.3
	9μm313nm,0.6s						
CVER	**Cruz Verde, Cu**	**8.03 24**		P	Pn	16 25 21.5	+4.3
	9μm313nm,0.6s						
ROSC	**El Rosal**	**8.23 22**		Pn	Pn	16 25 24.9	+5.1
	11nm,0.3s,baz=167,slow=16,SNR=7.4						
ROSC				Lg	Lg	16 27 44.0	
	91nm,0.3s,baz=157,slow=23,SNR=4.3						
ROSC				LR	LR	16 29 19.5	
	comp=Z,11μm,19.2s,baz=209,slow=44						
NNA	**Nana**	**9.09 177**			**Pn**	**16 25 31.9**	**+0.6**
NNA	**Nana**	**9.09 177**		Pn	**Pn**	**16 25 32.8**	**+1.5**
	45nm,0.3s,baz=19,slow=7.1,SNR=27						
NNA				Sn	**Sn**	**16 27 07.9**	**-4.5**
	139nm,0.3s,baz=248,slow=16,SNR=9.4						
NNA				LR	LR	16 29 49.2	
	comp=Z,7μm,19.6s,baz=334,slow=42						
	119nm,0.3s						
NNA	**Nana**	**9.09 177**		P	**Pn**	**16 25 32.3**	**+1.0**
NNA				pmax	pmax		
	comp=Z,153nm,0.5s						
RUSC	**La Rusia**	**9.69 26**		Pn	**Pn**	**16 25 40.4**	**+0.6**
SGC2	**Sao Gabriel da**	**10.73 76**		P	**Pn**	**16 25 53.1**	**-0.6**
	comp=Z,5μmcomp=Z,335nm,0.7s						
SGC2	**Sao Gabriel da**	**10.73 76**		P	**Pn**	**16 25 53.1**	**-0.6**
	comp=Z,5μmcomp=Z,335nm,0.7s						
TAMC	**Tame, Arauca**	**10.78 31**		P	Pn	16 25 59.5	+5.1
	comp=Z,4μmcomp=Z,119nm,0.6s						
TAMC	**Tame, Arauca**	**10.78 31**		P	Pn	16 25 59.5	+5.1
	comp=Z,4μmcomp=Z,119nm,0.6s						
AZU	**Azuero**	**10.96 345**		*eP*	**Pn**	**16 26 00.4**	**+3.5**
PAMC	**Pamplona, Colo**	**11.15 25**		P	**Pn**	**16 26 03.3**	**+3.5**
PAMC	**Pamplona, Colo**	**11.15 25**		P	**Pn**	**16 26 03.3**	**+3.5**
TEFE	**Tefe**	**12.74 93**		*eP*	**Pn**	**16 26 21.0**	**-0.1**
I20EC	**Galapagos**	**13.18 280**		I	I	17 41 30.0	
	baz=100,slow=314,SNR=1.2						
SDV	**Santo Domingo**	**13.46 30**			**Pn**	**16 26 31.8**	**+0.6**
SDV	**Santo Domingo**	**13.46 30**		Pn	**Pn**	**16 26 31.5**	**+0.3**
	comp=Z,9.0nm,0.4s,baz=229,slow=14,SNR=9.5						
SDV				Lg	Lg	16 30 30.7	
	comp=Z,7.7nm,0.3s,baz=245,slow=17,SNR=3.5						
SDV				LR	LR	16 32 42.9	
	comp=Z,3μm,21.9s,baz=214,slow=42						
SDV	**Santo Domingo**	**13.46 30**		P	**Pn**	**16 26 33.8**	**+2.6**
	comp=Z,1μmcomp=Z,47nm,0.9s						
SDV	**Santo Domingo**	**13.46 30**		*eP*	**Pn**	**16 26 32.8**	**+1.6**
SDV	**Santo Domingo**	**13.46 30**		P	**Pn**	**16 26 33.8**	**+2.6**
	comp=Z,1μmcomp=Z,47nm,0.9s						
PICV	**PH. Pirrs**	**14.14 331**		*eP*	**Pn**	**16 26 43.7**	**+3.4**
LCR2	**La Lucha 2**	**14.15 332**		Pn	**Pn**	**16 26 41.5**	**+0.9**
LCR2	**La Lucha 2**	**14.15 332**		*eP*	**P**	**16 26 49.7**	**+2.4**
VICA	**Volcano Irazu**	**14.29 333**		*eP*	**P**	**16 26 49.5**	**+0.4**
VBV1	**V. Barva**	**14.52 333**		*eP*	**P**	**16 26 52.2**	**+0.7**
BAUV	**El Baul**	**14.96 38**			**Pn**	**16 26 49.7**	**-1.6**
JTS	**Las Juntas de**	**15.08 330**		Pn	**Pn**	**16 26 53.5**	**+0.7**
JTS	**Las Juntas de**	**15.08 330**		Pn	**Pn**	**16 26 52.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=170,slow=22,SNR=1.9						
JTS				LR	LR	16 31 54.1	
	comp=Z,4μm,20.9s,baz=113,slow=34						
	comp=Z,4.0nm,0.5s						
JTS	**Las Juntas de**	**15.08 330**		P	**Pn**	**16 26 53.6**	**+0.7**
JTS				pmax	pmax		
	comp=Z,54nm,1.8s						
VARE2	**V. Arenal**	**15.11 331**		*eP*	**P**	**16 26 57.5**	**-0.4**
LPAZ	**La Paz**	**16.15 146**		Pn	**Pn**	**16 27 04.9**	**-2.3**
LPAZ	**La Paz**	**16.15 146**		Pn	**Pn**	**16 27 08.8**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=344,slow=4.7,SNR=22						
LPAZ				Lg	Lg	16 32 04.6	
	comp=Z,1.9nm,0.3s,baz=156,slow=21,SNR=1.2						
	comp=Z,19nm,0.6s						
PB18	**Visviri**	**16.57 153**		Pn	**Pn**	**16 27 12.1**	**-0.3**
PB18				IAmb	IAmb	16 27 22.2	
	comp=Z,228nm,1.0s						
MACA	**Manacapuru-AM**	**16.67 91**		Pn	**Pn**	**16 27 11.3**	**-1.9**
MACA	**Manacapuru-AM**	**16.67 91**		*eP*	**Pn**	**16 27 12.2**	**-1.0**
BOAV	**Boa Vista**	**17.63 73**			**Pn**	**16 27 25.6**	**+0.3**
BOAV	**Boa Vista**	**17.63 73**		*eP*	**P**	**16 27 25.7**	**-0.1**
PCRV	**Puerto La Cruz**	**18.12 44**		P	**P**	**16 27 32.3**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=282,slow=5.6,SNR=8.3						
PCRV				Lg	Lg	16 32 53.1	
	comp=Z,1.4nm,0.3s,baz=336,slow=12,SNR=3.7						
PCRV				LR	LR	16 35 34.4	
	comp=Z,2μm,19.5s,slow=41						
	comp=Z,5.9nm,0.5s						
VILB	**Vilhena**	**19.73 121**		P	**P**	**16 27 49.4**	**+0.6**
VILB	**Vilhena**	**19.73 121**		*eP*	**P**	**16 27 49.5**	**+0.6**
SIV	**San Ignacio**	**20.68 130**		P	**P**	**16 28 00.3**	**+1.1**
	comp=Z,45nm,0.8s,baz=301,slow=11,SNR=106						
SIV				LR	LR	16 37 15.4	
	comp=Z,7μm,18.9s,baz=312,slow=40						
	comp=Z,45nm,0.8s						
MTO3	**Montecristo**	**20.86 326**		IAmb	IAmb	16 28 20.5	
	comp=Z,122nm,1.3s						
PTLB	**Pontes e Lacer**	**21.90 126**		P	**P**	**16 28 12.7**	**+0.5**
PTLB	**Pontes e Lacer**	**21.90 126**		*eP*	**P**	**16 28 13.0**	**+0.8**
APG	**El Apazote**	**21.97 324**		P	**P**	**16 28 14.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=147,slow=9.0,SNR=14						
APG				LR	LR	16 35 41.1	
	comp=Z,192nm,21.5s,baz=274,slow=34						
PDRB	**Porto dos Gac**	**22.23 114**		*eP*	**P**	**16 28 15.8**	**-0.1**
NPGB	**Novo Progresso**	**22.32 102**		*eP*	**P**	**16 28 15.6**	**-1.2**
PB14	**IPOC Station P**	**22.67 163**		P	**P**	**16 28 21.8**	**+1.1**
PB14				IAmb	IAmb	16 28 36.1	
	comp=Z,76nm,1.4s						
CLDB	**Colider**	**22.84 111**		*eP*	**P**	**16 28 22.8**	**+0.5**
MAL2	**Monte Alegre,**	**23.19 88**		P	**P**	**16 28 26.7**	**+0.8**
MAL2				IAmb	IAmb	16 28 28.0	
	comp=Z,50nm,0.8s						
PETF	**Flores**	**23.20 328**		P	**P**	**16 28 26.5**	**+0.6**
GO02	**Mina Guanaco**	**23.41 162**		P	**P**	**16 28 28.5**	**+0.3**
SJG	**San Juan**	**23.59 28**		LR	LR	16 38 57.6	
	comp=Z,2μm,20.9s,baz=214,slow=40						
SALV	**Santo Antonio**	**24.97 123**		*eP*	**P**	**16 28 44.4**	**+2.0**
AC02	**Maricunga**	**25.12 162**		P	**P**	**16 28 46.1**	**+2.0**
AC02				IAmb	IAmb	16 28 50.1	
	comp=Z,44nm,1.0s						
CMIG	**Matias Romero**	**26.30 319**		LR	LR	16 37 43.3	
	comp=Z,2μm,21.5s,baz=172,slow=33						
BDQN	**Bodoquena, MS**	**26.65 133**		*eP*	**P**	**16 28 58.5**	**+0.9**
LCO	**Las Campanas**	**26.78 167**		P	**P**	**16 29 00.0**	**+1.1**
SNDB	**Serra Nova Dou**	**27.38 111**		*eP*	**P**	**16 29 04.9**	**+0.7**
AQDB	**Aquidauana**	**27.45 131**		IAmb	IAmb	16 29 23.4	
	comp=Z,39nm,0.7s						
AQDB	**Aquidauana**	**27.45 131**		*eP*	**P**	**16 29 04.9**	**+0.2**
PRPB	**Parauapebas**	**27.67 98**		*eP*	**P**	**16 29 06.5**	**-0.3**
ARAG	**Araguaiana, MT**	**28.22 119**		*eP*	**P**	**16 29 12.5**	**+0.8**
RPRD	**Ribas do Rio P**	**28.98 129**		*eP*	**P**	**16 29 20.8**	**+2.5**
TMAB	**Tom-Au,PA,Br**	**29.25 90**		*eP*	**P**	**16 29 22.1**	**+2.2**
CFA	**Coronel Fontan**	**29.87 164**		LR	LR	16 41 40.1	
	comp=Z,692nm,21.0s,baz=346,slow=37						
SJPY	**San Joaquin**	**30.08 139**		*eP*	**P**	**16 29 29.3**	**+1.2**
CPUP	**Villa Florida**	**30.25 142**		P	**P**	**16 29 30.5**	**+1.0**
	comp=Z,7.7nm,0.6s,baz=313,slow=8.8,SNR=11						
CPUP				LR	LR	16 44 27.5	
	comp=Z,3μm,18.1s,baz=336,slow=42						
	comp=Z,7.7nm,0.6s						
CPUP	**Villa Florida**	**30.25 142**		*eP*	**P**	**16 29 30.6**	**+1.0**
CPUP	**Villa Florida**	**30.25 142**		P	**P**	**16 29 30.6**	**+1.0**
CPUP				PcP	**PcP**	**16 32 31.5**	**+1.9**
VA03	**San Esteban**	**30.43 169**		P	**P**	**16 29 32.9**	**+1.6**
VA03				IAmb	IAmb	16 29 35.4	
	comp=Z,28nm,0.9s						
MT08	**Bocatoma Ro**	**31.20 168**		IAmb	IAmb	16 29 43.2	
	comp=Z,40nm,0.9s						
ITRB	**Iturama**	**31.25 124**		*eP*	**P**	**16 29 39.8**	**+1.3**
MT13	**San Alfonso**	**31.44 169**		P	**P**	**16 29 41.8**	**+1.7**
MT13				IAmb	IAmb	16 29 44.7	
	comp=Z,30nm,0.8s						
BDFB	**Brasilia**	**31.58 116**		P	**P**	**16 29 42.5**	**+1.0**
BDFB				pP	**pP**	**16 29 51.9**	**-1.1**
BDFB				IAmb	IAmb	16 29 55.2	
	comp=Z,30nm,1.0s						
BDFB	**Brasilia**	**31.58 116**		P	**P**	**16 29 42.5**	**+1.0**
	comp=Z,10.0nm,0.6s,baz=271,slow=10,SNR=13						
BDFB				LR	LR	16 43 47.7	
	comp=Z,2μm,18.1s,baz=282,slow=39						
	comp=Z,10.0nm,0.6s						
BO04	**La Punta**	**31.61 169**		IAmb	IAmb	16 29 45.3	
	comp=Z,40nm,1.2s						
IPMB	**Ipameri, GO**	**32.30 120**		*eP*	**P**	**16 29 48.6**	**+0.8**
LDASE	**Londrina, Braz**	**32.59 131**		*eP*	**P**	**16 29 50.8**	**+0.5**
PTGB	**Pitanga**	**32.68 134**		*eP*	**P**	**16 29 51.7**	**+0.6**
SDBA	**SAO DESIDERIO**	**33.51 108**		*eP*	**P**	**16 29 59.0**	**+0.6**
PMNB	**Patos De Minas**	**34.06 119**		*eP*	**P**	**16 30 04.3**	**+1.1**
ITAB	**Concordia**	**34.22 138**		P	**P**	**16 30 05.2**	**+0.8**
ITAB	**Concordia**	**34.22 138**		*eP*	**P**	**16 30 05.4**	**+1.1**
JANB	**Januaria**	**34.77 112**		*eP*	**P**	**16 30 09.8**	**+0.4**
TBOT	**Tacuaremb**	**35.07 147**		*eP*	**P**	**16 30 13.3**	**+1.6**
ZAIG	**Zacatecas**	**35.40 317**		P	**P**	**16 30 16.2**	**+1.3**
CPSB	**Cacapava Do Su**	**35.55 143**		*eP*	**P**	**16 30 16.7**	**+0.9**
DIAM	**Diamantina, MG**	**36.40 117**		*eP*	**P**	**16 30 24.8**	**+1.3**
CNLB	**Canela**	**36.43 139**		*eP*	**P**	**16 30 24.0**	**+0.5**
PLTB	**Pedras Altas**	**36.44 145**		P	**P**	**16 30 24.3**	**+0.9**
PLTB				IAmb	IAmb	16 30 56.2	
	comp=Z,31nm,1.1s						
PLTB	**Pedras Altas**	**36.44 145**		*eP*	**P**	**16 30 24.4**	**+0.9**
MAJ01	**Sao Joao Batis**	**36.48 135**		*eP*	**P**	**16 30 24.0**	**+0.1**
PARB	**Paraibuna**	**36.86 126**		*eP*	**P**	**16 30 28.5**	**+1.3**
TER01	**Tubaro-SC**	**37.09 136**		*eP*	**P**	**16 30 29.8**	**+0.8**
LR05	**Currie**	**37.52 173**		P	**P**	**16 30 33.8**	**+1.4**
LR05				IAmb	IAmb	16 30 35.7	
	comp=Z,65nm,1.5s						
TRQA	**Tornquist**	**37.77 160**		P	**P**	**16 30 36.0**	**+1.4**
TRQA				IAmb	IAmb	16 30 37.6	
	comp=Z,23nm,1.0s						
TRQA	**Tornquist**	**37.77 160**		P	**P**	**16 30 36.0**	**+1.4**
TRQA				pmax	pmax		
	comp=Z,23nm,1.0s						
NBPB	**Pedra_Branca-C**	**37.78 95**		*eP*	**P**	**16 30 35.5**	**+0.4**
NATX	**Nacogdoches**	**38.15 336**		P	**P**	**16 30 37.1**	**-0.8**
NATX				IAmb	IAmb	16 30 39.1	
	comp=Z,15nm,0.7s						
PLCA	**Paso Flores**	**38.21 172**		P	**P**	**16 30 40.2**	**+1.9**
PLCA				IAmb	IAmb	16 30 41.6	
	comp=Z,61nm,1.6s						
PLCA	**Paso Flores**	**38.21 172**		P	**P**	**16 30 40.7**	**+2.4**
	comp=Z,8.4nm,0.6s,baz=346,slow=9.3,SNR=59						
PLCA				PcP	**PcP**	**16 32 54.2**	**+2.0**
	comp=Z,4.0nm,0.8s,baz=295,slow=4.1,SNR=2.9						
	comp=Z,8.4nm,0.6s						
PLCA	**Paso Flores**	**38.21 172**		*eP*	**P**	**16 30 41.0**	**+2.6**
PLCA	**Paso Flores**	**38.21 172**		P	**P**	**16 30 40.0**	**+1.6**
PLCA				PcP	**PcP**	**16 32 54.3**	**+2.0**
HNDO	**Hondo**	**38.43 328**		P	**P**	**16 30 41.1**	**+0.8**
HNDO				IAmb	IAmb	16 30 42.5	
	comp=Z,39nm,0.9s						
SJMB	**Sao Joao De Ma**	**38.76 117**		*eP*	**P**	**16 30 44.0**	**+0.8**
DUB01	**Friburgo-RJ**	**38.98 122**		*eP*	**P**	**16 30 46.1**	**+1.0**
DRIO	**Del Rio**	**39.06 327**		P	**P**	**16 30 46.0**	**+0.4**
CMC01	**Camacan, BA**	**39.30 111**		*eP*	**P**	**16 30 48.9**	**+1.1**
GUA01	**Guaratinga, BA**	**39.36 113**		*eP*	**P**	**16 30 49.0**	**+0.7**
JCT	**Junction City**	**39.46 329**		P	**P**	**16 30 49.9**	**+1.0**
JCT	**Junction City**	**39.46 329**		P	**P**	**16 30 49.9**	**+1.0**
JCT				pmax	pmax		
	comp=Z,24nm,1.1s						
CAM01	**Campos-RJ**	**39.49 121**		*eP*	**P**	**16 30 50.1**	**+0.9**
RIB01	**Linhares ES**	**39.67 117**		*eP*	**P**	**16 30 51.7**	**+0.9**
BRDY	**Brady**	**39.71 330**		P	**P**	**16 30 51.2**	**+0.3**
ALF01	**Guarapari-ES**	**39.83 119**		*eP*	**P**	**16 30 53.1**	**+1.0**
UALR	**University of**	**39.99 341**		P	**P**	**16 30 52.0**	**-1.2**
UALR				IAmb	IAmb	16 30 53.8	
	comp=Z,22nm,0.8s						
MIAR	**Mount Ida**	**40.20 339**		P	**P**	**16 30 53.9**	**-1.1**
MIAR	**Mount Ida**	**40.20 339**		P	**P**	**16 30 53.9**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SAND	**Sanderson**	**40.30 326**		P	**P**	**16 30 56.0**	**0.0**
LL02	**Futaleuf**	**40.46 174**		P	**P**	**16 30 58.1**	**+1.0**
PLPT	**Palo Pinto**	**40.64 332**		P	**P

T25A	Trinidad	47.06 330	IAmb	IAmb		16 31 53.2
	comp=Z,26nm,1.0s					
TUC	Tucson	47.18 321	P	P		16 31 52.3 +1.0
TUC			pmax	pmax		
	comp=Z,10.0nm,0.9s					
TUC	Tucson	47.18 321	P	P		16 31 52.5 +1.2
TUC			pP	pP		16 31 59.2 -3.9
BGNE	Belgrade	47.95 339	P	P		16 31 55.3 -1.6
SDCO	Great Sand Dun	48.08 330	IAmb	IAmb		16 32 00.9
	comp=Z,26nm,0.9s					
S22A	4UR Ranch, Cre	48.76 329	IAmb	IAmb		16 32 06.2
	comp=Z,22nm,1.2s					
Q24A	Divide	48.86 331	IAmb	IAmb		16 32 06.6
	comp=Z,34nm,1.6s					
X16A	Lo Mia Camp, P	48.99 322	IAmb	IAmb		16 32 08.1
	comp=Z,20nm,1.1s					
OGNE	Ogallala	49.06 335	IAmb	IAmb		16 32 07.4
	comp=Z,26nm,1.0s					
MVCO	Mesa Verde	49.25 327	IAmb	IAmb		16 32 08.9
	comp=Z,16nm,1.1s					
WUAZ	Wupatki	49.69 323	P	P		16 32 11.6 +0.9
ISCO	Idaho Springs	49.73 331	P	P		16 32 12.2 +1.1
ISCO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
PV07	Paradox Valley	50.23 328	IAmb	IAmb		16 32 17.2
	comp=Z,27nm,1.2s					
PV23	Carpenter Ridg	50.43 328	IAmb	IAmb		16 32 20.3
	comp=Z,18nm,0.9s					
BLYC	Blythe	50.51 319	P	P		16 32 16.7 0.0
BLYC			IAmb	IAmb		16 32 19.3
	comp=Z,36nm,1.6s					
E38A	The Farm, Brul	50.82 347	IAmb	IAmb		16 32 18.3
	comp=Z,17nm,0.9s					
U15A	North Rim	50.86 323	IAmb	IAmb		16 32 22.4
	comp=Z,15nm,1.0s					
W13A	Hualapai Mount	50.96 321	IAmb	IAmb		16 32 23.1
	comp=Z,27nm,1.0s					
EFI	East Falkland	51.27 165	*ce*P	P		16 32 22.8 +0.7
EFI			pmax	pmax		
	comp=Z,45nm,1.7s					
PKCU	Pink Cliffs	51.56 324	IAmb	IAmb		16 32 27.1
	comp=Z,26nm,1.1s					
KNB	Kanab	51.57 324	IAmb	IAmb		16 32 27.7
	comp=Z,21nm,1.0s					
PFO	Pinyon Flats O	51.70 318	P	P		16 32 26.2 +0.4
PFO			IAmb	IAmb		16 34 24.3
	comp=Z,14nm,0.5s					
PFO	Pinyon Flats O	51.70 318	P	P		16 32 26.5 +0.7
	comp=Z,7.9nm,1.0s,baz=129,slow=4.4,SNR=6.5					
	comp=Z,7.9nm,1.0s					
PFO	Pinyon Flats O	51.70 318	*i* P	P		16 32 25.4 -0.4
PFO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
PFO	Pinyon Flats O	51.70 318	P	P		16 32 27.1 +1.3
PFO			pP	pP		16 32 33.9 -4.0
SRU	San Rafael Swe	51.72 327	IAmb	IAmb		16 32 28.1
	comp=Z,31nm,1.1s					
Q16A	Castle Valley	51.94 327	P	P		16 32 27.6 +0.1
Q16A			IAmb	IAmb		16 32 30.2
	comp=Z,58nm,2.0s					
V12A	Nelson	51.96 321	IAmb	IAmb		16 32 30.1
	comp=Z,18nm,0.9s					
TCRU	Three Creeks R	52.43 325	IAmb	IAmb		16 32 33.9
	comp=Z,18nm,1.0s					
BSUT	Blindstream Ca	52.87 328	IAmb	IAmb		16 32 37.0
	comp=Z,25nm,1.0s					
GSC	Goldstone, Bar	52.95 319	IAmb	IAmb		16 32 37.7
	comp=Z,19nm,0.9s					
PRN	Pahroc Range	53.16 323	P	P		16 32 36.8 +0.2
AGMN	Agassiz Nation	53.44 345	IAmb	IAmb		16 32 38.4
	comp=Z,24nm,0.8s					
TPNV	Topopah Spring	53.61 321	IAmb	IAmb		16 32 42.8
	comp=Z,27nm,0.9s					
DUG	Dugway, Tooele	53.74 327	P	P		16 32 40.9 +0.2
DUG	Dugway, Tooele	53.74 327	P	P		16 32 40.9 +0.2
DUG			pmax	pmax		
	comp=Z,44nm,1.4s					
S11A	Rachel	53.74 322	IAmb	IAmb		16 32 57.7
	comp=Z,31nm,1.1s					
WCT	Wildcat Mounta	53.75 321	IAmb	IAmb		16 32 43.7
	comp=Z,22nm,1.1s					
SPR3	Spring Creek 3	53.78 324	IAmb	IAmb		16 32 43.4
	comp=Z,19nm,1.0s					
PDAR	Pinedale Array	53.91 331	P	P		16 32 41.8 -0.3
PDAR	Pinedale Array	53.91 331	P	P		16 32 42.1 0.0
	comp=Z,4.0nm,0.9s,baz=134,slow=8.5,SNR=26					
PDAR			PcP	PcP		16 33 47.1 0.0
	comp=Z,1.0nm,0.4s,baz=124,slow=6.5,SNR=4.4					
PDAR			LR	LR		16 56 57.8
	comp=Z,374nm,20.5s,baz=65,slow=37					
	comp=Z,4.0nm,0.9s					
HWUT	Hardware Ranch	54.07 329	IAmb	IAmb		16 32 44.9
	comp=Z,21nm,0.9s					
ISA	Isabella, Lake	54.26 319	P	P		16 32 45.5 +0.9
ISA			IAmb	IAmb		16 32 47.2
	comp=Z,15nm,1.1s					
ISA	Isabella, Lake	54.26 319	P	P		16 32 45.5 +0.9
ISA			pmax	pmax		
	comp=Z,15nm,1.1s					
BGU	Big Grassy Mou	54.36 327	IAmb	IAmb		16 32 47.5
	comp=Z,20nm,1.1s					
AHID	Auburn Hatcher	54.67 330	IAmb	IAmb		16 32 49.0
	comp=Z,17nm,1.1s					
DSP	Deep Springs	54.95 321	IAmb	IAmb		16 32 52.2
	comp=Z,14nm,1.0s					
TPAW	Teton Pass	55.13 331	IAmb	IAmb		16 33 02.6
	comp=Z,21nm,1.4s					
ULM	Lac du Bonnet	55.24 346	P	P		16 32 49.9 -1.4
	comp=Z,16nm,0.5s,baz=154,slow=7.8,SNR=48					
	comp=Z,16nm,0.5s					
ELK	Elko	55.46 326	P	P		16 32 53.6 +0.2
ELK	Elko	55.46 326	P	P		16 32 53.6 +0.2
ELK			pmax	pmax		
	comp=Z,9.0nm,1.0s					
H17A	Grant Village	55.62 332	IAmb	IAmb		16 32 58.8
	comp=Z,40nm,2.0s					
NV11	Mina Array Sit	55.71 322	IAmb	IAmb		16 32 57.7
	comp=Z,18nm,1.1s					
NVAR	Mina Array Bea	55.80 322	P	P		16 32 56.9 +1.0
	comp=Z,2.8nm,0.3s,baz=140,slow=7.1,SNR=45					
	comp=Z,2.8nm,0.3s					
LHV	Little Huntoon	55.82 321	IAmb	IAmb		16 32 58.6
	comp=Z,20nm,0.9s					
YMR	Madison River	56.01 332	IAmb	IAmb		16 32 59.8
	comp=Z,16nm,1.0s					
YHB	Horse Butte	56.18 331	IAmb	IAmb		16 33 01.1
	comp=Z,18nm,1.0s					
YHL	Hebgen Lake	56.25 332	P	P		16 33 00.0 +1.0
WAKR	Walker	56.56 321	IAmb	IAmb		16 33 03.9
	comp=Z,17nm,1.0s					
CMB	Columbia Colle	56.88 320	P	P		16 33 03.7 +0.3
CMB	Columbia Colle	56.88 320	P	P		16 33 03.7 +0.3
CMB			pmax	pmax		
	comp=Z,9.0nm,1.2s					
PNTR	Pine Nut	57.01 321	P	P		16 33 05.2 +0.7
PNTR			IAmb	IAmb		16 33 07.0
	comp=Z,15nm,0.9s					
BOZ	Bozeman (W)	57.02 332	IAmb	IAmb		16 33 06.3
	comp=Z,22nm,1.0s					
PAHR	Pah Rah Range	57.25 322	IAmb	IAmb		16 33 08.6
	comp=Z,42nm,1.7s					
MFID	Camas Ranch	57.58 328	P	P		16 33 08.8 +0.5
EGMT	Eagleton	58.02 335	IAmb	IAmb		16 33 12.8
	comp=Z,13nm,0.9s					
SCHQ	Schefferville	58.15 7	P	P		16 33 12.2 +0.4
	comp=Z,4.1nm,0.9s,baz=223,slow=12,SNR=4.0					
	comp=Z,4.1nm,0.9s					
WVOR	Wild Horse Val	58.50 325	P	P		16 33 15.6 +0.9
WVOR			pmax	pmax		
	comp=Z,30nm,1.8s					
MSO	Missoula	59.01 332	IAmb	IAmb		16 33 20.2
	comp=Z,16nm,0.9s					
BMO	Blue Mountains	59.34 328	P	P		16 33 19.6 -0.8
BMO	Blue Mountains	59.34 328	P	P		16 33 19.6 -0.8
BMO			pmax	pmax		
	comp=Z,7.0nm,1.1s					
O02D	Mt. Diablo Mer	59.64 321	IAmb	IAmb		16 33 37.1
	comp=Z,11nm,0.8s					
I07A	Izee	60.03 326	IAmb	IAmb		16 33 27.7
	comp=Z,25nm,1.1s					
YBH	Yreka Blue Hor	60.48 322	LR	LR		16 59 51.0
	comp=Z,372nm,18.1s,baz=108,slow=36					
PINE	Pine Mountain	60.66 325	P	P		16 33 30.4 +0.7
FFC	Flin Flon	60.89 344	P	P		16 33 29.8 -0.9
FFC			IAmb	IAmb		16 33 31.6
	comp=Z,12nm,1.1s					
FFC	Flin Flon	60.89 344	P	P		16 33 29.8 -0.9
FFC			pmax	pmax		
	comp=Z,13nm,1.1s					
FFC	Flin Flon	60.89 344	P	P		16 33 30.3 -0.4
FFC			pP	pP		16 33 37.4 -5.6
L02F	Cave Junction	61.23 322	IAmb	IAmb		16 33 34.6
	comp=Z,14nm,1.1s					
G06A	Carlson Farm,	61.38 327	P	P		16 33 35.7 +1.3
G06A			IAmb	IAmb		16 33 36.8
	comp=Z,25nm,1.1s					
F07A	Phinny Hill Vi	61.42 327	IAmb	IAmb		16 33 37.2
	comp=Z,13nm,1.0s					
NEW	Newport	61.55 331	IAmb	IAmb		16 33 37.1
	comp=Z,20nm,0.9s					
NEW	Newport	61.55 331	LR	LR		17 00 45.0
	comp=Z,340nm,21.7s,baz=86,slow=36					
NEW	Newport	61.55 331	P	P		16 33 36.1 +0.6
NEW			pmax	pmax		
	comp=Z,22nm,0.9s					
E07A	Sunnyside	61.80 328	IAmb	IAmb		16 33 39.5
	comp=Z,14nm,0.9s					
H04A	Detroit Lake	61.91 325	IAmb	IAmb		16 33 39.0
	comp=Z,13nm,1.0s					
HOOD	Mount Hood Mea	62.00 326	IAmb	IAmb		16 33 50.5
	comp=Z,16nm,0.8s					
MXC	Moxie City	62.05 328	P	P		16 33 39.0 +0.2
MXC			IAmb	IAmb		16 33 41.6
	comp=Z,16nm,1.0s					
BUCK	Buck Mountain	62.09 324	IAmb	IAmb		16 33 40.7
	comp=Z,22nm,1.0s					
TAOE	Nuku Hiva Isla	62.67 262	*e*LR	LR		16 52 24.0
	comp=Z,683nm,30.6s					
LTY	Liberty	62.68 328	IAmb	IAmb		16 33 45.3
	comp=Z,14nm,1.1s					
B08A	Colville Reser	62.71 330	P	P		16 33 42.8 -0.4
B08A			IAmb	IAmb		16 33 45.0
	comp=Z,12nm,1.0s					
GNW	Green Mountain	64.02 328	P	P		16 33 51.5 -0.2
GNW			IAmb	IAmb		16 33 52.9
	comp=Z,17nm,1.1s					
NLWA	Neilton Lookou	64.48 327	IAmb	IAmb		16 33 57.6
	comp=Z,23nm,1.1s					
LLLB	Lillooet	65.44 331	IAmb	IAmb		16 34 03.2
	comp=Z,17nm,1.0s					
FRB	Frobisher Bay	66.76 4	P	P		16 34 07.2 -1.9
CBB	Campbell River	66.84 329	P	P		16 34 11.2 +1.2
CBB			IAmb	IAmb		16 34 12.9
	comp=Z,20nm,1.1s					
BBB	Bella Bella	69.50 329	LR	LR		17 06 40.2
	comp=Z,253nm,20.2s,baz=122,slow=37					
YKA	Yellowknife Ar	71.01 343	P	P		16 34 35.4 -0.3
	comp=Z,6.6nm,0.7s,baz=144,slow=5.5,SNR=104					
YKA			LR	LR		17 10 02.1
	comp=Z,352nm,18.1s,baz=94,slow=40					
	comp=Z,6.6nm,0.7s					
TOAD	Toad River Com	72.18 336	P	P		16 34 43.1 +0.3
	baz=129					
PPT2	Papeete2	72.18 253	*e*LR	LR		16 56 50.2
	comp=Z,957nm,27.5s					
PPT2			*e*LR	LR		16 56 51.7
	comp=Z,596nm,28.2s					
KOTAN	Kotaneelee Air	72.53 338	P	P		16 34 45.6 +0.7
	baz=130					
V35K	Ketchikan	72.97 331	P	P		16 34 48.0 +0.5
	baz=122					
DBIC	Dimbokro	73.00 82	P	P		16 34 49.2 +0.6
DBIC			pP	pP		16 34 58.4 -2.7
DBIC	Dimbokro	73.00 82	P	P		16 34 49.4 +0.8
	comp=Z,29nm,0.8s,baz=262,slow=5.6,SNR=33					
DBIC			pP	pP		16 35 01.2 +0.1
	comp=Z,29nm,0.4s,baz=267,slow=5.2,SNR=14					
	comp=Z,29nm,0.8s					
T35M	Bob Quinn	73.22 333	IAmb	IAmb		16 34 51.8
	comp=Z,20nm,0.9s					
T35M	Bob Quinn	73.22 333	P	P		16 34 50.5 +1.5
	baz=124,SNR=5.9					
WRAK	Wrangell Islan	73.89 332	P	P		16 34 54.6 +1.6
	baz=122					
DLBC	Dease Lake	73.94 334	IAmb	IAmb		16 34 55.9
	comp=Z,22nm,1.0s					
DLBC	Dease Lake	73.94 334	LR	LR		17 09 33.6
	comp=Z,472nm,20.8s,baz=108,slow=38					
DLBC	Dease Lake	73.94 334	P	P		16 34 54.4 +1.1
	baz=124,SNR=9.1					
U33K	Whale Pass	74.10 331	P	P		16 34 55.8 +1.6
	baz=121					
ILULI	Ilulissat	74.12 9	P	P		16 34 53.7 -0.3
ILULI			IAmb	IAmb		16 34 55.0
	comp=Z,20nm,0.8s					
ILULI	Ilulissat	74.12 9	P	P		16 34 53.7 -0.3
ILULI			pmax	pmax		
	comp=Z,21nm,0.8s					
ILULI	Ilulissat	74.12 9	*i* P	P		16 34 52.6 -1.4
ILULI			IAmb	IAmb		16 34 54.7
	comp=Z,19nm,0.8s					
S34M	Telegraph Cree	74.14 333	IAmb	IAmb		16 34 56.9
	comp=Z,22nm,1.1s					
S34M	Telegraph Cree	74.14 333	P	P		16 34 55.2 +0.8
	baz=123,SNR=6.3					
WRGLY	Wrigley	74.36 340	P	P		16 34 56.3 +0.8
	baz=132					
WTLY	Watson Lake, Y	74.39 336	P	P		16 34 56.6 +0.7
	baz=126					
PFVI	Vila Bisbo	74.80 50	*e*P	P		16 35 00.5 +1.8
R33M	Jennings River	74.88 335	P	P		16 35 00.2 +1.4
	baz=124					
AVE	Averroes	74.95 55	P	P		16 35 00.1 +0.5
MORF	Marmelete	74.98 50	*e*P	P		16 35 00.3 +0.6
MORF	Marmelete	74.98 50	*e*P	P		16 35 01.4 +1.6
PTEO	Sao Teotonio	74.99 50	*e*P	P		16 35 01.1 +1.4
TGTN	Hyland Airport	75.02 337	P	P		16 35 01.3 +1.8
	baz=127					
Q32M	Nakina River	75.21 334	IAmb	IAmb		16 35 03.0
	comp=Z,26nm,1.3s					
Q32M	Nakina River	75.21 334	P	P		16 35 02.1 +1.2
	baz=122					
UMMG	Uummannaq	75.28 8	*i* P	P		16 35 00.6 -0.1
UMMG			IAmb	IAmb		16 35 01.6
	comp=Z,20nm,1.1s					
MESJ	Messejana	75.45 50	*e*P	P		16 35 02.9 +0.5
MESJ	Messejana	75.45 50	*e*P	P		16 35 03.4 +1.0
S32K	Killisnoo	75.48 332	IAmb	IAmb		16 35 04.6
	comp=Z,22nm,0.9s					
S32K	Killisnoo	75.48 332	P	P		16 35 02.7 +0.6
	baz=120					
PBDV	Barranco-do-Ve	75.52 51	*e*P	P		16 35 04.4 +1.6
PCVE	Castro Verde	75.54 50	*e*P	P		16 35 04.3 +1.4
SIT	Sitka	75.63 331	P	P		16 35 03.2 +0.2
	baz=119					
PBEJ	Beja	75.77 50	*e*P	P		16 35 05.2 +0.9
PMTG	Montargil	75.78 49	*e*P	P		16 35 04.9 +0.7
PCAS	Casmilo, Conde	75.84 48	*e*P	P		16 35 05.5 +0.8
R32K	Eaglecrest	75.86 333	P	P		16 35 05.2 +0.9
	baz=120					
NUUG	Nuugaatsiaq	75.91 8	*i* P	P		16 35 04.0 -0.3
NUUG			IAmb	IAmb		16 35 05.7
	comp=Z,15nm,0.7s					
COI	Coimbra	75.95 47	*e*P	P		16 35 06.4 +1.3
P33M	Teslin, Yukon	76.11 335	IAmb	IAmb		16 35 08.2
	comp=Z,22nm,1.1s					
P33M	Teslin, Yukon	76.11 335	P	P		16 35 06.4 +0.6
	baz=122,SNR=10					
P32M	Atlin	76.17 334	P	P		16 35 07.2 +1.1
	baz=121					
PESTR	Estremoz	76.20 49	IAmb	IAmb		16 35 08.3
	comp=Z,25nm,0.8s					
PESTR	Estremoz	76.20 49	*e*P	P		16 35 07.9 +1.2
ICESG	Greenland Ices	76.26 13	*i* P	P		16 35 05.6 -1.2
ICESG			IAmb	IAmb		16 35 07.5
	comp=Z,33nm,0.7s					
PBAR	Barrancos	76.44 50	*e*P	P		16 35 08.9 +0.8
PVIS	Viseu	76.47 47	*e*P	P		16 35 08.7 +0.5
PMRV	Marv??o	76.50 48	*e*P	P		16 35 08.5 +0.2
PCBR	Castelo Branco	76.54 48	*e*P	P		16 35 09.3 +0.7
PGAV	Gavieira, Arco	76.54 46	*e*P	P		16 35 09.8 +1.1
MTE	Manteigas	76.64 47	P	P		16 35 09.1 -0.1
MTE			IAmb	IAmb		16 35 10.0
	comp=Z,12nm,0.8s					
MTE	Manteigas	76.64 47	*e*P	P		16 35 09.7 +0.5
UPNV	Upernavik	76.70 6	*i* P	P		16 35 07.6 -1.1
UPNV			IAmb	IAmb		16 35 09.7
	comp=Z,14nm,0.6s					
POLO	Lamas de Olo	76.72 46	*e*P	P		16 35 10.2 +0.5
N32M	Quiet Lake	76.72 336	IAmb	IAmb		16 35 11.6
	comp=Z,25nm,1.1s					
N32M	Quiet Lake	76.72 336	P	P		16 35 10.3 +1.1
	baz=122,SNR=7.1					
PVRL	Vila Real	76.75 47	*e*P	P		16 35 10.3 +0.6
MMPY	Sheldon Lake,	76.80 337	P	P		16 35 10.4 +0.8
	baz=124					
SKAG	Skagway	76.81 334	P	P		16 35 10.9 +1.3
	baz=120					
MVO	Moncorvo	77.22 47	*e*P	P		16 35 13.2 +0.7
WHY	Whitehorse	77.22 335	IAmb	IAmb		16 35 14.1
	comp=Z,32nm,1.3s					
WHY	Whitehorse	77.22 335	P	P		16 35 12.9 +0.8
	baz=120					
PLBC	Pleasant Camp	77.28 333	P	P		16 35 13.6 +1.3
	baz=119					
FARO	Faro, Yukon	77.40 337	P	P		16 35 14.1 +1.2
FARO			IAmb	IAmb		16 35 15.4
	comp=Z,28nm,1.0s					
FARO	Faro, Yukon	77.40 337	P	P		16 35 14.2 +1.2
	baz=122					
PBRG	Braganca	77.60 46	*e*P	P		16 35 15.1 +0.6
O30N	Mendenhall	77.79 335	IAmb	IAmb		16 37 41.1
	comp=Z,14nm,0.8s					
O30N	Mendenhall	77.79 335	P	P		16 35 16.0 +0.8
	baz=119					
M31M	Drury Creek, Y	77.81 336	IAmb	IAmb		16 35 17.2
	comp=Z,18nm,1.1s					
M31M	Drury Creek, Y	77.81 336	P	P		16 35 16.3 +1.1
	baz=121,SNR=9.3					
P30M	Million Dollar	77.86 334	P	P		16 35 17.1 +1.5
	baz=118					
N31M	Braeburn, Yuko	78.01 335	P	P		16 35 17.4 +0.9
	baz=120,SNR=6.6					
RES	Resolute Bay	78.15 355	P	P		16 35 16.1 -0.7
RES			pmax	pmax		
	comp=Z,7.0nm,1.0s					
BELA	Belgrano 2	78.26 172	P	P		16 35 18.9 +1.4
BELA			IAmb	IAmb		16 35 19.8
	comp=Z,8.4nm,0.6s					
KULLO	Kullorsuaq	78.28 5	*i* P	P		16 35 16.5 -1.0
KULLO			IAmb	IAmb		16 35 18.6
	comp=Z,27nm,0.8s					
HYT	Haines Junctio	78.43 334	P	P		16 35 20.2 +1.4
	baz=118					
N30M	Aishikik Lake	78.55 335	IAmb	IAmb		16 35 22.3
	comp=Z,26nm,1.0s					
N30M	Aishikik Lake	78.55 335	P	P		16 35 20.7 +1.2
	baz=118					
O29M	Mount Kennedy	78.66 334	P	P		16 35 20.8 +0.7
	baz=117					
PNL	Peninsula	78.75 333	P	P		16 35 21.5 +1.0
	baz=116					
PAB	San Pablo	78.81 49	P	P		16 35 21.6 +0.3
PAB	San Pablo	78.81 49	P	P		16 35 21.7 +0.3
PAB			pmax	pmax		
	comp=Z,11nm,0.9s					
YUK6	Outpost Mounta	78.86 334	P	P		16 35 22.8 +1.5
	baz=117					
M30M	Minto, Yukon	78.96 336	IAmb	IAmb		16 35 23.8
	comp=Z,17nm,1.0s					
M30M	Minto, Yukon	78.96 336	P	P		16 35 22.6 +0.9
	baz=119,SNR=14					
ESDC	Sonseca Array	79.13 49	P	P		16 35 23.4 +0.3
ESDC	Sonseca Array	79.13 49	P	P		16 35 23.6 +0.6
	comp=Z,5.0nm,0.8s,baz=261,slow=6.9,SNR=27					
ESDC			pP	PcP		16 35 33.6 +2.3
	comp=Z,2.8nm,0.7s,baz=260,slow=5.5,SNR=5.7					
	comp=Z,5.0nm,0.8s					
YUK4	Talbot Arm	79.16 335	P	P		16 35 24.3 +1.4
	baz=117					
SUMG	Summit	79.22 11	P	P		16 35 23.3 0.0
SUMG	Summit	79.22 11	P	P		16 35 23.3 0.0
SUMG			pmax	pmax		
	comp=Z,23nm,0.6s					
SUMG	Summit	79.22 11	*i* P	P		16 35 22.9 -0.5
SUMG			IAmb	IAmb		16 35 24.7
	comp=Z,21nm,0.7s					
PINM	Pinnacle	79.32 333	P	P		16 35 24.6 +0.9
	baz=115					
TULEG	Thule	79.44 2	*i* P	P		16 35 25.4 +1.5
TULEG			IAmb	IAmb		16 35 27.3
	comp=Z,15nm,0.7s					
O28M	Mount Upton	79.58 334	P	P		16 35 26.8 +1.5
	baz=115					
M29M	Somme Creek	79.58 336	IAmb	IAmb		16 35 27.6
	comp=Z,30nm,1.1s					
M29M	Somme Creek	79.58 336	P	P		16 35 25.3 +0.1
	baz=117					
YUK8	Steele Glacier	79.62 334	P	P		16 35 26.2 +0.7
	baz=116					
H31M	Peel River	79.67 339	P	P		16 35 26.3 +0.9
	baz=122					
L29M	L29M	79.76 336	P	P		16 35 26.4 +0.4
L29M	L29M	79.76 336	P	P		16 35 26.9 +0.9
	baz=118					
J30M	Hart River	79.76 338	IAmb	IAmb		16 35 28.7
	comp=Z,19nm,1.1s					
J30M	Hart River	79.76 338	P	P		16 35 26.9 +0.8
	baz=120					
K29M	Barlow Dome	79.86 337	IAmb	IAmb		16 35 28.7
	comp=Z,23nm,1.0s					
K29M	Barlow Dome	79.86 337	P	P		16 35 27.4 +0.8
	baz=118					
TORD	Torodi Ar. Bea	80.02 76	P	P		16 35 28.0 -0.3
TORD	Torodi Ar. Bea	80.02 76	P	P		16 35 28.5 +0.2
	comp=Z,94nm,0.4s,baz=275,slow=4.3,SNR=5.5					
TORD			pP	pP		16 35 40.4 -0.5
	comp=Z,69nm,0.3s,baz=278,slow=5.9,SNR=3.3					
I30M	Mount Dempster	80.10 338	P	P		16 35 28.7 +0.8
	baz=120,SNR=38					
MESA	MESA	80.13 333	P	P		16 35 28.4 +0.2
	baz=114					
YUK3	Moose Creek	80.13 335	P	P		16 35 29.2 +1.0
	baz=115					
G31M	Satah River	80.24 340	P	P		16 35 29.2 +0.9
	baz=122					
VNA3	Neumayer Olymp	80.25 162	⇑P	P		16 35 29.9 +1.4
	comp=Z,15nm,0.6s					
F31M	Tsiigehtchic	80.34 341	P	P		16 35 29.5 +0.6
	baz=122					
J29N	Klondike Camp	80.42 337	IAmb	IAmb		16 35 32.1
	comp=Z,55nm,1.8s					
J29N	Klondike Camp	80.42 337	P	P		16 35 30.4 +0.9
	baz=118					
VNA1	Neumayer--Stat	80.48 162	⇑P	P		16 35 32.1 +2.5
	comp=Z,18nm,0.7s					
BVCY	Beaver Creek	80.57 335	P	P		16 35 31.5 +1.1
	baz=115					
DAWY	Dawson	80.70 337	P	P		16 35 31.7 +0.7
	baz=117,SNR=6.8					
A36M	Sachs Harbour	80.71 346	P	P		16 35 30.8 0.0
	baz=131					
INK	Inuvik	80.74 342	P	P		16 35 31.1 +0.1
INK	Inuvik	80.74 342	P	P		16 35 31.2 +0.1
INK			pmax	pmax		
	comp=Z,38nm,1.0s					
INK	Inuvik	80.74 342	P	P		16 35 32.1 +1.1
	baz=123					
EPYK	Eagle Plains	80.79 339	P	P		16 35 32.2 +0.7
	baz=120					
VNA2	Neumayer--Watz	80.84 162	⇑P	P		16 35 33.1 +1.4
	comp=Z,16nm,0.6s,baz=316,slow=4.8					
I29M	Ogilvie Camp,	80.88 338	IAmb	IAmb		16 35 34.1
	comp=Z,31nm,1.2s					
I29M	Ogilvie Camp,	80.88 338	P	P		16 35 32.8 +0.9
	baz=118,SNR=19					
G30M	tAoh Zraii Nji	80.93 340	P	P		16 35 32.8 +0.6
	baz=120					
M27K	Edge Creek, AK	80.98 335	IAmb	IAmb		16 35 35.1
	comp=Z,18nm,1.1s					
M27K	Edge Creek, AK	80.98 335	P	P		16 35 33.7 +1.1
	baz=114					
F30M	Barrier River	81.10 341	P	P		16 35 33.9 +0.9
	baz=120					
KAIM	Kayak Island	81.17 332	P	P		16 35 34.9 +1.3
	baz=111					
VRDI	Verde Repeater	81.22 333	IAmb	IAmb		16 35 36.3
	comp=Z,26nm,1.1s					
BCAR	Bea

baz=118
NEEM North Greenlan 81.51 6 *i* P **P 16 35 35.5 +0.1**
NEEM IAmb IAmb 16 35 37.1
comp=Z,45nm,1.0s
I28M Miner Creek 81.53 338 IAmb IAmb 16 35 37.5
comp=Z,27nm,0.9s
I28M Miner Creek 81.53 338 P **P 16 35 36.0 +0.6**
baz=116,SNR=25
BMRM Bremner River 81.64 333 P **P 16 35 36.9 +0.8**
baz=111
K27K Chicken 81.75 336 P **P 16 35 37.8 +1.3**
baz=114
L26K Log Cabin Wild 81.87 335 P **P 16 35 37.6 +0.4**
L26K Log Cabin Wild 81.87 335 P **P 16 35 38.4 +1.2**
baz=113
N25K Chitina, Valde 81.87 334 P **P 16 35 39.6 +2.2**
baz=112
EYAK Cordova Ski Ar 82.02 332 P **P 16 35 38.3 +0.3**
baz=110
E29M Blow River 82.18 341 P **P 16 35 39.3 +0.7**
baz=119
I27K Kandik River 82.22 338 P **P 16 35 39.9 +0.8**
baz=115
HARP HAARP 82.41 334 P **P 16 35 40.7 +0.7**
baz=111
DOT Dot Lake 82.41 336 IAmb IAmb 16 35 41.9
comp=Z,17nm,0.9s
KLU Klutina 82.42 333 IAmb IAmb 16 35 42.1
comp=Z,22nm,1.1s
KLU Klutina 82.42 333 P **P 16 35 40.9 +0.7**
baz=110
H27K Steamboat Moun 82.46 338 P **P 16 35 40.9 +0.7**
baz=115,SNR=9.6
SNAA Sanae 82.46 162 P **P 16 35 41.5 +1.3**
SNAA IAmb IAmb 16 35 43.0
comp=Z,12nm,0.7s
SNAA Sanae 82.46 162 ⇑P **P 16 35 41.6 +1.4**
comp=Z,290nm,0.7s
SNAA Sanae 82.46 162 P **P 16 35 41.8 +1.5**
comp=Z,12nm,0.8s,baz=266,slow=7.2,SNR=36
SNAA LR LR 17 14 34.2
comp=Z,492nm,18.4s,baz=312,slow=37
comp=Z,12nm,0.8s
SNAA Sanae 82.46 162 *ce*P **P 16 35 41.2 +1.0**
SNAA pmax pmax
comp=Z,29nm,1.7s
SCRK Sand Creek 82.50 336 IAmb IAmb 16 35 42.0
comp=Z,16nm,1.1s
SCRK Sand Creek 82.50 336 P **P 16 35 41.0 +0.4**
baz=112,SNR=10
J26L Joseph Creek 82.53 336 IAmb IAmb 16 35 42.9
comp=Z,23nm,1.0s
J26L Joseph Creek 82.53 336 P **P 16 35 41.6 +0.9**
baz=113
P23K Montague Islan 82.61 332 P **P 16 35 41.2 +0.1**
baz=109
I26K Coal Creek Min 82.69 337 IAmb IAmb 16 35 43.1
comp=Z,13nm,1.1s
I26K Coal Creek Min 82.69 337 P **P 16 35 41.5 +0.1**
baz=113
G27K Doyon Strip 82.75 339 IAmb IAmb 16 35 43.1
comp=Z,12nm,1.0s
G27K Doyon Strip 82.75 339 P **P 16 35 41.9 +0.2**
baz=115
PAX Paxson 82.75 335 IAmb IAmb 16 35 43.5
comp=Z,20nm,1.0s
PAX Paxson 82.75 335 P **P 16 35 42.2 +0.3**
baz=111
M24K Tolsona, Glenn 82.75 334 P **P 16 35 42.9 +1.0**
baz=110
RIDG Independent Ri 82.77 336 IAmb IAmb 16 35 43.9
comp=Z,24nm,1.0s
RIDG Independent Ri 82.77 336 P **P 16 35 42.1 +0.2**
baz=112,SNR=6.0
E28M Babbage River 82.81 341 P **P 16 35 41.1 -0.9**
E28M IAmb IAmb 16 35 43.3
comp=Z,13nm,0.9s
E28M Babbage River 82.81 341 P **P 16 35 42.4 +0.4**
baz=117
D28M Stokes Point 82.89 342 P **P 16 35 43.0 +0.7**
baz=118
SCM Sheep Creek Mo 83.17 333 P **P 16 35 44.8 +0.7**
SCM Sheep Creek Mo 83.17 333 P **P 16 35 44.6 +0.5**
baz=109
K24K Donnelly Dome 83.17 335 P **P 16 35 44.8 +0.8**
baz=111
J25K Salcha River, 83.30 336 IAmb IAmb 16 35 46.6
comp=Z,19nm,1.1s
J25K Salcha River, 83.30 336 P **P 16 35 45.1 +0.4**
baz=111
E27K Coleen River 83.31 340 IAmb IAmb 16 35 46.5
comp=Z,15nm,0.9s
E27K Coleen River 83.31 340 P **P 16 35 45.2 +0.5**
baz=115
MFF Saint Martin d 83.31 43 P **P 16 35 46.3 +1.3**
MFF pmax pmax
comp=Z,6.0nm,1.2s
PWL Port Wells 83.32 332 P **P 16 35 45.2 +0.4**
baz=108
M23K Glacier View 83.34 333 P **P 16 35 45.3 +0.4**
baz=109
EKA Eskdalemuir Ar 83.42 34 P **P 16 35 45.9 +0.5**
comp=Z,4.4nm,0.5s,baz=248,slow=4.2,SNR=26
EKA pP **pP 16 35 57.5 -0.6**
comp=Z,2.8nm,0.5s,baz=248,slow=4.3,SNR=8.0
comp=Z,4.4nm,0.5s
KNK Knik Glacier 83.55 333 P **P 16 35 46.5 +0.5**
baz=108
D27M Malcolm River 83.56 341 P **P 16 35 46.6 +0.6**
baz=116
G26K Porcupine Rive 83.57 339 P **P 16 35 46.6 +0.7**
baz=113,SNR=9.7
SML Sawmill 83.61 333 P **P 16 35 46.8 +0.5**
baz=108
SEW Seward 83.62 331 P **P 16 35 46.7 +0.5**
baz=107
PRP Porcupine Dome 83.69 337 IAmb IAmb 16 35 48.7
comp=Z,15nm,1.2s
PRP Porcupine Dome 83.69 337 P **P 16 35 47.3 +0.6**
baz=111
O22K Cooper Landing 83.86 332 P **P 16 35 47.8 +0.3**
baz=107
HDA Harding Lake 83.87 336 IAmb IAmb 16 35 48.9
comp=Z,16nm,0.9s
HDA Harding Lake 83.87 336 P **P 16 35 48.2 +0.7**
baz=110,SNR=9.7
PMR Palmer 83.91 333 P **P 16 35 48.7 +0.9**
baz=107
IL31 83.97 336 IAmb IAmb 16 35 49.5
comp=Z,12nm,0.9s
ILAR Eielson Array 83.97 336 P **P 16 35 47.8 -0.2**
ILAR Eielson Array 83.97 336 P **P 16 35 48.1 +0.1**
comp=Z,6.9nm,0.9s,baz=125,slow=3.4,SNR=54
ILAR pP **pP 16 36 00.1 -0.7**
comp=Z,4.3nm,0.8s,baz=98,slow=6.4,SNR=9.5
ILAR PP **PP 16 39 03.3 +1.2**
comp=Z,0.8nm,0.8s,baz=101,slow=7.4,SNR=5.4
comp=Z,6.9nm,0.9s
F26K Sheenjek River 83.99 339 IAmb IAmb 16 35 50.5
comp=Z,13nm,0.9s
F26K Sheenjek River 83.99 339 P **P 16 35 48.7 +0.6**
baz=113
RC01 Rabbit Creek A 84.04 332 P **P 16 35 49.4 +1.0**
baz=107
BMAR Burnt Mountain 84.05 339 P **P 16 35 49.2 +0.8**
H25L Birch Creek 84.07 338 P **P 16 35 49.6 +1.1**
baz=111
BRSE Bradley Lake S 84.14 331 P **P 16 35 49.3 +0.2**
baz=106
TROLL Troll, Antarti 84.18 162 ⇑P **P 16 35 50.5 +1.3**
comp=Z,505nm,0.7s
POKR Poker Plat Res 84.30 336 P **P 16 35 50.6 +0.9**
baz=109
RND Reindeer 84.34 335 P **P 16 35 50.8 +0.8**
G25K Bearman Lake 84.36 338 P **P 16 35 51.3 +1.4**
baz=111,SNR=8.8
COLA College 84.39 336 *i* P **P 16 35 49.8 -0.3**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 84.39 336 P **P 16 35 50.6 +0.6**
baz=109
M22K Willow 84.41 333 P **P 16 35 50.7 +0.5**
baz=107
MCK McKinley 84.48 335 IAmb IAmb 16 35 52.4
comp=Z,19nm,1.1s
MCK McKinley 84.48 335 P **P 16 35 51.2 +0.5**
baz=108,SNR=9.0
F25K Christian Rive 84.49 339 IAmb IAmb 16 36 11.8
comp=Z,30nm,1.8s
F25K Christian Rive 84.49 339 P **P 16 35 51.8 +1.1**
baz=111
TAM Tamanrasset 84.55 67 IAmb IAmb 16 35 54.9
comp=Z,12nm,0.9s
TAM Tamanrasset 84.55 67 P **P 16 35 52.1 0.0**
TAM pmax pmax
comp=Z,16nm,0.9s
HOM Homer 84.56 331 P **P 16 35 51.5 +0.4**
baz=105
KDAK Kodiak Island 84.56 329 LR LR 17 16 24.4
comp=Z,155nm,18.1s,baz=302,slow=38
KDAK Kodiak Island 84.56 329 P **P 16 35 51.6 +0.5**
baz=104
C27K Jago River 84.60 341 IAmb IAmb 16 35 53.5
comp=Z,18nm,1.1s
C27K Jago River 84.60 341 P **P 16 35 52.4 +1.2**
baz=113
SUA Susitna One 84.61 332 P **P 16 35 52.7 +1.2**
baz=106
E25K Arctic Village 84.65 340 IAmb IAmb 16 35 54.0
comp=Z,13nm,1.0s
E25K Arctic Village 84.65 340 P **P 16 35 52.6 +1.2**
baz=111
CUT Chulitna 84.66 333 P **P 16 35 51.5 0.0**
baz=106
Q20K Shuyak Island 84.67 329 P **P 16 35 52.6 +0.9**
baz=104
H24K Noodor Dome 84.71 337 IAmb IAmb 16 35 54.1
comp=Z,26nm,1.3s
H24K Noodor Dome 84.71 337 P **P 16 35 52.6 +0.8**
baz=109
OHAK Old Harbor 84.80 328 P **P 16 35 52.9 +0.6**
baz=103
NEA2 Nenana 84.80 336 P **P 16 35 52.8 +0.5**
baz=108,SNR=10
G24K Hadweenzic Riv 84.85 338 P **P 16 35 53.8 +1.3**
baz=109,SNR=6.8
TRF Thorofare Moun 84.97 334 IAmb IAmb 16 35 54.5
comp=Z,21nm,1.2s
TRF Thorofare Moun 84.97 334 P **P 16 35 53.8 +0.4**
baz=107
I23K Minto, Yukon-K 85.08 336 IAmb IAmb 16 35 55.5
comp=Z,22nm,1.2s
I23K Minto, Yukon-K 85.08 336 P **P 16 35 54.6 +1.0**
baz=108
C26K Camden Bay 85.10 341 P **P 16 35 54.9 +1.3**
baz=112
SKT Skwentna 85.11 333 P **P 16 35 54.3 +0.4**
baz=105
SII Sitkinak Islan 85.12 327 P **P 16 35 56.2 +2.2**
baz=103
SPCR Spurr Chakacha 85.22 332 P **P 16 35 55.1 +0.6**
baz=105
F24K Squaw Lake 85.27 339 P **P 16 35 54.3 -0.3**
F24K IAmb IAmb 16 35 56.6
comp=Z,12nm,1.2s
F24K Squaw Lake 85.27 339 P **P 16 35 56.0 +1.4**
baz=109,SNR=9.6
D25K Kavik River 85.36 341 P **P 16 35 55.8 +0.8**
baz=111
H23K Yukon River 85.36 337 IAmb IAmb 16 35 57.0
comp=Z,29nm,1.9s
H23K Yukon River 85.36 337 P **P 16 35 55.6 +0.5**
baz=107
Q19K Cape Douglas, 85.37 330 P **P 16 35 56.0 +0.7**
baz=103
BPAW Bear Paw Mtn. 85.45 335 P **P 16 35 55.8 +0.3**
baz=106,SNR=8.5
PPLA Purkeypile 85.65 334 P **P 16 35 57.4 +0.7**
baz=105,SNR=6.3
E24K Your Creek 85.67 339 P **P 16 35 57.2 +0.6**
baz=109
CAST Castle Rocks 85.74 334 P **P 16 35 57.2 +0.3**
baz=105,SNR=11
CHIR Chirikof Islan 85.76 326 P **P 16 35 57.8 +0.6**
baz=101
G23K Bananza Creek 85.81 338 P **P 16 35 56.9 -0.4**
G23K IAmb IAmb 16 35 59.4
comp=Z,13nm,1.2s
G23K Bananza Creek 85.81 338 P **P 16 35 58.8 +1.5**
baz=107,SNR=5.4
M20K Styx River 85.82 333 P **P 16 35 57.6 +0.1**
baz=104
CHUM Lake Minchumin 85.96 335 P **P 16 35 59.0 +1.0**
baz=105
COLD Coldfoot 86.03 338 IAmb IAmb 16 36 00.5
comp=Z,11nm,1.1s
COLD Coldfoot 86.03 338 P **P 16 35 59.8 +1.5**
baz=107
E23K Chandalar 86.06 339 IAmb IAmb 16 36 16.4
comp=Z,1.1nm,0.7s
E23K Chandalar 86.06 339 P **P 16 35 59.5 +0.9**
baz=108
H22K Ishtalitna Cre 86.10 337 P **P 16 35 59.5 +0.7**
baz=106
D24K Happy Valley 86.13 340 P **P 16 35 59.7 +1.0**
baz=108
I21K Tanana 86.16 336 IAmb IAmb 16 36 32.7
comp=Z,35nm,2.0s
I21K Tanana 86.16 336 P **P 16 35 59.3 +0.3**
baz=105
N19K Bonanza Creek 86.21 331 P **P 16 35 60.0 +0.5**
baz=103
TOLK Toolik Lake Re 86.22 340 P **P 16 36 00.2 +0.9**
baz=108
C24K Franklin Bluff 86.27 341 P **P 16 36 00.5 +1.1**
baz=108
P18K Big Mountain, 86.27 330 P **P 16 36 00.2 +0.5**
baz=102
L20K Farewell, AK 86.30 333 P **P 16 35 59.9 +0.1**
baz=103
SSB Saint Sauveur 86.32 44 P **P 16 36 00.6 +0.3**
O18K Koktuh Hills 86.36 330 P **P 16 36 01.2 +1.1**
baz=102
M19K Big River Lodg 86.41 332 P **P 16 36 01.0 +0.7**
baz=103
K20K Telida 86.59 334 P **P 16 36 01.7 +0.6**
baz=103
H21K Melozitna Rive 86.61 336 P **P 16 36 01.1 -0.1**
baz=104
L19K White Mountain 86.68 333 IAmb IAmb 16 36 03.0
comp=Z,12nm,1.1s
L19K White Mountain 86.68 333 P **P 16 36 01.7 +0.1**
baz=102
D23K Nanushuk River 86.71 340 IAmb IAmb 16 36 04.3
comp=Z,20nm,1.1s
D23K Nanushuk River 86.71 340 P **P 16 36 02.7 +1.1**
baz=107
J20K Nowinta River 86.81 335 P **P 16 36 02.4 +0.2**
J20K IAmb IAmb 16 36 03.1
comp=Z,13nm,1.1s
J20K Nowinta River 86.81 335 P **P 16 36 02.5 +0.2**
baz=103
P17K Kvichak River 86.84 330 P **P 16 36 02.8 +0.4**
baz=101
F22K John River 86.84 338 P **P 16 36 03.1 +0.7**
baz=105
Q16K King Salmon 86.86 329 P **P 16 36 03.7 +1.2**
baz=101
N18K Kilae Creek 86.86 331 P **P 16 36 03.5 +1.0**
baz=101
E22K Anaktuvuk Pass 86.88 339 IAmb IAmb 16 36 04.5
comp=Z,24nm,1.5s
E22K Anaktuvuk Pass 86.88 339 P **P 16 36 03.3 +0.8**
baz=106
C23K Itkillik River 86.93 341 P **P 16 36 03.7 +1.1**
baz=107
M18K Stony River 86.99 332 P **P 16 36 03.0 -0.1**
baz=102
DOU Dourbes 87.02 40 *d*P **P 16 36 03.1 -0.4**
comp=Z,12nm,0.9s
NVL N'lazarevskaya 87.06 161 *e*P **P 16 36 05.3 +2.0**
NVL pmax pmax
comp=Z,19nm,1.0s
I20K Naaghedeneel 87.09 335 P **P 16 36 03.9 +0.4**
baz=103
G21K Allakaket 87.10 337 IAmb IAmb 16 36 05.8
comp=Z,14nm,1.0s
G21K Allakaket 87.10 337 P **P 16 36 04.7 +1.1**
baz=104,SNR=13
R16K Pilot Point 87.14 328 P **P 16 36 04.8 +1.0**
baz=100
BMRD Maredsous 87.16 39 *d*P **P 16 36 05.2 +1.0**
QSPA South Pole Qui 87.22 180 P **P 16 36 06.2 +1.9**
comp=Z,32nm,1.0s,baz=161,slow=2.7,SNR=57
QSPA pP **pP 16 36 18.4 +1.2**
comp=Z,38nm,1.0s,baz=154,slow=3.7,SNR=16
comp=Z,32nm,1.0s
F21K Alatna River 87.26 338 IAmb IAmb 16 36 06.7
comp=Z,15nm,1.0s
F21K Alatna River 87.26 338 P **P 16 36 05.3 +0.9**
baz=104,SNR=13
O17K Koliganek Bris 87.28 330 P **P 16 36 05.5 +1.0**
baz=100
BGES Gesves 87.37 39 *d*P **P 16 36 06.2 +1.0**
comp=Z,9.9nm,1.0s
D22K Ayikyak River 87.38 339 IAmb IAmb 16 36 07.3
comp=Z,18nm,1.4s
D22K Ayikyak River 87.38 339 P **P 16 36 05.6 +0.7**
baz=105
CHGN Chignik 87.38 327 P **P 16 36 05.3 +0.2**
baz=99
J19K Poorman 87.40 334 P **P 16 36 05.9 +0.8**
baz=102
H20K Anotteneega Mo 87.41 336 P **P 16 36 05.9 +0.8**
baz=102
RCHB Rochefort 87.43 40 *d*P **P 16 36 06.3 +0.8**
comp=Z,9.3nm,0.9s
N17K Nushagak Hills 87.46 331 P **P 16 36 06.4 +1.0**
baz=100
BCLA Clavier 87.51 39 *d*P **P 16 36 06.6 +0.7**
comp=Z,6.4nm,0.9s
L18K Granite Mounta 87.53 333 P **P 16 36 06.7 +1.0**
baz=101
P16K Nushagak River 87.60 329 P **P 16 36 06.9 +0.9**
baz=100
E21K Killik River 87.73 339 P **P 16 36 07.3 +0.7**
baz=104
M17K Holitna River 87.73 332 P **P 16 36 07.6 +0.8**
baz=100
O16K Kokwok River B 87.75 330 P **P 16 36 07.7 +0.9**
baz=99
J18K Innoko River 87.78 334 P **P 16 36 07.9 +1.0**
baz=101
CHNA Chernabura Isl 87.83 325 P **P 16 36 08.1 +0.9**
baz=98
WLF Walferdange 87.96 40 *d*P **P 16 36 09.2 +1.1**
comp=Z,14nm,0.9s
WLF Walferdange 87.96 40 P **P 16 36 09.3 +1.2**
WLF pmax pmax
comp=Z,26nm,0.9s
B22K Teshekpuk Lake 88.00 341 P **P 16 36 08.7 +0.9**
baz=104
BTNL Ternell 88.06 39 *d*P **P 16 36 09.0 +0.5**
comp=Z,7.4nm,0.8s
H19K Roundabout Mou 88.06 336 P **P 16 36 09.2 +1.1**
baz=101,SNR=7.3
F20K Avaraart Lake 88.08 337 P **P 16 36 09.0 +0.9**
baz=102
GCSA Galena City Sc 88.09 335 P **P 16 36 09.0 +0.7**
baz=101
C21K Knifeblade Rid 88.18 340 P **P 16 36 09.9 +1.2**
baz=103
N16K Nishlik Lake 88.22 331 P **P 16 36 10.1 +1.0**
baz=99
B21K Ikpikpuk River 88.23 340 P **P 16 36 09.5 +0.7**
baz=103
L17K Donlin 88.26 332 P **P 16 36 10.4 +1.2**
baz=99
K17K Iditarod 88.36 333 P **P 16 36 10.1 +0.4**
K17K Iditarod 88.36 333 P **P 16 36 10.7 +1.1**
baz=99
M16K Timber Creek 88.40 331 P **P 16 36 10.9 +1.0**
baz=99
SDPT Sand Point 88.40 325 P **P 16 36 11.3 +1.3**
baz=97
G19K Purcell Mounta 88.43 336 P **P 16 36 11.1 +1.1**
baz=100,SNR=6.9
ECH Echery 88.46 42 IAmb IAmb 16 36 11.9
comp=Z,9.5nm,1.1s
ECH Echery 88.46 42 P **P 16 36 11.6 +1.1**
ECH pmax pmax
comp=Z,76nm,1.0s
E20K Nigu River 88.49 339 P **P 16 36 11.1 +0.9**
baz=101
O15K Ungalikthiuk R 88.56 329 P **P 16 36 11.6 +0.9**
baz=98
A22K Sinclair Lake 88.65 341 P **P 16 36 11.9 +1.0**
baz=103
NOR Nord 88.68 7 P **P 16 36 11.9 +1.0**
NOR pmax pmax
comp=Z,19nm,1.7s
E19K Redstone River 88.73 338 IAmb IAmb 16 36 13.2
comp=Z,10nm,1.0s
E19K Redstone River 88.73 338 P **P 16 36 12.2 +0.9**
baz=100
D20K Etivluk River 88.74 339 P **P 16 36 12.5 +1.1**
baz=101
L16K Owhat River 88.75 332 P **P 16 36 13.1 +1.6**
baz=98,SNR=5.8
H18K Honhosa River 88.78 335 P **P 16 36 13.3 +1.6**
baz=99,SNR=10
J17K VABM Dome 88.81 334 P **P 16 36 13.0 +1.2**
baz=99
F19K Shaleruckik Mo 88.83 337 P **P 16 36 12.5 +0.7**
baz=100,SNR=8.0
N15K Kwethluk River 88.83 330 P **P 16 36 12.6 +0.7**
baz=98
KEST Kesra 88.98 54 P **P 16 36 14.6 +1.3**
comp=Z,6.4nm,0.9s,baz=296,slow=5.4,SNR=6.2
KEST LR LR 17 13 20.6
comp=Z,720nm,21.0s,baz=226,slow=34
comp=Z,6.4nm,0.9s
G18K Tagagawik 89.02 336 IAmb IAmb 16 36 15.4
comp=Z,14nm,0.9s
G18K Tagagawik 89.02 336 P **P 16 36 13.9 +1.2**
baz=99
B20K Meade River 89.17 340 P **P 16 36 14.4 +1.1**
baz=100
M15K Kasigluk River 89.19 331 P **P 16 36 15.0 +1.4**
baz=97
D19K Kuna River 89.24 339 IAmb IAmb 16 36 16.3
comp=Z,14nm,1.1s
D19K Kuna River 89.24 339 P **P 16 36 14.6 +0.9**
baz=100
A21K Barrow 89.24 342 P **P 16 36 14.4 +0.8**
baz=101
BFO Black Forest 89.25 42 P **P 16 36 15.0 +0.8**
O14K Tigyukauivet M 89.30 329 P **P 16 36 14.7 +0.6**
baz=97
SLE Schleitheim 89.31 42 P **P 16 36 15.1 +0.6**
H17K Granite Mounta 89.40 335 IAmb IAmb 16 36 16.7
comp=Z,17nm,1.2s
H17K Granite Mounta 89.40 335 P **P 16 36 15.7 +1.2**
baz=98,SNR=6.8
J16K Anvik River 89.48 333 P **P 16 36 16.5 +1.6**
baz=97
F18K Selawik 89.53 337 P **P 16 36 16.5 +1.5**
baz=98
N14K Kuskokwak Cree 89.59 330 P **P 16 36 16.6 +1.2**
baz=96
I17K Unalakleet 89.60 334 IAmb IAmb 16 36 18.5
comp=Z,16nm,1.1s
I17K Unalakleet 89.60 334 P **P 16 36 16.6 +1.2**
baz=97
L15K Ungalak Mounta 89.69 332 P **P 16 36 17.3 +1.4**
baz=96
K15K Wolf Creek Mou 89.78 332 P **P 16 36 17.7 +1.4**
baz=96
G17K Kiwalik Mounta 89.78 336 P **P 16 36 17.9 +1.6**
baz=97,SNR=7.9
TUE Stuetta 89.79 44 IAmb IAmb 16 36 18.6
comp=Z,7.4nm,0.7s
TUE Stuetta 89.79 44 P **P 16 36 17.5 +0.5**
comp=Z,51nm,1.0s
M14K Bethel 89.82 331 P **P 16 36 17.9 +1.4**
baz=96,SNR=5.3
E18K Tukpahlearik C 90.01 337 P **P 16 36 18.2 +0.9**
baz=97
FALS False Pass 90.03 325 P **P 16 36 18.2 +0.6**
baz=95
F17K Baldwin Pennin 90.14 336 P **P 16 36 18.9 +1.0**
F17K IAmb IAmb 16 36 37.2
comp=Z,6.3nm,0.8s
F17K Baldwin Pennin 90.14 336 P **P 16 36 19.0 +1.1**
baz=97
DAVOX Davos/Dischmat 90.17 43 LR LR 17 14 23.1
comp=Z,312nm,20.9s,baz=258,slow=34
DAVA Damuels 90.21 43 *e*P **P 16 36 20.1 +1.2**
comp=Z,6.0nm,0.6s
L14K Kuka Creek 90.23 331 P **P 16 36 19.3 +0.9**
baz=95
H16K Elim 90.35 335 P **P 16 36 20.5 +1.5**
baz=96
C18K Utukok River 90.38 339 IAmb IAmb 16 36 20.5

comp=Z,11nm,1.4s
C18K Utukok River 90.38 339 P P 16 36 20.0 +0.9
baz=97
E17K Hotham Inlet 90.44 337 P P 16 36 20.0 +0.6
baz=96
M13K Dall Lake 90.47 330 P P 16 36 20.3 +0.8
baz=95
G16K Koyuk River 90.48 335 P P 16 36 20.5 +1.0
baz=96
A19K Wainwright 90.52 340 P P 16 36 20.8 +1.2
baz=97
ELIB Princess Elisa 90.63 162 *dP* **P 16 36 21.5 +1.2**
comp=Z,4.1nm,0.9s
ELIB *dPcP* **PcP 16 36 22.5 +1.1**
B18K Kokolik River 90.68 339 P P 16 36 21.8 +1.5
baz=96
J14K Nanvaranak Lak 90.76 333 P P 16 36 22.8 +2.0
baz=95
FETA Feichten 90.77 43 *eP* **P 16 36 22.5 +1.0**
comp=Z,5.8nm,0.8s
RETA Reutte 90.82 43 PcP **PcP 16 36 22.9 +0.2**
comp=Z,2.6nm,0.6s
RDOG Red Dog Mine 90.95 338 P P 16 36 23.0 +1.3
baz=95
D17K Noatak River 90.98 338 P P 16 36 22.8 +1.0
baz=95
C17K DeLong Mountai 91.09 338 P P 16 36 23.6 +1.3
baz=95
SQTA Sankt Quirin 91.11 43 *eP* **P 16 36 24.1 +1.1**
comp=Z,12nm,0.9s
G15K Niukluk 91.15 335 P P 16 36 24.3 +1.6
baz=94
K13K Kusilvak Mount 91.21 332 P P 16 36 24.8 +1.8
baz=94
CTI Castel Tesino 91.35 44 IAmb IAmb 16 36 25.5
comp=Z,7.1nm,0.7s
WATA Walderalm 91.36 43 *eP* **P 16 36 25.1 +0.9**
comp=Z,5.2nm,0.7s
WTTA Wattenberg 91.40 43 *e*PcP **PcP 16 36 25.6 +0.2**
comp=Z,7.8nm,0.8s
WTTA Wattenberg 91.40 43 P **P 16 36 25.7 +1.2**
WTTA P **pP 16 36 35.1 -2.2**
WTTA pmax pmax
comp=Z,14nm,0.9s
F15K North Star Dit 91.45 336 P P 16 36 25.5 +1.5
baz=94
C16K Lisburne Hills 91.88 338 IAmb IAmb 16 37 29.0
comp=Z,7.9nm,1.2s
C16K Lisburne Hills 91.88 338 P P 16 36 26.9 +1.0
baz=93
M11K Mekoryuk 91.88 330 P P 16 36 27.5 +1.4
baz=92
ABTA Abfaltersbach 91.98 43 *e*PcP **PcP 16 36 28.2 +0.4**
comp=Z,8.8nm,1.1s
LESA Schwarzleotal 92.11 43 *e*PcP **PcP 16 36 28.7 +0.3**
comp=Z,5.3nm,1.0s
CLL Collm 92.44 39 P P 16 36 29.8 +0.9
CLL Collm 92.44 39 P P 16 36 29.8 +0.9
comp=Z,7.6nm,0.8s
CLL Collm 92.44 39 *i* P **P 16 36 30.5 +1.6**
CLL *i* sP **pP 16 36 42.6 +0.8**
MYKA Terra Mystica 92.75 44 *e*PcP **PcP 16 36 32.2 +0.9**
comp=Z,9.8nm,1.1s
KHC Kasperske Hory 92.76 41 *i* P **P 16 36 29.2 -1.3**
KHC pmax pmax
comp=Z,18nm,2.1s
GERES GERESS Array B 92.84 41 P P 16 36 31.6 +0.6
comp=Z,1.1nm,0.7s,baz=267,slow=2.7,SNR=10
GERES pP **pP 16 36 43.6 -0.2**
comp=Z,0.7nm,0.7s,baz=272,slow=4.8,SNR=3.5
comp=Z,1.1nm,0.7s
HFS Hagfors 92.99 30 P P 16 36 31.7 +0.4
comp=Z,1.9nm,0.7s,baz=155,slow=4.9,SNR=4.8
HFS pP **pP 16 36 43.7 -0.4**
comp=Z,2.7nm,0.8s,baz=144,slow=5.3,SNR=2.0
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 93.03 39 *eP* **P 16 36 33.3 +1.6**
BRG Amp 16 36 34.2
comp=Z,7.5nm,1.1s
NIKH Nikolski High 93.15 323 P P 16 36 34.0 +1.9
baz=90
MOA Molln 93.20 42 *eP* **P 16 36 33.0 +0.4**
comp=Z,4.6nm,0.9s
SPITS Spitsbergen Ar 93.55 12 P P 16 36 34.4 +0.8
comp=Z,2.2nm,0.4s,baz=323,slow=0.4,SNR=8.1
comp=Z,2.2nm,0.4s
VNDA Vanda 93.61 191 P P 16 36 35.8 +1.9
comp=Z,1.8nm,0.7s,baz=110,slow=4.7,SNR=10.0
VNDA LR LR 17 10 41.8
comp=Z,243nm,19.2s,baz=154,slow=30
comp=Z,1.8nm,0.7s
TSUM Tsumeb 93.75 109 P P 16 36 37.0 +1.1
SPIA Saint Paul Isl 93.94 327 P P 16 36 37.3 +1.6
baz=89
ARSA Arzberg 94.05 43 *e*PcP **PcP 16 36 37.5 +0.5**
comp=Z,5.8nm,1.2s
CONA Conrad Observa 94.27 42 *e*PcP **PcP 16 36 38.7 +0.7**
comp=Z,5.4nm,0.8s
RONA Rosalia, Austr 94.57 43 *e*PcP **PcP 16 36 40.0 +0.8**
comp=Z,3.6nm,0.8s
MODS Modra-Piesok 95.21 42 *eP* **P 16 36 43.5 +1.7**
MODS Modra-Piesok 95.21 42 *e*PDIFF **P 16 36 43.5 +1.7**
MORH Mrgy, Hungar 95.22 44 P P 16 36 47.2 +0.8
LANS Liptovska Anna 96.63 41 *eP* **P 16 36 50.8 +2.6**
LANS Liptovska Anna 96.63 41 *e*PDIFF **P 16 36 50.8 +2.6**
SYO Syowa Base 96.72 161⇑ *e*pP pP 16 36 57.0 -4.0
ARCES ARCESS Array B 97.16 20 P P 16 36 49.2 -1.0
comp=Z,2.4nm,0.9s,baz=290,slow=1.9,SNR=7.6
comp=Z,2.4nm,0.9s
STHS Stebnicka Huta 97.77 41 *eP* Pdif 16 36 57.7 +4.3
STHS Stebnicka Huta 97.77 41 *e*PDIFF Pdif 16 36 57.7 +4.3
FINES FINESS Array B 98.92 28 P Pdif 16 36 58.9 +0.8
comp=Z,2.4nm,0.8s,baz=298,slow=4.1,SNR=4.8
FINES pP pP 16 37 09.9 -1.2
comp=Z,2.5nm,0.9s,baz=248,slow=7.4,SNR=1.3
comp=Z,2.4nm,0.8s
APA Apatity 100.47 21⇓ *i P* **Pdif 16 36 58.8 -6.1**
APA pmax pmax
comp=Z,5.0nm,1.3s
MNK Minsk 101.16 35 *i* P **Pdif 16 37 06.0 -2.3**
MNK *i* 16 41 15.5
MNK *i* PPP PPP 16 43 24.1
MNK *i* S **SKSac 16 47 40.8 -3.4**
MNK *i* PS **PS 16 50 20.0 -0.6**
MNK *i* SS **SS 16 55 43.7 -0.4**
MNK *i* SSS SSS 16 59 35.7
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=E,28nm,0.8s
MNK MLR MLR
comp=Z,231nm,17.0s
MNK MLR MLR
comp=N,171nm,20.0s
MNK MLR MLR
comp=E,197nm,20.0s
KIV Kislovodsk 113.30 43 *e*PKIKP **PKiKP 16 41 54.0 -2.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
YAK Yakutsk 117.58 346*c i*PKIKP **PKPdf 16 42 03.1 -0.5**
YAK pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 121.23 31 PKPdf **PKiKP 16 42 12.1 +0.9**
BRVK Borovoye 123.28 23*ce*PKIKP **PKPdf 16 42 14.9 0.0**
BRVK pmax pmax
comp=Z,4.0nm,2.5s
BVAR Borovoye Array 123.35 23 PKP **PKiKP 16 42 16.5 +1.2**
comp=Z,3.0nm,0.6s,baz=285,slow=2.0,SNR=16
BVAR pPKP **pPKPdf 16 42 28.6 +0.3**
comp=Z,2.2nm,0.5s,baz=285,slow=2.3,SNR=8.8
ZEA Zeya 125.39 342 *i* PKIKP **PKPdf 16 42 18.1 -0.8**
ZALV Zalesovo Beam 127.01 13 PKPdf **PKPdf 16 42 21.8 -0.2**
ZALV Zalesovo Beam 127.01 13 PKP **PKPdf 16 42 22.9 +0.9**
comp=Z,7.5nm,0.4s,baz=265,slow=1.9,SNR=61
ZALV pPKP **pPKPdf 16 42 35.2 0.0**
comp=Z,6.3nm,0.5s,baz=237,slow=4.5,SNR=8.9
KLR Kul'dur 127.54 336 *i* PKIKP **PKPdf 16 42 22.9 -0.2**
KLR pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 128.19 19 PKPdf **PKPdf 16 42 24.7 +0.4**
KURK Kurchatov 128.19 19 PKiKP **PKiKP 16 42 25.7 +0.8**
KURK 16 42 38.4
KURBB Kurchatov Arra 128.24 19 PKP **PKiKP 16 42 25.7 +0.7**
comp=Z,9.9nm,0.7s,baz=319,slow=2.4,SNR=84
KURBB pPKP **pPKPdf 16 42 38.4 +0.7**
comp=Z,5.5nm,0.5s,baz=322,slow=2.2,SNR=14
HEH HeiHe 128.32 340 *e*PKP **PKPdf 16 42 24.6 0.0**
STKA Stephens Creek 129.40 224 PKP **PKPdf 16 42 28.4 +1.2**
comp=Z,5.4nm,0.8s,baz=320,slow=2.9,SNR=9.0
USRK Ussuriysk Ar. 131.33 332 PKP **PKPdf 16 42 31.6 +1.1**
comp=Z,3.7nm,0.8s,baz=286,slow=1.5,SNR=12
USRK pPKP **pPKPdf 16 42 43.2 -0.6**
comp=Z,2.6nm,0.9s,baz=354,slow=2.9,SNR=3.6
MOY Mondy 131.34 1 *e*PKIKP **PKiKP 16 42 32.0 +0.6**
MOY pmax pmax
comp=Z,20nm,2.2s
TRKS Terek-Say 132.23 32 PKIKP **PKiKP 16 42 35.0 +1.4**
ARK Arkit 132.47 31 PKIKP **PKiKP 16 42 35.7 +1.7**
MAKZ Makanchi 132.68 19 PKPdf **PKPdf 16 42 32.3 -0.8**
MAKZ Makanchi 132.68 19 PKIKP **PKPdf 16 42 32.3 -0.8**
DZET Dzherino 132.79 36 PKIKP **PKiKP 16 42 35.9 +1.1**
MK31 Makanchi Array 132.80 19 PKPdf **PKPdf 16 42 32.3 -0.9**
MK31 Makanchi Array 132.80 19*ce*PKIKP **PKPdf 16 42 32.5 -0.8**
MKAR Makanchi Array 132.80 19 PKPdf **PKPdf 16 42 33.3 0.0**
MKAR Makanchi Array 132.80 19 PKP **PKPdf 16 42 34.1 +0.8**
comp=Z,2.3nm,0.4s,baz=308,slow=2.4,SNR=53
MKAR pPKP **pPKPdf 16 42 46.6 +0.1**
comp=Z,2.6nm,0.5s,baz=301,slow=2.3,SNR=13
MKAR SKPbc **SKPbc 16 45 57.8 +0.3**
comp=Z,1.2nm,0.9s,baz=341,slow=3.1,SNR=5.0
SIMJ Simiganj 133.00 36 PKPdf **PKPdf 16 42 33.8 -0.2**
BTK Batken 133.09 34 PKIKP **PKiKP 16 42 35.6 +0.3**
AAK Ala-Archa 133.10 28*ce*PKIKP **PKPdf 16 42 33.5 -0.7**
AAK pmax pmax
comp=Z,19nm,2.5s
MJAR Matsushiro Arr 133.12 320 PKP **PKPdf 16 42 34.9 +0.7**
comp=Z,1.0nm,0.6s,baz=80,slow=1.7,SNR=4.9
ARLS Aral 133.61 29 PKIKP **PiKiKP 16 42 38.1 +1.7**
KDJ Kajisay 134.74 27 PKIKP **PiKiKP 16 42 39.3 +0.6**
ULN Ulaanbaatar 135.00 356 PKIKP **PiKiKP 16 42 39.4 +0.4**
SONM Songino Array 135.07 356 PKPdf **PKPdf 16 42 36.6 -1.0**
SONM Songino Array 135.07 356 PKP **PKPdf 16 42 38.6 +1.0**
comp=Z,1.9nm,0.4s,baz=334,slow=0.8,SNR=18
SONM pPKP **pPKPdf 16 42 49.8 -1.1**
comp=Z,1.7nm,0.7s,baz=308,slow=1.1,SNR=5.0
KSH Kashi 136.21 30 PKP **PKiKP 16 42 42.3 +0.6**
KSH sPKP 16 42 55.5
WMQ Urumqi 137.11 16 *e*PKP **PKPdf 16 42 42.9 +1.4**
WMQ LR LR
comp=Z,190nm,19.3s
XLT XiLinHaoTe 137.42 346 *e*PKP **PKPdf 16 42 42.8 +0.7**
XLT sPKP 16 42 57.4
KSRS Korea Array 138.47 329 PKP **PKPdf 16 42 45.2 +1.2**
comp=Z,6.3nm,0.8s,baz=7.0,slow=1.8,SNR=14
KSAR Wonju Array Be 138.50 329 PKPdf **PKPdf 16 42 43.5 -0.6**
KSAR Wonju Array Be 138.50 329 PKIKP **PKPdf 16 42 43.5 -0.6**
AS31 Alice Springs 139.72 227 PKPpre PKPpre 16 42 40.1
ASAR Alice Springs 139.72 227 PKhKP PKPpre 16 42 39.4
comp=Z,2.4nm,0.7s,baz=122,slow=3.5,SNR=37
ASAR PKP **PKPdf 16 42 47.0 +0.2**
comp=Z,3.4nm,0.7s,baz=124,slow=2.0,SNR=15
ASAR SKPbc **SKPbc 16 46 19.5 +0.1**
comp=Z,1.2nm,0.9s,baz=151,slow=2.1,SNR=3.6
HHC Hu-ho-hao-te 141.32 349 *e*PKP **PKPdf 16 42 49.5 +0.2**
WRA Warramunga Arr 141.50 233 PKPpre PKPpre 16 42 42.2
WRA Warramunga Arr 141.50 233 PKhKP PKPpre 16 42 45.0
comp=Z,1.9nm,0.4s,baz=115,slow=1.6,SNR=20
WRA PKP **PKPdf 16 42 50.3 +0.3**
comp=Z,4.2nm,0.5s,baz=111,slow=1.6,SNR=14
WRA pPKP pPKPdf 16 43 03.5 +0.2
comp=Z,3.2nm,0.6s,baz=118,slow=1.9,SNR=4.9
WRA SKP 16 46 22.3
comp=Z,1.4nm,1.0s,baz=116,slow=2.0,SNR=2.3
BTO Baotou 141.83 351 *e*PKP **PKPdf 16 42 46.1 -4.1**
BTO AMB AMB
comp=Z,540nm,10.3s
BTO LR LR
comp=Z,390nm,4.4s
BTO LR LR
comp=Z,400nm,11.8s
BTO LR LR
comp=Z,460nm,17.6s
GTA Gaotai 143.52 4 PKP **PKPdf 16 42 55.0 +1.7**
GTA pPKP pPKPdf 16 43 06.3 -0.3
HNS HongShan 143.87 344 ⇑PKP PKPbc 16 42 53.3 +1.9
MORW Morawa 145.75 201 PKPdf **PKPdf 16 42 57.9 +0.6**
GOMU GeErMu 146.04 11 PKPbc **PKPdf 16 42 58.3 +0.2**
GOMU pPKP pPKPdf 16 43 09.6 -1.7
GOMU AMB AMB
comp=Z,500nm,5.7s
LZH Lanzhou 146.91 358 *e*PKPbc **PKPab 16 43 02.8 +0.3**
LZH pPKP pPKPbc 16 43 13.9 -0.4
LYN LuoYang 147.16 345 PKPbc **PKPbc 16 43 01.8 +0.1**
NJ2 Nanjing 147.19 334 *e*PKPbc **PKPdf 16 43 00.9 +1.3**
KNRA Kununurra 148.26 234 **PKPbc 16 43 05.5 +0.4**
XAN Xi'an 148.42 350 ⇑PKPbc **PKPbc 16 43 05.8 +0.6**
XAN pPKP PKPab 16 43 11.3 +2.9
WHN Wuhan 150.31 339 PKPbc **PKPbc 16 43 10.5 +0.6**
WHN PKPab **pPKPbc 16 43 22.8 -0.3**
LSA Lhasa 151.16 21 PKIKP **PKPdf 16 43 09.3 +2.6**
CD2 Chengdu 152.07 358 PKPbc **PKPdf 16 43 06.4 -1.1**
HYB Hyderabad 152.29 57 *e*PKiKP **PKPbc 16 43 15.6 +0.7**
SSLB Suanglung 152.67 321 PKPbc **PKPbc 16 43 14.0 -1.5**
PZH PanZhiHua 156.47 2 PKP **PKPdf 16 43 14.6 +0.8**
TNCH TengChong 157.60 10 PKP **PKPdf 16 43 15.5 +0.1**
TNCH sPKP 16 43 32.3
TNCH PKPab **PKPab 16 43 46.3 -0.9**
QIZ Qiongzhong 162.44 337 PKP **PKPdf 16 43 20.6 -0.1**
QIZ PP **PP 16 47 53.3 +2.1**
QIZ SS SS 17 08 12.4 +3.1
QIZ LR LR
comp=Z,110nm,15.1s
QIZ LR LR
comp=Z,200nm,16.1s
QIZ LR LR
comp=Z,220nm,22.3s
CMAR Chiang Mai Arr 164.08 13 PKP **PKPdf 16 43 23.4 +1.1**
comp=Z,1.4nm,0.8s,baz=289,slow=2.3,SNR=11
CMAR pPKP **pPKPdf 16 43 35.3 -0.3**
comp=Z,1.6nm,0.8s,baz=288,slow=1.6,SNR=4.5
CMAR PKPab **PKPab 16 44 15.5 +0.1**
comp=Z,2.5nm,0.8s,baz=328,slow=6.1,SNR=12

*IDC **20** 16:48:22.6±11.0, 7°.50S×128°.77E, h134km±115km, mb2.8/2, mbtmp3.6/6, ML3.8/4, Error ellipse: s-maj=130.7km s-min=29.8km az=47.0*
ISC 20 16:48:24.0±1.5, 7°.8S±0°.1×128°.7E±0°.1, h150km, n6, σ2°77/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.55**	**244**	P	**Pn**	**16 49 46.2**	**+1.4**
	18nm,0.3s,baz=98,slow=5.8,SNR=27						
BATI				S	**Sn**	**16 50 45.8**	**-2.0**
	43nm,0.6s,baz=207,slow=22,SNR=9.0						
	56nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.68**	**196**	P	**Pn**	**16 50 54.5**	**+1.5**
	0.7nm,0.3s,baz=20,slow=13,SNR=37						
FITZ				S	Sn	16 52 47.4	-3.7
	2.5nm,0.3s,baz=138,slow=18,SNR=6.3						
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**13.25**	**156**	P	**Pn**	**16 51 27.8**	**+1.4**
	0.2nm,0.3s,baz=334,slow=13,SNR=13						
WRA				S	**Sn**	**16 53 49.6**	**-3.5**
	0.8nm,0.3s,baz=337,slow=22,SNR=12						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**16.55**	**163**	P	**Pn**	**16 52 12.0**	**+4.5**
	0.2nm,0.3s,baz=341,slow=10,SNR=30						
ASAR				S	**S**	**16 55 10.7**	**-0.8**
	0.7nm,0.8s,baz=347,slow=27,SNR=4.6						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**68.20**	**328**	P	**P**	**16 59 07.0**	**-1.2**
	0.1nm,0.5s,baz=130,slow=5.6,SNR=1.9						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**72.53**	**329**	P	**P**	**16 59 33.5**	**-0.9**
	0.1nm,0.5s,baz=118,slow=5.7,SNR=2.1						
	0.1nm,0.5s						

*AEIC **20** 16:58:14.1±1.6, 52°.4N±0°.1×169°.8W±0°.2, h24km±8km, Error ellipse: s-maj=26.7km s-min=5.7km az=139.0*
NEIC 20 16:58:12.4±1.0, 52°.4N±0°.2×169°.9W±0°.1, h9km±10km, ML3.0(AEIC), Error ellipse: s-maj=25.7km s-min=2.6km az=154.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**50**	Pg	Pg	16 58 28.5	-0.3
NIKH				Sg	Sg	16 58 40.3	+0.5
OKWE	**Okmok W'ng Wal**	**1.46**	**44**		Pn	16 58 38.7	-0.3
OKTU	**Okmok Mt. Tuli**	**1.49**	**50**		Pn	16 58 39.0	-0.4
OKFG	**Magazine Ridge**	**1.57**	**51**		Pn	16 58 40.1	-0.4
OKFG					Sn	16 59 00.4	-0.5
MAPS	**Pakushin South**	**2.27**	**52**		Pn	16 58 49.9	-0.3
MAPS					Sn	16 59 18.4	+0.2
MGOD	**Makushin Gods**	**2.29**	**52**		Pn	16 58 50.3	-0.2
MREP	**Makushin Rep't**	**2.37**	**53**		Pn	16 58 51.4	-0.1
UNV	**Unalaska Valle**	**2.50**	**54**		Sn	16 59 23.8	-0.1
UNV	**Unalaska Valle**	**2.50**	**54**	Pn	Pn	16 58 52.6	-0.7
ATKA	**Atka Island**	**2.62**	**267**	Pn	Pn	16 58 50.6	-4.3
AKMO	**Akutan Morgan**	**2.88**	**53**		Pn	16 58 58.4	-0.1
ZRO	**Akutan Zero**	**2.90**	**54**		Pn	16 58 59.5	+0.7
LVA	**Lava Point**	**2.91**	**52**	Pn	Pn	16 58 59.8	+0.9
AKBBA	**Akutan Broad B**	**2.93**	**54**		Pn	16 58 59.5	+0.3
AKV	**Akutan Volcano**	**2.93**	**53**		Pn	16 58 59.6	+0.4
ISLZ	**Isanotski Laza**	**4.36**	**56**		Pn	16 59 19.9	+1.1
KIWB	**Kanaga Island**	**4.48**	**265**	Pn	Pn	16 59 21.3	+0.8
O14K	**Tigyukauivet M**	**8.39**	**32**	Pn	Pn	17 00 14.9	+0.8
N15K	**Kwethluk River**	**9.48**	**31**	Pn	Pn	17 00 29.9	+0.9

*IDC **20** 16:58:49.6±1.7, 37°.37N×29°.49E, h0km, mb3.2/2, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=34.8km s-min=22.1km az=139.0*
*ISK **20** 16:58:49.9, 37°.43N×29°.43E, h4km, ML3.0/21*
*AFAD **20** 16:58:50.4, 37°.45N×29°.38E, h7km±4km, ML2.8*
ISC 20 16:58:50.5±0.9, 37°.43N±0°.02×29°.42E±0°.02, h7km±7km, n37, σ1°00/51, mb3.1/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.10**	**292**	Pg	**Pg**	**16 58 52.9**	**0.0**
APMY				Sg	**Sg**	**16 58 55.0**	**+0.5**
GOLH	**Golhisar**	**0.23**	**150**	P	**Pg**	**16 58 55.5**	**+0.5**
GOLH				S	**Sg**	**16 58 59.4**	**+1.3**
GOLH				*i* AML	AML	16 59 00.0	
	comp=N,4μm,0.2s						
GOLH				*i* AML	AML	16 59 00.0	
	comp=E,5μm,0.2s						
INCE	**Denizli-Bozkur**	**0.30**	**24**	P	**Pg**	**16 58 56.4**	**-0.1**
INCE				S	**Sb**	**16 59 01.8**	**-1.6**
INCE				*i* AML	AML	16 59 02.0	
	comp=N,3μm,0.3s						
INCE				*i* AML	AML	16 59 02.0	
	comp=E,3μm,0.3s						
CAEL	**Denizli, Camel**	**0.32**	**194**	P	**Pg**	**16 58 57.0**	**+0.1**
CAEL				S	**Sb**	**16 59 02.8**	**-1.2**
CAEL				*i* AML	AML	16 59 05.0	
	comp=N,2μm,0.5s						
CAEL				*i* AML	AML	16 59 09.0	
	comp=E,2μm,0.6s						
DNZT	**Denizli-Tavas-**	**0.35**	**244**	P	**Pg**	**16 58 57.6**	**+0.2**
DNZT				S	**Sb**	**16 59 03.3**	**-1.6**
DNZT				*i* AML	AML	16 59 04.0	
	comp=N,665nm,0.7s						
DNZT				*i* AML	AML	16 59 06.0	
	comp=E,374nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.36**	**302**	P	**Pg**	**16 58 57.5**	**0.0**
DNIZ				S	**Sg**	**16 59 01.1**	**-1.1**
DNIZ				*i* AML	AML	16 59 04.0	
	comp=E,4μm,0.2s						
DNIZ				*i* AML	AML	16 59 06.0	
	comp=N,2μm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.40**	**275**	P	**Pg**	**16 58 58.3**	**0.0**
TAVA				S	**Sg**	**16 59 01.8**	**-1.9**
TAVA				*i* AML	AML	16 59 08.0	
	comp=E,536nm,0.5s						
TAVA				*i* AML	AML	16 59 11.0	
	comp=N,540nm,0.9s						
CAME	**Cameli-Denizli**	**0.50**	**191**	Pg	**Pg**	**16 59 00.0**	**-0.1**
CAME				Sg	**Sb**	**16 59 07.9**	**-1.2**
KNIK	**Mula-Seydike**	**0.60**	**168**	P	**Pg**	**16 59 01.9**	**-0.1**
KNIK				S	**Sb**	**16 59 12.9**	**+0.8**
KNIK				*i* AML	AML	16 59 14.0	
	comp=E,260nm,0.5s						
KNIK				*i* AML	AML	16 59 22.0	
	comp=N,183nm,0.8s						
BASM	**Basmaki-Afyon**	**0.70**	**46**	Pg	**Pg**	**16 59 03.7**	**-0.2**
BASM				Sg	**Sb**	**16 59 14.2**	**-0.6**
SABU	**Mula-Dalaman**	**0.71**	**211**	P	**Pg**	**16 59 03.6**	**-0.5**
SABU				*i* AML	AML	16 59 16.0	
	comp=E,300nm,0.4s						
SABU				S	**Sb**	**16 59 16.0**	**+1.0**
SABU				*i* AML	AML	16 59 17.0	
	comp=N,373nm,0.6s						
ELL	**Elmali**	**0.79**	**150**	Pg	**Pb**	**16 59 05.7**	**-0.9**
FETY	**Fethiye**	**0.84**	**199**	Pg	**Pg**	**16 59 06.5**	**-0.1**
FETY	**Fethiye**	**0.84**	**199**	P	**Pn**	**16 59 07.9**	**-0.8**
KORT	**Korkueli**	**0.86**	**120**	Pg	**Pb**	**16 59 06.8**	**-1.0**
DALY	**Dalyan (Mula)**	**0.87**	**225**	Pg	**Pb**	**16 59 07.3**	**-0.5**
ESEN	**Aydn-Nazilli**	**0.92**	**293**	P	**Pg**	**16 59 08.1**	**-0.2**
ESEN				S	**Sg**	**16 59 20.4**	**+0.2**
ESEN				*i* AML	AML	16 59 24.0	
	comp=N,429nm,0.8s						
ESEN				*i* AML	AML	16 59 25.0	
	comp=E,266nm,0.3s						
BCK	**Bucak**	**0.93**	**88**	Pg	**Pb**	**16 59 08.2**	**-0.8**
YER	**Yerkesik**	**0.95**	**252**	Pg	**Pg**	**16 59 08.7**	**-0.1**
ISP	**Isparta**	**0.96**	**66**	Pg	**Pg**	**16 59 08.5**	**-0.4**
NAZL	**Nazilli-Aydin**	**1.04**	**301**	Pg	**Pb**	**16 59 10.5**	**-0.3**
ANTB	**Antalya**	**1.12**	**118**	Pn	**Pb**	**16 59 11.8**	**-0.3**
TURN	**Turunc**	**1.15**	**235**	Pn	**Pg**	**16 59 12.1**	**-0.4**
AKAS	**Kas**	**1.21**	**173**	Pn	**Pn**	**16 59 13.8**	**-0.1**
KULA	**Kula-Manisa**	**1.23**	**331**	Pn	**Pb**	**16 59 14.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**293**	Pn	**Pb**	**16 59 15.6**	**0.0**
MLSB	**Milas**	**1.32**	**264**	Pn	**Pb**	**16 59 15.9**	**+0.4**
ODEM	**Odemis-Izmir**	**1.36**	**309**	Pn	**Pg**	**16 59 16.4**	**-0.1**
SHUT	**Suhut-Afyon**	**1.43**	**38**	Pn	**Pb**	**16 59 17.2**	**-0.3**
ARG	**Arkhangelos**	**1.60**	**221**	Pn	**Pb**	**16 59 20.1**	**-0.2**
DAT	**Datca**	**1.63**	**245**	Pn	**Pb**	**16 59 20.4**	**-0.5**
BRTR	**Keskin Array B**	**4.02**	**54**	Pn	**Pn**	**16 59 53.6**	**+1.0**
	0.7nm,0.3s,baz=237,slow=18,SNR=17						
BRTR				Sn	**Sn**	**17 00 42.2**	**+2.3**
	0.1nm,0.3s,baz=232,slow=28,SNR=1.9						
	2.1nm,0.5s						
IDI	**Anoyia**	**4.24**	**241**	Sn	**Sn**	**17 00 48.7**	**+3.5**
	0.6nm,0.3s,baz=143,slow=18,SNR=2.0						
MMAI	**Mount Meron Ar**	**6.59**	**130**	Pn	**Pn**	**17 00 28.5**	**+0.7**
	1.8nm,0.3s,baz=319,slow=12,SNR=9.0						
MMAI				Sn	**Sn**	**17 01 41.2**	**-1.9**
	1.1nm,0.3s,baz=308,slow=24,SNR=2.7						
	1.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**34.59**	**233**	P	**P**	**17 05 40.0**	**0.0**
	46nm,0.3s,baz=41,slow=8.5,SNR=1.6						
KURBB	**Kurchatov Arra**	**37.01**	**53**	P	**P**	**17 06 01.6**	**+1.1**
	0.2nm,0.5s,baz=279,slow=9.1,SNR=4.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**39.65**	**59**	P	**P**	**17 06 21.9**	**-1.0**
	0.3nm,0.8s,baz=264,slow=7.1,SNR=2.7						
	0.3nm,0.8s						

IDC 20 16:59:36.6±4.0, 10°.78N×127°.34E, h0km, mb3.4/4, mbtmp3.4/4, MS3.9/1, Error ellipse: s-maj=326.5km s-min=23.1km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.30**	**167**	P	P	17 05 58.3	-0.4
	0.5nm,1.0s,baz=348,slow=8.9,SNR=1.8						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**34.83**	**169**	P	P	17 06 29.8	+0.2
	0.3nm,0.9s,baz=341,slow=8.6,SNR=5.0						
	0.3nm,0.9s						
STKA	**Stephens Creek**	**44.56**	**163**	LR	LR	17 30 07.4	
	comp=Z,155nm,19.8s,baz=155,slow=41						
MKAR	**Makanchi Array**	**52.27**	**322**	P	P	17 08 49.7	-0.1
	0.4nm,0.6s,baz=113,slow=8.6,SNR=6.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.26**	**325**	P	P	17 09 18.8	0.0
	0.5nm,0.6s,baz=124,slow=6.9,SNR=8.6						
	0.5nm,0.6s						

*NOU **20** 17:00:32.8, 41°.07S×174°.51E, h44km, MLv3.5/16, Cook Strait, New Zealand*
*WEL **20** 17:00:32.9±0.3, 41°.S±3°.×17°.4E±°, h34km±4km, M3.1/26, ML3.4/26, MLv3.1/26, Error ellipse: s-maj=4.1km s-min=2.6km az=164.4, confirmed*
ISC 20 17:00:32.9±1.2, 41°.07S±0°.03×174°.46E±0°.03, h56km±7km, n118, σ1°12/133, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.20**	**223**	P	**Pn**	**17 00 41.4**	**-0.5**
TCW				S	**Sn**	**17 00 47.5**	**-0.9**
SNZO	**South Karori**	**0.31**	**142**	P	**Pn**	**17 00 42.7**	**0.0**
SNZO	**South Karori**	**0.31**	**142**	S	**Sn**	**17 00 50.1**	**+0.4**
WEL	**Wellington**	**0.32**	**133**	P	**Pn**	**17 00 43.1**	**+0.2**
WEL				S	**Sn**	**17 00 50.5**	**+0.6**
KIW	**Kapiti Island**	**0.40**	**59**	P	**Pn**	**17 00 43.3**	**-0.3**
KIW				S	**Sn**	**17 00 50.6**	**-0.7**
BHW	**Baring Head**	**0.46**	**137**	P	**Pn**	**17 00 44.4**	**+0.2**
BHW				S	**Sn**	**17 00 52.8**	**+0.5**
CAW	**Cannon Point**	**0.46**	**95**	P	**Pn**	**17 00 44.4**	**+0.2**
CAW				S	**Sn**	**17 00 53.4**	**+1.0**
DUWZ	**D'Urville Isla**	**0.48**	**303**	P	**Pn**	**17 00 43.2**	**-1.2**
DUWZ				S	**Sn**	**17 00 51.3**	**-1.5**
TUWZ	**Tuamarina**	**0.53**	**227**	P	**Pn**	**17 00 45.6**	**+0.7**
TUWZ				S	**Sn**	**17 00 54.2**	**+0.6**
OGWZ	**Otaki Gorge**	**0.60**	**65**	P	**Pn**	**17 00 45.9**	**+0.2**
OGWZ				S	**Sn**	**17 00 55.6**	**+0.6**
MSWZ	**Moikau Station**	**0.69**	**120**	P	**Pn**	**17 00 47.0**	**+0.1**
MSWZ				S	**Sn**	**17 00 57.7**	**+0.6**
CMWZ	**Cape Campbell**	**0.70**	**195**	P	**Pn**	**17 00 48.5**	**+1.5**
CMWZ				S	**Sn**	**17 01 00.2**	**+2.9**
BSWZ	**Blackbirch Sta**	**0.78**	**214**	P	**Pn**	**17 00 48.4**	**+0.4**
BSWZ				S	**Sn**	**17 00 59.9**	**+1.0**
PLWZ	**Palliser**	**0.78**	**130**	P	**Pn**	**17 00 48.1**	**0.0**
PLWZ				S	**Sn**	**17 00 59.9**	**+0.7**
MTW	**Mount Morrison**	**0.80**	**97**	P	**Pn**	**17 00 48.0**	**-0.1**
MTW				S	**Sn**	**17 00 59.8**	**+0.4**
PAWZ	**Paruwai Farm**	**0.80**	**114**	P	**Pn**	**17 00 48.2**	**0.0**
HOWZ	**Holdsworth Sta**	**0.82**	**78**	P	**Pn**	**17 00 48.4**	**-0.1**
HOWZ				S	**Sn**	**17 01 00.4**	**+0.5**
NNZ	**Nelson**	**0.83**	**259**	P	**Pn**	**17 00 48.0**	**-0.5**
NNZ				S	**Sn**	**17 00 59.9**	**-0.1**
MRZ	**Mangatainoka R**	**0.94**	**65**	P	**Pn**	**17 00 49.9**	**-0.2**
MRZ				S	**Sn**	**17 01 02.8**	**+0.1**
TRWZ	**Traveller**	**0.99**	**110**	P	**Pn**	**17 00 50.8**	**+0.2**
OHWZ	**Ohakea**	**1.08**	**38**	P	**Pn**	**17 00 52.4**	**+0.6**
TMWZ	**Te Maipa**	**1.09**	**93**	P	**Pn**	**17 00 51.7**	**-0.3**
TIWZ	**Tintock**	**1.12**	**75**	P	**Pn**	**17 00 52.1**	**-0.4**
TKNZ	**Takaka Hill**	**1.13**	**271**	P	**Pn**	**17 00 52.5**	**0.0**
POWZ	**Post Office Ro**	**1.21**	**56**	P	**Pn**	**17 00 52.9**	**-0.6**
PRWZ	**Pori Road**	**1.26**	**67**	P	**Pn**	**17 00 53.9**	**-0.3**
MRNZ	**Matariki Terra**	**1.32**	**255**	P	**Pn**	**17 00 55.5**	**+0.4**
CPWZ	**Castlepoint**	**1.33**	**84**	P	**Pn**	**17 00 55.6**	**+0.4**
THZ	**Tophouse**	**1.36**	**239**	P	**Pn**	**17 00 55.7**	**0.0**
WAZ	**Wanganui**	**1.37**	**17**	P	**Pn**	**17 00 56.5**	**+0.8**
BFZ	**Birch Farm**	**1.41**	**75**	P	**Pn**	**17 00 55.2**	**-1.1**
BFZ	**Birch Farm**	**1.41**	**75**	S	**Sn**	**17 01 13.6**	**-0.3**
BFZ	**Birch Farm**	**1.41**	**75**	P	**Pn**	**17 00 55.4**	**-0.9**
QRZ	**Quartz Range**	**1.48**	**279**	P	**Pn**	**17 00 56.7**	**-0.5**
QRZ	**Quartz Range**	**1.48**	**279**	S	**Sn**	**17 01 15.6**	**+0.1**
QRZ	**Quartz Range**	**1.48**	**279**	P	**Pn**	**17 00 56.9**	**-0.3**
KHLK	**Kaihoka Lakes**	**1.49**	**289**	P	**Pn**	**17 00 56.8**	**-0.5**
DVHZ	**Dannevirke**	**1.51**	**60**	P	**Pn**	**17 00 56.6**	**-1.1**
KHZ	**Kahutara**	**1.51**	**207**	P	**Pn**	**17 00 57.6**	**0.0**
KHZ	**Kahutara**	**1.51**	**207**	P	**Pn**	**17 00 58.0**	**+0.4**
TSZ	**Takapari Road**	**1.53**	**49**	P	**Pn**	**17 00 57.3**	**-0.6**
LREZ	**Lake Rotokare**	**1.60**	**359**	P	**Pn**	**17 00 59.3**	**+0.4**
ANWZ	**Angora Road**	**1.65**	**69**	P	**Pn**	**17 00 58.8**	**-0.7**
NMEZ	**Namu Road**	**1.71**	**345**	P	**Pn**	**17 01 00.9**	**+0.6**
PREZ	**Palmer Road**	**1.74**	**352**	P	**Pn**	**17 01 01.7**	**+0.9**
PNHZ	**Pukenui**	**1.76**	**50**	P	**Pn**	**17 00 60.0**	**-1.1**
KHEZ	**Kahui Hut**	**1.80**	**349**	P	**Pn**	**17 01 01.9**	**+0.2**
KHEZ	**Kahui Hut**	**1.80**	**349**	S	**Sn**	**17 01 24.9**	**+1.4**
KHEZ	**Kahui Hut**	**1.80**	**349**	P	**Pn**	**17 01 02.0**	**+0.2**
WPHZ	**Waipukurau**	**1.81**	**157**	P	**Pn**	**17 01 01.0**	**-0.7**
NEZ	**North Egmont**	**1.82**	**351**	P	**Pn**	**17 01 02.5**	**+0.6**
PRHZ	**Porangahau**	**1.84**	**65**	P	**Pn**	**17 01 00.9**	**-1.2**
MTVZ	**Mangateitei**	**1.85**	**25**	P	**Pn**	**17 01 02.8**	**+0.4**
NBEZ	**Newall Road No**	**1.85**	**346**	P	**Pn**	**17 01 02.4**	**+0.2**
DREZ	**Durham Road**	**1.89**	**354**	P	**Pn**	**17 01 03.3**	**+0.6**
PKVZ	**Pokaka**	**1.90**	**21**	P	**Pn**	**17 01 03.7**	**+0.7**
MOVZ	**Moawhango**	**1.93**	**31**	P	**Pn**	**17 01 03.3**	**-0.1**
WNVZ	**Wahianoa**	**1.95**	**27**	P	**Pn**	**17 01 03.9**	**+0.2**
VRZ	**Vera Road**	**1.95**	**7**	P	**Pn**	**17 01 04.0**	**+0.3**
TRVZ	**Turoa**	**1.96**	**26**	P	**Pn**	**17 01 04.2**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.98**	**26**	P	**Pn**	**17 01 04.5**	**+0.3**
MAVZ	**Matarangi**	**1.99**	**26**	P	**Pn**	**17 01 06.8**	**+2.4**
FWVZ	**Far West T-bar**	**2.00**	**25**	P	**Pn**	**17 01 04.4**	**0.0**
TUVZ	**Tukino**	**2.02**	**27**	P	**Pn**	**17 01 04.8**	**+0.1**
KRHZ	**Kereru**	**2.04**	**46**	P	**Pn**	**17 01 03.9**	**-1.0**
COVZ	**Chateau Observ**	**2.04**	**24**	P	**Pn**	**17 01 05.5**	**+0.5**
NGZ	**Ngauruhoe**	**2.09**	**25**	P	**Pn**	**17 01 05.8**	**+0.2**
SNVZ	**South Ngauruho**	**2.09**	**26**	P	**Pn**	**17 01 05.8**	**+0.2**
DSZ	**Denniston Nort**	**2.10**	**250**	P	**Pn**	**17 01 05.7**	**-0.1**
PXZ	**Pawanui**	**2.11**	**61**	P	**Pn**	**17 01 04.5**	**-1.2**
OTVZ	**Oturere**	**2.12**	**26**	P	**Pn**	**17 01 06.1**	**+0.1**
NNVZ	**North Ngauruho**	**2.13**	**25**	P	**Pn**	**17 01 06.3**	**+0.1**
TWVZ	**Taurewa**	**2.13**	**21**	P	**Pn**	**17 01 06.2**	**0.0**
WTVZ	**West Tongariro**	**2.13**	**24**	P	**Pn**	**17 01 06.3**	**0.0**
ETVZ	**East Tongariro**	**2.16**	**27**	P	**Pn**	**17 01 06.6**	**0.0**
KRVZ	**Karewarewa**	**2.17**	**25**	P	**Pn**	**17 01 07.1**	**+0.4**
TMVZ	**Te Maari**	**2.17**	**27**	P	**Pn**	**17 01 06.7**	**0.0**
GVZ	**Greta Valley S**	**2.17**	**209**	P	**Pn**	**17 01 06.3**	**-0.4**
NTVZ	**North Tongarir**	**2.18**	**26**	P	**Pn**	**17 01 07.0**	**+0.2**
KWHZ	**Kaweka Forest**	**2.23**	**43**	P	**Pn**	**17 01 11.1**	**+3.7**
KAHZ	**Kahuranaki**	**2.24**	**56**	P	**Pn**	**17 01 06.5**	**-1.2**
KATZ	**Kakaramea**	**2.30**	**25**	P	**Pn**	**17 01 09.1**	**+0.6**
MCHZ	**McNeill Hill**	**2.36**	**47**	P	**Pn**	**17 01 12.9**	**+3.7**
LTZ	**Lake Taylor**	**2.36**	**223**	P	**Pn**	**17 01 08.9**	**-0.4**
BKZ	**Black Stump Fm**	**2.46**	**40**	P	**Pn**	**17 01 09.4**	**-1.2**
BKZ	**Black Stump Fm**	**2.46**	**40**	P	**Pn**	**17 01 09.2**	**-1.4**
WATZ	**Wairara**	**2.55**	**23**	P	**Pn**	**17 01 14.4**	**+2.5**
HIZ	**Hauiti**	**2.57**	**7**	P	**Pn**	**17 01 12.5**	**+0.4**
HIZ	**Hauiti**	**2.57**	**7**	S	**Sn**	**17 01 42.9**	**+0.8**
HIZ	**Hauiti**	**2.57**	**7**	P	**Pn**	**17 01 12.4**	**+0.4**
NMHZ	**Naumai**	**2.67**	**43**	P	**Pn**	**17 01 17.0**	**+3.4**
MRHZ	**Matea Rd**	**2.69**	**35**	P	**Pn**	**17 01 12.0**	**-1.8**
INZ	**Inchbonnie**	**2.79**	**233**	P	**Pn**	**17 01 14.9**	**-0.2**
OKCZ	**Okains Bay**	**2.85**	**201**	P	**Pn**	**17 01 14.7**	**-1.2**
TLZ	**Tolley Road**	**2.86**	**17**	P	**Pn**	**17 01 16.1**	**0.0**
MTHZ	**Maungataniwha**	**2.87**	**40**	P	**Pn**	**17 01 14.5**	**-1.8**
OXZ	**Oxford**	**2.88**	**218**	P	**Pn**	**17 01 14.7**	**-1.7**
RAHZ	**Arahi**	**2.95**	**44**	P	**Pn**	**17 01 20.4**	**+3.1**
MQZ	**McQueen's Vall**	**2.96**	**206**	P	**Pn**	**17 01 15.5**	**-1.9**
RTZ	**Ruatahuna**	**3.13**	**39**	P	**Pn**	**17 01 17.8**	**-2.0**
MHGZ	**Mahia Peninsul**	**3.27**	**55**	P	**Pn**	**17 01 19.1**	**-2.5**
RIGZ	**Rimuhau**	**3.47**	**48**	P	**Pn**	**17 01 26.2**	**+1.7**
URZ	**Urewera**	**3.47**	**37**	P	**Pn**	**17 01 22.6**	**-1.8**
RPZ	**Rata Peaks**	**3.65**	**222**	P	**Pn**	**17 01 28.0**	**+1.1**
RPZ	**Rata Peaks**	**3.65**	**222**	P	Pn	17 01 32.0	+5.1
TWGZ	**Tauwhareparae**	**3.97**	**44**	P	**Pn**	**17 01 29.4**	**-1.9**
RUGZ	**Raukumara Rang**	**3.98**	**40**	P	**Pn**	**17 01 30.4**	**-1.0**
MKAZ	**Moumakai**	**4.00**	**8**	P	**Pn**	**17 01 31.3**	**-0.3**
AWAZ	**Awhitu Peninsu**	**4.00**	**2**	P	**Pn**	**17 01 31.9**	**+0.3**
TMZ	**Timaru**	**4.18**	**216**	P	**Pn**	**17 01 33.0**	**-1.1**
HAZ	**Te Kaha**	**4.19**	**39**	P	**Pn**	**17 01 31.8**	**-2.5**
FOZ	**Fox Glacier**	**4.23**	**233**	P	**Pn**	**17 01 34.4**	**-0.3**
WIAZ	**Waiheke Island**	**4.30**	**7**	P	**Pn**	**17 01 36.2**	**+0.4**
ODZ	**Otahua Downs**	**4.86**	**214**	P	**Pn**	**17 01 42.9**	**-0.5**
ODZ	**Otahua Downs**	**4.86**	**214**	P	**Pn**	**17 01 41.5**	**-1.8**
JCZ	**Jackson Bay**	**5.15**	**232**	P	**Pn**	**17 01 48.9**	**+1.4**
JCZ	**Jackson Bay**	**5.15**	**232**	P	**Pn**	**17 01 46.5**	**-1.0**
CTZ	**Chatham Island**	**7.13**	**115**	P	**Pn**	**17 02 12.6**	**-1.8**

*THE **20** 17:04:14.9, 37.°71N×29.°88E, h0km±2km, ML4.2/5, Error ellipse: s-maj=6.2km s-min=1.5km az=40.0*
*ISK **20** 17:04:16.8, 37.°39N×29.°46E, h3km, ML4.1/26*
*AFAD **20** 17:04:17.7, 37.°39N×29.°44E, h7km±2km, MW4.1*
*IDC **20** 17:04:17.0±0.7, 37.°54N×29.°44E, h0km, mb3.9/14, mbtmp3.9/23, ML3.5/7, MS3.6/1, Error ellipse: s-maj=14.7km s-min=12.4km az=176.0*
*MOS **20** 17:04:17.1±1.3, 37.°52N×29.°49E, h11km, mb4.4/10, Error ellipse: s-maj=7.2km s-min=5.3km az=77.3*
*HLW **20** 17:04:17.9, 37.°52N×29.°29E, h23km±10km, Md4.8, Ml3.8*
*GII **20** 17:04:17.3±0.0, 37.°39N±0.°02×29.°466E±0.°006, h7km, Mws4.0, confirmed*
ISC 20 17:04:17.8±0.7,**37.°41N**±0.°02×**29.°46E**±0.°02,**h10**km±4km, **n192**,σ1$56/234,**mb4.1**/23,**20C-10D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.14**	**298**	Pg	**Pg**	**17 04 20.8**	**-0.3**
APMY				Sg	**Sg**	**17 04 23.5**	**+0.1**
GOLH	**Golhisar**	**0.19**	**154**	P	**Pg**	**17 04 21.9**	**0.0**
GOLH				S	**Sg**	**17 04 24.6**	**-0.1**
GOLH				*i* AML	AML	17 04 26.0	
	comp=E,5μm,0.2s						
GOLH				*i* AML	AML	17 04 31.0	
	comp=N,3μm,0.3s						
CAEL	**Denizli, Camel**	**0.30**	**201**	P	**Pg**	**17 04 23.6**	**-0.4**
CAEL				S	**Sb**	**17 04 29.6**	**-0.9**
CAEL				*i* AML	AML	17 04 31.0	
	comp=N,2μm,0.6s						
CAEL				*i* AML	AML	17 04 35.0	
	comp=E,3μm,0.9s						
INCE	**Denizli-Bozkur**	**0.32**	**17**	P	**Pg**	**17 04 24.1**	**-0.1**
INCE				S	**Sb**	**17 04 30.1**	**-0.8**
INCE				*i* AML	AML	17 04 31.0	
	comp=N,3μm,0.3s						
INCE				*i* AML	AML	17 04 31.0	
	comp=E,2μm,0.4s						
DNZT	**Denizli-Tavas-**	**0.37**	**250**	P	**Pg**	**17 04 24.8**	**-0.4**
DNZT				*i* AML	AML	17 04 30.0	
	comp=E,8μm,0.4s						
DNZT				S	**Sb**	**17 04 30.6**	**-1.7**
DNZT				*i* AML	AML	17 04 31.0	
	comp=N,2μm,0.5s						
DNIZ	**Denizli-Tavas-**	**0.40**	**303**	P	**Pg**	**17 04 25.7**	**-0.1**
DNIZ				*i* AML	AML	17 04 32.0	
	comp=N,4μm,0.2s						
DNIZ				*i* AML	AML	17 04 32.0	
	comp=E,5μm,0.3s						
DNIZ				S	**Sb**	**17 04 32.1**	**-1.2**
TAVA	**DENIZLI_Tavas**	**0.44**	**278**	P	**Pb**	**17 04 26.5**	**-1.3**
TAVA				S	**Sb**	**17 04 33.0**	**-1.4**
TAVA				*i* AML	AML	17 04 33.0	
	comp=E,6μm,0.3s						
TAVA				*i* AML	AML	17 04 35.0	
	comp=N,4μm,0.2s						
CAME	**Cameli-Denizli**	**0.48**	**195**	Pg	**Pg**	**17 04 26.4**	**-0.8**
CAME				Sg	**Sg**	**17 04 33.9**	**+0.4**
BRDR	**BURDUR-Merkez**	**0.56**	**59**	P	**Pg**	**17 04 28.8**	**+0.1**
BRDR				*i* AML	AML	17 04 44.0	
	comp=E,9μm,0.6s						
BRDR				*i* AML	AML	17 04 47.0	
	comp=N,6μm,0.6s						
KNIK	**Mula-Seydike**	**0.57**	**171**	P	**Pg**	**17 04 28.3**	**-0.6**
KNIK				S	**Sb**	**17 04 38.0**	**-0.1**
KNIK				*i* AML	AML	17 04 40.0	
	comp=E,2μm,0.3s						
KNIK				*i* AML	AML	17 04 47.0	
	comp=N,2μm,0.6s						
BASM	**Basmaki-Afyon**	**0.69**	**42**	Pg	**Pg**	**17 04 30.7**	**-0.6**
BASM				Sg	**Sg**	**17 04 41.4**	**+1.0**
SABU	**Mula-Dalaman**	**0.70**	**214**	P	**Pg**	**17 04 30.6**	**-0.8**
SABU				S	**Sb**	**17 04 42.5**	**+0.6**
SABU				*i* AML	AML	17 04 43.0	
	comp=N,5μm,0.6s						
SABU				*i* AML	AML	17 04 44.0	
	comp=E,5μm,0.9s						
ELL	**Elmali**	**0.75**	**151**	Pg	**Pg**	**17 04 31.6**	**-0.7**
ELL				Sg	**Sg**	**17 04 42.5**	**+0.4**
ELL	**Elmali**	**0.75**	**151**	P	**Pg**	**17 04 32.5**	**+0.2**
KORT	**Korkueli**	**0.82**	**119**	Pg	**Pg**	**17 04 32.7**	**-1.0**
KORT				Sg	**Sg**	**17 04 45.4**	**+1.0**
FETY	**Fethiye**	**0.83**	**201**	Pg	**Pg**	**17 04 32.7**	**-1.1**
DALY	**Dalyan (Mula)**	**0.87**	**228**	Pg	**Pg**	**17 04 33.4**	**-1.2**
BUCA	**Burdur, Bucak-**	**0.88**	**95**	P	**Pg**	**17 04 35.3**	**+0.4**
BUCA				S	**Sn**	**17 04 50.5**	**+1.2**
BUCA				*i* AML	AML	17 04 53.0	
	comp=N,2μm,0.5s						
BUCA				*i* AML	AML	17 04 56.0	
	comp=E,3μm,0.9s						
BCK	**Bucak**	**0.90**	**86**	Pg	**Pg**	**17 04 35.5**	**+0.3**
BCK	**Bucak**	**0.90**	**86**	P	**Pg**	**17 04 35.5**	**+0.3**
KHL	**Karahalli**	**0.92**	**3**	Pg	**Pb**	**17 04 36.4**	**+0.5**
MULA	**Mugla, Merkez-**	**0.92**	**261**	P	**Pb**	**17 04 35.5**	**-0.4**
MULA				S	**Sn**	**17 04 49.1**	**-1.1**
MULA				*i* AML	AML	17 04 53.0	
	comp=E,4μm,0.9s						
MULA				*i* AML	AML	17 04 56.0	
	comp=N,2μm,0.4s						
PASA	**Karahalli, USA**	**0.94**	**1**	P	**Pg**	**17 04 35.2**	**-0.8**
PASA				S	**Sb**	**17 04 50.0**	**+1.1**
PASA				*i* AML	AML	17 04 53.0	
	comp=N,3μm,0.8s						
PASA				*i* AML	AML	17 04 56.0	
	comp=E,5μm,0.8s						
ISP	**Isparta**	**0.94**	**64**	Pg	**Pg**	**17 04 36.0**	**0.0**
ISP	**Isparta**	**0.94**	**64**	*i* P	**Pg**	**17 04 35.0**	**-1.0**
ISP	**Isparta**	**0.94**	**64**	P	**Pg**	**17 04 35.2**	**-0.8**
ISP				S	**Sg**	**17 04 48.9**	**+0.7**
ESEN	**Aydn-Nazilli**	**0.96**	**294**	P	**Pb**	**17 04 36.0**	**-0.6**
ESEN				S	**Sb**	**17 04 48.9**	**-0.6**
ESEN				*i* AML	AML	17 04 57.0	
	comp=E,2μm,0.6s						
ESEN				*i* AML	AML	17 04 58.0	
	comp=N,3μm,1.2s						
YER	**Yerkesik**	**0.98**	**254**	Pg	**Pb**	**17 04 36.5**	**-0.4**
YER	**Yerkesik**	**0.98**	**254**	P	**Pb**	**17 04 36.4**	**-0.4**
KZIL	**AFYON_Kizioren**	**1.01**	**32**	P	**Pg**	**17 04 37.2**	**0.0**
KZIL				S	**Sn**	**17 04 54.5**	**+2.1**
KZIL				*i* AML	AML	17 04 57.0	
	comp=E,5μm,0.5s						
KZIL				*i* AML	AML	17 05 00.0	
	comp=N,6μm,0.6s						
NAZL	**Nazilli-Aydin**	**1.08**	**301**	Pn	**Pb**	**17 04 38.2**	**-0.4**
ANTB	**Antalya**	**1.08**	**118**	Pg	**Pg**	**17 04 38.3**	**-0.3**
TURN	**Turunc**	**1.16**	**237**	Pn	**Pb**	**17 04 39.6**	**-0.3**
TURN	**Turunc**	**1.16**	**237**	P	**Pb**	**17 04 39.7**	**-0.3**
TURN				S	**Sn**	**17 04 59.8**	**+3.9**
TURN				*i* AML	AML	17 05 01.0	
	comp=E,2μm,0.6s						
TURN				*i* AML	AML	17 05 02.0	
	comp=N,2μm,0.6s						
AKAS	**Kas**	**1.18**	**174**	Pn	**Pg**	**17 04 39.9**	**-0.6**
AKAS	**Kas**	**1.18**	**174**	P	**Pb**	**17 04 40.6**	**+0.3**
AKAS				*i* AML	AML	17 05 05.0	
	comp=E,3μm,0.8s						
AKAS				*i* AML	AML	17 05 10.0	
	comp=N,5μm,1.4s						
KEMT	**Kemer-ANTALYA**	**1.19**	**132**	Pn	**Pg**	**17 04 40.6**	**-0.1**
DEMR	**Demre-Antalya**	**1.22**	**163**	Pn	**Pb**	**17 04 40.6**	**-0.4**
KSL	**Kastellorizon**	**1.26**	**175**	P	**Pg**	**17 04 42.5**	**+0.5**
KSL				S	**Sn**	**17 05 04.5**	**+6.1**
	4μm,0.9s						
AKUM	**Antalya-Kumluc**	**1.29**	**146**	P	**Pg**	**17 04 43.6**	**+0.9**
AKUM				S	**Sn**	**17 05 04.2**	**+4.9**
AKUM				*i* AML	AML	17 05 08.0	
	comp=N,1μm,1.3s						
AKUM				*i* AML	AML	17 05 17.0	
	comp=E,1μm,0.8s						
MLSB	**Milas**	**1.34**	**266**	Pn	**Pg**	**17 04 43.2**	**-0.5**
MLSB				Sn	**Sn**	**17 05 02.8**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**294**	Pn	**Pg**	**17 04 43.6**	**-0.3**
ODEM	**Odemis-Izmir**	**1.40**	**309**	Pn	**Pb**	**17 04 43.8**	**-0.3**
SHUT	**Suhut-Afyon**	**1.43**	**37**	Pn	**Pn**	**17 04 44.4**	**+0.4**
DATC	**Datca-Mugla**	**1.58**	**246**	Pn	**Pb**	**17 04 46.4**	**-0.7**
ARG	**Arkhangelos**	**1.60**	**222**	Pn	**Pb**	**17 04 46.6**	**-0.8**
ARG	**Arkhangelos**	**1.60**	**222**	P	**Pg**	**17 04 48.6**	**+0.1**
ARG				S	**Sg**	**17 05 16.1**	**+6.9**
	4μm,0.7s						
ARG	**Arkhangelos**	**1.60**	**222**	P	**Pg**	**17 04 48.6**	**+0.1**
SHAP	**Saphane-Kutahy**	**1.62**	**354**	Pn	**Pn**	**17 04 47.3**	**+0.7**
DAT	**Datca**	**1.65**	**246**	Pn	**Pb**	**17 04 47.5**	**-0.9**
NISR	**Nisiros**	**2.03**	**248**	P	**Pb**	**17 04 54.1**	**-0.6**
NISR				S	**Sg**	**17 05 25.4**	**+2.4**
	3μm,1.0s						
KARP	**Karpathos**	**2.62**	**226**	P	**Pn**	**17 05 02.3**	**+2.0**
KARP				S	**Sg**	**17 05 41.0**	**-1.0**
	2μm,0.8s						
PRK	**Paraskevi**	**3.11**	**307**	P	**Pn**	**17 05 06.5**	**-0.4**
PRK	**Paraskevi**	**3.11**	**307**	P	**Pn**	**17 05 06.5**	**-0.4**
BAND	**Balkesir-Ban**	**3.13**	**341**	⇑P	**Pn**	**17 05 07.8**	**+0.6**
APE	**Apeiranthos**	**3.15**	**265**	⇑P	**Pn**	**17 05 09.1**	**+1.6**
APE	**Apeiranthos**	**3.15**	**265**	*i* P	**Pn**	**17 05 08.4**	**+0.8**
APE	**Apeiranthos**	**3.15**	**265**	P	**Pn**	**17 05 07.3**	**-0.3**
APE	**Apeiranthos**	**3.15**	**265**	S	**Sn**	**17 05 45.2**	**-0.1**
ZKR	**Zakros**	**3.48**	**230**	P	**Pn**	**17 05 14.4**	**+2.4**
ZKR				S	**Sb**	**17 06 02.5**	**+0.7**
	598nm,0.8s						
ANTO	**Ankara**	**3.59**	**46**	⇓P	**Pn**	**17 05 15.6**	**+2.0**
ANTO	**Ankara**	**3.59**	**46**	P	**Pn**	**17 05 15.6**	**+2.0**
KIRS	**Kirsehir-Merke**	**3.91**	**62**	⇑P	**Pn**	**17 05 19.7**	**+1.7**
CSS	**Mathiatis**	**3.97**	**127**	P	**Pn**	**17 05 18.2**	**-0.6**
CSS	**Mathiatis**	**3.97**	**127**	S	**Sn**	**17 06 05.9**	**+0.5**
BR131	**Keskin Array S**	**4.01**	**53**	*i* P	**Pn**	**17 05 21.0**	**+1.5**
BRTR	**Keskin Array B**	**4.01**	**53**	Pn	**Pn**	**17 05 21.1**	**+1.7**
	2.2nm,0.3s,baz=234,slow=14,SNR=128						
BRTR				Sn	**Sn**	**17 06 06.5**	**-0.1**
	0.7nm,0.3s,baz=250,slow=14,SNR=5.0						
BRTR				LR	LR	17 07 18.8	
	comp=Z,714nm,20.3s,baz=248,slow=46						
	24nm,0.6s						
IDI	**Anoyia**	**4.25**	**242**	Pn	**Pn**	**17 05 25.3**	**+2.6**
	22nm,0.3s,baz=58,slow=12,SNR=33						
IDI				Sn	**Sn**	**17 06 13.6**	**+1.2**
	9.5nm,0.3s,baz=290,slow=22,SNR=4.3						
ALN	**Alexandroupoli**	**4.38**	**324**	P	**Pn**	**17 05 26.1**	**+1.7**
OUR	**Ouranopolis**	**5.18**	**306**	P	**Pn**	**17 05 37.8**	**+2.5**
HWQ	**Hawqa**	**6.12**	**119**	*e*P	**Pn**	**17 05 51.0**	**+2.5**
BHL	**Bhannes**	**6.14**	**123**	*e*P	**Pn**	**17 05 50.1**	**+1.4**
DQRL	**Deir Qamar**	**6.20**	**125**	*e*P	**Pn**	**17 05 51.1**	**+1.5**
ZAHL	**Zahle**	**6.32**	**122**	*e*P	**Pn**	**17 05 52.3**	**+1.1**
QRWL	**Qaraoun**	**6.37**	**125**	*e*P	**Pn**	**17 05 52.9**	**+1.1**
DB3	**El Dabaa**	**6.40**	**187**	P	**Pn**	**17 05 52.7**	**+0.6**
FKH	**Fakeheh**	**6.47**	**117**	*e*P	**Pn**	**17 05 55.4**	**+2.2**
RCY	**Rachaya**	**6.50**	**125**	*e*P	**Pn**	**17 05 55.2**	**+1.5**
SHBL	**Chebaa**	**6.54**	**126**	*e*P	**Pn**	**17 05 55.5**	**+1.3**
MMA0B	**Mount Meron ar**	**6.55**	**130**	P	**Pn**	**17 05 54.0**	**-0.3**
MMA0B	**Mount Meron ar**	**6.55**	**130**	S	**Sn**	**17 07 08.9**	**-0.1**
MMAI	**Mount Meron Ar**	**6.55**	**130**	Pn	**Pn**	**17 05 55.7**	**+1.4**
	19nm,0.5s,baz=313,slow=12,SNR=44						
MMAI				Sn	**Sn**	**17 07 09.9**	**+0.9**
	8.4nm,0.3s,baz=303,slow=28,SNR=6.2						
GEM	**Giv'at Ha'Em**	**6.58**	**128**	P	**Pn**	**17 05 54.1**	**-0.4**
GEM	**Giv'at Ha'Em**	**6.58**	**128**	S	**Sn**	**17 07 09.2**	**-0.4**
OFRI	**`Ofer**	**6.58**	**135**	P	**Pn**	**17 05 54.4**	**-0.4**
OFRI	**`Ofer**	**6.58**	**135**	S	**Sn**	**17 07 09.6**	**-0.3**
NATI	**Neve Ativ**	**6.59**	**127**	P	**Pn**	**17 05 54.8**	**+0.1**
NATI	**Neve Ativ**	**6.59**	**127**	S	**Sn**	**17 07 10.0**	**+0.1**
ICOR	**Ion Corvin**	**6.82**	**350**	⇓P	**Pn**	**17 05 59.6**	**+1.7**
KSHT	**Keshet**	**6.82**	**128**	P	**Pn**	**17 05 58.1**	**0.0**
KSHT	**Keshet**	**6.82**	**128**	S	**Sn**	**17 07 15.6**	**-0.1**
SLTI	**Sal'it**	**6.90**	**137**	P	**Pn**	**17 05 58.6**	**-0.4**
SLTI	**Sal'it**	**6.90**	**137**	S	**Sn**	**17 07 16.9**	**-0.7**
MMLI	**Mount Malkishu**	**6.97**	**134**	P	**Pn**	**17 05 59.7**	**-0.3**
MMLI	**Mount Malkishu**	**6.97**	**134**	S	**Sn**	**17 07 19.1**	**-0.3

comp=Z,36nm,2.3s
MOS Moscow 19.15 14 *e*P **Pn 17 08 43.0 +1.0**
RAYN Ar Rayn 19.52 131 P **Pn 17 08 48.6 +1.9**
RAYN pmax pmax
comp=Z,1.0nm,1.1s
FINES FINESS Array B 24.15 356 P **P 17 09 34.0 +0.2**
comp=Z,3.5nm,0.7s,baz=159,slow=11,SNR=9.7
comp=Z,3.5nm,0.7s
KLMR Klimovskoe 24.32 12 *e*P **P 17 09 32.3 -3.0**
KIRV Kirov 24.86 25 *i*P **P 17 09 39.5 -0.8**
ESDC Sonseca Array 26.16 285 P **P 17 09 52.7 +0.4**
comp=Z,1.4nm,0.8s,baz=86,slow=9.8,SNR=8.4
comp=Z,1.4nm,0.8s
NOA NORSAR Array B 26.30 340 P **P 17 09 51.6 -1.8**
comp=Z,0.7nm,0.7s,baz=139,slow=6.7,SNR=3.3
comp=Z,0.7nm,0.7s
ARTI Arti 27.09 36*c i*P **P 17 10 00.9 +0.5**
ARTI 17 10 45.9
ARTI S **S 17 14 42.4 +4.1**
ARTI SS **SnSn 17 15 49.3 +4.7**
ARTI pmax pmax
comp=Z,10.0nm,1.7s
AAK Ala-Archa 34.57 67 *i*P **P 17 11 05.2 -1.6**
AAK pmax pmax
comp=Z,8.0nm,2.0s
TORD Torodi Ar. Bea 34.60 233 P **P 17 11 07.7 +0.6**
comp=Z,51nm,0.3s,baz=37,slow=8.9,SNR=1.4
KURBB Kurchatov Arra 37.01 53 P **P 17 11 27.8 +0.4**
comp=Z,2.3nm,0.8s,baz=275,slow=8.7,SNR=9.1
KURBB PcP **PcP 17 13 48.1 -0.1**
comp=Z,0.2nm,0.7s,baz=253,slow=4.9,SNR=1.9
comp=Z,2.3nm,0.8s
KURK Kurchatov 37.06 53 *i*P **P 17 11 28.1 +0.2**
KURK pmax pmax
comp=Z,8.0nm,1.9s
MBAR Mbarara 37.84 178 *i*P **P 17 11 31.5 -3.4**
MBAR pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 39.64 59*c e*P **P 17 11 49.5 -0.2**
MKAR Makanchi Array 39.64 59 P **P 17 11 50.2 +0.6**
comp=Z,1.0nm,0.7s,baz=283,slow=5.7,SNR=13
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 40.94 48 P **P 17 11 59.3 -1.0**
comp=Z,0.5nm,0.4s,baz=232,slow=7.1,SNR=3.0
comp=Z,0.5nm,0.4s
NRIK Noril'sk 44.37 26 P **P 17 12 28.0 +0.1**
comp=Z,1.3nm,0.6s,baz=216,slow=3.9,SNR=4.8
comp=Z,1.3nm,0.6s
NRIK Noril'sk 44.37 26*c e*P **P 17 12 28.7 +0.8**
NRIK pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 55.37 53 P **P 17 13 53.0 +0.9**
comp=Z,0.2nm,0.5s,baz=284,slow=5.8,SNR=1.5
comp=Z,0.2nm,0.5s
SONM Songino Array 55.37 53 P **P 17 13 53.0 +0.9**
TIXI Tiksi 57.83 22 *i*P **P 17 14 06.9 -2.0**
TIXI pmax pmax
comp=Z,6.0nm,2.0s
YAK Yakutsk 62.17 32 *i*P **P 17 14 36.4 -2.5**
YAK pmax pmax
comp=Z,17nm,2.5s
CMAR Chiang Mai Arr 62.92 87 P **P 17 14 44.2 -0.4**
comp=Z,0.4nm,0.3s,baz=304,slow=6.2,SNR=5.0
comp=Z,0.4nm,0.3s
SCHQ Schefferville 63.71 320 P **P 17 14 48.5 -0.8**
comp=Z,1.9nm,0.8s,baz=279,slow=13,SNR=1.9
comp=Z,1.9nm,0.8s
BILL Bilibino 70.00 16*c e*P **P 17 15 28.7 -0.4**
BILL pmax pmax
comp=Z,7.0nm,2.5s
MA2 Magadan 71.94 27*c e*P **P 17 15 41.5 +0.5**
MA2 pmax pmax
comp=Z,5.0nm,1.7s
YKA Yellowknife Ar 76.33 344 P **P 17 16 07.2 +0.6**
comp=Z,1.1nm,1.0s,baz=28,slow=5.4,SNR=12
comp=Z,1.1nm,1.0s
YKA Yellowknife Ar 76.33 344 *i*P **P 17 16 07.1 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 78.12 358 P **P 17 16 17.0 +0.4**
comp=Z,0.5nm,1.0s,baz=307,slow=2.9,SNR=4.6
comp=Z,0.5nm,1.0s
BDFB Brasilia 89.75 250 P **P 17 17 19.1 +2.3**
comp=Z,2.0nm,0.4s,baz=69,slow=9.8,SNR=3.8
comp=Z,2.0nm,0.4s
PDAR Pinedale Array 91.92 331 P **P 17 17 26.5 -0.3**
comp=Z,0.3nm,0.6s,baz=34,slow=4.3,SNR=3.2
comp=Z,0.3nm,0.6s

AFAD 20 17:06:50.5,37.°42N×29.°45E,h7km±2km,ML2.1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.20**	**154**	P	Pg	17 06 54.9	+0.3
GOLH	comp=N,665nm,0.4s			*i* AML	AML	17 06 58.0	
GOLH				S	Sg	17 06 58.6	+1.3
GOLH	comp=E,1μm,0.5s			*i* AML	AML	17 06 59.0	
CAEL	**Denizli, Camel**	**0.31**	**199**	P	Pg	17 06 56.8	+0.1
CAEL				S	Sg	17 07 02.2	+1.3
CAEL	comp=E,506nm,0.6s			*i* AML	AML	17 07 05.0	
CAEL	comp=N,401nm,0.9s			*i* AML	AML	17 07 10.0	
DNZT	**Denizli-Tavas-**	**0.37**	**248**	P	Pg	17 06 57.9	+0.2
DNZT				P	Pb	17 06 58.0	-1.4
DNZT				S	Sg	17 07 04.0	+1.4
DNZT	comp=N,252nm,0.4s			*i* AML	AML	17 07 04.0	
DNZT	comp=E,139nm,0.3s			*i* AML	AML	17 07 04.0	
DNZT	comp=N,259nm,0.4s			*i* AML	AML	17 07 04.0	
DNZT	comp=E,147nm,0.3s			*i* AML	AML	17 07 04.0	
TAVA	**DENIZLI_Tavas**	**0.43**	**276**	P	Pg	17 06 59.5	+0.6
TAVA	comp=N,131nm,0.1s			*i* AML	AML	17 07 06.0	
TAVA				S	Sb	17 07 06.2	-1.0
TAVA	comp=E,78nm,0.5s			*i* AML	AML	17 07 07.0	

ISK 20 17:07:29.3,37.°34N×29.°41E,h5km,ML1.4/5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.16**	**327**	Pg	Pg	17 07 32.9	+0.4
CAME	**Cameli-Denizli**	**0.41**	**192**	Pg	Pb	17 07 38.4	-0.6
BASM	**Basmaki-Afyon**	**0.77**	**41**	Pg	Pb	17 07 45.2	-0.1
DALY	**Dalyan (Mula)**	**0.80**	**229**	Pg	Pb	17 07 45.9	+0.3
NAZL	**Nazilli-Aydin**	**1.08**	**305**	Pn	Pn	17 07 51.3	+0.1

*IDC **20** 17:17:56.2±1.8,37.°00N×29.°50E,h0km,mb3.0/1,*
mbtmp2.9/2,ML2.4/1,Error ellipse: s-maj=107.4km
s-min=23.1km az=142.0
*AFAD **20** 17:18:00.9,37.°42N×29.°43E,h7km±2km,ML2.8*
*ISK **20** 17:18:01.0,37.°40N×29.°38E,h12km,ML2.9/17*
ISC 20 17:18:01.2±0.8,37.°39N±0.°03×29.°41E±0.°03,h12km±6km,
n25,σ0°70/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.12**	**312**	Pg	**Pg**	**17 18 03.8**	**-0.6**
APMY				Sg	**Sg**	**17 18 06.4**	**-0.2**
GOLH	**Golhisar**	**0.20**	**143**	P	**Pg**	**17 18 05.2**	**-0.3**
GOLH				S	**Sg**	**17 18 09.3**	**+0.7**
GOLH	comp=E,2μm,0.4s			*i* AML	AML	17 18 11.0	
GOLH	comp=N,2μm,0.6s			*i* AML	AML	17 18 14.0	
CAEL	**Denizli, Camel**	**0.28**	**195**	P	**Pg**	**17 18 07.3**	**+0.3**
CAEL				S	**Sb**	**17 18 12.7**	**-0.3**
CAEL	comp=E,2μm,0.5s			*i* AML	AML	17 18 15.0	
CAEL	comp=N,2μm,0.6s			*i* AML	AML	17 18 16.0	
DNZT	**Denizli-Tavas-**	**0.33**	**250**	P	**Pg**	**17 18 08.1**	**+0.2**
DNZT				S	**Sg**	**17 18 12.9**	**+0.6**
DNZT	comp=N,956nm,0.6s			*i* AML	AML	17 18 14.0	
DNZT	comp=E,806nm,0.3s			*i* AML	AML	17 18 14.0	
DNIZ	**Denizli-Tavas-**	**0.38**	**308**	P	**Pg**	**17 18 08.6**	**-0.1**
DNIZ				S	**Sg**	**17 18 14.6**	**+0.8**
DNIZ	comp=N,2μm,0.6s			*i* AML	AML	17 18 15.0	
DNIZ	comp=E,2μm,0.5s			*i* AML	AML	17 18 15.0	
TAVA	**DENIZLI_Tavas**	**0.40**	**280**	P	**Pg**	**17 18 09.5**	**+0.3**
TAVA				S	**Sg**	**17 18 15.9**	**+1.2**
TAVA	comp=N,666nm,0.4s			*i* AML	AML	17 18 17.0	
TAVA	comp=E,560nm,0.4s			*i* AML	AML	17 18 17.0	
CAME	**Cameli-Denizli**	**0.46**	**191**	Pg	**Pg**	**17 18 09.7**	**-0.5**
CAME				Sg	**Sb**	**17 18 17.6**	**-0.5**
BASM	**Basmaki-Afyon**	**0.73**	**44**	Pg	**Pb**	**17 18 15.6**	**-0.3**
BASM				Sg	**Sb**	**17 18 27.0**	**+1.1**
ELL	**Elmali**	**0.76**	**148**	Pg	**Pb**	**17 18 16.3**	**-0.1**
ELL				Sg	**Sb**	**17 18 27.7**	**+1.0**
FETY	**Fethiye**	**0.80**	**199**	Pg	**Pb**	**17 18 17.1**	**0.0**
DALY	**Dalyan (Mula)**	**0.84**	**227**	Pg	**Pg**	**17 18 17.2**	**-0.1**
KORT	**Korkueli**	**0.85**	**117**	Pg	**Pb**	**17 18 18.0**	**+0.1**
YER	**Yerkesik**	**0.94**	**254**	Pg	**Pg**	**17 18 18.9**	**-0.4**
BCK	**Bucak**	**0.94**	**86**	Pg	**Pn**	**17 18 19.9**	**-0.4**
ISP	**Isparta**	**0.98**	**64**	Pg	**Pn**	**17 18 20.6**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.05**	**303**	Pg	**Pn**	**17 18 21.3**	**-0.2**
TURN	**Turunc**	**1.12**	**237**	Pn	**Pg**	**17 18 22.6**	**-0.1**
AKAS	**Kas**	**1.17**	**172**	Pn	**Pb**	**17 18 23.6**	**+0.2**
KULA	**Kula-Manisa**	**1.27**	**332**	Pn	**Pn**	**17 18 24.6**	**-0.2**
MLSB	**Milas**	**1.31**	**266**	Pn	**Pn**	**17 18 25.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**295**	Pn	**Pn**	**17 18 25.8**	**+0.1**
ODEM	**Odemis-Izmir**	**1.38**	**310**	Pn	**Pn**	**17 18 26.0**	**-0.3**
BRTR	**Keskin Array B**	**4.05**	**54**	Pn	**Pn**	**17 19 04.6**	**+1.5**
BRTR	0.2nm,0.3s,baz=233,slow=17,SNR=8.2			Sn	**Sn**	**17 19 51.9**	**+1.3**
	0.2nm,0.3s,baz=230,slow=25,SNR=7.1						
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**34.56**	**233**	P	P	17 24 44.9	-5.0
	54nm,0.3s,baz=56,slow=7.4,SNR=1.5						
MKAR	**Makanchi Array**	**39.68**	**59**	P	**P**	**17 25 31.2**	**-1.8**
	0.1nm,0.6s,baz=280,slow=7.6,SNR=2.7						
	0.1nm,0.6s						

IDC 20 17:20:30.4±2.2,0.°68S×127.°16E,h0km,mb3.2/3,
mbtmp3.3/3,Error ellipse: s-maj=159.6km
s-min=28.2km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.39**	**160**	P	P	17 25 09.5	+0.5
	0.5nm,0.4s,baz=339,slow=11,SNR=8.8						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**23.77**	**165**	P	P	17 25 44.5	-0.3
	0.3nm,0.3s,baz=344,slow=11,SNR=16						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**61.42**	**326**	P	P	17 30 48.5	-0.1
	0.1nm,0.4s,baz=112,slow=6.1,SNR=2.4						
	0.1nm,0.4s						

*NEIC **20** 17:25:36.6±2.9,38.°77N±0.°02×112.°58W±0.°03,h5km±1km,*
Error ellipse: s-maj=5.6km s-min=2.9km az=305.0
UUSS 20 17:25:36.8±0.9,38.°73N±0.°04×112.°48W±0.°03,h9km±8km,
ML2.4/8,ML2.5/68(NEIC),Error ellipse: s-maj=5.9km
s-min=2.1km az=152.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	**Three Creeks R**	**0.12**	**167**		Pg	17 25 40.1	+0.3
TCRU					Sg	17 25 42.2	+0.3
TCRU	**Three Creeks R**	**0.12**	**167**	IAML		17 25 42.5	
TCRU	comp=N,2μm,0.2s			IAML		17 25 42.5	
TCRU	comp=E,2μm,0.4s						
PEUT	**Richfield**	**0.31**	**81**		Pg	17 25 43.4	+0.3
MSU	**Marysvale**	**0.32**	**132**		Pg	17 25 43.3	0.0
NMUT	**North Mineral**	**0.36**	**234**		Pg	17 25 44.1	+0.2
NMUT					Sg	17 25 49.0	+0.4
WCU	**Willow Creek**	**0.39**	**52**		Pg	17 25 44.4	-0.1
IMU	**Iron Mountain**	**0.54**	**260**		Pg	17 25 47.5	+0.2
FLU	**Fool Peak**	**0.69**	**20**		Pg	17 25 49.8	-0.4
MTPU	**Mount Pierson**	**0.73**	**161**		Pg	17 25 51.2	+0.4
DWU	**Dry Willow Pea**	**0.74**	**213**		Pg	17 25 51.5	+0.3
SGU	**Sterling**	**0.80**	**55**		Pg	17 25 52.5	+0.4
OWUT	**Old Woman Plat**	**0.83**	**86**		Pg	17 25 53.0	+0.2
LEVU	**Levan**	**0.93**	**34**		Pg	17 25 54.8	0.0
Q16A	**Castle Valley**	**1.04**	**79**		Pg	17 25 56.7	-0.1
Q16A	**Castle Valley**	**1.04**	**79**	IAML		17 26 13.8	
Q16A	comp=E,129nm,0.4s			IAML		17 26 14.0	
Q16A	comp=N,116nm,0.5s						
MMU	**Miners Mountai**	**1.07**	**119**		Pg	17 25 56.9	-0.5
BTU	**Barney Top**	**1.08**	**154**		Pb	17 25 58.1	+0.1
PSUT	**Pine Spring**	**1.09**	**260**		Pg	17 25 57.6	-0.1
PSUT	**Pine Spring**	**1.09**	**260**	IAML		17 26 12.3	
PSUT	comp=E,56nm,0.6s			IAML		17 26 12.4	
PSUT	comp=N,96nm,0.4s						
TMUT	**Trail Mountain**	**1.14**	**60**		Pg	17 25 58.5	-0.3
FSU	**Fish Springs**	**1.22**	**325**		Pb	17 25 59.6	-0.5
DBD	**Des Bee Dove**	**1.23**	**61**		Pb	17 26 00.2	-0.2
SUU	**Santaquin Cany**	**1.28**	**25**		Pn	17 26 00.6	-0.5
PKCU	**Pink Cliffs**	**1.29**	**174**		Pn	17 26 00.7	-0.7
PKCU				IAML		17 26 22.0	
PKCU	comp=E,56nm,0.3s						
ELU	**Electric Lake**	**1.35**	**47**		Pg	17 26 02.7	0.0
MPU	**Maple Canyon**	**1.44**	**27**	Pg	Pn	17 26 02.9	-0.4
MPU				IAML		17 26 24.0	
MPU	comp=E,36nm,0.4s			IAML		17 26 26.0	
MPU	comp=N,36nm,0.3s						
SPR3	**Spring Creek 3**	**1.47**	**281**		Pn	17 26 03.5	-0.3
SPR3	**Spring Creek 3**	**1.47**	**281**	IAML		17 26 27.3	
SPR3	comp=N,37nm,0.4s						
DUG	**Dugway, Tooele**	**1.49**	**350**		Pn	17 26 03.5	-0.4
DUG				IAML		17 26 27.0	
DUG	comp=N,57nm,0.4s						
SRU	**San Rafael Swe**	**1.57**	**75**		Pb	17 26 06.1	-0.1
SRU	**San Rafael Swe**	**1.57**	**75**		Pb	17 26 06.0	-0.3
SRU				IAML		17 26 28.9	
SRU	comp=E,164nm,0.6s			IAML		17 26 29.0	
SRU	comp=N,106nm,0.5s						
P18A	**Preston Nutter**	**1.96**	**62**	IAML		17 26 39.2	
P18A	comp=N,51nm,0.3s			IAML		17 26 40.2	
P18A	comp=E,73nm,0.3s						
BSUT	**Blindstream Ca**	**2.24**	**36**		Pb	17 26 17.8	0.0
U15A	**North Rim**	**2.30**	**176**		Pb	17 26 18.6	0.0
PRN	**Pahroc Range**	**2.42**	**238**		Pb	17 26 20.8	+0.2
PRN				IAML		17 26 55.6	
PRN	comp=E,27nm,0.7s			IAML		17 27 02.5	
PRN	comp=N,26nm,0.5s						
R11B	**Troy Canyon, C**	**2.46**	**262**		Pb	17 26 21.3	0.0
TCUT	**Toone Canyon**	**2.52**	**19**		Pb	17 26 21.1	-1.3
TCUT				IAML		17 26 59.8	
TCUT	comp=N,43nm,0.6s			IAML		17 27 02.0	
TCUT	comp=E,40nm,0.4s						
PV10	**Paradox Valley**	**2.72**	**96**		Pb	17 26 26.3	+0.4
PV23	**Carpenter Ridg**	**2.73**	**95**		Pb	17 26 26.3	+0.2
S11A	**Rachel**	**2.79**	**248**		Pb	17 26 26.7	-0.2
S11A				IAML		17 26 42.3	
S11A	comp=E,30nm,0.1s						
PV11	**David Mesa, Pa**	**2.87**	**98**		Pb	17 26 28.0	-0.3
ELK	**Elko**	**2.93**	**314**	Pg	Pb	17 26 28.0	-1.3
PV07	**Paradox Valley**	**3.02**	**94**		Pb	17 26 30.7	-0.2
PV07				IAML		17 27 12.3	
PV07	comp=N,16nm,0.8s			IAML		17 27 20.0	
PV07	comp=E,18nm,1.0s						
SHPR	**Sheep Range**	**3.07**	**225**		Pn	17 26 23.6	-2.1
PV15	**Paradox Valley**	**3.16**	**96**		Pb	17 26 31.0	-2.3
PV15				IAML		17 27 22.8	
PV15	comp=E,20nm,0.7s			IAML		17 27 23.5	
PV15	comp=N,27nm,0.7s						
WUAZ	**Wupatki**	**3.33**	**164**		Pb	17 26 37.2	+1.1
WUAZ				IAML		17 27 22.9	
WUAZ	comp=N,24nm,0.3s						
TPNV	**Topopah Spring**	**3.47**	**240**		Pn	17 26 30.6	-0.6
TPNV				IAML		17 27 26.7	
TPNV	comp=N,8.2nm,4.6s			IAML		17 27 40.0	
TPNV	comp=N,8.5nm,3.4s						
MVCO	**Mesa Verde**	**3.50**	**114**	IAML		17 27 32.6	
MVCO	comp=N,12nm,1.1s			IAML		17 27 54.7	
MVCO	comp=N,12nm,3.8s						
V12A	**Nelson**	**3.54**	**213**	Pn	Pn	17 26 29.4	-2.8
V12A				Pg	Pg	17 26 42.5	-2.2
V12A				IAML		17 28 14.6	
V12A	comp=N,4.8nm,3.2s						
O20A	**White River Ci**	**3.57**	**66**		Pn	17 26 32.8	+0.2

*JMA **20** 17:28:00.4±0.3,28.°1N±0.°5×128.°0E±0.°6,h13km±2km,*
MV3.4/12,NW OFF OKINAWAJIMA IS
*IDC **20** 17:28:01.2±3.6,27.°72N×127.°34E,h0km,mb3.6/7,*
mbtmp3.6/7,MS3.3/1,Error ellipse: s-maj=212.7km
s-min=21.3km az=65.0
ISC 20 17:27:59.7±1.7,28.°03N±0.°05×128.°05E±0.°05,h3km±11km,
n19,σ0°61/24,mb3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.81**	**145**	*e*P	**Pn**	**17 28 17.4**	**-0.6**
JOKE				*e*S	**Sn**	**17 28 29.3**	**-1.2**
JTK	**Tokunoshima**	**0.83**	**107**	*e*P	**Pb**	**17 28 16.6**	**-0.2**
JTK				S	**Sb**	**17 28 28.5**	**+0.1**
JIH	**Iheya**	**0.99**	**184**	P	**Pn**	**17 28 20.2**	**-0.3**
JIH				*e*S	**Sn**	**17 28 34.8**	**-0.2**
JAMN	**Amaminishikomi**	**1.01**	**78**	P	**Pg**	**17 28 19.6**	**+0.4**
JAMN				*e*S	**Sg**	**17 28 33.0**	**+0.6**
JYRO	**Yoronjima**	**1.06**	**160**	P	**Pn**	**17 28 21.5**	**+0.1**
JYRO				*e*S	**Sn**	**17 28 36.8**	**+0.1**
JOW	**Kunigami**	**1.21**	**171**	LR	LR	17 28 48.2	
	comp=Z,269nm,19.7s,baz=102,slow=39						
JOW	**Kunigami**	**1.21**	**171**	*e*P	**Pn**	**17 28 23.7**	**+0.2**
JOW				*e*S	**Sn**	**17 28 40.6**	**+0.3**
JAM	**Amami Oshima**	**1.42**	**74**	*e*P	**Pn**	**17 28 26.1**	**-0.4**
JAM				*e*S	**Sb**	**17 28 44.8**	**-0.6**
JNTH	**Nagotoyohara**	**1.50**	**181**	*e*P	**Pg**	**17 28 28.5**	**0.0**
JTAJ	**Takarajima**	**1.51**	**42**	*e*P	**Pn**	**17 28 26.5**	**-1.2**
JAGN	**Aguni-jima**	**1.60**	**207**	*e*P	**Pg**	**17 28 29.9**	**-0.6**
DAV	**Davao City (W)**	**20.98**	**187**	LR	LR	17 42 37.6	
	comp=Z,81nm,18.1s,baz=78,slow=42						
SONM	**Songino Array**	**25.98**	**325**	P	**P**	**17 33 34.8**	**+1.1**
	0.9nm,0.8s,baz=132,slow=10,SNR=6.0						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**	**17 35 37.5**	**-0.2**
	0.8nm,0.7s,baz=103,slow=9.7,SNR=9.4						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**40.73**	**322**	P	**P**	**17 35 41.8**	**+0.2**
	0.5nm,0.6s,baz=120,slow=8.8,SNR=2.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.46**	**315**	P	**P**	**17 36 03.7**	**-0.2**
	0.8nm,0.6s,baz=102,slow=8.7,SNR=7.6						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**48.07**	**172**	P	**P**	**17 36 40.2**	**-0.5**
	0.7nm,1.0s,baz=348,slow=7.5,SNR=1.9						
	0.7nm,1.0s						
BVAR	**Borovoye Array**	**48.84**	**317**	P	**P**	**17 36 46.8**	**+0.5**
	0.6nm,0.5s,baz=91,slow=9.1,SNR=5.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**51.70**	**173**	P	**P**	**17 37 09.0**	**+0.7**
	0.2nm,0.8s,baz=352,slow=8.0,SNR=1.5						
	0.2nm,0.8s						

*ISK **20** 17:42:54.3,37.°42N×29.°44E,h6km,ML4.2/69*
*THE **20** 17:42:54.8,37.°56N×29.°70E,h0km,ML4.2/7,Error ellipse:*
s-maj=2.3km s-min=0.7km az=65.0
*MED_RC **20** 17:42:54.0±0.6,37.°41N×29.°45E,h10km,MW4.5/8,*
Moment Tensor Solution.Mantle waves: s8,c9; Duration:
1$0 Moment tensor: Scale 10^{15}Nm; M_{rr}-6.81±.79;
$M_{\theta\theta}$2.69±.96; $M_{\phi\phi}$4.11±.51; $M_{r\theta}$-3.54±1.82; $M_{\theta\phi}$-1.41±.52;
$M_{\phi r}$3.24±1.29; Best double couple: $M_0$7.58000×10^{15}
NP1:ϕ_s331.00000°,δ26.00000°,λ-79.00000°. NP2:
ϕ_s139.00000°,δ65.00000°,λ-95.00000°. Principal axes:
T 6.6100, Plg19.0000°, Azm233.0000°; N 1.9300,
Plg5.0000°, Azm141.0000°; P -8.5500, Plg70.0000°,
Azm38.0000°; nsta1 refers to body waves. nsta2 refers to
surface waves, cutoff=35s.
*MOS **20** 17:42:55.0±1.2,37.°43N×29.°53E,h14km,mb4.5/23 Error*
ellipse: s-maj=5.3km s-min=3.6km az=101.5
*HLW **20** 17:42:55.0,37.°51N×29.°48E,h27km±13km,Ml4.8*
*AFAD **20** 17:42:55.4,37.°41N×29.°42E,h7km±2km,MW4.2*
*NEIC **20** 17:42:56.3±1.5,37.°35N±0.°04×29.°56E±0.°06,h10km±1km,*
mb4.3/18,Error ellipse: s-maj=7.6km s-min=5.9km
az=71.0
*MCSM **20** 17:42:56.3±0.3,37.°N±3.°×29.°9E±.°,h8km,mb4.2,mB4.8,*
MLv4.1,Mw(mB)4.0
*IDC **20** 17:42:58.4±3.3,37.°43N×29.°54E,h25km±23km,mb3.8/14,*
mbtmp3.9/25,ML3.9/8,MS3.7/15,Error ellipse:
s-maj=12.6km s-min=11.2km az=23.0
*GII **20** 17:42:58.5±0.0,37.°31N±0.°02×29.°574E±0.°006,*
h25km,Mws4.3,confirmed
ISC 20 17:42:55.8±0.7,37.°41N±0.°02×29.°45E±0.°02,h10km±4km,
n540,σ1$44/574,mb4.3/41,MS3.8/9,23C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.14**	**299**	Pg	**Pg**	**17 42 58.1**	**-0.9**
GOLH	**Golhisar**	**0.19**	**153**	P	**Pg**	**17 42 59.6**	**-0.2**
GOLH	comp=N,7μm,0.3s			*i* AML	AML	17 43 03.0	
GOLH	comp=E,13μm,0.3s			*i* AML	AML	17 43 03.0	
GOLH				S	**Sg**	**17 43 03.5**	**+0.9**
CAEL	**Denizli, Camel**	**0.30**	**200**	P	**Pg**	**17 43 01.3**	**-0.6**
CAEL				S	**Sg**	**17 43 06.9**	**+1.0**
CAEL	comp=N,4μm,0.5s			*i* AML	AML	17 43 09.0	
CAEL	comp=E,6μm,0.5s			*i* AML	AML	17 43 10.0	
INCE	**Denizli-Bozkur**	**0.32**	**18**	P	**Pg**	**17 43 01.8**	**-0.5**
INCE				S	**Sg**	**17 43 07.4**	**+0.9**
INCE	comp=N,3μm,0.3s			*i* AML	AML	17 43 08.0	
INCE	comp=E,2μm,0.4s			*i* AML	AML	17 43 11.0	
DNZT	**Denizli-Tavas-**	**0.36**	**250**	P	**Pg**	**17 43 02.4**	**-0.6**
DNZT				*i* AML	AML	17 43 08.0	
DNZT	comp=N,2μm,0.8s			*i* AML	AML	17 43 08.0	
DNZT	comp=E,1μm,0.5s						
DNZT				S	**Sg**	**17 43 08.1**	**+0.2**
DNIZ	**Denizli-Tavas-**	**0.40**	**304**	P	**Pg**	**17 43 03.1**	**-0.5**
DNIZ				S	**Sg**	**17 43 07.7**	**-1.2**
DNIZ	comp=N,5μm,0.6s			*i* AML	AML	17 43 09.0	
DNIZ	comp=E,8μm,0.3s			*i* AML	AML	17 43 10.0	
TAVA	**DENIZLI_Tavas**	**0.43**	**278**	P	**Pg**	**17 43 03.9**	**-0.4**
TAVA				S	**Sg**	**17 43 10.4**	**+0.3**
TAVA	comp=N,1μm,0.3s			*i* AML	AML	17 43 11.0	
TAVA	comp=E,1μm,0.4s			*i* AML	AML	17 43 11.0	
CAME	**Cameli-Denizli**	**0.48**	**195**	Pg	**Pg**	**17 43 04.0**	**-1.1**
CAME				Sg	**Sg**	**17 43 11.9**	**+0.5**
BRDR	**BURDUR-Merkez**	**0.56**	**59**	P	**Pg**	**17 43 06.4**	**-0.4**
BRDR	comp=E,8μm,0.8s			*i* AML	AML	17 43 20.0	
BRDR	comp=N,7μm,0.7s			*i* AML	AML	17 43 23.0	
KNIK	**Mula-Seydike**	**0.57**	**170**	P	**Pg**	**17 43 05.9**	**-0.9**
KNIK				S	**Sb**	**17 43 15.6**	**-0.6**
KNIK	comp=E,5μm,0.3s			*i* AML	AML	17 43 18.0	
KNIK	comp=N,5μm,0.8s			*i* AML	AML	17 43 19.0	
SABU	**Mula-Dalaman**	**0.70**	**214**	P	**Pg**	**17 43 08.2**	**-1.1**
SABU				S	**Sg**	**17 43 19.0**	**+0.5**
SABU	comp=N,7μm,0.7s			*i* AML	AML	17 43 20.0	
SABU	comp=E,9μm,0.5s			*i* AML	AML	17 43 20.0	
BASM	**Basmaki-Afyon**	**0.70**	**43**	Pg	**

KORT	Korkueli	0.82	119	Pg	Pg	17 43 10.5	-1.2
KORT	Korkueli	0.82	119	P	Pb	17 43 12.1	-0.2
KORT				S	Sn	17 43 25.5	-0.5
KORT				*i* AML	AML	17 43 27.0	
	comp=N,4μm,0.5s						
KORT				*i* AML	AML	17 43 30.0	
	comp=E,7μm,0.8s						
DALY	Dalyan (Mula)	0.87	228	Pg	Pg	17 43 10.8	-1.7
BUCA	Burdur, Bucak-	0.89	95	P	Pg	17 43 12.7	-0.2
BUCA				S	Sn	17 43 27.5	+0.1
BUCA				*i* AML	AML	17 43 29.0	
	comp=N,4μm,0.5s						
BUCA				*i* AML	AML	17 43 35.0	
	comp=E,3μm,0.6s						
BCK	Bucak	0.91	86	Pg	Pg	17 43 12.0	-1.3
BCK	Bucak	0.91	86	P	Pg	17 43 12.3	-1.0
KHL	Karahalli	0.92	4	Pg	Pg	17 43 12.4	-1.1
ISP	Isparta	0.95	64	Pg	Pg	17 43 12.8	-1.3
ISP	Isparta	0.95	64	Pg	Pg	17 43 12.7	-1.3
ISP	Isparta	0.95	64	*i* P	Pg	17 43 12.8	-1.3
ISP	Isparta	0.95	64	P	Pb	17 43 14.5	+0.1
ISP				S	Sn	17 43 28.1	-0.9
ESEN	Aydn-Nazilli	0.96	294	P	Pg	17 43 13.4	-0.9
ESEN				S	Sb	17 43 27.1	-0.2
ESEN				*i* AML	AML	17 43 29.0	
	comp=E,5μm,0.7s						
ESEN				*i* AML	AML	17 43 30.0	
	comp=N,8μm,0.4s						
YER	Yerkesik	0.97	254	Pg	Pg	17 43 13.5	-1.0
YER	Yerkesik	0.97	254	P	Pg	17 43 11.9	-2.6
IZZE	Mula-Seydike	0.98	191	P	Pb	17 43 14.7	0.0
IZZE				*i* AML	AML	17 43 36.0	
	comp=E,4μm,0.5s						
IZZE				*i* AML	AML	17 43 41.0	
	comp=N,4μm,0.5s						
NAZL	Nazilli-Aydin	1.08	302	Pg	Pg	17 43 15.5	-1.0
ANTB	Antalya	1.08	117	Pn	Pg	17 43 15.9	-0.8
TURN	Turunc	1.15	237	Pn	Pb	17 43 15.7	-2.1
AKAS	Kas	1.18	174	Pn	Pb	17 43 16.9	-1.5
AKAS	Kas	1.18	174		Pb	17 43 15.4	-3.0
AKAS	Kas	1.18	174	P	Pb	17 43 18.2	-0.2
AKAS				S	Sn	17 43 40.0	+5.3
AKAS				*i* AML	AML	17 43 41.0	
	comp=E,1μm,0.5s						
AKAS				*i* AML	AML	17 43 42.0	
	comp=N,7μm,0.5s						
KEMT	Kemer-ANTALYA	1.19	132	Pn	Pb	17 43 18.2	-0.3
DEMR	Demre-Antalya	1.22	163	Pn	Pn	17 43 18.6	-0.4
KSL	Kastellorizon	1.26	175	P	Pg	17 43 20.2	+0.2
KSL				S	Sn	17 43 40.2	+3.7
	7μm,1.0s						
KULA	Kula-Manisa	1.27	331	Pn	Pn	17 43 18.0	-1.8
MANT	Manisa	1.29	327	Pn	Pn	17 43 19.6	-0.6
AKUM	Antalya-Kumluc	1.30	146	P	Pg	17 43 21.2	+0.5
AKUM				*i* AML	AML	17 43 46.0	
	comp=N,3μm,0.6s						
AKUM				*i* AML	AML	17 43 46.0	
	comp=E,2μm,0.7s						
MLSB	Milas	1.34	266	Pn	Pn	17 43 19.6	-1.1
AYDB	Zeytinkoy-Aydi	1.35	294	Pn	Pn	17 43 19.8	-1.1
ODEM	Odemis-Izmir	1.39	309	Pn	Pn	17 43 20.5	-1.0
SHUT	Suhut-Afyon	1.44	37	Pn	Pn	17 43 21.5	-0.6
DATC	Datca-Mugla	1.57	246	Pn	Pn	17 43 23.3	-0.5
ARG	Arkhangelos	1.59	222	Pn	Pn	17 43 24.1	0.0
ARG	Arkhangelos	1.59	222	P	Pg	17 43 26.1	-0.3
ARG				S	Sg	17 43 50.5	+3.4
	7μm,0.6s						
ARG	Arkhangelos	1.59	222		Pn	17 43 24.4	+0.3
ARG	Arkhangelos	1.59	222	P	Pn	17 43 24.4	+0.3
SHAP	Saphane-Kutahy	1.62	354	Pn	Pn	17 43 24.1	-0.6
GEDZ	Gediz	1.64	359	Pn	Pn	17 43 24.4	-0.4
DAT	Datca	1.64	246	Pn	Pn	17 43 24.6	-0.3
MNVG	Manavgat-Antal	1.69	111	Pn	Pn	17 43 25.2	-0.2
SIMA	Simav-Kutahya	1.71	348	Pn	Pn	17 43 24.5	-1.4
SMAA	Simav-Kutahya	1.73	348	Pn	Pn	17 43 25.4	-0.7
BODT	Bodrum	1.74	259	Pn	Pn	17 43 25.6	-0.6
YKAV	Yalikavak-Bodr	1.75	261	Pn	Pn	17 43 26.3	0.0
DIDI	Didim-Aydin	1.76	270	Pn	Pn	17 43 25.9	-0.5
GOMA	Golmarmara-Man	1.78	317	Pn	Pn	17 43 26.1	-0.5
KUSD	Kusadasi-Aydin	1.78	285	Pn	Pn	17 43 26.3	-0.4
GCAM	G?zelcaml?	1.79	280	Pn	Pn	17 43 26.3	-0.5
GORD	Gordes-Manisa	1.81	327	Pn	Pn	17 43 26.3	-0.8
SEYD	Seydisehir-KON	1.90	89	Pn	Pn	17 43 28.3	-0.2
AKS	Akhisar	1.96	319	Pn	Pn	17 43 28.5	-0.7
NISR	Nisiros	2.02	248	P	Pb	17 43 31.8	-0.9
NISR				S	Sg	17 44 01.1	+0.3
	6μm,1.3s						
TVSB	Tavsanli	2.04	0	Pn	Pn	17 43 30.1	-0.3
GMLD	Gumuldur	2.12	289	Pn	Pn	17 43 31.4	+0.1
BLCB	Balcova	2.14	298	Pn	Pn	17 43 31.1	-0.6
ALAN	Alanya-ANTALYA	2.23	112	Pn	Pn	17 43 33.0	+0.1
DST	Dursunbey	2.29	344	Pn	Pn	17 43 33.2	-0.6
SOMA	Soma-Manisa	2.31	320	Pn	Pn	17 43 33.2	-0.8
CIFT	Cifteler, Eski	2.33	32	Pn	Pn	17 43 33.1	-1.2
KONT	Konya–Tatoy	2.37	76	Pn	Pn	17 43 35.0	+0.2
KIZT	Kizilcal	2.42	52	Pn	Pn	17 43 34.1	-1.4
LADK	Ladik-KONYA	2.44	70	Pn	Pn	17 43 35.7	-0.2
HDMB	Hadim	2.46	99	Pn	Pn	17 43 36.2	-0.1
GAZI	Gazipasa	2.58	116	Pn	Pn	17 43 38.2	+0.5
KRBN	Karaburun	2.58	298	Pn	Pn	17 43 37.6	-0.1
BORA	Eskisehir	2.59	17	Pn	Pn	17 43 38.3	+0.3
DKL	Dikili	2.60	310	Pn	Pn	17 43 37.9	-0.1
SVRH	Sivrihisar-ESK	2.61	38	Pn	Pn	17 43 38.4	+0.2
KARP	Karpathos	2.62	226	Pn	Pn	17 43 38.5	+0.3
KARP	Karpathos	2.62	226	P	Pn	17 43 39.9	+1.7
KARP				S	Sb	17 44 16.2	+1.1
	3μm,0.8s						
KARP	Karpathos	2.62	226		Pn	17 43 38.7	+0.4
KARP	Karpathos	2.62	226	Pn	Pn	17 43 38.6	+0.3
ORLT	Orhaneli	2.67	351	Pn	Pn	17 43 38.9	-0.1
SUSR	Susurluk-Balik	2.77	338	Pn	Pn	17 43 40.3	0.0
CAVI	Cavuskoy	2.81	6	Pn	Pn	17 43 41.2	+0.3
CHBY	Cihanbeyli	2.96	66	Pn	Pn	17 43 43.6	+0.6
GONE	Gonen-Balikesi	2.98	333	Pn	Pn	17 43 43.2	+0.1
KCTX	Karacabey (Bur	2.98	344	Pn	Pn	17 43 43.2	0.0
MDNY	Mudanya-Bursa	2.99	352	Pn	Pn	17 43 43.7	+0.4
ADVT	Abdulvahap	3.03	4	Pn	Pn	17 43 43.9	0.0
PRK	Paraskevi	3.10	307	P	Pn	17 43 45.1	+0.2
PRK				S	Sn	17 44 24.3	+2.3
	1μm,0.8s						
PRK	Paraskevi	3.10	307	P	Pn	17 43 45.1	+0.2
PRK				S	Sn	17 44 24.3	+2.3
BAND	Balkesir-Ban	3.13	341	⇓P	Pn	17 43 45.8	+0.5
GULT	Gulveren	3.13	15	Pn	Pn	17 43 45.5	+0.1
APE	Apeiranthos	3.15	265	Pn	Pn	17 43 45.8	+0.3
APE	Apeiranthos	3.15	265	⇓P	Pn	17 43 46.9	+1.4
APE				⇓S	Sn	17 44 25.1	+1.9
APE	Apeiranthos	3.15	265	*i* P	Pn	17 43 46.2	+0.7
APE	Apeiranthos	3.15	265	P	Pn	17 43 47.7	+2.2
APE	Apeiranthos	3.15	265	S	Sn	17 44 26.1	+2.9
YLV	Yalova	3.16	359	Pn	Pn	17 43 45.9	+0.2
ARMT	Armutlu	3.19	352	Pn	Pn	17 43 45.9	-0.2
CANM	Can-anakkale	3.21	325	Pn	Pn	17 43 46.5	+0.2
MDUB	Mudurnu	3.35	23	Pn	Pn	17 43 49.2	+0.8
SIGR	SIGRI	3.35	304	P	Pn	17 43 48.2	-0.1
SIGR				S	Sn	17 44 29.8	+1.6
	585nm,0.9s						
ZKR	Zakros	3.47	230	P	Pn	17 43 51.8	+1.8
ZKR				S	Sb	17 44 36.9	-2.8
	598nm,0.7s						
ANTO	Ankara	3.59	46		Pn	17 43 51.4	-0.3
ANTO	Ankara	3.59	46	⇑P	Pn	17 43 53.3	+1.6
ANTO	Ankara	3.59	46	P	Pn	17 43 51.4	-0.3
ANTO	Ankara	3.59	46	Pn	Pn	17 43 52.4	+0.7
KIRS	Kirsehir-Merke	3.91	62	⇑P	Pn	17 43 58.0	+1.8
CSS	Mathiatis	3.97	127	Pn	Pn	17 43 55.4	-1.5
CSS	Mathiatis	3.97	127	Pn	Pn	17 43 58.4	+1.5
CSS	Mathiatis	3.97	127	P	Pn	17 43 56.5	-0.4
CSS	Mathiatis	3.97	127	S	Sn	17 44 40.5	-3.0
BR105	Keskin Array S	4.00	53	Pn	Pn	17 43 58.2	+0.9
BR104	Keskin Array S	4.01	54	Pn	Pn	17 43 58.4	+0.9
BR104				Sn	Sn	17 44 47.3	+2.7
BR106	Keskin Array S	4.01	53	Pn	Pn	17 43 58.2	+0.7
BR131	Keskin Array S	4.02	54		Pn	17 43 57.7	+0.1
BR131	Keskin Array S	4.02	54	*e*P	Pn	17 43 58.3	+0.7
BRTR	Keskin Array B	4.02	54	Pn	Pn	17 43 58.4	+0.8
	2.2nm,0.3s,baz=234,slow=15,SNR=98						
BRTR				Sn	Sn	17 44 44.4	-0.4
	0.8nm,0.3s,baz=188,slow=22,SNR=5.6						
BRTR				Lg	Lg	17 45 03.6	
	0.8nm,0.3s,baz=228,slow=27,SNR=4.1						
BRTR				LR	LR	17 45 56.1	
	comp=Z,1μm,19.9s,baz=248,slow=45						
	19nm,0.7s						
CAVK	Edirne/Enez-Ca	4.16	323	⇓P	Pn	17 43 58.2	-1.2
IDI	Anoyia	4.25	242		Pn	17 44 01.6	+0.9
IDI	Anoyia	4.25	242	Pn	Pn	17 44 02.5	+1.8
	26nm,0.3s,baz=61,slow=15,SNR=32						
IDI				Sn	Sn	17 44 49.9	-0.4
	22nm,0.3s,baz=357,slow=12,SNR=9.3						
IDI				LR	LR	17 46 08.6	
	comp=Z,804nm,18.4s,baz=94,slow=44						
ALN	Alexandroupoli	4.38	324		Pn	17 44 05.1	+2.7
ALN	Alexandroupoli	4.38	324	P	Pn	17 44 05.1	+2.7
RDO	Rodhopi	4.81	322		Pn	17 44 09.0	+0.6
ILGA	Ilgaz	4.92	41	Pn	Pn	17 44 10.9	+0.8
OUR	Ouranopolis	5.17	306	P	Pn	17 44 14.3	+1.0
CIDE	Kastamonu/Cide	5.22	30	⇓P	Pn	17 44 15.9	+1.9
BNN	Bunyan	5.24	72	Pn	Pn	17 44 14.9	+0.5
BZK	Bozkurt	5.75	36		Pn	17 44 21.3	+0.1
PLD	Plovdiv	5.96	324	P	Pn	17 44 25.3	+1.1
ITM	Ithomi	6.00	270		Pn	17 44 23.8	-0.9
LIT	Litokhoron	6.07	298	Pn	Pn	17 44 25.5	-0.2
LIT	Litokhoron	6.07	298	P	Pn	17 44 25.5	-0.2
HWQ	Hawqa	6.13	119	*e*P	Pn	17 44 29.0	+2.4
GAZ	Gaziantep	6.19	99	Pn	Pn	17 44 23.0	-3.8
DQRL	Deir Qamar	6.20	125	*e*P	Pn	17 44 29.8	+2.2
ZAHL	Zahle	6.32	122	*e*P	Pn	17 44 30.6	+1.3
QRWL	Qaraoun	6.38	125	*e*P	Pn	17 44 31.0	+1.0
DB3	El Dabaa	6.40	187	P	Pn	17 44 32.8	+2.6
DB3	El Dabaa	6.40	187	P	Pn	17 44 28.5	-1.6
SHBL	Chebaa	6.54	126	*e*P	Pn	17 44 33.0	+0.7
MMA0B	Mount Meron ar	6.55	130	P	Pn	17 44 32.0	-0.3
MMA0B	Mount Meron ar	6.55	130	S	Sn	17 45 44.9	-2.3
MMAI	Mount Meron Ar	6.55	130	Pn	Pn	17 44 33.0	+0.6
	11nm,0.3s,baz=318,slow=12,SNR=62						
MMAI				Sn	Sn	17 45 46.0	-1.2
	17nm,0.3s,baz=316,slow=29,SNR=13						
	12nm,0.4s						
GEM	Giv'at Ha'Em	6.58	128	P	Pn	17 44 32.3	-0.4
GEM	Giv'at Ha'Em	6.58	128	S	Sn	17 45 44.9	-2.9
OFRI	`Ofer	6.59	135	P	Pn	17 44 32.1	-0.7
OFRI	`Ofer	6.59	135	S	Sn	17 45 44.4	-3.6
NATI	Neve Ativ	6.59	127	P	Pn	17 44 32.6	-0.2
NATI	Neve Ativ	6.59	127	S	Sn	17 45 46.1	-1.9
BLGI	Bet Lehem HaGe	6.62	133	P	Pn	17 44 32.9	-0.4
BLGI	Bet Lehem HaGe	6.62	133	S	Sn	17 45 46.3	-2.5
KSHT	Keshet	6.82	128	P	Pn	17 44 35.9	-0.1
KSHT	Keshet	6.82	128	S	Sn	17 45 51.5	-2.4
SLUM	Salum	6.86	212	P	Pn	17 44 35.8	-0.8
SLTI	Sal'it	6.90	137	P	Pn	17 44 36.7	-0.4
SLTI	Sal'it	6.90	137	S	Sn	17 45 53.2	-2.5
MMLI	Mount Malkishu	6.97	134	P	Pn	17 44 37.3	-0.8
MMLI	Mount Malkishu	6.97	134	S	Sn	17 45 55.0	-2.5
TIRR	Tirgusor	7.09	354	Pn	Pn	17 44 40.1	+0.5
TIRR	Tirgusor	7.09	354	⇑P	Pn	17 44 40.2	+0.6
TIRR	Tirgusor	7.09	354	P	Pn	17 44 40.1	+0.5
SALP	Salfit	7.12	137	P	Pn	17 44 39.4	-0.6
SALP	Salfit	7.12	137	S	Sn	17 45 57.8	-3.2
FNA	Florina	7.13	301		Pn	17 44 41.1	+0.9
FNA	Florina	7.13	301	P	Pn	17 44 41.1	+0.9
HMDT	Nahal Hemdat	7.17	134	P	Pn	17 44 40.7	0.0
HMDT	Nahal Hemdat	7.17	134	S	Sn	17 45 59.5	-2.6
UJAP	Al Uja	7.36	136	P	Pn	17 44 42.5	-0.8
UJAP	Al Uja	7.36	136	S	Sn	17 46 03.8	-3.0
AMAZ	Amatzia	7.39	141	P	Pn	17 44 43.1	-0.7
AMAZ	Amatzia	7.39	141	S	Sn	17 46 04.9	-3.0
KBN	Korca	7.47	298	Pn	Pn	17 44 43.8	-1.2
KBN	Korca	7.47	298	P	Pn	17 44 43.8	-1.2
TPGR	Topolog	7.49	354	⇑P	Pn	17 44 45.6	+0.6
DSI	Dead Sea	7.60	138	P	Pn	17 44 46.2	-0.5
DSI	Dead Sea	7.60	138	S	Sn	17 46 10.2	-2.8
YTIR	Yattir	7.63	141	P	Pn	17 44 46.8	-0.4
YTIR	Yattir	7.63	141	S	Sn	17 46 11.0	-2.7
KZIT	Kziot	7.67	146	P	Pn	17 44 47.3	-0.4
KZIT	Kziot	7.67	146	S	Sn	17 46 11.8	-2.8
KOT	Kottamia	7.72	164	P	Pn	17 44 48.1	-0.2
TLCR		7.79	357	⇓P	Pn	17 44 50.0	+0.7
TLCR		7.79	357	P	Pn	17 44 49.9	+0.7
MSBI	Mazada	7.79	140	P	Pn	17 44 48.8	-0.5
MSBI	Mazada	7.79	140	S	Sn	17 46 14.7	-2.9
CFR	Carcaliu	7.83	353	⇑P	Pn	17 44 49.6	-0.1
CFR	Carcaliu	7.83	353	P	Pn	17 44 49.6	-0.1
GHAJ	Ghor Haditha	7.91	139		Pn	17 44 48.5	-2.4
GHAJ	Ghor Haditha	7.91	139	P	Pn	17 44 50.3	-0.6
GHAJ	Ghor Haditha	7.91	139	S	Sn	17 46 17.7	-2.8
ASF	Jabal al Asfar	8.04	128	Pn	Pn	17 44 54.2	+1.4
	1.1nm,0.3s,baz=346,slow=18,SNR=7.8						
ASF				Sn	Sn	17 46 28.4	+4.4
	1.7nm,0.3s,baz=156,slow=19,SNR=3.6						
ASF				LR	LR	17 48 39.5	
	comp=Z,159nm,19.6s,baz=50,slow=43						
	2.8nm,0.5s						
SIM	Simferopol'	8.31	24	*e*P	Pn	17 44 58.8	+2.4
SIM				pmax	pmax		
	comp=Z,11nm,0.8s						
PRNI	Paran	8.41	145	P	Pn	17 44 57.5	-0.4
PRNI	Paran	8.41	145	S	Sn	17 46 29.8	-3.2
KRMI	Paran Flat	8.49	147	P	Pn	17 44 58.4	-0.5
KRMI	Paran Flat	8.49	147	S	Sn	17 46 31.9	-2.9
MLR	Muntele Rosu	8.49	343	Pn	Pn	17 45 00.2	+1.2
MLR	Muntele Rosu	8.49	343	Pn	Pn	17 45 00.0	+1.0
	comp=Z,0.7nm,0.3s,baz=279,slow=22,SNR=7.1						
MLR				Sn	Sn	17 46 33.7	-1.3
	comp=Z,0.1nm,0.3s,baz=255,slow=5.0,SNR=1.1						
MLR				Lg	Lg	17 47 28.5	
	comp=Z,0.2nm,0.3s,baz=305,slow=22,SNR=1.6						
	comp=Z,5.7nm,0.9s						
MLR	Muntele Rosu	8.49	343	⇑P	Pn	17 44 58.2	-0.9
MLR	Muntele Rosu	8.49	343	P	Pn	17 45 00.2	+1.2
VOIR		8.68	339	⇑P	Pn	17 45 01.3	-0.2
VOIR		8.68	339	P	Pn	17 45 02.1	+0.6
	comp=Z,8.8nm,0.8s						
PLOR	Plostina	8.70	347	⇑P	Pn	17 45 02.7	+1.0
PLOR	Plostina	8.70	347	P	Pn	17 45 02.7	+1.0
VRI	Vrincioaia	8.70	347	⇑P	Pn	17 45 01.9	+0.2
VRI	Vrincioaia	8.70	347	P	Pn	17 45 03.2	+1.5
VRI				pmax	pmax		
	comp=Z,12nm,0.9s						
VRI	Vrincioaia	8.70	347	P	Pn	17 45 02.9	+1.2
	comp=Z,12nm,0.9s						
HRFI	Mount Harif	8.70	146	P	Pn	17 45 01.3	-0.5
HRFI	Mount Harif	8.70	146	S	Sn	17 46 37.1	-2.8
SWA2		8.80	203	P	Pn	17 45 02.5	-0.6
SWA2		8.80	203	P	Pn	17 45 02.5	-0.6
MBRI	Mt Berech	8.85	147	P	Pn	17 45 03.5	-0.4
MBRI	Mt Berech	8.85	147	S	Sn	17 46 40.9	-2.9
EIL	Elat	8.97	148	Pn	Pn	17 45 05.0	-0.5
	comp=Z,1.9nm,0.3s,baz=315,slow=5.2,SNR=14						
EIL				Sn	Sn	17 46 41.2	-5.5
	comp=Z,1.9nm,0.3s,baz=329,slow=14,SNR=5.7						
	comp=Z,8.7nm,0.5s						
EIL	Elat	8.97	148	P	Pn	17 45 04.9	-0.6
EIL	Elat	8.97	148	S	Sn	17 46 43.7	-3.0
KOPT	Kop Dagi	9.02	70	Pn	Pn	17 45 07.4	+1.0
MARD	Mardin	9.02	87	Pn	Pn	17 45 04.8	-1.5
OZUR		9.10	344	⇓P	Pn	17 45 07.4	+0.1
HERR	Herculane	9.16	327	⇑P	Pn	17 45 07.9	-0.1
MDVR	Moldovita	9.40	324	⇑P	Pn	17 45 10.3	-1.1
GZR	Gura Zlata	9.42	330	⇑P	Pn	17 45 11.4	-0.3
GZR	Gura Zlata	9.42	330	P	Pn	17 45 11.3	-0.3
TAMRE	El Minia	9.77	172	P	Pn	17 45 16.0	-0.5
TAMRE	El Minia	9.77	172	P	Pn	17 45 15.9	-0.5
SOC	Sochi	9.96	49	*e*P	Pn	17 45 17.7	-1.2
SOC				*e*		17 47 10.2	
SOC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,214nm,13.0s						
GURO	Guroymak-BITLI	10.00	80	Pn	Pn	17 45 16.0	-3.7
BZS	Buzias	10.09	327	⇑P	Pn	17 45 19.6	-1.1
BZS	Buzias	10.09	327	P	Pn	17 45 19.6	-1.1
TIP	Timpagrande	10.13	284		Pn	17 45 22.1	+0.6
TIP	Timpagrande	10.13	284	P	Pn	17 45 23.4	+1.9
	comp=Z,14nm,1.1s						
HFRF	Wahat Farafira	10.27	186	P	Pn	17 45 22.1	-1.2
HFRF				S	Sn	17 47 11.2	-7.4
HFRF	Wahat Farafira	10.27	186	P	Pn	17 45 21.9	-1.4
BURAR	Bucovina Array	10.67	344	Pn	Pn	17 45 25.7	-3.1
BURAR	Bucovina Array	10.67	344	⇑P	Pn	17 45 28.8	0.0
BURAR	Bucovina Array	10.67	344	P	Pn	17 45 28.8	0.0
BUR08	Bucovina Ar. S	10.70	344		Pn	17 45 25.0	-4.3
SORM	Soroca	10.75	356	⇓P	Pn	17 45 30.3	+0.4
SORM	Soroca	10.75	356	P	Pn	17 45 30.2	+0.4
GEVA	Gevas	10.80	81	Pn	Pn	17 45 28.1	-2.6
HDK1	Dakhla	11.83	180	P	Pn	17 45 44.0	-0.7
HDK1	Dakhla	11.83	180	P	Pn	17 45 43.9	-0.8
KIV	Kislovodsk	11.98	53	*e*P	Pn	17 45 48.7	+1.9
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBZ	Khabaz	12.01	54	Pn	Pn	17 45 51.8	+4.8
	comp=Z,2.9nm,1.1s,baz=292,slow=3.8,SNR=4.8						
KBZ				LR	LR	17 51 40.2	
	comp=Z,155nm,18.4s,baz=224,slow=44						
KBZ	Khabaz	12.01	54	*e*P	Pn	17 45 46.5	-0.5
GNI	Garni	12.24	72	Pn	Pn	17 45 53.8	+3.3
	comp=Z,0.6nm,0.3s,baz=49,slow=2.4,SNR=3.3						
GNI				LR	LR	17 51 18.2	
	comp=Z,546nm,18.7s,baz=280,slow=41						
	comp=Z,2.3nm,0.5s						
GNI	Garni	12.24	72	*i* P	Pn	17 45 48.4	-2.0
PSZ	Piszkesteto	12.63	329	Pn	Pn	17 45 56.7	+1.1
PSZ	Piszkesteto	12.63	329	P	Pn	17 45 56.7	+1.1
KIEV	Kiev	13.29	359	Pn	Pn	17 46 06.6	+2.2
KIEV	Kiev	13.29	359	P	Pn	17 46 06.6	+2.2
AKASG	Malin Array Be	13.29	359	Pn	Pn	17 46 03.6	-0.9
	comp=Z,0.3nm,0.3s,baz=182,slow=12,SNR=1.9						
AKASG				LR	LR	17 51 03.5	
	comp=Z,144nm,20.6s,baz=187,slow=37						
	comp=Z,0.2nm,0.4s						
AKBB	Malin Array Si	13.29	359	*i* P	Pn	17 46 05.3	+0.8
NIE	Niedzica	13.71	334	P	Pn	17 46 11.5	+1.2
NIE	Niedzica	13.71	334	P	Pn	17 46 11.5	+1.2
LANS	Liptovska Anna	13.79	331	*e*PN	P	17 46 23.0	+3.0
MODS	Modra-Piesok	14.11	325	*e*PN	P	17 46 25.4	+1.9
JAVC	Velka Javorina	14.30	327	*e*PN	P	17 46 26.2	+0.6
KRUC	Moravsky	15.02	325	*e*PN	P	17 46 34.6	+1.1
MORC	Moravsky Berou	15.05	329	P	P	17 46 35.1	+1.1
MORC				IAmb	IAmb	17 46 36.9	
	comp=Z,13nm,1.4s						
MORC	Moravsky Berou	15.05	329	*e*PN	P	17 46 34.9	+0.9
MORC	Moravsky Berou	15.05	329	P	P	17 46 35.1	+1.1
MORC				pmax	pmax		
	comp=Z,13nm,1.4s						
VRAC	Vranov	15.11	326	Pn	P	17 46 36.1	+1.6
	comp=Z,0.1nm,0.3s,baz=143,slow=13,SNR=6.2						
VRAC	Vranov	15.11	326	*e*PN	P	17 46 36.1	+1.6
VORD	Divnogorie	15.26	24	*e*P	Pn	17 46 30.4	-0.9
VORD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VSR	Storozhevoye	15.44	23	*e*P	Pn	17 46 31.2	-2.4
VSR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CTI	Castel Tesino	15.82	309		Pn	17 46 35.8	-3.0
CTI	Castel Tesino	15.82	309	P	P	17 46 44.3	+1.7
CTI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DPC	Dobruska-Polom	16.00	328	*e*P	P	17 46 46.0	+1.5
DPC	Dobruska-Polom	16.00	328	*e*P	P	17 46 46.0	+1.5
GEC2	GERESS Array S	16.18	320		Pn	17 46 43.5	+0.2
GEC2				IAmb	IAmb	17 46 50.0	
	comp=Z,15nm,1.4s						
GEC2	GERESS Array S	16.18	320	P	P	17 46 48.9	+2.4
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GERES	GERESS

TCF pmax pmax
comp=Z,25nm,1.7s
RJF Les Rejaudoux 22.32 300 *e*P **P 17 47 54.9 +1.3**
RJF pmax pmax
comp=Z,23nm,1.5s
ETSF Etsaut 23.51 293 *e*P **P 17 48 08.3 +2.3**
ETSF pmax pmax
comp=Z,32nm,1.6s
MFF Saint Martin d 23.72 302 *e*P **P 17 48 07.6 -0.3**
MFF pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 24.16 356 P **P 17 48 11.5 -0.4**
comp=Z,5.3nm,0.8s,baz=159,slow=8.8,SNR=8.5
comp=Z,5.3nm,0.8s
AKTO Aktyubinsk 24.18 48 LR LR 18 00 48.0
comp=Z,219nm,20.4s,baz=20,slow=44
LDF La Druitiere 24.20 307 *e*P **P 17 48 11.7 -0.7**
LDF pmax pmax
comp=Z,16nm,1.4s
KLMR Klimovskoe 24.32 12 *e*P **P 17 48 11.4 -2.0**
KLMR pmax pmax
comp=Z,33nm,1.6s
FLN La Foliniere 24.47 307 *e*P **P 17 48 13.1 -1.9**
FLN pmax pmax
comp=Z,9.0nm,1.0s
GRR Gorron 24.61 306 *e*P **P 17 48 14.4 -1.8**
GRR pmax pmax
comp=Z,24nm,1.3s
KIRV Kirov 24.86 25 LR LR 17 59 08.9
comp=Z,159nm,18.8s,baz=234,slow=39
KIRV Kirov 24.86 25 *i*P **P 17 48 18.2 -0.1**
HFS Hagfors 24.87 341 P **P 17 48 18.5 0.0**
comp=Z,3.3nm,0.8s,baz=158,slow=12,SNR=3.0
comp=Z,3.3nm,0.8s
ABKAR Akbulak array 24.97 52 P **P 17 48 17.8 -1.6**
TAM Tamanrasset 25.22 241 P **P 17 48 22.3 +0.2**
TAM Tamanrasset 25.22 241 P **P 17 48 22.3 +0.2**
TAM pmax pmax
comp=Z,21nm,0.4s
ESDC Sonseca Array 26.15 285 P **P 17 48 31.7 +1.4**
comp=Z,2.0nm,0.9s,baz=79,slow=9.7,SNR=9.0
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 26.30 340 P **P 17 48 32.1 +0.7**
comp=Z,0.6nm,0.7s,baz=149,slow=11,SNR=2.5
NOA LR LR 17 58 55.3
comp=Z,45nm,21.6s,baz=105,slow=36
comp=Z,0.6nm,0.7s
ARTI Arti 27.09 36*c i*P **P 17 48 38.8 +0.3**
ARTI 17 49 20.5
ARTI S **S 17 53 20.5 +4.1**
ARTI SS **SnSn 17 54 28.5 +5.8**
ARTI pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 32.23 48*ce*P **P 17 49 22.5 -1.6**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
ARCES ARCESS Array B 32.26 357 P **P 17 49 24.9 +0.7**
comp=Z,2.8nm,0.8s,baz=189,slow=5.0,SNR=2.0
comp=Z,2.8nm,0.8s
BVAR Borovoye Array 32.28 48 P **P 17 49 25.7 +1.1**
comp=Z,0.1nm,0.3s,baz=224,slow=14,SNR=4.3
BVAR LR LR 18 04 10.3
comp=Z,176nm,19.2s,baz=232,slow=40
comp=Z,0.1nm,0.3s
AAK Ala-Archa 34.57 67 *i*P **P 17 49 43.7 -1.2**
AAK pmax pmax
comp=Z,8.0nm,2.2s
TORD Torodi Ar. Bea 34.60 233 P **P 17 49 45.0 -0.1**
TORD IAmb IAmb 17 49 49.5
comp=Z,6.2nm,1.4s
TORD Torodi Ar. Bea 34.60 233 P **P 17 49 45.4 +0.3**
comp=Z,54nm,0.3s,baz=32,slow=9.0,SNR=1.3
FRU1 Bishkek 34.65 67 P **P 17 49 44.3 -1.2**
FRU1 IAmb IAmb 17 49 58.3
comp=Z,6.9nm,0.6s
FRU1 Bishkek 34.65 67 P **P 17 49 44.3 -1.2**
FRU1 pmax pmax
comp=Z,7.0nm,0.6s
KURBB Kurchatov Arra 37.01 53 P **P 17 50 04.8 -0.6**
comp=Z,1.6nm,0.8s,baz=275,slow=8.9,SNR=12
comp=Z,1.6nm,0.8s
KURK Kurchatov 37.07 53 P **P 17 50 05.7 -0.2**
KURK IAmb IAmb 17 50 10.7
comp=Z,7.1nm,1.4s
KURK Kurchatov 37.07 53 *i*P **P 17 50 06.8 +0.8**
KURK pmax pmax
comp=Z,6.0nm,1.5s
MK31 Makanchi Array 39.65 59 P **P 17 50 26.7 -1.1**
MK31 IAmb IAmb 17 50 46.2
comp=Z,3.3nm,1.2s
MK31 Makanchi Array 39.65 59*ce*P **P 17 50 28.1 +0.3**
MKAR Makanchi Array 39.65 59 P **P 17 50 27.9 +0.1**
comp=Z,0.7nm,0.7s,baz=284,slow=6.0,SNR=11
MKAR PcP **PcP 17 52 32.7 -1.9**
comp=Z,0.6nm,0.9s,baz=290,slow=4.3,SNR=2.6
comp=Z,0.7nm,0.7s
NRIK Noril'sk 44.37 26*ce*P **P 17 51 06.0 0.0**
NRIK pmax pmax
comp=Z,8.0nm,1.5s
SONM Songino Array 55.38 53 P **P 17 52 29.9 -0.2**
comp=Z,0.2nm,0.4s,baz=264,slow=6.7,SNR=3.5
comp=Z,0.2nm,0.4s
TIXI Tiksi 57.83 22 LR LR 18 20 20.1
comp=Z,72nm,18.5s,baz=354,slow=39
TIXI Tiksi 57.83 22 *e*P **P 17 52 46.9 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.5s
FRB Frobisher Bay 60.50 330 LR LR 18 22 50.1
comp=Z,68nm,18.3s,baz=147,slow=40
YAK Yakutsk 62.18 32 LR LR 18 24 17.7
comp=Z,80nm,20.3s,baz=264,slow=40
CMAR Chiang Mai Arr 62.92 87 P **P 17 53 20.6 -2.2**
comp=Z,0.6nm,1.0s,baz=287,slow=9.1,SNR=6.1
comp=Z,0.6nm,1.0s
BOSA Boshof 65.79 184 P **P 17 53 41.9 +0.6**
comp=Z,3.1nm,1.0s,baz=116,slow=9.8,SNR=3.3
comp=Z,3.1nm,1.0s
A36M Sachs Harbour 69.46 352 P **P 17 54 04.7 +0.9**
baz=21
BILL Bilibino 70.00 16 P **P 17 54 08.2 +1.0**
BILL Bilibino 70.00 16*ce*P **P 17 54 08.9 +1.7**
BILL pmax pmax
comp=Z,12nm,2.5s
SEY Seymchan 70.13 24*ce*P **P 17 54 10.6 +2.5**
SEY pmax pmax
comp=Z,9.0nm,2.5s
A21K Barrow 71.49 2 P **P 17 54 17.7 +1.5**
baz=355
C36M Paulatuk 71.78 350 P **P 17 54 19.3 +1.3**
baz=22
A22K Sinclair Lake 71.85 2 P **P 17 54 20.3 +1.9**
baz=356
MA2 Magadan 71.94 27 P **P 17 54 19.9 +0.8**
MA2 IAmb IAmb 17 54 20.8
comp=Z,7.3nm,1.2s
MA2 Magadan 71.94 27*ce*P **P 17 54 20.5 +1.4**
MA2 pmax pmax
comp=Z,8.0nm,2.5s
A19K Wainwright 72.42 4 P **P 17 54 23.5 +1.7**
baz=351
B22K Teshekpuk Lake 72.54 1 P **P 17 54 23.8 +1.3**
B22K Teshekpuk Lake 72.54 1 P **P 17 54 24.4 +1.9**
baz=358
B20K Meade River 72.79 2 P **P 17 54 25.2 +1.3**
baz=354,SNR=6.6
USA0B Ussuriysk Arra 72.79 47 *e*P **P 17 54 26.6 +2.2**
C26K Camden Bay 72.91 358 P **P 17 54 26.7 +2.0**
baz=4.6
C23K Itkillik River 73.07 0 P **P 17 54 27.3 +1.6**
baz=360
C27K Jago River 73.16 358 P **P 17 54 27.6 +1.3**
C27K IAmb IAmb 17 54 29.2
comp=Z,5.9nm,1.2s
C27K Jago River 73.16 358 P **P 17 54 27.7 +1.5**
baz=5.6
C24K Franklin Bluff 73.18 359 P **P 17 54 27.5 +1.2**
baz=1.4
B18K Kokolik River 73.22 4 P **P 17 54 28.3 +1.7**
baz=351,SNR=8.8
D28M Stokes Point 73.22 356 P **P 17 54 27.6 +1.1**
baz=9.7
B21K Ikpikpuk River 73.24 1 P **P 17 54 27.4 +0.7**
B21K Ikpikpuk River 73.24 1 P **P 17 54 27.9 +1.2**
baz=356
D27M Malcolm River 73.43 356 P **P 17 54 28.8 +0.9**
baz=7.8
D25K Kavik River 73.54 358 P **P 17 54 29.6 +1.1**
baz=3.4
C21K Knifeblade Rid 73.70 2 P **P 17 54 30.6 +1.1**
baz=356
D24K Happy Valley 73.75 359 P **P 17 54 30.2 +0.5**
baz=1.3
INK Inuvik 73.83 353 P **P 17 54 30.9 +0.7**
baz=14
D23K Nanushuk River 73.94 0 P **P 17 54 31.9 +1.0**
baz=360
C18K Utukok River 73.96 4 P **P 17 54 31.6 +0.6**
baz=351,SNR=7.6
E28M Babbage River 73.99 356 P **P 17 54 31.9 +0.8**
baz=9.0
C17K DeLong Mountai 74.01 5 P **P 17 54 32.0 +0.7**
baz=350,SNR=11
D22K Ayikyak River 74.02 1 P **P 17 54 32.9 +1.6**
baz=358,SNR=7.5
C16K Lisburne Hills 74.05 6 P **P 17 54 32.0 +0.6**
baz=348,SNR=5.4
E29M Blow River 74.10 355 P **P 17 54 32.8 +1.1**
baz=10,SNR=16
D20K Etivluk River 74.10 2 P **P 17 54 32.8 +1.0**
baz=355,SNR=5.4
D19K Kuna River 74.27 3 P **P 17 54 33.5 +0.7**
baz=354
TOLK Toolik Lake Re 74.27 360 P **P 17 54 34.0 +1.2**
baz=0.7
E21K Killik River 74.44 1 P **P 17 54 34.3 +0.5**
baz=357
RDOG Red Dog Mine 74.45 5 P **P 17 54 35.2 +1.4**
baz=350
E27K Coleen River 74.51 357 P **P 17 54 35.6 +1.4**
baz=7.3
E20K Nigu River 74.57 2 P **P 17 54 35.8 +1.2**
baz=355
F31M Tsiigehtchic 74.70 353 P **P 17 54 35.9 +0.7**
baz=14
F30M Barrier River 74.71 354 P **P 17 54 35.7 +0.3**
baz=12
E25K Arctic Village 74.73 358 P **P 17 54 36.7 +1.2**
baz=4.0,SNR=6.0
E22K Anaktuvuk Pass 74.78 0 P **P 17 54 36.9 +1.1**
baz=359
D17K Noatak River 74.79 5 P **P 17 54 36.3 +0.6**
baz=350,SNR=7.3
E24K Your Creek 74.83 359 P **P 17 54 36.6 +0.5**
baz=1.6
E23K Chandalar 74.85 360 P **P 17 54 37.3 +1.1**
baz=0.7
F26K Sheenjek River 75.11 357 P **P 17 54 38.8 +1.1**
baz=5.2,SNR=5.3
E18K Tukpahlearik C 75.22 4 P **P 17 54 39.1 +0.9**
baz=352
G31M Satah River 75.25 353 P **P 17 54 39.4 +1.0**
baz=13
F25K Christian Rive 75.26 358 P **P 17 54 39.7 +1.1**
baz=3.9
E19K Redstone River 75.34 3 P **P 17 54 39.6 +0.7**
baz=354,SNR=7.0
G30M tAoh Zraii Nji 75.36 354 P **P 17 54 39.8 +0.7**
baz=12
F24K Squaw Lake 75.38 359 P **P 17 54 40.4 +1.2**
baz=2.1,SNR=6.7
F22K John River 75.40 1 P **P 17 54 40.7 +1.3**
baz=359
E17K Hotham Inlet 75.48 5 P **P 17 54 40.3 +0.5**
baz=351
G29M Pine Creek 75.57 355 P **P 17 54 40.9 +0.6**
baz=10
F21K Alatna River 75.67 1 P **P 17 54 42.2 +1.3**
baz=358
COLD Coldfoot 75.69 360 P **P 17 54 42.4 +1.5**
baz=0.2
F20K Avaraart Lake 75.80 2 P **P 17 54 42.7 +1.1**
baz=356
G26K Porcupine Rive 75.84 357 P **P 17 54 42.3 +0.5**
baz=5.5
G27K Doyon Strip 75.89 356 P **P 17 54 42.8 +0.6**
baz=7.2
F19K Shaleruckik Mo 75.94 3 P **P 17 54 42.6 +0.2**
baz=354,SNR=7.1
EPYK Eagle Plains 76.00 354 P **P 17 54 43.2 +0.4**
baz=11
F18K Selawik 76.08 4 P **P 17 54 43.8 +0.7**
baz=352
G25K Bearman Lake 76.10 358 P **P 17 54 44.3 +1.0**
baz=3.5
F17K Baldwin Pennin 76.15 4 P **P 17 54 44.4 +0.8**
baz=351
G24K Hadweenzic Riv 76.19 359 P **P 17 54 44.6 +0.8**
baz=2.4
G23K Bananza Creek 76.21 360 P **P 17 54 45.0 +1.0**
baz=0.3
H29M Whitestone 76.28 355 P **P 17 54 45.2 +0.9**
baz=9.9
YKA Yellowknife Ar 76.33 344 P **P 17 54 44.7 0.0**
comp=Z,1.9nm,1.1s,baz=28,slow=5.7,SNR=15
comp=Z,1.9nm,1.1s
H31M Peel River 76.35 353 P **P 17 54 46.4 +1.6**
baz=13
G21K Allakaket 76.38 1 P **P 17 54 45.8 +0.9**
baz=358,SNR=11
H27K Steamboat Moun 76.46 356 P **P 17 54 46.3 +0.9**
baz=7.3
TNA Tin City 76.47 7 P **P 17 54 46.3 +0.9**
baz=346
H25L Birch Creek 76.59 358 P **P 17 54 46.9 +0.8**
baz=3.8
F15K North Star Dit 76.63 6 P **P 17 54 47.4 +1.1**
baz=348
G19K Purcell Mounta 76.66 3 P **P 17 54 47.5 +1.0**
baz=355,SNR=6.6
F14K Arctic Creek 76.72 7 P **P 17 54 47.9 +1.1**
baz=347
G18K Tagagawik 76.84 3 P **P 17 54 48.3 +0.8**
baz=353,SNR=7.1
H22K Ishtalitna Cre 77.03 0 P **P 17 54 49.6 +0.9**
baz=359
I27K Kandik River 77.09 356 P **P 17 54 49.8 +0.8**
baz=7.2,SNR=5.4
H23K Yukon River 77.10 360 P **P 17 54 50.0 +1.0**
baz=0.7
I30M Mount Dempster 77.11 354 P **P 17 54 49.4 +0.2**
baz=11,SNR=5.4
G16K Koyuk River 77.12 5 P **P 17 54 49.9 +0.9**
baz=350
I29M Ogilvie Camp, 77.12 355 P **P 17 54 50.3 +1.1**
baz=9.9
G17K Kiwalik Mounta 77.12 4 P **P 17 54 49.5 +0.4**
baz=352
I28M Miner Creek 77.14 355 P **P 17 54 49.7 +0.4**
baz=8.6
H21K Melozitna Rive 77.25 1 P **P 17 54 50.9 +1.1**
baz=358
H19K Roundabout Mou 77.30 3 P **P 17 54 50.7 +0.7**
baz=355
PRP Porcupine Dome 77.33 358 P **P 17 54 50.9 +0.4**
baz=4.0
H20K Anotleneega Mo 77.38 2 P **P 17 54 51.4 +0.8**
baz=356
G15K Niukluk 77.39 6 P **P 17 54 50.9 +0.3**
baz=349
WRGLY Wrigley 77.39 348 P **P 17 54 51.5 +0.8**
baz=22
I26K Coal Creek Min 77.46 357 P **P 17 54 51.9 +0.9**
baz=5.9
H18K Honhosa River 77.59 3 P **P 17 54 52.5 +0.7**
baz=354
ANM Nome 77.69 6 P **P 17 54 53.0 +0.6**
baz=348
H17K Granite Mounta 77.73 4 P **P 17 54 53.1 +0.6**
baz=352
J30M Hart River 77.74 354 P **P 17 54 53.5 +0.8**
baz=11,SNR=5.9
I21K Tanana 77.74 1 P **P 17 54 53.7 +1.2**
baz=359
I23K Minto, Yukon-K 77.78 359 P **P 17 54 53.9 +1.2**
baz=0.9
POKR Poker Plat Res 77.78 359 P **P 17 54 53.4 +0.5**
baz=2.4
H16K Elim 77.88 5 P **P 17 54 53.8 +0.4**
baz=350,SNR=5.6
ILAR Eielson Array 78.12 358 P **P 17 54 54.9 +0.2**
comp=Z,0.7nm,0.9s,baz=330,slow=3.2,SNR=5.7
comp=Z,0.7nm,0.9s
J25K Salcha River, 78.23 358 P **P 17 54 55.8 +0.4**
baz=4.1
J26L Joseph Creek 78.28 357 P **P 17 54 55.7 0.0**
baz=5.6
NEA2 Nenana 78.33 359 P **P 17 54 56.1 +0.2**
baz=1.1
DAWY Dawson 78.48 355 P **P 17 54 57.3 +0.6**
baz=8.9
HDA Harding Lake 78.48 358 P **P 17 54 57.0 +0.3**
baz=2.8
K29M Barlow Dome 78.56 354 P **P 17 54 57.9 +0.6**
baz=10
K27K Chicken 78.68 356 P **P 17 54 58.3 +0.5**
baz=6.8
J20K Nowinta River 78.71 2 P **P 17 54 58.9 +0.9**
baz=357
I17K Unalakleet 78.72 5 P **P 17 54 59.5 +1.4**
baz=352
SCRK Sand Creek 78.82 357 P **P 17 54 59.4 +0.6**
baz=5.2
BPAW Bear Paw Mtn. 78.83 0 P **P 17 54 59.3 +0.6**
baz=360
J19K Poorman 78.86 2 P **P 17 54 60.0 +1.2**
baz=356,SNR=5.4
CHUM Lake Minchumin 79.04 1 P **P 17 55 00.4 +0.6**
baz=358
K24K Donnelly Dome 79.06 358 P **P 17 55 00.3 +0.4**
baz=3.8
RIDG Independent Ri 79.09 357 P **P 17 55 00.5 +0.3**
baz=4.5
MMPY Sheldon Lake, 79.12 351 P **P 17 55 00.2 -0.1**
baz=15
MCK McKinley 79.19 359 P **P 17 55 01.0 +0.3**
baz=1.2
J17K VABM Dome 79.31 4 P **P 17 55 01.4 +0.2**
baz=353
PETK Petropavlovsk- 79.32 29 LR LR 18 36 12.3
comp=Z,65nm,18.5s,baz=359,slow=40
J16K Anvik River 79.33 5 P **P 17 55 01.9 +0.5**
baz=352
L29M L29M 79.33 354 P **P 17 55 02.6 +1.1**
baz=9.9
J18K Innoko River 79.35 3 P **P 17 55 02.3 +0.7**
baz=355
TRF Thorofare Moun 79.48 360 P **P 17 55 03.2 +0.8**
baz=0.1
CAST Castle Rocks 79.51 1 P **P 17 55 03.5 +1.1**
baz=359
K20K Telida 79.54 2 P **P 17 55 03.8 +1.2**
baz=357
L27K Beaver Creek, 79.63 356 P **P 17 55 04.0 +0.9**
baz=7.0
J14K Nanvaranak Lak 79.64 6 P **P 17 55 04.0 +1.0**
baz=349
FARO Faro, Yukon 79.74 352 P **P 17 55 04.3 +0.6**
baz=14
L26K Log Cabin Wild 79.74 357 P **P 17 55 04.3 +0.6**
baz=5.7
M30M Minto, Yukon 79.75 354 P **P 17 55 04.6 +0.8**
baz=11
TGTN Hyland Airport 79.76 349 P **P 17 55 05.0 +1.2**
baz=18
M31M Drury Creek, Y 79.88 352 P **P 17 55 05.5 +1.1**
baz=13
M29M Somme Creek 80.02 354 P **P 17 55 06.2 +0.9**
baz=9.7
K17K Iditarod 80.03 4 P **P 17 55 05.8 +0.6**
baz=354
BVCY Beaver Creek 80.22 355 P **P 17 55 06.0 -0.2**
baz=7.7
K15K Wolf Creek Mou 80.25 5 P **P 17 55 07.3 +0.9**
baz=351
K13K Kusilvak Mount 80.35 7 P **P 17 55 07.6 +0.7**
baz=349
M26K Nabesna, AK 80.35 356 P **P 17 55 07.8 +0.8**
baz=6.0
L20K Farewell, AK 80.42 2 P **P 17 55 08.5 +1.2**
baz=357
HARP HAARP 80.44 357 P **P 17 55 08.8 +1.4**
baz=4.2
L18K Granite Mounta 80.59 3 P **P 17 55 09.7 +1.5**
baz=355
L17K Donlin 80.61 4 P **P 17 55 09.9 +1.6**
baz=354
L19K White Mountain 80.70 2 P **P 17 55 10.3 +1.4**
baz=356
N31M Braeburn, Yuko 80.72 353 P **P 17 55 09.4 +0.4**
baz=12
N32M Quiet Lake 80.76 352 P **P 17 55 10.1 +0.9**
baz=14
YUK3 Moose Creek 80.83 355 P **P 17 55 10.3 +0.5**
baz=8.0
L15K Ungalak Mounta 80.86 5 P **P 17 55 11.1 +1.4**
baz=351
SKT Skwentna 80.96 0 P **P 17 55 11.2 +1.0**
baz=359
L16K Owhat River 80.96 4 P **P 17 55 11.2 +1.0**
baz=353
M20K Styx River 81.04 1 P **P 17 55 11.1 +0.4**
baz=358
SCM Sheep Creek Mo 81.07 358 P **P 17 55 11.8 +0.9**
baz=2.5
YUK4 Talbot Arm 81.12 354 P **P 17 55 11.0 -0.3**
baz=9.6
M23K Glacier View 81.12 359 P **P 17 55 12.0 +0.9**
baz=2.2
M22K Willow 81.19 360 P **P 17 55 12.3 +0.9**
baz=0.2
WTLY Watson Lake, Y 81.19 349 P **P 17 55 12.1 +0.6**
baz=17
PMR Palmer 81.34 359 P **P 17 55 12.8 +0.6**
baz=1.0
M18K Stony River 81.36 3 P **P 17 55 12.8 +0.5**
baz=356
KLU Klutina 81.38 358 P **P 17 55 13.1 +0.6**
baz=3.6
M17K Holitna River 81.38 3 P **P 17 55 12.8 +0.4**
baz=354
YUK6 Outpost Mounta 81.49 354 P **P 17 55 13.7 +0.3**
baz=9.7
KNK Knik Glacier 81.51 359 P **P 17 55 14.0 +0.8**
baz=1.6
HYT Haines Junctio 81.54 354 P **P 17 55 14.1 +0.6**
baz=10
M16K Timber Creek 81.68 4 P **P 17 55 14.7 +0.6**
baz=353
M11K Mekoryuk 81.71 8 P **P 17 55 14.5 +0.3**
baz=347
TOAD Toad River Com 81.81 347 P **P 17 55 15.5 +0.7**
baz=20
M15K Kasigluk River 81.90 5 P **P 17 55 15.8 +0.7**
baz=352
O29M Mount Kennedy 82.14 354 P **P 17 55 16.6 -0.1**
baz=9.5
N18K Kilae Creek 82.17 3 P **P 17 55 16.6 -0.1**
baz=356
R33M Jennings River 82.19 350 P **P 17 55 16.7 -0.3**
baz=16
N16K Nishlik Lake 82.24 4 P **P 17 55 17.2 +0.2**
baz=353
PLBC Pleasant Camp 82.78 353 P **P 17 55 20.4 +0.6**
baz=11
Q32M Nakina River 82.79 351 P **P 17 55 20.1 -0.1**
baz=14
SEW Seward 82.84 359 P **P 17 55 20.8 +0.8**
baz=0.8
O16K Kokwok River B 83.15 4 P **P 17 55 22.3 +0.6**
baz=354
O14K Tigyukauivet M 83.28 6 P **P 17 55 23.0 +0.6**
baz=351
KDAK Kodiak Island 85.16 1 P **P 17 55 32.9 +1.0**
baz=358
BDFB Brasilia 89.75 250 P **P 17 55 55.6 +0.8**
comp=Z,3.5nm,0.7s,baz=89,slow=5.8,SNR=4.2
BDFB LR LR 18 36 22.4
comp=Z,74nm,20.2s,baz=300,slow=36
comp=Z,3.5nm,0.7s

IDC 20 18:04:50.2±1.8, 1°.60N×125°.82E, h0km, mb3.5/4,
mbtmp3.5/4, Error ellipse: s-maj=207.7km
s-min=21.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=338,slow=10,SNR=6.7 1.2nm,0.5s	**22.98**	**159**	P	P	18 09 56.3	-0.4
ASAR	**Alice Springs** 0.4nm,0.7s,baz=342,slow=11,SNR=15 0.4nm,0.7s	**26.32**	**163**	P	P	18 10 28.0	+0.1
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=122,slow=7.5,SNR=5.3	**58.80**	**326**	P	P	18 14 50.3	-0.1

0.2nm,0.3s
KURBB **Kurchatov Arra** **63.05 328** P P 18 15 19.4 +0.2
0.2nm,0.4s,baz=130,slow=6.2,SNR=7.1
0.2nm,0.4s

ROM 20 18:06:27.1±0.0, 42°.856N±0°.003×13°.204E±0°.004, h10km, ML2.1/46, 1C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=56.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.06**	**350**	⇓P	Pg	18 06 29.8	+0.3
MC2				S	Sg	18 06 31.5	+0.4
NRCA	**Norcia**	**0.07**	**251**	⇓P	Pg	18 06 29.9	+0.5
NRCA				S	Sg	18 06 31.6	+0.5
NRCA				AML	AML		
	comp=E,22650μm,0.1s						
NRCA				AML	AML		
	comp=N,8560μm,0.8s						
NRCA				AML	AML		
	comp=N,9880μm,0.8s						
NRCA				AML	AML		
	comp=N,8575μm,0.8s						
NRCA				AML	AML		
	comp=N,9880μm,1.2s						
NRCA				AML	AML		
	comp=E,22600μm,0.1s						
NRCA				AML	AML		
	comp=E,23650μm,0.1s						
NRCA				AML	AML		
	comp=N,8575μm,1.2s						
MMO1	**Montemonaco**	**0.10**	**65**	⇑P	Pg	18 06 30.2	+0.4
MMO1				S	Sg	18 06 32.2	+0.5
FEMA	**Monte Fema**	**0.15**	**313**	P	Pg	18 06 31.1	+0.5
FEMA				S	Sg	18 06 33.9	+0.7
FEMA				AML	AML		
	comp=N,1865μm,0.4s						
FEMA				AML	AML		
	comp=E,2565μm,0.2s						
FEMA				AML	AML		
	comp=N,1865μm,1.6s						
MTRA	**Matera**	**0.17**	**125**	P	Pg	18 06 31.3	+0.5
MTRA				S	Sg	18 06 34.4	+1.0
MTRA				AML	AML		
	comp=E,1036μm,0.3s						
MTRA				AML	AML		
	comp=N,1255μm,0.2s						
MTRA				AML	AML		
	comp=N,1290μm,0.4s						
MTRA				AML	AML		
	comp=E,1045μm,0.4s						
FDMO	**Fiordimonte**	**0.20**	**335**	⇓P	Pg	18 06 31.7	+0.4
FDMO				S	Sg	18 06 35.0	+0.8
FDMO				AML	AML		
	comp=N,533μm,0.1s						
FDMO				AML	AML		
	comp=E,719μm,0.1s						
GUMA	**Gualdo di Mace**	**0.23**	**25**	P	Pb	18 06 32.6	-0.7
GUMA				S	Sg	18 06 36.5	+1.5
GUMA				AML	AML		
	comp=E,3095μm,0.3s						
GUMA				AML	AML		
	comp=N,2025μm,0.5s						
MF5	**Montefalcone A**	**0.23**	**55**	P	Pg	18 06 32.6	+0.8
MF5				S	Sg	18 06 37.0	+1.9
MF5				AML	AML		
	comp=N,572μm,0.2s						
MF5				AML	AML		
	comp=E,551μm,0.6s						
CSP1	**Cessapalombo**	**0.23**	**0**	P	Pg	18 06 32.4	+0.4
SMA1	**SAN MARTINO**	**0.25**	**157**	P	Pg	18 06 32.7	+0.6
SMA1				S	Sg	18 06 36.8	+1.2
SMA1				AML	AML		
	comp=N,228μm,0.1s						
SMA1				AML	AML		
	comp=E,282μm,0.2s						
CESI	**CESI - Serrava**	**0.27**	**304**	P	Pg	18 06 33.0	+0.5
CESI				S	Sg	18 06 37.3	+1.2
CESI				AML	AML		
	comp=N,1575μm,0.5s						
CESI				AML	AML		
	comp=E,1530μm,0.3s						
LNSS	**Leonessa**	**0.28**	**205**	P	Pg	18 06 33.3	+0.6
LNSS				S	Sb	18 06 38.0	-1.1
LNSS				AML	AML		
	comp=E,668μm,0.5s						
LNSS				AML	AML		
	comp=N,559μm,1.2s						
LNSS				AML	AML		
	comp=N,559μm,0.8s						
GAVE	**Gavelli**	**0.28**	**234**	P	Pg	18 06 33.3	+0.5
GAVE				S	Sb	18 06 37.9	-1.2
GAVE				AML	AML		
	comp=N,700μm,0.6s						
GAVE				AML	AML		
	comp=E,634μm,0.5s						
PF6	**Pievefavera**	**0.29**	**358**	P	Pg	18 06 33.0	0.0
MML1	**Montelago di S**	**0.31**	**327**	P	Pg	18 06 33.7	+0.4
MML1				S	Sg	18 06 38.4	+1.0
RM33	**Pellescritta (**	**0.35**	**179**	P	Pg	18 06 34.5	+0.5
RM33				S	Sb	18 06 40.3	-0.6
RM33				AML	AML		
	comp=E,210μm,0.1s						
RM33				AML	AML		
	comp=N,164μm,1.5s						
RM33				AML	AML		
	comp=N,164μm,0.5s						
CAMP	**Campotosto**	**0.35**	**155**	P	Pg	18 06 34.8	+0.6
CAMP				S	Sb	18 06 40.1	-1.1
CAMP				AML	AML		
	comp=N,133μm,0.5s						
CAMP				AML	AML		
	comp=E,168μm,0.6s						
OFFI	**Offida**	**0.36**	**77**	P	Pb	18 06 35.0	-0.6
TERO	**Teramo**	**0.38**	**128**	P	Pg	18 06 34.8	+0.3
TERO				S	Sb	18 06 40.8	-0.9
TERO				AML	AML		
	comp=N,246μm,0.5s						
TERO				AML	AML		
	comp=E,329μm,1.1s						
SNTG	**Esanatoglia**	**0.44**	**334**	P	Pg	18 06 35.9	+0.2
SNTG				S	Sb	18 06 42.8	-0.9
SNTG				AML	AML		
	comp=N,124μm,1.3s						
SNTG				AML	AML		
	comp=N,124μm,0.7s						
SNTG				AML	AML		
	comp=E,133μm,1.5s						
MOMA	**Monte Martano**	**0.47**	**264**	P	Pg	18 06 36.8	+0.5
MOMA				AML	AML		
	comp=E,236μm,1.6s						
MOMA				AML	AML		
	comp=N,145μm,0.8s						
MOMA				AML	AML		
	comp=E,236μm,0.4s						
MOMA				AML	AML		
	comp=N,145μm,1.2s						
ATCC	**AVT- Casa Cast**	**0.53**	**309**	P	Pg	18 06 37.6	+0.3
ATCC				S	Sb	18 06 46.0	-0.2
ATCC				AML	AML		
	comp=E,175μm,1.4s						
ATCC				AML	AML		
	comp=N,162μm,0.5s						
ATCC				AML	AML		
	comp=E,175μm,0.6s						
ATCC				AML	AML		
	comp=N,162μm,1.5s						
FOSV	**Fossato di Vic**	**0.55**	**324**	P	Pg	18 06 37.8	+0.1
FOSV				S	Sb	18 06 46.1	-0.5
FOSV				AML	AML		
	comp=E,216μm,0.3s						
FOSV				AML	AML		
	comp=N,252μm,0.3s						
SSFR	**Montelago di S**	**0.66**	**332**	P	Pg	18 06 39.9	+0.1
SSFR				S	Sb	18 06 49.9	0.0
SSFR				AML	AML		
	comp=N,194μm,0.3s						
SSFR				AML	AML		
	comp=E,204μm,0.7s						
PIEI	**Pieia**	**0.84**	**324**	P	Pg	18 06 43.4	+0.2

ROM 20 18:07:17.1±0.1, 42°.863N±0°.004×13°.205E±0°.006, h10km, ML1.2/18, 2C, Error ellipse: s-maj=0.5km s-min=0.5km az=262.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05**	**348**	P	Pg	18 07 19.6	+0.1
MC2				S	Sg	18 07 21.2	+0.1
NRCA	**Norcia**	**0.07**	**246**	P	Pg	18 07 19.6	+0.1
NRCA				S	Sg	18 07 21.8	+0.6
NRCA				AML	AML		
	comp=E,1885μm,0.1s						
NRCA				AML	AML		
	comp=N,940μm,0.1s						
NRCA				AML	AML		
	comp=E,1883μm,0.1s						
NRCA				AML	AML		
	comp=N,940μm,0.1s						
NRCA				AML	AML		
	comp=E,1825μm,0.1s						
NRCA				AML	AML		
	comp=N,797μm,0.1s						
MMO1	**Montemonaco**	**0.10**	**68**	P	Pg	18 07 20.3	+0.5
MMO1				S	Sg	18 07 22.3	+0.6
MTRA	**Matera**	**0.18**	**127**	P	Pg	18 07 21.0	+0.1
MTRA				S	Sg	18 07 24.7	+1.1
MTRA				AML	AML		
	comp=E,85μm,0.1s						
MTRA				AML	AML		
	comp=N,110μm,0.2s						
MTRA				AML	AML		
	comp=E,125μm,0.1s						
MTRA				AML	AML		
	comp=N,237μm,0.7s						
FDMO	**Fiordimonte**	**0.19**	**333**	⇑P	Pg	18 07 21.4	+0.1
FDMO				S	Sg	18 07 25.2	+1.1
FDMO				AML	AML		
	comp=E,54μm,0.1s						
FDMO				AML	AML		
	comp=N,43μm,0.1s						
MF5	**Montefalcone A**	**0.23**	**56**	P	Pb	18 07 22.6	-0.7
MF5				AML	AML		
	comp=E,76μm,1.3s						
MF5				AML	AML		
	comp=N,46μm,0.2s						
SMA1	**SAN MARTINO**	**0.25**	**158**	⇑P	Pb	18 07 23.1	-0.7
SMA1				S	Sb	18 07 27.3	-1.0
SMA1				AML	AML		
	comp=E,35μm,0.4s						
SMA1				AML	AML		
	comp=N,22μm,0.4s						
LNSS	**Leonessa**	**0.29**	**205**	P	Pg	18 07 23.6	+0.6
LNSS				S	Sb	18 07 28.5	-0.8
LNSS				AML	AML		
	comp=E,42μm,0.2s						
LNSS				AML	AML		
	comp=N,47μm,0.3s						

JMA 20 18:16:38.9±0.2, 28°.1N±0°.3×128°.1E±0°.4, h17km±2km, MV2.1/7, NW OFF OKINAWAJIMA IS, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.85**	**111**	*e*P	Pb	18 16 54.8	-0.4
JTK				*e*S	Sb	18 17 06.1	-0.2
JOKE	**Okinoerabujima**	**0.86**	**148**	*e*P	Pb	18 16 55.0	-0.4
JOKE				*e*S	Sb	18 17 06.4	-0.3
JAMN	**Amaminishikomi**	**1.00**	**81**	*e*P	Pb	18 16 57.4	-0.3
JAMN				*e*S	Sb	18 17 10.5	-0.1
JIH	**Iheya**	**1.06**	**184**	*e*P	Pb	18 16 58.4	-0.4
JIH				*e*S	Sb	18 17 12.3	-0.1
JYRO	**Yoronjima**	**1.12**	**162**	*e*P	Pn	18 16 59.6	-0.2

BJI ***20*** *18:17:14.8, 25°.53N×128°.88E, h12km, mB4.8/10, mb4.3/34, Ms4.1/9, Ms7 4.0/9*
IDC ***20*** *18:17:15.8±0.6, 25°.63N×128°.67E, h0km, mb4.2/21, mbtmp4.2/25, ML3.9/4, MS3.7/7, Error ellipse: s-maj=21.4km s-min=13.0km az=84.0*
NEIC ***20*** *18:17:17.6±1.5, 25°.68N±0°.07×128°.81E±0°.07, h10km±5km, mb4.6/34, Error ellipse: s-maj=11.2km s-min=8.2km az=203.0*
JMA ***20*** *18:17:18.8±0.3, 26°N±1°×12°9E±°, h49km, MD4.3/31, MV4.4/31, NEAR OKINAWAJIMA ISLAND*
NIED ***20*** *18:17:18.8, 25°.72N×128°.80E, h49km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.69; $M_{\theta\theta}$1.58; $M_{\phi\phi}$0.11; $M_{r\theta}$0.61; $M_{\theta\phi}$1.56; $M_{\phi r}$0.05; Fault plane solution: $M_0$2.24000×10^{15} NP1:ϕ_s41.00000°, δ40.00000°, λ-115.00000°. NP2:ϕ_s252.00000°, δ54.00000°, λ-70.00000°.*

ISC 20 18:17:19.6±0.8, 25°.62N±0°.04×128°.81E±0°.03, h29km±5km, n129, σ2°.51/159, mb4.4/42, MS4.0/9, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.06**	**300**	*i* P	**Pn**	**18 17 37.1**	**-1.4**
JJT3				*e*S	**Sn**	**18 17 50.3**	**-2.0**
JJT3	**Tamagusuku3**	**1.06**	**300**	A	A	18 17 37.1	
	comp=N,25nm,0.7s,comp=E,16nm,0.5s						
JNTH	**Nagotoyohara**	**1.14**	**322**	P	**Pn**	**18 17 37.4**	**-2.2**
JNTH				*e*S	**Sn**	**18 17 49.9**	**-4.3**
JOW	**Kunigami**	**1.29**	**338**	Pn	**Pn**	**18 17 40.1**	**-1.7**
	comp=E,1μm,0.3s,baz=131,slow=23,SNR=588						
JOW				Sn	**Sn**	**18 17 54.3**	**-3.8**
	comp=E,559nm,0.3s,baz=357,slow=28,SNR=32						
JOW	**Kunigami**	**1.29**	**338**	P	**Pn**	**18 17 40.1**	**-1.7**
JOW	**Kunigami**	**1.29**	**338**	P	**Pn**	**18 17 40.0**	**-1.7**
JOW				*e*S	**Sn**	**18 17 54.4**	**-3.8**
JYRO	**Yoronjima**	**1.43**	**347**	*i* P	**Pn**	**18 17 41.9**	**-1.7**
JYRO				*e*S	**Sn**	**18 17 57.7**	**-3.7**
JIH	**Iheya**	**1.59**	**332**	P	**Pn**	**18 17 44.6**	**-1.3**
JIH				*e*S	**Sn**	**18 18 02.8**	**-2.7**
JAGN	**Aguni-jima**	**1.70**	**305**	P	**Pn**	**18 17 46.1**	**-1.3**
JAGN				*e*S	**Sn**	**18 18 05.5**	**-2.7**
JAGN	**Aguni-jima**	**1.70**	**305**	A	A	18 17 46.1	
	comp=N,6.0nm,0.6s,comp=E,6.0nm,0.8s						
JOKE	**Okinoerabujima**	**1.74**	**353**	P	**Pn**	**18 17 46.6**	**-1.3**
JOKE				*e*S	**Sn**	**18 18 06.2**	**-3.1**
JKE	**Kume jima 2**	**1.95**	**291**	P	**Pn**	**18 17 49.0**	**-1.7**
JKE				*e*S	**Sn**	**18 18 10.4**	**-3.8**
JTK	**Tokunoshima**	**2.16**	**3**	P	**Pn**	**18 17 52.1**	**-1.5**
JTK				*e*S	**Sn**	**18 18 15.1**	**-4.4**
JMZ	**Minamidaito 2**	**2.19**	**84**		**Pn**	**18 17 52.8**	**-1.2**
JMZ				Sn	**Sn**	**18 18 15.4**	**-4.7**
JMZ	**Minamidaito 2**	**2.19**	**84**	P	**Pn**	**18 17 52.5**	**-1.5**
JMZ	**Minamidaito 2**	**2.19**	**84**	P	**Pn**	**18 17 52.2**	**-1.8**
JMZ				*e*S	**Sn**	**18 18 16.0**	**-4.1**
JKDJ	**Kitadaitoujima**	**2.27**	**81**	P	**Pn**	**18 17 53.6**	**-1.5**
JKDJ				*e*S	**Sn**	**18 18 18.8**	**-3.4**
JAMN	**Amaminishikomi**	**2.63**	**7**	*e*P	**Pn**	**18 17 58.6**	**-1.4**
JAMN				*e*S	**Sn**	**18 18 27.9**	**-3.1**
JAM	**Amami Oshima**	**2.87**	**14**	P	**Pn**	**18 18 01.6**	**-1.8**
JAM				*e*S	**Sn**	**18 18 33.2**	**-3.6**
JZK	**Kikaishima**	**2.87**	**21**	*e*P	**Pn**	**18 18 02.5**	**-1.0**
JZK				*e*S	**Sn**	**18 18 35.1**	**-2.0**
JOGS	**Gusukube**	**3.20**	**255**	P	**Pn**	**18 18 06.9**	**-1.0**
JOGS				*e*S	**Sn**	**18 18 42.2**	**-2.9**
JMJ2	**Miyako jima3**	**3.27**	**255**	P	**Pn**	**18 18 07.7**	**-1.2**
JMJ2				*e*S	**Sn**	**18 18 43.3**	**-3.7**
JMJ	**Miyako jima 2**	**3.28**	**257**	P	**Pn**	**18 18 07.2**	**-1.9**
JIKM	**Ikemajima**	**3.30**	**259**	P	**Pn**	**18 18 08.0**	**-1.3**
JIKM				*e*S	**Sn**	**18 18 44.2**	**-3.3**
JIRB	**Irabujima**	**3.39**	**257**	P	**Pn**	**18 18 08.9**	**-1.6**
JIRB				*e*S	**Sn**	**18 18 44.9**	**-4.8**
JTAJ	**Takarajima**	**3.53**	**6**	*e*P	**Pn**	**18 18 11.0**	**-1.5**
JTAJ				*e*S	**Sn**	**18 18 48.6**	**-4.8**
JTJ	**Tarama**	**3.85**	**256**	P	**Pn**	**18 18 15.1**	**-1.8**
JTJ				*e*S	**Sn**	**18 18 56.1**	**-5.0**
JISG	**Ishigakijimahi**	**4.21**	**257**	P	**Pn**	**18 18 19.3**	**-2.5**
JISG				*e*S	**Sn**	**18 19 04.0**	**-5.9**
JNN	**Nakanoshima**	**4.31**	**12**	*e*P	**Pn**	**18 18 21.7**	**-1.5**
JIJ	**Ishigaki jima**	**4.41**	**254**	*e*P	**Pn**	**18 18 22.4**	**-2.3**
JKRS	**Kuro-shima**	**4.57**	**253**	*e*P	**Pn**	**18 18 24.9**	**-1.9**
IRIF	**Iriomote-Funau**	**4.78**	**256**	*e*P	**Pn**	**18 18 27.3**	**-2.4**
YOJ	**Yonaguni jima**	**5.38**	**259**	Pn	**Pn**	**18 18 35.4**	**-2.6**
YOJ	**Yonaguni jima**	**5.38**	**259**	P	**Pn**	**18 18 35.4**	**-2.6**
TATO	**Taipei**	**6.66**	**266**	P	**Pn**	**18 18 53.9**	**-1.6**
NACB	**Ninganchiao**	**6.71**	**259**		**Pn**	**18 18 52.9**	**-3.2**
NACB	**Ninganchiao**	**6.71**	**259**	P	**Pn**	**18 18 52.8**	**-3.4**
YHNB	**Yeheng**	**6.80**	**264**		**Pn**	**18 18 56.5**	**-1.0**
YHNB	**Yeheng**	**6.80**	**264**	P	**Pn**	**18 18 55.4**	**-2.1**
YULB	**Yu-li**	**7.19**	**254**		**Pn**	**18 18 58.2**	**-4.7**
YULB	**Yu-li**	**7.19**	**254**	P	**Pn**	**18 18 58.6**	**-4.3**
SSLB	**Suanglung**	**7.37**	**257**		**Pn**	**18 19 01.6**	**-3.8**
SSLB	**Suanglung**	**7.37**	**257**	P	**Pn**	**18 19 02.1**	**-3.2**
TWG	**Pinlang**	**7.59**	**250**		**Pn**	**18 19 03.6**	**-4.7**
JNU	**Nakatsue**	**7.69**	**13**	Pn	**Pn**	**18 19 09.4**	**-0.2**
	comp=E,7.5nm,0.3s,baz=250,slow=2.7,SNR=58						
JNU				Sn	**Sn**	**18 20 31.3**	**-4.5**
	comp=E,0.9nm,0.3s,baz=86,slow=6.9,SNR=2.0						
	comp=E,22nm,0.4s						
JNU	**Nakatsue**	**7.69**	**13**	P	**Pn**	**18 19 09.0**	**-0.6**
	comp=E,32nm,0.9s						
TPUB	**Ta-pu**	**7.80**	**254**		**Pn**	**18 19 08.7**	**-2.5**
TPUB	**Ta-pu**	**7.80**	**254**	P	**Pn**	**18 19 08.7**	**-2.5**
JMN	**Monobe**	**9.20**	**27**	Pn	**Pn**	**18 19 28.9**	**-1.5**
JMN	**Monobe**	**9.20**	**27**	P	**Pn**	**18 19 29.4**	**-1.0**
NJ2	**Nanjing**	**10.82**	**309**	*e*P	**Pn**	**18 19 53.5**	**+0.9**
NJ2				pmax	pmax		
	comp=E,8.0nm,0.5s						
NJ2				LR	LR		
	comp=E,400nm,14.7s						
NJ2				LR	LR		
	comp=E,400nm,12.8s						
NJ2				LR	LR		
	comp=E,500nm,14.2s						
KSRS	**Korea Array**	**11.82**	**357**	Pn	**Pn**	**18 20 06.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=177,slow=14,SNR=6.4						
KSRS				LR	LR	18 25 21.4	
	comp=E,135nm,18.3s,baz=230,slow=41						
	comp=E,3.0nm,0.8s						
JGF	**Kuroka**	**12.37**	**34**	P	**Pn**	**18 20 12.5**	**-1.2**
MAJO	**Matsushiro**	**13.53**	**34**	Pn	**Pn**	**18 20 28.6**	**-1.0**
MJAR	**Matsushiro Arr**	**13.53**	**34**	Pn	**Pn**	**18 20 29.2**	**-0.4**
	comp=E,0.1nm,0.3s,baz=204,slow=13,SNR=5.1						
	comp=E,0.6nm,0.5s						
HNS	**HongShan**	**16.78**	**318**	⇑P	**P**	**18 21 15.3**	**+0.9**
HNS				PP	**pwP**	**18 21 28.3**	**+0.9**
HNS				pmax	pmax		
	comp=E,17nm,0.6s						
HNS				LR	LR		
	comp=E,200nm,9.4s						
HNS				LR	LR		
	comp=E,380nm,14.2s						
HNS				LR	LR		
	comp=E,410nm,14.7s						
USRK	**Ussuriysk Ar.**	**18.71**	**7**	P	**P**	**18 21 35.4**	**-0.3**
	comp=E,0.4nm,0.3s,baz=187,slow=9.3,SNR=9.5						
	comp=E,4.4nm,0.6s						
QIZ	**Qiongzhong**	**18.72**	**253**	P	**P**	**18 21 36.1**	**+0.1**
QIZ				S	**S**	**18 25 07.5**	**-0.2**
QIZ				LR	LR		
	comp=E,120nm,14.5s						
QIZ				LR	LR		
	comp=E,170nm,15.4s						
QIZ				LR	LR		
	comp=E,170nm,17.3s						
HHC	**Hu-ho-hao-te**	**20.88**	**321**	*e*P	**P**	**18 21 56.6**	**-3.0**
HHC				S	**S**	**18 25 43.3**	**-7.7**
HHC				pmax	pmax		
	comp=E,17nm,0.5s						
HHC				pmax	pmax		
	comp=E,87nm,4.0s						
HHC				LR	LR		
	comp=E,140nm,11.2s						
HHC				LR	LR		
	comp=E,280nm,14.5s						
HHC				LR	LR		
	comp=E,310nm,12.6s						
XLT	**XiLinHaoTe**	**20.97**	**334**	*e*P	Pn	18 22 03.6	+0.5
XLT				pP	pP	18 22 08.0	+1.2
XLT				sP	sP	18 22 11.5	+1.6
XLT				PP	**PnPn**	**18 22 28.3**	**+8.7**
XLT				PcP	**PcP**	**18 26 11.1**	**+3.9**
XLT				pmax	pmax		
	comp=E,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=E,140nm,4.7s						
ASAJ	**Asahikawa**	**21.59**	**28**	P	**P**	**18 22 07.6**	**+0.6**
	comp=E,11nm,0.7s,baz=206,slow=12,SNR=10						
	comp=E,11nm,0.7s						
BTO	**Baotou**	**21.63**	**318**	*e*P	**P**	**18 22 11.4**	**+3.8**
BTO				pP	**sP**	**18 22 16.3**	**-0.4**
BTO				sP	**pwP**	**18 22 18.8**	**-1.6**
BTO				PP	**PnPn**	**18 22 36.8**	**+8.1**
BTO				pmax	pmax		
	comp=E,14nm,0.6s						
BTO				pmax	pmax		
	comp=E,240nm,4.6s						
BTO				LR	LR		
	comp=E,460nm,7.7s						
BTO				LR	LR		
	comp=E,180nm,5.8s						
BTO				LR	LR		
	comp=E,560nm,12.6s						
KMI	**Kunming**	**23.55**	**274**	P	**P**	**18 22 29.1**	**+1.2**
KMI				pmax	pmax		
	comp=E,12nm,0.7s						
YSS	**Yuzhno-Sakhali**	**24.00**	**24**		**P**	**18 22 33.7**	**+2.0**
PZH	**PanZhiHua**	**24.32**	**278**	P	**P**	**18 22 34.5**	**-0.5**
PZH				pmax	pmax		
	comp=E,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=E,130nm,4.1s						
TNCH	**TengChong**	**27.36**	**275**	P	**P**	**18 23 03.3**	**+0.7**
TNCH				pP	pP	18 23 06.4	-2.9
TNCH				sP	sP	18 23 09.6	-2.2
TNCH				PP	**PnPn**	**18 23 52.1**	**+4.9**
TNCH				S	**S**	**18 27 41.3**	**+0.3**
TNCH				SS	**SnSn**	**18 28 58.8**	**+7.8**
TNCH				pmax	pmax		
	comp=E,5.0nm,0.7s						
TNCH				pmax	pmax		
	comp=E,82nm,4.3s						
TNCH				LR	LR		
	comp=E,160nm,5.5s						
TNCH				LR	LR		
	comp=E,140nm,10.5s						
TNCH				LR	LR		
	comp=E,170nm,9.4s						
GTA	**Gaotai**	**27.91**	**307**	*e*P	**P**	**18 23 07.0**	**-0.3**
GTA				sP	sP	18 23 17.8	+0.9
GTA				pmax	pmax		
	comp=E,10.0nm,0.8s						
SONM	**Songino Array**	**28.34**	**327**	P	**P**	**18 23 11.2**	**+0.1**
SONM	**Songino Array**	**28.34**	**327**	P	**P**	**18 23 09.9**	**-1.2**
	comp=E,1.1nm,0.4s,baz=143,slow=11,SNR=15						
	comp=E,1.1nm,0.4s						
CHTO	**Chiang Mai**	**28.42**	**262**	P	**P**	**18 23 12.2**	**+0.3**
CHTO				IAmb	IAmb	18 23 14.0	
	comp=Z,6.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**28.54**	**262**	P	**P**	**18 23 11.8**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=61,slow=9.8,SNR=7.3						
	comp=Z,0.5nm,0.4s						
SHL	**Shillong**	**33.23**	**278**	P	**P**	**18 23 53.7**	**-0.8**
SHL				IAmb	IAmb	18 23 55.8	
	comp=Z,5.4nm,0.7s						
LSA	**Lhasa**	**33.50**	**286**	P	**P**	**18 23 57.6**	**+0.4**
LSA				IAmb	IAmb	18 23 58.9	
	comp=Z,2.1nm,0.6s						
YAK	**Yakutsk**	**36.40**	**1**	P	**P**	**18 24 21.1**	**-0.1**
MA2	**Magadan**	**37.22**	**18**	P	**P**	**18 24 27.5**	**-0.7**
WMQ	**Urumqi**	**37.90**	**309**	*e*P	**P**	**18 24 33.8**	**-0.5**
WMQ				PP	**PnPn**	**18 26 05.3**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,18nm,0.6s						
GSI	**Gunungsitoli**	**38.60**	**236**	P	**P**	**18 24 39.2**	**-1.2**
GSI				IAmb	IAmb	18 24 41.2	
	comp=Z,9.7nm,1.0s						
MK31	**Makanchi Array**	**42.32**	**312**	P	**P**	**18 25 09.8**	**-1.1**
MKAR	**Makanchi Array**	**42.32**	**312**	P	**P**	**18 25 10.4**	**-0.5**
MKAR	**Makanchi Array**	**42.32**	**312**	P	**P**	**18 25 10.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=94,slow=11,SNR=17						
MKAR				PcP	**PcP**	**18 27 04.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=102,slow=2.9,SNR=4.8						
MKAR				LR	LR	18 43 43.0	
	comp=Z,60nm,18.6s,baz=344,slow=38						
	comp=Z,0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**43.04**	**323**	P	**P**	**18 25 15.7**	**-0.9**
ZALV	**Zalesovo Beam**	**43.04**	**323**	P	**P**	**18 25 16.1**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=115,slow=8.5,SNR=9.1						
	comp=Z,1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**43.57**	**184**	P	**P**	**18 25 21.6**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=4.5,slow=12,SNR=1.2						
	comp=Z,2.1nm,0.8s						
WUS	**Wushi**	**43.63**	**304**	P	**P**	**18 25 22.5**	**+0.8**
WUS				IAmb	IAmb	18 26 00.8	
	comp=Z,6.9nm,1.5s						
KDJ	**Kajisay**	**45.22**	**305**	P	**P**	**18 25 34.2**	**-0.3**

WRAB	**Tennant Creek**	**45.60 173**	P	**P**	**18 25 38.6**	**+1.2**
WRAB			IAmb	IAmb	18 25 41.7	
comp=Z,5.4nm,0.8s						
WRA	**Warramunga Arr**	**45.61 173**	P	**P**	**18 25 38.1**	**+0.6**
WRA	**Warramunga Arr**	**45.61 173**	P	**P**	**18 25 37.4**	**-0.1**
comp=Z,5.9nm,0.7s,baz=351,slow=8.2,SNR=24						
comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**45.61 173**	P	**P**	**18 25 37.9**	**+0.4**
KURBB	**Kurchatov Arra**	**45.65 317**	P	**P**	**18 25 36.8**	**-0.6**
comp=Z,0.9nm,0.6s,baz=105,slow=8.9,SNR=11						
KURBB			PcP	**PcP**	**18 27 15.4**	**+0.1**
comp=Z,0.4nm,0.8s,baz=106,slow=3.3,SNR=4.2						
KURBB			LR	LR	18 46 40.7	
comp=Z,84nm,19.2s,baz=168,slow=39						
comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**49.25 174**	P	**P**	**18 26 06.8**	**+1.1**
comp=Z,2.9nm,0.8s,baz=1.3,slow=8.8,SNR=16						
comp=Z,2.9nm,0.8s						
KK31	**Karatay Array**	**50.18 306**	P	**P**	**18 26 12.3**	**-0.5**
KKAR	**Karatay Array**	**50.18 306**	P	**P**	**18 26 12.9**	**+0.1**
BVAR	**Borovoye Array**	**51.07 319**	P	**P**	**18 26 19.2**	**0.0**
comp=Z,1.0nm,0.5s,baz=85,slow=9.1,SNR=4.9						
BVAR			PcP	**PcP**	**18 27 35.4**	**+0.6**
comp=Z,0.9nm,0.6s,baz=108,slow=4.7,SNR=1.8						
comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.14 319**	P	**P**	**18 26 18.3**	**-1.4**
SIMJ	**Simiganj**	**51.45 300**	P	**P**	**18 26 22.9**	**+0.3**
SIMJ			IAmb	IAmb	18 26 34.6	
comp=Z,5.7nm,1.4s						
KBL	**Kabul**	**51.83 295**	P	**P**	**18 26 25.4**	**0.0**
KBL			IAmb	IAmb	18 26 27.4	
comp=Z,10nm,0.8s						
J14K	**Nanvaranak Lak**	**57.32 30**	P	**P**	**18 27 04.0**	**-0.5**
ABKAR	**Akbulak array**	**57.44 314**	P	**P**	**18 27 05.0**	**-0.6**
KIRV	**Kirov**	**63.03 325**	LR	LR	18 57 40.1	
comp=Z,107nm,21.1s,baz=73,slow=38						
D24K	**Happy Valley**	**63.61 23**	P	**P**	**18 27 48.0**	**+0.5**
D24K			IAmb	IAmb	18 28 02.3	
comp=Z,4.8nm,0.8s						
C24K	**Franklin Bluff**	**63.62 23**	P	**P**	**18 27 49.1**	**+1.5**
BMAR	**Burnt Mountain**	**65.33 25**	P	**P**	**18 28 00.8**	**+2.0**
F26K	**Sheenjek River**	**65.46 25**	P	**P**	**18 28 02.2**	**+2.6**
F26K			IAmb	IAmb	18 28 14.8	
comp=Z,4.9nm,1.1s						
INK	**Inuvik**	**69.24 23**	P	**P**	**18 28 24.7**	**+1.3**
comp=Z,0.9nm,0.7s,baz=313,slow=4.0,SNR=4.6						
comp=Z,0.9nm,0.7s						
SPITS	**Spitsbergen Ar**	**69.52 348**	P	**P**	**18 28 25.5**	**+0.4**
comp=Z,12nm,1.0s,baz=54,slow=6.2,SNR=1.6						
comp=Z,12nm,1.0s						
GNI	**Garni**	**69.65 306**	P	**P**	**18 28 26.2**	**-0.6**
GNI			IAmb	IAmb	18 28 29.8	
comp=Z,8.8nm,1.1s						
KBZ	**Khabaz**	**69.94 310**	P	**P**	**18 28 29.8**	**+1.6**
comp=Z,9.8nm,0.8s,baz=100,slow=4.2,SNR=29						
comp=Z,9.8nm,0.8s						
KIV	**Kislovodsk**	**70.03 310**	P	**P**	**18 28 29.2**	**+0.3**
OBN	**Obninsk**	**70.62 323**	LR	LR	19 02 15.4	
comp=Z,98nm,18.6s,baz=190,slow=38						
ARCES	**ARCESS Array B**	**70.76 339**	P	**P**	**18 28 33.2**	**+0.4**
comp=Z,3.0nm,0.9s,baz=65,slow=6.1,SNR=3.6						
comp=Z,3.0nm,0.9s						
GEVA	**Gevas**	**71.45 304**	IAmb	IAmb	18 28 40.2	
comp=Z,6.8nm,0.8s						
MARD	**Mardin**	**73.48 304**	IAmb	IAmb	18 29 03.4	
comp=Z,8.2nm,1.0s						
FINES	**FINESS Array B**	**73.64 331**	P	**P**	**18 28 50.6**	**+0.5**
comp=Z,4.7nm,0.8s,baz=60,slow=6.2,SNR=15						
comp=Z,4.7nm,0.8s						
RAYN	**Ar Rayn**	**74.50 289**	P	**P**	**18 28 56.3**	**+0.4**
RAYN			IAmb	IAmb	18 28 57.7	
comp=Z,3.9nm,1.1s						
RES	**Resolute Bay**	**76.04 11**	LR	LR	19 04 48.7	
comp=Z,31nm,20.7s,baz=20,slow=38						
AKASG	**Malin Array Be**	**76.33 320**	P	**P**	**18 29 05.9**	**0.0**
comp=Z,0.6nm,0.4s,baz=69,slow=5.2,SNR=4.9						
comp=Z,0.6nm,0.4s						
BR131	**Keskin Array S**	**77.81 308**	IAmb	IAmb	18 29 16.0	
comp=Z,3.9nm,0.9s						
BRTR	**Keskin Array B**	**77.81 308**	P	**P**	**18 29 15.4**	**+0.8**
comp=Z,2.7nm,0.9s,baz=88,slow=4.6,SNR=14						
comp=Z,2.7nm,0.9s						
YKA	**Yellowknife Ar**	**78.85 25**	P	**P**	**18 29 21.1**	**+1.4**
comp=Z,0.8nm,0.7s,baz=300,slow=5.3,SNR=7.8						
comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**79.59 333**	P	**P**	**18 29 23.9**	**+0.1**
comp=Z,1.8nm,0.7s,baz=66,slow=3.6,SNR=4.5						
comp=Z,1.8nm,0.7s						
BURAR	**Bucovina Array**	**80.03 318**	P	**P**	**18 29 26.4**	**-0.1**
NB2	**NORSAR Subarra**	**80.08 334**	P	**P**	**18 29 26.5**	**0.0**
comp=Z,1.9nm,0.6s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**80.08 334**	P	**P**	**18 29 26.6**	**0.0**
comp=Z,2.0nm,0.7s,baz=51,slow=5.5,SNR=8.0						
NOA			LR	LR	19 09 13.5	
comp=Z,63nm,18.5s,baz=300,slow=39						
comp=Z,2.0nm,0.7s						
CLL	**Collm**	**84.94 325**	*eP*	**P**	**18 29 53.0**	**+1.0**
GERES	**GERESS Array B**	**85.99 323**	P	**P**	**18 29 58.0**	**+0.6**
comp=Z,1.0nm,0.7s,baz=46,slow=5.8,SNR=8.0						
comp=Z,1.0nm,0.7s						
BMO	**Blue Mountains**	**87.58 41**	P	**P**	**18 30 06.0**	**+0.7**
BMO			IAmb	IAmb	18 30 26.9	
comp=Z,4.1nm,1.4s						
DUG	**Dugway, Tooele**	**92.99 42**		**P**	**18 30 34.0**	**-0.3**
QSPA	**South Pole Qui**	**115.41 180**	PKP	**PKiKP**	**18 35 57.9**	**0.0**
comp=Z,1.0nm,1.0s,baz=343,slow=2.7,SNR=3.4						

JMA 20 18:18:25.3±0.1, 32°.3N±0°.2×130°.4E±0°.2, h11km±1km, MV0.4/22, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.22**	**134**	*eP*	Pg	18 18 30.1	+0.2
JZO				*eS*	Sg	18 18 32.8	-0.1
JHD	**Hondo**	**0.29**	**306**	P	Pg	18 18 31.4	+0.1
JHD				S	Sg	18 18 36.2	+1.0
JIU3	**Izumi3**	**0.42**	**53**	*eP*	Pg	18 18 33.7	0.0
JIU3				*eS*	Sg	18 18 39.9	+0.6
JTZ	**Takazaki**	**0.69**	**124**	*eS*	Sg	18 18 48.2	+0.5

*IDC **20** 18:18:38.8±3.8, 23°.56S×179°.91W, h504km±36km, mb3.5/5, mbtmp4.4/5, Error ellipse: s-maj=103.7km s-min=27.6km az=161.0*
*NEIC **20** 18:18:45.1±1.7, 23°.8S±0°.2×180°.0E±0°.2, h568km±18km, mb4.5/19, Error ellipse: s-maj=28.9km s-min=21.7km az=192.0*

ISC 20 18:18:43.5±0.8, 23°.8S±0°.2×180°.0E±0°.1, h550km, n30, σ1°.06/30, mb4.4/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.53**	**65**	P	**P**	**18 21 08.0**	**+1.0**
PINNC	**Pines Island,**	**11.56**	**273**	P	**P**	**18 21 18.7**	**+1.1**
QRZ	**Quartz Range**	**18.08**	**198**	P	**P**	**18 22 21.6**	**-0.3**
QRZ				IAmb	IAmb	18 22 22.4	
comp=Z,12nm,0.7s							
NNZ	**Nelson**	**18.21**	**196**	P	**P**	**18 22 22.3**	**-0.9**
ARMA	**Armidale**	**26.02**	**249**	P	**P**	**18 23 34.1**	**+0.7**
ARMA				IAmb	IAmb	18 23 48.0	
comp=Z,14nm,1.4s							
EIDS	**Eidsvold**	**26.28**	**261**	P	**P**	**18 23 36.0**	**+0.4**
EIDS				IAmb	IAmb	18 23 36.7	
comp=Z,5.5nm,0.5s							
CAN	**Canberra**	**29.15**	**240**	P	**P**	**18 24 01.5**	**+0.8**
CAN				IAmb	IAmb	18 24 02.5	
comp=Z,4.9nm,0.7s							
TOO	**Toolangi**	**32.46**	**237**	P	**P**	**18 24 29.4**	**+0.3**
TAU	**Tasmania Unive**	**32.97**	**227**	P	**P**	**18 24 33.9**	**+0.7**
STKA	**Stephens Creek**	**34.72**	**248**	P	**P**	**18 24 48.0**	**-0.1**
STKA	**Stephens Creek**	**34.72**	**248**	P	**P**	**18 24 47.6**	**-0.4**
comp=Z,2.6nm,0.5s,baz=92,slow=9.9,SNR=7.1							
comp=Z,2.6nm,0.5s							
BBOO	**Buckleboo**	**39.44**	**247**	P	**P**	**18 25 26.3**	**-0.4**
BBOO				IAmb	IAmb	18 25 35.9	
comp=Z,22nm,1.2s							
AS31	**Alice Springs**	**42.01**	**261**	P	**P**	**18 25 47.0**	**-0.3**
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**18 25 46.2**	**-1.0**
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**18 25 46.8**	**-0.5**
comp=Z,4.3nm,0.5s,baz=96,slow=7.4,SNR=150							
ASAR				ScP	**ScP**	**18 30 31.5**	**+3.7**
comp=Z,0.6nm,0.8s,baz=95,slow=3.8,SNR=4.6							
comp=Z,4.3nm,0.5s							
WR8	**Warramunga Arr**	**42.22**	**266**	P	**P**	**18 25 47.9**	**-1.1**
WR8				IAmb	IAmb	18 25 48.8	
comp=Z,8.6nm,0.9s							
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**18 25 48.9**	**-1.2**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**18 25 49.2**	**-0.9**
comp=Z,7.2nm,0.5s,baz=103,slow=7.9,SNR=124							
comp=Z,7.2nm,0.5s							
FORT	**Forrest**	**46.30**	**250**	P	**P**	**18 26 19.4**	**-0.9**
MTN	**Manton Dam**	**47.41**	**274**	P	**P**	**18 26 27.5**	**-1.3**
MTN				IAmb	IAmb	18 26 47.6	
comp=Z,44nm,1.4s							
KNRA	**Kununurra**	**48.65**	**270**	P	**P**	**18 26 37.5**	**-0.5**
KNRA				IAmb	IAmb	18 27 14.2	
comp=Z,22nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.79**	**266**	P	**P**	**18 26 53.8**	**0.0**
FITZ	**Fitzroy Crossi**	**50.79**	**266**	P	**P**	**18 26 53.6**	**-0.2**
comp=Z,2.4nm,0.5s,baz=114,slow=4.6,SNR=26							
comp=Z,2.4nm,0.5s							
SOEI	**Soe**	**54.79**	**275**	P	**P**	**18 27 21.9**	**-0.6**
SOEI				IAmb	IAmb	18 27 59.5	
comp=Z,29nm,1.2s							
MBWA	**Marble Bar**	**55.35**	**260**	P	**P**	**18 27 25.5**	**-0.6**
MBWA				IAmb	IAmb	18 27 39.9	
comp=Z,50nm,1.5s							
MORW	**Morawa**	**56.87**	**250**	P	**P**	**18 27 36.1**	**-0.4**
MORW				IAmb	IAmb	18 27 47.4	
comp=Z,18nm,1.3s							
TOLI2	**Tolitoli**	**62.51**	**285**	P	**P**	**18 28 14.2**	**-0.1**
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	**18 28 37.7**	**+0.4**
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**18 30 45.3**	**-1.7**
comp=Z,0.6nm,0.6s,baz=238,slow=3.9,SNR=5.9							
comp=Z,0.6nm,0.6s							
HFS	**Hagfors**	**142.45**	**349**	PKhKP	PKPpre	18 37 07.7	
comp=Z,1.3nm,0.3s,baz=64,slow=3.4,SNR=15							

*IDC **20** 18:23:36.4±2.1, 57°.75N×155°.56W, h0km, mb3.4/2, mbtmp3.5/3, ML3.4/1, MS3.4/1, Error ellipse: s-maj=31.6km s-min=23.0km az=22.0*
*NEIC **20** 18:23:36.6±1.5, 58°.20N±0°.04×155°.20W±0°.06, h12km±6km, Error ellipse: s-maj=5.4km s-min=4.5km az=185.0*
*AEIC **20** 18:23:37.1±1.6, 58°.23N±0°.02×155°.18W±0°.03, h4km±6km, ML3.3, ML3.5/92(NEIC), Error ellipse: s-maj=3.8km s-min=1.8km az=150.0*

ISC 20 18:23:37.0±0.9, 58°.21N±0°.03×155°.21W±0°.02, h4km±6km, n102, σ1°.15/98, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCE	**Katmai Mt Cerb**	**0.03**	**22**		**Pg**	**18 23 37.7**	**-0.3**
ACHA	**Angle Creek He**	**0.06**	**268**	Pg	**Pg**	**18 23 38.7**	**+0.2**
ACHA				Sg	**Sg**	**18 23 40.1**	**+0.6**
ACHA				IAML		18 23 40.3	
comp=E,23μm,0.3s							
KCG	**Knife Ck. Glac**	**0.11**	**28**		**Pg**	**18 23 39.0**	**-0.2**
ANCK	**Angle Creek**	**0.15**	**265**		**Pg**	**18 23 40.4**	**+0.3**
ANCK					**Sg**	**18 23 43.0**	**+0.9**
KVTA	**Katmai Vly 10**	**0.18**	**345**		**Pg**	**18 23 40.4**	**-0.1**
KELA	**Mount Kelaz**	**0.36**	**309**		**Pg**	**18 23 44.3**	**+0.2**
KAHG	**Katmai Hook Gl**	**0.45**	**51**		**Pg**	**18 23 45.3**	**-0.3**
KAHG					**Sg**	**18 23 51.6**	**+0.1**
KAHC	**Katmai Hardscr**	**0.45**	**13**		**Pg**	**18 23 45.6**	**-0.1**
KAHC	**Katmai Hardscr**	**0.45**	**13**		**Pg**	**18 23 45.6**	**-0.1**
R18K	**Karluk**	**0.76**	**148**		**Pg**	**18 23 51.4**	**-0.2**
R18K	**Karluk**	**0.76**	**148**	IAML		18 24 05.1	
comp=E,2μm,0.5s							
R18K				IAML		18 24 05.4	
comp=N,2μm,0.5s							
PLK1	**Peulik 1**	**0.85**	**242**		**Pb**	**18 23 54.0**	**-0.3**
PLK1					**Sb**	**18 24 06.1**	**0.0**
Q16K	**King Salmon**	**0.89**	**302**		**Pg**	**18 23 53.9**	**-0.3**
Q16K					**Sb**	**18 24 06.6**	**-0.7**
PLBL	**Peulik Blue Cr**	**1.00**	**240**		**Pn**	**18 23 56.8**	**-1.1**
Q19K	**Cape Douglas,**	**1.09**	**48**	Pg	**Pg**	**18 23 57.2**	**-0.6**
Q19K				IAML		18 24 05.0	
comp=N,1μm,0.8s							
Q19K				IAML		18 24 24.2	
comp=E,1μm,1.2s							
P17K	**Kvichak River**	**1.18**	**327**		**Pb**	**18 23 58.6**	**-1.3**
P17K					**Sn**	**18 24 15.8**	**-1.0**
P18K	**Big Mountain,**	**1.18**	**359**		**Pb**	**18 23 58.5**	**-1.5**
R16K	**Pilot Point**	**1.42**	**244**		**Sg**	**18 24 24.6**	**+2.0**
R16K	**Pilot Point**	**1.42**	**244**	Pn	**Pn**	**18 24 01.3**	**-2.3**
R16K				IAML		18 24 37.0	
comp=N,385nm,2.2s							
R16K				IAML		18 24 39.0	
comp=E,564nm,0.9s							
OHAK	**Old Harbor**	**1.43**	**133**	Pn	**Pn**	**18 24 01.5**	**-2.2**
KDAK	**Kodiak Island**	**1.46**	**106**	Pn	**Pn**	**18 24 03.3**	**-0.9**
KDAK	**Kodiak Island**	**1.46**	**106**	Pn	**Pn**	**18 24 03.2**	**-1.0**
comp=E,53nm,0.3s,baz=133,slow=11,SNR=140							
KDAK				Sn	**Sg**	**18 24 25.6**	**+1.7**
comp=E,15nm,0.3s,baz=241,slow=18,SNR=7.8							
SYI	**Shuyak Island**	**1.53**	**74**	Pn	**Pn**	**18 24 02.9**	**-2.2**
O18K	**Koktuh Hills**	**1.65**	**360**		**Pn**	**18 24 05.5**	**-1.3**
O18K				IAML		18 24 33.7	
comp=E,468nm,0.6s							
O18K				IAML		18 24 35.2	
comp=N,585nm,0.5s							
P16K	**Nushagak River**	**1.67**	**301**		**Pn**	**18 24 06.8**	**-0.3**
P16K					**Sg**	**18 24 30.3**	**-0.4**
SII	**Sitkinak Islan**	**1.75**	**161**	Pn	**Pb**	**18 24 08.3**	**-1.3**
P19K	**Oil Pt**	**1.77**	**35**		**Pn**	**18 24 08.0**	**-0.5**
P19K				IAML		18 24 19.0	
comp=E,337nm,0.6s							
P19K				IAML		18 24 47.6	
comp=N,275nm,1.1s							
O17K	**Koliganek Bris**	**1.84**	**329**		**Pn**	**18 24 08.6**	**-0.8**
O17K					**Sb**	**18 24 34.4**	**-0.4**
O16K	**Kokwok River B**	**2.04**	**314**		**Pn**	**18 24 10.8**	**-1.3**
O16K				IAML		18 24 44.0	
comp=N,288nm,0.7s							
O16K				IAML		18 24 46.4	
comp=E,359nm,0.8s							
O19K	**Port Alsworth**	**2.04**	**13**	Pn	**Pn**	**18 24 11.9**	**-0.2**
ILS	**Iliamna Low So**	**2.07**	**31**		**Pn**	**18 24 12.1**	**-0.6**
ILSW	**Iliamna Southw**	**2.07**	**30**		**Pn**	**18 24 11.2**	**-1.4**
O20K	**Slope Mountain**	**2.30**	**34**		**Pn**	**18 24 15.7**	**0.0**
HOM	**Homer**	**2.35**	**50**	Pn	**Pn**	**18 24 13.8**	**-2.5**
HOM				IAML		18 24 58.1	
comp=E,320nm,2.0s							
HOM				IAML		18 25 19.2	
comp=N,372nm,1.6s							
CHIR	**Chirikof Islan**	**2.41**	**186**	Pn	**Pn**	**18 24 13.9**	**-3.3**
CHIR				IAML		18 24 45.5	
comp=E,230nm,2.3s							
CHIR				IAML		18 25 05.5	
comp=N,280nm,3.7s							
CNPM	**China Poot**	**2.45**	**56**		**Pn**	**18 24 16.7**	**-1.0**
N18K	**Kilae Creek**	**2.50**	**352**		**Pn**	**18 24 17.3**	**-1.2**
N18K				IAML		18 24 56.3	
comp=E,185nm,0.8s							
N18K				IAML		18 25 03.8	
comp=N,150nm,0.6s							
N17K	**Nushagak Hills**	**2.53**	**337**		**Pn**	**18 24 16.7**	**-2.2**
N17K				IAML		18 24 59.2	
comp=E,199nm,0.8s							
N17K				IAML		18 25 02.4	
comp=N,222nm,0.6s							
RED	**Redoubt Volcan**	**2.54**	**28**		**Pn**	**18 24 19.3**	**+0.2**
RDWB	**Redoubt West**	**2.58**	**27**		**Pn**	**18 24 19.8**	**+0.1**
CHGN	**Chignik**	**2.59**	**224**	Pn	**Pn**	**18 24 17.9**	**-1.7**
O15K	**Ungalikthiuk R**	**2.60**	**294**		**Pn**	**18 24 19.7**	**-0.1**
NCT	**North Crescent**	**2.63**	**25**		**Pn**	**18 24 20.8**	**+0.5**
N19K	**Bonanza Creek**	**2.63**	**8**		**Pn**	**18 24 19.0**	**-1.4**
N19K				IAML		18 25 06.0	
comp=N,154nm,0.8s							
N19K				IAML		18 25 07.6	
comp=E,250nm,0.7s							
BRLK	**Bradley Lake**	**2.72**	**53**		**Pn**	**18 24 19.2**	**-2.3**
BRSE	**Bradley Lake S**	**2.77**	**55**		**Pn**	**18 24 22.0**	**-0.2**
N16K	**Nishlik Lake**	**2.91**	**323**		**Pn**	**18 24 24.0**	**-0.1**
VNFG	**Fog Glacier, M**	**3.05**	**233**		**Pn**	**18 24 26.3**	**+0.2**
VNFG	**Fog Glacier, M**	**3.05**	**233**	IAML		18 26 17.6	
comp=E,216nm,3.1s							
N15K	**Kwethluk River**	**3.19**	**310**		**Pn**	**18 24 28.4**	**+0.5**
N15K	**Kwethluk River**	**3.19**	**310**	IAML		18 25 30.7	
comp=E,143nm,0.7s							
M18K	**Stony River**	**3.30**	**355**		**Pn**	**18 24 29.2**	**-0.2**
O14K	**Tigyukauivet M**	**3.33**	**291**		**Pn**	**18 24 29.4**	**-0.4**
O14K				IAML		18 25 25.9	
comp=N,134nm,0.7s							
O14K				IAML		18 25 38.6	
comp=E,94nm,0.7s							
M16K	**Timber Creek**	**3.40**	**328**		**Pn**	**18 24 30.7**	**-0.1**
M16K	**Timber Creek**	**3.40**	**328**	IAML		18 25 32.0	
comp=N,160nm,1.1s							
SLKM	**Skilak Lake**	**3.44**	**46**		**Pn**	**18 24 32.7**	**+1.3**
SEW	**Seward**	**3.52**	**55**	Pn	**Pn**	**18 24 35.2**	**+2.8**
STLK	**Strandline Lak**	**3.71**	**26**		**Pn**	**18 24 35.9**	**+0.8**
M19K	**Big River Lodg**	**3.73**	**6**		**Pn**	**18 24 35.1**	**-0.2**
M19K				IAML		18 25 41.1	
comp=N,56nm,0.7s							
M19K				IAML		18 25 43.0	
comp=E,88nm,0.9s							
N14K	**Kuskokwak Cree**	**3.76**	**300**		**Pn**	**18 24 35.8**	**+0.1**
M20K	**Styx River**	**3.83**	**15**		**Pn**	**18 24 37.1**	**+0.4**
M20K				IAML		18 25 46.2	
comp=N,48nm,0.5s							
M20K				IAML		18 25 52.9	
comp=E,48nm,1.1s							
SUA	**Susitna One**	**3.96**	**33**		**Pn**	**18 24 40.0**	**+1.4**
SUA				IAML		18 25 32.2	
comp=E,57nm,2.6s							
SUA				IAML		18 26 05.8	
comp=N,54nm,1.8s							
L19K	**White Mountain**	**3.99**	**2**		**Pn**	**18 24 38.7**	**-0.2**
L19K	**White Mountain**	**3.99**	**2**	IAML		18 25 48.6	
comp=N,100nm,0.8s							
L19K				IAML		18 25 56.0	
comp=E,85nm,1.3s							
L18K	**Granite Mounta**	**4.09**	**350**		**Pn**	**18 24 39.8**	**-0.5**
L18K	**Granite Mounta**	**4.09**	**350**	IAML		18 25 50.9	
comp=E,67nm,0.9s							
L16K	**Owhat River**	**4.11**	**330**		**Pn**	**18 24 39.4**	**-1.2**
L16K				IAML		18 25 54.4	
comp=N,78nm,1.1s							
L16K				IAML		18 25 57.7	
comp=E,93nm,1.3s							
SKT	**Skwentna**	**4.20**	**24**		**Pn**	**18 24 41.6**	**-0.2**
SKT	**Skwentna**	**4.20**	**24**	IAML		18 26 23.0	
comp=E,32nm,2.4s							
L17K	**Donlin**	**4.23**	**340**		**Pn**	**18 24 41.9**	**-0.2**
M14K	**Bethel**	**4.28**	**309**	Pn	**Pn**	**18 24 39.5**	**-3.3**
M22K	**Willow**	**4.37**	**34**	IAML		18 26 23.5	
comp=E,71nm,2.1s							
KNK	**Knik Glacier**	**4.68**	**44**	IAML		18 26 12.3	
comp=E,27nm,1.2s							
KNK				IAML		18 27 04.5	
comp=N,23nm,3.6s							
L15K	**Ungalak Mounta**	**4.70**	**320**		**Pn**	**18 24 48.3**	**-0.2**
GHO	**Glory Hole Cre**	**4.76**	**39**	IAML		18 26 19.8	
comp=E,35nm,2.1s							
GHO				IAML		18 26 24.6	
comp=N,21nm,2.0s							
K17K	**Iditarod**	**4.77**	**343**		**Pn**	**18 24 49.5**	**-0.1**
L14K	**Kuka Creek**	**4.91**	**313**		**Pn**	**18 24 50.6**	**-0.9**
K15K	**Wolf Creek Mou**	**5.16**	**325**		**Pn**	**18 24 55.0**	**0.0**
J18K	**Innoko River**	**5.32**	**353**		**Pn**	**18 24 58.2**	**+1.0**
J18K	**Innoko River**	**5.32**	**353**	IAML		18 26 40.2	
comp=N,27nm,1.2s							
CAST	**Castle Rocks**	**5.44**	**15**		**Pn**	**18 24 59.1**	**+0.3**
J17K	**VABM Dome**	**5.54**	**342**		**Pn**	**18 24 59.8**	**-0.3**
KLU	**Klutina**	**5.72**	**51**		**Pn**	**18 25 03.8**	**+1.0**
J16K	**Anvik River**	**5.73**	**335**		**Pn**	**18 25 02.3**	**-0.5**
RND	**Reindeer**	**6.07**	**28**		**Pn**	**18 25 07.3**	**-0.2**
J14K	**Nanvaranak Lak**	**6.14**	**321**		**Pn**	**18 25 08.1**	**-0.2**
I17K	**Unalakleet**	**6.28**	**337**		**Pn**	**18 25 09.7**	**-0.6**
HARP	**HAARP**	**6.52**	**46**		**Pn**	**18 25 13.1**	**-0.5**
H17K	**Granite Mounta**	**7.11**	**344**		**Pn**	**18 25 21.3**	**-0.4**
H18K	**Honhosa River**	**7.12**	**349**		**Pn**	**18 25 21.4**	**-0.5**
WRH	**Wood River Hil**	**7.15**	**26**		**Pn**	**18 25 22.2**	**0.0**
CCB	**Clear Creek Bu**	**7.36**	**26**		**Pn**	**18 25 25.3**	**+0.1**
I23K	**Minto, Yukon-K**	**7.49**	**19**		**Pn**	**18 25 27.2**	**+0.3**
IL31		**7.68**	**28**		**Pn**	**18 25 29.1**	**-0.4**
ILAR	**Eielson Array**	**7.68**	**28**	Pn	**Pn**	**18 25 30.7**	**+1.2**
comp=N,0.5nm,0.3s,baz=217,slow=13,SNR=32							
comp=N,4.3nm,0.7s							
DOT	**Dot Lake**	**7.69**	**40**	Pn	**Pn**	**18 25 32.4**	**+2.8**
ANM	**Nome**	**8.02**	**327**	Pn	**Pn**	**18 25 33.0**	**-1.1**
INK	**Inuvik**	**13.96**	**35**	Pn	**Pn**	**18 26 56.8**	**+1.5**
baz=229,slow=16,SNR=7.4							
YKA	**Yellowknife Ar**	**20.28**	**61**	P	Pn	18 28 14.2	-1.0
comp=N,1.2nm,0.6s,baz=278,slow=10,SNR=18							
MA2	**Magadan**	**27.31**	**296**	LR	LR	18 40 28.4	
comp=N,71nm,18.9s,baz=307,slow=37							
PDAR	**Pinedale Array**	**32.17**	**98**	P	**P**	**18 30 07.8**	**+2.0**
comp=N,0.4nm,0.8s,baz=313,slow=7.5,SNR=4.9							
comp=N,0.4nm,0.8s							
SONM	**Songino Array**	**54.91**	**305**	P	**P**	**18 33 09.1**	**+0.5**
comp=N,0.3nm,0.6s,baz=58,slow=5.4,SNR=1.8							
comp=N,0.3nm,0.6s							

*IDC **20** 18:31:30.0±1.9, 53°.71N×165°.61W, h0km, mb3.7/8, mbtmp3.8/9, ML3.3/1, Error ellipse: s-maj=44.4

N19K	Bonanza Creek	9.41	34		Pn	18 33 50.7	+3.0
L18K	Granite Mounta	9.89	24	Pn	Pn	18 33 53.1	-1.1
K17K	Iditarod	9.98	19	Pn	Pn	18 33 55.9	+0.5
J16K	Anvik River	10.15	12	Pn	Pn	18 33 59.6	+1.9
M19K	Big River Lodg	10.26	30	Pn	Pn	18 34 01.4	+2.1
L19K	White Mountain	10.34	28	Pn	Pn	18 34 01.9	+1.4
J18K	Innoko River	10.97	21		Pn	18 34 08.7	-0.3
ANM	Nome	11.13	360	Pn	Pn	18 34 11.9	+0.7
SUA	Susitna One	11.18	38	Pn	Pn	18 34 11.9	0.0
ILAR	Eielson Array	14.68	32	Pn	Pn	18 34 58.4	-1.2
	0.1nm,0.3s,baz=215,slow=12,SNR=2.6						
C16K	Lisburne Hills	14.86	360	P	P	18 35 06.1	-1.3
G23K	Bananza Creek	15.24	23	IAmb	IAmb	18 35 13.7	
	comp=Z,5.5nm,1.0s						
J26L	Joseph Creek	15.63	36	IAmb	IAmb	18 35 34.9	
	comp=Z,9.2nm,1.4s						
E24K	Your Creek	16.69	22	IAmb	IAmb	18 35 40.6	
	comp=Z,8.4nm,1.4s						
DAWY	Dawson	16.97	41	Pn	Pn	18 35 30.7	+1.4
D23K	Nanushuk River	16.98	18		Pn	18 35 29.3	0.0
N30M	Aishikik Lake	17.03	51	IAmb	IAmb	18 35 39.0	
	comp=Z,10nm,1.1s						
C23K	Itkillik River	17.75	17	IAmb	IAmb	18 36 04.1	
	comp=Z,12nm,1.4s						
B22K	Teshekpuk Lake	17.77	13	IAmb	IAmb	18 35 44.0	
	comp=Z,5.9nm,0.9s						
M31M	Drury Creek, Y	18.46	49	IAmb	IAmb	18 35 52.5	
	comp=Z,6.1nm,0.8s						
P33M	Teslin, Yukon	18.85	56	P	P	18 35 50.4	-1.2
P33M				IAmb	IAmb	18 35 58.2	
	comp=Z,7.9nm,0.9s						
FARO	Faro, Yukon	18.94	50	P	Pn	18 35 54.4	+1.0
FARO				IAmb	IAmb	18 35 59.2	
	comp=Z,7.8nm,1.0s						
MMPY	Sheldon Lake,	19.97	49	P	P	18 36 05.2	+1.3
DLBC	Dease Lake	20.19	62	P	P	18 36 07.3	+1.0
	comp=Z,1.0nm,0.5s,baz=301,slow=14,SNR=3.1						
	comp=Z,1.0nm,0.5s						
INK	Inuvik	21.07	33	P	P	18 36 17.3	+1.6
INK				IAmb	IAmb	18 36 22.5	
	comp=Z,4.4nm,0.9s						
INK	Inuvik	21.07	33	P	P	18 36 13.6	-2.1
	comp=Z,1.2nm,0.5s,baz=240,slow=10,SNR=5.1						
	comp=Z,1.2nm,0.5s						
WRGLY	Wrigley	23.59	49	P	P	18 36 43.6	+1.5
C36M	Paulatuk	24.63	34	P	P	18 36 52.7	+1.0
YKA	Yellowknife Ar	27.64	51	P	P	18 37 18.9	0.0
	comp=Z,0.4nm,0.8s,baz=277,slow=11,SNR=8.4						
	comp=Z,0.4nm,0.8s						
NVAR	Mina Array Bea	35.26	96	P	P	18 38 28.2	+1.9
	comp=Z,0.9nm,0.7s,baz=296,slow=6.7,SNR=4.4						
	comp=Z,0.9nm,0.7s						
H11N2	WAKE ISLAND Hy	39.90	223	T	T	19 21 43.7	
	baz=25,slow=76,SNR=27						
H11N3	WAKE ISLAND Hy	39.91	223	T	T	19 21 44.6	
	baz=25,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	39.92	223	T	T	19 21 48.5	
	baz=25,slow=76,SNR=26						
H11S1	WAKE ISLAND Hy	41.08	223	T	T	19 23 13.7	
	baz=25,slow=76,SNR=48						
H11S2	WAKE ISLAND Hy	41.09	223	T	T	19 23 14.7	
	baz=25,slow=76,SNR=42						
H11S3	WAKE ISLAND Hy	41.10	223	T	T	19 23 15.0	
	baz=25,slow=76,SNR=40						
TXAR	Lajitas Array	50.29	93	P	P	18 40 29.4	+1.3
	comp=Z,0.6nm,0.6s,baz=309,slow=5.3,SNR=7.4						
	comp=Z,0.6nm,0.6s						
MKAR	Makanchi Array	64.81	315	P	P	18 42 08.4	-1.5
	comp=Z,0.1nm,0.3s,baz=46,slow=5.6,SNR=1.8						
	comp=Z,0.1nm,0.3s						
FINES	FINESS Array B	65.08	354	P	P	18 42 10.2	-1.2
	comp=Z,4.8nm,1.0s,baz=12,slow=8.8,SNR=4.6						
	comp=Z,4.8nm,1.0s						
HFS	Hagfors	66.75	1	P	P	18 42 20.9	-1.3
	comp=Z,1.2nm,0.3s,baz=20,slow=4.6,SNR=11						
	comp=Z,1.2nm,0.3s						
H03N2	Juan Fernandez	114.07	114	T	T	20 54 49.0	
	baz=322,slow=77,SNR=5.8						
H03N1	Juan Fernandez	114.08	114	T	T	20 54 58.0	
	baz=322,slow=77,SNR=9.8						
H03N3	Juan Fernandez	114.08	114	T	T	20 54 49.2	
	baz=322,slow=77,SNR=7.9						

IDC 20 18:41:40.4±4.6, 9°.11N×127°.45E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=395.5km s-min=24.3km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.66	167	P	P	18 47 47.6	-0.3
	0.3nm,0.7s,baz=348,slow=8.9,SNR=1.5						
	0.3nm,0.7s						
ASAR	Alice Springs	33.18	169	P	P	18 48 19.3	+0.3
	0.3nm,0.9s,baz=344,slow=8.8,SNR=1.9						
	0.3nm,0.9s						
MKAR	Makanchi Array	53.65	323	P	P	18 51 03.7	-0.1
	0.2nm,0.5s,baz=119,slow=7.9,SNR=4.1						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	57.68	325	P	P	18 51 32.7	0.0
	0.4nm,0.5s,baz=125,slow=6.6,SNR=8.9						
	0.4nm,0.5s						

*ISK **20** 18:41:51.8, 37°.41N×29°.45E, h10km, ML3.9/19*
*IDC **20** 18:41:52.5±1.0, 37°.48N×29°.57E, h0km, mb3.6/7, mbtmp3.7/14, ML3.4/5, MS3.2/5, Error ellipse: s-maj=19.7km s-min=14.6km az=33.0*
*THE **20** 18:41:52.8, 37°.55N×29°.60E, h0km±2km, ML3.8/5, Error ellipse: s-maj=4.8km s-min=1.2km az=39.0*
*AFAD **20** 18:41:52.6, 37°.39N×29°.45E, h7km±3km, MW3.7*
*GII **20** 18:41:57.2±0.0, 37°.24N±0°.03×29°.486E±0°.008, h40km, Mws3.8, confirmed*

ISC 20 18:41:53.0±0.9, 37°.40N±0°.02×29°.48E±0°.02, h8km±6km, n105, σ1§52/125, mb3.5/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.15	297	Pg	Pg	18 41 55.1	-1.2
APMY				Sg	Sg	18 41 58.7	+0.2
GOLH	Golhisar	0.18	157	P	Pg	18 41 56.8	+0.1
GOLH				S	Sg	18 41 59.2	0.0
GOLH				*i* AML	AML	18 42 06.0	
	comp=N,3μm,0.4s						
GOLH				*i* AML	AML	18 42 06.0	
	comp=E,5μm,0.6s						
CAEL	Denizli, Camel	0.30	204	P	Pg	18 41 58.5	-0.5
CAEL				S	Sg	18 42 04.2	+1.1
CAEL				*i* AML	AML	18 42 09.0	
	comp=E,3μm,0.5s						
CAEL				*i* AML	AML	18 42 10.0	
	comp=N,2μm,0.5s						
INCE	Denizli-Bozkur	0.32	15	P	Pg	18 41 59.2	0.0
INCE				S	Sb	18 42 04.8	-1.6
INCE				*i* AML	AML	18 42 05.0	
	comp=N,9μm,0.3s						
INCE				*i* AML	AML	18 42 05.0	
	comp=E,4μm,0.4s						
DNZT	Denizli-Tavas-	0.38	251	P	Pg	18 41 59.7	-0.8
DNZT				*i* AML	AML	18 42 05.0	
	comp=N,6μm,0.6s						
DNZT				*i* AML	AML	18 42 05.0	
	comp=E,6μm,0.3s						
DNZT				S	Sg	18 42 05.8	+0.4
DNIZ	Denizli-Tavas-	0.41	303	P	Pg	18 42 00.4	-0.7
DNIZ				S	Sg	18 42 06.9	+0.4
DNIZ				*i* AML	AML	18 42 10.0	
	comp=E,8μm,0.3s						
DNIZ				*i* AML	AML	18 42 14.0	
	comp=N,6μm,0.9s						
TAVA	DENIZLI_Tavas	0.45	278	P	Pg	18 42 01.4	-0.4
TAVA				*i* AML	AML	18 42 08.0	
	comp=N,3μm,0.5s						
TAVA				S	Sg	18 42 08.1	+0.4
TAVA				*i* AML	AML	18 42 13.0	
	comp=E,3μm,0.7s						
CAME	Cameli-Denizli	0.48	197	Pg	Pg	18 42 01.5	-0.8
CAME				Sg	Sg	18 42 09.2	+0.6
KNIK	Mula-Seydike	0.56	172	P	Pg	18 42 03.1	-0.7
KNIK				S	Sb	18 42 12.7	-0.7
KNIK				*i* AML	AML	18 42 13.0	
	comp=N,2μm,0.6s						
KNIK				*i* AML	AML	18 42 15.0	
	comp=E,2μm,0.4s						
BASM	Basmaki-Afyon	0.69	41	Pg	Pg	18 42 05.7	-0.6
SABU	Mula-Dalaman	0.71	215	P	Pg	18 42 06.8	+0.3
SABU				S	Sg	18 42 16.2	+0.4
SABU				*i* AML	AML	18 42 19.0	
	comp=E,3μm,0.4s						
SABU				*i* AML	AML	18 42 21.0	
	comp=N,4μm,0.6s						
ELL	Elmali	0.74	152	Pg	Pg	18 42 06.9	-0.3
KORT	Korkueli	0.81	120	Pg	Pb	18 42 08.5	-0.9
FETY	Fethiye	0.83	202	Pg	Pg	18 42 07.7	-1.2
FETY	Fethiye	0.83	202	P	Pb	18 42 09.8	+0.1
DALY	Dalyan (Mula)	0.88	229	Pg	Pg	18 42 08.2	-1.7
BCK	Bucak	0.89	86	Pg	Pg	18 42 09.8	-0.3
ISP	Isparta	0.93	63	Pg	Pg	18 42 10.5	-0.4
ISP	Isparta	0.93	63	P	Pn	18 42 14.3	+1.7
ISP				S	Sn	18 42 28.0	+1.8
MULA	Mugla, Merkez-	0.93	261	P	Pg	18 42 10.3	-0.6
MULA				S	Sn	18 42 25.8	-0.3
MULA				*i* AML	AML	18 42 28.0	
	comp=E,3μm,0.5s						
MULA				*i* AML	AML	18 42 29.0	
	comp=N,1μm,0.9s						
YER	Yerkesik	0.99	255	Pg	Pg	18 42 10.6	-1.4
ANTB	Antalya	1.07	118	Pn	Pg	18 42 13.1	-0.4
NAZL	Nazilli-Aydin	1.09	301	Pg	Pg	18 42 12.6	-1.4
TURN	Turunc	1.17	238	Pn	Pg	18 42 14.1	-1.3
AKAS	Kas	1.17	175	Pn	Pg	18 42 14.7	-0.8
DEMR	Demre-Antalya	1.21	163	Pn	Pb	18 42 15.6	-0.6
KSL	Kastellorizon	1.25	176	P	Pg	18 42 17.7	+0.7
KSL				S	Sn	18 42 38.1	+4.2
	3μm,0.9s						
KULA	Kula-Manisa	1.28	330	Pn	Pn	18 42 16.1	-1.3
MLSB	Milas	1.36	266	Pn	Pn	18 42 17.1	-1.2
AYDB	Zeytinkoy-Aydi	1.37	294	Pn	Pn	18 42 17.3	-1.3
ODEM	Odemis-Izmir	1.41	309	Pn	Pn	18 42 17.9	-1.2
ARG	Arkhangelos	1.60	223	P	Pb	18 42 23.1	+0.2
ARG				S	Sg	18 42 47.4	+2.8
	3μm,0.7s						
NISR	Nisiros	2.04	248	P	Pn	18 42 27.9	+0.3
NISR				S	Sb	18 42 56.8	+1.0
	2μm,1.2s						
KARP	Karpathos	2.63	226	P	Pn	18 42 36.7	+0.9
KARP				S	Sb	18 43 12.9	+0.1
	1μm,0.8s						
PRK	Paraskevi	3.12	307	P	Pn	18 42 42.2	-0.3
APE	Apeiranthos	3.17	265	P	Pn	18 42 44.3	+1.1
APE	Apeiranthos	3.17	265	S	Sn	18 43 21.8	+0.6
SIGR	SIGRI	3.37	303	P	Pn	18 42 46.4	+0.4
ZKR	Zakros	3.48	230	P	Pn	18 42 49.2	+1.6
ZKR				S	Sn	18 43 33.1	+4.1
	268nm,0.8s						
CSS	Mathiatis	3.96	127	P	Pn	18 42 54.6	+0.5
CSS	Mathiatis	3.96	127	S	Sn	18 43 38.8	-1.9
BRTR	Keskin Array B	4.00	53	Pn	Pn	18 42 55.5	+0.7
	1.9nm,0.3s,baz=233,slow=14,SNR=90						
BRTR				Sn	Sn	18 43 43.4	+1.4
	1.1nm,0.3s,baz=227,slow=23,SNR=12						
BRTR				LR	LR	18 44 53.3	
	comp=Z,356nm,20.1s,baz=198,slow=46						
	18nm,0.8s						
IDI	Anoyia	4.26	242	Pn	Pn	18 42 59.6	+1.4
	15nm,0.3s,baz=66,slow=15,SNR=31						
IDI				Sn	Sn	18 43 49.0	+0.7
	10nm,0.3s,baz=135,slow=8.1,SNR=7.1						
IDI				LR	LR	18 45 06.0	
	comp=Z,279nm,18.9s,baz=85,slow=44						
HWQ	Hawqa	6.11	119	*e*P	Pn	18 43 25.7	+1.9
BHL	Bhannes	6.12	123	*e*P	Pn	18 43 25.0	+1.1
BEIL	Beino	6.14	116	*e*P	Pn	18 43 27.0	+2.9
DQRL	Deir Qamar	6.19	125	*e*P	Pn	18 43 26.1	+1.3
HNTI	Hanita	6.35	131	P	Pn	18 43 26.9	0.0
HNTI	Hanita	6.35	131	S	Sn	18 44 37.9	-1.8
RCY	Rachaya	6.49	125	*e*P	Pn	18 43 30.0	+1.0
SHBL	Chebaa	6.53	126	*e*P	Pn	18 43 30.0	+0.5
MMAOB	Mount Meron ar	6.53	130	P	Pn	18 43 30.0	+0.4
MMAOB	Mount Meron ar	6.53	130	S	Sn	18 44 43.1	-1.2
MMAI	Mount Meron Ar	6.53	130	Pn	Pn	18 43 29.9	+0.3
	6.8nm,0.3s,baz=314,slow=13,SNR=33						
MMAI				Sn	Sn	18 44 44.6	+0.2
	11nm,0.3s,baz=323,slow=30,SNR=9.5						
GEM	Giv'at Ha'Em	6.56	128	P	Pn	18 43 30.4	+0.6
GEM	Giv'at Ha'Em	6.56	128	S	Sn	18 44 42.9	-2.1
OFRI	`Ofer	6.57	135	P	Pn	18 43 30.1	0.0
OFRI	`Ofer	6.57	135	S	Sn	18 44 42.1	-3.1
NATI	Neve Ativ	6.58	127	P	Pn	18 43 30.6	+0.5
NATI	Neve Ativ	6.58	127	S	Sn	18 44 43.6	-1.6
BLGI	Bet Lehem HaGe	6.61	133	P	Pn	18 43 30.6	+0.1
BLGI	Bet Lehem HaGe	6.61	133	S	Sn	18 44 43.9	-2.1
KSHT	Keshet	6.81	129	P	Pn	18 43 33.8	+0.6
KSHT	Keshet	6.81	129	S	Sn	18 44 49.6	-1.4
SLTI	Sal'it	6.89	137	P	Pn	18 43 34.3	0.0
SLTI	Sal'it	6.89	137	S	Sn	18 44 49.9	-3.1
MMLI	Mount Malkishu	6.96	134	P	Pn	18 43 35.5	+0.2
MMLI	Mount Malkishu	6.96	134	S	Sn	18 44 51.9	-2.7
SALP	Salfit	7.10	137	P	Pn	18 43 37.5	+0.2
SALP	Salfit	7.10	137	S	Sn	18 44 56.2	-2.1
HMDT	Nahal Hemdat	7.15	134	P	Pn	18 43 38.1	+0.2
HMDT	Nahal Hemdat	7.15	134	S	Sn	18 44 57.4	-2.0
DSI	Dead Sea	7.59	138	P	Pn	18 43 44.1	+0.1
DSI	Dead Sea	7.59	138	S	Sn	18 45 08.2	-2.0
YTIR	Yattir	7.62	141	P	Pn	18 43 45.2	+0.7
YTIR	Yattir	7.62	141	S	Sn	18 45 09.2	-1.8
KZIT	Kziot	7.66	146	P	Pn	18 43 44.8	-0.1
KZIT	Kziot	7.66	146	S	Sn	18 45 08.4	-3.4
MSBI	Mazada	7.78	140	P	Pn	18 43 46.6	0.0
MSBI	Mazada	7.78	140	S	Sn	18 45 11.9	-2.9
GHAJ	Ghor Haditha	7.90	139	P	Pn	18 43 48.8	+0.6
GHAJ	Ghor Haditha	7.90	139	S	Sn	18 45 15.9	-1.8
ASF	Jabal al Asfar	8.03	128	Pn	Pn	18 43 50.9	+0.8
	0.8nm,0.3s,baz=346,slow=10,SNR=6.2						
ASF				Sn	Sn	18 45 22.3	+1.1
	0.5nm,0.3s,baz=330,slow=20,SNR=2.0						
	1.6nm,0.3s						
PRNI	Paran	8.40	145	P	Pn	18 43 55.1	0.0
PRNI	Paran	8.40	145	S	Sn	18 45 26.9	-3.3
KRMI	Paran Flat	8.48	147	P	Pn	18 43 56.3	+0.2
KRMI	Paran Flat	8.48	147	S	Sn	18 45 28.9	-3.2
MLR	Muntele Rosu	8.50	343	Pn	Pn	18 43 57.4	+0.8
	0.5nm,0.3s,baz=329,slow=23,SNR=4.3						
MLR				LR	LR	18 47 45.2	
	comp=Z,48nm,20.4s,baz=60,slow=42						
	1.6nm,0.7s						
HRFI	Mount Harif	8.68	146	P	Pn	18 43 58.8	-0.2
HRFI	Mount Harif	8.68	146	S	Sn	18 45 33.9	-3.2
MBRI	Mt Berech	8.84	148	P	Pn	18 44 02.0	+0.8
MBRI	Mt Berech	8.84	148	S	Sn	18 45 38.7	-2.4
EIL	Elat	8.96	148	Pn	Pn	18 44 02.2	-0.6
	1.3nm,0.3s,baz=307,slow=4.1,SNR=12						
EIL				Sn	Sn	18 45 39.4	-4.6
	1.2nm,0.3s,baz=348,slow=12,SNR=3.5						
	8.6nm,0.5s						
EIL	Elat	8.96	148	P	Pn	18 44 02.6	-0.2
EIL	Elat	8.96	148	S	Sn	18 45 40.4	-3.5
GNI	Garni	12.23	72	LR	LR	18 50 15.2	
	comp=Z,155nm,19.6s,baz=278,slow=41						
GERES	GERESS Array B	16.19	320	Pn	P	18 45 43.7	-0.5
	baz=150,slow=8.5,SNR=7.7						
	0.7nm,0.7s						
FINES	FINESS Array B	24.16	356	P	P	18 47 07.9	-1.5
	2.5nm,0.8s,baz=176,slow=10,SNR=4.6						
	2.5nm,0.8s						
ESDC	Sonseca Array	26.17	285	P	P	18 47 30.6	+2.6
	0.7nm,0.8s,baz=89,slow=7.5,SNR=2.1						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	37.00	53	P	P	18 49 02.7	-0.2
	0.6nm,0.6s,baz=276,slow=8.8,SNR=6.5						
	0.6nm,0.6s						
MKAR	Makanchi Array	39.63	59	P	P	18 49 25.0	-0.1
	0.5nm,0.7s,baz=269,slow=8.3,SNR=6.7						
MKAR				LR	LR	19 07 49.6	
	comp=Z,39nm,19.0s,baz=280,slow=39						
	0.5nm,0.7s						
CMAR	Chiang Mai Arr	62.91	87	P	P	18 52 21.1	+1.0
	0.4nm,0.6s,baz=298,slow=6.2,SNR=2.5						
	0.4nm,0.6s						
YKA	Yellowknife Ar	76.33	344	P	P	18 53 42.2	0.0
	0.6nm,0.9s,baz=20,slow=6.3,SNR=7.3						
	0.6nm,0.9s						
ILAR	Eielson Array	78.12	358	P	P	18 53 52.4	+0.2
	0.2nm,0.5s,baz=359,slow=8.6,SNR=2.3						
	0.2nm,0.5s						
PCRV	Puerto La Cruz	87.14	281	LR	LR	19 27 34.4	
	comp=Z,253nm,21.1s,slow=32						

*SOME **20** 18:52:34.9, 41°.25N×83°.13E, h10km*

NNC 20 18:52:36.9±1.5, 41°.31N×83°.04E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=22.0km s-min=9.6km az=37.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.92	318	*e*P	Pb	18 53 29.4	-0.5
	0.3nm,0.1s						
KTMS				*e*S	Sb	18 54 08.4	+2.1
	1.1nm,0.3s						
SHLS	Shalkode	3.24	306	Pg	Pn	18 53 31.4	+2.3
	4.2nm,0.3s						
SHLS				Lg	Lg	18 54 12.4	
	13nm,0.3s						
SHLS	Shalkode	3.24	306	*e*P	Pn	18 53 31.4	+2.3
	4.2nm,0.3s						
SHLS				*e*S	Sb	18 54 12.4	-3.0
	13nm,0.3s						
UZB	Uzynbulak	3.51	303	Pg	Pb	18 53 40.7	+0.8
	4.1nm,0.2s						
UZB				Lg	Lg	18 54 27.9	
	4.5nm,0.4s						
UZB	Uzynbulak	3.51	303	*e*P	Pb	18 53 40.7	+0.8
	4.1nm,0.2s						
UZB				*e*S	Sg	18 54 27.9	-1.6
	4.5nm,0.4s						
SATY	Saty	3.86	298	Pg	Pb	18 53 47.6	+1.6
	0.9nm,0.2s						
SATY				Lg	Lg	18 54 40.5	
	4.5nm,0.3s						
KNOS	Konyrlen	4.17	318	Pg	Pb	18 53 53.4	+2.2
	1.1nm,0.3s						
KNOS				Lg	Lg	18 54 49.8	
	6.3nm,0.1s						
BLB	Baldybastay	4.37	311	Pg	Pb	18 53 56.2	+1.6
	2.5nm,0.3s						
BLB				Lg	Lg	18 54 54.5	
	2.9nm,0.3s						

*IDC **20** 18:57:52.0±27.0, 17°.81N×122°.07E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=507.2km s-min=54.5km az=138.0*

ISC 20 18:58:22.9±5.2, 20°.2N±0°.5×119°.7E±0°.4, h35km, n12, σ0§73/12, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	Beinan	2.88	27	P	Pn	18 59 05.4	-0.9
TPUB	Ta-pu	3.17	16	P	Pn	18 59 09.3	-1.1
YULB	Yu-li	3.48	25	P	Pn	18 59 14.7	+0.1
SSLB	Suanglung	3.73	18	P	Pn	18 59 17.2	-0.8
NACB	Ninganchiao	4.30	24	P	Pn	18 59 25.9	0.0
YHNB	Yeheng	4.68	19	P	Pn	18 59 31.9	+0.7
CMAR	Chiang Mai Arr	19.64	268	P	P	19 02 48.2	-0.5
	0.5nm,0.7s,baz=97,slow=9.9,SNR=4.5						
	0.5nm,0.7s						
SONM	Songino Array	29.56	342	P	P	19 04 24.9	+0.5
	0.2nm,0.6s,baz=160,slow=8.9,SNR=2.4						
	0.2nm,0.6s						
MKAR	Makanchi Array	40.31	320	P	P	19 05 56.6	-0.3
	0.7nm,0.7s,baz=118,slow=8.3,SNR=8.4						
	0.7nm,0.7s						
ZALV	Zalesovo Beam	42.87	330	P	P	19 06 18.4	+0.7
	0.4nm,0.4s,baz=118,slow=7.8,SNR=4.1						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	44.31	323	P	P	19 06 29.9	+0.6
	1.3nm,0.7s,baz=124,slow=7.7,SNR=15						
	1.3nm,0.7s						
BVAR	Borovoye Array	49.91	323	P	P	19 07 12.6	-0.4
	0.1nm,0.3s,baz=106,slow=11,SNR=1.5						
	0.1nm,0.3s						

*BJI **20** 19:03:00.3, 17°.61S×172°.58W, h6km, mB5.7/31, mb5.2/51, Ms5.2/42, Ms7 4.9/43*
*NEIC **20** 19:03:01.9, 17°.78S×173°.00W, h26km, Moment Tensor Solution. Duration: 2§1 Moment tensor: Scale 10^17 Nm; M_{rr}1.16; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-1.05; $M_{r\theta}$0.07; $M_{\theta\phi}$-0.50; $M_{\phi r}$-0.32; Fault plane solution: $M_0$1.26000×10^17 NP1:φs33.64000°, δ39.78000°, λ105.41000°. NP2:φs193.90000°, δ51.91000°, λ77.52000°. Principal axes: T 1.2206, Plg78.0000°, Azm54.0000°; N 0.0749, Plg10.0000°, Azm202.0000°; P -1.2955, Plg6.0000°, Azm293.0000°;*
*NEIC **20** 19:03:01.8±2.6, 17°.70S±0°.07×172°.48W±0°.04, h10km±1km, mb5.3/195, Mww5.3/12 Error ellipse: s-maj=13.5km s-min=2.8km az=26.0*
*NEIC **20** 19:03:01.9, 17°.68S×172°.48W, h26km*
*MOS **20** 19:03:05.5±1.3, 17°.68S×173°.01W, h14km, mb5.2/38, MS4.8/5, Error ellipse: s-maj=10.4km s-min=8.7km az=82.3*
*GCMT **20** 19:03:07.8±0.1, 17°.82S±0°.01×172°.72W±0°.01, h17km, MW5.4/145, Moment Tensor Solution. s96,c145; s145,c263; Duration: 1§2 Moment tensor: Scale 10^17 Nm; M_{rr}1.05±.03; $M_{\theta\theta}$-0.07±.02; $M_{\phi\phi}$-0.98±.02; $M_{r\theta}$0.49±.05; $M_{\theta\phi}$-0.40±.01; $M_{\phi r}$0.83±.05; Best double couple: $M_0$1.45900×10^17 NP1:φs193.00000°, δ25.00000°, λ77.00000°. NP2:φs27.00000°, δ66.00000°, λ96.00000°. Principal axes: T 1.4240, Plg69.0000°, Azm309.0000°; N 0.0670, Plg5.0000°, Azm205.0000°; P -1.4940, Plg21.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **20** 19:03:08.2±3.0, 17°.84S×173°.22W, h44km±27km, mb4.5/20, mbtmp4.7/21, ML3.7/1, MS4.7/54 Error ellipse: s-maj=16.6km s-min=10.9km az=122.0*

ISC 20 19:03:04.0±0.4, 17°.97S±0°.05×172°.70W±0°.04, h25km±2km, h25km: pP-P, n754, σ1§91/681, mb5.2/174, MS4.8/76, 37C-32D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.86	113	Pn	Pn	19 03 46.2	-1.7
NIUE				Sn	Sn	19 04 14.0	-7.5
NIUE	Niue	2.86	113	P	Pn	19 03 46.5	-1.4
NIUE				S	Sn	19 04 18.5	-3.0
NIUE	Niue	2.86	113	P	Pn	19 03 46.5	-1.4

URZ S **S** **19 11 58.9 -0.6**
comp=Z,21nm,1.1s,baz=38,slow=19,SNR=3.3
comp=Z,117nm,0.8s
URZ Urewera 22.09 202 P **P** **19 07 59.0 +1.8**
URZ Urewera 22.09 202 P **P** **19 07 57.2 0.0**
KMRZ Kaimai 22.16 204 P **P** **19 08 02.5 +4.4**
TOZ Tahuroa Road 22.24 205 P **P** **19 08 01.5 +2.6**
TOZ Tahuroa Road 22.24 205 P **P** **19 08 02.1 +3.2**
MUGZ Murupara 22.41 202 P **P** **19 08 04.0 +3.3**
RTZ Ruatahuna 22.46 202 P **P** **19 08 01.9 +0.6**
RTZ IAmb IAmb 19 08 25.6
comp=Z,117nm,1.0s
RTZ Ruatahuna 22.46 202 P **P** **19 08 03.9 +2.6**
RAHZ Arahi 22.69 201 P **P** **19 08 07.8 +4.1**
MTHZ Maungataniwha 22.72 202 P **P** **19 08 06.7 +2.7**
BKZ Black Stump Fm 23.12 202 **P** **19 08 08.2 +0.1**
BKZ IAmb IAmb 19 08 16.7
comp=Z,77nm,1.0s
BKZ Black Stump Fm 23.12 202 P **P** **19 08 10.5 +2.3**
BKZ Black Stump Fm 23.12 202 P **P** **19 08 10.2 +2.1**
HIZ Hauiti 23.17 205 **P** **19 08 11.0 +2.3**
HIZ Hauiti 23.17 205 P **P** **19 08 11.8 +3.1**
HIZ Hauiti 23.17 205 P **P** **19 08 11.7 +3.1**
SNVZ South Ngauruho 23.45 203 P **P** **19 08 13.0 +1.5**
NGZ Ngauruhoe 23.45 203 P **P** **19 08 13.3 +1.7**
VRZ Vera Road 23.73 205 P **P** **19 08 18.8 +4.7**
PXZ Pawanui 23.77 200 P **P** **19 08 17.8 +3.3**
BFZ Birch Farm 24.56 201 P **P** **19 08 24.3 +2.5**
BFZ IAmb IAmb 19 08 42.6
comp=Z,51nm,0.9s
BFZ Birch Farm 24.56 201 P **P** **19 08 25.0 +3.2**
BFZ Birch Farm 24.56 201 P **P** **19 08 24.2 +2.4**
MRZ Mangatainoka R 24.77 202 P **P** **19 08 25.8 +2.2**
MRZ IAmb IAmb 19 08 36.9
comp=Z,61nm,1.1s
MSWZ Moikau Station 25.55 201 P **P** **19 08 31.8 +1.0**
BHW Baring Head 25.68 202 P **P** **19 08 32.3 +0.4**
PLWZ Palliser 25.68 201 P **P** **19 08 29.2 -2.8**
TUWZ Tuamarina 26.04 203 P **P** **19 08 33.2 -1.9**
NNZ Nelson 26.07 204 **P** **19 08 37.7 +2.3**
NNZ IAmb IAmb 19 08 45.7
comp=Z,46nm,0.9s
NNZ Nelson 26.07 204 P **P** **19 08 39.7 +4.3**
QRZ Quartz Range 26.09 206 P **P** **19 08 35.3 -0.3**
QRZ IAmb IAmb 19 08 54.8
comp=Z,51nm,0.9s
QRZ Quartz Range 26.09 206 P **P** **19 08 40.4 +4.8**
QRZ Quartz Range 26.09 206 P **P** **19 08 37.3 +1.7**
BSWZ Blackbirch Sta 26.31 203 P **P** **19 08 36.6 -1.0**
MRNZ Matariki Terra 26.47 205 P **P** **19 08 39.1 0.0**
THZ Tophouse 26.72 204 IAmb IAmb 19 08 57.6
comp=Z,38nm,0.8s
THZ Tophouse 26.72 204 P **P** **19 08 42.5 +1.1**
KHZ Kahutara 27.04 203 P **P** **19 08 42.2 -1.9**
KHZ IAmb IAmb 19 09 03.2
comp=Z,46nm,1.0s
KHZ Kahutara 27.04 203 P P 19 08 51.2 +7.0
KHZ Kahutara 27.04 203 P **P** **19 08 50.6 +6.4**
DSZ Denniston Nort 27.15 206 P **P** **19 08 46.5 +1.2**
DSZ IAmb IAmb 19 09 07.0
comp=Z,50nm,0.8s
DSZ Denniston Nort 27.15 206 P **P** **19 08 50.4 +5.1**
GVZ Greta Valley S 27.70 203 P P 19 08 57.2 +7.1
LTZ Lake Taylor 27.83 204 P **P** **19 08 50.9 -0.5**
HNR Honiara 27.86 284 P **P** **19 08 49.3 -2.5**
HNR IAmb IAmb 19 09 09.4
comp=Z,54nm,0.8s
HNR Honiara 27.86 284 LR LR 19 18 09.4
comp=Z,4µm,18.1s,baz=80,slow=33
HNR Honiara 27.86 284 P **P** **19 08 49.3 -2.5**
HNR pmax pmax
comp=Z,54nm,0.9s
INZ Inchbonnie 28.11 205 P **P** **19 08 54.7 +0.9**
OXZ Oxford 28.39 204 P **P** **19 08 55.8 -0.5**
WVZ Waitaha Valley 28.70 206 P P 19 09 04.0 +5.1
RPZ Rata Peaks 29.10 205 P P 19 09 09.6 +7.0
RPZ Rata Peaks 29.10 205 P P 19 09 11.1 +8.5
RPZ Rata Peaks 29.10 205 P P 19 09 09.0 +6.4
FOZ Fox Glacier 29.46 206 P **P** **19 09 09.9 +4.2**
FOZ Fox Glacier 29.46 206 P P 19 09 11.9 +6.2
LBZ Lake Benmore 30.00 205 P P 19 09 17.6 +7.0
LBZ Lake Benmore 30.00 205 P P 19 09 17.1 +6.5
JCZ Jackson Bay 30.33 207 P **P** **19 09 18.0 +4.4**
MLZ Mavora Lakes 31.65 206 P **P** **19 09 28.3 +3.1**
MLZ IAmb IAmb 19 10 01.4
comp=Z,50nm,1.4s
DCZ Deep Cove 32.14 207 P P 19 09 34.0 +4.6
WHZ Wether Hill Ro 32.15 206 P **P** **19 09 33.5 +4.0**
EIDS Eidsvold 34.37 251 P **P** **19 09 45.1 -4.0**
CMSA Cobar Meteorol 39.89 242 P **P** **19 10 34.1 -1.8**
comp=Z,14nm,0.9s
QLP Quilpie 40.60 250 P **P** **19 10 38.5 -3.4**
TOO Toolangi 41.42 233 P **P** **19 10 50.5 +2.0**
TOO Toolangi 41.42 233 P **P** **19 10 46.9 -1.7**
comp=Z,7.5nm,1.5s
TOO Toolangi 41.42 233 P **P** **19 10 50.5 +2.0**
TOO pmax pmax
comp=Z,6.0nm,1.0s
MOO Moorlands 41.84 226 P **P** **19 10 50.4 -1.5**
comp=Z,41nm,1.4s
TAU Tasmania Unive 41.94 225 P **P** **19 10 53.7 +1.1**
TAU IAmb IAmb 19 11 15.1
comp=Z,55nm,1.3s
TAU Tasmania Unive 41.94 225 P **P** **19 10 53.7 +1.1**
TAU pmax pmax
comp=Z,55nm,1.3s
STKA Stephens Creek 43.39 242 P **P** **19 11 03.6 -1.0**
STKA Stephens Creek 43.39 242 P **P** **19 11 03.2 -1.4**
comp=Z,53nm,1.6s
STKA Stephens Creek 43.39 242 P **P** **19 11 02.6 -2.0**
comp=Z,6.0nm,0.8s,baz=63,slow=10,SNR=3.9
STKA LR LR 19 27 11.9
comp=Z,792nm,18.6s,baz=68,slow=34
comp=Z,6.0nm,0.8s
STKA Stephens Creek 43.39 242 P **P** **19 11 03.6 -1.0**
STKA pmax pmax
comp=Z,138nm,1.5s
HTT Hallett 45.82 241 P **P** **19 11 21.0 -3.1**
comp=Z,17nm,1.0s
BBOO Buckleboo 48.15 242 P **P** **19 11 40.1 -2.2**
comp=Z,20nm,1.0s
JAY Jayapura 48.18 283 LR LR 19 30 11.3
comp=Z,1µm,20.3s,baz=37,slow=34
WB0 Warramunga Arr 49.93 259 P **P** **19 11 52.9 -3.1**
WB0 IAmb IAmb 19 11 56.6
comp=Z,30nm,0.9s
WB2 Warramunga Arr 49.94 259 P **P** **19 11 52.2 -4.0**
WB2 IAmb IAmb 19 11 56.7
comp=Z,31nm,0.9s
WRAB Tennant Creek 49.95 259 P **P** **19 11 52.2 -4.0**
WRAB IAmb IAmb 19 11 56.7
comp=Z,25nm,0.9s
WRAB Tennant Creek 49.95 259 P **P** **19 11 54.3 -1.9**
WRAB pmax pmax
comp=Z,29nm,0.9s
WRA Warramunga Arr 49.95 259 P **P** **19 11 52.1 -4.1**
WRA Warramunga Arr 49.95 259 P **P** **19 11 53.1 -3.1**
comp=Z,22nm,1.0s,baz=94,slow=7.2,SNR=29
WRA PcP **PcP** **19 13 17.0 +0.7**
comp=Z,4.5nm,0.8s,baz=92,slow=3.5,SNR=2.4
WRA LR LR 19 31 42.9
comp=Z,2µm,19.0s,baz=114,slow=35
comp=Z,22nm,1.0s
AS31 Alice Springs 50.00 254 P **P** **19 11 53.5 -3.1**
AS31 Alice Springs 50.00 254 P **P** **19 11 53.7 -2.9**
comp=Z,16nm,0.9s
ASAR Alice Springs 50.00 254 P **P** **19 11 52.9 -3.6**
ASAR Alice Springs 50.00 254 P **P** **19 11 53.9 -2.7**
comp=Z,43nm,1.0s,baz=85,slow=8.5,SNR=115
ASAR PcP **PcP** **19 13 17.2 +0.7**
comp=Z,7.7nm,0.9s,baz=99,slow=3.7,SNR=1.3
ASAR S **S** **19 18 60.0 -6.2**
comp=Z,1.1nm,0.8s,baz=90,slow=15,SNR=6.5
ASAR LR LR 19 32 33.8
comp=Z,928nm,18.2s,baz=90,slow=36
comp=Z,43nm,1.0s
GUMO Guam 52.30 304 LR LR 19 31 52.7
comp=Z,809nm,19.7s,baz=109,slow=33
WRKA Warakurna 54.99 252 P **P** **19 12 31.4 -2.1**
comp=Z,36nm,1.1s
KNRA Kununurra 55.88 263 P **P** **19 12 38.9 -1.1**
KNRA IAmb IAmb 19 12 39.6
comp=Z,43nm,1.2s
KNRA Kununurra 55.88 263 P **P** **19 12 37.8 -2.2**
comp=Z,37nm,1.5s
FITZ Fitzroy Crossi 58.37 259 LR LR 19 36 51.2
comp=Z,1µm,18.5s,baz=100,slow=35
SBA Scott Base 60.76 185 P **P** **19 13 17.3 +4.1**
SBA IAmb IAmb 19 13 44.0
comp=Z,46nm,1.3s
SBA Scott Base 60.76 185 P **P** **19 13 17.3 +4.1**
SBA pmax pmax
comp=Z,46nm,1.3s
VNDA Vanda 60.91 186 P **P** **19 13 18.1 +3.9**
VNDA Vanda 60.91 186 P **P** **19 13 17.7 +3.6**
comp=Z,6.1nm,0.9s,baz=12,slow=6.3,SNR=8.3
VNDA LR LR 19 37 09.2
comp=Z,263nm,18.6s,baz=8.0,slow=34
comp=Z,6.1nm,0.9s
VNDA Vanda 60.91 186 P **P** **19 13 18.1 +3.9**
VNDA pmax pmax
comp=Z,13nm,1.1s
SOEI Soe 61.50 268 P **P** **19 13 18.5 -0.8**
SOEI Soe 61.50 268 P **P** **19 13 19.8 +0.5**
comp=Z,67nm,0.9s
BATI Baumata 61.96 268 LR LR 19 36 55.1
comp=Z,573nm,21.3s,baz=122,slow=33
JCJ Chichijima 62.62 315 LR LR 19 36 25.9
comp=Z,954nm,19.8s,baz=123,slow=32
PSA00 Pilbara Seismi 63.14 254 P **P** **19 13 28.7 -1.3**
PSA00 IAmb IAmb 19 13 30.9
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 63.14 254 P **P** **19 13 26.3 -3.8**
MEEK Meekatharra 63.48 249 P **P** **19 13 28.5 -3.9**
NWAO Narrogin (SRO) 63.97 242 LR LR 19 40 23.4
comp=Z,541nm,18.2s,baz=53,slow=35
BBSI Bau Bau 64.30 273 P **P** **19 13 33.9 -3.9**
comp=Z,1µmcomp=Z,31nm,1.1s
MUN Mundaring 64.93 243 P **P** **19 13 41.8 +0.1**
comp=Z,40nm,2.3s
MORW Morawa 65.42 246 P **P** **19 13 44.6 -0.4**
MORW Morawa 65.42 246 P **P** **19 13 43.6 -1.3**
comp=Z,41nm,1.3s
DAV Davao City (W) 65.79 287 LR LR 19 40 38.5
comp=Z,647nm,19.1s,baz=122,slow=34
APSI Ampana 66.59 277 P **P** **19 13 54.0 +1.3**
MRSI Marisa 66.78 278 P **P** **19 13 52.6 -1.2**
comp=Z,16nm,1.1s
KAPI Kappang 67.12 272 LR LR 19 41 38.4
comp=Z,313nm,19.4s,baz=88,slow=35
KAPI Kappang 67.12 272 *i* P **P** **19 13 53.8 -2.2**
KAPI pmax pmax
comp=Z,22nm,1.4s
TOLI2 Tolitoli 68.08 279 P **P** **19 14 00.2 -1.9**
TOLI2 IAmb IAmb 19 14 18.3
comp=Z,32nm,1.2s
JHJ Hachijo jima 2 68.11 318 LR LR 19 44 22.7
comp=Z,431nm,18.0s,baz=117,slow=37
PCI Palu 68.31 276 P **P** **19 14 02.1 -1.4**
comp=Z,1µmcomp=Z,58nm,1.2s
CASY Casey 68.37 205 P **P** **19 14 04.4 +1.4**
CASY IAmb IAmb 19 14 31.1
comp=Z,28nm,1.1s
NIKH Nikolski High 70.72 2 P **P** **19 14 16.5 -1.1**
baz=184
MJAR Matsushiro Arr 71.32 320 P **P** **19 14 20.5 -1.1**
comp=Z,7.9nm,1.0s,baz=157,slow=5.2,SNR=14
MJAR LR LR 19 39 51.7
comp=Z,622nm,21.7s,baz=120,slow=31
comp=Z,7.9nm,1.0s
MAJO Matsushiro 71.32 320 P **P** **19 14 21.0 -0.6**
MAJO Matsushiro 71.32 320 P **P** **19 14 21.0 -0.6**
MAJO pmax pmax
comp=Z,15nm,1.1s
SHEM Shemya Is, Ala 71.33 352 LR LR 19 44 17.2
comp=Z,426nm,18.2s,baz=191,slow=35
JAGI Jajag, Banyuwa 71.46 267 P **P** **19 14 21.1 -1.9**
QSPA South Pole Qui 72.09 180 P **P** **19 14 28.6 +2.7**
comp=Z,11nm,1.0s,baz=40,slow=0.8,SNR=18
QSPA LR LR 19 43 23.9
comp=Z,374nm,19.4s,baz=49,slow=34
comp=Z,11nm,1.0s
JTM Tenabayashi 72.52 325 P **P** **19 14 27.2 -1.4**
JOW Kunigami 72.54 307 LR LR 19 40 44.2
comp=Z,849nm,21.9s,baz=116,slow=31
TGY Tagaytay City 72.78 291 LR LR 19 43 00.4
comp=Z,1µm,19.7s,baz=116,slow=33
CHNA Chernabura Isl 73.37 8 P **P** **19 14 33.5 +0.2**
baz=193
SDPT Sand Point 73.76 7 P **P** **19 14 35.7 0.0**
baz=192
LPIG La Paz 73.83 57 LR LR 19 39 16.5
comp=Z,310nm,19.1s,baz=220,slow=29
JNU Nakatsue 74.03 313 LR LR 19 44 02.1
comp=Z,447nm,18.7s,baz=141,slow=33
ASAJ Asahikawa 74.06 328 LR LR 19 40 38.3
comp=Z,479nm,21.9s,baz=196,slow=30
PFO Pinyon Flats O 74.19 46 P **P** **19 14 34.2 -4.7**
PFO Pinyon Flats O 74.19 46 LR LR 19 44 41.6
comp=Z,472nm,18.1s,baz=240,slow=34
PFO Pinyon Flats O 74.19 46 *i* P **P** **19 14 38.5 -0.4**
PFO pmax pmax
comp=Z,33nm,1.3s
CMB Columbia Colle 74.26 40 P **P** **19 14 40.6 +1.6**
CMB Columbia Colle 74.26 40 P **P** **19 14 40.7 +1.6**
CMB pmax pmax
comp=Z,24nm,1.3s
NGJI Ngawi 74.33 267 P **P** **19 14 40.3 +0.3**
comp=Z,66nm,0.8s
PCJI Pacitan 74.37 266 P **P** **19 14 39.8 -0.4**
AFDM Forest Hills D 74.47 39 P **P** **19 14 39.4 -0.9**
PET Petropavlovsk 74.92 343 *e*P **P** **19 14 43.0 +0.6**
PET *e*S **S** **19 24 18.6 +0.6**
PET pmax pmax
comp=Z,300nm,15.8s
CHGN Chignik 74.95 8 P **P** **19 14 43.7 +1.1**
baz=194
YBH Yreka Blue Hor 75.25 36 IAmb IAmb 19 14 58.7
comp=Z,53nm,1.8s
YBH Yreka Blue Hor 75.25 36 LR LR 19 43 03.1
comp=Z,487nm,19.2s,baz=226,slow=32
PETK Petropavlovsk- 75.27 342 P **P** **19 14 44.3 -0.2**
comp=Z,4.0nm,0.7s,baz=141,slow=15,SNR=4.9
comp=Z,4.0nm,0.7s
DSP Deep Springs 75.37 42 P **P** **19 14 44.5 -0.9**
PNTR Pine Nut 75.39 40 P **P** **19 14 44.3 -1.5**
PNTR IAmb IAmb 19 15 01.0
comp=Z,25nm,1.1s
L04D Klamath Falls 75.79 36 P **P** **19 14 47.0 -0.9**
L04D IAmb IAmb 19 15 27.4
comp=Z,20nm,1.0s
NVAR Mina Array Bea 75.80 41 P **P** **19 14 45.9 -2.3**
NVAR Mina Array Bea 75.80 41 P **P** **19 14 50.2 +2.1**
comp=Z,5.9nm,1.0s,baz=225,slow=8.0,SNR=16
NVAR LR LR 19 46 01.3
comp=Z,317nm,18.3s,baz=228,slow=34
comp=Z,5.9nm,1.0s
SII Sitkinak Islan 75.86 10 P **P** **19 14 48.4 +0.6**
baz=198
NV11 Mina Array Sit 75.89 41 IAmb IAmb 19 14 56.8
comp=Z,35nm,1.3s
YSS Yuzhno-Sakhali 76.03 330 *e*P **P** **19 14 49.2 +0.2**
YSS *e*S **S** **19 24 30.0 -0.6**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,500nm,16.0s
R18K Karluk 76.77 10 P **P** **19 14 54.3 +1.4**
baz=198
J05D Fort Rock, OR 77.08 36 IAmb IAmb 19 15 10.0
comp=Z,26nm,1.2s
KDAK Kodiak Island 77.30 11 LR LR 19 42 48.1
comp=Z,472nm,20.2s,baz=43,slow=31
KDAK Kodiak Island 77.30 11 P **P** **19 14 56.9 +1.1**
baz=199
O14K Tigyukauivet M 77.51 6 P **P** **19 14 58.0 +1.0**
baz=191
PINE Pine Mountain 77.58 36 IAmb IAmb 19 15 12.8
comp=Z,38nm,1.3s
O15K Ungalikthiuk R 77.59 7 P **P** **19 14 58.2 +0.7**
baz=192
Q18K Katmai Hardscr 77.72 9 P **P** **19 14 59.2 +0.8**
baz=197
E03A Lebam 78.00 32 IAmb IAmb 19 15 15.2
comp=Z,47nm,1.3s
WVOR Wild Horse Val 78.03 38 P **P** **19 15 03.1 +2.6**
WVOR pmax pmax
comp=Z,10.0nm,1.2s
P17K Kvichak River 78.03 8 P **P** **19 15 01.0 +1.0**
baz=196
Q20K Shuyak Island 78.11 11 P **P** **19 15 01.5 +1.1**
baz=200
N14K Kuskokwak Cree 78.13 6 P **P** **19 15 00.9 +0.4**
baz=190
LEM Lembang 78.14 267 LR LR 19 49 27.9
comp=Z,354nm,19.6s,baz=150,slow=36
LEM Lembang 78.14 267 P **P** **19 15 00.6 -1.2**
comp=Z,1µmcomp=Z,122nm,1.2s
O16K Kokwok River B 78.20 8 P **P** **19 15 01.6 +0.7**
baz=194
Q19K Cape Douglas, 78.20 10 P **P** **19 15 00.8 -0.1**
baz=198
M11K Mekoryuk 78.25 3 P **P** **19 15 01.2 +0.1**
baz=186
P18K Big Mountain, 78.40 9 P **P** **19 15 02.4 +0.4**
baz=197
KSRS Korea Array 78.45 316 P **P** **19 15 03.5 +0.8**
comp=Z,14nm,1.1s,baz=135,slow=6.8,SNR=15
KSRS LR LR 19 46 59.5
comp=Z,252nm,19.2s,baz=135,slow=34
comp=Z,14nm,1.1s
KSAR Wonju Array Be 78.47 316 P **P** **19 15 02.7 -0.2**
KSAR Wonju Array Be 78.47 316 P **P** **19 15 02.7 -0.2**
M13K Dall Lake 78.47 5 P **P** **19 15 02.7 +0.4**
baz=189
O17K Koliganek Bris 78.50 8 P **P** **19 15 03.3 +0.8**
baz=195
N15K Kwethluk River 78.53 6 P **P** **19 15 03.4 +0.6**
baz=192
I07A Izee 78.56 36 IAmb IAmb 19 15 27.5
comp=Z,36nm,1.5s
G06A Carlson Farm, 78.67 35 IAmb IAmb 19 15 18.0
comp=Z,39nm,1.6s
O18K Koktuh Hills 78.84 9 P **P** **19 15 05.0 +0.5**
baz=197
M14K Bethel 78.92 5 IAmb IAmb 19 15 17.4
comp=Z,49nm,1.2s
M14K Bethel 78.92 5 P **P** **19 15 05.3 +0.5**
baz=190
TYV Tymovskoe 78.93 333 *e*P **P** **19 15 05.1 0.0**
TYV *e*S **S** **19 24 59.2 -2.7**
TYV pmax pmax
comp=Z,200nm,5.4s
TYV pmax pmax
comp=Z,19nm,1.2s
TYV smax smax
comp=N,600nm,9.5s
TYV smax smax
comp=E,400nm,9.5s
P19K Oil Pt 78.96 10 P **P** **19 15 05.2 +0.1**
baz=199
N16K Nishlik Lake 78.97 7 P **P** **19 15 04.9 -0.3**
baz=193
M15K Kasigluk River 78.98 6 P **P** **19 15 05.5 +0.3**
baz=191
GNW Green Mountain 79.06 32 IAmb IAmb 19 15 20.3
comp=Z,32nm,1.5s
ELK Elko 79.07 41 P **P** **19 15 08.0 +1.5**
N17K Nushagak Hills 79.22 8 P **P** **19 15 06.8 +0.3**
baz=195
ILSW Iliamna Southw 79.29 10 P **P** **19 15 06.7 -0.3**
O19K Port Alsworth 79.30 9 IAmb IAmb 19 15 22.7
comp=Z,37nm,1.1s
O19K Port Alsworth 79.30 9 P **P** **19 15 07.2 +0.3**
baz=198
QZH Quanzhou 79.33 301 P **P** **19 15 08.1 +0.2**
QZH pmax pmax
comp=Z,360nm,6.6s
QZH LR LR
comp=Z,600nm,16.5s
QZH LR LR
comp=Z,500nm,21.0s
L14K Kuka Creek 79.44 5 P **P** **19 15 07.5 -0.2**
baz=190
O20K Slope Mountain 79.47 10 P **P** **19 15 09.1 +1.2**
baz=199
BRSE Bradley Lake S 79.47 11 P **P** **19 15 09.1 +1.2**
baz=201
M16K Timber Creek 79.49 7 IAmb IAmb 19 15 22.5
comp=Z,55nm,1.3s
M16K Timber Creek 79.49 7 P **P** **19 15 09.4 +1.4**
baz=193
CBB Campbell River 79.54 29 IAmb IAmb 19 15 23.1
comp=Z,42nm,1.3s
N18K Kilae Creek 79.54 8 P **P** **19 15 09.4 +1.2**
baz=196
USA0B Ussuriysk Arra 79.83 323 *i* P **P** **19 15 10.6 +0.5**
USRK Ussuriysk Ar. 79.83 323 P **P** **19 15 10.8 +0.6**
comp=Z,6.4nm,1.0s,baz=98,slow=5.1,SNR=7.9
USRK LR LR 19 49 40.6
comp=Z,600nm,18.3s,baz=131,slow=35
comp=Z,6.4nm,1.0s
N19K Bonanza Creek 79.87 9 IAmb IAmb 19 15 25.7
comp=Z,35nm,1.2s
N19K Bonanza Creek 79.87 9 P **P** **19 15 11.0 +0.9**
baz=197
L15K Ungalak Mounta 79.88 5 P **P** **19 15 10.9 +0.8**
baz=191
K13K Kusilvak Mount 79.89 4 P **P** **19 15 10.3 +0.2**
baz=188
E07A Sunnyside 79.94 34 IAmb IAmb 19 15 28.4
comp=Z,33nm,1.4s
HAWA Hanford 80.00 34 IAmb IAmb 19 15 28.8
comp=Z,48nm,1.6s
M17K Holitna River 80.04 7 P **P** **19 15 12.0 +1.1**
baz=194
L16K Owhat River 80.11 6 P **P** **19 15 11.9 +0.7**
baz=193
DUG Dugway, Tooele 80.29 42 P **P** **19 15 14.4 +1.4**
E08A Dider Farm, El 80.32 34 IAmb IAmb 19 15 20.9
comp=Z,40nm,1.6s
M18K Stony River 80.33 8 P **P** **19 15 13.4 +0.9**
baz=196
O22K Cooper Landing 80.35 11 P **P** **19 15 13.2 +0.6**
baz=202
CAPN Captain Cook N 80.36 11 P **P** **19 15 13.2 +0.5**
baz=201
P23K Montague Islan 80.36 13 P **P** **19 15 13.3 +0.6**
baz=204
CRAG Craig 80.46 22 P **P** **19 15 14.7 +1.4**
baz=218
K15K Wolf Creek Mou 80.48 5 P **P** **19 15 13.3 0.0**
baz=191
SPCR Spurr Chakacha 80.59 10 P **P** **19 15 14.4 +0.4**
baz=200
L17K Donlin 80.65 7 P **P** **19 15 14.8 +0.7**
baz=194
D08A Wollman Farm, 80.75 34 IAmb IAmb 19 15 23.2
comp=Z,69nm,1.8s
J14K Nanvaranak Lak 80.77 4 P **P** **19 15 15.2 +0.4**
baz=189
E09A Wood Farm, Sta 80.83 35 IAmb IAmb 19 15 30.2
comp=Z,33nm,1.5s
V35K Ketchikan 80.89 22 P **P** **19 15 17.2 +1.6**
baz=219
RC01 Rabbit Creek A 80.92 11 P **P** **19 15 16.5 +0.9**
baz=202
L18K Granite Mounta 80.92 8 IAmb IAmb 19 15 30.4
comp=Z,30nm,1.4s
L18K Granite Mounta 80.92 8 P **P** **19 15 16.5 +0.8**
baz=195
M19K Big River Lodg 80.93 9 P **P** **19 15 16.2 +0.5**
baz=197
KAIM Kayak Island 80.95 14 P **P** **19 15 16.3 +0.5**
baz=207
PWL Port Wells 80.97 12 P **P** **19 15 16.3 +0.3**
baz=203
U33K Whale Pass 80.97 21 P **P** **19 15 16.8 +0.8**
baz=218
SIT Sitka 81.00 20 P **P** **19 15 17.2 +1.1**
baz=216
M20K Styx River 81.09 9 P **P** **19 15 17.3 +0.7**
baz=199
L19K White Mountain 81.13 8 P **P** **19 15 17.1 +0.3**
baz=197
HVU Hansel Valley 81.19 41 P **P** **19 15 16.4 -1.3**
HVU Hansel Valley 81.19 41 P **P** **19 15 16.5 -1.3**
HVU pmax pmax
comp=Z,34nm,1.7s
HLID Hailey 81.19 39 IAmb IAmb 19 15 32.4
comp=Z,38nm,1.6s
EYAK Cordova Ski Ar 81.22 13 P **P** **19 15 17.8 +0.6**
baz=206
K17K Iditarod 81.22 7 P **P** **19 15 17.8 +0.7**
baz=194
BELA Belgrano 2 81.37 172 P **P** **19 15 20.2 +2.2**
SKT Skwentna 81.44 10 P **P** **19 15 20.0 +1.5**
baz=200
KNK Knik Glacier 81.45 12 P **P** **19 15 19.8 +1.2**

baz=203
S31K Pelican 81.45 19 P P 19 15 20.5 +1.9
baz=215
MDJ Mudanjiang 81.46 322 P P 19 15 20.0 +1.1
MDJ pmax pmax
comp=Z,34nm,1.7s
MDJ pmax pmax
comp=Z,680nm,8.2s
M22K Willow 81.47 11 P P 19 15 19.9 +1.5
baz=202
WRAK Wrangell Islan 81.48 21 P P 19 15 21.2 +2.5
baz=218
GAMB Gambell 81.48 0 P P 19 15 19.2 +0.7
baz=181
PMR Palmer 81.49 11 IAmb IAmb 19 15 34.6
comp=Z,41nm,1.4s
PMR Palmer 81.49 11 P P 19 15 20.4 +1.7
baz=202
TXAR Lajitas Array 81.49 56 P P 19 15 23.1 +3.5
comp=Z,3.7nm,1.0s,baz=220,slow=5.7,SNR=20
comp=Z,3.7nm,1.0s
J16K Anvik River 81.54 5 IAmb IAmb 19 15 32.1
comp=Z,53nm,1.4s
J16K Anvik River 81.54 5 P P 19 15 20.0 +1.2
baz=191
L20K Farewell, AK 81.55 9 P P 19 15 20.7 +1.6
baz=198
PMSA Palmer Station 81.57 156 LR LR 19 44 22.1
comp=Z,498nm,20.3s,baz=272,slow=30
S32K Killisnoo 81.57 20 P P 19 15 21.7 +2.5
baz=216
GRNR Gornyy 81.69 330⇑ *i*P P 19 15 20.2 +0.2
GRNR pmax pmax
comp=Z,8.0nm,1.3s
GRNR MLR MLR
comp=E,260nm,16.0s
DIV Divide 81.73 13 P P 19 15 18.6 -1.5
DIV IAmb IAmb 19 15 34.1
comp=Z,36nm,1.1s
MESA MESA 81.76 15 P P 19 15 22.3 +1.9
baz=209
J17K VABM Dome 81.80 6 P P 19 15 22.4 +2.1
baz=193
BMRM Bremner River 81.84 13 P P 19 15 23.0 +2.4
baz=207
SML Sawmill 81.84 11 P P 19 15 23.1 +2.5
baz=203
M23K Glacier View 81.94 12 P P 19 15 23.1 +2.0
baz=204
ANMO Albuquerque 81.94 49 *i* P P 19 15 23.1 +1.1
ANMO pmax pmax
comp=Z,8.0nm,1.3s
PNL Peninsula 81.98 16 P P 19 15 23.6 +2.3
baz=212
KLU Klutina 82.03 13 IAmb IAmb 19 15 36.3
comp=Z,30nm,1.3s
KLU Klutina 82.03 13 P P 19 15 23.6 +1.9
baz=206
SCM Sheep Creek Mo 82.06 12 IAmb IAmb 19 15 35.9
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 82.06 12 P P 19 15 23.5 +1.7
baz=204
MDSI Maura Dua 82.09 268 P P 19 15 19.1 -3.9
comp=Z,30nm,1.3s
PINM Pinnacle 82.12 16 P P 19 15 24.3 +2.2
baz=211
I17K Unalakleet 82.12 5 P P 19 15 23.7 +1.8
baz=191
J18K Innoko River 82.12 7 IAmb IAmb 19 15 36.3
comp=Z,41nm,1.8s
J18K Innoko River 82.12 7 P P 19 15 23.2 +1.2
baz=195
PPLA Purkeypile 82.20 9 P P 19 15 23.7 +1.1
baz=200
NJ2 Nanjing 82.24 307 ⇑P P 19 15 24.4 +1.1
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,380nm,5.3s
NJ2 LR LR
comp=Z,440nm,22.3s
NJ2 LR LR
comp=Z,420nm,17.1s
NJ2 LR LR
comp=Z,500nm,20.6s
R32K Eaglecrest 82.24 19 P P 19 15 24.3 +1.6
baz=216
K20K Telida 82.36 8 P P 19 15 24.6 +1.4
baz=198
N25K Chitina, Valde 82.41 13 P P 19 15 25.1 +1.4
baz=207
NEW Newport 82.45 34 LR LR 19 47 23.5
comp=Z,693nm,18.4s,baz=204,slow=32
NEW Newport 82.45 34 P P 19 15 25.9 +1.8
NEW pmax pmax
comp=Z,8.0nm,1.3s
ANM Nome 82.47 3 P P 19 15 24.9 +1.2
baz=187
M24K Tolsona, Glenn 82.54 12 P P 19 15 25.9 +1.6
baz=205
PLBC Pleasant Camp 82.65 18 P P 19 15 26.7 +2.0
baz=214
T35M Bob Quinn 82.65 22 P P 19 15 27.6 +2.6
baz=220
CAST Castle Rocks 82.71 9 P P 19 15 26.7 +1.6
baz=200
O28M Mount Upton 82.72 15 P P 19 15 27.1 +1.6
baz=211
O29M Mount Kennedy 82.74 16 P P 19 15 27.6 +2.2
baz=212
H16K Elim 82.74 5 P P 19 15 26.9 +1.8
baz=190,SNR=7.0
J19K Poorman 82.77 8 P P 19 15 27.0 +1.7
baz=196
MA2 Magadan 82.80 342 P P 19 15 24.4 -1.2
MA2 IAmb IAmb 19 15 43.7
comp=Z,21nm,1.3s
MA2 Magadan 82.80 342 LR LR 19 50 58.8
comp=Z,284nm,18.4s,baz=152,slow=35
MA2 Magadan 82.80 342 *i* P P 19 15 24.9 -0.7
MA2 pmax pmax
comp=Z,22nm,2.3s
MA2 Magadan 82.80 342 P P 19 15 24.1 -1.5
comp=Z,14nm,2.0s
SKAG Skagway 82.95 18 P P 19 15 28.6 +2.2
baz=215
G15K Niukluk 82.97 4 P P 19 15 28.0 +1.6
baz=188,SNR=8.7
HARP HAARP 83.01 13 P P 19 15 28.0 +1.3
baz=206
TRF Thorofare Moun 83.02 10 P P 19 15 28.1 +1.3
baz=201
S22A 4UR Ranch, Cre 83.02 47 IAmb IAmb 19 15 36.6
comp=Z,34nm,1.2s
KLR Kul'dur 83.02 327 LR LR 19 46 40.7
comp=Z,392nm,21.6s,baz=138,slow=32
KLR Kul'dur 83.02 327 *ce*P P 19 15 28.2 +1.2
KLR pmax pmax
comp=Z,16nm,1.7s
P30M Million Dollar 83.03 17 P P 19 15 29.1 +2.3
baz=214
S34M Telegraph Cree 83.06 21 P P 19 15 29.4 +2.4
baz=219,SNR=6.1
CHUM Lake Minchumin 83.11 9 P P 19 15 28.1 +1.0
baz=199
J20K Nowinta River 83.13 8 P P 19 15 24.5 -2.7
J20K IAmb IAmb 19 15 43.7
comp=Z,32nm,1.2s
J20K Nowinta River 83.13 8 P P 19 15 28.7 +1.5
baz=198,SNR=7.3
RND Reindeer 83.22 11 IAmb IAmb 19 15 42.0
comp=Z,30nm,1.0s
RND Reindeer 83.22 11 P P 19 15 27.7 -0.1
H17K Granite Mounta 83.22 5 P P 19 15 29.0 +1.3
baz=192
O20A White River Ci 83.24 44 P P 19 15 24.6 -4.0
O20A IAmb IAmb 19 16 07.2
comp=Z,25nm,1.3s
YUK8 Steele Glacier 83.26 15 P P 19 15 29.6 +1.3
baz=211
FXWY Fox Creek 83.28 40 IAmb IAmb 19 15 37.9
comp=Z,33nm,1.4s
F14K Arctic Creek 83.33 3 P P 19 15 29.4 +1.2
baz=186
YUK6 Outpost Mounta 83.33 16 P P 19 15 30.2 +1.6
baz=213
MSO Missoula 83.34 36 IAmb IAmb 19 15 43.2
comp=Z,31nm,1.4s

GCSA Galena City Sc 83.35 7 P P 19 15 29.7 +1.5
baz=195
TNA Tin City 83.35 2 IAmb IAmb 19 15 31.0
comp=Z,27nm,1.3s
TNA Tin City 83.35 2 P P 19 15 29.6 +1.4
baz=184,SNR=13
BNX BinXian 83.37 322 ⇓P P 19 15 29.4 +0.6
BNX sP **pP 19 15 34.4 -0.6**
BNX S **SKSac 19 25 50.3 +0.9**
BNX pmax pmax
comp=Z,25nm,1.3s
BNX pmax pmax
comp=Z,400nm,6.0s
BNX LR LR
comp=Z,500nm,19.3s
BNX LR LR
comp=Z,380nm,17.0s
BNX LR LR
comp=Z,620nm,19.5s
USHA Ushuaia 83.43 146 LR LR 19 44 31.2
comp=Z,392nm,21.0s,baz=263,slow=30
DL2 Dalian 83.44 314 P P 19 15 32.6 +3.2
DL2 *e*S **S 19 25 54.3 +5.0**
DL2 pmax pmax
comp=Z,71nm,1.6s
DL2 pmax pmax
comp=Z,690nm,7.8s
DL2 LR LR
comp=Z,1μm,22.9s
DL2 LR LR
comp=Z,810nm,21.7s
DL2 LR LR
comp=Z,480nm,17.6s
PAX Paxson 83.46 12 P P 19 15 26.9 -2.1
PAX Paxson 83.46 12 P P 19 15 26.9 -2.1
PAX pmax pmax
comp=Z,14nm,1.2s
PAX Paxson 83.46 12 P P 19 15 30.6 +1.6
baz=206
HYT Haines Junctio 83.47 17 IAmb IAmb 19 15 43.5
comp=Z,38nm,1.3s
HYT Haines Junctio 83.47 17 P P 19 15 31.0 +1.8
baz=213
M26K Nabesna, AK 83.47 13 IAmb IAmb 19 15 45.5
comp=Z,39nm,1.4s
M26K Nabesna, AK 83.47 13 P P 19 15 30.7 +1.6
baz=208
CN2 Changchun 83.47 320 *e*P P 19 15 29.9 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
G16K Koyuk River 83.48 4 IAmb IAmb 19 15 31.8
comp=Z,19nm,1.4s
G16K Koyuk River 83.48 4 P P 19 15 30.2 +1.3
baz=190,SNR=5.9
Q32M Nakina River 83.50 20 P P 19 15 31.2 +1.8
baz=218
MCK McKinley 83.51 10 IAmb IAmb 19 15 43.2
comp=Z,28nm,1.0s
MCK McKinley 83.51 10 P P 19 15 30.2 +1.0
baz=202,SNR=7.5
YUK3 Moose Creek 83.51 15 P P 19 15 31.6 +2.1
baz=211
BPAW Bear Paw Mtn. 83.52 9 P P 19 15 30.6 +1.3
baz=201
P32M Atlin 83.55 19 P P 19 15 31.4 +1.9
baz=217
H18K Honhosa River 83.58 6 P P 19 15 30.5 +0.9
baz=194
YUK4 Talbot Arm 83.60 16 P P 19 15 31.6 +1.6
baz=212
F15K North Star Dit 83.64 3 P P 19 15 31.1 +1.3
baz=188,SNR=6.2
I20K Naaghedeneel 83.68 8 P P 19 15 31.5 +1.5
baz=197
M27K Edge Creek, AK 83.69 14 P P 19 15 31.8 +1.5
baz=209
G17K Kiwalik Mounta 83.72 5 P P 19 15 31.3 +1.1
baz=191
PD31 Pinedale Array 83.73 41 IAmb IAmb 19 15 38.8
comp=Z,25nm,1.4s
PDAR Pinedale Array 83.73 41 P P 19 15 29.9 -1.2
PDAR Pinedale Array 83.73 41 P P 19 15 32.6 +1.4
comp=Z,10.0nm,1.1s,baz=207,slow=3.0,SNR=35
comp=Z,10.0nm,1.1s
YHB Horse Butte 83.78 39 P P 19 15 28.5 -2.8
YHB IAmb IAmb 19 15 36.3
comp=Z,30nm,1.1s
O30N Mendenhall 83.81 17 P P 19 15 32.4 +1.6
baz=215,SNR=5.5
DLBC Dease Lake 83.84 21 P P 19 15 32.5 +1.4
baz=220
KSI Kapahiang 83.85 268 P P 19 15 31.2 -1.0
comp=Z,59nm,0.9s
BVCY Beaver Creek 83.97 14 P P 19 15 33.0 +1.4
baz=210
WHY Whitehorse 84.06 18 P P 19 15 33.6 +1.4
baz=216
N30M Aishikik Lake 84.11 16 P P 19 15 34.3 +1.9
baz=214
H19K Roundabout Mou 84.15 7 IAmb IAmb 19 15 49.4
comp=Z,25nm,1.2s
H19K Roundabout Mou 84.15 7 P P 19 15 34.0 +1.6
baz=195
K24K Donnelly Dome 84.15 12 P P 19 15 33.9 +1.4
baz=206
R33M Jennings River 84.26 20 P P 19 15 31.1 -2.2
R33M IAmb IAmb 19 15 36.2
comp=Z,31nm,1.4s
R33M Jennings River 84.26 20 P P 19 15 34.7 +1.4
baz=219,SNR=6.9
RIDG Independent Ri 84.28 12 P P 19 15 34.5 +1.4
baz=206
G18K Tagagawik 84.28 6 IAmb IAmb 19 15 35.3
comp=Z,20nm,1.3s
G18K Tagagawik 84.28 6 P P 19 15 34.5 +1.4
baz=193,SNR=6.5
NEA2 Nenana 84.29 10 IAmb IAmb 19 15 47.6
comp=Z,24nm,1.2s
NEA2 Nenana 84.29 10 P P 19 15 34.3 +1.1
baz=202
H20K Anotleneega Mo 84.30 7 P P 19 15 34.2 +1.0
baz=197,SNR=5.1
L27K Beaver Creek, 84.31 14 IAmb IAmb 19 15 47.4
comp=Z,36nm,1.9s
L27K Beaver Creek, 84.31 14 P P 19 15 34.8 +1.4
baz=209
P33M Teslin, Yukon 84.32 19 IAmb IAmb 19 15 47.6
comp=Z,25nm,1.4s
P33M Teslin, Yukon 84.32 19 P P 19 15 35.0 +1.5
baz=218
BCAR Beaver Creek A 84.33 14 P P 19 15 33.6 +0.2
WRH Wood River Hil 84.34 10 P P 19 15 30.8 -2.6
DOT Dot Lake 84.35 12 IAmb IAmb 19 15 47.3
comp=Z,28nm,1.2s
LYMT Lyon Mountain 84.35 37 P P 19 15 31.0 -3.2
I21K Tanana 84.39 9 P P 19 15 33.9 +0.3
I21K IAmb IAmb 19 15 49.6
comp=Z,32nm,1.4s
I21K Tanana 84.39 9 P P 19 15 34.5 +0.9
baz=200
QIZ Qiongzhong 84.48 292 P P 19 15 34.6 -0.5
QIZ PP **PP 19 18 49.8 -1.0**
QIZ S **S 19 26 02.3 +1.8**
QIZ SS **SS 19 31 34.8 +3.0**
QIZ pmax pmax
comp=Z,300nm,8.3s
QIZ LR LR
comp=Z,260nm,16.0s
QIZ LR LR
comp=Z,250nm,15.8s
QIZ LR LR
comp=Z,550nm,25.1s
HDA Harding Lake 84.48 11 IAmb IAmb 19 15 48.1
comp=Z,25nm,1.0s
HDA Harding Lake 84.48 11 P P 19 15 35.1 +0.9
baz=204,SNR=8.5
N31M Braeburn, Yuko 84.48 17 P P 19 15 31.8 -2.4
N31M Braeburn, Yuko 84.48 17 P P 19 15 35.6 +1.3
baz=215
CCB Clear Creek Bu 84.55 10 IAmb IAmb 19 15 47.8
comp=Z,26nm,1.0s
M29M Somme Creek 84.58 15 P P 19 15 35.8 +1.0
baz=212,SNR=5.7
F17K Baldwin Pennin 84.59 5 IAmb IAmb 19 15 52.4
comp=Z,29nm,1.4s
F17K Baldwin Pennin 84.59 5 P P 19 15 35.6 +1.0
baz=191,SNR=6.7

SCRK Sand Creek 84.66 12 IAmb IAmb 19 15 51.3
comp=Z,21nm,1.2s
SCRK Sand Creek 84.66 12 P P 19 15 35.7 +0.5
baz=207,SNR=6.1
G19K Purcell Mounta 84.68 6 IAmb IAmb 19 15 37.8
comp=Z,24nm,1.4s
G19K Purcell Mounta 84.68 6 P P 19 15 36.0 +1.0
baz=195,SNR=9.8
H21K Melozitna Rive 84.72 8 IAmb IAmb 19 15 49.6
comp=Z,22nm,1.2s
H21K Melozitna Rive 84.72 8 P P 19 15 36.8 +1.5
baz=199,SNR=9.0
COLA College 84.75 10 P P 19 15 34.5 -0.9
COLA College 84.75 10 *i* P P 19 15 35.6 +0.2
COLA pmax pmax
comp=Z,36nm,1.0s
COLA College 84.75 10 P P 19 15 36.6 +1.2
baz=204
I23K Minto, Yukon-K 84.75 10 IAmb IAmb 19 15 54.6
comp=Z,31nm,1.2s
I23K Minto, Yukon-K 84.75 10 P P 19 15 36.1 +0.7
baz=202,SNR=6.2
ILAR Eielson Array 84.83 11 P P 19 15 34.0 -1.9
ILAR Eielson Array 84.83 11 P P 19 15 36.4 +0.6
comp=Z,8.7nm,1.1s,baz=213,slow=5.2,SNR=27
ILAR LR LR 19 49 00.8
comp=Z,282nm,19.4s,baz=182,slow=32
comp=Z,8.7nm,1.1s
F18K Selawik 84.88 5 P P 19 15 37.1 +1.1
baz=192
J25K Salcha River, 84.96 11 P P 19 15 36.9 +0.3
J25K Salcha River, 84.96 11 P P 19 15 37.9 +1.3
baz=206,SNR=12
N32M Quiet Lake 84.98 18 P P 19 15 38.6 +1.8
baz=217
POKR Poker Plat Res 85.05 10 P P 19 15 37.5 +0.6
baz=204,SNR=13
K27K Chicken 85.11 13 P P 19 15 38.6 +1.4
baz=209
M30M Minto, Yukon 85.11 16 P P 19 15 38.7 +1.3
baz=214
H22K Ishtalitna Cre 85.15 9 P P 19 15 38.5 +1.0
baz=200
SEY Seymchan 85.16 345 *ce*P P 19 15 38.2 +0.7
SEY pmax pmax
comp=Z,23nm,1.7s
E17K Hotham Inlet 85.18 4 P P 19 15 38.8 +1.2
baz=190
J26L Joseph Creek 85.21 12 P P 19 15 39.0 +1.1
baz=208,SNR=13
L29M L29M 85.22 15 P P 19 15 39.6 +1.7
baz=213,SNR=15
F19K Shaleruckik Mo 85.28 6 P P 19 15 39.1 +1.1
baz=194
H23K Yukon River 85.36 9 P P 19 15 39.8 +1.3
baz=202
G21K Allakaket 85.45 8 P P 19 15 40.4 +1.4
baz=198
M31M Drury Creek, Y 85.45 17 IAmb IAmb 19 15 54.0
comp=Z,19nm,1.2s
M31M Drury Creek, Y 85.45 17 P P 19 15 41.1 +2.0
baz=216
WTLY Watson Lake, Y 85.52 20 P P 19 15 41.4 +1.9
baz=221
MAW Mawson 85.58 198 LR LR 19 53 06.4
comp=Z,857nm,18.3s,baz=114,slow=35
E18K Tukpahlearik C 85.61 5 P P 19 15 41.4 +1.7
baz=191
H24K Noodor Dome 85.63 10 P P 19 15 41.6 +1.7
baz=203
F20K Avaraart Lake 85.70 7 IAmb IAmb 19 15 42.7
comp=Z,16nm,1.2s
F20K Avaraart Lake 85.70 7 P P 19 15 41.7 +1.6
baz=196
D17K Noatak River 85.71 4 P P 19 15 41.4 +1.2
baz=189,SNR=12
DAWY Dawson 85.73 14 IAmb IAmb 19 15 53.0
comp=Z,19nm,1.1s
DAWY Dawson 85.73 14 P P 19 15 41.7 +1.2
baz=211,SNR=11
PRP Porcupine Dome 85.75 11 P P 19 15 41.8 +1.1
baz=206,SNR=18
FARO Faro, Yukon 85.77 17 P P 19 15 42.6 +1.9
baz=217
TOAD Toad River Com 85.84 23 P P 19 15 43.2 +2.1
baz=225
HEH HeiHe 85.90 326 *e*P P 19 15 41.6 +0.1
HEH pP **PcP 19 15 44.8 +0.6**
HEH S **S 19 26 14.4 +1.1**
HEH pmax pmax
comp=Z,12nm,1.6s
HEH pmax pmax
comp=Z,410nm,7.1s
HEH LR LR
comp=Z,320nm,18.9s
HEH LR LR
comp=Z,260nm,18.0s
HEH LR LR
comp=Z,340nm,19.5s
E19K Redstone River 85.94 6 P P 19 15 42.9 +1.6
baz=195
K29M Barlow Dome 85.99 15 IAmb IAmb 19 16 10.1
comp=Z,30nm,1.4s
K29M Barlow Dome 85.99 15 P P 19 15 43.6 +1.7
baz=213,SNR=9.4
I26K Coal Creek Min 86.01 12 IAmb IAmb 19 15 56.1
comp=Z,21nm,1.1s
I26K Coal Creek Min 86.01 12 P P 19 15 43.1 +1.3
baz=208,SNR=8.1
RDOG Red Dog Mine 86.08 4 P P 19 15 43.2 +1.2
baz=189
G23K Bananza Creek 86.11 9 IAmb IAmb 19 15 58.8
comp=Z,23nm,1.4s
G23K Bananza Creek 86.11 9 P P 19 15 43.9 +1.6
baz=201,SNR=6.9
F21K Alatna River 86.13 7 P P 19 15 44.0 +1.7
baz=198
C16K Lisburne Hills 86.17 3 P P 19 15 43.8 +1.4
baz=187
J29N Klondike Camp 86.34 14 P P 19 15 45.5 +2.1
baz=212
H25L Birch Creek 86.38 11 P P 19 15 46.0 +2.5
baz=205
C17K DeLong Mountai 86.48 4 P P 19 15 45.7 +1.7
baz=189
G24K Hadweenzic Riv 86.49 10 P P 19 15 46.2 +2.1
baz=204
F22K John River 86.56 8 P P 19 15 46.2 +1.8
baz=199
COLD Coldfoot 86.57 9 IAmb IAmb 19 16 00.7
comp=Z,30nm,1.7s
COLD Coldfoot 86.57 9 P P 19 15 46.4 +1.9
baz=201,SNR=6.8
I27K Kandik River 86.58 12 P P 19 15 46.4 +1.8
baz=209
MMPY Sheldon Lake, 86.67 18 P P 19 15 47.4 +2.2
baz=219,SNR=6.6
TGTN Hyland Airport 86.75 20 P P 19 15 47.4 +1.9
baz=222
C18K Utukok River 86.78 4 IAmb IAmb 19 16 09.3
comp=Z,44nm,2.0s
C18K Utukok River 86.78 4 P P 19 15 46.7 +1.2
baz=191
G25K Bearman Lake 86.78 10 P P 19 15 46.2 +0.8
baz=205
I28M Miner Creek 86.80 13 P P 19 15 46.6 +0.9
baz=211,SNR=6.1
E20K Nigu River 86.82 6 P P 19 15 46.9 +1.2
baz=196
D19K Kuna River 86.87 5 P P 19 15 46.8 +0.8
baz=194
J30M Hart River 86.89 15 P P 19 15 47.9 +1.7
baz=214,SNR=6.3
PPI Padang Panjang 86.91 271 P P 19 15 47.4 0.0
comp=Z,23nm,0.8s
I29M Ogilvie Camp, 87.08 14 P P 19 15 48.5 +1.4
baz=212,SNR=8.7
BILL Bilibino 87.13 352 P P 19 15 47.3 +0.1
BILL Bilibino 87.13 352 *ce*P P 19 15 48.0 +0.8
BILL pmax pmax
comp=Z,36nm,1.7s
H27K Steamboat Moun 87.15 12 P P 19 15 49.2 +1.9
baz=209,SNR=8.9
KOTAN Kotaneelee Air 87.17 22 P P 19 15 49.5 +2.0
baz=226
F24K Squaw Lake 87.18 9 P P 19 15 48.9 +1.4
baz=203
E22K Anaktuvuk Pass 87.20 8 P P 19 15 49.3 +1.7

	baz=200,SNR=5.5					
D20K	**Etivluk River**	**87.22**	**6**	P	**P**	**19 15 48.9 +1.3**
	baz=195					
E21K	**Killik River**	**87.23**	**7**	P	**P**	**19 15 48.8 +1.1**
	baz=198					
PLCA	**Paso Flores**	**87.30**	**132**	P	**P**	**19 15 53.3 +4.4**
	comp=Z,2.6nm,0.9s,baz=238,slow=9.3,SNR=3.7					
PLCA				LR	LR	19 49 08.7
	comp=Z,523nm,18.1s,baz=323,slow=32					
	comp=Z,2.6nm,0.9s					
G26K	**Porcupine Rive**	**87.35**	**11**	P	**P**	**19 15 50.3 +2.1**
	baz=207,SNR=15					
I30M	**Mount Dempster**	**87.42**	**14**	P	**P**	**19 15 50.5 +1.7**
	baz=214,SNR=16					
E23K	**Chandalar**	**87.42**	**8**	P	**P**	**19 15 50.4 +1.7**
	baz=202					
B18K	**Kokolik River**	**87.44**	**4**	P	**P**	**19 15 50.1 +1.5**
	baz=190					
E24K	**Your Creek**	**87.60**	**9**	P	**P**	**19 15 51.4 +1.9**
	baz=203					
F25K	**Christian Rive**	**87.61**	**10**	P	**P**	**19 15 51.4 +1.8**
	baz=206					
G27K	**Doyon Strip**	**87.63**	**12**	P	**P**	**19 15 51.5 +1.9**
	baz=209					
HNS	**HongShan**	**87.63**	**310**	⇑P	**P**	**19 15 51.8 +1.5**
HNS				S	**S**	**19 26 33.8 +3.2**
HNS				pmax	pmax	
	comp=Z,22nm,1.3s					
HNS				LR	LR	
	comp=Z,480nm,16.7s					
HNS				LR	LR	
	comp=Z,330nm,16.5s					
HNS				LR	LR	
	comp=Z,550nm,18.2s					
BMAR	**Burnt Mountain**	**87.64**	**10**	P	**P**	**19 15 48.7 -1.0**
BJI	**Beijing**	**87.71**	**313**	P	**P**	**19 15 51.3 +0.7**
BJI				SKS	**SKSac**	**19 26 16.6 -0.5**
BJI				pmax	pmax	
	comp=Z,10.0nm,1.4s					
BJI				pmax	pmax	
	comp=Z,150nm,7.1s					
BJI				LR	LR	
	comp=Z,130nm,16.7s					
BJI				LR	LR	
	comp=Z,170nm,18.1s					
BJI				LR	LR	
	comp=Z,240nm,15.9s					
H29M	**Whitestone**	**87.80**	**13**	IAmb	IAmb	19 16 05.3
	comp=Z,26nm,1.1s					
H29M	**Whitestone**	**87.80**	**13**	P	**P**	**19 15 52.1 +1.7**
	baz=212,SNR=8.8					
D22K	**Ayikyak River**	**87.80**	**7**	IAmb	IAmb	19 15 56.5
	comp=Z,33nm,1.9s					
D22K	**Ayikyak River**	**87.80**	**7**	P	**P**	**19 15 52.1 +1.7**
	baz=199					
C21K	**Knifeblade Rid**	**87.83**	**6**	P	**P**	**19 15 51.6 +1.1**
	baz=197					
F26K	**Sheenjek River**	**87.95**	**11**	P	**P**	**19 15 52.6 +1.4**
	baz=207					
ZEA	**Zeya**	**87.95**	**329**	*e*P	**P**	**19 15 51.9 +0.5**
ZEA				*e*S	**S**	**19 26 34.3 +1.3**
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.7s					
ZEA				pmax	pmax	
	comp=Z,200nm,6.6s					
ZEA				smax	smax	
	comp=E,100nm,7.0s					
ZEA				MLR	MLR	
	comp=Z,200nm,15.0s					
HKT	**Hockley**	**87.97**	**58**	*i* P	**P**	**19 15 52.9 +0.9**
HKT				pmax	pmax	
	comp=Z,23nm,1.6s					
TOLK	**Toolik Lake Re**	**87.97**	**8**	P	**P**	**19 15 52.6 +1.3**
	baz=202					
E25K	**Arctic Village**	**88.10**	**10**	P	**P**	**19 15 52.9 +1.0**
	baz=206					
D23K	**Nanushuk River**	**88.13**	**8**	P	**P**	**19 15 53.3 +1.4**
	baz=201					
LYN	**LuoYang**	**88.14**	**307**	P	**P**	**19 15 54.0 +1.2**
LYN				S	**S**	**19 26 32.9 -2.7**
LYN				sS	sS	19 26 49.1 +2.7
LYN				pmax	pmax	
	comp=Z,57nm,0.5s					
LYN				pmax	pmax	
	comp=Z,390nm,7.1s					
LYN				LR	LR	
	comp=Z,540nm,16.1s					
LYN				LR	LR	
	comp=Z,530nm,17.2s					
LYN				LR	LR	
	comp=Z,1μm,19.2s					
EPYK	**Eagle Plains**	**88.29**	**14**	P	**P**	**19 15 54.4 +1.5**
	baz=214,SNR=5.4					
B21K	**Ikpikpuk River**	**88.30**	**6**	P	**P**	**19 15 53.5 +0.8**
	baz=197					
A19K	**Wainwright**	**88.32**	**4**	P	**P**	**19 15 53.9 +1.1**
	baz=191					
H31M	**Peel River**	**88.38**	**15**	IAmb	IAmb	19 16 25.3
	comp=Z,22nm,1.2s					
H31M	**Peel River**	**88.38**	**15**	P	**P**	**19 15 55.0 +1.8**
	baz=216					
B20K	**Meade River**	**88.43**	**5**	P	**P**	**19 15 54.4 +1.1**
	baz=195					
KULM	**Kulim**	**88.43**	**276**	P	**P**	**19 15 54.4 -0.2**
KULM				IAmb	IAmb	19 16 01.1
	comp=Z,25nm,1.3s					
G29M	**Pine Creek**	**88.46**	**13**	IAmb	IAmb	19 16 11.5
	comp=Z,21nm,1.5s					
G29M	**Pine Creek**	**88.46**	**13**	P	**P**	**19 15 55.4 +1.8**
	baz=213					
D24K	**Happy Valley**	**88.55**	**8**	P	**P**	**19 15 56.2 +2.2**
	baz=202					
E27K	**Coleen River**	**88.84**	**11**	P	**P**	**19 15 57.5 +2.1**
	baz=209					
G30M	**tAoh Zraii Nji**	**88.91**	**14**	P	**P**	**19 15 57.2 +1.5**
	baz=214					
C23K	**Itkillik River**	**88.96**	**7**	P	**P**	**19 15 57.3 +1.5**
	baz=201					
D25K	**Kavik River**	**89.06**	**9**	P	**P**	**19 15 57.5 +1.0**
	baz=205					
C24K	**Franklin Bluff**	**89.09**	**8**	P	**P**	**19 15 57.8 +1.3**
	baz=203					
B22K	**Teshekpuk Lake**	**89.11**	**6**	P	**P**	**19 15 57.5 +1.1**
	baz=198					
G31M	**Satah River**	**89.31**	**14**	IAmb	IAmb	19 16 06.9
	comp=Z,35nm,1.4s					
G31M	**Satah River**	**89.31**	**14**	P	**P**	**19 15 59.2 +1.7**
	baz=216,SNR=7.1					
PSI	**Prapat**	**89.31**	**273**	LR	LR	19 58 27.3
	comp=Z,285nm,18.2s,baz=157,slow=37					
XLT	**XiLinHaoTe**	**89.44**	**317**	*e*P	**P**	**19 15 59.5 +0.7**
XLT				sP	pwP	19 16 08.8 -4.8
XLT				SKS	**SKSac**	**19 26 26.8 -0.7**
XLT				S	**SKKSac**	**19 26 42.6 +2.7**
XLT				sS	pS	19 26 54.0 -2.1
XLT				pmax	pmax	
	comp=Z,12nm,1.4s					
XLT				pmax	pmax	
	comp=Z,190nm,9.0s					
XLT				LR	LR	
	comp=Z,280nm,19.1s					
XLT				LR	LR	
	comp=Z,340nm,20.8s					
F30M	**Barrier River**	**89.52**	**13**	P	**P**	**19 16 00.1 +1.5**
	baz=215					
WRGLY	**Wrigley**	**89.54**	**20**	P	**P**	**19 16 01.3 +2.6**
	baz=226					
A22K	**Sinclair Lake**	**89.59**	**6**	P	**P**	**19 15 59.9 +1.1**
	baz=197					
E28M	**Babbage River**	**89.59**	**12**	P	**P**	**19 16 00.5 +1.7**
	baz=211					
HIA	**Hailar**	**89.63**	**323**	IAmb	IAmb	19 16 01.8
	comp=Z,25nm,1.4s					
HIA	**Hailar**	**89.63**	**323**	P	**P**	**19 15 57.3 -2.2**
ELIB	**Princess Elisa**	**89.65**	**185**	*d*P	**P**	**19 15 59.9 +0.4**
E29M	**Blow River**	**89.73**	**12**	P	**P**	**19 16 01.4 +1.9**
	baz=213					
C27K	**Jago River**	**89.75**	**10**	P	**P**	**19 16 01.7 +2.2**
	baz=207,SNR=6.0					
C26K	**Camden Bay**	**89.82**	**9**	P	**P**	**19 16 01.3 +1.4**
	baz=206					
GYA	**Guiyang**	**89.83**	**298**	⇓P	**P**	**19 16 01.9 +0.8**
GYA				SKS	**SKSac**	**19 26 27.8 -2.8**
GYA				S	**S**	**19 26 52.0 -0.1**
GYA				pmax	pmax	
	comp=Z,22nm,0.6s					
GYA				pmax	pmax	
	comp=Z,360nm,9.0s					
GYA				LR	LR	
	comp=Z,190nm,14.7s					
GYA				LR	LR	
	comp=Z,170nm,17.5s					
GYA				LR	LR	
	comp=Z,230nm,18.6s					
F31M	**Tsiigehtchic**	**89.85**	**14**	P	**P**	**19 16 01.8 +1.8**
	baz=217,SNR=12					
TSI	**Tuntungan**	**89.86**	**274**	P	**P**	**19 16 00.3 -1.1**
D27M	**Malcolm River**	**89.88**	**11**	P	**P**	**19 16 01.6 +1.4**
	baz=210					
GSI	**Gunungsitoli**	**90.13**	**271**	P	**P**	**19 16 02.7 0.0**
TROLL	**Troll, Antarti**	**90.19**	**179**	⇓P	**P**	**19 16 05.5 +3.4**
	comp=Z,99nm,0.8s					
SYO	**Syowa Base**	**90.22**	**191**	⇑*e*PcP	**PcP**	**19 16 04.4 +1.2**
VNA3	**Neumayer Olymp**	**90.25**	**175**	⇓P	**P**	**19 16 04.5 +2.3**
	comp=Z,6.5nm,0.8s					
SNAA	**Sanae**	**90.32**	**177**	⇑P	**P**	**19 16 05.9 +3.4**
	comp=Z,103nm,0.8s					
SNAA	**Sanae**	**90.32**	**177**	P	**P**	**19 16 05.6 +3.1**
	comp=Z,5.7nm,0.9s,baz=181,slow=2.5,SNR=6.9					
SNAA				LR	LR	19 55 42.6
	comp=Z,414nm,18.4s,baz=220,slow=35					
	comp=Z,5.7nm,0.9s					
SNAA	**Sanae**	**90.32**	**177**	*ce*P	**P**	**19 16 02.8 +0.3**
SNAA				pmax	pmax	
	comp=Z,16nm,1.7s					
D28M	**Stokes Point**	**90.36**	**11**	P	**P**	**19 16 04.3 +1.9**
	baz=212					
SLVN	**Son La**	**90.50**	**292**	IAmb	IAmb	19 16 06.8
	comp=Z,17nm,1.3s					
INK	**Inuvik**	**90.59**	**14**	P	**P**	**19 16 03.5 0.0**
INK	**Inuvik**	**90.59**	**14**	P	**P**	**19 16 04.9 +1.4**
	baz=217					
XAN	**Xi'an**	**90.66**	**306**	⇑P	**P**	**19 16 05.6 +0.9**
XAN				pP	sP	19 16 14.4 +1.3
XAN				pmax	pmax	
	comp=Z,23nm,1.0s					
VNA2	**Neumayer--Watz**	**90.75**	**175**	⇓P	P	19 16 11.0 +6.5
	comp=Z,6.5nm,0.9s,baz=163,slow=7.6					
VNA1	**Neumayer--Stat**	**90.95**	**175**	⇓P	P	19 16 12.7 +7.4
	comp=Z,12nm,1.0s					
JTS	**Las Juntas de**	**91.01**	**80**	LR	LR	19 49 56.1
	comp=Z,333nm,18.3s,baz=118,slow=31					
HHC	**Hu-ho-hao-te**	**91.25**	**313**	*e*P	**P**	**19 16 09.1 +1.7**
HHC				sP	sP	19 16 15.3 -0.5
HHC				S	**S**	**19 27 07.0 +2.4**
HHC				pmax	pmax	
	comp=Z,11nm,0.6s					
HHC				pmax	pmax	
	comp=Z,210nm,3.8s					
HHC				LR	LR	
	comp=Z,190nm,15.1s					
HHC				LR	LR	
	comp=Z,130nm,16.9s					
HHC				LR	LR	
	comp=Z,390nm,18.0s					
YAK	**Yakutsk**	**91.72**	**337**	LR	LR	19 54 27.5
	comp=Z,153nm,19.8s,baz=114,slow=34					
YAK	**Yakutsk**	**91.72**	**337**	*ce*P	**P**	**19 16 09.1 +0.3**
YAK				pmax	pmax	
	comp=Z,5.0nm,1.0s					
ATAH	**Atahualpa**	**91.90**	**98**	LR	LR	19 51 02.0
	comp=Z,375nm,18.1s,baz=271,slow=31					
YKA	**Yellowknife Ar**	**92.18**	**23**	P	**P**	**19 16 10.8 -0.2**
YKA	**Yellowknife Ar**	**92.18**	**23**	P	**P**	**19 16 12.4 +1.5**
	comp=Z,3.8nm,1.2s,baz=232,slow=4.5,SNR=20					
YKA	**Yellowknife Ar**	**92.18**	**23**	P	**P**	**19 16 10.8 -0.2**
BTO	**Baotou**	**92.25**	**312**	*e*P	**P**	**19 16 12.3 +0.3**
BTO				pP	**pP**	**19 16 17.8 -0.4**
BTO				sP	**sP**	**19 16 20.3 -0.1**
BTO				S	**S**	**19 27 13.4 -0.2**
BTO				pmax	pmax	
	comp=Z,38nm,0.9s					
BTO				pmax	pmax	
	comp=Z,160nm,4.3s					
BTO				LR	LR	
	comp=Z,500nm,11.6s					
BTO				LR	LR	
	comp=Z,410nm,11.5s					
BTO				LR	LR	
	comp=Z,580nm,19.2s					
MDND	**Maddock**	**92.31**	**40**	IAmb	IAmb	19 16 11.7
	comp=Z,11nm,0.6s					
CFA	**Coronel Fontan**	**92.46**	**124**	LR	LR	19 51 07.4
	comp=Z,295nm,18.2s,baz=166,slow=31					
KMI	**Kunming**	**92.73**	**295**	P	**P**	**19 16 17.3 +2.6**
KMI				SKS	**SKSac**	**19 26 51.1 +3.7**
KMI				SS	**SS**	**19 33 34.3 +2.0**
KMI				pmax	pmax	
	comp=Z,18nm,0.9s					
KMI				pmax	pmax	
	comp=Z,200nm,7.1s					
KMI				LR	LR	
	comp=Z,240nm,15.6s					
KMI				LR	LR	
	comp=Z,300nm,20.9s					
KMI				LR	LR	
	comp=Z,390nm,38.3s					
C36M	**Paulatuk**	**93.64**	**15**	P	**P**	**19 16 18.9 +1.3**
	baz=226					
CD2	**Chengdu**	**93.71**	**301**	*e*P	**P**	**19 16 19.5 +0.6**
FFC	**Flin Flon**	**93.87**	**33**	P	**P**	**19 16 15.1 -3.9**
FFC				IAmb	IAmb	19 16 27.0
	comp=Z,18nm,1.4s					
FFC	**Flin Flon**	**93.87**	**33**	P	**P**	**19 16 15.1 -3.9**
FFC				pmax	pmax	
	comp=Z,18nm,1.5s					
PZH	**PanZhiHua**	**94.01**	**296**	P	**P**	**19 16 18.9 -1.6**
PZH				SKS	**SKSac**	**19 26 51.1 -3.1**
PZH				S	**ScS**	**19 27 36.5 +5.3**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,210nm,5.1s					
PZH				LR	LR	
	comp=Z,180nm,16.2s					
PZH				LR	LR	
	comp=Z,200nm,15.6s					
PZH				LR	LR	
	comp=Z,280nm,14.7s					
CMAR	**Chiang Mai Arr**	**94.04**	**288**	P	**P**	**19 16 20.8 +0.1**
CMAR	**Chiang Mai Arr**	**94.04**	**288**	P	**P**	**19 16 21.0 +0.4**
	comp=Z,5.8nm,1.0s,baz=97,slow=2.8,SNR=30					
CMAR				LR	LR	19 55 29.4
	comp=Z,339nm,19.9s,baz=110,slow=34					
	comp=Z,5.8nm,1.0s					
CMAR	**Chiang Mai Arr**	**94.04**	**288**	P	**P**	**19 16 21.0 +0.4**
CHTO	**Chiang Mai**	**94.15**	**288**	P	**P**	**19 16 21.1 0.0**
CHTO				IAmb	IAmb	19 16 32.6
	comp=Z,18nm,1.2s					
CHTO	**Chiang Mai**	**94.15**	**288**	P	**P**	**19 16 21.1 0.0**
CHTO				pmax	pmax	
	comp=Z,18nm,1.3s					
CIT	**Chita**	**94.38**	**323**	*e*P	**P**	**19 16 22.8 +1.3**
CIT				*e*		19 16 39.2
CIT				pmax	pmax	
	comp=Z,44nm,1.9s					
AGMN	**Agassiz Nation**	**94.79**	**41**	IAmb	IAmb	19 16 31.5
	comp=Z,18nm,1.6s					
A36M	**Sachs Harbour**	**95.23**	**13**	P	**P**	**19 16 26.5 +1.7**
	baz=225					
LZH	**Lanzhou**	**95.27**	**306**	*e*P	**P**	**19 16 27.3 +1.2**
LZH				sP	sP	19 16 34.0 -0.5
LZH				SKS	**SKSac**	**19 27 05.4 +4.7**
LZH				pmax	pmax	
	comp=Z,15nm,1.0s					
LZH				LR	LR	
	comp=Z,140nm,12.7s					
LZH				LR	LR	
	comp=Z,340nm,13.2s					
LZH				LR	LR	
	comp=Z,330nm,15.6s					
HMBC	**Humberstone**	**95.31**	**113**	P	**P**	**19 16 24.0 -2.6**
ULM	**Lac du Bonnet**	**95.50**	**39**	IAmb	IAmb	19 16 34.0
	comp=Z,17nm,1.4s					
ULM	**Lac du Bonnet**	**95.50**	**39**	P	**P**	**19 16 27.6 +1.1**
	comp=Z,3.6nm,0.9s,baz=251,slow=4.7,SNR=4.1					
ULM				LR	LR	19 55 31.2
	comp=Z,563nm,18.8s,baz=238,slow=33					
	comp=Z,3.6nm,0.9s					
TNCH	**TengChong**	**96.35**	**294**	⇑P	**P**	**19 16 32.6 +1.3**
TNCH				pP	pP	19 16 35.6 -2.5
TNCH				SKS	**SKSac**	**19 27 09.5 +2.6**
TNCH				S	**S**	**19 27 49.8 -0.5**
TNCH				sS	pS	19 27 58.1 -0.5
TNCH				pmax	pmax	
	comp=Z,9.0nm,1.3s					
TNCH				pmax	pmax	
	comp=Z,150nm,4.8s					
TNCH				LR	LR	
	comp=Z,130nm,15.0s					
TNCH				LR	LR	
	comp=Z,140nm,16.3s					
TNCH				LR	LR	
	comp=Z,280nm,18.8s					
SONM	**Songino Array**	**97.19**	**318**	P	**P**	**19 16 33.7 -0.8**
	comp=Z,0.5nm,1.0s,baz=111,slow=3.2,SNR=2.6					
SONM				LR	LR	19 58 32.3
	comp=Z,186nm,19.1s,baz=122,slow=34					
	comp=Z,0.5nm,1.0s					
TIXI	**Tiksi**	**97.64**	**344**	P	**P**	**19 16 34.1 -1.6**
TIXI				IAmb	IAmb	19 16 44.5
	comp=Z,7.5nm,1.2s					
TIXI	**Tiksi**	**97.64**	**344**	LR	LR	19 56 29.1
	comp=Z,245nm,20.5s,baz=156,slow=33					
TIXI	**Tiksi**	**97.64**	**344**	P	**P**	**19 16 34.1 -1.6**
TIXI				pmax	pmax	
	comp=Z,7.0nm,1.3s					
LPAZ	**La Paz**	**98.31**	**110**	LR	LR	19 51 26.3
	comp=Z,388nm,21.2s,baz=274,slow=29					
TKL	**Tuckaleechee C**	**99.41**	**56**	LR	LR	19 55 10.8
	comp=Z,216nm,20.9s,baz=238,slow=31					
ROSC	**El Rosal**	**99.44**	**88**	LR	LR	19 54 39.0
	comp=Z,125nm,19.2s,baz=258,slow=31					
WMQ	**Urumqi**	**109.06**	**311**	Pdif	**Pdif**	**19 17 28.6 +1.2**
WMQ				LR	LR	
	comp=Z,240nm,23.9s					
ZALV	**Zalesovo Beam**	**111.65**	**322**	PKiKP	**PKiKP**	**19 21 36.7 +0.6**
	comp=Z,0.7nm,0.8s,baz=15,slow=6.2,SNR=5.2					
MK31	**Makanchi Array**	**113.09**	**314**	*c i* PKIKP	**PKiKP**	**19 21 40.2 +1.1**
MKAR	**Makanchi Array**	**113.09**	**314**	PKiKP	**PKiKP**	**19 21 39.6 +0.5**
	comp=Z,2.4nm,1.0s,baz=66,slow=2.9,SNR=9.5					
KURK	**Kurchatov**	**115.50**	**318**		**PKiKP**	**19 21 42.3 -1.2**
KURK	**Kurchatov**	**115.50**	**318**	*c i* PKIKP	**PKPdf**	**19 21 44.8 +1.3**
KURK				pmax	pmax	
	comp=Z,6.0nm,1.7s					
KURBB	**Kurchatov Arra**	**115.56**	**318**	PKP	**PKiKP**	**19 21 43.6 -0.1**
	comp=Z,2.0nm,1.0s,baz=85,slow=2.0,SNR=14					
AAK	**Ala-Archa**	**118.63**	**309**	*c i* PKIKP	**PKPdf**	**19 21 49.0 -1.1**
AAK				pmax	pmax	
	comp=Z,5.0nm,2.5s					
BVAR	**Borovoye Array**	**120.30**	**321**	PKP	**PKiKP**	**19 21 53.5 +0.7**
	comp=Z,4.7nm,0.9s,baz=93,slow=3.0,SNR=18					
BRVK	**Borovoye**	**120.36**	**321**	PKPdf	**PKPdf**	**19 21 52.0 -0.8**
BRVK	**Borovoye**	**120.36**	**321**	*c i* PKIKP	**PKiKP**	**19 21 54.2 +1.3**
BRVK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
SIMJ	**Simiganj**	**122.95**	**305**	PKPdf	**PKPdf**	**19 21 56.4 -2.1**
ARTI	**Arti**	**125.97**	**328**	PKPdf	**PKiKP**	**19 22 04.1 +0.2**
ARTI	**Arti**	**125.97**	**328**	*i* PKIKP	**PKiKP**	**19 22 05.5 +1.6**
ARTI						19 23 56.8
ARTI						19 29 16.8
ARTI				SS	SS	19 40 57.0 +0.3
ABKAR	**Akbulak array**	**127.59**	**319**		**PKPdf**	**19 22 06.3 -0.5**
OBN	**Obninsk**	**136.72**	**336**	*ce*PKIKP	**PKPdf**	**19 22 23.4 -0.4**
OBN				*e*		19 25 08.0
OBN				*e*SSS	SSS	19 48 05.1
OBN				pmax	pmax	
	comp=Z,5.0nm,0.5s					
VRH	**Novokhopyorsk**	**137.08**	**329**	*e*PKIKP	**PKPdf**	**19 22 25.0 +0.4**
VRH				pmax	pmax	
	comp=Z,6.0nm,0.9s					
VORR	**Voronezh**	**137.99**	**331**	*e*PKIKP	**PKiKP**	**19 22 27.6 -0.7**
VORR				pmax	pmax	
	comp=Z,6.0nm,0.8s					
AKT	**Akhty**	**138.31**	**313**	*e*PKIKP	**PKiKP**	**19 22 28.6 -0.9**
AKT				pmax	pmax	
	comp=Z,18nm,1.4s					
VSR	**Storozhevoye**	**138.31**	**330**	*e*PKIKP	**PKPdf**	**19 22 25.6 -1.3**
VSR				pmax	pmax	
	comp=Z,5.0nm,1.1s					
MNK	**Minsk**	**140.24**	**341**	*i* PKIKP	**PKPdf**	**19 22 30.5 +0.2**
MNK				*i*		19 25 26.3
MNK				*i* PPP	PPP	19 28 29.4
MNK				*i*		19 29 40.9
MNK				*i* SS	SS	19 43 48.0 -0.9
MNK				*i* SSS	SSS	19 49 00.0
MNK				pmax	pmax	
	comp=N,18nm,1.0s					
MNK				pmax	pmax	
	comp=Z,6.0nm,0.8s					
MNK				pmax	pmax	
	comp=E,22nm,0.9s					
MNK				MLR	MLR	
	comp=Z,295nm,19.0s					
MNK				MLR	MLR	
	comp=N,167nm,15.0s					
MNK				MLR	MLR	
	comp=E,213nm,20.0s					
KIV	**Kislovodsk**	**140.58**	**319**	*i* PKIKP	**PKPdf**	**19 22 31.6 +0.2**
KIV				pmax	pmax	
	comp=Z,6.0nm,1.1s					
SOC	**Sochi**	**142.61**	**320**	*e*PKIKP	**PKPdf**	**19 22 33.6 -1.3**
SOC				*e*SS	SS	19 44 15.6 -2.1
SOC				*e*SSS	SSS	19 49 33.5
SOC				MLR	MLR	
	comp=Z,174nm,18.0s					
GEVA	**Gevas**	**142.83**	**310**	PKPdf	**PKPdf**	**19 22 32.8 -3.0**
AKASG	**Malin Array Be**	**142.95**	**337**	PKP	**PKPdf**	**19 22 34.5 -0.9**
	comp=Z,0.8nm,0.6s,baz=26,slow=0.8,SNR=5.7					
GURO	**Guroymak-BITLI**	**143.48**	**311**	PKPdf	**PKPdf**	**19 22 36.5 -0.4**
KIBK	**Kibwezi**	**143.60**	**239**	PKPdf	PKPab	19 22 35.0 +0.7
RAYN	**Ar Rayn**	**143.92**	**285**	PKPdf	PKPbc	19 22 36.1 +0.3
RAYN	**Ar Rayn**	**143.92**	**285**	PKIKP	PKPbc	19 22 36.1 +0.3
LUBAR	**Lubar, Ukraine**	**144.13**	**337**	PKP	**PKPdf**	**19 22 37.0 -0.4**
KMBO	**Kilima Mbogo**	**144.94**	**240**	PKP	**PKPdf**	**19 22 41.4 +1.1**
	comp=Z,18nm,1.0s,baz=107,slow=3.3,SNR=39					
SORM	**Soroca**	**145.35**	**335**	⇑P	**PKPbc**	**19 22 39.2 -0.2**
KMPD	**K-Podol'skiy**	**145.74**	**337**	PKP	**PKPdf**	**19 22 39.4 -0.8**
KWP	**Kalwaria Pacla**	**146.06**	**342**	*e*PKP	**PKPab**	**19 22 43.2 +1.0**
KWP	**Kalwaria Pacla**	**146.06**	**342**	PKP	**PKPdf**	**19 22 40.6 -0.2**
OJC	**Ojcow**	**146.30**	**345**	*e*PKP	**PKPab**	**19 22 43.2 +0.1**
KSP	**Ksiaz**	**146.42**	**350**	*e*PKP	**PKPab**	**19 22 44.2 +0.6**
CLL	**Collm**	**146.43**	**354**	⇑*i*PKP2	**PKPab**	**19 22 43.8 +0.3**
CLL				pmax	pmax	
	comp=Z,93nm,1.2s					
CLL	**Collm**	**146.43**	**354**	⇑*i*PKPbc	**PKPab**	**19 22 43.8 +0.3**
	comp=Z,93nm,1.2s					
CLL				*i* x	x	19 22 54.3
CLL				AMS	AMS	20 34 00.0
	comp=Z,300nm,19.0s					
STHS	**Stebnicka Huta**	**146.67**	**343**	*e*PKP2	**PKiKP**	**19 22 46.7 +0.4**
STHS	**Stebnicka Huta**	**146.67**	**343**	*e*PKP	**PKiKP**	**19 22 46.7 +0.4**
CHVC	**Chvalec**	**146.71**	**350**	*e*PKP	**PKiKP**	**19 22 45.5 -0.8**
CHVC	**Chvalec**	**146.71**	**350**	*e*PKP2	**PKiKP**	**19 22 45.5 -0.8**
BRG	**Berggiesshubel**	**146.75**	**352**	*e*PKP	**PKPab**	**19 22 45.1 +0.4**
BRG				Amp		19 22 46.7
	comp=Z,48nm,1.2s					
KOLS	**Kolonicke sedl**	**146.81**	**342**	*e*PKP2	**PKiKP**	**19 22 45.8 -0.8**
KOLS	**Kolonicke sedl**	**146.81**	**342**	*e*PKP	**PKiKP**	**19 22 45.8 -0.8**
KOLS				*e*		19 22 58.3
DPC	**Dobruska-Polom**	**146.89**	**349**	*e*PKP	**PKiKP**	**19 22 46.4 -0.3**
DPC	**Dobruska-Polom**	**146.89**	**349**	*e*PKP2	**PKiKP**	**19 22 46.4 -0.3**
NIE	**Niedzica**	**146.91**	**344**	*e*PKP	**PKPbc**	**19 22 43.9 -0.3**
BURAR	**Bucovina Array**	**146.99**	**338**	⇑P	**PKPab**	**19 22 46.3 +0.3**
PVCC	**Panska Ves**	**147.00**	**351**	*e*PKP	**PKiKP**	**19 22 46.8 -0.1**
PVCC	**Panska Ves**	**147.00**	**351**	*e*PKP2	**PKiKP**	**19 22 46.8 -0.1**
STEB	**Steborice**	**147.02**	**348**	*e*PKP	**PKiKP**	**19 22 46.2 -0.7**
HSKC	**Hora Svate Kat**	**147.07**	**353**	*e*PKP	**PKPab**	**19 22 45.7 -0.4**
KRLC	**Kraliky**	**147.07**	**349**	*e*PKP	**PKPab**	**19 22 46.2 0.0**
KRLC	**Kraliky**	**147.07**	**349**	*e*PKP2	**PKPab**	**19 22 46.2 0.0**
UCC	**Uccle**	**147.16**	**3**	*d*PKP	**PKPab**	**19 22 45.4 -1.0**
MORC	**Moravsky Berou**	**147.21**	**348**	*e*PKP	**

BCLA	Clavier	147.59	2	dPKP	PKiKP	19 22 48.1	0.0
BNN	Bunyan	147.61	316		PKPdf	19 22 42.6	-1.3
BGES	Gesves	147.61	3	dPKP	PKiKP	19 22 48.6	+0.5
BHOU	Houvegnez	147.67	2	dPKP	PKPab	19 22 48.8	+0.3
BMRD	Maredsous	147.68	3	dPKP	PKiKP	19 22 48.1	-0.2
ARCR	ARCALIA	147.75	338	⇑P	PKiKP	19 22 48.0	-0.6
CFR	Carcaliu	147.77	332	⇑P	PKPab	19 22 48.8	-0.1
VRI	Vrincioaia	147.84	334	⇑P	PKiKP	19 22 48.8	0.0
VRAC	Vranov	147.85	349	ePKP	PKPab	19 22 48.8	-0.4
VRAC	Vranov	147.85	349	⇓P	PKPab	19 22 48.8	-0.4
DOU	Dourbes	147.88	3	dPKP	PKiKP	19 22 48.4	-0.3
TPGR	Topolog	147.89	331	⇑P	PKiKP	19 22 48.5	-0.4
OZUR		148.03	335	⇑P	PKiKP	19 22 49.1	-0.1
JAVC	Velka Javorina	148.06	347	ePKP	PKPab	19 22 49.6	-0.5
COVR	Voineasa-Covas	148.07	335	⇓P	PKiKP	19 22 49.1	-0.2
ZVC	Zvikov	148.12	351	ePKP	PKPab	19 22 49.7	-0.5
KRUC	Moravsky	148.12	349	ePKP	PKiKP	19 22 48.7	-0.5
DOPR	Dopca	148.30	336	⇓P	PKiKP	19 22 49.1	-0.7
CJR	Cluj-Napoca	148.33	338	⇓P	PKPab	19 22 50.4	-0.8
WLF	Walferdange	148.37	1		PKiKP	19 22 48.9	-0.8
WLF	Walferdange	148.37	1	dPKP	PKiKP	19 22 49.6	-0.1
WLF	Walferdange	148.37	1	PKP2	PKiKP	19 22 48.9	-0.8
PSZ	Piszkesteto	148.40	344		PKiKP	19 22 50.3	+0.3
PSZ	Piszkesteto	148.40	344	⇓P	PKiKP	19 22 49.1	-0.9
PSZ	Piszkesteto	148.40	344	PKP2	PKiKP	19 22 50.3	+0.3
MLR	Muntele Rosu	148.47	335	⇑P	PKiKP	19 22 50.2	-0.1
KHC	Kasperske Hory	148.50	352	ePKP	PKiKP	19 22 50.4	+0.3
KHC				ex	x	19 23 06.5	
KHC	Kasperske Hory	148.50	352	cePKIKP	PKPdf	19 22 44.4	-0.5
KHC				pmax	pmax		
	comp=Z,48nm,1.7s						
MARR	Marisel-Cluj	148.53	339	⇓P	PKiKP	19 22 50.2	-0.1
BR131	Keskin Array S	148.54	319		PKPbc	19 22 47.9	-1.2
BR131	Keskin Array S	148.54	319	PKP2	PKPbc	19 22 47.9	-1.2
BRTR	Keskin Array B	148.54	319	PKPbc	PKPbc	19 22 49.7	+0.6
	comp=Z,9.4nm,1.0s,baz=112,slow=1.6,SNR=28						
DRGR		148.57	340	⇓P	PKiKP	19 22 50.4	+0.1
MODS	Modra-Piesok	148.60	347	ePKP2	PKPab	19 22 51.9	-0.3
MODS	Modra-Piesok	148.60	347	ePKP	PKPab	19 22 51.8	-0.4
MODS				e		19 23 05.9	
CKRC	Cesky Krumlov	148.70	351	ePKP	PKiKP	19 22 51.1	+0.6
CKRC	Cesky Krumlov	148.70	351	ePKP2	PKiKP	19 22 51.1	+0.6
KIRS	Kirsehir-Merke	148.71	318	⇑P	PKiKP	19 22 51.0	+0.1
GEC2	GERESS Array S	148.76	352		PKiKP	19 22 51.2	+0.5
GERES	GERESS Array B	148.76	352		PKiKP	19 22 50.7	0.0
GERES	GERESS Array B	148.76	352	PKPbc	PKiKP	19 22 50.5	-0.2
	comp=Z,3.0nm,0.9s,baz=17,slow=1.4,SNR=19						
GERES	GERESS Array B	148.76	352	PKP2	PKiKP	19 22 50.7	0.0
VOIR		148.87	335	⇑P	PKPab	19 22 52.4	-1.2
ANTO	Ankara	148.98	320	⇓P	PKiKP	19 22 51.8	+0.4
ARR	Arges	149.09	336	⇑P	PKiKP	19 22 51.8	+0.4
CONA	Conrad Observa	149.31	349	i PKP	PKiKP	19 22 52.8	+0.9
	comp=Z,24nm,1.4s,SNR=7.3						
SIRR	Siria	149.37	340	⇓P	PKiKP	19 22 51.5	-0.4
RONA	Rosalia, Austr	149.44	348	i PKP	PKiKP	19 22 52.7	+0.7
	comp=Z,20nm,1.3s,SNR=6.2						
RONA				epPKP	sPKPab	19 23 08.4	+4.1
	comp=Z,53nm,1.5s						
MDUB	Mudurnu	149.55	322		PKiKP	19 22 53.5	+0.9
MOA	Molln	149.66	351	ePKP	PKiKP	19 22 53.8	+1.4
	comp=Z,13nm,1.4s						
MOA				epPKP	sPKPab	19 23 09.7	+4.6
	comp=Z,30nm,1.4s						
SURR	Surduc	149.67	339	⇑P	PKiKP	19 22 52.9	+0.4
RAZG	Razgrad	149.76	332	⇑P	PKiKP	19 22 52.6	-0.2
GZR	Gura Zlata	149.76	338	⇑P	PKiKP	19 22 52.6	-0.2
ECH	Echery	149.83	0		PKiKP	19 22 53.6	+0.8
ECH	Echery	149.83	0	PKP2	PKiKP	19 22 53.6	+0.8
BIOA	Bad Ischl, Aus	149.90	351	ePKP	PKiKP	19 22 54.3	+1.3
	comp=Z,3.4nm,0.7s						
BZS	Buzias	149.96	340	⇑P	PKiKP	19 22 52.9	-0.2
ARSA	Arzberg	150.02	349	ePKP	PKiKP	19 22 54.2	+1.0
	comp=Z,10nm,1.4s						
LESA	Schwarzleotal	150.29	353	ePKP	PKPdf	19 22 50.3	+2.4
	comp=Z,13nm,1.1s						
LESA				epPKP	sPKPab	19 23 11.6	+3.9
	comp=Z,28nm,1.3s						
MORH	Mrgy, Hungar	150.30	344	⇓P	PKiKP	19 22 54.9	+1.2
HERR	Herculane	150.33	338	⇓P	PKPbc	19 22 52.9	-0.2
RETA	Reutte	150.42	355	ePKP	PKPdf	19 22 41.6	-6.5
	comp=Z,11nm,1.2s						
RETA				ePKP	sPKPdf	19 22 55.9	-0.9
	comp=Z,12nm,1.3s						
RETA				epPKP	sPKPab	19 23 11.2	+2.9
	comp=Z,30nm,1.3s						
WATA	Walderalm	150.50	354	ePKP	PKPdf	19 22 44.8	-3.5
	comp=Z,9.9nm,1.1s						
WATA				ePKP	sPKPdf	19 22 55.4	-1.6
	comp=Z,13nm,0.9s						
WATA				epPKP	sPKPab	19 23 10.7	+2.0
	comp=Z,55nm,1.4s						
KBA	Koelnbreinsper	150.54	352	epPKP	pPKPdf	19 22 52.4	-2.5
	comp=Z,19nm,1.0s						
WTTA	Wattenberg	150.57	354	ePKP	PKPdf	19 22 45.4	-3.0
	comp=Z,10nm,1.3s						
WTTA				ePKP	sPKPdf	19 22 56.2	-1.0
	comp=Z,19nm,0.9s						
WTTA				epPKP	sPKPab	19 23 12.2	+3.2
	comp=Z,60nm,1.5s						
SQTA	Sankt Quirin	150.65	355	ePKP	PKPdf	19 22 43.3	-5.3
	comp=Z,17nm,1.4s						
SQTA				ePKP	sPKPdf	19 22 56.0	-1.2
	comp=Z,28nm,1.2s						
SQTA				epPKP	sPKPab	19 23 12.0	+2.7
	comp=Z,41nm,1.2s						
MMAI	Mount Meron Ar	150.66	306	PKPbc	PKiKP	19 22 55.9	+0.8
	comp=Z,15nm,0.9s,baz=46,slow=3.6,SNR=20						
MDVR	Moldovita	150.66	339	⇓P	PKiKP	19 22 55.0	+0.3
SOKA	Soboth	150.66	349	ePKP	PKiKP	19 22 55.6	+0.9
	comp=Z,16nm,1.2s						
DAVA	Damuels	150.68	356	i PKP	PKiKP	19 22 56.4	+1.6
	comp=Z,30nm,1.4s						
DAVA				i pPKP	sPKPab	19 23 12.1	+2.6
	comp=Z,68nm,1.7s						
FETA	Feichten	150.89	355	ePKP	PKiKP	19 22 57.0	+1.8
	comp=Z,24nm,1.2s						
FETA				epPKP	sPKPab	19 23 12.6	+2.3
	comp=Z,38nm,1.7s						
MYKA	Terra Mystica	150.94	351	i pPKP	pPKPdf	19 22 53.1	-2.3
	comp=Z,17nm,0.9s,SNR=6.3						
ABTA	Abfaltersbach	150.98	353	ePKP	PKPdf	19 22 48.6	-0.4
	comp=Z,11nm,1.3s						
ABTA				ePKP	sPKPdf	19 22 56.1	-1.6
	comp=Z,20nm,1.0s						
PRED	Cave del Predi	151.13	351		PKPbc	19 22 52.8	-2.2
BOVS	Bovan	151.66	338	⇑P	PKiKP	19 22 58.2	+1.5
CTI	Castel Tesino	151.77	354		PKiKP	19 22 56.9	-0.1
CTI	Castel Tesino	151.77	354	PKIKP	PKiKP	19 22 56.9	-0.1
ELL	Elmali	152.67	318	PKPab	PKPab	19 23 09.1	-0.5

*ISK **20** 19:03:33.4, 38°.81N×26°.48E, h8km, ML2.6/19*
*ATH **20** 19:03:33.8, 38°.83N×26°.50E, h15km±5km, ML2.2/3, Manual Solution by M.Kolligri First location: 2019/03/20 19:05:19, This location: 2019/03/21 00:25:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
*AFAD **20** 19:03:33.8, 38°.82N×26°.48E, h7km±1km, ML2.1*
ISC 20 19:03:34.1±0.9, 38°.81N±0°.02×26°.48E±0°.03, h14km±7km, n36, σ0°59/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	zmir-Karabur	0.16	200	P	Pg	19 03 37.8	-0.1
KARB				S	Sg	19 03 40.7	+0.2
KARB				i AML	AML	19 03 41.0	
	comp=N,664nm,0.4s						
KARB				i AML	AML	19 03 42.0	
	comp=E,641nm,0.6s						
FOCM	Foa	0.22	117	Pg	Pg	19 03 38.9	+0.1
FOCM				Sg	Sg	19 03 42.2	+0.1
IZMD	zmir-Dikili-	0.39	63	P	Pg	19 03 41.4	-0.5
IZMD				S	Sg	19 03 47.0	-0.2
IZMD				i AML	AML	19 03 48.0	
	comp=N,70nm,0.2s						
IZMD				i AML	AML	19 03 48.0	
	comp=E,94nm,0.7s						
EAG2	Marmaro, Chios	0.40	228	P	Pg	19 03 42.0	0.0
EAG2				S	Sb	19 03 48.1	-0.7
DKL	Dikili	0.42	52	Pg	Pg	19 03 41.9	-0.6
DKL				Sg	Sg	19 03 48.3	+0.2
DKL	Dikili	0.42	52	P	Pg	19 03 41.9	-0.6
DKL				S	Sg	19 03 47.4	-0.7
URLA	Izmir	0.46	169	P	Pg	19 03 42.9	-0.3
URLA				S	Sb	19 03 50.3	-0.4
URLA				i AML	AML	19 03 52.0	
	comp=N,352nm,0.5s						
URLA				i AML	AML	19 03 52.0	
	comp=E,238nm,0.4s						
PRK	Paraskevi	0.46	339	P	Pg	19 03 42.8	-0.4
PRK				S	Sg	19 03 48.8	-0.7
ZEDA	zmir-Bergama	0.49	71	P	Pg	19 03 43.4	-0.4
ZEDA				i AML	AML	19 03 51.0	
	comp=N,79nm,0.4s						
ZEDA				i AML	AML	19 03 54.0	
	comp=E,86nm,0.3s						
CESE	eme	0.50	197	Pg	Pg	19 03 43.6	-0.3
AYVA	Ayvalik	0.52	18	P	Pg	19 03 43.8	-0.6
AYVA				i AML	AML	19 03 54.0	
	comp=N,197nm,0.6s						
AYVA				i AML	AML	19 03 55.0	
	comp=E,118nm,0.4s						
ZEYE	Izmir, Urla-Ze	0.57	178	P	Pg	19 03 45.3	0.0
ZEYE				S	Sb	19 03 55.4	+1.5
ZEYE				i AML	AML	19 03 57.0	
	comp=E,564nm,0.3s						
ZEYE				i AML	AML	19 03 58.0	
	comp=N,496nm,0.3s						
BLCB	Balcova	0.61	134	Pg	Pg	19 03 45.3	-0.7
BLCB				Sg	Sg	19 03 54.6	+0.5
SIGR	SIGRI	0.63	309	Pg	Pb	19 03 46.5	-0.4
SIGR				Sg	Sg	19 03 55.0	+0.2
SIGR	SIGRI	0.63	309	P	Pg	19 03 46.2	-0.2
GPNR	Gulpinar-Canak	0.70	337	Pg	Pg	19 03 47.5	-0.2
KOCA	Canakkale, Ayv	0.74	339	P	Pg	19 03 48.1	-0.3
KOCA				S	Sb	19 03 58.8	0.0
KOCA				i AML	AML	19 04 01.0	
	comp=N,242nm,0.4s						
KOCA				i AML	AML	19 04 01.0	
	comp=E,428nm,0.7s						
DGB	zmir	0.82	157	P	Pg	19 03 49.2	-0.8
DGB				i AML	AML	19 04 04.0	
	comp=N,95nm,0.7s						
DGB				i AML	AML	19 04 04.0	
	comp=E,104nm,0.2s						
BUHA	Balikesir, Bur	0.83	34	P	Pg	19 03 49.8	-0.4
BUHA				S	Sb	19 04 01.6	+0.2
BUHA				i AML	AML	19 04 04.0	
	comp=N,144nm,0.3s						
BUHA				i AML	AML	19 04 07.0	
	comp=E,169nm,0.5s						
SOMA	Soma-Manisa	0.89	67	Pg	Pb	19 03 51.4	+0.1
EZNE	Ezine-Canakkal	0.95	355	Pg	Pg	19 03 52.0	-0.4
EZN	Ezine	1.02	353	Pg	Pg	19 03 53.3	-0.5
EZN				Sg	Sn	19 04 08.1	0.0
BOZC	Bozcaada	1.08	342	Pn	Pg	19 03 54.3	-0.6
YENI	Yenice-Canakka	1.27	27	Pn	Pb	19 03 57.9	+0.1
CANM	Can-anakkale	1.28	20	Pn	Pn	19 03 57.6	+0.1
COMU	Canakkale	1.29	360	Pn	Pb	19 03 58.3	+0.2
GADA	Gvkgeada	1.45	342	Pn	Pn	19 04 00.5	+0.6
LPK	Lapseki	1.57	8	Pn	Pn	19 04 02.5	+0.9
GELI	Tayfur-Gelibol	1.58	360	Pn	Pn	19 04 02.6	+0.8
SUSR	Susurluk-Balik	1.69	47	Pn	Pb	19 04 04.5	-0.5
SMTH	Samothraki Isl	1.81	336	P	Pn	19 04 04.8	-0.1
ERIK	Erikli-Kesan	1.86	1	Pn	Pn	19 04 06.6	+1.1
APE	Apeiranthos	1.90	204	P	Pn	19 04 05.2	-0.8
ENEZ	Enez	1.94	353	Pn	Pn	19 04 07.7	+1.1
RKY	Sarkoy-Tekirda	1.95	16	Pn	Pn	19 04 07.9	+1.1
ALN	Alexandroupoli	2.11	351	Pn	Pn	19 04 10.2	+1.2

*IDC **20** 19:13:01.1±0.4, 15°.19N×44°.90W, h0km, mb4.5/23, mbtmp4.5/25, ML4.7/2, MS4.2/39, Error ellipse: s-maj=14.6km s-min=11.8km az=112.0*
*NEIC **20** 19:13:03.5±1.8, 15°.24N±0°.09×44°.94W±0°.09, h10km±1km, mb5.0/203, Error ellipse: s-maj=16.0km s-min=14.8km az=138.0*
*GCMT **20** 19:13:05.5±0.2, 15°.26N±0°.02×44°.85W±0°.01, h16km±1km, MW5.1/112, Moment Tensor Solution. s27,c33; s112,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.93±.31; $M_{\theta\theta}$-2.22±.18; $M_{\phi\phi}$5.15±.21; $M_{r\theta}$0.71±.70; $M_{\theta\phi}$-2.73±.14; $M_{\phi r}$0.36±.46; Best double couple: M_o4.93900×10^{16} NP1:ϕ_s305.00000°, δ61.00000°, λ-148.00000°. NP2:ϕ_s198.00000°, δ63.00000°, λ-33.00000°. Principal axes: T 6.0530, Plg1.0000°, Azm252.0000°; N -2.2270, Plg48.0000°, Azm343.0000°; P -3.8250, Plg42.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 19:13:03.3±0.3, 15°.24N±0°.05×44°.91W±0°.06, h14km, n291, σ1°10/184, mb5.0/124, MS4.3/42, 2C-14D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	12.62	218	Pn	Pn	19 16 02.4	-0.1
	7.7nm,0.3s,baz=24,slow=13,SNR=121						
MDP				Sn	Sn	19 18 11.8	-11
	1.4nm,0.3s,baz=105,slow=23,SNR=6.3						
MDP				LR	LR	19 19 57.9	
	comp=Z,2μm,20.0s,baz=71,slow=33						
	18nm,0.3s						
BBGH	Gun Hill	14.36	264	Pn	Pn	19 16 24.2	-2.0
MPOM	Morne Pois Mar	15.44	269	Pn	Pn	19 16 40.5	-0.4
GDSD	La Dsirade Is	15.59	276	Pn	Pn	19 16 42.0	-0.8
GDSD				IAmb	IAmb	19 16 47.9	
	comp=Z,102nm,1.3s						
BIM	Bigot	15.64	269	Pn	Pn	19 16 43.5	0.0
BIM				IAmb	IAmb	19 16 45.9	
	comp=Z,131nm,1.0s						
FDF	Fort de France	15.70	270	Pn	Pn	19 16 43.8	-0.5
FDF				IAmb	IAmb	19 16 49.6	
	comp=Z,95nm,1.3s						
TMAB	Tom-Au,PA,Br	17.77	190	eP	Pn	19 17 10.9	+0.4
MAL2	Monte Alegre,	19.44	209		P	19 17 29.0	-0.7
PCRV	Puerto La Cruz	19.88	258	P	P	19 17 34.2	-0.3
	comp=Z,1.3nm,0.3s,baz=94,slow=9.8,SNR=4.8						
	comp=Z,18nm,0.9s						
BOAV	Boa Vista	19.99	232		P	19 17 35.9	+0.2
BOAV	Boa Vista	19.99	232	eP	P	19 17 36.5	+0.8
PDPR	Patillas Dam,	20.42	281	P	P	19 17 38.5	-1.7
SACV	Santiago Islan	20.57	88	P	P	19 17 40.8	-1.2
SACV				IAmb	IAmb	19 17 47.2	
	comp=Z,61nm,0.8s						
CELP	Cerrillos	20.95	281	P	P	19 17 44.0	-2.0
NBPB	Pedra_Branca-C	21.31	165	eP	P	19 17 49.7	-0.2
PRPB	Parauapebas	21.82	193	eP	P	19 17 55.2	-0.2
RCBR	Riachuelo	22.75	156	P	P	19 18 04.0	-1.4
RCBR	Riachuelo	22.75	156	eP	P	19 18 05.6	+0.2
BAUV	El Baul	23.45	257	P	P	19 18 11.4	-1.2
MACA	Manacapuru-AM	24.04	222	eP	P	19 18 19.8	+1.6
NPGB	Novo Progresso	24.44	206	eP	P	19 18 21.9	+0.1
NBCA	Caruaru-PE	24.92	159	eP	P	19 18 27.1	+0.8
SDV	Santo Domingo	25.92	259	P	P	19 18 36.5	+0.9
SDV	Santo Domingo	25.92	259	LR	LR	19 30 01.0	
	comp=Z,145nm,20.7s,baz=88,slow=39						
SDV	Santo Domingo	25.92	259	eP	P	19 18 38.5	+2.9
NBAN	Anadia - AL	26.18	160	eP	P	19 18 37.5	-0.1
BBTS	Babate	27.42	87	LR	LR	19 26 40.6	
	comp=Z,893nm,21.8s,baz=153,slow=30						
SDBA	SAO DESIDERIO	27.47	180	eP	P	19 18 48.7	-0.6
SNDB	Serra Nova Dou	27.76	194	eP	P	19 18 51.5	-0.4
CLDB	Colider	28.09	203	eP	P	19 18 55.3	+0.5
PDRB	Porto dos Gac	29.13	204	eP	P	19 19 04.5	+0.5
RUSC	La Rusia	29.17	254	P	P	19 19 05.6	+0.5
RUSC				IAmb	IAmb	19 20 08.9	
	comp=Z,37nm,1.3s						
JANB	Januaria	30.11	179	eP	P	19 19 12.3	-0.4
PMOZ	Porto Moniz, M	30.64	50	i AMs_20		19 28 37.0	
	comp=Z,396nm,22.0s						
PMOZ				eT	T	19 50 36.5	
ROSC	El Rosal	30.70	253	LR	LR	19 33 36.2	
	comp=Z,426nm,18.2s,baz=78,slow=40						
PMAR	Madeira	30.80	51	eP	P	19 19 19.3	+0.4
PMAR				eT	T	19 50 25.1	
BDFB	Brasilia	30.83	186	P	P	19 19 19.2	0.0
BDFB				IAmb	IAmb	19 19 20.4	
	comp=Z,53nm,1.7s						
BDFB	Brasilia	30.83	186	P	P	19 19 19.4	+0.2
	comp=Z,8.8nm,0.8s,baz=0.5,slow=11,SNR=12						
BDFB				LR	LR	19 31 16.5	
	comp=Z,533nm,18.3s,baz=353,slow=36						
	comp=Z,8.8nm,0.8s						
ARAG	Araguaiana, MT	31.49	193	eP	P	19 19 25.4	+0.5
VILB	Vilhena	31.83	209	P	P	19 19 28.3	+0.3
VILB				IAmb	IAmb	19 19 30.2	
	comp=Z,19nm,0.9s						
VILB	Vilhena	31.83	209	eP	P	19 19 29.6	+1.6
GUA01	Guaratinga, BA	32.02	171	eP	P	19 19 30.0	+0.5
SALV	Santo Antonio	32.72	199	eP	P	19 19 36.7	+1.0
IPMB	Ipameri, GO	33.17	186	eP	P	19 19 40.0	+0.3
PTLB	Pontes e Lacer	33.57	205	P	P	19 19 44.1	+0.9
PTLB				IAmb	IAmb	19 19 45.5	
	comp=Z,21nm,1.1s						
PTLB	Pontes e Lacer	33.57	205	eP	P	19 19 44.8	+1.6
SIV	San Ignacio	34.89	208	LR	LR	19 33 50.0	
	comp=Z,660nm,19.8s,baz=108,slow=36						
ITRB	Iturama	35.13	189	eP	P	19 19 57.5	+0.8
DRLN	Deer Lake	35.46	346	P	P	19 20 00.1	+0.9
CZSB	Cruzeiro do Su	35.77	232	eP	P	19 20 04.8	+2.6
ALF01	Guarapari-ES	35.87	173	eP	P	19 20 02.2	-0.7
OTAV	Otavalo	36.33	249	P	P	19 20 07.1	-0.5
OTAV	Otavalo	36.33	249	eP	P	19 20 11.0	+3.4
RPRD	Ribas do Rio P	36.53	194	eP	P	19 20 09.9	+1.3
AQDB	Aquidauana	37.04	197	P	P	19 20 13.2	+0.2
AQDB				IAmb	IAmb	19 20 15.2	
	comp=Z,28nm,1.0s						
AQDB	Aquidauana	37.04	197	eP	P	19 20 14.4	+1.5
BDQN	Bodoquena, MS	37.32	199	eP	P	19 20 17.1	+1.7
H10N3	ASCENSION HYDR	37.87	125	T	T	20 00 28.5	
	baz=307,slow=75,SNR=69						
H10N2	ASCENSION HYDR	37.87	125	T	T	20 00 28.1	
	baz=307,slow=75,SNR=83						
H10N1	ASCENSION HYDR	37.89	125	T	T	20 00 29.4	
	baz=307,slow=75,SNR=80						
VAO	Valinhos	38.05	183	eP	P	19 20 20.9	-0.8
H10S3	ASCENSION HYDR	38.42	127	T	T	20 01 11.9	
	baz=278,slow=74,SNR=8.3						
H10S2	ASCENSION HYDR	38.44	127	T	T	20 01 08.4	
	baz=302,slow=74,SNR=13						
FRTB	Fartura	38.61	187	eP	P	19 20 27.6	+1.3
SPB	Sao Paulo	38.67	184	P	P	19 20 26.6	0.0
SPB				IAmb	IAmb	19 20 28.4	
	comp=Z,30nm,0.9s						
SPB	Sao Paulo	38.67	184	eP	P	19 20 28.0	+1.4
LPAZ	La Paz	38.82	217	P	P	19 20 29.0	+0.2
LPAZ	La Paz	38.82	217	P	P	19 20 28.9	+0.2
	comp=Z,20nm,0.9s,baz=24,slow=7.0,SNR=53						
LPAZ				LR	LR	19 36 18.6	
	comp=Z,644nm,18.5s,baz=328,slow=36						
	comp=Z,20nm,0.9s						
LPAZ	La Paz	38.82	217	eP	P	19 20 29.2	+0.5
LDASE	Londrina, Braz	38.87	189	eP	P	19 20 29.0	+0.6
MORF	Marmelete	38.90	49	eP	P	19 20 29.4	+0.8
MORF				IAmb	IAmb	19 20 30.4	
	comp=Z,43nm,1.1s						
MORF	Marmelete	38.90	49	eP	P	19 20 30.1	+1.4
PTEO	Sao Teotonio	38.95	48	eP	P	19 20 29.4	+0.4
MESJ	Messejana	39.43	48	eP	P	19 20 33.8	+0.7
MESJ				IAmb	IAmb	19 20 35.9	
	comp=Z,97nm,1.8s						
MESJ	Messejana	39.43	48	eP	P	19 20 34.6	+1.5
PCVE	Castro Verde	39.48	49	eP	P	19 20 35.0	+1.6
PVAQ	Vaqueiros	39.62	49	i AMs_20		19 33 25.1	
	comp=Z,559nm,20.0s						
PBEJ	Beja	39.77	48	eP	P	19 20 37.4	+1.6
EVO	Evora	39.87	47	eP	P	19 20 37.9	+1.2
PMTG	Montargil	39.96	46	eP	P	19 20 38.3	+0.9
DBIC	Dimbokro	40.18	98	P	P	19 20 39.8	+0.2
	comp=Z,2.9nm,0.8s,baz=295,slow=8.0,SNR=3.8						
DBIC				LR	LR	19 34 02.2	
	comp=Z,331nm,21.3s,baz=272,slow=31						
	comp=Z,2.9nm,0.8s						
PCAS	Casmilo, Conde	40.21	45	eP	P	19 20 40.6	+1.1
PTGB	Pitanga	40.32	190	eP	P	19 20 41.1	+0.5
PBAR	Barrancos	40.42	48	eP	P	19 20 42.7	+1.5
MDT	Midelt	40.47	57	LR	LR	19 33 41.9	
	comp=Z,419nm,21.6s,baz=302,slow=31						
PB18	Visviri	40.63	218	P	P	19 20 43.4	-0.4
PB18				IAmb	IAmb	19 20 46.6	
	comp=Z,44nm,1.4s						
PMRV	Marv??o	40.70	46	eP	P	19 20 44.6	+1.1
PMRV				i AMs_20		19 33 35.6	
	comp=Z,430nm,22.0s						
PCBR	Castelo Branco	40.82	46	eP	P	19 20 45.4	+0.9
PVIS	Viseu	40.93	44	eP	P	19 20 46.4	+0.9
MTE	Manteigas	41.02	45	P	P	19 20 46.1	-0.1
MTE				IAmb	IAmb	19 20 48.0	
	comp=Z,35nm,0.9s						
MTE	Manteigas	41.02	45	eP	P	19 20 47.4	+1.1
MTE				i AMs_20		19 34 07.0	
	comp=Z,538nm,22.0s						
SADO	Sadowa	41.26	323	LR	LR	19 34 48.6	
	comp=Z,185nm,20.0s,baz=119,slow=32						
PGAV	Gavieira, Arco	41.27	42	eP	P	19 20 49.3	+1.0
PGAV				i AMs_20		19 34 52.2	
	comp=Z,564nm,18.0s						
POLO	Lamas de Olo	41.30	43	eP	P	19 20 49.4	+0.9

comp=Z,13nm,1.0s
I37A Lemond, Waseca 50.03 315 IAmb IAmb 19 23 23.5
comp=Z,25nm,1.2s
CLF Chambon-Foret 50.65 40 P **P** **19 22 02.6 +0.6**
FRB Frobisher Bay 51.16 347 LR LR 19 41 05.3
comp=Z,132nm,21.8s,baz=161,slow=33
EKA Eskdalemuir Ar 51.26 29 P **P** **19 22 06.5 -0.1**
comp=Z,2.6nm,0.5s,baz=228,slow=7.4,SNR=12
comp=Z,2.6nm,0.5s
PLPT Palo Pinto 51.28 300 IAmb IAmb 19 22 18.9
comp=Z,36nm,1.3s
SFJD Kangerlussuaq 51.86 357 LR LR 19 40 04.7
comp=Z,251nm,19.1s,baz=191,slow=31
BORG Borgarnes 52.02 13 LR LR 19 38 29.1
comp=Z,350nm,18.4s,baz=182,slow=29
KEST Kesra 52.37 56 LR LR 19 42 03.4
comp=Z,314nm,20.9s,baz=345,slow=33
ABTX Abilene, Hawle 52.38 300 IAmb IAmb 19 22 24.5
comp=Z,35nm,1.5s
APMT Aspermont 52.85 300 IAmb IAmb 19 22 31.0
comp=Z,17nm,1.1s
DOU Dourbes 52.88 38 *d*P **P** **19 22 19.6 +0.8**
comp=Z,6.9nm,1.0s
BMRD Maredsous 53.06 38 *d*P **P** **19 22 20.8 +0.8**
comp=Z,4.6nm,1.1s
RCHB Rochefort 53.28 38 *d*P **P** **19 22 22.1 +0.5**
BGES Gesves 53.28 38 *d*P **P** **19 22 22.1 +0.4**
comp=Z,7.4nm,1.2s
BCLA Clavier 53.42 38 *d*P **P** **19 22 22.9 +0.2**
comp=Z,5.0nm,1.2s
WLF Walferdange 53.65 39 *d*P **P** **19 22 24.9 +0.5**
ECH Echery 53.77 41 IAmb IAmb 19 23 10.9
comp=Z,26nm,1.3s
ULM Lac du Bonnet 53.81 322 IAmb IAmb 19 22 35.0
comp=Z,18nm,1.2s
ULM Lac du Bonnet 53.81 322 P **P** **19 22 24.9 -0.6**
comp=Z,4.9nm,0.6s,baz=96,slow=8.2,SNR=8.2
comp=Z,4.9nm,0.6s
MEM Membach 53.91 38 *d*P **P** **19 22 27.3 +1.0**
BTNL Ternell 53.98 38 *d*P **P** **19 22 27.6 +0.7**
comp=Z,10nm,1.2s
BFO Black Forest 54.55 41 P **P** **19 22 29.4 -1.6**
TUE Stuetta 54.66 43 P **P** **19 22 32.4 +0.3**
comp=Z,69nm,1.3s
DAVOX Davos/Dischmat 55.10 43 LR LR 19 45 33.5
comp=Z,305nm,18.0s,baz=268,slow=35
MSTX Muleshoe 55.11 301 IAmb IAmb 19 22 47.1
comp=Z,22nm,1.1s
TXAR Lajitas Array 55.63 295 P **P** **19 22 39.3 0.0**
comp=Z,1.2nm,0.9s,baz=99,slow=7.7,SNR=6.2
comp=Z,1.2nm,0.9s
ALPN Alpine 55.64 297 IAmb IAmb 19 22 55.9
comp=Z,16nm,1.3s
CTI Castel Tesino 56.09 44 IAmb IAmb 19 22 43.6
comp=Z,16nm,0.9s
FCC Fort Churchill 56.51 332 P **P** **19 22 44.5 -0.4**
FCC IAmb IAmb 19 22 47.9
comp=Z,17nm,1.1s
VAE Valguarnera 56.63 55 LR LR 19 46 07.5
comp=Z,417nm,19.1s,baz=168,slow=35
GRFO Grafenberg 56.77 40 P **P** **19 22 47.0 0.0**
GRFO Grafenberg 56.77 40 PKP2 **PKPbc** **19 22 47.0 -1.4**
GRFO Grafenberg 56.77 40 pmax pmax
comp=Z,70nm,1.5s
VHRN Van Horn 56.81 297 IAmb IAmb 19 23 00.4
comp=Z,34nm,1.5s
SUMG Summit 57.45 2 P **P** **19 22 52.2 +0.3**
SUMG IAmb IAmb 19 23 14.5
comp=Z,17nm,1.3s
GERES GERESS Array B 58.12 42 LR LR 19 47 12.3
comp=Z,119nm,18.1s,baz=237,slow=35
CLL Collm 58.32 39 *e*S **S** **19 30 59.0 -0.8**
S22A 4UR Ranch, Cre 58.71 305 IAmb IAmb 19 23 06.2
comp=Z,17nm,1.3s
BRG Berggiesshubel 58.78 39 P P 19 22 56.0 -5.0
BRG Amp 19 23 02.7
comp=Z,54nm,1.3s
FFC Flin Flon 58.86 325 P **P** **19 23 01.9 +0.4**
FFC IAmb IAmb 19 23 04.4
comp=Z,10.0nm,1.0s
VRAC Vranov 60.08 42 LR LR 19 47 27.5
comp=Z,215nm,19.5s,baz=236,slow=34
PV13 Radium Mtn., P 60.31 305 P **P** **19 23 12.6 +0.4**
PV13 IAmb IAmb 19 23 16.2
comp=Z,19nm,1.1s
PLCA Paso Flores 60.56 202 P **P** **19 23 12.5 -0.9**
PLCA Paso Flores 60.56 202 P **P** **19 23 13.2 -0.2**
comp=Z,8.4nm,1.0s,baz=27,slow=4.6,SNR=11
comp=Z,8.4nm,1.0s
PLCA Paso Flores 60.56 202 *e*P **P** **19 23 13.7 +0.3**
NB2 NORSAR Subarra 60.66 28 P **P** **19 23 14.9 +1.0**
comp=Z,5.8nm,0.8s,baz=248,slow=6.9
NOA NORSAR Array B 60.66 28 P **P** **19 23 14.7 +0.8**
comp=Z,3.9nm,0.8s,baz=247,slow=6.6,SNR=12
NOA LR LR 19 45 37.4
comp=Z,119nm,18.9s,baz=245,slow=32
comp=Z,3.9nm,0.8s
PDAR Pinedale Array 61.24 311 P **P** **19 23 19.1 +0.6**
comp=Z,4.0nm,1.0s,baz=93,slow=7.9,SNR=5.1
comp=Z,4.0nm,1.0s
HFS Hagfors 61.46 29 P **P** **19 23 20.1 +0.8**
comp=Z,12nm,0.8s,baz=235,slow=5.2,SNR=14
HFS LR LR 19 45 08.0
comp=Z,219nm,19.6s,baz=262,slow=31
comp=Z,12nm,0.8s
TUC Tucson 61.77 299 P **P** **19 23 21.7 -0.3**
LOHW Long Hollow 62.09 311 IAmb IAmb 19 23 27.0
comp=Z,9.0nm,1.1s
WUAZ Wupatki 62.26 302 P **P** **19 23 24.1 -1.2**
FXWY Fox Creek 62.40 311 IAmb IAmb 19 23 50.9
comp=Z,14nm,1.4s
YHB Horse Butte 62.62 313 IAmb IAmb 19 23 32.6
comp=Z,13nm,0.8s
YHL Hebgen Lake 62.62 313 IAmb IAmb 19 23 31.7
comp=Z,20nm,1.2s
U15A North Rim 63.01 303 IAmb IAmb 19 23 34.9
comp=Z,15nm,1.1s
PSUT Pine Spring 64.28 306 IAmb IAmb 19 23 43.0
comp=Z,9.6nm,1.0s
SPR3 Spring Creek 3 64.66 306 IAmb IAmb 19 23 45.3
comp=Z,13nm,1.0s
IDI Anoyia 64.98 58 LR LR 19 51 22.3
comp=Z,177nm,20.7s,baz=294,slow=35
V12A Nelson 65.09 303 IAmb IAmb 19 23 47.9
comp=Z,9.8nm,1.2s
ELK Elko 65.37 308 IAmb IAmb 19 23 49.2
comp=Z,12nm,1.1s
ELK Elko 65.37 308 P **P** **19 23 46.6 +0.8**
comp=Z,7.1nm,0.9s,baz=63,slow=6.8,SNR=11
comp=Z,7.1nm,0.9s
RES Resolute Bay 65.37 347 P **P** **19 23 45.2 +0.3**
RES IAmb IAmb 19 23 48.5
comp=Z,10nm,1.2s
MLR Muntele Rosu 65.90 47 LR LR 19 52 38.5
comp=Z,199nm,18.3s,baz=262,slow=36
TPNV Topopah Spring 66.19 304 IAmb IAmb 19 23 59.9
comp=Z,15nm,1.6s
WCT Wildcat Mounta 66.49 304 IAmb IAmb 19 24 03.9
comp=Z,11nm,1.1s
GSC Goldstone, Bar 66.70 302 IAmb IAmb 19 24 33.2
comp=Z,15nm,1.5s
YKA Yellowknife Ar 67.24 332 P **P** **19 23 56.6 -0.5**
YKA Yellowknife Ar 67.24 332 P **P** **19 23 56.9 -0.2**
comp=Z,3.4nm,0.9s,baz=106,slow=7.1,SNR=24
comp=Z,3.4nm,0.9s
EUNU Eureka 67.49 353 IAmb IAmb 19 24 02.1
comp=Z,14nm,1.1s
FINES FINESS Array B 67.66 29 P **P** **19 24 00.1 +0.4**
comp=Z,2.9nm,0.7s,baz=247,slow=9.9,SNR=6.3
comp=Z,2.9nm,0.7s
C09A Chrisman Ranch 67.72 316 IAmb IAmb 19 24 10.4
comp=Z,16nm,1.4s
NVAR Mina Array Bea 67.77 306 P **P** **19 24 01.4 +0.3**
comp=Z,0.5nm,0.2s,baz=100,slow=4.5,SNR=4.2
comp=Z,0.5nm,0.2s
G08A Pilot Rock 68.15 313 IAmb IAmb 19 24 13.2
comp=Z,18nm,1.7s
AKASG Malin Array Be 68.33 41 P **P** **19 24 03.9 -0.2**
comp=Z,2.4nm,0.8s,baz=272,slow=6.4,SNR=6.3
AKASG LR LR 19 51 42.3
comp=Z,125nm,20.1s,baz=251,slow=34
comp=Z,2.4nm,0.8s
WAKR Walker 68.66 306 IAmb IAmb 19 24 10.4
comp=Z,12nm,1.1s
ARCES ARCESS Array B 69.01 21 P **P** **19 24 08.5 +0.4**
comp=Z,3.3nm,0.7s,baz=232,slow=6.0,SNR=4.2
ARCES LR LR 19 47 39.0
comp=Z,121nm,21.3s,baz=324,slow=30
comp=Z,3.3nm,0.7s
MXC Moxie City 69.08 314 IAmb IAmb 19 24 20.5
comp=Z,13nm,1.0s
PINE Pine Mountain 69.58 311 P **P** **19 24 11.7 -0.7**
J05D Fort Rock, OR 69.81 311 IAmb IAmb 19 24 17.8
comp=Z,12nm,1.1s
LLLB Lillooet 70.13 319 IAmb IAmb 19 24 25.4
comp=Z,20nm,1.3s
TSUM Tsumeb 70.37 117 LR LR 19 47 54.1
comp=Z,206nm,21.6s,baz=314,slow=30
H04A Detroit Lake 70.45 312 IAmb IAmb 19 24 21.1
comp=Z,11nm,0.9s
WRGLY Wrigley 71.36 332 P **P** **19 24 22.2 -0.3**
BRTR Keskin Array B 71.70 53 P **P** **19 24 25.8 +0.5**
comp=Z,2.1nm,0.7s,baz=285,slow=7.3,SNR=1.9
BRTR LR LR 19 54 37.6
comp=Z,107nm,20.3s,baz=287,slow=35
comp=Z,2.1nm,0.7s
OBN Obninsk 72.79 37 LR LR 19 54 25.1
comp=Z,96nm,18.5s,baz=353,slow=34
MMAI Mount Meron Ar 73.86 60 LR LR 20 00 18.7
comp=Z,114nm,18.4s,baz=280,slow=38
EIL Elat 73.95 63 LR LR 19 56 00.0
comp=Z,288nm,21.6s,baz=249,slow=35
DLBC Dease Lake 74.61 327 LR LR 19 55 59.4
comp=Z,296nm,18.5s,baz=87,slow=34
R33M Jennings River 75.03 328 IAmb IAmb 19 24 56.8
comp=Z,17nm,1.1s
ASF Jabal al Asfar 75.22 60 LR LR 19 59 31.3
comp=Z,104nm,20.3s,baz=257,slow=37
INK Inuvik 75.46 337 IAmb IAmb 19 24 57.2
comp=Z,13nm,1.1s
INK Inuvik 75.46 337 LR LR 19 55 24.4
comp=Z,319nm,19.5s,baz=244,slow=34
G31M Satah River 75.86 336 IAmb IAmb 19 24 59.3
comp=Z,13nm,1.1s
P33M Teslin, Yukon 75.89 329 IAmb IAmb 19 25 00.5
comp=Z,29nm,1.7s
H31M Peel River 76.00 335 IAmb IAmb 19 25 00.5
comp=Z,14nm,1.1s
E29M Blow River 77.06 338 IAmb IAmb 19 25 12.4
comp=Z,15nm,1.4s
SKAG Skagway 77.24 328 IAmb IAmb 19 25 09.2
comp=Z,15nm,1.1s
O30N Mendenhall 77.42 330 IAmb IAmb 19 25 09.2
comp=Z,20nm,1.4s
H29M Whitestone 77.58 336 IAmb IAmb 19 25 12.5
comp=Z,13nm,0.9s
E28M Babbage River 77.62 338 IAmb IAmb 19 25 02.9
comp=Z,34nm,1.9s
D27M Malcolm River 78.01 339 IAmb IAmb 19 25 10.8
comp=Z,21nm,1.6s
LSZ Lusaka 78.32 109 P **P** **19 25 03.1 -0.7**
LSZ Lusaka 78.32 109 LR LR 19 52 30.2
comp=Z,134nm,21.4s,baz=228,slow=30
DAWY Dawson 78.38 333 IAmb IAmb 19 25 06.2
comp=Z,14nm,1.3s
E27K Coleen River 78.45 338 IAmb IAmb 19 25 14.8
comp=Z,19nm,1.1s
C27K Jago River 78.88 339 IAmb IAmb 19 25 17.6
comp=Z,15nm,1.2s
LBTB Lobatse 79.49 120 LR LR 19 53 58.3
comp=Z,109nm,19.0s,baz=204,slow=31
F26K Sheenjek River 79.50 337 IAmb IAmb 19 25 21.3
comp=Z,15nm,1.1s
BCAR Beaver Creek A 79.64 333 P **P** **19 25 09.8 -0.3**
BMAR Burnt Mountain 79.73 337 P **P** **19 25 11.3 +0.7**
D25K Kavik River 79.86 339 IAmb IAmb 19 25 15.1
comp=Z,12nm,0.9s
BOSA Boshof 80.59 123 P **P** **19 25 15.7 -0.3**
comp=Z,7.9nm,0.9s,baz=133,slow=0.6,SNR=8.4
comp=Z,7.9nm,0.9s
PRP Porcupine Dome 80.60 335 IAmb IAmb 19 25 26.9
comp=Z,15nm,1.1s
D24K Happy Valley 80.75 339 IAmb IAmb 19 25 34.3
comp=Z,32nm,1.8s
G24K Hadweenzic Riv 81.02 337 IAmb IAmb 19 25 35.7
comp=Z,18nm,1.4s
C23K Itkillik River 81.12 340 IAmb IAmb 19 25 37.4
comp=Z,22nm,1.4s
TOLK Toolik Lake Re 81.17 339 IAmb IAmb 19 25 36.6
comp=Z,21nm,1.4s
ILAR Eielson Array 81.37 335 P **P** **19 25 19.1 -0.2**
ILAR Eielson Array 81.37 335 P **P** **19 25 19.8 +0.4**
comp=Z,3.2nm,0.6s,baz=70,slow=4.1,SNR=39
comp=Z,3.2nm,0.6s
CCB Clear Creek Bu 81.78 335 IAmb IAmb 19 25 32.5
comp=Z,24nm,1.4s
WRH Wood River Hil 81.95 335 IAmb IAmb 19 25 33.4
comp=Z,20nm,1.2s
E22K Anaktuvuk Pass 82.12 339 IAmb IAmb 19 25 32.8
comp=Z,13nm,1.2s
D22K Ayikyak River 82.15 340 IAmb IAmb 19 25 35.5
comp=Z,13nm,1.1s
B21K Ikpikpuk River 82.50 341 IAmb IAmb 19 25 37.2
comp=Z,11nm,1.1s
B20K Meade River 83.14 341 IAmb IAmb 19 25 39.2
comp=Z,17nm,1.1s
G21K Allakaket 83.34 338 IAmb IAmb 19 25 41.5
comp=Z,10nm,1.1s
F20K Avaraart Lake 83.93 338 IAmb IAmb 19 25 44.5
comp=Z,17nm,1.6s
D19K Kuna River 84.12 340 IAmb IAmb 19 25 44.1
comp=Z,14nm,1.2s
ATD Arta Tunnel 84.90 79 LR LR 20 01 28.3
comp=Z,9.5nm,21.9s,baz=334,slow=34
C18K Utukok River 85.04 341 IAmb IAmb 19 25 40.1
comp=Z,6.1nm,0.7s
H17K Granite Mounta 86.42 337 IAmb IAmb 19 26 03.3
comp=Z,15nm,1.4s
G16K Koyuk River 87.08 338 IAmb IAmb 19 26 00.8
comp=Z,16nm,1.4s
F15K North Star Dit 87.73 339 IAmb IAmb 19 26 01.5
comp=Z,19nm,1.5s
ABKAR Akbulak array 87.99 39 P **P** **19 25 53.7 +0.7**
ABKAR IAmb IAmb 19 26 32.6
comp=Z,9.7nm,1.6s
NRIK Noril'sk 89.26 15 LR LR 20 03 34.4
comp=Z,162nm,18.9s,baz=89,slow=34
VNA1 Neumayer--Stat 89.32 169 ⇓P **P** **19 25 59.5 +0.8**
comp=Z,14nm,1.0s
VNA3 Neumayer Olymp 89.55 169 ⇓P **P** **19 25 59.6 -0.2**
comp=Z,12nm,0.8s
VNA2 Neumayer--Watz 89.71 168 ⇓P **P** **19 26 00.3 -0.2**
comp=Z,3.9nm,0.8s,baz=339,slow=6.1
SNAA Sanae 91.20 168 ⇓P **P** **19 26 06.9 -0.7**
comp=Z,59nm,0.8s
SNAA Sanae 91.20 168 P **P** **19 26 07.1 -0.5**
comp=Z,4.8nm,1.1s,baz=271,slow=5.7,SNR=6.0
comp=Z,4.8nm,1.1s
TROLL Troll, Antarti 92.60 167 ⇓P **P** **19 26 18.9 +4.7**
comp=Z,86nm,0.8s
ELIB Princess Elisa 97.85 163 *d*P **P** **19 26 38.3 +0.1**
comp=Z,2.6nm,1.2s
KURBB Kurchatov Arra 97.91 32 PP **PP** **19 30 37.1 +0.4**
comp=Z,0.3nm,0.8s,baz=296,slow=7.3,SNR=5.4
KURBB LR LR 20 07 29.5
comp=Z,249nm,21.2s,baz=164,slow=33
SYO Syowa Base 102.14 158⇑ *e*Pdiff **Pdif** **19 26 56.8 -0.3**
SYO Syowa Base 102.14 158⇑ *es*Pdiff **Pdif** **19 27 02.0 +4.9**
WMQ Urumqi 107.03 34 Pdif **Pdif** **19 27 21.6 +1.9**
WMQ LR LR
comp=Z,220nm,21.3s
LSA Lhasa 118.43 43 **PKPdf** **19 31 50.9 -1.0**
HHC Hu-ho-hao-te 120.08 20 *e*PKP **PKPdf** **19 31 51.1 -3.1**
HHC LR LR
comp=Z,170nm,12.3s
HHC LR LR
comp=Z,200nm,13.2s
HHC LR LR
comp=Z,230nm,16.7s
CN2 Changchun 120.59 8 *e*PKP **PKPdf** **19 31 51.3 -3.7**
CD2 Chengdu 125.11 33 PKP **PKPdf** **19 32 04.0 -0.1**
TNCH TengChong 126.40 42 PKP **PKPdf** **19 32 06.3 -0.6**
TNCH sPKP 19 32 13.1
TNCH PP **PP** **19 34 00.8 -0.4**
PZH PanZhiHua 127.35 38 PKP **PKPdf** **19 32 08.9 +0.3**
MJAR Matsushiro Arr 128.42 357 PKP **PKPdf** **19 32 09.1 -1.2**
comp=Z,1.5nm,0.6s,baz=47,slow=2.9,SNR=4.7
NJ2 Nanjing 130.47 18 *e*PKP **PKPdf** **19 32 13.8 -0.4**
CMAR Chiang Mai Arr 131.13 48 **PKPdf** **19 32 15.3 -0.4**
CMAR Chiang Mai Arr 131.13 48 PKP **PKPdf** **19 32 15.6 -0.2**
comp=Z,1.6nm,0.6s,baz=298,slow=3.4,SNR=14
QIZ Qiongzhong 137.84 37 PKP **PKPdf** **19 32 27.8 -0.5**
QIZ PP **PP** **19 35 14.4 -0.1**
QIZ SS SS 19 53 25.4 +1.6
QIZ LR LR
comp=Z,140nm,9.1s
QIZ LR LR
comp=Z,290nm,9.9s
QIZ LR LR
comp=Z,240nm,10.0s
LEM Lembang 151.80 76 PKPbc **PKPbc** **19 32 58.3 -0.6**
comp=Z,26nm,0.5s,baz=11,slow=5.3,SNR=9.8
STKA Stephens Creek 162.40 199 PKP **PKPdf** **19 33 04.3 -1.0**
comp=Z,2.2nm,0.8s,baz=98,slow=6.0,SNR=4.6
ASAR Alice Springs 171.54 173 PKP **PKPdf** **19 33 10.9 -1.5**
comp=Z,2.4nm,1.0s,baz=146,slow=0.3,SNR=13
ASAR PKPab **PKPab** **19 34 31.6 -1.4**
comp=Z,1.0nm,0.9s,baz=193,slow=4.2,SNR=6.2
WRA Warramunga Arr 175.26 171 PKP **PKPdf** **19 33 12.5 -1.3**

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*AZER **20** 19:15:59.4, 41˚.45N×51˚.17E, h62km, ml3.0*
ISC 20 19:15:57.2±1.8, 41˚.69N±0˚.05×51˚.23E±0˚.06, h34km±3km, n31, σ1§86/58, 2C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.45**	**221**	P	**Pb**	**19 16 24.6**	**+0.9**
NDR				S	**Sn**	**19 16 37.1**	**-1.7**
GALA	**Gala**	**1.51**	**213**	P	**Pb**	**19 16 26.5**	**+1.8**
GALA				S	**Sb**	**19 16 45.7**	**+2.2**
GOBA	**Gobu**	**1.71**	**222**	Pn	**Pb**	**19 16 28.0**	**-0.1**
GOBA				Sn	**Sn**	**19 16 44.5**	**-0.8**
SIZA	**Siyzn**	**1.85**	**252**	Pn	**Pb**	**19 16 30.5**	**-0.1**
SIZA				Sn	**Sb**	**19 16 54.3**	**+0.8**
ATGJ	**Altiaghaj**	**1.91**	**245**	Pn	**Pb**	**19 16 30.6**	**-1.0**
ATGJ				Sn	**Sb**	**19 16 55.3**	**+0.2**
GBS	**Qobustan**	**2.07**	**237**	Pn	**Pb**	**19 16 33.3**	**-1.0**
GBS				Sn	**Sn**	**19 16 57.1**	**+2.6**
QUBA	**Quba, Azerbaij**	**2.08**	**262**	Pn	**Pb**	**19 16 32.8**	**-1.6**
QUBA				Sn	**Sn**	**19 16 57.0**	**+2.4**
PQL	**Pirkuli**	**2.18**	**247**	Pn	**Pn**	**19 16 31.1**	**-0.1**
PQL				Sn	**Sb**	**19 17 01.9**	**-0.9**
QSAR	**Qusar**	**2.23**	**267**	Pn	**Pb**	**19 16 34.9**	**-2.0**
QSAR				Sn	**Sb**	**19 17 02.5**	**-1.6**
XNQ	**Khinaliq**	**2.38**	**259**	Pn	**Pb**	**19 16 36.8**	**-2.8**
XNQ				Sn	**Sb**	**19 17 08.1**	**-0.5**
IML	**Ismayilli**	**2.46**	**250**	Pn	**Pn**	**19 16 36.6**	**+1.5**
IML				Sn	**Sn**	**19 17 07.1**	**+3.1**
QBL	**Gabala**	**2.66**	**255**	Pn	**Pn**	**19 16 40.0**	**+2.3**
QBL				Sn	**Sn**	**19 17 10.2**	**+1.4**
ZRD	**Zardab**	**3.03**	**244**	Pn	**Pn**	**19 16 44.9**	**+2.1**
ZRD				Sn	**Sn**	**19 17 19.5**	**+1.7**
SEKA	**Sheki**	**3.07**	**262**	Pn	**Pn**	**19 16 46.4**	**+3.0**
SEKA				Sn	**Sn**	**19 17 19.5**	**+0.5**
MNGR	**Mingechevir, A**	**3.25**	**255**	Pn	**Pn**	**19 16 47.7**	**+1.8**
MNGR				Sn	**Sn**	**19 17 23.1**	**-0.3**
BRDA	**Brd**	**3.38**	**246**	Pn	**Pn**	**19 16 49.7**	**+2.1**
BRDA				Sn	**Sn**	**19 17 28.4**	**+1.9**
BLQ	**Beylaqan**	**3.41**	**236**	Sn	**Sn**	**19 17 25.0**	**-2.3**
ZKTA	**Zakatala**	**3.45**	**271**	Pn	**Pn**	**19 16 51.9**	**+3.3**
ZKTA				Sn	**Sn**	**19 17 29.5**	**+1.2**
AGDM	**Agdam**	**3.50**	**245**	Pn	**Pn**	**19 16 50.4**	**+1.2**
AGDM				Sn	**Sn**	**19 17 29.3**	**-0.2**
LKRN	**Lenkeran, Azer**	**3.51**	**213**	Pn	**Pn**	**19 16 50.8**	**+1.3**
LKRN				Sn	**Sn**	**19 17 27.5**	**-2.3**
YRD	**Yardimli**	**3.59**	**221**	Pn	**Pn**	**19 16 49.9**	**-0.8**
YRD				Sn	**Sn**	**19 17 30.1**	**-1.9**
ASTR	**Astara**	**3.64**	**212**	Pn	**Pn**	**19 16 52.0**	**+0.8**
ASTR				Sn	**Sn**	**19 17 30.9**	**-2.0**
QRD	**Qoradiz**	**3.71**	**235**	Sn	**Sn**	**19 17 32.8**	**-2.1**
LRK	**Lerik**	**3.76**	**217**	Pn	**Pn**	**19 16 53.8**	**+0.8**
LRK				Sn	**Sn**	**19 17 34.4**	**-1.8**
GANJ	**Ganja**	**3.84**	**256**	Pn	**Pn**	**19 16 55.0**	**+1.0**
GANJ				Sn	**Sn**	**19 17 35.9**	**-2.2**
GDB	**GEDABAY**	**4.24**	**259**	Pn	**Pn**	**19 17 00.3**	**+0.7**
GDB				Sn	**Sn**	**19 17 45.1**	**-2.9**
DGRG	**David-gareji**	**4.40**	**269**	Pn	**Pn**	**19 17 04.5**	**+2.8**
DGRG				Sn	**Sn**	**19 17 49.8**	**-1.9**
QZX	**Qazax, Azerbai**	**4.45**	**264**	Pn	**Pn**	**19 17 03.6**	**+1.3**
QZX				Sn	**Sn**	**19 17 50.5**	**-2.5**
SBZ	**Shahbuz**	**4.89**	**244**	Pn	**Pn**	**19 17 10.7**	**+2.2**
SBZ				Sn	**Sn**	**19 18 06.0**	**+2.0**
AB31	**Akbulak array**	**9.73**	**36**	⇓Pn	Pn	19 18 24.0	+9.3
	0.2nm,0.5s,baz=221,slow=15,SNR=3.0						
AB31				⇑Sn	**Sn**	**19 20 00.5**	**-2.3**
	0.4nm,0.6s,baz=210,slow=27,SNR=2.8						
AKTO	**Aktyubinsk**	**9.94**	**26**	⇓Pn	Pn	19 18 25.9	+8.4
	0.3nm,0.7s						
AKTO				⇑Sn	**Sn**	**19 20 09.8**	**+2.0**
	0.6nm,0.7s						

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*NEIC **20** 19:18:25.2±2.9, 43˚.57N±0˚.05×105˚.29W±0˚.08, h0km±1km, ML3.2/66, Error ellipse: s-maj=10.6km s-min=7.7km az=112.0*
*IDC **20** 19:18:26.3±2.8, 43˚.22N×105˚.34W, h0km, mb2.7/1, mbtmp3.1/3, ML3.2/2, MS3.1/2, Error ellipse: s-maj=56.2km s-min=10.0km az=155.0*
ISC 20 19:18:26.7±1.0, 43˚.46N±0˚.06×105˚.49W±0˚.07, h0km, n31, σ1§06/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.11**	**224**		**Pn**	**19 18 51.1**	**+1.4**
BRIGG	**Briggsdale**	**3.01**	**163**	Pn	**Pn**	**19 19 15.6**	**-0.1**
BRIGG				IAML		19 20 15.1	
	comp=E,79nm,0.7s						
BRIGG				IAML		19 20 20.9	
	comp=N,72nm,0.7s						
PD31	**Pinedale Array**	**3.06**	**258**	Pn	**Pn**	**19 19 17.2**	**+0.7**
PDAR	**Pinedale Array**	**3.06**	**258**		**Pb**	**19 19 23.9**	**+1.7**
PDAR	**Pinedale Array**	**3.06**	**258**	Pn	**Pb**	**19 19 20.1**	**-2.0**
	comp=N,2.1nm,0.3s,baz=73,slow=16,SNR=26						
PDAR				Lg	Lg	19 20 04.2	
	comp=N,8.1nm,0.3s,baz=76,slow=26,SNR=11						
PDAR				LR	LR	19 20 41.8	
	comp=N,110nm,20.1s,baz=24,slow=43						
	comp=N,0.6nm,0.3s						
BW06	**Boulder Array**	**3.06**	**258**		**Pb**	**19 19 22.4**	**+0.2**
RLMT	**Red Lodge**	**3.18**	**303**	Pn	**Pn**	**19 19 18.9**	**+0.7**
RLMT				IAML		19 21 00.3	
	comp=N,43nm,1.8s						
RLMT				IAML		19 21 08.4	
	comp=N,40nm,4.0s						
LAO	**LASA Array**	**3.27**	**351**	Pn	**Pn**	**19 19 19.2**	**-0.1**
LAO				IAML		19 21 17.1	
	comp=N,60nm,3.5s						
OGNE	**Ogallala**	**3.59**	**133**	Pg	**Pg**	**19 19 36.0**	**+0.4**
YMP	**Mirror Lake Pl**	**3.60**	**292**	Pn	**Pn**	**19 19 24.3**	**+0.3**
YNE	**Yellowstone No**	**3.60**	**297**	Pn	**Pn**	**19 19 24.7**	**+0.8**
YNE				IAML		19 20 41.4	
	comp=N,41nm,1.3s						
LKWY	**Lake**	**3.71**	**289**		**Pn**	**19 19 26.1**	**+0.5**
LKWY				IAML		19 20 52.1	
	comp=N,34nm,1.7s						
LOHW	**Long Hollow**	**3.72**	**274**		**Pn**	**19 19 25.6**	**-0.1**
H17A	**Grant Village**	**3.79**	**286**		**Pn**	**19 19 26.9**	**+0.3**
H17A				IAML		19 19 56.7	
	comp=E,24nm,1.7s						
MOOW	**Moose Ponds**	**3.83**	**276**		**Pn**	**19 19 27.1**	**-0.1**
SNOW	**Snow King Moun**	**3.83**	**272**		**Pn**	**19 19 26.5**	**-0.7**
SNOW				IAML		19 20 45.0	
	comp=E,35nm,1.1s						
SNOW				IAML		19 21 16.8	
	comp=E,35nm,1.6s						
O20A	**White River Ci**	**3.91**	**213**		**Pn**	**19 19 26.8**	**-1.4**
YNR	**Norris Junctio**	**3.94**	**290**		**Pn**	**19 19 28.2**	**-0.5**
TPAW	**Teton Pass**	**3.98**	**272**		**Pn**	**19 19 29.1**	**-0.1**
TPAW				IAML		19 21 04.6	
	comp=E,23nm,2.4s						
FXWY	**Fox Creek**	**4.03**	**274**		**Pn**	**19 19 30.6**	**+0.7**
YMR	**Madison River**	**4.13**	**289**		**Pn**	**19 19 28.2**	**-3.0**
YMR				IAML		19 20 51.6	
	comp=E,26nm,2.4s						
YMR				IAML		19 20 55.2	
	comp=N,29nm,2.2s						
AHID	**Auburn Hatcher**	**4.17**	**262**		**Pn**	**19 19 31.1**	**-0.6**
AHID				IAML		19 20 49.9	
	comp=N,24nm,1.1s						
AHID				IAML		19 20 54.1	
	comp=N,22nm,0.8s						
RDMU	**Red Mountain**	**4.19**	**228**	IAML		19 21 01.6	
	comp=N,23nm,1.9s						
RDMU				IAML		19 21 20.1	
	comp=E,27nm,1.7s						
YHB	**Horse Butte**	**4.31**	**289**		**Pb**	**19 19 42.7**	**-0.8**

YHB			IAML		19 20 54.8	
	comp=E,16nm,1.7s					
YHB			IAML		19 22 05.4	
	comp=N,16nm,2.1s					
YHL	**Hebgen Lake**	**4.33 291**	Pg	**Pb**	**19 19 44.4**	**+0.6**
YHL			IAML		19 20 58.2	
	comp=E,21nm,1.4s					
YHL			IAML		19 20 58.6	
	comp=N,24nm,1.5s					
BOZ	**Bozeman (W)**	**4.88 298**	IAML		19 22 17.3	
	comp=N,13nm,3.6s					
BOZ			IAML		19 22 45.5	
	comp=N,18nm,4.4s					
BSUT	**Blindstream Ca**	**4.90 235**	IAML		19 21 25.3	
	comp=N,10nm,0.9s					
BSUT			IAML		19 21 36.0	
	comp=E,13nm,3.1s					
I10CA	**LAC DU BONNET**	**9.35 41**	I	I	20 18 15.0	
	comp=E,0.3nm,1.6s,baz=224,slow=317,SNR=3.1					
ULM	**Lac du Bonnet**	**9.45 41**	Pn	**Pn**	**19 20 43.5**	**-0.5**
	comp=E,0.6nm,0.3s,baz=233,slow=8.2,SNR=3.7					
ULM			Lg	Lg	19 23 19.1	
	comp=E,0.2nm,0.3s,baz=315,slow=22,SNR=1.6					
	comp=E,1.2nm,0.3s					
YBH	**Yreka Blue Hor**	**12.81 268**	LR	LR	19 26 33.0	
	comp=E,216nm,18.4s,baz=268,slow=38					
YKA	**Yellowknife Ar**	**19.80 347**	P	**Pn**	**19 23 00.3**	**+0.5**
	comp=E,0.3nm,0.7s,baz=159,slow=11,SNR=2.1					
	comp=E,0.3nm,0.7s					

IDC 20 19:29:57.8±1.1, 2°.77N×121°.54E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=169.6km s-min=20.6km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.83**	**151**	P	P	19 35 30.8	-0.3
	0.5nm,0.6s,baz=336,slow=9.5,SNR=6.7						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**28.90**	**156**	P	P	19 35 59.0	+0.4
	0.2nm,0.4s,baz=335,slow=7.4,SNR=5.9						
	0.2nm,0.4s						
SONM	**Songino Array**	**46.76**	**346**	P	P	19 38 30.5	+1.5
	0.3nm,0.8s,baz=168,slow=7.4,SNR=2.2						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**55.51**	**328**	P	P	19 39 34.6	-0.1
	0.2nm,0.3s,baz=132,slow=7.8,SNR=7.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**59.86**	**330**	P	P	19 40 03.7	-1.5
	0.1nm,0.5s,baz=134,slow=5.2,SNR=3.3						
	0.1nm,0.5s						

IDC 20 19:31:31.7±3.1, 23°.18S×176°.73W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=184.2km s-min=38.3km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.12**	**259**	P	P	19 39 50.2	0.0
	0.8nm,0.3s,baz=90,slow=8.0,SNR=38						
ASAR				PcP	PcP	19 41 30.4	-0.6
	0.3nm,0.5s,baz=120,slow=3.6,SNR=5.3						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**45.46**	**264**	P	P	19 39 52.5	-0.4
	0.8nm,0.4s,baz=104,slow=7.8,SNR=37						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.88**	**264**	P	P	19 40 57.1	0.0
	2.8nm,0.9s,baz=85,slow=9.7,SNR=6.2						
	2.8nm,0.9s						
BVAR	**Borovoye Array**	**121.87**	**319**	PKP	PKPdf	19 50 26.4	-1.2
	0.4nm,0.4s,baz=84,slow=1.2,SNR=4.7						
AKASG	**Malin Array Be**	**145.91**	**330**	PKPbc	PKPdf	19 51 12.2	-0.1
	1.9nm,0.4s,baz=32,slow=2.7,SNR=19						
BRTR	**Keskin Array B**	**149.48**	**310**	PKPbc	PKPbc	19 51 23.1	-0.2
	1.0nm,0.6s,baz=147,slow=5.8,SNR=6.3						
MMAI	**Mount Meron Ar**	**150.11**	**296**	PKPbc	PKPbc	19 51 25.3	+0.3
	1.6nm,0.5s,baz=90,slow=5.8,SNR=5.5						

*IDC **20** 19:42:32.6±1.1, 27°.84N×127°.65E, h0km, mb3.4/4, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=48.9km s-min=15.5km az=61.0*
*JMA **20** 19:42:32.3±0.2, 28°.1N±0°.05×128°.0E±0°.6, h12km±2km, MVS3.4/12, NW OFF OKINAWAJIMA IS*
ISC 20 19:42:31.4±1.9, 28°.06N±0°.05×128°.08E±0°.06, h0km±13km, n15, σ0s57/23, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.81**	**109**	*i* P	**Pb**	**19 42 48.7**	**+0.2**
JTK				*e*S	**Sb**	**19 43 00.4**	**+0.5**
JOKE	**Okinoerabujima**	**0.82**	**148**	P	**Pn**	**19 42 49.2**	**-1.0**
JAMN	**Amaminishikomi**	**0.98**	**79**	*i* P	**Pb**	**19 42 51.3**	**0.0**
JAMN				*e*S	**Sb**	**19 43 05.3**	**+0.5**
JIH	**Iheya**	**1.02**	**186**	P	**Pb**	**19 42 52.3**	**+0.3**
JIH				*e*S	**Sb**	**19 43 06.4**	**+0.4**
JYRO	**Yoronjima**	**1.08**	**162**	P	**Pn**	**19 42 53.5**	**-0.3**
JYRO				*e*S	**Sn**	**19 43 09.2**	**-0.3**
JOW	**Kunigami**	**1.23**	**172**	Pn	**Pn**	**19 42 55.9**	**0.0**
	160nm,0.3s,baz=38,slow=12,SNR=114						
JOW				Sn	**Sn**	**19 43 13.0**	**-0.3**
	32nm,0.3s,baz=198,slow=24,SNR=4.7						
JOW	**Kunigami**	**1.23**	**172**	*i* P	**Pn**	**19 42 55.9**	**0.0**
JOW				*e*S	**Sn**	**19 43 12.9**	**-0.3**
JAM	**Amami Oshima**	**1.39**	**75**	P	**Pn**	**19 42 57.8**	**-0.2**
JAM				*e*S	**Sn**	**19 43 16.5**	**-0.5**
JTAJ	**Takarajima**	**1.47**	**42**	*e*P	**Pn**	**19 42 58.6**	**-0.5**
JNTH	**Nagotoyohara**	**1.54**	**182**	*e*P	**Pg**	**19 43 00.8**	**-0.1**
JNTH				*e*S	**Sg**	**19 43 20.8**	**0.0**
JAGN	**Aguni-jima**	**1.64**	**207**	*e*P	**Pb**	**19 43 02.4**	**-0.2**
SONM	**Songino Array**	**25.97**	**325**	P	**P**	**19 48 07.1**	**+1.4**
	0.6nm,0.7s,baz=150,slow=10.0,SNR=5.2						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**	**19 50 10.2**	**+0.3**
	0.3nm,0.8s,baz=107,slow=8.1,SNR=3.6						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**43.46**	**315**	P	**P**	**19 50 34.8**	**-1.2**
	0.2nm,0.6s,baz=104,slow=9.0,SNR=1.9						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**48.10**	**172**	P	**P**	**19 51 13.2**	**+0.1**
	0.7nm,0.8s,baz=353,slow=8.1,SNR=4.8						
	0.7nm,0.8s						

IDC 20 19:45:37.1±825.0, 53°.00N×5°.15E, h0km, Error ellipse: s-maj=363.5km s-min=149.0km az=105.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.82**	**124**	I	I	20 25 25.8	
	0.1nm,1.0s,baz=311,slow=323,SNR=1.9						
I43RU	**DUBNA INFRASONI**	**8.73**	**66**	I	I	21 35 20.0	
	baz=272,slow=320,SNR=3.2						
I31KZ	**AKTYUBINSK INF**	**32.26**	**73**	I	I	23 01 30.0	
	baz=298,slow=326,SNR=1.5						
I46RU	**ZALESOVO INFRA**	**45.03**	**55**	I	I	00 25 40.0	
	baz=305,slow=335,SNR=0.7						

*NEIC **20** 19:47:28.2±2.4, 34°.05N±0°.01×97°.41W±0°.03, h14km±8km, Error ellipse: s-maj=3.6km s-min=2.2km az=91.0*
NEIC 20 19:47:28.3±2.2, 34°.08N±0°.02×97°.46W±0°.04, h16km±7km, mb_Lg2.7/78, ML2.5/12, ML2.7/18, Error ellipse: s-maj=5.2km s-min=2.3km az=83.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	**Smith Ranch, M**	**0.60**	**329**		Pg	19 47 40.0	-0.3
X34A				IAML		19 47 55.9	
	comp=E,378nm,0.8s						
X34A				IAML		19 47 57.1	
	comp=N,454nm,0.6s						
Z35A	**Perchaven, San**	**0.77**	**167**		Pg	19 47 42.0	-1.2
Z35A					Sg	19 47 52.4	-1.0
WTFS	**Witchita Falls**	**0.89**	**250**		Pb	19 47 45.3	-0.2
WTFS					Sn	19 47 58.2	-0.7
WTFS				IAML		19 48 11.0	
	comp=N,286nm,0.7s						
WTFS				IAML		19 48 17.1	
	comp=N,185nm,0.8s						
FW06	**Azle**	**1.11**	**184**		Pb	19 47 48.8	-0.4
FW06					Sg	19 48 04.1	-0.1
W35A	**Tecumseh**	**1.17**	**24**		Pn	19 47 49.9	-0.2
W35A					Sg	19 48 06.2	-0.1
W35A				IAML		19 48 10.0	
	comp=E,158nm,0.8s						
W35A				IAML		19 48 11.7	
	comp=N,190nm,0.4s						
FNO	**Franklin**	**1.18**	**2**		Pn	19 47 50.2	0.0
FNO					Sg	19 48 06.6	+0.2
FNO				IAML		19 48 14.7	
	comp=E,162nm,0.4s						
FW05	**UT at Dallas**	**1.24**	**151**		Pg	19 47 52.2	-0.1
WMOK	**Wichita Mounta**	**1.27**	**301**		Pn	19 47 51.2	-0.4
WMOK					Sn	19 48 08.7	+0.3
WMOK	**Wichita Mounta**	**1.27**	**301**	IAML		19 48 21.9	
	comp=E,106nm,0.7s						
FW11	**UT at Arlingto**	**1.38**	**168**		Pg	19 47 54.8	-0.1
FW11					Sg	19 48 13.1	+0.1
FW07	**Weatherford**	**1.40**	**191**		Pg	19 47 55.1	-0.2
FW07					Sg	19 48 15.1	+1.6
PLPT	**Palo Pinto**	**1.45**	**210**		Pg	19 47 55.8	-0.5
PLPT					Sg	19 48 14.5	-0.7
FW01	**Dallas Executi**	**1.47**	**161**		Pg	19 47 57.2	+0.4
FW01					Sg	19 48 17.2	+1.3
BCOK	**Bluff Creek, N**	**1.58**	**356**		Pb	19 47 57.5	+0.3
BCOK					Sg	19 48 19.6	+0.4
FW16	**Waxahatchie**	**1.66**	**163**	IAmb_Lg		19 48 21.5	
	comp=Z,33nm,0.8s						
FW14	**Alvarado**	**1.69**	**172**		Pb	19 47 59.7	+0.6
FW14					Sg	19 48 22.2	-0.6
FW13	**Cleburne**	**1.72**	**179**	Pn	Pn	19 47 56.4	-1.3
TREL	**Terrell**	**1.77**	**139**		Pn	19 47 57.9	-0.4
TREL					Sg	19 48 24.6	-0.7
CSTR	**Hydro, Custer**	**1.86**	**327**		Pb	19 48 02.8	+0.8
CSTR					Sg	19 48 28.8	+0.5
DEOK	**Depew**	**1.93**	**24**		Pb	19 48 02.1	-1.0
DEOK					Sb	19 48 28.5	+1.5
WHTX	**Lake Whitney,**	**2.08**	**180**		Pb	19 48 04.8	-1.0
WHTX					Sb	19 48 31.5	0.0
QUOK	**Quay**	**2.18**	**16**		Pn	19 48 05.7	+1.7
Z38A	**Mt. Pleasant**	**2.22**	**111**	IAmb_Lg		19 48 42.0	
	comp=Z,32nm,0.8s						
TUL3	**Leonard**	**2.28**	**36**	IAmb_Lg		19 48 46.2	
	comp=Z,47nm,1.0s						
ABTX	**Abilene, Hawle**	**2.33**	**232**		Pb	19 48 10.7	+0.6
ABTX				IAmb_Lg		19 48 41.0	
	comp=Z,26nm,0.9s						
APMT	**Aspermont**	**2.34**	**252**		Pn	19 48 06.4	+0.1
OK048	**Pawnee Station**	**2.37**	**10**		Pn	19 48 05.4	-1.2
CROK	**Carrier**	**2.46**	**350**	IAmb_Lg		19 48 48.4	
	comp=Z,50nm,1.0s						
237A	**Washetta, Mont**	**2.49**	**146**	Pn	Pn	19 48 07.4	-0.9
SMWD	**Samnorwood**	**2.51**	**295**		Pn	19 48 07.4	-1.2
SMWD				IAmb_Lg		19 48 46.4	
	comp=Z,25nm,0.7s						
ELIS	**Ellis County**	**2.55**	**322**		Pn	19 48 11.1	+2.0
ELIS				IAmb_Lg		19 48 51.3	
	comp=Z,51nm,0.8s						
OK032	**Salt Plains WL**	**2.79**	**347**	Pn	Pn	19 48 12.4	+0.1
T35A	**Sooner Cattle**	**2.93**	**15**		Pn	19 48 14.3	-0.1
KAN17	**Caldwell West**	**2.97**	**355**	Pn	Pn	19 48 14.4	-0.4
KAN17				IAmb_Lg		19 49 04.1	
	comp=Z,20nm,1.0s						
SN07	**Snyder 07**	**3.03**	**252**		Pb	19 48 21.1	-0.8
MIAR	**Mount Ida**	**3.25**	**81**	Pg	Pb	19 48 25.8	+0.1
MIAR				IAmb_Lg		19 49 08.5	
	comp=Z,15nm,0.7s						
U38A	**Gravette**	**3.44**	**46**	Pn	Pn	19 48 21.6	+0.2
POST	**Post**	**3.52**	**254**	IAmb_Lg		19 49 26.1	
	comp=Z,33nm,0.8s						
AMTX	**Amarillo**	**3.58**	**284**		Pn	19 48 24.2	+0.9
HHAR	**Hobbs**	**3.62**	**52**		Pn	19 48 21.6	-2.2
WLAR	**White Oak Lake**	**3.64**	**95**	IAmb_Lg		19 49 21.8	
	comp=Z,21nm,0.8s						
SGCY	**Sterling City**	**3.76**	**236**	IAmb_Lg		19 49 35.3	
	comp=Z,34nm,0.8s						
X40A	**Basin Creek Fa**	**3.85**	**83**	IAmb_Lg		19 49 39.0	
	comp=Z,20nm,0.9s						
JCT	**Junction City**	**4.10**	**210**	Pg	Pb	19 48 40.4	+0.1
UALR	**University of**	**4.29**	**79**	IAmb_Lg		19 49 51.7	
	comp=Z,13nm,0.9s						
OZNA	**Ozona**	**4.42**	**226**	IAmb_Lg		19 49 58.2	
	comp=Z,22nm,1.1s						
WHAR	**Wooly Hollow**	**4.43**	**73**	IAmb_Lg		19 49 59.5	
	comp=Z,11nm,0.8s						
ODSA	**Odessa**	**4.70**	**247**	IAmb_Lg		19 49 59.6	
	comp=Z,12nm,0.8s						
RTBA	**Rita Blanca**	**4.92**	**300**	IAmb_Lg		19 50 16.5	
	comp=Z,9.8nm,0.9s						
KSU1	**Kansas State U**	**5.06**	**8**	IAmb_Lg		19 50 18.5	
	comp=Z,13nm,0.7s						
MGMO	**Mountain Grove**	**5.22**	**53**	IAmb_Lg		19 50 20.8	
	comp=Z,8.4nm,0.8s						
MNHN	**Monahans**	**5.24**	**240**	IAmb_Lg		19 50 23.5	
	comp=Z,18nm,0.7s						
DRIO	**Del Rio**	**5.37**	**211**	IAmb_Lg		19 50 23.8	
	comp=Z,19nm,1.0s						
SAND	**Sanderson**	**5.71**	**225**	IAmb_Lg		19 50 35.3	
	comp=Z,19nm,0.8s						
PECS	**Pecos**	**6.04**	**245**	IAmb_Lg		19 50 41.7	
	comp=Z,7.9nm,0.7s						
P38A	**Dawn**	**6.37**	**28**	IAmb_Lg		19 50 54.6	
	comp=Z,12nm,0.7s						
ALPN	**Alpine**	**6.41**	**236**	Pn	Pn	19 49 00.3	-2.0
ALPN				IAmb_Lg		19 51 09.5	
	comp=Z,17nm,1.0s						
CCM	**Cathedral Cave**	**6.41**	**50**	IAmb_Lg		19 50 53.5	
	comp=Z,6.8nm,0.7s						
T25A	**Trinidad**	**6.43**	**300**	IAmb_Lg		19 51 04.1	
	comp=Z,14nm,0.7s						
P40A	**Paris**	**6.96**	**37**	IAmb_Lg		19 51 23.1	
	comp=Z,14nm,0.9s						
ANMO	**Albuquerque**	**7.48**	**279**	IAmb_Lg		19 51 45.0	
	comp=Z,8.8nm,0.7s						
ANMO	**Albuquerque**	**7.48**	**279**	IAmb_Lg		19 51 30.4	
	comp=Z,12nm,1.0s						
ANMO	**Albuquerque**	**7.48**	**279**	IAmb_Lg		19 51 38.2	
	comp=Z,9.7nm,0.9s						
SDCO	**Great Sand Dun**	**7.48**	**302**	IAmb_Lg		19 51 41.0	
	comp=Z,8.7nm,1.1s						
Q24A	**Divide**	**7.88**	**310**	IAmb_Lg		19 51 55.0	
	comp=Z,12nm,0.8s						

*NEIC **20** 19:50:37.2±0.5, 18°.63S±0°.10×177°.7W±0°.2, h486km±10km, mb4.4/11, Error ellipse: s-maj=27.5km s-min=12.0km az=106.0*
*IDC **20** 19:50:39.3±2.3, 18°.92S×178°.03W, h479km±23km, mb3.1/5, mbtmp4.0/7, Error ellipse: s-maj=32.6km s-min=27.1km az=145.0*
ISC 20 19:50:38.8±1.0, 18°.7S±0°.1×178°.0W±0°.2, h486km, n21, σ1s26/21, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.91**	**284**	P	**P**	**19 51 55.7**	**0.0**
MSVF	**Nonsavu**	**3.91**	**284**	P	**P**	**19 51 55.5**	**-0.2**
	12nm,0.4s,baz=104,slow=6.6,SNR=24						
DZM	**Mont Dzumac**	**14.98**	**255**	P	**P**	**19 53 49.9**	**+0.8**
DZM				IAmb	IAmb	19 54 19.8	
	comp=Z,17nm,1.2s						
DZM	**Mont Dzumac**	**14.98**	**255**	P	**P**	**19 53 49.2**	**0.0**
	comp=Z,4.7nm,0.8s,baz=108,slow=20,SNR=1.8						
ONTNC	**Ouen Toro**	**15.02**	**254**	P	**P**	**19 53 49.2**	**-0.3**
QRZ	**Quartz Range**	**23.47**	**198**	P	**P**	**19 55 06.5**	**-2.8**
QRZ				IAmb	IAmb	19 55 15.0	
	comp=Z,34nm,1.4s						
ARMA	**Armidale**	**29.90**	**241**	P	**P**	**19 56 06.6**	**+0.3**
ARMA				IAmb	IAmb	19 56 17.1	
	comp=Z,9.4nm,1.4s						
STKA	**Stephens Creek**	**38.60**	**242**	P	**P**	**19 57 19.8**	**+0.4**
STKA				IAmb	IAmb	19 57 23.7	
	comp=Z,32nm,1.2s						
STKA	**Stephens Creek**	**38.60**	**242**	P	**P**	**19 57 19.6**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=78,slow=8.4,SNR=12						
	comp=Z,1.9nm,0.4s						
BBOO	**Buckleboo**	**43.38**	**242**	P	**P**	**19 57 57.2**	**-0.3**
BBOO				IAmb	IAmb	19 57 57.5	
	comp=Z,14nm,1.2s						
WR8	**Warramunga Arr**	**44.75**	**260**	P	**P**	**19 58 07.8**	**-0.5**
WB0	**Warramunga Arr**	**44.87**	**261**	P	**P**	**19 58 08.9**	**-0.3**
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**19 58 09.2**	**-0.3**
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**19 58 09.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=95,slow=7.0,SNR=6.3						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**44.97**	**255**	P	**P**	**19 58 10.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=88,slow=8.2,SNR=16						
	comp=Z,1.2nm,0.6s						
VNDA	**Vanda**	**59.66**	**185**	P	**P**	**19 59 54.0**	**-0.8**
CASY	**Casey**	**65.56**	**205**	P	**P**	**20 00 35.9**	**+2.7**
CASY				IAmb	IAmb	20 00 45.7	
	comp=Z,9.2nm,1.1s						
ATKA	**Atka Island**	**70.72**	**2**	P	**P**	**20 01 02.3**	**-2.4**
QSPA	**South Pole Qui**	**71.32**	**180**		**P**	**20 01 08.6**	**+0.2**
QSPA				IAmb	IAmb	20 01 11.4	
	comp=Z,5.1nm,1.1s						
QSPA	**South Pole Qui**	**71.32**	**180**	P	**P**	**20 01 08.5**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=20,slow=1.4,SNR=9.4						
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**86.60**	**13**	P	**P**	**20 02 31.7**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=219,slow=5.4,SNR=7.3						
	comp=Z,0.3nm,0.4s						

*AZER **20** 19:50:45.0, 38°.72N×44°.71E, h2km, ml2.5*
*TEH **20** 19:50:45.2, 38°.65N×44°.68E, h4km±99km*
*AFAD **20** 19:50:45.4, 38°.65N×44°.71E, h7km±4km, ML2.1*
ISC 20 19:50:45.9±1.1, 38°.64N±0°.03×44°.73E±0°.02, h8km±10km, n28, σ1s52/47, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.58**	**273**	P	**Pg**	**19 50 55.9**	**-1.2**
OZAP				S	**Sb**	**19 51 05.1**	**-1.8**
OZAP				*i* AML	AML	19 51 06.0	
	comp=E,143nm,0.6s						
OZAP				*i* AML	AML	19 51 11.0	
	comp=N,109nm,1.0s						
MAKU	**Maku**	**0.72**	**357**	Pg	**Pg**	**19 50 58.7**	**-1.0**
IMRD	**Marand**	**0.76**	**84**	Pg	**Pb**	**19 51 01.0**	**-0.6**
ISHB	**Shabestar**	**0.78**	**117**	Pg	**Pg**	**19 51 00.8**	**-0.1**
NAX	**Nakhchivan**	**0.80**	**48**	P	**Pb**	**19 51 02.3**	**+0.1**
NAX				S	**Sn**	**19 51 15.6**	**-0.2**
VMUR	**Van-Muradiye**	**0.97**	**292**	P	**Pg**	**19 51 03.4**	**-1.1**
VMUR				S	**Sb**	**19 51 17.5**	**-0.7**
VMUR				*i* AML	AML	19 51 18.0	
	comp=E,59nm,0.4s						
VMUR				*i* AML	AML	19 51 22.0	
	comp=N,73nm,0.3s						
SBZ	**Shahbuz**	**0.99**	**40**	P	**Pb**	**19 51 05.5**	**+0.1**
SBZ				S	**Sn**	**19 51 21.0**	**+0.5**
TVAN	**Van**	**1.04**	**264**	P	**Pg**	**19 51 04.2**	**-1.7**
TVAN				S	**Sn**	**19 51 22.3**	**+0.3**
TVAN				*i* AML	AML	19 51 35.0	
	comp=E,54nm,0.6s						
TVAN				*i* AML	AML	19 51 36.0	
	comp=N,39nm,0.9s						
HYR	**Heyderabad**	**1.08**	**5**	P	**Pb**	**19 51 06.3**	**-0.6**
HYR				S	**Sn**	**19 51 24.6**	**+1.9**
YOVA	**Hakkari_Yksek**	**1.10**	**199**	P	**Pn**	**19 51 07.6**	**-0.2**
YOVA				*i* AML	AML	19 51 26.0	
	comp=E,26nm,0.5s						
YOVA				*i* AML	AML	19 51 29.0	
	comp=N,30nm,0.6s						
ITBZ	**Tabriz**	**1.18**	**109**	Pg	**Pg**	**19 51 07.7**	**-0.9**
DYDN	**Diyadin**	**1.22**	**318**	P	**Pb**	**19 51 08.4**	**-0.8**
DYDN				S	**Sn**	**19 51 25.5**	**-0.7**
DYDN				*i* AML	AML	19 51 30.0	
	comp=N,65nm,0.6s						
DYDN				*i* AML	AML	19 51 37.0	
	comp=E,44nm,0.4s						
IGDI	**IGDIR**	**1.33**	**338**	P	**Pb**	**19 51 12.0**	**+0.9**
IGDI				S	**Sn**	**19 51 32.1**	**+3.3**
GEVA	**Gevas**	**1.35**	**257**	P	**Pn**	**19 51 08.9**	**-2.4**
GEVA				S	**Sn**	**19 51 30.6**	**+1.1**
GEVA				*i* AML	AML	19 51 34.0	
	comp=N,33nm,0.5s						
GEVA				*i* AML	AML	19 51 35.0	
	comp=E,29nm,0.4s						
IAZR	**Azarshahr**	**1.37**	**134**	Pg	**Pb**	**19 51 12.2**	**+0.3**
ADCV	**BITLIS_Adilcev**	**1.58**	**277**	P	**Pg**	**19 51 15.2**	**-0.9**
ADCV				*i* AML	AML	19 51 39.0	
	comp=N,36nm,0.6s						
ADCV				*i* AML	AML	19 51 39.0	
	comp=E,37nm,0.7s						
ADCV				S	**Sg**	**19 51 39.0**	**+2.4**
DORK	**Agr/Tutak/Do**	**1.69**	**297**	P	**Pn**	**19 51 16.0**	**0.0**
DORK				*i* AML	AML	19 51 42.0	
	comp=N,31nm,0.7s						
DORK				*i* AML	AML	19 51 45.0	
	comp=E,27nm,0.7s						
IHRS	**Heris**	**1.84**	**99**	Pn	**Pb**	**19 51 20.2**	**+0.3**
PERV	**Siirt/Pervari-**	**1.86**	**249**	P	**Pg**	**19 51 21.5**	**+0.1**
PERV				S	**Sg**	**19 51 48.5**	**+3.0**
PERV				*i* AML	AML	19 51 51.0	
	comp=E,50nm,0.5s						
PERV				*i* AML	AML	19 51 55.0	
	comp=N,36nm,0.7s						
QRD	**Qoradiz**	**2.18**	**67**	P	**Pg**	**19 51 26.3**	**-1.3**
QRD				S	**Sg**	**19 51 56.9**	**+1.1**
GDB	**GEDABAY**	**2.23**	**20**	P	**Pb**	**19 51 26.6**	**+0.2**
GDB				S	**Sg**	**19 51 56.0**	**-1.4**
GANJ	**Ganja**	**2.35**	**31**	P	**Pb**	**19 51 28.8**	**+0.2**
GANJ				S	**Sg**	**19 52 00.6**	**-0.8**
AGDM	**Agdam**	**2.36**	**51**	P	**Pb**	**19 51 29.2**	**+0.6**
AGDM				S	**Sg**	**19 52 03.6**	**+2.0**
QZX	**Qazax, Azerbai**	**2.47**	**11**	P	**Pg**	**19 51 31.5**	**-1.6**
QZX				S	**Sg**	**19 52 08.2**	**+3.0**
GRMI	**Germi**	**2.48**	**85**	Pn	**Pb**	**19 51 29.1**	**-1.6**
YRD	**Yardimli**	**2.76**	**83**	P	**Pb**	**19 51 33.8**	**-1.7**
YRD				S	**Sg**	**19 52 15.4**	**+1.0**
LRK	**Lerik**	**2.83**	**89**	P	**Pb**	**19 51 36.4**	**-0.3**
LRK				S	**Sb**	**19 52 12.7**	**+1.1**
DGRG	**David-gareji**	**2.85**	**10**	P	**Pg**	**19 51 39.5**	**-1.1**
DGRG				S	**Sg**	**19 52 21.6**	**+4.1**

ISK 20 19:52:10.3, 37°.47N×29°.45E, h10km, ML1.7/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.12**	**271**	Pg	Pg	19 52 13.3	+0.1
APMY				Sg	Sg	19 52 16.1	+0.8
CAME	**Cameli-Denizli**	**0.54**	**193**	Pg	Pg	19 52 21.1	+0.

comp=N,28nm,0.5s

HEL 20 20:04:43.8±0.1, 63°.64N×26°.07E, h0km, ML1.4, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.82**	**107**	PG	Pg	20 04 58.5	-1.0
NIF				SG	Sg	20 05 09.4	-0.8
SUF	**Sumiainen**	**0.93**	**178**	PG	Pg	20 05 00.9	-0.7
SUF	baz=356			MSG		20 05 12.3	
SUF	comp=Z,1.9nm,0.2s			SB	Sg	20 05 13.9	+0.3
OUF	**Merijarvi**	**0.94**	**322**	PG	Pg	20 05 00.3	-1.4
OUF	baz=142			MSG		20 05 12.6	
OUF	comp=Z,1.9nm,0.2s			SB	Sg	20 05 13.2	-0.6
OBF0	**Syolatti, Pyha**	**1.18**	**318**	PG	Pg	20 05 05.0	-1.3
OBF0				MSG		20 05 19.6	
OBF0	comp=Z,1.3nm,0.2s			SB	Sg	20 05 21.1	-0.4
OBF4	**Vikkela, Lumij**	**1.25**	**341**	PG	Pg	20 05 06.5	-1.2
OBF4				MSG		20 05 21.6	
OBF4	comp=Z,1.5nm,0.2s			SG	Sg	20 05 23.0	-0.8
OUL	**Oulu**	**1.45**	**357**	PG	Pn	20 05 09.8	-1.5
OUL				SG	Sg	20 05 28.1	-2.2
KAF	**Kangasniemi**	**1.54**	**176**	PG	Pn	20 05 11.8	-0.7
KAF	baz=357			MSG		20 05 29.9	
KAF	comp=Z,4.4nm,0.2s			SN	Sn	20 05 32.3	-0.9
KEF	**Keuruu**	**1.58**	**201**	PG	Pn	20 05 12.1	-1.0
KEF	baz=21			MSG		20 05 31.2	
KEF	comp=Z,2.7nm,0.2s			SG	Sn	20 05 33.2	-0.9
VAF	**Ylistaro**	**1.65**	**250**	PG	Pn	20 05 13.6	-0.3
VAF	baz=69			MSG		20 05 33.0	
VAF	comp=Z,3.7nm,0.2s			SN	Sn	20 05 35.0	-0.7
RMF	**Romuvaara**	**1.80**	**70**	PG	Pn	20 05 16.2	+0.1
RMF				MSG		20 05 37.5	
RMF	comp=Z,4.1nm,0.2s			SG	Sn	20 05 39.7	+0.1
FIA0	**FINESS Array S**	**2.21**	**180**	PG	Pn	20 05 22.9	+1.3
FIA0				MSG		20 05 49.1	
FIA0	comp=Z,2.5nm,0.2s			SG	Sb	20 05 52.1	-0.3
KU2	**Taivalkoski**	**2.27**	**23**	PG	Pn	20 05 23.6	+1.0
KU2	baz=208			SG	Sb	20 05 53.8	-0.5
RANF	**Ranua**	**2.40**	**7**	PN	Pn	20 05 24.3	0.0
RANF	baz=185			SG	Sb	20 05 56.8	-1.2
KU1	**Kurvinen**	**2.45**	**36**	PB	Pn	20 05 26.4	+1.5
KU1				SG	Sb	20 05 58.5	-0.8
JOF	**Joensuu**	**2.48**	**105**	PB	Pn	20 05 26.6	+1.2
JOF				SB	Sb	20 05 58.5	-1.7
KALU	**Kalix**	**2.51**	**334**	SG	Sb	20 06 00.6	-0.5
KALU	**Kalix**	**2.51**	**334**	PB	Sb	20 06 00.6	-0.5
TOF	**Tornio**	**2.56**	**344**	MSG		20 05 59.2	
TOF	comp=Z,0.6nm,0.2s			SB	Sn	20 05 59.4	+1.2
TOF	**Tornio**	**2.56**	**344**	PG	Sn	20 05 59.4	+1.2
KPF	**Kankaanpaa**	**2.59**	**227**	PB	Pn	20 05 28.2	+1.4
KPF				SG	Sb	20 06 02.1	-1.1
RUF	**Ruokolahti**	**2.60**	**148**	MSG		20 06 00.5	
RUF	comp=Z,1.5nm,0.2s			SG	Sb	20 06 03.2	-0.4
MSF	**Maaselka**	**2.61**	**28**	PB	Pn	20 05 28.5	+1.3
MSF				SG	Sb	20 06 03.9	0.0
MSF	**Maaselka**	**2.61**	**28**	PN	Pn	20 06 28.5	+1.3
MSF				SG	Sb	20 06 03.9	0.0
RNF	**Rovaniemi**	**2.98**	**360**	PN	Pn	20 05 33.1	+0.9
RNF				SG	Sb	20 06 15.0	+0.5
HUSU	**Husum**	**3.09**	**267**	SB	Sn	20 06 12.8	+1.6
PVF	**Pernaja**	**3.11**	**182**	MSG		20 06 15.3	
PVF	comp=Z,1.0nm,0.2s			SG	Sb	20 06 17.9	-0.5
VJF	**Virojoki**	**3.19**	**167**	SG	Sb	20 06 20.4	-0.4
ERTU	**Ertsjaerv**	**3.35**	**332**	SG	Sb	20 06 25.7	+0.4
PAJU	**Pajala**	**3.61**	**341**	SN	Sn	20 06 25.7	+1.4
KLF	**Kolari**	**3.71**	**347**	PN	Pn	20 05 42.7	+0.5
KLF				SN	Sn	20 06 26.8	+0.2

*KOLA **20** 20:04:46.2, 67°.66N×33°.73E, h0km, ML1.6, Error ellipse: s-maj=2.7km s-min=1.2km az=130.0, Khibiny, mines Kirovsk, Yukspor*

HEL 20 20:04:46.3±0.1, 67°.64N×33°.74E, h0km, ML1.4, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.14**	**242**	P	Pg	20 04 49.0	-0.1
APA				S	Sg	20 04 51.4	+0.5
APA0	**Apatity Array**	**0.29**	**264**	P	Pg	20 04 51.2	-0.6
APA0				S	Sg	20 04 55.0	-0.5
LVZ	**Lovozero**	**0.43**	**53**	P	Pg	20 04 53.7	-0.9
LVZ				S	Sg	20 04 59.6	-0.6
LVZ	**Lovozero**	**0.43**	**53**	PG	Pg	20 04 54.1	-0.5
LVZ				SG	Sg	20 04 56.5	-3.8
KVDA	**Kovda**	**1.01**	**200**	S	Sg	20 05 17.9	-0.7
VRF	**Varrio**	**1.58**	**276**	PG	Pn	20 05 14.5	-1.0
VRF				MSG		20 05 33.7	
VRF	comp=Z,4.1nm,0.2s			SG	Sn	20 05 34.1	-2.6
TERR	**Teriberka**	**1.65**	**17**	P	Pn	20 05 15.2	-1.2
TERR				S	Sn	20 05 36.0	-2.3
PRVG	**Vayda Guba**	**2.19**	**346**	S	Sn	20 05 51.4	-0.4
RAJF	**Raja-Jooseppi**	**2.21**	**295**	PB	Pn	20 05 24.6	+0.5
RAJF				SN	Sn	20 05 50.9	-1.1
KU6	**Riekki**	**2.22**	**225**	PG	Pb	20 05 26.0	-1.3
KU6				MSG		20 05 52.1	
KU6	comp=Z,1.1nm,0.2s			SG	Sb	20 05 55.4	+0.1
KEV	**Kevo**	**3.25**	**314**	PN	Pn	20 05 38.4	0.0
KEV				SN	Sn	20 06 16.0	-1.7
ARA0	**ARCESS Array S**	**3.57**	**306**	PN	Pn	20 05 42.2	-0.6
ARA0				SN	Sn	20 06 24.9	-0.8
ARCES	**ARCESS Array B**	**3.57**	**306**	P	Pn	20 05 42.1	-0.8
ARCES				S	Sn	20 06 23.0	-2.7
HEF	**Hetta**	**3.87**	**286**	SN	Sn	20 06 32.0	-1.0
KTK1	**Kautokeino**	**4.13**	**294**	SN	Sn	20 06 38.9	-0.6
PAJU	**Pajala**	**4.16**	**266**	SN	Sn	20 06 38.6	-1.6
LANU	**Lannavaara**	**4.47**	**281**	SN	Sn	20 06 45.2	-2.5

*NIED **20** 20:09:21.8, 28°.12N×128°.02E, h10km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=1.19; $M_{\theta\theta}$=1.87; $M_{\phi\phi}$=-0.68; $M_{r\theta}$=-1.46; $M_{\theta\phi}$=0.95; $M_{\phi r}$=2.08; Fault plane solution: M_0=3.17000×10^15^ NP1: ϕ_s=286.00000°, δ=30.00000°, λ=-27.00000°. NP2: ϕ_s=40.00000°, δ=77.00000°, λ=-117.00000°.*
*JMA **20** 20:09:21.8±0.3, 28°.1N±0°.6×128°.0E±0°.8, h10km±3km, MV3.7/15, NW OFF OKINAWAJIMA IS*
*IDC **20** 20:09:22.2±0.8, 27°.91N×127°.73E, h0km, mb3.6/9, mbtmp3.7/13, ML3.2/4, MS3.5/14, Error ellipse: s-maj=26.6km s-min=13.6km az=68.0*

ISC 20 20:09:22.8±1.6, 28°.01N±0°.04×128°.07E±0°.06, h3km±11km, n37, σ1§41/33, mb3.6/10, MS3.4/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.79**	**145**	P	**Pb**	**20 09 38.8**	**-0.3**
JTK	**Tokunoshima**	**0.81**	**106**	P	**Pg**	**20 09 38.4**	**+0.1**
JTK				S	**Sb**	**20 09 50.2**	**-0.8**
JIH	**Iheya**	**0.97**	**185**	*i* P	**Pg**	**20 09 42.0**	**+0.6**
JIH				S	**Sn**	**20 09 56.3**	**-1.4**
JAMN	**Amaminishikomi**	**1.01**	**76**	*i* P	**Pg**	**20 09 41.1**	**-0.9**
JAMN				S	**Sg**	**20 09 55.0**	**-0.2**
JYRO	**Yoronjima**	**1.04**	**161**	*i* P	**Pb**	**20 09 43.2**	**-0.2**
JYRO				S	**Sn**	**20 09 58.8**	**-0.5**
JOW	**Kunigami**	**1.19**	**171**	Pn	**Pb**	**20 09 45.7**	**-0.2**
JOW	255nm,0.3s,baz=339,slow=18,SNR=151			Sn	**Sn**	**20 10 02.8**	**-0.2**
JOW	165nm,0.3s,baz=300,slow=20,SNR=17						
JOW	**Kunigami**	**1.19**	**171**	*i* P	**Pb**	**20 09 45.6**	**-0.4**
JOW				S	**Sn**	**20 10 02.7**	**-0.3**
JAM	**Amami Oshima**	**1.42**	**73**	P	**Pn**	**20 09 47.7**	**-1.7**
JNTH	**Nagotoyohara**	**1.49**	**182**	*eP*	**Pn**	**20 09 50.1**	**-0.3**
JNTH				S	**Sg**	**20 10 10.5**	**-0.1**
JTAJ	**Takarajima**	**1.52**	**41**	P	**Pn**	**20 09 48.1**	**-2.7**
JZK	**Kikaishima**	**1.71**	**79**	*eP*	**Pn**	**20 09 53.5**	**0.0**
JJT3	**Tamagusuku3**	**1.88**	**188**	*eP*	**Pb**	**20 09 57.1**	**-0.6**
JYAK	**Yakushimahirau**	**3.08**	**43**	*eP*	**Pn**	**20 10 12.9**	**+0.6**
JNU	**Nakatsue**	**5.64**	**25**	Pn	**Pn**	**20 10 50.9**	**+3.3**
	1.4nm,0.3s,baz=185,slow=12,SNR=8.8						
	31nm,0.9s						
KSRS	**Korea Array**	**9.42**	**359**	Pn	**Pn**	**20 11 40.6**	**+1.2**
	0.1nm,0.3s,baz=184,slow=16,SNR=2.1						
KSRS				LR	LR	20 15 26.9	
	comp=Z,271nm,18.1s,baz=170,slow=38						
	0.9nm,0.7s						
JHJ	**Hachijo jima 2**	**11.31**	**60**	LR	LR	20 16 17.4	
	comp=Z,92nm,18.9s,baz=274,slow=36						
MJAR	**Matsushiro Arr**	**12.08**	**43**	Pn	**Pn**	**20 12 19.8**	**+4.0**
	baz=206,slow=8.1,SNR=2.9						
MJAR				LR	LR	20 16 31.8	
	comp=Z,131nm,18.4s,baz=242,slow=35						
	1.0nm,0.6s						
JCJ	**Chichijima**	**12.56**	**91**	LR	LR	20 16 58.4	
	comp=Z,154nm,18.2s,baz=282,slow=36						
USRK	**Ussuriysk Ar.**	**16.46**	**10**	Pn	**P**	**20 13 16.7**	**-0.8**
	0.4nm,0.3s,baz=211,slow=13,SNR=4.8						
	3.3nm,0.9s						
DAV	**Davao City (W)**	**20.96**	**187**	LR	LR	20 22 31.2	
	comp=Z,73nm,18.7s,baz=322,slow=38						
KLR	**Kul'dur**	**21.38**	**7**	LR	LR	20 21 41.5	
	comp=Z,132nm,19.3s,baz=82,slow=34						
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**20 14 56.2**	**-0.8**
	1.7nm,0.8s,baz=139,slow=9.5,SNR=11						
SONM				LR	LR	20 27 45.8	
	comp=Z,137nm,19.2s,baz=350,slow=43						
	1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.34**	**257**	LR	LR	20 27 30.3	
	comp=Z,55nm,20.4s,baz=290,slow=39						
YAK	**Yakutsk**	**34.04**	**1**	LR	LR	20 29 05.5	
	comp=Z,65nm,19.1s,baz=171,slow=35						
MKAR	**Makanchi Array**	**40.26**	**310**	P	**P**	**20 16 59.4**	**-1.6**
	0.5nm,0.7s,baz=104,slow=9.2,SNR=5.9						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**40.76**	**322**	P	**P**	**20 17 03.4**	**-1.5**
	0.5nm,0.6s,baz=111,slow=7.9,SNR=2.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.48**	**315**	P	**P**	**20 17 25.5**	**-1.7**
	0.6nm,0.6s,baz=103,slow=8.1,SNR=7.4						
	0.6nm,0.6s						
NRIK	**Noril'sk**	**47.52**	**342**	LR	LR	20 39 41.3	
	comp=Z,128nm,18.2s,baz=173,slow=38						
WRA	**Warramunga Arr**	**48.05**	**172**	P	**P**	**20 18 03.7**	**+0.1**
	1.3nm,0.7s,baz=353,slow=8.0,SNR=6.3						
	1.3nm,0.7s						
HNR	**Honiara**	**48.34**	**136**	LR	LR	20 37 39.2	
	comp=Z,32nm,19.0s,baz=63,slow=35						
BVAR	**Borovoye Array**	**48.86**	**317**	P	**P**	**20 18 08.2**	**-1.4**
	0.6nm,0.7s,baz=99,slow=8.9,SNR=2.5						
BVAR				LR	LR	20 40 34.1	
	comp=Z,146nm,18.5s,baz=223,slow=38						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**51.68**	**173**	P	P	20 18 23.5	-7.8
	0.4nm,0.6s,baz=348,slow=9.5,SNR=5.4						
KDAK	**Kodiak Island**	**61.18**	**37**	LR	LR	20 48 26.5	
	comp=Z,45nm,18.2s,baz=78,slow=38						
ILAR	**Eielson Array**	**62.95**	**29**	P	**P**	**20 19 51.5**	**+1.1**
	0.7nm,1.1s,baz=286,slow=7.2,SNR=2.3						
	0.7nm,1.1s						
YKA	**Yellowknife Ar**	**76.98**	**25**	P	**P**	**20 21 17.3**	**+0.8**
	0.2nm,0.7s,baz=300,slow=5.9,SNR=5.0						
	0.2nm,0.7s						
FRB	**Frobisher Bay**	**87.61**	**7**	LR	LR	21 03 06.0	
	comp=Z,40nm,19.1s,baz=47,slow=37						
PDAR	**Pinedale Array**	**91.87**	**38**	P	**P**	**20 22 33.8**	**+0.9**
	0.2nm,0.7s,baz=313,slow=8.0,SNR=2.1						
	0.2nm,0.7s						

*NEIC **20** 20:22:45.8±1.0, 31°.12N±0°.02×103°.25W±0°.01, h3km±6km, Error ellipse: s-maj=3.3km s-min=1.3km az=181.0*

NEIC 20 20:22:46.0±1.3, 31°.10N±0°.02×103°.244W±0°.007, h5km±2km, mb_Lg3.1/69, ML3.0/66, ML3.1/7, Error ellipse: s-maj=3.8km s-min=2.9km az=190.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.39**	**324**		Sb	20 23 00.6	-1.1
MNHN	**Monahans**	**0.48**	**59**		Pg	20 22 55.8	+0.5
MNHN					Sg	20 23 02.9	+1.3
PECS	**Pecos**	**0.60**	**297**		Pg	20 22 57.4	-0.2
PECS					Sg	20 23 06.1	+0.7
PECS				IAML		20 23 14.6	
	594nm,1.1s						
PECS				IAML		20 23 15.8	
	863nm,0.7s						
ALPN	**Alpine**	**0.80**	**205**	Pg	Pg	20 23 01.3	0.0
ALPN					Sg	20 23 12.4	+0.7
ALPN				IAML		20 23 17.8	
	373nm,0.6s						
ALPN				IAML		20 23 25.6	
	470nm,0.7s						
ODSA	**Odessa**	**1.18**	**30**	Pg	Pg	20 23 08.1	-0.6
ODSA					Sb	20 23 24.5	-0.1
CLNB	**Carlsbad**	**1.28**	**335**		Pg	20 23 10.2	-0.5
CLN7	**Carlsbad 7**	**1.40**	**340**		Pb	20 23 12.6	-0.1
HTMS	**Hat Mesa**	**1.41**	**347**	Pg	Pn	20 23 12.7	+0.2
SAND	**Sanderson**	**1.49**	**139**		Pb	20 23 14.4	+0.1
SAND					Sg	20 23 35.6	+1.6
VHRN	**Van Horn**	**1.53**	**259**		Pn	20 23 14.2	+0.1
VHRN					Sg	20 23 35.0	-0.2
VHRN				IAML		20 23 40.0	
	276nm,0.7s						
VHRN				IAML		20 23 40.5	
	325nm,0.4s						
TX31	**Lajitas Ar. Si**	**1.79**	**192**	Pn	Pn	20 23 18.4	+0.6
TX31					Sg	20 23 43.4	-0.3
TXAR	**Lajitas Array**	**1.79**	**192**	Pn	Pb	20 23 19.2	-0.3
OZNA	**Ozona**	**1.83**	**95**	Pn	Pb	20 23 19.8	-0.2
OZNA					Sg	20 23 44.6	-0.2
MNTX	**Cornudas Mount**	**1.92**	**289**	Pn	Pn	20 23 19.7	+0.2
MNTX					Sb	20 23 46.5	+0.6
MNTX				IAML		20 23 48.4	
	97nm,0.8s						
SGCY	**Sterling City**	**1.98**	**65**	Pn	Pb	20 23 22.0	-0.7
SGCY					Sb	20 23 48.6	+0.8
CPRX	**Cap Rock**	**2.00**	**345**		Pn	20 23 21.8	+1.1
POST	**Post**	**2.46**	**37**		Pn	20 23 28.3	+1.4
SN05	**Snyder 5**	**2.68**	**48**	Pn	Pn	20 23 30.7	+0.8
SN05				IAmb_Lg		20 24 17.8	
	comp=Z,78nm,0.7s						
DRIO	**Del Rio**	**2.82**	**126**	Pn	Pn	20 23 33.5	+1.8
MSTX	**Muleshoe**	**2.89**	**8**		Pn	20 23 34.1	+1.3
MSTX				IAmb_Lg		20 24 21.7	
	comp=Z,45nm,0.9s						
JCT	**Junction City**	**3.02**	**101**	Pn	Pn	20 23 36.7	+2.0
DKNS	**Dickens**	**3.23**	**37**	Pn	Pn	20 23 38.6	+1.2
ABTX	**Abilene, Hawle**	**3.42**	**63**		Pn	20 23 41.6	+1.6
ABTX				IAmb_Lg		20 24 40.2	
	comp=Z,66nm,0.8s						
APMT	**Aspermont**	**3.46**	**49**	Pn	Pn	20 23 41.9	+1.3
APMT				IAmb_Lg		20 24 40.5	
	comp=Z,37nm,0.7s						
BRDY	**Brady**	**3.64**	**86**	Pn	Pn	20 23 44.7	+1.6
BRDY				IAmb_Lg		20 24 49.5	
	comp=Z,56nm,0.8s						
HNDO	**Hondo**	**3.77**	**114**		Pn	20 23 45.8	+1.0
HNDO				IAmb_Lg		20 24 55.8	
	comp=Z,59nm,0.9s						
AMTX	**Amarillo**	**4.00**	**19**	IAmb_Lg		20 25 03.7	
	comp=Z,49nm,0.8s						
CRNM	**Carthage**	**4.10**	**315**	Pn	Pn	20 23 48.1	-1.5
BNM	**Barren Site**	**4.17**	**318**		Pn	20 23 51.1	+0.5
LENM	**Lennox**	**4.39**	**315**		Pn	20 23 49.4	-4.2
PLPT	**Palo Pinto**	**4.53**	**66**	Pn	Pn	20 23 55.4	+0.1
PLPT				IAmb_Lg		20 25 19.2	
	comp=Z,26nm,0.8s						
ANMO	**Albuquerque**	**4.69**	**326**		Pn	20 23 56.6	-1.1
ANMO				IAML		20 25 17.9	
	comp=Z,19nm,0.8s						
ANMO	**Albuquerque**	**4.69**	**326**	IAmb_Lg		20 25 24.6	
	comp=Z,13nm,0.8s						
ANMO	**Albuquerque**	**4.69**	**326**	IAmb_Lg		20 25 24.6	
	comp=Z,13nm,0.8s						
ANMO	**Albuquerque**	**4.69**	**326**	IAmb_Lg		20 25 24.6	
	comp=Z,13nm,0.8s						
SMWD	**Samnorwood**	**4.72**	**31**	IAmb_Lg		20 25 22.7	
	comp=Z,51nm,0.8s						
FW07	**Weatherford**	**4.91**	**70**	IAmb_Lg		20 25 28.8	
	comp=Z,32nm,0.8s						
WHTX	**Lake Whitney,**	**5.02**	**78**	IAmb_Lg		20 25 30.7	
	comp=Z,29nm,1.0s						
FW13	**Cleburne**	**5.11**	**74**	IAmb_Lg		20 25 34.8	
	comp=Z,24nm,0.9s						
FW06	**Azle**	**5.18**	**67**	IAmb_Lg		20 25 42.6	
	comp=Z,32nm,0.9s						
WMOK	**Wichita Mounta**	**5.22**	**45**	IAmb_Lg		20 25 34.5	
	comp=Z,21nm,0.7s						
RTBA	**Rita Blanca**	**5.34**	**4**	IAmb_Lg		20 25 49.0	
	comp=Z,19nm,1.0s						
X34A	**Smith Ranch, M**	**5.74**	**51**	IAmb_Lg		20 25 59.6	
	comp=Z,31nm,0.8s						
TUC	**Tucson**	**6.54**	**283**	Pn	Pn	20 24 20.9	-2.1
OK038	**West end E0370**	**6.55**	**34**	IAmb_Lg		20 26 23.2	
	comp=Z,17nm,0.8s						
NOKA	**Waynoka**	**6.58**	**32**	IAmb_Lg		20 26 22.3	
	comp=Z,24nm,1.1s						
W35A	**Tecumseh**	**6.70**	**51**	IAmb_Lg		20 26 38.0	
	comp=Z,20nm,1.0s						
OK029	**Liberty Lake**	**6.74**	**44**	IAmb_Lg		20 26 26.9	
	comp=Z,22nm,0.8s						
MIAR	**Mount Ida**	**8.83**	**65**	IAmb_Lg		20 27 43.9	
	comp=Z,11nm,1.0s						
OGNE	**Ogallala**	**9.88**	**5**	IAmb_Lg		20 28 05.9	
	comp=Z,17nm,0.9s						

*IDC **20** 20:23:39.8±1.0, 0°.78N×29°.19W, h0km, mb4.1/8, mbtmp4.1/8, MS3.8/7, Error ellipse: s-maj=47.0km s-min=18.2km az=148.0*
*NEIC **20** 20:23:40.2±1.9, 0°.80N±0°.08×29°.36W±0°.09, h10km±2km, mb4.5/10, Error ellipse: s-maj=14.6km s-min=13.5km az=67.0*

ISC 20 20:23:40.3±0.7, 0°.8N±0°.2×29°.4W±0°.1, h12km, n46, σ0§99/37, mb4.3/14, MS3.8/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.29**	**225**		**Pn**	**20 25 53.7**	**-0.6**
SACV	**Santiago Islan**	**15.16**	**22**	Pn	**Pn**	**20 27 14.4**	**-0.1**
H10N3	**ASCENSION HYDR**	**17.13**	**120**	T	T	20 45 14.7	
	baz=299,slow=75,SNR=228						
H10N2	**ASCENSION HYDR**	**17.14**	**120**	T	T	20 45 14.9	
	baz=299,slow=75,SNR=228						
H10N1	**ASCENSION HYDR**	**17.15**	**120**	T	T	20 45 16.2	
	baz=299,slow=75,SNR=333						
H10S3	**ASCENSION HYDR**	**17.56**	**124**	T	T	20 45 47.7	
	baz=293,slow=74,SNR=171						
H10S2	**ASCENSION HYDR**	**17.58**	**124**	T	T	20 45 49.1	
	baz=287,slow=74,SNR=199						
MDP	**Montagnes des**	**23.64**	**281**	LR	LR	20 36 21.1	
	comp=Z,115nm,18.2s,baz=342,slow=32						
BDFB	**Brasilia**	**24.64**	**228**	P	**P**	**20 29 00.3**	**-0.9**
BDFB	**Brasilia**	**24.64**	**228**	P	**P**	**20 29 03.2**	**+2.0**
	2.9nm,0.7s,baz=53,slow=10,SNR=4.8						
BDFB				LR	LR	20 37 30.4	
	comp=Z,160nm,18.4s,baz=134,slow=34						
	2.9nm,0.7s						
MAL2	**Monte Alegre,**	**24.98**	**263**	P	**P**	**20 29 02.9**	**-1.3**
MAL2				IAmb	IAmb	20 29 24.7	
	comp=Z,17nm,1.1s						
DBIC	**Dimbokro**	**25.12**	**76**	P	**P**	**20 29 03.8**	**-1.6**
DBIC				IAmb	IAmb	20 29 07.6	
	comp=Z,17nm,1.1s						
DBIC	**Dimbokro**	**25.12**	**76**	P	**P**	**20 29 05.5**	**+0.1**
	comp=Z,10.0nm,0.9s,baz=256,slow=12,SNR=8.0						
	comp=Z,10.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.11**	**67**	P	**P**	**20 30 16.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**33.11**	**67**	P	**P**	**20 30 15.9**	**-0.7**
	comp=Z,69nm,0.4s,baz=260,slow=9.1,SNR=1.3						
SIV	**San Ignacio**	**35.49**	**241**	LR	LR	20 44 42.9	
	comp=Z,230nm,18.4s,baz=103,slow=36						
CPUP	**Villa Florida**	**38.16**	**223**	LR	LR	20 46 31.4	
	comp=Z,183nm,18.6s,baz=44,slow=36						
SFS	**San Fernando**	**41.45**	**29**	P	**P**	**20 31 25.9**	**-1.2**
SDV	**Santo Domingo**	**41.86**	**282**	P	**P**	**20 31 31.0**	**0.0**
SDV				IAmb	IAmb	20 31 35.0	
	comp=Z,5.7nm,0.8s						
LPAZ	**La Paz**	**41.87**	**244**	P	**P**	**20 31 30.2**	**-1.3**
LPAZ	**La Paz**	**41.87**	**244**	P	**P**	**20 31 34.2**	**+2.7**
	comp=Z,1.7nm,0.7s,baz=92,slow=2.8,SNR=6.2						
LPAZ				LR	LR	20 48 06.1	
	comp=Z,85nm,21.5s,baz=84,slow=35						
	comp=Z,1.7nm,0.7s						
PCDR	**Punta Cana, DR**	**42.13**	**297**	P	**P**	**20 31 31.4**	**-1.5**
ESDC	**Sonseca Array**	**45.08**	**28**	P	**P**	**20 31 56.7**	**+0.3**
ESDC	**Sonseca Array**	**45.08**	**28**	P	**P**	**20 31 57.9**	**+1.5**
	comp=Z,2.2nm,1.0s,baz=223,slow=7.2,SNR=7.9						
	comp=Z,2.2nm,1.0s						
ATAH	**Atahualpa**	**49.55**	**260**	LR	LR	20 52 59.1	
	comp=Z,99nm,19.0s,baz=46,slow=35						
GEC2	**GERESS Array S**	**60.44**	**31**	P	**P**	**20 33 50.3**	**+0.3**
GEC2				IAmb	IAmb	20 33 51.6	
	comp=Z,4.1nm,1.0s						
GERES	**GERESS Array B**	**60.44**	**31**	P	**P**	**20 33 48.9**	**-1.1**
GERES	**GERESS Array B**	**60.44**	**31**	P	**P**	**20 33 50.8**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=220,slow=5.9,SNR=7.3						
	comp=Z,1.1nm,0.8s						
NIE	**Niedzica**	**64.31**	**34**	P	**P**	**20 34 16.0**	**+0.2**
	comp=Z,2.1nm,1.1s						
BRIU	**Brid**	**65.30**	**36**	P	**P**	**20 34 22.6**	**+0.4**
MLR	**Muntele Rosu**	**65.77**	**39**	P	**P**	**20 34 25.4**	**-0.1**
	comp=Z,7.5nm,1.7s						
MLR				pP	**PcP**	**20 34 56.8**	**+0.2**
	comp=Z,7.5nm,1.7s						
ODBI	**Odobesti**	**66.59**	**39**	P	**P**	**20 34 30.6**	**+0.1**
	comp=Z,699nmcomp=Z,9.9nm,0.9s						
KMPD	**K-Podol'skiy**	**67.43**	**37**	P	**P**	**20 34 36.1**	**+0.3**
LUBAR	**Lubar, Ukraine**	**68.79

BRY	**Bratogost**	**0.88**	**93**	⇑iPg	**Pg**	**20 33 45.7**	**-1.3**
BRY	**Bratogost**	**0.88**	**93**	⇑iPg	**Pg**	**20 33 45.8**	**-1.3**
BRY				*i* Sg	**Sb**	20 33 59.3	-0.3
KLINJ	**Klinje**	**0.93**	**76**	⇓iPg	**Pg**	**20 33 46.7**	**-1.4**
KLINJ				*e*Sg	**Sg**	20 34 00.1	-0.1
HCY	**Herceg Novi**	**0.99**	**121**	*e*Pg	**Pg**	**20 33 48.5**	**-0.7**
HCY				*e*Sg	**Sb**	20 34 02.5	-0.2
HCY	**Herceg Novi**	**0.99**	**121**	⇑iPg	**Pg**	**20 33 48.4**	**-0.7**
HCY				*i* Sg	**Sb**	20 34 02.7	0.0
HCY	**Herceg Novi**	**0.99**	**121**	⇑iPg	**Pg**	**20 33 48.4**	**-0.7**
HCY				*i* Sg	**Sn**	20 34 04.0	-0.4
UPM	**Unac-Piva**	**1.17**	**77**	⇑iPg	**Pg**	**20 33 51.1**	**-1.5**
UPM				*e*Sg	**Sg**	20 34 07.8	+0.1
UPM	**Unac-Piva**	**1.17**	**77**	⇓iPg	**Pg**	**20 33 51.4**	**-1.2**
UPM				*i* Sg	**Sn**	20 34 09.1	-0.1
NKME	**Niksic**	**1.20**	**99**	⇓iPg	**Pb**	**20 33 51.8**	**-1.3**
NKME				*i* Sg	**Sn**	20 34 10.1	+0.4
CEME	**Cevo**	**1.23**	**109**	⇓iPg	**Pb**	**20 33 52.1**	**-1.5**
CEME				*i* Sg	**Sn**	20 34 11.4	+0.9
KIJV	**Kijevo**	**1.25**	**327**	*e*Pg	**Pn**	20 33 52.5	-1.5
BUM	**Brajici-Budva**	**1.32**	**119**	⇓iPg	**Pn**	20 33 54.1	-0.8
BUM				*i* Sg	**Sn**	20 34 13.8	+1.1
BUM	**Brajici-Budva**	**1.32**	**119**	⇓iPg	**Pn**	20 33 54.1	-0.8
BUM				*i* Sg	**Sn**	20 34 14.7	+2.0
ZIRJ	**Zirje**	**1.43**	**300**	*e*Pn	**Pn**	20 33 55.8	-0.6
ZIRJ				Sg	**Sb**	20 34 15.3	0.0
PDG	**Podgorica**	**1.50**	**110**	⇑iPg	**Pb**	20 33 58.1	-0.2
PDG				*e*Sg	**Sg**	20 34 18.4	0.0
PDG	**Podgorica**	**1.50**	**110**	⇓P	**Pb**	20 33 58.4	+0.2
PDG				⇑S	**Sg**	20 34 19.2	+0.8
PDG	**Podgorica**	**1.50**	**110**	*e*Pg	**Pb**	20 33 57.9	-0.4
PDG				*e*Sg	**Sg**	20 34 18.8	+0.4
PDG	**Podgorica**	**1.50**	**110**	⇑iPn	**Pb**	20 33 58.0	-0.2
PDG				*i* Sn	**Sg**	20 34 19.7	+1.3
PDG	**Podgorica**	**1.50**	**110**	⇑iPg	**Pb**	20 33 58.0	-0.2
PDG				*i* Sg	**Sg**	20 34 19.7	+1.3
PLE	**Pljevlja**	**1.54**	**75**	⇓iPn	**Pn**	20 33 58.0	0.0
PLE				*i* Sn	**Sg**	20 34 19.7	0.0
PLE	**Pljevlja**	**1.54**	**75**	⇓iPg	**Pn**	20 33 58.0	0.0
PLE				*i* Sg	**Sg**	20 34 19.7	0.0
DRME	**Dracevica, Mon**	**1.56**	**119**	*e*Pn	**Pn**	20 33 58.8	+0.6
DRME				*e*Sn	**Sb**	20 34 19.3	+0.1
DRME	**Dracevica, Mon**	**1.56**	**119**	⇑iPn	**Pn**	20 33 58.6	+0.4
DRME				*i* Sn	**Sg**	20 34 21.3	+1.0
DRME	**Dracevica, Mon**	**1.56**	**119**	⇑iPg	**Pn**	20 33 58.6	+0.4
DRME				*i* Sg	**Sg**	20 34 21.3	+1.0
KOME	**Kolasin**	**1.60**	**93**	⇑iPn	**Pb**	20 33 59.5	-0.5
KOME				*i* Sn	**Sg**	20 34 22.9	+1.4
KOME	**Kolasin**	**1.60**	**93**	⇑iPg	**Pb**	20 33 59.5	-0.5
KOME				*i* Sg	**Sg**	20 34 21.9	+0.4
RUDO	**Rudo**	**1.62**	**65**	*e*Pn	**Pb**	20 33 59.7	-0.6
RUDO				*e*Sn	**Sb**	20 34 21.1	+0.3
HAPS	**Han Pijesak,Bl**	**1.62**	**45**	⇑iPn	**Pb**	20 34 00.2	-0.2
HAPS				*e*Sn	**Sb**	20 34 21.6	+0.5
HAPS	**Han Pijesak,Bl**	**1.62**	**45**	*e*Pg	**Pb**	20 34 00.2	-0.2
HAPS				*e*Sg	**Sg**	20 34 23.2	+0.9
A050A	**Klekovaca**	**1.63**	**339**	⇑iPn	**Pb**	20 34 00.8	+0.2
A050A				*e*Sn	**Sg**	20 34 22.4	-0.3
ULC	**Ulcinj**	**1.72**	**125**	⇓iPn	**Pn**	20 34 01.0	+0.6
ULC				*i* Sn	**Sg**	20 34 25.8	+0.4
ULC	**Ulcinj**	**1.72**	**125**	⇓iPn	**Pn**	20 34 01.0	+0.6
ULC				*i* Sn	**Sg**	20 34 24.7	-0.7
BBLS	**Lazi&#263i**	**1.75**	**58**	⇑iPn	**Pb**	20 34 02.2	-0.4
BBLS				*e*Sn	**Sb**	20 34 24.7	-0.1
BBLS	**Lazi&#263i**	**1.75**	**58**	*e*Pn	**Pb**	20 34 02.3	-0.4
BBLS				*e*Sn	**Sb**	20 34 25.5	+0.7
BLY	**Banja Luka**	**1.79**	**356**	⇑iPn	**Pb**	20 34 02.9	-0.4
BLY				*e*Sn	**Sb**	20 34 26.1	+0.2
BLY	**Banja Luka**	**1.79**	**356**	*e*Pg	**Pb**	20 34 03.1	-0.2
BLY				*e*Sg	**Sb**	20 34 26.6	+0.7
DOB	**Doboj**	**1.86**	**17**	*e*Pn	**Pn**	20 34 02.5	+0.2
DOB				*e*Sn	**Sn**	20 34 26.8	+0.9
IVA	**Berane**	**1.87**	**92**	⇓iPn	**Pn**	20 34 03.1	+0.5
IVA				*i* Sn	**Sg**	20 34 29.9	-0.4
IVA	**Berane**	**1.87**	**92**	⇓iPn	**Pn**	20 34 03.1	+0.5
IVA				*i* Sn	**Sb**	20 34 28.1	-0.1
UDBI	**Udbina**	**1.94**	**324**	*e*Pn	**Pn**	20 34 04.5	+0.9
SJES	**Sjenica**	**1.95**	**80**	⇑iPn	**Pb**	20 34 05.1	-0.9
SJES				*e*Sn	**Sn**	20 34 29.1	+0.8
SJES	**Sjenica**	**1.95**	**80**	*e*Pn	**Pb**	20 34 05.0	-0.9
SJES				*e*Sn	**Sb**	20 34 30.4	0.0
PVY	**Plav**	**1.96**	**100**	⇑iPn	**Pn**	20 34 04.2	+0.4
PVY				*i* Sn	**Sg**	20 34 32.0	-1.0
PVY	**Plav**	**1.96**	**100**	⇑iPn	**Pn**	20 34 04.2	+0.4
PVY				*i* Sn	**Sb**	20 34 30.4	-0.3
DUGI	**Dugi Otok**	**1.96**	**303**	*e*Pn	**Pn**	20 34 04.2	+0.4
PRIJ	**Prijedor**	**2.07**	**347**	*e*Pn	**Pn**	20 34 05.6	+0.4
PRIJ				*e*Sn	**Sn**	20 34 31.9	+0.8
A051A	**Mrakovica**	**2.08**	**351**	⇑iPn	**Pb**	20 34 06.9	-1.3
A051A				*e*Sn	**Sn**	20 34 32.3	+0.8
VIRC	**Vir**	**2.13**	**309**	*e*Pn	**Pn**	20 34 06.9	+0.9
DIVS	**Divibare**	**2.23**	**58**	*e*Pn	**Pn**	20 34 08.3	+0.7
DIVS				*e*Sn	**Sn**	20 34 36.7	+1.3
TEKS	**Tekeris**	**2.24**	**44**	⇑iPn	**Pn**	20 34 07.9	+0.3
TEKS				*e*Sn	**Sn**	20 34 36.8	+1.3
TEKS	**Tekeris**	**2.24**	**44**	*e*Pn	**Pn**	20 34 07.8	+0.2
TEKS				*e*Sn	**Sn**	20 34 36.7	+1.3
PLIT	**Plitvice**	**2.29**	**328**	*e*Pn	**Pn**	20 34 08.9	+0.7
MATE	**Matera**	**2.36**	**192**	⇑P	**Pb**	20 34 12.5	-0.4
MATE				⇓S	**Sb**	20 34 41.6	-0.4
NVLJ	**Novalja**	**2.41**	**313**	*e*Pn	**Pn**	20 34 10.4	+0.5
TRUS	**Trudelj**	**2.56**	**59**	*e*Pn	**Pn**	20 34 12.6	+0.7
RABC	**Rab**	**2.58**	**315**	*e*Pn	**Pn**	20 34 12.8	+0.6
GRUS	**Gruza**	**2.62**	**68**	*e*Pn	**Pn**	20 34 13.5	+0.8
GRUS				*e*Sn	**Sn**	20 34 46.4	+1.6
GOCS	**Kraljevo Serbi**	**2.65**	**76**	*e*Pn	**Pn**	20 34 14.2	+1.0
GOCS				*e*Sn	**Sn**	20 34 46.9	+1.4
MOSL	**Moslavina**	**2.69**	**351**	*e*Pn	**Pn**	20 34 14.3	+0.5
SELS	**Selova**	**2.77**	**83**	*e*Pn	**Pn**	20 34 15.7	+0.8
FRGS	**Fruska Gora**	**2.83**	**38**	*e*Pn	**Pn**	20 34 15.8	+0.2
FRGS				*e*Sn	**Sn**	20 34 51.3	+1.4
FRGS	**Fruska Gora**	**2.83**	**38**	*e*Pn	**Pn**	20 34 15.5	-0.1
FRGS				*e*Sn	**Sn**	20 34 50.2	+0.3
AVAS	**Avala Beograd**	**2.87**	**52**	*e*Pn	**Pn**	20 34 16.3	0.0
AVAS				*e*Sn	**Sn**	20 34 51.2	+0.1
BOJS	**Bojanci**	**2.96**	**330**	*e*Pn	**Pn**	20 34 18.3	+0.9
BOJS				*e*Sn	**Sn**	20 34 53.6	+0.5
SVIS	**Svilajnac**	**3.10**	**64**	*e*Sn	**Sn**	20 34 55.7	-0.8
PTJ	**Puntijarka**	**3.11**	**342**	*e*Pn	**Pn**	20 34 20.3	+0.7
OHR	**Ohrid**	**3.16**	**125**	*i* Pn	**Pn**	20 34 22.3	+2.0
OHR	**Ohrid**	**3.16**	**125**	*e*Pn	**Pn**	20 34 22.3	+1.7
KALN	**Kalnik**	**3.24**	**349**	*e*Pn	**Pn**	20 34 21.8	+0.6
BOVS	**Bovan**	**3.25**	**77**	⇓P	**Pn**	20 34 22.8	+1.4
BOVS				⇓S	**Sn**	20 35 01.2	+0.9
BOVS	**Bovan**	**3.25**	**77**	*e*Pn	**Pn**	20 34 22.6	+1.1
BOVS				*e*Sn	**Sn**	20 35 01.0	+0.7
BARS	**Barje**	**3.29**	**91**	*e*Pn	**Pn**	20 34 22.6	+0.7
MORH	**Mrgy, Hungar**	**3.38**	**15**	⇓P	**Pn**	20 34 23.6	+0.4
MORH				⇑S	**Sn**	20 35 03.0	-0.6
KUBS	**Kucevo**	**3.46**	**64**	*e*Pn	**Pn**	20 34 23.5	-0.8
CEY	**Cerknica**	**3.48**	**324**	*e*Pn	**Pn**	20 34 25.3	+0.7
CEY				*e*Sn	**Sn**	20 35 06.9	+0.9
KOGS	**Kog**	**3.58**	**348**	*i* Pn	**Pn**	20 34 27.0	+1.1
BORS2	**Bor- Borsko je**	**3.58**	**70**	*e*Pn	**Pn**	20 34 25.2	-0.8
VRSS	**Vrsac**	**3.59**	**52**	*e*Pn	**Pn**	20 34 26.4	+0.3
VRSS				*e*Sn	**Sn**	20 35 08.1	-0.6
MDVR	**Moldovita**	**3.64**	**58**	⇑P	**Pn**	20 34 27.6	+0.7
MDVR				⇑S	**Sn**	20 35 10.5	+0.4
MDVR	**Moldovita**	**3.64**	**58**	*e*Pn	**Pn**	20 34 27.3	+0.4
ZAGS	**Zajecar**	**3.66**	**75**	*e*Pn	**Pn**	20 34 27.4	+0.3
FNA	**Florina**	**3.71**	**124**	*e*Pn	**Pn**	20 34 28.8	+1.0
GROS	**Grobnik**	**3.74**	**340**	*e*Pn	**Pn**	20 34 29.1	+0.9
BOSS	**Bosilegrad**	**3.81**	**95**	*e*Pn	**Pn**	20 34 29.0	-0.1
BOSS				*e*Sn	**Sn**	20 35 13.5	-0.6
CRNS	**Crni Vrh**	**3.82**	**326**	*e*Pn	**Pn**	20 34 30.1	+0.8
ZAPS	**Zavoj**	**3.88**	**84**	*e*Pn	**Pn**	20 34 31.4	+1.2
ZAPS				*e*Sn	**Sn**	20 35 16.4	+0.5
BLKB	**Belogradchik**	**3.94**	**78**	⇑S	**Sn**	20 35 19.0	+1.5
VOJS	**Vojsko**	**3.95**	**322**	*i* Pn	**Pn**	20 34 31.4	+0.3
BZS	**Buzias**	**4.06**	**48**	⇓P	**Pn**	20 34 32.7	+0.2
BZS				⇑S	**Sn**	20 35 20.2	0.0
BZS	**Buzias**	**4.06**	**48**	*e*Pn	**Pn**	20 34 32.6	+0.1
SOKA	**Soboth**	**4.07**	**337**	*i* Pn	**Pn**	20 34 34.2	+1.5
	5.2nm,0.2s,SNR=5.4						
OBKA	**Obir**	**4.07**	**332**	*e*Pn	**Pn**	20 34 34.2	+1.4
	1.8nm,0.1s,SNR=6.0						
OBKA	**Obir**	**4.07**	**332**	⇑iPn	**Pn**	20 34 33.3	+0.5
OBKA				*e*Sn	**Sn**	20 35 20.2	-0.5
HERR	**Herculane**	**4.13**	**61**	⇓P	**Pn**	20 34 34.6	+1.0
HERR				⇑S	**Sn**	20 35 22.6	+0.5
RMGR	**Halanga-Turnu**	**4.23**	**64**	⇑S	**Sn**	20 35 25.9	+1.6
VTS	**Vitosha**	**4.35**	**92**	*e*Pn	**Pn**	20 34 37.4	+0.8
VTS				*e*Sn	**Sn**	20 35 26.1	-1.4
SURR	**Surduc**	**4.42**	**49**	⇓P	**Pn**	20 34 37.7	+0.2
SURR				⇑S	**Sn**	20 35 28.8	-0.4
ARSA	**Arzberg**	**4.48**	**344**	*i* Pn	**Pn**	20 34 39.8	+1.4
	9.3nm,0.2s,SNR=23						
ARSA				*e*Sn	**Sn**	20 35 30.6	-0.1
	5.8nm,0.3s						
SIRR	**Siria**	**4.52**	**41**	⇑P	**Pn**	20 34 39.0	+0.1
SIRR				⇑S	**Sn**	20 35 31.9	+0.3
MYKA	**Terra Mystica**	**4.52**	**326**	*e*Pn	**Pn**	20 34 39.8	+0.8
	1.7nm,0.3s						
MYKA				*e*Sn	**Sn**	20 35 33.7	+2.0
	4.3nm,0.3s						
SRE	**Strehaia**	**4.57**	**66**	⇓P	**Pn**	20 34 40.8	+1.2
GZR	**Gura Zlata**	**4.60**	**56**	⇓P	**Pn**	20 34 41.3	+1.3
GZR				⇑S	**Sn**	20 35 33.4	-0.3
RONA	**Rosalia, Austr**	**4.80**	**351**	*i* Pn	**Pn**	20 34 43.8	+1.0
	9.0nm,0.3s,SNR=20						
RONA				*e*Sn	**Sn**	20 35 38.1	-0.4
	10nm,0.4s						
DEV	**Deva**	**4.94**	**52**	⇑P	**Pn**	20 34 45.9	+1.3
CONA	**Conrad Observa**	**5.08**	**349**	*i* Pn	**Pn**	20 34 48.2	+1.6
	5.3nm,0.3s,SNR=15						
CONA				*i* Sn	**Sn**	20 35 46.6	+1.1
	15nm,0.4s						
ABTA	**Abfaltersbach**	**5.12**	**319**	*e*Pn	**Pn**	20 34 47.6	+0.4
	1.2nm,0.2s						
ABTA				*e*Sn	**Sn**	20 35 48.7	+2.3
	3.6nm,0.3s						
ABTA				*e*Sg	**Sg**	20 36 17.9	+3.5
	20nm,0.6s						
PSZ	**Piszkesteto**	**5.27**	**19**	⇓P	**Pn**	20 34 49.8	+0.5
PSZ				⇓S	**Sn**	20 35 48.8	-1.5
MOA	**Molln**	**5.35**	**337**	*i* Pn	**Pn**	20 34 48.5	-1.8
	3.2nm,0.2s,SNR=6.9						
MOA	**Molln**	**5.35**	**337**	*e*Pn	**Pn**	20 34 48.1	-2.2
DRGR		**5.40**	**43**	⇓P	**Pn**	20 34 51.5	+0.4
DRGR				⇓S	**Sn**	20 35 53.5	0.0
DRGR		**5.40**	**43**	*e*Pn	**Pn**	20 34 51.2	+0.1
BIOA	**Bad Ischl, Aus**	**5.41**	**332**	*i* Pn	**Pn**	20 34 52.6	+1.5
	6.8nm,0.3s,SNR=7.7						
MODS	**Modra-Piesok**	**5.42**	**359**	*e*PN	**Pn**	20 34 52.8	+1.6
MODS				*e*SN	**Sn**	20 35 51.7	-2.0
MARR	**Marisel-Cluj**	**5.54**	**46**	⇑P	**Pn**	20 34 53.7	+0.8
MARR				⇑S	**Sn**	20 35 56.9	+0.1
LESA	**Schwarzleotal**	**5.55**	**325**	*e*Pn	**Pn**	20 34 53.8	+0.7
	2.9nm,0.2s						
HUMR	**Humele**	**5.75**	**72**	⇑S	**Sn**	20 36 02.6	+0.7
ARR	**Arges**	**5.77**	**63**	⇓P	**Pn**	20 34 57.1	+1.0
ARR				⇓S	**Sn**	20 36 05.1	+2.7
WTTA	**Wattenberg**	**5.90**	**319**	*e*Pn	**Pn**	20 34 59.3	+1.2
	1.7nm,0.2s						
WTTA				*e*Sn	**Sn**	20 36 07.6	+1.6
	8.3nm,0.4s						
JAVC	**Velka Javorina**	**5.91**	**2**	*e*PN	**Pn**	20 35 00.2	+2.2
JAVC				*e*SN	**Sn**	20 36 07.2	+1.4
KECS	**Kecovo**	**5.95**	**21**	*e*PN	**Pn**	20 35 00.3	+1.8
KECS				*e*SN	**Sn**	20 36 05.7	-1.0
WATA	**Walderalm**	**5.98**	**319**	*e*Pn	**Pn**	20 35 00.5	+1.3
	1.1nm,0.2s						
VOIR		**6.07**	**63**	⇑P	**Pn**	20 35 01.8	+1.6
VOIR				⇑S	**Sn**	20 36 12.5	+2.7
SQTA	**Sankt Quirin**	**6.09**	**317**	*e*Pn	**Pn**	20 35 02.0	+1.5
	1.5nm,0.2s						
SQTA				*e*Sn	**Sn**	20 36 09.8	-0.5
	6.8nm,0.4s						
KRUC	**Moravsky**	**6.14**	**354**	*e*PN	**Pn**	20 35 02.9	+1.8
KRUC				*e*SN	**Sn**	20 36 10.0	-1.5
FETA	**Feichten**	**6.21**	**313**	*e*Pn	**Pn**	20 35 06.5	+4.3
	0.9nm,0.4s						
CKRC	**Cesky Krumlov**	**6.23**	**341**	*e*PN	**Pn**	20 35 03.8	+1.4
CKRC				*e*SN	**Sn**	20 36 12.8	-1.0
LANS	**Liptovska Anna**	**6.37**	**13**	*e*PN	**Pn**	20 35 08.5	+4.2
VRAC	**Vranov**	**6.37**	**356**	Pn	**Pn**	20 35 04.8	+0.5
	0.4nm,0.3s,baz=180,slow=9.1,SNR=1.8						
VRAC				Sn	**Sn**	20 36 15.3	-2.0
	1.4nm,0.3s,baz=135,slow=2.9,SNR=6.8						
VRAC	**Vranov**	**6.37**	**356**	*e*SN	**Sn**	20 36 17.2	-0.1
GERES	**GERESS Array B**	**6.41**	**338**	Pn	**Pn**	20 35 05.9	+0.9
	0.1nm,0.3s,baz=151,slow=13,SNR=18						
GERES				Sn	**Sn**	20 36 16.2	-2.1
	0.2nm,0.3s,baz=151,slow=23,SNR=9.3						
	1.2nm,0.4s						
MAUC	**Maruska**	**6.42**	**3**	*e*PN	**Pn**	20 35 07.8	+2.8
MAUC				*e*SN	**Sn**	20 36 18.1	-0.3
TREC	**Trest**	**6.47**	**349**	*e*SN	**Sn**	20 36 19.4	-0.2
RETA	**Reutte**	**6.49**	**317**	*i* Pn	**Pn**	20 35 08.5	+2.5
	0.7nm,0.2s						
RETA				*i* Sn	**Sn**	20 36 20.1	-0.1
	3.6nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.54**	**308**	Pn	**Pn**	20 35 06.7	-0.1
	0.8nm,0.3s,baz=135,slow=20						
DAVOX				Sn	**Sn**	20 36 21.5	-0.1
	0.4nm,0.3s,baz=127,slow=20,SNR=1.6						
MLR	**Muntele Rosu**	**6.67**	**65**	Pn	**Pn**	20 35 12.1	+3.5
	0.2nm,0.3s,baz=162,slow=13,SNR=4.1						
MLR				Sn	**Sn**	20 36 27.6	+2.8
	0.3nm,0.3s,baz=253,slow=19,SNR=2.5						
	0.7nm,0.5s						
MLR	**Muntele Rosu**	**6.67**	**65**	⇑P	**Pn**	20 35 08.7	+0.1
MLR				⇓S	**Sn**	20 36 27.2	+2.3
KHC	**Kasperske Hory**	**6.71**	**338**	*e*PN	**Pn**	20 35 10.1	+1.1
KHC				*e*SN	**Sn**	20 36 24.7	-0.8
MORC	**Moravsky Berou**	**6.82**	**1**	*e*PN	**Pn**	20 35 11.8	+1.3
MORC				*e*SN	**Sn**	20 36 27.0	-1.3
MORC	**Moravsky Berou**	**6.82**	**1**	⇓P	**Pn**	20 35 11.1	+0.6
MORC				⇓S	**Sn**	20 36 27.3	-1.0
ZVC	**Zvikov**	**6.84**	**342**	*e*PN	**Pn**	20 35 13.3	+2.5
STEB	**Steborice**	**6.98**	**2**	*e*SN	**Sn**	20 36 30.7	-1.6
CLL	**Collm**	**8.86**	**342**	*e*Pn	**Pn**	20 35 42.0	+3.6
CLL				*e*Sb	Sn	20 37 46.0	+28
ESDC	**Sonseca Array**	**16.34**	**266**	Pn	**P**	**20 37 22.5**	**-0.3**
	0.1nm,0.3s,baz=80,slow=16,SNR=2.5						
	0.5nm,0.8s						
HFS	**Hagfors**	**17.34**	**354**	P	**Pn**	**20 37 31.8**	**-0.6**
	0.2nm,0.3s,baz=171,slow=13,SNR=4.4						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**19.24**	**13**	P	**P**	**20 37 53.6**	**-1.0**
	0.1nm,0.3s,baz=188,slow=9.4,SNR=7.0						
	2.6nm,0.8s						

IDC 20 20:45:42.2±2.1, 31°.25S×178°.75W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=60.3km s-min=37.1km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.43**	**268**	P	P	20 53 38.8	-0.2
	0.7nm,0.8s,baz=112,slow=8.0,SNR=6.2						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**43.49**	**273**	P	P	20 53 47.5	-0.1
	0.8nm,0.5s,baz=115,slow=8.1,SNR=7.3						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**58.86**	**180**	P	P	20 55 42.6	0.0
	0.9nm,0.8s,baz=46,slow=1.6,SNR=6.8						
	0.9nm,0.8s						
FINES	**FINESS Array B**	**145.71**	**339**	PKPbc	PKPdf	21 05 21.4	-0.5
	2.4nm,0.8s,baz=41,slow=4.4,SNR=7.0						

NDI ***20*** *20:52:00.0, 31°.02N×69°.81E, h10km, mb4.7, ML4.4, mb4.6(NEIC)*

IDC ***20*** *20:52:01.1±0.5, 30°.98N×70°.07E, h0km, mb4.4/27, mbtmp4.4/29, ML2.9/2, MS4.0/61, Error ellipse: s-maj=12.0km s-min=10.7km az=133.0*

NEIC ***20*** *20:52:03.6±1.5, 31°.0N±0°.1×70°.07E±0°.09, h10km±1km, mb4.6/66, Error ellipse: s-maj=17.5km s-min=12.3km az=196.0*

MOS ***20*** *20:52:06.6±1.2, 31°.22N×70°.10E, h14km, mb4.9/74, MS4.0/7, Error ellipse: s-maj=5.1km s-min=3.1km az=100.7*

BJI ***20*** *20:52:10.2, 31°.36N×70°.55E, h40km, mB4.7/14, mb4.5/53, Ms4.4/40, Ms7 4.1/39*

ISC 20 20:52:02.6±0.3, 30°.94N±0°.03×70°.13E±0°.03, h10km, n502, σ1§51/518, **mb4.6**/150, **MS4.0**/79, **29C-12D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRGN	**SRI GANGA NAGA**	**3.40**	**106**	*e*P	Pn	20 52 45.7	-10
SRGN				*e*S	Sn	20 53 21.0	-15
KBL	**Kabul**	**3.71**	**346**	Pn	**Pn**	**20 53 00.9**	**+0.7**
KBL				Sn	**Sn**	**20 53 40.1**	**-4.0**
KBL	**Kabul**	**3.71**	**346**	Pn	**Pn**	**20 53 01.7**	**+1.5**
	SNR=44						
KBL				Sn	**Sn**	**20 53 46.7**	**+2.6**
KBL	**Kabul**	**3.71**	**346**	P	**Pn**	**20 53 00.9**	**+0.7**
KBL				S	**Sn**	**20 53 37.0**	**-7.1**
NIL	**Nilore**	**3.79**	**44**		**Pn**	**20 53 02.3**	**+1.2**
NIL	**Nilore**	**3.79**	**44**	Pn	**Pn**	**20 53 03.2**	**+2.1**
NIL	**Nilore**	**3.79**	**44**	P	**Pn**	**20 53 02.3**	**+1.2**
BKNR	**BIKANER**	**4.00**	**136**	*e*P	**Pn**	**20 53 05.4**	**+1.5**
BKNR				*e*S	**Sn**	**20 53 54.9**	**+4.1**
BKNR				IAML		20 54 21.4	
	comp=N,2μm,1.0s						
BKNR				IAML		20 54 21.8	
	comp=E,2μm,0.8s						
JASL	**Jaisalmer**	**4.05**	**170**	*e*P	**Pn**	**20 53 05.9**	**+1.1**
JASL				*e*S	**Sn**	**20 53 53.3**	**+1.0**
JASL				*e*S	**Sb**	**20 53 58.3**	**-4.9**
JASL				IAML		20 54 27.6	
	comp=E,852nm,0.7s						
JASL				IAML		20 54 33.0	
	comp=E,1μm,0.6s						
JMU	**Jammu**	**4.43**	**65**	*e*P	**Pn**	**20 53 11.3**	**+1.4**
JMU				*e*S	**Sn**	**20 54 04.0**	**+2.4**
JMU				IAML		20 54 47.0	
	comp=E,2μm,1.1s						
JMU				IAML		20 54 48.2	
	comp=E,2μm,1.7s						
THN	**Thein Dam**	**4.99**	**71**	*e*P	**Pn**	**20 53 19.2**	**+1.6**
THN				*e*S	**Sn**	**20 54 15.3**	**-0.1**
THN				IAML		20 54 49.6	
	comp=E,769nm,0.8s						
SRNI	**Srinagar**	**5.09**	**50**	*e*P	**Pn**	**20 53 21.1**	**+2.3**
BHK	**Bhakra**	**5.41**	**83**	*e*P	**Pn**	**20 53 25.8**	**+2.4**
BHK				*e*S	**Sn**	**20 54 25.1**	**-0.7**
BHK				IAML		20 54 34.5	
	comp=E,556nm,0.3s						
BHK				IAML		20 54 54.6	
	comp=E,620nm,0.6s						
RTK	**Rohtak**	**5.77**	**108**	*e*P	**Pn**	**20 53 29.0**	**+0.7**
RTK				*e*S	**Sn**	**20 54 33.5**	**-1.1**
RTK				IAML		20 54 37.6	
	comp=E,422nm,0.4s						
RTK				IAML		20 54 38.2	
	comp=N,589nm,0.5s						
KUDL	**Kundal**	**6.20**	**115**	*e*P	**Pn**	**20 53 34.8**	**+0.6**
KUDL				*e*S	**Sn**	**20 54 43.2**	**-2.0**
KUDL				IAML		20 54 43.5	
	comp=E,124nm,0.7s						
KUDL				*e*S	Sb	20 54 46.4	-19
KUDL				IA

ALBI *e*S Sn 20 56 53.5 -7.6
UCH Uchtor 11.81 16 P **Pn 20 54 51.3 -0.2**
SNR=9.8
JASK Jask - Hormozg 11.91 248 Pn **Pn 20 54 54.1 +1.5**
AKL Akola 11.92 147 *e*P **Pn 20 54 52.2 -0.5**
AKL *e*S **Sn 20 57 01.0 -4.9**
DZA Taraz 11.97 4 *e*P **Pn 20 54 52.9 -0.4**
DZA Taraz 11.97 4 *e*P **Pn 20 54 53.0 -0.4**
EKS2 Erkin-Say 12.06 13 P **Pn 20 54 53.7 -0.9**
SNR=51
BRLS Borolday 12.07 359 *e*P **Pn 20 54 51.1 -3.6**
BRLS pmax pmax
comp=Z,8.0nm,1.1s
BRLS Borolday 12.07 359 *e*P **Pn 20 54 51.1 -3.6**
comp=Z,8.5nm,1.1s
KK31 Karatay Array 12.15 1 Pn **Pn 20 54 54.0 -1.7**
KK31 Karatay Array 12.15 1 P **Pn 20 54 54.0 -1.7**
KKAR Karatay Array 12.15 1 **Pn 20 54 54.2 -1.6**
KKAR Karatay Array 12.15 1 **Pn 20 54 53.8 -2.0**
KKAR Karatay Array 12.15 1 P **Pn 20 54 53.8 -2.0**
AAK Ala-Archa 12.19 15 Pn **Pn 20 54 55.2 -1.2**
AAK Ala-Archa 12.19 15 Pn **Pn 20 54 55.7 -0.7**
comp=Z,45nm,0.8s,baz=199,slow=13,SNR=102
AAK Sn **Sn 20 57 12.0 -0.5**
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=3.7
AAK LR LR 21 00 13.9
comp=Z,2μm,18.4s,baz=204,slow=40
AAK Ala-Archa 12.19 15 Pn **Pn 20 54 56.1 -0.3**
AAK Pn **Pn 20 54 56.1 -0.3**
AAK Sn **Sn 20 57 11.7 -0.8**
AAK Sn **Sn 20 57 11.7 -0.8**
AAK Ala-Archa 12.19 15 P **Pn 20 54 55.9 -0.6**
SNR=87
AAK Ala-Archa 12.19 15 *i*P **Pn 20 54 55.6 -0.9**
AAK Ala-Archa 12.19 15 P **Pn 20 54 55.6 -0.9**
ULHL Ulahol 12.31 22 P **Pn 20 54 57.5 -0.5**
SNR=11
KBK Karagaybulak 12.32 17 P **Pn 20 54 59.5 +1.3**
SNR=32
FRU1 Bishkek 12.38 16 **Pn 20 54 58.5 -0.5**
FRU1 Bishkek 12.38 16 P **Pn 20 54 58.5 -0.5**
BOOM Boomskoye usch 12.43 20 **Pn 20 54 58.5 -1.3**
BOOM Boomskoye usch 12.43 20 P **Pn 20 54 58.5 -1.3**
KDJ Kajisay 12.52 25 **Pn 20 55 00.4 -0.6**
KDJ Kajisay 12.52 25 P **Pn 20 55 00.4 -0.6**
CHMS Chumysh 12.59 16 P **Pn 20 55 00.7 -1.1**
SNR=57
WUS Wushi 12.60 33 **Pn 20 55 02.0 0.0**
TKM2 Tokmak 2 12.73 19 P **Pn 20 55 03.5 -0.5**
SNR=22
WSAR Wadi Sarin 12.79 236 Pn **Pn 20 55 02.7 -1.9**
baz=72,slow=19,SNR=6.9
WSAR Sn Sn 20 57 15.1 -12
baz=17,slow=19,SNR=4.1
USP Ospenovka 12.79 15 P **Pn 20 55 04.5 0.0**
SNR=23
WBK Wadi Bani Khal 12.96 233 Pn **Pn 20 55 07.2 +0.3**
JLN Jalan Bani Buh 12.97 230 Pn **Pn 20 55 07.2 0.0**
SNR=6.8
JLN Pn **Pn 20 55 07.2 0.0**
SNR=6.8
SGDS Sogindy 13.00 15 *e*P **Pn 20 55 06.5 -0.9**
SGDS pmax pmax
comp=Z,9.0nm,1.0s
SGDS Sogindy 13.00 15 *e*P **Pn 20 55 06.5 -0.9**
comp=Z,8.9nm,1.0s
SHME Shamm 13.23 252 Pn **Pn 20 55 10.9 +0.4**
TNSS Tian-Shan 13.24 22 *e*P **Pn 20 55 09.8 -1.3**
TNSS Tian-Shan 13.24 22 *e*P **Pn 20 55 09.8 -1.3**
SMDO Samad 13.31 237 Pn **Pn 20 55 13.0 +1.2**
SMDO Pn **Pn 20 55 13.0 +1.2**
AAA Alma-Ata 13.39 22 *e*P **Pn 20 55 11.9 -0.8**
AAA Alma-Ata 13.39 22 *e*P **Pn 20 55 11.9 -0.8**
MDH Madha 13.43 249 Pn **Pn 20 55 13.6 +0.3**
MASF Masafi 13.51 249 Pn **Pn 20 55 16.6 +2.2**
MSFE Esma-Masafi 13.51 249 P **Pn 20 55 15.3 +0.8**
HOQ Hoqain 13.54 240 Pn **Pn 20 55 17.3 +2.5**
UOSS Minazif 13.67 248 Pn **Pn 20 55 19.8 +3.2**
JMDO Jabal Madar 13.72 234 Pn **Pn 20 55 18.2 +1.0**
SATY Saty 13.78 26 *e*P **Pn 20 55 17.0 -1.1**
SATY Saty 13.78 26 *e*P **Pn 20 55 17.1 -1.1**
HATD Hatta, Dubai 13.79 247 Pn **Pn 20 55 19.2 +1.0**
HATD Hatta, Dubai 13.79 247 P **Pn 20 55 17.8 -0.4**
SOHO SOHO 13.83 244 Pn **Pn 20 55 20.7 +2.0**
SOHO Pn **Pn 20 55 20.7 +2.0**
BLSP Bilaspur 13.86 126 *e*P **Pn 20 55 17.1 -2.1**
BLSP *e*S Sn 20 57 46.5 -6.7
ZHN Zhinishke 13.88 26 *e*P **Pn 20 55 18.5 -1.0**
ZHN pmax pmax
comp=Z,11nm,1.2s
ZHN Zhinishke 13.88 26 *e*P **Pn 20 55 18.5 -1.0**
comp=Z,11nm,1.2s
ASHO Ashiyiah 13.92 247 Pn **Pn 20 55 21.7 +1.7**
ASHO Ashiyiah 13.92 247 P **Pn 20 55 21.0 +1.0**
NAZ Nazwa, Dubai 14.09 249 Pn **Pn 20 55 24.4 +2.2**
NAZ Pn **Pn 20 55 24.4 +2.2**
UZB Uzynbulak 14.10 28 *e*P **Pn 20 55 21.6 -0.8**
UZB pmax pmax
comp=Z,10.0nm,0.9s
UZB Uzynbulak 14.10 28 *e*P **Pn 20 55 21.7 -0.8**
comp=Z,9.7nm,0.9s
BSY Bisya 14.12 238 Pn **Pn 20 55 23.7 +0.9**
ARQ Araqi 14.28 241 Pn **Pn 20 55 27.0 +2.1**
SNR=7.8
ARQ Pn **Pn 20 55 27.0 +2.1**
SNR=7.8
SHLS Shalkode 14.28 29 *e*P **Pn 20 55 26.5 +1.5**
SHLS pmax pmax
comp=Z,25nm,1.2s
SHLS Shalkode 14.28 29 *e*P **Pn 20 55 26.6 +1.5**
comp=Z,25nm,1.2s
BTLS Baital 14.41 11 *e*P **Pn 20 55 25.5 -1.1**
BTLS Baital 14.41 11 *e*P **Pn 20 55 25.6 -1.1**
MHTO MHTO 14.74 231 Pn **Pn 20 55 33.8 +2.5**
MHTO Pn **Pn 20 55 33.8 +2.5**
MHTO Sn **Sn 20 58 15.0 +0.2**
MHTO Sn **Sn 20 58 15.0 +0.2**
TDK Taldyqorghan 15.47 23 *e*P **Pn 20 55 39.9 -1.0**
TDK Taldyqorghan 15.47 23 *e*P **Pn 20 55 40.0 -1.0**
HYB Hyderabad 15.49 148 *e*P **Pn 20 55 44.3 +3.1**
KNTI KHUNTI 15.61 117 *e*P **Pn 20 55 40.3 -2.6**
KNTI IAmb IAmb 20 55 45.4
comp=Z,22nm,0.7s
UMZA Um Al Zommool 15.66 242 Pn **Pn 20 55 45.2 +1.8**
UMZA Pn **Pn 20 55 45.2 +1.8**
DQM DQM 15.78 229 Pn **Pn 20 55 47.1 +2.1**
GTK Tadong 16.54 98 *e*P **Pn 20 55 54.0 -0.9**
GTK IAmb IAmb 20 56 01.4
comp=Z,76nm,1.3s
GTK IAmb IAmb 20 56 08.3
comp=Z,42nm,0.7s
GTK *e*S **Sn 20 58 50.8 -7.9**
RAGD RAYAGADA 16.75 131 *e*P **Pn 20 55 55.5 -2.0**
RAGD IAML 20 59 36.8
comp=N,18nm,1.2s
RAGD IAML 20 59 59.3
comp=E,22nm,1.2s
MZR Muzera 16.80 246 Pn **Pn 20 55 59.5 +1.4**
SNR=5.9
MZR Pn **Pn 20 55 59.5 +1.4**
SNR=5.9
MZR Muzera 16.80 246 P **Pn 20 55 58.6 +0.5**
LSA Lhasa 18.19 89 **Pn 20 56 17.2 +1.4**
LSA Lhasa 18.19 89 P **Pn 20 56 16.7 +0.9**
LSA P **Pn 20 56 16.7 +0.9**
LSA Lhasa 18.19 89 P **Pn 20 56 17.2 +1.4**
LSA pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 18.41 27 *ce*P **Pn 20 56 17.2 -0.8**
MKAR Makanchi Array 18.41 27 P **Pn 20 56 16.3 -1.6**
comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=92
MKAR S **Sn 20 59 43.4 -0.2**
comp=Z,1.0nm,0.9s,baz=200,slow=17,SNR=1.7
MKAR LR LR 21 04 20.0
comp=Z,997nm,18.4s,baz=214,slow=40
comp=Z,23nm,0.9s
WMQ Urumqi 18.93 42 *e*P **Pn 20 56 25.3 +1.0**
WMQ pP sP 20 56 36.5 +8.3
WMQ S **Sn 20 59 52.1 -4.2**
WMQ pmax pmax
comp=Z,48nm,1.3s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,820nm,18.9s
WMQ LR LR
comp=Z,870nm,20.1s
DOK Doka 18.98 233 P **Pn 20 56 25.9 +0.9**
SNR=22
DMTO DMTO 19.06 230 P **Pn 20 56 26.7 +0.7**
SNR=6.8
DMTO P **Pn 20 56 26.7 +0.7**
SNR=6.8
BRZS Berezniki 19.12 5 *e*P **P 20 56 25.0 -0.7**
BRZS Berezniki 19.12 5 *e*P **P 20 56 25.0 -0.7**
TAWA Tawang 19.25 94 *e*P **P 20 56 28.2 +0.5**
TAWA IAmb IAmb 20 56 32.8
comp=Z,55nm,1.3s
KBD Kabd 19.50 271 P **P 20 56 28.6 -1.3**
RBK Rabkut 19.71 231 P **P 20 56 33.9 +1.5**
RBK P **P 20 56 33.9 +1.5**
WHFO Wadi Hawf 19.71 233 P **P 20 56 33.1 +0.7**
SNR=6.2
WHFO P **P 20 56 33.1 +0.7**
SNR=6.2
ABKAR Akbulak array 19.86 340 P **P 20 56 33.0 -0.7**
ABKAR Akbulak array 19.86 340 P **P 20 56 33.7 0.0**
ABKAR IAmb IAmb 20 56 35.5
comp=Z,18nm,1.0s
SHL Shillong 19.89 100 P **P 20 56 33.7 -0.7**
SHL Shillong 19.89 100 P **P 20 56 35.3 +0.9**
SNR=8.5
SHL Shillong 19.89 100 P **P 20 56 33.7 -0.7**
SHL pmax pmax
comp=Z,18nm,0.8s
ZSN Zaisan 20.00 30 *e*P **P 20 56 34.7 -0.6**
ZSN Zaisan 20.00 30 *e*P **P 20 56 34.7 -0.6**
ABTO Aybut 20.43 232 P **P 20 56 41.3 +1.2**
ABTO P **P 20 56 41.3 +1.2**
KURBB Kurchatov Arra 20.64 15 P **P 20 56 40.7 -1.5**
comp=Z,16nm,0.9s,baz=205,slow=11,SNR=60
KURBB LR LR 21 05 34.6
comp=Z,924nm,18.6s,baz=190,slow=40
comp=Z,16nm,0.9s
KURK Kurchatov 20.75 15 P **P 20 56 42.3 -1.1**
KURK IAmb IAmb 20 56 44.9
comp=Z,23nm,0.9s
KURK Kurchatov 20.75 15 P **P 20 56 42.3 -1.1**
KURK Kurchatov 20.75 15 *ce*P **P 20 56 42.9 -0.5**
KURK pmax pmax
comp=Z,28nm,1.0s
AKT Akhty 20.86 306 *e*P **P 20 56 44.7 -0.1**
AKT *e* 20 57 02.7
AKT *e* 21 00 51.4
AKT pmax pmax
comp=Z,23nm,2.0s
BRDH Bariadhala 20.86 108 LR LR 21 06 38.7
comp=Z,608nm,18.7s,baz=305,slow=42
SEM Semipalatinsk 20.88 18 *e*P **P 20 56 44.1 -0.9**
SEM Semipalatinsk 20.88 18 *e*P **P 20 56 44.1 -0.9**
GOMU GeErMu 21.21 69 P **P 20 56 50.0 +1.1**
GOMU pP sP 20 56 59.0 +5.7
GOMU sP pP 20 57 05.8 +14
GOMU S **S 21 00 41.8 -3.1**
GOMU pmax pmax
comp=Z,28nm,1.1s
GOMU LR LR
comp=Z,860nm,11.1s
GOMU LR LR
comp=Z,570nm,11.9s
GOMU LR LR
comp=Z,900nm,14.4s
AKTO Aktyubinsk 21.48 339 P **P 20 56 50.0 -1.3**
comp=Z,6.6nm,0.7s,baz=152,slow=8.9,SNR=21
AKTO LR LR 21 06 56.1
comp=Z,199nm,18.1s,baz=176,slow=42
comp=Z,6.6nm,0.7s
AKTO Aktyubinsk 21.48 339 P **P 20 56 50.0 -1.3**
MAK Makhachkala 21.63 310 *e*P **P 20 56 50.6 -2.3**
MAK *e* 20 57 11.7
MAK *e*S **S 21 00 48.7 -3.7**
MAK *e*SS **SnSn 21 01 16.1 -0.1**
MAK pmax pmax
comp=Z,48nm,0.4s
MAK MLR MLR
comp=Z,258nm,15.0s
IMP Imphal 21.89 100 IAmb IAmb 20 57 04.4
comp=Z,41nm,1.0s
BVAR Borovoye Array 22.07 0 P **P 20 56 56.9 -0.7**
comp=Z,20nm,0.8s,baz=172,slow=9.0,SNR=59
BVAR LR LR 21 06 37.4
comp=Z,672nm,19.1s,baz=183,slow=40
comp=Z,20nm,0.8s
BRVK Borovoye 22.11 0 P **P 20 56 56.7 -1.3**
BRVK IAmb IAmb 20 56 59.7
comp=Z,39nm,1.1s
BRVK Borovoye 22.11 0 P **P 20 56 57.4 -0.5**
BRVK P **P 20 56 57.4 -0.5**
BRVK Borovoye 22.11 0 *ce*P **P 20 56 57.5 -0.5**
BRVK pmax pmax
comp=Z,41nm,1.0s
GNI Garni 22.55 301 P **P 20 57 03.0 0.0**
GNI Garni 22.55 301 P **P 20 57 03.8 +0.8**
GNI P **P 20 57 03.8 +0.8**
GNI Garni 22.55 301 *i*P **P 20 57 04.5 +1.5**
GNI pmax pmax
comp=Z,49nm,0.8s
GNI Garni 22.55 301 P **P 20 57 03.7 +0.6**
RAYN Ar Rayn 23.08 257 P **P 20 57 08.4 -0.2**
RAYN Ar Rayn 23.08 257 P **P 20 57 08.8 +0.2**
RAYN Ar Rayn 23.08 257 P **P 20 57 08.4 -0.2**
RAYN pmax pmax
comp=Z,8.0nm,1.0s
GEVA Gevas 23.41 296 P **P 20 57 10.7 -1.2**
KBZ Khabaz 25.01 308 P **P 20 57 26.8 +0.2**
comp=Z,4.3nm,0.8s,baz=115,slow=8.0,SNR=11
KBZ LR LR 21 09 40.4
comp=Z,367nm,18.1s,baz=108,slow=42
comp=Z,4.3nm,0.8s
KBZ Khabaz 25.01 308 *ce*P **P 20 57 27.6 +1.0**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
MARD Mardin 25.05 293 IAmb IAmb 20 58 06.4
comp=Z,20nm,1.4s
SHA1 Shidzhatmaz 25.18 308 *e*P **P 20 57 28.6 +0.2**
KIV Kislovodsk 25.24 309 P **P 20 57 28.9 +0.1**
KIV IAmb IAmb 20 57 31.8
comp=Z,13nm,1.0s
KIV Kislovodsk 25.24 309 P **P 20 57 29.0 +0.2**
KIV P **P 20 57 29.0 +0.2**
KIV Kislovodsk 25.24 309 ⇑P **P 20 57 29.4 +0.6**
KIV Kislovodsk 25.24 309 *e*P **P 20 57 29.0 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,189nm,15.0s
KIV Kislovodsk 25.24 309 P **P 20 57 29.1 +0.3**
KIV Kislovodsk 25.24 309 P **P 20 57 28.1 -0.7**
comp=Z,11nm,1.0s
ZAA0 Zalesovo Array 25.32 21 P **P 20 57 28.4 -1.0**
ZALV Zalesovo Beam 25.32 21 P **P 20 57 28.0 -1.3**
ZALV Zalesovo Beam 25.32 21 P **P 20 57 28.8 -0.6**
comp=Z,4.7nm,0.4s,baz=213,slow=10.0,SNR=26
ZALV LR LR 21 08 17.0
comp=Z,669nm,18.2s,baz=217,slow=39
comp=Z,4.7nm,0.4s
ZALV Zalesovo Beam 25.32 21 *i*P **P 20 57 28.9 -0.4**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
GTA Gaotai 25.61 63 *e*P **P 20 57 34.6 +2.3**
GTA pP sP 20 57 42.4 +5.5
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA LR LR
comp=Z,620nm,21.5s
GTA LR LR
comp=Z,250nm,12.3s
GTA LR LR
comp=Z,250nm,12.7s
KOPT Kop Dagi 25.68 299 IAmb IAmb 20 58 03.3
comp=Z,9.9nm,0.8s
TNCH TengChong 25.71 96 P **P 20 57 35.4 +2.0**
TNCH pP sP 20 57 45.0 +7.0
TNCH sP pP 20 57 49.8 +13
TNCH PP **PnPn 20 58 12.6 +2.9**
TNCH S **S 21 02 00.3 -2.1**
TNCH sS sS 21 02 15.6 +7.8
TNCH pmax pmax
comp=Z,27nm,1.0s
TNCH LR LR
comp=Z,160nm,8.6s
TNCH LR LR
comp=Z,300nm,11.0s
TNCH LR LR
comp=Z,330nm,12.9s
SVE Sverdlovsk 26.72 348⇑ *e*P **P 20 57 42.9 +0.9**
SVE pmax pmax
comp=Z,13nm,1.1s
SVE MLR MLR
comp=Z,832nm,14.0s
ARTI Arti 26.75 345 P **P 20 57 42.4 +0.2**
ARTI IAmb IAmb 20 57 46.6
comp=Z,17nm,1.0s
ARTI Arti 26.75 345 LR LR 21 09 42.3
comp=Z,291nm,18.3s,baz=160,slow=40
ARTI Arti 26.75 345 *d i*P **P 20 57 43.5 +1.3**
ARTI 20 58 24.6
ARTI S **S 21 02 17.3 -0.5**
ARTI SS **SnSn 21 03 20.8 -0.5**
ARTI pmax pmax
comp=Z,21nm,1.2s
SOC Sochi 27.14 306 *e*P **P 20 57 47.4 +1.5**
SOC *e* 20 58 27.6
SOC *e*PPP PPP 20 58 40.1
SOC *e*S **S 21 02 26.3 +2.1**
SOC *e*SSS SSS 21 03 44.5
SOC MLR MLR
comp=Z,296nm,21.0s
PZH PanZhiHua 28.02 91 P **P 20 57 56.8 +2.7**
PZH S **S 21 02 38.6 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.0s
PZH LR LR
comp=Z,320nm,15.1s
PZH LR LR
comp=Z,270nm,15.7s
PZH LR LR
comp=Z,220nm,15.2s
ASF Jabal al Asfar 28.29 281 LR LR 21 11 05.8
comp=Z,256nm,19.1s,baz=114,slow=40
LZH Lanzhou 28.49 70 *e*P **P 20 58 02.6 +4.3**
LZH sP sP 20 58 20.8 +18
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,350nm,10.1s
LZH LR LR
comp=Z,420nm,12.5s
LZH LR LR
comp=Z,410nm,13.9s
CHTO Chiang Mai 28.70 108 P **P 20 58 01.5 +1.4**
CHTO IAmb IAmb 20 58 03.1
comp=Z,10nm,1.2s
CHTO Chiang Mai 28.70 108 P **P 20 58 01.3 +1.2**
CHTO Chiang Mai 28.70 108 P **P 20 58 01.5 +1.4**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CM31 Chiang Mai Arr 28.88 109 P **P 20 58 02.9 +1.1**
CMAR Chiang Mai Arr 28.88 109 P **P 20 58 03.8 +2.1**
CMAR Chiang Mai Arr 28.88 109 P **P 20 58 02.2 +0.5**
comp=Z,2.0nm,0.9s,baz=301,slow=8.1,SNR=11
CMAR ScP **ScP 21 04 55.0 +2.5**
comp=Z,0.5nm,0.5s,baz=332,slow=2.1,SNR=2.2
CMAR LR LR 21 12 43.2
comp=Z,147nm,18.4s,baz=290,slow=43
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 28.88 109 P **P 20 58 03.8 +2.1**
VRH Novokhopyorsk 29.18 322 *e*P **P 20 58 03.7 -0.3**
VRH pmax pmax
comp=Z,15nm,0.8s
KMI Kunming 29.30 93 P **P 20 58 07.8 +2.2**
KMI pP sP 20 58 16.1 +5.9
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=Z,290nm,14.6s
KMI LR LR
comp=Z,300nm,12.6s
KMI LR LR
comp=Z,210nm,12.5s
MMAI Mount Meron Ar 29.45 283 LR LR 21 12 00.3
comp=Z,469nm,18.6s,baz=76,slow=41
EIL Elat 30.32 277 LR LR 21 12 38.3
comp=Z,400nm,18.5s,baz=72,slow=41
VORD Divnogorie 30.37 320 *e*P **P 20 58 13.0 -1.5**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 30.56 320 *e*P **P 20 58 14.0 -2.2**
VSR pmax pmax
comp=Z,7.0nm,1.0s
MOY Mondy 30.73 39 *e*P **P 20 58 20.0 +2.1**
MOY pmax pmax
comp=Z,13nm,1.8s
BR104 Keskin Array S 30.86 297 P **P 20 58 19.1 -0.1**
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 30.86 297 P **P 20 58 18.5 -0.7**
BRTR Keskin Array B 30.86 297 P **P 20 58 19.3 0.0**
comp=Z,3.1nm,0.7s,baz=111,slow=9.0,SNR=24
BRTR LR LR 21 12 27.1
comp=Z,185nm,21.4s,baz=114,slow=40
comp=Z,3.1nm,0.7s
BRTR Keskin Array B 30.86 297 *ce*P **P 20 58 19.7 +0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BR105 Keskin Array S 30.88 297 P **P 20 58 19.0 -0.4**
comp=Z,4.5nm,0.8s
BR105 pP **pP 20 58 21.9 -1.1**
comp=Z,4.5nm,0.8s
BR106 Keskin Array S 30.88 297 P **P 20 58 18.8 -0.6**
comp=Z,35nmcomp=Z,5.4nm,0.8s
BR106 pP **pP 20 58 22.1 -0.9**
comp=Z,35nmcomp=Z,5.4nm,0.8s
KIRV Kirov 31.05 339 LR LR 21 13 18.4
comp=Z,187nm,18.1s,baz=156,slow=41
KIRV Kirov 31.05 339 *ce*P **P 20 58 21.2 +0.8**
LPSR Galich'ya Gora 31.39 323 *e*P **P 20 58 21.1 -2.4**
LPSR pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk 31.40 42 *e*P **P 20 58 25.2 +1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ATD Arta Tunnel 31.78 239 LR LR 21 13 43.5
comp=Z,6.3nm,19.0s,baz=26,slow=41
SONM Songino Array 32.35 48 P **P 20 58 34.2 +2.0**
SONM IAmb IAmb 20 58 36.0
comp=Z,7.7nm,1.1s
SONM Songino Array 32.35 48 P **P 20 58 34.2 +2.0**
comp=Z,6.7nm,0.9s,baz=251,slow=9.0,SNR=32
SONM LR LR 21 13 20.4
comp=Z,353nm,21.0s,baz=253,slow=40
comp=Z,6.7nm,0.9s
ULN Ulaanbaatar 32.78 48 P **P 20 58 37.9 +1.8**
ULN Ulaanbaatar 32.78 48 *i*P **P 20 58 37.3 +1.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ELL Elmali 33.73 291 P **P 20 58 46.0 +1.6**
ELL pmax pmax
comp=Z,9.0nm,0.7s
MOS Moscow 33.73 327 *e*P **P 20 58 41.3 -2.6**
ENH Enshi 33.76 81 P **P 20 58 46.1 +1.5**
OBN Obninsk 33.90 325 LR LR 21 15 27.7
comp=Z,333nm,18.8s,baz=161,slow=42
OBN Obninsk 33.90 325 *ce*P **P 20 58 45.5 +0.1**
OBN *e* 21 00 01.5
OBN pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 33.90 325 P **P 20 58 44.0 -1.4**
comp=Z,16nm,0.5s
HHC Hu-ho-hao-te 34.72 62 *e*P **P 20 58 53.9 +1.0**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,76nm,3.8s
HHC LR LR
comp=Z,210nm,18.6s
HHC LR LR
comp=Z,160nm,16.7s
HHC LR LR
comp=Z,220nm,20.1s
BAL3X Bal3x, Balta 35.13 311 P **P 20 58 55.1 -1.2**
SORM Soroca 36.00 311 ⇑P **P 20 59 03.5 -0.1**
SORM Soroca 36.00 311 P **P 20 59 02.6 -1.0**
comp=Z,11nm,1.2s

SORM pP **sP** **20 59 08.7 +0.3**
comp=Z,11nm,1.2s
KARP Karpathos 36.02 289 P **P** **20 59 03.3 -0.8**
comp=Z,29nm,0.9s
KARP pP **pP** **20 59 07.3 -0.4**
comp=Z,29nm,0.9s
AK09 Malin Array Si 36.06 315 P **P** **20 59 03.0 -1.2**
AK10 Malin Array Si 36.08 315 P **P** **20 59 03.2 -1.1**
AK08 Malin Array Si 36.08 315 P **P** **20 59 03.2 -1.2**
AK07 Malin Array Si 36.09 315 P **P** **20 59 03.3 -1.1**
KLMR Klimovskoe 36.09 335 *e*P **P** **20 59 01.1 -3.2**
KLMR pmax pmax
comp=Z,30nm,1.6s
AK06 Malin Array Si 36.10 315 P **P** **20 59 04.2 -0.3**
AK05 Malin Array Si 36.11 315 P **P** **20 59 03.5 -1.1**
AK02 Malin Array Si 36.12 315 P **P** **20 59 03.6 -1.1**
AKASG Malin Array Be 36.12 315 P **P** **20 59 04.0 -0.7**
comp=Z,6.9nm,0.7s,baz=103,slow=7.3,SNR=46
AKASG LR LR 21 15 12.4
comp=Z,279nm,20.5s,baz=110,slow=39
comp=Z,6.9nm,0.7s
AKASG Malin Array Be 36.12 315*ce*P **P** **20 59 04.3 -0.4**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 36.12 315*ce*P **P** **20 59 03.5 -1.1**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 36.12 315 P **P** **20 59 03.6 -1.1**
AK01 Malin Array Si 36.13 315 P **P** **20 59 04.0 -0.7**
KIEV Kiev 36.13 315 P **P** **20 59 03.5 -1.3**
KIEV Kiev 36.13 315 ⇓P **P** **20 59 05.3 +0.5**
KIEV Kiev 36.13 315 P **P** **20 59 03.5 -1.3**
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 36.13 315 P **P** **20 59 03.2 -1.5**
KIEV Kiev 36.13 315 P **P** **20 59 03.6 -1.1**
comp=Z,63nm,0.8s
AK03 Malin Array Si 36.13 315 P **P** **20 59 03.3 -1.5**
AK12 Malin Array Si 36.15 315 P **P** **20 59 03.5 -1.4**
AK11 Malin Array Si 36.15 315 P **P** **20 59 03.5 -1.4**
AK04 Malin Array Si 36.16 315 P **P** **20 59 03.6 -1.4**
AK14 Malin Array Si 36.17 315 P **P** **20 59 03.7 -1.4**
AK15 Malin Array Si 36.18 315 P **P** **20 59 03.8 -1.4**
AK16 Malin Array Si 36.19 315 P **P** **20 59 03.8 -1.4**
AK13 Malin Array Si 36.20 315 P **P** **20 59 03.9 -1.4**
AK17 Malin Array Si 36.22 315 P **P** **20 59 04.6 -0.9**
AK18 Malin Array Si 36.22 315 P **P** **20 59 04.3 -1.3**
AK22 Malin Array Si 36.23 315 P **P** **20 59 04.4 -1.2**
AK21 Malin Array Si 36.26 315 P **P** **20 59 04.6 -1.2**
AK19 Malin Array Si 36.26 315 P **P** **20 59 04.6 -1.2**
AK20 Malin Array Si 36.27 315 P **P** **20 59 04.7 -1.2**
VRI Vrincioaia 36.66 306 ⇓P **P** **20 59 10.4 +0.9**
VRI Vrincioaia 36.66 306 P **P** **20 59 10.2 +0.8**
VRI pmax pmax
comp=Z,12nm,1.1s
VRI Vrincioaia 36.66 306 P **P** **20 59 08.8 -0.6**
comp=Z,8.9nm,1.2s
PLOR5 Plostina Array 36.70 306 P **P** **20 59 09.0 -0.8**
comp=Z,16nm,1.4s
PLOR Plostina 36.71 306 ⇑P **P** **20 59 10.1 +0.1**
PLOR Plostina 36.71 306 P **P** **20 59 10.0 +0.1**
NDNU Novodnistrovsk 36.74 311 P **P** **20 59 09.1 -0.9**
LUBAR Lubar, Ukraine 36.81 313 P **P** **20 59 09.3 -1.3**
COVR Voineasa-Covas 37.02 306 ⇑P **P** **20 59 12.5 0.0**
MLR Muntele Rosu 37.15 306 LR LR 21 17 55.1
comp=Z,251nm,19.2s,baz=58,slow=42
MLR Muntele Rosu 37.15 306 ⇑P **P** **20 59 15.3 +1.5**
MLR Muntele Rosu 37.15 306 P **P** **20 59 14.1 +0.4**
comp=Z,21nm,1.1s
HNS HongShan 37.18 68 ⇓P **P** **20 59 18.1 +4.3**
HNS pmax pmax
comp=Z,9.0nm,1.1s
HNS LR LR
comp=Z,590nm,17.9s
HNS LR LR
comp=Z,200nm,12.4s
HORU Horodok 37.48 312 P **P** **20 59 15.3 -1.0**
HORU Horodok 37.48 312 P **P** **20 59 15.3 -1.0**
COPA Copaceanca 37.52 303 ⇓P **P** **20 59 17.7 +1.0**
DOPR Dopca 37.60 306 ⇑P **P** **20 59 17.8 +0.4**
QIZ Qiongzhong 37.71 99 P **P** **20 59 18.6 0.0**
QIZ S **S** **21 05 07.8 -1.2**
QIZ LR LR
comp=Z,200nm,18.8s
QIZ LR LR
comp=Z,180nm,15.4s
QIZ LR LR
comp=Z,230nm,16.2s
VOIR 37.77 306 ⇓P **P** **20 59 19.3 +0.3**
VOIR 37.77 306 P **P** **20 59 19.1 +0.2**
VOIR 37.77 306 P **P** **20 59 17.9 -1.0**
comp=Z,5.0nm,0.7s
BURAR Bucovina Array 37.97 309 P **P** **20 59 20.7 +0.1**
BURAR Bucovina Array 37.97 309 ⇑P **P** **20 59 20.9 +0.3**
BURAR Bucovina Array 37.97 309 P **P** **20 59 20.7 +0.1**
ARR Arges 38.06 305 ⇑P **P** **20 59 21.3 -0.1**
MNK Minsk 38.14 321 *i* P **P** **20 59 19.9 -1.9**
comp=E,7.0nm,0.8s
MNK *i* P **P** **20 59 19.9 -1.9**
comp=N,11nm,1.0s
MNK *i* P **P** **20 59 19.9 -1.9**
comp=Z,12nm,0.7s,baz=111
MNK *i* PP **PP** **21 00 47.5 -1.3**
MNK *i* S **S** **21 05 11.5 -3.3**
MNK *i* SS **SnSn** **21 07 57.6 -0.2**
MNK *i* SSS SSS 21 08 15.5
MNK *i* LQ LQ 21 12 15.6
MNK *i* LR LR 21 15 17.8
MNK *i* LRM MLR 21 16 31.4
comp=N,136nm,17.8s
MNK *i* LRM MLR 21 17 04.9
comp=E,150nm,12.6s
MNK *i* LRM MLR 21 17 28.8
comp=Z,150nm,13.0s
MNK Minsk 38.14 321 *i* P **P** **20 59 19.9 -1.9**
MNK *i* 21 00 47.4
MNK *i* 21 01 34.1
MNK *i* S **S** **21 05 11.4 -3.3**
MNK *i* SSS SSS 21 08 15.4
MNK *i* 21 09 28.8
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK MLR MLR
comp=N,136nm,18.0s
MNK MLR MLR
comp=E,150nm,13.0s
MNK MLR MLR
comp=Z,150nm,13.0s
XLT XiLinHaoTe 38.25 57 *e*P **P** **20 59 25.8 +2.8**
XLT pP sP 20 59 38.3 +11
XLT sP pP 20 59 42.8 +16
XLT PP **PnPn** **21 00 55.9 +4.0**
XLT pmax pmax
comp=Z,11nm,1.0s
XLT LR LR
comp=Z,24nm,14.0s
XLT LR LR
comp=Z,230nm,11.9s
XLT LR LR
comp=Z,260nm,13.2s
RNPP5 Staryi Chortor 38.30 315 P **P** **20 59 22.1 -1.0**
RNPP9 Sopachiv 38.34 315 P **P** **20 59 22.5 -1.0**
RNPP8 Varash 38.34 315 P **P** **20 59 22.5 -1.0**
STNU Starunia 38.62 311 P **P** **20 59 25.0 -1.0**
NACGM Naroch 38.88 321 *e*P **P** **20 59 28.3 +0.3**
baz=110
CJR Cluj-Napoca 38.93 307 P **P** **20 59 32.5 +3.9**
PSI Prapat 39.02 130 LR LR 21 15 52.4
comp=Z,268nm,21.2s,baz=339,slow=36
BMR Baia Mare 39.12 309 P **P** **20 59 34.2 +4.0**
TIA Tai'an 39.21 69 P **P** **20 59 31.4 +0.4**
TIA pmax pmax
comp=Z,13nm,2.0s
MARR Marisel-Cluj 39.25 307 ⇓P **P** **20 59 31.6 +0.3**
TRSU Trosnyk 39.54 309 P **P** **20 59 34.7 +1.1**
DRGR 39.54 307 ⇑P **P** **20 59 34.4 +0.6**
DRGR 39.54 307 P **P** **20 59 34.3 +0.6**
NRIK Noril'sk 39.72 10 P **P** **20 59 35.3 +0.5**
NRIK IAmb IAmb 20 59 39.2
comp=Z,20nm,1.1s
NRIK Noril'sk 39.72 10 P **P** **20 59 35.5 +0.7**
comp=Z,15nm,1.1s,baz=206,slow=4.5,SNR=9.4
comp=Z,15nm,1.1s
NRIK Noril'sk 39.72 10*ce*P **P** **20 59 35.8 +1.0**
NRIK pmax pmax
comp=Z,18nm,1.1s
MUKU Mukachevo 39.77 310 P **P** **20 59 34.6 -0.9**
SURR Surduc 39.85 306 ⇓P **P** **20 59 37.0 +0.8**
KWP Kalwaria Pacla 39.95 312 P **P** **20 59 36.0 -1.0**
KWP Kalwaria Pacla 39.95 312 P **P** **20 59 36.0 -1.0**
comp=Z,17nm,1.8s
HOLU Holmets 39.98 310 P **P** **20 59 36.3 -1.0**
UZHM Uzhgorod 40.06 310 P **P** **20 59 38.5 +0.6**
MDVR Moldovita 40.07 304 ⇑P **P** **20 59 38.9 +0.7**
KOLS Kolonicke sedl 40.12 311 *e*P **P** **20 59 39.5 +1.1**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 40.12 311 *e*P **P** **20 59 39.5 +1.1**
BZS Buzias 40.19 305 ⇑P **P** **20 59 39.6 +0.5**
BZS Buzias 40.19 305 P **P** **20 59 39.6 +0.5**
SIRR Siria 40.21 306 ⇓P **P** **20 59 39.6 +0.4**
FNA Florina 40.27 298 IAmb IAmb 20 59 40.7
comp=Z,11nm,0.8s
KBN Kore 40.72 298 P **P** **20 59 43.1 -0.5**
KBN Korca 40.72 298 P **P** **20 59 43.1 -0.5**
KBN pmax pmax
comp=Z,19nm,0.9s
NJ2 Nanjing 41.28 75 *e*P **P** **20 59 47.9 -0.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NIE Niedzica 41.47 311 P **P** **20 59 49.3 -0.3**
NIE Niedzica 41.47 311 P **P** **20 59 49.3 -0.3**
comp=Z,6.4nm,1.0s
PSZ Piszkesteto 41.56 309 IAmb IAmb 20 59 52.2
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 41.56 309 ⇑P **P** **20 59 50.8 +0.4**
PSZ Piszkesteto 41.56 309 P **P** **20 59 51.9 +1.4**
PSZ pmax pmax
comp=Z,13nm,1.2s
FINES FINESS Array B 41.81 330 P **P** **20 59 52.3 +0.2**
comp=Z,1.5nm,0.7s,baz=103,slow=6.3,SNR=6.6
FINES LR LR 21 19 30.5
comp=Z,225nm,19.2s,baz=131,slow=40
comp=Z,1.5nm,0.7s
FINES FINESS Array B 41.81 330 *i* P **P** **20 59 53.2 +1.0**
FINES pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 41.97 311 *e*P **P** **20 59 54.9 +1.1**
LANS Liptovska Anna 41.97 311 *e*P **P** **20 59 54.9 +1.1**
APA Apatity 42.55 340 ⇓*i*P **P** **21 00 00.9 +2.8**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,1μm,14.0s
OKC Ostrava-Krasne 42.90 311 P **P** **21 00 02.7 +1.4**
STEB Steborice 43.16 312 *e*P **P** **21 00 04.2 +0.9**
MORC Moravsky Berou 43.29 311 IAmb IAmb 21 00 05.8
comp=Z,8.4nm,0.8s
MORC Moravsky Berou 43.29 311 ⇑P **P** **21 00 04.4 0.0**
MORC Moravsky Berou 43.29 311 P **P** **21 00 05.1 +0.7**
MORC pmax pmax
comp=Z,11nm,0.9s
MODS Modra-Piesok 43.35 309 *e*P **P** **21 00 06.3 +1.4**
MODS Modra-Piesok 43.35 309 *e*P **P** **21 00 06.3 +1.4**
KRLC Kraliky 43.80 312 *e*P **P** **21 00 09.3 +0.7**
KRLC Kraliky 43.80 312 *e*P **P** **21 00 09.3 +0.7**
RONA Rosalia, Austr 43.97 308 *e*P **P** **21 00 10.3 +0.3**
comp=Z,4.2nm,0.9s
DPC Dobruska-Polom 44.12 312 P **P** **21 00 10.0 -1.2**
DPC Dobruska-Polom 44.12 312 P **P** **21 00 10.0 -1.2**
comp=Z,4.4nm,1.1s
KSP Ksiaz 44.19 313 P **P** **21 00 10.8 -0.8**
KSP Ksiaz 44.19 313 P **P** **21 00 10.8 -0.8**
comp=Z,8.6nm,2.8s
CHVC Chvalec 44.31 312 *e*P **P** **21 00 13.2 +0.5**
CHVC Chvalec 44.31 312 *e*P **P** **21 00 13.2 +0.5**
CUC Castrocucco 44.56 297 P **P** **21 00 15.0 +0.2**
KMBO Kilima Mbogo 44.64 231 P **P** **21 00 16.2 +0.3**
comp=Z,1.0nm,0.3s,baz=45,slow=20,SNR=2.2
KMBO LR LR 21 19 39.0
comp=Z,82nm,18.6s,baz=84,slow=37
comp=Z,1.0nm,0.3s
OBKA Obir 45.14 307 *e*P **P** **21 00 19.7 +0.3**
comp=Z,3.1nm,0.5s
CKRC Cesky Krumlov 45.34 310 *e*P **P** **21 00 21.2 +0.4**
CKRC Cesky Krumlov 45.34 310 *e*P **P** **21 00 21.2 +0.4**
MOA Molln 45.34 308 *e*P **P** **21 00 21.0 +0.1**
comp=Z,4.4nm,0.6s
BRG Berggiesshubel 45.67 313 *e*P **P** **21 00 23.9 +0.5**
BRG Amp 21 00 27.2
comp=Z,5.8nm,1.0s
GEC2 GERESS Array S 45.74 310 IAmb IAmb 21 00 25.0
comp=Z,5.5nm,0.8s
GERES GERESS Array B 45.74 310 P **P** **21 00 23.8 -0.3**
GERES GERESS Array B 45.74 310 P **P** **21 00 23.7 -0.4**
comp=Z,4.3nm,0.9s,baz=88,slow=7.7,SNR=25
GERES LR LR 21 22 14.8
comp=Z,169nm,18.8s,baz=93,slow=40
comp=Z,4.3nm,0.9s
PRED Cave del Predi 45.82 306 IAmb IAmb 21 00 26.0
comp=Z,8.4nm,0.8s
KHC Kasperske Hory 45.83 310 *e*P **P** **21 00 24.7 0.0**
KHC Kasperske Hory 45.83 310*ce*P **P** **21 00 25.7 +1.0**
KHC pmax pmax
comp=Z,14nm,1.7s
ARCES ARCESS Array B 46.06 340 P **P** **21 00 26.7 +0.5**
comp=Z,11nm,0.9s,baz=124,slow=8.2,SNR=13
ARCES LR LR 21 21 43.9
comp=Z,181nm,18.4s,baz=134,slow=39
comp=Z,11nm,0.9s
CLL Collm 46.29 313 *e*P **P** **21 00 28.0 -0.3**
CLL Collm 46.29 313 *e*P **P** **21 00 28.0 -0.3**
BNX BinXian 46.33 55 ⇓P **P** **21 00 29.9 +1.2**
BNX pmax pmax
comp=Z,9.0nm,1.0s
HEH HeiHe 46.34 48 *e*P **P** **21 00 30.4 +1.7**
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH LR LR
comp=Z,240nm,11.8s
HEH LR LR
comp=Z,370nm,12.9s
HEH LR LR
comp=Z,480nm,16.3s
LESA Schwarzleotal 46.41 308 *e*P **P** **21 00 29.3 -0.1**
comp=Z,2.5nm,0.6s
ZEA Zeya 46.48 43 *e*P **P** **21 00 32.3 +2.6**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,300nm,13.0s
ABTA Abfaltersbach 46.54 307 *e*P **P** **21 00 29.9 -0.5**
comp=E,1.2nm,0.5s
HFS Hagfors 47.11 325 P **P** **21 00 34.1 -0.4**
comp=E,3.2nm,0.5s,baz=108,slow=9.3,SNR=12
HFS LR LR 21 22 41.4
comp=E,311nm,20.8s,baz=98,slow=39
comp=E,3.2nm,0.5s
WTTA Wattenberg 47.13 308 *e*P **P** **21 00 34.4 -0.8**
comp=E,2.6nm,0.5s
CTI Castel Tesino 47.16 306 P **P** **21 00 35.0 -0.3**
CTI Castel Tesino 47.16 306 P **P** **21 00 35.0 -0.3**
CTI pmax pmax
comp=Z,16nm,1.2s
GRFO Grafenberg 47.38 311 P **P** **21 00 37.5 +0.7**
GRFO Grafenberg 47.38 311 P **P** **21 00 37.5 +0.7**
GRFO pmax pmax
comp=Z,8.0nm,0.9s
SQTA Sankt Quirin 47.42 308 *e*P **P** **21 00 36.6 -0.7**
comp=Z,3.0nm,0.7s
KSRS Korea Array 47.61 66 P **P** **21 00 39.9 +1.2**
comp=Z,11nm,1.0s,baz=273,slow=6.9,SNR=15
KSRS LR LR 21 23 15.7
comp=Z,104nm,18.8s,baz=245,slow=39
comp=Z,11nm,1.0s
FETA Feichten 47.75 307 *e*P **P** **21 00 39.2 -0.8**
comp=Z,1.1nm,0.4s
NORES NORESS Array B 48.27 326 P **P** **21 00 45.0 +1.4**
DAVA Damuels 48.32 308 *e*P **P** **21 00 43.8 -0.6**
comp=Z,3.7nm,0.4s
DAVOX Davos/Dischmat 48.35 307 LR LR 21 23 35.1
comp=Z,183nm,20.1s,baz=58,slow=39
NB2 NORSAR Subarra 48.49 326 P **P** **21 00 44.3 -1.0**
comp=Z,1.2nm,0.6s,baz=104,slow=7.9
NB2 NORSAR Subarra 48.49 326 P **P** **21 00 44.9 -0.4**
NOA NORSAR Array B 48.49 326 P **P** **21 00 44.1 -1.2**
comp=Z,1.8nm,0.7s,baz=101,slow=7.8,SNR=7.6
NOA LR LR 21 24 29.0
comp=Z,232nm,19.2s,baz=100,slow=40
comp=Z,1.8nm,0.7s
TUE Stuetta 48.73 307 IAmb IAmb 21 00 52.3
comp=Z,3.8nm,0.7s
TUE Stuetta 48.73 307 P **P** **21 00 45.8 -1.8**
comp=Z,24nm,0.7s
YAK Yakutsk 48.98 33 LR LR 21 23 37.8
comp=Z,176nm,19.8s,baz=262,slow=39
YAK Yakutsk 48.98 33*ce*P **P** **21 00 50.6 +1.7**
YAK pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 49.16 50 LR LR 21 24 20.2
comp=Z,214nm,18.8s,baz=283,slow=40
KLR Kul'dur 49.16 50 *i* P **P** **21 00 51.4 +0.8**
KLR pmax pmax
comp=Z,15nm,2.5s
BLSI Bandar Lampung 49.28 131 P **P** **21 00 51.9 0.0**
USRK Ussuriysk Ar. 49.70 56 P **P** **21 00 55.4 +0.7**
comp=Z,2.2nm,0.8s,baz=311,slow=9.3,SNR=2.7
USRK LR LR 21 24 34.5
comp=Z,90nm,18.9s,baz=262,slow=39
comp=Z,2.2nm,0.8s
CDF Champ du Feu 50.01 309 *e*P **P** **21 00 55.9 -1.3**
CDF pmax pmax
comp=Z,5.0nm,1.2s
ECH Echery 50.10 309 P **P** **21 00 58.7 +0.9**
JOW Kunigami 50.59 79 LR LR 21 25 28.5
comp=Z,214nm,18.2s,baz=302,slow=40
LPG La Plagne 50.62 306 *e*P **P** **21 01 01.2 -0.9**
LPG pmax pmax
comp=Z,13nm,0.8s
LPL La Plagne 50.63 306 *e*P **P** **21 01 01.2 -0.9**
LPL pmax pmax
comp=Z,12nm,0.7s
HAU Haudompre 50.66 309 *e*P **P** **21 01 01.0 -1.0**
HAU pmax pmax
comp=Z,7.0nm,0.8s
MBDF Montbardon 50.70 305 *e*P **P** **21 01 01.1 -1.4**
MBDF pmax pmax
comp=Z,8.0nm,0.8s
CABF La Chapelle 50.96 307 *e*P **P** **21 01 04.1 -0.3**
CABF pmax pmax
comp=Z,11nm,0.9s
TIXI Tiksi 51.21 20 P **P** **21 01 05.6 -0.2**
TIXI IAmb IAmb 21 01 07.4
comp=Z,11nm,1.1s
TIXI Tiksi 51.21 20 LR LR 21 23 49.7
comp=Z,143nm,19.4s,baz=284,slow=37
TIXI Tiksi 51.21 20 *i* P **P** **21 01 05.2 -0.6**
TIXI pmax pmax
comp=Z,11nm,1.0s
ORIF Oris-en-Rattie 51.30 305 *e*P **P** **21 01 07.7 +0.7**
ORIF pmax pmax
comp=Z,5.0nm,0.9s
GIVF Givet 51.50 312 *e*P **P** **21 01 08.5 +0.2**
GIVF pmax pmax
comp=Z,15nm,1.2s
BMRD Maredsous 51.52 312 *d*P **P** **21 01 09.2 +0.8**
comp=Z,8.1nm,0.9s
BAIF Baives 51.90 312 *e*P **P** **21 01 11.3 +0.1**
BAIF pmax pmax
comp=Z,11nm,1.0s
LEM Lembang 51.93 130 LR LR 21 24 48.1
comp=Z,172nm,18.3s,baz=339,slow=38
VIVF Saint-Julien-l 52.16 305 *e*P **P** **21 01 12.5 -0.9**
VIVF pmax pmax
comp=Z,13nm,0.9s
SSB Saint Sauveur 52.19 306 IAmb IAmb 21 01 14.5
comp=Z,6.7nm,0.7s
SSB Saint Sauveur 52.19 306 P **P** **21 01 14.2 +0.6**
SSB pmax pmax
comp=Z,12nm,0.8s
LOR Lormes 52.41 308 *e*P **P** **21 01 14.0 -1.1**
LOR pmax pmax
comp=Z,7.0nm,1.1s
SMF Signal de Mont 52.49 307 *e*P **P** **21 01 15.0 -0.8**
SMF pmax pmax
comp=Z,18nm,0.8s
SSF Saint Saulge 52.67 308 *e*P **P** **21 01 16.2 -0.9**
SSF pmax pmax
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 52.75 348 P **P** **21 01 17.9 +0.7**
comp=Z,5.4nm,0.7s,baz=129,slow=11,SNR=8.2
comp=Z,5.4nm,0.7s
AVF Avril sur Loir 52.81 308 *e*P **P** **21 01 17.2 -0.9**
AVF pmax pmax
comp=Z,6.0nm,0.9s
BGF Bois d'Agland 53.19 307 *e*P **P** **21 01 20.0 -0.9**
BGF pmax pmax
comp=Z,8.0nm,1.0s
TCF Toulx Ste Croi 53.66 307 *e*P **P** **21 01 24.0 -0.4**
TCF pmax pmax
comp=Z,8.0nm,0.9s
CAF Calviac 53.98 305 *e*P **P** **21 01 26.4 -0.4**
CAF pmax pmax
comp=Z,10.0nm,1.0s
RJF Les Rejaudoux 54.30 306 *e*P **P** **21 01 28.8 -0.3**
RJF pmax pmax
comp=Z,11nm,1.2s
LDF La Druitiere 54.88 310 *e*P **P** **21 01 31.3 -1.9**
LDF pmax pmax
comp=Z,39nm,1.9s
LFF La Frestale 54.91 306 *e*P **P** **21 01 33.0 -0.4**
LFF pmax pmax
comp=Z,10.0nm,1.0s
FLN La Foliniere 55.09 310 *e*P **P** **21 01 33.6 -1.1**
FLN pmax pmax
comp=Z,8.0nm,1.0s
MFF Saint Martin d 55.22 308 *e*P **P** **21 01 34.6 -1.1**
MFF pmax pmax
comp=Z,5.0nm,0.8s
GRR Gorron 55.40 310 *e*P **P** **21 01 36.3 -0.6**
GRR pmax pmax
comp=Z,30nm,1.8s
JSD Sado 55.49 63 P **P** **21 01 38.1 +0.3**
JSD IAmb IAmb 21 01 40.7
comp=Z,9.2nm,1.0s
MJAR Matsushiro Arr 55.84 65 P **P** **21 01 40.6 +0.3**
comp=Z,4.3nm,1.0s,baz=286,slow=8.1,SNR=7.8
MJAR LR LR 21 27 09.9
comp=Z,77nm,18.4s,baz=280,slow=38
comp=Z,4.3nm,1.0s
EKA Eskdalemuir Ar 55.88 319 P **P** **21 01 38.0 -2.3**
comp=Z,2.8nm,0.8s,baz=81,slow=5.5,SNR=3.8
comp=Z,2.8nm,0.8s
EKA Eskdalemuir Ar 55.88 319 P **P** **21 01 38.0 -2.3**
ETSF Etsaut 56.24 303 *e*P **P** **21 01 42.4 -0.8**
ETSF pmax pmax
comp=Z,15nm,1.1s
SGMF Saint Gilles 56.53 310 *e*P **P** **21 01 44.5 -0.6**
SGMF pmax pmax
comp=Z,14nm,1.1s
SJPF Ste Jean 56.66 304 *e*P **P** **21 01 44.7 -1.4**
SJPF pmax pmax
comp=Z,24nm,1.4s
YSS Yuzhno-Sakhali 56.74 51 *e*P **P** **21 01 48.8 +2.2**
YSS pmax pmax
comp=Z,10.0nm,0.5s
YSS MLR MLR
comp=Z,300nm,16.0s
JTM Tenmabayashi 56.91 59 P **P** **21 01 48.6 +0.7**
ROSF Rostrenen 56.99 310 *e*P **P** **21 01 47.5 -0.8**
ROSF pmax pmax
comp=Z,10.0nm,0.9s
QUIF Quistinic 57.00 310 *e*P **P** **21 01 48.8 +0.4**
QUIF pmax pmax
comp=Z,24nm,1.4s
ASAJ Asahikawa 57.23 55 LR LR 21 29 26.6
comp=Z,121nm,18.1s,baz=168,slow=39
MRSI Marisa 57.63 111 P **P** **21 01 53.4 +0.2**
JHJ Hachijo jima 2 58.07 68 LR LR 21 29 54.1
comp=Z,122nm,18.8s,baz=318,slow=39
MA2 Magadan 59.24 36 LR LR 21 29 54.9
comp=Z,206nm,18.4s,baz=270,slow=38
MA2 Magadan 59.24 36*ce*P **P** **21 02 05.0 +1.1**
MA2 pmax pmax
comp=Z,19nm,2.5s
KAPI Kappang 59.33 118 LR LR 21 31 34.8
comp=Z,40nm,18.7s,baz=292,slow=40
SEY Seymchan 59.48 32 LR LR 21 29 27.5
comp=Z,213nm,18.9s,baz=328,slow=38
SEY Seymchan 59.48 32*ce*P **P** **21 02 06.9 +1.4**
SEY pmax pmax
comp=Z,5.0nm,0.8s

ESDC Sonseca Array 59.53 301 P **P** **21 02 05.6 -0.7**
comp=Z,2.4nm,0.8s,baz=76,slow=7.1,SNR=16
ESDC LR LR 21 32 21.8
comp=Z,47nm,18.7s,baz=24,slow=41
comp=Z,2.4nm,0.8s
LSZ Lusaka 61.12 227 LR LR 21 29 31.2
comp=Z,114nm,18.2s,baz=36,slow=37
BORG Borgarnes 63.08 331 LR LR 21 34 21.7
comp=Z,134nm,18.6s,baz=169,slow=40
BILL Bilibino 63.94 25 *i* P **P** **21 02 36.3 +0.8**
BILL pmax pmax
comp=Z,12nm,2.7s
PETK Petropavlovsk- 64.53 42 LR LR 21 33 45.5
comp=Z,319nm,19.0s,baz=289,slow=39
TORD Torodi Ar. Bea 64.96 271 P **P** **21 02 42.2 -0.8**
comp=Z,59nm,0.3s,baz=63,slow=5.5,SNR=1.4
BATI Baumata 65.63 120 LR LR 21 34 57.4
comp=Z,80nm,21.1s,baz=295,slow=39
TSUM Tsumeb 70.94 233 LR LR 21 35 53.4
comp=Z,74nm,18.2s,baz=39,slow=37
SFJD Kangerlussuaq 72.68 339 LR LR 21 37 44.4
comp=Z,129nm,18.8s,baz=45,slow=38
C16K Lisburne Hills 72.94 19 P **P** **21 03 31.5 -0.2**
BOSA Boshof 73.04 220 P **P** **21 03 32.7 -0.3**
comp=Z,3.1nm,0.7s,baz=38,slow=6.2,SNR=7.3
BOSA LR LR 21 33 54.9
comp=Z,80nm,20.9s,baz=38,slow=34
comp=Z,3.1nm,0.7s
DBIC Dimbokro 73.73 268 LR LR 21 40 11.3
comp=Z,211nm,18.1s,baz=46,slow=39
SHEM Shemya Is, Ala 73.75 38 LR LR 21 39 15.9
comp=Z,122nm,19.0s,baz=305,slow=38
B20K Meade River 73.75 15 IAmb IAmb 21 03 37.7
comp=Z,4.6nm,0.9s
C18K Utukok River 73.78 17 IAmb IAmb 21 04 02.6
comp=Z,8.3nm,1.4s
B22K Teshekpuk Lake 74.30 14 IAmb IAmb 21 03 41.0
comp=Z,6.0nm,1.1s
F15K North Star Dit 74.89 20 IAmb IAmb 21 03 45.0
comp=Z,5.2nm,1.1s
F17K Baldwin Pennin 75.36 19 IAmb IAmb 21 03 46.6
comp=Z,14nm,1.5s
TOLK Toolik Lake Re 76.48 14 IAmb IAmb 21 03 56.5
comp=Z,4.7nm,0.7s
D25K Kavik River 76.54 13 IAmb IAmb 21 03 54.9
comp=Z,4.8nm,1.1s
C27K Jago River 76.75 12 IAmb IAmb 21 03 56.3
comp=Z,5.6nm,1.1s
COLD Coldfoot 77.52 15 IAmb IAmb 21 03 59.9
comp=Z,4.1nm,0.9s
NWAO Narrogin (SRO) 77.58 141 LR LR 21 35 37.2
comp=Z,109nm,19.0s,baz=252,slow=34
SUR Sutherland 78.39 221 LR LR 21 38 17.4
comp=Z,57nm,20.3s,baz=27,slow=35
BMAR Burnt Mountain 78.51 13 P **P** **21 04 04.4 +0.7**
C36M Paulatuk 79.47 5 IAmb IAmb 21 04 10.2
comp=Z,9.5nm,1.2s
INK Inuvik 79.50 9 IAmb IAmb 21 04 11.1
comp=Z,9.9nm,1.4s
INK Inuvik 79.50 9 LR LR 21 43 48.1
comp=Z,58nm,20.0s,baz=276,slow=39
WRA Warramunga Arr 79.73 121 P **P** **21 04 11.1 +0.1**
comp=Z,3.9nm,0.9s,baz=311,slow=5.7,SNR=10
WRA LR LR 21 45 08.4
comp=Z,51nm,18.1s,baz=44,slow=40
comp=Z,3.9nm,0.9s
WRAB Tennant Creek 79.73 121 *i* P **P** **21 04 08.8 -2.3**
WRAB pmax pmax
comp=Z,15nm,1.1s
BBTS Babate 79.80 281 LR LR 21 44 39.2
comp=Z,88nm,19.6s,baz=307,slow=40
COLA College 80.02 15 *i* P **P** **21 04 10.3 -1.6**
COLA pmax pmax
comp=Z,11nm,1.2s
CAST Castle Rocks 80.18 18 IAmb IAmb 21 04 14.4
comp=Z,9.3nm,1.0s
ILAR Eielson Array 80.32 15 P **P** **21 04 11.9 -1.7**
comp=Z,1.3nm,1.0s,baz=325,slow=5.9,SNR=9.6
ILAR PP **PP** **21 07 16.6 +1.0**
comp=Z,1.0nm,1.0s,baz=323,slow=12,SNR=6.3
ILAR LR LR 21 44 52.0
comp=Z,96nm,18.1s,baz=246,slow=40
comp=Z,1.3nm,1.0s
ASAR Alice Springs 81.72 124 P **P** **21 04 22.0 +0.3**
ASAR Alice Springs 81.72 124 P **P** **21 04 21.4 -0.3**
comp=Z,2.3nm,0.7s,baz=309,slow=5.4,SNR=24
ASAR LR LR 21 42 02.6
comp=Z,72nm,21.9s,baz=270,slow=37
comp=Z,2.3nm,0.7s
ASAR Alice Springs 81.72 124 P **P** **21 04 22.0 +0.3**
KDAK Kodiak Island 84.62 21 LR LR 21 45 13.3
comp=Z,81nm,18.8s,baz=125,slow=38
YKA Yellowknife Ar 86.82 2 P **P** **21 04 47.4 +0.4**
YKA Yellowknife Ar 86.82 2 P **P** **21 04 47.0 0.0**
comp=Z,3.0nm,0.9s,baz=354,slow=4.9,SNR=33
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 86.82 2*ce*P **P** **21 04 47.5 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.9s
SCHQ Schefferville 86.91 337 LR LR 21 43 54.6
comp=Z,70nm,18.3s,baz=328,slow=36
FFC Flin Flon 94.42 355 P **P** **21 05 22.3 -0.4**
FFC Flin Flon 94.42 355 P **P** **21 05 22.3 -0.4**
FFC pmax pmax
comp=Z,2.0nm,0.9s
BBB Bella Bella 95.70 11 LR LR 21 52 41.8
comp=Z,41nm,21.5s,baz=16,slow=38
SADO Sadowa 99.62 338 LR LR 21 52 38.5
comp=Z,70nm,18.3s,baz=278,slow=36
QSPA South Pole Qui 120.75 180 PKP **PKPdf** **21 10 54.1 0.0**
comp=Z,1.3nm,0.9s,baz=297,slow=1.1,SNR=8.2
CO01 Juntas del Tor 145.82 261 PKPdf **PKPdf** **21 11 40.2 -1.9**
PLCA Paso Flores 146.89 242 PKPbc **PKPbc** **21 11 45.9 +0.5**
comp=Z,0.8nm,0.5s,baz=153,slow=2.3,SNR=4.1

*IDC **20** 20:56:47.4±1.3, 45°.37N×107°.38W, h0km, mbtmp3.2/4, ML3.7/3, Error ellipse: s-maj=31.9km s-min=9.3km az=132.0*
*NEIC **20** 20:56:50.7±2.7, 45°.15N±0°.02×106°.7W±0°.1, h0km±2km, ML2.7/40, Error ellipse: s-maj=13.2km s-min=3.1km az=100.0*
ISC 20 20:56:48.1±1.2, **45°.3N**±0°.1×**106°.92W**±0°.08, **h0**km, **n21**, σ1§**29**/15, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.46**	**19**	Pn	Pb	20 57 20.9	+4.7
LAO				IAML		20 57 46.4	
	120nm,0.6s						
LAO				IAML		20 57 48.2	
	128nm,0.9s						
RLMT	**Red Lodge**	**1.67**	**264**	Pn	**Pg**	**20 57 21.1**	**+1.0**
RLMT				IAML		20 57 48.8	
	83nm,0.8s						
RLMT				IAML		20 57 53.4	
	56nm,1.0s						
YNE	**Yellowstone No**	**2.21**	**263**	Pn	**Pb**	**20 57 28.8**	**-0.2**
YNE				IAML		20 58 01.3	
	comp=E,50nm,0.6s						
YNE				IAML		20 58 03.8	
	comp=N,47nm,0.6s						
YMP	**Mirror Lake Pl**	**2.37**	**257**	Pn	**Pb**	**20 57 31.4**	**-0.4**
LKWY	**Lake**	**2.58**	**254**	Pn	**Pb**	**20 57 35.8**	**+0.4**
LKWY				IAML		20 58 29.2	
	comp=N,28nm,1.1s						
K22A	**Casper**	**2.67**	**174**	Pn	**Pn**	**20 57 32.1**	**-0.4**
K22A				IAML		20 58 06.9	
	comp=N,25nm,0.9s						
K22A				IAML		20 58 10.2	
	comp=N,41nm,0.7s						
YNR	**Norris Junctio**	**2.73**	**259**		**Pb**	**20 57 37.4**	**-0.6**
YNR				IAML		20 58 19.1	
	comp=N,26nm,0.7s						
YNR				IAML		20 58 24.9	
	comp=E,26nm,0.5s						
H17A	**Grant Village**	**2.76**	**252**		**Pb**	**20 57 38.3**	**-0.1**
YHH	**Holmes Hill**	**2.84**	**261**		**Pb**	**20 57 39.8**	**+0.1**
YFT	**Old Faithful**	**2.92**	**254**		**Pb**	**20 57 40.7**	**-0.4**
YHL	**Hebgen Lake**	**3.06**	**263**	IAML		20 58 37.2	
	comp=N,29nm,0.7s						
YHL				IAML		20 58 39.1	
	comp=E,26nm,0.9s						
YHB	**Horse Butte**	**3.08**	**261**	IAML		20 58 27.2	
	comp=N,18nm,0.3s						
YHB				IAML		20 58 53.0	
	comp=E,18nm,1.1s						
PDAR	**Pinedale Array**	**3.18**	**218**	Pn	**Pn**	**20 57 41.5**	**+2.0**
	comp=E,1.6nm,0.3s,baz=42,slow=15,SNR=55						
PDAR				Lg	Lg	20 58 20.8	
	comp=E,1.8nm,0.3s,baz=38,slow=31,SNR=15						
	comp=E,1.8nm,0.5s						
BOZ	**Bozeman (W)**	**3.33**	**277**	IAML		20 58 42.9	
	comp=E,14nm,0.9s						
AHID	**Auburn Hatcher**	**3.94**	**231**	IAML		20 58 55.4	
	comp=E,15nm,1.1s						
AHID				IAML		20 59 14.6	
	comp=E,9.1nm,1.1s						
DLMT	**Dillon**	**4.01**	**273**	IAML		20 58 52.7	
	comp=E,13nm,4.2s						
DLMT				IAML		20 59 00.2	
	comp=E,16nm,1.1s						
PV07	**Paradox Valley**	**6.99**	**191**		**Pn**	**20 58 32.7**	**+0.9**
PV13	**Radium Mtn., P**	**7.29**	**192**		**Pn**	**20 58 36.3**	**+0.3**
ULM	**Lac du Bonnet**	**8.93**	**52**	Pn	**Pn**	**20 58 58.2**	**0.0**
	comp=E,1.2nm,0.4s,baz=242,slow=17,SNR=3.5						
ULM				Lg	Lg	21 01 28.2	
	comp=E,0.1nm,0.3s,baz=248,slow=5.4,SNR=3.4						
NVAR	**Mina Array Bea**	**10.92**	**235**	Pn	**Pn**	**20 59 22.2**	**-3.5**
	comp=E,0.6nm,0.3s,baz=46,slow=14,SNR=6.5						
	comp=E,0.6nm,0.4s						
TXAR	**Lajitas Array**	**16.15**	**170**	Pn	**P**	**21 00 38.8**	**-1.1**
	baz=2.3,slow=16,SNR=1.4						
	comp=E,0.1nm,0.3s						

*BEO **20** 20:57:47.9±0.6, 42°.98N×17°.31E, h3km±2km, ML2.3/13*
RHSSO 20 20:57:48.4±0.4, **42°.95N×17°.36E, h4**km±2km, **ML2.4**/10, **4C-2D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.26**	**108**	⇓*i*Pg	Pg	20 57 52.7	-0.8
STON				*e*Sg	Sg	20 57 57.5	+0.6
STON	**Ston**	**0.26**	**108**	*e*Pg	Pg	20 57 53.1	-0.4
STON				Sg	Sg	20 57 57.6	+0.7
STON	**Ston**	**0.26**	**108**	*e*Pg	Pg	20 57 53.0	-0.5
STON				*e*Sg	Sg	20 57 57.6	+0.7
LSTV	**Lastovo**	**0.39**	**242**	*i*Pg	Pg	20 57 54.5	-1.4
LSTV				Sg	Sg	20 58 00.6	-0.4
MAKA	**Makarska**	**0.42**	**324**	*e*Pg	Pg	20 57 54.9	-1.6
DBRK	**Dubrovnik**	**0.64**	**116**	*e*Pg	Pg	20 58 00.0	-0.7
HVAR	**Hvar**	**0.71**	**289**	*e*Pg	Pg	20 58 00.1	-1.8
HVAR				Sg	Sg	20 58 09.5	-1.6
TREB	**Trebinje**	**0.76**	**107**	⇑*i*Pg	Pg	20 58 01.5	-1.6
TREB				*e*Sg	Sg	20 58 13.2	+0.2
TREB	**Trebinje**	**0.76**	**107**	*e*Pg	Pg	20 58 01.6	-1.5
TREB				*e*Sg	Sg	20 58 13.6	+0.6
BRY	**Bratogost**	**0.87**	**93**	⇓*i*Pg	Pg	20 58 03.3	-1.7
BRY				*e*Sg	Sg	20 58 16.5	+0.2
HCY	**Herceg Novi**	**0.97**	**121**	*e*Pg	Pg	20 58 06.0	-1.1
HCY				*e*Sg	Sg	20 58 20.1	+0.4
UPM	**Unac-Piva**	**1.16**	**77**	*e*Pg	Pg	20 58 08.6	-2.0
UPM				*e*Sg	Sg	20 58 25.9	+0.2
ZIRJ	**Zirje**	**1.44**	**300**	*e*Pg	Pn	20 58 13.5	-1.6
PDG	**Podgorica**	**1.49**	**110**	*e*Pn	Pn	20 58 15.2	-0.7
PDG				*e*Sn	Sg	20 58 36.8	+0.5
PDG	**Podgorica**	**1.49**	**110**	*e*Pg	Pb	20 58 16.3	-0.3
PDG				*e*Sg	Sg	20 58 36.3	0.0
DRME	**Dracevica, Mon**	**1.55**	**119**	*e*Pn	Pn	20 58 15.9	-0.8
RUDO	**Rudo**	**1.61**	**65**	⇑*i*Pn	Pn	20 58 17.2	-0.4
RUDO				*e*Sn	Sn	20 58 38.0	-0.8
HAPS	**Han Pijesak,Bl**	**1.62**	**45**	*e*Pn	Pn	20 58 17.8	0.0
HAPS				*e*Sn	Sn	20 58 38.7	-0.4
HAPS	**Han Pijesak,Bl**	**1.62**	**45**	*e*Pg	Pn	20 58 18.0	+0.2
HAPS				*e*Sg	Sg	20 58 40.5	0.0
A050A	**Klekovaca**	**1.64**	**339**	*e*Pn	Pn	20 58 18.4	+0.3
A050A				*e*Sn	Sn	20 58 39.7	0.0
BBLS	**Lazi&#263i**	**1.75**	**58**	*e*Pn	Pn	20 58 20.0	+0.5
BBLS				*e*Sn	Sn	20 58 42.3	+0.1
BBLS	**Lazi&#263i**	**1.75**	**58**	*e*Pn	Pn	20 58 20.2	+0.7
BBLS				*e*Sn	Sn	20 58 41.9	-0.3
BLY	**Banja Luka**	**1.80**	**356**	*e*Pn	Pn	20 58 20.3	+0.1
BLY				*e*Sn	Sn	20 58 43.2	-0.3
BLY	**Banja Luka**	**1.80**	**356**	*e*Pg	Pn	20 58 20.7	+0.5
BLY				*e*Sg	Sb	20 58 44.3	-0.5
SJES	**Sjenica**	**1.94**	**80**	*e*Pn	Pn	20 58 22.2	0.0
SJES				*e*Sn	Sn	20 58 47.4	+0.4
SJES	**Sjenica**	**1.94**	**80**	*e*Pn	Pn	20 58 22.9	+0.7
SJES				*e*Sn	Sb	20 58 48.4	-0.5
DUGI	**Dugi Otok**	**1.97**	**303**	*e*Pn	Pn	20 58 21.7	-0.8
A051A	**Mrakovica**	**2.09**	**351**	⇑*i*Pn	Pn	20 58 24.2	0.0
A051A				*e*Sn	Sn	20 58 50.3	-0.3
VIRC	**Vir**	**2.15**	**309**	*e*Pn	Pn	20 58 24.5	-0.4
DIVS	**Divibare**	**2.23**	**58**	*e*Pn	Pn	20 58 26.0	-0.2
DIVS				*e*Sn	Sn	20 58 54.7	+0.5
TEKS	**Tekeris**	**2.24**	**44**	*e*Pn	Pn	20 58 25.4	-0.8
TEKS				*e*Sn	Sn	20 58 54.0	-0.3
TEKS	**Tekeris**	**2.24**	**44**	*e*Pn	Pn	20 58 25.4	-0.8
TEKS				*e*Sn	Sn	20 58 54.3	0.0
PLIT	**Plitvice**	**2.30**	**328**	*e*Pn	Pn	20 58 27.3	+0.2
TRUS	**Trudelj**	**2.55**	**59**	*e*Pn	Pn	20 58 30.2	-0.3
GRUS	**Gruza**	**2.62**	**68**	*e*Pn	Pn	20 58 31.3	-0.1
GRUS				*e*Sn	Sn	20 59 03.9	+0.3
GOCS	**Kraljevo Serbi**	**2.64**	**75**	*e*Pn	Pn	20 58 31.4	-0.4
GOCS				*e*Sn	Sn	20 59 04.6	+0.4
SELS	**Selova**	**2.77**	**83**	*e*Pn	Pn	20 58 33.9	+0.4
SELS				*e*Sn	Sn	20 59 07.7	+0.4
FRGS	**Fruska Gora**	**2.83**	**38**	*e*Pn	Pn	20 58 33.3	-1.0
FRGS				*e*Sn	Sn	20 59 08.4	-0.3
FRGS	**Fruska Gora**	**2.83**	**38**	*e*Pn	Pn	20 58 33.0	-1.3
FRGS				*e*Sn	Sn	20 59 07.7	-1.1
BOJS	**Bojanci**	**2.97**	**330**	*e*Pn	Pn	20 58 36.9	+0.7
BOJS				*e*Sn	Sn	20 59 11.9	-0.3
BARS	**Barje**	**3.28**	**91**	*e*Pn	Pn	20 58 41.3	+0.8
CEY	**Cerknica**	**3.49**	**324**	⇑*i*Pn	Pn	20 58 42.8	-0.7
CEY				*e*Sn	Sn	20 59 24.6	-0.6
VRSS	**Vrsac**	**3.59**	**51**	*e*Sn	Sn	20 59 25.6	-1.9
ZAPS	**Zavoj**	**3.87**	**83**	*e*Pn	Pn	20 58 48.2	-0.5
ZAPS				*e*Sn	Sn	20 59 33.2	-1.4
OBKA	**Obir**	**4.08**	**332**	*e*Pn	Pn	20 58 51.9	+0.3

*IDC **20** 21:13:51.5±0.7, 51°.41N×16°.04E, h0km, mbtmp3.2/7, ML3.0/6, Error ellipse: s-maj=11.2km s-min=6.4km az=105.0*
*IPEC **20** 21:13:51.0±0.2, 51°.44N×16°.31E, h1km, ML2.7/5, Error ellipse: s-maj=1.8km s-min=1.4km az=42.0*
*PRU **20** 21:13:52.6, 51°.40N×16°.24E, h0km*
*DNK **20** 21:13:52.2±2.6, 51°.60N×16°.06E, h0km±54km, ML2.5*
*UPP **20** 21:13:55.7±2.8, 51°.76N×15°.69E, h0km, ML2.5*
*VIE **20** 21:13:55.4±0.7, 51°.17N×16°.06E, h0km, mb2.5/9, ml2.8/11, Error ellipse: s-maj=5.0km s-min=3.9km az=148.0, Suspected Mining induced.*
ISC 20 21:13:49.1±0.6, **51°.50N**±0°.02×**16°.24E**±0°.02, **h0**km, **n72**, σ1§**63**/136, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**177**	*e*Pg	**Pg**	**21 14 02.6**	**+1.0**
KSP				*e*Sg	**Sg**	**21 14 10.4**	**+0.3**
CHVC	**Chvalec**	**0.92**	**187**	*e*PG	**Pb**	**21 14 07.8**	**-0.1**
OSTC	**Ostas**	**0.94**	**181**	*e*PG	**Pb**	**21 14 08.1**	**-0.2**
OSTC				*e*SG	**Sg**	**21 14 20.0**	**+0.7**
UPC	**Upice**	**1.00**	**188**	*e*PG	**Pb**	**21 14 09.1**	**-0.2**
UPC				*e*SG	**Sb**	**21 14 22.6**	**-0.4**
DPC	**Dobruska-Polom**	**1.15**	**177**	*e*PG	**Pb**	**21 14 11.7**	**-0.2**
DPC				*e*SG	**Sg**	**21 14 25.6**	**-0.4**
	comp=Z,88nm,0.4s						
PIVO	**Bartosovice**	**1.33**	**171**	*e*Pg	**Pb**	**21 14 14.9**	**0.0**
	baz=353						
PIVO				*e*Sg	**Sg**	**21 14 30.5**	**-1.2**
	101nm,0.4s,baz=353						
PVCC	**Panska Ves**	**1.43**	**228**	*e*PG	**Pb**	**21 14 17.6**	**+0.9**
PVCC				*e*SG	**Sn**	**21 14 36.3**	**+0.4**
	comp=Z,312nm,0.4s						
KRLC	**Kraliky**	**1.46**	**166**	*e*PG	**Pg**	**21 14 17.3**	**+0.2**
KRLC				*e*SG	**Sg**	**21 14 36.3**	**+0.2**
	comp=Z,76nm,0.4s						
BRG	**Berggiesshubel**	**1.57**	**248**	Pn	**Pb**	**21 14 18.9**	**-0.2**
BRG				Pg	**Pg**	**21 14 20.6**	**+1.3**
BRG				Sg	**Sg**	**21 14 41.1**	**+1.5**
BRG				Amp		21 14 42.7	
	comp=Z,57nm,0.3s						
RUE	**Ruedersdorf**	**1.81**	**304**	*e*P	**Pg**	**21 14 25.6**	**+1.7**
PRA	**Prague**	**1.83**	**219**	*e*PG	**Pg**	**21 14 24.1**	**-0.1**
STEB	**Steborice**	**1.84**	**147**	*e*PG	**Pb**	**21 14 23.6**	**-0.1**
STEB				*e*SG	**Sb**	**21 14 46.9**	**-0.4**
PRU	**Pruhonice**	**1.86**	**216**	*e*PG	**Pb**	**21 14 24.4**	**+0.5**
PRU				*e*SG	**Sb**	**21 14 47.8**	**+0.2**
	comp=Z,94nm,0.6s						
GKP	**Gorka Klasztor**	**1.88**	**19**	*e*P	Pg	21 14 32.5	+7.4
MORC	**Moravsky Berou**	**1.91**	**154**	*e*Pn	**Pn**	**21 14 23.5**	**+0.5**
	baz=335						
MORC				*e*Sg	**Sn**	**21 14 48.5**	**+0.8**
	comp=Z,51nm,0.5s,baz=335						
HSKC	**Hora Svate Kat**	**1.98**	**244**	*e*SG	**Sg**	**21 14 53.2**	**+0.4**
	comp=Z,84nm,0.6s						
CLL	**Collm**	**2.04**	**266**	*e*Pn	**Pb**	**21 14 26.0**	**-1.0**
CLL				*e*Pg	**Pg**	**21 14 29.0**	**+0.9**
CLL				*e*Sg	**Sg**	**21 14 56.0**	**+1.5**
	comp=Z,56nm,0.5s						
OKC	**Ostrava-Krasne**	**2.06**	**143**	*e*PG	**Pg**	**21 14 28.5**	**0.0**
VRAC	**Vranov**	**2.20**	**174**	Pn	**Pn**	**21 14 28.1**	**+1.1**
	comp=Z,5.4nm,0.3s,baz=346,slow=15,SNR=18						
VRAC				Lg	Lg	21 14 58.5	
	comp=Z,7.3nm,0.3s,baz=282,slow=19,SNR=9.7						
	comp=Z,13nm,0.4s						
VRAC	**Vranov**	**2.20**	**174**	*e*Pn	**Pn**	**21 14 27.9**	**+1.0**
	baz=355						
VRAC				*e*Sg	**Sb**	**21 14 58.2**	**+0.6**
	comp=Z,38nm,0.4s,baz=355						
VRAC	**Vranov**	**2.20**	**174**	*e*PN	**Pn**	**21 14 28.0**	**+1.1**
VRAC				*e*SG	**Sb**	**21 14 58.3**	**+0.6**
TREC	**Trest**	**2.26**	**193**	*e*SG	**Sg**	**21 15 01.1**	**-0.4**
KRUC	**Moravsky**	**2.44**	**178**	*e*Pn	**Pn**	**21 14 31.1**	**+0.9**
	baz=359						
KRUC				*e*Sg	**Sb**	**21 15 05.1**	**+0.7**
	comp=Z,39nm,0.7s,baz=359						
OJC	**Ojcow**	**2.59**	**118**	*e*Pn	**Pn**	**21 14 31.8**	**-0.5**
OJC				*e*Pg	**Pg**	**21 14 39.9**	**+1.2**
OJC				*e*Sg	**Sg**	**21 15 14.3**	**+2.0**
NKC	**Novy Kostel**	**2.71**	**244**	*e*PN	**Pn**	**21 14 35.4**	**+1.4**
JAVC	**Velka Javorina**	**2.80**	**160**	*e*Pn	**Pn**	**21 14 35.9**	**+0.8**
	baz=342						
JAVC	**Velka Javorina**	**2.80**	**160**	*e*PN	**Pn**	**21 14 36.0**	**+0.8**
KHC	**Kasperske Hory**	**2.92**	**217**	*e*PN	**Pn**	**21 14 37.5**	**+0.7**
KHC				*e*PG	**Pb**	**21 14 43.3**	**+1.3**
KHC				*e*SN	**Sn**	**21 15 12.0**	**-0.6**
KHC				*e*SG	**Sg**	**21 15 22.7**	**-0.1**
	comp=Z,26nm,0.4s						
CKRC	**Cesky Krumlov**	**2.95**	**206**	*e*PN	**Pn**	**21 14 38.9**	**+1.6**
GERES	**GERESS Array B**	**3.12**	**213**	Pn	**Pn**	**21 14 40.2**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=29,slow=14,SNR=18						
GERES				Pg	**Pb**	**21 14 45.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=36,slow=19,SNR=50						
GERES				Lg	Lg	21 15 26.3	
	comp=Z,1.1nm,0.3s,baz=32,slow=24,SNR=10						
LANS	**Liptovska Anna**	**3.13**	**137**	*e*PG	**Pg**	**21 14 49.0**	**-0.1**
LANS				*e*SG	**Sg**	**21 15 28.7**	**-0.9**
MODS	**Modra-Piesok**	**3.20**	**167**	*e*PG	**Pg**	**21 14 50.8**	**+0.4**
MODS				*e*SG	**Sg**	**21 15 32.8**	**+1.0**
NIE	**Niedzica**	**3.33**	**127**	*e*Pg	**Pg**	**21 14 54.0**	**+1.2**
NIE				*e*Sg	**Sg**	**21 15 36.8**	**+0.9**
CONA	**Conrad Observa**	**3.58**	**184**	*i*Pn	**Pn**	**21 14 47.6**	**+1.7**
	comp=Z,0.6nm,0.2s						
CONA				*e*Sg	**Sg**	**21 15 43.9**	**-0.1**
	comp=Z,20nm,0.3s						
BSD	**Bornholm Skovb**	**3.71**	**348**	*e*P	**Pn**	**21 14 49.1**	**+1.5**
BSD	**Bornholm Skovb**	**3.71**	**348**	*i*P	**Pn**	**21 14 48.6**	**+1.0**
BSD				*i*S	**Sn**	**21 15 30.7**	**-1.3**
BSD				IAML		21 15 34.4	
	comp=Z,6.5nm,0.2s						
RONA	**Rosalia, Austr**	**3.80**	**179**	*e*Pn	**Pn**	**21 14 50.5**	**+1.6**
	comp=Z,0.6nm,0.3s						
RONA				Sg	**Sg**	**21 15 49.4**	**-1.7**
	comp=Z,11nm,0.4s						
STHS	**Stebnicka Huta**	**3.81**	**121**	*e*PN	**Pn**	**21 14 49.9**	**+0.8**
STHS				*e*PG	**Pg**	**21 15 03.9**	**+1.7**
STHS				*e*SG	**Sg**	**21 15 54.2**	**+2.6**
MOA	**Molln**	**3.87**	**200**	*i*Pn	**Pn**	**21 14 51.0**	**+1.2**
	comp=Z,1.4nm,0.2s						
MOA				*e*Pg	**Pg**	**21 15 02.8**	**-0.4**
	comp=Z,8.2nm,0.4s						
MOA				Sg	**Sg**	**21 15 54.0**	**+0.6**
	comp=Z,38nm,0.6s						
KECS	**Kecovo**	**4.07**	**136**	*e*PG	**Pg**	**21 15 07.7**	**+0.5**
BIOA	**Bad Ischl, Aus**	**4.17**	**205**	*e*Pn	**Pn**	**21 14 57.1**	**+3.1**
	comp=Z,3.3nm,0.3s						
BIOA				Sg	**Sg**	**21 16 00.4**	**-2.5**
	comp=Z,32nm,0.4s						
ARSA	**Arzberg**	**4.28**	**187**	*e*Pn	**Pn**	**21 14 58.5**	**+3.0**
	comp=Z,2.4nm,0.5s						
ARSA				*e*Sg	**Sg**	**21 16 05.2**	**-1.2**
	comp=Z,14nm,0.5s						
LUNU	**Lund**	**4.46**	**339**	*i*P	**Pn**	**21 14 59.1**	**+1.1**
LUNU				*e*S	**Sn**	**21 15 49.0**	**-1.6**
KOLS	**Kolonicke sedl**	**4.65**	**121**	*e*PN	**Pn**	**21 15 01.3**	**+0.8**
KOLS				*e*PG	**Pg**	**21 15 19.4**	**+1.3**
KOLS				*e*SG	**Sg**	**21 16 19.5**	**+1.2**
LESA	**Schwarzleotal**	**4.69**	**211**	*i*Pn	**Pn**	**21 15 05.1**	**+3.9**
	comp=Z,0.6nm,0.3s						
LESA				*e*Pg	**Pg**	**21 15 19.1**	**+0.2**
	comp=Z,2.6nm,0.3s						
LESA				*e*Sg	**Sg**	**21 16 18.2**	**-1.5**
	comp=Z,12nm,0.3s						
BLEU	**Blekinge**	**4.82**	**357**	P	**Pn**	**21 15 04.7**	**+1.8**
BLEU				S	**Sn**	**21 15 57.7**	**-1.7**
BLEU	**Blekinge**	**4.82**	**357**	P	**Pn**	**21 15 04.7**	**+1.8**
BLEU				*i*P	**Pn**	**21 15 04.9**	**+2.0**
BLEU				S	**Sn**	**21 15 57.7**	**-1.7**
BLEU				*i*S	**Sn**	**21 15 58.1**	**-1.3**
SOKA	**Soboth**	**4.89**	**190**	*e*Pn	**Pn**	**21 15 06.5**	**+2.6**
	comp=Z,0.5nm,0.3s						
SOKA				*e*Pg	**Pg**	**21 15 22.5**	**-0.2**
	comp=Z,2.0nm,0.4s						
SOKA				*e*Sg	**Sg**	**21 16 27.2**	**+1.2**
	comp=Z,4.2nm,0.7s						
BJUU	**Bjuv**	**4.97**	**339**	P	**Pn**	**21 15 05.8**	**+0.9**
BJUU	**Bjuv**	**4.97**	**339**	*i*P	**Pn**	**21 15 05.3**	**+0.5**
BJUU				P	**Pn**	**21 15 05.8**	**+0.9**
BJUU				*e*S	**Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**21 16 13.2**	**-0.2**
	baz=162,slow=12,SNR=4.0 comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**21 16 32.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=7.9						
FINES				Sn	**Sn**	**21 18 34.3**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=212,slow=21,SNR=5.5 comp=Z,2.8nm,0.8s						
EKA	**Eskdalemuir Ar**	**12.19**	**296**	Pn	**Pn**	**21 16 43.4**	**-0.4**
	baz=97,slow=13 comp=Z,0.1nm,0.3s						

GCG ***20*** *21:17:15.9±1.8, 14°.25N×92°.86W, h18km±10km, MD4.4, ML3.3, MW3.5*
MEX ***20*** *21:17:17.3±0.6, 14°.36N×93°.05W, h15km, MD4.1*
CATAC ***20*** *21:17:17.0±0.9, 14°N±4°×9°.3W±°, h14km±3km, M3.9/6, MLv3.9/6, Error ellipse: s-maj=10.2km s-min=6.9km az=61.3, confirmed*
ISC 20 21:17:13.2±1.6, 14°.37N±0°.05×92°.96W±0°.03, h10km±11km, n48, σ1s82/69, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.85**	**52**	*eP*	**Pn**	**21 17 31.9**	**+0.6**
THIG				*eS*	**Sn**	**21 17 43.9**	**+0.1**
THIG		**0.85**	**52**	*eP*	**Pn**	**21 17 31.8**	**+0.6**
	comp=Z,829nm,0.6s						
THIG				IAML		21 17 55.8	
	comp=Z,829nm,0.6s						
THIG		**0.85**	**52**	*eP*		21 17 31.8	
	comp=Z,829nm,0.6s						
THIG				IAML		21 17 55.8	
	comp=Z,829nm,0.6s						
SMCA	**Catarina**	**0.98**	**61**	*eP*	**Pn**	**21 17 33.7**	**+0.7**
	comp=Z,551nm,1.0s						
SMCA				IAML		21 17 54.4	
	comp=Z,551nm,1.0s						
SMCA	**Catarina**	**0.98**	**61**	*eP*		21 17 33.7	
	comp=Z,551nm,1.0s						
SMCA				IAML		21 17 54.4	
	comp=Z,551nm,1.0s						
PATR	**El Naranjo**	**1.02**	**43**	*eP*	**Pn**	**21 17 34.0**	**+0.3**
PATR				*eS*	**Sn**	**21 17 47.6**	**-0.6**
PAVE	**Pavencul**	**1.11**	**43**	*eP*	**Pn**	**21 17 35.5**	**+0.6**
PAVE				*eS*	**Sn**	**21 17 50.4**	**0.0**
RTAL	**Retalhuleu**	**1.23**	**83**	*eP*	**Pn**	**21 17 37.2**	**+0.8**
RTAL				*eS*	**Sn**	**21 17 54.5**	**+1.4**
RTAL	**Retalhuleu**	**1.23**	**83**	P	**Pn**	**21 17 37.3**	**+0.8**
RTAL	**Retalhuleu**	**1.23**	**83**	S	**Sn**	**21 17 54.1**	**+1.0**
RTAL	**Retalhuleu**	**1.23**	**83**	P	**Pg**	**21 17 37.4**	**+0.5**
RTAL				S	**Sn**	**21 17 54.6**	**+1.5**
PCIG		**1.35**	**349**	*eP*	**Pn**	**21 17 38.5**	**+0.4**
PCIG				*eS*	**Sb**	**21 17 54.6**	**-1.2**
QUEO	**Labor Ovalle**	**1.48**	**70**	*eP*	**Pb**	**21 17 41.3**	**+0.3**
QUEO				IAML		21 18 07.4	
	comp=Z,1μm,0.2s						
QUEO	**Labor Ovalle**	**1.48**	**70**	*eP*		21 17 41.3	
QUEO				IAML		21 18 07.4	
	comp=Z,1μm,0.2s						
STG8	**El Palmar, Qui**	**1.56**	**87**	*eP*		21 17 38.8	
STG0	**El Palmar, Qui**	**1.57**	**88**	*eP*		21 17 39.0	
SOKI	**Kika Raxquin**	**1.57**	**73**	*eP*	**Pb**	**21 17 42.9**	**+0.4**
	comp=Z,344nm,3.2s						
SOKI				IAML		21 18 07.7	
	comp=Z,344nm,3.2s						
SOKI	**Kika Raxquin**	**1.57**	**73**	*eP*		21 17 42.9	
	comp=Z,344nm,3.2s						
SOKI				IAML		21 18 07.7	
	comp=Z,344nm,3.2s						
HUEH	**Huehuetenango**	**1.69**	**56**	*eP*	**Pn**	**21 17 43.5**	**+0.5**
HUEH				*eS*	**Sg**	**21 18 07.4**	**-0.3**
HUEH	**Huehuetenango**	**1.69**	**56**	P	**Pn**	**21 17 43.4**	**+0.4**
HUEH	**Huehuetenango**	**1.69**	**56**	S	**Sb**	**21 18 05.1**	**-0.8**
HUEH	**Huehuetenango**	**1.69**	**56**	*i* P	**Pg**	**21 17 45.5**	**-0.2**
HUEH	**Huehuetenango**	**1.69**	**56**	*i* P		21 17 45.5	
CCIG	**Comitan**	**2.06**	**23**	*eP*	**Pb**	**21 17 51.5**	**+0.8**
CCIG				*eS*	**Sg**	**21 18 17.7**	**-1.7**
CCIG	**Comitan**	**2.06**	**23**	S	**Sb**	**21 18 16.9**	**+0.5**
CCIG	**Comitan**	**2.06**	**23**	P	**Pb**	**21 17 51.9**	**+1.2**
CCIG	**Comitan**	**2.06**	**23**	*eP*	**Pb**	**21 17 51.5**	**+0.8**
CCIG				*i* S	**Sg**	**21 18 19.2**	**-0.2**
CCIG				IAML		21 18 24.1	
	comp=Z,261nm,0.6s						
CCIG	**Comitan**	**2.06**	**23**	*eP*		21 17 51.5	
CCIG				*i* S		21 18 19.2	
CCIG				IAML		21 18 24.1	
	comp=Z,261nm,0.6s						
CARR	**Arriaga**	**2.08**	**334**	*eP*	**Pn**	**21 17 50.0**	**+1.9**
CARR				*eS*	**Sn**	**21 18 14.6**	**+0.5**
FG8	**Yepocapa, Chim**	**2.33**	**92**	*eP*		21 17 47.1	
FG8				*i* S		21 18 10.8	
TGBT	**Tuxtla Gutierr**	**2.39**	**357**	*eS*	**Sn**	**21 18 22.3**	**+0.6**
TGIG		**2.40**	**356**	*eP*	**Pn**	**21 17 55.2**	**+2.7**
TGIG				*eS*	**Sn**	**21 18 23.7**	**+1.7**
TGIG		**2.40**	**356**	*eP*	**Pn**	**21 17 55.2**	**+2.7**
TGIG				IAML		21 18 43.6	
	comp=Z,116nm,1.0s						
TGIG		**2.40**	**356**	*eP*		21 17 55.2	
TGIG				IAML		21 18 43.6	
	comp=Z,116nm,1.0s						
APG	**El Apazote**	**2.49**	**75**	*eP*	**Pn**	**21 17 56.3**	**+2.3**
APG	**El Apazote**	**2.49**	**75**	*eP*		21 17 56.3	
NILT	**Santiago Nilte**	**2.70**	**324**	*eP*	**Pn**	**21 17 57.5**	**+0.8**
NILT				*eS*	**Sn**	**21 18 29.2**	**-0.3**
FAME	**Alcaldia de Sa**	**2.90**	**100**	S	**Sn**	**21 18 34.1**	**-0.3**
SLOZ	**Alcaldia de Sa**	**3.10**	**96**	S	**Sn**	**21 18 38.5**	**-0.7**
NUBE	**Las Nubes**	**3.12**	**98**	P	**Pn**	**21 18 04.1**	**+1.6**
NUBE	**Las Nubes**	**3.12**	**98**	S	**Sn**	**21 18 39.5**	**-0.4**
UXUV	**UXUV**	**3.14**	**339**	*eP*	**Pn**	**21 18 04.1**	**+1.3**
UXUV				*eS*	**Sn**	**21 18 42.0**	**+1.7**
CMIG	**Matias Romero**	**3.28**	**326**	*eP*	**Pn**	**21 18 06.5**	**+1.9**
CMIG				*eS*	**Sn**	**21 18 42.7**	**-0.9**
HUIG	**Huatulco**	**3.34**	**295**	*eP*	**Pn**	**21 18 07.1**	**+1.6**
HUIG				*eS*	**Sn**	**21 18 41.1**	**-4.2**
JAYA	**Jayaque - finc**	**3.48**	**101**	P	**Pn**	**21 18 08.2**	**+0.6**
JAYA	**Jayaque - finc**	**3.48**	**101**	S	**Sn**	**21 18 48.0**	**-0.9**
JAYA	**Jayaque - finc**	**3.48**	**101**	*eP*	**Pn**	**21 18 08.4**	**+0.9**
JAYA	**Jayaque - finc**	**3.48**	**101**	*eP*		21 18 08.4	
PETF	**Flores**	**3.91**	**49**	*eP*	**Pb**	**21 18 18.1**	**-4.0**
PETF				*eS*	**Sb**	**21 19 06.5**	**-3.0**
NEUV	**Arroyo Zacate**	**4.30**	**321**	*eP*	**Pn**	**21 18 19.6**	**+0.9**
NEUV				*eS*	**Sn**	**21 19 09.5**	**+0.5**
PEIG	**Puerto Escondi**	**4.36**	**292**	*eP*	**Pn**	**21 18 21.3**	**+1.9**
PEIG				*eS*	Sn	21 19 04.5	-5.8
SCIG	**Sabancuy**	**4.87**	**20**	*eP*	Pn	21 18 30.2	+3.6
SCIG				*eS*	**Sn**	**21 19 21.0**	**-2.0**
YOIG	**Yosondua**	**5.06**	**300**	*eP*	Pn	21 18 34.5	+5.1
YOIG				*eS*	**Sn**	**21 19 29.1**	**+1.0**
PNIG	**Pinotepa**	**5.38**	**293**	*eP*	**Pn**	**21 18 36.0**	**+2.5**
PNIG				*eS*	**Sn**	**21 19 30.7**	**-4.8**
TOIG	**Toxpalan**	**5.41**	**314**	*eP*	Pn	21 18 39.7	+5.6
TOIG				*eS*	**Sn**	**21 19 35.8**	**-0.6**
TXIG	**Tlaxiaco**	**5.44**	**302**	*eP*	**Pn**	**21 18 38.3**	**+3.7**
TXIG				*eS*	**Sn**	**21 19 33.4**	**-4.1**
TPIG	**Tehuac#an**	**5.83**	**314**	*eS*	Sn	21 19 37.6	-9.4
FTIG	**Fresnillo de T**	**6.09**	**306**	*eP*	**Pn**	**21 18 46.4**	**+3.0**
FTIG				*eS*	**Sn**	**21 19 55.0**	**+1.8**
JAUV	**Jalcomulco**	**6.18**	**324**	*eP*	**Pn**	**21 18 46.5**	**+1.9**
JAUV				*eS*	**Sn**	**21 19 52.6**	**-2.7**
POHV	**Veracruz**	**6.24**	**319**	*eP*	**Pn**	**21 18 48.0**	**+2.2**

NNC 20 21:23:17.9±9.8, 37°.00N×70°.12E, h0km, mb4.0, mpv3.6, 2C-6D, Error ellipse: s-maj=79.1km s-min=66.3km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.82**	**27**	P	Pn	21 24 46.3	+0.5
	SNR=30						
KK31	**Karatay Array**	**6.10**	**3**	⇓P	Pn	21 24 51.5	+2.1
	1.6nm,0.3s,baz=184,slow=14						
KK31				⇓S	Sn	21 26 03.9	+4.1
	6.5nm,0.6s,baz=191,slow=30						
EKS2	**Erkin-Say**	**6.31**	**25**	P	Pn	21 24 54.0	+1.6
	SNR=9.8						
AAK	**Ala-Archa**	**6.56**	**30**	P	Pn	21 24 56.2	+0.4
	SNR=8.8						
AAK	**Ala-Archa**	**6.56**	**30**	⇓P	Pn	21 24 55.7	-0.1
	1.4nm,0.3s						
AAK				⇓S	Sn	21 26 11.7	+0.4
	3.8nm,0.6s						
CHMS	**Chumysh**	**6.96**	**29**	P	Pn	21 25 01.6	+0.4
	SNR=7.2						
CHMS	**Chumysh**	**6.96**	**29**	⇓P	Pn	21 25 01.0	-0.2
	3.8nm,0.5s						
CHMS				⇑S	Sn	21 26 20.0	-1.2
	6.4nm,0.8s						
USP	**Ospenovka**	**7.10**	**27**	P	Pn	21 25 03.8	+0.7
	SNR=13						
TKM2	**Tokmak 2**	**7.25**	**34**	P	Pn	21 25 05.4	0.0
	SNR=7.1						
TKM2	**Tokmak 2**	**7.25**	**34**	⇑P	Pn	21 25 04.8	-0.6
	3.8nm,0.7s						
TKM2				⇓S	Sn	21 26 27.7	-0.8
	1.6nm,0.7s						

IDC ***20*** *21:32:28.9±1.1, 4°.34N×125°.90E, h151km±10km, mb3.3/12, mbtmp3.9/14, Error ellipse: s-maj=25.1km s-min=8.2km az=75.0*
NEIC ***20*** *21:32:28.6±1.8, 4°.42N±0°.06×126°.06E±0°.08, h147km±6km, mb4.5/28, Error ellipse: s-maj=11.3km s-min=9.0km az=73.0*
DJA ***20*** *21:32:29.0±0.3, 4°N±3°×12°6E±°, h134km±2km, M4.7/26, mb4.9/26, mB5.1/13, MLv5.0/15, Mw(mB)4.5/13, MwMwp4.7/1, Mwp5.1/1*
ISC 20 21:32:28.7±0.4, 4°.37N±0°.04×126°.02E±0°.07, h150km, n92, σ1s24/101, mb4.3/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.83**	**216**	P	**Pn**	**21 32 50.4**	**-1.8**
SGSI				S	**Sn**	**21 33 07.4**	**-2.7**
DAV	**Davao City (W)**	**2.72**	**351**	Pn	**Pn**	**21 33 10.3**	**-2.3**
DAV				Sn	**Sn**	**21 33 44.3**	**-2.2**
DAV	**Davao City (W)**	**2.72**	**351**	P	**Pn**	**21 33 11.2**	**-1.4**
	156nm,0.5s,baz=180,slow=6.1,SNR=5.7						
DAV				S	**Sn**	**21 33 46.9**	**+0.4**
	416nm,0.4s,baz=246,slow=20,SNR=4.1						
TNTI	**Ternate**	**3.82**	**159**	Pn	**Pn**	**21 33 25.7**	**-0.9**
TNTI	**Ternate**	**3.82**	**159**	P	**Pn**	**21 33 26.4**	**-0.2**
TNTI				S	**Sn**	**21 34 09.7**	**-1.9**
KMSI	**Cibinong**	**4.28**	**208**	P	**Pn**	**21 33 33.6**	**+0.9**
MRSI	**Marisa**	**5.61**	**227**	P	**Pn**	**21 33 51.6**	**+1.3**
TOLI2	**Tolitoli**	**6.15**	**238**	Pn	**Pn**	**21 33 57.4**	**0.0**
LUWI	**Luwuk**	**6.27**	**211**	Pn	**Pn**	**21 34 00.4**	**+1.3**
LUWI	**Luwuk**	**6.27**	**211**	P	**Pn**	**21 34 01.1**	**+2.0**
SANI	**Sanana**	**6.37**	**180**	P	**Pn**	**21 33 57.7**	**-2.7**
SANI	**Sanana**	**6.37**	**180**	P	**Pn**	**21 33 57.6**	**-2.8**
APSI	**Ampana**	**6.82**	**220**	P	**Pn**	**21 34 08.8**	**+2.4**
	0.7nm2μm234nm,1.1s						
SWI	**Sorong**	**7.38**	**135**	P	**Pn**	**21 34 14.1**	**+0.3**
	0.2nm65nm,1.0s						
NLAI	**Namlea**	**7.63**	**172**	P	**Pn**	**21 34 16.1**	**-1.1**
PCI	**Palu**	**8.10**	**230**	P	**Pn**	**21 34 26.0**	**+2.5**
	40nm,0.8s						
AAI	**Ambon**	**8.29**	**165**	P	**Pn**	**21 34 26.0**	**0.0**
	2μm58nm,0.4s						
FAKI	**Fak Fak**	**9.55**	**139**	Pn	**Pn**	**21 34 42.9**	**+0.1**
FAKI	**Fak Fak**	**9.55**	**139**	P	**Pn**	**21 34 43.3**	**+0.5**
	52nm,1.0s						
TTSI	**Tana Toraja**	**9.62**	**220**	P	**Pn**	**21 34 45.3**	**+1.6**
	1μm140nm,1.1s						
KKM	**Kota Kinabalu**	**9.90**	**280**	Pn	**Pn**	**21 34 49.4**	**+1.8**
SPSI	**Sidrap Palu**	**10.37**	**217**	P	**Pn**	**21 34 54.6**	**+1.0**
	691nm72nm,0.7s						
BBSI	**Bau Bau**	**10.38**	**199**	P	**Pn**	**21 34 53.2**	**-0.6**
	1μm33nm,0.5s						
BKB	**Balikpapan**	**10.69**	**239**	Pn	**Pn**	**21 34 57.5**	**-0.4**
BKB	**Balikpapan**	**10.69**	**239**	P	**Pn**	**21 34 59.7**	**+1.8**
	89nm,1.3s						
KAPI	**Kappang**	**11.22**	**214**	Pn	**Pn**	**21 35 05.1**	**+0.2**
KAPI	**Kappang**	**11.22**	**214**	P	**Pn**	**21 35 04.7**	**-0.2**
	61nm,0.7s,baz=20,slow=8.4,SNR=32						
BKSI	**Bulukumba**	**11.28**	**212**	P	**Pn**	**21 35 05.7**	**0.0**
	20nm,0.8s						
BAKI	**Biak**	**11.49**	**118**	P	**Pn**	**21 35 08.3**	**-0.2**
	121nm,1.1s						
MTKI	**Muara Teweh, K**	**12.30**	**245**	P	**Pn**	**21 35 22.8**	**+3.8**
MMRI	**Maumere**	**13.45**	**196**	Pn	**Pn**	**21 35 35.5**	**+1.7**
SBUM	**Sibu**	**13.90**	**263**	Pn	**Pn**	**21 35 39.5**	**0.0**
SOEI	**Soe**	**14.14**	**187**	Pn	**Pn**	**21 35 42.6**	**+0.1**
BATI	**Baumata**	**14.66**	**189**	P	**Pn**	**21 35 49.7**	**+0.7**
	55nm,0.4s,baz=7.3,slow=2.6,SNR=12						
BATI				S	**S**	**21 38 38.3**	**-1.4**
	13nm,0.6s,baz=66,slow=20,SNR=2.0						
TWSI	**Taliwang, Sumb**	**15.89**	**215**	P	**P**	**21 36 05.7**	**+0.8**
	113nm,1.1s						
KSM	**Kuching**	**15.95**	**260**	P	**P**	**21 36 06.0**	**+0.5**
KSM				IAmb	IAmb	21 36 08.2	
	comp=Z,14nm,0.6s						
JAY	**Jayapura**	**16.19**	**115**	P	**P**	**21 36 10.6**	**+2.3**
	comp=Z,34nm,0.8s,baz=275,slow=8.4,SNR=5.6						
JAGI	**Jajag, Banyuwa**	**17.39**	**223**		**P**	**21 36 22.5**	**+1.0**
JAGI				IAmb	IAmb	21 36 31.5	
	comp=Z,61nm,1.2s						
JAGI	**Jajag, Banyuwa**	**17.39**	**223**	P	**Pn**	**21 36 24.3**	**+1.8**
MTN	**Manton Dam**	**17.84**	**164**	P	**P**	**21 36 25.7**	**-0.6**
MTN				IAmb	IAmb	21 36 27.6	
	comp=Z,42nm,1.5s						
KNRA	**Kununurra**	**20.10**	**172**	P	**P**	**21 36 51.6**	**+0.8**
GUMO	**Guam**	**20.74**	**63**	P	**P**	**21 36 55.6**	**-2.1**
MYKOM	**Kota Tinggi**	**22.28**	**264**	P	**P**	**21 37 13.9**	**0.0**
MYKOM				IAmb	IAmb	21 37 16.4	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.32**	**181**	P	**P**	**21 37 14.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.32**	**181**	P	**P**	**21 37 14.6**	**+0.3**
	comp=Z,28nm,0.4s,baz=2.5,slow=12,SNR=111						
FITZ				S	**S**	**21 41 08.8**	**0.0**
	comp=Z,7.7nm,0.9s,baz=10,slow=11,SNR=4.0						
JOW	**Kunigami**	**22.44**	**5**	P	**P**	**21 37 15.1**	**-0.3**
KULM	**Kulim**	**25.29**	**273**	P	**P**	**21 37 41.6**	**+0.1**
KULM				IAmb	IAmb	21 37 50.9	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**25.36**	**161**	P	**P**	**21 37 42.4**	**+0.4**
WB0				IAmb	IAmb	21 37 54.5	
	comp=Z,9.0nm,0.7s						
WRA	**Warramunga Arr**	**25.50**	**162**	P	**P**	**21 37 44.4**	**+1.0**
WRA	**Warramunga Arr**	**25.50**	**162**	P	**P**	**21 37 43.9**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=341,slow=9.7,SNR=20						
WRA				S	**S**	**21 41 59.0**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=339,slow=14,SNR=2.6 comp=Z,1.7nm,0.5s						
PSA00	**Pilbara Seismi**	**26.48**	**193**	P	**P**	**21 37 50.9**	**-1.1**
PSA00				IAmb	IAmb	21 37 53.4	
	comp=Z,18nm,0.9s						
PSA00	**Pilbara Seismi**	**26.48**	**193**	P	**P**	**21 37 52.7**	**+0.6**
PSA00				IAmb	IAmb	21 37 53.5	
	comp=Z,40nm,0.8s						
QIS	**Mount Isa**	**28.13**	**152**	P	P	21 38 13.7	+6.8
GSI	**Gunungsitoli**	**28.57**	**265**	P	**P**	**21 38 09.8**	**-1.0**
GSI	**Gunungsitoli**	**28.57**	**265**	P	**P**	**21 38 10.2**	**-0.6**
AS31	**Alice Springs**	**28.90**	**165**	P	**P**	**21 38 13.9**	**+0.2**
ASAR	**Alice Springs**	**28.91**	**165**	P	**P**	**21 38 14.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=347,slow=8.3,SNR=13						
ASAR				S	**S**	**21 42 51.3**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=344,slow=16,SNR=4.2						
ASAR				ScP	**ScP**	**21 44 48.4**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=345,slow=3.4,SNR=5.0 comp=Z,1.0nm,0.6s						
AS01	**Alice Springs**	**28.91**	**165**	P	**P**	**21 38 14.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**29.94**	**300**	P	**P**	**21 38 21.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**29.94**	**300**	P	**P**	**21 38 23.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=110,slow=9.1,SNR=4.7 comp=Z,0.3nm,0.3s						
MEEK	**Meekatharra**	**31.64**	**193**	P	**P**	**21 38 38.0**	**+0.2**
KSRS	**Korea Array**	**32.98**	**3**	P	**P**	**21 38 50.8**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=194,slow=9.9,SNR=1.6 comp=Z,1.0nm,0.7s						
OOD	**Oodnadatta**	**33.31**	**164**	P	**P**	**21 38 53.2**	**+1.0**
MORW	**Morawa**	**34.60**	**195**	P	**P**	**21 39 03.3**	**-0.1**
MORW				IAmb	IAmb	21 39 04.9	
	comp=Z,9.9nm,0.8s						
MORW	**Morawa**	**34.60**	**195**	P	**P**	**21 39 03.7**	**+0.3**
FORT	**Forrest**	**35.00**	**177**	P	**P**	**21 39 07.6**	**+0.8**
FORT	**Forrest**	**35.00**	**177**	P	**P**	**21 39 07.6**	**+0.8**
KMBL	**Kambalda**	**35.75**	**186**	P	**P**	**21 39 13.0**	**-0.3**
BLDU	**Ballidu**	**35.90**	**194**	P	**P**	**21 39 14.8**	**+0.2**
KLBR	**Kellerberrin**	**36.61**	**192**	P	**P**	**21 39 21.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**38.01**	**192**	P	**P**	**21 39 33.1**	**+0.8**
EIDS	**Eidsvold**	**38.29**	**142**	P	**P**	**21 39 34.6**	**-0.2**
EIDS				IAmb	IAmb	21 39 36.1	
	comp=Z,5.6nm,0.8s						
STKA	**Stephens Creek**	**38.98**	**159**	P	**P**	**21 39 40.7**	**+0.3**
STKA				IAmb	IAmb	21 39 56.6	
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**38.98**	**159**	P	**P**	**21 39 41.1**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=334,slow=13,SNR=3.3 comp=Z,1.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**40.02**	**7**	P	**P**	**21 39 49.5**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=189,slow=8.2,SNR=2.1 comp=Z,1.7nm,0.7s						
SONM	**Songino Array**	**46.47**	**342**	P	**P**	**21 40 42.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=152,slow=9.5,SNR=4.9 comp=Z,0.2nm,0.6s						
MK31	**Makanchi Array**	**56.63**	**325**	P	**P**	**21 41 55.3**	**-0.9**
MKAR	**Makanchi Array**	**56.63**	**325**	P	**P**	**21 41 55.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=122,slow=5.8,SNR=22						
MKAR				ScP	**ScP**	**21 46 36.4**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=121,slow=4.9,SNR=4.3 comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**59.70**	**333**	P	**P**	**21 42 16.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=159,slow=9.3,SNR=1.9 comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.82**	**327**	P	**P**	**21 42 24.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=132,slow=5.4,SNR=8.0 comp=Z,0.2nm,0.4s						
KURK	**Kurchatov**	**60.83**	**328**	P	**P**	**21 42 24.6**	**-0.4**
KURK				IAmb	IAmb	21 42 58.8	
	comp=Z,3.1nm,0.7s						
BVAR	**Borovoye Array**	**66.40**	**327**	P	**P**	**21 43 01.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=116,slow=9.8,SNR=3.7 comp=Z,0.7nm,0.7s						
BRVK	**Borovoye**	**66.47**	**327**	P	**P**	**21 43 01.1**	**-0.9**
ABKAR	**Akbulak array**	**71.21**	**321**	P	**P**	**21 43 30.1**	**-1.2**
ABKAR	**Akbulak array**	**71.21**	**321**	P	**P**	**21 43 31.0**	**-0.4**
ABKAR				IAmb	IAmb	21 43 51.8	
	comp=Z,3.7nm,1.4s						
K15K	**Wolf Creek Mou**	**78.03**	**27**	P	**P**	**21 44 09.3**	**-1.1**
K15K				IAmb	IAmb	21 44 51.9	
	comp=Z,18nm,1.4s						
F17K	**Baldwin Pennin**	**79.15**	**23**	P	**P**	**21 44 17.6**	**+1.2**
VOI	**Vohitsoka**	**81.66**	**247**	P	**P**	**21 44 29.1**	**-1.8**
VOI				IAmb	IAmb	21 45 03.1	
	comp=Z,17nm,1.5s						
FOMA	**Nahampoana Res**	**81.93**	**244**	P	**P**	**21 44 33.0**	**+0.9**
FOMA				IAmb	IAmb	21 44 34.4	
	comp=Z,8.9nm,0.8s						
VNDA	**Vanda**	**84.14**	**173**	P	**P**	**21 44 43.4**	**+1.0**
BMAR	**Burnt Mountain**	**85.77**	**23**	P	**P**	**21 44 49.9**	**-0.9**
BRTR	**Keskin Array B**	**89.07**	**310**	P	**P**	**21 45 05.4**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=132,slow=2.1,SNR=4.8 comp=Z,0.6nm,0.8s						

AFAD ***20*** *21:44:38.1, 36°.43N×28°.68E, h7km±4km, ML2.2*
ISK 20 21:44:37.5, 36°.47N×28°.73E, h5km, ML2.6/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.33**	**59**	Pg	Pb	21 44 45.1	-0.8
FETY				Sg	Sb	21 44 50.8	-0.7
FETY	**Fethiye**	**0.33**	**59**	P	Pb	21 44 47.0	+1.1
DALY	**Dalyan (Mula)**	**0.35**	**350**	Pg	Pb	21 44 45.5	-0.8
DALY				Sg	Sb	21 44 51.6	-0.6
IZZE	**Mula-Seydike**	**0.40**	**94**	P	Pg	21 44 46.1	+0.9
IZZE				S	Sb	21 44 53.3	-0.2
IZZE				*i* AML	AML	21 44 55.0	
	comp=E,474nm,0.4s						
IZZE				*i* AML	AML	21 44 56.0	
	comp=N,674nm,0.3s						
SABU	**Mula-Dalaman**	**0.40**	**28**	P	Pb	21 44 46.5	-0.6
SABU				S	Sb	21 44 53.7	+0.1
SABU				*i* AML	AML	21 44 56.0	
	comp=E,122nm,0.3s						
SABU				*i* AML	AML	21 44 58.0	
	comp=N,222nm,0.5s						
SABU	**Mula-Dalaman**	**0.40**	**28**	P	Pb	21 44 46.7	-0.5
SABU				S	Sb	21 44 53.7	0.0
SABU				*i* AML	AML	21 44 56.0	
	comp=E,122nm,0.3s						
SABU				*i* AML	AML	21 44 58.0	
	comp=N,222nm,0.5s						
TURN	**Turunc**	**0.50**	**308**	Pg	Pg	21 44 47.8	+0.7
TURN				Sg	Sb	21 44 56.3	0.0
TURN	**Turunc**	**0.50**	**308**	P	Pb	21 44 48.1	-0.6
TURN				*i* AML	AML	21 44 56.0	
	comp=N,106nm,0.3s						
TURN				*i* AML	AML	21 44 58.0	
	comp=E,74nm,0.3s						
ARG	**Arkhangelos**	**0.55**	**243**	Pg	Pb	21 44 49.2

0.4nm,0.3s
FINES FINESS Array B 146.96 339 PKPbc PKPbc 22 06 22.3 -0.9
1.3nm,0.7s,baz=48,slow=2.1,SNR=9.4

*AEIC **20** 22:12:06.4±1.5,52.°79N±0.°07×168.°3W±0.°1,h23km±9km,*
Error ellipse: s-maj=9.9km s-min=8.7km az=196.0
NEIC 20 22:12:05.6±0.9,52.°73N±0.°08×168.°2W±0.°2,h28km±13km,
ML2.5(AEIC),Error ellipse: s-maj=17.4km s-min=4.7km
az=50.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.45**	**303**		Pb	22 12 15.1	0.0
NIKH				Sg	Sb	22 12 21.7	+0.2
OKTU	**Okmok Mt. Tuli**	**0.66**	**10**		Pn	22 12 18.9	-0.3
OKFG	**Magazine Ridge**	**0.71**	**16**		Pb	22 12 19.4	+0.1
OKFG					Sn	22 12 29.6	-0.1
OKWE	**Okmok W'ng Wal**	**0.74**	**360**		Pb	22 12 20.0	+0.1
MAPS	**Pakushin South**	**1.33**	**35**		Pn	22 12 28.3	0.0
MAPS					Sn	22 12 44.6	-0.4
MGOD	**Makushin Gods**	**1.34**	**37**		Pn	22 12 28.1	-0.4
UNV	**Unalaska Valle**	**1.52**	**42**		Pn	22 12 30.4	-0.5
UNV				Sn	Sn	22 12 49.6	-0.1
MTBL	**Makushin Table**	**1.55**	**36**		Pn	22 12 31.9	+0.6
AKMO	**Akutan Morgan**	**1.90**	**43**		Pn	22 12 37.0	+0.8
AKRB	**Akutan Reef Bi**	**1.91**	**42**		Pn	22 12 37.4	+1.2
LVA	**Lava Point**	**1.94**	**42**	Pn	Pn	22 12 38.0	+1.3
LVA				Sn	Sn	22 13 02.1	+1.9
AKV	**Akutan Volcano**	**1.95**	**43**		Pn	22 12 37.8	+0.9

*IDC **20** 22:15:16.4±1.6,31.°96S×178.°01W,h0km,mb3.9/3,*
mbtmp3.9/4,ML3.0/1,Error ellipse: s-maj=40.5km
s-min=32.5km az=98.0
ISC 20 22:15:20.3±1.4,32.°0S±0.°2×178.°0W±0.°3,h24km,n7,
σ1°08/8,mb3.9/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.38**	**211**	Pn	**Pn**	**22 17 04.9**	**-1.6**
URZ	0.2nm,0.3s,baz=61,slow=3.9,SNR=1.5			Sn	**Sn**	**22 18 30.8**	**+1.5**
ASAR	**Alice Springs**	**43.01**	**269**	P	**P**	**22 23 18.2**	**+0.1**
WRA	**Warramunga Arr**	**44.15**	**274**	P	**P**	**22 23 27.1**	**-0.1**
QSPA	**South Pole Qui**	**58.09**	**180**	P	**P**	**22 25 11.8**	**+0.3**
FINES	**FINESS Array B**	**146.65**	**339**	PKPbc	**PKPdf**	**22 34 57.2**	**-0.3**
MMAI	**Mount Meron Ar**	**151.84**	**281**	PKPbc	**PKiKP**	**22 35 14.6**	**+0.9**
BRTR	**Keskin Array B**	**153.30**	**296**	PKPbc	**PKPbc**	**22 35 16.7**	**+0.2**

*NEIC **20** 22:25:53.5±0.7,59.°92N±0.°02×152.°80W±0.°07,h91km±4km,*
Error ellipse: s-maj=4.8km s-min=3.5km az=80.0
AEIC 20 22:25:54.4±1.1,59.°90N±0.°02×152.°80W±0.°06,h88km±4km,
ML2.3,ML2.5/102(NEIC),Error ellipse: s-maj=4.7km
s-min=3.2km az=85.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.15**	**293**		Pn	22 26 06.5	-0.6
ILS					Sn	22 26 16.2	-0.4
ILSW	**Iliamna Southw**	**0.19**	**296**	Pn	Pn	22 26 06.4	-0.9
ILSW				Sn	Sn	22 26 16.3	-0.6
ILSW	comp=N,148nm,0.4s			IAML		22 26 17.0	
ILSW	comp=E,104nm,0.4s			IAML		22 26 17.7	
O20K	**Slope Mountain**	**0.20**	**26**		Pn	22 26 06.7	-0.6
O20K					Sn	22 26 16.9	0.0
P19K	**Oil Pt**	**0.33**	**221**	Pn	Pn	22 26 07.4	-0.4
P19K				Sn	Sn	22 26 16.9	-0.8
P19K	comp=N,109nm,0.9s			IAML		22 26 20.2	
P19K	comp=E,88nm,0.5s			IAML		22 26 21.8	
RED	**Redoubt Volcan**	**0.52**	**2**		Pn	22 26 08.3	-1.0
RED					Sn	22 26 19.1	-1.2
RDWB	**Redoubt West**	**0.59**	**358**		Pn	22 26 09.0	-0.9
RDWB					Sn	22 26 20.1	-1.3
AUCH	**Augustine Cone**	**0.63**	**212**		Pn	22 26 09.7	-0.5
HOM	**Homer**	**0.63**	**112**	Pn	Pn	22 26 09.8	-0.3
HOM				Sn	Sn	22 26 21.9	+0.1
RDJH	**Redoubt Jeurge**	**0.69**	**360**		Pn	22 26 10.0	-0.8
RDT	**Redoubt**	**0.70**	**16**		Pn	22 26 09.8	-1.0
O19K	**Port Alsworth**	**0.82**	**292**		Pn	22 26 11.2	-0.7
O19K				Sn	Sn	22 26 24.5	-0.4
CNPM	**China Poot**	**0.88**	**115**		Pn	22 26 12.0	-0.6
CNPM				Sn	Sn	22 26 25.6	-0.6
CNPM	comp=N,187nm,0.8s			IAML		22 26 27.1	
BRLK	**Bradley Lake**	**0.98**	**97**	Pn	Pn	22 26 13.0	-0.7
BRLK				Sn	Sn	22 26 27.4	-0.8
BRLK	comp=E,139nm,0.1s			IAML		22 26 32.2	
BRSE	**Bradley Lake S**	**1.05**	**98**		Pn	22 26 14.3	-0.2
Q19K	**Cape Douglas,**	**1.06**	**204**	Pn	Pn	22 26 14.1	-0.6
Q19K					IAML	22 27 06.7	
CAPN	**Captain Cook N**	**1.20**	**43**	Pn	Pn	22 26 17.0	+0.8
O18K	**Koktuh Hills**	**1.22**	**269**	Pn	Pn	22 26 15.9	-0.6
O18K					IAML	22 26 33.4	
O18K	comp=E,58nm,0.7s			IAML		22 26 33.5	
N19K	**Bonanza Creek**	**1.24**	**318**		Pn	22 26 16.0	-0.9
SYI	**Shuyak Island**	**1.31**	**171**	Pn	Pn	22 26 17.4	-0.2
SYI					IAML	22 26 38.8	
SYI	comp=N,50nm,0.3s			IAML		22 26 39.4	
P18K	**Big Mountain,**	**1.33**	**249**	Pn	Pn	22 26 16.7	-1.2
SPCR	**Spurr Chakacha**	**1.34**	**12**		Pn	22 26 17.1	-1.0
SLKM	**Skilak Lake**	**1.43**	**64**		Pn	22 26 18.2	-0.9
SLKM	**Skilak Lake**	**1.43**	**64**	IAML		22 26 40.2	
SLKM	comp=N,83nm,0.5s			IAML		22 26 42.3	
SPCG	**Spurr Capps Gl**	**1.45**	**15**		Pn	22 26 18.7	-0.8
O22K	**Cooper Landing**	**1.64**	**68**	Pn	Pn	22 26 21.1	-0.7
KAHG	**Katmai Hook Gl**	**1.67**	**213**		Pn	22 26 21.9	-0.3
STLK	**Strandline Lak**	**1.67**	**16**	Pn	Pn	22 26 21.3	-1.0
STLK				IAML		22 26 44.3	
STLK	comp=E,20nm,0.4s			IAML		22 26 44.5	
KAHC	**Katmai Hardscr**	**1.69**	**223**		Pn	22 26 22.2	-0.4
SEW	**Seward**	**1.69**	**82**	Pn	Pn	22 26 23.2	+0.7
N18K	**Kilae Creek**	**1.73**	**298**	Pn	Pn	22 26 22.0	-1.0
SUA	**Susitna One**	**1.87**	**32**	Pn	Pn	22 26 24.4	-0.4
RC01	**Rabbit Creek A**	**1.93**	**50**	Pn	Pn	22 26 24.7	-0.9
RC01				IAML		22 26 52.2	
RC01	comp=N,39nm,0.7s			IAML		22 26 55.0	
P17K	**Kvichak River**	**1.98**	**251**		Pn	22 26 25.7	-0.5
M20K	**Styx River**	**2.00**	**356**		Pn	22 26 25.7	-0.8
KDAK	**Kodiak Island**	**2.13**	**177**	Pn	Pn	22 26 26.7	-1.5
KDAK				IAML		22 26 59.0	
KDAK	comp=E,30nm,1.2s			IAML		22 27 02.9	
ACHA	**Angle Creek He**	**2.14**	**219**	Pn	Pn	22 26 28.4	0.0
M19K	**Big River Lodg**	**2.16**	**340**		Pn	22 26 27.6	-0.9
O17K	**Koliganek Bris**	**2.17**	**269**		Pn	22 26 28.1	-0.6
SKT	**Skwentna**	**2.18**	**16**	Pn	Pn	22 26 27.7	-1.2
SKT				IAML		22 26 59.4	
SKT	comp=N,13nm,0.9s			IAML		22 27 00.6	
M18K	**Stony River**	**2.18**	**318**		Pn	22 26 27.8	-1.1
ANCK	**Angle Creek**	**2.20**	**220**		Pn	22 26 28.9	-0.3
M22K	**Willow**	**2.28**	**34**		Pn	22 26 29.7	-0.4
N17K	**Nushagak Hills**	**2.28**	**288**	Pn	Pn	22 26 29.2	-0.9
PWL	**Port Wells**	**2.42**	**65**	Pn	Pn	22 26 29.8	-2.2
PWL				IAML		22 27 10.0	
	comp=N,40nm,0.5s						
PMR	**Palmer**	**2.48**	**45**		Pn	22 26 31.2	-1.5
PMR	**Palmer**	**2.48**	**45**	IAML		22 27 06.6	
PMR	comp=E,17nm,0.6s			IAML		22 27 08.9	
	comp=N,16nm,0.5s						
L19K	**White Mountain**	**2.50**	**337**		Pn	22 26 32.2	-0.9
KNK	**Knik Glacier**	**2.62**	**53**		Pn	22 26 32.3	-2.5
KNK				IAML		22 27 04.6	
	comp=N,32nm,0.4s						
L20K	**Farewell, AK**	**2.64**	**349**		Pn	22 26 34.2	-0.7
GHO	**Glory Hole Cre**	**2.67**	**44**		Pn	22 26 33.6	-1.9
GHO				IAML		22 27 12.1	
	comp=N,29nm,0.8s						
GHO				IAML		22 27 16.3	
	comp=E,30nm,1.0s						
OHAK	**Old Harbor**	**2.70**	**186**	Pn	Pn	22 26 34.0	-1.7
OHAK				IAML		22 27 07.3	
	comp=N,17nm,0.9s						
OHAK				IAML		22 27 16.3	
	comp=E,11nm,0.7s						
M17K	**Holitna River**	**2.73**	**305**		Pn	22 26 35.4	-0.8
M17K	**Holitna River**	**2.73**	**305**	IAML		22 27 07.9	
M17K	comp=N,18nm,0.9s			IAML		22 27 08.9	
	comp=E,12nm,0.9s						
PLK1	**Peulik 1**	**2.89**	**225**		Pn	22 26 38.4	+0.1
SML	**Sawmill**	**2.91**	**47**	Pn	Pn	22 26 36.8	-1.8
SML				IAML		22 27 20.1	
	comp=N,17nm,1.2s						
SML				IAML		22 27 20.3	
	comp=E,23nm,1.1s						
L18K	**Granite Mounta**	**3.00**	**323**	Pn	Pn	22 26 38.5	-1.2
PPLA	**Purkeypile**	**3.02**	**5**	Pn	Pn	22 26 40.7	+0.5
HIN	**Hinchinbrook I**	**3.19**	**78**		Pn	22 26 41.4	-1.0
M16K	**Timber Creek**	**3.25**	**293**	Pn	Pn	22 26 42.8	-0.4
M16K				IAML		22 28 56.1	
	comp=N,5.4nm,1.1s						
SCM	**Sheep Creek Mo**	**3.31**	**52**	Pn	Pn	22 26 42.4	-1.6
SCM				IAML		22 27 27.8	
	comp=E,14nm,1.1s						
SCM				IAML		22 27 47.2	
	comp=N,14nm,1.2s						
L17K	**Donlin**	**3.49**	**312**		Pn	22 26 45.3	-1.1
CAST	**Castle Rocks**	**3.55**	**5**	Pn	Pn	22 26 46.3	-0.9
EYAK	**Cordova Ski Ar**	**3.58**	**76**	Pn	Pn	22 26 46.1	-1.4
N15K	**Kwethluk River**	**3.67**	**277**	Pn	Pn	22 26 48.7	-0.1
N15K				IAML		22 27 28.0	
	comp=E,7.0nm,1.1s						
N15K				IAML		22 28 31.9	
	comp=N,9.8nm,1.1s						
KLU	**Klutina**	**3.74**	**62**	Pn	Pn	22 26 47.6	-2.2
KLU				IAML		22 27 31.0	
	comp=E,9.1nm,0.5s						
L16K	**Owhat River**	**3.74**	**302**	Pn	Pn	22 26 48.1	-1.7
TRF	**Thorofare Moun**	**3.76**	**17**	Pn	Pn	22 26 50.1	-0.1
TRF				IAML		22 27 37.0	
	comp=N,11nm,0.9s						
TRF				IAML		22 27 37.6	
	comp=E,5.0nm,0.7s						
KTH	**Kantishna Hill**	**3.77**	**13**	Pn	Pn	22 26 49.7	-0.6
KTH				IAML		22 27 40.9	
	comp=N,6.3nm,1.1s						
KTH				IAML		22 27 57.6	
	comp=E,7.1nm,1.2s						
K17K	**Iditarod**	**3.88**	**319**	Pn	Pn	22 26 50.6	-1.0
K17K				IAML		22 28 16.4	
	comp=E,2.6nm,1.1s						
K17K				IAML		22 28 38.9	
	comp=N,3.1nm,1.2s						
M24K	**Tolsona, Glenn**	**3.91**	**53**	Pn	Pn	22 26 50.8	-1.4
M24K				IAML		22 27 37.1	
	comp=N,12nm,1.1s						
RND	**Reindeer**	**3.99**	**26**	Pn	Pn	22 26 52.8	-0.5
RND				IAML		22 27 46.2	
	comp=E,4.5nm,0.9s						
RND				IAML		22 27 51.3	
	comp=N,3.8nm,1.2s						
J18K	**Innoko River**	**4.03**	**334**		Pn	22 26 52.8	-1.0
J20K	**Nowinta River**	**4.34**	**352**		Pn	22 26 56.7	-1.1
J20K				IAML		22 27 48.4	
	comp=E,2.1nm,1.2s						
J20K				IAML		22 29 55.8	
	comp=N,1.9nm,0.9s						
N25K	**Chitina, Valde**	**4.37**	**63**		Pn	22 26 56.4	-2.0
N25K	**Chitina, Valde**	**4.37**	**63**	IAML		22 27 44.5	
	comp=E,4.6nm,1.0s						
N25K				IAML		22 27 58.1	
	comp=N,5.1nm,0.9s						
IL31		**5.61**	**27**		Pn	22 27 13.9	-1.2

*IDC **20** 22:32:37.8±1.0,13.°05N×88.°92W,h0km,mb4.0/12,*
mbtmp4.1/14,ML3.6/3,MS3.5/16,Error ellipse:
s-maj=36.0km s-min=17.7km az=47.0
*SNET **20** 22:32:43.6±1.1,12.°92N×89.°51W,h25km±2km,ML4.5*
*CATAC **20** 22:32:43.4±0.4,13.°N±1.°×8.°9W±.°,h17km±2km,M4.8/36,*
MLv4.8/36,Error ellipse: s-maj=3.5km s-min=2.1km
az=34.6,confirmed
*GCG **20** 22:32:43.5±0.9,12.°95N×89.°74W,h11km±12km,MD4.7,*
ML4.0,MW4.0
*NEIC **20** 22:32:44.6±2.1,12.°91N±0.°06×89.°46W±0.°05,h35km±2km,*
mb4.3/36,Error ellipse: s-maj=12.1km s-min=3.0km
az=218.0
ISC 20 22:32:44.7±0.9,12.°94N±0.°04×89.°50W±0.°04,h46km±8km,
n313,σ1°09/331,mb4.2/25,MS3.5/15,14C-5D,Off coast
of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.57**	**18**	⇓*iP*	**Pn**	**22 32 56.0**	**-0.6**
LALI				*eS*	**Sn**	**22 33 03.9**	**-1.2**
LALI	**Alcalda de L**	**0.57**	**18**	P	**Pn**	**22 32 56.0**	**-0.6**
LALI	**Alcalda de L**	**0.57**	**18**	S	**Sn**	**22 33 04.0**	**-1.0**
LALI	**Alcalda de L**	**0.57**	**18**	P	**Pn**	**22 32 56.0**	**-0.6**
LALI	**Alcalda de L**	**0.57**	**18**	*iP*	**Pn**	**22 32 56.0**	**-0.6**
LALI	comp=Z,3μm,1.0s			IAML		22 33 04.6	
LALI	**Alcalda de L**	**0.57**	**18**	*iP*		22 32 56.0	
LALI	comp=Z,3μm,1.0s			IAML		22 33 04.6	
	comp=Z,3μm,1.0s						
JAYA	**Jayaque - finc**	**0.71**	**4**	*eP*	**Pn**	**22 32 57.7**	**-0.8**
JAYA				*eS*	**Sn**	**22 33 08.7**	**+0.2**
JAYA	**Jayaque - finc**	**0.71**	**4**	P	**Pn**	**22 32 57.8**	**-0.8**
JAYA	**Jayaque - finc**	**0.71**	**4**	P	**Pn**	**22 32 57.7**	**-0.8**
JAYA	**Jayaque - finc**	**0.71**	**4**	*iP*	**Pn**	**22 32 57.7**	**-0.8**
JAYA				*iS*	**Sn**	**22 33 08.4**	**-0.1**
JAYA	**Jayaque - finc**	**0.71**	**4**	*iP*		22 32 57.7	
JAYA				*iS*		22 33 08.4	
PANCS	**Alcalda de**	**0.73**	**25**	*eP*	**Pn**	**22 32 58.2**	**-0.5**
PANCS				*eS*	**Sn**	**22 33 09.1**	**+0.1**
PANCS	**Alcalda de**	**0.73**	**25**	P	**Pn**	**22 32 58.3**	**-0.5**
PANCS	**Alcalda de**	**0.73**	**25**	P	**Pn**	**22 32 58.3**	**-0.5**
ITCA	**Escuela Especi**	**0.76**	**16**	*eP*	**Pn**	**22 32 58.7**	**-0.4**
ITCA				*eS*	**Sn**	**22 33 09.6**	**0.0**
ITCA	**Escuela Especi**	**0.76**	**16**	P	**Pn**	**22 32 58.7**	**-0.4**
ITCA	**Escuela Especi**	**0.76**	**16**	P	**Pn**	**22 32 58.7**	**-0.4**
LOMA	**Loma Larga**	**0.77**	**24**	*eP*	**Pn**	**22 32 59.0**	**-0.3**
LOMA	**Loma Larga**	**0.77**	**24**	P	**Pn**	**22 32 59.0**	**-0.3**
LOMA	**Loma Larga**	**0.77**	**24**	S	**Sn**	**22 33 10.5**	**+0.6**
LOMA	**Loma Larga**	**0.77**	**24**	P	**Pn**	**22 32 59.0**	**-0.3**
PMON	**Piamonte**	**0.78**	**13**	*eP*	**Pn**	**22 32 58.9**	**-0.6**
PMON				*eS*	**Sn**	**22 33 11.0**	**+0.7**
PMON	**Piamonte**	**0.78**	**13**	P	**Pn**	**22 32 59.2**	**-0.3**
PMON	**Piamonte**	**0.78**	**13**	P	**Pn**	**22 32 59.0**	**-0.5**
LFRS	**El Faro**	**0.80**	**32**	*iP*	**Pn**	**22 32 59.1**	**-0.6**
SEMO	**Seminario San**	**0.80**	**19**	*eP*	**Pn**	**22 32 59.1**	**-0.6**
SEMO	**Seminario San**	**0.80**	**19**	P	**Pn**	**22 32 59.4**	**-0.3**
SEMO	**Seminario San**	**0.80**	**19**	S	**Sn**	**22 33 11.3**	**+0.6**
SEMO	**Seminario San**	**0.80**	**19**	P	**Pn**	**22 32 59.4**	**-0.3**
UTEC	**Universidad Te**	**0.81**	**21**	*eP*	**Pn**	**22 32 59.6**	**-0.2**
UTEC	**Universidad Te**	**0.81**	**21**	P	**Pn**	**22 32 59.5**	**-0.2**
UTEC	**Universidad Te**	**0.81**	**21**	S	**Sn**	**22 33 11.2**	**+0.4**
UTEC	**Universidad Te**	**0.81**	**21**	P	**Pn**	**22 32 59.6**	**-0.2**
UEES	**Universidad Ev**	**0.81**	**18**	*eP*	**Pn**	**22 32 59.5**	**-0.3**
UEES				*eS*	**Sn**	**22 33 11.0**	**+0.1**
UEES	**Universidad Ev**	**0.81**	**18**	P	**Pn**	**22 32 59.6**	**-0.2**
UEES	**Universidad Ev**	**0.81**	**18**	S	**Sn**	**22 33 11.7**	**+0.9**
UEES	**Universidad Ev**	**0.81**	**18**	P	**Pn**	**22 32 59.5**	**-0.3**
BOQS	**Boqueron**	**0.81**	**15**	⇓*iP*	**Pn**	**22 32 59.8**	**-0.3**
UESS	**Universidad de**	**0.82**	**21**	*eP*	**Pn**	**22 32 59.8**	**-0.2**
UESS				*eS*	**Sn**	**22 33 12.5**	**+1.3**
IGN	**Direccin Gen**	**0.83**	**23**	*iP*	**Pn**	**22 32 59.9**	**-0.1**
IGN				*eS*	**Sn**	**22 33 11.7**	**+0.4**
IGN	**Direccin Gen**	**0.83**	**23**	P	**Pn**	**22 33 00.0**	**-0.1**
IGN	**Direccin Gen**	**0.83**	**23**	S	**Sn**	**22 33 12.1**	**+0.8**
IGN	**Direccin Gen**	**0.83**	**23**	P	**Pn**	**22 32 59.9**	**-0.1**
PIC2	**El Picacho**	**0.83**	**16**	*eP*	**Pn**	**22 32 59.9**	**-0.4**
UDBS	**Universidad Do**	**0.84**	**23**	*eP*	**Pn**	**22 33 00.1**	**-0.1**
UDBS	**Universidad Do**	**0.84**	**23**	P	**Pn**	**22 33 00.1**	**-0.1**
UDBS	**Universidad Do**	**0.84**	**23**	S	**Sn**	**22 33 12.4**	**+0.9**
UDBS	**Universidad Do**	**0.84**	**23**	P	**Pn**	**22 33 00.5**	**+0.3**
CEDA	**San Andres**	**0.86**	**7**	*eP*	**Pn**	**22 32 59.9**	**-0.6**
CEDA	**San Andres**	**0.86**	**7**	P	**Pn**	**22 33 00.3**	**-0.2**
CEDA	**San Andres**	**0.86**	**7**	S	**Sn**	**22 33 12.6**	**+0.6**
CEDA	**San Andres**	**0.86**	**7**	P	**Pn**	**22 33 00.3**	**-0.2**
LFU	**La Fuente**	**0.88**	**25**	*iP*	**Pn**	**22 33 01.0**	**+0.2**
CEVE	**Cerro Verde**	**0.89**	**352**	*eP*	**Pn**	**22 33 00.6**	**-0.4**
CEVE				*eS*	**Sn**	**22 33 15.1**	**+2.1**
CEVE	**Cerro Verde**	**0.89**	**352**	P	**Pn**	**22 33 00.8**	**-0.2**
CEVE	**Cerro Verde**	**0.89**	**352**	S	**Sn**	**22 33 13.8**	**+0.8**
CEVE	**Cerro Verde**	**0.89**	**352**	P	**Pn**	**22 33 00.6**	**-0.4**
SBLS	**San Blas**	**0.90**	**352**	*eP*	**Pn**	**22 33 00.6**	**-0.6**
COEG	**Centro de Oper**	**0.90**	**42**	*iP*	**Pn**	**22 33 00.7**	**-0.3**
COEG				*eS*	**Sn**	**22 33 14.1**	**+1.1**
COEG	**Centro de Oper**	**0.90**	**42**	P	**Pn**	**22 33 00.8**	**-0.3**
QUEZ	**Alcaldia de Qu**	**0.91**	**14**	*eP*	**Pn**	**22 33 01.3**	**+0.1**
QUEZ				*eS*	**Sn**	**22 33 14.5**	**+1.2**
TECO	**Alcaldia de Te**	**0.91**	**50**	*eP*	**Pn**	**22 33 00.8**	**-0.4**
TECO				*eS*	**Sn**	**22 33 13.7**	**+0.4**
TECO	**Alcaldia de Te**	**0.91**	**50**	P	**Pn**	**22 33 01.0**	**-0.2**
TECO	**Alcaldia de Te**	**0.91**	**50**	S	**Sn**	**22 33 14.3**	**+1.1**
TECO	**Alcaldia de Te**	**0.91**	**50**	P	**Pn**	**22 33 00.8**	**-0.4**
SNVI	**San Vicente**	**0.92**	**44**	*eP*	**Pn**	**22 33 01.3**	**-0.1**
SNJE	**San Jose**	**0.93**	**353**	*iP*	**Pn**	**22 33 01.0**	**-0.5**
SNJE				*eP*	**Pn**	**22 33 01.0**	**-0.5**
PAVA	**Las Pavas**	**0.94**	**35**	*eP*	**Pn**	**22 33 01.7**	**+0.1**
PAVA				*eS*	**Sn**	**22 33 15.0**	**+1.0**
PAVA	**Las Pavas**	**0.94**	**35**	P	**Pn**	**22 33 01.8**	**+0.2**
PAVA	**Las Pavas**	**0.94**	**35**	S	**Sn**	**22 33 15.5**	**+1.5**
PAVA	**Las Pavas**	**0.94**	**35**	P	**Pn**	**22 33 01.8**	**+0.1**
UESV	**Universidad de**	**0.98**	**45**	*eP*	**Pn**	**22 33 01.8**	**-0.1**
UESV				*eS*	**Sn**	**22 33 15.6**	**+0.8**
UESV	**Universidad de**	**0.98**	**45**	P	**Pn**	**22 33 01.9**	**-0.1**
UESV	**Universidad de**	**0.98**	**45**	P	**Pn**	**22 33 01.9**	**-0.1**
ALJI	**Alcalda de J**	**0.98**	**67**	*iP*	**Pn**	**22 33 01.8**	**-0.3**
ALJI				*eS*	**Sn**	**22 33 15.8**	**+1.0**
ALJI	**Alcalda de J**	**0.98**	**67**	P	**Pn**	**22 33 01.9**	**-0.1**
ALJI	**Alcalda de J**	**0.98**	**67**	P	**Pn**	**22 33 01.9**	**-0.1**
NUBE	**Las Nubes**	**0.99**	**344**	*eP*	**Pn**	**22 33 01.6**	**-0.8**
NUBE				*eS*	**Sn**	**22 33 15.5**	**+0.1**
NUBE	**Las Nubes**	**0.99**	**344**	P	**Pn**	**22 33 01.6**	**-0.8**
NUBE	**Las Nubes**	**0.99**	**344**	*iP*	**Pn**	**22 33 01.6**	**-0.8**
NUBE				*eS*	**Sn**	**22 33 14.6**	**-0.7**
NUBE	**Las Nubes**	**0.99**	**344**	*iP*		22 33 01.6	
NUBE				*eS*		22 33 14.6	
UNIC	**Universidad Ca**	**1.03**	**357**	*eP*	**Pn**	**22 33 02.7**	**-0.1**
UNIC				*eS*	**Sn**	**22 33 17.5**	**+1.3**
UNIC	**Universidad Ca**	**1.03**	**357**	P	**Pn**	**22 33 02.8**	**-0.1**
UNIC	**Universidad Ca**	**1.03**	**357**	P	**Pn**	**22 33 02.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.06**	**45**	P	**Pn**	**22 33 03.7**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.06**	**45**	S	**Sn**	**22 33 19.2**	**+2.2**
SCLA	**Alcaldia de Sa**	**1.06**	**45**	P	**Pn**	**22 33 03.5**	**+0.3**
LOAL	**Lomas de Alarc**	**1.08**	**345**	*eP*	**Pn**	**22 33 03.4**	**-0.1**
LOAL				*eS*	**Sn**	**22 33 19.3**	**+1.9**
LOAL	**Lomas de Alarc**	**1.08**	**345**	P	**Pn**	**22 33 03.6**	**+0.1**
LOAL	**Lomas de Alarc**	**1.08**	**345**	S	**Sn**	**22 33 18.8**	**+1.4**
LOAL	**Lomas de Alarc**	**1.08**	**345**	P	**Pn**	**22 33 03.5**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.11**	**346**	*eP*	**Pn**	**22 33 03.7**	**-0.2**
SLOZ				*eS*	**Sn**	**22 33 19.1**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.11**	**346**	P	**Pn**	**22 33 03.9**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.11**	**346**	P	**Pn**	**22 33 03.9**	**0.0**
TECA	**Tecapa**	**1.11**	**60**	*eP*	**Pn**	**22 33 03.6**	**-0.4**
TECA				*eP*	**Pn**	**22 33 03.7**	**-0.4**
TECA				*eS*	**Sn**	**22 33 21.4**	**+3.0**
PQSS	**Presa 15 de Se**	**1.14**	**53**	*eP*	**Pn**	**22 33 04.4**	**+0.2**
PQSS				*eS*	**Sn**	**22 33 20.4**	**+1.8**
PQSS	**Presa 15 de Se**	**1.14**	**53**	P	**Pn**	**22 33 04.3**	**+0.2**
PACA	**Pacayal**	**1.26**	**65**	*eP*	**Pn**	**22 33 06.2**	**+0.3**
PACA				*eS*	**Sn**	**22 33 23.9**	**+2.1**
PACA	**Pacayal**	**1.26**	**65**	P	**Pn**	**22 33 06.5**	**+0.6**
PACA	**Pacayal**	**1.26**	**65**	P	**Pn**	**22 33 06.3**	**+0.3**
LCY	**Lacayo**	**1.27**	**68**	*eP*	**Pn**	**22 33 06.0**	**-0.1**
RANC	**El Ranchito**	**1.27**	**67**	*eP*	**Pn**	**22 33 06.1**	**-0.1**
RANC				*eS*	**Sn**	**22 33 23.8**	**+1.6**
RANC	**El Ranchito**	**1.27**	**67**	P	**Pn**	**22 33 06.4**	**+0.2**
RANC	**El Ranchito**	**1.27**	**67**	P	**Pn**	**22 33 06.3**	**+0.1**
VSM	**San Miguel**	**1.28**	**68**	*iP*	**Pn**	**22 33 06.7**	**+0.2**
BLLM	**Bellamira**	**1.32**	**68**	*eP*	**Pn**	**22 33 06.7**	**-0.1**
LLGN	**La Laguna**	**1.33**	**24**	*eP*	**Pn**	**22 33 07.9**	**+1.1**
LLGN				*eS*	**Sn**	**22 33 25.8**	**+2.4**
LLGN	**La Laguna**	**1.33**	**24**	P	**Pn**	**22 33 08.0**	**+1.1**
LLGN	**La Laguna**	**1.33**	**24**	S

TEL3 Telica 3 2.61 98 P **Pn 22 33 24.3 -0.1**
HERN Volcan Telica 2.62 97 Pn **Pn 22 33 23.7 -0.9**
HERN Volcan Telica 2.62 97 P **Pn 22 33 24.2 -0.4**
HERN Volcan Telica 2.62 97 S **Sn 22 33 55.2 -0.1**
HERN Volcan Telica 2.62 97 ⇑P **Pn 22 33 24.0 -0.6**
HERN Volcan Telica 2.62 97 P **Pn 22 33 24.2 -0.4**
POLN Al Sur del Vol 2.63 96 P **Pn 22 33 25.3 +0.5**
POLN Al Sur del Vol 2.63 96 ⇑P **Pn 22 33 24.3 -0.4**
POLN Al Sur del Vol 2.63 96 P **Pn 22 33 24.5 -0.3**
RTAL Retalhuleu 2.65 307 Pn **Pn 22 33 27.2 +2.2**
RTAL Retalhuleu 2.65 307 P **Pn 22 33 26.8 +1.8**
RTAL Retalhuleu 2.65 307 P Pn 22 33 38.0 +13
PLRN Geotermica Pol 2.69 97 P **Pn 22 33 25.7 +0.2**
PLRN S **Sn 22 33 56.8 +0.1**
PLRN Geotermica Pol 2.69 97 ⇑P **Pn 22 33 25.6 +0.2**
PLRN Geotermica Pol 2.69 97 P **Pn 22 33 25.8 +0.3**
CNGA Al SSO del Vol 2.77 99 P **Pn 22 33 27.3 +0.8**
CNGA Al SSO del Vol 2.77 99 ⇑P **Pn 22 33 27.1 +0.5**
CNGA Al SSO del Vol 2.77 99 P **Pn 22 33 26.2 -0.3**
CNGN Cerro Negro 2.77 99 Pn **Pn 22 33 25.8 -0.8**
CNGN Cerro Negro 2.77 99 P **Pn 22 33 27.6 +1.0**
CNGN Cerro Negro 2.77 99 S **Sn 22 34 00.8 +2.0**
CNGN Cerro Negro 2.77 99 ⇑P **Pn 22 33 26.0 -0.5**
CNGN Cerro Negro 2.77 99 P **Pn 22 33 26.3 -0.3**
MOMN Momotombo 2.94 100 P **Pn 22 33 29.8 +0.9**
MOMN S **Sn 22 34 03.1 +0.1**
MOMN Momotombo 2.94 100 ⇑P **Pn 22 33 29.5 +0.6**
MOMN Momotombo 2.94 100 P **Pn 22 33 29.8 +0.9**
LIMN Finca el Limon 3.05 87 P **Pn 22 33 31.4 +0.8**
LIMN Finca el Limon 3.05 87 ⇑P **Pn 22 33 30.9 +0.4**
LIMN Finca el Limon 3.05 87 P **Pn 22 33 31.0 +0.5**
HUEH Huehuetenango 3.06 321 Pn **Pn 22 33 31.9 +1.2**
SAPS Ciudad Sandino 3.12 104 P **Pn 22 33 32.5 +1.2**
SAPS Ciudad Sandino 3.12 104 S **Sn 22 34 08.2 +0.8**
SAPS Ciudad Sandino 3.12 104 ⇑P **Pn 22 33 32.7 +1.3**
SAPS Ciudad Sandino 3.12 104 P **Pn 22 33 32.9 +1.5**
MGAN Managua 3.27 104 Pn **Pn 22 33 32.5 -0.9**
RCVN Varillal2 3.28 78 P **Pn 22 33 34.5 +0.8**
RCVN Varillal2 3.28 78 ⇑P **Pn 22 33 34.3 +0.6**
RCVN Varillal2 3.28 78 P **Pn 22 33 35.2 +1.4**
RCON San Juan de Ri 3.30 80 P **Pn 22 33 34.9 +0.9**
RCON San Juan de Ri 3.30 80 P **Pn 22 33 34.8 +0.9**
RCPN Sur Rio San Ju 3.37 80 P **Pn 22 33 35.7 +0.9**
RCPN Sur Rio San Ju 3.37 80 P **Pn 22 33 35.8 +0.9**
NANN Nandasmo 3.45 106 S **Sn 22 34 17.0 +1.5**
NANN Nandasmo 3.45 106 P **Pn 22 33 37.7 +1.7**
NANN Nandasmo 3.45 106 P **Pn 22 33 37.6 +1.7**
MATN Matagalpa 3.48 90 P **Pn 22 33 37.2 +0.8**
MATN Matagalpa 3.48 90 S **Sn 22 34 17.6 +1.1**
MATN Matagalpa 3.48 90 ⇑P **Pn 22 33 36.5 0.0**
MATN Matagalpa 3.48 90 P **Pn 22 33 36.6 +0.2**
BOAB BOACO BROADBAN 3.77 97 Pn **Pn 22 33 39.5 -0.9**
BOAB BOACO BROADBAN 3.77 97 P **Pn 22 33 40.7 +0.4**
BOAB BOACO BROADBAN 3.77 97 ⇑P **Pn 22 33 39.6 -0.7**
BOAB BOACO BROADBAN 3.77 97 P **Pn 22 33 40.3 -0.1**
PETF Flores 3.97 355 Pn **Pn 22 33 43.7 +0.7**
CCIG Comitan 4.19 323 Pn **Pn 22 33 47.6 +1.4**
ACON Acoyapa 4.33 102 Pn **Pn 22 33 48.0 0.0**
ACON Acoyapa 4.33 102 *eP* **Pn 22 33 48.0 0.0**
ALIBA Liberia Airpor 4.52 121 *eP* **Pn 22 33 52.5 +1.8**
VRLE La Escondida, 4.58 117 *eP* **Pn 22 33 54.2 +2.6**
VORI VORI 4.58 117 *eP* **Pn 22 33 54.5 +2.8**
COLC Colonia 4.78 118 *eP* **Pn 22 33 55.9 +1.7**
NICO Nicoya 4.85 125 *eP* **Pn 22 33 56.4 +1.2**
CMARA Lajas Hojancha 4.94 126 *eP* **Pn 22 33 57.5 +1.0**
INDI Punta indio, G 4.97 128 P **Pn 22 33 58.0 +1.2**
INDI Punta indio, G 4.97 128 P **Pn 22 33 58.0 +1.2**
INDI Punta indio, G 4.97 128 S **Sn 22 34 50.6 -2.5**
ESPN Las Esperanzas 5.13 98 Pn **Pn 22 33 59.5 +0.5**
ESPN Las Esperanzas 5.13 98 *eP* **Pn 22 33 59.0 +0.1**
JTS Las Juntas de 5.17 120 Pn **Pn 22 34 08.0 +0.8**
JTS Las Juntas de 5.17 120 Pn **Pn 22 33 59.9 +0.3**
comp=Z,13nm,0.3s,baz=327,slow=17,SNR=11
JTS Sn **Sn 22 34 56.7 -1.5**
comp=Z,9.8nm,0.3s,baz=279,slow=19,SNR=1.7
JTS Lg Lg 22 35 19.7
comp=Z,2.5nm,0.3s,baz=311,slow=20,SNR=9.9
JTS Las Juntas de 5.17 120 *eP* **Pn 22 34 01.6 +1.9**
ARE1 Arenal 1 5.29 117 *eP* **Pn 22 34 03.3 +2.1**
VARE2 V. Arenal 5.29 117 *eP* **Pn 22 34 03.5 +2.2**
CEDE Laguna Cedeo 5.29 117 *eP* **Pn 22 34 03.5 +2.2**
SOCE Pocosol 5.42 118 Pn **Pn 22 34 02.7 -0.3**
CBL1 Cabuya 5.46 127 *eP* **Pn 22 34 04.3 +0.8**
VBV1 V. Barva 5.99 117 *eP* **Pn 22 34 13.1 +2.0**
HDC Heredia 6.03 118 Pn **Pn 22 34 11.1 -0.5**
PICV PH. Pirrs 6.16 122 *eP* **Pn 22 34 16.0 +2.8**
PISJ San Jernim 6.21 121 *eP* **Pn 22 34 16.5 +2.4**
ABE2 San Pablo 6.23 121 *eP* **Pn 22 34 16.5 +2.1**
LCR2 La Lucha 2 6.26 120 Pn **Pn 22 34 15.1 +0.4**
LCR2 La Lucha 2 6.26 120 *eP* **Pn 22 34 16.8 +2.1**
VICA Volcano Irazu 6.27 117 *eP* **Pn 22 34 16.8 +1.7**
VTLA Turrialba Volc 6.33 117 *eP* **Pn 22 34 18.4 +2.6**
CMIG Matias Romero 6.64 309 Pn **Pn 22 34 21.0 +1.3**
comp=Z,6.9nm,0.3s,baz=105,slow=12,SNR=50
CMIG Sn **Sn 22 35 34.2 +0.1**
comp=Z,1.2nm,0.3s,baz=90,slow=18,SNR=2.2
comp=Z,29nm,0.5s
DRK0 Durika 7.14 120 *eP* **Pn 22 34 27.8 +0.9**
FIMO Fila Mora 7.20 122 *eP* Pn 22 34 31.1 +3.6
TEIG Tepich 7.34 9 **Pn 22 34 30.4 +1.1**
TEIG Tepich 7.34 9 Pn **Pn 22 34 29.4 +0.1**
baz=231,slow=24,SNR=20
TEIG Sn **Sn 22 35 46.7 -4.5**
baz=252,slow=24,SNR=1.7
TEIG Lg Lg 22 36 25.9
baz=253,slow=19,SNR=3.2
BRU2 Volcan 7.85 121 Pn **Pn 22 34 37.4 +0.9**
TLIG Tlapa 9.88 299 Pn **Pn 22 35 04.6 +0.3**
SOR Soroa 11.58 31 Pn **Pn 22 35 28.2 +0.9**
MTDJ Mount Denham 12.66 64 Pn **Pn 22 35 41.8 -0.5**
MOIG Morelia 13.06 302 Pn **Pn 22 35 49.0 +1.0**
ROSC El Rosal 17.01 117 LR LR 22 44 38.5
comp=Z,86nm,19.3s,baz=280,slow=44
656A Willston 17.58 21 **P 22 36 47.9 +0.9**
FLOC Florencia 17.76 128 **Pn 22 36 48.4 -0.4**
FLOC IAmb IAmb 22 36 53.8
comp=Z,17nm,1.1s
COHC Cochancay 18.38 146 P **Pn 22 36 56.4 +0.1**
HNDO Hondo 18.84 333 P **P 22 37 01.1 +0.3**
SDV Santo Domingo 18.95 100 P **P 22 37 00.4 -2.1**
SDV Santo Domingo 18.95 100 P P 22 36 55.7 -6.8
comp=Z,1.3nm,0.3s,baz=332,slow=7.0,SNR=4.6
comp=Z,3.0nm,0.5s
BRDY Brady 20.25 336 P **P 22 37 15.5 -0.7**
BRDY IAmb IAmb 22 37 19.8
comp=Z,7.6nm,0.8s
WHTX Lake Whitney, 20.32 340 P **P 22 37 16.8 -0.2**
WHTX IAmb IAmb 22 37 34.4
comp=Z,22nm,0.9s
SAND Sanderson 20.58 327 P **P 22 37 20.6 +0.8**
OZNA Ozona 20.86 331 P **P 22 37 24.0 +1.1**
TXAR Lajitas Array 20.95 323 P **P 22 37 25.5 +1.5**
TXAR Lajitas Array 20.95 323 P Pn 22 37 26.8 -0.3
comp=Z,3.1nm,0.5s,baz=145,slow=11,SNR=36
comp=Z,3.1nm,0.5s
TX31 Lajitas Ar. Si 20.96 323 P Pn 22 37 25.8 -1.2
FW07 Weatherford 21.08 340 P **P 22 37 25.5 +0.3**
PLPT Palo Pinto 21.36 339 P **P 22 37 28.1 0.0**
PLPT IAmb IAmb 22 37 48.5
comp=Z,17nm,1.2s
BAUV El Baul 21.43 99 P **P 22 37 27.9 -1.2**
BAUV IAmb IAmb 22 37 35.8
comp=Z,16nm,0.8s
MIAR Mount Ida 21.82 351 P **P 22 37 33.9 +0.8**
MIAR IAmb IAmb 22 37 59.8
comp=Z,7.0nm,0.9s
MNHN Monahans 22.01 328 P **P 22 37 35.4 +0.2**
APMT Aspermont 22.49 336 P **P 22 37 39.6 -0.8**
APMT IAmb IAmb 22 37 41.8
comp=Z,8.1nm,0.9s
ATAH Atahualpa 22.80 150 LR LR 22 45 29.6
comp=Z,65nm,18.4s,baz=333,slow=34
LCAR Lake Charles 23.07 357 P **P 22 37 46.4 0.0**
LCAR IAmb IAmb 22 38 18.2
comp=Z,7.9nm,1.0s
TKL Tuckaleechee C 23.20 12 LR LR 22 47 04.3
comp=Z,109nm,18.4s,baz=185,slow=38
WMOK Wichita Mounta 23.27 340 P **P 22 37 47.0 -1.4**
FNO Franklin 23.34 343 P **P 22 37 48.9 -0.1**
T42A Van Buren 24.03 357 P **P 22 37 55.0 -0.4**
T42A IAmb IAmb 22 38 22.6
comp=Z,10nm,1.4s

SMWD Samnorwood 24.11 338 P **P 22 37 55.8 -0.4**
SMWD IAmb IAmb 22 37 56.8
comp=Z,10nm,0.8s
CGM3 Cape Girardeau 24.25 360 P **P 22 37 57.5 0.0**
CGM3 IAmb IAmb 22 37 59.9
comp=Z,13nm,1.2s
V58A Windy Hill, Pi 24.60 21 P **P 22 37 59.7 -0.9**
S44A Carbondale 24.65 0 P **P 22 38 02.3 +1.3**
SIUC Southern Illin 24.67 1 P **P 22 38 02.3 +1.1**
SIUC IAmb IAmb 22 38 26.4
comp=Z,8.9nm,0.8s
CCM Cathedral Cave 25.06 357 P **P 22 38 05.0 +0.2**
CCM IAmb IAmb 22 38 38.6
comp=Z,6.8nm,1.0s
BOAV Boa Vista 30.53 108 P **P 22 38 53.0 -1.0**
BOAV IAmb IAmb 22 39 04.8
comp=Z,6.9nm,1.3s
SUSD Miller 32.42 347 P **P 22 39 09.2 -1.1**
SADO Sadowa 32.93 14 LR LR 22 52 25.3
comp=Z,91nm,18.7s,baz=242,slow=36
COWI Conover 33.05 0 P **P 22 39 14.8 -1.0**
PDAR Pinedale Array 34.42 333 P **P 22 39 28.6 +0.6**
comp=Z,0.2nm,0.5s,baz=134,slow=11,SNR=2.7
PDAR PcP **PcP 22 42 03.4 +0.6**
comp=Z,0.3nm,0.6s,baz=134,slow=4.3,SNR=3.8
PDAR LR LR 22 56 52.5
comp=Z,34nm,18.3s,baz=116,slow=42
comp=Z,0.2nm,0.5s
AGMN Agassiz Nation 35.64 353 P **P 22 39 37.5 -0.7**
AGMN IAmb IAmb 22 39 39.4
comp=Z,4.5nm,0.9s
MDND Maddock 35.81 348 P **P 22 39 39.3 -0.4**
LPAZ La Paz 35.91 143 P **P 22 39 41.4 -0.1**
LPAZ La Paz 35.91 143 LR LR 22 54 37.8
comp=Z,56nm,21.5s,baz=322,slow=37
NVAR Mina Array Bea 36.03 320 P **P 22 39 44.8 +2.8**
comp=Z,1.4nm,0.8s,baz=134,slow=7.4,SNR=4.7
comp=Z,1.4nm,0.8s
YNE Yellowstone No 36.43 335 P **P 22 39 44.5 -0.7**
YNE IAmb IAmb 22 39 47.8
comp=Z,2.8nm,1.0s
DGMT Dagmar 37.47 344 P **P 22 39 53.9 +0.1**
MCMT McKenzie Canyo 37.51 332 P **P 22 39 54.9 +0.5**
ULM Lac du Bonnet 37.57 353 P **P 22 39 53.2 -1.3**
ULM IAmb IAmb 22 39 53.7
comp=Z,6.5nm,1.1s
ULM Lac du Bonnet 37.57 353 P **P 22 39 53.1 -1.4**
comp=Z,1.4nm,0.3s,baz=184,slow=8.0,SNR=5.7
ULM LR LR 22 57 01.7
comp=Z,71nm,20.8s,baz=19,slow=39
comp=Z,1.4nm,0.3s
YBH Yreka Blue Hor 40.70 321 LR LR 22 57 49.7
comp=Z,45nm,19.0s,baz=149,slow=37
NEW Newport 42.03 332 LR LR 23 00 52.1
comp=Z,33nm,18.2s,baz=143,slow=40
SCHQ Schefferville 45.41 18 P P 22 40 54.9 -3.8
comp=Z,2.8nm,0.7s,baz=233,slow=10,SNR=2.4
comp=Z,2.8nm,0.7s
FCC Fort Churchill 45.86 357 P **P 22 41 01.0 -1.2**
FCC IAmb IAmb 22 41 02.3
comp=Z,5.0nm,1.2s
H03N2 Juan Fernandez 47.21 168 T T 23 31 46.6
baz=347,slow=76,SNR=14
H03N1 Juan Fernandez 47.22 168 T T 23 31 45.9
baz=347,slow=76,SNR=24
H03N3 Juan Fernandez 47.23 168 T T 23 31 44.8
baz=347,slow=76,SNR=22
BDFB Brasilia 49.91 123 LR LR 23 04 42.6
comp=Z,45nm,18.0s,baz=28,slow=39
CPUP Villa Florida 50.03 141 LR LR 23 03 59.6
comp=Z,38nm,19.6s,baz=224,slow=38
YKA Yellowknife Ar 52.63 346 P **P 22 41 53.0 -0.8**
comp=Z,1.8nm,0.7s,baz=148,slow=7.7,SNR=27
comp=Z,1.8nm,0.7s
DLBC Dease Lake 54.62 335 P **P 22 42 08.6 0.0**
comp=Z,0.8nm,0.2s,baz=160,slow=15,SNR=2.0
comp=Z,0.8nm,0.2s
PLCA Paso Flores 56.22 163 P **P 22 42 18.6 -1.7**
comp=Z,1.8nm,0.9s,baz=340,slow=12,SNR=3.6
comp=Z,1.8nm,0.9s
SFJD Kangerlussuaq 59.80 17 LR LR 23 09 02.4
comp=Z,79nm,18.2s,baz=82,slow=37
RES Resolute Bay 61.80 358 LR LR 23 10 03.6
comp=Z,40nm,19.6s,baz=9.0,slow=36
ILAR Eielson Array 64.77 336 P **P 22 43 17.4 -0.8**
comp=Z,0.8nm,1.0s,baz=132,slow=5.5,SNR=5.5
comp=Z,0.8nm,1.0s
BMAR Burnt Mountain 65.12 340 P **P 22 43 20.5 0.0**
ESDC Sonseca Array 78.46 52 P P 22 44 38.9 -2.3
comp=Z,0.4nm,0.8s,baz=270,slow=3.7,SNR=2.6
comp=Z,0.4nm,0.8s
SPITS Spitsbergen Ar 80.63 12 P **P 22 44 51.3 -0.9**
comp=Z,13nm,1.1s,baz=299,slow=3.0,SNR=1.7
comp=Z,13nm,1.1s
DBIC Dimbokro 83.33 85 LR LR 23 18 19.5
comp=Z,24nm,20.3s,baz=340,slow=33
HFS Hagfors 85.33 29 LR LR 23 22 37.5
comp=Z,71nm,18.8s,baz=321,slow=35
ARCES ARCESS Array B 86.36 19 P **P 22 45 20.5 -1.2**
comp=Z,4.2nm,1.0s,baz=297,slow=5.8,SNR=1.3
ARCES LR LR 23 21 30.3
comp=Z,32nm,19.2s,baz=227,slow=34
comp=Z,4.2nm,1.0s
MKAR Makanchi Array 120.08 7 PKP **PKPdf 22 51 29.9 -0.8**
comp=Z,0.2nm,0.5s,baz=333,slow=3.7,SNR=4.6
ASAR Alice Springs 137.59 249 PKP **PKPdf 22 52 05.4 +0.9**
comp=Z,0.2nm,0.4s,baz=67,slow=3.0,SNR=1.6
CMAR Chiang Mai Arr 147.71 345 PKPbc **PKPbc 22 52 25.6 +0.3**
comp=Z,1.1nm,0.6s,baz=339,slow=3.9,SNR=7.4

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*ATH **20** 22:34:59.8, 37.°93N×20.°96E, h12km±2km, ML3.0/7, Manual Solution by F.Xalaris First location: 2019/03/20 22:35:53, This location: 2019/03/21 09:03:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **20** 22:35:01.1, 37.°97N×20.°93E, h28km±1km, ML3.1/6, Error ellipse: s-maj=2.4km s-min=0.9km az=23.0*
*IDC **20** 22:35:04.3±1.5, 38.°19N×21.°98E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=49.2km s-min=28.0km az=134.0*
ISC 20 22:35:00.2±0.9, **37.°93N**±0.°03×**20.°96E**±0.°02, **h9**km±7km, **n37**, σ0§**90**/48, **mb3.8**/5, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLEM	**Kyllini,Ilia,G**	**0.14**	**104**	P	**Pg**	**22 35 03.1**	**-0.2**
CLEM				S	**Sg**	**22 35 05.4**	**0.0**
KYPS	**Kipseli, Zakin**	**0.15**	**226**	P	**Pg**	**22 35 03.9**	**+0.4**
KYPS				S	**Sg**	**22 35 05.9**	**+0.2**
ORTH	**Orthonies,Zaky**	**0.22**	**251**	P	**Pg**	**22 35 04.8**	**0.0**
ORTH				S	**Sg**	**22 35 08.1**	**+0.3**
LTHK	**Lithakia**	**0.24**	**205**	P	**Pg**	**22 35 04.7**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.35**	**302**	P	**Pg**	**22 35 07.6**	**+0.4**
PSDA				S	**Sb**	**22 35 14.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.35**	**302**	P	**Pg**	**22 35 07.4**	**+0.3**
PSDA				S	**Sg**	**22 35 12.2**	**+0.4**
YRMI	**Loutra Irminis**	**0.35**	**60**	P	**Pg**	**22 35 07.4**	**+0.2**
YRMI				S	**Sg**	**22 35 11.2**	**-0.7**
VLS	**Valsamata**	**0.39**	**311**	P	**Pg**	**22 35 08.1**	**+0.3**
VLS				S	**Sb**	**22 35 15.1**	**-0.3**
	4μm,0.2s						
VLS	**Valsamata**	**0.39**	**311**	P	**Pg**	**22 35 08.2**	**+0.3**
SMHA	**Samh**	**0.41**	**323**	P	**Pg**	**22 35 07.5**	**-0.7**
RLS	**Riolos of Patr**	**0.42**	**71**	P	**Pg**	**22 35 09.1**	**+0.6**
RLS				S	**Sb**	**22 35 16.8**	**+0.5**
	3μm,0.4s						
RLS	**Riolos of Patr**	**0.42**	**71**	P	**Pg**	**22 35 08.7**	**+0.2**
DMLN	**Damoulianata-K**	**0.56**	**304**	P	**Pg**	**22 35 11.3**	**+0.2**
DMLN				S	**Sb**	**22 35 19.4**	**-0.9**
	4μm,0.5s						
DMLN	**Damoulianata-K**	**0.56**	**304**	P	**Pg**	**22 35 11.2**	**+0.1**
DRO	**Drossia**	**0.59**	**87**	P	**Pg**	**22 35 12.1**	**+0.4**
DRO				S	**Sb**	**22 35 22.3**	**+1.0**
	5μm,0.3s						
DRO	**Drossia**	**0.59**	**87**	P	**Pg**	**22 35 12.0**	**+0.4**
FSK	**Fiskardo**	**0.62**	**330**	P	**Pg**	**22 35 12.3**	**+0.1**
AMT	**Artemida-Makis**	**0.71**	**123**	P	**Pg**	**22 35 13.5**	**-0.4**
EVGI	**Lefkada island**	**0.73**	**341**	P	**Pg**	**22 35 13.9**	**-0.5**
EVGI				S	**Sb**	**22 35 24.7**	**-0.7**
	965nm,0.1s						
EVGI	**Lefkada island**	**0.73**	**341**	P	**Pg**	**22 35 14.1**	**-0.3**
UPR	**University Cam**	**0.74**	**61**	P	**Pg**	**22 35 15.1**	**+0.6**
NYDR	**Nydri-Lefkada**	**0.81**	**345**	P	**Pg**	**22 35 15.3**	**-0.6**
PVO	**Paravola**	**0.82**	**33**	P	**Pb**	**22 35 16.6**	**0.0**
LKD2	**Lefkada island**	**0.90**	**345**	P	**Pg**	**22 35 16.9**	**-0.5**
EFP	**Efpalio**	**0.90**	**56**	P	**Pg**	**22 35 17.5**	**0.0**
TSLK	**Tsoukalades, L**	**0.93**	**345**	P	**Pg**	**22 35 17.6**	**-0.5**
KLV	**Kalavryta, Ach**	**0.95**	**82**	P	**Pg**	**22 35 17.8**	**-0.6**
ANX	**Ano Chora**	**1.01**	**48**	P	**Pg**	**22 35 19.5**	**-0.2**
KALE	**Kalithea**	**1.04**	**63**	P	**Pb**	**22 35 19.3**	**-1.1**
ITM	**Ithomi**	**1.07**	**134**	P	**Pb**	**22 35 19.6**	**-1.4**
ITM				S	**Sb**	**22 35 36.0**	**+1.0**
	448nm,0.6s						
ITM	**Ithomi**	**1.07**	**134**	P	**Pb**	**22 35 19.5**	**-1.4**
GUR	**Goura**	**1.09**	**89**	P	**Pb**	**22 35 20.7**	**-0.6**
HFS	**Hagfors**	**22.70**	**351**	P	**P**	**22 40 06.3**	**+4.3**
	0.9nm,0.5s,baz=172,slow=12,SNR=4.1						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**30.05**	**220**	P	P	22 41 21.6	+12
	65nm,0.3s,baz=27,slow=9.9,SNR=1.6						
KURBB	**Kurchatov Arra**	**42.10**	**53**	P	**P**	**22 42 51.3**	**-1.1**
	0.5nm,0.2s,baz=282,slow=8.0,SNR=3.5						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**45.14**	**58**	P	**P**	**22 43 16.1**	**-0.9**
	0.2nm,0.5s,baz=273,slow=7.9,SNR=5.8						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.60**	**48**	P	**P**	**22 43 19.3**	**-1.2**
	1.1nm,0.6s,baz=274,slow=8.3,SNR=5.2						
	1.1nm,0.6s						

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*IDC **20** 22:39:54.4±3.4, 4.°13S×102.°25E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=160.2km s-min=27.2km az=54.0*
*DJA **20** 22:40:01.0±0.4, 4.°5±3.°×10.°3E±.°, h35km±5km, M3.6/6, MLv3.6/6*
ISC 20 22:39:58.8±1.6, **4.°6S**±0.°1×**102.°5E**±0.°1, **h56**km, **n12**, σ0§**63**/12, **mb3.6**/5, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.52**	**66**	P	**Pn**	**22 40 11.1**	**+0.4**
MNAI				S	**Sn**	**22 40 18.5**	**-0.8**
KSI	**Kapahiang**	**0.93**	**7**	P	**Pn**	**22 40 16.5**	**+0.7**
KSI				S	**Sn**	**22 40 28.6**	**+0.3**
LWLI	**Liwa**	**1.63**	**106**	P	**Pn**	**22 40 26.4**	**+1.1**
LWLI				S	**Sn**	**22 40 44.8**	**-0.5**
MDSI	**Maura Dua**	**1.69**	**87**	P	**Pn**	**22 40 26.5**	**+0.5**
MDSI				S	**Sn**	**22 40 46.6**	**0.0**
ASAR	**Alice Springs**	**35.75**	**125**	P	P	22 46 59.1	+6.5
	0.3nm,0.4s,baz=299,slow=7.5,SNR=6.3						
	0.3nm,0.4s						
SONM	**Songino Array**	**52.30**	**3**	P	**P**	**22 49 04.7**	**-0.1**
	0.4nm,0.7s,baz=182,slow=7.2,SNR=3.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**54.18**	**343**	P	**P**	**22 49 18.4**	**-0.1**
	0.3nm,0.4s,baz=156,slow=8.6,SNR=6.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**60.16**	**348**	P	**P**	**22 50 00.1**	**-0.5**
	0.8nm,0.4s,baz=155,slow=5.6,SNR=5.0						
	0.8nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.27**	**218**	T	T	23 54 41.9	
	baz=57,slow=74						
H04N1	**CROZET ISLANDS**	**60.28**	**218**	T	T	23 54 51.5	
	baz=57						
H04N3	**CROZET ISLANDS**	**60.28**	**218**	T	T	23 54 51.8	
	baz=57,slow=74						
BVAR	**Borovoye Array**	**63.45**	**339**	P	**P**	**22 50 22.2**	**-0.5**
	0.2nm,0.3s,baz=127,slow=6.8,SNR=2.6						
	0.2nm,0.3s						

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*IDC **20** 22:48:02.5±1.1, 10.°11S×151.°99E, h0km, mb3.7/7, mbtmp3.8/10, ML2.3/2, MS3.1/4, Error ellipse: s-maj=30.1km s-min=23.8km az=152.0*
ISC 20 22:48:07.1±0.9, **10.°2S**±0.°2×**152.°05E**±0.°08, **h35**km, **n13**, σ1§**57**/11, **mb3.8**/7, **MS3.1**/3, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**278**	Pn	**Pn**	**22 49 15.0**	**-2.9**
	1.4nm,0.3s,baz=107,slow=7.6,SNR=1.7						
PMG				Sn	**Sn**	**22 50 14.6**	**+1.4**
	baz=89,slow=20						
	7.9nm,0.5s						
HNR	**Honiara**	**7.82**	**85**	Pn	**Pn**	**22 49 56.9**	**-1.6**
	48nm,0.4s,baz=214,slow=7.1,SNR=2.4						
HNR				LR	LR	22 52 24.5	
	comp=Z,114nm,19.1s,baz=348,slow=33						
WRA	**Warramunga Arr**	**19.66**	**238**	P	**P**	**22 52 33.0**	**-0.1**
	baz=63,slow=10,SNR=2.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**21.91**	**230**	P	**P**	**22 52 57.5**	**-0.1**
	0.6nm,0.6s,baz=53,slow=9.8,SNR=7.1						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**23.68**	**203**	LR	LR	23 01 15.8	
	comp=Z,100nm,19.5s,baz=21,slow=34						
GUMO	**Guam**	**24.64**	**343**	LR	LR	23 03 03.8	
	comp=Z,28nm,18.4s,baz=112,slow=37						
JNU	**Nakatsue**	**47.53**	**336**	LR	LR	23 14 25.0	
	comp=Z,20nm,21.0s,baz=22,slow=33						
SONM	**Songino Array**	**70.47**	**329**	P	**P**	**22 59 18.2**	**-0.1**
	1.8nm,0.9s,baz=140,slow=6.8,SNR=8.3						
	1.8nm,0.9s						
QSPA	**South Pole Qui**	**79.84**	**180**	P	**P**	**23 00 13.3**	**+1.3**
	1.2nm,1.0s,baz=53,slow=5.1,SNR=1.8						
	1.2nm,1.0s						
MKAR	**Makanchi Array**	**83.87**	**320**	P	**P**	**23 00 34.0**	**+0.7**
	0.3nm,0.8s,baz=104,slow=4.6,SNR=3.6						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**85.18**	**327**	P	**P**	**23 00 41.3**	**+1.6**
	0.3nm,0.4s,baz=69,slow=4.8,SNR=1.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**87.37**	**22**	P	**P**	**23 00 51.5**	**+1.3**
	1.0nm,1.0s,baz=252,slow=4.9,SNR=4.5						
	1.0nm,1.0s						
KURBB	**Kurchatov Arra**	**87.54**	**322**	P	**P**	**23 00 51.7**	**+0.3**
	0.1nm,0.3s,baz=90,slow=3.7,SNR=1.7						
	0.1nm,0.3s						

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*NEIC **20** 22:59:51.7±2.4, 17.°1S±0.°1×172.°21W±0.°08, h10km±1km, mb4.8/23, Error ellipse: s-maj=18.5km s-min=11.7km az=24.0*
*IDC **20** 22:59:52.3±0.6, 16.°84S×172.°88W, h0km, mb4.2/15, mbtmp4.2/15, MS3.8/7, Error ellipse: s-maj=24.6km s-min=13.8km az=114.0*
ISC 20 22:59:52.8±0.4, **17.°03S**±0.°07×**172.°30W**±0.°07, **h17**km, **n82**, σ1§**97**/78, **mb4.7**/25, **MS3.8**/5, **1D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.04**	**132**	Pn	**Pn**	**23 00 38.3**	**-1.8**
AFI	**Afiamalu**	**3.15**	**9**	Pn	**Pn**	**23 00 37.6**	**-4.1**
FUTU	**Fugatoga**	**6.23**	**295**		**Pn**	**23 01 24.4**	**+0.4**
MSVF	**Nonsavu**	**9.24**	**264**	Pn	**Pn**	**23 02 06.6**	**+1.2**
MSVF	**Nonsavu**	**9.24**	**264**	Pn	**Pn**	**23 02 07.9**	**+2.4**
	1.1nm,0.3s,baz=108,slow=11,SNR=13						
MSVF				LR	LR	23 05 07.4	
	comp=Z,552nm,18.2s,baz=121,slow=36						
RAR	**Rarotonga**	**12.54**	**111**	Pn	**Pn**	**23 02 46.6**	**-4.1**
RAR	**Rarotonga**	**12.54**	**111**	Pn	**Pn**	**23 02 50.3**	**-0.3**
	3.6nm,0.3s,baz=248,sl

BBOO	**Buckleboo**	**48.93**	**241**	P	**P**	**23 08 36.4**	**-1.9**
BBOO				IAmb	IAmb	23 09 22.4	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**50.49**	**258**	P	**P**	**23 08 47.0**	**-3.4**
WB0				IAmb	IAmb	23 09 22.2	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**50.52**	**258**	P	**P**	**23 08 47.3**	**-3.3**
WRA	**Warramunga Arr**	**50.52**	**258**	P	**P**	**23 08 47.5**	**-3.2**
	comp=Z,2.8nm,0.6s,baz=95,slow=7.2,SNR=14						
	comp=Z,2.8nm,0.6s						
AS31	**Alice Springs**	**50.63**	**253**	P	**P**	**23 08 48.6**	**-2.8**
ASAR	**Alice Springs**	**50.63**	**253**	P	**P**	**23 08 47.9**	**-3.6**
ASAR	**Alice Springs**	**50.63**	**253**	P	**P**	**23 08 48.9**	**-2.5**
	comp=Z,8.4nm,0.7s,baz=87,slow=8.7,SNR=28						
	comp=Z,8.4nm,0.7s						
FORT	**Forrest**	**55.64**	**244**	P	**P**	**23 09 26.6**	**-1.6**
SBA	**Scott Base**	**61.72**	**185**	P	**P**	**23 10 10.4**	**+0.7**
VNDA	**Vanda**	**61.87**	**186**	P	**P**	**23 10 10.7**	**-0.1**
VNDA	**Vanda**	**61.87**	**186**	P	**P**	**23 10 13.8**	**+3.0**
	comp=Z,2.1nm,1.0s,baz=15,slow=7.5,SNR=3.3						
	comp=Z,2.1nm,1.0s						
SOEI	**Soe**	**61.92**	**268**	P	**P**	**23 10 10.8**	**-1.4**
JCJ	**Chichijima**	**62.24**	**314**	LR	LR	23 30 40.4	
	comp=Z,54nm,21.7s,baz=106,slow=30						
SHEM	**Shemya Is, Ala**	**70.46**	**351**	LR	LR	23 38 51.7	
	comp=Z,138nm,18.0s,baz=150,slow=33						
MJAR	**Matsushiro Arr**	**70.86**	**320**	P	**P**	**23 11 08.5**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=149,slow=9.7,SNR=4.6						
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**73.02**	**180**	P	**P**	**23 11 21.9**	**+0.3**
QSPA				IAmb	IAmb	23 11 27.1	
	comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**73.02**	**180**	P	**P**	**23 11 26.0**	**+4.4**
	comp=Z,5.6nm,1.0s,baz=40,slow=0.6,SNR=16						
	comp=Z,5.6nm,1.0s						
NVAR	**Mina Array Bea**	**74.84**	**41**	P	**P**	**23 11 36.1**	**+3.4**
	comp=Z,0.7nm,0.7s,baz=224,slow=10,SNR=4.5						
	comp=Z,0.7nm,0.7s						
KSRS	**Korea Array**	**78.06**	**315**	P	**P**	**23 11 50.5**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=102,slow=4.8,SNR=4.3						
	comp=Z,1.3nm,0.6s						
TXAR	**Lajitas Array**	**80.65**	**55**	P	**P**	**23 12 09.2**	**+4.0**
	comp=Z,0.8nm,1.0s,baz=188,slow=5.9,SNR=4.2						
	comp=Z,0.8nm,1.0s						
KLR	**Kul'dur**	**82.46**	**327**	P	**P**	**23 12 13.7**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=42,slow=7.2,SNR=2.9						
	comp=Z,1.1nm,0.8s						
PD31	**Pinedale Array**	**82.78**	**41**	P	**P**	**23 12 15.8**	**-0.5**
PD31				IAmb	IAmb	23 12 21.5	
	comp=Z,12nm,1.7s						
PDAR	**Pinedale Array**	**82.78**	**41**	P	**P**	**23 12 15.6**	**-0.7**
PDAR	**Pinedale Array**	**82.78**	**41**	P	**P**	**23 12 19.0**	**+2.7**
	comp=Z,0.9nm,0.9s,baz=243,slow=3.0,SNR=7.1						
	comp=Z,0.9nm,0.9s						
YHL	**Hebgen Lake**	**82.87**	**39**	P	**P**	**23 12 15.9**	**-0.9**
YHL				IAmb	IAmb	23 12 23.7	
	comp=Z,4.5nm,1.0s						
WRH	**Wood River Hil**	**83.35**	**10**	P	**P**	**23 12 18.8**	**+0.3**
WRH				IAmb	IAmb	23 12 23.8	
	comp=Z,14nm,1.2s						
CCB	**Clear Creek Bu**	**83.56**	**10**	P	**P**	**23 12 19.8**	**+0.2**
CCB				IAmb	IAmb	23 12 24.7	
	comp=Z,16nm,1.5s						
YNE	**Yellowstone No**	**83.66**	**39**	P	**P**	**23 12 20.8**	**-0.1**
ILAR	**Eielson Array**	**83.84**	**11**	P	**P**	**23 12 21.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=229,slow=5.4,SNR=5.8						
ILAR				LR	LR	23 45 54.4	
	comp=Z,58nm,19.8s,baz=160,slow=33						
	comp=Z,0.2nm,0.3s						
POKR	**Poker Plat Res**	**84.06**	**10**	P	**P**	**23 12 23.0**	**+0.9**
POKR				IAmb	IAmb	23 12 27.4	
	comp=Z,9.3nm,1.1s						
PRP	**Porcupine Dome**	**84.76**	**11**	P	**P**	**23 12 26.9**	**+1.1**
PRP				IAmb	IAmb	23 12 31.5	
	comp=Z,9.0nm,1.2s						
E23K	**Chandalar**	**86.45**	**8**	P	**P**	**23 12 34.6**	**+0.5**
E23K				IAmb	IAmb	23 12 40.3	
	comp=Z,10nm,1.4s						
BMAR	**Burnt Mountain**	**86.65**	**10**	P	**P**	**23 12 36.0**	**+0.9**
F31M	**Tsiigehtchic**	**88.85**	**14**	P	**P**	**23 12 46.5**	**+1.0**
F31M				IAmb	IAmb	23 12 50.5	
	comp=Z,12nm,1.1s						
ELIB	**Princess Elisa**	**90.61**	**185**	*d*P	**P**	**23 12 51.0**	**-3.1**
YKA	**Yellowknife Ar**	**91.17**	**23**	P	**P**	**23 12 58.1**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=238,slow=4.7,SNR=6.1						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**94.13**	**288**	P	**P**	**23 13 11.8**	**+0.7**
	comp=Z,2.7nm,0.3s,baz=70,slow=3.1,SNR=8.7						
	comp=Z,2.7nm,0.3s						
KURBB	**Kurchatov Arra**	**115.12**	**318**	PKP	**PKPdf**	**23 18 33.9**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=100,slow=2.3,SNR=4.3						
BVAR	**Borovoye Array**	**119.81**	**322**	PKP	**PKiKP**	**23 18 43.1**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=46,slow=4.2,SNR=5.7						
CLL	**Collm**	**145.54**	**354**	*e*PKPbc	**PKPab**	**23 19 31.0**	**+0.6**
CLL				*i* PKPbcmax		23 19 32.8	
CLL				*i* PKiKP	sPKPab	23 19 35.4	+1.0
CLL				*ex*	x	23 19 43.0	
CLL				*e*PP	**PP**	**23 22 48.0**	**-1.5**
CLL	**Collm**	**145.54**	**354**	*e*(PKPab)		23 32 03.0	
KMBO	**Kilima Mbogo**	**145.73**	**241**	PKPbc	**PKPab**	**23 19 33.8**	**+1.2**
	comp=Z,5.7nm,0.8s,baz=60,slow=3.9,SNR=16						
STHS	**Stebnicka Huta**	**145.88**	**344**	*e*PKP	**PKiKP**	**23 19 38.0**	**+3.2**
KOLS	**Kolonicke sedl**	**146.04**	**343**	*e*PKP	**PKiKP**	**23 19 37.6**	**+2.4**
DPC	**Dobruska-Polom**	**146.05**	**350**	*e*PKP	**PKiKP**	**23 19 34.3**	**-0.9**
MORC	**Moravsky Berou**	**146.38**	**348**	*e*PKP	**PKPdf**	**23 19 32.3**	**+0.7**
VRAC	**Vranov**	**147.01**	**349**	*e*PKP	**PKiKP**	**23 19 38.9**	**+1.8**
GAZ	**Gaziantep**	**147.16**	**313**	PKPbc	**PKPbc**	**23 19 34.5**	**-1.0**
BNN	**Bunyan**	**147.20**	**317**	PKPbc	**PKPbc**	**23 19 35.2**	**-0.4**
KRUC	**Moravsky**	**147.28**	**349**	*e*PKP	**PKiKP**	**23 19 38.7**	**+1.0**
KHC	**Kasperske Hory**	**147.63**	**353**	*e*PKP	**PKiKP**	**23 19 38.3**	**-0.2**
MODS	**Modra-Piesok**	**147.77**	**348**	*e*PKP	**PKPab**	**23 19 44.7**	**+5.6**
MLR	**Muntele Rosu**	**147.78**	**336**		**PKPbc**	**23 19 36.5**	**-0.5**
GERES	**GERESS Array B**	**147.90**	**353**	PKPbc	**PKiKP**	**23 19 39.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=356,slow=4.0,SNR=4.9						
BR131	**Keskin Array S**	**148.08**	**320**	PKPbc	**PKPbc**	**23 19 38.1**	**+0.1**
BRTR	**Keskin Array B**	**148.08**	**320**	PKPbc	**PKPbc**	**23 19 38.7**	**+0.7**
BRTR	**Keskin Array B**	**148.08**	**320**	PKPbc	**PKiKP**	**23 19 39.7**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=124,slow=2.5,SNR=18						
CONA	**Conrad Observa**	**148.47**	**349**	*e*pPKP	**PKiKP**	**23 19 40.9**	**+0.6**
	comp=Z,1.9nm,0.7s						
ANTO	**Ankara**	**148.50**	**321**		**PKPbc**	**23 19 38.3**	**-0.7**
WTTA	**Wattenberg**	**149.68**	**355**	*i* pPKP	**PKiKP**	**23 19 44.0**	**+1.1**
	comp=Z,1.6nm,0.4s						
OBKA	**Obir**	**150.06**	**351**	*e*PKP	**PKPdf**	**23 19 36.4**	**-1.4**
	comp=Z,1.4nm,0.6s						
ABTA	**Abfaltersbach**	**150.10**	**353**	*e*PKiKP	**PKiKP**	**23 19 44.5**	**+0.8**
	comp=Z,1.6nm,0.6s						
MMAI	**Mount Meron Ar**	**150.41**	**308**	PKPbc	**PKiKP**	**23 19 45.1**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=81,slow=5.2,SNR=5.2						
FUORN	**Ofenpass-Fuorn**	**150.42**	**356**	PKPbc	**PKPbc**	**23 19 44.3**	**+0.5**
ESDC	**Sonseca Array**	**155.26**	**22**	PKPab	**PKPab**	**23 20 08.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=323,slow=1.9,SNR=2.2						

*GCG **20** 23:02:01.9±3.0, 15°.22N×94°.78W, h23km±101km, MD4.6*
*MEX **20** 23:02:04.4±1.5, 15°.23N×94°.74W, h16km±13km, MD4.2*
ISC 20 23:01:57.0±1.3, 15°.19N±0°.04×94.79W±0.02, h11km±10km, n45, σ2§12/75, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.34**	**39**	*e*P	**Pg**	**23 02 23.2**	**+0.4**
CARR				*i* S	**Sb**	**23 02 37.2**	**-2.2**
NILT	**Santiago Nilte**	**1.37**	**7**	*e*P	**Pg**	**23 02 23.4**	**0.0**
NILT				*i* S	**Sb**	**23 02 37.9**	**-2.4**
HUIG	**Huatulco**	**1.40**	**294**	*e*P	**Pg**	**23 02 26.4**	**+2.6**
HUIG				*e*S	**Sg**	**23 02 42.1**	**+0.1**
HUIG	**Huatulco**	**1.40**	**294**	*i* P	**Pg**	**23 02 25.9**	**+2.1**
HUIG				*e*S	**Sb**	**23 02 41.7**	**+0.7**
HUIG	**Huatulco**	**1.40**	**294**	*i* P		23 02 25.9	
HUIG				*e*S		23 02 41.7	
PCIG		**1.59**	**71**	*e*P	**Pg**	**23 02 27.7**	**+0.1**
PCIG				*e*S	**Sn**	**23 02 45.0**	**-0.8**
PANG	**Puerto Angel**	**1.69**	**286**	*e*S	**Sn**	**23 02 48.4**	**+0.2**
CMIG	**Matias Romero**	**1.89**	**357**	*e*P	**Pb**	**23 02 31.9**	**+0.4**
CMIG				*e*S	**Sn**	**23 02 52.5**	**-0.5**
UXUV	**UXUV**	**2.20**	**16**	*e*P	**Pb**	**23 02 37.2**	**+0.3**
UXUV				*e*S	**Sb**	**23 03 02.1**	**-2.0**
TGIG		**2.25**	**45**	*e*P	**Pb**	**23 02 37.8**	**+0.2**
TGIG				*e*S	**Sn**	**23 03 02.8**	**+0.9**
TGIG		**2.25**	**45**	*i* P	**Pb**	**23 02 37.7**	**+0.1**
TGIG				*e*S	**Sn**	**23 03 02.6**	**+0.6**
TGIG		**2.25**	**45**	*i* P		23 02 37.7	
TGIG				*e*S		23 03 02.6	
TGBT	**Tuxtla Gutierr**	**2.27**	**46**	*e*S	**Sb**	**23 03 03.8**	**-2.3**
PEIG	**Puerto Escondi**	**2.41**	**290**	*e*P	**Pb**	**23 02 40.1**	**-0.3**
PEIG				*e*S	**Sn**	**23 03 06.8**	**+0.8**
THIG		**2.45**	**96**	*e*P	**Pg**	**23 02 43.4**	**-0.7**
THIG				*e*S	**Sn**	**23 03 08.6**	**+1.7**
PATR	**El Naranjo**	**2.47**	**91**	*e*P	**Pb**	**23 02 40.6**	**-0.9**
PATR				*e*S	**Sn**	**23 03 07.5**	**-0.1**
PAVE	**Pavencul**	**2.52**	**90**	*e*P	**Pb**	**23 02 41.6**	**-0.8**
PAVE				*e*S	**Sn**	**23 03 10.1**	**+1.2**
OXLC	**Oaxaca**	**2.62**	**316**	*e*S	**Sn**	**23 03 13.5**	**+2.1**
VHO	**Vista Hermosa**	**2.64**	**315**	*e*P	**Pg**	**23 02 46.2**	**-1.5**
VHO				*e*S	**Sb**	**23 03 15.2**	**-1.8**
NEUV	**Arroyo Zacate**	**2.69**	**339**	*e*P	**Pb**	**23 02 44.2**	**-0.9**
NEUV				*e*S	**Sb**	**23 03 17.6**	**-0.6**
CCIG	**Comitan**	**2.77**	**67**	*e*P	**Pb**	**23 02 46.0**	**-0.7**
CCIG				*e*S	**Sb**	**23 03 18.7**	**-2.0**
CCIG	**Comitan**	**2.77**	**67**	*e*P	**Pb**	**23 02 44.6**	**-2.1**
CCIG				*i* S	**Sb**	**23 03 18.7**	**-2.0**
CCIG	**Comitan**	**2.77**	**67**	*e*P		23 02 44.6	
CCIG				*i* S		23 03 18.7	
RTAL	**Retalhuleu**	**3.06**	**102**	*e*S	**Sn**	**23 03 22.8**	**+0.7**
YOIG	**Yosondua**	**3.13**	**302**	*e*P	**Pb**	**23 02 53.3**	**+0.6**
YOIG				*e*S	**Sb**	**23 03 28.1**	**-3.0**
HUEH	**Huehuetenango**	**3.17**	**87**	*e*P	**Pb**	**23 02 54.0**	**+0.4**
HUEH				*e*S	**Sb**	**23 03 34.0**	**+1.6**
PMUV	**Sontecomapan**	**3.35**	**355**	*e*P	**Pn**	**23 02 52.1**	**+2.7**
PMUV				*e*S	**Sn**	**23 03 29.3**	**+0.1**
STG8	**El Palmar, Qui**	**3.40**	**102**	*e*P		23 02 50.2	
STG0	**El Palmar, Qui**	**3.42**	**102**	*e*P		23 02 50.7	
PNIG	**Pinotepa**	**3.43**	**291**	*e*P	**Pb**	**23 02 55.6**	**-2.2**
PNIG				*e*S	**Sn**	**23 03 30.7**	**-0.4**
TXIG	**Tlaxiaco**	**3.52**	**306**	*e*P	**Pb**	**23 02 58.8**	**-0.7**
TXIG				*e*S	**Sn**	**23 03 36.2**	**+2.4**
TOIG	**Toxpalan**	**3.62**	**323**	*e*P	**Pb**	**23 03 01.1**	**0.0**
TOIG				*e*S	**Sb**	**23 03 41.5**	**-3.5**
HLIG	**Huajuapan de L**	**3.91**	**313**	*e*P	**Pb**	**23 03 04.7**	**-1.3**
HLIG				*e*S	**Sn**	**23 03 39.3**	**-3.9**
TPIG	**Tehuac#an**	**4.05**	**323**	*e*P	**Pn**	**23 03 02.0**	**+3.0**
TPIG				*e*S	**Sn**	**23 03 49.9**	**+3.3**
APG	**El Apazote**	**4.18**	**92**	*e*P	**Pb**	**23 03 06.2**	**-4.5**
APG	**El Apazote**	**4.18**	**92**	*e*P		23 03 06.2	
FTIG	**Fresnillo de T**	**4.19**	**311**	*e*P	**Pb**	**23 03 08.5**	**-2.4**
FTIG				*e*S	**Sn**	**23 03 51.6**	**+1.5**
MGIG	**Malinaltepec**	**4.22**	**299**	*e*P	**Pn**	**23 03 06.0**	**+4.6**
MGIG				*e*S	**Sn**	**23 03 50.7**	**-0.1**
TLIG	**Tlapa**	**4.33**	**304**	*e*P	Pn	23 03 08.2	+5.3
TLIG				*e*S	**Sn**	**23 03 50.2**	**-3.2**
CRIG	**Cruz Grande**	**4.45**	**291**	*e*P	Pn	23 03 09.8	+5.3
CRIG				*e*S	**Sn**	**23 03 54.0**	**-2.4**
POHV	**Veracruz**	**4.53**	**329**	*e*P	**Pb**	**23 03 13.9**	**-3.0**
POHV				*e*S	**Sn**	**23 04 02.3**	**+3.3**
JAUV	**Jalcomulco**	**4.58**	**335**	*e*P	**Pn**	**23 03 08.4**	**+2.1**
JAUV				*e*S	**Sn**	**23 04 00.9**	**+1.5**
DAIG	**Los Arroyos**	**5.02**	**292**	*e*P	Pn	23 03 18.0	+5.8
DAIG				*e*S	**Sn**	**23 04 06.7**	**-3.6**
PBXN	**Popocatepetl**	**5.30**	**316**	*e*P	Pb	23 03 25.1	-4.9
PBXN				*e*P	Pg	23 03 27.9	-11
PBXN				*e*S	**Sn**	**23 04 20.5**	**+2.5**
PBPN	**Popocatepetl**	**5.30**	**317**	*e*P	**Pb**	**23 03 26.1**	**-4.0**
PBPN				*e*P	**Pb**	**23 03 26.1**	**-4.0**
PPM	**Popocatepetl**	**5.32**	**317**	*e*P	**Pb**	**23 03 26.3**	**-4.0**
YAIG	**Yautepec**	**5.48**	**312**	*e*S	**Sn**	**23 04 21.2**	**-0.8**
PLIG	**Platanillo**	**5.52**	**306**	*e*P	Pb	23 03 28.7	-4.9
PLIG				*e*S	**Sn**	**23 04 22.1**	**-0.8**
CAIG	**El Cayaco**	**5.58**	**290**	*e*P	Pn	23 03 26.8	+6.8
CAIG				*e*S	**Sn**	**23 04 21.2**	**-3.0**
CXUV	**Coxquihui**	**5.63**	**332**	*e*P	**Pn**	**23 03 22.3**	**+1.7**
ARIG	**Puente Sto Nin**	**6.15**	**301**	*e*P	Pb	23 03 37.1	-7.0
ARIG				*e*S	**Sn**	**23 04 39.0**	**+0.7**

*IDC **20** 23:02:51.6±1.4, 10°.34S×152°.72E, h0km, mb3.6/6, mbtmp3.6/7, ML1.8/1, Error ellipse: s-maj=34.7km s-min=27.5km az=128.0*
ISC 20 23:02:56.6±1.1, 10°.45±0°.2×152°.8E±0°.1, h35km, n7, σ1§79/8, mb3.7/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**280**	Pn	**Pn**	**23 04 15.3**	**-2.3**
	1.9nm,0.3s,baz=101,slow=16,SNR=4.5						
PMG				Sn	**Sn**	**23 05 23.7**	**+2.8**
	0.8nm,0.3s,baz=162,slow=7.3,SNR=1.1						
	4.3nm,0.3s						
WRA	**Warramunga Arr**	**20.14**	**240**	P	**P**	**23 07 26.9**	**-1.0**
	0.7nm,0.8s,baz=62,slow=10,SNR=2.8						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**22.30**	**231**	P	**P**	**23 07 50.7**	**-0.4**
	0.5nm,0.6s,baz=58,slow=9.7,SNR=7.1						
	0.5nm,0.6s						
SONM	**Songino Array**	**71.05**	**329**	P	**P**	**23 14 11.6**	**+0.4**
	1.7nm,0.9s,baz=135,slow=6.0,SNR=9.1						
	1.7nm,0.9s						
QSPA	**South Pole Qui**	**79.59**	**180**	P	**P**	**23 15 01.2**	**+1.2**
	1.2nm,1.1s,baz=30,slow=8.1,SNR=1.4						
	1.2nm,1.1s						
MKAR	**Makanchi Array**	**84.52**	**319**	P	**P**	**23 15 26.0**	**0.0**
	0.3nm,0.9s,baz=120,slow=6.3,SNR=3.9						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**87.34**	**22**	P	**P**	**23 15 39.5**	**-0.1**
	0.5nm,0.9s,baz=245,slow=3.9,SNR=2.6						
	0.5nm,0.9s						

*IDC **20** 23:03:22.0±1.5, 38°.65N×144°.73E, h0km, mb3.5/7, mbtmp3.7/11, ML3.5/4, MS2.5/3, Error ellipse: s-maj=28.8km s-min=22.7km az=114.0*
*NIED **20** 23:03:26.3, 38°.88N×144°.47E, h57km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.72; $M_{\theta\theta}$0.23; $M_{\phi\phi}$2.49; $M_{r\theta}$0.31; $M_{\theta\phi}$0.95; $M_{\phi r}$2.93; Fault plane solution: $M_0$4.05000×10^{14} NP1:ϕ_s30.00000°, δ23.00000°, λ-71.00000°. NP2:ϕ_s190.00000°, δ69.00000°, λ-98.00000°.*
*JMA **20** 23:03:26.3±0.2, 38°.9N±0°.9×144°.4E±°, h57km, MV3.8/34, FAR E OFF NORTH HONSHU*
ISC 20 23:03:25.2±1.1, 38°.85N±0°.05×144°.58E±0°.08, h19km, n45, σ2§12/56, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.26**	**290**	*i* P	**Pn**	**23 04 01.1**	**-0.4**
MIYJ				S	**Sn**	**23 04 26.6**	**-2.3**
OFUJ	**Ofunato**	**2.28**	**277**	P	**Pn**	**23 04 01.3**	**-0.4**
OFUJ				S	**Sn**	**23 04 26.7**	**-2.7**
JTH	**Tanohata**	**2.37**	**298**	P	**Pn**	**23 04 02.5**	**-0.5**
JTH				S	**Sn**	**23 04 29.9**	**-1.6**
JKMT	**Kesennumamotoy**	**2.42**	**270**	*i* P	**Pn**	**23 04 03.4**	**-0.4**
JKMT				*e*S	**Sn**	**23 04 30.3**	**-2.6**
JMK	**Ichinoseki**	**2.62**	**273**	P	**Pn**	**23 04 06.3**	**-0.1**
JOM	**Ohasama**	**2.63**	**285**	P	**Pn**	**23 04 06.6**	**0.0**
JOM				S	**Sn**	**23 04 36.3**	**-1.6**
JANG	**Nango**	**2.81**	**304**	*e*P	**Pn**	**23 04 07.7**	**-1.4**
JMM	**Marumori**	**3.13**	**253**	P	**Pn**	**23 04 12.7**	**-0.8**
JYK	**Kaneyama**	**3.29**	**273**	*e*P	**Pn**	**23 04 16.1**	**+0.3**
JTM	**Tenmabayashi**	**3.33**	**307**	P	**Pn**	**23 04 16.2**	**+0.1**
JTM	**Tenmabayashi**	**3.33**	**307**	S	**Sn**	**23 04 53.3**	**-1.8**
ERM	**Erimo**	**3.34**	**342**	P	**Pn**	**23 04 17.6**	**+1.2**
ERM	**Erimo**	**3.34**	**342**	S	**Sn**	**23 04 54.5**	**-1.1**
JEM	**Erimo**	**3.34**	**342**	P	**Pn**	**23 04 18.1**	**+1.7**
JEM	**Erimo**	**3.34**	**342**	S	**Sn**	**23 04 54.6**	**-1.0**
JOTO	**OTAMA OYAMA**	**3.58**	**250**	P	**Pn**	**23 04 19.6**	**-0.1**
JOTO				S	**Sn**	**23 04 59.3**	**-2.2**
JNBK	**Urakawa-nobuka**	**3.70**	**339**	P	**Pn**	**23 04 21.5**	**+0.2**
JNBK				S	**Sn**	**23 05 02.4**	**-1.9**
JOT	**Ohata**	**3.71**	**314**	*e*P	**Pn**	**23 04 20.9**	**-0.5**
JOT				*e*S	**Sn**	**23 05 01.9**	**-2.6**
JCH	**Churui**	**3.88**	**347**	*e*P	**Pn**	**23 04 23.2**	**-0.5**
JCH				*e*S	**Sn**	**23 05 06.3**	**-2.3**
NEM2	**Nemuro 2**	**4.60**	**11**	*e*P	**Pn**	**23 04 31.1**	**-2.5**
NEM2				*e*S	**Sn**	**23 05 20.9**	**-5.6**
JSD	**Sado**	**5.03**	**263**	P	**Pn**	**23 04 39.8**	**+0.3**
BSO1	**Boso 1**	**5.09**	**216**	*e*P	**Pn**	**23 04 37.7**	**-2.2**
JTKR	**Abashiri--Toko**	**5.14**	**355**	*e*P	**Pn**	**23 04 40.5**	**-0.6**
JTKR				*e*S	**Sn**	**23 05 36.1**	**-3.8**
JRY	**Ryogami san**	**5.33**	**240**	*e*P	**Pn**	**23 04 42.8**	**-0.9**
JRY				S	**Sn**	**23 05 39.8**	**-4.8**
JHR	**Hokuryu**	**5.34**	**337**	*e*S	**Sn**	**23 05 43.9**	**-0.9**
ASAJ	**Asahikawa**	**5.47**	**345**	Pn	**Pn**	**23 04 48.5**	**+2.9**
	0.9nm,0.3s,baz=129,slow=25,SNR=1.6						
ASAJ				Sn	**Sn**	**23 05 43.8**	**-4.2**
	2.6nm,0.3s,baz=120,slow=20,SNR=5.0						
	7.0nm,0.7s						
MJAR	**Matsushiro Arr**	**5.55**	**247**	Pn	**Pn**	**23 04 47.3**	**+0.5**
	0.8nm,0.3s,baz=62,slow=12,SNR=36						
MJAR				Sn	**Sn**	**23 05 50.8**	**+0.8**
	0.1nm,0.3s,baz=65,slow=10,SNR=4.1						
MJAR				LR	LR	23 07 16.5	
	comp=Z,35nm,19.4s,baz=72,slow=42						
	11nm,0.6s						
MAJO	**Matsushiro**	**5.55**	**247**	P	**Pn**	**23 04 47.9**	**+1.1**
JOD2	**Odawara 2**	**5.66**	**233**	*e*P	**Pn**	**23 04 48.0**	**-0.3**
JOD2				*e*S	**Sn**	**23 05 47.2**	**-5.6**
JSG	**Sagara**	**6.61**	**233**	P	**Pn**	**23 05 04.9**	**+3.7**
JGF	**Kuroka**	**6.61**	**243**	P	**Pn**	**23 05 02.3**	**+1.0**
JGF	**Kuroka**	**6.61**	**243**	S	**Sn**	**23 06 15.4**	**-0.8**
JHJ	**Hachijo jima 2**	**6.91**	**216**	Pn	**Pn**	**23 05 03.9**	**-1.5**
	6.5nm,0.3s,baz=86,slow=23,SNR=0.9						
JHJ				Sn	Sn	23 06 14.7	-8.9
	3.4nm,0.3s,baz=72,slow=19,SNR=1.5						
	22nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.84**	**304**	Pn	**Pn**	**23 06 01.2**	**+2.0**
	0.6nm,0.3s,baz=100,slow=17,SNR=7.5						
	3.1nm,0.6s						
KSRS	**Korea Array**	**13.19**	**269**	LR	LR	23 11 10.5	
	comp=Z,14nm,20.4s,baz=135,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.11**	**128**	T	T	23 37 20.5	
	baz=320,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.12**	**128**	T	T	23 37 27.1	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**27.13**	**128**	T	T	23 37 25.5	
	baz=320,slow=75						
SONM	**Songino Array**	**28.93**	**301**	P	**P**	**23 09 26.0**	**+2.8**
	0.3nm,0.5s,baz=88,slow=8.6,SNR=2.7						
SONM				LR	LR	23 22 49.9	
	comp=Z,25nm,19.5s,baz=78,slow=40						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**42.58**	**311**	P	**P**	**23 11 21.1**	**+1.5**
	0.5nm,0.5s,baz=89,slow=8.1,SNR=9.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**45.30**	**301**	P	**P**	**23 11 42.6**	**+1.0**
	0.2nm,0.7s,baz=77,slow=7.3,SNR=9.1						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**46.62**	**33**	P	**P**	**23 11 52.6**	**+0.9**
	0.3nm,0.5s,baz=265,slow=6.8,SNR=5.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**46.88**	**307**	P	**P**	**23 11 54.8**	**+0.8**
	0.6nm,0.6s,baz=82,slow=8.5,SNR=7.3						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**51.22**	**312**	P	**P**	**23 12 27.8**	**+0.6**
	0.4nm,0.6s,baz=80,slow=8.9,SNR=1.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**59.26**	**191**	P	**P**	**23 13 23.8**	**-1.6**
	0.5nm,0.7s,baz=10,slow=7.2,SNR=2.9						
	0.5nm,0.

comp=Z,228nm,18.4s,baz=148,slow=34
CMSA Cobar Meteorol 31.09 262 P P 23 17 34.7 -8.4
STKA Stephens Creek 34.44 260 P **P 23 18 13.3 +1.0**
STKA IAmb IAmb 23 18 26.2
comp=Z,26nm,1.1s
STKA Stephens Creek 34.44 260 P **P 23 18 13.4 +1.0**
comp=Z,1.6nm,0.6s,baz=95,slow=8.1,SNR=5.2
STKA LR LR 23 31 09.3
comp=Z,460nm,18.2s,baz=75,slow=35
comp=Z,1.6nm,0.6s
LCRK Leigh Creek 37.59 261 P P 23 18 31.1 -8.3
BBOO Buckleboo 38.82 257 P **P 23 18 48.7 -1.1**
BBOO IAmb IAmb 23 18 58.2
comp=Z,7.9nm,0.8s
BBOO Buckleboo 38.82 257 P P 23 18 41.8 -7.9
OOD Oodnadatta 40.47 264 P P 23 18 55.6 -7.9
AS01 Alice Springs 43.39 269 P P 23 19 18.9 -8.6
AS31 Alice Springs 43.43 269 P **P 23 19 27.1 -0.7**
ASAR Alice Springs 43.43 269 P **P 23 19 26.9 -0.9**
ASAR Alice Springs 43.43 269 P **P 23 19 27.2 -0.6**
comp=Z,5.8nm,0.8s,baz=107,slow=7.7,SNR=30
ASAR PcP **PcP 23 21 17.8 +1.6**
comp=Z,0.5nm,0.6s,baz=107,slow=5.3,SNR=1.3
ASAR LR LR 23 37 16.4
comp=Z,240nm,18.1s,baz=94,slow=36
comp=Z,5.8nm,0.8s
WB2 Warramunga Arr 44.59 274 P **P 23 19 36.1 -1.1**
WRA Warramunga Arr 44.60 274 P **P 23 19 36.2 -1.1**
WRA Warramunga Arr 44.60 274 P **P 23 19 36.4 -0.9**
comp=Z,6.9nm,0.6s,baz=112,slow=8.1,SNR=16
comp=Z,6.9nm,0.6s
FORT Forrest 45.92 257 P **P 23 19 46.0 -1.6**
FORT Forrest 45.92 257 P P 23 19 39.1 -8.5
VNDA Vanda 46.05 186 P P 23 19 52.9 +4.9
VNDA IAmb IAmb 23 20 23.3
comp=Z,11nm,1.6s
WRKA Warakurna 47.64 264 P P 23 19 52.6 -8.5
JAY Jayapura 49.23 299 LR LR 23 38 51.4
comp=Z,108nm,18.8s,baz=1.5,slow=34
MTN Manton Dam 50.72 280 P **P 23 20 23.6 -1.2**
KNRA Kununurra 51.28 276 P **P 23 20 27.1 -1.9**
FITZ Fitzroy Crossi 52.77 271 P **P 23 20 39.1 -1.0**
FITZ Fitzroy Crossi 52.77 271 LR LR 23 42 35.4
comp=Z,494nm,18.2s,baz=112,slow=36
CASY Casey 53.48 209 P **P 23 20 47.2 +2.6**
CASY IAmb IAmb 23 21 18.0
comp=Z,14nm,1.1s
NWAO Narrogin (SRO) 54.05 251 LR LR 23 39 44.4
comp=Z,107nm,21.2s,baz=280,slow=32
KLBR Kellerberrin 54.06 252 P P 23 20 41.0 -8.5
QSPA South Pole Qui 57.61 180 P P 23 21 20.7 +6.2
QSPA IAmb IAmb 23 21 47.5
comp=Z,8.2nm,0.8s
QSPA South Pole Qui 57.61 180 P P 23 21 21.6 +7.1
comp=Z,3.3nm,0.8s,baz=68,slow=2.9,SNR=8.5
comp=Z,3.3nm,0.8s
BATI Baumata 58.33 278 LR LR 23 45 58.8
comp=Z,445nm,19.4s,baz=100,slow=36
KAPI Kappang 64.38 281 LR LR 23 48 38.2
comp=Z,154nm,20.5s,baz=118,slow=35
BELA Belgrano 2 67.65 172 P P 23 22 26.7 +5.5
BELA IAmb IAmb 23 22 39.6
comp=Z,7.1nm,1.0s
MAW Mawson 70.48 201 LR LR 23 52 26.9
comp=Z,165nm,19.6s,baz=114,slow=35
SYO Syowa Base 75.16 193⇑*e*pP pP 23 23 12.6 +5.6
TROLL Troll, Antarti 75.78 180 ⇑P P 23 23 17.0 +6.7
comp=Z,179nm,0.8s
SNAA Sanae 76.05 178 P P 23 23 16.6 +4.8
SNAA IAmb IAmb 23 23 37.8
comp=Z,21nm,1.4s
SNAA Sanae 76.05 178 ⇑P P 23 23 16.8 +5.0
comp=Z,76nm,0.8s
SNAA Sanae 76.05 178 P P 23 23 17.2 +5.4
comp=Z,4.1nm,0.9s,baz=179,slow=6.8,SNR=8.1
comp=Z,4.1nm,0.9s
VNA3 Neumayer Olymp 76.19 176 ⇑P **P 23 23 15.5 +3.0**
comp=Z,13nm,0.7s
VNA2 Neumayer--Watz 76.62 177 ⇑P P 23 23 20.1 +5.1
comp=Z,14nm,0.8s,baz=251,slow=23
VNA1 Neumayer--Stat 76.85 176 ⇑P P 23 23 23.0 +6.8
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 80.19 325 LR LR 23 54 45.6
comp=Z,53nm,20.1s,baz=152,slow=33
PLCA Paso Flores 80.79 133 LR LR 23 57 31.4
comp=Z,70nm,18.1s,baz=210,slow=34
JNU Nakatsue 81.39 318 LR LR 23 54 35.4
comp=Z,53nm,19.5s,baz=142,slow=32
ASAJ Asahikawa 84.48 332 LR LR 23 58 30.5
comp=Z,96nm,18.4s,baz=208,slow=34
SHEM Shemya Is, Ala 85.19 355 LR LR 23 59 05.1
comp=Z,73nm,18.1s,baz=148,slow=34
LPIG La Paz 85.31 58 LR LR 23 54 54.3
comp=Z,101nm,19.3s,baz=226,slow=30
PSI Prapat 86.04 276 LR LR 00 04 57.0
comp=Z,103nm,18.7s,baz=124,slow=38
KSRS Korea Array 86.20 319 LR LR 23 57 46.6
comp=Z,27nm,21.6s,baz=340,slow=32
PFO Pinyon Flats O 87.34 47 LR LR 00 01 56.4
comp=Z,102nm,18.1s,baz=244,slow=35
USRK Ussuriysk Ar. 89.13 326 LR LR 23 59 01.3
comp=Z,52nm,20.0s,baz=129,slow=32
YBH Yreka Blue Hor 89.45 38 LR LR 23 59 08.2
comp=Z,104nm,18.4s,baz=226,slow=32
NVAR Mina Array Bea 89.52 42 LR LR 00 00 43.6
comp=Z,102nm,18.1s,baz=176,slow=33
KDAK Kodiak Island 92.36 13 LR LR 23 56 13.3
comp=Z,36nm,21.5s,baz=45,slow=29
CMIG Matias Romero 93.03 72 LR LR 00 00 15.7
comp=Z,61nm,18.1s,baz=196,slow=31
KLR Kul'dur 93.04 329 LR LR 00 04 30.4
comp=Z,54nm,18.3s,baz=135,slow=34
ANMO Albuquerque 94.58 51 LR LR 00 02 39.8
comp=Z,50nm,18.3s,baz=36,slow=32
MA2 Magadan 95.42 344 LR LR 00 02 09.4
comp=Z,40nm,22.0s,baz=168,slow=32
NEW Newport 96.84 36 LR LR 00 02 28.8
comp=Z,132nm,19.5s,baz=232,slow=32
LPAZ La Paz 96.93 114 LR LR 00 02 08.5
comp=Z,31nm,18.4s,baz=210,slow=31
CPUP Villa Florida 98.37 128 LR LR 00 08 40.1
comp=Z,51nm,18.7s,baz=222,slow=35
MKAR Makanchi Array 119.41 309 PKP **PKiKP 23 30 15.8 +1.8**
comp=Z,0.2nm,0.5s,baz=92,slow=4.9,SNR=4.1
KURBB Kurchatov Arra 122.81 313 PKP **PKiKP 23 30 22.4 +1.8**
comp=Z,1.2nm,0.7s,baz=102,slow=2.0,SNR=11
KBL Kabul 125.30 295 **PKiKP 23 30 29.0 +2.5**
BTK Batken 125.59 299 PKPdf **PKiKP 23 30 29.0 +2.4**
GAR Garm 125.69 297 PKPdf **PKiKP 23 30 29.7 +2.9**
BVAR Borovoye Array 128.17 315 PKP **PKiKP 23 30 33.4 +2.2**
comp=Z,1.0nm,0.5s,baz=135,slow=2.1,SNR=7.8
ARCES ARCESS Array B 140.72 347 PKhKP PKPpre 23 30 50.8
comp=Z,1.0nm,0.7s,baz=10,slow=2.7,SNR=1.0
ARCES PKP **PKiKP 23 30 56.8 +0.7**
comp=Z,0.9nm,0.6s,baz=51,slow=1.9,SNR=3.8
KBZ Khabaz 146.57 301 PKPbc **PKiKP 23 31 08.2 -0.7**
comp=Z,2.7nm,1.0s,baz=181,slow=4.6,SNR=7.1
GEVA Gevas 146.60 292 PKPbc **PKiKP 23 31 09.8 +0.4**
KIV Kislovodsk 146.70 302 PKPdf **PKiKP 23 31 09.4 +0.1**
KIV Kislovodsk 146.70 302 PKP **PKiKP 23 31 08.5 -0.8**
OBN Obninsk 147.11 324 PKPdf **PKiKP 23 31 09.0 -0.6**
OBN Obninsk 147.11 324 PKP **PKiKP 23 31 09.1 -0.5**
FINES FINESS Array B 147.25 339 PKPdf **PKiKP 23 31 10.0 +0.2**
FINES FINESS Array B 147.25 339 PKPbc **PKiKP 23 31 09.8 +0.1**
comp=Z,5.7nm,0.5s,baz=44,slow=4.1,SNR=89
GURO Guroymak-BITLI 147.42 292 PKPdf **PKiKP 23 31 09.9 -1.2**
MARD Mardin 148.36 290 PKPdf **PKPbc 23 31 10.8 -0.6**
NB2 NORSAR Subarra 150.88 351 PKP **PKPab 23 31 20.1 -3.9**
comp=Z,0.5nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 150.88 351 PKPbc **PKiKP 23 31 19.5 +2.2**
comp=Z,1.0nm,0.6s,baz=15,slow=4.1,SNR=5.8
GAZ Gaziantep 151.20 289 PKPdf **PKPbc 23 31 15.5 -2.7**
GAZ PKPbc **sPKPbc 23 31 21.7 +2.8**
HFS Hagfors 151.38 348 PKPbc **PKiKP 23 31 19.8 +1.5**
comp=Z,2.2nm,0.6s,baz=87,slow=3.0,SNR=15
MMAI Mount Meron Ar 152.35 280 PKPbc **PKiKP 23 31 24.3 +3.0**
comp=Z,5.1nm,0.7s,baz=70,slow=5.4,SNR=11
AKASG Malin Array Be 153.19 321 PKPbc **PKiKP 23 31 23.7 +1.4**
comp=Z,0.3nm,0.3s,baz=62,slow=2.1,SNR=10
AK09 Malin Array Si 153.20 320 PKP **PKPbc 23 31 18.8 -3.4**
AK22 Malin Array Si 153.24 321 PKP **PKPbc 23 31 19.0 -3.3**
BRTR Keskin Array B 153.89 295 PKPbc **PKiKP 23 31 26.3 +1.9**
comp=Z,1.2nm,0.7s,baz=145,slow=3.0,SNR=9.3
BRG Berggiesshubel 159.79 339 *e*PKP **PKPab 23 32 04.8 +2.6**
BRG Amp 23 32 07.4
comp=Z,2.9nm,1.0s

GERES GERESS Array B 161.62 336 PKPab **PKPab 23 32 11.5 +1.1**
comp=Z,0.2nm,0.3s,baz=24,slow=3.6,SNR=4.2

IDC 20 23:12:08.1±2.2, 7°.83S×130°.26E, h0km, mb3.6/1, mbtmp3.3/3, ML3.3/2, MS3.2/2, Error ellipse: s-maj=129.5km s-min=32.5km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.68**	**162**	Pn	Pn	23 15 09.2	-0.6
	0.2nm,0.3s,baz=345,slow=14,SNR=4.9						
WRA				Sn	Sn	23 17 25.6	-6.2
	0.4nm,0.3s,baz=341,slow=23,SNR=6.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**16.14**	**168**	Pn	Pn	23 15 57.1	+0.7
	0.1nm,0.3s,baz=344,slow=9.5,SNR=4.9						
ASAR				Sn	Sn	23 18 50.2	-6.0
	0.1nm,0.3s,baz=343,slow=25,SNR=1.4						
	0.1nm,0.3s						
MJAR	**Matsushiro Arr**	**44.76**	**9**	LR	LR	23 38 21.4	
	comp=Z,39nm,19.2s,baz=132,slow=35						
KSRS	**Korea Array**	**45.09**	**357**	LR	LR	23 41 13.1	
	comp=Z,19nm,19.8s,baz=120,slow=39						
MKAR	**Makanchi Array**	**69.05**	**327**	P	P	23 23 15.8	0.0
	0.3nm,0.5s,baz=118,slow=7.7,SNR=6.7						
	0.3nm,0.5s						

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*JMA **20** 23:12:28.3±0.2, 23°.1N±0°.3×12°1E±°, h1km±4km, MV3.6/13, TAIWAN REGION*
*ASIES **20** 23:12:28.7, 23°.02N×120°.70E, h13km, ML3.6, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}8.59; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$-7.74; $M_{r\theta}$-1.79; $M_{\theta\phi}$1.12; $M_{\phi r}$-9.05; Fault plane solution: $M_0$12.39690×10^{20} NP1: ϕ_s340.87000°, δ22.49000°, λ67.23000°. NP2: ϕ_s185.30000°, δ69.35000°, λ99.10000°. Principal axes: T Plg64.5200°, Azm110.3750°; N Plg8.5140°, Azm2.0670°; P Plg23.8240°, Azm268.2770°;*
*TAP **20** 23:12:28.7, 23°.02N×120°.70E, h13km, ML3.6, B*
ISC 20 23:12:29.0±0.9, 23°.03N±0°.01×120°.69E±0°.01, h13km±7km, n125, σ0°.80/222, 8C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.11**	**299**	⇑*i*P	**Pg**	**23 12 32.1**	**0.0**
SGST				*i* S	**Sb**	23 12 35.3	-0.2
STYH	**Taoyuan**	**0.16**	**30**	⇓*i*P	**Pb**	**23 12 33.8**	**-0.1**
STYH				*e*S	**Sb**	23 12 37.1	0.0
CHN1	**Nanshi**	**0.21**	**317**	⇑*i*P	**Pb**	**23 12 34.9**	**+0.2**
CHN1				*i* S	**Sb**	23 12 39.5	+0.9
WTP	**Ta-pu**	**0.23**	**343**	⇑*i*P	**Pb**	**23 12 34.9**	**-0.1**
WTP				*i* S	**Sb**	23 12 39.4	+0.5
SCST	**Cishan**	**0.23**	**231**	*e*P	**Pb**	**23 12 34.9**	**0.0**
SCST				*e*S	**Sb**	23 12 40.3	+1.4
SNST	**Tainan City**	**0.26**	**318**	*e*P	**Pb**	**23 12 35.7**	**+0.3**
SNST				S	**Sb**	23 12 40.7	+0.9
TPUB	**Ta-pu**	**0.28**	**349**	⇑*i*P	**Pb**	**23 12 35.6**	**-0.2**
TPUB				*e*S	**Sb**	23 12 40.6	+0.2
CHN3	**Shinhua**	**0.30**	**279**	*e*P	**Pb**	**23 12 37.4**	**+1.2**
CHN3				*e*S	**Sn**	23 12 44.0	-1.3
TWK	**Hsinying**	**0.30**	**323**	⇓*i*P	**Pb**	**23 12 36.1**	**-0.1**
TWK				*e*S	**Sb**	23 12 41.5	+0.5
SHHT	**Tainan City**	**0.31**	**269**	⇓*i*P	**Pb**	**23 12 37.6**	**+1.2**
SHHT				S	**Sn**	23 12 44.6	-1.0
TWM1	**Shoushan**	**0.32**	**230**	⇓P	**Pb**	**23 12 37.1**	**+0.7**
TWM1				*e*S	**Sn**	23 12 44.7	-1.0
TSMG	**Majia**	**0.32**	**187**	*e*P	**Pg**	**23 12 35.4**	**-0.2**
TSMG				*e*S	**Sg**	23 12 40.0	-0.1
CHN4	**Tsaushan**	**0.33**	**345**	⇑*i*P	**Pb**	**23 12 36.7**	**-0.1**
CHN4				*e*S	**Sb**	23 12 42.2	+0.3
SGLT	**Jiouru**	**0.35**	**211**	*e*P	**Pb**	**23 12 37.5**	**+0.4**
SGLT				*e*S	**Sn**	23 12 44.9	-1.6
SSHA	**Shanhua**	**0.38**	**286**	*e*P	**Pb**	**23 12 38.7**	**+1.1**
SSHA				*e*S	**Sn**	23 12 46.9	-0.4
TWG	**Pinlang**	**0.41**	**120**	⇓*i*P	**Pb**	**23 12 37.8**	**-0.3**
TWG				*e*S	**Sb**	23 12 43.9	-0.3
WCKO	**Fanlu**	**0.41**	**350**	*e*P	**Pb**	**23 12 38.3**	**+0.1**
WCKO				*e*S	**Sb**	23 12 44.9	+0.6
MASBT	**Mashibuluo**	**0.42**	**187**	⇑*i*P	**Pb**	**23 12 37.6**	**-0.6**
MASBT				*e*S	**Sb**	23 12 43.4	-1.0
TWGBT	**Beinan**	**0.42**	**120**	⇓*i*P	**Pb**	**23 12 37.8**	**-0.4**
TWGBT				*e*S	**Sb**	23 12 43.9	-0.5
TAI1	**Yung-k'ang**	**0.42**	**272**	*e*P	**Pn**	**23 12 39.4**	**-1.2**
SNJT	**Kaohsiung City**	**0.42**	**230**	*e*P	**Pn**	**23 12 39.7**	**-1.0**
SNJT				*e*S	**Sn**	23 12 48.2	-0.1
LONT	**Longtian**	**0.43**	**106**	⇓*i*P	**Pb**	**23 12 38.3**	**-0.3**
LONT				*i* S	**Sb**	23 12 44.5	-0.1
SCLT	**Jiali**	**0.47**	**288**	P	**Pb**	**23 12 39.7**	**+0.6**
SCLT				*e*S	**Sn**	23 12 48.6	-1.0
ALS	**Alishan**	**0.49**	**13**	⇑*i*P	**Pb**	**23 12 39.3**	**-0.4**
ALS				*e*S	**Sb**	23 12 47.1	+0.2
EHD	**Haiduan**	**0.49**	**76**	⇓*i*P	**Pg**	**23 12 38.5**	**-0.2**
EHD				*e*S	**Sb**	23 12 45.8	-0.8
ECL	**Taimali**	**0.50**	**150**	⇓*i*P	**Pb**	**23 12 38.9**	**-0.6**
ECL				*i* S	**Sb**	23 12 46.0	-0.6
ECS	**Chishang**	**0.50**	**82**	*i* P	**Pb**	**23 12 39.5**	**0.0**
ICHU	**Yijhu**	**0.50**	**312**	*e*P	**Pb**	**23 12 39.7**	**+0.1**
ICHU				*e*S	**Sn**	23 12 48.8	-1.5
TTN	**Taitung**	**0.51**	**123**	*e*P	**Pb**	**23 12 40.1**	**+0.4**
CHY	**Chiayi**	**0.53**	**333**	P	**Pb**	**23 12 40.5**	**+0.4**
CHY				*e*S	**Sn**	23 12 49.4	-1.5
CHN8	**Yiju**	**0.54**	**306**	*e*P	**Pb**	**23 12 40.6**	**+0.4**
CHN8				S	**Sn**	23 12 49.9	-1.3
WSSB	**Gushan**	**0.55**	**226**	P	**Pn**	**23 12 41.8**	**-0.7**
WSSB				*e*S	**Sn**	23 12 51.5	0.0
TSCK	**Chigu Township**	**0.56**	**282**	⇓*e*P	**Pb**	**23 12 41.0**	**+0.3**
TSCK				S	**Sn**	23 12 51.5	-0.4
CHN5	**Tsauling**	**0.57**	**359**	P	**Pb**	**23 12 40.8**	**0.0**
CHN5				*e*S	**Sb**	23 12 50.1	+1.3
EDH	**Donghe**	**0.57**	**95**	P	**Pb**	**23 12 40.8**	**0.0**
EDH				*e*S	**Sb**	23 12 49.7	+0.8
FULB	**Fuli**	**0.58**	**73**	⇓P	**Pb**	**23 12 41.4**	**+0.3**
CHKT	**Chengkung**	**0.63**	**83**	*e*P	**Pb**	**23 12 41.9**	**+0.1**
CHKT				*e*S	**Sn**	23 12 53.3	-0.2
WSL	**Shuilin Townsh**	**0.65**	**320**	*e*P	**Pb**	**23 12 42.5**	**+0.4**
WSL				*i* S	**Sn**	23 12 53.6	-0.3
SCZT	**Fangliau**	**0.66**	**185**	*e*P	**Pb**	**23 12 41.9**	**-0.3**
SCZT				*e*S	**Sb**	23 12 51.3	+0.1
EYUL	**Yuli**	**0.66**	**61**	⇓*e*P	**Pb**	**23 12 42.1**	**-0.3**
EYUL				*e*S	**Sb**	23 12 51.5	0.0
WGK	**Gukeng**	**0.66**	**350**	*e*P	**Pb**	**23 12 43.1**	**+0.7**
WGK				*e*S	**Sn**	23 12 54.4	+0.1
YULB	**Yu-li**	**0.67**	**57**	⇓*i*P	**Pb**	**23 12 42.0**	**-0.4**
YULB				S	**Sg**	23 12 50.8	-0.1
WDLH	**Douliu**	**0.67**	**348**	P	**Pb**	**23 12 43.1**	**+0.6**
WDLH				*e*S	**Sn**	23 12 54.7	+0.2
CHKH	**Chenggong**	**0.67**	**76**	*e*P	**Pb**	**23 12 42.6**	**+0.1**
CHKH				*e*S	**Sn**	23 12 53.0	-1.5
WHYT	**Xinyi Township**	**0.68**	**13**	*e*P	**Pb**	**23 12 42.9**	**+0.1**
WHYT				*e*S	**Sn**	23 12 53.7	-1.1
TAW	**Tawu**	**0.69**	**164**	*e*P	**Pb**	**23 12 42.7**	**-0.2**
TAW				*e*S	**Sb**	23 12 52.4	0.0
WDL	**Douliou City**	**0.70**	**349**	*e*P	**Pb**	**23 12 43.2**	**+0.2**
WDL				*e*S	**Sn**	23 12 55.4	+0.3
TAWH	**Dawu Township**	**0.71**	**165**	⇑*i*P	**Pb**	**23 12 42.9**	**-0.3**
TAWH				*i* S	**Sb**	23 12 52.8	0.0
WTK	**Tuku**	**0.71**	**337**	*e*P	**Pb**	**23 12 43.3**	**+0.2**
WTK				*e*S	**Sn**	23 12 55.5	+0.1
WLCH	**Liuqiu**	**0.73**	**203**	*e*P	**Pn**	**23 12 46.1**	**+1.2**
WLCH				*e*S	**Sn**	23 12 59.2	+3.3
WSF	**Szhu**	**0.74**	**325**	P	**Pb**	**23 12 43.8**	**+0.1**
WSF				*i* S	**Sn**	23 12 55.5	-0.7
TWP	**Hsiaoliuchiu**	**0.74**	**204**	*e*P	**Pn**	**23 12 46.8**	**+1.7**
TWP				*e*S	**Sn**	23 12 58.5	+2.3
EHY	**Hungye**	**0.75**	**51**	⇓P	**Pb**	**23 12 43.6**	**-0.3**
EHY				*i* S	**Sb**	23 12 54.2	+0.1
ECBN	**Changbin**	**0.76**	**68**	*e*P	**Pb**	**23 12 44.2**	**+0.1**
EHYH	**Wanrong**	**0.76**	**53**	*e*P	**Pb**	**23 12 43.8**	**-0.3**
EHYH				*e*S	**Sb**	23 12 54.5	+0.1
WJS	**Zhushan**	**0.79**	**3**	*e*P	**Pn**	**23 12 45.2**	**-0.6**
WJS				*e*S	**Sn**	23 12 58.0	+0.5
SSLB	**Suanglung**	**0.80**	**18**	*i* P	**Pb**	**23 12 44.6**	**-0.1**
SSLB				S	**Sn**	23 12 56.5	-1.1
LDUT	**Ludao**	**0.81**	**116**	*i* P	**Pb**	**23 12 44.3**	**-0.5**
LDUT				*e*S	**Sn**	23 12 56.2	-1.5
SLIU	**Shizi**	**0.81**	**173**	*i* P	**Pb**	**23 12 45.0**	**0.0**
SLIU				*i* S	**Sn**	23 12 57.8	-0.2
HGSD	**Ruisui**	**0.82**	**56**	*e*P	**Pn**	**23 12 45.6**	**-0.6**
HGSD				*e*S	**Sb**	23 12 56.8	+0.8
VWDT	**VWDT**	**0.83**	**30**	*e*P	**Pb**	**23 12 45.2**	**-0.1**
WNT	**Mingjian**	**0.85**	**360**	*e*P	**Pb**	**23 12 45.9**	**+0.4**
WNT				*e*S	**Sn**	23 12 58.3	-0.5
SMLT	**Sun Moon Lake**	**0.87**	**13**	*e*P	**Pg**	**23 12 45.8**	**-0.1**
SMLT				*e*S	**Sn**	23 12 58.9	-0.7
TYC	**Yuchr**	**0.89**	**10**	*e*P	**Pb**	**23 12 46.5**	**+0.3**
TYC				*i* S	**Sn**	23 13 00.2	+0.4
EGFH	**Guangfu**	**0.93**	**47**	*i* P	**Pn**	**23 12 47.4**	**-0.4**
EGFH				*e*S	**Sn**	23 12 60.0	-1.0
WARBT	**Fenglin Townsh**	**0.94**	**43**	*e*P	**Pb**	**23 12 46.9**	**-0.2**
WARBT				*e*S	**Sb**	23 12 59.8	+0.3
WDGT	**Dungji**	**0.97**	**284**	*e*P	**Pb**	**23 12 46.8**	**-0.9**
WDGT				S	**Sg**	23 13 00.5	+0.1
SMST	**Manzhou Townsh**	**1.01**	**172**	*e*P	**Pn**	**23 12 49.2**	**+0.4**
HEN	**Hengchun**	**1.02**	**177**	*e*P	**Pn**	**23 12 49.0**	**+0.1**
HEN				*e*S	**Sn**	23 13 04.5	+1.4
OWD	**Renai**	**1.03**	**26**	*e*P	**Pb**	**23 12 48.4**	**-0.3**
OWD				*e*S	**Sn**	23 13 03.4	-0.1
TEGC	**Jichi Village**	**1.04**	**49**	*e*P	**Pn**	**23 12 49.7**	**+0.6**
WUSB	**Renai**	**1.04**	**22**	*e*P	**Pg**	**23 12 49.0**	**0.0**
WUSB				S	**Sn**	23 13 04.9	+1.2
ESL	**Shilin**	**1.04**	**41**	*e*P	**Pg**	**23 12 48.9**	**-0.1**
ESL				*e*S	**Sn**	23 13 03.7	+0.1
WCS	**Beigang Elemen**	**1.04**	**11**	*e*P	**Pn**	**23 12 49.6**	**+0.3**
WCS				*e*S	**Sn**	23 13 04.4	+0.6
TWK1	**Hengchun**	**1.09**	**174**	P	**Pg**	**23 12 50.6**	**+0.7**
TWK1				*e*S	**Sn**	23 13 06.0	+1.2
TWKBT	**Hengchun**	**1.09**	**174**	*e*P	**Pg**	**23 12 49.9**	**-0.1**
TWKBT				*e*S	**Sn**	23 13 05.5	+0.7
SHUL	**Shoufeng**	**1.10**	**47**	*e*P	**Pg**	**23 12 50.8**	**+0.5**
SHUL				*e*S	**Sn**	23 13 07.4	+2.2
TCU	**Taichung**	**1.11**	**360**	*e*P	**Pg**	**23 12 50.8**	**+0.3**
TCU				*e*S	**Sn**	23 13 06.5	+1.1
PHUB	**P'eng-hu**	**1.13**	**295**	*e*P	**Pb**	**23 12 49.0**	**-1.4**
PHUB				*i* S	**Sb**	23 13 04.0	-0.9
TSEB	**Hengchuen, Pin**	**1.14**	**170**	*i* P	**Pg**	**23 12 51.7**	**+0.7**
TSEB				*e*S	**Sn**	23 13 07.1	+1.1
PNG	**Penghu**	**1.17**	**298**	*e*P	**Pn**	**23 12 49.6**	**-1.3**
PNG				*i* S	**Sb**	23 13 05.2	-0.8
VCHM	**Qimei**	**1.17**	**279**	*e*P	**Pn**	**23 12 49.4**	**-1.6**
TEYL	**Yanliau Villag**	**1.18**	**45**	*e*P	**Pn**	**23 12 50.2**	**-0.9**
ETM	**Tongmen**	**1.19**	**38**	*e*P	**Pg**	**23 12 51.6**	**-0.4**
LXIB	**Xiulin Townshi**	**1.19**	**34**	*e*P	**Pg**	**23 12 51.7**	**-0.2**
LXIB				S	**Sn**	23 13 08.2	+0.6
WHF	**Hehuan Shan**	**1.23**	**25**	*e*P	**Pg**	**23 12 53.1**	**+0.3**
WHF				*e*S	**Sn**	23 13 11.3	+2.4
WHP	**Taichung City**	**1.27**	**11**	*i* P	**Pg**	**23 12 53.0**	**-0.4**
WHP				*i* S	**Sg**	23 13 11.5	+1.6
HWA	**Hwalien**	**1.27**	**42**	*e*P	**Pg**	**23 12 53.4**	**0.0**
LAY	**Lan-yu**	**1.27**	**141**	*e*P	**Pn**	**23 12 51.3**	**-1.0**
LAY				*e*S	**Sb**	23 13 08.2	-0.8
TDCB	**Techi**	**1.29**	**19**	*e*P	**Pg**	**23 12 54.2**	**+0.3**
TDCB				*e*S	**Sg**	23 13 11.2	+0.4
TWT	**Tachien**	**1.30**	**20**	*e*P	**Pg**	**23 12 54.4**	**+0.4**
TWT				*e*S	**Sg**	23 13 10.9	0.0
WDJ	**Dajia District**	**1.31**	**358**	*e*P	**Pg**	**23 12 54.0**	**-0.2**
WDJ				*e*S	**Sg**	23 13 12.8	+1.4
TWQ1	**Liyutan**	**1.32**	**3**	*e*P	**Pg**	**23 12 53.9**	**-0.4**
TWQ1				*i* S	**Sg**	23 13 12.4	+1.0
FUSS	**Fushou**	**1.32**	**23**	*e*P	**Pb**	**23 12 53.7**	**0.0**
LYUB	**Lan-yu**	**1.32**	**141**	*e*P	**Pn**	**23 12 50.4**	**-2.6**
TWD	**Chiawan**	**1.34**	**38**	*e*P	**Pb**	**23 12 54.1**	**+0.2**
TWD				*i* S	**Sg**	23 13 11.9	-0.3
ETLH	**Xiulin Townshi**	**1.38**	**32**	*e*P	**Pg**	**23 12 55.2**	**-0.4**
ETLH				*e*S	**Sg**	23 13 14.8	+1.3
NSY	**Sanyi**	**1.38**	**3**	*e*P	**Pn**	**23 12 54.2**	**+0.3**
NSY				*e*S	**Sg**	23 13 13.3	-0.3
NACB	**Ninganchiao**	**1.41**	**36**	P	**Pb**	**23 12 55.1**	**0.0**
NACB				*e*S	**Sg**	23 13 14.0	-0.5
NNSB	**Datong**	**1.53**	**24**	*i* P	**Pb**	**23 12 57.7**	**+0.4**
NNSB				S	**Sg**	23 13 18.6	+0.2
NNS	**Nan Shan**	**1.54**	**24**	*e*P	**Pb**	**23 12 57.6**	**+0.2**
NNS				*e*S	**Sg**	23 13 19.1	+0.5
NSTT	**Nanjuang**	**1.62**	**10**	*e*P	**Pb**	**23 12 58.0**	**-0.7**
NSTT				*e*S	**Sb**	23 13 19.5	+0.4
LIOB	**Emei**	**1.64**	**11**	*e*P	**Pb**	**23 12 58.5**	**-0.5**
LIOB				*e*S	**Sb**	23 13 19.8	+0.2
NFF	**Wufeng Townshi**	**1.65**	**14**	*e*P	**Pb**	**23 12 59.1**	**0.0**
NFF				*e*S	**Sg**	23 13 21.3	-0.7
LATG	**Datong**	**1.69**	**27**	*e*P	**Pb**	**23 12 59.8**	**-0.1**
LATG				*e*S	**Sg**	23 13 23.1	-0.2
ENA	**Nanau**	**1.70**	**35**	*e*P	**Pn**	**23 12 58.8**	**+0.5**
NSK	**Sanguang**	**1.75**	**20**	*e*P	**Pb**	**23 13 00.8**	**-0.2**
YHNB	**Yeheng**	**1.75**	**21**	*e*P	**Pb**	**23 13 00.5**	**-0.5**
YHNB				*e

804nm,0.5s
BRDH Bariadhala 2.05 266 P **Pn 23 38 16.9 +1.0**
67nm,0.3s,baz=83,slow=8.7,SNR=8.7
BRDH S **Sn 23 38 40.7 +0.3**
405nm,0.5s,baz=238,slow=22,SNR=17
154nm,0.3s
AGT Agartala 2.62 294 *e*S **Sn 23 39 01.5 +7.1**
AGT IAML 23 39 20.0
comp=E,608nm,0.6s
AGT IAML 23 39 25.2
comp=N,706nm,0.7s
SHL Shillong 3.28 327 Pn **Pn 23 38 32.1 -0.9**
SHL Shillong 3.28 327 *e*P **Pn 23 38 33.5 +0.5**
SHL *e*S **Sn 23 39 09.6 -1.2**
SHL IAML 23 39 19.7
comp=E,524nm,0.6s
SHL IAML 23 39 21.3
comp=E,418nm,0.5s
GUWA GUWAHATI 3.90 330 *e*P **Pn 23 38 39.8 -1.4**
GUWA *e*S **Sn 23 39 24.9 -0.8**
GUWA IAML 23 39 29.8
comp=E,440nm,0.5s
GUWA IAML 23 39 30.7
comp=N,549nm,0.4s
TAWA Tawang 5.08 340 *e*P **Pn 23 38 58.9 +1.1**
TAWA *e*S **Sn 23 39 53.4 -2.1**
TAWA *e*S 23 39 54.5
TAWA IAML 23 40 00.6
comp=N,652nm,0.5s
TAWA IAML 23 40 00.6
comp=E,482nm,0.5s
CHTO Chiang Mai 6.21 129 **Pn 23 39 10.7 -2.2**
CM31 Chiang Mai Arr 6.44 131 Pn **Pn 23 39 14.1 -2.0**
CMAR Chiang Mai Arr 6.44 131 Pn **Pn 23 39 14.5 -1.6**
CMAR Chiang Mai Arr 6.44 131 P **Pn 23 39 14.2 -1.9**
comp=E,0.7nm,0.3s,baz=308,slow=14,SNR=14
CMAR S **Sn 23 40 33.0 +4.6**
comp=E,1.4nm,0.3s,baz=12,slow=29,SNR=1.3
comp=E,2.0nm,0.3s
GTK Tadong 6.54 314 *e*P **Pn 23 39 18.2 +0.6**
GTK *e*S **Sn 23 40 30.0 -0.9**
GTK IAML 23 40 32.3
comp=E,246nm,0.6s
GTK IAML 23 40 37.2
comp=N,349nm,0.6s
ODAN Odare 7.12 306 Pn **Pn 23 39 25.4 -0.2**
baz=314,slow=0.0
ODAN Sn **Sn 23 40 43.2 -2.1**
baz=314,slow=0.0
LSA Lhasa 7.27 341 **Pn 23 39 27.3 -0.6**
RAMN Ramite 7.77 303 Pn **Pn 23 39 34.1 -0.4**
baz=311,slow=0.0
RAMN Sn **Sn 23 40 58.2 -3.0**
comp=N,40nm,0.5s,baz=311,slow=0.0
GUN Gumba 8.82 307 Pn **Pn 23 39 48.2 -0.8**
baz=313,slow=0.0
GUN Sn **Sn 23 41 23.8 -3.2**
comp=N,50nm,0.5s,baz=313,slow=0.0
PKI Pulchoki 8.99 303 Pn **Pn 23 39 50.7 -0.7**
baz=310,slow=0.0
PKIN Phulchoki 9.01 303 Pn **Pn 23 39 50.3 -1.2**
baz=310,slow=0.0
PKIN Sn **Sn 23 41 27.5 -4.1**
comp=N,38nm,0.7s,baz=310,slow=0.0
KKN Kakani 9.20 304 Pn **Pn 23 39 53.8 -0.3**
baz=310,slow=0.0
DMN Daman 9.25 303 Pn **Pn 23 39 53.4 -1.4**
baz=309,slow=0.0
DMN Sn **Sn 23 41 31.6 -5.9**
comp=N,35nm,0.7s,baz=309,slow=0.0
KOLN Koldanda 10.51 300 Pn **Pn 23 40 09.9 -2.0**
baz=306,slow=0.0
KOLN Sn **Sn 23 42 00.7 -7.5**
baz=306,slow=0.0
PYUN Piuthan 11.13 300 Pn **Pn 23 40 18.5 -2.0**
baz=306,slow=0.0
PYUN Sn **Sn 23 42 16.2 -7.4**
comp=N,35nm,0.8s,baz=306,slow=0.0
PBA Port Blair 11.15 186 Pn **Pn 23 40 20.1 -0.5**
UBPT Khong Chiam 13.29 122 Pn **Pn 23 40 47.5 -2.3**
PSI Prapat 20.50 165 P **P 23 42 17.7 +0.4**
comp=N,2.1nm,0.5s,baz=8.6,slow=20,SNR=1.8
comp=N,2.1nm,0.5s
RPSI Rantau Prapat 20.60 165 P **P 23 42 17.7 -0.6**
NIL Nilore 21.08 305 P **P 23 42 23.2 -0.2**
NIL IAmb IAmb 23 42 34.7
comp=Z,5.0nm,0.6s
WUS Wushi 22.08 330 P **P 23 42 34.1 -0.1**
WUS IAmb IAmb 23 42 45.5
comp=Z,13nm,1.4s
KBL Kabul 24.64 304 P **P 23 43 00.0 +0.8**
BOOM Boomskoye usch 24.65 327 P **P 23 43 00.3 +1.1**
BOOM IAmb IAmb 23 43 33.3
comp=Z,6.9nm,1.3s
DRK Karamyk 25.04 317 P **P 23 43 03.5 +0.5**
DRK IAmb IAmb 23 43 05.3
comp=Z,5.7nm,0.6s
AAK Ala-Archa 25.50 325 P **P 23 43 07.8 +0.9**
MK31 Makanchi Array 25.68 341 P **P 23 43 09.7 +1.4**
MK31 IAmb IAmb 23 43 11.6
comp=Z,4.5nm,1.0s
MKAR Makanchi Array 25.68 341 P **P 23 43 09.4 +1.0**
MKAR Makanchi Array 25.68 341 P **P 23 43 09.9 +1.6**
comp=Z,4.9nm,0.9s,baz=152,slow=9.5,SNR=37
MKAR PcP **PcP 23 46 37.7 +0.3**
comp=Z,0.2nm,0.5s,baz=86,slow=4.5,SNR=2.0
comp=Z,4.9nm,0.9s
GAR Garm 25.74 314 P **P 23 43 08.8 -0.3**
GAR IAmb IAmb 23 43 12.6
comp=Z,15nm,0.9s
MAKZ Makanchi 25.79 341 P **P 23 43 09.7 +0.4**
BTK Batken 25.99 317 P **P 23 43 11.4 +0.1**
SIMJ Simiganj 26.44 312 P **P 23 43 15.2 -0.3**
SONM Songino Array 26.91 19 P **P 23 43 20.2 +0.7**
comp=Z,0.5nm,0.5s,baz=213,slow=9.4,SNR=4.5
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 30.22 340 P **P 23 43 49.2 +0.4**
comp=Z,1.1nm,0.8s,baz=154,slow=8.4,SNR=6.9
KURBB PcP **PcP 23 46 48.5 0.0**
comp=Z,0.2nm,0.5s,baz=168,slow=2.1,SNR=4.6
comp=Z,1.1nm,0.8s
KURK Kurchatov 30.28 341 P **P 23 43 49.8 +0.5**
ZALV Zalesovo Beam 31.83 350 P **P 23 44 03.2 +0.3**
ZALV Zalesovo Beam 31.83 350 P **P 23 44 04.2 +1.3**
comp=Z,1.0nm,0.6s,baz=141,slow=7.3,SNR=5.1
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 35.06 335 P **P 23 44 32.1 +1.1**
comp=Z,0.5nm,0.5s,baz=144,slow=11,SNR=5.6
BVAR LR LR 00 00 15.0
comp=Z,60nm,20.0s,baz=58,slow=38
comp=Z,0.5nm,0.5s
ABKAR Akbulak array 37.53 323 P **P 23 44 53.0 +0.8**
ABKAR Akbulak array 37.53 323 P **P 23 44 53.1 +0.8**
ABKAR IAmb IAmb 23 44 54.6
comp=Z,2.5nm,0.8s
ARTI Arti 42.41 331 P **P 23 45 33.2 +0.7**
ARTI IAmb IAmb 23 45 42.8
comp=Z,7.3nm,1.5s
ARTI Arti 42.41 331 LR LR 00 04 36.0
comp=Z,109nm,21.1s,baz=298,slow=38
TIXI Tiksi 52.76 13 P **P 23 46 52.6 +0.1**
TIXI IAmb IAmb 23 46 54.3
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 53.21 303 P **P 23 46 57.0 +0.5**
comp=Z,1.0nm,1.1s,baz=87,slow=8.9,SNR=3.9
comp=Z,1.0nm,1.1s
AKASG Malin Array Be 56.70 317 P **P 23 47 21.5 +0.1**
comp=Z,0.7nm,0.4s,baz=81,slow=6.7,SNR=6.4
comp=Z,0.7nm,0.4s
WB0 Warramunga Arr 57.94 134 P **P 23 47 30.1 -0.5**
WRA Warramunga Arr 58.03 134 P **P 23 47 30.2 -1.0**
comp=Z,0.9nm,0.6s,baz=340,slow=8.0,SNR=6.2
comp=Z,0.9nm,0.6s
MLR Muntele Rosu 58.79 310 P **P 23 47 37.5 +1.2**
MLR IAmb IAmb 23 47 39.4
comp=Z,2.3nm,0.7s
BURAR Bucovina Array 59.25 313 P **P 23 47 40.2 +0.8**
BUR08 Bucovina Ar. S 59.26 313 P **P 23 47 40.2 +0.7**
FINES FINESS Array B 59.61 329 P **P 23 47 41.8 +0.3**
FINES FINESS Array B 59.61 329 P **P 23 47 42.0 +0.5**
comp=Z,3.1nm,1.0s,baz=104,slow=8.0,SNR=4.2
comp=Z,3.1nm,1.0s
ASAR Alice Springs 60.42 137 P **P 23 47 47.6 0.0**
comp=Z,1.0nm,0.7s,baz=319,slow=7.2,SNR=9.1
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 61.27 338 P **P 23 47 53.5 +0.7**
comp=Z,4.0nm,0.9s,baz=30,slow=7.4,SNR=2.4
comp=Z,4.0nm,0.9s
HFS Hagfors 65.62 327 P **P 23 48 21.9 +0.3**
comp=Z,2.8nm,0.8s,baz=97,slow=7.6,SNR=4.8
comp=Z,2.8nm,0.8s
GEC2 GERESS Array S 66.81 315 P **P 23 48 30.4 +0.8**
GEC2 IAmb IAmb 23 48 31.3
comp=Z,3.3nm,0.7s
GERES GERESS Array B 66.81 315 P **P 23 48 29.8 +0.2**
GERES GERESS Array B 66.81 315 P **P 23 48 30.8 +1.2**
comp=Z,1.9nm,0.5s,baz=75,slow=6.2,SNR=22
comp=Z,1.9nm,0.5s
BBOO Buckleboo 68.43 143 P **P 23 48 39.3 -0.5**
SENIN Lac Senin/Sane 71.55 313 P **P 23 48 59.5 +0.4**
C16K Lisburne Hills 72.93 22 P **P 23 49 07.5 +0.9**
C16K IAmb IAmb 23 49 08.1
comp=Z,4.5nm,1.4s
B20K Meade River 75.00 20 P **P 23 49 20.0 +1.3**
B20K IAmb IAmb 23 49 58.5
comp=Z,5.7nm,1.4s
BMAR Burnt Mountain 80.25 19 P **P 23 49 49.2 +1.1**
ILAR Eielson Array 81.08 22 P **P 23 49 52.6 +0.2**
comp=Z,0.2nm,0.5s,baz=289,slow=5.0,SNR=1.4
comp=Z,0.2nm,0.5s
ESDC Sonseca Array 81.47 309 P **P 23 49 56.4 +1.2**
comp=Z,0.6nm,0.9s,baz=68,slow=5.0,SNR=2.1
comp=Z,0.6nm,0.9s
LBTB Lobatse 81.49 238 P **P 23 49 56.1 +0.7**
RES Resolute Bay 82.56 2 P **P 23 49 59.8 -0.3**
RES IAmb IAmb 23 50 02.6
comp=Z,2.6nm,1.2s
RES Resolute Bay 82.56 2 P **P 23 50 00.1 +0.1**
comp=Z,0.8nm,0.8s,baz=271,slow=2.3,SNR=4.1
comp=Z,0.8nm,0.8s
INK Inuvik 82.78 16 P **P 23 50 01.7 +0.4**
comp=Z,0.7nm,0.6s,baz=358,slow=3.9,SNR=6.5
comp=Z,0.7nm,0.6s
BOSA Boshof 83.55 235 P **P 23 50 07.0 +0.9**
BOSA Boshof 83.55 235 P **P 23 50 07.0 +0.9**
comp=Z,5.8nm,1.2s,baz=52,slow=12,SNR=3.8
comp=Z,5.8nm,1.2s
G31M Satah River 83.59 17 P **P 23 50 07.4 +1.9**
N25K Chitina, Valde 83.80 24 P **P 23 50 07.0 +0.1**
TORD Torodi Ar. Bea 86.95 283 P **P 23 50 23.7 +0.4**
comp=Z,59nm,0.3s,baz=42,slow=2.3,SNR=1.7

*MOS **20** 23:45:30.8±1.1, 49°.47N×155°.95E, h49km, mb4.2/10, Error ellipse: s-maj=11.7km s-min=4.0km az=78.0*
*KRSC **20** 23:45:31.7±2.4, 49°.48N×157°.03E, h41km±27km, Ml4.7*
*NEIC **20** 23:45:32.8±0.8, 49°.53N±0°.10×155°.9E±0°.2, h55km±8km, mb4.3/41, Error ellipse: s-maj=17.5km s-min=11.6km az=129.0*
*IDC **20** 23:45:36.8±2.0, 49°.67N×155°.94E, h88km±17km, mb3.6/23, mbtmp3.9/30, MS3.1/3, Error ellipse: s-maj=17.8km s-min=10.1km az=147.0*
ISC 20 23:45:32.2±0.5, 49°.46N±0°.07×156°.12E±0°.06, h54km, n161, σ1.25/170, mb4.2/48, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.22**	**360**	*i*PN	**Pn**	**23 45 53.1**	**+0.2**
SKR				*e*S	**Sn**	**23 46 08.2**	**-0.2**
SKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.2s						
SKR				smax	smax		
	comp=E,3μm,0.3s						
SKR	**Severo-Kuril's**	**1.22**	**360**	*e*P	**Pn**	**23 45 53.2**	**+0.3**
SKR				*e*S	**Sn**	**23 46 08.5**	**+0.1**
PAU	**Pauzhetka**	**2.06**	**12**	PN	**Pn**	**23 46 05.0**	**+0.8**
PAU				S	**Sn**	**23 46 29.1**	**+0.5**
PAU	**Pauzhetka**	**2.06**	**12**	*e*P	**Pn**	**23 46 05.0**	**+0.8**
PAU				*e*S	**Sn**	**23 46 29.2**	**+0.5**
KDTR	**Khodutka, Kamc**	**2.66**	**27**	*e*S	**Sn**	**23 46 41.7**	**-1.7**
GRL	**Gorelyy**	**3.33**	**21**	PN	**Pn**	**23 46 22.9**	**+1.1**
GRL				S	**Sn**	**23 47 00.7**	**+0.6**
GRL	**Gorelyy**	**3.33**	**21**	*e*P	**Pn**	**23 46 23.0**	**+1.1**
GRL				*e*S	**Sn**	**23 47 00.8**	**+0.6**
RUS	**Russkaya**	**3.34**	**26**	PN	**Pn**	**23 46 21.5**	**-0.3**
RUS				S	**Sn**	**23 46 58.3**	**-1.8**
RUS	**Russkaya**	**3.34**	**26**	*e*P	**Pn**	**23 46 21.5**	**-0.3**
RUS				*e*S	**Sn**	**23 46 58.4**	**-1.8**
APC	**Apacha**	**3.53**	**10**	PN	**Pn**	**23 46 25.2**	**+0.9**
APC	**Apacha**	**3.53**	**10**	*e*P	**Pn**	**23 46 25.3**	**+0.9**
KRMR	**Karymshinskiy**	**3.60**	**20**	PN	**Pn**	**23 46 26.8**	**+1.4**
KRMR	**Karymshinskiy**	**3.60**	**20**	*e*P	**Pn**	**23 46 26.8**	**+1.4**
PEA0B	**Petropavlovsk-**	**3.78**	**15**		**Pn**	**23 46 29.7**	**+1.8**
PEA0B	**Petropavlovsk-**	**3.78**	**15**	*i*PN	**Pn**	**23 46 29.3**	**+1.4**
PETK	**Petropavlovsk-**	**3.78**	**15**	Pn	**Pn**	**23 46 29.0**	**+1.0**
PETK	**Petropavlovsk-**	**3.78**	**15**	P	**Pn**	**23 46 29.6**	**+1.7**
	comp=E,14nm,0.6s,baz=177,slow=11,SNR=14						
PETK				S	**Sn**	**23 47 13.0**	**+1.9**
	comp=E,7.0nm,0.5s,baz=183,slow=16,SNR=1.2						
PETK				LR	LR	23 47 53.7	
	comp=E,66nm,21.4s,baz=150,slow=38						
PET	**Petropavlovsk**	**3.90**	**23**	Pn	**Pn**	**23 46 30.1**	**+0.6**
PET	**Petropavlovsk**	**3.90**	**23**	*e*PN	**Pn**	**23 46 31.2**	**+1.7**
PET				*e*S	**Sn**	**23 47 14.7**	**+0.7**
PET				smax	smax		
	comp=N,245nm,0.4s						
PET	**Petropavlovsk**	**3.90**	**23**	*e*P	**Pn**	**23 46 30.5**	**+1.0**
PET				*e*S	**Sn**	**23 47 13.6**	**-0.4**
DALK	**Dalny**	**3.94**	**24**	PN	**Pn**	**23 46 30.7**	**+0.7**
DALK				S	**Sn**	**23 47 14.0**	**-0.8**
DALK	**Dalny**	**3.94**	**24**	*e*P	**Pn**	**23 46 30.8**	**+0.7**
DALK				*e*S	**Sn**	**23 47 14.0**	**-0.8**
UGLR	**Uglovaya**	**4.12**	**23**	PN	**Pn**	**23 46 33.8**	**+1.2**
UGLR	**Uglovaya**	**4.12**	**23**	*e*P	**Pn**	**23 46 33.8**	**+1.2**
AVH	**Avacha**	**4.14**	**22**	PN	**Pn**	**23 46 35.1**	**+2.2**
AVH	**Avacha**	**4.14**	**22**	*e*P	**Pn**	**23 46 35.2**	**+2.2**
KOK	**Koryaka**	**4.14**	**21**	PN	**Pn**	**23 46 35.1**	**+2.2**
KOK	**Koryaka**	**4.14**	**21**	*e*P	**Pn**	**23 46 35.1**	**+2.2**
KRER	**Koryakskii**	**4.18**	**22**	PN	**Pn**	**23 46 35.5**	**+1.9**
KRER	**Koryakskii**	**4.18**	**22**	*e*P	**Pn**	**23 46 35.5**	**+1.9**
SDLR	**Sedlovina**	**4.19**	**23**	PN	**Pn**	**23 46 34.1**	**+0.5**
SDLR	**Sedlovina**	**4.19**	**23**	*e*P	**Pn**	**23 46 34.1**	**+0.5**
KRX	**Arik**	**4.21**	**21**	PN	**Pn**	**23 46 35.8**	**+1.9**
KRX	**Arik**	**4.21**	**21**	*e*P	**Pn**	**23 46 35.8**	**+1.9**
NLC	**Nalytchevo**	**4.23**	**27**	PN	**Pn**	**23 46 32.8**	**-1.1**
NLC	**Nalytchevo**	**4.23**	**27**	*e*P	**Pn**	**23 46 32.9**	**-1.1**
NLC				*e*S	**Sn**	**23 47 18.3**	**-3.7**
SPN	**Mys Shipunski**	**4.39**	**32**	PN	**Pn**	**23 46 36.0**	**-0.2**
SPN	**Mys Shipunski**	**4.39**	**32**	*e*P	**Pn**	**23 46 36.0**	**-0.2**
SPN				*e*S	**Sn**	**23 47 23.9**	**-2.0**
GNL	**Ganaly**	**4.39**	**14**	PN	**Pn**	**23 46 38.7**	**+2.4**
GNL	**Ganaly**	**4.39**	**14**	*e*P	**Pn**	**23 46 38.8**	**+2.4**
KII	**Karymskiy**	**5.02**	**23**	PN	**Pn**	**23 46 47.1**	**+2.1**
KII	**Karymskiy**	**5.02**	**23**	*e*P	**Pn**	**23 46 47.1**	**+2.1**
MKZ	**Mys Kozlova**	**6.16**	**32**	PN	**Pn**	**23 46 59.3**	**-1.2**
MKZ	**Mys Kozlova**	**6.16**	**32**	*e*P	**Pn**	**23 46 59.3**	**-1.2**
MKZ				*e*S	**Sn**	**23 48 05.3**	**-4.2**
TUMD	**Tumrok D**	**6.32**	**23**	PN	**Pn**	**23 47 03.6**	**+1.0**
TUMD	**Tumrok D**	**6.32**	**23**	*e*P	**Pn**	**23 47 03.7**	**+1.0**
KMNR	**Kamenistaya**	**6.78**	**20**	PN	**Pn**	**23 47 10.5**	**+1.4**
KMNR	**Kamenistaya**	**6.78**	**20**	*e*P	**Pn**	**23 47 10.5**	**+1.4**
KBTR	**Krutoberegovo**	**7.88**	**28**	PN	**Pn**	**23 47 23.2**	**-0.7**
KBTR	**Krutoberegovo**	**7.88**	**28**	*e*P	**Pn**	**23 47 23.3**	**-0.7**
TYV	**Tymovskoe**	**8.76**	**284**	*e*PN	Pn	23 47 40.0	+4.0
TYV				pmax	pmax		
	comp=Z,13nm,0.6s						
TYV				pmax	pmax		
	comp=Z,100nm,3.7s						
YSS	**Yuzhno-Sakhali**	**9.27**	**259**	*e*PN	Pn	23 47 47.3	+4.2
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2	**Magadan**	**10.60**	**345**	Pn	**Pn**	**23 47 60.0**	**-1.1**
MA2	**Magadan**	**10.60**	**345**	P	**Pn**	**23 48 01.9**	**+0.8**
	comp=Z,7.2nm,0.4s,baz=164,slow=7.2,SNR=8.1						
MA2	**Magadan**	**10.60**	**345**	*ce*PN	**Pn**	**23 48 02.1**	**+1.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAJ	**Asahikawa**	**10.70**	**245**	P	Pn	23 48 08.1	+5.5
	comp=Z,13nm,0.8s,baz=51,slow=18,SNR=4.1						
ERM	**Erimo**	**11.72**	**235**	Pn	**Pn**	**23 48 16.0**	**-0.5**
ERM	**Erimo**	**11.72**	**235**	*e*PN	**Pn**	**23 48 14.8**	**-1.7**
SEY	**Seymchan**	**13.66**	**353**	P	**Pn**	**23 48 44.1**	**+1.3**
	comp=Z,0.9nm,0.2s,baz=191,slow=16,SNR=7.9						
SEY	**Seymchan**	**13.66**	**353**	*e*P	**Pn**	**23 48 43.6**	**+0.8**
JTM	**Tenmabayashi**	**13.70**	**236**	Pn	**Pn**	**23 48 42.7**	**-0.8**
KLR	**Kul'dur**	**15.87**	**278**	P	**P**	**23 49 14.3**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=78,slow=12,SNR=6.4						
KLR	**Kul'dur**	**15.87**	**278**	*i*P	**Pn**	**23 49 08.6**	**-3.2**
USRK	**Ussuriysk Ar.**	**17.30**	**261**	P	**P**	**23 49 30.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=60,slow=11,SNR=1.4						
MJAR	**Matsushiro Arr**	**18.34**	**232**	P	**Pn**	**23 49 45.4**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=24,slow=9.3,SNR=2.0						
BILL	**Bilibino**	**19.31**	**12**	P	**P**	**23 49 51.9**	**-0.5**
YAK	**Yakutsk**	**19.31**	**321**	*i*P	**Pn**	**23 49 53.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS	**Korea Array**	**23.58**	**250**	P	**P**	**23 50 38.6**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=48,slow=10,SNR=4.4						
	comp=Z,1.6nm,0.5s						
TNA	**Tin City**	**24.65**	**36**	P	**P**	**23 50 48.1**	**+0.8**
TNA				IAmb	IAmb	23 50 50.0	
	comp=Z,8.9nm,0.8s						
ANM	**Nome**	**25.31**	**39**	P	**P**	**23 50 54.0**	**+0.7**
ANM				IAmb	IAmb	23 50 57.0	
	comp=Z,8.4nm,1.1s						
ANM	**Nome**	**25.31**	**39**	P	**P**	**23 50 54.0**	**+0.7**
ANM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIXI	**Tiksi**	**25.51**	**340**	P	**P**	**23 50 53.9**	**-1.1**
TIXI	**Tiksi**	**25.51**	**340**	P	**P**	**23 50 53.9**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
F15K	**North Star Dit**	**25.97**	**37**	P	**P**	**23 51 00.0**	**+0.7**
F17K	**Baldwin Pennin**	**27.52**	**36**	P	**P**	**23 51 13.7**	**+0.6**
J19K	**Poorman**	**29.34**	**42**	P	**P**	**23 51 29.9**	**+0.5**
J19K				IAmb	IAmb	23 51 42.2	
	comp=Z,10.0nm,1.5s						
B20K	**Meade River**	**30.07**	**30**	P	**P**	**23 51 36.0**	**+0.3**
B20K				IAmb	IAmb	23 51 39.3	
	comp=Z,7.4nm,1.4s						
B21K	**Ikpikpuk River**	**30.80**	**31**	P	**P**	**23 51 42.9**	**+0.7**
B21K				IAmb	IAmb	23 51 44.0	
	comp=Z,5.0nm,0.9s						
CAST	**Castle Rocks**	**30.87**	**44**	P	**P**	**23 51 43.8**	**+0.9**
CAST				IAmb	IAmb	23 51 45.0	
	comp=Z,8.3nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**30.89**	**160**	T	T	00 24 31.0	
	baz=346,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**30.91**	**160**	T	T	00 24 39.4	
	baz=346,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**30.91**	**160**	T	T	00 24 32.3	
	baz=346,slow=76,SNR=40						
E22K	**Anaktuvuk Pass**	**31.47**	**34**	P	**P**	**23 51 48.9**	**+0.6**
E22K				IAmb	IAmb	23 51 49.8	
	comp=Z,3.3nm,0.6s						
COLD	**Coldfoot**	**31.95**	**36**	P	**P**	**23 51 52.7**	**+0.3**
H11S1	**WAKE ISLAND Hy**	**32.03**	**161**	T	T	00 26 01.9	
	baz=347,slow=76,SNR=385						
H11S3	**WAKE ISLAND Hy**	**32.05**	**161**	T	T	00 26 02.7	
	baz=347,slow=76,SNR=551						
H11S2	**WAKE ISLAND Hy**	**32.05**	**161**	T	T	00 25 58.0	
	baz=347,slow=76,SNR=318						
RND	**Reindeer**	**32.32**	**44**	P	**P**	**23 51 55.0**	**-0.8**
RND				IAmb	IAmb	23 51 57.1	
	comp=Z,4.6nm,0.8s						
RND	**Reindeer**	**32.32**	**44**	P	**P**	**23 51 55.0**	**-0.8**
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**32.42**	**286**	LR	LR	00 06 36.9	
	comp=Z,41nm,21.0s,baz=106,slow=39						
SML	**Sawmill**	**32.63**	**47**	P	**P**	**23 51 58.6**	**+0.2**
SML	**Sawmill**	**32.63**	**47**	P	**P**	**23 51 58.7**	**+0.2**
SML				pmax	pmax		
	comp=Z,11nm,0.7s						
CCB	**Clear Creek Bu**	**32.78**	**41**	P	**P**	**23 51 59.8**	**+0.2**
CCB				IAmb	IAmb	23 52 04.4	
	comp=Z,5.4nm,1.2s						
POKR	**Poker Plat Res**	**32.94**	**40**	P	**P**	**23 52 02.2**	**+1.2**
POKR				IAmb	IAmb	23 52 03.7	
	comp=Z,8.6nm,1.1s						
IL31		**33.17**	**41**	P	**P**	**23 52 03.3**	**+0.3**
IL31				IAmb	IAmb	23 52 37.6	
	comp=Z,6.1nm,1.5s						
ILAR	**Eielson Array**	**33.17**	**41**	P	**P**	**23 52 03.6**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=252,slow=6.8,SNR=15						
	comp=Z,1.0nm,0.5s						
BMAR	**Burnt Mountain**	**34.14**	**36**	P	**P**	**23 52 12.6**	**+1.0**
N25K	**Chitina, Valde**	**34.42**	**47**	P	**P**	**23 52 14.6**	**+0.5**
BCAR	**Beaver Creek A**	**35.54**	**44**	P	**P**	**23 52 24.5**	**+0.9**
H29M	**Whitestone**	**36.64**	**38**	P	**P**	**23 52 34.3**	**+1.4**
M29M	**Somme Creek**	**37.14**	**44**	P	**P**	**23 52 39.0**	**+1.6**
HYT	**Haines Junctio**	**37.93**	**47**	P	**P**	**23 52 45.2**	**+1.1**
INK	**Inuvik**	**38.27**	**34**	P	**P**	**23 52 47.6**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=291,slow=7.9,SNR=6.9						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.70**	**304**	P	**P**	**23 53 22.5**	**-0.9**
ZALV	**Zalesovo Beam**	**42.70**	**304**	P	**P**	**23 53 22.2**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=66,slow=6.9,SNR=2.6						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**42.70**	**304**	P	**P**	**23 53 22.5**	**-0.9**
GRNB	**Grenville Isla**	**44.15**	**55**	P	**P**	**23 53 36.6**	**+1.5**
EUNU	**Eureka**	**46.05**	**12**	P	**P**	**23 53 50.1**	**+0.2**
EUNU				IAmb	IAmb	23 53 55.5	
	comp=Z,5.4nm,1.4s						
MK31	**Makanchi Array**	**47.51**	**297**	P	**P**	**23 54 00.1**	**-1.6**
MK31	**Makanchi Array**	**47.51**	**297**	*ce*P	**P**	**23 54 00.7**	**-1.0**
MKAR	**Makanchi Array**	**47.51**	**297**	P	**P**	**23 54 00.1**	**-1.6**
MKAR	**Makanchi Array**	**47.51**	**297**	P	**P**	**23 54 00.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=51,slow=6.4,SNR=10						
MKAR				PcP	**PcP**	**23 55 30.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=47,slow=2.9,SNR=1.6						
MKAR				LR	LR	00 14 43.8	
	comp=Z,81nm,19.1s,baz=58,slow=37						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.51**	**297**	*i*P	**P**	**23 54 00.3**	**-1.4**
YKA	**Yellowknife Ar**	**47.54**	**39**	P	**P**	**23 54 01.4**	**-0.2**
	comp=Z,1.4nm,1.1s,baz=297,slow=7.6,SNR=9.1						
YKA				PcP	**PcP**	**23 55 31.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=303,slow=3.6,SNR=2.7						
	comp=Z,1.4nm,1.1s						
YKA	**Yellowknife Ar**	**47.54**	**39**	*i*P	**P**	**23 54 02.9**	**+1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**47.57**	**303**	P	**P**	**23 54 00.8**	**-1.2**
KURK	**Kurchatov**	**47.57**	**303**	*ce*P	**P**	**23 54 00.1**	**-1.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
RES	**Resolute Bay**	**47.61**	**20**	P	**P**	**23 54 02.6**	**+0.6**
RES	**Resolute Bay**	**47.61**	**20**	P	**P**	**23 54 01.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=303,slow=6.3,SNR=5.5						
	comp=Z,0.4nm,0.5s						
RES	**Resolute Bay**	**47.61**	**20**	P	**P**	**23 54 02.6**	**+0.6**
RES				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURBB	**Kurchatov Arra**	**47.66**	**303**	P	**P**	**23 54 01.2**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=64,slow=7.9,SNR=6.8						
KURBB				PcP	**PcP**	**

CMAR Chiang Mai Arr 54.96 257 P P 23 54 58.4 +0.7
CMAR Chiang Mai Arr 54.96 257 P P 23 54 59.0 +1.2
comp=Z,1.6nm,0.3s,baz=26,slow=7.2,SNR=9.8
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 54.96 257 P P 23 54 59.0 +1.2
PLID Pearl Lake 56.50 58 P P 23 55 09.6 +0.9
PLID IAmb IAmb 23 55 10.8
comp=Z,1.7nm,0.8s
BPMT Black Pine Rid 57.05 56 P P 23 55 13.2 +0.5
PNTR Pine Nut 58.23 66 P P 23 55 22.4 +1.4
ABKAR Akbulak array 58.23 310 P P 23 55 19.5 -1.1
ABKAR IAmb IAmb 23 55 42.6
comp=Z,3.4nm,1.4s
ABKAR Akbulak array 58.23 310 P P 23 55 19.5 -1.1
WAKR Walker 58.70 66 P P 23 55 25.6 +1.3
NVAR Mina Array Bea 59.43 65 P P 23 55 30.5 +1.2
comp=Z,0.7nm,0.5s,baz=298,slow=9.1,SNR=5.9
comp=Z,0.7nm,0.5s
PDAR Pinedale Array 61.54 57 P P 23 55 44.2 +0.5
comp=Z,1.1nm,0.9s,baz=49,slow=1.0,SNR=8.1
comp=Z,1.1nm,0.9s
SFJD Kangerlussuaq 62.11 12 P P 23 55 46.4 -0.4
SFJD Kangerlussuaq 62.11 12 P P 23 55 46.4 -0.4
SFJD pmax pmax
comp=Z,14nm,1.3s
FINES FINESS Array B 62.43 335 P P 23 55 47.8 -1.2
comp=Z,3.8nm,1.0s,baz=10,slow=8.5,SNR=3.6
comp=Z,3.8nm,1.0s
NOA NORSAR Array B 66.28 342 P P 23 56 13.6 -0.7
comp=Z,0.5nm,0.7s,baz=26,slow=6.4,SNR=2.2
comp=Z,0.5nm,0.7s
HFS Hagfors 66.59 341 P P 23 56 16.3 +0.1
comp=Z,2.2nm,0.9s,baz=38,slow=5.4,SNR=1.7
comp=Z,2.2nm,0.9s
SCHQ Schefferville 70.01 25 P P 23 56 38.0 +0.3
comp=Z,1.4nm,0.7s,baz=11,slow=5.2,SNR=1.5
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 70.38 327 P P 23 56 38.7 -1.3
comp=Z,0.1nm,0.2s,baz=24,slow=7.1,SNR=2.1
comp=Z,0.1nm,0.2s
KBZ Khabaz 70.40 315 P P 23 56 40.0 -0.2
comp=Z,0.7nm,0.7s,baz=111,slow=8.6,SNR=2.1
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 71.76 202 P P 23 56 49.7 +1.1
comp=Z,0.9nm,0.8s,baz=18,slow=6.3,SNR=5.1
comp=Z,0.9nm,0.8s
TX31 Lajitas Ar. Si 74.43 63 P P 23 57 05.5 +0.9
TXAR Lajitas Array 74.43 63 P P 23 57 05.5 +0.9
comp=Z,1.1nm,0.6s,baz=298,slow=4.6,SNR=10
comp=Z,1.1nm,0.6s
ASAR Alice Springs 75.44 201 P P 23 57 12.0 +1.8
comp=Z,0.5nm,0.7s,baz=13,slow=6.3,SNR=2.4
comp=Z,0.5nm,0.7s
MLR Muntele Rosu 75.96 326 P P 23 57 12.4 -0.7
MLR IAmb IAmb 23 57 54.6
comp=Z,3.8nm,1.2s
MLR Muntele Rosu 75.96 326 P P 23 57 12.5 -0.7
MLR pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 77.75 318 P P 23 57 24.7 +1.3
comp=Z,0.2nm,0.4s,baz=22,slow=4.7,SNR=1.7
comp=Z,0.2nm,0.4s
MMAI Mount Meron Ar 82.48 313 P P 23 57 49.4 +0.5
comp=Z,1.6nm,0.4s,baz=45,slow=6.5,SNR=17
comp=Z,1.6nm,0.4s

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*IDC **20** 23:50:51.0±7.0, 29°.56N×63°.22E, h0km, mb3.5/6, mbtmp3.6/6, Error ellipse: s-maj=145.7km s-min=29.5km az=159.0*
*OMAN **20** 23:51:03.5±1.2, 27°.96N×62°.73E, h35km, mb4.0/15, Error ellipse: s-maj=9.6km s-min=8.3km az=105.0*
*DSN **20** 23:51:11.2±2.5, 27°.60N×62°.11E, h15km, ML3.4/10, Error ellipse: s-maj=81.7km s-min=23.0km az=150.0*
ISC 20 23:50:50.7±1.6, 28°.8N±0°.2×63°.5E±0°.2, h35km, n47, σ1§20/35, mb3.6/6, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.06**	**212**	P	Pn	23 51 49.1	-1.3
NGCH	SNR=20			S	Sn	23 52 24.6	-12
JASK	**Jask - Hormozg**	**5.82**	**241**	P	**Pn**	**23 52 15.5**	**+0.8**
JASK	SNR=106			S	Sn	23 53 11.1	-9.1
SHME	**Shamm**	**7.11**	**249**	P	**Pn**	**23 52 33.2**	**+0.9**
SHME				S	Sn	23 53 43.3	-8.5
SHME	**Shamm**	**7.11**	**249**	*i* P	**Pn**	**23 52 33.2**	**+0.9**
BIDO	SNR=23 **Bidbid**	**7.17**	**224**	P	Pn	23 52 32.3	-0.9
BIDO				S	Sn	23 53 39.8	-14
MDH	**Madha**	**7.33**	**243**	P	**Pn**	**23 52 34.0**	**-1.3**
MDH	SNR=24			S	Sn	23 53 45.2	-12
MDH	**Madha**	**7.33**	**243**	P	**Pn**	**23 52 34.0**	**-1.3**
MASF	**Masafi**	**7.40**	**244**	P	**Pn**	**23 52 35.2**	**-1.2**
MASF				S	Sn	23 53 48.3	-11
MSFE	**Esma-Masafi**	**7.41**	**244**	*i* P	**Pn**	**23 52 37.6**	**+1.2**
WBK	SNR=14 **Wadi Bani Khal**	**7.43**	**214**	P	Pn	23 52 33.0	-3.8
WBK	SNR=18			S	Sn	23 53 45.5	-14
WBK				S		23 53 45.8	
SMDO	**Samad**	**7.57**	**222**	P	Pn	23 52 37.1	-1.6
SMDO				S	Sn	23 53 49.7	-14
UOSS	**Minazif**	**7.58**	**241**	P	**Pn**	**23 52 37.0**	**-1.9**
UOSS				S	Sn	23 53 50.8	-13
UOSS	**Minazif**	**7.58**	**241**	P	**Pn**	**23 52 36.8**	**-2.1**
JLN	**Jalan Bani Buh**	**7.62**	**210**	P	Pn	23 52 35.9	-3.5
JLN	SNR=8.7			S	Sn	23 53 51.1	-13
HOQ	**Hoqain**	**7.64**	**228**	P	Pn	23 52 37.0	-2.6
HOQ	SNR=10.0			S	Sn	23 53 50.7	-14
HATD	**Hatta, Dubai**	**7.70**	**240**	P	**Pn**	**23 52 38.7**	**-1.8**
HATD				S	Sn	23 53 54.1	-12
HATD	**Hatta, Dubai**	**7.70**	**240**	P	Pn	23 52 38.1	-2.4
SOHO	**SOHO**	**7.81**	**235**	P	Pn	23 52 39.7	-2.2
SOHO				S	Sn	23 53 54.9	-14
ASHO	**Ashiyiah**	**7.84**	**240**	P	**Pn**	**23 52 41.0**	**-1.3**
ASHO	**Ashiyiah**	**7.84**	**240**	*i* P	**Pn**	**23 52 41.3**	**-1.0**
ASHO	SNR=8.5			S	Sn	23 53 53.0	-17
NAZ	**Nazwa, Dubai**	**7.98**	**243**	P	**Pn**	**23 52 45.4**	**+1.1**
NAZ	**Nazwa, Dubai**	**7.98**	**243**	P	**Pn**	**23 52 45.6**	**+1.3**
JMDO	**Jabal Madar**	**8.08**	**218**	P	Pn	23 52 43.6	-2.0
JMDO				S	Sn	23 54 01.7	-14
FAQ	**Al Faqa, Dubai**	**8.16**	**242**	P	**Pn**	**23 52 48.2**	**+1.5**
FAQ	SNR=9.6			S	Sn	23 54 09.3	-8.4
FAQ	**Al Faqa, Dubai**	**8.16**	**242**	*i* P	**Pn**	**23 52 47.9**	**+1.2**
BSY	SNR=9.6 **Bisya**	**8.31**	**224**	P	Pn	23 52 47.9	-1.0
BSY				S	Sn	23 54 10.6	-11
ARQ	**Araqi**	**8.33**	**230**	P	**Pn**	**23 52 49.8**	**+0.6**
ALNE	SNR=18 **Al Ain**	**8.43**	**237**	P	**Pn**	**23 52 50.9**	**+0.5**
ALNE	SNR=10			S	Sn	23 54 14.9	-9.4
ALNE	**Al Ain**	**8.43**	**237**	*i* P	**Pn**	**23 52 50.7**	**+0.3**
ASUD	SNR=11 **Al Ashush, Dub**	**8.43**	**242**	P	**Pn**	**23 52 51.6**	**+1.3**
ASUD	SNR=19			S	Sn	23 54 16.8	-7.5
ASUD	**Al Ashush, Dub**	**8.43**	**242**	*i* P	**Pn**	**23 52 51.8**	**+1.4**
AJN	SNR=19 **Ajban**	**8.73**	**243**	P	**Pn**	**23 52 55.3**	**+0.9**
MHTO	**MHTO**	**9.29**	**214**	P	Pn	23 53 00.3	-1.9
MHTO				S	Sn	23 54 31.0	-15
UMZA	**Um Al Zommool**	**9.68**	**233**	P	**Pn**	**23 53 07.0**	**-0.6**
UMZA				S	Sn	23 54 43.1	-12
GHWR	**Ruwais**	**10.69**	**245**	P	**Pn**	**23 53 20.3**	**-1.1**
MZR	**Muzera**	**10.73**	**239**	P	**Pn**	**23 53 21.4**	**-0.6**
MZR				S	Sn	23 55 07.7	-13
SHMA	**Al-Shehemyia**	**11.54**	**258**	P	**Pn**	**23 53 32.6**	**-0.4**
TRNA	**Turayna**	**11.72**	**252**	P	**Pn**	**23 53 34.8**	**-0.7**
TRNA	SNR=13			S	Sn	23 55 32.9	-12
SAKB	**Bahrain**	**11.87**	**259**	P	**Pn**	**23 53 37.2**	**-0.3**
SMRA	**Abu-Samra**	**12.04**	**253**	P	**Pn**	**23 53 39.7**	**-0.1**
DOK	**Doka**	**13.31**	**222**	P	Pn	23 53 53.8	-3.4
MKAR	**Makanchi Array**	**23.16**	**34**	P	**P**	**23 55 55.4**	**+1.3**
	0.2nm,0.5s,baz=221,slow=10,SNR=4.4						
	0.2nm,0.5s						
MMAI	**Mount Meron Ar**	**24.43**	**287**	P	**P**	**23 56 08.1**	**+1.8**
	1.1nm,0.5s,baz=81,slow=11,SNR=4.6						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**24.54**	**23**	P	**P**	**23 56 06.8**	**-0.2**
	0.8nm,0.6s,baz=220,slow=8.5,SNR=13						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**24.69**	**10**	P	**P**	**23 56 09.1**	**+0.8**
	0.6nm,0.4s,baz=184,slow=8.0,SNR=5.2						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**29.52**	**26**	P	**P**	**23 56 51.0**	**-0.5**
	0.9nm,0.4s,baz=228,slow=10,SNR=4.8						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**40.91**	**334**	P	**P**	**23 58 27.5**	**-1.8**
	0.8nm,0.6s,baz=131,slow=8.1,SNR=4.5						
	0.8nm,0.6s						

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*IDC **20** 23:51:28.6±1.6, 23°.90S×179°.75W, h528km±20km, mb3.3/7, mbtmp4.3/10, Error ellipse: s-maj=22.1km s-min=18.1km az=74.0*
ISC 20 23:51:27.6±0.8, 24°.09S±0°.07×179°.7W±0°.1, h512km, n42, σ1§73/51, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.39**	**163**	P	**P**	**23 53 01.3**	**+2.8**
GLKZ				S	**S**	**23 54 12.2**	**-0.8**
MSVF	**Nonsavu**	**6.67**	**341**	P	**P**	**23 53 10.4**	**-0.7**
MSVF	6.8nm,0.4s,baz=210,slow=17,SNR=23			S	**S**	**23 54 35.1**	**-0.7**
	7.3nm,1.0s,baz=172,slow=17,SNR=1.9						
NIUE	**Niue**	**10.35**	**63**	P	P	23 53 56.8	+7.9
OUZ	**Omahuta**	**12.53**	**206**	P	**P**	**23 54 13.6**	**+2.0**
WCZ	**Waipu Caves**	**12.89**	**202**	P	**P**	**23 54 16.4**	**+1.2**
DZM	**Mont Dzumac**	**12.93**	**276**	P	**P**	**23 54 17.6**	**+1.5**
	7.1nm,0.8s,baz=95,slow=7.8,SNR=3.7						
MXZ	**Matakaoa Point**	**13.54**	**187**	P	**P**	**23 54 23.7**	**+1.6**
MKAZ	**Moumakai**	**13.71**	**198**	P	**P**	**23 54 25.2**	**+1.4**
URZ	**Urewera**	**14.39**	**190**	P	**P**	**23 54 32.8**	**+1.8**
	13nm,0.3s,baz=343,slow=2.6,SNR=34						
PRRZ	**Plateau Road**	**14.75**	**192**	P	**P**	**23 54 34.3**	**-0.5**
RTZ	**Ruatahuna**	**14.76**	**190**	P	**P**	**23 54 35.8**	**+0.9**
SNGZ	**Shannon Statio**	**14.87**	**189**	P	**P**	**23 54 38.4**	**+2.4**
MTHZ	**Maungataniwha**	**15.01**	**191**	P	**P**	**23 54 39.3**	**+1.7**
MTHZ				S	**S**	**23 57 11.0**	**-3.2**
RAHZ	**Arahi**	**15.04**	**190**	P	**P**	**23 54 39.0**	**+1.2**
RAHZ				S	**S**	**23 57 12.6**	**-2.1**
WATZ	**Wairara**	**15.09**	**194**	P	**P**	**23 54 40.7**	**+2.4**
NMHZ	**Naumai**	**15.26**	**190**	P	**P**	**23 54 42.2**	**+2.1**
BKZ	**Black Stump Fm**	**15.38**	**191**	P	**P**	**23 54 41.0**	**-0.4**
BKZ				S	**S**	**23 57 17.1**	**-4.1**
NTVZ	**North Tongarir**	**15.47**	**194**	P	**P**	**23 54 43.8**	**+1.3**
TMVZ	**Te Maari**	**15.48**	**194**	P	**P**	**23 54 43.7**	**+1.1**
TWVZ	**Taurewa**	**15.50**	**194**	P	**P**	**23 54 44.8**	**+2.1**
ETVZ	**East Tongariro**	**15.50**	**194**	P	**P**	**23 54 43.6**	**+0.8**
WTVZ	**West Tongariro**	**15.51**	**194**	P	**P**	**23 54 45.3**	**+2.5**
OTVZ	**Oturere**	**15.54**	**194**	P	**P**	**23 54 42.5**	**-0.7**
OTVZ				S	**S**	**23 57 22.9**	**-1.5**
NGZ	**Ngauruhoe**	**15.56**	**194**	P	**P**	**23 54 45.0**	**+1.6**
SNVZ	**South Ngauruho**	**15.57**	**194**	P	**P**	**23 54 44.1**	**+0.6**
SNVZ				S	**S**	**23 57 22.7**	**-2.2**
MCHZ	**McNeill Hill**	**15.61**	**190**	P	**P**	**23 54 44.0**	**+0.2**
KWHZ	**Kaweka Forest**	**15.64**	**191**	P	**P**	**23 54 43.8**	**-0.3**
KWHZ				S	**S**	**23 57 26.1**	**0.0**
TUVZ	**Tukino**	**15.64**	**194**	P	**P**	**23 54 44.4**	**+0.2**
WNVZ	**Wahianoa**	**15.71**	**194**	P	**P**	**23 54 45.0**	**0.0**
PKVZ	**Pokaka**	**15.73**	**194**	P	**P**	**23 54 46.0**	**+1.0**
MOVZ	**Moawhango**	**15.75**	**193**	P	**P**	**23 54 44.5**	**-0.8**
KRHZ	**Kereru**	**15.86**	**191**	P	**P**	**23 54 47.0**	**+0.6**
KRHZ				S	**S**	**23 57 27.4**	**-2.7**
KAHZ	**Kahuranaki**	**15.93**	**190**	P	**P**	**23 54 46.9**	**-0.2**
PNHZ	**Pukenui**	**16.16**	**191**	P	**P**	**23 54 47.8**	**-1.6**
PNHZ				S	**S**	**23 57 32.0**	**-3.4**
RPZ	**Rata Peaks**	**21.00**	**199**	P	**P**	**23 55 35.3**	**+0.8**
	12nm,0.5s,baz=21,slow=7.0,SNR=12						
	12nm,0.5s						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**23 57 36.0**	**-0.1**
	1.3nm,0.5s,baz=41,slow=11,SNR=3.5						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**42.29**	**261**	P	**P**	**23 58 35.8**	**-0.3**
	3.3nm,0.7s,baz=97,slow=8.2,SNR=26						
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**42.69**	**266**	P	**P**	**23 58 38.6**	**-0.6**
	6.6nm,0.5s,baz=96,slow=8.4,SNR=46						
	6.6nm,0.5s						
VNDA	**Vanda**	**54.22**	**185**	P	**P**	**00 00 05.0**	**+0.8**
	0.8nm,0.7s,baz=27,slow=6.8,SNR=3.1						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**66.00**	**180**	P	**P**	**00 01 24.1**	**+1.4**
	1.3nm,0.5s,baz=52,slow=12,SNR=11						
	1.3nm,0.5s						
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**00 03 34.1**	**+0.2**
	0.3nm,0.7s,baz=186,slow=7.8,SNR=1.9						
	0.3nm,0.7s						
HFS	**Hagfors**	**142.79**	**349**	PKP	**PKPdf**	**00 09 58.1**	**-3.8**
	0.7nm,0.3s,baz=17,slow=1.5,SNR=6.6						

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*IDC **21** 00:10:42.2±5.6, 5°.09S×151°.58E, h106km±46km, mb3.5/7, mbtmp3.9/8, Error ellipse: s-maj=50.3km s-min=25.9km az=102.0*
ISC 21 00:10:44.6±1.2, 5°.2S±0°.2×151°.6E±0°.3, h129km, n8, σ0§54/9, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.07**	**226**	P	**Pn**	**00 12 11.6**	**-0.4**
	6.4nm,0.3s,baz=51,slow=13,SNR=1.8						
PMG				S	**Sn**	**00 13 20.6**	**+0.4**
	34nm,0.4s,baz=315,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**22.28**	**227**	P	**P**	**00 15 31.0**	**-0.5**
	7.3nm,0.6s,baz=50,slow=10,SNR=32						
	7.3nm,0.6s						
ASAR	**Alice Springs**	**25.05**	**221**	P	**P**	**00 15 57.6**	**+0.5**
	4.8nm,0.6s,baz=56,slow=8.8,SNR=48						
	4.8nm,0.6s						
SONM	**Songino Array**	**65.98**	**328**	P	**P**	**00 21 18.0**	**+0.8**
	0.4nm,0.4s,baz=133,slow=5.2,SNR=4.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**79.79**	**319**	P	**P**	**00 22 38.4**	**-0.2**
	0.3nm,0.8s,baz=104,slow=6.1,SNR=2.3						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**82.96**	**22**	P	**P**	**00 22 54.8**	**-0.1**
	0.2nm,0.5s,baz=238,slow=5.2,SNR=1.3						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**84.80**	**180**	P	**P**	**00 23 04.5**	**+0.2**
	1.5nm,1.0s,baz=0.0,slow=3.0,SNR=1.8						
	1.5nm,1.0s						
BVAR	**Borovoye Array**	**88.79**	**323**	P	**P**	**00 23 23.3**	**-0.5**
	0.4nm,0.7s,baz=86,slow=4.8,SNR=3.9						
	0.4nm,0.7s						

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*WEL **21** 00:14:21.8±1.0, 32°S±6°×17°8W±1°6, h12km, mB4.6/7, ML4.8/13, MLv4.5/7, Mw(mB)3.8/7, Error ellipse: s-maj=22.4km s-min=4.2km az=106.5, confirmed*
*IDC **21** 00:14:23.7±1.3, 32°.32S×178°.41W, h0km, mb4.0/3, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=37.7km s-min=28.9km az=101.0*
ISC 21 00:14:24.1±1.0, 32°.23S±0°.09×178°.4W±0°.2, h10km, n23, σ1§77/33, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.99**	**8**	P	**Pn**	**00 15 09.6**	**-2.0**
GLKZ				S	**Sn**	**00 15 45.1**	**-2.4**
WMGZ	**Waiomatatini S**	**6.15**	**204**	P	**Pn**	**00 15 53.7**	**-1.3**
WMGZ				S	**Sn**	**00 17 04.7**	**-0.7**
HAZ	**Te Kaha**	**6.33**	**208**	P	**Pn**	**00 15 56.5**	**-1.0**
HAZ				S	**Sn**	**00 17 10.4**	**+0.6**
PUZ	**Puketiti**	**6.43**	**204**	P	**Pn**	**00 15 56.5**	**-2.4**
PUZ				S	**Sn**	**00 17 11.4**	**-1.0**
RUGZ	**Raukumara Rang**	**6.55**	**208**	P	**Pn**	**00 15 59.7**	**-1.0**
RUGZ				S	**Sn**	**00 17 15.1**	**-0.4**
TWGZ	**Tauwhareparae**	**6.62**	**205**	P	**Pn**	**00 16 02.3**	**+0.8**
TWGZ				S	**Sn**	**00 17 16.1**	**-1.0**
CNGZ	**Carnagh Statio**	**6.82**	**203**	P	**Pn**	**00 16 01.4**	**-2.8**
CNGZ				S	**Sn**	**00 17 21.1**	**-0.8**
URZ	**Urewera**	**7.04**	**210**	Pn	**Pn**	**00 16 05.0**	**-2.2**
	1.3nm,0.3s,baz=344,slow=4.0,SNR=8.3						
URZ				Sn	**Sn**	**00 17 25.2**	**-2.0**
	2.5nm,0.3s,baz=53,slow=20,SNR=7.9						
	2.4nm,0.3s						
WCZ	**Waipu Caves**	**7.05**	**236**	P	Pn	00 16 16.7	+9.4
OUZ	**Omahuta**	**7.29**	**244**	P	Pn	00 16 17.4	+6.8
RTZ	**Ruatahuna**	**7.39**	**209**	P	**Pn**	**00 16 10.4**	**-1.8**
RTZ				S	**Sn**	**00 17 33.4**	**-2.7**
SNGZ	**Shannon Statio**	**7.39**	**207**	P	**Pn**	**00 16 12.4**	**+0.3**
SNGZ				S	**Sn**	**00 17 33.5**	**-2.5**
RAHZ	**Arahi**	**7.61**	**207**	P	**Pn**	**00 16 16.3**	**+1.3**
MTHZ	**Maungataniwha**	**7.65**	**209**	P	**Pn**	**00 16 17.2**	**+1.5**
BKZ	**Black Stump Fm**	**8.06**	**209**	P	**Pn**	**00 16 20.3**	**-1.0**
BKZ				S	**Sn**	**00 17 49.1**	**-3.5**
OTVZ	**Oturere**	**8.42**	**213**	P	**Pn**	**00 16 26.8**	**+0.5**
OTVZ				S	**Sn**	**00 18 00.1**	**-1.5**
ASAR	**Alice Springs**	**42.68**	**269**	P	**P**	**00 22 22.9**	**+1.6**
	1.7nm,0.9s,baz=108,slow=7.7,SNR=8.7						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**43.84**	**274**	P	**P**	**00 22 31.9**	**+1.2**
	1.7nm,0.6s,baz=114,slow=7.7,SNR=9.4						
	1.7nm,0.6s						
QSPA	**South Pole Qui**	**57.89**	**180**	P	**P**	**00 24 17.3**	**+1.2**
	2.1nm,1.0s,baz=60,slow=8.1,SNR=6.1						
	2.1nm,1.0s						
FINES	**FINESS Array B**	**146.72**	**339**	PKPbc	**PKPdf**	**00 34 05.4**	**+1.6**
	1.4nm,0.5s,baz=38,slow=4.0,SNR=18						
HFS	**Hagfors**	**150.95**	**348**	PKPbc	**PKPbc**	**00 34 16.6**	**+0.2**
	1.0nm,0.7s,baz=48,slow=2.1,SNR=4.1						
MMAI	**Mount Meron Ar**	**151.57**	**281**	PKPbc	**PKPbc**	**00 34 19.5**	**+0.7**
	0.9nm,0.6s,baz=95,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**153.10**	**295**	PKPbc	**PKiKP**	**00 34 25.4**	**+3.0**
	0.3nm,0.6s,baz=112,slow=2.6,SNR=2.1						

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*IDC **21** 00:21:16.3±3.9, 5°.86S×148°.08E, h94km±37km, mb3.7/6, mbtmp4.0/8, MS3.5/1, Error ellipse: s-maj=64.1km s-min=26.4km az=104.0*
*NEIC **21** 00:21:20.4±2.2, 5°.83S±0°.08×147°.74E±0°.05, h116km±9km, mb4.1/13, Error ellipse: s-maj=11.4km s-min=7.3km az=183.0*
ISC 21 00:21:18.6±0.7, 5°.87S±0°.06×147°.7E±0°.1, h100km, n30, σ0§84/30, mb3.7/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**189**	Pn	**Pn**	**00 22 11.9**	**+0.2**
PMG	**Port Moresby**	**3.55**	**189**	P	**Pn**	**00 22 11.8**	**0.0**
	87nm,0.3s,baz=5.5,slow=7.8,SNR=30						
PMG				S	**Sn**	**00 22 52.5**	**-0.4**
	83nm,0.3s,baz=18,slow=20,SNR=9.9						
MANU	**Manus Island**	**3.82**	**355**	Pn	**Pn**	**00 22 15.9**	**+0.5**
RABL	**Rabaul**	**4.74**	**70**	Pn	**Pn**	**00 22 27.9**	**+0.1**
COEN	**Coen**	**9.19**	**209**	Pn	**Pn**	**00 23 28.7**	**+0.4**
WB0	**Warramunga Arr**	**18.93**	**222**	P	**P**	**00 25 32.6**	**+0.8**
WB0				IAmb	IAmb	00 25 39.5	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**19.09**	**222**	P	**P**	**00 25 34.1**	**+0.6**
WRA	**Warramunga Arr**	**19.09**	**222**	P	**P**	**00 25 34.8**	**+1.3**
	comp=Z,2.1nm,0.4s,baz=49,slow=10,SNR=18						
EIDS	**Eidsvold**	**19.66**	**171**	P	**P**	**00 25 40.7**	**+1.1**
EIDS				IAmb	IAmb	00 25 41.9	
	comp=Z,7.6nm,0.7s						
KNRA	**Kununurra**	**20.98**	**241**	P	**P**	**00 25 54.4**	**+0.4**
KNRA				IAmb	IAmb	00 25 55.7	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**22.12**	**216**	P	**P**	**00 26 06.4**	**+0.3**
ASAR	**Alice Springs**	**22.12**	**216**	P	**P**	**00 26 06.7**	**+0.5**
ASAR	**Alice Springs**	**22.12**	**216**	P	**P**	**00 26 07.3**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=50,slow=9.1,SNR=35						
	comp=Z,2.0nm,0.5s						
SOEI	**Soe**	**23.54**	**259**	P	**P**	**00 26 19.1**	**-1.1**
SOEI				IAmb	IAmb	00 26 35.3	
	comp=Z,12nm,0.7s						
BATI	**Baumata**	**24.19**	**258**	LR	LR	00 38 00.6	
	comp=Z,102nm,19.5s,baz=310,slow=41						
ARMA	**Armidale**	**24.70**	**172**	P	**P**	**00 26 31.2**	**+0.8**
ARMA				IAmb	IAmb	00 26 33.4	
	comp=Z,3.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.73**	**239**	P	**P**	**00 26 31.5**	**+0.7**
FITZ				IAmb	IAmb	00 26 33.0	
	comp=Z,3.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.73**	**239**	P	**P**	**00 26 32.0**	**+1.2**
	comp=Z,18nm,0.6s,baz=80,slow=7.8,SNR=15						
	comp=Z,18nm,0.6s						
STKA	**Stephens Creek**	**26.50**	**192**	P	**P**	**00 26 45.9**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=14,slow=9.5,SNR=3.1						
	comp=Z,0.7nm,0.4s						
MBWA	**Marble Bar**	**31.07**	**238**	P	**P**	**00 27 27.1**	**-0.3**
BHW	**Baring Head**	**42.88**	**150**	P	**P**	**00 29 07.2**	**+0.1**
BFZ	**Birch Farm**	**43.06**	**148**	P	**P**	**00 29 08.3**	**-0.3**
SONM	**Songino Array**	**64.64**	**331**	P	**P**	**00 31 45.9**	**+0.2**
SONM				IAmb	IAmb	00 31 50.0	
	comp=Z,1.4nm,1.4s						
SONM	**Songino Array**	**64.64**	**331**	P	**P**	**00 31 46.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=138,slow=5.0,SNR=4.2						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**77.85**	**320**	P	**P**	**00 33 03.7**	**-1.5**
MKAR	**Makanchi Array**	**77.85**	**320**	P	**P**	**00 33 03.9**	**-1.3**
MKAR	**Makanchi Array**	**77.85**	**320**	P	**P**	**00 33 04.5**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=8.2						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**79.28**	**328**	P	**P**	**00 33 11.9**	**-1.0**
ZALV	**Zalesovo Beam**	**79.28**	**328**	P	**P**	**00 33 11.4**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=132,slow=2.2,SNR=4.1						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.74**	**285**	PKPbc	**PKPdf**	**00 40 46.2**	**-0.3**
	comp=Z,66nm,0.3s,baz=58,slow=2.7,SNR=1.5						

**IDC 21 00:31:26.3±3.5, 6°.66S×127°.69E, h382km±38km, mb2.5/1, mbtmp4.0

ENA	**Nanau**	**1.12 246**	*e*P	**Pb**	**00 41 31.9**	**+0.4**
ENA			*e*S	**Sb**	**00 41 46.3**	**+0.4**
EAHA	**Aohua**	**1.17 242**	*e*P	**Pb**	**00 41 32.8**	**+0.6**
EAHA			*e*S	**Sb**	**00 41 46.5**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.17 264**	*e*P	**Pn**	**00 41 32.4**	**+0.1**
HATJ	**Hateruma jima**	**1.19 134**	P	**Pb**	**00 41 32.6**	**+0.1**
ENTT	**Nioudou**	**1.21 259**	*e*P	**Pb**	**00 41 34.2**	**+1.2**
JKRS	**Kuro-shima**	**1.22 122**	*e*P	**Pn**	**00 41 32.9**	**+0.1**
ZUZH	**Zhuzihu**	**1.23 283**	P	**Pn**	**00 41 33.0**	**0.0**
NWLT	**Wulai**	**1.25 265**	*e*P	**Pb**	**00 41 34.9**	**+1.2**
JIJ	**Ishigaki jima**	**1.27 114**	P	**Pn**	**00 41 33.1**	**-0.4**
LATG	**Datong**	**1.27 254**	*e*P	**Pb**	**00 41 34.2**	**+0.1**
NTST	**Danshui**	**1.32 283**	*e*P	**Pb**	**00 41 35.1**	**+0.3**
JISG	**Ishigakijimahi**	**1.34 102**	*e*P	**Pn**	**00 41 34.5**	**0.0**
NACB	**Ninganchiao**	**1.36 239**	*e*P	**Pb**	**00 41 35.6**	**+0.1**
NACB			*e*S	**Sn**	**00 41 52.4**	**-0.1**
YHNB	**Yeheng**	**1.38 261**	*e*P	**Pn**	**00 41 35.4**	**+0.4**
NSK	**Sanguang**	**1.39 262**	*e*P	**Pb**	**00 41 37.2**	**+1.2**
TWD	**Chiawan**	**1.41 236**	*e*P	**Pb**	**00 41 36.9**	**+0.5**
NNSB	**Datong**	**1.43 252**	*e*P	**Pb**	**00 41 36.7**	**-0.1**
NNS	**Nan Shan**	**1.43 252**	*e*P	**Pb**	**00 41 37.3**	**+0.5**
ETLH	**Xiulin Townshi**	**1.43 242**	P	**Pb**	**00 41 36.9**	**0.0**
ETLH			*e*S	**Sb**	**00 41 54.9**	**0.0**
ETM	**Tongmen**	**1.55 234**	*e*P	**Pn**	**00 41 37.5**	**+0.1**
LXIB	**Xiulin Townshi**	**1.58 237**	*e*P	**Pn**	**00 41 38.7**	**+0.8**
FUSS	**Fushou**	**1.61 247**	*e*P	**Pb**	**00 41 40.5**	**+0.5**
NFF	**Wufeng Townshi**	**1.61 261**	*e*P	**Pb**	**00 41 41.0**	**+1.1**
SHUL	**Shoufeng**	**1.62 228**	*e*P	**Pn**	**00 41 38.4**	**+0.1**
WHF	**Hehuan Shan**	**1.64 244**	*e*P	**Pb**	**00 41 40.2**	**-0.3**
TDCB	**Techi**	**1.68 248**	*e*P	**Pb**	**00 41 42.0**	**+1.0**
LIOB	**Emei**	**1.70 262**	*e*P	**Pb**	**00 41 41.5**	**+0.1**
NSTT	**Nanjuang**	**1.72 262**	*e*P	**Pb**	**00 41 42.0**	**+0.4**
WARBT	**Fenglin Townsh**	**1.78 230**	*e*P	**Pn**	**00 41 41.2**	**+0.6**
OWD	**Renai**	**1.80 239**	*e*P	**Pn**	**00 41 42.0**	**+1.1**
WUSB	**Renai**	**1.83 241**	*e*P	**Pn**	**00 41 42.7**	**+1.4**
WHP	**Taichung City**	**1.85 251**	*e*P	**Pb**	**00 41 44.8**	**+0.8**
WHP			*e*S	**Sb**	**00 42 07.5**	**+0.5**
HGSD	**Ruisui**	**1.91 224**	*e*P	**Pn**	**00 41 42.9**	**+0.5**
VWDT	**VWDT**	**1.94 235**	*e*P	**Pn**	**00 41 43.4**	**+0.7**
VWDT			*e*S	**Sn**	**00 42 08.0**	**+1.4**
WCS	**Beigang Elemen**	**1.96 246**	*e*P	**Pb**	**00 41 45.9**	**+0.1**
EHY	**Hungye**	**1.97 226**	*e*P	**Pn**	**00 41 41.9**	**-1.3**
SMLT	**Sun Moon Lake**	**2.05 241**	*e*P	**Pb**	**00 41 46.2**	**-1.2**
SSLB	**Suanglung**	**2.06 238**	*e*P	**Pb**	**00 41 46.3**	**-1.2**
TYC	**Yuchr**	**2.08 242**	*e*P	**Pb**	**00 41 47.3**	**-0.5**
ALS	**Alishan**	**2.33 234**	*e*P	**Pn**	**00 41 50.5**	**+2.2**
CHN5	**Tsauling**	**2.38 238**	*e*P	**Pb**	**00 41 51.8**	**-1.1**
EDH	**Donghe**	**2.38 217**	*e*P	**Pn**	**00 41 49.0**	**+0.2**
EDH			*e*S	**Sn**	**00 42 16.5**	**-1.1**
WTK	**Tuku**	**2.56 243**	*e*P	**Pb**	**00 41 54.5**	**-1.5**
CHN4	**Tsaushan**	**2.58 234**	*e*P	**Pb**	**00 41 54.8**	**-1.6**
CHN4			*e*S	**Sb**	**00 42 26.3**	**-1.5**
TPUB	**Ta-pu**	**2.58 233**	*e*P	**Pb**	**00 41 54.5**	**-1.9**
WTP	**Ta-pu**	**2.63 232**	*e*P	**Pn**	**00 41 53.8**	**+1.6**
TWK	**Hsinying**	**2.71 234**	*e*P	**Pn**	**00 41 54.7**	**+1.3**
CHN1	**Nanshi**	**2.73 232**	*e*P	**Pn**	**00 41 56.3**	**+2.7**
EAST	**Anshuo**	**3.10 217**	*e*P	**Pn**	**00 41 56.2**	**-2.5**

SOME ***21*** *00:46:09.9, 42°.72N×79°.63E, h5km*
KRNET ***21*** *00:46:10.8±0.1, 42°.61N×79°.67E, h19km, mb2.1*
NNC ***21*** *00:46:10.4±1.4, 42°.79N×79°.65E, h0km, mb3.6, mpv2.7,*
Error ellipse: s-maj=8.5km s-min=4.6km az=131.0
ISC 21 00:46:07.4±1.9, 42°.82N±0°.05×79°.81E±0°.06, h1km±11km,
n18,σ0s77/32, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.42**	**323**	P	**Pb**	**00 46 18.6**	**+0.9**
	22nm,0.1s						
SHLS				S	**Sb**	**00 46 24.7**	**0.0**
	101nm,0.2s						
SHLS	**Shalkode**	**0.42**	**323**	*e*P	**Pb**	**00 46 18.6**	**+0.9**
	22nm,0.1s						
SHLS				*e*S	**Sb**	**00 46 25.3**	**+0.6**
	20nm,0.1s						
PDGK	**Podgornoye**	**0.56**	**335**	⇓P	**Pn**	**00 46 21.1**	**-1.6**
	1.1nm,0.5s						
PDGK				⇓S	**Sb**	**00 46 29.2**	**+0.5**
	1.3nm,0.3s						
UZB	**Uzynbulak**	**0.67**	**300**	P	**Pb**	**00 46 21.9**	**0.0**
	2.2nm,0.1s						
UZB				S	**Sb**	**00 46 31.2**	**-0.6**
	5.9nm,0.1s						
UZB	**Uzynbulak**	**0.67**	**300**	*e*P	**Pb**	**00 46 21.9**	**0.0**
	2.2nm,0.1s						
UZB				*e*S	**Sb**	**00 46 31.1**	**-0.6**
	5.5nm,0.1s						
KTMS	**Ketmen**	**0.74**	**32**	*e*P	**Pn**	**00 46 25.2**	**+0.1**
	0.4nm,0.1s						
KTMS				*e*S	**Sn**	**00 46 36.5**	**-0.6**
	4.5nm,0.1s						
SATY	**Saty**	**1.06**	**283**	P	**Pb**	**00 46 28.4**	**-0.2**
SATY				S	**Sb**	**00 46 42.1**	**-1.0**
PRZ	**Przheval'sk**	**1.10**	**253**	⇓*e*P	**Pg**	**00 46 29.1**	**+0.7**
PRZ				⇓*e*S	**Sg**	**00 46 41.8**	**-0.8**
ANVS	**Anan'yevo**	**1.58**	**269**	⇑*e*P	**Pb**	**00 46 38.5**	**+1.0**
ANVS				⇑*e*S	**Sn**	**00 46 58.1**	**+0.2**
TARG	**Taragay, Kyrgy**	**1.85**	**234**	⇑*i*P	**Pn**	**00 46 40.7**	**+0.1**
TARG				⇑*i*S	**Sn**	**00 47 03.4**	**-1.4**
KOTS	**Kotyrbulak**	**2.02**	**283**	Pg	**Pg**	**00 46 46.3**	**+0.1**
KOTS				Lg	Lg	00 47 13.4	
KOTS	**Kotyrbulak**	**2.02**	**283**	*e*P	**Pg**	**00 46 46.3**	**+0.1**
	0.8nm,0.1s						
KOTS				*e*S	**Sg**	**00 47 12.9**	**+0.5**
	8.4nm,0.2s						
KDJ	**Kajisay**	**2.07**	**251**	⇑*i*P	**Pb**	**00 46 45.4**	**-0.4**
KDJ				⇑*i*S	**Sn**	**00 47 10.9**	**+1.0**
TNSS	**Tian-Shan**	**2.12**	**277**	Pg	**Pg**	**00 46 47.7**	**-0.2**
TNSS				Lg	Lg	00 47 15.7	
TNSS	**Tian-Shan**	**2.12**	**277**	*e*P	**Pg**	**00 46 47.8**	**-0.2**
	0.3nm,0.1s						
TNSS				*e*S	**Sg**	**00 47 15.5**	**+0.2**
	1.6nm,0.1s						
KNDC	**Almaty**	**2.13**	**282**	⇑P	**Pg**	**00 46 47.5**	**-0.6**
	5.7nm,0.3s						
KNDC				⇑S	**Sn**	**00 47 11.3**	**+0.2**
	7.7nm,0.2s						
ULHL	**Ulahol**	**2.70**	**259**	⇑*i*P	Pn	00 46 54.8	+2.6
ULHL				⇑*i*S	**Sn**	**00 47 26.8**	**+1.2**
BOOM	**Boomskoye usch**	**2.88**	**265**	⇑*e*P	Pn	00 46 57.3	+2.8
BOOM				⇑*e*S	**Sn**	**00 47 31.4**	**+1.6**

IDC ***21*** *01:06:53.4±1.7, 36°.99N×29°.84E, h0km, mb3.0/2,*
mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=76.2km
s-min=22.4km az=141.0
AFAD ***21*** *01:06:54.6, 37°.44N×29°.39E, h7km±2km, ML2.9*
ISK ***21*** *01:06:54.3, 37°.46N×29°.40E, h5km, ML3.2/30*
ISC 21 01:06:54.7±0.9, 37°.45N±0°.02×29°.40E±0°.02, h8km±6km,
n46,σ0s59/61, mb3.1/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**285**	Pg	**Pg**	**01 06 56.6**	**-0.3**
APMY				Sg	**Sg**	**01 06 58.8**	**+0.3**
GOLH	**Golhisar**	**0.25**	**149**	P	**Pg**	**01 06 59.4**	**-0.4**
GOLH				S	**Sg**	**01 07 03.8**	**+0.7**
GOLH				*i* AML	AML	01 07 04.0	
	comp=N,3μm,0.2s						
GOLH				*i* AML	AML	01 07 04.0	
	comp=E,3μm,0.2s						
INCE	**Denizli-Bozkur**	**0.29**	**28**	P	**Pg**	**01 07 00.3**	**-0.3**
INCE				*i* AML	AML	01 07 05.0	
	comp=N,5μm,0.4s						
INCE				S	**Sg**	**01 07 05.7**	**+1.2**
INCE				*i* AML	AML	01 07 06.0	
	comp=E,9μm,0.3s						
CAEL	**Denizli, Camel**	**0.33**	**191**	P	**Pg**	**01 07 01.5**	**+0.2**
CAEL				S	**Sb**	**01 07 06.8**	**-1.7**
CAEL				*i* AML	AML	01 07 11.0	
	comp=N,2μm,0.3s						
CAEL				*i* AML	AML	01 07 13.0	
	comp=E,3μm,0.9s						
DNIZ	**Denizli-Tavas-**	**0.34**	**301**	P	**Pg**	**01 07 01.4**	**0.0**
DNIZ				S	**Sb**	**01 07 07.2**	**-1.3**
DNIZ				*i* AML	AML	01 07 08.0	
	comp=N,7μm,0.2s						
DNIZ				*i* AML	AML	01 07 10.0	
	comp=E,8μm,0.3s						
DNZT	**Denizli-Tavas-**	**0.34**	**240**	P	**Pg**	**01 07 01.3**	**-0.3**
DNZT				S	**Sg**	**01 07 06.9**	**+0.8**
DNZT				*i* AML	AML	01 07 07.0	
	comp=N,1μm,0.4s						
DNZT				*i* AML	AML	01 07 07.0	
	comp=E,825nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.39**	**272**	P	**Pg**	**01 07 02.3**	**0.0**
TAVA				S	**Sb**	**01 07 08.6**	**-1.4**
TAVA				*i* AML	AML	01 07 09.0	
	comp=N,2μm,0.3s						
TAVA				*i* AML	AML	01 07 09.0	
	comp=E,2μm,0.3s						
CAME	**Cameli-Denizli**	**0.51**	**189**	Pg	**Pg**	**01 07 03.7**	**-1.0**
KNIK	**Mula-Seydike**	**0.62**	**167**	P	**Pg**	**01 07 06.0**	**-0.8**
KNIK				*i* AML	AML	01 07 18.0	
	comp=E,265nm,0.5s						
KNIK				*i* AML	AML	01 07 24.0	
	comp=N,211nm,0.6s						
BASM	**Basmaki-Afyon**	**0.70**	**48**	Pg	**Pg**	**01 07 07.4**	**-0.7**
BASM				Sg	**Sb**	**01 07 18.1**	**-0.8**
SABU	**Mula-Dalaman**	**0.71**	**209**	P	**Pb**	**01 07 08.8**	**-0.5**
SABU				*i* AML	AML	01 07 19.0	
	comp=N,467nm,0.9s						
SABU				S	**Sb**	**01 07 19.0**	**-0.3**
SABU				*i* AML	AML	01 07 22.0	
	comp=E,466nm,0.7s						
ELL	**Elmali**	**0.81**	**150**	Pg	**Pg**	**01 07 10.1**	**-0.2**
ELL				Sg	**Sb**	**01 07 22.4**	**+0.2**
FETY	**Fethiye**	**0.85**	**197**	Pg	**Pb**	**01 07 11.6**	**-0.1**
DALY	**Dalyan (Mula)**	**0.87**	**223**	Pg	**Pb**	**01 07 11.9**	**-0.1**
DALY				Sg	**Sb**	**01 07 23.9**	**+0.2**
KHL	**Karahalli**	**0.88**	**6**	Pg	**Pg**	**01 07 11.5**	**-0.1**
KHL				Sg	**Sb**	**01 07 24.4**	**+0.3**
MULA	**Mugla, Merkez-**	**0.88**	**258**	P	**Pg**	**01 07 11.4**	**-0.2**
MULA				S	**Sb**	**01 07 25.2**	**+1.0**
MULA				*i* AML	AML	01 07 28.0	
	comp=E,598nm,0.5s						
MULA				*i* AML	AML	01 07 31.0	
	comp=N,286nm,0.4s						
KORT	**Korkueli**	**0.88**	**120**	Pg	**Pb**	**01 07 11.6**	**-0.7**
KORT				Sg	**Sb**	**01 07 24.8**	**+0.5**
ESEN	**Aydn-Nazilli**	**0.90**	**293**	P	**Pg**	**01 07 11.9**	**-0.2**
ESEN				S	**Sb**	**01 07 24.9**	**+0.1**
ESEN				*i* AML	AML	01 07 27.0	
	comp=E,486nm,0.5s						
ESEN				*i* AML	AML	01 07 29.0	
	comp=N,712nm,0.4s						
YER	**Yerkesik**	**0.94**	**251**	Pg	**Pg**	**01 07 12.7**	**-0.2**
BCK	**Bucak**	**0.95**	**89**	Pg	**Pg**	**01 07 12.7**	**-0.2**
ISP	**Isparta**	**0.96**	**67**	Pg	**Pg**	**01 07 12.7**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.02**	**301**	Pg	**Pg**	**01 07 14.2**	**0.0**
ANTB	**Antalya**	**1.14**	**118**	Pn	**Pn**	**01 07 16.7**	**-0.2**
TURN	**Turunc**	**1.14**	**234**	Pn	**Pn**	**01 07 16.9**	**0.0**
KULA	**Kula-Manisa**	**1.21**	**331**	Pn	**Pg**	**01 07 17.8**	**-0.2**
AKAS	**Kas**	**1.23**	**172**	Pn	**Pn**	**01 07 18.5**	**+0.3**
DEMR	**Demre-Antalya**	**1.28**	**161**	Pn	**Pb**	**01 07 19.6**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**293**	Pn	**Pn**	**01 07 18.8**	**-0.4**
MLSB	**Milas**	**1.30**	**264**	Pn	**Pg**	**01 07 19.5**	**-0.2**
ODEM	**Odemis-Izmir**	**1.33**	**309**	Pn	**Pn**	**01 07 19.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.43**	**39**	Pn	**Pn**	**01 07 20.9**	**-0.1**
SHAP	**Saphane-Kutahy**	**1.57**	**355**	Pn	**Pb**	**01 07 23.9**	**-0.2**
GEDZ	**Gediz**	**1.59**	**0**	Pn	**Pb**	**01 07 23.9**	**-0.5**
ARG	**Arkhangelos**	**1.60**	**220**	Pn	**Pb**	**01 07 24.4**	**-0.1**
DAT	**Datca**	**1.62**	**244**	Pn	**Pb**	**01 07 24.7**	**-0.3**
SIMA	**Simav-Kutahya**	**1.66**	**349**	Pn	**Pb**	**01 07 25.0**	**-0.6**
BODT	**Bodrum**	**1.71**	**257**	Pn	**Pb**	**01 07 25.7**	**-0.7**
GOMA	**Golmarmara-Man**	**1.71**	**317**	Pn	**Pb**	**01 07 25.7**	**-0.7**
YKAV	**Yalikavak-Bodr**	**1.72**	**260**	Pn	**Pn**	**01 07 25.6**	**+0.7**
GCAM	**G?zelcaml?**	**1.74**	**279**	Pn	**Pn**	**01 07 25.8**	**+0.7**
GORD	**Gordes-Manisa**	**1.75**	**327**	Pn	**Pn**	**01 07 25.5**	**+0.2**
BRTR	**Keskin Array B**	**4.02**	**54**	Pn	**Pn**	**01 07 57.3**	**+0.6**
	1.3nm,0.3s,baz=228,slow=17,SNR=51						
BRTR				Sn	**Sn**	**01 08 44.7**	**+0.6**
	0.3nm,0.3s,baz=227,slow=27,SNR=4.1						
	3.8nm,0.5s						
MODS	**Modra-Piesok**	**14.05**	**325**	*e*PN	Pn	01 10 01.6	-12
TORD	**Torodi Ar. Bea**	**34.59**	**233**	P	**P**	**01 13 43.6**	**-0.6**
	59nm,0.3s,baz=38,slow=9.8,SNR=1.2						
KURBB	**Kurchatov Arra**	**37.02**	**53**	P	**P**	**01 14 05.0**	**+0.4**
	0.2nm,0.6s,baz=278,slow=9.1,SNR=5.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**39.66**	**59**	P	**P**	**01 14 27.4**	**+0.5**
	0.1nm,0.4s,baz=264,slow=9.6,SNR=1.8						
	0.1nm,0.4s						

CATAC ***21*** *01:06:55.6±0.5, 14°N±3°×9°1W±°, h20km±4km, M4.4/23,*
MLv4.4/23, Error ellipse: s-maj=6.7km s-min=3.6km
az=40.0, confirmed
SNET ***21*** *01:06:56.6±1.0, 13°.91N×91°.21W, h17km±4km, ML4.4*
GCG ***21*** *01:06:56.2±2.1, 13°.81N×91°.35W, h41km±59km, MD4.4,*
ML3.6, MW3.7
IDC ***21*** *01:06:58.1±1.9, 13°.94N×91°.35W, h82km±15km, mb3.5/5,*
mbtmp3.8/8, MS3.5/3, Error ellipse: s-maj=20.7km
s-min=12.8km az=22.0
ISC 21 01:06:55.1±1.1, 13°.76N±0°.06×91°.40W±0°.05, h59km±10km,
n127,σ1s16/139, mb3.8/5, MS3.4/3, Near coast of
Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.67**	**5**	*e*P		01 07 12.5	
STG8	**El Palmar, Qui**	**0.69**	**4**	*e*P		01 07 13.2	
STG8				*i* S		01 07 26.4	
RTAL	**Retalhuleu**	**0.81**	**340**	*e*P	**Pn**	**01 07 10.6**	**-0.2**
RTAL				*e*S	**Sn**	**01 07 21.4**	**-0.9**
RTAL	**Retalhuleu**	**0.81**	**340**	P	**Pn**	**01 07 11.1**	**+0.3**
RTAL	**Retalhuleu**	**0.81**	**340**	P	**Pn**	**01 07 11.0**	**+0.2**
RTAL	**Retalhuleu**	**0.81**	**340**	S	**Sn**	**01 07 22.6**	**+0.3**
ESSG	**Sabana Grande**	**0.84**	**42**	*i* P	**Pn**	**01 07 10.2**	**-0.9**
ESSG				IAML		01 07 23.2	
	comp=Z,2μm,0.3s						
ESSG	**Sabana Grande**	**0.84**	**42**	*i* P		01 07 10.2	
ESSG				IAML		01 07 23.2	
	comp=Z,2μm,0.3s						
ESSJ	**San Jos, E**	**0.90**	**102**	*i* P		01 07 08.5	
FG8	**Yepocapa, Chim**	**0.96**	**58**	*e*P		01 07 10.3	
SOKI	**Kika Raxquin**	**1.06**	**0**	*e*P	**Pn**	**01 07 14.6**	**+0.2**
SOKI				IAML		01 07 30.8	
	comp=Z,1μm,0.2s						
SOKI	**Kika Raxquin**	**1.06**	**0**	*e*P		01 07 14.6	
SOKI				IAML		01 07 30.8	
	comp=Z,1μm,0.2s						
SMCA	**Catarina**	**1.27**	**329**	*e*P	**Pn**	**01 07 17.2**	**+0.4**
	comp=Z,457nm,0.2s						
SMCA				IAML		01 07 36.7	
	comp=Z,457nm,0.2s						
SMCA	**Catarina**	**1.27**	**329**	*e*P		01 07 17.2	
	comp=Z,457nm,0.2s						
SMCA				IAML		01 07 36.7	
	comp=Z,457nm,0.2s						
FAME	**Alcaldia de Sa**	**1.35**	**86**	S	**Sn**	**01 07 33.8**	**-1.1**
THIG		**1.42**	**324**	*e*P	**Pn**	**01 07 19.1**	**+0.4**
THIG				*i* S	**Sn**	**01 07 37.5**	**+1.1**
THIG				IAML		01 07 41.3	
	comp=Z,714nm,0.3s						
THIG		**1.42**	**324**	*e*P		01 07 19.1	
THIG				*i* S		01 07 37.5	
THIG				IAML		01 07 41.3	
	comp=Z,714nm,0.3s						
APG	**El Apazote**	**1.54**	**36**	P	**Pn**	**01 07 21.8**	**+1.2**
	comp=Z,28nm,0.7s,baz=200,slow=13,SNR=290						
APG				S	**Sn**	**01 07 39.9**	**+0.2**
	comp=Z,157nm,0.8s,baz=230,slow=20,SNR=39						
APG	**El Apazote**	**1.54**	**36**	*i* P	**Pn**	**01 07 21.8**	**+1.2**
APG				*e*S	**Sn**	**01 07 41.7**	**+2.0**
APG	**El Apazote**	**1.54**	**36**	*i* P		01 07 21.8	
APG				*e*S		01 07 41.7	
HUEH	**Huehuetenango**	**1.56**	**356**	*e*P	**Pn**	**01 07 22.8**	**+1.9**
HUEH				*e*S	**Sn**	**01 07 42.3**	**+2.2**
HUEH	**Huehuetenango**	**1.56**	**356**	P	**Pn**	**01 07 23.0**	**+2.1**
HUEH	**Huehuetenango**	**1.56**	**356**	P	**Pn**	**01 07 22.1**	**+1.3**
HUEH	**Huehuetenango**	**1.56**	**356**	S	**Sn**	**01 07 42.7**	**+2.6**
HUEH	**Huehuetenango**	**1.56**	**356**	*i* P	**Pn**	**01 07 22.9**	**+2.1**
HUEH				IAML		01 07 45.2	
	comp=Z,2μm,0.8s						
HUEH	**Huehuetenango**	**1.56**	**356**	*i* P		01 07 22.9	
HUEH				IAML		01 07 45.2	
	comp=Z,2μm,0.8s						
NUBE	**Las Nubes**	**1.58**	**85**	*e*P	**Pn**	**01 07 20.8**	**-0.2**
NUBE				*e*S	**Sn**	**01 07 39.1**	**-1.6**
NUBE	**Las Nubes**	**1.58**	**85**	S	**Sn**	**01 07 40.2**	**-0.4**
NUBE	**Las Nubes**	**1.58**	**85**	P	**Pn**	**01 07 20.9**	**-0.2**
NUBE	**Las Nubes**	**1.58**	**85**	S	**Sn**	**01 07 40.4**	**-0.3**
NUBE	**Las Nubes**	**1.58**	**85**	P	**Pn**	**01 07 20.9**	**-0.2**
NUBE	**Las Nubes**	**1.58**	**85**	P	**Pn**	**01 07 20.9**	**-0.2**
NUBE				*i* S	**Sn**	**01 07 39.8**	**-0.8**
NUBE	**Las Nubes**	**1.58**	**85**	*e*P		01 07 20.9	
NUBE				*i* S		01 07 39.8	
LOAL	**Lomas de Alarc**	**1.59**	**81**	*e*P	**Pn**	**01 07 21.4**	**+0.2**
LOAL				*e*S	**Sn**	**01 07 40.5**	**-0.3**
LOAL	**Lomas de Alarc**	**1.59**	**81**	S	**Sn**	**01 07 41.7**	**+1.0**
LOAL	**Lomas de Alarc**	**1.59**	**81**	P	**Pn**	**01 07 21.6**	**+0.5**
LOAL	**Lomas de Alarc**	**1.59**	**81**	S	**Sn**	**01 07 41.2**	**+0.4**
LOAL	**Lomas de Alarc**	**1.59**	**81**	P	**Pn**	**01 07 21.7**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.60**	**80**	*e*P	**Pn**	**01 07 21.3**	**+0.1**
SLOZ				*e*S	**Sn**	**01 07 40.1**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.60**	**80**	S	**Sn**	**01 07 42.3**	**+1.5**
SLOZ	**Alcaldia de Sa**	**1.60**	**80**	P	**Pn**	**01 07 21.8**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.60**	**80**	S	**Sn**	**01 07 41.6**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.60**	**80**	P	**Pn**	**01 07 21.7**	**+0.5**
RTR	**El Retiro**	**1.71**	**85**	*e*P	**Pn**	**01 07 23.3**	**+0.5**
CEVE	**Cerro Verde**	**1.73**	**87**	*e*P	**Pn**	**01 07 23.5**	**+0.3**
CEVE				IAML		01 07 52.2	
	comp=Z,10μm,0.5s						
CEVE	**Cerro Verde**	**1.73**	**87**	S	**Sn**	**01 07 45.0**	**+0.6**
CEVE	**Cerro Verde**	**1.73**	**87**	P	**Pn**	**01 07 23.6**	**+0.4**
CEVE	**Cerro Verde**	**1.73**	**87**	S	**Sn**	**01 07 45.0**	**+0.6**
CEVE	**Cerro Verde**	**1.73**	**87**	P	**Pn**	**01 07 23.8**	**+0.6**
SBLS	**San Blas**	**1.73**	**87**	*e*P	**Pn**	**01 07 23.4**	**+0.2**
SNJE	**San Jose**	**1.75**	**86**	*e*P	**Pn**	**01 07 23.8**	**+0.4**
UNIC	**Universidad Ca**	**1.82**	**83**	*e*P	**Pn**	**01 07 24.6**	**+0.4**
UNIC	**Universidad Ca**	**1.82**	**83**	S	**Sn**	**01 07 47.3**	**+1.1**
UNIC	**Universidad Ca**	**1.82**	**83**	P	**Pn**	**01 07 24.9**	**+0.8**
UNIC	**Universidad Ca**	**1.82**	**83**	S	**Sn**	**01 07 46.8**	**+0.7**
UNIC	**Universidad Ca**	**1.82**	**83**	P	**Pn**	**01 07 25.0**	**+0.8**
JAYA	**Jayaque - finc**	**1.90**	**93**	*e*P	**Pn**	**01 07 25.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.90**	**93**	S	**Sn**	**01 07 49.0**	**+0.6**
JAYA	**Jayaque - finc**	**1.90**	**93**	P	**Pn**	**01 07 25.7**	**+0.3**
JAYA	**Jayaque - finc**	**1.90**	**93**	S	**Sn**	**01 07 48.3**	**-0.1**
JAYA	**Jayaque - finc**	**1.90**	**93**	P	**Pn**	**01 07 25.7**	**+0.3**
JAYA	**Jayaque - finc**	**1.90**	**93**	*e*P	**Pn**	**01 07 25.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.90**	**93**	*e*P		01 07 25.5	
CEDA	**San Andres**	**1.95**	**88**	S	**Sn**	**01 07 50.8**	**+1.4**
PMON	**Piamonte**	**2.03**	**91**	*e*P	**Pn**	**01 07 27.9**	**+0.8**
PMON	**Piamonte**	**2.03**	**91**	P	**Pn**	**01 07 27.9**	**+0.8**
PMON	**Piamonte**	**2.03**	**91**	S	**Sn**	**01 07 52.3**	**+0.8**
PMON	**Piamonte**	**2.03**	**91**	P	**Pn**	**01 07 27.9**	**+0.8**
LALI	**Alcalda de L**	**2.04**	**97**	*e*P	**Pn**	**01 07 27.4**	**+0.3**
LALI	**Alcalda de L**	**2.04**	**97**	S	**Sn**	**01 07 52.0**	**+0.4**
LALI	**Alcalda de L**	**2.04**	**97**	P	**Pn**	**01 07 27.9**	**+0.8**
LALI	**Alcalda de L**	**2.04**	**97**	P	**Pn**	**01 07 27.7**	**+0.6**
LALI	**Alcalda de L**	**2.04**	**97**	*e*P	**Pn**	**01 07 27.8**	**+0.6**
LALI				*i* S	**Sn**	**01 07 51.7**	**+0.2**
LALI	**Alcalda de L**	**2.04**	**97**	*e*P		01 07 27.8	
LALI				*i* S		01 07 51.7	
BOQS	**Boqueron**	**2.06**	**90**	*e*P	**Pn**	**01 07 28.6**	**+0.9**
BOQS				*e*S	**Sn**	**01 07 53.0**	**+0.6**
ITCA	**Escuela Especi**	**2.07**	**92**	P	**Pn**	**01 07 28.6**	**+1.0**
ITCA	**Escuela Especi**	**2.07**	**92**	S	**Sn**	**01 07 52.7**	**+0.4**
MTO3	**Montecristo**	**2.08**	**72**	S	**Sn**	**01 07 54.2**	**+1.3**
MTO3	**Montecristo**	**2.08**	**72**	P	**Pn**	**01 07 28.4**	**

BIM	**Bigot**	**0.92 208**	*e*P	Pb	01 19 20.1	+1.0
BIM			*e*S	Sn	01 19 33.4	+2.1
TBG	**Guadaloupe-3**	**1.10 298**	*e*P	Pb	01 19 22.7	+0.5
TBG			*e*S	Sb	01 19 37.3	+1.1
SLBI	**Saint Lucia, B**	**1.35 194**	*e*P	Pb	01 19 26.2	-0.1
SLBI			*e*S	Sb	01 19 43.7	+0.5
SLAC	**Saint Lucia, A**	**1.45 190**	*e*P	Pb	01 19 27.4	-0.7
SLAC			*e*S	Sb	01 19 46.2	0.0
ANBD	**Bethesda, Anti**	**2.02 328**	*e*P	Pn	01 19 35.8	+1.6
ANBD			*e*S	Sn	01 19 59.7	+1.2
MBWH		**2.05 313**	*e*P	Pb	01 19 37.0	-1.4
MBWH			*e*S	Sb	01 20 02.4	-1.1
MBFL	**Flemmings, Mon**	**2.07 313**	*e*P	Pb	01 19 37.1	-1.6
MBFL			*e*S	Sb	01 20 02.6	-1.4
SSV	**Crater Summit**	**2.07 195**	*e*P	Pn	01 19 36.7	+1.8
SVB	**Belmont**	**2.14 196**	*e*P	Pb	01 19 38.0	-1.8
SVB			*e*S	Sb	01 20 04.3	-1.7
SVT	**Saint Vincent**	**2.23 195**	*e*P	Pn	01 19 38.6	+1.6
SVT			*e*S	Sb	01 20 06.2	-2.4
SVOC	**Richmond Hill,**	**2.24 195**	*e*P	Pn	01 19 39.0	+1.8
SVOC			*e*S	Sn	01 20 05.8	+1.8
ANWB	**Willy Bob**	**2.57 335**	*e*P	Pn	01 19 43.5	+1.8
ANWB			*e*S	Sn	01 20 14.0	+2.0
SKI	**Saint Kitts**	**2.83 315**	*e*P	Pn	01 19 48.1	+2.7
SKI			*e*S	Sn	01 20 21.5	+2.8
GCMP	**Grenada, Carri**	**2.94 195**	*e*P	Pn	01 19 49.0	+2.3
GCMP			*e*S	Sn	01 20 22.9	+1.8
GRW	**Mount Saint Ca**	**3.31 198**	*e*P	Pn	01 19 53.4	+1.4
GRW			*e*S	Sn	01 20 32.9	+2.4
GRGR	**Grenville**	**3.33 197**	*e*P	Pn	01 19 54.9	+2.6
GRGR			*e*S	Sn	01 20 33.8	+2.8
TOSP	**Speyside**	**4.01 179**	*e*P	Pn	01 20 03.5	+2.0
TPR	**Prospect**	**4.13 182**	*e*P	Pn	01 20 05.3	+2.2
TRN	**Trinidad (W)**	**4.72 189**	*e*P	Pn	01 20 13.6	+2.4

*AFAD **21** 01:21:59.4, 37.°45N×29.°41E, h7km±2km, MW3.5*
*GII **21** 01:21:59.5±0.0, 37.°454N±0.°002×29.°466E±0.°001, h12km, Mws3.6, confirmed*
*ISK **21** 01:21:59.2, 37.°45N×29.°44E, h7km, ML3.5/38*
*IDC **21** 01:22:03.8±1.4, 37.°36N×29.°52E, h40km±18km, mb3.3/5, mbtmp3.6/12, ML3.5/6, MS3.8/2, Error ellipse: s-maj=13.9km s-min=10.0km az=154.0*
ISC 21 01:21:59.7±0.8, 37.°44N±0.°02×29.°44E±0.°02, h9km±6km, n120, σ1°07/140, mb3.4/6, 5C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.12 286**		Pg	**Pg**	**01 22 02.2**	**-0.4**
APMY				Sg	**Sg**	**01 22 04.4**	**-0.2**
GOLH	**Golhisar**	**0.22 155**		P	**Pg**	**01 22 04.4**	**+0.1**
GOLH				S	**Sg**	**01 22 08.4**	**+0.9**
GOLH				*i* AML	AML	01 22 09.0	
	comp=E,3μm,0.3s						
GOLH				*i* AML	AML	01 22 15.0	
	comp=N,2μm,0.4s						
INCE	**Denizli-Bozkur**	**0.29 22**		P	**Pg**	**01 22 05.6**	**0.0**
INCE				S	**Sb**	**01 22 11.0**	**-1.1**
INCE				*i* AML	AML	01 22 12.0	
	comp=N,5μm,0.3s						
INCE				*i* AML	AML	01 22 12.0	
	comp=E,7μm,0.5s						
CAEL	**Denizli, Camel**	**0.33 197**		P	**Pg**	**01 22 06.0**	**-0.4**
CAEL				S	**Sg**	**01 22 11.9**	**+1.1**
CAEL				*i* AML	AML	01 22 15.0	
	comp=E,1μm,0.3s						
CAEL				*i* AML	AML	01 22 18.0	
	comp=N,1μm,0.4s						
DNZT	**Denizli-Tavas-**	**0.37 244**		P	**Pg**	**01 22 06.7**	**-0.4**
DNZT				S	**Sg**	**01 22 12.1**	**+0.1**
DNZT				*i* AML	AML	01 22 13.0	
	comp=N,4μm,0.2s						
DNZT				*i* AML	AML	01 22 13.0	
	comp=E,4μm,0.2s						
DNIZ	**Denizli-Tavas-**	**0.37 300**		P	**Pg**	**01 22 06.8**	**-0.3**
DNIZ				S	**Sg**	**01 22 13.0**	**+1.0**
DNIZ				*i* AML	AML	01 22 13.0	
	comp=N,2μm,0.3s						
DNIZ				*i* AML	AML	01 22 13.0	
	comp=E,3μm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.42 274**		P	**Pg**	**01 22 07.7**	**-0.3**
TAVA				S	**Sg**	**01 22 14.3**	**+0.7**
TAVA				*i* AML	AML	01 22 15.0	
	comp=N,2μm,0.3s						
TAVA				*i* AML	AML	01 22 15.0	
	comp=E,2μm,0.4s						
CAME	**Cameli-Denizli**	**0.51 193**		Pg	**Pg**	**01 22 08.8**	**-0.8**
CAME				Sg	**Sb**	**01 22 17.5**	**-0.9**
KNIK	**Mula-Seydike**	**0.60 170**		P	**Pg**	**01 22 10.6**	**-0.8**
KNIK				S	**Sb**	**01 22 21.1**	**-0.1**
KNIK				*i* AML	AML	01 22 25.0	
	comp=N,1μm,0.6s						
KNIK				*i* AML	AML	01 22 25.0	
	comp=E,702nm,0.4s						
BASM	**Basmaki-Afyon**	**0.68 45**		Pg	**Pg**	**01 22 12.5**	**-0.4**
BASM				Sg	**Sb**	**01 22 22.4**	**-0.9**
SABU	**Mula-Dalaman**	**0.72 212**		P	**Pg**	**01 22 12.6**	**-1.0**
SABU				*i* AML	AML	01 22 24.0	
	comp=N,4μm,0.3s						
SABU				*i* AML	AML	01 22 24.0	
	comp=E,5μm,0.8s						
SABU				S	**Sb**	**01 22 24.5**	**0.0**
ELL	**Elmali**	**0.79 151**		Pg	**Pb**	**01 22 15.1**	**-0.5**
ELL				Sg	**Sb**	**01 22 26.2**	**-0.2**
KORT	**Korkueli**	**0.85 121**		Pg	**Pg**	**01 22 15.8**	**-0.3**
KORT				Sg	**Sb**	**01 22 28.4**	**+0.2**
FETY	**Fethiye**	**0.85 200**		Pg	**Pg**	**01 22 16.1**	**-0.1**
FETY				Sg	**Sb**	**01 22 28.7**	**+0.5**
FETY	**Fethiye**	**0.85 200**		P	**Pg**	**01 22 15.4**	**-0.8**
KHL	**Karahalli**	**0.88 4**		Pg	**Pg**	**01 22 16.4**	**-0.4**
DALY	**Dalyan (Mula)**	**0.89 226**		Pg	**Pg**	**01 22 16.5**	**-0.3**
MULA	**Mugla, Merkez-**	**0.91 259**		P	**Pg**	**01 22 16.8**	**-0.5**
MULA				*i* AML	AML	01 22 40.0	
	comp=E,1μm,0.6s						
MULA				*i* AML	AML	01 22 42.0	
	comp=N,527nm,0.6s						
BCK	**Bucak**	**0.91 88**		Pg	**Pb**	**01 22 17.2**	**-0.6**
ESEN	**Aydn-Nazilli**	**0.94 293**		P	**Pg**	**01 22 17.3**	**-0.5**
ESEN				S	**Sg**	**01 22 29.9**	**-0.1**
ESEN				*i* AML	AML	01 22 32.0	
	comp=N,1μm,0.3s						
ESEN				*i* AML	AML	01 22 35.0	
	comp=E,1μm,0.4s						
ISP	**Isparta**	**0.94 66**		Pg	**Pg**	**01 22 16.8**	**-1.0**
ISP	**Isparta**	**0.94 66**		P	**Pg**	**01 22 16.8**	**-1.0**
ISP				S	**Sb**	**01 22 30.3**	**-0.5**
YER	**Yerkesik**	**0.97 252**		Pg	**Pg**	**01 22 17.9**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.05 300**		Pg	**Pb**	**01 22 19.9**	**-0.2**
ANTB	**Antalya**	**1.11 119**		Pn	**Pn**	**01 22 21.2**	**-0.2**
TURN	**Turunc**	**1.16 236**		Pn	**Pg**	**01 22 22.1**	**0.0**
TURN	**Turunc**	**1.16 236**		P	**Pn**	**01 22 21.2**	**-0.9**
TURN				*i* AML	AML	01 22 43.0	
	comp=E,586nm,0.4s						
TURN				*i* AML	AML	01 22 44.0	
	comp=N,683nm,0.7s						
AKAS	**Kas**	**1.21 174**		Pn	**Pg**	**01 22 23.3**	**+0.3**
KEMT	**Kemer-ANTALYA**	**1.22 133**		Pn	**Pg**	**01 22 23.5**	**+0.3**
KULA	**Kula-Manisa**	**1.24 330**		Pn	**Pg**	**01 22 23.3**	**-0.2**
DEMR	**Demre-Antalya**	**1.26 163**		Pn	**Pg**	**01 22 23.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.33 293**		Pn	**Pn**	**01 22 24.2**	**-0.4**
MLSB	**Milas**	**1.33 264**		Pn	**Pn**	**01 22 24.4**	**-0.1**
ODEM	**Odemis-Izmir**	**1.37 308**		Pn	**Pn**	**01 22 24.3**	**-0.7**
SHUT	**Suhut-Afyon**	**1.42 38**		Pn	**Pn**	**01 22 25.1**	**-0.6**
SHAP	**Saphane-Kutahy**	**1.59 354**		Pn	**Pb**	**01 22 29.3**	**0.0**
GEDZ	**Gediz**	**1.60 359**		Pn	**Pn**	**01 22 27.8**	**-0.5**
ARG	**Arkhangelos**	**1.61 221**		Pn	**Pb**	**01 22 29.4**	**-0.3**
DAT	**Datca**	**1.65 245**		Pn	**Pb**	**01 22 29.5**	**-0.9**
SIMA	**Simav-Kutahya**	**1.68 348**		Pn	**Pb**	**01 22 29.7**	**-1.2**
SMAA	**Simav-Kutahya**	**1.70 348**		Pn	**Pb**	**01 22 29.9**	**-1.2**
BODT	**Bodrum**	**1.74 258**		Pn	**Pb**	**01 22 31.1**	**-0.8**
GOMA	**Golmarmara-Man**	**1.75 317**		Pn	**Pb**	**01 22 30.8**	**-1.1**
YKAV	**Yalikavak-Bodr**	**1.75 260**		Pn	**Pn**	**01 22 30.7**	**+0.5**
GCAM	**G?zelcamI?**	**1.77 279**		Pn	**Pn**	**01 22 30.4**	**-0.1**
GORD	**Gordes-Manisa**	**1.77 326**		Pn	**Pb**	**01 22 31.1**	**-1.3**
SEYD	**Seydisehir-KON**	**1.91 90**		Pn	**Pb**	**01 22 33.2**	**-1.6**
AKS	**Akhisar**	**1.93 319**		Pn	**Pb**	**01 22 33.6**	**-1.4**
TVSB	**Tavsanli**	**2.01 0**		Pn	**Pn**	**01 22 34.3**	**+0.4**
GMLD	**Gumuldur**	**2.10 288**		Pn	**Pb**	**01 22 36.4**	**-1.5**
BLCB	**Balcova**	**2.12 297**		Pn	**Pn**	**01 22 35.4**	**+0.1**
APE	**Apeiranthos**	**3.14 264**		⇑P	**Pn**	**01 22 50.0**	**+0.6**
APE	**Apeiranthos**	**3.14 264**		P	**Pn**	**01 22 48.9**	**-0.6**
APE	**Apeiranthos**	**3.14 264**		S	**Sn**	**01 23 27.1**	**+0.1**
ANTO	**Ankara**	**3.57 46**		⇑P	**Pn**	**01 22 56.9**	**+1.5**
KIRS	**Kirsehir-Merke**	**3.91 63**		⇑P	**Pn**	**01 23 01.1**	**+1.2**
CSS	**Mathiatis**	**4.00 127**		P	**Pn**	**01 23 01.1**	**-0.1**
CSS	**Mathiatis**	**4.00 127**		S	**Sn**	**01 23 47.6**	**-0.6**
BRTR	**Keskin Array B**	**4.00 54**		P	**Pn**	**01 23 02.5**	**+1.2**
	3.3nm,0.3s,baz=238,slow=17,SNR=144						
BRTR				S	**Sn**	**01 23 48.5**	**+0.1**
	2.2nm,0.5s,baz=223,slow=27,SNR=3.7						
	9.3nm,0.5s						
IDI	**Anoyia**	**4.25 241**		P	**Pn**	**01 23 06.1**	**+1.3**
	20nm,0.3s,baz=56,slow=9.2,SNR=34						
IDI				S	**Sn**	**01 23 54.7**	**+0.2**
	9.2nm,0.4s,baz=107,slow=17,SNR=1.6						
CIDE	**Kastamonu/Cide**	**5.20 30**		⇓P	**Pn**	**01 23 19.2**	**+1.7**
HNTI	**Hanita**	**6.39 131**		P	**Pn**	**01 23 33.6**	**-0.4**
HNTI	**Hanita**	**6.39 131**		S	**Sn**	**01 24 46.7**	**-0.5**
MMA0B	**Mount Meron ar**	**6.58 130**		P	**Pn**	**01 23 36.4**	**-0.3**
MMA0B	**Mount Meron ar**	**6.58 130**		S	**Sn**	**01 24 51.5**	**-0.4**
MMAI	**Mount Meron Ar**	**6.58 130**		P	**Pn**	**01 23 37.6**	**+0.9**
	6.2nm,0.3s,baz=313,slow=11,SNR=55						
MMAI				S	**Sn**	**01 24 48.6**	**-3.2**
	4.2nm,0.5s,baz=304,slow=28,SNR=6.1						
	3.7nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.61 128**		P	**Pn**	**01 23 36.9**	**-0.1**
GEM	**Giv'at Ha'Em**	**6.61 128**		S	**Sn**	**01 24 51.5**	**-1.0**
OFRI	**`Ofer**	**6.62 135**		P	**Pn**	**01 23 36.8**	**-0.3**
OFRI	**`Ofer**	**6.62 135**		S	**Sn**	**01 24 52.0**	**-0.8**
NATI	**Neve Ativ**	**6.62 127**		P	**Pn**	**01 23 36.6**	**-0.5**
NATI	**Neve Ativ**	**6.62 127**		S	**Sn**	**01 24 52.0**	**-0.7**
SLTI	**Sal'it**	**6.93 137**		P	**Pn**	**01 23 41.1**	**-0.4**
SLTI	**Sal'it**	**6.93 137**		S	**Sn**	**01 24 59.5**	**-1.0**
MMLI	**Mount Malkishu**	**7.00 134**		P	**Pn**	**01 23 42.2**	**-0.2**
MMLI	**Mount Malkishu**	**7.00 134**		S	**Sn**	**01 25 02.2**	**+0.1**
TIRR	**Tirgusor**	**7.05 354**		⇓P	**Pn**	**01 23 44.2**	**+1.1**
SALP	**Salfit**	**7.15 137**		P	**Pn**	**01 23 44.1**	**-0.4**
SALP	**Salfit**	**7.15 137**		S	**Sn**	**01 25 05.5**	**-0.3**
HMDT	**Nahal Hemdat**	**7.20 134**		P	**Pn**	**01 23 44.9**	**-0.2**
HMDT	**Nahal Hemdat**	**7.20 134**		S	**Sn**	**01 25 07.5**	**+0.6**
UJAP	**Al Uja**	**7.39 136**		P	**Pn**	**01 23 47.3**	**-0.4**
UJAP	**Al Uja**	**7.39 136**		S	**Sn**	**01 25 10.7**	**-0.8**
AMAZ	**Amatzia**	**7.42 141**		P	**Pn**	**01 23 47.9**	**-0.4**
AMAZ	**Amatzia**	**7.42 141**		S	**Sn**	**01 25 12.7**	**+0.1**
TPGR	**Topolog**	**7.45 354**		⇓P	**Pn**	**01 23 49.2**	**+0.6**
DSI	**Dead Sea**	**7.63 138**		P	**Pn**	**01 23 50.7**	**-0.4**
DSI	**Dead Sea**	**7.63 138**		S	**Sn**	**01 25 17.0**	**-0.8**
KZIT	**Kziot**	**7.70 146**		P	**Pn**	**01 23 52.0**	**-0.1**
KZIT	**Kziot**	**7.70 146**		S	**Sn**	**01 25 18.5**	**-0.9**
CFR	**Carcaliu**	**7.79 353**		⇓P	**Pn**	**01 23 54.2**	**+1.0**
GHAJ	**Ghor Haditha**	**7.94 139**		P	**Pn**	**01 23 54.9**	**-0.4**
GHAJ	**Ghor Haditha**	**7.94 139**		S	**Sn**	**01 25 25.5**	**+0.2**
ASF	**Jabal al Asfar**	**8.07 128**		P	**Pn**	**01 23 58.3**	**+1.1**
	0.3nm,0.3s,baz=112,slow=21,SNR=1.5						
ASF				S	**Sn**	**01 25 29.4**	**+0.8**
	2.1nm,0.4s,baz=15,slow=4.0,SNR=1.5						
	1.1nm,0.4s						
PRNI	**Paran**	**8.45 145**		P	**Pn**	**01 24 02.0**	**-0.2**
PRNI	**Paran**	**8.45 145**		S	**Sn**	**01 25 36.5**	**-1.2**
MLR	**Muntele Rosu**	**8.46 343**		P	**Pn**	**01 24 05.0**	**+2.5**
	0.4nm,0.3s,baz=286,slow=11,SNR=2.6						
MLR				S	**Sn**	**01 25 41.0**	**+2.9**
	2.5nm,0.6s,baz=190,slow=10,SNR=4.1						
	0.9nm,0.4s						
MLR	**Muntele Rosu**	**8.46 343**		⇓P	**Pn**	**01 24 04.4**	**+1.9**
KRMI	**Paran Flat**	**8.52 147**		P	**Pn**	**01 24 02.9**	**-0.4**
KRMI	**Paran Flat**	**8.52 147**		S	**Sn**	**01 25 38.7**	**-0.9**
PLOR	**Plostina**	**8.66 347**		⇑P	**Pn**	**01 24 06.7**	**+1.6**
VRI	**Vrincioaia**	**8.66 347**		⇓P	**Pn**	**01 24 06.1**	**+1.0**
HRFI	**Mount Harif**	**8.73 146**		P	**Pn**	**01 24 06.2**	**0.0**
HRFI	**Mount Harif**	**8.73 146**		S	**Sn**	**01 25 44.8**	**+0.1**
MBRI	**Mt Berech**	**8.88 148**		P	**Pn**	**01 24 08.3**	**-0.1**
MBRI	**Mt Berech**	**8.88 148**		S	**Sn**	**01 25 48.3**	**-0.3**
EIL	**Elat**	**9.01 148**		P	**Pn**	**01 24 10.5**	**+0.6**
	0.7nm,0.3s,baz=348,slow=16,SNR=6.5						
EIL				S	**Sn**	**01 25 43.8**	**-7.7**
	2.1nm,0.6s,baz=82,slow=12,SNR=1.3						
	4.2nm,0.6s						
EIL	**Elat**	**9.01 148**		P	**Pn**	**01 24 09.7**	**-0.3**
EIL	**Elat**	**9.01 148**		S	**Sn**	**01 25 50.5**	**-1.0**
DOPR	**Dopca**	**9.04 342**		⇑P	**Pn**	**01 24 12.2**	**+1.8**
SORM	**Soroca**	**10.72 356**		⇓P	**Pn**	**01 24 33.8**	**+0.5**
GERES	**GERESS Array B**	**16.15 320**		P	**P**	**01 25 50.6**	**+0.5**
	baz=119,slow=12,SNR=3.8						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**24.12 356**		P	**P**	**01 27 15.8**	**+0.3**
	2.4nm,0.8s,baz=157,slow=7.4,SNR=4.5						
	2.4nm,0.8s						
ESDC	**Sonseca Array**	**26.13 285**		P	**P**	**01 27 35.5**	**+1.3**
	0.7nm,0.9s,baz=86,slow=9.1,SNR=3.3						
	0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**34.61 233**		P	**P**	**01 28 48.9**	**-0.3**
	54nm,0.3s,baz=35,slow=8.9,SNR=1.4						
KURBB	**Kurchatov Arra**	**36.99 53**		P	**P**	**01 29 09.2**	**-0.1**
	0.4nm,0.5s,baz=275,slow=8.9,SNR=10						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**39.64 59**		P	**P**	**01 29 31.3**	**-0.4**
	0.2nm,0.5s,baz=268,slow=10,SNR=6.6						
	0.2nm,0.5s						
BRDH	**Bariadhala**	**54.91 87**		LR	LR	01 56 55.9	
	comp=Z,80nm,18.7s,baz=230,slow=38						
ILAR	**Eielson Array**	**78.08 358**		P	**P**	**01 33 57.9**	**-0.5**
	0.2nm,0.8s,baz=2.2,slow=7.0,SNR=1.8						
	0.2nm,0.8s						
SIV	**San Ignacio**	**99.94 258**		LR	LR	02 22 40.2	
	comp=Z,35nm,18.4s,baz=106,slow=36						

*IDC **21** 01:24:53.2±0.7, 12.°97S×45.°39E, h0km, mb3.7/13, mbtmp3.8/16, ML4.1/3, MS3.4/7, Error ellipse: s-maj=22.7km s-min=18.4km az=119.0*
*NEIC **21** 01:24:56.1±1.3, 13.°02S±0.°09×45.°54E±0.°09, h10km±1km, mb4.4/7, Error ellipse: s-maj=16.8km s-min=13.0km az=39.0*
ISC 21 01:24:54.7±0.5, 13.°04S±0.°05×45.°39E±0.°07, h10km, n45, σ2°20/51, mb3.9/16, MS3.3/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.77 163**		Pn	**Pn**	**01 26 21.4**	**+0.8**
	0.9nm,0.3s,baz=342,slow=13,SNR=36						
OPO				Sn	**Sn**	**01 27 22.0**	**-5.0**
	6.1nm,0.3s,baz=182,slow=5.3,SNR=16						
OPO				LR	LR	01 28 42.4	
	comp=Z,212nm,21.3s,baz=177,slow=39						
	13nm,0.3s						
OPO	**Ambohidratompo**	**5.77 163**		P	**Pn**	**01 26 21.5**	**+0.9**
OPO				S	**Sn**	**01 27 22.5**	**-4.5**
FIRM	**Firavahana**	**5.81 166**		P	**Pn**	**01 26 22.3**	**+1.1**
FIRM				S	**Sn**	**01 27 24.8**	**-3.2**
ATG	**Ambohiby**	**5.86 173**		P	**Pn**	**01 26 22.8**	**+0.9**
ABPO	**Ambohimpanom**	**6.21 164**			**Pn**	**01 26 26.9**	**+0.3**
ABPO	**Ambohimpanom**	**6.21 164**		P	**Pn**	**01 26 28.1**	**+1.5**
ABPO				S	**Sn**	**01 27 34.6**	**-3.1**
MDSM	**Mandiavato**	**6.22 166**		P	**Pn**	**01 26 27.9**	**+1.1**
MDSM				S	**Sn**	**01 27 34.1**	**-3.9**
DGRM	**Ambatolahisoa**	**6.27 171**		P	**Pn**	**01 26 28.7**	**+1.2**
DGRM				S	**Sn**	**01 27 36.5**	**-2.7**
AVY	**Angavokely**	**6.28 159**		P	**Pn**	**01 26 27.7**	**+0.1**
ABM	**Ambohimiarambe**	**6.97 164**		P	**Pn**	**01 26 39.0**	**+1.8**
ABM				S	**Sn**	**01 27 52.9**	**-3.8**
VOI	**Vohitsoka**	**8.92 172**		Pn	**Pn**	**01 27 04.5**	**+0.7**
ZOMB	**Zomba**	**10.01 255**		*e*PN	**Pn**	**01 27 20.8**	**+2.0**
ZOMB				*e*SN	**Sn**	**01 29 07.6**	**-3.7**
RER	**Riviere de l'E**	**12.77 131**		Pn	**Pn**	**01 27 53.4**	**-3.2**
KBK	**Kibwezi**	**12.87 325**		Pn	**Pn**	**01 27 57.1**	**-0.9**
KMBO	**Kilima Mbogo**	**14.32 325**		Pn	**Pn**	**01 28 20.2**	**+2.4**
KMBO	**Kilima Mbogo**	**14.32 325**		Pn	**Pn**	**01 28 17.5**	**-0.4**
	0.1nm,0.3s,baz=188,slow=15,SNR=2.4						
KMBO				Sn	**Sn**	**01 30 50.4**	**-6.7**
	0.2nm,0.3s,baz=30,slow=17,SNR=1.9						
KMBO				LR	LR	01 32 45.7	
	comp=Z,82nm,19.2s,baz=138,slow=33						
	0.6nm,0.6s						
LSZ	**Lusaka**	**16.83 260**		Pn	**Pn**	**01 28 51.8**	**+1.1**
LSZ	**Lusaka**	**16.83 260**		Pn	**Pn**	**01 28 50.5**	**-0.2**
	0.6nm,0.3s,baz=86,slow=9.1,SNR=11						
LSZ				Sn	Sn	01 31 48.9	-9.1
	0.2nm,0.3s,baz=184,slow=23,SNR=2.7						
	3.6nm,0.8s						
POGA	**Pongola**	**19.15 220**		Pn	**Pn**	**01 29 21.3**	**+2.2**
POGA				IAmb	IAmb	01 29 25.4	
	comp=Z,15nm,0.8s						
LBTB	**Lobatse**	**22.15 235**		P	**P**	**01 29 52.1**	**+1.2**
LBTB	**Lobatse**	**22.15 235**		P	**P**	**01 29 51.2**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=55,slow=11,SNR=10						
LBTB				LR	LR	01 38 28.6	
	comp=Z,117nm,18.6s,baz=56,slow=37						
	comp=Z,5.0nm,0.9s						
BOSA	**Boshof**	**24.32 227**		P	**P**	**01 30 14.5**	**+1.6**
BOSA				IAmb	IAmb	01 30 17.3	
	comp=Z,15nm,1.1s						
BOSA	**Boshof**	**24.32 227**		P	**P**	**01 30 13.4**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=48,slow=8.3,SNR=15						
BOSA				LR	LR	01 40 44.4	
	comp=Z,64nm,19.0s,baz=24,slow=39						
	comp=Z,5.3nm,0.7s						
SUR	**Sutherland**	**29.62 225**		P	**P**	**01 31 02.2**	**+1.7**
SUR	**Sutherland**	**29.62 225**		LR	LR	01 41 29.2	
	comp=Z,64nm,19.4s,baz=85,slow=34						
DBIC	**Dimbokro**	**53.62 288**		LR	LR	01 57 49.7	
	comp=Z,43nm,18.0s,baz=146,slow=37						
BRTR	**Keskin Array B**	**53.62 349**		P	**P**	**01 34 14.2**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=157,slow=7.8,SNR=1.8						
	comp=Z,0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**61.38 60**		P	**P**	**01 35 11.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=238,slow=5.4,SNR=4.1						
	comp=Z,0.9nm,0.3s						
BURAR	**Bucovina Array**	**63.01 345**		P	**P**	**01 35 24.1**	**+2.3**
AB31	**Akbulak array**	**63.34 11**		P	**P**	**01 35 24.6**	**+0.7**
AB31				IAmb	IAmb	01 35 28.8	
	comp=Z,2.9nm,0.8s						
ABKAR	**Akbulak array**	**63.34 11**		P	**P**	**01 35 24.8**	**+0.9**
ABKAR	**Akbulak array**	**63.34 11**		P	**P**	**01 35 24.6**	**+0.7**
ABKAR				IAmb	IAmb	01 35 28.8	
	comp=Z,2.9nm,0.8s						
MDT	**Midelt**	**66.00 315**		LR	LR	02 05 37.9	
	comp=Z,59nm,19.7s,baz=335,slow=37						
GERES	**GERESS Array B**	**67.69 338**		P	**P**	**01 35 51.3**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=138,slow=7.2,SNR=1.1						
	comp=Z,0.1nm,0.5s						
MKAR	**Makanchi Array**	**68.12 26**		P	**P**	**01 35 54.8**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=197,slow=4.5,SNR=3.8						
	comp=Z,0.1nm,0.4s						
ESDC	**Sonseca Array**	**69.67 321**		P	**P**	**01 36 04.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=123,slow=4.7,SNR=1.2						
	comp=Z,0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**69.69 22**		P	**P**	**01 36 05.0**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=223,slow=7.0,SNR=2.5						
	comp=Z,0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**74.68 23**		P	**P**	**01 36 34.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=216,slow=7.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**75.80 351**		P	**P**	**01 36 42.3**	**+1.7**
FINES	**FINESS Array B**	**75.80 351**		P	**P**	**01 36 40.6**	**+0.1**
	comp=Z,4.7nm,1.1s,baz=187,slow=9.1,SNR=1.2						
	comp=Z,4.7nm,1.1s						
QSPA	**South Pole Qui**	**77.06 180**		P	**P**	**01 36 51.1**	**+3.1**
QSPA				IAmb	IAmb	01 37 26.3	
	comp=Z,3.8nm,1.1s						
HFS	**Hagfors**	**77.23 344**		P	**P**	**01 36 48.8**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=168,slow=7.4,SNR=4.2						
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**83.53 113**		P	**P**	**01 37 23.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=258,slow=5.0,SNR=4.7						
	comp=Z,0.2nm,0.3s						
WRA	**War

WRA S **Sn** **01 59 42.5 -0.1**
2.0nm,0.6s,baz=322,slow=24,SNR=4.6
ASAR **Alice Springs** **17.14 153** P **P** **01 57 43.4 +0.3**
1.2nm,0.6s,baz=320,slow=11,SNR=13
ASAR S **Sn** **02 00 50.9 -0.8**
0.6nm,0.5s,baz=306,slow=17,SNR=4.2
CMAR **Chiang Mai Arr** **37.41 316** P **P** **02 00 54.8 +0.4**
1.6nm,0.3s,baz=128,slow=8.2,SNR=6.8
CMAR LR LR 02 19 03.0
comp=Z,9.9nm,20.9s,baz=140,slow=40
1.6nm,0.3s
MJAR **Matsushiro Arr** **46.39 14** P **P** **02 02 08.1 +0.7**
4.4nm,0.9s,baz=198,slow=7.4,SNR=5.7
4.4nm,0.9s
H08S2 **Diego Garcia H** **52.36 267** T T 02 59 11.5
baz=95,slow=76,SNR=12
H08S3 **Diego Garcia H** **52.38 267** T T 02 59 12.3
baz=95,slow=76,SNR=13
H08S1 **Diego Carcia H** **52.38 267** T T 02 59 12.9
baz=95,slow=76,SNR=13
USRK **Ussuriysk Ar.** **52.79 6** P **P** **02 02 58.0 +2.0**
1.7nm,0.7s,baz=187,slow=8.1,SNR=2.4
1.7nm,0.7s
SONM **Songino Array** **58.56 345** P **P** **02 03 38.3 +0.8**
0.5nm,0.6s,baz=159,slow=7.9,SNR=4.7
0.5nm,0.6s
MKAR **Makanchi Array** **67.08 329** P **P** **02 04 34.9 +0.8**
1.9nm,0.6s,baz=130,slow=7.9,SNR=27
1.9nm,0.6s
ZALV **Zalesovo Beam** **71.00 336** P **P** **02 04 57.9 -0.3**
1.3nm,0.7s,baz=130,slow=4.6,SNR=5.3
1.3nm,0.7s
KURBB **Kurchatov Arra** **71.49 331** P **P** **02 05 01.2 0.0**
0.8nm,0.6s,baz=140,slow=5.2,SNR=11
0.8nm,0.6s
LBTB **Lobatse** **95.23 244** LR LR 02 46 33.6
comp=Z,29nm,18.1s,baz=157,slow=33

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*NEIC **21** 02:24:44.0±1.1,59°.77N±0°.04×150°.92W±0°.07, h49km±3km,*
Error ellipse: s-maj=6.1km s-min=4.1km az=141.0
AEIC 21 02:24:44.2±1.1,59°.73N±0°.04×150°.88W±0°.06,h51km±3km,
ML2.5,ML2.5/102(NEIC),**Error ellipse: s-maj=5.7km**
s-min=4.3km az=153.0,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.04**	**354**		Pn	02 24 51.2	-0.8
BRLK					Sn	02 24 56.6	-1.1
BRLK	**Bradley Lake**	**0.04**	**354**	IAML		02 24 56.9	
	comp=N,3μm,0.1s						
BRLK				IAML		02 24 57.0	
	comp=E,2μm,0.2s						
BRSE	**Bradley Lake S**	**0.07**	**78**		Pn	02 24 51.5	-0.6
BRSE					Sn	02 24 57.0	-0.7
CNPM	**China Poot**	**0.27**	**222**		Pn	02 24 53.1	-0.1
CNPM	**China Poot**	**0.27**	**222**		Sn	02 24 59.8	+0.1
HOM	**Homer**	**0.39**	**260**		Pn	02 24 54.0	-0.3
HOM					Sn	02 25 01.7	+0.2
HOM	**Homer**	**0.39**	**260**	IAML		02 25 03.7	
	comp=E,600nm,0.3s						
HOM				IAML		02 25 06.3	
	comp=N,531nm,0.5s						
SEW	**Seward**	**0.81**	**62**		Pn	02 24 58.8	-0.5
SLKM	**Skilak Lake**	**0.85**	**23**		Pn	02 24 58.5	-1.4
O20K	**Slope Mountain**	**0.95**	**293**		Pn	02 25 00.1	-1.2
O22K	**Cooper Landing**	**0.95**	**37**		Pn	02 25 00.4	-0.8
O22K					Sn	02 25 13.8	0.0
CAPN	**Captain Cook N**	**1.05**	**353**		Pn	02 25 02.2	-0.4
ILS	**Iliamna Low So**	**1.13**	**283**		Pn	02 25 02.5	-1.2
ILS					Sn	02 25 17.7	-0.5
RDT	**Redoubt**	**1.14**	**319**		Pn	02 25 01.9	-2.0
ILSW	**Iliamna Southw**	**1.17**	**284**		Pn	02 25 02.8	-1.5
ILSW	**Iliamna Southw**	**1.17**	**284**	IAML		02 25 17.8	
	comp=N,85nm,0.3s						
ILSW				IAML		02 25 21.7	
	comp=E,58nm,0.5s						
OPT	**Oil Point**	**1.20**	**267**		Pn	02 25 04.4	-0.2
P19K	**Oil Pt**	**1.20**	**267**		Pn	02 25 04.4	-0.2
RDJH	**Redoubt Jeurge**	**1.30**	**313**		Pn	02 25 04.2	-1.8
AUL	**Augustine Lava**	**1.35**	**256**		Pn	02 25 06.7	+0.1
AUCH	**Augustine Cone**	**1.36**	**255**		Pn	02 25 06.8	0.0
SYI	**Shuyak Island**	**1.36**	**215**		Pn	02 25 07.0	+0.2
SYI	**Shuyak Island**	**1.36**	**215**	IAML		02 25 30.8	
	comp=E,70nm,0.9s						
SYI				IAML		02 25 32.4	
	comp=N,59nm,0.6s						
RC01	**Rabbit Creek A**	**1.48**	**22**		Pn	02 25 07.4	-1.0
RC01					Sn	02 25 26.6	0.0
Q19K	**Cape Douglas,**	**1.63**	**242**		Pn	02 25 10.7	+0.2
PWL	**Port Wells**	**1.70**	**47**		Pn	02 25 10.5	-1.0
PWL	**Port Wells**	**1.70**	**47**	IAML		02 25 40.7	
	comp=E,107nm,0.5s						
SPBG	**Spurr Blockage**	**1.71**	**335**		Pn	02 25 10.2	-1.3
SPBG					Sn	02 25 31.1	-1.2
SUA	**Susitna One**	**1.74**	**2**		Pn	02 25 11.0	-1.1
SUA	**Susitna One**	**1.74**	**2**	IAML		02 25 33.5	
	comp=N,28nm,0.6s						
SUA				IAML		02 25 37.2	
	comp=E,32nm,1.1s						
O19K	**Port Alsworth**	**1.79**	**287**		Pn	02 25 12.0	-0.7
STLK	**Strandline Lak**	**1.84**	**346**		Pn	02 25 12.5	-0.9
PMR	**Palmer**	**2.06**	**24**		Pn	02 25 15.8	-0.5
PMR	**Palmer**	**2.06**	**24**	IAML		02 25 46.2	
	comp=E,39nm,0.6s						
PMR				IAML		02 25 46.7	
	comp=N,46nm,0.6s						
M22K	**Willow**	**2.07**	**10**	Pn	Pn	02 25 17.0	+0.6
M22K				IAML		02 25 46.7	
	comp=E,74nm,0.6s						
KNK	**Knik Glacier**	**2.07**	**34**		Pn	02 25 15.4	-1.1
N19K	**Bonanza Creek**	**2.10**	**303**		Pn	02 25 16.1	-0.8
N19K	**Bonanza Creek**	**2.10**	**303**	IAML		02 25 42.1	
	comp=N,27nm,0.6s						
KDAK	**Kodiak Island**	**2.14**	**205**		Pn	02 25 17.6	+0.1
KDAK	**Kodiak Island**	**2.14**	**205**	IAML		02 25 58.8	
	comp=N,25nm,0.6s						
KDAK				IAML		02 26 00.0	
	comp=N,20nm,1.2s						
O18K	**Koktuh Hills**	**2.19**	**275**		Pn	02 25 17.5	-0.6
O18K	**Koktuh Hills**	**2.19**	**275**	IAML		02 25 47.3	
	comp=E,24nm,1.1s						
O18K				IAML		02 25 47.8	
	comp=N,30nm,0.8s						
P18K	**Big Mountain,**	**2.24**	**263**		Pn	02 25 18.4	-0.4
P18K	**Big Mountain,**	**2.24**	**263**	IAML		02 25 47.3	
	comp=N,18nm,0.9s						
KAHG	**Katmai Hook Gl**	**2.26**	**238**		Pn	02 25 18.4	-0.7
GHO	**Glory Hole Cre**	**2.27**	**24**		Pn	02 25 18.3	-0.9
GHO	**Glory Hole Cre**	**2.27**	**24**	IAML		02 25 51.8	
	comp=E,59nm,0.6s						
SKT	**Skwentna**	**2.28**	**352**		Pn	02 25 18.6	-0.8
SKT	**Skwentna**	**2.28**	**352**	IAML		02 25 50.1	
	comp=E,25nm,0.4s						
SKT				IAML		02 25 51.0	
	comp=N,26nm,0.6s						
HIN	**Hinchinbrook I**	**2.29**	**71**		Pn	02 25 19.1	-0.4
HIN	**Hinchinbrook I**	**2.29**	**71**	IAML		02 26 13.8	
	comp=E,51nm,1.1s						
HIN				IAML		02 26 38.1	
	comp=N,39nm,1.1s						
M20K	**Styx River**	**2.43**	**334**		Pn	02 25 20.7	-0.7
SML	**Sawmill**	**2.43**	**30**		Pn	02 25 21.0	-0.4
SML	**Sawmill**	**2.43**	**30**	IAML		02 26 01.6	
	comp=E,43nm,0.7s						
SML				IAML		02 26 03.8	
	comp=N,41nm,1.0s						
M23K	**Glacier View**	**2.59**	**35**		Pn	02 25 23.5	0.0
N18K	**Kilae Creek**	**2.68**	**293**		Pn	02 25 23.8	-1.0
EYAK	**Cordova Ski Ar**	**2.69**	**70**		Pn	02 25 24.0	-0.9
SCM	**Sheep Creek Mo**	**2.74**	**38**		Pn	02 25 25.6	-0.1
SCM	**Sheep Creek Mo**	**2.74**	**38**	IAML		02 26 11.9	
	comp=N,21nm,1.0s						
SCM				IAML		02 26 19.2	
	comp=E,23nm,1.0s						
M19K	**Big River Lodg**	**2.78**	**323**		Pn	02 25 25.4	-0.8
OHAK	**Old Harbor**	**2.81**	**208**		Pn	02 25 26.1	-0.5
DIV	**Divide**	**2.90**	**59**		Pn	02 25 26.9	-1.0
M18K	**Stony River**	**3.01**	**308**		Pn	02 25 28.3	-1.0
KLU	**Klutina**	**3.02**	**52**		Pn	02 25 28.8	-0.7
KLU	**Klutina**	**3.02**	**52**	IAML		02 26 14.3	
	comp=N,27nm,1.2s						
KLU				IAML		02 26 17.1	
	comp=E,14nm,0.8s						
L20K	**Farewell, AK**	**3.12**	**333**		Pn	02 25 29.7	-1.2
L19K	**White Mountain**	**3.13**	**323**		Pn	02 25 30.2	-0.8
O17K	**Koliganek Bris**	**3.15**	**274**		Pn	02 25 30.4	-0.8
N17K	**Nushagak Hills**	**3.26**	**287**		Pn	02 25 31.7	-1.0
N17K	**Nushagak Hills**	**3.26**	**287**	IAML		02 26 37.2	
	comp=N,6.5nm,1.1s						
M24K	**Tolsona, Glenn**	**3.31**	**42**		Pn	02 25 33.5	0.0
M24K	**Tolsona, Glenn**	**3.31**	**42**	IAML		02 26 32.1	
	comp=E,22nm,0.7s						
M24K				IAML		02 26 41.2	
	comp=N,12nm,1.0s						
BMRM	**Bremner River**	**3.36**	**66**		Pn	02 25 33.0	-1.1
N25K	**Chitina, Valde**	**3.62**	**56**		Pn	02 25 37.2	-0.6
N25K	**Chitina, Valde**	**3.62**	**56**	IAML		02 26 37.7	
	comp=N,6.8nm,1.0s						
N25K				IAML		02 26 39.3	
	comp=E,6.2nm,1.1s						
M17K	**Holitna River**	**3.65**	**300**		Pn	02 25 37.5	-0.6
M17K	**Holitna River**	**3.65**	**300**	IAML		02 26 20.2	
	comp=E,20nm,0.8s						
M17K				IAML		02 26 39.3	
	comp=N,12nm,0.9s						
O16K	**Kokwok River B**	**3.66**	**271**		Pn	02 25 38.0	-0.2
O16K	**Kokwok River B**	**3.66**	**271**	IAML		02 26 06.2	
	comp=E,4.7nm,1.0s						
O16K				IAML		02 26 35.0	
	comp=N,6.9nm,1.0s						
TRF	**Thorofare Moun**	**3.75**	**4**		Pn	02 25 39.4	-0.2
TRF	**Thorofare Moun**	**3.75**	**4**	IAML		02 26 56.8	
	comp=N,5.9nm,1.2s						
CAST	**Castle Rocks**	**3.75**	**352**		Pn	02 25 40.0	+0.6
L18K	**Granite Mounta**	**3.78**	**314**		Pn	02 25 38.9	-0.9
RND	**Reindeer**	**3.82**	**14**		Pn	02 25 40.3	-0.1
RND	**Reindeer**	**3.82**	**14**	IAML		02 26 36.8	
	comp=N,5.4nm,1.1s						
KTH	**Kantishna Hill**	**3.84**	**360**		Pn	02 25 40.7	-0.1
KTH	**Kantishna Hill**	**3.84**	**360**	IAML		02 26 47.8	
	comp=E,4.6nm,0.8s						
KTH				IAML		02 26 50.9	
	comp=N,6.1nm,1.2s						
HARP	**HAARP**	**3.86**	**44**		Pn	02 25 40.9	-0.1
GLB	**Gilahina Butte**	**3.89**	**61**		Pn	02 25 40.4	-1.0
GLB	**Gilahina Butte**	**3.89**	**61**	IAML		02 26 49.7	
	comp=N,5.4nm,1.2s						
WACK	**Wrangell Chich**	**3.92**	**52**		Pn	02 25 41.6	-0.5
WASW	**Wrangell South**	**3.96**	**53**		Pn	02 25 42.1	-0.4
N16K	**Nishlik Lake**	**4.02**	**284**		Pn	02 25 43.0	-0.2
MCK	**McKinley**	**4.12**	**12**		Pn	02 25 44.6	0.0
PAX	**Paxson**	**4.17**	**36**		Pn	02 25 44.9	-0.4
M16K	**Timber Creek**	**4.22**	**291**		Pn	02 25 45.2	-0.6
M16K	**Timber Creek**	**4.22**	**291**	IAML		02 26 53.6	
	comp=E,6.2nm,1.1s						
M16K				IAML		02 27 17.3	
	comp=N,6.0nm,1.1s						
L17K	**Donlin**	**4.35**	**307**		Pn	02 25 46.7	-1.0
BPAW	**Bear Paw Mtn.**	**4.39**	**359**		Pn	02 25 48.0	-0.2
BPAW	**Bear Paw Mtn.**	**4.39**	**359**	IAML		02 26 44.1	
	comp=E,2.9nm,1.1s						
KIAG	**Kiagna River**	**4.40**	**71**		Pn	02 25 48.3	-0.2
M26K	**Nabesna, AK**	**4.67**	**52**		Pn	02 25 51.9	-0.2
M26K	**Nabesna, AK**	**4.67**	**52**	IAML		02 27 05.2	
	comp=N,2.8nm,1.0s						
J20K	**Nowinta River**	**4.72**	**342**		Pn	02 25 52.8	+0.1
J20K				IAML		02 27 13.2	
	comp=E,2.3nm,0.7s						
J20K				IAML		02 27 14.4	
	comp=N,2.5nm,1.0s						
WRH	**Wood River Hil**	**4.94**	**14**		Pn	02 25 54.9	-0.8
WRH	**Wood River Hil**	**4.94**	**14**	IAML		02 27 20.7	
	comp=N,2.1nm,0.9s						
CCB	**Clear Creek Bu**	**5.14**	**15**		Pn	02 25 57.8	-0.7
CCB	**Clear Creek Bu**	**5.14**	**15**	IAML		02 26 55.6	
	comp=E,2.4nm,1.2s						
CCB				IAML		02 27 30.6	
	comp=N,2.1nm,1.1s						
IL31		**5.39**	**19**		Pn	02 26 01.1	-0.8
I21K	**Tanana**	**5.50**	**355**		Pn	02 26 03.0	-0.3
H21K	**Melozitna Rive**	**6.02**	**352**		Pn	02 26 10.2	-0.3

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*KRNET **21** 02:39:20.2±0.1,42°.75N×71°.13E,h19km,mb2.4*
*SOME **21** 02:39:21.7,42°.77N×71°.13E,h10km*
*NNC **21** 02:39:22.0±0.9,42°.77N×71°.02E,h0km,mb2.9,mpv2.4,*
Error ellipse: s-maj=6.3km s-min=4.3km az=13.0
ISC 21 02:39:20.5±0.8,42°.73N±0°.04×71°.11E±0°.03,h10km,n13,
σ1§05/25,11C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.23**	**45**	*eP*	**Pg**	**02 39 26.1**	**+0.9**
	53nm,0.1s						
DZA				*eS*	**Sg**	**02 39 29.6**	**+1.1**
	271nm,0.2s						
KK31	**Karatay Array**	**0.58**	**310**	⇓*P*	**Pg**	**02 39 31.6**	**-0.2**
	1.8nm,0.3s,baz=131,slow=17,SNR=130						
KK31				⇑*S*	**Sg**	**02 39 39.1**	**-0.2**
	3.7nm,0.2s,baz=131,slow=29,SNR=4.6						
KKAR	**Karatay Array**	**0.58**	**310**	⇓*iP*	**Pg**	**02 39 31.5**	**-0.3**
KKAR				⇓*iS*	**Sg**	**02 39 39.2**	**-0.2**
BRLS	**Borolday**	**0.98**	**288**	*eP*	**Pn**	**02 39 40.4**	**-0.1**
	0.4nm,0.1s						
BRLS				*eS*	**Sn**	**02 39 53.9**	**-0.6**
	11nm,0.2s						
MNAS	**Manas**	**1.06**	**103**	⇑*iP*	**Pg**	**02 39 39.9**	**-0.9**
MNAS				⇑*iS*	**Sg**	**02 39 53.7**	**-0.9**
ARK	**Arkit**	**1.13**	**146**	⇑*eP*	**Pb**	**02 39 41.3**	**-0.9**
ARK				⇑*eS*	**Sb**	**02 39 57.3**	**+0.4**
TRKS	**Terek-Say**	**1.20**	**179**	⇑*iP*	**Pg**	**02 39 44.0**	**+0.4**
TRKS				⇑*iS*	**Sn**	**02 40 00.9**	**+0.9**
MRKS	**Merke**	**1.56**	**89**	*eP*	**Pg**	**02 39 49.8**	**-0.6**
	5.7nm,0.1s						
MRKS				*eS*	**Sg**	**02 40 10.0**	**-0.6**
	7.9nm,0.1s						
ARSB	**Arslanbob**	**1.98**	**135**	⇑*eP*	**Pb**	**02 39 55.8**	**-0.9**
ARSB				⇑*eS*	**Sb**	**02 40 21.5**	**0.0**
AAK	**Ala-Archa**	**2.50**	**91**	⇓Pn	**Pb**	**02 40 06.4**	**+0.9**
	2.7nm,1.3s						
AAK				⇓Sn	**Sg**	**02 40 38.3**	**-2.3**
	8.1nm,0.7s						
ARLS	**Aral**	**2.54**	**109**	⇑*eP*	**Pn**	**02 40 03.7**	**+1.8**
ARLS				⇑*eS*	**Sn**	**02 40 34.6**	**+1.7**
BTLS	**Baital**	**3.13**	**42**	*eP*	**Pg**	**02 40 19.2**	**-1.3**
	0.3nm,0.1s						
BTLS				*eS*	**Sg**	**02 41 00.4**	**-0.8**
	2.8nm,0.2s						
TKM2	**Tokmak 2**	**3.30**	**85**	⇓Pg	**Pg**	**02 40 22.5**	**-1.3**
	1.3nm,0.5s						
TKM2				⇓Lg	Lg	02 41 06.6	
	2.0nm,0.7s						

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*IDC **21** 02:39:29.6±1.3,8°.13N×137°.55E,h0km,mb3.8/7,*
mbtmp3.8/7,MS3.3/5,Error ellipse: s-maj=64.0km
s-min=21.1km az=78.0
*NEIC **21** 02:39:31.5±1.9,8°.2N±0°.1×137°.6E±0°.1,h10km±1km,*
mb4.5/28,Error ellipse: s-maj=21.6km s-min=17.1km
az=302.0
ISC 21 02:39:33.7±0.6,8°.17N±0°.10×137°.7E±0°.1,h30km,n52,
σ1§21/42,mb4.3/21,MS3.5/4,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.90**	**52**	Pn	**Pn**	**02 41 39.5**	**-0.9**
JCJ	**Chichijima**	**19.31**	**12**	P	**P**	**02 43 52.3**	**-4.2**
JCJ	**Chichijima**	**19.31**	**12**	LR	LR	02 50 09.1	
	comp=Z,40nm,18.7s,baz=124,slow=33						
PATS	**Pohnpei**	**20.52**	**92**	P	**P**	**02 44 09.6**	**-0.2**
KNRA	**Kununurra**	**25.28**	**200**	P	**P**	**02 44 56.5**	**-1.1**
KNRA				IAmb	IAmb	02 45 39.5	
	comp=Z,28nm,1.4s						
WRA	**Warramunga Arr**	**28.12**	**187**	P	**P**	**02 45 22.7**	**-0.6**
	comp=Z,0.8nm,1.1s,baz=6.1,slow=9.6,SNR=1.8						
	comp=Z,0.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.67**	**204**	P	**P**	**02 45 27.2**	**-0.9**
H11S3	**WAKE ISLAND Hy**	**30.01**	**67**	T	T	03 17 23.9	
	baz=254,slow=75,SNR=173						
H11S1	**WAKE ISLAND Hy**	**30.02**	**67**	T	T	03 17 25.6	
	baz=254,slow=75,SNR=131						
H11S2	**WAKE ISLAND Hy**	**30.02**	**67**	T	T	03 17 24.6	
	baz=254,slow=75,SNR=236						
KS19	**Wonju Array Si**	**30.52**	**345**	P	**P**	**02 45 44.9**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**30.55**	**65**	T	T	03 18 03.1	
	baz=240,slow=78,SNR=19						
H11N2	**WAKE ISLAND Hy**	**30.56**	**65**	T	T	03 18 03.9	
	baz=240,slow=78,SNR=13						
H11N3	**WAKE ISLAND Hy**	**30.57**	**65**	T	T	03 18 05.4	
	baz=240,slow=78,SNR=18						
ASAR	**Alice Springs**	**31.85**	**187**	P	**P**	**02 45 54.9**	**-1.4**
ASAR	**Alice Springs**	**31.85**	**187**	P	**P**	**02 45 56.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=2.0,slow=7.7,SNR=4.6						
ASAR				PcP	**PcP**	**02 48 47.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=0.0,slow=2.9,SNR=2.3						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**38.95**	**289**	LR	LR	03 02 43.9	
	comp=Z,17nm,19.5s,baz=100,slow=36						
DZM	**Mont Dzumac**	**41.23**	**137**	LR	LR	03 02 33.2	
	comp=Z,74nm,18.1s,baz=162,slow=34						
SONM	**Songino Array**	**47.59**	**332**	P	**P**	**02 48 07.8**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=134,slow=6.8,SNR=5.6						
	comp=Z,1.2nm,0.9s						
YAK	**Yakutsk**	**54.08**	**355**	LR	LR	03 10 58.3	
	comp=Z,37nm,18.1s,baz=302,slow=35						
BKZ	**Black Stump Fm**	**59.29**	**145**	P	**P**	**02 49 32.4**	**-0.5**
MK31	**Makanchi Array**	**60.72**	**320**	P	**P**	**02 49 42.5**	**-0.1**
MKAR	**Makanchi Array**	**60.72**	**320**	P	**P**	**02 49 43.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=106,slow=8.0,SNR=17						
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**62.14**	**328**	P	**P**	**02 49 50.4**	**-1.5**
KURK	**Kurchatov**	**64.36**	**323**	P	**P**	**02 50 06.7**	**0.0**
KURK				IAmb	IAmb	02 50 07.1	
	comp=Z,3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**64.38**	**323**	P	**P**	**02 50 06.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=114,slow=5.5,SNR=13						
	comp=Z,1.8nm,0.7s						
AAK	**Ala-Archa**	**64.84**	**313**	LR	LR	03 20 20.7	
	comp=Z,42nm,18.6s,baz=350,slow=38						
JOKA	**Jonika Flow**	**66.01**	**72**	P	**P**	**02 50 20.4**	**+2.3**
ANM	**Nome**	**68.88**	**23**	P	**P**	**02 50 35.6**	**+0.3**
BVAR	**Borovoye Array**	**69.90**	**324**	P	**P**	**02 50 41.9**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=109,slow=7.4,SNR=13						
	comp=Z,2.5nm,0.6s						
BRVK	**Borovoye**	**69.97**	**324**	P	**P**	**02 50 42.2**	**-0.1**
BRVK				IAmb	IAmb	02 50 42.8	
	comp=Z,2.3nm,0.6s						
C18K	**Utukok River**	**72.17**	**20**	P	**P**	**02 50 56.3**	**+0.8**
C18K				IAmb	IAmb	02 51 01.9	
	comp=Z,3.7nm,1.4s						
L19K	**White Mountain**	**72.39**	**27**	P	**P**	**02 50 58.4**	**+1.5**
L19K				IAmb	IAmb	02 50 59.1	
	comp=Z,6.4nm,1.1s						
M19K	**Big River Lodg**	**72.53**	**27**	P	**P**	**02 50 56.8**	**-0.9**
M19K				IAmb	IAmb	02 51 25.2	
	comp=Z,11nm,1.3s						
D19K	**Kuna River**	**73.15**	**20**	P	**P**	**02 51 02.1**	**+0.9**
D19K				IAmb	IAmb	02 51 39.2	
	comp=Z,4.1nm,1.2s						
B20K	**Meade River**	**74.01**	**19**	P	**P**	**02 51 06.8**	**+0.6**
B20K				IAmb	IAmb	02 51 31.9	
	comp=Z,5.5nm,1.5s						
B22K	**Teshekpuk Lake**	**75.33**	**19**	P	**P**	**02 51 14.8**	**+1.0**
B22K				IAmb	IAmb	02 51 19.2	
	comp=Z,3.3nm,1.2s						
AB31	**Akbulak array**	**75.84**	**319**	P	**P**	**02 51 17.1**	**-0.1**
ABKAR	**Akbulak array**	**75.84**	**319**	P	**P**	**02 51 16.6**	**-0.6**
ABKAR	**Akbulak array**	**75.84**	**319**	P	**P**	**02 51 17.0**	**-0.2**
ABKAR				IAmb	IAmb	02 51 55.2	
	comp=Z,3.4nm,1.5s						
D23K	**Nanushuk River**	**75.87**	**21**	P	**P**	**02 51 18.9**	**+1.9**
D23K				IAmb	IAmb	02 51 19.4	
	comp=Z,3.6nm,1.2s						
C23K	**Itkillik River**	**76.11**	**20**	P	**P**	**02 51 19.5**	**+1.2**
G24K	**Hadweenzic Riv**	**76.57**	**23**	P	**P**	**02 51 22.2**	**+1.2**
G24K				IAmb	IAmb	02 52 03.9	
	comp=Z,3.9nm,1.3s						
F25K	**Christian Rive**	**77.43**	**22**	P	**P**	**02 51 27.3**	**+1.4**
F25K				IAmb	IAmb	02 51 43.3	
	comp=Z,3.2nm,1.2s						
BMAR	**Burnt Mountain**	**77.81**	**23**	P	**P**	**02 51 29.8**	**+1.8**
F26K	**Sheenjek River**	**78.01**	**22**	P	**P**	**02 51 31.1**	**+2.0**
E28M	**Babbage River**	**79.82**	**22**	P	**P**	**02 51 40.0**	**+1.1**
WHY	**Whitehorse**	**81.70**	**30**	P	**P**	**02 51 49.0**	**-0.3**
WHY				IAmb	IAmb	02 52 30.8	
	comp=Z,13nm,1.2s						
G31M	**Satah River**	**81.79**	**23**	P	**P**	**02 51 50.6**	**+1.1**
G31M				IAmb	IAmb	02 52 01.0	
	comp=Z,3.6nm,1.2s						
YKA	**Yellowknife Ar**	**90.86**	**26**	P	**P**	**02 52 35.1**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=290,slow=5.2,SNR=5.5						
	comp=Z,0.3nm,0.8s						
KMPM	**Mount Pierce**	**90.97**	**49**	P	**P**	**02 52 35.3**	**0.0**
TOKA	**Tokat**	**93.19**	**311**	P	**P**	**02 52 45.5**	**-0.1**

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*GII **21** 03:15:02.5±0.0,37°.459N±0°.001×29°.410E±0°.001,*
h8km,Mws3.5,confirmed
*AFAD **21** 03:15:04.8,37°.46N×29°.39E,h7km±2km,ML3.4*
*ISK **21** 03:15:04.1,37°.47N×29°.40E,h6km,ML3.4/37*
*IDC **21** 03:15:08.4±1.3,37°.50N×29°.39E,h43km±20km,mb3.3/3,*
mbtmp3.6/9,ML1.3/2,Error ellipse: s-maj=19.1km
s-min=9.6km az=149.0
ISC 21 03:15:04.5±0.8,37°.45N±0°.02×29°.42E±0°.02,h12km±5km,
n111,σ1§23/132,mb3.5/4,10C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.09**	**282**	Pg	**Pg**	**03 15 06.7**	**-0.6**
APMY				Sg	**Sg**	**03 15 08.4**	**-0.9**
GOLH	**Golhisar**	**0.24**	**152**	P	**Pg**	**03 15 10.2**	**+0.6**
GOLH				S	**Sb**	**03 15 15.1**	**+2.0**
GOLH				*i* AML	AML	03 15 18.0	
	comp=N,8μm,0.3s						
GOLH				*i* AML	AML	03 15 18.0	
	comp=E,8μm,0.4s						
INCE	**Denizli-Bozkur**	**0.29**	**26**	P	**Pg**	**03 15 10.2**	**-0.1**

DEMR	**Demre-Antalya**	**1.27 162**	Pn	**Pg**	**03 15 29.2**	**+0.2**
KSL	**Kastellorizon**	**1.31 174**	P	**Pg**	**03 15 30.1**	**+0.6**
KSL			S	**Sg**	**03 15 45.9**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.31 293**	Pn	**Pn**	**03 15 28.8**	**+0.1**
MLSB	**Milas**	**1.32 264**	Pn	**Pn**	**03 15 29.4**	**+0.7**
ODEM	**Odemis-Izmir**	**1.34 308**	Pn	**Pn**	**03 15 29.2**	**+0.1**
SHUT	**Suhut-Afyon**	**1.42 39**	Pn	**Pn**	**03 15 31.1**	**+0.9**
DATC	**Datca-Mugla**	**1.56 244**	Pn	**Pb**	**03 15 33.3**	**-0.1**
SHAP	**Saphane-Kutahy**	**1.58 354**	Pn	**Pn**	**03 15 32.8**	**+0.4**
GEDZ	**Gediz**	**1.59 360**	Pn	**Pn**	**03 15 33.3**	**+0.7**
ARG	**Arkhangelos**	**1.61 220**	Pn	**Pb**	**03 15 34.1**	**0.0**
ARG	**Arkhangelos**	**1.61 220**	P	**Pb**	**03 15 34.4**	**+0.3**
ARG			S	**Sn**	**03 15 53.3**	**-0.1**
DAT	**Datca**	**1.64 244**	Pn	**Pb**	**03 15 34.5**	**-0.2**
SIMA	**Simav-Kutahya**	**1.66 348**	Pn	**Pn**	**03 15 33.8**	**+0.2**
GOMA	**Golmarmara-Man**	**1.72 317**	Pn	**Pn**	**03 15 34.7**	**+0.4**
BODT	**Bodrum**	**1.73 258**	Pn	**Pn**	**03 15 35.4**	**+1.1**
YKAV	**Yalikavak-Bodr**	**1.73 260**	Pn	**Pn**	**03 15 35.8**	**+1.4**
GCAM	**G?zelcaml?**	**1.75 279**	Pn	**Pn**	**03 15 35.5**	**+0.8**
GORD	**Gordes-Manisa**	**1.75 326**	Pn	**Pn**	**03 15 35.4**	**+0.6**
SEYD	**Seydisehir-KON**	**1.93 91**	Pn	**Pn**	**03 15 38.8**	**+1.6**
TVSB	**Tavsanli**	**2.00 1**	Pn	**Pn**	**03 15 39.1**	**+1.0**
GMLD	**Gumuldur**	**2.08 288**	Pn	**Pn**	**03 15 40.6**	**+1.5**
BLCB	**Balcova**	**2.10 297**	Pn	**Pn**	**03 15 40.7**	**+1.3**
KARP	**Karpathos**	**2.63 224**	P	**Pn**	**03 15 48.9**	**+2.1**
APE	**Apeiranthos**	**3.12 264**	P	**Pn**	**03 15 51.9**	**-1.7**
APE	**Apeiranthos**	**3.12 264**	S	**Sn**	**03 16 29.6**	**-1.3**
ANTO	**Ankara**	**3.58 47**	⇑P	**Pn**	**03 16 02.2**	**+2.3**
KIRS	**Kirsehir-Merke**	**3.92 63**	⇓P	**Pn**	**03 16 07.0**	**+2.4**
KIRS			⇓S	**Sn**	**03 16 52.0**	**+1.4**
BRTR	**Keskin Array B**	**4.01 54**	P	**Pn**	**03 16 07.7**	**+1.8**
	7.9nm,0.6s,baz=229,slow=15,SNR=128					
BRTR			S	**Sn**	**03 16 53.5**	**+0.5**
	7.4nm,0.7s,baz=232,slow=28,SNR=8.6					
CSS	**Mathiatis**	**4.02 127**	P	**Pn**	**03 16 04.3**	**-1.7**
CSS	**Mathiatis**	**4.02 127**	S	**Sn**	**03 16 52.3**	**-0.7**
IDI	**Anoyia**	**4.24 241**	P	**Pn**	**03 16 10.8**	**+1.8**
	2.3nm,0.3s,baz=67,slow=15,SNR=21					
IDI			S	**Sn**	**03 16 59.3**	**+0.8**
	19nm,0.6s,baz=134,slow=18,SNR=5.2					
	9.4nm,0.4s					
MMA0B	**Mount Meron ar**	**6.60 130**	P	**Pn**	**03 16 40.3**	**-1.1**
MMA0B	**Mount Meron ar**	**6.60 130**	S	**Sn**	**03 17 56.2**	**-0.5**
MMAI	**Mount Meron Ar**	**6.60 130**	P	**Pn**	**03 16 43.0**	**+1.6**
	9.6nm,0.3s,baz=309,slow=12,SNR=122					
MMAI			S	**Sn**	**03 17 54.3**	**-2.4**
	5.8nm,0.3s,baz=315,slow=27,SNR=11					
GEM	**Giv'at Ha'Em**	**6.63 128**	P	**Pn**	**03 16 40.9**	**-0.9**
GEM	**Giv'at Ha'Em**	**6.63 128**	S	**Sn**	**03 17 56.9**	**-0.4**
OFRI	**`Ofer**	**6.64 135**	P	**Pn**	**03 16 40.6**	**-1.3**
OFRI	**`Ofer**	**6.64 135**	S	**Sn**	**03 17 56.4**	**-1.2**
NATI	**Neve Ativ**	**6.64 127**	P	**Pn**	**03 16 40.9**	**-1.0**
NATI	**Neve Ativ**	**6.64 127**	S	**Sn**	**03 17 56.7**	**-0.9**
KSHT	**Keshet**	**6.88 129**	P	**Pn**	**03 16 44.1**	**-1.1**
KSHT	**Keshet**	**6.88 129**	S	**Sn**	**03 18 02.9**	**-0.5**
MMLI	**Mount Malkishu**	**7.02 134**	P	**Pn**	**03 16 46.0**	**-1.2**
MMLI	**Mount Malkishu**	**7.02 134**	S	**Sn**	**03 18 06.4**	**-0.6**
TIRR	**Tirgusor**	**7.04 354**	⇑P	**Pn**	**03 16 48.3**	**+1.0**
SALP	**Salfit**	**7.17 137**	P	**Pn**	**03 16 48.3**	**-0.9**
SALP	**Salfit**	**7.17 137**	S	**Sn**	**03 18 10.2**	**-0.5**
HMDT	**Nahal Hemdat**	**7.22 134**	P	**Pn**	**03 16 48.8**	**-1.0**
HMDT	**Nahal Hemdat**	**7.22 134**	S	**Sn**	**03 18 10.9**	**-0.8**
TPGR	**Topolog**	**7.44 355**	⇑P	**Pn**	**03 16 54.3**	**+1.5**
DSI	**Dead Sea**	**7.66 138**	P	**Pn**	**03 16 54.5**	**-1.4**
DSI	**Dead Sea**	**7.66 138**	S	**Sn**	**03 18 22.2**	**-0.4**
KZIT	**Kziot**	**7.72 146**	P	**Pn**	**03 16 55.8**	**-0.9**
KZIT	**Kziot**	**7.72 146**	S	**Sn**	**03 18 23.2**	**-1.0**
TLCR		**7.74 357**	⇓P	**Pn**	**03 16 58.8**	**+1.8**
CFR	**Carcaliu**	**7.78 353**	⇑P	**Pn**	**03 16 58.6**	**+1.2**
MSBI	**Mazada**	**7.85 140**	P	**Pn**	**03 16 57.0**	**-1.4**
MSBI	**Mazada**	**7.85 140**	S	**Sn**	**03 18 26.4**	**-0.8**
GHAJ	**Ghor Haditha**	**7.96 139**	P	**Pn**	**03 16 59.2**	**-0.8**
GHAJ	**Ghor Haditha**	**7.96 139**	S	**Sn**	**03 18 29.4**	**-0.6**
ASF	**Jabal al Asfar**	**8.10 128**	P	**Pn**	**03 17 04.8**	**+2.8**
	1.5nm,0.3s,baz=304,slow=17,SNR=6.0					
ASF			S	**Sn**	**03 18 35.0**	**+1.5**
	1.7nm,0.4s,baz=171,slow=19,SNR=1.9					
MLR	**Muntele Rosu**	**8.44 343**	⇑P	**Pn**	**03 17 08.7**	**+1.9**
PRNI	**Paran**	**8.47 145**	P	**Pn**	**03 17 05.9**	**-1.1**
PRNI	**Paran**	**8.47 145**	S	**Sn**	**03 18 41.7**	**-0.8**
KRMI	**Paran Flat**	**8.54 147**	P	**Pn**	**03 17 07.4**	**-0.7**
KRMI	**Paran Flat**	**8.54 147**	S	**Sn**	**03 18 44.2**	**-0.2**
VOIR		**8.62 339**	⇓P	**Pn**	**03 17 10.2**	**+1.0**
PLOR	**Plostina**	**8.64 347**	⇑P	**Pn**	**03 17 11.2**	**+1.8**
VRI	**Vrincioaia**	**8.64 347**	⇑P	**Pn**	**03 17 11.0**	**+1.6**
HRFI	**Mount Harif**	**8.75 146**	P	**Pn**	**03 17 10.1**	**-0.8**
HRFI	**Mount Harif**	**8.75 146**	S	**Sn**	**03 18 49.2**	**-0.3**
MBRI	**Mt Berech**	**8.90 147**	P	**Pn**	**03 17 12.1**	**-0.9**
MBRI	**Mt Berech**	**8.90 147**	S	**Sn**	**03 18 52.7**	**-0.7**
DOPR	**Dopca**	**9.02 342**	⇓P	**Pn**	**03 17 16.1**	**+1.5**
EIL	**Elat**	**9.03 148**	P	**Pn**	**03 17 17.1**	**+2.4**
	3.9nm,0.5s,baz=350,slow=12,SNR=11					
EIL			S	**Sn**	**03 18 50.1**	**-6.2**
	2.4nm,0.4s,baz=320,slow=16,SNR=3.6					
EIL	**Elat**	**9.03 148**	P	**Pn**	**03 17 13.6**	**-1.1**
EIL	**Elat**	**9.03 148**	S	**Sn**	**03 18 55.5**	**-0.9**
HERR	**Herculane**	**9.10 327**	⇓P	**Pn**	**03 17 16.8**	**+1.2**
MDVR	**Moldovita**	**9.35 324**	⇑P	**Pn**	**03 17 19.9**	**+0.9**
GZR	**Gura Zlata**	**9.37 330**	⇑P	**Pn**	**03 17 21.1**	**+1.8**
MILM	**Milestii Mici**	**9.47 357**	⇑P	**Pn**	**03 17 22.1**	**+1.4**
GERES	**GERESS Array B**	**16.12 320**	P	**Pn**	**03 18 51.2**	**+0.2**
	baz=130,slow=11,SNR=4.9					
	0.1nm,0.3s					
FINES	**FINESS Array B**	**24.11 356**	P	**P**	**03 20 18.4**	**-1.3**
	1.5nm,0.9s,baz=186,slow=9.7,SNR=1.4					
	1.5nm,0.9s					
TORD	**Torodi Ar. Bea**	**34.60 233**	P	**P**	**03 21 54.0**	**+0.6**
	82nm,0.3s,baz=33,slow=9.2,SNR=2.7					
KURBB	**Kurchatov Arra**	**37.00 53**	P	**P**	**03 22 13.2**	**-0.5**
	0.3nm,0.5s,baz=270,slow=9.0,SNR=4.4					
	0.3nm,0.5s					
MKAR	**Makanchi Array**	**39.65 59**	P	**P**	**03 22 36.0**	**-0.1**
	0.3nm,0.5s,baz=296,slow=5.5,SNR=4.8					
	0.3nm,0.5s					

*ISK **21** 03:20:46.7, 38°.74N×43°.49E, h5km, ML2.5/10*
*AFAD **21** 03:20:47.1, 38°.73N×43°.54E, h7km±5km, ML2.2*
*TEH **21** 03:20:49.8, 38°.81N×43°.84E, h10km±151km*
ISC 21 03:20:47.8±0.9, 38°.75N±0°.02×43°.52E±0°.03, h10km±8km, n27, σ1°13/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**213**		Pg	**Pg**	**03 20 51.9**	**0.0**
VANB					Sg	**Sg**	**03 20 56.2**	**+1.5**
VMUR	**Van-Muradiye**	**0.24**	**10**	P	Pg	**Pg**	**03 20 52.4**	**-0.4**
VMUR				S	Sg	**Sg**	**03 20 57.5**	**+1.3**
VMUR				*i* AML	AML		03 20 59.0	
	comp=N,792nm,0.2s							
VMUR				*i* AML	AML		03 20 59.0	
	comp=E,1μm,1.1s							
TVAN	**Van**	**0.24**	**202**	P	**Pg**	**03 20 52.0**	**-0.9**
TVAN				S	**Sg**	**03 20 57.1**	**+0.8**
TVAN				*i* AML	AML		03 21 01.0	
	comp=N,1μm,0.8s							
TVAN				*i* AML	AML		03 21 01.0	
	comp=E,2μm,0.6s							
OZAP	**Van, Ozalp-Mer**	**0.38**	**104**	P	**Pg**	**03 20 54.4**	**-1.0**
OZAP				*i* AML	AML		03 21 08.0	
	comp=E,407nm,0.6s							
OZAP				*i* AML	AML		03 21 09.0	
	comp=N,298nm,0.7s							
GEVA	**Gevas**	**0.57**	**220**	P	**Pg**	**03 20 57.5**	**-1.4**
GEVA				*i* AML	AML		03 21 12.0	
	comp=E,108nm,0.4s							
GEVA				*i* AML	AML		03 21 16.0	
	comp=N,90nm,0.5s							
ADCV	**BITLIS_Adilcev**	**0.62**	**275**	P	**Pg**	**03 20 59.3**	**-0.6**
ADCV				S	**Sb**	**03 21 10.3**	**+0.5**
ADCV				*i* AML	AML		03 21 12.0	
	comp=N,138nm,0.3s							
ADCV				*i* AML	AML		03 21 15.0	
	comp=E,110nm,0.5s							
DYDN	**Diyadin**	**0.80**	**9**	P	**Pg**	**03 21 02.4**	**-0.9**
DYDN				S	**Sb**	**03 21 15.3**	**+0.4**
DYDN				*i* AML	AML		03 21 16.0	
	comp=E,79nm,0.3s							
DYDN				*i* AML	AML		03 21 18.0	
	comp=N,57nm,0.8s							
MLAZ	**Malazgirt-MUS**	**0.85**	**297**	Pg	**Pg**	**03 21 03.5**	**-0.7**
MLAZ				Sg	**Sg**	**03 21 15.2**	**-0.1**
DORK	**Agr/Tutak/Do**	**0.86**	**318**	P	**Pg**	**03 21 02.8**	**-1.5**
DORK				S	**Sb**	**03 21 16.4**	**0.0**
DORK				*i* AML	AML		03 21 17.0	
	comp=N,110nm,0.6s							
DORK				*i* AML	AML		03 21 18.0	
	comp=E,90nm,0.3s							
AGRB	**Hanur-Agry**	**0.92**	**334**	Pg	**Pg**	**03 21 04.7**	**-0.8**
AGRB				Sg	**Sb**	**03 21 18.1**	**-0.2**
KOTA	**Agri, Merkez-K**	**1.08**	**347**	P	**Pg**	**03 21 07.0**	**-1.5**
KOTA				S	**Sb**	**03 21 23.1**	**+0.3**
KOTA				*i* AML	AML		03 21 29.0	
	comp=N,36nm,0.9s							
KOTA				*i* AML	AML		03 21 29.0	
	comp=E,41nm,1.0s							
MAKU	**Maku**	**1.09**	**56**	Pg	**Pg**	**03 21 07.0**	**-1.7**
GURO	**Guroymak-BITLI**	**1.18**	**261**	Pn	**Pg**	**03 21 08.5**	**-2.0**
GURO				Sn	**Sb**	**03 21 26.1**	**+0.3**
IGDI	**IGDIR**	**1.19**	**21**	P	**Pn**	**03 21 10.3**	**-0.3**
IGDI				S	**Sn**	**03 21 29.2**	**+2.2**
IGDI				*i* AML	AML		03 21 32.0	
	comp=N,46nm,0.8s							
IGDI				*i* AML	AML		03 21 32.0	
	comp=E,74nm,0.6s							
TASB	**TASBURUN-IGDIR**	**1.35**	**24**	Pn	**Pg**	**03 21 12.9**	**-0.8**
EATA	**Eleskirt**	**1.36**	**325**	P	**Pn**	**03 21 12.8**	**-0.4**
EATA				S	**Sn**	**03 21 33.7**	**+2.2**
EATA				*i* AML	AML		03 21 34.0	
	comp=N,45nm,0.5s							
EATA				*i* AML	AML		03 21 39.0	
	comp=E,39nm,0.8s							
CUKT	**Cukurca**	**1.50**	**177**	Pn	**Pb**	**03 21 15.3**	**-0.6**
VRTB	**Varto-Mus**	**1.66**	**285**	Pn	**Pn**	**03 21 16.8**	**-0.3**
GNI	**Garni**	**1.69**	**34**	Pn	**Pb**	**03 21 18.3**	**-0.7**
GNI	**Garni**	**1.69**	**34**	Pg	**Pb**	**03 21 18.3**	**-0.7**
IMRD	**Marand**	**1.71**	**91**	Pg	**Pb**	**03 21 17.9**	**-1.4**
ISHB	**Shabestar**	**1.71**	**105**	Pg	**Pn**	**03 21 17.5**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.02**	**334**	Pn	**Pn**	**03 21 22.4**	**+0.3**
IAZR	**Azarshahr**	**2.21**	**118**	Pn	**Pb**	**03 21 26.2**	**-1.8**
BNGB	**Bingl**	**2.23**	**277**	Pn	**Pn**	**03 21 25.1**	**+0.2**
IHRS	**Heris**	**2.80**	**98**	Pn	**Pn**	**03 21 34.0**	**+1.2**
ISRB	**Sarab**	**3.39**	**105**	Pn	**Pn**	**03 21 42.2**	**+1.3**

*NOU **21** 03:33:23.0, 41°.01S×174°.32E, h0km, MLv3.0/5, Cook Strait, New Zealand*
*WEL **21** 03:33:25.4±0.5, 41°.S±4°.×17°.4E±°, h32km±6km, M3.0/8, ML3.2/8, MLv3.0/8, Error ellipse: s-maj=5.8km s-min=3.6km az=1.9, confirmed*
ISC 21 03:33:26.5±1.0, 40°.96S±0°.04×174°.23E±0°.03, h30km±9km, n21, σ0°92/34, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.25**	**173**	P	**Pn**		**03 33 34.5**	**+0.3**
TCW				S	**Sn**		**03 33 40.9**	**+1.8**
DUWZ	**D'Urville Isla**	**0.28**	**304**	P	**Pn**		**03 33 34.4**	**-0.3**
DUWZ				S	**Sn**		**03 33 40.9**	**+1.0**
QCCS	**Picton Queen C**	**0.36**	**207**	P	**Pb**		**03 33 33.9**	**-0.8**
QCCS				S	**Sb**		**03 33 41.0**	**+0.6**
MKBS	**Makara Bunker**	**0.44**	**127**	P	**Pb**		**03 33 36.4**	**+0.4**
MKBS				S	**Sn**		**03 33 44.4**	**+0.6**
HAVS	**Havelock**	**0.46**	**227**	S	**Sb**		**03 33 43.8**	**+0.8**
PWES	**Porirua West**	**0.48**	**111**	P	**Pb**		**03 33 36.7**	**+0.1**
PWES				S	**Sn**		**03 33 45.7**	**+1.1**
POKS	**Katoa Kinderga**	**0.48**	**110**	P	**Pb**		**03 33 35.4**	**-1.2**
POKS				S	**Sb**		**03 33 44.1**	**+0.6**
WNKS	**Wellington Kar**	**0.50**	**130**	P	**Pb**		**03 33 35.9**	**-1.1**
WEL	**Wellington**	**0.52**	**129**	P	**Pb**		**03 33 37.5**	**+0.3**
WEL				S	**Sn**		**03 33 46.3**	**+0.7**
TUWZ	**Tuamarina**	**0.52**	**205**	P	**Pb**		**03 33 37.2**	**0.0**
TUWZ				S	**Sb**		**03 33 45.2**	**+0.6**
KIW	**Kapiti Island**	**0.52**	**79**	P	**Pb**		**03 33 37.3**	**0.0**
KIW				S	**Sn**		**03 33 46.0**	**+0.2**
CAW	**Cannon Point**	**0.65**	**103**	P	**Pb**		**03 33 38.9**	**-0.4**
CAW				S	**Sn**		**03 33 49.6**	**+0.7**
NNZ	**Nelson**	**0.69**	**248**	P	**Pb**		**03 33 39.2**	**-1.0**
NNZ				S	**Sb**		**03 33 49.2**	**-0.2**
OGWZ	**Otaki Gorge**	**0.72**	**79**	P	**Pb**		**03 33 40.2**	**-0.4**
OGWZ				S	**Sn**		**03 33 51.5**	**+0.7**
MSWZ	**Moikau Station**	**0.89**	**121**	P	**Pn**		**03 33 41.5**	**-1.5**
MSWZ				S	**Sb**		**03 33 55.7**	**+0.7**
TKNZ	**Takaka Hill**	**0.97**	**265**	P	**Pn**		**03 33 43.0**	**-1.0**
QRZ	**Quartz Range**	**1.30**	**275**	P	**Pn**		**03 33 47.5**	**-1.1**
KHZ	**Kahutara**	**1.54**	**199**	P	**Pn**		**03 33 51.2**	**-0.8**
BFZ	**Birch Farm**	**1.55**	**80**	P	**Pn**		**03 33 49.8**	**-2.3**
KHEZ	**Kahui Hut**	**1.67**	**354**	P	**Pn**		**03 33 54.4**	**+0.6**
HIZ	**Hauiti**	**2.49**	**11**	P	**Pn**		**03 34 05.2**	**+0.2**

AFAD 21 03:41:48.9, 37°.43N×29°.39E, h7km±2km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.24**	**144**	P	Pg		03 41 53.5	-0.1
GOLH				S	Sg		03 41 58.0	+1.1
GOLH				*i* AML	AML		03 41 58.0	
	comp=N,59nm,0.2s							
GOLH				*i* AML	AML		03 41 58.0	
	comp=E,94nm,0.4s							
INCE	**Denizli-Bozkur**	**0.32**	**28**	P	Pg		03 41 54.5	-0.7
INCE				*i* AML	AML		03 42 00.0	
	comp=N,39nm,0.2s							
INCE				*i* AML	AML		03 42 00.0	
	comp=E,39nm,0.1s							
INCE				S	Sg		03 42 00.2	+0.7
DNIZ	**Denizli-Tavas-**	**0.34**	**306**	P	Pg		03 41 56.0	+0.5
DNIZ				S	Sg		03 42 00.7	+0.7
DNIZ				*i* AML	AML		03 42 02.0	
	comp=N,58nm,0.4s							
DNIZ				*i* AML	AML		03 42 05.0	
	comp=E,52nm,0.2s							
TAVA	**DENIZLI_Tavas**	**0.38**	**276**	P	Pg		03 41 56.9	+0.6
TAVA				S	Sg		03 42 02.7	+1.4
TAVA				*i* AML	AML		03 42 03.0	
	comp=N,14nm,0.3s							
TAVA				*i* AML	AML		03 42 03.0	
	comp=E,14nm,0.3s							

ISK 21 03:42:20.8, 37°.43N×29°.37E, h10km±1km, ML1.7/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.07**	**304**	Pg	Pg		03 42 23.1	0.0
APMY				Sg	Sg		03 42 25.1	+0.3
CAME	**Cameli-Denizli**	**0.49**	**187**	Pg	Pg		03 42 30.4	0.0
BASM	**Basmaki-Afyon**	**0.72**	**48**	Pg	Pb		03 42 35.5	-0.1
BASM				Sg	Sb		03 42 45.0	-0.6
ELL	**Elmali**	**0.81**	**148**	Pg	Pg		03 42 36.6	+0.2
ELL				Sg	Sb		03 42 48.3	+0.3
FETY	**Fethiye**	**0.83**	**196**	Pg	Pb		03 42 37.2	-0.1
KORT	**Korkueli**	**0.89**	**119**	Pg	Pb		03 42 38.8	+0.4
YER	**Yerkesik**	**0.92**	**251**	Pg	Pb		03 42 39.3	+0.4
NAZL	**Nazilli-Aydin**	**1.01**	**302**	Pg	Pb		03 42 40.4	0.0

*SNET **21** 03:43:55.8±1.1, 13°.64N×86°.42W, h16km±998km, ML3.5*
*CATAC **21** 03:43:56.8±0.3, 12°.N±3°.×8°.7W±°, h89km, M3.5/31, MLv3.5/31, Error ellipse: s-maj=8.7km s-min=3.3km az=38.5, confirmed*
ISC 21 03:43:57.1±1.5, 12°.27N±0°.06×86°.91W±0°.05, h101km±8km, n108, σ0°67/122, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNGA	**AI SSO del Vol**	**0.30**	**42**	P	**Pn**		**03 44 11.4**	**-0.5**
CNGA				S	**Sn**		**03 44 23.1**	**+0.1**
CNGA	**AI SSO del Vol**	**0.30**	**42**	P	**Pn**		**03 44 11.4**	**-0.5**
CNGN	**Cerro Negro**	**0.31**	**42**	S	**Sn**		**03 44 24.2**	**+1.1**
CNGN	**Cerro Negro**	**0.31**	**42**	S	**Sn**		**03 44 23.3**	**+0.3**
CNGN	**Cerro Negro**	**0.31**	**42**	P	**Pn**		**03 44 11.2**	**-0.8**
CNGN	**Cerro Negro**	**0.31**	**42**	P	**Pn**		**03 44 11.4**	**-0.6**
TEL3	**Telica 3**	**0.31**	**11**	P	**Pn**		**03 44 10.9**	**-1.1**
TEL3	**Telica 3**	**0.31**	**11**	P	**Pn**		**03 44 10.9**	**-1.1**
LEVN	**Ruinas Leon Vi**	**0.31**	**65**	P	**Pn**		**03 44 11.1**	**-0.8**
LEVN				S	**Sn**		**03 44 23.4**	**+0.5**
LEVN	**Ruinas Leon Vi**	**0.31**	**65**	P	**Pn**		**03 44 11.5**	**-0.4**
QUEN	**AI S del Volca**	**0.33**	**10**	P	**Pn**		**03 44 11.7**	**-0.4**
QUEN				S	**Sn**		**03 44 23.8**	**+0.6**
QUEN	**AI S del Volca**	**0.33**	**10**	P	**Pn**		**03 44 11.8**	**-0.3**
QUEN	**AI S del Volca**	**0.33**	**10**	S	**Sn**		**03 44 24.5**	**+1.3**
BC86	**Nagarote**	**0.34**	**91**	P	**Pn**		**03 44 11.0**	**-1.0**
BC86	**Nagarote**	**0.34**	**91**	P	**Pn**		**03 44 11.1**	**-1.0**
BC86	**Nagarote**	**0.34**	**91**	S	**Sn**		**03 44 22.6**	**-0.6**
PLRN	**Geotermica Pol**	**0.34**	**23**	P	**Pn**		**03 44 11.4**	**-0.7**
PLRN				S	**Sn**		**03 44 23.3**	**+0.1**
PLRN	**Geotermica Pol**	**0.34**	**23**	P	**Pn**		**03 44 11.4**	**-0.7**
TELN	**Telica**	**0.34**	**13**	S	**Sn**		**03 44 25.2**	**+1.7**
TELN	**Telica**	**0.34**	**13**	P	**Pn**		**03 44 12.2**	**0.0**
TELN				S	**Sn**		**03 44 23.7**	**+0.2**
TELN	**Telica**	**0.34**	**13**	P	**Pn**		**03 44 12.2**	**0.0**
HERN	**Volcan Telica**	**0.35**	**12**	S	**Sn**		**03 44 24.7**	**+1.2**
HERN	**Volcan Telica**	**0.35**	**12**	P	**Pn**		**03 44 11.8**	**-0.5**
HERN	**Volcan Telica**	**0.35**	**12**	S	**Sn**		**03 44 24.0**	**+0.5**
HERN	**Volcan Telica**	**0.35**	**12**	P	**Pn**		**03 44 11.7**	**-0.5**
BC84	**Volcan Momotom**	**0.38**	**71**	P	**Pn**		**03 44 12.1**	**-0.2**
BC84	**Volcan Momotom**	**0.38**	**71**	S	**Sn**		**03 44 23.4**	**-0.1**
MOMN	**Momotombo**	**0.38**	**69**	P	**Pn**		**03 44 11.6**	**-0.7**
MOMN				S	**Sn**		**03 44 23.6**	**-0.2**
MOMN	**Momotombo**	**0.38**	**69**	P	**Pn**		**03 44 11.7**	**-0.7**
POLN	**AI Sur del Vol**	**0.39**	**14**	P	**Pn**		**03 44 12.1**	**-0.3**
POLN				S	**Sn**		**03 44 23.8**	**+0.1**
CRIN	**San Cristobal**	**0.45**	**342**	S	**Sn**		**03 44 25.2**	**+0.7**
CRIN	**San Cristobal**	**0.45**	**342**	P	**Pn**		**03 44 12.4**	**-0.5**
CRIN	**San Cristobal**	**0.45**	**342**	S	**Sn**		**03 44 25.1**	**+0.6**
CRIN	**San Cristobal**	**0.45**	**342**	P	**Pn**		**03 44 12.5**	**-0.4**
AMTN	**Mateare**	**0.47**	**94**	P	**Pn**		**03 44 13.5**	**+0.7**
AMTN	**Mateare**	**0.47**	**94**	P	**Pn**		**03 44 12.5**	**-0.3**
AMTN	**Mateare**	**0.47**	**94**	S	**Sn**		**03 44 24.9**	**+0.4**
SAPS	**Ciudad Sandino**	**0.50**	**101**	S	**Sn**		**03 44 25.8**	**+0.8**
SAPS	**Ciudad Sandino**	**0.50**	**101**	P	**Pn**		**03 44 12.5**	**-0.6**
SAPS	**Ciudad Sandino**	**0.50**	**101**	S	**Sn**		**03 44 25.4**	**+0.5**
SAPS	**Ciudad Sandino**	**0.50**	**101**	P	**Pn**		**03 44 12.5**	**-0.6**
APYN	**Apoyeque**	**0.55**	**94**	P	**Pn**		**03 44 25.8**	**+0.2**
APYN	**Apoyeque**	**0.55**	**94**	S	**Sn**		**03 44 25.8**	**+0.2**
APQ2	**Apoyeque**	**0.57**	**97**	P	**Pn**		**03 44 26.3**	**+0.4**
APQ2	**Apoyeque**	**0.57**	**97**	P	**Pn**		**03 44 13.3**	**-0.3**
APQ2				S	**Sn**		**03 44 26.1**	**+0.2**
ABCN	**Banco Central**	**0.60**	**104**	P	**Pn**		**03 44 26.9**	**+0.5**
ABCN	**Banco Central**	**0.60**	**104**	P	**Pn**		**03 44 13.5**	**-0.4**
ABCN	**Banco Central**	**0.60**	**104**	S	**Sn**		**03 44 26.6**	**+0.2**
ALLN	**Telcor Managua**	**0.63**	**100**	P	**Sn**		**03 44 26.7**	**0.0**
ALLN	**Telcor Managua**	**0.63**	**100**	P	**Pn**		**03 44 13.7**	**-0.3**
ALLN	**Telcor Managua**	**0.63**	**100**	S	**Sn**		**03 44 26.9**	**+0.2**
TISN	**Laguna Tiscapa**	**0.64**	**101**	P	**Pn**		**03 44 13.5**	**-0.6**
TISN	**Laguna Tiscapa**	**0.64**	**101**	P	**Pn**		**03 44 13.6**	**-0.6**
USIM	**UNAN**	**0.64**	**104**	S	**Sn**		**03 44 27.1**	**+0.2**
UNAN	**Cigeo UNAN**	**0.64**	**104**	P	**Sn**		**03 44 27.2**	**+0.2**
UNAN	**Cigeo UNAN**	**0.64**	**104**	P	**Pn**		**03 44 13.6**	**-0.5**
UNAN				S	**Sn**		**03 44 27.1**	**+0.2**
ENAN	**Enatrel Managu**	**0.65**	**104**	P	Pn		03 44 23.6	+9.4
ENAN	**Enatrel Managu**	**0.65**	**104**	P	**Pn**		**03 44 14.0**	**-0.2**
ENAN	**Enatrel Managu**	**0.65**	**104**	S	**Sn**		**03 44 27.2**	**+0.2**
R4DEC	**

PITA	Cotopaxi Volc	0.49	179	⇑P	Pg	03 48 32.4	0.0
ANTS	Antisana-Sarah	0.51	148	⇓P	Pg	03 48 32.1	-0.6
ANTM	Antisana-La Mi	0.52	155	⇓P	Pg	03 48 32.2	-0.7
AIB2	Ibarra (Univer	0.52	40	P	Pg	03 48 32.6	-0.3
URCU	Urcuqui	0.53	20	⇓P	Pg	03 48 32.3	-0.8
APR2	Miler	0.55	285	P	Pg	03 48 32.6	-0.7
YAHU	Yahuarcocha	0.56	41	⇓P	Pg	03 48 33.1	-0.6
VC1	Cotopaxi 1	0.58	176	P	Pg	03 48 33.9	-0.1
NAS2	Nasa	0.58	183	P	Pg	03 48 34.2	+0.2
BVC2	Cotopaxi Volca	0.59	177	⇑P	Pg	03 48 34.3	0.0
BREF	Cotopaxi Volca	0.60	180	⇑P	Pg	03 48 34.6	+0.1
BNAS	Cotopaxi Volca	0.61	184	⇑P	Pb	03 48 35.8	+0.1
BTAM	Cotopaxi Volca	0.61	176	⇑P	Pg	03 48 34.6	0.0
CAMI	Rancho Maria	0.61	186	⇑P	Pg	03 48 34.9	+0.2
TAMB	Tambo	0.63	174	⇑P	Pg	03 48 34.9	+0.1
PAST	Pastocalle	0.66	198	⇓P	Pg	03 48 35.5	0.0
BMOR	Cotopaxi Volca	0.67	182	⇑P	Pg	03 48 35.2	-0.4
SLOR	San Lorenzo -	0.67	185	⇑P	Pg	03 48 35.7	+0.1
ILLI	Illinizas Sur	0.71	204	⇓P	Pg	03 48 35.9	-0.6
ASDO	Santo Domingo	0.71	254	P	Pg	03 48 35.4	-1.0
BRRN	Barrancas-Volc	0.72	183	⇑P	Pg	03 48 36.3	-0.3
VCES	Cotopaxi	0.73	176	⇑P	Pg	03 48 36.5	-0.5
REVS	Reventador Sur	0.82	93	⇓P	Pg	03 48 37.5	-1.0
ALIT	Ecuador-Imbabu	0.85	5	P	Pg	03 48 37.6	-1.6
LITE1	Lita	0.85	5	P	Pg	03 48 37.4	-1.7
PIAT	Ana Tenorio	0.95	169	P	Pg	03 48 39.3	-1.6
PIAT				S	Sg	03 48 51.1	-2.2
PIAT	Ana Tenorio	0.95	169	P	Pg	03 48 39.4	-1.5
PIAT	Ana Tenorio	0.95	169	P	Pg	03 48 39.3	-1.6
PIAT				S	Sg	03 48 51.1	-2.2
CHL1	Volc¡n Chiles	0.98	30	⇓P	Pg	03 48 40.0	-1.6
PIS1	Pisayambo	0.99	177	⇑P	Pg	03 48 41.1	-0.6
CHMA	Chilma	0.99	22	⇓P	Pg	03 49 28.6	-2.9
ECEN	Cerro Negro	1.00	28	P	Pg	03 48 40.2	-1.7
CHL2	Volc¡n Chiles	1.00	31	⇓P	Pg	03 48 40.5	-1.5
BONI	La Bonita	1.04	61	P	Pg	03 48 40.9	-1.8
BONI				S	Sg	03 48 54.3	-2.1
BONI	La Bonita	1.04	61	⇓P	Pg	03 48 41.0	-1.8
BONI	La Bonita	1.04	61	P	Pg	03 48 40.9	-1.8
BONI				S	Sg	03 48 54.3	-2.1
ATUL	Tulcn	1.09	41	P	Pg	03 48 43.0	-0.8
AV18	Acelerografo,	1.10	290	P	Pg	03 48 43.2	-0.6
CASC	Dorado de Casc	1.12	80	⇓P	Pg	03 48 43.1	-1.0
ARDO	Archidona, Ten	1.12	145	⇓P	Pg	03 48 43.3	-1.0
AV03	Acelerografo,	1.13	84	P	Pg	03 48 42.9	-1.4
CMBC	Cumbal	1.17	32	P	Pg	03 48 44.7	-0.5
CMBC	Cumbal	1.17	32	P	Pg	03 48 44.5	-0.6
CMBC	Cumbal	1.17	32	P	Pg	03 48 44.7	-0.5
POND	Pondoa	1.35	181	P	Pg	03 48 47.4	-1.2
JUI6	Juive	1.35	181	P	Pg	03 48 47.5	-1.2
BBIL	Ulba Tungurahu	1.38	182	P	Pg	03 48 48.6	-0.6
SNLR	San Lorenzo-Es	1.41	343	P	Pn	03 48 47.7	-0.6
BMAS	Trigal station	1.43	182	P	Pn	03 48 47.6	-1.5
BPAT	Tungurahua Vol	1.43	180	P	Pn	03 48 48.6	-0.6
PORT	Chimborazo Vol	1.43	193	P	Pn	03 48 49.0	-0.3
IGUA	Igualata	1.43	188	P	Pn	03 48 48.9	-0.4
FLF1	Flavio Alfaro-	1.43	258	P	Pn	03 48 48.2	-0.6
FLF1	Flavio Alfaro-	1.43	258	P	Pn	03 48 48.1	-0.7
FLF1	Flavio Alfaro-	1.43	258	P	Pn	03 48 48.2	-0.6
ARRY	Arrayan	1.44	181	P	Pn	03 48 48.6	-0.5
AQUE	Quevedo	1.44	227	P	Pn	03 48 48.7	-0.1
TAMH	Tambohuasha Ch	1.51	193	P	Pn	03 48 50.4	+0.1
JSCH	Cashca Tororas	1.73	198	P	Pn	03 48 54.5	+1.3
JAMA	Jama	1.78	264	P	Pn	03 48 52.3	-1.3
TUMC	Tumaco	1.90	351	P	Pn	03 48 55.1	0.0
TUMC				S	Sn	03 49 20.8	+1.7
TUMC	Tumaco	1.90	351	P	Pn	03 48 55.7	+0.6
TUMC	Tumaco	1.90	351	P	Pn	03 48 55.1	0.0
TUMC				S	Sn	03 49 20.8	+1.7
CAB1	Cabo Pasado-Ma	2.02	261	P	Pn	03 48 56.1	-0.7
BBAC	Balboa, Cauca	2.39	30	P	Pn	03 49 03.9	+1.8
BBAC	Balboa, Cauca	2.39	30	P	Pn	03 49 03.9	+1.8
COHC	Cochancay	2.52	199	P	Pb	03 49 08.1	0.0
COHC	Cochancay	2.52	199	P	Pb	03 49 08.1	0.0
GR1C	Gorgona, Isla	3.06	5	P	Pn	03 49 11.8	+0.7
GR1C	Gorgona, Isla	3.06	5	P	Pn	03 49 11.8	+0.7
POPC	Popayan, Colom	3.13	34	P	Pb	03 49 18.7	+0.1
POPC	Popayan, Colom	3.13	34	P	Pb	03 49 18.7	+0.1
FLOC	Florencia	3.23	60	P	Pn	03 49 14.5	+1.0
FLOC	Florencia	3.23	60	P	Pn	03 49 14.5	+1.0
PTLC	Puerto Leguiza	3.65	86	P	Pn	03 49 20.4	+1.1
PTLC	Puerto Leguiza	3.65	86	P	Pn	03 49 20.4	+1.1
GARC	Garzon, Huila	3.70	53	P	Pn	03 49 22.8	+2.7
GARC	Garzon, Huila	3.70	53	P	Pn	03 49 22.8	+2.7
MALC	Bahia Malaga	4.20	15	P	Pn	03 49 29.6	+2.8
MALC	Bahia Malaga	4.20	15	P	Pn	03 49 29.6	+2.8
YOTC	Yotoco, Valle	4.53	27	P	Pn	03 49 35.7	+4.2
YOTC	Yotoco, Valle	4.53	27	P	Pn	03 49 35.7	+4.2
PLMC	San Jos del P	5.38	24	P	Pn	03 49 46.0	+2.8
PLMC	San Jos del P	5.38	24	P	Pn	03 49 46.0	+2.8

*IGQ **21** 03:58:48.0±0.2, 0°S±1°×7°8W±°, h5km±1km, MLv3.3/29*
*RSNC **21** 03:58:50.0±0.2, 0°S±2°×7°9W±°, h0km, M3.2, mB4.6, mb4.1, ML2.9, Mw(mB)3.8*

ISC 21 03:58:47.0±0.7, 0°.05S±0°.02×78°.46W±0°.02, h16km±5km, n121, σ1°23/137, 12C-34D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PULU	Pululahua	0.08	327	⇓P	Pg	03 58 50.7	+0.1
PULU				S	Sg	03 58 52.7	-0.3
AV11	Acelerografo,	0.09	106	P	Pg	03 58 50.8	+0.2
YANA	Yana	0.13	238	⇓P	Pb	03 58 51.7	+0.2
APR1	Acelerografo,	0.16	270	⇓P	Pb	03 58 52.2	+0.5
PINO	Pino	0.18	234	⇓P	Pb	03 58 52.7	+0.3
GGPC	Guagua Pichinc	0.19	227	⇓P	Pb	03 58 52.7	+0.2
GGPC				S	Sb	03 58 56.2	0.0
TERV	Terraza Guagua	0.19	229	⇓P	Pb	03 58 52.8	+0.3
TERV				S	Sb	03 58 56.6	+0.4
JUA2	San Juan 2	0.22	222	P	Pb	03 58 52.9	-0.1
GGPT	Toaza - Volcan	0.24	223	⇓P	Pb	03 58 53.3	+0.1
GGPT				S	Sb	03 58 57.2	-0.2
HPAL	Hacienda Las P	0.26	229	⇓P	Pb	03 58 53.7	+0.2
OTAV	Otavalo	0.28	1	P	Pg	03 58 53.5	+0.2
OTAV				S	Sg	03 58 57.4	-0.3
OTAV	Otavalo	0.28	1	⇓P	Pg	03 58 53.6	+0.3
OTAV	Otavalo	0.28	1	P	Pg	03 58 53.5	+0.2
OTAV				S	Sg	03 58 57.4	-0.3
CUSW	Cuicocha Oeste	0.35	18	⇓P	Pb	03 58 56.4	+1.4
CUSE	Cuicocha Este	0.35	10	P	Pg	03 58 54.9	+0.4
CUSE				S	Sb	03 59 00.5	-0.3
CUSE	Cuicocha Este	0.35	10	⇓P	Pg	03 58 55.0	+0.4
CUSE	Cuicocha Este	0.35	10	P	Pg	03 58 54.9	+0.4
CUSE				S	Sb	03 59 00.5	-0.3
ACOT	Cotacachi (Cas	0.39	28	P	Pg	03 58 55.1	0.0
COTA	Cotacachi	0.40	18	⇓P	Pb	03 58 56.0	-0.1
COTA				S	Sb	03 59 02.1	0.0
IMBA	Imbabura, San	0.41	39	⇓P	Pb	03 58 57.0	+0.8
AAT1	Ecuador-Atunta	0.45	33	P	Pb	03 58 57.6	+0.9
PAC1	Pacto, Paraso	0.46	313	P	Pb	03 58 56.9	+0.1
PAC1				S	Sb	03 59 03.6	+0.2
PAC1	Pacto, Paraso	0.46	313	⇓P	Pb	03 58 57.0	+0.2
PAC1				S	Sb	03 59 03.6	+0.2
PAC1	Pacto, Paraso	0.46	313	P	Pb	03 58 56.9	+0.1
PAC1				S	Sb	03 59 03.6	+0.2
ANGU	Angureal	0.46	78	⇓P	Pb	03 58 56.9	-0.2
CAYA	Cayambe	0.48	76	⇓P	Pb	03 58 57.3	-0.2
ANTG	Antisana-Guama	0.50	156	⇓P	Pb	03 58 57.4	-0.3
ANTI	Antisana	0.50	143	⇓P	Pb	03 58 57.6	-0.1
AMAC	Ecuador-Machac	0.51	194	P	Pb	03 58 58.0	+0.2
AMAC				S	Sn	03 59 06.5	-2.0
PITA	Cotopaxi Volc	0.51	177	⇑P	Pb	03 58 58.3	+0.4
APR2	Miler	0.52	284	P	Pb	03 58 58.5	+0.6
URCU	Urcuqui	0.52	23	⇓P	Pb	03 58 58.3	+0.2
URCU				S	Sb	03 59 06.3	+0.7
AIB2	Ibarra (Univer	0.53	42	⇓P	Pb	03 58 58.6	+0.5
ANTS	Antisana-Sarah	0.53	147	⇓P	Pb	03 58 58.1	-0.3
ANTM	Antisana-La Mi	0.54	154	⇓P	Pb	03 58 58.1	-0.3
YAHU	Yahuarcocha	0.57	43	⇓P	Pb	03 58 59.0	+0.2
VC1	Cotopaxi 1	0.59	175	⇑P	Pb	03 58 59.8	+0.5
BVC2	Cotopaxi Volca	0.61	176	⇑P	Pb	03 59 00.2	+0.6
BREF	Cotopaxi Volca	0.62	178	⇑P	Pb	03 59 00.5	+0.7
BNAS	Cotopaxi Volca	0.62	182	⇑P	Pn	03 59 01.7	+0.1
BTAM	Cotopaxi Volca	0.63	174	⇑P	Pb	03 59 00.5	+0.6
CAMI	Rancho Maria	0.63	184	⇓P	Pn	03 59 00.8	-0.9
TAMB	Tambo	0.65	172	⇑P	Pb	03 59 00.8	+0.5
PAST	Pastocalle	0.67	196	P	Pn	03 59 01.4	-0.8
BMOR	Cotopaxi Volca	0.68	180	⇑P	Pb	03 59 01.1	+0.3
SLOR	San Lorenzo -	0.68	183	⇑P	Pn	03 59 01.5	-0.9
ASDO	Santo Domingo	0.70	252	⇓P	Pn	03 59 01.4	-0.9
ASDO				S	Sn	03 59 11.7	-1.2
ILLI	Illinizas Sur	0.71	202	⇓P	Pb	03 59 01.9	+0.5
BRRN	Barrancas-Volc	0.73	181	⇑P	Pb	03 59 02.1	+0.4
VCES	Cotopaxi	0.75	175	⇑P	Pb	03 59 02.4	+0.3
ALIT	Ecuador-Imbabu	0.84	7	P	Pb	03 59 03.5	+0.1
LITE1	Lita	0.84	7	P	Pb	03 59 03.4	0.0
LITE1				S	Sg	03 59 15.3	+0.8
PIAT	Ana Tenorio	0.96	168	P	Pb	03 59 05.1	-0.5
PIAT				S	Sb	03 59 17.2	-1.0
PIAT	Ana Tenorio	0.96	168	⇓P	Pb	03 59 05.2	-0.3
PIAT	Ana Tenorio	0.96	168	P	Pb	03 59 05.1	-0.5
PIAT				S	Sb	03 59 17.2	-1.0
CHL1	Volc¡n Chiles	0.98	32	⇓P	Pb	03 59 06.0	+0.1
ECEN	Cerro Negro	0.99	29	⇓P	Pb	03 59 06.2	0.0
CHL2	Volc¡n Chiles	1.00	33	P	Pb	03 59 06.6	+0.1
PIS1	Pisayambo	1.01	176	P	Pn	03 59 06.9	-0.1
BONI	La Bonita	1.05	62	P	Pb	03 59 06.8	-0.2
BONI				S	Sb	03 59 20.5	-0.2
BONI	La Bonita	1.05	62	⇓P	Pb	03 59 06.9	-0.1
BONI	La Bonita	1.05	62	P	Pb	03 59 06.8	-0.2
BONI				S	Sb	03 59 20.5	-0.2
AV18	Acelerografo,	1.08	289	⇓P	Pg	03 59 09.2	+1.3
ATUL	Tulcn	1.10	42	P	Pg	03 59 08.7	+0.4
CASC	Dorado de Casc	1.13	81	⇓P	Pg	03 59 09.1	+0.1
AV03	Acelerografo,	1.14	85	P	Pg	03 59 08.8	-0.3
ARDO	Archidona, Ten	1.15	145	⇓P	Pg	03 59 09.3	+0.1
ATLC	Ecuador-Tulcan	1.15	41	P	Pg	03 59 10.0	+0.7
CMBC	Cumbal	1.17	33	P	Pg	03 59 11.8	+2.1
CMBC	Cumbal	1.17	33	P	Pg	03 59 11.8	+2.1
AV21	Acelerografo,	1.30	303	P	Pg	03 59 12.1	+0.1
POND	Pondoa	1.36	180	P	Pg	03 59 13.3	-0.1
JUI6	Juive	1.37	180	P	Pg	03 59 13.8	+0.4
BULB	Ulba Tungurahu	1.38	178	P	Pg	03 59 13.7	0.0
SNLR	San Lorenzo-Es	1.39	344	P	Pg	03 59 14.2	+0.5
BBIL	Ulba Tungurahu	1.39	181	P	Pg	03 59 14.2	+0.3
FLF1	Flavio Alfaro-	1.42	257	P	Pg	03 59 14.2	-0.1
FLF1				S	Sg	03 59 33.0	+0.2
FLF1	Flavio Alfaro-	1.42	257	⇓P	Pg	03 59 14.2	-0.1
FLF1	Flavio Alfaro-	1.42	257	P	Pg	03 59 14.2	-0.1
FLF1				S	Sg	03 59 33.0	+0.2
AQUE	Quevedo	1.43	226	P	Pg	03 59 14.8	+0.2
PORT	Chimborazo Vol	1.44	193	P	Pg	03 59 14.9	+0.1
IGUA	Igualata	1.44	187	⇑P	Pg	03 59 14.5	-0.4
BMAS	Trigal station	1.45	181	P	Pb	03 59 13.6	-0.2
BPAT	Tungurahua Vol	1.45	179	P	Pg	03 59 14.7	-0.2
ARRY	Arrayan	1.45	180	P	Pg	03 59 14.7	-0.3
TAMH	Tambohuasha Ch	1.52	192	P	Pg	03 59 16.2	-0.1
JSCH	Cashca Tororas	1.74	197	P	Pg	03 59 20.3	-0.2
TUMC	Tumaco	1.88	352	P	Pg	03 59 22.2	-0.9
TUMC	Tumaco	1.88	352	P	Pg	03 59 22.2	-0.9
CAB1	Cabo Pasado-Ma	2.00	260	P	Pb	03 59 22.1	-1.0
CRUC	La Cruz	2.20	43	P	Pb	03 59 25.7	-1.0
CRUC	La Cruz	2.20	43	P	Pb	03 59 25.7	-1.0
BBAC	Balboa, Cauca	2.39	31	P	Pg	03 59 32.7	-0.1
BBAC	Balboa, Cauca	2.39	31	P	Pg	03 59 32.7	-0.1
COHC	Cochancay	2.53	198	P	Pb	03 59 33.1	+1.0
COHC	Cochancay	2.53	198	P	Pb	03 59 33.1	+1.0
PPLP	Puerto Lpez	2.75	237	P	Pb	03 59 35.2	-0.7
PPLP	Puerto Lpez	2.75	237	P	Pb	03 59 35.2	-0.7
ISPT	Isla de la Pla	2.88	245	P	Pb	03 59 35.6	-2.5
GR1C	Gorgona, Isla	3.04	5	P	Pb	03 59 38.4	-2.4
GR1C	Gorgona, Isla	3.04	5	P	Pb	03 59 38.4	-2.4
POPC	Popayan, Colom	3.13	35	P	Pb	03 59 44.1	+1.7
POPC	Popayan, Colom	3.13	35	P	Pb	03 59 44.1	+1.7
FLOC	Florencia	3.24	60	P	Pb	03 59 44.5	+0.3
FLOC	Florencia	3.24	60	P	Pb	03 59 44.5	+0.3
PTLC	Puerto Leguiza	3.67	87	P	Pn	03 59 46.5	+3.4
PTLC	Puerto Leguiza	3.67	87	P	Pn	03 59 46.5	+3.4
GARC	Garzon, Huila	3.70	53	P	Pb	03 59 49.8	-2.4
GARC	Garzon, Huila	3.70	53	P	Pb	03 59 49.8	-2.4
MALC	Bahia Malaga	4.19	16	P	Pb	03 59 55.5	-4.8
MALC	Bahia Malaga	4.19	16	P	Pb	03 59 55.5	-4.8
YOTC	Yotoco, Valle	4.53	28	P	Pb	04 00 02.0	-4.2
YOTC	Yotoco, Valle	4.53	28	P	Pb	04 00 02.0	-4.2
MACC	Macarena, Meta	5.10	65	P	Pn	04 00 07.6	+4.8
	609nm73nm,0.8s						
MACC	Macarena, Meta	5.10	65	P	Pn	04 00 07.6	+4.8
	609nm73nm,0.8s						
URMC	La Uribe, Meta	5.23	51	P	Pg	04 00 22.8	-4.4
	18nm,0.7s						
URMC	La Uribe, Meta	5.23	51	P	Pg	04 00 22.8	-4.4
	18nm,0.7s						
PLMC	San Jos del P	5.38	24	P	Pn	04 00 11.8	+5.1
	7.7nm,0.7s						
PLMC	San Jos del P	5.38	24	P	Pn	04 00 11.8	+5.1
	7.7nm,0.7s						
GUY2C	Guyana, Caldas	6.08	30	P	Pb	04 00 29.2	-3.7
GUY2C	Guyana, Caldas	6.08	30	P	Pb	04 00 29.2	-3.7

IDC 21 04:02:37.2±3.0, 4°.18S×135°.64E, h0km, mb3.5/1, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=107.8km s-min=30.3km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.72	185	Pn	Pn	04 06 18.7	-1.4
	0.2nm,0.3s,baz=4.1,slow=13,SNR=5.3						
WRA				Sn	Sn	04 09 04.2	-11
	baz=184,slow=26,SNR=2.0						
	0.1nm,0.3s						
FITZ	Fitzroy Crossi	16.94	215	Pn	Pn	04 06 35.2	-0.6
	baz=40,slow=14,SNR=1.4						
FITZ				Sn	Sn	04 09 37.4	-7.5
	0.1nm,0.3s,baz=189,slow=15,SNR=2.0						
	3.0nm,0.8s						
ASAR	Alice Springs	19.44	185	P	Pn	04 07 06.3	-0.3
	0.2nm,0.3s,baz=13,slow=11,SNR=12						
	0.8nm,0.6s						
MKAR	Makanchi Array	69.12	324	P	P	04 13 45.3	0.0
	0.3nm,0.6s,baz=104,slow=6.1,SNR=4.7						
	0.3nm,0.6s						

*AFAD **21** 04:46:04.2, 38°.77N×38°.16E, h7km±3km, MW3.6*
*ISK **21** 04:46:05.1, 38°.77N×38°.10E, h5km, ML3.7/28*

ISC 21 04:46:04.4±0.9, 38°.79N±0°.02×38°.16E±0°.02, h15km±7km, n37, σ1°23/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	Malatya_Hekimh	0.18	299	P	Pg	04 46 08.8	0.0
HEKM				*i* AML	AML	04 46 12.0	
	comp=N,9μm,0.5s						
HEKM				*i* AML	AML	04 46 12.0	
	comp=E,9μm,0.3s						
HEKM				S	Sg	04 46 12.4	+0.5
MAYA	Malatya/Merkez	0.51	156	P	Pg	04 46 14.0	-0.6
MAYA				*i* AML	AML	04 46 21.0	
	comp=N,4μm,0.3s						
MAYA				*i* AML	AML	04 46 21.0	
	comp=E,2μm,0.3s						
MAYA				S	Sg	04 46 21.2	-0.2
AKCD	Akcadag	0.53	200	P	Pg	04 46 14.1	-0.8
AKCD				*i* AML	AML	04 46 22.0	
	comp=E,4μm,0.5s						
AKCD				S	Sb	04 46 22.7	-0.3
AKCD				*i* AML	AML	04 46 28.0	
	comp=N,6μm,0.6s						
KEMA	Kemaliye	0.54	29	P	Pg	04 46 15.0	-0.1
KEMA				S	Sb	04 46 23.9	+0.6
KEMA				*i* AML	AML	04 46 26.0	
	comp=N,3μm,0.5s						
KEMA				*i* AML	AML	04 46 27.0	
	comp=E,3μm,1.0s						
DARE	Darende-Malaty	0.57	247	Pg	Pb	04 46 14.9	-1.3
DARE				Sg	Sg	04 46 23.3	-0.1
CUGUR	Gurin_SVAS	0.70	264	P	Pb	04 46 17.3	-1.0
CUGUR				S	Sg	04 46 28.4	+1.1
CUGUR				*i* AML	AML	04 46 32.0	
	comp=N,4μm,0.8s						
CUGUR				*i* AML	AML	04 46 32.0	
	comp=E,4μm,0.5s						
ELZG	Elazig	0.71	114	P	Pb	04 46 17.6	-1.0
ELZG				S	Sg	04 46 28.1	+0.3
ELZG				*i* AML	AML	04 46 29.0	
	comp=N,4μm,0.5s						
ELZG				*i* AML	AML	04 46 30.0	
	comp=E,7μm,0.7s						
CUKAN	kangal_SIVAS	0.75	314	P	Pb	04 46 18.6	-0.6
CUKAN				S	Sg	04 46 29.8	+0.9
CUKAN				*i* AML	AML	04 46 34.0	
	comp=E,699nm,0.4s						
CUKAN				*i* AML	AML	04 46 40.0	
	comp=N,1μm,0.3s						
ELBS	KAHRAMANMARAS	0.93	240	P	Pb	04 46 22.2	-0.1
ELBS				S	Sn	04 46 35.5	-0.7
ELBS				*i* AML	AML	04 46 37.0	
	comp=E,3μm,0.6s						
ELBS				*i* AML	AML	04 46 40.0	
	comp=N,3μm,0.6s						
SARI	SarD1z-Kayseri	1.42	255	Pn	Pb	04 46 31.0	+0.4
SARI				Sn	Sg	04 46 50.4	+0.3
SVSK	Karacayir	1.44	322	Pn	Pg	04 46 32.1	+0.1
SVSK				Sn	Sg	04 46 52.1	+1.4
URFA	Urfa	1.45	159	Pn	Pg	04 46 31.8	-0.5
URFA				Sn	Sg	04 46 52.1	+1.0
KHMN	Narli-Kahraman	1.61	210	Pn	Pb	04 46 34.2	+0.4
KMRS	Kahramanmaras	1.62	218	Pn	Pg	04 46 34.9	-0.7
KMRS				Sn	Sg	04 46 55.9	-0.8
RSDY	Resadiye-TOKAT	1.73	338	Pn	Pg	04 46 36.8	-0.7
RSDY				Sn	Sg	04 46 59.1	-0.8
GAZ	Gaziantep	1.78	205	Pn	Pb	04 46 36.9	+0.1
BNN	Bunyan	1.81	273	Pn	Pb	04 46 37.1	-0.1
YEDI	Yedisu-Bingol	1.96	70	Pn	Pb	04 46 40.3	+0.3
TOKT	Tokat	1.97	321	Pn	Pb	04 46 40.1	+0.1
BNGB	Bingl	1.98	84	Pn	Pb	04 46 40.8	+0.6
ESPY	Espiye-Giresun	2.17	12	Pn	Pb	04 46 43.3	0.0
BAYT	Aydintepe-Bayb	2.21	43	Pn	Pb	04 46 44.6	+0.4
MAZI	Mazidag	2.24	126	Pn	Pb	04 46 44.4	-0.3
KOZT	Kozan	2.26	235	Pn	Pb	04 46 43.5	-1.4
KARO	Karliova-Bingo	2.31	76	Pn	Pb	04 46 45.5	-0.4
YOZ	Yozgat	2.36	292	Pn	Pb	04 46 44.9	-1.8
SVAN	Silvan-Diyarba	2.47	104	Pn	Pb	04 46 48.3	-0.2
KTUT	Trabzon	2.52	29	Pn	Pb	04 46 47.8	-1.5
KOZK	Kozakli-Nevseh	2.60	280	Pn	Pn	04 46 47.9	+2.0
VRTB	Varto-Mus	2.60	81	Pn	Pb	04 46 49.3	-1.4
CEYT	Ceyhan	2.61	228	Pn	Pb	04 46 49.2	-1.6
CMRD	Camardi-Nigde	2.74	247	Pn	Pn	04 46 49.9	+2.0
KVT	Kavak	2.80	325	Pn	Pb	04 46 51.9	-2.3
GURO	Guroymak-BITLI	3.04	93	Pn	Pb	04 46 56.3	-2.0
CHOM	Cayeli-Rize	3.05	40	Pn	Pb	04 46 55.6	-2.8
CORM	Corum	3.06	298	Pn	Pb	04 46 55.1	-3.5
KOPR	Koprukoy-ERZUR	3.10	66	Pn	Pb	04 46 56.7	-2.7

IDC 21 04:50:37.0±3.6, 31°.22N×138°.12E, h373km±118km, mb2.9/2, mbtmp3.6/4, Error ellipse: s-maj=278.4km s-min=60.2km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.36	36	P	Pn	04 51 33.1	+0.3
	72nm,0.6s,baz=221,slow=20,SNR=17						
JHJ				S	S	04 52 12.4	-5.6
	39nm,0.5s,baz=74,slow=19,SNR=1.2						
MJAR	Matsushiro Arr	5.31	1	P	Pn	04 52 00.7	-0.3
	1.7nm,0.4s,baz=172,slow=11,SNR=7.8						
WRA	Warramunga Arr	51.00	185	P	P	04 59 02.0	-0.4
	0.4nm,0.3s,baz=3.7,slow=7.8,SNR=19						
	0.4nm,0.3s						
ASAR	Alice Springs	54.72	185	P	P	04 59 29.7	+0.4
	0.3nm,0.4s,baz=4.6,slow=8.5,SNR=6.1

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UREC                                    eS   Sn   05 13 00.7 -3.1
UREC  San Jos de Ur      2.12  99      P    Pn   05 12 37.3 +0.1
UREC                                     S   Sn   05 13 03.5 -0.3
CHOR3 La Chorrera        2.24 291      eP    Pn   05 12 40.8 +2.1
CHOR3                                   eS   Sn   05 13 05.2 -1.4
BCIP  Isla Barro Col     2.41 296      P    Pn   05 12 41.7 +0.6
BCIP                                     S   Sn   05 13 10.8  0.0
BCIP  Isla Barro Col     2.41 296      eP    Pn   05 12 42.1 +1.0
BCIP  Isla Barro Col     2.41 296      P    Pn   05 12 41.7 +0.6
BCIP                                     S   Sn   05 13 10.8  0.0
AZU   Azuero             2.62 263      eP    Pn   05 12 45.0 +1.0
PNME  Penonome           2.68 278      eP    Pn   05 12 45.1 +0.3
CBOC  Ciudad Bolivar     2.75 144      P    Pn   05 12 47.1 +1.1
CBOC  Ciudad Bolivar     2.75 144      P    Pn   05 12 47.1 +1.1
ZARC  Zaragoza, Cauc     2.83 102      P    Pn   05 12 48.2 +1.3
ZARC  Zaragoza, Cauc     2.83 102      P    Pn   05 12 48.2 +1.3
SJCC  San Jacinto, C     3.02  54      P    Pn   05 12 50.0 +0.5
SJCC                                     S   Sn   05 13 24.7 -1.2
SJCC  San Jacinto, C     3.02  54      P    Pn   05 12 50.0 +0.5
SJCC                                     S   Sn   05 13 24.7 -1.2
```

*IDC **21** 05:16:10.3±1.0, 1°.19S×120°.84E, h0km, mb3.6/6,*
mbtmp3.7/7, ML4.0/1, MS3.1/1, Error ellipse: s-maj=52.4km
s-min=17.3km az=70.0
*DJA **21** 05:16:13.9±0.2, 1°.S±2°.×12°.0E±°, h10km, M4.3/12, mB4.9/1,*
mb4.6/3, MLv4.2/12, Mw(mB)4.2/1
*NEIC **21** 05:16:14.4±0.6, 1°.33S±0°.02×120°.11E±0°.06, h10km±2km,*
mb4.1/5, Error ellipse: s-maj=11.1km s-min=3.3km
az=84.0

ISC 21 05:16:13.5±0.8, 1°.29S±0°.05×120°.13E±0°.06, h10km, n28,
σ1§77/30, mb4.0/9, Sulawesi

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
PCI   Palu               0.48 322   P    Pg   05 16 22.8 -0.1
PCI                                  S    Sg   05 16 29.5 +0.2
APSI  Ampana             1.56  76   P    Pn   05 16 42.5 +1.1
TTSI  Tana Toraja        1.77 190   P    Pn   05 16 44.2  0.0
TOLI2 Tolitoli           2.47  15              05 16 55.3 +1.4
MRSI  Marisa             2.52  46   P    Pn   05 16 55.0 +0.5
LUWI  Luwuk              2.65  85   Pn   Pn   05 16 57.5 +1.1
LUWI  Luwuk              2.65  85   P    Pn   05 16 57.2 +0.9
SPSI  Sidrap Palu        2.68 188   P    Pn   05 16 58.2 +1.5
BKB   Balikpapan         3.23 271   Pn   Pn   05 17 04.0 -0.4
BKB   Balikpapan         3.23 271   P    Pn   05 17 04.8 +0.5
KAPI  Kappang            3.72 186   Pn   Pn   05 17 12.1 +1.1
      9.7nm,0.3s,baz=16,slow=7.4,SNR=15
KAPI                                 Sn   Sn   05 17 58.7 +3.9
      baz=44,slow=21
KAPI                                 LR   LR   05 18 26.8
      comp=Z,32nm,21.8s,baz=348,slow=35
      24nm,0.3s
BKSI  Bulukumba          4.00 180   P    Pn   05 17 16.0 +1.1
BSSI  Bau Bau, Buton     4.83 176   P    Pn   05 17 27.7 +1.3
SANI  Sanana             5.90  97   P    Pn   05 17 41.3 +0.2
      0.1nm27nm,0.7s
MYLDM Lahad Datu         6.63 346        Pn   05 17 52.5 +1.4
WB0   Warramunga Arr    23.07 144   P    P    05 21 19.1 -0.2
WB0                                  IAmb IAmb 05 21 49.9
      comp=Z,6.8nm,1.1s
WRA   Warramunga Arr    23.17 144   P    P    05 21 14.2 -6.2
      comp=Z,0.9nm,1.1s,baz=323,slow=11,SNR=7.2
      comp=Z,0.9nm,1.1s
WR8   Warramunga Arr    23.27 144   P    P    05 21 21.4 -0.2
WR8                                  IAmb IAmb 05 21 23.9
      comp=Z,3.8nm,0.8s
ASAR  Alice Springs     25.94 150   P    P    05 21 43.4 -2.9
      comp=Z,0.2nm,0.6s,baz=335,slow=8.9,SNR=6.1
ASAR                                 LR   LR   05 33 48.5
      comp=Z,43nm,20.7s,baz=116,slow=41
      comp=Z,0.2nm,0.6s
MK31  Makanchi Array    58.25 330   P    P    05 26 08.8 +0.5
MKAR  Makanchi Array    58.25 330   P    P    05 26 08.4 +0.1
MKAR  Makanchi Array    58.25 330   P    P    05 26 09.6 +1.3
      comp=Z,0.9nm,0.6s,baz=136,slow=7.3,SNR=14
      comp=Z,0.9nm,0.6s
MAKZ  Makanchi          58.42 330   P    P    05 26 10.5 +1.1
MAKZ                                 IAmb IAmb 05 26 12.7
      comp=Z,2.8nm,1.4s
ZALV  Zalesovo Beam     62.34 337   P    P    05 26 34.2 -1.9
      comp=Z,0.6nm,0.4s,baz=120,slow=8.5,SNR=4.0
      comp=Z,0.6nm,0.4s
KURBB Kurchatov Arra    62.68 332   P    P    05 26 38.9 +0.5
      comp=Z,0.8nm,0.6s,baz=139,slow=6.4,SNR=7.3
      comp=Z,0.8nm,0.6s
KURK  Kurchatov         62.70 332   P    P    05 26 38.9 +0.4
BVAR  Borovoye Array    68.14 330   P    P    05 27 13.1 -0.6
      comp=Z,0.9nm,0.8s,baz=134,slow=6.2,SNR=4.6
      comp=Z,0.9nm,0.8s
QSPA  South Pole Qui    88.65 180   P    P    05 29 06.7 -0.2
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*ISK **21** 05:25:31.4, 38°.76N×38°.16E, h5km, ML4.0/22*
*AFAD **21** 05:25:32.6, 38°.75N×38°.15E, h7km±3km, MW3.9*
*IDC **21** 05:25:36.1±1.1, 38°.97N×37°.87E, h0km, mb3.7/5,*
mbtmp3.5/12, ML3.1/7, MS3.1/7, Error ellipse:
s-maj=20.2km s-min=10.5km az=177.0

ISC 21 05:25:32.6±1.1, 38°.75N±0°.02×38°.18E±0°.02, h6km±9km,
n49, σ1§49/53, mb3.8/5, MS3.2/3, Turkey

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
HEKM  Malatya_Hekimh     0.21 307   P    Pg   05 25 37.3 +0.5
HEKM                                 S    Sg   05 25 40.6 +0.8
MAYA  Malatya/Merkez     0.47 155   P    Pg   05 25 42.4 +0.8
MAYA                                 S    Sb   05 25 49.6 -0.9
AKCD  Akcadag            0.49 204   P    Pg   05 25 42.8 +0.6
AKCD                                 S    Sb   05 25 51.0 -0.4
DARE  Darende-Malaty     0.57 252   Pg   Pg   05 25 43.4 -0.2
DARE                                 Sg   Sb   05 25 52.3 -1.3
KEMA  Kemaliye           0.57  25   P    Pg   05 25 43.8 +0.1
KEMA                                 S    Sg   05 25 52.5 +1.3
ELZG  Elazig             0.68 111   P    Pg   05 25 46.2 +0.5
ELZG                                 S    Sb   05 25 56.3 -0.4
CUGUR Gurin_SVAS         0.71 268   P    Pg   05 25 45.6 -0.6
CUGUR                                S    Sb   05 25 56.2 -1.4
CUKAN kangal_SIVAS       0.79 316   P    Pg   05 25 47.0 -0.8
CUKAN                                S    Sb   05 25 59.7 -0.3
ELBS  KAHRAMANMARAS      0.92 243   P    Pg   05 25 49.9 -0.4
ELBS                                 S    Sb   05 26 03.6 -0.1
PTK   Pertek             0.96  81   Pg   Pg   05 25 50.7 -0.4
PTK                                  Sg   Sb   05 25 59.7 +0.8
SARI  SarD1z-Kayseri     1.42 257   Pn   Pn   05 25 58.6 -0.6
SARI                                 Sn   Sg   05 26 19.7 +1.4
SVSK  Karacayir          1.48 322   Pn   Pn   05 25 59.8  0.0
SVSK                                 Sn   Sg   05 26 21.1 +0.9
KHMN  Narli-Kahraman     1.58 211   Pn   Pb   05 26 01.8 -0.4
KMRS  Kahramanmaras      1.60 219   Pn   Pb   05 26 02.1 -0.5
KMRS                                 Sn   Sg   05 26 24.4 +0.4
RSDY  Resadiye-TOKAT     1.77 339   Pn   Pb   05 26 05.1 -0.5
RSDY                                 Sn   Sb   05 26 28.3 +0.2
BNN   Bunyan             1.82 274   Pn   Pb   05 26 05.4 -1.1
GUMT  Gumushane          1.98  30   Pn   Pn   05 26 07.7 +0.8
TOKT  Tokat              2.01 322   Pn   Pn   05 26 07.6 +0.4
ESPY  Espiye-Giresun     2.21  11   Pn   Pn   05 26 10.7 +0.9
BAYT  Aydıntepe-Bayb     2.24  42   Pn   Pn   05 26 11.2 +0.8
KOZT  Kozan              2.25 236   Pn   Pn   05 26 11.0 +0.6
YOZ   Yozgat             2.39 293   Pn   Pn   05 26 13.1 +0.6
KTUT  Trabzon            2.55  28   Pn   Pn   05 26 15.6 +1.1
KOZK  Kozakli-Nevseh     2.62 281   Pn   Pn   05 26 16.4 +0.8
KVT   Kavak              2.85 326   Pn   Pn   05 26 19.7 +1.0
CORM  Corum              3.09 299   Pn   Pn   05 26 22.7 +0.6
GULA  Gulagac            3.12 264   Pn   Pn   05 26 23.6 +1.2
KAMT  Kaman              3.53 281   Pn   Pn   05 26 28.9 +0.8
BR131 Keskin Array S     3.66 287   Pn   Pn   05 26 30.8 +0.9
BRTR  Keskin Array B     3.66 287   Pn   Pn   05 26 31.4 +1.5
      1.3nm,0.3s,baz=110,slow=12,SNR=80
BRTR                                 Lg   Lg   05 27 22.0
      1.0nm,0.3s,baz=118,slow=20,SNR=3.6
      18nm,0.8s
DIKM  Dikmen             3.66 323   Pn   Pn   05 26 30.6 +0.8
GNI   Garni              5.27  73   Pn   Pb   05 27 01.0 -4.3
      0.7nm,0.3s,baz=292,slow=2.3,SNR=7.9
      2.0nm,0.4s
KBZ   Khabaz             6.12  34   Pn   Pn   05 27 09.5 +6.0
      0.1nm,0.3s,baz=227,slow=19,SNR=6.8
KBZ                                  LR   LR   05 29 09.7
      comp=Z,104nm,18.3s,baz=320,slow=35
      0.5nm,0.4s
MMAI  Mount Meron Ar     6.15 202   Pn   Pn   05 27 11.6 +7.5
      1.6nm,0.3s,baz=31,slow=18,SNR=2.6
MMAI                                 Lg   Lg   05 28 46.3
      0.6nm,0.3s,baz=25,slow=40,SNR=1.0
MMAI                                 LR   LR   05 29 31.2
      comp=Z,62nm,18.9s,baz=22,slow=38
      0.9nm,0.4s
ASF   Jabal al Asfar     6.64 189   Pn   Pn   05 27 17.2 +6.3
      0.3nm,0.3s,baz=350,slow=11,SNR=3.5
ASF                                  Lg   Lg   05 29 03.2
      0.2nm,0.3s,baz=105,slow=11,SNR=3.1
ASF                                  LR   LR   05 30 04.3
      comp=Z,157nm,21.2s,baz=79,slow=39
      3.3nm,0.8s
EIL   Elat               9.44 197   Lg   Lg   05 30 31.6
      0.2nm,0.3s,baz=261,slow=19,SNR=1.3
EIL                                  LR   LR   05 31 40.2
      comp=Z,41nm,21.7s,baz=67,slow=38
AKASG Malin Array Be    13.53 335   Pn   Pn   05 28 45.3 +0.4
      0.3nm,0.3s,baz=138,slow=14,SNR=1.9
      0.3nm,0.5s
KECS  Kecovo            16.05 313   ePN  Pn   05 29 12.4 -6.5
KECS  Kecovo            16.05 313   eP   P    05 29 20.5 -1.8
MODS  Modra-Piesok      17.89 309   eS   Sn   05 33 03.7 +2.0
GERES GERESS Array B    20.26 308   P    Pn   05 30 10.4 -0.3
      baz=104,slow=8.4,SNR=8.8
      1.2nm,0.8s
ARTI  Arti              22.16  31   LR   LR   05 41 04.0
      comp=Z,81nm,20.5s,baz=304,slow=42
FINES FINESS Array B    23.93 346   P    P    05 30 48.4 +1.2
      3.5nm,1.0s,baz=127,slow=12,SNR=4.1
      3.5nm,1.0s
HFS   Hagfors           26.38 332   P    P    05 31 12.6 +3.1
      2.6nm,0.8s,baz=152,slow=9.8,SNR=4.4
      2.6nm,0.8s
NOA   NORSAR Array B    27.90 332   LR   LR   05 44 55.6
      comp=Z,60nm,20.5s,baz=350,slow=42
KURBB Kurchatov Arra    30.67  54   P    P    05 31 53.2 +5.4
      0.5nm,0.6s,baz=268,slow=9.1,SNR=5.0
      0.5nm,0.6s
MKAR  Makanchi Array    33.00  61   P    P    05 32 13.3 +4.9
      0.3nm,0.7s,baz=283,slow=6.1,SNR=4.2
      0.3nm,0.7s
DBIC  Dimbokro          50.23 242   LR   LR   05 58 07.4
      comp=Z,53nm,18.3s,baz=88,slow=39
YKA   Yellowknife Ar    76.75 347   P    P    05 37 25.8 +1.3
      0.8nm,1.0s,baz=24,slow=5.7,SNR=6.1
      0.8nm,1.0s
```

*TRN **21** 05:25:50.9, 10°.62N×62°.50W, h73km, MD3.3, Paria*
peninsula.
*FUNV **21** 05:25:53.9, 10°.87N×62°.39W, h55km, MW3.4*

ISC 21 05:25:50.2±1.9, 10°.57N±0°.08×62°.38W±0°.07,
h103km±24km, n12, σ2§11/19, Near coast of Venezuela

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
PSMG  Mucurapo Girls     0.84  83   eP    Pn   05 26 10.1 +0.9
TRN   Trinidad (W)       0.96  86   eP    Pn   05 26 11.4 +1.0
TRN                                  eS    Sn   05 26 24.4 -1.2
GRFF  Grenada Fort F     1.59  23   eS    Sn   05 26 37.0 -1.7
GRGR  Grenville          1.70  25   eP    Pn   05 26 19.9 +0.8
GRGR                                 eS    Sn   05 26 39.8 -1.4
TOSP  Speyside           1.95  68   eP    Pn   05 26 23.0 +0.8
TOSP                                 eS    Sn   05 26 47.4 +0.7
GCMP  Grenada, Carri     2.12  26   eP    Pn   05 26 24.8 +0.4
GCMP                                 eS    Sn   05 26 49.2 -1.3
PCRV  Puerto La Cruz     2.26 260   eP    Pn   05 26 27.9 +1.6
PCRV                                 eS    Sn   05 26 54.0 +0.1
TACV  Tcata              4.59 265   eP    Pn   05 27 00.0 +2.5
CACV  CAICARA DEL OR     5.08 234   eP    Pn   05 27 03.7 -0.4
BENV  Beln               5.17 264   eP    Pn   05 27 07.4 +2.0
BENV                                 eS    Sn   05 28 03.0 -1.0
BAUV  El Baul            5.81 254   eP    Pn   05 27 16.5 +2.5
BAUV                                 eS    Sn   05 28 17.6 -1.8
BAUV  El Baul            5.81 254   eS    Sn   05 28 13.8 -5.6
```

ISK 21 05:29:37.8, 38°.77N×38°.15E, h5km, ML1.7/4, Turkey

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
DARE  Darende-Malaty     0.56 249   Pg    Pb   05 29 49.7 -0.5
DARE                                 Sg    Sb   05 29 58.5  0.0
PTK   Pertek             0.98  83   Pg    Pb   05 29 57.6 +0.3
PTK                                  Sg    Sn   05 30 12.1 -0.6
SARI  SarD1z-Kayseri     1.41 256   Pn    Pg   05 30 05.6 +0.9
SARI                                 Sn    Sn   05 30 25.8 +2.6
SVSK  Karacayir          1.45 322   Pn    Pg   05 30 06.3 +0.7
SVSK                                 Sn    Sg   05 30 26.9 +2.5
```

AFAD 21 05:30:09.1, 38°.75N×38°.16E, h7km±2km, ML2.0, Turkey

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
HEKM  Malatya_Hekimh     0.20 308   P     Pg   05 30 13.8 +0.6
HEKM                                 i AML AML  05 30 17.0
      comp=N,962nm,0.5s
HEKM                                 S     Sg   05 30 17.1 +1.0
HEKM                                 i AML AML  05 30 18.0
      comp=E,502nm,0.3s
AKCD  Akcadag            0.49 202   P     Pg   05 30 19.1 +0.4
AKCD                                 S     Sb   05 30 26.9 -0.8
AKCD                                 i AML AML  05 30 29.0
      comp=N,185nm,0.1s
AKCD                                 i AML AML  05 30 30.0
      comp=E,220nm,0.1s
KEMA  Kemaliye           0.57  26   P     Pb   05 30 22.5 +0.9
KEMA                                 S     Sb   05 30 28.9 -1.1
KEMA                                 i AML AML  05 30 29.0
      comp=N,51nm,0.4s
KEMA                                 i AML AML  05 30 30.0
      comp=E,60nm,0.4s
ELZG  Elazig             0.69 111   P     Pg   05 30 22.3 -0.1
ELZG                                 S     Sb   05 30 33.0 -0.4
ELZG                                 i AML AML  05 30 35.0
      comp=N,34nm,0.3s
ELZG                                 i AML AML  05 30 35.0
      comp=E,76nm,0.8s
CUKAN kangal_SIVAS       0.78 316   P     Pn   05 30 28.6 +1.9
CUKAN                                S     Sg   05 30 34.5 +0.2
```

IDC 21 05:35:05.3±2.3, 6°.64S×129°.67E, h0km, mb3.3/1,
mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=83.3km
s-min=30.5km az=77.0, Banda Sea

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
FITZ  Fitzroy Crossi    12.05 199   Pn    Pn   05 37 60.0 +1.5
      0.2nm,0.3s,baz=26,slow=10,SNR=22
FITZ                                 Sn    Sn   05 39 59.6  -14
      0.8nm,0.3s,baz=229,slow=21,SNR=6.9
      1.0nm,0.3s
WRA   Warramunga Arr    13.98 162   Pn    Pn   05 38 23.4 -1.5
      0.5nm,0.3s,baz=340,slow=14,SNR=14
WRA                                  Sn    Sn   05 40 45.1  -16
      0.8nm,0.3s,baz=335,slow=21,SNR=9.7
      0.7nm,0.3s
ASAR  Alice Springs     17.41 167   Pn    Pn   05 39 09.8 -0.1
      0.2nm,0.3s,baz=355,slow=14,SNR=6.6
ASAR                                 Sn    Sn   05 42 07.1  -17
      0.2nm,0.3s,baz=352,slow=24,SNR=5.8
      0.3nm,0.5s
MKAR  Makanchi Array    67.75 327   P     P    05 46 04.8 -0.1
      0.1nm,0.4s,baz=121,slow=8.0,SNR=1.9
      0.1nm,0.4s
```

*SJA **21** 05:37:12.2±0.6, 22°.43S×66°.16W, h275km±3km, ML4.1,*
MW3.8
*IDC **21** 05:37:13.3±1.6, 22°.47S×66°.12W, h243km±19km, mb3.5/4,*
mbtmp3.9/9, Error ellipse: s-maj=26.9km s-min=15.5km
az=100.0
*GUC **21** 05:37:14.6±0.4, 22°.49S×66°.28W, h261km±5km, ML4.0*

ISC 21 05:37:13.7±0.7, 22°.47S±0°.05×66°.30W±0°.05, h250km, n41,
σ1§46/67, mb3.6/4, 6C, Jujuy Province

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
YJA   Yavi               0.78  69   eP    Pn   05 37 49.6 +1.3
YJA                                  eS    S    05 38 16.8 +1.5
SALTA                    1.75 181   i P   Pn   05 37 56.3 +1.6
SALTA                    1.75 181   eP    Pn   05 37 48.0 -6.7
SALTA                                eP    Pn   05 37 55.7 +1.0
SALTA                                eS    S    05 38 28.4 +1.5
AF01  San Pedro de A     1.80 254   eP    Pn   05 37 57.5 +2.7
AF01                                 IAML       05 38 51.5
      comp=E,130nm,0.3s
AF01  San Pedro de A     1.80 254   eP    Pn   05 37 58.8 +3.9
AF01                                 eS    S    05 38 39.8 +13
SLA   San Lorenzo        2.36 162   eP    Pn   05 38 00.5 +0.7
PB09  IPOC Station P     2.81 283   i P   Pn   05 38 06.6 +2.2
PB09                                 eS    S    05 38 45.7 +1.4
PB09                                 IAML       05 38 50.1
      comp=N,169nm,0.2s
PB09  IPOC Station P     2.81 283   eP    Pn   05 38 06.3 +1.9
PB09                                 eS    S    05 38 45.3 +0.9
PB09                                 IAML       05 38 50.8
      comp=Z,161nm,0.1s
PB06  IPOC Station P     3.03 265   eP    Pn   05 38 08.3 +1.5
PB06                                 eS    S    05 38 49.5 +0.9
PB06                                 IAML       05 38 53.2
      comp=N,406nm,0.1s
PB06  IPOC Station P     3.03 265   eP    Pn   05 38 08.5 +1.7
PB06                                 eS    S    05 38 50.3 +1.6
PB06                                 IAML       05 38 53.6
      comp=Z,318nm,0.2s
PB01  IPOC Station P     3.28 295   eP    Pn   05 38 11.0 +1.5
PB01                                 eS    S    05 38 53.8 +0.2
PB01  IPOC Station P     3.28 295   eP    Pn   05 38 10.7 +1.2
PB01                                 eS    S    05 38 53.9 +0.3
PB01                                 IAML       05 38 55.9
      comp=Z,313nm,0.2s
PB08  IPOC Station P     3.52 310   i P   Pn   05 38 14.8 +2.3
PB08                                 eS    S    05 39 00.1 +1.2
PB08  IPOC Station P     3.52 310   eP    Pn   05 38 14.9 +2.4
PB08                                 eS    S    05 39 00.8 +1.8
PB05  IPOC Station P     3.62 263   i P   Pn   05 38 14.5 +1.2
PB05                                 eS    S    05 38 59.4 -1.2
PB05  IPOC Station P     3.62 263   eP    Pn   05 38 14.7 +1.4
PB05                                 eS    S    05 38 00.8 +0.3
PB05                                 IAML       05 39 01.7
      comp=Z,140nm,0.4s
PATCX Punta Patache      3.94 294   eP    Pn   05 38 18.1 +1.2
PATCX                                eS    S    05 39 06.1 -1.0
PATCX Punta Patache      3.94 294   eP    Pn   05 38 18.2 +1.2
PATCX                                eS    S    05 39 07.1  0.0
PATCX                                IAML       05 39 08.6
      comp=Z,150nm,0.3s
HMBC  Humberstone        3.99 302   i P   Pn   05 38 18.3 +0.7
HMBC                                 eS    S    05 39 06.7 -1.5
HMBC  Humberstone        3.99 302   eP    Pn   05 38 18.2 +0.7
HMBC                                 eS    S    05 39 07.8 -0.5
HMBC                                 IAML       05 39 08.8
      comp=Z,222nm,0.2s
GO02  Mina Guanaco       4.04 228   eP    Pn   05 38 19.6 +1.4
GO02                                 eS    S    05 39 09.9 +0.4
PB10  IPOC Station P     4.05 254   eP    Pn   05 38 19.3 +1.1
PB10  IPOC Station P     4.05 254   eP    Pn   05 38 19.7 +1.5
PB10                                 eS    S    05 39 07.1 -2.3
PB10                                 IAML       05 39 10.1
      comp=Z,200nm,0.4s
TA01  Diego Aracena      4.08 297   eP    Pn   05 38 19.0 +0.6
TA01                                 eS    S    05 39 08.2 -1.7
TA01  Diego Aracena      4.08 297   eP    Pn   05 38 19.4 +0.9
TA01                                 eS    S    05 39 09.2 -0.7
TA01                                 IAML       05 39 10.0
      comp=Z,95nm,0.2s
PB11  IPOC Station P     4.13 310   eP    Pn   05 38 20.1 +0.8
PB11                                 eS    S    05 39 10.3 -1.0
PB11  IPOC Station P     4.13 310   eP    Pn   05 38 20.1 +0.8
PB11                                 eS    S    05 39 10.4 -0.9
PB11                                 IAML       05 39 16.0
      comp=Z,103nm,0.2s
PB14  IPOC Station P     4.34 239   eP    Pn   05 38 22.9 +1.1
PB14                                 eS    S    05 39 14.8 -1.2
PB14                                 IAML       05 39 18.0
      comp=Z,337nm,0.1s
AC02  Maricunga          5.05 210   eP    Pn   05 38 31.5 +0.8
AC02                                 eS    S    05 39 19.8  -12
AC02                                 IAML       05 39 39.5
      comp=Z,39nm,0.3s
AC01  Pan de Azucar      5.37 226   eP    Pn   05 38 33.8 -0.2
AC01                                 eS    S    05 39 34.8 -3.4
AC01                                 IAML       05 39 39.9
      comp=Z,102nm,0.3s
PB12  IPOC Station P     5.38 315   eP    Pn   05 38 34.0 -0.3
PB12                                 eS    S    05 39 36.3 -2.3
PB12                                 IAML       05 39 43.3
      comp=Z,30nm,0.4s
LPAZ  La Paz             6.38 344   P     Pn   05 38 48.8 +1.5
      comp=Z,0.7nm,0.5s,baz=175,slow=8.7,SNR=4.7
LPAZ                                 S     S    05 40 01.8 -0.4
      comp=Z,2.0nm,0.6s,baz=287,slow=20,SNR=5.3
SIV   San Ignacio        8.11  38   P     Pn   05 39 07.4 -1.3
      comp=Z,9.4nm,0.6s,baz=229,slow=12,SNR=46
SIV                                  S     S    05 40 29.4  -12
      comp=Z,0.5nm,0.4s,baz=251,slow=15,SNR=0.9
CFA   Coronel Fontan     9.27 190   P     Pn   05 39 21.4 -1.6
      comp=Z,0.7nm,0.3s,baz=0.0,slow=14,SNR=3.1
CFA                                  S     S    05 40 57.4  -10
      comp=Z,1.6nm,0.3s,baz=145,slow=23,SNR=6.9
BDFB  Brasilia          18.56  72   P     P    05 41 11.4 -1.3
      comp=Z,3.3nm,0.6s,baz=253,slow=13,SNR=6.2
PLCA  Paso Flores       18.56 190   P     P    05 41 12.9 +0.5
      comp=Z,1.8nm,1.0s,baz=33,slow=12,SNR=6.0
QSPA  South Pole Qui    67.73 180   P     P    05 47 45.2 +1.0
      comp=Z,1.2nm,1.0s,baz=270,slow=2.0,SNR=1.5
      comp=Z,1.2nm,1.0s
TORD  Torodi Ar. Bea    75.42  69   P     P    05 48 29.2 -1.5
      comp=Z,1.5nm,0.3s,baz=252,slow=5.3,SNR=1.3
      comp=Z,1.5nm,0.3s
ESDC  Sonseca Array     84.84  43   P     P    05 49 19.5 -0.9
      comp=Z,1.3nm,1.1s,baz=211,slow=4.5,SNR=4.2
      comp=Z,1.3nm,1.1s
YKA   Yellowknife Ar    92.91 340   P     P    05 49 58.4 +0.6
      comp=Z,0.4nm,1.1s,baz=136,slow=3.3,SNR=2.4
      comp=Z,0.4nm,1.1s
MKAR  Makanchi Array   144.93  39   PKP   PKPab 05 56 21.4 +0.3
      comp=Z,0.9nm,0.8s,baz=313,slow=1.9,SNR=6.4
```

*THE **21** 05:37:58.6, 35°.74N×27°.43E, h15km±3km, ML2.5/3, Error*
ellipse: s-maj=20.8km s-min=0.6km az=143.0
*AFAD **21** 05:37:58.0, 35°.92N×27°.34E, h8km±6km, ML1.9*

ISC 21 05:37:56.7±1.4, 35°.94N±0°.05×27°.16E±0°.06, h9km±11km,
n10, σ1§12/20, Dodecanese Islands

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
KARP  Karpathos          0.39 180   P     Pb   05 38 04.8 -1.0
KARP                                 S     Sg   05 38 09.8 +0.3
      2μm,0.1s
YAZI  Mula-Dat§a-        0.78  17   P     Pn   05 38 13.6 -0.3
YAZI                                 S     Sn   05 38 26.5 +0.8
YAZI                                 i AML AML  05 38 28.0
      comp=N,19nm,0.2s
YAZI                                 i AML AML  05 38 33.0
      comp=E,18nm,0.3s
ARG   Arkhangelos        0.83  70   P     Pg   05 38 12.6 -0.1
ARG                                  S     Sg   05 38 23.3 -0.1
      530nm,0.4s
ZKR   Zakros             1.13 224   P     Pn   05 38 19.3 +0.6
ZKR                                  S     Sn   05 38 34.4 +0.1
      138nm,0.3s
BDRM  Kayabasi           1.15  11   P     Pn   05 38 19.8 +0.8
BDRM                                 S     Sn   05 38 34.8 -0.1
BDRM                                 i AML AML  05 38 40.0
      comp=E,12nm,0.2s
TURN  Turunc             1.21  46   P     Pg   05 38 19.7 -0.3
TURN                                 S     Sg   05 38 34.8 -0.9
TURN                                 i AML AML  05 38 39.0
      comp=N,47nm,0.3s
TURN                                 i AML AML  05 38 39.0
      comp=E,36nm,0.2s
FETY  Fethiye            1.70  65   P     Pg   05 38 30.5 +1.2
FETY                                 S     Sg   05 38 54.3 +2.9
FETY                                 i AML AML  05 38 58.0
      comp=N,30nm,0.6s
SABU  Mula-Dalaman       1.70  58   P     Pg   05 38 28.7 -0.7
SABU                                 S     Sg   05 38 51.5  0.0
SABU                                 i AML AML  05 38 55.0
      comp=E,21nm,0.3s
SABU                                 i AML AML  05 38 57.0
      comp=N,20nm,0.5s
IZZE  Mula-Seydike       1.74  73   P     Pb   05 38 27.9 -1.0
IZZE                                 S     Sn   05 38 50.9 +1.4
IZZE                                 i AML AML  05 38 55.0
      comp=E,30nm,0.5s
```

IZZE *i* AML AML 05 38 57.0
comp=N,51nm,0.4s
AKAS Kas 2.00 81 P **Pn 05 38 31.1 +0.3**
AKAS S **Sn 05 38 54.3 -1.8**
AKAS *i* AML AML 05 39 00.0
comp=E,9.8nm,0.4s
AKAS *i* AML AML 05 39 01.0
comp=N,17nm,0.5s

*NEIC **21** 05:40:44.4±1.3, 18°.16S±0°.04×178°.3W±0°.1, h612km±8km, mb4.3/99, Error ellipse: s-maj=17.2km s-min=5.0km az=86.0*
*IDC **21** 05:40:47.1±0.8, 18°.03S×178°.43W, h652km±9km, mb3.7/14, mbtmp4.6/16, Error ellipse: s-maj=15.0km s-min=10.9km az=134.0*
ISC 21 05:40:45.7±0.4, **18°.17S**±0°.07×**178°.22W**±0°.08, **h650**km, **n156**, σ1§**47**/126, **mb4.3**/67, **5C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**276**	P	**P**	05 42 04.2	-8.1
MSVF	**Nonsavu**	**3.58**	**276**	P	**P**	**05 42 11.1**	**-1.3**
	15nm,0.4s,baz=137,slow=7.2,SNR=19						
MSVF				S	**S**	**05 43 23.2**	**+0.3**
	6.2nm,0.4s,baz=25,slow=20,SNR=14						
FUTU	**Fugatoga**	**3.84**	**1**	P	**P**	**05 42 09.3**	**-4.6**
AFI	**Afiamalu**	**7.50**	**57**	P	**P**	**05 42 40.0**	**-2.6**
NIUE	**Niue**	**7.92**	**98**	P	**P**	**05 42 43.4**	**-2.7**
PINNC	**Pines Island,**	**14.15**	**249**	P	**P**	**05 43 41.6**	**-2.5**
DZM	**Mont Dzumac**	**14.92**	**252**	P	**P**	**05 43 51.0**	**-0.3**
DZM	**Mont Dzumac**	**14.92**	**252**	P	**P**	**05 43 50.5**	**-0.8**
	10nm,0.6s,baz=118,slow=23,SNR=14						
OUZ	**Omahuta**	**18.48**	**202**	P	**P**	**05 44 26.7**	**+3.2**
MKAZ	**Moumakai**	**19.74**	**196**	P	**P**	**05 44 37.0**	**+2.1**
HAZ	**Te Kaha**	**19.83**	**189**	P	**P**	**05 44 35.5**	**0.0**
RUGZ	**Raukumara Rang**	**20.05**	**189**	P	**P**	**05 44 38.1**	**+0.3**
MWZ	**Matawai**	**20.43**	**190**	P	**P**	**05 44 40.9**	**-0.1**
RTZ	**Ruatahuna**	**20.80**	**191**	P	**P**	**05 44 41.9**	**-2.5**
RTZ				IAmb	IAmb	05 44 44.8	
	comp=Z,9.0nm,0.8s						
RTZ	**Ruatahuna**	**20.80**	**191**	P	**P**	**05 44 44.1**	**-0.2**
BKZ	**Black Stump Fm**	**21.42**	**191**	P	**P**	**05 44 48.5**	**-1.4**
BKZ				IAmb	IAmb	05 44 57.7	
	comp=Z,8.9nm,1.0s						
BKZ	**Black Stump Fm**	**21.42**	**191**	P	**P**	**05 44 48.5**	**-1.4**
BKZ				S	**S**	**05 48 01.6**	**-4.5**
ETVZ	**East Tongariro**	**21.55**	**193**	P	**P**	**05 44 49.5**	**-1.6**
OTVZ	**Oturere**	**21.59**	**193**	P	**P**	**05 44 50.3**	**-1.2**
SNVZ	**South Ngauruho**	**21.61**	**193**	P	**P**	**05 44 51.2**	**-0.5**
KWHZ	**Kaweka Forest**	**21.69**	**191**	P	**P**	**05 44 51.5**	**-0.7**
KWHZ				S	**S**	**05 48 04.6**	**-5.7**
VRZ	**Vera Road**	**21.76**	**195**	P	**P**	**05 44 51.7**	**-1.0**
PXZ	**Pawanui**	**22.20**	**190**	P	**P**	**05 44 55.7**	**-0.9**
BFZ	**Birch Farm**	**22.94**	**191**	P	**P**	**05 45 02.7**	**-0.6**
MRZ	**Mangatainoka R**	**23.05**	**192**	P	**P**	**05 45 02.5**	**-1.7**
MRZ				IAmb	IAmb	05 45 07.5	
	comp=Z,6.6nm,0.9s						
MRZ	**Mangatainoka R**	**23.05**	**192**	P	**P**	**05 45 02.6**	**-1.7**
MRZ				S	**S**	**05 48 31.1**	**-0.4**
QRZ	**Quartz Range**	**23.94**	**197**	P	**P**	**05 45 13.2**	**+1.1**
QRZ	**Quartz Range**	**23.94**	**197**	P	**P**	**05 45 13.1**	**+0.9**
QRZ				S	**S**	**05 48 47.2**	**+1.6**
TKNZ	**Takaka Hill**	**24.02**	**197**	P	**P**	**05 45 12.8**	**0.0**
NNZ	**Nelson**	**24.08**	**196**	P	**P**	**05 45 12.8**	**-0.5**
TUWZ	**Tuamarina**	**24.14**	**195**	P	**P**	**05 45 13.5**	**-0.3**
MRNZ	**Matariki Terra**	**24.41**	**197**	P	**P**	**05 45 16.2**	**-0.1**
THZ	**Tophouse**	**24.71**	**196**	P	**P**	**05 45 18.5**	**-0.4**
THZ	**Tophouse**	**24.71**	**196**	P	**P**	**05 45 18.3**	**-0.7**
THZ				S	**S**	**05 48 53.8**	**-3.9**
DSZ	**Denniston Nort**	**25.00**	**198**	P	**P**	**05 45 21.8**	**+0.3**
DSZ	**Denniston Nort**	**25.00**	**198**	P	**P**	**05 45 22.0**	**+0.6**
KHZ	**Kahutara**	**25.17**	**194**	P	**P**	**05 45 21.9**	**-1.0**
GVZ	**Greta Valley S**	**25.81**	**195**	P	**P**	**05 45 27.6**	**-0.9**
LTZ	**Lake Taylor**	**25.83**	**196**	P	**P**	**05 45 28.2**	**-0.6**
LTZ	**Lake Taylor**	**25.83**	**196**	P	**P**	**05 45 27.6**	**-1.1**
INZ	**Inchbonnie**	**26.01**	**198**	P	**P**	**05 45 30.0**	**-0.2**
INZ	**Inchbonnie**	**26.01**	**198**	P	**P**	**05 45 29.6**	**-0.6**
OXZ	**Oxford**	**26.40**	**196**	P	**P**	**05 45 33.5**	**-0.2**
OXZ	**Oxford**	**26.40**	**196**	P	**P**	**05 45 33.3**	**-0.3**
WVZ	**Waitaha Valley**	**26.54**	**198**	P	**P**	**05 45 34.5**	**-0.2**
FOZ	**Fox Glacier**	**27.23**	**199**	P	**P**	**05 45 41.1**	**+0.2**
FOZ	**Fox Glacier**	**27.23**	**199**	P	**P**	**05 45 40.4**	**-0.4**
TMZ	**Timaru**	**27.66**	**197**	P	**P**	**05 45 43.4**	**-1.1**
LBZ	**Lake Benmore**	**27.89**	**198**	P	**P**	**05 45 45.0**	**-1.6**
WKZ	**Wanaka**	**28.65**	**199**	P	**P**	**05 45 52.9**	**-0.2**
EAZ	**Earnscleugh**	**28.92**	**198**	P	**P**	**05 45 55.3**	**-0.1**
EIDS	**Eidsvold**	**29.35**	**250**	P	**P**	**05 45 59.5**	**+0.1**
EIDS				IAmb	IAmb	05 46 00.7	
	comp=Z,12nm,0.7s						
MLZ	**Mavora Lakes**	**29.41**	**200**	P	**P**	**05 46 00.9**	**+1.2**
MLZ	**Mavora Lakes**	**29.41**	**200**	P	**P**	**05 46 00.6**	**+0.9**
TUZ	**Tuapeka**	**29.49**	**197**	P	**P**	**05 46 00.6**	**+0.4**
DCZ	**Deep Cove**	**29.82**	**201**	P	**P**	**05 46 03.7**	**+0.6**
WHZ	**Wether Hill Ro**	**29.94**	**200**	P	**P**	**05 46 05.3**	**+1.2**
ARMA	**Armidale**	**29.97**	**240**		**P**	**05 46 05.8**	**+1.0**
APZ	**The Paps**	**30.77**	**199**	P	**P**	**05 46 12.0**	**+0.8**
CAN	**Canberra**	**33.69**	**233**	P	**P**	**05 46 37.2**	**+1.2**
TOO	**Toolangi**	**37.15**	**231**	P	**P**	**05 47 05.6**	**+1.3**
TOO				IAmb	IAmb	05 47 07.5	
	comp=Z,16nm,1.3s						
COEN	**Coen**	**37.28**	**271**	P	**P**	**05 47 05.3**	**-0.4**
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**05 47 17.8**	**+1.2**
	comp=Z,16nm,0.8s,baz=89,slow=9.6,SNR=31						
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**43.44**	**241**	P	**P**	**05 47 54.7**	**+0.6**
WB0	**Warramunga Arr**	**44.73**	**260**	P	**P**	**05 48 04.1**	**0.0**
WB0				IAmb	IAmb	05 48 05.0	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**44.75**	**260**	P	**P**	**05 48 04.0**	**-0.3**
WB2				IAmb	IAmb	05 48 05.3	
	comp=Z,26nm,1.1s						
WRAB	**Tennant Creek**	**44.75**	**260**	P	**P**	**05 48 04.1**	**-0.2**
WRAB				IAmb	IAmb	05 48 05.2	
	comp=Z,24nm,1.3s						
WRA	**Warramunga Arr**	**44.76**	**260**	P	**P**	**05 48 03.9**	**-0.4**
WRA	**Warramunga Arr**	**44.76**	**260**	P	**P**	**05 48 04.2**	**-0.2**
	comp=Z,9.9nm,0.6s,baz=95,slow=7.1,SNR=67						
WRA				PcP	**PcP**	**05 49 32.5**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=90,slow=3.3,SNR=4.2						
	comp=Z,9.9nm,0.6s						
AS31	**Alice Springs**	**44.89**	**254**	P	**P**	**05 48 05.4**	**0.0**
AS31				IAmb	IAmb	05 48 07.8	
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**05 48 05.7**	**+0.4**
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**05 48 05.5**	**+0.2**
	comp=Z,28nm,0.6s,baz=86,slow=8.3,SNR=217						
ASAR				PcP	**PcP**	**05 49 33.1**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=92,slow=3.7,SNR=8.5						
ASAR				S	**S**	**05 53 57.6**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=95,slow=14,SNR=13						
	comp=Z,28nm,0.6s						
MTN	**Manton Dam**	**48.97**	**269**	P	**P**	**05 48 35.4**	**-0.4**
FORT	**Forrest**	**50.06**	**245**	P	**P**	**05 48 43.4**	**-0.1**
KNRA	**Kununurra**	**50.64**	**264**	P	**P**	**05 48 48.2**	**+0.3**
KNRA				IAmb	IAmb	05 48 49.1	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.16**	**261**	P	**P**	**05 49 06.4**	**+0.5**
SOEI	**Soe**	**56.25**	**270**	P	**P**	**05 49 27.9**	**+0.5**
SOEI				IAmb	IAmb	05 49 33.9	
	comp=Z,25nm,0.7s						
PSA00	**Pilbara Seismi**	**58.02**	**256**	P	**P**	**05 49 39.0**	**-0.1**
MBWA	**Marble Bar**	**58.18**	**256**	P	**P**	**05 49 40.3**	**0.0**
MBWA				IAmb	IAmb	05 49 46.6	
	comp=Z,48nm,1.3s						
SBA	**Scott Base**	**60.17**	**184**	P	**P**	05 49 55.7	+3.2
VNDA	**Vanda**	**60.20**	**185**	P	**P**	05 49 55.5	+2.8
VNDA	**Vanda**	**60.20**	**185**	P	**P**	05 49 54.8	+2.1
	comp=Z,2.3nm,0.6s,baz=350,slow=7.4,SNR=18						
	comp=Z,2.3nm,0.6s						
MORW	**Morawa**	**60.54**	**246**	P	**P**	**05 49 55.7**	**-0.1**
MORW				IAmb	IAmb	05 50 13.2	
	comp=Z,19nm,1.4s						
CASY	**Casey**	**65.98**	**205**	P	**P**	**05 50 30.8**	**+1.2**
CASY				IAmb	IAmb	05 50 32.4	
	comp=Z,22nm,1.2s						
JGF	**Kuroka**	**68.05**	**322**	P	**P**	**05 50 43.6**	**+0.9**
JGF				IAmb	IAmb	05 51 26.6	
	comp=Z,35nm,1.4s						
MJAR	**Matsushiro Arr**	**68.22**	**323**	P	**P**	**05 50 42.3**	**-1.4**
	comp=Z,3.0nm,0.6s,baz=159,slow=5.9,SNR=6.4						
	comp=Z,3.0nm,0.6s						
KIWB	**Kanaga Island**	**69.72**	**1**	P	**P**	**05 50 53.1**	**+0.8**
ADK	**Adak**	**69.76**	**1**	P	**P**	**05 50 52.5**	**0.0**
UGM	**Wanagama**	**69.82**	**268**	P	**P**	**05 50 54.1**	**+0.3**
QSPA	**South Pole Qui**	**71.89**	**180**	P	P	05 51 07.1	+2.1
QSPA				IAmb	IAmb	05 51 08.4	
	comp=Z,16nm,0.8s						
QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**05 51 06.8**	**+1.9**
	comp=Z,13nm,0.7s,baz=356,slow=0.9,SNR=77						
	comp=Z,13nm,0.7s						
UNV	**Unalaska Valle**	**72.42**	**7**	P	**P**	**05 51 08.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**73.97**	**345**	P	**P**	**05 51 17.8**	**+1.1**
PETK	**Petropavlovsk-**	**73.97**	**345**	P	**P**	**05 51 17.7**	**+0.9**
PETK	**Petropavlovsk-**	**73.97**	**345**	P	**P**	**05 51 16.8**	**0.0**
	comp=Z,6.3nm,0.7s,baz=110,slow=7.0,SNR=7.6						
	comp=Z,6.3nm,0.7s						
CMB	**Columbia Colle**	**77.90**	**43**	P	**P**	**05 51 40.9**	**+2.2**
YBH	**Yreka Blue Hor**	**78.61**	**39**	P	**P**	**05 51 44.8**	**+2.3**
WAKR	**Walker**	**78.79**	**43**	P	P	05 51 46.4	+2.8
WAKR				IAmb	IAmb	05 51 46.9	
	comp=Z,8.1nm,0.9s						
HATC	**Hat Creek Radi**	**78.83**	**40**	P	P	05 51 46.2	+2.6
HATC				IAmb	IAmb	05 51 46.8	
	comp=Z,14nm,0.9s						
PNTR	**Pine Nut**	**79.01**	**43**	IAmb	IAmb	05 51 48.0	
	comp=Z,7.7nm,0.8s						
L04D	**Klamath Falls**	**79.14**	**39**	P	P	**05 51 47.4**	**+2.2**
L04D				IAmb	IAmb	05 51 47.9	
	comp=Z,11nm,0.8s						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**05 51 49.4**	**+2.1**
	comp=Z,2.8nm,0.7s,baz=224,slow=8.7,SNR=27						
	comp=Z,2.8nm,0.7s						
J04A	**Umpqua Nationa**	**79.87**	**38**		P	05 51 51.6	+2.5
J04A				IAmb	IAmb	05 51 52.2	
	comp=Z,19nm,0.7s						
HEBO	**Mount Hebo**	**80.13**	**36**	P	**P**	**05 51 52.5**	**+2.2**
J05D	**Fort Rock, OR**	**80.41**	**38**		**P**	**05 51 53.9**	**+2.0**
J05D				IAmb	IAmb	05 51 55.1	
	comp=Z,16nm,0.8s						
M16K	**Timber Creek**	**80.42**	**9**	P	**P**	**05 51 52.9**	**+1.6**
M16K				IAmb	IAmb	05 51 53.8	
	comp=Z,9.1nm,0.8s						
H04A	**Detroit Lake**	**80.69**	**37**	P	**P**	**05 51 55.1**	**+2.0**
H04A				IAmb	IAmb	05 51 55.1	
	comp=Z,5.9nm,0.6s						
PINE	**Pine Mountain**	**80.88**	**38**	IAmb	IAmb	05 51 57.7	
	comp=Z,12nm,0.9s						
L16K	**Owhat River**	**81.00**	**9**	IAmb	IAmb	05 51 57.4	
	comp=Z,22nm,1.1s						
PRN	**Pahroc Range**	**81.13**	**46**	IAmb	IAmb	05 51 59.1	
	comp=Z,6.8nm,0.9s						
HOOD	**Mount Hood Mea**	**81.38**	**37**	IAmb	IAmb	05 51 59.3	
	comp=Z,14nm,1.1s						
WVOR	**Wild Horse Val**	**81.49**	**40**	IAmb	IAmb	05 52 00.5	
	comp=Z,6.1nm,1.0s						
BELA	**Belgrano 2**	**81.89**	**173**	P	**P**	**05 52 00.1**	**+1.4**
BELA				IAmb	IAmb	05 52 01.2	
	comp=Z,18nm,0.8s						
I07A	**Izee**	**81.90**	**38**	IAmb	IAmb	05 52 02.5	
	comp=Z,7.6nm,0.9s						
GNW	**Green Mountain**	**82.09**	**34**	P	**P**	**05 52 01.8**	**+1.7**
U15A	**North Rim**	**82.56**	**48**	IAmb	IAmb	05 52 06.7	
	comp=Z,5.7nm,0.8s						
E07A	**Sunnyside**	**83.12**	**36**	IAmb	IAmb	05 52 08.2	
	comp=Z,5.0nm,0.9s						
HAWA	**Hanford**	**83.20**	**37**	IAmb	IAmb	05 52 08.6	
	comp=Z,5.2nm,0.8s						
D08A	**Wollman Farm,**	**83.93**	**36**	IAmb	IAmb	05 52 12.1	
	comp=Z,5.5nm,0.8s						
B08A	**Colville Reser**	**84.45**	**35**	IAmb	IAmb	05 52 13.8	
	comp=Z,5.4nm,0.8s						
HLID	**Hailey**	**84.71**	**41**	IAmb	IAmb	05 52 16.6	
	comp=Z,3.8nm,0.8s						
S34M	**Telegraph Cree**	**85.21**	**23**	IAmb	IAmb	05 52 18.1	
	comp=Z,6.0nm,0.8s						
VHRN	**Van Horn**	**85.52**	**56**	IAmb	IAmb	05 52 21.3	
	comp=Z,6.5nm,1.4s						
TX31	**Lajitas Ar. Si**	**85.98**	**58**	IAmb	IAmb	05 52 23.8	
	comp=Z,4.4nm,0.9s						
TXAR	**Lajitas Array**	**85.98**	**58**	P	P	05 52 22.5	+2.8
	comp=Z,2.8nm,0.7s,baz=242,slow=4.8,SNR=32						
	comp=Z,2.8nm,0.7s						
ILAR	**Eielson Array**	**86.10**	**13**	P	**P**	**05 52 19.0**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=210,slow=4.5,SNR=5.3						
	comp=Z,2.1nm,0.5s						
F19K	**Shaleruckik Mo**	**86.11**	**8**	IAmb	IAmb	05 52 23.0	
	comp=Z,7.9nm,1.2s						
SNOW	**Snow King Moun**	**86.97**	**42**	IAmb	IAmb	05 52 27.3	
	comp=Z,7.4nm,1.1s						
YHL	**Hebgen Lake**	**87.36**	**41**	IAmb	IAmb	05 52 29.8	
	comp=Z,6.3nm,0.9s						
YMR	**Madison River**	**87.41**	**41**	IAmb	IAmb	05 52 29.9	
	comp=Z,4.6nm,0.9s						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**05 52 27.1**	**+0.8**
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**05 52 27.4**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=222,slow=2.9,SNR=22						
	comp=Z,1.8nm,0.6s						
BOZ	**Bozeman (W)**	**87.45**	**40**	IAmb	IAmb	05 52 29.4	
	comp=Z,5.1nm,1.2s						
H17A	**Great Village**	**87.53**	**42**	IAmb	IAmb	05 52 31.0	
	comp=Z,3.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**87.58**	**314**	*e*P	P	05 52 30.1	+3.2
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.4s						
LKWY	**Lake**	**87.72**	**41**	IAmb	IAmb	05 52 33.2	
	comp=Z,4.2nm,1.1s						
YNE	**Yellowstone No**	**88.17**	**41**	IAmb	IAmb	05 52 33.2	
	comp=Z,3.4nm,1.1s						
DRIO	**Del Rio**	**88.47**	**58**	IAmb	IAmb	05 52 34.5	
	comp=Z,4.0nm,0.8s						
ELIB	**Princess Elisa**	**88.92**	**187**	*d*P	**P**	**05 52 33.6**	**+1.0**
	comp=Z,14nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.14**	**290**	P	**P**	**05 52 35.6**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=109,slow=5.8,SNR=5.6						
	comp=Z,0.6nm,0.4s						
PZH	**PanZhiHua**	**89.43**	**298**	P	P	05 52 38.3	+2.4
PZH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
TROLL	**Troll, Antarti**	**90.05**	**180**	⇑P	**P**	**05 52 39.1**	**+1.2**
	comp=Z,312nm,0.5s						
SNAA	**Sanae**	**90.34**	**179**	⇑P	**P**	**05 52 39.9**	**+0.8**
	comp=Z,72nm,0.7s						
SNAA	**Sanae**	**90.34**	**179**	P	**P**	**05 52 39.8**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=206,slow=11,SNR=17						
	comp=Z,2.7nm,0.6s						
VNA3	**Neumayer Olymp**	**90.47**	**176**	⇑P	**P**	**05 52 41.0**	**+1.3**
	comp=Z,15nm,0.6s						
VNA2	**Neumayer--Watz**	**90.91**	**177**	⇑P	P	05 52 44.0	+2.3
	comp=Z,10.0nm,0.6s,baz=186,slow=5.1						
VNA1	**Neumayer--Stat**	**91.14**	**177**	⇑P	P	05 52 45.3	+2.6
	comp=Z,5.8nm,0.4s						
YKA	**Yellowknife Ar**	**94.49**	**25**	P	P	**05 52 57.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=243,slow=4.8,SNR=8.3						
	comp=Z,0.5nm,0.7s						
NRIK	**Noril'sk**	**108.33**	**338**	Pdiff	**Pdif**	**05 53 58.3**	**-1.3**
	comp=Z,2.3nm,0.4s,baz=120,slow=5.1,SNR=5.2						
ARCES	**ARCESS Array B**	**126.60**	**350**	PKP	**PKiKP**	**05 58 36.2**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=56,slow=2.0,SNR=1.6						
EKA	**Eskdalemuir Ar**	**142.71**	**5**	PKhKP	PKPpre	05 59 03.5	
	baz=241,slow=10,SNR=2.8						
BRTR	**Keskin Array B**	**145.09**	**315**	PKP	**PKiKP**	**05 59 12.9**	**-2.5**
	comp=Z,0.7nm,0.6s,baz=122,slow=4.1,SNR=3.3						
MMAI	**Mount Meron Ar**	**146.43**	**303**	PKPbc	**PKPab**	**05 59 17.3**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=119,slow=1.8,SNR=3.7						
GERES	**GERESS Array B**	**147.91**	**345**	PKPbc	**PKPab**	**05 59 21.1**	**-3.7**
	comp=Z,0.3nm,0.5s,baz=19,slow=5.2,SNR=3.8						
ESDC	**Sonseca Array**	**158.00**	**12**	PKPab	**PKPab**	**06 00 08.5**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=338,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**175.01**	**179**	PKPab	**PKPab**	**06 01 24.9**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=186,slow=4.7,SNR=1.0						

*AFAD **21** 05:51:07.8, 38°.77N×38°.16E, h16km±1km, MW4.1*
*ISK **21** 05:51:07.3, 38°.76N×38°.16E, h2km, ML4.3/25*
*IDC **21** 05:51:08.6±0.7, 38°.78N×38°.01E, h0km, mb4.0/16, mbtmp4.0/26, ML3.4/10, MS3.6/30, Error ellipse: s-maj=14.2km s-min=8.2km az=173.0*
*MOS **21** 05:51:09.2±1.0, 38°.84N×38°.04E, h15km, mb4.5/8, Error ellipse: s-maj=7.5km s-min=5.2km az=96.2*
*MED_RC **21** 05:51:09.0±0.4, 38°.71N×38°.11E, h20km±1km, MW4.4/27, Moment Tensor Solution. Mantle waves: s27, c35; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.76±.49; $M_{\theta\theta}$-4.06±.30; $M_{\phi\phi}$5.82±.36; $M_{r\theta}$0.43±.54; $M_{\theta\phi}$2.56±.26; $M_{r\phi}$0.89±.36; Best double couple: $M_0$5.63000×10^{15} NP1:ϕ_s328.00000°, δ82.00000°, λ178.00000°. NP2:ϕ_s59.00000°, δ88.00000°, λ8.00000°. Principal axes: T 6.5600, Plg7.0000°, Azm284.0000°; N -1.8600, Plg82.0000°, Azm71.0000°; P -4.7000, Plg4.0000°, Azm193.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **21** 05:51:10.7±1.6, 38°.71N±0°.05×38°.03E±0°.06, h10km±2km, mb4.4/13 Error ellipse: s-maj=8.1km s-min=7.5km az=147.0*
*GII **21** 05:51:24.7±0.0, 38°.753N±0°.002×38°.918E±0°.001, h1km, Mws4.5, confirmed*
ISC 21 05:51:09.5±1.0, **38°.77N**±0°.02×**38°.15E**±0°.02, **h4**km±7km, **n245**, σ1§**72**/260, **mb4.1**/26, **MS3.5**/24, **11C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.18**	**307**	P	**Pg**	**05 51 12.6**	**-0.6**
HEKM				S	**Sg**	**05 51 16.2**	**+0.7**
MAYA	**Malatya/Merkez**	**0.49**	**154**	P	**Pg**	**05 51 17.6**	**-1.3**
MAYA				S	**Sg**	**05 51 24.9**	**-0.5**
AKCD	**Akcadag**	**0.50**	**201**	P	**Pg**	**05 51 17.8**	**-1.3**
AKCD				S	**Sg**	**05 51 26.4**	**+0.7**
DARE	**Darende-Malaty**	**0.56**	**249**	Pg	**Pg**	**05 51 18.7**	**-1.4**
DARE				Sg	**Sg**	**05 51 27.4**	**0.0**
KEMA	**Kemaliye**	**0.57**	**28**	P	**Pg**	**05 51 18.9**	**-1.5**
KEMA				S	**Sg**	**05 51 28.0**	**+0.1**
CUGUR	**Gurin_SVAS**	**0.69**	**267**	P	**Pg**	**05 51 21.0**	**-1.7**
CUGUR				S	**Sg**	**05 51 32.0**	**+0.4**
ELZG	**Elazig**	**0.71**	**112**	P	**Pg**	**05 51 21.5**	**-1.6**
ELZG				S	**Sg**	**05 51 31.6**	**-0.7**
CUKAN	**kangal_SIVAS**	**0.76**	**316**	P	**Pg**	**05 51 22.2**	**-1.9**
CUKAN				S	**Sg**	**05 51 33.6**	**-0.4**
ELBS	**KAHRAMANMARAS**	**0.91**	**241**	P	**Pg**	**05 51 25.0**	**-1.9**
ELBS				S	**Sg**	**05 51 37.8**	**-1.0**
AZEY	**Adyaman-Merk**	**0.96**	**175**	P	**Pg**	**05 51 26.6**	**-1.3**
AZEY				S	**Sg**	**05 51 40.7**	**+0.5**
PTK	**Pertek**	**0.98**	**82**	Pg	**Pg**	**05 51 26.3**	**-2.0**
PTK				Sg	**Sg**	**05 51 41.1**	**+0.1**
NARI	**Adyaman-Kaht**	**1.01**	**151**	P	**Pg**	**05 51 27.7**	**-1.1**
NARI				S	**Sg**	**05 51 41.9**	**+0.1**
AKCA	**Adyaman/G¶l**	**1.04**	**201**	P	**Pg**	**05 51 28.0**	**-1.4**
AKCA				S	**Sb**	**05 51 43.3**	**-0.7**
TNCL	**Tunceli-Merkez**	**1.14**	**72**	P	**Pg**	**05 51 28.7**	**-2.7**
TNCL				S	**Sg**	**05 51 43.8**	**-2.4**
CUZAR	**Zara_SIVAS**	**1.16**	**345**	P	**Pg**	**05 51 30.4**	**-1.3**
CUZAR				S	**Sg**	**05 51 46.8**	**+0.2**
ATAB	**Bozova**	**1.30**	**175**	P	**Pg**	**05 51 32.0**	**-2.4**
ATAB				S	**Sb**	**05 51 51.6**	**0.0**
KOVA	**Elazig, Kovanc**	**1.30**	**92**	P	**Pn**	**05 51 31.1**	**-3.4**
KOVA				S	**Sg**	**05 51 50.1**	**-1.2**
HANM	**anlurfa/Hi**	**1.32**	**154**	P	**Pn**	**05 51 32.7**	**-1.9**
HANM				S	**Sg**	**05 51 51.4**	**-0.5**
SCER	**sogukcermik**	**1.35**	**324**	P	**Pn**	**05 51 33.7**	**-1.5**
SARI	**SarD1z-Kayseri**	**1.40**	**256**	Pn	**Pn**	**05 51 33.8**	**-2.1**
SARI				Sn	**Sn**	**05 51 54.6**	**-0.4**
URFA	**Urfa**	**1.43**	**158**	Pn	**Pn**	**05 51 35.4**	**-0.8**
URFA				Sn	**Sb**	**05 51 54.5**	**-0.7**
SUSE	**Susehri**	**1.44**	**2**	P	**Pn**	**05 51 34.9**	**-1.6**
SUSE				S	**Sb**	**05 51 55.4**	**-0.3**
SVSK	**Karacayir**	**1.45**	**323**	Pn	**Pn**	**05 51 35.3**	**-1.2**
SVSK				Sn	**Sn**	**05 51 55.9**	**0.0**
GZT	**Gaziantep**	**1.48**	**198**	P	**Pn**	**05 51 35.2**	**-1.8**
GZT				S	**Sg**	**05 51 57.8**	**+0.7**
EUZM	**Uzumlu**	**1.53**	**52**	P	**Pn**	**05 51 36.6**	**-1.0**
EUZM				S	**Sn**	**05 51 58.3**	**+0.3**
KAHM	**Kahramanmaras,**	**1.55**	**217**	P	**Pn**	**05 51 36.5**	**-1.4**
KAHM				S	**

GNI Lg Lg 05 54 01.2
comp=Z,1.3nm,0.3s,baz=293,slow=18,SNR=1.6
GNI LR LR 05 54 31.7
comp=Z,160nm,19.4s,baz=268,slow=38
comp=Z,5.8nm,0.6s
GNI Garni 5.29 73 *i* P **Pn 05 52 30.1 +0.8**
CSS Mathiatis 5.42 227 Pn **Pn 05 52 28.3 -2.7**
MDUB Mudurnu 5.63 290 Pn **Pn 05 52 33.4 -0.5**
NATI Neve Ativ 5.83 200 P **Pb 05 52 55.8 +4.1**
NATI Neve Ativ 5.83 200 S **Sb 05 54 06.8 +5.0**
GEM Giv'at Ha'Em 5.90 201 P **Pb 05 52 56.9 +4.0**
GEM Giv'at Ha'Em 5.90 201 S **Sb 05 54 07.7 +3.8**
SHA1 Shidzhatmaz 6.02 33 *e*P **Pn 05 52 38.1 -1.3**
ANN Anapa 6.05 355 *e*P **Pn 05 52 35.2 -4.4**
ANN pmax pmax
comp=Z,87nm,1.1s
BORA Eskisehir 6.07 283 Pn **Pn 05 52 39.3 -0.7**
KSHT Keshet 6.08 199 P **Pb 05 52 59.4 +3.5**
KSHT Keshet 6.08 199 S **Sb 05 54 12.3 +3.3**
KBZ Khabaz 6.11 34 Pn **Pn 05 52 43.4 +2.9**
comp=Z,0.4nm,0.3s,baz=230,slow=7.1,SNR=9.8
KBZ Lg Lg 05 54 19.8
baz=335,slow=15
KBZ LR LR 05 55 08.8
comp=Z,381nm,20.6s,baz=225,slow=39
comp=Z,4.2nm,0.9s
KBZ Khabaz 6.11 34*c*e**P** **Pn 05 52 39.9 -0.6**
MMA0B Mount Meron ar 6.16 202 P **Pb 05 53 00.5 +3.2**
MMA0B Mount Meron ar 6.16 202 S **Sb 05 54 15.1 +3.8**
MMAI Mount Meron Ar 6.16 202 Pn **Pn 05 52 41.5 +0.3**
comp=Z,1.8nm,0.3s,baz=23,slow=17,SNR=4.6
MMAI Lg Lg 05 54 21.3
comp=Z,2.2nm,0.3s,baz=23,slow=40,SNR=1.4
MMAI LR LR 05 55 08.1
comp=Z,258nm,19.6s,baz=8.5,slow=39
comp=Z,0.9nm,0.3s
HNTI Hanita 6.16 204 P **Pb 05 53 00.5 +3.2**
HNTI Hanita 6.16 204 S **Sb 05 54 15.5 +4.0**
LABN Labinsk 6.18 17 *e*P Pn 05 52 47.0 +5.6
LABN pmax pmax
comp=Z,51nm,0.7s
KIV Kislovodsk 6.21 32 **Pn 05 52 43.5 +1.7**
KIV Kislovodsk 6.21 32 *e*P **Pn 05 52 43.6 +1.7**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,84nm,9.0s
KVAR Kislovodsk Arr 6.21 32 Pn **Pn 05 52 43.9 +2.0**
baz=298,slow=21
comp=Z,2.0nm,0.5s
BLGI Bet Lehem HaGe 6.48 203 P **Pb 05 53 04.9 +2.1**
BLGI Bet Lehem HaGe 6.48 203 S **Sb 05 54 22.9 +2.3**
ASF Jabal al Asfar 6.66 189 Pn **Pn 05 52 48.4 +0.3**
comp=Z,0.8nm,0.3s,baz=48,slow=8.4,SNR=15
ASF Lg Lg 05 54 29.8
comp=Z,0.9nm,0.3s,baz=50,slow=22,SNR=1.9
ASF LR LR 05 55 38.5
comp=Z,426nm,20.1s,baz=40,slow=41
comp=Z,18nm,0.8s
MMLI Mount Malkishu 6.69 200 P **Pb 05 53 07.4 +1.0**
MMLI Mount Malkishu 6.69 200 S **Sb 05 54 27.6 +0.8**
HMDT Nahal Hemdat 6.84 199 P **Pb 05 53 09.6 +0.7**
HMDT Nahal Hemdat 6.84 199 S **Sb 05 54 31.4 +0.4**
SLTI Sal'it 6.99 202 P **Pb 05 53 11.8 +0.4**
SLTI Sal'it 6.99 202 S **Sb 05 54 35.6 +0.4**
ERBR Yeremizino-Bor 7.16 13 *e*P **Pn 05 52 57.2 +2.4**
ERBR pmax pmax
comp=Z,51nm,1.0s
AKAS Kas 7.25 252 Pn **Pn 05 52 55.1 -1.1**
MANT Manisa 7.51 271 Pn **Pn 05 52 57.5 -2.5**
DSI Dead Sea 7.53 198 P **Pb 05 53 18.7 -1.9**
DSI Dead Sea 7.53 198 S **Sb 05 54 47.0 -3.7**
AMAZ Amatzia 7.69 201 P **Pb 05 53 21.4 -1.9**
AMAZ Amatzia 7.69 201 S **Sb 05 54 51.9 -3.4**
GHAJ Ghor Haditha 7.74 197 Pn **Pn 05 53 01.9 -1.0**
YTIR Yattir 7.79 199 P **Pb 05 53 22.9 -2.2**
YTIR Yattir 7.79 199 S **Sb 05 54 54.2 -4.2**
MAK Makhachkala 8.23 56 *e*P **Pn 05 53 06.3 -3.3**
MAK *e*S **Sn 05 54 38.5 -4.5**
MAK pmax pmax
comp=Z,21nm,0.3s
MAK MLR MLR
comp=Z,472nm,9.0s
ZFRI Zfri 8.55 197 P Pn 05 53 32.4 +18
ZFRI Zfri 8.55 197 S Sn 05 55 11.9 +21
PRNI Paran 8.79 198 P Pn 05 53 35.9 +19
PRNI Paran 8.79 198 S Sn 05 55 18.9 +22
HRFI Mount Harif 9.08 197 P Pn 05 53 40.2 +19
HRFI Mount Harif 9.08 197 S Sn 05 55 25.3 +21
EIL Elat 9.45 197 Pn **Pn 05 53 25.8 -0.6**
comp=Z,0.3nm,0.3s,baz=135,slow=16,SNR=1.6
EIL LR LR 05 57 36.5
comp=Z,417nm,19.3s,baz=63,slow=41
comp=Z,2.6nm,0.7s
TPGR Topolog 9.47 313 ⇑P **Pn 05 53 25.4 -1.2**
CFR Carcaliu 9.82 314 ⇓P **Pn 05 53 31.5 0.0**
CFR Carcaliu 9.82 314 P **Pn 05 53 31.4 0.0**
VRI Vrincioaia 11.03 314 ⇑P **Pn 05 53 48.4 +0.5**
VRI Vrincioaia 11.03 314 P **Pn 05 53 46.4 -1.5**
PLOR Plostina 11.06 313 ⇓P **Pn 05 53 47.6 -0.9**
PLOR Plostina 11.06 313 P **Pn 05 53 47.5 -0.9**
IDI Anoyia 11.15 256 Pn **Pn 05 53 50.8 +1.1**
comp=Z,0.2nm,0.3s,baz=151,slow=2.8,SNR=1.5
MLR Muntele Rosu 11.27 310 Pn **Pn 05 53 50.4 -0.9**
comp=Z,0.1nm,0.3s,baz=312,slow=11,SNR=1.7
MLR LR LR 05 58 20.1
comp=Z,348nm,21.0s,baz=117,slow=39
comp=Z,2.1nm,0.8s
MLR Muntele Rosu 11.27 310 ⇑P **Pn 05 53 52.4 +1.1**
VOIR 11.78 309 ⇑P **Pn 05 53 58.3 -0.1**
VOIR 11.78 309 P **Pn 05 53 58.2 -0.1**
DOPR Dopca 11.86 311 ⇑P **Pn 05 53 58.7 -0.6**
VSR Storozhevoye 12.47 3 *e*P **Pn 05 54 07.7 +0.1**
VSR pmax pmax
comp=Z,3.0nm,0.8s
VRH Novokhopyorsk 12.69 10 *e*P **Pn 05 54 07.7 -2.8**
VRH pmax pmax
comp=Z,10.0nm,1.0s
BURAR Bucovina Array 12.91 317 ⇑P **Pn 05 54 14.1 +0.3**
BURAR Bucovina Array 12.91 317 P **Pn 05 54 14.0 +0.3**
BUR08 Bucovina Ar. S 12.94 317 Pn **Pn 05 54 13.9 -0.2**
AKASG Malin Array Be 13.50 335 Pn **Pn 05 54 19.6 -2.0**
comp=Z,0.3nm,0.3s,baz=139,slow=12,SNR=6.4
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 13.50 335 *i* P **Pn 05 54 21.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 13.50 335 *i* P **Pn 05 54 19.6 -2.0**
AKBB pmax pmax
comp=Z,11nm,1.3s
MDVR Moldovita 13.65 301 ⇑P **Pn 05 54 24.8 +1.1**
KECS Kecovo 16.02 313 *e*P Pn 05 54 47.2 -8.3
KECS pmax pmax
comp=Z,18nm,1.1s
KECS Kecovo 16.02 313 *e*PN Pn 05 54 47.2 -8.3
KECS Kecovo 16.02 313 *e*P **P 05 55 00.9 +1.8**
RAYN Ar Rayn 16.44 155 P **P 05 55 06.0 +2.1**
TIP Timpagrande 16.64 278 **P 05 55 04.6 -1.4**
TIP IAmb IAmb 05 55 06.9
comp=Z,45nm,0.9s
MODS Modra-Piesok 17.86 309 *e*P **Pn 05 55 11.8 -6.9**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 17.86 309 *e*PN **Pn 05 55 11.8 -6.9**
MODS Modra-Piesok 17.86 309 *e*P **P 05 55 19.3 -0.2**
MODS Modra-Piesok 17.86 309 *e*S **S 05 58 44.6 -0.5**
NACGM Naroch 17.88 338 *e*P **Pn 05 55 16.9 -1.9**
comp=Z,567nm,0.9s,baz=150
AKTO Aktyubinsk 18.27 44 P **P 05 55 26.0 +2.1**
comp=Z,0.1nm,0.3s,baz=244,slow=6.7,SNR=9.1
comp=Z,3.3nm,0.9s
AKTO Aktyubinsk 18.27 44 P **P 05 55 26.0 +2.1**
VRAC Vranov 18.67 311 LR LR 06 04 40.2
comp=Z,176nm,18.6s,baz=109,slow=44
ABKAR Akbulak array 18.79 49 **Pn 05 55 31.9 +1.8**
CESX Cesi 19.74 289 P **P 05 55 40.1 +0.1**
CESX IAmb IAmb 05 56 01.0
comp=Z,46nm,1.5s
GERES GERESS Array B 20.23 308 P **P 05 55 44.6 -1.0**
GERES GERESS Array B 20.23 308 P **P 05 55 45.4 -0.1**
comp=Z,4.3nm,0.9s,baz=110,slow=10,SNR=21
GERES LR LR 06 05 40.7
comp=Z,108nm,18.6s,baz=94,slow=43
comp=Z,4.3nm,0.9s
KHC Kasperske Hory 20.41 308 *e*P **P 05 55 47.8 +0.4**
KHC Kasperske Hory 20.41 308 *e*P **P 05 55 47.8 +0.4**
UOSS Minazif 20.57 127 **P 05 55 49.5 +0.3**
UOSS IAmb IAmb 05 56 25.2
comp=Z,20nm,1.1s
CTI Castel Tesino 20.81 299 P **P 05 55 51.8 0.0**
CTI IAmb IAmb 05 55 53.1
comp=Z,15nm,1.0s
CTI Castel Tesino 20.81 299 P **P 05 55 51.8 0.0**
CTI pmax pmax
comp=Z,15nm,1.0s
BRG Berggiesshubel 20.90 313 *e*P Pn 05 55 56.0 +0.9
BRG Amp 05 55 57.9
comp=Z,4.7nm,1.2s
VSU Vasula 21.05 343 *e*P **P 05 55 53.7 -0.4**
VSU pmax pmax
comp=Z,97nm,3.8s
KIRV Kirov 21.13 16 P **P 05 55 56.8 +1.8**
comp=Z,9.0nm,0.6s,baz=197,slow=11,SNR=3.7
comp=Z,9.0nm,0.6s
KIRV Kirov 21.13 16 *e*P **P 05 55 55.3 +0.3**
SQTA Sankt Quirin 21.36 302 *e*P **P 05 55 59.7 +2.0**
comp=Z,7.2nm,0.8s
CLL Collm 21.62 314 *i* P **P 05 56 00.5 +0.1**
CLL Collm 21.62 314 *i* P **P 05 56 00.5 +0.1**
CLL AMS AMS 06 03 00.0
comp=Z,200nm,20.9s
FETA Feichten 21.63 301 *e*P **P 05 56 02.6 +1.8**
comp=Z,7.6nm,1.1s
RETA Reutte 21.71 303 *e*P **P 05 56 03.5 +2.0**
comp=Z,5.4nm,1.0s
KLMR Klimovskoe 22.13 2 *e*P **P 05 56 02.9 -2.8**
KLMR *e* 05 56 24.3
KLMR pmax pmax
comp=Z,31nm,1.5s
ARTI Arti 22.15 31 P **P 05 56 05.3 -0.7**
ARTI IAmb IAmb 05 56 09.4
comp=Z,11nm,0.7s
ARTI Arti 22.15 31 P **P 05 56 05.2 -0.7**
comp=Z,10nm,0.8s,baz=221,slow=7.5,SNR=6.9
ARTI LR LR 06 05 48.1
comp=Z,77nm,20.4s,baz=239,slow=40
comp=Z,10nm,0.8s
ARTI Arti 22.15 31*c i*P **P 05 56 05.3 -0.7**
ARTI 05 56 25.5
ARTI S **S 06 00 10.4 0.0**
ARTI SS **SnSn 06 00 37.1 +0.5**
ARTI pmax pmax
comp=Z,12nm,0.9s
DAVA Damuels 22.25 302 P **P 05 56 04.8 -2.6**
comp=Z,7.3nm,1.3s
KEST Kesra 23.09 271 LR LR 06 06 20.1
comp=Z,63nm,19.1s,baz=6.2,slow=40
FINES FINESS Array B 23.90 346 P **P 05 56 23.6 -0.3**
comp=Z,3.2nm,0.6s,baz=152,slow=12,SNR=11
comp=Z,3.2nm,0.6s
SIMJ Simiganj 24.03 80 **P 05 56 26.5 +1.0**
SIMJ IAmb IAmb 05 56 30.8
comp=Z,12nm,1.2s
ECH Echery 24.24 303 P **P 05 56 25.9 -1.5**
ECH IAmb IAmb 05 56 28.0
comp=Z,10nm,1.1s
ECH Echery 24.24 303 P **P 05 56 25.9 -1.5**
ECH pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 24.74 70 **P 05 56 32.5 +0.6**
KK31 Karatay Array 24.74 70 P **P 05 56 32.5 +0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 24.74 70 **P 05 56 32.9 +1.0**
KKAR Karatay Array 24.74 70 P **P 05 56 32.9 +1.0**
BVAR Borovoye Array 26.31 47 P **P 05 56 46.7 +0.7**
comp=Z,1.8nm,0.7s,baz=235,slow=5.2,SNR=9.1
BVAR LR LR 06 09 16.8
comp=Z,81nm,18.9s,baz=258,slow=41
comp=Z,1.8nm,0.7s
HFS Hagfors 26.36 332 P **P 05 56 45.6 -0.7**
comp=Z,9.6nm,0.9s,baz=134,slow=13,SNR=10.0
HFS LR LR 06 09 18.9
comp=Z,345nm,18.1s,baz=208,slow=42
comp=Z,9.6nm,0.9s
AAK Ala-Archa 27.69 70 LR LR 06 10 33.7
comp=Z,110nm,18.8s,baz=278,slow=42
NOA NORSAR Array B 27.88 332 LR LR 06 08 52.5
comp=Z,84nm,21.1s,baz=145,slow=38
KURBB Kurchatov Arra 30.68 54 P **P 05 57 25.1 +0.1**
comp=Z,1.2nm,0.6s,baz=267,slow=8.9,SNR=9.3
comp=Z,1.2nm,0.6s
KURK Kurchatov 30.75 54 *i* P **P 05 57 26.1 +0.5**
KURK pmax pmax
comp=Z,15nm,3.4s
ARCES ARCESS Array B 31.57 352 P **P 05 57 31.4 -1.2**
comp=Z,5.2nm,1.0s,baz=147,slow=8.6,SNR=2.7
ARCES LR LR 06 12 11.8
comp=Z,152nm,18.4s,baz=211,slow=40
comp=Z,5.2nm,1.0s
ESDC Sonseca Array 32.42 285 P **P 05 57 38.9 -1.7**
comp=Z,1.3nm,0.8s,baz=71,slow=8.1,SNR=8.3
ESDC LR LR 06 11 52.3
comp=Z,77nm,18.8s,baz=306,slow=38
comp=Z,1.3nm,0.8s
MK31 Makanchi Array 33.01 61 *i* P **P 05 57 47.1 +1.5**
MKAR Makanchi Array 33.01 61 P **P 05 57 46.0 +0.4**
MKAR Makanchi Array 33.01 61 P **P 05 57 46.5 +1.0**
comp=Z,1.5nm,0.8s,baz=272,slow=8.4,SNR=9.3
MKAR LR LR 06 13 05.6
comp=Z,90nm,19.3s,baz=260,slow=40
comp=Z,1.5nm,0.8s
MKAR Makanchi Array 33.01 61 P **P 05 57 46.0 +0.4**
ZALV Zalesovo Beam 34.91 49 P **P 05 58 01.8 -0.1**
comp=Z,0.5nm,0.5s,baz=216,slow=7.1,SNR=1.1
ZALV LR LR 06 14 15.4
comp=Z,81nm,19.1s,baz=308,slow=40
comp=Z,0.5nm,0.5s
WMQ Urumqi 37.12 66 *e*P **P 05 58 24.3 +3.3**
WMQ LR LR
comp=Z,91nm,21.9s
KMBO Kilima Mbogo 39.71 181 LR LR 06 14 54.8
comp=Z,46nm,18.0s,baz=74,slow=36
NRIK Noril'sk 40.22 25 LR LR 06 16 30.3
comp=Z,85nm,19.2s,baz=320,slow=38
NRIK Noril'sk 40.22 25 *i* P **P 05 58 45.7 -1.0**
NRIK pmax pmax
comp=Z,7.0nm,1.4s
TORD Torodi Ar. Bea 41.11 242 P **P 05 58 52.8 -1.8**
comp=Z,2.4nm,0.4s,baz=51,slow=6.0,SNR=2.2
comp=Z,2.4nm,0.4s
SONM Songino Array 49.00 56 P **P 05 59 57.5 +0.2**
comp=Z,0.2nm,0.4s,baz=332,slow=4.9,SNR=2.1
comp=Z,0.2nm,0.4s
DBIC Dimbokro 50.22 242 LR LR 06 23 51.4
comp=Z,30nm,18.1s,baz=297,slow=39
PZH PanZhiHua 53.96 83 P **P 06 00 36.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.8s
LSZ Lusaka 54.56 192 LR LR 06 24 44.1
comp=Z,94nm,18.1s,baz=302,slow=37
HHC Hu-ho-hao-te 54.86 63 *e*P **P 06 00 41.4 +0.4**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,39nm,4.8s
CMAR Chiang Mai Arr 56.06 93 P **P 06 00 49.2 -0.6**
comp=Z,0.6nm,0.3s,baz=303,slow=6.0,SNR=6.9
comp=Z,0.6nm,0.3s
YAK Yakutsk 57.31 34 LR LR 06 29 01.8
comp=Z,39nm,19.5s,baz=18,slow=40
LBTB Lobatse 64.53 193 LR LR 06 28 23.1
comp=Z,69nm,18.7s,baz=346,slow=35
PSI Prapat 65.70 107 LR LR 06 31 52.8
comp=Z,29nm,18.3s,baz=236,slow=37
KSRS Korea Array 67.66 59 LR LR 06 34 37.6
comp=Z,40nm,18.1s,baz=135,slow=38
A36M Sachs Harbour 68.92 355 P **P 06 02 14.6 -0.3**
SUR Sutherland 72.60 195 LR LR 06 34 24.1
comp=Z,103nm,18.9s,baz=357,slow=36
PETK Petropavlovsk- 74.63 33 LR LR 06 38 25.4
comp=Z,42nm,18.7s,baz=63,slow=38
YKA Yellowknife Ar 76.72 347 P **P 06 03 01.5 +0.1**
comp=Z,1.2nm,0.8s,baz=24,slow=5.7,SNR=16
comp=Z,1.2nm,0.8s
ULM Lac du Bonnet 82.57 332 P **P 06 03 32.9 -0.5**
comp=Z,1.6nm,0.8s,baz=43,slow=5.0,SNR=3.9
comp=Z,1.6nm,0.8s
PDAR Pinedale Array 93.71 337 LR LR 06 47 58.4
comp=Z,42nm,18.2s,baz=325,slow=36

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*ASRS **21** 05:55:17.0±2.1,54°.30N×86°.19E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **21** 05:55:19.4±2.5,54°.32N×86°.22E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=19.6km s-min=11.7km az=53.0*

ISC 21 05:55:20.3±2.9,**54°.3N**±0°.2×**86°.1E**±0°.1,**h0**km,**n5**,σ1$**48/5, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**246**		I		I	05 59 50.0	
	baz=66,slow=334,SNR=7.9								
ZALV	**Zalesovo Beam**	**0.81**	**246**	Pg			**Pg**	**05 55 34.7**	**-1.1**
	1.0nm,0.3s,baz=62,slow=17,SNR=12								
ZALV				Lg			Lg	05 55 49.9	
	4.3nm,0.3s,baz=67,slow=34,SNR=14								
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn			**Pn**	**05 56 50.3**	**+1.5**
	0.1nm,0.3s,baz=53,slow=13,SNR=7.2								
KURBB				Lg			Lg	05 58 30.3	
	0.1nm,0.3s,baz=51,slow=31,SNR=4.1								
	0.7nm,0.5s								
MKAR	**Makanchi Array**	**7.88**	**199**	Pn			**Pn**	**05 57 16.8**	**+0.7**
	0.3nm,0.3s,baz=25,slow=12,SNR=11								
MKAR				Sn			**Sn**	**05 58 45.9**	**0.0**
	0.1nm,0.3s,baz=20,slow=26,SNR=2.9								
	0.5nm,0.4s								
LZH	**Lanzhou**	**21.98**	**139**	*e*P			**P**	**06 00 15.3**	**-0.6**
LZH				sP				06 00 22.4	
LZH				pmax			pmax		
	comp=Z,20nm,1.0s								

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*RSPR **21** 06:03:05.6,18°.43N×68°.59W,h143km±1km,MD2.6/11*
*NEIC **21** 06:03:06.2±1.4,18°.5N±0°.3×68°.50W±0°.08,h142km±6km, ML2.4/20,Md2.6/11(RSPR),Error ellipse: s-maj=44.9km s-min=8.7km az=189.0*
*SDD **21** 06:03:06.9±0.3,18°.25N×68°.48W,h132km±3km,MD2.8, ML2.4,MW2.6*

ISC 21 06:03:06.4±1.7,**18°.5N**±0°.1×**68°.53W**±0°.05,**h137**km±10km, **n39**,σ0$**87/48**,**7C-3D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.14**	**83**				**Pn**	**06 03 24.3**	**-0.6**
PCDR							**Sn**	**06 03 39.7**	**+0.7**
PCDR					IAML			06 03 55.9	
	comp=E,46nm,2.1s								
PCDR					IAML			06 04 02.4	
	comp=N,119nm,1.7s								
PCDR	**Punta Cana, DR**	**0.14**	**83**	*e*Pg			**Pn**	**06 03 24.1**	**-0.9**
PCDR				*e*Sg			**Sn**	**06 03 37.0**	**-2.0**
PCDR					IAML			06 04 02.0	
	comp=N,112nm,1.9s								
PCDR	**Punta Cana, DR**	**0.14**	**83**⇓	*e*P			**Pn**	**06 03 24.6**	**-0.4**
PCDR	**Punta Cana, DR**	**0.14**	**83**	*e*S			**Sn**	**06 03 39.7**	**+0.7**
HIDR	**Higuey Centro**	**0.20**	**298**⇑	*e*P			**Pn**	**06 03 24.6**	**-0.5**
HIDR	**Higuey Centro**	**0.20**	**298**	*e*S			**Sn**	**06 03 39.5**	**+0.3**
MIDR	**Miches**	**0.69**	**315**	*e*Pg			**Pn**	**06 03 28.0**	**+0.6**
MIDR					IAML			06 03 48.3	
	comp=N,25nm,0.1s								
DR12	**Loma Pena Alta**	**0.85**	**290**	Pn			**Pn**	**06 03 27.9**	**-0.8**
HATOM	**Hato Mayor del**	**0.86**	**290**	*e*Pg			**Pn**	**06 03 29.1**	**+0.3**
HATOM				*e*Sg			**Sn**	**06 03 45.3**	**-0.4**
HATOM					IAML			06 03 48.6	
	comp=N,40nm,0.1s								
SMDR	**Samana, DR**	**1.00**	**322**⇑	*e*P			**Pn**	**06 03 29.8**	**-0.1**
SMDR	**Samana, DR**	**1.00**	**322**	*e*S			**Sn**	**06 03 48.8**	**+0.9**
IDE	**Isla Desecheo**	**1.01**	**96**				**Pn**	**06 03 29.9**	**-0.1**
IDE							**Sn**	**06 03 48.9**	**+0.9**
IDE	**Isla Desecheo**	**1.01**	**96**⇓	*e*P			**Pn**	**06 03 29.9**	**-0.1**
IDE	**Isla Desecheo**	**1.01**	**96**	*e*S			**Sn**	**06 03 48.9**	**+0.9**
AGPR	**Aguadilla, PR**	**1.35**	**91**				**Pn**	**06 03 32.7**	**-0.6**
AGPR							**Sn**	**06 03 55.2**	**+1.4**
AGPR					IAML			06 04 14.7	
	comp=E,46nm,2.3s								
AGPR					IAML			06 04 28.8	
	comp=N,37nm,2.4s								
AGPR	**Aguadilla, PR**	**1.35**	**91**⇑	*e*P			**Pn**	**06 03 33.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.35**	**91**	*e*S			**Sn**	**06 03 55.3**	**+1.4**
LSP	**Las Mesas**	**1.41**	**103**				**Pn**	**06 03 35.5**	**+1.4**
LSP							**Sn**	**06 03 54.0**	**-1.1**
LSP	**Las Mesas**	**1.41**	**103**⇑	*e*P			**Pn**	**06 03 35.5**	**+1.4**
LSP	**Las Mesas**	**1.41**	**103**	*e*S			**Sn**	**06 03 54.0**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.44**	**110**				**Pn**	**06 03 34.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.44**	**110**⇓	*e*P			**Pn**	**06 03 34.9**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.44**	**110**	*e*S			**Sn**	**06 03 56.6**	**+1.1**
MLPR	**Magueyes Islan**	**1.51**	**110**⇑	*e*P			**Pn**	**06 03 35.6**	**+0.6**
MLPR	**Magueyes Islan**	**1.51**	**110**	*e*S			**Sn**	**06 03 58.0**	**+1.1**
AOPR	**Arecibo Observ**	**1.69**	**95**	Pn			**Pn**	**06 03 37.1**	**-0.1**
AOPR							**Sn**	**06 04 00.6**	**-0.1**
AOPR					IAML			06 04 06.0	
	comp=N,52nm,0.2s								
AOPR	**Arecibo Observ**	**1.69**	**95**	*e*S			**Sn**	**06 04 00.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.74**	**98**				**Pn**	**06 03 37.5**	**-0.2**
UUPR							**Sn**	**06 04 01.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.74**	**98**⇑	*e*P			**Pn**	**06 03 37.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.74**	**98**	*e*S			**Sn**	**06 04 01.4**	**-0.1**
EMPR	**Esperanza - Ma**	**1.90**	**90**	Pn			**Pn**	**06 03 39.2**	**-0.4**
CELP	**Cerrillos**	**1.90**	**102**	Pn			**Pn**	**06 03 38.4**	**-1.2**
CELP	**Cerrillos**	**1.90**	**102**	*e*S			**Sn**	**06 04 05.8**	**+0.8**
ABDR	**Alto Bandera**	**2.01**	**279**	*e*Pg			**Pn**	**06 03 41.2**	**0.0**
ABDR				*e*Sg			**Sn**	**06 04 06.6**	**-1.3**
ABDR					IAML			06 04 09.1	
	comp=N,20nm,2.6s								
ECPR	**Experimental S**	**2.07**	**95**⇑	*e*P			**Pn**	**06 03 40.6**	**-1.0**
ECPR	**Experimental S**	**2.07**	**95**	*e*S			**Sn**	**06 04 07.7**	**-0.9**
IGPR	**InterUniversit**	**2.36**	**103**	Pn			**Pn**	**06 03 44.5**	**-0.7**
IGPR					IAML			06 04 18.1	
	comp=N,14nm,0.3s								
IGPR					IAML			06 04 21.1	
	comp=E,16nm,0.3s								
PDPR	**Patillas Dam,**	**2.43**	**101**	Pn			**Pn**	**06 03 44.9**	**-1.1**
PDPR					IAML			06 04 25.4	
	comp=N,9.8nm,1.2s								
SDDR	**Presa de Saban**	**2.66**	**281**	Pn			**Pn**	**06 03 50.1**	**+1.2**
SDDR					IAML			06 04 29.1	
	comp=N,14nm,1.8s								
SDDR					IAML			06 05 15.0	
	comp=N,13nm,2.1s								

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*IDC **21** 06:36:26.1±1.4,31°.71N×141°.43E,h0km,mb3.7/7, mbtmp3.7/9,ML3.3/2,MS2.7/1,Error ellipse: s-maj=50.3km s-min=15.3km az=66.0*
*JMA **21** 06:36:30.0±0.4,32°.N±1°.×14°.2E±°,h80km,MV3.4/16, NEAR TORISHIMA IS*

ISC 21 06:36:29.3±0.9,**31°.79N**±0°.06×**141°.6E**±0°.1,**h26**km,**n18**, σ1$**00/22**,**mb3.7/7,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.71**	**294**	*e*P			**Pb**	**06 36 59.0**	**-1.0**
JHJ2	**Mitsune**	**2.01**	**311**	*e*P			**Pn**	**06 37 01.8**	**+0.3**
JHJ2				*e*S			**Sn**	**06 37 25.3**	**-0.5**
JHJ	**Hachijo jima 2**	**2.04**	**311**	Pn			**Pn**	**06 37 01.2**	**-0.7**
	32nm,0.3s,baz=80,slow=21,SNR=9.8								
JHJ					Sn		**Sn**	**06 37 25.8**	**-0.8**
	36nm,0.3s,baz=62,slow=23,SNR=7.9								
BSO1	**Boso 1**	**2.91**	**350**	*e*P			**Pn**	**06 37 12.5**	**-0.9**
BSO1				*e*S			**Sn**	**06 37 45.6**	**-1.6**
BSO3	**Boso 3**	**3.15**	**343**	*e*P			**Pn**	**06 37 16.6**	**-0.2**
CBIJ	**Chichi jima**	**4.70**	**174**	*e*P			**Pn**	**06 37 38.3**	**-0.2**
JCJ	**Chichijima**	**4.70**	**174**	Pn			**Pn**	**06 37 37.6**	**-0.9**
	12nm,0.3s,baz=292,slow=23,SNR=8.0								
JCJ					Sn		**Sn**	**06 38 30.4**	**-1.9**
	6.8nm,0.3s,baz=275,slow=20,SNR=1.4								
	28nm,0.3s								
JHO	**Hitachi**	**4.89**	**350**	*e*P			**Pn**	**06 37 39.1**	**-2.0**
JAG	**Ashikaga**	**4.96**	**339**	*e*P			**Pn**	**06 37 42.0**	**-0.1**
MJAR	**Matsushiro Arr**	**5.52**	**330**	Pn			**Pn**	**06 37 49.8**	**+0.1**
	0.1nm,0.3s,baz=156,slow=10,SNR=4.3								
MJAR					Sn		**Sn**	**06 38 53.0**	**+0.7**
	0.1nm,0.3s,baz=162,slow=32,SNR=1.7								
	1.9nm,0.7s								
KSRS	**Korea Array**	**12.61**	**300**	LR			LR	06 44 19.2	
	comp=Z,34nm,18.1s,baz=0.0,slow=38								
SONM	**Songino Array**	**31.12**	**311**	P			**P**	**06 42 46.5**	**+0.9**
	0.3nm,0.5s,baz=99,slow=9.1,SNR=2.8								
	0.3nm,0.5s								

MKAR Makanchi Array 47.20 306 P **P 06 45 00.0 +0.2**
0.4nm,0.5s,baz=86,slow=9.8,SNR=5.0
0.4nm,0.5s
KURBB Kurchatov Arra 49.48 312 P **P 06 45 16.6 -0.6**
0.8nm,0.8s,baz=86,slow=7.0,SNR=8.4
0.8nm,0.8s
WRA Warramunga Arr 51.91 189 P **P 06 45 35.8 +0.1**
1.3nm,0.5s,baz=5.2,slow=7.6,SNR=15
1.3nm,0.5s
BVAR Borovoye Array 54.31 315 P **P 06 45 53.4 +0.1**
0.2nm,0.3s,baz=104,slow=6.1,SNR=2.0
0.2nm,0.3s
ASAR Alice Springs 55.63 189 P **P 06 46 03.0 0.0**
0.4nm,0.6s,baz=15,slow=14,SNR=9.3
0.4nm,0.6s
TXAR Lajitas Array 93.18 53 P **P 06 49 43.5 +1.8**
0.2nm,0.7s,baz=313,slow=4.6,SNR=2.6
0.2nm,0.7s

IDC 21 06:49:58.5±375.0, 34°.02N×121°.02E, h0km, Error ellipse: s-maj=221.6km s-min=146.4km az=85.0, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**17.61**	**326**	I	I	08 34 35.0	
0.3nm,1.2s,baz=136,slow=341,SNR=3.3							
I39PW	**PALAU INFRASON**	**29.16**	**152**	I	I	09 48 10.0	
baz=337,slow=315,SNR=2.2							
I44RU	**PETROPAVLOVSK**	**32.24**	**42**	I	I	10 07 40.0	
baz=249,slow=324,SNR=1.3							
I18DK	**QAANAAQ INFRASS**	**58.59**	**2**	I	I	13 56 35.0	
0.1nm,1.4s,baz=336,slow=341,SNR=6.3							

IDC 21 07:00:40.2±1.4, 20°.50S×173°.34E, h0km, mb4.1/4, mbtmp4.0/6, ML4.1/2, MS3.8/14, Error ellipse: s-maj=44.7km s-min=28.0km az=169.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.24**	**59**	Pn	Pn	07 01 58.5	-1.5
0.7nm,0.3s,baz=222,slow=16,SNR=6.9							
MSVF				LR	LR	07 03 28.2	
comp=Z,1μm,19.4s,baz=272,slow=32							
5.8nm,0.6s							
DZM	**Mont Dzumac**	**6.61**	**255**	Pn	Pn	07 02 20.6	+1.7
0.4nm,0.3s,baz=57,slow=20,SNR=5.7							
4.2nm,0.6s							
HNR	**Honiara**	**16.97**	**308**	LR	LR	07 10 25.4	
comp=Z,226nm,19.3s,baz=144,slow=34							
URZ	**Urewera**	**18.00**	**170**	LR	LR	07 09 51.7	
comp=Z,354nm,18.6s,baz=74,slow=31							
STKA	**Stephens Creek**	**30.55**	**242**	LR	LR	07 17 50.6	
comp=Z,133nm,19.7s,baz=31,slow=34							
WRA	**Warramunga Arr**	**36.54**	**264**	P	P	07 07 46.7	-1.3
0.8nm,0.9s,baz=101,slow=8.0,SNR=2.5							
WRA				LR	LR	07 23 05.0	
comp=Z,251nm,18.1s,baz=108,slow=37							
0.8nm,0.9s							
ASAR	**Alice Springs**	**36.60**	**258**	P	P	07 07 47.1	-1.3
1.2nm,0.8s,baz=84,slow=8.7,SNR=8.8							
ASAR				LR	LR	07 22 10.1	
comp=Z,201nm,21.7s,baz=107,slow=35							
1.2nm,0.8s							
GUMO	**Guam**	**43.94**	**318**	LR	LR	07 25 44.6	
comp=Z,60nm,21.9s,baz=116,slow=34							
BATI	**Baumata**	**48.82**	**274**	LR	LR	07 30 26.5	
comp=Z,54nm,18.3s,baz=0.5,slow=37							
NWAO	**Narrogin (SRO)**	**51.09**	**244**	LR	LR	07 30 36.3	
comp=Z,167nm,19.2s,baz=74,slow=35							
JCJ	**Chichijima**	**56.12**	**326**	LR	LR	07 29 31.7	
comp=Z,38nm,21.8s,baz=60,slow=31							
QSPA	**South Pole Qui**	**69.56**	**180**	P	P	07 11 51.7	+0.8
4.7nm,1.0s,baz=13,slow=3.9,SNR=5.5							
4.7nm,1.0s							
KLR	**Kul'dur**	**78.65**	**334**	LR	LR	07 41 00.3	
comp=Z,30nm,21.7s,baz=44,slow=31							
CMAR	**Chiang Mai Arr**	**82.54**	**293**	P	P	07 13 06.8	+1.3
1.2nm,0.3s,baz=110,slow=4.7,SNR=4.5							
1.2nm,0.3s							
YAK	**Yakutsk**	**89.27**	**341**	LR	LR	07 47 14.9	
comp=Z,46nm,21.7s,baz=101,slow=31							
NEW	**Newport**	**92.30**	**39**	LR	LR	07 50 48.9	
comp=Z,57nm,18.6s,baz=300,slow=33							
PLCA	**Paso Flores**	**95.00**	**137**	LR	LR	07 46 11.0	
comp=Z,39nm,21.3s,baz=204,slow=29							

*NNC **21** 07:23:45.6±0.4, 49°.97N×78°.69E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=6.9km s-min=2.1km az=84.0, Suspected Mining explosion.*
*IDC **21** 07:23:47.3±1.1, 50°.01N×78°.61E, h0km, mbtmp2.6/2, ML1.8/2, Error ellipse: s-maj=12.7km s-min=6.7km az=68.0*

ISC 21 07:23:47.6±0.9, 50°.09N±0°.05×78°.73E±0°.06, h0km, n24, σ0s86/35, 16C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.51**	**345**	⇑P	**Pg**	**07 23 57.7**	**+0.3**
KUR07				⇓S	**Sb**	**07 24 07.5**	**0.0**
KUR06	**Kurchatov Arra**	**0.53**	**346**	⇓P	**Pg**	**07 23 58.1**	**+0.3**
KUR06				⇓S	**Sb**	**07 24 08.1**	**0.0**
KUR14	**Kurchatov Arra**	**0.54**	**350**	⇑P	**Pg**	**07 23 58.2**	**+0.3**
KUR14				⇑S	**Sb**	**07 24 08.1**	**0.0**
KUR15	**Kurchatov Arra**	**0.54**	**348**	⇑P	**Pg**	**07 23 58.3**	**+0.3**
KUR15				⇓S	**Sb**	**07 24 08.1**	**-0.3**
KURBB	**Kurchatov Arra**	**0.55**	**347**	Pg	**Pg**	**07 23 58.7**	**+0.5**
0.4nm,0.3s,baz=173,slow=16,SNR=43							
KURBB				Lg	Lg	07 24 09.0	
0.8nm,0.3s,baz=176,slow=31,SNR=25							
KURBB	**Kurchatov Arra**	**0.55**	**347**	⇑P	**Pg**	**07 23 58.3**	**+0.2**
KURBB				⇓S	**Sb**	**07 24 08.2**	**-0.4**
87nm,0.7s							
KUR16	**Kurchatov Arra**	**0.56**	**345**	⇑P	**Pg**	**07 23 58.7**	**+0.3**
KUR16				⇓S	**Sb**	**07 24 08.0**	**-0.9**
KUR05	**Kurchatov Arra**	**0.57**	**347**	⇑P	**Pg**	**07 23 58.4**	**-0.1**
KUR05				⇑S	**Sb**	**07 24 08.6**	**-0.6**
KUR17	**Kurchatov Arra**	**0.57**	**343**	⇑P	**Pg**	**07 23 59.2**	**+0.7**
KUR17				⇓S	**Sb**	**07 24 08.8**	**-0.4**
KUR04	**Kurchatov Arra**	**0.59**	**348**	⇓P	**Pg**	**07 23 59.1**	**+0.2**
KUR04				⇑S	**Sb**	**07 24 09.9**	**+0.3**
KURK	**Kurchatov**	**0.63**	**354**	⇑P	**Pg**	**07 23 59.9**	**+0.1**
16nm,0.9s							
KURK				⇑S	**Sb**	**07 24 10.2**	**-0.8**
89nm,1.0s							
BRZS	**Berezniki**	**3.90**	**271**	Pg	**Pb**	**07 24 55.7**	**-1.6**
1.4nm,0.4s							
BRZS				Lg	Lg	07 25 48.1	
3.9nm,0.9s							
MAKZ	**Makanchi**	**3.93**	**145**	⇓Pg	**Pb**	**07 24 57.1**	**-0.6**
5.5nm,1.0s							
MAKZ				⇓Lg	Lg	07 25 47.1	
23nm,0.8s							
MK31	**Makanchi Array**	**4.06**	**143**	⇑Pn	**Pn**	**07 24 50.6**	**-0.3**
0.1nm,0.2s,baz=127,slow=15,SNR=5.2							
MK31				⇑Pg	**Pb**	**07 24 58.5**	**-1.5**
0.8nm,0.6s,baz=333,slow=16,SNR=12							
MK31				Lg	Lg	07 25 52.9	
20nm,0.7s,baz=325,slow=26,SNR=20							
MKAR	**Makanchi Array**	**4.06**	**143**	Pn	**Pn**	**07 24 50.9**	**-0.1**
0.1nm,0.3s,baz=321,slow=10,SNR=7.8							
MKAR				Pg	**Pb**	**07 24 58.6**	**-1.3**
0.2nm,0.3s,baz=316,slow=16,SNR=11							
MKAR				Lg	Lg	07 25 52.5	
0.6nm,0.3s,baz=326,slow=30,SNR=16							
0.4nm,0.6s							
OTUK	**Ortayu**	**4.58**	**249**	Pg	**Pb**	**07 25 07.8**	**-1.1**
0.5nm,0.7s							
OTUK				Lg	Lg	07 26 08.2	
2.2nm,0.8s							
OTUK	**Ortayu**	**4.58**	**249**	⇑Pg	**Pb**	**07 25 07.5**	**-1.4**
2.8nm,1.3s							
OTUK				⇑Lg	Lg	07 26 08.1	
11nm,0.9s							
I46RU	**ZALESOVO INFRA**	**5.39**	**42**	I	I	07 55 00.0	
baz=224,slow=326,SNR=3.9							
ZALV	**Zalesovo Beam**	**5.39**	**42**	Pn	**Pn**	**07 25 11.0**	**+1.8**
0.1nm,0.3s,baz=228,slow=13,SNR=7.2							
ZALV				Lg	Lg	07 26 40.6	
0.1nm,0.3s,baz=227,slow=25,SNR=6.0							
1.3nm,0.7s							
DJR	**Jarkent**	**5.80**	**172**	Pg	**Pb**	**07 25 28.1**	**-1.6**
0.7nm,0.4s							
DJR				Lg	Lg	07 26 43.1	
2.7nm,0.6s							
ARXS	**Arharly**	**5.91**	**186**	Pg	**Pb**	**07 25 31.6**	**0.0**
49nm,0.3s							
ARXS				Lg	Lg	07 26 49.6	
16nm,0.8s							
BTLS	**Baital**	**5.96**	**214**	Pg	**Pb**	**07 25 33.3**	**+0.9**
0.4nm,0.2s							
BTLS				Lg	Lg	07 26 51.7	
2.4nm,0.6s							
BLB	**Baldybastay**	**6.00**	**182**	Pg	**Pb**	**07 25 33.5**	**+0.5**
3.9nm,0.5s							
BLB				Lg	Lg	07 26 52.0	
26nm,0.8s							
DGS	**Degeres**	**7.14**	**198**	Pg	**Pb**	**07 25 54.4**	**+1.9**
1.5nm,0.6s							
DGS				Lg	Lg	07 27 27.9	
8.1nm,0.7s							

*IDC **21** 08:12:55.5±1.6, 19°.05N×60°.26W, h0km, mb3.8/8, mbtmp3.9/12, ML3.4/4, MS3.1/13, Error ellipse: s-maj=43.0km s-min=19.8km az=103.0*
*TRN **21** 08:12:58.2, 18°.85N×60°.32W, h56km, MD4.0, Far north-east of Barbuda.*

ISC 21 08:12:55.8±2.0, 18°.80N±0°.05×60°.48W±0°.07, h8km±12km, n72, σ2s40/88, mb4.0/8, MS3.1/8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.67**	**228**	*e*P	**Pg**	**08 13 28.3**	**+0.5**
ANWB				*e*S	**Sg**	**08 13 49.7**	**+0.2**
ANBD	**Bethesda, Anti**	**2.12**	**215**	*e*P	**Pb**	**08 13 34.6**	**+0.1**
ANBD				*e*S	**Sb**	**08 14 00.5**	**-0.6**
H05N1	**Guadeloupe/Mar**	**2.52**	**193**	Pn	**Pn**	**08 13 38.8**	**+1.6**
H05N1				Sn	**Sn**	**08 14 08.1**	**-0.1**
SKI	**Saint Kitts**	**2.59**	**236**	*e*P	**Pb**	**08 13 42.3**	**-0.3**
SKI				*e*S	**Sb**	**08 14 14.1**	**-0.5**
SKOC	**St. Kitts, UWI**	**2.61**	**235**	*e*P	**Pb**	**08 13 42.1**	**-0.8**
SKOC				*e*S	**Sb**	**08 14 13.1**	**-2.0**
MBWH		**2.61**	**219**	*e*P	**Pb**	**08 13 42.1**	**-0.8**
MBWH				*e*S	**Sb**	**08 14 14.1**	**-1.1**
MBFL	**Flemmings, Mon**	**2.62**	**219**	*e*P	**Pb**	**08 13 42.0**	**-1.1**
MBFL				*e*S	**Sb**	**08 14 14.0**	**-1.4**
TBG	**Guadaloupe-3**	**3.13**	**201**	*e*P	**Pb**	**08 13 48.7**	**-3.0**
TBG				*e*S	**Sn**	**08 14 26.0**	**+2.9**
DSLB	**Salisbury**	**3.46**	**195**	*e*P	**Pn**	**08 13 52.8**	**+2.8**
DSLB				*e*S	**Sn**	**08 14 32.2**	**+0.9**
MDN	**Morne-Daniel**	**3.56**	**194**	*e*P	**Pn**	**08 13 54.3**	**+2.8**
MDN				*e*S	**Sn**	**08 14 35.8**	**+1.9**
SVN	**Savane Anatole**	**3.98**	**190**	*e*P	**Pn**	**08 13 59.2**	**+1.8**
SVN				*e*S	**Sn**	**08 14 44.1**	**-0.2**
BIM	**Bigot**	**4.29**	**188**	*e*P	**Pn**	**08 14 03.9**	**+2.3**
BIM				*e*S	**Sn**	**08 14 52.0**	**+0.1**
H05S1	**Guadeloupe/Mar**	**4.36**	**184**	Pn	**Pn**	**08 14 06.4**	**+4.0**
H05S1				Sn	**Sn**	**08 14 52.4**	**-1.1**
SLBI	**Saint Lucia, B**	**4.77**	**186**	*e*P	**Pn**	**08 14 09.8**	**+1.8**
SLBI				*e*S	**Sn**	**08 15 02.4**	**-1.2**
SLAC	**Saint Lucia, A**	**4.89**	**185**	*e*P	**Pn**	**08 14 11.4**	**+1.7**
SLAC				*e*S	**Sn**	**08 15 05.2**	**-1.3**
SJG	**San Juan**	**5.42**	**264**	Pn	**Pn**	**08 14 20.0**	**+3.0**
7.2nm,0.3s,baz=93,slow=13,SNR=7.3							
SJG				Sn	**Sn**	**08 15 20.0**	**+0.3**
22nm,0.3s,baz=48,slow=23,SNR=14							
SJG				LR	LR	08 16 42.8	
comp=Z,75nm,18.6s,baz=98,slow=40							
15nm,0.3s							
SSV	**Crater Summit**	**5.48**	**187**	*e*P	**Pn**	**08 14 20.7**	**+2.8**
SVB	**Belmont**	**5.54**	**188**	*e*P	**Pn**	**08 14 21.1**	**+2.4**
SVB				*e*S	**Sn**	**08 15 21.9**	**-0.8**
SVT	**Saint Vincent**	**5.64**	**188**	*e*P	**Pn**	**08 14 22.2**	**+2.1**
SVT				*e*S	**Sn**	**08 15 23.6**	**-1.5**
SVOC	**Richmond Hill,**	**5.65**	**187**	*e*P	**Pn**	**08 14 22.3**	**+2.1**
SVOC				*e*S	**Sn**	**08 15 23.5**	**-1.9**
BBGH	**Gun Hill**	**5.69**	**171**	*e*P	**Pn**	**08 14 21.2**	**+0.5**
BBGH				*e*S	**Sn**	**08 15 23.2**	**-3.1**
AOPR	**Arecibo Observ**	**5.96**	**267**	*e*P	**Pn**	**08 14 26.1**	**+1.5**
AOPR				*e*S	**Sn**	**08 15 32.6**	**-0.5**
GCMP	**Grenada, Carri**	**6.34**	**188**	*e*P	**Pn**	**08 14 32.0**	**+2.4**
GCMP				*e*S	**Sn**	**08 15 40.9**	**-1.4**
GRSS	**Sisters**	**6.55**	**190**	*e*S	**Sn**	**08 15 54.9**	**+7.4**
GRW	**Mount Saint Ca**	**6.69**	**190**	*e*P	**Pn**	**08 14 37.2**	**+2.6**
GRW				*e*S	**Sn**	**08 15 49.3**	**-1.9**
GRGR	**Grenville**	**6.72**	**190**	*e*P	**Pn**	**08 14 36.7**	**+1.8**
GRGR				*e*S	**Sn**	**08 15 51.5**	**-0.3**
GRFF	**Grenada Fort F**	**6.81**	**190**	*e*P	Pn	08 14 43.2	+7.0
TOSP	**Speyside**	**7.45**	**180**	*e*P	**Pn**	**08 14 47.0**	**+2.1**
TOSP				*e*S	**Sn**	**08 16 05.4**	**-4.4**
TRN	**Trinidad (W)**	**8.15**	**186**	*e*P	**Pn**	**08 14 57.7**	**+3.2**
TRN				*e*S	**Sn**	**08 16 23.7**	**-3.2**
PCRV	**Puerto La Cruz**	**9.46**	**206**	Pn	**Pn**	**08 15 16.9**	**+4.3**
0.6nm,0.3s,baz=13,slow=3.9,SNR=6.1							
PCRV				LR	LR	08 19 52.5	
comp=Z,61nm,18.2s,slow=43							
7.5nm,0.9s							
SDDR	**Presa de Saban**	**10.23**	**273**	*e*P	**Pn**	**08 15 25.5**	**+2.4**
SDDR				*e*S	**Sn**	**08 17 12.9**	**-5.2**
BAUV	**El Baul**	**12.23**	**218**	*e*P	**Pn**	**08 15 53.0**	**+2.5**
MASC	**Masc**	**13.04**	**278**	*e*P	**Pn**	**08 15 58.2**	**-3.3**
QMBU	**Quimbuelo**	**13.58**	**278**	*e*P	**Pn**	**08 16 06.0**	**-3.0**
MOAC	**Moa**	**13.76**	**280**	*e*P	**Pn**	**08 16 08.7**	**-2.6**
NMDO	**Nuevo Mundo**	**13.77**	**280**	*e*P	**Pn**	**08 16 08.7**	**-2.8**
GTBY	**Guantanamo Bay**	**13.85**	**277**	*e*P	**Pn**	**08 16 10.4**	**-2.2**
SDV	**Santo Domingo**	**13.93**	**226**	Pn	**P**	**08 16 18.5**	**-3.6**
0.6nm,0.3s,baz=34,slow=11,SNR=4.1							
SDV				LR	LR	08 21 48.4	
comp=Z,63nm,21.4s,baz=58,slow=37							
3.8nm,0.6s							
RCC	**Rio Carpintero**	**14.40**	**277**	*e*P	**Pn**	**08 16 17.8**	**-2.4**
PINC	**Pinares de May**	**14.52**	**279**	*e*P	**Pn**	**08 16 17.2**	**-4.5**
MARVS	**Santiago de Cu**	**14.60**	**277**	*e*P	Pn	08 16 17.8	-5.0
MDP	**Montagnes des**	**15.62**	**150**	LR	LR	08 21 23.7	
comp=Z,92nm,20.9s,baz=308,slow=32							
ARGC	**Ariguani, Magd**	**16.01**	**238**	P	**P**	**08 16 47.1**	**+2.0**
21nm,1.4s							
OCAC	**Ocana**	**16.29**	**232**	P	**Pn**	**08 16 46.3**	**+1.0**
34nm,0.7s							
PAMC	**Pamplona, Colo**	**16.45**	**228**	P	**Pn**	**08 16 49.0**	**+1.3**
SJCC	**San Jacinto, C**	**16.75**	**240**	P	**P**	**08 16 56.1**	**+2.7**
56nm,1.1s							
RUSC	**La Rusia**	**17.76**	**225**	P	**P**	**08 17 05.0**	**+0.1**
6.8nm,1.3s							
PTBC	**PUERTO BERRIO,**	**18.26**	**230**	P	**Pn**	**08 17 03.3**	**-6.6**
56nm3.3nm,0.4s							
CHIC	**Chingaza**	**19.12**	**224**	P	**Pn**	**08 17 21.6**	**+0.9**
7.3nm,0.8s							
NORC	**Norcasia**	**19.23**	**229**	P	**Pn**	**08 17 22.6**	**+1.0**
8.4nm,0.6s							
HELC	**Santa Helena**	**19.28**	**231**	P	**Pn**	**08 17 23.1**	**+0.5**
11nm,0.7s							
ROSC	**El Rosal**	**19.36**	**226**	P	**Pn**	**08 17 27.2**	**+3.7**
0.8nm,0.3s,baz=55,slow=6.6,SNR=4.5							
ROSC				LR	LR	08 26 03.6	
comp=Z,77nm,19.9s,baz=37,slow=40							
3.5nm,0.3s							
GUY2C	**Guyana, Caldas**	**19.82**	**229**	P	**P**	**08 17 27.5**	**-0.1**
9.9nm,0.8s							
CBOC	**Ciudad Bolivar**	**19.86**	**232**	P	**Pn**	**08 17 28.7**	**-0.6**
8.0nm,1.2s							
URMC	**La Uribe, Meta**	**20.58**	**223**	P	Pn	08 17 37.1	-0.6
22nm,0.9s							
PLMC	**San Jos del P**	**20.70**	**230**	P	**P**	**08 17 37.9**	**+1.1**
7.3nm,0.7s							
MACC	**Macarena, Meta**	**21.10**	**220**	P	**P**	**08 17 41.3**	**+0.3**
TKL	**Tuckaleechee C**	**26.56**	**314**	LR	LR	08 27 39.5	
comp=Z,46nm,21.6s,baz=132,slow=33							
SADO	**Sadowa**	**30.22**	**333**	LR	LR	08 29 30.5	
comp=Z,47nm,21.1s,baz=72,slow=33							
ATAH	**Atahualpa**	**31.24**	**216**	LR	LR	08 33 43.3	
comp=Z,72nm,21.6s,baz=337,slow=40							
LPAZ	**La Paz**	**35.66**	**193**	LR	LR	08 37 43.1	
comp=Z,19nm,19.3s,baz=38,slow=41							
SCHQ	**Schefferville**	**36.30**	**354**	P	**P**	**08 19 58.4**	**-1.4**
2.7nm,0.8s,baz=157,slow=6.6,SNR=6.2							
2.7nm,0.8s							
BDFB	**Brasilia**	**36.35**	**159**	LR	LR	08 35 28.8	
comp=Z,30nm,19.0s,baz=0.8,slow=37							
TXAR	**Lajitas Array**	**40.60**	**293**	P	**P**	**08 20 38.2**	**+1.8**
0.5nm,0.7s,baz=102,slow=9.2,SNR=6.6							
0.5nm,0.7s							
ANMO	**Albuquerque**	**43.66**	**301**	LR	LR	08 39 01.0	
comp=Z,45nm,19.8s,baz=246,slow=36							
LPIG	**La Paz**	**46.48**	**286**	LR	LR	08 40 40.1	
comp=Z,38nm,20.8s,baz=7.5,slow=36							
PDAR	**Pinedale Array**	**47.65**	**311**	P	**P**	**08 21 34.3**	**+1.3**
0.4nm,0.7s,baz=111,slow=8.1,SNR=4.3							
PDAR				LR	LR	08 40 00.4	
comp=Z,25nm,21.9s,baz=49,slow=34							
0.4nm,0.7s							
YKA	**Yellowknife Ar**	**57.22**	**333**	P	**P**	**08 22 43.3**	**-0.1**
1.3nm,0.8s,baz=110,slow=7.0,SNR=13							
1.3nm,0.8s							
PLCA	**Paso Flores**	**59.96**	**189**	P	**P**	**08 23 05.8**	**+3.0**
0.9nm,0.9s,baz=72,slow=3.2,SNR=1.7							
0.9nm,0.9s							
DLBC	**Dease Lake**	**63.48**	**327**	P	**P**	**08 23 27.3**	**+0.9**
2.2nm,1.0s,baz=193,slow=4.7,SNR=3.3							
2.2nm,1.0s							
INK	**Inuvik**	**66.42**	**337**	P	**P**	**08 23 44.8**	**-0.4**
1.3nm,1.0s,baz=125,slow=8.3,SNR=3.6							
1.3nm,1.0s							
ILAR	**Eielson Array**	**71.65**	**333**	P	**P**	**08 24 17.7**	**-0.1**
0.8nm,0.9s,baz=108,slow=4.9,SNR=7.1							
0.8nm,0.9s							

*NEIC **21** 08:14:27.2±0.6, 19°.410N±0°.008×155°.445W±0°.007, h10km±1km, Error ellipse: s-maj=2.4km s-min=1.3km az=58.0*

HVO 21 08:14:27.1±0.6, 19°.400N±0°.008×155°.446W±0°.007, h9km±3km, ML3.0/43, ML2.9/44(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.11**	**31**	Pg	Pg	08 14 30.2	+0.3
MLH				IAML		08 14 32.6	
comp=N,4μm,0.2s							
WRMHI	**West Rim**	**0.14**	**87**		Pg	08 14 30.6	+0.4
WRMHI					Sg	08 14 33.2	+0.8
SDHHI	**Sand Hill**	**0.14**	**94**		Pg	08 14 30.7	+0.4
SDHHI					Sg	08 14 33.3	+0.8
UWE	**Uwekahuna**	**0.14**	**82**	Pg	Pg	08 14 30.9	+0.5
OBL	**Observatory Le**	**0.15**	**84**		Pg	08 14 30.8	+0.4
OBL					Sg	08 14 33.5	+0.7
UWB	**Uwekahuna Bluf**	**0.16**	**81**		Pg	08 14 30.9	+0.3
UWB					Sg	08 14 33.6	+0.6
RIM	**Rim**	**0.16**	**92**		Pg	08 14 31.0	+0.4
RIM					Sg	08 14 33.8	+0.8
HLP	**Hilina Pali**	**0.17**	**129**		Pg	08 14 31.0	+0.4
HLP				IAML		08 14 34.4	
comp=E,3μm,0.3s							
HLP				IAML		08 14 34.6	
comp=N,2μm,0.3s							
MWH	**Mokuaweoweo**	**0.17**	**301**	Pg	Pg	08 14 31.1	+0.2
MWH				IAML		08 14 34.7	
comp=N,4μm,0.3s							
HTC	**Hot Caves**	**0.17**	**164**		Pg	08 14 31.1	+0.5
KKO	**Keanakako'i**	**0.17**	**91**		Pg	08 14 31.1	+0.4
KKO					Sg	08 14 34.2	+1.0
RSD	**Rainshed**	**0.17**	**68**	Pg	Pg	08 14 30.9	+0.1
SBLHI	**Steaming Bluff**	**0.17**	**81**		Pg	08 14 31.0	+0.3
SBLHI					Sg	08 14 33.8	+0.5
BYL	**Byron's Ledge**	**0.17**	**86**	Pg	Pg	08 14 31.1	+0.3
BYL				IAML		08 14 35.2	
comp=E,2μm,0.2s							
HATHI	**Halema'uma'u T**	**0.18**	**83**	Pg	Pg	08 14 31.1	+0.3
HATHI				IAML		08 14 34.9	
comp=N,2μm,0.2s							
HATHI				IAML		08 14 35.5	
comp=E,3μm,0.4s							
MLOA	**Mauna Loa Obse**	**0.18**	**318**		Pg	08 14 31.5	+0.4
MLOA	**Mauna Loa Obse**	**0.18**	**318**		Sg	08 14 34.5	+0.6
MLOA	**Mauna Loa Obse**	**0.18**	**318**	IAML		08 14 34.0	
comp=E,16nm,1.2s							
HMH	**Humu'ula Sheep**	**0.20**	**350**	Pg	Pg	08 14 31.8	+0.3
HMH				IAML		08 14 35.4	
comp=E,2μm,0.3s							
PUH	**Pauahi**	**0.22**	**97**		Pg	08 14 31.8	+0.2
PUH				IAML		08 14 35.9	
comp=E,2μm,0.3s							
KHU	**Kahuku**	**0.22**	**226**		Pg	08 14 31.9	+0.2
KHU				IAML		08 14 35.6	
comp=E,2μm,0.2s							
ALEP	**Alea Permanent**	**0.23**	**307**		Pg	08 14 32.0	0.0
ALEP					Sg	08 14 35.5	+0.2
KNHH	**Kane Nui o Ham**	**0.26**	**94**		Pg	08 14 32.5	+0.1
STCH	**Steam Cracks**	**0.30**	**93**		Pg	08 14 33.0	-0.2
STCH				IAML		08 14 41.5	
comp=E,1μm,0.2s							
NPOC	**North of Pu'u**	**0.32**	**91**		Pg	08 14 33.2	-0.2
NPOC					Sg	08 14 38.1	+0.5
JCUZ	**Jacuzzi**	**0.33**	**93**		Pg	08 14 33.3	-0.2
JCUZ					Sg	08 14 38.4	+0.5
HPO	**Honuapo**	**0.33**	**198**		Pg	08 14 33.9	+0.4
POHA	**Pohakuloa**	**0.36**	**347**		Pg	08 14 34.1	-0.2
POHA				IAML		08 14 44.3	
comp=E,2μm,0.6s							
POHA				IAML		08 14 45.0	
comp=E,932nm,0.3s							
POHA	**Pohakuloa**	**0.36**	**347**		Sg	08 14 39.5	+0.3
JOKA	**Jonika Flow**	**0.42**	**85**		Pg	08 14 34.9	-0.3
JOKA	**Jonika Flow**	**0.42**	**85**		Sg	08 14 41.1	+0.3
CPH	**Captain Cook**	**0.45**	**281**		Pg	08 14 35.6	-0.3
HUH	**Hualalai**	**0.46**	**308**		Pg	08 14 36.4	+0.2
HPAH	**Hawaii Prepara**	**0.67**	**339

J16K				IAmb_Lg			08 18 44.9	
	comp=Z,58nm,0.9s							
G18K	**Tagagawik**	**3.84**	**77**	Pn	**Pn**		**08 17 39.0**	**-0.7**
G18K				IAmb_Lg			08 18 55.7	
	comp=Z,53nm,1.0s							
H18K	**Honhosa River**	**3.98**	**88**		**Pn**		**08 17 41.2**	**-0.2**
H18K				IAML			08 18 50.7	
	comp=N,79nm,0.7s							
H18K				IAML			08 18 54.0	
	comp=E,76nm,1.1s							
H18K				IAmb_Lg			08 18 54.3	
	comp=Z,60nm,0.8s							
K15K	**Wolf Creek Mou**	**4.11**	**135**	Pn	**Pn**		**08 17 43.3**	**0.0**
K15K				IAmb_Lg			08 19 00.5	
	comp=Z,50nm,0.8s							
C18K	**Utukok River**	**4.24**	**35**	IAmb_Lg			08 19 00.7	
	comp=Z,32nm,1.1s							
J17K	**VABM Dome**	**4.25**	**113**		**Pn**		**08 17 45.8**	**+0.6**
J17K				IAML			08 18 58.6	
	comp=N,49nm,0.8s							
J17K				IAmb_Lg			08 19 01.3	
	comp=Z,39nm,1.0s							
J17K				IAML			08 19 06.4	
	comp=E,53nm,0.8s							
F19K	**Shaleruckik Mo**	**4.36**	**65**	Pn	**Pn**		**08 17 46.1**	**-0.6**
G19K	**Purcell Mounta**	**4.50**	**74**	Pn	**Pn**		**08 17 48.2**	**-0.5**
L14K	**Kuka Creek**	**4.60**	**148**	Pn	**Pn**		**08 17 49.7**	**-0.3**
H19K	**Roundabout Mou**	**4.75**	**82**	Pn	**Pn**		**08 17 51.4**	**-0.7**
E19K	**Redstone River**	**4.77**	**58**		**Pn**		**08 17 53.0**	**+0.7**
E19K				IAML			08 19 26.8	
	comp=E,34nm,0.7s							
E19K				IAML			08 19 32.3	
	comp=N,47nm,0.8s							
K17K	**Iditarod**	**4.92**	**118**	Pn	**Pn**		**08 17 54.5**	**0.0**
K17K				IAmb_Lg			08 19 24.8	
	comp=Z,30nm,0.8s							
D19K	**Kuna River**	**4.98**	**46**	Pn	**Pn**		**08 17 55.0**	**-0.2**
D19K				IAML			08 19 32.5	
	comp=N,30nm,1.1s							
D19K				IAML			08 19 32.5	
	comp=E,26nm,0.9s							
M11K	**Mekoryuk**	**5.00**	**171**	Pn	**Pn**		**08 17 54.6**	**-0.8**
J18K	**Innoko River**	**5.15**	**106**	Pn	**Pn**		**08 17 57.9**	**+0.2**
L16K	**Owhat River**	**5.19**	**130**		**Pn**		**08 17 58.3**	**+0.2**
M14K	**Bethel**	**5.29**	**147**	Pn	**Pn**		**08 17 59.5**	**0.0**
M14K				IAML			08 19 59.4	
	comp=E,35nm,1.3s							
M13K	**Dall Lake**	**5.32**	**155**	Pn	**Pn**		**08 17 59.8**	**-0.1**
J19K	**Poorman**	**5.40**	**99**	Pn	**Pn**		**08 18 01.5**	**+0.5**
L18K	**Granite Mounta**	**5.82**	**117**	Pn	**Pn**		**08 18 07.9**	**+1.2**
M16K	**Timber Creek**	**5.87**	**133**	Pn	**Pn**		**08 18 08.0**	**+0.5**
G21K	**Allakaket**	**5.98**	**72**		**Pn**		**08 18 09.4**	**+0.5**
M17K	**Holitna River**	**6.09**	**125**	Pn	**Pn**		**08 18 11.3**	**+0.8**
ANDR	**Anadyr'**	**6.25**	**271**	*e*Sg	**Sg**		**08 20 01.2**	**+0.2**
ANDR				Sgmax			08 20 05.9	
	comp=E,10.0nm,0.7s							
L19K	**White Mountain**	**6.54**	**113**	Pn	**Pn**		**08 18 17.2**	**+0.5**
I21K	**Tanana**	**6.64**	**84**	Pn	**Pn**		**08 18 18.5**	**+0.4**
B21K	**Ikpikpuk River**	**6.66**	**44**		**Pn**		**08 18 19.2**	**+1.0**
O14K	**Tigyukauivet M**	**6.79**	**150**	Pn	**Pn**		**08 18 19.7**	**-0.4**
E22K	**Anaktuvuk Pass**	**6.94**	**59**	Pn	**Pn**		**08 18 24.2**	**+2.1**
CAST	**Castle Rocks**	**7.08**	**98**	Pn	**Pn**		**08 18 23.9**	**-0.2**
PPLA	**Purkeypile**	**7.25**	**102**	Pn	**Pn**		**08 18 27.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**7.30**	**92**	Pn	**Pn**		**08 18 27.5**	**+0.3**
COLD	**Coldfoot**	**7.35**	**67**	Pn	**Pn**		**08 18 28.4**	**+0.7**
B22K	**Teshekpuk Lake**	**7.41**	**41**	Pn	**Pn**		**08 18 27.5**	**-1.0**
KTH	**Kantishna Hill**	**7.51**	**96**	Pn	**Pn**		**08 18 30.5**	**+0.5**
N19K	**Bonanza Creek**	**7.54**	**121**	Pn	**Pn**		**08 18 32.0**	**+1.6**
TRF	**Thorofare Moun**	**7.81**	**96**	Pn	**Pn**		**08 18 34.9**	**+0.7**
SKT	**Skwentna**	**7.96**	**107**	Pn	**Pn**		**08 18 37.0**	**+0.8**
O18K	**Koktuh Hills**	**7.97**	**127**	Pn	**Pn**		**08 18 36.8**	**+0.5**
NEA2	**Nenana**	**7.98**	**87**	Pn	**Pn**		**08 18 35.8**	**-0.6**
STLK	**Strandline Lak**	**8.11**	**111**		**Pn**		**08 18 39.2**	**+0.9**
CCB	**Clear Creek Bu**	**8.49**	**85**	Pn	**Pn**		**08 18 43.5**	**+0.1**
SUA	**Susitna One**	**8.56**	**109**	Pn	**Pn**		**08 18 46.3**	**+1.8**
BILL	**Bilibino**	**10.60**	**297**	*e*Sg			08 22 15.7	

*IDC **21** 08:18:27.0±2.8, 24°.58N×95°.14E, h119km±33km, mb3.5/10, mbtmp3.8/12, Error ellipse: s-maj=27.6km s-min=17.0km az=43.0.*

ISC 21 08:18:26.4±0.8, **24°.70N**±0°.09×**95°.01E**±0°.08, **h112**km, **n21**, σ1°**70**/28, **mb3.6**/10, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.69**	**238**	P	**Pn**	**08 19 23.2**	**+1.6**
	140nm,0.3s,baz=266,slow=17,SNR=2.0						
BRDH				S	**Sn**	**08 20 06.2**	**+1.8**
	192nm,0.3s,baz=217,slow=23,SNR=9.7						
ODAN	**Odare**	**7.20**	**289**	Pn	**Pn**	**08 20 10.4**	**+1.2**
	baz=274,slow=0.0						
ODAN				Sn	**Sn**	**08 21 30.4**	**+0.8**
	248nm,0.7s,baz=274,slow=0.0						
CMAR	**Chiang Mai Arr**	**7.21**	**149**	P	**Pn**	**08 20 08.7**	**-0.6**
	1.7nm,0.5s,baz=325,slow=13,SNR=17						
RAMN	**Ramite**	**7.90**	**288**	Pn	**Pn**	**08 20 20.1**	**+1.3**
	baz=274,slow=0.0						
RAMN				Sn	**Sn**	**08 21 47.7**	**+1.0**
	28nm,0.3s,baz=274,slow=0.0						
GUN	**Gumba**	**8.79**	**293**	Pn	**Pn**	**08 20 30.8**	**-0.2**
	baz=281,slow=0.0						
PKI	**Pulchoki**	**9.09**	**290**	Pn	**Pn**	**08 20 34.8**	**-0.2**
	baz=278,slow=0.0						
PKI				Sn	**Sn**	**08 22 13.9**	**-1.8**
	baz=278,slow=0.0						
PKIN	**Phulchoki**	**9.10**	**290**	Pn	**Pn**	**08 20 34.8**	**-0.3**
	baz=278,slow=0.0						
PKIN				Sn	**Sn**	**08 22 14.7**	**-1.2**
	39nm,0.7s,baz=278,slow=0.0						
KKN	**Kakani**	**9.26**	**291**	Pn	**Pn**	**08 20 37.1**	**-0.1**
	baz=280,slow=0.0						
DMN	**Daman**	**9.36**	**290**	Pn	**Pn**	**08 20 38.4**	**-0.1**
	baz=278,slow=0.0						
KOLN	**Koldanda**	**10.69**	**289**	Pn	**Pn**	**08 20 55.7**	**-0.8**
	baz=279,slow=0.0						
KOLN				Sn	**Sn**	**08 22 51.3**	**-3.1**
	17nm,0.5s,baz=279,slow=0.0						
PYUN	**Piuthan**	**11.29**	**290**	Pn	**Pn**	**08 21 02.8**	**-1.9**
	baz=280,slow=0.0						
PYUN				Sn	**Sn**	**08 23 04.3**	**-4.7**
	20nm,0.5s,baz=280,slow=0.0						
MKAR	**Makanchi Array**	**24.28**	**338**	P	**P**	**08 23 34.9**	**+1.8**
	3.1nm,0.5s,baz=148,slow=9.7,SNR=41						
	3.1nm,0.5s						
AAK	**Ala-Archa**	**24.62**	**322**	P	**P**	**08 23 39.1**	**+2.6**
	0.9nm,0.5s,baz=90,slow=1.0,SNR=2.1						
	0.9nm,0.5s						
SONM	**Songino Array**	**24.79**	**18**	P	**P**	**08 23 37.6**	**-0.3**
	0.2nm,0.3s,baz=210,slow=9.5,SNR=2.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**28.84**	**338**	P	**P**	**08 24 15.0**	**+0.9**
	0.8nm,0.8s,baz=152,slow=8.4,SNR=3.9						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**30.19**	**348**	P	**P**	**08 24 26.5**	**+0.6**
	0.4nm,0.3s,baz=161,slow=9.2,SNR=2.0						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**33.83**	**333**	P	**P**	**08 25 00.0**	**+2.2**
	0.4nm,0.4s,baz=95,slow=10,SNR=2.1						
	0.4nm,0.4s						
NRIK	**Noril'sk**	**44.88**	**356**	P	**P**	**08 26 29.1**	**-0.1**
	0.7nm,0.3s,baz=170,slow=11,SNR=2.1						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**58.56**	**328**	P	**P**	**08 28 12.0**	**+1.0**
	0.7nm,0.3s,baz=93,slow=7.2,SNR=8.0						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**58.60**	**136**	P	**P**	**08 28 10.3**	**-1.6**
	0.6nm,0.9s,baz=321,slow=7.5,SNR=5.4						
	0.6nm,0.9s						
ARCES	**ARCESS Array B**	**59.93**	**338**	P	**P**	**08 28 21.2**	**+0.9**
	3.0nm,0.9s,baz=108,slow=5.9,SNR=2.2						
	3.0nm,0.9s						

*IDC **21** 08:29:40.7±1.2, 16°.70N×94°.91W, h0km, mb3.7/5, mbtmp3.7/6, ML2.2/2, Error ellipse: s-maj=18.7km s-min=9.2km az=82.0*

*GCG **21** 08:29:43.3±2.7, 16°.78N×95°.12W, h32km±58km, MD4.7*

*MEX **21** 08:29:44.8±1.0, 16°.71N×94°.99W, h25km±21km, MD4.4*

ISC 21 08:29:40.7±1.2, **16°.73N**±0°.03×**94°.98W**±0°.02, **h6**km±9km, **n74**, σ2°**06**/123, **mb3.4**/5, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.37**	**14**	Pg	**Pg**	**08 29 48.3**	**+0.4**
	859nm,0.3s,baz=200,slow=16						
CMIG				Lg	Lg	08 29 53.5	
	2μm,0.3s,baz=302,slow=17,SNR=53						
CMIG	**Matias Romero**	**0.37**	**14**	*i* P	**Pg**	**08 29 48.3**	**+0.4**
CMIG				*e*S	**Sb**	**08 29 53.8**	**-2.1**
NILT	**Santiago Nilte**	**0.38**	**115**	*i* P	**Pg**	**08 29 48.2**	**+0.1**
NILT				*i* S	**Sg**	**08 29 53.8**	**+0.6**
UXUV	**UXUV**	**0.99**	**54**	*e*P	**Pg**	**08 29 59.5**	**-0.2**
UXUV				*e*S	**Sn**	**08 30 13.4**	**-2.1**
NEUV	**Arroyo Zacate**	**1.26**	**321**	*e*P	**Pn**	**08 30 03.5**	**-1.3**
NEUV				*e*S	**Sb**	**08 30 19.8**	**-1.5**
TUIG	**Tuzandepetl**	**1.40**	**22**	*e*P	**Pb**	**08 30 07.0**	**-0.3**
TUIG				*e*S	**Sg**	**08 30 25.4**	**-0.4**
HUIG	**Huatulco**	**1.45**	**229**	*e*P	**Pn**	**08 30 06.0**	**-1.5**
HUIG				*e*S	**Sn**	**08 30 24.2**	**-2.6**
HUIG	**Huatulco**	**1.45**	**229**	*e*P	**Pn**	**08 30 06.0**	**-1.5**
HUIG				*i* S	**Sn**	**08 30 24.5**	**-2.3**
HUIG	**Huatulco**	**1.45**	**229**	*e*P		08 30 06.0	
HUIG				*i* S		08 30 24.5	
OXLC	**Oaxaca**	**1.69**	**282**	*e*P	**Pn**	**08 30 10.3**	**-0.7**
OXLC				*e*S	**Sn**	**08 30 32.4**	**-0.7**
OXBJ	**Oaxaca**	**1.71**	**282**	*e*P	**Pn**	**08 30 10.4**	**-0.8**
OXBJ				*e*S	**Sn**	**08 30 33.1**	**-0.4**
VHO	**Vista Hermosa**	**1.72**	**282**	*e*P	**Pn**	**08 30 10.6**	**-0.8**
VHO				*e*S	**Sn**	**08 30 32.4**	**-1.4**
TGIG		**1.78**	**88**	*e*P	**Pb**	**08 30 12.8**	**-1.0**
TGIG				*e*S	**Sb**	**08 30 36.2**	**-0.2**
TGIG		**1.78**	**88**	*e*P	**Pb**	**08 30 13.2**	**-0.6**
TGIG				*i* S	**Sg**	**08 30 37.1**	**-0.8**
TGIG		**1.78**	**88**	*e*P		08 30 13.2	
TGIG				*i* S		08 30 37.1	
PANG	**Puerto Angel**	**1.79**	**234**	*e*P	**Pn**	**08 30 12.8**	**+0.7**
PANG				*e*S	**Sn**	**08 30 34.2**	**-1.0**
TGBT	**Tuxtla Gutierr**	**1.81**	**88**	*e*P	**Pb**	**08 30 13.8**	**-0.5**
TGBT				*e*S	**Sb**	**08 30 36.1**	**-1.1**
PMUV	**Sontecomapan**	**1.81**	**356**	*e*P	**Pn**	**08 30 11.4**	**-1.2**
PCIG		**1.97**	**121**	*e*P	**Pn**	**08 30 14.7**	**0.0**
PCIG				*e*S	**Sn**	**08 30 39.9**	**+0.1**
PEIG	**Puerto Escondi**	**2.21**	**251**	*e*P	**Pn**	**08 30 16.4**	**-1.6**
PEIG				*e*S	**Sn**	**08 30 44.5**	**-1.2**
VHSA	**Villahermosa**	**2.31**	**57**	*e*P	**Pn**	**08 30 17.4**	**-2.0**
VHSA				*e*S	**Sb**	**08 30 51.1**	**-0.6**
TOIG	**Toxpalan**	**2.41**	**305**	*e*P	**Pn**	**08 30 20.9**	**0.0**
TOIG				*e*S	**Sn**	**08 30 50.3**	**-0.6**
YOIG	**Yosondua**	**2.46**	**273**	*e*P	**Pn**	**08 30 22.1**	**+0.3**
YOIG				*e*S	**Sn**	**08 30 52.3**	**-0.1**
TXIG	**Tlaxiaco**	**2.72**	**281**	*e*P	**Pn**	**08 30 25.8**	**+0.5**
TXIG				*e*S	**Sn**	**08 30 57.7**	**-1.0**
CCIG	**Comitan**	**2.76**	**99**	*e*P	**Pn**	**08 30 27.7**	**+1.9**
CCIG				*e*S	**Sb**	**08 31 02.5**	**-2.4**
CCIG	**Comitan**	**2.76**	**99**	*e*P	**Pb**	**08 30 29.3**	**-1.4**
CCIG	**Comitan**	**2.76**	**99**	*e*P		08 30 29.3	
TPIG	**Tehuac#an**	**2.83**	**307**	*e*P	**Pn**	**08 30 26.6**	**-0.1**
TPIG				*e*S	**Sn**	**08 31 00.7**	**-0.6**
HLIG	**Huajuapan de L**	**2.91**	**292**	*e*P	**Pn**	**08 30 28.0**	**+0.1**
HLIG				*e*S	**Sn**	**08 31 03.5**	**+0.1**
PNIG	**Pinotepa**	**3.04**	**264**	*e*P	**Pn**	**08 30 28.3**	**-1.2**
PNIG				*e*S	**Sn**	**08 31 05.8**	**-0.4**
PATR	**El Naranjo**	**3.09**	**121**	*e*P	**Pn**	**08 30 30.8**	**+0.5**
PATR				*e*S	**Sn**	**08 31 07.7**	**0.0**
PAVE	**Pavencul**	**3.10**	**119**	*e*P	**Pn**	**08 30 31.4**	**+0.9**
PAVE				*e*S	**Sn**	**08 31 08.8**	**+0.9**
JAUV	**Jalcomulco**	**3.15**	**327**	*e*P	**Pn**	**08 30 29.3**	**-1.6**
JAUV				*e*S	**Sb**	**08 31 12.3**	**-3.5**
THIG		**3.18**	**124**	*e*P	**Pn**	**08 30 31.5**	**+0.2**
THIG				*e*S	**Sn**	**08 31 08.4**	**-1.1**
POHV	**Veracruz**	**3.20**	**317**	*e*P	**Pn**	**08 30 32.2**	**+0.1**
FTIG	**Fresnillo de T**	**3.23**	**292**	*e*P	**Pn**	**08 30 32.9**	**+0.6**
FTIG				*e*S	**Sn**	**08 31 09.4**	**-1.8**
LVIG	**Laguna Verde**	**3.28**	**336**	*e*P	**Pn**	**08 30 29.5**	**-3.1**
LVIG				*e*S	**Sn**	**08 31 06.1**	**-6.0**
TLIG	**Tlapa**	**3.53**	**284**	*e*P	**Pn**	**08 30 35.9**	**-0.4**
TLIG				*e*S	**Sn**	**08 31 18.7**	**+0.2**
MGIG	**Malinaltepec**	**3.54**	**279**	*e*P	**Pn**	**08 30 36.5**	**+0.1**
MGIG				*e*S	**Sn**	**08 31 19.8**	**+1.1**
HMTT	**Tlapaneco**	**3.58**	**288**	*e*P	**Pn**	**08 30 40.0**	**+3.0**
HMTT				*e*S	**Sn**	**08 31 23.6**	**+3.8**
HUEH	**Huehuetenango**	**3.62**	**112**	*e*P	**Pn**	**08 30 40.1**	**+2.4**
HUEH	**Huehuetenango**	**3.62**	**112**	*e*P		08 30 40.1	
PHPU	**Puebla**	**3.81**	**308**	*e*P	**Pn**	**08 30 40.5**	**+0.2**
PHPU				*e*S	**Sn**	**08 31 26.8**	**+1.1**
CRIG	**Cruz Grande**	**3.98**	**271**	*e*P	**Pn**	**08 30 40.1**	**-2.2**
CRIG				*e*S	**Sn**	**08 31 26.5**	**-2.9**
PPM	**Popocatepetl**	**4.18**	**304**	*e*P	**Pn**	**08 30 48.2**	**+2.7**
PPM				*e*S	**Sn**	**08 31 36.7**	**+1.6**
STG0	**El Palmar, Qui**	**4.18**	**123**	*e*P		08 30 42.6	
CXUV	**Coxquihui**	**4.23**	**324**	*e*P	**Pn**	**08 30 44.9**	**-1.0**
CXUV				*e*S	**Sn**	**08 31 34.9**	**-0.7**
SCIG	**Sabancuy**	**4.24**	**58**	*e*P	**Pn**	**08 30 45.9**	**-0.1**
SCIG				*e*S	**Sn**	**08 31 33.0**	**-2.8**
SCIG	**Sabancuy**	**4.24**	**58**	*e*P	**Pn**	**08 30 47.1**	**+1.2**
SCIG	**Sabancuy**	**4.24**	**58**	*e*P		08 30 47.1	
YAIG	**Yautepec**	**4.44**	**299**	*e*P	**Pn**	**08 30 48.9**	**+0.1**
YAIG				*e*S	**Sn**	**08 31 39.2**	**-1.7**
DAIG	**Los Arroyos**	**4.49**	**274**	*e*P	**Pn**	**08 30 47.5**	**-1.8**
DAIG				*e*S	**Sn**	**08 31 40.3**	**-1.6**
MPVM	**San Francisco**	**4.56**	**303**	*e*P	**Pn**	**08 30 53.8**	**+3.2**
MPVM				*e*S	**Sn**	**08 31 47.5**	**+3.5**
TXVM	**Universitario**	**4.61**	**306**	*e*P	**Pn**	**08 30 52.9**	**+1.6**
PLIG	**Platanillo**	**4.62**	**292**	*e*P	**Pn**	**08 30 52.2**	**+0.9**
PLIG				*e*S	**Sn**	**08 31 48.0**	**+2.6**
APG	**El Apazote**	**4.67**	**111**	Pn	**Pn**	**08 30 51.9**	**-0.2**
	0.2nm,0.3s,baz=207,slow=9.0,SNR=6.3						
APG				Pg	**Pb**	**08 31 05.8**	**+2.5**
	0.7nm,0.3s,baz=227,slow=19,SNR=12						
APG				Sn	**Sn**	**08 31 47.8**	**+1.0**
	0.9nm,0.3s,baz=86,slow=16,SNR=5.5						
APG				Lg	Lg	08 32 06.3	
	1.0nm,0.3s,baz=70,slow=21,SNR=10						
TLVM	**San Miguel Top**	**4.68**	**302**	*e*P	**Pn**	**08 30 49.1**	**-3.2**
TLVM				*e*S	**Sn**	**08 31 45.9**	**-1.3**
UNM	**Universidad Na**	**4.76**	**304**	*e*S	**Sn**	**08 31 50.8**	**+1.7**
BJVM	**Benito Juarez**	**4.78**	**304**	*e*S	**Sn**	**08 31 54.5**	**+5.0**
CTVM	**Cuauhtemoc**	**4.81**	**305**	*e*S	**Sn**	**08 31 49.8**	**-0.6**
MHVM	**Bosque de Chap**	**4.83**	**304**	*e*P	**Pn**	**08 30 56.1**	**+1.9**
MHVM				*e*S	**Sn**	**08 31 57.0**	**+6.2**
MAVM	**Malinalco, Edo**	**4.84**	**298**	*e*	Pn	08 30 41.1	-13
MAVM				*e*		08 31 38.6	
AOVM	**Tlapan**	**4.84**	**302**	*e*P	**Pn**	**08 30 58.8**	**+4.1**
AOVM				*e*S	**Sn**	**08 31 56.5**	**+5.1**
CJVM	**Cuajimalpa**	**4.86**	**303**	*e*P	**Pn**	**08 30 57.8**	**+3.0**
APVM	**Azcapotzalco**	**4.87**	**305**	*e*S	**Sn**	**08 31 54.6**	**+2.8**
CAIG	**El Cayaco**	**5.08**	**274**	*e*P	**Pn**	**08 30 56.4**	**-1.0**
CAIG				*e*S	**Sn**	**08 31 57.1**	**+0.7**
DEIG	**Demacu**	**5.24**	**313**	*e*P	Pb	08 31 07.1	-5.8
ARIG	**Puente Sto Nin**	**5.35**	**288**	*e*P	**Pn**	**08 31 01.6**	**+0.4**
ARIG				*e*S	**Sn**	**08 31 57.4**	**-5.9**
ACIG	**Acambay**	**5.67**	**306**	*e*P	**Pn**	**08 31 08.6**	**+2.8**
ACIG				*e*S	**Sn**	**08 32 15.7**	**+4.4**
CTUV	**Llano Grande**	**5.70**	**326**	*e*P	Pb	08 31 13.4	-7.1
ZIIG	**Zihuatanejo**	**6.26**	**279**	*e*P	**Pn**	**08 31 11.6**	**-2.2**
ZIIG				*e*S	**Sn**	**08 32 27.3**	**+1.6**
MYIG	**Merida**	**6.50**	**49**	*e*P	Pn	08 31 22.1	+5.1
MYIG				*e*S	**Sn**	**08 32 31.0**	**-0.5**
MOIG	**Morelia**	**6.59**	**297**	*e*S	**Sn**	**08 32 35.3**	**+1.1**
TEIG	**Tepich**	**7.25**	**60**	Pn	**Pn**	**08 31 27.9**	**+0.7**
	baz=73,slow=20,SNR=9.6						
TEIG				Sn	**Sn**	**08 32 44.7**	**-5.3**
	baz=142,slow=24,SNR=12						
TXAR	**Lajitas Array**	**14.87**	**329**	Pn	**P**	**08 33 18.6**	**+0.9**
	1.0nm,0.7s,baz=143,slow=14,SNR=6.9						
PDAR	**Pinedale Array**	**28.78**	**337**	P	**P**	**08 35 41.5**	**+1.8**
	0.1nm,0.5s,baz=142,slow=11,SNR=1.8						
	0.1nm,0.5s						
NVAR	**Mina Array Bea**	**29.76**	**321**	P	**P**	**08 35 50.9**	**+2.5**
	0.5nm,0.7s,baz=130,slow=5.6,SNR=5.4						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**47.75**	**348**	P	**P**	**08 38 17.9**	**-0.5**
	0.2nm,0.6s,baz=154,slow=7.6,SNR=6.0						
	0.2nm,0.6s						
INK	**Inuvik**	**57.03**	**344**	P	**P**	**08 39 26.9**	**-0.3**
	1.1nm,1.0s,baz=139,slow=4.7,SNR=4.4						
	1.1nm,1.0s						
ARCES	**ARCESS Array B**	**84.44**	**18**	P	**P**	**08 42 15.4**	**+1.4**
	5.0nm,1.1s,baz=316,slow=7.6,SNR=3.8						
	5.0nm,1.1s						

*DNK **21** 08:32:15.5±4.0, 80°.01N×2°.18E, h15km, ML1.5*

*BER **21** 08:32:16.8±2.3, 80°.02N×1°.64E, h10km, mb(Pn)3.6, ML1.6(DNK), Confirmed Earthquake*

*FCIAR **21** 08:32:18.0, 79°.81N×2°.67E, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.80*

*KOLA **21** 08:32:19.5, 79°.97N×3°.08E, h0km, ML2.9, Greenland sea, Knipovich ridge, north*

ISC 21 08:32:13.9±1.1, **80°.08N**±0°.07×**2°.07E**±0°.07, **h10**km, **n39**, σ2°**35**/66, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.15**	**118**	Pn	**Pn**	**08 32 51.7**	**+2.1**
KBS				Sn	**Sn**	**08 33 14.7**	**-1.5**
KBS	**Kingsbay**	**2.15**	**118**	Pn	**Pn**	**08 32 51.7**	**+2.1**
KBS				Sn	**Sn**	**08 33 14.7**	**-1.5**
KBS	**Kingsbay**	**2.15**	**118**	P	**Pn**	**08 32 51.3**	**+1.6**
KBS				S	**Sn**	**08 33 15.2**	**-1.0**
KBS	**Kingsbay**	**2.15**	**118**	P	**Pn**	**08 32 51.2**	**+1.6**
KBS				S	**Sn**	**08 33 15.2**	**-1.0**
KBS	**Kingsbay**	**2.15**	**118**	*i* S	**Sn**	**08 33 14.9**	**-1.3**
BRBB	**Barentsburg B**	**3.04**	**125**	*e*P	**Pn**	**08 33 04.4**	**+2.5**
BRBB				*e*S	**Sn**	**08 33 37.9**	**-0.5**
BRBB	**Barentsburg B**	**3.04**	**125**	Pn	**Pn**	**08 33 05.1**	**+3.2**
BRBB				Sn	**Sn**	**08 33 38.3**	**-0.1**
BRBB	**Barentsburg B**	**3.04**	**125**	P	**Pn**	**08 33 05.0**	**+3.0**
BRBB				S	**Sn**	**08 33 37.7**	**-0.7**
BRBB	**Barentsburg B**	**3.04**	**125**	P	**Pn**	**08 33 04.5**	**+2.5**
BRBB				S	**Sn**	**08 33 37.7**	**-0.7**
BRBA	**Barentsburg A**	**3.07**	**125**	*e*P	**Pn**	**08 33 05.2**	**+2.8**
BRBA				*e*S	**Sn**	**08 33 38.9**	**-0.1**
BRBA				IAML		08 33 45.9	
	comp=Z,31nm,0.2s						
BRBA	**Barentsburg A**	**3.07**	**125**	Pn	**Pn**	**08 33 05.2**	**+2.8**
BRBA				Sn	**Sn**	**08 33 38.5**	**-0.5**
SPA0	**Spitsbergen Ar**	**3.31**	**118**	Pn	**Pn**	**08 33 08.3**	**+2.7**
	baz=315,slow=6.5						
SPA0				Sn	**Sn**	**08 33 44.4**	**-0.5**
	baz=321,slow=37						
SPA0	**Spitsbergen Ar**	**3.31**	**118**	Pn	**Pn**	**08 33 08.3**	**+2.7**
	baz=315,slow=6.5						
SPA0				Sn	**Sn**	**08 33 44.4**	**-0.5**
	baz=321,slow=37						
SPA0	**Spitsbergen Ar**	**3.31**	**118**	*e*P	**Pn**	**08 33 07.3**	**+1.7**
SPA0				*e*S	**Sn**	**08 33 43.8**	**-1.0**
SPITS	**Spitsbergen Ar**	**3.31**	**118**	P	**Pn**	**08 33 08.2**	**+2.7**
SPITS				S	**Sn**	**08 33 44.9**	**0.0**
SPITS	**Spitsbergen Ar**	**3.31**	**118**	P	**Pn**	**08 33 07.9**	**+2.3**
SPITS				S	**Sn**	**08 33 44.9**	**0.0**
HSPB	**Hornsund (broa**	**4.08**	**132**	*e*P	**Pn**	**08 33 18.4**	**+2.2**
HSPB				*e*S	**Sn**	**08 34 01.6**	**-2.3**
HSPB				IAML		08 34 06.0	
	comp=Z,37nm,0.3s						
HSPB	**Hornsund (broa**	**4.08**	**132**	Pn	**Pn**	**08 33 19.2**	**+3.0**
HSPB				Sn	**Sn**	**08 34 01.7**	**-2.3**
HSPB	**Hornsund (broa**	**4.08**	**132**	P	**Pn**	**08 33 18.7**	**+2.5**
HSPB				S	**Sn**	**08 34 03.7**	**-0.2**
HSPB	**Hornsund (broa**	**4.08**	**132**	P	**Pn**	**08 33 18.9**	**+2.8**
HSPB				S	**Sn**	**08 34 03.7**	**-0.2**
HOPEN	**Hopen**	**5.83**	**116**	*e*P	**Pn**	**08 33 41.9**	**+1.7**
HOPEN				*e*S	**Sn**	**08 34 44.5**	**-2.5**
HOPEN				IAML		08 34 50.5	
	comp=Z,13nm,0.8s						
**

WMOK	**Wichita Mounta**	**4.27**	**193**	Pn	Pn	08 52 58.4	-0.2
WMOK	**Wichita Mounta**	**4.27**	**193**		Pn	08 52 58.6	+0.1
WMOK				IAmb_Lg		08 54 14.7	
	comp=Z,3.3nm,0.8s						
P40A	**Paris**	**4.34**	**80**	IAmb_Lg		08 54 11.4	
	comp=Z,6.6nm,0.7s						
SMWD	**Samnorwood**	**4.35**	**210**	Pn	Pn	08 53 00.5	+0.7
SMWD				IAmb_Lg		08 54 13.6	
	comp=Z,11nm,1.1s						
ECSD	**EROS Data Cent**	**4.88**	**8**	IAmb_Lg		08 54 27.6	
	comp=Z,4.8nm,1.0s						
SDCO	**Great Sand Dun**	**6.34**	**262**	IAmb_Lg		08 55 23.2	
	comp=Z,3.2nm,0.9s						

*SNET **21** 09:03:53.8±0.5, 12°.78N×88°.65W, h45km±37km, ML2.7*
*CATAC **21** 09:03:53.1±0.7, 13°N±4°×8°.9W±°, h31km±7km, M2.8/15, MLv2.8/15, Error ellipse: s-maj=9.0km s-min=5.3km az=28.8, confirmed*
ISC 21 09:03:57.9±1.4, 12°.96N±0°.06×88°.73W±0°.03, h35km, n74, σ2§21/76, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.39**	**22**	S	**Sn**	**09 04 15.6**	**+2.1**
ALJI	**Alcalda de J**	**0.39**	**22**	S	**Sn**	**09 04 15.0**	**+1.5**
ALJI	**Alcalda de J**	**0.39**	**22**	P	**Pn**	**09 04 06.1**	**-1.0**
TECA	**Tecapa**	**0.57**	**22**	*e*P	**Pn**	**09 04 08.1**	**-1.7**
TECA				*e*S	**Sn**	**09 04 18.8**	**+0.6**
TECO	**Alcaldia de Te**	**0.58**	**355**	*e*P	**Pn**	**09 04 08.2**	**-1.5**
TECO	**Alcaldia de Te**	**0.58**	**355**	S	**Sn**	**09 04 19.8**	**+1.8**
TECO	**Alcaldia de Te**	**0.58**	**355**	P	**Pn**	**09 04 08.4**	**-1.3**
TECO	**Alcaldia de Te**	**0.58**	**355**	S	**Sn**	**09 04 19.9**	**+1.9**
RANC	**El Ranchito**	**0.64**	**42**	*e*P	**Pn**	**09 04 08.2**	**-2.4**
RANC	**El Ranchito**	**0.64**	**42**	S	**Sn**	**09 04 20.1**	**+0.6**
RANC	**El Ranchito**	**0.64**	**42**	P	**Pn**	**09 04 09.9**	**-0.7**
PACA	**Pacayal**	**0.64**	**38**	*e*P	**Pn**	**09 04 08.5**	**-2.2**
PACA				*e*S	**Sn**	**09 04 19.6**	**0.0**
PACA	**Pacayal**	**0.64**	**38**	S	**Sn**	**09 04 20.6**	**+1.0**
PACA	**Pacayal**	**0.64**	**38**	P	**Pn**	**09 04 08.8**	**-1.8**
PACA	**Pacayal**	**0.64**	**38**	S	**Sn**	**09 04 20.4**	**+0.8**
PACA	**Pacayal**	**0.64**	**38**	P	**Pn**	**09 04 08.8**	**-1.8**
PACA	**Pacayal**	**0.64**	**38**	S	**Sn**	**09 04 21.7**	**+2.1**
COEG	**Centro de Oper**	**0.67**	**347**	*e*P	**Pn**	**09 04 09.6**	**-1.4**
COEG	**Centro de Oper**	**0.67**	**347**	S	**Sn**	**09 04 22.4**	**+2.0**
COEG	**Centro de Oper**	**0.67**	**347**	P	**Pn**	**09 04 09.8**	**-1.2**
COEG	**Centro de Oper**	**0.67**	**347**	S	**Sn**	**09 04 22.1**	**+1.7**
BLLM	**Bellamira**	**0.68**	**45**	*e*P	**Pn**	**09 04 08.7**	**-2.4**
UESV	**Universidad de**	**0.68**	**355**	*e*P	**Pn**	**09 04 09.8**	**-1.2**
UESV				*e*S	**Sn**	**09 04 21.6**	**+1.2**
UESV	**Universidad de**	**0.68**	**355**	P	**Pn**	**09 04 09.9**	**-1.1**
UESV	**Universidad de**	**0.68**	**355**	P	**Pn**	**09 04 09.9**	**-1.1**
UESV	**Universidad de**	**0.68**	**355**	S	**Sn**	**09 04 22.8**	**+2.4**
PQSS	**Presa 15 de Se**	**0.68**	**14**	*e*P	**Pn**	**09 04 09.5**	**-1.5**
PQSS				*e*S	**Sn**	**09 04 21.3**	**+0.9**
PQSS	**Presa 15 de Se**	**0.68**	**14**	S	**Sn**	**09 04 22.3**	**+1.8**
PQSS	**Presa 15 de Se**	**0.68**	**14**	S	**Sn**	**09 04 22.2**	**+1.8**
PQSS	**Presa 15 de Se**	**0.68**	**14**	P	**Pn**	**09 04 09.6**	**-1.4**
PQSS	**Presa 15 de Se**	**0.68**	**14**	P	**Pn**	**09 04 09.7**	**-1.4**
PQSS	**Presa 15 de Se**	**0.68**	**14**	S	**Sn**	**09 04 22.4**	**+2.0**
SCLA	**Alcaldia de Sa**	**0.74**	**360**	*e*P	**Pn**	**09 04 10.7**	**-1.2**
SCLA	**Alcaldia de Sa**	**0.74**	**360**	S	**Sn**	**09 04 24.6**	**+2.7**
SCLA	**Alcaldia de Sa**	**0.74**	**360**	P	**Pn**	**09 04 10.9**	**-1.1**
SCLA	**Alcaldia de Sa**	**0.74**	**360**	P	**Pn**	**09 04 10.8**	**-1.1**
SCLA	**Alcaldia de Sa**	**0.74**	**360**	S	**Sn**	**09 04 24.7**	**+2.7**
CNRM	**Centro Naciona**	**0.74**	**47**	S	**Sn**	**09 04 22.5**	**+0.5**
CNRM	**Centro Naciona**	**0.74**	**47**	P	**Pn**	**09 04 09.8**	**-2.2**
CNRM	**Centro Naciona**	**0.74**	**47**	P	**Pn**	**09 04 11.6**	**-0.3**
PAVA	**Las Pavas**	**0.78**	**345**	*e*P	**Pn**	**09 04 11.4**	**-1.1**
LCND	**La Caada**	**0.88**	**67**	*e*P	**Pn**	**09 04 09.8**	**-4.1**
LCND				IAML		09 04 26.1	
	comp=Z,152nm,0.4s						
LCND	**La Caada**	**0.88**	**67**	P	**Pn**	**09 04 10.0**	**-3.8**
LCND	**La Caada**	**0.88**	**67**	P	**Pn**	**09 04 10.1**	**-3.8**
LCND	**La Caada**	**0.88**	**67**	P	**Pn**	**09 04 12.6**	**-1.3**
UEES	**Universidad Ev**	**0.90**	**326**	S	**Sn**	**09 04 27.7**	**+1.6**
UEES	**Universidad Ev**	**0.90**	**326**	P	**Pn**	**09 04 11.4**	**-2.8**
CNCH	**Conchagua**	**0.92**	**70**	*e*P	**Pn**	**09 04 10.9**	**-3.6**
CNCH	**Conchagua**	**0.92**	**70**	P	**Pn**	**09 04 11.2**	**-3.3**
CNCH	**Conchagua**	**0.92**	**70**	P	**Pn**	**09 04 11.1**	**-3.4**
CNCH	**Conchagua**	**0.92**	**70**	S	**Sn**	**09 04 28.8**	**+2.2**
PMON	**Piamonte**	**0.94**	**323**	*e*P	**Pn**	**09 04 13.3**	**-1.5**
PMON	**Piamonte**	**0.94**	**323**	S	**Sn**	**09 04 28.5**	**+1.4**
PMON	**Piamonte**	**0.94**	**323**	P	**Pn**	**09 04 12.9**	**-1.8**
JAYA	**Jayaque - finc**	**0.99**	**314**	*e*P	**Pn**	**09 04 13.8**	**-1.6**
JAYA				IAML		09 04 30.7	
	comp=Z,181nm,0.2s						
JAYA	**Jayaque - finc**	**0.99**	**314**	P	**Pn**	**09 04 14.0**	**-1.5**
JAYA	**Jayaque - finc**	**0.99**	**314**	S	**Sn**	**09 04 28.7**	**+0.4**
JAYA	**Jayaque - finc**	**0.99**	**314**	P	**Pn**	**09 04 12.0**	**-3.4**
CSGN	**Cosiguina Volc**	**1.14**	**89**	P	**Pn**	**09 04 12.6**	**-4.8**
CSGN	**Cosiguina Volc**	**1.14**	**89**	P	**Pn**	**09 04 15.6**	**-1.8**
POTN	**Potosi Cosigui**	**1.19**	**88**	P	Pn	09 04 13.0	-5.1
POTN	**Potosi Cosigui**	**1.19**	**88**	P	Pn	09 04 13.0	-5.1
POTN	**Potosi Cosigui**	**1.19**	**88**	P	**Pn**	**09 04 17.2**	**-0.8**
LLGN	**La Laguna**	**1.21**	**350**	P	**Pn**	**09 04 17.9**	**-0.6**
UNIC	**Universidad Ca**	**1.29**	**322**	S	**Sn**	**09 04 37.6**	**+1.9**
NUBE	**Las Nubes**	**1.39**	**313**	*e*P	**Pn**	**09 04 19.4**	**-1.6**
NUBE	**Las Nubes**	**1.39**	**313**	P	**Pn**	**09 04 19.5**	**-1.5**
NUBE	**Las Nubes**	**1.39**	**313**	S	**Sn**	**09 04 39.0**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.48**	**316**	S	**Sn**	**09 04 42.5**	**+2.2**
QUEN	**Al S del Volca**	**1.86**	**101**	S	**Sn**	**09 04 52.5**	**+2.7**
HERN	**Volcan Telica**	**1.88**	**100**	S	**Sn**	**09 04 54.6**	**+4.4**
TELN	**Telica**	**1.88**	**101**	S	**Sn**	**09 04 53.8**	**+3.6**
POLN	**Al Sur del Vol**	**1.89**	**99**	S	**Sn**	**09 04 54.8**	**+4.4**
PLRN	**Geotermica Pol**	**1.95**	**101**	S	**Sn**	**09 04 55.9**	**+4.2**

*PRE **21** 09:14:59.1±3.4, 3°.25S×31°.17E, h6km±21km*
*IDC **21** 09:15:36.6±0.4, 7°.91S×32°.05E, h0km, mb4.5/25, mbtmp4.6/30, ML3.5/2, MS5.1/64, Error ellipse: s-maj=11.3km s-min=9.7km az=105.0*
*BJI **21** 09:15:37.1, 7°.69S×32°.09E, h6km, mB5.4/22, mb4.8/44, Ms5.4/42, Ms7 5.1/44*
*MOS **21** 09:15:38.3±1.1, 7°.89S×32°.06E, h25km, mb5.1/40, MS5.0/13, Error ellipse: s-maj=10.8km s-min=4.3km az=79.4*
*NEIC **21** 09:15:38.7, 7°.90S×32°.11E, h10km*
*ISC-PP **21** 09:15:40, 7°.91S×32°.11E, h16km±2km, Mwppsm5.8, Moment Tensor Solution. s42 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.24; $M_{\theta\theta}$-0.34±.23; $M_{\phi\phi}$0.42±.26; $M_{r\theta}$-0.24±.29; $M_{\theta\phi}$0.20±.19; $M_{\phi r}$0.50±.19; Fault plane solution: M_o6.46000×10^{17} NP1:ϕ_s68.50000°, δ67.70000°, λ345.40000°. NP2:ϕ_s164.20000°, δ76.50000°, λ-157.00000°.*
*NEIC **21** 09:15:40.6, 7°.88S×32°.09E, h26km*
*NEIC **21** 09:15:40.6, 7°.98S×32°.00E, h26km, Moment Tensor Solution. Duration: 2§8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$1.61; $M_{r\theta}$-1.86; $M_{\theta\phi}$-0.31; $M_{\phi r}$0.58; Fault plane solution: M_o2.39000×10^{17} NP1:ϕ_s29.26000°, δ40.36000°, λ-10.68000°. NP2:ϕ_s127.44000°, δ83.11000°, λ-129.87000°. Principal axes: T 2.0581, Plg27.0000°, Azm248.0000°; N 0.6635, Plg40.0000°, Azm133.0000°; P -2.7216, Plg39.0000°, Azm2.0000°;*
*NEIC **21** 09:15:40.3±3.0, 7°.91S±0°.07×32°.11E±0°.10, h22km±1km, mb5.1/81, Ms_20 5.4/320, Mwb5.5/35, Mww5.5/26 Error ellipse: s-maj=16.5km s-min=11.1km az=289.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.58; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$2.20; $M_{r\theta}$-0.98; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.27; Fault plane solution: M_o2.27000×10^{17} NP1:ϕ_s34.04000°, δ62.85000°, λ-16.40000°. NP2:ϕ_s131.70000°, δ75.44000°, λ-151.88000°. Principal axes: T 2.3157, Plg8.0000°, Azm261.0000°; N -0.0927, Plg59.0000°, Azm157.0000°; P -2.2230, Plg30.0000°, Azm356.0000°;*
*GCMT **21** 09:15:42.3±0.1, 7°.92S±0°.01×32°.14E±0°.01, h27km, MW5.6/158, Moment Tensor Solution. s134,c219; s158,c309; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.79±.03; $M_{\theta\theta}$-1.88±.03; $M_{\phi\phi}$2.66±.03; $M_{r\theta}$-2.19±.09; $M_{\theta\phi}$-0.49±.03; $M_{\phi r}$0.18±.07; Best double couple: M_o3.19100×10^{17} NP1:ϕ_s31.00000°, δ57.00000°, λ-23.00000°. NP2:ϕ_s134.00000°, δ71.00000°, λ-145.00000°. Principal axes: T 2.7790, Plg9.0000°, Azm260.0000°; N 0.8190, Plg51.0000°, Azm158.0000°; P -3.6030, Plg38.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves,*

cutoff=50s. Triangular moment-rate function
ISC 21 09:15:37.9±0.3, 7°.93S±0°.03×32°.08E±0°.05, h10km, n619, σ1§63/436, mb5.0/139, MS5.4/253, 40C-6D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**7.40**	**350**		**Pn**	**09 17 25.7**	**-0.6**
MBAR	**Mbarara**	**7.40**	**350**	P	**Pn**	**09 17 25.8**	**-0.6**
MBAR				P	**Pn**	**09 17 25.9**	**-0.4**
MBAR				S	**Sn**	**09 18 46.8**	**-3.8**
MBAR	**Mbarara**	**7.40**	**350**	*ce*P	**Pn**	**09 17 25.3**	**-1.0**
MBAR				pmax	pmax		
	comp=Z,388nm,0.3s						
ZOMB	**Zomba**	**8.07**	**157**	*e*PN	**Pn**	**09 17 36.2**	**+0.9**
ZOMB				*e*SN	**Sn**	**09 19 06.2**	**-0.6**
KIBK	**Kibwezi**	**8.14**	**47**		**Pn**	**09 17 35.1**	**-1.2**
KIBK	**Kibwezi**	**8.14**	**47**	P	**Pn**	**09 17 36.0**	**-0.3**
	SNR=68						
LSZ	**Lusaka**	**8.23**	**207**	Pn	**Pn**	**09 17 39.0**	**+1.4**
LSZ	**Lusaka**	**8.23**	**207**	Pn	**Pn**	**09 17 38.5**	**+0.9**
	comp=Z,92nm,0.3s,baz=24,slow=12,SNR=117						
LSZ				Sn	**Sn**	**09 19 06.2**	**-4.7**
	comp=Z,106nm,0.3s,baz=281,slow=19,SNR=7.4						
LSZ				Lg	Lg	09 19 52.1	
	comp=Z,395nm,0.3s,baz=299,slow=20,SNR=12						
LSZ				LR	LR	09 21 04.8	
	comp=Z,32μm,18.1s,baz=20,slow=40						
LSZ	**Lusaka**	**8.23**	**207**	P	**Pn**	**09 17 39.6**	**+2.0**
LSZ	**Lusaka**	**8.23**	**207**	P	**Pn**	**09 17 39.0**	**+1.4**
KMBO	**Kilima Mbogo**	**8.50**	**38**		**Pn**	**09 17 40.2**	**-1.2**
KMBO	**Kilima Mbogo**	**8.50**	**38**	Pn	**Pn**	**09 17 40.5**	**-1.0**
	comp=Z,184nm,0.6s,baz=210,slow=14,SNR=183						
KMBO				Sn	**Sn**	**09 19 11.6**	**-6.1**
	comp=Z,138nm,0.3s,baz=171,slow=20,SNR=7.9						
KMBO				Lg	Lg	09 20 01.3	
	comp=Z,88nm,0.3s,baz=323,slow=18,SNR=15						
KMBO	**Kilima Mbogo**	**8.50**	**38**	P	**Pn**	**09 17 41.2**	**-0.3**
KMBO	**Kilima Mbogo**	**8.50**	**38**	*i* P	**Pn**	**09 17 40.3**	**-1.2**
KMBO				pmax	pmax		
	comp=Z,184nm,0.6s						
KMBO	**Kilima Mbogo**	**8.50**	**38**	P	**Pn**	**09 17 40.3**	**-1.2**
LODK	**Lodwar**	**11.75**	**16**	Pn	**Pn**	**09 18 22.4**	**-3.4**
LODK	**Lodwar**	**11.75**	**16**	P	**Pn**	**09 18 23.4**	**-2.4**
	SNR=76						
KSANE	**Kasane**	**11.90**	**214**	*i* P	**Pn**	**09 18 26.6**	**-1.3**
KSANE				*i* S	**Sn**	**09 20 35.3**	**-5.5**
KSANE				IAML		09 22 03.1	
	comp=E,3μm,2.1s						
PHDHD	**Phuduhudu**	**14.21**	**210**	*i* P	**Pn**	**09 18 58.1**	**-1.3**
PHDHD				IAML		09 23 17.9	
	comp=E,6μm,1.1s						
XAUDM	**Khaudum**	**14.84**	**224**	*i* P	**Pn**	**09 19 07.1**	**-0.9**
XAUDM				IAML		09 23 35.5	
	comp=N,2μm,1.3s						
QNGWA	**Qangwa**	**15.64**	**221**	*i* P	**Pn**	**09 19 17.1**	**-1.6**
QNGWA				IAML		09 24 01.8	
	comp=N,2μm,1.3s						
LPHEP	**Lephephe**	**16.46**	**201**	*i* P	**Pn**	**09 19 26.8**	**-2.5**
LPHEP				*i* S	Sn	09 22 14.7	-17
LPHEP				IAML		09 24 22.6	
	comp=E,1μm,1.1s						
KDWAN	**Kaudwane**	**16.93**	**204**	*i* P	**Pn**	**09 19 33.2**	**-1.9**
KDWAN				*i* S	Sn	09 22 28.8	-15
KDWAN				IAML		09 24 38.1	
	comp=E,2μm,3.0s						
GRTLG	**Ghanzi**	**16.97**	**217**	*i* P	**Pn**	**09 19 35.2**	**-0.6**
GRTLG				IAML		09 24 41.5	
	comp=E,795nm,0.3s						
KGCAE	**Kacgae**	**17.61**	**212**	*i* P	**Pn**	**09 19 42.6**	**-1.1**
KGCAE				IAML		09 25 28.6	
	comp=E,2μm,0.8s						
TSUM	**Tsumeb**	**17.98**	**230**	P	**Pn**	**09 19 47.4**	**-0.9**
TSUM	**Tsumeb**	**17.98**	**230**	P	**Pn**	**09 19 47.3**	**-1.1**
	comp=E,4.2nm,0.3s,baz=48,slow=10,SNR=21						
TSUM				S	**Sn**	**09 23 09.5**	**+0.4**
	comp=E,68nm,0.8s,baz=337,slow=19,SNR=1.8						
TSUM				Lg	Lg	09 25 11.6	
	comp=E,9.2nm,0.3s,baz=143,slow=23,SNR=6.6						
TSUM				LR	LR	09 27 19.0	
	comp=E,17μm,19.5s,baz=48,slow=39						
	comp=E,36nm,0.6s						
LBTB	**Lobatse**	**18.08**	**199**		**Pn**	**09 19 47.7**	**-1.8**
LBTB				IAmb	IAmb	09 19 57.6	
	comp=Z,192nm,1.4s						
LBTB	**Lobatse**	**18.08**	**199**	P	**Pn**	**09 19 48.2**	**-1.3**
	comp=Z,16nm,0.3s,baz=17,slow=12,SNR=34						
LBTB				S	**Sn**	**09 23 02.3**	**-9.1**
	comp=Z,110nm,0.7s,baz=44,slow=13,SNR=3.1						
LBTB				LR	LR	09 26 49.5	
	comp=Z,16μm,18.9s,baz=23,slow=37						
OPO	**Ambohidratompo**	**18.10**	**127**	P	**P**	**09 19 50.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=304,slow=14,SNR=13						
OPO				S	**Sn**	**09 23 14.4**	**+2.3**
	comp=Z,43nm,0.7s,baz=307,slow=13,SNR=3.2						
OPO				LR	LR	09 25 55.2	
	comp=Z,13μm,19.3s,baz=185,slow=34						
	comp=Z,37nm,1.1s						
SKOMA	**Sekoma**	**18.24**	**204**	*i* P	**Pn**	**09 19 48.1**	**-3.3**
SKOMA				IAML		09 25 16.2	
	comp=E,1μm,2.6s						
SBV	**Sambava**	**18.37**	**109**	P	**P**	**09 19 56.6**	**+3.6**
	SNR=7.2						
ABPO	**Ambohimpanom**	**18.38**	**128**		**P**	**09 19 54.2**	**+1.0**
ABPO	**Ambohimpanom**	**18.38**	**128**	P	**P**	**09 19 54.3**	**+1.0**
ABPO				pmax	pmax		
	comp=Z,36nm,0.8s						
KOOLE	**Kule**	**18.83**	**216**	*i* P	**Pn**	**09 19 58.9**	**+0.2**
KOOLE				*i* S	Sn	09 23 14.1	-16
KOOLE				IAML		09 25 45.7	
	comp=N,1μm,1.6s						
MAKGR	**Makgori**	**19.08**	**200**	*i* P	**P**	**09 19 59.1**	**-1.8**
MAKGR				IAML		09 25 37.4	
	comp=E,2μm,2.9s						
POGA	**Pongola**	**19.31**	**181**	P	**Pn**	**09 20 05.1**	**+0.8**
POGA				IAmb	IAmb	09 20 14.0	
	comp=Z,124nm,1.1s						
VOI	**Vohitsoka**	**19.85**	**136**	P	**Pn**	**09 20 10.7**	**-0.3**
VOI	**Vohitsoka**	**19.85**	**136**	P	**Pn**	**09 20 15.2**	**+4.2**
	SNR=7.1						
WIN	**Windhoek**	**20.47**	**223**	P	Pn	09 20 18.1	-0.3
WIN				IAmb	IAmb	09 20 27.2	
	comp=Z,89nm,1.1s						
WIN				IAMs_20	IAMs_20	09 28 09.6	
	comp=Z,13μm,18.0s						
WIN	**Windhoek**	**20.47**	**223**	P	Pn	09 20 18.1	-0.3
WIN				pmax	pmax		
	comp=Z,89nm,1.1s						
WIN				MLR	MLR		
	comp=Z,13μm,18.0s						
BOSA	**Boshof**	**21.55**	**197**		**P**	**09 20 27.8**	**+0.1**
BOSA				IAmb	IAmb	09 20 41.8	
	comp=Z,67nm,0.9s						
BOSA	**Boshof**	**21.55**	**197**	P	**P**	**09 20 28.1**	**+0.3**
	comp=Z,14nm,0.6s,baz=25,slow=10,SNR=23						
BOSA				S	**S**	**09 24 21.6**	**-5.2**
	comp=Z,54nm,0.8s,baz=100,slow=13,SNR=3.2						
BOSA				Lg	Lg	09 26 47.7	
	comp=Z,5.2nm,0.3s,baz=286,slow=11,SNR=3.9						
BOSA				LR	LR	09 28 53.9	
	comp=Z,13μm,18.5s,baz=25,slow=37						
	comp=Z,14nm,0.6s						
BOSA	**Boshof**	**21.55**	**197**	P	**P**	**09 20 27.8**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,67nm,0.9s						
ATD	**Arta Tunnel**	**22.11**	**29**	P	**P**	**09 20 33.7**	**-0.1**
ATD				IAmb	IAmb	09 20 36.4	
	comp=Z,62nm,1.1s						
ATD				IAMs_20	IAMs_20	09 29 05.1	
	comp=Z,11μm,18.0s						
ATD	**Arta Tunnel**	**22.11**	**29**	P	**P**	**09 20 34.3**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=268,slow=3.6,SNR=7.9						
ATD				Lg	Lg	09 27 13.7	
	baz=198,slow=23,SNR=3.6						
ATD				LR	LR	09 29 16.6	
	comp=Z,439nm,19.9s,baz=201,slow=37						
ARMS	**Ukamas**	**23.15**	**209**	*e*P	**P**	**09 20 41.7**	**-3.0**
AUGR	**Augrabies**	**23.34**	**207**	*e*P	**P**	**09 20 48.4**	**+1.7**
ALKP	**Alkanpan, Nort**	**23.76**	**202**	*e*P	**P**	**09 20 49.9**	**-0.9**
BFON	**Badsfontein, M**	**25.00**	**197**	*e*P	**P**	**09 21 04.0**	**+1.8**
SUR	**Sutherland**	**26.48**	**202**	LR	LR	09 32 22.0	
	comp=Z,6μm,19.7s,baz=26,slow=38						
SUR	**Sutherland**	**26.48**	**202**	P	**P**	**09 21 20.1**	**+4.4**
ABTO	**Aybut**	**32.73**	**40**	P	**P**	**09 22 13.1**	**+2.0**
WHFO	**Wadi Hawf**	**33.45**	**40**	P	**P**	**09 22 18.2**	**+0.7**
RAYN	**Ar Rayn**	**33.91**	**22**	P	**P**	**09 22 21.8**	**+0.5**
RAYN	**Ar Rayn**	**33.91**	**22**	P	**P**	**09 22 22.6**	**+1.3**
RAYN	**Ar Rayn**	**33.91**	**22**	P	**P**	**09 22 21.8**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,14nm,1.2s						
RAYN	**Ar Rayn**	**33.91**	**22**	P	**P**	**09 22 22.7**	**+1.3**
DMTO	**DMTO**	**34.06**	**41**	P	**P**	**09 22 23.8**	**+1.1**
DMTO				P	**P**	**09 22 23.8**	**+1.1**
DOK	**Doka**	**34.20**	**39**	P	**P**	**09 22 24.8**	**+1.0**
	SNR=8.7						
DOK				P	**P**	**09 22 24.8**	**+1.0**
	SNR=8.7						
TORD	**Torodi Ar. Bea**	**36.73**	**305**	P	**P**	**09 22 46.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**36.73**	**305**	P	**P**	**09 22 46.2**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=103,slow=7.8,SNR=12						
	comp=Z,4.6nm,0.9s						
SLWR	**Sila**	**37.13**	**31**	P	**P**	**09 22 50.0**	**+1.0**
MZR	**Muzera**	**37.20**	**34**	P	**P**	**09 22 50.5**	**+0.9**
MZR				P	**P**	**09 22 50.5**	**+0.9**
MZR	**Muzera**	**37.20**	**34**	P	**P**	**09 22 50.4**	**+0.7**
DQM	**DQM**	**37.35**	**42**	P	**P**	**09 22 51.4**	**+0.5**
DQM				P	**P**	**09 22 51.4**	**+0.5**
TRNA	**Turayna**	**37.45**	**29**	P	**P**	**09 22 52.3**	**+0.6**
EIL	**Elat**	**37.49**	**4**	LR	LR	09 37 59.7	
	comp=Z,2μm,19.4s,baz=198,slow=36						
MHTO	**MHTO**	**38.38**	**41**	P	**P**	**09 23 00.8**	**+1.2**
MHTO				P	**P**	**09 23 00.8**	**+1.2**
GHAJ	**Ghor Haditha**	**39.16**	**5**	P	**P**	**09 23 05.5**	**-0.4**
GHAJ				IAmb	IAmb	09 23 09.8	
	comp=Z,40nm,1.4s						
BSY	**Bisya**	**39.17**	**38**	P	**P**	**09 23 07.3**	**+0.9**
BSY				P	**P**	**09 23 07.3**	**+0.9**
ALNE	**Al Ain**	**39.31**	**35**	P	**P**	**09 23 08.7**	**+1.3**
DBIC	**Dimbokro**	**39.59**	**291**	P	**P**	**09 23 09.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=103,slow=9.3,SNR=1.2						
	comp=Z,1.2nm,0.5s						
FAQ	**Al Faqa, Dubai**	**39.76**	**35**	P	**P**	**09 23 12.1**	**+0.9**
SOHO	**SOHO**	**39.82**	**36**	P	**P**	**09 23 11.9**	**+0.3**
SOHO				P	**P**	**09 23 11.9**	**+0.3**
HOQ	**Hoqain**	**39.87**	**38**	P	**P**	**09 23 12.3**	**+0.2**
HOQ				P	**P**	**09 23 12.3**	**+0.2**
SMDO	**Samad**	**39.93**	**39**	P	**P**	**09 23 12.3**	**-0.5**
	SNR=5.2						
SMDO				P	**P**	**09 23 12.3**	**-0.5**
	SNR=5.2						
ASHO	**Ashiyiah**	**39.97**	**35**	P	**P**	**09 23 13.8**	**+0.9**
	SNR=7.2						
NAZ	**Nazwa, Dubai**	**39.98**	**34**	P	**P**	**09 23 13.5**	**+0.5**
TAM	**Tamanrasset**	**40.10**	**320**	P	**P**	**09 23 15.2**	**+1.0**
TAM	**Tamanrasset**	**40.10**	**320**	P	**P**	**09 23 15.2**	**+1.0**
TAM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TAM				MLR	MLR		
	comp=Z,4μm,18.0s						
HATD	**Hatta, Dubai**	**40.12**	**35**	P	**P**	**09 23 15.2**	**+1.0**
	SNR=6.3						
HATD	**Hatta, Dubai**	**40.12**	**35**	P	**P**	**09 23 14.8**	**+0.6**
ASF	**Jabal al Asfar**	**40.15**	**6**	LR	LR	09 39 53.9	
	comp=Z,2μm,19.5s,baz=217,slow=36						
JLN	**Jalan Bani Buh**	**40.15**	**41**	P	**P**	**09 23 14.8**	**+0.4**
	SNR=6.1						
JLN				P	**P**	**09 23 14.8**	**+0.4**
	SNR=6.1						
WBK	**Wadi Bani Khal**	**40.19**	**40**	P	**P**	**09 23 16.3**	**+1.6**
WBK				P	**P**	**09 23 16.3**	**+1.6**
UOSS	**Minazif**	**40.26**	**35**	P	**P**	**09 23 14.8**	**-0.5**
UOSS	**Minazif**	**40.26**	**35**	P	**P**	**09 23 16.3**	**+1.0**
UOSS	**Minazif**	**40.26**	**35**	P	**P**	**09 23 15.7**	**+0.4**
BIDO	**Bidbid**	**40.32**	**39**	P	**P**	**09 23 16.3**	**+0.5**
BIDO				P	**P**	**09 23 16.3**	**+0.5**
WSAR	**Wadi Sarin**	**40.43**	**39**	LR	LR	09 40 00.1	
	comp=Z,38nm,18.7s,baz=236,slow=36						
MSFE	**Esma-Masafi**	**40.55**	**35**	P	**P**	**09 23 17.8**	**+0.1**
MDH	**Madha**	**40.59**	**35**	P	**P**	**09 23 18.6**	**+0.6**

KBZ	**Khabaz**	52.35	10	P	P	09 24 50.6	+0.6
	comp=Z,3.5nm,0.8s,baz=178,slow=7.0,SNR=9.4						
KBZ				LR	LR	09 48 37.4	
	comp=Z,2μm,18.6s,baz=185,slow=38						
	comp=Z,3.5nm,0.8s						
KBZ	**Khabaz**	52.35	10	*ce*P	P	09 24 50.5	+0.5
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HYB	**Hyderabad**	52.38	61	*e*P	P	09 24 49.9	-0.9
KIV	**Kislovodsk**	52.53	10	*e*P	P	09 24 51.4	-0.1
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,1μm,16.0s						
MAK	**Makhachkala**	52.57	14	*c i*P	P	09 24 44.3	-7.4
MAK				*e*		09 26 50.5	
MAK				*e*SS	SKiKP	09 35 54.7	-19
MAK				pmax	pmax		
	comp=Z,106nm,1.1s						
MAK				MLR	MLR		
	comp=Z,3μm,15.0s						
ANN	**Anapa**	52.71	5	*e*P	P	09 24 47.3	-5.4
ANN				*e**PP	pP	09 24 50.6	-5.5
ANN				*e*		09 26 55.3	
ANN				*e*S	S	09 32 10.9	-10
ANN				pmax	pmax		
	comp=Z,46nm,1.1s						
ANN				MLR	MLR		
	comp=N,810nm,18.0s						
ANN				MLR	MLR		
	comp=E,786nm,17.0s						
ANN				MLR	MLR		
	comp=Z,597nm,17.0s						
LABN	**Labinsk**	52.91	8	*e*P	P	09 24 55.6	+1.4
LABN				pmax	pmax		
	comp=Z,21nm,0.3s						
ISR	**Istrita**	53.04	355	⇑P	P	09 24 55.3	+0.1
ISR	**Istrita**	53.04	355	P	P	09 24 55.3	+0.1
ISR	**Istrita**	53.04	355	P	P	09 24 55.5	+0.3
	comp=Z,21nm,1.2s						
BBTS	**Babate**	53.17	295	LR	LR	09 47 39.2	
	comp=Z,3μm,19.1s,baz=346,slow=36						
HERR	**Herculane**	53.29	351	⇑P	P	09 24 56.5	-0.5
MDVR	**Moldovita**	53.30	351	⇑P	P	09 24 56.3	-0.8
MLR	**Muntele Rosu**	53.46	355	IAmb	IAmb	09 25 04.1	
	comp=Z,30nm,1.6s						
MLR	**Muntele Rosu**	53.46	355	LR	LR	09 51 40.3	
	comp=Z,1μm,18.7s,baz=184,slow=40						
MLR	**Muntele Rosu**	53.46	355	⇓P	P	09 24 58.8	+0.4
MLR	**Muntele Rosu**	53.46	355	P	P	09 24 58.8	+0.4
MLR	**Muntele Rosu**	53.46	355	P	P	09 24 58.5	+0.1
	comp=Z,14nm,1.8s						
ARR	**Arges**	53.48	353	⇑P	P	09 24 57.8	-0.7
MDT	**Midelt**	53.49	321	LR	LR	09 47 42.7	
	comp=Z,3μm,20.3s,baz=138,slow=36						
VOIR		53.50	354	⇑P	P	09 24 58.5	-0.1
VOIR		53.50	354	P	P	09 24 58.5	-0.1
VOIR		53.50	354	P	P	09 24 57.8	-0.8
	comp=Z,12nm,1.1s						
LOT	**Lotru**	53.66	353	⇑P	P	09 25 00.2	+0.3
GOF	**Gofitskoye**	53.66	10	*ce*P	P	09 25 00.5	+0.7
GZR	**Gura Zlata**	53.74	352	⇑P	P	09 24 59.8	-0.6
GZR	**Gura Zlata**	53.74	352	P	P	09 24 59.7	-0.6
PLOR	**Plostina**	53.76	355	⇑P	P	09 25 00.9	+0.3
PLOR	**Plostina**	53.76	355	P	P	09 25 00.8	+0.3
VRI	**Vrincioaia**	53.77	355	⇑P	P	09 25 00.8	+0.2
VRI	**Vrincioaia**	53.77	355	P	P	09 25 00.7	+0.2
VRI	**Vrincioaia**	53.77	355	P	P	09 25 00.4	-0.1
	comp=Z,20nm,1.9s						
ERBR	**Yeremizino-Bor**	53.93	7	*e*P	P	09 25 02.5	+0.8
ERBR				pmax	pmax		
	comp=Z,42nm,1.3s						
MAHO	**Mahon**	54.09	334	IAMs_20	IAMs_20	09 48 03.7	
	comp=Z,2μm,19.0s						
BZS	**Buzias**	54.13	351	⇑P	P	09 25 02.7	-0.4
BZS	**Buzias**	54.13	351	P	P	09 25 02.7	-0.4
SURR	**Surduc**	54.18	351	⇑P	P	09 25 03.2	-0.3
ONER	**Baraj Valea Uz**	54.26	355	⇑P	P	09 25 03.9	-0.2
SIRR	**Siria**	54.76	351	⇑P	P	09 25 07.5	-0.2
KBL	**Kabul**	54.84	37		P	09 25 08.4	-0.4
KBL	**Kabul**	54.84	37	P	P	09 25 08.4	-0.4
KBL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MARR	**Marisel-Cluj**	54.95	352	⇑P	P	09 25 09.0	-0.2
DRGR		55.12	352	⇑P	P	09 25 10.5	+0.1
DRGR		55.12	352	P	P	09 25 10.5	+0.1
MORH	**Mrgy, Hungar**	55.23	349	⇓P	P	09 25 10.1	-1.0
MORH	**Mrgy, Hungar**	55.23	349	P	P	09 25 11.2	+0.1
	comp=Z,9.4nm,1.3s						
AVE	**Averroes**	55.58	320	IAMs_20	IAMs_20	09 48 14.4	
	comp=Z,3μm,19.0s						
BURAR	**Bucovina Array**	55.64	354		P	09 25 14.2	+0.1
BURAR	**Bucovina Array**	55.64	354	⇑P	P	09 25 14.6	+0.4
BURAR	**Bucovina Array**	55.64	354	P	P	09 25 14.5	+0.4
NSLU	**Nyzhne Selyshc**	56.29	354	P	P	09 25 20.7	+2.0
KSV	**Kosov**	56.35	354	P	P	09 25 19.3	+0.2
MPLH	**Magyarpolny**	56.36	348	P	P	09 25 19.4	+0.2
	comp=Z,48nm,1.4s						
OBKA	**Obir**	56.41	346	pP	pP	09 25 23.2	+0.1
	comp=Z,17nm,1.1s						
SOKA	**Soboth**	56.45	346	*e*P	P	09 25 21.4	+1.4
	comp=Z,24nm,1.2s						
KMPD	**K-Podol'skiy**	56.47	356	P	P	09 25 19.0	-0.9
BERU	**Beregovo**	56.54	352	P	P	09 25 21.3	+0.8
BRIU	**Brid**	56.59	353	P	P	09 25 21.1	+0.3
PRED	**Cave del Predi**	56.60	345	P	P	09 25 19.6	-1.4
PRED				IAmb	IAmb	09 26 31.6	
	comp=Z,20nm,1.2s						
PSZ	**Piszkesteto**	56.64	350	IAmb	IAmb	09 25 24.6	
	comp=Z,30nm,1.0s						
PSZ	**Piszkesteto**	56.64	350	⇑P	P	09 25 21.6	+0.3
PSZ	**Piszkesteto**	56.64	350	P	P	09 25 21.6	+0.3
MUKU	**Mukachevo**	56.75	353	P	P	09 25 22.0	+0.1
MYKA	**Terra Mystica**	56.75	345	*e*P	P	09 25 23.7	+1.6
	comp=Z,13nm,1.2s						
CTI	**Castel Tesino**	56.76	343	IAmb	IAmb	09 26 00.8	
	comp=Z,32nm,1.3s						
STNU	**Starunia**	56.79	354	P	P	09 25 22.3	0.0
HOLU	**Holmets**	56.86	352	P	P	09 25 23.3	+0.6
ARSA	**Arzberg**	56.88	347	*i* P	P	09 25 24.0	+1.0
	comp=Z,13nm,1.1s						
SFS	**San Fernando**	56.93	323	IAMs_20	IAMs_20	09 48 51.1	
	comp=Z,4μm,21.0s						
RONA	**Rosalia, Austr**	57.13	347	*e*P	P	09 25 25.1	+0.3
	comp=Z,9.0nm,1.0s						
ABTA	**Abfaltersbach**	57.16	344	*e*P	P	09 25 27.0	+2.0
	comp=Z,17nm,1.3s						
KBA	**Koelnbreinsper**	57.25	345	*e*P	P	09 25 26.7	+0.9
	comp=Z,16nm,1.1s						
CONA	**Conrad Observa**	57.44	347	*e*P	P	09 25 27.8	+0.8
	comp=Z,18nm,1.1s,SNR=7.4						
MODS	**Modra-Piesok**	57.56	348	*e*P	P	09 25 28.0	+0.2
MODS				pmax	pmax		
	comp=Z,43nm,1.3s						
MODS	**Modra-Piesok**	57.56	348	*e*P	P	09 25 28.0	+0.2
MODS				*e*PP	PP	09 27 40.9	+5.3
SIMJ	**Simiganj**	57.68	34		P	09 25 28.7	-0.2
SIMJ				IAmb	IAmb	09 25 32.3	
	comp=Z,19nm,1.1s						
MOA	**Molln**	57.73	346	*i* P	P	09 25 29.7	+0.7
	comp=Z,29nm,1.2s,SNR=5.3						
LUBAR	**Lubar, Ukraine**	57.73	357	P	P	09 25 27.0	-1.9
LESA	**Schwarzleotal**	57.74	345	*e*P	P	09 25 29.2	+0.1
	comp=Z,10nm,1.1s						
TUE	**Stuetta**	57.84	342	P	P	09 25 29.0	-1.0
	comp=Z,99nm,1.4s						
WTTA	**Wattenberg**	57.88	344	*e*P	P	09 25 31.0	+0.9
	comp=Z,27nm,1.1s						
STHS	**Stebnicka Huta**	57.89	352	*e*P	P	09 25 30.7	+0.7
STHS	**Stebnicka Huta**	57.89	352	*e*P	P	09 25 30.7	+0.7
KWP	**Kalwaria Pacla**	57.91	353	P	P	09 25 29.3	-0.8
	comp=Z,25nm,0.9s						
FETA	**Feichten**	57.91	343	*e*P	P	09 25 31.3	+0.9
	comp=Z,17nm,1.3s						
ESDC	**Sonseca Array**	57.93	328	P	P	09 25 30.4	-0.1
ESDC	**Sonseca Array**	57.93	328	P	P	09 25 31.5	+0.9
	comp=Z,6.9nm,0.8s,baz=141,slow=7.0,SNR=28						
ESDC				LR	LR	09 52 30.2	
	comp=Z,2μm,18.2s,baz=135,slow=38						
	comp=Z,6.9nm,0.8s						
DAVOX	**Davos/Dischmat**	57.95	342	LR	LR	09 51 11.7	
	comp=Z,2μm,21.7s,baz=166,slow=37						
JAVC	**Velka Javorina**	57.95	349	*e*P	P	09 25 30.7	+0.2
SQTA	**Sankt Quirin**	57.96	343	*e*P	P	09 25 31.7	+1.0
	comp=Z,13nm,0.8s						
WATA	**Walderalm**	57.96	344	*e*P	P	09 25 32.0	+1.3
	comp=Z,25nm,1.5s						
NIE	**Niedzica**	58.03	351	*e*P	P	09 25 31.7	+0.6
NIE	**Niedzica**	58.03	351	P	P	09 25 31.2	+0.1
	comp=Z,7.7nm,1.4s						
AK07	**Malin Array Si**	58.30	358	P	P	09 25 32.4	-0.4
RETA	**Reutte**	58.33	343	*e*P	P	09 25 34.1	+0.9
	comp=Z,20nm,1.0s						
KRUC	**Moravsky**	58.40	348	*e*P	P	09 25 32.5	-1.1
DAVA	**Damuels**	58.40	342	*i* P	P	09 25 34.2	+0.4
	comp=Z,49nm,1.6s,SNR=9.8						
KIEV	**Kiev**	58.44	358		P	09 25 32.5	-1.3
KIEV				IAmb	IAmb	09 25 35.9	
	comp=Z,12nm,1.0s						
KIEV	**Kiev**	58.44	358	P	P	09 25 32.5	-1.3
KIEV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIEV	**Kiev**	58.44	358	P	P	09 25 32.3	-1.4
KIEV	**Kiev**	58.44	358	P	P	09 25 32.4	-1.4
	comp=Z,56nm,1.4s						
AKASG	**Malin Array Be**	58.45	358	P	P	09 25 33.0	-0.9
	comp=Z,6.0nm,0.9s,baz=186,slow=6.3,SNR=16						
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	58.45	358	*ce*P	P	09 25 33.2	-0.6
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKBB	**Malin Array Si**	58.45	358	IAmb	IAmb	09 25 35.9	
	comp=Z,15nm,1.1s						
AKBB	**Malin Array Si**	58.45	358	*ce*P	P	09 25 33.1	-0.7
AKBB				pmax	pmax		
	comp=Z,21nm,1.3s						
AKBB	**Malin Array Si**	58.45	358	P	P	09 25 32.5	-1.3
PVAQ	**Vaqueiros**	58.46	323	*e*LR	LR	09 46 01.5	
PVAQ				*i* AMs_20		09 50 13.3	
	comp=Z,2μm,20.0s						
SSB	**Saint Sauveur**	58.46	337	IAmb	IAmb	09 25 36.6	
	comp=Z,20nm,1.2s						
SSB	**Saint Sauveur**	58.46	337	IAMs_20	IAMs_20	09 52 44.2	
	comp=Z,2μm,20.0s						
VRAC	**Vranov**	58.59	348	LR	LR	09 54 26.2	
	comp=Z,1μm,19.6s,baz=185,slow=40						
VRAC	**Vranov**	58.59	348	*e*P	P	09 25 34.4	-0.5
CKRC	**Cesky Krumlov**	58.63	346	*e*P	P	09 25 35.7	+0.5
CKRC				AMS	AMS	09 55 40.0	
	comp=Z,1μm,18.3s						
CKRC	**Cesky Krumlov**	58.63	346	*e*P	P	09 25 35.7	+0.5
CKRC				MLR	MLR		
	comp=Z,1μm,18.3s						
MI28	**MI28,Pidlybu**	58.75	357	P	P	09 25 35.1	-0.8
GEC2	**GERESS Array S**	58.80	346	IAmb	IAmb	09 25 38.0	
	comp=Z,18nm,1.1s						
GERES	**GERESS Array B**	58.80	346	P	P	09 25 36.2	-0.3
GERES	**GERESS Array B**	58.80	346	P	P	09 25 36.4	-0.1
	comp=Z,5.8nm,0.8s,baz=166,slow=7.7,SNR=27						
GERES				LR	LR	09 54 32.0	
	comp=Z,1μm,18.1s,baz=151,slow=40						
	comp=Z,5.8nm,0.8s						
GERES	**GERESS Array B**	58.80	346	P	P	09 25 36.2	-0.3
TREC	**Trest**	58.81	347	*e*P	P	09 25 36.2	-0.3
TREC	**Trest**	58.81	347	*e*P	P	09 25 36.2	-0.3
MORC	**Moravsky Berou**	58.85	349	IAmb	IAmb	09 25 39.4	
	comp=Z,17nm,1.0s						
MORC	**Moravsky Berou**	58.85	349	*e*P	P	09 25 36.0	-0.8
OJC	**Ojcow**	58.89	351	*e*P	P	09 25 37.3	+0.3
STEB	**Steborice**	58.96	349	*e*P	P	09 25 37.7	+0.2
KHC	**Kasperske Hory**	59.09	346	*e*P	P	09 25 38.2	-0.2
KHC				AMS	AMS	09 54 00.0	
	comp=Z,2μm,18.6s						
KHC	**Kasperske Hory**	59.09	346	*ce*P	P	09 25 38.3	-0.2
KHC				pmax	pmax		
	comp=Z,43nm,1.3s						
KHC	**Kasperske Hory**	59.09	346	P	P	09 25 37.8	-0.7
	comp=Z,14nm,0.8s						
RNPP5	**Staryi Chortor**	59.16	355	P	P	09 25 38.6	-0.2
VSR	**Storozhevoye**	59.23	5	*e*P	P	09 25 37.4	-1.9
VSR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZVC	**Zvikov**	59.24	347	*e*P	P	09 25 39.3	-0.1
ZVC				AMS	AMS	09 56 10.0	
	comp=Z,1μm,19.3s						
RNPP8	**Varash**	59.27	355	P	P	09 25 38.9	-0.7
KRLC	**Kraliky**	59.29	349	*e*P	P	09 25 39.9	+0.1
KRLC				AMS	AMS	09 54 50.0	
	comp=Z,1μm,20.4s						
KRLC	**Kraliky**	59.29	349	*e*P	P	09 25 39.9	+0.1
KRLC				MLR	MLR		
	comp=Z,1μm,20.4s						
RNPP9	**Sopachiv**	59.35	356	P	P	09 25 39.7	-0.4
PESTR	**Estremoz**	59.37	325	*e*P	P	09 25 38.9	-1.6
VRH	**Novokhopyorsk**	59.48	7	*e*P	P	09 25 40.0	-1.0
VRH				pmax	pmax		
	comp=Z,24nm,1.2s						
GOPC	**GO Pecny, Ondr**	59.55	347	AMS	AMS	09 54 10.0	
	comp=Z,2μm,21.4s						
PMRV	**Marv??o**	59.63	325	*e*P	P	09 25 43.5	+1.2
PMRV				*i* Amb		09 25 45.6	
	comp=Z,30nm,1.5s						
PMRV				*e*LR	LR	09 45 50.4	
PMRV				*i* AMs_20		09 49 50.9	
	comp=Z,1μm,18.0s						
DPC	**Dobruska-Polom**	59.64	348	AMS	AMS	09 54 30.0	
	comp=Z,1μm,20.1s						
DPC	**Dobruska-Polom**	59.64	348	P	P	09 25 41.6	-0.6
	comp=Z,7.1nm,1.1s						
BTK	**Batken**	59.66	34	IAmb	IAmb	09 25 44.4	
	comp=Z,20nm,1.4s						
PRU	**Pruhonice**	59.67	347	AMS	AMS	09 54 10.0	
	comp=Z,1μm,22.5s						
VORR	**Voronezh**	59.68	5	P	P	09 25 42.8	+0.4
VORR				pmax	pmax		
	comp=Z,43nm,1.6s						
DRK	**Karamyk**	59.81	35	IAmb	IAmb	09 25 58.0	
	comp=Z,19nm,1.4s						
UPC	**Upice**	59.85	348	AMS	AMS	09 54 40.0	
	comp=Z,1μm,19.9s						
OSTC	**Ostas**	59.86	348	AMS	AMS	09 54 30.0	
	comp=Z,1μm,22.6s						
CHVC	**Chvalec**	59.92	348	AMS	AMS	09 54 30.0	
	comp=Z,1μm,17.2s						
KSP	**Ksiaz**	60.11	349	*e*P	P	09 25 38.8	-6.6
KSP	**Ksiaz**	60.11	349	P	P	09 25 44.3	-1.1
	comp=Z,8.0nm,0.4s						
PVCC	**Panska Ves**	60.17	347	AMS	AMS	09 54 20.0	
	comp=Z,800nm,19.6s						
RICC	**Richard**	60.29	347	AMS	AMS	09 54 50.0	
	comp=Z,2μm,19.7s						
MTE	**Manteigas**	60.38	326	IAMs_20	IAMs_20	09 53 49.5	
	comp=Z,2μm,20.0s						
MTE	**Manteigas**	60.38	326	*e*S	S	09 34 06.9	+4.3
MTE				*e*LQ	LQ	09 44 23.2	
MTE				*e*LR	LR	09 47 48.6	
MTE				*i* AMs_20		09 55 16.7	
	comp=Z,2μm,16.0s						
NKC	**Novy Kostel**	60.39	346	AMS	AMS	09 52 40.0	
	comp=Z,2μm,24.9s						
HSKC	**Hora Svate Kat**	60.50	346	AMS	AMS	09 54 00.0	
	comp=Z,2μm,23.5s						
LPSR	**Galich'ya Gora**	60.58	5	*e*P	P	09 25 48.5	0.0
LPSR				pmax	pmax		
	comp=Z,17nm,1.4s						
MVO	**Moncorvo**	60.63	327	*e*P	P	09 25 49.3	+0.1
MVO				*e*LQ	LQ	09 44 04.1	
MVO				*e*LR	LR	09 48 55.4	
MVO				*i* AMs_20		09 55 06.1	
	comp=Z,4μm,16.0s						
BRG	**Berggiesshubel**	60.64	347	*e*P	P	09 25 48.9	-0.1
BRG				Amp		09 25 51.3	
	comp=Z,8.1nm,1.1s						
PCAS	**Casmilo, Conde**	60.68	325	*e*P	P	09 25 50.8	+1.2
IUG	**Iuzhnay**	60.71	32	*e*P	P	09 25 49.8	0.0
IUG				pmax	pmax		
	comp=Z,38nm,1.8s						
IUG	**Iuzhnay**	60.71	32	*e*P	P	09 25 49.9	0.0
	comp=Z,38nm,1.8s						
PBRG	**Braganca**	60.92	328	*e*P	P	09 25 51.8	+0.5
POLO	**Lamas de Olo**	61.19	327	*e*P	P	09 25 54.3	+1.2
BRLS	**Borolday**	61.25	31	*e*P	P	09 25 51.0	-2.4
BRLS	**Borolday**	61.25	31	*e*P	P	09 25 51.0	-2.4
CLL	**Collm**	61.26	346	P	P	09 25 52.8	-0.4
CLL				IAmb	IAmb	09 25 56.8	
	comp=Z,13nm,1.2s						
CLL	**Collm**	61.26	346	*i* P	P	09 25 52.9	-0.3
CLL				*e*S	S	09 34 14.0	+0.8
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL				MLR	MLR		
	comp=Z,1μm,21.8s						
CLL	**Collm**	61.26	346	P	P	09 25 52.6	-0.6
	comp=Z,9.7nm,1.3s						
CLL	**Collm**	61.26	346	*i* P	P	09 25 52.9	-0.3
	comp=Z,11nm,1.1s						
CLL				*i* PcP	PcP	09 26 37.8	+2.1
	comp=Z,37nm,2.0s						
CLL				*e*S	S	09 34 14.0	+0.8
CLL				*e*SS	SS	09 37 54.0	-20
CLL				AMS	AMS	09 54 00.0	
	comp=N,1μm,21.5s						
CLL				AMS	AMS	09 54 00.0	
	comp=E,500nm,20.7s						
CLL				AMS	AMS	09 54 00.0	
	comp=Z,1μm,21.8s						
CLF	**Chambon-Foret**	61.62	338	IAMs_20	IAMs_20	09 54 48.8	
	comp=Z,2μm,19.0s						
KK31	**Karatay Array**	61.65	31	IAmb	IAmb	09 25 57.6	
	comp=Z,23nm,1.1s						
KKAR	**Karatay Array**	61.65	31		P	09 25 55.6	-0.4
KKAR	**Karatay Array**	61.65	31	IAmb	IAmb	09 25 57.6	
	comp=Z,15nm,1.1s						
KKAR	**Karatay Array**	61.65	31	P	P	09 25 55.6	-0.4
ARSB	**Arslanbob**	61.73	34	IAmb	IAmb	09 26 04.5	
	comp=Z,16nm,1.3s						
PGAV	**Gavieira, Arco**	61.86	327	*e*P	P	09 26 00.4	+2.8
PGAV				*e*LQ	LQ	09 44 48.8	
PGAV				*e*LR	LR	09 49 51.0	
PGAV				*i* AMs_20		09 55 52.3	
	comp=Z,4μm,16.0s						
DZA	**Taraz**	61.92	32	*e*P	P	09 25 57.5	-0.4
DZA				pmax	pmax		
	comp=Z,14nm,1.0s						
DZA	**Taraz**	61.92	32	*e*P	P	09 25 57.6	-0.4
	comp=Z,14nm,1.0s						
ABKAR	**Akbulak array**	61.95	20		P	09 25 56.7	-1.3
ABKAR	**Akbulak array**	61.95	20	IAmb	IAmb	09 25 59.0	
	comp=Z,27nm,1.6s						
SUW	**Suwalki**	62.17	354	*e*P	P	09 25 58.0	-1.2
AKTO	**Aktyubinsk**	62.34	18	LR	LR	09 57 12.3	
	comp=Z,2μm,18.2s,baz=204,slow=40						
MEM	**Membach**	62.53	342	*d*P	P	09 26 03.3	+1.6
BCLA	**Clavier**	62.59	341	*d*P	P	09 26 02.8	+0.6
BGES	**Gesves**	62.63	341	*d*P	P	09 26 03.5	+1.0
	comp=Z,7.3nm,1.3s						
AML	**Almayashu**	62.66	34	P	P	09 26 03.6	+0.2
	SNR=20						
OBN	**Obninsk**	62.93	3⇑	*e*P	P	09 26 04.1	-0.2
OBN				*e*		09 26 10.8	
OBN						09 26 40.0	
OBN				S	S	09 34 35.0	+0.9
OBN				pmax	pmax		
	comp=Z,28nm,1.1s						
OBN				MLR	MLR		
	comp=Z,426nm,19.0s						
MAW	**Mawson**	63.08	167	P	P	09 26 03.3	-1.9
	comp=Z,22nm,0.9s,baz=0.0,slow=4.0,SNR=2.1						
MAW				LR	LR	09 50 54.0	
	comp=Z,246nm,18.0s,baz=330,slow=34						
AAK	**Ala-Archa**	63.44	34		P	09 26 07.2	-1.0
AAK	**Ala-Archa**	63.44	34	LR	LR	09 55 03.5	
	comp=Z,1μm,19.1s,baz=248,slow=37						
AAK	**Ala-Archa**	63.44	34	P	P	09 26 09.2	+1.0
AAK				P	P	09 26 09.2	+1.0
AAK	**Ala-Archa**	63.44	34	*ce*P	P	09 26 08.4	+0.1
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AAK	**Ala-Archa**	63.44	34	P	P	09 26 08.1	-0.2
PABE	**Paberze**	63.57	355		P	09 26 08.3	-0.3
MOS	**Moscow**	63.61	4	*e*P	P	09 26 07.9	-0.9
MOS				*e*		09 28 31.2	
MOS				*e*S	S	09 34 38.5	-4.1
MOS				pmax	pmax		
	comp=Z,31nm,0.8s						
KBK	**Karagaybulak**	63.71	34	P	P	09 26 11.1	+1.1
	SNR=8.1						
USP	**Ospenovka**	63.87	33	P	P	09 26 11.3	+0.4
	SNR=7.2						
SGDS	**Sogindy**	64.06	33	*e*P	P	09 26 11.7	-0.5
SGDS	**Sogindy**	64.06	33	*e*P	P	09 26 11.8	-0.5
NVL	**N'lazarevskaya**	64.06	187	*e*P	P	09 26 16.8	+5.1
NVL				*e*S	S	09 34 52.2	+4.2
NVL				pmax	pmax		
	comp=Z,17nm,0.9s						
NVL				MLR	MLR		
	comp=Z,907nm,17.0s						
BOOM	**Boomskoye usch**	64.15	35	IAmb	IAmb	09 26 25.6	
	comp=Z,16nm,1.4s						
ULHL	**Ulahol**	64.17	35	P	P	09 26 13.9	+0.8
	SNR=5.7						
ELIB	**Princess Elisa**	64.18	183	*d*P	P	09 26 18.3	+5.6
	comp=Z,7.5nm,1.3s						
TKM2	**Tokmak 2**	64.24	34	P	P	09 26 14.0	+0.5
	SNR=10						
TARG	**Taragay, Kyrgy**	64.75	36	IAmb	IAmb	09 26 18.6	
	comp=Z,18nm,1.1s						
BTLS	**Baital**	64.82	32	*e*P	P	09 26 16.8	-0.2
BTLS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BTLS	**Baital**	64.82	32	*e*P	P	09 26 16.8	-0.2
	comp=Z,8.1nm,1.1s						
TNSS	**Tian-Shan**	65.07	35	*e*P	P	09 26 18.6	-0.6
TNSS	**Tian-Shan**	65.07	35	*e*P	P	09 26 18.6	-0.6
CHKK	**Chushkaly**	65.62	34	*e*P	P	09 26 21.7	-0.6
CHKK	**Chushkaly**	65.62	34	*e*P	P	09 26 21.8	-0.6
BRDH	**Bariadhala**	65.74	61	LR	LR	09 56 00.6	
	comp=Z,1μm,18.1s,baz=264,slow=37						
SATY	**Saty**	65.92	35	*e*P	P	09 26 24.3	0.0
SATY				pmax	pmax		
	comp=Z,16nm,1.6s						
SATY	**Saty**	65.92	35	*e*P	P	09 26 24.4	0.0
	comp=Z,16n

LSA	**Lhasa**	67.95	54	IAmb	IAmb	09 26 47.9		
	comp=Z,13nm,0.6s							
KLMR	**Klimovskoe**	68.82	4	*e*P	P	**09 26 37.5**	**-4.7**	
KLMR				pmax	pmax			
	comp=Z,57nm,1.4s							
BRVK	**Borovoye**	68.87	24	P	P	**09 26 41.1**	**-1.6**	
BRVK				IAmb	IAmb	09 26 45.6		
	comp=Z,13nm,1.1s							
BRVK	**Borovoye**	68.87	24	P	P	**09 26 43.5**	**+0.8**	
BRVK				P	P	**09 26 43.5**	**+0.8**	
BRVK	**Borovoye**	68.87	24	*ce*P	P	**09 26 43.0**	**+0.3**	
BRVK				pmax	pmax			
	comp=Z,16nm,1.3s							
BVAR	**Borovoye Array**	68.89	24	P	P	**09 26 42.9**	**+0.1**	
	comp=Z,5.3nm,0.8s,baz=223,slow=6.1,SNR=19							
BVAR				LR	LR	09 59 39.1		
	comp=Z,980nm,20.5s,baz=217,slow=38							
	comp=Z,5.3nm,0.8s							
FINES	**FINESS Array B**	69.32	357	P	P	**09 26 44.7**	**-0.6**	
	comp=Z,4.3nm,0.8s,baz=155,slow=4.4,SNR=9.2							
FINES				LR	LR	10 01 17.0		
	comp=Z,652nm,18.1s,baz=184,slow=40							
	comp=Z,4.3nm,0.8s							
FINES	**FINESS Array B**	69.32	357	*i* P	P	**09 26 45.2**	**-0.1**	
FINES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
HFS	**Hagfors**	69.41	350	P	P	**09 26 45.7**	**-0.2**	
	comp=Z,11nm,0.9s,baz=131,slow=4.5,SNR=9.3							
HFS				LR	LR	09 59 04.4		
	comp=Z,480nm,20.5s,baz=164,slow=38							
	comp=Z,11nm,0.9s							
EKA	**Eskdalemuir Ar**	69.53	339	P	P	**09 26 47.1**	**+0.4**	
	comp=Z,0.9nm,0.4s,baz=142,slow=6.2,SNR=8.4							
	comp=Z,0.9nm,0.4s							
KULM	**Kulim**	69.65	81	IAMs_20	IAMs_20	09 52 57.0		
	comp=Z,2μm,20.0s							
MAKZ	**Makanchi**	70.21	34	P	P	**09 26 51.0**	**-0.1**	
MAKZ				IAmb	IAmb	09 26 53.6		
	comp=Z,11nm,0.9s							
MAKZ	**Makanchi**	70.21	34	P	P	**09 26 51.0**	**-0.1**	
MAKZ				pmax	pmax			
	comp=Z,11nm,1.0s							
MAKZ				MLR	MLR			
	comp=Z,2μm,20.0s							
MK31	**Makanchi Array**	70.37	34	IAmb	IAmb	09 26 54.5		
	comp=Z,9.1nm,0.8s							
MK31	**Makanchi Array**	70.37	34	*ce*P	P	**09 26 51.9**	**-0.2**	
MKAR	**Makanchi Array**	70.37	34	P	P	**09 26 50.9**	**-1.3**	
MKAR	**Makanchi Array**	70.37	34	P	P	**09 26 52.4**	**+0.2**	
	comp=Z,7.4nm,0.7s,baz=231,slow=5.1,SNR=51							
MKAR				LR	LR	10 01 18.9		
	comp=Z,2μm,19.5s,baz=238,slow=39							
	comp=Z,7.4nm,0.7s							
MKAR	**Makanchi Array**	70.37	34	P	P	**09 26 50.9**	**-1.3**	
NB2	**NORSAR Subarra**	70.69	349	P	P	**09 26 53.8**	**0.0**	
	comp=Z,25nm,1.2s,baz=158,slow=6.2							
NB2	**NORSAR Subarra**	70.69	349	P	P	**09 26 53.8**	**0.0**	
	baz=158,slow=6.2							
NOA	**NORSAR Array B**	70.69	349	P	P	**09 26 53.8**	**0.0**	
	comp=Z,9.8nm,1.0s,baz=161,slow=5.6,SNR=8.9							
NOA				LR	LR	10 02 07.8		
	comp=Z,634nm,19.2s,baz=175,slow=40							
	comp=Z,9.8nm,1.0s							
KURBB	**Kurchatov Arra**	70.79	29	P	P	**09 26 54.4**	**-0.1**	
	comp=Z,9.5nm,1.1s,baz=236,slow=6.6,SNR=4.6							
KURBB				LR	LR	10 01 21.0		
	comp=Z,2μm,19.8s,baz=228,slow=39							
	comp=Z,9.5nm,1.1s							
KURK	**Kurchatov**	70.90	29	P	P	**09 26 54.5**	**-0.7**	
KURK				IAmb	IAmb	09 26 56.7		
	comp=Z,14nm,1.2s							
KURK	**Kurchatov**	70.90	29	P	P	**09 26 56.1**	**+0.9**	
KURK				P	P	**09 26 56.1**	**+0.9**	
KURK	**Kurchatov**	70.90	29	*ce*P	P	**09 26 55.8**	**+0.6**	
KURK				pmax	pmax			
	comp=Z,14nm,1.3s							
CMAR	**Chiang Mai Arr**	70.96	67	P	P	**09 26 56.2**	**0.0**	
	comp=Z,2.8nm,0.8s,baz=258,slow=7.6,SNR=15							
CMAR				LR	LR	09 58 03.9		
	comp=Z,441nm,18.2s,baz=265,slow=36							
	comp=Z,2.8nm,0.8s							
CMAR	**Chiang Mai Arr**	70.96	67	*ce*P	P	**09 26 56.7**	**+0.4**	
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	71.06	67	P	P	**09 26 55.1**	**-1.7**	
CHTO	**Chiang Mai**	71.06	67	P	P	**09 26 55.2**	**-1.7**	
CHTO				pmax	pmax			
	comp=Z,10.0nm,1.1s							
WMQ	**Urumqi**	71.92	39	*e*P	P	**09 27 04.1**	**+2.4**	
WMQ				LR	LR			
	comp=Z,2μm,21.5s							
WMQ				LR	LR			
	comp=Z,1μm,23.1s							
WMQ				LR	LR			
	comp=Z,1μm,23.1s							
ZSN	**Zaisan**	72.19	35	*e*P	P	**09 27 03.2**	**+0.1**	
ZSN				pmax	pmax			
	comp=Z,16nm,1.2s							
ZSN	**Zaisan**	72.19	35	*e*P	P	**09 27 03.2**	**+0.1**	
	comp=Z,16nm,1.2s							
TNCH	**TengChong**	72.46	61	*e*P	P	**09 27 06.9**	**+1.5**	
TNCH				sP	sP	09 27 12.8	+2.6	
TNCH				S	S	**09 36 29.8**	**-0.2**	
TNCH				sS	sS	09 36 35.4	-0.4	
TNCH				pmax	pmax			
	comp=Z,160nm,4.1s							
TNCH				LR	LR			
	comp=Z,1μm,19.5s							
TNCH				LR	LR			
	comp=Z,1μm,16.8s							
TNCH				LR	LR			
	comp=Z,1μm,25.4s							
GOMU	**GeErMu**	73.36	49	P	P	**09 27 12.3**	**+1.5**	
GOMU				pP	sP	09 27 18.3	+2.7	
GOMU				sP	PcP	09 27 23.6	-3.5	
GOMU				PP	PP	**09 29 57.0**	**+2.6**	
GOMU				S	S	**09 36 33.6**	**-6.7**	
GOMU				pmax	pmax			
	comp=Z,26nm,1.1s							
GOMU				pmax	pmax			
	comp=Z,380nm,7.0s							
GOMU				LR	LR			
	comp=Z,630nm,16.9s							
GOMU				LR	LR			
	comp=Z,750nm,17.4s							
GOMU				LR	LR			
	comp=Z,860nm,18.6s							
LEM	**Lembang**	74.82	95	LR	LR	09 58 22.4		
	comp=Z,1μm,18.0s,baz=290,slow=34							
PZH	**PanZhiHua**	75.67	60	P	P	**09 27 25.3**	**+1.2**	
PZH				S	S	**09 37 05.3**	**-0.7**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,130nm,7.1s							
PZH				LR	LR			
	comp=Z,480nm,18.0s							
PZH				LR	LR			
	comp=Z,520nm,19.2s							
PZH				LR	LR			
	comp=Z,560nm,18.8s							
ZALV	**Zalesovo Beam**	75.89	29	P	P	**09 27 23.1**	**-1.5**	
ZALV	**Zalesovo Beam**	75.89	29	P	P	**09 27 23.8**	**-0.7**	
	comp=Z,1.9nm,0.6s,baz=255,slow=5.8,SNR=8.7							
ZALV				LR	LR	10 02 35.1		
	comp=Z,1μm,18.6s,baz=232,slow=37							
	comp=Z,1.9nm,0.6s							
ZALV	**Zalesovo Beam**	75.89	29	*i* P	P	**09 27 24.1**	**-0.4**	
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KMI	**Kunming**	76.15	62	P	P	**09 27 25.4**	**-1.6**	
KMI				PP	PP	**09 30 23.6**	**+5.5**	
KMI				S	S	**09 37 08.4**	**-3.1**	
KMI				SKS	SKSac	**09 37 33.8**	**-4.9**	
KMI				pmax	pmax			
	comp=Z,140nm,7.1s							
KMI				LR	LR			
	comp=Z,390nm,17.3s							
KMI				LR	LR			
	comp=Z,580nm,17.7s							
KMI				LR	LR			
	comp=Z,570nm,23.4s							
ARCES	**ARCESS Array B**	77.42	358	P	P	**09 27 32.2**	**-0.8**	
	comp=Z,11nm,1.1s,baz=180,slow=2.4,SNR=10.0							
ARCES				LR	LR	10 07 06.1		
	comp=Z,759nm,18.2s,baz=184,slow=40							
	comp=Z,11nm,1.1s							
GTA	**Gaotai**	78.23	47	*e*P	P	**09 27 39.0**	**+0.7**	
GTA				sP	PcP	09 27 49.0	+1.3	
GTA				S	S	**09 37 31.5**	**-2.0**	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
GTA				LR	LR			
	comp=Z,290nm,16.7s							
GTA				LR	LR			
	comp=Z,500nm,16.7s							
GTA				LR	LR			
	comp=Z,530nm,17.8s							
BDFB	**Brasilia**	78.41	256	P	P	**09 27 42.6**	**+3.0**	
	comp=Z,4.4nm,1.0s,baz=149,slow=5.9,SNR=3.9							
BDFB				LR	LR	10 00 08.3		
	comp=Z,953nm,18.5s,baz=103,slow=34							
CD2	**Chengdu**	78.61	56	P	P	**09 27 40.3**	**-0.1**	
CD2				S	S	**09 37 37.8**	**+0.1**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,210nm,3.7s							
CD2				LR	LR			
	comp=Z,520nm,25.4s							
CD2				LR	LR			
	comp=Z,550nm,16.2s							
GYA	**Guiyang**	79.91	61	P	P	**09 27 49.0**	**+1.3**	
GYA				S	S	**09 37 47.8**	**-4.1**	
GYA				SKS	SKSac	**09 38 00.9**	**-4.7**	
GYA				LR	LR			
	comp=Z,880nm,23.0s							
LZH	**Lanzhou**	80.18	51	*e*P	P	**09 27 50.1**	**+1.1**	
LZH				sP	PcP	09 27 59.0	+2.7	
LZH				S	S	**09 37 51.1**	**-3.3**	
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
LZH				LR	LR			
	comp=Z,790nm,17.9s							
LZH				LR	LR			
	comp=Z,660nm,18.2s							
LZH				LR	LR			
	comp=Z,870nm,20.6s							
QIZ	**Qiongzhong**	81.13	69	P	P	**09 27 55.0**	**+0.7**	
QIZ				S	S	**09 38 05.8**	**+1.1**	
QIZ				SS	SS	**09 43 20.0**	**0.0**	
QIZ				pmax	pmax			
	comp=Z,170nm,4.8s							
QIZ				LR	LR			
	comp=Z,310nm,18.8s							
QIZ				LR	LR			
	comp=Z,760nm,17.2s							
QIZ				LR	LR			
	comp=Z,980nm,19.2s							
NWAO	**Narrogin (SRO)**	81.69	122	LR	LR	09 59 58.7		
	comp=Z,1μm,18.3s,baz=236,slow=33							
QSPA	**South Pole Qui**	82.15	180	P	P	**09 27 56.6**	**-2.3**	
QSPA	**South Pole Qui**	82.15	180	P	P	**09 28 00.5**	**+1.6**	
	comp=Z,1.9nm,1.0s,baz=250,slow=2.3,SNR=8.4							
QSPA				LR	LR	10 01 26.7		
	comp=Z,1μm,21.7s,baz=249,slow=34							
	comp=Z,1.9nm,1.0s							
BORG	**Borgarnes**	82.56	340	LR	LR	10 07 31.4		
	comp=Z,987nm,18.0s,baz=138,slow=38							
JMIC	**Jan Mayen**	83.28	348	LR	LR	10 08 06.3		
	comp=Z,476nm,19.5s,baz=193,slow=38							
XAN	**Xi'an**	83.64	54	⇑P	P	**09 28 07.5**	**+0.3**	
XAN				pmax	pmax			
	comp=Z,11nm,1.1s							
XAN				LR	LR			
	comp=Z,840nm,19.2s							
XAN				LR	LR			
	comp=Z,600nm,19.2s							
XAN				LR	LR			
	comp=Z,570nm,17.9s							
ZAK	**Zakamensk**	84.32	38	*e*P	P	**09 28 10.4**	**+0.1**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
SONM	**Songino Array**	85.47	41	P	P	**09 28 17.4**	**+1.2**	
	comp=Z,4.3nm,0.8s,baz=243,slow=4.7,SNR=21							
SONM				LR	LR	10 10 27.6		
	comp=Z,752nm,19.7s,baz=272,slow=38							
	comp=Z,4.3nm,0.8s							
MDP	**Montagnes des**	85.48	276	LR	LR	10 01 50.5		
	comp=Z,432nm,20.7s,baz=86,slow=32							
PMSA	**Palmer Station**	85.49	205	LR	LR	10 01 31.5		
	comp=Z,2μm,21.9s,baz=104,slow=32							
ULN	**Ulaanbaatar**	85.90	41	P	P	**09 28 18.7**	**+0.3**	
ULN	**Ulaanbaatar**	85.90	41	*i* P	P	**09 28 18.9**	**+0.5**	
ULN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NRIK	**Noril'sk**	85.93	17	IAmb	IAmb	09 28 20.2		
	comp=Z,17nm,1.6s							
NRIK	**Noril'sk**	85.93	17	P	P	**09 28 18.4**	**+0.6**	
	comp=Z,2.5nm,0.8s,baz=194,slow=3.4,SNR=7.2							
NRIK				LR	LR	10 10 02.1		
	comp=Z,2μm,21.9s,baz=228,slow=38							
	comp=Z,2.5nm,0.8s							
NRIK	**Noril'sk**	85.93	17	*ce*P	P	**09 28 19.3**	**+1.5**	
NRIK				pmax	pmax			
	comp=Z,13nm,1.6s							
CPUP	**Villa Florida**	86.00	244	LR	LR	10 03 18.0		
	comp=Z,2μm,19.8s,baz=105,slow=33							
BTO	**Baotou**	86.06	48	*e*P	P	09 28 13.8	-5.5	
BTO				pP	PcP	**09 28 17.5**	**-4.5**	
BTO				sP	pP	09 28 20.6	-2.3	
BTO				PP	PP	**09 31 36.3**	**-3.4**	
BTO	**Baotou**	86.06	48	S	SKSac	**09 38 43.4**	**-2.3**	
BTO	**Baotou**	86.06	48	SS	SS	09 44 24.1	-8.3	
BTO				pmax	pmax			
	comp=Z,15nm,0.5s							
BTO				pmax	pmax			
	comp=Z,260nm,3.6s							
BTO				LR	LR			
	comp=N,1μm,16.9s							
BTO				LR	LR			
	comp=E,610nm,14.1s							
BTO				LR	LR			
	comp=Z,960nm,19.1s							
SPITS	**Spitsbergen Ar**	86.42	357	P	P	**09 28 20.9**	**+0.7**	
	comp=Z,12nm,0.9s,baz=238,slow=8.0,SNR=3.2							
SPITS				LR	LR	10 11 12.9		
	comp=Z,386nm,19.6s,baz=124,slow=39							
	comp=Z,12nm,0.9s							
LYN	**LuoYang**	86.61	55	P	P	**09 28 24.5**	**+2.5**	
LYN				S	S	**09 39 01.1**	**+1.8**	
LYN				pmax	pmax			
	comp=Z,31nm,0.8s							
LYN				LR	LR			
	comp=Z,800nm,19.2s							
LYN				LR	LR			
	comp=Z,1μm,18.6s							
LYN				LR	LR			
	comp=Z,800nm,16.1s							
KAPI	**Kappang**	87.02	95	LR	LR	10 06 35.6		
	comp=Z,566nm,18.2s,baz=273,slow=35							
MYLDM	**Lahad Datu**	87.18	84	IAMs_20	IAMs_20	10 09 48.6		
	comp=Z,2μm,19.0s							
HHC	**Hu-ho-hao-te**	87.26	48	*e*P	P	**09 28 25.4**	**+0.2**	
HHC				sP	sP	09 28 35.4	+5.3	
HHC				PP	PP	**09 31 51.4**	**+2.0**	
HHC				S	S	**09 39 05.8**	**+0.2**	
HHC				sS	ScS	09 39 16.3	+3.4	
HHC				SS	SS	**09 44 53.8**	**+3.8**	
HHC				pmax	pmax			
	comp=Z,14nm,0.7s							
HHC				pmax	pmax			
	comp=Z,210nm,5.3s							
HHC				LR	LR			
	comp=Z,360nm,19.1s							
HHC				LR	LR			
	comp=Z,510nm,19.9s							
HHC				LR	LR			
	comp=Z,820nm,19.9s							
WHN	**Wuhan**	87.39	59	P	P	**09 28 27.6**	**+1.8**	
HNS	**HongShan**	88.95	52	⇑P	P	**09 28 35.0**	**+1.9**	
HNS				S	S	**09 39 25.9**	**+4.4**	
HNS				LR	LR			
	comp=Z,540nm,20.6s							
HNS				LR	LR			
	comp=Z,510nm,19.1s							
HNS				LR	LR			
	comp=Z,530nm,20.6s							
USHA	**Ushuaia**	89.58	215	LR	LR	10 05 12.1		
	comp=Z,1μm,18.3s,baz=92,slow=33							
VNDA	**Vanda**	90.23	170	LR	LR	10 06 05.1		
	comp=Z,1μm,21.9s,baz=222,slow=34							
SOEI	**Soe**	90.82	100	IAMs_20	IAMs_20	10 03 48.2		
	comp=Z,1μm,21.0s							
SIV	**San Ignacio**	90.85	254	LR	LR	10 06 07.4		
	comp=Z,990nm,20.4s,baz=112,slow=33							
FITZ	**Fitzroy Crossi**	90.93	108	LR	LR	10 07 22.7		
	comp=Z,719nm,18.3s,baz=271,slow=34							
NJ2	**Nanjing**	91.44	58	*e*P	P	**09 28 45.3**	**+0.4**	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
SUMG	**Summit**	91.79	343	P	P	**09 28 46.2**	**+0.1**	
SUMG	**Summit**	91.79	343	P	P	**09 28 46.2**	**+0.1**	
SUMG				pmax	pmax			
	comp=Z,33nm,2.0s							
PLCA	**Paso Flores**	94.33	228	LR	LR	10 06 49.0		
	comp=Z,2μm,21.1s,baz=100,slow=33							
SFJD	**Kangerlussuaq**	94.39	337	LR	LR	10 11 07.6		
	comp=Z,848nm,21.9s,baz=102,slow=35							
DAV	**Davao City (W)**	94.41	84	LR	LR	10 08 54.5		
	comp=Z,445nm,20.2s,baz=207,slow=34							
HIA	**Hailar**	94.43	41	IAMs_20	IAMs_20	10 17 07.1		
	comp=Z,1μm,18.0s							
DL2	**Dalian**	94.57	52	*e*P	P	09 28 54.3	-4.9	
DL2	**Dalian**	94.57	52	*e*S	S	**09 40 04.0**	**-8.2**	
DL2				pmax	pmax			
	comp=Z,39nm,0.9s							
DL2				LR	LR			
	comp=N,1μm,20.9s							
DL2				LR	LR			
	comp=E,840nm,22.9s							
DL2				LR	LR			
	comp=Z,1μm,18.1s							
CFA	**Coronel Fontan**	94.58	237	LR	LR	10 07 03.0		
	comp=Z,712nm,21.4s,baz=114,slow=33							
PEL	**Peldehue**	96.25	235	IAMs_20	IAMs_20	10 08 12.8		
	comp=Z,1μm,20.0s							
LPAZ	**La Paz**	97.49	252	LR	LR	10 10 30.9		
	comp=Z,802nm,20.6s,baz=106,slow=34							
ASAR	**Alice Springs**	97.55	115	P	P	**09 29 13.4**	**+0.2**	
	comp=Z,0.5nm,0.8s,baz=255,slow=4.1,SNR=5.9							
	comp=Z,0.5nm,0.8s							
PCRV	**Puerto La Cruz**	97.94	279	LR	LR	10 08 30.8		
	comp=Z,358nm,22.0s,slow=32							
JOW	**Kunigami**	99.04	64	LR	LR	10 18 08.4		
	comp=Z,260nm,18.1s,baz=153,slow=38							
KSRS	**Korea Array**	99.40	53	LR	LR	10 17 34.2		
	comp=Z,342nm,18.7s,baz=275,slow=37							
TIXI	**Tiksi**	99.62	19	IAMs_20	IAMs_20	10 19 34.0		
	comp=Z,1μm,21.0s							
TIXI	**Tiksi**	99.62	19	LR	LR	10 19 45.6		
	comp=Z,1μm,20.2s,baz=288,slow=39							
YAK	**Yakutsk**	100.53	28	IAMs_20	IAMs_20	10 16 43.5		
	comp=Z,1μm,20.0s							
F64A	**Sherman**	102.91	315	IAMs_20	IAMs_20	10 19 39.3		
	comp=Z,883nm,19.0s							
PKME	**Peaks-Kenny Pk**	103.59	315	IAMs_20	IAMs_20	10 16 54.4		
	comp=Z,1μm,20.0s							
E62A	**Clayton Lake**	103.69	316	IAMs_20	IAMs_20	10 13 07.9		
	comp=Z,999nm,20.0s							
WVL	**Waterville**	103.88	314	IAMs_20	IAMs_20	10 15 47.2		
	comp=Z,1μm,19.0s							
G62A	**West of Eustis**	104.47	315	IAMs_20	IAMs_20	10 16 57.6		
	comp=Z,1μm,20.0s							
M65A	**Busby, Falmout**	104.73	311	IAMs_20	IAMs_20	10 13 27.1		
	comp=Z,1μm,20.0s							
L64A	**Middleborough**	104.86	311	IAMs_20	IAMs_20	10 13 44.4		
	comp=Z,1μm,21.0s							
H62A	**Milan**	104.95	314	IAMs_20	IAMs_20	10 20 49.4		
	comp=Z,1μm,18.0s							
WES	**Weston**	105.20	312	IAMs_20	IAMs_20	10 15 22.3		
	comp=Z,1μm,20.0s							
HRV	**Adam Dziewonsk**	105.36	312	IAMs_20	IAMs_20	10 15 26.7		
	comp=Z,1μm,19.0s							
M63A	**Gales Ferry**	105.79	311	IAMs_20	IAMs_20	10 15 57.1		
	comp=Z,1μm,20.0s							
HNH	**Hanover**	105.82	313	IAMs_20	IAMs_20	10 15 30.6		
	comp=Z,809nm,20.0s							
K62A	**Royalston**	105.85	312	IAMs_20	IAMs_20	10 15 42.6		
	comp=Z,1μm,19.0s							
VT1	**Waterbury**	106.11	314	IAMs_20	IAMs_20	10 21 34.1		
	comp=Z,911nm,18.0s							
L61B	**Northampton**	106.20	312	IAMs_20	IAMs_20	10 14 36.7		
	comp=Z,1μm,20.0s							
N62A	**Caumsett State**	106.89	310	IAMs_20	IAMs_20	10 14 41.3		
	comp=Z,2μm,21.0s							
TRY	**Troy**	106.90	312	IAMs_20	IAMs_20	10 15 00.3		
	comp=Z,1μm,20.0s							
LONY	**Lake Ozonia**	107.38	314	IAMs_20	IAMs_20	10 19 58.9		
	comp=Z,931nm,18.0s							
J59A	**Piesco**	107.45	313	IAMs_20	IAMs_20	10 16 38.6		
	comp=Z,991nm,20.0s							
L59A	**Walton**	107.97	312	IAMs_20	IAMs_20	10 16 47.5		
	comp=Z,1μm,20.0s							
J57A	**Williamstown**	108.53	313	IAMs_20	IAMs_20	10 17 30.4		
	comp=Z,1μm,20.0s							
BINY	**Binghamton**	108.66	312	IAMs_20	IAMs_20	10 17 28.9		
	comp=Z,1μm,21.0s							
K57A	**Scipio Center**	108.99	312	IAMs_20	IAMs_20	10 22 54.6		
	comp=Z,1μm,18.0s							
YSS	**Yuzhno-Sakhali**	109.85	43	IAMs_20	IAMs_20	10 26 18.3		
	comp=Z,1μm,20.0s							
J55A	**Hilton**	109.87	313	IAMs_20	IAMs_20	10 20 06.7		
	comp=Z,1μm,18.0s							
CBN	**Corbin Frederi**	110.14	308	IAMs_20	IAMs_20	10 15 47.5		
	comp=Z,1μm,21.0s							
OTAV	**Otavalo**	110.36	267	IAMs_20	IAMs_20	10 21 16.0		
	comp=Z,1μm,18.0s							
T59A	**Double "B" Far**	110.40	306	IAMs_20	IAMs_20	10 17 18.6		
	comp=Z,1μm,20.0s							
P57A	**Homestead Farm**	110.50	309	IAMs_20	IAMs_20	10 17 52.8		
	comp=Z,1μm,19.0s							
W59A	**Clinton**	111.29	305	IAMs_20	IAMs_20	10 14 08.3		
	comp=Z,2μm,22.0s							
S57A	**Dark Hollow, R**	111.43	307	IAMs_20	IAMs_20	10 16 23.7		
	comp=Z,2μm,21.0s							
Q56A	**Snyder Ridge,**	111.45	309	IAMs_20	IAMs_20	10 17 59.2		
	comp=Z,1μm,19.0s							
T57A	**Hurt**	111.75	307	IAMs_20	IAMs_20	10 18 12.3		
	comp=Z,1μm,20.0s							
V58A	**Windy Hill, Pi**	111.77	305	IAMs_20	IAMs_20	10 16 34.0		
	comp=Z,1μm,20.0s							
MCWV	**Mont Chateau**	111.88	309	IAMs_20	IAMs_20	10 18 46.3		
	comp=Z,1μm,20.0s							
X58A	**Rowland**	112.08	304	IAMs_20	IAMs_20	10 19 23.3		
	comp=Z,1μm,19.0s							
O54A	**Avella**	112.21	310	IAMs_20	IAMs_20	10 19 41.0		
	comp=Z,1μm,20.0s							
Y58A	**Scranton**	112.42	303	IAMs_20	IAMs_20	10 13 16.2		
	comp=Z,1μm,19.0s							
W57A	**Gilead**	112.56	305	IAMs_20	IAMs_20	10 19 47.8		
	comp=Z,1μm,20.0s							
BLA	**Blacksburg**	112.65	307	IAMs_20	IAMs_20	10 18 39.1		
	comp=Z,1μm,21.0s							
U56A	**King**	112.73	306	IAMs_20	IAMs_20	10 17 14.3		
	comp=Z,1μm,22.0s							
BILL	**Bilibino**	112.75	17	IAMs_20	IAMs_20	10 25 44.8		
	comp=Z,840nm,22.0s							
NHSC	**New Hope**	112.92	303	IAMs_20	IAMs_20	10 20 56.7		
	comp=Z,1μm,20.0s							
PMG	**Port Moresby**	113.08	104	IAMs_20	IAMs_20	10 22 02.3		
	comp=Z,784nm,18.0s						

I45A	Fountain	115.71	315	IAMs_20	IAMs_20	10 20 54.0	
	comp=Z,1μm,20.0s						
TIGA	Tifton	115.97	301	IAMs_20	IAMs_20	10 16 13.6	
	comp=Z,1μm,21.0s						
Y52A	Lilburn	116.05	304	IAMs_20	IAMs_20	10 20 03.4	
	comp=Z,741nm,20.0s						
N47A	Urbana	116.06	312	IAMs_20	IAMs_20	10 24 26.8	
	comp=Z,1μm,19.0s						
P48A	Milroy	116.16	310	IAMs_20	IAMs_20	10 19 35.6	
	comp=Z,948nm,20.0s						
T50A	Nancy	116.17	307	IAMs_20	IAMs_20	10 20 32.2	
	comp=Z,1μm,21.0s						
F42A	Maple Grove Fa	116.54	317	IAMs_20	IAMs_20	10 23 09.8	
	comp=Z,956nm,18.0s						
X51A	Calhoun	116.60	305	IAMs_20	IAMs_20	10 22 04.8	
	comp=Z,944nm,19.0s						
H43A	Windswept, Lux	116.66	316	IAMs_20	IAMs_20	10 23 00.1	
	comp=Z,1μm,20.0s						
152A	Waverly Hall	116.76	303	IAMs_20	IAMs_20	10 20 27.4	
	comp=Z,902nm,20.0s						
W50A	Signal Mountai	116.86	305	IAMs_20	IAMs_20	10 22 41.7	
	comp=Z,1μm,19.0s						
U49A	Red Boiling Sp	117.01	307	IAMs_20	IAMs_20	10 20 57.4	
	comp=Z,1μm,21.0s						
352A	Blakely	117.10	301	IAMs_20	IAMs_20	10 21 20.2	
	comp=Z,1μm,20.0s						
COWI	Conover	117.11	318	IAMs_20	IAMs_20	10 20 21.7	
	comp=Z,1μm,22.0s						
P46A	Rosedale	117.47	311	IAMs_20	IAMs_20	10 21 20.3	
	comp=Z,1μm,21.0s						
K43A	Burlington	117.53	314	IAMs_20	IAMs_20	10 22 50.4	
	comp=Z,1μm,19.0s						
I42A	Draeger Farm,	117.61	316	IAMs_20	IAMs_20	10 22 22.3	
	comp=Z,1μm,21.0s						
T47A	Sharon Grove	117.96	308	IAMs_20	IAMs_20	10 18 39.5	
	comp=Z,1μm,21.0s						
V48A	Smith Brothers	117.98	306	IAMs_20	IAMs_20	10 20 28.2	
	comp=Z,1μm,21.0s						
Y49A	Blount Mountai	117.98	304	IAMs_20	IAMs_20	10 21 33.5	
	comp=Z,953nm,20.0s						
EYMN	Ely	118.02	321	IAMs_20	IAMs_20	10 24 43.5	
	comp=Z,1μm,20.0s						
G40A	Rib Lake	118.08	317	IAMs_20	IAMs_20	10 22 12.4	
	comp=Z,1μm,21.0s						
250A	Grady	118.16	302	IAMs_20	IAMs_20	10 20 04.5	
	comp=Z,1μm,20.0s						
X48A	Hartselle	118.40	305	IAMs_20	IAMs_20	10 23 20.4	
	comp=Z,1μm,20.0s						
E38A	The Farm, Brul	118.53	319	IAMs_20	IAMs_20	10 21 56.1	
	comp=Z,1μm,22.0s						
LRAL	Lakeview Retre	118.60	303	IAMs_20	IAMs_20	10 22 05.0	
	comp=Z,751nm,20.0s						
C16K	Lisburne Hills	118.63	7	IAMs_20	IAMs_20	10 30 46.8	
	comp=Z,758nm,22.0s						
I40A	Norwalk	118.79	316	IAMs_20	IAMs_20	10 23 18.4	
	comp=Z,1μm,20.0s						
HDIL	Hopedale	118.80	312	IAMs_20	IAMs_20	10 23 50.1	
	comp=Z,985nm,19.0s						
T45A	Paducah	119.16	308	IAMs_20	IAMs_20	10 27 34.2	
	comp=Z,1μm,18.0s						
P43A	Skaggs, Pawnee	119.20	311	IAMs_20	IAMs_20	10 23 30.0	
	comp=Z,790nm,21.0s						
Z47A	Carrollton	119.46	304	IAMs_20	IAMs_20	10 22 40.7	
	comp=Z,770nm,20.0s						
S44A	Carbondale	119.48	309	IAMs_20	IAMs_20	10 23 09.1	
	comp=Z,1μm,20.0s						
E25K	Arctic Village	119.87	359	IAMs_20	IAMs_20	10 31 48.6	
	comp=Z,691nm,19.0s						
E18K	Tukpahlearik C	119.98	6	IAMs_20	IAMs_20	10 36 32.4	
	comp=Z,860nm,20.0s						
G31M	Satah River	120.36	354	IAMs_20	IAMs_20	10 32 00.6	
	comp=Z,884nm,19.0s						
146A	Union	120.38	303	IAMs_20	IAMs_20	10 23 30.1	
	comp=Z,904nm,20.0s						
YKA	Yellowknife Ar	120.38	343	PKP	PKPdf	09 34 29.4	+0.1
	comp=Z,0.1nm,0.5s,baz=34,slow=2.6,SNR=3.8						
AGMN	Agassiz Nation	120.58	322	IAMs_20	IAMs_20	10 27 06.0	
	comp=Z,896nm,19.0s						
I37A	Lemond, Waseca	120.64	317	IAMs_20	IAMs_20	10 28 05.4	
	comp=Z,868nm,21.0s						
F21K	Alatna River	120.68	3	IAMs_20	IAMs_20	10 33 49.8	
	comp=Z,727nm,20.0s						
CCM	Cathedral Cave	120.91	310	IAMs_20	IAMs_20	10 22 39.4	
	comp=Z,1μm,22.0s						
346A	Big Creek Wild	120.94	302	IAMs_20	IAMs_20	10 21 54.2	
	comp=Z,734nm,21.0s						
T42A	Van Buren	121.06	309	IAMs_20	IAMs_20	10 23 46.4	
	comp=Z,1μm,20.0s						
P40A	Paris	121.11	312	IAMs_20	IAMs_20	10 23 17.4	
	comp=Z,917nm,20.0s						
N38A	Joes South For	121.60	313	IAMs_20	IAMs_20	10 28 04.1	
	comp=Z,1μm,19.0s						
G18K	Tagagawik	121.65	5		PKiKP	09 34 32.9	+1.0
VBMS	Vicksburg	121.67	303	IAMs_20	IAMs_20	10 28 19.3	
	comp=Z,917nm,18.0s						
F33A	5 Mile Ranch,	121.86	320	IAMs_20	IAMs_20	10 25 58.3	
	comp=Z,899nm,20.0s						
ANM	Nome	122.12	9	IAMs_20	IAMs_20	10 37 02.2	
	comp=Z,638nm,20.0s						
P38A	Dawn	122.18	312	IAMs_20	IAMs_20	10 25 35.6	
	comp=Z,1μm,19.0s						
I30M	Mount Dempster	122.23	354		PKPdf	09 34 33.1	+0.1
143A	Socs Landing,	122.31	304	IAMs_20	IAMs_20	10 24 11.1	
	comp=Z,988nm,20.0s						
S39A	Bolivar	122.59	310	IAMs_20	IAMs_20	10 24 50.0	
	comp=Z,1μm,20.0s						
J30M	Hart River	122.86	354	IAMs_20	IAMs_20	10 32 36.6	
	comp=Z,838nm,19.0s						
ECSD	EROS Data Cent	122.91	318	IAMs_20	IAMs_20	10 28 45.3	
	comp=Z,622nm,18.0s						
MDND	Maddock	123.03	323	IAMs_20	IAMs_20	10 28 31.6	
	comp=Z,1μm,19.0s						
ILAR	Eielson Array	123.25	359	PKP	PKPdf	09 34 35.0	+0.2
	comp=Z,2.0nm,0.9s,baz=338,slow=3.6,SNR=14						
I17K	Unalakleet	123.40	7	IAMs_20	IAMs_20	10 35 24.9	
	comp=Z,610nm,20.0s						
U38A	Gravette	123.77	309	IAMs_20	IAMs_20	10 25 39.1	
	comp=Z,1μm,20.0s						
SCRK	Sand Creek	123.98	358	IAMs_20	IAMs_20	10 36 00.3	
	comp=Z,735nm,18.0s						
E28A	Huff	124.28	322	IAMs_20	IAMs_20	10 27 05.0	
	comp=Z,891nm,22.0s						
KTH	Kantishna Hill	124.44	2		PKPdf	09 34 37.2	0.0
BCAR	Beaver Creek A	124.79	357	PKPdf	PKiKP	09 34 39.2	+1.1
L27K	Beaver Creek,	124.80	357		PKiKP	09 34 40.2	+2.1
NATX	Nacogdoches	125.21	303	IAMs_20	IAMs_20	10 27 33.9	
	comp=Z,1μm,19.0s						
DGMT	Dagmar	125.36	326	IAMs_20	IAMs_20	10 30 25.1	
	comp=Z,887nm,19.0s						
OK052	Battle Ridge R	125.76	309	IAMs_20	IAMs_20	10 30 23.9	
	comp=Z,1μm,19.0s						
OK031	S. Brethren Rd	125.80	309	IAMs_20	IAMs_20	10 30 24.0	
	comp=Z,1μm,19.0s						
SKT	Skwentna	126.00	2	PKPdf	PKiKP	09 34 41.0	+0.4
SKT				IAMs_20	IAMs_20	10 36 30.4	
	comp=Z,707nm,20.0s						
GHO	Glory Hole Cre	126.27	1	IAMs_20	IAMs_20	10 37 50.6	
	comp=Z,715nm,20.0s						
OK029	Liberty Lake	126.33	309	IAMs_20	IAMs_20	10 30 48.9	
	comp=Z,1μm,19.0s						
HKT	Hockley	126.61	301	IAMs_20	IAMs_20	10 32 47.2	
	comp=Z,765nm,20.0s						
Z35A	Perchaven, San	126.91	306	IAMs_20	IAMs_20	10 25 45.7	
	comp=Z,880nm,22.0s						
BRIGG	Briggsdale	129.43	317	IAMs_20	IAMs_20	10 31 50.9	
	comp=Z,1μm,20.0s						
JCT	Junction City	129.80	303	IAMs_20	IAMs_20	10 27 49.4	
	comp=Z,1μm,21.0s						
AMTX	Amarillo	129.89	309	IAMs_20	IAMs_20	10 28 51.6	
	comp=Z,1μm,21.0s						
MSTX	Muleshoe	131.06	309	IAMs_20	IAMs_20	10 29 52.2	
	comp=Z,1μm,20.0s						
MSO	Missoula	131.58	329	IAMs_20	IAMs_20	10 29 43.2	
	comp=Z,896nm,22.0s						
PDAR	Pinedale Array	131.66	322	PKP	PKiKP	09 34 52.8	0.0
	comp=Z,1.4nm,1.1s,baz=340,slow=3.6,SNR=5.3						
LOHW	Long Hollow	131.79	324	IAMs_20	IAMs_20	10 34 11.5	
	comp=Z,817nm,19.0s						
DLMT	Dillon	131.84	327	IAMs_20	IAMs_20	10 34 17.3	
	comp=Z,874nm,19.0s						
TXAR	Lajitas Array	133.34	303	PKP	PKPdf	09 34 55.7	+0.5
	comp=Z,0.9nm,1.0s,baz=108,slow=4.1,SNR=4.8						
ANMO	Albuquerque	133.47	311	IAMs_20	IAMs_20	10 31 34.2	
	comp=Z,1μm,20.0s						
ANMO	Albuquerque	133.47	311	IAMs_20	IAMs_20	10 31 34.2	
	comp=Z,1μm,20.0s						
MNTX	Cornudas Mount	133.93	307	IAMs_20	IAMs_20	10 30 10.1	
	comp=Z,991nm,22.0s						
EPT	El Paso	134.79	307	IAMs_20	IAMs_20	10 30 59.2	
	comp=Z,1μm,20.0s						
MFID	Camas Ranch	134.86	327	IAMs_20	IAMs_20	10 35 45.3	
	comp=Z,813nm,20.0s						
WVOR	Wild Horse Val	137.03	328	IAMs_20	IAMs_20	10 36 35.7	
	comp=Z,894nm,19.0s						
NVAR	Mina Array Bea	139.57	323	PKP	PKPdf	09 35 05.4	-1.2
	comp=Z,2.6nm,1.1s,baz=33,slow=5.0,SNR=7.5						

*IDC **21** 09:33:44.5±1.3, 18°.63S×174°.26W, h0km, mb4.0/5, mbtmp4.1/6, ML3.3/1, Error ellipse: s-maj=34.4km s-min=28.9km az=143.0*
*NEIC **21** 09:33:51.2±1.1, 18°.6S±0°.1×173°.9W±0°.1, h79km±12km, mb4.5/11, Error ellipse: s-maj=18.5km s-min=12.4km az=55.0*
*NOU **21** 09:33:52.4, 18°.72S×173°.93W, h57km, mb4.5/10, Tonga Islands*

ISC 21 09:33:49.1±0.7, 18°.68S±0°.08×174°.06W±0°.07, h43km, n36, σ2$05/31, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.93	96	Pn	Pn	09 34 47.4	+0.4
NIUE				Sn	Sn	09 35 27.8	-4.1
NIUE	Niue	3.93	96	P	Pn	09 34 47.4	+0.4
AFI	Afiamalu	5.22	25	Pn	Pn	09 35 05.8	+1.0
AFI				Sn	Sn	09 36 00.5	-3.3
AFI	Afiamalu	5.22	25	P	Pn	09 35 07.9	+3.1
RAR	Rarotonga	13.67	103	Pn	Pn	09 37 00.9	+0.5
	1.6nm,0.3s,baz=280,slow=11,SNR=10 5.4nm,0.4s						
RAR	Rarotonga	13.67	103	P	Pn	09 37 02.9	+2.5
PINNC	Pines Island,	17.75	254		P	09 37 54.0	+0.6
PINNC				IAmb	IAmb	09 38 30.2	
	comp=Z,120nm,1.5s						
KUZ	Kuaotunu	20.12	204	P	Pn	09 38 22.9	+1.4
URZ	Urewera	20.98	200	P	P	09 38 29.5	+0.9
	comp=Z,7.3nm,0.4s,baz=27,slow=2.4,SNR=15 comp=Z,7.3nm,0.4s						
URZ	Urewera	20.98	200	P	P	09 38 30.0	+1.4
TOZ	Tahuroa Road	21.07	204	P	P	09 38 29.3	-0.3
TOZ				IAmb	IAmb	09 38 33.6	
	comp=Z,9.2nm,0.7s						
HIZ	Hauiti	22.00	204	P	P	09 38 39.5	0.0
HIZ				IAmb	IAmb	09 38 43.5	
	comp=Z,15nm,0.6s						
HIZ	Hauiti	22.00	204	P	P	09 38 43.0	+3.4
BKZ	Black Stump Fm	22.00	200	P	P	09 38 40.8	+1.1
BFZ	Birch Farm	23.46	199	P	P	09 38 56.9	+2.2
QRZ	Quartz Range	24.90	205	P	P	09 39 07.7	-0.2
QRZ				IAmb	IAmb	09 39 08.5	
	comp=Z,17nm,1.3s						
QRZ	Quartz Range	24.90	205	P	P	09 39 08.8	+0.9
JCZ	Jackson Bay	29.13	206	P	P	09 39 48.1	+2.1
WR8	Warramunga Arr	48.41	260	P	P	09 42 25.6	-1.8
WR8				IAmb	IAmb	09 42 50.8	
	comp=Z,4.5nm,1.0s						
WB0	Warramunga Arr	48.53	260	P	P	09 42 26.7	-1.6
WB0				IAmb	IAmb	09 42 35.5	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	48.56	260	P	P	09 42 25.7	-2.8
WRA	Warramunga Arr	48.56	260	P	P	09 42 28.2	-0.3
	comp=Z,0.5nm,0.3s,baz=97,slow=7.4,SNR=26 comp=Z,0.5nm,0.3s						
AS31	Alice Springs	48.57	255	P	P	09 42 27.5	-1.1
ASAR	Alice Springs	48.57	255	P	P	09 42 26.2	-2.4
ASAR	Alice Springs	48.57	255	P	P	09 42 28.6	0.0
	comp=Z,1.0nm,0.6s,baz=88,slow=7.8,SNR=25 comp=Z,1.0nm,0.6s						
FORT	Forrest	53.43	245	P	P	09 43 03.6	-1.4
FAKI	Fak Fak	54.78	280	P	P	09 43 11.6	-3.4
QSPA	South Pole Qui	71.39	180	P	P	09 45 03.3	-1.3
QSPA				IAmb	IAmb	09 45 40.1	
	comp=Z,12nm,1.4s						
QSPA	South Pole Qui	71.39	180	P	P	09 45 06.8	+2.3
	comp=Z,1.9nm,1.1s,baz=270,slow=4.0,SNR=1.7 comp=Z,1.9nm,1.1s						
H03S2	Juan Fernandez	83.92	124	T	T	11 18 46.7	
	baz=250,slow=75,SNR=33						
H03S1	Juan Fernandez	83.94	124	T	T	11 18 47.8	
	baz=250,slow=75,SNR=30						
H03S3	Juan Fernandez	83.94	124	T	T	11 18 53.7	
	baz=250,slow=75,SNR=27						
H03N2	Juan Fernandez	84.04	123	T	T	11 18 53.5	
	baz=257,slow=72,SNR=11						
H03N3	Juan Fernandez	84.05	123	T	T	11 18 56.8	
	baz=257,slow=72,SNR=14						
H03N1	Juan Fernandez	84.06	123	T	T	11 19 01.6	
	baz=257,slow=72,SNR=15						
ILAR	Eielson Array	85.77	11	P	P	09 46 25.5	+2.2
	comp=Z,0.3nm,0.5s,baz=209,slow=5.4,SNR=11 comp=Z,0.3nm,0.5s						

*IDC **21** 10:03:55.4±0.6, 26°.99N×53°.91E, h0km, mb4.4/30, mbtmp4.4/36, ML4.0/5, MS3.7/3, Error ellipse: s-maj=15.0km s-min=11.0km az=14.0*
*MOS **21** 10:03:55.2±1.1, 26°.97N×53°.87E, h10km, mb4.7/37, Error ellipse: s-maj=6.2km s-min=4.3km az=84.0*
*DSN **21** 10:03:56.9±1.5, 27°.31N×53°.80E, h15km±19km, ML4.4/17, Error ellipse: s-maj=14.0km s-min=5.1km az=177.0*
*TEH **21** 10:03:57.6, 27°.01N×53°.84E, h17km±22km*
*THR **21** 10:03:57.9±0.0, 27°.03N×53°.88E, h20km±4km, mb4.7*
*OMAN **21** 10:03:58.8±0.2, 27°.05N×53°.91E, h10km, mb5.2/16, ml4.6/23, Error ellipse: s-maj=3.6km s-min=2.9km az=65.0*
*NEIC **21** 10:03:58.3±1.7, 27°.08N±0°.08×53°.86E±0°.06, h10km±1km, mb4.6/85, Error ellipse: s-maj=13.0km s-min=9.1km az=166.0*

ISC 21 10:03:56.0±1.2, 27°.00N±0°.02×53°.90E±0°.02, h3km±7km, n408, σ1$49/412, mb4.6/115, MS3.7/3, 33C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.73	298	Pg	Pb	10 04 11.2	-0.3
LMD1	Lamerd	0.73	298	*e*Pg	Pb	10 04 12.1	+0.6
LAR1	LAR	0.79	32	Pg	Pb	10 04 12.4	-0.2
GHIR	Ghir-Karzin	1.51	328	*e*PgA	Pn	10 04 25.3	+1.1
JHRM	Jahrom	1.53	349	Pg	Pg	10 04 26.3	+0.9
QIR1	Qir	1.65	333	Pg	Pb	10 04 27.2	0.0
BNDS	Bandar-Abbas	2.07	78	Pn	Pb	10 04 33.7	-0.6
BNDS	Bandar-Abbas	2.07	78	*e*Pn	Pb	10 04 33.9	-0.4
UMQ	Umm Al-Quwin	2.16	132	P	Pg	10 04 38.0	+0.5
UMQ				S	Sb	10 05 03.4	+0.4
UMQ	Umm Al-Quwin	2.16	132	*e*P	Pg	10 04 37.6	+0.1
	SNR=23						
SHME	Shamm	2.22	115	P	Pb	10 04 35.7	-1.2
	SNR=20						
SHME				S	Sb	10 05 05.1	+0.3
SHME	Shamm	2.22	115	*e*P	Pb	10 04 35.6	-1.2
	SNR=20						
JRN	Qarnain Island	2.25	205	P	Pb	10 04 37.6	+0.2
JRN				S	Sg	10 05 09.1	+0.6
IBND	Bandar-abas	2.40	79	Pn	Pb	10 04 38.6	-1.2
BANOM	Banah	2.41	116	P	Pb	10 04 38.8	-1.3
BANOM				S	Sn	10 05 07.6	+1.2
BANOM	Banah	2.41	116	*e*P	Pb	10 04 38.5	-1.6
	SNR=92						
NAZ	Nazwa, Dubai	2.56	141	P	Pb	10 04 42.5	0.0
	SNR=13						
NAZ	Nazwa, Dubai	2.56	141	*e*P	Pb	10 04 42.6	0.0
	SNR=56						
MASF	Masafi	2.60	128	P	Pb	10 04 41.9	-1.5
	SNR=30						
MASF				S	Sb	10 05 14.4	-1.4
MSFE	Esma-Masafi	2.61	128	*e*P	Pb	10 04 41.8	-1.7
	SNR=30						
AJN	Ajban	2.62	158	P	Pb	10 04 43.4	-0.2
	SNR=21						
AJN				S	Sb	10 05 15.7	-0.5
AJN	Ajban	2.62	158	*e*P	Pb	10 04 43.8	+0.2
	SNR=21						
ASUD	Al Ashush, Dub	2.69	151	P	Pb	10 04 44.8	-0.1
	SNR=64						
ASUD				S	Sb	10 05 18.8	+0.4
ASUD	Al Ashush, Dub	2.69	151	*i* P	Pb	10 04 45.0	+0.1
	SNR=65						
DSBU	Dashti - Bushe	2.70	301	Pn	Pn	10 04 41.1	+0.6
FAQ	Al Faqa, Dubai	2.72	145	P	Pb	10 04 44.5	-0.8
	SNR=12						
FAQ				S	Sb	10 05 17.8	-1.2
FAQ	Al Faqa, Dubai	2.72	145	*i* P	Pb	10 04 44.7	-0.6
	SNR=11						
MDH	Madha	2.75	128	P	Pb	10 04 43.8	-1.9
	SNR=15						
MDH				S	Sb	10 05 18.4	-1.5
MDH	Madha	2.75	128	*i* P	Pb	10 04 43.7	-2.1
	SNR=15						
SHMA	Al-Shehemyia	2.86	247	P	Pb	10 04 46.2	-1.6
	SNR=8.8						
SHMA				S	Sb	10 05 20.6	-2.7
SHI	Shiraz	2.90	335	Pn	Pn	10 04 44.3	+1.0
UOSS	Minazif	2.92	134		Pb	10 04 46.3	-2.5
UOSS	Minazif	2.92	134	P	Pb	10 04 46.2	-2.5
UOSS				P	Pb	10 04 46.2	-2.5
UOSS				S	Sn	10 05 21.4	+2.4
UOSS	Minazif	2.92	134	*i* P	Pb	10 04 46.2	-2.5
	SNR=41						
AHBU	AHRAM	2.96	310	Pn	Pn	10 04 44.8	+0.9
HATD	Hatta, Dubai	2.96	137	P	Pb	10 04 47.2	-2.2
	SNR=17						
HATD				S	Sn	10 05 22.3	+2.3
HATD	Hatta, Dubai	2.96	137	*i* P	Pb	10 04 47.1	-2.3
	SNR=32						
ASHO	Ashiyiah	3.02	139	P	Pb	10 04 48.2	-2.3
	SNR=184						
ASHO				S	Sn	10 05 24.5	+3.0
ASHO	Ashiyiah	3.02	139	*i* P	Pb	10 04 48.2	-2.3
	SNR=184						
GHWR	Ruwais	3.16	197	P	Pn	10 04 49.6	+2.9
GHWR				S	Sn	10 05 27.7	+2.7
SAKB	Bahrain	3.18	252	P	Pb	10 04 50.4	-2.7
MZWR	Madinat Zayed	3.22	180	P	Pb	10 04 51.5	-2.4
MZWR				S	Sn	10 05 28.7	+2.2
KAZ2	Kazeron-Fars-I	3.26	323	Pn	Pn	10 04 49.1	+0.9
TRNA	Turayna	3.31	228	P	Pn	10 04 51.7	+3.0
	SNR=36						
TRNA				S	Sn	10 05 28.6	+0.1
ALNE	Al Ain	3.38	150	P	Pb	10 04 53.3	-3.2
	SNR=16						
ALNE				S	Sn	10 05 32.9	+2.6
ALNE	Al Ain	3.38	150	*i* P	Pb	10 04 53.5	-3.0
	SNR=47						
KHNJ	Kahnooj	3.52	74	Pn	Pn	10 04 53.6	+2.0
SLWR	Sila	3.53	215	P	Pn	10 04 54.1	+2.3
SMRA	Abu-Samra	3.56	232	P	Pn	10 04 55.7	+3.5
	SNR=16						
SMRA				S	Sn	10 05 37.6	+2.7
NGRK	Negar Kerman	3.63	43	Pn	Pn	10 04 55.5	+2.0
SOHO	SOHO	3.72	140	P	Pn	10 04 57.2	+2.8
SOHO				S	Sn	10 05 38.3	-0.4
SOHO	SOHO	3.72	140	*i* P	Pn	10 04 57.0	+2.6
	SNR=24						
JASK	Jask - Hormozg	3.73	107	Pn	Pn	10 04 57.2	+2.5
JASK	Jask - Hormozg	3.73	107	P	Pn	10 04 56.4	+1.8
	SNR=26						
JASK				S	Sn	10 05 41.4	+2.2
KRBR	Kerman	3.90	40	Pn	Pn	10 04 59.7	+2.6
KRBR	Kerman	3.90	40	*e*PnA		10 04 59.7	
MZR	Muzera	4.00	186	P	Pn	10 05 01.3	+3.1
	SNR=13						
MZR				S	Sn	10 05 47.2	+1.6
MZR	Muzera	4.00	186	*i* P	Pn	10 05 01.1	+2.9
	SNR=21						
KHGB	Koh Gabri	4.06	33	Pn	Pn	10 05 01.3	+2.0
CHMN	Cheshme madani	4.29	48	Pn	Pn	10 05 05.7	+3.1
ARQ	Araqi	4.36	146	P	Pn	10 05 06.2	+3.0
	SNR=73						
ARQ				S	Sn	10 05 54.6	+0.1
UMZA	Um Al Zommool	4.42	165	P	Pn	10 05 07.9	+3.8
UMZA				S	Sn	10 05 57.7	+1.7
KLNJ	Kolanjah	4.47	334	Pn	Pn	10 05 06.2	+1.1
KBAM	BAM	4.55	61	Pn	Pn	10 05 08.9	+2.9
ZRDN	Zarand Kerman	4.58	30	Pn	Pn	10 05 08.5	+2.0
HOQ	Hoqain	4.60	137	P	Pn	10 05 10.0	+3.5
	SNR=12						
HOQ				S	Sn	10 06 02.1	+1.6
IBAF	Bafgh	4.80	17	Pn	Pn	10 05 10.8	+1.4
IRAM	Ramesheh	4.97	345	Pn	Pn	10 05 13.2	+1.3
BIDO	Bidbid	5.16	131	P	Pn	10 05 15.7	+1.4
	SNR=12						
BIDO				S	Sn	10 06 14.5	+0.1
BSY	Bisya	5.19	144	P	Pn	10 05 17.6	+2.9
BSY				S	Sn	10 06 15.8	+0.6
	SNR=6.7						
ICHK	Chekchek	5.25	5	Pn	Pn	10 05 17.2	+1.6
YZKH	Yazd	5.41	6	*e*PnA		10 05 19.2	
YZKH				IAML		10 05 48.6	
	comp=Z,57nm,1.0s						
SMDO	Samad	5.44	135	P	Pn	10 05 21.2	+3.0
	SNR=116						
SMDO				S	Sn	10 06 22.2	+0.9
	SNR=12						
WSAR	Wadi Sarin	5.70	130	Pn	Pn	10 05 22.9	+1.3
	comp=Z,0.1nm,0.3s,baz=323,slow=23,SNR=103						
WSAR				Sn	Sn	10 06 26.0	-1.6
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=9.1						
WSAR	Wadi Sarin	5.70	130	P	Pn	10 05 23.5	+1.9
WSAR				S	Sn	10 06 27.0	-0.5
NASN	Na'in	5.86	351	*e*PnA		10 05 24.5	
NASN				IAML		10 05 26.0	
	comp=Z,200nm,0.7s						
NASN				*e*Sg	Sn	10 06 30.6	-1.3
KBD	Kabd	5.89	293	P	Pn	10 05 24.4	+0.2
JMDO	Jabal Madar	5.99	139	P	Pn	10 05 27.5	+1.9
	SNR=13						
JMDO				S	Sn	10 06 36.6	+1.8
IZEF	Zefreh	6.03	347	Pn	Pn	10 05 26.7	+0.3
CHBR	Chabahar	6.08	102	Pn	Pn	10 05 28.6	+1.8
CHBR	Chabahar	6.08	102	*e*PnA		10 05 28.6	
CHBR

comp=Z,37nm,0.8s
DOK Doka 8.35 178 P Pn 10 05 59.5 +1.5
SNR=14
RAYN Ar Rayn 8.35 247 Pn Pn 10 05 58.6 +0.5
RAYN Ar Rayn 8.35 247 Pn Pn 10 05 59.2 +1.1
RAYN Ar Rayn 8.35 247 P Pn 10 05 58.6 +0.5
RAYN Ar Rayn 8.35 247 *i* P **Pn 10 05 58.4 +0.3**
SNR=32
SHRT Shahrakht 8.63 38 Pn **Pn 10 06 04.1 +2.2**
SHRT Shahrakht 8.63 38 *e*PnA 10 06 04.6
SHRT IAML 10 06 08.2
comp=Z,130nm,0.8s
IDMV Damavand 8.70 350 Pn **Pn 10 06 04.0 +0.9**
DAMV Damavand 8.76 350 *e*PnA 10 06 04.2
DAMV IAML 10 06 08.4
comp=Z,44nm,0.5s
HAGD Aghdareh 8.80 334 Pn **Pn 10 06 05.4 +1.0**
WHFO Wadi Hawf 9.04 181 P **Pn 10 06 08.9 +1.4**
SNR=42
IRAZ Razeghan 9.04 339 Pn **Pn 10 06 09.1 +1.4**
SHRO Shahrood 9.14 11 *e*PnA 10 06 10.7
SHRO IAML 10 06 23.8
comp=Z,6.6nm,0.7s
IKIA Kiasar 9.18 359 Pn **Pn 10 06 11.2 +1.6**
CHTH Charan 9.19 346 *e*Pn **Pn 10 06 09.8 0.0**
DMTO DMTO 9.29 174 P **Pn 10 06 11.8 +0.9**
SNR=8.5
IPRN Peran 9.31 352 Pn **Pn 10 06 12.7 +1.4**
QABG Abgarm-Qazvin 9.43 338 Pn **Pn 10 06 14.5 +1.4**
RBK Rabkut 9.46 178 P **Pn 10 06 15.4 +2.2**
SNR=8.3
IGLO Ghaloghah 9.47 360 Pn **Pn 10 06 15.6 +2.0**
HGHA Hamedan- Ghaye 9.49 334 Pn **Pn 10 06 15.2 +1.3**
SNQR Sonqor, Kerman 9.50 327 Pn **Pn 10 06 14.4 +0.3**
ABTO Aybut 9.62 183 P **Pn 10 06 15.7 +0.3**
MZPU Pul - Mazandar 9.62 349 Pn **Pn 10 06 17.1 +1.5**
IGHG Ghaleghazi 9.65 321 Pn **Pn 10 06 17.1 +1.0**
KLST Kelardasht - M 9.79 346 Pn **Pn 10 06 19.2 +1.1**
HRA Herat 10.29 42 Pn **Pn 10 06 26.4 +1.6**
GRMI Germi 12.80 338 *e*Pn **Pn 10 07 00.1 +1.0**
GRMI IAML 10 07 04.3
comp=Z,11nm,0.9s
GEVA Gevas 14.50 324 Pn **Pn 10 07 23.1 +0.8**
KBL Kabul 15.03 56 P **P 10 07 32.9 -2.3**
KBL IAmb IAmb 10 07 38.2
comp=Z,44nm,1.3s
KBL Kabul 15.03 56 P **P 10 07 32.9 -2.3**
KBL pmax pmax
comp=Z,44nm,1.3s
MARD Mardin 15.12 316 Pn **Pn 10 07 29.4 -1.4**
GNI Garni 15.16 332 **Pn 10 07 32.9 +1.7**
GNI Garni 15.16 332 Pn **P 10 07 35.5 -1.1**
comp=Z,47nm,0.7s,baz=320,slow=1.6,SNR=18
GNI Garni 15.16 332 *i* P **Pn 10 07 33.2 +2.0**
GURO Guroymak-BITLI 15.22 322 Pn **Pn 10 07 34.1 +2.0**
GURO IAmb IAmb 10 07 42.6
comp=Z,20nm,0.8s
ASF Jabal al Asfar 15.66 293 Pn **Pn 10 07 39.5 +1.8**
comp=Z,0.9nm,0.3s,baz=130,slow=8.6,SNR=5.6
ASF Sn **Sn 10 10 27.4 -4.4**
comp=Z,0.4nm,0.3s,baz=137,slow=21,SNR=3.1
comp=Z,3.3nm,0.4s
GHAJ Ghor Haditha 16.57 289 Pn **Pn 10 07 49.8 +0.3**
MAK Makhachkala 16.75 344 *e*P **Pn 10 07 52.7 +1.0**
MAK *e*S **Sn 10 11 01.4 +3.2**
MAK pmax pmax
comp=Z,160nm,1.4s
MAK MLR MLR
comp=Z,178nm,13.0s
EIL Elat 16.89 283 Pn **P 10 07 55.1 -0.5**
comp=Z,0.4nm,0.3s,baz=83,slow=5.6,SNR=6.0
comp=Z,19nm,1.0s
MMAI Mount Meron Ar 17.09 295 P **P 10 07 57.1 -0.9**
comp=Z,1.0nm,0.3s,baz=110,slow=13,SNR=8.8
MMAI LR LR 10 14 51.6
comp=Z,143nm,18.8s,baz=230,slow=38
comp=Z,3.8nm,0.6s
KOPT Kop Dagi 17.10 323 P **Pn 10 07 57.2 +0.8**
DZET Dzherino 17.17 43 P **P 10 07 58.8 0.0**
SIMJ Simiganj 17.19 44 Pn **Pn 10 07 55.9 -1.5**
GAZ Gaziantep 17.38 310 P **P 10 08 00.8 -0.2**
NIL Nilore 17.96 64 P **P 10 08 07.5 -0.1**
NIL IAmb IAmb 10 08 09.7
comp=Z,35nm,0.9s
NIL Nilore 17.96 64 P **P 10 08 07.5 -0.1**
NIL pmax pmax
comp=Z,35nm,0.9s
GAR Garm 18.21 45 P **Pn 10 08 08.5 -1.5**
GAR IAmb IAmb 10 08 13.6
comp=Z,41nm,1.1s
NCK Nalchik 18.46 336 *i* P **Pn 10 08 13.8 +0.9**
ATD Arta Tunnel 18.57 216 LR LR 10 16 42.6
comp=Z,16nm,18.3s,baz=7.0,slow=41
NEUR Neytrino 18.60 334 *i* P **P 10 08 09.6 -5.0**
KBZ Khabaz 18.92 335 P **Pn 10 08 18.3 -0.1**
comp=Z,0.3nm,0.3s,baz=146,slow=8.0,SNR=16
comp=Z,6.9nm,0.7s
KBZ Khabaz 18.92 335 *ce*P **Pn 10 08 19.0 +0.6**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
SHA1 Shidzhatmaz 19.02 334 *i* P **Pn 10 08 21.7 +1.8**
BTK Batken 19.16 43 P **P 10 08 20.4 -0.3**
KVAR Kislovodsk Arr 19.19 335 P **Pn 10 08 22.1 +0.2**
baz=91,slow=23
comp=Z,3.3nm,0.6s
KIV Kislovodsk 19.19 335 P **Pn 10 08 22.1 +0.2**
KIV Kislovodsk 19.19 335 P **Pn 10 08 23.3 +1.4**
KIV Kislovodsk 19.19 335 ⇑P **Pn 10 08 23.8 +1.9**
KIV Kislovodsk 19.19 335 *e*P **Pn 10 08 23.3 +1.4**
KIV *e*S **S 10 12 00.6 +1.5**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV Kislovodsk 19.19 335 P **Pn 10 08 23.1 +1.2**
comp=Z,36nm,0.7s
CSS Mathiatis 19.31 299 P **P 10 08 22.3 -0.1**
DRK Karamyk 19.43 46 IAmb IAmb 10 08 28.0
comp=Z,38nm,1.4s
IUG Iuzhnay 20.07 37 *e*P **P 10 08 30.9 +0.2**
IUG pmax pmax
comp=Z,36nm,1.7s
IUG Iuzhnay 20.07 37 *e*P **P 10 08 30.1 -0.6**
comp=Z,36nm,1.7s
SOC Sochi 20.14 329 *e*P **P 10 08 29.6 -1.7**
SOC *e*PPP PPP 10 08 57.8
SOC *e*S **S 10 12 17.5 -0.5**
SOC *e*SS **SnSn 10 12 35.8 +1.1**
SOC *e*SSS SSS 10 12 47.4
SOC MLR MLR
comp=Z,115nm,15.0s
TRKS Terek-Say 20.27 40 P **P 10 08 33.6 +0.7**
BRLS Borolday 20.59 35 *e*P **P 10 08 33.3 -2.9**
BRLS Borolday 20.59 35 *e*P **P 10 08 33.3 -2.9**
KIRS Kirsehir-Merke 20.61 311 ⇑P Pn 10 08 38.5 -0.2
KKAR Karatay Array 20.99 36 P **P 10 08 40.5 0.0**
KKAR Karatay Array 20.99 36 IAmb IAmb 10 08 44.4
comp=Z,9.4nm,0.8s
KKAR Karatay Array 20.99 36 P **P 10 08 40.5 0.0**
BR104 Keskin Array S 21.08 312 P **P 10 08 41.8 +0.1**
comp=Z,66nmcomp=Z,9.4nm,0.8s
BR131 Keskin Array S 21.09 312 P **P 10 08 42.0 +0.2**
BR131 Keskin Array S 21.09 312 *i* P **P 10 08 41.0 -0.8**
BRTR Keskin Array B 21.09 312 P **P 10 08 41.4 -0.4**
BRTR Keskin Array B 21.09 312 P **P 10 08 42.0 +0.2**
comp=Z,6.0nm,0.8s,baz=133,slow=12,SNR=19
comp=Z,6.0nm,0.8s
BR105 Keskin Array S 21.10 312 P **P 10 08 41.3 -0.6**
comp=Z,64nmcomp=Z,7.7nm,0.9s
BR106 Keskin Array S 21.11 312 P **P 10 08 41.1 -0.9**
comp=Z,86nmcomp=Z,11nm,0.8s
DZA Taraz 21.28 37 *e*P **P 10 08 43.7 0.0**
DZA pmax pmax
comp=Z,18nm,0.8s
DZA Taraz 21.28 37 *e*P **P 10 08 43.7 0.0**
comp=Z,18nm,0.8s
ANTO Ankara 21.73 312 P **P 10 08 48.9 +0.4**
comp=Z,13nm,0.9s
AML Almayashu 22.14 42 P **P 10 08 53.8 +0.5**
SNR=24
KSH Kashi 22.22 50 P **P 10 08 48.3 -5.6**
KSH pmax pmax
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 22.51 41 P **P 10 08 58.5 +1.5**
SNR=16
ABKAR Akbulak array 22.71 10 P **P 10 08 58.8 -0.1**
ABKAR Akbulak array 22.71 10 IAmb IAmb 10 09 02.1
comp=Z,11nm,0.8s
AAK Ala-Archa 22.92 42 P **P 10 09 02.2 +0.9**
AAK IAmb IAmb 10 09 13.0
comp=Z,28nm,1.3s
AAK Ala-Archa 22.92 42 LR LR 10 18 21.8
comp=Z,312nm,19.5s,baz=280,slow=38
AAK Ala-Archa 22.92 42 P **P 10 09 03.0 +1.6**
AAK Ala-Archa 22.92 42 P **P 10 09 03.1 +1.7**
SNR=12
AAK Ala-Archa 22.92 42 *ce*P **P 10 09 02.3 +0.9**
AAK pmax pmax
comp=Z,10.0nm,0.6s
KBK Karagaybulak 23.20 42 P **P 10 09 05.7 +1.4**
SNR=9.8
USP Ospenovka 23.30 41 P **P 10 09 07.0 +1.9**
SNR=7.2
SGDS Sogindy 23.49 40 *e*P **P 10 09 07.2 +0.2**
SGDS pmax pmax
comp=Z,16nm,1.3s
SGDS Sogindy 23.49 40 *e*P **P 10 09 07.3 +0.2**
comp=Z,16nm,1.3s
AKTO Aktyubinsk 23.61 7 P **P 10 09 08.5 +0.3**
comp=Z,11nm,0.6s,baz=152,slow=10,SNR=14
comp=Z,11nm,0.6s
BOOM Boomskoye usch 23.71 44 P **P 10 09 10.1 +0.7**
BOOM IAmb IAmb 10 09 16.6
comp=Z,24nm,1.2s
BOOM Boomskoye usch 23.71 44 P **P 10 09 10.1 +0.7**
BOOM pmax pmax
comp=Z,24nm,1.2s
SIM Simferopol' 23.91 324 *e*P **P 10 09 12.5 +1.4**
SIM pmax pmax
comp=Z,31nm,1.0s
BTLS Baital 24.17 37 *e*P **P 10 09 13.8 +0.2**
BTLS pmax pmax
comp=Z,8.0nm,0.9s
BTLS Baital 24.17 37 *e*P **P 10 09 13.8 +0.2**
comp=Z,7.6nm,0.9s
TNSS Tian-Shan 24.63 44 *e*P **P 10 09 18.1 -0.1**
TNSS Tian-Shan 24.63 44 *e*P **P 10 09 18.1 -0.1**
AAA Alma-Ata 24.70 43 *e*P **P 10 09 19.2 +0.7**
AAA pmax pmax
comp=Z,11nm,0.7s
AAA Alma-Ata 24.70 43 *e*P **P 10 09 19.3 +0.7**
comp=Z,11nm,0.7s
CHKK Chushkaly 25.11 42 *e*P **P 10 09 22.2 +0.1**
CHKK Chushkaly 25.11 42 *e*P **P 10 09 22.2 +0.1**
WUS Wushi 25.19 49 P **P 10 09 24.2 +1.2**
WUS IAmb IAmb 10 09 29.6
comp=Z,15nm,1.2s
SATY Saty 25.55 45 *e*P **P 10 09 26.7 +0.5**
SATY Saty 25.55 45 *e*P **P 10 09 26.7 +0.5**
ARXS Arharly 25.81 42 *e*P **P 10 09 28.9 +0.4**
VRH Novokhopyorsk 25.88 342 *e*P **P 10 09 28.1 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.8s
UZB Uzynbulak 25.98 45 *e*P **P 10 09 30.7 +0.5**
UZB pmax pmax
comp=Z,14nm,1.5s
UZB Uzynbulak 25.98 45 *e*P **P 10 09 30.7 +0.5**
comp=Z,14nm,1.5s
IDI Anoyia 26.09 296 P **P 10 09 32.4 +1.2**
comp=Z,11nm,0.6s,baz=330,slow=7.4,SNR=9.4
comp=Z,11nm,0.6s
SHLS Shalkode 26.27 46 *e*P **P 10 09 34.9 +2.2**
VORD Divnogorie 26.39 339 *e*P **P 10 09 33.4 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 26.65 339 *e*P **P 10 09 33.7 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 27.03 340 P **P 10 09 37.9 -1.4**
VORR pmax pmax
comp=Z,15nm,0.5s
BRZS Berezniki 27.10 27 *e*P **P 10 09 40.4 +0.4**
BRZS Berezniki 27.10 27 *e*P **P 10 09 40.5 +0.4**
CFR Carcaliu 27.43 318 ⇑P **P 10 09 43.2 +0.2**
LPSR Galich'ya Gora 27.92 340 P **P 10 09 40.7 -6.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRI Vrincioaia 28.63 318 ⇑P **P 10 09 55.1 +1.3**
VRI Vrincioaia 28.63 318 ⇑P **P 10 09 55.1 +1.3**
VRI Vrincioaia 28.63 318 P **P 10 09 52.8 -1.0**
comp=Z,6.9nm,1.4s
NEHR Nehoiu 28.67 317 ⇑P **P 10 09 55.6 +1.5**
PLOR Plostina 28.67 318 ⇑P **P 10 09 54.3 +0.1**
PLOR Plostina 28.67 318 ⇑P **P 10 09 54.3 +0.1**
BRVK Borovoye 28.75 21 P **P 10 09 54.7 0.0**
BRVK Borovoye 28.75 21 P **P 10 09 55.4 +0.7**
BRVK Borovoye 28.75 21 *ce*P **P 10 09 54.8 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 28.76 21 P **P 10 09 55.4 +0.6**
comp=Z,9.7nm,0.7s,baz=205,slow=6.6,SNR=36
comp=Z,9.7nm,0.7s
MLR Muntele Rosu 28.91 317 P **P 10 09 58.5 +2.1**
MLR IAmb IAmb 10 10 01.9
comp=Z,16nm,1.2s
MLR Muntele Rosu 28.91 317 ⇑P **P 10 09 57.9 +1.5**
MLR Muntele Rosu 28.91 317 ⇑P **P 10 09 57.9 +1.5**
COVR Voineasa-Covas 28.93 318 ⇑P **P 10 09 58.4 +1.9**
TESR Tescani 29.02 319 ⇑P **P 10 09 57.5 +0.3**
TESR Tescani 29.02 319 P **P 10 09 57.4 +0.2**
comp=Z,23nm,1.0s
ONER Baraj Valea Uz 29.08 319 ⇑P **P 10 09 59.4 +1.7**
VOIR 29.43 316 ⇑P **P 10 10 01.5 +0.5**
VOIR 29.43 316 ⇑P **P 10 10 01.5 +0.5**
VOIR 29.43 316 P **P 10 10 01.6 +0.6**
comp=Z,9.4nm,1.2s
DOPR Dopca 29.49 317 ⇑P **P 10 10 02.6 +1.2**
ARTI Arti 29.54 5 *d i* P **P 10 10 01.6 -0.1**
ARTI 10 10 54.2
ARTI S **S 10 14 58.9 +1.8**
ARTI SS **SnSn 10 16 26.5 +2.2**
ARTI pmax pmax
comp=Z,10.0nm,2.6s
MAKZ Makanchi 29.67 41 P **P 10 10 03.6 +0.6**
MAKZ IAmb IAmb 10 10 04.7
comp=Z,11nm,0.8s
MAKZ Makanchi 29.67 41 P **P 10 10 03.6 +0.6**
MAKZ pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 29.84 41 P **P 10 10 05.2 +0.6**
MK31 Makanchi Array 29.84 41 *ce*P **P 10 10 04.9 +0.3**
MKAR Makanchi Array 29.84 41 P **P 10 10 05.0 +0.4**
MKAR Makanchi Array 29.84 41 P **P 10 10 05.1 +0.5**
comp=Z,2.5nm,0.6s,baz=228,slow=8.5,SNR=37
comp=Z,2.5nm,0.6s
KURBB Kurchatov Arra 30.15 32 P **P 10 10 07.8 +0.6**
comp=Z,3.5nm,0.7s,baz=233,slow=8.7,SNR=32
comp=Z,3.5nm,0.7s
AKASG Malin Array Be 30.22 328 P **P 10 10 06.7 -1.0**
comp=Z,1.2nm,0.3s,baz=136,slow=8.1,SNR=11
comp=Z,1.2nm,0.3s
AKASG Malin Array Be 30.22 328 *i* P **P 10 10 06.6 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 30.22 328 P **P 10 10 06.8 -1.0**
AKBB IAmb IAmb 10 10 10.1
comp=Z,7.3nm,0.7s
AKBB Malin Array Si 30.22 328 *ce*P **P 10 10 10.0 +2.2**
AKBB pmax pmax
comp=Z,7.0nm,1.0s
AKBB Malin Array Si 30.22 328 P **P 10 10 06.5 -1.3**
KIEV Kiev 30.22 328 P **P 10 10 06.9 -0.9**
KIEV IAmb IAmb 10 10 10.1
comp=Z,6.6nm,0.7s
KIEV Kiev 30.22 328 ⇑P **P 10 10 06.7 -1.1**
KIEV Kiev 30.22 328 ⇑P **P 10 10 06.7 -1.1**
KURK Kurchatov 30.26 32 P **P 10 10 08.8 +0.7**
KURK Kurchatov 30.26 32 P **P 10 10 08.8 +0.7**
KURK Kurchatov 30.26 32 *ce*P **P 10 10 08.6 +0.5**
KURK pmax pmax
comp=Z,6.0nm,1.0s
LUBAR Lubar, Ukraine 30.42 326 P **P 10 10 07.1 -2.5**
BURAR Bucovina Array 30.44 320 ⇑P **P 10 10 11.1 +1.2**
BURAR Bucovina Array 30.44 320 ⇑P **P 10 10 11.1 +1.2**
BUR08 Bucovina Ar. S 30.47 320 P **P 10 10 10.6 +0.5**
MI30 MI30,Zelenitsa 30.74 327 P **P 10 10 12.9 +0.5**
BOVS Bovan 30.82 311 ⇑P **P 10 10 13.9 +0.8**
MI28 Mi28,Pidlybu 31.11 327 P **P 10 10 16.6 +1.0**
MARR Marisel-Cluj 31.21 317 ⇓P **P 10 10 17.6 +0.9**
RAKU Rahkiv 31.26 320 P **P 10 10 19.4 +2.4**
DRGR 31.51 317 ⇑P **P 10 10 20.7 +1.4**
DRGR 31.51 317 ⇑P **P 10 10 20.7 +1.4**
ZSN Zaisan 31.70 42 *e*P **P 10 10 21.0 +0.2**
ZSN Zaisan 31.70 42 *e*P **P 10 10 21.1 +0.2**
KIRV Kirov 31.73 356 *ce*P **P 10 10 21.0 +0.1**
BRIU Brid 32.08 320 P **P 10 10 24.5 +0.3**
KMBO Kilima Mbogo 32.23 212 LR LR 10 24 48.6
comp=Z,150nm,19.7s,baz=80,slow=39
KOLS Kolonicke sedl 32.81 320 *e*P **P 10 10 32.1 +1.5**
KOLS pmax pmax
comp=Z,17nm,1.1s
KOLS Kolonicke sedl 32.81 320 *e*P **P 10 10 32.1 +1.5**
KOLS *e*S **S 10 15 48.0 -0.4**
STHS Stebnicka Huta 33.64 320 *e*S **S 10 16 01.7 +0.5**
NIE Niedzica 34.17 320 *e*P **P 10 10 45.8 +3.2**
NACGM Naroch 34.18 332 *e*P **P 10 10 41.0 -1.4**
comp=Z,612nm,1.0s,baz=134
OJC Ojcow 34.84 321 *e*P **P 10 10 48.6 +0.3**
OJC Ojcow 34.84 321 P **P 10 10 47.6 -0.7**
comp=Z,29nm,0.8s
KLMR Klimovskoe 35.23 348 *e*P **P 10 10 49.3 -2.1**
KLMR pmax pmax
comp=Z,23nm,1.6s
ZALV Zalesovo Beam 35.25 32 P **P 10 10 51.4 -0.3**
ZALV Zalesovo Beam 35.25 32 P **P 10 10 52.0 +0.3**
comp=Z,17nm,0.7s,baz=238,slow=9.0,SNR=52
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 35.25 32 P **P 10 10 52.0 +0.3**
MODS Modra-Piesok 35.51 317 *e*P P 10 11 03.3 +9.2
GOMU GeErMu 35.82 65 P **P 10 10 58.8 +1.5**
GOMU pmax pmax
comp=Z,26nm,1.0s
RONA Rosalia, Austr 35.86 315 *ep*P pP 10 11 01.9 +3.8
comp=Z,3.6nm,0.6s
MORC Moravsky Berou 35.94 319 IAmb IAmb 10 11 01.4
comp=Z,8.8nm,1.2s
ARSA Arzberg 36.19 314 *e*P **P 10 11 00.7 +0.8**
comp=Z,2.1nm,0.8s
CONA Conrad Observa 36.21 315 *e*P **P 10 11 00.7 +0.5**
comp=Z,7.0nm,1.3s
SOKA Soboth 36.31 313 *ep*P pP 10 11 03.9 +1.8
comp=Z,6.1nm,1.4s
OBKA Obir 36.57 313 *e*P **P 10 11 04.7 +1.4**
comp=Z,15nm,1.3s
FDMO Fiordimonte 36.66 307 P **P 10 11 04.8 +0.8**
FDMO IAmb IAmb 10 11 07.4
comp=Z,18nm,1.2s
SABO M.te Sabotino 37.04 312 P **P 10 11 08.9 +1.7**
MOA Molln 37.19 315 *e*P **P 10 11 08.0 -0.5**
comp=Z,7.2nm,1.4s
KBA Koelnbreinsper 37.53 313 *e*P **P 10 11 11.6 0.0**
comp=Z,6.3nm,0.6s
GERES GERESS Array B 37.88 316 P **P 10 11 14.8 +0.3**
comp=Z,0.7nm,0.5s,baz=106,slow=8.4,SNR=4.9
comp=Z,0.7nm,0.5s
ABTA Abfaltersbach 37.98 312 *ep*P pP 10 11 18.0 +1.8
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 38.06 316 *ce*P **P 10 11 16.1 +0.3**
KHC pmax pmax
comp=Z,13nm,1.0s
LESA Schwarzleotal 38.07 313 *e*P **P 10 11 15.4 -0.6**
comp=Z,4.7nm,0.6s
WTTA Wattenberg 38.70 313 *e*P **P 10 11 21.2 -0.2**
comp=Z,7.8nm,0.6s
SQTA Sankt Quirin 38.97 313 *e*P **P 10 11 23.2 -0.4**
comp=Z,14nm,0.5s
FINES FINESS Array B 39.18 339 P **P 10 11 24.7 -0.2**
FINES FINESS Array B 39.18 339 P **P 10 11 24.5 -0.4**
comp=Z,4.0nm,0.5s,baz=140,slow=9.6,SNR=21
comp=Z,4.0nm,0.5s
FINES FINESS Array B 39.18 339 P **P 10 11 24.7 -0.2**
CLL Collm 39.20 319 *e*P **P 10 11 25.0 -0.3**
CLL Collm 39.20 319 *e*P **P 10 11 25.0 -0.3**
CLL *ex* x 10 11 28.0
FETA Feichten 39.23 312 *e*P **P 10 11 25.1 -0.7**
comp=Z,7.4nm,0.8s
RETA Reutte 39.34 313 *e*P **P 10 11 27.0 +0.4**
comp=Z,5.2nm,0.6s
FUORN Ofenpass-Fuorn 39.44 312 P **P 10 11 27.5 -0.2**
DAVA Damuels 39.86 312 *e*P **P 10 11 30.4 -0.7**
comp=Z,31nm,0.5s
GTA Gaotai 39.97 60 *e*P **P 10 11 33.0 +0.9**
GTA pmax pmax
comp=Z,22nm,0.8s
ECH Echery 41.87 313 P **P 10 11 46.2 -1.3**
ECH Echery 41.87 313 P **P 10 11 46.2 -1.3**
ECH pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 42.11 91 P **P 10 11 50.1 +0.3**
CHTO IAmb IAmb 10 11 52.2
comp=Z,22nm,1.4s
CHTO Chiang Mai 42.11 91 P **P 10 11 50.1 +0.3**
CHTO pmax pmax
comp=Z,22nm,1.5s
CM31 Chiang Mai Arr 42.23 92 P **P 10 11 51.8 +1.0**
CMAR Chiang Mai Arr 42.23 92 P **P 10 11 51.2 +0.5**
comp=Z,3.7nm,0.5s,baz=284,slow=9.9,SNR=22
comp=Z,3.7nm,0.5s
CMAR Chiang Mai Arr 42.23 92 *i* P **P 10 11 52.0 +1.2**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
CRAI Chiangrai 42.93 89 P **P 10 11 57.2 +0.8**
CRAI IAmb IAmb 10 11 59.3
comp=Z,15nm,0.9s
HFS Hagfors 42.94 332 P **P 10 11 55.7 -0.3**
comp=Z,4.0nm,0.6s,baz=130,slow=10,SNR=9.8
comp=Z,4.0nm,0.6s
MOY Mondy 42.98 42 *e*P **P 10 11 57.6 +1.0**
MOY pmax pmax
comp=Z,14nm,2.0s
BMRD Maredsous 43.87 316 *d*P **P 10 12 04.4 +0.8**
ZAK Zakamensk 44.05 44 *e*P **P 10 12 05.3 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 44.46 332 P **P 10 12 07.1 -1.2**
comp=Z,5.2nm,0.8s,baz=121,slow=8.6
NOA NORSAR Array B 44.46 332 P **P 10 12 06.7 -1.6**
comp=Z,1.7nm,0.7s,baz=120,slow=8.1,SNR=6.5
comp=Z,1.7nm,0.7s
KEV Kevo 45.55 347 P **P 10 12 16.6 -0.1**
KEV Kevo 45.55 347 P **P 10 12 16.6 -0.1**
KEV pmax pmax
comp=Z,21nm,1.1s
SONM Songino Array 45.60 48 P **P 10 12 17.8 +0.1**
SONM Songino Array 45.60 48 P **P 10 12 18.0 +0.3**
comp=Z,5.5nm,1.0s,baz=270,slow=9.1,SNR=21
comp=Z,5.5nm,1.0s
SONM Songino Array 45.60 48 P **P 10 12 17.8 +0.1**
SONM pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 45.67 346 P **P 10 12 17.1 -0.7**
comp=Z,3.9nm,1.0s,baz=153,slow=7.8,SNR=8.7
comp=Z,3.9nm,1.0s
ULN Ulaanbaatar 46.05 48 P **P 10 12 21.4 +0.3**
ULN IAmb IAmb 10 12 22.8
comp=Z,4.5nm,0.8s
ULN Ulaanbaatar 46.05 48 P **P 10 12 22.0 +0.8**
ULN Ulaanbaatar 46.05 48 *i* P **P 10 12 21.5 +0.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s
NRIK Noril'sk 46.71 16 P **P 10 12 23.4 -2.4**
NRIK IAmb IAmb 10 12 27.5
comp=Z,7.6nm,0.8s
NRIK Noril'sk 46.71 16 P **P 10 12 23.2 -2.6**
comp=Z,6.4nm,0.7s,baz=232,slow=6.8,SNR=6.1
NRIK Noril'sk 46.71 16 *ce*P **P 10 12 26.8 +0.9**
NRIK pmax pmax
comp=Z,13nm,1.3s
VOI Vohitsoka 49.10 189 P **P 10 12 47.8 +2.7**
PAB San Pablo 49.50 300 P **P 10 12 48.0 0.0**
PAB IAmb IAmb 10 12 48.9
comp=Z,8.6nm,0.9s
PAB San Pablo 49.50 300 P **P 10 12 48.0 0.0**
PAB pmax pmax
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 49.62 321 P **P 10 12 47.9 -0.7**
comp=Z,1.7nm,0.4s,baz=111,slow=8.2,SNR=11
comp=Z,1.7nm,0.4s
TORD Torodi Ar. Bea 50.60 265 P **P 10 12 56.1 -0.4**
comp=Z,3.8nm,0.6s,baz=59,slow=8.6,SNR=9.3
comp=Z,3.8nm,0.6s
BOD Bodaibo 51.73 36 *e*P **P 10 13 03.9 -0.5**
BOD pmax pmax
comp=Z,17nm,1.5s
SPITS Spitsbergen Ar 54.00 351 P **P 10 13 20.6 -0.4**
comp=Z,4.9nm,0.9s,baz=104,slow=12,SNR=5.7
comp=Z,4.9nm,0.9s
CN2 Changchun 58.94 53 *e*P **P 10 13 56.4 -0.3**

ZEA	**Zeya**	**59.00**	**42**	*i* P	**P**	**10 13 57.2**	**+0.3**
DBIC	**Dimbokro**	**59.21**	**261**	P	**P**	**10 13 58.9**	**-0.1**
DBIC	**Dimbokro**	**59.21**	**261**	P	**P**	**10 13 58.5**	**-0.5**
	comp=Z,12nm,0.7s,baz=41,slow=6.0,SNR=12						
	comp=Z,12nm,0.7s						
DBIC	**Dimbokro**	**59.21**	**261**	P	**P**	**10 13 58.9**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,13nm,0.7s						
TIXI	**Tiksi**	**59.90**	**21**	P	**P**	**10 14 02.8**	**0.0**
TIXI				IAmb	IAmb	10 14 07.9	
	comp=Z,4.9nm,1.1s						
TIXI	**Tiksi**	**59.90**	**21**	*i* P	**P**	**10 14 03.8**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,18nm,3.4s						
BOSA	**Boshof**	**61.75**	**209**	P	**P**	**10 14 16.6**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=18,slow=7.8,SNR=4.3						
	comp=Z,2.7nm,0.7s						
KSRS	**Korea Array**	**62.04**	**60**	P	**P**	**10 14 17.4**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=281,slow=6.4,SNR=11						
	comp=Z,3.8nm,0.6s						
KLR	**Kul'dur**	**62.35**	**46**	P	**P**	**10 14 18.9**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=284,slow=6.9,SNR=9.1						
	comp=Z,4.2nm,0.9s						
KLR	**Kul'dur**	**62.35**	**46**	*ce*P	**P**	**10 14 20.0**	**+0.1**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**63.51**	**52**	P	**P**	**10 14 26.5**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=267,slow=8.6,SNR=5.9						
	comp=Z,1.8nm,0.7s						
SUMG	**Summit**	**65.19**	**341**	P	**P**	**10 14 38.9**	**+0.2**
SUMG	**Summit**	**65.19**	**341**	P	**P**	**10 14 38.9**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,14nm,1.1s						
SEY	**Seymchan**	**70.04**	**29**	*e*P	**P**	**10 15 07.3**	**-1.7**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.4s						
YSS	**Yuzhno-Sakhali**	**70.06**	**47**	*e*P	**P**	**10 15 08.7**	**-0.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
MJAR	**Matsushiro Arr**	**70.19**	**58**	P	**P**	**10 15 08.9**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=289,slow=6.7,SNR=3.5						
	comp=Z,2.4nm,0.9s						
MA2	**Magadan**	**70.47**	**32**	P	**P**	**10 15 10.8**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=273,slow=5.1,SNR=4.5						
	comp=Z,1.6nm,0.3s						
EUNU	**Eureka**	**71.02**	**353**	P	**P**	**10 15 15.5**	**+0.8**
B20K	**Meade River**	**80.73**	**10**	IAmb	IAmb	10 16 11.9	
	comp=Z,5.3nm,0.9s						
B21K	**Ikpikpuk River**	**81.47**	**10**	IAmb	IAmb	10 16 15.9	
	comp=Z,7.9nm,0.8s						
D19K	**Kuna River**	**81.91**	**11**	IAmb	IAmb	10 16 17.9	
	comp=Z,5.1nm,0.9s						
E18K	**Tukpahlearik C**	**82.38**	**13**	IAmb	IAmb	10 16 20.2	
	comp=Z,7.6nm,1.1s						
D22K	**Ayikyak River**	**82.44**	**9**	IAmb	IAmb	10 16 21.6	
	comp=Z,10nm,1.2s						
TOLK	**Toolik Lake Re**	**83.09**	**8**	P	**P**	**10 16 23.6**	**+0.7**
TOLK				IAmb	IAmb	10 16 27.7	
	comp=Z,3.9nm,0.9s						
F19K	**Shaleruckik Mo**	**83.44**	**12**	IAmb	IAmb	10 16 32.5	
	comp=Z,7.7nm,1.4s						
F20K	**Avaraart Lake**	**83.62**	**11**	IAmb	IAmb	10 16 26.3	
	comp=Z,3.5nm,0.9s						
E23K	**Chandalar**	**83.63**	**9**	IAmb	IAmb	10 16 27.3	
	comp=Z,3.2nm,0.8s						
E24K	**Your Creek**	**83.76**	**8**	IAmb	IAmb	10 16 27.4	
	comp=Z,5.8nm,1.1s						
C36M	**Paulatuk**	**83.92**	**359**		**P**	**10 16 26.5**	**-0.5**
C36M				IAmb	IAmb	10 16 27.4	
	comp=Z,3.6nm,0.8s						
SCHQ	**Schefferville**	**84.00**	**330**	P	**P**	**10 16 26.8**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=41,slow=3.3,SNR=7.9						
	comp=Z,2.0nm,0.4s						
E25K	**Arctic Village**	**84.07**	**7**	P	**P**	**10 16 28.7**	**+0.8**
E25K				IAmb	IAmb	10 16 29.4	
	comp=Z,4.5nm,0.9s						
E28M	**Babbage River**	**84.17**	**5**	IAmb	IAmb	10 16 29.8	
	comp=Z,2.5nm,0.8s						
G19K	**Purcell Mounta**	**84.18**	**12**	IAmb	IAmb	10 16 29.4	
	comp=Z,6.1nm,1.1s						
BMAR	**Burnt Mountain**	**84.84**	**7**	P	**P**	**10 16 32.9**	**+1.1**
H21K	**Melozitna Rive**	**85.38**	**11**	IAmb	IAmb	10 16 36.0	
	comp=Z,6.4nm,1.1s						
F31M	**Tsiigehtchic**	**85.68**	**3**	IAmb	IAmb	10 16 37.0	
	comp=Z,6.6nm,1.0s						
H23K	**Yukon River**	**85.73**	**9**	IAmb	IAmb	10 16 37.8	
	comp=Z,6.2nm,1.0s						
G27K	**Doyon Strip**	**85.74**	**6**	IAmb	IAmb	10 16 38.1	
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array**	**87.11**	**9**	P	**P**	**10 16 42.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=324,slow=4.9,SNR=8.5						
	comp=Z,0.6nm,0.7s						
H31M	**Peel River**	**87.28**	**3**	IAmb	IAmb	10 16 44.6	
	comp=Z,5.2nm,0.9s						
I30M	**Mount Dempster**	**87.73**	**4**	IAmb	IAmb	10 16 50.5	
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**90.34**	**355**	P	**P**	**10 16 58.5**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=4.7,slow=4.6,SNR=20						
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**90.79**	**112**	P	**P**	**10 17 00.4**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=312,slow=4.1,SNR=8.5						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**90.79**	**112**	*i* P	**P**	**10 17 04.0**	**+2.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**92.20**	**115**	P	**P**	**10 17 07.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=302,slow=4.6,SNR=16						
	comp=Z,1.5nm,0.7s						

*ISK **21** 10:08:04.4, 37.°50N×29.°47E, h9km, ML1.8/16*
AFAD 21 10:08:04.8, 37.°44N×29.°42E, h7km±3km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.10**	**289**	Pg	Pg	10 08 07.9	+0.8
APMY				Sg	Sg	10 08 10.7	+2.0
GOLH	**Golhisar**	**0.23**	**150**	P	Pg	10 08 09.4	0.0
GOLH				S	Sg	10 08 13.4	+0.8
GOLH				*i* AML	AML	10 08 15.0	
	comp=E,281nm,0.4s						
INCE	**Denizli-Bozkur**	**0.30**	**25**	P	Pg	10 08 10.6	-0.1
INCE				S	Sg	10 08 15.4	+0.7
INCE				*i* AML	AML	10 08 16.0	
	comp=E,114nm,0.3s						
CAEL	**Denizli, Camel**	**0.33**	**194**	P	Pb	10 08 12.3	-0.7
CAEL				S	Sb	10 08 17.4	-1.1
CAEL				*i* AML	AML	10 08 25.0	
	comp=N,70nm,0.4s						
DNZT	**Denizli-Tavas-**	**0.35**	**243**	P	Pg	10 08 12.1	+0.4
DNZT				S	Sg	10 08 17.3	+1.0
DNZT				*i* AML	AML	10 08 20.0	
	comp=N,52nm,0.2s						
DNIZ	**Denizli-Tavas-**	**0.35**	**302**	P	Pg	10 08 12.3	+0.6
DNIZ				S	Sb	10 08 18.6	-0.7
DNIZ				*i* AML	AML	10 08 21.0	
	comp=E,498nm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.40**	**274**	P	Pg	10 08 12.9	+0.3
TAVA				S	Sb	10 08 19.5	-1.2
TAVA				*i* AML	AML	10 08 22.0	
	comp=N,61nm,0.1s						
CAME	**Cameli-Denizli**	**0.50**	**190**	Pg	Pb	10 08 15.8	-0.3
BRDR	**BURDUR-Merkez**	**0.57**	**63**	P	Pg	10 08 15.1	-0.8
BRDR				S	Sg	10 08 24.5	+1.1
BRDR				*i* AML	AML	10 08 27.0	
	comp=E,124nm,0.2s						
KNIK	**Mula-Seydike**	**0.61**	**168**	P	Pg	10 08 16.6	0.0
KNIK				S	Sb	10 08 26.0	-0.6
KNIK				*i* AML	AML	10 08 28.0	
	comp=N,14nm,0.2s						
BASM	**Basmaki-Afyon**	**0.69**	**46**	Pg	Pg	10 08 16.6	-1.6
BASM				Sg	Sg	10 08 25.8	-1.5
SABU	**Mula-Dalaman**	**0.71**	**210**	P	Pb	10 08 19.1	-0.5
SABU				S	Sb	10 08 28.9	-0.6
SABU				*i* AML	AML	10 08 31.0	
	comp=N,34nm,0.3s						
ELL	**Elmali**	**0.80**	**150**	Pg	Pb	10 08 20.8	-0.2
FETY	**Fethiye**	**0.85**	**198**	Pg	Pb	10 08 22.3	+0.5
KORT	**Korkueli**	**0.87**	**120**	Pg	Pg	10 08 21.4	0.0
DALY	**Dalyan (Mula)**	**0.87**	**225**	Pg	Pb	10 08 22.3	+0.1
PASA	**Karahalli, USA**	**0.91**	**4**	P	Pg	10 08 22.4	+0.1
PASA				S	Sn	10 08 36.8	-0.7
PASA				*i* AML	AML	10 08 41.0	
	comp=E,19nm,0.4s						
ESEN	**Aydn-Nazilli**	**0.92**	**293**	P	Pb	10 08 22.9	-0.2
ESEN				S	Sb	10 08 35.5	0.0
ESEN				*i* AML	AML	10 08 39.0	
	comp=N,21nm,0.3s						
YER	**Yerkesik**	**0.95**	**252**	Pg	Pb	10 08 24.1	+0.4
YER				Sg	Sn	10 08 38.6	+0.1
ISP	**Isparta**	**0.96**	**66**	Pg	Pg	10 08 21.8	-1.4
KZIL	**AFYON_Kizioren**	**1.00**	**35**	P	Pb	10 08 24.8	+0.3
KZIL				S	Sn	10 08 39.3	-0.5
KZIL				*i* AML	AML	10 08 42.0	
	comp=N,23nm,0.5s						
IZZE	**Mula-Seydike**	**1.01**	**189**	P	Pn	10 08 25.1	-0.3
IZZE				S	Sn	10 08 43.6	+3.7
IZZE				*i* AML	AML	10 08 46.0	
	comp=N,32nm,0.4s						
NAZL	**Nazilli-Aydin**	**1.03**	**301**	Pg	Pg	10 08 24.8	+0.2
KIRA	**zmir-Kiraz**	**1.10**	**314**	P	Pg	10 08 25.3	-0.7
KIRA				S	Sb	10 08 41.6	+0.7
KIRA				*i* AML	AML	10 09 06.0	
	comp=N,36nm,1.1s						
ANTB	**Antalya**	**1.13**	**118**	Pn	Pg	10 08 26.3	-0.1
TURN	**Turunc**	**1.15**	**235**	Pn	Pn	10 08 27.9	+0.7
TURN	**Turunc**	**1.15**	**235**	P	Pn	10 08 27.9	+0.6
TURN				S	Sn	10 08 45.0	+1.8
TURN				*i* AML	AML	10 08 47.0	
	comp=N,16nm,0.4s						
AKAS	**Kas**	**1.22**	**173**	Pn	Pn	10 08 28.9	+0.6
KULA	**Kula-Manisa**	**1.23**	**331**	Pn	Pg	10 08 27.6	-0.8
AYDN	**Tasoluk**	**1.24**	**281**	P	Pb	10 08 27.6	-1.0
AYDN				S	Sn	10 08 45.7	+0.1
AYDN				*i* AML	AML	10 08 51.0	
	comp=N,23nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.31**	**293**	Pn	Pn	10 08 29.5	-0.2
ODEM	**Odemis-Izmir**	**1.35**	**309**	Pn	Pn	10 08 30.0	-0.1

*NEIC **21** 10:12:46.6±1.9, 15.°5S±0.°1×74.°3W±0.°1, h80km±15km, mb4.4/3, Error ellipse: s-maj=20.9km s-min=6.5km az=46.0*
*IDC **21** 10:12:52.8±1.8, 13.°76S×73.°30W, h72km±19km, mb3.4/3, mbtmp3.9/8, Error ellipse: s-maj=31.4km s-min=12.7km az=40.0*
ISC 21 10:12:46.2±0.7, 15.°50S±0.°07×74.°2W±0.°1, h100km, n29, σ2°39/31, mb4.0/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.31**	**324**	P	**Pn**	**10 13 48.6**	**-1.0**
	49nm,0.2s,baz=132,slow=12,SNR=30						
NNA				S	**Sn**	**10 14 35.2**	**-3.6**
	73nm,0.3s,baz=212,slow=7.7,SNR=4.3						
PB12	**IPOC Station P**	**4.86**	**130**	Pn	**Pn**	**10 13 57.7**	**+0.6**
PB18	**Visviri**	**5.02**	**115**	Pn	**Pn**	**10 14 02.9**	**+3.3**
LPAZ	**La Paz**	**5.93**	**98**	Pn	**Pn**	**10 14 14.7**	**+2.6**
LPAZ	**La Paz**	**5.93**	**98**	P	**Pn**	**10 14 15.8**	**+3.7**
	11nm,0.4s,baz=279,slow=6.3,SNR=95						
PB11	**IPOC Station P**	**6.09**	**135**	Pn	**Pn**	**10 14 14.9**	**+1.0**
TA01	**Diego Aracena**	**6.35**	**143**	Pn	**Pn**	**10 14 18.4**	**+1.1**
TA01					**Sn**	**10 15 26.6**	**-1.8**
PATCX	**Punta Patache**	**6.57**	**144**	Pn	**Pn**	**10 14 21.5**	**+1.2**
PATCX					**Sn**	**10 15 28.5**	**-5.3**
PB08	**IPOC Station P**	**6.70**	**134**		**Pn**	**10 14 23.7**	**+1.4**
PB01	**IPOC Station P**	**7.13**	**141**		**Pn**	**10 14 29.1**	**+1.2**
PB09	**IPOC Station P**	**7.86**	**144**		**Pn**	**10 14 39.7**	**+1.8**
CZSB	**Cruzeiro do Su**	**7.86**	**11**		**Pn**	**10 14 35.9**	**-1.9**
PB05	**IPOC Station P**	**8.25**	**153**	Pn	**Pn**	**10 14 44.2**	**+1.0**
PB05					**Sn**	**10 16 14.3**	**-0.6**
ATAH	**Atahualpa**	**9.25**	**333**	P	Pn	10 14 49.8	-7.4
	4.2nm,0.8s,baz=164,slow=15,SNR=2.6						
ATAH				S	Sn	10 16 25.6	-14
	4.6nm,0.6s,baz=347,slow=11,SNR=1.8						
PB14	**IPOC Station P**	**9.77**	**159**		**Sn**	**10 16 47.8**	**-4.3**
GO02	**Mina Guanaco**	**10.56**	**156**	Pn	**Pn**	**10 15 17.0**	**+2.2**
GO02					**Sn**	**10 17 12.8**	**+1.5**
AC01	**Pan de Azucar**	**11.13**	**163**	Pn	**Pn**	**10 15 22.3**	**+0.1**
AC02	**Maricunga**	**12.25**	**158**	Pn	**Pn**	**10 15 40.3**	**+2.7**
SIV	**San Ignacio**	**12.69**	**94**	P	**Pn**	**10 15 39.9**	**-3.2**
	2.1nm,0.7s,baz=272,slow=15,SNR=8.7						
COHC	**Cochancay**	**13.86**	**339**	P	**P**	**10 16 02.2**	**-1.2**
CFA	**Coronel Fontan**	**16.95**	**162**	P	P	10 17 00.2	+23
	1.8nm,0.7s,baz=338,slow=15,SNR=4.6						
RUSC	**La Rusia**	**21.28**	**3**	P	**P**	**10 17 26.8**	**+1.5**
RUSC				IAmb	IAmb	10 17 29.7	
	comp=Z,13nm,0.9s						
BAUV	**El Baul**	**25.05**	**15**	P	**P**	**10 18 02.7**	**+1.4**
BAUV				IAmb	IAmb	10 18 04.2	
	comp=Z,22nm,1.3s						
PLCA	**Paso Flores**	**25.35**	**173**	P	P	10 18 28.9	+25
	comp=Z,2.5nm,0.9s,baz=0.5,slow=9.1,SNR=4.7						
	comp=Z,2.5nm,0.9s						
TXAR	**Lajitas Array**	**52.85**	**327**	P	**P**	**10 21 53.2**	**+1.3**
TXAR	**Lajitas Array**	**52.85**	**327**	P	**P**	**10 21 54.6**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=151,slow=8.9,SNR=8.7						
	comp=Z,0.7nm,0.7s						
SMWD	**Samnorwood**	**56.05**	**334**	P	**P**	**10 22 16.4**	**+1.6**
SMWD				IAmb	IAmb	10 22 17.8	
	comp=Z,5.2nm,0.8s						
YKA	**Yellowknife Ar**	**83.92**	**342**	P	**P**	**10 25 07.0**	**+2.5**
	comp=Z,0.3nm,0.9s,baz=140,slow=5.6,SNR=4.4						
	comp=Z,0.3nm,0.9s						
GLKZ	**Green Lake**	**94.02**	**238**	P	**P**	**10 25 52.5**	**-1.1**

*MOS **21** 10:33:23.5±1.0, 3.°54S×145.°08E, h11km, mb4.9/19, Error ellipse: s-maj=12.1km s-min=7.8km az=105.9*
*IDC **21** 10:33:23.1±0.6, 3.°50S×145.°18E, h0km, mb4.4/18, mbtmp4.5/21, ML2.2/1, MS4.5/47, Error ellipse: s-maj=23.3km s-min=12.9km az=90.0*
*NEIC **21** 10:33:25.2±1.3, 3.°46S±0.°08×145.°13E±0.°09, h10km±1km, mb5.0/95, Error ellipse: s-maj=15.9km s-min=12.6km az=121.0*
*GCMT **21** 10:33:27.2±0.1, 3.°37S±0.°01×145.°13E±0.°01, h13km±1km, MW5.1/137, Moment Tensor Solution. s74,c96; s137,c240; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=0.04±.11; $M_{\theta\theta}$=-1.04±.11; $M_{\phi\phi}$=1.08±.12; $M_{r\theta}$=1.47±.29; $M_{\theta\phi}$=6.06±.12; $M_{\phi r}$=-0.03±.24; Best double couple: M_0=6.32500×10^16^ NP1:ϕ_s=355.00000°, δ=77.00000°, λ=-179.00000°. NP2:ϕ_s=265.00000°, δ=89.00000°, λ=-13.00000°. Principal axes: T 6.3080, Plg8.0000°, Azm311.0000°; N 0.0390, Plg77.0000°, Azm79.0000°; P -6.3430, Plg10.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **21** 10:33:31.6±0.7, 4.°5S±5.°14×145.°5E±.°, h49km±6km, M4.8/24, mb4.8/24, mB5.3/13, MLv4.7/3, Mw(mB)4.7/13, MwMwp5.7/2, Mwp5.8/2*
ISC 21 10:33:26.9±0.4, 3.°58S±0.°05×145.°18E±0.°06, h22km, n196, σ1°24/132, mb4.9/95, MS4.5/53, 9C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.66**	**55**	Pn	**Pn**	**10 34 06.6**	**-1.9**
JAY	**Jayapura**	**4.59**	**283**	LR	LR	10 36 14.5	
	comp=Z,8μm,18.4s,baz=58,slow=37						
JAY	**Jayapura**	**4.59**	**283**	P	**Pn**	**10 34 36.0**	**+0.9**
GENI	**Genyem**	**5.10**	**281**	P	**Pn**	**10 34 44.2**	**+2.1**
PMG	**Port Moresby**	**6.12**	**161**	Pn	**Pn**	**10 34 57.6**	**+1.6**
	3.3nm,0.3s,baz=1.4,slow=7.9,SNR=8.3						
	46nm,1.0s						
SMPI	**Sarmi**	**6.65**	**284**	P	**Pn**	**10 35 02.9**	**-0.5**
	0.7nm5μm2μm137nm,1.3s						
RABL	**Rabaul**	**6.99**	**95**	Pn	**Pn**	**10 35 08.3**	**+0.1**
COEN	**Coen**	**10.50**	**191**	Pn	**Pn**	**10 35 56.8**	**+0.5**
HNR	**Honiara**	**15.78**	**112**	P	**P**	**10 37 10.5**	**-1.2**
HNR	**Honiara**	**15.78**	**112**	Pn	**Pn**	**10 37 08.5**	**+0.5**
	133nm,0.6s,baz=251,slow=5.8,SNR=4.4						
HNR				LR	LR	10 42 23.0	
	comp=Z,1μm,20.0s,baz=273,slow=34						
MTN	**Manton Dam**	**16.66**	**236**		**Pn**	**10 37 19.5**	**+0.3**
PATS	**Pohnpei**	**16.70**	**52**	Pn	**Pn**	**10 37 18.4**	**-1.3**
WB0	**Warramunga Arr**	**19.23**	**212**	P	**P**	**10 37 49.3**	**-0.5**
WR0	**Warramunga Arr**	**19.31**	**212**	P	**P**	**10 37 50.4**	**-0.3**
WRAB	**Tennant Creek**	**19.39**	**212**	P	**P**	**10 37 51.1**	**-0.5**
WRAB	**Tennant Creek**	**19.39**	**212**	*i* P	**P**	**10 37 51.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,50nm,0.9s						
WB2	**Warramunga Arr**	**19.39**	**212**	P	**P**	**10 37 51.1**	**-0.5**
WB2				IAmb	IAmb	10 37 53.7	
	comp=Z,70nm,1.1s						
WRA	**Warramunga Arr**	**19.40**	**212**	P	**P**	**10 37 51.5**	**-0.2**
	comp=Z,29nm,0.7s,baz=37,slow=10,SNR=87						
WRA				LR	LR	10 46 13.6	
	comp=Z,5μm,18.9s,baz=34,slow=40						
KNRA	**Kununurra**	**20.14**	**232**	P	**P**	**10 37 58.5**	**-1.2**
KMSI	**Cibinong**	**21.59**	**281**	P	**P**	**10 38 16.8**	**+1.4**
SOEI	**Soe**	**21.65**	**252**	P	**P**	**10 38 15.1**	**-1.2**
SOEI	**Soe**	**21.65**	**252**	P	**P**	**10 38 15.4**	**-0.9**
	comp=Z,2μmcomp=Z,121nm,1.1s						
DAV	**Davao City (W)**	**22.24**	**298**	LR	LR	10 46 44.9	
	comp=Z,496nm,18.1s,baz=110,slow=36						
EIDS	**Eidsvold**	**22.40**	**166**	P	**P**	**10 38 24.5**	**+0.5**
AS31	**Alice Springs**	**22.75**	**208**	P	**P**	**10 38 27.7**	**-0.2**
ASAR	**Alice Springs**	**22.75**	**208**	P	**P**	**10 38 27.4**	**-0.5**
ASAR	**Alice Springs**	**22.75**	**208**	P	**P**	**10 38 27.8**	**-0.1**
	comp=Z,23nm,0.9s,baz=36,slow=8.8,SNR=81						
ASAR				LR	LR	10 48 30.1	
	comp=Z,3μm,18.2s,baz=38,slow=40						
	comp=Z,23nm,0.9s						
APSI	**Ampana**	**23.66**	**276**	P	**P**	**10 38 36.6**	**-0.5**
	comp=Z,930nmcomp=Z,58nm,1.2s						
FITZ	**Fitzroy Crossi**	**23.97**	**232**	P	**P**	**10 38 38.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**23.97**	**232**	P	**P**	**10 38 39.2**	**-0.7**
	comp=Z,23nm,0.6s,baz=48,slow=9.4,SNR=42						
FITZ				LR	LR	10 47 34.6	
	comp=Z,1μm,21.5s,baz=54,slow=36						
	comp=Z,23nm,0.6s						
BSSI	**Bau Bau, Buton**	**24.73**	**263**	P	**P**	**10 38 47.1**	**+0.1**
	comp=Z,1μmcomp=Z,62nm,1.2s						
TOLI2	**Tolitoli**	**24.83**	**280**	P	**P**	**10 38 46.4**	**-1.5**
TOLI2				IAmb	IAmb	10 39 06.7	
	comp=Z,22nm,0.8s						
BKSI	**Bulukumba**	**25.04**	**265**	P	**P**	**10 38 48.7**	**-1.1**
	comp=Z,23nm,1.1s						
BASI	**Baing, Sumba**	**25.29**	**254**	P	**P**	**10 38 50.2**	**-1.8**
TTSI	**Tana Toraja**	**25.32**	**270**	P	**P**	**10 38 51.2**	**-1.2**
	comp=Z,32nm,1.0s						
SPSI	**Sidrap Palu**	**25.36**	**268**	P	**P**	**10 38 51.0**	**-1.7**
	comp=Z,21nm,1.2s						
KAPI	**Kappang**	**25.40**	**266**	P	**P**	**10 38 51.5**	**-1.5**
KAPI				IAmb	IAmb	10 39 14.1	
	comp=Z,28nm,1.3s						
KAPI	**Kappang**	**25.40**	**266**	P	**P**	**10 38 53.2**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=108,slow=12,SNR=4.4						
	comp=Z,9.1nm,0.8s						
ARMA	**Armidale**	**27.39**	**168**	P	**P**	**10 39 11.9**	**+0.9**
ARMA				IAmb	IAmb	10 39 37.0	
	comp=Z,29nm,1.4s						
DZM	**Mont Dzumac**	**27.63**	**134**	LR	LR	10 49 17.2	
	comp=Z,1μm,19.7s,baz=276,slow=34						
STKA	**Stephens Creek**	**28.35**	**186**	P	**P**	**10 39 20.1**	**+0.6**
STKA	**Stephens Creek**	**28.35**	**186**	P	**P**	**10 39 19.0**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=352,slow=9.8,SNR=14						
STKA				LR	LR	10 51 54.2	
	comp=Z,1μm,18.4s,baz=4.2,slow=39						
	comp=Z,5.7nm,0.7s						
STKA	**Stephens Creek**	**28.35**	**186**	*i* P	**P**	**10 39 19.5**	**0.0**
TGY	**Tagaytay City**	**29.78**	**307**	LR	LR	10 51 30.0	
	comp=Z,532nm,19.6s,baz=134,slow=37						
BBOO	**Buckleboo**	**30.31**	**195**	P	**P**	**10 39 36.1**	**-0.7**
PSA00	**Pilbara Seismi**	**30.42**	**232**	P	**P**	**10 39 37.2**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**31.48**	**42**	T	T	11 13 04.8	
	baz=227,slow=74						
H11N3	**WAKE ISLAND Hy**	**31.50**	**42**	T	T	11 13 01.8	
	baz=227						
H11N2	**WAKE ISLAND Hy**	**31.50**	**42**	T	T	11 13 03.1	
	baz=227,slow=74						
FORT	**Forrest**	**31.52**	**209**	P	**P**	**10 39 47.3**	**-0.2**
JOW	**Kunigami**	**34.36**	**333**	LR	LR	10 51 12.5	
	comp=Z,1μm,21.0s,baz=102,slow=31						
MSVF	**Nonsavu**	**35.14**	**116**	P	**P**	**10 40 19.7**	**+0.3**
MSVF				IAmb	IAmb	10 40 20.7	
	comp=Z,30nm,1.2s						
MSVF	**Nonsavu**	**35.14**	**116**	P	**P**	**10 40 19.7**	**+0.3**
MSVF				pmax	pmax		
	comp=Z,30nm,1.2s						
LEM	**Lembang**	**37.54**	**263**	LR	LR	10 58 24.7	
	comp=Z,240nm,19.7s,baz=76,slow=40						
JNU	**Nakatsue**	**38.93**	**341**	LR	LR	10 54 13.5	
	comp=Z,568nm,21.3s,baz=159,slow=32						
NWAO	**Narrogin (SRO)**	**39.19**	**219**	LR	LR	10 58 24.4	
	comp=Z,2μm,19.0s,baz=11,slow=38						
MDSI	**Maura Dua**	**40.91**	**267**	P	**P**	**10 41 08.4**	**+0.4**
	comp=Z,902nmcomp=Z,20nm,1.2s						
SSE	**Sheshan**	**41.38**	**328**	P	**P**	**10 41 11.1**	**-0.5**
SSE				S	**S**	**10 47 27.3**	**+2.0**
SSE				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,120nm,3.5s						
SSE				LR	LR		
	comp=N,430nm,19.2s						
SSE				LR	LR		
	comp=E,330nm,19.1s						
QIZ	**Qiongzhong**	**41.40**	**304**	P	**P**	**10 41 11.6**	**-0.

PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
BNX BinXian 51.58 344 ⇓P **P 10 42 31.9 +0.4**
BNX pmax pmax
comp=Z,18nm,1.4s
CD2 Chengdu 52.30 314 P **P 10 42 36.6 -0.6**
CD2 S **S 10 50 02.8 +1.3**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,170nm,5.6s
CD2 LR LR
comp=N,360nm,16.5s
CD2 LR LR
comp=Z,480nm,15.1s
HHC Hu-ho-hao-te 53.83 329 *e*P **P 10 42 49.1 +0.7**
HHC S **S 10 50 27.3 +5.1**
HHC Hu-ho-hao-te 53.83 329 SS **SKiKP 10 54 06.4 +5.0**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.2s
HHC LR LR
comp=N,300nm,17.6s
HHC LR LR
comp=E,430nm,17.6s
HHC LR LR
comp=Z,520nm,16.8s
KLR Kul'dur 53.87 349 LR LR 11 03 58.0
comp=Z,201nm,19.1s,baz=164,slow=34
KLR Kul'dur 53.87 349*ce*P **P 10 42 48.5 +0.1**
KLR pmax pmax
comp=Z,15nm,1.6s
LZH Lanzhou 55.20 319 *e*P P 10 43 02.9 +4.4
LZH pP sP 10 43 06.5 -0.8
LZH pmax pmax
comp=Z,27nm,1.2s
LZH LR LR
comp=N,500nm,17.9s
LZH LR LR
comp=E,380nm,19.2s
LZH LR LR
comp=Z,650nm,18.9s
HEH HeiHe 55.76 346 *e*P **P 10 43 01.8 -0.2**
HEH pmax pmax
comp=Z,11nm,0.9s
RAR Rarotonga 56.23 113 LR LR 11 04 42.5
comp=Z,254nm,20.0s,baz=286,slow=33
PETK Petropavlovsk- 57.45 9 P **P 10 43 13.8 -0.2**
comp=Z,2.7nm,0.8s,baz=149,slow=5.7,SNR=5.1
PETK LR LR 11 04 06.8
comp=Z,163nm,21.2s,baz=176,slow=32
comp=Z,2.7nm,0.8s
BRDH Bariadhala 58.39 299 LR LR 11 06 41.7
comp=Z,140nm,21.4s,baz=86,slow=34
ZEA Zeya 59.05 348 *e*P **P 10 43 26.8 +1.6**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
GTA Gaotai 59.73 320 *e*P **P 10 43 31.8 +1.5**
GTA pP pP 10 43 35.3 -1.4
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=N,190nm,15.6s
GTA LR LR
comp=E,170nm,16.4s
GTA LR LR
comp=Z,190nm,17.5s
ULN Ulaanbaatar 61.13 332 *i* P **P 10 43 39.5 -0.3**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SHEM Shemya Is, Ala 61.18 20 LR LR 11 06 17.4
comp=Z,365nm,20.0s,baz=135,slow=32
GOMU GeErMu 61.41 315 P **P 10 43 40.9 -1.3**
GOMU pP pP 10 43 45.8 -2.8
GOMU sP sP 10 43 52.8 +1.8
GOMU PP PP 10 45 16.4 -41
GOMU S S 10 51 19.1 -43
GOMU sS pS 10 51 36.5 -34
GOMU ScS SKKSac 10 53 00.6 -32
SONM Songino Array 61.42 331 P **P 10 43 41.0 -0.7**
comp=Z,1.5nm,0.9s,baz=137,slow=6.2,SNR=6.7
SONM LR LR 11 10 06.8
comp=Z,372nm,18.9s,baz=137,slow=36
comp=Z,1.5nm,0.9s
MA2 Magadan 63.12 3 P **P 10 43 53.3 +0.6**
MA2 IAmb IAmb 10 43 57.9
comp=Z,11nm,1.1s
MA2 Magadan 63.12 3*ce*P **P 10 43 53.7 +1.1**
MA2 pmax pmax
comp=Z,3.0nm,0.8s
ZAK Zakamensk 64.66 332 *e*P **P 10 44 02.1 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
YAK Yakutsk 66.50 352 LR LR 11 10 24.1
comp=Z,205nm,21.7s,baz=140,slow=33
YAK Yakutsk 66.50 352 *i* P **P 10 44 16.1 +1.5**
YAK pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 66.56 4*ce*P **P 10 44 15.5 +0.5**
SEY pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 69.78 319 *e*P **P 10 44 37.0 +1.2**
WMQ LR LR
comp=Z,220nm,24.2s
BILL Biiibino 72.97 8 P **P 10 44 53.8 -0.6**
BILL Biiibino 72.97 8 *i* P **P 10 44 55.6 +1.2**
BILL pmax pmax
comp=Z,10.0nm,1.5s
VNDA Vanda 74.43 176 P **P 10 45 03.7 +0.9**
comp=Z,1.4nm,0.6s,baz=330,slow=7.2,SNR=7.6
VNDA LR LR 11 16 34.2
comp=Z,349nm,19.0s,baz=346,slow=35
comp=Z,1.4nm,0.6s
MK31 Makanchi Array 74.49 321*ce*P **P 10 45 04.4 +0.6**
MKAR Makanchi Array 74.49 321 P **P 10 45 03.1 -0.7**
MKAR Makanchi Array 74.49 321 P **P 10 45 03.2 -0.6**
comp=Z,1.7nm,0.9s,baz=120,slow=7.2,SNR=14
MKAR LR LR 11 16 16.8
comp=Z,172nm,21.4s,baz=84,slow=35
comp=Z,1.7nm,0.9s
MKAR Makanchi Array 74.49 321 *i* P **P 10 45 04.1 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 75.84 355 *i* P **P 10 45 10.4 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 76.01 328 P **P 10 45 11.2 -1.2**
ZALV Zalesovo Beam 76.01 328 P **P 10 45 12.7 +0.4**
comp=Z,1.0nm,0.5s,baz=145,slow=5.4,SNR=4.2
ZALV LR LR 11 17 24.0
comp=Z,599nm,21.4s,baz=118,slow=35
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 76.01 328 *i* P **P 10 45 15.8 +3.5**
KDJ Kajisay 76.31 315 P **P 10 45 15.1 +0.5**
KDJ IAmb IAmb 10 45 20.4
comp=Z,14nm,1.3s
KDJ Kajisay 76.31 315 P **P 10 45 15.1 +0.5**
KDJ pmax pmax
comp=Z,14nm,1.3s
KSH Kashi 76.42 312 P **P 10 45 16.6 +1.4**
KSH PP **pP 10 45 21.0 -0.7**
KSH pmax pmax
comp=Z,5.0nm,1.2s
NIL Nilore 77.05 306 P **P 10 45 17.6 -1.2**
NIL Nilore 77.05 306 P **P 10 45 17.6 -1.2**
NIL pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 78.20 323 P **P 10 45 23.4 -1.3**
KURK IAmb IAmb 10 45 39.4
comp=Z,13nm,1.4s
KURK Kurchatov 78.20 323*ce*P **P 10 45 24.9 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 78.22 323 P **P 10 45 24.4 -0.4**
comp=Z,2.0nm,0.9s,baz=108,slow=5.3,SNR=11
KURBB LR LR 11 20 51.1
comp=Z,218nm,18.6s,baz=150,slow=36
comp=Z,2.0nm,0.9s
AAK Ala-Archa 78.36 315 P **P 10 45 26.1 0.0**
AAK Ala-Archa 78.36 315 LR LR 11 20 08.6
comp=Z,248nm,20.5s,baz=102,slow=36
AAK Ala-Archa 78.36 315*ce*P **P 10 45 26.4 +0.4**
AAK pmax pmax
comp=Z,1.0nm,0.8s
KDAK Kodiak Island 78.66 29 LR LR 11 14 21.9
comp=Z,325nm,20.9s,baz=63,slow=31
L18K Granite Mounta 78.92 24 IAmb IAmb 10 45 32.4
comp=Z,21nm,1.2s
H17K Granite Mounta 79.14 21 IAmb IAmb 10 45 33.4
comp=Z,19nm,1.4s
N19K Bonanza Creek 79.16 26 IAmb IAmb 10 45 33.3
comp=Z,20nm,1.0s
C16K Lisburne Hills 79.40 17 IAmb IAmb 10 45 49.0
comp=Z,28nm,1.8s
DRK Karamyk 79.53 311 P **P 10 45 32.2 -0.5**
L19K White Mountain 79.65 24 IAmb IAmb 10 45 36.2
comp=Z,18nm,1.1s
J19K Poorman 80.23 23 IAmb IAmb 10 45 38.5
comp=Z,19nm,1.4s
M20K Styx River 80.23 25 IAmb IAmb 10 45 40.9
comp=Z,30nm,1.3s
K20K Telida 80.53 24 IAmb IAmb 10 45 40.3
comp=Z,27nm,1.6s
H19K Roundabout Mou 80.69 21 IAmb IAmb 10 45 44.9
comp=Z,18nm,1.3s
C18K Utukok River 80.85 17 IAmb IAmb 10 45 40.8
comp=Z,25nm,1.9s
J20K Nowinta River 80.89 23 IAmb IAmb 10 45 47.1
comp=Z,18nm,1.3s
KKAR Karatay Array 81.31 314 P **P 10 45 41.0 -0.9**
KKAR Karatay Array 81.31 314 P **P 10 45 41.0 -0.9**
E19K Redstone River 81.43 19 IAmb IAmb 10 45 48.8
comp=Z,15nm,1.1s
D19K Kuna River 81.70 18 IAmb IAmb 10 46 06.6
comp=Z,11nm,1.1s
F20K Avaraart Lake 81.72 20 IAmb IAmb 10 45 52.7
comp=Z,17nm,1.6s
KTH Kantishna Hill 81.88 24 IAmb IAmb 10 45 46.5
comp=Z,24nm,1.3s
H21K Melozitna Rive 82.08 22 IAmb IAmb 10 45 58.5
comp=Z,13nm,1.4s
NRIK Noril'sk 82.43 342 IAmb IAmb 10 45 51.4
comp=Z,16nm,1.1s
NRIK Noril'sk 82.43 342 P **P 10 45 46.5 -0.6**
comp=Z,7.4nm,0.9s,baz=129,slow=5.2,SNR=5.2
NRIK LR LR 11 23 46.7
comp=Z,275nm,18.0s,baz=115,slow=37
comp=Z,7.4nm,0.9s
NRIK Noril'sk 82.43 342*ce*P **P 10 45 47.4 +0.3**
NRIK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 82.77 24 P **P 10 45 48.7 -0.3**
MCK IAmb IAmb 10 45 52.8
comp=Z,16nm,1.1s
MCK McKinley 82.77 24 P **P 10 45 48.7 -0.3**
MCK pmax pmax
comp=Z,16nm,1.1s
E21K Killik River 82.99 19 IAmb IAmb 10 46 03.0
comp=Z,17nm,1.3s
WRH Wood River Hil 83.40 24 P **P 10 45 50.4 -1.9**
E22K Anaktuvuk Pass 83.56 20 IAmb IAmb 10 46 15.2
comp=Z,14nm,1.5s
G23K Bananza Creek 83.56 21 IAmb IAmb 10 45 59.9
comp=Z,24nm,1.7s
CCB Clear Creek Bu 83.58 24 IAmb IAmb 10 46 04.5
comp=Z,13nm,1.1s
COLA College 83.65 23 *i* P **P 10 45 54.7 +1.2**
COLA pmax pmax
comp=Z,9.0nm,1.1s
COLD Coldfoot 83.72 21 IAmb IAmb 10 46 06.6
comp=Z,10nm,1.3s
BVAR Borovoye Array 83.76 324 P **P 10 45 53.8 -0.6**
comp=Z,4.4nm,0.8s,baz=104,slow=6.3,SNR=22
comp=Z,4.4nm,0.8s
MAW Mawson 83.78 202 LR LR 11 19 37.1
comp=Z,169nm,21.0s,baz=97,slow=33
BRVK Borovoye 83.83 324 P **P 10 45 53.9 -0.8**
BRVK IAmb IAmb 10 45 59.2
comp=Z,9.2nm,1.1s
BRVK Borovoye 83.83 324*ce*P **P 10 45 54.5 -0.2**
BRVK pmax pmax
comp=Z,15nm,1.7s
IL31 83.99 24 IAmb IAmb 10 46 06.8
comp=Z,7.2nm,0.9s
ILAR Eielson Array 83.99 24 P **P 10 45 53.9 -1.4**
ILAR Eielson Array 83.99 24 P **P 10 45 53.5 -1.8**
comp=Z,7.1nm,1.1s,baz=255,slow=4.5,SNR=26
ILAR LR LR 11 17 19.1
comp=Z,247nm,22.0s,baz=244,slow=31
comp=Z,7.1nm,1.1s
ILAR Eielson Array 83.99 24 P **P 10 45 53.9 -1.4**
E23K Chandalar 84.27 20 IAmb IAmb 10 46 04.4
comp=Z,11nm,1.2s
G24K Hadweenzic Riv 84.49 22 IAmb IAmb 10 46 01.1
comp=Z,15nm,1.4s
TOLK Toolik Lake Re 84.53 20 IAmb IAmb 10 46 52.7
comp=Z,9.5nm,1.3s
F24K Squaw Lake 84.65 21 IAmb IAmb 10 46 05.8
comp=Z,13nm,1.5s
C23K Itkillik River 84.69 18 IAmb IAmb 10 46 05.6
comp=Z,17nm,1.3s
DOT Dot Lake 84.76 25 P **P 10 45 59.3 +0.1**
DOT IAmb IAmb 10 46 11.1
comp=Z,15nm,1.3s
J26L Joseph Creek 85.24 24 IAmb IAmb 10 46 04.0
comp=Z,9.2nm,1.4s
M27K Edge Creek, AK 85.31 27 IAmb IAmb 10 46 07.2
comp=Z,15nm,1.2s
BCAR Beaver Creek A 85.56 26 P **P 10 46 03.5 +0.2**
K27K Chicken 85.72 25 IAmb IAmb 10 46 17.5
comp=Z,14nm,1.1s
D25K Kavik River 85.85 19 IAmb IAmb 10 46 07.2
comp=Z,14nm,1.5s
F26K Sheenjek River 86.06 21 IAmb IAmb 10 46 19.4
comp=Z,14nm,1.5s
QSPA South Pole Qui 86.37 180 P **P 10 46 06.8 -0.6**
comp=Z,2.8nm,0.6s,baz=307,slow=5.1,SNR=24
QSPA LR LR 11 26 10.9
comp=Z,246nm,18.2s,baz=13,slow=37
comp=Z,2.8nm,0.6s
DAWY Dawson 86.86 25 P **P 10 46 10.2 +0.5**
E27K Coleen River 87.12 21 IAmb IAmb 10 46 18.1
comp=Z,13nm,1.4s
L29M L29M 87.18 26 IAmb IAmb 10 46 24.5
comp=Z,14nm,1.1s
K29M Barlow Dome 87.61 26 IAmb IAmb 10 46 21.0
comp=Z,10nm,1.1s
INK Inuvik 90.08 22 LR LR 11 24 42.9
comp=Z,366nm,19.5s,baz=235,slow=34
BBB Bella Bella 90.78 38 LR LR 11 17 45.8
comp=Z,229nm,22.0s,baz=231,slow=29
AKTO Aktyubinsk 90.92 320 LR LR 11 29 12.7
comp=Z,165nm,18.6s,baz=120,slow=37
ARTI Arti 91.17 326 LR LR 11 29 32.3
comp=Z,192nm,18.5s,baz=80,slow=37
YBH Yreka Blue Hor 93.93 49 LR LR 11 20 27.3
comp=Z,442nm,21.4s,baz=294,slow=30
KIRV Kirov 96.05 328 LR LR 11 29 44.5
comp=Z,514nm,21.8s,baz=69,slow=35
NVAR Mina Array Bea 97.31 52 LR LR 11 22 29.4
comp=Z,368nm,21.2s,baz=280,slow=30
NEW Newport 97.78 42 LR LR 11 24 22.9
comp=Z,212nm,19.7s,baz=279,slow=31
YKA Yellowknife Ar 97.88 27 P Pdif 10 47 00.5 -0.3
comp=Z,0.3nm,0.9s,baz=282,slow=4.9,SNR=5.7
YKA LR LR 11 31 39.5
comp=Z,70nm,18.2s,baz=340,slow=36
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 97.88 27 *i* P Pdif 10 47 02.9 +2.2
PFO Pinyon Flats O 98.93 57 LR LR 11 26 53.2
comp=Z,128nm,18.1s,baz=238,slow=32
ELK Elko 99.58 49 LR LR 11 24 08.1
comp=Z,175nm,21.5s,baz=272,slow=31

*SJA **21** 10:36:57.6±0.7,29°.73S×71°.66W,h22km±2km, ML3.5, MW3.7*
*GUC **21** 10:36:59.5±0.8,29°.78S×71°.40W,h49km±2km, ML3.7*
ISC 21 10:36:58.2±1.5,29°.73S±0°.02×71°.63W±0°.05,h1km±10km, n45,σ1°47/57,2C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.85**	**122**	⇓*e*P	**Pg**	**10 37 14.6**	**+0.1**
GO04				*e*S	**Sg**	**10 37 25.4**	**-0.1**
GO04				IAML		10 37 27.8	
comp=E,10μm,0.5s							
GO04	**Tololo Observa**	**0.85**	**122**	*e*P	**Pg**	**10 37 14.6**	**+0.1**
GO04				*e*S	**Sg**	**10 37 27.6**	**+2.1**
CO06	**Fray Jorge**	**0.94**	**180**	⇑*e*P	**Pg**	**10 37 16.4**	**+0.2**
CO06				*e*S	**Sg**	**10 37 28.6**	**+0.1**
CO06				IAML		10 37 30.9	
comp=E,2μm,0.2s							
LCO	**Las Campanas**	**1.08**	**49**	⇓*e*P	**Pg**	**10 37 19.1**	**+0.2**
LCO				*e*S	**Sg**	**10 37 33.4**	**+0.4**
LCO	**Las Campanas**	**1.08**	**49**	*e*P	**Pg**	**10 37 18.8**	**-0.1**
LCO				*e*S	**Sg**	**10 37 34.6**	**+1.6**
LCO				IAML		10 37 35.3	
comp=Z,4μm,0.3s							
CO01	**Juntas del Tor**	**1.36**	**101**	⇓*e*P	Pg	10 37 22.5	-1.8
CO01				*e*S	**Sg**	**10 37 38.1**	**-3.8**
CO01	**Juntas del Tor**	**1.36**	**101**	*e*P	Pg	10 37 22.6	-1.7
CO01				*e*S	**Sg**	**10 37 38.9**	**-3.0**
CO01				IAML		10 37 40.7	
comp=Z,484nm,0.3s							
CO03	**El Pedregal**	**1.37**	**144**	⇓*e*P	Pg	10 37 22.1	-2.6
CO03				*e*S	**Sg**	**10 37 38.2**	**-4.2**
CO03				IAML		10 37 39.4	
comp=E,1μm,0.1s							
CO03	**El Pedregal**	**1.37**	**144**	*e*P	Pg	10 37 21.9	-2.6
CO03				*e*S	Sg	10 37 34.5	-7.9
CO03				*e*S		10 37 37.6	
CO03				IAML		10 37 39.6	
comp=Z,717nm,0.5s							
AC04	**Llanos de Chal**	**1.60**	**18**	*e*P	Pn	10 37 26.9	-0.7
AC04				*e*S	**Sn**	**10 37 47.8**	**-1.0**
AC04				IAML		10 37 52.8	
comp=E,657nm,0.4s							
AC04	**Llanos de Chal**	**1.60**	**18**	*e*P	Pn	10 37 26.8	-0.7
AC04				*e*S	**Sn**	**10 37 46.0**	**-2.8**
AC04				IAML		10 37 55.7	
comp=Z,361nm,0.5s							
AROD	**Rodeo**	**1.92**	**104**	*e*P	**Pn**	**10 37 32.0**	**-0.4**
AROD				*e*S	**Sn**	**10 37 56.4**	**-1.0**
ACDV	**Cuesta del Vie**	**2.23**	**102**	*e*P	**Pn**	**10 37 36.2**	**-0.2**
ACDV				*e*S	Sn	10 37 57.4	-7.2
ACCO	**Cerro Coronel**	**2.38**	**112**	*e*P	**Pn**	**10 37 40.0**	**+1.3**
ACCO				*e*S	Sn	10 37 53.8	-15
GO03	**Copiapo**	**2.46**	**30**	*e*P	Pn	10 37 38.8	-0.7
GO03				IAML		10 38 20.2	
comp=E,382nm,0.6s							
GO03	**Copiapo**	**2.46**	**30**	*e*P	**Pn**	**10 37 39.2**	**-0.3**
GO03				*e*S	**Sn**	**10 38 10.9**	**+0.7**
DOCA	**Reserva Natura**	**2.52**	**120**	*e*P	**Pn**	**10 37 40.9**	**+0.3**
DOCA				*e*S	**Sn**	**10 38 12.2**	**+0.1**
DOCA				IAML		10 38 23.5	
comp=Z,98nm,0.7s							
AC06	**Mina Casimiro**	**2.62**	**26**	⇑*e*P	Pn	10 37 41.0	-0.7
AC06				*e*S	**Sn**	**10 38 12.5**	**-1.6**
AC06				IAML		10 38 24.6	
comp=E,232nm,0.4s							
AGUA	**GUANDACOL**	**2.75**	**86**	*e*P	**Pn**	**10 37 45.0**	**+1.5**
AGUA				*e*S	**Sn**	**10 38 16.6**	**-0.8**
AGUA				IAML		10 38 30.1	
comp=Z,222nm,0.3s							
VA06	**Catapilco**	**2.84**	**174**	*e*P	Pn	10 37 42.8	-1.9
VA06				IAML		10 38 30.4	
comp=E,593nm,0.4s							
RTLS	**Leoncito**	**2.88**	**136**	*e*P	**Pn**	**10 37 46.0**	**+0.5**
RTLS				*e*S	**Sn**	**10 38 18.8**	**-2.2**
RTLS				IAML		10 38 31.5	
comp=Z,448nm,0.7s							
ZON	**Zonda**	**3.12**	**126**	*e*S	**Sg**	**10 38 40.5**	**+1.9**
ZON				IAML		10 38 41.7	
comp=Z,58nm,0.5s							
VCA	**Vinchina**	**3.15**	**73**	*e*P	**Pn**	**10 37 51.8**	**+2.6**
VCA				*e*S	**Sn**	**10 38 26.0**	**-1.5**
VCA				IAML		10 38 38.3	
comp=Z,319nm,0.2s							
RTLL	**Cerro Villicun**	**3.16**	**121**	*e*P	**Pn**	**10 37 49.9**	**+0.8**
RTLL				*e*S	**Sn**	**10 38 28.8**	**+1.3**
VA03	**San Esteban**	**3.16**	**163**	*e*P	**Pn**	**10 37 48.7**	**-0.5**
VA03				IAML		10 38 39.1	
comp=E,523nm,0.3s							
VA03	**San Esteban**	**3.16**	**163**	*e*P	**Pn**	**10 37 49.0**	**-0.3**
VA03				*e*S	**Sn**	**10 38 27.0**	**-0.7**
VA03				IAML		10 38 41.1	
comp=Z,187nm,0.2s							
SJA	**San Juan**	**3.20**	**125**	*e*P	**Pn**	**10 37 50.2**	**+0.5**
SJA				IAML		10 39 06.5	
comp=Z,116nm,4.7s							
ROC1	**El Roble**	**3.28**	**171**	*e*P	Pn	10 37 49.5	-1.4
ROC1				*e*S	**Sn**	**10 38 30.4**	**-0.3**
VA01	**Torpederas**	**3.28**	**180**	*e*P	**Pn**	**10 37 49.9**	**-0.8**
VA01				*e*S	**Sb**	**10 38 39.2**	**+1.5**
VA01				IAML		10 38 46.8	
comp=Z,55nm,0.9s							
PEL	**Peldehue**	**3.50**	**167**	*e*P	Pn	10 37 52.3	-1.5
PEL				IAML		10 38 45.7	
comp=N,132nm,0.3s							
MT02	**Curacav**	**3.54**	**173**	*e*P	Pn	10 37 52.5	-1.9
MT02				IAML		10 38 51.1	
comp=E,103nm,0.3s							
MT02	**Curacav**	**3.54**	**173**	*e*P	Pn	10 37 37.5	-17
MT02				*e*S	**Sn**	**10 38 34.5**	**-2.4**
MT02				IAML		10 38 43.9	
comp=Z,86nm,0.4s							
AC02	**Maricunga**	**3.63**	**38**	*e*P	**Pn**	**10 37 55.7**	**-0.3**
AC02	**Maricunga**	**3.63**	**38**	*e*P	**Pn**	**10 37 56.3**	**+0.2**
AC02				*e*S	**Sn**	**10 38 40.0**	**+0.2**
AC02				IAML		10 38 54.9	
comp=Z,111nm,0.8s							
AC01	**Pan de Azucar**	**3.68**	**15**	*e*P	Pn	10 37 53.9	-2.4
AC01	**Pan de Azucar**	**3.68**	**15**	*e*P	Pn	10 37 54.1	-2.2
AC01				*e*S	**Sb**	**10 38 50.5**	**+1.2**
AC01				IAML		10 38 59.5	
comp=Z,45nm,0.6s							
FCH	**Farellones**	**3.77**	**163**	*e*P	**Pn**	**10 37 57.1**	**-0.6**
MT03	**Universidad Ad**	**3.87**	**166**	*e*P	**Pn**	**10 37 58.6**	**-0.4**
MT03				*e*S	**Sn**	**10 38 45.3**	**+0.1**
MT03				IAML		10 39 01.8	
comp=Z,137nm,0.7s							
MT04	**Ro Olivares**	**3.88**	**161**	*e*P	**Pn**	**10 37 59.7**	**+0.5**
MT04	**Ro Olivares**	**3.88**	**161**	*e*P	**Pn**	**10 38 00.1**	**+0.9**
MT04				*e*S	**Sn**	**10 38 45.5**	**0.0**
MT04				IAML		10 38 55.8	
comp=Z,100nm,0.8s							
MT08	**Bocatoma Ro**	**3.95**	**160**	*e*P	Pn	10 37 58.8	-1.4
MT08				*e*S	**Sn**	**10 38 46.8**	**-0.5**
MT08				IAML		10 39 00.5	
comp=Z,63nm,0.8s							
ACLC	**CERRO LA CRUZ**	**4.09**	**87**	*e*P	**Pn**	**10 38 02.1**	**+0.1**
ACLC				*e*S	**Sn**	**10 38 48.4**	**-2.2**
ACLC				IAML		10 39 00.8	
comp=Z,53nm,0.6s							
AAGR	**Agrelo**	**4.12**	**145**	*e*P	**Pn**	**10 38 04.6**	**+2.2**
MT01	**Popeta**	**4.13**	**176**	*e*S	**Sn**	**10 38 53.3**	**+1.8**
MT01				IAML		10 39 03.4	
comp=Z,58nm,0.7s							
LMEL	**Las Melosas**	**4.28**	**164**	*e*S	**Sn**	**10 38 54.3**	**-1.1**

*IDC **21** 10:47:26.9±1.0,9°.54S×117°.83E,h0km,mb3.7/6, mbtmp3.8/9,ML3.8/3,Error ellipse: s-maj=46.7km s-min=18.6km az=60.0*
*DJA **21** 10:47:31.4±0.3,10°.S±3°.×11°.8E±°.,h10km,M4.5/20, mb4.6/7,MLv4.4/20*
ISC 21 10:47:29.2±0.7,9°.60S±0°.06×118°.08E±0°.05,h10km,n30, σ2°31/32,mb3.7/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.83**	**339**	P	**Pg**	**10 47 45.9**	**+0.7**
PLAI				S	**Sg**	**10 47 56.1**	**+0.1**
WBSI	**Waikabubak, Su**	**1.29**	**92**	P	**Pn**	**10 47 53.9**	**+0.5**
WBSI				S	**Sb**	**10 48 11.6**	**+1.2**
TWSI	**Taliwang, Sumb**	**1.46**	**306**	P	**Pn**	**10 47 55.7**	**0.0**
WSI	**Waingapu**	**2.19**	**92**	P	**Pn**	**10 48 08.1**	**+2.4**
BASI	**Baing, Sumba**	**2.54**	**104**	P	**Pn**	**10 48 14.2**	**+3.7**
DNP	**Denpasar**	**2.98**	**288**	P	**Pn**	**10 48 18.3**	**+1.7**
SRBI	**Singaraja**	**3.21**	**298**	P	**Pn**	**10 48 21.7**	**+1.9**
SRBI				S	**Sn**	**10 49 00.3**	**+2.2**
JAGI	**Jajag, Banyuwa**	**4.04**	**286**	P	**Pn**	**10 48 32.5**	**+1.3**
BSSI	**Bau Bau, Buton**	**4.18**	**35**	P	**Pn**	**10 48 35.7**	**+2.5**
MMRI	**Maumere**	**4.22**	**77**	P	**Pn**	**10 48 37.9**	**+4.3**
BKSI	**Bulukumba**	**4.71**	**26**	P	**Pn**	**10 48 43.3**	**+2.9**
GMJI	**Gumukmas**	**4.77**	**286**	P	**Pn**	**10 48 42.3**	**+1.1**
KMMI	**Kalianget**	**4.80**	**302**	P	**Pn**	**10 48 44.3**	**+2.7**
KAPI	**Kappang**	**4.85**	**20**	Pn	**Pn**	**10 48 43.8**	**+1.5**
3.0nm,0.3s,baz=173,slow=8.4,SNR=7.3							
KAPI				Sn	**Sn**	**10 49 36.5**	**-2.1**
16nm,0.3s,baz=321,slow=19,SNR=11							
8.2nm,0.3s							

SPSI	Sidrap Palu	5.85	17	P		Pn		10 48 59.4	+3.3
	0.1nm41nm,0.8s								
SOEI	Soe	6.10	92	P		Pn		10 49 01.5	+1.8
	0.3nm65nm,1.2s								
TTSI	Tana Toraja	6.74	15	P		Pn		10 49 11.4	+3.1
	0.1nm51nm,1.1s								
PCJI	Pacitan	6.96	281	P		Pn		10 49 12.9	+1.5
	0.3nm60nm,1.1s								
UGM	Wanagama	7.66	282	P		Pn		10 49 21.2	+0.2
FITZ	Fitzroy Crossi	11.19	140	Pn		Pn		10 50 10.1	+0.8
	0.9nm,0.3s,baz=325,slow=7.1,SNR=12								
FITZ				Sn		Sn		10 52 09.5	-5.0
	0.8nm,0.3s,baz=184,slow=22,SNR=8.3								
	2.2nm,0.4s								
WRA	Warramunga Arr	18.76	125	P		P		10 51 49.3	+0.6
	0.2nm,0.3s,baz=302,slow=12,SNR=12								
WRA				S		Sn		10 55 06.4	-13
	0.9nm,0.9s,baz=300,slow=25,SNR=2.2								
	4.4nm,0.9s								
ASAR	Alice Springs	20.59	135	P		P		10 52 10.2	+1.6
	5.7nm,1.0s,baz=312,slow=10,SNR=23								
ASAR				S		S		10 55 49.7	-9.4
	0.8nm,1.0s,baz=311,slow=24,SNR=3.5								
	5.7nm,1.0s								
H08S2	Diego Garcia H	45.09	269	T		T		11 43 45.6	
	baz=95,slow=76,SNR=19								
H08S3	Diego Garcia H	45.10	269	T		T		11 43 42.2	
	baz=95,slow=76,SNR=9.9								
H08S1	Diego Carcia H	45.11	269	T		T		11 43 44.0	
	baz=95,slow=76,SNR=10.0								
SONM	Songino Array	58.12	351	P		P		10 57 21.4	-1.7
	0.2nm,0.5s,baz=167,slow=6.8,SNR=2.4								
	0.2nm,0.5s								
MKAR	Makanchi Array	64.58	334	P		P		10 58 04.8	-2.0
	0.4nm,0.6s,baz=145,slow=7.5,SNR=6.7								
	0.4nm,0.6s								
KURBB	Kurchatov Arra	69.11	334	P		P		10 58 32.8	-2.6
	0.2nm,0.6s,baz=146,slow=5.8,SNR=2.4								
	0.2nm,0.6s								
BVAR	Borovoye Array	74.40	332	P		P		10 59 05.5	-1.8
	0.3nm,0.4s,baz=142,slow=7.3,SNR=3.8								
	0.3nm,0.4s								
QSPA	South Pole Qui	80.39	180	P		P		10 59 41.7	+0.8
	3.0nm,1.1s,baz=283,slow=6.0,SNR=3.9								
	3.0nm,1.1s								

*NEIC **21** 10:53:15.6±0.9,31°.12N±0°.01×103°.247W±0°.006, h3km±3km, Error ellipse: s-maj=1.9km s-min=0.7km az=169.0*

NEIC 21 10:53:16.0±0.9,31°.10N±0°.01×103°.25W±0°.01, h5km±1km, mb_Lg3.0/76, ML3.1/62, ML3.1/12, Error ellipse: s-maj=2.6km s-min=2.2km az=170.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.38	324		Sb	10 53 30.3	-1.2
MNHN	Monahans	0.48	60		Pg	10 53 25.3	0.0
MNHN				Sg	Sg	10 53 32.4	+0.9
PECS	Pecos	0.59	297		Pg	10 53 27.5	0.0
PECS				Sg	Sg	10 53 36.1	+0.9
PECS				IAML		10 53 45.4	
	1μm,0.7s						
PECS				IAML		10 53 46.8	
	1μm,0.4s						
ALPN	Alpine	0.80	205		Pg	10 53 31.0	-0.4
ALPN					Sg	10 53 41.6	-0.2
ODSA	Odessa	1.18	30		Pg	10 53 37.8	-0.8
ODSA					Sg	10 53 54.1	+0.3
CLNB	Carlsbad	1.28	335		Pn	10 53 40.7	0.0
CLN7	Carlsbad 7	1.39	340		Pn	10 53 42.3	+0.1
HTMS	Hat Mesa	1.40	347		Pn	10 53 42.5	+0.1
GDL2	Guadalupe Moun	1.45	319		Pb	10 53 43.7	+0.1
SAND	Sanderson	1.50	139	Pg	Pb	10 53 44.1	-0.3
VHRN	Van Horn	1.53	259		Pn	10 53 44.2	+0.1
VHRN					Sb	10 54 04.8	+0.2
VHRN				IAML		10 54 07.8	
	271nm,0.6s						
VHRN				IAML		10 54 10.2	
	359nm,0.4s						
TX31	Lajitas Ar. Si	1.80	192		Pb	10 53 48.8	-0.8
TX31					Sb	10 54 13.0	+0.5
TXAR	Lajitas Array	1.80	192		Pb	10 53 48.9	-0.7
OZNA	Ozona	1.83	95		Pb	10 53 49.4	-0.7
OZNA					Sg	10 54 14.4	-0.5
SGCY	Sterling City	1.98	65	Pn	Pb	10 53 51.7	-1.0
SGCY				IAmb_Lg		10 54 21.2	
	comp=Z,66nm,0.8s						
CPRX	Cap Rock	1.99	345		Pb	10 53 51.9	-1.0
POST	Post	2.46	37		Pn	10 53 57.8	+1.0
SN05	Snyder 5	2.68	48		Pn	10 54 01.1	+1.3
SN05				IAmb_Lg		10 54 47.8	
	comp=Z,73nm,0.8s						
SN07	Snyder 07	2.81	45		Pn	10 54 03.0	+1.3
DRIO	Del Rio	2.82	126	Pn	Pn	10 54 02.6	+0.8
MSTX	Muleshoe	2.89	8	Pn	Pn	10 54 04.0	+1.2
MSTX				IAmb_Lg		10 54 50.6	
	comp=Z,42nm,0.8s						
JCT	Junction City	3.03	101	Pn	Pn	10 54 06.4	+1.7
DKNS	Dickens	3.22	37		Pn	10 54 08.3	+0.9
ABTX	Abilene, Hawle	3.42	63		Pn	10 54 11.2	+1.2
ABTX				IAmb_Lg		10 55 09.8	
	comp=Z,56nm,0.8s						
APMT	Aspermont	3.45	49	Pn	Pn	10 54 11.6	+1.1
BRDY	Brady	3.64	86	Pn	Pn	10 54 14.5	+1.4
HNDO	Hondo	3.77	114		Pn	10 54 17.2	+2.3
AMTX	Amarillo	3.99	19	IAmb_Lg		10 55 32.9	
	comp=Z,46nm,0.7s						
BNM	Barren Site	4.17	318		Pn	10 54 22.6	+2.1
PLPT	Palo Pinto	4.52	67	IAmb_Lg		10 55 47.7	
	comp=Z,23nm,0.8s						
HPIG		4.66	208		Pn	10 54 27.3	0.0
HPIG				IAML		10 55 50.5	
	comp=E,23nm,0.6s						
HPIG				IAML		10 55 52.3	
	comp=N,11nm,0.4s						
ANMO	Albuquerque	4.69	326	IAmb_Lg		10 55 58.1	
	comp=Z,21nm,1.1s						
ANMO	Albuquerque	4.69	326	IAmb_Lg		10 55 58.1	
	comp=Z,22nm,1.1s						
ANMO	Albuquerque	4.69	326	IAmb_Lg		10 55 58.1	
	comp=Z,21nm,1.1s						
FW07	Weatherford	4.91	70	IAmb_Lg		10 56 01.9	
	comp=Z,30nm,0.7s						
WHTX	Lake Whitney,	5.02	78	IAmb_Lg		10 56 08.8	
	comp=Z,19nm,0.8s						
FW13	Cleburne	5.11	74	IAmb_Lg		10 56 03.4	
	comp=Z,30nm,1.1s						
FW06	Azle	5.18	67	IAmb_Lg		10 56 05.5	
	comp=Z,29nm,1.0s						
WMOK	Wichita Mounta	5.22	45	IAmb_Lg		10 56 09.2	
	comp=Z,20nm,0.7s						
735A	Kenedy	5.22	114	IAmb_Lg		10 56 11.9	
	comp=Z,24nm,0.8s						
FW14	Alvarado	5.32	74	IAmb_Lg		10 56 15.3	
	comp=Z,29nm,0.8s						
RTBA	Rita Blanca	5.34	4	Pn	Pn	10 54 39.2	+2.7
RTBA				IAmb_Lg		10 56 18.7	
	comp=Z,18nm,1.0s						
ELIS	Ellis County	5.89	32	IAmb_Lg		10 56 35.6	
	comp=Z,24nm,0.7s						
T25A	Trinidad	6.10	351	IAmb_Lg		10 56 40.7	
	comp=Z,16nm,0.9s						
TREL	Terrell	6.30	73	IAmb_Lg		10 56 44.5	
	comp=Z,23nm,0.7s						
237A	Washetta, Mont	6.41	80	IAmb_Lg		10 56 53.2	
	comp=Z,24nm,0.8s						
OK038	West end E0370	6.54	34	IAmb_Lg		10 56 55.0	
	comp=Z,15nm,0.8s						
NOKA	Waynoka	6.58	32	IAmb_Lg		10 56 48.6	
	comp=Z,15nm,0.8s						
W35A	Tecumseh	6.70	51	IAmb_Lg		10 56 58.6	
	comp=Z,15nm,0.8s						
OK029	Liberty Lake	6.73	44	IAmb_Lg		10 57 03.0	
	comp=Z,20nm,0.7s						
Z38A	Mt. Pleasant	7.33	71	IAmb_Lg		10 57 25.7	
	comp=Z,22nm,0.9s						
QUOK	Quay	7.43	45	IAmb_Lg		10 57 26.0	
	comp=Z,16nm,1.1s						
KAN09	Caldwell North	7.61	36	IAmb_Lg		10 57 17.8	
	comp=Z,17nm,1.1s						
TUL3	Leonard	7.86	50	IAmb_Lg		10 57 42.6	
	comp=Z,15nm,0.9s						

*RSNC **21** 11:14:20.1±0.0,8°.N±1°.×7°.3W±°, h4km±3km, M3.3, mb4.0, ML3.0*

*IDC **21** 11:14:25.7±1.2,7°.64N×72°.41W, h86km±16km, mb3.3/1, mbtmp3.9/4, MS2.1/1, Error ellipse: s-maj=40.6km s-min=8.3km az=134.0*

ISC 21 11:14:18.5±1.2,7°.75N±0°.02×72°.69W±0°.03, h3km±9km, n38, σ2°.00/61, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	Pamplona, Colo	0.41	181	P	Pg	11 14 26.9	+0.4
PAMC				S	Sg	11 14 32.6	+0.6
OCAC	Ocana	0.79	308	P	Pg	11 14 33.6	-0.1
OCAC				S	Sg	11 14 43.9	0.0
BARC	Barichara	1.25	203	P	Pn	11 14 42.1	-1.0
BARC				S	Sb	11 14 58.2	-1.3
BRJC	Barrancabermej	1.30	233	P	Pn	11 14 43.2	-0.3
BRJC				S	Sb	11 15 00.7	+0.1
TAMC	Tame, Arauca	1.58	146	P	Pg	11 14 49.2	+0.2
TAMC				S	Sg	11 15 11.0	+1.5
RUSC	La Rusia	1.89	192	P	Pb	11 14 53.6	-0.3
RUSC				S	Sb	11 15 18.3	+0.2
PTBC	PUERTO BERRIO,	2.12	236	P	Pn	11 14 54.7	-0.2
PTBC				S	Sb	11 15 24.1	-0.4
ZARC	Zaragoza, Cauc	2.16	263	P	Pn	11 14 55.8	+0.4
ZARC				S	Sn	11 15 23.9	+1.1
SDV	Santo Domingo	2.33	61	P	Pb	11 15 01.8	+0.5
	149nm,0.3s,baz=232,slow=5.7,SNR=155						
SDV				S	Sn	11 15 26.6	-0.5
	188nm,0.3s,baz=61,slow=18,SNR=11						
SDV	Santo Domingo	2.33	61	P	Pb	11 15 01.5	+0.2
SDV				S	Sn	11 15 27.2	0.0
ARGC	Ariguani, Magd	2.59	324	P	Pn	11 15 02.0	+0.6
ARGC				S	Sn	11 15 36.0	+2.5
UREC	San Jos de Ur	2.81	270	P	Pn	11 15 05.7	+1.3
UREC				S	Sn	11 15 42.1	+3.2
NORC	Norcasia	3.07	225	P	Pn	11 15 08.7	+0.8
NORC				S	Sb	11 15 49.2	-2.4
HELC	Santa Helena	3.21	241	P	Pn	11 15 12.0	+1.8
HELC				S	Sb	11 15 53.9	-2.3
CRJC	Cerrejon, Guaj	3.25	357	P	Pn	11 15 09.5	-1.0
CRJC				S	Sb	11 15 56.2	-0.9
SJCC	San Jacinto, C	3.25	311	P	Pn	11 15 13.1	+2.6
SJCC				S	Sn	11 15 53.8	+4.0
CHIC	Chingaza	3.27	198	P	Pn	11 15 13.8	+2.8
ROSC	El Rosal	3.31	209	P	Pb	11 15 16.3	-1.9
	13nm,0.3s,baz=103,slow=19,SNR=6.6						
ROSC				S	Sb	11 15 55.9	-3.3
	59nm,0.4s,baz=197,slow=22,SNR=4.2						
ROSC	El Rosal	3.31	209	P	Pb	11 15 16.0	-2.2
ROSC				S	Sb	11 16 01.7	+2.6
CVER	Cruz Verde, Cu	3.49	203	P	Pn	11 15 17.0	+2.9
DBBC	Dabeiba	3.56	258	P	Pn	11 15 15.5	+0.7
GUY2C	Guyana, Caldas	3.65	227	P	Pn	11 15 18.4	+2.0
GUY2C				S	Sn	11 16 01.8	+1.5
SMRC	Santa Marta, M	3.71	336	P	Pn	11 15 18.1	+1.3
SMRC				S	Sn	11 16 05.2	+4.2
CBOC	Ciudad Bolivar	3.79	241	P	Pn	11 15 19.3	+1.3
LCBC	Los crdobas,	3.80	287	P	Pn	11 15 19.6	+1.6
APAC	Apartado, Choc	3.85	272	P	Pn	11 15 19.2	+0.5
APAC				S	Sn	11 16 08.5	+4.0
URIC	Uribia, Colomb	3.98	10	P	Pn	11 15 18.0	-2.5
PRAC	Prado	4.57	209	P	Pn	11 15 30.5	+1.9
CAPC	Capurgana	4.69	281	P	Pn	11 15 30.0	-0.3
CAPC				S	Sn	11 16 23.9	-1.4
URMC	La Uribe, Meta	4.78	201	P	Pn	11 15 34.8	+3.3
URMC				S	Sn	11 16 32.7	+5.2
MACC	Macarena, Meta	5.69	192	P	Pn	11 15 43.7	-0.3
	11nm,0.5s						
MACC				S	Sn	11 16 49.1	-0.7
	11nm,0.5s						
FLOC	Florencia	6.80	206	P	Pn	11 16 00.3	+1.0
PCRV	Puerto La Cruz	8.32	73	P	Pn	11 16 19.3	-0.8
	10nm,0.9s,baz=22,slow=7.2,SNR=2.2						
PCRV				S	Sn	11 17 51.1	-3.5
	6.6nm,0.5s,baz=263,slow=18,SNR=9.1						
TEIG	Tepich	19.53	311	LR	LR	11 25 58.1	
	comp=Z,5.8nm,21.2s,baz=217,slow=35						
SADO	Sadowa	37.30	352	LR	LR	11 37 42.6	
	comp=Z,322nm,21.7s,baz=245,slow=37						
YKA	Yellowknife Ar	62.54	340	P	P	11 24 41.2	-2.2
	0.5nm,0.7s,baz=134,slow=6.8,SNR=13						
	0.5nm,0.7s						
ASAR	Alice Springs	149.99	235	PKPbc	PKPdf	11 34 07.8	+1.3
	0.3nm,0.6s,baz=117,slow=3.3,SNR=4.6						
WRA	Warramunga Arr	151.15	242	PKPbc	PKPdf	11 34 10.1	+1.7
	0.8nm,0.5s,baz=106,slow=2.9,SNR=11						

SJA 21 11:24:37.7±0.6,24°.71S×67°.92W, h154km±5km, ML3.5, MW3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		1.52	72	eP	Pn	11 24 55.0	-13
SALTA				eP		11 24 59.4	
SALTA				eP		11 25 01.4	
AF01	San Pedro de A	1.77	352	eP	Pn	11 25 14.4	+3.6
AF01				eS	Sn	11 25 40.9	+4.7
AF01				IAML		11 25 45.5	
	comp=Z,232nm,0.7s						
SLA	San Lorenzo	2.19	91	eP	Pn	11 25 18.9	+3.4
FSA	Cafayete	2.24	129	eP	Pn	11 25 18.7	+2.6
PB14	IPOC Station P	2.26	272	eP	Pn	11 25 18.2	+1.7
PB14				eS	Sn	11 25 41.4	-5.0
PB14				IAML		11 25 56.3	
	comp=Z,101nm,0.4s						
AC02	Maricunga	2.38	207	eP	Pn	11 25 20.9	+2.9
AC02				eS	Sn	11 25 53.1	+3.9
PB06	IPOC Station P	2.51	322	eP	Pn	11 25 21.8	+2.5
PB06				IAML		11 25 59.5	
	comp=Z,150nm,0.4s						
PB10	IPOC Station P	2.69	296	eP	Pn	11 25 24.0	+2.7
PB10				eS	Sn	11 25 58.1	+3.0
PB10				IAML		11 26 02.6	
	comp=Z,88nm,0.3s						
PB05	IPOC Station P	2.79	311	eP	Pn	11 25 25.1	+2.3
PB05				eS	Sn	11 25 58.8	+1.1
PB05				IAML		11 25 59.7	
	comp=Z,91nm,0.4s						
AC01	Pan de Azucar	2.81	239	eP	Pn	11 25 24.1	+1.3
AC01				eS	Sn	11 25 59.1	+1.3
AC01				IAML		11 26 05.3	
	comp=Z,61nm,0.3s						
PB03	IPOC Station P	3.14	327	eP	Pn	11 25 29.7	+2.5
PB03				IAML		11 26 14.8	
	comp=Z,168nm,0.2s						
PB09	IPOC Station P	3.15	337	eP	Pn	11 25 30.7	+3.4
PB09				IAML		11 26 18.1	
	comp=Z,117nm,0.4s						
YJA	Yavi	3.35	42	eP	Pn	11 25 34.5	+4.3
GO03	Copiapo	3.54	215	eP	Pn	11 25 34.0	+1.8
GO03				eS	Sn	11 26 16.3	+1.7
PB01	IPOC Station P	3.93	338	eP	Pn	11 25 39.2	+2.0
PB01				eS	Sn	11 26 25.3	+1.8
PB01				IAML		11 26 27.4	
	comp=Z,74nm,0.2s						
VCA	Vinchina	4.02	184	eP	Pn	11 25 36.6	-1.8
VCA				eS	Sn	11 26 42.7	+17
AC04	Llanos de Chal	4.48	218	eP	Pn	11 25 44.8	+0.4
AC04				eS	Sn	11 26 37.3	+0.9
AC04				IAML		11 26 40.9	
	comp=Z,22nm,0.5s						
PB08	IPOC Station P	4.69	346	eP	Pn	11 25 50.5	+2.9
PB08				eS	Sn	11 26 46.0	+4.1
PB08				IAML		11 26 47.9	
	comp=Z,17nm,0.9s						
ACLC	CERRO LA CRUZ	4.77	170	eP	Pn	11 25 51.4	+3.1
AGUA	GUANDACOL	4.78	186	eP	Pn	11 25 45.1	-3.2
LCO	Las Campanas	4.95	210	eP	Pn	11 25 51.3	+0.5
LCO				eS	Sn	11 26 47.4	-0.4
LCO				IAML		11 26 50.0	
	comp=Z,58nm,0.3s						
PB11	IPOC Station P	5.18	342	eP	Pn	11 25 55.1	+1.3
PB11				eS	Sn	11 26 54.0	+0.7
PB11				eS		11 26 55.1	
PB11				IAML		11 27 15.9	
	comp=Z,37nm,0.9s						

IDC 21 11:41:46.0±4.0,17°.72S×178°.57W, h581km±21km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=135.1km s-min=28.2km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.22	269	P	P	11 43 05.0	0.0
	24nm,0.7s,baz=95,slow=4.9,SNR=17						
STKA	Stephens Creek	38.59	241	P	P	11 48 20.3	-0.1
	2.1nm,0.4s,baz=104,slow=9.5,SNR=3.8						
	2.1nm,0.4s						
WRA	Warramunga Arr	44.52	259	P	P	11 49 06.8	-0.5
	1.1nm,0.6s,baz=95,slow=7.0,SNR=17						
	1.1nm,0.6s						
ASAR	Alice Springs	44.69	254	P	P	11 49 08.8	+0.1
	9.6nm,0.6s,baz=88,slow=8.4,SNR=100						
	9.6nm,0.6s						
ILAR	Eielson Array	85.74	13	P	P	11 53 23.9	-0.1
	0.1nm,0.4s,baz=221,slow=4.7,SNR=6.7						
	0.1nm,0.4s						

*IDC **21** 12:00:04.5±1.0,8°.49S×75°.75W, h0km, mb3.8/5, mbtmp3.8/9, ML3.7/4, MS3.4/5, Error ellipse: s-maj=31.8km s-min=17.8km az=58.0*

ISC 21 12:00:09.2±0.7,8°.50S±0°.08×75°.7W±0°.1, h35km, n14, σ0°.81/14, mb3.8/5, MS3.6/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.02	297	Pn	Pn	12 00 54.0	-0.9
	30nm,0.3s,baz=127,slow=5.1,SNR=134						
ATAH				Sn	Sn	12 01 30.5	+0.4
	51nm,0.3s,baz=302,slow=20,SNR=15						
ATAH				LR	LR	12 02 08.5	
	comp=Z,214nm,21.4s,baz=83,slow=42						
	102nm,0.3s						
NNA	Nana	3.65	198	Pn	Pn	12 01 02.1	-1.2
	9.0nm,0.3s,baz=352,slow=8.2,SNR=11						
NNA				Sn	Sn	12 01 46.6	+1.4
	43nm,0.3s,baz=255,slow=18,SNR=9.3						
	18nm,0.3s						
LPAZ	La Paz	10.68	137	Pn	Pn	12 02 40.8	+0.4
	0.1nm,0.3s,baz=73,slow=4.6,SNR=1.8						
LPAZ				Lg	Lg	12 05 45.2	
	0.1nm,0.3s,baz=186,slow=16,SNR=2.1						
	0.4nm,0.4s						
SIV	San Ignacio	16.09	119	Pn	P	12 03 55.2	-0.7
	baz=290,slow=12,SNR=13						
SIV				LR	LR	12 09 51.9	
	comp=Z,44nm,18.7s,baz=109,slow=36						
	2.6nm,0.7s						
JTS	Las Juntas de	20.83	333	LR	LR	12 12 56.4	
	comp=Z,57nm,18.6s,baz=44,slow=37						
BDFB	Brasilia	27.94	107	LR	LR	12 18 00.0	
	0.9nm,0.7s,baz=148,slow=8.9,SNR=10.0						
	0.9nm,0.7s						
PDAR	Pinedale Array	59.65	332	P	P	12 10 10.4	+0.1
	0.3nm,0.7s,baz=96,slow=2.2,SNR=2.7						
	0.3nm,0.7s						
ULM	Lac du Bonnet	61.10	345	P	P	12 10 19.9	+0.3
	2.2nm,0.6s,baz=154,slow=6.0,SNR=6.2						
	2.2nm,0.6s						
YKA	Yellowknife Ar	76.87	343	P	P	12 11 58.0	+0.6
	0.4nm,0.8s,baz=147,slow=5.9,SNR=7.5						
YKA				LR	LR	12 48 20.5	
	comp=Z,104nm,19.8s,baz=314,slow=38						
	0.4nm,0.8s						
ILAR	Eielson Array	89.78	336	P	P	12 13 04.3	+0.6
	0.5nm,1.0s,baz=167,slow=5.0,SNR=4.8						
	0.5nm,1.0s						
ASAR	Alice Springs	136.90	221	PKP	PKPdf	12 19 29.1	0.0
	0.6nm,0.8s,baz=119,slow=2.5,SNR=5.1						
MKAR	Makanchi Array	137.45	22	PKP	PKPdf	12 19 28.8	-0.7
	0.1nm,0.5s,baz=5.7,slow=1.4,SNR=1.7						
WRA	Warramunga Arr	139.11	226	PKP	PKiKP	12 19 34.6	-0.9
	0.5nm,0.5s,baz=124,slow=2.0,SNR=5.3						

*IDC **21** 12:23:25.2±6.3,2°.60S×102°.74E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=361.4km s-min=28.3km az=52.0*

*DJA **21** 12:23:27.1±1.4,4°.S±6°.×10°.2E±°, h12km±13km, M3.7/7, mb3.9/1, MLv3.5/7*

ISC 21 12:23:24.6±1.2,3°.6S±0°.2×101°.6E±0°.1, h10km, n11, σ2°.14/11, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.01	94	P	Pg	12 23 45.8	+1.8
MNAI	Manna	1.57	119	P	Pn	12 23 53.0	+0.4
PPSI	Pulau Pagai	1.77	297	P	Pn	12 23 57.9	+2.5
MDSI	Maura Dua	2.73	109	P	Pn	12 24 10.1	+1.5
LWLI	Liwa	2.85	120	P	Pn	12 24 13.1	+2.8
SISI	Saibi	3.36	312	P	Pn	12 24 19.0	+1.8
CGJI	Cibinong	5.08	126	P	Pn	12 24 42.6	+1.8
WRA	Warramunga Arr	35.83	120	P	P	12 30 23.2	-1.6
	0.4nm,0.7s,baz=311,slow=9.1,SNR=4.6						
	0.4nm,0.7s						
ASAR	Alice Springs	37.05	126	P	P	12 30 33.9	-1.3
	0.2nm,0.3s,baz=299,slow=7.9,SNR=9.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	52.98	343	P	P	12 32 39.3	-2.2
	0.3nm,0.4s,baz=150,slow=8.6,SNR=5.1						
	0.3nm,0.4s						
TXAR	Lajitas Array	144.93	40	PKP	PKPab	12 43 00.9	-1.3
	0.3nm,0.5s,baz=312,slow=2.0,SNR=7.4						

*NEIC **21** 12:28:23.8±2.5,15°.5N±0°.1×95°.47W±0°.08, h10km±2km, mb4.2/32, Error ellipse: s-maj=23.8km s-min=11.8km az=190.0*

*IDC **21** 12:28:25.3±1.9,15°.79N×96°.00W, h0km, mb3.5/7, mbtmp3.5/8, ML3.1/2, MS3.3/4, Error ellipse: s-maj=29.8km s-min=15.0km az=158.0*

*MEX **21** 12:28:28.0±0.8,15°.64N×96°.05W, h12km±2km, MD4.5*

ISC 21 12:28:25.5±1.1,15°.59N±0°.05×96°.01W±0°.03, h16km±6km, n106, σ2°.81/137, mb4.0/12, MS3.1/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.20	333	eP	Pg	12 28 30.9	+0.7
HUIG				eS	Sg	12 28 33.1	-0.3
PANG	Puerto Angel	0.45	280	i P	Pb	12 28 36.6	+1.5
PANG				eS	Sb	12 28 43.0	+1.4
PEIG	Puerto Escondi	1.17	291	eP	Pb	12 28 46.0	-1.4
PEIG				eS	Sb	12 28 58.9	-3.3
OXLC	Oaxaca	1.61	336	eP	Pn	12 28 52.3	-1.2
OXLC				eS	Sn	12 29 11.1	-3.0
OXBJ	Oaxaca	1.62	335	eP	Pn	12 28 52.1	-1.5
OXBJ				eS	Sn	12 29 11.3	-3.1
VHO	Vista Hermosa	1.63	335	eP	Pn	12 28 53.2	-0.6
VHO				eS	Sn	12 29 10.8	-3.8
NILT	Santiago Nilte	1.66	54	eP	Pn	12 28 53.0

PMUV	**Sontecomapan**	**3.06**	**16**	*eP*	**Pn**	**12 29 10.3**	**-3.0**
FTIG	**Fresnillo de T**	**3.08**	**319**	*eP*	**Pn**	**12 29 15.0**	**+1.4**
FTIG				*eS*	**Sn**	**12 29 46.3**	**-3.9**
TPIG	**Tehuac#an**	**3.10**	**336**	*eP*	**Pn**	**12 29 16.8**	**+2.9**
TPIG				*eS*	**Sn**	**12 29 48.4**	**-2.4**
TLIG	**Tlapa**	**3.14**	**309**	Pn	**Pb**	**12 29 19.6**	**-1.4**
TLIG	**Tlapa**	**3.14**	**309**	*eP*	**Pb**	**12 29 17.8**	**-3.2**
TLIG				*eS*	**Sn**	**12 29 53.5**	**+1.8**
CRIG	**Cruz Grande**	**3.21**	**291**	*eP*	**Pn**	**12 29 18.0**	**+2.7**
CRIG				*eS*	**Sn**	**12 29 46.6**	**-6.7**
HMTT	**Tlapaneco**	**3.29**	**312**	*eP*	**Pb**	**12 29 24.6**	**+1.1**
HMTT				*eS*	**Sb**	**12 30 02.3**	**-1.0**
POHV	**Veracruz**	**3.67**	**341**	*eP*	**Pn**	**12 29 24.5**	**+2.4**
PATR	**El Naranjo**	**3.67**	**97**	*eP*	**Pn**	**12 29 23.2**	**+1.3**
PATR				*eS*	**Sn**	**12 30 03.8**	**-1.3**
PAVE	**Pavencul**	**3.72**	**96**	*eP*	**Pn**	**12 29 24.2**	**+1.7**
PAVE				*eS*	**Sn**	**12 30 04.2**	**-2.0**
DAIG	**Los Arroyos**	**3.77**	**293**	*eP*	**Pn**	**12 29 24.3**	**+1.2**
DAIG				*eS*	**Sn**	**12 30 00.9**	**-6.3**
CCIG	**Comitan**	**3.79**	**79**	Pn	Pn	12 29 16.9	-6.6
CCIG	**Comitan**	**3.79**	**79**	*eP*	**Pn**	**12 29 25.2**	**+1.7**
CCIG				*eS*	**Sn**	**12 30 06.2**	**-1.7**
JAUV	**Jalcomulco**	**3.83**	**349**	*eP*	**Pn**	**12 29 25.1**	**+1.2**
JAUV				*eS*	**Sn**	**12 30 10.9**	**+2.2**
LVIG	**Laguna Verde**	**4.13**	**355**	*eP*	**Pn**	**12 29 31.3**	**+3.3**
LVIG				*eS*	**Sb**	**12 30 21.3**	**-6.2**
PPM	**Popocatepetl**	**4.27**	**325**	*eP*	**Pn**	**12 29 33.9**	**+3.5**
PPM				*eS*	**Sn**	**12 30 25.1**	**+5.1**
CAIG	**El Cayaco**	**4.34**	**290**	*eP*	**Pn**	**12 29 31.6**	**+0.8**
CAIG				*eS*	**Sn**	**12 30 15.1**	**-6.0**
PLIG	**Platanillo**	**4.35**	**310**	*eP*	Pn	12 29 36.1	+5.0
PLIG				*eS*	**Sn**	**12 30 21.6**	**0.0**
YAIG	**Yautepec**	**4.37**	**319**	*eP*	**Pn**	**12 29 32.0**	**+0.6**
YAIG				*eS*	**Sn**	**12 30 22.2**	**0.0**
MPVM	**San Francisco**	**4.59**	**322**	*eP*	Pb	12 29 40.3	-5.6
MPVM				*eS*	**Sn**	**12 30 29.2**	**+1.4**
THVM	**De Xico**	**4.66**	**323**	*eP*	**Pn**	**12 29 34.8**	**-0.7**
THVM				*eS*	**Sn**	**12 30 33.8**	**+4.3**
TLVM	**San Miguel Top**	**4.69**	**321**	*eP*	**Pn**	**12 29 39.7**	**+3.7**
TLVM				*eS*	**Sn**	**12 30 32.9**	**+2.7**
MAVM	**Malinalco, Edo**	**4.72**	**316**	*eP*	Pn	12 29 30.8	-5.5
MAVM				*eS*	**Sn**	**12 30 29.5**	**-1.4**
COVM	**Coyoacan**	**4.80**	**322**	*eS*	**Sb**	**12 30 40.6**	**-6.4**
CXUV	**Coxquihui**	**4.80**	**342**	*eP*	**Pn**	**12 29 39.8**	**+2.5**
BJVM	**Benito Juarez**	**4.82**	**322**	*eS*	**Sn**	**12 30 38.3**	**+4.8**
AOVM	**Tlapan**	**4.83**	**320**	*eP*	Pn	12 29 43.4	+5.3
AOVM				*eS*	**Sn**	**12 30 39.3**	**+5.2**
CJVM	**Cuajimalpa**	**4.88**	**321**	*eS*	**Sn**	**12 30 41.8**	**+6.8**
ARIG	**Puente Sto Nin**	**4.94**	**303**	*eP*	**Pn**	**12 29 39.3**	**+0.1**
APG	**El Apazote**	**5.38**	**95**	Pn	**Pn**	**12 29 48.6**	**+3.2**
	0.1nm,0.3s,baz=77,slow=21,SNR=4.5						
APG				Sn	**Sn**	**12 30 50.3**	**+3.0**
	0.2nm,0.3s,baz=66,slow=22,SNR=3.5						
DEIG	**Demacu**	**5.50**	**329**	*eP*	**Pn**	**12 29 50.5**	**+3.4**
DEIG				*eS*	**Sn**	**12 30 49.4**	**-0.8**
ZIIG	**Zihuatanejo**	**5.60**	**292**	*eP*	**Pn**	**12 29 48.1**	**0.0**
ZIIG				*eS*	**Sn**	**12 30 47.9**	**-4.3**
ACIG	**Acambay**	**5.71**	**320**	*eP*	**Pn**	**12 29 49.9**	**-0.1**
ACIG				*i* S	**Sb**	**12 31 05.8**	**-7.6**
PETF	**Flores**	**6.05**	**77**	Pn	Pn	12 29 47.6	-6.7
MOIG	**Morelia**	**6.40**	**310**	Pn	Pn	12 30 06.8	+7.5
RPIG	**Rio Verde**	**7.31**	**330**	*eP*	Pn	12 30 17.8	+6.1
RPIG				*eS*	**Sn**	**12 31 40.2**	**+5.7**
EZ5V		**8.21**	**299**	*eP*	Pn	12 30 33.7	+9.4
EZ5V				*eS*	Sn	12 32 08.2	+11
MNGA	**Volcan de Coli**	**8.22**	**299**	*eP*	Pn	12 30 32.6	+8.2
MNGA				*eS*	Sn	12 32 11.4	+14
INCO	**Volcan de Coli**	**8.23**	**300**	*eP*	Pn	12 30 33.0	+8.2
INCO				*eS*	Sn	12 32 07.1	+9.4
SOMAC	**Volcano de Col**	**8.25**	**299**	*eP*	Pn	12 30 31.6	+6.6
SOMAC				*eS*	Sb	12 32 13.6	-13
CEGR	**Campo Tres**	**8.39**	**298**	*eP*	Pn	12 30 33.6	+6.9
CEGR				*eS*	**Sn**	**12 32 09.7**	**+8.6**
TEIG	**Tepich**	**8.69**	**57**	Pn	Pn	12 30 25.1	-5.5
TEIG	**Tepich**	**8.69**	**57**	Pn	**Pn**	**12 30 31.9**	**+1.3**
	baz=65,slow=24						
TEIG				Sn	**Sn**	**12 32 07.0**	**-1.4**
	baz=229,slow=24,SNR=1.2						
HNDO	**Hondo**	**14.20**	**348**	Pn	**Pn**	**12 31 49.2**	**+3.2**
TXAR	**Lajitas Array**	**15.39**	**334**	Pn	**P**	**12 32 05.3**	**-1.5**
TXAR	**Lajitas Array**	**15.39**	**334**	Pn	**Pn**	**12 32 02.5**	**+0.3**
	0.1nm,0.3s,baz=152,slow=8.8,SNR=11						
TXAR				LR	LR	12 38 45.0	
	comp=Z,60nm,18.5s,baz=164,slow=41						
	0.4nm,1.1s						
TX31	**Lajitas Ar. Si**	**15.39**	**334**	Pn	**P**	**12 32 06.3**	**-0.6**
BRDY	**Brady**	**15.86**	**351**	Pn	**Pn**	**12 32 09.4**	**+1.2**
OZNA	**Ozona**	**15.97**	**344**		**P**	**12 32 13.7**	**+0.6**
ALPN	**Alpine**	**16.30**	**336**	Pn	**P**	**12 32 15.8**	**-1.1**
MNHN	**Monahans**	**16.85**	**340**		**P**	**12 32 25.2**	**+2.3**
VHRN	**Van Horn**	**17.22**	**333**		**P**	**12 32 32.9**	**+5.8**
PECS	**Pecos**	**17.27**	**337**		**P**	**12 32 33.8**	**+6.2**
ABTX	**Abilene, Hawle**	**17.28**	**350**	P	**P**	**12 32 29.9**	**+2.3**
ABTX				IAmb	IAmb	12 32 36.1	
	comp=Z,24nm,1.3s						
APMT	**Aspermont**	**18.05**	**349**		**P**	**12 32 39.2**	**+3.1**
APMT				IAmb	IAmb	12 32 48.7	
	comp=Z,15nm,1.3s						
MIAR	**Mount Ida**	**19.00**	**6**	P	**P**	**12 32 45.4**	**-1.2**
MIAR				IAmb	IAmb	12 32 55.0	
	comp=Z,9.9nm,1.1s						
SMWD	**Samnorwood**	**19.80**	**350**	P	**Pn**	**12 32 58.8**	**+1.8**
SMWD				IAmb	IAmb	12 33 08.7	
	comp=Z,12nm,0.8s						
OK031	**S. Brethren Rd**	**20.30**	**358**	P	**P**	**12 33 01.5**	**+0.8**
OK031				IAmb	IAmb	12 33 11.0	
	comp=Z,22nm,1.1s						
FCAR	**Ozark Folk Cen**	**20.52**	**9**	P	**P**	**12 33 01.0**	**-2.1**
FCAR				IAmb	IAmb	12 33 10.6	
	comp=Z,12nm,0.8s						
BNM	**Barren Site**	**20.82**	**335**	P	Pn	12 33 08.5	-0.6
U38A	**Gravette**	**20.82**	**4**	P	**P**	**12 33 04.2**	**-2.1**
U38A				IAmb	IAmb	12 33 17.1	
	comp=Z,20nm,1.2s						
CROK	**Carrier**	**20.91**	**356**	P	**P**	**12 33 07.2**	**-0.2**
T35A	**Sooner Cattle**	**21.25**	**359**	P	**P**	**12 33 11.3**	**+0.3**
ANMO	**Albuquerque**	**21.44**	**336**	P	**P**	**12 33 14.8**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=176,slow=15,SNR=6.6						
ANMO				LR	LR	12 42 24.0	
	comp=Z,77nm,21.1s,baz=252,slow=40						
	comp=Z,0.7nm,0.5s						
T42A	**Van Buren**	**21.80**	**11**	P	**P**	**12 33 14.8**	**-2.1**
T42A				IAmb	IAmb	12 33 26.1	
	comp=Z,6.3nm,0.9s						
T25A	**Trinidad**	**22.72**	**342**	P	**P**	**12 33 26.9**	**-0.1**
T25A				IAmb	IAmb	12 33 41.7	
	comp=Z,14nm,1.2s						
CCM	**Cathedral Cave**	**22.77**	**10**	P	**P**	**12 33 27.4**	**+0.1**
CCM				IAmb	IAmb	12 33 35.0	
	comp=Z,6.0nm,0.9s						
R40A	**Maddies Statio**	**22.86**	**8**	P	**P**	**12 33 26.6**	**-1.6**
R40A				IAmb	IAmb	12 33 29.2	
	comp=Z,5.9nm,0.8s						
WUAZ	**Wupatki**	**24.14**	**328**	P	**P**	**12 33 44.2**	**+3.1**
PDAR	**Pinedale Array**	**29.47**	**339**	P	**P**	**12 34 30.3**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=194,slow=5.9,SNR=2.0						
PDAR				LR	LR	12 45 51.6	
	comp=Z,41nm,20.5s,baz=94,slow=36						
	comp=Z,0.1nm,0.5s						
NVAR	**Mina Array Bea**	**30.05**	**323**	P	**P**	**12 34 36.7**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=142,slow=7.1,SNR=5.9						
	comp=Z,1.0nm,0.8s						
E38A	**The Farm, Brul**	**31.15**	**6**	P	**P**	**12 34 42.3**	**-1.3**
DLMT	**Dillon**	**32.80**	**338**	P	**P**	**12 35 00.4**	**+2.1**
LRM	**Limekiln Ridge**	**33.15**	**339**	P	**P**	**12 35 01.4**	**-0.1**
ULM	**Lac du Bonnet**	**34.57**	**0**	P	**P**	**12 35 12.7**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=186,slow=7.8,SNR=4.0						
	comp=Z,1.5nm,0.6s						
YBH	**Yreka Blue Hor**	**34.77**	**324**	LR	LR	12 50 39.1	
	comp=Z,114nm,20.8s,baz=138,slow=38						
YKA	**Yellowknife Ar**	**48.66**	**349**	P	**P**	**12 37 08.3**	**-0.2**
	comp=Z,0.1nm,0.7s,baz=159,slow=6.9,SNR=5.5						
	comp=Z,0.1nm,0.7s						
L29M	**L29M**	**55.74**	**338**	P	**P**	**12 38 03.2**	**+1.8**
G31M	**Satah River**	**57.06**	**343**	P	**P**	**12 38 11.2**	**+0.6**
G31M				IAmb	IAmb	12 38 52.1	
	comp=Z,5.1nm,1.4s						
INK	**Inuvik**	**57.85**	**344**	P	**P**	**12 38 16.5**	**+0.4**
INK				IAmb	IAmb	12 38 17.9	
	comp=Z,2.7nm,0.9s						
INK	**Inuvik**	**57.85**	**344**	P	**P**	**12 38 16.5**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=165,slow=8.3,SNR=4.5						
	comp=Z,1.3nm,0.6s						

ILAR	**Eielson Array**	**59.88**	**337**	P	**P**	**12 38 30.8**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=113,slow=4.7,SNR=4.2					
	comp=Z,0.5nm,0.9s					
BMAR	**Burnt Mountain**	**60.49**	**341**	P	**P**	**12 38 35.3**	**+0.7**
D25K	**Kavik River**	**62.10**	**342**	P	**P**	**12 38 46.7**	**+1.3**
C24K	**Franklin Bluff**	**63.00**	**342**	P	**P**	**12 38 53.4**	**+2.1**

*KOLA **21** 12:29:17.0, 67°.64N×33°.82E, h0km, ML1.4, Error ellipse: s-maj=3.5km s-min=1.7km az=130.0, Khibiny, mines Rasvumchorr, Central*

HEL 21 12:29:20.1±0.3, 67°.74N×33°.33E, h0km, ML1.2, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**171**	S	Sg	12 29 22.4	-3.0
APA0	**Apatity Array**	**0.18**	**225**	P	Pg	12 29 22.5	-1.1
APA0				S	Sg	12 29 27.0	+1.0
LVZ	**Lovozero**	**0.53**	**71**	S	Sg	12 29 29.7	-7.3
LVZ	**Lovozero**	**0.53**	**71**	PG	Pg	12 29 29.6	-0.6
KVDA	**Kovda**	**1.06**	**190**	S	Sg	12 29 48.6	-5.6
VRF	**Varrio**	**1.42**	**272**	PG	Pn	12 29 46.1	-1.0
VRF				MSG		12 30 02.9	
	comp=Z,1.2nm,0.2s						
VRF				SN	Sn	12 30 07.2	+0.7
TERR	**Teriberka**	**1.61**	**23**	P	Pn	12 29 46.2	-3.6
TERR				S	Sn	12 30 07.2	-3.9
RAJF	**Raja-Jooseppi**	**2.02**	**294**	PG	Pn	12 29 55.7	+0.3
RAJF				SG	Sb	12 30 23.9	+0.5
PRVG	**Vayda Guba**	**2.06**	**349**	S	Sn	12 30 23.2	+0.8
OLKF	**Oulanka, Finla**	**2.10**	**229**	PB	Pn	12 29 56.2	-0.3
OLKF				MSG		12 30 22.3	
	comp=Z,1.1nm,0.2s						
OLKF				SG	Sb	12 30 24.4	-1.1
KU6	**Riekki**	**2.19**	**220**	MSG		12 30 24.9	
	comp=Z,0.8nm,0.2s						
KU6				SN	Sn	12 30 26.0	+0.5
MSF	**Maaselka**	**2.50**	**225**	SG	Sb	12 30 37.5	+0.4
VADS	**Vadso**	**2.79**	**331**	S	Sn	12 30 40.2	-0.1
KEV	**Kevo**	**3.07**	**314**	MSG		12 30 50.3	
	comp=Z,0.6nm,0.2s						
RNF	**Rovaniemi**	**3.07**	**252**	PN	Pn	12 30 09.5	-0.2
ARA0	**ARCESS Array S**	**3.39**	**306**	PN	Pn	12 30 13.4	-0.8
ARCES	**ARCESS Array B**	**3.39**	**306**	P	Pn	12 30 13.4	-0.7
ARCES				S	Sn	12 30 55.1	+0.1

HEL 21 12:30:06.3±0.1, 63°.98N×28°.05E, h0km, ML1.5, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.60**	**190**	PG	Pg	12 30 17.4	-0.3
	baz=11						
NIF				SG	Sg	12 30 25.1	-0.4
RMF	**Romuvaara**	**0.86**	**73**	PN	Pg	12 30 22.0	-0.8
RMF	**Romuvaara**	**0.86**	**73**	PG	Pg	12 30 22.0	-0.8
RMF				SG	Sg	12 30 33.0	-1.0
RMF				MSG		12 30 33.0	
	comp=Z,4.3nm,0.2s						
OUL	**Oulu**	**1.45**	**321**	PG	Pn	12 30 33.3	-0.4
OUL	**Oulu**	**1.45**	**321**	PN	Pn	12 30 33.3	-0.4
OUL				SN	Sg	12 30 52.7	-0.1
OUF	**Merijarvi**	**1.50**	**287**	PN	Pn	12 30 34.1	-0.3
OUF				MSG		12 30 51.4	
	comp=Z,4.1nm,0.2s						
OUF				SN	Sg	12 30 54.4	-0.2
SUF	**Sumiainen**	**1.52**	**215**	PN	Pn	12 30 34.4	-0.4
	baz=29						
SUF				MSG		12 30 51.9	
	comp=Z,2.3nm,0.2s						
OBF4	**Vikkela, Lumij**	**1.53**	**305**	PB	Pn	12 30 34.7	-0.1
OBF4	**Vikkela, Lumij**	**1.53**	**305**	PN	Pn	12 30 34.7	-0.1
OBF4				MSG		12 30 52.2	
	comp=Z,3.2nm,0.2s						
OBF4				SN	Sg	12 30 58.1	+2.8
KU1	**Kurvinen**	**1.72**	**21**	PG	Pn	12 30 37.4	-0.1
KU1				SN	Sn	12 30 59.8	-0.3
KU2	**Taivalkoski**	**1.74**	**3**	PG	Pn	12 30 37.7	-0.1
OBF0	**Syolatti, Pyha**	**1.74**	**289**	PG	Pn	12 30 38.4	+0.6
	baz=101						
OBF0				MSG		12 30 58.4	
	comp=Z,5.1nm,0.2s						
OBF0				SN	Sb	12 31 01.8	+0.3
JOF	**Joensuu**	**1.81**	**124**	*eP*	Pn	12 30 38.6	-0.1
JOF	**Joensuu**	**1.81**	**124**	PG	Pn	12 30 38.6	-0.1
	baz=307						
JOF				SG	Sn	12 31 01.7	-0.6
MSF	**Maaselka**	**1.99**	**12**	PG	Pn	12 30 42.0	+0.8
	baz=197						
MSF				SG	Sn	12 31 07.4	+0.7
KAF	**Kangasniemi**	**2.03**	**204**	PG	Pn	12 30 42.8	+1.1
KAF				MSG		12 31 06.7	
	comp=Z,3.9nm,0.2s						
RANF	**Ranua**	**2.12**	**346**	PG	Pb	12 30 44.5	-0.9
	baz=169						
RANF				SG	Sb	12 31 11.4	-0.8
KU6	**Riekki**	**2.20**	**20**	PG	Pb	12 30 46.7	-0.3
	baz=204						
KU6				MSG		12 31 11.6	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sb	12 31 13.7	-1.0
KEF	**Keuruu**	**2.32**	**220**	*eP*	Pb	12 30 47.9	-1.1
KEF	**Keuruu**	**2.32**	**220**	PG	Pb	12 30 48.0	-1.0
	baz=39						
KEF				MSG		12 31 15.0	
	comp=Z,3.0nm,0.2s						
KEF				SG	Sb	12 31 18.6	+0.5
OLKF	**Oulanka, Finla**	**2.42**	**13**	MSG		12 31 17.8	
	comp=Z,1.5nm,0.2s						
OLKF				SG	Sb	12 31 19.9	-1.2
VAF	**Ylistaro**	**2.58**	**251**	*eP*	Pb	12 30 52.1	-1.4
VAF	**Ylistaro**	**2.58**	**251**	PG	Pb	12 30 52.3	-1.2
VAF				MSG		12 31 22.5	
	comp=Z,2.4nm,0.2s						
VAF				SG	Sb	12 31 25.9	+0.2
RUF	**Ruokolahti**	**2.60**	**170**	PG	Pb	12 30 52.0	-1.6
RUF				MSG		12 31 22.7	
	comp=Z,2.2nm,0.2s						
RUF				SG	Sb	12 31 25.4	-0.6
TOF	**Tornio**	**2.64**	**325**	MSG		12 31 24.0	
	comp=Z,1.2nm,0.2s						
TOF				SG	Sb	12 31 27.1	-0.1
FIA0	**FINESS Array S**	**2.70**	**201**	PG	Pb	12 30 53.2	-2.2
FIA0				MSG		12 31 25.9	
	comp=Z,1.6nm,0.2s						
FIA0				SG	Sb	12 31 28.9	-0.1
KALU	**Kalix**	**2.75**	**316**	SB	Sn	12 31 27.4	+2.0
RNF	**Rovaniemi**	**2.78**	**343**	SG	Sb	12 31 30.6	-0.7
VJF	**Virojoki**	**3.46**	**184**	SG	Sb	12 31 51.0	+0.2
KPF	**Kankaanpaa**	**3.48**	**234**	PN	Pn	12 31 00.4	-1.2
ERTU	**Ertsjaerv**	**3.57**	**319**	PB	Pn	12 31 05.2	+2.4

*NEIC **21** 12:33:57.7±0.8, 20°.23N±0°.04×155°.85W±0°.06, h37km±2km, Error ellipse: s-maj=9.9km s-min=4.4km az=58.0*

HVO 21 12:33:59.6±2.6, 20°.2N±0°.1×155°.9W±0°.1, h27km±8km, ML2.5/5, ML2.5/42(NEIC), Error ellipse: s-maj=18.8km s-min=14.4km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.05**	**227**		Pb	12 34 04.2	0.0
MHA					Sb	12 34 07.7	+0.4
HPAH	**Hawaii Prepara**	**0.25**	**141**		Sb	12 34 09.8	-0.7
HUH	**Hualalai**	**0.54**	**177**		Pb	12 34 09.4	-1.3
HUH					Sb	12 34 16.5	-1.7
POHA	**Pohakuloa**	**0.56**	**146**		Pb	12 34 09.3	-1.8
POHA	**Pohakuloa**	**0.56**	**146**	IAML		12 34 16.9	
	142nm,0.2s						
POHA				IAML		12 34 17.1	
	172nm,0.2s						
HLK	**Haleakala**	**0.64**	**326**		Pb	12 34 10.5	-2.0
HLK	**Haleakala**	**0.64**	**326**	IAML		12 34 26.3	
	comp=E,175nm,4.8s						
ALEP	**Alea Permanent**	**0.71**	**163**		Pb	12 34 11.8	-1.8
ALEP					Sb	12 34 20.4	-2.8
HMH	**Humu'ula Sheep**	**0.71**	**150**		Pb	12 34 11.6	-2.1
HMH	**Humu'ula Sheep**	**0.71**	**150**	IAML		12 34 20.0	
	comp=N,149nm,3.5s						
HMH				IAML		12 34 37.3	
	comp=E,134nm,4.4s						
CPH	**Captain Cook**	**0.73**	**184**		Pb	12 34 11.3	-2.5

MLOA	**Mauna Loa Obse**	**0.73**	**158**		Pb	12 34 12.1	-2.0
MWH	**Mokuaweoweo**	**0.78**	**161**		Pb	12 34 12.3	-2.6
MWH	**Mokuaweoweo**	**0.78**	**161**	IAML		12 34 29.7	
	comp=E,234nm,3.4s						
MWH				IAML		12 34 36.2	
	comp=N,200nm,3.1s						
KHLH	**Kahului Airpor**	**0.85**	**322**		Pb	12 34 13.3	-2.5
KHLH					Sb	12 34 24.1	-2.8
KHLH	**Kahului Airpor**	**0.85**	**322**	IAML		12 34 25.9	
	comp=E,129nm,4.2s						
MLH	**Mauna Loa**	**0.85**	**148**		Pb	12 34 13.3	-2.6
MLH					Sb	12 34 23.2	-4.0
MLH	**Mauna Loa**	**0.85**	**148**	IAML		12 34 23.3	
	comp=E,139nm,3.5s						
RSD	**Rainshed**	**0.94**	**144**		Pn	12 34 14.6	-2.6
RSD					Sb	12 34 25.2	-4.2
UWE	**Uwekahuna**	**0.96**	**146**		Pn	12 34 14.6	-2.9
UWE					Sb	12 34 25.5	-4.7
UWB	**Uwekahuna Bluf**	**0.97**	**145**		Pn	12 34 14.5	-3.0
UWB					Sb	12 34 26.2	-4.1
OBL	**Observatory Le**	**0.97**	**146**		Pn	12 34 14.6	-3.0
OBL					Sb	12 34 25.9	-4.4
SBLHI	**Steaming Bluff**	**0.97**	**145**		Pn	12 34 14.6	-3.0
WRMHI	**West Rim**	**0.97**	**147**		Pn	12 34 14.6	-3.0
WRMHI					Sb	12 34 25.6	-4.7
HATHI	**Halema'uma'u T**	**0.98**	**144**		Pn	12 34 14.7	-3.0
HATHI	**Halema'uma'u T**	**0.98**	**144**	IAML		12 34 32.6	
	comp=N,105nm,4.6s						
HATHI				IAML		12 34 53.0	
	comp=E,103nm,3.5s						
BYL	**Byron's Ledge**	**0.99**	**145**		Pn	12 34 14.8	-3.0
BYL	**Byron's Ledge**	**0.99**	**145**	IAML		12 34 30.1	
	comp=N,94nm,3.1s						
BYL				IAML		12 34 37.5	
	comp=E,127nm,4.7s						
SDHHI	**Sand Hill**	**0.99**	**147**		Pn	12 34 14.8	-3.0
RIM	**Rim**	**0.99**	**146**		Pn	12 34 14.9	-3.0
KKO	**Keanakako'i**	**0.99**	**146**		Pn	12 34 15.0	-2.9
KHU	**Kahuku**	**1.00**	**166**		Pn	12 34 15.2	-3.0
KHU	**Kahuku**	**1.00**	**166**	IAML		12 34 30.7	
	comp=N,138nm,4.0s						
PUH	**Pauahi**	**1.04**	**144**		Sn	12 34 27.6	-4.8
PUH	**Pauahi**	**1.04**	**144**		Pn	12 34 15.4	-3.1
PUH	**Pauahi**	**1.04**	**144**	IAML		12 34 24.9	
	comp=E,112nm,4.2s						
PUH	**Pauahi**	**1.04**	**144**	IAML		12 34 45.9	
	comp=N,169nm,4.3s						
HLP	**Hilina Pali**	**1.06**	**150**		Pn	12 34 16.0	-2.8
KNHH	**Kane Nui o Ham**	**1.06**	**142**		Pn	12 34 15.9	-3.0
HTC	**Hot Caves**	**1.07**	**156**		Pn	12 34 16.2	-2.8
STCH	**Steam Cracks**	**1.08**	**140**		Pn	12 34 16.1	-3.1
STCH	**Steam Cracks**	**1.08**	**140**	IAML		12 34 35.3	
	comp=E,97nm,3.5s						
STCH				IAML		12 34 44.1	
	comp=N,89nm,3.3s						
NPOC	**North of Pu'u**	**1.09**	**139**		Pn	12 34 16.2	-3.0
NPOC					Sn	12 34 28.2	-5.2
JCUZ	**Jacuzzi**	**1.10**	**139**		Pn	12 34 16.4	-3.0
JOKA	**Jonika Flow**	**1.13**	**134**	IAML		12 34 46.3	
	comp=E,106nm,4.5s						
JOKA	**Jonika Flow**	**1.13**	**134**		Pn	12 34 16.8	-2.9
JOKA					Sn	12 34 29.2	-5.1

*NOU **21** 12:37:03.1, 17°.43S×178°.68W, h581km, mb4.2/26, Fiji Islands Region*

*NEIC **21** 12:37:03.4±1.4, 17°.7S±0°.2×178°.8W±0°.1, h556km±15km, mb4.4/25, Error ellipse: s-maj=27.3km s-min=12.9km az=164.0*

*IDC **21** 12:37:04.6±2.1, 17°.53S×178°.88W, h579km±19km, mb3.7/4, mbtmp4.7/4, Error ellipse: s-maj=29.8km s-min=26.9km az=8.0*

ISC 21 12:37:02.6±0.7, 17°.6S±0°.1×178°.85W±0°.10, h550km, n69, σ1s17/70, mb4.5/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.96**	**266**	P	**P**	**12 38 20.1**	**+2.7**
MSVF	**Nonsavu**	**2.96**	**266**	P	**P**	**12 38 21.8**	**+4.3**
	3.5nm,0.6s,baz=251,slow=23,SNR=7.2						
MSVF	**Nonsavu**	**2.96**	**266**	P	**P**	**12 38 21.9**	**+4.4**
FUTU	**Fugatoga**	**3.31**	**12**	P	**P**	**12 38 21.9**	**+2.2**
AFI	**Afiamalu**	**7.72**	**63**	P	**P**	**12 38 57.0**	**-0.6**
AFI	**Afiamalu**	**7.72**	**63**	P	**P**	**12 38 57.1**	**-0.6**
NIUE	**Niue**	**8.61**	**101**	P	**P**	**12 39 07.1**	**+0.7**
PINNC	**Pines Island,**	**13.82**	**246**	P	**P**	**12

MTN	Manton Dam	48.39	268	P	P	12 44 55.1	-0.1
WRKA	Warakurna	49.55	252	P	P	12 45 03.4	-0.3
FORT	Forrest	49.77	244	P	P	12 45 04.1	-1.1
FORT	Forrest	49.77	244	P	P	12 45 04.4	-0.8
KNRA	Kununurra	50.10	264	P	P	12 45 07.5	-0.3
FITZ	Fitzroy Crossi	52.67	260	P	P	12 45 26.3	0.0
PSA00	Pilbara Seismi	57.59	255	P	P	12 46 00.1	-0.5
MBWA	Marble Bar	57.75	256	P	P	12 46 01.0	-0.7
MBWA	Marble Bar	57.75	256	P	P	12 46 01.0	-0.7
MEEK	Meekatharra	58.16	249	P	P	12 46 03.5	-0.9
BLDU	Ballidu	59.55	244	P	P	12 46 12.7	-1.0
MORW	Morawa	60.23	246	P	P	12 46 17.6	-0.6
MORW	Morawa	60.23	246	P	P	12 46 17.6	-0.6
UGM	Wanagama	69.24	268	P	P	12 47 14.9	-0.4
QSPA	South Pole Qui	72.49	180	P	P	12 47 33.4	-0.1
QSPA	South Pole Qui	72.49	180	P	P	12 47 33.2	-0.3
	comp=Z,1.9nm,0.6s,baz=172,slow=0.4,SNR=25						
	comp=Z,1.9nm,0.6s						
BVAR	Borovoye Array	116.31	321	PKP	PKPdf	12 54 42.0	-1.7
	comp=Z,0.5nm,0.3s,baz=100,slow=1.6,SNR=4.7						
BRTR	Keskin Array B	144.24	315	PKP	PKPbc	12 55 36.0	-0.3
	comp=Z,1.2nm,0.9s,baz=108,slow=4.0,SNR=4.3						
GERES	GERESS Array B	147.17	345	PKPbc	PKPdf	12 55 42.5	+1.3
	comp=Z,0.7nm,0.5s,baz=70,slow=1.6,SNR=5.7						

*IDC **21** 13:01:23.8±0.9, 2°.65S×139°.03E, h0km, mb3.8/7, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=21.3km s-min=13.1km az=175.0*
*DJA **21** 13:01:27.4±0.5, 2°.5±4°×13°.9E±°, h16km±4km, M3.9/7, mb4.0/1, MLv3.9/7*
ISC 21 13:01:28.1±1.1, 2°.37S±0°.05×139°.09E±0°.04, h31km±9km, n16, σ2°.912/22, mb3.8/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.53	315	P	Pb	13 01 38.3	-0.8
SMPI				S	Sb	13 01 46.7	+0.1
GENI	Genyem	1.10	102	P	Pn	13 01 47.7	+0.2
GENI				S	Sb	13 02 04.3	+1.6
WAMI	Wamena	1.55	194	P	Pb	13 01 56.7	+0.4
WAMI				S	Sb	13 02 20.0	+4.4
JAY	Jayapura	1.62	95	Pg	Pn	13 01 55.5	+0.8
	17nm,0.3s,baz=242,slow=8.4,SNR=82						
JAY				Lg	Lg	13 02 16.2	
	19nm,0.3s,baz=124,slow=11,SNR=6.7						
JAY				LR	LR	13 02 44.4	
	comp=Z,160nm,19.5s,baz=358,slow=48						
JAY	Jayapura	1.62	95	P	Pn	13 01 55.1	+0.4
JAY				S	Sb	13 02 17.1	-0.5
SRPI	Serui, Papua	2.89	280	P	Pn	13 02 12.4	+0.4
SRPI				S	Sn	13 02 47.7	+1.9
BAKI	Biak	3.20	291	P	Pn	13 02 17.1	+0.8
BAKI				S	Sn	13 02 55.2	+1.7
FAKI	Fak Fak	6.85	265	P	Pn	13 03 05.5	-1.1
WRA	Warramunga Arr	18.07	195	P	Pn	13 05 32.4	-4.7
	0.3nm,0.3s,baz=16,slow=13,SNR=16						
	1.6nm,0.8s						
FITZ	Fitzroy Crossi	20.45	219	P	P	13 06 01.1	-2.2
	4.9nm,1.1s,baz=47,slow=9.6,SNR=1.7						
	4.9nm,1.1s						
ASAR	Alice Springs	21.76	193	P	P	13 06 14.8	-2.6
	1.0nm,0.6s,baz=14,slow=11,SNR=11						
	1.0nm,0.6s						
MKAR	Makanchi Array	69.75	322	P	P	13 12 37.3	+1.9
	0.9nm,0.5s,baz=106,slow=7.9,SNR=17						
	0.9nm,0.5s						
KURBB	Kurchatov Arra	73.67	325	P	P	13 13 00.5	+1.8
	0.6nm,0.8s,baz=102,slow=4.4,SNR=2.7						
	0.6nm,0.8s						
BVAR	Borovoye Array	79.25	325	P	P	13 13 32.2	+1.8
	1.2nm,0.6s,baz=115,slow=7.4,SNR=6.5						
	1.2nm,0.6s						
ILAR	Eielson Array	85.37	24	P	P	13 14 03.5	+1.3
	0.4nm,0.9s,baz=256,slow=5.6,SNR=4.5						
	0.4nm,0.9s						
QSPA	South Pole Qui	87.58	180	P	P	13 14 11.5	-1.6
	0.9nm,1.0s,baz=297,slow=2.3,SNR=3.2						
	0.9nm,1.0s						

IDC 21 13:25:45.2±290.0, 53°.96N×43°.04E, h0km, Error ellipse: s-maj=123.4km s-min=86.5km az=144.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.32	312	I	I	13 54 00.0	
	baz=130,slow=329,SNR=1.2						
I31KZ	AKTYUBINSK INF	9.87	105	I	I	14 22 08.0	
	baz=302,slow=320,SNR=1.5						
I46RU	ZALESOVO INFRA	24.33	73	I	I	15 55 00.0	
	baz=290,slow=324,SNR=1.0						

*UPP **21** 13:34:09.0±0.1, 65°.42N×21°.40E, h0km, ML2.5, Unknown*
*HEL **21** 13:34:09.3±0.3, 65°.42N×21°.35E, h0km, ML1.2, Explosion*
ISC 21 13:34:07.5±0.8, 65°.42N±0°.02×21°.26E±0°.03, h0km, n26, σ0°.93/42, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJUU	Sjulsmark	0.17	57	P	Pg	13 34 11.7	+1.0
SJUU				S	Sg	13 34 13.7	+0.7
LILU	Lilltraesk	0.61	258	P	Pb	13 34 21.4	+0.5
LILU				S	Sb	13 34 30.4	+0.4
KALU	Kalix	0.98	62	P	Pg	13 34 26.1	-0.1
KALU				S	Sg	13 34 38.7	0.0
KALU	Kalix	0.98	62	PG	Pg	13 34 26.1	-0.1
KALU				SG	Sg	13 34 38.2	-0.5
ODLU	Stanfors	1.04	193	P	Pb	13 34 28.7	+0.4
SVAU	Svanoeiden	1.18	218	P	Pn	13 34 31.6	+0.4
SVAU				S	Sn	13 34 48.1	+0.3
ERTU	Ertsjaerv	1.20	18	P	Pb	13 34 31.0	-0.1
ERTU				S	Sb	13 34 47.5	+0.3
ERTU	Ertsjaerv	1.20	18	PG	Pb	13 34 31.0	-0.1
ERTU				SB	Sb	13 34 47.3	+0.1
TOF	Tornio	1.43	61	MSG		13 34 51.5	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sg	13 34 53.2	-0.2
OBF0	Syolatti, Pyha	1.57	125	PG	Pb	13 34 37.1	-0.2
	baz=312						
OBF0				MSG		13 34 55.4	
	comp=Z,2.1nm,0.2s						
OBF0				SN	Sg	13 34 59.0	+1.2
OBF4	Vikkela, Lumij	1.73	109	PG	Pb	13 34 39.9	-0.3
OBF4				MSG		13 35 00.1	
	comp=Z,1.6nm,0.2s						
OBF4				SN	Sg	13 35 03.8	+0.7
DUNU	Dundret	1.73	351	P	Pg	13 34 40.9	+0.2
PAJU	Pajala	1.78	24	P	Pb	13 34 40.9	-0.1
PAJU	Pajala	1.78	24	PG	Pb	13 34 41.0	+0.1
PAJU				SG	Sg	13 35 04.3	-0.3
OUF	Merijarvi	1.82	124	MSG		13 35 02.7	
	comp=Z,1.6nm,0.2s						
OUF				SN	Sb	13 35 04.8	+0.1
OUL	Oulu	1.98	98	PG	Pb	13 34 43.7	-0.6
OUL				SG	Sb	13 35 09.2	-0.3
KLF	Kolari	2.13	30	PG	Pb	13 34 46.4	-0.4
KLF				MSG		13 35 12.0	
	comp=Z,0.9nm,0.2s						
KLF				SG	Sb	13 35 14.2	+0.4
RNF	Rovaniemi	2.28	56	PG	Pb	13 34 49.0	-0.5
RNF				SG	Sb	13 35 18.5	+0.4
RANF	Ranua	2.36	73	PG	Pb	13 34 50.6	-0.2
RANF				SG	Sb	13 35 20.9	+0.4
VAF	Ylistaro	2.46	165	PG	Pb	13 34 51.6	-0.9
VAF				MSG		13 35 21.6	
	comp=Z,1.7nm,0.2s						
VAF				SG	Sb	13 35 23.6	+0.3
LANU	Lannavaara	2.66	6	PB	Pb	13 34 54.1	-1.8
LANU				SG	Sg	13 35 31.6	-1.2
HEF	Hetta	3.15	16	MSG		13 35 41.5	
	comp=Z,0.4nm,0.2s						
HEF				SG	Sg	13 35 47.1	-1.4
MSF	Maaselka	3.26	78	SG	Sb	13 35 46.5	+0.2
OLKF	Oulanka, Finla	3.46	71	SG	Sb	13 35 53.0	+0.9
KU6	Riekki	3.62	76	SG	Sb	13 35 57.6	+1.1
FIA0	FINESS Array S	4.54	149	SG	Sg	13 36 28.8	-4.2

*IDC **21** 13:42:29.2±1.0, 7°.53N×94°.33E, h0km, mb4.0/14, mbtmp4.0/16, ML4.1/2, MS3.1/2, Error ellipse: s-maj=42.9km s-min=17.1km az=55.0*
*BKK **21** 13:42:32.4±1.2, 7°N±6°×9°4E±°, h20km±11km, M4.6/10, mB5.0/4, mB5.0/4, mb4.5/5, mb4.6/6, Mjma4.1/10, Mjma4.1/10, ML5.0/6, ML5.0/6, MLv4.8/7, MLv4.8/7, Mw(mB)4.3/4, Mw(mB)4.3/4*
*NEIC **21** 13:42:35.0±1.9, 7°.51N±0°.08×94°.39E±0°.04, h38km±9km, mb4.4/17, Error ellipse: s-maj=12.4km s-min=3.7km az=199.0*
ISC 21 13:42:32.7±0.5, 7°.50N±0°.06×94°.31E±0°.05, h24km, n56, σ1°.01/53, mb4.3/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	0.61	218	eP	Pn	13 42 45.3	-0.6
CMBY				ex	x	13 42 45.3	
	baz=13,slow=3.4						
CMBY				eS	Sn	13 42 54.4	-0.6
CMBY				IAML		13 42 58.1	
	comp=E,17μm,0.4s						
CMBY				IAML		13 42 58.2	
	comp=N,19μm,0.4s						
LHMI	Lhok Sumawe	3.46	131		Pn	13 43 26.3	+1.3
LHMI				Sn	Sn	13 44 06.3	+1.0
RNTT	Ranong	4.53	65	P	Pn	13 43 40.5	+0.7
SRIT	Nakonsritamara	5.35	78		Pn	13 43 51.9	+0.8
SRIT				Sn	Sn	13 44 49.8	-2.2
SRIT	Nakonsritamara	5.35	78	P	Pn	13 43 52.5	+1.4
PSI	Prapat	6.55	135	Pn	Pn	13 44 09.5	+1.8
	comp=N,2.7nm,0.3s,baz=307,slow=16,SNR=6.1						
	comp=N,5.7nm,0.3s						
RPSI	Rantau Prapat	6.62	136		Pn	13 44 09.5	+0.9
RPSI	Rantau Prapat	6.62	136	Pn	Pn	13 44 09.8	+1.2
KULM	Kulim	6.67	109		Pn	13 44 09.1	-0.2
KULM				Sn	Sn	13 45 21.6	-2.9
SRDT	SRDT	8.29	34	P	Pn	13 44 33.2	+1.8
	comp=N,0.3nmcomp=N,0.3nmcomp=N,11nm,0.4s,comp=N,11nm,0.4s						
KHLT	Khaolaem Dam	8.38	30	P	Pn	13 44 33.9	+1.2
	comp=N,0.2nmcomp=N,0.2nmcomp=N,12nm,0.5s,comp=N,12nm,0.5s						
MYKOM	Kota Tinggi	11.07	120	Pn	Pn	13 45 09.7	+0.1
CM31	Chiang Mai Arr	11.79	22	Pn	Pn	13 45 22.0	+2.5
CMAR	Chiang Mai Arr	11.79	22	Pn	Pn	13 45 20.3	+0.8
CMAR	Chiang Mai Arr	11.79	22	Pn	Pn	13 45 18.9	-0.5
	comp=N,0.6nm,0.3s,baz=213,slow=14,SNR=10						
CMAR				LR	LR	13 49 54.9	
	comp=N,66nm,18.3s,baz=195,slow=38						
	comp=N,0.7nm,0.3s						
CHTO	Chiang Mai	12.12	21	Pn	Pn	13 45 24.9	+1.0
H08S3	Diego Garcia H	26.45	236	T	T	14 14 56.4	
	baz=54,slow=76,SNR=100						
H08S2	Diego Garcia H	26.45	236	T	T	14 14 51.3	
	baz=54,slow=76,SNR=80						
H08S1	Diego Carcia H	26.46	236	T	T	14 14 59.6	
	baz=54,slow=76,SNR=75						
WUS	Wushi	36.15	341	P	P	13 49 32.8	-0.5
WUS				IAmb	IAmb	13 49 36.8	
	comp=Z,3.8nm,0.6s						
GAR	Garm	38.08	329	P	P	13 49 48.9	-0.8
GAR				IAmb	IAmb	13 50 08.8	
	comp=Z,10nm,1.5s						
PSA00	Pilbara Seismi	38.24	140	P	P	13 49 50.4	-0.7
PSA00				IAmb	IAmb	13 50 24.1	
	comp=Z,15nm,1.4s						
ARSB	Arslanbob	38.65	334	P	P	13 49 54.0	-0.5
ARSB				IAmb	IAmb	13 50 03.7	
	comp=Z,3.6nm,0.6s						
AAK	Ala-Archa	39.12	337	P	P	13 49 57.0	-1.5
MK31	Makanchi Array	40.49	347	P	P	13 50 09.0	-0.7
MKAR	Makanchi Array	40.49	347	P	P	13 50 09.4	-0.2
MKAR	Makanchi Array	40.49	347	P	P	13 50 09.6	0.0
	comp=Z,2.0nm,0.6s,baz=165,slow=8.0,SNR=28						
	comp=Z,2.0nm,0.6s						
MAKZ	Makanchi	40.57	347	P	P	13 50 10.2	-0.1
MAKZ				IAmb	IAmb	13 50 10.8	
	comp=Z,2.2nm,0.6s						
KKAR	Karatay Array	41.17	333	P	P	13 50 15.7	+0.4
SONM	Songino Array	41.49	12	P	P	13 50 17.3	-0.7
	comp=Z,0.7nm,0.9s,baz=197,slow=8.3,SNR=2.4						
	comp=Z,0.7nm,0.9s						
KSRS	Korea Array	42.64	41	LR	LR	14 10 06.7	
	comp=Z,27nm,20.6s,baz=315,slow=39						
KURBB	Kurchatov Arra	44.95	346	P	P	13 50 46.4	+0.7
	comp=Z,3.3nm,0.8s,baz=167,slow=6.9,SNR=13						
	comp=Z,3.3nm,0.8s						
KURK	Kurchatov	45.02	346	P	P	13 50 46.4	+0.1
KURK				IAmb	IAmb	13 50 49.4	
	comp=Z,6.6nm,1.1s						
ZAA0	Zalesovo Array	46.95	352	P	P	13 51 00.5	-0.9
ZAA0				IAmb	IAmb	13 51 08.5	
	comp=Z,3.3nm,0.9s						
ZALV	Zalesovo Beam	46.95	352	P	P	13 51 00.7	-0.7
ZALV	Zalesovo Beam	46.95	352	P	P	13 51 01.9	+0.5
	comp=Z,1.6nm,0.4s,baz=184,slow=8.6,SNR=10						
	comp=Z,1.6nm,0.4s						
WB0	Warramunga Arr	47.86	125	P	P	13 51 08.2	-0.8
WRA	Warramunga Arr	47.91	125	P	P	13 51 09.3	-0.1
	comp=Z,0.2nm,0.4s,baz=306,slow=8.3,SNR=5.9						
	comp=Z,0.2nm,0.4s						
WR8	Warramunga Arr	48.04	125	P	P	13 51 10.5	0.0
RAYN	Ar Rayn	49.39	295	P	P	13 51 21.1	+0.2
RAYN				IAmb	IAmb	13 51 29.5	
	comp=Z,2.3nm,0.7s						
BVAR	Borovoye Array	49.40	341	P	P	13 51 19.9	-0.4
	comp=Z,1.6nm,0.7s,baz=138,slow=9.1,SNR=6.4						
	comp=Z,1.6nm,0.7s						
BRVK	Borovoye	49.46	341	P	P	13 51 20.0	-0.8
ASAR	Alice Springs	49.55	130	P	P	13 51 22.1	+0.2
	comp=Z,0.3nm,0.5s,baz=302,slow=8.4,SNR=6.0						
	comp=Z,0.3nm,0.5s						
FORT	Forrest	49.94	141	P	P	13 51 25.8	+1.0
ABKAR	Akbulak array	50.64	331	P	P	13 51 29.6	-0.3
BRTR	Keskin Array B	62.80	311	P	P	13 52 57.7	+1.0
	comp=Z,0.5nm,0.6s,baz=117,slow=5.2,SNR=2.5						
	comp=Z,0.5nm,0.6s						
H04N2	CROZET ISLANDS	65.49	211	T	T	15 04 14.0	
	baz=48,slow=75,SNR=18						
H04N1	CROZET ISLANDS	65.50	211	T	T	15 04 21.6	
	baz=48,slow=75,SNR=17						
H04N3	CROZET ISLANDS	65.51	211	T	T	15 04 15.3	
	baz=48,slow=75,SNR=16						
TIXI	Tiksi	67.57	11	P	P	13 53 26.5	-0.2
TIXI				IAmb	IAmb	13 53 27.2	
	comp=Z,4.3nm,1.2s						
FINES	FINESS Array B	73.12	332	P	P	13 54 00.6	-0.3
	comp=Z,2.3nm,0.8s,baz=106,slow=4.2,SNR=5.8						
	comp=Z,2.3nm,0.8s						
ARCES	ARCESS Array B	75.67	340	P	P	13 54 16.2	+0.5
	comp=Z,4.0nm,1.0s,baz=107,slow=6.0,SNR=2.5						
	comp=Z,4.0nm,1.0s						
GERES	GERESS Array B	78.22	318	P	P	13 54 31.3	+0.8
	comp=Z,0.5nm,0.5s,baz=108,slow=3.5,SNR=3.8						
	comp=Z,0.5nm,0.5s						
HFS	Hagfors	78.86	330	P	P	13 54 34.0	+0.3
	comp=Z,1.7nm,0.6s,baz=126,slow=4.0,SNR=5.1						
	comp=Z,1.7nm,0.6s						
NOA	NORSAR Array B	80.14	331	P	P	13 54 41.0	+0.3
	comp=Z,1.2nm,0.9s,baz=111,slow=5.3,SNR=2.1						
	comp=Z,1.2nm,0.9s						
SPITS	Spitsbergen Ar	80.24	348	P	P	13 54 40.2	-0.7
	comp=Z,5.0nm,0.8s,baz=94,slow=5.8,SNR=1.7						
	comp=Z,5.0nm,0.8s						

RSNC 21 13:58:54.6±0.0, 7°N±2°×77°W±°, h16km±3km, M2.5, mb3.8, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	Dabeiba	0.62	60	P	Pg	13 59 04.9	-1.9
DBBC				S	Sg	13 59 12.7	-2.4
CBOC	Ciudad Bolivar	1.12	139	P	Pb	13 59 15.3	-0.3
CBOC				S	Sg	13 59 30.5	-0.4
PTAC	Punta Ardita,	1.14	293	P	Pn	13 59 14.6	-1.3
PTAC				S	Sb	13 59 29.1	-1.4
APAC	Apartado, Choc	1.19	8	P	Pn	13 59 15.0	-1.7
APAC				S	Sg	13 59 33.1	-0.2
HELC	Santa Helena	1.32	113	P	Pn	13 59 18.7	0.0
HELC				S	Sn	13 59 36.1	-0.1
UREC	San Jos de Ur	1.59	49	P	Pn	13 59 21.1	-1.0
UREC				S	Sn	13 59 41.4	-1.0
PLMC	San Jos del P	1.85	165	P	Pn	13 59 24.7	-1.1
PLMC				S	Sn	13 59 45.9	-3.0
GUY2C	Guyana, Caldas	2.02	137	P	Pb	13 59 30.6	-0.6
GUY2C				S	Sb	13 59 57.2	+0.9
ZARC	Zaragoza, Cauc	2.03	67	P	Pn	13 59 28.1	-0.1
ZARC				S	Sn	13 59 52.9	-0.4
LCBC	Los crdobas,	2.17	10	P	Pn	13 59 29.1	-1.0
LCBC				S	Sn	13 59 57.9	+1.3
NORC	Norcasia	2.19	121	P	Pb	13 59 32.9	-1.0
NORC				S	Sb	14 00 01.0	+0.2
PTBC	PUERTO BERRIO,	2.29	94	P	Pn	13 59 32.7	+1.0
PTBC				S	Sb	14 00 02.6	-1.0
YOTC	Yotoco, Valle	2.74	172	P	Pn	13 59 37.5	-0.5
YOTC				S	Sn	14 00 08.3	-2.6
MALC	Bahia Malaga	2.74	192	P	Pn	13 59 39.4	+1.4
ORTC	Ortega, Tolima	3.16	152	P	Pn	13 59 47.1	+3.3
PRAC	Prado	3.51	148	P	Pb	13 59 53.5	-2.9
SJCC	San Jacinto, C	3.53	26	P	Pn	13 59 46.1	-2.7
SJCC				S	Sn	14 00 24.7	-5.6
RUSC	La Rusia	3.73	102	P	Pn	13 59 55.1	+3.0
RUSC				S	Sn	14 00 38.9	+2.9
BCIP	Isla Barro Col	3.91	309	P	Pn	13 59 52.5	-1.6
PAMC	Pamplona, Colo	4.07	81	P	Pn	13 59 58.6	+1.9
PAMC				S	Sn	14 00 43.5	-0.7
CRJC	Cerrejon, Guaj	5.74	41	P	Pn	14 00 19.4	+0.1
CRJC				S	Sn	14 01 18.5	-6.4

NNC 21 14:26:54.8±4.1, 38°.24N×82°.32E, h0km, mb3.6, mpv3.3, 4C-5D, Error ellipse: s-maj=43.8km s-min=29.3km az=70.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	5.52	338	⇓Pn	Pn	14 28 17.6	-0.7
	2.1nm,0.7s						
PDGK				⇑Pg	Pg	14 28 38.3	-2.3
	3.3nm,0.7s						
PDGK				⇓Sn	Sn	14 29 23.0	+0.4
	3.1nm,0.5s						
PDGK				⇑Lg	Lg	14 29 53.7	
	9.1nm,0.8s						
MK31	Makanchi Array	8.55	360	⇓Pn	Pn	14 29 00.6	+0.8
	0.4nm,0.3s,baz=183,slow=12,SNR=22						
MK31				⇑Sn	Sn	14 30 38.6	+1.6
	0.7nm,0.6s,baz=187,slow=22,SNR=7.3						
MK31				⇑Lg	Lg	14 31 30.8	
	1.3nm,0.7s,baz=173,slow=24,SNR=4.0						
MAKZ	Makanchi	8.57	358	⇓Pn	Pn	14 28 59.8	-0.3
	0.5nm,0.5s						
MAKZ				⇓Sn	Sn	14 30 37.2	-0.2
	1.2nm,0.9s						

*IDC **21** 14:30:51.4±1.0, 25°.64N×90°.78E, h0km, mb4.1/15, mbtmp4.0/16, ML3.0/1, MS3.2/4, Error ellipse: s-maj=40.4km s-min=15.1km az=57.0*
*NEIC **21** 14:30:52.9±1.5, 25°.65N±0°.08×90°.91E±0°.06, h10km±1km, mb4.4/30, Error ellipse: s-maj=13.8km s-min=8.2km az=206.0*
*BJI **21** 14:30:52.4, 25°.77N×90°.95E, h12km, mB4.7/7, mb4.4/32, ML4.2/4, Ms3.9/3, Ms7 3.6/5*
*DMN **21** 14:30:53.9±0.0, 24°.99N×90°.90E, h10km, Ml5.0/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **21** 14:30:55.2±3.8, 25°.76N×90°.91E, h10km, ML4.2, MW4.0, mb4.4(NEIC)*
ISC 21 14:30:52.7±0.4, 25°.65N±0°.03×90°.90E±0°.03, h10km, n114, σ2°.18/136, mb4.3/29, MS2.9/3, 1C-1D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	0.89	95		Pn	14 31 11.5	+0.1
SHL				Sg	Sg	14 31 20.9	-0.6
SHL	Shillong	0.89	95	eP	Pn	14 31 11.8	+0.3
SHL				eS	Sb	14 31 22.1	-0.3
SHL				IAML		14 31 23.0	
	comp=N,14μm,0.3s						
SHL				IAML		14 31 23.1	
	comp=E,9μm,0.1s						
GUWA	GUWAHATI	0.90	53	eP	Pn	14 31 11.5	+0.1
GUWA				eS	Sg	14 31 21.8	+0.2
GUWA				IAML		14 31 22.2	
	comp=N,14μm,0.5s						
GUWA				IAML		14 31 23.0	
	comp=E,15μm,0.4s						
AGT	Agartala	1.79	170	eP	Pg	14 31 30.1	+3.1
AGT				⇑ex	x	14 31 57.0	
AGT				IAML		14 32 00.3	
	comp=E,4μm,0.5s						
AGT				IAML		14 32 04.2	
	comp=N,4μm,0.6s						
TAWA	Tawang	2.12	24	eP	Pb	14 31 30.9	-0.5
TAWA				eS	Sb	14 31 57.9	-0.1
TAWA				eS	Sn	14 31 58.4	+3.3
TAWA				IAML		14 31 59.1	
	comp=E,7μm,0.3s						
AZL	Aizawl	2.50	139	eP	Pb	14 31 39.0	+1.2
AZL				eS	Sg	14 32 12.0	-1.2
AZL				IAML		14 32 27.7	
	comp=N,813nm,0.5s						
AZL				IAML		14 32 30.3	
	comp=E,996nm,0.5s						
GTK	Tadong	2.65	309	eP	Pb	14 31 40.3	0.0
GTK				IAML		14 32 25.4	
	comp=N,3μm,0.3s						
GTK				IAML		14 32 26.9	
	comp=E,3μm,0.6s						
KOHI	KOHIMA	2.90	88	eP	Pn	14 31 40.7	+1.7
KOHI				IAML		14 32 31.8	
	comp=E,4μm,0.6s						
KOHI				IAML		14 32 34.7	
	comp=N,3μm,0.4s						
BRDH	Bariadhala	3.04	167	Pn	Pb	14 31 46.5	-0.3
	comp=N,97nm,0.3s,baz=225,slow=20,SNR=2.3						
BRDH				Sn	Sn	14 32 18.2	+1.0
	comp=N,62nm,0.3s,baz=52,slow=14,SNR=7.0						
ODAN	Odare	3.38	292	Pn	Pn	14 31 49.4	+3.7
	baz=301,slow=0.0						
LSA	Lhasa	4.04	3		Pn	14 31 54.6	-0.4
LSA	Lhasa	4.04	3	Pn	Pn	14 31 58.3	+3.3
LSA				Sn	Sn	14 32 47.4	+4.7
LSA				pmax	pmax		
	comp=Z,16nm,0.5s						
LSA				smax	smax		
	comp=N,230nm,0.6s						
RAMN	Ramite	4.07	289	Pn	Pn	14 31 59.7	+4.5
	baz=298,slow=0.0						
LKP	Lekhapani	4.74	68	eP	Pn	14 32 05.7	+1.5
LKP				eS	Sn	14 32 56.1	-3.1
LKP				IAML		14 33 30.2	
	comp=N,951nm,0.5s						
LKP				IAML		14 33 30.2	
	comp=E,1μm,0.8s						
BOK	Bokaro	4.92	249	eP	Pn	14 32 10.3	+3.6

PYUN			Sn	**Sn**	**14 34 06.6**	**-0.3**
	comp=E,326nm,0.5s,baz=295,slow=0.0					
ALBI	**Allahabad**	**8.22 270**	*eP*	**Pn**	**14 32 54.4**	**+2.3**
ALBI			*eS*	**Sn**	**14 34 21.5**	**-3.6**
ALBI			IAML		14 34 36.1	
	comp=E,87nm,0.6s					
ALBI			IAML		14 34 36.9	
	comp=N,84nm,0.9s					
BLSP	**Bilaspur**	**8.75 248**	*eP*	**Pn**	**14 33 00.9**	**+1.5**
PZH	**PanZhiHua**	**9.79 83**	P	**Pn**	**14 33 15.6**	**+2.0**
PZH			pmax	pmax		
	comp=N,6.0nm,0.9s					
PZH			pmax	pmax		
	comp=N,110nm,4.8s					
CHTO	**Chiang Mai**	**10.09 131**	Pn	**Pn**	**14 33 17.2**	**-0.4**
LGTI	**Lohaghat**	**10.18 294**	*eP*	**Pn**	**14 33 22.0**	**+3.1**
LGTI			*eS*	**Sn**	**14 35 11.2**	**-2.0**
LGTI			IAML		14 35 16.0	
	comp=E,53nm,0.7s					
PTH	**Pithoragarh**	**10.24 295**	*eP*	**Pn**	**14 33 21.2**	**+1.3**
PTH			*eS*	**Sn**	**14 35 07.8**	**-7.1**
PTH			IAML		14 35 27.2	
	comp=E,61nm,0.5s					
PTH			IAML		14 35 29.9	
	comp=N,46nm,0.5s					
CRAI	**Chiangrai**	**10.26 120**	Pn	**Pn**	**14 33 20.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**10.33 132**	Pn	**Pn**	**14 33 22.6**	**+1.6**
	baz=307,slow=14,SNR=4.6					
CMAR			LR	LR	14 37 46.6	
	comp=N,73nm,19.7s,baz=315,slow=40					
	comp=N,0.6nm,0.5s					
GOMU	**GeErMu**	**11.04 17**	P	**Pn**	**14 33 32.6**	**+1.6**
GOMU			pP		14 33 37.4	
GOMU			sP		14 33 40.0	
GOMU			pmax	pmax		
	comp=N,39nm,0.9s					
GOMU			LR	LR		
	comp=N,410nm,12.4s					
GOMU			LR	LR		
	comp=N,370nm,10.1s					
GOMU			LR	LR		
	comp=N,500nm,13.1s					
JOSI	**Joshimath**	**11.14 299**	*eP*	**Pn**	**14 33 33.0**	**+0.7**
JOSI			*eS*	**Sn**	**14 35 30.9**	**-6.1**
JOSI			IAML		14 35 40.2	
	comp=N,80nm,0.3s					
JOSI			IAML		14 35 41.0	
	comp=E,61nm,0.7s					
JHNI	**Jhansi**	**11.16 272**	*eP*	**Pn**	**14 33 30.8**	**-1.6**
JHNI			*eS*	Sn	14 35 26.8	-10
JHNI			IAML		14 35 40.4	
	comp=N,44nm,0.8s					
NGP	**Nagpur**	**11.77 250**	*eP*	**Pn**	**14 33 42.0**	**+1.3**
GUNA	**GUNA**	**12.33 268**	*eP*	**Pn**	**14 33 48.2**	**-0.2**
GUNA			*eS*	Sn	14 35 56.9	-9.1
GUNA			*eS*		14 35 57.2	
BHPL	**Bhopal**	**12.51 262**	*eP*	**Pn**	**14 33 50.3**	**-0.5**
BHPL			*eS*	Sn	14 36 01.2	-9.1
DGPR	**DIGLIPUR**	**12.55 171**	*eP*	**Pn**	**14 33 55.4**	**+4.0**
NPLP	**NPLP New Delhi**	**12.58 287**	*eP*	**Pn**	**14 33 52.3**	**+0.5**
AYAN	**Aya Nagar**	**12.59 286**	*eP*	**Pn**	**14 33 51.6**	**-0.3**
AYAN			*eS*	Sn	14 36 01.5	-11
SONA	**Sohna**	**12.60 285**	*eP*	**Pn**	**14 33 52.8**	**+0.8**
SONA			*eS*	Sn	14 36 00.9	-11
NRDN	**NARMADA NAGAR**	**12.87 260**	IAML		14 36 44.8	
	comp=N,29nm,0.2s					
NRDN			IAML		14 36 45.2	
	comp=E,21nm,0.4s					
KUDL	**Kundal**	**13.10 284**	*eP*	**Pn**	**14 33 58.3**	**-0.5**
KUDL			*eS*	Sn	14 36 14.6	-10
KUDL			IAML		14 36 27.4	
	comp=E,18nm,0.8s					
KUDL			IAML		14 36 30.2	
	comp=N,20nm,0.5s					
SMLA	**Simla**	**13.26 297**	*eS*	**Sn**	**14 36 20.6**	**-8.0**
AKL	**Akola**	**13.68 252**	*eP*	**Pn**	**14 34 08.4**	**+1.6**
AKL			*eS*	**Sn**	**14 36 32.2**	**-6.8**
BHK	**Bhakra**	**13.96 298**	*eP*	**Pn**	**14 34 11.1**	**+0.4**
BHK			*eS*	Sn	14 36 36.3	-9.5
HYB	**Hyderabad**	**14.10 237**	*eP*	**Pn**	**14 34 11.7**	**-0.9**
HYB			*eS*	**Sn**	**14 36 50.0**	**+0.7**
DHRM	**DHARAMSHALA**	**14.37 301**	*eP*	**Pn**	**14 34 15.3**	**-1.1**
DHRM			*eS*	Sn	14 36 46.9	-9.1
LZH	**Lanzhou**	**15.21 44**	*eP*	**P**	**14 34 33.3**	**+0.6**
LZH			sP	sP	14 34 40.3	+3.2
LZH			pmax	pmax		
	comp=Z,32nm,1.0s					
GTA	**Gaotai**	**15.63 26**	*eP*	**Pn**	**14 34 31.3**	**-1.9**
GTA			pP	P	14 34 34.9	-2.5
GTA			sP	pP	14 34 38.0	-2.4
GTA			PP	**sP**	**14 34 45.1**	**+3.3**
GTA			pmax	pmax		
	comp=Z,4.0nm,1.0s					
GTA			LR	LR		
	comp=Z,150nm,15.3s					
GTA			LR	LR		
	comp=Z,83nm,16.4s					
GTA			LR	LR		
	comp=Z,140nm,16.4s					
ENH	**Enshi**	**17.05 70**	P	**Pn**	**14 34 51.9**	**+0.6**
ENH			IAmb	IAmb	14 35 03.4	
	comp=Z,35nm,0.9s					
UBPT	**Khong Chiam**	**17.09 124**		**Pn**	**14 34 51.0**	**-0.9**
NIL	**Nilore**	**17.27 302**		**Pn**	**14 34 52.9**	**-1.2**
NIL			IAmb	IAmb	14 35 15.9	
	comp=Z,16nm,0.8s					
WUS	**Wushi**	**18.29 331**		**Pn**	**14 35 04.8**	**-1.8**
WMQ	**Urumqi**	**18.32 353**	*eP*	**P**	**14 35 09.8**	**+2.8**
WMQ			pP	sP	14 35 12.9	+1.6
WMQ			pmax	pmax		
	comp=Z,23nm,0.7s					
KSH	**Kashi**	**18.66 321**	P	**P**	**14 35 10.6**	**-0.2**
KSH			pP	pP	14 35 13.8	0.0
KSH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
TARG	**Taragay, Kyrgy**	**19.35 329**	P	**P**	**14 35 17.6**	**-1.2**
KDJ	**Kajisay**	**19.95 329**	P	**P**	**14 35 23.8**	**-1.3**
KDJ			IAmb	IAmb	14 35 28.9	
	comp=Z,9.5nm,0.7s					
BOOM	**Boomskoye usch**	**20.82 328**		**P**	**14 35 34.5**	**0.0**
BOOM			IAmb	IAmb	14 35 38.0	
	comp=Z,17nm,0.8s					
KBL	**Kabul**	**20.85 300**	P	**P**	**14 35 35.0**	**0.0**
TKM2	**Tokmak 2**	**21.31 328**	P	**P**	**14 35 42.8**	**+2.9**
	SNR=12					
KBK	**Karagaybulak**	**21.43 326**	P	**P**	**14 35 44.4**	**+3.3**
	SNR=12					
ARSB	**Arslanbob**	**21.56 321**	P	**P**	**14 35 42.2**	**-0.2**
ARSB			IAmb	IAmb	14 35 46.9	
	comp=Z,8.4nm,0.7s					
AAK	**Ala-Archa**	**21.65 326**	P	**P**	**14 35 43.2**	**-0.2**
AAK	**Ala-Archa**	**21.65 326**	P	**P**	**14 35 45.4**	**+2.0**
	comp=Z,4.4nm,0.6s,baz=184,slow=7.5,SNR=18					
AAK	**Ala-Archa**	**21.65 326**	P	**P**	**14 35 46.4**	**+3.0**
	SNR=9.0					
AML	**Almayashu**	**21.71 323**	P	**P**	**14 35 47.0**	**+2.7**
	SNR=11					
GAR	**Garm**	**21.84 313**	P	**P**	**14 35 45.1**	**-0.3**
GAR			IAmb	IAmb	14 36 15.6	
	comp=Z,18nm,1.0s					
EKS2	**Erkin-Say**	**22.04 325**	P	**P**	**14 35 51.1**	**+3.6**
	SNR=17					
BTK	**Batken**	**22.09 316**	P	**P**	**14 35 47.5**	**-0.6**
BTK			IAmb	IAmb	14 36 10.9	
	comp=Z,9.9nm,0.7s					
USP	**Ospenovka**	**22.11 327**	P	**P**	**14 35 50.3**	**+2.1**
	SNR=6.8					
MK31	**Makanchi Array**	**22.19 344**	P	**P**	**14 35 48.9**	**-0.1**
MK31			IAmb	IAmb	14 35 53.0	
	comp=Z,17nm,0.8s					
MKAR	**Makanchi Array**	**22.19 344**	P	**P**	**14 35 49.3**	**+0.3**
MKAR	**Makanchi Array**	**22.19 344**	P	**P**	**14 35 49.7**	**+0.7**
	comp=Z,19nm,0.7s,baz=144,slow=14,SNR=88					
	comp=Z,19nm,0.7s					
MAKZ	**Makanchi**	**22.28 344**	P	**P**	**14 35 49.5**	**-0.4**
CHGR	**Chuyangaron**	**22.45 311**	P	**P**	**14 35 51.4**	**-0.5**
CHGR			IAmb	IAmb	14 36 20.4	
	comp=Z,11nm,0.6s					
SIMJ	**Simiganj**	**22.55 310**	P	**P**	**14 35 52.8**	**-0.4**
HHC	**Hu-ho-hao-te**	**22.91 43**	*eP*	**P**	**14 35 57.0**	**+0.2**
HHC			pmax	pmax		
	comp=Z,25nm,0.6s					
HHC			pmax	pmax		
	comp=Z,110nm,5.4s					
KKAR	**Karatay Array**	**24.11 321**	P	**P**	**14 36 09.1**	**+0.5**
KKAR	**Karatay Array**	**24.11 321**	P	**P**	**14 36 08.6**	**0.0**
KKAR			IAmb	IAmb	14 36 32.5	
	comp=Z,2.2nm,0.8s					
SONM	**Songino Array**	**25.29 25**	P	**P**	**14 36 18.4**	**-0.9**
SONM			IAmb	IAmb	14 36 34.4	
	comp=Z,5.3nm,0.8s					
SONM	**Songino Array**	**25.29 25**	P	**P**	**14 36 20.3**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=209,slow=9.7,SNR=14					
SONM			LR	LR	14 45 43.8	
	comp=Z,38nm,20.0s,baz=222,slow=35					
	comp=Z,3.2nm,0.6s					
KURBB	**Kurchatov Arra**	**26.69 342**	P	**P**	**14 36 31.9**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=155,slow=9.9,SNR=21					
	comp=Z,4.7nm,0.8s					
KURK	**Kurchatov**	**26.75 343**	P	**P**	**14 36 31.7**	**-0.7**
KURK			IAmb	IAmb	14 36 35.9	
	comp=Z,3.7nm,0.7s					
ZALV	**Zalesovo Beam**	**28.63 352**	P	**P**	**14 36 48.3**	**-0.8**
ZALV	**Zalesovo Beam**	**28.63 352**	P	**P**	**14 36 48.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=184,slow=10,SNR=5.0					
	comp=Z,0.5nm,0.4s					
BVAR	**Borovoye Array**	**31.38 336**	P	**P**	**14 37 14.3**	**+0.8**
	comp=Z,2.7nm,0.4s,baz=133,slow=9.7,SNR=28					
	comp=Z,2.7nm,0.4s					
BRVK	**Borovoye**	**31.45 336**	P	**P**	**14 37 14.4**	**+0.3**
BRVK			IAmb	IAmb	14 37 16.5	
	comp=Z,3.5nm,1.1s					
KSRS	**Korea Array**	**33.47 60**	LR	LR	14 52 18.3	
	comp=Z,24nm,19.8s,baz=310,slow=38					
ABKAR	**Akbulak array**	**33.66 323**	P	**P**	**14 37 34.1**	**+0.6**
ABKAR	**Akbulak array**	**33.66 323**	P	**P**	**14 37 34.0**	**+0.4**
ABKAR			IAmb	IAmb	14 37 48.2	
	comp=Z,3.6nm,0.6s					
BNX	**BinXian**	**35.37 46**	⇓P	**P**	**14 37 49.3**	**+0.9**
BNX			pmax	pmax		
	comp=Z,16nm,0.8s					
HEH	**HeiHe**	**37.27 39**	*eP*	**P**	**14 38 05.3**	**+0.7**
HEH			pmax	pmax		
	comp=Z,8.0nm,0.6s					
ARTI	**Arti**	**38.64 331**	P	**P**	**14 38 16.1**	**0.0**
KAPI	**Kappang**	**41.39 133**	P	**P**	**14 38 37.6**	**-1.7**
KAPI			IAmb	IAmb	14 39 07.3	
	comp=Z,13nm,1.4s					
NRIK	**Noril'sk**	**43.76 358**	P	**P**	**14 38 58.5**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=163,slow=7.6,SNR=4.0					
	comp=Z,3.0nm,0.5s					
YAK	**Yakutsk**	**44.65 25**	LR	LR	14 58 58.8	
	comp=Z,69nm,18.5s,baz=276,slow=38					
TIXI	**Tiksi**	**50.67 15**	P	**P**	**14 39 51.0**	**-0.8**
TIXI			IAmb	IAmb	14 39 52.4	
	comp=Z,4.4nm,0.6s					
KNRA	**Kununurra**	**55.19 134**	P	**P**	**14 40 27.1**	**+1.2**
FINES	**FINESS Array B**	**55.80 328**	P	**P**	**14 40 29.7**	**0.0**
FINES	**FINESS Array B**	**55.80 328**	P	**P**	**14 40 30.0**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=100,slow=10,SNR=6.4					
	comp=Z,1.9nm,0.6s					
ARCES	**ARCESS Array B**	**57.64 338**	P	**P**	**14 40 42.9**	**+0.2**
ARCES	**ARCESS Array B**	**57.64 338**	P	**P**	**14 40 43.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=96,slow=7.3,SNR=8.5					
	comp=Z,1.2nm,0.6s					
HFS	**Hagfors**	**61.79 326**	P	**P**	**14 41 10.9**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=98,slow=9.1,SNR=7.0					
	comp=Z,1.7nm,0.6s					
WB0	**Warramunga Arr**	**61.84 133**	P	**P**	**14 41 12.7**	**+0.5**
SPITS	**Spitsbergen Ar**	**61.91 347**	P	**P**	**14 41 12.4**	**+0.5**
	comp=Z,14nm,1.0s,baz=148,slow=4.9,SNR=4.1					
	comp=Z,14nm,1.0s					
WRA	**Warramunga Arr**	**61.93 133**	P	**P**	**14 41 11.8**	**-1.0**
WRA	**Warramunga Arr**	**61.93 133**	P	**P**	**14 41 13.8**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=319,slow=6.7,SNR=6.3					
	comp=Z,0.3nm,0.5s					
GERES	**GERESS Array B**	**62.91 314**	P	**P**	**14 41 18.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=80,slow=7.7,SNR=3.6					
	comp=Z,0.5nm,0.5s					
ASAR	**Alice Springs**	**64.32 136**	P	**P**	**14 41 27.3**	**-1.4**
ASAR	**Alice Springs**	**64.32 136**	P	**P**	**14 41 29.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=312,slow=6.3,SNR=14					
	comp=Z,0.3nm,0.5s					
ILAR	**Eielson Array**	**79.47 22**	P	**P**	**14 42 58.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=300,slow=5.1,SNR=7.6					
	comp=Z,0.4nm,0.6s					
YKA	**Yellowknife Ar**	**89.83 12**	P	**P**	**14 43 50.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=336,slow=4.2,SNR=3.6					
	comp=Z,0.2nm,0.7s					

*NOU **21** 14:52:27.6, 15°.57S×167°.60E, h111km, mb4.4/23, Vanuatu Islands*
*IDC **21** 14:52:27.2±8.6, 15°.68S×167°.49E, h124km±66km, mb3.8/3, mbtmp4.3/4, Error ellipse: s-maj=71.9km s-min=56.6km az=44.0*
ISC 21 14:52:26.8±1.2,**15°.59S**±0°.06×**167°.6E**±0°.1,**h124**km,**n20**, σ1°**36**/22,**mb3.9**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.19**	**166**	P	**Pn**	**14 53 03.1**	**+0.2**
DVP	**Devils Point**	**2.19**	**166**	S	**Sn**	**14 53 32.0**	**+1.5**
LUES	**Luesalemba Tem**	**5.18**	**341**	P	**Pn**	**14 53 41.9**	**-0.4**
LUES	**Luesalemba Tem**	**5.18**	**341**	S	**Sn**	**14 54 41.7**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.88**	**212**	P	**Pn**	**14 53 52.3**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.88**	**212**	S	**Sn**	**14 54 58.8**	**+1.0**
YATNC	**Mamie plateau,**	**6.47**	**186**	P	**Pn**	**14 53 58.9**	**-0.8**
DZM	**Mont Dzumac**	**6.55**	**190**	P	**Pn**	**14 54 00.7**	**-0.1**
	26nm,0.3s,baz=113,slow=21,SNR=300						
DZM				S	**Sn**	**14 55 10.4**	**-3.8**
	4.5nm,0.4s,baz=337,slow=23,SNR=1.0						
DZM	**Mont Dzumac**	**6.55**	**190**	P	**Pn**	**14 54 01.1**	**+0.3**
DZM	**Mont Dzumac**	**6.55**	**190**	S	**Sn**	**14 55 15.3**	**+1.1**
ONTNC	**Ouen Toro**	**6.78**	**189**	P	**Pn**	**14 54 05.0**	**+1.2**
ONTNC	**Ouen Toro**	**6.78**	**189**	S	**Sn**	**14 55 20.8**	**+1.2**
OUENC	**Ouen Island, N**	**6.84**	**186**	P	**Pn**	**14 54 05.7**	**+1.1**
PINNC	**Pines Island,**	**6.99**	**181**	P	**Pn**	**14 54 07.9**	**+1.2**
NGOA	**Tingoa Renbel**	**8.38**	**298**	P	**Pn**	**14 54 25.6**	**+0.1**
SAVO	**Savo Central**	**9.97**	**309**	P	**Pn**	**14 54 48.7**	**+1.8**
TATA	**Tatamba Isabel**	**10.48**	**312**	P	**Pn**	**14 54 54.6**	**+0.8**
STKA	**Stephens Creek**	**28.72**	**231**	P	**P**	**14 58 12.6**	**0.0**
	1.3nm,0.5s,baz=52,slow=12,SNR=5.2						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**31.97**	**257**	P	**P**	**14 58 39.8**	**-1.6**
	1.0nm,0.5s,baz=84,slow=9.0,SNR=22						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**32.71**	**250**	P	**P**	**14 58 46.8**	**-1.0**
	2.1nm,0.3s,baz=79,slow=8.9,SNR=85						
ASAR				PcP	**PcP**	**15 01 29.7**	**-1.0**
	0.3nm,0.7s,baz=97,slow=2.8,SNR=2.2						
	2.1nm,0.3s						

*ATH **21** 15:00:54.4, 37°.62N×20°.59E, h15km±1km, ML2.8/11, Manual Solution by A.Agalos First location: 2019/03/21 15:01:48, This location: 2019/03/21 15:10:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **21** 15:00:54.6, 37°.62N×20°.60E, h9km±2km, ML2.8/8, Error ellipse: s-maj=2.5km s-min=0.6km az=58.0*
ISC 21 15:00:54.5±1.6,**37°.63N**±0°.06×**20°.60E**±0°.05,**h13**km±6km, **n38**, σ0°**39**/59,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**80**	P	**Pg**	**15 00 58.7**	**+0.1**
KRI1				S	**Sg**	**15 01 00.7**	**-0.7**
	5μm,0.4s						
LTHK	**Lithakia**	**0.21**	**67**	P	**Pg**	**15 00 59.0**	**-0.1**
LTHK				S	**Sg**	**15 01 01.9**	**-0.3**
	7μm,0.3s						
LTHK	**Lithakia**	**0.21**	**67**	P	**Pg**	**15 00 59.0**	**-0.1**
ORTH	**Orthonies,Zaky**	**0.23**	**20**	P	**Pg**	**15 00 59.8**	**+0.2**
ORTH				S	**Sg**	**15 01 03.0**	**0.0**
KYPS	**Kipseli, Zakin**	**0.26**	**44**	P	**Pg**	**15 01 00.4**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.47**	**17**	P	**Pg**	**15 01 03.7**	**0.0**
RTZL				S	**Sg**	**15 01 10.8**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.48**	**359**	P	**Pg**	**15 01 04.2**	**+0.1**
PSDA				S	**Sg**	**15 01 11.3**	**+0.8**
	1μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.48**	**359**	P	**Pg**	**15 01 04.1**	**+0.1**
PSDA				S	**Sg**	**15 01 11.3**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**0.50**	**58**	P	**Pg**	**15 01 04.8**	**+0.5**
CLEM				S	**Sg**	**15 01 11.4**	**+0.4**
VLS	**Valsamata**	**0.55**	**359**	P	**Pg**	**15 01 05.2**	**0.0**
VLS				S	**Sb**	**15 01 13.3**	**-0.4**
	840nm,0.2s						
VLS	**Valsamata**	**0.55**	**359**	P	**Pg**	**15 01 05.2**	**0.0**
VLS				S	**Sg**	**15 01 12.9**	**+0.4**
SMHA	**Samh**	**0.62**	**4**	P	**Pg**	**15 01 06.4**	**-0.2**
SMHA				S	**Sg**	**15 01 14.7**	**-0.1**
DMLN	**Damoulianata-K**	**0.63**	**344**	P	**Pg**	**15 01 07.1**	**+0.2**
DMLN				S	**Sb**	**15 01 16.4**	**+0.2**
	2μm,0.4s						
DMLN	**Damoulianata-K**	**0.63**	**344**	P	**Pg**	**15 01 07.0**	**+0.2**
DMLN				S	**Sg**	**15 01 15.3**	**+0.1**
YRMI	**Loutra Irminis**	**0.76**	**51**	P	**Pg**	**15 01 08.8**	**-0.4**
YRMI				S	**Sg**	**15 01 18.9**	**-0.4**
RLS	**Riolos of Patr**	**0.81**	**58**	P	**Pg**	**15 01 09.8**	**-0.4**
RLS	**Riolos of Patr**	**0.81**	**58**	P	**Pg**	**15 01 09.8**	**-0.4**
RLS				S	**Sg**	**15 01 20.9**	**+0.1**
FSK	**Fiskardo**	**0.83**	**358**	P	**Pg**	**15 01 09.9**	**-0.6**
FSK				S	**Sb**	**15 01 22.7**	**+0.9**
	562nm,0.5s						
FSK	**Fiskardo**	**0.83**	**358**	P	**Pg**	**15 01 09.9**	**-0.6**
FSK				S	**Sg**	**15 01 21.7**	**+0.3**
AXS	**Araxos**	**0.84**	**47**	P	**Pg**	**15 01 10.1**	**-0.6**
AXS				S	**Sg**	**15 01 21.7**	**0.0**
AMT	**Artemida-Makis**	**0.89**	**96**	P	**Pg**	**15 01 11.6**	**-0.1**
DRO	**Drossia**	**0.94**	**70**	P	**Pg**	**15 01 12.4**	**-0.2**
DRO				S	**Sn**	**15 01 26.5**	**-0.2**
	712nm,0.4s						
DRO	**Drossia**	**0.94**	**70**	P	**Pg**	**15 01 12.6**	**0.0**
DRO				S	**Sg**	**15 01 25.0**	**+0.1**
EVGI	**Lefkada island**	**0.99**	**3**	P	**Pb**	**15 01 13.1**	**-0.4**
EVGI				S	**Sn**	**15 01 28.0**	**+0.1**
	355nm,0.3s						
EVGI	**Lefkada island**	**0.99**	**3**	P	**Pb**	**15 01 13.0**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.05**	**359**	P	**Pb**	**15 01 14.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.08**	**4**	P	**Pb**	**15 01 14.6**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.08**	**4**	P	**Pb**	**15 01 14.5**	**-0.5**
ITM	**Ithomi**	**1.15**	**113**	P	**Pb**	**15 01 16.4**	**+0.2**
LKD2	**Lefkada island**	**1.16**	**2**	P	**Pb**	**15 01 15.9**	**-0.5**
TSLK	**Tsoukalades, L**	**1.19**	**2**	P	**Pn**	**15 01 16.5**	**-0.3**
PVO	**Paravola**	**1.23**	**36**	P	**Pb**	**15 01 17.7**	**+0.2**
PVO				S	**Sb**	**15 01 33.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.30**	**71**	P	**Pn**	**15 01 18.3**	**0.0**
EFP	**Efpalio**	**1.30**	**52**	P	**Pn**	**15 01 18.4**	**0.0**
SERG	**Sergoula**	**1.39**	**55**	P	**Pn**	**15 01 19.5**	**-0.1**
GUR	**Goura**	**1.42**	**77**	P	**Pn**	**15 01 20.4**	**+0.4**
ANX	**Ano Chora**	**1.42**	**47**	P	**Pn**	**15 01 20.4**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.79**	**17**	P	**Pn**	**15 01 24.8**	**-0.4**

*DJA **21** 15:03:07.8±0.2, 8°.S±3°.×10°.8E±°, h86km±2km, M4.8/30, mb5.0/30, mB5.4/18, MLv4.8/24, Mw(mB)4.8/18*
*NEIC **21** 15:03:09.4±1.4, 7°.60S±0°.10×108°.09E±0°.07, h108km±6km, mb4.8/52, Error ellipse: s-maj=15.8km s-min=7.2km az=205.0*
*IDC **21** 15:03:10.2±0.5, 7°.53S×108°.12E, h112km±4km, mb4.1/24, mbtmp4.5/25, MS3.2/7, Error ellipse: s-maj=16.9km s-min=9.4km az=52.0*
ISC 21 15:03:08.5±0.6,**7.74S**±0°.06×**108°.07E**±0°.04,**h101**km±5km, **n182**, σ1°**39**/189,**mb4.7**/52,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.38**	**96**	P	**Pn**	**15 03 22.4**	**-1.2**
CMJI				S	**Sn**	**15 03 32.7**	**-2.2**
LEM	**Lembang**	**1.01**	**334**	P	**Pn**	**15 03 30.6**	**+1.2**
	2μm,0.5s,baz=117,slow=3.6,SNR=258						
LEM				LR	LR	15 03 41.1	
	comp=Z,63nm,19.2s,baz=262,slow=36						
LEM				S	**Sn**	**15 03 46.4**	**+1.4**
	7μm,0.7s,baz=262,slow=18,SNR=26						
LEM	**Lembang**	**1.01**	**334**	P	**Pn**	**15 03 30.4**	**+1.1**
CNJI	**Cibinong**	**1.03**	**295**	P	**Pn**	**15 03 28.5**	**-0.8**
CNJI				S	**Sn**	**15 03 43.5**	**-1.5**
SKJI	**Sukabumi**	**1.67**	**296**	P	**Pn**	**15 03 36.6**	**-0.3**
YOGI	**Yogyakarta**	**2.21**	**92**	P	**Pn**	**15 03 43.8**	**0.0**
UGM	**Wanagama**	**2.44**	**94**		**Pn**	**15 03 46.9**	**+0.2**
UGM				Sn	**Sn**	**15 04 16.4**	**+0.2**
UGM	**Wanagama**	**2.44**	**94**	P	**Pn**	**15 03 47.0**	**+0.2**
SMRI	**Semarang**	**2.45**	**74**		**Pn**	**15 03 48.6**	**+1.6**
SMRI				Sn	**Sn**	**15 04 16.4**	**-0.2**
SMRI	**Semarang**	**2.45**	**74**	P	**Pn**	**15 03 49.0**	**+2.0**
SBJI	**Serang**	**2.51**	**310**	P	**Pn**	**15 03 46.8**	**-1.0**
CGJI	**Cibinong**	**2.61**	**295**	P	**Pn**	**15 03 48.9**	**-0.2**
PCJI	**Pacitan**	**3.11**	**99**	P	**Pn**	**15 03 56.1**	**+0.4**
NGJI	**Ngawi**	**3.38**	**84**	P	**Pn**	**15 04 00.6**	**+1.2**
XMIS	**Christmas Isla**	**3.62**	**221**	Pn	Pn	15 03 58.6	-4.0
XMIS				Sn	Sn	15 04 33.9	-11
TBJI	**Tambak Boyo**	**3.86**	**76**	P	**Pn**	**15 04 07.2**	**+1.4**
GRJI	**Gresik**	**4.45**	**80**	P	**Pn**	**15 04 15.3**	**+1.5**
TPI	**Tanjungpandan**	**4.97**	**355**	P	**Pn**	**15 04 23.3**	**+2.5**
	39nm,0.7s						
MDSI	**Maura Dua**	**5.04**	**310**	P	**Pn**	**15 04 23.3**	**+1.5**
	0.4nm79nm,0.9s						
GMJI	**Gumukmas**	**5.35**	**96**	P	**Pn**	**15 04 26.6**	**+0.7**
	0.6nm3μm96nm,1.0s						
JAGI	**Jajag, Banyuwa**	**6.07**	**97**	Pn	**Pn**	**15 04 36.7**	**+1.0**
JAGI				Sn	**Sn**	**15 05 43.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**6.07**	**97**	P	**Pn**	**15 04 36.7**	**+1.0**
	1.4nm6μm200nm,0.7s						
MNAI	**Manna**	**6.10**	**303**	Pn	**

0.5nm,0.6s,baz=181,slow=4.4,SNR=4.1
CMAR LR LR 15 19 23.9
comp=Z,20nm,20.4s,baz=325,slow=36
0.8nm,0.5s
WB0 Warramunga Arr 28.17 118 P **P 15 08 51.6 0.0**
WB0 IAmb IAmb 15 09 32.9
comp=Z,41nm,1.9s
WRA Warramunga Arr 28.19 118 P **P 15 08 51.8 +0.1**
WRA Warramunga Arr 28.19 118 P **P 15 08 53.4 +1.6**
comp=Z,1.0nm,0.5s,baz=292,slow=11,SNR=13
WRA LR LR 15 22 26.4
comp=Z,34nm,18.8s,baz=312,slow=41
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 28.19 118 P **P 15 08 51.4 -0.4**
WRAB IAmb IAmb 15 09 34.5
comp=Z,27nm,1.6s
ASAR Alice Springs 29.39 126 P **P 15 09 01.9 -0.6**
ASAR Alice Springs 29.39 126 P **P 15 09 03.2 +0.8**
comp=Z,0.5nm,0.4s,baz=301,slow=8.4,SNR=18
ASAR PcP **PcP 15 12 07.2 +0.9**
comp=Z,0.8nm,0.4s,baz=301,slow=1.8,SNR=6.4
ASAR ScP **ScP 15 15 39.4 +0.3**
comp=Z,0.8nm,0.7s,baz=339,slow=2.6,SNR=4.6
comp=Z,0.5nm,0.4s
AS31 Alice Springs 29.40 126 P **P 15 09 01.5 -0.9**
FORT Forrest 29.58 143 P **P 15 09 03.7 -0.2**
FORT IAmb IAmb 15 10 10.5
comp=Z,30nm,0.9s
PALK Pallekele 31.10 298 P **P 15 09 16.9 -0.7**
PALK Pallekele 31.10 298 P **P 15 09 19.7 +2.1**
PZH PanZhiHua 34.59 350 P **P 15 09 49.8 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.2s
H08S2 Diego Garcia H 35.25 268 T T 15 47 13.2
baz=92,slow=75,SNR=28
H08S3 Diego Garcia H 35.26 268 T T 15 47 13.2
baz=92,slow=75,SNR=36
H08S1 Diego Carcia H 35.27 268 T T 15 47 22.2
baz=92,slow=75,SNR=35
BBOO Buckleboo 35.99 138 P **P 15 09 60.0 +0.2**
BBOO IAmb IAmb 15 10 25.5
comp=Z,25nm,1.1s
STKA Stephens Creek 39.36 132 P **P 15 10 29.0 +0.8**
STKA Stephens Creek 39.36 132 P **P 15 10 29.5 +1.3**
comp=Z,14nm,0.5s,baz=311,slow=8.3,SNR=83
comp=Z,14nm,0.5s
NJ2 Nanjing 40.89 14 *eP* **P 15 10 43.4 +2.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TOO Toolangi 45.04 137 P **P 15 11 15.8 +1.5**
TOO IAmb IAmb 15 12 03.2
comp=Z,16nm,1.7s
HHC Hu-ho-hao-te 48.46 4 *eP* P 15 11 44.9 +4.1
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,93nm,5.6s
NIL Nilore 52.78 323 P **P 15 12 12.7 -0.7**
SONM Songino Array 55.35 359 P **P 15 12 31.4 -0.6**
SONM PcP **PcP 15 13 30.4 -0.9**
SONM Songino Array 55.35 359 P **P 15 12 31.2 -0.8**
comp=Z,1.2nm,0.5s,baz=176,slow=8.9,SNR=8.0
SONM PcP **PcP 15 13 31.6 +0.3**
comp=Z,1.7nm,0.5s,baz=178,slow=4.2,SNR=6.5
comp=Z,1.2nm,0.5s
ULN Ulaanbaatar 55.37 359 P **P 15 12 31.1 -1.0**
ULN Ulaanbaatar 55.37 359 P **P 15 12 31.6 -0.5**
WUS Wushi 55.45 334 P **P 15 12 31.3 -1.5**
WUS IAmb IAmb 15 12 33.8
comp=Z,5.1nm,0.7s
WUS Wushi 55.45 334 P **P 15 12 32.5 -0.3**
KBL Kabul 55.95 321 P **P 15 12 34.7 -1.8**
KBL IAmb IAmb 15 12 36.1
comp=Z,4.1nm,0.8s
USRK Ussuriysk Ar. 56.04 21 LR LR 15 39 57.2
comp=Z,38nm,18.2s,baz=348,slow=40
KDJ Kajisay 57.10 333 P **P 15 12 43.3 -1.3**
KDJ IAmb IAmb 15 12 45.2
comp=Z,4.5nm,0.7s
BOOM Boomskoye usch 57.95 332 P **P 15 12 49.8 -0.7**
BOOM IAmb IAmb 15 14 55.0
comp=Z,7.0nm,1.2s
GAR Garm 58.22 326 P **P 15 12 50.0 -2.4**
GAR IAmb IAmb 15 12 52.2
comp=Z,11nm,0.8s
ARSB Arslanbob 58.48 329 P **P 15 12 51.9 -2.3**
ARSB IAmb IAmb 15 12 56.1
comp=Z,14nm,1.7s
ARSB PcP **PcP 15 13 44.6 +0.8**
BTK Batken 58.69 327 P **P 15 12 54.3 -1.3**
BTK IAmb IAmb 15 12 55.8
comp=Z,7.8nm,0.6s
SIMJ Simiganj 58.72 325 P **P 15 12 53.0 -2.9**
SIMJ IAmb IAmb 15 12 54.5
comp=Z,14nm,1.4s
SIMJ Simiganj 58.72 325 P **P 15 12 53.7 -2.2**
AAK Ala-Archa 58.74 331 P **P 15 12 55.3 -0.7**
AAK PcP **PcP 15 13 44.7 -0.1**
MK31 Makanchi Array 58.94 340 P **P 15 12 55.3 -1.8**
MK31 PcP **PcP 15 13 44.1 -1.2**
MKAR Makanchi Array 58.94 340 P **P 15 12 55.3 -1.8**
MKAR PcP **PcP 15 13 43.9 -1.3**
MKAR Makanchi Array 58.94 340 P **P 15 12 55.6 -1.5**
comp=Z,2.9nm,0.5s,baz=153,slow=7.6,SNR=35
MKAR PcP **PcP 15 13 45.4 +0.1**
comp=Z,1.1nm,0.6s,baz=142,slow=4.6,SNR=5.4
comp=Z,2.9nm,0.5s
ABPO Ambohimpanom 59.99 253 P **P 15 13 06.3 +1.2**
ABPO pP **pP 15 13 32.9 +3.2**
UOSS Minazif 60.04 304 P **P 15 13 02.6 -2.5**
HRA Herat 60.27 317 P **P 15 13 05.0 -1.8**
VOI Vohitsoka 60.53 249 P **P 15 13 09.4 +0.7**
VOI IAmb IAmb 15 13 10.9
comp=Z,6.3nm,0.6s
KK31 Karatay Array 61.04 329 P **P 15 13 09.7 -1.9**
KKAR Karatay Array 61.04 329 P **P 15 13 10.2 -1.3**
KKAR Karatay Array 61.04 329 P **P 15 13 09.3 -2.2**
KKAR IAmb IAmb 15 13 59.2
comp=Z,3.4nm,1.2s
H04N2 CROZET ISLANDS 61.40 221 T T 16 20 09.5
baz=70,slow=75,SNR=1870
H04N1 CROZET ISLANDS 61.41 221 T T 16 20 09.7
baz=70,slow=75,SNR=1583
H04N3 CROZET ISLANDS 61.42 221 T T 16 20 08.4
baz=70,slow=75,SNR=1884
H04S1 CROZET ISLANDS 61.56 220 T T 16 20 23.8
baz=75
H04S3 CROZET ISLANDS 61.58 220 T T 16 20 40.5
baz=75
H04S2 CROZET ISLANDS 61.58 220 T T 16 20 38.0
baz=75
KURBB Kurchatov Arra 63.51 339 P **P 15 13 27.3 -0.5**
comp=Z,1.9nm,0.7s,baz=157,slow=5.5,SNR=18
KURBB PcP **PcP 15 14 03.9 +0.3**
comp=Z,2.1nm,0.6s,baz=152,slow=3.7,SNR=12
comp=Z,1.9nm,0.7s
KURK Kurchatov 63.56 340 P **P 15 13 26.9 -1.2**
KURK Kurchatov 63.56 340 P **P 15 13 27.6 -0.6**
KURK PcP **PcP 15 14 03.6 -0.2**
MLZ Mavora Lakes 63.66 137 P **P 15 13 30.1 +1.1**
WKZ Wanaka 64.12 136 P **P 15 13 32.7 +0.6**
ZALV Zalesovo Beam 64.52 345 P **P 15 13 32.3 -2.1**
comp=Z,0.3nm,0.3s,baz=103,slow=6.5,SNR=3.6
comp=Z,0.3nm,0.3s
INZ Inchbonnie 65.31 134 P **P 15 13 40.7 +0.9**
INZ IAmb IAmb 15 15 08.4
comp=Z,9.9nm,1.2s
DSZ Denniston Nort 65.36 132 P **P 15 13 40.7 +0.5**
DSZ IAmb IAmb 15 14 27.2
comp=Z,26nm,1.3s
QRZ Quartz Range 65.71 131 P **P 15 13 42.9 +0.5**
QRZ IAmb IAmb 15 15 11.2
comp=Z,15nm,1.2s
OXZ Oxford 65.86 134 P **P 15 13 43.7 +0.3**
MRNZ Matariki Terra 65.99 132 P **P 15 13 44.5 +0.3**
THZ Tophouse 66.17 132 P **P 15 13 45.5 +0.1**
THZ IAmb IAmb 15 15 59.8
comp=Z,28nm,1.6s
MQZ McQueen's Vall 66.38 134 P **P 15 13 47.4 +0.7**
NNZ Nelson 66.41 132 P **P 15 13 47.3 +0.4**
NNZ IAmb IAmb 15 15 22.5
comp=Z,12nm,1.0s
GVZ Greta Valley S 66.50 134 P **P 15 13 47.0 -0.5**
KHZ Kahutara 66.76 133 P **P 15 13 49.6 +0.5**
TUWZ Tuamarina 66.87 132 P **P 15 13 49.9 +0.1**
HIZ Hauiti 67.08 128 P **P 15 13 52.1 +0.9**
HIZ IAmb IAmb 15 14 33.0
comp=Z,20nm,1.1s
MSWZ Moikau Station 67.83 132 P **P 15 13 56.1 +0.1**
MRZ Mangatainoka R 67.96 131 P **P 15 13 57.0 +0.3**
BKZ Black Stump Fm 68.44 129 P **P 15 13 59.7 -0.1**
BKZ IAmb IAmb 15 15 42.6
comp=Z,21nm,1.4s
BFZ Birch Farm 68.46 131 P **P 15 14 00.4 +0.5**
BVAR Borovoye Array 68.46 337 P **P 15 13 58.6 -0.9**
comp=Z,3.3nm,0.6s,baz=139,slow=8.9,SNR=23
BVAR PcP **PcP 15 14 25.0 +0.9**
comp=Z,1.2nm,0.5s,baz=144,slow=5.0,SNR=6.1
comp=Z,3.3nm,0.6s
BRVK Borovoye 68.53 337 P **P 15 13 58.9 -1.0**
BRVK Borovoye 68.53 337 P **P 15 13 59.1 -0.9**
BRVK PcP **PcP 15 14 24.0 -0.4**
BRVK pP **pP 15 14 26.8 +0.9**
RTZ Ruatahuna 68.74 128 P **P 15 14 01.3 -0.5**
RTZ IAmb IAmb 15 14 03.6
comp=Z,14nm,0.9s
MXZ Matakaoa Point 69.66 127 P **P 15 14 08.2 +0.9**
KIBK Kibwezi 69.90 270 P **P 15 14 09.6 +0.3**
KIBK IAmb IAmb 15 14 11.3
comp=Z,8.6nm,0.6s
ABKAR Akbulak array 70.59 329 P **P 15 14 11.6 -1.1**
ABKAR Akbulak array 70.59 329 P **P 15 14 11.7 -1.0**
ABKAR IAmb IAmb 15 14 13.1
comp=Z,11nm,0.6s
KMBO Kilima Mbogo 70.84 271 P **P 15 14 16.2 +0.9**
comp=Z,1.6nm,0.3s,baz=62,slow=6.7,SNR=7.0
comp=Z,1.6nm,0.3s
LODK Lodwar 73.38 276 P **P 15 14 30.5 +0.3**
VNDA Vanda 75.05 170 P **P 15 14 39.5 +0.9**
comp=Z,1.8nm,0.6s,baz=318,slow=6.0,SNR=9.0
comp=Z,1.8nm,0.6s
KBZ Khabaz 77.91 318 P **P 15 14 55.2 -0.1**
comp=Z,8.6nm,0.9s,baz=155,slow=3.1,SNR=18
comp=Z,8.6nm,0.9s
NRIK Noril'sk 78.21 353 P **P 15 14 56.2 -0.2**
comp=Z,0.5nm,0.3s,baz=85,slow=6.3,SNR=1.5
comp=Z,0.5nm,0.3s
LSZ Lusaka 78.28 256 P **P 15 14 58.9 +0.7**
LSZ IAmb IAmb 15 15 00.4
comp=Z,8.6nm,0.7s
LSZ Lusaka 78.28 256 P **P 15 14 59.3 +1.1**
comp=Z,9.5nm,0.5s,baz=84,slow=5.3,SNR=17
comp=Z,9.5nm,0.5s
MMAI Mount Meron Ar 79.89 305 P **P 15 15 07.2 +0.7**
comp=Z,2.5nm,0.6s,baz=100,slow=9.5,SNR=5.7
comp=Z,2.5nm,0.6s
BOSA Boshof 80.05 242 P **P 15 15 08.6 +1.0**
comp=Z,2.3nm,0.7s,baz=91,slow=4.8,SNR=6.6
comp=Z,2.3nm,0.7s
QSPA South Pole Qui 82.25 180 P **P 15 15 20.0 +1.5**
comp=Z,6.6nm,1.0s,baz=197,slow=1.4,SNR=13
comp=Z,6.6nm,1.0s
BR131 Keskin Array S 83.11 312 P **P 15 15 22.8 -0.7**
BRTR Keskin Array B 83.11 312 P **P 15 15 22.9 -0.6**
BRTR Keskin Array B 83.11 312 P **P 15 15 23.4 0.0**
comp=Z,3.2nm,0.7s,baz=138,slow=7.4,SNR=14
comp=Z,3.2nm,0.7s
SUR Sutherland 83.60 238 LR LR 15 43 47.0
comp=Z,32nm,20.4s,baz=155,slow=29
TSUM Tsumeb 87.95 251 P **P 15 15 47.8 0.0**
comp=Z,2.3nm,0.3s,baz=23,slow=4.0,SNR=5.0
comp=Z,2.3nm,0.3s
AKASG Malin Array Be 88.93 321 P **P 15 15 50.6 -0.9**
comp=Z,0.6nm,0.4s,baz=84,slow=4.5,SNR=7.4
comp=Z,0.6nm,0.4s
SNAA Sanae 89.14 197 P **P 15 15 54.2 +1.9**
comp=Z,1.8nm,0.5s,baz=159,slow=5.5,SNR=14
comp=Z,1.8nm,0.5s
FINES FINESS Array B 92.93 332 P **P 15 16 09.5 -0.3**
comp=Z,3.4nm,0.8s,baz=98,slow=9.8,SNR=5.5
comp=Z,3.4nm,0.8s
HFS Hagfors 98.84 330 P **P 15 16 34.9 -1.9**
comp=Z,2.0nm,0.8s,baz=66,slow=3.5,SNR=4.0
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 100.05 331 LR LR 16 12 59.2
comp=Z,29nm,19.2s,baz=345,slow=42
YKA Yellowknife Ar 117.18 21 PKP **PKiKP 15 21 41.6 +0.2**
comp=Z,0.3nm,0.6s,baz=330,slow=1.9,SNR=6.5
TXAR Lajitas Array 143.24 50 PKP **PKPdf 15 22 31.4 -0.2**
comp=Z,0.4nm,0.4s,baz=247,slow=2.3,SNR=4.0
CPUP Villa Florida 143.28 202 PKP **PKPdf 15 22 32.6 +0.9**
comp=Z,2.9nm,0.3s,baz=341,slow=2.3,SNR=5.3
J57A Williamstown 144.29 5 PKPdf PKPbc 15 22 31.4 0.0
PLPT Palo Pinto 145.06 41 PKPdf **PKPdf 15 22 35.1 +0.5**
AC06 Mina Casimiro 145.07 182 PKPdf **PKPbc 15 22 35.0 +0.7**
N49A Columbus Grove 145.20 16 PKPdf **PKPbc 15 22 33.8 -0.5**
HRV Adam Dziewonsk 145.38 360 **PKPbc 15 22 31.9 -2.9**
MGMO Mountain Grove 145.38 29 **PKPbc 15 22 33.9 -1.1**
L56A Greenwood 145.39 7 **PKPbc 15 22 34.2 -0.8**
JCT Junction City 145.47 45 **PKPab 15 22 36.7 +0.8**
DRIO Del Rio 145.47 48 **PKPab 15 22 35.9 0.0**
WES Weston 145.49 359 PKPdf **PKPab 15 22 35.7 +0.2**
BRDY Brady 145.55 44 **PKPdf 15 22 35.3 -0.2**
T42A Van Buren 146.03 28 **PKPdf 15 22 36.0 -0.1**
MIAR Mount Ida 146.71 34 **PKPbc 15 22 39.0 -0.1**
SSPA Standing Stone 146.82 8 PKPbc **PKPbc 15 22 38.7 -0.5**
BDFB Brasilia 146.82 226 PKPbc **PKPbc 15 22 41.1 +1.1**
comp=Z,4.2nm,0.6s,baz=112,slow=5.6,SNR=5.0

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*ISN **21** 15:10:57.6±0.4, 33°.34N×47°.74E, h14km±2km, ML2.6*
*TEH **21** 15:10:57.1, 33°.38N×47°.75E, h10km±49km*
ISC 21 15:10:57.8±1.5, 33°.4N±0°.1×47°.75E±0°.06, h10km, n9,
σ1§02/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.16**	**31**	Pg	**Pg**	15 11 01.1	-0.2
IKFM				Sg	**Sg**	15 11 04.1	+0.3
IDOB	**Doab**	**0.54**	**42**	Pg	**Pg**	15 11 07.4	-1.0
KCHF	**Cheshme Sefid,**	**1.06**	**327**	Pg	**Pn**	15 11 18.3	-0.7
BDRS	**Dareh Seyedi**	**1.10**	**59**	Pg	**Pb**	15 11 18.7	-0.5
IBDR	**Badra**	**1.55**	**260**	*e*Pg	**Pb**	15 11 25.5	-1.0
IBDR				*e*Sg	**Sb**	15 11 46.0	-0.1
GLG1	**Gilan-e-Gharb**	**1.69**	**296**	Pg	**Pg**	15 11 29.2	-1.1
HAGD	**Aghdareh**	**1.84**	**39**	Pn	**Pb**	15 11 31.5	-0.2
BHD	**Baghdad**	**2.82**	**269**	*e*Pn	**Pn**	15 11 44.0	+1.1
BHD				*e*Sn	**Sn**	15 12 18.0	+1.0
IKRK	**Kirkuk**	**3.46**	**306**	*e*Pn	**Pn**	15 11 53.3	+1.6
IKRK				*e*Sn	**Sn**	15 12 34.0	+1.2

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*SJA **21** 15:31:38.9±0.6, 27°.34S×67°.24W, h165km±5km, ML4.1,*
MW4.1
*IDC **21** 15:31:38.4±1.6, 27°.32S×67°.22W, h121km±13km, mb3.9/7,*
mbtmp4.2/12, Error ellipse: s-maj=24.3km s-min=11.1km
az=107.0
*NEIC **21** 15:31:39.6±2.6, 27°.39S±0°.05×67°.3W±0°.1, h130km±14km,*
mb4.8/13, Error ellipse: s-maj=14.7km s-min=7.4km
az=95.0
*VAO **21** 15:31:39.5±0.7, 27°.37S×67°.26W, h131km, mb4.5*
ISC 21 15:31:39.5±0.7, 27°.30S±0°.03×67°.34W±0°.03, h135km±7km,
n162, σ1§88/201, mb4.5/14, 5C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.62**	**208**	*e*P	**Pn**	15 32 12.0	+2.5
VCA				*e*S	**Sn**	15 32 36.1	+3.7
VCA				IAML		15 32 38.3	
comp=Z,2μm,0.5s							
AC02	**Maricunga**	**1.66**	**286**	Pn	**Pn**	15 32 13.6	+3.3
AC02	**Maricunga**	**1.66**	**286**	*e*P	**Pn**	15 32 12.8	+2.6
AC02				*e*S	Sn	15 32 50.5	+17
FSA	**Cafayete**	**1.70**	**46**	*e*P	**Pn**	15 32 13.0	+2.6
FSA				*e*S	**Sn**	15 32 32.0	-2.0
CYA	**Choya**	**1.77**	**130**	*e*P	**Pn**	15 32 11.9	+0.8
CYA				*e*S	**Sn**	15 32 35.6	+0.2
ACLC	**CERRO LA CRUZ**	**2.15**	**171**	*e*P	**Pn**	15 32 17.0	+1.4
ACLC				*e*S	**Sn**	15 32 44.8	+1.3
ACLC				IAML		15 32 45.4	
comp=Z,488nm,0.5s							
AGUA	**GUANDACOL**	**2.40**	**205**	*e*P	**Pn**	15 32 20.5	+1.8
AGUA				*e*S	**Sn**	15 32 51.4	+2.4
AGUA				IAML		15 32 53.5	
comp=Z,2μm,0.5s							
GO03	**Copiapo**	**2.59**	**263**		**Pn**	15 32 22.6	+1.6
GO03				Sn	**Sn**	15 32 53.7	+0.7
GO03	**Copiapo**	**2.59**	**263**	*e*P	**Pn**	15 32 22.1	+1.1
GO03				*e*S	**Sn**	15 32 55.0	+2.0
AC06	**Mina Casimiro**	**2.68**	**268**	Pn	**Pn**	15 32 23.7	+1.5
AC06				Sn	**Sn**	15 32 55.2	+0.1
GO02	**Mina Guanaco**	**2.93**	**316**	Pn	**Pn**	15 32 29.1	+3.4
GO02				Sn	**Sn**	15 33 04.7	+3.3
GO02	**Mina Guanaco**	**2.93**	**316**	*e*P	**Pn**	15 32 28.5	+2.7
SLA	**San Lorenzo**	**3.05**	**33**	*e*P	**Pn**	15 32 30.6	+3.4
SLA				*e*S	**Sn**	15 33 09.2	+5.2
SLA				IAML		15 33 09.3	
comp=Z,303nm,0.9s							
AC01	**Pan de Azucar**	**3.13**	**291**	Pn	**Pn**	15 32 29.6	+1.6
AC01				Sn	**Sn**	15 33 05.8	+0.3
AC01	**Pan de Azucar**	**3.13**	**291**	*e*P	**Pn**	15 32 29.6	+1.6
AC01				*e*S	**Sn**	15 33 01.5	-3.9
AC01				IAML		15 33 06.6	
comp=Z,158nm,0.7s							
APLL	**PUNTA DE LOS L**	**3.17**	**167**	*e*P	**Pn**	15 32 29.1	+0.7
APLL				*e*S	**Sn**	15 33 06.5	+0.2
ACDV	**Cuesta del Vie**	**3.26**	**208**	*e*P	**Pn**	15 32 31.4	+1.7
ACDV				*e*S	**Sn**	15 33 10.8	+2.2
ACDV				IAML		15 33 13.8	
comp=Z,367nm,0.4s							
AVFE	**Valle Fertil**	**3.35**	**182**	*e*P	**Pn**	15 32 31.6	+0.8
AVFE				*e*S	**Sn**	15 33 10.9	+0.3
AVFE				IAML		15 33 12.9	
comp=Z,296nm,0.5s							
AROD	**Rodeo**	**3.42**	**213**	*e*P	**Pn**	15 32 33.7	+1.8
AROD				*e*S	**Sn**	15 33 15.1	+2.6
LCO	**Las Campanas**	**3.42**	**239**	Pn	**Pn**	15 32 32.7	+0.8
LCO				Sn	**Sn**	15 33 12.5	-0.1
LCO	**Las Campanas**	**3.42**	**239**	*e*P	**Pn**	15 32 32.8	+0.8
LCO				*e*S	**Sn**	15 33 13.5	+1.0
LCO				IAML		15 33 15.7	
comp=Z,875nm,0.2s							
AC04	**Llanos de Chal**	**3.43**	**254**	Pn	**Pn**	15 32 32.3	+0.5
AC04				Sn	**Sn**	15 33 11.6	-0.7
AC04	**Llanos de Chal**	**3.43**	**254**	*e*P	**Pn**	15 32 31.7	-0.1
AC04				IAML		15 33 17.0	
comp=Z,247nm,0.3s							
CO01	**Juntas del Tor**	**3.60**	**222**		**Pn**	15 32 36.0	+1.7
CO01				Sn	**Sn**	15 33 15.3	-1.4
CO01	**Juntas del Tor**	**3.60**	**222**	*e*P	**Pn**	15 32 35.9	+1.6
CO01				*e*S	**Sn**	15 33 20.6	+3.9
CO01				IAML		15 33 26.9	
comp=Z,155nm,0.3s							
ACCO	**Cerro Coronel**	**3.61**	**204**	*e*P	**Pn**	15 32 36.5	+2.1
ACCO				*e*S	**Sn**	15 33 18.5	+1.5
AZAP	**Zapla**	**3.69**	**34**	*e*P	**Pn**	15 32 32.0	-3.5
AZAP				*e*P		15 32 37.9	
AZAP				IAML		15 33 27.7	
comp=Z,112nm,0.7s							
PB14	**IPOC Station P**	**3.83**	**313**	Pn	**Pn**	15 32 39.4	+1.9
PB14				Sn	**Sn**	15 33 23.0	+0.7
PB14	**IPOC Station P**	**3.83**	**313**	*e*P	**Pn**	15 32 39.2	+1.7
PB14				*e*S	**Sn**	15 33 26.4	+4.0
PB14				IAML		15 33 31.1	
comp=Z,175nm,0.8s							
ACHE	**Chepes**	**3.89**	**171**	*e*P	**Pn**	15 32 39.0	+1.0
ACHE				*e*S	**Sn**	15 33 23.2	-0.3
DOCA	**Reserva Natura**	**3.94**	**202**	*e*P	**Pn**	15 32 38.4	-0.5
DOCA				*e*S	**Sn**	15 33 24.8	-0.2
DOCA				IAML		15 33 26.0	
comp=Z,170nm,0.8s							
GO04	**Tololo Observa**	**4.17**	**226**		**Pn**	15 32 41.8	-0.1
GO04				Sn	**Sn**	15 33 28.1	-2.2
GO04	**Tololo Observa**	**4.17**	**226**	*e*P	**Pn**	15 32 41.1	-0.7
GO04				*e*S	**Sn**	15 33 31.0	+0.8
CFA	**Coronel Fontan**	**4.36**	**190**	P	**Pn**	15 32 44.4	+0.3
comp=Z,11nm,0.3s,baz=13,slow=19,SNR=32							
CFA				S	**Sn**	15 33 32.4	-2.0
comp=Z,92nm,0.3s,baz=255,slow=20,SNR=31							
ZON	**Zonda**	**4.39**	**195**	Pn	**Pn**	15 32 44.4	-0.1
ZON				Sn	**Sn**	15 33 33.0	-2.1
AF01	**San Pedro de A**	**4.39**	**350**	Pn	**Pn**	15 32 43.8	-1.1
AF01				Sn	**Sn**	15 33 37.3	+1.6
CO03	**El Pedregal**	**4.58**	**219**	Pn	**Pn**	15 32 46.5	-0.7
CO03				Sn	**Sn**	15 33 38.1	-1.7
CO03	**El Pedregal**	**4.58**	**219**	*e*P	**Pn**	15 32 47.5	+0.4
CO03				*e*S	**Sn**	15 33 41.0	+1.2
CO03				IAML		15 33 43.9	
comp=Z,312nm,0.6s							
TCA	**Tanti**	**4.68**	**150**	*e*P	**Pn**	15 32 48.4	-0.1
TCA				*e*S	**Sn**	15 33 40.0	-2.1
TCA				IAML		15 33 40.1	
comp=Z,94nm,0.5s							
PB10	**IPOC Station P**	**4.76**	**322**	Pn	**Pn**	15 32 50.8	+1.4
RTLS	**Leoncito**	**4.80**	**200**	*e*P	**Pn**	15 32 50.9	+0.8
RTLS				*e*S	**Sn**	15 33 45.1	0.0
RTLS				IAML		15 33 47.7	
comp=Z,441nm,0.9s							
PB06	**IPOC Station P**	**5.00**	**336**	*e*P	**Pn**	15 32 54.5	+1.7
PB06				IAML		15 33 56.5	
comp=Z,84nm,0.3s							
CO06	**Fray Jorge**	**5.04**	**227**		**Pn**	15 32 51.0	-2.1
CO06				Sn	**Sn**	15 33 45.9	-4.8
PB05	**IPOC Station P**	**5.13**	**329**	Pn	**Pn**	15 32 55.5	+0.9
PB05				Sn	**Sn**	15 33 53.9	+0.9
PB05	**IPOC Station P**	**5.13**	**329**	*e*P	Pn	15 32 50.5	-4.0
PB05				IAML		15 34 01.4	
comp=Z,51nm,0.5s							
PB09	**IPOC Station P**	**5.75**	**342**		**Pn**	15 33 04.0	+1.2
PB09				Sn	**Sn**	15 34 07.5	-0.3
VA03	**San Esteban**	**6.11**	**206**		**Pn**	15 33 06.3	-1.3
VA03				Sn	**Sn**	15 34 14.3	-2.2
VA06	**Catapilco**	**6.27**	**212**	Pn	**Pn**	15 33 07.2	-2.3
VA06				Sn	**Sn**	15 34 15.3	-4.6
PEL	**Peldehue**	**6.50**	**206**	Pn	**Pn**	15 33 11.0	-1.7
PB01	**IPOC Station P**	**6.53**	**342**		**Pn**	15 33 13.2	0.0
MT08	**Bocatoma Ro**	**6.55**	**200**	Pn	**Pn**	15 33 11.2	-2.4
MT16	**CCHEN**	**6.70**	**203**	Pn	**Pn**	15 33 12.8	-2.6
MT05	**Renca**	**6.74**	**205**	Pn	**Pn**	15 33 14.2	-1.8
MT03	**Universidad Ad**	**6.75**	**203**	Pn	**Pn**	15 33 13.9	-2.3
MT02	**Curacav**	**6.79**	**208**		**Pn**	15 33 14.1	-2.5
VA01	**Torpederas**	**6.81**	**212**		**Pn**	15 33 13.8	-3.1
MT13	**San Alfonso**	**6.91**	**201**		**Pn**	15 33 14.9	-3.4
PATCX	**Punta Patache**	**6.94**	**338**		**Pn**	15 33 18.2	-0.6
LMEL	**Las Melosas**	**6.98**	**200**		**Pn**	15 33 15.8	-3.5
MT09	**Talagante**	**7.18**	**205**	Pn	**Pn**	15 33 18.7	-3.3
TA01	**Diego Aracena**	**7.19**	**338**	Pn	**Pn**	15 33 21.2	-0.8
BO04	**La Punta**	**7.24**	**202**		**Pn**	15 33 19.7	-2.9
PB08	**IPOC Station P**	**7.32**	**347**		**Pn**	15 33 22.6	-1.5
VA05	**Santo Domingo**	**7.33**	**209**		**Pn**	15 33 19.6	-4.2
MT01	**Popeta**	**7.36**	**206**		**Pn**	15 33 20.6	-3.6
HMBC	**Humberstone**	**7.37**	**341**		**Pn**	15 33 23.1	-1.5
TA02	**Huaiquique**	**7.45**	**339**	Pn	**Pn**	15 33 24.2	-1.3
BO01	**Tunca**	**7.77**	**204**	Pn	**Pn**	15 33 25.9	-3.8
PB11	**IPOC Station P**	**7.80**	**344**	Pn	**Pn**	15 33 29.1	-1.3
BO02	**Sierra Bellavi**	**8.03**	**201**	Pn	**Pn**	15 33 29.5	-3.8
CPUP	**Villa Florida**	**9.00**	**86**	Pn	**Pn**	15 33 43.1	-3.2
CPUP	**Villa Florida**	**9.00**	**86**	P	**Pn**	15 33 44.3	-2.0
comp=Z,8.2nm,1.0s,baz=270,slow=12,SNR=7.8							
CPUP	**Villa Florida**	**9.00**	**86**	*e*P	**Pn**	15 33 44.6	-1.6
PB12	**IPOC Station P**	**9.07**	**342**	Pn	**Pn**	15 33 44.9	-2.6
ML02	**Panimavida**	**9.12**	**201**	Pn	**Pn**	15 33 43.9	-4.0
AP01	**Chacalluta**	**9.31**	**342**	Pn	**Pn**	15 33 49.2	-1.3
BI02	**San Fabin de**	**9.91**	**199**	Pn	Pn	15 33 52.8	-5.8
SJPY	**San Joaquin**	**10.35**	**80**	*e*P	**Pn**	15 34 04.7	+0.2
MURT	**Porto Murtinho**	**10.49**	**60**	*e*P	**Pn**	15 34 05.4	-0.8
BI05	**Punta Hualpn**	**10.64**	**206**	Pn	**Pn**	15 34 03.7	-4.5
TBOT	**Tacuaremb**	**10.85**	**116**	*e*P	**Pn**	15 34 10.4	-0.6
LPAZ	**La Paz**	**10.98**	**356**	Pn	**Pn**	15 34 11.3	-2.1
LPAZ	**La Paz**	**10.98**	**356**	P	**Pn**	15 34 13.8

PTLB Pontes e Lacer 14.04 35 *eP* **Pn 15 34 52.1 -0.5**
RPRD Ribas do Rio P 14.20 64 *eP* **Pn 15 34 54.1 -0.4**
LL04 Puerto Octay 14.21 196 Pn 15 34 50.6 -3.9
LL03 Petrohue 14.42 196 Pn **Pn 15 34 55.0 -2.2**
LL05 Los Muermos 14.95 198 Pn **Pn 15 35 01.6 -2.2**
LDASE Londrina, Braz 15.17 79 *eP* **Pn 15 35 06.3 -0.5**
LL01 San Ignacio de 15.60 194 *P* **Pn 15 35 12.4 +0.6**
SALV Santo Antonio 15.67 46 *eP* **Pn 15 35 12.0 -0.9**
VILB Vilhena 15.76 26 *P* **Pn 15 35 14.5 +0.4**
VILB Vilhena 15.76 26 *eP* **P 15 35 16.2 +0.9**
C2SB Chapadao do Su 15.81 61 *eP* **P 15 35 17.1 +1.4**
ITRB Iturama 17.30 68 *eP* **Pn 15 35 32.4 -0.5**
BB19B Bebedouro 18.24 74 *eP* **P 15 35 42.2 -0.3**
SPB Sao Paulo 18.35 83 *eP* **P 15 35 43.9 +0.2**
ARAG Araguaiana, MT 18.47 54 *eP* **P 15 35 44.9 -0.1**
PDRB Porto dos Gac 18.52 35 *eP* **P 15 35 44.6 -1.0**
VAO Valinhos 18.93 81 P **P 15 35 48.9 -1.2**
VAO IAmb IAmb 15 35 51.2
comp=Z,43nm,0.6s
VAO Valinhos 18.93 81 *eP* **P 15 35 50.3 +0.2**
CLDB Colider 19.62 36 *eP* **P 15 35 57.2 -0.4**
IPMB Ipameri, GO 19.92 66 *eP* **P 15 36 00.4 -0.4**
PARB Paraibuna 20.02 83 *eP* **P 15 36 00.8 -1.1**
CZSB Cruzeiro do Su 20.12 344 *eP* **P 15 36 04.2 +1.3**
PMNB Patos De Minas 21.11 70 *eP* **P 15 36 12.6 -1.0**
BDFB Brasilia 21.37 61 P **P 15 36 14.8 -1.6**
BDFB IAmb IAmb 15 36 16.5
comp=Z,9.0nm,0.4s
BDFB Brasilia 21.37 61 P **P 15 36 15.3 -1.1**
comp=Z,7.4nm,0.3s,baz=223,slow=8.1,SNR=12
comp=Z,7.4nm,0.3s
MAN01 Angra dos Reis 21.62 83 *eP* **P 15 36 19.3 +0.4**
DIAM Diamantina, MG 23.56 73 *eP* **P 15 36 38.3 +0.4**
TEFE Tefe 23.80 7 *eP* **P 15 36 40.5 +0.6**
MACA Manacapuru-AM 24.83 16 P **P 15 36 47.9 -1.4**
MACA IAmb IAmb 15 36 50.8
comp=Z,31nm,0.8s
EFI East Falkland 25.33 166 P **P 15 36 53.0 -0.5**
EFI IAmb IAmb 15 36 53.9
comp=Z,84nm,1.6s
MG02 Cerro Sombrero 25.49 183 P **P 15 36 55.0 +0.1**
SJMB Sao Joao De Ma 25.51 76 *eP* **P 15 36 55.4 -0.1**
SDBA SAO DESIDERIO 25.72 59 *eP* **P 15 36 56.8 -0.6**
RIB01 Linhares ES 25.95 78 *eP* **P 15 37 00.8 +1.3**
MG03 Isla Dawson 26.62 184 P **P 15 37 04.8 -0.2**
PRPB Paraiapebas 26.82 42 *eP* **P 15 37 07.3 +0.1**
GUA01 Guaratinga, BA 27.62 73 *eP* **P 15 37 14.8 +0.4**
MAL2 Monte Alegre, 28.12 29 P **P 15 37 18.3 -0.6**
MAL2 IAmb IAmb 15 37 20.4
comp=Z,36nm,1.0s
BOAV Boa Vista 30.25 14 P **P 15 37 38.3 +0.7**
BOAV IAmb IAmb 15 37 43.6
comp=Z,29nm,2.0s
BOAV Boa Vista 30.25 14 *eP* **P 15 37 38.7 +1.1**
NBAN Anadia - AL 34.14 65 *eP* **P 15 38 10.6 -1.1**
NBPB Pedra_Branca-C 34.15 56 *eP* **P 15 38 11.9 +0.2**
NBCA Caruaru-PE 35.19 63 *eP* **P 15 38 20.6 -0.2**
MPGF Montagnes des 35.21 26 P **P 15 38 22.1 +1.2**
ESPZ Base Esperanza 36.73 172 P **P 15 38 33.8 +0.6**
RCBR Riachuelo 36.74 60 P **P 15 38 33.6 -0.4**
RCBR IAmb IAmb 15 38 37.3
comp=Z,23nm,1.5s
VNA3 Neumayer Olymp 54.15 160 ⇑P **P 15 40 50.8 +0.6**
VNA1 Neumayer--Stat 54.37 159 ⇑P **P 15 40 54.4 +2.7**
comp=Z,0.5nm,0.2s
VNA2 Neumayer--Watz 54.73 160 ⇑P **P 15 40 55.1 +0.7**
comp=Z,0.7nm,0.4s,baz=330,slow=2.2
SNAA Sanae 56.36 160 ⇑P **P 15 41 06.6 +0.5**
comp=Z,6.6nm,0.3s
SNAA Sanae 56.36 160 P **P 15 41 06.1 0.0**
comp=Z,3.4nm,0.6s,baz=276,slow=8.8,SNR=28
comp=Z,3.4nm,0.6s
TROLL Troll, Antarti 58.08 160 ⇑P **P 15 41 19.0 +0.8**
comp=Z,42nm,0.3s
QSPA South Pole Qui 62.92 180 P **P 15 41 51.4 +0.3**
comp=Z,9.2nm,0.6s,baz=249,slow=0.5,SNR=101
comp=Z,9.2nm,0.6s
QSPA South Pole Qui 62.92 180 P **P 15 41 52.3 +1.1**
DBIC Dimbokro 69.16 70 P **P 15 42 31.4 -0.2**
comp=Z,1.6nm,0.3s,baz=285,slow=6.0,SNR=4.6
comp=Z,1.6nm,0.3s
DBIC Dimbokro 69.16 70 P **P 15 42 31.0 -0.7**
VNDA Vanda 71.41 190 P **P 15 42 45.5 +1.1**
comp=Z,1.6nm,0.9s,baz=121,slow=7.3,SNR=3.7
comp=Z,1.6nm,0.9s
VNDA Vanda 71.41 190 P **P 15 42 46.2 +1.9**
BOSA Boshof 79.52 117 P **P 15 43 31.8 +0.2**
comp=Z,1.3nm,0.5s,baz=247,slow=3.7,SNR=3.8
comp=Z,1.3nm,0.5s
PDAR Pinedale Array 79.83 330 P **P 15 43 34.2 +1.3**
comp=Z,0.2nm,0.6s,baz=125,slow=13,SNR=2.7
comp=Z,0.2nm,0.6s
ASAR Alice Springs 125.33 204 PKP **PKPdf 15 50 24.8 -0.1**
comp=Z,0.7nm,0.4s,baz=133,slow=1.7,SNR=22
WRA Warramunga Arr 128.55 206 PKP **PKPdf 15 50 31.5 +0.4**
comp=Z,0.6nm,0.3s,baz=154,slow=2.0,SNR=18
ZALV Zalesovo Beam 146.42 30 PKPbc **PKPbc 15 51 04.3 +0.2**
comp=Z,1.6nm,0.3s,baz=300,slow=3.2,SNR=6.0
MKAR Makanchi Array 149.21 43 PKPbc **PKPbc 15 51 12.9 +1.0**
comp=Z,2.1nm,0.6s,baz=299,slow=3.6,SNR=3.3

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*BUT **21** 15:32:05.5±1.5, 46°.90N×0°.03×113°.16W±0°.03, h11km±8km, Error ellipse: s-maj=4.3km s-min=2.6km az=167.0*
NEIC 21 15:32:04.8±1.1, **46°.88N**±0°.02×**113°.18W**±0°.03, **h14**km±7km, **ML3.1**/70, **ML3.4**/22(BUT), **Error ellipse: s-maj=3.2km s-min=3.0km az=184.0, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVMT	**Ovando**	**0.22**	**34**		Pg	15 32 10.0	+0.1
BPMT	**Black Pine Rid**	**0.48**	**203**	Pg	Pb	15 32 15.0	-0.2
MSO	**Missoula**	**0.53**	**265**		Pb	15 32 15.7	-0.2
MSO				Sg	Sb	15 32 22.8	-0.5
LYMT	**Lyon Mountain**	**0.62**	**81**		Pg	15 32 16.8	-0.1
HRY	**Holter Researc**	**0.94**	**100**		Pb	15 32 22.9	0.0
LRM	**Limekiln Ridge**	**1.17**	**154**		Pg	15 32 27.3	-0.2
DLMT	**Dillon**	**1.57**	**165**		Pb	15 32 33.4	-0.3
DLMT				Sg	Sb	15 32 53.7	+0.2
DLMT				IAML		15 32 57.4	
	191nm,0.6s						
DLMT				IAML		15 32 58.6	
	154nm,0.3s						
BOZ	**Bozeman (W)**	**1.67**	**139**		Pb	15 32 34.7	-0.8
BOZ					Sb	15 32 57.1	+0.6
BOZ				IAML		15 32 59.8	
	316nm,0.3s						
BOZ				IAML		15 32 59.9	
	223nm,0.3s						
MCMT	**McKenzie Canyo**	**2.07**	**173**	Pn	Pn	15 32 40.4	+1.1
QLMT	**Earthquake Lak**	**2.39**	**149**		Pn	15 32 45.0	+1.4
YHL	**Hebgen Lake**	**2.46**	**145**		Pn	15 32 46.1	+1.3
YHL				IAML		15 33 25.3	
	comp=N,110nm,0.6s						
YHL				IAML		15 33 27.5	
	comp=E,122nm,0.9s						
HSPGA	**Hill Springs,**	**2.50**	**353**		Pb	15 32 47.6	-1.9
YHB	**Horse Butte**	**2.54**	**146**		Pn	15 32 47.0	+1.2
YHB				IAML		15 33 27.4	
	comp=N,92nm,0.3s						
YHB				IAML		15 33 33.6	
	comp=E,55nm,0.6s						
EGMT	**Eagleton**	**2.59**	**63**		Pn	15 32 47.2	+0.8
YMC	**Maple Creek**	**2.61**	**144**		Pn	15 32 48.4	+1.7
YHH	**Holmes Hill**	**2.65**	**141**	Pn	Pn	15 32 48.4	+1.0
GCMT	**Greycliff**	**2.67**	**113**		Pn	15 32 48.4	+0.9
YMR	**Madison River**	**2.70**	**144**		Pn	15 32 49.6	+1.6
YMR	**Madison River**	**2.70**	**144**	IAML		15 33 34.5	
	comp=E,102nm,0.7s						
YMR				IAML		15 33 36.2	
	comp=N,91nm,0.8s						
YNE	**Yellowstone No**	**2.90**	**129**		Pn	15 32 50.8	+0.1
YNE				IAML		15 33 37.8	
	comp=E,94nm,0.6s						
YFT	**Old Faithful**	**2.93**	**145**		Pn	15 32 52.6	+1.4
NEW	**Newport**	**3.01**	**299**	Pn	Pn	15 32 52.6	+0.6
NEW				IAML		15 33 39.9	
	comp=E,43nm,0.4s						
NEW				IAML		15 33 44.3	
	comp=E,55nm,0.5s						
YMP	**Mirror Lake Pl**	**3.01**	**134**		Pn	15 32 54.5	+2.2
YMP				IAML		15 33 43.7	
	comp=N,57nm,0.6s						
YMP				IAML		15 33 46.4	
	comp=E,64nm,0.3s						
H17A	**Grant Village**	**3.08**	**143**		Pn	15 32 54.7	+1.4
RLMT	**Red Lodge**	**3.24**	**121**		Pn	15 32 57.4	+1.9
RLMT				IAML		15 33 48.0	
	comp=E,72nm,0.5s						
HLID	**Hailey**	**3.43**	**195**	Pn	Pn	15 32 59.0	+1.0
E09A	**Wood Farm, Sta**	**3.44**	**266**		Pn	15 32 59.3	+1.4
E09A				IAML		15 33 59.4	
	comp=N,68nm,0.5s						
E09A				IAML		15 34 00.2	
	comp=E,67nm,0.4s						
BMO	**Blue Mountains**	**3.52**	**236**		Pn	15 33 01.3	+2.1
MOOW	**Moose Ponds**	**3.57**	**150**	Pn	Pn	15 33 02.4	+2.4
FXWY	**Fox Creek**	**3.58**	**154**		Pn	15 33 01.1	+1.0
C09A	**Chrisman Ranch**	**3.58**	**287**	Pn	Pn	15 33 00.3	+0.3
TPAW	**Teton Pass**	**3.74**	**154**		Pn	15 33 03.5	+1.2
TPAW				IAML		15 34 09.0	
	comp=E,22nm,0.7s						
SNOW	**Snow King Moun**	**3.82**	**152**	Pn	Pn	15 33 04.4	+1.0
SNOW				IAML		15 33 30.7	
	comp=E,22nm,0.3s						
SNOW				IAML		15 33 48.7	
	comp=E,21nm,0.4s						
D08A	**Wollman Farm,**	**3.94**	**275**	Pn	Pn	15 33 08.3	+3.6
D08A				IAML		15 34 16.6	
	comp=N,47nm,0.8s						
D08A				IAML		15 34 17.2	
	comp=E,20nm,0.3s						
MFID	**Camas Ranch**	**3.94**	**209**		Pn	15 33 05.8	+0.9
E08A	**Dider Farm, El**	**4.07**	**267**	Pn	Pn	15 33 06.6	0.0
E08A				IAML		15 34 21.2	
	comp=E,32nm,0.6s						
G08A	**Pilot Rock**	**4.33**	**251**		Pn	15 33 10.5	+0.2
AHID	**Auburn Hatcher**	**4.37**	**159**		Pn	15 33 10.8	-0.2
HAWA	**Hanford**	**4.40**	**266**		Pn	15 33 09.2	-2.0
HAWA				IAML		15 34 38.0	
	comp=E,16nm,0.6s						
B08A	**Colville Reser**	**4.42**	**292**	Pn	Pn	15 33 11.3	-0.1
B08A				IAML		15 34 29.1	
	comp=E,25nm,0.6s						
B08A				IAML		15 34 32.5	
	comp=N,30nm,0.8s						
E07A	**Sunnyside**	**4.60**	**268**	Pn	Pn	15 33 13.6	-0.3
LAO	**LASA Array**	**4.78**	**90**		Pn	15 33 17.8	+1.4
PD31	**Pinedale Array**	**4.85**	**147**	Pn	Pn	15 33 18.8	+1.2
PDAR	**Pinedale Array**	**4.85**	**147**	Pn	Pn	15 33 16.6	-1.0
MXC	**Moxie City**	**4.90**	**269**	Pn	Pn	15 33 19.0	+1.0
MXC				IAML		15 34 48.4	
	comp=E,21nm,0.6s						
HVU	**Hansel Valley**	**5.11**	**177**	Pn	Pn	15 33 20.3	-0.7
HVU				IAML		15 34 49.2	
	comp=E,12nm,0.7s						
HVU				IAML		15 34 54.4	
	comp=N,19nm,0.7s						
LTY	**Liberty**	**5.13**	**277**	Pn	Pn	15 33 21.6	+0.4
LTY				IAML		15 34 54.7	
	comp=E,17nm,0.9s						
LTY				IAML		15 34 57.4	
	comp=N,16nm,0.6s						
J08A	**Circle Bar Ran**	**5.14**	**229**	Pn	Pn	15 33 22.9	+1.4
J08A				IAML		15 35 30.6	
	comp=E,11nm,4.7s						
J08A				IAML		15 35 55.8	
	comp=N,8.4nm,5.0s						
I07A	**Izee**	**5.25**	**240**		Pn	15 33 21.5	-1.5
I07A				IAML		15 34 59.0	
	comp=E,10nm,4.4s						
I07A				IAML		15 35 01.8	
	comp=N,7.4nm,2.4s						
HWUT	**Hardware Ranch**	**5.40**	**167**		Pn	15 33 23.2	-1.8
G06A	**Carlson Farm,**	**5.44**	**255**	Pn	Pn	15 33 23.9	-1.6
BGU	**Big Grassy Mou**	**5.95**	**179**	Pn	Pn	15 33 31.2	-1.5
ELK	**Elko**	**6.31**	**194**	Pn	Pn	15 33 35.6	-2.0
LLLB	**Lillooet**	**6.86**	**306**	Pn	Pn	15 33 45.9	+1.0

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*ISK **21** 15:37:55.3, 38°.79N×38°.16E, h5km, ML2.8/9*
*AFAD **21** 15:37:56.4, 38°.75N×38°.17E, h7km±1km, ML2.9*
ISC 21 15:37:56.5±1.0, **38°.78N**±0°.03×**38°.16E**±0°.03, **h14**km±9km, **n17**, σ0°**81**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.19**	**301**	P	**Pb**	**15 38 01.2**	**-0.7**
HEKM				S	**Sg**	**15 38 04.4**	**+0.3**
MAYA	**Malatya/Merkez**	**0.50**	**156**	P	**Pg**	**15 38 06.0**	**-0.5**
MAYA				*i* AML	AML	15 38 13.0	
	comp=N,874nm,0.3s						
MAYA				S	**S**	**15 38 13.0**	**-0.2**
AKCD	**Akcadag**	**0.52**	**201**	P	**Pg**	**15 38 06.5**	**-0.4**
AKCD				S	**Sg**	**15 38 14.7**	**+0.8**
AKCD				*i* AML	AML	15 38 16.0	
	comp=E,1μm,0.4s						
AKCD				*i* AML	AML	15 38 17.0	
	comp=N,2μm,0.5s						
KEMA	**Kemaliye**	**0.55**	**28**	P	**Pb**	**15 38 07.6**	**-0.4**
KEMA				S	**Sb**	**15 38 16.0**	**+0.3**
DARE	**Darende-Malaty**	**0.57**	**248**	Pg	**Pb**	**15 38 07.5**	**-0.9**
DARE				Sg	**Sg**	**15 38 16.7**	**+1.2**
CUGUR	**Gurin_SVAS**	**0.70**	**265**	P	**Pb**	**15 38 09.6**	**-1.0**
CUGUR				S	**Sg**	**15 38 20.4**	**+0.9**
ELZG	**Elazig**	**0.70**	**114**	P	**Pb**	**15 38 09.8**	**-0.8**
ELZG				S	**Sg**	**15 38 19.9**	**+0.4**
ELZG				*i* AML	AML	15 38 20.0	
	comp=N,877nm,0.2s						
CUKAN	**kangal_SIVAS**	**0.76**	**315**	P	**Pb**	**15 38 10.7**	**-0.9**
CUKAN				S	**Sg**	**15 38 22.4**	**+1.0**
PTK	**Pertek**	**0.96**	**83**	Pg	**Pb**	**15 38 14.6**	**-0.5**
PTK				Sg	**Sn**	**15 38 29.7**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.42**	**255**	Pn	**Pb**	**15 38 23.2**	**+0.4**
SARI				Sn	**Sg**	**15 38 43.9**	**+1.6**
URFA	**Urfa**	**1.44**	**159**	Pn	**Pb**	**15 38 23.8**	**+0.7**
SVSK	**Karacayir**	**1.45**	**322**	Pn	**Pb**	**15 38 23.5**	**+0.3**
KMRS	**Kahramanmaras**	**1.62**	**218**	Pn	**Pb**	**15 38 26.3**	**+0.1**
KMRS				Sn	**Sg**	**15 38 48.7**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.74**	**338**	Pn	**Pb**	**15 38 27.8**	**-0.4**
GAZ	**Gaziantep**	**1.78**	**205**	Pn	**Pb**	**15 38 28.7**	**-0.2**
BNN	**Bunyan**	**1.81**	**273**	Pn	**Pb**	**15 38 28.9**	**-0.6**
KOZT	**Kozan**	**2.26**	**235**	Pn	**Pb**	**15 38 35.3**	**-1.7**

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*IDC **21** 15:42:57.3±0.6, 40°.69N×51°.91E, h0km, mb4.3/24, mbtmp4.3/37, ML4.3/11, MS3.7/41, Error ellipse: s-maj=12.1km s-min=6.3km az=167.0*
*MOS **21** 15:42:58.3±1.0, 40°.88N×51°.93E, h9km, mb4.7/17, Error ellipse: s-maj=5.2km s-min=4.6km az=17.0*
*TEH **21** 15:43:00.4, 40°.50N×51°.85E, h10km*
*AZER **21** 15:43:02.9, 40°.41N×51°.81E, h35km, ml4.5*
*NEIC **21** 15:43:04.0±1.4, 40°.76N±0°.08×51°.8E±0°.1, h49km±8km, mb4.6/109, Error ellipse: s-maj=11.8km s-min=11.1km az=209.0*
*THR **21** 15:43:04.5±0.0, 40°.47N×51°.84E, h48km±986km, mb4.6*
*NNC **21** 15:43:10.9±1.1, 41°.33N×53°.14E, h0km, mb4.8, Error ellipse: s-maj=13.6km s-min=8.0km az=84.0*
*NAO **21** 15:43:36.3, 44°.20N×49°.43E, h33km, mb4.5*
ISC 21 15:43:02.4±0.6, **40°.66N**±0°.03×**51°.95E**±0°.03, **h32**km±4km, **n479**, σ1**980**/501, **mb4.7**/86, **MS3.6**/35, **44C-17D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.39**	**260**	P	**Pb**	**15 43 29.6**	**+1.9**
GALA				S	**Sn**	**15 43 43.7**	**+0.9**
NDR	**Nardaran**	**1.50**	**268**	Pn	**Pb**	**15 43 30.6**	**+1.1**
NDR				Sg	**Sb**	**15 43 47.7**	**-0.5**
GOBA	**Gobu**	**1.71**	**262**	Pg	**Pb**	**15 43 33.6**	**+0.4**
GOBA				Sg	**Sb**	**15 43 56.0**	**+1.7**
GBS	**Qobustan**	**2.29**	**268**	Pn	**Pb**	**15 43 41.8**	**-1.4**
GBS				Sn	**Sb**	**15 44 08.6**	**-2.6**
ATGJ	**Altiaghaj**	**2.30**	**276**	Pn	**Pn**	**15 43 40.4**	**+2.2**
ATGJ				Sg	**Sb**	**15 44 14.0**	**+2.8**
SIZA	**Siyzn**	**2.35**	**281**	Pn	**Pb**	**15 43 42.0**	**-2.2**
ALIB	**&Aumlli-Bayram**	**2.36**	**254**	Pn	**Pb**	**15 43 42.4**	**-1.8**
ALIB				Sn	**Sn**	**15 44 06.5**	**-0.2**
PQL	**Pirkuli**	**2.56**	**274**	Pn	**Pn**	**15 43 44.0**	**+2.3**
PQL				Sn	**Sb**	**15 44 16.1**	**-2.6**
QUBA	**Quba, Azerbaij**	**2.71**	**286**	Pn	**Pn**	**15 43 46.4**	**+2.7**
QUBA				Sn	**Sb**	**15 44 22.8**	**-0.1**
SAAT	**Saatly**	**2.82**	**255**	Pn	**Pn**	**15 43 47.9**	**+2.8**
SAAT				Sn	**Sn**	**15 44 20.0**	**+2.0**
IML	**Ismayilli**	**2.87**	**274**	Pn	**Pn**	**15 43 47.7**	**+1.8**
IML				Sn	**Sn**	**15 44 21.6**	**+2.2**
KDMR	**Kurdemir**	**2.89**	**266**	Pn	**Pn**	**15 43 47.8**	**+1.7**
KDMR				Sn	**Sn**	**15 44 22.3**	**+2.6**
QSAR	**Qusar**	**2.92**	**288**	Pn	**Pn**	**15 43 49.0**	**+2.4**
QSAR				Sn	**Sn**	**15 44 23.2**	**+2.7**
XNQ	**Khinaliq**	**2.93**	**281**	Pn	**Pn**	**15 43 48.7**	**+1.7**
XNQ				Sn	**Sn**	**15 44 23.7**	**+2.5**
GLBA	**Cliilabad**	**3.08**	**244**	Pn	**Pn**	**15 43 49.9**	**+1.1**
GLBA				Sn	**Sn**	**15 44 24.1**	**-0.4**
LKRN	**Lenkeran, Azer**	**3.13**	**232**	Pn	**Pn**	**15 43 50.0**	**+0.6**
LKRN				Sn	**Sn**	**15 44 24.0**	**-1.7**
QBL	**Gabala**	**3.14**	**277**	Pn	**Pn**	**15 43 51.1**	**+1.5**
QBL				Sn	**Sn**	**15 44 27.2**	**+1.2**
ASTR	**Astara**	**3.22**	**230**	Pn	**Pn**	**15 43 50.7**	**0.0**
ASTR				Sn	**Sn**	**15 44 25.3**	**-2.6**
ZRD	**Zardab**	**3.28**	**265**	Pn	**Pn**	**15 43 53.2**	**+1.7**
ZRD				Sn	**Sn**	**15 44 31.1**	**+1.7**
GAS1	**Astara - Iran**	**3.31**	**228**	Pn	**Pn**	**15 43 51.4**	**-0.6**
YRD	**Yardimli**	**3.35**	**240**	Pn	**Pn**	**15 43 52.5**	**-0.1**
YRD				Sn	**Sn**	**15 44 28.8**	**-2.6**
LRK	**Lerik**	**3.44**	**235**	Pn	**Pn**	**15 43 53.5**	**-0.4**
LRK				Sn	**Sn**	**15 44 31.2**	**-2.5**
BLQ	**Beylaqan**	**3.49**	**256**	Pn	**Pn**	**15 43 55.4**	**+0.9**
BLQ				Sn	**Sn**	**15 44 33.6**	**-1.1**
GRMI	**Germi**	**3.63**	**241**	Pn	**Pn**	**15 43 56.6**	**+0.1**
GRMI	**Germi**	**3.63**	**241**	*e*PnA		15 43 56.4	
GRMI				IAML		15 44 38.5	
	comp=Z,2.8nm,1.0s						
SEKA	**Sheki**	**3.64**	**280**	Pn	**Pn**	**15 43 58.6**	**+2.0**
SEKA				Sn	**Sn**	**15 44 40.9**	**+2.5**
BRDA	**Brd**	**3.66**	**265**	Pn	**Pn**	**15 43 58.6**	**+1.8**
BRDA				Sn	**Sn**	**15 44 41.2**	**+2.4**
MNGR	**Mingechevir, A**	**3.70**	**273**	Pn	**Pn**	**15 43 58.8**	**+1.5**
MNGR				Sn	**Sn**	**15 44 41.6**	**+1.9**
AGDM	**Agdam**	**3.74**	**263**	Pn	**Pn**	**15 43 58.7**	**+0.8**
AGDM				Sn	**Sn**	**15 44 40.3**	**-0.5**
QRD	**Qoradiz**	**3.75**	**253**	Pn	**Pn**	**15 43 58.7**	**+0.7**
QRD				Sn	**Sn**	**15 44 39.8**	**-1.3**
CSN1	**Caspian**	**3.81**	**217**	Pn	**Pn**	**15 43 58.4**	**-0.4**
MAK	**Makhachkala**	**4.04**	**306**	*e*PN	Pn	15 43 52.8	-9.1
MAK				pmax	pmax		
	comp=Z,26nm,0.4s						
MAK				MLR	MLR		
	comp=Z,232nm,7.0s						
GIDE	**GILAN DEYLAMAN**	**4.06**	**204**	*e*PnA		15 44 01.6	
GIDE				*e*Sg	**Sn**	**15 44 45.6**	**-3.4**
GIDE				IAML		15 44 46.8	
	comp=Z,8.2nm,1.0s						
ZKTA	**Zakatala**	**4.14**	**285**	Pn	**Pn**	**15 44 05.9**	**+2.5**
ZKTA				Sn	**Sn**	**15 44 54.9**	**+4.2**
KLST	**Kelardasht - M**	**4.20**	**190**	Pn	**Pn**	**15 44 04.1**	**-0.3**
MZPU	**Pul - Mazandar**	**4.23**	**184**	Pn	**Pn**	**15 44 04.8**	**0.0**
VSHL	**Vashlovani**	**4.24**	**279**	P	**Pn**	**15 44 07.0**	**+2.2**
VSHL				S	**Sn**	**15 44 55.1**	**+1.9**
GANJ	**Ganja**	**4.28**	**272**	Pn	**Pn**	**15 44 05.5**	**+0.2**
GANJ				Sn	**Sn**	**15 44 52.5**	**-1.7**
IMND	**Minoodasht**	**4.34**	**141**	Pn	**Pn**	**15 44 07.7**	**+1.6**
ISRB	**Sarab**	**4.37**	**231**	Pn	**Pn**	**15 44 06.9**	**+0.2**
MRVT	**Maraveh tapeh**	**4.40**	**132**	Pn	**Pn**	**15 44 09.0**	**+2.0**
MRVT	**Maraveh tapeh**	**4.40**	**132**	*e*PnA		15 44 08.6	
MRVT				IAML		15 45 02.1	
	comp=Z,1.3nm,1.0s						
IGLO	**Ghaloghah**	**4.41**	**160**	Pn	**Pn**	**15 44 08.0**	**+0.8**
IPRN	**Peran**	**4.42**	**176**	Pn	**Pn**	**15 44 07.5**	**+0.1**
LGD	**Lagodekhi**	**4.46**	**287**	P	**Pn**	**15 44 11.0**	**+3.3**
LGD				S	**Sn**	**15 45 00.9**	**+2.3**
LGD	**Lagodekhi**	**4.46**	**287**	*e*PN	**Pn**	**15 44 11.0**	**+3.3**
LGD				*e*S	**Sn**	**15 45 00.0**	**+1.4**
IHRS	**Heris**	**4.46**	**240**	Pn	**Pn**	**15 44 08.8**	**+0.8**
IGZV	**Ghazvin**	**4.48**	**198**	Pn	**Pn**	**15 44 08.0**	**-0.3**
IALA	**Alasht**	**4.62**	**171**	Pn	**Pn**	**15 44 11.3**	**+1.0**
IKIA	**Kiasar**	**4.65**	**162**	Pn	**Pn**	**15 44 11.9**	**+1.3**
GDB	**GEDABAY**	**4.71**	**273**	Pn	**Pn**	**15 44 11.3**	**-0.1**
GDB				Sn	**Sn**	**15 45 03.2**	**-1.8**
ZNJK	**Zanjan**	**4.74**	**214**	*e*PnA		15 44 11.0	
ZNJK				IAML		15 45 05.7	
	comp=Z,3.0nm,1.0s						
THKV	**Tehran--Karaj**	**4.81**	**190**	*e*PnA		15 44 13.7	
THKV				IAML		15 45 09.1	
	comp=Z,4.1nm,1.0s						
TEHA	**Amirabad Tehra**	**4.93**	**185**	Pn	**Pn**	**15 44 14.9**	**+0.6**
IHSH	**Hashtrud**	**4.96**	**229**	Pn	**Pn**	**15 44 14.4**	**-0.5**
QZX	**Qazax, Azerbai**	**5.00**	**277**	Pn	**Pn**	**15 44 15.7**	**+0.4**
QZX				Sn	**Sn**	**15 45 10.8**	**-1.2**
DAMV	**Damavand**	**5.02**	**180**	*e*PnA		15 44 17.3	
DAMV				IAML		15 45 36.8	
	comp=Z,0.0nm,1.0s						
DGRG	**David-gareji**	**5.04**	**281**	P	**Pn**	**15 44 17.1**	**+1.4**
DGRG				S	**Sn**	**15 45 15.0**	**+2.2**
DGRG	**David-gareji**	**5.04**	**281**	Pn	**Pn**	**15 44 17.1**	**+1.4**
DGRG				Sn	**Sn**	**15 45 14.6**	**+1.8**
DGRG	**David-gareji**	**5.04**	**281**	*e*PN	**Pn**	**15 44 17.1**	**+1.4**
DGRG				*e*S	**Sn**	**15 45 15.0**	**+2.2**
IMHD	**Mahdasht**	**5.07**	**192**	Pn	**Pn**	**15 44 17.6**	**+1.4**
SBZ	**Shahbuz**	**5.07**	**258**	Pn	**Pn**	**15 44 18.1**	**+1.8**
SBZ				Sn	**Sn**	**15 45 13.9**	**+0.1**
NAX	**Nakhchivan**	**5.18**	**255**	Pn	**Pn**	**15 44 19.8**	**+2.1**
NAX				Sn	**Sn**	**15 45 17.8**	**+1.3**
IHSB	**Hasanabad**	**5.24**	**186**	Pn	**Pn**	**15 44 20.3**	**+1.7**
QABG	**Abgarm-Qazvin**	**5.29**	**201**	Pn	**Pn**	**15 44 19.7**	**+0.4**
IRAZ	**Razeghan**	**5.49**	**198**	Pn	**Pn**	**15 44 22.9**	**+0.8**
IAZR	**Azarshahr**	**5.51

KHMZ IAML 15 46 33.8
comp=Z,0.1nm,1.0s
GEVA Gevas 7.27 254 Pn **Pn 15 44 46.9 +0.4**
IMOG Moghan 7.37 126 Pn **Pn 15 44 49.9 +1.9**
KBZ Khabaz 7.39 297 Pn **Pn 15 44 46.9 -1.0**
comp=Z,0.7nm,0.3s,baz=89,slow=10,SNR=14
KBZ Sn **Sn 15 46 08.7 -1.8**
comp=Z,4.5nm,0.3s,baz=295,slow=22,SNR=4.4
KBZ LR LR 15 48 09.5
comp=Z,143nm,21.4s,baz=131,slow=42
comp=Z,1.7nm,0.3s
KBZ Khabaz 7.39 297 *i* P **Pn 15 44 47.1 -0.8**
KCHF Cheshme Sefid, 7.47 213 Pn **Pn 15 44 51.0 +1.7**
SHA1 Shidzhatmaz 7.55 297 *i* P **Pn 15 44 49.6 -0.8**
ANAR Anarak 7.59 169 Pn **Pn 15 44 52.3 +1.4**
KIV Kislovodsk 7.61 299 Pn **Pn 15 44 51.2 +0.1**
KIV Kislovodsk 7.61 299 P **Pn 15 44 47.4 -3.7**
KIV S **Sn 15 46 12.3 -4.0**
KIV Kislovodsk 7.61 299 *eP* **Pn 15 44 51.2 +0.1**
KIV *eS* **Sn 15 46 17.0 +0.7**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,38nm,11.0s
TNSJ Nastanj 7.65 150 Pn **Pn 15 44 53.9 +2.3**
IMYA Miami 7.71 121 Pn **Pn 15 44 55.0 +2.4**
NASN Na'in 7.88 175 *e*PnA 15 44 56.5
NASN IAML 15 47 00.9
comp=Z,0.1nm,1.0s
GURO Guroymak-BITLI 7.94 258 Pn **Pn 15 44 56.5 +0.8**
TABS Tabas 8.12 148 *e*PnA 15 45 00.5
TABS IAML 15 46 33.5
comp=Z,300nm,1.0s
TKDS Koohdasht(Taba 8.16 148 Pn **Pn 15 45 01.1 +2.4**
GTMR Gotvand 8.49 196 *e*Pn **Pn 15 45 05.0 +1.9**
GTMR IAML 15 48 39.8
comp=Z,0.0nm,1.0s
TPRV Parvadeh(Tabas 8.51 152 Pn **Pn 15 45 05.3 +1.8**
YZKH Yazd 8.53 165 *e*PnA 15 45 05.1
YZKH IAML 15 46 41.9
comp=Z,29nm,1.0s
KOPT Kop Dagi 8.77 270 Pn 15 45 07.4 +0.2
AFRZ Afriz 9.16 140 Pn **Pn 15 45 14.5 +2.0**
MARD Mardin 9.32 253 Pn **Pn 15 45 15.5 +1.0**
SOC Sochi 9.55 292 *eP* **Pn 15 45 14.3 -3.2**
SOC *e* 15 47 00.7
SOC MLR MLR
comp=Z,132nm,15.0s
SHRT Shahrakht 9.66 134 *e*Pn **Pn 15 45 20.3 +1.1**
SHRT IAML 15 47 48.4
comp=Z,0.0nm,1.0s
AB31 Akbulak array 10.28 31 ⇑P **Pn 15 45 26.1 -1.5**
comp=Z,18nm,0.7s,baz=211,slow=14,SNR=247
AB31 ⇓S Sn 15 47 12.2 -9.5
comp=Z,41nm,0.3s,baz=212,slow=25,SNR=3.8
ABKAR Akbulak array 10.28 31 Pn **Pn 15 45 25.2 -2.4**
ABKAR Akbulak array 10.28 31 Pn **Pn 15 45 25.4 -2.1**
HRA Herat 10.29 124 Pn 15 45 25.4 -2.6
BSRN Basiran 10.43 144 *e*PnA 15 45 32.4
BSRN IAML 15 48 15.1
comp=Z,0.0nm,1.0s
AKTO Aktyubinsk 10.65 21 Pn **Pn 15 45 29.5 -3.1**
comp=Z,5.7nm,0.3s,baz=201,slow=7.1,SNR=54
AKTO Sn **Sn 15 47 23.6 -7.1**
comp=Z,19nm,0.3s,baz=38,slow=23,SNR=16
AKTO LR LR 15 50 58.9
comp=Z,376nm,21.0s,baz=229,slow=45
comp=Z,22nm,0.6s
AKTO Aktyubinsk 10.65 21 ⇑P **Pn 15 45 31.4 -1.3**
comp=Z,11nm,0.6s
AKTO ⇑S **Sn 15 47 22.8 -8.0**
comp=Z,258nm,0.8s
KRBR Kerman 11.35 158 *i* P **Pn 15 45 45.3 +2.7**
CHMN Cheshme madani 11.70 155 Pn **Pn 15 45 50.2 +2.8**
GHIR Ghir-Karzin 12.38 176 *e*PnA 15 45 58.3
GHIR IAML 15 45 58.8
comp=Z,0.0nm,1.0s
VRH Novokhopyorsk 12.71 329 *eP* **Pn 15 46 00.6 -0.1**
VRH pmax pmax
comp=Z,22nm,0.7s
DZET Dzherino 13.12 93 P **Pn 15 46 07.6 +1.0**
SIMJ Simiganj 13.30 93 Pn **Pn 15 46 06.5 -2.5**
BRLS Borolday 13.54 74 *eP* **Pn 15 46 09.0 -3.2**
BRLS Borolday 13.54 74 *eP* **Pn 15 46 09.0 -3.2**
VORD Divnogorie 13.55 324 *eP* **Pn 15 46 08.8 -3.4**
VORD pmax pmax
comp=Z,10.0nm,0.9s
IUG Iuzhnay 13.66 78 *eP* **Pn 15 46 12.5 -1.3**
IUG pmax pmax
comp=Z,6.0nm,0.6s
IUG Iuzhnay 13.66 78 *eP* **Pn 15 46 12.5 -1.3**
comp=Z,6.5nm,0.6s
BNDS Bandar-Abbas 13.68 164 IAML 15 52 40.6
comp=Z,0.0nm,1.0s
VSR Storozhevoye 13.78 324 *eP* Pn 15 46 10.8 -4.5
VSR pmax pmax
comp=Z,10.0nm,0.8s
KIRS Kirsehir-Merke 13.93 270 ⇓P **P 15 46 22.2 -3.1**
BR131 Keskin Array S 14.03 272 Pn **Pn 15 46 18.4 -0.6**
BR131 Keskin Array S 14.03 272 *i* P **Pn 15 46 20.0 +1.0**
BRTR Keskin Array B 14.03 272 Pn **Pn 15 46 18.1 -0.9**
BRTR Keskin Array B 14.03 272 Pn **Pn 15 46 20.1 +1.0**
comp=Z,1.4nm,0.7s,baz=99,slow=10,SNR=7.8
BRTR Keskin Array B 14.03 272 *ceP* **Pn 15 46 20.6 +1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
KK31 Karatay Array 14.04 74 Pn **Pn 15 46 16.9 -2.2**
KK31 Karatay Array 14.04 74 P **Pn 15 46 17.5 -1.5**
comp=Z,3.5nm,0.3s,baz=265,slow=17,SNR=85
KK31 ⇓S Sn 15 48 44.8 -8.9
comp=Z,12nm,0.3s,baz=314,slow=26,SNR=3.9
KKAR Karatay Array 14.04 74 Pn **Pn 15 46 16.9 -2.2**
VORR Voronezh 14.09 326 *eP* **Pn 15 46 15.7 -3.8**
VORR pmax pmax
comp=Z,10.0nm,0.9s
GAR Garm 14.21 91 Pn **Pn 15 46 20.7 -0.8**
BTK Batken 14.40 86 Pn 15 46 22.6 -1.4
DZA Taraz 14.63 75 *eP* **Pn 15 46 26.8 -0.2**
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA Taraz 14.63 75 *eP* **Pn 15 46 26.9 -0.2**
comp=Z,5.8nm,0.5s
ANTO Ankara 14.65 273 Pn **Pn 15 46 26.5 -0.8**
SAKB Bahrain 14.69 185 P **Pn 15 46 28.0 +0.1**
ASF Jabal al Asfar 14.77 240 Pn **Pn 15 46 28.6 -0.4**
comp=Z,0.4nm,0.3s,baz=113,slow=6.2,SNR=7.4
comp=Z,7.2nm,0.9s
KBL Kabul 14.85 109 Pn **Pn 15 46 29.3 -1.0**
LPSR Galich'ya Gora 14.89 328 *eP* **Pn 15 46 28.0 -2.4**
LPSR pmax pmax
comp=Z,36nm,0.8s
SHME Shamm 14.98 165 P **Pn 15 46 32.0 +0.2**
DRK Karamyk 15.24 88 Pn 15 46 33.5 -2.0
DRK IAmb IAmb 15 46 38.6
comp=Z,23nm,0.5s
MMAI Mount Meron Ar 15.28 245 Pn **Pn 15 46 34.5 -1.3**
comp=Z,0.5nm,0.3s,baz=59,slow=15,SNR=5.5
MMAI LR LR 15 53 56.0
comp=Z,97nm,18.0s,baz=50,slow=43
comp=Z,0.5nm,0.3s
JASK Jask - Hormozg 15.56 160 P **P 15 46 41.5 -1.8**
MASF Masafi 15.65 166 P **Pn 15 46 41.6 +1.0**
JRN Qarnain Island 15.70 177 P **Pn 15 46 40.7 -0.4**
MDH Madha 15.75 165 P **Pn 15 46 41.7 0.0**
MDH P **Pn 15 46 41.7 0.0**
CSS Mathiatis 15.77 255 Pn 15 46 41.5 -0.5
ARSB Arslanbob 15.89 81 Pn 15 46 42.1 -1.6
TRNA Turayna 15.89 182 P **Pn 15 46 43.9 +0.2**
SMRA Abu-Samra 15.90 184 P **Pn 15 46 43.8 +0.1**
SNR=6.4
UOSS Minazif 16.07 166 Pn **Pn 15 46 44.7 -1.3**
UOSS Minazif 16.07 166 P **Pn 15 46 45.8 -0.2**
UOSS P **Pn 15 46 45.8 -0.2**
FAQ Al Faqa, Dubai 16.16 168 P **Pn 15 46 47.3 +0.1**
FAQ P **Pn 15 46 47.3 +0.1**
HATD Hatta, Dubai 16.18 166 P **Pn 15 46 46.4 -1.0**
HATD P **Pn 15 46 46.4 -1.0**
GHAJ Ghor Haditha 16.20 240 Pn 15 46 47.3 -0.2
ASUD Al Ashush, Dub 16.24 169 P **Pn 15 46 48.6 +0.5**
AJN Ajban 16.25 170 P **Pn 15 46 48.5 +0.2**
AJN P **Pn 15 46 48.5 +0.2**
ARTI Arti 16.29 13 Pn **Pn 15 46 44.7 -3.9**
ARTI IAmb IAmb 15 47 07.2
comp=Z,35nm,0.7s

ARTI Arti 16.29 13 Pn **Pn 15 46 46.1 -2.4**
comp=Z,3.7nm,0.3s,baz=199,slow=8.1,SNR=30
ARTI Sn Sn 15 49 36.0 -12
comp=Z,3.3nm,0.3s,baz=71,slow=23,SNR=14
ARTI LR LR 15 54 56.3
comp=Z,180nm,19.5s,baz=219,slow=44
comp=Z,14nm,0.5s
ARTI Arti 16.29 13 P **Pn 15 46 44.8 -3.8**
ARTI S **Sn 15 49 43.8 -4.3**
ASHO Ashiyiah 16.30 167 P **Pn 15 46 48.1 -0.8**
AML Almayashu 16.38 78 P **Pn 15 46 51.5 +1.3**
SNR=17
OTUK Ortayu 16.38 56 ⇑P **Pn 15 46 47.5 -2.3**
comp=Z,44nm,0.9s
OTUK Ortayu 16.38 56 P **Pn 15 46 48.0 -1.8**
EKS2 Erkin-Say 16.43 76 P **Pn 15 46 51.2 +0.7**
SNR=29
SLWR Sila 16.55 181 P **Pn 15 46 52.0 0.0**
SLWR P **Pn 15 46 52.0 0.0**
BTLS Baital 16.77 68 *eP* **Pn 15 46 54.5 -0.2**
BTLS Baital 16.77 68 *eP* **Pn 15 46 54.5 -0.2**
ALNE Al Ain 16.86 168 P **Pn 15 46 55.7 -0.3**
ALNE P **Pn 15 46 55.7 -0.3**
SOHO SOHO 16.92 165 P **Pn 15 46 56.4 -0.4**
MZWR Madinat Zayed 16.93 174 P **Pn 15 46 56.7 -0.1**
AAK Ala-Archa 16.96 76 P **Pn 15 46 57.2 -0.1**
AAK Ala-Archa 16.96 76 Pn **Pn 15 46 58.1 +0.8**
comp=Z,2.4nm,0.3s,baz=241,slow=3.3,SNR=35
AAK Sn **Sn 15 50 02.4 -2.3**
comp=Z,1.3nm,0.3s,baz=38,slow=12,SNR=4.7
AAK LR LR 15 54 19.5
comp=Z,175nm,19.5s,baz=285,slow=40
AAK Ala-Archa 16.96 76 P **P 15 46 58.5 -0.4**
AAK P **P 15 46 58.5 -0.4**
AAK Ala-Archa 16.96 76 P **P 15 46 58.8 -0.2**
SNR=21
AAK Ala-Archa 16.96 76 ⇓P **Pn 15 46 58.0 +0.7**
comp=Z,18nm,1.0s
AAK S Sn 15 49 52.4 -12
comp=Z,15nm,0.9s
AAK Ala-Archa 16.96 76 *ceP* **Pn 15 46 57.9 +0.7**
AAK pmax pmax
comp=Z,25nm,1.7s
USP Ospenovka 16.96 74 P **P 15 46 59.3 +0.4**
SNR=13
FRU1 Bishkek 17.06 75 P **Pn 15 46 56.5 -1.9**
SGDS Sogindy 17.06 73 *eP* **Pn 15 46 58.5 0.0**
SGDS Sogindy 17.06 73 *eP* **Pn 15 46 58.5 0.0**
SVE Sverdlovsk 17.14 16 *eP* **Pn 15 46 57.8 -1.4**
SVE *eS* **Sn 15 50 00.9 -7.7**
SVE pmax pmax
comp=Z,55nm,1.2s
CHMS Chumysh 17.14 75 P **P 15 47 01.2 +0.3**
SNR=11
BRZS Berezniki 17.25 50 *eP* **Pn 15 46 59.6 -1.1**
BRZS Berezniki 17.25 50 *eP* **Pn 15 46 59.6 -1.1**
KBK Karagaybulak 17.29 76 P **P 15 47 06.1 +3.4**
SNR=5.3
BRVK Borovoye 17.57 39 Pn 15 47 02.3 -2.3
BRVK IAmb IAmb 15 47 07.6
comp=Z,50nm,1.0s
BRVK Borovoye 17.57 39 P **Pn 15 47 02.6 -2.0**
BRVK P **Pn 15 47 02.6 -2.0**
BRVK Borovoye 17.57 39 ⇑P **Pn 15 47 02.8 -1.8**
comp=Z,44nm,0.9s
BRVK ⇓S Sn 15 50 08.2 -11
comp=Z,85nm,0.8s
BRVK Borovoye 17.57 39 *ceP* **Pn 15 47 01.8 -2.8**
BRVK pmax pmax
comp=Z,55nm,1.0s
BVA0 Borovoye Array 17.60 39 ⇑P **Pn 15 47 03.6 -1.4**
comp=Z,33nm,0.8s,baz=230,slow=12,SNR=42
BVA0 ⇑S Sn 15 50 08.2 -12
comp=Z,45nm,0.7s,baz=236,slow=25,SNR=5.6
BVAR Borovoye Array 17.60 39 P **Pn 15 47 04.3 -0.7**
comp=Z,0.4nm,0.3s,baz=231,slow=9.4,SNR=38
BVAR S Sn 15 50 08.2 -12
comp=Z,39nm,0.7s,baz=231,slow=24,SNR=10
BVAR LR LR 15 55 05.7
comp=Z,490nm,18.0s,baz=243,slow=41
comp=Z,36nm,0.5s
HOQ Hoqain 17.62 164 P **Pn 15 47 05.8 +0.4**
ELL Elmali 17.63 264 P 15 47 06.7 +0.3
ELL IAmb IAmb 15 47 23.1
comp=Z,44nm,1.0s
MZR Muzera 17.66 175 P **P 15 47 07.3 +0.7**
MZR P **P 15 47 07.3 +0.7**
EIL Elat 17.67 237 P **Pn 15 47 05.5 -0.6**
comp=Z,0.3nm,0.3s,baz=33,slow=14,SNR=1.8
EIL LR LR 15 55 50.2
comp=Z,59nm,18.0s,baz=65,slow=44
comp=Z,2.1nm,0.6s
ARQ Araqi 17.70 166 P **Pn 15 47 05.7 -0.7**
OBN Obninsk 17.70 330 P **Pn 15 47 02.7 -3.5**
OBN IAmb IAmb 15 47 46.7
comp=Z,21nm,0.5s
OBN Obninsk 17.70 330 P **Pn 15 47 03.9 -2.2**
comp=Z,6.2nm,0.3s,baz=252,slow=1.0,SNR=3.9
comp=Z,18nm,0.3s
OBN Obninsk 17.70 330 ⇑*eP* **Pn 15 47 03.1 -3.1**
OBN *i* S **Sn 15 50 15.3 -6.9**
OBN pmax pmax
comp=Z,44nm,1.3s
OBN MLR MLR
comp=Z,171nm,15.0s
TIRR Tirgusor 17.73 290 P **Pn 15 47 03.6 -3.1**
TKM2 Tokmak 2 17.77 75 P **P 15 47 09.1 +1.2**
SNR=52
TKM2 Tokmak 2 17.77 75 ⇓P **P 15 47 08.0 +0.1**
comp=Z,27nm,0.7s
TKM2 Tokmak 2 17.77 75 P **P 15 47 08.0 +0.1**
MOS Moscow 17.80 333 *eP* **Pn 15 47 04.1 -3.2**
MOS *eS* **Sn 15 50 15.8 -8.7**
MOS pmax pmax
comp=Z,46nm,0.6s
RAYN Ar Rayn 17.93 200 P **Pn 15 47 07.3 -2.0**
RAYN Ar Rayn 17.93 200 ⇓P **Pn 15 47 07.3 -2.0**
CFR Carcaliu 17.99 292 ⇑P **Pn 15 47 08.6 -1.3**
CFR Carcaliu 17.99 292 ⇑P **Pn 15 47 08.6 -1.3**
KIRV Kirov 18.01 356 P **Pn 15 47 08.2 -1.8**
comp=Z,4.0nm,0.3s,baz=180,slow=2.4,SNR=18
KIRV S Sn 15 50 16.4 -13
comp=Z,15nm,0.8s,baz=9.6,slow=20,SNR=2.7
comp=Z,61nm,0.8s
KIRV Kirov 18.01 356 *ceP* **Pn 15 47 09.5 -0.5**
BOOM Boomskoye usch 18.03 76 P **Pn 15 47 10.7 +0.1**
AKAS Kas 18.04 263 Pn 15 47 08.1 -2.5
UMZA Um Al Zommool 18.10 170 P **Pn 15 47 10.5 -0.8**
WSAR Wadi Sarin 18.26 160 P **Pn 15 47 13.6 +0.3**
baz=12,slow=24,SNR=13
ULHL Ulahol 18.27 77 P **Pn 15 47 15.6 +2.2**
SNR=6.8
SMDO Samad 18.29 162 P **Pn 15 47 14.1 +0.3**
SMDO P **Pn 15 47 14.1 +0.3**
NIL Nilore 18.34 106 P **P 15 47 13.5 -0.6**
NIL Nilore 18.34 106 P **P 15 47 12.9 -1.3**
SORM Soroca 18.40 302 ⇑P **P 15 47 14.4 -0.2**
SORM Soroca 18.40 302 ⇑P **P 15 47 14.4 -0.2**
SORM Soroca 18.40 302 P **P 15 47 11.9 -2.7**
comp=Z,11nm,1.2s
BSY Bisya 18.41 164 P **P 15 47 14.8 -0.1**
BSY P **P 15 47 14.8 -0.1**
KSH Kashi 18.41 86 P **P 15 47 14.1 -0.8**
KSH S Sn 15 50 25.8 -14
KSH pmax pmax
comp=Z,18nm,0.7s
AK09 Malin Array Si 18.64 310 P **P 15 47 15.1 -2.2**
AKASG Malin Array Be 18.71 310 P **P 15 47 15.0 -3.0**
AKASG IAmb IAmb 15 47 19.3
comp=Z,39nm,0.8s
AKASG Malin Array Be 18.71 310 P **P 15 47 16.4 -1.6**
comp=Z,28nm,0.7s,baz=114,slow=11,SNR=55
AKASG S **Sn 15 50 37.0 -10**
comp=Z,0.4nm,0.4s,baz=105,slow=20,SNR=5.6
AKASG Malin Array Be 18.71 310 *ceP* **P 15 47 16.3 -1.7**
AKASG pmax pmax
comp=Z,29nm,0.7s
AKBB Malin Array Si 18.71 310 P **P 15 47 16.0 -2.0**
AKBB IAmb IAmb 15 47 19.4
comp=Z,48nm,0.9s
AKBB Malin Array Si 18.71 310 *ceP* **P 15 47 16.2 -1.8**
AKBB pmax pmax
comp=Z,49nm,0.9s
AKBB Malin Array Si 18.71 310 P **P 15 47 16.1 -2.0**
KIEV Kiev 18.72 310 P **P 15 47 15.8 -2.3**

KIEV IAmb IAmb 15 47 19.4
comp=Z,40nm,0.8s
KIEV Kiev 18.72 310 ⇓P **P 15 47 16.9 -1.2**
KIEV Kiev 18.72 310 P **P 15 47 16.9 -1.2**
AAA Alma-Ata 18.73 74 *eP* **P 15 47 18.6 +0.2**
AAA pmax pmax
comp=Z,16nm,0.6s
AAA Alma-Ata 18.73 74 *eP* **P 15 47 18.7 +0.3**
comp=Z,16nm,0.6s
TNSS Tian-Shan 18.75 74 *eP* **P 15 47 19.2 +0.2**
TNSS Tian-Shan 18.75 74 *eP* **P 15 47 19.3 +0.2**
CHKK Chushkaly 18.78 72 *eP* **Pn 15 47 19.5 0.0**
CHKK Chushkaly 18.78 72 *eP* **Pn 15 47 19.6 0.0**
WBK Wadi Bani Khal 18.95 160 P **Pn 15 47 21.4 -0.3**
JMDO Jabal Madar 18.97 162 P **P 15 47 21.5 +0.5**
KDJ Kajisay 18.97 77 P **Pn 15 47 22.5 +0.5**
VRI Vrincioaia 19.06 294 ⇑P **Pn 15 47 22.9 +0.1**
VRI Vrincioaia 19.06 294 ⇑P **Pn 15 47 22.9 +0.1**
ISR Istrita 19.11 292 ⇑P **Pn 15 47 23.9 +0.4**
ISR Istrita 19.11 292 ⇑P **Pn 15 47 23.9 +0.4**
NDNU Novodnistrovsk 19.15 303 P **P 15 47 20.6 -2.3**
TESR Tescani 19.20 296 ⇑P **P 15 47 23.9 +0.6**
TESR Tescani 19.20 296 P **P 15 47 22.4 -1.0**
comp=Z,12nm,1.6s
ONER Baraj Valea Uz 19.35 296 ⇓P **Pn 15 47 26.0 -0.3**
ARXS Arharly 19.40 71 *eP* **Pn 15 47 26.9 -0.1**
MI29 MI29, Kamyanyy 19.42 308 P **P 15 47 22.7 -3.1**
comp=Z,266nm,0.9s
TARG Taragay, Kyrgy 19.47 78 Pn 15 47 28.3 +0.1
JLN Jalan Bani Buh 19.51 159 P **P 15 47 27.6 +0.6**
MLR Muntele Rosu 19.56 293 P **P 15 47 26.6 -0.9**
comp=Z,0.4nm,0.3s,baz=214,slow=7.3,SNR=3.4
comp=Z,2.6nm,0.8s
MLR Muntele Rosu 19.56 293 ⇑P **P 15 47 28.0 +0.4**
MLR Muntele Rosu 19.56 293 ⇑P **P 15 47 28.0 +0.4**
KMPD K-Podol'skiy 19.73 302 P **P 15 47 28.1 -1.0**
SATY Saty 19.82 74 *eP* **P 15 47 31.2 +0.8**
SATY Saty 19.82 74 *eP* **P 15 47 31.3 +0.8**
TDK Taldyqorghan 19.84 69 *eP* **P 15 47 31.0 +0.5**
TDK Taldyqorghan 19.84 69 *eP* **P 15 47 31.1 +0.5**
DOPR Dopca 20.00 294 ⇓P **P 15 47 32.7 +0.5**
KARP Karpathos 20.14 263 P **P 15 47 32.2 -1.5**
VOIR 20.19 293 ⇓P **P 15 47 34.8 +0.5**
VOIR 20.19 293 ⇓P **P 15 47 34.8 +0.5**
VOIR 20.19 293 P **P 15 47 33.9 -0.4**
comp=Z,9.3nm,0.7s
UZB Uzynbulak 20.27 74 *eP* **P 15 47 35.7 +0.4**
UZB Uzynbulak 20.27 74 *eP* **P 15 47 35.8 +0.4**
MHTO MHTO 20.27 164 P **P 15 47 35.8 +0.5**
MHTO P **P 15 47 35.8 +0.5**
BURAR Bucovina Array 20.34 299 P **P 15 47 33.8 -2.2**
BURAR Bucovina Array 20.34 299 ⇑P **P 15 47 35.4 -0.6**
BURAR Bucovina Array 20.34 299 P **P 15 47 35.4 -0.6**
BUR08 Bucovina Ar. S 20.36 299 P **P 15 47 33.5 -2.7**
ARR Arges 20.48 292 ⇑P **P 15 47 37.4 0.0**
WUS Wushi 20.58 80 P 15 47 37.1 -1.5
SHLS Shalkode 20.59 74 *eP* Pn 15 47 42.9 +1.8
SHLS pmax pmax
comp=Z,12nm,0.7s
SHLS Shalkode 20.59 74 *eP* Pn 15 47 43.0 +1.8
comp=Z,12nm,0.7s
PDGK Podgornoye 20.61 73 ⇓P **P 15 47 39.3 +0.4**
comp=Z,10nm,0.8s
PDGK Podgornoye 20.61 73 P **P 15 47 39.0 +0.1**
RNPP5 Staryi Chortor 20.87 309 P **P 15 47 40.0 -1.5**
RNPP8 Varash 20.93 309 P **P 15 47 40.4 -1.7**
KURBB Kurchatov Arra 20.98 53 P **P 15 47 43.7 +1.0**
comp=Z,29nm,0.7s,baz=255,slow=11,SNR=114
KURBB S **S 15 51 34.8 +0.3**
comp=Z,2.5nm,0.6s,baz=124,slow=33,SNR=4.7
KURBB LR LR 15 57 01.8
comp=Z,287nm,18.9s,baz=205,slow=40
comp=Z,29nm,0.7s
KURBB Kurchatov Arra 20.98 53 ⇓P **P 15 47 43.6 +1.0**
comp=Z,20nm,0.6s
KURK Kurchatov 21.06 53 P **P 15 47 44.3 +0.7**
KURK Kurchatov 21.06 53 P **P 15 47 45.1 +1.5**
KURK P **P 15 47 45.1 +1.5**
KURK Kurchatov 21.06 53 ⇓P **P 15 47 44.6 +1.0**
comp=Z,50nm,0.7s
KURK Kurchatov 21.06 53 *ceP* **P 15 47 45.0 +1.5**
KURK pmax pmax
comp=Z,69nm,0.8s
LOT Lotru 21.09 292 ⇓P **P 15 47 43.9 -0.2**
MNK Minsk 21.19 319 *i* P **P 15 47 43.4 -1.6**
comp=E,23nm,0.8s
MNK *i* P **P 15 47 43.4 -1.6**
comp=N,13nm,0.8s
MNK *i* P **P 15 47 43.4 -1.6**
comp=Z,36nm,0.7s,baz=120
MNK *i* pP **sP 15 47 59.6 +2.1**
MNK *i* sP pP 15 48 18.3 +25
MNK *i* S **S 15 51 35.8 -2.9**
MNK *i* sS sS 15 52 03.1 +11
MNK *i* LQ LQ 15 53 43.4
MNK *i* LR LR 15 55 56.3
MNK *i* LRM MLR 15 57 23.6
comp=N,126nm,12.6s
MNK *i* LRM MLR 15 57 24.5
comp=E,119nm,13.6s
MNK *i* LRM MLR 15 57 29.6
comp=Z,98nm,14.7s
MNK Minsk 21.19 319 *i* P **P 15 47 43.4 -1.6**
MNK *i* *SP sP 15 48 18.3 +21
MNK *i* S **S 15 51 35.8 -2.9**
MNK *i* *SS sS 15 52 03.1 +11
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,23nm,0.8s
MNK pmax pmax
comp=Z,36nm,0.7s
MNK MLR MLR
comp=N,126nm,13.0s
MNK MLR MLR
comp=E,119nm,14.0s
MNK MLR MLR
comp=Z,98nm,15.0s
DQM DQM 21.21 165 P **P 15 47 45.1 -0.3**
KLMR Klimovskoe 21.62 343 *eP* **P 15 47 44.6 -4.8**
KLMR S **S 15 51 43.8 -3.2**
KLMR pmax pmax
comp=Z,45nm,0.8s
MARR Marisel-Cluj 21.63 296 ⇑P **P 15 47 49.9 0.0**
GZR Gura Zlata 21.78 292 ⇑P **P 15 47 50.7 -0.8**
GZR Gura Zlata 21.78 292 ⇑P **P 15 47 50.7 -0.8**
DRGR 21.92 296 ⇓P **P 15 47 52.5 -0.5**
DRGR 21.92 296 P **P 15 47 52.5 -0.5**
NACGM Naroch 21.95 319 *eP* **P 15 47 51.7 -1.3**
comp=Z,2μm,0.9s,baz=120
IDI Anoyia 21.95 265 P **P 15 47 52.7 -0.7**
comp=Z,7.8nm,0.6s,baz=58,slow=17,SNR=8.3
comp=Z,7.8nm,0.6s
HERR Herculane 22.03 291 ⇑P **P 15 47 53.6 -0.4**
DOK Doka 22.05 174 P **P 15 47 54.0 -0.4**
SNR=22
KWP Kalwaria Pacla 22.37 303 P **P 15 47 57.3 -0.4**
comp=Z,40nm,0.9s
MAKZ Makanchi 22.46 64 P **P 15 47 58.9 +0.2**
MAKZ Makanchi 22.46 64 ⇑P **P 15 47 59.7 +1.0**
comp=Z,38nm,0.9s
KOLS Kolonicke sedl 22.51 301 *eP* **P 15 48 04.3 +5.1**
KOLS pmax pmax
comp=Z,8.0nm,0.7s
KOLS Kolonicke sedl 22.51 301 *eP* **P 15 48 04.3 +5.1**
MK31 Makanchi Array 22.68 64 P **P 15 48 00.8 -0.2**
MK31 IAmb IAmb 15 48 15.9
comp=Z,30nm,0.8s
MK31 Makanchi Array 22.68 64 ⇑P **P 15 48 01.9 +0.9**
comp=Z,34nm,0.7s,baz=262,slow=10.0,SNR=140
MK31 Makanchi Array 22.68 64 *ceP* **P 15 48 02.1 +1.1**
MKAR Makanchi Array 22.68 64 P **P 15 48 00.9 -0.1**
MKAR Makanchi Array 22.68 64 P **P 15 48 01.9 +1.0**
comp=Z,11nm,0.8s,baz=262,slow=9.2,SNR=86
MKAR S **S 15 52 06.9 -0.2**
comp=Z,2.5nm,0.7s,baz=260,slow=18,SNR=3.3
MKAR LR LR 15 57 50.1
comp=Z,138nm,19.0s,baz=276,slow=39
comp=Z,11nm,0.8s
WHFO Wadi Hawf 22.72 176 P **P 15 48 00.6 -1.1**
DMTO DMTO 23.01 173 P **P 15 48 04.2 -0.5**
SNR=13
RBK Rabkut 23.16 175 P **P 15 48 05.5 -0.7**
SNR=7.1

RBK P **P** **15 48 05.5 -0.7**
SNR=7.1
ABTO Aybut 23.26 177 P **P** **15 48 06.1 -1.1**
ABTO P **P** **15 48 06.1 -1.1**
PSZ Piszkesteto 23.94 298 P **P** **15 48 12.6 -1.0**
PUK Puka 24.03 284 P **P** **15 48 14.3 -0.2**
OJC Ojcow 24.33 304 P **P** **15 48 15.1 -2.0**
OJC Ojcow 24.33 304 P **P** **15 48 14.9 -2.1**
ZSN Zaisan 24.48 63 *eP* **P** **15 48 19.2 +0.8**
ZSN *eS* **S** **15 52 39.8 +3.3**
ZSN pmax pmax
comp=Z,16nm,0.9s
ZSN Zaisan 24.48 63 *eP* **P** **15 48 19.2 +0.8**
comp=Z,16nm,0.9s
ZSN *eS* **S** **15 52 39.8 +3.3**
JAVC Velka Javorina 25.51 300 *eP* **P** **15 48 27.6 -0.2**
ZAA0 Zalesovo Array 25.68 48 P **P** **15 48 28.4 -0.8**
ZAA0 IAmb IAmb 15 48 34.2
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 25.68 48 P **P** **15 48 28.7 -0.5**
ZALV Zalesovo Beam 25.68 48 P **P** **15 48 29.6 +0.4**
comp=Z,13nm,0.7s,baz=263,slow=11,SNR=37
ZALV S S 15 53 15.6 +20
comp=Z,1.0nm,0.7s,baz=248,slow=20,SNR=1.6
ZALV LR LR 16 00 12.8
comp=Z,174nm,18.8s,baz=262,slow=40
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 25.68 48 *i* P **P** **15 48 30.2 +1.0**
ZALV pmax pmax
comp=Z,12nm,0.7s
MORC Moravsky Berou 25.70 302 P **P** **15 48 28.4 -1.1**
MORC Moravsky Berou 25.70 302 *eP* **P** **15 48 29.0 -0.4**
MORC Moravsky Berou 25.70 302 ⇑P **P** **15 48 29.1 -0.4**
MORC Moravsky Berou 25.70 302 ⇑P **P** **15 48 29.1 -0.4**
MODS Modra-Piesok 25.73 299 *eP* **P** **15 48 29.9 +0.2**
MODS pmax pmax
comp=Z,20nm,1.1s
MODS Modra-Piesok 25.73 299 *eP* **P** **15 48 29.9 +0.2**
FINES FINESS Array B 26.09 332 P **P** **15 48 32.0 -0.8**
comp=Z,15nm,0.9s,baz=138,slow=10.0,SNR=35
FINES ScP **ScP** **15 55 33.3 -3.5**
comp=Z,2.8nm,0.9s,baz=328,slow=6.8,SNR=4.0
FINES LR LR 16 01 28.5
comp=Z,179nm,18.6s,baz=104,slow=43
comp=Z,15nm,0.9s
WMQ Urumqi 26.52 71 *eP* **P** **15 48 37.8 +0.8**
WMQ pP sP 15 48 52.0 +1.9
WMQ pmax pmax
comp=Z,33nm,0.8s
DPC Dobruska-Polom 26.55 303 P **P** **15 48 36.7 -0.5**
BRG Berggiesshubel 28.12 304 *eP* **P** **15 48 52.1 +0.9**
BRG Amp 15 48 54.2
comp=Z,7.7nm,1.1s
GERES GERESS Array B 28.12 300 P **P** **15 48 50.9 -0.5**
comp=Z,0.2nm,0.3s,baz=90,slow=9.3,SNR=4.2
GERES LR LR 16 03 49.1
comp=Z,91nm,18.1s,baz=101,slow=45
comp=Z,0.2nm,0.3s
KHC Kasperske Hory 28.22 300 *eP* **P** **15 48 51.5 -0.6**
KHC Kasperske Hory 28.22 300 *ceP* **P** **15 48 53.0 +0.9**
KHC pmax pmax
comp=Z,9.0nm,1.7s
HFS Hagfors 30.58 322 P **P** **15 49 11.8 -1.1**
comp=Z,3.6nm,0.6s,baz=124,slow=10.0,SNR=15
HFS LR LR 16 03 16.0
comp=Z,140nm,19.5s,baz=60,slow=40
comp=Z,3.6nm,0.6s
NB2 NORSAR Subarra 32.05 323 P **P** **15 49 24.7 -1.2**
comp=Z,4.8nm,0.8s,baz=109,slow=9.3
NOA NORSAR Array B 32.05 323 P **P** **15 49 24.8 -1.1**
comp=Z,3.2nm,0.8s,baz=114,slow=8.3,SNR=7.5
NOA LR LR 16 03 51.9
comp=Z,76nm,18.8s,baz=355,slow=39
comp=Z,3.2nm,0.8s
ARCES ARCESS Array B 32.09 343 P **P** **15 49 26.0 -0.1**
comp=Z,2.9nm,0.9s,baz=151,slow=10,SNR=12
ARCES LR LR 16 04 13.9
comp=Z,128nm,18.7s,baz=129,slow=40
comp=Z,2.9nm,0.9s
NRIK Noril'sk 34.27 22 P **P** **15 49 45.4 +0.3**
NRIK IAmb IAmb 15 49 47.4
comp=Z,7.8nm,1.1s
NRIK Noril'sk 34.27 22 P **P** **15 49 45.5 +0.4**
comp=Z,2.0nm,0.5s,baz=221,slow=6.4,SNR=8.2
NRIK LR LR 16 04 24.1
comp=Z,108nm,20.6s,baz=259,slow=38
comp=Z,2.0nm,0.5s
NRIK Noril'sk 34.27 22 *ceP* **P** **15 49 46.3 +1.2**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
MOY Mondy 35.08 55 *eP* **P** **15 49 54.2 +1.8**
GTA Gaotai 36.31 76 *eP* **P** **15 50 04.6 +1.4**
GTA sP sP 15 50 16.3 0.0
GTA pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 36.35 102 P **P** **15 50 02.9 -0.8**
ZAK Zakamensk 36.59 57 *eP* **P** **15 50 06.4 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
EKA Eskdalemuir Ar 38.62 311 P **P** **15 50 21.6 -0.7**
comp=Z,2.1nm,0.3s,baz=96,slow=9.1,SNR=41
comp=Z,2.1nm,0.3s
SONM Songino Array 38.95 61 P **P** **15 50 26.2 +0.9**
comp=Z,0.9nm,0.7s,baz=279,slow=10,SNR=7.6
SONM LR LR 16 09 24.1
comp=Z,42nm,20.4s,baz=274,slow=41
comp=Z,0.9nm,0.7s
ULN Ulaanbaatar 39.38 61 P **P** **15 50 28.9 -0.1**
ULN IAmb IAmb 15 50 43.9
comp=Z,12nm,0.9s
ULN Ulaanbaatar 39.38 61 *i* P **P** **15 50 30.3 +1.3**
ULN pmax pmax
comp=Z,13nm,1.1s
LODK Lodwar 39.98 206 P **P** **15 50 34.6 +0.4**
SPITS Spitsbergen Ar 40.30 349 P **P** **15 50 36.1 0.0**
comp=Z,4.0nm,0.6s,baz=135,slow=11,SNR=18
comp=Z,4.0nm,0.6s
ESDC Sonseca Array 42.12 288 P **P** **15 50 50.4 -1.1**
comp=Z,0.7nm,0.6s,baz=60,slow=8.9,SNR=4.8
comp=Z,0.7nm,0.6s
PZH PanZhiHua 43.27 93 P **P** **15 51 01.8 +0.7**
PZH PKP sP 15 51 30.8 +16
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.4s
KMBO Kilima Mbogo 43.70 202 LR LR 16 10 58.9
comp=Z,54nm,18.2s,baz=1.0,slow=38
HHC Hu-ho-hao-te 44.37 69 *eP* **P** **15 51 09.6 -0.2**
CHTO Chiang Mai 45.61 104 P **P** **15 51 18.7 -1.0**
CM31 Chiang Mai Arr 45.83 105 P **P** **15 51 20.4 -1.1**
CM31 IAmb IAmb 15 51 24.9
comp=Z,5.3nm,0.8s
CMAR Chiang Mai Arr 45.83 105 P **P** **15 51 19.8 -1.7**
CMAR Chiang Mai Arr 45.83 105 P **P** **15 51 21.8 +0.3**
comp=Z,2.6nm,0.7s,baz=306,slow=8.2,SNR=25
comp=Z,2.6nm,0.7s
BORG Borgarnes 47.14 326 LR LR 16 11 48.5
comp=Z,61nm,18.3s,baz=106,slow=37
TIXI Tiksi 47.92 25 P **P** **15 51 36.7 -0.4**
TIXI IAmb IAmb 15 51 39.3
comp=Z,9.1nm,1.1s
TIXI Tiksi 47.92 25 LR LR 16 15 47.8
comp=Z,129nm,18.4s,baz=334,slow=41
HNS HongShan 47.94 72 ⇑P **P** **15 51 39.8 +2.0**
YAK Yakutsk 49.56 37 LR LR 16 15 44.3
comp=Z,222nm,18.5s,baz=277,slow=40
NJ2 Nanjing 53.40 77 *eP* **P** **15 52 18.5 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KLR Kul'dur 54.66 52 LR LR 16 16 53.6
comp=Z,65nm,18.9s,baz=312,slow=37
KLR Kul'dur 54.66 52 *ceP* **P** **15 52 27.9 0.0**
KLR pmax pmax
comp=Z,13nm,1.4s
PSI Prapat 56.63 119 LR LR 16 19 52.1
comp=Z,28nm,19.1s,baz=214,slow=39
USRK Ussuriysk Ar. 56.93 58 P **P** **15 52 44.8 +0.5**
comp=Z,5.2nm,0.7s,baz=281,slow=7.9,SNR=12
USRK LR LR 16 19 28.9
comp=Z,174nm,18.5s,baz=292,slow=38
comp=Z,5.2nm,0.7s
EUNU Eureka 57.29 352 P **P** **15 52 46.1 -0.3**
EUNU IAmb IAmb 15 52 48.0
comp=Z,8.2nm,0.9s
KSRS Korea Array 57.33 67 P **P** **15 52 47.2 0.0**
comp=Z,4.9nm,0.7s,baz=292,slow=6.9,SNR=13
KSRS LR LR 16 19 21.0
comp=Z,30nm,21.0s,baz=5.0,slow=38
comp=Z,4.9nm,0.7s
SFJD Kangerlussuaq 57.88 333 LR LR 16 16 38.5
comp=Z,41nm,22.0s,baz=10,slow=35
SEY Seymchan 59.06 32 *ceP* **P** **15 53 00.0 +1.1**
SEY pmax pmax
comp=Z,23nm,2.8s
OPO Ambohidratompo 59.09 185 LR LR 16 19 09.9
comp=Z,39nm,20.4s,baz=226,slow=37
LSZ Lusaka 59.87 207 LR LR 16 19 55.7
comp=Z,62nm,19.1s,baz=286,slow=37
MA2 Magadan 60.04 35 P **P** **15 53 05.3 -0.4**
MA2 Magadan 60.04 35 LR LR 16 22 20.0
comp=Z,118nm,18.6s,baz=302,slow=39
MA2 Magadan 60.04 35 *ceP* **P** **15 53 05.9 +0.2**
MA2 pmax pmax
comp=Z,7.0nm,0.9s
DBIC Dimbokro 60.75 252 P **P** **15 53 10.0 -1.2**
comp=Z,1.5nm,0.3s,baz=25,slow=3.2,SNR=4.8
comp=Z,1.5nm,0.3s
DBIC Dimbokro 60.75 252 P **P** **15 53 10.0 -1.2**
BILL Bilibino 61.08 23 *ceP* **P** **15 53 12.6 -0.1**
BILL pmax pmax
comp=Z,6.0nm,0.9s
JNU Nakatsue 61.60 69 LR LR 16 23 40.6
comp=Z,58nm,20.2s,baz=333,slow=40
ASAJ Asahikawa 63.63 53 LR LR 16 25 19.5
comp=Z,40nm,19.2s,baz=80,slow=40
MJAR Matsushiro Arr 64.86 63 P **P** **15 53 38.0 -0.4**
comp=Z,3.8nm,1.0s,baz=304,slow=7.9,SNR=3.8
MJAR LR LR 16 24 07.4
comp=Z,40nm,18.7s,baz=339,slow=38
comp=Z,3.8nm,1.0s
MJAR Matsushiro Arr 64.86 63 P **P** **15 53 38.0 -0.4**
PETK Petropavlovsk- 66.83 39 LR LR 16 26 00.7
comp=Z,76nm,18.1s,baz=304,slow=39
B20K Meade River 67.61 10 IAmb IAmb 15 53 56.6
comp=Z,6.4nm,0.8s
A36M Sachs Harbour 67.64 359 P **P** **15 53 54.4 -1.1**
A36M **sP** **15 54 08.8 -0.3**
C16K Lisburne Hills 67.84 14 IAmb IAmb 15 53 57.9
comp=Z,9.6nm,1.1s
C18K Utukok River 68.24 12 P **P** **15 53 59.2 -0.2**
B21K Ikpikpuk River 68.31 10 P **P** **15 53 59.9 +0.2**
RDOG Red Dog Mine 68.48 13 P **P** **15 54 00.3 -0.6**
RDOG IAmb IAmb 15 54 02.0
comp=Z,10nm,1.0s
C23K Itkillik River 68.58 8 P **P** **15 54 01.2 -0.2**
D23K Nanushuk River 69.40 9 IAmb IAmb 15 54 07.8
comp=Z,9.6nm,1.1s
C27K Jago River 69.42 6 P **P** **15 54 06.2 -0.5**
C27K IAmb IAmb 15 54 08.4
comp=Z,8.0nm,1.1s
D25K Kavik River 69.50 7 IAmb IAmb 15 54 08.7
comp=Z,7.8nm,0.9s
LBTB Lobatse 69.79 205 LR LR 16 26 17.2
comp=Z,32nm,20.5s,baz=7.5,slow=37
TOLK Toolik Lake Re 69.84 8 IAmb IAmb 15 54 10.9
comp=Z,8.1nm,0.7s
F17K Baldwin Pennin 70.22 14 IAmb IAmb 15 54 12.7
comp=Z,5.9nm,0.8s
F15K North Star Dit 70.23 15 P **P** **15 54 11.2 -0.5**
F15K IAmb IAmb 15 54 12.7
comp=Z,6.4nm,0.8s
C36M Paulatuk 70.27 359 P **P** **15 54 10.4 -1.4**
C36M IAmb IAmb 15 54 11.8
comp=Z,5.5nm,0.8s
F19K Shaleruckik Mo 70.44 12 IAmb IAmb 15 54 13.7
comp=Z,15nm,1.4s
E27K Coleen River 71.00 5 IAmb IAmb 15 54 17.8
comp=Z,12nm,1.2s
E29M Blow River 71.02 4 P **P** **15 54 15.6 -0.9**
E29M IAmb IAmb 15 54 17.8
comp=Z,8.4nm,0.8s
COLD Coldfoot 71.12 9 P **P** **15 54 16.2 -1.0**
COLD IAmb IAmb 15 54 19.2
comp=Z,7.0nm,1.0s
G18K Tagagawik 71.16 13 IAmb IAmb 15 54 18.2
comp=Z,8.7nm,1.2s
F26K Sheenjek River 71.28 6 P **P** **15 54 17.5 -0.7**
G21K Allakaket 71.37 10 IAmb IAmb 15 54 20.4
comp=Z,15nm,1.4s
H19K Roundabout Mou 71.86 12 IAmb IAmb 15 54 22.7
comp=Z,13nm,1.4s
G24K Hadweenzic Riv 71.93 8 P **P** **15 54 21.5 -0.5**
G24K IAmb IAmb 15 54 23.9
comp=Z,7.2nm,0.9s
F31M Tsiigehtchic 72.14 2 IAmb IAmb 15 54 23.7
comp=Z,6.8nm,0.8s
H21K Melozitna Rive 72.28 10 IAmb IAmb 15 54 25.3
comp=Z,4.7nm,0.8s
G27K Doyon Strip 72.35 6 IAmb IAmb 15 54 26.3
comp=Z,12nm,1.4s
G30M tAoh Zraii Nji 72.50 3 IAmb IAmb 15 54 26.0
comp=Z,6.2nm,0.7s
EPYK Eagle Plains 73.09 4 P **P** **15 54 28.0 -1.0**
EPYK IAmb IAmb 15 54 58.0
comp=Z,15nm,1.4s
H29M Whitestone 73.15 4 IAmb IAmb 15 54 30.9
comp=Z,16nm,1.4s
BOSA Boshof 73.24 204 LR LR 16 31 19.9
comp=Z,55nm,18.7s,baz=16,slow=40
J20K Nowinta River 73.48 12 IAmb IAmb 15 54 32.7
comp=Z,4.7nm,0.8s
H31M Peel River 73.75 3 IAmb IAmb 15 54 47.7
comp=Z,10nm,1.5s
NEA2 Nenana 73.78 9 P **P** **15 54 31.8 -1.2**
NEA2 IAmb IAmb 15 54 34.2
comp=Z,13nm,1.2s
I28M Miner Creek 73.82 5 IAmb IAmb 15 54 33.9
comp=Z,6.7nm,0.7s
ILAR Eielson Array 73.87 8 P **P** **15 54 33.5 -0.1**
comp=Z,1.4nm,0.9s,baz=329,slow=3.8,SNR=6.6
comp=Z,1.4nm,0.9s
I29M Ogilvie Camp, 74.01 4 P **P** **15 54 33.3 -1.1**
BPAW Bear Paw Mtn. 74.01 10 IAmb IAmb 15 54 36.5
comp=Z,10nm,1.2s
I30M Mount Dempster 74.25 4 IAmb IAmb 15 54 36.5
comp=Z,5.7nm,0.8s
CAST Castle Rocks 74.51 11 P **P** **15 54 36.8 -0.5**
SCRK Sand Creek 74.94 7 IAmb IAmb 15 54 40.7
comp=Z,8.5nm,1.3s
RND Reindeer 74.95 10 P **P** **15 54 38.8 -1.2**
RND IAmb IAmb 15 54 40.1
comp=Z,8.0nm,0.9s
DAWY Dawson 75.23 5 P **P** **15 54 40.5 -1.0**
DAWY IAmb IAmb 15 54 42.3
comp=Z,6.5nm,0.8s
DOT Dot Lake 75.25 7 P **P** **15 54 40.9 -0.8**
DOT IAmb IAmb 15 54 43.0
comp=Z,6.1nm,0.8s
K29M Barlow Dome 75.56 4 P **P** **15 54 42.8 -0.7**
L26K Log Cabin Wild 75.93 7 IAmb IAmb 15 54 46.6
comp=Z,4.2nm,0.7s
MENT Mentasta 75.98 7 P **P** **15 54 44.9 -0.9**
MENT IAmb IAmb 15 54 47.2
comp=Z,6.3nm,0.8s
BCAR Beaver Creek A 76.03 6 P **P** **15 54 45.9 -0.2**
WRGLY Wrigley 76.39 358 P **P** **15 54 47.0 -1.1**
WRGLY IAmb IAmb 15 54 49.2
comp=Z,12nm,1.0s
YKA Yellowknife Ar 76.62 354 P **P** **15 54 48.7 -0.7**
comp=Z,1.0nm,0.7s,baz=9.8,slow=6.3,SNR=14
YKA LR LR 16 33 31.4
comp=Z,75nm,18.4s,baz=261,slow=40
comp=Z,1.0nm,0.7s
SUR Sutherland 78.17 207 LR LR 16 32 20.0
comp=Z,65nm,19.1s,baz=350,slow=38
ACHA Angle Creek He 78.89 14 P **P** **15 55 00.9 -1.2**
DLBC Dease Lake 81.25 1 P **P** **15 55 15.1 +0.2**
comp=Z,2.7nm,1.0s,baz=329,slow=5.1,SNR=4.0
DLBC LR LR 16 38 08.6
comp=Z,131nm,18.1s,baz=45,slow=41
comp=Z,2.7nm,1.0s
ULM Lac du Bonnet 85.17 340 LR LR 16 32 55.6
comp=Z,34nm,20.4s,baz=329,slow=35
BBB Bella Bella 87.53 0 LR LR 16 41 37.7
comp=Z,37nm,18.1s,baz=252,slow=40
NEW Newport 90.93 353 LR LR 16 46 27.1
comp=Z,48nm,18.1s,baz=288,slow=42
YNE Yellowstone No 93.19 347 IAmb IAmb 15 56 14.4
comp=Z,3.8nm,1.1s
PDAR Pinedale Array 95.29 346 P **P** **15 56 22.1 -1.2**
comp=Z,0.1nm,0.4s,baz=10,slow=6.7,SNR=1.4
comp=Z,0.1nm,0.4s
WRA Warramunga Arr 97.20 110 P **P** **15 56 30.7 -1.2**
comp=Z,0.7nm,0.7s,baz=316,slow=4.5,SNR=7.7
comp=Z,0.7nm,0.7s

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*IDC **21** 15:44:12.0±0.8, 6°.87N×73°.07W, h160km±13km, mb3.4/3, mbtmp3.9/5, Error ellipse: s-maj=38.0km s-min=7.9km az=131.0*
*RSNC **21** 15:44:13.5±0.0, 7°N±1°×7°3W±°, h146km±2km, M3.5, mb3.7, mB5.3, ML3.3, Mw(mB)4.7*
ISC 21 15:44:11.5±0.8, 6°.85N±0°.03×73°.12W±0°.03, h158km±6km, n46, σ1°.20/86, mb3.5/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**194**	P	**Pn**	**15 44 33.3**	**+0.1**
BARC				S	**Sn**	**15 44 48.3**	**-1.4**
BRJC	**Barrancabermej**	**0.63**	**281**	P	**Pn**	**15 44 34.9**	**+0.5**
BRJC				S	**Sn**	**15 44 51.2**	**-0.7**
PAMC	**Pamplona, Colo**	**0.64**	**41**	P	**Pn**	**15 44 36.0**	**+1.0**
PAMC				S	**Sn**	**15 44 53.1**	**+0.1**
RUSC	**La Rusia**	**0.95**	**178**	P	**Pn**	**15 44 37.1**	**-0.1**
RUSC				S	**Sn**	**15 44 55.9**	**-1.0**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P	**Pn**	**15 44 39.6**	**-0.7**
PTBC				S	**Sn**	**15 45 01.3**	**-1.1**
TAMC	**Tame, Arauca**	**1.38**	**107**	P	**Pn**	**15 44 41.7**	**+1.2**
TAMC				S	**Sn**	**15 45 03.2**	**+0.5**
OCAC	**Ocana**	**1.39**	**352**	P	**Pn**	**15 44 41.3**	**+0.6**
OCAC				S	**Sn**	**15 45 03.6**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**15 44 45.2**	**-0.1**
ZARC				S	**Sn**	**15 45 10.9**	**-0.4**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**15 44 48.8**	**-0.2**
NORC				S	**Sn**	**15 45 17.4**	**-0.6**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**15 44 51.2**	**+0.3**
CHIC				S	**Sn**	**15 45 20.5**	**-0.8**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**15 44 53.2**	**+1.8**
	148nm,0.3s,baz=307,slow=22,SNR=67						
ROSC				S	**Sn**	**15 45 23.9**	**+1.9**
	406nm,0.3s,baz=108,slow=16,SNR=7.8						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**15 44 53.0**	**+1.6**
ROSC				S	**Sn**	**15 45 22.4**	**+0.3**
HELC	**Santa Helena**	**2.48**	**255**	P	**Pn**	**15 44 53.9**	**+0.7**
HELC				S	**Sn**	**15 45 24.9**	**-0.4**
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P	**Pn**	**15 44 54.8**	**+1.3**
CVER				S	**Sn**	**15 45 26.1**	**+0.1**
MEDEC	**Medelln, Ant**	**2.52**	**257**	P	**Pn**	**15 44 53.4**	**0.0**
MEDEC				S	**Sn**	**15 45 25.7**	**-0.1**
UREC	**San Jos de Ur**	**2.56**	**291**	P	**Pn**	**15 44 52.9**	**-0.8**
UREC				S	**Sn**	**15 45 23.9**	**-2.4**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	**Pn**	**15 44 57.1**	**+0.5**
GUY2C				S	**Sn**	**15 45 31.7**	**+0.2**
VILC	**Villavicencio,**	**2.78**	**192**	P	**Pn**	**15 44 56.7**	**+0.1**
VILC				S	**Sn**	**15 45 30.7**	**-0.9**
NIZA	**Niza - Manizal**	**2.94**	**233**	P	**Pn**	**15 45 01.0**	**+2.3**
NIZA				S	**Sn**	**15 45 37.2**	**+1.9**
CBOC	**Ciudad Bolivar**	**3.04**	**251**	P	**Pn**	**15 45 00.9**	**+1.1**
CBOC				S	**Sn**	**15 45 36.4**	**-0.9**
DBBC	**Dabeiba**	**3.07**	**273**	P	**Pn**	**15 45 00.6**	**+0.4**
DBBC				S	**Sn**	**15 45 36.2**	**-1.7**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**15 45 01.9**	**+0.3**
	8.8nm,0.3s,baz=240,slow=8.0,SNR=11						
SDV				S	**Sn**	**15 45 40.4**	**-0.2**
	40nm,0.5s,baz=110,slow=23,SNR=32						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**15 45 02.9**	**+1.2**
SDV				S	**Sn**	**15 45 40.0**	**-0.6**
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	**Pn**	**15 45 03.3**	**+1.8**
ARGC				S	**Sn**	**15 45 42.5**	**+2.1**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**15 45 06.5**	**-0.1**
PRAC				S	**Sn**	**15 45 48.7**	**-0.8**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**15 45 07.0**	**+0.4**
APAC				S	**Sn**	**15 45 48.7**	**-0.8**
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**15 45 07.3**	**+0.3**
ORTC				S	**Sn**	**15 45 49.9**	**-0.3**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**15 45 06.8**	**-0.7**
SJCC				S	**Sn**	**15 45 49.8**	**-1.2**
PLMC	**San Jos del P**	**3.70**	**239**	P	**Pn**	**15 45 09.0**	**+0.9**
PLMC				S	**Sn**	**15 45 51.4**	**-0.7**
LCBC	**Los crdobas,**	**3.79**	**302**	P	**Pn**	**15 45 09.9**	**+0.7**
LCBC				S	**Sn**	**15 45 53.8**	**-0.3**
URMC	**La Uribe, Meta**	**3.80**	**199**	P	**Pn**	**15 45 10.2**	**+0.8**
URMC				S	**Sn**	**15 45 53.2**	**-1.3**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**15 45 13.6**	**-0.4**
CRJC				S	**Sn**	**15 46 00.4**	**-2.3**
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	**Pn**	**15 45 15.9**	**0.0**
YOTC				S	**Sn**	**15 46 06.1**	**0.0**
GUVC	**San Jose del G**	**4.31**	**173**	P	**Pn**	**15 45 15.9**	**-0.1**
GUVC				S	**Sn**	**15 46 03.0**	**-3.3**
SMRC	**Santa Marta, M**	**4.42**	**346**	P	**Pn**	**15 45 18.4**	**+1.0**
SMRC				S	**Sn**	**15 46 06.3**	**-2.6**
PTAC	**Punta Ardita,**	**4.67**	**274**	P	**Pn**	**15 45 20.2**	**-0.4**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**15 45 20.5**	**-1.1**
MACC				S	**Sn**	**15 46 11.8**	**-4.5**
BETC	**Betania**	**4.75**	**209**	P	**Pn**	**15 45 22.0**	**+0.2**
BETC				S	**Sn**	**15 46 15.2**	**-1.5**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**15 45 24.0**	**-0.3**
URIC				S	**Sn**	**15 46 19.9**	**-1.3**
MALC	**Bahia Malaga**	**5.06**	**236**	P	**Pn**	**15 45 27.8**	**+2.0**
MALC				S	**Sn**	**15 46 25.2**	**+1.3**
JAMC	**Jamundi, Valle**	**5.06**	**225**	P	**Pn**	**15 45 26.5**	**+0.4**
	558nm11nm,0.8s						
JAMC				S	**Sn**	**15 46 24.2**	**-0.1**
	558nm11nm,0.8s						
TKL	**Tuckaleechee C**	**30.29**	**343**	P	**P**	**15 50 08.1**	**+0.2**
	3.5nm,0.6s,baz=190,slow=12,SNR=5.0						
	3.5nm,0.6s						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**15 51 01.2**	**-0.2**
	0.3nm,0.4s,baz=137,slow=6.0,SNR=4.4						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**15 54 23.7**	**+0.9**
	0.4nm,0.6s,baz=139,slow=6.5,SNR=7.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**16 03 41.6**	**-0.5**
	0.3nm,0.5s,baz=121,slow=4.2,SNR=1.3						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**16 03 44.9**	**-0.2**
	0.3nm,0.4s,baz=108,slow=2.5,SNR=2.0						

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*IDC **21** 15:53:48.6±2.1, 6°.54S×128°.31E, h0km, mb3.5/1, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=83.7km s-min=28.1km az=74.0*
*DJA **21** 15:54:00.6±1.5, 7°S±6°×12°8E±°, h317km±28km, M3.9/7, mb3.8/2, MLv4.0/7*
ISC 21 15:54:01.7±1.4, 6°.93S±0°.09×128°.31E±0°.09, h300km, n17, σ3°.86/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.87**	**34**	P	**Pn**	**15 54 57.3**	**+1.1**
SAUI	**Saumlaki**	**3.15**	**110**	P	**Pn**	**15 55 00.9**	**+2.0**
SAUI	**Saumlaki**	**3.15**	**110**	P	**Pn**	**15 54 59.9**	**+1.0**
SOEI	**Soe**	**4.88**	**235**	P	**Pn**	**15 55 19.0**	**+1.0**
SOEI	**Soe**	**4.88**	**235**	P	**Pn**	**15 55 18.4**	**+0.4**
FAKI	**Fak Fak**	**5.59**	**45**	P	**Pn**	**15 55 25.6**	**-0.6**
	0.1nm17nm,1.1s						
DRS	**Darwin Rock St**	**6.04**	**155**	P	**Pn**	**15 55 31.7**	**+0.3**
MTN	**Manton Dam**	**6.50**	**155**	P	**Pn**	**15 55 36.9**	**-0.2**
KDU	**Kakadu**	**7.04**	**145**	P	**Pn**	**15 55 44.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.40**	**193**	Pn	**P**	**15 56 37.3**	**-1.7**
	0.5nm,0.3s,baz=13,slow=7.8,SNR=16						
FITZ				Sn	S	15 58 33.6	-11
	0.5nm,0.3s,baz=345,slow=16,SNR=1.9						
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**14.20**	**156**	Pn	Pn	15 57 15.5	+4.7
	0.3nm,0.3s,baz=336,slow=14,SNR=19						
WRA				Sn	**S**	**15 59 40.5**	**-6.0**
	1.0nm,0.3s,baz=332,slow=22,SNR=12						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**17.49**	**163**	P	Pn	15 57 59.3	+10
	0.7nm,0.3s,baz=344,slow=11,SNR=119						
ASAR				S	**S**	**16 01 01.5**	**+9.3**
	0.4nm,0.4s,baz=340,slow=24,SNR=5.8						
	3.9nm,0.6s						
WRKA	**Warakurna**	**18.01**	**180**	P	P	15 58 04.8	+13
OOD	**Oodnadatta**	**21.90**	**162**	P	P	15 58 46.9	+16
INKA	**Innaminka**	**23.83**	**152**	P	P	15 59 07.5	+19
CMSA	**Cobar Meteorol**	**29.39**	**149**	P	P	15 59 55.9	+18
MKAR	**Makanchi Array**	**67.25**	**328**	P	P	16 04 43.0	+19
	0.4nm,0.6s,baz=121,slow=7.8,SNR=4.4						
	0.4nm,0.6s						

RSNC 21 15:58:43.4±0.0, 5°N±1°×7°4W±°, h114km±1km, M2.9, mb3.8, ML2.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.57**	**204**	P	Pn	15 59 02.2	+0.5
ROSC				S	Sn	15 59 15.2	-0.2
NORC	**Norcasia**	**0.80**	**284**	P	Pn	15 59 02.5	-0.6
NORC				S	Sn	15 59 17.6	-0.3
CHIC	**Chingaza**	**0.82**	**154**	P	Pn	15 59 03.2	-0.5
CHIC				S	Sn	15 59 18.5	-0.4
CVER	**Cruz Verde, Cu**	**0.84**	**179**	P	Pn	15 59 04.4	+0.4
CVER				S	Sn	15 59 18.4	-1.0
RUSC	**La Rusia**	**1.13**	**63**	P	Pn	15 59 06.6	-0.2
RUSC				S	Sn	15 59 24.4	0.0
PTBC	**PUERTO BERRIO,**	**1.22**	**343**	P	Pn	15 59 06.1	-1.2
PTBC				S	Sn	15 59 24.6	-0.7
GUY2C	**Guyana, Caldas**	**1.28**	**264**	P	Pn	15 59 07.7	-0.7
GUY2C				S	Sn	15 59 27.0	-0.3
VILC	**Villavicencio,**	**1.31**	**162**	P	Pn	15 59 08.0	-0.4
VILC				S	Sn	15 59 27.6	+0.2
RECRC	**Villamaria, Ca**	**1.32**	**252**	P	Pn	15 59 08.7	-0.2
RECRC				S	Sn	15 59 28.3	+0.1
NIZA	**Niza - Manizal**	**1.41**	**257**	P	Pn	15 59 10.0	+0.3
NIZA				S	Sn	15 59 30.0	+0.4
BARC	**Barichara**	**1.51**	**37**	P	Pn	15 59 10.8	-0.1
BARC				S	Sn	15 59 31.4	-0.3
ANIL	**Santa Ana**	**1.57**	**236**	P	Pn	15 59 11.2	-0.4
ANIL				S	Sn	15 59 32.9	-0.1
BRJC	**Barrancabermej**	**1.63**	**12**	P	Pn	15 59 11.7	-0.3
BRJC				S	Sn	15 59 33.9	+0.1
HELC	**Santa Helena**	**1.65**	**300**	P	Pn	15 59 12.1	-0.5
HELC				S	Sn	15 59 34.9	+0.1
PRAC	**Prado**	**1.83**	**206**	P	Pn	15 59 13.4	-1.1
PRAC				S	Sn	15 59 38.1	-0.1
ORTC	**Ortega, Tolima**	**1.85**	**218**	P	Pn	15 59 14.0	-0.8
ORTC				S	Sn	15 59 38.2	-0.6
CBOC	**Ciudad Bolivar**	**1.98**	**284**	P	Pn	15 59 16.0	-0.4
CBOC				S	Sn	15 59 41.3	-0.3
URMC	**La Uribe, Meta**	**2.13**	**188**	P	Pn	15 59 17.5	-0.8
URMC				S	Sn	15 59 44.2	-0.8
PLMC	**San Jos del P**	**2.23**	**258**	P	Pn	15 59 19.8	+0.2
ZARC	**Zaragoza, Cauc**	**2.24**	**340**	P	Pn	15 59 17.9	-1.8
ZARC				S	Sn	15 59 45.9	-1.6
PAMC	**Pamplona, Colo**	**2.40**	**35**	P	Pn	15 59 21.6	-0.5
PAMC				S	Sn	15 59 51.1	-0.6
TAMC	**Tame, Arauca**	**2.52**	**65**	P	Pn	15 59 22.4	-0.9
TAMC				S	Sn	15 59 52.3	-1.6
YOTC	**Yotoco, Valle**	**2.64**	**239**	P	Pn	15 59 24.1	-0.8
YOTC				S	Sn	15 59 58.4	+1.7
DBBC	**Dabeiba**	**2.67**	**308**	P	Pn	15 59 24.8	-0.5
DBBC				S	Sn	15 59 57.9	+0.5
UREC	**San Jos de Ur**	**2.77**	**329**	P	Pn	15 59 24.0	-2.5
UREC				S	Sn	15 59 56.9	-2.7
OCAC	**Ocana**	**2.95**	**15**	P	Pn	15 59 29.6	+0.5
OCAC				S	Sn	16 00 04.4	+0.2
BETC	**Betania**	**2.99**	**207**	P	Pn	15 59 27.7	-1.8
BETC				S	Sn	16 00 03.6	-1.4
GUVC	**San Jose del G**	**3.16**	**152**	P	Pn	15 59 31.7	0.0
GUVC				S	Sn	16 00 06.3	-2.7
MACC	**Macarena, Meta**	**3.21**	**176**	P	Pn	15 59 30.1	-2.3
MACC				S	Sn	16 00 06.5	-3.7
JAMC	**Jamundi, Valle**	**3.35**	**230**	P	Pn	15 59 34.3	-0.1
GARC	**Garzon, Huila**	**3.46**	**204**	P	Pn	15 59 34.0	-1.9
GARC				S	Sn	16 00 14.0	-2.4
MALC	**Bahia Malaga**	**3.50**	**248**	P	Pn	15 59 36.7	+0.5
APAC	**Apartado, Choc**	**3.53**	**316**	P	Pn	15 59 36.3	-0.2
APAC				S	Sn	16 00 17.0	-0.6
FLOC	**Florencia**	**4.07**	**203**	P	Pn	15 59 42.5	-1.4
FLOC				S	Sn	16 00 29.0	-1.8
LCBC	**Los crdobas,**	**4.14**	**327**	P	Pn	15 59 44.1	-0.6
LCBC				S	Sn	16 00 32.6	+0.4
SJCC	**San Jacinto, C**	**4.62**	**347**	P	Pn	15 59 48.4	-2.9
SJCC				S	Sn	16 00 38.7	-5.4
SDV	**Santo Domingo**	**4.90**	**44**	P	Pn	15 59 55.1	0.0
SDV				S	Sn	16 00 50.6	-0.2
CRJC	**Cerrejon, Guaj**	**5.74**	**12**	P	Pn	16 00 04.6	-1.8
CRJC	12nm,0.8s			S	Sn	16 01 05.6	-5.5
URIC	**Uribia, Colomb**	**6.62**	**18**	P	Pn	16 00 16.9	-1.4
URIC				S	Sn	16 01 27.7	-4.7

IDC 21 16:16:08.0±2.1, 6°59S×129°35E, h0km, mb3.4/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=81.4km s-min=28.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.00**	**197**	Pn	Pn	16 19 01.9	+1.4
	0.4nm,0.3s,baz=26,slow=10,SNR=17						
FITZ				Sn	Sn	16 21 11.8	-3.4
	0.5nm,0.3s,baz=120,slow=4.5,SNR=1.8						
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**14.13**	**160**	Pn	Pn	16 19 28.5	-1.2
	0.2nm,0.3s,baz=338,slow=13,SNR=15						
WRA				Sn	Sn	16 21 54.3	-13
	0.6nm,0.3s,baz=334,slow=22,SNR=9.6						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.54**	**166**	P	Pn	16 20 13.8	-0.4
	0.2nm,0.3s,baz=341,slow=11,SNR=24						
ASAR				S	Sn	16 23 20.4	-10
	0.2nm,0.5s,baz=349,slow=25,SNR=5.7						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	16 27 06.2	0.0
	0.2nm,0.4s,baz=117,slow=8.0,SNR=4.8						
	0.2nm,0.4s						

*NEIC **21** 16:16:23.4±1.3, 31°.649N±0°.008×104°.37W±0°.01, h5km±5km, Error ellipse: s-maj=1.9km s-min=1.2km az=98.0*

NEIC 21 16:16:23.2±1.1, 31°.663N±0°.004×104°.36W±0°.01, h5km±1km, mb_Lg3.0/49, ML2.9/9, ML3.0/86, Error ellipse: s-maj=2.9km s-min=2.2km az=61.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.51**	**125**		Pg	16 16 33.6	+0.6
PECS				Sg	Sg	16 16 40.1	+0.5
GDL2	**Guadalupe Moun**	**0.54**	**359**		Pg	16 16 33.9	+0.3
CLNB	**Carlsbad**	**0.72**	**34**		Pg	16 16 37.3	+0.2
PCOS	**Crockett Middl**	**0.77**	**109**		Sb	16 16 49.4	-0.4
MNTX	**Cornudas Mount**	**0.88**	**273**		Pg	16 16 40.4	+0.4
MNTX					Sg	16 16 52.1	+0.7
CLN7	**Carlsbad 7**	**0.88**	**32**		Pg	16 16 40.1	0.0
HTMS	**Hat Mesa**	**1.01**	**37**		Pg	16 16 42.6	-0.1
VHRN	**Van Horn**	**1.03**	**212**	Pg	Pg	16 16 42.9	0.0
VHRN				Sg	Sg	16 16 55.6	-0.6
VHRN				IAML		16 17 02.7	
	252nm,0.3s						
MNHN	**Monahans**	**1.40**	**103**		Pn	16 16 49.1	-0.3
MNHN					Sb	16 17 06.5	-1.6
ALPN	**Alpine**	**1.42**	**154**		Pn	16 16 49.0	-0.8
ALPN					Sb	16 17 07.7	-1.1
ALPN				IAML		16 17 10.9	
	347nm,0.6s						
ALPN				IAML		16 17 13.6	
	479nm,0.2s						
CPRX	**Cap Rock**	**1.43**	**17**		Pn	16 16 49.9	0.0
ODSA	**Odessa**	**1.60**	**73**		Pn	16 16 52.5	+0.2
ODSA					Sn	16 17 13.6	+0.2
EPT	**El Paso**	**1.83**	**274**		Pn	16 16 56.2	+0.7
EPT				IAML		16 17 24.9	
	comp=N,87nm,0.3s						
EPT				IAML		16 17 25.4	
	comp=E,102nm,0.3s						
TX31	**Lajitas Ar. Si**	**2.40**	**165**		Pn	16 17 04.3	+1.1
TXAR	**Lajitas Array**	**2.40**	**165**		Pn	16 17 04.3	+1.1
SAND	**Sanderson**	**2.57**	**131**	Pn	Pn	16 17 07.2	+1.7
SAND				IAmb_Lg		16 17 50.0	
	comp=Z,51nm,0.8s						
MSTX	**Muleshoe**	**2.66**	**30**	Pn	Pn	16 17 07.9	+1.1
SGCY	**Sterling City**	**2.76**	**84**	Pn	Pn	16 17 08.7	+0.5
SGCY				IAmb_Lg		16 17 54.9	
	comp=Z,60nm,0.9s						
POST	**Post**	**2.79**	**59**		Pn	16 17 09.8	+1.1
POST				IAmb_Lg		16 17 57.4	
	comp=Z,42nm,0.8s						
OZNA	**Ozona**	**2.86**	**104**		Pn	16 17 08.0	-1.5
OZNA				IAmb_Lg		16 18 00.4	
	comp=Z,56nm,1.2s						

CRNM	**Carthage**	**3.04**	**319**	Pn	Pn	16 17 13.8	+1.7
BNM	**Barren Site**	**3.13**	**323**	Pn	Pn	16 17 13.8	+0.4
SN05	**Snyder 5**	**3.18**	**67**		Pn	16 17 14.5	+0.6
SN05				IAmb_Lg		16 18 06.4	
	comp=Z,37nm,0.7s						
SN07	**Snyder 07**	**3.26**	**63**		Pn	16 17 15.7	+0.7
SBM	**South Baldy**	**3.31**	**315**		Pn	16 17 15.5	-0.5
LENM	**Lemitar**	**3.33**	**319**		Pn	16 17 14.7	-1.3
DKNS	**Dickens**	**3.52**	**54**		Pn	16 17 17.4	-1.2
DKNS				IAmb_Lg		16 18 16.3	
	comp=Z,32nm,0.7s						
ANMO	**Albuquerque**	**3.72**	**332**	Pn	Pn	16 17 21.6	+0.1
ANMO				IAmb_Lg		16 18 30.3	
	comp=Z,28nm,0.9s						
ANMO	**Albuquerque**	**3.72**	**332**	Pn	Pn	16 17 21.3	-0.1
ANMO				IAML		16 18 18.3	
	comp=Z,50nm,0.8s						
ANMO				IAML		16 18 22.3	
	comp=Z,39nm,0.8s						
ANMO				IAmb_Lg		16 18 30.3	
	comp=Z,24nm,0.9s						
ANMO	**Albuquerque**	**3.72**	**332**		Pn	16 17 21.4	0.0
ANMO				IAML		16 18 18.8	
	comp=Z,41nm,0.7s						
ANMO				IAML		16 18 18.8	
	comp=Z,42nm,0.7s						
ANMO				IAML		16 18 22.3	
	comp=Z,36nm,0.8s						
ANMO				IAML		16 18 22.3	
	comp=Z,36nm,0.8s						
ANMO				IAmb_Lg		16 18 29.3	
	comp=Z,26nm,0.9s						
DRIO	**Del Rio**	**3.92**	**124**		Pn	16 17 22.2	-1.9
APMT	**Aspermont**	**3.94**	**64**		Pn	16 17 22.5	-1.9
APMT				IAmb_Lg		16 18 31.5	
	comp=Z,43nm,0.8s						
JCT	**Junction City**	**4.08**	**106**		Pn	16 17 25.6	-0.7
JCT				IAmb_Lg		16 18 43.3	
	comp=Z,36nm,0.7s						
ABTX	**Abilene, Hawle**	**4.11**	**75**		Pn	16 17 26.4	-0.3
DUN6	**Lazy B Ranch**	**4.11**	**284**	Pn	Pn	16 17 26.6	-0.2
319A	**Douglas**	**4.21**	**267**	Pn	Pn	16 17 27.8	-0.4
319A				IAML		16 18 44.3	
	comp=E,27nm,0.5s						
BRDY	**Brady**	**4.59**	**93**		Pn	16 17 34.0	+0.7
BRDY				IAmb_Lg		16 18 52.5	
	comp=Z,27nm,0.9s						
SMWD	**Samnorwood**	**4.86**	**44**		Pn	16 17 35.8	-1.2
HNDO	**Hondo**	**4.87**	**115**	Pn	Pn	16 17 37.5	+0.5
RTBA	**Rita Blanca**	**4.95**	**15**		Pn	16 17 38.8	+0.5
RTBA				IAmb_Lg		16 18 58.8	
	comp=Z,20nm,0.7s						
PLPT	**Palo Pinto**	**5.25**	**76**		Pn	16 17 40.9	-1.4
PLPT				IAmb_Lg		16 19 24.1	
	comp=Z,26nm,1.1s						
WTFS	**Witchita Falls**	**5.39**	**66**	Pn	Pn	16 17 42.1	-2.1
T25A	**Trinidad**	**5.46**	**360**		Pn	16 17 43.0	-2.5
T25A				IAmb_Lg		16 19 19.8	
	comp=Z,28nm,1.1s						
WMOK	**Wichita Mounta**	**5.59**	**55**		Pn	16 17 46.7	-0.4
WMOK				IAmb_Lg		16 19 34.2	
	comp=Z,17nm,0.9s						
ELIS	**Ellis County**	**6.01**	**42**	Pn	Pn	16 17 50.1	-2.7
ELIS				IAmb_Lg		16 19 43.2	
	comp=Z,18nm,0.7s						
SDCO	**Great Sand Dun**	**6.14**	**351**		Pn	16 17 51.3	-3.5
X34A	**Smith Ranch, M**	**6.21**	**60**	IAmb_Lg		16 19 54.6	
	comp=Z,17nm,0.8s						
S22A	**4UR Ranch, Cre**	**6.40**	**342**		Pn	16 17 57.0	-1.4
MVCO	**Mesa Verde**	**6.51**	**329**		Pn	16 17 57.5	-2.4
X16A	**Lo Mia Camp, P**	**6.55**	**297**		Pn	16 17 59.1	-1.3
FNO	**Franklin**	**6.83**	**56**	IAmb_Lg		16 20 12.3	
	comp=Z,18nm,0.7s						
CBKS	**Cedar Bluff**	**8.07**	**27**	IAmb_Lg		16 20 49.4	
	comp=Z,17nm,0.7s						
T35A	**Sooner Cattle**	**8.34**	**49**	IAmb_Lg		16 20 48.1	
	comp=Z,11nm,1.1s						

IDC 21 16:27:15.9±1.8, 28°52S×176°57W, h0km, mb3.8/2, mbtmp3.8/3, ML3.4/1, MS3.4/3, Error ellipse: s-maj=63.7km s-min=31.8km az=129.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.06**	**207**	Pn	Pn	16 29 54.6	-0.8
	0.3nm,0.3s,baz=38,slow=18,SNR=1.5						
URZ				Sn	Sn	16 32 01.0	+1.3
	2.6nm,0.3s,baz=260,slow=16,SNR=15						
	3.2nm,0.7s						
DZM	**Mont Dzumac**	**16.64**	**289**	LR	LR	16 36 04.6	
	comp=Z,87nm,20.6s,baz=242,slow=32						
ASAR	**Alice Springs**	**44.50**	**264**	P	P	16 35 29.5	+0.1
	0.7nm,0.6s,baz=95,slow=6.9,SNR=11						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**45.32**	**270**	P	P	16 35 35.7	-0.2
	0.9nm,0.6s,baz=106,slow=8.0,SNR=1.7						
	0.9nm,0.6s						
VNDA	**Vanda**	**50.09**	**186**	LR	LR	17 00 13.0	
	comp=Z,30nm,18.1s,baz=348,slow=40						
MA2	**Magadan**	**91.82**	**344**	LR	LR	17 17 49.6	
	comp=Z,27nm,19.0s,baz=99,slow=33						
NOA	**NORSAR Array B**	**147.06**	**353**	PKPbc	PKPbc	16 46 59.3	-0.9
	1.8nm,0.9s,baz=17,slow=3.1,SNR=3.5						
HFS	**Hagfors**	**147.62**	**350**	PKPbc	PKPbc	16 47 01.4	-0.3
	1.8nm,0.6s,baz=76,slow=6.3,SNR=6.9						
AKASG	**Malin Array Be**	**150.50**	**326**	PKPbc	PKPbc	16 47 08.6	-0.7
	2.3nm,0.8s,baz=50,slow=1.9,SNR=9.0						

*IDC **21** 16:28:28.6±1.7, 5°.90S×130°.52E, h0km, mb3.9/2, mbtmp4.0/6, ML3.9/3, MS3.3/1, Error ellipse: s-maj=47.5km s-min=24.8km az=73.0*

*NEIC **21** 16:28:45.4±1.8, 6°.47S±0°.06×129°.89E±0°.08, h145km±6km, mb4.3/5, Error ellipse: s-maj=11.9km s-min=9.0km az=90.0.*

ISC 21 16:28:45.0±0.7, 6°56S±0°.05×129°.97E±0°.05, h146km, n45, σ2°32/51, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.93**	**137**	Pn	**Pn**	**16 29 21.1**	**+2.0**
BNDI	**Bandanaira**	**2.03**	**358**	P	**Pn**	**16 29 24.8**	**+4.5**
FAKI	**Fak Fak**	**4.27**	**32**	Pn	**Pn**	**16 29 49.6**	**+0.9**
FAKI				Sn	**Sn**	**16 30 34.4**	**-3.9**
FAKI	**Fak Fak**	**4.27**	**32**	P	**Pn**	**16 29 49.3**	**+0.5**
DRS	**Darwin Rock St**	**5.91**	**171**	P	**Pn**	**16 30 13.7**	**+3.2**
DRS	**Darwin Rock St**	**5.91**	**171**	S	**Sn**	**16 31 18.1**	**+0.9**
MTN	**Manton Dam**	**6.35**	**170**		**Pn**	**16 30 19.1**	**+2.7**
MTN				Sn	**Sn**	**16 31 26.6**	**-1.3**
MTN	**Manton Dam**	**6.35**	**170**	P	**Pn**	**16 30 19.1**	**+2.7**
MTN	**Manton Dam**	**6.35**	**170**	S	**Sn**	**16 31 28.4**	**+0.5**
SOEI	**Soe**	**6.48**	**240**		**Pn**	**16 30 17.6**	**-0.7**
SOEI				Sn	**Sn**	**16 31 29.2**	**-2.0**
SOEI	**Soe**	**6.48**	**240**	P	**Pn**	**16 30 22.7**	**+4.4**
SOEI	**Soe**	**6.48**	**240**	S	**Sn**	**16 31 34.4**	**+3.2**
KDU	**Kakadu**	**6.57**	**158**	P	**Pn**	**16 30 21.7**	**+2.4**
KDU	**Kakadu**	**6.57**	**158**	S	**Sn**	**16 31 31.4**	**-1.7**
BATI	**Baumata**	**7.22**	**239**	Pn	**Pn**	**16 30 28.3**	**+0.2**
	26nm,0.6s						
BATI				Sn	**Sn**	**16 31 50.3**	**+1.5**
TNTI	**Ternate**	**7.73**	**340**	Pn	**Pn**	**16 30 32.1**	**-2.9**
KNRA	**Kununurra**	**9.14**	**187**	Pn	**Pn**	**16 30 54.8**	**+1.1**
TABU	**Tabubil**	**11.26**	**84**	P	**Pn**	**16 31 23.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**12.22**	**200**	Pn	**Pn**	**16 31 34.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.22**	**200**	Pn	**Pn**	**16 31 34.5**	**+0.1**
	0.3nm,0.3s,baz=28,slow=13,SNR=19						
FITZ				Sn	**Sn**	**16 33 43.3**	**-6.2**
	0.5nm,0.3s,baz=176,slow=18,SNR=6.2						
	6.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.22**	**200**	P	**Pn**	**16 31 35.9**	**+1.5**
PLAI	**Plampang**	**12.30**	**259**	P	**P**	**16 31 39.9**	**-1.7**
WB0	**Warramunga Arr**	**13.81**	**162**	Pn	**Pn**	**16 31 54.1**	**-0.8**
WRAB	**Tennant Creek**	**13.96**	**163**	Pn	**Pn**	**16 31 55.8**	**-0.8**
WRA	**Warramunga Arr**	**13.96**	**163**	Pn	**Pn**	**16 31 54.5**	**-2.2**
WRA	**Warramunga Arr**	**13.96**	**163**	Pn	**Pn**	**16 31 54.9**	**-1.8**
	0.7nm,0.3s,baz=340,slow=12,SNR=15						
WRA				Sn	**Sn**	**16 34 26.2**	**-5.2**
	1.1nm,0.3s,baz=330,slow=23,SNR=9.8						
	1.0nm,0.9s						
WR8	**Warramunga Arr**	**14.02**	**162**	Pn	**Pn**	**16 31 56.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.80**	**262**	P	**Pn**	**16 32 19.0**	**-0.7**
JAGI				IAmb	IAmb	16 32 25.9	
	comp=Z,64nm,1.4s						
JAGI	**Jajag, Banyuwa**	**15.80**	**262**	P	**P**	**16 32 23.9**	**+3.4**
QIS	**Mount Isa**	**16.76**	**147**	P	**Pn**	**16 32 33.5**	**+2.2**
AS31	**Alice Springs**	**17.42**	**168**	P	**P**	**16 32 38.5**	**+0.1**
ASAR	**Alice Springs**	**17.42**	**168**		**P**	**16 32 39.4**	**+1.0**
ASAR	**Alice Springs**	**17.42**	**168**	P	**Pn**	**16 32 41.0**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=346,slow=11,SNR=57						
ASAR				S	**S**	**16 35 50.0**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=355,slow=24,SNR=5.1						
	comp=Z,0.9nm,0.4s						
AS01	**Alice Springs**	**17.43**	**168**	P	**Pn**	**16 32 41.2**	**+1.8**
PSA00	**Pilbara Seismi**	**17.85**	**212**	P	**P**	**16 32 43.8**	**+0.7**
PSA00				IAmb	IAmb	16 33 06.0	
	comp=Z,26nm,1.2s						
WRKA	**Warakurna**	**18.44**	**185**	P	**Pn**	**16 32 52.2**	**+0.8**
OOD	**Oodnadatta**	**21.80**	**166**	P	**P**	**16 33 27.2**	**+1.6**
INKA	**Innaminka**	**23.41**	**155**	P	**P**	**16 33 43.4**	**+2.4**
LCRK	**Leigh Creek**	**24.99**	**163**	P	**P**	**16 33 58.1**	**+2.8**
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**16 34 17.4**	**+0.2**
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**16 34 18.9**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=342,slow=6.9,SNR=4.2						
	comp=Z,0.7nm,0.3s						
JCJ	**Chichijima**	**35.48**	**19**	LR	LR	16 49 29.3	
	comp=Z,42nm,18.3s,baz=199,slow=36						
MK31	**Makanchi Array**	**67.85**	**327**	P	**P**	**16 39 26.8**	**-0.7**
MK31				IAmb	IAmb	16 39 36.6	
	comp=Z,2.3nm,1.5s						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**16 39 27.4**	**-0.1**
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**16 39 27.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=119,slow=8.0,SNR=6.9						
	comp=Z,0.4nm,0.5s						

HEL 21 16:29:44.2±0.4, 69°40N×30°91E, h0km, ML1.2, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.32**	**227**	PG	Pg	16 30 07.6	-1.8
RAJF				SG	Sg	16 30 24.7	-1.8
KEV	**Kevo**	**1.42**	**286**	PG	Pn	16 30 09.6	-1.6
	baz=104						
KEV				MSG		16 30 27.0	
	comp=Z,1.2nm,0.2s						
KEV				SG	Sg	16 30 27.6	-2.1
VRF	**Varrio**	**1.73**	**197**	MSG		16 30 35.8	
	comp=Z,1.2nm,0.2s						
VRF				SN	Sn	16 30 37.9	-0.2
ARA0	**ARCESS Array S**	**1.91**	**277**	PG	Pn	16 30 18.2	+0.2
ARA0				SG	Sn	16 30 42.1	-0.6
KTK1	**Kautokeino**	**2.77**	**266**	SG	Sb	16 31 07.4	-1.4
TOF	**Tornio**	**4.17**	**220**	PN	Pn	16 30 48.5	-0.5

HEL 21 16:30:23.9±0.3, 67°86N×20°21E, h0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.70**	**74**	PG	Pn	16 30 45.8	+4.7
LANU	**Lannavaara**	**0.70**	**74**	PG	Pg	16 30 36.3	-1.0
LANU				SG	Sg	16 30 45.8	-0.6
KIF	**Kilpisjarvi**	**1.17**	**11**	PG	Pn	16 30 47.8	+0.4
KIF	**Kilpisjarvi**	**1.17**	**11**	PN	Pn	16 30 47.8	+0.4
KIF				MSG		16 31 00.5	
	comp=Z,1.6nm,0.2s						
KIF				SB	Sg	16 31 01.6	+0.1
PAJU	**Pajala**	**1.40**	**125**	PB	Pn	16 30 48.5	-2.2
PAJU	**Pajala**	**1.40**	**125**	PG	Pn	16 30 48.5	-2.2
	baz=308						
PAJU				SG	Sg	16 31 07.6	-1.2
HEF	**Hetta**	**1.41**	**65**	MSG		16 31 06.2	
	comp=Z,0.9nm,0.2s						
HEF				SN	Sg	16 31 08.2	-0.8
ERTU	**Ertsjaerv**	**1.52**	**149**	PN	Pn	16 30 51.5	-0.8
ERTU	**Ertsjaerv**	**1.52**	**149**	PG	Pn	16 30 51.5	-0.8
ERTU				SG	Sg	16 31 11.4	-1.3
KLF	**Kolari**	**1.57**	**112**	SN	Sn	16 31 13.3	-0.8
KLF	**Kolari**	**1.57**	**112**	PG	Pn	16 30 52.1	-1.0
KLF				MSG		16 31 11.1	
	comp=Z,0.5nm,0.2s						
KLF				SG	Sn	16 31 13.2	-0.8
TRO	**Tromso**	**1.84**	**346**	SG	Sb	16 31 21.4	-0.5
KALU	**Kalix**	**2.36**	**147**	SG	Sb	16 31 36.0	-1.0
TOF	**Tornio**	**2.41**	**136**	SN	Sb	16 31 37.9	-0.4
TOF	**Tornio**	**2.41**	**136**	PB	Pn	16 31 05.1	+0.6
TOF				MSG		16 31 35.2	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	16 31 37.9	-0.4
RNF	**Rovaniemi**	**2.58**	**116**	SG	Sb	16 31 42.4	-0.9
KEV	**Kevo**	**3.12**	**49**	SB	Sn	16 31 54.4	+2.3
KEV				MSG		16 31 55.6	
	comp=Z,0.4nm,0.2s						

*NEIC **21** 16:33:03.9±1.4, 66°.67N±0°.04×130°.44W±0°.10, h4km±3km, mb4.6/91, Mwr4.0/28, Mwr4.4(OTT), Error ellipse: s-maj=6.0km s-min=5.7km az=149.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.09; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$0.13; $M_{r\theta}$-0.93; $M_{\phi\phi}$0.14; $M_{\phi r}$-0.56; Fault plane solution: $M_0$1.10000×10^{15} NP1:ϕ_s170.49000°, δ7.76000°, λ-158.59000°. NP2:ϕ_s59.26000°, δ87.18000°, λ-82.77000°. Principal axes: T 1.1206, Plg42.0000°,

251nm,0.3s,baz=134,slow=27,SNR=7.2
INK Inuvik 2.07 326 Pn Pn 16 33 39.2 -0.2
INK Sn Sn 16 34 02.9 -2.2
INK Sg Sg 16 34 07.5 -3.6
INK Inuvik 2.07 326 P Pn 16 33 39.3 -0.1
baz=142,SNR=756
INK Sb Sg 16 34 08.2 -2.9
baz=142
F30M Barrier River 2.33 297 Pn Pn 16 33 42.9 -0.1
F30M Barrier River 2.33 297 P Pb 16 33 43.5 -3.1
baz=112
F30M Sb Sg 16 34 15.9 -3.4
baz=112
G30M tAoh Zraii Nji 2.34 281 Pn 16 33 42.8 -0.3
G30M Sn Sn 16 34 10.1 -1.8
G30M tAoh Zraii Nji 2.34 281 Pn Pn 16 33 42.9 -0.3
G30M Sn Sn 16 34 10.7 -1.2
G30M tAoh Zraii Nji 2.34 281 P Pn 16 33 43.0 -0.2
baz=95
G30M S Sn 16 34 11.4 -0.5
baz=95
EPYK Eagle Plains 2.55 267 Pn 16 33 45.9 -0.2
EPYK Sn Sn 16 34 16.5 -0.7
EPYK Eagle Plains 2.55 267 Pn Pn 16 33 46.1 0.0
EPYK Sn Sn 16 34 17.2 -0.1
EPYK Eagle Plains 2.55 267 P Pn 16 33 46.1 0.0
baz=80,SNR=106
EPYK S Sn 16 34 17.5 +0.2
baz=80
I30M Mount Dempster 2.84 243 Pn 16 33 50.8 +0.7
I30M Sn Sn 16 34 23.7 -0.6
I30M Mount Dempster 2.84 243 Pn Pn 16 33 50.8 +0.7
I30M Sn Sn 16 34 22.3 -2.0
I30M Mount Dempster 2.84 243 P Pn 16 33 50.9 +0.8
baz=56,SNR=227
I30M S Sn 16 34 24.7 +0.3
baz=56
G29M Pine Creek 3.04 279 Pn 16 33 52.6 -0.2
G29M Sn Sn 16 34 29.1 -0.1
G29M Pine Creek 3.04 279 Pn Pn 16 33 52.7 -0.2
G29M Pine Creek 3.04 279 P Pn 16 33 52.7 -0.2
baz=91,SNR=1000
G29M S Sn 16 34 29.4 +0.2
baz=91
J30M Hart River 3.22 233 Pn 16 33 56.6 +1.2
J30M Sn Sn 16 34 32.7 -1.1
J30M Hart River 3.22 233 Pn Pn 16 33 56.6 +1.2
J30M Sn Sn 16 34 34.2 +0.4
J30M Hart River 3.22 233 P Pn 16 33 56.6 +1.2
baz=46
J30M S Sn 16 34 34.5 +0.6
baz=46
H29M Whitestone 3.24 266 Pn 16 33 55.2 -0.2
H29M Sn Sn 16 34 32.5 -1.5
H29M Whitestone 3.24 266 Pn Pn 16 33 55.3 -0.2
H29M Sn Sn 16 34 31.9 -2.1
H29M Whitestone 3.24 266 P Pn 16 33 55.4 -0.1
baz=78
H29M S Sn 16 34 34.1 0.0
baz=78
E29M Blow River 3.38 305 Pn 16 33 57.6 +0.2
E29M Blow River 3.38 305 Pn Pn 16 33 57.5 0.0
E29M Sn Sn 16 34 35.6 -1.9
E29M Blow River 3.38 305 P Pn 16 33 57.6 +0.2
baz=117
E29M Sg Sg 16 34 52.5 -0.7
baz=117
I29M Ogilvie Camp, 3.48 252 Pn 16 33 58.9 0.0
I29M Sn Sn 16 34 39.0 -1.1
I29M Ogilvie Camp, 3.48 252 Pn Pn 16 33 59.2 +0.3
I29M Sn Sn 16 34 38.7 -1.4
I29M Ogilvie Camp, 3.48 252 P Pn 16 33 59.1 +0.3
baz=64,SNR=54
I29M S Sn 16 34 39.0 -1.1
baz=64
C36M Paulatuk 3.61 38 Pn 16 34 00.8 +0.2
C36M Sn Sn 16 34 43.1 -0.1
C36M Paulatuk 3.61 38 Pn Pn 16 34 00.9 +0.4
C36M Sn Sn 16 34 42.3 -0.8
C36M Paulatuk 3.61 38 P Pn 16 34 01.0 +0.4
baz=225,SNR=347
C36M S Sn 16 34 43.1 -0.1
baz=225
MAYO Mayo, Yukon 3.84 220 Pn Pn 16 34 03.2 -0.5
MAYO Mayo, Yukon 3.84 220 S Sn 16 34 50.3 +1.5
baz=34
J29N Klondike Camp 3.93 240 Pn 16 34 06.4 +1.4
J29N Klondike Camp 3.93 240 Pn Pn 16 34 05.6 +0.6
J29N Sn Sn 16 34 51.0 -0.2
J29N Klondike Camp 3.93 240 P Pn 16 34 06.6 +1.6
baz=52
J29N S Sn 16 34 53.2 +2.1
baz=52
E28M Babbage River 4.02 304 Pn 16 34 06.2 0.0
E28M Babbage River 4.02 304 P Pn 16 34 06.4 +0.2
baz=115
E28M S Sn 16 34 53.1 -0.1
baz=115
I28M Miner Creek 4.08 257 Pn 16 34 06.3 -0.8
I28M Miner Creek 4.08 257 Pn Pn 16 34 06.4 -0.7
I28M Sn Sn 16 34 54.1 -0.7
I28M Miner Creek 4.08 257 P Pn 16 34 06.4 -0.7
baz=68,SNR=136
I28M S Sn 16 34 54.4 -0.5
baz=68
K29M Barlow Dome 4.11 230 Pn 16 34 08.7 +1.2
K29M Barlow Dome 4.11 230 Pn Pn 16 34 08.3 +0.8
K29M Barlow Dome 4.11 230 P Pn 16 34 08.6 +1.1
baz=43,SNR=67
D28M Stokes Point 4.15 314 P Pn 16 34 07.1 -0.8
baz=126
G27K Doyon Strip 4.48 277 Pn 16 34 11.9 -0.6
G27K Doyon Strip 4.48 277 Pn Pn 16 34 11.9 -0.6
G27K Sn Sn 16 35 01.7 -2.9
G27K Doyon Strip 4.48 277 P Pn 16 34 11.7 -0.8
baz=86
H27K Steamboat Moun 4.49 270 Pn Pn 16 34 12.1 -0.7
H27K Sn Sn 16 35 02.4 -2.6
H27K Steamboat Moun 4.49 270 P Pn 16 34 12.0 -0.7
baz=79,SNR=148
WRGLY Wrigley 4.51 136 Pn Pn 16 34 14.0 +1.0
WRGLY Wrigley 4.51 136 P Pn 16 34 14.6 +1.6
baz=323,SNR=62
WRGLY Sb Sg 16 35 25.6 -3.8
baz=323
DAWY Dawson 4.57 240 Pn Pn 16 34 14.5 +0.7
DAWY Dawson 4.57 240 Pn Pn 16 34 14.7 +0.9
DAWY Sn Sn 16 35 05.5 -1.4
DAWY Dawson 4.57 240 P Pn 16 34 14.8 +1.0
baz=51,SNR=100
DAWY S Sn 16 35 06.7 -0.2
baz=51
E27K Coleen River 4.60 295 Pn 16 34 13.5 -0.6
E27K Coleen River 4.60 295 Pn Pn 16 34 13.0 -1.1
E27K Coleen River 4.60 295 P Pn 16 34 14.2 0.0
baz=104,SNR=314
E27K S Sn 16 35 07.1 -0.5
baz=104
FARO Faro, Yukon 4.61 198 Pn Pn 16 34 14.9 +0.6
FARO Faro, Yukon 4.61 198 Pn Pn 16 34 15.4 +1.0
FARO Faro, Yukon 4.61 198 P Pn 16 34 15.1 +0.7
baz=14,SNR=10
FARO S Sn 16 35 09.7 +1.8
baz=14
I27K Kandik River 4.68 262 Pn Pn 16 34 14.9 -0.4
I27K Sn Sn 16 35 07.9 -1.8
I27K Kandik River 4.68 262 P Pn 16 34 14.9 -0.4
baz=71,SNR=121
I27K S Sn 16 35 09.3 -0.4
baz=71
D27M Malcolm River 4.77 308 Pn 16 34 15.7 -0.9
D27M Malcolm River 4.77 308 P Pn 16 34 16.7 +0.1
baz=118
M31M Drury Creek, Y 4.78 203 Pn 16 34 17.4 +0.7
M31M Drury Creek, Y 4.78 203 Pn Pn 16 34 18.0 +1.3
M31M Sn Sn 16 35 12.1 0.0
M31M Drury Creek, Y 4.78 203 P Pn 16 34 17.6 +1.0
baz=19,SNR=18
M31M S Sn 16 35 13.8 +1.7
baz=19
L29M L29M 4.84 227 Pn 16 34 18.1 +0.6
L29M L29M 4.84 227 Pn Pn 16 34 18.5 +0.9
L29M L29M 4.84 227 P Pn 16 34 18.5 +0.9
baz=39,SNR=90

M30M Minto, Yukon 4.92 217 Pn 16 34 19.2 +0.5
M30M Minto, Yukon 4.92 217 Pn Pn 16 34 19.5 +0.9
M30M Sn Sn 16 35 15.6 0.0
M30M Minto, Yukon 4.92 217 P Pn 16 34 19.5 +0.9
baz=31,SNR=71
M30M S Sn 16 35 17.5 +1.9
baz=31
TGTN Hyland Airport 5.21 169 Pn Pn 16 34 23.7 +1.0
TGTN Hyland Airport 5.21 169 P Pn 16 34 24.2 +1.5
baz=351,SNR=27
TGTN S Sn 16 35 25.4 +2.6
baz=351
G26K Porcupine Rive 5.31 280 Pn Pn 16 34 22.7 -1.2
G26K Sn Sn 16 35 22.1 -3.0
G26K Porcupine Rive 5.31 280 P Pn 16 34 23.7 -0.2
baz=87
I26K Coal Creek Min 5.39 262 Pn 16 34 24.4 -0.5
I26K Coal Creek Min 5.39 262 Pn Pn 16 34 23.8 -1.1
I26K Coal Creek Min 5.39 262 P Pn 16 34 24.4 -0.5
baz=69
M29M Somme Creek 5.46 223 Pn 16 34 26.5 +0.4
M29M Somme Creek 5.46 223 Pn Pn 16 34 26.8 +0.7
M29M Sn Sn 16 35 26.0 -3.0
M29M Somme Creek 5.46 223 P Pn 16 34 26.6 +0.4
baz=36,SNR=88
F26K Sheenjek River 5.46 287 Pn 16 34 26.1 +0.1
F26K Sheenjek River 5.46 287 Pn Pn 16 34 25.8 -0.3
F26K Sheenjek River 5.46 287 P Pn 16 34 26.2 +0.1
baz=94
K27K Chicken 5.55 247 Pn 16 34 27.5 +0.2
K27K Chicken 5.55 247 Pn Pn 16 34 26.8 -0.4
K27K Sn Sn 16 35 27.4 -3.7
K27K Chicken 5.55 247 P Pn 16 34 27.4 +0.2
baz=56
BMAR Burnt Mountain 5.62 285 Pn 16 34 27.4 -0.8
N32M Quiet Lake 5.63 193 Pn 16 34 29.1 +0.7
N32M Quiet Lake 5.63 193 Pn Pn 16 34 29.3 +0.9
N32M Quiet Lake 5.63 193 P Pn 16 34 29.2 +0.7
baz=11
A36M Sachs Harbour 5.67 16 Pn Pn 16 34 27.1 -1.7
A36M Sachs Harbour 5.67 16 Pn Pn 16 34 28.1 -0.8
A36M Sn Sn 16 35 30.7 -3.2
A36M Sachs Harbour 5.67 16 P Pn 16 34 27.8 -1.0
baz=202,SNR=42
N31M Braeburn, Yuko 5.69 207 Pn 16 34 29.5 +0.4
N31M Braeburn, Yuko 5.69 207 Pn Pn 16 34 30.0 +0.8
N31M Sn Sn 16 35 34.0 -0.4
N31M Braeburn, Yuko 5.69 207 P Pn 16 34 29.8 +0.6
baz=22
C27K Jago River 5.81 307 Pn 16 34 30.2 -0.6
C27K Jago River 5.81 307 Pn Pn 16 34 30.7 -0.1
C27K Sn Sn 16 35 33.7 -3.6
C27K Jago River 5.81 307 P Pn 16 34 30.6 -0.1
baz=114
J26L Joseph Creek 5.87 255 Pn 16 34 30.8 -1.0
J26L Joseph Creek 5.87 255 P Pn 16 34 30.9 -0.9
baz=62,SNR=83
FYU Fort Yukon 5.92 276 Pn Pn 16 34 30.7 -1.5
N30M Aishikik Lake 5.97 213 Pn 16 34 34.4 +1.4
N30M Aishikik Lake 5.97 213 Pn Pn 16 34 33.6 +0.6
N30M Sn Sn 16 35 40.4 -1.1
N30M Aishikik Lake 5.97 213 P Pn 16 34 33.5 +0.4
baz=26
F25K Christian Rive 6.03 286 Pn 16 34 33.6 -0.2
F25K Christian Rive 6.03 286 Pn Pn 16 34 33.3 -0.6
F25K Sn Sn 16 35 38.7 -4.1
F25K Christian Rive 6.03 286 P Pn 16 34 33.7 -0.2
baz=92,SNR=94
BCAR Beaver Creek A 6.04 239 Pn 16 34 33.7 -0.3
E25K Arctic Village 6.04 291 Pn 16 34 33.7 -0.3
E25K Arctic Village 6.04 291 Pn Pn 16 34 33.8 -0.2
E25K Arctic Village 6.04 291 P Pn 16 34 34.1 +0.1
baz=97,SNR=209
KUKN Kugluktuk,NWT 6.05 72 Pn Pn 16 34 34.0 -0.1
KUKN Sn Sn 16 35 40.1 -3.2
L27K Beaver Creek, 6.05 239 Pn 16 34 34.2 0.0
L27K Beaver Creek, 6.05 239 Pn Pn 16 34 34.6 +0.4
L27K Sn Sn 16 35 41.2 -2.2
L27K Beaver Creek, 6.05 239 P Pn 16 34 34.2 0.0
baz=48
BVCY Beaver Creek 6.19 232 Pn Pn 16 34 36.9 +0.9
BVCY Beaver Creek 6.19 232 P Pn 16 34 35.7 -0.4
baz=42,SNR=69
H25L Birch Creek 6.20 274 P Pn 16 34 34.9 -1.2
baz=79
G25K Bearman Lake 6.24 278 Pn Pn 16 34 35.4 -1.2
G25K Bearman Lake 6.24 278 P Pn 16 34 35.6 -1.0
baz=84
PRP Porcupine Dome 6.26 267 Pn Pn 16 34 35.7 -1.4
PRP Porcupine Dome 6.26 267 P Pn 16 34 36.0 -1.1
baz=72
PRP S Sn 16 35 44.0 -4.7
baz=72
SCRK Sand Creek 6.29 251 Pn 16 34 37.4 -0.1
SCRK Sand Creek 6.29 251 P Pn 16 34 37.1 -0.4
baz=58,SNR=54
C26K Camden Bay 6.31 308 Pn Pn 16 34 37.0 -0.6
C26K Camden Bay 6.31 308 P Pn 16 34 38.0 +0.4
baz=114
WHY Whitehorse 6.33 201 Pn Pn 16 34 39.1 +1.1
WHY Whitehorse 6.33 201 Pn Pn 16 34 38.8 +0.9
WHY Whitehorse 6.33 201 P Pn 16 34 38.8 +0.9
baz=16,SNR=12
O30N Mendenhall 6.41 206 Pn 16 34 40.1 +1.0
O30N Mendenhall 6.41 206 Pn Pn 16 34 39.8 +0.7
O30N Mendenhall 6.41 206 P Pn 16 34 39.8 +0.7
baz=20,SNR=42
YUK4 Talbot Arm 6.43 218 Pn 16 34 38.9 -0.6
YUK4 Talbot Arm 6.43 218 P Pn 16 34 38.4 -1.1
baz=30,SNR=98
YUK5 Granite Creek 6.43 214 Pn Pn 16 34 39.8 +0.3
YUK5 Sn Sn 16 35 51.5 -1.4
DOT Dot Lake 6.50 249 Pn 16 34 40.3 0.0
DOT Dot Lake 6.50 249 Pn Pn 16 34 40.2 0.0
BRWY Burwash Landin 6.51 220 Pn Pn 16 34 40.8 +0.4
J25K Salcha River, 6.53 259 Pn 16 34 40.5 -0.2
J25K Salcha River, 6.53 259 Pn Pn 16 34 40.1 -0.6
J25K Sn Sn 16 35 51.0 -4.0
J25K Salcha River, 6.53 259 P Pn 16 34 40.4 -0.2
baz=65
P33M Teslin, Yukon 6.54 191 Pn 16 34 40.9 0.0
P33M Teslin, Yukon 6.54 191 Pn Pn 16 34 41.1 +0.2
P33M Sn Sn 16 35 54.2 -1.3
P33M Teslin, Yukon 6.54 191 P Pn 16 34 41.0 0.0
baz=8.2,SNR=32
M27K Edge Creek, AK 6.56 234 Pn 16 34 41.8 +0.6
M27K Edge Creek, AK 6.56 234 Pn Pn 16 34 41.5 +0.3
M27K Edge Creek, AK 6.56 234 P Pn 16 34 41.6 +0.3
baz=44,SNR=78
YUK3 Moose Creek 6.56 227 Pn Pn 16 34 41.6 +0.2
YUK3 Moose Creek 6.56 227 P Pn 16 34 42.2 +0.8
baz=37,SNR=41
D25K Kavik River 6.58 301 Pn 16 34 41.9 +0.5
D25K Kavik River 6.58 301 Pn Pn 16 34 41.1 -0.3
D25K Sn Sn 16 35 51.7 -4.7
D25K Kavik River 6.58 301 P Pn 16 34 41.6 +0.2
baz=106
WTLY Watson Lake, Y 6.59 173 Pn 16 34 42.4 +0.9
WTLY Watson Lake, Y 6.59 173 Pn Pn 16 34 42.2 +0.7
L26K Log Cabin Wild 6.61 243 Pn 16 34 42.0 +0.3
L26K Log Cabin Wild 6.61 243 Pn Pn 16 34 42.0 +0.3
L26K Log Cabin Wild 6.61 243 P Pn 16 34 42.2 +0.4
baz=50
HYT Haines Junctio 6.63 212 Pn Pn 16 34 42.2 +0.1
HYT Haines Junctio 6.63 212 Pn Pn 16 34 42.4 +0.2
HYT Sn Sn 16 35 56.0 -1.8
HYT Haines Junctio 6.63 212 P Pn 16 34 42.6 +0.5
baz=25,SNR=58
YUK2 White River 6.67 228 Pn 16 34 42.9 +0.2
YUK6 Outpost Mounta 6.71 215 Pn Pn 16 34 43.2 -0.2
YUK6 Outpost Mounta 6.71 215 P Pn 16 34 42.9 -0.5
baz=28,SNR=20
RIDG Independent Ri 6.74 251 Pn 16 34 43.1 -0.5
RIDG Independent Ri 6.74 251 P Pn 16 34 43.5 -0.1
baz=58
YUK8 Steele Glacier 6.77 222 Pn Pn 16 34 44.5 +0.3
YUK8 Steele Glacier 6.77 222 P Pn 16 34 44.4 +0.2
baz=33,SNR=15
G24K Hadweenzic Riv 6.79 278 Pn 16 34 43.2 -0.9
G24K Hadweenzic Riv 6.79 278 P Pn 16 34 43.1 -1.1
baz=82
MENT Mentasta 6.79 243 Pn 16 34 43.8 -0.5
F24K Squaw Lake 6.89 285 Pn 16 34 44.2 -1.4

F24K Squaw Lake 6.89 285 P Pn 16 34 45.1 -0.5
baz=89
M26K Nabesna, AK 6.90 238 Pn 16 34 45.3 -0.5
M26K Nabesna, AK 6.90 238 Pn Pn 16 34 46.5 +0.7
M26K Sn Sn 16 36 00.3 -3.9
M26K Nabesna, AK 6.90 238 P Pn 16 34 46.1 +0.3
baz=46,SNR=39
YUK7 Dusty Glacier 7.03 213 Pn Pn 16 34 48.7 +1.0
IL31 7.06 262 Pn 16 34 47.2 -0.7
ILAR Eielson Array 7.06 262 Pn 16 34 46.6 -1.3
ILAR Eielson Array 7.06 262 Pn Pn 16 34 47.2 -0.7
1.4nm,0.3s,baz=37,slow=15,SNR=56
ILAR Sn Sn 16 36 01.6 -6.5
1.8nm,0.3s,baz=71,slow=18,SNR=5.3
ILAR Lg Lg 16 36 44.5
4.0nm,0.3s,baz=61,slow=28,SNR=6.4
4.0nm,0.6s
H24K Noodor Dome 7.11 272 Pn 16 34 46.9 -1.8
H24K Noodor Dome 7.11 272 P Pn 16 34 47.5 -1.1
baz=75
KOTAN Kotaneelee Air 7.12 154 P Pn 16 34 49.9 +1.2
baz=339,SNR=46
E24K Your Creek 7.13 290 Pn 16 34 48.9 0.0
E24K Your Creek 7.13 290 P Pn 16 34 49.1 +0.2
baz=93
POKR Poker Plat Res 7.15 266 Pn Pn 16 34 47.8 -1.3
POKR Poker Plat Res 7.15 266 P Pn 16 34 48.7 -0.4
baz=70
P30M Million Dollar 7.17 207 Pn Pn 16 34 50.5 +1.0
P30M Million Dollar 7.17 207 P Pn 16 34 49.8 +0.3
baz=21
HDA Harding Lake 7.23 260 Pn 16 34 49.2 -1.0
HDA Harding Lake 7.23 260 P Pn 16 34 49.9 -0.4
baz=64
P32M Atlin 7.23 194 Pn 16 34 50.5 +0.1
P32M Atlin 7.23 194 Pn Pn 16 34 51.0 +0.6
P32M Atlin 7.23 194 P Pn 16 34 51.0 +0.6
baz=10,SNR=9.8
R33M Jennings River 7.28 182 Pn 16 34 51.9 +0.9
R33M Jennings River 7.28 182 Pn Pn 16 34 51.7 +0.7
R33M Jennings River 7.28 182 P Pn 16 34 51.8 +0.8
baz=1.6
O28M Mount Upton 7.32 221 Pn Pn 16 34 52.3 +0.6
O28M Mount Upton 7.32 221 P Pn 16 34 51.9 +0.2
baz=32,SNR=12
O29M Mount Kennedy 7.33 214 Pn 16 34 51.8 0.0
O29M Mount Kennedy 7.33 214 Pn Pn 16 34 52.9 +1.1
O29M Mount Kennedy 7.33 214 P Pn 16 34 53.1 +1.3
baz=26
D24K Happy Valley 7.39 298 Pn 16 34 52.5 +0.1
D24K Happy Valley 7.39 298 P Pn 16 34 52.9 +0.5
baz=101
COLA College 7.40 264 Pn 16 34 52.1 -0.5
COLA College 7.40 264 *i* P Pn 16 34 53.2 +0.6
PAX Paxson 7.41 247 Pn 16 34 52.8 0.0
PAX Paxson 7.41 247 Pn Pn 16 34 53.7 +0.9
PAX Sn Sn 16 36 11.5 -5.3
PAX Paxson 7.41 247 P Pn 16 34 52.8 0.0
PAX Paxson 7.41 247 P Pn 16 34 53.7 +0.9
baz=53
CCB Clear Creek Bu 7.47 263 Pn 16 34 52.0 -1.5
C24K Franklin Bluff 7.48 303 Pn 16 34 53.0 -0.6
C24K Franklin Bluff 7.48 303 P Pn 16 34 54.0 +0.4
baz=105
SKAG Skagway 7.54 200 Pn Pn 16 34 54.2 -0.3
SKAG Skagway 7.54 200 P Pn 16 34 55.6 +1.0
baz=15,SNR=9.7
E23K Chandalar 7.55 290 Pn 16 34 55.1 +0.3
E23K Chandalar 7.55 290 P Pn 16 34 55.5 +0.7
baz=92
TOLK Toolik Lake Re 7.58 294 Pn 16 34 55.5 +0.4
TOLK Toolik Lake Re 7.58 294 P Pn 16 34 56.6 +1.5
baz=96
NBC1 NorthernBC 1 7.61 154 Pn Pn 16 34 56.6 +1.2
NBC1 Sn Sn 16 36 16.7 -4.9
HARP HAARP 7.65 243 P Pn 16 34 56.2 +0.2
baz=49
WRH Wood River Hil 7.65 262 Pn 16 34 55.5 -0.5
PLBC Pleasant Camp 7.70 203 Pn Pn 16 34 58.3 +1.6
BALM Baldy 7.71 229 Pn Pn 16 34 57.7 +0.8
Q32M Nakina River 7.75 187 Pn 16 34 58.0 +0.3
Q32M Nakina River 7.75 187 Pn Pn 16 34 58.1 +0.5
Q32M Nakina River 7.75 187 P Pn 16 34 58.0 +0.3
baz=5.3
H23K Yukon River 7.78 273 Pn 16 34 57.4 -0.4
H23K Yukon River 7.78 273 P Pn 16 34 57.2 -0.6
baz=75
G23K Bananza Creek 7.79 280 Pn 16 34 57.0 -0.9
G23K Bananza Creek 7.79 280 P Pn 16 34 57.5 -0.4
baz=81
COLD Coldfoot 7.80 283 Pn 16 34 57.4 -0.6
COLD Coldfoot 7.80 283 Pn Pn 16 34 57.9 -0.2
COLD Coldfoot 7.80 283 P Pn 16 34 57.9 -0.2
baz=85
KIAG Kiagna River 7.80 228 Pn Pn 16 34 58.5 +0.2
GLB Gilahina Butte 7.86 235 Pn 16 34 58.6 -0.3
VRDI Verde Repeater 7.90 233 Pn Pn 16 34 58.9 -0.7
I23K Minto, Yukon-K 7.91 268 Pn 16 34 58.6 -0.9
I23K Minto, Yukon-K 7.91 268 P Pn 16 34 58.9 -0.5
baz=70
YKAW3 Yellowknife Wh 7.91 114 Pn Pn 16 34 58.4 -1.1
YKAW3 Sn Sn 16 36 23.9 -4.9
PCA Pinnacle 7.91 219 Pn Pn 16 34 58.8 -0.9
YKA Yellowknife Ar 7.95 114 Pn 16 34 59.5 -0.6
YKA Yellowknife Ar 7.95 114 Pn Pn 16 34 60.0 -0.1
17nm,0.3s,baz=306,slow=14,SNR=278
YKA Sn Sn 16 36 27.9 -2.0
9.2nm,0.3s,baz=143,slow=26,SNR=8.1
YKA Lg Lg 16 37 13.0
21nm,0.3s,baz=310,slow=27,SNR=10
27nm,0.5s
NEA2 Nenana 7.99 264 Pn 16 35 00.0 -0.7
NEA2 Nenana 7.99 264 P Pn 16 35 00.7 0.0
baz=66
N25K Chitina, Valde 8.00 238 Pn Pn 16 35 01.1 +0.3
N25K Chitina, Valde 8.00 238 Pn Pn 16 35 01.0 +0.1
N25K Chitina, Valde 8.00 238 P Pn 16 35 01.4 +0.5
baz=44
YKAW1 Yellowknife Wh 8.00 114 Pn Pn 16 34 59.8 -1.0
YKAW1 Sn Sn 16 36 25.5 -5.7
D23K Nanushuk River 8.02 296 Pn 16 35 01.8 +0.7
D23K Nanushuk River 8.02 296 P Pn 16 35 01.9 +0.9
baz=97
RKAV Rock Avalanche 8.02 223 Pn Pn 16 35 01.9 +0.7
ISLE Juniper Island 8.05 227 Pn Pn 16 35 01.6 -0.1
YAH Yahtse 8.08 224 Pn Pn 16 35 03.1 +1.1
C23K Itkillik River 8.15 302 Pn 16 35 02.7 -0.1
C23K Itkillik River 8.15 302 P Pn 16 35 03.0 +0.2
baz=103
M24K Tolsona, Glenn 8.20 244 Pn 16 35 03.3 -0.3
M24K Tolsona, Glenn 8.20 244 P Pn 16 35 04.5 +0.8
baz=49
DLBC Dease Lake 8.23 179 Pn 16 35 04.6 +0.5
DLBC Dease Lake 8.23 179 Pn Pn 16 35 05.2 +1.1
2.9nm,0.3s,baz=10,slow=9.8,SNR=23
DLBC Sn Sn 16 36 35.3 -1.8
2.2nm,0.3s,baz=56,slow=24,SNR=1.5
DLBC Lg Lg 16 37 29.5
0.2nm,0.3s,baz=289,slow=11,SNR=5.3
7.7nm,0.3s
DLBC Dease Lake 8.23 179 Pn Pn 16 35 04.9 +0.8
DLBC Dease Lake 8.23 179 P Pn 16 35 04.5 +0.4
baz=359,SNR=5.7
MESA MESA 8.29 224 Pn Pn 16 35 04.1 -0.8
YKU2 Yakutat 8.29 215 Pn Pn 16 35 04.5 -0.2
MCK McKinley 8.32 258 Pn Pn 16 35 04.5 -0.7
MCK McKinley 8.32 258 P Pn 16 35 04.5 -0.7
MCK McKinley 8.32 258 P Pn 16 35 05.1 -0.1
baz=61
BWN Browne 8.32 262 Pn 16 35 03.6 -1.6
WAX Waxell Ridge 8.32 228 Pn Pn 16 35 08.9 +3.6
BESE Bessie Mountai 8.34 196 Pn 16 35 05.3 -0.3
BESE Bessie Mountai 8.34 196 Pn Pn 16 35 05.2 -0.3
E22K Anaktuvuk Pass 8.38 290 Pn 16 35 06.6 +0.6
E22K Anaktuvuk Pass 8.38 290 P Pn 16 35 06.2 +0.2
baz=90
RND Reindeer 8.45 256 Pn 16 35 07.0 0.0
RND Reindeer 8.45 256 P Pn 16 35 07.0 0.0
BMRM Bremner River 8.47 235 Pn Pn 16 35 08.5 +1.3
BMRM Bremner River 8.47 235 P Pn 16 35 07.9 +0.6
baz=41
H22K Ishtalitna Cre 8.49 275 P Pn 16 35 07.1 -0.4
baz=75
KLU Klutina 8.53 240 Pn 16 35 09.4 +1.3

KLU Klutina 8.53 240 P **Pn 16 35 09.1 +1.0**
baz=46
F22K John River 8.54 286 P **Pn 16 35 08.5 +0.3**
baz=85
SNH Sunshine Point 8.54 227 Pn **Pn 16 35 11.1 +2.9**
FNSB Fort Nelson 8.60 152 Pn **Pn 16 35 09.4 +0.4**
R32K Eaglecrest 8.61 195 **Pn 16 35 09.6 +0.5**
R32K Eaglecrest 8.61 195 Pn **Pn 16 35 10.2 +1.0**
R32K Eaglecrest 8.61 195 P **Pn 16 35 10.6 +1.4**
baz=11
D22K Ayikyak River 8.73 295 **Pn 16 35 10.2 -0.6**
D22K Ayikyak River 8.73 295 P **Pn 16 35 11.6 +0.8**
baz=94
S34M Telegraph Cree 8.76 183 **Pn 16 35 10.4 -0.9**
S34M Telegraph Cree 8.76 183 Pn **Pn 16 35 12.3 +1.1**
S34M Telegraph Cree 8.76 183 P **Pn 16 35 12.5 +1.3**
baz=1.8
SCM Sheep Creek Mo 8.80 245 **Pn 16 35 11.1 -0.7**
SCM Sheep Creek Mo 8.80 245 P **Pn 16 35 11.1 -0.7**
I21K Tanana 8.94 271 **Pn 16 35 12.6 -1.0**
I21K Tanana 8.94 271 P **Pn 16 35 13.5 -0.1**
baz=70
BPAW Bear Paw Mtn. 8.96 263 **Pn 16 35 13.5 -0.4**
BPAW Bear Paw Mtn. 8.96 263 P **Pn 16 35 13.7 -0.2**
baz=64
TRF Thorofare Moun 8.98 258 **Pn 16 35 13.9 -0.6**
TRF Thorofare Moun 8.98 258 P **Pn 16 35 14.3 -0.1**
baz=60
F21K Alatna River 9.07 284 **Pn 16 35 15.3 -0.2**
F21K Alatna River 9.07 284 P **Pn 16 35 15.7 +0.3**
baz=83
NBC6 NorthernBC 6 9.08 149 Pn **Pn 16 35 15.4 -0.2**
NBC6 Sn **Sn 16 36 54.6 -3.2**
S31K Pelican 9.12 200 Pn **Pn 16 35 16.7 +0.6**
S31K Pelican 9.12 200 P **Pn 16 35 15.9 -0.2**
baz=15
H21K Melozitna Rive 9.12 274 **Pn 16 35 14.9 -1.2**
H21K Melozitna Rive 9.12 274 P **Pn 16 35 16.2 0.0**
baz=73
SML Sawmill 9.18 247 **Pn 16 35 16.4 -0.6**
SML Sawmill 9.18 247 P **Pn 16 35 16.8 -0.2**
baz=50
KTH Kantishna Hill 9.18 260 **Pn 16 35 16.7 -0.4**
E21K Killik River 9.18 292 **Pn 16 35 16.8 -0.2**
E21K Killik River 9.18 292 P **Pn 16 35 16.0 -1.0**
baz=90
G21K Allakaket 9.19 280 **Pn 16 35 15.9 -1.3**
G21K Allakaket 9.19 280 P **Pn 16 35 16.3 -0.9**
baz=78
B22K Teshekpuk Lake 9.20 304 **Pn 16 35 16.8 -0.4**
B22K Teshekpuk Lake 9.20 304 P **Pn 16 35 16.9 -0.3**
baz=102
S32K Killisnoo 9.41 194 Pn **Pn 16 35 20.6 +0.5**
S32K Killisnoo 9.41 194 Pn **Pn 16 35 20.8 +0.8**
S32K Killisnoo 9.41 194 P **Pn 16 35 21.0 +0.9**
baz=10.0
GHO Glory Hole Cre 9.42 248 **Pn 16 35 18.0 -2.3**
KNK Knik Glacier 9.48 245 **Pn 16 35 20.3 -0.8**
KNK Knik Glacier 9.48 245 P **Pn 16 35 21.9 +0.8**
baz=48
B21K Ikpikpuk River 9.49 299 **Pn 16 35 20.8 -0.3**
B21K Ikpikpuk River 9.49 299 P **Pn 16 35 21.4 +0.3**
baz=97
C21K Knifeblade Rid 9.50 296 P **Pn 16 35 21.5 +0.2**
baz=94
HIN Hinchinbrook I 9.52 237 Pn **Pn 16 35 20.2 -1.4**
CUT Chulitna 9.54 253 Pn **Pn 16 35 20.7 -1.2**
CHUM Lake Minchumin 9.58 263 P **Pn 16 35 22.0 -0.4**
baz=63
T35M Bob Quinn 9.69 180 Pn **Pn 16 35 23.6 -0.5**
CAST Castle Rocks 9.71 261 **Pn 16 35 23.4 -0.7**
CAST Castle Rocks 9.71 261 P **Pn 16 35 23.5 -0.6**
baz=61
PWL Port Wells 9.81 242 Pn **Pn 16 35 25.0 -0.6**
NBC5 NorthernBC 5 9.82 155 Pn **Pn 16 35 25.3 -0.6**
A22K Sinclair Lake 9.86 307 P **Pn 16 35 25.5 -0.7**
baz=104
F20K Avaraart Lake 9.96 284 **Pn 16 35 27.8 +0.1**
F20K Avaraart Lake 9.96 284 P **Pn 16 35 27.9 +0.3**
baz=80
H20K Anotleneega Mo 10.00 275 P **Pn 16 35 28.1 0.0**
baz=72
PPLA Purkeypile 10.01 258 Pn **Pn 16 35 28.4 -0.1**
E20K Nigu River 10.01 291 P **Pn 16 35 28.7 +0.4**
baz=87
I20K Naaghedeneel 10.07 271 Pn **Pn 16 35 28.3 -0.8**
D20K Etivluk River 10.15 294 P **Pn 16 35 29.9 -0.4**
baz=89
J20K Nowinta River 10.18 267 **Pn 16 35 29.2 -1.4**
J20K Nowinta River 10.18 267 P **Pn 16 35 29.9 -0.7**
baz=65
SKT Skwentna 10.27 253 Pn **Pn 16 35 31.3 -0.6**
SKT Skwentna 10.27 253 P **Pn 16 35 31.2 -0.7**
baz=54
B20K Meade River 10.41 301 P **Pn 16 35 32.7 -1.0**
baz=96
A21K Barrow 10.46 308 P **Pn 16 35 32.8 -1.6**
baz=104
E19K Redstone River 10.48 287 P **Pn 16 35 35.7 +0.9**
baz=82
H19K Roundabout Mou 10.61 276 **Pn 16 35 35.5 -1.0**
H19K Roundabout Mou 10.61 276 P **Pn 16 35 35.8 -0.7**
baz=72
U33K Whale Pass 10.64 188 Pn **Pn 16 35 37.4 +0.5**
U33K Sn **Sn 16 37 33.6 -2.3**
G19K Purcell Mounta 10.69 280 **Pn 16 35 36.9 -0.6**
G19K Purcell Mounta 10.69 280 P **Pn 16 35 37.0 -0.6**
baz=75
D19K Kuna River 10.71 293 **Pn 16 35 36.5 -1.4**
D19K Kuna River 10.71 293 P **Pn 16 35 37.9 0.0**
baz=87
F19K Shaleruckik Mo 10.79 284 P **Pn 16 35 38.1 -0.9**
baz=78
J19K Poorman 10.85 268 P **Pn 16 35 39.0 -0.7**
baz=64
G18K Tagagawik 11.37 279 **Pn 16 35 46.2 -0.7**
G18K Tagagawik 11.37 279 P **Pn 16 35 46.5 -0.4**
baz=73
H18K Honhosa River 11.49 276 **Pn 16 35 47.1 -1.4**
H18K Honhosa River 11.49 276 P **Pn 16 35 48.1 -0.4**
baz=70
J18K Innoko River 11.52 266 P **Pn 16 35 48.2 -0.7**
baz=62
F18K Selawik 11.57 283 P **Pn 16 35 48.6 -1.0**
baz=76
A19K Wainwright 11.76 301 P **Pn 16 35 50.6 -1.5**
baz=93
E18K Tukpahlearik C 11.77 288 **Pn 16 35 51.9 -0.5**
E18K Tukpahlearik C 11.77 288 P **Pn 16 35 52.1 -0.2**
baz=80
C18K Utukok River 11.83 294 **Pn 16 35 51.7 -1.6**
C18K Utukok River 11.83 294 P **Pn 16 35 52.8 -0.4**
baz=85
B18K Kokolik River 12.01 297 P **Pn 16 35 53.9 -1.6**
baz=88
WTMTA White Mountain 12.20 149 Pn **Pn 16 35 57.9 -0.4**
F17K Baldwin Pennin 12.23 283 P **Pn 16 35 58.2 -0.4**
baz=75
G17K Kiwalik Mounta 12.28 279 P **Pn 16 35 59.3 0.0**
baz=71
E17K Hotham Inlet 12.30 287 P **Pn 16 35 59.8 +0.2**
baz=77
J17K VABM Dome 12.49 268 P **Pn 16 36 01.3 -0.9**
baz=62
K17K Iditarod 12.51 265 P **Pn 16 36 02.3 -0.2**
baz=59
RDOG Red Dog Mine 12.53 291 **Pn 16 35 59.6 -3.2**
RDOG Red Dog Mine 12.53 291 P **Pn 16 36 02.0 -0.8**
baz=81
FSJB Fort St James 12.57 163 Pn **Pn 16 36 03.7 +0.3**
C17K DeLong Mountai 12.57 293 P **Pn 16 36 02.1 -1.2**
baz=83
D17K Noatak River 12.66 290 P **Pn 16 36 04.0 -0.4**
baz=79
I17K Unalakleet 12.91 272 P **Pn 16 36 07.4 -0.5**
baz=64
STPRA Salt Prairie L 13.01 141 Pn **Pn 16 36 08.2 -1.2**
BDMTA Bald Mountain 13.09 149 Pn **Pn 16 36 09.0 -1.5**
C16K Lisburne Hills 13.40 293 P **Pn 16 36 13.3 -1.2**
baz=80
SWHSA Sweathouse Loo 13.48 144 Pn **Pn 16 36 14.2 -1.6**
BUTB Butedale 13.65 175 Pn **Pn 16 36 18.1 -0.1**
RES Resolute Bay 13.98 40 **Pn 16 36 18.3 -4.2**
RES Resolute Bay 13.98 40 Pn **Pn 16 36 20.2 -2.2**
1.9nm,0.3s,baz=238,slow=12,SNR=40
RES Sn Sn 16 38 47.8 -10
6.7nm,0.3s,baz=147,slow=23,SNR=13
RES Lg Lg 16 40 23.1
4.8nm,0.3s,baz=145,slow=12,SNR=4.7
RES Resolute Bay 13.98 40 Pn **Pn 16 36 18.5 -4.0**
RES Resolute Bay 13.98 40 P **Pn 16 36 18.3 -4.2**
BLKN Baker Lake 14.35 83 Pn **Pn 16 36 23.5 -4.0**
LGPLA Lodgepole 15.45 144 Pn **Pn 16 36 40.8 -1.6**
LLLB Lilloet 16.64 161 **Pn 16 36 55.8 -2.0**
LLLB Lilloet 16.64 161 Pn **Pn 16 36 58.1 +0.3**
EUNU Eureka 17.64 23 **Pn 16 37 07.9 -2.2**
EUNU IAmb IAmb 16 37 23.8
comp=Z,25nm,0.9s
EUNU Eureka 17.64 23 Pn **Pn 16 37 08.7 -1.4**
ILON Igloolik, Nuna 18.00 59 Pn **Pn 16 37 11.2 -3.3**
FFC Flin Flon 18.11 117 **Pn 16 37 11.8 -4.1**
FFC IAmb IAmb 16 37 14.3
comp=Z,41nm,1.1s
FFC Flin Flon 18.11 117 P **Pn 16 37 11.9 -4.1**
FFC pmax pmax
comp=Z,41nm,1.1s
FCC Fort Churchill 18.16 98 **Pn 16 37 13.3 -3.3**
FCC Fort Churchill 18.16 98 P **Pn 16 37 13.3 -3.3**
FCC pmax pmax
comp=Z,11nm,0.6s
POIN Pond Inlet 18.59 48 Pn **P 16 37 18.0 -3.5**
B08A Colville Reser 19.21 157 P **Pn 16 37 28.9 -0.5**
HSPGA Hill Springs, 19.34 145 Pn **Pn 16 37 31.6 +0.6**
GNW Green Mountain 19.53 165 P **Pn 16 37 33.7 +0.5**
NEW Newport 19.67 153 P **Pn 16 37 34.6 -0.4**
NEW Newport 19.67 153 P **Pn 16 37 36.9 +2.0**
comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=8.0
comp=Z,2.2nm,0.7s
D05A Enumclaw 19.99 163 P **P 16 37 37.2 +0.2**
FMW Mount Fremont 20.28 163 Pn Pn 16 37 41.9 -0.5
LON Longmire 20.45 163 P Pn 16 37 43.2 -0.9
LON IAmb IAmb 16 37 55.3
comp=Z,26nm,1.4s
LON Longmire 20.45 163 Pn Pn 16 37 45.5 +1.4
LON Longmire 20.45 163 P Pn 16 37 43.2 -0.9
LON pmax pmax
comp=Z,26nm,1.4s
BSMT Bassoo Peak 20.52 149 P Pn 16 37 43.9 -1.2
D08A Wollman Farm, 20.54 157 P **P 16 37 42.4 -0.5**
JTMT Jette 20.72 148 P **P 16 37 45.9 +0.9**
MXC Moxie City 20.81 160 P **P 16 37 44.9 -0.9**
E07A Sunnyside 20.89 159 P **P 16 37 45.9 -0.8**
E08A Dider Farm, El 21.07 158 P **P 16 37 48.6 0.0**
E08A IAmb IAmb 16 37 55.6
comp=Z,36nm,1.3s
HAWA Hanford 21.10 159 P **P 16 37 48.4 -0.5**
HAWA IAmb IAmb 16 37 57.5
comp=Z,22nm,1.4s
E09A Wood Farm, Sta 21.19 156 P **P 16 37 50.3 +0.4**
EGMT Eagleton 21.53 140 P **P 16 37 52.9 -0.7**
EGMT IAmb IAmb 16 38 00.1
comp=Z,47nm,1.2s
OVMT Ovando 21.65 146 P **P 16 37 57.9 +2.8**
MSO Missoula 21.67 148 IAmb IAmb 16 38 06.2
comp=Z,41nm,1.2s
HOOD Mount Hood Mea 21.87 163 IAmb IAmb 16 38 10.7
comp=Z,19nm,0.7s
LYMT Lyon Mountain 21.90 145 P **P 16 37 58.1 +0.3**
LYMT Lyon Mountain 21.90 145 P **P 16 37 59.0 +1.2**
HRY Holter Researc 22.25 145 P **P 16 38 01.7 +0.2**
PLID Pearl Lake 22.94 153 P **P 16 38 08.7 -0.2**
PLID IAmb IAmb 16 38 36.1
comp=Z,16nm,1.4s
BMO Blue Mountains 22.94 156 IAmb IAmb 16 38 13.2
comp=Z,24nm,1.2s
PINE Pine Mountain 23.47 163 P **P 16 38 14.1 -0.2**
BILL Bilibino 23.51 303 P **P 16 38 12.0 -2.3**
BILL Bilibino 23.51 303 *i* P **P 16 38 16.1 +1.8**
LAO LASA Array 23.70 136 IAmb IAmb 16 38 27.1
comp=Z,31nm,1.3s
MCMT McKenzie Canyo 23.81 148 P **P 16 38 17.1 -0.5**
KULLO Kullorsuaq 23.86 39 P **P 16 38 16.7 -0.9**
J04A Umpqua Nationa 23.88 165 P **P 16 38 18.8 +0.5**
J04A IAmb IAmb 16 38 23.6
comp=Z,16nm,1.1s
ULM Lac du Bonnet 23.92 116 P **P 16 38 18.4 0.0**
ULM Lac du Bonnet 23.92 116 P **P 16 38 19.9 +1.5**
comp=Z,4.8nm,0.6s,baz=322,slow=10,SNR=11
ULM S **S 16 42 34.8 +0.3**
comp=Z,13nm,0.9s,baz=226,slow=22,SNR=6.4
comp=Z,4.8nm,0.6s
ULM Lac du Bonnet 23.92 116 P **P 16 38 19.1 +0.7**
ULM Lac du Bonnet 23.92 116 *i* P **P 16 38 19.8 +1.4**
J05D Fort Rock, OR 23.93 163 P **P 16 38 18.8 0.0**
J05D IAmb IAmb 16 38 38.9
comp=Z,11nm,1.2s
YHB Horse Butte 24.24 145 P **P 16 38 23.3 +1.6**
YNE Yellowstone No 24.28 143 IAmb IAmb 16 38 45.8
comp=Z,20nm,1.3s
RLMT Red Lodge 24.35 142 P **P 16 38 22.3 -0.4**
RLMT IAmb IAmb 16 38 46.4
comp=Z,27nm,1.4s
NEEM North Greenlan 24.36 31 P **P 16 38 20.7 -1.8**
YMP Mirror Lake Pl 24.50 144 IAmb IAmb 16 38 52.5
comp=Z,28nm,1.4s
MFID Camas Ranch 24.59 154 IAmb IAmb 16 38 52.9
comp=Z,8.5nm,1.1s
HLID Hailey 24.71 151 P **P 16 38 27.0 +1.1**
H17A Grant Village 24.72 144 IAmb IAmb 16 38 47.6
comp=Z,23nm,1.5s
L04D Klamath Falls 24.87 166 IAmb IAmb 16 38 35.2
comp=Z,18nm,1.3s
WVOR Wild Horse Val 25.10 159 IAmb IAmb 16 38 37.6
comp=Z,11nm,1.3s
MOOW Moose Ponds 25.30 145 P **P 16 38 31.1 -0.2**
MOOW IAmb IAmb 16 38 37.4
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 25.32 166 LR LR 16 49 21.6
comp=Z,70nm,19.9s,baz=335,slow=38
FXWY Fox Creek 25.34 146 IAmb IAmb 16 38 39.5
comp=Z,23nm,1.5s
LOHW Long Hollow 25.46 145 IAmb IAmb 16 38 39.1
comp=Z,20nm,1.3s
TPAW Teton Pass 25.50 146 IAmb IAmb 16 39 15.7
comp=Z,18nm,1.4s
AGMN Agassiz Nation 25.57 119 P **P 16 38 32.7 -0.7**
AGMN IAmb IAmb 16 38 52.9
comp=Z,16nm,0.9s
PD31 Pinedale Array 26.50 144 IAmb IAmb 16 39 23.7
comp=Z,17nm,1.5s
PDAR Pinedale Array 26.50 144 P **P 16 38 42.7 +0.5**
PDAR Pinedale Array 26.50 144 P **P 16 38 45.9 +3.7**
comp=Z,2.9nm,0.9s,baz=5.2,slow=4.0,SNR=16
comp=Z,2.9nm,0.9s
HWUT Hardware Ranch 27.16 148 IAmb IAmb 16 38 54.3
comp=Z,8.9nm,1.4s
ELK Elko 27.29 154 P **P 16 38 53.2 +4.0**
comp=Z,0.4nm,0.4s,baz=6.7,slow=6.6,SNR=3.3
comp=Z,0.4nm,0.4s
K22A Casper 27.36 140 P **P 16 38 49.0 -0.8**
F33A 5 Mile Ranch, 27.55 122 IAmb IAmb 16 39 35.1
comp=Z,15nm,1.3s
TCUT Toone Canyon 27.66 148 IAmb IAmb 16 38 57.0
comp=Z,14nm,1.1s
BSUT Blindstream Ca 28.36 147 IAmb IAmb 16 39 10.7
comp=Z,13nm,1.5s
NVAR Mina Array Bea 29.08 160 P **P 16 39 09.4 +4.2**
comp=Z,0.6nm,0.6s,baz=342,slow=8.2,SNR=5.9
comp=Z,0.6nm,0.6s
ECSD EROS Data Cent 29.30 125 IAmb IAmb 16 39 46.7
comp=Z,8.5nm,0.6s
SRU San Rafael Swe 29.78 148 IAmb IAmb 16 39 29.4
comp=Z,5.8nm,1.1s
PRN Pahroc Range 30.57 156 P **P 16 39 17.9 -0.4**
SEY Seymchan 31.16 300 *ce* P **P 16 39 24.5 +1.4**
SEY pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 32.19 324 P **P 16 39 32.3 +0.2**
TIXI IAmb IAmb 16 39 36.3
comp=Z,7.5nm,1.0s
TIXI Tiksi 32.19 324 *i* P **P 16 39 34.7 +2.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
L40A Anamosa 32.61 119 P **P 16 39 36.1 0.0**
SPITS Spitsbergen Ar 34.05 12 P **P 16 39 50.4 +2.2**
comp=Z,3.2nm,0.7s,baz=338,slow=7.4,SNR=4.3
comp=Z,3.2nm,0.7s
ANMO Albuquerque 34.68 144 P **P 16 39 54.6 +0.2**
ANMO IAmb IAmb 16 39 59.3
comp=Z,6.4nm,0.9s
ANMO Albuquerque 34.68 144 *i* P **P 16 39 57.4 +3.1**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
N47A Urbana 35.62 114 P **P 16 40 02.5 +0.3**
N49A Columbus Grove 36.14 112 P **P 16 40 07.5 +0.8**
Q44A Meyer Farm, Va 36.19 119 P **P 16 40 07.0 0.0**
PETK Petropavlovsk- 36.27 284 P **P 16 40 09.3 +1.7**
comp=Z,2.7nm,0.8s,baz=57,slow=13,SNR=7.1
comp=Z,2.7nm,0.8s
O48B Farmland 36.37 114 P **P 16 40 09.2 +0.6**
LONY Lake Ozonia 36.68 99 P **P 16 40 09.6 -1.6**
ACSO Alum Creek Sta 37.19 111 P **P 16 40 15.9 +0.4**
O52A Adamsville 37.72 110 P **P 16 40 21.5 +1.4**
O52A IAmb IAmb 16 40 23.0
comp=Z,11nm,0.6s
P51A Williamsport 37.82 112 P **P 16 40 20.9 0.0**
SN07 Snyder 07 37.84 138 P **P 16 40 22.3 +1.1**
SN07 IAmb IAmb 16 40 24.1
comp=Z,5.5nm,0.8s
P53A Whipple 38.44 110 P **P 16 40 26.9 +0.8**
SSFO Shawnee State 38.46 113 P **P 16 40 26.9 +0.6**
SSFO IAmb IAmb 16 40 29.0
comp=Z,15nm,0.7s
YAK Yakutsk 39.08 313 P **P 16 40 31.2 0.0**
YAK IAmb IAmb 16 40 34.0
comp=Z,13nm,0.8s
YAK Yakutsk 39.08 313 *eP* **P 16 40 33.0 +1.8**
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,1.0nm,1.0s
T50A Nancy 39.35 116 P **P 16 40 34.1 +0.4**
T50A IAmb IAmb 16 40 36.5
comp=Z,11nm,0.8s
BRDY Brady 40.06 136 P **P 16 40 40.5 +0.8**
TXAR Lajitas Array 40.71 143 P **P 16 40 46.0 +0.7**
TXAR Lajitas Array 40.71 143 P **P 16 40 48.0 +2.7**
comp=Z,0.9nm,0.6s,baz=356,slow=7.9,SNR=5.9
comp=Z,0.9nm,0.6s
TXAR Lajitas Array 40.71 143 P **P 16 40 48.0 +2.7**
HNDO Hondo 41.64 137 P **P 16 40 54.5 +1.6**
HNDO IAmb IAmb 16 40 56.0
comp=Z,7.5nm,0.6s
NRIK Noril'sk 41.78 341 P **P 16 40 53.6 +0.1**
NRIK Noril'sk 41.78 341 P **P 16 40 53.9 +0.4**
comp=Z,1.5nm,0.3s,baz=356,slow=6.0,SNR=7.5
comp=Z,1.5nm,0.3s
NRIK Noril'sk 41.78 341 *ceP* **P 16 40 55.7 +2.2**
NRIK pmax pmax
comp=Z,18nm,2.1s
ARCES ARCESS Array B 43.08 12 P **P 16 41 05.1 +1.0**
comp=Z,4.7nm,1.0s,baz=351,slow=8.4,SNR=8.9
comp=Z,4.7nm,1.0s
NB2 NORSAR Subarra 49.53 23 P **P 16 41 55.7 +0.8**
comp=Z,3.8nm,0.8s,baz=342,slow=7.9
NOA NORSAR Array B 49.53 23 P **P 16 41 56.0 +1.1**
comp=Z,1.9nm,0.6s,baz=342,slow=7.8,SNR=7.9
comp=Z,1.9nm,0.6s
HFS Hagfors 50.78 22 P **P 16 42 05.3 +1.0**
comp=Z,4.4nm,0.6s,baz=352,slow=4.5,SNR=15
comp=Z,4.4nm,0.6s
FINES FINESS Array B 51.06 14 P **P 16 42 07.2 +0.9**
comp=Z,2.4nm,0.5s,baz=359,slow=9.3,SNR=23
comp=Z,2.4nm,0.5s
EKA Eskdalemuir Ar 52.07 35 P **P 16 42 15.2 +1.3**
comp=Z,2.2nm,0.8s,baz=329,slow=7.0,SNR=5.9
comp=Z,2.2nm,0.8s
KLMR Klimovskoe 52.59 6 *eP* **P 16 42 18.0 +0.2**
KLMR pmax pmax
comp=Z,25nm,1.1s
KIRV Kirov 55.09 0 *ceP* **P 16 42 37.7 +1.6**
SVE Sverdlovsk 56.58 353 *eP* **P 16 42 48.3 +1.5**
SVE pmax pmax
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 56.84 336 P **P 16 42 48.5 -0.1**
ZAA0 IAmb IAmb 16 42 51.0
comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam 56.84 336 P **P 16 42 48.6 0.0**
ZALV Zalesovo Beam 56.84 336 P **P 16 42 49.8 +1.2**
comp=Z,8.8nm,0.6s,baz=6.5,slow=7.6,SNR=37
comp=Z,8.8nm,0.6s
ZALV Zalesovo Beam 56.84 336 *i* P **P 16 42 49.7 +1.0**
ZALV pmax pmax
comp=Z,9.0nm,0.6s
ARTI Arti 57.12 354 P **P 16 42 50.6 0.0**
ARTI Arti 57.12 354 *d i* P **P 16 42 52.7 +2.1**
ARTI 16 43 42.4
ARTI 16 44 55.1
ARTI S **S 16 50 51.0 +5.9**
ARTI SS **SS 16 54 37.2 +4.3**
ARTI pmax pmax
comp=Z,17nm,0.8s
SONM Songino Array 57.97 318 P **P 16 42 57.8 +0.9**
comp=Z,0.8nm,0.7s,baz=29,slow=7.2,SNR=6.8
comp=Z,0.8nm,0.7s
CLL Collm 59.14 26 *eP* **P 16 43 06.0 +1.2**
CLL Collm 59.14 26 *eP* **P 16 43 06.0 +1.2**
BRVK Borovoye 59.61 346 *ceP* **P 16 43 09.8 +1.7**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 59.63 346 P **P 16 43 09.8 +1.6**
comp=Z,5.3nm,0.7s,baz=358,slow=5.7,SNR=35
comp=Z,5.3nm,0.7s
BRG Berggiesshubel 59.72 25 *eP* P 16 43 13.1 +4.2
BRG Amp 16 43 14.2
comp=Z,3.2nm,0.8s
KSRS Korea Array 60.60 297 P **P 16 43 16.3 +1.3**
comp=Z,1.5nm,1.0s,baz=39,slow=6.7,SNR=1.3
comp=Z,1.5nm,1.0s
KURK Kurchatov 60.91 339 P **P 16 43 17.4 +0.4**
KURK Kurchatov 60.91 339 *ceP* **P 16 43 18.6 +1.6**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 61.02 339 P **P 16 43 19.2 +1.5**
comp=Z,7.6nm,0.8s,baz=10,slow=6.1,SNR=40
comp=Z,7.6nm,0.8s
KHC Kasperske Hory 61.34 26 *ceP* **P 16 43 23.3 +3.3**
KHC pmax pmax
comp=Z,30nm,1.7s
GERES GERESS Array B 61.63 26 P **P 16 43 24.2 +2.1**
comp=Z,1.3nm,0.8s,baz=356,slow=4.0,SNR=7.8
comp=Z,1.3nm,0.8s
VRAC Vranov 61.67 24 P **P 16 43 23.6 +1.4**
comp=Z,4.4nm,0.9s,baz=356,slow=9.8,SNR=5.9
comp=Z,4.4nm,0.9s
VRAC Vranov 61.67 24 *eP* **P 16 43 23.4 +1.2**
KRUC Moravsky 61.88 24 *eP* **P 16 43 24.9 +1.3**
AKASG Malin Array Be 61.96 15 P **P 16 43 25.2 +1.1**
comp=Z,1.3nm,0.4s,baz=354,slow=7.0,SNR=12
comp=Z,1.3nm,0.4s
AKBB Malin Array Si 61.96 15 *ceP* **P 16 43 25.7 +1.6**
AKBB pmax pmax
comp=Z,8.0nm,1.5s
DAVOX Davos/Dischmat 62.91 30 P **P 16 43 33.1 +2.4**
comp=Z,3.5nm,1.0s,baz=349,slow=12,SNR=4.2
comp=Z,3.5nm,1.0s
HHC Hu-ho-hao-te 62.92 311 *eP* **P 16 43 27.8 -3.0**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.6s
PSZ Piszkesteto 63.54 22 P **P 16 43 34.4 -0.4**
PSZ Piszkesteto 63.54 22 P **P 16 43 34.4 -0.4**
PSZ pmax pmax
comp=Z,18nm,1.4s
ABKAR Akbulak array 64.17 353 P **P 16 43 38.5 -0.3**
MK31 Makanchi Array 64.17 336 *ceP* **P 16 43 40.1 +1.2**
MKAR Makanchi Array 64.17 336 P **P 16 43 39.1 +0.2**
MKAR Makanchi Array 64.17 336 P **P 16 43 40.3 +1.4**
comp=Z,2.8nm,0.7s,baz=30,slow=5.8,SNR=41
comp=Z,2.8nm,0.7s
ESDC Sonseca Array 66.40 43 P **P 16 43 53.6 +0.2**
ESDC Sonseca Array 66.40 43 P **P 16 43 55.6 +2.1**
comp=Z,1.6nm,1.0s,baz=335,slow=6.7,SNR=5.5
comp=Z,1.6nm,1.0s
GTA Gaotai 67.54 320 *eP* **P 16 44 02.8 +2.0**
GTA pmax pmax
comp=Z,5.0nm,0.9s
NJ2 Nanjing 68.64 302 *eP* **P 16 44 06.6 -1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
AAK Ala-Archa 69.39 341 P **P 16 44 12.1 -0.4**
AAK IAmb IAmb 16 44 15.6
comp=Z,4.6nm,1.1s

AAK	**Ala-Archa**	**69.39**	**341**	*ce*P	**P**	**16 44 15.4**	**+3.0**
AAK				pmax	pmax		
	comp=Z,13nm,2.5s						
KDJ	**Kajisay**	**69.52**	**338**	P	**P**	**16 44 13.8**	**+0.6**
KDJ				IAmb	IAmb	16 44 17.1	
	comp=Z,4.0nm,1.2s						
KDJ	**Kajisay**	**69.52**	**338**	P	**P**	**16 44 13.8**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KBZ	**Khabaz**	**69.85**	**5**	P	**P**	**16 44 17.5**	**+2.6**
	comp=Z,3.4nm,0.9s,baz=243,slow=19,SNR=3.5						
	comp=Z,3.4nm,0.9s						
KBZ	**Khabaz**	**69.85**	**5**	*ce*P	**P**	**16 44 17.1**	**+2.2**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARLS	**Aral**	**70.18**	**341**	P	**P**	**16 44 20.1**	**+2.8**
KSH	**Kashi**	**72.26**	**339**	P	P	16 44 34.0	+4.2
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRTR	**Keskin Array B**	**73.26**	**13**	P	**P**	**16 44 38.1**	**+2.3**
	comp=Z,1.5nm,0.6s,baz=335,slow=3.5,SNR=1.7						
	comp=Z,1.5nm,0.6s						
GAR	**Garm**	**73.50**	**343**	P	**P**	**16 44 37.1**	**-0.1**
GAR				IAmb	IAmb	16 44 40.2	
	comp=Z,5.1nm,0.7s						
PZH	**PanZhiHua**	**79.19**	**314**	P	**P**	**16 45 09.4**	**-0.2**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
BRDH	**Bariadhala**	**85.53**	**322**	LR	LR	17 30 30.6	
	comp=Z,48nm,18.3s,baz=78,slow=40						
CMAR	**Chiang Mai Arr**	**87.60**	**314**	P	**P**	**16 45 54.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=357,slow=7.0,SNR=6.7						
	comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**87.60**	**314**	*i* P	**P**	**16 45 54.5**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

NEIC ***21*** *16:35:35.2±2.0, 20°.7S±0°.1×178°.7W±0°.1, h590km±6km, mb4.5/83, Error ellipse: s-maj=18.3km s-min=14.5km az=125.0*
IDC ***21*** *16:35:36.7±1.0, 20°.77S×178°.88W, h613km±11km, mb3.6/18, mbtmp4.5/21, Error ellipse: s-maj=12.5km s-min=9.9km az=125.0*
ISC 21 16:35:35.3±0.4,**20°.79S**±0°.05×**178°.73W**±0°.08,**h600**km,
n183,σ1$**28/178,mb4.4/63,3C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.30**	**314**		**P**	**16 37 04.2**	**+1.2**
MSVF	**Nonsavu**	**4.30**	**314**	P	**P**	**16 37 04.8**	**+1.7**
	43nm,0.4s,baz=262,slow=24,SNR=118						
MSVF				S	**S**	**16 38 16.1**	**+1.5**
	16nm,0.9s,baz=279,slow=22,SNR=0.7						
FUTU	**Fugatoga**	**6.47**	**5**	P	**P**	**16 37 21.1**	**+0.4**
GLKZ	**Green Lake**	**8.47**	**175**	P	**P**	**16 37 39.1**	**+0.2**
GLKZ				S	**S**	**16 39 22.2**	**+1.8**
AFI	**Afiamalu**	**9.54**	**45**	P	**P**	**16 37 47.7**	**-2.0**
PINNC	**Pines Island,**	**12.97**	**259**	P	**P**	**16 38 24.5**	**+0.6**
DZM	**Mont Dzumac**	**13.86**	**262**	P	**P**	**16 38 32.7**	**-0.3**
	4.2nm,0.5s,baz=90,slow=18,SNR=8.2						
OUZ	**Omahuta**	**15.88**	**204**	P	**P**	**16 38 54.8**	**+3.5**
KUZ	**Kuaotunu**	**16.62**	**196**	P	**P**	**16 39 00.8**	**+2.7**
MKAZ	**Moumakai**	**17.10**	**197**	P	**P**	**16 39 05.3**	**+2.8**
WMGZ	**Waiomatatini S**	**17.15**	**188**	P	**P**	**16 39 04.9**	**+1.9**
HAZ	**Te Kaha**	**17.17**	**189**	P	**P**	**16 39 03.8**	**+0.6**
HAZ				S	**S**	**16 41 48.4**	**-3.8**
RUGZ	**Raukumara Rang**	**17.39**	**190**	P	**P**	**16 39 05.8**	**+0.5**
PUZ	**Puketiti**	**17.42**	**188**	P	**P**	**16 39 07.1**	**+1.6**
TWGZ	**Tauwhareparae**	**17.56**	**189**	P	**P**	**16 39 08.1**	**+1.4**
TWGZ				S	**S**	**16 41 56.0**	**-2.6**
TOZ	**Tahuroa Road**	**17.61**	**195**	P	**P**	**16 39 08.5**	**+1.4**
TOZ				IAmb	IAmb	16 39 10.6	
	comp=Z,11nm,0.9s						
TOZ	**Tahuroa Road**	**17.61**	**195**	P	**P**	**16 39 09.2**	**+2.1**
URZ	**Urewera**	**17.77**	**191**	P	**P**	**16 39 08.3**	**-0.4**
	comp=Z,6.6nm,0.3s,baz=358,slow=3.2,SNR=18						
URZ				S	**S**	**16 42 01.7**	**-0.3**
	comp=Z,10nm,1.2s,baz=215,slow=20,SNR=1.7						
URZ	**Urewera**	**17.77**	**191**	P	**P**	**16 39 07.3**	**-1.4**
URZ				S	**S**	**16 41 57.6**	**-4.4**
MWZ	**Matawai**	**17.78**	**190**	P	**P**	**16 39 08.2**	**-0.6**
MWZ				S	**S**	**16 41 59.2**	**-3.0**
CNGZ	**Carnagh Statio**	**17.83**	**188**	P	**P**	**16 39 07.4**	**-1.7**
CNGZ				S	**S**	**16 42 02.1**	**-0.7**
RAGZ	**Rawiri**	**17.95**	**190**	P	**P**	**16 39 10.7**	**+0.3**
MUGZ	**Murupara**	**18.05**	**191**	P	**P**	**16 39 11.9**	**+0.8**
RIGZ	**Rimuhau**	**18.11**	**189**	P	**P**	**16 39 11.2**	**-0.6**
RTZ	**Ruatahuna**	**18.14**	**191**	P	**P**	**16 39 10.3**	**-1.8**
RTZ				IAmb	IAmb	16 39 21.7	
	comp=Z,12nm,1.1s						
RTZ	**Ruatahuna**	**18.14**	**191**	P	**P**	**16 39 11.1**	**-1.1**
SNGZ	**Shannon Statio**	**18.25**	**190**	P	**P**	**16 39 13.5**	**+0.5**
MTHZ	**Maungataniwha**	**18.40**	**191**	P	**P**	**16 39 16.2**	**+1.8**
BKZ	**Black Stump Fm**	**18.77**	**192**	P	**P**	**16 39 17.0**	**-0.8**
BKZ				S	**S**	**16 42 14.1**	**-4.0**
TMVZ	**Te Maari**	**18.88**	**193**	P	**P**	**16 39 19.3**	**+0.4**
ETVZ	**East Tongariro**	**18.90**	**193**	P	**P**	**16 39 19.7**	**+0.7**
OTVZ	**Oturere**	**18.93**	**194**	P	**P**	**16 39 19.9**	**+0.5**
BFZ	**Birch Farm**	**20.28**	**191**	P	**P**	**16 39 29.8**	**-1.6**
BFZ				IAmb	IAmb	16 39 36.5	
	comp=Z,14nm,0.9s						
MRNZ	**Matariki Terra**	**21.77**	**197**	P	**P**	**16 39 43.4**	**-1.4**
THZ	**Tophouse**	**22.07**	**197**	P	**P**	**16 39 46.5**	**-1.0**
THZ				IAmb	IAmb	16 39 56.0	
	comp=Z,28nm,1.5s						
KHZ	**Kahutara**	**22.52**	**195**	P	**P**	**16 39 50.0**	**-1.3**
KHZ				IAmb	IAmb	16 40 08.4	
	comp=Z,28nm,1.5s						
MLZ	**Mavora Lakes**	**26.80**	**201**	P	**P**	**16 40 29.5**	**+0.4**
MLZ				IAmb	IAmb	16 40 31.9	
	comp=Z,11nm,0.7s						
WHZ	**Wether Hill Ro**	**27.32**	**201**	P	**P**	**16 40 34.1**	**+0.5**
BBOO	**Buckleboo**	**41.80**	**244**	P	**P**	**16 42 34.2**	**+0.2**
BBOO				IAmb	IAmb	16 42 47.1	
	comp=Z,16nm,1.1s						
JAY	**Jayapura**	**43.49**	**289**	P	**P**	**16 42 47.0**	**-0.5**
	comp=Z,13nm,0.5s,baz=120,slow=6.2,SNR=8.3						
	comp=Z,13nm,0.5s						
WR0	**Warramunga Arr**	**43.69**	**263**	P	**P**	**16 42 48.7**	**-0.2**
AS31	**Alice Springs**	**43.78**	**257**	P	**P**	**16 42 49.8**	**+0.1**
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**16 42 49.0**	**-0.6**
ASAR				PcP	**PcP**	**16 44 22.0**	**-0.6**
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**16 42 49.9**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=93,slow=7.5,SNR=58						
ASAR				S	**S**	**16 48 36.0**	**-2.1**
	comp=Z,1.0nm,0.7s,baz=94,slow=15,SNR=7.6						
	comp=Z,1.6nm,0.5s						
WB2	**Warramunga Arr**	**43.87**	**262**	P	**P**	**16 42 49.9**	**-0.4**
WRA	**Warramunga Arr**	**43.88**	**262**	P	**P**	**16 42 49.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=98,slow=7.8,SNR=34						
	comp=Z,1.3nm,0.6s						
DHH	**Diamond Head**	**46.54**	**27**	P	**P**	**16 43 10.1**	**-0.3**
HLK	**Haleakala**	**46.78**	**29**	P	**P**	**16 43 12.4**	**-0.2**
MTN	**Manton Dam**	**48.48**	**271**	P	**P**	**16 43 25.1**	**0.0**
KNRA	**Kununurra**	**49.95**	**267**	P	**P**	**16 43 35.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.31**	**263**	P	**P**	**16 43 53.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.31**	**263**	P	**P**	**16 43 52.4**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=63,slow=6.0,SNR=8.8						
	comp=Z,2.9nm,0.6s						
SOEI	**Soe**	**55.82**	**272**	P	**P**	**16 44 18.6**	**+0.9**
SOEI				IAmb	IAmb	16 44 19.9	
	comp=Z,16nm,0.7s						
PSA00	**Pilbara Seismi**	**56.93**	**257**	P	**P**	**16 44 24.5**	**-0.6**
PSA00				IAmb	IAmb	16 44 25.8	
	comp=Z,32nm,1.4s						
SBA	**Scott Base**	**57.54**	**184**	P	**P**	**16 44 30.7**	**+2.5**
VNDA	**Vanda**	**57.56**	**185**	P	**P**	**16 44 30.7**	**+2.3**
VNDA	**Vanda**	**57.56**	**185**	P	**P**	**16 44 28.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=14,slow=6.4,SNR=5.8						
	comp=Z,1.2nm,0.5s						
TOLI2	**Tolitoli**	**62.99**	**282**	P	**P**	**16 45 05.8**	**+0.6**
KKM	**Kota Kinabalu**	**69.17**	**285**	P	**P**	**16 45 43.5**	**0.0**
KKM				IAmb	IAmb	16 45 56.4	
	comp=Z,20nm,1.3s						
UGM	**Wanagama**	**69.27**	**269**	P	**P**	**16 45 42.3**	**-1.8**
QSPA	**South Pole Qui**	**69.28**	**180**		**P**	**16 45 45.0**	**+1.7**
QSPA				IAmb	IAmb	16 45 45.3	
	comp=Z,7.1nm,0.7s						
QSPA	**South Pole Qui**	**69.28**	**180**	P	**P**	**16 45 44.4**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=219,slow=1.5,SNR=54						
	comp=Z,6.2nm,0.8s						
JGF	**Kuroka**	**69.83**	**323**	P	**P**	**16 45 46.5**	**-0.5**
JGF				IAmb	IAmb	16 45 59.5	
	comp=Z,14nm,1.3s						
JOW	**Kunigami**	**69.83**	**311**	P	**P**	**16 45 47.6**	**+0.5**
	comp=Z,23nm,0.8s,baz=135,slow=14,SNR=2.8						
	comp=Z,23nm,0.8s						
MJAR	**Matsushiro Arr**	**70.04**	**324**	P	**P**	**16 45 47.5**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=168,slow=6.1,SNR=10						
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**70.04**	**324**	P	**P**	**16 45 47.7**	**-0.4**
MAJO				IAmb	IAmb	16 45 56.5	
	comp=Z,18nm,1.5s						
MJB9	**Matsu-Tunnel**	**70.05**	**324**	P	**P**	**16 45 48.4**	**+0.3**
JNU	**Nakatsue**	**72.02**	**317**	P	**P**	**16 45 59.3**	**-0.5**
KIWB	**Kanaga Island**	**72.34**	**1**	P	**P**	**16 46 00.6**	**-0.5**
ADK	**Adak**	**72.38**	**1**	P	**P**	**16 46 00.5**	**-0.8**
TPUB	**Ta-pu**	**73.56**	**303**	P	**P**	**16 46 06.7**	**-2.1**
SSLB	**Suanglung**	**73.56**	**304**	P	**P**	**16 46 07.2**	**-1.6**
SSLB				IAmb	IAmb	16 46 11.2	
	comp=Z,25nm,1.2s						
JKA	**Kamikawa-asahi**	**73.66**	**332**	P	**P**	**16 46 08.5**	**-0.3**
UNV	**Unalaska Valle**	**75.07**	**7**	P	**P**	**16 46 15.2**	**-1.3**
PEA0B	**Petropavlovsk-**	**76.38**	**346**	P	**P**	**16 46 22.9**	**-0.9**
PEA0B				IAmb	IAmb	16 46 41.1	
	comp=Z,31nm,1.4s						
PETK	**Petropavlovsk-**	**76.38**	**346**	P	**P**	**16 46 22.8**	**-1.0**
PETK	**Petropavlovsk-**	**76.38**	**346**	P	**P**	**16 46 23.4**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=123,slow=5.5,SNR=15						
	comp=Z,5.2nm,0.6s						
KSRS	**Korea Array**	**76.65**	**319**	P	**P**	**16 46 24.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=122,slow=5.5,SNR=5.7						
	comp=Z,1.3nm,0.7s						
SDPT	**Sand Point**	**77.42**	**11**	P	**P**	**16 46 28.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**78.82**	**326**	P	**P**	**16 46 37.3**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=136,slow=3.3,SNR=12						
	comp=Z,3.4nm,0.7s						
HOPS	**Hopland Field**	**79.04**	**41**	P	**P**	**16 46 38.6**	**+0.2**
KCPM	**Cahto Peak**	**79.16**	**40**	P	**P**	**16 46 40.2**	**+1.0**
KCPM				IAmb	IAmb	16 46 40.5	
	comp=Z,36nm,1.3s						
BELA	**Belgrano 2**	**79.36**	**173**	P	**P**	**16 46 39.2**	**-0.3**
KMRM	**Mail Ridge**	**79.42**	**40**	P	**P**	**16 46 41.0**	**+0.5**
NJ2	**Nanjing**	**79.54**	**310**	*eP*	**P**	**16 46 43.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KHMM	**Horse Mountain**	**79.81**	**39**	P	**P**	**16 46 43.5**	**+0.9**
KHMM				IAmb	IAmb	16 46 50.5	
	comp=Z,14nm,1.1s						
O02D	**Mt. Diablo Mer**	**79.94**	**40**	P	**P**	**16 46 44.6**	**+1.4**
CMB	**Columbia Colle**	**80.14**	**43**	P	**P**	**16 46 44.4**	**+0.1**
MDJ	**Mudanjiang**	**80.36**	**325**	P	**P**	**16 46 46.0**	**+0.8**
MDJ				IAmb	IAmb	16 46 50.1	
	comp=Z,23nm,1.4s						
YBH	**Yreka Blue Hor**	**80.95**	**39**	P	**P**	**16 46 49.2**	**+0.8**
YBH	**Yreka Blue Hor**	**80.95**	**39**	P	**P**	**16 46 49.4**	**+1.0**
	comp=Z,6.6nm,0.8s,baz=41,slow=2.2,SNR=14						
	comp=Z,6.6nm,0.8s						
WAKR	**Walker**	**81.02**	**43**	P	**P**	**16 46 49.9**	**+0.9**
WAKR				IAmb	IAmb	16 46 51.2	
	comp=Z,12nm,1.2s						
O14K	**Tigyukauivet M**	**81.04**	**9**	P	**P**	**16 46 47.4**	**-0.8**
HATC	**Hat Creek Radi**	**81.13**	**40**		**P**	**16 46 50.4**	**+1.1**
HATC				IAmb	IAmb	16 46 51.6	
	comp=Z,24nm,1.1s						
PNTR	**Pine Nut**	**81.26**	**43**	P	**P**	**16 46 50.7**	**+0.5**
PNTR				IAmb	IAmb	16 46 52.2	
	comp=Z,13nm,0.8s						
DSP	**Deep Springs**	**81.33**	**45**	P	**P**	**16 46 51.1**	**+0.9**
LHV	**Little Huntoon**	**81.48**	**44**	P	**P**	**16 46 51.7**	**+0.6**
L04D	**Klamath Falls**	**81.48**	**39**	P	**P**	**16 46 51.6**	**+0.4**
L04D				IAmb	IAmb	16 46 53.1	
	comp=Z,11nm,0.8s						
GWY	**Greenwater Val**	**81.54**	**46**	P	**P**	**16 46 52.1**	**+0.4**
NVAR	**Mina Array Bea**	**81.71**	**44**	P	**P**	**16 46 53.4**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=224,slow=8.0,SNR=18						
	comp=Z,3.1nm,0.6s						
PAHR	**Pah Rah Range**	**81.75**	**42**	P	**P**	**16 46 52.7**	**+0.1**
O16K	**Kokwok River B**	**81.86**	**10**	P	**P**	**16 46 51.1**	**-1.3**
O16K				IAmb	IAmb	16 46 52.1	
	comp=Z,11nm,0.9s						
N15K	**Kwethluk River**	**82.09**	**9**	P	**P**	**16 46 53.6**	**0.0**
N15K				IAmb	IAmb	16 46 55.0	
	comp=Z,12nm,0.8s						
J04A	**Umpqua Nationa**	**82.23**	**38**		**P**	**16 46 55.0**	**0.0**
TPNV	**Topopah Spring**	**82.24**	**46**		**P**	**16 46 55.3**	**+0.1**
BNX	**BinXian**	**82.27**	**325**	⇓P	**P**	**16 46 55.1**	**+0.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
J05D	**Fort Rock, OR**	**82.76**	**38**	P	**P**	**16 46 57.9**	**+0.3**
ILSW	**Iliamna Southw**	**83.15**	**13**	P	**P**	**16 46 57.6**	**-1.5**
ILSW				IAmb	IAmb	16 46 58.6	
	comp=Z,22nm,1.0s						
PINE	**Pine Mountain**	**83.24**	**38**	P	**P**	**16 47 00.2**	**+0.1**
PINE				IAmb	IAmb	16 47 02.2	
	comp=Z,12nm,0.8s						
PRN	**Pahroc Range**	**83.29**	**46**	P	**P**	**16 47 01.2**	**+0.9**
TUC	**Tucson**	**83.70**	**52**	P	**P**	**16 47 02.5**	**0.0**
WVOR	**Wild Horse Val**	**83.79**	**40**	P	**P**	**16 47 03.0**	**+0.3**
J08A	**Circle Bar Ran**	**84.43**	**40**	IAmb	IAmb	16 47 07.7	
	comp=Z,15nm,1.4s						
U15A	**North Rim**	**84.67**	**48**	P	**P**	**16 47 08.2**	**+0.8**
U15A				IAmb	IAmb	16 47 09.4	
	comp=Z,6.4nm,0.6s						
ELK	**Elko**	**84.96**	**43**	P	**P**	**16 47 09.3**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=270,slow=7.3,SNR=4.7						
	comp=Z,1.5nm,0.8s						
PKCU	**Pink Cliffs**	**85.17**	**47**	IAmb	IAmb	16 47 12.4	
	comp=Z,9.1nm,1.0s						
ELIB	**Princess Elisa**	**86.27**	**187**	*dP*	**P**	**16 47 14.6**	**+0.3**
	comp=Z,3.2nm,0.6s						
D08A	**Wollman Farm,**	**86.32**	**36**	P	**P**	**16 47 13.8**	**-0.8**
D08A				IAmb	IAmb	16 47 15.9	
	comp=Z,7.6nm,0.8s						
CAST	**Castle Rocks**	**86.50**	**12**	P	**P**	**16 47 13.0**	**-2.1**
CAST				IAmb	IAmb	16 47 14.1	
	comp=Z,6.1nm,0.8s						
SNAA	**Sanae**	**87.74**	**179**	⇑P	**P**	**16 47 21.1**	**0.0**
	comp=Z,37nm,0.7s						
TX31	**Lajitas Ar. Si**	**87.79**	**58**	P	**P**	**16 47 22.3**	**+0.3**
TX31				IAmb	IAmb	16 47 24.9	
	comp=Z,5.1nm,1.1s						
TXAR	**Lajitas Array**	**87.79**	**58**	P	**P**	**16 47 22.5**	**+0.4**
TXAR	**Lajitas Array**	**87.79**	**58**	P	**P**	**16 47 23.7**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=227,slow=6.2,SNR=17						
	comp=Z,3.0nm,0.8s						
VNA3	**Neumayer Olymp**	**87.89**	**176**	⇑P	**P**	**16 47 21.2**	**-0.6**
	comp=Z,6.3nm,0.8s						
I21K	**Tanana**	**88.12**	**11**	IAmb	IAmb	16 47 22.7	
	comp=Z,8.8nm,0.9s						
G19K	**Purcell Mounta**	**88.20**	**9**	IAmb	IAmb	16 47 23.5	
	comp=Z,4.6nm,0.9s						
WRH	**Wood River Hil**	**88.24**	**13**	P	**P**	**16 47 21.4**	**-1.8**
WRH				IAmb	IAmb	16 47 23.0	
	comp=Z,8.3nm,0.8s						
VNA2	**Neumayer--Watz**	**88.33**	**177**	⇑P	**P**	**16 47 23.6**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=161,slow=1.5						
H21K	**Melozitna Rive**	**88.42**	**10**	IAmb	IAmb	16 47 25.5	
	comp=Z,3.3nm,0.7s						
HDA	**Harding Lake**	**88.42**	**13**	IAmb	IAmb	16 47 23.9	
	comp=Z,6.5nm,0.7s						
CCB	**Clear Creek Bu**	**88.45**	**13**	IAmb	IAmb	16 47 23.7	
	comp=Z,7.6nm,0.7s						
IL31		**88.75**	**13**	P	**P**	**16 47 24.1**	**-1.4**
IL31				IAmb	IAmb	16 47 25.3	
	comp=Z,7.9nm,1.1s						
ILAR	**Eielson Array**	**88.75**	**13**	P	**P**	**16 47 24.7**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=229,slow=5.5,SNR=31						
	comp=Z,2.1nm,0.5s						
M29M	**Somme Creek**	**88.88**	**17**	IAmb	IAmb	16 47 27.4	
	comp=Z,7.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**89.07**	**315**	*eP*	**P**	**16 47 29.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						
J26L	**Joseph Creek**	**89.26**	**14**	IAmb	IAmb	16 47 29.1	
	comp=Z,7.8nm,0.9s						
E19K	**Redstone River**	**89.42**	**8**	IAmb	IAmb	16 47 29.2	
	comp=Z,6.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**16 47 29.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**16 47 30.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=128,slow=3.4,SNR=11						
	comp=Z,1.8nm,0.9s						
PD31	**Pinedale Array**	**89.64**	**43**	P	**P**	**16 47 30.1**	**-0.4**
PD31				IAmb	IAmb	16 47 31.6	
	comp=Z,2.9nm,0.7s						
PDAR	**Pinedale Array**	**89.64**	**43**	P	**P**	**16 47 30.9**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=218,slow=4.1,SNR=15						
	comp=Z,1.8nm,0.6s						
PZH	**PanZhiHua**	**90.24**	**298**	P	**P**	**16 47 35.3**	**+1.7**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
BVAR	**Borovoye Array**	**118.86**	**320**	PKP	**PKPdf**	**16 53 15.1**	**-1.2**
	comp=Z,2.9nm,0.4s,baz=110,slow=2.2,SNR=27						
SPITS	**Spitsbergen Ar**	**122.11**	**356**	PKP	**PKPdf**	**16 53 21.1**	**-0.8**
	comp=Z,14nm,1.0s,baz=42,slow=2.6,SNR=4.2						
ARCES	**ARCESS Array B**	**129.08**	**349**	PKP	**PKPdf**	**16 53 34.6**	**-0.7**
	comp=Z,6.7nm,0.9s,baz=62,slow=2.9,SNR=14						
FINES	**FINESS Array B**	**135.85**	**343**	PKhKP	PKPpre	16 53 34.5	
	comp=Z,2.4nm,0.9s,baz=48,slow=2.8,SNR=4.3						
FINES				PKP	**PKPdf**	**16 53 48.4**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=0,0,slow=2.3,SNR=7.4						
HFS	**Hagfors**	**139.72**	**350**	PKhKP	PKPpre	16 53 47.6	
	comp=Z,2.1nm,0.3s,baz=66,slow=4.0,SNR=23						
AKASG	**Malin Array Be**	**142.93**	**330**		PKPpre	16 53 57.5	
AKASG	**Malin Array Be**	**142.93**	**330**	PKhKP	PKPpre	16 53 57.9	
	comp=Z,6.0nm,0.4s,baz=44,slow=4.3,SNR=71						
AKBB	**Malin Array Si**	**142.93**	**330**		PKPpre	16 53 57.6	
KIEV	**Kiev**	**142.94**	**330**		PKPpre	16 53 57.8	
MCD	**Coleburn Disti**	**143.11**	**4**	*eP*	PKPab	16 53 57.8	-1.7
LUBAR	**Lubar, Ukraine**	**144.15**	**331**	PKP	PKPbc	16 54 02.0	-1.3
INVG	**Invergeldie, C**	**144.20**	**5**	*eP*	PKPbc	16 54 01.4	-1.8
LAWE	**Loch Awe, Argy**	**144.24**	**6**	*eP*	PKPbc	16 54 02.4	-0.9
NDNU	**Novodnistrovsk**	**145.26**	**329**	PKP	**PKPdf**	**16 54 05.2**	**-0.3**
BNN	**Bunyan**	**145.28**	**309**		**PKPdf**	**16 54 05.4**	**-0.6**
EKA	**Eskdalemuir Ar**	**145.35**	**4**	PKPbc	**PKPdf**	**16 54 05.6**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=335,slow=2.5,SNR=11						
EDMD	**Edmundbyers**	**145.93**	**3**	*eP*	**PKPdf**	**16 54 06.8**	**+0.3**
IOMK	**Kirk Michael**	**146.29**	**6**	*eP*	**PKPdf**	**16 54 08.2**	**+1.2**
BR131	**Keskin Array S**	**146.52**	**312**		**PKPdf**	**16 54 07.5**	**-0.7**
BR131				PKPbc	**PKPbc**	**16 54 10.1**	**-0.7**
BRTR	**Keskin Array B**	**146.52**	**312**	PKPbc	**PKPdf**	**16 54 09.3**	**+1.2**
	comp=Z,2.5nm,0.6s,baz=140,slow=4.2,SNR=15						
HPK	**Haverah Park**	**146.82**	**3**	*eP*	**PKPdf**	**16 54 10.4**	**+2.4**
BUR08	**Bucovina Ar. S**	**146.96**	**330**		**PKPbc**	**16 54 11.6**	**-0.1**
TESR	**Tescani**	**147.04**	**327**	PKP	**PKPdf**	**16 54 12.0**	**+1.6**
MMAI	**Mount Meron Ar**	**147.36**	**299**	PKPbc	**PKPbc**	**16 54 13.5**	**+0.4**
	comp=Z,4.7nm,0.5s,baz=64,slow=5.7,SNR=16						
HLM1	**Long Mynd**	**148.17**	**5**	*eP*	**PKPdf**	**16 54 12.6**	**+2.4**
CLL	**Collm**	**148.18**	**346**	⇓*i* PKPbc	**PKPbc**	**16 54 14.0**	**-0.4**
	comp=Z,12nm,0.9s						
MORC	**Moravsky Berou**	**148.32**	**340**	*e*PKP	**PKPbc**	**16 54 14.4**	**-0.5**
BRG	**Berggiesshubel**	**148.36**	**345**	*e*PKP	**PKPbc**	**16 54 14.9**	**0.0**
BRG				Amp		16 54 15.9	
	comp=Z,3.2nm,0.7s						
BRG	**Berggiesshubel**	**148.36**	**345**	P	**PKPab**	**16 54 20.1**	**-0.4**
BRG				Amp		16 54 20.7	
	comp=Z,2.6nm,0.6s						
VRAC	**Vranov**	**149.03**	**340**	*e*PKP	**PKPbc**	**16 54 16.3**	**-0.3**
JAVC	**Velka Javorina**	**149.07**	**339**	*e*PKP	**PKPdf**	**16 54 14.2**	**+2.3**
KRUC	**Moravsky**	**149.31**	**340**	*e*PKP	**PKPbc**	**16 54 17.1**	**-0.2**
GERES	**GERESS Array B**	**150.29**	**343**	PKP	**PKPdf**	**16 54 13.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=308,slow=3.6,SNR=2.8						
GERES				PKPbc	**PK

USAK Uak-Merkez 1.30 346 P Pb 16 41 36.4 -0.3
USAK S Sb 16 41 53.2 -0.3
AYDB Zeytinkoy-Aydi 1.30 293 Pn **Pn 16 41 36.5 -0.2**
MLSB Milas 1.31 264 Pn **Pg 16 41 37.1 -0.3**
ODEM Odemis-Izmir 1.34 308 Pn **Pb 16 41 37.4 -0.1**
IZMR zmir-demi 1.34 301 P **Pb 16 41 37.1 -0.4**
IZMR S Sg 16 41 55.5 +0.1
AKUM Antalya-Kumluc 1.35 146 P **Pg 16 41 38.8 +0.6**
AKUM S Sg 16 42 01.4 +5.6
SHUT Suhut-Afyon 1.42 39 Pn **Pn 16 41 38.1 -0.1**
SHAP Saphane-Kutahy 1.57 355 Pn **Pn 16 41 40.7 +0.4**
ARG Arkhangelos 1.61 220 Pn **Pb 16 41 41.1 -1.0**
ARG Arkhangelos 1.61 220 **Pb 16 41 41.5 -0.5**
DAT Datca 1.64 244 Pn **Pb 16 41 41.6 -1.0**
DDIM Aydin, Didim 1.73 271 P **Pb 16 41 43.7 -0.3**
DDIM S Sg 16 42 09.8 +2.0
YAZI Mula-Dat§a- 1.75 244 P **Pb 16 41 44.1 -0.3**
YAZI S Sb 16 42 06.5 +0.1
BORA Eskisehir 2.56 18 **Pn 16 41 54.1 +0.3**
KARP Karpathos 2.63 224 **Pn 16 41 55.8 +1.0**
KARP Karpathos 2.63 224 P **Pn 16 41 55.4 +0.6**
MDUB Mudurnu 3.32 24 **Pn 16 42 05.9 +1.6**
ANTO Ankara 3.58 47 **Pn 16 42 08.6 +0.7**
ANTO Ankara 3.58 47 ⇓P **Pn 16 42 09.4 +1.5**
ANTO Ankara 3.58 47 P **Pn 16 42 09.1 +1.2**
KIRS Kirsehir-Merke 3.92 63 ⇑P **Pn 16 42 14.3 +1.7**
BR105 Keskin Array S 3.99 54 P **Pn 16 42 14.3 +0.6**
BR106 Keskin Array S 4.00 54 P **Pn 16 42 14.6 +0.8**
BR104 Keskin Array S 4.00 55 P **Pn 16 42 14.6 +0.8**
BR131 Keskin Array S 4.01 54 **Pn 16 42 15.0 +1.0**
BRTR Keskin Array B 4.01 54 **Pn 16 42 14.9 +1.0**
BRTR Keskin Array B 4.01 54 Pn **Pn 16 42 15.2 +1.3**
5.7nm,0.3s,baz=244,slow=17,SNR=170
BRTR Sn **Sn 16 43 03.5 +2.4**
baz=240,slow=14
BRTR LR LR 16 44 17.3
comp=Z,385nm,19.3s,baz=198,slow=47
23nm,0.7s
CSS Mathiatis 4.03 127 **Pn 16 42 14.4 +0.4**
CSS Mathiatis 4.03 127 P **Pn 16 42 15.2 +1.2**
CSS Mathiatis 4.03 127 P **Pn 16 42 12.8 -1.2**
CSS Mathiatis 4.03 127 S **Sn 16 43 00.1 -1.2**
CAVK Edirne/Enez-Ca 4.10 323 ⇑P **Pn 16 42 16.1 +1.1**
IDI Anoyia 4.24 241 **Pn 16 42 18.1 +1.0**
IDI Anoyia 4.24 241 Pn **Pn 16 42 18.6 +1.6**
26nm,0.3s,baz=58,slow=12,SNR=24
IDI Sn **Sn 16 43 11.2 +4.6**
6.6nm,0.3s,baz=240,slow=19,SNR=6.3
ALN Alexandroupoli 4.32 324 **Pn 16 42 18.7 +0.7**
RDO Rodhopi 4.76 322 **Pn 16 42 24.9 +1.0**
ILGA Ilgaz 4.90 42 **Pn 16 42 26.2 -0.1**
BNN Bunyan 5.26 73 **Pn 16 42 29.9 -1.2**
HWQ Hawqa 6.18 119 *eP* **Pn 16 42 46.2 +2.5**
BEIL Beino 6.21 116 *eP* **Pn 16 42 46.8 +2.7**
DQRL Deir Qamar 6.26 125 *eP* **Pn 16 42 46.4 +1.7**
HNTI Hanita 6.42 131 P **Pn 16 42 45.6 -1.3**
HNTI Hanita 6.42 131 S **Sn 16 43 58.4 -1.8**
QRWL Qaraoun 6.43 125 *eP* **Pn 16 42 48.2 +1.2**
DB3 El Dabaa 6.44 187 P **Pn 16 42 45.4 -1.7**
DB3 S **Sn 16 43 58.1 -2.6**
RCY Rachaya 6.56 125 *eP* **Pn 16 42 50.2 +1.3**
SHBL Chebaa 6.59 127 *eP* **Pn 16 42 50.4 +1.0**
MMA0B Mount Meron ar 6.61 130 P **Pn 16 42 48.6 -0.8**
MMA0B Mount Meron ar 6.61 130 S **Sn 16 44 03.7 -1.2**
MMAI Mount Meron Ar 6.61 130 Pn **Pn 16 42 50.8 +1.3**
16nm,0.3s,baz=322,slow=12,SNR=85
MMAI Sn **Sn 16 44 05.4 +0.5**
14nm,0.3s,baz=312,slow=27,SNR=12
27nm,0.5s
GEM Giv'at Ha'Em 6.63 128 P **Pn 16 42 48.9 -0.9**
GEM Giv'at Ha'Em 6.63 128 S **Sn 16 44 03.7 -1.8**
OFRI `Ofer 6.64 135 P **Pn 16 42 48.6 -1.4**
OFRI `Ofer 6.64 135 S **Sn 16 44 04.2 -1.6**
NATI Neve Ativ 6.65 127 P **Pn 16 42 48.6 -1.4**
NATI Neve Ativ 6.65 127 S **Sn 16 44 04.2 -1.6**
KSHT Keshet 6.88 129 P **Pn 16 42 52.3 -0.9**
KSHT Keshet 6.88 129 S **Sn 16 44 10.2 -1.4**
SLTI Sal'it 6.96 137 P **Pn 16 42 53.5 -0.8**
SLTI Sal'it 6.96 137 S **Sn 16 44 11.7 -1.9**
MMLI Mount Malkishu 7.03 134 P **Pn 16 42 54.6 -0.6**
MMLI Mount Malkishu 7.03 134 S **Sn 16 44 13.4 -1.8**
TIRR Tirgusor 7.04 354 **Pn 16 42 55.5 +0.2**
TIRR Tirgusor 7.04 354 ⇑P **Pn 16 42 57.1 +1.8**
TIRR Tirgusor 7.04 354 P **Pn 16 42 57.5 +2.2**
0.1nm20nm,1.2s
SALP Salfit 7.17 137 P **Pn 16 42 56.0 -1.3**
SALP Salfit 7.17 137 S **Sn 16 44 17.9 -0.9**
HMDT Nahal Hemdat 7.22 134 P **Pn 16 42 57.0 -0.9**
HMDT Nahal Hemdat 7.22 134 S **Sn 16 44 18.7 -1.3**
DSI Dead Sea 7.66 138 P **Pn 16 43 02.7 -1.2**
DSI Dead Sea 7.66 138 S **Sn 16 44 29.2 -1.6**
YTIR Yattir 7.69 141 P **Pn 16 43 03.1 -1.3**
YTIR Yattir 7.69 141 S **Sn 16 44 29.7 -1.9**
HMYD Mayadein 7.73 171 P **Pn 16 43 05.5 +0.7**
KZIT Kziot 7.73 146 P **Pn 16 43 03.9 -1.0**
KZIT Kziot 7.73 146 S **Sn 16 44 30.4 -2.0**
KOT Kottamia 7.77 164 P **Pn 16 43 06.2 +0.8**
CFR Carcaliu 7.78 353 ⇓P **Pn 16 43 06.9 +1.5**
SEV Sevastopol' 7.78 23 *eP* **Pn 16 43 07.1 +1.7**
SEV Pm 16 43 08.6
comp=Z,4.0nm,0.4s
SEV *ex* x 16 44 15.3
SEV Sm 16 44 19.1
comp=N,13nm,0.9s
SEV Sm 16 44 19.1
comp=E,22nm,1.1s
MSBI Mazada 7.85 140 P **Pn 16 43 05.7 -0.8**
MSBI Mazada 7.85 140 S **Sn 16 44 33.9 -1.6**
YAL Yalta 7.89 26 *eP* **Pn 16 43 09.2 +2.3**
YAL Pm 16 43 12.0
comp=Z,17nm,0.8s
GHAJ Ghor Haditha 7.97 139 **Pn 16 43 08.4 +0.3**
GHAJ Ghor Haditha 7.97 139 P **Pn 16 43 07.1 -1.0**
GHAJ Ghor Haditha 7.97 139 S **Sn 16 44 36.9 -1.4**
ASF Jabal al Asfar 8.10 128 Pn **Pn 16 43 11.0 +1.0**
comp=Z,0.8nm,0.3s,baz=315,slow=5.5,SNR=8.5
ASF Sn **Sn 16 44 43.3 +1.6**
comp=Z,1.0nm,0.3s,baz=133,slow=11,SNR=1.7
comp=Z,2.1nm,0.3s
ALU Alushta 8.14 26 *eP* **Pn 16 43 13.2 +2.8**
ALU Pm 16 43 16.7
comp=Z,8.0nm,0.7s
SIM Simferopol' 8.28 24 *eP* **Pn 16 43 13.7 +1.3**
SIM Pm 16 43 19.2
comp=Z,20nm,0.8s
BISRR Bisoca 8.34 347 ⇑P **Pn 16 43 15.6 +2.4**
RYAN Fayoum 8.38 175 P **Pn 16 43 14.2 +0.4**
MLR Muntele Rosu 8.44 343 **Pn 16 43 14.2 -0.5**
MLR Muntele Rosu 8.44 343 Pn **Pn 16 43 15.7 +1.1**
comp=Z,0.6nm,0.3s,baz=169,slow=13,SNR=4.1
comp=Z,1.7nm,0.4s
MLR Muntele Rosu 8.44 343 ⇑P **Pn 16 43 16.9 +2.2**
PRNI Paran 8.47 145 P **Pn 16 43 13.8 -1.2**
PRNI Paran 8.47 145 S **Sn 16 44 48.9 -1.8**
KRMI Paran Flat 8.55 147 P **Pn 16 43 14.4 -1.7**
KRMI Paran Flat 8.55 147 S **Sn 16 44 51.0 -1.7**
VOIR 8.62 339 ⇑P **Pn 16 43 18.2 +1.1**
VOIR 8.62 339 P **Pn 16 43 18.0 +0.9**
comp=Z,6.3nm,0.9s
PLOR Plostina 8.64 347 ⇑P **Pn 16 43 19.5 +2.2**
VRI Vrincioaia 8.64 347 ⇑P **Pn 16 43 19.1 +1.8**
HRFI Mount Harif 8.75 146 P **Pn 16 43 17.6 -1.3**
HRFI Mount Harif 8.75 146 S **Sn 16 44 55.2 -2.5**
MBRI Mt Berech 8.91 147 P **Pn 16 43 20.4 -0.8**
MBRI Mt Berech 8.91 147 S **Sn 16 44 59.7 -1.9**
DOPR Dopca 9.02 342 ⇑P **Pn 16 43 24.3 +1.8**
EIL Elat 9.03 148 Pn **Pn 16 43 23.1 +0.4**
comp=Z,3.7nm,0.3s,baz=255,slow=3.2,SNR=25
EIL Sn **Sn 16 45 01.6 -2.9**
comp=Z,2.1nm,0.3s,baz=350,slow=14,SNR=5.2
comp=Z,13nm,0.4s
EIL Elat 9.03 148 P **Pn 16 43 21.7 -1.1**
EIL Elat 9.03 148 S **Sn 16 45 03.5 -1.1**
OZUR 9.05 344 ⇓P **Pn 16 43 24.5 +1.5**
ONER Baraj Valea Uz 9.15 347 ⇑P **Pn 16 43 26.1 +1.7**
MDVR Moldovita 9.34 324 ⇑P **Pn 16 43 27.9 +0.9**
BZS Buzias 10.03 327 ⇑P **Pn 16 43 38.0 +1.7**
BURAR Bucovina Array 10.61 344 Pn **Pn 16 43 43.5 -0.9**
BUR08 Bucovina Ar. S 10.64 344 Pn **Pn 16 43 43.1 -1.7**
KBZ Khabaz 12.01 54 LR LR 16 49 25.6
comp=Z,90nm,18.5s,baz=214,slow=41
VRAC Vranov 15.05 326 LR LR 16 50 12.5
comp=Z,62nm,21.6s,baz=16,slow=36
GERES GERESS Array B 16.12 320 Pn **P 16 45 00.5 -1.7**
comp=Z,0.2nm,0.3s,baz=122,slow=13,SNR=6.2
FIA1 FINESS Array S 24.10 356 P **P 16 46 26.6 -1.2**
FINES FINESS Array B 24.10 356 P **P 16 46 25.5 -2.2**
FINES FINESS Array B 24.10 356 P **P 16 46 28.1 +0.3**
comp=Z,2.6nm,0.7s,baz=167,slow=11,SNR=4.9
comp=Z,2.6nm,0.7s
AB31 Akbulak array 24.96 52 P **P 16 46 35.8 +0.1**
AB31 IAmb IAmb 16 46 37.7
comp=Z,3.2nm,0.9s
ABKAR Akbulak array 24.96 52 P **P 16 46 34.7 -1.0**
ABKAR Akbulak array 24.96 52 P **P 16 46 35.7 -0.1**
ABKAR IAmb IAmb 16 46 37.8
comp=Z,3.2nm,0.9s
UOSS Minazif 25.99 111 P **P 16 46 43.2 -2.1**
UOSS IAmb IAmb 16 46 49.5
comp=Z,5.7nm,0.8s
ARTI Arti 27.07 36 P **P 16 46 53.8 -0.9**
BVAR Borovoye Array 32.27 48 LR LR 17 03 52.3
comp=Z,108nm,18.5s,baz=282,slow=42
AAK Ala-Archa 34.58 67 LR LR 17 05 44.3
comp=Z,58nm,18.4s,baz=330,slow=43
KURBB Kurchatov Arra 37.00 53 P **P 16 48 22.9 +1.1**
comp=Z,1.5nm,0.6s,baz=275,slow=8.7,SNR=18
comp=Z,1.5nm,0.6s
KURK Kurchatov 37.06 53 P **P 16 48 21.7 -0.6**
MK31 Makanchi Array 39.65 59 P **P 16 48 43.9 -0.3**
MKAR Makanchi Array 39.65 59 P **P 16 48 42.9 -1.3**
MKAR Makanchi Array 39.65 59 P **P 16 48 44.9 +0.7**
comp=Z,1.1nm,0.8s,baz=280,slow=6.3,SNR=9.3
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 40.93 48 P **P 16 48 54.7 +0.1**
ZALV Zalesovo Beam 40.93 48 P **P 16 48 55.4 +0.7**
comp=Z,0.9nm,0.6s,baz=268,slow=8.5,SNR=3.6
comp=Z,0.9nm,0.6s
NRIK Noril'sk 44.34 26 P **P 16 49 23.1 +0.9**
comp=Z,0.8nm,0.3s,baz=222,slow=4.0,SNR=3.9
comp=Z,0.8nm,0.3s
CMAR Chiang Mai Arr 62.95 87 P **P 16 51 40.0 +0.7**
comp=Z,0.3nm,0.4s,baz=316,slow=6.0,SNR=4.5
comp=Z,0.3nm,0.4s
C23K Itkillik River 73.02 0 P **P 16 52 44.6 +2.8**
C23K IAmb IAmb 16 52 47.2
comp=Z,3.6nm,0.9s
B21K Ikpikpuk River 73.19 1 P **P 16 52 44.4 +1.6**
B21K IAmb IAmb 16 52 50.1
comp=Z,4.0nm,1.0s
C18K Utukok River 73.92 4 P **P 16 52 47.8 +0.7**
E29M Blow River 74.05 355 P **P 16 52 48.6 +0.8**
G21K Allakaket 76.33 1 P **P 16 53 01.8 +0.7**
G21K IAmb IAmb 16 53 34.6
comp=Z,5.3nm,1.2s
ILAR Eielson Array 78.07 358 P **P 16 53 10.8 0.0**

*IDC **21** 16:43:32.4±3.4,21°.42N×144°.19E,h41km±29km,mb4.1/20,*
mbtmp4.3/22,ML3.7/2,MS3.5/17,Error ellipse:
s-maj=21.2km s-min=12.5km az=89.0
*NEIC **21** 16:43:36.0±1.5,21°.46N±0°.08×144°.05E±0°.06,h66km±7km,*
mb4.6/93,Error ellipse: s-maj=12.7km s-min=7.3km
az=159.0
ISC 21 16:43:31.6±0.5,21°.42N±0°.06×144°.11E±0°.10,h33km,n136,
σ1§06/120,mb4.6/63,MS3.7/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.92**	**343**	P	**Pn**	**16 44 57.9**	**+0.9**
6.3nm,0.3s,baz=135,slow=22,SNR=1.9							
JCJ				S	**Sn**	**16 46 04.0**	**+0.3**
64nm,0.8s,baz=274,slow=22,SNR=2.6							
20nm,0.4s							
INU	**Inuyama**	**15.21**	**337**	Pn	**P**	**16 47 07.3**	**-1.4**
JGF	**Kuroka**	**15.32**	**339**		**P**	**16 47 11.3**	**+1.4**
JOW	**Kunigami**	**15.42**	**294**	LR	LR	16 52 12.5	
comp=Z,138nm,20.6s,baz=81,slow=34							
MJAR	**Matsushiro Arr**	**15.93**	**342**	P	**Pn**	**16 47 14.5**	**+1.2**
0.1nm,0.3s,baz=112,slow=11,SNR=8.4							
MJAR				LR	LR	16 52 46.4	
comp=Z,85nm,18.5s,baz=132,slow=35							
5.5nm,0.9s							
MAJO	**Matsushiro**	**15.93**	**342**	P	**P**	**16 47 16.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**15.93**	**342**	P	**P**	**16 47 17.0**	**+0.3**
JNU	**Nakatsue**	**16.54**	**318**	P	**P**	**16 47 24.3**	**+0.8**
JNU				IAmb	IAmb	16 47 47.4	
comp=Z,72nm,1.5s							
JNU	**Nakatsue**	**16.54**	**318**	LR	LR	16 52 38.7	
comp=Z,73nm,19.4s,baz=127,slow=33							
KSRS	**Korea Array**	**21.26**	**322**	P	**P**	**16 48 16.7**	**+1.7**
comp=Z,6.4nm,0.9s,baz=147,slow=8.4,SNR=15							
KSRS				LR	LR	16 56 29.6	
comp=Z,42nm,18.3s,baz=150,slow=36							
comp=Z,6.4nm,0.9s							
KSAR	**Wonju Array Be**	**21.27**	**322**	P	**P**	**16 48 17.7**	**+2.5**
KS19	**Wonju Array Si**	**21.32**	**322**	P	**P**	**16 48 17.7**	**+1.9**
KS19				IAmb	IAmb	16 48 59.0	
comp=Z,38nm,1.4s							
TWG	**Pinlang**	**21.39**	**278**	P	**P**	**16 48 19.0**	**+2.5**
TWG				IAmb	IAmb	16 48 21.5	
comp=Z,44nm,1.2s							
H11N1	**WAKE ISLAND Hy**	**21.40**	**90**	T	T	17 10 13.4	
baz=278,slow=75,SNR=72							
H11N2	**WAKE ISLAND Hy**	**21.40**	**90**	T	T	17 10 13.4	
baz=278,slow=75,SNR=73							
H11N3	**WAKE ISLAND Hy**	**21.41**	**90**	T	T	17 10 14.5	
baz=278,slow=75,SNR=64							
H11S3	**WAKE ISLAND Hy**	**21.42**	**94**	T	T	17 10 16.9	
baz=281,slow=75,SNR=92							
H11S1	**WAKE ISLAND Hy**	**21.43**	**94**	T	T	17 10 16.1	
baz=281,slow=75,SNR=76							
H11S2	**WAKE ISLAND Hy**	**21.44**	**94**	T	T	17 10 18.1	
baz=281,slow=75,SNR=72							
SSLB	**Suanglung**	**21.50**	**281**	P	**P**	**16 48 20.6**	**+2.7**
SSLB				IAmb	IAmb	16 48 22.7	
comp=Z,29nm,0.8s							
ASAJ	**Asahikawa**	**22.67**	**357**	LR	LR	17 00 00.3	
comp=Z,38nm,18.6s,baz=126,slow=44							
DAV	**Davao City (W)**	**22.89**	**234**	LR	LR	16 55 32.5	
comp=Z,149nm,21.5s,baz=48,slow=31							
TGY	**Tagaytay City**	**23.22**	**256**	LR	LR	16 55 48.6	
comp=Z,150nm,21.9s,baz=152,slow=32							
USRK	**Ussuriysk Ar.**	**24.84**	**339**	P	**P**	**16 48 51.4**	**+0.5**
comp=Z,5.3nm,1.0s,baz=147,slow=13,SNR=6.0							
comp=Z,5.3nm,1.0s							
HNR	**Honiara**	**34.38**	**152**	P	**P**	**16 50 16.4**	**+0.6**
MA2	**Magadan**	**38.42**	**5**	P	**P**	**16 50 50.4**	**+0.5**
ULN	**Ulaanbaatar**	**39.73**	**321**	P	**P**	**16 51 00.9**	**-0.3**
SONM	**Songino Array**	**40.10**	**320**	P	**P**	**16 51 04.3**	**+0.1**
SONM	**Songino Array**	**40.10**	**320**	P	**P**	**16 51 04.8**	**+0.6**
comp=Z,1.6nm,0.9s,baz=136,slow=8.0,SNR=10							
comp=Z,1.6nm,0.9s							
YAK	**Yakutsk**	**41.79**	**350**	P	**P**	**16 51 17.6**	**-0.2**
YAK				IAmb	IAmb	16 51 19.2	
comp=Z,13nm,0.9s							
WB0	**Warramunga Arr**	**42.02**	**194**	P	**P**	**16 51 19.4**	**-0.7**
WB0				IAmb	IAmb	16 51 54.1	
comp=Z,20nm,1.4s							
WR8	**Warramunga Arr**	**42.18**	**194**	P	**P**	**16 51 20.4**	**-0.9**
WR8				IAmb	IAmb	16 51 51.5	
comp=Z,13nm,1.2s							
WRAB	**Tennant Creek**	**42.19**	**194**	P	**P**	**16 51 20.5**	**-1.0**
WRAB				IAmb	IAmb	16 51 22.8	
comp=Z,8.5nm,0.7s							
WRA	**Warramunga Arr**	**42.20**	**194**	P	**P**	**16 51 20.5**	**-1.1**
WRA	**Warramunga Arr**	**42.20**	**194**	P	**P**	**16 51 21.1**	**-0.5**
comp=Z,6.0nm,0.7s,baz=15,slow=9.0,SNR=26							
comp=Z,6.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**42.45**	**274**	P	**P**	**16 51 22.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**42.45**	**274**	P	**P**	**16 51 25.1**	**+1.4**
comp=Z,0.9nm,0.7s,baz=78,slow=6.5,SNR=8.7							
CMAR				LR	LR	17 07 13.5	
comp=Z,28nm,21.3s,baz=95,slow=33							
comp=Z,0.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**43.24**	**206**	P	**P**	**16 51 30.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**43.24**	**206**	P	**P**	**16 51 30.8**	**+0.8**
comp=Z,1.8nm,0.6s,baz=28,slow=17,SNR=5.0							
FITZ				LR	LR	17 09 31.8	
comp=Z,134nm,18.6s,baz=105,slow=36							
comp=Z,1.8nm,0.6s							
KULM	**Kulim**	**45.03**	**256**	P	**P**	**16 51 44.0**	**-0.5**
KULM				IAmb	IAmb	16 52 05.4	
comp=Z,13nm,1.2s							
AS31	**Alice Springs**	**45.90**	**193**	P	**P**	**16 51 50.6**	**-0.6**
ASAR	**Alice Springs**	**45.90**	**193**	P	**P**	**16 51 50.8**	**-0.4**
comp=Z,2.7nm,0.7s,baz=14,slow=8.6,SNR=42							
comp=Z,2.7nm,0.7s							

PSI Prapat 47.66 253 LR LR 17 14 16.9
comp=Z,22nm,18.1s,baz=52,slow=39
ONTNC Ouen Toro 48.62 152 P **P 16 52 13.6 +1.3**
BILL Biiibino 48.63 11 P **P 16 52 12.2 +0.3**
BILL IAmb IAmb 16 52 42.4
comp=Z,9.8nm,1.5s
STKA Stephens Creek 53.04 183 P **P 16 52 45.2 -0.3**
STKA Stephens Creek 53.04 183 P **P 16 52 44.3 -1.3**
comp=Z,2.5nm,0.9s,baz=7.9,slow=22,SNR=2.9
comp=Z,2.5nm,0.9s
K15K Wolf Creek Mou 54.92 28 P **P 16 52 59.6 +0.6**
ZAA0 Zalesovo Array 54.97 322 P **P 16 52 58.2 -1.2**
ZAA0 IAmb IAmb 16 52 60.0
comp=Z,7.2nm,1.1s
ZALV Zalesovo Beam 54.97 322 P **P 16 52 57.9 -1.5**
ZALV Zalesovo Beam 54.97 322 P **P 16 52 58.3 -1.1**
comp=Z,3.5nm,0.8s,baz=104,slow=6.3,SNR=12
comp=Z,3.5nm,0.8s
MK31 Makanchi Array 55.52 313 P **P 16 52 59.5 -4.1**
MK31 PcP **PcP 16 54 02.5 -0.8**
MKAR Makanchi Array 55.52 313 P **P 16 52 59.1 -4.5**
MKAR PcP **PcP 16 54 02.4 -0.9**
MKAR Makanchi Array 55.52 313 P **P 16 53 03.2 -0.4**
comp=Z,3.3nm,0.9s,baz=92,slow=8.7,SNR=15
MKAR PcP **PcP 16 54 03.3 0.0**
comp=Z,1.7nm,0.9s,baz=75,slow=5.1,SNR=5.0
comp=Z,3.3nm,0.9s
O16K Kokwok River B 55.59 31 P **P 16 53 03.8 -0.1**
O16K IAmb IAmb 16 53 14.2
comp=Z,5.9nm,0.8s
J16K Anvik River 55.69 27 P **P 16 53 05.7 +1.2**
MAKZ Makanchi 55.74 313 **P 16 53 04.8 -0.3**
MAKZ IAmb IAmb 16 53 07.0
comp=Z,5.3nm,0.8s
G16K Koyuk River 55.84 24 P **P 16 53 06.9 +1.4**
G16K IAmb IAmb 16 53 10.4
comp=Z,7.8nm,1.4s
C16K Lisburne Hills 56.13 20 P **P 16 53 09.0 +1.5**
C16K IAmb IAmb 16 53 09.6
comp=Z,5.1nm,0.8s
K17K Iditarod 56.47 28 P **P 16 53 11.0 +0.9**
F17K Baldwin Pennin 56.69 23 P **P 16 53 12.5 +1.0**
F17K IAmb IAmb 16 53 13.9
comp=Z,4.6nm,0.9s
H18K Honhosa River 57.29 25 P **P 16 53 16.6 +0.8**
H18K IAmb IAmb 16 53 27.4
comp=Z,8.0nm,1.4s
G18K Tagagawik 57.45 24 P **P 16 53 17.5 +0.5**
G18K IAmb IAmb 16 53 27.6
comp=Z,5.6nm,1.1s
KDAK Kodiak Island 57.94 34 LR LR 17 14 29.6
comp=Z,94nm,21.9s,baz=89,slow=32
J19K Poorman 58.03 27 P **P 16 53 21.9 +0.9**
J19K IAmb IAmb 16 53 23.2
comp=Z,4.9nm,1.0s
KURK Kurchatov 58.27 317 P **P 16 53 22.8 -0.2**
KURBB Kurchatov Arra 58.32 317 P **P 16 53 23.1 -0.2**
comp=Z,11nm,0.7s,baz=95,slow=7.7,SNR=123
comp=Z,11nm,0.7s
E19K Redstone River 58.55 23 P **P 16 53 25.6 +1.0**
NRIK Noril'sk 58.56 340 P **P 16 53 24.2 -0.5**
NRIK IAmb IAmb 16 53 25.4
comp=Z,6.5nm,1.1s
NRIK Noril'sk 58.56 340 P **P 16 53 24.5 -0.2**
comp=Z,1.8nm,0.4s,baz=116,slow=7.9,SNR=8.4
comp=Z,1.8nm,0.4s
TARG Taragay, Kyrgy 58.60 307 P **P 16 53 26.3 +0.3**
TARG IAmb IAmb 16 53 28.7
comp=Z,4.4nm,0.9s
D19K Kuna River 58.63 21 P **P 16 53 25.8 +0.6**
D19K IAmb IAmb 16 53 35.7
comp=Z,4.5nm,1.0s
J20K Nowinta River 58.70 27 P **P 16 53 26.1 +0.4**
J20K IAmb IAmb 16 53 28.4
comp=Z,4.4nm,0.9s
F20K Avaraart Lake 58.95 23 P **P 16 53 28.4 +0.9**
KDJ Kajisay 59.05 307 P **P 16 53 29.5 +0.7**
KDJ IAmb IAmb 16 53 33.5
comp=Z,8.3nm,1.3s
SKT Skwentna 59.31 30 P **P 16 53 30.1 +0.1**
B20K Meade River 59.52 20 P **P 16 53 31.6 +0.3**
BOOM Boomskoye usch 59.96 308 P **P 16 53 35.3 +0.2**
B21K Ikpikpuk River 60.21 21 P **P 16 53 37.5 +1.5**
B21K IAmb IAmb 16 53 46.9
comp=Z,5.0nm,1.1s
D22K Ayikyak River 60.62 22 P **P 16 53 38.7 -0.2**
D22K IAmb IAmb 16 53 41.6
comp=Z,4.9nm,1.1s
E22K Anaktuvuk Pass 60.72 23 P **P 16 53 39.9 +0.3**
E22K IAmb IAmb 16 53 50.5
comp=Z,6.4nm,1.1s
B22K Teshekpuk Lake 60.83 20 P **P 16 53 40.4 +0.1**
B22K IAmb IAmb 16 53 50.9
comp=Z,4.1nm,0.9s
G23K Bananza Creek 61.02 25 P **P 16 53 42.8 +1.2**
C23K Itkillik River 61.60 21 P **P 16 53 45.9 +0.4**
ILAR Eielson Array 61.90 27 P **P 16 53 46.8 -0.8**
comp=Z,1.5nm,0.8s,baz=265,slow=5.8,SNR=10
comp=Z,1.5nm,0.8s
E24K Your Creek 61.91 23 IAmb IAmb 16 53 50.4
comp=Z,4.7nm,1.1s
D25K Kavik River 62.92 22 P **P 16 53 55.5 +1.0**
D25K IAmb IAmb 16 53 56.9
comp=Z,5.0nm,0.9s
BMAR Burnt Mountain 63.25 24 P **P 16 53 57.9 +1.2**
BVAR Borovoye Array 63.44 320 P **P 16 53 58.2 +0.1**
comp=Z,12nm,0.7s,baz=91,slow=7.7,SNR=48
comp=Z,12nm,0.7s
BRVK Borovoye 63.51 320 P **P 16 53 58.6 0.0**
KK31 Karatay Array 63.90 309 P **P 16 54 01.1 -0.3**
KK31 IAmb IAmb 16 54 02.7
comp=Z,10nm,1.0s
KKAR Karatay Array 63.90 309 P **P 16 54 01.2 -0.2**
KKAR IAmb IAmb 16 54 02.7
comp=Z,11nm,1.0s
L27K Beaver Creek, 63.92 29 P **P 16 54 01.2 +0.1**
GAR Garm 64.52 304 P **P 16 54 05.4 -0.2**
GAR IAmb IAmb 16 54 06.8
comp=Z,10nm,1.0s
CHGR Chuyangaron 65.47 304 P **P 16 54 10.8 -0.9**
SIMJ Simiganj 65.58 304 P **P 16 54 11.6 -0.9**
SIMJ IAmb IAmb 16 54 14.2
comp=Z,9.0nm,1.0s
GVZ Greta Valley S 69.39 158 P **P 16 54 38.0 +1.9**
ABKAR Akbulak array 70.35 316 P **P 16 54 41.6 -0.5**
ABKAR Akbulak array 70.35 316 P **P 16 54 41.7 -0.4**
ABKAR IAmb IAmb 16 54 42.7
comp=Z,11nm,0.7s
BBB Bella Bella 72.04 40 LR LR 17 21 00.5
comp=Z,85nm,21.9s,baz=232,slow=31
YKA Yellowknife Ar 76.30 28 P **P 16 55 16.2 -0.7**
comp=Z,1.4nm,0.8s,baz=292,slow=5.6,SNR=6.9
comp=Z,1.4nm,0.8s
HOOD Mount Hood Mea 77.96 46 P **P 16 55 27.7 +0.9**
NEW Newport 79.91 42 LR LR 17 22 47.0
comp=Z,47nm,20.5s,baz=268,slow=30
MFID Camas Ranch 82.53 46 P **P 16 55 51.1 -0.4**
MFID IAmb IAmb 16 55 53.2
comp=Z,8.7nm,1.1s
NVAR Mina Array Bea 82.64 52 P **P 16 55 52.7 +0.5**
comp=Z,2.3nm,0.9s,baz=266,slow=5.9,SNR=12
comp=Z,2.3nm,0.9s
KBZ Khabaz 83.18 314 P **P 16 55 55.2 +0.7**
comp=Z,12nm,0.9s,baz=90,slow=2.7,SNR=32
comp=Z,12nm,0.9s
KIV Kislovodsk 83.23 315 P **P 16 55 54.0 -1.0**
GNI Garni 83.29 310 P **P 16 55 54.6 -0.8**
FINES FINESS Array B 83.80 335 P **P 16 55 55.8 -1.7**
comp=Z,3.2nm,0.8s,baz=48,slow=5.9,SNR=5.4
comp=Z,3.2nm,0.8s
ELK Elko 83.96 49 P **P 16 55 59.3 +0.2**
R11B Troy Canyon, C 84.65 51 P **P 16 56 02.7 +0.2**
R11B IAmb IAmb 16 56 04.2
comp=Z,8.7nm,1.4s
GWY Greenwater Val 84.69 53 P **P 16 56 02.6 -0.1**
GWY IAmb IAmb 16 56 04.0
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 84.71 52 P **P 16 56 02.3 -0.5**
TPNV IAmb IAmb 16 56 04.9
comp=Z,12nm,1.5s
YHL Hebgen Lake 85.02 44 P **P 16 56 04.2 -0.2**
YHL IAmb IAmb 16 56 06.6
comp=Z,6.3nm,1.0s
YHB Horse Butte 85.05 44 P **P 16 56 04.5 0.0**
GEVA Gevas 85.20 309 P **P 16 56 03.9 -1.4**
YMR Madison River 85.23 44 P **P 16 56 05.3 -0.1**

YMR					IAmb	IAmb	16 56 08.2	
	comp=Z,6.1nm,0.9s							
HVU	**Hansel Valley**	**85.25**	**47**	P		**P**	**16 56 05.7**	**+0.3**
SPR3	**Spring Creek 3**	**85.30**	**50**	P		**P**	**16 56 06.3**	**+0.4**
PRN	**Pahroc Range**	**85.41**	**52**	P		**P**	**16 56 05.3**	**-0.9**
H17A	**Grant Village**	**85.60**	**44**	P		**P**	**16 56 06.6**	**-0.6**
FXWY	**Fox Creek**	**85.64**	**45**	P		**P**	**16 56 06.3**	**-1.1**
LKWY	**Lake**	**85.64**	**44**	P		**P**	**16 56 08.3**	**+0.8**
LKWY					IAmb	IAmb	16 56 11.0	
	comp=Z,5.7nm,1.1s							
SHPR	**Sheep Range**	**85.69**	**53**	P		**P**	**16 56 06.8**	**-0.9**
YMP	**Mirror Lake Pl**	**85.72**	**43**	P		**P**	**16 56 08.0**	**+0.1**
YMP					IAmb	IAmb	16 56 13.2	
	comp=Z,11nm,1.3s							
PSUT	**Pine Spring**	**85.82**	**50**	P		**P**	**16 56 08.7**	**+0.3**
PSUT					IAmb	IAmb	16 56 10.3	
	comp=Z,5.1nm,0.9s							
PFO	**Pinyon Flats O**	**85.84**	**56**	LR		LR	17 30 50.2	
	comp=Z,44nm,18.7s,baz=258,slow=33							
DUG	**Dugway, Tooele**	**85.88**	**48**	P		**P**	**16 56 08.4**	**-0.2**
HWUT	**Hardware Ranch**	**86.14**	**47**	P		**P**	**16 56 09.6**	**-0.3**
HWUT					IAmb	IAmb	16 56 11.9	
	comp=Z,5.3nm,1.0s							
PDAR	**Pinedale Array**	**86.98**	**45**	P		**P**	**16 56 14.1**	**0.0**
	comp=Z,0.7nm,0.9s,baz=250,slow=4.3,SNR=5.2							
PDAR					LR	LR	17 28 34.8	
	comp=Z,24nm,20.7s,baz=292,slow=31							
	comp=Z,0.7nm,0.9s							
KNB	**Kanab**	**87.19**	**51**	P		**P**	**16 56 14.8**	**-0.3**
SRU	**San Rafael Swe**	**87.94**	**49**	IAmb		IAmb	16 56 19.7	
	comp=Z,4.6nm,0.9s							
AKASG	**Malin Array Be**	**88.23**	**325**	P		**P**	**16 56 19.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=63,slow=2.4,SNR=5.9							
	comp=Z,0.3nm,0.3s							
PV23	**Carpenter Ridg**	**89.29**	**49**	P		**P**	**16 56 24.5**	**-0.7**
ANMO	**Albuquerque**	**92.73**	**51**	LR		LR	17 32 44.5	
	comp=Z,33nm,20.2s,baz=85,slow=32							
LPIG	**La Paz**	**94.67**	**62**	LR		LR	17 30 15.5	
	comp=Z,36nm,20.8s,baz=22,slow=30							

IDC 21 16:46:08.5±822.0, 67°.94N×36°.11E, h0km, Error ellipse: s-maj=392.4km s-min=174.7km az=150.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASONI**	**1.27**	**177**	I	I	17 51 40.0	
	baz=359,slow=326,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**20.65**	**137**	I	I	18 53 44.6	
	baz=335,slow=328,SNR=3.4						
I46RU	**ZALESOVO INFRA**	**26.60**	**97**	I	I	19 28 25.7	
	baz=321,slow=328,SNR=3.7						

*ISK **21** 16:46:08.9, 34°.11N×26°.29E, h3km, ML3.3/12*
*HLW **21** 16:46:14.8, 34°.26N×26°.25E, h30km±9km, Ml3.1*
ISC 21 16:46:15.2±1.3, 34°23N±0°.04×26°21E±0°.06, h35km, n16, σ1$03/19, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.88**	**0**	Pg	**Pn**	**16 46 28.9**	**-2.2**
ZKR				Sg	**Sn**	**16 46 43.7**	**+1.1**
KARP	**Karpathos**	**1.53**	**31**	Pn	**Pn**	**16 46 39.3**	**-0.7**
KARP				Sn	**Sn**	**16 47 00.9**	**+2.2**
GVD	**Gavdhos**	**1.85**	**290**	Pn	**Pn**	**16 46 44.1**	**-0.3**
IMMV	**Iera Moni Meta**	**2.20**	**304**	Pn	**Pn**	**16 46 49.4**	**+0.1**
ARG	**Arkhangelos**	**2.52**	**38**	Pn	**Pn**	**16 46 53.0**	**-0.7**
DAT	**Datca**	**2.73**	**24**	Pn	**Pn**	**16 46 56.3**	**-0.3**
SLUM	**Salum**	**2.86**	**197**	P	**Pn**	**16 46 58.5**	**+0.2**
SLUM				S	**Sn**	**16 47 30.4**	**-1.1**
DALY	**Dalyan (Mula)**	**3.26**	**37**	Pn	**Pn**	**16 47 03.5**	**-0.2**
FETY	**Fethiye**	**3.35**	**44**	Pn	**Pn**	**16 47 04.5**	**-0.6**
AKAS	**Kas**	**3.42**	**53**	Pn	**Pn**	**16 47 05.2**	**-0.9**
DB3	**El Dabaa**	**3.75**	**148**	P	**Pn**	**16 47 10.1**	**-0.4**
ELL	**Elmali**	**3.92**	**49**	Pn	**Pn**	**16 47 12.5**	**-0.5**
KORT	**Korkueli**	**4.36**	**50**	Pn	**Pn**	**16 47 19.1**	**+0.1**
GAZI	**Gazipasa**	**5.38**	**66**	Pn	**Pn**	**16 47 31.7**	**-1.3**
SEYD	**Seydisehir-KON**	**5.56**	**54**	Pn	**Pn**	**16 47 35.5**	**0.0**
RYAN	**Fayoum**	**6.20**	**145**	P	**Pn**	**16 47 44.5**	**+0.3**

*NEIC **21** 16:48:19.5±1.1, 60°.70N±0°.03×151°.64W±0°.06, h84km±5km, Error ellipse: s-maj=4.2km s-min=4.0km az=127.0*
AEIC 21 16:48:20.7±1.0, 60°70N±0°03×151°63W±0°05, h82km±4km, ML2.7, ML3.0/188(NEIC), **Error ellipse: s-maj=4.0km s-min=3.3km az=213.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.24**	**73**		Pn	16 48 33.0	+0.1
RDT	**Redoubt**	**0.40**	**252**		Sn	16 48 41.9	-1.8
DFR	**Drift River**	**0.53**	**259**		Pn	16 48 33.7	-1.3
DFR					Sn	16 48 44.3	-1.2
RDJH	**Redoubt Jeurge**	**0.59**	**260**		Pn	16 48 34.5	-1.1
RDJH					Sn	16 48 45.3	-1.2
RED	**Redoubt Volcan**	**0.63**	**244**		Pn	16 48 34.7	-1.2
RED					Sn	16 48 46.3	-0.8
RDWB	**Redoubt West**	**0.63**	**251**		Pn	16 48 34.9	-1.1
RDWB					Sn	16 48 46.2	-1.1
NCT	**North Crescent**	**0.66**	**258**		Pn	16 48 35.0	-1.1
SPBG	**Spurr Blockage**	**0.67**	**328**		Pn	16 48 35.2	-1.1
SPBG					Sn	16 48 47.0	-0.8
SLKM	**Skilak Lake**	**0.72**	**105**		Pn	16 48 35.4	-1.3
SLKM				Sn	Sn	16 48 46.6	-2.0
SLKM				IAML		16 48 47.6	
	comp=E,466nm,0.2s						
O20K	**Slope Mountain**	**0.79**	**219**		Pn	16 48 36.9	-0.7
O20K					Sn	16 48 50.0	-0.1
STLK	**Strandline Lak**	**0.81**	**353**		Pn	16 48 36.7	-1.1
STLK				Sn	Sn	16 48 48.8	-1.6
FIS	**Fire Island**	**0.82**	**56**	Pn	Pn	16 48 36.6	-1.1
FIS				IAML		16 49 15.7	
	comp=N,470nm,0.5s						
SUA	**Susitna One**	**0.88**	**29**		Pn	16 48 37.7	-0.9
SUA				Sn	Sn	16 48 50.9	-1.0
SUA				IAML		16 48 52.0	
	comp=E,504nm,0.8s						
SUA				IAML		16 48 52.3	
	comp=N,496nm,0.5s						
O22K	**Cooper Landing**	**0.96**	**102**		Pn	16 48 38.8	-0.6
O22K				Sn	Sn	16 48 51.8	-1.5
RC01	**Rabbit Creek A**	**1.00**	**66**	Pn	Pn	16 48 38.8	-1.1
RC01				Sn	Sn	16 48 52.9	-1.4
RC01				IAML		16 48 53.8	
	comp=N,172nm,0.4s						
RC01				IAML		16 48 55.5	
	comp=E,178nm,0.3s						
BRLK	**Bradley Lake**	**1.01**	**158**		Pn	16 48 38.8	-1.2
BRLK				Sn	Sn	16 48 53.0	-1.3
ILS	**Iliamna Low So**	**1.03**	**225**		Pn	16 48 39.5	-0.8
ILSW	**Iliamna Southw**	**1.04**	**227**		Pn	16 48 39.3	-1.1
ILSW				Sn	Sn	16 48 53.9	-1.3
ILSW				IAML		16 48 56.2	
	comp=E,198nm,0.7s						
HOM	**Homer**	**1.04**	**180**	Pn	Pn	16 48 39.6	-0.8
HOM				Sn	Sn	16 48 55.0	0.0
HOM				IAML		16 48 55.8	
	comp=N,256nm,0.9s						
HOM				IAML		16 48 56.0	
	comp=E,458nm,0.6s						
BRSE	**Bradley Lake S**	**1.06**	**155**		Pn	16 48 39.5	-1.1
BRSE					Sn	16 48 54.4	-1.0
CNPM	**China Poot**	**1.19**	**170**		Pn	16 48 41.2	-1.0
CNPM				Sn	Sn	16 48 57.0	-1.3
SEW	**Seward**	**1.23**	**118**		Pn	16 48 41.2	-1.4
M22K	**Willow**	**1.29**	**34**		Pn	16 48 42.9	-0.4
SKT	**Skwentna**	**1.29**	**2**		Pn	16 48 42.6	-0.7
SKT				IAML		16 49 01.0	
	comp=E,238nm,1.0s						
SKT				IAML		16 49 01.5	
	comp=N,162nm,0.3s						
SKT	**Skwentna**	**1.29**	**2**		Sn	16 49 00.1	-0.3
OPT	**Oil Point**	**1.32**	**218**		Pn	16 48 43.5	-0.3
P19K	**Oil Pt**	**1.32**	**218**		Sn	16 48 59.8	-1.4
P19K	**Oil Pt**	**1.32**	**218**		Pn	16 48 43.5	-0.3
M20K	**Styx River**	**1.39**	**329**		Pn	16 48 44.1	-0.7
N19K	**Bonanza Creek**	**1.41**	**276**		Pn	16 48 43.5	-1.5
N19K				IAML		16 49 02.3	
	comp=E,160nm,0.4s						
N19K				IAML		16 49 02.7	
	comp=N,152nm,0.4s						
O19K	**Port Alsworth**	**1.43**	**250**	Pn	Pn	16 48 43.6	-1.4
O19K					Sn	16 49 01.9	-1.6
O19K				IAML		16 49 02.9	
	comp=N,292nm,0.4s						
PMR	**Palmer**	**1.51**	**52**		Pn	16 48 44.5	-1.7
PWL	**Port Wells**	**1.62**	**83**		Pn	16 48 45.8	-1.9
PWL				IAML		16 49 07.8	
	comp=E,127nm,0.6s						
PWL				IAML		16 49 08.2	
	comp=N,132nm,0.4s						
GHO	**Glory Hole Cre**	**1.69**	**49**		Pn	16 48 47.3	-1.4
GHO				IAML		16 49 13.5	
	comp=E,105nm,0.4s						
GHO				IAML		16 49 13.6	
	comp=N,133nm,0.5s						
KNK	**Knik Glacier**	**1.70**	**64**		Pn	16 48 47.4	-1.3
KNK				IAML		16 49 14.5	
	comp=E,109nm,0.4s						
KNK				IAML		16 49 16.2	
	comp=N,106nm,0.6s						
M19K	**Big River Lodg**	**1.80**	**313**		Pn	16 48 49.0	-1.0
CUT	**Chulitna**	**1.83**	**20**		Pn	16 48 49.9	-0.4
SML	**Sawmill**	**1.94**	**54**		Pn	16 48 50.7	-1.2
O18K	**Koktuh Hills**	**1.97**	**246**	Pn	Pn	16 48 51.0	-1.3
O18K	**Koktuh Hills**	**1.97**	**246**		Sn	16 49 14.5	-1.9
Q19K	**Cape Douglas,**	**2.05**	**211**	Pn	Pn	16 48 52.5	-0.8
Q19K				IAML		16 49 28.3	
	comp=N,150nm,1.1s						
L20K	**Farewell, AK**	**2.09**	**330**		Pn	16 48 53.3	-0.5
N18K	**Kilae Creek**	**2.10**	**271**		Pn	16 48 52.7	-1.2
SYI	**Shuyak Island**	**2.13**	**191**	Pn	Pn	16 48 53.5	-0.8
SYI				IAML		16 49 24.4	
	comp=N,71nm,1.2s						
SYI				IAML		16 49 30.1	
	comp=E,82nm,2.2s						
L19K	**White Mountain**	**2.15**	**315**		Pn	16 48 54.0	-0.6
M18K	**Stony River**	**2.19**	**293**		Pn	16 48 54.1	-1.0
P23K	**Montague Islan**	**2.21**	**107**		Pn	16 48 54.1	-1.4
PPLA	**Purkeypile**	**2.22**	**353**		Pn	16 48 55.3	-0.4
P18K	**Big Mountain,**	**2.23**	**236**	Pn	Pn	16 48 54.2	-1.6
SCM	**Sheep Creek Mo**	**2.37**	**59**		Pn	16 48 56.3	-1.3
SCM				IAML		16 49 38.7	
	comp=E,50nm,1.3s						
HIN	**Hinchinbrook I**	**2.55**	**95**	Pn	Pn	16 48 57.5	-2.5
HIN				IAML		16 49 29.2	
	comp=N,85nm,1.1s						
HIN				IAML		16 49 31.0	
	comp=E,80nm,1.3s						
CAST	**Castle Rocks**	**2.74**	**356**	Pn	Pn	16 49 01.5	-1.0
N17K	**Nushagak Hills**	**2.75**	**269**		Pn	16 49 01.5	-1.1
TRF	**Thorofare Moun**	**2.83**	**12**		Pn	16 49 02.3	-1.7
TRF				IAML		16 49 41.7	
	comp=N,41nm,0.6s						
TRF				IAML		16 49 44.0	
	comp=E,48nm,0.6s						
P17K	**Kvichak River**	**2.85**	**240**		Pn	16 49 03.4	-0.5
L18K	**Granite Mounta**	**2.87**	**304**		Pn	16 49 03.1	-1.1
KLU	**Klutina**	**2.88**	**71**		Pn	16 49 02.5	-2.1
KLU				IAML		16 49 36.8	
	comp=N,32nm,0.4s						
KLU				IAML		16 49 37.9	
	comp=E,33nm,0.5s						
KTH	**Kantishna Hill**	**2.88**	**6**		Pn	16 49 04.0	-0.5
KTH				IAML		16 49 43.7	
	comp=N,39nm,0.7s						
DIV	**Divide**	**2.89**	**79**	Pn	Pn	16 49 02.1	-2.5
EYAK	**Cordova Ski Ar**	**2.90**	**90**	Pn	Pn	16 49 02.2	-2.4
K20K	**Telida**	**2.91**	**338**		Pn	16 49 04.0	-0.8
M17K	**Holitna River**	**2.91**	**287**		Pn	16 49 03.8	-1.0
M17K				IAML		16 49 38.7	
	comp=E,38nm,0.7s						
M17K				IAML		16 49 38.9	
	comp=N,48nm,0.9s						
KDAK	**Kodiak Island**	**2.97**	**190**	Pn	Pn	16 49 03.4	-2.1
KDAK				IAML		16 49 56.9	
	comp=N,69nm,3.8s						
KDAK				IAML		16 50 40.7	
	comp=N,74nm,3.1s						
M24K	**Tolsona, Glenn**	**2.98**	**59**	Pn	Pn	16 49 05.0	-0.8
M24K				IAML		16 50 04.1	
	comp=N,49nm,4.4s						
M24K				IAML		16 50 20.2	
	comp=E,62nm,4.4s						
RND	**Reindeer**	**3.02**	**24**		Pn	16 49 04.5	-1.8
ACHA	**Angle Creek He**	**3.13**	**219**		Pn	16 49 05.3	-2.5
CHUM	**Lake Minchumin**	**3.21**	**355**		Pn	16 49 08.7	-0.1
MCK	**McKinley**	**3.30**	**21**	Pn	Pn	16 49 08.0	-2.0
O16K	**Kokwok River B**	**3.42**	**254**	Pn	Pn	16 49 10.0	-1.7
O16K				IAML		16 50 05.7	
	comp=N,22nm,2.8s						
O16K				IAML		16 50 08.0	
	comp=E,22nm,4.4s						
BPAW	**Bear Paw Mtn.**	**3.43**	**5**		Pn	16 49 09.3	-2.5
BPAW				IAML		16 49 54.4	
	comp=N,21nm,0.5s						
BPAW				IAML		16 49 54.5	
	comp=E,20nm,0.4s						
BMRM	**Bremner River**	**3.45**	**82**		Pn	16 49 09.5	-2.6
RAGM	**Ragged Mountai**	**3.45**	**92**		Pn	16 49 09.9	-2.3
L17K	**Donlin**	**3.51**	**297**		Pn	16 49 12.2	-0.8
N25K	**Chitina, Valde**	**3.53**	**72**	Pn	Pn	16 49 11.3	-2.0
N25K				IAML		16 49 54.0	
	comp=N,18nm,1.6s						
N16K	**Nishlik Lake**	**3.53**	**269**		Pn	16 49 12.5	-0.7
OHAK	**Old Harbor**	**3.59**	**195**	Pn	Pn	16 49 12.0	-2.0
M16K	**Timber Creek**	**3.60**	**278**	Pn	Pn	16 49 13.0	-1.1
M16K				IAML		16 50 08.2	
	comp=E,22nm,2.5s						
M16K				IAML		16 51 33.4	
	comp=N,20nm,3.9s						
P16K	**Nushagak River**	**3.62**	**245**		Pn	16 49 14.1	-0.3
BWN	**Browne**	**3.63**	**15**	Pn	Pn	16 49 14.7	+0.1
BWN				IAML		16 50 16.0	
	comp=E,38nm,3.3s						
BWN				IAML		16 50 29.4	
	comp=N,34nm,1.2s						
J18K	**Innoko River**	**3.66**	**321**	Pn	Pn	16 49 14.5	-0.5
KAIM	**Kayak Island**	**3.67**	**99**	Pn	Pn	16 49 12.8	-2.3
J20K	**Nowinta River**	**3.68**	**343**	Pn	Pn	16 49 14.4	-0.9
PAX	**Paxson**	**3.70**	**49**		Pn	16 49 15.2	-0.4
WACK	**Wrangell Chich**	**3.75**	**67**		Pn	16 49 15.0	-1.3
K17K	**Iditarod**	**3.77**	**305**	Pn	Pn	16 49 15.9	-0.5
K17K				IAML		16 49 58.6	
	comp=N,20nm,2.6s						
K17K				IAML		16 49 59.5	
	comp=E,20nm,0.8s						
J19K	**Poorman**	**3.79**	**332**		Pn	16 49 16.3	-0.5
WASW	**Wrangell South**	**3.80**	**68**		Pn	16 49 15.6	-1.5
GLB	**Gilahina Butte**	**3.87**	**75**	Pn	Pn	16 49 15.9	-1.9
GLB				IAML		16 50 23.4	
	comp=N,14nm,3.2s						
GLB				IAML		16 50 30.5	
	comp=E,15nm,4.2s						
L16K	**Owhat River**	**3.93**	**288**	Pn	Pn	16 49 17.7	-0.9
L16K				IAML		16 50 24.0	
	comp=E,16nm,4.0s						
L16K				IAML		16 50 56.9	
	comp=N,17nm,4.5s						
SUCK	**Suckling Hills**	**3.95**	**96**	Pn	Pn	16 49 17.3	-1.5
VRDI	**Verde Repeater**	**4.02**	**79**	Pn	Pn	16 49 17.6	-2.5
VRDI				IAML		16 50 07.5	
	comp=N,17nm,3.7s						
VRDI				IAML		16 51 34.7	
	comp=E,13nm,4.5s						
NEA2	**Nenana**	**4.08**	**16**	Pn	Pn	16 49 19.2	-1.5
NEA2				IAML		16 51 03.6	
	comp=E,14nm,4.6s						
WRH	**Wood River Hil**	**4.12**	**22**	Pn	Pn	16 49 20.2	-1.0
WRH				IAML		16 50 59.5	
	comp=E,14nm,4.3s						
N15K	**Kwethluk River**	**4.23**	**266**	Pn	Pn	16 49 22.4	-0.3
N15K				IAML		16 49 59.6	
	comp=N,26nm,3.6s						
HDA	**Harding Lake**	**4.31**	**28**	Pn	Pn	16 49 23.7	-0.1
HDA				IAML		16 50 26.0	
	comp=E,13nm,1.6s						
HDA				IAML		16 50 34.1	
	comp=N,14nm,0.5s						
I20K	**Naaghedeneel**	**4.32**	**344**	Pn	Pn	16 49 24.0	+0.2
CCB	**Clear Creek Bu**	**4.34**	**22**	Pn	Pn	16 49 23.8	-0.3
CCB				IAML		16 50 09.9	
	comp=N,9.4nm,4.2s						
WAX	**Waxell Ridge**	**4.34**	**89**		Pn	16 49 23.5	-0.7
MENT	**Mentasta**	**4.37**	**56**	Pn	Pn	16 49 22.8	-1.8
MENT				IAML		16 50 33.9	
	comp=E,20nm,1.2s						
MENT				IAML		16 50 36.7	
	comp=N,22nm,1.0s						
SNH	**Sunshine Point**	**4.39**	**93**	Pn	Pn	16 49 23.0	-1.9
O15K	**Ungalikthiuk R**	**4.40**	**253**		Pn	16 49 24.0	-1.0
RIDG	**Independent Ri**	**4.40**	**43**	Pn	Pn	16 49 24.3	-0.7
J17K	**VABM Dome**	**4.43**	**311**	Pn	Pn	16 49 24.3	-1.0
J17K				IAML		16 51 40.6	
	comp=E,14nm,4.3s						
J17K				IAML		16 52 13.4	
	comp=N,15nm,4.8s						
M15K	**Kasigluk River**	**4.45**	**274**		Pn	16 49 25.1	-0.6
M26K	**Nabesna, AK**	**4.47**	**64**	Pn	Pn	16 49 24.7	-1.3
M26K				IAML		16 50 32.4	
	comp=E,12nm,4.3s						
M26K				IAML		16 51 45.6	
	comp=N,9.6nm,4.1s						
I21K	**Tanana**	**4.50**	**358**		Pn	16 49 25.5	-0.9
I21K				IAML		16 51 05.8	
	comp=E,20nm,4.3s						
I21K				IAML		16 51 41.9	
	comp=N,16nm,4.8s						
BALM	**Baldy**	**4.55**	**82**		Pn	16 49 25.2	-2.0
I23K	**Minto, Yukon-K**	**4.58**	**12**	Pn	Pn	16 49 27.2	-0.3
I23K				IAML		16 50 14.9	
	comp=E,13nm,4.2s						
I23K				IAML		16 51 01.1	
	comp=N,14nm,4.5s						
DOT	**Dot Lake**	**4.62**	**47**	Pn	Pn	16 49 26.7	-1.3
IL31		**4.63**	**26**		Pn	16 49 26.6	-1.5
ILAR	**Eielson Array**	**4.63**	**26**	Pn	Pn	16 49 27.2	-0.9
MESA	**MESA**	**4.82**	**92**		Pn	16 49 29.9	-1.1
POKR	**Poker Plat Res**	**4.83**	**22**	Pn	Pn	16 49 29.4	-1.5
POKR				IAML		16 50 28.4	
	comp=N,13nm,4.7s						
POKR				IAML		16 50 47.7	
	comp=E,8.7nm,4.8s						
SCRK	**Sand Creek**	**4.85**	**44**	Pn	Pn	16 49 29.9	-1.3
SCRK				IAML		16 50 44.5	
	comp=E,12nm,4.1s						
SCRK				IAML		16 51 15.5	
	comp=N,10.0nm,4.6s						
L15K	**Ungalak Mounta**	**4.87**	**286**		Pn	16 49 30.1	-1.3
J25K	**Salcha River,**	**4.87**	**34**	Pn	Pn	16 49 31.1	-0.4
J25K				IAML		16 50 37.3	
	comp=E,16nm,0.8s						
J25K				IAML		16 50 37.7	
	comp=N,16nm,0.8s						
YAH	**Yahtse**	**4.89**	**90**	Pn	Pn	16 49 30.5	-1.4
M27K	**Edge Creek, AK**	**4.96**	**66**	Pn	Pn	16 49 31.4	-1.2
M27K				IAML		16 50 58.0	
	comp=N,15nm,4.5s						
M27K				IAML		16 52 04.0	
	comp=E,12nm,3.9s						
J16K	**Anvik River**	**4.96**	**305**	Pn	Pn	16 49 32.1	-0.5
J16K				IAML		16 50 30.1	
	comp=N,14nm,4.8s						
J16K				IAML		16 52 38.8	
	comp=E,14nm,4.4s						
H21K	**Melozitna Rive**	**5.01**	**354**	Pn	Pn	16 49 33.0	-0.2
H21K				IAML		16 50 25.7	
	comp=E,8.6nm,5.0s						
H21K				IAML		16 50 54.3	
	comp=N,10nm,4.3s						
K15K	**Wolf Creek Mou**	**5.01**	**293**	Pn	Pn	16 49 32.3	-0.9
K15K				IAML		16 50 46.3	
	comp=E,16nm,4.5s						
H20K	**Anotleneega Mo**	**5.03**	**344**		Pn	16 49 32.4	-1.3
O14K	**Tigyukauivet M**	**5.05**	**258**	Pn	Pn	16 49 33.2	-0.7
N14K	**Kuskokwak Cree**	**5.06**	**266**		Pn	16 49 33.4	-0.5
M14K	**Bethel**	**5.07**	**275**	Pn	Pn	16 49 33.7	-0.4
L27K	**Beaver Creek,**	**5.21**	**59**	Pn	Pn	16 49 34.7	-1.3
L27K				IAML		16 51 23.9	
	comp=N,7.8nm,3.8s						
L27K				IAML		16 52 22.1	
	comp=E,7.7nm,4.1s						
BCAR	**Beaver Creek A**	**5.23**	**59**	Pn	Pn	16 49 35.0	-1.3
H23K	**Yukon River**	**5.23**	**9**	Pn	Pn	16 49 35.9	-0.4
H23K				IAML		16 51 37.3	
	comp=E,10nm,4.9s						
H23K				IAML		16 52 48.3	
	comp=N,9.4nm,3.6s						
I17K	**Unalakleet**	**5.30**	**311**	Pn	Pn	16 49 37.0	-0.2
I17K				IAML		16 50 40.9	
	comp=N,12nm,3.6s						
H19K	**Roundabout Mou**	**5.32**	**338**	Pn	Pn	16 49 36.8	-0.6
H19K				IAML		16 51 36.0	
	comp=N,10nm,4.6s						
H19K				IAML		16 51 49.9	
	comp=E,10.0nm,4.0s						
J26L	**Joseph Creek**	**5.33**	**41**	Pn	Pn	16 49 37.4	-0.4
J26L				IAML		16 50 52.2	
	comp=N,9.2nm,0.7s						
L14K	**Kuka Creek**	**5.42**	**282**	Pn	Pn	16 49 38.3	-0.4
H18K	**Honhosa River**	**5.42**	**328**		Pn	16 49 38.7	-0.2
H24K	**Noodor Dome**	**5.43**	**17**	Pn	Pn	16 49 38.9	-0.1
K27K	**Chicken**	**5.56**	**49**	Pn	Pn	16 49 40.1	-0.7
PRP	**Porcupine Dome**	**5.57**	**27**	Pn	Pn	16 49 40.3	-0.8
H17K	**Granite Mounta**	**5.70**	**322**		Pn	16 49 42.5	-0.1
M13K	**Dall Lake**	**5.79**	**272**	Pn	Pn	16 49 43.8	-0.1
G21K	**Allakaket**	**5.90**	**353**	Pn	Pn	16 49 44.8	-0.6
I26K	**Coal Creek Min**	**6.02**	**36**	Pn	Pn	16 49 46.6	-0.4
G23K	**Bananza Creek**	**6.08**	**6**	Pn	Pn	16 49 48.1	+0.3
G18K	**Tagagawik**	**6.10**	**332**	Pn	Pn	16 49 47.5	-0.6
G24K	**Hadweenzic Riv**	**6.30**	**15**	Pn	Pn	16 49 50.1	-0.8
K13K	**Kusilvak Mount**	**6.39**	**287**	Pn	Pn	16 49 51.8	-0.3
M29M	**Somme Creek**	**6.53**	**69**	Pn	Pn	16 49 52.4	-1.7
COLD	**Coldfoot**	**6.59**	**5**	Pn	Pn	16 49 55.3	+0.6
F20K	**Avaraart Lake**	**6.63**	**346**	Pn	Pn	16 49 55.2	-0.1
F19K	**Shaleruckik Mo**	**6.73**	**339**	Pn	Pn	16 49 56.6	0.0
G16K	**Koyuk River**	**6.77**	**319**	Pn	Pn	16 49 57.6	+0.4
L29M	**L29M**	**6.82**	**63**	Pn	Pn	16 49 57.1	-0.9
F24K	**Squaw Lake**	**7.04**	**12**

comp=N,294nm,0.7s
RED Redoubt Volcan 0.78 19 Pn 16 55 40.7 -0.9
RED Sn 16 55 55.0 -0.9
RDWB Redoubt West 0.84 16 Pn 16 55 41.2 -0.9
RDWB Sn 16 55 55.8 -1.1
HOM Homer 0.84 91 Pn 16 55 41.2 -0.7
HOM Sn Sn 16 55 55.8 -0.8
NCT North Crescent 0.90 12 Pn 16 55 41.8 -0.9
RDJH Redoubt Jeurge 0.94 15 Pn 16 55 42.3 -0.8
O18K Koktuh Hills 0.98 281 Pn 16 55 42.3 -1.1
O18K Sn Sn 16 55 58.1 -1.1
RDT Redoubt 1.00 26 Pn 16 55 42.8 -0.9
P18K Big Mountain, 1.03 254 Pn Pn 16 55 42.8 -1.1
P18K Sn Sn 16 55 58.5 -1.6
CNPM China Poot 1.06 98 Pn 16 55 43.3 -0.9
CNPM Sn Sn 16 55 58.9 -1.7
CNPM IAML 16 56 00.5
comp=E,272nm,0.5s
CNPM IAML 16 56 01.3
comp=N,317nm,0.5s
SYI Shuyak Island 1.18 156 Pn 16 55 44.7 -0.8
SYI Sn Sn 16 56 01.6 -1.1
SYI IAML 16 56 03.3
comp=N,209nm,0.5s
SYI IAML 16 56 03.7
comp=E,234nm,0.4s
BRLK Bradley Lake 1.22 85 Pn 16 55 44.7 -1.3
BRLK Sn Sn 16 56 01.6 -2.2
BRLK IAML 16 56 03.4
comp=E,290nm,0.2s
BRLK IAML 16 56 03.5
comp=N,373nm,0.1s
N19K Bonanza Creek 1.28 333 Pn 16 55 45.6 -1.1
N19K Sn Sn 16 56 03.9 -1.2
BRSE Bradley Lake S 1.29 86 Pn 16 55 45.7 -1.1
KAHG Katmai Hook Gl 1.36 209 Pn 16 55 47.3 -0.3
KAHC Katmai Hardscr 1.36 221 Pn 16 55 47.2 -0.5
CAPN Captain Cook N 1.52 44 Pn Pn 16 55 50.1 +0.7
CAPN IAML 16 56 13.3
comp=N,350nm,0.7s
CAPN IAML 16 56 14.4
comp=E,266nm,0.3s
CKL Chakachamna La 1.59 17 Pn 16 55 49.9 -0.5
SPCR Spurr Chakacha 1.61 19 Pn 16 55 50.1 -0.6
N18K Kilae Creek 1.64 309 Pn Pn 16 55 49.7 -1.2
SPBG Spurr Blockage 1.65 16 Pn 16 55 50.8 -0.3
P17K Kvichak River 1.68 254 Pn 16 55 51.0 -0.3
SLKM Skilak Lake 1.75 60 Pn 16 55 51.6 -0.7
SLKM IAML 16 56 13.9
comp=N,189nm,0.3s
SLKM IAML 16 56 14.0
comp=E,153nm,0.2s
ACHA Angle Creek He 1.81 216 Pn Pn 16 55 52.4 -0.8
ANCK Angle Creek 1.88 218 Pn 16 55 53.6 -0.3
KDAK Kodiak Island 1.94 169 Pn Pn 16 55 53.1 -1.6
KDAK IAML 16 56 19.0
comp=E,163nm,0.4s
KDAK IAML 16 56 19.0
comp=E,184nm,0.5s
STLK Strandline Lak 1.96 21 Pn 16 55 54.4 -0.5
O22K Cooper Landing 1.96 64 Pn 16 55 53.5 -1.3
O22K IAML 16 56 28.7
comp=E,226nm,0.8s
SEW Seward 1.98 76 Pn Pn 16 55 53.8 -1.3
N17K Nushagak Hills 2.12 295 Pn Pn 16 55 56.2 -0.7
SUA Susitna One 2.18 34 Pn 16 55 57.5 -0.4
SUA IAML 16 56 25.5
comp=E,188nm,0.9s
SUA IAML 16 56 26.3
comp=N,201nm,0.8s
M18K Stony River 2.20 327 Pn 16 55 56.9 -1.0
M20K Styx River 2.21 2 Pn 16 55 57.3 -0.9
R18K Karluk 2.21 196 Pn 16 55 56.7 -1.4
R18K Karluk 2.21 196 IAML 16 56 26.1
comp=E,113nm,0.3s
R18K IAML 16 56 30.6
comp=N,73nm,0.5s
RC01 Rabbit Creek A 2.26 50 Pn 16 55 58.1 -0.6
M19K Big River Lodg 2.29 347 Pn 16 55 58.1 -1.0
O16K Kokwok River B 2.44 270 Pn Pn 16 56 00.4 -0.6
SKT Skwentna 2.46 20 Pn 16 55 59.9 -1.4
SKT IAML 16 56 33.7
comp=E,50nm,0.3s
OHAK Old Harbor 2.47 180 Pn Pn 16 55 59.5 -2.0
OHAK IAML 16 56 44.6
comp=E,46nm,3.3s
OHAK IAML 16 57 11.6
comp=N,57nm,2.8s
P16K Nushagak River 2.49 257 Pn 16 56 01.7 0.0
M22K Willow 2.60 36 Pn Pn 16 56 00.8 -2.3
L19K White Mountain 2.62 344 Pn Pn 16 56 01.9 -1.5
M17K Holitna River 2.67 312 Pn Pn 16 56 02.9 -1.3
PWL Port Wells 2.74 62 Pn 16 56 03.0 -2.0
PMR Palmer 2.81 45 Pn 16 56 04.2 -1.6
PMR IAML 16 56 37.3
comp=N,76nm,0.2s
PMR IAML 16 56 37.4
comp=E,61nm,0.2s
L20K Farewell, AK 2.82 354 Pn 16 56 05.2 -0.9
N16K Nishlik Lake 2.85 288 Pn 16 56 06.3 -0.3
KNK Knik Glacier 2.95 52 Pn 16 56 06.3 -1.5
KNK IAML 16 56 39.8
comp=E,82nm,0.7s
P23K Montague Islan 2.99 81 Pn 16 56 07.3 -1.0
GHO Glory Hole Cre 3.00 44 Pn 16 56 06.8 -1.7
GHO IAML 16 56 42.5
comp=E,88nm,0.5s
GHO IAML 16 56 43.4
comp=N,81nm,0.4s
L18K Granite Mounta 3.03 328 Pn Pn 16 56 07.5 -1.4
CUT Chulitna 3.10 27 Pn 16 56 08.3 -1.4
M16K Timber Creek 3.12 298 Pn Pn 16 56 09.1 -0.9
M16K IAML 16 58 13.6
comp=N,25nm,4.5s
SII Sitkinak Islan 3.17 189 Pn Pn 16 56 09.3 -1.4
SML Sawmill 3.23 47 Pn Pn 16 56 09.8 -1.8
SML IAML 16 56 47.9
comp=N,71nm,0.6s
SML IAML 16 56 48.7
comp=E,46nm,1.0s
PPLA Purkeypile 3.27 9 Pn 16 56 10.9 -1.1
O15K Ungalikthiuk R 3.38 264 Pn 16 56 12.4 -1.0
N15K Kwethluk River 3.46 281 Pn Pn 16 56 12.6 -1.9
N15K IAML 16 57 30.1
comp=E,27nm,3.1s
N15K IAML 16 58 06.2
comp=N,22nm,3.9s
HIN Hinchinbrook I 3.48 75 Pn Pn 16 56 12.8 -2.0
SCM Sheep Creek Mo 3.63 51 Pn Pn 16 56 14.8 -2.2
SCM IAML 16 56 59.0
comp=E,52nm,0.5s
SCM IAML 16 56 59.3
comp=N,60nm,0.6s
L16K Owhat River 3.66 306 Pn Pn 16 56 15.5 -1.6
K20K Telida 3.70 355 Pn 16 56 16.1 -1.7
CAST Castle Rocks 3.79 8 Pn Pn 16 56 17.1 -1.9
M15K Kasigluk River 3.83 289 Pn 16 56 17.9 -1.6
EYAK Cordova Ski Ar 3.87 74 Pn Pn 16 56 18.1 -2.0
K17K Iditarod 3.89 324 Pn Pn 16 56 18.5 -1.7
K17K IAML 16 57 19.1
comp=E,18nm,4.6s
K17K IAML 16 57 54.7
comp=N,21nm,4.7s
DIV Divide 4.00 66 Pn Pn 16 56 20.3 -1.5
TRF Thorofare Moun 4.04 20 Pn 16 56 20.5 -2.0
TRF IAML 16 58 35.3
comp=E,21nm,4.8s
TRF IAML 16 59 10.2
comp=N,18nm,3.5s
KTH Kantishna Hill 4.04 15 Pn Pn 16 56 20.9 -1.5
KTH IAML 16 56 59.5
comp=N,13nm,5.0s
KLU Klutina 4.06 60 Pn 16 56 20.6 -2.1
KLU IAML 16 57 08.0
comp=E,47nm,0.2s
CHIR Chirikof Islan 4.07 199 Pn Pn 16 56 21.2 -1.5
O14K Tigyukauivet M 4.09 267 Pn Pn 16 56 21.6 -1.4
O14K IAML 16 58 52.5
comp=E,25nm,2.5s
O14K IAML 16 59 09.9
comp=N,26nm,3.0s
J18K Innoko River 4.13 338 Pn Pn 16 56 21.7 -1.8
J18K IAML 16 57 36.8
comp=N,12nm,4.5s
J18K IAML 16 58 12.4
comp=E,13nm,4.1s
CHUM Lake Minchumin 4.24 6 Pn 16 56 24.1 -0.8
M24K Tolsona, Glenn 4.24 52 Pn Pn 16 56 23.3 -1.7
RND Reindeer 4.30 28 Pn Pn 16 56 24.2 -1.6
RND IAML 16 57 16.7
comp=E,10nm,0.3s
RND IAML 16 58 16.4
comp=N,12nm,4.3s
GOAT Goat Mountain 4.38 74 Pn 16 56 25.8 -1.1
RAGM Ragged Mountai 4.38 77 Pn Pn 16 56 25.5 -1.4
M14K Bethel 4.45 288 Pn Pn 16 56 26.1 -1.7
J19K Poorman 4.46 347 Pn Pn 16 56 26.1 -1.9
J19K IAML 16 59 26.9
comp=E,13nm,4.7s
KAIM Kayak Island 4.49 83 Pn Pn 16 56 27.4 -0.9
BMRM Bremner River 4.51 70 Pn Pn 16 56 26.3 -2.4
J20K Nowinta River 4.53 355 Pn Pn 16 56 27.5 -1.4
J20K IAML 16 57 07.5
comp=N,12nm,4.8s
J20K IAML 16 57 52.2
comp=E,12nm,4.2s
MCK McKinley 4.56 25 Pn Pn 16 56 28.6 -0.7
BPAW Bear Paw Mtn. 4.56 13 Pn Pn 16 56 27.6 -1.8
BPAW IAML 16 57 19.3
comp=N,15nm,4.6s
BPAW IAML 16 57 27.9
comp=E,14nm,3.9s
HMT Hamilton 4.58 78 Pn Pn 16 56 28.3 -1.3
J17K VABM Dome 4.64 326 Pn Pn 16 56 28.8 -1.5
J17K IAML 16 57 08.2
comp=N,12nm,4.2s
J17K IAML 16 57 31.8
comp=E,17nm,3.4s
N25K Chitina, Valde 4.69 62 Pn 16 56 29.3 -1.8
N25K IAML 16 57 22.9
comp=E,19nm,0.6s
N25K IAML 16 57 22.9
comp=N,17nm,1.2s
NICHA Nichawak Mount 4.72 79 Pn 16 56 30.3 -1.1
K15K Wolf Creek Mou 4.79 307 Pn Pn 16 56 30.9 -1.5
K15K IAML 16 57 31.7
comp=E,23nm,3.6s
K15K IAML 16 57 31.9
comp=N,22nm,4.5s
L14K Kuka Creek 4.93 294 Pn Pn 16 56 32.9 -1.3
L14K IAML 16 59 03.2
comp=N,23nm,3.1s
WACK Wrangell Chich 4.96 58 Pn 16 56 33.5 -1.4
GLB Gilahina Butte 5.00 65 Pn Pn 16 56 33.8 -1.5
GLB IAML 16 57 28.3
comp=E,18nm,3.9s
GLB IAML 16 57 32.8
comp=N,22nm,2.9s
WASW Wrangell South 5.00 59 Pn 16 56 34.8 -0.7
PAX Paxson 5.00 45 Pn 16 56 34.4 -1.0
WAZA Wrangell Mount 5.07 58 Pn 16 56 35.9 -0.5
KHIT Khitrov Hills 5.09 77 Pn 16 56 35.0 -1.5
VRDI Verde Repeater 5.11 68 Pn Pn 16 56 34.8 -2.1
VRDI IAML 16 57 37.5
comp=N,18nm,3.7s
VRDI IAML 16 59 48.5
comp=E,14nm,3.4s
SNH Sunshine Point 5.28 80 Pn 16 56 38.1 -1.0
WAX Waxell Ridge 5.29 77 Pn 16 56 37.8 -1.3
NEA2 Nenana 5.31 20 Pn 16 56 37.3 -2.1
NEA2 IAML 16 58 19.1
comp=N,12nm,4.1s
NEA2 IAML 16 58 33.2
comp=E,12nm,4.8s
WRH Wood River Hil 5.39 25 IAML 16 58 32.1
comp=E,12nm,5.0s
WRH IAML 16 59 18.7
comp=N,12nm,4.3s
I21K Tanana 5.55 6 Pn 16 56 41.0 -1.7
ISLE Juniper Island 5.55 76 Pn 16 56 41.7 -1.1
KIAG Kiagna River 5.58 72 Pn 16 56 42.3 -0.9
HDA Harding Lake 5.60 29 Pn 16 56 41.7 -1.7
CCB Clear Creek Bu 5.60 25 Pn 16 56 41.3 -2.1
M26K Nabesna, AK 5.70 57 Pn 16 56 42.7 -2.0
RIDG Independent Ri 5.71 41 Pn Pn 16 56 44.2 -0.8
COLA College 5.79 24 Pn 16 56 44.2 -1.7
YAH Yahtse 5.83 78 Pn 16 56 45.9 -0.8
IL31 5.92 28 Pn 16 56 45.5 -2.1
DOT Dot Lake 5.92 44 Pn Pn 16 56 45.1 -2.7
H21K Melozitna Rive 6.00 2 Pn 16 56 47.7 -1.0
RKAV Rock Avalanche 6.03 79 Pn 16 56 48.3 -1.0
CHX Chaix Hills 6.15 81 Pn 16 56 49.0 -1.8
SCRK Sand Creek 6.16 42 Pn 16 56 49.6 -1.4
M27K Edge Creek, AK 6.16 59 Pn 16 56 50.3 -0.7
J25K Salcha River, 6.18 34 Pn 16 56 48.3 -2.9
SAMH Samovar Hills 6.31 81 Pn 16 56 51.2 -1.9
H23K Yukon River 6.40 14 Pn 16 56 53.3 -0.8
YUK2 White River 6.46 66 Pn 16 56 54.0 -1.0
L27K Beaver Creek, 6.47 54 Pn 16 56 54.1 -1.0
PCA Pinnacle 6.58 81 Pn 16 56 55.5 -1.1
O28M Mount Upton 6.62 75 Pn 16 56 56.6 -0.7
YUK3 Moose Creek 6.63 66 Pn 16 56 56.3 -1.2
J26L Joseph Creek 6.64 39 Pn 16 56 55.6 -1.9
H24K Noodor Dome 6.65 20 Pn 16 56 56.3 -1.3
G21K Allakaket 6.86 359 Pn 16 56 58.6 -1.7
PRP Porcupine Dome 6.86 28 Pn Pn 16 56 58.9 -1.6
YUK8 Steele Glacier 6.88 71 Pn 16 57 00.5 -0.4
G23K Bananza Creek 7.21 10 Pn 16 57 02.5 -2.6
I26K Coal Creek Min 7.33 35 Pn 16 57 05.6 -1.2
H25L Birch Creek 7.43 24 Pn 16 57 06.7 -1.4
G24K Hadweenzic Riv 7.51 18 Pn 16 57 07.3 -1.9
YUK6 Outpost Mounta 7.52 74 Pn 16 57 08.6 -1.0
M29M Somme Creek 7.71 63 Pn 16 57 10.9 -1.0
G25K Bearman Lake 7.81 21 Pn 16 57 11.1 -2.1
HYT Haines Junctio 7.94 75 Pn 16 57 14.6 -0.5
I27K Kandik River 8.00 37 Pn 16 57 14.3 -1.6
L29M L29M 8.04 58 Pn 16 57 14.8 -1.6
F24K Squaw Lake 8.22 15 Pn 16 57 17.4 -1.4

*SJA **21** 16:57:50.4±0.7, 22°.72S×68°.65W, h133km±7km, ML4.4, MW4.4*
*IDC **21** 16:57:52.5±1.8, 22°.71S×68°.41W, h99km±15km, mb4.3/14, mbtmp4.5/21, MS3.1/5, Error ellipse: s-maj=18.2km s-min=10.4km az=74.0*
*NEIC **21** 16:57:52.8±1.6, 22°.74S±0°.04×68°.62W±0°.06, h109km±4km, mb4.5/91, Mwr4.5/29, Error ellipse: s-maj=7.6km s-min=6.3km az=72.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=6.13; $M_{\theta\theta}$0.73; $M_{\phi\phi}$5.40; $M_{r\theta}$2.04; $M_{\theta\phi}$-1.19; $M_{\phi r}$-3.59; Fault plane solution: $M_0$7.22000×10^{15} NP1:ϕ_s337.79000°, δ62.49000°, λ-97.51000°. NP2:ϕ_s173.71000°, δ28.44000°, λ-75.92000°. Principal axes: T 6.9160, Plg17.0000°, Azm73.0000°; N 0.5723, Plg7.0000°, Azm341.0000°; P -7.4883, Plg72.0000°, Azm231.0000°;*
*NEIC **21** 16:57:52.7, 22°.77S×68°.64W, h109km*
*GUC **21** 16:57:54.0±0.8, 22°.72S×68°.64W, h110km±5km, ML4.5*
*VAO **21** 16:57:55.9±0.3, 22°.62S×68°.20W, h108km, mb4.8*
ISC 21 16:57:52.3±0.5,**22°.76S**±0°.03×**68°.64W**±0°.03,**h107**km±4km, **n236**,σ1^{s}**71**/234,**mb4.6**/51,**16C-7D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.47**	**114**			**Pn**		**16 58 10.0**	**+1.0**
AF01						Sn	**Sn**	**16 58 21.9**	**+0.3**
AF01	**San Pedro de A**	**0.47**	**114**	⇓	*iP*	**Pn**		**16 58 10.2**	**+1.1**
AF01					*eS*	Sn	**Sn**	**16 58 22.7**	**+1.1**
AF01					IAML			16 58 23.8	
comp=E,39μm,0.3s									
AF01	**San Pedro de A**	**0.47**	**114**		*eP*		**Pn**	**16 58 12.1**	**+3.1**
PB06	**IPOC Station P**	**0.86**	**273**	⇑	*iP*		**Pn**	**16 58 13.6**	**+1.5**
PB06					*eS*		**Sn**	**16 58 28.6**	**+1.7**
PB06					IAML			16 58 31.0	
comp=E,19μm,0.5s									
PB06	**IPOC Station P**	**0.86**	**273**		*eP*		**Pn**	**16 58 13.6**	**+1.5**
PB06					IAML			16 58 32.5	
comp=Z,10μm,0.4s									
PB09	**IPOC Station P**	**1.11**	**330**				**Pn**	**16 58 16.4**	**+1.7**
PB09						Sn	**Sn**	**16 58 32.3**	**+0.8**
PB09	**IPOC Station P**	**1.11**	**330**	⇓	*iP*		**Pn**	**16 58 16.4**	**+1.7**
PB09					*eS*		**Sn**	**16 58 32.9**	**+1.4**
PB09					IAML			16 58 35.9	
comp=N,8μm,0.6s									
PB09	**IPOC Station P**	**1.11**	**330**		*eP*		**Pn**	**16 58 15.8**	**+1.1**
PB09					IAML			16 58 37.6	
comp=Z,6μm,0.4s									
PB03	**IPOC Station P**	**1.25**	**304**	⇑	*iP*		**Pn**	**16 58 17.6**	**+1.4**
PB03					*eS*		**Sn**	**16 58 35.4**	**+1.2**
PB03					IAML			16 58 36.5	
comp=N,9μm,0.4s									
PB03	**IPOC Station P**	**1.25**	**304**		*eP*		Pn	16 58 04.2	-12
PB03					IAML			16 58 38.5	
comp=Z,7μm,0.5s									
PB05	**IPOC Station P**	**1.44**	**266**				**Pn**	**16 58 19.4**	**+1.0**
PB05						Sn	**Sn**	**16 58 38.0**	**-0.1**
PB05	**IPOC Station P**	**1.44**	**266**	⇑	*iP*		**Pn**	**16 58 19.8**	**+1.4**
PB05					*eS*		**Sn**	**16 58 39.6**	**+1.4**
PB05	**IPOC Station P**	**1.44**	**266**		*eP*		**Pn**	**16 58 19.8**	**+1.4**
PB05					IAML			16 58 45.8	
comp=Z,2μm,1.0s									
PB01	**IPOC Station P**	**1.88**	**335**				**Pn**	**16 58 24.5**	**+0.7**
PB01						Sn	**Sn**	**16 58 47.6**	**-0.1**
PB01	**IPOC Station P**	**1.88**	**335**	⇑	*eP*		**Pn**	**16 58 25.0**	**+1.2**
PB01					*eS*		**Sn**	**16 58 47.9**	**+0.1**
PB01					IAML			16 58 51.1	
comp=E,4μm,0.3s									
PB01	**IPOC Station P**	**1.88**	**335**		*eP*		**Pn**	**16 58 25.0**	**+1.2**
PB01					IAML			16 58 54.4	
comp=Z,2μm,0.3s									
PB10	**IPOC Station P**	**1.91**	**247**		Pn		**Pn**	**16 58 25.0**	**+1.0**
PB10					Sn		**Sn**	**16 58 48.2**	**-0.1**
PB10	**IPOC Station P**	**1.91**	**247**	⇑	*iP*		**Pn**	**16 58 25.2**	**+1.1**
PB10					*eS*		**Sn**	**16 58 48.5**	**+0.2**
PB10					IAML			16 58 57.6	
comp=E,3μm,0.4s									
PB10	**IPOC Station P**	**1.91**	**247**		*eP*		**Pn**	**16 58 25.2**	**+1.1**
PB10					*eS*		**Sn**	**16 58 50.9**	**+2.6**
PB10					IAML			16 59 04.0	
comp=Z,2μm,0.4s									
PATCX	**Punta Patache**	**2.39**	**324**				**Pn**	**16 58 30.6**	**+0.3**
PATCX						Sn	**Sn**	**16 58 57.1**	**-2.2**
PATCX	**Punta Patache**	**2.39**	**324**	⇑	*eP*		**Pn**	**16 58 30.6**	**+0.3**
PATCX					*eS*		**Sn**	**16 58 56.5**	**-2.9**
PATCX	**Punta Patache**	**2.39**	**324**		*eP*		**Pn**	**16 58 30.6**	**+0.3**
PATCX					IAML			16 59 05.0	
comp=Z,1μm,0.6s									
PB14	**IPOC Station P**	**2.46**	**221**		Pn		**Pn**	**16 58 32.0**	**+0.7**
PB14					Sn		**Sn**	**16 58 58.6**	**-2.8**
PB14	**IPOC Station P**	**2.46**	**221**	⇑	*eP*		**Pn**	**16 58 32.1**	**+0.7**
PB14					*eS*		**Sn**	**16 58 59.9**	**-1.5**
PB14					IAML			16 59 09.8	
comp=E,1μm,0.4s									
PB14	**IPOC Station P**	**2.46**	**221**		*eP*		**Pn**	**16 58 32.1**	**+0.7**
PB14					*eS*		**Sn**	**16 58 55.7**	**-5.7**
PB14					IAML			16 59 09.7	
comp=Z,3μm,0.4s									
GO02	**Mina Guanaco**	**2.54**	**200**		Pn		**Pn**	**16 58 33.8**	**+1.3**
GO02	**Mina Guanaco**	**2.54**	**200**	⇑	*iP*		**Pn**	**16 58 34.0**	**+1.5**
GO02					*eS*		**Sn**	**16 59 04.7**	**+1.4**
GO02	**Mina Guanaco**	**2.54**	**200**		*eP*		**Pn**	**16 58 33.8**	**+1.3**
SALTA		**2.57**	**125**	⇑	*iP*		**Pn**	**16 58 35.6**	**+2.5**
SALTA		**2.57**	**125**		*eP*		**Pn**	**16 58 37.4**	**+4.3**
TA01	**Diego Aracena**	**2.61**	**327**		Pn		**Pn**	**16 58 32.8**	**-0.4**
TA01					Sn		**Sn**	**16 58 59.8**	**-4.7**
TA01	**Diego Aracena**	**2.61**	**327**		*eP*		**Pn**	**16 58 33.1**	**0.0**
TA01					*eS*		**Sn**	**16 59 00.1**	**-4.3**
TA01					IAML			16 59 27.4	
comp=E,2μm,0.7s									
HMBC	**Humberstone**	**2.73**	**335**				**Pn**	**16 58 34.6**	**-0.2**
HMBC	**Humberstone**	**2.73**	**335**		*i P*		**Pn**	**16 58 34.7**	**-0.1**
HMBC	**Humberstone**	**2.73**	**335**		*eP*		**Pn**	**16 58 34.7**	**-0.1**
HMBC					IAML			16 59 10.9	
comp=Z,974nm,0.6s									
TA02	**Huaiquique**	**2.84**	**331**				**Pn**	**16 58 35.8**	**-0.4**
TA02	**Huaiquique**	**2.84**	**331**		*eP*		**Pn**	**16 58 32.2**	**-3.9**
TA02					IAML			16 59 05.8	
comp=Z,1μm,1.1s									
YJA	**Yavi**	**2.95**	**79**		*eP*		**Pn**	**16 58 36.5**	**-1.6**
PB11	**IPOC Station P**	**3.13**	**342**		Pn		**Pn**	**16 58 40.0**	**-0.1**
PB11	**IPOC Station P**	**3.13**	**342**		*eP*		**Pn**	**16 58 39.9**	**-0.2**
PB11					IAML			16 59 44.6	
comp=N,1μm,0.6s									
PB11	**IPOC Station P**	**3.13**	**342**		*eP*		Pn	16 58 34.8	-5.4
PB11					IAML			16 59 12.9	
comp=Z,851nm,1.0s									
AC01	**Pan de Azucar**	**3.81**	**207**		Pn		**Pn**	**16 58 48.7**	**-0.5**
AC01	**Pan de Azucar**	**3.81**	**207**	⇑	*iP*		**Pn**	**16 58 48.7**	**-0.5**
AC01	**Pan de Azucar**	**3.81**	**207**		*eP*		**Pn**	**16 58 48.8**	**-0.3**
AC02	**Maricunga**	**4.08**	**186**		Pn		**Pn**	**16 58 54.5**	**+1.4**
AC02	**Maricunga**	**4.08**	**186**	⇑	*iP*		**Pn**	**16 58 54.6**	**+1.4**
FSA	**Cafayete**	**4.13**	**144**		*eP*		**Pn**	**16 58 50.6**	**-2.9**
ALOL	**LOMAS DE OLMED**	**4.41**	**105**		*eP*		**Pn**	**16 58 59.1**	**+1.9**
ALOL					*eS*		**Sn**	**16 59 56.4**	**+8.8**
PB12	**IPOC Station P**	**4.42**	**339**		Pn		**Pn**	**16 58 55.9**	**-1.5**
PB12	**IPOC Station P**	**4.42**	**339**		*eP*		**Pn**	**16 58 56.5**	**-0.9**
PB12					IAML			17 00 14.1	
comp=Z,294nm,1.2s									
AP01	**Chacalluta**	**4.65**	**340**		Pn		**Pn**	**16 58 58.9**	**-1.5**
AC06	**Mina Casimiro**	**4.83**	**198**		Pn		**Pn**	**16 59 01.6**	**-1.3**
GO03	**Copiapo**	**5.02**	**196**				**Pn**	**16 59 04.5**	**-1.0**
PB18	**Visviri**	**5.20**	**351**				**Pn**	**16 59 07.1**	**-1.3**
AC04	**Llanos de Chal**	**5.85**	**202**		Pn		**Pn**	**16 59 13.7**	**-2.9**
LPAZ	**La Paz**	**6.46**	**4**				**Pn**	**16 59 23.9**	**-1.5**
LPAZ	**La Paz**	**6.46**	**4**		P		**Pn**	**16 59 26.6**	**+1.1**
comp=Z,2.8nm,0.3s,baz=192,slow=3.3,SNR=20									
LPAZ					S		**Sn**	**17 00 38.5**	**+0.4**
comp=Z,23nm,0.8s,baz=224,slow=7.3,SNR=4.7									
LPAZ					LR		LR	17 02 24.8	
comp=Z,110nm,19.8s,baz=164,slow=43									
LPAZ	**La Paz**	**6.46**	**4**		*eP*		**Pn**	**16 59 27.1**	**+1.6**
LCO	**Las Campanas**	**6.49**	**196**		Pn		**Pn**	**16 59 22.9**	**-2.7**
CO01	**Juntas del Tor**	**7.30**	**190**				**Pn**	**16 59 35.6**	**-0.9**
GO04	**Tololo Observa**	**7.63**	**194**				**Pn**	**16 59 37.9**	**-3.1**
CO03	**El Pedregal**	**8.25**	**192**		Pn		**Pn**	**16 59 46.0**	**-3.3**
CO06	**Fray Jorge**	**8.32**	**198**		Pn		Pn	16 59 45.6	-4.6
ZON	**Zonda**	**8.75**	**180**		Pn		Pn	16 59 50.8	-5.3
CFA	**Coronel Fontan**	**8.82**	**178**		P		**Pn**	**16 59 55.9**	**-1.0**
comp=Z,2.9nm,0.3s,baz=359,slow=14,SNR=12									
CFA					S		**Sn**	**17 01 29.8**	**-4.7**
comp=Z,4.9nm,0.3s,baz=116,slow=21,SNR=1.5									
SIV	**San Ignacio**	**9.82**	**48**		P		**Pn**	**17 00 07.3**	**-3.2**
comp=Z,25nm,0.5s,baz=247,slow=9.9,SNR=85									
SIV					S		Sn	17 01 49.4	-10
comp=Z,15nm,0.9s,baz=134,slow=18,SNR=3.5									
VA06	**Catapilco**	**10.04**	**193**		Pn		Pn	17 00 09.2	-4.2
VA03	**San Esteban**	**10.11**	**189**		Pn		**Pn**	**17 00 10.9**	**-3.5**
MURT	**Porto Murtinho**	**10.28**	**86**		*eP*		**Pn**	**17 00 14.2**	**-2.6**
VA01	**Torpederas**	**10.56**	**194**		Pn		Pn	17 00 16.4	-4.1
MT02	**Curacav**	**10.69**	**191**		Pn		Pn	17 00 16.7	-5.5
MT08	**Bocatoma Ro**	**10.71**	**186**		Pn		Pn	17 00 15.3	-7.5
CPUP	**Villa Florida**	**10.89**	**111**		Pn		Pn	17 00 18.2	-6.8
CPUP	**Villa Florida**	**10.89**	**111**		P		**Pn**	**17 00 22.8**	**-2.3**
comp=Z,5.4nm,0.7s,baz=282,slow=9.4,SNR=7.2									
CPUP					S		**Sn**	**17 02 20.2**	**-4.8**
comp=Z,2.2nm,0.6s,baz=33,slow=18,SNR=1.0									
CPUP					LR		LR	17 04 47.8	
comp=Z,56nm,18.4s,baz=297,slow=39									
CPUP	**Villa Florida**	**10.89**	**111**		*eP*		**Pn**	**17 00 23.5**	**-1.5**
LMEL	**Las Melosas**	**11.13**	**187**		Pn		Pn	17 00 21.9	-6.4
MT09	**Talagante**	**11.17**	**190**		Pn		Pn	17 00 23.0	-5.9
MT01	**Popeta**	**11.30**	**191**		Pn		Pn	17 00 24.3	-6.2
BDQN	**Bodoquena, MS**	**11.30**	**80**		*eP*		**Pn**	**17 00 27.2**	**-3.3**
PTLB	**Pontes e Lacer**	**11.56**	**53**				Pn	17 00 27.2	-6.8
PTLB	**Pontes e Lacer**	**11.56**	**53**		*eP*		**Pn**	**17 00 30.4**	**-3.6**
SJPY	**San Joaquin**	**11.69**	**103**		*eP*		**Pn**	**17 00 35.1**	**-0.7**
BO01	**Tunca**	**11.79**	**190**		Pn		Pn	17 00 32.6	-4.3
AQDB	**Aquidauana**	**12.25**	**82**				Pn	17 00 36.2	-7.0
AQDB	**Aquidauana**	**12.25**	**82**		*eP*		**Pn**	**17 00 41.2**	**-2.0**
VILB	**Vilhena**	**12.63**	**41**				Pn	17 00 41.2	-7.0
VILB	**Vilhena**	**12.63**	**41**		*eP*		**Pn**	**17 00 46.6**	**-1.7**
NNA	**Nana**	**13.26**	**323**		P		**Pn**	**17 00 59.1**	**+2.6**
comp=Z,4.6nm,0.4s,baz=195,slow=6.2,SNR=1.5									
SALV	**Santo Antonio**	**13.99**	**63**		*eP*		**Pn**	**17 01 04.4**	**-1.5**
RPRD	**Ribas do Rio P**	**14.08**	**84**		*eP*		**Pn**	**17 01 06.1**	**-1.0**
TBOT	**Tacuaremb**	**14.37**	**131**		*eP*		**Pn**	**17 01 11.8**	**+1.1**
PTGB	**Pitanga**	**15.31**	**101**		*eP*		**Pn**	**17 01 22.4**	**-0.3**
CZSB	**Cruzeiro do Su**	**15.45**	**345**		P		**Pn**	**17 01 24.5**	**+0.1**
CZSB				

TRQA IAmb IAmb 17 02 14.2
comp=Z,19nm,0.8s
CLDB Colider 17.04 48 *eP* **P 17 01 44.0 -0.2**
CNLB Canela 17.26 116 *eP* **P 17 01 45.8 -0.8**
ITRB Iturama 17.32 83 *eP* **P 17 01 46.8 -0.4**
ARAG Araguaiana, MT 17.36 69 *eP* **P 17 01 46.9 -0.9**
FRTB Fartura 17.57 96 *eP* **P 17 01 50.1 +0.1**
PLCA Paso Flores 17.99 185 P 17 01 53.1 -1.5
PLCA Paso Flores 17.99 185 P **Pn 17 01 56.4 +0.9**
comp=Z,3.4nm,0.7s,baz=351,slow=8.7,SNR=13
PLCA Paso Flores 17.99 185 *eP* **Pn 17 01 59.1 +3.6**
ATAH Atahualpa 18.15 327 P **Pn 17 01 58.7 +0.8**
comp=Z,3.1nm,0.6s,baz=330,slow=21,SNR=2.0
MAJ01 Sao Joao Batis 18.37 109 *eP* **P 17 01 57.5 -1.2**
LL04 Puerto Octay 18.37 189 P **P 17 01 57.7 -0.9**
TER01 Tubaro-SC 18.50 112 *eP* **P 17 01 59.5 -0.7**
BB19B Bebedouro 18.74 89 *eP* **P 17 02 02.7 -0.2**
SPB Sao Paulo 19.52 97 P **P 17 02 09.4 -1.9**
SPB Sao Paulo 19.52 97 *eP* **P 17 02 10.8 -0.5**
TEFE Tefe 19.53 12 *eP* **Pn 17 02 12.9 -0.8**
SNDB Serra Nova Dou 19.71 60 *eP* **P 17 02 11.3 -2.1**
IPMB Ipameri, GO 19.73 80 *eP* **P 17 02 12.7 -1.0**
LL01 San Ignacio de 19.82 188 P **P 17 02 13.4 -0.9**
LL01 IAmb IAmb 17 02 20.2
comp=Z,14nm,0.7s
VAO Valinhos 19.98 95 P 17 02 14.4 -1.9
VAO Valinhos 19.98 95 *eP* **P 17 02 15.2 -1.2**
LL02 Futaleuf 20.55 187 P **P 17 02 21.0 -1.2**
LL02 IAmb IAmb 17 02 26.8
comp=Z,14nm,0.8s
BDFB Brasilia 20.72 74 P 17 02 21.7 -2.7
BDFB IAmb IAmb 17 02 24.2
comp=Z,22nm,0.6s
BDFB Brasilia 20.72 74 P **P 17 02 22.7 -1.7**
comp=Z,21nm,0.6s,baz=250,slow=12,SNR=28
BDFB LR LR 17 11 49.8
comp=Z,108nm,18.4s,baz=127,slow=41
comp=Z,21nm,0.6s
MACA Manacapuru-AM 20.95 23 P 17 02 24.3 -2.5
PARB Paraibuna 21.19 96 *eP* **P 17 02 29.0 -0.4**
PMNB Patos De Minas 21.20 83 *eP* **P 17 02 29.2 -0.3**
COHC Cochancay 22.65 331 P **P 17 02 44.1 -0.5**
DIAM Diamantina, MG 23.79 84 *eP* **P 17 02 55.4 -0.2**
JANB Januaria 24.24 76 *eP* **P 17 02 57.8 -1.6**
DUB01 Friburgo-RJ 24.29 93 *eP* **P 17 02 59.3 -0.6**
PRPB Parauapebas 24.53 51 *eP* **P 17 03 00.4 -1.6**
OTAV Otavalo 24.77 336 P **P 17 03 03.8 -0.9**
OTAV Otavalo 24.77 336 *eP* **P 17 03 07.9 +3.2**
SDBA SAO DESIDERIO 24.83 70 *eP* **P 17 03 03.1 -1.7**
MAL2 Monte Alegre, 24.95 36 P **P 17 03 03.5 -2.4**
CAM01 Campos-RJ 24.98 93 *eP* **P 17 03 06.4 +0.3**
BOAV Boa Vista 26.23 19 P **P 17 03 16.3 -1.1**
BOAV Boa Vista 26.23 19 *eP* **P 17 03 18.4 +1.0**
TMAB Tom-Au,PA,Br 28.43 47 *eP* **P 17 03 36.9 -0.2**
SDV Santo Domingo 31.51 356 LR LR 17 17 33.5
comp=Z,26nm,18.3s,baz=14,slow=38
MDP Montagnes des 31.81 31 LR LR 17 18 40.6
comp=Z,61nm,18.2s,baz=292,slow=39
NBPB Pedra_Branca-C 32.86 63 *eP* **P 17 04 14.5 -1.6**
BELA Belgrano 2 57.47 172 P **P 17 07 29.9 +0.3**
BELA IAmb IAmb 17 07 32.2
comp=Z,4.9nm,0.6s
VNA3 Neumayer Olymp 58.81 161 ⇓P **P 17 07 39.5 +0.4**
comp=Z,9.2nm,0.7s
VNA3 ⇑pP **pP 17 08 06.3 +0.4**
VNA3 ⇑sP **sP 17 08 19.3 +1.2**
VNA2 Neumayer--Watz 59.39 160 ⇓P **P 17 07 44.4 +1.4**
comp=Z,7.5nm,0.6s,baz=326,slow=4.9
VNA2 ⇑pP **pP 17 08 09.6 -0.3**
baz=159,slow=6.4
VNA2 ⇑sP **sP 17 08 21.4 -0.7**
baz=159,slow=4.8
HNDO Hondo 59.77 329 P **P 17 07 46.2 +0.1**
DRIO Del Rio 60.32 328 P 17 07 49.8 -0.2
SNAA Sanae 61.01 161 P **P 17 07 54.0 -0.1**
SNAA Sanae 61.01 161 ⇓P **P 17 07 55.4 +1.2**
comp=Z,168nm,0.7s
SNAA Sanae 61.01 161 P **P 17 07 55.3 +1.2**
comp=Z,11nm,0.9s,baz=282,slow=7.2,SNR=28
comp=Z,11nm,0.9s
BRDY Brady 61.11 330 P **P 17 07 54.5 -0.8**
BRDY IAmb IAmb 17 07 57.0
comp=Z,3.9nm,0.9s
MIAR Mount Ida 61.72 337 P **P 17 07 58.3 -0.9**
TXAR Lajitas Array 61.80 325 P **P 17 08 01.2 +1.1**
comp=Z,0.5nm,0.6s,baz=144,slow=7.9,SNR=1.7
comp=Z,0.5nm,0.6s
TROLL Troll, Antarti 62.73 161 ⇓P **P 17 08 07.1 +1.3**
comp=Z,714nm,0.9s
TROLL ⇑pP **pP 17 08 29.6 -3.4**
TROLL ⇓sP **PcP 17 08 44.9 +1.5**
SN05 Snyder 5 63.31 330 P **P 17 08 09.1 -0.9**
APMT Aspermont 63.34 331 P **P 17 08 09.2 -0.9**
APMT IAmb IAmb 17 08 12.1
comp=Z,6.3nm,0.7s
P51A Williamsport 63.37 348 P **P 17 08 07.9 -2.2**
MGMO Mountain Grove 63.62 339 P **P 17 08 11.6 -0.2**
MGMO IAmb IAmb 17 08 12.9
comp=Z,6.6nm,0.9s
VHRN Van Horn 63.64 325 P 17 08 11.6 -0.7
VHRN IAmb IAmb 17 08 14.3
comp=Z,5.0nm,0.8s
OK051 E0350 and S346 64.68 335 P **P 17 08 18.6 -0.1**
MSTX Muleshoe 65.10 329 P **P 17 08 21.7 0.0**
QSPA South Pole Qui 67.44 180 P **P 17 08 38.5 +2.3**
comp=Z,14nm,0.5s,baz=178,slow=1.7,SNR=232
comp=Z,14nm,0.5s
G62A West of Eustis 67.67 359 P **P 17 08 38.0 +0.3**
ANMO Albuquerque 67.68 327 P **P 17 08 38.9 +0.6**
ANMO IAmb IAmb 17 08 41.5
comp=Z,5.3nm,0.8s
CBKS Cedar Bluff 67.83 334 P **P 17 08 39.1 +0.2**
DBIC Dimbokro 68.86 73 P **P 17 08 45.6 -0.2**
comp=Z,5.9nm,0.7s,baz=232,slow=6.9,SNR=3.3
comp=Z,5.9nm,0.7s
TRQ Mont Tremblant 68.86 356 P **P 17 08 45.4 +0.3**
SDCO Great Sand Dun 69.45 329 P **P 17 08 50.4 +1.1**
BGNE Belgrade 69.46 337 P **P 17 08 49.2 +0.3**
MVCO Mesa Verde 70.48 327 P **P 17 08 55.4 -0.2**
MVCO IAmb IAmb 17 08 58.4
comp=Z,5.6nm,0.8s
PV10 Paradox Valley 71.66 328 P **P 17 09 02.1 -0.5**
PV10 IAmb IAmb 17 09 05.5
comp=Z,9.1nm,1.1s
KNB Kanab 72.59 324 P 17 09 08.7 +0.6
KNB IAmb IAmb 17 09 12.4
comp=Z,12nm,1.1s
O20A White River Ci 72.64 329 P **P 17 09 08.3 -0.2**
O20A IAmb IAmb 17 09 11.7
comp=Z,12nm,0.8s
SRU San Rafael Swe 72.96 327 P **P 17 09 10.7 +0.4**
SRU IAmb IAmb 17 09 13.4
comp=Z,6.5nm,0.7s
Q16A Castle Valley 73.14 327 IAmb IAmb 17 09 15.8
comp=Z,3.8nm,0.7s
P18A Preston Nutter 73.22 328 IAmb IAmb 17 09 15.5
comp=Z,6.1nm,0.7s
MVU Marysvale 73.37 326 P **P 17 09 12.8 0.0**
MVU IAmb IAmb 17 09 16.6
comp=Z,5.2nm,0.9s
RDMU Red Mountain 73.62 329 IAmb IAmb 17 09 17.1
comp=Z,5.7nm,0.7s
BSUT Blindstream Ca 74.17 328 IAmb IAmb 17 09 21.0
comp=Z,4.2nm,0.8s
PSUT Pine Spring 74.25 325 P **P 17 09 18.1 +0.2**
GMN Gold Mountain 75.26 322 P **P 17 09 23.8 0.0**
PDAR Pinedale Array 75.32 330 P **P 17 09 25.4 +1.4**
comp=Z,0.6nm,0.5s,baz=132,slow=7.5,SNR=9.0
comp=Z,0.6nm,0.5s
HWUT Hardware Ranch 75.38 328 IAmb IAmb 17 09 28.7
comp=Z,4.9nm,0.9s
VNDA Vanda 75.66 190 P **P 17 09 26.9 +1.7**
comp=Z,2.0nm,0.9s,baz=122,slow=5.2,SNR=5.4
comp=Z,2.0nm,0.9s
AHID Auburn Hatcher 76.04 329 P **P 17 09 28.2 +0.1**
AHID IAmb IAmb 17 09 31.0
comp=Z,8.9nm,0.8s
TPAW Teton Pass 76.53 330 IAmb IAmb 17 09 33.2
comp=Z,6.1nm,0.8s
ULM Lac du Bonnet 76.59 342 IAmb IAmb 17 09 32.1
comp=Z,5.6nm,0.6s
ULM Lac du Bonnet 76.59 342 P **P 17 09 31.2 +0.5**
comp=Z,5.3nm,0.6s,baz=154,slow=5.9,SNR=14
comp=Z,5.3nm,0.6s
ELK Elko 76.60 325 P **P 17 09 31.4 0.0**

NVAR Mina Array Bea 76.63 322 P **P 17 09 33.1 +1.6**
comp=Z,1.4nm,0.8s,baz=138,slow=6.9,SNR=7.6
comp=Z,1.4nm,0.8s
FXWY Fox Creek 76.67 330 P **P 17 09 31.7 0.0**
LAO LASA Array 77.02 334 IAmb IAmb 17 09 36.1
comp=Z,10nm,1.1s
RLMT Red Lodge 77.04 332 P **P 17 09 33.8 +0.1**
RLMT IAmb IAmb 17 09 36.4
comp=Z,5.8nm,0.7s
YNE Yellowstone No 77.27 331 IAmb IAmb 17 09 38.2
comp=Z,11nm,0.9s
SCHQ Schefferville 77.29 1 P **P 17 09 35.1 +0.5**
comp=Z,4.3nm,0.7s,baz=187,slow=5.8,SNR=7.5
comp=Z,4.3nm,0.7s
YMR Madison River 77.44 331 P **P 17 09 36.0 +0.1**
YMR IAmb IAmb 17 09 39.9
comp=Z,8.6nm,0.9s
TORD Torodi Ar. Bea 77.55 70 P **P 17 09 34.6 -2.3**
TORD IAmb IAmb 17 10 07.2
comp=Z,8.7nm,0.8s
TORD Torodi Ar. Bea 77.55 70 P **P 17 09 37.4 +0.5**
comp=Z,5.0nm,0.5s,baz=268,slow=4.3,SNR=2.5
comp=Z,5.0nm,0.5s
YHB Horse Butte 77.61 330 P **P 17 09 39.3 +2.4**
YHB IAmb IAmb 17 09 40.6
comp=Z,8.5nm,0.9s
YHL Hebgen Lake 77.68 331 IAmb IAmb 17 09 40.7
comp=Z,4.8nm,0.7s
PNTR Pine Nut 77.82 322 IAmb IAmb 17 09 42.0
comp=Z,7.0nm,0.8s
PAHR Pah Rah Range 78.12 322 IAmb IAmb 17 09 43.5
comp=Z,12nm,0.9s
HLID Hailey 78.23 328 P **P 17 09 39.7 -0.6**
HLID IAmb IAmb 17 09 44.2
comp=Z,8.0nm,0.8s
DLMT Dillon 78.72 330 IAmb IAmb 17 09 46.4
comp=Z,9.8nm,1.2s
PLID Pearl Lake 80.13 328 P **P 17 09 50.5 -0.2**
PLID IAmb IAmb 17 09 53.8
comp=Z,11nm,0.9s
BMO Blue Mountains 80.60 327 IAmb IAmb 17 09 56.2
comp=Z,7.6nm,1.0s
I07A Izee 81.19 326 IAmb IAmb 17 09 59.2
comp=Z,4.6nm,0.8s
J05D Fort Rock, OR 81.56 324 IAmb IAmb 17 10 02.0
comp=Z,15nm,1.4s
PINE Pine Mountain 81.75 325 P **P 17 09 59.2 0.0**
PINE IAmb IAmb 17 10 02.8
comp=Z,9.6nm,0.8s
FFC Flin Flon 82.30 341 P **P 17 10 01.7 +0.2**
BOSA Boshof 82.64 118 P **P 17 10 04.6 +0.3**
comp=Z,3.3nm,0.7s,baz=303,slow=3.4,SNR=5.0
comp=Z,3.3nm,0.7s
HAWA Hanford 82.80 327 IAmb IAmb 17 10 07.5
comp=Z,6.5nm,0.8s
MAW Mawson 83.06 163 P **P 17 10 07.1 +1.6**
comp=Z,15nm,0.7s,baz=276,slow=10,SNR=1.5
comp=Z,15nm,0.7s
FCC Fort Churchill 83.91 347 P **P 17 10 10.4 +0.7**
FCC IAmb IAmb 17 10 12.0
comp=Z,9.0nm,0.9s
YKA Yellowknife Ar 92.45 340 P **P 17 10 51.8 +1.3**
comp=Z,4.6nm,0.8s,baz=140,slow=4.5,SNR=77
comp=Z,4.6nm,0.8s
KBZ Khabaz 120.71 52 PKP **PKiKP 17 16 32.0 +0.3**
comp=Z,1.7nm,0.9s,baz=53,slow=0.3,SNR=4.8
ASAR Alice Springs 128.91 207 PKP **PKiKP 17 16 49.4 +0.5**
comp=Z,3.3nm,0.9s,baz=131,slow=1.8,SNR=32
WRA Warramunga Arr 131.99 210 PKP **PKiKP 17 16 55.7 +0.7**
comp=Z,1.9nm,0.6s,baz=161,slow=1.7,SNR=20
BVAR Borovoye Array 136.68 35 PKP **PKiKP 17 17 03.4 -0.1**
comp=Z,0.7nm,0.5s,baz=270,slow=3.0,SNR=6.0
KURBB Kurchatov Arra 142.24 34 PKhKP PKPpre 17 17 09.3
comp=Z,1.1nm,0.8s,baz=311,slow=2.8,SNR=8.0
KURBB PKP **PKiKP 17 17 14.0 -0.9**
comp=Z,1.0nm,0.7s,baz=304,slow=2.7,SNR=9.1
ZAA0 Zalesovo Array 142.98 26 PKPdf 17 17 09.7 -3.4
ZALV Zalesovo Beam 142.98 26 PKPdf 17 17 09.0 -4.0
ZALV Zalesovo Beam 142.98 26 PKP **PKPdf 17 17 11.7 -1.4**
comp=Z,2.1nm,0.6s,baz=319,slow=3.1,SNR=11
YSS Yuzhno-Sakhali 145.08 321 PKPbc 17 17 16.5 -0.2
SOEI Soe 145.30 203 PKPbc 17 17 17.7 -0.7
KDJ Kajisay 145.60 48 PKPbc 17 17 19.0 +0.2
TARG Taragay, Kyrgy 146.19 48 PKPdf 17 17 19.6 0.0
MK31 Makanchi Array 146.49 37 PKPdf 17 17 19.4 -0.1
MKAR Makanchi Array 146.49 37 PKPdf **PKPdf 17 17 19.5 +0.1**
MKAR Makanchi Array 146.49 37 PKPbc **PKPbc 17 17 21.1 +0.1**
comp=Z,5.3nm,0.6s,baz=318,slow=2.6,SNR=45
FAKI Fak Fak 147.33 221 PKPbc **PKPdf 17 17 22.3 +0.4**
USRK Ussuriysk Ar. 152.69 326 PKPbc **PKiKP 17 17 37.1 +0.5**
comp=Z,1.7nm,0.8s,baz=45,slow=0.2,SNR=3.2
SONM Songino Array 154.67 8 PKP **PKPdf 17 17 32.7 +0.5**
comp=Z,1.2nm,0.8s,baz=0.0,slow=1.5,SNR=6.0
SONM PKPbc **PKiKP 17 17 42.2 +1.4**
comp=Z,1.1nm,0.6s,baz=156,slow=0.5,SNR=5.9
SONM PKPab **PKPab 17 17 57.7 +1.8**
comp=Z,1.3nm,0.7s,baz=332,slow=4.1,SNR=6.8
KSRS Korea Array 159.56 319 PKPab **PKPab 17 18 17.9 +0.8**
comp=Z,1.6nm,1.1s,baz=84,slow=2.3,SNR=3.1

*ATH **21** 17:03:52.6,41°.73N×20°.12E,h10km±3km,ML2.2/3,*
Manual Solution by A.Agalos First location: 2019/03/21
17:05:15, This location: 2019/03/21 17:13:34 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 2 km;
Longitude uncertainty: 3 km
*TIR **21** 17:03:53.2,41°.68N×19°.97E,h22km±1km,Md3.0/7,Ml2.7/6*
*PDG **21** 17:03:53.7±0.2,41°.70N×20°.02E,h10km±1km,ML2.6/11,*
Error ellipse: s-maj=0.4km s-min=0.8km az=0.0
*RHSSO **21** 17:03:54.8±0.9,41°.65N×19°.91E,h9km±2km,ML2.4/6*
*BEO **21** 17:03:54.8±0.2,41°.70N×20°.02E,h9km±3km,ML2.0/9*
ISC 21 17:03:53.5±1.0,41°.69N±0°.02×20°.03E±0°.02,h13km±9km,
n51,σ0s97/89,3C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.31**	**91**	Pg	**Pb**	**17 04 00.7**	**-0.2**
PHP				Sg	**Sb**	**17 04 06.3**	**+0.4**
PHP				AML	AML	17 04 08.0	
	4.3nm,0.2s						
PHP				AMd		17 04 35.7	
PUK	**Puka**	**0.36**	**344**	Pg	**Pb**	**17 04 01.2**	**-0.7**
PUK				Sg	**Sb**	**17 04 07.2**	**-0.3**
PUK				AML	AML	17 04 08.8	
	6.1nm,0.2s						
PUK				AMd		17 04 37.5	
TIR	**Tirane**	**0.37**	**199**	Pg	**Pg**	**17 04 00.7**	**-0.2**
TIR				Sg	**Sb**	**17 04 06.3**	**-1.1**
TIR				AML	AML	17 04 08.2	
	0.6nm,0.3s						
TIR				AMd		17 04 41.8	
TIR	**Tirane**	**0.37**	**199**	*e*Pg	**Pg**	**17 04 00.6**	**-0.2**
TIR				*e*Sg	**Sb**	**17 04 07.8**	**+0.3**
TIR	**Tirane**	**0.37**	**199**	P	**Pb**	**17 04 01.0**	**-0.9**
TIR				S	**Sb**	**17 04 07.0**	**-0.4**
ULC	**Ulcinj**	**0.64**	**295**	⇓*i*Pg	**Pg**	**17 04 05.3**	**-0.7**
ULC				*i* Sg	**Sb**	**17 04 15.8**	**+0.3**
BCI	**Bajram Curri**	**0.67**	**3**	Pg	**Pg**	**17 04 05.9**	**-0.7**
BCI				Sg	**Sb**	**17 04 17.3**	**+0.9**
BCI				AML	AML	17 04 18.8	
	1.2nm,0.4s						
DRME	**Dracevica, Mon**	**0.80**	**308**	*e*Pg	**Pg**	**17 04 08.3**	**-0.6**
DRME				*e*Sg	**Sb**	**17 04 20.0**	**+0.1**
DRME	**Dracevica, Mon**	**0.80**	**308**	⇓*i*Pg	**Pg**	**17 04 08.3**	**-0.6**
DRME				*i* Sg	**Sn**	**17 04 21.3**	**-0.9**
OHR	**Ohrid**	**0.82**	**135**	*e*Pg	**Pn**	**17 04 10.4**	**-0.4**
OHR				*e*Sg	**Sn**	**17 04 22.4**	**-0.5**
PVY	**Plav**	**0.90**	**357**	*e*Pg	**Pg**	**17 04 10.4**	**-0.5**
PVY				*e*Sg	**Sn**	**17 04 24.8**	**-0.2**
PDG	**Podgorica**	**0.93**	**322**	*e*Pg	**Pn**	**17 04 11.8**	**-0.5**
PDG				*e*Sg	**Sb**	**17 04 24.1**	**+0.3**
PDG	**Podgorica**	**0.93**	**322**	*e*Pg	**Pn**	**17 04 11.9**	**-0.4**
PDG				*e*Sg	**Sn**	**17 04 24.7**	**-0.8**
PDG	**Podgorica**	**0.93**	**322**	*e*Pg	**Pg**	**17 04 10.1**	**-1.4**
PDG				*i* Sg	**Sn**	**17 04 25.7**	**+0.2**
PDG	**Podgorica**	**0.93**	**322**	P	**Pg**	**17 04 10.9**	**-0.6**
PDG				S	**Sb**	**17 04 23.9**	**+0.1**
BUM	**Brajici-Budva**	**1.04**	**306**	*e*Pg	**Pg**	**17 04 12.6**	**-0.9**
BUM				*i* Sg	**Sn**	**17 04 29.2**	**+0.9**
IVA	**Berane**	**1.18**	**355**	*e*Pg	**Pb**	**17 04 15.2**	**-0.6**
IVA				*e*Sg	**Sn**	**17 04 34.2**	**+2.4**
CEME	**Cevo**	**1.19**	**316**	⇑*i*Pg	**Pb**	**17 04 15.5**	**-0.4**
CEME				*i* Sg	**Sn**	**17 04 34.2**	**+2.3**

KOME Kolasin 1.22 342 ⇑*i*Pg **Pb 17 04 16.1 -0.3**
KOME *e*Sg **Sn 17 04 35.3 +2.6**
NKME Niksic 1.34 324 ⇓*i*Pg **Pb 17 04 18.0 -0.4**
NKME *i* Sg **Sg 17 04 38.2 +1.6**
FNA Florina 1.36 131 Pg **Pg 17 04 19.3 -0.4**
FNA Sg **Sg 17 04 39.1 +1.6**
FNA AML AML 17 04 43.2
0.2nm,0.4s
FNA AMd 17 05 24.7
FNA Florina 1.36 131 *e*Pg **Pg 17 04 19.5 -0.2**
FNA *e*Sg **Sg 17 04 38.4 +0.9**
FNA Florina 1.36 131 P **Pn 17 04 17.9 -0.3**
FNA S **Sb 17 04 35.5 -0.8**
HCY Herceg Novi 1.37 304 *e*Pg **Pn 17 04 18.1 -0.2**
HCY *e*Sg **Sn 17 04 36.4 +0.2**
HCY Herceg Novi 1.37 304 ⇓*i*Pg **Pb 17 04 18.8 -0.1**
HCY *e*Sg **Sg 17 04 40.2 +2.7**
NEST Nestorio 1.49 148 Pn **Pg 17 04 21.3 -0.8**
NEST AMd 17 05 27.2
NEST Nestorio 1.49 148 P Pb 17 04 21.0 -0.1
SJES Sjenica 1.57 359 *e*Pn **Pg 17 04 22.7 -0.9**
SJES *e*Sn **Sg 17 04 44.5 +0.5**
SJES Sjenica 1.57 359 *e*Pg **Pg 17 04 23.1 -0.5**
SJES *e*Sg **Sg 17 04 44.5 +0.5**
LSK Leskovik 1.60 164 Pn **Pb 17 04 22.9 0.0**
LSK Sn **Sg 17 04 45.3 +0.2**
LSK AMd 17 05 49.8
TREB Trebinje 1.61 310 *e*Pn **Pg 17 04 23.3 -1.1**
TREB *e*Sn **Sb 17 04 43.3 0.0**
BRY Bratogost 1.64 318 *e*Pn **Pg 17 04 23.8 -1.1**
BRY *e*Sn **Sb 17 04 44.7 +0.5**
BRY Bratogost 1.64 318 *e*Pn **Pg 17 04 24.0 -0.9**
BRY *e*Sn **Sg 17 04 48.1 +2.0**
DBRK Dubrovnik 1.70 306 *e*Pn **Pb 17 04 23.6 -1.0**
UPM Unac-Piva 1.72 332 *e*Pn **Pg 17 04 25.5 -1.0**
UPM *e*Sn **Sb 17 04 47.3 +0.6**
SELS Selova 1.73 28 *e*Pn **Pb 17 04 24.2 -0.9**
SELS *e*Sn **Sb 17 04 46.2 -0.5**
BARS Barje 1.74 49 *e*Sn **Sg 17 04 48.6 -0.8**
GOCS Kraljevo Serbi 1.97 18 *e*Pn **Pb 17 04 28.7 -0.6**
GOCS *e*Sn **Sb 17 04 52.6 -1.2**
RUDO Rudo 1.98 346 *e*Sn **Sb 17 04 54.5 +0.4**
KEK Kerkira 1.99 185 P **Pn 17 04 26.6 -0.1**
BOSS Bosilegrad 2.00 65 *e*Pn **Pn 17 04 27.9 +1.0**
SCTE Santa Cesarea 2.00 217 Pn **Pb 17 04 28.6 -1.2**
SCTE Sn **Sb 17 04 55.2 +0.6**
SCTE AML AML 17 05 12.8
0.6nm,1.6s
SCTE AMd 17 05 28.1
SCTE Santa Cesarea 2.00 217 P **Pn 17 04 27.6 +0.6**
STON Ston 2.09 305 *e*Pn **Pb 17 04 29.5 -1.7**
STON *e*Sn **Sn 17 04 54.5 +0.5**
STON Ston 2.09 305 *e*Pn **Pb 17 04 29.8 -1.4**
STON Ston 2.09 305 *e*Pn **Pb 17 04 30.9 -0.3**
IGT Igoumenitsa 2.17 174 P **Pn 17 04 29.9 +0.6**
BBLS Lazi&#263i 2.22 348 ⇑*i*Pn **Pb 17 04 31.8 -1.7**
BBLS *e*Sn **Sb 17 05 00.0 -0.9**
BBLS Lazi&#263i 2.22 348 *e*Pn **Pb 17 04 32.1 -1.4**
BBLS *e*Sn **Sb 17 04 59.5 -1.4**
NOCI Noci 2.41 249 Sn **Sb 17 05 05.6 -0.7**
ZAGS Zajecar 2.67 37 *e*Pn **Pn 17 04 37.5 +1.3**

IDC 21 17:17:40.0±1.2,21°.18N×143°.02E,h0km,mb3.6/6,
mbtmp3.6/6,Error ellipse: s-maj=49.5km s-min=22.9km
az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.41**	**89**	T	T	17 44 23.9	
	baz=278,slow=74						
H11N2	**WAKE ISLAND Hy**	**22.41**	**89**	T	T	17 44 23.8	
	baz=278,slow=74						
H11S3	**WAKE ISLAND Hy**	**22.42**	**93**	T	T	17 44 25.8	
	baz=282,slow=75						
H11S1	**WAKE ISLAND Hy**	**22.43**	**93**	T	T	17 44 26.4	
	baz=282,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.43**	**89**	T	T	17 44 24.6	
	baz=278,slow=74						
H11S2	**WAKE ISLAND Hy**	**22.43**	**93**	T	T	17 44 27.0	
	baz=282,slow=75						
WRA	**Warramunga Arr**	**41.74**	**192**	P	P	17 25 31.2	+0.1
	0.9nm,0.7s,baz=14,slow=7.8,SNR=3.9						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**45.45**	**192**	P	P	17 26 00.6	-0.4
	0.5nm,0.7s,baz=16,slow=9.2,SNR=9.2						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**54.94**	**313**	P	P	17 27 13.1	+0.3
	0.2nm,0.6s,baz=101,slow=6.0,SNR=1.8						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.80**	**317**	P	P	17 27 33.1	+0.1
	0.9nm,0.7s,baz=96,slow=7.8,SNR=11						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**62.97**	**320**	P	P	17 28 08.0	-0.4
	0.9nm,0.5s,baz=94,slow=6.2,SNR=5.9						
	0.9nm,0.5s						
YKA	**Yellowknife Ar**	**76.98**	**28**	P	P	17 29 34.4	0.0
	0.1nm,0.4s,baz=291,slow=5.5,SNR=5.6						
	0.1nm,0.4s						

*IDC **21** 17:40:46.4±0.8,4°.53N×62°.50E,h0km,mb3.9/15,*
mbtmp3.9/15,MS3.6/20,Error ellipse: s-maj=21.5km
s-min=18.8km az=4.0
*NEIC **21** 17:40:48.3±1.4,4°.6N±0°.1×62°.4E±0°.1,h10km±1km,*
mb4.3/23,Error ellipse: s-maj=24.0km s-min=21.1km
az=195.0
ISC 21 17:40:50.1±0.6,4°.6N±0°.1×62°.5E±0°.1,h22km,n54,
σ0s94/41,mb4.2/24,MS3.6/20,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UOSS	**Minazif**	**21.10**	**344**		**P**	**17 45 32.5**	**-0.7**
UOSS				IAmb	IAmb	17 45 50.8	
	comp=Z,29nm,1.4s						
RAYN	**Ar Rayn**	**24.93**	**321**	P	**P**	**17 46 10.9**	**-1.0**
KMBO	**Kilima Mbogo**	**25.82**	**258**	P	**P**	**17 46 18.9**	**-1.4**
KMBO				IAmb	IAmb	17 46 29.3	
	comp=Z,13nm,1.4s						
KMBO	**Kilima Mbogo**	**25.82**	**258**	P	**P**	**17 46 20.9**	**+0.6**
	comp=Z,1.1nm,0.2s,baz=57,slow=12,SNR=8.2						
	comp=Z,1.1nm,0.2s						
BRDH	**Bariadhala**	**33.45**	**55**	LR	LR	18 02 02.9	
	comp=Z,180nm,18.2s,baz=260,slow=38						
DRK	**Karamyk**	**35.73**	**12**	P	**P**	**17 47 48.3**	**+0.8**
BTK	**Batken**	**36.09**	**11**	P	**P**	**17 47 51.1**	**+0.7**
BTK				IAmb	IAmb	17 48 05.4	
	comp=Z,10nm,1.4s						
PSI	**Prapat**	**36.43**	**92**	LR	LR	18 00 50.4	
	comp=Z,108nm,18.6s,baz=158,slow=33						
LSA	**Lhasa**	**36.86**	**44**	P	**P**	**17 47 58.8**	**+1.2**
LSA				IAmb	IAmb	17 48 05.8	
	comp=Z,4.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.20**	**66**	P	**P**	**17 48 08.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.20**	**66**	P	**P**	**17 48 09.1**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=260,slow=8.4,SNR=8.5						
CMAR				PcP	**PcP**	**17 50 22.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=179,slow=1.1,SNR=4.1						
CMAR				LR	LR	18 03 34.2	
	comp=Z,31nm,18.1s,baz=255,slow=36						
	comp=Z,1.4nm,1.0s						
KKAR	**Karatay Array**	**38.99**	**9**	P	**P**	**17 48 15.5**	**+0.7**
LSZ	**Lusaka**	**39.27**	**239**	LR	LR	18 02 07.2	
	comp=Z,86nm,20.0s,baz=68,slow=33						
AAK	**Ala-Archa**	**39.35**	**14**	P	**P**	**17 48 17.9**	**-0.2**
AAK	**Ala-Archa**	**39.35**	**14**	LR	LR	18 05 15.6	
	comp=Z,54nm,19.8s,baz=233,slow=37						
FRU1	**Bishkek**	**39.55**	**14**	P	**P**	**17 48 20.7**	**+1.1**
FRU1				IAmb	IAmb	17 48 29.2	
	comp=Z,8.0nm,1.0s						
KDJ	**Kajisay**	**39.60**	**17**	P	**P**	**17 48 20.6**	**+0.5**
BRTR	**Keskin Array B**	**43.59**	**327**	P	**P**	**17 48 54.7**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=129,slow=9.7,SNR=4.8						
	comp=Z,1.0nm,0.9s						
ELL	**Elmali**	**43.75**	**321**	P	**P**	**17 48 53.5**	**-0.6**
AB31	**Akbulak array**	**44.54**	**358**	P	**P**	**17 48 60.0**	**-0.1**
AB31				IAmb	IAmb	17 49 14.4	
	comp=Z,4.4nm,1.1s						
ABKAR	**Akbulak array**	**44.54**	**358**	P	**P**	**17 49 00.9**	**+0.8**
ABKAR	**Akbulak array**	**44.54**	**358

comp=Z,0.3nm,0.6s,baz=198,slow=7.6,SNR=4.5
MKAR PcP **PcP** **17 50 46.1 0.0**
comp=Z,0.8nm,1.1s,baz=242,slow=3.1,SNR=4.5
comp=Z,0.3nm,0.6s
MK31 Makanchi Array 45.39 19 P P 17 49 07.1 +0.1
LBTB Lobatse 46.37 229 LR LR 18 05 25.4
comp=Z,65nm,21.2s,baz=48,slow=32
KURBB Kurchatov Arra 47.81 14 P P 17 49 25.6 -0.2
comp=Z,0.4nm,0.8s,baz=215,slow=8.2,SNR=4.9
comp=Z,0.4nm,0.8s
BOSA Boshof 48.70 225 P **P 17 49 32.8 -0.4**
comp=Z,2.6nm,0.8s,baz=41,slow=3.0,SNR=3.0
BOSA LR LR 18 07 50.1
comp=Z,57nm,19.3s,baz=33,slow=33
comp=Z,2.6nm,0.8s
SBUM Sibu 49.70 91 P P 17 49 38.8 -2.2
SBUM IAmb IAmb 17 49 48.5
comp=Z,3.2nm,1.0s
TSUM Tsumeb 50.10 240 LR LR 18 09 27.6
comp=Z,72nm,19.9s,baz=74,slow=34
ZAA0 Zalesovo Array 52.46 16 P P 17 49 60.0 -1.1
ZAA0 IAmb IAmb 17 50 07.3
comp=Z,2.8nm,0.8s
ZALV Zalesovo Beam 52.46 16 P 17 49 59.4 -1.7
ZALV Zalesovo Beam 52.46 16 P **P 17 50 00.5 -0.5**
comp=Z,0.9nm,0.5s,baz=218,slow=8.8,SNR=6.3
ZALV PcP **PcP** **17 51 12.6 +1.1**
comp=Z,0.5nm,0.6s,baz=237,slow=4.5,SNR=1.2
ZALV LR LR 18 12 30.9
comp=Z,42nm,19.0s,baz=288,slow=36
comp=Z,0.9nm,0.5s
AKASG Malin Array Be 53.72 334 P P 17 50 09.9 -0.5
comp=Z,0.1nm,0.3s,baz=141,slow=6.0,SNR=4.8
comp=Z,0.1nm,0.3s
SUR Sutherland 54.00 224 LR LR 18 12 12.3
comp=Z,79nm,18.0s,baz=127,slow=35
SONM Songino Array 57.14 34 P P 17 50 35.2 -0.1
SONM IAmb IAmb 17 50 42.9
comp=Z,3.5nm,1.2s
SONM Songino Array 57.14 34 P **P 17 50 36.2 +1.0**
comp=Z,1.6nm,1.1s,baz=234,slow=7.5,SNR=8.4
SONM LR LR 18 15 31.2
comp=Z,38nm,21.3s,baz=251,slow=36
comp=Z,1.6nm,1.1s
HFS Hagfors 66.55 336 P P 17 51 38.1 -0.1
comp=Z,2.9nm,0.8s,baz=145,slow=5.3,SNR=2.2
comp=Z,2.9nm,0.8s
DBIC Dimbokro 66.98 275 LR LR 18 21 25.9
comp=Z,39nm,18.0s,baz=123,slow=36
ESDC Sonseca Array B 68.99 311 P P 17 51 54.6 +0.5
comp=Z,1.5nm,1.1s,baz=91,slow=7.0,SNR=5.1
comp=Z,1.5nm,1.1s
ARCES ARCESS Array B 69.22 347 P P 17 51 54.6 -0.2
comp=Z,3.7nm,0.9s,baz=152,slow=4.1,SNR=5.2
comp=Z,3.7nm,0.9s
JNU Nakatsue 69.45 56 LR LR 18 25 08.6
comp=Z,34nm,18.3s,baz=322,slow=38
EKA Eskdalemuir Ar 72.50 327 P **P 17 52 14.7 -0.4**
comp=Z,0.7nm,0.6s,baz=106,slow=5.3,SNR=3.6
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 74.66 112 P P 17 52 27.5 -1.0
comp=Z,1.5nm,0.9s,baz=292,slow=5.0,SNR=6.8
comp=Z,1.5nm,0.9s
ASAR Alice Springs 74.99 116 P P 17 52 29.4 -0.9
comp=Z,1.2nm,1.0s,baz=305,slow=4.4,SNR=5.4
comp=Z,1.2nm,1.0s
MJAR Matsushiro Arr 75.82 54 LR LR 18 27 53.8
comp=Z,32nm,18.8s,baz=246,slow=37
SPITS Spitsbergen Ar 77.25 351 LR LR 18 30 14.8
comp=Z,40nm,18.4s,baz=150,slow=38
BBTS Babate 78.21 284 LR LR 18 28 51.5
comp=Z,32nm,18.7s,baz=321,slow=37
ASAJ Asahikawa 79.73 46 LR LR 18 27 45.9
comp=Z,35nm,19.2s,baz=220,slow=35
BORG Borgarnes 83.20 335 LR LR 18 31 23.2
comp=Z,17nm,21.6s,baz=45,slow=36
MA2 Magadan 85.20 31 LR LR 18 33 00.7
comp=Z,67nm,19.5s,baz=326,slow=37
PETK Petropavlovsk- 89.50 37 LR LR 18 35 04.8
comp=Z,32nm,18.0s,baz=97,slow=36
QSPA South Pole Qui 94.57 180 P 17 54 09.6 +0.7
QSPA IAmb IAmb 17 54 23.1
comp=Z,1.8nm,1.1s
VNDA Vanda 96.50 168 P 17 54 19.6 +2.3

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*GCG **21** 17:44:41.8±0.9, 14°.83N×92°.15W, h88km±6km, MD3.7*
*MEX **21** 17:44:41.6±1.0, 14°.80N×92°.27W, h103km±9km, MD4.1*
ISC 21 17:44:39.8±1.8, 14°.65N±0°.10×92°.26W±0°.07, h99km±12km, n14, σ2°39/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.27**	**40**	*i* P	**Pn**	**17 44 54.5**	**+0.4**
SMCA				*e*S	**Sn**	**17 45 04.5**	**-0.4**
SMCA	**Catarina**	**0.27**	**40**	*i* P		17 44 54.5	
SMCA				*e*S		17 45 04.5	
PATR	**El Naranjo**	**0.47**	**3**	*e*P	**Pn**	**17 44 55.5**	**-0.1**
PATR				*e*S	**Sn**	**17 45 06.3**	**-1.0**
PAVE	**Pavencul**	**0.55**	**8**	*e*P	**Pn**	**17 44 56.3**	**+0.1**
PAVE				*e*S	**Sn**	**17 45 07.7**	**-0.6**
RTAL	**Retalhuleu**	**0.56**	**103**	*e*P	**Pn**	**17 44 56.9**	**+1.0**
RTAL				*e*S	**Sn**	**17 45 07.8**	**-0.1**
STG8	**El Palmar, Qui**	**0.90**	**103**	*e*P		17 44 57.0	
STG8				*e*S		17 45 10.1	
STG0	**El Palmar, Qui**	**0.91**	**104**	*e*P		17 44 57.1	
STG0				*e*S		17 45 10.1	
HUEH	**Huehuetenango**	**0.99**	**47**	*i* S	**Sn**	**17 45 14.3**	**-1.3**
PCIG		**1.40**	**319**	*e*P	**Pn**	**17 45 06.3**	**+1.5**
PCIG				*e*S	**Sn**	**17 45 24.5**	**+0.8**
FG8	**Yepocapa, Chim**	**1.69**	**103**	*e*P		17 45 05.2	
APG	**El Apazote**	**1.77**	**78**	*i* P	**Pn**	**17 45 10.5**	**+0.9**
APG	**El Apazote**	**1.77**	**78**	*i* P		17 45 10.5	
CARR	**Arriaga**	**2.25**	**315**	*i* P	**Pn**	**17 45 17.8**	**+2.1**
CARR				*i* S	**Sn**	**17 45 45.4**	**+2.3**
TGIG		**2.28**	**339**	*e*P	**Pn**	**17 45 15.9**	**-0.1**
TGIG				*e*S	**Sn**	**17 45 40.0**	**-3.8**
NILT	**Santiago Nilte**	**2.97**	**310**	*e*S	**Sn**	**17 46 02.5**	**+2.5**
UXUV	**UXUV**	**3.22**	**326**	*e*P	**Pn**	**17 45 29.8**	**+1.3**
UXUV				*e*S	Sn	17 45 56.2	-10
CMIG	**Matias Romero**	**3.51**	**314**	*e*P	**Pn**	**17 45 34.0**	**+1.6**
CMIG				*e*S	Sn	17 45 56.1	-17
CMIG				*e*S	**Sn**	**17 46 12.6**	**-0.4**
HUIG	**Huatulco**	**3.88**	**287**	*e*P	**Pn**	**17 45 37.9**	**+0.5**
HUIG				*e*S	**Sn**	**17 46 18.6**	**-3.4**
YOIG	**Yosondua**	**5.54**	**294**	*e*P	**Pn**	**17 46 02.8**	**+2.6**
YOIG				*e*S	**Sn**	**17 46 55.6**	**-7.3**

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*AFAD **21** 17:47:32.7, 38°.75N×38°.17E, h7km±2km, ML2.7*
*ISK **21** 17:47:32.3, 38°.68N×38°.18E, h7km, ML2.3/9*
ISC 21 17:47:32.5±1.2, 38°.71N±0°.04×38°.18E±0°.03, h7km±13km, n14, σ0°62/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.24**	**314**	P	**Pg**	**17 47 37.4**	**+0.1**
HEKM				S	**Sg**	**17 47 40.8**	**+0.3**
HEKM				*i* AML	AML	17 47 43.0	
	comp=N,1μm,0.3s						
HEKM				*i* AML	AML	17 47 44.0	
	comp=E,2μm,0.2s						
MAYA	**Malatya/Merkez**	**0.43**	**153**	P	**Pb**	**17 47 41.7**	**-0.8**
MAYA				S	**Sb**	**17 47 49.5**	**+0.2**
AKCD	**Akcadag**	**0.46**	**205**	P	**Pb**	**17 47 42.6**	**-0.4**
AKCD				S	**Sb**	**17 47 50.7**	**+0.6**
AKCD				*i* AML	AML	17 47 52.0	
	comp=N,653nm,0.4s						
AKCD				*i* AML	AML	17 47 52.0	
	comp=E,506nm,0.2s						
DARE	**Darende-Malaty**	**0.56**	**255**	Pg	**Pg**	**17 47 43.5**	**+0.2**
DARE				Sg	**Sb**	**17 47 51.9**	**-1.0**
KEMA	**Kemaliye**	**0.61**	**24**	P	**Pg**	**17 47 43.8**	**-0.4**
KEMA				S	**Sg**	**17 47 52.8**	**+0.7**
CUKAN	**kangal_SIVAS**	**0.82**	**318**	P	**Pg**	**17 47 46.9**	**-1.3**
CUKAN				S	**Sg**	**17 47 58.6**	**-0.2**
PTK	**Pertek**	**0.97**	**79**	Pg	**Pg**	**17 47 50.9**	**-0.2**
PTK				Sg	**Sb**	**17 48 05.5**	**+0.8**
URFA	**Urfa**	**1.37**	**158**	Pn	**Pn**	**17 47 57.9**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.41**	**258**	Pn	**Pb**	**17 47 59.1**	**-0.1**
SVSK	**Karacayir**	**1.51**	**323**	Pn	**Pb**	**17 48 00.9**	**+0.2**
KMRS	**Kahramanmaras**	**1.57**	**220**	Pn	**Pn**	**17 48 01.0**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.80**	**339**	Pn	**Pb**	**17 48 05.3**	**-0.5**
BNN	**Bunyan**	**1.82**	**275**	Pn	**Pn**	**17 48 04.9**	**+0.5**
KOZT	**Kozan**	**2.23**	**237**	Pn	**Pn**	**17 48 10.5**	**+0.8**

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*NOU **21** 17:47:20.5, 29°.99S×176°.35W, h233km, mb4.6/17, Kermadec Islands Region*
*MOS **21** 17:47:36.0±1.2, 29°.77S×178°.90W, h218km, mb5.0/16, Error ellipse: s-maj=12.7km s-min=10.5km az=107.3*
*NEIC **21** 17:47:37.1±2.1, 29°.85±0°.1×178°.8W±0°.1, h215km±5km, mb4.8/94, Error ellipse: s-maj=18.2km s-min=15.6km az=84.0*
*IDC **21** 17:47:37.4±0.6, 29°.69S×178°.81W, h222km±4km, mb4.4/18, mbtmp4.9/20, Error ellipse: s-maj=11.5km s-min=10.7km az=102.0*
*GCMT **21** 17:47:38.0±0.3, 29°.81S±0°.02×178°.60W±0°.02, h229km±2km, MW5.0/87, Moment Tensor Solution. s47,c52; s87,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.16±.15; $M_{\theta\theta}$-2.85±.16; $M_{\phi\phi}$3.01±.16; $M_{r\theta}$-4.05±.13; $M_{\theta\phi}$-0.13±.15; $M_{\phi r}$-0.37±.13; Best double couple: $M_0$4.46900×10^{16} NP1:ϕ_s147.00000°, δ44.00000°, λ-171.00000°. NP2:ϕ_s50.00000°, δ83.00000°, λ-46.00000°. Principal axes: T 3.1530, Plg25.0000°, Azm107.0000°; N 2.6310, Plg44.0000°, Azm224.0000°; P -5.7840, Plg36.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 17:47:37.4±0.4, 29°.89S±0°.05×178°.72W±0°.06, h226km±3km, h226km:pP-P, n404, σ1°37/328, mb4.8/83, 50C-23D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.94**	**49**	P	**Pn**	**17 48 07.3**	**-2.1**
GLKZ				S	**S**	**17 48 32.8**	**-1.6**
RIZ	**Raoul Island**	**0.94**	**47**	S	**S**	**17 48 33.6**	**-0.9**
GRZ	**Great Barrier**	**8.01**	**216**	P	**Pn**	**17 49 31.1**	**+0.5**
MXZ	**Matakaoa Point**	**8.04**	**197**	P	Pn	17 49 24.2	-6.9
MXZ	**Matakaoa Point**	**8.04**	**197**	P	Pn	17 49 26.4	-4.7
MXZ				S	S	17 50 53.8	-8.4
WMGZ	**Waiomatatini S**	**8.26**	**196**	P	Pn	17 49 28.0	-5.9
KUZ	**Kuaotunu**	**8.27**	**213**	P	**Pn**	**17 49 33.4**	**-0.5**
KUZ	**Kuaotunu**	**8.27**	**213**	P	**Pn**	**17 49 33.8**	**-0.2**
HAZ	**Te Kaha**	**8.37**	**199**	P	Pn	17 49 29.5	-5.7
HAZ				S	S	17 51 02.7	-7.1
OUZ	**Omahuta**	**8.38**	**229**	P	**Pn**	**17 49 38.3**	**+2.9**
OUZ	**Omahuta**	**8.38**	**229**	P	**Pn**	**17 49 38.0**	**+2.6**
WCZ	**Waipu Caves**	**8.39**	**222**	P	**Pn**	**17 49 37.6**	**+2.1**
PKGZ	**Pakihiroa**	**8.39**	**198**	P	Pn	17 49 29.5	-6.0
PUZ	**Puketiti**	**8.54**	**196**	P	Pn	17 49 30.6	-6.9
PUZ				S	S	17 51 06.0	-7.9
RUGZ	**Raukumara Rang**	**8.59**	**199**	P	Pn	17 49 32.1	-6.1
TWGZ	**Tauwhareparae**	**8.71**	**197**	P	Pn	17 49 33.3	-6.3
MKAZ	**Moumakai**	**8.82**	**214**	P	**Pn**	**17 49 41.0**	**-0.1**
OPRZ	**Ohinepanea**	**8.85**	**205**	P	Pn	17 49 36.6	-4.9
MARZ	**Manawahe**	**8.94**	**204**	P	**Pn**	**17 49 42.6**	**+0.1**
CNGZ	**Carnagh Statio**	**8.94**	**196**	P	Pn	17 49 36.3	-6.3
MWZ	**Matawai**	**8.98**	**199**	P	Pn	17 49 36.2	-6.9
TKGZ	**Te Karaka**	**8.99**	**197**	P	Pn	17 49 36.2	-7.0
URZ	**Urewera**	**9.04**	**201**	P	Pn	17 49 37.5	-6.2
	12nm,0.3s,baz=356,slow=5.3,SNR=62						
URZ				S	S	17 51 16.3	-9.3
	292nm,0.4s,baz=302,slow=6.6,SNR=20						
URZ	**Urewera**	**9.04**	**201**	P	Pn	17 49 37.6	-6.2
URZ	**Urewera**	**9.04**	**201**	P	Pn	17 49 36.9	-6.8
OMRZ	**Omania**	**9.15**	**205**	P	Pn	17 49 42.4	-2.9
RAGZ	**Rawiri**	**9.16**	**199**	P	Pn	17 49 38.6	-6.9
TOZ	**Tahuroa Road**	**9.18**	**210**	P	Pn	17 49 41.1	-4.5
TARZ	**Mount Tarawera**	**9.22**	**204**	P	**Pn**	**17 49 44.3**	**-1.9**
RIGZ	**Rimuhau**	**9.26**	**197**	P	Pn	17 49 39.3	-7.5
RTZ	**Ruatahuna**	**9.40**	**201**	Pn	Pn	17 49 40.4	-8.1
RTZ	**Ruatahuna**	**9.40**	**201**	P	Pn	17 49 40.6	-7.9
PRGZ	**Paritu Road**	**9.44**	**196**	P	Pn	17 49 42.8	-6.2
SNGZ	**Shannon Statio**	**9.45**	**199**	P	Pn	17 49 41.9	-7.2
PRRZ	**Plateau Road**	**9.49**	**204**	P	Pn	17 49 45.4	-4.2
ALRZ	**Allen Road**	**9.57**	**204**	P	Pn	17 49 46.1	-4.5
KNZ	**Kokohu**	**9.59**	**197**	P	Pn	17 49 43.1	-7.6
WPRZ	**Whakapapatarin**	**9.59**	**205**	P	Pn	17 49 46.9	-4.1
RAHZ	**Arahi**	**9.65**	**200**	P	Pn	17 49 44.3	-7.3
MHGZ	**Mahia Peninsul**	**9.65**	**196**	P	Pn	17 49 44.1	-7.6
MTHZ	**Maungataniwha**	**9.66**	**201**	P	Pn	17 49 44.6	-7.3
TLZ	**Tolley Road**	**9.67**	**208**	P	Pn	17 49 48.1	-3.8
KUTZ	**Kaahu Road**	**9.69**	**206**	P	**Pn**	**17 49 51.0**	**-1.2**
MRHZ	**Matea Rd**	**9.79**	**203**	P	Pn	17 49 47.0	-6.4
NMHZ	**Naumai**	**9.90**	**201**	P	Pn	17 49 47.7	-7.2
ARHZ	**Aropaoanui**	**9.99**	**200**	P	Pn	17 49 48.2	-7.8
BKZ	**Black Stump Fm**	**10.06**	**202**		Pn	17 49 49.2	-7.8
BKZ	**Black Stump Fm**	**10.06**	**202**	P	Pn	17 49 49.8	-7.1
BKZ	**Black Stump Fm**	**10.06**	**202**	P	Pn	17 49 49.3	-7.7
RITZ	**Rihia Road**	**10.11**	**205**	P	Pn	17 49 54.6	-2.9
HIZ	**Hauiti**	**10.11**	**210**		Pn	17 49 47.4	-10
HIZ	**Hauiti**	**10.11**	**210**	P	Pn	17 49 54.3	-3.2
HIZ	**Hauiti**	**10.11**	**210**	P	**Pn**	**17 49 57.6**	**+0.1**
KATZ	**Kakaramea**	**10.17**	**205**	P	**Pn**	**17 49 56.6**	**-1.7**
NTVZ	**North Tongarir**	**10.28**	**205**	P	Pn	17 49 53.9	-5.9
ETVZ	**East Tongariro**	**10.30**	**205**	P	Pn	17 49 53.0	-7.1
KWHZ	**Kaweka Forest**	**10.32**	**201**	P	Pn	17 49 53.3	-7.0
NNVZ	**North Ngauruho**	**10.34**	**205**	P	Pn	17 49 55.8	-4.7
COVZ	**Chateau Observ**	**10.42**	**205**	P	**Pn**	**17 49 59.8**	**-1.8**
TUVZ	**Tukino**	**10.44**	**205**	P	**Pn**	**17 49 57.8**	**-4.1**
WHVZ	**Whangaehu Hut**	**10.48**	**205**	P	Pn	17 49 59.4	-3.0
TRVZ	**Turoa**	**10.51**	**205**	P	**Pn**	**17 50 00.1**	**-2.7**
WNVZ	**Wahianoa**	**10.51**	**205**	P	Pn	17 49 57.0	-5.8
MOVZ	**Moawhango**	**10.53**	**204**	P	Pn	17 49 55.8	-7.1
MTVZ	**Mangateitei**	**10.61**	**205**	P	Pn	17 49 58.5	-5.5
KHEZ	**Kahui Hut**	**11.12**	**211**	P	Pn	17 50 06.8	-3.7
BFZ	**Birch Farm**	**11.53**	**200**		Pn	17 50 06.0	-9.4
BFZ	**Birch Farm**	**11.53**	**200**	P	Pn	17 50 06.1	-9.3
MSVF	**Nonsavu**	**12.45**	**346**	P	**Pn**	**17 50 26.1**	**-1.2**
	280nm,0.9s,baz=142,slow=14,SNR=69						
MSVF	**Nonsavu**	**12.45**	**346**	*i* P	**Pn**	**17 50 26.5**	**-0.9**
MSWZ	**Moikau Station**	**12.50**	**201**		Pn	17 50 19.0	-8.6
SNZO	**South Karori**	**12.59**	**203**	Pn	Pn	17 50 20.9	-7.8
SNZO	**South Karori**	**12.59**	**203**	P	Pn	17 50 22.1	-6.6
PLWZ	**Palliser**	**12.64**	**201**		Pn	17 50 20.4	-9.0
NNZ	**Nelson**	**13.00**	**207**		Pn	17 50 25.8	-8.1
TKNZ	**Takaka Hill**	**13.02**	**209**		Pn	17 50 26.0	-8.1
QRZ	**Quartz Range**	**13.03**	**211**		Pn	17 50 26.2	-8.1
QRZ	**Quartz Range**	**13.03**	**211**	P	Pn	17 50 29.0	-5.3
CMWZ	**Cape Campbell**	**13.14**	**204**	Pn	Pn	17 50 28.9	-6.7
BSWZ	**Blackbirch Sta**	**13.23**	**205**		Pn	17 50 29.7	-7.1
MRNZ	**Matariki Terra**	**13.40**	**209**		Pn	17 50 32.2	-6.7
NIUE	**Niue**	**13.41**	**39**		Pn	17 50 32.6	-6.5
THZ	**Tophouse**	**13.65**	**207**		Pn	17 50 33.9	-8.0
CTZ	**Chatham Island**	**13.92**	**174**	Pn	Pn	17 50 36.9	-8.3
CTZ					**S**	**17 53 16.0**	**-3.1**
KHZ	**Kahutara**	**13.97**	**204**		Pn	17 50 40.3	-5.5
KHZ	**Kahutara**	**13.97**	**204**	P	Pn	17 50 39.1	-6.7
DSZ	**Denniston Nort**	**14.10**	**210**		Pn	17 50 40.6	-6.9
PINNC	**Pines Island,**	**14.36**	**297**	P	**P**	**17 50 54.6**	**+3.0**
MARNC	**Mare, Loyalty**	**14.57**	**302**	P	**P**	**17 50 57.4**	**+3.4**
GVZ	**Greta Valley S**	**14.63**	**205**		Pn	17 50 49.4	-4.5
LTZ	**Lake Taylor**	**14.76**	**207**		Pn	17 50 50.1	-5.4
OUENC	**Ouen Island, N**	**14.94**	**296**	P	**P**	**17 51 01.0**	**+3.0**
INZ	**Inchbonnie**	**15.05**	**209**		P	17 50 52.6	-6.4
YATNC	**Mamie plateau,**	**15.10**	**298**	P	**Pn**	**17 51 04.3**	**+4.6**
ONTNC	**Ouen Toro**	**15.30**	**296**		**P**	**17 50 57.9**	**-4.1**
OXZ	**Oxford**	**15.31**	**206**	P	P	17 50 56.2	-5.7
MQZ	**McQueen's Vall**	**15.41**	**204**		P	17 50 55.2	-7.7
RPZ	**Rata Peaks**	**16.03**	**208**		P	17 51 04.0	-5.9
RPZ	**Rata Peaks**	**16.03**	**208**	P	P	17 51 04.0	-5.8
	8.8nm,0.5s,baz=259,slow=0.6,SNR=9.4						
RPZ				S	S	17 53 51.0	-15
	38nm,0.4s,baz=124,slow=23,SNR=18						
RPZ	**Rata Peaks**	**16.03**	**208**	P	P	17 51 03.8	-6.0
FOZ	**Fox Glacier**	**16.41**	**211**	P	**P**	**17 51 08.9**	**-5.0**
JCZ	**Jackson Bay**	**17.29**	**212**	P	P	17 51 18.0	-5.8
ODZ	**Otahua Downs**	**17.30**	**206**		S	17 54 22.8	-9.0
WKZ	**Wanaka**	**17.78**	**210**	P	**P**	**17 51 23.9**	**-5.1**
WKZ					S	17 54 29.9	-12
RAR	**Rarotonga**	**19.14**	**68**	P	**P**	**17 51 44.0**	**+0.2**
	32nm,0.7s,baz=237,slow=6.3,SNR=7.9						
RAR				S	**S**	**17 55 04.8**	**-3.7**
	9.4nm,0.8s,baz=18,slow=18,SNR=1.7						
RAR	**Rarotonga**	**19.14**	**68**	P	**P**	**17 51 44.0**	**+0.2**
ARMA	**Armidale**	**25.61**	**261**	P	**P**	**17 52 48.5**	**+2.2**
EIDS	**Eidsvold**	**27.09**	**272**	P	**P**	**17 53 00.3**	**+0.9**
CAN	**Canberra**	**27.65**	**250**	P	**P**	**17 53 05.2**	**+0.9**
CAN				IAmb	IAmb	17 53 07.9	
	comp=Z,11nm,0.7s						
CAN	**Canberra**	**27.65**	**250**	P	**P**	**17 53 05.2**	**+0.9**
CAN				pmax	pmax		
	comp=Z,11nm,0.7s						
TAU	**Tasmania Unive**	**30.05**	**235**	P	**P**	**17 53 26.0**	**+0.7**
TOO	**Toolangi**	**30.59**	**246**	P	**P**	**17 53 28.7**	**-1.6**
TOO	**Toolangi**	**30.59**	**246**	P	**P**	**17 53 28.7**	**-1.6**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STKA	**Stephens Creek**	**33.99**	**256**	P	**P**	**17 54 00.5**	**+0.7**
STKA	**Stephens Creek**	**33.99**	**256**	P	**P**	**17 54 00.3**	**+0.5**
	comp=Z,8.5nm,0.4s,baz=87,slow=9.5,SNR=30						
	comp=Z,8.5nm,0.4s						
STKA	**Stephens Creek**	**33.99**	**256**	*i* P	**P**	**17 54 00.8**	**+1.0**
BBOO	**Buckleboo**	**38.51**	**254**	P	**P**	**17 54 37.4**	**-0.6**
BBOO				IAmb	IAmb	17 54 41.1	
	comp=Z,26nm,0.8s						
AS31	**Alice Springs**	**42.51**	**267**	P	**P**	**17 55 09.9**	**-1.0**
ASAR	**Alice Springs**	**42.51**	**267**	P	**P**	**17 55 09.2**	**-1.7**
ASAR				ScP	**ScP**	**18 00 27.4**	**-0.9**
ASAR	**Alice Springs**	**42.51**	**267**	P	**P**	**17 55 10.2**	**-0.7**
	comp=Z,6.1nm,0.5s,baz=102,slow=7.6,SNR=79						
ASAR				pP	**pP**	**17 55 57.8**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=101,slow=6.9,SNR=1.7						
ASAR				PcP	**PcP**	**17 56 59.9**	**+0.7**
	comp=Z,2.6nm,0.4s,baz=122,slow=4.3,SNR=5.5						
ASAR				ScP	**ScP**	**18 00 28.1**	**-0.2**
	comp=Z,7.7nm,1.0s,baz=118,slow=4.1,SNR=19						
ASAR				S	**S**	**18 01 13.4**	**-2.6**
	comp=Z,0.5nm,0.8s,baz=111,slow=15,SNR=5.1						
	comp=Z,6.1nm,0.5s						
WR0	**Warramunga Arr**	**43.27**	**272**	P	**P**	**17 55 16.0**	**-1.0**
WR0				IAmb	IAmb	17 55 18.8	
	comp=Z,56nm,1.7s						
WB2	**Warramunga Arr**	**43.44**	**272**	P	**P**	**17 55 17.4**	**-1.0**
WB2				IAmb	IAmb	17 55 20.5	
	comp=Z,33nm,0.6s						
WRAB	**Tennant Creek**	**43.45**	**272**	P	**P**	**17 55 17.2**	**-1.2**
WRAB				IAmb	IAmb	17 55 20.5	
	comp=Z,21nm,0.7s						
WRAB	**Tennant Creek**	**43.45**	**272**	*i* P	**P**	**17 55 17.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,22nm,0.6s						
WRA	**Warramunga Arr**	**43.45**	**272**	P	**P**	**17 55 17.2**	**-1.2**
WRA				ScP	**ScP**	**18 00 31.7**	**-0.4**
WRA	**Warramunga Arr**	**43.45**	**272**	P	**P**	**17 55 17.8**	**-0.7**
	comp=Z,26nm,0.6s,baz=110,slow=7.6,SNR=66						
WRA				pP	**pP**	**17 56 05.3**	**-0.3**
	comp=Z,5.3nm,0.6s,baz=113,slow=7.6,SNR=2.1						
WRA				ScP	**ScP**	**18 00 32.2**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=109,slow=3.7,SNR=11						
WRA				S	**S**	**18 01 24.8**	**-4.9**
	comp=Z,3.9nm,0.9s,baz=111,slow=13,SNR=6.9						
	comp=Z,26nm,0.6s						
WB0	**Warramunga Arr**	**43.47**	**272**	P	**P**	**17 55 18.0**	**-0.6**
WB0				IAmb	IAmb	17 55 20.6	
	comp=Z,34nm,0.6s						
FORT	**Forrest**	**45.57**	**255**	P	**P**	**17 55 32.0**	**-3.0**
JAY	**Jayapura**	**47.11**	**298**	P	**P**	**17 55 43.2**	**-3.9**
	comp=Z,18nm,1.0s						
SBA	**Scott Base**	**48.50**	**184**	P	**P**	**17 56 00.8**	**+3.9**
SBA	**Scott Base**	**48.50**	**184**	P	**P**	**17 56 00.8**	**+3.9**
SBA				pmax	pmax		
	comp=Z,121nm,0.8s						
SBA	**Scott Base**	**48.50**	**184**	P	**P**	**17 56 01.3**	**+4.4**
SBA				pP	**pP**	**17 56 48.2**	**+2.7**
VNDA	**Vanda**	**48.54**	**186**	P	**P**	**17 55 59.9**	**+2.7**
VNDA				IAmb	IAmb	17 56 02.1	
	comp=Z,14nm,0.7s						
VNDA				ScP	**ScP**	**18 00 53.2**	**+0.9**
VNDA	**Vanda**	**48.54**	**186**	P	**P**	**17 55 59.7**	**+2.5**
	comp=Z,14nm,0.7s,baz=4.8,slow=8.3,SNR=73						
VNDA				ScP	**ScP**	**18 00 53.4**	**+1.1**
	comp=Z,5.8nm,1.0s,baz=337,slow=3.1,SNR=5.6						
	comp=Z,14nm,0.7s						
VNDA	**Vanda**	**48.54**	**186**	P	**P**	**17 56 00.4**	**+3.2**
VNDA				PcP	**PcP**	**17 57 18.5**	**-0.8**
VNDA				ScP	**ScP**	**18 00 53.5**	**+1.3**
MTN	**Manton Dam**	**49.28**	**279**	P	**P**	**17 56 02.0**	**-1.8**
KNRA	**Kununurra**	**50.04**	**274**	IAmb	IAmb	17 56 11.9	
	comp=Z,52nm,1.4s						
KNHH	**Kane Nui o Ham**	**53.98**	**28**	P	**P**	**17 56 38.1**	**-0.2**
HMH	**Humu'ula Sheep**	**54.06**	**27**	P	**P**	**17 56 38.6**	**-0.6**
CASY	**Casey**	**55.30**	**208**	P	**P**	**17 56 46.0**	**-1.1**
CASY				IAmb	IAmb	17 57 47.8	
	comp=Z,14nm,0.9s						
**MBW

comp=Z,18nm,0.9s
PLCA Paso Flores 83.31 133 P P 17 59 41.2 +2.1
comp=Z,12nm,0.8s,baz=225,slow=5.5,SNR=28
comp=Z,12nm,0.8s
KSRS Korea Array 83.55 320 P P 17 59 40.0 0.0
comp=Z,11nm,1.0s,baz=142,slow=5.5,SNR=11
comp=Z,11nm,1.0s
KSRS Korea Array 83.55 320 P P 17 59 40.0 0.0
KSAR Wonju Array Be 83.57 320 P P 17 59 40.9 +0.8
KSAR Wonju Array Be 83.57 320 P P 17 59 40.9 +0.8
YSS Yuzhno-Sakhali 84.02 335 P P 17 59 41.9 -0.2
YSS Yuzhno-Sakhali 84.02 335 *eP* **P 17 59 42.2 +0.1**
YSS pmax pmax
comp=Z,40nm,0.9s
BI02 San Fabin de 85.10 130 IAmb IAmb 17 59 50.8
comp=Z,18nm,0.9s
PEA0B Petropavlovsk- 85.16 346*ceP* **P 17 59 48.6 +0.9**
PETK Petropavlovsk- 85.16 346 P **P 17 59 47.6 0.0**
comp=Z,17nm,0.7s,baz=120,slow=8.8,SNR=27
comp=Z,17nm,0.7s
NJ2 Nanjing 85.44 311 *eP* **P 17 59 51.3 +1.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
ELS Elsinore Mount 85.73 47 IAmb IAmb 18 00 58.2
comp=Z,22nm,1.6s
ISA Isabella, Lake 86.38 45 P **P 17 59 55.7 +1.5**
ISA IAmb IAmb 17 59 56.6
comp=Z,8.7nm,0.8s
ISA Isabella, Lake 86.38 45 P **P 17 59 55.7 +1.5**
ISA pmax pmax
comp=Z,9.0nm,0.8s
USA0B Ussuriysk Arra 86.39 327 *i* P **P 17 59 52.8 -1.1**
USRK Ussuriysk Ar. 86.39 327 P **P 17 59 54.9 +1.0**
comp=Z,16nm,0.9s,baz=148,slow=4.4,SNR=14
comp=Z,16nm,0.9s
BO02 Sierra Bellavi 86.48 128 P 17 59 55.6 +0.7
BO02 IAmb IAmb 17 59 57.5
comp=Z,18nm,0.8s
O02D Mt. Diablo Mer 86.90 39 P **P 17 59 58.2 +1.6**
O02D IAmb IAmb 17 59 59.4
comp=Z,11nm,1.0s
GLA Glamis 87.03 49 P **P 17 59 58.3 +1.0**
GLA IAmb IAmb 18 00 00.4
comp=Z,12nm,0.9s
GLA Glamis 87.03 49 P **P 17 59 58.3 +1.0**
GLA pmax pmax
comp=Z,12nm,0.9s
TYV Tymovskoe 87.34 337 *eP* **P 17 59 59.4 +1.1**
TYV pmax pmax
comp=Z,200nm,2.6s
TYV pmax pmax
comp=Z,26nm,1.2s
MT13 San Alfonso 87.41 128 IAmb IAmb 18 00 02.4
comp=Z,21nm,1.0s
PEL Peldehue 87.47 127 P **P 18 00 00.7 +1.0**
PEL IAmb IAmb 18 00 02.3
comp=Z,22nm,0.8s
PEL Peldehue 87.47 127 P **P 18 00 00.7 +1.0**
PEL pmax pmax
comp=Z,22nm,0.8s
MDJ Mudanjiang 87.85 326 P **P 18 00 01.5 +0.6**
MDJ pmax pmax
comp=Z,20nm,0.9s
PNTR Pine Nut 87.97 42 IAmb IAmb 18 00 03.8
comp=Z,8.7nm,0.9s
LHV Little Huntoon 88.06 43 IAmb IAmb 18 00 04.4
comp=Z,9.4nm,1.0s
NVAR Mina Array Bea 88.29 43 P **P 18 00 04.6 +1.1**
comp=Z,4.5nm,0.8s,baz=221,slow=8.5,SNR=22
comp=Z,4.5nm,0.8s
V12A Nelson 88.68 47 IAmb IAmb 18 00 28.2
comp=Z,10nm,0.9s
CO03 El Pedregal 88.76 125 IAmb IAmb 18 00 07.8
comp=Z,14nm,0.8s
W13A Hualapai Mount 88.91 48 P **P 18 00 07.3 +0.9**
TIA Tai'an 89.16 313 P **P 18 00 08.0 +0.7**
TIA pmax pmax
comp=Z,28nm,1.0s
TUC Tucson 89.28 52 P **P 18 00 09.9 +1.8**
TUC IAmb IAmb 18 00 11.3
comp=Z,9.0nm,1.0s
TUC Tucson 89.28 52 P **P 18 00 09.9 +1.8**
TUC pmax pmax
comp=Z,9.0nm,1.0s
CN2 Changchun 89.36 323 *eP* **P 18 00 08.3 +0.3**
CN2 *es*P pwP 18 01 05.9 +0.4
CN2 pmax pmax
comp=Z,50nm,1.1s
CN2 pmax pmax
comp=Z,190nm,3.0s
J04A Umpqua Nationa 89.38 38 IAmb IAmb 18 00 10.1
comp=Z,13nm,0.8s
PRN Pahroc Range 89.61 46 IAmb IAmb 18 00 28.3
comp=Z,5.9nm,0.8s
BNX BinXian 89.73 326 ⇑P **P 18 00 09.6 -0.1**
BNX pmax pmax
comp=Z,33nm,1.0s
LCO Las Campanas 89.78 124 P **P 18 00 12.5 +1.6**
LCO Las Campanas 89.78 124 P **P 18 00 12.5 +1.6**
LCO pmax pmax
comp=Z,26nm,1.1s
J05D Fort Rock, OR 89.88 38 P **P 18 00 11.2 +0.6**
J05D IAmb IAmb 18 00 12.8
comp=Z,15nm,1.2s
X16A Lo Mia Camp, P 90.09 50 IAmb IAmb 18 00 14.8
comp=Z,6.8nm,1.0s
KLR Kul'dur 90.28 330*ceP* **P 18 00 12.7 +0.6**
KLR pmax pmax
comp=Z,18nm,0.9s
H04A Detroit Lake 90.33 37 IAmb IAmb 18 00 13.7
comp=Z,7.7nm,0.9s
PINE Pine Mountain 90.38 38 P **P 18 00 14.3 +1.2**
PINE IAmb IAmb 18 00 15.3
comp=Z,20nm,1.1s
KNB Kanab 90.77 47 IAmb IAmb 18 00 18.1
comp=Z,5.2nm,0.9s
SPR3 Spring Creek 3 91.05 45 IAmb IAmb 18 00 24.2
comp=Z,10nm,1.8s
I07A Izee 91.34 38 IAmb IAmb 18 00 19.4
comp=Z,8.0nm,1.0s
HNS HongShan 91.42 313 ⇑P **P 18 00 18.9 +1.2**
HNS pmax pmax
comp=Z,16nm,1.1s
ELK Elko 91.59 43 P **P 18 00 19.6 +0.8**
ELK Elko 91.59 43 P **P 18 00 19.6 +0.8**
ELK pmax pmax
comp=Z,4.0nm,1.3s
G08A Pilot Rock 92.43 38 IAmb IAmb 18 00 24.2
comp=Z,8.6nm,1.2s
MA2 Magadan 92.64 345 P **P 18 00 22.6 -0.1**
MA2 IAmb IAmb 18 00 24.8
comp=Z,4.8nm,0.9s
MA2 Magadan 92.64 345 P **P 18 00 22.7 -0.1**
comp=Z,2.8nm,0.6s,baz=145,slow=5.6,SNR=9.0
comp=Z,2.8nm,0.6s
MA2 Magadan 92.64 345*ceP* **P 18 00 22.4 -0.4**
MA2 pmax pmax
comp=Z,21nm,2.6s
CMAR Chiang Mai Arr 92.64 290 P **P 18 00 23.8 -0.1**
CMAR Chiang Mai Arr 92.64 290 P **P 18 00 25.6 +1.8**
comp=Z,2.0nm,0.8s,baz=141,slow=4.0,SNR=14
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 92.64 58 P **P 18 00 24.6 +0.9**
comp=Z,0.6nm,0.8s,baz=205,slow=6.1,SNR=4.8
comp=Z,0.6nm,0.8s
CHTO Chiang Mai 92.82 290 P **P 18 00 25.5 +0.9**
CHTO Chiang Mai 92.82 290 P **P 18 00 25.5 +0.9**
CHTO pmax pmax
comp=Z,3.0nm,0.9s
TMUT Trail Mountain 93.15 46 P **P 18 00 27.1 +1.0**
TMUT IAmb IAmb 18 02 15.7
comp=Z,4.4nm,0.6s
XAN Xi'an 93.31 308 P **P 18 00 27.6 +1.0**
XAN pmax pmax
comp=Z,4.0nm,0.3s
D08A Wollman Farm, 93.62 36 IAmb IAmb 18 00 30.5
comp=Z,4.9nm,1.0s
HVU Hansel Valley 93.69 43 IAmb IAmb 18 00 30.0
comp=Z,11nm,1.4s
HLID Hailey 93.83 41 IAmb IAmb 18 04 16.9
comp=Z,9.6nm,1.8s
PZH PanZhiHua 94.51 298 P **P 18 00 34.4 +2.0**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.5s
CD2 Chengdu 95.28 303 P **P 18 00 36.8 +1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY Seymchan 95.34 347 P **P 18 00 34.4 -0.7**
comp=Z,2.5nm,0.7s,baz=155,slow=5.2,SNR=17
comp=Z,2.5nm,0.7s
SEY Seymchan 95.34 347*ceP* **P 18 00 35.8 +0.7**
SEY pmax pmax
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 95.43 314 *eP* **P 18 00 38.9 +2.7**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,62nm,4.6s
ZEA Zeya 95.50 331 *i* P **P 18 00 36.1 +0.1**
PDAR Pinedale Array 96.20 44 P **P 18 00 39.7 -0.1**
comp=Z,0.3nm,0.6s,baz=188,slow=4.0,SNR=4.1
comp=Z,0.3nm,0.6s
ILAR Eielson Array 97.57 13 P **P 18 00 44.8 -0.3**
comp=Z,1.1nm,1.0s,baz=241,slow=6.3,SNR=5.4
ILAR PKKPbc **PKKPbc 18 17 20.6 -2.7**
comp=Z,0.3nm,0.6s,baz=25,slow=2.7,SNR=6.2
comp=Z,1.1nm,1.0s
BILL Biiibino 98.27 354 *i* P Pdif 18 00 49.0 +0.8
BILL pmax pmax
comp=Z,1.0nm,0.9s
YAK Yakutsk 100.54 338 *i* P **Pdif 18 00 58.6 +0.2**
YAK pmax pmax
comp=Z,4.0nm,0.4s
ULN Ulaanbaatar 101.98 319 *i* P **Pdif 18 01 09.7 +4.3**
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 102.34 318 P **Pdif 18 01 06.8 -0.2**
comp=Z,0.3nm,0.6s,baz=126,slow=3.9,SNR=1.7
SONM PKKPbc **PKKPbc 18 17 09.5 +0.4**
comp=Z,0.7nm,0.5s,baz=275,slow=3.1,SNR=6.6
YKA Yellowknife Ar 105.25 26 PKKPbc PKKPbc 18 16 58.2 -2.5
comp=Z,0.6nm,0.7s,baz=40,slow=2.9,SNR=8.1
RES Resolute Bay 116.94 17 PKP **PKPdf 18 05 52.5 -1.5**
comp=Z,0.6nm,0.7s,baz=136,slow=0.3,SNR=4.7
MKAR Makanchi Array 116.96 310 PKP **PKPdf 18 05 54.0 -0.9**
comp=Z,0.5nm,0.4s,baz=100,slow=1.3,SNR=16
MKAR SKP 18 09 07.9
comp=Z,0.8nm,0.8s,baz=57,slow=4.9,SNR=4.7
MKAR PKKPbc **PKKPbc 18 16 21.7 0.0**
comp=Z,0.8nm,0.5s,baz=282,slow=2.5,SNR=9.6
MKAR Makanchi Array 116.96 310 PKIKP **PKPdf 18 05 54.0 -0.9**
ZALV Zalesovo Beam 117.23 319 PKP **PKPdf 18 05 53.7 -1.4**
comp=Z,0.5nm,0.4s,baz=151,slow=3.3,SNR=4.8
BOSA Boshof 117.48 204 PKP **PKiKP 18 05 57.2 +0.5**
comp=Z,2.5nm,0.4s,baz=151,slow=2.3,SNR=19
KURK Kurchatov 120.24 314 PKPdf **PKPdf 18 05 59.5 -1.5**
KURK Kurchatov 120.24 314*c* *i* PKIKP **PKPdf 18 06 01.0 0.0**
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURBB Kurchatov Arra 120.28 314 PKP **PKPdf 18 06 00.2 -0.9**
comp=Z,2.5nm,0.5s,baz=114,slow=2.0,SNR=51
KURBB SKP 18 09 13.3
comp=Z,1.4nm,1.2s,baz=10,slow=5.6,SNR=4.3
KURBB PKKPbc **PKKPbc 18 16 10.1 +0.3**
comp=Z,0.6nm,0.6s,baz=276,slow=5.4,SNR=7.2
KK31 Karatay Array 124.27 304 PKPdf **PKPdf 18 06 08.5 -0.6**
KK31 Karatay Array 124.27 304 PKIKP **PKPdf 18 06 08.5 -0.6**
BVAR Borovoye Array 125.60 316 PKP **PKPdf 18 06 10.9 -0.4**
comp=Z,4.0nm,0.5s,baz=123,slow=2.0,SNR=46
BVAR SKPbc SKiKP 18 09 05.4 -20
comp=Z,1.9nm,0.8s,baz=102,slow=2.1,SNR=4.5
BRVK Borovoye 125.67 316 PKPdf **PKPdf 18 06 10.9 -0.5**
BRVK Borovoye 125.67 316*c* *i* PKIKP **PKiKP 18 06 12.7 +0.9**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
SPITS Spitsbergen Ar 131.15 356 PKP **PKPdf 18 06 20.9 -0.3**
comp=Z,5.5nm,0.9s,baz=116,slow=7.6,SNR=6.2
ARTI Arti 132.40 321 PKP **PKPdf 18 06 24.8 +0.7**
comp=Z,2.7nm,0.4s,baz=181,slow=1.1,SNR=9.7
ARTI SKPbc **SKPbc 18 09 29.2 -0.3**
comp=Z,25nm,0.8s,baz=108,slow=2.5,SNR=37
ARTI Arti 132.40 321 *i* PKIKP **PKiKP 18 06 25.0 -0.2**
ARTI 18 08 53.9
ARTI SS SS 18 26 10.6 -0.3
KMBO Kilima Mbogo 133.87 235 SKPbc **SKPbc 18 09 36.3 +0.1**
comp=Z,2.2nm,0.5s,baz=75,slow=2.1,SNR=8.1
KIRV Kirov 136.54 325 SKPbc **SKPbc 18 09 42.2 -0.5**
comp=Z,8.7nm,0.6s,baz=79,slow=3.0,SNR=4.5
ARCES ARCESS Array B 137.96 348 PKhKP PKPpre 18 06 25.1
comp=Z,2.6nm,0.7s,baz=51,slow=2.0,SNR=4.8
ARCES PKP **PKPdf 18 06 33.2 -0.9**
comp=Z,3.9nm,1.1s,baz=79,slow=1.6,SNR=4.2
ARCES SKPbc **SKPbc 18 09 45.6 -0.9**
comp=Z,3.8nm,0.7s,baz=0.3,slow=1.1,SNR=5.0
VRH Novokhopyorsk 143.24 317 *e*PKHKP PKPpre 18 06 38.6
VRH pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 143.28 298 *i* PKIKP PKPbc 18 06 42.5 -0.1
MOS Moscow 143.56 326 *e*PKHKP PKPpre 18 06 40.8
KBZ Khabaz 144.31 304 PKP **PKPab 18 06 45.0 +0.2**
comp=Z,7.8nm,0.7s,baz=158,slow=4.0,SNR=37
LPSR Galich'ya Gora 144.32 320 *e*PKHKP PKPpre 18 06 41.6
LPSR pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 144.39 325 PKP **PKPab 18 06 44.0 -0.8**
comp=Z,14nm,0.4s,baz=128,slow=3.7,SNR=6.8
OBN Obninsk 144.39 325⇑*e*PKIKP **PKPab 18 06 44.7 -0.1**
OBN 18 07 37.0
OBN 18 08 05.0
OBN 18 10 01.0
OBN 18 13 38.0
OBN SS SS 18 28 32.0 +0.5
OBN pmax pmax
comp=Z,71nm,1.6s
KIV Kislovodsk 144.42 305 PKPdf **PKPab 18 06 45.3 -0.2**
KIV Kislovodsk 144.42 305 ⇑P **PKPab 18 06 45.5 0.0**
KIV Kislovodsk 144.42 305 ⇑PKIKP **PKPab 18 06 45.5 0.0**
FINES FINESS Array B 144.45 340 PKPdf **PKPab 18 06 43.6 -1.2**
FINES FINESS Array B 144.45 340 PKP **PKPab 18 06 44.2 -0.7**
comp=Z,19nm,0.4s,baz=59,slow=3.8,SNR=164
FINES FINESS Array B 144.45 340 PKIKP **PKPab 18 06 43.6 -1.2**
SHA1 Shidzhatmaz 144.48 304 *i* PKIKP **PKPab 18 06 45.6 -0.3**
VORR Voronezh 144.54 319 *e*PKIKP **PKPab 18 06 43.6 -1.9**
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 144.74 318 *e*PKHKP PKPpre 18 06 43.6
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 144.76 318 *e*PKIKP PKPbc 18 06 44.6 -1.7
VORD pmax pmax
comp=Z,20nm,1.0s
VSU Vasula 146.50 336*c* *i* PKP2 **PKPab 18 06 52.6 -0.2**
VSU pmax pmax
comp=Z,44nm,1.7s
NB2 NORSAR Subarra148.15 351 PKP **PKPbc 18 06 55.0 -0.8**
comp=Z,12nm,1.0s,baz=16,slow=4.4
NOA NORSAR Array B148.15 351 PKPbc **PKPbc 18 06 55.0 -0.8**
comp=Z,7.6nm,0.9s,baz=19,slow=2.8,SNR=13
NOA pPKPbc **pPKPdf 18 07 51.9 +2.2**
comp=Z,1.5nm,0.9s,baz=15,slow=4.7,SNR=2.6
HFS Hagfors 148.62 348 PKPbc **PKPbc 18 06 56.0 -1.0**
comp=Z,7.0nm,0.7s,baz=72,slow=4.8,SNR=22
HFS Hagfors 148.62 348 PKP2 **PKPbc 18 06 56.0 -1.0**
MNK Minsk 148.83 330 *i* PKIKP **PKPbc 18 06 56.4 -1.2**
MNK *i* 18 07 52.4
MNK *i* 18 08 13.9
MNK *i* 18 10 28.9
MNK *i* SS SS 18 29 23.9 +2.7
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,12nm,1.0s
MNK pmax pmax
comp=Z,19nm,1.0s
STRU Stroemstad 150.08 350 *i* P **PKPbc 18 07 00.1 -0.4**
SIM Simferopol' 150.14 309 *e*PKP2 **PKPab 18 07 08.7 +0.7**
SIM pmax pmax
comp=Z,42nm,0.9s
AKASG Malin Array Be 150.51 323 PKPbc **PKPbc 18 07 01.4 -0.4**
comp=Z,3.6nm,0.4s,baz=47,slow=3.1,SNR=25
AKASG PKPab **PKPab 18 07 08.7 -0.6**
comp=Z,13nm,0.9s,baz=47,slow=3.8,SNR=18
AKASG pPKPbc **pPKPbc 18 07 57.6 -1.2**
comp=Z,2.2nm,0.6s,baz=54,slow=2.5,SNR=1.5
AKASG Malin Array Be 150.51 323*c* *i* PKIKP **PKPbc 18 07 01.3 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 150.51 323*c* *i* PKIKP **PKPbc 18 07 02.0 +0.2**
KIEV Kiev 150.53 323 PKPbc 18 07 01.2 -0.7
KIEV Kiev 150.53 323 ⇑P **PKPbc 18 07 01.6 -0.2**
KIEV Kiev 150.53 323 ⇑PKIKP **PKPbc 18 07 01.6 -0.2**
KIEV Kiev 150.53 323 PKP **PKPbc 18 07 00.9 -1.0**
AK09 Malin Array Si 150.53 323 PKP **PKPbc 18 07 00.6 -1.3**
AK04 Malin Array Si 150.53 323 PKP **PKPbc 18 07 00.9 -1.0**
MMAI Mount Meron Ar 150.79 285 PKPbc **PKiKP 18 07 04.3 +0.6**
comp=Z,12nm,0.5s,baz=82,slow=6.2,SNR=50
MMAI PKPab **PKPab 18 07 11.3 0.0**
comp=Z,3.1nm,0.6s,baz=98,slow=6.0,SNR=5.2
TJOU Tjoern 150.96 349 *i* P **PKPbc 18 07 01.8 -0.8**
BORU Boraas 151.13 347 *i* P **PKPbc 18 07 02.1 -1.0**
MI28 Mi28,Pidlybu 151.18 324 PKP **PKPbc 18 07 02.8 -0.6**
ONAU Onsala 151.51 348 *i* P **PKPbc 18 07 02.5 -1.4**
BLEU Blekinge 151.66 343 *i* P **PKPbc 18 07 03.4 -0.9**
LUBAR Lubar, Ukraine 151.73 323 PKP **PKPbc 18 07 03.5 -1.2**
BRTR Keskin Array B 151.80 299 PKPbc 18 07 04.5 -0.9
BRTR Keskin Array B 151.80 299 PKPbc **PKPbc 18 07 04.9 -0.5**
comp=Z,1.0nm,0.3s,baz=132,slow=4.5,SNR=16
BRTR PKPab **PKPab 18 07 14.0 -1.4**
comp=Z,3.3nm,0.8s,baz=94,slow=5.1,SNR=13
BRTR Keskin Array B 151.80 299 PKIKP **PKPbc 18 07 04.5 -0.9**
DEL Delary 151.98 345 *i* P **PKPbc 18 07 04.0 -1.0**
SORM Soroca 152.39 319 ⇑P **PKPbc 18 07 05.6 -0.6**
SORM Soroca 152.39 319 ⇑PKIKP **PKPbc 18 07 05.6 -0.6**
CSS Mathiatis 152.54 289 PKPbc 18 07 06.5 -0.5
BSD Bornholm Skovb 152.96 343 *i* P **PKPbc 18 07 06.4 -0.8**
TLCR 153.52 313 ⇓P **PKPab 18 07 21.6 -0.6**
TLCR 153.52 313 ⇓PKP2 **PKPab 18 07 21.6 -0.6**
VLDR Vladesti 153.69 315 ⇑P **PKPab 18 07 23.3 +0.4**
TPGR Topolog 153.92 312 ⇑P **PKPab 18 07 24.6 +0.7**
CFR Carcaliu 153.96 313 ⇓P **PKPab 18 07 24.3 +0.3**
CFR Carcaliu 153.96 313 ⇓PKP2 **PKPab 18 07 24.3 +0.3**
TESR Tescani 154.22 317 ⇓P **PKPab 18 07 25.3 +0.2**
PANC Panciu 154.24 315 ⇑P **PKPab 18 07 26.5 +1.2**
HARR Harsova 154.30 312 ⇑P **PKPab 18 07 26.2 +0.7**
HARR Harsova 154.30 312 ⇑PKP2 **PKPab 18 07 26.2 +0.7**
ODBI Odobesti 154.35 315 ⇓P **PKPab 18 07 27.4 +1.7**
EKA Eskdalemuir Ar 154.37 6 PKPab **PKPab 18 07 24.7 -0.7**
comp=Z,2.3nm,0.7s,baz=15,slow=3.5,SNR=6.5
BURAR Bucovina Array 154.44 320 PKPab **PKPab 18 07 26.4 +0.2**
BURAR Bucovina Array 154.44 320 ⇓P **PKPab 18 07 26.7 +0.5**
BURAR Bucovina Array 154.44 320 ⇓PKP2 **PKPab 18 07 26.7 +0.5**
VRI Vrincioaia 154.50 316 ⇑P **PKPab 18 07 28.0 +1.6**
VRI Vrincioaia 154.50 316 ⇑PKP2 **PKPab 18 07 28.0 +1.6**
PLOR Plostina 154.56 316 ⇓P **PKPab 18 07 27.6 +1.0**
PLOR Plostina 154.56 316 ⇓PKP2 **PKPab 18 07 27.6 +1.0**
BISRR Bisoca 154.67 315 ⇑P **PKPab 18 07 28.3 +1.2**
COVR Voineasa-Covas 154.83 316 ⇓P **PKPab 18 07 28.7 +0.9**
OZUR 154.95 317 ⇓P **PKPab 18 07 29.1 +0.8**
NEHR Nehoiu 154.98 315 ⇑P **PKPab 18 07 30.5 +2.0**
MLR Muntele Rosu 155.16 316 ⇓P **PKPab 18 07 31.2 +1.8**
MLR Muntele Rosu 155.16 316 ⇓PKP2 **PKPab 18 07 31.2 +1.8**
DOPR Dopca 155.25 317 ⇑P **PKPab 18 07 30.5 +0.9**
VOIR 155.73 316 ⇓P **PKPab 18 07 31.7 0.0**
VOIR 155.73 316 ⇓PKP2 **PKPab 18 07 31.7 0.0**
ARR Arges 156.02 317 ⇑P **PKPab 18 07 33.8 +0.8**
TNR Turnu Rosu 156.08 317 ⇑P **PKPab 18 07 34.9 +1.8**
TNR Turnu Rosu 156.08 317 ⇑PKP2 **PKPab 18 07 34.9 +1.8**
MARR Marisel-Cluj 156.15 321 ⇑P **PKPab 18 07 33.8 +0.3**
DBIC Dimbokro 156.19 165 PKP **PKPdf 18 07 05.7 +0.2**
comp=Z,4.3nm,0.7s,baz=191,slow=4.0,SNR=4.8
DBIC PKPab **PKPab 18 07 33.9 -0.4**
comp=Z,9.2nm,1.0s,baz=204,slow=4.9,SNR=4.3
HUMR Humele 156.24 314 ⇓P **PKPab 18 07 34.6 +0.7**
COPA Copaceanca 156.28 313 ⇑P **PKPab 18 07 34.2 +0.2**
LOT Lotru 156.49 318 ⇓P **PKPab 18 07 33.2 -1.8**
MORC Moravsky Berou 156.63 333 *e*PKP **PKPab 18 07 35.4 0.0**
DPC Dobruska-Polom 156.63 335 *e*PKPAB **PKPab 18 07 35.8 +0.4**
DPC Dobruska-Polom 156.63 335 *e*PKP2 **PKPab 18 07 35.8 +0.4**
KRLC Kraliky 156.69 334 *e*PKPAB **PKPab 18 07 35.9 +0.3**
KRLC Kraliky 156.69 334 *e*PKP2 **PKPab 18 07 35.9 +0.3**
CLL Collm 156.88 341 *i* PKP2 **PKPab 18 07 36.0 -0.3**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 156.88 341 *i* PKPab **PKPab 18 07 36.0 -0.3**
comp=Z,13nm,1.1s
CLL *e*pPKPab **pPKPab 18 08 30.0 -1.3**
BRG Berggiesshubel 156.99 339 *e*PKP **PKPab 18 07 37.4 +0.6**
BRG Amp 18 07 38.3
comp=Z,8.6nm,1.0s
PSZ Piszkesteto 156.99 327 ⇓P **PKPab 18 07 37.1 +0.1**
PSZ Piszkesteto 156.99 327 ⇓PKP2 **PKPab 18 07 37.1 +0.1**
SIRR Siria 157.19 321 ⇑P **PKPab 18 07 38.2 +0.3**
SURR Surduc 157.25 320 ⇓P **PKPab 18 07 38.3 +0.2**
JAVC Velka Javorina 157.29 331 *e*PKP **PKPab 18 07 39.1 +0.8**
VRAC Vranov 157.38 333 PKPab **PKPab 18 07 37.2 -1.4**
comp=Z,1.4nm,0.3s,baz=29,slow=4.4,SNR=7.3
VRAC Vranov 157.38 333 *e*PKP **PKPab 18 07 38.7 +0.1**
VRAC Vranov 157.38 333 ⇑P **PKPab 18 07 37.4 -1.2**
VRAC Vranov 157.38 333 ⇑PKP2 **PKPab 18 07 37.4 -1.2**
HERR Herculane 157.60 318 ⇓P **PKPab 18 07 39.3 -0.4**
BZS Buzias 157.62 320 ⇑P **PKPab 18 07 39.7 -0.1**
BZS Buzias 157.62 320 ⇑PKP2 **PKPab 18 07 39.7 -0.1**
KRUC Moravsky 157.65 333 *e*PKP **PKPab 18 07 39.5 -0.3**
MODS Modra-Piesok 157.84 331 *e*PKP2 **PKPab 18 07 41.3 +0.7**
MODS Modra-Piesok 157.84 331 *e*PKP **PKPab 18 07 41.3 +0.7**
NKC Novy Kostel 158.00 341 *e*PKPAB **PKPab 18 07 42.2 +1.0**
NKC Novy Kostel 158.00 341 *e*PKP2 **PKPab 18 07 42.2 +1.0**
MDVR Moldovita 158.06 318 ⇑P **PKPab 18 07 41.8 0.0**
ZVC Zvikov 158.15 337 *e*PKPAB **PKPab 18 07 42.7 +0.8**
KHC Kasperske Hory 158.62 337 *e*PKPAB **PKPab 18 07 44.0 0.0**
KHC Kasperske Hory 158.62 337 *e*PKP2 **PKPab 18 07 44.0 0.0**
CONA Conrad Observa 158.77 332 *e*PKP **PKPab 18 07 45.0 +0.2**
comp=Z,9.1nm,0.9s
RONA Rosalia, Austr 158.77 331 *e*PKP **PKPab 18 07 45.1 +0.4**
comp=Z,9.7nm,0.9s
MORH Mrgy, Hungar 158.80 325 ⇑P **PKPab 18 07 44.6 -0.2**
GERES GERESS Array B 158.82 337 PKPab **PKPab 18 07 44.5 -0.5**
comp=Z,2.0nm,0.8s,baz=32,slow=3.3,SNR=12
ARSA Arzberg 159.45 331 *e*PKP **PKPab 18 07 47.9 +0.2**
comp=Z,6.7nm,1.4s
BIOA Bad Ischl, Aus 159.82 335 *e*PKP **PKPab 18 07 50.0 +0.7**
comp=Z,15nm,1.3s
SOKA Soboth 160.11 331 *e*PKP **PKPab 18 07 50.4 -0.2**
comp=Z,9.0nm,1.0s
LESA Schwarzleotal 160.39 336 *e*PKP **PKPab 18 07 52.1 +0.2**
comp=Z,15nm,1.4s
WATA Walderalm 160.84 338 *e*PKP **PKPab 18 07 54.6 +0.8**
comp=Z,4.0nm,0.6s
WTTA Wattenberg 160.88 338 *e*PKP **PKPab 18 07 55.3 +1.2**
comp=Z,9.8nm,1.1s
RETA Reutte 160.96 340 *e*PKP **PKPab 18 07 54.9 +0.7**
comp=Z,14nm,1.3s
MOTA Moosalm 160.98 339 *e*PKP **PKPab 18 07 54.5 0.0**
comp=Z,12nm,1.0s
ABTA Abfaltersbach 161.03 336 *e*PKP **PKPab 18 07 54.5 -0.2**
comp=Z,9.3nm,1.2s
SQTA Sankt Quirin 161.06 339 *e*PKP **PKPab 18 07 55.2 +0.5**
comp=Z,12nm,1.2s
FETA Feichten 161.38 339 *e*PKP **PKPab 18 07 56.6 +0.4**
comp=Z,8.6nm,1.1s
DAVA Damuels 161.39 341 *e*PKP **PKPab 18 07 56.1 -0.1**
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 163.34 181 PKPab **PKPab 18 08 05.6 +0.4**
ESDC Sonseca Array 169.33 22 PKPab **PKPab 18 08 31.6 +0.3**
comp=Z,0.3nm,0.6s,baz=334,slow=3.7,SNR=5.1

AFAD ***21*** *17:50:36.4, 38.74N×38.15E, h7km±3km, ML2.5*
ISK ***21*** *17:50:36.5, 38.71N×38.18E, h8km, ML2.2/7*
ISC 21 17:50:36.1±1.0,**38.74N**±0.03×**38.16E**±0.04,**h15**km±9km,
n13,**o0**±**40**/21,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.21**	**310**	P	**Pg**	**17 50 41.2**	**+0.1**
HEKM				S	**Sg**	**17 50 44.7**	**+0.2**
HEKM				*i* AML	AML	17 50 45.0	
	comp=N,2μm,0.4s						
HEKM				*i* AML	AML	17 50 47.0	
	comp=E,1μm,0.2s						
MAYA	**Malatya/Merkez**	**0.47**	**154**	P	**Pb**	**17 50 46.1**	**0.0**
MAYA				S	**Sb**	**17 50 52.9**	**+0.1**
AKCD	**Akcadag**	**0.49**	**203**	P	**Pb**	**17 50 46.5**	**+0.1**
AKCD				S	**Sb**	**17 50 53.6**	**+0.1**
AKCD				*i* AML	AML	17 50 56.0	
	comp=N,590nm,0.4s						
AKCD				*i* AML	AML	17 50 57.0	
	comp=E,385nm,0.1s						
DARE	**Darende-Malaty**	**0.56**	**252**	Pg	**Pb**	**17 50 47.8**	**+0.1**
DARE				Sg	**Sb**	**17 50 56.1**	**+0.6**
KEMA	**Kemaliye**	**0.58**	**26**	P	**Pg**	**17 50 47.7**	**+0.1**
KEMA				S	**Sb**	**17 50 56.5**	**+0.2**
CUGUR	**Gurin_SVAS**	**0.70**	**269**	P	**Pg**	**17 50 49.7**	**-0.1**
CUGUR				S	**Sg**	**17 50 59.4**	**+0.4**

CUGUR			*i* AML	AML	17 51 03.0		
	comp=N,206nm,0.3s						
CUKAN	**kangal_SIVAS**	**0.79 317**	P	**Pg**	**17 50 50.8**	**-0.8**	
CUKAN			S	**Sg**	**17 51 00.9**	**-1.0**	
PTK	**Pertek**	**0.97 81**	Pg	**Pn**	**17 50 55.3**	**-0.1**	
PTK			Sg	**Sn**	**17 51 09.4**	**+0.4**	
URFA	**Urfa**	**1.40 158**	Pn	**Pg**	**17 51 02.7**	**-0.4**	
SARI	**SarD1z-Kayseri**	**1.41 257**	Pn	**Pg**	**17 51 03.1**	**-0.2**	
SVSK	**Karacayir**	**1.48 323**	Pn	**Pg**	**17 51 04.8**	**+0.2**	
KMRS	**Kahramanmaras**	**1.59 219**	Pn	**Pb**	**17 51 05.2**	**0.0**	
BNN	**Bunyan**	**1.81 274**	Pn	**Pb**	**17 51 08.9**	**-0.2**	

*UPP **21** 18:02:33.5±0.1, 67°.06N×20°.96E, h0km, ML1.7, Unknown*
*HEL **21** 18:02:34.6±0.3, 67°.08N×21°.01E, h0km, ML2.2, Explosion*
*IDC **21** 18:02:35.6±0.9, 67°.25N×21°.13E, h0km, mbtmp3.1/4, ML1.9/4, Error ellipse: s-maj=16.6km s-min=7.2km az=111.0*

ISC 21 18:02:33.8±0.8, 67°.11N±0°.02×21°.04E±0°.03, h0km, n44, σ1§74/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**274**	P	**Pg**	**18 02 36.9**	**-0.4**
DUNU				S	**Sg**	**18 02 39.4**	**-0.3**
MASU	**Masugnsbyn**	**0.51**	**47**	P	**Pg**	**18 02 44.4**	**+0.8**
MASU				S	**Sb**	**18 02 51.9**	**-1.8**
ERTU	**Ertsjaerv**	**0.72**	**140**	P	**Pg**	**18 02 46.9**	**-0.7**
ERTU	**Ertsjaerv**	**0.72**	**140**	PG	**Pg**	**18 02 46.9**	**-0.7**
PAJU	**Pajala**	**0.82**	**95**	P	**Pg**	**18 02 49.2**	**-0.3**
PAJU				S	**Sg**	**18 03 00.7**	**+0.6**
PAJU	**Pajala**	**0.82**	**95**	PG	**Pg**	**18 02 49.6**	**+0.1**
PAJU				SG	**Sg**	**18 03 00.2**	**+0.1**
KUA	**Kurravaara**	**0.89**	**343**	P	**Pg**	**18 02 51.1**	**+0.2**
KUA				S	**Sg**	**18 03 03.3**	**+1.0**
RATU	**Laukkuluspa**	**0.91**	**323**	P	**Pg**	**18 02 50.7**	**-0.4**
LANU	**Lannavaara**	**1.01**	**21**	P	**Pg**	**18 02 53.5**	**+0.4**
LANU	**Lannavaara**	**1.01**	**21**	PG	**Pg**	**18 02 53.3**	**+0.2**
LANU				SG	**Sg**	**18 03 06.0**	**-0.2**
KLF	**Kolari**	**1.15**	**82**	PG	**Pg**	**18 02 55.9**	**0.0**
KLF				MSG		18 03 09.9	
	comp=Z,32nm,0.2s						
KLF				SN	**Sn**	**18 03 15.7**	**+2.2**
KOVU	**Salmi**	**1.17**	**344**	P	**Pg**	**18 02 55.7**	**-0.4**
KALU	**Kalix**	**1.56**	**142**	P	**Pn**	**18 03 02.0**	**-0.8**
KALU	**Kalix**	**1.56**	**142**	PG	**Pn**	**18 03 02.5**	**-0.3**
SJUU	**Sjulsmark**	**1.63**	**172**	P	**Pn**	**18 03 02.6**	**-1.0**
HEF	**Hetta**	**1.64**	**36**	*e*P	**Pg**	**18 03 05.8**	**+0.6**
HEF	**Hetta**	**1.64**	**36**	PG	**Pn**	**18 03 04.7**	**+0.8**
	baz=219						
HEF				MSG		18 03 24.6	
	comp=Z,20nm,0.2s						
TOF	**Tornio**	**1.67**	**127**	PG	**Pn**	**18 03 04.5**	**+0.2**
TOF				MSG		18 03 24.4	
	comp=Z,18nm,0.2s						
TOF				SN	**Sg**	**18 03 28.8**	**+1.3**
KIF	**Kilpisjarvi**	**1.91**	**357**	*e*P	**Pg**	**18 03 12.4**	**+2.1**
KIF	**Kilpisjarvi**	**1.91**	**357**	PG	**Pg**	**18 03 10.4**	**+0.1**
KIF				MSG		18 03 33.2	
	comp=Z,50nm,0.2s						
RNF	**Rovaniemi**	**2.03**	**102**	PG	**Pn**	**18 03 10.3**	**+1.1**
KTK1	**Kautokeino**	**2.08**	**22**	PG	**Pb**	**18 03 12.1**	**-0.3**
BURU	**Burvik**	**2.54**	**177**	PG	**Pb**	**18 03 19.2**	**-1.1**
	baz=359						
RANF	**Ranua**	**2.55**	**113**	PB	**Pb**	**18 03 19.0**	**-1.4**
RANF				SN	**Sn**	**18 03 48.1**	**0.0**
OUL	**Oulu**	**2.84**	**134**	PG	**Pb**	**18 03 25.2**	**-0.1**
OBF4	**Vikkela, Lumij**	**2.84**	**142**	PB	**Pb**	**18 03 23.7**	**-1.7**
OBF4				MSG		18 03 57.8	
	comp=Z,6.4nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.94**	**152**	PG	**Pb**	**18 03 28.0**	**+1.1**
OBF0				MSG		18 04 00.4	
	comp=Z,5.3nm,0.2s						
ARA0	**ARCESS Array S**	**2.95**	**32**	PN	**Pn**	**18 03 23.4**	**+1.6**
	baz=215						
ARCES	**ARCESS Array B**	**2.95**	**32**	Pn	**Pn**	**18 03 23.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=218,slow=14,SNR=26						
ARCES				Lg	Lg	18 04 02.6	
	comp=Z,0.6nm,0.3s,baz=214,slow=26,SNR=9.7						
	comp=Z,1.5nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.08**	**60**	PB	**Pb**	**18 03 28.3**	**-1.1**
KU2	**Taivalkoski**	**3.22**	**113**	PB	**Pb**	**18 03 30.5**	**-1.3**
VRF	**Varrio**	**3.37**	**75**	PB	**Pb**	**18 03 31.8**	**-2.5**
OLKF	**Oulanka, Finla**	**3.42**	**100**	PB	**Pb**	**18 03 32.9**	**-2.3**
OLKF				SB	**Sb**	**18 04 15.3**	**-1.8**
MSF	**Maaselka**	**3.42**	**107**	PB	**Pn**	**18 03 31.9**	**+3.5**
MSF				SB	**Sb**	**18 04 17.0**	**-0.4**
KEV	**Kevo**	**3.45**	**37**	PB	**Pb**	**18 03 32.6**	**-3.1**
KU6	**Riekki**	**3.70**	**103**	PB	**Pb**	**18 03 36.0**	**+3.8**
KU6				SB	**Sb**	**18 04 22.5**	**-2.9**
KU1	**Kurvinen**	**3.77**	**110**	PB	**Pb**	**18 03 37.5**	**-3.7**
HUSU	**Husum**	**3.86**	**192**	SN	**Sn**	**18 04 20.4**	**+0.1**
VAF	**Ylistaro**	**4.14**	**170**	PN	**Pn**	**18 03 40.2**	**+1.9**
VAF				SB	**Sb**	**18 04 35.8**	**-2.3**
RMF	**Romuvaara**	**4.69**	**124**	PB	**Pb**	**18 03 52.9**	**-3.9**
NIF	**Nilsia**	**4.70**	**140**	PB	Pb	18 03 52.5	-4.4
	baz=321						
FINES	**FINESS Array B**	**6.10**	**157**	Pn	**Pn**	**18 04 08.8**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=10.0						
FINES				Sn	**Sn**	**18 05 18.7**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=7.2						
FINES				Lg	Lg	18 05 52.6	
	comp=Z,0.2nm,0.3s,baz=346,slow=31,SNR=2.0						
	comp=Z,2.3nm,1.0s						
NOA	**NORSAR Array B**	**7.45**	**220**	Pn	**Pn**	**18 04 25.0**	**+1.3**
	baz=18,slow=19,SNR=6.6						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**7.72**	**208**	Pn	**Pn**	**18 04 29.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=8.6						
	comp=Z,3.3nm,1.0s						

*IDC **21** 18:02:56.1±1.7, 0°.42N×127°.69E, h0km, mb3.6/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=138.2km s-min=22.9km az=67.0*
*DJA **21** 18:02:58.5±0.8, 0°N±2°×12°8E±°, h13km±6km, M3.9/12, mb4.2/1, MLv3.7/12*

ISC 21 18:03:00.2±1.1, 0°.61N±0°.09×128°.42E±0°.05, h35km, n18, σ1§09/14, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**279**	P	**Pn**	**18 03 18.0**	**-0.6**
TNTI				S	**Sn**	**18 03 33.8**	**+1.6**
SWI	**Sorong**	**3.20**	**117**	P	**Pn**	**18 03 46.9**	**-1.2**
SWI				S	**Sn**	**18 04 26.4**	**+1.4**
SANI	**Sanana**	**3.59**	**223**	P	**Pn**	**18 03 52.3**	**-1.2**
SANI				S	**Sn**	**18 04 34.0**	**-0.7**
MSAI	**Masohi**	**3.97**	**173**	P	**Pn**	**18 03 59.7**	**+1.1**
NLAI	**Namlea**	**4.05**	**199**	P	**Pn**	**18 03 59.1**	**-0.6**
KMSI	**Cibinong**	**4.43**	**270**	P	**Pn**	**18 04 05.2**	**+0.1**
FAKI	**Fak Fak**	**5.20**	**133**	P	**Pn**	**18 04 14.9**	**-0.7**
KAPI	**Kappang**	**10.30**	**237**	LR	LR	18 10 02.3	
	comp=Z,47nm,18.2s,baz=184,slow=44						
WRA	**Warramunga Arr**	**21.24**	**164**	P	**P**	**18 07 43.0**	**-0.4**
	2.6nm,0.7s,baz=342,slow=11,SNR=10						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**24.72**	**168**	P	**P**	**18 08 19.8**	**+1.4**
	2.8nm,0.8s,baz=348,slow=11,SNR=20						
	2.8nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**41.55**	**62**	T	T	18 54 35.4	
	baz=249						
H11S2	**WAKE ISLAND Hy**	**41.57**	**62**	T	T	18 54 45.2	
	baz=249						
H11S1	**WAKE ISLAND Hy**	**41.57**	**62**	T	T	18 54 35.1	
	baz=249						
H11N1	**WAKE ISLAND Hy**	**42.18**	**61**	T	T	18 55 18.5	
	baz=248,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**42.19**	**61**	T	T	18 55 18.5	
	baz=248,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**42.20**	**61**	T	T	18 55 18.9	
	baz=248,slow=75,SNR=7.0						
MKAR	**Makanchi Array**	**61.06**	**326**	P	**P**	**18 13 09.7**	**-1.0**
	0.2nm,0.5s,baz=117,slow=8.0,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**65.25**	**328**	P	**P**	**18 13 38.6**	**+0.2**
	0.2nm,0.6s,baz=126,slow=6.3,SNR=4.2						
	0.2nm,0.6s						

AFAD 21 18:25:53.6, 37°.33N×29°.54E, h7km±4km, ML0.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.09**	**171**	P	Pg	18 25 56.9	+1.1
GOLH				S	Sg	18 26 05.1	+7.8
CAEL	**Denizli, Camel**	**0.27**	**222**	P	Pn	18 26 05.1	+0.9
CAEL				S	Sb	18 26 07.5	+1.8
CAEL				*i* AML	AML	18 26 12.0	
	comp=E,39nm,0.9s						
CAEL				*i* AML	AML	18 26 15.0	
	comp=N,50nm,1.9s						
INCE	**Denizli-Bozkur**	**0.38**	**4**	P	Pg	18 26 01.0	-0.2
INCE				S	Sg	18 26 07.5	+1.3
INCE				*i* AML	AML	18 26 10.0	
	comp=N,12nm,0.4s						
INCE				*i* AML	AML	18 26 13.0	
	comp=E,5.7nm,0.6s						
DNZT	**Denizli-Tavas-**	**0.42**	**264**	P	Pb	18 26 02.6	-0.7
DNZT				*i* AML	AML	18 26 09.0	
	comp=E,5.3nm,0.3s						
DNZT				S	Sb	18 26 09.1	-0.8
DNZT	**Denizli-Tavas-**	**0.42**	**264**	P	Pb	18 26 02.6	-0.7
DNZT				*i* AML	AML	18 26 09.0	
	comp=N,8.2nm,2.1s						
DNZT				S	Sb	18 26 10.0	0.0
TAVA	**DENIZLI_Tavas**	**0.52**	**286**	P	Pg	18 26 03.4	-0.3
TAVA				S	Sg	18 26 11.6	+1.1
TAVA				*i* AML	AML	18 26 17.0	
	comp=N,9.3nm,2.1s						
TAVA				*i* AML	AML	18 26 28.0	
	comp=E,3.0nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.52**	**286**	P	Pg	18 26 04.2	+0.6
TAVA				S	Sg	18 26 10.8	+0.3
TAVA				*i* AML	AML	18 26 17.0	
	comp=N,9.3nm,2.1s						

*IDC **21** 18:38:57.4±1.2, 6°.81N×72°.92W, h163km±11km, mb3.6/9, mbtmp4.1/12, Error ellipse: s-maj=22.1km s-min=13.2km az=132.0*
*NEIC **21** 18:38:57.2±1.0, 6°.81N±0°.09×72°.87W±0°.09, h152km±7km, mb4.3/10, Error ellipse: s-maj=14.1km s-min=11.5km az=148.0*
*RSNC **21** 18:38:58.2±0.0, 7°N±1°×7°3W±°, h148km±2km, M4.0, mB4.8, mb4.7, ML3.8, Mw(mB)4.0*

ISC 21 18:38:56.7±0.6, 6°.84N±0°.03×73°.08W±0°.04, h152km±5km, n84, σ1§37/121, mb4.0/14, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**202**	P	**Pn**	**18 39 18.4**	**+0.7**
BARC				S	**Sn**	**18 39 32.5**	**-1.1**
PAMC	**Pamplona, Colo**	**0.63**	**37**	P	**Pn**	**18 39 21.2**	**+1.6**
PAMC				S	**Sn**	**18 39 38.0**	**+1.1**
BRJC	**Barrancabermej**	**0.67**	**282**	P	**Pn**	**18 39 20.2**	**+1.0**
BRJC				S	**Sn**	**18 39 36.8**	**+0.5**
RUSC	**La Rusia**	**0.94**	**180**	P	**Pn**	**18 39 21.8**	**+0.1**
RUSC				Sn	**Sn**	**18 39 40.9**	**+0.1**
RUSC	**La Rusia**	**0.94**	**180**	P	**Pn**	**18 39 22.2**	**+0.4**
RUSC				S	**Sn**	**18 39 40.4**	**-0.4**
TAMC	**Tame, Arauca**	**1.34**	**107**	P	**Pn**	**18 39 26.7**	**+1.8**
TAMC				S	**Sn**	**18 39 47.1**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	P	**Pn**	**18 39 24.8**	**-0.6**
PTBC				S	**Sn**	**18 39 46.1**	**-1.2**
OCAC	**Ocana**	**1.41**	**350**	P	**Pn**	**18 39 26.5**	**+0.8**
OCAC				S	**Sn**	**18 39 48.3**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P	**Pn**	**18 39 30.7**	**+0.1**
ZARC				S	**Sn**	**18 39 56.4**	**-0.1**
NORC	**Norcasia**	**2.18**	**235**	P	**Pn**	**18 39 34.0**	**-0.1**
NORC				S	**Sn**	**18 40 01.5**	**-1.4**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**18 39 36.2**	**+0.4**
CHIC				S	**Sn**	**18 40 05.8**	**0.0**
ROSC	**El Rosal**	**2.33**	**212**		**Pn**	**18 39 37.8**	**+1.4**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**18 39 38.3**	**+1.9**
	438nm,0.4s,baz=266,slow=22,SNR=484						
ROSC				S	**Sn**	**18 40 04.9**	**-1.9**
	701nm,0.5s,baz=43,slow=20,SNR=11						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**18 39 38.1**	**+1.8**
ROSC				S	**Sn**	**18 40 07.0**	**+0.2**
CVER	**Cruz Verde, Cu**	**2.50**	**203**	P	**Pn**	**18 39 39.8**	**+1.3**
CVER				S	**Sn**	**18 40 11.2**	**+0.6**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**18 39 38.4**	**-0.1**
HELC				S	**Sn**	**18 40 11.0**	**+0.4**
MEDEC	**Medelln, Ant**	**2.55**	**258**	P	**Pn**	**18 39 39.0**	**+0.2**
MEDEC				S	**Sn**	**18 40 11.0**	**-0.1**
UREC	**San Jos de Ur**	**2.59**	**291**	P	**Pn**	**18 39 38.2**	**-0.9**
UREC				S	**Sn**	**18 40 09.5**	**-2.3**
VILC	**Villavicencio,**	**2.77**	**193**	P	**Pn**	**18 39 41.5**	**0.0**
VILC				S	**Sn**	**18 40 16.4**	**+0.3**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	**Pn**	**18 39 42.6**	**+0.7**
GUY2C				S	**Sn**	**18 40 16.6**	**0.0**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**18 39 45.8**	**+1.8**
NIZA				S	**Sn**	**18 40 20.1**	**-0.3**
CBOC	**Ciudad Bolivar**	**3.07**	**252**	P	**Pn**	**18 39 46.0**	**+0.8**
CBOC				S	**Sn**	**18 40 22.4**	**-0.3**
DBBC	**Dabeiba**	**3.11**	**273**	P	**Pn**	**18 39 46.0**	**+0.4**
DBBC				S	**Sn**	**18 40 22.0**	**-1.5**
SDV	**Santo Domingo**	**3.17**	**50**		**Pn**	**18 39 45.8**	**-0.7**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**18 39 47.5**	**+1.1**
	266nm,0.4s,baz=232,slow=9.0,SNR=240						
SDV				S	**Sn**	**18 40 24.2**	**-0.8**
	133nm,0.4s,baz=59,slow=23,SNR=13						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**18 39 47.9**	**+1.4**
SDV				S	**Sn**	**18 40 24.7**	**-0.3**
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**18 39 48.7**	**+1.8**
ARGC				S	**Sn**	**18 40 26.9**	**+1.1**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**18 39 51.3**	**-0.4**
PRAC				S	**Sn**	**18 40 34.7**	**+0.3**
ORTC	**Ortega, Tolima**	**3.62**	**217**	P	**Pn**	**18 39 52.6**	**+0.4**
ORTC				S	**Sn**	**18 40 36.5**	**+1.3**
APAC	**Apartado, Choc**	**3.63**	**287**	P	**Pn**	**18 39 52.5**	**+0.3**
APAC				S	**Sn**	**18 40 34.1**	**-1.1**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**18 39 52.9**	**-0.1**
SJCC				S	**Sn**	**18 40 33.8**	**-2.8**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**18 39 54.0**	**+0.6**
PLMC				S	**Sn**	**18 40 38.0**	**+0.5**
URMC	**La Uribe, Meta**	**3.79**	**200**	P	**Pn**	**18 39 54.7**	**+0.2**
URMC				S	**Sn**	**18 40 39.5**	**+0.2**
LCBC	**Los crdobas,**	**3.82**	**302**	P	**Pn**	**18 39 56.6**	**+1.9**
LCBC				S	**Sn**	**18 40 41.2**	**+1.4**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	**Pn**	**18 39 59.0**	**-0.2**
CRJC				S	**Sn**	**18 40 45.4**	**-2.5**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**18 40 00.6**	**-0.6**
YOTC				S	**Sn**	**18 40 51.3**	**-0.1**
SMRC	**Santa Marta, M**	**4.45**	**345**		**Pn**	**18 40 02.9**	**0.0**
PTAC	**Punta Ardita,**	**4.70**	**274**	P	**Pn**	**18 40 05.4**	**-0.8**
MACC	**Macarena, Meta**	**4.72**	**189**	P	**Pn**	**18 40 05.2**	**-1.4**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	**Pn**	**18 40 11.3**	**-0.1**
	2µm42nm,0.5s						
MALC	**Bahia Malaga**	**5.08**	**237**	P	**Pn**	**18 40 12.6**	**+1.4**
BAUV	**El Baul**	**5.42**	**67**	Pn	**Pn**	**18 40 14.0**	**-1.7**
POPC	**Popayan, Colom**	**5.57**	**220**	P	**Pn**	**18 40 17.9**	**-0.1**
	506nm36nm,0.5s						
FLOC	**Florencia**	**5.81**	**206**	Pn	**Pn**	**18 40 20.3**	**-0.8**
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**18 40 29.0**	**+0.9**
BBAC				S	**Sn**	**18 41 38.1**	**-1.6**
GR1C	**Gorgona, Isla**	**6.34**	**233**	P	**Pn**	**18 40 26.7**	**-1.3**
GR1C				S	**Sn**	**18 41 36.6**	**-2.9**
CRUC	**La Cruz**	**6.50**	**217**	P	**Pn**	**18 40 32.6**	**+2.1**
OTAV	**Otavalo**	**8.46**	**219**	Pn	**Pn**	**18 40 54.8**	**-2.0**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**18 41 02.7**	**-0.7**
	5.7nm,0.3s,baz=332,slow=7.8,SNR=10						
PCRV				S	**Sn**	**18 42 41.2**	**-2.1**
	6.0nm,0.6s,baz=327,slow=9.3,SNR=1.4						
PRVC	**Isla de Provid**	**10.42**	**309**	Pn	**Pn**	**18 41 18.8**	**-3.6**
STH	**Stony Hill**	**11.75**	**342**	*e*P	**Pn**	**18 41 42.6**	**+2.9**
MTDJ	**Mount Denham**	**12.12**	**339**		**Pn**	**18 41 46.3**	**+1.6**
MTDJ	**Mount Denham**	**12.12**	**339**	*e*P	**Pn**	**18 41 47.5**	**+2.8**
SDDR	**Presa de Saban**	**12.20**	**8**	Pn	**Pn**	**18 41 46.5**	**+0.8**
PDPR	**Patillas Dam,**	**13.07**	**31**	Pn	**Pn**	**18 41 55.6**	**-1.2**
GTBY	**Guantanamo Bay**	**13.16**	**352**	*e*P	**P**	**18 42 02.2**	**-0.3**
BOAV	**Boa Vista**	**13.27**	**109**	Pn	**Pn**	**18 41 56.4**	**-3.1**
RCC	**Rio Carpintero**	**13.32**	**349**	*e*P	**P**	**18 42 04.3**	**+0.1**
MARVS	**Santiago de Cu**	**13.37**	**348**	*e*P	**Pn**	**18 42 03.0**	**+2.4**
QMBU	**Quimbuelo**	**13.39**	**353**	*e*P	**P**	**18 42 04.7**	**-0.3**
PILO	**Pilon**	**13.65**	**343**	*e*P	**Pn**	**18 42 07.3**	**+3.1**
PINC	**Pinares de May**	**13.82**	**349**	*e*P	**Pn**	**18 42 09.2**	**+2.8**
MAGL	**Barre de l'ile**	**14.68**	**51**	Pn	**Pn**	**18 42 13.8**	**-3.5**
KVTX	**Kingsville**	**31.27**	**314**	P	**P**	**18 45 01.6**	**-0.8**
HBVL	**Hebbronville**	**31.55**	**313**	P	**P**	**18 45 06.2**	**+1.3**
HBVL				IAmb	IAmb	18 45 18.7	
	comp=Z,21nm,1.5s						
CCM	**Cathedral Cave**	**35.17**	**335**	P	**P**	**18 45 36.6**	**+0.5**
CCM				IAmb	IAmb	18 45 37.9	
	comp=Z,9.3nm,0.7s						
TXAR	**Lajitas Array**	**36.48**	**312**	P	**P**	**18 45 48.5**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.6,SNR=6.8						
	comp=Z,0.7nm,0.5s						
SDCO	**Great Sand Dun**	**42.56**	**321**	P	**P**	**18 46 39.5**	**+1.5**
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**18 47 14.7**	**0.0**
	comp=Z,4.1nm,0.4s,baz=144,slow=6.6,SNR=12						
	comp=Z,4.1nm,0.4s						
MVU	**Marysvale**	**47.34**	**318**	P	**P**	**18 47 16.8**	**+1.1**
MVU				IAmb	IAmb	18 47 18.2	
	comp=Z,3.1nm,0.9s						
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**18 47 21.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=123,slow=7.4,SNR=5.4						
	comp=Z,0.7nm,0.5s						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**18 47 21.8**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=165,slow=5.9,SNR=5.4						
	comp=Z,2.3nm,0.5s						
DGMT	**Dagmar**	**49.15**	**333**	P	**P**	**18 47 30.1**	**+1.0**
BGU	**Big Grassy Mou**	**49.16**	**320**	P	**P**	**18 47 30.4**	**+0.9**
BGU				IAmb	IAmb	18 47 31.3	
	comp=Z,2.5nm,0.8s						
NVAR	**Mina Array Bea**	**51.50**	**315**	P	**P**	**18 47 47.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=116,slow=6.8,SNR=3.9						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**18 49 09.2**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=136,slow=6.6,SNR=42						
	comp=Z,2.1nm,0.6s						
DLBC	**Dease Lake**	**67.33**	**331**	P	**P**	**18 49 35.8**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=142,slow=12,SNR=4.6						
	comp=Z,1.0nm,0.5s						
A36M	**Sachs Harbour**	**72.43**	**345**	P	**P**	**18 50 06.2**	**+0.2**
A36M				IAmb	IAmb	18 50 07.1	
	comp=Z,6.5nm,0.8s						
INK	**Inuvik**	**73.03**	**340**	P	**P**	**18 50 08.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=120,slow=4.1,SNR=7.4						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**76.97**	**335**	P	**P**	**18 50 30.4**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=109,slow=5.0,SNR=4.6						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**18 57 32.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=294,slow=2.9,SNR=6.5						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPdf**	**18 58 27.2**	**+3.4**
	comp=Z,0.6nm,0.5s,baz=114,slow=3.6,SNR=19						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**18 58 30.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=108,slow=2.6,SNR=16						
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKPbc	**PKPbc**	**18 58 38.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=340,slow=2.1,SNR=1.7						

*IDC **21** 18:41:58.4±0.9, 10°.45N×126°.40E, h0km, mb4.0/11, mbtmp4.0/11, MS2.9/3, Error ellipse: s-maj=54.5km s-min=16.9km az=66.0*

ISC 21 18:42:04.7±0.9, 10°.4N±0°.2×126°.3E±0°.4, h44km, n18, σ0§68/13, mb3.9/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.39**	**193**	LR	LR	18 44 40.3	
	comp=Z,421nm,19.2s,baz=314,slow=47						
TGY	**Tagaytay City**	**6.43**	**305**	LR	LR	18 46 24.7	
	comp=Z,100nm,20.0s,baz=293,slow=41						
GUMO	**Guam**	**18.41**	**78**	LR	LR	18 52 35.7	
	comp=Z,20nm,19.3s,baz=99,slow=35						
CMAR	**Chiang Mai Arr**	**27.68**	**290**	P	**P**	**18 47 49.2**	**+0.3**
	1.1nm,0.4s,baz=102,slow=7.8,SNR=11						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**31.16**	**165**	P	**P**	**18 48 18.8**	**-0.9**
	0.8nm,0.8s,baz=345,slow=8.7,SNR=3.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**34.65**	**168**	P	**P**	**18 48 50.2**	**+0.1**
	0.3nm,0.3s,baz=349,slow=7.0,SNR=21						
ASAR				PcP	**PcP**	**18 51 24.6**	**+0.8**
	0.3nm,0.4s,baz=358,slow=2.8,SNR=5.1						
	0.3nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.16**	**72**	T	T	19 33 05.2	
	baz=

WB0 IAmb IAmb 19 03 15.4
comp=Z,15nm,1.2s
WRA Warramunga Arr 28.14 164 P **P** **19 03 05.1 -0.1**
comp=Z,1.4nm,0.8s,baz=344,slow=11,SNR=9.1
comp=Z,1.4nm,0.8s
WR8 Warramunga Arr 28.20 164 P **P** **19 03 05.6 -0.2**
WR8 IAmb IAmb 19 03 19.2
comp=Z,16nm,1.4s
CMAR Chiang Mai Arr 29.00 295 P **P** **19 03 16.1 +3.1**
comp=Z,0.5nm,0.5s,baz=114,slow=8.7,SNR=5.1
comp=Z,0.5nm,0.5s
MBWA Marble Bar 29.03 193 P **P** **19 03 10.9 -2.3**
MJAR Matsushiro Arr 31.03 19 P **P** **19 03 30.4 -0.4**
comp=Z,0.7nm,0.6s,baz=192,slow=9.8,SNR=1.6
comp=Z,0.7nm,0.6s
AS31 Alice Springs 31.61 167 P **P** **19 03 35.6 -0.4**
ASAR Alice Springs 31.61 167 P **P** **19 03 35.2 -0.8**
comp=Z,1.0nm,0.6s,baz=340,slow=7.0,SNR=25
comp=Z,1.0nm,0.6s
H11N1 WAKE ISLAND Hy 41.08 68 T T 19 48 59.3
baz=257,slow=75
H11N2 WAKE ISLAND Hy 41.09 68 T T 19 48 48.0
baz=257,slow=75
H11N3 WAKE ISLAND Hy 41.09 68 T T 19 48 40.5
baz=257,slow=75
STKA Stephens Creek 41.53 160 P **P** **19 04 59.4 -1.0**
comp=Z,0.7nm,0.4s,baz=340,slow=12,SNR=3.4
comp=Z,0.7nm,0.4s
PETK Petropavlovsk- 52.27 23 P **P** **19 06 24.0 0.0**
comp=Z,4.9nm,1.0s,baz=236,slow=7.4,SNR=6.6
comp=Z,4.9nm,1.0s
MK31 Makanchi Array 54.53 324 P **P** **19 06 41.8 +1.0**
MKAR Makanchi Array 54.53 324 P **P** **19 06 42.2 +1.4**
MKAR Makanchi Array 54.53 324 P **P** **19 06 42.4 +1.6**
comp=Z,1.1nm,0.6s,baz=114,slow=7.4,SNR=17
MKAR PcP **PcP** **19 07 45.4 +1.6**
comp=Z,0.7nm,0.6s,baz=120,slow=4.3,SNR=4.6
comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam 57.34 332 P **P** **19 07 01.0 +0.3**
ZALV Zalesovo Beam 57.34 332 P **P** **19 07 00.9 +0.2**
comp=Z,0.9nm,0.5s,baz=130,slow=8.0,SNR=4.7
comp=Z,0.9nm,0.5s
AAK Ala-Archa 57.60 316 LR LR 19 33 19.1
comp=Z,53nm,18.2s,baz=102,slow=38
KURK Kurchatov 58.64 326 P **P** **19 07 10.3 +0.4**
KURK IAmb IAmb 19 07 31.9
comp=Z,5.0nm,1.4s
KURBB Kurchatov Arra 58.64 326 P **P** **19 07 10.9 +1.0**
comp=Z,1.2nm,0.6s,baz=124,slow=7.1,SNR=17
comp=Z,1.2nm,0.6s
GAR Garm 59.38 311 P **P** **19 07 15.9 +0.5**
GAR IAmb IAmb 19 07 18.5
comp=Z,7.2nm,1.1s
KK31 Karatay Array 60.50 316 P **P** **19 07 22.6 -0.3**
KK31 IAmb IAmb 19 07 26.5
comp=Z,2.1nm,1.0s
KKAR Karatay Array 60.50 316 P **P** **19 07 24.0 +1.1**
KKAR Karatay Array 60.50 316 P **P** **19 07 23.0 +0.1**
KKAR IAmb IAmb 19 07 26.5
comp=Z,2.2nm,1.0s
BVAR Borovoye Array 64.23 326 P **P** **19 07 47.9 +0.2**
comp=Z,0.6nm,0.5s,baz=108,slow=5.6,SNR=3.4
comp=Z,0.6nm,0.5s
RPZ Rata Peaks 64.81 146 LR LR 19 38 07.7
comp=Z,828nm,18.1s,baz=37,slow=38
AKTO Aktyubinsk 70.75 321 LR LR 19 41 48.6
comp=Z,65nm,19.5s,baz=134,slow=38
KIRV Kirov 77.08 328 LR LR 19 46 50.7
comp=Z,92nm,18.3s,baz=334,slow=39
ACHA Angle Creek He 77.63 32 P **P** **19 09 08.1 -0.8**
FINES FINESS Array B 88.60 332 P **P** **19 10 05.6 +0.2**
comp=Z,1.1nm,0.7s,baz=101,slow=7.2,SNR=5.2
comp=Z,1.1nm,0.7s
AKASG Malin Array Be 88.99 321 LR LR 19 52 21.1
comp=Z,57nm,18.4s,baz=358,slow=37

AFAD 21 19:13:13.7, 38°.71N×38°.10E, h7km±4km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.20**	**327**	P	Pg	19 13 16.6	-1.2
HEKM				S	Sg	19 13 20.7	+0.1
HEKM	**Malatya_Hekimh**	**0.20**	**327**	P	Pg	19 13 17.4	-0.4
HEKM				S	Sg	19 13 21.5	+0.9
HEKM				*i* AML	AML	19 13 22.0	
	comp=N,74nm,0.5s						
HEKM				*i* AML	AML	19 13 22.0	
	comp=E,106nm,0.4s						
AKCD	**Akcadag**	**0.44**	**199**	P	Pb	19 13 24.8	+0.9
AKCD				S	Sb	19 13 32.9	+2.3
AKCD				*i* AML	AML	19 13 33.0	
	comp=N,24nm,0.1s						
AKCD				*i* AML	AML	19 13 34.0	
	comp=E,20nm,0.1s						
AKCD	**Akcadag**	**0.44**	**199**	P	Pb	19 13 23.1	-0.7
AKCD				S	Sb	19 13 32.9	+2.3
AKCD				*i* AML	AML	19 13 33.0	
	comp=N,24nm,0.1s						
AKCD				*i* AML	AML	19 13 34.0	
	comp=E,20nm,0.1s						
MAYA	**Malatya/Merkez**	**0.46**	**146**	P	Pg	19 13 22.3	-0.3
MAYA				S	Sb	19 13 30.5	-0.8
MAYA				*i* AML	AML	19 13 31.0	
	comp=N,13nm,0.5s						
MAYA				*i* AML	AML	19 13 31.0	
	comp=E,14nm,0.2s						
KEMA	**Kemaliye**	**0.64**	**29**	P	Pb	19 13 28.0	+0.9
KEMA				S	Sb	19 13 35.4	-0.9
KEMA	**Kemaliye**	**0.64**	**29**	P	Pg	19 13 26.4	+0.4
KEMA				S	Sb	19 13 35.4	-0.9
ELZG	**Elazig**	**0.72**	**107**	P	Pg	19 13 25.6	-2.1
ELZG				S	Sg	19 13 37.0	-0.1
ELZG	**Elazig**	**0.72**	**107**	P	Pg	19 13 27.2	-0.4
ELZG				S	Sb	19 13 38.7	-0.3
ELZG				*i* AML	AML	19 13 39.0	
	comp=E,18nm,0.5s						
ELZG				*i* AML	AML	19 13 40.0	
	comp=N,13nm,0.3s						

*NEIC **21** 19:22:10.0±2.5, 5°.17S±0°.10×153°.6E±0°.1, h35km±2km, mb4.5/14, Error ellipse: s-maj=18.6km s-min=16.0km az=93.0*
*IDC **21** 19:22:15.4±4.5, 5°.27S×153°.12E, h75km±43km, mb3.7/12, mbtmp4.1/13, ML2.6/1, Error ellipse: s-maj=26.2km s-min=24.6km az=27.0*

ISC 21 19:22:12.2±0.8, 5°.17S±0°.08×153°.2E±0°.1, h43km, n33, σ1§04/34, mb4.3/20, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.43**	**313**		**Pn**	**19 22 35.8**	**+0.1**
MANU	**Manus Island**	**6.62**	**298**	Pn	**Pn**	**19 23 48.2**	**+1.3**
PMG	**Port Moresby**	**7.34**	**235**	Pn	**Pn**	**19 23 57.7**	**+0.8**
PMG				Sn	**Sn**	**19 25 17.0**	**-1.9**
PMG	**Port Moresby**	**7.34**	**235**	P	**Pn**	**19 23 57.9**	**+1.0**
	5.6nm,0.3s,baz=62,slow=6.1,SNR=16						
PMG				S	**Sn**	**19 25 19.0**	**+0.1**
	71nm,1.0s,baz=31,slow=20,SNR=11						
	15nm,0.3s						
PATS	**Pohnpei**	**12.96**	**23**	Pn	Pn	19 25 07.2	-6.7
DZM	**Mont Dzumac**	**21.12**	**144**	P	**P**	**19 26 54.7**	**+1.1**
	6.2nm,0.5s,baz=297,slow=14,SNR=11						
	6.2nm,0.5s						
MTN	**Manton Dam**	**23.09**	**249**	P	**P**	**19 27 17.0**	**+2.5**
WB0	**Warramunga Arr**	**23.38**	**230**	P	**P**	**19 27 17.0**	**-0.2**
WB0				IAmb	IAmb	19 27 53.3	
	comp=Z,27nm,1.5s						
WR8	**Warramunga Arr**	**23.41**	**229**		**P**	**19 27 18.6**	**+1.0**
WR8				IAmb	IAmb	19 27 21.2	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**23.51**	**230**	P	**P**	**19 27 19.6**	**+1.1**
WB2	**Warramunga Arr**	**23.51**	**230**	P	**P**	**19 27 17.4**	**-1.1**
WB2				IAmb	IAmb	19 27 51.9	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**23.52**	**230**	P	**P**	**19 27 17.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=53,slow=9.8,SNR=6.2						
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**26.17**	**223**	P	**P**	**19 27 41.2**	**-1.6**
ASAR	**Alice Springs**	**26.17**	**223**	P	**P**	**19 27 41.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=60,slow=9.0,SNR=7.0						
	comp=Z,0.5nm,0.7s						
KNRA	**Kununurra**	**26.19**	**245**	P	**P**	**19 27 44.2**	**+1.2**
KNRA				IAmb	IAmb	19 28 16.1	
	comp=Z,18nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**19 28 15.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**52.73**	**341**	P	**P**	**19 31 23.4**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=156,slow=4.9,SNR=4.4						
	comp=Z,2.6nm,0.7s						
PETK	**Petropavlovsk-**	**58.18**	**3**	P	**P**	**19 32 01.7**	**0.0**
	comp=Z,1.8nm,0.6s,baz=190,slow=6.4,SNR=2.1						
	comp=Z,1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.41**	**295**	P	**P**	**19 32 03.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=121,slow=6.0,SNR=7.0						
	comp=Z,1.0nm,0.7s						
MA2	**Magadan**	**64.57**	**359**	P	**P**	**19 32 44.3**	**-0.4**
MA2				IAmb	IAmb	19 32 46.1	
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**66.86**	**328**	P	**P**	**19 33 00.3**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=134,slow=5.0,SNR=6.4						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**80.88**	**319**	P	**P**	**19 34 21.9**	**0.0**
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**19 34 21.9**	**0.0**
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**19 34 22.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=99,slow=7.2,SNR=13						
	comp=Z,1.1nm,0.6s						
ZAA0	**Zalesovo Array**	**81.69**	**326**	P	**P**	**19 34 25.1**	**-0.9**
ZAA0				IAmb	IAmb	19 34 27.1	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**19 34 25.1**	**-0.8**
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**19 34 25.8**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=107,slow=6.3,SNR=12						
	comp=Z,1.5nm,0.4s						
ILAR	**Eielson Array**	**82.34**	**22**	P	**P**	**19 34 28.2**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=260,slow=5.2,SNR=1.2						
	comp=Z,0.7nm,1.0s						
KURK	**Kurchatov**	**84.31**	**322**	P	**P**	**19 34 39.2**	**-0.4**
KURK				IAmb	IAmb	19 34 41.2	
	comp=Z,4.2nm,1.1s						
KURBB	**Kurchatov Arra**	**84.35**	**322**	P	**P**	**19 34 38.3**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=107,slow=4.0,SNR=10						
	comp=Z,1.5nm,0.9s						
AAK	**Ala-Archa**	**85.22**	**313**	P	**P**	**19 34 45.6**	**+1.0**
AAK				IAmb	IAmb	19 34 46.5	
	comp=Z,3.1nm,0.9s						
ARSB	**Arslanbob**	**86.08**	**312**	P	**P**	**19 34 49.8**	**+0.9**
BVAR	**Borovoye Array**	**89.78**	**323**	P	**P**	**19 35 05.7**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=103,slow=5.7,SNR=18						
	comp=Z,3.3nm,0.7s						

*IDC **21** 19:24:06.5±0.4, 31°.14S×177°.83W, h0km, mb4.9/20, mbtmp4.9/21, ML3.7/1, MS4.2/41, Error ellipse: s-maj=15.7km s-min=14.3km az=172.0*
*NOU **21** 19:24:06.5, 31°.65S×177°.04W, h29km, mb5.3/47, Kermadec Islands Region*
*BJI **21** 19:24:06.8, 31°.50S×177°.70W, h10km, mb5.3/28, Ms4.8/3, Ms7 4.8/3*
*MOS **21** 19:24:06.9±1.1, 31°.17S×177°.84W, h9km, mb5.4/24, Error ellipse: s-maj=11.9km s-min=9.8km az=88.3*
*NEIC **21** 19:24:08.6±1.2, 31°.4S±0°.1×177°.8W±0°.1, h10km±1km, mb5.1/85, Error ellipse: s-maj=20.5km s-min=17.5km az=73.0*
*GCMT **21** 19:24:12.6±0.2, 31°.22S±0°.03×177°.58W±0°.02, h18km±1km, MW5.0/83, Moment Tensor Solution. s52,c67; s83,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.76±.17; $M_{\theta\theta}$0.33±.11; $M_{\phi\phi}$-3.09±.11; $M_{r\theta}$0.46±.33; $M_{r\phi}$-0.18±.08; $M_{\theta\phi}$3.25±.31; Best double couple: M_0=4.40100×10^{16} NP1:ϕ_s178.00000°, δ21.00000°, λ82.00000°. NP2: ϕ_s7.00000°, δ69.00000°, λ93.00000°. Principal axes: T 4.2390, Plg66.0000°, Azm283.0000°; N 0.3220, Plg3.0000°, Azm186.0000°; P -4.5630, Plg24.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 19:24:09.8±0.3, 31°.43S±0°.04×177°.64W±0°.05, h26km, n600, σ1§62/527, mb5.2/99, MS4.3/42, 34C-48D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.18**	**353**	P	**Pn**	**19 24 40.4**	**-3.9**
GLKZ				S	**Sn**	**19 25 06.1**	**-4.3**
RIZ	**Raoul Island**	**2.20**	**353**	P	**Pn**	**19 24 42.2**	**-2.4**
RIZ				S	**Sn**	**19 25 09.3**	**-1.7**
MXZ	**Matakaoa Point**	**6.97**	**208**	Pn	**Pn**	**19 25 46.5**	**-3.7**
MXZ	**Matakaoa Point**	**6.97**	**208**	P	**Pn**	**19 25 47.1**	**-3.1**
MXZ	**Matakaoa Point**	**6.97**	**208**	S	**Sn**	**19 27 07.4**	**-1.2**
MXZ	**Matakaoa Point**	**6.97**	**208**	P	**Pn**	**19 25 47.7**	**-2.5**
MXZ				S	**Sn**	**19 27 07.6**	**-1.0**
WMGZ	**Waiomatatini S**	**7.15**	**206**	P	**Pn**	**19 25 51.0**	**-1.7**
WMGZ				S	**Sn**	**19 27 14.4**	**+1.4**
PKGZ	**Pakihiroa**	**7.32**	**208**	P	**Pn**	**19 25 52.9**	**-2.1**
HAZ	**Te Kaha**	**7.35**	**210**	P	**Pn**	**19 25 53.2**	**-2.2**
HAZ				S	**Sn**	**19 27 20.5**	**+2.6**
PUZ	**Puketiti**	**7.43**	**206**	P	**Pn**	**19 25 53.6**	**-3.0**
PUZ				S	**Sn**	**19 27 20.0**	**0.0**
GRZ	**Great Barrier**	**7.49**	**228**	P	Pn	19 26 05.6	+8.3
RUGZ	**Raukumara Rang**	**7.57**	**209**	P	**Pn**	**19 25 55.6**	**-3.0**
RUGZ				S	**Sn**	**19 27 25.2**	**+1.6**
TWGZ	**Tauwhareparae**	**7.63**	**207**	P	**Pn**	**19 25 56.8**	**-2.6**
TWGZ				S	**Sn**	**19 27 25.6**	**+0.7**
KUZ	**Kuaotunu**	**7.64**	**224**	P	**Pn**	**19 25 59.0**	**-0.4**
CNGZ	**Carnagh Statio**	**7.81**	**205**	P	**Pn**	**19 25 58.9**	**-2.9**
CNGZ				S	**Sn**	**19 27 31.5**	**+2.1**
MWZ	**Matawai**	**7.95**	**209**	P	**Pn**	**19 26 01.0**	**-2.6**
MWZ				S	**Sn**	**19 27 32.9**	**+0.2**
OPRZ	**Ohinepanea**	**7.99**	**215**	P	**Pn**	**19 26 03.3**	**-0.8**
URZ	**Urewera**	**8.06**	**211**	Pn	**Pn**	**19 26 02.0**	**-3.1**
	4.0nm,0.3s,baz=351,slow=4.4,SNR=19						
URZ				Sn	**Sn**	**19 27 33.7**	**-1.7**
	16nm,0.3s,baz=176,slow=17,SNR=9.2						
URZ	**Urewera**	**8.06**	**211**	P	**Pn**	**19 26 01.4**	**-3.7**
URZ	**Urewera**	**8.06**	**211**	S	**Sn**	**19 27 35.6**	**+0.2**
URZ	**Urewera**	**8.06**	**211**	P	**Pn**	**19 26 02.1**	**-3.1**
URZ				S	**Sn**	**19 27 35.1**	**-0.3**
RAGZ	**Rawiri**	**8.13**	**209**	P	**Pn**	**19 26 03.3**	**-2.9**
RAGZ				S	**Sn**	**19 27 35.8**	**-1.5**
RIGZ	**Rimuhau**	**8.18**	**206**	P	**Pn**	**19 26 03.8**	**-3.0**
RIGZ				S	**Sn**	**19 27 37.5**	**-0.8**
MKAZ	**Moumakai**	**8.21**	**225**	P	**Pn**	**19 26 09.0**	**+1.7**
OUZ	**Omahuta**	**8.25**	**240**	P	**Pn**	**19 26 10.7**	**+2.9**
OUZ	**Omahuta**	**8.25**	**240**	P	**Pn**	**19 26 12.1**	**+4.3**
TARZ	**Mount Tarawera**	**8.32**	**214**	P	**Pn**	**19 26 12.7**	**+3.9**
PRGZ	**Paritu Road**	**8.32**	**205**	P	**Pn**	**19 26 04.8**	**-4.0**
MUGZ	**Murupara**	**8.39**	**212**	P	**Pn**	**19 26 06.2**	**-3.6**
MUGZ				S	**Sn**	**19 27 42.0**	**-1.6**
SNGZ	**Shannon Statio**	**8.40**	**208**	P	**Pn**	**19 26 07.1**	**-2.8**
SNGZ				S	**Sn**	**19 27 42.9**	**-1.0**
RTZ	**Ruatahuna**	**8.41**	**210**		**Pn**	**19 26 06.1**	**-4.0**
RTZ	**Ruatahuna**	**8.41**	**210**	P	**Pn**	**19 26 06.2**	**-3.9**
TOZ	**Tahuroa Road**	**8.45**	**220**	P	**Pn**	**19 26 13.5**	**+3.0**
KNZ	**Kokohu**	**8.48**	**206**	P	Pn	19 26 06.7	-4.3
MHGZ	**Mahia Peninsul**	**8.52**	**204**	P	**Pn**	**19 26 07.6**	**-3.8**
RAHZ	**Arahi**	**8.62**	**209**	P	**Pn**	**19 26 10.6**	**-2.3**
MTHZ	**Maungataniwha**	**8.67**	**210**	P	**Pn**	**19 26 10.7**	**-2.9**
NMHZ	**Naumai**	**8.89**	**209**	P	**Pn**	**19 26 13.6**	**-3.0**
ARHZ	**Aropaoanui**	**8.96**	**208**	P	**Pn**	**19 26 13.8**	**-3.7**
BKZ	**Black Stump Fm**	**9.08**	**210**		Pn	19 26 14.9	-4.4
BKZ	**Black Stump Fm**	**9.08**	**210**	P	Pn	19 26 14.8	-4.4
BKZ	**Black Stump Fm**	**9.08**	**210**	S	**Sn**	**19 27 59.1**	**-1.5**
BKZ	**Black Stump Fm**	**9.08**	**210**	P	Pn	19 26 14.8	-4.4
MCHZ	**McNeill Hill**	**9.23**	**208**	P	**Pn**	**19 26 18.5**	**-2.7**
KATZ	**Kakaramea**	**9.29**	**214**	P	**Pn**	**19 26 25.8**	**+3.6**
KWHZ	**Kaweka Forest**	**9.33**	**210**	P	**Pn**	**19 26 18.8**	**-3.8**
HIZ	**Hauiti**	**9.37**	**219**	P	**Pn**	**19 26 22.4**	**-0.7**
HIZ	**Hauiti**	**9.37**	**219**	P	**Pn**	**19 26 22.0**	**-1.1**
NTVZ	**North Tongarir**	**9.40**	**214**	P	**Pn**	**19 26 20.4**	**-3.2**
TMVZ	**Te Maari**	**9.40**	**214**	P	**Pn**	**19 26 20.6**	**-3.1**
ETVZ	**East Tongariro**	**9.41**	**213**	P	**Pn**	**19 26 20.8**	**-3.0**
NNVZ	**North Ngauruho**	**9.45**	**214**	P	**Pn**	**19 26 23.4**	**-1.0**
OTVZ	**Oturere**	**9.45**	**214**	P	**Pn**	**19 26 21.6**	**-2.8**
KAHZ	**Kahuranaki**	**9.46**	**207**	P	Pn	19 26 19.1	-5.2
SNVZ	**South Ngauruho**	**9.48**	**214**	P	**Pn**	**19 26 22.4**	**-2.5**
TWVZ	**Taurewa**	**9.49**	**215**	P	**Pn**	**19 26 26.0**	**+1.1**
NGZ	**Ngauruhoe**	**9.49**	**214**	P	**Pn**	**19 26 23.5**	**-1.5**
KRHZ	**Kereru**	**9.53**	**209**	P	**Pn**	**19 26 21.6**	**-3.8**
TUVZ	**Tukino**	**9.54**	**213**	P	**Pn**	**19 26 24.3**	**-1.3**
FWVZ	**Far West T-bar**	**9.58**	**214**	P	**Pn**	**19 26 26.0**	**-0.2**
MOVZ	**Moawhango**	**9.61**	**212**	P	**Pn**	**19 26 23.4**	**-3.0**
WNVZ	**Wahianoa**	**9.62**	**213**	P	**Pn**	**19 26 23.9**	**-2.7**
PNHZ	**Pukenui**	**9.83**	**209**	P	**Pn**	**19 26 25.7**	**-3.8**
PRHZ	**Porangahau**	**9.96**	**206**	P	Pn	19 26 26.5	-4.8
TSZ	**Takapari Road**	**10.05**	**209**	P	**Pn**	**19 26 32.0**	**-0.5**
DVHZ	**Dannevirke**	**10.17**	**208**	P	Pn	19 26 29.0	-5.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PREZ	**Palmer Road**	**10.34**	**218**	P	Pn	19 26 41.2	+4.7
KHEZ	**Kahui Hut**	**10.38**	**219**	P	**Pn**	**19 26 36.2**	**-0.9**
BFZ	**Birch Farm**	**10.47**	**206**		Pn	19 26 32.3	-5.9
BFZ	**Birch Farm**	**10.47**	**206**	P	**Pn**	**19 26 35.0**	**-3.2**
BFZ	**Birch Farm**	**10.47**	**206**	S	**Sn**	**19 28 31.2**	**-3.4**
BFZ	**Birch Farm**	**10.47**	**206**	P	Pn	19 26 32.1	-6.0
TIWZ	**Tintock**	**10.69**	**208**	P	**Pn**	**19 26 37.7**	**-3.5**
MRZ	**Mangatainoka R**	**10.71**	**209**	Pn	Pn	19 26 35.7	-5.8
MRZ	**Mangatainoka R**	**10.71**	**209**	P	Pn	19 26 35.5	-6.0
HOWZ	**Holdsworth Sta**	**10.94**	**208**	P	Pn	19 26 38.3	-6.4
TMWZ	**Te Maipa**	**10.97**	**207**	P	Pn	19 26 39.5	-5.5
OGWZ	**Otaki Gorge**	**11.02**	**210**	P	Pn	19 26 39.2	-6.4
KIW	**Kapiti Island**	**11.16**	**211**	P	Pn	19 26 41.4	-6.4
MSWZ	**Moikau Station**	**11.49**	**208**	P	Pn	19 26 45.2	-6.9
DUWZ	**D'Urville Isla**	**11.57**	**214**	P	Pn	19 26 48.6	-4.6
PLWZ	**Palliser**	**11.61**	**207**	P	**Pn**	**19 26 49.8**	**-4.0**
SNZO	**South Karori**	**11.62**	**210**	P	**Pn**	**19 26 52.7**	**-1.2**
TUWZ	**Tuamarina**	**12.05**	**212**		Pn	19 26 54.7	-5.2
TUWZ	**Tuamarina**	**12.05**	**212**	P	Pn	19 26 54.7	-5.1
NNZ	**Nelson**	**12.15**	**214**	P	**Pn**	**19 26 58.3**	**-2.9**
CTZ	**Chatham Island**	**12.31**	**177**	P	Pn	19 26 57.4	-5.9
MRNZ	**Matariki Terra**	**12.59**	**215**	P	Pn	19 27 01.6	-5.5
THZ	**Tophouse**	**12.79**	**214**	P	Pn	19 27 05.7	-4.3
KHZ	**Kahutara**	**13.03**	**210**	P	**Pn**	**19 27 10.6**	**-2.5**
KHZ	**Kahutara**	**13.03**	**210**	P	Pn	19 27 07.8	-5.3
DSZ	**Denniston Nort**	**13.32**	**217**	Pn	**Pn**	**19 27 13.3**	**-3.9**
DSZ	**Denniston Nort**	**13.32**	**217**	P	**Pn**	**19 27 15.1**	**-2.2**
GVZ	**Greta Valley S**	**13.69**	**210**	P	Pn	19 27 16.5	-5.7
LTZ	**Lake Taylor**	**13.88**	**213**	P	Pn	19 27 19.6	-5.2
MSVF	**Nonsavu**	**14.19**	**343**	Pn	**Pn**	**19 27 28.3**	**-0.9**
MSVF	**Nonsavu**	**14.19**	**343**	Pn	**Pn**	**19 27 28.2**	**-1.1**
	1.1nm,0.3s,baz=146,slow=14,SNR=30						
MSVF				LR	LR	19 32 02.6	
	comp=Z,2μm,18.4s,baz=173,slow=34						
MSVF	**Nonsavu**	**14.19**	**343**	P	**Pn**	**19 27 28.5**	**-0.7**
MSVF	**Nonsavu**	**14.19**	**343**	P	**Pn**	**19 27 28.3**	**-0.9**
OXZ	**Oxford**	**14.42**	**212**	P	Pn	19 27 27.1	-5.0
WVZ	**Waitaha Valley**	**14.84**	**215**	P	**Pn**	**19 27 39.4**	**+1.6**
RPZ	**Rata Peaks**	**15.17**	**213**	Pn	**Pn**	**19 27 36.3**	**-5.9**
	2.1nm,0.3s,baz=50,slow=2.3,SNR=6.0						
RPZ				Sn	Sn	19 30 13.2	-16
	2.8nm,0.3s,baz=354,slow=18,SNR=7.2						
RPZ	**Rata Peaks**	**15.17**	**213**	P	**Pn**	**19 27 39.7**	**-2.5**
RPZ	**Rata Peaks**	**15.17**	**213**	P	**Pn**	**19 27 37.0**	**-5.2**
GCSZ	**Gaunt Creek Bo**	**15.22**	**215**	P	**Pn**	**19 27 40.0**	**-2.9**
ARCZ	**Arundel**	**15.29**	**212**	P	**Pn**	**19 27 39.6**	**-4.2**
FOZ	**Fox Glacier**	**15.63**	**216**	P	**Pn**	**19 27 43.6**	**-4.7**
TMZ	**Timaru**	**15.71**	**211**	P	**Pn**	**19 27 43.4**	**-5.9**
PINNC	**Pines Island,**	**15.92**	**300**		**P**	**19 27 54.8**	**-0.7**
PINNC				IAmb	IAmb	19 27 57.8	
	comp=Z,240nm,1.7s						
LBZ	**Lake Benmore**	**16.09**	**213**	P	**Pn**	**19 27 50.6**	**-3.5**
ODZ	**Otahua Downs**	**16.39**	**211**	P	**Pn**	**19 27 55.2**	**-2.7**
ODZ	**Otahua Downs**	**16.39**	**211**	P	**Pn**	**19 27 54.2**	**-3.8**
JCZ	**Jackson Bay**	**16.54**	**216**	P	**Pn**	**19 27 56.8**	**-3.2**
ONTNC	**Ouen Toro**	**16.84**	**299**	Pn	**Pn**	**19 28 02.8**	**-1.0**
WKZ	**Wanaka**	**16.97**	**214**		**Pn**	**19 28 04.8**	**-0.6**
WKZ	**Wanaka**	**16.97**	**214**	P	**Pn**	**19 28 04.9**	**-0.4**
DZM	**Mont Dzumac**	**16.99**	**299**		**P**	**19 28 07.8**	**+0.3**
DZM				IAmb	IAmb	19 28 13.4	
	comp=Z,136nm,1.2s						
DZM	**Mont Dzumac**	**16.99**	**299**	Pn	**P**	**19 28 08.4**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=119,slow=12,SNR=14						
DZM				LR	LR	19 33 31.6	
	comp=Z,4μm,18.3s,baz=140,slow=34						
DZM	**Mont Dzumac**	**16.99**	**299**	P	**P**	**19 28 09.2**	**+1.7**
EAZ	**Earnscleugh**	**17.13**	**213**	P	**Pn**	**19 28 07.0**	**-0.3**
TUZ	**Tuapeka**	**17.54**	**211**	P	**Pn**	**19 28 10.5**	**-1.9**
MLZ	**Mavora Lakes**	**17.80**	**215**	P	**Pn**	**19 28 13.0**	**-2.6**
SYZ	**Scrubby Hill**	**18.21**	**210**	P	**Pn**	**19 28 18.9**	**-1.7**
SYZ	**Scrubby Hill**	**18.21**	**210**	P	**P**	**19 28 22.0**	**+1.3**
AFI	**Afiamalu**	**18.25**	**18**	P	**Pn**	**19 28 17.3**	**-4.1**
AFI				IAmb	IAmb	19 28 22.1	
	comp=Z,88nm,0.7s						
AFI	**Afiamalu**	**18.25**	**18**	P	**Pn**	**19

COEN IAmb IAmb 19 31 55.8
comp=Z,68nm,0.8s
OOD Oodnadatta 40.51 263 P **P** **19 31 47.1 +0.4**
AS01 Alice Springs 43.33 268 P **P** **19 32 09.7 -0.2**
AS31 Alice Springs 43.37 268 P **P** **19 32 09.9 -0.4**
AS31 IAmb IAmb 19 32 22.5
comp=Z,46nm,0.7s
AS31 Alice Springs 43.37 268 P **P** **19 32 09.8 -0.4**
comp=Z,69nm,0.7s
ASAR Alice Springs 43.37 268 P **P** **19 32 10.0 -0.3**
ASAR Alice Springs 43.37 268 P **P** **19 32 09.5 -0.8**
comp=Z,33nm,0.8s,baz=106,slow=7.4,SNR=200
ASAR PcP **PcP** **19 33 59.0 +0.4**
comp=Z,3.5nm,0.7s,baz=109,slow=3.9,SNR=2.1
ASAR S **S** **19 38 33.2 -3.6**
comp=Z,0.8nm,0.9s,baz=116,slow=15,SNR=3.2
ASAR LR LR 19 49 56.7
comp=Z,740nm,18.0s,baz=114,slow=36
comp=Z,33nm,0.8s
ASAR Alice Springs 43.37 268 P **P** **19 32 10.0 -0.3**
MANU Manus Island 44.10 305 P **P** **19 32 15.3 -0.7**
MANU IAmb IAmb 19 32 15.7
comp=Z,49nm,1.3s
WRAB Tennant Creek 44.45 273 P **P** **19 32 17.9 -1.0**
WRAB Tennant Creek 44.45 273 *i* P **P** **19 32 17.2 -1.7**
WRAB pmax pmax
comp=Z,70nm,1.1s
WRA Warramunga Arr 44.45 273 P **P** **19 32 17.9 -1.0**
WRA Warramunga Arr 44.45 273 P **P** **19 32 18.4 -0.5**
comp=Z,34nm,0.5s,baz=112,slow=7.9,SNR=147
WRA PcP **PcP** **19 34 01.9 -0.4**
comp=Z,8.2nm,0.9s,baz=112,slow=3.5,SNR=2.7
WRA S **S** **19 38 53.9 +1.3**
comp=Z,2.6nm,1.1s,baz=114,slow=14,SNR=3.0
WRA LR LR 19 50 00.8
comp=Z,984nm,18.2s,baz=82,slow=35
comp=Z,34nm,0.5s
FORT Forrest 46.09 256 P **P** **19 32 30.0 -1.8**
FORT Forrest 46.09 256 P **P** **19 32 30.3 -1.5**
comp=Z,74nm,0.7s
FORT Forrest 46.09 256 P **P** **19 32 31.0 -0.8**
VNDA Vanda 47.10 186 P **P** **19 32 42.8 +3.8**
VNDA Vanda 47.10 186 P **P** **19 32 42.9 +3.8**
comp=Z,3.0nm,0.7s,baz=23,slow=6.2,SNR=12
comp=Z,3.0nm,0.7s
VNDA Vanda 47.10 186 P **P** **19 32 42.8 +3.8**
VNDA pmax pmax
comp=Z,11nm,1.1s
WRKA Warakurna 47.67 264 P **P** **19 32 42.9 -1.3**
JAY Jayapura 48.65 298 LR LR 19 51 22.8
comp=Z,161nm,22.0s,baz=194,slow=34
SMPI Sarmi 50.51 297 P **P** **19 33 05.5 -0.5**
comp=Z,25nm,1.2s
KNRA Kununurra 51.10 275 P **P** **19 33 09.1 -1.3**
KNRA IAmb IAmb 19 33 11.5
comp=Z,33nm,0.9s
SRPI Serui, Papua 52.48 295 P **P** **19 33 20.6 -0.2**
comp=Z,28nm,0.8s
FITZ Fitzroy Crossi 52.67 270 IAmb IAmb 19 33 34.9
comp=Z,58nm,1.8s
FITZ Fitzroy Crossi 52.67 270 P **P** **19 33 21.7 -0.5**
comp=Z,24nm,0.8s,baz=127,slow=5.9,SNR=22
FITZ LR LR 19 55 01.4
comp=Z,956nm,18.8s,baz=110,slow=35
comp=Z,24nm,0.8s
FITZ Fitzroy Crossi 52.67 270 P **P** **19 33 21.7 -0.5**
KLBR Kellerberrin 54.31 252 P **P** **19 33 32.6 -1.5**
NWAO Narrogin (SRO) 54.33 250 LR LR 19 54 18.5
comp=Z,326nm,20.9s,baz=66,slow=33
FAKI Fak Fak 54.99 291 P **P** **19 33 41.3 +2.1**
MEEK Meekatharra 55.26 258 P **P** **19 33 39.3 -1.8**
MORW Morawa 56.54 254 P **P** **19 33 50.2 0.0**
SWI Sorong 57.01 292 P **P** **19 33 55.5 +1.9**
comp=Z,25nm,1.1s
GUMO Guam 57.43 315 LR LR 19 54 42.3
comp=Z,244nm,21.8s,baz=104,slow=32
SOEI Soe 57.81 279 P **P** **19 34 00.3 +0.8**
comp=Z,47nm,1.1s
BATI Baumata 58.09 278 LR LR 19 59 28.5
comp=Z,1µm,18.4s,baz=137,slow=37
QSPA South Pole Qui 58.68 180 P **P** **19 34 08.1 +3.3**
comp=Z,22nm,0.9s,baz=37,slow=3.6,SNR=28
QSPA LR LR 19 57 34.4
comp=Z,322nm,18.9s,baz=32,slow=34
comp=Z,22nm,0.9s
SANI Sanana 60.56 287 P **P** **19 34 16.8 -1.5**
comp=Z,16nm,1.0s
KAPI Kappang 64.10 280 LR LR 20 02 07.7
comp=Z,267nm,19.3s,baz=122,slow=36
PCI Palu 66.27 284 P **P** **19 34 56.7 +0.6**
comp=Z,61nm,1.1s
DAV Davao City (W) 66.34 295 LR LR 20 03 09.2
comp=Z,61nm,20.4s,baz=134,slow=36
BELA Belgrano 2 68.72 172 P **P** **19 35 11.2 +0.6**
PCJI Pacitan 69.73 273 P **P** **19 35 17.8 -0.1**
PMSA Palmer Station 71.20 155 LR LR 20 02 12.4
comp=Z,142nm,18.8s,baz=292,slow=32
MAW Mawson 71.45 201 LR LR 20 06 41.7
comp=Z,288nm,18.7s,baz=111,slow=36
LEM Lembang 73.47 272 LR LR 20 08 07.3
comp=Z,340nm,19.9s,baz=158,slow=36
TGY Tagaytay City 74.28 298 LR LR 20 09 55.9
comp=Z,55nm,18.0s,baz=305,slow=37
SBUM Sibu 74.45 283 **P** **19 35 45.7 -0.5**
CGJI Cibinong 75.22 271 P **P** **19 35 49.8 -0.8**
comp=Z,40nm,1.1s
ELIB Princess Elisa 75.86 187 *d*P **P** **19 35 55.6 +2.0**
comp=Z,32nm,0.9s
ELIB *d*PcP **PcP** **19 36 06.3 +0.3**
SYO Syowa Base 76.18 193 ||*i*P **P** **19 35 57.1 +1.9**
SYO Syowa Base 76.18 193 ||*ep*P pP 19 36 00.0 -1.6
TROLL Troll, Antarti 76.84 180 ||P **P** **19 36 01.3 +2.2**
comp=Z,896nm,1.0s
SNAA Sanae 77.12 178 P **P** **19 36 02.4 +1.8**
SNAA Sanae 77.12 178 ||P **P** **19 36 02.4 +1.8**
comp=Z,218nm,0.9s
SNAA Sanae 77.12 178 P **P** **19 36 02.6 +2.1**
comp=Z,9.1nm,0.8s,baz=167,slow=5.1,SNR=14
SNAA LR LR 20 08 11.8
comp=Z,102nm,19.6s,baz=293,slow=34
comp=Z,9.1nm,0.8s
SNAA Sanae 77.12 178 *ce*P **P** **19 36 01.9 +1.3**
SNAA pmax pmax
comp=Z,23nm,1.1s
VNA3 Neumayer Olymp 77.25 176 ||P **P** **19 36 03.0 +1.7**
comp=Z,26nm,0.8s
JOW Kunigami 77.58 312 LR LR 20 04 39.5
comp=Z,165nm,20.6s,baz=146,slow=32
VNA2 Neumayer--Watz 77.69 177 ||P **P** **19 36 05.7 +2.0**
comp=Z,19nm,0.7s,baz=177,slow=5.4
NVL N'lazarevskaya 77.86 183 *e*P P 19 36 25.1 +20
NVL *e*S **SKSac** **19 46 17.9 +1.5**
NVL pmax pmax
comp=Z,38nm,1.0s
VNA1 Neumayer--Stat 77.92 176 ||P **P** **19 36 07.1 +2.2**
comp=Z,26nm,0.9s
MJAR Matsushiro Arr 79.27 325 P **P** **19 36 11.0 -1.8**
comp=Z,12nm,1.1s,baz=159,slow=5.0,SNR=9.7
MJAR LR LR 20 05 51.3
comp=Z,87nm,21.8s,baz=134,slow=32
comp=Z,12nm,1.1s
MJAR Matsushiro Arr 79.27 325 P **P** **19 36 11.0 -1.8**
MAJO Matsushiro 79.27 325 *i* P **P** **19 36 10.4 -2.4**
MAJO pmax pmax
comp=Z,8.0nm,1.0s
H03S2 Juan Fernandez 79.64 123 T T 21 05 20.8
baz=237,slow=74,SNR=15
H03S1 Juan Fernandez 79.65 123 T T 21 05 14.5
baz=237,slow=74,SNR=14
H03S3 Juan Fernandez 79.65 123 T T 21 05 20.8
baz=237,slow=74,SNR=17
H03N3 Juan Fernandez 79.83 123 T T 21 05 34.8
baz=241,slow=72,SNR=18
H03N2 Juan Fernandez 79.83 123 T T 21 05 36.9
baz=241,slow=72,SNR=13
H03N1 Juan Fernandez 79.85 123 T T 21 05 30.5
baz=241,slow=72,SNR=31
JNU Nakatsue 80.53 318 P **P** **19 36 18.9 -0.9**
comp=Z,26nm,1.1s,baz=146,slow=4.8,SNR=5.0
JNU LR LR 20 08 39.0
comp=Z,38nm,18.0s,baz=154,slow=33
comp=Z,26nm,1.1s
PLCA Paso Flores 81.58 133 P **P** **19 36 26.9 +1.4**
PLCA IAmb IAmb 19 36 33.9
comp=Z,26nm,1.5s
PLCA Paso Flores 81.58 133 P **P** **19 36 28.2 +2.7**
comp=Z,3.3nm,0.9s,baz=244,slow=4.1,SNR=6.7

PLCA LR LR 20 04 14.9
comp=Z,150nm,21.2s,baz=252,slow=29
comp=Z,3.3nm,0.9s
EFI East Falkland 81.76 147 *i* P **P** **19 36 27.3 +1.2**
EFI pmax pmax
comp=Z,76nm,3.2s
ASAJ Asahikawa 83.50 332 P **P** **19 36 33.9 -1.1**
comp=Z,12nm,0.8s,baz=158,slow=5.4,SNR=1.8
ASAJ LR LR 20 10 44.1
comp=Z,129nm,18.3s,baz=184,slow=34
comp=Z,12nm,0.8s
SHEM Shemya Is, Ala 84.12 355 LR LR 20 09 00.2
comp=Z,270nm,18.7s,baz=118,slow=32
LPIG La Paz 84.82 58 LR LR 20 09 03.8
comp=Z,376nm,18.0s,baz=208,slow=32
KSRS Korea Array 85.33 319 P **P** **19 36 44.2 -0.2**
comp=Z,5.7nm,1.1s,baz=144,slow=6.8,SNR=6.3
KSRS LR LR 20 13 45.6
comp=Z,43nm,18.5s,baz=145,slow=35
comp=Z,5.7nm,1.1s
YSS Yuzhno-Sakhali 85.81 334 P **P** **19 36 47.4 +0.8**
YSS Yuzhno-Sakhali 85.81 334 *eP* **P** **19 36 46.2 -0.4**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,400nm,18.0s
PSI Prapat 85.85 276 LR LR 20 15 33.2
comp=Z,370nm,20.5s,baz=111,slow=36
PFO Pinyon Flats O 86.68 47 *i* P **P** **19 36 51.6 +0.2**
PFO pmax pmax
comp=Z,5.0nm,0.9s
ISA Isabella, Lake 86.81 44 IAmb IAmb 19 36 55.7
comp=Z,12nm,0.9s
PEA0B Petropavlovsk- 86.89 345 *ce*P **P** **19 36 52.5 +0.8**
PETK Petropavlovsk- 86.89 345 P **P** **19 36 51.3 -0.4**
PETK Petropavlovsk- 86.89 345 P **P** **19 36 51.1 -0.7**
comp=Z,44nm,0.7s,baz=118,slow=7.1,SNR=71
PETK LR LR 20 13 30.1
comp=Z,120nm,18.2s,baz=152,slow=34
comp=Z,44nm,0.7s
UBPT Khong Chiam 87.07 290 **P** **19 36 53.3 -0.2**
NJ2 Nanjing 87.15 310 *eP* **P** **19 36 55.8 +2.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
WAKR Walker 88.19 42 IAmb IAmb 19 37 02.2
comp=Z,14nm,1.2s
USA0B Ussuriysk Arra 88.19 326 *i* P **P** **19 36 57.3 -0.9**
USRK Ussuriysk Ar. 88.19 326 P **P** **19 36 58.2 0.0**
comp=Z,7.9nm,0.8s,baz=125,slow=3.0,SNR=10
comp=Z,7.9nm,0.8s
GWY Greenwater Val 88.25 45 IAmb IAmb 19 37 04.8
comp=Z,8.4nm,1.1s
DSP Deep Springs 88.27 43 IAmb IAmb 19 37 06.7
comp=Z,9.5nm,1.2s
PNTR Pine Nut 88.50 41 P **P** **19 37 01.5 +1.4**
PNTR IAmb IAmb 19 37 03.2
comp=Z,11nm,0.9s
LHV Little Huntoon 88.55 43 IAmb IAmb 19 37 03.7
comp=Z,9.4nm,1.0s
NVAR Mina Array Bea 88.79 43 P **P** **19 37 03.3 +1.8**
comp=Z,7.7nm,1.0s,baz=220,slow=8.2,SNR=28
comp=Z,7.7nm,1.0s
Y14A Wickenburg 89.08 49 IAmb IAmb 19 37 07.3
comp=Z,13nm,1.0s
TYV Tymovskoe 89.12 336 *eP* **P** **19 37 03.2 +0.8**
TYV pmax pmax
comp=Z,30nm,1.2s
TYV pmax pmax
comp=Z,200nm,4.1s
W13A Hualapai Mount 89.26 47 IAmb IAmb 19 37 07.8
comp=Z,11nm,1.0s
SHPR Sheep Range 89.38 46 P **P** **19 37 05.6 +1.3**
TUC Tucson 89.51 51 P **P** **19 37 07.0 +2.1**
TUC IAmb IAmb 19 37 09.3
comp=Z,12nm,1.2s
TUC Tucson 89.51 51 P **P** **19 37 07.0 +2.1**
TUC pmax pmax
comp=Z,12nm,1.2s
DL2 Dalian 89.92 317 *eP* **P** **19 37 07.4 +0.9**
DL2 S **S** **19 47 59.3 +2.0**
DL2 pmax pmax
comp=Z,25nm,1.2s
DL2 LR LR
comp=Z,240nm,20.3s
DL2 LR LR
comp=Z,360nm,19.4s
PRN Pahroc Range 90.03 45 IAmb IAmb 19 37 11.4
comp=Z,14nm,1.1s
J04A Umpqua Nationa 90.04 37 IAmb IAmb 19 37 20.8
comp=Z,20nm,1.1s
X16A Lo Mia Camp, P 90.39 49 IAmb IAmb 19 37 13.9
comp=Z,11nm,0.9s
J05D Fort Rock, OR 90.52 37 P **P** **19 37 11.6 +2.2**
J05D IAmb IAmb 19 37 13.4
comp=Z,11nm,1.3s
LCMT Little Creek M 90.88 46 IAmb IAmb 19 37 15.1
comp=Z,8.5nm,1.1s
TIA Tai'an 90.90 313 P **P** **19 37 11.5 +0.4**
TIA pmax pmax
comp=Z,24nm,1.2s
H04A Detroit Lake 91.03 36 IAmb IAmb 19 37 14.2
comp=Z,11nm,1.1s
PINE Pine Mountain 91.03 37 P **P** **19 37 13.2 +1.4**
PINE IAmb IAmb 19 37 15.1
comp=Z,18nm,1.3s
U15A North Rim 91.10 47 IAmb IAmb 19 37 16.5
comp=Z,9.2nm,0.9s
WUAZ Wupatki 91.11 48 IAmb IAmb 19 37 16.4
comp=Z,9.0nm,1.0s
KNB Kanab 91.14 46 IAmb IAmb 19 37 42.1
comp=Z,17nm,1.3s
CN2 Changchun 91.15 323 *eP* **P** **19 37 11.9 -0.2**
CN2 pmax pmax
comp=Z,20nm,1.2s
WVOR Wild Horse Val 91.32 39 IAmb IAmb 19 37 27.1
comp=Z,9.9nm,1.3s
KDAK Kodiak Island 91.34 13 LR LR 20 16 11.9
comp=Z,66nm,18.8s,baz=74,slow=34
GRNR Gornyy 91.34 333 ||*i*P **P** **19 37 13.5 +0.7**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,280nm,21.0s
PSUT Pine Spring 91.48 45 IAmb IAmb 19 39 21.8
comp=Z,6.6nm,0.5s
BNX BinXian 91.53 325 ||P **P** **19 37 13.1 -0.7**
BNX pmax pmax
comp=Z,21nm,0.9s
KLR Kul'dur 92.08 330 P **P** **19 37 16.2 0.0**
comp=Z,6.3nm,0.7s,baz=151,slow=4.5,SNR=24
comp=Z,6.3nm,0.7s
KLR Kul'dur 92.08 330 *ce*P **P** **19 37 15.9 -0.4**
KLR pmax pmax
comp=Z,6.0nm,0.6s
ELK Elko 92.09 42 P **P** **19 37 18.2 +1.3**
comp=Z,2.6nm,0.9s,baz=248,slow=5.3,SNR=9.8
comp=Z,2.6nm,0.9s
MTPU Mount Pierson 92.18 46 IAmb IAmb 19 37 21.4
comp=Z,7.2nm,1.1s
G06A Carlson Farm, 92.20 36 IAmb IAmb 19 37 19.2
comp=Z,7.2nm,1.0s
ENH Enshi 92.44 304 P **P** **19 37 17.2 -1.2**
TX31 Lajitas Ar. Si 92.68 57 IAmb IAmb 19 37 42.0
comp=Z,20nm,2.0s
TXAR Lajitas Array 92.68 57 P **P** **19 37 21.1 +1.4**
comp=Z,2.0nm,1.1s,baz=205,slow=5.5,SNR=9.4
TXAR PKKP **PKKPbc** **19 54 33.1 +1.4**
comp=Z,0.6nm,0.8s,baz=38,slow=4.7,SNR=4.6
comp=Z,2.0nm,1.1s
CMIG Matias Romero 92.78 72 LR LR 20 11 58.7
comp=Z,63nm,18.6s,baz=175,slow=31
NNA Nana 92.84 106 LR LR 20 09 22.5
comp=Z,135nm,21.7s,baz=197,slow=29
LYN LuoYang 92.89 309 *eP* **P** **19 37 22.0 +1.6**
LYN pmax pmax
comp=Z,35nm,0.5s
G08A Pilot Rock 93.09 37 IAmb IAmb 19 37 24.2
comp=Z,9.1nm,1.2s
HNS HongShan 93.16 312 ||P **P** **19 37 21.9 +0.4**
HNS pmax pmax
comp=Z,14nm,1.0s
BBB Bella Bella 93.86 28 LR LR 20 14 40.5
comp=Z,123nm,18.8s,baz=216,slow=32
SRU San Rafael Swe 93.87 46 IAmb IAmb 19 38 19.6
comp=Z,4.6nm,0.4s
ANMO Albuquerque 93.98 51 LR LR 20 15 44.5
comp=Z,183nm,18.0s,baz=52,slow=33

ANMO Albuquerque 93.98 51 *i* P **P** **19 37 25.1 -0.6**
ANMO pmax pmax
comp=Z,5.0nm,3.3s
CMAR Chiang Mai Arr 94.03 289 P **P** **19 37 25.7 -0.4**
CMAR Chiang Mai Arr 94.03 289 P **P** **19 37 26.3 +0.3**
comp=Z,3.6nm,1.0s,baz=146,slow=3.1,SNR=12
CMAR LR LR 20 23 09.4
comp=Z,38nm,19.1s,baz=190,slow=38
comp=Z,3.6nm,1.0s
CMAR Chiang Mai Arr 94.03 289 *ce*P **P** **19 37 26.1 +0.1**
CMAR pmax pmax
comp=Z,4.0nm,1.1s
ATAH Atahualpa 94.14 101 LR LR 20 15 02.0
comp=Z,50nm,18.1s,baz=243,slow=32
MA2 Magadan 94.37 344 P **P** **19 37 25.5 -1.1**
MA2 IAmb IAmb 19 37 26.7
comp=Z,11nm,0.9s
MA2 Magadan 94.37 344 LR LR 20 15 13.1
comp=Z,117nm,21.3s,baz=86,slow=33
MA2 Magadan 94.37 344 *ce*P **P** **19 37 26.3 -0.3**
MA2 pmax pmax
comp=Z,15nm,1.3s
PLID Pearl Lake 94.51 39 P **P** **19 37 28.8 +0.9**
XAN Xi'an 94.98 307 P **P** **19 37 34.3 +4.2**
PZH PanZhiHua 96.06 297 P **P** **19 37 37.3 +2.0**
PZH pmax pmax
comp=Z,8.0nm,0.7s
XLT XiLinHaoTe 96.32 318 *eP* **P** **19 37 39.9 +3.9**
XLT pmax pmax
comp=Z,5.0nm,0.7s
LOHW Long Hollow 96.57 42 IAmb IAmb 19 38 16.5
comp=Z,12nm,1.9s
PDAR Pinedale Array 96.67 43 PKKPbc PKKPbc 19 54 22.1 +0.3
comp=Z,0.9nm,0.8s,baz=83,slow=5.3,SNR=8.0
SEY Seymchan 97.05 347 *eP* **P** **19 37 37.1 -1.6**
SEY pmax pmax
comp=Z,11nm,1.0s
HHC Hu-ho-hao-te 97.17 314 *eP* Pdif 19 37 40.3 +0.2
HHC pmax pmax
comp=Z,9.0nm,0.6s
ZEA Zeya 97.30 331 *i* P **P** **19 37 39.4 -0.6**
LPAZ La Paz 97.44 114 LR LR 20 11 43.8
comp=Z,39nm,21.1s,baz=202,slow=29
TNCH TengChong 97.77 294 ||P Pdif 19 37 44.5 +1.3
TNCH sP pP 19 37 50.6 +0.8
TNCH pmax pmax
comp=Z,5.0nm,2.4s
DLBC Dease Lake 97.95 23 LR LR 20 15 35.5
comp=Z,53nm,21.3s,baz=248,slow=32
ILAR Eielson Array 98.86 13 P **P** **19 37 46.5 -0.4**
comp=Z,0.9nm,0.8s,baz=212,slow=5.1,SNR=6.4
comp=Z,0.9nm,0.8s
CPUP Villa Florida 99.10 128 LR LR 20 15 42.3
comp=Z,38nm,18.9s,baz=218,slow=31
BILL Bilibino 99.90 354 *ce*P **Pdif** **19 37 51.5 +0.1**
BILL pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 106.24 26 PKKPbc PKKPbc 19 53 52.6 -1.5
comp=Z,0.9nm,0.9s,baz=38,slow=2.8,SNR=7.5
ULM Lac du Bonnet 108.62 42 PKKPab PKKPab 19 53 56.6 +0.6
comp=Z,3.6nm,0.8s,baz=41,slow=3.6,SNR=6.4
WMQ Urumqi 114.11 308 *e*PKP **PKiKP** **19 42 47.5 +0.9**
BOSA Boshof 116.43 202 PKP **PKiKP** **19 42 53.0 +1.2**
comp=Z,3.7nm,0.9s,baz=96,slow=3.8,SNR=3.0
BOSA Boshof 116.43 202 PKIKP **PKiKP** **19 42 53.0 +1.2**
RES Resolute Bay 118.14 17 PKPdf **PKPdf** **19 42 52.1 -1.2**
RES Resolute Bay 118.14 17 PKIKP **PKPdf** **19 42 52.1 -1.2**
MK31 Makanchi Array 118.67 310 *c i* PKIKP **PKPdf** **19 42 54.7 -0.5**
MKAR Makanchi Array 118.67 310 PKPdf **PKPdf** **19 42 53.7 -1.5**
MKAR Makanchi Array 118.67 310 PKP **PKPdf** **19 42 54.7 -0.5**
comp=Z,5.5nm,0.8s,baz=93,slow=1.0,SNR=38
ZALV Zalesovo Beam 119.01 318 PKPdf **PKPdf** **19 42 54.1 -1.4**
ZALV Zalesovo Beam 119.01 318 PKP **PKPdf** **19 42 54.9 -0.7**
comp=Z,1.7nm,0.7s,baz=259,slow=0.8,SNR=9.7
NRIK Noril'sk 120.70 336 PKP **PKPdf** **19 42 57.6 -0.8**
comp=Z,5.4nm,0.8s,baz=78,slow=4.1,SNR=5.3
NRIK Noril'sk 120.70 336 *c i* PKIKP **PKiKP** **19 42 58.7 +0.2**
KSH Kashi 121.03 300 PKP **PKiKP** **19 43 00.8 +0.6**
ULHL Ulahol 121.59 303 P **PKiKP** **19 43 01.6 +0.2**
SNR=5.3
KURK Kurchatov 121.98 313 PKPdf **PKPdf** **19 43 00.7 -0.7**
KURK Kurchatov 121.98 313 P **PKPdf** **19 43 01.1 -0.3**
KURK Kurchatov 121.98 313 *c i* PKIKP **PKPdf** **19 43 01.1 -0.3**
KURK pmax pmax
comp=Z,26nm,1.3s
KURBB Kurchatov Arra 122.02 313 PKP **PKPdf** **19 43 00.8 -0.6**
comp=Z,15nm,0.9s,baz=110,slow=1.9,SNR=92
TKM2 Tokmak 2 122.23 304 P **PKPdf** **19 43 02.1 -0.3**
SNR=15
KBK Karagaybulak 122.62 303 P **PKiKP** **19 43 03.3 0.0**
SNR=14
CHMS Chumysh 122.85 304 P **PKiKP** **19 43 03.7 +0.1**
SNR=16
AAK Ala-Archa 122.94 303 PKPdf **PKPdf** **19 43 03.5 -0.3**
AAK Ala-Archa 122.94 303 PKP **PKiKP** **19 43 04.0 0.0**
comp=Z,8.0nm,0.8s,baz=137,slow=2.5,SNR=40
AAK PKKPbc **PKKPbc** **19 52 56.8 +1.0**
comp=Z,1.5nm,0.9s,baz=159,slow=3.4,SNR=4.5
AAK Ala-Archa 122.94 303 P **PKiKP** **19 43 03.8 -0.1**
AAK Ala-Archa 122.94 303 P **PKiKP** **19 43 04.2 +0.2**
SNR=13
AAK Ala-Archa 122.94 303 *c i* PKIKP **PKiKP** **19 43 04.1 +0.2**
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 122.94 303 *i* PKPdf **PKiKP** **19 43 03.9 0.0**
SNR=19
USP Ospenovka 123.09 304 P **PKiKP** **19 43 03.9 -0.2**
SNR=19
AML Almayashu 123.39 302 P **PKiKP** **19 43 05.7 +0.5**
SNR=25
EKS2 Erkin-Say 123.46 303 P **PKiKP** **19 43 05.4 +0.5**
SNR=14
KBL Kabul 124.91 292 PKPdf **PKiKP** **19 43 08.0 -0.2**
KBL Kabul 124.91 292 P **PKiKP** **19 43 08.7 +0.5**
SNR=17
KBL Kabul 124.91 292 PKIKP **PKiKP** **19 43 08.0 -0.2**
KKAR Karatay Array 125.90 303 PKPdf **PKPdf** **19 43 09.0 -0.2**
KKAR Karatay Array 125.90 303 PKIKP **PKPdf** **19 43 09.0 -0.2**
SIMJ Simiganj 126.03 297 PKPdf **PKPdf** **19 43 09.6 -0.2**
SCHQ Schefferville 126.79 42 **PKPdf** **19 43 10.5 0.0**
SCHQ Schefferville 126.79 42 PKP **PKiKP** **19 43 10.7 -0.3**
comp=Z,6.3nm,0.9s,baz=286,slow=4.6,SNR=7.4
LSZ Lusaka 127.35 212 PKPdf **PKiKP** **19 43 14.2 +0.7**
LSZ Lusaka 127.35 212 P **PKiKP** **19 43 15.2 +1.7**
LSZ Lusaka 127.35 212 PKIKP **PKiKP** **19 43 14.2 +0.7**
BVAR Borovoye Array 127.36 315 PKP **PKiKP** **19 43 11.8 -0.4**
comp=Z,13nm,0.7s,baz=98,slow=3.0,SNR=56
BRVK Borovoye 127.42 315 PKPdf **PKPdf** **19 43 11.5 -0.3**
BRVK Borovoye 127.42 315 P **PKiKP** **19 43 12.3 0.0**
BRVK Borovoye 127.42 315 *c i* PKIKP **PKiKP** **19 43 12.3 0.0**
BRVK pmax pmax
comp=Z,26nm,1.3s
JLN Jalan Bani Buh 128.73 274 P **PKiKP** **19 43 15.5 -0.3**
WBK Wadi Bani Khal 129.28 275 P **PKPdf** **19 43 15.8 -0.5**
MHTO MHTO 129.50 272 P **PKPdf** **19 43 16.7 +0.1**
JMDO Jabal Madar 129.93 274 P **PKiKP** **19 43 18.5 +0.3**
SMDO Samad 130.24 275 P **PKiKP** **19 43 19.1 +0.1**
BSY Bisya 130.84 274 P **PKPdf** **19 43 19.3 0.0**
HOQ Hoqain 131.06 275 P **PKPdf** **19 43 19.6 0.0**
JASK Jask - Hormozg 131.40 278 P **PKPdf** **19 43 18.4 -1.8**
ARQ Araqi 131.64 274 P **PKPdf** **19 43 20.3 -0.5**
DOK Doka 131.79 267 P **PKiKP** **19 43 21.6 -0.5**
WHFO Wadi Hawf 131.79 266 P **PKPdf** **19 43 21.4 +0.2**
SOHO SOHO 131.93 275 P **PKPdf** **19 43 21.4 +0.1**
SOHO SOHO 131.93 275 *i* PKPdf **PKPdf** **19 43 20.3 -0.9**
SNR=6.5
ABTO Aybut 131.94 265 P **PKiKP** **19 43 22.9 +0.4**
SNR=5.4
UOSS Minazif 132.49 276 **PKPdf** **19 43 20.9 -1.4**
UOSS Minazif 132.49 276 P **PKPdf** **19 43 22.3 0.0**
UOSS Minazif 132.49 276 PKPdf **PKPdf** **19 43 21.9 -0.4**
HATD Hatta, Dubai 132.51 276 P **PKiKP** **19 43 22.9 -0.5**
HATD Hatta, Dubai 132.51 276 *i* PKPdf **PKPdf** **19 43 22.5 +0.1**
SNR=6.2
ASHO Ashiyiah 132.53 276 P **PKPdf** **19 43 22.3 -0.1**
MDH Madha 132.54 277 P **PKPdf** **19 43 21.8 -0.5**
MDH Madha 132.54 277 PKPdf **PKPdf** **19 43 21.9 -0.5**
ALNE Al Ain 132.56 275 P **PKPdf** **19 43 22.2 -0.2**
ALNE Al Ain 132.56 275 *i* PKPdf **PKPdf** **19 43 22.6 +0.1**
SNR=7.3
UMZA Um Al Zommool 132.57 273 P **PKPdf** **19 43 22.7 +0.3**
MASF Masafi 132.68 277 P **PKiKP** **19 43 23.1 -0.7**
SPA0 Spitsbergen Ar 132.75 356 *e*PKPdf **PKiKP** **19 43 22.1 -0.2**
SPITS Spitsbergen Ar 132.75 356 PKP **PKPdf** **19 43 21.5 +0.3**
comp=Z,12nm,0.8s,baz=79,slow=4.3,SNR=8.5

SVE Sverdlovsk 132.89 320 *e*PKIKP **PKPdf 19 43 22.4 +0.4**
SVE pmax pmax
comp=Z,10.0nm,1.0s
SHME Shamm 132.93 278 P **PKPdf 19 43 23.4 +0.3**
FAQ Al Faqa, Dubai 132.94 276 P **PKiKP 19 43 23.8 -0.5**
FAQ Al Faqa, Dubai 132.94 276 PKPdf **PKPdf 19 43 23.5 +0.3**
NAZ Nazwa, Dubai 132.97 276 PKPdf **PKPdf 19 43 23.6 +0.4**
ASUD Al Ashush, Dub 133.13 275 P **PKiKP 19 43 24.6 0.0**
ASUD Al Ashush, Dub 133.13 275 PKPdf **PKiKP 19 43 24.1 -0.5**
ABKAR Abkulak array 133.81 310 PKPdf **PKPdf 19 43 23.1 -0.8**
MZR Muzera 134.11 273 P **PKiKP 19 43 26.5 -0.2**
MZR Muzera 134.11 273 *i* PKPdf **PKiKP 19 43 26.6 -0.2**
SNR=9.5
ARTI Arti 134.19 320 **PKPdf** **PKPdf 19 43 24.4 -0.1**
ARTI Arti 134.19 320 *i* PKIKP **PKiKP 19 43 25.5 -0.3**
ARTI 19 45 57.3
GHWR Ruwais 134.98 274 P **PKiKP 19 43 28.3 -0.1**
JRN Qarnain Island 135.35 275 P **PKiKP 19 43 29.6 +0.5**
KIRV Kirov 138.34 325*c* *i*PKIKP **PKiKP 19 43 33.0 -1.1**
HAMF Hammerfest 139.01 349 *e*PKPdf **PKPdf 19 43 31.9 -1.1**
ARCES ARCESS Array B 139.66 348 PKhKP PKPpre 19 43 25.5
comp=Z,6.7nm,0.8s,baz=43,slow=2.6,SNR=21
JETT Jettan, Norway 140.48 350 *e*PKPdf **PKPdf 19 43 33.5 -2.3**
RAYN Ar Rayn 141.12 269 ⇑PKHKP PKPpre 19 43 31.0
KLMR Klimovskoe 141.82 331 *e*PKIKP **PKPdf 19 43 35.8 -2.5**
KLMR pmax pmax
comp=Z,22nm,0.7s
STEI Steigen 142.69 352 *e*PKPdf **PKPdf 19 43 39.2 -0.5**
FAUS Fauske 143.21 352 *e*PKPdf **PKPdf 19 43 41.8 +1.2**
STOK Stokkvaagen 144.48 353 *e*PKPdf PKPbc 19 43 41.8 +0.4
LEIR Leirfjorden 144.68 352 *e*PKPbc PKPbc 19 43 42.3 +0.2
GNI Garni 144.82 296 PKPdf PKPbc 19 43 43.6 0.0
GNI Garni 144.82 296 P PKPbc 19 43 43.8 +0.2
GNI Garni 144.82 296 *i* PKIKP **PKPab 19 43 42.9 -0.7**
VRH Novokhopyorsk 145.00 316 *e*PKIKP PKPbc 19 43 42.2 -1.4
VRH pmax pmax
comp=Z,27nm,0.6s
MOS Moscow 145.36 325 *i* PKIKP **PKPbc 19 43 43.7 -0.9**
MOS *e* 19 46 59.9
MOS pmax pmax
comp=Z,130nm,0.9s
GOF Gofitskoye 145.65 305*ce*PKIKP **PKPdf 19 43 45.1 -0.5**
KBZ Khabaz 145.94 303 PKPbc **PKPbc 19 43 46.8 -0.1**
comp=Z,34nm,1.0s,baz=83,slow=2.4,SNR=35
KBZ Khabaz 145.94 303*c* *i*PKIKP **PKPab 19 43 47.0 -0.3**
KIV Kislovodsk 146.06 303 PKPdf **PKPbc 19 43 47.2 -0.1**
KIV Kislovodsk 146.06 303 P **PKPbc 19 43 46.9 -0.5**
KIV Kislovodsk 146.06 303 ⇑P **PKPab 19 43 48.2 +0.2**
KIV Kislovodsk 146.06 303 *i* PKP2 **PKPbc 19 43 47.2 -0.1**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV MLR MLR
comp=Z,83nm,25.0s
PUL Pulkovo 146.06 335*c* *i*PKP2 **PKPab 19 43 46.8 -0.5**
PUL pmax pmax
comp=Z,515nm,0.7s
LPSR Galich'ya Gora 146.10 319 *e*PKIKP **PKPdf 19 43 45.4 -0.7**
LPSR pmax pmax
comp=Z,210nm,1.0s
SHA1 Shidzhatmaz 146.11 303 *i* PKIKP **PKPdf 19 43 45.7 -1.0**
OBN Obninsk 146.19 325 ⇓P **PKiKP 19 43 49.6 -0.7**
OBN Obninsk 146.19 325*d* *i*PKP2 **PKPab 19 43 48.6 +0.7**
OBN 19 50 59.0
OBN pmax pmax
comp=Z,156nm,0.9s
FINES FINESS Array B 146.22 340 PKPbc **PKPbc 19 43 46.8 -0.3**
comp=Z,180nm,0.8s,baz=37,slow=3.6,SNR=393
VORR Voronezh 146.31 318 *e*PKIKP **PKPdf 19 43 45.2 -1.3**
VORR pmax pmax
comp=Z,130nm,0.9s
NSS Namsos 146.34 353 *e*PKPdf **PKPbc 19 43 47.5 +0.1**
VSR Storozhevoye 146.51 317 *e*PKIKP **PKPdf 19 43 46.0 -0.8**
VSR pmax pmax
comp=Z,130nm,0.9s
VORD Divnogorie 146.52 316 *e*PKP2 **PKPdf 19 43 47.4 +0.6**
VORD pmax pmax
comp=Z,100nm,1.0s
ERBR Yeremizino-Bor 147.29 307 *i* PKP2 **PKPbc 19 43 50.8 +0.1**
ERBR pmax pmax
comp=Z,75nm,0.7s
LABN Labinsk 147.34 305 *i* PKP2 **PKPab 19 43 51.7 -1.1**
LABN pmax pmax
comp=Z,15nm,0.4s
VSU Vasula 148.29 336*c* *i*PKP2 **PKPbc 19 43 52.4 -0.5**
VSU pmax pmax
comp=Z,218nm,1.3s
MOL Molde 148.67 355 *ep*PKPdf **PKPbc 19 43 54.2 +0.4**
DOMB Dombas 149.07 354 *ep*PKPdf **PKPbc 19 43 55.2 +0.2**
AKN Aaknes 149.10 356 *e* **PKiKP 19 43 55.9 -0.3**
ANN Anapa 149.60 306 *e*PKP2 **PKPbc 19 43 56.7 0.0**
ANN pmax pmax
comp=Z,106nm,0.9s
FOO Floro 149.78 357 *e*PKPbc **PKiKP 19 43 57.6 +0.1**
NB2 NORSAR Subarra 149.82 351 PKP **PKPbc 19 43 57.1 +0.3**
comp=Z,5.6nm,0.6s,baz=26,slow=2.9
NOA NORSAR Array B 149.82 351 PKPbc **PKPdf 19 43 54.2 +2.2**
comp=Z,8.9nm,0.7s,baz=14,slow=4.1,SNR=33
NC602 NORSAR Array S 150.07 351 *ep*PKPdf **PKPbc 19 43 57.0 -0.3**
HFS Hagfors 150.32 349 PKPbc **PKPbc 19 43 57.8 -0.2**
comp=Z,22nm,0.8s,baz=72,slow=4.8,SNR=23
SKAR Skarslia 150.48 354 *e*PKPbc **PKiKP 19 43 59.3 +0.1**
MNK Minsk 150.63 329 *i* PKiKP **PKiKP 19 43 59.5 0.0**
comp=E,33nm,0.8s
MNK *i* PKiKP **PKiKP 19 43 59.5 0.0**
comp=N,29nm,1.0s
MNK *i* PKiKP **PKiKP 19 43 59.5 0.0**
comp=Z,147nm,0.9s,baz=49
MNK *i* PPP PPP 19 50 27.9
MNK *i* SSS SSS 20 12 38.4
MNK Minsk 150.63 329 *i* PKIKP **PKiKP 19 43 59.5 0.0**
MNK *i* 19 50 58.3
MNK *i* SS SS 20 06 56.6 +3.1
MNK *i* SSS SSS 20 12 38.3
MNK pmax pmax
comp=Z,147nm,0.9s
MNK pmax pmax
comp=E,33nm,0.8s
MNK pmax pmax
comp=N,29nm,1.0s
NACGM Naroch 150.83 331 ⇑ *i*PKiKP **PKiKP 19 43 59.6 -0.4**
comp=Z,13μm,0.8s,baz=46
ASK Askoy 150.88 357 *e*PKPbc **PKiKP 19 43 59.9 0.0**
BER Bergen 150.98 357 *e*PKPbc **PKiKP 19 44 00.2 +0.2**
FKH Fakeheh 151.33 285 *eP* **PKiKP 19 44 02.3 +0.4**
KONO Kongsberg 151.37 352 *e*PKPbc **PKiKP 19 44 00.8 -0.1**
KONO Kongsberg 151.37 352 ⇑PKIKP **PKPbc 19 44 00.4 0.0**
ODD1 Odda 151.38 356 *e*PKPbc **PKiKP 19 44 00.9 -0.1**
BEIL Beino 151.54 285 *eP* **PKiKP 19 44 02.6 +0.4**
HWQ Hawqa 151.72 285 *eP* **PKiKP 19 44 02.7 0.0**
ZAHL Zahle 151.74 284 *eP* **PKiKP 19 44 03.2 +0.5**
RCY Rachaya 151.75 283 *eP* **PKiKP 19 44 03.4 +0.6**
STRU Stroemstad 151.76 350 *i* P **PKPbc 19 44 00.7 -0.7**
SHBL Chebaa 151.81 283 *eP* **PKiKP 19 44 03.5 +0.5**
SIM Simferopol' 151.83 308 *e*PKIKP **PKiKP 19 44 03.0 +0.6**
SIM pmax pmax
comp=Z,93nm,1.0s
BLS5 Blasjo 151.87 356 *e*PKPbc **PKiKP 19 44 02.2 +0.2**
QRWL Qaraoun 151.88 283 *eP* **PKiKP 19 44 03.5 +0.5**
BHL Bhannes 151.93 284 *eP* **PKiKP 19 44 03.5 +0.5**
DQRL Deir Qamar 151.99 284 *eP* **PKiKP 19 44 03.9 +0.7**
MMAI Mount Meron Ar 152.07 282 PKPbc **PKiKP 19 44 04.2 +0.8**
comp=Z,73nm,0.6s,baz=74,slow=6.2,SNR=188
KMY Karmoy 152.15 357 *e*PKPbc **PKiKP 19 44 03.5 +0.9**
AKASG Malin Array Be 152.31 322 PKPbc **PKiKP 19 44 03.0 -0.2**
comp=Z,50nm,0.8s,baz=53,slow=2.8,SNR=31
AKASG Malin Array Be 152.31 322 PKIKP **PKiKP 19 44 03.0 -0.2**
KIEV Kiev 152.32 322 ⇓P **PKiKP 19 44 03.0 -0.1**
KIEV Kiev 152.32 322 ⇓PKIKP **PKiKP 19 44 03.0 -0.1**
TJOU Tjoern 152.66 349 *i* P **PKPbc 19 44 02.8 -0.6**
BORU Boraas 152.84 348 *i* P **PKPbc 19 44 02.9 -0.9**
HOMB Homborsund 152.84 353 *e*PKPbc **PKiKP 19 44 04.5 +0.5**
HOMB Homborsund 152.84 353 *i* P **PKPbc 19 44 03.7 -0.1**
SNART Snartemo 152.89 354 *e*PKPbc **PKiKP 19 44 04.7 +0.6**
SNART Snartemo 152.89 354 *i* P **PKPbc 19 44 03.1 -0.8**
SUW Suwalki 152.94 333 *e*PKP **PKiKP 19 44 04.7 +0.4**
ONAU Onsala 153.21 348 *i* P **PKPbc 19 44 03.4 -1.3**
KIRS Kirsehir-Merke 153.22 295 ⇑P **PKiKP 19 44 05.4 -0.1**
BR131 Keskin Array S 153.35 297 P **PKPdf 19 44 01.6 +3.4**
BRTR Keskin Array B 153.35 297 PKP **PKPdf 19 43 57.4 -0.8**
comp=Z,1.0nm,0.8s,baz=132,slow=3.7,SNR=5.6
BRTR PKPbc **PKPbc 19 44 05.6 -0.2**
comp=Z,22nm,1.0s,baz=135,slow=4.1,SNR=56
BLEU Blekinge 153.41 343 *i* P **PKPbc 19 44 04.3 -0.8**
FABU Falkenberg 153.44 347 *i* P **PKPbc 19 44 04.8 -0.4**
DEL Delary 153.71 346 *i* P **PKiKP 19 44 05.8 -0.1**
ANTO Ankara 153.97 297 ⇓P **PKPbc 19 44 06.3 -0.7**
ANTO Ankara 153.97 297 ⇓PKIKP **PKPbc 19 44 06.3 -0.7**
PURM Purcari 154.01 313 ⇓P **PKiKP 19 44 06.6 -0.2**
SORM Soroca 154.16 318 ⇓P **PKiKP 19 44 07.4 +0.4**
SORM Soroca 154.16 318 ⇓PKIKP **PKiKP 19 44 07.4 +0.4**
DBIC Dimbokro 154.45 163 PKPbc **PKiKP 19 44 09.7 +1.0**
comp=Z,8.6nm,1.0s,baz=216,slow=3.2,SNR=3.8
DBIC PKPab **PKPab 19 44 22.7 -0.1**
comp=Z,7.7nm,0.8s,baz=60,slow=1.1,SNR=4.3
MILM Milestii Mici 154.49 315 ⇓P **PKPbc 19 44 07.4 -0.3**
MILM Milestii Mici 154.49 315 ⇓PKIKP **PKPbc 19 44 07.4 -0.3**
BEL Belsk 155.53 332 *e*PKP PKPdf 19 44 12.3 +12
TPGR Topolog 155.64 311 ⇑P PKPdf 19 44 11.0 +10
CFR Carcaliu 155.69 312 ⇓P PKPdf 19 44 10.5 +10
CFR Carcaliu 155.69 312 ⇓PKIKP PKPdf 19 44 10.5 +9.5
EKA Eskdalemuir Ar 155.79 8 PKP **PKPdf 19 44 00.6 -0.2**
comp=Z,1.7nm,0.9s,baz=356,slow=2.2,SNR=2.3
EKA PKPab **PKPab 19 44 26.7 -0.8**
comp=Z,3.2nm,0.8s,baz=326,slow=2.8,SNR=7.0
HARR Harsova 156.03 311 ⇑P PKPdf 19 44 12.3 +11
HARR Harsova 156.03 311 ⇑PKIKP PKPdf 19 44 12.3 +11
BURAR Bucovina Array 156.22 319 ⇓P PKPdf 19 44 13.4 +12
BURAR Bucovina Array 156.22 319 ⇓PKIKP PKPdf 19 44 13.4 +12
ONER Baraj Valea Uz 156.22 316 ⇑P PKPdf 19 44 13.1 +11
VRI Vrincioaia 156.25 314 ⇓P **PKPab 19 44 31.0 +1.1**
VRI Vrincioaia 156.25 314 ⇓PKP2 **PKPab 19 44 31.0 +1.1**
KWP Kalwaria Pacla 156.27 326 *e*PKP **PKPab 19 44 29.8 0.0**
SPBR Spulber 156.30 314 ⇑P **PKPab 19 44 29.9 -0.2**
BISRR Bisoca 156.42 314 ⇓P **PKPab 19 44 32.0 +1.3**
OZUR 156.71 316 ⇑P **PKPab 19 44 32.3 +0.4**
NEHR Nehoiu 156.73 314 ⇓P **PKPab 19 44 33.6 +1.6**
MLR Muntele Rosu 156.92 314 ⇑P **PKPab 19 44 32.8 -0.1**
MLR Muntele Rosu 156.92 314 ⇑PKP2 **PKPab 19 44 32.8 -0.1**
STHS Stebnicka Huta 157.10 327 *e*PKP2 **PKPab 19 44 33.1 -0.3**
STHS Stebnicka Huta 157.10 327 *e*PKP **PKPab 19 44 33.1 -0.3**
VOIR 157.49 315 ⇓P **PKPab 19 44 36.9 +1.6**
VOIR 157.49 315 ⇓PKP2 **PKPab 19 44 36.9 +1.6**
NIE Niedzica 157.54 328 *e*PKP **PKPab 19 44 36.9 +1.6**
ARR Arges 157.78 315 ⇑P **PKPab 19 44 37.4 +0.8**
TNR Turnu Rosu 157.84 316 ⇓P **PKPab 19 44 38.8 +2.0**
TNR Turnu Rosu 157.84 316 ⇓PKP2 **PKPab 19 44 38.8 +2.0**
HUMR Humele 157.98 313 ⇓P **PKPab 19 44 37.4 0.0**
KSP Ksiaz 158.02 336 *e*PKP **PKPab 19 44 37.4 +0.2**
LANS Liptovska Anna 158.10 329 *e*PKP2 **PKPab 19 44 38.2 +0.4**
LANS Liptovska Anna 158.10 329 *e*PKP **PKPab 19 44 38.2 +0.4**
STEB Steborice 158.21 332 *e*PKPAB **PKPab 19 44 34.2 -3.9**
LOT Lotru 158.25 316 ⇑P **PKPab 19 44 39.6 +1.0**
CHVC Chvalec 158.32 336 *e*PKPAB **PKPab 19 44 38.6 0.0**
CHVC Chvalec 158.32 336 *e*PKP2 **PKPab 19 44 38.6 0.0**
DPC Dobruska-Polom 158.42 335 *e*PKPAB **PKPab 19 44 38.6 -0.5**
DPC Dobruska-Polom 158.42 335 *e*PKP2 **PKPab 19 44 38.6 -0.5**
MORC Moravsky Berou 158.43 333 *e*PKP **PKPab 19 44 36.7 -2.4**
CLL Collm 158.64 341 *i* PKP2 **PKPab 19 44 39.1 -0.8**
CLL pmax pmax
comp=Z,33nm,1.1s
CLL Collm 158.64 341 *e*PKPdif PKPdf 19 44 19.0 +14
CLL *i* PKPab **PKPab 19 44 39.1 -0.8**
comp=Z,33nm,1.1s
BRG Berggiesshubel 158.76 339 ⇓ *i*PKP **PKPab 19 44 40.3 -0.2**
BRG Amp 19 44 41.5
comp=Z,24nm,1.0s
BRG Berggiesshubel 158.76 339 P PKPab 19 44 48.0 +7.6
BRG Amp 19 44 48.4
comp=Z,3.3nm,0.7s
GZR Gura Zlata 158.87 317 ⇓P **PKPab 19 44 37.7 -3.5**
GZR Gura Zlata 158.87 317 ⇓PKP2 **PKPab 19 44 37.7 -3.5**
PVCC Panska Ves 158.87 338 *e*PKPAB **PKPab 19 44 41.1 +0.2**
PVCC Panska Ves 158.87 338 *e*PKP2 **PKPab 19 44 41.1 +0.2**
RICC Richard 159.00 339 *e*PKPAB **PKPab 19 44 42.7 +1.2**
SURR Surduc 159.03 319 ⇑P **PKPab 19 44 41.9 0.0**
JAVC Velka Javorina 159.10 331 *e*PKP **PKPab 19 44 42.2 +0.1**
HSKC Hora Svate Kat 159.15 340 *e*PKPAB **PKPab 19 44 42.3 +0.1**
VRAC Vranov 159.18 333 *e*PKP **PKPab 19 44 42.5 +0.2**
KRUC Moravsky 159.45 333 *e*PKP **PKPab 19 44 43.2 -0.3**
MODS Modra-Piesok 159.64 330 *e*PKP2 **PKPab 19 44 44.8 +0.4**
MODS Modra-Piesok 159.64 330 *e*PKP **PKPab 19 44 44.8 +0.4**
NKC Novy Kostel 159.76 341 *e*PKPAB **PKPab 19 44 44.6 -0.3**
NKC Novy Kostel 159.76 341 *e*PKP2 **PKPab 19 44 44.6 -0.3**
MDVR Moldovita 159.83 317 ⇑P **PKPab 19 44 43.9 -1.6**
ZVC Zvikov 159.93 337 *e*PKPAB **PKPab 19 44 45.6 0.0**
KHC Kasperske Hory 160.40 338 *e*PKPDF **PKPdf 19 44 02.0 -4.8**
KHC *e*PKPAB **PKPab 19 44 47.1 -0.6**
KHC Kasperske Hory 160.40 338 *e*PKIKP **PKPdf 19 44 02.0 -4.8**
KHC *e* 19 44 47.1
CKRC Cesky Krumlov 160.42 336 *e*PKPAB **PKPab 19 44 47.6 -0.2**
CKRC Cesky Krumlov 160.42 336 *e*PKP2 **PKPab 19 44 47.6 -0.2**
CONA Conrad Observa 160.57 332 *e*PKP **PKPab 19 44 48.5 -0.1**
comp=Z,10nm,1.2s
RONA Rosalia, Austr 160.58 331 *e*PKP **PKPab 19 44 48.3 -0.2**
comp=Z,11nm,1.1s
MORH Mrgy, Hungar 160.60 324 ⇓P **PKPdf 19 44 08.8 +1.9**
GERES GERESS Array B 160.61 337 PKP **PKPdf 19 44 08.7 +1.6**
comp=Z,0.2nm,0.3s,baz=95,slow=1.1,SNR=2.0
GERES PKPab **PKPab 19 44 47.8 -0.9**
comp=Z,3.2nm,0.9s,baz=20,slow=4.3,SNR=9.4
MEM Membach 160.65 353 *dP*KP **PKPab 19 44 49.8 +1.2**
BTNL Ternell 160.66 353 *dP*KP **PKPab 19 44 48.3 -0.5**
BHOU Houvegnez 160.90 353 *dP*KP **PKPab 19 44 49.8 +0.1**
BCLA Clavier 160.91 354 *dP*KP **PKPab 19 44 49.3 -0.5**
BGES Gesves 160.96 355 *dP*KP **PKPab 19 44 49.4 -0.6**
BMRD Maredsous 161.06 355 *dP*KP **PKPab 19 44 50.1 -0.3**
DOU Dourbes 161.28 356 *dP*KP **PKPab 19 44 51.3 -0.1**
WLF Walferdange 161.57 352 *dP*KP **PKPab 19 44 52.5 -0.2**
BIOA Bad Ischl, Aus 161.62 335 *i* PKP **PKPab 19 44 53.5 +0.4**
comp=Z,14nm,1.0s,SNR=5.4
TORD Torodi Ar. Bea 161.79 178 PKPdf **PKPdf 19 44 09.3 +0.1**
WATA Walderalm 162.62 339 *e*PKP **PKPab 19 44 57.8 +0.2**
comp=Z,16nm,1.2s
WTTA Wattenberg 162.66 338 *e*PKP **PKPab 19 44 57.8 0.0**
comp=Z,13nm,0.9s
RETA Reute 162.72 341 *i* PKP **PKPab 19 44 58.1 +0.2**
comp=Z,27nm,1.2s,SNR=6.9
MOTA Moosalm 162.75 340 *e*PKP **PKPab 19 44 58.0 -0.2**
comp=Z,36nm,1.1s
ABTA Abfaltersbach 162.82 336 *i* PKP **PKPab 19 44 57.6 -0.8**
comp=Z,14nm,0.9s
SQTA Sankt Quirin 162.83 339 *i* PKP **PKPab 19 44 58.3 -0.1**
comp=Z,25nm,1.1s,SNR=7.6
DAVA Damuels 163.15 342 *i* PKP **PKPab 19 44 60.0 +0.1**
comp=Z,21nm,0.9s,SNR=6.3
FETA Feichten 163.16 340 *i* PKP **PKPab 19 45 00.1 +0.1**
comp=Z,19nm,1.1s,SNR=7.1
ESDC Sonseca Array 170.30 30 PKP **PKPdf 19 44 18.2 +2.9**
comp=Z,1.2nm,0.9s,baz=345,slow=3.1,SNR=4.4
ESDC PKPab **PKPab 19 45 31.9 +0.4**
comp=Z,2.2nm,1.1s,baz=319,slow=5.0,SNR=5.3

NEIC ***21*** *19:47:20.4±1.4, 12°.77S±0°.05×74°.89W±0°.09, h78km±10km, mb4.8/26, Error ellipse: s-maj=14.2km s-min=1.0km az=60.0*
RSNC ***21*** *19:47:21.8±1.5, 13°S±10°×7°5W±°, h80km±9km, M4.6, mB5.2, mb4.8, ML3.6, Mw(mB)4.9*
IDC ***21*** *19:47:21.3±1.3, 12°.68S×74°.90W, h89km±12km, mb3.9/13, mbtmp4.3/19, MS3.6/2, Error ellipse: s-maj=15.9km s-min=10.2km az=50.0*
VAO ***21*** *19:47:22.6±0.5, 12°.67S×74°.70W, h73km, mb4.6*
ISC 21 19:47:21.6±0.4, 12°.70S±0°.06×74°.92W±0°.06, h96km, n102, σ1§25/91, mb4.7/23, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Time h m s	Res ISC
NNA	**Nana**	**2.00**	**291**	**Pn**	**19 47 53.5**	**-0.7**
NNA	**Nana**	**2.00**	**291**	P	**19 47 53.8**	**-0.4**
156nm,0.3s,baz=113,slow=12,SNR=35						
NNA				S	**19 48 19.2**	**+0.2**
1μm,0.5s,baz=204,slow=19,SNR=11						
NNA	**Nana**	**2.00**	**291**	P	**19 47 53.3**	**-0.9**
CZSB	**Cruzeiro do Su**	**5.40**	**24**	**Pn**	**19 48 39.1**	**-0.8**
CZSB	**Cruzeiro do Su**	**5.40**	**24**	*eP*	**19 48 39.2**	**-0.6**
ATAH	**Atahualpa**	**6.50**	**328**	P	**19 48 55.1**	**-0.1**
46nm,0.6s,baz=168,slow=4.5,SNR=34						
ATAH				S	**19 50 06.0**	**-2.1**
92nm,0.7s,baz=286,slow=14,SNR=4.9						
PB18	**Visviri**	**7.16**	**133**	Pn	**19 49 00.3**	**-3.8**
PB12	**IPOC Station P**	**7.36**	**144**		**Pn**	**19 49 03.6**	**-2.9**
LPAZ	**La Paz**	**7.48**	**119**		**Pn**	**19 49 08.8**	**+0.1**
LPAZ	**La Paz**	**7.48**	**119**	P	**Pn**	**19 49 09.1**	**+0.4**
9.9nm,0.6s,baz=306,slow=10,SNR=35						
LPAZ	**La Paz**	**7.48**	**119**	*eP*	**Pn**	**19 49 06.8**	**-1.9**
PB11	**IPOC Station P**	**8.65**	**145**		**Pn**	19 49 20.5	-3.7
HMBC	**Humberstone**	**8.95**	**148**		**Pn**	**19 49 24.9**	**-3.3**
TA01	**Diego Aracena**	**9.04**	**150**	Pn	Pn	19 49 25.6	-3.7
PB08	**IPOC Station P**	**9.24**	**144**		**Pn**	**19 49 29.0**	**-3.4**
PATCX	**Punta Patache**	**9.28**	**151**	Pn	**Pn**	**19 49 29.4**	**-3.2**
TBTG	**Tabatinga, AM**	**9.81**	**31**	Pn	**Pn**	**19 49 37.1**	**-2.7**
TBTG	**Tabatinga, AM**	**9.81**	**31**	*eP*	**Pn**	**19 49 39.5**	**-0.4**
COHC	**Cochancay**	**11.04**	**337**	Pn	**Pn**	**19 49 55.8**	**-0.8**
SLOR	**San Lorenzo -**	**12.41**	**343**		**Pn**	**19 50 15.0**	**-0.4**
OTAV	**Otavalo**	**13.32**	**345**	Pn	**Pn**	**19 50 26.6**	**-0.8**
OTAV	**Otavalo**	**13.32**	**345**	*eP*	**Pn**	**19 50 29.7**	**+2.3**
TEFE	**Tefe**	**13.68**	**49**	*eP*	**Pn**	**19 50 30.7**	**-0.9**
SIV	**San Ignacio**	**13.81**	**105**	P	**Pn**	**19 50 31.8**	**-1.6**
2.0nm,0.6s,baz=291,slow=13,SNR=8.5						
FLOC	**Florencia**	**14.21**	**357**		**Pn**	**19 50 38.3**	**-0.3**
VILB	**Vilhena**	**14.36**	**93**	Pn	**Pn**	**19 50 39.5**	**-1.1**
VILB	**Vilhena**	**14.36**	**93**	*eP*	**Pn**	**19 50 40.3**	**-0.2**
PTLB	**Pontes e Lacer**	**15.56**	**102**	Pn	**Pn**	**19 50 54.7**	**-1.0**
PTLB	**Pontes e Lacer**	**15.56**	**102**	*eP*	**Pn**	**19 50 55.0**	**-0.6**
MACA	**Manacapuru-AM**	**16.98**	**57**		**P**	**19 51 13.8**	**0.0**
MACA	**Manacapuru-AM**	**16.98**	**57**	*eP*	**P**	**19 51 13.9**	**+0.2**
ROSC	**El Rosal**	**17.44**	**2**	P	**P**	**19 51 17.4**	**-1.7**
3.5nm,0.3s,baz=72,slow=20,SNR=1.2						
PDRB	**Porto dos Gac**	**17.82**	**88**	*eP*	**Pn**	**19 51 24.5**	**+0.9**
MURT	**Porto Murtinho**	**18.77**	**121**	*eP*	**P**	**19 51 33.3**	**-0.1**
CLDB	**Colider**	**18.81**	**86**	*eP*	**P**	**19 51 34.7**	**+0.8**
SALV	**Santo Antonio**	**18.90**	**102**	*eP*	**P**	**19 51 35.2**	**+0.3**
BDQN	**Bodoquena, MS**	**19.03**	**116**	*eP*	**Pn**	**19 51 37.8**	**-0.2**
CFA	**Coronel Fontan**	**19.79**	**163**	P	**P**	**19 51 43.8**	**-0.7**
1.6nm,0.6s,baz=329,slow=14,SNR=5.2						
NPGB	**Novo Progresso**	**20.07**	**76**	*eP*	**P**	**19 51 47.3**	**-0.3**
BOAV	**Boa Vista**	**20.73**	**45**	P	**P**	**19 51 55.1**	**+0.5**
BOAV	**Boa Vista**	**20.73**	**45**	*eP*	**P**	**19 51 55.4**	**+0.8**
H03N1	**Juan Fernandez**	**20.96**	**189**	T	T	20 11 33.9	
baz=12,slow=74,SNR=6.5						
H03N2	**Juan Fernandez**	**20.96**	**189**	T	T	20 11 32.3	
baz=12,slow=74,SNR=71						
H03N3	**Juan Fernandez**	**20.98**	**189**	T	T	20 11 31.3	
baz=12,slow=74,SNR=91						
MT08	**Bocatoma Ro**	**21.13**	**169**	P	**P**	**19 51 57.4**	**-1.7**
MT13	**San Alfonso**	**21.37**	**169**	P	**P**	**19 52 01.7**	**+0.2**
CPUP	**Villa Florida**	**21.38**	**132**	P	**P**	**19 52 01.8**	**+0.3**
4.3nm,0.9s,baz=319,slow=9.9,SNR=6.4						
CPUP				LR	LR	20 00 44.3	
comp=Z,52nm,21.6s,baz=38,slow=38						
4.3nm,0.9s						
CPUP	**Villa Florida**	**21.38**	**132**	*eP*	**P**	**19 52 04.3**	**+2.8**
SJPY	**San Joaquin**	**21.57**	**127**	*eP*	**P**	**19 52 04.3**	**+0.7**
SDV	**Santo Domingo**	**21.87**	**11**	P	**P**	**19 52 07.8**	**+0.8**
SDV	**Santo Domingo**	**21.87**	**11**	P	**P**	**19 52 07.9**	**+0.9**
16nm,0.6s,baz=206,slow=9.4,SNR=12						
16nm,0.6s						
SDV	**Santo Domingo**	**21.87**	**11**	*eP*	**P**	**19 52 08.6**	**+1.6**
BAUV	**El Baul**	**22.57**	**18**	P	**P**	**19 52 13.9**	**-0.2**
BAUV				IAmb	IAmb	19 52 15.1	
comp=Z,37nm,0.7s						
ARAG	**Araguaiana, MT**	**22.60**	**100**	*eP*	**P**	**19 52 14.6**	**+0.1**
SNDB	**Serra Nova Dou**	**23.09**	**91**	*eP*	**P**	**19 52 19.6**	**+0.1**
BI02	**San Fabin de**	**24.08**	**173**	P	**P**	**19 52 28.5**	**+0.3**
LDASE	**Londrina, Braz**	**24.97**	**119**	*eP*	**P**	**19 52 37.5**	**+1.1**
PRPB	**Parauapebas**	**25.59**	**78**	*eP*	**P**	**19 52 42.4**	**+0.3**
ITAB	**Concordia**	**25.78**	**128**	*eP*	**P**	**19 52 45.5**	**+1.8**
IPMB	**Ipameri, GO**	**26.27**	**105**	*eP*	**P**	**19 52 49.1**	**+0.8**
FRTB	**Fartura**	**26.29**	**117**	*eP*	**P**	**19 52 50.4**	**+2.0**
PLCA	**Paso Flores**	**28.18**	**173**	P	**P**	**19 53 05.4**	**+0.2**
comp=Z,1.1nm,0.5s,baz=348,slow=8.1,SNR=3.9						
comp=Z,1.1nm,0.5s						
NBPB	**Pedra_Branca-C**	**35.58**	**82**	*eP*	**P**	**19 54 11.2**	**+1.0**
HNDO	**Hondo**	**48.12**	**331**	IAmb	IAmb	19 55 54.5	
comp=Z,9.9nm,0.6s						
WVT	**Waverly**	**50.08**	**346**	P	**P**	**19 56 05.1**	**-1.7**
TXAR	**Lajitas Array**	**50.16**	**327**	P	**P**	**19 56 08.6**	**+0.9**
comp=Z,1.3nm,0.7s,baz=150,slow=7.3,SNR=11						
comp=Z,1.3nm,0.7s						
MIAR	**Mount Ida**	**50.22**	**340**	P	**P**	**19 56 08.6**	**+0.7**
MIAR				IAmb	IAmb	19 56 09.2	
comp=Z,11nm,0.8s						
LCAR	**Lake Charles**	**50.88**	**343**	IAmb	IAmb	19 56 13.2	
comp=Z,5.8nm,0.8s						
APMT	**Aspermont**	**51.70**	**333**	P	**P**	**19 56 19.8**	**+0.7**
T42A	**Van Buren**	**51.76**	**344**	IAmb	IAmb	19 56 19.3	
comp=Z,5.9nm,0.6s						
WCI	**Wyandotte Cave**	**51.77**	**349**	P	**P**	**19 56 18.3**	**-1.1**
HHAR	**Hobbs**	**51.92**	**340**	IAmb	IAmb	19 56 21.7	
comp=Z,8.6nm,0.8s						
VHRN	**Van Horn**	**52.01**	**327**	P	**P**	**19 56 22.1**	**+0.6**
MGMO	**Mountain Grove**	**52.21**	**342**	IAmb	IAmb	19 56 23.5	
comp=Z,12nm,0.8s						
DKNS	**Dickens**	**52.34**	**332**	IAmb	IAmb	19 56 25.2	
comp=Z,7.7nm,0.8s						
CCM	**Cathedral Cave**	**52.76**	**344**	P	**P**	**19 56 27.6**	**+0.8**
CCM				pP	**pP**	**19 56 50.0**	**-1.4**
SSPA	**Standing Stone**	**53.14**	**357**	P	**P**	**19 56 30.1**	**+0.6**
SSPA				pP	**pP**	**19 56 52.4**	**-1.7**
PDAR	**Pinedale Array**	**63.68**	**332**	P	**P**	**19 57 43.4**	**+0.3**
comp=Z,0.2nm,0.

1.8nm,0.5s,baz=90,slow=8.3,SNR=30
1.8nm,0.5s

*NEIC **21** 20:07:26.2±0.9,5.7S±0.2×150.6E±0.1,h97km±19km, mb4.4/10,Error ellipse: s-maj=30.1km s-min=4.3km az=143.0*
*IDC **21** 20:07:27.1±5.5,5.71S×150.51E,h101km±46km,mb3.4/5, mbtmp3.8/6,Error ellipse: s-maj=58.2km s-min=27.7km az=103.0*
ISC 21 20:07:27.1±0.8,5.7S±0.1×150.7E±0.2,h114km,n20, σ1$21/21,mb3.8/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.14**	**45**	Pn	**Pn**	**20 08 00.1**	**-2.1**
PMG	**Port Moresby**	**5.04**	**223**	Pn	**Pn**	**20 08 39.4**	**-1.1**
PMG	**Port Moresby**	**5.04**	**223**	P	**Pn**	**20 08 39.8**	**-0.7**
	43nm,0.6s,baz=42,slow=4.3,SNR=22						
PMG				S	**Sn**	**20 09 35.2**	**-2.4**
	93nm,0.6s,baz=322,slow=19,SNR=9.1						
EIDS	**Eidsvold**	**19.53**	**179**	Pn	**Pn**	**20 11 48.4**	**+0.3**
EIDS				IAmb	IAmb	20 11 49.2	
	comp=Z,4.4nm,0.6s						
MTN	**Manton Dam**	**20.51**	**248**	P	**P**	**20 11 54.9**	**-1.5**
MTN				IAmb	IAmb	20 12 24.3	
	comp=Z,73nm,1.4s						
WB0	**Warramunga Arr**	**21.09**	**227**	P	**P**	**20 12 03.0**	**+0.3**
WB0				IAmb	IAmb	20 12 23.7	
	comp=Z,22nm,1.4s						
WR8	**Warramunga Arr**	**21.14**	**227**	P	**P**	**20 12 02.8**	**-0.3**
WR8				IAmb	IAmb	20 12 37.2	
	comp=Z,26nm,1.5s						
WRA	**Warramunga Arr**	**21.24**	**227**	P	**P**	**20 12 03.0**	**-1.2**
WRA	**Warramunga Arr**	**21.24**	**227**	P	**P**	**20 12 03.7**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=52,slow=11,SNR=22						
	comp=Z,1.9nm,0.4s						
KNRA	**Kununurra**	**23.65**	**244**	P	**P**	**20 12 28.1**	**-0.2**
KNRA				IAmb	IAmb	20 12 48.6	
	comp=Z,56nm,1.4s						
AS31	**Alice Springs**	**24.04**	**220**	P	**P**	**20 12 33.1**	**+1.2**
ASAR	**Alice Springs**	**24.04**	**220**	P	**P**	**20 12 30.7**	**-1.2**
ASAR	**Alice Springs**	**24.04**	**220**	P	**P**	**20 12 32.9**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=56,slow=9.2,SNR=34						
	comp=Z,1.3nm,0.4s						
ARMA	**Armidale**	**24.57**	**178**	P	**P**	**20 12 37.3**	**+0.6**
ARMA				IAmb	IAmb	20 12 54.8	
	comp=Z,10nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.34**	**241**	P	**P**	**20 13 01.4**	**-0.2**
STKA	**Stephens Creek**	**27.36**	**197**	P	**P**	**20 13 02.9**	**+1.3**
STKA	**Stephens Creek**	**27.36**	**197**	P	**P**	**20 13 03.0**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=27,slow=16,SNR=4.7						
	comp=Z,1.1nm,0.5s						
FORT	**Forrest**	**32.74**	**218**	P	**P**	**20 13 49.7**	**+0.6**
SONM	**Songino Array**	**65.99**	**329**	P	**P**	**20 18 03.0**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=149,slow=4.5,SNR=4.3						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**83.83**	**22**	P	**P**	**20 19 44.1**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=233,slow=4.4,SNR=1.0						
	comp=Z,0.3nm,0.8s						

*IDC **21** 20:12:29.2±0.5,66.62N×130.44W,h0km,mb3.8/16, mbtmp3.8/20,ML4.1/4,Error ellipse: s-maj=11.9km s-min=6.7km az=54.0*
*NEIC **21** 20:12:30.6±1.4,66.67N±0.05×130.4W±0.1,h10km±2km, mb4.0/8,Mwr4.0(OTT),Error ellipse: s-maj=10.2km s-min=8.0km az=230.0*
*NEIC **21** 20:12:30.9,66.68N×130.00W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.84; $M_{\theta\theta}$0.39; $M_{\phi\phi}$1.06; $M_{r\theta}$-0.31; $M_{r\phi}$-0.86; $M_{\theta\phi}$0.02; Fault plane solution: $M_0$1.40000×10^{15} NP1:ϕ_s344.00000°, δ44.00000°,λ-63.00000°. NP2:ϕ_s129.00000°,δ52.00000°, λ-113.00000°. Principal axes: T 1.4584, Plg4.0000°, Azm235.0000°; N -0.3221, Plg18.0000°, Azm144.0000°; P -1.1363, Plg71.0000°, Azm338.0000°;*
*PGC **21** 20:12:30.9±0.3,66.68N×130.45W,h3km,ML4.3/30, mb4.0(NEIC),93km northwest of Fort Good Hope, Nt Nw Territories - Nunavut, Canada*
*ANF **21** 20:12:32.4±0.4,66.66N×130.51W,h19km±3km,ML4.5/30, Error ellipse: s-maj=2.4km s-min=1.5km az=75.0*
ISC 21 20:12:30.0±0.5,66.64N±0.03×130.46W±0.03,h10km, n292,σ1$32/378,mb4.0/21,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
F31M	**Tsiigehtchic**	**1.52**	**304**		**Pn**	**20 12 57.7**	**+0.6**
F31M	**Tsiigehtchic**	**1.52**	**304**	P	**Pb**	**20 12 58.1**	**-0.1**
F31M				S	**Sb**	**20 13 18.1**	**+0.5**
F31M	**Tsiigehtchic**	**1.52**	**304**	P	**Pb**	**20 12 58.2**	**-0.1**
	baz=119,SNR=452						
F31M				S	**Sb**	**20 13 18.1**	**+0.5**
	baz=119						
G31M	**Satah River**	**1.54**	**283**		**Pn**	**20 12 58.4**	**+1.0**
G31M	**Satah River**	**1.54**	**283**	P	**Pb**	**20 12 58.5**	**0.0**
G31M				S	**Sb**	**20 13 18.5**	**+0.5**
G31M	**Satah River**	**1.54**	**283**	P	**Pb**	**20 12 58.5**	**0.0**
	baz=97,SNR=1000						
G31M				S	**Sg**	**20 13 18.8**	**-0.6**
	baz=97						
H31M	**Peel River**	**1.78**	**244**		**Pn**	**20 13 01.7**	**+0.9**
H31M	**Peel River**	**1.78**	**244**	Pn	**Pn**	**20 13 02.1**	**+1.3**
H31M				Sn	**Sb**	**20 13 25.0**	**-0.1**
H31M	**Peel River**	**1.78**	**244**	P	**Pn**	**20 13 02.1**	**+1.3**
	baz=59,SNR=1000						
H31M				S	**Sb**	**20 13 25.1**	**0.0**
	baz=59						
INK	**Inuvik**	**2.05**	**326**		**Pn**	**20 13 04.6**	**+0.1**
INK	**Inuvik**	**2.05**	**326**	Pn	**Pn**	**20 13 04.4**	**0.0**
	47nm,0.3s,baz=144,slow=10,SNR=389						
INK				Lg	Lg	20 13 33.5	
	76nm,0.3s,baz=157,slow=11,SNR=7.2						
	326nm,0.6s						
INK	**Inuvik**	**2.05**	**326**	Pn	**Pn**	**20 13 05.0**	**+0.6**
INK				Sg	**Sb**	**20 13 33.8**	**+1.0**
INK	**Inuvik**	**2.05**	**326**	P	**Pn**	**20 13 05.0**	**+0.6**
	baz=142,SNR=193						
INK				Sb	**Sg**	**20 13 34.4**	**-1.5**
	baz=142						
F30M	**Barrier River**	**2.30**	**298**	Pn	**Pn**	**20 13 09.1**	**+1.2**
F30M				Sn	**Sn**	**20 13 36.6**	**+0.3**
F30M				Sg	**Sb**	**20 13 40.8**	**+0.8**
F30M	**Barrier River**	**2.30**	**298**	P	**Pn**	**20 13 09.2**	**+1.2**
	baz=111,SNR=1000						
F30M				Sb	**Sb**	**20 13 41.2**	**+1.3**
	baz=111						
G30M	**tAoh Zraii Nji**	**2.31**	**281**	Pn	**Pn**	**20 13 08.5**	**+0.4**
G30M	**tAoh Zraii Nji**	**2.31**	**281**	Pn	**Pn**	**20 13 08.6**	**+0.6**
G30M				Sn	**Sn**	**20 13 36.6**	**+0.1**
G30M				Sg	**Sb**	**20 13 41.4**	**+1.1**
G30M	**tAoh Zraii Nji**	**2.31**	**281**	P	**Pn**	**20 13 08.7**	**+0.6**
	baz=95						
G30M				S	**Sn**	**20 13 36.9**	**+0.4**
	baz=95						
EPYK	**Eagle Plains**	**2.52**	**267**		**Pn**	**20 13 11.5**	**+0.4**
EPYK	**Eagle Plains**	**2.52**	**267**	Pn	**Pn**	**20 13 11.7**	**+0.7**
EPYK				Sn	**Sn**	**20 13 42.0**	**+0.2**
EPYK				Sg	**Sb**	**20 13 48.6**	**+2.2**
EPYK	**Eagle Plains**	**2.52**	**267**	P	**Pn**	**20 13 11.8**	**+0.7**
	baz=80,SNR=61						
EPYK				S	**Sn**	**20 13 43.1**	**+1.3**
	baz=80						
I30M	**Mount Dempster**	**2.81**	**242**	Pn	**Pn**	**20 13 16.5**	**+1.5**
I30M				Sn	**Sn**	**20 13 49.7**	**+0.7**
I30M	**Mount Dempster**	**2.81**	**242**	P	**Pn**	**20 13 16.6**	**+1.5**
	baz=56,SNR=613						
I30M				S	**Sn**	**20 13 50.1**	**+1.1**
	baz=56						
G29M	**Pine Creek**	**3.01**	**279**		**Pn**	**20 13 18.4**	**+0.7**
G29M	**Pine Creek**	**3.01**	**279**	Pn	**Pn**	**20 13 18.4**	**+0.7**
G29M				Sn	**Sn**	**20 13 53.6**	**-0.1**
G29M	**Pine Creek**	**3.01**	**279**	P	**Pn**	**20 13 18.3**	**+0.7**
	baz=91						
G29M				S	**Sn**	**20 13 54.4**	**+0.6**
	baz=91						
J30M	**Hart River**	**3.20**	**232**		**Pn**	**20 13 22.4**	**+2.1**
J30M	**Hart River**	**3.20**	**232**	Pn	**Pn**	**20 13 22.3**	**+1.9**
J30M				Sn	**Sn**	**20 13 58.6**	**0.0**
J30M	**Hart River**	**3.20**	**232**	P	**Pn**	**20 13 21.8**	**+1.4**
	baz=47,SNR=174						
J30M				S	**Sn**	**20 13 59.5**	**+0.9**
	baz=47						
H29M	**Whitestone**	**3.21**	**266**		**Pn**	**20 13 21.2**	**+0.8**
H29M	**Whitestone**	**3.21**	**266**	Pn	**Pn**	**20 13 21.1**	**+0.7**
H29M				Sn	**Sn**	**20 13 59.1**	**+0.4**
H29M	**Whitestone**	**3.21**	**266**	P	**Pn**	**20 13 21.1**	**+0.7**
	baz=78						
H29M				S	**Sn**	**20 13 59.0**	**+0.4**
	baz=78						
E29M	**Blow River**	**3.36**	**305**		**Pn**	**20 13 23.2**	**+0.7**
E29M	**Blow River**	**3.36**	**305**	Pn	**Pn**	**20 13 23.4**	**+1.0**
E29M				Sn	**Sn**	**20 14 02.0**	**-0.3**
E29M	**Blow River**	**3.36**	**305**	P	**Pn**	**20 13 23.1**	**+0.7**
	baz=117,SNR=244						
E29M				S	**Sn**	**20 14 03.7**	**+1.4**
	baz=117						
I29M	**Ogilvie Camp,**	**3.45**	**252**		**Pn**	**20 13 24.7**	**+0.9**
I29M	**Ogilvie Camp,**	**3.45**	**252**	Pn	**Pn**	**20 13 25.2**	**+1.4**
I29M				Sn	**Sn**	**20 14 03.7**	**-1.0**
I29M	**Ogilvie Camp,**	**3.45**	**252**	P	**Pn**	**20 13 24.9**	**+1.2**
	baz=64,SNR=17						
I29M				S	**Sn**	**20 14 05.3**	**+0.6**
	baz=64						
C36M	**Paulatuk**	**3.63**	**39**	Pn	**Pn**	**20 13 26.5**	**+0.4**
C36M	**Paulatuk**	**3.63**	**39**	Pn	**Pn**	**20 13 26.6**	**+0.4**
C36M				Sn	**Sn**	**20 14 07.4**	**-1.6**
C36M	**Paulatuk**	**3.63**	**39**	P	**Pn**	**20 13 26.6**	**+0.5**
	baz=225,SNR=133						
C36M				S	**Sn**	**20 14 09.2**	**+0.2**
	baz=225						
MAYO	**Mayo, Yukon**	**3.82**	**219**		**Pn**	**20 13 29.6**	**+0.8**
MAYO	**Mayo, Yukon**	**3.82**	**219**	Pn	**Pn**	**20 13 29.6**	**+0.8**
MAYO				Sn	**Sn**	**20 14 14.7**	**+0.9**
MAYO				Sg	**Sg**	**20 14 29.6**	**-2.9**
MAYO	**Mayo, Yukon**	**3.82**	**219**	S	**Sn**	**20 14 15.3**	**+1.6**
	baz=34						
J29N	**Klondike Camp**	**3.90**	**239**		**Pn**	**20 13 31.5**	**+1.6**
J29N	**Klondike Camp**	**3.90**	**239**	Pn	**Pn**	**20 13 31.3**	**+1.4**
J29N				Sn	**Sn**	**20 14 16.7**	**+0.9**
J29N	**Klondike Camp**	**3.90**	**239**	S	**Sn**	**20 14 17.5**	**+1.7**
	baz=52						
E28M	**Babbage River**	**3.99**	**304**	Pn	**Pn**	**20 13 31.7**	**+0.5**
E28M	**Babbage River**	**3.99**	**304**	Pn	**Pn**	**20 13 32.2**	**+1.0**
E28M				Sn	**Sn**	**20 14 17.4**	**-0.6**
E28M	**Babbage River**	**3.99**	**304**	P	**Pn**	**20 13 31.9**	**+0.7**
	baz=115						
I28M	**Miner Creek**	**4.05**	**257**	Pn	**Pn**	**20 13 32.0**	**0.0**
I28M				Sn	**Sn**	**20 14 19.5**	**+0.1**
I28M	**Miner Creek**	**4.05**	**257**	P	**Pn**	**20 13 32.2**	**+0.2**
	baz=68,SNR=143						
MMPY	**Sheldon Lake,**	**4.05**	**185**		**Pn**	**20 13 33.1**	**+1.1**
MMPY	**Sheldon Lake,**	**4.05**	**185**	Pn	**Pn**	**20 13 33.1**	**+1.1**
MMPY				Sn	**Sn**	**20 14 20.9**	**+1.5**
MMPY	**Sheldon Lake,**	**4.05**	**185**	P	**Pn**	**20 13 33.2**	**+1.1**
	baz=4.8,SNR=115						
MMPY				S	**Sn**	**20 14 22.5**	**+3.1**
	baz=4.8						
K29M	**Barlow Dome**	**4.08**	**230**	Pn	**Pn**	**20 13 34.4**	**+1.9**
K29M	**Barlow Dome**	**4.08**	**230**	P	**Pn**	**20 13 34.1**	**+1.6**
	baz=43,SNR=66						
D28M	**Stokes Point**	**4.12**	**315**	Pn	**Pn**	**20 13 32.6**	**-0.3**
D28M				Sn	**Sn**	**20 14 20.7**	**-0.4**
D28M	**Stokes Point**	**4.12**	**315**	P	**Pn**	**20 13 33.2**	**+0.3**
	baz=126						
D28M				S	**Sn**	**20 14 22.4**	**+1.3**
	baz=126						
G27K	**Doyon Strip**	**4.45**	**277**		**Pn**	**20 13 37.5**	**+0.1**
G27K	**Doyon Strip**	**4.45**	**277**	Pn	**Pn**	**20 13 37.3**	**-0.2**
G27K				Sn	**Sn**	**20 14 29.1**	**-0.1**
G27K	**Doyon Strip**	**4.45**	**277**	P	**Pn**	**20 13 37.3**	**-0.2**
	baz=86,SNR=45						
G27K				S	**Sn**	**20 14 29.3**	**+0.1**
	baz=86						
H27K	**Steamboat Moun**	**4.46**	**270**	Pn	**Pn**	**20 13 37.5**	**-0.1**
H27K				Sn	**Sn**	**20 14 29.0**	**-0.6**
H27K				Sg	**Sg**	**20 14 49.1**	**-4.0**
H27K	**Steamboat Moun**	**4.46**	**270**	P	**Pn**	**20 13 37.8**	**+0.2**
	baz=79						
WRGLY	**Wrigley**	**4.53**	**136**		**Pn**	**20 13 39.9**	**+1.4**
WRGLY	**Wrigley**	**4.53**	**136**	P	**Pn**	**20 13 40.2**	**+1.7**
	baz=323,SNR=11						
WRGLY				S	**Sn**	**20 14 34.2**	**+3.0**
	baz=323						
DAWY	**Dawson**	**4.54**	**240**		**Pn**	**20 13 40.3**	**+1.5**
DAWY	**Dawson**	**4.54**	**240**	Pn	**Pn**	**20 13 40.2**	**+1.5**
DAWY				Sn	**Sn**	**20 14 31.6**	**0.0**
DAWY	**Dawson**	**4.54**	**240**	P	**Pn**	**20 13 40.2**	**+1.5**
	baz=51,SNR=57						
DAWY				S	**Sn**	**20 14 31.8**	**+0.3**
	baz=51						
E27K	**Coleen River**	**4.57**	**295**	Pn	**Pn**	**20 13 39.8**	**+0.7**
E27K				Sn	**Sn**	**20 14 31.8**	**-0.3**
E27K	**Coleen River**	**4.57**	**295**	P	**Pn**	**20 13 39.6**	**+0.5**
	baz=104,SNR=140						
FARO	**Faro, Yukon**	**4.60**	**197**		**Pn**	**20 13 40.0**	**+0.5**
FARO	**Faro, Yukon**	**4.60**	**197**	Pn	**Pn**	**20 13 40.7**	**+1.2**
FARO				Sn	**Sn**	**20 14 33.2**	**+0.3**
FARO	**Faro, Yukon**	**4.60**	**197**	P	**Pn**	**20 13 40.4**	**+0.9**
	baz=15						
FARO				S	**Sn**	**20 14 36.2**	**+3.2**
	baz=15						
I27K	**Kandik River**	**4.65**	**262**	Pn	**Pn**	**20 13 40.4**	**+0.1**
I27K				Sn	**Sn**	**20 14 33.4**	**-0.8**
I27K	**Kandik River**	**4.65**	**262**	P	**Pn**	**20 13 40.9**	**+0.6**
	baz=72,SNR=94						
D27M	**Malcolm River**	**4.75**	**308**	Pn	**Pn**	**20 13 41.9**	**+0.3**
D27M				Sn	**Sn**	**20 14 35.7**	**-0.8**
D27M	**Malcolm River**	**4.75**	**308**	P	**Pn**	**20 13 42.3**	**+0.8**
	baz=118,SNR=9.6						
M31M	**Drury Creek, Y**	**4.77**	**203**		**Pn**	**20 13 43.5**	**+1.7**
M31M	**Drury Creek, Y**	**4.77**	**203**	Pn	**Pn**	**20 13 43.2**	**+1.4**
M31M				Sn	**Sn**	**20 14 37.9**	**+0.8**
M31M	**Drury Creek, Y**	**4.77**	**203**	P	**Pn**	**20 13 43.4**	**+1.6**
	baz=19,SNR=16						
M31M				S	**Sn**	**20 14 39.5**	**+2.4**
	baz=19						
L29M	**L29M**	**4.82**	**226**	Pn	**Pn**	**20 13 44.0**	**+1.5**
L29M				Sn	**Sn**	**20 14 38.2**	**-0.2**
L29M	**L29M**	**4.82**	**226**	P	**Pn**	**20 13 44.2**	**+1.7**
	baz=39,SNR=65						
M30M	**Minto, Yukon**	**4.90**	**217**	Pn	**Pn**	**20 13 44.9**	**+1.2**
M30M				Sn	**Sn**	**20 14 39.6**	**-0.8**
M30M	**Minto, Yukon**	**4.90**	**217**	P	**Pn**	**20 13 44.9**	**+1.2**
	baz=31						
TGTN	**Hyland Airport**	**5.22**	**168**	Pn	**Pn**	**20 13 49.8**	**+1.7**
TGTN				Sn	**Sn**	**20 14 48.7**	**+0.4**
TGTN	**Hyland Airport**	**5.22**	**168**	P	**Pn**	**20 13 49.9**	**+1.9**
	baz=351,SNR=30						
G26K	**Porcupine Rive**	**5.28**	**280**	Pn	**Pn**	**20 13 48.7**	**-0.1**
G26K				Sn	**Sn**	**20 14 49.0**	**-0.6**
G26K	**Porcupine Rive**	**5.28**	**280**	P	**Pn**	**20 13 48.4**	**-0.4**
	baz=87						
I26K	**Coal Creek Min**	**5.36**	**261**	P	**Pn**	**20 13 49.9**	**0.0**
	baz=69						
F26K	**Sheenjek River**	**5.44**	**288**	Pn	**Pn**	**20 13 50.9**	**-0.1**
F26K				Sn	**Sn**	**20 14 51.7**	**-1.8**
F26K	**Sheenjek River**	**5.44**	**288**	P	**Pn**	**20 13 52.0**	**+1.0**
	baz=94,SNR=170						
M29M	**Somme Creek**	**5.44**	**223**	Pn	**Pn**	**20 13 52.4**	**+1.3**
M29M				Sn	**Sn**	**20 14 53.3**	**-0.5**
M29M	**Somme Creek**	**5.44**	**223**	P	**Pn**	**20 13 52.4**	**+1.3**
	baz=36,SNR=78						
K27K	**Chicken**	**5.52**	**247**	P	**Pn**	**20 13 52.7**	**+0.6**
	baz=56						
BMAR	**Burnt Mountain**	**5.59**	**285**		**Pn**	**20 13 53.2**	**+0.1**
N32M	**Quiet Lake**	**5.63**	**193**	Pn	**Pn**	**20 13 54.2**	**+0.5**
N32M	**Quiet Lake**	**5.63**	**193**	P	**Pn**	**20 13 54.8**	**+1.2**
	baz=11						
N31M	**Braeburn, Yuko**	**5.67**	**207**	Pn	**Pn**	**20 13 55.1**	**+0.9**
N31M	**Braeburn, Yuko**	**5.67**	**207**	P	**Pn**	**20 13 55.1**	**+0.9**
	baz=22,SNR=36						
A36M	**Sachs Harbour**	**5.68**	**17**		**Pn**	**20 13 52.8**	**-1.5**
A36M	**Sachs Harbour**	**5.68**	**17**	Pn	**Pn**	**20 13 54.0**	**-0.3**
A36M				Sn	**Sn**	**20 14 57.4**	**-2.1**
A36M	**Sachs Harbour**	**5.68**	**17**	P	**Pn**	**20 13 53.9**	**-0.4**
	baz=201						
A36M				S	**Sn**	**20 14 59.5**	**0.0**
	baz=201						
C27K	**Jago River**	**5.79**	**307**	Pn	**Pn**	**20 13 55.8**	**+0.1**
C27K				Sn	**Sn**	**20 15 00.6**	**-1.5**
C27K	**Jago River**	**5.79**	**307**	P	**Pn**	**20 13 56.9**	**+1.1**
	baz=114						
J26L	**Joseph Creek**	**5.84**	**255**	P	**Pn**	**20 13 56.8**	**+0.1**
	baz=62,SNR=64						
FYU	**Fort Yukon**	**5.89**	**276**		**Pn**	**20 13 57.0**	**-0.1**
N30M	**Aishikik Lake**	**5.95**	**212**	Pn	**Pn**	**20 13 58.8**	**+0.7**
N30M				Sn	**Sn**	**20 15 04.8**	**-1.5**
N30M	**Aishikik Lake**	**5.95**	**212**	P	**Pn**	**20 13 59.2**	**+1.1**
	baz=26						
F25K	**Christian Rive**	**6.00**	**286**	Pn	**Pn**	**20 13 59.1**	**+0.3**
F25K				Sn	**Sn**	**20 15 06.1**	**-1.4**
F25K	**Christian Rive**	**6.00**	**286**	P	**Pn**	**20 13 59.1**	**+0.3**
	baz=92						
BCAR	**Beaver Creek A**	**6.01**	**239**	Pn	**Pn**	**20 14 00.1**	**+1.2**
E25K	**Arctic Village**	**6.02**	**291**	Pn	**Pn**	**20 13 59.4**	**+0.4**
E25K	**Arctic Village**	**6.02**	**291**	Pn	**Pn**	**20 13 59.6**	**+0.7**
E25K				Sn	**Sn**	**20 15 06.4**	**-1.3**
E25K	**Arctic Village**	**6.02**	**291**	P	**Pn**	**20 13 59.7**	**+0.7**
	baz=97,SNR=72						
L27K	**Beaver Creek,**	**6.03**	**239**	Pn	**Pn**	**20 14 00.1**	**+1.0**
L27K				Sn	**Sn**	**20 15 06.8**	**-1.3**
L27K	**Beaver Creek,**	**6.03**	**239**	P	**Pn**	**20 14 00.0**	**+1.0**
	baz=48						
KUKN	**Kugluktuk,NWT**	**6.08**	**72**	Pn	**Pn**	**20 13 59.6**	**-0.2**
KUKN				Sn	**Sn**	**20 15 06.9**	**-2.5**
BVCY	**Beaver Creek**	**6.17**	**231**	Pn	**Pn**	**20 14 02.5**	**+1.5**
BVCY				Sn	**Sn**	**20 15 10.4**	**-1.1**
BVCY	**Beaver Creek**	**6.17**	**231**	P	**Pn**	**20 14 02.2**	**+1.1**
	baz=42,SNR=9.3						
H25L	**Birch Creek**	**6.17**	**274**	P	**Pn**	**20 14 00.8**	**-0.2**
	baz=79						
G25K	**Bearman Lake**	**6.21**	**278**	Pn	**Pn**	**20 14 01.2**	**-0.2**
G25K				Sn	**Sn**	**20 15 09.1**	**-3.3**
G25K	**Bearman Lake**	**6.21**	**278**	P	**Pn**	**20 14 01.3**	**-0.2**
	baz=84						
PRP	**Porcupine Dome**	**6.23**	**267**		**Pn**	**20 14 02.2**	**+0.2**
PRP	**Porcupine Dome**	**6.23**	**267**	P	**Pn**	**20 14 02.1**	**+0.2**
	baz=72						
SCRK	**Sand Creek**	**6.26**	**251**	P	**Pn**	**20 14 03.1**	**+0.6**
	baz=58,SNR=58						
C26K	**Camden Bay**	**6.29**	**308**	Pn	**Pn**	**20 14 03.4**	**+0.8**
C26K				Sn	**Sn**	**20 15 12.4**	**-2.0**
C26K	**Camden Bay**	**6.29**	**308**	P	**Pn**	**20 14 04.1**	**+1.5**
	baz=114						
WHY	**Whitehorse**	**6.31**	**200**	Pn	**Pn**	**20 14 04.5**	**+1.4**
WHY	**Whitehorse**	**6.31**	**200**	P	**Pn**	**20 14 04.0**	**+0.9**
	baz=16						
O30N	**Mendenhall**	**6.40**	**206**	Pn	**Pn**	**20 14 05.5**	**+1.3**
O30N	**Mendenhall**	**6.40**	**206**	P	**Pn**	**20 14 05.6**	**+1.4**
	baz=20,SNR=14						
YUK4	**Talbot Arm**	**6.41**	**218**	Pn	**Pn**	**20 14 04.4**	**-0.2**
YUK4				Sn	**Sn**	**20 15 13.7**	**-4.1**
YUK4	**Talbot Arm**	**6.41**	**218**	P	**Pn**	**20 14 04.6**	**+0.1**
	baz=31,SNR=94						
YUK5	**Granite Creek**	**6.42**	**214**	Sn	**Sn**	**20 15 17.3**	**-0.6**
DOT	**Dot Lake**	**6.47**	**249**	Pn	**Pn**	**20 14 05.8**	**+0.7**
DOT				Sn	**Sn**	**20 15 16.7**	**-2.2**
BRWY	**Burwash Landin**	**6.49**	**219**	Pn	**Pn**	**20 14 07.1**	**+1.6**
BRWY				Sn	**Sn**	**20 15 19.1**	**-0.3**
J25K	**Salcha River,**	**6.50**	**259**	Pn	**Pn**	**20 14 05.4**	**-0.1**
J25K				Sn	**Sn**	**20 15 16.5**	**-3.2**
J25K	**Salcha River,**	**6.50**	**259**	P	**Pn**	**20 14 05.7**	**+0.2**
	baz=65						
M27K	**Edge Creek, AK**	**6.53**	**234**	Pn	**Pn**	**20 14 07.1**	**+1.0**
M27K				Sn	**Sn**	**20 15 20.5**	**-0.1**
M27K	**Edge Creek, AK**	**6.53**	**234**	P	**Pn**	**20 14 06.9**	**+0.8**
	baz=44						
P33M	**Teslin, Yukon**	**6.54**	**190**		**Pn**	**20 14 06.7**	**+0.5**
P33M	**Teslin, Yukon**	**6.54**	**190**	Pn	**Pn**	**20 14 06.6**	**+0.5**
P33M	**Teslin, Yukon**	**6.54**	**190**	P	**Pn**	**20 14 06.7**	**+0.5**
	baz=8.4,SNR=16						
YUK3	**Moose Creek**	**6.54**	**226**	Pn	**Pn**	**20 14 07.5**	**+1.2**
YUK3				Sn	**Sn**	**20 15 20.8**	**-0.2**
YUK3	**Moose Creek**	**6.54**	**226**	P	**Pn**	**20 14 07.7**	**+1.4**
	baz=37,SNR=35						
D25K	**Kavik River**	**6.56**	**301**	Pn	**Pn**	**20 14 07.3**	**+0.9**
D25K				Sn	**Sn**	**20 15 19.4**	**-1.7**
D25K	**Kavik River**	**6.56**	**301**	P	**Pn**	**20 14 07.3**	**+0.9**
	baz=106						
L26K	**Log Cabin Wild**	**6.58**	**243**	Pn	**Pn**	**20 14 07.8**	**+1.1**
L26K				Sn	**Sn**	**20 15 19.6**	**-2.0**
L26K	**Log Cabin Wild**	**6.58**	**243**	P	**Pn**	**20 14 07.4**	**+0.7**
	baz=51						
WTLY	**Watson Lake, Y**	**6.59**	**173**	Pn	**Pn**	**20 14 08.3**	**+1.4**
WTLY	**Watson Lake, Y**	**6.59**	**173**	P	**Pn**	**20 14 08.2**	**+1.4**
	baz=354,SNR=5.3						
HYT	**Haines Junctio**	**6.62**	**211**		**Pn**	**20 14 08.2**	**+0.9**
HYT	**Haines Junctio**	**6.62**	**211**	Pn	**Pn**	**20 14 08.2**	**+0.9**
HYT				Sn	**Sn**	**20 15 20.5**	**-2.2**
HYT	**Haines Junctio**	**6.62**	**211**	P	**Pn**	**20 14 08.7**	**+1.4**
	baz=25,SNR=32						
YUK2	**White River**	**6.64**	**228**	Pn	**Pn**	**20 14 09.2**	**+1.6**
YUK2				Sn	**Sn**	**20 15 21.6**	**-1.8**
YUK6	**Outpost Mounta**	**6.70**	**215**	Pn	**Pn**	**20 14 09.6**	**+1.1**
YUK6				Sn	**Sn**	**20 15 23.

I23K Minto, Yukon-K 7.88 268 P **Pn 20 14 24.6 +0.3**
baz=70
YKAW3 **Yellowknife Wh 7.93 114** Pn **Pn 20 14 25.2 0.0**
YKAW3 Sn **Sn 20 15 51.4 -3.4**
NEA2 Nenana 7.96 264 P **Pn 20 14 25.7 +0.1**
baz=66
N25K Chitina, Valde 7.97 237 Pn **Pn 20 14 27.1 +1.3**
YKA Yellowknife Ar 7.98 114 Pn **Pn 20 14 24.5 -1.3**
5.1nm,0.3s,baz=285,slow=11,SNR=99
YKA Sn **Sn 20 15 49.2 -6.7**
5.6nm,0.3s,baz=305,slow=23,SNR=5.7
YKA Lg Lg 20 16 35.5
3.3nm,0.3s,baz=310,slow=28,SNR=4.3
3.2nm,0.3s
D23K Nanushuk River 7.99 296 P **Pn 20 14 27.3 +1.3**
baz=97
YKAW1 **Yellowknife Wh 8.03 114** Pn **Pn 20 14 25.9 -0.5**
YKAW1 Sn **Sn 20 15 52.8 -4.4**
PNL Peninsula 8.07 214 Pn **Pn 20 14 27.7 +0.6**
C23K Itkillik River 8.13 302 P **Pn 20 14 28.9 +1.0**
baz=103
TOAD Toad River Com 8.17 161 Pn **Pn 20 14 28.9 +0.4**
TOAD Toad River Com 8.17 161 P **Pn 20 14 29.8 +1.3**
baz=346
DLBC Dease Lake 8.23 178 Pn **Pn 20 14 28.2 -1.1**
1.3nm,0.3s,baz=7.4,slow=9.3,SNR=23
DLBC Lg Lg 20 16 51.0
1.1nm,0.3s,baz=80,slow=18,SNR=7.3
5.2nm,0.5s
DLBC Dease Lake 8.23 178 Pn **Pn 20 14 30.6 +1.2**
DLBC Dease Lake 8.23 178 P **Pn 20 14 30.3 +0.9**
baz=359,SNR=7.1
MCK McKinley 8.29 258 P **Pn 20 14 30.7 +0.6**
baz=61
BESE Bessie Mountai 8.33 196 Pn **Pn 20 14 32.4 +1.6**
E22K Anaktuvuk Pass 8.35 290 Pn **Pn 20 14 32.7 +1.8**
E22K Anaktuvuk Pass 8.35 290 P **Pn 20 14 32.1 +1.2**
baz=90
H22K Ishtalitna Cre 8.46 275 P **Pn 20 14 32.5 +0.1**
baz=75
F22K John River 8.51 286 P **Pn 20 14 33.9 +0.7**
baz=85
R32K Eaglecrest 8.60 194 Pn **Pn 20 14 36.3 +2.0**
R32K Eaglecrest 8.60 194 P **Pn 20 14 35.8 +1.5**
baz=11
D22K Ayikyak River 8.70 295 P **Pn 20 14 37.0 +1.2**
baz=94
S34M Telegraph Cree 8.76 182 Pn **Pn 20 14 37.0 +0.4**
S34M Telegraph Cree 8.76 182 P **Pn 20 14 37.8 +1.2**
baz=1.9
BPAW Bear Paw Mtn. 8.93 263 P **Pn 20 14 39.0 +0.2**
baz=64
TRF Thorofare Moun 8.96 258 P **Pn 20 14 40.1 +0.8**
baz=60
F21K Alatna River 9.04 284 P **Pn 20 14 40.6 +0.2**
baz=83
H21K Melozitna Rive 9.09 274 P **Pn 20 14 41.2 +0.1**
baz=73
E21K Killik River 9.16 292 P **Pn 20 14 42.5 +0.6**
baz=90
G21K Allakaket 9.16 280 P **Pn 20 14 42.1 0.0**
baz=78
B22K Teshekpuk Lake 9.18 304 P **Pn 20 14 42.4 +0.2**
baz=102
S32K Killisnoo 9.40 194 Pn **Pn 20 14 46.7 +1.4**
B21K Ikpikpuk River 9.46 299 P **Pn 20 14 46.8 +0.7**
baz=96
C21K Knifeblade Rid 9.48 296 P **Pn 20 14 47.1 +0.8**
baz=94
T35M Bob Quinn 9.69 179 Pn **Pn 20 14 51.2 +1.9**
A22K Sinclair Lake 9.84 307 P **Pn 20 14 51.0 -0.3**
baz=104
F20K Avaraart Lake 9.93 284 P **Pn 20 14 53.0 +0.4**
baz=80
E20K Nigu River 9.98 291 P **Pn 20 14 54.2 +1.0**
baz=87
D20K Etivluk River 10.13 294 P **Pn 20 14 55.5 +0.3**
baz=89
J20K Nowinta River 10.15 267 Pn **Pn 20 14 55.8 +0.3**
J20K Nowinta River 10.15 267 P **Pn 20 14 56.0 +0.5**
baz=65
B20K Meade River 10.38 301 **Pn 20 14 58.4 -0.3**
B20K Meade River 10.38 301 P **Pn 20 14 58.0 -0.7**
baz=96
A21K Barrow 10.44 308 P **Pn 20 14 58.5 -0.9**
baz=104
E19K Redstone River 10.45 287 P **Pn 20 15 01.9 +2.3**
baz=82
D19K Kuna River 10.68 293 P **Pn 20 15 03.5 +0.7**
baz=87
A19K Wainwright 11.73 301 P **Pn 20 15 16.4 -0.8**
baz=93
E18K Tukpahlearik C 11.74 288 P **Pn 20 15 17.8 +0.5**
baz=80
C18K Utukok River 11.80 294 Pn **Pn 20 15 17.8 -0.3**
C18K Utukok River 11.80 294 P **Pn 20 15 17.9 -0.2**
baz=85
B18K Kokolik River 11.98 297 P **Pn 20 15 19.8 -0.7**
baz=88
WTMTA **White Mountain 12.21 149** Pn **Pn 20 15 22.0 -1.8**
E17K Hotham Inlet 12.28 286 P **Pn 20 15 25.2 +0.7**
baz=77
RDOG Red Dog Mine 12.50 291 Pn **Pn 20 15 27.4 -0.3**
RDOG Red Dog Mine 12.50 291 P **Pn 20 15 27.8 +0.1**
baz=81
C17K DeLong Mountai 12.54 293 P **Pn 20 15 27.7 -0.6**
baz=83
D17K Noatak River 12.63 290 P **Pn 20 15 29.7 +0.4**
baz=79
BDMTA **Bald Mountain 13.10 149** Pn **Pn 20 15 34.5 -1.5**
C16K Lisburne Hills 13.37 293 P **Pn 20 15 38.6 -0.8**
baz=80
SWHSA **Sweathouse Loo 13.49 144** Pn **Pn 20 15 39.5 -1.8**
RES Resolute Bay 14.00 40 Pn **Pn 20 15 44.1 -3.9**
RES Resolute Bay 14.00 40 Pn Pn 20 15 43.6 -4.4
0.8nm,0.3s,baz=237,slow=12,SNR=19
RES Sn Sn 20 18 09.1 -14
0.8nm,0.3s,baz=173,slow=19,SNR=7.9
RES Lg Lg 20 19 41.9
0.6nm,0.3s,baz=129,slow=19,SNR=4.3
RES Resolute Bay 14.00 40 Pn **Pn 20 15 44.2 -3.9**
BLKN Baker Lake 14.38 83 Pn Pn 20 15 49.1 -4.1
LGPLA Lodgepole 15.46 144 Pn **Pn 20 16 07.0 -0.9**
EUNU Eureka 17.65 23 P **Pn 20 16 35.1 -0.4**
ILON Igloolik, Nuna 18.02 59 P **Pn 20 16 37.8 -2.4**
FFC Flin Flon 18.14 117 **Pn 20 16 38.6 -3.0**
EGMT Eagleton 21.55 140 P **P 20 17 20.0 +0.9**
EGMT IAmb IAmb 20 17 46.5
comp=Z,9.4nm,1.0s
MSO Missoula 21.68 148 P **P 20 17 20.7 0.0**
MSO IAmb IAmb 20 17 31.4
comp=Z,7.7nm,1.1s
G06A Carlson Farm, 22.09 161 P **P 20 17 28.8 +3.8**
BMO Blue Mountains 22.95 155 P **P 20 17 36.3 +2.0**
BMO IAmb IAmb 20 17 39.4
comp=Z,7.9nm,1.2s
I07A Izee 23.37 160 P **P 20 17 36.5 -2.1**
I07A IAmb IAmb 20 17 45.7
comp=Z,4.7nm,1.3s
J05D Fort Rock, OR 23.94 163 P **P 20 17 41.0 -3.1**
ULM Lac du Bonnet 23.95 116 S **S 20 22 01.6 +1.5**
comp=Z,2.6nm,0.6s,baz=227,slow=6.9,SNR=3.9
ULM Lg Lg 20 24 53.8
comp=Z,0.1nm,0.3s,baz=270,slow=19,SNR=1.6
PDAR Pinedale Array 26.52 144 P **P 20 18 07.2 -0.4**
comp=Z,0.4nm,0.8s,baz=342,slow=10,SNR=3.9
comp=Z,0.4nm,0.8s
NVAR Mina Array Bea 29.09 160 P **P 20 18 31.3 +0.7**
comp=Z,0.1nm,0.3s,baz=335,slow=13,SNR=1.8
comp=Z,0.1nm,0.3s
ARCES ARCESS Array B 43.09 12 P **P 20 20 29.9 +0.4**
comp=Z,2.7nm,0.9s,baz=30,slow=2.9,SNR=3.8
comp=Z,2.7nm,0.9s
NB2 NORSAR Subarra 49.55 23 P **P 20 21 21.3 +1.0**
comp=Z,0.5nm,0.5s,baz=342,slow=7.9
NOA NORSAR Array B 49.55 23 P **P 20 21 20.9 +0.6**
comp=Z,0.7nm,0.5s,baz=342,slow=7.6,SNR=4.3
comp=Z,0.7nm,0.5s
HFS Hagfors 50.79 22 P **P 20 21 30.3 +0.6**
comp=Z,1.8nm,0.5s,baz=352,slow=3.0,SNR=9.5
comp=Z,1.8nm,0.5s
FINES FINESS Array B 51.06 14 P **P 20 21 31.8 0.0**
comp=Z,1.1nm,0.6s,baz=356,slow=8.6,SNR=8.8
comp=Z,1.1nm,0.6s
EKA Eskdalemuir Ar 52.08 35 P **P 20 21 40.5 +1.0**
comp=Z,0.7nm,0.6s,baz=330,slow=6.0,SNR=4.4
comp=Z,0.7nm,0.6s

ZALV Zalesovo Beam 56.82 336 P **P 20 22 15.2 +1.4**
comp=Z,1.9nm,0.7s,baz=12,slow=6.2,SNR=8.7
comp=Z,1.9nm,0.7s
SONM Songino Array 57.95 318 P **P 20 22 22.7 +0.6**
comp=Z,0.3nm,0.8s,baz=19,slow=4.9,SNR=2.1
comp=Z,0.3nm,0.8s
BVAR Borovoye Array 59.62 346 P **P 20 22 35.2 +1.8**
comp=Z,1.1nm,0.5s,baz=13,slow=9.6,SNR=7.9
comp=Z,1.1nm,0.5s
KURBB Kurchatov Arra 61.01 339 P **P 20 22 44.3 +1.3**
comp=Z,2.0nm,0.2s,baz=8.8,slow=6.2,SNR=10
comp=Z,2.0nm,0.2s
GERES GERESS Array B 61.65 26 P **P 20 22 49.5 +2.1**
comp=Z,0.3nm,0.5s,baz=328,slow=6.8,SNR=4.1
comp=Z,0.3nm,0.5s
AKASG Malin Array Be 61.97 14 P **P 20 22 50.0 +0.5**
comp=Z,0.5nm,0.4s,baz=352,slow=7.0,SNR=4.4
comp=Z,0.5nm,0.4s
HHC Hu-ho-hao-te 62.90 311 *eP* **P 20 22 56.0 0.0**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.0s
MKAR Makanchi Array 64.16 336 P **P 20 23 05.0 +0.8**
comp=Z,0.7nm,0.6s,baz=3.3,slow=4.8,SNR=12
comp=Z,0.7nm,0.6s
KBZ Khabaz 69.85 5 P **P 20 23 42.4 +2.1**
comp=Z,1.1nm,0.8s,baz=14,slow=9.0,SNR=3.8
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 73.27 13 P **P 20 24 03.2 +2.0**
comp=Z,0.3nm,0.4s,baz=328,slow=5.1,SNR=2.6
comp=Z,0.3nm,0.4s

*TEH **21** 20:18:40.7,27°.05N×54°.78E,h7km±2.9km*
*OMAN **21** 20:18:42.8±0.1,27°.05N×54°.74E,h10km,mb4.6/3,*
ml3.0/21,Error ellipse: s-maj=1.0km s-min=0.5km az=10.0
*DSN **21** 20:18:43.6±1.5,27°.07N×54°.95E,h10km,ML2.8/7,Error*
ellipse: s-maj=18.8km s-min=12.8km az=28.0
ISC 21 20:18:41.5±1.4,27°.10N±0°.05×54°.77E±0°.03,h9km±11km,
n63,σ1°.29/94,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.67**	**328**	Pg	**Pg**	**20 18 54.1**	**-0.4**
BNDS	**Bandar-Abbas**	**1.28**	**76**	Pg	**Pn**	**20 19 05.6**	**-0.2**
LMD1	**Lamerd**	**1.45**	**280**	Pg	**Pn**	**20 19 09.1**	**+1.1**
SHME	**Shamm**	**1.61**	**130**	P	**Pn**	**20 19 10.7**	**+0.5**
SHME	SNR=14			S	**Sg**	**20 19 34.4**	**+1.0**
SHME	**Shamm**	**1.61**	**130**	P	**Pn**	**20 19 10.6**	**+0.5**
IBND	**Bandar-abas**	**1.61**	**77**	Pg	**Pn**	**20 19 11.4**	**+1.2**
JHRM	**Jahrom**	**1.76**	**323**	Pn	**Pn**	**20 19 14.2**	**+2.0**
UMQ	**Umm Al-Quwin**	**1.76**	**153**	P	**Pb**	**20 19 14.0**	**0.0**
UMQ				S	**Sg**	**20 19 39.3**	**+1.2**
QIR1	**Qir**	**2.06**	**312**	Pn	**Pn**	**20 19 18.7**	**+2.3**
MASF	**Masafi**	**2.12**	**144**	P	**Pn**	**20 19 19.1**	**+1.8**
MASF				S	**Sn**	**20 19 42.7**	**-1.2**
MSFE	**Esma-Masafi**	**2.13**	**144**	P	**Pn**	**20 19 18.2**	**+0.8**
MSFE				S	**Sn**	**20 19 43.7**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.25**	**159**	P	**Pb**	**20 19 21.3**	**-1.0**
NAZ				S	**Sb**	**20 19 50.6**	**+0.3**
MDH	**Madha**	**2.26**	**142**	P	**Pn**	**20 19 20.2**	**+1.1**
MDH				S	**Sb**	**20 19 49.0**	**-1.6**
MDH	**Madha**	**2.26**	**142**	P	**Pn**	**20 19 19.0**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.46**	**162**	P	**Pn**	**20 19 23.7**	**+1.9**
UOSS	**Minazif**	**2.50**	**149**	P	**Pn**	**20 19 23.6**	**+1.1**
UOSS				S	**Sn**	**20 19 54.2**	**+1.1**
UOSS	**Minazif**	**2.50**	**149**	P	**Pn**	**20 19 21.6**	**-0.9**
ASUD	**Al Ashush, Dub**	**2.51**	**168**	P	**Pb**	**20 19 26.0**	**-0.9**
ASUD	SNR=7.7			S	**Sb**	**20 19 56.7**	**-1.2**
ASUD	**Al Ashush, Dub**	**2.51**	**168**	P	**Pn**	**20 19 24.9**	**+2.3**
AJN	**Ajban**	**2.53**	**176**	P	**Pb**	**20 19 25.4**	**-1.8**
AJN				S	**Sb**	**20 19 57.7**	**-0.8**
HATD	**Hatta, Dubai**	**2.57**	**151**	P	**Pn**	**20 19 25.1**	**+1.6**
HATD				S	**Sn**	**20 19 54.6**	**-0.3**
HATD	**Hatta, Dubai**	**2.57**	**151**	P	**Pn**	**20 19 24.3**	**+0.9**
ASHO	**Ashiyiah**	**2.67**	**154**	P	**Pn**	**20 19 26.3**	**+1.5**
ASHO	SNR=18			S	**Sn**	**20 19 59.5**	**+2.2**
ASHO	**Ashiyiah**	**2.67**	**154**	P	**Pn**	**20 19 25.6**	**+0.9**
KHNJ	**Kahnooj**	**2.74**	**71**	Pn	**Pn**	**20 19 26.3**	**+0.6**
JRN	**Qarnain Island**	**2.76**	**219**	P	**Pn**	**20 19 27.4**	**+1.4**
JRN				S	**Sn**	**20 20 01.3**	**+2.0**
JASK	**Jask - Hormozg**	**3.03**	**113**	Pn	**Pn**	**20 19 30.4**	**+0.6**
JASK	**Jask - Hormozg**	**3.03**	**113**	S	**Sn**	**20 20 06.3**	**+0.1**
ALNE	**Al Ain**	**3.16**	**163**	P	**Pn**	**20 19 32.7**	**+1.2**
ALNE				S	**Sn**	**20 20 12.5**	**+3.2**
SOHO	**SOHO**	**3.35**	**151**	P	**Pn**	**20 19 34.6**	**+0.4**
SOHO				S	**Sn**	**20 20 16.2**	**+2.1**
DSBU	**Dashti - Bushe**	**3.36**	**293**	Pn	**Pn**	**20 19 35.6**	**+1.3**
KRBR	**Kerman**	**3.36**	**31**	Pn	**Pn**	**20 19 36.2**	**+1.6**
MZWR	**Madinat Zayed**	**3.42**	**194**	P	**Pn**	**20 19 36.4**	**+1.4**
GHWR	**Ruwais**	**3.56**	**209**	P	**Pn**	**20 19 37.4**	**+0.4**
KHGB	**Koh Gabri**	**3.59**	**24**	Pn	**Pn**	**20 19 39.7**	**+2.1**
SHMA	**Al-Shehemyia**	**3.63**	**251**	P	**Pn**	**20 19 36.1**	**-1.9**
SHMA	SNR=7.2			S	**Sn**	**20 20 19.9**	**-1.0**
CHMN	**Cheshme madani**	**3.68**	**41**	Pn	**Pn**	**20 19 41.1**	**+2.1**
KBAM	**BAM**	**3.83**	**57**	Pn	**Pn**	**20 19 42.7**	**+1.9**
TRNA	**Turayna**	**3.98**	**234**	P	**Pn**	**20 19 43.6**	**+0.9**
TRNA				S	**Sn**	**20 20 29.6**	**+0.2**
ARQ	**Araqi**	**4.07**	**157**	P	**Pn**	**20 19 45.8**	**+1.8**
ARQ	SNR=34			S	**Sn**	**20 20 33.0**	**+1.2**
SLWR	**Sila**	**4.10**	**223**	P	**Pn**	**20 19 43.3**	**-1.1**
SLWR				S	**Sn**	**20 20 32.0**	**-0.6**
ZRDN	**Zarand Kerman**	**4.15**	**21**	Pn	**Pn**	**20 19 46.9**	**+1.5**
HOQ	**Hoqain**	**4.19**	**146**	P	**Pn**	**20 19 47.2**	**+1.6**
HOQ				S	**Sn**	**20 20 34.8**	**+0.1**
SMRA	**Abu-Samra**	**4.26**	**237**	P	**Pn**	**20 19 47.7**	**+1.2**
SMRA				S	**Sn**	**20 20 36.3**	**-0.1**
IMEH	**Mehriz**	**4.28**	**358**	Pn	**Pn**	**20 19 49.0**	**+1.9**
UMZA	**Um Al Zommool**	**4.38**	**175**	P	**Pn**	**20 19 49.4**	**+1.1**
UMZA				S	**Sn**	**20 20 38.4**	**-1.0**
BIDO	**Bidbid**	**4.68**	**139**	P	**Pn**	**20 19 51.2**	**-1.2**
BIDO				S	**Sn**	**20 20 48.2**	**+1.3**
KLNJ	**Kolanjah**	**4.79**	**325**	Pn	**Pn**	**20 19 55.6**	**+1.4**
BSY	**Bisya**	**4.86**	**153**	P	**Pn**	**20 19 56.2**	**+1.2**
BSY				S	**Sn**	**20 20 52.9**	**+1.5**
SMDO	**Samad**	**5.00**	**143**	P	**Pn**	**20 19 57.8**	**+0.9**
SMDO	SNR=7.0			S	**Sn**	**20 20 55.4**	**+0.5**
IRAM	**Ramesheh**	**5.13**	**337**	Pn	**Pn**	**20 20 00.1**	**+1.2**
CHBR	**Chabahar**	**5.34**	**105**	Pn	**Pn**	**20 20 02.1**	**+0.8**
JMDO	**Jabal Madar**	**5.60**	**147**	P	**Pn**	**20 20 05.6**	**+0.6**
JMDO				S	**Sn**	**20 21 09.7**	**+0.2**
WBK	**Wadi Bani Khal**	**5.88**	**139**	P	**Pn**	**20 20 08.3**	**-0.5**
WBK	SNR=16			S	**Sn**	**20 21 15.2**	**-1.2**
NGCH	**Negor - Chabah**	**5.97**	**105**	P	**Pn**	**20 20 08.8**	**-1.4**
TPRV	**Parvadeh(Tabas**	**6.14**	**15**	Pn	**Pn**	**20 20 14.0**	**+1.5**
JLN	**Jalan Bani Buh**	**6.49**	**138**	P	**Pn**	**20 20 16.8**	**-0.4**
MHTO	**MHTO**	**6.75**	**154**	P	**Pn**	**20 20 21.4**	**+0.5**
MHTO	SNR=26			S	**Sn**	**20 21 37.0**	**-0.9**
SRVN	**Saravan**	**6.80**	**86**	Pn	**Pn**	**20 20 23.0**	**+1.4**
DQM	**DQM**	**7.58**	**160**	P	**Pn**	**20 20 32.0**	**-0.2**
DQM				S	**Sn**	**20 21 57.2**	**-1.0**
DOK	**Doka**	**8.46**	**184**	P	**Pn**	**20 20 43.7**	**-0.7**
DOK				S	**Sn**	**20 22 18.0**	**-2.0**
WHFO	**Wadi Hawf**	**9.18**	**186**	P	**Pn**	**20 20 54.0**	**-0.3**
WHFO	SNR=20			S	**Sn**	**20 22 38.0**	**+0.2**
ABTO	**Aybut**	**9.79**	**188**	P	**Pn**	**20 21 01.7**	**-1.0**
ABTO				S	**Sn**	**20 22 53.5**	**+0.6**

*GUC **21** 20:34:35.2±0.6,36°.13S×72°.70W,h67km±2km,ML4.4*
*NEIC **21** 20:34:35.2±0.5,36°.13S±0°.02×72°.8W±0°.1,h50km±13km,*
mb4.3/2,Error ellipse: s-maj=14.4km s-min=2.3km
az=99.0
*IDC **21** 20:34:36.5±3.3,36°.16S×72°.51W,h69km±31km,mb3.6/7,*
mbtmp4.0/10,ML4.6/3,MS3.0/2,Error ellipse:
s-maj=41.3km s-min=14.1km az=94.0
ISC 21 20:34:35.1±0.9,36°.17S±0°.03×72°.76W±0°.05,h61km±9km,
n78,σ0°.98/110,mb4.1/8,19C-2D,Near coast of central
Chile

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

BI05 Punta Hualpn 0.67 211 **Pn 20 34 49.7 +0.6**
BI05 Punta Hualpn 0.67 211 ⇑*iP* **Pn 20 34 49.7 +0.6**
BI05 *i* S **Sn 20 35 00.2 +0.9**
BI05 IAML 20 35 00.7
comp=E,20μm,0.2s
ML02 Panimavida 1.16 70 **Pn 20 34 55.4 0.0**
ML02 Panimavida 1.16 70 ⇓*iP* **Pn 20 34 55.6 +0.2**
ML02 *eS* **Sn 20 35 09.8 -0.6**
ML02 IAML 20 35 12.5
comp=E,9μm,0.4s
BI02 San Fabin de 1.29 113 Pn **Pn 20 34 56.8 -0.4**
BI02 San Fabin de 1.29 113 ⇓*iP* **Pn 20 34 56.8 -0.4**
BI02 *i* S **Sn 20 35 12.7 -1.0**
BI02 IAML 20 35 13.4
comp=E,4μm,0.5s
GO05 Hualane 1.34 30 ⇑*iP* **Pn 20 34 57.8 0.0**
GO05 *i* S **Sn 20 35 14.4 -0.4**
GO05 IAML 20 35 16.9
comp=E,5μm,0.3s
BO03 Pichilemu 1.80 22 ⇑*iP* **Pn 20 35 03.7 -0.2**
BO03 *i* S **Sn 20 35 24.5 -1.1**
BO03 IAML 20 35 26.4
comp=N,3μm,0.4s
BO02 Sierra Bellavi 2.12 50 **Pn 20 35 08.3 -0.1**
BO02 Sierra Bellavi 2.12 50 *eP* **Pn 20 35 08.3 -0.1**
BO02 *i* S **Sn 20 35 33.3 -0.4**
BO02 IAML 20 35 35.9
comp=N,3μm,0.4s
BO01 Tunca 2.24 38 **Pn 20 35 09.9 0.0**
BO01 Tunca 2.24 38 ⇑*iP* **Pn 20 35 09.9 0.0**
BO01 *i* S **Sn 20 35 36.0 -0.6**
BI04 Isla Mocha 2.41 202 ⇑*iP* **Pn 20 35 11.6 -0.6**
BI04 *i* S **Sn 20 35 38.5 -2.0**
BI04 IAML 20 35 40.9
comp=E,3μm,0.2s
MT01 Popeta 2.62 29 **Pn 20 35 14.7 -0.3**
MT01 Popeta 2.62 29 ⇑*iP* **Pn 20 35 14.7 -0.3**
MT01 *i* S **Sn 20 35 44.2 -1.5**
MT01 IAML 20 35 47.6
comp=E,1μm,0.3s
LC02 Puerto Saavedr 2.66 191 **Pn 20 35 15.4 -0.2**
LC02 Puerto Saavedr 2.66 191 *eP* **Pn 20 35 15.4 -0.2**
LC02 *i* S **Sn 20 35 45.8 -0.9**
VA05 Santo Domingo 2.68 21 **Pn 20 35 15.1 -0.8**
VA05 Santo Domingo 2.68 21 *eP* **Pn 20 35 15.2 -0.7**
VA05 *i* S **Sn 20 35 44.9 -2.3**
MT09 Talagante 2.80 32 **Pn 20 35 17.4 -0.2**
MT09 Talagante 2.80 32 ⇑*iP* **Pn 20 35 17.6 0.0**
MT09 *i* S **Sn 20 35 49.6 -0.7**
MT09 IAML 20 35 51.1
comp=N,2μm,0.2s
BO04 La Punta 2.80 40 **Pn 20 35 17.4 -0.3**
BO04 La Punta 2.80 40 *eP* **Pn 20 35 17.7 0.0**
BO04 *i* S **Sn 20 35 49.6 -0.7**
LC01 Cunco 2.81 166 ⇑*iP* **Pn 20 35 17.2 -0.4**
LC01 *i* S **Sn 20 35 48.1 -2.3**
LC01 IAML 20 35 50.0
comp=E,2μm,0.1s
MT12 Pirque 3.04 37 *eP* **Pn 20 35 20.8 -0.1**
MT12 *i* S **Sn 20 35 55.2 -0.9**
LMEL Las Melosas 3.13 43 **Pn 20 35 22.6 +0.4**
LMEL Las Melosas 3.13 43 ⇑*iP* **Pn 20 35 22.7 +0.5**
LMEL *eS* **Sn 20 35 58.0 -0.4**
LMEL IAML 20 36 01.6
comp=N,758nm,0.2s
MT13 San Alfonso 3.16 41 **Pn 20 35 22.3 -0.3**
MT13 San Alfonso 3.16 41 *eP* **Pn 20 35 23.0 +0.4**
MT13 *i* S **Sn 20 35 58.7 -0.5**
MT13 IAML 20 36 03.6
comp=N,679nm,0.3s
MT15 Las Vizcachas 3.17 36 *eP* **Pn 20 35 22.4 -0.2**
MT15 *eS* **Sn 20 35 58.2 -1.0**
MT15 IAML 20 36 15.1
comp=E,1μm,0.3s
MT02 Curacav 3.20 25 **Pn 20 35 22.2 -0.8**
MT02 Curacav 3.20 25 *eP* **Pn 20 35 22.4 -0.6**
MT02 *i* S **Sn 20 35 57.9 -2.0**
MT02 IAML 20 35 59.6
comp=E,722nm,0.3s
MT05 Renca 3.23 32 **Pn 20 35 22.8 -0.8**
MT05 Renca 3.23 32 *eP* **Pn 20 35 23.6 +0.1**
MT05 *i* S **Sn 20 35 59.8 -1.1**
MT05 IAML 20 36 24.1
comp=N,1μm,0.6s
MT03 Universidad Ad 3.25 35 **Pn 20 35 23.4 -0.4**
MT03 Universidad Ad 3.25 35 *eP* **Pn 20 35 23.7 -0.1**
MT03 *i* S **Sn 20 36 00.6 -0.7**
MT03 IAML 20 36 18.0
comp=N,2μm,0.7s
VA01 Torpederas 3.27 17 **Pn 20 35 23.5 -0.6**
VA01 Torpederas 3.27 17 *eP* **Pn 20 35 23.4 -0.6**
MT16 CCHEN 3.30 35 **Pn 20 35 24.2 -0.2**
MT16 CCHEN 3.30 35 ⇑*iP* **Pn 20 35 24.2 -0.2**
MT16 *i* S **Sn 20 36 01.5 -0.9**
MT16 IAML 20 36 22.2
comp=N,844nm,0.7s
MT14 Cerro Calı̣n 3.32 34 ⇑*iP* **Pn 20 35 24.8 +0.1**
MT14 *i* S **Sn 20 36 02.4 -0.6**
MT10 Hacienda Santa 3.42 33 ⇑*iP* **Pn 20 35 26.2 0.0**
MT10 *i* S **Sn 20 36 05.0 -0.6**
LR03 Panguipulli 3.47 175 **Pn 20 35 26.8 +0.2**
LR03 Panguipulli 3.47 175 *eP* **Pn 20 35 26.9 +0.2**
LR03 *i* S **Sn 20 36 04.5 -2.0**
PEL Peldehue 3.47 30 Pn **Pn 20 35 26.6 -0.2**
PEL Peldehue 3.47 30 ⇑*iP* **Pn 20 35 26.6 -0.2**
PEL *i* S **Sn 20 36 06.1 -0.6**
PEL IAML 20 36 11.4
comp=N,621nm,0.3s
FCH Farellones 3.49 36 ⇑*iP* **Pn 20 35 27.2 -0.1**
FCH *eS* **Sn 20 36 06.1 -1.5**
FCH IAML 20 36 09.6
comp=N,755nm,0.3s
MT04 Ro Olivares 3.50 39 ⇑*iP* **Pn 20 35 27.6 +0.3**
MT04 *i* S **Sn 20 36 07.4 -0.3**
MT04 IAML 20 36 09.4
comp=N,416nm,0.3s
MT08 Bocatoma Ro 3.54 40 ⇑*iP* **Pn 20 35 28.7 +0.8**
MT08 *i* S **Sn 20 36 06.5 -2.0**
MT08 IAML 20 36 32.5
comp=E,340nm,0.5s
GO06 Curarrehue 3.55 164 ⇑*iP* **Pn 20 35 28.7 +0.8**
LR04 Corral 3.74 188 *eP* **Pn 20 35 29.4 -1.0**
LR04 *eS* **Sn 20 36 08.2 -4.9**
VA06 Catapilco 3.80 19 Pn **Pn 20 35 30.6 -0.5**
VA06 Catapilco 3.80 19 ⇑*iP* **Pn 20 35 30.7 -0.5**
VA06 *eS* **Sn 20 36 11.5 -3.2**
VA03 San Esteban 3.86 29 ⇑*iP* **Pn 20 35 31.9 -0.2**
VA03 *i* S **Sn 20 36 15.0 -1.3**
LR05 Currie 4.09 172 Pn **Pn 20 35 35.5 +0.3**
LR05 Currie 4.09 172 *eP* **Pn 20 35 35.7 +0.5**
LL04 Puerto Octay 4.74 177 *eP* **Pn 20 35 43.5 -0.6**
PLCA Paso Flores 4.87 160 Pn **Pn 20 35 46.9 +1.0**
PLCA Paso Flores 4.87 160 P **Pn 20 35 46.5 +0.6**
comp=E,13nm,0.3s,baz=330,slow=12,SNR=179
PLCA LR LR 20 38 00.3
comp=E,115nm,19.3s,baz=326,slow=42
comp=E,36nm,0.4s
LL03 Petrohue 4.97 177 *eP* **Pn 20 35 47.2 +0.1**
CFA Coronel Fontan 5.91 41 P **Pn 20 35 59.0 -1.1**
comp=E,6.8nm,0.3s,baz=215,slow=13,SNR=45
CFA S **Sn 20 37 05.4 -1.1**
comp=E,8.6nm,0.3s,baz=233,slow=20,SNR=7.3
comp=E,11nm,0.3s
LCO Las Campanas 7.35 14 Pn **Pn 20 36 18.9 -1.2**
TRQA Tornquist 8.81 106 Pn **Pn 20 36 40.4 +0.5**
CPUP Villa Florida 16.42 58 LR LR 20 44 36.1
comp=E,61nm,19.8s,baz=212,slow=37
USHA Ushuaia 18.90 172 P **Pn 20 38 52.0 +0.4**
comp=E,0.7nm,0.3s,baz=45,slow=10.0,SNR=4.1
comp=E,8.5nm,0.8s
LPAZ La Paz 20.23 13 P **P 20 39 06.0 +0.1**
comp=E,0.6nm,0.5s,baz=172,slow=7.7,SNR=4.9
comp=E,0.6nm,0.5s
AQDB Aquidauana 21.63 48 P **P 20 39 20.2 -0.1**
AQDB IAmb IAmb 20 39 42.1
comp=Z,16nm,0.7s
COHC Cochancay 34.07 348 P **P 20 41 14.4 +0.7**
COHC IAmb IAmb 20 41 39.4
comp=Z,3.2nm,1.1s
SNAA Sanae 49.81 157 P **P 20 43 20.8 -0.6**
comp=Z,1.9nm,0.7s,baz=294,slow=7.9,SNR=3.6
comp=Z,1.9nm,0.7s
QSPA South Pole Qui 54.07 180 P **P 20 43 54.0 +0.7**

comp=Z,1.3nm,0.9s,baz=130,slow=4.0,SNR=6.6
comp=Z,1.3nm,0.9s
TXAR Lajitas Array 71.35 332 P P 20 45 49.6 +1.1
comp=Z,1.2nm,0.6s,baz=149,slow=9.4,SNR=12
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 85.33 326 P P 20 47 07.6 +2.0
comp=Z,0.9nm,0.7s,baz=144,slow=6.3,SNR=7.9
comp=Z,0.9nm,0.7s
PDAR Pinedale Array 85.44 334 P P 20 47 05.9 -0.2
comp=Z,0.2nm,0.6s,baz=209,slow=6.6,SNR=1.4
comp=Z,0.2nm,0.6s
ULM Lac du Bonnet 88.44 345 P P 20 47 20.0 -0.1
comp=Z,1.9nm,0.6s,baz=148,slow=2.1,SNR=4.2
comp=Z,1.9nm,0.6s
WRA Warramunga Arr 118.58 209 PKP PKPdf 20 53 15.9 -0.7
comp=Z,0.4nm,0.7s,baz=136,slow=1.7,SNR=1.0
SEY Seymchan 141.59 329 PKP PKPdf 20 53 59.0 +0.6
comp=Z,0.4nm,0.2s,baz=94,slow=5.8,SNR=3.8
BVAR Borovoye Array 149.25 45 PKPbc PKiKP 20 54 16.6 -0.8
comp=Z,1.2nm,0.6s,baz=303,slow=6.9,SNR=5.2
MKAR Makanchi Array 158.59 53 PKP PKPdf 20 54 24.4 -0.9
comp=Z,0.6nm,0.9s,baz=267,slow=0.7,SNR=5.3

*IDC **21** 20:35:53.0±1.1, 7°.08S×116°.09E, h0km, mb3.8/6, mbtmp3.9/9, ML3.6/3, MS2.7/2, Error ellipse: s-maj=24.8km s-min=17.3km az=39.0*
*DJA **21** 20:35:56.9±0.7, 7°.S±2°×11°.6E±°, h20km±6km, M4.2/21, mb4.3/4, MLv4.2/21*
*NEIC **21** 20:35:57.4±0.7, 7°.19S±0°.08×116°.01E±0°.05, h35km±2km, mb4.6/6, Error ellipse: s-maj=13.6km s-min=7.4km az=7.0*
ISC 21 20:35:56.6±1.9, 7°.32S±0°.05×116°.09E±0°.04, h28km±15km, n43, σ1§37/53, mb4.0/8, 1D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.16**	**229**	P	**Pn**	**20 36 16.2**	**-0.8**
SRBI				S	**Sb**	**20 36 32.8**	**+0.2**
DNP	**Denpasar**	**1.61**	**213**	P	**Pn**	**20 36 24.7**	**+1.5**
DNP				S	**Sn**	**20 36 43.6**	**+0.6**
ABJI	**Asem Bagus**	**1.90**	**255**	P	**Pn**	**20 36 28.1**	**+0.9**
ABJI				S	**Sn**	**20 36 51.3**	**+1.0**
KMMI	**Kalianget**	**2.12**	**277**	P	**Pn**	**20 36 31.4**	**+1.1**
KMMI				S	**Sb**	**20 36 58.7**	**-1.7**
JAGI	**Jajag, Banyuwa**	**2.24**	**239**	**Pn**	**Pn**	**20 36 31.6**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.24**	**239**	P	**Pn**	**20 36 31.1**	**-0.8**
JAGI				S	**Sn**	**20 36 59.1**	**+0.5**
PLAI	**Plampang**	**2.25**	**132**	P	**Pn**	**20 36 33.4**	**+1.4**
PLAI				S	**Sb**	**20 37 03.5**	**-0.4**
GMJI	**Gumukmas**	**2.79**	**250**	P	**Pn**	**20 36 40.0**	**+0.5**
GMJI				S	**Sn**	**20 37 13.2**	**+1.0**
GRJI	**Gresik**	**3.61**	**276**	P	**Pn**	**20 36 51.1**	**+0.4**
GRJI				S	**Sn**	**20 37 31.9**	**-0.5**
WBSI	**Waikabubak, Su**	**4.00**	**125**	P	**Pn**	**20 36 56.1**	**-0.1**
TBJI	**Tambak Boyo**	**4.24**	**276**	P	**Pn**	**20 37 00.1**	**+0.7**
KAPI	**Kappang**	**4.30**	**58**	Pn	**Pn**	**20 37 00.3**	**+0.1**
KAPI	**Kappang**	**4.30**	**58**	Pn	**Pn**	**20 36 59.8**	**-0.4**
	3.5nm,0.3s,baz=233,slow=5.6,SNR=11						
KAPI				Sn	**Sn**	**20 37 50.0**	**+0.5**
	16nm,0.3s,baz=251,slow=21,SNR=7.5						
KAPI				Lg	Lg	20 38 03.2	
	15nm,0.3s,baz=234,slow=19,SNR=7.0						
KAPI				LR	LR	20 38 51.4	
	comp=Z,63nm,19.4s,baz=280,slow=43						
	7.5nm,0.3s						
BKSI	**Bulukumba**	**4.47**	**64**	P	**Pn**	**20 37 03.2**	**+0.6**
BSSI	**Bau Bau, Buton**	**4.52**	**75**	P	**Pn**	**20 37 04.1**	**+0.8**
WSI	**Waingapu**	**4.77**	**120**	P	**Pn**	**20 37 08.4**	**+1.6**
PCJI	**Pacitan**	**4.95**	**260**	P	**Pn**	**20 37 09.8**	**+0.7**
SPSI	**Sidrap Palu**	**4.95**	**48**	P	**Pn**	**20 37 12.5**	**+3.3**
UGM	**Wanagama**	**5.55**	**264**	Pn	**Pn**	**20 37 16.9**	**-0.6**
UGM	**Wanagama**	**5.55**	**264**	P	**Pn**	**20 37 17.8**	**+0.3**
	0.4nm69nm,1.8s						
SMRI	**Semarang**	**5.61**	**272**	Pn	**Pn**	**20 37 15.9**	**-2.4**
TTSI	**Tana Toraja**	**5.64**	**41**	P	**Pn**	**20 37 21.0**	**+2.3**
	0.1nm21nm,0.8s						
BKB	**Balikpapan**	**6.07**	**8**	Pn	**Pn**	**20 37 23.9**	**-0.8**
MMRI	**Maumere**	**6.23**	**103**	Pn	**Pn**	**20 37 28.2**	**+1.4**
MMRI	**Maumere**	**6.23**	**103**	P	**Pn**	**20 37 28.6**	**+1.8**
	0.3nm61nm,1.0s						
BATI	**Baumata**	**8.02**	**112**	Pn	**Pn**	**20 37 52.7**	**+1.3**
	3.6nm,0.3s,baz=286,slow=17,SNR=4.1						
BATI				LR	LR	20 41 34.9	
	comp=Z,62nm,19.9s,baz=32,slow=42						
	12nm,0.4s						
SOEI	**Soe**	**8.44**	**107**	Pn	**Pn**	**20 37 57.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.19**	**140**	Pn	**Pn**	**20 39 18.1**	**+2.2**
	0.1nm,0.3s,baz=338,slow=14,SNR=1.8						
FITZ				Sn	**Sn**	**20 41 48.0**	**-4.5**
	0.1nm,0.3s,baz=3.4,slow=19,SNR=1.0						
	1.0nm,0.4s						
KNRA	**Kununurra**	**14.93**	**125**	Pn	**Pn**	**20 39 26.1**	**+0.1**
KNRA				IAmb	IAmb	20 39 26.4	
	comp=Z,41nm,1.4s						
GIRL	**Giralia**	**15.34**	**186**	Pn	**Pn**	**20 39 30.1**	**-1.3**
MTN	**Manton Dam**	**15.79**	**112**	Pn	**Pn**	**20 39 37.2**	**-0.1**
MTN				IAmb	IAmb	20 39 49.7	
	comp=Z,102nm,1.5s						
WB0	**Warramunga Arr**	**21.64**	**127**	P	**P**	**20 40 45.8**	**+0.8**
WB0				IAmb	IAmb	20 40 47.5	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**21.69**	**127**	P	**P**	**20 40 46.0**	**+0.4**
WRA	**Warramunga Arr**	**21.69**	**127**	P	**P**	**20 40 47.1**	**+1.5**
	comp=Z,5.2nm,0.7s,baz=302,slow=12,SNR=33						
	comp=Z,5.2nm,0.7s						
AS31	**Alice Springs**	**23.59**	**136**	P	**P**	**20 41 06.0**	**+0.6**
ASAR	**Alice Springs**	**23.59**	**136**	P	**P**	**20 41 05.9**	**+0.5**
ASAR	**Alice Springs**	**23.59**	**136**	P	**P**	**20 41 07.3**	**+2.0**
	comp=Z,2.5nm,0.6s,baz=311,slow=8.8,SNR=31						
	comp=Z,2.5nm,0.6s						
FORT	**Forrest**	**25.89**	**156**	P	**P**	**20 41 27.3**	**+1.0**
FORT				IAmb	IAmb	20 42 11.8	
	comp=Z,36nm,1.1s						
SONM	**Songino Array**	**55.58**	**352**	P	**P**	**20 45 29.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=166,slow=8.8,SNR=4.2						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**61.68**	**334**	P	**P**	**20 46 12.0**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=141,slow=7.9,SNR=5.1						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**66.21**	**335**	P	**P**	**20 46 39.8**	**-2.1**
	comp=Z,0.4nm,0.2s,baz=142,slow=4.7,SNR=1.2						
	comp=Z,0.4nm,0.2s						
ZALV	**Zalesovo Beam**	**66.48**	**340**	P	**P**	**20 46 42.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.3,SNR=3.9						
	comp=Z,0.4nm,0.3s						
SYO	**Syowa Base**	**78.38**	**201⇓**	*eP*	**P**	**20 47 55.6**	**+1.4**

*ISK **21** 20:36:43.5, 39°.41N×40°.43E, h5km, ML2.8/17*
*AFAD **21** 20:36:47.8, 39°.35N×40°.05E, h4km±5km, ML2.2*
ISC 21 20:36:43.6±0.9, 39°.40N±0°.03×40°.42E±0°.03, h9km±8km, n26, σ0§76/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.10**	**66**	Pg	**Pg**	**20 36 46.0**	**-0.3**
YEDI				Sg	**Sg**	**20 36 47.8**	**-0.4**
BNGB	**Bingl**	**0.45**	**154**	Pg	**Pb**	**20 36 53.4**	**-0.4**
BNGB				Sg	**Sb**	**20 37 00.3**	**-0.3**
KARO	**Karliova-Bingo**	**0.49**	**100**	Pg	**Pg**	**20 36 53.1**	**-0.1**
KARO				Sg	**Sg**	**20 37 01.1**	**+1.4**
TNCL	**Tunceli-Merkez**	**0.74**	**248**	P	**Pg**	**20 36 57.5**	**-0.3**
TNCL				S	**Sn**	**20 37 09.8**	**-2.0**
TNCL				*i* AML	AML	20 37 12.0	
	comp=N,328nm,0.5s						
TNCL				*i* AML	AML	20 37 12.0	
	comp=E,461nm,0.4s						
KOVA	**Elazig, Kovanc**	**0.84**	**215**	P	**Pb**	**20 36 60.0**	**-0.4**
KOVA				S	**Sb**	**20 37 12.2**	**+0.4**
KOVA				*i* AML	AML	20 37 18.0	
	comp=N,101nm,0.4s						
KOVA				*i* AML	AML	20 37 19.0	
	comp=E,150nm,0.4s						
VRTB	**Varto-Mus**	**0.84**	**106**	Pg	**Pg**	**20 36 59.5**	**-0.2**
PTK	**Pertek**	**0.94**	**238**	Pg	**Pb**	**20 37 02.1**	**-0.2**
BAYT	**Aydıntepe-Bayb**	**1.02**	**348**	Pg	**Pb**	**20 37 03.5**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.25**	**61**	Pn	**Pn**	**20 37 07.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.38**	**154**	Pn	**Pg**	**20 37 10.6**	**+0.5**
ELZG	**Elazig**	**1.44**	**232**	P	**Pg**	**20 37 11.4**	**+0.3**
ELZG				*i* AML	AML	20 37 35.0	
	comp=N,49nm,0.3s						
ELZG				*i* AML	AML	20 37 37.0	
	comp=E,60nm,0.6s						
KEMA	**Kemaliye**	**1.50**	**266**	P	**Pb**	**20 37 11.4**	**-0.3**
KEMA				S	Sn	20 37 17.9	-13
KEMA				*i* AML	AML	20 37 39.0	
	comp=E,41nm,0.3s						
KEMA				*i* AML	AML	20 37 41.0	
	comp=N,40nm,0.4s						
GURO	**Guroymak-BITLI**	**1.51**	**123**	**Pn**	**Pn**	**20 37 11.0**	**0.0**
KTUT	**Trabzon**	**1.67**	**343**	Pn	**Pb**	**20 37 13.9**	**-0.6**
MLAZ	**Malazgirt-MUS**	**1.67**	**98**	Pn	**Pn**	**20 37 14.0**	**+0.8**
CHOM	**Cayeli-Rize**	**1.72**	**9**	Pn	**Pb**	**20 37 15.2**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.89**	**51**	Pn	**Pn**	**20 37 17.1**	**+0.9**
SUSE	**Susehri**	**1.89**	**296**	P	**Pg**	**20 37 20.4**	**+0.5**
SUSE				*i* AML	AML	20 37 50.0	
	comp=N,38nm,0.6s						
SUSE				*i* AML	AML	20 37 52.0	
	comp=E,34nm,0.7s						
MAZI	**Mazidag**	**1.93**	**179**	Pn	**Pb**	**20 37 17.9**	**-1.2**
HEKM	**Malatya_Hekimh**	**1.98**	**256**	P	**Pb**	**20 37 19.6**	**-0.4**
HEKM				*i* AML	AML	20 37 57.0	
	comp=N,38nm,0.7s						
HEKM				*i* AML	AML	20 38 02.0	
	comp=E,36nm,0.4s						
NARI	**Adyaman-Kaht**	**1.99**	**221**	P	**Pg**	**20 37 22.8**	**+1.1**
NARI				*i* AML	AML	20 37 58.0	
	comp=N,14nm,1.2s						
AGRB	**Hanur-Agry**	**2.00**	**84**	Pn	**Pn**	**20 37 18.7**	**+1.0**
ESPY	**Espiye-Giresun**	**2.00**	**320**	Pn	**Pb**	**20 37 19.3**	**-0.9**
CUZAR	**Zara_SIVAS**	**2.11**	**284**	P	**Pg**	**20 37 23.6**	**-0.3**
CUZAR				*i* AML	AML	20 38 06.0	
	comp=N,9.7nm,0.3s						
CUZAR				*i* AML	AML	20 38 06.0	
	comp=E,25nm,1.0s						
HANM	**anlurfa/Hi**	**2.18**	**214**	P	**Pg**	**20 37 25.3**	**-0.1**
HANM				S	**Sg**	**20 37 54.7**	**+1.1**
HANM				*i* AML	AML	20 37 55.0	
	comp=N,28nm,0.6s						
HANM				*i* AML	AML	20 37 55.0	
	comp=E,15nm,0.7s						
BCA	**Borcka**	**2.24**	**24**	Pn	**Pn**	**20 37 22.1**	**+1.1**

*IDC **21** 20:46:51.7±2.0, 54°.25N×160°.16E, h0km, mb3.4/5, mbtmp3.4/5, MS3.1/4, Error ellipse: s-maj=51.5km s-min=15.1km az=136.0*
*KRSC **21** 20:46:55.1±1.0, 53°.67N×160°.73E, h52km±16km, Ml4.0*
ISC 21 20:46:56.6±1.0, 53°.66N±0°.03×160°.71E±0°.04, h51km±11km, n47, σ1§57/74, mb3.3/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.70**	**216**	*eP*	**Pn**	**20 47 10.4**	**0.0**
SPN				*eS*	**Sn**	**20 47 20.1**	**-0.2**
KII	**Karymskiy**	**0.83**	**297**	*eP*	**Pn**	**20 47 12.2**	**0.0**
KII				*eS*	**Sn**	**20 47 23.3**	**-0.4**
NLC	**Nalytchevo**	**0.95**	**239**	*eP*	**Pn**	**20 47 13.9**	**+0.2**
NLC				*eS*	**Sn**	**20 47 26.5**	**+0.3**
MKZ	**Mys Kozlova**	**1.08**	**34**	*eP*	**Pn**	**20 47 15.6**	**+0.2**
MKZ				*eS*	**Sn**	**20 47 28.4**	**-0.9**
SDLR	**Sedlovina**	**1.15**	**251**	*eP*	**Pn**	**20 47 17.1**	**+0.6**
SDLR				*eS*	**Sn**	**20 47 31.3**	**-0.1**
UGLR	**Uglovaya**	**1.21**	**249**	*eP*	**Pn**	**20 47 18.0**	**+0.7**
UGLR				*eS*	**Sn**	**20 47 32.6**	**-0.1**
KRER	**Koryakskii**	**1.22**	**254**	*eP*	**Pn**	**20 47 18.6**	**+1.0**
KRER				*eS*	**Sn**	**20 47 32.6**	**-0.5**
AVH	**Avacha**	**1.24**	**252**	*eP*	**Pn**	**20 47 18.7**	**+1.0**
AVH				*eS*	**Sn**	**20 47 33.4**	**+0.1**
KRX	**Arik**	**1.27**	**257**	*eP*	**Pn**	**20 47 18.7**	**+0.6**
KRX				*eS*	**Sn**	**20 47 34.2**	**+0.2**
KOK	**Koryaka**	**1.29**	**254**	*eP*	**Pn**	**20 47 19.1**	**+0.7**
KOK				*eS*	**Sn**	**20 47 34.6**	**+0.1**
DALK	**Dalny**	**1.33**	**242**	*eP*	**Pn**	**20 47 19.3**	**+0.6**
DALK				*eS*	**Sn**	**20 47 36.0**	**+0.6**
PET	**Petropavlovsk**	**1.39**	**243**	*eP*	**Pn**	**20 47 20.2**	**+0.7**
PET				*eS*	**Sn**	**20 47 36.7**	**0.0**
INSR	**Institute**	**1.39**	**245**	*eP*	**Pn**	**20 47 20.4**	**+0.8**
INSR				*eS*	**Sn**	**20 47 36.8**	**-0.1**
TUMD	**Tumrok D**	**1.56**	**354**	*eP*	**Pn**	**20 47 22.3**	**+0.4**
TUMD				*eS*	**Sn**	**20 47 40.4**	**-0.6**
GNL	**Ganaly**	**1.64**	**272**	*eP*	**Pn**	**20 47 24.3**	**+1.1**
GNL				*eS*	**Sn**	**20 47 44.5**	**+1.3**
KRMR	**Karymshinskiy**	**1.76**	**243**	*eP*	**Pn**	**20 47 25.5**	**+0.9**
KRMR				*eS*	**Sn**	**20 47 46.7**	**+0.9**
RUS	**Russkaya**	**1.81**	**228**	*eP*	**Pn**	**20 47 25.9**	**+0.6**
RUS				*eS*	**Sn**	**20 47 47.5**	**+0.5**
PETK	**Petropavlovsk-**	**1.88**	**254**	Pg	**Pn**	**20 47 26.6**	**+0.2**
	7.1nm,0.3s,baz=76,slow=18,SNR=168						
PETK				Lg	Lg	20 47 50.9	
	17nm,0.3s,baz=72,slow=41,SNR=10						
GRL	**Gorelyy**	**1.94**	**236**	*eP*	**Pn**	**20 47 29.0**	**+1.8**
GRL				*eS*	**Sn**	**20 47 53.1**	**+2.7**
KMNR	**Kamenistaya**	**2.12**	**353**	*eP*	**Pn**	**20 47 31.2**	**+1.6**
KMNR				*eS*	**Sn**	**20 47 57.7**	**+2.9**
APC	**Apacha**	**2.25**	**252**	*eP*	**Pn**	**20 47 33.0**	**+1.6**
APC				*eS*	**Sn**	**20 47 59.9**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.28**	**360**	*eP*	**Pn**	**20 47 33.2**	**+1.3**
BZGR				*eS*	**Sn**	**20 47 58.9**	**0.0**
KIRR	**Kirishev**	**2.31**	**355**	*eP*	**Pn**	**20 47 33.3**	**+1.1**
KIRR				*eS*	**Sn**	**20 48 00.4**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.31**	**357**	*eP*	**Pn**	**20 47 34.2**	**+1.9**
KPT	**Kopyto**	**2.33**	**353**	*eP*	**Pn**	**20 47 34.1**	**+1.6**
ZLN	**Zelenaya**	**2.36**	**1**	*eP*	**Pn**	**20 47 35.1**	**+2.2**
ZLN				*eS*	**Sn**	**20 48 04.2**	**+3.4**
LGNR	**Loginova**	**2.43**	**360**	*eP*	**Pn**	**20 47 36.4**	**+2.4**
LGNR				*eS*	**Sn**	**20 48 05.5**	**+2.9**
KDTR	**Khodutka, Kamc**	**2.45**	**222**	*eP*	**Pn**	**20 47 35.9**	**+1.8**
KDTR				*eS*	**Sn**	**20 48 03.9**	**+1.1**
KOZ	**Kozyrevsk**	**2.45**	**349**	*eP*	**Pn**	**20 47 35.4**	**+1.3**
CIRR	**Tsirk**	**2.46**	**1**	*eP*	**Pn**	**20 47 36.6**	**+2.2**
CIRR				*eS*	**Sn**	**20 48 06.0**	**+2.8**
ESO	**Esso**	**2.55**	**334**	*eP*	**Pn**	**20 47 36.2**	**+0.7**
KRSR	**Krestovskiy**	**2.56**	**358**	*eP*	**Pn**	**20 47 36.8**	**+1.1**
KRSR				*eS*	**Sn**	**20 48 07.7**	**+2.0**
KLY	**Klyuchi**	**2.66**	**359**	*eP*	**Pn**	**20 47 38.7**	**+1.8**
KLY				*eS*	**Sn**	**20 48 08.9**	**+1.0**
KBTR	**Krutoberegovo**	**2.83**	**25**	*eP*	**Pn**	**20 47 40.7**	**+1.4**
KBTR				*eS*	**Sn**	**20 48 13.4**	**+1.3**
PAU	**Pauzhetka**	**3.24**	**229**	*eP*	**Pn**	**20 47 48.0**	**+3.2**
PAU				*eS*	**Sn**	**20 48 26.4**	**+4.3**
BKI	**Bering**	**3.44**	**61**	*eP*	**Pn**	**20 47 48.9**	**+1.3**
BKI				*eS*	**Sn**	**20 48 25.7**	**-1.4**
SKR	**Severo-Kuril's**	**4.11**	**225**	*eS*	**Sn**	**20 48 45.2**	**+1.7**
PALN	**Palana**	**5.46**	**356**	*eS*	**Sn**	**20 49 15.5**	**-1.1**
MA2	**Magadan**	**8.07**	**321**	LR	LR	20 51 40.9	
	comp=Z,36nm,20.9s,baz=108,slow=39						
YAK	**Yakutsk**	**18.35**	**309**	LR	LR	20 58 47.9	
	comp=Z,54nm,19.2s,baz=23,slow=40						
MJAR	**Matsushiro Arr**	**23.19**	**231**	P	**P**	**20 51 59.5**	**+0.8**
	3.0nm,0.8s,baz=26,slow=11,SNR=6.7						
	3.0nm,0.8s						
ILAR	**Eielson Array**	**28.16**	**46**	P	**P**	**20 52 44.4**	**+0.8**
	0.2nm,0.7s,baz=278,slow=7.3,SNR=1.9						
	0.2nm,0.7s						
SONM	**Songino Array**	**34.13**	**283**	P	**P**	**20 53 35.4**	**-1.0**
	0.1nm,0.3s,baz=64,slow=9.4,SNR=2.3						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**47.85**	**302**	P	**P**	**20 55 25.5**	**-3.4**
	0.2nm,0.3s,baz=59,slow=7.5,SNR=3.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**48.24**	**296**	P	**P**	**20 55 29.0**	**-2.9**
	0.1nm,0.3s,baz=46,slow=6.2,SNR=1.5						
	0.1nm,0.3s						
TGY	**Tagaytay City**	**50.33**	**234**	LR	LR	21 17 08.8	
	comp=Z,21nm,20.4s,baz=275,slow=36						
KIRV	**Kirov**	**55.15**	**324**	LR	LR	21 25 05.6	
	comp=Z,87nm,19.2s,baz=303,slow=42						

*IDC **21** 21:06:00.9±1.5, 36°.68N×142°.44E, h0km, mb3.4/5, mbtmp3.4/6, ML2.9/1, MS2.8/4, Error ellipse: s-maj=31.1km s-min=28.8km az=20.0*
*JMA **21** 21:06:05.0±0.5, 36°.7N±0°.9×14°.2E±°, h32km, MV3.4/21, E OFF FUKUSHIMA PREF*
ISC 21 21:06:04.4±1.2, 36°.64N±0°.10×142°.11E±0°.09, h19km, n22, σ1§21/16, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**1.24**	**269**	P	**Pn**	**21 06 25.6**	**-1.0**
JHYU	**Hitachinakayam**	**1.26**	**257**	*eP*	**Pn**	**21 06 26.6**	**-0.3**
JHYU				*eS*	**Sn**	**21 06 42.7**	**-0.7**
JMM	**Marumori**	**1.61**	**320**	*eP*	**Pn**	**21 06 31.0**	**-0.8**
JOTO	**OTAMA OYAMA**	**1.69**	**303**	*eP*	**Pn**	**21 06 32.8**	**-0.1**
JOU	**Okura**	**2.07**	**327**	*eP*	**Pn**	**21 06 38.8**	**+0.7**
JAG	**Ashikaga**	**2.15**	**265**	*eP*	**Pn**	**21 06 39.4**	**+0.3**
JRY	**Ryogami san**	**2.66**	**257**	*eP*	**Pn**	**21 06 46.4**	**+0.2**
JRY				*eS*	**Sn**	**21 07 17.6**	**-0.5**
MJAR	**Matsushiro Arr**	**3.14**	**269**	Pn	**Pn**	**21 06 54.7**	**+1.9**
	1.1nm,0.3s,baz=87,slow=9.5,SNR=29						
MJAR				Sn	**Sb**	**21 07 35.9**	**-1.5**
	0.5nm,0.3s,baz=80,slow=11,SNR=4.5						
MJAR				LR	LR	21 08 25.9	
	comp=Z,63nm,19.1s,baz=150,slow=42						
	11nm,0.6s						
KSRS	**Korea Array**	**11.37**	**278**	LR	LR	21 13 05.9	
	comp=Z,34nm,18.5s,baz=325,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.47**	**121**	T	T	21 39 52.5	
	baz=316,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**27.48**	**121**	T	T	21 39 53.8	
	baz=316,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.49**	**121**	T	T	21 39 54.5	
	baz=316,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	21 40 50.3	
	baz=318,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	21 40 49.8	
	baz=318,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.20**	**123**	T	T	21 40 50.9	
	baz=318,slow=76,SNR=13						
SONM	**Songino Array**	**28.46**	**304**	P	**P**	**21 12 00.4**	**+2.2**
	0.4nm,0.6s,baz=110,slow=7.6,SNR=3.5						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**21 13 59.1**	**+0.2**
	0.2nm,0.3s,baz=80,slow=6.3,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**	**21 14 17.9**	**+1.0**
	0.2nm,0.6s,baz=87,slow=6.6,SNR=2.6						
	0.2nm,0.6s						
KAPI	**Kappang**	**46.41**	**212**	LR	LR	21 33 05.3	
	comp=Z,16nm,20.1s,baz=229,slow=35						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**21 14 51.4**	**-2.1**
	0.6nm,0.8s,baz=273,slow=8.2,SNR=1.7						
	0.6nm,0.8s						
BATI	**Baumata**	**49.73**	**204**	LR	LR	21 34 47.1	
	comp=Z,30nm,21.8s,baz=300,slow=35						
WRA	**Warramunga Arr**	**56.75**	**189**	P	**P**	**21 15 47.2**	**+0.1**
	0.3nm,0.6s,baz=23,slow=6.4,SNR=6.1						
	0.3nm,0.6s						

TXNET 21 21:23:47.7, 31°.4N±0°.8×103°.6W±0°.6, h5km±1km, ML1.8/7, 1C-1D, Error ellipse: s-maj=1.2km s-min=0.9km az=8.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.08**	**102**	P	Pg	21 23 49.9	+0.4
PCOS				S	Sg	21 23 51.3	+0.5
TPB07	**Mentone**	**0.16**	**341**	⇑P	Pg	21 23 52.0	+1.1
TPB07				S	Sg	21 23 54.4	+1.3
TPB10	**Southeast of T**	**0.19**	**222**	P	Pg	21 23 52.0	+0.5
TPB10				S	Sg	21 23 55.7	+1.7
PECS	**Pecos**	**0.23**	**256**	⇓P	Pg	21 23 52.8	+0.6
PECS				S	Sg	21 23 56.6	+1.4
TPB03	**Saragosa**	**0.35**	**167**	S	Sb	21 24 00.8	-1.6
TPB12	**Southwest of T**	**0.37**	**235**	S	Sb	21 24 01.4	-1.5
TPB04	**Verhalen**	**0.37**	**129**	S	Sb	21 24 01.7	-1.3
TPB06	**Permian Basin**	**0.40**	**56**	S	Sb	21 24 02.2	-1.6
TPB16	**Coyonosa**	**0.43**	**135**	P	Pb	21 23 56.9	-0.9
TPB16				S	Sb	21 24 03.3	-1.3
TPB16	**Coyonosa**	**0.43**	**135**	P	Pb	21 23 56.9	-0.9
TPB16				S	Sb	21 24 03.3	-1.3
TPB01	**Permian Basin**	**0.50**	**197**	P	Pb	21 23 58.4	-0.7
TPB01				S	Sg	21 24 05.0	+1.1
TPB05	**Hovey Rd**	**0.56**	**154**	P	Pg	21 23 59.1	+0.6
TPB05				S	Sg	21 24 06.9	+1.2
TPB08	**Permian Basin**	**0.80**	**131**	S	Sb	21 24 14.6	-0.8
ALPN	**Alpine**	**1.05**	**182**	P	Pg	21 24 07.8	0.0
ALPN				S	Sb	21 24 22.5	0.0
ODSA	**Odessa**	**1.14**	**52**	S	Sb	21 24 25.1	0.0
VHRN	**Van Horn**	**1.34**	**242**	P	Pn	21 24 12.8	-0.4
VHRN				S	Sb	21 24 31.1	+0.1
TMB02	**Rankin**	**1.36**	**99**	P	Pg	21 24 14.7	+0.9
TMB02				S	Sn	21 24

INK			Sb	**Sb**	**22 04 05.6 +0.9**
	baz=144				
F30M	**Barrier River**	**2.32 297**	Sb	**Sb**	**22 04 13.0 +0.7**
	baz=112				
G30M	**tAoh Zraii Nji**	**2.33 281**	S	**Sn**	**22 04 08.6 -0.4**
	baz=95				
EPYK	**Eagle Plains**	**2.55 267**	P	**Pn**	**22 03 43.7 +0.6**
	baz=80,SNR=16				
EPYK			Sb	**Sb**	**22 04 20.3 +1.3**
	baz=80				
I30M	**Mount Dempster**	**2.84 243**	P	**Pn**	**22 03 48.4 +1.2**
	baz=56,SNR=123				
I30M			S	**Sn**	**22 04 22.0 +0.3**
	baz=56				
G29M	**Pine Creek**	**3.04 278**	P	**Pn**	**22 03 50.2 +0.4**
	baz=91,SNR=233				
G29M			S	**Sn**	**22 04 25.1 -1.2**
	baz=91				
J30M	**Hart River**	**3.23 233**	P	**Pn**	**22 03 54.3 +1.8**
	baz=46,SNR=92				
J30M			S	**Sn**	**22 04 31.3 +0.1**
	baz=46				
H29M	**Whitestone**	**3.24 266**	S	**Sn**	**22 04 30.1 -1.1**
	baz=78				
I29M	**Ogilvie Camp,**	**3.49 252**	P	**Pn**	**22 03 56.9 +1.0**
	baz=64,SNR=6.7				
I29M			S	**Sn**	**22 04 36.7 -0.7**
	baz=64				
C36M	**Paulatuk**	**3.60 38**	P	**Pn**	**22 03 58.6 +1.1**
	baz=225,SNR=171				
C36M			S	**Sn**	**22 04 40.6 +0.5**
	baz=225				
MMPY	**Sheldon Lake,**	**4.06 186**	P	**Pn**	**22 04 05.3 +1.4**
	baz=3.9,SNR=36				
I28M	**Miner Creek**	**4.08 257**	P	**Pn**	**22 04 04.0 -0.2**
	baz=68,SNR=18				
K29M	**Barlow Dome**	**4.12 230**	P	**Pn**	**22 04 06.4 +1.7**
	baz=42,SNR=9.8				
H27K	**Steamboat Moun**	**4.49 270**	P	**Pn**	**22 04 09.7 -0.1**
	baz=79,SNR=26				
H27K			S	**Sn**	**22 05 01.1 -1.1**
	baz=79				
WRGLY	**Wrigley**	**4.52 136**	P	**Pn**	**22 04 12.3 +2.2**
	baz=322,SNR=23				
DAWY	**Dawson**	**4.58 240**	P	**Pn**	**22 04 12.3 +1.4**
	baz=50,SNR=15				
DAWY			S	**Sn**	**22 05 03.7 -0.5**
	baz=50				
E27K	**Coleen River**	**4.59 295**	P	**Pn**	**22 04 11.6 +0.5**
	baz=104,SNR=37				
E27K			S	**Sn**	**22 05 03.1 -1.5**
	baz=104				
FARO	**Faro, Yukon**	**4.62 198**	P	**Pn**	**22 04 13.3 +1.8**
	baz=14,SNR=7.6				
I27K	**Kandik River**	**4.68 262**	P	**Pn**	**22 04 12.3 -0.1**
	baz=71,SNR=24				
I27K			S	**Sn**	**22 05 06.0 -0.9**
	baz=71				
L29M	**L29M**	**4.85 226**	P	**Pn**	**22 04 16.3 +1.6**
	baz=38,SNR=16				
M30M	**Minto, Yukon**	**4.93 217**	P	**Pn**	**22 04 17.0 +1.2**
	baz=30,SNR=10				
TGTN	**Hyland Airport**	**5.22 169**	P	**Pn**	**22 04 22.3 +2.5**
	baz=350,SNR=15				
G26K	**Porcupine Rive**	**5.31 279**	P	**Pn**	**22 04 20.4 -0.5**
	baz=87,SNR=17				
I26K	**Coal Creek Min**	**5.39 261**	S	**Sn**	**22 05 21.9 -2.3**
	baz=69				
F26K	**Sheenjek River**	**5.46 287**	P	**Pn**	**22 04 23.7 +0.7**
	baz=94,SNR=61				
F26K			S	**Sn**	**22 05 23.5 -2.4**
	baz=94				
M29M	**Somme Creek**	**5.47 223**	P	**Pn**	**22 04 24.2 +0.9**
	baz=35,SNR=21				
M29M			S	**Sn**	**22 05 25.4 -0.9**
	baz=35				
A36M	**Sachs Harbour**	**5.66 16**	P	**Pn**	**22 04 25.6 -0.1**
	baz=202,SNR=15				
J26L	**Joseph Creek**	**5.88 255**	P	**Pn**	**22 04 28.5 -0.3**
	baz=62,SNR=12				
N30M	**Aishikik Lake**	**5.98 213**	P	**Pn**	**22 04 31.8 +1.6**
	baz=26,SNR=15				
N30M			S	**Sn**	**22 05 38.6 -0.2**
	baz=26				
F25K	**Christian Rive**	**6.03 286**	P	**Pn**	**22 04 31.2 +0.4**
	baz=92,SNR=36				
F25K			S	**Sn**	**22 05 37.7 -2.2**
	baz=92				
E25K	**Arctic Village**	**6.04 291**	P	**Pn**	**22 04 31.7 +0.7**
	baz=97,SNR=31				
E25K			S	**Sn**	**22 05 38.2 -1.9**
	baz=97				
L27K	**Beaver Creek,**	**6.06 239**	S	**Sn**	**22 05 39.5 -1.2**
	baz=48				
YUK4	**Talbot Arm**	**6.44 218**	P	**Pn**	**22 04 36.7 +0.1**
	baz=30,SNR=46				
P33M	**Teslin, Yukon**	**6.55 191**	P	**Pn**	**22 04 39.1 +1.1**
	baz=7.9,SNR=9.6				
YUK3	**Moose Creek**	**6.57 227**	P	**Pn**	**22 04 40.1 +1.6**
	baz=37,SNR=9.6				
HYT	**Haines Junctio**	**6.64 212**	P	**Pn**	**22 04 40.7 +1.4**
	baz=25,SNR=17				
YUK6	**Outpost Mounta**	**6.72 215**	P	**Pn**	**22 04 42.0 +1.4**
	baz=28,SNR=7.5				
ILAR	**Eielson Array**	**7.06 262**	Pn	**Pn**	**22 04 44.1 -0.8**
	0.2nm,0.3s,baz=70,slow=10,SNR=7.7				
ILAR			Sn	**Sn**	**22 06 01.7 -3.5**
	0.2nm,0.3s,baz=5.7,slow=10,SNR=5.7				
ILAR			Lg	Lg	22 06 41.5
	0.3nm,0.3s,baz=66,slow=29,SNR=5.2				
	0.2nm,0.4s				
P32M	**Atlin**	**7.24 194**	P	**Pn**	**22 04 49.4 +1.9**
	baz=10.0,SNR=8.3				
Q32M	**Nakina River**	**7.77 187**	P	**Pn**	**22 04 56.3 +1.5**
	baz=5.0,SNR=8.9				
YKA	**Yellowknife Ar**	**7.96 114**	Pn	**Pn**	**22 04 56.2 -1.0**
	2.7nm,0.3s,baz=306,slow=5.9,SNR=75				
YKA			Sn	**Sn**	**22 06 21.6 -5.6**
	1.9nm,0.3s,baz=305,slow=23,SNR=9.7				
YKA			Lg	Lg	22 07 08.2
	0.7nm,0.3s,baz=311,slow=27,SNR=5.4				
	2.6nm,0.3s				
DLBC	**Dease Lake**	**8.24 179**	Pn	**Pn**	**22 04 59.2 -2.1**
	0.7nm,0.3s,baz=4.3,slow=16,SNR=4.1				
DLBC			Sn	Sn	22 06 25.2 -9.3
	0.4nm,0.3s,baz=100,slow=11,SNR=1.6				
DLBC			Lg	Lg	22 07 22.5
	0.3nm,0.3s,baz=330,slow=18,SNR=3.9				
	1.8nm,0.3s				
RES	**Resolute Bay**	**13.97 40**	Pn	**Pn**	**22 06 16.6 -2.8**
	0.4nm,0.3s,baz=239,slow=9.2,SNR=9.1				
RES			Sn	Sn	22 08 44.6 -10
	0.2nm,0.3s,baz=165,slow=12,SNR=4.2				
NOA	**NORSAR Array B**	**49.52 23**	P	**P**	**22 11 52.2 +0.2**
	0.2nm,0.5s,baz=347,slow=6.4,SNR=1.5				
	0.2nm,0.5s				
HFS	**Hagfors**	**50.77 22**	P	**P**	**22 12 02.4 +1.1**
	0.6nm,0.4s,baz=337,slow=1.9,SNR=6.5				
	0.6nm,0.4s				
FINES	**FINESS Array B**	**51.05 14**	P	**P**	**22 12 04.8 +1.5**
	3.2nm,0.9s,baz=0.0,slow=6.5,SNR=5.8				
	3.2nm,0.9s				
EKA	**Eskdalemuir Ar**	**52.06 35**	P	**P**	**22 12 11.8 +0.8**
	1.3nm,0.8s,baz=318,slow=7.0,SNR=2.0				
	1.3nm,0.8s				
ZALV	**Zalesovo Beam**	**56.83 336**	P	**P**	**22 12 47.6 +1.9**
	0.9nm,0.5s,baz=36,slow=7.0,SNR=3.8				
	0.9nm,0.5s				
BVAR	**Borovoye Array**	**59.62 346**	P	**P**	**22 13 07.7 +2.5**
	0.3nm,0.4s,baz=4.3,slow=7.7,SNR=2.6				
	0.3nm,0.4s				
KURBB	**Kurchatov Arra**	**61.01 339**	P	**P**	**22 13 16.2 +1.5**
	0.4nm,0.5s,baz=11,slow=5.9,SNR=5.5				
	0.4nm,0.5s				
MKAR	**Makanchi Array**	**64.16 336**	P	**P**	**22 13 36.9 +1.0**
	0.2nm,0.5s,baz=23,slow=7.9,SNR=3.8				
	0.2nm,0.5s				
BRTR	**Keskin Array B**	**73.25 13**	P	**P**	**22 14 34.4 +1.6**
	0.4nm,0.7s,baz=8.2,slow=3.9,SNR=2.2				
	0.4nm,0.7s				

*THE **21** 22:05:28.1,37°.46N×20°.49E,h2km±29km,ML3.0/5,Error ellipse: s-maj=29.1km s-min=0.9km az=0.0*
*ATH **21** 22:05:29.3,37°.52N×20°.55E,h10km±3km,ML2.8/23, Manual Solution by N.Liadopoulou First location: 2019/03/21 22:05:50, This location: 2019/03/22 06:18:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*

ISC 21 22:05:28.1±1.9,37°.47N±0°.06×20°.50E±0°.06,h8km±10km, n48,σ0§51/59,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**52**	P	**Pg**	**22 05 34.5**	**0.0**
KRI1				S	**Sg**	**22 05 39.0**	**+0.3**
	15μm,0.2s						
LTHK	**Lithakia**	**0.36**	**48**	P	**Pg**	**22 05 35.1**	**-0.1**
LTHK				S	**Sg**	**22 05 40.3**	**+0.3**
	7μm,0.4s						
LTHK	**Lithakia**	**0.36**	**48**	P	**Pg**	**22 05 35.2**	**-0.1**
LTHK				S	**Sg**	**22 05 40.4**	**+0.3**
ORTH	**Orthonies,Zaky**	**0.42**	**22**	P	**Pg**	**22 05 36.3**	**0.0**
ORTH				S	**Sg**	**22 05 42.0**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.44**	**36**	P	**Pg**	**22 05 36.8**	**+0.1**
KYPS				S	**Sg**	**22 05 42.2**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.65**	**20**	P	**Pg**	**22 05 40.3**	**-0.3**
RTZL				S	**Sb**	**22 05 50.6**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.65**	**6**	P	**Pg**	**22 05 40.4**	**-0.3**
PSDA				S	**Sb**	**22 05 50.3**	**-0.7**
	1μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.65**	**6**	P	**Pg**	**22 05 40.6**	**0.0**
CLEM	**Kyllini,Ilia,G**	**0.66**	**50**	P	**Pg**	**22 05 41.1**	**+0.2**
CLEM				S	**Sg**	**22 05 48.9**	**-0.6**
VLS	**Valsamata**	**0.71**	**6**	P	**Pg**	**22 05 41.3**	**-0.6**
VLS				S	**Sb**	**22 05 52.1**	**-0.8**
	645nm,0.5s						
VLS	**Valsamata**	**0.71**	**6**	P	**Pg**	**22 05 41.5**	**-0.3**
LCHA	**Lechaina**	**0.77**	**52**	P	**Pb**	**22 05 43.6**	**-0.2**
DMLN	**Damoulianata-K**	**0.78**	**353**	P	**Pb**	**22 05 44.1**	**+0.1**
SMHA	**Samh**	**0.79**	**9**	P	**Pb**	**22 05 44.1**	**-0.1**
ZARO	**Zacharo**	**0.92**	**88**	P	**Pg**	**22 05 46.1**	**+0.4**
YRMI	**Loutra Irminis**	**0.93**	**47**	P	**Pg**	**22 05 45.4**	**-0.6**
AMT	**Artemida-Makis**	**0.97**	**86**	P	**Pg**	**22 05 46.2**	**-0.5**
RLS	**Riolos of Patr**	**0.97**	**52**	P	**Pb**	**22 05 47.2**	**0.0**
FSK	**Fiskardo**	**0.99**	**3**	P	**Pg**	**22 05 46.7**	**-0.5**
AXS	**Araxos**	**1.01**	**43**	P	**Pg**	**22 05 47.2**	**-0.3**
DRO	**Drossia**	**1.08**	**63**	P	**Pg**	**22 05 49.0**	**+0.2**
DRO				S	**Sn**	**22 06 04.5**	**-0.3**
DRO	**Drossia**	**1.08**	**63**	P	**Pg**	**22 05 48.1**	**-0.7**
EVGI	**Lefkada island**	**1.16**	**6**	P	**Pg**	**22 05 49.5**	**-0.9**
ITM	**Ithomi**	**1.18**	**104**	P	**Pg**	**22 05 49.9**	**-0.8**
ITM	**Ithomi**	**1.18**	**104**	P	**Pg**	**22 05 49.8**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.22**	**3**	P	**Pg**	**22 05 50.4**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.25**	**7**	P	**Pg**	**22 05 51.7**	**-0.5**
NYDR				S	**Sn**	**22 06 09.5**	**+0.4**
	292nm,0.4s						
NYDR	**Nydri-Lefkada**	**1.25**	**7**	P	**Pg**	**22 05 51.4**	**-0.8**
PATC	**Patra C**	**1.28**	**51**	P	**Pg**	**22 05 52.6**	**-0.1**
UPR	**University Cam**	**1.31**	**51**	P	**Pg**	**22 05 53.5**	**+0.3**
LKD2	**Lefkada island**	**1.33**	**5**	P	**Pb**	**22 05 53.6**	**+0.3**
TSLK	**Tsoukalades, L**	**1.36**	**5**	P	**Pg**	**22 05 54.6**	**+0.3**
PVO	**Paravola**	**1.41**	**35**	P	**Pn**	**22 05 54.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.43**	**66**	P	**Pn**	**22 05 54.8**	**+0.2**
EFP	**Efpalio**	**1.47**	**49**	P	**Pn**	**22 05 55.0**	**+0.1**
VLX	**Vlachokerasia**	**1.50**	**93**	P	**Pb**	**22 05 56.5**	**+0.1**
GUR	**Goura**	**1.54**	**72**	P	**Pn**	**22 05 56.4**	**+0.4**
SERG	**Sergoula**	**1.55**	**52**	P	**Pn**	**22 05 56.6**	**+0.5**
ANX	**Ano Chora**	**1.59**	**45**	P	**Pb**	**22 05 57.7**	**-0.1**
KALE	**Kalithea**	**1.59**	**54**	P	**Pn**	**22 05 57.5**	**+0.7**
EVR	**Evrytania**	**1.78**	**35**	P	**Pb**	**22 06 01.2**	**+0.1**
TETR	**Tetrakomo, Epi**	**1.97**	**18**	P	**Pn**	**22 06 02.8**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.01**	**39**	P	**Pn**	**22 06 03.4**	**+1.0**
LTK	**Loutraki**	**2.04**	**73**	P	**Pn**	**22 06 02.6**	**-0.2**
IGT	**Igoumenitsa**	**2.07**	**356**	P	**Pn**	**22 06 04.1**	**+0.9**
VLI	**Veliai**	**2.09**	**110**	P	**Pn**	**22 06 04.4**	**+0.9**
KRND	**KRANIDI**	**2.12**	**91**	P	**Pn**	**22 06 04.6**	**+0.7**
AXAR	**Agios Charalam**	**2.14**	**52**	P	**Pn**	**22 06 04.8**	**+0.6**

*IDC **21** 22:48:39.0±2.1,33°.40S×179°.50W,h0km,mb3.7/3, mbtmp3.7/4,ML3.6/1,Error ellipse: s-maj=49.9km s-min=36.0km az=67.0*
*WEL **21** 22:48:41.9±0.6,34°.5S±7°×17°.9W±1°.6,h12km,M4.2/10, mB4.7/4,ML4.5/14,MLv4.2/10,Mw(mB)4.0/4,Error ellipse: s-maj=22.3km s-min=3.9km az=110.8,confirmed*

ISC 21 22:48:44.7±1.0,33°.71S±0°.07×179°.2W±0°.1,h50km,n24, σ1§73/39,mb3.5/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.35**	**207**	S	**Sn**	**22 50 39.6**	**+2.0**
WMGZ	**Waiomatatini S**	**4.54**	**205**	P	**Pn**	**22 49 51.8**	**+1.0**
WMGZ				S	**Sn**	**22 50 43.5**	**+1.3**
GLKZ	**Green Lake**	**4.57**	**14**	P	**Pn**	**22 49 50.2**	**-1.1**
GLKZ				S	**Sn**	**22 50 42.3**	**-0.6**
PKGZ	**Pakihiroa**	**4.70**	**207**	P	**Pn**	**22 49 52.3**	**-0.7**
PKGZ				S	**Sn**	**22 50 48.1**	**+1.8**
HAZ	**Te Kaha**	**4.72**	**210**	P	**Pn**	**22 49 53.5**	**+0.2**
HAZ				S	**Sn**	**22 50 46.6**	**-0.2**
PUZ	**Puketiti**	**4.82**	**205**	P	**Pn**	**22 49 53.9**	**-0.8**
PUZ				S	**Sn**	**22 50 48.6**	**-0.5**
RUGZ	**Raukumara Rang**	**4.95**	**210**	P	**Pn**	**22 49 57.5**	**+1.0**
TWGZ	**Tauwhareparae**	**5.01**	**206**	P	**Pn**	**22 49 57.0**	**-0.4**
TWGZ				S	**Sn**	**22 50 55.8**	**+1.9**
CNGZ	**Carnagh Statio**	**5.21**	**203**	P	**Pn**	**22 49 59.0**	**-0.9**
TKGZ	**Te Karaka**	**5.29**	**206**	P	**Pn**	**22 50 03.9**	**+2.8**
TKGZ				S	**Sn**	**22 50 58.9**	**-1.8**
MWZ	**Matawai**	**5.32**	**209**	P	**Pn**	**22 50 02.1**	**+0.5**
MWZ				S	**Sn**	**22 51 00.7**	**-0.8**
URZ	**Urewera**	**5.43**	**212**	Pn	**Pn**	**22 50 04.2**	**+1.1**
	1.8nm,0.3s,baz=8.1,slow=14,SNR=13						
URZ				Sn	**Sn**	**22 50 58.8**	**-5.5**
	3.7nm,0.3s,baz=338,slow=5.4,SNR=3.7						
	8.4nm,0.5s						
URZ	**Urewera**	**5.43**	**212**	P	**Pn**	**22 50 03.6**	**+0.5**
URZ				S	**Sn**	**22 51 02.8**	**-1.4**
RAGZ	**Rawiri**	**5.50**	**209**	P	**Pn**	**22 50 03.1**	**-1.0**
RAGZ				S	**Sn**	**22 51 06.8**	**+0.6**
RIGZ	**Rimuhau**	**5.56**	**205**	P	**Pn**	**22 50 06.7**	**+1.9**
RIGZ				S	**Sn**	**22 51 07.3**	**-0.1**
PRGZ	**Paritu Road**	**5.71**	**203**	P	**Pn**	**22 50 06.8**	**-0.1**
PRGZ				S	**Sn**	**22 51 09.3**	**-1.8**
MUGZ	**Murupara**	**5.77**	**213**	P	**Pn**	**22 50 09.2**	**+1.6**
SNGZ	**Shannon Statio**	**5.78**	**208**	P	**Pn**	**22 50 07.2**	**-0.7**
SNGZ				S	**Sn**	**22 51 10.9**	**-1.9**
MHGZ	**Mahia Peninsul**	**5.91**	**202**	P	**Pn**	**22 50 08.3**	**-1.3**
MHGZ				S	**Sn**	**22 51 12.9**	**-3.1**
OUZ	**Omahuta**	**6.13**	**254**	P	**Pn**	**22 50 14.2**	**+1.5**
ASAR	**Alice Springs**	**42.03**	**271**	P	**P**	**22 56 29.1**	**-2.4**
	0.3nm,0.6s,baz=110,slow=7.5,SNR=5.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.31**	**276**	P	**P**	**22 56 41.4**	**-0.5**
	0.4nm,0.4s,baz=116,slow=7.7,SNR=6.4						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**56.41**	**180**	P	**P**	**22 58 23.7**	**+2.9**
	1.9nm,1.0s,baz=17,slow=1.8,SNR=3.4						
	1.9nm,1.0s						
FINES	**FINESS Array B**	**147.84**	**337**	PKPbc	**PKPbc**	**23 08 23.8**	**+0.5**
	2.1nm,0.9s,baz=38,slow=2.5,SNR=5.9						

*IDC **21** 23:06:37.5±0.9,0°.56N×125°.37E,h0km,mb3.8/8, mbtmp3.8/8,MS3.0/1,Error ellipse: s-maj=149.2km s-min=17.4km az=67.0*
*DJA **21** 23:06:42.8±0.2,1°.N±2°×12°.6E±°,h10km,M3.8/11,mb3.8/1, MLv3.7/11*

ISC 21 23:06:43.8±0.8,1°.02N±0°.09×126°.12E±0°.05,h35km,n14, σ2§16/17,mb3.8/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**101**	P	**Pn**	**23 07 05.3**	**+0.2**
TNTI				S	**Sn**	**23 07 24.8**	**+3.8**
LBMI	**Labuha**	**2.15**	**140**	P	**Pn**	**23 07 18.5**	**+1.3**
LBMI				S	**Sn**	**23 07 45.7**	**+3.0**
KMSI	**Cibinong**	**2.18**	**258**	P	**Pn**	**23 07 18.5**	**+0.8**
KMSI				S	**Sn**	**23 07 46.2**	**+2.7**
SANI	**Sanana**	**3.05**	**182**	P	**Pn**	**23 07 29.5**	**-0.1**
APSI	**Ampana**	**4.86**	**247**	P	**Pn**	**23 07 56.1**	**+1.6**
BATI	**Baumata**	**11.42**	**192**	LR	LR	23 13 14.2	
	comp=Z,79nm,20.2s,baz=313,slow=37						
WRA	**Warramunga Arr**	**22.34**	**159**	P	**P**	**23 11 35.6**	**-3.2**
	0.9nm,0.4s,baz=339,slow=11,SNR=28						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.68**	**163**	P	**P**	**23 12 07.2**	**-3.5**
	0.6nm,0.3s,baz=345,slow=11,SNR=16						
ASAR				PcP	**PcP**	**23 15 39.8**	**-1.0**
	0.3nm,0.6s,baz=359,slow=2.3,SNR=4.3						
	0.6nm,0.3s						
SONM	**Songino Array**	**49.67**	**343**	P	**P**	**23 15 32.7**	**+0.4**
	0.5nm,0.7s,baz=149,slow=6.9,SNR=4.2						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	**P**	**23 16 42.6**	**-0.5**
	0.9nm,0.4s,baz=122,slow=7.8,SNR=23						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**62.72**	**334**	P	**P**	**23 17 04.8**	**-0.5**
	0.3nm,0.4s,baz=138,slow=9.8,SNR=1.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.69**	**328**	P	**P**	**23 17 10.6**	**-1.1**
	1.6nm,0.7s,baz=125,slow=6.4,SNR=16						
	1.6nm,0.7s						
BVAR	**Borovoye Array**	**69.26**	**328**	P	**P**	**23 17 45.4**	**-1.9**
	0.5nm,0.6s,baz=132,slow=10,SNR=3.8						
	0.5nm,0.6s						
NRIK	**Noril'sk**	**72.90**	**347**	P	**P**	**23 18 09.9**	**+0.9**
	0.9nm,0.5s,baz=121,slow=7.7,SNR=3.8						
	0.9nm,0.5s						

*NOU **21** 23:28:09.5,37°.81S×177°.24E,h67km,MLv3.4/10,Off E. Coast of N. Island, N.Z.*
*WEL **21** 23:28:10.7±0.5,38°.5S±3°×17°.7E±°,h47km±5km,M3.2/23, ML3.5/23,MLv3.2/23,Error ellipse: s-maj=4.5km s-min=3.6km az=9.9,confirmed*

ISC 21 23:28:10.0±1.4,37°.74S±0°.04×177°.24E±0°.03,h70km±8km, n82,σ0§88/97,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.22**	**349**	P	**Pn**	**23 28 20.5**	**-0.1**
WIZ				S	**Sn**	**23 28 26.9**	**-1.5**
WSRZ	**White Island S**	**0.23**	**347**	P	**Pn**	**23 28 21.2**	**+0.4**
WSRZ				S	**Sn**	**23 28 27.7**	**-0.9**
OPCS	**Opotiki Colleg**	**0.27**	**172**	P	**Pn**	**23 28 19.5**	**-1.5**
OPCS				S	**Sn**	**23 28 28.8**	**-0.1**
RUGZ	**Raukumara Rang**	**0.41**	**123**	P	**Pn**	**23 28 21.2**	**-0.9**
RUGZ				S	**Sn**	**23 28 30.5**	**-0.4**
HAZ	**Te Kaha**	**0.43**	**92**	P	**Pn**	**23 28 21.6**	**-0.5**
HAZ				S	**Sn**	**23 28 31.5**	**+0.5**
MARZ	**Manawahe**	**0.51**	**242**	P	**Pn**	**23 28 23.1**	**+0.2**
URZ	**Urewera**	**0.53**	**191**	P	**Pn**	**23 28 22.7**	**-0.3**
URZ	**Urewera**	**0.53**	**191**	S	**Sn**	**23 28 33.5**	**+0.9**
URZ	**Urewera**	**0.53**	**191**	P	**Pn**	**23 28 22.9**	**-0.2**
URZ				S	**Sn**	**23 28 33.1**	**+0.5**
OPRZ	**Ohinepanea**	**0.55**	**259**	P	**Pn**	**23 28 23.4**	**+0.1**
OPRZ				S	**Sn**	**23 28 34.0**	**+0.9**
MWZ	**Matawai**	**0.63**	**159**	P	**Pn**	**23 28 23.9**	**-0.3**
MWZ				S	**Sn**	**23 28 35.2**	**+0.6**
PKGZ	**Pakihiroa**	**0.68**	**101**	P	**Pn**	**23 28 24.3**	**-0.4**
PKGZ				S	**Sn**	**23 28 36.1**	**+0.7**
TWGZ	**Tauwhareparae**	**0.72**	**127**	P	**Pn**	**23 28 25.9**	**+0.7**
TWGZ				S	**Sn**	**23 28 39.4**	**+2.9**
MKRZ	**Makatiti**	**0.73**	**237**	P	**Pn**	**23 28 26.3**	**+1.0**
TARZ	**Mount Tarawera**	**0.76**	**230**	P	**Pn**	**23 28 26.4**	**+0.7**
RAGZ	**Rawiri**	**0.76**	**170**	P	**Pn**	**23 28 25.9**	**+0.2**
TGRZ	**Tauranga**	**0.78**	**271**	P	**Pn**	**23 28 25.8**	**0.0**
MUGZ	**Murupara**	**0.82**	**207**	P	**Pn**	**23 28 26.1**	**-0.2**
MUGZ				S	**Sn**	**23 28 38.6**	**+0.2**
RRRZ	**Republican Roa**	**0.83**	**224**	P	**Pn**	**23 28 26.6**	**+0.2**
KARZ	**Kaharoa**	**0.84**	**250**	P	**Pn**	**23 28 26.5**	**+0.1**
TKGZ	**Te Karaka**	**0.84**	**146**	P	**Pn**	**23 28 26.6**	**+0.1**
TKGZ				S	**Sn**	**23 28 40.8**	**+2.0**
MXZ	**Matakaoa Point**	**0.86**	**78**	P	**Pn**	**23 28 26.8**	**0.0**
MXZ	**Matakaoa Point**	**0.86**	**78**	P	**Sn**	**23 28 40.5**	**+1.3**
MXZ	**Matakaoa Point**	**0.86**	**78**	P	**Pn**	**23 28 26.8**	**0.0**
PUZ	**Puketiti**	**0.87**	**112**	P	**Pn**	**23 28 26.5**	**-0.3**
PUZ				S	**Sn**	**23 28 40.2**	**+0.9**
RTZ	**Ruatahuna**	**0.89**	**193**	P	**Pn**	**23 28 26.9**	**-0.4**
MYRZ	**Mayor Island**	**0.92**	**300**	P	**Pn**	**23 28 27.6**	**+0.1**
WMGZ	**Waiomatatini S**	**0.93**	**95**	P	**Pn**	**23 28 27.6**	**0.0**
WMGZ				S	**Sn**	**23 28 42.1**	**+1.4**
PRRZ	**Plateau Road**	**1.01**	**221**	P	**Pn**	**23 28 28.4**	**-0.2**
PRRZ				S	**Sn**	**23 28 43.2**	**+0.7**
KMRZ	**Kaimai**	**1.04**	**264**	P	**Pn**	**23 28 29.0**	**0.0**
SNGZ	**Shannon Statio**	**1.04**	**176**	P	**Pn**	**23 28 29.2**	**+0.2**
RIGZ	**Rimuhau**	**1.04**	**157**	P	**Pn**	**23 28 29.0**	**-0.1**
CNGZ	**Carnagh Statio**	**1.06**	**134**	P	**Pn**	**23 28 29.1**	**-0.1**
ALRZ	**Allen Road**	**1.08**	**221**	P	**Pn**	**23 28 29.6**	**+0.1**
MTHZ	**Maungataniwha**	**1.15**	**196**	P	**Pn**	**23 28 30.2**	**-0.3**
RAHZ	**Arahi**	**1.18**	**186**	P	**Pn**	**23 28 31.0**	**+0.3**
MRHZ	**Matea Rd**	**1.27**	**211**	P	**Pn**	**23 28 31.7**	**-0.3**
PRGZ	**Paritu Road**	**1.28**	**157**	P	**Pn**	**23 28 31.5**	**-0.6**
KNZ	**Kokohu**	**1.32**	**165**	P	**Pn**	**23 28 31.8**	**-0.8**
WHHZ	**Waihua**	**1.33**	**180**	P	**Pn**	**23 28 33.3**	**+0.6**
TOZ	**Tahuroa Road**	**1.38**	**270**	P	**Pn**	**23 28 33.4**	**+0.1**
NMHZ	**Naumai**	**1.39**	**194**	P	**Pn**	**23 28 34.3**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.50**	**160**	P	**Pn**	**23 28 34.5**	**-0.5**
ARHZ	**Aropaoanui**	**1.53**	**187**	P	**Pn

M_mb3.9/10, Error ellipse: s-maj=7.4km s-min=6.1km az=48.0
*INMG **21** 23:59:45.7±1.3, 37°.34N×15°.66W, h21km, ML2.7, Error ellipse: s-maj=7.6km s-min=4.0km az=128.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Madeira-Tore*
ISC 21 23:59:46.6±2.2, 37°.66N±0°.07×14°.98W±0°.09, h10km, n60, σ1°77/96, 10C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.66**	**72**	*eP*	Pn	00 00 59.1	+2.1
PMAFR				*eS*	**Sn**	**00 01 53.5**	**+2.3**
PMAFR				*i* AML	AML	00 01 58.4	
PMAFR				*i* AML	AML	00 01 59.5	
PMAFR				*i* AML	AML	00 02 01.2	
PMAFR	**Mafra**	**4.66**	**72**	S	**Sn**	**00 01 54.0**	**+2.8**
PMPST	**Porto Santo, M**	**4.70**	**194**	*eP*	Pn	00 00 44.9	-13
PMPST				*eS*	Sn	00 01 27.0	-25
PMPST				*i* AML	AML	00 01 30.1	
PMPST				*i* AML	AML	00 01 30.2	
PMPST				*i* AML	AML	00 01 31.4	
PFVI	**Vila Bisbo**	**4.92**	**94**	*eP*	**Pn**	**00 01 00.8**	**+0.1**
PFVI				*eS*	**Sn**	**00 01 56.7**	**-0.9**
PFVI				*i* AML	AML	00 02 00.3	
PFVI				*i* AML	AML	00 02 00.5	
PFVI				*i* AML	AML	00 02 08.8	
PFVI	**Vila Bisbo**	**4.92**	**94**	P	**Pn**	**00 01 00.4**	**-0.3**
PFVI				S	**Sn**	**00 01 57.6**	**-0.1**
PTEO	**Sao Teotonio**	**4.96**	**89**	*eP*	**Pn**	**00 01 01.9**	**+0.7**
PTEO				*eS*	**Sn**	**00 01 58.6**	**-0.1**
PTEO				*i* AML	AML	00 02 01.6	
PTEO				*i* AML	AML	00 02 02.8	
PTEO				*i* AML	AML	00 02 03.8	
MORF	**Marmelete**	**5.04**	**92**	*eP*	**Pn**	**00 01 02.5**	**+0.3**
MORF	**Marmelete**	**5.04**	**92**	*eP*	**Pn**	**00 01 02.5**	**+0.3**
MORF				*eS*	**Sn**	**00 02 00.2**	**-0.4**
MORF				*i* AML	AML	00 02 04.0	
MORF				*i* AML	AML	00 02 06.2	
MORF				*i* AML	AML	00 02 07.0	
PMAR	**Madeira**	**5.17**	**198**	*eS*	Sn	00 01 37.9	-26
PSBE	**So Bento**	**5.18**	**67**	*eP*	**Pn**	**00 01 05.8**	**+1.6**
PSBE				*i* AML	AML	00 02 16.8	
MESJ	**Messejana**	**5.36**	**86**	*eP*	**Pn**	**00 01 07.0**	**+0.4**
MESJ				*eS*	**Sn**	**00 02 09.4**	**+1.1**
MESJ				IAML		00 02 11.6	
	comp=N,7.5nm,0.3s						
MESJ	**Messejana**	**5.36**	**86**	*eP*	**Pn**	**00 01 08.0**	**+1.4**
MESJ				*eS*	**Sn**	**00 02 09.8**	**+1.5**
MESJ				*i* AML	AML	00 02 11.7	
MESJ				*i* AML	AML	00 02 12.4	
MESJ				*i* AML	AML	00 02 13.2	
PMTG	**Montargil**	**5.49**	**73**	*eP*	**Pn**	**00 01 09.7**	**+1.3**
PMTG				*eS*	**Sn**	**00 02 13.4**	**+1.9**
PMTG				*i* AML	AML	00 02 14.7	
PMTG				*i* AML	AML	00 02 18.8	
PMTG				*i* AML	AML	00 02 20.3	
PCVE	**Castro Verde**	**5.50**	**88**	*eP*	**Pn**	**00 01 09.1**	**+0.5**
PCVE				*eS*	**Sn**	**00 02 11.9**	**-0.1**
PCVE				*i* AML	AML	00 02 15.4	
PCVE				*i* AML	AML	00 02 16.2	
PCVE				*i* AML	AML	00 02 20.8	
PCVE	**Castro Verde**	**5.50**	**88**	P	**Pn**	**00 01 08.9**	**+0.3**
PCVE				S	**Sn**	**00 02 11.4**	**-0.6**
EVO	**Evora**	**5.56**	**79**	*eP*	**Pn**	**00 01 10.6**	**+1.2**
EVO				*eS*	**Sn**	**00 02 13.7**	**+0.4**
EVO				*i* AML	AML	00 02 17.4	
EVO				*i* AML	AML	00 02 18.3	
EVO				*i* AML	AML	00 02 20.9	
EVO	**Evora**	**5.56**	**79**	S	**Sn**	**00 02 14.4**	**+1.0**
EVO				P	**Pn**	**00 01 10.3**	**+0.9**
PCAS	**Casmilo, Conde**	**5.59**	**63**	*eP*	**Pn**	**00 01 11.4**	**+1.6**
PCAS				*eS*	**Sn**	**00 02 15.2**	**+1.1**
PCAS				*i* AML	AML	00 02 20.9	
PCAS				*i* AML	AML	00 02 21.5	
PCAS				*i* AML	AML	00 02 29.4	
PBDV	**Barranco-do-Ve**	**5.62**	**92**	*eP*	**Pn**	**00 01 11.0**	**+0.8**
PBDV				*eS*	**Sn**	**00 02 16.1**	**+1.2**
PBDV				*i* AML	AML	00 02 18.4	
PBDV				*i* AML	AML	00 02 20.9	
PBDV				*i* AML	AML	00 02 21.3	
PBEJ	**Beja**	**5.64**	**84**	*eP*	Pn	00 01 12.5	+2.0
PBEJ				*eS*	**Sn**	**00 02 15.6**	**+0.3**
PBEJ				*i* AML	AML	00 02 19.1	
PBEJ				*i* AML	AML	00 02 19.8	
PBEJ				*i* AML	AML	00 02 22.4	
PVAQ	**Vaqueiros**	**5.77**	**90**	*eP*	**Pn**	**00 01 12.8**	**+0.5**
PVAQ				*i* AML	AML	00 02 22.6	
PVAQ	**Vaqueiros**	**5.77**	**90**	P	**Pn**	**00 01 12.6**	**+0.3**
PESTR	**Estremoz**	**5.94**	**76**	*eP*	Pn	00 01 16.8	+2.3
PESTR				*eS*	**Sn**	**00 02 24.0**	**+1.4**
PESTR				*i* AML	AML	00 02 28.5	
PESTR				*i* AML	AML	00 02 31.0	
PESTR				*i* AML	AML	00 02 31.3	
PESTR	**Estremoz**	**5.94**	**76**	P	Pn	00 01 17.0	+2.4
EGRO	**El Granado**	**5.95**	**89**	P	**Pn**	**00 01 15.3**	**+0.5**
EGRO	**El Granado**	**5.95**	**89**	P	**Pn**	**00 01 14.9**	**+0.2**
EGRO				⇑*i*Vmb_V		00 01 17.6	
	comp=N,312nm,SNR=1.8						
EGRO				S	**Sn**	**00 02 21.8**	**-1.1**
PTO	**Porto**	**6.04**	**53**	*eP*	**Pn**	**00 01 15.6**	**-0.3**
PMRV	**Marv??o**	**6.20**	**71**	*eP*	**Pn**	**00 01 19.6**	**+1.4**
PMRV				*eS*	**Sn**	**00 02 29.9**	**+0.7**
PMRV				*i* AML	AML	00 02 31.1	
PMRV				*i* AML	AML	00 02 31.3	
PMRV				*i* AML	AML	00 02 34.2	
PCBR	**Castelo Branco**	**6.25**	**67**	*eP*	**Pn**	**00 01 20.7**	**+1.8**
PCBR				*eS*	**Sn**	**00 02 31.1**	**+0.8**
PCBR				*i* AML	AML	00 02 35.2	
PCBR				*i* AML	AML	00 02 35.9	
PCBR				*i* AML	AML	00 02 44.2	
PVIS	**Viseu**	**6.29**	**59**	*eP*	**Pn**	**00 01 21.1**	**+1.6**
PVIS				*eS*	**Sn**	**00 02 31.6**	**+0.2**
PBAR	**Barrancos**	**6.29**	**83**	*eP*	**Pn**	**00 01 21.1**	**+1.6**
PBAR				*eS*	**Sn**	**00 02 31.6**	**+0.2**
PBAR				*i* AML	AML	00 02 35.3	
PBAR				*i* AML	AML	00 02 36.7	
PBAR				*i* AML	AML	00 02 37.0	
PBAR	**Barrancos**	**6.29**	**83**	P	**Pn**	**00 01 21.0**	**+1.6**
EBAD	**Badajoz**	**6.37**	**78**	P	**Pn**	**00 01 21.2**	**+0.8**
EBAD				S	**Sn**	**00 02 32.2**	**-1.0**
EBAD	**Badajoz**	**6.37**	**78**	P	**Pn**	**00 01 20.7**	**+0.3**
EBAD				⇑*i*Vmb_V		00 01 23.2	
	comp=N,116nm,SNR=1.9						
EBAD				S	**Sn**	**00 02 32.5**	**-0.6**
MTE	**Manteigas**	**6.40**	**62**	*eP*	**Pn**	**00 01 22.6**	**+1.6**
MTE				*eS*	**Sn**	**00 02 35.8**	**+1.6**
MTE				*i* AML	AML	00 02 39.8	
MTE				*i* AML	AML	00 02 40.8	
MTE				*i* AML	AML	00 02 41.2	
EMIN	**Mina Concepcio**	**6.58**	**87**	P	**Pn**	**00 01 24.6**	**+1.2**
EMIN				S	**Sn**	**00 02 37.6**	**-1.0**
EMIN	**Mina Concepcio**	**6.58**	**87**	P	**Pn**	**00 01 24.3**	**+0.8**
EMIN				S	**Sn**	**00 02 36.8**	**-1.8**
EZAM	**Zamans**	**6.59**	**45**	P	**Pn**	**00 01 23.7**	**+0.2**
EZAM				⇑*i*Vmb_V		00 01 24.6	
	comp=N,259nm,SNR=1.8						
EZAM				S	**Sn**	**00 02 36.7**	**-1.9**
POLO	**Lamas de Olo**	**6.68**	**54**	*eP*	**Pn**	**00 01 26.1**	**+1.3**
POLO				*eS*	**Sn**	**00 02 39.9**	**-1.1**
POLO				*i* AML	AML	00 02 44.1	
POLO				*i* AML	AML	00 02 44.5	
POLO				*i* AML	AML	00 02 51.7	
PVRL	**Vila Real**	**6.68**	**55**	*eP*	Pn	00 01 26.7	+1.9
PCAB	**Cabril**	**6.71**	**51**	*eP*	**Pn**	**00 01 26.0**	**+0.7**
PCAB				*eS*	**Sn**	**00 02 40.9**	**-0.8**
PCAB				*i* AML	AML	00 02 44.0	
PCAB				*i* AML	AML	00 02 46.9	
PCAB				*i* AML	AML	00 02 50.8	
PGAV	**Gavieira, Arco**	**6.72**	**48**	*eP*	**Pn**	**00 01 26.4**	**+1.1**
PGAV				*eS*	**Sn**	**00 02 40.8**	**-1.2**
PGAV				*i* AML	AML	00 02 44.4	
PGAV				*i* AML	AML	00 02 46.3	
PGAV				*i* AML	AML	00 02 46.8	
ELOB	**Lobios**	**6.78**	**50**	P	**Pn**	**00 01 26.7**	**+0.4**
ELOB				⇑*i*Vmb_V		00 01 29.8	
	comp=N,224nm,SNR=2.1						
ELOB				S	**Sn**	**00 02 41.7**	**-1.9**
EMAZ	**Mazaricos**	**6.99**	**39**	P	**Pn**	**00 01 28.5**	**-0.6**
EMAZ				S	**Sn**	**00 02 44.3**	**-4.3**
MVO	**Moncorvo**	**7.08**	**58**	*eP*	**Pn**	**00 01 31.5**	**+1.2**
MVO				*eS*	**Sn**	**00 02 50.5**	**-0.3**
MVO				*i* AML	AML	00 02 52.9	
MVO				*i* AML	AML	00 02 55.3	
MVO				*i* AML	AML	00 02 56.3	
ESPR	**Espera**	**7.31**	**93**	S	**Sn**	**00 02 56.0**	**-0.6**
ESPR	**Espera**	**7.31**	**93**	S	**Sn**	**00 02 52.2**	**-4.3**
EPLA	**Plasencia**	**7.34**	**68**	P	**Pn**	**00 01 35.3**	**+1.4**
EPLA				⇑*i*Vmb_V		00 01 40.0	
	comp=N,111nm,SNR=1.5						
EPLA				S	**Sn**	**00 02 57.1**	**-0.2**
EAGO	**Agolada(Pontev**	**7.36**	**44**	P	**Pn**	**00 01 33.5**	**-0.6**
EAGO				⇑*i*Vmb_V		00 01 35.8	
	comp=N,225nm,SNR=1.8						
EAGO				S	**Sn**	**00 02 53.4**	**-4.2**
ECAB	**El Cabril**	**7.57**	**84**	P	**Pn**	**00 01 37.2**	**+0.2**
ECAB				S	**Sn**	**00 03 01.7**	**-1.2**
ECAB	**El Cabril**	**7.57**	**84**	P	**Pn**	**00 01 37.1**	**+0.1**
ECAB				⇑*i*Vmb_V		00 01 39.6	
	comp=N,80nm,SNR=1.7						
ECAB				S	**Sn**	**00 03 00.2**	**-2.7**
PBRG	**Braganca**	**7.58**	**54**	*eP*	**Pn**	**00 01 38.9**	**+1.8**
EPON	**Pontenova**	**8.22**	**44**	P	**Pn**	**00 01 45.7**	**-0.2**
EPON				⇑*i*Vmb_V		00 01 53.4	
	comp=N,226nm,SNR=1.3						
EPON				S	**Sn**	**00 03 12.9**	**-5.9**
EADA	**Adamuz**	**8.23**	**83**	P	**Pn**	**00 01 46.5**	**+0.4**
EADA				S	**Sn**	**00 03 19.2**	**-0.1**
EADA	**Adamuz**	**8.23**	**83**	P	**Pn**	**00 01 46.7**	**+0.5**
EADA				⇑*i*Vmb_V		00 01 48.3	
	comp=N,105nm,SNR=1.6						
EADA				S	**Sn**	**00 03 16.2**	**-3.0**
PAB	**San Pablo**	**8.53**	**74**	P	**Pn**	**00 01 50.9**	**+0.7**
PAB				⇑*i*Vmb_V		00 01 59.6	
	comp=N,78nm,SNR=1.2						
PAB				S	**Sn**	**00 03 24.4**	**-2.2**
PSIM	**Granatula de C**	**8.90**	**79**	P	**Pn**	**00 01 56.1**	**+0.8**
PSIM				S	**Sn**	**00 03 34.2**	**-1.5**
GUD	**Guadarrama**	**8.92**	**67**	S	**Sn**	**00 03 35.1**	**-1.1**
TIO	**Tiouine**	**9.26**	**134**	P	**Pn**	**00 01 56.7**	**-3.7**
TIO				S	**Sn**	**00 03 36.4**	**-8.2**
UCM	**Universidad Co**	**9.51**	**70**	P	**Pn**	**00 02 04.9**	**+1.3**

IDC 22 00:03:01.7±2.0, 1°72S×129°.23E, h0km, mb3.4/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=129.3km s-min=28.9km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.79**	**165**	P	P	00 07 21.6	-1.2
	0.1nm,0.3s,baz=345,slow=11,SNR=7.6 0.4nm,0.3s						
ASAR	**Alice Springs**	**22.28**	**169**	P	P	00 08 00.7	-0.1
	0.5nm,0.7s,baz=339,slow=9.0,SNR=4.3 0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**66.55**	**333**	P	P	00 13 54.0	+0.6
	0.6nm,0.5s,baz=131,slow=7.9,SNR=2.1 0.6nm,0.5s						

*AEIC **22** 00:09:44.1±1.5, 69°.55N±0°.04×144°.31W±0°.07, h10km±6km, ML2.8, ML3.0/114(NEIC), Error ellipse: s-maj=6.5km s-min=3.7km az=189.0*
*NEIC **22** 00:09:45.9±1.3, 69°.60N±0°.05×144°.30W±0°.06, h10km±2km, Error ellipse: s-maj=9.0km s-min=3.3km az=4.0*
*IDC **22** 00:09:58.5±1.8, 68°.61N×143°.00W, h0km, mb4.0/1, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=33.9km s-min=18.2km az=119.0*
ISC 22 00:09:45.0±0.8, 69°.63N±0°.05×144°.32W±0°.03, h10km, n149, σ0°89/151, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.21**	**91**		**Pg**	**00 09 49.4**	**-0.1**
C26K	**Camden Bay**	**0.35**	**325**		**Pb**	**00 09 53.6**	**+0.2**
C26K					**Sb**	**00 09 57.9**	**-1.1**
D25K	**Kavik River**	**0.79**	**248**		**Pg**	**00 09 58.5**	**-1.7**
D25K	**Kavik River**	**0.79**	**248**		**Sg**	**00 10 09.0**	**-1.5**
D27M	**Malcolm River**	**1.25**	**107**	Pn	**Pn**	**00 10 07.7**	**-0.9**
D27M				IAML		00 10 29.8	
	comp=E,223nm,0.2s						
D27M				IAML		00 10 30.7	
	comp=N,287nm,0.4s						
D27M	**Malcolm River**	**1.25**	**107**		**Sb**	**00 10 24.1**	**-0.7**
C24K	**Franklin Bluff**	**1.53**	**275**		**Pn**	**00 10 13.0**	**+0.6**
C24K				IAML		00 10 38.4	
	comp=N,233nm,1.0s						
C24K	**Franklin Bluff**	**1.53**	**275**		**Sg**	**00 10 35.3**	**+1.0**
E25K	**Arctic Village**	**1.58**	**197**		**Pn**	**00 10 12.7**	**-0.4**
E25K				Sn	**Sn**	**00 10 32.6**	**-1.1**
E25K				IAML		00 10 35.1	
	comp=N,177nm,0.8s						
E25K				IAML		00 10 35.9	
	comp=E,150nm,0.8s						
D24K	**Happy Valley**	**1.67**	**255**		**Pn**	**00 10 14.5**	**+0.3**
D24K				IAML		00 10 40.1	
	comp=E,196nm,0.6s						
D24K				IAML		00 10 42.5	
	comp=N,206nm,0.8s						
D24K	**Happy Valley**	**1.67**	**255**		**Sb**	**00 10 39.0**	**+2.3**
E27K	**Coleen River**	**1.75**	**145**	Pn	**Pn**	**00 10 15.4**	**-0.1**
E27K				Sn	**Sn**	**00 10 38.3**	**+0.5**
E27K				IAML		00 10 41.5	
	comp=N,137nm,0.7s						
F26K	**Sheenjek River**	**1.95**	**178**		**Pn**	**00 10 18.6**	**+0.5**
F26K				Sn	**Sn**	**00 10 43.0**	**+0.4**
F26K				IAML		00 10 45.9	
	comp=N,127nm,0.6s						
D28M	**Stokes Point**	**1.99**	**96**		**Pb**	**00 10 20.9**	**-0.3**
D28M	**Stokes Point**	**1.99**	**96**	IAML		00 10 52.4	
	comp=N,143nm,0.7s						
E28M	**Babbage River**	**2.00**	**119**	Pn	**Pn**	**00 10 20.4**	**+1.6**
E28M	**Babbage River**	**2.00**	**119**		**Sn**	**00 10 46.2**	**+2.3**
F25K	**Christian Rive**	**2.10**	**194**		**Pn**	**00 10 20.6**	**+0.3**
F25K				IAML		00 10 52.2	
	comp=E,135nm,0.8s						
TOLK	**Toolik Lake Re**	**2.13**	**245**		**Pn**	**00 10 21.3**	**+0.7**
TOLK				IAML		00 10 56.1	
	comp=E,109nm,0.7s						
TOLK				IAML		00 10 58.7	
	comp=N,92nm,0.8s						
TOLK	**Toolik Lake Re**	**2.13**	**245**		**Pn**	**00 10 21.7**	**+1.1**
E24K	**Your Creek**	**2.17**	**226**		**Pn**	**00 10 21.6**	**+0.4**
E24K	**Your Creek**	**2.17**	**226**		**Sn**	**00 10 51.4**	**+3.1**
C23K	**Itkillik River**	**2.20**	**278**		**Pn**	**00 10 22.6**	**+1.1**
BMAR	**Burnt Mountain**	**2.21**	**183**		**Pn**	**00 10 22.1**	**+0.3**
D23K	**Nanushuk River**	**2.36**	**257**		**Pn**	**00 10 24.6**	**+0.9**
D23K				IAML		00 11 15.0	
	comp=E,64nm,0.8s						
D23K				IAML		00 11 22.6	
	comp=N,59nm,0.9s						
E23K	**Chandalar**	**2.49**	**233**		**Pn**	**00 10 26.3**	**+0.7**
F24K	**Squaw Lake**	**2.49**	**213**	Pn	**Pn**	**00 10 25.9**	**+0.2**
F24K				IAML		00 11 02.2	
	comp=E,55nm,0.6s						
F24K				IAML		00 11 05.2	
	comp=N,55nm,0.5s						
E29M	**Blow River**	**2.63**	**115**		**Pn**	**00 10 29.2**	**+1.8**
E29M				IAML		00 11 08.2	
	comp=N,69nm,0.6s						
E29M				IAML		00 11 13.2	
	comp=E,51nm,0.7s						
G26K	**Porcupine Rive**	**2.70**	**176**		**Pn**	**00 10 28.6**	**+0.2**
G27K	**Doyon Strip**	**3.00**	**159**	Pn	**Pn**	**00 10 32.7**	**+0.1**
D22K	**Ayíkyak River**	**3.07**	**260**		**Pn**	**00 10 34.3**	**+0.8**
D22K				IAML		00 11 32.7	
	comp=E,48nm,1.1s						
D22K				IAML		00 11 33.5	
	comp=N,52nm,0.9s						
FYU	**Fort Yukon**	**3.10**	**187**		**Pn**	**00 10 34.4**	**+0.5**
E22K	**Anaktuvuk Pass**	**3.10**	**245**	Pn	**Pn**	**00 10 34.3**	**+0.3**
G24K	**Hadweenzic Riv**	**3.17**	**203**	Pn	**Pn**	**00 10 34.5**	**-0.4**
G24K				IAML		00 11 25.3	
	comp=E,40nm,0.6s						
B22K	**Teshekpuk Lake**	**3.21**	**287**		**Pn**	**00 10 37.0**	**+1.6**
COLD	**Coldfoot**	**3.25**	**225**		**Pn**	**00 10 35.6**	**-0.4**
H25L	**Birch Creek**	**3.43**	**190**		**Pn**	**00 10 39.3**	**+0.9**
F22K	**John River**	**3.59**	**237**		**Pn**	**00 10 41.9**	**+1.3**
G29M	**Pine Creek**	**3.60**	**136**		**Pn**	**00 10 41.2**	**+0.4**
G29M				IAML		00 11 53.4	
	comp=N,37nm,0.7s						
B21K	**Ikpikpuk River**	**3.60**	**275**	Pn	**Pn**	**00 10 42.0**	**+1.2**
B21K				IAML		00 12 00.9	
	comp=E,32nm,0.8s						
G23K	**Bananza Creek**	**3.62**	**219**	Pn	**Pn**	**00 10 41.9**	**+0.7**
G23K				IAML		00 11 42.3	
	comp=E,29nm,1.1s						
E21K	**Killik River**	**3.67**	**256**		**Pn**	**00 10 41.9**	**+0.1**
E21K				IAML		00 11 53.2	
	comp=N,30nm,0.8s						
E21K				IAML		00 11 57.2	
	comp=E,23nm,0.7s						
A22K	**Sinclair Lake**	**3.86**	**296**		**Pn**	**00 10 45.3**	**+1.0**
G30M	**tAoh Zraii Nji**	**4.01**	**128**	Pn	**Pn**	**00 10 47.2**	**+0.7**
G30M				IAML		00 12 08.1	
	comp=N,17nm,0.9s						
H24K	**Noodor Dome**	**4.04**	**201**		**Pn**	**00 10 46.8**	**-0.1**
H24K				IAML		00 11 35.6	
	comp=N,21nm,0.7s						
H24K				IAML		00 11 53.5	
	comp=E,22nm,1.1s						
H29M	**Whitestone**	**4.10**	**144**	Pn	**Pn**	**00 10 48.0**	**+0.4**
H29M				IAML		00 12 06.8	
	comp=N,22nm,1.1s						
INK	**Inuvik**	**4.11**	**104**	Pn	**Pn**	**00 10 49.5**	**+1.7**
F21K	**Alatna River**	**4.16**	**239**		**Pn**	**00 10 49.1**	**+0.6**
F21K				IAML		00 12 01.2	
	comp=E,14nm,1.1s						
F21K				IAML		00 12 02.2	
	comp=N,17nm,0.8s						
PRP	**Porcupine Dome**	**4.16**	**187**	Pn	**Pn**	**00 10 49.3**	**+0.7**
PRP				IAML		00 11 39.7	
	comp=N,19nm,0.5s						
PRP				IAML		00 11 40.6	
	comp=E,16nm,0.7s						
I27K	**Kandik River**	**4.18**	**164**		**Pn**	**00 10 49.2**	**+0.5**
EPYK	**Eagle Plains**	**4.35**	**135**		**Pn**	**00 10 51.2**	**+0.1**
EPYK	**Eagle Plains**	**4.35**	**135**	Pn	**Pn**	**00 10 50.9**	**-0.1**
I26K	**Coal Creek Min**	**4.37**	**174**	Pn	**Pn**	**00 10 51.4**	**0.0**
B20K	**Meade River**	**4.46**	**281**	Pn	**Pn**	**00 10 53.8**	**+1.2**
F31M	**Tsiigehtchic**	**4.46**	**114**	Pn	**Pn**	**00 10 53.5**	**+0.9**
F31M				IAML		00 12 09.9	
	comp=N,16nm,0.9s						
D20K	**Etivluk River**	**4.48**	**264**		**Pn**	**00 10 54.2**	**+1.3**
E20K	**Nigu River**	**4.50**	**258**		**Pn**	**00 10 54.5**	**+1.3**
I28M	**Miner Creek**	**4.53**	**156**	Pn	**Pn**	**00 10 54.0**	**+0.5**
I28M				IAML		00 11 48.6	
	comp=N,12nm,0.9s						
I28M				IAML		00 11 49.0	
	comp=E,13nm,0.6s						
G31M	**Satah River**	**4.62**	**121**	Pn	**Pn**	**00 10 55.9**	**+1.2**
G21K	**Allakaket**	**4.65**	**232**		**Pn**	**00 10 55.3**	**+0.1**
G21K				IAML		00 12 25.5	
	comp=N,16nm,1.2s						
POKR	**Poker Plat Res**	**4.69**	**196**	Pn	**Pn**	**00 10 55.7**	**-0.1**
POKR				IAML		00 11 52.1	
	comp=N,14nm,0.4s						
POKR				IAML		00 11 52.6	
	comp=E,14nm,0.7s						
I29M	**Ogilvie Camp,**	**4.87**	**149**		**Pn**	**00 10 58.4**	**+0.2**
I29M				IAML		00 12 00.1	
	comp=N,10.0nm,0.4s						
I29M				IAML		00 12 20.1	
	comp=E,9.4nm,0.8s						
I23K	**Minto, Yukon-K**	**4.90**	**206**		**Pn**	**00 10 59.7**	**+1.1**
I23K				IAML		00 12 33.6	
	comp=N,10.0nm,1.0s						
I23K				IAML		00 12 35.0	
	comp=E,9.9nm,1.1s						
F20K	**Avaraart Lake**	**4.96**	**244**	Pn	**Pn**	**00 10 59.8**	**+0.4**
F20K				IAML		00 12 31.5	
	comp=N,8.0nm,1.1s						
IL31		**4.98**	**193**		**Pn**	**00 11 00.7**	**+1.0**
ILAR	**Eielson Array**	**4.98**	**193**	Pn	**Pn**	**00 11 01.3**	**+1.5**
ILAR	**Eielson Array**	**4.98**	**193**	Pn	**Pn**	**00 11 00.6**	**+0.8**
	comp=N,0.4nm,0.3s,baz=7.8,slow=14,SNR=20						
ILAR				Sn	Sn	00 11 50.9	-6.4
	comp=N,0.9nm,0.3s,baz=8.9,slow=26,SNR=6.8						
ILAR				Lg	Lg	00 12 11.1	
	comp=N,1.3nm,0.3s,baz=7.4,slow=31,SNR=7.3 comp=N,0.8nm,0.7s						
J25K	**Salcha River,**	**5.06**	**185**	Pn	**Pn**	**00 11 01.8**	**+0.9**
J25K				IAML		00 12 25.7	
	comp=E,13nm,1.0s						
D19K	**Kuna River**	**5.08**	**264**		**Pn**	**00 11 01.6**	**+0.5**
D19K				IAML		00 12 41.9	
	comp=N,9.2nm,1.1s						
H21K	**Melozitna Rive**	**5.14**	**223**	Pn	**Pn**	**00 11 02.1**	**+0.2**
H21K				IAML		00 12 33.6	
	comp=N,9.8nm,1.0s						
J26L	**Joseph Creek**	**5.16**	**176**	Pn	**Pn**	**00 11 03.3**	**+1.0**
J26L				IAML		00 12 05.3	
	comp=N,7.6nm,0.4s						
J26L				IAML		00 12 24.3	
	comp=E,9.0nm,0.9s						
CCB	**Clear Creek Bu**	**5.19**	**197**		**Pn**	**00 11 02.8**	**+0.2**
E19K	**Redstone River**	**5.21**	**251**		**Pn**	**00 11 03.3**	**+0.3**
E19K				IAML		00 12 46.4	
	comp=E,8.2nm,0.7s						
HDA	**Harding Lake**	**5.35**	**192**		**Pn**	**00 11 06.2**	**+1.5**
HDA				IAML		00 12 32.3	
	comp=N,9.9nm,1.1s						
HDA				IAML		00 12 45.5	
	comp=E,9.2nm,1.2s						
I21K	**Tanana**	**5.36**	**217**	Pn	**Pn**	**00 11 05.3**	**+0.5**
I21K				IAML		00 12 40.3	
	comp=N,10nm,0.8s						
I30M	**Mount Dempster**	**5.38**	**142**	Pn	**Pn**	**00 11 05.7**	**+0.4**
I30M				IAML		00 12 08.9	
	comp=N,7.3nm,0.4s						
WRH	**Wood River Hil**	**5.39**	**198**	Pn	**Pn**	**00 11 06.0**	**+0.7**
WRH				IAML		00 12 34.4	
	comp=N,6.2nm,1.0s						
WRH				IAML		00 12 43.8	
	comp=E,5.9nm,1.0s						
H31M	**Peel River**	**5.40**	**131**	Pn	**Pn**	**00 11 06.2**	**+0.8**
SCRK	**Sand Creek**	**5.68**	**179**	Pn	**Pn**	**00 11 10.4**	**+1.0**
K27K	**Chicken**	**5.70**	**170**	Pn	**Pn**	**00 11 10.5**	**+0.9**
J29N	**Klondike Camp**	**5

M31M Drury Creek, Y 8.48 147 Pn **Pn 00 11 47.8 +0.1**
J17K VABM Dome 8.57 230 Pn **Pn 00 11 48.8 -0.1**
M20K Styx River 8.57 209 Pn **Pn 00 11 49.1 0.0**
L19K White Mountain 8.62 215 Pn **Pn 00 11 49.5 -0.1**
SUA Susitna One 8.62 201 Pn **Pn 00 11 49.5 -0.3**
F15K North Star Dit 8.65 253 Pn **Pn 00 11 49.3 -0.8**
N30M Aishikik Lake 8.73 157 Pn **Pn 00 11 52.0 +0.9**
STLK Strandline Lak 8.73 204 Pn **Pn 00 11 52.1 +0.9**
M19K Big River Lodg 8.78 213 Pn **Pn 00 11 52.8 +1.0**
MMPY Sheldon Lake, 8.79 137 Pn **Pn 00 11 52.3 +0.3**
L18K Granite Mounta 8.97 220 Pn **Pn 00 11 54.9 +0.4**
J16K Anvik River 9.08 233 Pn **Pn 00 11 56.9 +1.0**
ISLE Juniper Island 9.11 174 Pn **Pn 00 11 58.1 +1.7**
EYAK Cordova Ski Ar 9.14 184 Pn **Pn 00 11 57.5 +0.8**
WAX Waxell Ridge 9.24 175 Pn **Pn 00 11 59.2 +1.0**
HYT Haines Junctio 9.29 159 Pn **Pn 00 11 59.9 +1.0**
O30N Mendenhall 9.53 155 Pn **Pn 00 12 02.2 +0.1**
TNA Tin City 9.85 257 Pn **Pn 00 12 05.3 -1.1**
M17K Holitna River 9.87 220 Pn **Pn 00 12 07.2 +0.5**
J14K Nanvaranak Lak 10.35 238 Pn **Pn 00 12 13.2 0.0**
YKA Yellowknife Ar 13.88 106 Pn **Pn 00 13 00.3 -1.1**
comp=E,0.1nm,0.3s,baz=311,slow=13,SNR=4.3
YKA Sn Sn 00 15 24.2 -11
comp=E,0.1nm,0.3s,baz=310,slow=24,SNR=4.8
comp=E,0.2nm,0.5s
FINESS Array B 49.03 6 P P 00 18 53.9 +23
comp=E,1.8nm,0.8s,baz=22,slow=7.0,SNR=4.0
comp=E,1.8nm,0.8s

PRE ***22*** *00:30:27.9±1.0, 28°.03S×26°.74E, h2km, ML4.1*
IDC ***22*** *00:30:28.9±0.5, 28°.04S×26°.75E, h0km, mb4.5/28, mbtmp4.5/31, ML3.7/3, MS3.4/4, Error ellipse: s-maj=13.4km s-min=10.0km az=123.0*
NEIC ***22*** *00:30:29.8±1.3, 28°.07S±0°.06×26°.79E±0°.05, h5km±1km, mb4.9/49, Error ellipse: s-maj=10.6km s-min=6.5km az=157.0*
BGSI ***22*** *00:30:31.9±2.0, 27°.99S×26°.87E, h0km±65km, ML4.5*
ISC 22 00:30:29.9±0.9, 28°.03S±0°.03×26°.76E±0°.03, h9km±5km, n242, σ1°51/284, mb4.8/83, 9D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNKL	**Senekal, Frees**	**0.93**	**106**	*eP*			**Pb**	**00 30 46.4**	**-1.7**
SNKL				*eS*			**Sb**	**00 30 58.5**	**-2.1**
SNKL				IAML				00 31 03.9	
comp=Z,4μm,0.3s									
PRYS	**Parys**	**1.22**	**26**	*eP*			**Pb**	**00 30 52.2**	**-0.9**
PRYS				*eS*			**Sn**	**00 31 09.2**	**-0.7**
PRYS				IAML				00 31 11.9	
comp=Z,8μm,0.3s									
BOSA	**Boshof**	**1.45**	**246**				**Pn**	**00 30 56.7**	**+0.3**
BOSA							**Sb**	**00 31 15.2**	**-0.5**
BOSA	**Boshof**	**1.45**	**246**	Pg			**Pn**	**00 30 56.3**	**-0.1**
comp=Z,147nm,0.3s,baz=64,slow=16,SNR=2024									
BOSA				Lg		Lg		00 31 15.4	
comp=Z,61nm,0.3s,baz=304,slow=6.0,SNR=5.5									
BOSA				LR		LR		00 31 42.8	
comp=Z,136nm,20.9s,baz=168,slow=51									
BOSA	**Boshof**	**1.45**	**246**	*eP*			**Pn**	**00 30 56.0**	**-0.4**
BOSA				*eS*			**Sb**	**00 31 15.4**	**-0.3**
BOSA				IAML				00 31 18.1	
comp=Z,2μm,0.3s									
SWZ	**Schweizer**	**1.52**	**303**	*eP*			**Pn**	**00 30 57.4**	**0.0**
SWZ				*eS*			**Sn**	**00 31 17.9**	**+0.5**
SWZ				IAML				00 31 20.4	
comp=Z,4μm,0.3s									
WDLM	**Western Deep L**	**1.70**	**20**	*eP*			**Pb**	**00 31 00.3**	**-1.1**
WDLM				*eS*			**Sb**	**00 31 22.3**	**-0.7**
WDLM				IAML				00 31 24.9	
comp=Z,7μm,0.5s									
HRAO	**HartRAO**	**2.28**	**21**	*eP*			**Pn**	**00 31 07.9**	**+0.1**
HRAO				*eS*			**Sn**	**00 31 35.8**	**-0.3**
HRAO				IAML				00 31 42.8	
comp=Z,3μm,0.4s									
NWCL	**Newcastle**	**2.79**	**85**	*eP*			**Pn**	**00 31 14.4**	**-0.3**
NWCL				*eS*			**Sn**	**00 31 48.6**	**+0.1**
NWCL				IAML				00 31 54.3	
comp=Z,1μm,0.3s									
HVD	**Gariep Dam**	**2.80**	**203**	*eP*			**Pn**	**00 31 14.5**	**-0.5**
HVD				*eS*			**Sn**	**00 31 49.4**	**+0.5**
MAKGR	**Makgori**	**2.82**	**321**	*iP*			**Pn**	**00 31 16.7**	**+1.5**
MAKGR				*iS*			**Sn**	**00 31 49.9**	**+0.6**
MAKGR				IAML				00 32 00.2	
comp=N,8μm,0.4s									
LBTB	**Lobatse**	**3.18**	**341**	Pn			**Pn**	**00 31 21.0**	**+0.9**
comp=N,23nm,0.3s,baz=166,slow=11,SNR=390									
LBTB				Lg		Lg		00 32 08.2	
comp=N,108nm,0.3s,baz=63,slow=22,SNR=5.3									
comp=N,56nm,0.3s									
LBTB	**Lobatse**	**3.18**	**341**	*eP*			**Pn**	**00 31 19.6**	**-0.5**
LBTB				*eS*			**Sn**	**00 31 57.2**	**-0.9**
LBTB				IAML				00 32 14.4	
comp=Z,1μm,0.3s									
KSTD	**Kokstad**	**3.41**	**140**	*eP*			**Pn**	**00 31 23.6**	**+0.3**
KSTD				*eS*			**Sn**	**00 32 03.4**	**-0.5**
KSTD				IAML				00 32 20.0	
comp=Z,640nm,0.4s									
PMBG	**Pietermaritzbu**	**3.61**	**115**	*eP*			**Pn**	**00 31 25.9**	**0.0**
PMBG				*eS*			**Sn**	**00 32 08.4**	**-0.3**
PMBG				IAML				00 32 19.1	
comp=Z,980nm,0.5s									
LEPH	**Lephalale, Lim**	**4.25**	**13**	*eP*			**Pn**	**00 31 34.5**	**-0.4**
LEPH				*eS*			**Sn**	**00 32 22.9**	**-1.9**
LEPH				IAML				00 32 48.0	
comp=Z,752nm,0.5s									
SKOMA	**Sekoma**	**4.32**	**323**	*iP*			**Pn**	**00 31 36.5**	**+0.7**
SKOMA				IAML				00 32 52.7	
comp=E,1μm,0.5s									
ALKP	**Alkanpan, Nort**	**4.39**	**243**	*eP*			**Pn**	**00 31 36.0**	**-0.7**
ALKP				*eS*			**Sn**	**00 32 25.6**	**-2.5**
ALKP				IAML				00 32 46.3	
comp=Z,349nm,0.9s									
POGA	**Pongola**	**4.44**	**82**	Pn			**Pn**	**00 31 36.8**	**-0.5**
POGA				Sn			**Sn**	**00 32 26.1**	**-3.0**
POGA	**Pongola**	**4.44**	**82**	*eP*			**Pn**	**00 31 37.1**	**-0.3**
POGA				*eS*			**Sn**	**00 32 27.5**	**-1.6**
POGA				IAML				00 32 53.4	
comp=Z,458nm,0.5s									
BFON	**Badsfontein, M**	**4.61**	**215**	*eP*			**Pn**	**00 31 39.9**	**+0.1**
BFON				*eS*			**Sn**	**00 32 31.6**	**-1.9**
BFON				IAML				00 32 59.2	
comp=Z,444nm,0.5s									
GRAF	**Camdeboo Natio**	**4.67**	**204**	*eP*			**Pn**	**00 31 40.4**	**-0.2**
GRAF				*eS*			**Sn**	**00 32 33.3**	**-1.7**
GRAF				IAML				00 33 08.4	
comp=Z,391nm,0.4s									
LPHEP	**Lephephe**	**4.71**	**350**	*iP*			**Pn**	**00 31 42.1**	**+0.8**
LPHEP				*iS*			**Sn**	**00 32 34.8**	**-1.3**
LPHEP				IAML				00 33 06.1	
comp=N,630nm,1.4s									
SOE	**Somerset East**	**4.78**	**192**	Pn			**Pn**	**00 31 42.2**	**+0.1**
SOE	**Somerset East**	**4.78**	**192**	*eP*			**Pn**	**00 31 42.5**	**+0.3**
SOE				*eS*			**Sn**	**00 32 35.8**	**-1.9**
SOE				IAML				00 33 06.2	
comp=Z,396nm,0.8s									
UPI	**Upington**	**4.87**	**265**	*eP*			**Pn**	**00 31 42.7**	**-0.8**
UPI				*eS*			**Sn**	**00 32 37.7**	**-2.3**
UPI				IAML				00 33 00.6	
comp=Z,494nm,0.5s									
KDWAN	**Kaudwane**	**5.00**	**337**	*iP*			**Pn**	**00 31 45.7**	**+0.5**
KDWAN				*iS*			**Sn**	**00 32 40.6**	**-2.5**
KDWAN				IAML				00 33 11.8	
comp=N,3μm,0.7s									
BRAK	**Brakfontein**	**5.03**	**221**	*eP*			**Pn**	**00 31 45.3**	**-0.2**
BRAK				*eS*			**Sn**	**00 32 41.3**	**-2.4**
BRAK				IAML				00 33 15.5	
comp=Z,231nm,0.4s									
KEIM	**Keimoes**	**5.15**	**261**	*eP*			**Pn**	**00 31 46.6**	**-0.6**
KEIM				*eS*			**Sn**	**00 32 44.4**	**-2.4**
KEIM				IAML				00 33 14.1	
comp=Z,417nm,0.6s									
GRHM	**Grahamstown, E**	**5.24**	**184**	Pn			**Pn**	**00 31 47.4**	**-1.1**
GRHM	**Grahamstown, E**	**5.24**	**184**	*eP*			**Pn**	**00 31 48.0**	**-0.5**
GRHM				*eS*			**Sn**	**00 32 47.0**	**-2.1**
GRHM				IAML				00 33 13.9	
comp=Z,165nm,0.6s									
ROOI	**Rooidraai Farm**	**5.25**	**211**	*eP*			**Pn**	**00 31 47.7**	**-0.8**
ROOI				*eS*			**Sn**	**00 32 47.0**	**-2.2**
ROOI				IAML				00 33 17.5	
comp=Z,354nm,0.5s									
AUGR	**Augrabies**	**5.69**	**263**	*eP*			**Pn**	**00 31 54.4**	**-0.2**
AUGR				*eS*			**Sn**	**00 32 57.7**	**-2.4**
AUGR				IAML				00 33 28.6	
comp=Z,314nm,0.5s									
GRAN	**Grantham**	**5.83**	**222**	*eP*			**Pn**	**00 31 57.0**	**+0.5**
GRAN				*eS*			**Sn**	**00 33 01.4**	**-2.1**
GRAN				IAML				00 33 33.6	
comp=Z,371nm,0.5s									
FRAZ	**Fraserburg**	**6.06**	**229**	*eP*			**Pn**	**00 31 59.7**	**0.0**
FRAZ				*eS*			**Sn**	**00 33 06.4**	**-2.8**
FRAZ				IAML				00 33 47.5	
comp=Z,154nm,0.6s									
MOPA	**Mopani**	**6.13**	**44**	*eP*			**Pn**	**00 32 00.5**	**-0.2**
MOPA				*eS*			**Sn**	**00 33 08.5**	**-2.4**
MOPA				IAML				00 33 40.6	
comp=Z,460nm,0.5s									
MUSN	**Musina, Limpop**	**6.37**	**27**	*eP*			**Pn**	**00 32 03.4**	**-0.5**
MUSN				*eS*			**Sn**	**00 33 13.6**	**-3.2**
MUSN				IAML				00 33 59.9	
comp=Z,223nm,0.5s									
KROM	**Kromhout**	**6.37**	**196**	*eP*			**Pn**	**00 32 03.1**	**-0.7**
KROM				*eS*			**Sn**	**00 33 12.8**	**-3.8**
KROM				IAML				00 33 50.0	
comp=Z,1μm,0.5s									
MERW	**Merweville**	**6.47**	**223**	*eP*			**Pn**	**00 32 04.3**	**-1.1**
MERW				*eS*			**Sn**	**00 33 16.5**	**-3.0**
MERW				IAML				00 34 09.5	
comp=Z,185nm,0.9s									
KGCAE	**Kacgae**	**6.59**	**320**	*iP*			**Pn**	**00 32 07.4**	**+0.3**
KGCAE				IAML				00 34 00.1	
comp=E,597nm,1.6s									
SUR	**Sutherland**	**6.73**	**228**	Pn			**Pn**	**00 32 09.1**	**0.0**
comp=E,5.9nm,0.3s,baz=36,slow=8.1,SNR=110									
SUR				Sn			**Sn**	**00 33 23.1**	**-2.9**
comp=E,10nm,0.3s,baz=332,slow=18,SNR=4.8									
SUR				Lg		Lg		00 33 57.6	
comp=E,38nm,0.3s,baz=176,slow=21,SNR=6.9									
comp=E,18nm,0.3s									
SUR	**Sutherland**	**6.73**	**228**	*eP*			**Pn**	**00 32 09.4**	**+0.4**
SUR				*eS*			**Sn**	**00 33 22.3**	**-3.7**
SUR				IAML				00 34 07.3	
comp=Z,178nm,0.7s									
CVNA	**Calvinia**	**6.99**	**239**	*eP*			**Pn**	**00 32 12.7**	**+0.2**
CVNA				*eS*			**Sn**	**00 33 28.2**	**-4.0**
CVNA				IAML				00 34 36.2	
comp=Z,161nm,0.4s									
MATJ	**Matjiesfontein**	**7.46**	**224**	*eP*			**Pn**	**00 32 18.3**	**-0.6**
MATJ				*eS*			**Sn**	**00 33 40.1**	**-3.5**
MATJ				IAML				00 34 37.5	
comp=Z,200nm,0.6s									
KOOLE	**Kule**	**7.76**	**309**	*iP*			**Pn**	**00 32 23.2**	**0.0**
KOOLE				*iS*			**Sn**	**00 33 46.6**	**-4.7**
KOOLE				IAML				00 34 44.9	
comp=E,888nm,0.7s									
PRTV	**Porterville,We**	**8.30**	**231**	*eP*			**Pn**	**00 32 29.9**	**-0.6**
PRTV				*eS*			**Sn**	**00 33 59.5**	**-4.9**
PRTV				IAML				00 34 50.6	
comp=Z,249nm,0.6s									
KOMG	**Komaggas**	**8.32**	**256**	*eP*			**Pn**	**00 32 29.8**	**-0.9**
KOMG				*eS*			**Sn**	**00 33 59.8**	**-5.0**
KOMG				IAML				00 34 48.5	
comp=Z,187nm,0.5s									
GRTLG	**Ghanzi**	**8.33**	**322**	*iP*			**Pn**	**00 32 30.4**	**-0.6**
GRTLG				*iS*			**Sn**	**00 33 59.8**	**-5.5**
GRTLG				IAML				00 35 00.9	
comp=N,281nm,1.6s									
ELIM	**Elim**	**8.88**	**221**	*eP*			**Pn**	**00 32 38.3**	**-0.1**
ELIM				*eS*			**Sn**	**00 34 14.3**	**-4.2**
ELIM				IAML				00 35 06.5	
comp=Z,102nm,0.6s									
GMARE	**Gumare**	**9.57**	**333**	*iP*			**Pn**	**00 32 47.5**	**-0.5**
GMARE				*iS*			Sn	00 34 25.2	-11
GMARE				IAML				00 35 51.0	
comp=E,1μm,0.9s									
QNGWA	**Qangwa**	**9.88**	**328**	*iP*			**Pn**	**00 32 52.1**	**-0.1**
QNGWA				IAML				00 35 54.5	
comp=N,109nm,0.7s									
KSANE	**Kasane**	**10.29**	**351**	*iP*			**Pn**	**00 32 55.1**	**-2.7**
KSANE				IAML				00 36 04.4	
comp=E,320nm,1.3s									
WIN	**Windhoek**	**10.29**	**300**	Pn			**Pn**	**00 32 58.5**	**+0.6**
XAUDM	**Khaudum**	**10.68**	**331**	*iP*			**Pn**	**00 33 02.5**	**-0.6**
XAUDM				IAML				00 36 17.9	
comp=N,500nm,0.7s									
TSUM	**Tsumeb**	**12.16**	**314**	Pn			**Pn**	**00 33 22.3**	**-1.1**
TSUM	**Tsumeb**	**12.16**	**314**	Pn			**Pn**	**00 33 22.6**	**-0.8**
comp=N,4.0nm,0.3s,baz=144,slow=12,SNR=90									
TSUM				Sn			Sn	00 35 30.2	-9.0
comp=N,1.5nm,0.3s,baz=51,slow=22,SNR=7.7									
TSUM				Lg		Lg		00 36 49.3	
comp=N,3.2nm,0.3s,baz=228,slow=19,SNR=7.4									
TSUM				LR		LR		00 38 11.1	
comp=N,214nm,19.3s,baz=188,slow=38									
comp=N,40nm,0.6s									
LSZ	**Lusaka**	**12.76**	**6**	Pn			**Pn**	**00 33 29.1**	**-2.5**
LSZ	**Lusaka**	**12.76**	**6**	Pn			**Pn**	**00 33 29.3**	**-2.3**
comp=N,7.5nm,0.3s,baz=194,slow=12,SNR=84									
LSZ				Sn			**Sn**	**00 35 45.9**	**-8.0**
comp=N,2.4nm,0.3s,baz=96,slow=12,SNR=9.5									
LSZ				Lg		Lg		00 37 05.8	
comp=N,2.3nm,0.3s,baz=86,slow=20,SNR=6.5									
LSZ				LR		LR		00 38 14.9	
comp=N,45nm,19.0s,baz=180,slow=36									
FOMA	**Nahampoana Res**	**18.35**	**85**				**P**	**00 34 45.7**	**+1.0**
VOI	**Vohitsoka**	**19.15**	**76**	P			**Pn**	**00 34 53.3**	**-1.2**
OPO	**Ambohidratompo**	**20.96**	**68**	P			Pn	00 35 14.2	-1.8
comp=N,17nm,0.8s,baz=237,slow=11,SNR=18									
comp=N,17nm,0.8s									
MBAR	**Mbarara**	**27.54**	**9**	P			**P**	**00 36 16.5**	**-0.7**
TROLL	**Troll, Antarti**	**45.99**	**190**	⦚P			**P**	**00 38 54.2**	**+1.0**
comp=Z,197nm,0.7s									
DBIC	**Dimbokro**	**46.06**	**314**	P			**P**	**00 38 53.7**	**-0.5**
DBIC	**Dimbokro**	**46.06**	**314**	P			**P**	**00 38 54.2**	**0.0**
comp=Z,12nm,0.8s,baz=158,slow=5.4,SNR=8.8									
DBIC				LR		LR		00 56 12.6	
comp=Z,43nm,19.7s,baz=36,slow=34									
comp=Z,12nm,0.8s									
SNAA	**Sanae**	**46.64**	**192**	P			**P**	**00 38 59.0**	**+0.8**
SNAA	**Sanae**	**46.64**	**192**	⦚P			**P**	**00 38 59.2**	**+1.0**
comp=Z,405nm,0.8s									
SNAA	**Sanae**	**46.64**	**192**	P			**P**	**00 38 58.8**	**+0.6**
comp=Z,18nm,0.9s,baz=46,slow=7.0,SNR=41									
comp=Z,18nm,0.9s									
VNA1	**Neumayer--Stat**	**47.00**	**195**	⦚P			**P**	**00 39 02.3**	**+1.4**
comp=Z,14nm,0.8s									
VNA2	**Neumayer--Watz**	**47.00**	**195**	⦚P			**P**	**00 39 01.6**	**+0.6**
comp=Z,8.2nm,0.9s,baz=31,slow=6.7									
TORD	**Torodi Ar. Bea**	**47.59**	**326**	P			**P**	**00 39 05.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**47.59**	**326**	P			**P**	**00 39 06.3**	**+0.1**
comp=Z,11nm,0.5s,baz=142,slow=5.9,SNR=4.2									
comp=Z,11nm,0.5s									
VNA3	**Neumayer Olymp**	**47.75**	**195**	⦚P			**P**	**00 39 06.9**	**+0.2**
comp=Z,13nm,0.8s									
RAYN	**Ar Rayn**	**54.34**	**21**	P			**P**	**00 39 57.8**	**+0.9**
TAM	**Tamanrasset**	**54.52**	**336**	P			**P**	**00 39 58.0**	**-0.3**
BELA	**Belgrano 2**	**56.88**	**193**	P			**P**	**00 40 14.2**	**-0.3**
UOSS	**Minazif**	**59.81**	**31**	P			**P**	**00 40 35.9**	**+0.3**
MMAI	**Mount Meron Ar**	**61.26**	**8**	P			**P**	**00 40 46.7**	**+1.3**
comp=Z,5.0nm,0.9s,baz=191,slow=4.4,SNR=9.8									
comp=Z,5.0nm,0.9s									
RIB01	**Linhares ES**	**61.46**	**262**	*eP*			**P**	**00 40 46.9**	**-0.2**
NBAN	**Anadia - AL**	**61.76**	**274**	*eP*			**P**	**00 40 49.6**	**+0.4**
QSPA	**South Pole Qui**	**62.17**	**180**	P			**P**	**00 40 50.8**	**-0.5**
QSPA				IAmb			IAmb	00 40 53.3	
comp=Z,15nm,1.2s									
QSPA	**South Pole Qui**	**62.17**	**180**	P			**P**	**00 40 51.5**	**+0.2**
comp=Z,6.6nm,1.0s,baz=244,slow=4.3,SNR=15									
comp=Z,6.6nm,1.0s									
CMC01	**Camacan, BA**	**62.22**	**267**	*eP*			**P**	**00 40 52.9**	**+0.6**
SJMB	**Sao Joao De Ma**	**62.38**	**263**	*eP*			**P**	**00 40 53.7**	**+0.4**
CSS	**Mathiatis**	**62.96**	**6**	P			**P**	**00 40 58.3**	**+1.6**
comp=Z,7.8nm,1.0s									
IDI	**Anoyia**	**63.00**	**358**	P			**P**	**00 40 58.2**	**+1.2**
comp=Z,9.0nm,0.9s,baz=153,slow=6.8,SNR=1.5									
comp=Z,9.0nm,0.9s									
VAS01	**Vassouras-RJ**	**63.03**	**258**	*eP*			**P**	**00 40 58.8**	**+1.2**
RCBR	**Riachuelo**	**63.19**	**278**	*eP*			**P**	**00 40 57.6**	**-1.2**
DIAM	**Diamantina, MG**	**64.72**	**262**	*eP*			**P**	**00 41 09.1**	**+0.2**
KEST	**Kesra**	**65.51**	**344**	P			**P**	**00 41 14.6**	**+1.2**
KEST	**Kesra**	**65.51**	**344**	P			**P**	**00 41 14.7**	**+1.2**
comp=Z,5.2nm,0.9s,baz=174,slow=15,SNR=4.2									
comp=Z,5.2nm,0.9s									
VAO	**Valinhos**	**65.80**	**256**	P			**P**	**00 41 16.4**	**+0.6**
VAO	**Valinhos**	**65.80**	**256**	*eP*			**P**	**00 41 17.1**	**+1.2**
NBPB	**Pedra_Branca-C**	**66.55**	**276**	*eP*			**P**	**00 41 21.2**	**+0.5**
JANB	**Januaria**	**66.57**	**265**	*eP*			**P**	**00 41 21.0**	**+0.2**
PMNB	**Patos De Minas**	**67.04**	**261**	*eP*			**P**	**00 41 24.2**	**+0.3**
BR104	**Keskin Array S**	**67.69**	**6**	P			**P**	**00 41 28.6**	**+1.2**
comp=Z,1.6nm,1.2s									
BR105	**Keskin Array S**	**67.70**	**6**	P			**P**	**00 41 28.9**	**+1.4**
comp=Z,2.0nm,0.9s									
BRTR	**Keskin Array B**	**67.71**	**6**	P			**P**	**00 41 28.7**	**+1.2**
comp=Z,1.4nm,1.0s,baz=178,slow=8.7,SNR=6.7									
comp=Z,1.4nm,1.0s									
BR106	**Keskin Array S**	**67.72**	**6**	P			**P**	**00 41 29.0**	**+1.4**
comp=Z,2.6nm,1.2s									
BB19B	**Bebedouro**	**67.87**	**257**	*eP*			**P**	**00 41 29.6**	**+0.6**
SDBA	**SAO DESIDERIO**	**68.19**	**267**	*eP*			**P**	**00 41 31.6**	**+0.5**
PLTB	**Pedras Altas**	**68.23**	**245**	*eP*			**P**	**00 41 31.6**	**+0.5**
CPSB	**Cacapava Do Su**	**68.57**	**246**	*eP*			**P**	**00 41 34.9**	**+1.7**
TOKA	**Tokat**	**68.60**	**8**	P			**P**	**00 41 34.2**	**+1.2**
TOKA				IAmb			IAmb	00 41 35.5	
comp=Z,7.1nm,1.0s									
ITAB	**Concordia**	**68.63**	**250**	*eP*			**P**	**00 41 36.1**	**+2.4**
IPMB	**Ipameri, GO**	**68.80**	**260**	*eP*			**P**	**00 41 35.5**	**+0.5**
LDASE	**Londrina, Braz**	**69.20**	**254**	*eP*			**P**	**00 41 39.5**	**+2.2**
PTGB	**Pitanga**	**69.50**	**252**	*eP*			**P**	**00 41 41.4**	**+2.2**
BDFB	**Brasilia**	**69.58**	**263**	P			**P**	**00 41 40.2**	**+0.4**
BDFB	**Brasilia**	**69.58**	**263**	P			**P**	**00 41 40.2**	**+0.4**
comp=Z,11nm,0.6s,baz=113,slow=5.7,SNR=17									
comp=Z,11nm,0.6s									
ITRB	**Iturama**	**69.98**	**258**	*eP*			**P**	**00 41 43.6**	**+1.5**
PDG	**Podgorica**	**70.45**	**354**	P			**P**	**00 41 44.7**	**+0.5**
AQU	**L'Aquila**	**71.11**	**350**	P			**P**	**00 41 49.1**	**+0.7**
comp=Z,19nm,1.1s									
VNDA	**Vanda**	**71.33**	**171**	P			**P**	**00 41 50.1**	**+0.8**
VNDA				IAmb			IAmb	00 42 38.3	
comp=Z,15nm,1.6s									
VNDA	**Vanda**	**71.33**	**171**	P			**P**	**00 41 50.0**	**+0.7**
comp=Z,2.7nm,1.0s,baz=203,slow=9.2,SNR=5.4									
VNDA				LR			LR	01 13 19.5	
comp=Z,66nm,18.1s,baz=342,slow=36									
comp=Z,2.7nm,1.0s									
TIRR	**Tirgusor**	**72.15**	**1**	P			**P**	**00 41 55.4**	**+0.9**
comp=Z,8.1nm,1.7s									
TRQA	**Tornquist**	**72.41**	**236**	P			**P**	**00 41 57.2**	**+0.6**
RPRD	**Ribas do Rio P**	**72.55**	**256**	*eP*			**P**	**00 41 59.5**	**+1.9**
SJPY	**San Joaquin**	**72.78**	**250**	*eP*			**P**	**00 41 59.8**	**+0.8**
ISR	**Istrita**	**72.79**	**360**	P			**P**	**00 42 00.2**	**+1.7**
comp=Z,21nm,1.2s									
ARAG	**Araguaiana, MT**	**72.88**	**261**	*eP*			**P**	**00 42 00.8**	**+1.1**
KBZ	**Khabaz**	**72.92**	**12**	P			**P**	**00 41 60.0**	**+0.8**
comp=Z,2.4nm,0.9s,baz=188,slow=6.8,SNR=5.8									
comp=Z,2.4nm,0.9s									
KIV	**Kislovodsk**	**73.10**	**12**	P			**P**	**00 42 00.9**	**+0.5**
KIV				IAmb			IAmb	00 42 02.9	
comp=Z,20nm,1.4s									
KIV	**Kislovodsk**	**73.10**	**12**	P			**P**	**00 42 01.5**	**+1.1**
comp=Z,8.6nm,1.4s									
VOIR		**73.13**	**359**	P			**P**	**00 42 01.0**	**+0.5**
comp=Z,7.4nm,1.3s									
MLR	**Muntele Rosu**	**73.17**	**359**	P			**P**	**00 42 01.7**	**+0.9**
MLR				IAmb			IAmb	00 42 03.5	
comp=Z,12nm,1.2s									
MLR	**Muntele Rosu**	**73.17**	**359**	P			**P**	**00 42 02.0**	**+1.2**
comp=Z,10nm,2.0s									
MLR				pP			**sP**	**00 42 06.0**	**+0.4**
comp=Z,10nm,2.0s									
ESDC	**Sonseca Array**	**73.19**	**336**	P			**P**	**00 42 01.7**	**+0.7**
ESDC				IAmb			IAmb	00 44 08.0	
comp=Z,33nm,1.9s									
ESDC	**Sonseca Array**	**73.19**	**336**	P			**P**	**00 42 01.8**	**+0.9**
comp=Z,5.0nm,0.8s,baz=155,slow=5.9,SNR=36									
comp=Z,5.0nm,0.8s									
PAB	**San Pablo**	**73.21**	**335**	P			**P**	**00 42 02.1**	**+1.0**
PAB				IAmb			IA

KIEV IAmb IAmb 00 42 31.8
comp=Z,9.5nm,1.2s
AKASG Malin Array Be 78.41 2 P **P 00 42 30.8 +0.4**
comp=Z,1.9nm,0.6s,baz=189,slow=5.4,SNR=13
comp=Z,1.9nm,0.6s
AKBB Malin Array Si 78.41 2 P **P 00 42 30.5 +0.1**
AK22 Malin Array Si 78.47 1 P **P 00 42 31.4 +0.7**
AK23 Malin Array Si 78.47 2 P **P 00 42 31.4 +0.6**
AK21 Malin Array Si 78.48 1 P **P 00 42 31.4 +0.6**
PDRB Porto dos Gac 78.95 263 *e*P **P 00 42 35.3 +0.9**
RNPP2 Kostyukhnivka 79.01 359 P **P 00 42 34.4 +0.7**
RNPP1 Kostyukhnivka 79.03 359 P **P 00 42 34.6 +0.7**
RNPP9 Sopachiv 79.10 359 P **P 00 42 34.5 +0.3**
PTLB Pontes e Lacer 79.36 258 *e*P **P 00 42 37.9 +1.4**
NPGB Novo Progresso 79.79 267 *e*P **P 00 42 39.8 +0.8**
CLL Collm 79.92 351 *e*P **P 00 42 40.0 +1.3**
DOU Dourbes 80.23 346 *d*P **P 00 42 41.4 +1.0**
BCLA Clavier 80.39 346 *d*P **P 00 42 43.2 +2.0**
comp=Z,7.4nm,1.1s
BMRD Maredsous 80.39 346 *d*P **P 00 42 43.1 +1.9**
BGES Gesves 80.40 346 *d*P **P 00 42 43.2 +1.9**
comp=Z,7.9nm,1.0s
SIV San Ignacio 80.79 257 P **P 00 42 44.6 +0.2**
comp=Z,5.5nm,0.8s,baz=111,slow=7.7,SNR=21
comp=Z,5.5nm,0.8s
ARSB Arslanbob 81.19 33 P **P 00 42 46.6 +0.6**
ARSB IAmb IAmb 00 42 47.8
comp=Z,8.6nm,0.9s
KSH Kashi 81.34 36 P **P 00 42 45.6 -1.2**
KSH pmax pmax
comp=Z,9.0nm,0.9s
VILB Vilhena 81.39 260 P **P 00 42 46.2 -1.4**
VILB IAmb IAmb 00 42 49.6
comp=Z,7.5nm,0.9s
KK31 Karatay Array 81.41 31 P **P 00 42 47.5 +0.6**
KK31 IAmb IAmb 00 42 49.6
comp=Z,16nm,0.9s
KKAR Karatay Array 81.41 31 P **P 00 42 47.2 +0.3**
KKAR IAmb IAmb 00 42 49.6
comp=Z,10.0nm,0.9s
KKAR Karatay Array 81.41 31 P **P 00 42 47.5 +0.6**
ABKAR Akbulak array 82.44 21 P **P 00 42 52.1 0.0**
ABKAR Akbulak array 82.44 21 P **P 00 42 52.0 -0.1**
ABKAR IAmb IAmb 00 42 54.2
comp=Z,4.3nm,1.0s
AC05 El Transito 82.57 241 P **P 00 42 53.9 +0.2**
AC05 IAmb IAmb 00 42 56.3
comp=Z,11nm,0.8s
AC02 Maricunga 82.60 244 P **P 00 42 54.1 -0.3**
AC02 IAmb IAmb 00 42 57.6
comp=Z,12nm,1.2s
AAK Ala-Archa 82.92 33 P **P 00 42 55.9 +0.8**
CMAR Chiang Mai Arr 83.70 65 P **P 00 42 59.8 +0.4**
comp=Z,0.9nm,0.2s,baz=240,slow=5.0,SNR=7.8
comp=Z,0.9nm,0.2s
LPAZ La Paz 86.68 253 P **P 00 43 15.3 0.0**
LPAZ IAmb IAmb 00 43 16.5
comp=Z,11nm,1.1s
LPAZ La Paz 86.68 253 P **P 00 43 15.1 -0.2**
comp=Z,6.4nm,0.9s,baz=124,slow=5.1,SNR=18
comp=Z,6.4nm,0.9s
LPAZ La Paz 86.68 253 *e*P **P 00 43 15.9 +0.6**
EKA Eskdalemuir Ar 86.89 343 P **P 00 43 14.9 +0.4**
comp=Z,1.2nm,0.5s,baz=148,slow=5.6,SNR=6.0
comp=Z,1.2nm,0.5s
SBUM Sibu 87.13 86 P **P 00 43 17.0 +0.3**
SBUM IAmb IAmb 00 43 18.6
comp=Z,6.7nm,1.2s
BOAV Boa Vista 88.71 273 P **P 00 43 25.0 +0.7**
BOAV IAmb IAmb 00 43 26.1
comp=Z,6.4nm,0.9s
BOAV Boa Vista 88.71 273 *e*P **P 00 43 25.4 +1.1**
FINES FINESS Array B 89.15 360 P **P 00 43 24.8 -0.3**
comp=Z,3.0nm,0.9s,baz=180,slow=1.7,SNR=3.5
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 89.20 25 P **P 00 43 25.7 +0.1**
comp=Z,2.2nm,0.8s,baz=224,slow=4.1,SNR=13
comp=Z,2.2nm,0.8s
MK31 Makanchi Array 89.76 35 P **P 00 43 28.0 -0.4**
MKAR Makanchi Array 89.76 35 P **P 00 43 28.8 +0.3**
comp=Z,0.9nm,0.5s,baz=221,slow=4.3,SNR=17
comp=Z,0.9nm,0.5s
PZH PanZhiHua 90.12 60 P **P 00 43 32.3 +1.6**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.6s
WMQ Urumqi 90.67 39 *e*P **P 00 43 35.1 +2.3**
KURBB Kurchatov Arra 90.68 30 P **P 00 43 32.2 -0.3**
comp=Z,0.5nm,0.3s,baz=230,slow=5.5,SNR=9.3
comp=Z,0.5nm,0.3s
ASAR Alice Springs 93.00 119 P **P 00 43 44.5 +0.3**
comp=Z,0.7nm,0.7s,baz=228,slow=5.0,SNR=10
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 95.32 116 P **P 00 43 55.6 +0.8**
comp=Z,0.6nm,1.0s,baz=229,slow=3.5,SNR=2.3
comp=Z,0.6nm,1.0s
ZALV Zalesovo Beam 95.77 30 P **P 00 43 57.0 +1.1**
comp=Z,0.2nm,0.2s,baz=224,slow=6.0,SNR=1.9
comp=Z,0.2nm,0.2s
LZH Lanzhou 96.55 53 *e*P **P 00 43 56.8 -3.4**
LZH pP sP 00 44 02.6 -2.4
LZH pmax pmax
comp=Z,35nm,1.3s
ULM Lac du Bonnet 131.64 314 PKP **PKPdf 00 49 43.2 +0.4**
comp=Z,1.3nm,0.4s,baz=82,slow=3.0,SNR=5.8
SGCY Sterling City 135.04 288 PKPdf **PKPdf 00 49 48.6 -1.3**
PETK Petropavlovsk- 136.23 41 PKPdf **PKPdf 00 49 50.3 -1.0**
TXAR Lajitas Array 136.75 284 PKhKP PKPpre 00 49 44.5
comp=Z,0.3nm,0.8s,baz=117,slow=5.3,SNR=4.6
TXAR PKP **PKPdf 00 49 53.3 +0.1**
comp=Z,0.3nm,0.5s,baz=132,slow=3.7,SNR=4.6
YKA Yellowknife Ar 137.28 335 PKhKP PKPpre 00 49 47.2
comp=Z,0.6nm,0.5s,baz=52,slow=3.8,SNR=19
YKA PKP **PKPdf 00 49 53.2 +0.3**
comp=Z,0.4nm,0.7s,baz=44,slow=2.0,SNR=6.5
PDAR Pinedale Array 141.91 304 PKhKP PKPpre 00 49 56.9
comp=Z,0.2nm,0.4s,baz=89,slow=6.4,SNR=5.5
PDAR PKP pPKPdf 00 50 03.3 -2.7
comp=Z,0.4nm,0.5s,baz=102,slow=6.2,SNR=6.6
ILAR Eielson Array 143.02 355 PKhKP PKPpre 00 49 59.8
comp=Z,0.7nm,0.6s,baz=317,slow=3.1,SNR=6.8
NVAR Mina Array Bea 149.15 299 PKPbc **PKiKP 00 50 21.2 +0.9**
comp=Z,4.8nm,0.8s,baz=53,slow=3.2,SNR=26

*IDC **22** 00:32:51.2±2.1,6°.93S×154°.70E, h0km, mb3.7/6, mbtmp3.6/6, MS3.2/1, Error ellipse: s-maj=91.7km s-min=27.4km az=127.0*
ISC 22 00:32:56.8±1.9, 7°.0S±0°.4×154°.7E±0°.5, h39km, n7, σ0°.84/6, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**235**	P	**P**	**P**	**00 38 04.1**	**-0.1**
	1.3nm,0.8s,baz=59,slow=9.1,SNR=5.0							
	1.3nm,0.8s							
MSVF	**Nonsavu**	**25.14**	**117**	LR		LR	00 48 11.9	
	comp=Z,48nm,18.7s,baz=182,slow=37							
ASAR	**Alice Springs**	**25.96**	**228**	P		**P**	**00 38 26.1**	**+0.1**
	0.8nm,0.9s,baz=55,slow=7.8,SNR=4.8							
	0.8nm,0.9s							
MKAR	**Makanchi Array**	**83.22**	**319**	P		**P**	**00 45 20.2**	**+0.9**
	0.5nm,0.7s,baz=101,slow=6.3,SNR=4.9							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**83.48**	**22**	P		**P**	**00 45 20.6**	**+0.4**
	0.3nm,0.9s,baz=257,slow=5.7,SNR=1.8							
	0.3nm,0.9s							
ZALV	**Zalesovo Beam**	**84.03**	**326**	P		**P**	**00 45 22.1**	**-1.0**
	0.3nm,0.4s,baz=100,slow=7.9,SNR=2.2							
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**96.47**	**28**	P		**P**	**00 46 21.5**	**-0.3**
	0.2nm,0.7s,baz=265,slow=4.5,SNR=4.2							
	0.2nm,0.7s							

*NEIC **22** 01:25:48.6±0.8, 18°.0S±0°.2×178°.4W±0°.1, h614km±10km, mb4.3/10, Error ellipse: s-maj=22.8km s-min=16.7km az=170.0*
*IDC **22** 01:25:48.9±1.6, 17°.85S×178°.61W, h620km±17km, mb3.1/7, mbtmp4.1/9, Error ellipse: s-maj=38.9km s-min=13.9km az=154.0*
ISC 22 01:25:47.4±0.7, 17°.9S±0°.2×178°.5W±0°.1, h600km, n25, σ1°.10/26, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.31**	**273**	P		**P**	**01 27 11.0**	**+2.5**
MSVF	**Nonsavu**	**3.31**	**273**	P		**P**	**01 27 10.7**	**+2.2**
	26nm,0.6s,baz=143,slow=2.7,SNR=24							
DZM	**Mont Dzumac**	**14.75**	**251**	P		**P**	**01 28 53.6**	**+0.2**
DZM	**Mont Dzumac**	**14.75**	**251**	P		**P**	**01 28 53.8**	**+0.3**
	2.9nm,0.7s,baz=49,slow=20,SNR=1.1							
TCW	**Tory Channel**	**24.01**	**194**	P		**P**	**01 30 17.0**	**+0.3**
QRZ	**Quartz Range**	**24.08**	**197**	P		**P**	**01 30 17.1**	**-0.3**
COEN	**Coen**	**37.03**	**270**	P		**P**	**01 32 08.6**	**+0.4**
BBOO	**Buckleboo**	**43.33**	**241**	P		**P**	**01 32 57.9**	**-0.1**
BBOO				IAmb		IAmb	01 33 14.0	
	comp=Z,17nm,1.3s							
WB0	**Warramunga Arr**	**44.52**	**260**	P		**P**	**01 33 06.3**	**-1.1**
WB0				IAmb		IAmb	01 33 24.7	
	comp=Z,17nm,1.5s							
WB2	**Warramunga Arr**	**44.54**	**260**	P		**P**	**01 33 07.1**	**-0.5**
WB2				IAmb		IAmb	01 33 12.7	
	comp=Z,19nm,1.4s							
WRA	**Warramunga Arr**	**44.55**	**260**	P		**P**	**01 33 06.8**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=95,slow=7.4,SNR=39							
	comp=Z,2.7nm,0.7s							
AS31	**Alice Springs**	**44.71**	**254**	P		**P**	**01 33 09.0**	**+0.1**
ASAR	**Alice Springs**	**44.71**	**254**	P		**P**	**01 33 08.6**	**-0.3**
ASAR	**Alice Springs**	**44.71**	**254**	P		**P**	**01 33 08.9**	**0.0**
	comp=Z,8.5nm,0.6s,baz=86,slow=8.7,SNR=89							
ASAR					S	**S**	**01 39 01.4**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=93,slow=14,SNR=6.0							
	comp=Z,8.5nm,0.6s							
QSPA	**South Pole Qui**	**72.11**	**180**	P		**P**	**01 36 12.1**	**+0.1**
QSPA	**South Pole Qui**	**72.11**	**180**	P		**P**	**01 36 12.0**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=69,slow=7.1,SNR=1.7							
	comp=Z,1.3nm,1.0s							
NVAR	**Mina Array Bea**	**79.50**	**44**	P		**P**	**01 36 53.4**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=225,slow=9.0,SNR=5.6							
	comp=Z,0.7nm,0.7s							
H04A	**Detroit Lake**	**80.66**	**37**	P		**P**	**01 36 58.9**	**-0.1**
K15K	**Wolf Creek Mou**	**81.09**	**8**	P		**P**	**01 37 01.2**	**+0.5**
K15K				IAmb		IAmb	01 37 06.8	
	comp=Z,22nm,1.4s							
Q32M	**Nakina River**	**85.44**	**22**	P		**P**	**01 37 22.9**	**+0.3**
Q32M				IAmb		IAmb	01 37 49.4	
	comp=Z,9.1nm,1.2s							
CCB	**Clear Creek Bu**	**85.63**	**13**	P		**P**	**01 37 21.9**	**-1.2**
CCB				IAmb		IAmb	01 37 22.6	
	comp=Z,5.2nm,1.3s							
ILAR	**Eielson Array**	**85.94**	**13**	P		**P**	**01 37 22.9**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=223,slow=4.9,SNR=8.0							
	comp=Z,0.4nm,0.4s							
TXAR	**Lajitas Array**	**86.08**	**58**	P		**P**	**01 37 27.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=224,slow=7.0,SNR=8.3							
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**87.43**	**43**	P		**P**	**01 37 32.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=199,slow=3.9,SNR=6.0							
	comp=Z,0.5nm,0.5s							
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc		**PKiKP**	**01 44 24.7**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=11,slow=1.4,SNR=4.5							

*NEIC **22** 01:33:45.4±1.7, 18°.2S±0°.1×178°.3W±0°.1, h535km±6km, mb4.5/32, Error ellipse: s-maj=21.4km s-min=16.8km az=147.0*
*IDC **22** 01:33:45.7±1.7, 18°.22S×178°.30W, h544km±17km, mb3.4/11, mbtmp4.3/12, Error ellipse: s-maj=20.4km s-min=15.3km az=128.0*
ISC 22 01:33:46.5±0.6, 18°.2S±0°.1×178°.4W±0°.1, h550km, n79, σ1°.48/78, mb4.4/27, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.44**	**278**	P		**P**	**01 35 04.4**	**0.0**
MSVF	**Nonsavu**	**3.44**	**278**	P		**P**	**01 35 04.3**	**-0.2**
	370nm,0.7s,baz=121,slow=8.1,SNR=217							
FUTU	**Fugatoga**	**3.90**	**4**	P		P	01 35 05.2	-2.5
NIUE	**Niue**	**8.05**	**97**	P		P	01 35 41.6	-3.2
URZ	**Urewera**	**20.35**	**190**	P		**P**	**01 37 43.4**	**-2.2**
	5.8nm,0.4s,baz=352,slow=7.4,SNR=4.6							
	5.8nm,0.4s							
QRZ	**Quartz Range**	**23.85**	**197**	P		**P**	**01 38 16.4**	**-0.4**
QRZ				IAmb		IAmb	01 38 32.9	
	comp=Z,10nm,1.1s							
EIDS	**Eidsvold**	**29.19**	**250**	P		**P**	**01 39 04.0**	**-0.1**
EIDS				IAmb		IAmb	01 39 04.7	
	comp=Z,7.5nm,0.8s							
ARMA	**Armidale**	**29.81**	**240**	P		**P**	**01 39 10.3**	**+0.8**
ARMA				IAmb		IAmb	01 39 10.9	
	comp=Z,5.8nm,0.5s							
TOO	**Toolangi**	**37.00**	**231**	P		**P**	**01 40 10.2**	**+0.4**
COEN	**Coen**	**37.14**	**271**	P		**P**	**01 40 11.8**	**+0.6**
STKA	**Stephens Creek**	**38.51**	**242**	P		**P**	**01 40 23.1**	**+1.0**
STKA	**Stephens Creek**	**38.51**	**242**	P		**P**	**01 40 22.6**	**+0.5**
	comp=Z,8.0nm,0.6s,baz=91,slow=10,SNR=15							
	comp=Z,8.0nm,0.6s							
BBOO	**Buckleboo**	**43.28**	**241**	P		**P**	**01 41 00.3**	**+0.2**
BBOO				IAmb		IAmb	01 41 00.7	
	comp=Z,10nm,0.7s							
WB0	**Warramunga Arr**	**44.58**	**260**	P		**P**	**01 41 09.4**	**-0.9**
WB0				IAmb		IAmb	01 41 13.5	
	comp=Z,12nm,1.1s							
WB2	**Warramunga Arr**	**44.60**	**260**	P		**P**	**01 41 09.8**	**-0.6**
WB2				IAmb		IAmb	01 41 10.4	
	comp=Z,8.1nm,0.7s							
WRA	**Warramunga Arr**	**44.61**	**260**	P		**P**	**01 41 09.8**	**-0.7**
	comp=Z,3.4nm,0.3s,baz=97,slow=7.4,SNR=54							
WRA				PcP		**PcP**	**01 42 41.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=95,slow=3.3,SNR=3.4							
	comp=Z,3.4nm,0.3s							
AS31	**Alice Springs**	**44.74**	**255**	P		**P**	**01 41 11.5**	**0.0**
AS31				IAmb		IAmb	01 41 12.5	
	comp=Z,11nm,0.7s							
ASAR	**Alice Springs**	**44.74**	**255**	P		**P**	**01 41 11.4**	**0.0**
	comp=Z,46nm,0.6s,baz=89,slow=8.2,SNR=496							
ASAR				PcP		**PcP**	**01 42 41.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=100,slow=3.4,SNR=3.8							
MTN	**Manton Dam**	**48.82**	**269**	P		**P**	**01 41 42.0**	**-0.4**
FORT	**Forrest**	**49.90**	**245**	P		**P**	**01 41 49.5**	**-0.6**
KNRA	**Kununurra**	**50.49**	**264**	P		**P**	**01 41 54.5**	**0.0**
KNRA				IAmb		IAmb	01 41 55.1	
	comp=Z,19nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.01**	**261**	P		**P**	**01 42 12.9**	**+0.2**
SOEI	**Soe**	**56.10**	**270**	IAmb		IAmb	01 42 44.9	
	comp=Z,19nm,0.8s							
PSA00	**Pilbara Seismi**	**57.86**	**256**	P		**P**	**01 42 46.0**	**-0.4**
PSA00	**Pilbara Seismi**	**57.86**	**256**	P		**P**	**01 42 46.2**	**-0.2**
PSA00				IAmb		IAmb	01 42 46.7	
	comp=Z,28nm,0.8s							
GIRL	**Giralia**	**62.84**	**253**	P		**P**	**01 43 20.2**	**+1.0**
MJAR	**Matsushiro Arr**	**68.17**	**323**	P		**P**	**01 43 51.3**	**-0.9**
	comp=Z,3.2nm,0.5s,baz=148,slow=5.6,SNR=5.0							
	comp=Z,3.2nm,0.5s							
UGM	**Wanagama**	**69.67**	**268**	P		**P**	**01 44 01.9**	**+0.1**
QSPA	**South Pole Qui**	**71.83**	**180**	P		**P**	**01 44 13.8**	**+0.1**
QSPA	**South Pole Qui**	**71.83**	**180**	P		**P**	**01 44 13.9**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=278,slow=1.0,SNR=9.0							
	comp=Z,2.6nm,0.9s							
TPUB	**Ta-pu**	**72.45**	**303**	P		**P**	**01 44 16.6**	**-1.3**
NVAR	**Mina Array Bea**	**79.63**	**44**	P		**P**	**01 44 56.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=254,slow=4.7,SNR=3.8							
	comp=Z,0.5nm,0.8s							
M16K	**Timber Creek**	**80.50**	**9**	P		**P**	**01 45 01.4**	**+0.4**
M16K				IAmb		IAmb	01 45 02.5	
	comp=Z,15nm,1.1s							
J05D	**Fort Rock, OR**	**80.55**	**38**	P		**P**	**01 45 02.5**	**+0.5**
H04A	**Detroit Lake**	**80.82**	**37**	P		**P**	**01 45 02.9**	**-0.3**
M17K	**Holitna River**	**81.10**	**10**	P		**P**	**01 45 04.8**	**+0.6**
M17K				IAmb		IAmb	01 45 11.5	
	comp=Z,29nm,1.4s							
K15K	**Wolf Creek Mou**	**81.35**	**8**	P		**P**	**01 45 05.7**	**+0.3**
TRF	**Thorofare Moun**	**84.31**	**12**	P		**P**	**01 45 18.9**	**-1.6**
TRF				IAmb		IAmb	01 45 19.7	
	comp=Z,9.9nm,0.9s							
M26K	**Nabesna, AK**	**85.07**	**16**	P		**P**	**01 45 23.8**	**-0.2**
M27K	**Edge Creek, AK**	**85.33**	**16**	P		**P**	**01 45 25.0**	**-0.4**
M27K				IAmb		IAmb	01 45 26.5	
	comp=Z,8.9nm,1.1s							
Q32M	**Nakina River**	**85.66**	**22**	P		**P**	**01 45 27.1**	**-0.1**
Q32M				IAmb		IAmb	01 45 28.8	
	comp=Z,17nm,1.5s							
TXAR	**Lajitas Array**	**86.14**	**58**	P		**P**	**01 45 31.0**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=222,slow=6.1,SNR=10.0							
	comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**86.18**	**13**	P		**P**	**01 45 27.8**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=221,slow=5.1,SNR=17							
	comp=Z,1.2nm,0.7s							
M30M	**Minto, Yukon**	**86.92**	**18**	P		**P**	**01 45 32.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**89.02**	**290**	P		**P**	**01 45 44.8**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=112,slow=2.9,SNR=9.9							
	comp=Z,1.4nm,0.3s							
F31M	**Tsiigehtchic**	**91.47**	**16**	P		**P**	**01 45 52.9**	**-0.9**
F31M				IAmb		IAmb	01 45 53.7	
	comp=Z,5.4nm,0.8s							
SONM	**Songino Array**	**93.81**	**319**	P		**P**	**01 46 05.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=111,slow=6.3,SNR=2.0							
	comp=Z,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**94.60**	**25**	P		**P**	**01 46 07.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=245,slow=4.7,SNR=6.0							
	comp=Z,0.3nm,0.6s							
MKAR	**Makanchi Array**	**109.37**	**314**	PKiKP		**PKiKP**	**01 51 13.2**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=111,slow=0.6,SNR=5.6							
KURBB	**Kurchatov Arra**	**112.13**	**318**	PKiKP		**PKiKP**	**01 51 17.6**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=86,slow=3.8,SNR=5.8							
BVAR	**Borovoye Array**	**117.11**	**321**	PKP		**PKPdf**	**01 51 27.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=83,slow=4.5,SNR=6.5							
ARCES	**ARCESS Array B**	**126.63**	**350**	PKP		**PKPdf**	**01 51 45.7**	**-1.2**
	comp=Z,11nm,1.1s,baz=25,slow=1.5,SNR=4.8							
BUR08	**Bucovina Ar. S**	**144.89**	**332**			**PKPdf**	**01 52 22.4**	**+1.2**
BR131	**Keskin Array S**	**145.02**	**315**			**PKPdf**	**01 52 22.5**	**+0.7**
BRTR	**Keskin Array B**	**145.02**	**315**			**PKPdf**	**01 52 21.9**	**+0.1**
BRTR	**Keskin Array B**	**145.02**	**315**	PKPbc		**PKPdf**	**01 52 21.7**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=78,slow=1.9,SNR=16							
OSTC	**Ostas**	**145.70**	**343**	*e*PKP		**PKPdf**	**01 52 24.5**	**+2.1**
CLL	**Collm**	**145.77**	**347**			**PKPdf**	**01 52 24.0**	**+1.5**
STEB	**Steborice**	**145.81**	**341**	*e*PKP		**PKPdf**	**01 52 24.3**	**+1.7**
DPC	**Dobruska-Polom**	**145.85**	**343**	*e*PKP		**PKPdf**	**01 52 24.7**	**+1.9**
KRLC	**Kralicky**	**145.97**	**342**	*e*PKP		**PKPdf**	**01 52 25.0**	**+2.0**
MMAI	**Mount Meron Ar**	**146.34**	**303**	PKPbc		**PKPdf**	**01 52 26.4**	**+2.2**
	comp=Z,3.5nm,0.6s,baz=76,slow=7.0,SNR=19							
PRU	**Pruhonice**	**146.65**	**345**	*e*PKP		**PKPdf**	**01 52 26.4**	**+2.4**
ZVC	**Zvikov**	**147.25**	**345**	*e*PKP		**PKPdf**	**01 52 28.6**	**+3.6**
KHC	**Kasperske Hory**	**147.68**	**345**	*e*PKP		**PKPdf**	**01 52 29.5**	**+3.7**
CKRC	**Cesky Krumlov**	**147.79**	**344**	*e*PKP		**PKPdf**	**01 52 29.8**	**+3.8**
GERES	**GERESS Array B**	**147.92**	**345**	PKPbc		**PKPdf**	**01 52 29.6**	**+3.4**
	comp=Z,2.5nm,0.6s,baz=23,slow=3.1,SNR=23							
CONA	**Conrad Observa**	**148.17**	**342**	*e*PKP		**PKPbc**	**01 52 31.1**	**+0.3**
	comp=Z,2.5nm,0.7s							
RONA	**Rosalia, Austr**	**148.24**	**341**	*e*PKP		**PKPbc**	**01 52 31.2**	**+0.2**
	comp=Z,1.4nm,0.5s							
LESA	**Schwarzleotal**	**149.49**	**345**	*e*PKP		**PKPdf**	**01 52 33.7**	**+4.8**
	comp=Z,1.5nm,0.4s							
WATA	**Walderalm**	**149.83**	**346**	*e*PKP		**PKPbc**	**01 52 34.7**	**-0.3**
	comp=Z,1.5nm,0.3s							
RETA	**Reutte**	**149.86**	**348**	*e*PKP		**PKPbc**	**01 52 34.7**	**-0.2**
	comp=Z,0.7nm,0.3s							
WTTA	**Wattenberg**	**149.89**	**346**	*e*PKP		**PKPbc**	**01 52 34.9**	**-0.2**
	comp=Z,6.5nm,0.6s							
MOTA	**Moosalm**	**149.93**	**347**	*e*PKP		**PKPbc**	**01 52 34.9**	**-0.3**
	comp=Z,1.1nm,0.4s							
SQTA	**Sankt Quirin**	**150.02**	**347**	*e*PKP		**PKPbc**	**01 52 35.1**	**-0.2**
	comp=Z,3.1nm,0.6s							
ABTA	**Abfaltersbach**	**150.17**	**345**	*e*PKP		**PKPdf**	**01 52 35.0**	**+5.1**
	comp=Z,3.5nm,0.5s							
DAVA	**Damuels**	**150.23**	**349**	*e*PKP		**PKPbc**	**01 52 36.1**	**+0.2**
	comp=Z,1.6nm,0.6s							
FETA	**Feichten**	**150.31**	**347**	*e*PKP		**PKPbc**	**01 52 36.1**	**0.0**
	comp=Z,0.8nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**150.79**	**348**			**PKPbc**	**01 52 37.1**	**-0.3**

*TEH **22** 02:09:24.9,34°.98N×45°.91E, h10km±130km*
*ISN **22** 02:09:25.5±0.5,35°.00N×45°.91E, h18km±999km, ML2.7*
ISC 22 02:09:24.7±1.3, 34°.98N±0°.05×45°.88E±0°.04, h10km, n9, σ0°.54/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.50**	**123**	Pg		**Pg**	**02 09 34.8**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.53**	**208**	Pg		**Pg**	**02 09 35.4**	**+0.4**
KGS1				Sg		**Sb**	**02 09 44.2**	**+0.4**
IGHG	**Ghaleghazi**	**0.86**	**139**	Pg		**Pg**	**02 09 41.6**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.86**	**179**	Pg		**Pg**	**02 09 41.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.18**	**126**	Pg		**Pb**	**02 09 47.3**	**0.0**
IKRK	**Kirkuk**	**1.33**	**289**	*e*Pg		**Pb**	**02 09 50.0**	**+0.1**
IKRK				*e*Sg		**Sb**	**02 10 07.3**	**+0.3**
IKRK				AML		AML	02 10 11.4	
	comp=N,297nm,0.5s							
IKRK				AML		AML	02 10 11.9	
	comp=E,144nm,0.5s							
SNQR	**Sonqor, Kerman**	**1.44**	**94**	Pg		**Pg**	**02 09 51.8**	**-0.5**
IBDR	**Badra**	**1.86**	**179**	*e*Pn		**Pb**	**02 09 58.6**	**-0.2**
IBDR				*e*Sn		**Sb**	**02 10 23.0**	**+0.9**
IBDR				AML		AML	02 10 28.7	
	comp=E,83nm,0.3s							
IBDR				AML		AML	02 10 38.7	
	comp=N,62nm,0.6s							
BHD	**Baghdad**	**2.11**	**217**	*e*Pn		**Pb**	**02 10 02.0**	**-1.0**
BHD				*e*Sn		**Sb**	**02 10 29.0**	**-0.3**

*IDC **22** 02:13:59.3±1.0,36°.49N×142°.14E, h0km, mb3.6/8, mbtmp3.6/10, ML3.4/2, MS2.3/1, Error ellipse: s-maj=22.8km s-min=19.9km az=93.0*
*JMA **22** 02:14:01.6±0.3,36°.7N±0°.8×14°.2E±°, h25km, MV3.

0.3nm,0.7s
WRA Warramunga Arr 56.72 189 P **P 02 23 43.1 -1.6**
0.4nm,0.5s,baz=20,slow=7.0,SNR=7.5
0.4nm,0.5s
ASAR Alice Springs 60.45 189 P **P 02 24 10.5 -0.2**
0.5nm,0.7s,baz=9.6,slow=6.9,SNR=2.8
0.5nm,0.7s
PDAR Pinedale Array 77.56 46 P **P 02 25 58.3 +1.0**
0.3nm,0.6s,baz=324,slow=8.5,SNR=3.5
0.3nm,0.6s

IDC ***22*** *02:14:49.0±1.3, 36.22N×141.60E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=42.4km s-min=24.5km az=71.0*
JMA ***22*** *02:14:50.0±0.3, 36.7N±0.9×14.2E±, h43km, MV3.7/17, E OFF FUKUSHIMA PREF*
ISC 22 02:14:51.2±1.1, 36.58N±0.06×141.93E±0.08, h19km, n18, σ2.33/15, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.11**	**258**	P	**Pn**	**02 15 11.1**	**-0.6**
JHYU				S	**Sg**	**02 15 27.0**	**-0.3**
JMM	**Marumori**	**1.57**	**325**	P	**Pn**	**02 15 15.2**	**-2.8**
JMM				S	**Sn**	**02 15 34.6**	**-3.2**
JOTO	**OTAMA OYAMA**	**1.61**	**308**	P	**Pn**	**02 15 17.8**	**-0.8**
JOTO				S	**Sn**	**02 15 39.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.00**	**270**	Sn	**Sn**	**02 16 16.2**	**+3.2**
	0.3nm,0.3s,baz=174,slow=32,SNR=4.1						
JHJ	**Hachijo jima 2**	**3.88**	**208**	Sn	**Sn**	**02 16 33.1**	**-1.7**
	28nm,0.3s,baz=229,slow=23,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**27.56**	**121**	T	T	02 49 26.3	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.57**	**121**	T	T	02 49 25.8	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.58**	**121**	T	T	02 49 25.8	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	02 50 46.3	
	baz=314,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	02 50 44.3	
	baz=314,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.28**	**123**	T	T	02 50 32.0	
	baz=314,slow=76						
SONM	**Songino Array**	**28.38**	**305**	P	**P**	**02 20 44.3**	**0.0**
	0.8nm,0.7s,baz=108,slow=7.6,SNR=2.6						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**42.52**	**313**	P	**P**	**02 22 46.1**	**+0.9**
	0.4nm,0.4s,baz=109,slow=7.9,SNR=1.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.71**	**303**	P	**P**	**02 23 02.4**	**-0.6**
	0.3nm,0.6s,baz=89,slow=9.2,SNR=2.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.61**	**308**	P	**P**	**02 23 20.6**	**+2.7**
	1.0nm,0.6s,baz=85,slow=8.0,SNR=1.8						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**02 23 45.2**	**+4.0**
	0.3nm,0.7s,baz=259,slow=5.6,SNR=2.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**56.67**	**189**	P	**P**	**02 24 31.1**	**-2.3**
	0.6nm,0.6s,baz=5.8,slow=7.3,SNR=2.3						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**60.40**	**188**	P	**P**	**02 24 57.5**	**-1.9**
	0.7nm,0.7s,baz=12,slow=6.5,SNR=4.9						
	0.7nm,0.7s						

DNK ***22*** *02:42:33.9±4.0, 49.00N×29.06W, h0km±383km, mb5.1*
IDC ***22*** *02:42:39.8±0.4, 49.71N×28.56W, h0km, mb4.4/35, mbtmp4.4/37, ML4.1/2, MS4.5/81, Error ellipse: s-maj=12.3km s-min=9.7km az=176.0*
MOS ***22*** *02:42:39.4±1.1, 49.67N×28.51W, h7km, mb5.0/57, MS4.7/10, Error ellipse: s-maj=7.8km s-min=5.8km az=57.9*
RSNC ***22*** *02:42:41.6±5.0, 50.N±10×2.9W±1.0, h10km, M5.1, mB5.6, mb5.0, Mw(mB)5.2*
IGIL ***22*** *02:42:41.3, 49.66N×28.63W, h10km, Ms4.4*
NEIC ***22*** *02:42:42, 49.57N×29.00W, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 1017Nm; Mrr-0.60; Mθθ0.02; Mφφ0.58; Mrθ-0.14; Mθφ0.04; Mφr0.83; Fault plane solution: Mo1.03000×1017 NP1:φs13.41000°, δ18.39000°, λ-70.59000°. NP2:φs173.04000°, δ72.69000°, λ-96.31000°. Principal axes: T 1.0076, Plg27.0000°, Azm268.0000°; N 0.0358, Plg6.0000°, Azm175.0000°; P -1.0434, Plg62.0000°, Azm74.0000°;*
NEIC ***22*** *02:42:42.0±1.8, 49.70N±0.10×28.5W±0.1, h10km±1km, mb5.1/492, Mww5.3/49 Error ellipse: s-maj=16.5km s-min=14.0km az=175.0*
NEIC ***22*** *02:42:42, 49.67N×28.50W, h12km*
GCMT ***22*** *02:42:42.0±0.1, 49.65N±0.01×28.37W±0.01, h12km, MW5.2/147, Moment Tensor Solution. s84, c127; s147, c272; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr-0.73±.01; Mθθ-0.04±.01; Mφφ0.77±.01; Mrθ0.19±.03; Mθφ-0.06±.01; Mφr0.04±.03; Best double couple: Mo0.78400×1017 NP1:φs342.00000°, δ46.00000°, λ-111.00000°. NP2:φs190.00000°, δ48.00000°, λ-70.00000°. Principal axes: T 0.7830, Plg1.0000°, Azm266.0000°; N 0.0030, Plg15.0000°, Azm357.0000°; P -0.7850, Plg75.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 02:42:41.8±0.3, 49.74N±0.05×28.48W±0.04, h10km, n837, σ1.69/600, mb5.0/337, MS4.7/111, 15C-14D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGU	**Agualva, Azore**	**11.01**	**175**	*e*LQ	LQ	02 47 40.0	
ROSA	**Rosais**	**11.02**	**179**	*e*LQ	LQ	02 47 26.1	
CALA	**Caldeira**	**11.16**	**181**	*e*LQ	LQ	02 47 28.8	
PICO	**Pico**	**11.24**	**180**	*e*LQ	LQ	02 47 45.3	
VAL	**Valentia**	**11.74**	**72**	P	**Pn**	**02 45 29.8**	**+0.7**
VAL				S	Sn	02 47 25.6	-14
IGLA	**Glengowla, Co**	**12.43**	**65**	P	**Pn**	**02 45 37.1**	**-1.5**
IGLA				S	Sn	02 47 47.3	-10
IWEX	**Carrickbyrne,**	**13.89**	**71**	P	**Pn**	**02 45 58.2**	**-0.4**
IWEX				S	**Sn**	**02 48 26.9**	**-5.9**
DSB	**Dublin**	**14.19**	**67**		**Pn**	**02 46 03.1**	**+0.4**
DSB	**Dublin**	**14.19**	**67**	P	**Pn**	**02 46 01.3**	**-1.4**
DSB				S	**Sn**	**02 48 33.1**	**-7.0**
ILTH	**Belurgan, Co L**	**14.31**	**64**	P	**Pn**	**02 46 04.3**	**0.0**
BORG	**Borgarnes**	**15.52**	**12**	Pn	**Pn**	**02 46 20.5**	**+0.2**
	0.2nm,0.3s,baz=198,slow=6.4,SNR=1.0						
BORG				LR	LR	02 50 38.1	
	comp=Z,1μm,20.4s,baz=194,slow=31						
	7.7nm,0.7s						
PGAV	**Gavieira, Arco**	**16.05**	**111**	*e*P	**Pn**	**02 46 24.5**	**-3.1**
PGAV				*i* Amb		02 46 34.1	
	55nm,0.9s						
PGAV				*e*LR	LR	02 50 01.0	
PGAV				*i* AMs_20		02 51 18.3	
	3μm,18.0s						
ESK	**Eskdalemuir**	**16.31**	**60**	P	**Pn**	**02 46 30.8**	**+0.1**
ESK	**Eskdalemuir**	**16.31**	**60**	P	**Pn**	**02 46 30.8**	**+0.1**
ESK				pmax	pmax		
	comp=Z,87nm,1.3s						
EKA	**Eskdalemuir Ar**	**16.34**	**60**	Pn	**Pn**	**02 46 30.4**	**-0.7**
	baz=250,slow=9.6						
	comp=Z,7.0nm,0.8s						
PCAB	**Cabril**	**16.35**	**112**	*e*P	**Pn**	**02 46 28.4**	**-3.0**
PCAB				*i* Amb		02 46 42.8	
	comp=Z,86nm,1.3s						
PTO	**Porto**	**16.35**	**114**	*e*P	**Pn**	**02 46 27.1**	**-4.3**
PTO				*i* Amb		02 46 39.0	
	comp=Z,74nm,1.5s						
POLO	**Lamas de Olo**	**16.69**	**112**	*e*P	**Pn**	**02 46 33.1**	**-2.7**
POLO				*i* Amb		02 46 41.7	
	comp=Z,46nm,1.2s						
PVRL	**Vila Real**	**16.80**	**112**	*e*P	**Pn**	**02 46 35.5**	**-1.5**
PVRL				*i* Amb		02 46 42.8	
	comp=Z,96nm,1.3s						
PVIS	**Viseu**	**17.04**	**114**	*e*P	**Pn**	**02 46 37.6**	**-2.5**
COI	**Coimbra**	**17.06**	**116**	P	**Pn**	**02 46 37.7**	**-2.6**
COI	**Coimbra**	**17.06**	**116**	*e*P	**Pn**	**02 46 38.1**	**-2.1**
COI				*i* Amb		02 46 45.1	
	comp=Z,98nm,1.4s						
COI	**Coimbra**	**17.06**	**116**	P	**Pn**	**02 46 37.7**	**-2.6**
COI				pmax	pmax		
	comp=Z,41nm,0.8s						
PBRG	**Braganca**	**17.08**	**109**	*e*P	**Pn**	**02 46 39.2**	**-1.3**
PBRG				*i* Amb		02 46 47.6	
	comp=Z,94nm,1.3s						
PCAS	**Casmilo, Conde**	**17.11**	**117**	*e*P	**Pn**	**02 46 38.8**	**-2.1**
PCAS				*i* Amb		02 46 45.9	
	comp=Z,126nm,1.5s						
MVO	**Moncorvo**	**17.28**	**112**	*e*P	**Pn**	**02 46 42.3**	**-0.8**
MVO				*i* Amb		02 46 47.7	
	comp=Z,43nm,1.6s						
MVO				*e*LR	LR	02 50 32.9	
MVO				*i* AMs_20		02 51 54.7	
	comp=Z,3μm,20.0s						
MVO				*i* AMs_20		02 52 00.1	
	comp=Z,2μm,20.0s						
PSBE	**So Bento**	**17.30**	**119**	*e*P	**Pn**	**02 46 41.4**	**-1.9**
PSBE				*i* Amb		02 46 47.4	
	comp=Z,81nm,1.5s						
MTE	**Manteigas**	**17.44**	**114**	P	**Pn**	**02 46 43.5**	**-1.7**
MTE	**Manteigas**	**17.44**	**114**	*e*P	**Pn**	**02 46 44.2**	**-0.9**
MTE				*i* Amb		02 46 56.1	
	comp=Z,80nm,1.3s						
MTE				*e*LR	LR	02 50 41.1	
MTE				*i* AMs_20		02 52 09.2	
	comp=Z,3μm,18.0s						
LIS	**Lisbon**	**17.65**	**121**	*e*P	**Pn**	**02 46 47.8**	**+0.2**
LIS				IAMs_20	IAMs_20	02 52 09.6	
	comp=Z,2μm,21.5s						
LIS	**Lisbon**	**17.65**	**121**	*e*P	**Pn**	**02 46 47.8**	**+0.2**
PCBR	**Castelo Branco**	**17.84**	**116**	*e*P	**Pn**	**02 46 50.1**	**+0.1**
PCBR				*i* Amb		02 47 03.5	
	comp=Z,63nm,1.6s						
PMTG	**Montargil**	**17.92**	**119**	*e*P	**Pn**	**02 46 49.5**	**-1.6**
PMTG				*i* Amb		02 47 00.0	
	comp=Z,110nm,1.6s						
PMRV	**Marv??o**	**18.16**	**117**	*e*P	**Pn**	**02 46 53.8**	**-0.2**
PMRV				*i* Amb		02 47 00.5	
	comp=Z,78nm,1.5s						
PMRV				*e*LR	LR	02 51 15.7	
PMRV				*i* AMs_20		02 52 29.6	
	comp=Z,3μm,20.0s						
EVO	**Evora**	**18.41**	**120**	*e*P	**Pn**	**02 46 57.3**	**+0.3**
EVO				*i* Amb		02 46 58.2	
	comp=Z,47nm,1.3s						
PESTR	**Estremoz**	**18.42**	**118**	P	**Pn**	**02 47 00.0**	**+2.8**
PESTR	**Estremoz**	**18.42**	**118**	*e*P	**Pn**	**02 46 58.5**	**+1.3**
PESTR				*i* Amb		02 47 03.6	
	comp=Z,65nm,1.4s						
PTEO	**Sao Teotonio**	**18.72**	**123**	*e*P	**Pn**	**02 47 01.8**	**+0.9**
PTEO				*i* Amb		02 47 20.6	
	comp=Z,104nm,1.8s						
MESJ	**Messejana**	**18.79**	**122**	*e*P	**P**	**02 47 01.0**	**-0.1**
MESJ				*e*S	**Sn**	**02 50 33.1**	**+1.4**
MESJ				IAMs_20	IAMs_20	02 52 15.4	
	comp=Z,2μm,20.4s						
MESJ	**Messejana**	**18.79**	**122**	*e*P	**Pn**	**02 47 03.1**	**+1.5**
MESJ				*i* Amb		02 47 14.3	
	comp=Z,71nm,1.4s						
MESJ	**Messejana**	**18.79**	**122**	*e*P	**P**	**02 47 01.0**	**-0.1**
MESJ				*e*S	**Sn**	**02 50 33.1**	**+1.4**
DRLN	**Deer Lake**	**18.81**	**280**	P	**P**	**02 47 00.8**	**-0.6**
PBEJ	**Beja**	**18.85**	**121**	*e*P	**Pn**	**02 47 02.7**	**+0.4**
PBEJ				*i* Amb		02 47 27.4	
	comp=Z,41nm,1.7s						
PMOZ	**Porto Moniz, M**	**18.88**	**149**	*e*LR	LR	02 50 48.7	
PMOZ				*i* AMs_20		02 52 28.5	
	comp=Z,972nm,20.0s						
MORF	**Marmelete**	**18.94**	**124**	*e*P	**P**	**02 47 02.7**	**-0.2**
MORF				*e*S	**S**	**02 50 37.1**	**-0.8**
MORF				IAMs_20	IAMs_20	02 52 08.7	
	comp=Z,2μm,20.5s						
MORF	**Marmelete**	**18.94**	**124**	*e*P	**Pn**	**02 47 03.5**	**0.0**
MORF				*i* Amb		02 47 05.3	
	comp=Z,74nm,1.3s						
MORF	**Marmelete**	**18.94**	**124**	*e*P	**P**	**02 47 02.7**	**-0.2**
MORF				*e*S	**S**	**02 50 37.1**	**-0.8**
PFVI	**Vila Bisbo**	**18.97**	**124**	*e*P	**Pn**	**02 47 05.4**	**+1.6**
PFVI				*i* Amb		02 47 10.3	
	comp=Z,141nm,1.9s						
PCVE	**Castro Verde**	**19.04**	**122**	*e*P	**Pn**	**02 47 04.7**	**+0.1**
PCVE				*i* Amb		02 47 06.0	
	comp=Z,83nm,1.4s						
PBAR	**Barrancos**	**19.21**	**119**	*e*P	**Pn**	**02 47 06.6**	**-0.2**
PBAR				*i* Amb		02 47 27.3	
	comp=Z,42nm,2.0s						
PVAQ	**Vaqueiros**	**19.38**	**122**	*e*P	**P**	**02 47 07.1**	**-0.5**
PVAQ				*i* Amb		02 47 11.0	
	comp=Z,72nm,1.3s						
PVAQ				*e*LR	LR	02 51 44.6	
PVAQ				*i* AMs_20		02 53 13.2	
	comp=Z,2μm,18.0s						
PAB	**San Pablo**	**19.89**	**112**	P	**Pn**	**02 47 14.4**	**-0.5**
PAB				IAmb	IAmb	02 47 19.7	
	comp=Z,133nm,1.5s						
PAB	**San Pablo**	**19.89**	**112**	P	**Pn**	**02 47 14.4**	**-0.5**
PAB				pmax	pmax		
	comp=Z,133nm,1.5s						
ESBB	**Sonseca Array**	**20.04**	**111**	P	**P**	**02 47 14.6**	**-0.3**
ESDC	**Sonseca Array**	**20.04**	**111**	P	**P**	**02 47 14.5**	**-0.4**
ESDC	**Sonseca Array**	**20.04**	**111**	P	**P**	**02 47 14.3**	**-0.6**
	comp=Z,13nm,1.1s,baz=305,slow=8.3,SNR=30						
ESDC				LR	LR	02 53 26.3	
	comp=Z,3μm,19.8s,baz=284,slow=32						
	comp=Z,13nm,1.1s						
ICESG	**Greenland Ices**	**20.15**	**348**	*i* P	**P**	**02 47 14.6**	**-1.7**
ICESG				IAmb	IAmb	02 47 34.7	
	comp=Z,159nm,1.8s						
CLF	**Chambon-Foret**	**20.22**	**83**	P	**P**	**02 47 17.5**	**+0.7**
SFJD	**Kangerlussuaq**	**20.62**	**335**	P	**P**	**02 47 21.9**	**+1.0**
SFJD	**Kangerlussuaq**	**20.62**	**335**	P	**P**	**02 47 20.8**	**-0.1**
	comp=Z,11nm,0.8s,baz=144,slow=11,SNR=6.0						
	comp=Z,11nm,0.8s						
SFJD	**Kangerlussuaq**	**20.62**	**335**	P	**P**	**02 47 21.9**	**+1.0**
SFJD				pmax	pmax		
	comp=Z,73nm,1.8s						
SFJD	**Kangerlussuaq**	**20.62**	**335**	*i* P	**P**	**02 47 14.7**	**-6.2**
UCC	**Uccle**	**20.93**	**74**		**P**	**02 47 23.8**	**-0.5**
UCC	**Uccle**	**20.93**	**74**	*d*P	**P**	**02 47 24.0**	**-0.3**
	comp=Z,56nm,1.3s						
UCC	**Uccle**	**20.93**	**74**	P	**P**	**02 47 23.8**	**-0.5**
UCC				pmax	pmax		
	comp=Z,195nm,1.3s						
SCO	**Scoresbysund**	**21.03**	**6**	P	**P**	**02 47 29.1**	**+3.8**
SCO	**Scoresbysund**	**21.03**	**6**	P	**P**	**02 47 29.1**	**+3.8**
SCO				pmax	pmax		
	comp=Z,45nm,1.3s						
SCO	**Scoresbysund**	**21.03**	**6**	*i* P	**P**	**02 47 28.5**	**+3.2**
SCO				IAmb	IAmb	02 47 35.5	
	comp=Z,43nm,1.3s						
DOU	**Dourbes**	**21.21**	**76**	*d*P	**P**	**02 47 26.9**	**-0.5**
	comp=Z,36nm,0.9s						
BMRD	**Maredsous**	**21.27**	**76**	*d*P	**P**	**02 47 27.9**	**-0.2**
	comp=Z,31nm,1.1s						
BGES	**Gesves**	**21.46**	**75**	*d*P	**P**	**02 47 29.9**	**-0.2**
	comp=Z,31nm,1.1s						
BCLA	**Clavier**	**21.59**	**75**	*d*P	**P**	**02 47 31.4**	**-0.1**
	comp=Z,19nm,1.1s						
RCHB	**Rochefort**	**21.59**	**76**	*d*P	**P**	**02 47 30.7**	**-0.8**
	comp=Z,40nm,1.4s						
CEST	**Esterri de Car**	**21.70**	**98**	P	**P**	**02 47 34.0**	**+1.2**
BSTI	**Sart Tilman**	**21.72**	**75**	*d*P	**P**	**02 47 32.7**	**-0.2**
	comp=Z,12nm,1.2s						
BEBN	**Eben Emael**	**21.75**	**74**	*d*P	**P**	**02 47 32.6**	**-0.5**
BEBN				*d*PP	**PnPn**	**02 47 54.1**	**+0.1**
MEM	**Membach**	**21.99**	**74**	*d*P	**P**	**02 47 35.5**	**-0.3**
	comp=Z,47nm,1.2s						
BHOU	**Houvegnez**	**22.04**	**75**	*d*P	**P**	**02 47 36.3**	**-0.1**
	comp=Z,31nm,1.2s						
BTNL	**Ternell**	**22.07**	**74**	*d*P	**P**	**02 47 36.7**	**0.0**
	comp=Z,35nm,1.1s						
WLF	**Walferdange**	**22.29**	**77**	P	**P**	**02 47 40.1**	**+1.1**
WLF				IAmb	IAmb	02 47 48.7	
	comp=Z,98nm,1.6s						
WLF	**Walferdange**	**22.29**	**77**	*d*P	**P**	**02 47 38.5**	**-0.4**
	comp=Z,17nm,1.4s						
WLF	**Walferdange**	**22.29**	**77**	P	**P**	**02 47 40.1**	**+1.1**
WLF				pmax	pmax		
	comp=Z,98nm,1.6s						
ILULI	**Ilulissat**	**22.38**	**339**	P	**P**	**02 47 40.0**	**+0.2**
ILULI				IAmb	IAmb	02 47 58.4	
	comp=Z,135nm,1.5s						
ILULI	**Ilulissat**	**22.38**	**339**	P	**P**	**02 47 40.0**	**+0.2**
ILULI				pmax	pmax		
	comp=Z,135nm,1.5s						
ILULI	**Ilulissat**	**22.38**	**339**	*i* P	**P**	**02 47 39.7**	**-0.1**
ILULI				IAmb	IAmb	02 47 49.0	
	comp=Z,54nm,1.1s						
SNART	**Snartemo**	**22.41**	**54**	*i* P	**P**	**02 47 42.7**	**+2.4**
GBN	**Guysborough**	**22.59**	**272**	P	**P**	**02 47 39.9**	**-2.3**
SSB	**Saint Sauveur**	**22.64**	**89**	P	**P**	**02 47 43.1**	**+0.3**
SSB	**Saint Sauveur**	**22.64**	**89**	P	**P**	**02 47 43.1**	**+0.3**
SSB				pmax	pmax		
	comp=Z,45nm,1.2s						
AVE	**Averroes**	**22.66**	**129**	P	**P**	**02 47 41.8**	**-1.2**
HOMB	**Homborsund**	**23.09**	**54**	*i* P	**P**	**02 47 47.7**	**+0.4**
JMIC	**Jan Mayen**	**23.25**	**16**	LR	LR	02 54 32.7	
	comp=Z,878nm,19.2s,baz=248,slow=31						
SUMG	**Summit**	**23.34**	**352**	P	**P**	**02 47 51.0**	**+0.7**
SUMG				IAmb	IAmb	02 48 04.4	
	comp=Z,97nm,1.7s						
SUMG	**Summit**	**23.34**	**352**	P	**P**	**02 47 51.0**	**+0.7**
SUMG				pmax	pmax		
	comp=Z,97nm,1.7s						
SUMG	**Summit**	**23.34**	**352**	*i* P	**P**	**02 47 50.4**	**+0.1**
SUMG				IAmb	IAmb	02 48 00.0	
	comp=Z,24nm,1.1s						
MUD	**Monsted U'grnd**	**23.35**	**59**	*i* P	**P**	**02 47 49.0**	**-1.0**
MUD				IAmb	IAmb	02 47 56.4	
	comp=Z,352nm,2.3s						
GOET	**G??ttrup**	**23.39**	**57**	*i* P	**P**	**02 47 51.8**	**+1.4**
GOET				IAmb	IAmb	02 48 01.0	
	comp=Z,446nm,1.9s						
UMMG	**Uummannaq**	**23.73**	**341**	*i* P	**P**	**02 47 52.8**	**-0.8**
UMMG				IAmb	IAmb	02 48 10.5	
	comp=Z,166nm,1.8s						
SCHQ	**Schefferville**	**23.79**	**297**	P	**P**	**02 47 53.1**	**-1.3**
SCHQ				IAmb	IAmb	02 48 12.2	
	comp=Z,70nm,1.6s						
SCHQ	**Schefferville**	**23.79**	**297**	P	**P**	**02 47 52.5**	**-1.8**
	comp=Z,13nm,0.7s,baz=88,slow=8.9,SNR=25						
SCHQ				LR	LR	02 55 42.3	
	comp=Z,1μm,19.6s,baz=89,slow=33						
	comp=Z,13nm,0.7s						
KONO	**Kongsberg**	**23.81**	**51**	*i* P	**P**	**02 47 55.8**	**+1.3**
KONO				pmax	pmax		
	comp=Z,14nm,1.0s						
BFO	**Black Forest**	**24.02**	**79**	P	**P**	**02 47 56.6**	**-0.1**
BFO	**Black Forest**	**24.02**	**79**	P	**P**	**02 47 56.6**	**-0.1**
BFO				pmax	pmax		
	comp=Z,36nm,1.3s						
HAL	**Halifax**	**24.25**	**271**	P	**P**	**02 47 56.8**	**-1.9**
HAL				IAmb	IAmb	02 48 11.7	
	comp=Z,47nm,1.1s						
HAL	**Halifax**	**24.25**	**271**	P	**P**	**02 47 56.8**	**-1.9**
HAL				pmax	pmax		
	comp=Z,47nm,1.1s						
MDT	**Midelt**	**24.50**	**125**	P	**P**	**02 48 01.1**	**-0.1**
	comp=Z,12nm,0.8s,baz=338,slow=10,SNR=14						
	comp=Z,12nm,0.8s						
STRU	**Stroemstad**	**24.55**	**53**	*i* P	**P**	**02 47 59.9**	**-1.4**
NAO01	**NORSAR Array S**	**24.62**	**48**	IAmb	IAmb	02 48 24.4	
	comp=Z,83nm,1.6s						
NC204	**NORSAR Array S**	**24.63**	**47**	IAmb	IAmb	02 48 06.5	
	comp=Z,81nm,1.4s						
NB2	**NORSAR Subarra**	**24.80**	**48**	P	**P**	**02 48 04.0**	**+0.3**
	comp=Z,47nm,1.4s,baz=261,slow=9.3						
NB2	**NORSAR Subarra**	**24.80**	**48**	P	**P**	**02 48 04.0**	**+0.3**
	baz=261,slow=9.3						
NOA	**NORSAR Array B**	**24.80**	**48**	P	**P**	**02 48 04.1**	**+0.3**
	comp=Z,12nm,1.2s,baz=262,slow=9.9,SNR=6.6						
NOA				LR	LR	02 57 12.1	
	comp=Z,2μm,18.3s,baz=260,slow=35						
	comp=Z,12nm,1.2s						
ONAU	**Onsala**	**24.86**	**57**	*i* P	**P**	**02 48 06.8**	**+2.7**
DBG	**Daneborg**	**24.90**	**5**	*i* P	**P**	**02 48 06.6**	**+2.2**
DBG				IAmb	IAmb	02 48 11.8	
	comp=Z,23nm,1.2s						
NC303	**NORSAR Array S**	**24.91**	**47**	IAmb	IAmb	02 48 19.0	
	comp=Z,46nm,1.2s						
NC405	**NORSAR Array S**	**25.06**	**48**	P	**P**	**02 48 06.7**	**+0.7**
BORU	**Boraas**	**25.32**	**56**	*i* P	**P**	**02 48 08.3**	**0.0**
DAVA	**Damuels**	**25.35**	**81**	*e*P	**P**	**02 48 10.8**	**+1.9**
	comp=Z,8.2nm,1.0s						
GRA1	**Grafenberg Arr**	**25.47**	**75**	IAmb	IAmb	02 48 23.0	
	comp=Z,50nm,1.2s						
GRFO	**Grafenberg**	**25.47**	**75**	P	**P**	**02 48 09.9**	**+0.1**
GRFO				IAmb	IAmb	02 48 22.9	
	comp=Z,46nm,1.2s						
GRFO	**Grafenberg**	**25.47**	**75**	P	**P**	**02 48 09.9**	**+0.1**
GRFO				pmax	pmax		
	comp=Z,46nm,1.2s						
FRB	**Frobisher Bay**	**25.52**	**318**	LR	LR	02 55 44.6	
	comp=Z,1μm,21.6s,baz=107,slow=31						
DAVOX	**Davos/Dischmat**	**25.52**	**82**	LR	LR	02 57 51.4	
	comp=Z,3μm,18.7s,baz=298,slow=36						
FUORN	**Ofenpass-Fuorn**	**25.83**	**82**	IAmb	IAmb	02 48 24.2	
	comp=Z,38nm,1.2s						
RETA	**Reutte**	**25.84**	**80**	*i* P	**P**	**02 48 13.7**	**+0.4**
	comp=Z,7.0nm,1.2s,SNR=10.0						
HFS	**Hagfors**	**25.91**	**50**	P	**P**	**02 48 13.8**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=257,slow=14,SNR=4.0						
HFS				LR	LR	02 58 04.0	
	comp=Z,2μm,18.1s,baz=273,slow=36						
	comp=Z,4.4nm,1.0s						
DEL	**Delary**	**25.95**	**59**	*i* P	**P**	**02 48 17.8**	**+3.7**
FETA	**Feichten**	**25.98**	**81**	*e*P	**P**	**02 48 14.6**	**-0.1**
	comp=Z,5.8nm,0.9s						
NKC	**Novy Kostel**	**26.09**	**73**	AMS	AMS	02 57 40.0	
	comp=Z,3μm,19.1s						
MOTA	**Moosalm**	**26.11**	**80**	*e*P	**P**	**02 48 16.3**	**+0.5**
	comp=Z,8.0nm,1.3s						
CLL	**Collm**	**26.17**	**71**	*i* P	**P**	**02 48 15.8**	**-0.3**
CLL				*i*		02 48 21.9	
CLL				*e*S	**S**	**02 52 49.0**	**+1.3**
CLL				pmax	pmax		
	comp=Z,12nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2μm,18.6s						
CLL	**Collm**	**26.17**	**71**	*i* P	**P**	**02 48 15.8**	**-0.3**
	comp=Z,12nm,1.4s						
CLL				*i* (pP)	**sP**	**02 48 19.9**	**+0.6**
	comp=Z,27nm,1.4s						
CLL				*i* x	x	02 48 21.9	
	comp=Z,35nm,1.4s						
CLL				*i* x	x	02 48 24.8	
	comp=Z,

PRU	Pruhonice	27.45	73	AMS	AMS	02 58 20.0	
	comp=Z,2μm,20.7s						
BIOA	Bad Ischl, Aus	27.61	78	*i* P	P	02 48 29.3	+0.2
	comp=Z,5.2nm,1.1s,SNR=7.3						
GOPC	GO Pecny, Ondr	27.63	73	AMS	AMS	02 58 30.0	
	comp=Z,3μm,17.2s						
KBA	Koelnbreinsper	27.63	79	*e*pP	P	02 48 31.6	+2.0
	comp=Z,3.2nm,0.8s						
CKRC	Cesky Krumlov	27.66	75	AMS	AMS	02 58 10.0	
	comp=Z,2μm,21.3s						
MOA	Molln	27.95	77	P	P	02 48 32.8	+0.7
	comp=Z,3.7nm,1.5s						
MYKA	Terra Mystica	27.99	80	*i* P	P	02 48 32.8	+0.2
	comp=Z,7.9nm,1.0s,SNR=10						
PRED	Cave del Predi	28.01	80	IAmb	IAmb	02 48 41.0	
	comp=Z,43nm,1.3s						
SABO	M.te Sabotino	28.21	81	IAmb	IAmb	02 48 58.9	
	comp=Z,31nm,1.1s						
UPC	Upice	28.22	71	AMS	AMS	02 59 20.0	
	comp=Z,2μm,17.4s						
CHVC	Chvalec	28.22	71	*e*P	P	02 48 33.6	-1.0
CHVC				AMS	AMS	02 59 30.0	
	comp=Z,2μm,16.8s						
CHVC	Chvalec	28.22	71	*e*P	P	02 48 33.6	-1.0
CHVC				MLR	MLR		
	comp=Z,2μm,16.8s						
TREC	Trest	28.25	74	AMS	AMS	02 59 10.0	
	comp=Z,2μm,18.7s						
GKP	Gorka Klasztor	28.30	65	*e*P	P	02 48 38.5	+3.3
KSP	Ksiaz	28.30	70	*e*P	P	02 48 35.4	+0.1
DPC	Dobruska-Polom	28.45	71	AMS	AMS	02 59 20.0	
	comp=Z,2μm,18.8s						
OBKA	Obir	28.61	80	*e*P	P	02 48 37.7	-0.5
	comp=Z,7.4nm,1.1s						
KRLC	Kraliky	28.81	72	AMS	AMS	02 59 50.0	
	comp=Z,2μm,20.0s						
SOKA	Soboth	28.86	79	*i* P	P	02 48 39.6	-0.8
	comp=Z,6.8nm,1.1s,SNR=7.7						
KRUC	Moravsky	28.88	74	*e*P	P	02 48 41.6	+1.1
CONA	Conrad Observa	28.93	76	*e*P	P	02 48 41.0	+0.1
	comp=Z,1.5nm,0.9s						
VRAC	Vranov	28.93	73	LR	LR	02 59 50.4	
	comp=Z,2μm,18.7s,baz=288,slow=36						
VRAC	Vranov	28.93	73	*e*P	P	02 48 42.0	+1.1
ARSA	Arzberg	28.96	78	*e*pP	pP	02 48 42.3	-1.1
	comp=Z,3.2nm,0.8s						
NEEM	North Greenlan	29.12	350	*i* P	P	02 48 42.2	-0.4
NEEM				IAmb	IAmb	02 48 51.6	
	comp=Z,18nm,1.1s						
RONA	Rosalia, Austr	29.28	77	*e*pP	P	02 48 46.7	+2.6
	comp=Z,4.2nm,1.0s						
MORC	Moravsky Berou	29.37	72	*e*P	P	02 48 44.7	-0.1
STEB	Steborice	29.47	72	*e*P	P	02 48 44.6	-1.0
MODS	Modra-Piesok	29.66	75	*e*P	P	02 48 47.7	+0.3
MODS				pmax	pmax		
	comp=Z,28nm,1.3s						
MODS	Modra-Piesok	29.66	75	*e*P	P	02 48 47.7	+0.3
SMOL	Smolenice	29.71	74	*e*P	P	02 48 50.0	+2.2
SMOL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SRO	Srobarova	30.51	75	*e*P	P	02 48 57.2	+2.4
SRO				pmax	pmax		
	comp=Z,20nm,1.2s						
SRO	Srobarova	30.51	75	*e*P	P	02 48 57.2	+2.4
OJC	Ojcow	30.62	70	*e*P	P	02 48 56.4	+0.6
TRQ	Mont Tremblant	30.66	281	P	P	02 48 55.2	-1.1
KEST	Kesra	30.75	103	P	P	02 48 56.7	-0.5
	comp=Z,12nm,0.9s,baz=258,slow=3.7,SNR=7.6						
KEST				LR	LR	03 00 22.4	
	comp=Z,1μm,20.2s,baz=273,slow=34						
	comp=Z,12nm,0.9s						
LANS	Liptovska Anna	30.76	72	*e*P	P	02 48 59.7	+2.6
LANS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LANS	Liptovska Anna	30.76	72	*e*P	P	02 48 59.7	+2.6
TULEG	Thule	31.16	343	*i* P	P	02 49 00.8	+0.5
TULEG				IAmb	IAmb	02 49 04.7	
	comp=Z,11nm,0.7s						
NIE	Niedzica	31.19	72	*e*P	P	02 49 04.3	+3.5
LONY	Lake Ozonia	31.36	279	IAmb	IAmb	02 49 34.1	
	comp=Z,59nm,1.6s						
PSZ	Piszkesteto	31.46	74	IAmb	IAmb	02 49 11.9	
	comp=Z,28nm,1.2s						
FINES	FINESS Array B	31.99	48	P	P	02 49 07.4	-0.3
	comp=Z,6.6nm,0.8s,baz=266,slow=7.7,SNR=16						
FINES				LR	LR	03 01 07.1	
	comp=Z,2μm,20.1s,baz=276,slow=35						
	comp=Z,6.6nm,0.8s						
ARCES	ARCESS Array B	32.16	32	P	P	02 49 09.0	-0.2
	comp=Z,3.6nm,0.6s,baz=249,slow=8.6,SNR=16						
ARCES				LR	LR	03 01 16.1	
	comp=Z,376nm,20.4s,baz=260,slow=35						
	comp=Z,3.6nm,0.6s						
ARCES	ARCESS Array B	32.16	32	P	P	02 49 09.0	-0.2
NOR	Nord	32.21	3	*i* P	P	02 49 08.2	-1.3
NOR				IAmb	IAmb	02 49 23.0	
	comp=Z,32nm,1.4s						
KOLS	Kolonicke sedl	32.57	72	*e*P	P	02 49 15.1	+2.1
KOLS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KOLS	Kolonicke sedl	32.57	72	*e*P	P	02 49 15.1	+2.1
KWP	Kalwaria Pacla	32.59	70	*e*P	P	02 49 15.5	+2.4
VSU	Vasula	32.66	53	*i* P	P	02 49 10.3	-3.3
VSU				pmax	pmax		
	comp=Z,16nm,0.9s						
VAE	Valguarnera	32.95	95	LR	LR	03 00 46.1	
	comp=Z,902nm,22.0s,baz=294,slow=33						
NACGM	Naroch	33.41	60	*e*P	P	02 49 21.1	+0.9
	comp=Z,741nm,1.4s						
MNK	Minsk	34.13	60	*i* P	P	02 49 29.0	+2.5
	comp=E,18nm,0.9s						
MNK				*i* P	P	02 49 29.0	+2.5
	comp=N,21nm,1.1s						
MNK				*i* P	P	02 49 29.0	+2.5
	comp=Z,22nm,0.9s,baz=285						
MNK				*i* PP	PP	02 50 44.2	+0.7
MNK				*i* PPP	PPP	02 50 56.2	
MNK				*i* S	S	02 54 57.1	+4.9
MNK				*i* SS	SS	02 57 11.0	-8.5
MNK				*i* SSS	SSS	02 57 27.0	
MNK				*i* LR	LR	03 00 33.2	
MNK				*i* LRM	MLR	03 02 38.5	
	comp=E,814nm,18.4s						
MNK				*i* LRM	MLR	03 02 54.4	
	comp=N,1μm,16.4s						
MNK				*i* LRM	MLR	03 03 07.3	
	comp=Z,1μm,19.0s						
MNK	Minsk	34.13	60	*i* P	P	02 49 29.0	+2.5
MNK				*i*		02 50 44.2	
MNK				*i* PPP	PPP	02 50 56.2	
MNK				*i* S	S	02 54 57.1	+4.9
MNK				*i* SSS	SSS	02 57 26.9	
MNK				pmax	pmax		
	comp=Z,22nm,0.9s						
MNK				pmax	pmax		
	comp=E,18nm,0.9s						
MNK				pmax	pmax		
	comp=N,21nm,1.1s						
MNK				MLR	MLR		
	comp=E,814nm,18.0s						
MNK				MLR	MLR		
	comp=N,1μm,16.0s						
MNK				MLR	MLR		
	comp=Z,1μm,19.0s						
SADO	Sadowa	34.20	281	P	P	02 49 26.8	-0.4
SADO				IAmb	IAmb	02 49 40.5	
	comp=Z,23nm,1.2s						
SADO	Sadowa	34.20	281	LR	LR	03 02 07.3	
	comp=Z,2μm,19.3s,baz=63,slow=34						
MVL	Millersville	34.76	272	IAmb	IAmb	02 49 56.1	
	comp=Z,46nm,1.4s						
BUR08	Bucovina Ar. S	34.87	72	IAmb	IAmb	02 49 41.2	
	comp=Z,29nm,1.6s						
BURAR	Bucovina Array	34.89	72	P	P	02 49 33.9	+0.6
APA	Apatity	34.91	36	‖ *i* P	P	02 49 30.0	-3.1
APA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBN	Korca	35.34	86	IAmb	IAmb	02 49 52.2	
	comp=Z,40nm,1.1s						
SSPA	Standing Stone	35.42	274	P	P	02 49 37.8	0.0
SSPA				IAmb	IAmb	02 49 42.6	
	comp=Z,50nm,1.6s						
EUNU	Eureka	35.97	345	P	P	02 49 43.3	+1.1
EUNU				IAmb	IAmb	02 50 13.7	
	comp=Z,29nm,1.4s						
ERPA	Erie	36.01	278	IAmb	IAmb	02 49 45.9	
	comp=Z,20nm,0.8s						
KIEV	Kiev	36.12	66	P	P	02 49 42.7	-0.9
KIEV				IAmb	IAmb	02 49 56.8	
	comp=Z,48nm,1.6s						
KIEV	Kiev	36.12	66	P	P	02 49 42.7	-0.9
KIEV				pmax	pmax		
	comp=Z,48nm,1.7s						
AKASG	Malin Array Be	36.12	66	P	P	02 49 42.3	-1.4
	comp=Z,1.3nm,0.5s,baz=288,slow=8.7,SNR=12						
AKASG				LR	LR	03 05 12.3	
	comp=Z,2μm,19.1s,baz=286,slow=37						
	comp=Z,1.3nm,0.5s						
AKASG	Malin Array Be	36.12	66	*c i* P	P	02 49 42.9	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKBB	Malin Array Si	36.12	66	IAmb	IAmb	02 49 56.8	
	comp=Z,49nm,1.6s						
AKBB	Malin Array Si	36.12	66	*c e*P	P	02 49 42.5	-1.2
AKBB				pmax	pmax		
	comp=Z,12nm,1.3s						
MLR	Muntele Rosu	36.26	75	IAmb	IAmb	02 49 53.4	
	comp=Z,27nm,1.3s						
MLR	Muntele Rosu	36.26	75	LR	LR	03 03 56.3	
	comp=Z,1μm,21.6s,baz=308,slow=35						
BBTS	Babate	36.32	160	LR	LR	03 01 52.3	
	comp=Z,350nm,19.5s,baz=233,slow=32						
ALLY	Alegheny Colle	36.35	277	IAmb	IAmb	02 49 48.9	
	comp=Z,33nm,1.1s						
RES	Resolute Bay	36.62	336	LR	LR	03 03 49.7	
	comp=Z,660nm,18.3s,baz=65,slow=35						
R58B	Mineral	36.88	271	IAmb	IAmb	02 49 51.0	
	comp=Z,19nm,0.9s						
Q56A	Snyder Ridge,	37.12	273	IAmb	IAmb	02 49 56.2	
	comp=Z,41nm,0.9s						
N53A	Lisbon	37.23	277	IAmb	IAmb	02 50 06.3	
	comp=Z,77nm,1.6s						
KIS	Kishinev	37.37	72	*e*P	P	02 49 53.0	-1.4
	comp=Z,9.0nm,0.6s						
KIS				*e*L	L	03 02 11.0	
KIS				LRM	MLR	03 04 56.0	
	comp=Z,600nm,18.5s						
KIS	Kishinev	37.37	72	*e*P	P	02 49 53.0	-1.4
KIS				pmax	pmax		
	comp=Z,90nm,0.6s						
MILM	Milestii Mici	37.41	72	*e*P	P	02 49 54.0	-0.6
MILM				*e*L	L	03 02 14.0	
MILM				LRM	MLR	03 04 59.0	
	comp=Z,2μm,20.0s						
MILM	Milestii Mici	37.41	72	*e*P	P	02 49 54.0	-0.6
MILM				MLR	MLR		
	comp=Z,2μm,20.0s						
S57A	Dark Hollow, R	37.69	271	IAmb	IAmb	02 49 58.7	
	comp=Z,48nm,1.3s						
O53A	New Philadelph	37.77	276	IAmb	IAmb	02 50 01.5	
	comp=Z,63nm,1.3s						
TAM	Tamanrasset	37.87	123	P	P	02 49 59.0	0.0
TAM	Tamanrasset	37.87	123	P	P	02 49 59.0	0.0
TAM				pmax	pmax		
	comp=Z,11nm,0.9s						
RDO	Rodhopi	38.12	82	IAmb	IAmb	02 50 08.9	
	comp=Z,37nm,1.2s						
N51A	Ashland	38.16	278	IAmb	IAmb	02 50 03.5	
	comp=Z,84nm,1.7s						
O52A	Adamsville	38.25	276	IAmb	IAmb	02 50 05.4	
	comp=Z,44nm,1.0s						
P53A	Whipple	38.30	275	IAmb	IAmb	02 50 06.0	
	comp=Z,44nm,1.0s						
KLMR	Klimovskoe	38.50	47	*e*P	P	02 50 02.2	-1.6
KLMR				S	S	02 55 55.9	-3.0
KLMR				SS	SnSn	02 58 37.3	-7.8
KLMR				pmax	pmax		
	comp=Z,40nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,1μm,14.0s						
P52A	Corning	38.70	276	IAmb	IAmb	02 50 09.0	
	comp=Z,29nm,1.0s						
OBN	Obninsk	38.73	56	LR	LR	03 06 10.8	
	comp=Z,737nm,18.7s,baz=318,slow=36						
OBN	Obninsk	38.73	56	*e*P	P	02 50 06.0	+0.3
OBN				*i*		02 51 35.3	
OBN				*i*		02 52 17.2	
OBN				*e*S	S	02 56 06.9	+4.5
OBN				pmax	pmax		
	comp=Z,34nm,1.2s						
OBN				MLR	MLR		
	comp=Z,1μm,17.0s						
ACSO	Alum Creek Sta	38.92	277	IAmb	IAmb	02 50 11.1	
	comp=Z,35nm,1.0s						
Q52A	Bidwell	39.16	275	IAmb	IAmb	02 50 22.4	
	comp=Z,36nm,1.2s						
N49A	Columbus Grove	39.32	279	IAmb	IAmb	02 50 14.2	
	comp=Z,31nm,1.1s						
U56A	King	39.45	270	IAmb	IAmb	02 50 15.5	
	comp=Z,42nm,1.1s						
O49A	Covington	39.81	278	IAmb	IAmb	02 50 27.8	
	comp=Z,34nm,1.2s						
SSFO	Shawnee State	39.91	275	IAmb	IAmb	02 50 19.0	
	comp=Z,35nm,0.9s						
V55A	Taylorsville	40.28	270	P	P	02 50 18.2	-0.7
V55A				IAmb	IAmb	02 50 32.6	
	comp=Z,65nm,1.6s						
EYMN	Ely	40.42	292	P	P	02 50 19.5	-0.5
S51A	Beattyville	40.77	274	IAmb	IAmb	02 50 35.3	
	comp=Z,34nm,1.3s						
Y57A	Sumter	40.87	267	IAmb	IAmb	02 50 24.6	
	comp=Z,31nm,0.8s						
R50A	Paris	40.87	276	IAmb	IAmb	02 50 27.0	
	comp=Z,28nm,1.1s						
G40A	Rib Lake	40.90	288	P	P	02 50 24.2	+0.3
P48A	Milroy	40.92	278	P	P	02 50 23.8	-0.3
LPSR	Galich'ya Gora	40.97	59	*e*P	P	02 50 24.6	+0.2
LPSR				pmax	pmax		
	comp=Z,25nm,1.3s						
IDI	Anoyia	41.04	90	LR	LR	03 09 25.8	
	comp=Z,669nm,18.1s,baz=297,slow=39						
E38A	The Farm, Brul	41.08	291	P	P	02 50 24.6	-0.8
JSC	Jenkinsville	41.27	268	IAmb	IAmb	02 50 30.3	
	comp=Z,43nm,1.2s						
TZTN	Tazewell	41.38	273	P	P	02 50 27.7	-0.3
R49A	Shelbyville	41.41	276	IAmb	IAmb	02 50 40.4	
	comp=Z,43nm,1.4s						
VORR	Voronezh	41.51	60	*e*P	P	02 50 28.6	-0.2
VORR				pmax	pmax		
	comp=Z,21nm,1.3s						
VSR	Storozhevoye	41.68	61	*e*P	P	02 50 28.6	-1.7
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VORD	Divnogorie	41.87	61	*e*P	P	02 50 30.4	-1.3
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BG3	Lake Jocassee	41.91	271	IAmb	IAmb	02 50 33.1	
	comp=Z,21nm,0.8s						
T50A	Nancy	41.94	274	IAmb	IAmb	02 50 35.9	
	comp=Z,31nm,1.0s						
ULM	Lac du Bonnet	41.96	298	P	P	02 50 30.9	-1.7
	comp=Z,9.0nm,0.8s,baz=62,slow=7.2,SNR=19						
ULM				LR	LR	03 05 59.7	
	comp=Z,638nm,20.4s,baz=70,slow=33						
	comp=Z,9.0nm,0.8s						
ULM	Lac du Bonnet	41.96	298	*i* P	P	02 50 31.9	-0.7
TKL	Tuckaleechee C	42.06	272	LR	LR	03 07 45.0	
	comp=Z,1μm,19.6s,baz=66,slow=36						
WCI	Wyandotte Cave	42.17	277	P	P	02 50 34.4	0.0
WCI	Wyandotte Cave	42.17	277	P	P	02 50 34.4	0.0
WCI				pmax	pmax		
	comp=Z,20nm,0.9s						
CPCT	Cooper Cave	42.67	272	IAmb	IAmb	02 50 41.8	
	comp=Z,23nm,0.9s						
U49A	Red Boiling Sp	42.84	274	IAmb	IAmb	02 50 43.1	
	comp=Z,25nm,1.0s						
VRH	Novokhopyorsk	43.13	60	*e*P	P	02 50 41.6	-0.4
VRH				pmax	pmax		
	comp=Z,23nm,1.3s						
L40A	Anamosa	43.18	285	IAmb	IAmb	02 50 59.8	
	comp=Z,33nm,1.0s						
W50A	Signal Mountai	43.33	273	IAmb	IAmb	02 50 47.3	
	comp=Z,28nm,1.0s						
FFC	Flin Flon	43.38	306	P	P	02 50 43.8	-0.2
FFC	Flin Flon	43.38	306	P	P	02 50 43.8	-0.2
FFC				pmax	pmax		
	comp=Z,11nm,1.2s						
I37A	Lemond, Waseca	43.50	288	IAmb	IAmb	02 51 06.5	
	comp=Z,50nm,1.6s						
Q44A	Meyer Farm, Va	43.53	279	IAmb	IAmb	02 50 48.5	
	comp=Z,43nm,1.1s						
SJG	San Juan	43.65	237	LR	LR	03 05 52.7	
	comp=Z,389nm,21.6s,baz=36,slow=32						
N41A	Harden Midland	43.69	283	IAmb	IAmb	02 50 49.9	
	comp=Z,36nm,1.0s						
ANN	Anapa	43.70	70	*e*P	P	02 50 50.8	+4.1
ANN				pmax	pmax		
	comp=Z,92nm,1.1s						
SWET	Sewanee	43.72	273	IAmb	IAmb	02 50 56.0	
	comp=Z,84nm,1.9s						
UUPR	Utuado, UPR, P	43.85	238	IAmb	IAmb	02 50 51.0	
	comp=Z,19nm,0.8s						
V48A	Smith Brothers	43.98	274	IAmb	IAmb	02 50 52.3	
	comp=Z,30nm,1.0s						
KIRV	Kirov	43.98	48	LR	LR	03 08 55.6	
	comp=Z,2μm,18.6s,baz=297,slow=36						
BR131	Keskin Array S	44.08	79	P	P	02 50 49.9	-0.1
BR131	Keskin Array S	44.08	79	*i* P	P	02 50 49.6	-0.4
BRTR	Keskin Array B	44.08	79	P	P	02 50 50.4	+0.4
BRTR	Keskin Array B	44.08	79	P	P	02 50 50.6	+0.6
	comp=Z,5.3nm,1.1s,baz=297,slow=5.4,SNR=10.0						
BRTR				PcP	PcP	02 52 35.2	+0.1
	comp=Z,3.9nm,1.1s,baz=288,slow=1.4,SNR=5.5						
BRTR				LR	LR	03 10 16.3	
	comp=Z,479nm,18.7s,baz=299,slow=38						
	comp=Z,5.3nm,1.1s						
BRTR	Keskin Array B	44.08	79	P	P	02 50 50.4	+0.4
TORD	Torodi Ar. Bea	44.09	135	P	P	02 50 48.0	-2.0
TORD	Torodi Ar. Bea	44.09	135	P	P	02 50 48.1	-2.0
	comp=Z,5.5nm,0.7s,baz=350,slow=7.5,SNR=6.6						
	comp=Z,5.5nm,0.7s						
152A	Waverly Hall	44.53	269	IAmb	IAmb	02 51 06.4	
	comp=Z,46nm,1.5s						
X48A	Hartselle	44.91	273	IAmb	IAmb	02 51 05.4	
	comp=Z,46nm,1.7s						
P40A	Paris	45.11	282	IAmb	IAmb	02 51 10.3	
	comp=Z,29nm,1.4s						
N38A	Joes South For	45.14	284	IAmb	IAmb	02 51 01.1	
	comp=Z,39nm,1.3s						
A36M	Sachs Harbour	45.62	334	P	P	02 51 01.2	-0.4
	baz=64						
ECSD	EROS Data Cent	45.62	290	IAmb	IAmb	02 51 15.8	
	comp=Z,20nm,1.1s						
SOC	Sochi	45.74	70	*e*P	P	02 51 02.2	-0.8
SOC				*e*		02 52 47.9	
SOC				*e*PPP	PPP	02 53 28.5	
SOC				*e*S	S	02 57 47.7	+1.6
SOC				*e*SSS	SSS	03 02 04.0	
SOC				MLR	MLR		
	comp=Z,480nm,15.0s						
LRAL	Lakeview Retre	45.77	271	IAmb	IAmb	02 51 06.3	
	comp=Z,18nm,1.1s						
SDDR	Presa de Saban	45.86	244	IAmb	IAmb	02 51 07.6	
	comp=Z,26nm,1.0s						
T42A	Van Buren	45.96	279	IAmb	IAmb	02 51 07.2	
	comp=Z,26nm,1.1s						
R40A	Maddies Statio	45.96	281	IAmb	IAmb	02 51 06.8	
	comp=Z,20nm,1.2s						
P38A	Dawn	45.99	283	IAmb	IAmb	02 51 17.3	
	comp=Z,32nm,1.2s						
YKA	Yellowknife Ar	46.02	320	P	P	02 51 04.7	-0.3
	comp=Z,3.1nm,0.9s,baz=66,slow=7.6,SNR=24						
YKA				PcP	PcP	02 52 41.1	-0.2
	comp=Z,0.2nm,0.5s,baz=57,slow=3.9,SNR=4.6						
YKA				LR	LR	03 08 05.2	
	comp=Z,316nm,19.4s,baz=76,slow=33						
	comp=Z,3.1nm,0.9s						
YKA	Yellowknife Ar	46.02	320	*c e*P	P	02 51 05.0	+0.1
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
C36M	Paulatuk	46.44	331	P	P	02 51 07.7	-0.5
	baz=63						
LCAR	Lake Charles	46.58	278	IAmb	IAmb	02 51 11.7	
	comp=Z,25nm,1.1s						
N35A	Tabor	46.61	286	IAmb	IAmb	02 51 12.3	
	comp=Z,25nm,1.0s						
MGMO	Mountain Grove	46.64	280	IAmb	IAmb	02 51 12.9	
	comp=Z,27nm,1.1s						
CSS	Mathiatis	46.70	84	P	P	02 51 14.4	+3.7
CSS				IAmb	IAmb	02 52 51.7	
	comp=Z,29nm,1.5s						
NMDO	Nuevo Mundo	46.83	249	IAmb	IAmb	02 51 14.0	
	comp=Z,16nm,1.0s						
GOF	Gofitskoye	46.96	67	*c e*P	P	02 51 04.3	-8.2
DBIC	Dimbokro	47.30	147	P	P	02 51 15.1	-0.3
	comp=Z,4.7nm,0.7s,baz=334,slow=7.7,SNR=2.2						
DBIC				LR	LR	03 09 07.7	
	comp=Z,937nm,20.3s,baz=328,slow=34						
	comp=Z,4.7nm,0.7s						
FCAR	Ozark Folk Cen	47.31	278	IAmb	IAmb	02 51 27.1	
	comp=Z,29nm,1.5s						
KIV	Kislovodsk	47.34	68	*e*P	P	02 51 14.5	-1.2
KIV				*e*S	S	02 58 09.4	+0.1
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,499nm,16.0s						
KVAR	Kislovodsk Arr	47.35	68	LR	LR	03 12 31.9	
	comp=Z,736nm,18.3s,baz=295,slow=38						
DGMT	Dagmar	47.58	299	IAmb	IAmb	02 51 31.6	
	comp=Z,21nm,1.1s						
KBZ	Khabaz	47.59	68	P	P	02 51 18.2	+0.7
	comp=Z,1.3nm,0.8s,baz=309,slow=6.5,SNR=2.1						
KBZ				LR	LR	03 12 46.1	
	comp=Z,585nm,18.3s,baz=306,slow=38						
	comp=Z,1.3nm,0.8s						
KBZ	Khabaz	47.59	68	*i* P	P	02 51 19.0	+1.5
KBZ				pmax	pmax		
	comp=Z,17nm,2.2s						
UALR	University of	48.14	277	IAmb	IAmb	02 51 24.1	
	comp=Z,31nm,1.3s						
CHIV	Chivirico	48.14	250	IAmb	IAmb	02 51 24.4	
	comp=Z,30nm,1.0s						
HHAR	Hobbs	48.23	280	IAmb	IAmb	02 51 34.4	
	comp=Z,26nm,1.4s						
U38A	Gravette	48.42	280	IAmb	IAmb	02 51 31.1	
	comp=Z,22nm,1.5s						
MDP	Montagnes des	48.94	213	LR	LR	03 08 10.4	
	comp=Z,178nm,18.4s,baz=328,slow=31						
WRGLY	Wrigley	49.23	323	IAmb	IAmb	02 51 37.6	
	comp=Z,22nm,1.3s						
WRGLY	Wrigley	49.23	323	P	P	02 51 28.5	-1.3
	baz=59						
MMAI	Mount Meron Ar	49.26	85	P	P	02 51 31.2	+0.6
	comp=Z,12nm,1.1s,baz=332,slow=5.1,SNR=8.5						
MMAI				LR	LR	03 13 32.6	
	comp=Z,410nm,20.1s,baz=284,slow=38						
	comp=Z,12nm,1.1s						
ARTI	Arti	49.29	47	P	P	02 51 29.4	-1.0
ARTI				IAmb	IAmb	02 51 43.3	
	comp=Z,18nm,1.1s						
ARTI	Arti	49.29	47	LR	LR	03 12 11.8	
	comp=Z,1μm,18.6s,baz=299,slow=36						
ARTI	Arti	49.29	47	*c i* P	P	02 51 32.6	+2.2
ARTI						02 53 18.7	
ARTI				S	S	02 58 42.3	+6.0
ARTI				SS	SS	03 02 11.6	+4.5
ARTI				pmax	pmax		
	comp=Z,14nm,1.1s						
ARTI				MLR	MLR		
	comp=Z,1μm,18.0s						
PCRV	Puerto La Cruz	49.52

comp=Z,372nm,20.6s,baz=340,slow=37
OK029 Liberty Lake 50.77 282 IAmb IAmb 02 51 44.2
comp=Z,34nm,1.1s
GNI Garni 50.78 71 LR LR 03 16 07.7
comp=Z,375nm,18.2s,baz=320,slow=40
MAK Makhachkala 50.80 67 *e*P **P** **02 51 39.0 -3.0**
MAK *e* 02 53 33.0
MAK *e*S **S** **02 58 54.9 -2.7**
MAK *e*SS **SS** **03 02 32.1 +0.5**
MAK pmax pmax
comp=Z,55nm,1.2s
MAK MLR MLR
comp=Z,1μm,18.0s
D28M Stokes Point 50.83 335 P **P** **02 51 41.1 -0.8**
baz=52
EGMT Eagleton 50.94 301 IAmb IAmb 02 51 56.9
comp=Z,28nm,1.1s
G31M Satah River 50.96 331 IAmb IAmb 02 51 59.2
comp=Z,51nm,1.7s
G31M Satah River 50.96 331 P **P** **02 51 41.8 -1.1**
baz=54,SNR=12
F30M Barrier River 51.02 332 P **P** **02 51 42.4 -1.0**
baz=53
FNO Franklin 51.08 281 IAmb IAmb 02 51 46.1
comp=Z,21nm,1.0s
EIL Elat 51.15 88 LR LR 03 16 43.8
comp=Z,209nm,19.1s,baz=294,slow=40
KOTAN Kotaneelee Air 51.15 320 P **P** **02 51 43.6 -0.8**
baz=56
OK038 West end E0370 51.17 283 IAmb IAmb 02 51 47.1
comp=Z,14nm,0.9s
E29M Blow River 51.17 333 IAmb IAmb 02 52 18.1
comp=Z,36nm,1.9s
E29M Blow River 51.17 333 P **P** **02 51 43.5 -1.1**
baz=52
D27M Malcolm River 51.49 335 P **P** **02 51 46.0 -1.0**
baz=50
E28M Babbage River 51.51 334 P **P** **02 51 46.3 -0.7**
baz=51
G30M tAoh Zraii Nji 51.54 331 P **P** **02 51 46.9 -0.5**
baz=52
H31M Peel River 51.66 330 IAmb IAmb 02 52 27.3
comp=Z,43nm,1.6s
H31M Peel River 51.66 330 P **P** **02 51 47.8 -0.5**
baz=53
X34A Smith Ranch, M 51.76 281 IAmb IAmb 02 51 51.6
comp=Z,26nm,1.2s
C27K Jago River 51.98 336 P **P** **02 51 49.8 -0.7**
baz=48
TGTN Hyland Airport 52.04 323 P **P** **02 51 50.5 -0.7**
baz=54,SNR=7.5
EPYK Eagle Plains 52.08 331 IAmb IAmb 02 52 08.2
comp=Z,40nm,1.4s
EPYK Eagle Plains 52.08 331 P **P** **02 51 50.4 -0.9**
baz=51,SNR=6.2
C26K Camden Bay 52.09 337 P **P** **02 51 50.5 -0.8**
baz=48
237A Washetta, Mont 52.13 277 IAmb IAmb 02 51 54.4
comp=Z,29nm,1.1s
G29M Pine Creek 52.14 332 IAmb IAmb 02 52 07.7
comp=Z,20nm,1.2s
G29M Pine Creek 52.14 332 P **P** **02 51 50.5 -1.2**
baz=51
Z35A Perchaven, San 52.20 279 IAmb IAmb 02 51 57.6
comp=Z,23nm,1.2s
BAUV El Baul 52.29 233 P **P** **02 51 54.1 +0.6**
E27K Coleen River 52.36 334 P **P** **02 51 52.1 -1.3**
baz=49
TOAD Toad River Com 52.38 319 P **P** **02 51 52.0 -1.7**
baz=54,SNR=9.6
NRIK Noril'sk 52.38 24 P **P** **02 51 55.7 +2.2**
NRIK IAmb IAmb 02 52 07.3
comp=Z,24nm,1.4s
NRIK Noril'sk 52.38 24 P **P** **02 51 54.3 +0.8**
comp=Z,5.9nm,0.9s,baz=304,slow=5.7,SNR=5.5
comp=Z,5.9nm,0.9s
NRIK Noril'sk 52.38 24 *ce*P **P** **02 51 54.8 +1.3**
NRIK pmax pmax
comp=Z,10.0nm,1.1s
AKTO Aktyubinsk 52.38 54 LR LR 03 14 14.6
comp=Z,633nm,19.3s,baz=291,slow=36
MMPY Sheldon Lake, 52.52 325 P **P** **02 51 53.5 -1.2**
baz=53
FW06 Azle 52.63 279 IAmb IAmb 02 51 57.9
comp=Z,28nm,1.1s
H29M Whitestone 52.69 331 P **P** **02 51 55.0 -0.9**
baz=50
I30M Mount Dempster 52.69 330 IAmb IAmb 02 52 12.2
comp=Z,29nm,1.6s
I30M Mount Dempster 52.69 330 P **P** **02 51 55.0 -1.1**
baz=51
WTFS Witchita Falls 52.70 280 IAmb IAmb 02 52 08.2
comp=Z,26nm,1.1s
YNE Yellowstone No 52.83 298 IAmb IAmb 02 51 58.0
comp=Z,12nm,0.7s
D25K Kavik River 52.87 337 P **P** **02 51 55.7 -1.5**
baz=46
YMP Mirror Lake Pl 53.07 298 IAmb IAmb 02 52 02.9
comp=Z,18nm,0.9s
J30M Hart River 53.09 329 IAmb IAmb 02 52 17.1
comp=Z,23nm,1.4s
J30M Hart River 53.09 329 P **P** **02 51 57.3 -1.6**
baz=51
WTLY Watson Lake, Y 53.09 322 IAmb IAmb 02 52 07.6
comp=Z,22nm,1.2s
WTLY Watson Lake, Y 53.09 322 P **P** **02 51 57.6 -1.3**
baz=53,SNR=7.3
C24K Franklin Bluff 53.17 338 P **P** **02 51 57.6 -1.7**
baz=44
WHTX Lake Whitney, 53.20 278 IAmb IAmb 02 52 02.3
comp=Z,33nm,1.1s
PLPT Palo Pinto 53.22 279 IAmb IAmb 02 52 02.2
comp=Z,26nm,1.2s
I29M Ogilvie Camp, 53.22 331 IAmb IAmb 02 52 02.5
comp=Z,23nm,1.4s
I29M Ogilvie Camp, 53.22 331 P **P** **02 51 59.0 -0.8**
baz=50,SNR=12
G27K Doyon Strip 53.30 333 P **P** **02 51 59.5 -0.8**
baz=48
LKWY Lake 53.32 298 IAmb IAmb 02 52 15.4
comp=Z,30nm,1.7s
F26K Sheenjek River 53.41 335 P **P** **02 52 00.2 -0.9**
baz=47
E25K Arctic Village 53.50 335 P **P** **02 52 00.8 -1.0**
baz=46
HKT Hockley 53.50 275 *i* P **P** **02 52 01.7 -0.5**
HKT pmax pmax
comp=Z,19nm,1.1s
FARO Faro, Yukon 53.53 326 P **P** **02 52 01.0 -1.1**
baz=51
C23K Itkillik River 53.55 339 IAmb IAmb 02 52 21.5
comp=Z,37nm,1.9s
C23K Itkillik River 53.55 339 P **P** **02 52 01.3 -0.8**
baz=43
D24K Happy Valley 53.61 337 IAmb IAmb 02 52 19.2
comp=Z,21nm,1.4s
D24K Happy Valley 53.61 337 P **P** **02 52 01.8 -0.7**
baz=44
Q24A Divide 53.61 290 IAmb IAmb 02 52 16.6
comp=Z,22nm,1.3s
YFT Old Faithful 53.63 298 IAmb IAmb 02 52 17.6
comp=Z,21nm,1.2s
H27K Steamboat Moun 53.65 332 P **P** **02 52 02.3 -0.6**
baz=48
A22K Sinclair Lake 53.65 341 P **P** **02 52 02.8 0.0**
baz=40,SNR=5.8
I28M Miner Creek 53.68 331 IAmb IAmb 02 52 21.0
comp=Z,24nm,1.4s
I28M Miner Creek 53.68 331 P **P** **02 52 02.5 -0.8**
baz=49
SDV Santo Domingo 53.70 235 P **P** **02 52 01.8 -2.3**
SDV IAmb IAmb 02 52 07.0
comp=Z,27nm,1.1s
SDV Santo Domingo 53.70 235 LR LR 03 10 55.3
comp=Z,238nm,21.8s,baz=70,slow=32
SDV Santo Domingo 53.70 235 *e*P **P** **02 52 02.5 -1.5**
J29N Klondike Camp 53.79 330 P **P** **02 52 03.2 -0.8**
baz=49
B22K Teshekpuk Lake 53.82 340 P **P** **02 52 02.6 -1.4**
baz=41
G26K Porcupine Rive 53.82 334 P **P** **02 52 01.8 -2.3**
baz=47
F25K Christian Rive 53.89 335 P **P** **02 52 03.6 -1.1**
baz=46
PD31 Pinedale Array 53.91 296 IAmb IAmb 02 52 17.8
comp=Z,14nm,1.0s
PDAR Pinedale Array 53.91 296 P **P** **02 52 04.0 -1.5**
PDAR Pinedale Array 53.91 296 P **P** **02 52 04.2 -1.3**
comp=Z,5.6nm,0.7s,baz=64,slow=8.1,SNR=63
PDAR LR LR 03 13 35.6
comp=Z,287nm,18.3s,baz=55,slow=34
comp=Z,5.6nm,0.7s
M31M Drury Creek, Y 53.92 326 P **P** **02 52 03.8 -1.2**
baz=50
K29M Barlow Dome 53.96 329 IAmb IAmb 02 52 23.6
comp=Z,27nm,1.6s
K29M Barlow Dome 53.96 329 P **P** **02 52 03.5 -1.9**
baz=49
APMT Aspermont 54.04 281 IAmb IAmb 02 52 09.9
comp=Z,13nm,0.8s
DLMT Dillon 54.08 300 IAmb IAmb 02 52 19.6
comp=Z,21nm,1.3s
ABKAR Akbulak array 54.08 54 P **P** **02 52 06.1 -0.2**
I27K Kandik River 54.10 332 P **P** **02 52 05.3 -1.0**
baz=48
N32M Quiet Lake 54.11 325 IAmb IAmb 02 52 17.8
comp=Z,15nm,0.8s
N32M Quiet Lake 54.11 325 P **P** **02 52 05.2 -1.2**
baz=51
TOLK Toolik Lake Re 54.17 337 P **P** **02 52 06.2 -0.5**
baz=43
SNOW Snow King Moun 54.19 297 IAmb IAmb 02 52 25.4
comp=Z,21nm,1.2s
ABTX Abilene, Hawle 54.19 280 IAmb IAmb 02 52 08.9
comp=Z,15nm,1.0s
D23K Nanushuk River 54.20 338 P **P** **02 52 06.3 -0.7**
baz=43
FXWY Fox Creek 54.24 297 IAmb IAmb 02 52 21.0
comp=Z,16nm,1.2s
E24K Your Creek 54.30 336 P **P** **02 52 07.0 -0.7**
baz=44
DKNS Dickens 54.33 282 IAmb IAmb 02 52 10.7
comp=Z,12nm,1.0s
R33M Jennings River 54.40 322 IAmb IAmb 02 52 29.8
comp=Z,26nm,1.6s
R33M Jennings River 54.40 322 P **P** **02 52 07.3 -1.3**
baz=51
DAWY Dawson 54.43 330 P **P** **02 52 08.8 +0.1**
DAWY IAmb IAmb 02 52 25.2
comp=Z,23nm,1.4s
DAWY Dawson 54.43 330 P **P** **02 52 06.8 -1.9**
baz=48,SNR=8.8
BOAV Boa Vista 54.48 221 P **P** **02 52 09.1 -0.4**
BOAV IAmb IAmb 02 52 11.2
comp=Z,18nm,1.3s
BOAV Boa Vista 54.48 221 *e*P **P** **02 52 09.2 -0.3**
M30M Minto, Yukon 54.54 327 P **P** **02 52 08.1 -1.4**
baz=49
F24K Squaw Lake 54.55 336 IAmb IAmb 02 52 24.4
comp=Z,20nm,1.6s
F24K Squaw Lake 54.55 336 P **P** **02 52 08.4 -1.1**
baz=44
TMAB Tom-Au,PA,Br 54.60 204 *e*P **P** **02 52 11.5 +1.1**
G25K Bearman Lake 54.60 334 P **P** **02 52 08.2 -1.7**
baz=45
E23K Chandalar 54.61 337 P **P** **02 52 08.6 -1.4**
baz=43
P33M Teslin, Yukon 54.61 324 P **P** **02 52 08.4 -1.7**
baz=50
DLBC Dease Lake 54.62 321 P **P** **02 52 11.3 +1.1**
DLBC IAmb IAmb 02 52 19.0
comp=Z,21nm,1.4s
DLBC Dease Lake 54.62 321 LR LR 03 14 14.9
comp=Z,479nm,18.6s,baz=55,slow=35
DLBC Dease Lake 54.62 321 P **P** **02 52 09.3 -0.9**
baz=51
B21K Ikpikpuk River 54.63 340 IAmb IAmb 02 52 12.7
comp=Z,42nm,2.0s
B21K Ikpikpuk River 54.63 340 P **P** **02 52 08.8 -1.2**
baz=40
L29M L29M 54.65 328 IAmb IAmb 02 52 52.0
comp=Z,18nm,1.4s
L29M L29M 54.65 328 P **P** **02 52 09.1 -1.2**
baz=48
BRDY Brady 54.66 278 IAmb IAmb 02 52 12.3
comp=Z,21nm,1.0s
D22K Ayikyak River 54.75 338 P **P** **02 52 09.0 -1.9**
baz=41
O20A White River Ci 54.76 293 IAmb IAmb 02 52 15.2
comp=Z,23nm,1.1s
I26K Coal Creek Min 54.77 332 IAmb IAmb 02 52 42.6
comp=Z,32nm,1.6s
I26K Coal Creek Min 54.77 332 P **P** **02 52 09.0 -2.1**
baz=46
NEW Newport 54.80 305 IAmb IAmb 02 52 24.0
comp=Z,20nm,1.3s
NEW Newport 54.80 305 LR LR 03 13 32.6
comp=Z,495nm,19.1s,baz=52,slow=34
AHID Auburn Hatcher 54.81 297 IAmb IAmb 02 52 30.7
comp=Z,14nm,1.0s
H25L Birch Creek 54.88 334 P **P** **02 52 11.2 -0.7**
baz=45
B20K Meade River 54.89 341 IAmb IAmb 02 52 30.3
comp=Z,20nm,1.4s
B20K Meade River 54.89 341 P **P** **02 52 10.8 -1.0**
baz=38
N31M Braeburn, Yuko 54.89 326 P **P** **02 52 10.7 -1.4**
baz=49
C21K Knifeblade Rid 55.03 339 P **P** **02 52 11.2 -1.7**
baz=40
G24K Hadweenzic Riv 55.03 335 P **P** **02 52 11.3 -1.7**
baz=44
POST Post 55.09 282 IAmb IAmb 02 52 15.9
comp=Z,21nm,1.1s
WHY Whitehorse 55.10 325 P **P** **02 52 12.2 -1.5**
baz=49
E22K Anaktuvuk Pass 55.10 338 P **P** **02 52 10.8 -2.7**
baz=41
Q32M Nakina River 55.20 322 P **P** **02 52 13.1 -1.4**
baz=50
M29M Somme Creek 55.21 328 P **P** **02 52 12.3 -2.1**
baz=48
RDMU Red Mountain 55.28 294 IAmb IAmb 02 52 29.0
comp=Z,29nm,1.1s
K27K Chicken 55.32 331 P **P** **02 52 13.6 -1.5**
baz=46
PRP Porcupine Dome 55.33 333 P **P** **02 52 16.5 +1.2**
PRP IAmb IAmb 02 53 36.5
comp=Z,19nm,1.6s
PRP Porcupine Dome 55.33 333 P **P** **02 52 14.6 -0.7**
baz=45
P32M Atlin 55.36 323 P **P** **02 52 14.2 -1.2**
baz=50
COLD Coldfoot 55.37 336 P **P** **02 52 13.6 -1.8**
baz=42
N30M Aishikik Lake 55.38 326 P **P** **02 52 14.6 -1.0**
baz=48
E21K Kilik River 55.39 339 P **P** **02 52 13.8 -1.8**
baz=40
S34M Telegraph Cree 55.41 321 P **P** **02 52 14.0 -1.8**
baz=50
J26L Joseph Creek 55.46 332 IAmb IAmb 02 52 32.5
comp=Z,21nm,1.4s
J26L Joseph Creek 55.46 332 P **P** **02 52 14.3 -1.8**
baz=46
O30N Mendenhall 55.48 325 P **P** **02 52 13.9 -2.4**
baz=49,SNR=7.1
A19K Wainwright 55.53 342 P **P** **02 52 14.7 -1.8**
baz=35
SGCY Sterling City 55.60 280 IAmb IAmb 02 52 19.9
comp=Z,23nm,1.0s
T35M Bob Quinn 55.64 320 P **P** **02 52 15.9 -1.6**
baz=50
F22K John River 55.67 337 P **P** **02 52 15.9 -1.7**
baz=41
JCT Junction City 55.70 278 IAmb IAmb 02 52 20.2
comp=Z,18nm,1.1s
G23K Bananza Creek 55.71 336 IAmb IAmb 02 52 36.4
comp=Z,27nm,1.6s
G23K Bananza Creek 55.71 336 P **P** **02 52 16.6 -1.4**
baz=42
H24K Noodor Dome 55.77 334 P **P** **02 52 16.8 -1.6**
baz=43
D20K Etivluk River 55.79 340 P **P** **02 52 16.9 -1.5**
baz=38
HWUT Hardware Ranch 55.80 296 IAmb IAmb 02 52 32.0
comp=Z,28nm,1.1s
B08A Colville Reser 55.90 306 IAmb IAmb 02 52 32.3
comp=Z,18nm,1.2s
L27K Beaver Creek, 55.91 330 P **P** **02 52 18.4 -1.0**
baz=46
J25K Salcha River, 55.93 332 IAmb IAmb 02 52 36.1
comp=Z,24nm,1.4s
J25K Salcha River, 55.93 332 P **P** **02 52 17.7 -1.8**
baz=44
HYT Haines Junctio 55.96 326 P **P** **02 52 17.5 -2.3**
baz=48
SCRK Sand Creek 55.96 331 IAmb IAmb 02 52 36.6
comp=Z,35nm,1.5s
SCRK Sand Creek 55.96 331 P **P** **02 52 18.1 -1.8**
baz=45,SNR=8.9
BSUT Blindstream Ca 56.01 294 IAmb IAmb 02 52 41.3
comp=Z,24nm,1.5s
YUK4 Talbot Arm 56.01 327 P **P** **02 52 18.0 -2.3**
baz=47
BVCY Beaver Creek 56.04 329 P **P** **02 52 18.7 -1.6**
baz=46
E20K Nigu River 56.05 339 P **P** **02 52 19.0 -1.4**
baz=38
SKAG Skagway 56.06 324 IAmb IAmb 02 52 39.5
comp=Z,38nm,1.4s
SKAG Skagway 56.06 324 P **P** **02 52 18.7 -1.7**
baz=48
POKR Poker Plat Res 56.17 334 IAmb IAmb 02 52 38.9
comp=Z,36nm,1.4s
POKR Poker Plat Res 56.17 334 P **P** **02 52 19.7 -1.5**
baz=43,SNR=6.0
YUK6 Outpost Mounta 56.19 326 P **P** **02 52 20.0 -1.7**
baz=47
F21K Alatna River 56.22 337 IAmb IAmb 02 52 39.5
comp=Z,20nm,1.4s
F21K Alatna River 56.22 337 P **P** **02 52 20.2 -1.3**
baz=40
HLID Hailey 56.22 299 IAmb IAmb 02 52 36.1
comp=Z,18nm,1.3s
U35K Hyder 56.23 318 P **P** **02 52 20.7 -0.9**
baz=50
P30M Million Dollar 56.23 325 P **P** **02 52 20.1 -1.7**
baz=48
H23K Yukon River 56.24 335 IAmb IAmb 02 52 31.1
comp=Z,15nm,1.1s
H23K Yukon River 56.24 335 P **P** **02 52 19.8 -2.0**
baz=42
OZNA Ozona 56.26 279 IAmb IAmb 02 52 24.9
comp=Z,21nm,1.1s
IL31 56.27 333 IAmb IAmb 02 52 24.4
comp=Z,23nm,1.6s
ILAR Eielson Array 56.27 333 P **P** **02 52 22.7 +0.9**
ILAR Eielson Array 56.27 333 P **P** **02 52 22.3 +0.4**
comp=Z,3.0nm,1.0s,baz=38,slow=5.2,SNR=18
ILAR LR LR 03 15 01.5
comp=Z,455nm,21.1s,baz=46,slow=34
comp=Z,3.0nm,1.0s
D19K Kuna River 56.30 340 P **P** **02 52 20.6 -1.5**
baz=37
YUK3 Moose Creek 56.35 328 P **P** **02 52 20.7 -2.0**
baz=46
B18K Kokolik River 56.37 342 P **P** **02 52 21.1 -1.5**
baz=34
RIDG Independent Ri 56.40 331 P **P** **02 52 20.9 -2.0**
baz=44
M27K Edge Creek, AK 56.42 329 P **P** **02 52 21.1 -2.0**
baz=46
L26K Log Cabin Wild 56.43 330 IAmb IAmb 02 52 54.3
comp=Z,24nm,1.6s
L26K Log Cabin Wild 56.43 330 P **P** **02 52 20.5 -2.6**
baz=45
YUK8 Steele Glacier 56.45 327 P **P** **02 52 20.6 -2.9**
baz=46
PLBC Pleasant Camp 56.46 324 P **P** **02 52 21.7 -1.6**
baz=48
COLA College 56.47 333 P **P** **02 52 21.6 -1.7**
baz=43
R32K Eaglecrest 56.54 323 P **P** **02 52 20.9 -3.0**
baz=48
HDA Harding Lake 56.55 333 P **P** **02 52 21.3 -2.5**
baz=43
K24K Donnelly Dome 56.64 332 P **P** **02 52 22.2 -2.4**
baz=44
H22K Ishtalitna Cre 56.69 336 P **P** **02 52 22.6 -2.3**
baz=41
I23K Minto, Yukon-K 56.70 334 IAmb IAmb 02 52 41.8
comp=Z,40nm,1.4s
I23K Minto, Yukon-K 56.70 334 P **P** **02 52 22.9 -2.0**
baz=42,SNR=6.1
O29M Mount Kennedy 56.70 326 P **P** **02 52 23.0 -2.2**
baz=47
M26K Nabesna, AK 56.76 330 P **P** **02 52 23.5 -2.0**
baz=45
MVCO Mesa Verde 56.77 290 IAmb IAmb 02 52 50.3
comp=Z,18nm,1.1s
G21K Allakaket 56.77 337 P **P** **02 52 23.1 -2.3**
baz=40
SRU San Rafael Swe 56.77 293 IAmb IAmb 02 52 40.0
comp=Z,18nm,1.0s
BRVK Borovoye 56.83 45 P **P** **02 52 26.7 +0.7**
BRVK Borovoye 56.83 45 *ce*P **P** **02 52 26.2 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
C18K Utukok River 56.84 341 IAmb IAmb 02 52 28.4
comp=Z,29nm,1.7s
C18K Utukok River 56.84 341 P **P** **02 52 23.8 -2.1**
baz=35
WRH Wood River Hil 56.84 333 P **P** **02 52 27.0 +1.0**
T33K Petersburg 56.88 321 P **P** **02 52 24.2 -2.1**
baz=49
WRAK Wrangell Islan 56.88 320 P **P** **02 52 23.9 -2.4**
baz=49
F20K Avaraart Lake 56.90 338 P **P** **02 52 24.4 -1.9**
baz=38
BVAR Borovoye Array 56.90 45 P **P** **02 52 27.0 +0.4**
comp=Z,5.3nm,0.8s,baz=310,slow=6.7,SNR=29
BVAR LR LR 03 16 44.0
comp=Z,779nm,18.2s,baz=303,slow=36
comp=Z,5.3nm,0.8s
BVAR Borovoye Array 56.90 45 P **P** **02 52 27.0 +0.4**
E19K Redstone River 56.93 339 P **P** **02 52 25.1 -1.5**
baz=37
O28M Mount Upton 56.95 327 P **P** **02 52 24.4 -2.7**
baz=46
ANMO Albuquerque 56.98 287 P **P** **02 52 27.0 -0.6**
ANMO IAmb IAmb 02 52 31.4
comp=Z,16nm,1.2s
ANMO Albuquerque 56.98 287 LR LR 03 16 06.3
comp=Z,809nm,19.8s,baz=228,slow=35
ANMO Albuquerque 56.98 287 *i* P **P** **02 52 27.5 -0.1**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
NEA2 Nenana 57.03 334 IAmb IAmb 02 52 43.7
comp=Z,25nm,1.3s
NEA2 Nenana 57.03 334 P **P** **02 52 25.2 -2.1**
baz=42,SNR=7.3
TMUT Trail Mountain 57.06 293 IAmb IAmb 02 52 43.6
comp=Z,15nm,1.0s
S32K Killisnoo 57.10 322 P **P** **02 52 26.3 -1.5**
baz=48
H21K Melozitna Rive 57.25 336 P **P** **02 52 26.7 -2.2**
baz=40
HBVL Hebbronville 57.28 274 IAmb IAmb 02 52 35.6
comp=Z,19nm,1.1s
LTY Liberty 57.30 306 IAmb IAmb 02 52 41.3
comp=Z,23nm,1.1s
V35K Ketchikan 57.30 319 P **P** **02 52 27.2 -2.1**
baz=49
C17K DeLong Mountai 57.39 342 P **P** **02 52 28.7 -1.1**
baz=33
I21K Tanana 57.40 335 IAmb IAmb 02 52 58.1
comp=Z,21nm,1.4s
I21K Tanana 57.40 335 P **P** **02 52 28.6 -1.3**
baz=40
U33K Whale Pass 57.41 320 P **P** **02 52 27.8 -2.2**
baz=48
S31K Pelican 57.42 323 P **P** **02 52 27.8 -2.3**
baz=47
DUG Dugway, Tooele 57.43 295 IAmb IAmb 02 52 44.7
comp=Z,25nm,1.1s
PNL Peninsula 57.44 326 P **P** **02 52 27.7 -2.6**
baz=46
PINM Pinnacle 57.45 326 P **P** **02 52 27.7 -2.7**
baz=46
HARP HAARP 57.47 330 P **P** **02 52 28.5 -1.9**
baz=44
RUSC La Rusia 57.51 236 IAmb IAmb 02 52 42.5
comp=Z,16nm,1.2s
SAND Sanderson 57.54 279 IAmb IAmb 02 52 35.2
comp=Z,22nm,0.8s
F19K Shaleruckik Mo 57.56 339 IAmb IAmb 02 52 32.9
comp=Z,26nm,1.8s
F19K Shaleruckik Mo 57.56 339 P **P** **02 52 29.1 -1.9**
baz=36
MCK McKinley 57.64 333 P **P** **02 52 33.4 +1.8**
MCK IAmb IAmb 02 52 40.3
comp=Z,18nm,1.1s
MCK McKinley 57.64 333 P **P** **02 52 33.4 +1.8**

MCK pmax pmax
comp=Z,18nm,1.1s
MCK McKinley 57.64 333 P **P 02 52 29.2 -2.5**
baz=42
SIT Sitka 57.68 322 P **P 02 52 29.0 -2.9**
baz=47
RDOG Red Dog Mine 57.69 341 P **P 02 52 29.3 -2.6**
baz=33
PECS Pecos 57.71 282 IAmb IAmb 02 52 45.4
comp=Z,34nm,1.7s
E18K Tukpahlearik C 57.73 340 P **P 02 52 29.4 -2.7**
baz=35
BBB Bella Bella 57.80 314 LR LR 03 15 08.1
comp=Z,499nm,19.9s,baz=48,slow=34
Y22D IRIS PASSCAL I 57.84 286 P **P 02 52 30.1 -3.5**
baz=49
CRAG Craig 57.84 319 P **P 02 52 30.1 -3.0**
baz=48
TIXI Tiksi 57.84 8 P **P 02 52 33.0 +0.1**
TIXI IAmb IAmb 02 52 46.7
comp=Z,28nm,1.4s
TIXI Tiksi 57.84 8 *i* P **P 02 52 34.2 +1.3**
TIXI pmax pmax
comp=Z,23nm,1.5s
N25K Chitina, Valde 57.86 330 P **P 02 52 29.6 -3.7**
baz=44
H20K Anotleneega Mo 57.92 337 P **P 02 52 31.2 -2.4**
baz=38
BPAW Bear Paw Mtn. 57.95 334 P **P 02 52 31.4 -2.4**
baz=40
G19K Purcell Mounta 57.95 338 P **P 02 52 31.6 -2.1**
baz=37
C16K Lisburne Hills 57.99 343 IAmb IAmb 02 52 36.3
comp=Z,26nm,1.6s
C16K Lisburne Hills 57.99 343 P **P 02 52 31.7 -2.3**
baz=32
MESA MESA 57.99 327 P **P 02 52 31.3 -3.0**
baz=45
M24K Tolsona, Glenn 58.01 331 P **P 02 52 31.4 -2.9**
baz=43
D17K Noatak River 58.02 341 P **P 02 52 32.1 -2.1**
baz=33
F18K Selawik 58.19 339 P **P 02 52 33.8 -1.6**
baz=35,SNR=6.4
ALPN Alpine 58.23 281 IAmb IAmb 02 52 38.8
comp=Z,29nm,1.6s
TRF Thorofare Moun 58.25 333 P **P 02 52 34.5 -1.6**
baz=40
E17K Hotham Inlet 58.27 340 P **P 02 52 34.9 -1.1**
baz=34
H19K Roundabout Mou 58.29 337 IAmb IAmb 02 52 43.4
comp=Z,15nm,1.2s
H19K Roundabout Mou 58.29 337 P **P 02 52 34.4 -1.7**
baz=37
BMRM Bremner River 58.33 329 P **P 02 52 35.3 -1.2**
baz=43
I20K Naaghedeneel 58.37 336 P **P 02 52 34.3 -2.3**
baz=38
KLU Klutina 58.38 330 P **P 02 52 36.0 -0.9**
baz=42
ELK Elko 58.49 297 IAmb IAmb 02 52 51.5
comp=Z,14nm,1.1s
ELK Elko 58.49 297 LR LR 03 16 59.0
comp=Z,569nm,18.3s,baz=56,slow=35
CHUM Lake Minchumin 58.50 334 P **P 02 52 35.8 -1.7**
baz=39
G18K Tagagawik 58.53 338 IAmb IAmb 02 52 40.6
comp=Z,19nm,1.6s
G18K Tagagawik 58.53 338 P **P 02 52 36.3 -1.5**
baz=36
SCM Sheep Creek Mo 58.58 331 P **P 02 52 36.4 -1.9**
baz=42
H10N2 ASCENSION HYDR 58.62 164 T T 03 55 32.0
baz=349,slow=75,SNR=16
J08A Circle Bar Ran 58.62 301 IAmb IAmb 02 52 52.2
comp=Z,16nm,1.1s
H10N3 ASCENSION HYDR 58.63 164 T T 03 55 32.8
baz=349,slow=75,SNR=14
H10N1 ASCENSION HYDR 58.64 164 T T 03 55 33.9
baz=349,slow=75,SNR=17
F17K Baldwin Pennin 58.68 340 P **P 02 52 37.7 -1.0**
baz=34
PRPB Paruapebas 58.70 205 *e*P **P 02 52 40.1 +0.5**
M23K Glacier View 58.73 331 P **P 02 52 37.5 -1.8**
baz=42
J20K Nowinta River 58.77 335 P **P 02 52 37.7 -1.8**
baz=38
CAST Castle Rocks 58.79 334 P **P 02 52 40.0 +0.3**
CAST IAmb IAmb 02 52 53.1
comp=Z,20nm,1.4s
CAST Castle Rocks 58.79 334 P **P 02 52 38.2 -1.5**
baz=39
SML Sawmill 58.91 331 P **P 02 52 39.4 -1.2**
baz=41
TXAR Lajitas Array 58.95 280 P **P 02 52 40.8 -0.6**
TXAR Lajitas Array 58.95 280 P **P 02 52 40.2 -1.2**
comp=Z,3.1nm,0.8s,baz=53,slow=4.4,SNR=24
TXAR LR LR 03 18 06.2
comp=Z,440nm,20.5s,baz=54,slow=36
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 58.95 280 P **P 02 52 40.8 -0.6**
TX31 Lajitas Ar. Si 58.95 280 IAmb IAmb 02 52 43.5
comp=Z,15nm,1.4s
EYAK Cordova Ski Ar 59.02 329 P **P 02 52 39.8 -1.4**
baz=42
GCSA Galena City Sc 59.03 337 P **P 02 52 38.9 -2.3**
baz=36
KAIM Kayak Island 59.03 328 P **P 02 52 39.6 -1.8**
baz=43
CUT Chulitna 59.05 333 P **P 02 52 39.3 -2.1**
baz=40
ROSC El Rosal 59.06 236 P **P 02 52 42.4 -0.2**
comp=Z,89nm,1.4s,baz=45,slow=5.1,SNR=17
ROSC LR LR 03 13 51.8
comp=Z,491nm,21.9s,baz=32,slow=32
H18K Honhosa River 59.07 338 IAmb IAmb 02 53 00.1
comp=Z,24nm,1.4s
H18K Honhosa River 59.07 338 P **P 02 52 39.9 -1.6**
baz=36
SPR3 Spring Creek 3 59.10 295 IAmb IAmb 02 52 56.2
comp=Z,26nm,1.3s
PSUT Pine Spring 59.12 294 IAmb IAmb 02 52 47.9
comp=Z,9.6nm,0.9s
KNK Knik Glacier 59.25 331 P **P 02 52 40.8 -2.0**
baz=41
J19K Poorman 59.31 336 P **P 02 52 41.4 -1.9**
baz=37
PMR Palmer 59.32 331 P **P 02 52 41.6 -1.7**
baz=40
G17K Kiwalik Mounta 59.33 339 P **P 02 52 41.6 -1.7**
baz=34
K20K Telida 59.40 335 P **P 02 52 41.8 -2.1**
baz=38
M22K Willow 59.50 332 P **P 02 52 42.6 -1.9**
baz=40
MACA Manacapuru-AM 59.57 218 *e*P **P 02 52 46.6 +1.0**
U15A North Rim 59.58 292 IAmb IAmb 02 52 59.3
comp=Z,13nm,1.0s
H17K Granite Mounta 59.62 338 P **P 02 52 43.6 -1.7**
baz=34
PWL Port Wells 59.63 331 P **P 02 52 43.8 -1.7**
baz=41
PINE Pine Mountain 59.69 303 IAmb IAmb 02 52 50.4
comp=Z,10nm,1.0s
SKT Skwentna 59.75 333 P **P 02 52 44.5 -1.8**
baz=39
G16K Koyuk River 59.81 340 P **P 02 52 45.2 -1.4**
baz=33
SUA Susitna One 59.92 332 P **P 02 52 45.6 -2.0**
baz=39
P23K Montague Islan 59.98 329 P **P 02 52 45.8 -2.1**
baz=41
J18K Innoko River 60.02 336 P **P 02 52 49.0 +0.8**
J18K IAmb IAmb 02 53 07.5
comp=Z,18nm,1.4s
J18K Innoko River 60.02 336 P **P 02 52 47.1 -1.1**
baz=36
L20K Farewell, AK 60.04 334 P **P 02 52 46.5 -1.8**
baz=38
F15K North Star Dit 60.05 341 P **P 02 52 49.4 +1.1**
F15K IAmb IAmb 02 53 06.2
comp=Z,20nm,1.6s
F15K North Star Dit 60.05 341 P **P 02 52 47.2 -1.1**
baz=31
J05D Fort Rock, OR 60.19 303 P **P 02 52 50.6 +0.8**
M20K Styx River 60.30 333 P **P 02 52 49.0 -1.2**
baz=38
G15K Niukluk 60.53 340 P **P 02 52 50.3 -1.3**
baz=32
L19K White Mountain 60.55 334 P **P 02 52 50.1 -1.7**
baz=37
PRN Pahroc Range 60.58 294 IAmb IAmb 02 52 56.3
comp=Z,26nm,1.3s
F14K Arctic Creek 60.61 341 P **P 02 52 51.2 -0.9**
baz=30
APG El Apazote 60.64 258 LR LR 03 16 20.7
comp=Z,23nm,21.2s,baz=93,slow=33
M19K Big River Lodg 60.65 334 P **P 02 52 50.8 -1.7**
baz=37
J17K VABM Dome 60.69 337 P **P 02 52 51.2 -1.5**
baz=34
JTS Las Juntas de 60.81 250 LR LR 03 14 53.6
comp=Z,178nm,21.2s,baz=339,slow=32
TNA Tin City 60.86 342 P **P 02 52 51.9 -1.9**
baz=29
L18K Granite Mounta 61.03 335 P **P 02 52 53.6 -1.5**
baz=36
K17K Iditarod 61.06 336 P **P 02 52 54.1 -1.1**
baz=35
J16K Anvik River 61.17 338 P **P 02 52 54.4 -1.5**
baz=33
NPGB Novo Progresso 61.21 211 *e*P **P 02 52 57.0 +0.2**
TUC Tucson 61.42 287 P **P 02 52 58.0 -0.2**
TUC IAmb IAmb 02 53 01.6
comp=Z,13nm,1.2s
TUC Tucson 61.42 287 P **P 02 52 58.0 -0.2**
TUC pmax pmax
comp=Z,13nm,1.3s
W13A Hualapai Mount 61.43 291 IAmb IAmb 02 53 12.2
comp=Z,14nm,1.2s
L17K Donlin 61.53 336 P **P 02 52 56.5 -2.0**
baz=34
N19K Bonanza Creek 61.55 333 P **P 02 52 56.4 -2.2**
baz=37
O20K Slope Mountain 61.58 332 P **P 02 52 56.8 -2.1**
baz=38
V12A Nelson 61.59 293 IAmb IAmb 02 53 02.7
comp=Z,24nm,1.3s
TPNV Topopah Spring 61.59 294 IAmb IAmb 02 53 17.6
comp=Z,26nm,1.6s
MZP Montezuma Peak 61.75 296 IAmb IAmb 02 53 13.8
comp=Z,12nm,1.2s
NVAR Mina Array Bea 61.79 297 P **P 02 52 59.9 -1.0**
comp=Z,1.2nm,0.7s,baz=62,slow=6.5,SNR=9.0
NVAR LR LR 03 18 17.1
comp=Z,420nm,18.8s,baz=51,slow=35
comp=Z,1.2nm,0.7s
WCT Wildcat Mounta 61.92 295 IAmb IAmb 02 53 14.6
comp=Z,12nm,1.2s
CMIG Matias Romero 61.92 263 LR LR 03 18 06.8
comp=Z,545nm,21.1s,baz=37,slow=34
GMN Gold Mountain 61.95 295 IAmb IAmb 02 53 15.2
comp=Z,18nm,1.3s
LHV Little Huntoon 62.03 297 IAmb IAmb 02 53 27.9
comp=Z,20nm,1.4s
YBH Yreka Blue Hor 62.04 302 LR LR 03 18 27.8
comp=Z,489nm,19.0s,baz=40,slow=35
PNTR Pine Nut 62.09 298 P **P 02 53 02.9 +0.1**
L16K Owhat River 62.20 336 P **P 02 53 00.8 -2.1**
baz=34
RAYN Ar Rayn 62.21 86 P **P 02 53 03.4 -0.2**
RAYN Ar Rayn 62.21 86 P **P 02 53 03.4 -0.2**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 62.21 43 P **P 02 53 02.7 -0.5**
KURK Kurchatov 62.21 43 *ce*P **P 02 53 02.8 -0.4**
KURK pmax pmax
comp=Z,8.0nm,1.0s
K15K Wolf Creek Mou 62.24 337 P **P 02 53 00.8 -2.3**
baz=32
KURBB Kurchatov Arra 62.24 43 P **P 02 53 03.1 -0.2**
comp=Z,4.6nm,0.9s,baz=319,slow=7.2,SNR=18
KURBB LR LR 03 19 27.6
comp=Z,899nm,21.5s,baz=344,slow=35
comp=Z,4.6nm,0.9s
J14K Nanvaranak Lak 62.34 338 P **P 02 53 01.3 -2.5**
baz=31
ZALV Zalesovo Beam 62.47 38 P **P 02 53 04.5 -0.4**
ZALV Zalesovo Beam 62.47 38 P **P 02 53 04.3 -0.5**
comp=Z,0.5nm,0.3s,baz=302,slow=8.5,SNR=5.4
ZALV LR LR 03 21 30.5
comp=Z,478nm,18.5s,baz=305,slow=37
comp=Z,0.5nm,0.3s
ZALV Zalesovo Beam 62.47 38 *i* P **P 02 53 09.1 +4.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
N17K Nushagak Hills 62.56 334 P **P 02 53 03.5 -1.9**
baz=35
M16K Timber Creek 62.64 335 P **P 02 53 03.9 -2.0**
baz=34
Q20K Shuyak Island 62.68 331 P **P 02 53 03.8 -2.3**
baz=37
BLYC Blythe 62.73 291 IAmb IAmb 02 53 10.6
comp=Z,23nm,1.3s
L15K Ungalak Mounta 62.75 337 P **P 02 53 04.3 -2.3**
baz=32
ZAIG Zacatecas 62.80 274 P **P 02 53 08.1 +0.2**
ZAIG IAmb IAmb 02 53 21.4
comp=Z,21nm,1.5s
113A Mohawk Valley, 62.94 289 IAmb IAmb 02 53 21.9
comp=Z,19nm,1.3s
CMB Columbia Colle 63.26 298 IAmb IAmb 02 53 23.0
comp=Z,14nm,1.4s
K13K Kusilvak Mount 63.31 338 P **P 02 53 08.4 -1.9**
baz=30
L14K Kuka Creek 63.34 337 P **P 02 53 08.9 -1.6**
baz=31
KDAK Kodiak Island 63.40 330 LR LR 03 19 26.6
comp=Z,300nm,19.4s,baz=253,slow=35
KDAK Kodiak Island 63.40 330 P **P 02 53 09.5 -1.4**
baz=37
P17K Kvichak River 63.44 333 P **P 02 53 09.7 -1.5**
baz=35
KKAR Karatay Array 63.65 54 P **P 02 53 12.8 -0.1**
KKAR Karatay Array 63.65 54 P **P 02 53 12.8 -0.1**
ISA Isabella, Lake 63.78 295 IAmb IAmb 02 53 28.1
comp=Z,16nm,1.0s
PFO Pinyon Flats O 64.00 292 P **P 02 53 16.0 +0.5**
PFO IAmb IAmb 02 53 34.2
comp=Z,13nm,1.2s
PFO Pinyon Flats O 64.00 292 LR LR 03 21 42.2
comp=Z,376nm,20.4s,baz=68,slow=37
PFO Pinyon Flats O 64.00 292 *i* P **P 02 53 15.8 +0.3**
PFO pmax pmax
comp=Z,19nm,1.1s
OHAK Old Harbor 64.08 330 P **P 02 53 13.7 -1.8**
baz=36
R18K Karluk 64.17 331 P **P 02 53 14.9 -1.1**
baz=36
N14K Kuskokwak Cree 64.29 336 P **P 02 53 14.8 -2.0**
baz=32
M13K Dall Lake 64.30 337 P **P 02 53 14.8 -2.1**
baz=31
TBTG Tabatinga, AM 64.54 227 *e*P **P 02 53 19.8 +0.8**
ELS Elsinore Mount 64.55 293 IAmb IAmb 02 53 32.5
comp=Z,20nm,1.2s
SNDB Serra Nova Dou 64.64 205 *e*P **P 02 53 21.0 +1.4**
O14K Tigyukauivet M 64.75 335 P **P 02 53 17.9 -1.9**
baz=32
CLDB Colider 64.94 210 *e*P **P 02 53 21.5 0.0**
OTAV Otavalo 65.14 238 P **P 02 53 23.5 0.0**
OTAV Otavalo 65.14 238 P **P 02 53 23.5 0.0**
OTAV pmax pmax
comp=Z,44nm,1.7s
OTAV Otavalo 65.14 238 *e*P **P 02 53 24.8 +1.3**
CMC01 Camacan, BA 65.55 192 *e*P **P 02 53 25.4 0.0**
PDRB Porto dos Gac 65.94 211 *e*P **P 02 53 28.7 +0.7**
BTK Batken 65.96 56 IAmb IAmb 02 53 41.6
comp=Z,21nm,1.6s
SIMJ Simiganj 65.97 58 P **P 02 53 28.1 -0.2**
SIMJ IAmb IAmb 02 53 32.0
comp=Z,15nm,1.5s
JANB Januaria 66.02 197 *e*P **P 02 53 28.5 0.0**
AAK Ala-Archa 66.04 52 P **P 02 53 29.0 +0.3**
AAK IAmb IAmb 02 53 43.0
comp=Z,21nm,1.6s
AAK Ala-Archa 66.04 52 LR LR 03 22 28.4
comp=Z,658nm,18.6s,baz=324,slow=36
AAK Ala-Archa 66.04 52 *ce*P **P 02 53 29.6 +0.9**
AAK pmax pmax
comp=Z,20nm,2.5s
ARSB Arslanbob 66.20 54 IAmb IAmb 02 53 43.0
comp=Z,31nm,1.7s
MK31 Makanchi Array 66.74 44 *ce*P **P 02 53 33.0 +0.1**
MKAR Makanchi Array 66.74 44 P **P 02 53 32.2 -0.7**
MKAR Makanchi Array 66.74 44 P **P 02 53 32.9 -0.1**
comp=Z,6.7nm,0.9s,baz=328,slow=5.7,SNR=28
MKAR LR LR 03 22 10.4
comp=Z,941nm,20.4s,baz=303,slow=36
comp=Z,6.7nm,0.9s
GUA01 Guaratinga, BA 66.79 192 *e*P **P 02 53 36.4 +3.1**
LPIG La Paz 66.84 280 LR LR 03 22 56.3
comp=Z,1μm,18.7s,baz=50,slow=36
YAK Yakutsk 67.22 11 *e*P **P 02 53 35.7 +0.1**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
BDFB Brasilia 67.35 200 P **P 02 53 36.5 -0.6**
comp=E,8.3nm,1.0s,baz=42,slow=9.5,SNR=7.9
BDFB LR LR 03 17 39.4
comp=E,424nm,21.6s,baz=340,slow=31
comp=E,8.3nm,1.0s
SEY Seymchan 67.67 360 *e*P **P 02 53 37.5 -1.0**
SEY pmax pmax
comp=Z,8.0nm,1.0s
UOSS Minazif 68.05 77 P **P 02 53 40.2 -1.3**
ARAG Araguaiana, MT 68.35 204 *e*P **P 02 53 44.7 +1.5**
VILB Vilhena 68.38 213 P **P 02 53 43.7 +0.2**
VILB Vilhena 68.38 213 *e*P **P 02 53 44.9 +1.4**
TARG Taragay, Kyrgy 68.38 51 IAmb IAmb 02 53 58.9
comp=Z,23nm,1.3s
KSH Kashi 69.08 53 P **P 02 53 50.0 +2.1**
KSH pmax pmax
comp=Z,12nm,1.7s
KSH LR LR
comp=N,630nm,14.4s
KSH LR LR
comp=E,530nm,16.5s
KSH LR LR
comp=Z,570nm,14.8s
ATD Arta Tunnel 69.23 97 LR LR 03 25 34.8
comp=Z,11nm,18.2s,baz=358,slow=37
WUS Wushi 69.48 50 IAmb IAmb 02 54 03.8
comp=Z,24nm,1.5s
SALV Santo Antonio 69.64 208 *e*P **P 02 53 52.4 +1.2**
MOY Mondy 70.21 31 *e*P **P 02 53 55.3 +0.7**
MOY pmax pmax
comp=Z,32nm,2.6s
PTLB Pontes e Lacer 70.32 211 IAmb IAmb 02 53 57.3
comp=Z,29nm,1.4s
PTLB Pontes e Lacer 70.32 211 *e*P **P 02 53 56.7 +1.3**
LODK Lodwar 70.69 108 P **P 02 53 57.6 -0.4**
LODK IAmb IAmb 02 54 06.0
comp=Z,13nm,1.1s
MA2 Magadan 71.04 0 P **P 02 54 00.5 +1.2**
MA2 Magadan 71.04 0 LR LR 03 25 22.3
comp=Z,101nm,18.6s,baz=319,slow=36
MA2 Magadan 71.04 0 *ce*P **P 02 54 00.0 +0.6**
MA2 pmax pmax
comp=Z,25nm,1.3s
ATAH Atahualpa 71.30 233 LR LR 03 23 48.5
comp=Z,231nm,21.0s,baz=11,slow=35
WMQ Urumqi 71.46 43 *e*P **P 02 54 04.9 +2.6**
WMQ LR LR
comp=N,620nm,17.3s
WMQ LR LR
comp=E,880nm,20.9s
WMQ LR LR
comp=Z,780nm,20.9s
SIV San Ignacio 71.50 213 LR LR 03 20 56.5
comp=Z,294nm,20.2s,baz=314,slow=32
ZAK Zakamensk 72.06 30 *e*P **P 02 54 06.1 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
AQDB Aquidauana 73.96 206 P **P 02 54 18.6 +1.4**
AQDB IAmb IAmb 02 54 19.2
comp=Z,39nm,1.5s
AQDB Aquidauana 73.96 206 *e*P **P 02 54 19.1 +1.9**
BDQN Bodoquena, MS 74.25 207 *e*P **P 02 54 20.4 +1.6**
LPAZ La Paz 74.48 219 P **P 02 54 20.3 -0.7**
comp=Z,2.4nm,1.1s,baz=19,slow=7.2,SNR=8.2
LPAZ LR LR 03 23 19.1
comp=Z,408nm,21.2s,baz=12,slow=33
comp=Z,2.4nm,1.1s
LPAZ La Paz 74.48 219 *e*P **P 02 54 20.7 -0.3**
NNA Nana 74.65 229 LR LR 03 25 30.2
comp=Z,139nm,21.6s,baz=7.0,slow=34
ZEA Zeya 74.88 15 *e*P **P 02 54 24.4 +2.2**
SONM Songino Array 75.29 30 P **P 02 54 25.6 +0.7**
SONM IAmb IAmb 02 54 38.6
comp=Z,20nm,1.5s
SONM Songino Array 75.29 30 P **P 02 54 25.0 +0.2**
comp=Z,5.0nm,1.1s,baz=328,slow=5.3,SNR=18
SONM LR LR 03 29 37.4
comp=Z,223nm,19.9s,baz=269,slow=37
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 75.42 110 P **P 02 54 25.8 -0.4**
KMBO Kilima Mbogo 75.42 110 P **P 02 54 26.7 +0.5**
comp=Z,0.6nm,0.4s,baz=323,slow=10,SNR=3.8
KMBO LR LR 03 26 48.8
comp=Z,222nm,21.8s,baz=332,slow=35
comp=Z,0.6nm,0.4s
KMBO Kilima Mbogo 75.42 110 *i* P **P 02 54 28.0 +1.8**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 75.47 29 P **P 02 54 26.8 +0.9**
ULN IAmb IAmb 02 54 40.1
comp=Z,29nm,1.4s
ULN Ulaanbaatar 75.47 29⇑ *i* P **P 02 54 27.5 +1.5**
ULN pmax pmax
comp=Z,26nm,1.8s
MURT Porto Murtinho 75.65 208 *e*P **P 02 54 26.7 -0.1**
SHEM Shemya Is, Ala 76.12 346 LR LR 03 28 22.4
comp=Z,96nm,21.2s,baz=300,slow=36
PETK Petropavlovsk- 77.39 356 P **P 02 54 36.8 +0.2**
comp=Z,2.2nm,0.9s,baz=2.6,slow=3.2,SNR=2.5
PETK LR LR 03 31 17.1
comp=Z,75nm,18.6s,baz=20,slow=38
comp=Z,2.2nm,0.9s
HEH HeiHe 78.26 16 *e*P **P 02 54 42.0 +0.6**
HEH pmax pmax
comp=Z,13nm,1.0s
PB08 IPOC Station P 78.36 219 IAmb IAmb 02 54 43.9
comp=Z,22nm,1.2s
TSUM Tsumeb 79.83 136 LR LR 03 30 30.6
comp=Z,89nm,18.8s,baz=332,slow=36
KLR Kul'dur 79.95 13 P **P 02 54 51.0 +0.2**
comp=Z,1.8nm,0.8s,baz=337,slow=7.7,SNR=4.2
comp=Z,1.8nm,0.8s
KLR Kul'dur 79.95 13 *ce*P **P 02 54 50.3 -0.4**
KLR pmax pmax
comp=Z,14nm,1.5s
CPUP Villa Florida 79.97 206 IAmb IAmb 02 54 54.4
comp=Z,43nm,1.9s
CPUP Villa Florida 79.97 206 P **P 02 54 50.3 -0.6**
comp=Z,3.7nm,0.9s,baz=37,slow=1.3,SNR=4.7
comp=Z,3.7nm,0.9s
CPUP Villa Florida 79.97 206 *e*P **P 02 54 51.7 +0.8**
GTA Gaotai 80.23 38 *e*P **P 02 54 52.8 +0.2**
GTA sP pwP 02 54 59.3 +0.5
GTA pmax pmax
comp=Z,8.0nm,1.6s
GTA LR LR
comp=N,380nm,20.4s
GTA LR LR
comp=E,280nm,21.1s
GTA LR LR
comp=Z,590nm,20.0s
LSZ Lusaka 81.68 125 LR LR 03 33 02.9
comp=Z,403nm,18.1s,baz=336,slow=37
CPSB Cacapava Do Su 82.83 202 *e*P **P 02 55 07.0 +1.1**
BTO Baotou 82.91 31 *e*P **P 02 55 06.9 +0.2**
BTO pP **PcP 02 55 11.8 +0.3**
BTO sP **pwP 02 55 13.8 +0.9**
BTO pmax pmax
comp=Z,24nm,1.2s
BTO pmax pmax
comp=Z,170nm,7.0s
BTO LR LR
comp=N,820nm,14.6s
BTO LR LR
comp=E,790nm,18.8s
BTO LR LR
comp=Z,430nm,17.1s
HHC Hu-ho-hao-te 83.19 29 *e*P **P 02 55 07.4 -0.7**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.5s

HHC				LR	LR		
	comp=N,330nm,14.7s						
HHC				LR	LR		
	comp=E,320nm,17.2s						
HHC				LR	LR		
	comp=Z,350nm,19.1s						
PLTB	**Pedras Altas**	**84.17**	**201**	*e*P	**P**	**02 55 14.3**	**+1.5**
LZH	**Lanzhou**	**84.69**	**37**	*e*P	**P**	**02 55 19.3**	**+3.3**
LZH				pP	pwP	02 55 23.6	+1.4
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				LR	LR		
	comp=N,730nm,18.9s						
LZH				LR	LR		
	comp=E,610nm,17.5s						
LZH				LR	LR		
	comp=Z,880nm,20.3s						
USRK	**Ussuriysk Ar.**	**84.90**	**14**	P	**P**	**02 55 16.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=18,slow=6.9,SNR=4.2						
	comp=Z,1.5nm,0.7s						
HNS	**HongShan**	**87.33**	**29**	⇑P	**P**	**02 55 30.0**	**+1.3**
HNS	**HongShan**	**87.33**	**29**	S	**S**	**03 06 12.6**	**+3.7**
HNS				pmax	pmax		
	comp=Z,15nm,1.8s						
CFA	**Coronel Fontan**	**88.36**	**213**	LR	LR	03 33 21.8	
	comp=Z,108nm,20.2s,baz=171,slow=34						
XAN	**Xi'an**	**88.43**	**34**	P	**P**	**02 55 34.3**	**+0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LBTB	**Lobatse**	**88.55**	**133**	LR	LR	03 36 18.6	
	comp=Z,169nm,18.1s,baz=332,slow=36						
BRDH	**Bariadhala**	**90.52**	**53**	LR	LR	03 38 40.6	
	comp=Z,209nm,20.4s,baz=311,slow=37						
KSRS	**Korea Array**	**90.70**	**19**	LR	LR	03 38 39.8	
	comp=Z,83nm,19.1s,baz=340,slow=37						
BOSA	**Boshof**	**91.44**	**135**	LR	LR	03 35 26.7	
	comp=Z,289nm,20.4s,baz=334,slow=35						
PZH	**PanZhiHua**	**92.16**	**43**	P	**P**	**02 55 51.3**	**-0.4**
PZH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
SUR	**Sutherland**	**92.73**	**140**	LR	LR	03 33 23.8	
	comp=Z,234nm,21.8s,baz=328,slow=33						
NJ2	**Nanjing**	**93.55**	**27**	*e*P	**P**	**02 55 56.8**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
PLCA	**Paso Flores**	**97.39**	**211**	LR	LR	03 39 54.0	
	comp=Z,84nm,18.5s,baz=26,slow=35						
CMAR	**Chiang Mai Arr**	**97.74**	**50**	LR	LR	03 43 44.9	
	comp=Z,222nm,20.2s,baz=125,slow=38						
QIZ	**Qiongzhong**	**102.22**	**40**	Pdif	**Pdif**	**02 56 35.6**	**-1.6**
QIZ				PP	**PP**	**03 00 47.3**	**-1.1**
QIZ	**Qiongzhong**	**102.22**	**40**	SS	SS	03 15 24.9	+0.5
QIZ				LR	LR		
	comp=N,230nm,13.4s						
QIZ				LR	LR		
	comp=E,170nm,9.6s						
QIZ				LR	LR		
	comp=Z,290nm,21.4s						
QSPA	**South Pole Qui**	**139.63**	**180**	PKP	**PKPdf**	**03 02 08.7**	**+0.3**
	comp=Z,5.1nm,1.1s,baz=243,slow=1.0,SNR=5.8						
WRA	**Warramunga Arr**	**147.26**	**31**		**PKPdf**	**03 02 23.0**	**-0.2**
WRA	**Warramunga Arr**	**147.26**	**31**	PKPbc	**PKPdf**	**03 02 24.0**	**+0.9**
	comp=Z,2.9nm,1.0s,baz=326,slow=3.0,SNR=6.2						
WRA	**Warramunga Arr**	**147.26**	**31**	PKP2	**PKPdf**	**03 02 24.0**	**+0.9**
DZM	**Mont Dzumac**	**149.97**	**331**		**PKiKP**	**03 02 33.7**	**+0.3**
AS31	**Alice Springs**	**150.54**	**34**		**PKPbc**	**03 02 32.6**	**-1.2**
ASAR	**Alice Springs**	**150.54**	**34**	PKPbc	**PKPbc**	**03 02 32.5**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=345,slow=1.9,SNR=24						
VNDA	**Vanda**	**151.84**	**185**	PKPbc	**PKiKP**	**03 02 36.6**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=182,slow=4.0,SNR=3.6						

IDC ***22*** *02:46:05.7±1.9, 50°.25N×29°.29W, h0km, mb3.5/7, mbtmp3.5/8, ML3.8/1, Error ellipse: s-maj=55.4km s-min=28.3km az=2.0*

ISC 22 02:46:07.2±1.6, 50°.2N±0°.3×29°.2W±0°.2, h10km, n9, σ1§11/9, mb3.7/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.54**	**62**	Pn	**P**	**02 50 00.6**	**-0.9**
	baz=254,slow=10						
	1.4nm,0.7s						
ESDC	**Sonseca Array**	**20.67**	**111**	P	**P**	**02 50 47.2**	**+0.1**
	0.5nm,0.6s,baz=305,slow=12,SNR=4.1						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**32.03**	**48**	P	**P**	**02 52 33.2**	**-0.2**
	1.9nm,0.8s,baz=267,slow=9.3,SNR=1.3						
	1.9nm,0.8s						
PDAR	**Pinedale Array**	**53.26**	**295**	P	**P**	**02 55 25.4**	**-0.7**
	0.2nm,0.5s,baz=65,slow=7.5,SNR=5.4						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**56.91**	**45**	P	**P**	**02 55 51.0**	**-1.0**
	0.5nm,0.5s,baz=307,slow=5.2,SNR=5.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**62.23**	**43**	P	**P**	**02 56 28.0**	**-0.6**
	0.2nm,0.8s,baz=322,slow=7.1,SNR=4.2						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**66.74**	**44**	P	**P**	**02 56 58.5**	**+0.2**
	0.4nm,0.6s,baz=317,slow=6.6,SNR=5.4						
	0.4nm,0.6s						
SONM	**Songino Array**	**75.11**	**29**	P	**P**	**02 57 51.3**	**+2.2**
	0.3nm,0.4s,baz=318,slow=1.9,SNR=1.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**150.41**	**33**	PKPbc	**PKiKP**	**03 05 59.6**	**+0.1**
	0.2nm,0.4s,baz=325,slow=1.7,SNR=1.6						

ROM 22 02:46:47.0±0.1, 42°.857N±0°.004×13°.201E±0°.005, h10km, ML1.4/14, 2C-1D, Error ellipse: s-maj=0.4km s-min=0.4km az=32.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.07**	**250**	⇓P	Pg	02 46 49.9	+0.6
NRCA				S	Sg	02 46 51.6	+0.6
NRCA				AML	AML		
	comp=E,2995μm,0.1s						
NRCA				AML	AML		
	comp=E,2995μm,0.1s						
NRCA				AML	AML		
	comp=N,1240μm,1.2s						
NRCA				AML	AML		
	comp=N,1240μm,0.8s						
NRCA				AML	AML		
	comp=N,1240μm,0.1s						
NRCA				AML	AML		
	comp=E,3090μm,0.1s						
MMO1	**Montemonaco**	**0.10**	**65**	P	Pg	02 46 50.1	+0.3
MMO1				S	Sg	02 46 52.1	+0.3
MTRA	**Matera**	**0.17**	**125**	P	Pg	02 46 51.3	+0.5
MTRA				S	Sg	02 46 54.4	+0.9
MTRA				AML	AML		
	comp=N,204μm,0.1s						
MTRA				AML	AML		
	comp=E,185μm,0.2s						
FDMO	**Fiordimonte**	**0.20**	**335**	P	Pg	02 46 51.7	+0.4
FDMO				S	Sg	02 46 54.9	+0.8
FDMO				AML	AML		
	comp=E,103μm,0.1s						
FDMO				AML	AML		
	comp=N,75μm,0.3s						
GUMA	**Gualdo di Mace**	**0.23**	**26**	⇑P	Pb	02 46 52.5	-0.8
GUMA				S	Sg	02 46 56.7	+1.7
GUMA				AML	AML		
	comp=E,364μm,0.3s						
GUMA				AML	AML		
	comp=N,320μm,1.1s						
GUMA				AML	AML		
	comp=E,364μm,1.7s						
MF5	**Montefalcone A**	**0.23**	**55**	P	Pg	02 46 52.5	+0.7
MF5				S	Sg	02 46 56.9	+1.8
SMA1	**SAN MARTINO**	**0.25**	**156**	P	Pg	02 46 52.8	+0.6
SMA1				S	Sg	02 46 57.1	+1.5
CESI	**CESI - Serrava**	**0.26**	**304**	⇑P	Pg	02 46 53.0	+0.6
CESI				S	Sb	02 46 57.3	-1.2
CESI				AML	AML		
	comp=E,183μm,0.3s						
CESI				AML	AML		
	comp=N,202μm,0.5s						
LNSS	**Leonessa**	**0.28**	**205**	P	Pg	02 46 53.4	+0.6
LNSS				S	Sb	02 46 58.2	-0.8
LNSS				AML	AML		
	comp=N,100μm,1.1s						
LNSS				AML	AML		
	comp=N,100μm,0.9s						
LNSS				AML	AML		
	comp=E,92μm,1.0s						
RM33	**Pellescritta (**	**0.35**	**178**	P	Pg	02 46 54.5	+0.6
MNTT	**Montottone**	**0.35**	**55**	P	Pb	02 46 55.2	-0.2
MNTT				AML	AML		
	comp=N,184μm,1.3s						
MNTT				AML	AML		
	comp=N,184μm,0.7s						
MNTT				AML	AML		
	comp=E,194μm,1.5s						
CAMP	**Campotosto**	**0.36**	**154**	P	Pg	02 46 54.1	0.0
CAMP				S	Sb	02 47 00.1	-1.1
TERO	**Teramo**	**0.38**	**128**	P	Pg	02 46 54.9	+0.3
TERO				S	Sb	02 47 00.8	-1.0

BJI ***22*** *03:16:26.0, 9°.54S×124°.72E, h106km, mB5.4/21, mb5.3/74*
NEIC ***22*** *03:16:35.0±2.7, 8°.80S±0°.06×124°.17E±0°.07, h101km±6km, mb5.2/114, Mww4.9/12, Error ellipse: s-maj=9.6km s-min=8.1km az=72.0*
MOS ***22*** *03:16:34.0±0.9, 8°.56S×124°.11E, h108km, mb5.4/52, MS4.5/4, Error ellipse: s-maj=9.0km s-min=5.2km az=118.6*
IDC ***22*** *03:16:34.4±0.8, 8°.69S×124°.06E, h101km±7km, mb4.8/31, mbtmp5.2/33, MS3.7/20, Error ellipse: s-maj=12.3km s-min=7.7km az=82.0*
NEIC ***22*** *03:16:35.1, 8°.80S×124°.17E, h100km*
DJA ***22*** *03:16:35.3±0.1, 9°S±1°×12°4E±°, h104km±2km, M5.0/86, mb5.3/86, mB5.5/43, MLv5.3/22, Mw(mB)5.0/43, MwMwp4.5/1, Mwp4.9/1*
NEIC ***22*** *03:16:35.1, 9°.00S×124°.00E, h100km, Moment Tensor Solution. Duration: 1§4 Moment tensor: Scale 1016Nm; Mrr0.68; Mθθ0.41; Mφφ-1.09; Mrθ1.97; Mφθ1.80; Mφr1.04; Fault plane solution: M0 2.87000×1016 NP1:φ=2.46000°, δ57.56000°, λ155.04000°. NP2:φs106.48000°, δ69.13000°, λ35.04000°. Principal axes: T 3.4144, Plg39.0000°, Azm328.0000°; N -1.0916, Plg50.0000°, Azm133.0000°; P -2.3228, Plg7.0000°, Azm232.0000°;*
GCMT ***22*** *03:16:37.0±0.2, 8°.91S±0°.02×124°.25E±0°.02, h97km±3km, MW4.9/101, Moment Tensor Solution. s36,c40; s101,c136; Duration: 0 Moment tensor: Scale 1016Nm; Mrr1.17±.13; Mθθ-0.30±.18; Mφφ-0.87±.19; Mrθ2.03±.06; Mφθ-0.58±.12; Mφr1.85±.08; Best double couple: M0 2.99800×1016 NP1:φs198.00000°, δ13.00000°, λ62.00000°. NP2:φ46.00000°, δ79.00000°, λ96.00000°. Principal axes: T 3.0080, Plg56.0000°, Azm324.0000°; N -0.0210, Plg6.0000°, Azm225.0000°; P -2.9870, Plg33.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 03:16:34.9±0.3, 8°.85S±0°.03×124°.13E±0°.03, h107km±2km, h108km:pP-P, n681, σ1§42/681, mb5.2/159, 27C-15D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.91**	**171**	Pn	**Pn**	**03 16 55.6**	**+0.6**
SOEI	**Soe**	**0.91**	**171**	P	**Pn**	**03 16 55.5**	**+0.4**
SOEI	**Soe**	**0.91**	**171**	P	**Pn**	**03 16 55.6**	**+0.6**
SOEI				S	**Sn**	**03 17 10.6**	**+0.4**
BATI	**Baumata**	**1.42**	**199**	P	**Pn**	**03 17 01.4**	**+0.8**
	23μm,0.4s,baz=29,slow=2.3,SNR=2276						
BATI				S	**Sn**	**03 17 22.0**	**+1.8**
	26μm,0.6s,baz=282,slow=3.3,SNR=18						
BATI				LR	LR	03 17 38.0	
	comp=Z,3μm,19.8s,baz=110,slow=41						
MMRI	**Maumere**	**1.88**	**276**	Pn	**Pn**	**03 17 07.8**	**+1.6**
MMRI	**Maumere**	**1.88**	**276**	P	**Pn**	**03 17 07.9**	**+1.6**
MMRI	**Maumere**	**1.88**	**276**	S	**Sn**	**03 17 33.4**	**+3.2**
MMRI	**Maumere**	**1.88**	**276**	P	**Pn**	**03 17 07.8**	**+1.6**
BBSI	**Bau Bau**	**3.68**	**335**	P	**Pn**	**03 17 31.9**	**+1.9**
BASI	**Baing, Sumba**	**3.76**	**249**	P	**Pn**	**03 17 30.0**	**-1.0**
WSI	**Waingapu**	**3.87**	**258**	P	**Pn**	**03 17 33.1**	**+0.7**
BSSI	**Bau Bau, Buton**	**4.50**	**306**	P	**Pn**	**03 17 43.1**	**+2.1**
WBSI	**Waikabubak, Su**	**4.74**	**260**	P	**Pn**	**03 17 43.8**	**-0.5**
KDI	**Kendari**	**5.09**	**343**	P	**Pn**	**03 17 50.9**	**+1.9**
BKSI	**Bulukumba**	**5.30**	**311**	P	**Pn**	**03 17 53.5**	**+1.7**
	1.9nm6μm442nm,0.5s						
KAPI	**Kappang**	**5.78**	**311**	Pn	**Pn**	**03 18 01.1**	**+2.8**
KAPI	**Kappang**	**5.78**	**311**	P	**Pn**	**03 18 00.9**	**+2.6**
	124nm,0.5s,baz=140,slow=8.9,SNR=71						
KAPI				LR	LR	03 20 27.5	
	comp=Z,957nm,20.6s,baz=148,slow=41						
KAPI	**Kappang**	**5.78**	**311**	P	**Pn**	**03 17 59.8**	**+1.5**
KAPI				S	**Sn**	**03 19 07.2**	**+3.8**
KAPI	**Kappang**	**5.78**	**311**	P	**Pn**	**03 18 01.5**	**+3.2**
KAPI	**Kappang**	**5.78**	**311**	*i* P	**Pn**	**03 17 55.9**	**-2.4**
PLAI	**Plampang**	**6.28**	**270**	P	**Pn**	**03 18 06.9**	**+1.8**
PLAI	**Plampang**	**6.28**	**270**	S	**Sn**	**03 19 15.1**	**-0.4**
PLAI	**Plampang**	**6.28**	**270**	P	**Pn**	**03 18 05.9**	**+0.8**
	6.4nm14μm657nm,0.5s						
NLAI	**Namlea**	**6.31**	**28**	P	**Pn**	**03 18 08.6**	**+3.1**
	0.9nm3μm292nm,1.0s						
SPSI	**Sidrap Palu**	**6.51**	**318**	P	**Pn**	**03 18 11.7**	**+3.5**
	0.5nm2μm137nm,0.7s						
AAI	**Ambon**	**6.53**	**38**	P	**Pn**	**03 18 11.2**	**+2.7**
	0.4nm117nm,0.8s						
SANI	**Sanana**	**7.01**	**15**	P	**Pn**	**03 18 17.2**	**+2.2**
SANI	**Sanana**	**7.01**	**15**	P	**Pn**	**03 18 16.3**	**+1.3**
	0.5nm137nm,0.6s						
SAUI	**Saumlaki**	**7.15**	**84**	Pn	**Pn**	**03 18 17.2**	**+0.4**
SAUI	**Saumlaki**	**7.15**	**84**	P	**Pn**	**03 18 17.9**	**+1.1**
SAUI	**Saumlaki**	**7.15**	**84**	S	**Sn**	**03 19 34.1**	**-2.4**
TWSI	**Taliwang, Sumb**	**7.17**	**270**	P	**Pn**	**03 18 17.4**	**+0.3**
	9μm378nm,0.6s						
TTSI	**Tana Toraja**	**7.19**	**323**	P	**Pn**	**03 18 20.4**	**+3.0**
	0.7nm2μm194nm,0.7s						
MSAI	**Masohi**	**7.26**	**41**	P	**Pn**	**03 18 21.0**	**+2.6**
	0.6nm167nm,1.0s						
DRS	**Darwin Rock St**	**7.54**	**119**	P	**Pn**	**03 18 20.2**	**-2.0**
LUWI	**Luwuk**	**7.88**	**350**	Pn	**Pn**	**03 18 27.4**	**+0.6**
LUWI	**Luwuk**	**7.88**	**350**	P	**Pn**	**03 18 29.2**	**+2.4**
LUWI	**Luwuk**	**7.88**	**350**	P	**Pn**	**03 18 29.0**	**+2.2**
	1.0nm3μm272nm,0.7s						
MTN	**Manton Dam**	**7.94**	**121**	Pn	**Pn**	**03 18 25.3**	**-2.3**
MTN	**Manton Dam**	**7.94**	**121**	P	**Pn**	**03 18 25.3**	**-2.3**
MTN	**Manton Dam**	**7.94**	**121**	S	Sn	03 19 46.9	-8.9
MTN	**Manton Dam**	**7.94**	**121**	P	**Pn**	**03 18 25.4**	**-2.2**
KNRA	**Kununurra**	**8.15**	**147**	Pn	**Pn**	**03 18 27.9**	**-2.6**
KNRA	**Kununurra**	**8.15**	**147**	P	**Pn**	**03 18 27.6**	**-2.9**
	comp=Z,1μm,0.5s						
KNRA				S	Sn	03 19 52.1	-8.9
APSI	**Ampana**	**8.27**	**342**	P	**Pn**	**03 18 35.0**	**+2.9**
	comp=Z,2μmcomp=Z,194nm,0.8s						
SRBI	**Singaraja**	**8.85**	**274**	P	**Pn**	**03 18 40.9**	**+0.9**
	comp=Z,2μmcomp=Z,128nm,0.9s						
PCI	**Palu**	**8.98**	**331**	P	**Pn**	**03 18 45.2**	**+3.5**
	comp=Z,133nm,1.0s						
KDU	**Kakadu**	**9.04**	**116**	P	**Pn**	**03 18 39.4**	**-3.1**
	comp=Z,371nm,0.5s						
KDU	**Kakadu**	**9.04**	**116**	S	Sn	03 20 12.5	-10
KDU	**Kakadu**	**9.04**	**116**	P	**Pn**	**03 18 39.9**	**-2.6**
FITZ	**Fitzroy Crossi**	**9.31**	**171**		**Pn**	**03 18 42.4**	**-3.8**
FITZ	**Fitzroy Crossi**	**9.31**	**171**	P	**Pn**	**03 18 42.6**	**-3.6**
	comp=Z,50nm,0.5s						
FITZ	**Fitzroy Crossi**	**9.31**	**171**	S	Sn	03 20 18.8	-10
FITZ	**Fitzroy Crossi**	**9.31**	**171**	P	**Pn**	**03 18 42.5**	**-3.6**
	comp=Z,153nm,0.3s,baz=15,slow=12,SNR=788						
FITZ				S	Sn	03 20 19.9	-9.1
	comp=Z,2μm,0.5s,baz=208,slow=7.0,SNR=18						
FITZ				LR	LR	03 23 21.7	
	comp=Z,483nm,18.6s,baz=350,slow=43						
FITZ	**Fitzroy Crossi**	**9.31**	**171**	P	**Pn**	**03 18 43.0**	**-3.2**
MRSI	**Marisa**	**9.52**	**347**	P	**Pn**	**03 18 50.0**	**+0.9**
	comp=Z,98nm,1.0s						
ABJI	**Asem Bagus**	**9.85**	**275**	P	**Pn**	**03 18 56.2**	**+2.7**
	comp=Z,94nm,0.7s						
JAGI	**Jajag, Banyuwa**	**9.87**	**271**	Pn	**Pn**	**03 18 50.1**	**-3.8**
JAGI	**Jajag, Banyuwa**	**9.87**	**271**	P	**Pn**	**03 18 54.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**9.87**	**271**	P	**Pn**	**03 18 53.6**	**-0.3**
FAKI	**Fak Fak**	**10.00**	**54**		**Pn**	**03 18 54.3**	**-1.3**
FAKI	**Fak Fak**	**10.00**	**54**	P	**Pn**	**03 18 55.4**	**-0.2**
TNTI	**Ternate**	**10.09**	**19**	Pn	**Pn**	**03 18 59.3**	**+2.5**
TNTI	**Ternate**	**10.09**	**19**	P	**Pn**	**03 19 00.7**	**+3.9**
TNTI	**Ternate**	**10.09**	**19**	P	**Pn**	**03 18 59.9**	**+3.1**
	comp=Z,1μmcomp=Z,92nm,1.0s						
TOLI2	**Tolitoli**	**10.45**	**341**		**Pn**	**03 19 02.1**	**+0.5**
TOLI2	**Tolitoli**	**10.45**	**341**	P	**Pn**	**03 19 06.3**	**+4.6**
SWI	**Sorong**	**10.65**	**42**	P	**Pn**	**03 19 04.4**	**0.0**
	comp=Z,67nm,0.9s						
MTKI	**Muara Teweh, K**	**12.10**	**310**	P	**Pn**	**03 19 26.1**	**+2.3**
	comp=Z,283nm,0.9s						
NGJI	**Ngawi**	**12.63**	**276**	P	**Pn**	**03 19 32.9**	**+2.1**
	comp=Z,201nm,0.8s						
PCJI	**Pacitan**	**12.83**	**272**	P	**Pn**	**03 19 31.5**	**-1.9**
MBWA	**Marble Bar**	**12.95**	**199**	P	**Pn**	**03 19 33.1**	**-1.8**
	comp=Z,88nm,2.7s						
MBWA				S	Sn	03 21 48.6	-8.9
MBWA	**Marble Bar**	**12.95**	**199**	P	**Pn**	**03 19 35.1**	**+0.2**
MBWA	**Marble Bar**	**12.95**	**199**	P	**Pn**	**03 19 35.3**	**+0.3**
PSA00	**Pilbara Seismi**	**13.30**	**198**		**Pn**	**03 19 37.9**	**-1.7**
PSA00	**Pilbara Seismi**	**13.30**	**198**	P	**Pn**	**03 19 38.9**	**-0.7**
PSA00				S	Sn	03 21 57.1	-8.9
PSA00	**Pilbara Seismi**	**13.30**	**198**	P	**Pn**	**03 19 39.5**	**-0.1**
UGM	**Wanagama**	**13.49**	**273**		**Pn**	**03 19 39.7**	**-2.5**
UGM	**Wanagama**	**13.49**	**273**	P	**Pn**	**03 19 44.9**	**+2.7**
UGM	**Wanagama**	**13.49**	**273**	P	**Pn**	**03 19 40.7**	**-1.5**
	comp=Z,149nm,0.5s						
SMRI	**Semarang**	**13.68**	**277**		**Pn**	**03 19 44.7**	**+0.2**
SMRI	**Semarang**	**13.68**	**277**	P	**Pn**	**03 19 45.5**	**+1.0**
SMRI	**Semarang**	**13.68**	**277**	P	**Pn**	**03 19 43.7**	**-0.8**
	comp=Z,3μmcomp=Z,192nm,0.7s						
WRA	**Warramunga Arr**	**14.80**	**139**		Pn	03 19 53.1	-5.8
WRA	**Warramunga Arr**	**14.80**	**139**	P	Pn	03 19 54.1	-4.8
	comp=Z,86nm,0.5s,baz=322,slow=13,SNR=281						
WRA				S	Sn	03 22 27.8	-15
	comp=Z,353nm,0.8s,baz=316,slow=23,SNR=26						
WRA				LR	LR	03 26 33.3	
	comp=Z,609nm,18.4s,baz=340,slow=40						
WRA	**Warramunga Arr**	**14.80**	**139**	P	Pn	03 19 53.1	-5.8
WRAB	**Tennant Creek**	**14.80**	**139**	*i* P	**P**	**03 20 01.3**	**-0.7**
WR0	**Warramunga Arr**	**14.94**	**139**	P	Pn	03 19 55.9	-4.8
MYLDM	**Lahad Datu**	**15.03**	**338**	P	**P**	**03 20 06.8**	**+2.2**
MYLDM	**Lahad Datu**	**15.03**	**338**	P	**P**	**03 20 04.8**	**+0.3**
STKI	**Sintang**	**15.41**	**304**	P	**P**	**03 20 09.0**	**+0.2**
	comp=Z,122nm,1.1s						
CMJI	**Cimerak**	**15.55**	**273**	P	**Pn**	**03 20 05.9**	**-2.5**
	comp=Z,3μmcomp=Z,249nm,1.1s						
DAV	**Davao City (W)**	**15.88**	**5**	LR	LR	03 27 04.8	
	comp=Z,135nm,19.5s,baz=178,slow=40						
SMPI	**Sarmi**	**16.03**	**66**	P	**Pn**	**03 20 14.9**	**+0.6**
	comp=Z,82nm,0.6s						
SBUM	**Sibu**	**16.34**	**313**	P	**P**	**03 20 20.8**	**+1.6**
SBUM	**Sibu**	**16.34**	**313**	P	**P**	**03 20 21.7**	**+2.6**
BBJI	**Bungbulang**	**16.37**	**274**	P	**Pn**	**03 20 19.3**	**+0.7**
LEM	**Lembang**	**16.48**	**276**	P	**Pn**	**03 20 20.4**	**+0.4**
	comp=Z,254nm,0.7s,baz=57,slow=9.8,SNR=43						
LEM				LR	LR	03 28 29.6	
	comp=Z,135nm,19.0s,baz=207,slow=44						
LEM	**Lembang**	**16.48**	**276**	P	**Pn**	**03 20 20.8**	**+0.7**
	comp=Z,2μmcomp=Z,305nm,0.7s						
WRKA	**Warakurna**	**16.58**	**167**	P	**Pn**	**03 20 18.9**	**-2.1**
	comp=Z,343nm,0.7s						
WRKA	**Warakurna**	**16.58**	**167**	S	Sn	03 23 12.3	-13
WRKA	**Warakurna**	**16.58**	**167**	P	**Pn**	**03 20 18.7**	**-2.4**
GIRL	**Giralia**	**16.68**	**214**	S	**Sn**	**03 23 19.7**	**-7.9**
GIRL	**Giralia**	**16.68**	**214**	P	**P**	**03 20 24.5**	**+1.7**
GIRL	**Giralia**	**16.68**	**214**	P	**P**	**03 20 24.1**	**+1.3**
KKM	**Kota Kinabalu**	**16.77**	**332**	P	**P**	**03 20 26.4**	**+2.4**
KKM	**Kota Kinabalu**	**16.77**	**332**	P	**P**	**03 20 27.3**	**+3.3**
CNJI	**Cibinong**	**16.90**	**274**	P	**Pn**	**03 20 25.1**	**0.0**
	comp=Z,2μmcomp=Z,148nm,0.7s						
GENI	**Genyem**	**17.12**	**70**	P	**Pn**	**03 20 30.8**	**+3.1**
GENI	**Genyem**	**17.12**	**70**	P	**Pn**	**03 20 28.8**	**+1.1**
	comp=Z,60nm,0.6s						
KSM	**Kuching**	**17.17**	**306**	P	**Pn**	**03 20 29.9**	**+1.5**
KSM	**Kuching**	**17.17**	**306**	P	**Pn**	**03 20 30.5**	**+2.1**
CBJI	**Citeko**	**17.30**	**277**	P	**P**	**03 20 28.3**	**-1.4**
TABU	**Tabubil**	**17.33**	**79**	P	**Pn**	**03 20 31.4**	**+1.0**
AS31	**Alice Springs**	**17.45**	**149**	P	**P**	**03 20 29.4**	**-1.9**
AS31	**Alice Springs**	**17.45**	**149**	P	**P**	**03 20 29.6**	**-1.8**
	comp=Z,173nm,0.8s						
ASAR	**Alice Springs**	**17.45**	**149**	P	**P**	**03 20 29.4**	**-2.0**
ASAR	**Alice Springs**	**17.45**	**149**	P	**P**	**03 20 30.3**	**-1.1**
	comp=Z,204nm,0.9s,baz=318,slow=11,SNR=583						
ASAR				S	Sn	03 23 35.2	-11
	comp=Z,104nm,0.5s,baz=322,slow=23,SNR=13						
ASAR				LR	LR	03 27 35.0	
	comp=Z,405nm,22.0s,baz=330,slow=38						
ASAR				ScP	**ScP**	**03 28 33.1**	**+0.7**
	comp=Z,9.4nm,0.6s,baz=334,slow=2.1,SNR=4.0						
ASAR	**Alice Springs**	**17.45**	**149**	P	**P**	**03 20 29.4**	**-2.0**
TPI	**Tanjungpandan**	**17.47**	**289**	P	**Pn**	**03 20 33.0**	**+1.0**
	comp=Z,864nmcomp=Z,64nm,0.8s						
AS01	**Alice Springs**	**17.47**	**149**	P	**P**	**03 20 30.2**	**-1.4**
SKJI	**Sukabumi**	**17.50**	**275**	P	**P**	**03 20 31.7**	**-0.3**
JAY	**Jayapura**	**17.65**	**70**	P	**P**	**03 20 31.9**	**-1.7**
	comp=Z,37nm,0.8s,baz=250,slow=7.3,SNR=11						
JAY	**Jayapura**	**17.65**	**70**	P	**Pn**	**03 20 34.9**	**+0.7**
SBJI	**Serang**	**18.05**	**277**	P	**P**	**03 20 37.7**	**-0.3**
XMI	**Christmas Isla**	**18.25**	**264**	P	**Pn**	**03 20 43.0**	**+1.6**
XMIS	**Christmas Isla**	**18.29**	**263**		**P**	**03 20 41.3**	**+0.7**
CGJI	**Cibin

KULM Kulim 27.30 300 P **P** **03 22 09.7 -0.1**
PSI Prapat 27.67 294 LR LR 03 33 25.8
comp=Z,243nm,19.8s,baz=92,slow=37
PSI Prapat 27.67 294 P **P** **03 22 12.2 -1.0**
HTT Hallett 28.01 153 P **P** **03 22 17.0 +1.1**
STKA Stephens Creek 28.07 147 P **P** **03 22 17.4 +0.9**
STKA Stephens Creek 28.07 147 P **P** **03 22 17.2 +0.7**
comp=Z,279nm,0.8s
STKA Stephens Creek 28.07 147 P **P** **03 22 17.4 +0.9**
comp=Z,42nm,0.8s,baz=315,slow=9.2,SNR=72
STKA LR LR 03 34 30.2
comp=Z,231nm,20.2s,baz=344,slow=38
comp=Z,42nm,0.8s
STKA Stephens Creek 28.07 147 P **P** **03 22 16.8 +0.4**
STKA Stephens Creek 28.07 147 *i* P **P** **03 22 16.2 -0.2**
GSI Gunungsitoli 28.32 290 P **P** **03 22 16.7 -2.2**
GSI IAmb IAmb 03 22 17.8
comp=Z,36nm,0.5s
GSI Gunungsitoli 28.32 290 P **P** **03 22 17.3 -1.6**
GSI Gunungsitoli 28.32 290 P **P** **03 22 16.7 -2.2**
comp=Z,52nm,0.6s
SNSI Sinabang, Aceh 29.89 291 P **P** **03 22 31.4 -1.3**
comp=Z,128nm,0.7s
SRIT Nakonsritamara 29.96 305 IAmb IAmb 03 22 36.4
comp=Z,56nm,0.7s
SRIT Nakonsritamara 29.96 305 P **P** **03 22 33.8 +0.5**
CMSA Cobar Meteorol 30.19 141 P **P** **03 22 36.7 +1.5**
comp=Z,183nm,0.7s
CMSA Cobar Meteorol 30.19 141 P **P** **03 22 36.8 +1.5**
UBPT Khong Chiam 30.28 322 P **P** **03 22 36.4 +0.3**
UBPT IAmb IAmb 03 22 39.4
comp=Z,42nm,1.1s
UBPT Khong Chiam 30.28 322 P **P** **03 22 38.5 +2.4**
GUMO Guam 30.35 43 LR LR 03 35 07.0
comp=Z,35nm,21.0s,baz=67,slow=37
QIZ Qiongzhong 31.08 333 P **P** **03 22 42.8 -0.3**
QIZ sP **sP** **03 23 20.3 +1.0**
QIZ S **S** **03 27 45.4 +4.5**
QIZ LR LR
comp=Z,160nm,9.8s
QIZ LR LR
comp=Z,170nm,13.5s
QIZ LR LR
comp=Z,250nm,14.4s
QIZ Qiongzhong 31.08 333 P **P** **03 22 42.8 -0.3**
BSI Banda Aceh 32.09 295 P **P** **03 22 49.4 -2.7**
comp=Z,45nm,0.9s
ARPS Mount Arapiles 32.11 153 P **P** **03 22 53.5 +1.5**
comp=Z,265nm,0.7s
ARPS Mount Arapiles 32.11 153 P **P** **03 22 53.5 +1.5**
TPUB Ta-pu 32.14 354 P **P** **03 22 50.7 -1.7**
TPUB IAmb IAmb 03 22 52.9
comp=Z,79nm,1.0s
TPUB Ta-pu 32.14 354 P **P** **03 22 51.3 -1.1**
TPUB Ta-pu 32.14 354 *i* S **P** **03 22 51.2 -1.2**
YULB Yu-li 32.17 355 P **P** **03 22 51.8 -0.8**
TW1H Toowoomba 1 Ha 32.20 129 P **P** **03 22 55.1 +2.1**
NAYO Nakonayok 32.28 315 P **P** **03 22 54.8 +1.1**
HKPS Hong Kong Po S 32.45 343 P **P** **03 22 55.4 +0.3**
HKPS Hong Kong Po S 32.45 343 P **P** **03 22 55.8 +0.7**
SSLB Suanglung 32.59 355 IAmb IAmb 03 22 57.6
comp=Z,45nm,1.0s
SSLB Suanglung 32.59 355 P **P** **03 22 55.5 -0.8**
NACB Ninganchiao 32.92 356 P **P** **03 22 58.7 -0.5**
YHNB Yeheng 33.43 355 P **P** **03 23 02.6 -1.1**
ARMA Armidale 33.46 134 IAmb IAmb 03 23 07.6
comp=Z,45nm,0.8s
ARMA Armidale 33.46 134 P **P** **03 23 06.5 +2.5**
comp=Z,60nm,0.8s
ARMA Armidale 33.46 134 P **P** **03 23 06.3 +2.2**
BRAT Ballarat 33.72 151 P **P** **03 23 08.3 +2.3**
NONG Nongkai 33.83 322 P **P** **03 23 09.0 +1.8**
SRDT SRDT 33.87 313 P **P** **03 23 09.3 +1.8**
TOO Toolangi 34.50 149 P **P** **03 23 15.1 +2.2**
comp=Z,19nm,1.3s
MGCD Mangrove Creek 34.75 138 P **P** **03 23 17.9 +2.9**
comp=Z,98nm,0.8s
MGCD Mangrove Creek 34.75 138 P **P** **03 23 18.2 +3.2**
CAN Canberra 34.80 143 IAmb IAmb 03 23 18.7
comp=Z,40nm,1.1s
CAN Canberra 34.80 143 P **P** **03 23 17.3 +1.9**
comp=Z,43nm,1.7s
CAN Canberra 34.80 143 P **P** **03 23 17.7 +2.3**
CAN Canberra 34.80 143 P **P** **03 23 17.4 +2.0**
RIV Riverview 35.16 139 P **P** **03 23 21.1 +2.6**
WOLH Wollongong Har 35.35 140 P **P** **03 23 20.8 +0.7**
HNR Honiara 35.36 94 LR LR 03 38 55.7
comp=Z,91nm,19.9s,baz=33,slow=38
JOW Kunigami 35.70 6 P **P** **03 23 23.4 +0.2**
SLVN Son La 35.98 327 P **P** **03 23 26.3 +0.6**
ALEG Aligegeo Malai 36.12 93 P **P** **03 23 25.9 -1.1**
CM31 Chiang Mai Arr 36.80 318 IAmb IAmb 03 23 36.0
comp=Z,40nm,0.8s
CMAR Chiang Mai Arr 36.80 318 P **P** **03 23 33.1 +0.4**
CMAR Chiang Mai Arr 36.80 318 P **P** **03 23 32.5 -0.1**
comp=Z,29nm,0.8s,baz=144,slow=6.9,SNR=102
CMAR PcP **PcP** **03 25 52.9 +0.1**
comp=Z,2.9nm,0.5s,baz=181,slow=2.8,SNR=5.0
CMAR ScP **ScP** **03 29 29.6 -0.4**
comp=Z,4.0nm,0.8s,baz=161,slow=3.2,SNR=11
comp=Z,29nm,0.8s
CMAR Chiang Mai Arr 36.80 318 *i* P **P** **03 23 33.0 +0.3**
CMAR pmax pmax
comp=Z,29nm,0.6s
CHTO Chiang Mai 37.05 318 P **P** **03 23 35.8 +1.0**
CHTO Chiang Mai 37.05 318 P **P** **03 23 35.9 +1.0**
CHTO Chiang Mai 37.05 318 P **P** **03 23 35.8 +1.0**
CHTO Chiang Mai 37.05 318 P **P** **03 23 35.8 +1.0**
CHTO pmax pmax
comp=Z,87nm,1.3s
CHTO Chiang Mai 37.05 318 P **P** **03 23 35.8 +1.0**
CRAI Chiangrai 37.17 321 IAmb IAmb 03 23 39.3
comp=Z,31nm,1.0s
GYA Guiyang 38.98 335 ⇓P **P** **03 23 51.3 +0.2**
GYA pmax pmax
comp=Z,37nm,0.8s
MOO Moorlands 39.12 153 P **P** **03 23 55.0 +3.1**
TAU Tasmania Unive 39.55 153 P **P** **03 23 57.7 +2.3**
TAU Tasmania Unive 39.55 153 P **P** **03 23 57.3 +1.9**
TAU Tasmania Unive 39.55 153 P **P** **03 23 57.7 +2.3**
TAU pmax pmax
comp=Z,20nm,0.8s
TAU Tasmania Unive 39.55 153 P **P** **03 23 57.6 +2.3**
KMI Kunming 39.69 329 P **P** **03 23 57.0 0.0**
KMI pP pP 03 24 23.6 +2.1
KMI pmax pmax
comp=Z,38nm,1.1s
KMI LR LR
comp=Z,300nm,20.5s
KMI LR LR
comp=Z,250nm,19.9s
KMI LR LR
comp=Z,440nm,24.6s
JCJ Chichijima 39.79 26 P **P** **03 23 58.3 +0.7**
WHN Wuhan 40.28 347 ⇑P **P** **03 24 02.0 +0.4**
WHN pP **pP** **03 24 29.9 +3.9**
WHN pmax pmax
comp=Z,140nm,0.6s
NJ2 Nanjing 40.98 353 ⇑P **P** **03 24 07.3 0.0**
NJ2 pmax pmax
comp=Z,60nm,0.6s
PZH PanZhiHua 41.33 329 P **P** **03 24 13.4 +3.0**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.6s
ENH Enshi 41.37 341 IAmb IAmb 03 24 11.6
comp=Z,23nm,0.7s
JNU Nakatsue 42.23 8 P **P** **03 24 19.9 +2.3**
SANVU Saraoutou 42.56 103 P **P** **03 24 21.4 +1.0**
NOUC Port Laguerre 42.57 113 P **P** **03 24 21.1 +0.6**
NOUC pP **pP** **03 24 43.8 -1.5**
DZM Mont Dzumac 42.70 113 P **P** **03 24 21.2 -0.5**
DZM Mont Dzumac 42.70 113 P **P** **03 24 22.8 +1.1**
DZM Mont Dzumac 42.70 113 P **P** **03 24 22.5 +0.9**
YATNC Mamie plateau, 43.10 113 P **P** **03 24 26.4 +1.6**
JMN Monobe 43.35 12 P **P** **03 24 26.9 +0.3**
JMN Monobe 43.35 12 P **P** **03 24 26.9 +0.3**
JTU Tsushima 43.43 6 P **P** **03 24 28.4 +1.3**
CD2 Chengdu 44.10 335 P **P** **03 24 32.3 -0.4**
CD2 pP pP 03 24 57.4 -0.1
CD2 S **S** **03 31 00.5 +2.9**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,220nm,4.5s
CD2 LR LR
comp=Z,380nm,19.6s
CD2 LR LR
comp=Z,500nm,18.1s
LYN LuoYang 44.56 346 P **P** **03 24 35.6 -0.6**
LYN pmax pmax
comp=Z,71nm,0.8s
LYN pmax pmax
comp=Z,230nm,5.6s
LYN LR LR
comp=Z,380nm,18.5s
LYN LR LR
comp=Z,440nm,21.3s
LYN LR LR
comp=Z,620nm,16.1s
XAN Xi'an 45.03 342 ⇑P **P** **03 24 38.8 -1.3**
XAN pP pP 03 25 04.4 -0.6
XAN sP sP 03 25 15.1 -2.0
XAN PP **PP** **03 26 28.3 +0.8**
XAN pmax pmax
comp=Z,66nm,0.8s
XAN pmax pmax
comp=Z,250nm,3.8s
XAN LR LR
comp=Z,680nm,17.3s
XAN LR LR
comp=Z,400nm,12.6s
XAN LR LR
comp=Z,810nm,17.2s
XAN Xi'an 45.03 342 P **P** **03 24 38.8 -1.3**
XAN sP **sP** **03 25 14.2 -2.8**
XAN PcP **PcP** **03 26 19.4 +0.1**
TIA Tai'an 45.30 352 P **P** **03 24 40.6 -1.5**
TIA pmax pmax
comp=Z,25nm,0.7s
TIA pmax pmax
comp=Z,260nm,4.2s
INU Inuyama 45.62 15 P **P** **03 24 43.1 -1.5**
INU IAmb IAmb 03 24 45.1
comp=Z,36nm,0.7s
INU Inuyama 45.62 15 P **P** **03 24 44.1 -0.5**
INU Inuyama 45.62 15 P **P** **03 24 44.3 -0.3**
JGF Kuroka 45.94 15 IAmb IAmb 03 24 47.5
comp=Z,38nm,1.1s
JGF Kuroka 45.94 15 P **P** **03 24 46.5 -0.7**
PALK Pallekele 46.15 289 P **P** **03 24 46.8 -2.4**
PALK Pallekele 46.15 289 P **P** **03 24 47.2 -2.0**
PALK Pallekele 46.15 289 P **P** **03 24 46.8 -2.4**
PALK pmax pmax
comp=Z,24nm,1.1s
PALK Pallekele 46.15 289 P **P** **03 24 47.4 -1.8**
PALK PcP **PcP** **03 26 24.5 +0.9**
KSAR Wonju Array Be 46.19 4 P **P** **03 24 48.2 -0.8**
KSAR Wonju Array Be 46.19 4 P **P** **03 24 48.2 -0.8**
KSRS Korea Array 46.20 4 P **P** **03 24 48.0 -1.1**
comp=Z,7.5nm,0.5s,baz=184,slow=9.2,SNR=25
KSRS PcP **PcP** **03 26 23.1 0.0**
comp=Z,3.8nm,0.7s,baz=184,slow=3.3,SNR=6.5
comp=Z,7.5nm,0.5s
SHL Shillong 46.43 318 P **P** **03 24 50.1 -1.2**
SHL Shillong 46.43 318 P **P** **03 24 50.5 -0.8**
SNR=10
SHL Shillong 46.43 318 P **P** **03 24 50.1 -1.2**
SHL pmax pmax
comp=Z,58nm,0.5s
HNS HongShan 46.85 350 ⇑P **P** **03 24 53.0 -1.1**
HNS pmax pmax
comp=Z,42nm,1.0s
MAJO Matsushiro 47.05 16 P **P** **03 24 54.8 -1.0**
MAJO Matsushiro 47.05 16 P **P** **03 24 55.0 -0.8**
MAJO Matsushiro 47.05 16 ⇓*i* P **P** **03 24 54.1 -1.7**
MAJO pmax pmax
comp=Z,46nm,0.6s
MAJO Matsushiro 47.05 16 P **P** **03 24 54.7 -1.2**
MJAR Matsushiro Arr 47.05 16 P **P** **03 24 54.6 -1.2**
comp=Z,50nm,0.7s,baz=191,slow=8.6,SNR=99
comp=Z,50nm,0.7s
DL2 Dalian 47.57 357 P **P** **03 24 58.5 -1.2**
DL2 pP **pP** **03 25 24.0 -0.6**
DL2 S **S** **03 31 47.0 +0.1**
DL2 pmax pmax
comp=Z,120nm,0.7s
DL2 pmax pmax
comp=Z,160nm,3.7s
JSD Sado 48.48 15 P **P** **03 25 06.5 -0.2**
LZH Lanzhou 48.61 338 *e*P **P** **03 25 08.0 0.0**
LZH pP pP 03 25 30.5 -2.8
LZH sP sP 03 25 47.8 +2.5
LZH pmax pmax
comp=Z,66nm,1.0s
JMM Marumori 49.02 17 P **P** **03 25 11.4 +0.5**
BJT Baijiatuau 49.18 352 P **P** **03 25 10.7 -1.4**
BJT IAmb IAmb 03 25 11.7
comp=Z,30nm,0.7s
BJT Baijiatuau 49.18 352 P **P** **03 25 10.7 -1.4**
BJT pmax pmax
comp=Z,31nm,0.7s
BJT Baijiatuau 49.18 352 P **P** **03 25 10.7 -1.4**
BJT PcP **PcP** **03 26 34.1 +0.3**
BJI Beijing 49.20 352 P **P** **03 25 10.9 -1.3**
BJI PcP **PcP** **03 26 34.0 +0.1**
BJI pmax pmax
comp=Z,22nm,0.7s
BJI LR LR
comp=Z,140nm,15.2s
BJI LR LR
comp=Z,110nm,14.4s
BJI LR LR
comp=Z,200nm,14.6s
LSA Lhasa 49.77 322 P **P** **03 25 16.9 -0.4**
LSA Lhasa 49.77 322 P **P** **03 25 17.7 +0.4**
SNY Shenyang 50.43 359 ⇑P **P** **03 25 20.0 -1.5**
SNY pmax pmax
comp=Z,41nm,0.7s
HHC Hu-ho-hao-te 50.79 348 *e*P **P** **03 25 23.6 -0.8**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,190nm,4.2s
BTO Baotou 50.91 346 *e*P **P** **03 25 25.3 0.0**
BTO pP **pP** **03 25 51.8 +1.1**
BTO sP **sP** **03 26 03.9 +1.3**
BTO pmax pmax
comp=Z,26nm,1.0s
BTO pmax pmax
comp=Z,370nm,6.0s
H08S2 Diego Garcia H 51.09 267 P **P** **03 25 27.6 +0.9**
baz=53,slow=8.3,SNR=13
H08S3 Diego Garcia H 51.10 267 P **P** **03 25 27.5 +0.7**
baz=53,slow=8.3,SNR=26
H08S1 Diego Garcia H 51.10 267 P **P** **03 25 27.6 +0.8**
baz=53,slow=8.3,SNR=23
DGAR Diego Garcia 51.15 268 P **P** **03 25 28.2 +0.8**
DGAR Diego Garcia 51.15 268 P **P** **03 25 28.3 +0.8**
DGAR Diego Garcia 51.15 268 *ce*P **P** **03 25 28.2 +0.8**
DGAR pmax pmax
comp=Z,133nm,0.7s
DGAR Diego Garcia 51.15 268 P **P** **03 25 28.2 +0.8**
MSHR Mys Shultsa 51.58 7 *i* P **P** **03 25 29.9 -0.2**
MSHR pmax pmax
comp=Z,95nm,0.9s
PSTR Posyet 51.62 6 ⇓*i* P **P** **03 25 30.3 -0.1**
JTM Tenmabayashi 51.80 16 P **P** **03 25 32.0 +0.2**
PYZ Puysegur Point 51.98 143 P **P** **03 25 32.1 -1.0**
VLA Vladivostok 52.20 7 *i* P **P** **03 25 34.2 -0.5**
VLA pmax pmax
comp=Z,41nm,1.0s
JCZ Jackson Bay 52.22 140 P **P** **03 25 37.6 +2.5**
JCZ Jackson Bay 52.22 140 P **P** **03 25 37.0 +2.0**
CN2 Changchun 52.42 1 P **P** **03 25 34.8 -1.5**
CN2 pmax pmax
comp=Z,20nm,0.5s
MLZ Mavora Lakes 52.43 142 P **P** **03 25 36.8 +0.2**
WHZ Wether Hill Ro 52.59 143 P **P** **03 25 37.8 +0.1**
GOMU GeErMu 52.62 330 P **P** **03 25 38.9 +0.5**
GOMU pmax pmax
comp=Z,8.0nm,1.1s
GOMU LR LR
comp=Z,2μm,18.2s
GOMU LR LR
comp=Z,330nm,17.8s
GOMU LR LR
comp=Z,2μm,19.6s
FOZ Fox Glacier 52.62 139 P **P** **03 25 38.8 +0.8**
WVZ Waitaha Valley 53.02 138 P **P** **03 25 42.0 +1.1**
GTA Gaotai 53.06 336 P **P** **03 25 41.8 +0.5**
MSVF Nonsavu 53.06 105 P **P** **03 25 43.6 +1.9**
MSVF IAmb IAmb 03 25 45.0
comp=Z,21nm,0.9s
MSVF Nonsavu 53.06 105 P **P** **03 25 42.3 +0.6**
MSVF Nonsavu 53.06 105 P **P** **03 25 43.6 +1.9**
MSVF pmax pmax
comp=Z,21nm,1.0s
MSVF Nonsavu 53.06 105 P **P** **03 25 43.2 +1.5**
EAZ Earnscleugh 53.10 141 P **P** **03 25 42.2 +0.8**
APZ The Paps 53.10 143 P **P** **03 25 42.0 +0.6**
DSZ Denniston Nort 53.17 136 P **P** **03 25 44.0 +1.8**
LBZ Lake Benmore 53.25 140 P **P** **03 25 43.1 +0.5**
USA0B Ussuriysk Arra 53.28 7 ⇑*i* P **P** **03 25 41.4 -1.2**
USRK Ussuriysk Ar. 53.28 7 P **P** **03 25 42.0 -0.6**
comp=Z,55nm,0.8s,baz=192,slow=7.4,SNR=74
comp=Z,55nm,0.8s
USRK Ussuriysk Ar. 53.28 7 P **P** **03 25 42.0 -0.6**
QRZ Quartz Range 53.31 135 P **P** **03 25 45.2 +2.1**
QRZ Quartz Range 53.31 135 P **P** **03 25 45.4 +2.4**
MDJ Mudanjiang 53.45 5 P **P** **03 25 43.8 -0.1**
MDJ pmax pmax
comp=Z,290nm,0.9s
RPZ Rata Peaks 53.51 139 P **P** **03 25 45.5 +1.0**
RPZ Rata Peaks 53.51 139 P **P** **03 25 45.4 +0.9**
comp=Z,36nm,0.8s,baz=286,slow=2.6,SNR=18
comp=Z,36nm,0.8s
RPZ Rata Peaks 53.51 139 P **P** **03 25 45.8 +1.3**
SYZ Scrubby Hill 53.63 143 P **P** **03 25 46.2 +0.9**
TUZ Tuapeka 53.65 142 P **P** **03 25 46.3 +0.9**
ODZ Otahua Downs 53.85 140 P **P** **03 25 47.7 +0.8**
LTZ Lake Taylor 53.92 137 P **P** **03 25 48.7 +1.2**
THZ Tophouse 53.94 136 P **P** **03 25 49.2 +1.5**
THZ IAmb IAmb 03 25 50.0
comp=Z,17nm,0.7s
THZ Tophouse 53.94 136 P **P** **03 25 49.3 +1.6**
OXZ Oxford 53.99 138 IAmb IAmb 03 25 51.5
comp=Z,17nm,0.6s
OXZ Oxford 53.99 138 P **P** **03 25 48.8 +0.8**
BNX BinXian 54.42 3 ⇓P **P** **03 25 49.8 -1.1**
BNX pmax pmax
comp=Z,40nm,1.0s
MQZ McQueen's Vall 54.55 138 P **P** **03 25 53.5 +1.5**
KHZ Kahutara 54.63 136 P **P** **03 25 53.9 +1.3**
KHZ Kahutara 54.63 136 P **P** **03 25 53.6 +1.0**
NGZ Ngauruhoe 54.92 132 P **P** **03 25 56.8 +1.8**
SNZO South Karori 55.02 135 P **P** **03 25 56.1 +0.7**
SNZO South Karori 55.02 135 P **P** **03 25 55.7 +0.4**
MRZ Mangatainoka R 55.41 134 P **P** **03 25 58.5 +0.2**
MRZ IAmb IAmb 03 27 14.5
comp=Z,28nm,1.4s
MRZ Mangatainoka R 55.41 134 P **P** **03 25 58.6 +0.3**
URZ Urewera 55.76 131 P **P** **03 26 01.3 +0.5**
RTZ Ruatahuna 55.77 131 IAmb IAmb 03 27 03.1
comp=Z,20nm,1.0s
RTZ Ruatahuna 55.77 131 P **P** **03 26 02.0 +1.1**
BFZ Birch Farm 55.89 134 P **P** **03 26 03.3 +1.6**
MWZ Matawai 56.09 130 P **P** **03 26 04.6 +1.4**
HAZ Te Kaha 56.12 130 P **P** **03 26 04.9 +1.5**
PUZ Puketiti 56.57 130 P **P** **03 26 06.0 -0.6**
YSS Yuzhno-Sakhali 57.98 15 *e*P **P** **03 26 15.9 -0.3**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,400nm,15.0s
HIA Hailar 58.00 357 IAmb IAmb 03 26 16.8
comp=Z,30nm,0.9s
HIA Hailar 58.00 357 P **P** **03 26 15.8 -0.5**
KLR Kul'dur 58.22 6 P **P** **03 26 16.8 -1.1**
comp=Z,18nm,0.9s,baz=212,slow=3.8,SNR=42
comp=Z,18nm,0.9s
KLR Kul'dur 58.22 6 *ce*P **P** **03 26 17.3 -0.5**
KLR pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 58.46 347 P **P** **03 26 19.2 -0.6**
ULN IAmb IAmb 03 26 21.8
comp=Z,24nm,1.1s
ULN Ulaanbaatar 58.46 347 P **P** **03 26 19.7 -0.1**
ULN Ulaanbaatar 58.46 347 ⇑*i* P **P** **03 26 18.8 -1.0**
ULN pmax pmax
comp=Z,22nm,0.9s
ULN Ulaanbaatar 58.46 347 P **P** **03 26 18.9 -0.8**
SONM Songino Array 58.59 346 P **P** **03 26 20.0 -0.6**
SONM IAmb IAmb 03 26 21.8
comp=Z,33nm,1.3s
SONM Songino Array 58.59 346 P **P** **03 26 19.9 -0.7**
comp=Z,12nm,0.6s,baz=165,slow=8.6,SNR=41
SONM ScP **ScP** **03 30 58.0 -2.4**
comp=Z,0.5nm,0.3s,baz=186,slow=4.2,SNR=4.9
comp=Z,12nm,0.6s
HEH HeiHe 58.93 2 *e*P **P** **03 26 21.9 -0.8**
HEH pmax pmax
comp=Z,150nm,0.8s
GRNR Gornyy 60.33 9 ⇑*i* P **P** **03 26 32.5 +0.1**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,980nm,23.0s
GRNR MLR MLR
comp=N,270nm,22.0s
GRNR MLR MLR
comp=Z,200nm,14.0s
ZAK Zakamensk 61.72 345 *e*P **P** **03 26 40.4 -1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
WMQ Urumqi 61.97 331 *e*P **P** **03 26 43.8 +0.2**
WMQ pP pP 03 27 12.8 +2.9
WMQ pmax pmax
comp=Z,35nm,0.7s
ZEA Zeya 62.41 2 *e*P **P** **03 26 46.3 0.0**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,50nm,0.7s
MOY Mondy 63.49 344 *e*P **P** **03 26 53.1 -0.6**
MOY pmax pmax
comp=Z,33nm,1.5s
NIL Nilore 64.16 314 P **P** **03 26 57.6 -0.8**
NIL Nilore 64.16 314 P **P** **03 26 57.8 -0.5**
NIL Nilore 64.16 314 P **P** **03 26 57.6 -0.8**
NIL pmax pmax
comp=Z,164nm,1.2s
NIL Nilore 64.16 314 P **P** **03 26 57.5 -0.8**
NIL pP **pP** **03 27 22.4 -1.5**
WUS Wushi 64.67 324 IAmb IAmb 03 27 02.6
comp=Z,28nm,0.9s
SKR Severo-Kuril's 65.46 22 *e*P P 03 27 15.6 +9.3
SKR *e* 03 29 33.6
SKR pmax pmax
comp=Z,100nm,4.2s
SKR MLR MLR
comp=Z,300nm,16.0s
KSH Kashi 65.60 321 P **P** **03 27 07.4 -0.3**
KSH pmax pmax
comp=Z,46nm,0.8s
SHLS Shalkode 65.79 326 *e*P **P** **03 27 06.3 -2.5**
SHLS pmax pmax
comp=Z,25nm,0.9s
SHLS Shalkode 65.79 326 *e*P **P** **03 27 06.4 -2.5**
comp=Z,25nm,0.9s
ZSN Zaisan 65.98 332 *e*P **P** **03 27 09.0 -0.8**
ZSN Zaisan 65.98 332 *e*P **P** **03 27 09.0 -0.8**
UZB Uzynbulak 66.03 325 *e*P **P** **03 27 09.3 -1.0**
UZB Uzynbulak 66.03 325 *e*P **P** **03 27 09.4 -1.0**
CCD Concordia, Ant 66.22 180 P **P** **03 27 13.2 +1.8**
CCD PcP **pP** **03 27 39.8 +1.9**
SATY Saty 66.32 325 *e*P **P** **03 27 11.4 -0.8**
SATY pmax pmax
comp=Z,22nm,0.8s
SATY Saty 66.32 325 *e*P **P** **03 27 11.4 -0.8**
comp=Z,22nm,0.8s
ZHN Zhinishke 66.37 325 *e*P **P** **03 27 11.5 -1.0**
ZHN Zhinishke 66.37 325 *e*P **P** **03 27 11.6 -1.0**
KDJ Kajisay 66.44 324 IAmb IAmb 03 27 14.1
comp=Z,17nm,0.7s
MK31 Makanchi Array 66.75 330 P **P** **03 27 14.1 -0.6**
MK31 IAmb IAmb 03 27 15.7
comp=Z,36nm,0.8s
MK31 Makanchi Array 66.75 330 *ce*P **P** **03 27 14.1 -0.6**
MKAR Makanchi Array 66.75 330 P **P** **03 27 14.2 -0.6**
MKAR Makanchi Array 66.75 330 P **P** **03 27 14.0 -0.7**
comp=Z,36nm,0.7s,baz=133,slow=7.9,SNR=301

MKAR LR LR 03 58 08.2
comp=Z,70nm,19.3s,baz=150,slow=38
comp=Z,36nm,0.7s
MKAR Makanchi Array 66.75 330 *i* P **P 03 27 14.3 -0.4**
MKAR pmax pmax
comp=Z,37nm,0.6s
MAKZ Makanchi 66.91 330 P **P 03 27 15.5 -0.3**
MAKZ IAmb IAmb 03 27 16.1
comp=Z,25nm,0.8s
MAKZ Makanchi 66.91 330 P **P 03 27 15.5 -0.3**
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 66.91 330 P **P 03 27 15.0 -0.8**
MAKZ PcP **pP 03 27 41.9 -0.2**
BOD Bodaibo 66.95 354 *e*P **P 03 27 14.8 -0.9**
BOD pmax pmax
comp=Z,56nm,1.3s
TNSS Tian-Shan 67.14 324 *e*P **P 03 27 16.6 -1.1**
TNSS Tian-Shan 67.14 324 *e*P **P 03 27 16.7 -1.1**
AAA Alma-Ata 67.26 324 *e*P **P 03 27 17.2 -0.9**
AAA pmax pmax
comp=Z,35nm,1.0s
AAA Alma-Ata 67.26 324 *e*P **P 03 27 17.2 -0.9**
comp=Z,35nm,1.0s
ARXS Arharly 67.38 326 *e*P **P 03 27 17.8 -1.0**
TDK Taldyqorghan 67.56 327 *e*P **P 03 27 19.1 -0.8**
TDK pmax pmax
comp=Z,27nm,0.8s
TDK Taldyqorghan 67.56 327 *e*P **P 03 27 19.1 -0.8**
comp=Z,27nm,0.8s
CHKK Chushkaly 67.62 325 *e*P **P 03 27 19.5 -0.8**
CHKK Chushkaly 67.62 325 *e*P **P 03 27 19.6 -0.8**
KBL Kabul 67.63 313 P **P 03 27 20.2 -0.6**
KBL Kabul 67.63 313 P **P 03 27 20.1 -0.6**
SNR=31
KBL Kabul 67.63 313 P **P 03 27 20.2 -0.6**
KBL pmax pmax
comp=Z,87nm,1.0s
TKM2 Tokmak 2 67.85 324 P **P 03 27 21.6 -0.4**
SNR=24
PEA0B Petropavlovsk- 68.01 21 IAmb IAmb 03 27 24.2
comp=Z,36nm,0.8s
PEA0B Petropavlovsk- 68.01 21 *ce*P **P 03 27 21.9 -0.6**
PETK Petropavlovsk- 68.01 21 P **P 03 27 22.4 -0.1**
PETK Petropavlovsk- 68.01 21 P **P 03 27 22.2 -0.3**
comp=Z,28nm,0.8s,baz=206,slow=2.8,SNR=49
comp=Z,28nm,0.8s
PETK Petropavlovsk- 68.01 21 P **P 03 27 22.4 -0.1**
KBK Karagaybulak 68.08 323 P **P 03 27 23.9 +0.4**
SNR=12
DRK Karamyk 68.25 319 IAmb IAmb 03 27 25.6
comp=Z,39nm,0.7s
PET Petropavlovsk 68.28 22 P **P 03 27 24.0 -0.2**
PET IAmb IAmb 03 27 25.9
comp=Z,40nm,1.0s
PET Petropavlovsk 68.28 22 P **P 03 27 24.8 +0.6**
PET Petropavlovsk 68.28 22 *e*P **P 03 27 24.6 +0.4**
PET pmax pmax
comp=Z,41nm,1.5s
PET Petropavlovsk 68.28 22 P **P 03 27 24.0 -0.2**
comp=Z,42nm,1.3s
AAK Ala-Archa 68.34 323 P **P 03 27 24.8 -0.2**
AAK IAmb IAmb 03 27 25.9
comp=Z,38nm,0.7s
AAK Ala-Archa 68.34 323 LR LR 04 00 59.6
comp=Z,104nm,18.1s,baz=111,slow=39
AAK Ala-Archa 68.34 323 P **P 03 27 25.1 0.0**
AAK Ala-Archa 68.34 323 P **P 03 27 25.0 0.0**
SNR=46
AAK Ala-Archa 68.34 323 *ce*P **P 03 27 24.8 -0.2**
AAK pmax pmax
comp=Z,31nm,0.6s
AAK Ala-Archa 68.34 323 *i* P **P 03 27 25.0 0.0**
SNR=54
AML Almayashu 68.53 322 P **P 03 27 26.4 0.0**
SNR=59
USP Ospenovka 68.71 323 P **P 03 27 26.7 -0.4**
SNR=31
SGDS Sogindy 68.74 324 *e*P **P 03 27 26.6 -0.7**
SGDS Sogindy 68.74 324 *e*P **P 03 27 26.7 -0.7**
EKS2 Erkin-Say 68.78 322 P **P 03 27 27.9 +0.1**
SNR=27
BTK Batken 69.20 319 IAmb IAmb 03 27 30.8
comp=Z,107nm,1.9s
SIMJ Simiganj 69.68 317 P **P 03 27 32.3 -1.1**
SIMJ IAmb IAmb 03 27 34.1
comp=Z,59nm,1.0s
SIMJ Simiganj 69.68 317 P **P 03 27 32.3 -1.1**
SIMJ pP **pP 03 27 58.2 -1.2**
BTLS Baital 70.02 325 *e*P **P 03 27 34.3 -0.8**
BTLS Baital 70.02 325 *e*P **P 03 27 34.3 -0.8**
NGCH Negor - Chabah 70.07 301 P **P 03 27 36.1 +0.3**
DZA Taraz 70.40 322 *e*P **P 03 27 36.7 -0.8**
DZA Taraz 70.40 322 *e*P **P 03 27 36.8 -0.8**
JLN Jalan Bani Buh 70.49 297 P **P 03 27 39.1 +0.6**
YAK Yakutsk 70.80 3 P **P 03 27 38.5 -0.9**
comp=Z,81nm,0.5s,baz=351,slow=0.5,SNR=18
comp=Z,81nm,0.5s
YAK Yakutsk 70.80 3 *c i*P **P 03 27 38.9 -0.5**
YAK *e**PP **PcP 03 28 02.6 +3.1**
YAK *e* 03 30 17.1
YAK *e*S **S 03 36 43.9 -1.6**
YAK *e* 03 37 29.3
YAK *e*SS **SS 03 41 19.2 -1.0**
YAK pmax pmax
comp=Z,112nm,1.1s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,233nm,6.7s
YAK pmax pmax
comp=N,113nm,6.1s
YAK pmax pmax
comp=E,137nm,5.9s
YAK smax smax
comp=E,138nm,3.9s
YAK smax smax
comp=N,77nm,3.0s
IUG Iuzhnay 70.81 320 *e*P **P 03 27 39.4 -0.7**
IUG pmax pmax
comp=Z,44nm,0.8s
IUG Iuzhnay 70.81 320 *e*P **P 03 27 39.4 -0.7**
comp=Z,44nm,0.8s
ZAA0 Zalesovo Array 70.81 337 IAmb IAmb 03 27 39.1
comp=Z,34nm,0.7s
ZALV Zalesovo Beam 70.81 337 P **P 03 27 38.1 -1.6**
comp=Z,29nm,0.6s,baz=135,slow=4.6,SNR=128
comp=Z,29nm,0.6s
KKAR Karatay Array 71.02 321 P **P 03 27 40.1 -1.2**
KKAR Karatay Array 71.02 321 IAmb IAmb 03 27 42.1
comp=Z,8.5nm,1.0s
KKAR Karatay Array 71.02 321 P **P 03 27 40.1 -1.2**
WBK Wadi Bani Khal 71.02 298 P **P 03 27 42.7 +1.0**
KURBB Kurchatov Arra 71.18 331 P **P 03 27 41.1 -0.9**
comp=Z,28nm,0.8s,baz=142,slow=5.2,SNR=293
comp=Z,28nm,0.8s
KURK Kurchatov 71.20 331 P **P 03 27 41.2 -0.9**
KURK Kurchatov 71.20 331 P **P 03 27 41.4 -0.7**
KURK Kurchatov 71.20 331 *ce*P **P 03 27 41.2 -0.9**
KURK pmax pmax
comp=Z,70nm,0.8s
KURK Kurchatov 71.20 331 P **P 03 27 41.2 -0.9**
KURK pP **pP 03 28 07.1 -1.9**
VNDA Vanda 71.38 172 P **P 03 27 43.7 +0.8**
VNDA Vanda 71.38 172 P **P 03 27 43.7 +0.8**
comp=Z,3.0nm,0.6s,baz=319,slow=7.1,SNR=16
comp=Z,3.0nm,0.6s
VNDA Vanda 71.38 172 P **P 03 27 43.6 +0.8**
BRLS Borolday 71.40 321 *e*P **P 03 27 42.5 -1.1**
BRLS Borolday 71.40 321 *e*P **P 03 27 42.5 -1.1**
MHTO MHTO 71.41 296 P **P 03 27 42.8 -1.3**
SNR=5.7
MA2 Magadan 71.46 14 P **P 03 27 43.4 -0.1**
MA2 Magadan 71.46 14 P **P 03 27 43.0 -0.6**
comp=Z,20nm,0.7s,baz=191,slow=4.7,SNR=14
comp=Z,20nm,0.7s
MA2 Magadan 71.46 14 P **P 03 27 43.8 +0.3**
MA2 Magadan 71.46 14 *ce*P **P 03 27 43.8 +0.3**
MA2 pmax pmax
comp=Z,55nm,1.3s
MA2 Magadan 71.46 14 P **P 03 27 42.6 -0.9**
comp=Z,43nm,1.2s
DQM DQM 71.48 294 P **P 03 27 43.7 -0.8**

JMDO Jabal Madar 71.71 297 P **P 03 27 46.2 +0.4**
SMDO Samad 71.97 298 P **P 03 27 46.9 -0.6**
BIDO Bidbid 72.05 298 P **P 03 27 47.6 -0.2**
BSY Bisya 72.62 297 P **P 03 27 50.6 -0.7**
HOQ Hoqain 72.78 298 P **P 03 27 51.9 -0.3**
JASK Jask - Hormozg 73.02 300 P **P 03 27 54.4 +0.8**
DMTO DMTO 73.23 291 P **P 03 27 54.3 -0.6**
ARQ Araqi 73.39 298 P **P 03 27 55.2 -0.7**
SOHO SOHO 73.62 298 P **P 03 27 56.4 -0.7**
SOHO SOHO 73.62 298 *i* P **P 03 27 56.6 -0.5**
SNR=12
BRZS Berezniki 73.69 328 *e*P **P 03 27 56.4 -0.6**
BRZS Berezniki 73.69 328 *e*P **P 03 27 56.4 -0.6**
RBK Rabkut 73.86 291 P **P 03 27 58.2 -0.5**
UOSS Minazif 74.16 299 P **P 03 27 59.4 -0.8**
UOSS Minazif 74.16 299 P **P 03 27 59.7 -0.5**
UOSS Minazif 74.16 299 *i* P **P 03 27 59.3 -1.0**
SNR=5.5
HATD Hatta, Dubai 74.18 299 P **P 03 28 00.1 -0.3**
HATD Hatta, Dubai 74.18 299 *i* P **P 03 27 59.7 -0.7**
SNR=12
MDH Madha 74.18 299 P **P 03 27 59.2 -1.2**
MDH Madha 74.18 299 P **P 03 27 58.4 -2.0**
ASHO Ashiyiah 74.20 299 P **P 03 28 00.1 -0.4**
SNR=7.3
ASHO Ashiyiah 74.20 299 *i* P **P 03 28 00.2 -0.4**
SNR=15
DOK Doka 74.22 292 P **P 03 27 59.5 -1.1**
SNR=5.0
ALNE Al Ain 74.28 298 P **P 03 28 00.6 -0.4**
SNR=8.1
ALNE Al Ain 74.28 298 *i* P **P 03 28 00.2 -0.8**
SNR=7.7
MSFE Esma-Masafi 74.32 299 *i* P **P 03 28 01.1 -0.1**
SNR=11
MASF Masafi 74.33 299 P **P 03 28 01.3 0.0**
SNR=5.3
WHFO Wadi Hawf 74.37 291 P **P 03 28 00.4 -1.2**
SNR=7.2
UMZA Um Al Zommool 74.41 297 P **P 03 28 01.3 -0.4**
SHME Shamm 74.55 300 P **P 03 28 02.2 -0.3**
SHME Shamm 74.55 300 *i* P **P 03 28 02.7 +0.2**
SNR=10
FAQ Al Faqa, Dubai 74.62 299 P **P 03 28 02.6 -0.4**
SNR=11
FAQ Al Faqa, Dubai 74.62 299 *i* P **P 03 28 02.5 -0.4**
SNR=8.5
NAZ Nazwa, Dubai 74.64 299 P **P 03 28 02.7 -0.4**
SNR=6.0
NAZ Nazwa, Dubai 74.64 299 *i* P **P 03 28 02.6 -0.4**
SNR=10
ABTO Aybut 74.66 291 P **P 03 28 02.6 -0.8**
SNR=7.5
SEY Seymchan 74.80 13 P **P 03 28 02.8 -0.3**
comp=Z,30nm,0.6s,baz=213,slow=4.8,SNR=88
comp=Z,30nm,0.6s
SEY Seymchan 74.80 13 ⇑ *i*P **P 03 28 03.0 -0.1**
SEY pmax pmax
comp=Z,37nm,0.8s
ASUD Al Ashush, Dub 74.82 298 P **P 03 28 04.0 0.0**
SNR=5.9
ASUD Al Ashush, Dub 74.82 298 *i* P **P 03 28 04.1 0.0**
SNR=9.8
ABPO Ambohimpanom 74.85 253 P **P 03 28 06.0 +1.4**
ABPO Ambohimpanom 74.85 253 P **P 03 28 06.0 +1.4**
ABPO pmax pmax
comp=Z,10.0nm,0.7s
VOI Vohitsoka 75.06 250 IAmb IAmb 03 28 15.0
comp=Z,22nm,0.7s
VOI Vohitsoka 75.06 250 P **P 03 28 07.3 +1.7**
MZWR Madinat Zayed 75.83 297 P **P 03 28 09.5 -0.4**
MZR Muzera 75.98 296 P **P 03 28 10.7 0.0**
SNR=8.4
MZR Muzera 75.98 296 *i* P **P 03 28 10.5 -0.2**
SNR=9.0
BVAR Borovoye Array 76.63 330 P **P 03 28 13.1 -0.7**
comp=Z,6.3nm,0.6s,baz=125,slow=7.4,SNR=31
comp=Z,6.3nm,0.6s
BRVK Borovoye 76.70 330 P **P 03 28 13.6 -0.5**
BRVK Borovoye 76.70 330 P **P 03 28 13.8 -0.4**
BRVK Borovoye 76.70 330 *ce*P **P 03 28 13.2 -1.0**
BRVK pmax pmax
comp=Z,26nm,1.5s
GHWR Ruwais 76.78 297 P **P 03 28 14.8 -0.3**
JRN Qarnain Island 77.07 298 P **P 03 28 16.3 -0.6**
SLWR Sila 77.85 297 P **P 03 28 21.2 +0.1**
TRNA Turayna 78.44 297 P **P 03 28 24.4 0.0**
SMRA Abu-Samra 78.79 297 P **P 03 28 26.1 -0.2**
SHMA Al-Shehemyia 78.96 299 P **P 03 28 27.1 -0.1**
SAKB Bahrain 79.36 299 P **P 03 28 29.5 0.0**
TIXI Tiksi 80.39 2 P **P 03 28 32.9 -1.2**
TIXI IAmb IAmb 03 28 34.5
comp=Z,35nm,0.7s
TIXI Tiksi 80.39 2 P **P 03 28 32.8 -1.2**
comp=Z,28nm,0.5s,baz=196,slow=3.7,SNR=76
comp=Z,28nm,0.5s
TIXI Tiksi 80.39 2 ⇓ *i*P **P 03 28 31.6 -2.4**
TIXI pmax pmax
comp=Z,35nm,0.6s
ABKAR Akbulak array 80.42 323 P **P 03 28 33.6 -1.1**
ABKAR IAmb IAmb 03 28 34.7
comp=Z,20nm,0.8s
ABKAR Akbulak array 80.42 323 P **P 03 28 33.5 -1.2**
QSPA South Pole Qui 81.14 180 P **P 03 28 39.6 +1.1**
QSPA South Pole Qui 81.14 180 P **P 03 28 39.2 +0.8**
comp=Z,9.7nm,0.9s,baz=341,slow=2.5,SNR=37
QSPA LR LR 04 04 35.2
comp=Z,133nm,19.4s,baz=246,slow=35
comp=Z,9.7nm,0.9s
NRIK Noril'sk 82.03 348 P **P 03 28 42.1 -0.6**
comp=Z,5.5nm,0.4s,baz=145,slow=5.5,SNR=16
comp=Z,5.5nm,0.4s
NRIK Noril'sk 82.03 348 *ce*P **P 03 28 42.4 -0.3**
NRIK pmax pmax
comp=Z,25nm,1.1s
AKTO Aktyubinsk 82.05 324 P **P 03 28 42.8 -0.5**
comp=Z,48nm,0.8s,baz=110,slow=4.5,SNR=134
comp=Z,48nm,0.8s
BILL Bilibino 82.30 15 *ce*P **P 03 28 43.3 -0.9**
BILL pmax pmax
comp=Z,4.0nm,0.7s
KBD Kabd 82.61 301 P **P 03 28 46.9 +0.2**
RAYN Ar Rayn 83.21 295 P **P 03 28 49.8 -0.2**
RAYN IAmb IAmb 03 28 52.5
comp=Z,30nm,0.6s
RAYN Ar Rayn 83.21 295 P **P 03 28 50.1 +0.1**
RAYN Ar Rayn 83.21 295 P **P 03 28 49.8 -0.2**
RAYN pmax pmax
comp=Z,30nm,0.6s
RAYN Ar Rayn 83.21 295 *i* P **P 03 28 49.9 0.0**
SNR=62
SVE Sverdlovsk 83.41 330 ⇑ *e*P **P 03 28 49.6 -0.6**
SVE pmax pmax
comp=Z,45nm,1.2s
ARTI Arti 84.33 329 P **P 03 28 54.1 -0.8**
ARTI IAmb IAmb 03 28 54.7
comp=Z,19nm,0.7s
ARTI Arti 84.33 329 P **P 03 28 54.1 -0.8**
comp=Z,15nm,0.6s,baz=123,slow=2.5,SNR=29
comp=Z,15nm,0.6s
ARTI Arti 84.33 329 *c i*P **P 03 28 53.5 -1.4**
ARTI S **SKSac 03 39 07.4 -1.2**
ARTI SS **SS 03 44 40.9 -3.3**
ARTI pmax pmax
comp=Z,21nm,0.8s
ELIB Princess Elisa 84.97 198 *d*P **P 03 29 00.3 +2.2**
comp=Z,8.9nm,0.7s
ELIB *d*PcP **PcP 03 29 02.3 +1.1**
KIBK Kibwezi 85.78 268 P **P 03 29 04.2 +1.0**
KMBO Kilima Mbogo 86.74 269 P **P 03 29 08.7 +0.6**
KMBO Kilima Mbogo 86.74 269 P **P 03 29 08.6 +0.4**
comp=Z,7.1nm,0.8s,baz=72,slow=6.2,SNR=22
comp=Z,7.1nm,0.8s
KMBO Kilima Mbogo 86.74 269 P **P 03 29 09.0 +0.9**
KMBO Kilima Mbogo 86.74 269 *i* P **P 03 29 08.1 0.0**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 86.74 269 *i* P **P 03 29 09.2 +1.1**
SNR=13
GNI Garni 87.63 311 P **P 03 29 11.5 -0.2**
GNI Garni 87.63 311 P **P 03 29 13.0 +1.3**
GNI Garni 87.63 311 *i* P **P 03 29 12.0 +0.3**
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 87.63 311 P **P 03 29 11.8 +0.1**
comp=Z,18nm,1.0s

POGA Pongola 88.13 243 IAmb IAmb 03 29 24.6
comp=Z,19nm,0.9s
GEVA Gevas 88.50 309 IAmb IAmb 03 29 20.4
comp=Z,21nm,0.9s
LODK Lodwar 89.31 274 P **P 03 29 21.1 +1.0**
SNR=5.1
GURO Guroymak-BITLI 89.33 309 IAmb IAmb 03 29 21.5
comp=Z,18nm,1.0s
KIRV Kirov 89.64 330 P **P 03 29 20.2 -0.2**
comp=Z,6.3nm,0.5s,baz=117,slow=6.4,SNR=4.5
comp=Z,6.3nm,0.5s
KBZ Khabaz 89.78 314 P **P 03 29 20.3 -1.2**
comp=Z,9.2nm,0.7s,baz=109,slow=4.7,SNR=27
comp=Z,9.2nm,0.7s
SHA1 Shidzhatmaz 89.95 314 *i* P **P 03 29 21.4 -1.2**
KIV Kislovodsk 89.97 314 P **P 03 29 24.1 +1.5**
KIV IAmb IAmb 03 29 28.5
comp=Z,10nm,0.6s
KIV Kislovodsk 89.97 314 *e*P **P 03 29 22.1 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
MARD Mardin 90.06 308 IAmb IAmb 03 29 24.2
comp=Z,12nm,0.6s
KOPT Kop Dagi 90.79 310 IAmb IAmb 03 29 34.3
comp=Z,12nm,0.8s
TROLL Troll, Antarti 90.89 195 ⇓ pP **P 03 29 28.1 +1.7**
comp=Z,313nm,0.6s
TROLL ⇑ pP **pwP 03 29 58.0 +0.3**
comp=Z,156nm,0.6s
F17K Baldwin Pennin 91.98 23 IAmb IAmb 03 33 03.8
comp=Z,12nm,1.4s
SOC Sochi 92.01 314 *e*P **P 03 29 30.0 -1.9**
SOC *e* 03 33 09.9
SOC *e*PPP PPP 03 35 17.4
SOC *e*S **SKSac 03 39 53.3 -1.9**
SOC *e*SS **SS 03 46 35.6 -0.9**
SOC *e*SSS SSS 03 50 14.2
VRH Novokhopyorsk 92.10 321 *e*P **P 03 29 30.9 -1.2**
VRH pmax pmax
comp=Z,13nm,0.7s
SNAA Sanae 92.46 195 P **P 03 29 35.6 +2.1**
SNAA IAmb IAmb 03 29 36.7
comp=Z,7.5nm,0.8s
SNAA Sanae 92.46 195 ⇓ P **P 03 29 35.0 +1.5**
comp=Z,159nm,0.7s
SNAA ⇑ pP **pwP 03 30 04.9 +0.1**
comp=Z,171nm,1.0s
SNAA Sanae 92.46 195 P **P 03 29 34.5 +0.9**
comp=Z,5.3nm,0.7s,baz=148,slow=4.9,SNR=31
SNAA LR LR 04 08 32.2
comp=Z,74nm,20.3s,baz=352,slow=34
comp=Z,5.3nm,0.7s
SNAA Sanae 92.46 195 *ce*P **P 03 29 35.3 +1.7**
SNAA pmax pmax
comp=Z,14nm,1.7s
BELA Belgrano 2 92.60 184 IAmb IAmb 03 29 36.1
comp=Z,10nm,0.6s
MBAR Mbarara 93.26 269 P **P 03 29 39.1 +0.6**
MBAR IAmb IAmb 03 29 40.0
comp=Z,9.9nm,0.8s
MBAR Mbarara 93.26 269 P **P 03 29 39.3 +0.8**
MBAR Mbarara 93.26 269 *i* P **P 03 29 38.3 -0.2**
MBAR pmax pmax
comp=Z,12nm,0.8s
LSZ Lusaka 93.36 254 P **P 03 29 39.9 +1.0**
LSZ Lusaka 93.36 254 LR LR 04 07 20.1
comp=Z,40nm,18.4s,baz=161,slow=33
LSZ Lusaka 93.36 254 P **P 03 29 40.1 +1.2**
LSZ Lusaka 93.36 254 P **P 03 29 39.9 +1.0**
LSZ pmax pmax
comp=Z,11nm,0.6s
BOSA Boshof 93.51 240 P **P 03 29 40.4 +1.0**
comp=Z,1.8nm,0.5s,baz=70,slow=4.7,SNR=7.2
comp=Z,1.8nm,0.5s
G19K Purcell Mounta 93.53 24 IAmb IAmb 03 29 39.2
comp=Z,6.5nm,0.6s
VORD Divnogorie 93.57 321 *e*P **P 03 29 35.4 -3.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
EIL Elat 93.61 299 LR LR 04 17 24.0
comp=Z,16nm,18.2s,baz=98,slow=39
VSR Storozhevoye 93.69 321 *e*P **P 03 29 36.3 -3.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 93.70 303 P **P 03 29 39.8 -0.2**
comp=Z,1.6nm,0.5s,baz=87,slow=5.9,SNR=8.2
MMAI LR LR 04 14 54.0
comp=Z,37nm,21.7s,baz=106,slow=37
comp=Z,1.6nm,0.5s
D19K Kuna River 93.72 21 IAmb IAmb 03 29 41.1
comp=Z,5.4nm,0.7s
VORR Voronezh 93.74 322 *e*P **P 03 29 41.4 +1.8**
VORR pmax pmax
comp=Z,9.0nm,0.5s
ANN Anapa 93.83 315 *e*P **P 03 29 37.6 -2.6**
ANN *e**PP **pP 03 30 03.9 -3.4**
ANN pmax pmax
comp=Z,47nm,0.8s
LBTB Lobatse 93.94 244 LR LR 04 05 48.5
comp=Z,20nm,19.9s,baz=126,slow=31
LPSR Galich'ya Gora 94.06 322 *e*P **P 03 29 40.2 -0.9**
LPSR pmax pmax
comp=Z,13nm,0.9s
VNA2 Neumayer--Watz 94.07 194 ⇓ P **P 03 29 42.3 +1.4**
comp=Z,4.7nm,0.7s,baz=127,slow=3.7
VNA2 ⇑ pP **pwP 03 30 11.5 -0.6**
comp=Z,3.6nm,0.6s,baz=64,slow=33
F20K Avaraart Lake 94.26 23 IAmb IAmb 03 30 26.1
comp=Z,13nm,1.7s
KLMR Klimovskoe 95.04 331 *e*P P 03 29 40.2 -5.2
KLMR pmax pmax
comp=Z,19nm,1.6s
OBN Obninsk 95.80 325 *e*P **P 03 29 47.4 -1.5**
OBN pmax pmax
comp=Z,13nm,0.9s
E22K Anaktuvuk Pass 95.94 22 IAmb IAmb 03 29 53.2
comp=Z,22nm,1.8s
BR131 Keskin Array S 95.96 309 *i* P **P 03 29 48.8 -1.5**
BRTR Keskin Array B 95.96 309 P **P 03 29 48.2 -2.1**
comp=Z,1.6nm,0.7s,baz=122,slow=3.5,SNR=12
BRTR PP **PP 03 33 43.0 -1.2**
comp=Z,1.2nm,0.8s,baz=101,slow=7.5,SNR=6.2
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 95.96 309 *i* P **P 03 29 49.7 -0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
COLD Coldfoot 96.42 23 IAmb IAmb 03 30 47.0
comp=Z,9.2nm,1.5s
D23K Nanushuk River 96.47 21 IAmb IAmb 03 32 26.2
comp=Z,25nm,2.0s
E23K Chandalar 96.74 22 IAmb IAmb 03 31 29.1
comp=Z,21nm,1.9s
ILAR Eielson Array 97.50 26 P **P 03 29 54.0 -2.6**
comp=Z,0.6nm,0.5s,baz=256,slow=4.9,SNR=13
APA Apatity 98.39 337 ⇓ *i*P Pdif 03 30 03.8 +3.4
APA *i* *PP sP 03 30 34.9 -4.9
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
AKASG Malin Array Be 99.89 320 P **Pdif 03 30 05.2 -2.3**
comp=Z,1.7nm,0.6s,baz=79,slow=4.3,SNR=11
AKASG PP **PP 03 34 13.2 -0.4**
comp=Z,3.5nm,0.8s,baz=82,slow=6.6,SNR=9.8
AKASG PKiKP **PKiKP 03 34 35.0 -0.2**
comp=Z,0.8nm,0.4s,baz=74,slow=2.2,SNR=5.2
comp=Z,1.7nm,0.6s
AKASG Malin Array Be 99.89 320 *i* P **Pdif 03 30 05.9 -1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 99.89 320 *ce*P **Pdif 03 30 05.1 -2.4**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 99.90 320 P **Pdif 03 30 05.7 -1.8**
MNK Minsk 100.77 324 *i* P **Pdif 03 30 11.4 +0.1**
MNK *i* 03 34 18.4
MNK *i* PPP PPP 03 36 25.5
MNK *i* S **SKSac 03 40 40.7 +0.3**
MNK *i* *SS SKKSac 03 41 28.8 +13
MNK *i* SS **SS 03 48 34.7 -4.8**
MNK *i* SSS SSS 03 52 25.4
MNK pmax pmax
comp=E,15nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.6s

MNK MLR MLR
comp=Z,141nm,20.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=E,2μm,20.0s
ARCES ARCESS Array B 101.26 339 P **Pdif 03 30 11.2 -2.0**
comp=E,3.3nm,0.8s,baz=83,slow=2.9,SNR=4.6
ARCES PKiKP **PKiKP 03 34 37.2 0.0**
comp=E,1.3nm,0.6s,baz=54,slow=6.2,SNR=4.0
FINES FINESS Array B 101.57 331 P **Pdif 03 30 13.6 -1.1**
comp=E,3.6nm,1.0s,baz=57,slow=10,SNR=2.0
FINES PKiKP **PKiKP 03 34 37.5 -0.4**
comp=E,4.0nm,0.9s,baz=102,slow=3.1,SNR=11
SPITS Spitsbergen Ar 102.22 348 P **Pdif 03 30 15.6 -1.8**
comp=E,14nm,1.0s,baz=99,slow=4.7,SNR=14
BUR08 Bucovina Ar. S 102.50 317 Pdif **Pdif 03 30 18.9 -0.4**
KOLS Kolonicke sedl 104.41 318 *e*P **Pdif 03 30 29.2 +1.5**
KOLS Kolonicke sedl 104.41 318 *e*PDIFF **Pdif 03 30 29.1 +1.4**
SOKA Soboth 109.48 316 *e*PKiKP **PKiKP 03 34 53.6 +0.5**
comp=E,0.6nm,0.4s
GERES GERESS Array B 110.04 319 PKiKP **PKiKP 03 34 53.8 -0.3**
comp=E,0.9nm,0.5s,baz=72,slow=2.8,SNR=9.4
GERES PP **PP 03 35 27.8 -1.0**
comp=E,1.0nm,0.6s,baz=80,slow=8.8,SNR=7.1
LESA Schwarzleotal 110.96 317 *e*PKiKP **PKiKP 03 34 55.4 -0.5**
comp=E,1.3nm,0.4s
ABTA Abfaltersbach 111.18 317 *e*PKiKP **PKiKP 03 34 55.8 -0.5**
comp=E,3.0nm,0.7s
WTTA Wattenberg 111.68 317 *e*PKiKP **PKiKP 03 34 57.1 -0.3**
comp=E,11nm,0.5s
WATA Walderalm 111.71 317 *e*PKiKP **PKiKP 03 34 57.6 +0.2**
comp=E,2.1nm,0.3s
YKA Yellowknife Ar 111.93 25 PKiKP **PKiKP 03 34 56.3 -0.8**
comp=E,0.7nm,0.7s,baz=307,slow=2.1,SNR=9.8
MOTA Moosalm 112.02 318 *e*PKiKP **PKiKP 03 34 57.7 -0.3**
comp=E,3.0nm,0.5s
RETA Reutte 112.22 318 *e*PKiKP **PKiKP 03 34 57.7 -0.5**
comp=E,1.3nm,0.4s
FETA Feichten 112.34 317 *e*PKiKP **PKiKP 03 34 58.5 -0.1**
comp=E,1.1nm,0.4s
DAVA Damuels 112.85 318 *e*PKiKP **PKiKP 03 34 59.3 -0.3**
comp=E,6.6nm,0.7s
BCLA Clavier 114.98 322 *d*PKiKP **PKiKP 03 35 03.2 -0.1**
BGES Gesves 115.12 322 *d*PKiKP **PKiKP 03 35 03.3 -0.3**
KEST Kesra 115.21 305 PKP **PKPdf 03 35 04.5 +0.2**
comp=E,2.6nm,0.5s,baz=49,slow=1.6,SNR=11
BMRD Maredsous 115.34 321 *d*PKPdf **PKPdf 03 35 04.3 +0.3**
DOU Dourbes 115.51 322 *d*PKPdf **PKPdf 03 35 04.4 +0.1**
NVAR Mina Array Bea 116.99 51 PKP **PKiKP 03 35 08.5 +0.6**
comp=E,0.4nm,0.5s,baz=245,slow=2.8,SNR=5.5
EKA Eskdalemuir Ar 117.88 329 PKP **PKPdf 03 35 08.3 -0.5**
comp=E,2.5nm,0.6s,baz=44,slow=3.2,SNR=9.3
PDAR Pinedale Array 122.30 45 PKP **PKPdf 03 35 17.9 -0.1**
comp=E,0.5nm,0.4s,baz=78,slow=2.0,SNR=15
PDAR PKKPbc **PKKPbc 03 45 14.9 -0.2**
comp=E,0.3nm,0.5s,baz=103,slow=6.4,SNR=4.5
TORD Torodi Ar. Bea 123.43 280 PKP **PKPdf 03 35 20.6 +0.1**
comp=E,6.7nm,0.5s,baz=73,slow=3.4,SNR=5.3
ESDC Sonseca Array 124.59 312 PKP **PKPdf 03 35 22.2 -0.1**
comp=E,2.0nm,0.6s,baz=99,slow=6.0,SNR=24
ESDC PP **PP 03 37 06.6 -3.5**
comp=E,1.0nm,0.9s,baz=61,slow=6.5,SNR=6.0
PBRG Braganca 125.80 316 *e*PKPdf **PKiKP 03 35 24.8 -0.1**
PVRL Vila Real 126.68 316 *e*PKPdf **PKiKP 03 35 27.0 +0.4**
POLO Lamas de Olo 126.70 316 *e*PKPdf **PKiKP 03 35 27.1 +0.4**
PCAB Cabril 126.72 316 *e*PKPdf **PKiKP 03 35 27.2 +0.5**
PGAV Gavieira, Arco 126.78 317 *e*PKPdf **PKiKP 03 35 27.3 +0.4**
MTE Manteigas 126.91 314 *e*PKPdf **PKiKP 03 35 27.8 +0.6**
PVIS Viseu 127.03 315 *e*PKPdf **PKPdf 03 35 26.8 -0.1**
PCBR Castelo Branco 127.07 314 *e*PKPdf **PKiKP 03 35 27.8 +0.4**
ULM Lac du Bonnet 127.10 31 PKP **PKPdf 03 35 25.6 -1.0**
comp=E,1.9nm,0.5s,baz=318,slow=2.7,SNR=4.8
PMRV Marv??o 127.16 313 *e*PKPdf **PKiKP 03 35 27.6 0.0**
PTO Porto 127.35 316 *e*PKPdf **PKPdf 03 35 26.9 -0.5**
PBAR Barrancos 127.36 312 *e*PKPdf **PKiKP 03 35 28.9 +0.9**
PCAS Casmilo, Conde 127.71 314 *e*PKPdf **PKiKP 03 35 29.1 +0.4**
PMTG Montargil 127.90 313 *e*PKPdf **PKiKP 03 35 29.0 -0.1**
EVO Evora 127.94 312 *e*PKPdf **PKiKP 03 35 29.7 +0.5**
MESJ Messejana 128.35 312 *e*PKPdf **PKiKP 03 35 30.7 +0.7**
PLCA Paso Flores 128.84 166 PKP **PKiKP 03 35 31.4 +0.3**
comp=E,0.8nm,0.7s,baz=194,slow=4.2,SNR=3.2
DBIC Dimbokro 129.44 271 PKP **PKPdf 03 35 32.5 +0.4**
comp=E,4.2nm,0.5s,baz=80,slow=2.3,SNR=13
TXAR Lajitas Array 130.86 59 PKP **PKiKP 03 35 35.5 0.0**
comp=E,0.4nm,0.6s,baz=210,slow=1.7,SNR=6.5
TXAR SKPbc **SKPbc 03 38 48.8 -0.4**
comp=E,7.7nm,1.0s,baz=280,slow=2.3,SNR=27
TRQA Tornquist 132.99 173 *e*P **PKiKP 03 35 39.2 -0.3**
SCHQ Schefferville 133.32 9 PKP **PKPdf 03 35 38.6 +0.3**
comp=E,2.1nm,0.3s,baz=340,slow=2.7,SNR=13
SCHQ SKPbc **SKPbc 03 38 55.4 -1.5**
comp=E,7.9nm,0.8s,baz=332,slow=1.8,SNR=10
CPUP Villa Florida 145.00 178 PKPbc **PKPdf 03 36 01.2 +0.8**
comp=E,11nm,0.6s,baz=197,slow=2.1,SNR=37
CPUP SKPbc **SKiKP 03 39 31.1 +0.2**
comp=E,3.1nm,0.7s,baz=156,slow=1.5,SNR=4.5
CPUP Villa Florida 145.00 178 *e*P **PKPbc 03 35 59.5 -0.3**
RPRD Ribas do Rio P 150.77 184 *e*P **PKPdf 03 36 10.4 +0.4**
AQDB Aquidauana 150.85 180 *e*P **PKPdf 03 36 12.0 +1.8**
LPAZ La Paz 152.23 154 PKPbc **PKiKP 03 36 20.4 +0.2**
comp=E,2.2nm,0.5s,baz=178,slow=3.8,SNR=10.0
CZSB Cruzeiro do Su 156.49 134 *e*P **PKPdf 03 36 18.8 +0.5**
TBTG Tabatinga, AM 160.93 132 *e*P **PKPdf 03 36 25.4 +1.7**

FUNV ***22*** *03:22:00.9, 11°.17N×71°.71W, h19km, MW3.3*
RSNC ***22*** *03:22:01.7±0.0, 11°.N±1°×.7°.2W±°, h108km±2km, M2.6, mb3.3, ML2.4*
ISC 22 03:21:59.4±2.1, 11°.12N±0°.08×71°.72W±0°.05,
h124km±19km, n13, σ0.99/21, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.63**	**335**	P	**Pn**	**03 22 19.4**	**+0.6**
URIC				S	**Sn**	**03 22 32.8**	**-0.6**
CRJC	**Cerrejon, Guaj**	**1.14**	**265**	P	**Pn**	**03 22 23.9**	**+0.5**
CRJC				S	**Sn**	**03 22 41.3**	**-0.2**
MCQV	**Machiques**	**1.33**	**217**	*e*P	**Pn**	**03 22 26.5**	**+1.2**
SDV	**Santo Domingo**	**2.47**	**154**	P	**Pn**	**03 22 39.8**	**+0.6**
SDV				S	**Sn**	**03 23 08.7**	**-1.1**
ARGC	**Ariguani, Magd**	**2.78**	**243**	P	**Pn**	**03 22 43.5**	**+0.4**
ARGC				S	**Sn**	**03 23 15.4**	**-1.2**
JACV	**Jacura**	**2.84**	**90**	*e*P	**Pn**	**03 22 43.9**	**0.0**
JACV				*e*S	**Sn**	**03 23 16.9**	**-1.2**
SOCV	**Socops**	**2.95**	**163**	*e*P	**Pn**	**03 22 46.4**	**+1.1**
SOCV				*e*S	**Sn**	**03 23 20.2**	**-0.3**
OCAC	**Ocana**	**3.27**	**209**	P	**Pn**	**03 22 49.8**	**+0.2**
OCAC				S	**Sn**	**03 23 26.8**	**-1.5**
CAPV	**Capacho**	**3.29**	**190**	*e*P	**Pn**	**03 22 50.7**	**+0.7**
PAMC	**Pamplona, Colo**	**3.88**	**194**	P	**Pn**	**03 22 58.8**	**+0.8**
PAMC				S	**Sn**	**03 23 42.2**	**-1.1**
BENV	**Beln**	**4.22**	**105**	*e*P	**Pn**	**03 23 03.5**	**+1.5**
BAUV	**El Baul**	**4.22**	**121**	*e*P	**Pn**	**03 23 02.3**	**+0.2**
RUSC	**La Rusia**	**5.37**	**195**	P	**Pn**	**03 23 19.1**	**+1.2**
	4.5nm,1.5s						

TAP 22 03:22:42.3, 23°.48N×120°.52E, h11km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCKO	**Fanlu**	**0.09**	**118**	P	Pg	03 22 45.3	+0.4
WCKO				S	Sg	03 22 47.4	+0.6
CHY	**Chiayi**	**0.09**	**282**	*e*P	Pg	03 22 45.5	+0.5
CHY				*e*S	Sg	03 22 48.1	+1.3
CHN4	**Tsaushan**	**0.14**	**153**	*i*P	Pb	03 22 46.4	-0.7
CHN4				*i*S	Sg	03 22 49.5	+1.4
CHN5	**Tsauling**	**0.18**	**51**	*i*P	Pg	03 22 47.0	+0.6
CHN5				*i*S	Sg	03 22 50.9	+1.6
TPUB	**Ta-pu**	**0.20**	**151**	*i*P	Pg	03 22 47.4	+0.7
WDLH	**Douliu**	**0.21**	**4**	*e*P	Pb	03 22 48.3	+0.1
WDLH				*e*S	Sg	03 22 52.0	+2.2
TWK	**Hsinying**	**0.21**	**188**	*i*P	Pb	03 22 47.9	-0.4
TWK				*i*S	Sg	03 22 52.0	+2.0
WTK	**Tuku**	**0.24**	**330**	*e*P	Pb	03 22 49.6	+0.9
WTK				S	Sg	03 22 53.5	+2.8
WTP	**Ta-pu**	**0.25**	**160**	*i*P	Pb	03 22 48.4	-0.4
WTP				*i*S	Sg	03 22 52.8	+1.8
ALS	**Alishan**	**0.26**	**83**	*i*P	Pb	03 22 49.0	-0.3
ALS				*i*S	Sb	03 22 53.7	-0.2
WSL	**Shuilin Townsh**	**0.27**	**279**	*e*P	Pb	03 22 49.3	0.0
WSL				*i*S	Sb	03 22 54.3	+0.4
CHN1	**Nanshi**	**0.29**	**179**	*i*P	Pg	03 22 48.7	+0.4
CHN1				S	Sb	03 22 54.6	+0.1
WHYT	**Xinyi Township**	**0.37**	**55**	P	Pb	03 22 51.0	0.0
WHYT				*e*S	Sb	03 22 57.2	+0.4

FUNV ***22*** *03:35:42.8, 10°.72N×62°.39W, h26km, MW3.4*
TRN ***22*** *03:35:43.2, 10°.86N×62°.28W, h12km, MD2.9, North of the Paria peninsula.*
ISC 22 03:35:41.3±1.7, 10°.71N±0°.10×62°.47W±0°.07, h27km±21km,
n10, σ1.40/19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.92**	**92**	*e*P	**Pb**	**03 35 58.8**	**+0.1**
TRN	**Trinidad (W)**	**1.05**	**93**	*e*P	**Pb**	**03 36 01.1**	**+0.2**
TRN				*e*S	**Sb**	**03 36 13.0**	**-1.2**
GRFF	**Grenada Fort F**	**1.51**	**28**	*e*P	**Pn**	**03 36 07.2**	**+0.7**
GRFF				*e*S	**Sn**	**03 36 24.6**	**-0.7**
GRGR	**Grenville**	**1.62**	**29**	*e*P	**Pn**	**03 36 08.5**	**+0.4**
GRGR				*e*S	**Sn**	**03 36 28.4**	**+0.3**
GRSS	**Sisters**	**1.79**	**28**	*e*P	**Pn**	**03 36 11.1**	**+0.8**
GRSS				*e*S	**Sn**	**03 36 32.2**	**0.0**
TOSP	**Speyside**	**1.99**	**73**	*e*P	**Pn**	**03 36 14.7**	**+1.6**
TOSP				*e*S	**Sn**	**03 36 36.1**	**-1.0**
GCMP	**Grenada, Carri**	**2.04**	**30**	*e*P	**Pn**	**03 36 14.2**	**+0.4**
GCMP				*e*S	**Sn**	**03 36 37.7**	**-0.7**
PCRV	**Puerto La Cruz**	**2.20**	**256**	*e*P	**Pn**	**03 36 18.5**	**+2.4**
PCRV				*e*S	**Sn**	**03 36 43.2**	**+0.8**
BENV	**Beln**	**5.10**	**262**	*e*P	**Pn**	**03 36 57.2**	**+1.1**
BENV				*e*S	**Sn**	**03 37 52.3**	**-1.8**
BAUV	**El Baul**	**5.76**	**253**	*e*P	**Pn**	**03 37 05.2**	**+0.1**
BAUV				*e*S	**Sn**	**03 38 07.1**	**-3.3**

IDC ***22*** *03:57:41.6±0.9, 36°.73N×143°.78E, h0km, mb3.8/13, mbtmp3.8/16, ML3.8/3, MS2.6/1, Error ellipse: s-maj=25.8km s-min=19.4km az=153.0*
NEIC ***22*** *03:57:44.7±1.4, 36°.88N±0°.08×143°.66E±0°.10, h10km±1km, mb4.5/12, Error ellipse: s-maj=13.5km s-min=12.6km az=105.0*
JMA ***22*** *03:57:46.2±0.3, 36°.9N±0°.8×14°.4E±°, h59km, MV4.0/27, FAR E OFF CENTRAL HONSHU*
ISC 22 03:57:47.5±0.7, 36°.85N±0°.06×143°.60E±0°.07, h35km, n61,
σ1.71/64, mb3.9/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.24**	**311**	*e*P	**Pn**	**03 58 21.2**	**-0.9**
JIKH				*e*S	**Sn**	**03 58 47.2**	**-1.3**
JFK	**Kawauchi**	**2.24**	**284**	*e*P	**Pn**	**03 58 21.5**	**-0.7**
JFK				*e*S	**Sn**	**03 58 47.5**	**-1.0**
ONAJ	**Iwakimizuishiy**	**2.26**	**277**	*e*S	**Sn**	**03 58 48.2**	**-0.8**
JMST	**Minamisoumatoc**	**2.33**	**293**	*e*S	**Sn**	**03 58 49.9**	**-0.9**
JMM	**Marumori**	**2.46**	**295**		**Pn**	**03 58 24.6**	**-0.4**
JMM				Sn	**Sn**	**03 58 53.4**	**-0.4**
JOTO	**OTAMA OYAMA**	**2.70**	**286**	*e*P	**Pn**	**03 58 28.8**	**+0.3**
JOTO				*e*S	**Sn**	**03 59 00.3**	**+0.3**
JMK	**Ichinoseki**	**2.82**	**319**	*e*P	**Pn**	**03 58 29.1**	**-1.0**
JMK				*e*S	**Sn**	**03 59 01.6**	**-1.2**
JOM	**Ohasama**	**3.19**	**326**	*e*P	**Pn**	**03 58 34.4**	**-0.8**
JOM				*e*S	**Sn**	**03 59 10.0**	**-1.9**
JYK	**Kaneyama**	**3.29**	**310**	*e*P	**Pn**	**03 58 36.5**	**-0.1**
JAG	**Ashikaga**	**3.36**	**264**	*e*P	**Pn**	**03 58 37.2**	**-0.3**
JAG				*e*S	**Sn**	**03 59 15.2**	**-1.0**
JRY	**Ryogami san**	**3.88**	**259**	*e*P	**Pn**	**03 58 44.0**	**-0.7**
JOD2	**Odawara 2**	**3.98**	**248**	*e*P	**Pn**	**03 58 45.2**	**-0.9**
MJAR	**Matsushiro Arr**	**4.34**	**268**	Pn	**Pn**	**03 58 51.7**	**+0.7**
	0.7nm,0.3s,baz=89,slow=15,SNR=18						
MJAR				Sn	**Sn**	**03 59 39.1**	**-1.4**
	0.3nm,0.3s,baz=96,slow=26,SNR=5.6						
	4.6nm,0.4s						
MAJO	**Matsushiro**	**4.34**	**268**		**Pn**	**03 58 52.1**	**+1.0**
MJB9	**Matsu-Tunnel**	**4.35**	**268**		**Pn**	**03 58 53.4**	**+2.3**
JTM	**Tenmabayashi**	**4.40**	**334**	Pn	**Pn**	**03 58 52.2**	**+0.4**
JHJ2	**Mitsune**	**4.85**	**221**	Pn	**Pn**	**03 58 55.7**	**-2.3**
JHJ2	**Mitsune**	**4.85**	**221**	*e*P	**Pn**	**03 58 55.1**	**-2.9**
JHJ	**Hachijo jima 2**	**4.86**	**221**	Pn	**Pn**	**03 58 54.4**	**-3.8**
	36nm,0.3s,baz=167,slow=23,SNR=21						
JHJ				Sn	**Sn**	**03 59 47.3**	**-5.9**
	51nm,0.3s,baz=60,slow=22,SNR=7.7						
JHJ				LR	LR	04 00 57.6	
	comp=Z,73nm,21.6s,baz=26,slow=40						
	70nm,0.3s						
ERM	**Erimo**	**5.17**	**356**	Pn	**Pn**	**03 59 00.3**	**-2.1**
JGF	**Kuroka**	**5.20**	**258**	Pn	**Pn**	**03 59 04.8**	**+2.0**
JKA	**Kamikawa-asahi**	**7.30**	**354**	Pn	**Pn**	**03 59 29.9**	**-1.7**
ASAJ	**Asahikawa**	**7.30**	**354**	Pn	**Pn**	**03 59 29.8**	**-1.9**
	2.0nm,0.3s,baz=212,slow=10,SNR=8.7						
ASAJ				Sn	**Sn**	**04 00 48.2**	**-5.0**
	1.1nm,0.3s,baz=288,slow=21,SNR=2.0						
	4.3nm,0.3s						
JCJ	**Chichijima**	**9.80**	**187**	Pn	Pn	03 59 58.4	-7.5
	5.8nm,0.3s,baz=281,slow=20,SNR=1.6						
JCJ				Sn	Sn	04 01 41.9	-13
	5.6nm,0.3s,baz=282,slow=20,SNR=1.6						
USRK	**Ussuriysk Ar.**	**11.48**	**313**	Pn	**Pn**	**04 00 24.2**	**-4.7**
	0.1nm,0.3s,baz=122,slow=12,SNR=1.6						
KLR	**Kul'dur**	**15.08**	**329**	Pn	**P**	**04 01 21.6**	**-1.1**
	0.2nm,0.3s,baz=142,slow=17,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**26.57**	**124**	T	T	04 30 22.2	
	baz=317,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**26.58**	**124**	T	T	04 30 22.6	
	baz=317,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**26.59**	**124**	T	T	04 30 23.5	
	baz=317,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**27.31**	**126**	T	T	04 31 18.9	
	baz=318,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**27.31**	**126**	T	T	04 31 31.0	
	baz=318,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**27.33**	**126**	T	T	04 31 18.7	
	baz=318,slow=76,SNR=4.8						
SONM	**Songino Array**	**29.34**	**304**	P	**P**	**04 03 51.2**	**+4.1**
	1.1nm,0.8s,baz=108,slow=14,SNR=6.2						
F17K	**Baldwin Pennin**	**43.03**	**29**	P	**P**	**04 05 43.4**	**+0.1**
F17K				IAmb	IAmb	04 05 52.5	
	comp=Z,8.7nm,1.4s						
C18K	**Utukok River**	**43.67**	**26**	P	**P**	**04 05 48.9**	**+0.3**
B20K	**Meade River**	**45.43**	**25**	P	**P**	**04 06 02.8**	**+0.4**
B20K				IAmb	IAmb	04 06 03.3	
	comp=Z,7.8nm,1.4s						
MKAR	**Makanchi Array**	**45.70**	**303**	P	**P**	**04 06 06.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=90,slow=9.7,SNR=5.5						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**47.49**	**308**	P	**P**	**04 06 19.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=82,slow=7.9,SNR=7.3						
	comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**48.71**	**32**	P	**P**	**04 06 27.3**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=258,slow=6.1,SNR=12						
	comp=Z,1.0nm,0.7s						
KLU	**Klutina**	**49.27**	**37**	P	**P**	**04 06 32.6**	**+0.1**
J26L	**Joseph Creek**	**50.15**	**33**	P	**P**	**04 06 39.0**	**-0.3**
J26L				IAmb	IAmb	04 06 54.8	
	comp=Z,5.7nm,1.5s						
HYT	**Haines Junctio**	**53.40**	**37**	P	**P**	**04 07 04.4**	**+0.9**
HYT				IAmb	IAmb	04 07 24.8	
	comp=Z,9.7nm,1.4s						
WB0	**Warramunga Arr**	**56.98**	**190**	P	**P**	**04 07 29.7**	**+0.1**
WRA	**Warramunga Arr**	**57.16**	**190**	P	**P**	**04 07 29.3**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=8.3,slow=7.4,SNR=2.2						
	comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**59.39**	**311**	P	**P**	**04 07 46.8**	**+0.7**
ABKAR	**Akbulak array**	**59.39**	**311**	P	**P**	**04 07 46.9**	**+0.7**
ABKAR				IAmb	IAmb	04 08 03.3	
	comp=Z,2.9nm,1.3s						
YKA	**Yellowknife Ar**	**63.08**	**31**	P	**P**	**04 08 10.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=300,slow=6.6,SNR=4.6						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**69.78**	**333**	P	**P**	**04 08 54.1**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=66,slow=5.0,SNR=1.4						
	comp=Z,2.5nm,0.9s						
PAHR	**Pah Rah Range**	**72.28**	**53**	P	**P**	**04 09 09.6**	**0.0**
PAHR				IAmb	IAmb	04 09 19.5	
	comp=Z,6.5nm,1.2s						
NVAR	**Mina Array Bea**	**73.69**	**54**	P	**P**	**04 09 18.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=290,slow=5.6,SNR=7.4						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**74.97**	**337**	P	**P**	**04 09 25.3**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=28,slow=6.7,SNR=4.0						
	comp=Z,2.9nm,0.9s						
NC204	**NORSAR Array S**	**74.97**	**338**	P	**P**	**04 09 25.8**	**+1.0**
NOA	**NORSAR Array B**	**75.02**	**338**	P	**P**	**04 09 25.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=35,slow=5.4,SNR=4.7						
	comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**76.54**	**46**	P	**P**	**04 09 34.0**	**-0.4**
PDAR	**Pinedale Array**	**76.54**	**46**	P	**P**	**04 09 33.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=310,slow=0.6,SNR=5.3						
	comp=Z,0.5nm,0.7s						
BUR08	**Bucovina Ar. S**	**79.52**	**323**	P	**P**	**04 09 51.2**	**+0.6**
BURAR	**Bucovina Array**	**79.53**	**323**	P	**P**	**04 09 51.9**	**+1.2**
PV10	**Paradox Valley**	**79.57**	**50**	P	**P**	**04 09 52.1**	**+0.8**
PV10				IAmb	IAmb	04 09 52.3	
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	**80.27**	**313**	P	**P**	**04 09 55.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=31,slow=4.2,SNR=1.9						
	comp=Z,0.2nm,0.5s						
GERES	**GERESS Array B**	**83.78**	**329**	P	**P**	**04 10 13.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=35,slow=5.4,SNR=2.3						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**88.83**	**54**	P	**P**	**04 10 37.6**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=308,slow=4.4,SNR=5.4						
	comp=Z,0.5nm,0.7s						

IDC ***22*** *04:25:23.3±0.6, 18°.21N×101°.06W, h58km±4km, mb4.4/18, mbtmp4.7/22, MS3.8/43, Error ellipse: s-maj=20.7km s-min=10.4km az=53.0*
MOS ***22*** *04:25:24.0±1.2, 18°.44N×100°.83W, h70km, mb5.0/19, Error ellipse: s-maj=11.5km s-min=6.4km az=94.5*
GCMT ***22*** *04:25:24.3±0.3, 18°.28N±0°.02×101°.00W±0°.02, h51km±1km, MW4.9/85, Moment Tensor Solution. s46,c51; s85,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.15±.14; $M_{\theta\theta}$2.43±.08; $M_{\phi\phi}$-0.28±.09; $M_{r\theta}$0.63±.07; $M_{\phi\phi}$-0.57±.07; $M_{\phi r}$-0.77±.06; Best double couple: $M_0$2.56900×10^{16} NP1:ϕ_s85.00000°, δ38.00000°, λ-117.00000°. NP2: ϕ_s297.00000°, δ56.00000°, λ-70.00000°. Principal axes: T 2.6740, Plg9.0000°, Azm13.0000°; N -0.2150, Plg16.0000°, Azm106.0000°; P -2.4630, Plg71.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MEX ***22*** *04:25:24.7±1.2, 18°.22N×101°.01W, h64km±12km, MD4.8*
NEIC ***22*** *04:25:25.1, 18°.39N×100°.95W, h50km*
NEIC ***22*** *04:25:25.1, 18°.59N×101°.00W, h50km, Moment Tensor Solution. Duration: 1±2 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.41; $M_{\theta\theta}$2.65; $M_{\phi\phi}$-0.24; $M_{r\theta}$0.29; $M_{\theta\phi}$-1.01; $M_{\phi r}$-0.41; Fault plane solution: $M_0$2.74000×10^{16} NP1:ϕ_s98.17000°, δ41.53000°, λ-103.72000°. NP2:ϕ_s296.24000°, δ49.90000°, λ-78.13000°. Principal axes: T 2.9984, Plg4.0000°, Azm18.0000°; N -0.5118, Plg9.0000°, Azm109.0000°; P -2.4866, Plg80.0000°, Azm263.0000°;*
NEIC ***22*** *04:25:25.5±2.8, 18°.39N±0°.07×100°.93W±0°.10, h77km±7km, mb4.9/386, Mww4.9/13 Error ellipse: s-maj=14.8km s-min=8.1km az=58.0*
ISC 22 04:25:23.0±0.4, 18°.26N±0°.02×101°.01W±0°.03, h58km±3km,
h59km: pP-P, n782, σ1.33/670, mb5.0/255, MS3.9/39,
8C-11D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.63**	**88**	*e*P	**Pn**	**04 25 36.5**	**+0.2**
ARIG				*e*S	**Sn**	**04 25 46.3**	**+0.2**
PET2	**Petatlan**	**0.76**	**199**	*e*P	**Pn**	**04 25 37.5**	**-0.5**
PET2				*i*S	**Sn**	**04 25 49.1**	**+0.3**
ZIIG	**Zihuatanejo**	**0.78**	**214**	*i*P	**Pn**	**04 25 37.8**	**-0.4**
ZIIG				*e*S	**Sn**	**04 25 49.5**	**+0.2**
UON	**La Union**	**0.82**	**250**	*i*P	**Pn**	**04 25 38.1**	**-0.5**
UON				*i*S	**Sn**	**04 25 49.6**	**-0.5**
ATYC	**Atoyac**	**1.18**	**152**	*e*P	**Pn**	**04 25 43.5**	**+0.1**
ATYC				*i*S	**Sn**	**04 25 58.3**	**-0.1**
CAIG	**El Cayaco**	**1.40**	**150**	*i*P	**Pn**	**04 25 46.3**	**0.0**
CAIG				*i*S	**Sn**	**04 26 00.7**	**-3.0**
MOIG	**Morelia**	**1.42**	**353**	Pn	**Pn**	**04 25 46.9**	**+0.1**
MOIG				Sn	**Sn**	**04 26 04.8**	**+0.1**
MOIG	**Morelia**	**1.42**	**353**	*i*P	**Pn**	**04 25 47.0**	**+0.1**
MOIG				*i*S	**Sn**	**04 26 04.6**	**-0.1**
PLIG	**Platanillo**	**1.44**	**84**	*i*P	**Pn**	**04 25 47.9**	**+1.0**
PLIG				*i*S	**Sn**	**04 26 04.1**	**-0.7**
URUA	**Uruapan**	**1.54**	**319**	*e*P	**Pn**	**04 25 46.7**	**-1.6**
URUA				*e*S	**Sn**	**04 26 04.6**	**-2.8**
MAVM	**Malinalco, Edo**	**1.59**	**64**	*e*P	Pn	04 25 35.1	-14
MAVM				*i*S	Sn	04 25 51.1	-18
ACP2	**Acapulco**	**1.74**	**142**	*e*P	**Pn**	**04 25 51.1**	**+0.1**
ACP

CEGR *i* S **Sn** **04 26 43.2 +1.9**
CDAR Ciudad de Arme 2.93 284 *eP* **Pn** **04 26 07.2 +0.1**
CDAR *i* S **Sn** **04 26 38.9 -2.3**
HLIG Huajuapan de L 3.08 97 *i P* **Pn** **04 26 11.5 +2.1**
HLIG *i* S **Sn** **04 26 43.8 -1.3**
TXIG Tlaxiaco 3.25 107 *eP* **Pn** **04 26 13.9 +2.1**
TXIG *i* S **Sn** **04 26 48.5 -0.9**
PNIG Pinotepa 3.32 124 *eP* **Pn** **04 26 13.6 +1.0**
PNIG *eS* **Sn** **04 26 48.1 -2.7**
TPIG Tehuac#an 3.47 87 *eP* **Pn** **04 26 16.8 +2.1**
TPIG *i* S **Sn** **04 26 53.3 -1.4**
YOIG Yosondua 3.58 112 *eP* **Pn** **04 26 18.8 +2.4**
YOIG *i* S **Sn** **04 26 56.8 -0.9**
RPIG Rio Verde 3.73 15 *eP* **Pn** **04 26 18.9 +0.6**
RPIG *i* S **Sn** **04 27 04.9 +3.8**
CXUV Coxquihui 3.75 59 *i P* **Pn** **04 26 19.8 +1.4**
CXUV *i* S **Sn** **04 27 01.1 -0.2**
TOIG Toxpalan 3.75 92 *eP* **Pn** **04 26 20.7 +2.1**
TOIG *i* S **Sn** **04 27 00.6 -0.9**
AAIG Aguscalientes 3.91 341 *eP* **Pn** **04 26 21.2 +0.4**
AAIG *i* S **Sn** **04 27 06.0 +0.4**
CJM Chamela 4.02 289 *eP* **Pn** **04 26 22.1 0.0**
CJM *eS* **Sn** **04 27 07.6 -0.2**
CJM *i* S 04 27 13.8
CTUV Llano Grande 4.05 38 *i P* **Pn** **04 26 23.6 +1.1**
CTUV *i* S **Sn** **04 27 09.6 +0.8**
JAUV Jalcomulco 4.13 74 *i P* **Pn** **04 26 25.2 +1.6**
JAUV *i* S **Sn** **04 27 11.9 +1.1**
VHO Vista Hermosa 4.24 106 *eP* **Pn** **04 26 28.0 +2.7**
VHO *eS* **Sn** **04 27 13.3 -0.4**
OXBJ Oaxaca 4.25 106 *eP* **Pn** **04 26 26.4 +0.9**
OXBJ *i* S **Sn** **04 27 07.8 -6.2**
OXLC Oaxaca 4.27 105 *eP* **Pn** **04 26 27.1 +1.4**
OXLC *i* S **Sn** **04 27 09.3 -5.2**
PEIG Puerto Escondi 4.32 121 *eP* **Pn** **04 26 28.1 +1.8**
PEIG *eS* **Sn** **04 27 12.3 -3.1**
ANIG Ahuacatlan 4.32 311 *eP* **Pn** **04 26 29.6 +3.2**
LVIG Laguna Verde 4.58 71 *eP* **Pn** **04 26 30.7 +0.9**
LVIG *i* S Sn 04 27 31.4 +10
ZAIG Zacatecas 4.72 342 Pn **Pn** **04 26 32.3 +0.4**
ZAIG Zacatecas 4.72 342 *eP* **Pn** **04 26 32.2 +0.2**
ZAIG *eS* **Sn** **04 27 32.2 +6.7**
NEUV Arroyo Zacate 4.98 95 *eP* **Pn** **04 26 37.0 +1.7**
NEUV *i* S **Sn** **04 27 31.1 -0.6**
HUIG Huatulco 5.30 117 *eP* **Pn** **04 26 42.3 +2.6**
HUIG *eS* **Sn** **04 27 35.5 -4.0**
PMUV Sontecomapan 5.59 86 *eP* **Pn** **04 26 42.3 -1.5**
PMUV *i* S **Sn** **04 27 42.3 -4.5**
PMUV *i* S 04 27 48.5
CMIG Matias Romero 5.95 100 P **Pn** **04 26 50.3 +1.7**
20nm,0.2s,baz=271,slow=13,SNR=170
CMIG S **Sn** **04 27 51.3 -4.2**
41nm,0.3s,baz=269,slow=6.9,SNR=4.2
CMIG LR LR 04 29 27.0
comp=Z,846nm,21.2s,baz=300,slow=41
CMIG Matias Romero 5.95 100 *eP* **Pn** **04 26 50.7 +2.1**
CMIG *eS* **Sn** **04 27 53.3 -2.1**
UXUV UXUV 6.60 97 *eP* **Pn** **04 26 59.3 +1.8**
UXUV *i* S **Sn** **04 28 12.3 +0.8**
LNIG Linares 6.76 12 *eP* **Pn** **04 26 59.6 -0.1**
TGIG 7.67 100 *i P* **Pn** **04 27 15.6 +3.5**
TGIG *eS* **Sn** **04 28 35.9 -1.8**
CCIG Comitan 8.70 102 **Pn** **04 27 28.2 +1.8**
HUEH Huehuetenango 9.56 106 *i P* **Pn** **04 27 38.0 -0.3**
HUEH *i* S **Sn** **04 29 25.4 +1.0**
HPIG 9.64 334 **Pn** **04 27 37.8 -1.5**
KVTX Kingsville 9.68 17 **Pn** **04 27 43.0 +3.4**
LPIG La Paz 10.44 305 LR LR 04 31 37.6
comp=Z,384nm,19.6s,baz=137,slow=36
APG El Apazote 10.61 106 P **Pn** **04 27 55.2 +2.6**
0.4nm,0.2s,baz=84,slow=17,SNR=9.3
APG S **Sn** **04 29 45.4 -4.7**
0.5nm,0.3s,baz=94,slow=16,SNR=4.3
APG LR LR 04 32 26.7
comp=Z,21nm,20.5s,baz=259,slow=40
735A Kenedy 10.95 15 **Pn** **04 27 55.9 -1.0**
DRIO Del Rio 11.12 2 Pn **Pn** **04 28 01.1 +1.8**
TX31 Lajitas Ar. Si 11.29 348 Pn **Pn** **04 28 04.2 +2.5**
TXAR Lajitas Array 11.29 348 **Pn** **04 28 04.1 +2.4**
TXAR Lajitas Array 11.29 348 P **Pn** **04 28 03.8 +2.1**
13nm,0.8s,baz=162,slow=15,SNR=77
TXAR LR LR 04 32 42.2
comp=Z,578nm,19.8s,baz=164,slow=39
TXAR Lajitas Array 11.29 348 P **Pn** **04 28 04.1 +2.4**
HNDO Hondo 11.33 8 **Pn** **04 28 04.2 +2.0**
SAND Sanderson 11.69 355 Pn **Pn** **04 28 10.2 +3.1**
MLDN Muldoon 12.02 17 **Pn** **04 28 13.1 +1.5**
TEIG Tepich 12.18 79 P **Pn** **04 28 15.4 +1.6**
0.2nm,0.5s,baz=87,slow=24,SNR=5.2
TEIG S Sn 04 30 18.9 -9.2
0.1nm,0.7s,baz=354,slow=24,SNR=6.5
JCT Junction City 12.21 5 Pn **Pn** **04 28 15.9 +1.6**
JCT Junction City 12.21 5 P **Pn** **04 28 15.9 +1.6**
HKT Hockley 12.56 21 **Pn** **04 28 18.4 -0.5**
HKT Hockley 12.56 21 *i P* **Pn** **04 28 17.8 -1.0**
OZNA Ozona 12.61 360 Pn **Pn** **04 28 18.9 -0.7**
HSIG 14.05 321 Pn **Pn** **04 28 40.9 +1.7**
Z35A Perchaven, San 15.38 12 **Pn** **04 28 55.2 -1.3**
BOAB BOACO BROADBAN 16.88 109 P **P** **04 29 08.4 +2.8**
ACON Acoyapa 16.51 110 P **P** **04 29 15.3 +2.7**
TUC Tucson 16.54 330 P **P** **04 29 12.9 +0.1**
TUC Tucson 16.54 330 P **P** **04 29 13.0 +0.1**
Y22D IRIS PASSCAL I 16.61 343 P **P** **04 29 13.8 0.0**
baz=160
ANMO Albuquerque 17.31 345 P **P** **04 29 22.9 +1.2**
ANMO Albuquerque 17.31 345 P **P** **04 29 23.1 +1.5**
32nm,0.8s,baz=315,slow=11,SNR=134
ANMO LR LR 04 36 38.9
comp=Z,658nm,19.8s,baz=334,slow=39
ANMO Albuquerque 17.31 345 *i P* **P** **04 29 21.7 +0.1**
ANMO pmax pmax
comp=Z,24nm,0.9s
JTS Las Juntas de 17.45 115 P **P** **04 29 23.4 +0.3**
comp=Z,4.8nm,0.7s,baz=268,slow=12,SNR=2.4
JTS LR LR 04 36 08.4
comp=Z,110nm,18.9s,baz=306,slow=37
BLOK Blackwell 18.73 10 P **P** **04 29 35.5 -1.5**
250A Grady 19.07 41 P **P** **04 29 39.6 -1.1**
352A Blakely 19.62 45 P **P** **04 29 45.1 -1.6**
TKX Tecate 20.00 318 P Pn 04 29 52.1 -1.0
PFO Pinyon Flats O 20.62 321 P Pn 04 29 59.2 -1.3
PFO Pinyon Flats O 20.62 321 P Pn 04 29 59.3 -1.1
comp=Z,11nm,0.7s,baz=130,slow=7.8,SNR=16
PFO LR LR 04 38 34.2
comp=Z,152nm,19.0s,baz=140,slow=38
comp=Z,11nm,0.7s
PFO Pinyon Flats O 20.62 321 *i P* **P** **04 29 58.8 +1.1**
PFO pmax pmax
comp=Z,61nm,1.5s
KSU1 Kansas State U 21.12 10 P **P** **04 30 01.0 -1.9**
ELS Elsinore Mount 21.23 319 P **P** **04 30 05.4 +1.1**
WVT Waverly 21.27 31 P **P** **04 30 02.0 -2.5**
WVT Waverly 21.27 31 P **P** **04 30 02.0 -2.5**
CCM Cathedral Cave 21.49 21 P **P** **04 30 05.5 -1.4**
CCM Cathedral Cave 21.49 21 P **P** **04 30 05.5 -1.4**
GOGA Godfrey 21.79 43 P **P** **04 30 08.1 -2.0**
GOGA Godfrey 21.79 43 P **P** **04 30 08.1 -2.0**
SIUC Southern Illin 21.96 26 IAmb IAmb 04 30 17.4
comp=Z,55nm,0.8s
MTPU Mount Pierson 22.00 336 IAmb IAmb 04 30 15.0
comp=Z,50nm,0.7s
P38A Dawn 22.25 15 IAmb IAmb 04 30 20.2
comp=Z,78nm,1.1s
MTDJ Mount Denham 22.29 86 P **P** **04 30 17.8 +2.0**
T47A Sharon Grove 22.31 30 IAmb IAmb 04 30 14.9
comp=Z,49nm,1.1s
SRU San Rafael Swe 22.36 340 IAmb IAmb 04 30 18.2
comp=Z,40nm,0.7s
SLM Saint Louis 22.37 23 IAmb IAmb 04 30 17.3
comp=Z,44nm,0.6s
Q16A Castle Valley 22.40 339 IAmb IAmb 04 30 19.2
comp=Z,44nm,0.9s
BRIGG Briggsdale 22.43 353 IAmb IAmb 04 30 20.1
comp=Z,40nm,0.8s
P40A Paris 22.57 18 IAmb IAmb 04 30 18.6
comp=Z,36nm,0.9s
CCAC Calif City Air 22.61 321 IAmb IAmb 04 30 22.1
comp=Z,41nm,0.9s
W52A Murphy 22.61 39 IAmb IAmb 04 30 18.3
comp=Z,23nm,0.6s
O20A White River Ci 22.68 345 IAmb IAmb 04 30 21.1
comp=Z,44nm,0.7s
P18A Preston Nutter 22.75 341 IAmb IAmb 04 30 22.9
comp=Z,33nm,0.9s
TMUT Trail Mountain 22.76 339 IAmb IAmb 04 30 23.4
comp=Z,72nm,1.3s
USIN University of 22.84 28 IAmb IAmb 04 30 22.6
comp=Z,79nm,1.0s
N35A Tabor 22.99 10 IAmb IAmb 04 30 21.8
comp=Z,56nm,0.8s
Q44A Meyer Farm, Va 23.06 24 IAmb IAmb 04 30 24.6
comp=Z,65nm,0.8s
TKL Tuckaleechee C 23.09 38 LR LR 04 42 04.5
comp=Z,115nm,20.5s,baz=208,slow=43
BG3 Lake Jocassee 23.15 40 P **P** **04 30 22.0 -2.4**
BG3 IAmb IAmb 04 30 26.0
comp=Z,24nm,0.6s
S11A Rachel 23.23 329 IAmb IAmb 04 30 28.3
comp=Z,46nm,1.2s
OLIL Olney 23.29 26 IAmb IAmb 04 30 24.8
comp=Z,66nm,1.1s
CHIV Chivirico 23.30 82 IAmb IAmb 04 30 29.1
comp=Z,73nm,1.3s
BCW Bitter Crk WRg 23.32 319 P **P** **04 30 26.7 +0.5**
BCW IAmb IAmb 04 30 29.6
comp=Z,70nm,1.6s
RDMU Red Mountain 23.43 343 IAmb IAmb 04 30 29.3
comp=Z,39nm,1.1s
T50A Nancy 23.48 34 IAmb IAmb 04 30 26.0
comp=Z,41nm,0.6s
WCI Wyandotte Cave 23.68 30 P **P** **04 30 27.3 -2.1**
WCI Wyandotte Cave 23.68 30 P **P** **04 30 27.3 -2.1**
WCI pmax pmax
comp=Z,181nm,1.9s
BSUT Blindstream Ca 23.74 341 IAmb IAmb 04 30 32.3
comp=Z,52nm,1.0s
PAULI Pauline 23.74 42 P **P** **04 30 27.4 -2.6**
NHSC New Hope 23.83 48 P **P** **04 30 27.9 -2.8**
DSP Deep Springs 24.17 325 P **P** **04 30 35.1 +1.4**
BLO Bloomington 24.34 28 IAmb IAmb 04 30 34.6
comp=Z,53nm,0.9s
P46A Rosedale 24.41 26 IAmb IAmb 04 30 37.5
comp=Z,145nm,1.6s
TCUT Toone Canyon 24.47 341 IAmb IAmb 04 30 40.8
comp=Z,42nm,0.7s
GTBY Guantanamo Bay 24.52 82 P **P** **04 30 39.7 +2.5**
GTBY IAmb IAmb 04 30 41.3
comp=Z,60nm,0.9s
S51A Beattyville 24.61 35 IAmb IAmb 04 30 37.5
comp=Z,109nm,1.5s
NMDO Nuevo Mundo 24.64 80 P **P** **04 30 39.5 +1.2**
NMDO IAmb IAmb 04 30 54.9
comp=Z,51nm,1.3s
V55A Taylorsville 24.77 41 P **P** **04 30 37.7 -1.7**
U54A Nelsons Funny 24.84 39 IAmb IAmb 04 30 40.2
comp=Z,30nm,0.6s
HWUT Hardware Ranch 24.96 341 IAmb IAmb 04 30 44.0
comp=Z,68nm,0.8s
NVAR Mina Array Bea 25.13 327 P **P** **04 30 44.2 +1.4**
comp=Z,35nm,0.7s,baz=149,slow=11,SNR=118
NVAR PcP **PcP** **04 34 16.1 +0.3**
comp=Z,0.9nm,0.7s,baz=129,slow=2.5,SNR=3.5
comp=Z,35nm,0.7s
L40A Anamosa 25.15 17 IAmb IAmb 04 31 18.2
comp=Z,36nm,1.0s
RYN Ryan 25.39 327 IAmb IAmb 04 30 49.3
comp=Z,33nm,1.0s
PD31 Pinedale Array 25.48 345 IAmb IAmb 04 30 48.5
comp=Z,45nm,0.9s
PDAR Pinedale Array 25.48 345 P **P** **04 30 45.2 -0.8**
PDAR Pinedale Array 25.48 345 P **P** **04 30 46.0 -0.1**
comp=Z,44nm,1.0s,baz=150,slow=9.8,SNR=84
PDAR pP **pP** **04 31 01.5 +1.0**
comp=Z,14nm,0.9s,baz=145,slow=9.7,SNR=6.2
PDAR PcP **PcP** **04 34 16.4 -0.2**
comp=Z,1.6nm,0.9s,baz=162,slow=2.8,SNR=5.1
PDAR LR LR 04 41 51.6
comp=Z,312nm,19.4s,baz=160,slow=39
comp=Z,44nm,1.0s
ELK Elko 25.53 334 P **P** **04 30 46.8 +0.3**
ELK Elko 25.53 334 LR LR 04 41 54.5
comp=Z,565nm,18.1s,baz=155,slow=39
ELK Elko 25.53 334 P **P** **04 30 46.8 +0.3**
ELK pmax pmax
comp=Z,7.0nm,1.0s
L42A Oliver, Polo 25.57 20 IAmb IAmb 04 30 47.1
comp=Z,42nm,0.6s
M44A Midewin, Midew 25.59 23 IAmb IAmb 04 30 46.9
comp=Z,42nm,0.8s
SSFO Shawnee State 25.59 34 IAmb IAmb 04 30 53.0
comp=Z,26nm,0.6s
ECSD EROS Data Cent 25.66 7 P **P** **04 30 45.1 -2.2**
Q51A Peebles 25.76 33 IAmb IAmb 04 30 47.3
comp=Z,92nm,1.3s
O48B Farmland 25.84 29 IAmb IAmb 04 31 13.6
comp=Z,46nm,1.0s
N47A Urbana 26.10 27 P **P** **04 30 49.0 -2.4**
BLA Blacksburg 26.14 40 IAmb IAmb 04 30 54.2
comp=Z,28nm,0.7s
O49A Covington 26.16 30 IAmb IAmb 04 31 16.9
comp=Z,31nm,0.7s
JFWS Jewell Farm 26.22 18 IAmb IAmb 04 30 53.4
comp=Z,27nm,0.8s
P51A Williamsport 26.25 33 IAmb IAmb 04 30 51.0
comp=Z,36nm,0.7s
Q52A Bidwell 26.28 34 IAmb IAmb 04 30 55.1
comp=Z,57nm,0.9s
PNTR Pine Nut 26.30 326 P **P** **04 30 53.9 +0.5**
SNOW Snow King Moun 26.44 344 IAmb IAmb 04 30 59.2
comp=Z,50nm,0.8s
I37A Lemond, Waseca 26.46 12 IAmb IAmb 04 30 53.2
comp=Z,35nm,0.7s
TPAW Teton Pass 26.52 344 IAmb IAmb 04 30 59.1
comp=Z,52nm,0.9s
LOHW Long Hollow 26.54 344 IAmb IAmb 04 30 59.5
comp=Z,39nm,0.8s
FXWY Fox Creek 26.68 344 IAmb IAmb 04 31 01.0
comp=Z,33nm,1.1s
MOOW Moose Ponds 26.70 344 P **P** **04 30 56.2 -0.9**
MOOW IAmb IAmb 04 31 01.2
comp=Z,26nm,0.8s
T57A Hurt 26.72 41 IAmb IAmb 04 30 56.7
comp=Z,60nm,1.5s
L46A Eue Claire 26.80 25 IAmb IAmb 04 30 59.3
comp=Z,49nm,0.9s
N49A Columbus Grove 26.81 29 IAmb IAmb 04 31 26.4
comp=Z,28nm,1.0s
P52A Corning 26.84 34 IAmb IAmb 04 30 56.7
comp=Z,42nm,1.1s
R55A Marlinton 27.02 38 IAmb IAmb 04 30 58.9
comp=Z,59nm,1.4s
P53A Whipple 27.14 35 IAmb IAmb 04 31 34.2
comp=Z,46nm,1.4s
S57A Dark Hollow, R 27.38 40 IAmb IAmb 04 31 01.8
comp=Z,18nm,0.7s
N51A Ashland 27.68 31 IAmb IAmb 04 32 05.3
comp=Z,31nm,1.2s
O53A New Philadelph 27.78 34 IAmb IAmb 04 32 04.0
comp=Z,32nm,1.1s
Q56A Snyder Ridge, 28.07 38 IAmb IAmb 04 32 11.7
comp=Z,25nm,1.1s
SDDR Presa de Saban 28.16 84 P **P** **04 31 12.9 +2.8**
N53A Lisbon 28.38 33 IAmb IAmb 04 31 09.7
comp=Z,48nm,1.4s
OTAV Otavalo 28.50 126 P **P** **04 31 16.1 +2.6**
OTAV Otavalo 28.50 126 P **P** **04 31 16.2 +2.6**
OTAV pmax pmax
comp=Z,8.0nm,1.2s
OTAV Otavalo 28.50 126 *eP* **P** **04 31 14.3 +0.7**
M52A Chesterland 28.65 32 IAmb IAmb 04 31 11.7
comp=Z,24nm,0.7s
DLMT Dillon 28.70 343 IAmb IAmb 04 31 16.3
comp=Z,33nm,1.4s
K50A Casco 28.99 29 IAmb IAmb 04 31 15.1
comp=Z,32nm,0.8s
ROSC El Rosal 29.29 114 LR LR 04 43 23.6
comp=Z,48nm,20.6s,baz=12,slow=37
PLID Pearl Lake 29.53 338 IAmb IAmb 04 31 22.9
comp=Z,15nm,0.8s
ERPA Erie 29.77 33 IAmb IAmb 04 31 21.8
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 29.85 326 LR LR 04 43 33.9
comp=Z,110nm,18.7s,baz=150,slow=36
L04D Klamath Falls 29.98 327 IAmb IAmb 04 31 27.8
comp=Z,84nm,1.9s
DGMT Dagmar 30.25 356 IAmb IAmb 04 31 28.4
comp=Z,53nm,1.2s
AGMN Agassiz Nation 30.25 7 IAmb IAmb 04 31 27.3
comp=Z,16nm,0.7s
J04A Umpqua Nationa 30.63 329 IAmb IAmb 04 31 34.4
comp=Z,15nm,0.8s
SDV Santo Domingo 30.92 103 LR LR 04 44 59.7
comp=Z,117nm,20.9s,baz=264,slow=38
SDV Santo Domingo 30.92 103 *eP* **P** **04 31 34.8 +0.1**
E09A Wood Farm, Sta 31.53 337 IAmb IAmb 04 31 39.7
comp=Z,23nm,1.3s
H04A Detroit Lake 31.75 331 IAmb IAmb 04 31 42.4
comp=Z,15nm,1.0s
BINY Binghamton 31.98 36 IAmb IAmb 04 31 42.7
comp=Z,32nm,1.0s
HOOD Mount Hood Mea 32.00 332 P **P** **04 31 43.8 0.0**
HOOD IAmb IAmb 04 31 45.2
comp=Z,11nm,0.8s
PRSN Puerto Rico Se 32.14 85 IAmb IAmb 04 31 49.2
comp=Z,30nm,0.9s
SADO Sadowa 32.14 30 IAmb IAmb 04 31 42.5
comp=Z,17nm,0.9s
SADO Sadowa 32.14 30 LR LR 04 47 00.5
comp=Z,140nm,18.8s,baz=248,slow=40
ULM Lac du Bonnet 32.18 6 IAmb IAmb 04 31 43.5
comp=Z,16nm,0.8s
ULM Lac du Bonnet 32.18 6 P **P** **04 31 42.5 -2.6**
comp=Z,14nm,0.6s,baz=190,slow=9.8,SNR=33
ULM PcP **PcP** **04 34 32.1 -0.7**
comp=Z,2.0nm,0.6s,baz=251,slow=5.3,SNR=2.9
ULM LR LR 04 45 31.1
comp=Z,104nm,20.1s,baz=191,slow=38
ULM Lac du Bonnet 32.18 6 *i P* **P** **04 31 43.0 -2.2**
E07A Sunnyside 32.22 335 IAmb IAmb 04 31 47.4
comp=Z,51nm,2.0s
PECO Prince Edward 32.60 33 IAmb IAmb 04 31 46.8
comp=Z,25nm,0.9s
OBIP Obispado Ponce 32.66 85 P **P** **04 31 50.3 +0.5**
NEW Newport 32.68 340 PcP **PcP** **04 34 34.3 0.0**
comp=Z,2.4nm,0.7s,baz=326,slow=4.2,SNR=4.9
NEW LR LR 04 46 20.1
comp=Z,218nm,20.8s,baz=161,slow=38
CELP Cerrillos 32.69 85 P **P** **04 31 51.6 +1.5**
DELO Deloro Mine 32.70 32 IAmb IAmb 04 31 47.6
comp=Z,18nm,1.1s
J57A Williamstown 32.77 35 IAmb IAmb 04 31 48.5
comp=Z,37nm,1.1s
SJG San Juan 33.09 85 P **P** **04 31 55.6 +2.1**
SJG San Juan 33.09 85 LR LR 04 45 45.0
comp=Z,52nm,18.8s,baz=264,slow=37
SJG San Juan 33.09 85 P **P** **04 31 55.6 +2.1**
SJG pmax pmax
comp=Z,97nm,0.7s
SJG San Juan 33.09 85 P **P** **04 31 55.4 +1.8**
LTY Liberty 33.12 335 IAmb IAmb 04 31 54.6
comp=Z,15nm,1.1s
KSCT Kent School, K 33.14 39 P **P** **04 31 50.9 -2.9**
HUMP Col San Antoni 33.37 85 P **P** **04 31 56.9 +1.0**
ATAH Atahualpa 33.69 137 LR LR 04 43 14.6
comp=Z,107nm,20.6s,baz=320,slow=32
E03A Lebam 33.79 332 IAmb IAmb 04 32 01.5
comp=Z,24nm,0.9s
NCB Newcomb 34.11 35 IAmb IAmb 04 31 59.6
comp=Z,41nm,1.6s
GNW Green Mountain 34.25 333 IAmb IAmb 04 32 03.7
comp=Z,11nm,0.9s
MNTQ Montreal, Queb 35.43 34 IAmb IAmb 04 32 11.9
comp=Z,17nm,1.0s
TRQ Mont Tremblant 35.43 32 IAmb IAmb 04 32 11.5
comp=Z,10nm,0.8s
CLRS Cowichan Lake 35.77 334 IAmb IAmb 04 32 18.2
comp=Z,13nm,1.0s
PCRV Puerto La Cruz 36.10 98 LR LR 04 48 14.8
comp=Z,27nm,19.5s,slow=38
LLLB Lillooet 36.32 337 IAmb IAmb 04 32 21.9
comp=Z,16nm,1.1s
FFC Flin Flon 36.41 359 P **P** **04 32 19.9 -1.8**
FFC Flin Flon 36.41 359 P **P** **04 32 19.9 -1.8**
FFC pmax pmax
comp=Z,22nm,0.8s
FFC Flin Flon 36.41 359 P **P** **04 32 19.8 -1.9**
G62A West of Eustis 36.95 37 IAmb IAmb 04 32 25.7
comp=Z,20nm,0.9s
TBTG Tabatinga, AM 37.91 123 *eP* **P** **04 32 35.8 +0.9**
CZSB Cruzeiro do Su 38.04 130 P **P** **04 32 37.9 +1.8**
CZSB IAmb IAmb 04 32 39.3
comp=Z,33nm,1.5s
CZSB Cruzeiro do Su 38.04 130 *eP* **P** **04 32 38.0 +1.9**
LDAQ Lac Daran 38.28 33 P **P** **04 32 34.5 -3.2**
LDAQ IAmb IAmb 04 32 35.8
comp=Z,12nm,1.1s
E62A Clayton Lake 38.35 35 IAmb IAmb 04 32 37.3
comp=Z,16nm,0.9s
LMQ La Malbaie 38.49 34 IAmb IAmb 04 32 38.0
comp=Z,21nm,1.0s
D62A Allapoint, All 38.89 35 IAmb IAmb 04 32 41.8
comp=Z,28nm,1.0s
BBB Bella Bella 39.98 334 LR LR 04 50 41.8
comp=Z,99nm,19.6s,baz=140,slow=38
FCC Fort Churchill 40.76 6 P **P** **04 32 56.2 -1.9**
FCC Fort Churchill 40.76 6 P **P** **04 32 56.2 -1.9**
FCC pmax pmax
comp=Z,7.0nm,1.0s
TEFE Tefe 41.86 117 *eP* **P** **04 33 08.2 +0.5**
BOAV Boa Vista 42.69 107 *eP* **P** **04 33 14.7 +0.2**
V35K Ketchikan 43.70 335 P **P** **04 33 22.8 +0.7**
baz=135
TOAD Toad River Com 44.23 342 P **P** **04 33 26.5 +0.1**
baz=146,SNR=8.0
T35M Bob Quinn 44.39 338 IAmb IAmb 04 33 29.4
comp=Z,13nm,0.8s
T35M Bob Quinn 44.39 338 P **P** **04 33 28.3 +0.6**
baz=138
CRAG Craig 44.41 334 P **P** **04 33 28.5 +0.7**
baz=134
WRAK Wrangell Islan 44.77 336 P **P** **04 33 31.0 +0.4**
baz=135
SCHQ Schefferville 44.86 27 P **P** **04 33 28.9 -2.5**
SCHQ IAmb IAmb 04 33 30.1
comp=Z,10nm,0.8s
SCHQ Schefferville 44.86 27 P **P** **04 33 28.9 -2.5**
comp=Z,7.0nm,0.5s,baz=233,slow=5.6,SNR=18
SCHQ PcP **PcP** **04 35 13.5 +1.2**
comp=Z,4.6nm,0.7s,baz=313,slow=1.4,SNR=4.2
SCHQ LR LR 04 54 15.1
comp=Z,76nm,18.0s,baz=214,slow=38
U33K Whale Pass 44.86 335 P **P** **04 33 31.8 +0.5**
baz=134
KOTAN Kotaneelee Air 44.98 344 P **P** **04 33 33.1 +0.8**
baz=148
YKA Yellowknife Ar 45.20 351 P **P** **04 33 31.5 -2.4**
comp=Z,7.1nm,0.8s,baz=162,slow=7.4,SNR=111
YKA PcP **PcP** **04 35 13.2 0.0**
comp=Z,1.6nm,0.9s,baz=162,slow=3.3,SNR=8.3
YKA LR LR 04 53 39.6
comp=Z,310nm,18.4s,baz=246,slow=38
S34M Telegraph Cree 45.41 338 P **P** **04 33 36.4 +0.8**
baz=138
DLBC Dease Lake 45.42 339 IAmb IAmb 04 33 38.0
comp=Z,21nm,0.8s
DLBC Dease Lake 45.42 339 LR LR 04 56 02.9
comp=Z,67nm,20.4s,baz=128,slow=40
DLBC Dease Lake 45.42 339 P **P** **04 33 36.5 +0.6**
baz=140,SNR=14
WTLY Watson Lake, Y 46.32 341 P **P** **04 33 43.2 +0.3**
baz=142,SNR=15
S32K Killisnoo 46.38 336 P **P** **04 33 43.5 +0.2**
baz=133
SIT Sitka 46.40 335 P **P** **04 33 42.6 -0.8**
baz=132
R33M Jennings River 46.46 339 IAmb IAmb 04 33 46.0
comp=Z,15nm,0.7s
R33M Jennings River 46.46 339 P **P** **04 33 44.2 +0.1**
baz=139,SNR=14
Q32M Nakina River 46.59 338 P **P** **04 33 45.0 -0.2**
baz=137
R32K Eaglecrest 46.92 336 P **P** **04 33 47.5 -0.1**
baz=134
LPAZ La Paz 47.19 135 P **P** **04 33 50.8 -0.1**
LPAZ La Paz 47.19 135 P **P** **04 33 51.3 +0.4**
comp=Z,2.1nm,0.8s,baz=334,slow=9.0,SNR=8.5
LPAZ LR LR 04 52 07.4
comp=Z,109nm,20.5s,baz=316,slow=34
comp=Z,2.1nm,0.8s
LPAZ La Paz 47.19 135 *eP* **P** **04 33 51.4 +0.5**
LPAZ La Paz 47.19 135 P **P** **04 33 51.2 +0.4**
LPAZ PcP **PcP** **04 35 22.2 +0.5**
TGTN Hyland Airport 47.30 343 P **P** **04 33 50.7 +0.1**
baz=144,SNR=14
S31K Pelican 47.37 335 P **P** **04 33 51.3 +0.3**
baz=132
R31K City Hall, Gus 47.48 336 P **P** **04 33 52.1 +0.2**

	baz=132					
WRGLY	**Wrigley**	47.52 346	P	P	04 33 52.3	+0.2
	baz=150					
P32M	**Atlin**	47.55 338	IAmb	IAmb	04 33 54.6	
	comp=Z,22nm,1.2s					
P32M	**Atlin**	47.55 338	P	P	04 33 52.8	+0.3
	baz=136,SNR=5.8					
P33M	**Teslin, Yukon**	47.70 339	IAmb	IAmb	04 33 55.8	
	comp=Z,12nm,1.1s					
P33M	**Teslin, Yukon**	47.70 339	P	P	04 33 53.8	+0.1
	baz=137,SNR=6.8					
SKAG	**Skagway**	48.05 337	P	P	04 33 56.5	+0.3
	baz=134					
PLBC	**Pleasant Camp**	48.43 337	P	P	04 33 59.6	+0.4
	baz=132					
N32M	**Quiet Lake**	48.48 340	IAmb	IAmb	04 34 01.8	
	comp=Z,22nm,0.8s					
N32M	**Quiet Lake**	48.48 340	P	P	04 33 59.8	+0.2
	baz=137					
WHY	**Whitehorse**	48.73 339	IAmb	IAmb	04 34 03.3	
	comp=Z,10nm,0.7s					
WHY	**Whitehorse**	48.73 339	P	P	04 34 01.8	+0.1
	baz=135,SNR=5.0					
MDP	**Montagnes des**	48.98 99	LR	LR	04 55 13.2	
	comp=Z,47nm,21.4s,baz=286,slow=36					
P30M	**Million Dollar**	49.10 337	P	P	04 34 04.6	+0.1
	baz=132					
O30N	**Mendenhall**	49.23 338	IAmb	IAmb	04 34 07.3	
	comp=Z,11nm,0.9s					
O30N	**Mendenhall**	49.23 338	P	P	04 34 05.4	-0.1
	baz=134,SNR=6.0					
FARO	**Faro, Yukon**	49.37 341	P	P	04 34 06.1	-0.3
	baz=138,SNR=5.6					
N31M	**Braeburn, Yuko**	49.62 339	P	P	04 34 08.8	+0.4
	baz=134,SNR=9.7					
M31M	**Drury Creek, Y**	49.68 340	IAmb	IAmb	04 34 10.5	
	comp=Z,12nm,0.8s					
M31M	**Drury Creek, Y**	49.68 340	P	P	04 34 09.1	+0.3
	baz=136,SNR=9.5					
PNL	**Peninsula**	49.73 336	P	P	04 34 09.7	+0.4
	baz=129					
HYT	**Haines Junctio**	49.77 338	IAmb	IAmb	04 34 12.0	
	comp=Z,10nm,1.0s					
HYT	**Haines Junctio**	49.77 338	P	P	04 34 10.2	+0.5
	baz=132					
O29M	**Mount Kennedy**	49.83 337	IAmb	IAmb	04 34 11.7	
	comp=Z,10nm,0.9s					
O29M	**Mount Kennedy**	49.83 337	P	P	04 34 10.4	+0.4
	baz=130					
N30M	**Aishikik Lake**	50.06 338	IAmb	IAmb	04 34 13.8	
	comp=Z,9.1nm,0.8s					
N30M	**Aishikik Lake**	50.06 338	P	P	04 34 12.4	+0.7
	baz=133,SNR=8.8					
YUK6	**Outpost Mounta**	50.17 337	P	P	04 34 13.7	+0.9
	baz=131					
PINM	**Pinnacle**	50.34 336	P	P	04 34 14.0	+0.1
	baz=128					
YUK4	**Talbot Arm**	50.54 338	P	P	04 34 16.3	+0.8
	baz=131,SNR=7.8					
FRB	**Frobisher Bay**	50.54 18	LR	LR	04 56 19.0	
	comp=Z,110nm,21.0s,baz=208,slow=37					
M30M	**Minto, Yukon**	50.73 340	P	P	04 34 17.5	+0.7
	baz=134					
O28M	**Mount Upton**	50.74 336	P	P	04 34 17.3	+0.2
	baz=129					
VILB	**Vilhena**	50.81 125	P	P	04 34 17.6	-0.4
VILB	**Vilhena**	50.81 125	eP	P	04 34 18.3	+0.3
YUK8	**Steele Glacier**	50.91 337	P	P	04 34 18.1	-0.3
	baz=130,SNR=12					
MESA	**MESA**	51.06 335	P	P	04 34 19.5	+0.1
	baz=127					
MAYO	**Mayo, Yukon**	51.16 341	P	P	04 34 20.2	+0.3
	baz=136					
M29M	**Somme Creek**	51.20 339	IAmb	IAmb	04 34 22.4	
	comp=Z,14nm,0.8s					
M29M	**Somme Creek**	51.20 339	P	P	04 34 20.8	+0.4
	baz=132,SNR=12					
YUK3	**Moose Creek**	51.48 337	P	P	04 34 22.5	-0.1
	baz=129					
L29M	**L29M**	51.54 339	P	P	04 34 23.1	+0.2
	baz=133,SNR=26					
NPGB	**Novo Progresso**	51.58 115	eP	P	04 34 23.3	-0.5
K29M	**Barlow Dome**	51.85 340	IAmb	IAmb	04 34 26.7	
	comp=Z,7.6nm,0.8s					
K29M	**Barlow Dome**	51.85 340	P	P	04 34 25.8	+0.6
	baz=134,SNR=7.6					
KAIM	**Kayak Island**	51.92 334	P	P	04 34 26.0	+0.3
	baz=124					
J30M	**Hart River**	52.00 342	P	P	04 34 26.7	+0.3
	baz=136					
BVCY	**Beaver Creek**	52.03 338	P	P	04 34 26.5	0.0
	baz=129,SNR=5.4					
H31M	**Peel River**	52.34 343	P	P	04 34 29.0	+0.3
	baz=139					
M27K	**Edge Creek, AK**	52.37 337	P	P	04 34 29.2	+0.1
	baz=128					
I30M	**Mount Dempster**	52.48 342	IAmb	IAmb	04 34 30.8	
	comp=Z,6.0nm,0.7s					
I30M	**Mount Dempster**	52.48 342	P	P	04 34 30.2	+0.3
	baz=136,SNR=9.7					
J29N	**Klondike Camp**	52.50 341	P	P	04 34 30.0	0.0
	baz=133					
GLB	**Gilahina Butte**	52.54 336	IAmb	IAmb	04 34 32.3	
	comp=Z,14nm,0.8s					
BMRM	**Bremner River**	52.59 335	P	P	04 34 31.0	+0.3
	baz=124					
DAWY	**Dawson**	52.61 340	P	P	04 34 30.7	0.0
	baz=132,SNR=5.7					
BCAR	**Beaver Creek A**	52.77 338	P	P	04 34 32.5	+0.5
L27K	**Beaver Creek,**	52.79 338	IAmb	IAmb	04 34 33.8	
	comp=Z,8.0nm,0.9s					
L27K	**Beaver Creek,**	52.79 338	P	P	04 34 32.2	+0.1
	baz=129					
M26K	**Nabesna, AK**	52.80 337	IAmb	IAmb	04 34 34.0	
	comp=Z,10nm,0.7s					
M26K	**Nabesna, AK**	52.80 337	P	P	04 34 32.5	+0.3
	baz=127,SNR=7.0					
EYAK	**Cordova Ski Ar**	52.82 334	P	P	04 34 33.0	+0.8
	baz=123					
N25K	**Chitina, Valde**	52.95 336	IAmb	IAmb	04 34 35.6	
	comp=Z,24nm,1.3s					
N25K	**Chitina, Valde**	52.95 336	P	P	04 34 33.3	-0.1
	baz=125					
C36M	**Paulatuk**	53.03 350	P	P	04 34 33.5	-0.2
	baz=152					
PTLB	**Pontes e Lacer**	53.13 126	P	P	04 34 34.7	-0.5
PTLB			IAmb	IAmb	04 34 36.0	
	comp=Z,24nm,1.5s					
PTLB	**Pontes e Lacer**	53.13 126	eP	P	04 34 34.9	-0.3
DIV	**Divide**	53.15 335	IAmb	IAmb	04 34 36.7	
	comp=Z,14nm,0.9s					
I29M	**Ogilvie Camp,**	53.16 341	P	P	04 34 34.7	-0.1
	baz=134,SNR=6.2					
G31M	**Satah River**	53.17 344	IAmb	IAmb	04 34 35.4	
	comp=Z,17nm,0.8s					
G31M	**Satah River**	53.17 344	P	P	04 34 34.7	0.0
	baz=139,SNR=13					
L26K	**Log Cabin Wild**	53.31 337	IAmb	IAmb	04 34 37.5	
	comp=Z,10.0nm,0.8s					
L26K	**Log Cabin Wild**	53.31 337	P	P	04 34 35.9	0.0
	baz=127,SNR=5.4					
MENT	**Mentasta**	53.39 337	IAmb	IAmb	04 34 38.1	
	comp=Z,7.8nm,0.7s					
KLU	**Klutina**	53.41 335	P	P	04 34 37.3	+0.6
	baz=123					
EPYK	**Eagle Plains**	53.41 343	IAmb	IAmb	04 34 38.4	
	comp=Z,9.1nm,0.8s					
EPYK	**Eagle Plains**	53.41 343	P	P	04 34 36.5	-0.2
	baz=136,SNR=6.3					
F31M	**Tsiigehtchic**	53.44 345	IAmb	IAmb	04 34 37.0	
	comp=Z,12nm,1.1s					
F31M	**Tsiigehtchic**	53.44 345	P	P	04 34 36.5	-0.1
	baz=140,SNR=6.9					
K27K	**Chicken**	53.48 339	P	P	04 34 37.8	+0.7
	baz=129					
HARP	**HAARP**	53.62 336	P	P	04 34 38.4	+0.2
	baz=124					
I28M	**Miner Creek**	53.71 341	P	P	04 34 37.9	-1.0
	baz=132,SNR=8.2					
G30M	**tAoh Zraii Nji**	53.73 344	P	P	04 34 38.6	-0.3
	baz=137					
H29M	**Whitestone**	53.77 342	IAmb	IAmb	04 34 40.0	
	comp=Z,13nm,0.7s					
H29M	**Whitestone**	53.77 342	P	P	04 34 39.0	-0.3
	baz=134					
M24K	**Tolsona, Glenn**	53.85 336	P	P	04 34 40.3	+0.4
	baz=123					
DOT	**Dot Lake**	53.94 338	IAmb	IAmb	04 34 42.4	
	comp=Z,22nm,1.3s					
INK	**Inuvik**	54.05 346	IAmb	IAmb	04 34 41.4	
	comp=Z,15nm,0.8s					
INK	**Inuvik**	54.05 346	LR	LR	05 00 23.1	
	comp=Z,219nm,18.3s,baz=250,slow=39					
INK	**Inuvik**	54.05 346	P	P	04 34 40.8	-0.4
	baz=141,SNR=16					
PWL	**Port Wells**	54.07 334	P	P	04 34 40.7	-0.8
	baz=120					
F30M	**Barrier River**	54.08 344	P	P	04 34 41.5	+0.1
	baz=138,SNR=12					
SCRK	**Sand Creek**	54.11 338	IAmb	IAmb	04 34 43.6	
	comp=Z,6.8nm,0.8s					
SCRK	**Sand Creek**	54.11 338	P	P	04 34 41.5	-0.4
	baz=127,SNR=6.2					
SCM	**Sheep Creek Mo**	54.16 335	P	P	04 34 41.9	-0.3
	baz=122					
G29M	**Pine Creek**	54.17 343	IAmb	IAmb	04 34 42.8	
	comp=Z,8.9nm,0.9s					
G29M	**Pine Creek**	54.17 343	P	P	04 34 41.2	-0.8
	baz=135,SNR=6.0					
SEW	**Seward**	54.17 332	P	P	04 34 41.9	-0.3
	baz=118					
RIDG	**Independent Ri**	54.28 338	P	P	04 34 43.3	+0.3
	baz=126,SNR=14					
J26L	**Joseph Creek**	54.29 339	P	P	04 34 43.5	+0.4
	baz=128,SNR=18					
M23K	**Glacier View**	54.30 335	P	P	04 34 43.2	+0.1
	baz=121					
I27K	**Kandik River**	54.34 341	P	P	04 34 43.8	+0.4
	baz=130					
KNK	**Knik Glacier**	54.40 334	P	P	04 34 44.3	+0.4
	baz=120					
O22K	**Cooper Landing**	54.48 333	P	P	04 34 44.7	+0.3
	baz=118					
SML	**Sawmill**	54.55 335	P	P	04 34 45.3	+0.3
	baz=121					
BRSE	**Bradley Lake S**	54.58 332	P	P	04 34 45.3	+0.1
	baz=117					
KDAK	**Kodiak Island**	54.60 329	LR	LR	04 56 02.9	
	comp=Z,82nm,18.1s,baz=334,slow=34					
KDAK	**Kodiak Island**	54.60 329	P	P	04 34 45.5	+0.2
	baz=114					
I26K	**Coal Creek Min**	54.65 340	IAmb	IAmb	04 34 46.6	
	comp=Z,10nm,0.9s					
I26K	**Coal Creek Min**	54.65 340	P	P	04 34 45.8	+0.2
	baz=128					
K24K	**Donnelly Dome**	54.66 337	P	P	04 34 46.1	+0.4
	baz=125,SNR=7.8					
OHAK	**Old Harbor**	54.72 328	P	P	04 34 46.5	+0.3
	baz=113					
H27K	**Steamboat Moun**	54.73 341	P	P	04 34 46.5	+0.3
	baz=131,SNR=5.7					
PMR	**Palmer**	54.77 334	P	P	04 34 46.5	+0.1
	baz=120,SNR=5.6					
RC01	**Rabbit Creek A**	54.77 333	P	P	04 34 46.6	0.0
	baz=119					
Q20K	**Shuyak Island**	54.85 330	P	P	04 34 46.4	-0.7
	baz=114					
SII	**Sitkinak Islan**	54.92 327	P	P	04 34 46.8	-0.9
	baz=111					
HOM	**Homer**	54.95 331	P	P	04 34 47.3	-0.5
	baz=116					
J25K	**Salcha River,**	54.98 338	IAmb	IAmb	04 34 49.4	
	comp=Z,26nm,1.5s					
J25K	**Salcha River,**	54.98 338	P	P	04 34 48.0	-0.1
	baz=126,SNR=9.4					
G27K	**Doyon Strip**	55.14 342	IAmb	IAmb	04 34 49.8	
	comp=Z,13nm,0.6s					
G27K	**Doyon Strip**	55.14 342	P	P	04 34 48.8	-0.4
	baz=131					
E29M	**Blow River**	55.19 344	IAmb	IAmb	04 34 50.2	
	comp=Z,11nm,1.0s					
E29M	**Blow River**	55.19 344	P	P	04 34 48.9	-0.6
	baz=136					
M22K	**Willow**	55.26 334	P	P	04 34 50.2	+0.2
	baz=119					
SUA	**Susitna One**	55.38 334	P	P	04 34 50.8	-0.3
	baz=118,SNR=8.0					
HDA	**Harding Lake**	55.42 338	P	P	04 34 50.7	-0.5
	baz=124,SNR=11					
R18K	**Karluk**	55.44 328	P	P	04 34 51.2	-0.1
	baz=112					
A36M	**Sachs Harbour**	55.56 351	IAmb	IAmb	04 34 53.9	
	comp=Z,10nm,0.8s					
A36M	**Sachs Harbour**	55.56 351	P	P	04 34 50.8	-1.2
	baz=152,SNR=14					
PRP	**Porcupine Dome**	55.56 339	P	P	04 34 52.5	+0.1
	baz=126,SNR=9.7					
Q19K	**Cape Douglas,**	55.57 330	P	P	04 34 52.4	0.0
	baz=114					
O20K	**Slope Mountain**	55.58 332	P	P	04 34 52.6	+0.1
	baz=115					
IL31		55.60 338	IAmb	IAmb	04 34 53.5	
	comp=Z,16nm,0.9s					
ILAR	**Eielson Array**	55.60 338	P	P	04 34 52.5	0.0
	comp=Z,7.1nm,0.8s,baz=140,slow=5.6,SNR=66					
ILAR			PcP	PcP	04 35 51.1	-0.4
	comp=Z,2.0nm,0.6s,baz=130,slow=4.4,SNR=8.1					
ILAR			LR	LR	04 59 17.1	
	comp=Z,125nm,21.8s,baz=112,slow=37					
	comp=Z,7.1nm,0.8s					
CUT	**Chulitna**	55.64 335	P	P	04 34 52.6	-0.1
	baz=119					
P19K	**Oil Pt**	55.68 331	P	P	04 34 53.1	0.0
	baz=114					
E28M	**Babbage River**	55.77 344	IAmb	IAmb	04 34 54.0	
	comp=Z,9.9nm,0.9s					
E28M	**Babbage River**	55.77 344	P	P	04 34 53.3	-0.3
	baz=134					
MCK	**McKinley**	55.79 336	P	P	04 34 53.2	-0.6
	baz=121,SNR=7.8					
STLK	**Strandline Lak**	55.86 333	IAmb	IAmb	04 34 55.7	
	comp=Z,11nm,0.7s					
WRH	**Wood River Hil**	55.87 337	IAmb	IAmb	04 34 55.3	
	comp=Z,6.9nm,0.7s					
G26K	**Porcupine Rive**	55.88 341	P	P	04 34 54.0	-0.4
	baz=129					
SPCR	**Spurr Chakacha**	55.89 333	P	P	04 34 54.5	-0.2
	baz=116,SNR=6.9					
SKT	**Skwentna**	55.96 334	P	P	04 34 54.9	-0.2
	baz=118,SNR=9.4					
POKR	**Poker Plat Res**	55.99 338	IAmb	IAmb	04 34 56.2	
	comp=Z,22nm,1.1s					
POKR	**Poker Plat Res**	55.99 338	P	P	04 34 55.1	-0.2
	baz=124,SNR=5.5					
COLA	**College**	56.00 338	*i* P	P	04 34 55.7	+0.4
COLA			pmax	pmax		
	comp=Z,12nm,0.9s					
COLA	**College**	56.00 338	P	P	04 34 55.1	-0.2
	baz=123					
COLA	**College**	56.00 338	P	P	04 34 54.9	-0.4
COLA			PcP	PcP	04 35 53.7	+0.6
PRPB	**Parauapebas**	56.02 111	eP	P	04 34 57.0	+0.8
E27K	**Coleen River**	56.04 343	IAmb	IAmb	04 34 56.6	
	comp=Z,12nm,1.1s					
E27K	**Coleen River**	56.04 343	P	P	04 34 55.5	-0.1
	baz=132,SNR=14					
SALV	**Santo Antonio**	56.07 124	eP	P	04 34 56.8	+0.3
D28M	**Stokes Point**	56.08 345	P	P	04 34 55.3	-0.5
	baz=135,SNR=7.4					
H25L	**Birch Creek**	56.11 340	P	P	04 34 56.0	0.0
	baz=126,SNR=17					
Q18K	**Katmai Hardscr**	56.12 329	P	P	04 34 56.3	-0.1
	baz=112					
TRF	**Thorofare Moun**	56.17 336	P	P	04 34 56.6	-0.1
	baz=120,SNR=12					
NEA2	**Nenana**	56.29 337	IAmb	IAmb	04 34 59.3	
	comp=Z,21nm,1.4s					
NEA2	**Nenana**	56.29 337	P	P	04 34 57.3	-0.2
	baz=122,SNR=10					
O19K	**Port Alsworth**	56.40 331	P	P	04 34 58.1	-0.1
	baz=114					
BMAR	**Burnt Mountain**	56.42 341	P	P	04 34 58.0	-0.3
F26K	**Sheenjek River**	56.46 342	IAmb	IAmb	04 34 59.5	
	comp=Z,6.8nm,0.6s					
F26K	**Sheenjek River**	56.46 342	P	P	04 34 58.8	+0.2
	baz=129,SNR=10					
KTH	**Kantishna Hill**	56.46 336	IAmb	IAmb	04 34 59.1	
	comp=Z,10nm,0.8s					
G25K	**Bearman Lake**	56.49 340	P	P	04 34 59.1	+0.3
	baz=126,SNR=7.5					
RES	**Resolute Bay**	56.54 2	P	P	04 34 56.8	-2.2
RES	**Resolute Bay**	56.54 2	LR	LR	05 00 54.7	
	comp=Z,130nm,19.9s,baz=310,slow=38					
RES	**Resolute Bay**	56.54 2	P	P	04 34 56.8	-2.2
RES			pmax	pmax		
	comp=Z,6.0nm,0.9s					
H24K	**Noodor Dome**	56.55 339	P	P	04 34 59.5	+0.2
	baz=124,SNR=17					
M20K	**Styx River**	56.59 333	P	P	04 34 59.4	-0.2
	baz=116					
D27M	**Malcolm River**	56.59 344	IAmb	IAmb	04 34 35 00.2	
	comp=Z,8.5nm,0.9s					
D27M	**Malcolm River**	56.59 344	P	P	04 34 59.3	-0.3
	baz=133					
PPLA	**Purkeypile**	56.66 335	P	P	04 35 00.1	-0.1
	baz=117					
O18K	**Koktuh Hills**	56.67 331	P	P	04 34 59.8	-0.4
	baz=112					
I23K	**Minto, Yukon-K**	56.69 338	P	P	04 35 00.1	-0.1
	baz=122,SNR=16					
N19K	**Bonanza Creek**	56.72 332	P	P	04 35 00.1	-0.6
	baz=114					
BPAW	**Bear Paw Mtn.**	56.76 336	IAmb	IAmb	04 35 05.4	
	comp=Z,20nm,1.4s					
BPAW	**Bear Paw Mtn.**	56.76 336	P	P	04 35 00.2	-0.5
	baz=119,SNR=5.2					
F25K	**Christian Rive**	56.85 341	IAmb	IAmb	04 35 02.2	
	comp=Z,6.0nm,0.6s					
F25K	**Christian Rive**	56.85 341	P	P	04 35 01.2	-0.1
	baz=127,SNR=8.2					
CAST	**Castle Rocks**	56.86 335	P	P	04 35 01.3	-0.2
	baz=118,SNR=10					
CO03	**El Pedregal**	56.86 149	P	P	04 35 03.2	+1.3
CO03			IAmb	IAmb	04 35 03.9	
	comp=Z,12nm,0.8s					
G24K	**Hadweenzic Riv**	56.90 340	P	P	04 35 01.5	-0.2
	baz=124,SNR=20					
Q16K	**King Salmon**	56.93 329	P	P	04 35 02.0	0.0
	baz=110					
P17K	**Kvichak River**	57.01 330	P	P	04 35 02.5	-0.1
	baz=111					
CHGN	**Chignik**	57.05 326	P	P	04 35 02.8	-0.1
	baz=107					
H23K	**Yukon River**	57.12 338	IAmb	IAmb	04 35 04.2	
	comp=Z,9.4nm,0.7s					
H23K	**Yukon River**	57.12 338	P	P	04 35 03.4	+0.1
	baz=122					
M19K	**Big River Lodg**	57.14 333	P	P	04 35 03.2	-0.3
	baz=115					
E25K	**Arctic Village**	57.15 342	P	P	04 35 03.2	-0.2
	baz=127,SNR=5.6					
L20K	**Farewell, AK**	57.16 334	P	P	04 35 03.6	-0.1
	baz=115,SNR=7.9					
CHUM	**Lake Minchumin**	57.17 336	P	P	04 35 03.2	-0.4
	baz=118					
CHNA	**Chernabura Isl**	57.27 324	P	P	04 35 04.1	-0.4
	baz=105					
N18K	**Kilae Creek**	57.31 331	P	P	04 35 04.6	-0.1
	baz=112					
L19K	**White Mountain**	57.45 333	IAmb	IAmb	04 35 07.1	
	comp=Z,24nm,1.3s					
L19K	**White Mountain**	57.45 333	P	P	04 35 05.5	-0.2
	baz=114					
F24K	**Squaw Lake**	57.50 341	P	P	04 35 06.0	0.0
	baz=124					
SNDB	**Serra Nova Dou**	57.52 118	eP	P	04 35 07.6	+0.8
O17K	**Koliganek Bris**	57.53 330	P	P	04 35 06.1	-0.1
	baz=111					
C27K	**Jago River**	57.57 344	IAmb	IAmb	04 35 07.1	
	comp=Z,9.6nm,0.8s					
C27K	**Jago River**	57.57 344	P	P	04 35 05.9	-0.4
	baz=130					
M18K	**Stony River**	57.59 332	P	P	04 35 06.9	+0.2
	baz=113,SNR=5.0					
K20K	**Telida**	57.63 335	IAmb	IAmb	04 35 07.2	
	comp=Z,11nm,0.7s					
K20K	**Telida**	57.63 335	P	P	04 35 06.6	-0.3
	baz=116					
S14K	**Fog Glacier**	57.65 326	P	P	04 35 07.2	-0.1
	baz=106					
I21K	**Tanana**	57.66 337	P	P	04 35 06.8	-0.3
	baz=119,SNR=17					
G23K	**Bananza Creek**	57.75 339	IAmb	IAmb	04 35 08.8	
	comp=Z,13nm,0.8s					
G23K	**Bananza Creek**	57.75 339	P	P	04 35 07.7	0.0
	baz=122,SNR=11					
H22K	**Ishtalitna Cre**	57.80 338	P	P	04 35 07.5	-0.5
	baz=120,SNR=14					
NRS	**Narsarsuaq**	57.81 28	*i* P	P	04 35 05.4	-2.7
NRS			IAmb	IAmb	04 35 07.5	
	comp=Z,20nm,0.9s					
N17K	**Nushagak Hills**	57.84 331	P	P	04 35 08.3	-0.1
	baz=111					
SDPT	**Sand Point**	57.90 324	P	P	04 35 08.5	-0.4
	baz=105					
O16K	**Kokwok River B**	57.94 330	P	P	04 35 09.2	+0.1
	baz=110					
E24K	**Your Creek**	58.01 341	P	P	04 35 09.6	+0.1
	baz=124,SNR=8.2					
J20K	**Nowinta River**	58.02 336	P	P	04 35 09.0	-0.6
	baz=116,SNR=15					
C26K	**Camden Bay**	58.08 344	P	P	04 35 09.8	-0.1
	baz=129					
COLD	**Coldfoot**	58.09 340	P	P	04 35 10.1	0.0
	baz=122,SNR=14					
D25K	**Kavik River**	58.11 343	IAmb	IAmb	04 35 11.0	
	comp=Z,12nm,0.8s					
D25K	**Kavik River**	58.11 343	P	P	04 35 09.7	-0.5
	baz=127,SNR=18					
MURT	**Porto Murtinho**	58.13 131	eP	P	04 35 10.0	-0.9
H21K	**Melozitna Rive**	58.20 337	P	P	04 35 10.7	-0.2
	baz=118,SNR=12					
L18K	**Granite Mounta**	58.25 333	IAmb	IAmb	04 35 12.2	
	comp=Z,15nm,0.8s					
L18K	**Granite Mounta**	58.25 333	P	P	04 35 11.1	-0.2
	baz=112					
M17K	**Holitna River**	58.27 332	P	P	04 35 11.1	-0.4
	baz=111					
E23K	**Chandalar**	58.35 341	P	P	04 35 11.7	-0.3
	baz=123					
SFJD	**Kangerlussuaq**	58.37 21	LR	LR	05 02 28.6	
	comp=Z,117nm,18.3s,baz=197,slow=38					
I20K	**Naaghedeneel**	58.42 336	P	P	04 35 12.1	-0.2
	baz=116					
J19K	**Poorman**	58.52 335	P	P	04 35 12.5	-0.6
	baz=114,SNR=13					
N16K	**Nishlik Lake**	58.56 331	P	P	04 35 13.3	-0.2
	baz=109					
O15K	**Ungalikthiuk R**	58.65 329	P	P	04 35 13.4	-0.6
	baz=108					
TOLK	**Toolik Lake Re**	58.66 341	IAmb	IAmb	04 35 14.9	
	comp=Z,9.9nm,0.7s					
TOLK	**Toolik Lake Re**	58.66 341	P	P	04 35 13.5	-0.5
	baz=123,SNR=14					
D24K	**Happy Valley**	58.72 342	P	P	04 35 13.9	-0.5
	baz=124					
J18K	**Innoko River**	58.75 334	P	P	04 35 14.2	-0.5
	baz=113,SNR=6.2					
AQDB	**Aquidauana**	58.78 129	P	P	04 35 14.8	-0.7
AQDB			IAmb	IAmb	04 35 16.3	
	comp=Z,9.7nm,0.9s					
AQDB	**Aquidauana**	58.78 129	eP	P	04 35 15.7	+0.2
M16K	**Timber Creek**	58.83 331	P	P	04 35 14.9	-0.4
	baz=110					
G21K	**Allakaket**	58.86 338	IAmb	IAmb	04 35 18.2	
	comp=Z,24nm,1.9s					
G21K	**Allakaket**	58.86 338	P	P	04 35 15.1	-0.3
	baz=118					
H20K	**Anotleneega Mo**	58.89 337	P	P	04 35 15.1	-0.6
	baz=116,SNR=7.4					
F22K	**John River**	58.89 340	P	P	04 35 16.1	+0.5
	baz=120,SNR=16					
L17K	**Donlin**	58.92 333	P	P	04 35 15.4	-0.5
	baz=111					
C24K	**Franklin Bluff**	59.01 342	P	P	04 35 16.0	-0.4
	baz=125					
ARAG	**Araguaiana, MT**	59.05 122	eP	P	04 35 17.9	+0.5
E22K	**Anaktuvuk Pass**	59.09 340	IAmb	IAmb	04 35 17.8	
	comp=Z,9.2nm,0.8s					
E22K	**Anaktuvuk Pass**	59.09 340	P	P	04 35 16.4	-0.6
	baz=121,SNR=12					
K17K	**Iditarod**	59.13 333	IAmb	IAmb	04 35 17.8	
	comp=Z,12nm,0.7s					
K17K	**Iditarod**	59.13 333	P	P	04 35 16.8	-0.6
	baz=111					
D23K	**Nanushuk River**	59.17 341	IAmb	IAmb	04 35 18.9	
	comp=Z,16nm,1.0s					
D23K	**Nanushuk River**	59.17 341	P	P	04 35 17.2	-0.3
	baz=122,SNR=12					
F21K	**Alatna River**	59.

comp=Z,12nm,0.9s
H19K Roundabout Mou 59.49 337 P **P 04 35 19.1 -0.6**
baz=114,SNR=5.2
LMEL Las Melosas 59.56 150 IAmb IAmb 04 35 23.3
comp=Z,20nm,1.1s
C23K Itkillik River 59.63 342 P **P 04 35 20.2 -0.4**
baz=123
J17K VABM Dome 59.71 334 IAmb IAmb 04 35 21.6
comp=Z,10nm,0.9s
J17K VABM Dome 59.71 334 P **P 04 35 20.9 -0.4**
baz=111
D22K Ayikyak River 59.75 341 P **P 04 35 21.5 0.0**
baz=120,SNR=24
F20K Avaraart Lake 59.88 338 IAmb IAmb 04 35 23.5
comp=Z,11nm,1.1s
F20K Avaraart Lake 59.88 338 P **P 04 35 22.4 -0.1**
baz=116,SNR=5.8
UMMG Uummannaq 59.89 17 *i* P **P 04 35 20.7 -1.7**
UMMG IAmb IAmb 04 35 23.9
comp=Z,6.2nm,0.7s
E21K Killik River 59.94 340 IAmb IAmb 04 35 24.5
comp=Z,12nm,1.0s
E21K Killik River 59.94 340 P **P 04 35 22.6 -0.3**
baz=119
G19K Purcell Mounta 59.99 337 P **P 04 35 22.9 -0.3**
baz=114,SNR=22
H18K Honhosa River 60.08 336 P **P 04 35 23.6 -0.2**
baz=112
NUUG Nuugaatsiaq 60.10 16 *i* P **P 04 35 21.6 -2.2**
NUUG IAmb IAmb 04 35 23.6
comp=Z,18nm,1.2s
M14K Bethel 60.14 330 P **P 04 35 24.3 0.0**
baz=106
UPNV Upernavik 60.14 14 *i* P **P 04 35 22.0 -2.1**
UPNV IAmb IAmb 04 35 23.6
comp=Z,8.1nm,0.8s
L15K Ungalak Mounta 60.20 331 P **P 04 35 24.3 -0.4**
baz=108
J16K Anvik River 60.32 333 P **P 04 35 26.1 +0.6**
J16K IAmb IAmb 04 35 26.9
comp=Z,11nm,0.8s
J16K Anvik River 60.32 333 P **P 04 35 25.2 -0.3**
baz=109
K15K Wolf Creek Mou 60.41 332 P **P 04 35 25.8 -0.3**
baz=108
G18K Tagagawik 60.48 337 IAmb IAmb 04 36 10.1
comp=Z,28nm,1.9s
G18K Tagagawik 60.48 337 P **P 04 35 26.0 -0.6**
baz=112
F19K Shaleruckik Mo 60.52 338 IAmb IAmb 04 35 27.8
comp=Z,12nm,0.8s
F19K Shaleruckik Mo 60.52 338 P **P 04 35 26.7 -0.1**
baz=114
C21K Knifeblade Rid 60.54 341 P **P 04 35 26.7 -0.2**
baz=118,SNR=25
I17K Unalakleet 60.56 334 P **P 04 35 26.9 -0.2**
baz=109
E20K Nigu River 60.58 339 P **P 04 35 26.9 -0.4**
baz=116
E19K Redstone River 60.59 338 IAmb IAmb 04 35 28.2
comp=Z,12nm,0.8s
E19K Redstone River 60.59 338 P **P 04 35 27.3 0.0**
baz=115,SNR=6.3
H17K Granite Mounta 60.61 335 P **P 04 35 27.5 0.0**
baz=111,SNR=5.0
L14K Kuka Creek 60.65 331 P **P 04 35 27.8 +0.1**
baz=106
M13K Dall Lake 60.71 330 P **P 04 35 28.1 0.0**
baz=105
B22K Teshekpuk Lake 60.71 342 P **P 04 35 27.7 -0.3**
baz=120
B21K Ikpikpuk River 60.71 341 IAmb IAmb 04 35 28.6
comp=Z,9.2nm,0.6s
B21K Ikpikpuk River 60.71 341 P **P 04 35 28.0 -0.1**
baz=118
D20K Etivluk River 60.93 340 P **P 04 35 29.5 0.0**
baz=116
UNV Unalaska Valle 61.03 322 P **P 04 35 30.6 +0.1**
baz=98
KULLO Kullorsuaq 61.08 12 *i* P **P 04 35 28.8 -1.7**
KULLO IAmb IAmb 04 35 29.9
comp=Z,18nm,0.9s
G17K Kiwalik Mounta 61.10 336 P **P 04 35 30.9 +0.1**
baz=110
F18K Selawik 61.12 337 P **P 04 35 31.1 +0.3**
baz=112,SNR=7.3
D19K Kuna River 61.33 339 P **P 04 35 32.1 -0.3**
D19K IAmb IAmb 04 35 32.9
comp=Z,12nm,0.9s
D19K Kuna River 61.33 339 P **P 04 35 31.9 -0.4**
baz=114,SNR=11
CPUP Villa Florida 61.35 135 P **P 04 35 33.3 +0.3**
CPUP IAmb IAmb 04 35 33.9
comp=Z,9.8nm,1.1s
CPUP Villa Florida 61.35 135 P **P 04 35 32.8 -0.2**
comp=Z,6.0nm,0.9s,baz=332,slow=7.3,SNR=9.1
CPUP pP **pP 04 35 48.5 -0.7**
comp=Z,4.2nm,1.0s,baz=308,slow=5.8,SNR=3.6
CPUP LR LR 05 00 14.0
comp=Z,47nm,18.5s,baz=9.0,slow=34
comp=Z,6.0nm,0.9s
CPUP Villa Florida 61.35 135 P **P 04 35 33.3 +0.3**
CPUP pmax pmax
comp=Z,10.0nm,1.2s
CPUP Villa Florida 61.35 135 P **P 04 35 33.0 0.0**
CPUP PcP **PcP 04 36 15.4 +0.5**
BI02 San Fabin de 61.42 153 P **P 04 35 33.9 +0.4**
BI02 IAmb IAmb 04 35 36.1
comp=Z,20nm,1.2s
J14K Nanvaranak Lak 61.44 332 IAmb IAmb 04 35 35.0
comp=Z,12nm,0.8s
J14K Nanvaranak Lak 61.44 332 P **P 04 35 33.3 +0.3**
baz=106
H16K Eliim 61.44 335 P **P 04 35 33.2 +0.1**
baz=108
A22K Sinclair Lake 61.49 342 P **P 04 35 33.1 -0.2**
baz=119
F17K Baldwin Pennin 61.66 337 IAmb IAmb 04 35 36.9
comp=Z,11nm,0.8s
F17K Baldwin Pennin 61.66 337 P **P 04 35 34.5 0.0**
baz=110,SNR=13
B20K Meade River 61.67 341 P **P 04 35 34.6 0.0**
baz=116
K13K Kusilvak Mount 61.71 331 P **P 04 35 35.1 +0.2**
baz=105
G16K Koyuk River 61.73 335 IAmb IAmb 04 35 36.5
comp=Z,7.8nm,0.8s
G16K Koyuk River 61.73 335 P **P 04 35 35.3 +0.3**
baz=109
E18K Tukpahlearik C 61.77 338 P **P 04 35 34.8 -0.5**
baz=111
E17K Hotham Inlet 62.09 337 P **P 04 35 37.2 -0.2**
baz=110
A21K Barrow 62.11 342 P **P 04 35 37.1 -0.3**
baz=117
BDFB Brasilia 62.12 119 P **P 04 35 39.0 +0.4**
comp=Z,6.0nm,0.7s,baz=294,slow=8.0,SNR=11
BDFB pP **pP 04 35 54.3 -0.3**
comp=Z,3.3nm,0.8s,baz=278,slow=2.7,SNR=3.0
comp=Z,6.0nm,0.7s
EUNU Eureka 62.19 3 P **P 04 35 36.2 -1.8**
G15K Niukluk 62.28 335 P **P 04 35 39.1 +0.4**
baz=107
NIKH Nikolski High 62.31 321 P **P 04 35 38.8 -0.3**
baz=96
C18K Utukok River 62.43 339 IAmb IAmb 04 35 40.1
comp=Z,12nm,0.8s
C18K Utukok River 62.43 339 P **P 04 35 38.9 -0.9**
baz=111
ANGG Ammassalik, Gr 62.60 25 *i* P **P 04 35 37.9 -2.9**
ANGG IAmb IAmb 04 35 39.9
comp=Z,26nm,0.8s
ANM Nome 62.71 334 P **P 04 35 41.5 -0.1**
baz=105
F15K North Star Dit 62.74 335 IAmb IAmb 04 35 43.4
comp=Z,12nm,0.8s
F15K North Star Dit 62.74 335 P **P 04 35 41.7 0.0**
baz=106,SNR=9.3
D17K Noatak River 62.76 338 P **P 04 35 41.9 0.0**
baz=109,SNR=13
RDOG Red Dog Mine 62.82 338 IAmb IAmb 04 35 43.0
comp=Z,25nm,1.3s
RDOG Red Dog Mine 62.82 338 P **P 04 35 41.7 -0.6**
baz=109,SNR=5.5
B18K Kokolik River 62.90 340 P **P 04 35 42.6 -0.1**
baz=111
A19K Wainwright 62.98 341 P **P 04 35 43.2 0.0**
baz=112

ICESG Greenland Ices 62.99 21 *i* P **P 04 35 41.4 -2.4**
ICESG IAmb IAmb 04 35 43.5
comp=Z,37nm,1.1s
C17K DeLong Mountai 63.05 339 P **P 04 35 43.7 -0.2**
baz=109,SNR=11
F14K Arctic Creek 63.34 335 P **P 04 35 45.8 0.0**
baz=105
C16K Lisburne Hills 63.75 338 IAmb IAmb 04 35 49.2
comp=Z,8.1nm,0.8s
C16K Lisburne Hills 63.75 338 P **P 04 35 48.5 +0.1**
baz=107
TNA Tin City 64.01 335 P **P 04 35 49.7 -0.5**
TNA IAmb IAmb 04 35 51.4
comp=Z,11nm,0.7s
TNA Tin City 64.01 335 P **P 04 35 50.4 +0.2**
baz=103,SNR=5.9
NEEM North Greenlan 64.04 11 *i* P **P 04 35 48.3 -2.3**
NEEM IAmb IAmb 04 35 50.2
comp=Z,33nm,0.7s
SUMG Summit 64.60 17 P **P 04 35 53.0 -1.4**
SUMG IAmb IAmb 04 35 54.2
comp=Z,14nm,0.8s
SUMG Summit 64.60 17 P **P 04 35 53.0 -1.4**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 64.60 17 *i* P **P 04 35 52.6 -1.8**
SUMG IAmb IAmb 04 35 54.4
comp=Z,14nm,0.7s
PLCA Paso Flores 65.16 155 P **P 04 35 59.3 +1.3**
PLCA Paso Flores 65.16 155 P **P 04 35 58.6 +0.5**
comp=Z,5.1nm,1.0s,baz=324,slow=6.5,SNR=8.9
PLCA LR LR 04 58 33.4
comp=Z,88nm,19.4s,baz=254,slow=31
comp=Z,5.1nm,1.0s
PLCA Paso Flores 65.16 155 P **P 04 35 59.3 +1.3**
PLCA pmax pmax
comp=Z,8.0nm,1.1s
PLCA Paso Flores 65.16 155 *eP* **P 04 35 59.5 +1.5**
PLCA Paso Flores 65.16 155 P **P 04 35 59.2 +1.1**
GAMB Gambell 65.25 333 P **P 04 35 58.5 +0.2**
baz=99
TBOT Tacuaremb 65.83 139 *eP* **P 04 36 03.6 +1.1**
CPSB Cacapava Do Su 66.60 136 *eP* **P 04 36 08.0 +0.5**
LL02 Futaleuf 66.76 157 P **P 04 36 09.9 +1.7**
LL02 IAmb IAmb 04 36 10.5
comp=Z,12nm,0.9s
ADK Adak 67.04 319 P **P 04 36 09.5 -0.4**
ADK Adak 67.04 319 P **P 04 36 09.5 -0.4**
ADK pmax pmax
comp=Z,197nm,1.7s
COYC Coyhaique 68.74 159 P **P 04 36 21.8 +1.2**
COYC IAmb IAmb 04 37 03.8
comp=Z,33nm,1.4s
COYC Coyhaique 68.74 159 P **P 04 36 22.1 +1.6**
BORG Borgarnes 69.25 27 LR LR 05 09 29.4
comp=Z,87nm,18.3s,baz=334,slow=38
BORG Borgarnes 69.25 27 P **P 04 36 23.9 +0.4**
SCO Scoresbysund 69.27 21 P **P 04 36 22.5 -1.1**
SCO IAmb IAmb 04 37 52.9
comp=Z,31nm,1.7s
SCO Scoresbysund 69.27 21 P **P 04 36 22.5 -1.1**
SCO pmax pmax
comp=Z,31nm,1.7s
SCO Scoresbysund 69.27 21 *i* P **P 04 36 22.1 -1.4**
DBG Daneborg 70.06 17 *i* P **P 04 36 26.6 -1.8**
DBG IAmb IAmb 04 36 28.8
comp=Z,4.4nm,0.9s
NOR Nord 71.22 9 *i* P **P 04 36 33.5 -1.9**
NOR IAmb IAmb 04 36 35.4
comp=Z,14nm,0.9s
BILL Bilibino 74.24 337 P **P 04 36 53.5 0.0**
BILL Bilibino 74.24 337 *ceP* **P 04 36 54.1 +0.6**
BILL pmax pmax
comp=Z,11nm,2.2s
KBS Kingsbay 76.47 11 *i* P **P 04 37 06.9 +0.8**
SPA0 Spitsbergen Ar 77.61 11 *eP* **P 04 37 12.5 0.0**
SPA0 IAmb IAmb 04 37 13.0
comp=Z,31nm,1.1s
SPITS Spitsbergen Ar 77.61 11 P **P 04 37 12.5 0.0**
comp=Z,9.4nm,0.5s,baz=283,slow=5.4,SNR=45
comp=Z,9.4nm,0.5s
EKA Eskdalemuir Ar 79.55 35 P **P 04 37 23.5 -0.1**
comp=Z,2.3nm,0.6s,baz=294,slow=5.2,SNR=7.1
comp=Z,2.3nm,0.6s
PGAV Gavieira, Arco 80.00 49 *eP* **P 04 37 27.3 +0.9**
PGAV *i* Amb 04 37 39.8
comp=Z,25nm,1.9s
PCAB Cabril 80.24 49 *eP* **P 04 37 28.2 +0.5**
PCAB *i* Amb 04 37 37.7
comp=Z,26nm,1.5s
PCAS Casmilo, Conde 80.35 51 *eP* **P 04 37 29.6 +1.4**
PCAS *i* Amb 04 37 30.5
comp=Z,47nm,1.4s
COI Coimbra 80.37 51 *eP* **P 04 37 29.8 +1.5**
COI *i* Amb 04 37 31.0
comp=Z,41nm,1.2s
BBTS Babate 80.39 78 LR LR 05 06 14.9
comp=Z,72nm,21.1s,baz=170,slow=30
POLO Lamas de Olo 80.50 50 *eP* **P 04 37 30.0 +0.9**
POLO *i* Amb 04 37 31.5
comp=Z,18nm,1.5s
PVRL Vila Real 80.59 50 *eP* **P 04 37 30.4 +0.9**
PVRL *i* Amb 04 37 40.7
comp=Z,18nm,1.8s
PVIS Viseu 80.61 50 *eP* **P 04 37 30.6 +0.9**
PMTG Montargil 80.82 52 *eP* **P 04 37 31.8 +1.1**
PMTG *i* Amb 04 37 32.5
comp=Z,32nm,1.1s
PTEO Sao Teotonio 80.86 54 *eP* **P 04 37 32.9 +2.0**
PTEO *i* Amb 04 37 49.1
comp=Z,92nm,1.7s
PFVI Vila Bisbo 80.89 54 *eP* **P 04 37 32.6 +1.4**
PFVI *i* Amb 04 37 50.5
comp=Z,150nm,1.7s
MTE Manteigas 80.95 51 P **P 04 37 31.9 +0.4**
MTE IAmb IAmb 04 37 33.0
comp=Z,18nm,0.8s
MTE Manteigas 80.95 51 *eP* **P 04 37 32.2 +0.7**
MTE *i* Amb 04 37 33.2
comp=Z,26nm,1.2s
MVO Moncorvo 81.12 50 *eP* **P 04 37 33.5 +1.1**
MVO *i* Amb 04 37 34.9
comp=Z,25nm,1.7s
EVO Evora 81.12 52 *eP* **P 04 37 32.7 +0.3**
EVO *i* Amb 04 37 35.0
comp=Z,22nm,1.6s
PBRG Braganca 81.14 49 *eP* **P 04 37 33.2 +0.7**
PBRG *i* Amb 04 37 37.7
comp=Z,14nm,1.5s
PCBR Castelo Branco 81.16 51 *eP* **P 04 37 32.8 +0.3**
PCBR *i* Amb 04 37 35.6
comp=Z,28nm,1.5s
MESJ Messejana 81.16 53 *eP* **P 04 37 34.1 +1.5**
MESJ *i* Amb 04 37 36.8
comp=Z,51nm,1.7s
SEY Seymchan 81.22 334 *ceP* **P 04 37 33.5 +1.1**
SEY pmax pmax
comp=Z,8.0nm,0.6s
PMRV Marv??o 81.34 51 *eP* **P 04 37 34.5 +0.9**
PMRV *i* Amb 04 37 35.0
comp=Z,20nm,0.9s
PESTR Estremoz 81.35 52 *eP* **P 04 37 35.0 +1.4**
PESTR *i* Amb 04 37 43.6
comp=Z,18nm,2.0s
PCVE Castro Verde 81.36 53 *eP* **P 04 37 35.3 +1.6**
PCVE *i* Amb 04 37 36.3
comp=Z,34nm,1.4s
PBEJ Beja 81.38 53 *eP* **P 04 37 35.1 +1.4**
PBEJ *i* Amb 04 37 50.8
comp=Z,36nm,1.7s
PBDV Barranco-do-Ve 81.55 54 *eP* **P 04 37 37.0 +2.3**
PBDV *i* Amb 04 37 39.6
comp=Z,75nm,1.3s
PBAR Barrancos 81.96 53 *eP* **P 04 37 38.2 +1.4**
PBAR *i* Amb 04 37 51.3
comp=Z,30nm,1.7s
AKN Aaknes 82.11 27 *eP* **P 04 37 37.9 +0.7**
PETK Petropavlovsk- 82.17 323 P **P 04 37 38.0 +0.4**
comp=Z,4.6nm,0.7s,baz=75,slow=6.3,SNR=6.5
PETK pP **pP 04 37 54.0 -0.3**
comp=Z,4.6nm,0.7s,baz=74,slow=6.9,SNR=4.7
comp=Z,4.6nm,0.7s
KMY Karmoy 82.52 30 *eP* **P 04 37 40.2 +0.9**
KMY IAmb IAmb 04 37 40.4
comp=Z,25nm,0.8s
KONS Konsvik 82.56 22 *eP* **P 04 37 40.3 +1.0**

KONS IAmb IAmb 04 37 40.7
comp=Z,41nm,1.1s
STEI Steigen 82.56 20 *eP* **P 04 37 40.2 +0.9**
STEI IAmb IAmb 04 37 40.7
comp=Z,26nm,0.5s
LEIR Leirfjorden 82.75 22 *eP* **P 04 37 41.5 +1.2**
TRO Tromso 82.78 18 *eP* **P 04 37 41.0 +0.6**
TRO IAmb IAmb 04 37 43.1
comp=Z,95nm,1.4s
ODD1 Odda 82.88 29 *eP* **P 04 37 42.5 +1.3**
BLS5 Blasjo 83.00 29 *eP* **P 04 37 43.5 +1.7**
BLS5 IAmb IAmb 04 37 43.9
comp=Z,21nm,1.0s
DOMB Dombas 83.05 26 *eP* **P 04 37 43.3 +1.3**
DOMB IAmb IAmb 04 37 43.9
comp=Z,13nm,0.7s
NSS Namsos 83.08 24 *eP* **P 04 37 42.9 +0.8**
MOR8 Moi Rana 83.18 22 *eP* **P 04 37 43.6 +1.0**
MOR8 IAmb IAmb 04 37 44.1
comp=Z,42nm,1.2s
JETT Jettan, Norway 83.25 18 *eP* **P 04 37 44.1 +1.1**
JETT IAmb IAmb 04 37 44.3
comp=Z,60nm,1.0s
MA2 Magadan 83.29 331 *ceP* **P 04 37 44.4 +1.1**
MA2 pmax pmax
comp=Z,15nm,1.2s
SKAR Skarslia 83.31 28 *eP* **P 04 37 44.5 +1.0**
SKAR IAmb IAmb 04 37 45.3
comp=Z,17nm,1.1s
HAMF Hammerfest 83.50 16 *eP* **P 04 37 44.7 +0.6**
PAB San Pablo 83.55 51 P **P 04 37 45.0 -0.1**
PAB IAmb IAmb 04 37 47.9
comp=Z,10nm,0.8s
PAB San Pablo 83.55 51 P **P 04 37 45.0 -0.1**
PAB pmax pmax
comp=Z,10.0nm,0.9s
ESDC Sonseca Array 83.80 50 P **P 04 37 47.6 +1.3**
ESDC IAmb IAmb 04 38 34.5
comp=Z,17nm,1.7s
ESDC Sonseca Array 83.80 50 P **P 04 37 47.5 +1.1**
comp=Z,2.9nm,0.8s,baz=301,slow=5.3,SNR=21
comp=Z,2.9nm,0.8s
SNART Snartemo 83.81 30 *eP* **P 04 37 46.7 +0.8**
SNART IAmb IAmb 04 37 47.7
comp=Z,120nm,1.6s
TIXI Tiksi 84.18 346 P **P 04 37 47.5 -0.1**
TIXI IAmb IAmb 04 37 51.6
comp=Z,32nm,1.7s
TIXI Tiksi 84.18 346 LR LR 05 20 06.1
comp=Z,71nm,18.8s,baz=29,slow=39
TIXI Tiksi 84.18 346 *i* P **P 04 37 47.1 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
KONO Kongsberg 84.35 29 *eP* **P 04 37 49.5 +0.9**
KONO Kongsberg 84.35 29 P **P 04 37 50.1 +1.5**
KONO Kongsberg 84.35 29 *i* P **P 04 37 48.9 +0.2**
KONO pmax pmax
comp=Z,39nm,0.9s
KTK1 Kautokeino 84.38 17 *eP* **P 04 37 49.3 +0.6**
NB2 NORSAR Subarra 84.42 27 P **P 04 37 50.2 +1.1**
comp=Z,38nm,1.2s,baz=301,slow=5.3
NB2 NORSAR Subarra 84.42 27 P **P 04 37 50.2 +1.1**
baz=301,slow=5.3
NOA NORSAR Array B 84.42 27 P **P 04 37 50.4 +1.3**
comp=Z,5.6nm,0.7s,baz=300,slow=5.1,SNR=24
comp=Z,5.6nm,0.7s
ARA0 ARCESS Array S 84.68 16 *eP* **P 04 37 50.3 +0.1**
ARCES ARCESS Array B 84.68 16 P **P 04 37 50.5 +0.2**
comp=Z,18nm,0.6s,baz=303,slow=5.6,SNR=47
ARCES LR LR 05 15 25.4
comp=Z,111nm,19.7s,baz=249,slow=35
comp=Z,18nm,0.6s
NC602 NORSAR Array S 84.71 27 *eP* **P 04 37 51.7 +1.2**
OSL Oslo 84.72 28 *eP* **P 04 37 52.1 +1.6**
OSL IAmb IAmb 04 37 52.5
comp=Z,27nm,0.9s
CLF Chambon-Foret 85.16 41 P **P 04 37 54.4 +1.4**
VADS Vadso 85.29 15 *eP* **P 04 37 53.5 +0.3**
VADS IAmb IAmb 04 37 54.1
comp=Z,63nm,1.4s
UCC Uccle 85.36 38 *dP* **P 04 37 54.6 +0.6**
UCC *dx* x 04 38 10.0
DOU Dourbes 85.78 38 *dP* **P 04 37 56.8 +0.8**
comp=Z,6.9nm,1.1s
BMRD Maredsous 85.80 38 *dP* **P 04 37 57.8 +1.7**
comp=Z,8.5nm,1.0s
BMRD *dx* x 04 38 12.6
HFS Hagfors 85.94 27 P **P 04 37 56.9 +0.3**
comp=Z,2.8nm,0.6s,baz=297,slow=6.5,SNR=7.0
HFS LR LR 05 17 13.8
comp=Z,257nm,18.3s,baz=346,slow=36
comp=Z,2.8nm,0.6s
BGES Gesves 85.95 38 *dP* **P 04 37 57.7 +0.8**
BCLA Clavier 86.06 38 *dP* **P 04 37 57.3 -0.2**
BCLA *dp* **sP 04 38 20.0 -0.6**
RCHB Rochefort 86.13 38 *dP* **P 04 37 58.9 +1.2**
MEM Membach 86.40 38 *dP* **P 04 38 00.0 +0.9**
comp=Z,6.4nm,1.2s
CEST Esterri de Car 86.50 46 P **P 04 38 01.2 +1.2**
CEST IAmb IAmb 04 38 02.7
comp=Z,17nm,0.9s
WLF Walferdange 86.87 38 *dP* **P 04 38 02.0 +0.6**
FINES FINESS Array B 90.13 23 P **P 04 38 16.4 -0.2**
comp=Z,1.9nm,0.5s,baz=290,slow=2.9,SNR=10
comp=Z,1.9nm,0.5s
DAVA Damuels 90.14 39 *ePcP* **P 04 38 18.2 +1.0**
comp=Z,3.4nm,0.6s
YAK Yakutsk 90.53 339 LR LR 05 22 26.5
comp=Z,74nm,18.3s,baz=326,slow=38
YAK Yakutsk 90.53 339 *eP* **P 04 38 19.5 +1.1**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.1s
FETA Feichten 90.78 39 *ePcP* **P 04 38 21.3 +1.1**
comp=E,1.0nm,0.4s
MOTA Moosalm 90.85 39 *ePcP* **P 04 38 21.4 +0.9**
comp=E,2.6nm,0.5s
KHC Kasperske Hory 91.42 37 *i* P **P 04 38 23.6 +0.7**
KHC pmax pmax
comp=Z,17nm,1.7s
GERES GERESS Array B 91.64 37 P **P 04 38 24.7 +0.7**
comp=Z,1.6nm,0.7s,baz=323,slow=4.2,SNR=14
comp=Z,1.6nm,0.7s
ABTA Abfaltersbach 91.99 39 *ePcP* **P 04 38 26.5 +0.8**
comp=Z,3.1nm,0.8s
KBA Koelnbreinsper 92.32 39 *ePcP* **P 04 38 28.2 +0.9**
comp=Z,2.0nm,0.5s
NRIK Noril'sk 92.43 357 IAmb IAmb 04 38 28.6
comp=Z,5.6nm,0.8s
NRIK Noril'sk 92.43 357 P **P 04 38 27.6 +0.5**
comp=Z,4.0nm,0.6s,baz=44,slow=2.1,SNR=6.2
comp=Z,4.0nm,0.6s
NRIK Noril'sk 92.43 357 *ceP* **P 04 38 27.3 +0.2**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
VRAC Vranov 93.02 36 LR LR 05 22 16.8
comp=Z,74nm,18.2s,baz=346,slow=37
MORC Moravsky Berou 93.28 35 IAmb IAmb 04 38 32.9
comp=Z,4.5nm,1.0s
CONA Conrad Observa 93.35 37 *ePcP* **P 04 38 33.0 +1.1**
comp=Z,0.9nm,0.4s
ARSA Arzberg 93.51 38 *ePcP* **P 04 38 33.4 +0.8**
comp=Z,1.4nm,0.5s
SOKA Soboth 93.52 38 *ePcP* **P 04 38 33.4 +0.7**
comp=Z,0.7nm,0.5s
DBIC Dimbokro 93.74 82 LR LR 05 16 09.3
comp=Z,43nm,20.5s,baz=281,slow=32
URZ Urewera 94.96 231 LR LR 05 11 20.5
comp=Z,50nm,19.3s,baz=122,slow=29
KOLS Kolonicke sedl 96.30 34 *eP* **P 04 38 46.7 +1.4**
KOLS Kolonicke sedl 96.30 34 *eP* **P 04 38 46.6 +1.3**
KLR Kul'dur 98.15 328 *i* P Pdif 04 38 55.9 +2.3
KLR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 98.52 23 *i* P Pdif 04 38 56.3 +1.2
OBN pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 98.62 29 LR LR 05 26 32.0
comp=Z,122nm,18.7s,baz=338,slow=37
AKASG Malin Array Be 98.62 29 *ceP* **P 04 38 55.5 -0.2**
AKBB Malin Array Si 98.62 29 *i* P Pdif 04 38 56.2 +0.5
AKBB pmax pmax
comp=Z,2.0nm,0.5s

DZM	Mont Dzumac	98.95 250	LR	LR	05 13 55.2	
	comp=Z,46nm,21.7s,baz=22,slow=29					
KIRV	Kirov	99.65 15	*c*eP	Pdif	04 38 59.0	-1.0
BNX	BinXian	102.67 328	⇑P	Pdif	04 39 12.6	-1.2
BNX			pmax	pmax		
	comp=Z,6.0nm,1.0s					
HHC	Hu-ho-hao-te	113.86 333	*e*P	PKiKP	04 43 51.8	-3.9
NJ2	Nanjing	117.06 322	*e*P	PKPdf	04 44 01.0	-0.9
NJ2			pmax	pmax		
	comp=Z,12nm,1.1s					
WMQ	Urumqi	117.71 353	*e*PKP	PKiKP	04 44 03.3	+0.3
WMQ			LR	LR		
	comp=Z,82nm,18.9s					
GTA	Gaotai	119.42 342	*e*PKP	PKPdf	04 44 06.3	-0.2
STKA	Stephens Creek	122.39 243	PKP	PKPdf	04 44 12.2	0.0
	comp=Z,6.6nm,0.9s,baz=4.5,slow=3.8,SNR=9.6					
STKA			pPKP	pPKPdf	04 44 28.9	-0.7
	comp=Z,5.4nm,0.9s,baz=78,slow=2.5,SNR=6.3					
WRA	Warramunga Arr	127.87 259	PKP	PKPdf	04 44 23.0	+0.1
	comp=Z,6.9nm,0.8s,baz=80,slow=1.7,SNR=22					
WRA			pPKP	pPKPdf	04 44 39.9	-0.6
	comp=Z,5.4nm,0.8s,baz=78,slow=1.6,SNR=9.5					
ASAR	Alice Springs	128.69 254	PKP	PKPdf	04 44 24.4	-0.1
	comp=Z,5.2nm,0.9s,baz=97,slow=1.7,SNR=26					
ASAR			pPKP	pPKPdf	04 44 41.3	-0.7
	comp=Z,4.0nm,0.9s,baz=96,slow=2.4,SNR=11					
PZH	PanZhiHua	130.32 333	PKP	PKPdf	04 44 26.6	-1.1
CMAR	Chiang Mai Arr	138.58 331	PKP	PKPdf	04 44 43.5	+0.4
	comp=Z,0.9nm,0.4s,baz=322,slow=1.8,SNR=8.1					
CMAR	Chiang Mai Arr	138.58 331	*c iP*KIKP	PKiKP	04 44 45.7	+0.4
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					

DJA 22 04:27:17.2±0.3, 4°S±3°, 12°3E±°, h10km, M3.7/10, mB5.3/1, mb4.3/3, MLv3.4/10, Mw(mB)4.7/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	Kendari	0.35	333	P	Pg	04 27 24.0	-0.2
KDI				S	Sg	04 27 29.7	+0.9
BBSI	Bau Bau	1.23	190	P	Pn	04 27 39.3	-1.2
BKSI	Bulukumba	2.85	248	P	Pn	04 28 02.9	+0.2
SPSI	Sidrap Palu	3.02	276	P	Pn	04 28 05.3	+0.2
LUWI	Luwuk	3.21	360	P	Pn	04 28 07.9	+0.2
SANI	Sanana	3.89	56	P	Pn	04 28 16.5	-0.6
MSAI	Masohi	6.20	82	P	Pn	04 28 48.2	-0.7
WBSI	Waikabubak, Su	6.31	212	P	Pn	04 28 50.5	+0.1

*SOME **22** 04:27:24.3, 41°.78N×81°.62E, h25km*
*NNC **22** 04:27:29.0±1.2, 41°.94N×81°.52E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=11.2km s-min=7.4km az=159.0

ISC 22 04:27:29.3±2.6, 41°.93N±0°.09×81°.25E±0°.07, h3km±17km, n22, σ2°25/38, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.65	337	*e*P	Pb	04 27 60.0	-0.5
	22nm,0.4s						
KTMS				*e*S	Sg	04 28 25.9	+3.6
	195nm,0.7s						
SHLS	Shalkode	1.80	313	*e*P	Pn	04 27 59.6	-1.8
	81nm,0.1s						
SHLS				*e*S	Sb	04 28 25.5	-0.5
	387nm,0.2s						
PDGK	Podgornoye	1.91	318	⇑Pn	Pb	04 28 05.2	+0.5
	10nm,0.2s						
PDGK				⇓Lg	Lg	04 28 33.8	
	285nm,0.6s						
UZB	Uzynbulak	2.04	307	*e*P	Pb	04 28 06.8	-0.3
	26nm,0.3s						
UZB				*e*S	Sg	04 28 38.0	+3.0
	105nm,0.3s						
ZHN	Zhinishke	2.42	302	*e*P	Pb	04 28 13.1	-0.4
	33nm,0.3s						
ZHN				*e*S	Sg	04 28 48.2	+1.3
	202nm,0.3s						
DJR	Jarkent	2.62	337	*e*P	Pb	04 28 16.4	-0.6
	18nm,0.4s						
DJR				*e*S	Sg	04 28 54.4	+0.8
	105nm,0.9s						
KOTS	Kotyrbulak	3.32	294	*e*P	Pb	04 28 28.8	-0.1
	21nm,0.5s						
KOTS				*e*S	Sg	04 29 15.4	-0.4
	93nm,0.6s						
MDOK	Medeo	3.34	293	*e*P	Pg	04 28 33.6	+0.4
	12nm,0.2s						
MDOK				*e*S	Sg	04 29 23.5	+7.1
	51nm,0.1s						
TNSS	Tian-Shan	3.37	291	*e*P	Pb	04 28 30.3	+0.5
	10nm,0.3s						
TNSS				*e*S	Sg	04 29 18.0	+0.6
	31nm,0.5s						
CHKK	Chushkaly	3.67	303	*e*P	Pb	04 28 36.1	+1.3
	6.6nm,0.3s						
CHKK				*e*S	Sg	04 29 27.9	+0.8
	42nm,0.4s						
TDK	Taldyqorghan	3.70	327	*e*P	Pb	04 28 35.7	+0.4
	36nm,0.3s						
TDK				*e*S	Sg	04 29 27.5	-0.6
	116nm,0.6s						
MTBS	Maitube	3.76	290	*e*P	Pb	04 28 37.5	+1.2
	5.9nm,0.2s						
MTBS				*e*S	Sg	04 29 30.3	+0.4
	19nm,0.2s						
KST	Kastek	4.06	288	*e*P	Pb	04 28 42.5	+1.0
	10.0nm,0.6s						
KST				*e*S	Sg	04 29 39.0	-0.8
	34nm,0.8s						
KUU	Kurty	4.10	300	*e*P	Pb	04 28 43.9	+1.7
	8.2nm,0.6s						
KUU				*e*S	Sg	04 29 41.5	+0.5
	38nm,0.6s						
TKM2	Tokmak 2	4.30	285	⇑Pn	Pn	04 28 37.0	+1.2
	7.7nm,0.4s						
TKM2				⇑Lg	Lg	04 29 52.5	
	39nm,0.8s						
MK31	Makanchi Array	4.92	8	Pn	Pn	04 28 44.0	-0.2
	0.7nm,0.2s,baz=186,slow=13,SNR=80						
MK31				Pg	Pb	04 28 57.2	+1.2
	1.2nm,0.3s,baz=186,slow=15,SNR=8.1						
MK31				⇓Lg	Lg	04 30 04.2	
	19nm,0.7s,baz=189,slow=27,SNR=5.7						
AAK	Ala-Archa	5.06	280	Pg	Pg	04 29 05.9	-0.3
	7.6nm,0.8s						
AAK				Lg	Lg	04 30 16.8	
	15nm,0.8s						
MRKS	Merke	6.00	280	*e*P	Pg	04 29 20.2	-4.0
	2.0nm,0.5s						
MRKS				*e*S	Sg	04 30 43.9	+2.0
	8.1nm,0.5s						
BTLS	Baital	6.09	303	*e*P	Pg	04 29 23.6	-2.3
	1.7nm,0.3s						
BTLS				*e*S	Sg	04 30 49.5	+4.7
	5.6nm,1.0s						
ZSN	Zaisan	6.09	24	*e*P	Pb	04 29 19.1	+3.1
	7.0nm,0.6s						
ZSN				*e*S	Sg	04 30 41.6	-3.1
	15nm,0.6s						
KK31	Karatay Array	8.02	282	⇑Pg	Pg	04 29 59.2	-3.5
	0.9nm,0.6s,baz=92,slow=17,SNR=5.3						
KK31				⇓Lg	Lg	04 31 48.1	
	4.9nm,0.9s,baz=88,slow=28,SNR=7.3						
KURK	Kurchatov	8.97	349	⇑Lg	Lg	04 32 15.4	
	9.2nm,0.9s						

ISK 22 04:39:03.7, 37°.47N×29°.39E, h7km, ML2.2/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.07	269	Pg	Pg	04 39 02.2	-3.5
CAME	Cameli-Denizli	0.53	188	Pg	Pg	04 39 13.8	-0.2
CAME				Sg	Sb	04 39 22.2	-1.2
BASM	Basmaki-Afyon	0.69	49	Pg	Pg	04 39 16.9	0.0
BASM				Sg	Sb	04 39 27.2	-0.6
ELL	Elmali	0.83	150	Pg	Pg	04 39 19.9	+0.2
FETY	Fethiye	0.87	197	Pg	Pb	04 39 20.9	-0.2
DALY	Dalyan (Mula)	0.88	222	Pg	Pb	04 39 21.0	-0.3
KORT	Korkueli	0.90	121	Pg	Pb	04 39 21.6	-0.1
YER	Yerkesik	0.95	249	Pg	Pb	04 39 22.3	-0.1
BCK	Bucak	0.95	90	Pg	Pg	04 39 21.9	-0.1
ISP	Isparta	0.96	68	Pg	Pb	04 39 22.9	+0.1
NAZL	Nazilli-Aydin	1.00	300	Pg	Pg	04 39 23.0	+0.1
TURN	Turunc	1.15	233	Pn	Pn	04 39 26.4	+0.2
KULA	Kula-Manisa	1.19	331	Pn	Pn	04 39 26.8	0.0
AKAS	Kas	1.25	172	Pn	Pg	04 39 28.4	+0.7
AYDB	Zeytinkoy-Aydi	1.28	292	Pn	Pg	04 39 28.3	0.0
MLSB	Milas	1.30	263	Pn	Pg	04 39 29.0	+0.4
ODEM	Odemis-Izmir	1.31	308	Pn	Pb	04 39 28.8	+0.1
SHUT	Suhut-Afyon	1.42	40	Pn	Pg	04 39 30.7	-0.2
ARG	Arkhangelos	1.61	219	Pn	Pb	04 39 33.4	-0.4
DAT	Datca	1.63	243	Pn	Pb	04 39 33.6	-0.5
SIMA	Simav-Kutahya	1.64	349	Pn	Pb	04 39 33.8	-0.5
BODT	Bodrum	1.71	257	Pn	Pb	04 39 34.7	-0.7
GORD	Gordes-Manisa	1.72	327	Pn	Pn	04 39 34.8	+0.7

AFAD 22 04:39:50.0, 37°.44N×29°.40E, h7km±1km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.24	148	P	Pg	04 39 55.1	+0.3
GOLH				S	Sg	04 39 59.1	+1.0
GOLH				*i* AML	AML	04 40 03.0	
	comp=N,52nm,0.4s						
INCE	Denizli-Bozkur	0.30	28	P	Pg	04 39 56.1	+0.2
INCE				S	Sg	04 40 00.5	+0.6
DNIZ	Denizli-Tavas-	0.34	302	P	Pg	04 39 57.2	+0.5
DNIZ				S	Sb	04 40 02.8	-1.3
DNZT	Denizli-Tavas-	0.34	241	P	Pg	04 39 57.1	+0.4
DNZT				S	Sg	04 40 02.7	+1.5
DNZT				*i* AML	AML	04 40 03.0	
	comp=N,20nm,0.3s						
TAVA	DENIZLI_Tavas	0.39	273	P	Pg	04 39 58.0	+0.5
TAVA				*i* AML	AML	04 40 04.0	
	comp=N,24nm,0.2s						
TAVA				*i* AML	AML	04 40 04.0	
	comp=E,26nm,0.4s						
TAVA				S	Sb	04 40 04.1	-1.3

*ASIES **22** 05:18:25.8, 24°.03N×122°.35E, h24km, ML3.9, Mw3.6,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}1.54; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$0.01; $M_{r\theta}$2.93; $M_{\theta\phi}$1.16; $M_{\phi r}$1.11;
Fault plane solution: $M_0$3.68563×10^{21} NP1:
ϕ_s324.08000°, δ26.22000°, λ151.24000°. NP2:
ϕ_s80.30000°, δ77.72000°, λ66.64000°. Principal axes: T
Plg51.6900°, Azm323.4140°; N Plg22.7880°,
Azm85.5380°; P Plg28.9490°, Azm188.9760°;
*TAP **22** 05:18:25.8, 24°.03N×122°.35E, h24km, ML3.9, C*
*JMA **22** 05:18:25.1±0.2, 24°.N±1°×122°.4E±0°.4, h15km±3km,*
MV3.2/12, TAIWAN REGION
*IDC **22** 05:18:50.2±23.0, 24°.62N×122°.81E, h266km±253km,*
mb3.1/4, mbtmp3.8/5, ML3.6/1, MS2.7/2, Error ellipse:
s-maj=419.3km s-min=154.5km az=133.0

ISC 22 05:18:25.3±0.9, 23°.98N±0°.02×122°.37E±0°.02, h26km±6km, n165, σ0°.95/273, mb3.6/4, 4C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.15	340	*i* P	Pb	05 18 30.0	-0.1
EOS4				S	Sb	05 18 33.3	-0.1
EOS3	EOS3	0.31	350	⇓*i*P	Pb	05 18 32.5	+0.2
EOS3				S	Sb	05 18 37.5	+0.2
EOS2	EOS2	0.46	343	*i* P	Pb	05 18 35.2	+0.5
EOS2				S	Sn	05 18 42.2	-1.0
EAHA	Aohua	0.68	301	P	Pb	05 18 38.4	-0.1
EAHA				S	Sn	05 18 48.3	-0.5
JYNG	Yonagunijimaku	0.70	48	P	Pb	05 18 38.7	-0.2
JYNG				S	Sb	05 18 47.4	-0.7
HWA	Hwalien	0.70	270	P	Pb	05 18 39.1	+0.2
HWA				*e*S	Sn	05 18 50.4	+0.9
ETL	Fush Village	0.71	285	P	Pb	05 18 39.3	+0.2
ETL				S	Sb	05 18 49.3	+0.8
EWUT	Wuta	0.71	310	*i* P	Pb	05 18 38.8	-0.3
EWUT				*i* S	Sb	05 18 48.5	-0.1
TWD	Chiawan	0.72	278	*i* P	Pb	05 18 38.8	-0.4
TWD				S	Sb	05 18 48.9	+0.2
TEYL	Yanliau Villag	0.72	261	*e*P	Pb	05 18 37.5	-1.7
TEYL				*e*S	Sb	05 18 49.1	+0.4
ENA	Nanau	0.73	308	*e*P	Pb	05 18 39.0	-0.3
ENA				S	Sn	05 18 49.7	-0.5
NACB	Ninganchiao	0.74	285	P	Pb	05 18 39.2	-0.3
NACB	Ninganchiao	0.74	285	⇑*i*P	Pb	05 18 39.2	-0.3
NACB				*e*S	Sn	05 18 50.2	-0.1
YOJ	Yonaguni jima	0.75	50	P	Pb	05 18 39.7	0.0
YOJ	Yonaguni jima	0.75	50	P	Pb	05 18 39.7	0.0
YOJ	Yonaguni jima	0.75	50	P	Pb	05 18 39.7	0.0
YOJ				S	Sb	05 18 49.2	-0.5
ESAO	Su ao	0.76	321	P	Pb	05 18 39.5	-0.4
ESAO				*e*S	Sb	05 18 49.2	-0.8
SHUL	Shoufeng	0.77	256	P	Pb	05 18 40.0	0.0
SHUL				*e*S	Sb	05 18 51.3	+1.2
TWC	Suao	0.79	323	*i* P	Pb	05 18 39.7	-0.6
TWC				*i* S	Sb	05 18 49.5	-1.2
ETM	Tongmen	0.81	269	⇑*i*P	Pb	05 18 40.1	-0.6
ETM				S	Sb	05 18 51.4	+0.2
TEGC	Jichi Village	0.81	251	P	Pb	05 18 40.6	-0.1
TEGC				*e*S	Sb	05 18 52.0	+0.7
ETLH	Xiulin Townshi	0.85	286	*i* P	Pb	05 18 41.1	-0.3
ETLH				*e*S	Sb	05 18 52.9	+0.5
ESL	Shilin	0.88	259	P	Pb	05 18 41.0	-0.8
ESL				*e*S	Sb	05 18 51.3	-1.9
NDS	Dongshan	0.89	317	P	Pb	05 18 41.7	-0.3
NDS				S	Sb	05 18 53.1	-0.3
EGFH	Guangfu	0.92	250	*e*P	Pb	05 18 42.1	-0.5
WARBT	Fenglin Townsh	0.94	254	P	Pb	05 18 41.8	-1.2
WARBT				S	Sb	05 18 53.9	-1.1
EGS		0.95	335	*e*P	Pn	05 18 43.3	+0.4
EGS				*e*S	Sn	05 18 56.4	+0.9
LATG	Datong	0.95	306	P	Pb	05 18 43.0	-0.2
LATG				S	Sn	05 18 56.1	+0.3
ILA	Ilan	0.97	324	P	Pn	05 18 43.6	+0.5
ILA				*e*S	Sn	05 18 56.4	+0.4
TWE	Neicheng	0.98	319	P	Pb	05 18 43.5	-0.1
TWE				S	Sn	05 18 56.2	-0.1
ENTT	Nioudou	0.99	312	*e*P	Pn	05 18 43.7	+0.3
ENTT				*e*S	Sn	05 18 56.5	-0.1
HGSD	Ruisui	1.00	241	P	Pn	05 18 43.0	-0.6
HGSD				S	Sb	05 18 55.7	-0.9
NNSB	Datong	1.01	296	P	Pn	05 18 44.0	+0.1
NNSB				S	Sn	05 18 57.4	+0.1
NNS	Nan Shan	1.02	297	*i* P	Pn	05 18 44.1	+0.1
NNS				*i* S	Sn	05 18 57.7	+0.2
WHF	Hehuan Shan	1.03	279	*e*P	Pn	05 18 43.9	-0.4
WHF				S	Sb	05 18 57.6	-0.3
FUSB	Fushanzhiwuyua	1.06	317	⇑*i*P	Pb	05 18 45.0	0.0
FUSB				S	Sn	05 18 59.1	+0.7
EHYH	Wanrong	1.06	243	*e*P	Pn	05 18 44.6	+0.2
EHYH				*e*S	Sb	05 18 58.3	-0.1
FUSS	Fushou	1.07	285	P	Pn	05 18 44.8	+0.1
FUSS				S	Sb	05 18 58.7	-0.1
ECBN	Changbin	1.07	232	P	Pn	05 18 44.4	-0.2
ECBN				*e*S	Sb	05 18 58.0	-0.8
EHY	Hungye	1.07	244	P	Pn	05 18 44.3	-0.3
EHY				S	Sb	05 18 58.1	-0.8
TWB1	Santiao Chiao	1.08	341	P	Pn	05 18 44.8	+0.1
TWB1				S	Sn	05 18 59.2	+0.3
OWD	Renai	1.10	269	P	Pn	05 18 44.9	-0.1
OWD				*e*S	Sb	05 18 58.7	-0.9
TIPB	Shuangxi	1.11	333	P	Pb	05 18 45.5	-0.3
TIPB				*e*S	Sn	05 19 00.1	+0.6
NWLT	Wulai	1.12	315	P	Pb	05 18 46.0	0.0
NWLT				*e*S	Sn	05 19 00.7	+0.8
TWT	Tachien	1.13	284	*e*P	Pb	05 18 46.3	+0.1
TWT				S	Sn	05 19 01.2	+1.0
YHNB	Yeheng	1.14	307	P	Pn	05 18 46.0	+0.4
YHNB	Yeheng	1.14	307	*i* P	Pn	05 18 46.0	+0.4
YHNB				S	Sn	05 19 01.0	+0.6
TDCB	Techi	1.14	284	P	Pn	05 18 46.3	+0.6
TDCB				S	Sb	05 19 00.5	-0.5
YULB	Yu-li	1.15	240	P	Pn	05 18 45.4	-0.2
YULB	Yu-li	1.15	240	*i* P	Pn	05 18 45.4	-0.2
YULB				*e*S	Sn	05 18 59.8	-0.7
WUSB	Renai	1.15	271	⇑*i*P	Pn	05 18 45.8	+0.1
WUSB				*e*S	Sn	05 19 00.3	-0.4
VWDT	VWDT	1.15	259	P	Pn	05 18 45.9	+0.2
VWDT				S	Sn	05 19 00.5	0.0
EYUL	Yuli	1.16	237	P	Pn	05 18 45.8	0.0
EYUL				S	Sn	05 19 00.6	0.0
NSK	Sanguang	1.16	307	*e*P	Pn	05 18 46.2	+0.4
NSK				S	Sn	05 19 01.5	+0.7
CHKH	Chenggong	1.19	229	*e*P	Pn	05 18 46.0	-0.3
CHKH				*e*S	Sn	05 18 59.2	-2.3
SXI1	Grass Mountain	1.20	338	P	Pn	05 18 46.4	0.0
SXI1				S	Sb	05 19 04.0	+1.5
NWF	Wu-fen Shan	1.21	334	P	Pn	05 18 46.9	+0.3
NWF				S	Sb	05 19 03.3	+0.4
WFSB	Wu-fen Shan	1.21	334	P	Pn	05 18 46.9	+0.4
WFSB				S	Sb	05 19 03.5	+0.7
TWA	Mucha	1.23	324	*e*P	Pb	05 18 48.2	+0.4
NHDH	Xindian Distri	1.25	322	P	Pb	05 18 48.4	+0.2
NHDH				*e*S	Sb	05 19 04.5	+0.7
FULB	Fuli	1.26	232	*e*P	Pn	05 18 46.8	-0.4
FULB				S	Sn	05 19 03.0	-0.2
CHKT	Chengkung	1.28	227	P	Pn	05 18 47.5	+0.1
CHKT				*e*S	Sn	05 19 01.8	-1.8
TATO	Taipei	1.28	321	P	Pb	05 18 48.7	+0.1
TNOU	National Taiwa	1.29	335	*e*P	Pb	05 18 48.8	0.0
IRIF	Iriomote-Funau	1.29	74	P	Pb	05 18 48.8	0.0
IRIF				*e*S	Sb	05 19 05.4	+0.5
HATJ	Hateruma jima	1.31	86	*e*P	Pb	05 18 49.6	+0.4
SSLB	Suanglung	1.31	262	P	Pn	05 18 48.5	+0.6
SSLB	Suanglung	1.31	262	*e*P	Pn	05 18 48.5	+0.6
NFF	Wufeng Townshi	1.32	300	*e*P	Pn	05 18 48.8	+0.8
TAP	Taipei	1.32	323	P	Pb	05 18 49.8	+0.4
TAP				*e*S	Sb	05 19 07.8	+2.0
WHP	Taichung City	1.34	283	*e*P	Pb	05 18 49.7	-0.1
WCS	Beigang Elemen	1.34	274	*i* P	Pn	05 18 49.1	+0.8
WCS				*e*S	Sb	05 19 06.8	+0.3
KSHI	Guanxi Townshi	1.35	306	P	Pb	05 18 49.6	-0.2
SMLT	Sun Moon Lake	1.35	266	*e*P	Pn	05 18 48.0	-0.5
SMLT				S	Sn	05 19 05.3	-0.4
EHD	Haiduan	1.35	233	*e*P	Pn	05 18 47.6	-0.9
ECS	Chishang	1.38	230	P	Pn	05 18 49.6	+0.8
ECS				*e*S	Sn	05 19 07.3	+1.1
TYC	Yuchr	1.39	267	*e*P	Pn	05 18 49.7	+0.8
TYC				*e*S	Sn	05 19 07.4	+1.0
ZUZH	Zhuzihu	1.40	327	P	Pb	05 18 50.2	-0.5
ZUZH				*e*S	Sb	05 19 09.0	+0.8
YM08	YM08	1.40	329	*e*P	Pb	05 18 50.0	-0.8
EDH	Donghe	1.41	225	*e*P	Pn	05 18 47.3	-1.8
EDH				*e*S	Sn	05 19 04.8	-2.0
LIOB	Emei	1.41	298	P	Pb	05 18 50.9	+0.1
LIOB				*e*S	Sb	05 19 09.3	+0.9
NSTT	Nanjuang	1.41	298	P	Pb	05 18 50.7	-0.2
NSTT				*e*S	Sb	05 19 08.5	0.0
TWS1	Kuangyinshan	1.42	322	*e*P	Pn	05 18 49.3	0.0
TWS1				*e*S	Sb	05 19 07.9	-0.7
WHYT	Xinyi Township	1.42	259	*e*P	Pn	05 18 50.4	+1.0
WHYT				*e*S	Sn	05 19 08.2	+0.9
ANP	Anpu	1.43	327	P	Pn	05 18 50.4	+0.8
NTST	Danshui	1.45	325	P	Pb	05 18 50.9	-0.6
NCUH	Zhongli	1.46	312	*e*P	Pb	05 18 51.3	-0.5
TWY	Chenhua	1.47	331	P	Pb	05 18 51.0	-0.9
ELDTW	Lidau	1.47	238	*e*P	Pn	05 18 50.0	-0.2
ELDTW				S	Sn	05 19 06.4	-2.3
SBCB	Hsinchu	1.50	303	P	Pb	05 18 52.0	-0.4
SBCB				*e*S	Sb	05 19 10.4	-0.7
TWQ1	Liyutan	1.51	284	P	Pb	05 18 52.5	-0.1
TWQ1				*e*S	Sb	05 19 12.8	+1.6
ALS	Alishan	1.51	252	*e*P	Pn	05 18 52.0	+1.1
ALS				S	Sn	05 19 11.1	+1.2
WJS	Zhushan	1.52	264	P	Pb	05 18 53.1	+0.4
JKRS	Kuro-shima	1.52	80	*e*P	Pb	05 18 52.7	0.0
HSN	Hsinchu	1.52	303	*e*P	Pn	05 18 51.2	+0.5
HSN				*e*S	Sb	05 19 12.7	+1.1
NSY	Sanyi	1.54	287	P	Pn	05 18 51.9	+0.9
NSY				S	Sb	05 19 12.5	+0.4
LDUT	Ludao	1.54	213	*e*P	Pn	05 18 50.3	-0.7
NMLH	Miaoli	1.55	291	P	Pb	05 18 53.0	-0.2
NMLH				S	Sb	05 19 13.3	+0.8
WNT	Mingjian	1.55	267	*e*P	Pb	05 18 53.4	+0.1
WNT				*e*S	Sb	05 19 12.8	+0.3
TCU	Taichung	1.56	276	P	Pb	05 18 53.2	-0.3
TCU				*e*S	Sb	05 19 14.4	+1.6
LONT	Longtian	1.56	227	*e*P	Pn	05 18 51.6	+0.2
LONT				S	Sn	05 19 10.7	-0.1
CHN5	Tsauling	1.60	257	P	Pn	05 18 53.5	+1.6
CHN5				*i* S	Sb	05 19 14.4	+0.4
WDJ	Dajia District	1.62	283	*e*P	Pn	05 18 52.7	+0.5
JIJ	Ishigaki jima	1.66	76	P	Pn	05 18 54.1	+1.5
JIJ				S	Sb	05 19 15.3	-0.4
TWGBT	Beinan	1.66	226	P	Pn	05 18 53.2	+0.5
TWGBT	Beinan	1.66	226	P	Pn	05 18 53.0	+0.3
TWGBT				S	Sn	05 19 12.5	-0.6
TTN	Taitung	1.66	223	*e*P	Pn	05 18 52.6	-0.1
TWG	Pinlang	1.66	226	*e*P	Pn	05 18 52.9	+0.2
TWG				*e*S	Sn	05 19 12.8	-0.4
WCHH	Zhanghua	1.66	274	P	Pn	05 18 54.3	+1.6
WCHH				*e*S	Sb	05 19 15.7	0.0
PCYT	Pengchaiyu	1.66	351	*e*P	Pn	05 18 52.9	+0.2
STYH	Taoyuan	1.67	241	*e*P	Pn	05 18 52.4	-0.4
STYH				*e*S	Sn	05 19 14.2	+0.7
WGK	Gukeng	1.69	260	*e*P	Pn	05 18 53.8	+0.8
WDLH	Douliu	1.71	261	*e*P	Pb	05 18 55.4	-0.6
WDLH				*e*S	Sb	05 19 16.9	0.0
WCKO	Fanlu	1.71	252	*e*P	Pn	05 18 55.0	+1.7
WCKO				*e*S	Sb	05 19 18.5	+1.4
TPUB	Ta-pu	1.74	247	P	Pn	05 18 55.5	+1.7
TPUB	Ta-pu	1.74	247	P	Pn	05 18 55.4	+1.7
TPUB				S	Sn	05 19 17.6	+2.5
CHN4	Tsaushan	1.75	249	P	Pn	05 18 56.1	+2.2

KNMB	Chin-men Tao	3.67	278	P	Pn	05 19 20.4	0.0
AXDP	Jialang	4.12	284	eP	Pn	05 19 26.6	+0.1
ZPLA	Ao Xicun	4.23	270	eP	Pn	05 19 28.7	+0.7
ZPLA				eS	Sn	05 20 15.9	-0.7
DSXP	Dongshan	4.54	268	eP	Pn	05 19 32.5	+0.2
KSRS	Korea Array	14.25	18	P	P	05 21 51.5	-0.8
	0.3nm,0.3s,baz=202,slow=12,SNR=4.3						
KSRS				LR	LR	05 27 26.4	
	comp=Z,23nm,21.2s,baz=40,slow=38						
	1.5nm,0.5s						
SONM	Songino Array	26.99	336	P	P	05 24 04.3	-0.6
	1.2nm,0.8s,baz=142,slow=10,SNR=5.0						
	1.2nm,0.8s						
MKAR	Makanchi Array	39.24	316	P	P	05 25 51.5	0.0
	0.8nm,0.6s,baz=102,slow=10.0,SNR=10						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	41.01	327	P	P	05 26 04.7	-1.2
	1.5nm,0.6s,baz=121,slow=8.9,SNR=6.6						
	1.5nm,0.6s						
KURBB	Kurchatov Arra	42.97	320	P	P	05 26 21.5	-0.4
	0.5nm,0.9s,baz=104,slow=7.7,SNR=3.3						
	0.5nm,0.9s						
WRA	Warramunga Arr	45.19	164	LR	LR	05 50 21.8	
	comp=Z,11nm,19.1s,baz=103,slow=41						

*KRNET **22** 05:20:04.8±0.1, 42°.17N×78°.80E, h19km, mb2.4*
*SOME **22** 05:20:05.6, 42°.20N×78°.73E, h10km*
*NNC **22** 05:20:06.2±1.2, 42°.26N×78°.78E, h0km, mb2.5, mpv2.6,*
Error ellipse: s-maj=8.6km s-min=3.2km az=156.0

ISC 22 05:20:05.9±1.4, 42°.17N±0°.05×78°.72E±0°.04, h17km±10km, n30, σ1°19/50, 15C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.40	323	↑eP	Pg	05 20 13.3	-0.9
PRZ				↑eS	Sg	05 20 19.6	-0.2
TARG	Taragay, Kyrgy	0.81	238	↓iP	Pb	05 20 21.4	-0.4
TARG				↓iS	Sb	05 20 33.0	+0.4
ANVS	Anan'yevo	1.00	309	↑eP	Pb	05 20 24.1	-0.7
ANVS				↑eS	Sg	05 20 38.9	+0.5
UZB	Uzynbulak	1.01	13	P	Pb	05 20 23.8	-1.1
	2.3nm,0.1s						
UZB				S	Sb	05 20 36.2	-1.8
	7.9nm,0.2s						
UZB	Uzynbulak	1.01	13	eP	Pb	05 20 23.3	-1.7
	2.3nm,0.1s						
UZB				eS	Sb	05 20 36.2	-1.8
	7.9nm,0.2s						
SHLS	Shalkode	1.13	29	eP	Pg	05 20 29.3	+1.5
	2.3nm,0.1s						
SHLS				eS	Sg	05 20 46.2	+3.6
	4.2nm,0.1s						
KDJ	Kajisay	1.15	269	↑iP	Pn	05 20 27.0	-0.4
KDJ				↑iS	Sg	05 20 43.7	+0.5
PDGK	Podgornoye	1.29	26	↑P	Pn	05 20 28.4	-0.9
	1.0nm,0.6s						
PDGK				↑S	Sb	05 20 44.7	-1.5
	4.3nm,0.4s						
TNSS	Tian-Shan	1.57	304	P	Pb	05 20 35.3	+0.5
	0.3nm,0.1s						
TNSS				S	Sb	05 20 56.0	+1.4
	4.0nm,0.1s						
TNSS	Tian-Shan	1.57	304	eP	Pb	05 20 34.7	-0.1
	0.3nm,0.1s						
TNSS				eS	Sb	05 20 55.8	+1.2
	4.0nm,0.1s						
KOTS	Kotyrbulak	1.60	312	P	Pg	05 20 36.2	-0.5
	1.5nm,0.1s						
KOTS				S	Sg	05 20 57.2	-0.3
	11nm,0.2s						
KOTS	Kotyrbulak	1.60	312	eP	Pb	05 20 35.0	0.0
	1.8nm,0.2s						
KOTS				eS	Sb	05 20 56.0	+1.0
	11nm,0.2s						
ULHL	Ulahol	1.85	273	↑iP	Pb	05 20 39.3	0.0
ULHL				↑iS	Sb	05 21 04.1	+1.9
BLB	Baldybastay	1.94	355	P	Pb	05 20 40.8	0.0
	5.6nm,0.1s						
BLB				S	Sb	05 21 05.8	+1.0
	10nm,0.3s						
MTBS	Maitube	1.95	300	Pg	Pb	05 20 41.8	+0.9
	1.3nm,0.2s						
MTBS				Lg	Lg	05 21 07.2	
	8.6nm,0.4s						
MTBS	Maitube	1.95	300	eP	Pb	05 20 41.8	+0.9
	1.3nm,0.2s						
MTBS				eS	Sb	05 21 07.2	+2.2
	8.6nm,0.4s						
BOOM	Boomskoye usch	2.09	280	↑iP	Pb	05 20 42.9	-0.5
BOOM				↑iS	Sb	05 21 10.2	+1.0
CHKK	Chushkaly	2.11	324	Pg	Pb	05 20 43.7	-0.1
	0.5nm,0.0s						
CHKK				Lg	Lg	05 21 10.1	
	23nm,0.1s						
CHKK	Chushkaly	2.11	324	eP	Pb	05 20 44.5	+0.7
	1.1nm,0.2s						
CHKK				eS	Sg	05 21 12.2	-1.7
	6.5nm,0.2s						
ARXS	Arharly	2.15	343	Pg	Pb	05 20 45.1	+0.7
	0.7nm,0.1s						
ARXS				Lg	Lg	05 21 12.6	
	6.2nm,0.2s						
KTBS	Karatobe	2.15	317	Pg	Pb	05 20 45.6	+1.2
	1.0nm,0.2s						
KTBS				Lg	Lg	05 21 13.6	
	10nm,0.4s						
KNOS	Konyrlen	2.22	8	Pg	Pb	05 20 45.7	+0.1
	0.4nm,0.1s						
KNOS				Lg	Lg	05 21 13.6	
	9.9nm,0.1s						
KST	Kastek	2.22	294	Pg	Pg	05 20 47.4	-1.0
	0.9nm,0.3s						
KST				Lg	Lg	05 21 16.5	
	6.1nm,0.3s						
KST	Kastek	2.22	294	eP	Pb	05 20 46.6	+1.0
	0.9nm,0.3s						
KST				eS	Sg	05 21 16.5	-0.8
	6.1nm,0.3s						
DJR	Jarkent	2.30	19	Pg	Pb	05 20 47.4	+0.4
	0.7nm,0.2s						
DJR				Lg	Lg	05 21 16.5	
	12nm,0.3s						
DJR	Jarkent	2.30	19	eP	Pb	05 20 47.0	0.0
	0.7nm,0.2s						
DJR				eS	Sb	05 21 16.5	+1.3
	12nm,0.3s						
DGS	Degeres	2.43	297	Pg	Pb	05 20 50.5	+1.4
	0.9nm,0.3s						
DGS				Lg	Lg	05 21 21.9	
	3.9nm,0.2s						
TKM2	Tokmak 2	2.43	289	↓Pg	Pb	05 20 48.3	-1.0
	1.6nm,0.8s						
TKM2				↑Lg	Lg	05 21 22.6	
	2.0nm,0.6s						
TKM2	Tokmak 2	2.43	289	↑iP	Pb	05 20 47.9	-1.4
TKM2				↑iS	Sb	05 21 18.9	-0.1
KRBS	Karabastau	2.71	305	Pg	Pb	05 20 55.3	+1.4
	0.3nm,0.2s						
KRBS				Lg	Lg	05 21 30.3	
	2.9nm,0.3s						

NOU 22 05:31:59.9, 22°.52S×120°.05E, h0km, MLv4.2/9, Western Australia, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA00	Pilbara Seismi	0.96	349	P	Pg	05 32 17.8	-0.5
PSA00	Pilbara Seismi	0.96	349	S	Sg	05 32 31.6	+0.8
MBWA	Marble Bar	1.39	348	P	Pg	05 32 25.3	-1.2
MBWA	Marble Bar	1.39	348	S	Sg	05 32 44.1	-0.4
MEEK	Meekatharra	4.30	197	P	Pn	05 33 06.9	+0.2
GIRL	Giralia	5.38	268	P	Pn	05 33 20.7	-0.7
WRKA	Warakurna	7.96	110	P	Pn	05 33 56.4	-0.5
KMBL	Kambalda	8.96	170	P	Pn	05 34 10.5	-0.2
FORT	Forrest	10.90	141	P	Pn	05 34 36.0	-1.2

*ISK **22** 05:49:41.6, 37°.51N×29°.40E, h5km, ML1.7/13*
*AFAD **22** 05:49:41.3, 37°.47N×29°.39E, h7km±2km, MW3.1*

ISC 22 05:49:41.9±0.9, 37°.49N±0°.02×29°.40E±0°.03, h8km±7km, n23, σ0°55/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.08	254	Pg	Pg	05 49 43.8	-0.2
APMY				Sg	Sg	05 49 45.9	+0.3
INCE	Denizli-Bozkur	0.26	33	P	Pg	05 49 47.0	-0.1
INCE				S	Sg	05 49 51.4	+0.9
GOLH	Golhisar	0.29	153	P	Pg	05 49 46.8	-0.8
GOLH				S	Sg	05 49 51.5	+0.1
DNIZ	Denizli-Tavas-	0.32	295	P	Pg	05 49 48.0	-0.1
DNIZ				S	Sg	05 49 53.2	+0.9
DNZT	Denizli-Tavas-	0.37	234	P	Pg	05 49 48.5	-0.5
DNZT				S	Sg	05 49 54.1	+0.2
CAEL	Denizli, Camel	0.38	190	P	Pg	05 49 48.5	-0.8
CAEL				S	Sg	05 49 54.4	+0.2
TAVA	DENIZLI_Tavas	0.39	266	P	Pg	05 49 49.2	-0.3
TAVA				S	Sg	05 49 55.4	+0.8
KNIK	Mula-Seydike	0.66	168	P	Pg	05 49 54.1	-0.5
KNIK				S	Sg	05 50 03.0	-0.3
BASM	Basmaki-Afyon	0.67	50	Pg	Pg	05 49 54.8	0.0
SABU	Mula-Dalaman	0.75	207	P	Pg	05 49 56.6	+0.3
SABU				S	Sg	05 50 06.0	-0.1
ELL	Elmali	0.85	151	Pg	Pb	05 49 58.9	0.0
PASA	Karahalli, USA	0.86	5	P	Pg	05 49 57.6	-0.7
PASA				S	Sn	05 50 12.4	-0.7
FETY	Fethiye	0.89	196	Pg	Pb	05 49 59.8	+0.2
DALY	Dalyan (Mula)	0.90	222	Pg	Pb	05 49 59.5	-0.2
KORT	Korkuelì	0.91	123	Pg	Pg	05 49 59.5	+0.2
YER	Yerkesik	0.96	248	Pg	Pb	05 50 00.6	-0.2
NAZL	Nazilli-Aydin	0.99	299	Pg	Pg	05 50 00.9	-0.1
KIRA	zmir-Kiraz	1.06	312	P	Pg	05 50 01.6	-0.6
KIRA				S	Sn	05 50 17.8	-0.3
KULA	Kula-Manisa	1.17	330	Pn	Pg	05 50 04.3	-0.1
AKAS	Kas	1.27	172	Pn	Pg	05 50 07.9	+1.7
AYDB	Zeytinkoy-Aydi	1.28	291	Pn	Pb	05 50 06.4	+0.2
MLSB	Milas	1.31	262	Pn	Pg	05 50 07.2	+0.3
ODEM	Odemis-Izmir	1.31	307	Pn	Pn	05 50 06.5	0.0

*SDD **22** 05:52:27.1±2.0, 18°.31N×69°.05W, h121km±21km, MD2.9, ML2.2, MW2.4*
*RSPR **22** 05:52:28.8, 18°.87N×68°.83W, h111km±3km, MD3.0/11*
*NEIC **22** 05:52:29.8±1.1, 18°.7N±0°.4×68°.82W±0°.07, h104km±21km, ML2.3/28, Md3.0/11(RSPR), Error ellipse: s-maj=53.2km s-min=6.1km az=188.0*

ISC 22 05:52:30.0±1.6, 18°.6N±0°.1×68°.83W±0°.05, h104km±9km, n55, σ1°01/66, 21C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	Higuey Centro	0.11	80	↓eP	Pn	05 52 43.9	-0.4
HIDR	Higuey Centro	0.11	80	eS	Sn	05 52 55.9	+0.8
PCDR	Punta Cana, DR	0.43	98		Pn	05 52 45.0	-0.7
PCDR	Punta Cana, DR	0.43	98		Sn	05 52 58.0	+0.6
PCDR				IAML		05 53 08.0	
	comp=N,84nm,1.1s						
PCDR	Punta Cana, DR	0.43	98	↑ePg	Pn	05 52 45.6	-0.1
PCDR				↑eSg	Sn	05 52 57.5	+0.1
PCDR				IAML		05 53 29.1	
	comp=N,81nm,1.4s						
PCDR	Punta Cana, DR	0.43	98	↓eP	Pn	05 52 45.0	-0.7
PCDR	Punta Cana, DR	0.43	98	eS	Sn	05 52 58.9	+1.5
MIDR	Miches	0.46	333	↑ePg	Pn	05 52 45.4	-0.4
MIDR				↑eSg	Sn	05 52 58.5	+0.8
MIDR				IAML		05 53 00.4	
	comp=N,20nm,0.7s						
DR12	Loma Pena Alta	0.56	293	Pn	Pn	05 52 44.9	-1.7
HATOM	Hato Mayor del	0.56	293	↑ePg	Pn	05 52 45.3	-1.3
HATOM				↑ePg	Pn	05 52 45.7	-0.9
HATOM				IAML		05 53 01.4	
	comp=N,19nm,0.5s						
IDE	Isla Desecheo	1.30	98		Pn	05 52 54.0	0.0
IDE					Sn	05 53 12.7	+0.4
IDE	Isla Desecheo	1.30	98	↑eP	Pn	05 52 54.0	0.0
IDE	Isla Desecheo	1.30	98	eS	Sn	05 53 12.7	+0.4
BANI	BANI	1.46	263	Pn	Pn	05 52 56.1	+0.1
BANI				IAML		05 53 12.8	
	comp=E,33nm,2.4s						
BANI				IAML		05 53 49.8	
	comp=N,26nm,2.5s						
AGPR	Aguadilla, PR	1.64	93	Pn	Pn	05 52 58.0	-0.1
AGPR					Sn	05 53 18.3	-1.2
AGPR	Aguadilla, PR	1.64	93	↑ePg	Pn	05 52 57.1	-1.0
AGPR				↑eSg	Sn	05 53 19.8	+0.3
AGPR				IAML		05 53 52.5	
	comp=N,44nm,2.9s						
AGPR	Aguadilla, PR	1.64	93	eS	Sn	05 53 20.6	+1.1
LSP	Las Mesas	1.71	103		Pn	05 52 58.8	-0.2
LSP	Las Mesas	1.71	103	↑eP	Pn	05 52 58.8	-0.2
LSP	Las Mesas	1.71	103	eS	Sn	05 53 22.9	+1.8
CRPR	Cabo Rojo, PR	1.73	109		Pn	05 52 57.5	-1.8
CRPR					Sn	05 53 20.8	-0.8
CRPR	Cabo Rojo, PR	1.73	109	↑ePg	Pn	05 52 56.7	-2.5
CRPR				↑eSg	Sn	05 53 21.5	-0.1
CRPR				IAML		05 54 00.2	
	comp=N,18nm,3.0s						
CRPR	Cabo Rojo, PR	1.73	109	↑eP	Pn	05 53 00.0	+0.8
CRPR	Cabo Rojo, PR	1.73	109	eS	Sn	05 53 22.9	+1.4
MLPR	Magueyes Islan	1.80	109	↑ePg	Pn	05 52 57.4	-2.8
MLPR				↑eSg	Sn	05 53 22.4	-0.8
MLPR				IAML		05 53 56.7	
	comp=N,3.8nm,3.2s						
MLPR	Magueyes Islan	1.80	109	↑eP	Pn	05 53 00.6	+0.4
MLPR	Magueyes Islan	1.80	109	eS	Sn	05 53 25.6	+2.5
AOPR	Arecibo Observ	1.99	96		Pn	05 53 01.9	-0.7
AOPR					Sn	05 53 28.0	+0.6
AOPR	Arecibo Observ	1.99	96	↑ePg	Pn	05 53 00.7	-1.8
AOPR				↑eSg	Sn	05 53 28.0	+0.6
AOPR				IAML		05 53 32.5	
	comp=N,20nm,0.2s						
AOPR	Arecibo Observ	1.99	96	↑eP	Pn	05 53 01.9	-0.7
AOPR	Arecibo Observ	1.99	96	eS	Sn	05 53 28.0	+0.6
UUPR	Utuado, UPR, P	2.03	99		Sn	05 53 29.2	+0.8
UUPR	Utuado, UPR, P	2.03	99		Pn	05 53 03.2	+0.1
UUPR	Utuado, UPR, P	2.03	99	↓eP	Pn	05 53 02.0	-1.1
UUPR	Utuado, UPR, P	2.03	99	eS	Sn	05 53 29.2	+0.8
OBIP	Obispado Ponce	2.18	104		Sn	05 53 32.4	+0.6
OBIP	Obispado Ponce	2.18	104		Pn	05 53 03.8	-1.2
OBIP				IAML		05 54 00.7	
	comp=N,12nm,3.5s						
OBIP	Obispado Ponce	2.18	104	↓eP	Pn	05 53 05.5	+0.4
OBIP	Obispado Ponce	2.18	104	eS	Sn	05 53 32.4	+0.6
CELP	Cerrillos	2.20	103		Pn	05 53 04.2	-1.1
CELP					Sn	05 53 32.5	+0.3
CELP	Cerrillos	2.20	103	IAML		05 53 46.3	
	comp=E,12nm,3.2s						
CELP	Cerrillos	2.20	103	↑ePg	Pn	05 53 04.0	-1.3
CELP				↑eSg	Sn	05 53 31.3	-1.0
CELP				IAML		05 54 04.7	
	comp=N,8.1nm,3.1s						
CELP	Cerrillos	2.20	103	↑eP	Pn	05 53 04.2	-1.1
CELP	Cerrillos	2.20	103	eS	Sn	05 53 32.5	+0.3
ECPR	Experimental S	2.36	96	↓eP	Pn	05 53 07.2	-0.2
ECPR	Experimental S	2.36	96	eS	Sn	05 53 36.6	+0.6
SDDR	Presa de Saban	2.36	280	Pn	Pn	05 53 07.4	0.0
SDDR				IAML		05 53 46.7	
	comp=N,15nm,2.7s						
SDDR				IAML		05 53 57.0	
	comp=N,14nm,3.5s						
SJG	San Juan	2.59	100	Pn	Pn	05 53 10.7	+0.3
SJG	San Juan	2.59	100	IAML		05 54 27.8	
	comp=N,12nm,1.1s						
SJG				IAML		05 54 39.6	
	comp=N,12nm,1.4s						
GCPR	Guaynabo City	2.62	95	Pn	Pn	05 53 10.7	-0.1
GCPR				IAML		05 53 45.8	
	comp=N,8.7nm,2.6s						
GCPR				IAML		05 54 53.6	
	comp=E,11nm,2.1s						
IGPR	InterUniversit	2.66	103	Pn	Pn	05 53 12.2	+0.9
IGPR				IAML		05 54 13.9	
	comp=N,13nm,1.7s						
PDPR	Patillas Dam,	2.73	101	eS	Sn	05 53 45.5	+0.9
HUMP	Col San Antoni	2.87	98		Sn	05 53 47.8	-0.1
HUMP	Col San Antoni	2.87	98	Pn	Pn	05 53 13.6	-0.5
HUMP				IAML		05 54 25.1	
	comp=N,8.5nm,1.8s						
HUMP				IAML		05 54 29.1	
	comp=E,10nm,2.4s						
HUMP	Col San Antoni	2.87	98	eS	Sn	05 53 47.8	-0.1

RSPR 22 06:31:54.4, 17°.97N×66°.15W, h16km, MD2.0/9, 10C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	InterUniversit	0.04	92	↓eP	Pg	06 31 57.3	0.0
IGPR	InterUniversit	0.04	92	eS	Sg	06 31 59.4	+0.2
PDPR	Patillas Dam,	0.13	67	↑eP	Pg	06 31 58.1	-0.1
PDPR	Patillas Dam,	0.13	67	eS	Sg	06 32 00.8	+0.1
SJG	San Juan	0.14	0	↑eP	Pg	06 31 58.5	+0.1
SJG	San Juan	0.14	0	eS	Sb	06 32 01.6	0.0
HUMP	Col San Antoni	0.34	59	↓eP	Pg	06 32 01.1	-0.2
HUMP	Col San Antoni	0.34	59	eS	Sg	06 32 06.2	0.0
GCPR	Guaynabo City	0.35	11	↑eP	Pg	06 32 01.4	-0.2
GCPR	Guaynabo City	0.35	11	eS	Sg	06 32 06.2	-0.3
ECPR	Experimental S	0.40	330	↑eP	Pg	06 32 02.3	-0.3
ECPR	Experimental S	0.40	330	eS	Sg	06 32 08.2	0.0
CELP	Cerrillos	0.42	285	↑eP	Pg	06 32 02.4	-0.5
CELP	Cerrillos	0.42	285	eS	Sg	06 32 08.3	-0.4
OBIP	Obispado Ponce	0.44	280	↑eP	Pg	06 32 01.6	-1.6
OBIP	Obispado Ponce	0.44	280	eS	Sg	06 32 08.0	-1.3
UUPR	Utuado, UPR, P	0.61	298	↑eP	Pg	06 32 05.6	-0.8
UUPR	Utuado, UPR, P	0.61	298	eS	Sg	06 32 13.6	-1.1
AOPR	Arecibo Observ	0.69	303	↑eP	Pg	06 32 06.8	-1.0
AOPR	Arecibo Observ	0.69	303	eS	Sg	06 32 15.9	-1.1
MLPR	Magueyes Islan	0.85	270	↓eP	Pb	06 32 10.1	-0.7
MLPR	Magueyes Islan	0.85	270	eS	Sg	06 32 22.4	+0.3
CRPR	Cabo Rojo, PR	0.91	273	↑eP	Pb	06 32 10.5	-1.3
CRPR	Cabo Rojo, PR	0.91	273	eS	Sg	06 32 24.5	+0.4
LSP	Las Mesas	0.91	283	↑eP	Pb	06 32 11.2	-0.7
LSP	Las Mesas	0.91	283	eS	Sn	06 32 25.0	-0.4

*GCG **22** 06:33:53.8±2.5, 19°.67N×92°.32W, h78km±106km, MD4.5*
*MEX **22** 06:33:54.3±0.4, 19°.65N×92°.45W, h4km, MD4.3*

ISC 22 06:33:51.8±1.9, 19°.54N±0°.05×92°.41W±0°.03, h12km±14km, n19, σ2°28/36, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCIG	Sabancuy	1.28	116	eP	Pb	06 34 16.2	+0.3
SCIG				eS	Sn	06 34 33.9	+1.2
SCIG	Sabancuy	1.28	116	eP	Pg	06 34 16.1	-0.4
SCIG				eS	Sn	06 34 33.5	+0.8
SCIG	Sabancuy	1.28	116	eP		06 34 16.1	
SCIG				eS		06 34 33.5	
UXUV	UXUV	2.75	217	eP	Pn	06 34 38.0	+2.1
UXUV				i S	Sn	06 35 10.7	+1.6
TGIG		2.83	194	eP	Pn	06 34 38.6	+1.8
TGIG				i S	Sn	06 35 13.6	+2.7
TGIG		2.83	194	eP	Pn	06 34 38.8	+1.9
TGIG		2.83	194	eP		06 34 38.8	
MYIG	Merida	2.88	60	eP	Pn	06 34 39.5	+2.0
MYIG				i S	Sn	06 35 13.0	+1.0
CCIG	Comitan	3.25	175	eP	Pn	06 34 45.0	+2.2
CCIG				eS	Sn	06 35 23.0	+1.6
CCIG	Comitan	3.25	175	eP		06 34 45.0	
CCIG				eS		06 35 23.0	
CMIG	Matias Romero	3.38	224	eP	Pn	06 34 46.4	+1.9
CMIG				i S	Sn	06 35 24.8	+0.2
PETF	Flores	3.55	137	eP	Pn	06 34 47.5	+0.7
PETF				i S	Sb	06 35 36.6	-1.1
PETF	Flores	3.55	137	eP	Pn	06 34 47.5	+0.7
PETF				eS	Sn	06 35 28.6	-0.1
PETF	Flores	3.55	137	eP		06 34 47.5	
PETF				eS		06 35 28.6	
NEUV	Arroyo Zacate	3.69	241	eP	Pn	06 34 49.4	+0.7
NEUV				i S	Sn	06 35 33.2	+0.9
PCIG		3.89	192	i P	Pn	06 34 52.5	+1.1
PCIG				i S	Sn	06 35 39.1	+2.1
JAUV	Jalcomulco	4.15	268	eP	Pn	06 34 57.5	+2.4
JAUV				eS	Sn	06 35 41.2	-2.4
HUEH	Huehuetenango	4.28	168	eP		06 34 59.9	
HUEH				eS		06 35 46.8	
HUEH	Huehuetenango	4.28	168	eP	Pn	06 34 59.1	+2.0
HUEH				eS	Sn	06 35 44.0	-3.1
HUEH	Huehuetenango	4.28	168	eP	Pn	06 34 59.9	+2.9
HUEH				eS	Sn	06 35 46.8	-0.3
APG	El Apazote	4.87	157	eP	Pn	06 35 06.2	+1.1
APG				eS	Sn	06 36 00.2	-1.5
APG	El Apazote	4.87	157	eP		06 35 06.2	
APG				eS		06 36 00.2	
CXUV	Coxquihui	4.92	278	eP	Pn	06 35 08.7	+3.1
CXUV				eS	Sn	06 35 59.7	-2.8
IZABA	Izabal, Puerto	5.25	135	eS	Sb	06 36 19.9	-6.8
CTUV	Llano Grande	5.90	290	eP	Pn	06 35 21.2	+2.1
CTUV				eS	Sn	06 36 23.2	-3.4

*TRN **22** 06:56:49.5, 11°.02N×62°.06W, h75km, MD3.3, North of the Paria peninsula.*
*FUNV **22** 06:56:50.5, 11°.04N×62°.08W, h29km, MW3.5*

ISC 22 06:56:48.1±1.6, 11°.00N±0°.05×62°.08W±0°.06, h89km±15km, n22, σ1°17/40, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	Mucurapo Girls	0.63	121	eP	Pn	06 57 04.7	+0.8
PSMG				eS	Sn	06 57 14.5	-1.1
PSKH	Kent House, Po	0.63	120	eP	Pn	06 57 04.7	+0.8
PSKH				eS	Sn	06 57 14.8	-0.8
PSQC	Port of Spain	0.64	120	eP	Pn	06 57 04.9	+0.9
PSQC				eS	Sn	06 57 14.9	-0.9
PSGH	Port of Spain	0.66	120	eP	Pn	06 57 05.0	+0.9
PSGH				eS	Sn	06 57 15.0	-1.0
TRN	Trinidad (W)	0.75	117	eP	Pn	06 57 05.9	+0.9
TRN				eS	Sn	06 57 16.8	-0.9
GRFF	Grenada Fort F	1.10	18	eP	Pn	06 57 09.2	+0.3
GRFF				eS	Sn	06 57 23.3	-1.2
GRGR	Grenville	1.21	20	eP	Pn	06 57 10.0	-0.1
GRGR				eS	Sn	06 57 25.7	-1.1
GRW	Mount Saint Ca	1.23	20	eP	Pn	06 57 11.1	+0.6
GRW				eS	Sn	06 57 27.5	+0.1
GRSS	Sisters	1.37	20	eP	Pn	06 57 12.7	+0.5
GRSS				eS	Sn	06 57 30.2	-0.2
TOSP	Speyside	1.55	79	eP	Pn	06 57 15.0	+0.6
TOSP				eS	Sn	06 57 33.7	-0.6
GCMP	Grenada, Carri	1.61	23	eP	Pn	06 57 15.7	+0.4
GCMP				eS	Sn	06 57 35.0	-0.8
CUMV	Cumana_UDO	2.15	255	eP	Pn	06 57 24.2	+1.9
CUMV				eS	Sn	06 57 49.2	+0.9
SVOC	Richmond Hill,	2.30	21	eS	Sn	06 57 52.5	+0.5

ODSA	**Odessa**	**1.18**	**31**	Pg	Pg	06 58 17.8	-0.8
ODSA				Sb	Sb	06 58 34.8	+0.2
ODSA				IAML		06 58 40.7	
	71nm,0.3s						
ODSA				IAML		06 58 41.7	
	77nm,0.6s						
CLN7	**Carlsbad 7**	**1.38**	**340**		Pn	06 58 22.1	0.0
SAND	**Sanderson**	**1.51**	**139**	Pg	Pb	06 58 24.2	-0.4
VHRN	**Van Horn**	**1.52**	**258**	Pg	Pn	06 58 24.0	0.0
VHRN					Sb	06 58 44.5	+0.1
VHRN				IAML		06 58 48.1	
	35nm,0.5s						
VHRN				IAML		06 58 49.7	
	54nm,0.4s						
TX31	**Lajitas Ar. Si**	**1.80**	**191**		Pn	06 58 28.7	+0.8
TX31					Sb	06 58 52.9	+0.3
TXAR	**Lajitas Array**	**1.80**	**191**		Pn	06 58 28.4	+0.5
OZNA	**Ozona**	**1.84**	**95**		Pn	06 58 29.0	+0.6
OZNA					Sg	06 58 54.4	-0.7
MNTX	**Cornudas Mount**	**1.91**	**289**		Pb	06 58 30.4	-0.9
MNTX					Sb	06 58 55.7	+0.1
SGCY	**Sterling City**	**1.99**	**66**		Pn	06 58 31.0	+0.5
SGCY					Sb	06 58 58.1	+0.1
SGCY				IAmb_Lg		06 59 01.2	
	comp=Z,11nm,0.8s						
POST	**Post**	**2.46**	**37**	Pn	Pn	06 58 37.6	+0.7
POST				IAmb_Lg		06 59 18.0	
	comp=Z,12nm,0.8s						
SN05	**Snyder 5**	**2.68**	**48**	IAmb_Lg		06 59 25.4	
	comp=Z,7.8nm,0.7s						
SN07	**Snyder 07**	**2.82**	**45**		Pn	06 58 42.0	+0.1
SN07				IAmb_Lg		06 59 30.5	
	comp=Z,14nm,0.8s						
DKNS	**Dickens**	**3.23**	**37**	IAmb_Lg		06 59 44.5	
	comp=Z,10nm,0.8s						
ABTX	**Abilene, Hawle**	**3.43**	**63**		Pn	06 58 50.9	+0.7
ABTX				IAmb_Lg		06 59 43.7	
	comp=Z,7.1nm,0.9s						
APMT	**Aspermont**	**3.46**	**49**	Pn	Pn	06 58 50.6	0.0
BRDY	**Brady**	**3.66**	**86**		Pn	06 58 54.4	+1.1
BRDY				IAmb_Lg		06 59 60.0	
	comp=Z,6.6nm,0.9s						
HNDO	**Hondo**	**3.78**	**114**		Pn	06 58 55.0	-0.1
SBM	**South Baldy**	**4.38**	**312**	Pn	Pn	06 59 05.1	+1.6
PLPT	**Palo Pinto**	**4.53**	**67**	Pn	Pn	06 59 05.5	+0.1
FW06	**Azle**	**5.19**	**68**	Pn	Pn	06 59 14.5	+0.1
WMOK	**Wichita Mounta**	**5.22**	**45**	Pn	Pn	06 59 15.2	+0.3

ASRS 22 06:59:53.0±1.4, **54°.16N**×**86°.45E, h0**km, **M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

ASRS 22 07:00:44.0±0.9, **55°.12N**×**83°.89E, h0**km, **M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

*ISK **22** 07:03:12.6, 36°.44N×27°.09E, h8km, ML2.9/17*
*THE **22** 07:03:12.4, 36°.44N×27°.09E, h1km±1km, ML3.2/4, Error ellipse: s-maj=1.4km s-min=0.6km az=303.0*
*AFAD **22** 07:03:13.8, 36°.45N×27°.15E, h16km±1km, ML2.8*
*ATH **22** 07:03:13.3, 36°.55N×27°.11E, h35km±8km, ML3.2/7, Manual Solution by N.Liadopoulou First location: 2019/03/22 07:04:47, This location: 2019/03/22 08:36:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 6 km*

ISC 22 07:03:12.7±0.9, **36°.47N**±0°.03×**27°.07E**±0°.03, **h16**km±7km, **n44**, σ0°**84**/58, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.15**	**17**	P	**Pg**	**07 03 16.7**	**0.0**
NISR				S	**Sg**	**07 03 19.4**	**0.0**
	58μm,0.3s						
DAT	**Datca**	**0.48**	**57**	Pg	**Pg**	**07 03 22.6**	**+0.2**
DAT				Sg	**Sb**	**07 03 29.8**	**0.0**
BODT	**Bodrum**	**0.62**	**18**	Pg	**Pg**	**07 03 25.2**	**+0.2**
YKAV	**Yalikavak-Bodr**	**0.68**	**14**	Pg	**Pg**	**07 03 26.4**	**+0.4**
ARG	**Arkhangelos**	**0.89**	**106**	Pg	**Pb**	**07 03 29.6**	**-0.1**
ARG	**Arkhangelos**	**0.89**	**106**	P	**Pb**	**07 03 29.1**	**-0.6**
ARG				S	**Sn**	**07 03 42.7**	**-0.3**
	2μm,0.3s						
ARG	**Arkhangelos**	**0.89**	**106**	P	**Pb**	**07 03 29.3**	**-0.4**
KARP	**Karpathos**	**0.92**	**176**	Pg	**Pb**	**07 03 30.3**	**0.0**
KARP				Sg	**Sg**	**07 03 43.1**	**+0.4**
KARP	**Karpathos**	**0.92**	**176**	P	**Pb**	**07 03 29.9**	**-0.4**
KARP				S	**Sg**	**07 03 43.0**	**+0.4**
	1μm,0.3s						
KARP	**Karpathos**	**0.92**	**176**	P	**Pb**	**07 03 30.2**	**0.0**
TURN	**Turunc**	**0.99**	**72**	Pg	**Pg**	**07 03 31.9**	**0.0**
TURN				Sg	**Sn**	**07 03 46.1**	**+0.5**
TURN	**Turunc**	**0.99**	**72**	P	**Pg**	**07 03 32.0**	**+0.2**
TURN				S	**Sn**	**07 03 45.4**	**-0.2**
TURN				*i* AML	AML	07 03 50.0	
	comp=N,314nm,0.5s						
TURN				*i* AML	AML	07 03 51.0	
	comp=E,265nm,0.4s						
MLSB	**Milas**	**1.00**	**34**	Pg	**Pn**	**07 03 32.8**	**+0.7**
YER	**Yerkesik**	**1.18**	**55**	Pn	**Pb**	**07 03 35.3**	**+0.6**
GCAM	**G?zelcaml?**	**1.24**	**6**	Pn	**Pb**	**07 03 37.0**	**+1.3**
THR8	**Santorini-Mono**	**1.29**	**268**	P	**Pn**	**07 03 36.7**	**+0.7**
DALY	**Dalyan (Mula)**	**1.32**	**74**	Pn	**Pg**	**07 03 37.9**	**-0.2**
CMBO	**Columbo, Santo**	**1.34**	**271**	P	**Pn**	**07 03 35.8**	**-1.0**
THR3	**Thira Island,**	**1.35**	**268**	P	**Pn**	**07 03 36.7**	**-0.1**
THR6	**Thira Island,**	**1.36**	**266**	P	**Pn**	**07 03 37.0**	**+0.1**
ZKR	**Zakros**	**1.52**	**208**	Pn	**Pb**	**07 03 40.6**	**+0.2**
ZKR	**Zakros**	**1.52**	**208**	P	**Pn**	**07 03 38.9**	**-0.3**
ZKR				S	**Sb**	**07 04 00.1**	**+0.7**
	275nm,0.5s						
ZKR	**Zakros**	**1.52**	**208**	P	**Pn**	**07 03 40.2**	**+1.0**
SABU	**Mula-Dalaman**	**1.56**	**76**	P	**Pb**	**07 03 41.8**	**+0.5**
SABU				S	**Sg**	**07 04 02.1**	**-1.0**
SABU				*i* AML	AML	07 04 07.0	
	comp=E,91nm,0.3s						
SABU				*i* AML	AML	07 04 12.0	
	comp=N,80nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.61**	**24**	Pn	**Pb**	**07 03 43.2**	**+1.0**
FETY	**Fethiye**	**1.63**	**83**	Pn	**Pb**	**07 03 42.3**	**0.0**
FETY	**Fethiye**	**1.63**	**83**	P	**Pg**	**07 03 45.0**	**+1.0**
FETY				S	**Sg**	**07 04 06.3**	**+1.2**
IZZE	**Mula-Seydike**	**1.73**	**90**	P	**Pb**	**07 03 43.7**	**-0.5**
IZZE				S	**Sg**	**07 04 08.1**	**-0.4**
IZZE				*i* AML	AML	07 04 14.0	
	comp=E,128nm,0.4s						
IZZE				*i* AML	AML	07 04 17.0	
	comp=N,309nm,0.4s						
DNZT	**Denizli-Tavas-**	**1.76**	**62**	P	**Pb**	**07 03 45.7**	**+1.1**
DNZT				S	**Sg**	**07 04 08.4**	**-1.1**
CAME	**Cameli-Denizli**	**1.85**	**74**	Pn	**Pb**	**07 03 45.7**	**-0.6**
BLCB	**Balcova**	**1.92**	**359**	Pn	**Pb**	**07 03 46.9**	**-0.3**
CAEL	**Denizli, Camel**	**1.92**	**69**	P	**Pb**	**07 03 48.6**	**+1.2**
CAEL				S	**Sg**	**07 04 14.3**	**-0.2**
CAEL				*i* AML	AML	07 04 18.0	
	comp=N,151nm,0.7s						
CAEL				*i* AML	AML	07 04 22.0	
	comp=E,160nm,0.9s						
KNIK	**Mula-Seydike**	**2.04**	**79**	P	**Pb**	**07 03 49.6**	**+0.1**
KNIK				S	**Sg**	**07 04 16.5**	**-2.0**
APMY	**Acipayam-Deniz**	**2.05**	**60**	Pn	**Pn**	**07 03 47.5**	**+1.0**
KSL	**Kastellorizon**	**2.05**	**98**	P	**Pn**	**07 03 45.2**	**-1.3**
AKAS	**Kas**	**2.06**	**96**	Pn	**Pn**	**07 03 48.1**	**+1.4**
IDI	**Anoyia**	**2.13**	**237**	P	**Pn**	**07 03 47.9**	**+0.3**
ELL	**Elmali**	**2.30**	**82**	P	**Pn**	**07 03 48.2**	**-1.8**
IMMV	**Iera Moni Meta**	**2.70**	**249**	P	**Pn**	**07 03 55.0**	**-0.4**
VLY	**Voula,Athens**	**2.96**	**299**	P	**Pn**	**07 03 57.2**	**-1.8**
DION	**Dionisos Attik**	**2.98**	**304**	P	**Pn**	**07 03 57.9**	**-1.4**
ATHU	**Athens Univers**	**3.02**	**301**	P	**Pn**	**07 03 58.3**	**-1.6**
ATH	**Athens Observa**	**3.07**	**300**	P	**Pn**	**07 03 59.3**	**-1.2**
VLI	**Veliai**	**3.34**	**276**	P	**Pn**	**07 04 03.7**	**-0.5**

ASRS 22 07:07:55.0±0.3, **51°.N**±2°×**9°.7E**±°, **h8**km, **MLh3.6**/10, **1D, Error ellipse: s-maj=4.7km s-min=3.1km az=18.4, confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.26**	**115**	⇓Pg	Pg	07 07 59.9	-0.3
KNGR				Sg	Sg	07 08 02.7	-1.0
TDJR	**Todzha**	**1.81**	**339**	Pg	Pg	07 08 33.5	+3.8
TDJR				Sg	Sg	07 08 59.4	+6.3
KZLR	**Kyzyl**	**1.96**	**301**	Pg	Pg	07 08 36.3	+3.7
KZLR				Sg	Sg	07 09 03.8	+5.8
ARDR	**Aradan**	**2.98**	**310**	Pg	Pg	07 08 52.0	0.0
ARDR				Sg	Sg	07 09 33.8	+3.3
CERR	**Cheremushki**	**4.15**	**303**	Pg	Pg	07 09 15.0	+0.5
CERR				Sg	Sg	07 10 11.2	+2.9
DJO	**Djoy, Khakassi**	**4.23**	**302**	Pg	Pg	07 09 15.7	-0.2
DJO				Sg	Sg	07 10 13.6	+2.9
TEL	**Teeli**	**4.41**	**277**	Pg	Pg	07 09 18.1	-1.3
TEL				Sg	Sg	07 10 22.6	+6.0
MINR	**Mina**	**4.56**	**338**	Pg	Pg	07 09 22.7	+0.5
MINR				Sg	Sg	07 10 25.4	+4.1
VEH	**Verkhnyaya Baz**	**4.93**	**304**	Pg	Pg	07 09 27.9	-1.5
VEH				Sg	Sg	07 10 34.0	+0.9
CUR	**Chagan-Uzun**	**5.66**	**267**	Pg	Pg	07 09 49.8	+6.4
CUR				Sg	Sg	07 10 59.6	+3.0
ULGR	**Ulagan, Altay**	**5.84**	**273**	Pg	Pg	07 09 50.1	+3.3
ULGR				Sg	Sg	07 11 07.9	+5.4
AKAR	**Aktash**	**6.09**	**270**	Pg	Pg	07 09 57.9	+6.3
AKAR				Sg	Sg	07 11 06.7	-3.8
TASR	**Tashtagol**	**6.11**	**293**	Sg	Sg	07 11 14.6	+3.6
CHBI	**Chibit, Altay**	**6.17**	**270**	Sg	Sg	07 11 16.8	+4.0
DGZ	**Jazzator, Alta**	**6.32**	**265**	Sg	Sg	07 11 26.4	+8.6

DJA 22 07:22:08.7±1.0, **2°.N**±4°×**9°.6E**±°, **h21**km±7km, **M3.9**/12, **mb4.2**/2, **MLv3.7**/12, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.64**	**82**	P	Pn	07 22 22.4	-0.2
MLSI	**Meulaboh, Aceh**	**2.06**	**20**	P	Pn	07 22 42.7	+0.6
GSI	**Gunungsitoli**	**2.14**	**118**	P	Pn	07 22 43.2	0.0
GSI				S	Sn	07 23 10.7	+1.6
TSI	**Tuntungan**	**3.10**	**68**	P	Pn	07 22 57.0	+0.6
LHMI	**Lhok Sumawe**	**3.15**	**23**	P	Pn	07 22 56.7	-0.4
BSI	**Banda Aceh**	**3.18**	**353**	P	Pn	07 22 57.0	-0.5
PBSI	**Pulau Batu**	**3.50**	**132**	P	Pn	07 22 59.9	-2.1
SISI	**Saibi**	**4.97**	**137**	P	Pn	07 23 22.1	0.0

*JMA **22** 07:22:24.5±0.2, 44°.5N±0°.7×14°.6E±°, h20km±1km, MV3.2/34, NEAR KUNASHIRI ISLAND*
*SKHL **22** 07:22:25.4±0.2, 44°.50N×145°.70E, h26km±3km, mb4.5/3*

ISC 22 07:22:25.5±1.6, **44°.48N**±0°.07×**145°.72E**±0°.04, **h23**km±14km, **n13**, σ0°**37**/24, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.46**	**167**	*i* P	**Pb**	**07 22 34.7**	**-0.1**
YUK				AMB	AMB	07 22 36.1	
	210nm,0.3s						
YUK				AMB	AMB	07 22 36.1	
	330nm,0.3s						
YUK				AMB	AMB	07 22 36.1	
	800nm,0.3s						
YUK				*e*S	**Sb**	**07 22 41.5**	**+0.3**
YUK				A	A	07 22 41.7	
	640nm,0.2s						
YUK				A	A	07 22 41.7	
	1μm,0.2s						
JRA	**Rausu**	**0.69**	**219**	P	**Pb**	**07 22 38.5**	**-0.3**
JRA				*e*S	**Sb**	**07 22 48.5**	**+0.5**
JNSB	**Nemuroshibetsu**	**0.87**	**216**	P	**Pb**	**07 22 41.6**	**-0.3**
JNSB				*e*S	**Sb**	**07 22 53.5**	**+0.4**
SHO	**Shikotan**	**1.00**	**127**	*i* P	**Pb**	**07 22 44.0**	**-0.1**
SHO				AMB	AMB	07 22 44.2	
	170nm,0.2s						
SHO				AMB	AMB	07 22 44.2	
	110nm,0.2s						
SHO				*i* S	**Sn**	**07 22 58.0**	**+0.5**
SHO				A	A	07 22 58.8	
	3μm,0.4s						
SHO				A	A	07 22 58.8	
	2μm,0.4s						
NMR	**Nemuro--Hokkai**	**1.11**	**180**	*i* P	**Pn**	**07 22 45.0**	**-0.6**
NMR				*i* S	**Sb**	**07 23 00.2**	**+0.3**
NEM2	**Nemuro 2**	**1.11**	**179**	*e*P	**Pn**	**07 22 45.0**	**-0.6**
NEM2				*e*S	**Sn**	**07 23 00.5**	**+0.3**
JNK	**Nakash**	**1.15**	**219**	P	**Pn**	**07 22 45.9**	**-0.3**
JNK				*e*S	**Sn**	**07 23 01.1**	**0.0**
JTKR	**Abashiri--Toko**	**1.40**	**249**	*e*P	**Pn**	**07 22 49.0**	**-0.5**
JTKR				*e*S	**Sn**	**07 23 07.2**	**-0.1**
JKHN	**Kushirohamanak**	**1.46**	**196**	*e*S	**Sb**	**07 23 10.1**	**+0.2**
AKK	**Akkeshi**	**1.59**	**204**	*e*P	**Pn**	**07 22 52.0**	**-0.2**
AKK				*e*S	**Sn**	**07 23 12.1**	**0.0**
JAK	**Akkeshi**	**1.66**	**207**	*e*P	**Pn**	**07 22 53.3**	**+0.2**
JAK				*e*S	**Sn**	**07 23 14.1**	**+0.4**
KUR	**Kuril'sk**	**1.70**	**63**	*e*P	**Pn**	**07 22 53.5**	**-0.2**
JMP	**Maruseppu**	**1.76**	**255**	*e*P	**Pn**	**07 22 54.7**	**+0.1**
JMP				*e*S	**Sn**	**07 23 16.8**	**+0.5**

*NEIC **22** 07:27:28.5±1.2, 31°.634N±0°.009×104°.58W±0°.02, h3km±5km, Error ellipse: s-maj=2.3km s-min=1.3km az=96.0*

NEIC 22 07:27:28.9±1.1, **31°.638N**±0°.010×**104°.59W**±0°.02, **h7**km±5km, **mb_Lg2.7**/37, **ML2.8**/16, **ML2.8**/11, **Error ellipse: s-maj=2.6km s-min=1.1km az=67.0, Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDL2	**Guadalupe Moun**	**0.59**	**19**		Pg	07 27 40.3	0.0
PECS	**Pecos**	**0.67**	**113**		Pg	07 27 41.9	+0.1
PECS				Sg	Sg	07 27 50.5	-0.1
PECS				IAML		07 27 57.9	
	414nm,0.6s						
MNTX	**Cornudas Mount**	**0.68**	**275**		Pg	07 27 42.1	+0.1
MNTX					Sg	07 27 51.3	+0.4
CLNB	**Carlsbad**	**0.87**	**44**		Pg	07 27 45.3	-0.2
VHRN	**Van Horn**	**0.91**	**202**	Pg	Pg	07 27 46.5	0.0
VHRN					Sg	07 27 58.7	+0.3
VHRN				IAML		07 27 59.8	
	269nm,0.4s						
VHRN				IAML		07 28 00.4	
	208nm,0.4s						
PCOS	**Crockett Middl**	**0.95**	**104**		Sg	07 27 59.8	+0.3
CLN7	**Carlsbad 7**	**1.02**	**40**		Pg	07 27 48.1	-0.3
HTMS	**Hat Mesa**	**1.16**	**44**		Pg	07 27 50.5	-0.7
ALPN	**Alpine**	**1.50**	**147**		Pn	07 27 56.0	-0.4
ALPN				Sg	Sn	07 28 15.4	-0.8
CPRX	**Cap Rock**	**1.52**	**24**		Pn	07 27 56.8	+0.2
MNHN	**Monahans**	**1.59**	**100**		Pn	07 27 58.0	+0.5
ODSA	**Odessa**	**1.80**	**74**	Pn	Pb	07 28 01.5	-0.7
ODSA					Sn	07 28 23.9	+0.3
TX31	**Lajitas Ar. Si**	**2.43**	**161**		Pn	07 28 10.3	+1.2
TXAR	**Lajitas Array**	**2.43**	**161**		Pn	07 28 10.5	+1.4
SAND	**Sanderson**	**2.70**	**128**		Pn	07 28 14.6	+1.8
MSTX	**Muleshoe**	**2.78**	**33**	Pn	Pn	07 28 14.3	+0.4
CRNM	**Carthage**	**2.93**	**322**	Pn	Pn	07 28 16.4	+0.3
SGCY	**Sterling City**	**2.96**	**84**	Pn	Pn	07 28 17.4	+1.0
SGCY				IAmb_Lg		07 29 03.8	
	comp=Z,27nm,0.9s						
POST	**Post**	**2.98**	**61**	IAmb_Lg		07 29 08.5	
	comp=Z,22nm,0.9s						
BNM	**Barren Site**	**3.04**	**326**	Pn	Pn	07 28 19.1	+1.5
OZNA	**Ozona**	**3.05**	**103**		Pn	07 28 18.3	+0.8
OZNA				IAmb_Lg		07 29 10.9	
	comp=Z,25nm,0.9s						
SN05	**Snyder 5**	**3.37**	**68**	IAmb_Lg		07 29 24.3	
	comp=Z,17nm,0.8s						
SN07	**Snyder 07**	**3.45**	**64**		Pn	07 28 24.3	+1.3
SN07				IAmb_Lg		07 29 27.7	
	comp=Z,17nm,0.8s						
ANMO	**Albuquerque**	**3.65**	**335**	IAmb_Lg		07 29 27.7	
	comp=Z,9.6nm,0.7s						
ANMO	**Albuquerque**	**3.65**	**335**	IAmb_Lg		07 29 27.3	
	comp=Z,11nm,0.7s						
ANMO	**Albuquerque**	**3.65**	**335**	IAmb_Lg		07 29 27.7	
	comp=Z,11nm,0.7s						
ANMO	**Albuquerque**	**3.65**	**335**	IAmb_Lg		07 29 32.5	
	comp=Z,11nm,0.7s						
DKNS	**Dickens**	**3.69**	**56**		Pn	07 28 28.4	+2.0
DKNS				IAmb_Lg		07 29 35.3	
	comp=Z,19nm,0.7s						
319A	**Douglas**	**4.02**	**267**	Pn	Pn	07 28 31.9	+1.0
DRIO	**Del Rio**	**4.07**	**122**		Pn	07 28 32.3	+0.7
DRIO				IAmb_Lg		07 29 46.9	
	comp=Z,15nm,0.7s						
APMT	**Aspermont**	**4.13**	**65**	Pn	Pn	07 28 33.2	+0.7
APMT				IAmb_Lg		07 29 50.9	
	comp=Z,22nm,1.0s						
ABTX	**Abilene, Hawle**	**4.31**	**76**	Pn	Pn	07 28 36.1	+1.2
BRDY	**Brady**	**4.79**	**93**	Pn	Pn	07 28 41.2	-0.3
BRDY				IAmb_Lg		07 30 03.6	
	comp=Z,16nm,1.0s						
RTBA	**Rita Blanca**	**5.03**	**17**	Pn	Pn	07 28 45.8	+0.9
PLPT	**Palo Pinto**	**5.44**	**76**	Pn	Pn	07 28 50.7	+0.2
T25A	**Trinidad**	**5.49**	**1**	IAmb_Lg		07 30 26.0	
	comp=Z,11nm,0.8s						
WMOK	**Wichita Mounta**	**5.77**	**56**	Pn	Pn	07 28 55.8	+0.9
WMOK				IAmb_Lg		07 30 39.4	
	comp=Z,8.9nm,0.8s						
FW14	**Alvarado**	**6.33**	**81**	IAmb_Lg		07 30 57.7	
	comp=Z,12nm,0.9s						
BRIGG	**Briggsdale**	**8.93**	**1**	IAmb_Lg		07 32 25.7	
	comp=Z,4.8nm,0.9s						

AFAD 22 07:29:28.7, 37°.24N×**28°.18E, h7**km±7km, **ML1.4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.12**	**84**	P	Pg	07 29 30.8	-0.5
MULA				S	Sg	07 29 32.8	-0.3
MULA				*i* AML	AML	07 29 33.0	
	comp=N,150nm,0.4s						
MULA				*i* AML	AML	07 29 34.0	
	comp=E,194nm,0.5s						
TURN	**Turunc**	**0.47**	**173**	P	Pg	07 29 37.1	-0.7
TURN				S	Sb	07 29 46.4	0.0
TURN				*i* AML	AML	07 29 47.0	
	comp=N,32nm,0.6s						
TURN				*i* AML	AML	07 29 55.0	
	comp=E,20nm,0.7s						
AYDN	**Tasoluk**	**0.48**	**330**	P	Pg	07 29 38.5	+0.5
AYDN				S	Sg	07 29 45.5	+1.2
AYDN				*i* AML	AML	07 29 46.0	
	comp=E,45nm,0.4s						
AYDN				*i* AML	AML	07 29 48.0	
	comp=N,35nm,0.9s						
ESEN	**Aydn-Nazilli**	**0.57**	**14**	P	Pg	07 29 36.6	-3.1
ESEN				S	Sg	07 29 47.4	+0.3
ESEN				*i* AML	AML	07 29 49.0	
	comp=E,23nm,0.6s						
ESEN				*i* AML	AML	07 29 51.0	
	comp=N,22nm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.63**	**69**	S	Sb	07 29 51.4	+0.3

ISK 22 07:29:52.3, 37°.46N×**29°.49E, h6**km, **ML1.8**/11, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.15**	**275**	Pg	Pg	07 29 55.9	+0.5
APMY				Sg	Sg	07 29 58.4	+1.0
CAME	**Cameli-Denizli**	**0.54**	**196**	Pg	Pg	07 30 02.6	0.0
CAME				Sg	Sg	07 30 10.9	+1.3
ELL	**Elmali**	**0.78**	**155**	Pg	Pg	07 30 07.7	+0.3
ELL				Sg	Sb	07 30 19.6	+0.2
KORT	**Korkueli**	**0.82**	**123**	Pg	Pg	07 30 08.6	+0.5
FETY	**Fethiye**	**0.88**	**202**	Pg	Pg	07 30 09.6	+0.3
DALY	**Dalyan (Mula)**	**0.93**	**226**	Pg	Pb	07 30 11.0	+0.2
NAZL	**Nazilli-Aydin**	**1.08**	**298**	Pg	Pb	07 30 13.6	+0.2
TURN	**Turunc**	**1.21**	**236**	Pn	Pn	07 30 16.0	+0.2
KULA	**Kula-Manisa**	**1.24**	**328**	Pn	Pg	07 30 15.1	-1.0
AYDB	**Zeytinkoy-Aydi**	**1.36**	**291**	Pn	Pn	07 30 18.0	0.0
ODEM	**Odemis-Izmir**	**1.39**	**307**	Pn	Pg	07 30 19.2	+0.3

*NNC **22** 07:49:56.0±1.8, 53°.08N×85°.50E, h0km, mb3.1, mpv2.3, Error ellipse: s-maj=35.8km s-min=7.1km az=77.0, Suspected Mining explosion.*
*IDC **22** 07:49:57.4±1.5, 54°.60N×83°.75E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=14.0km s-min=8.7km az=11.0*

ASRS 22 07:49:55.0±0.8, **54°.63N**×**83°.69E, h0**km, **M2.5, 2C-2D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**135**	I	I	07 55 25.4	
	0.1nm,0.8s,baz=318,slow=334,SNR=8.4						
ZAA0	**Zalesovo Array**	**0.95**	**135**	⇑P	Pb	07 50 14.5	+0.1
	0.3nm,0.3s						
ZAA0				⇓S	Sb	07 50 27.8	+0.3
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**0.95**	**135**	Pg	Pb	07 50 13.9	-0.4
	2.5nm,0.3s,baz=319,slow=15,SNR=20						
ZALV				Lg	Lg	07 50 27.8	
	8.8nm,0.3s,baz=312,slow=30,SNR=14						
KURK	**Kurchatov**	**4.99**	**220**	⇑Pn	Pn	07 51 10.8	-0.3
	1.6nm,1.1s						
KURBB	**Kurchatov Arra**	**5.10**	**220**	Pn	Pn	07 51 15.2	+2.7
	0.1nm,0.3s,baz=40,slow=14,SNR=3.1						
KURBB				Lg	Lg	07 52 39.3	
	0.1nm,0.3s,baz=42,slow=32,SNR=3.0						
	0.3nm,0.5s						
MK31	**Makanchi Array**	**7.90**	**187**	⇓Pn	Pn	07 51 34.0	-17
	0.3nm,0.7s,baz=24,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**7.90**	**187**	Pn	Pn	07 51 53.9	+2.9
	0.1nm,0.3s,baz=12,slow=13,SNR=5.1						
MKAR				Lg	Lg	07 54 07.5	
	0.1nm,0.3s,baz=5.6,slow=32,SNR=2.1						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**8.04**	**264**	Pn	Pn	07 51 54.5	+1.7
	0.1nm,0.3s,baz=67,slow=13,SNR=5.3						
BVAR				Sn	Sn	07 53 24.4	+0.1
	0.1nm,0.3s,baz=73,slow=25,SNR=3.2						
	0.7nm,0.4s						

ASRS 22 07:50:22.0±0.9, **53°.51N**×**87°.54E, h0**km, **M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.09**	**287**	Pg	**Pg**	**08 20 48.8**	**-0.4**
APMY				Sg	**Sg**	**08 20 51.1**	**+0.1**
GOLH	**Golhisar**	**0.24**	**150**	P	**Pg**	**08 20 51.2**	**-0.4**
GOLH				S	**Sg**	**08 20 55.3**	**+0.4**
GOLH				*i* AML	AML	08 20 57.0	
	comp=E,4μm,0.3s						
GOLH				*i* AML	AML	08 20 57.0	
	comp=N,2μm,0.2s						
INCE	**Denizli-Bozkur**	**0.29**	**27**	P	**Pg**	**08 20 52.3**	**-0.3**
INCE				S	**Sb**	**08 20 57.7**	**-1.5**
INCE				*i* AML	AML	08 20 58.0	
	comp=E,1μm,0.4s						
INCE				*i* AML	AML	08 20 59.0	
	comp=N,2μm,0.2s						
CAEL	**Denizli, Camel**	**0.33**	**193**	P	**Pg**	**08 20 52.9**	**-0.4**
CAEL				S	**Sg**	**08 20 58.2**	**+0.5**
CAEL				*i* AML	AML	08 21 03.0	
	comp=E,2μm,0.5s						
CAEL				*i* AML	AML	08 21 03.0	
	comp=N,2μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.35**	**301**	P	**Pg**	**08 20 53.4**	**-0.2**
DNIZ				S	**Sb**	**08 20 59.1**	**-1.5**
DNIZ				*i* AML	AML	08 21 00.0	
	comp=E,3μm,0.2s						
DNIZ				*i* AML	AML	08 21 00.0	
	comp=N,2μm,0.3s						
DNZT	**Denizli-Tavas-**	**0.35**	**242**	P	**Pg**	**08 20 53.2**	**-0.4**
DNZT				P	**Pb**	**08 20 53.3**	**-1.7**
DNZT				S	**Sg**	**08 20 58.4**	**+0.1**
DNZT				*i* AML	AML	08 21 00.0	
	comp=E,3μm,0.4s						
DNZT				*i* AML	AML	08 21 00.0	
	comp=N,6μm,0.6s						
TAVA	**DENIZLI_Tavas**	**0.40**	**273**	P	**Pg**	**08 20 54.2**	**-0.3**
TAVA				S	**Sg**	**08 21 00.0**	**+0.3**
TAVA				*i* AML	AML	08 21 02.0	
	comp=E,7μm,0.8s						
TAVA				*i* AML	AML	08 21 02.0	
	comp=N,5μm,0.4s						
CAME	**Cameli-Denizli**	**0.51**	**190**	Pg	**Pg**	**08 20 55.7**	**-0.9**
CAME				Sg	**Sb**	**08 21 04.0**	**-1.3**
BRDR	**BURDUR-Merkez**	**0.57**	**64**	P	**Pg**	**08 20 57.1**	**-0.7**
KNIK	**Mula-Seydike**	**0.61**	**168**	P	**Pg**	**08 20 57.7**	**-0.9**
KNIK				S	**Sb**	**08 21 07.8**	**-0.5**
KNIK				*i* AML	AML	08 21 13.0	
	comp=N,2μm,0.6s						
KNIK				*i* AML	AML	08 21 15.0	
	comp=E,1μm,0.5s						
BASM	**Basmaki-Afyon**	**0.69**	**47**	Pg	**Pg**	**08 20 58.9**	**-1.2**
SABU	**Mula-Dalaman**	**0.71**	**210**	P	**Pg**	**08 20 59.3**	**-1.1**
SABU				S	**Sb**	**08 21 10.9**	**-0.3**
SABU				*i* AML	AML	08 21 11.0	
	comp=E,2μm,0.7s						
SABU				*i* AML	AML	08 21 13.0	
	comp=N,3μm,0.4s						
FETI	**Fethiye-Mugla**	**0.80**	**198**	Pg	**Pg**	**08 21 01.6**	**-0.4**
FETI				Sg	**Sb**	**08 21 13.8**	**+0.4**
ELL	**Elmali**	**0.80**	**150**	Pg	**Pg**	**08 21 01.8**	**-0.3**
FETY	**Fethiye**	**0.85**	**198**	Pg	**Pg**	**08 21 02.3**	**-0.7**
DALY	**Dalyan (Mula)**	**0.87**	**224**	Pg	**Pb**	**08 21 03.2**	**-0.7**
DALY				Sg	**Sb**	**08 21 15.9**	**+0.3**
KORT	**Korkueli**	**0.87**	**120**	Pg	**Pb**	**08 21 03.2**	**-0.8**
KORT	**Korkueli**	**0.87**	**120**	P	**Pg**	**08 21 01.9**	**-1.5**
KORT				S	**Sn**	**08 21 17.9**	**-0.2**
KHL	**Karahalli**	**0.88**	**6**	Pg	**Pg**	**08 21 02.9**	**-0.7**
MULA	**Mugla, Merkez-**	**0.89**	**258**	P	**Pg**	**08 21 02.3**	**-1.5**
PASA	**Karahalli, USA**	**0.90**	**4**	P	**Pg**	**08 21 02.8**	**-1.3**
ESEN	**Aydn-Nazilli**	**0.91**	**293**	P	**Pg**	**08 21 03.8**	**-0.4**
BUCA	**Burdur, Bucak-**	**0.92**	**97**	P	**Pg**	**08 21 03.5**	**-1.0**
BCK	**Bucak**	**0.94**	**89**	Pg	**Pb**	**08 21 04.7**	**-0.4**
YER	**Yerkesik**	**0.95**	**251**	Pg	**Pg**	**08 21 04.6**	**-0.3**
ISP	**Isparta**	**0.96**	**67**	Pg	**Pb**	**08 21 04.6**	**-0.9**
ISP	**Isparta**	**0.96**	**67**	P	**Pg**	**08 21 04.1**	**-1.0**
ISP				S	**Sb**	**08 21 18.4**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.00**	**35**	P	**Pg**	**08 21 04.7**	**-1.1**
IZZE	**Mula-Seydike**	**1.02**	**188**	P	**Pg**	**08 21 05.6**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.03**	**301**	Pg	**Pb**	**08 21 06.3**	**-0.3**
ANTB	**Antalya**	**1.13**	**118**	Pn	**Pn**	**08 21 08.8**	**+0.2**
TURN	**Turunc**	**1.15**	**235**	Pn	**Pb**	**08 21 08.3**	**-0.3**
TURN	**Turunc**	**1.15**	**235**	P	**Pg**	**08 21 07.7**	**-1.0**
KULA	**Kula-Manisa**	**1.22**	**331**	Pn	**Pn**	**08 21 09.7**	**-0.2**
AKAS	**Kas**	**1.22**	**173**	Pn	**Pn**	**08 21 10.4**	**+0.4**
AKAS	**Kas**	**1.22**	**173**	P	**Pn**	**08 21 10.5**	**+0.6**
DEMR	**Demre-Antalya**	**1.27**	**162**	Pn	**Pb**	**08 21 11.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**293**	Pn	**Pb**	**08 21 11.2**	**-0.2**
MLSB	**Milas**	**1.31**	**264**	Pn	**Pg**	**08 21 11.6**	**-0.2**
ODEM	**Odemis-Izmir**	**1.34**	**309**	Pn	**Pg**	**08 21 11.8**	**-0.6**
AKUM	**Antalya-Kumluc**	**1.35**	**146**	P	**Pg**	**08 21 13.9**	**+1.4**
SHUT	**Suhut-Afyon**	**1.43**	**39**	Pn	**Pg**	**08 21 13.2**	**-0.9**
SHAP	**Saphane-Kutahy**	**1.58**	**355**	Pn	**Pb**	**08 21 15.7**	**-0.4**
GEDZ	**Gediz**	**1.60**	**0**	Pn	**Pb**	**08 21 15.7**	**-0.6**
ARG	**Arkhangelos**	**1.60**	**220**	Pn	**Pb**	**08 21 16.1**	**-0.3**
DAT	**Datca**	**1.63**	**245**	Pn	**Pb**	**08 21 16.7**	**-0.2**
SIMA	**Simav-Kutahya**	**1.67**	**349**	Pn	**Pn**	**08 21 16.4**	**+0.3**
BODT	**Bodrum**	**1.72**	**258**	Pn	**Pn**	**08 21 17.2**	**+0.5**
YKAV	**Yalikavak-Bodr**	**1.73**	**260**	Pn	**Pn**	**08 21 17.5**	**+0.7**
KUSD	**Kusadasi-Aydin**	**1.73**	**284**	Pn	**Pb**	**08 21 17.7**	**-0.9**
GCAM	**G?zelcaml?**	**1.75**	**279**	Pn	**Pn**	**08 21 17.6**	**+0.5**
GORD	**Gordes-Manisa**	**1.75**	**327**	Pn	**Pn**	**08 21 17.7**	**+0.5**
BRTR	**Keskin Array B**	**4.02**	**54**	Pn	**Pn**	**08 21 49.7**	**+1.2**
	5.7nm,0.3s,baz=240,slow=17,SNR=94						
BRTR				Sn	**Sn**	**08 22 38.5**	**+2.7**
	1.2nm,0.3s,baz=222,slow=23,SNR=5.3 11nm,0.4s						
CSS	**Mathiatis**	**4.02**	**127**	P	**Pn**	**08 21 47.0**	**-1.4**
CSS	**Mathiatis**	**4.02**	**127**	S	**Sn**	**08 22 35.7**	**0.0**
IDI	**Anoyia**	**4.24**	**241**	LR	LR	08 23 14.2	
	comp=Z,211nm,19.8s,baz=70,slow=35						
MMA0B	**Mount Meron ar**	**6.60**	**130**	P	**Pn**	**08 22 23.4**	**-0.5**
MMA0B	**Mount Meron ar**	**6.60**	**130**	S	**Sn**	**08 23 38.4**	**-0.8**
MMAI	**Mount Meron Ar**	**6.60**	**130**	Pn	**Pn**	**08 22 24.6**	**+0.8**
	13nm,0.3s,baz=319,slow=12,SNR=30						
MMAI				Sn	**Sn**	**08 23 38.7**	**-0.6**
	8.4nm,0.3s,baz=311,slow=26,SNR=3.3						
MMAI				LR	LR	08 25 33.9	
	comp=Z,147nm,18.7s,baz=284,slow=44 11nm,0.4s						
GEM	**Giv'at Ha'Em**	**6.63**	**128**	P	**Pn**	**08 22 23.1**	**-1.1**
GEM	**Giv'at Ha'Em**	**6.63**	**128**	S	**Sn**	**08 23 39.0**	**-0.9**
NATI	**Neve Ativ**	**6.64**	**127**	P	**Pn**	**08 22 23.1**	**-1.3**
NATI	**Neve Ativ**	**6.64**	**127**	S	**Sn**	**08 23 39.5**	**-0.6**
KSHT	**Keshet**	**6.88**	**128**	P	**Pn**	**08 22 26.4**	**-1.2**
KSHT	**Keshet**	**6.88**	**128**	S	**Sn**	**08 23 46.0**	**0.0**
MMLI	**Mount Malkishu**	**7.02**	**134**	P	**Pn**	**08 22 28.7**	**-0.9**
MMLI	**Mount Malkishu**	**7.02**	**134**	S	**Sn**	**08 23 48.8**	**-0.8**
SALP	**Salfit**	**7.17**	**137**	P	**Pn**	**08 22 31.1**	**-0.5**
SALP	**Salfit**	**7.17**	**137**	S	**Sn**	**08 23 53.2**	**+0.1**
HMDT	**Nahal Hemdat**	**7.22**	**134**	P	**Pn**	**08 22 31.8**	**-0.5**
HMDT	**Nahal Hemdat**	**7.22**	**134**	S	**Sn**	**08 23 53.8**	**-0.5**
AMAZ	**Amatzia**	**7.45**	**141**	P	**Pn**	**08 22 33.7**	**-1.7**
AMAZ	**Amatzia**	**7.45**	**141**	S	**Sn**	**08 23 59.7**	**-0.3**
DSI	**Dead Sea**	**7.66**	**138**	P	**Pn**	**08 22 37.6**	**-0.7**
DSI	**Dead Sea**	**7.66**	**138**	S	**Sn**	**08 24 04.7**	**-0.4**
YTIR	**Yattir**	**7.68**	**140**	P	**Pn**	**08 22 38.0**	**-0.7**
YTIR	**Yattir**	**7.68**	**140**	S	**Sn**	**08 24 05.7**	**-0.2**
KZIT	**Kziot**	**7.72**	**146**	P	**Pn**	**08 22 37.9**	**-1.2**
KZIT	**Kziot**	**7.72**	**146**	S	**Sn**	**08 24 06.1**	**-0.6**
MSBI	**Mazada**	**7.85**	**139**	P	**Pn**	**08 22 40.2**	**-0.6**
MSBI	**Mazada**	**7.85**	**139**	S	**Sn**	**08 24 08.6**	**-1.1**
GHAJ	**Ghor Haditha**	**7.96**	**138**	P	**Pn**	**08 22 42.0**	**-0.5**
GHAJ	**Ghor Haditha**	**7.96**	**138**	S	**Sn**	**08 24 12.3**	**-0.3**
ASF	**Jabal al Asfar**	**8.10**	**128**	Pn	**Pn**	**08 22 46.1**	**+1.7**
	1.2nm,0.3s,baz=359,slow=22,SNR=7.7 2.4nm,0.3s						
MLR	**Muntele Rosu**	**8.45**	**343**	Pn	**Pn**	**08 22 52.2**	**+3.0**
	0.7nm,0.3s,baz=202,slow=11,SNR=4.8 1.7nm,0.3s						
MLR	**Muntele Rosu**	**8.45**	**343**	⇑P	**Pn**	**08 22 50.6**	**+1.4**
PRNI	**Paran**	**8.46**	**145**	P	**Pn**	**08 22 48.7**	**-0.7**
PRNI	**Paran**	**8.46**	**145**	S	**Sn**	**08 24 24.3**	**-0.7**
BOVS	**Bovan**	**8.52**	**319**	⇑P	**Pn**	**08 22 49.7**	**-0.4**
KRMI	**Paran Flat**	**8.54**	**147**	P	**Pn**	**08 22 49.8**	**-0.7**
KRMI	**Paran Flat**	**8.54**	**147**	S	**Sn**	**08 24 27.1**	**+0.2**
VOIR		**8.63**	**339**	⇑P	**Pn**	**08 22 53.6**	**+1.9**
PLOR	**Plostina**	**8.65**	**347**	⇑P	**Pn**	**08 22 54.4**	**+2.5**
VRI	**Vrincioaia**	**8.65**	**347**	⇑P	**Pn**	**08 22 54.6**	**+2.8**
ARR	**Arges**	**8.69**	**337**	⇑P	**Pn**	**08 22 52.3**	**-0.1**
HRFI	**Mount Harif**	**8.75**	**146**	P	**Pn**	**08 22 52.2**	**-1.1**
HRFI	**Mount Harif**	**8.75**	**146**	S	**Sn**	**08 24 31.9**	**-0.1**
MBRI	**Mt Berech**	**8.90**	**147**	P	**Pn**	**08 22 54.2**	**-1.3**
MBRI	**Mt Berech**	**8.90**	**147**	S	**Sn**	**08 24 35.5**	**-0.4**
EIL	**Elat**	**9.03**	**148**	Pn	**Pn**	**08 22 57.1**	**+0.1**
	1.9nm,0.3s,baz=334,slow=2.0,SNR=12						
EIL				Sn	**Sn**	**08 24 32.9**	**-5.9**
	1.7nm,0.3s,baz=331,slow=18,SNR=5.0						
EIL				LR	LR	08 27 27.1	
	comp=Z,64nm,19.3s,baz=248,slow=45 8.1nm,0.5s						
EIL	**Elat**	**9.03**	**148**	P	**Pn**	**08 22 56.5**	**-0.6**
EIL	**Elat**	**9.03**	**148**	S	**Sn**	**08 24 37.9**	**-0.9**
DOPR	**Dopca**	**9.03**	**342**	⇑P	**Pn**	**08 22 59.3**	**+2.3**
LOT	**Lotru**	**9.04**	**334**	⇑P	**Pn**	**08 22 58.6**	**+1.2**
OZUR		**9.06**	**344**	⇑P	**Pn**	**08 22 59.9**	**+2.4**
HERR	**Herculane**	**9.11**	**327**	⇓P	**Pn**	**08 22 56.7**	**-1.4**
MDVR	**Moldovita**	**9.35**	**324**	⇑P	**Pn**	**08 22 58.2**	**-3.3**
GZR	**Gura Zlata**	**9.37**	**330**	⇑P	**Pn**	**08 23 01.9**	**+0.1**
BURAR	**Bucovina Array**	**10.62**	**344**	⇑P	**Pn**	**08 23 20.8**	**+1.8**
GNI	**Garni**	**12.26**	**73**	LR	LR	08 28 42.0	
	comp=Z,157nm,19.9s,baz=280,slow=39						
GERES	**GERESS Array B**	**16.13**	**320**	Pn	**P**	**08 24 37.3**	**+0.5**
	baz=142,slow=8.2,SNR=6.6 2.7nm,1.1s						
NACGM	**Naroch**	**17.55**	**355**	*eP*	**P**	**08 24 56.5**	**+4.0**
	comp=Z,14nm,1.0s,baz=173						
FINES	**FINESS Array B**	**24.11**	**356**	P	**P**	**08 26 01.0**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=161,slow=13,SNR=4.0 comp=Z,1.8nm,0.7s						
AKTO	**Aktyubinsk**	**24.18**	**48**	P	**P**	**08 26 04.3**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=268,slow=7.5,SNR=4.4 comp=Z,1.8nm,0.6s						
ESDC	**Sonseca Array**	**26.11**	**285**	P	**P**	**08 26 20.0**	**-0.8**
	comp=Z,2.1nm,1.1s,baz=92,slow=9.0,SNR=5.6 comp=Z,2.1nm,1.1s						
NOA	**NORSAR Array B**	**26.25**	**340**	LR	LR	08 38 11.5	
	comp=Z,72nm,18.8s,baz=10.0,slow=40						
KURBB	**Kurchatov Arra**	**37.01**	**53**	P	**P**	**08 27 56.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=275,slow=8.8,SNR=9.1 comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**39.66**	**59**	P	**P**	**08 28 17.9**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=277,slow=7.2,SNR=7.0 comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.94**	**48**	LR	LR	08 47 31.2	
	comp=Z,66nm,18.6s,baz=312,slow=39						
YKA	**Yellowknife Ar**	**76.28**	**344**	P	**P**	**08 32 35.7**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=31,slow=6.1,SNR=4.5 comp=Z,0.4nm,1.0s						

*ISK **22** 08:31:45.4, 37.°49N×29.°31E, h2km, ML1.6/12*
AFAD 22 08:31:44.3, 37.44N×29.39E, h7km±5km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**295**	Pg	Pg	08 31 46.1	-0.2
GOLH	**Golhisar**	**0.24**	**146**	P	Pg	08 31 48.6	-0.6
GOLH				S	Sg	08 31 53.3	+1.0
GOLH				*i* AML	AML	08 31 56.0	
	comp=E,199nm,0.2s						
GOLH				*i* AML	AML	08 31 56.0	
	comp=N,199nm,0.3s						
INCE	**Denizli-Bozkur**	**0.31**	**28**	P	Pg	08 31 49.1	-1.2
INCE				S	Sg	08 31 54.9	+0.5
INCE				*i* AML	AML	08 31 55.0	
	comp=N,153nm,0.2s						
CAEL	**Denizli, Camel**	**0.32**	**190**	P	Pg	08 31 50.1	-0.5
CAEL				S	Sb	08 31 57.3	-0.5
CAEL				*i* AML	AML	08 32 03.0	
	comp=E,112nm,0.4s						
CAEL				*i* AML	AML	08 32 04.0	
	comp=N,141nm,0.3s						
DNZT	**Denizli-Tavas-**	**0.33**	**241**	P	Pg	08 31 50.3	-0.6
DNZT				S	Sg	08 31 56.1	+0.9
DNZT				*i* AML	AML	08 31 59.0	
	comp=E,72nm,0.2s						
DNZT				*i* AML	AML	08 32 00.0	
	comp=N,54nm,0.5s						
DNZT	**Denizli-Tavas-**	**0.33**	**241**	P	Pg	08 31 50.1	-0.8
DNZT				S	Sg	08 31 56.0	+0.7
DNZT				*i* AML	AML	08 31 59.0	
	comp=E,72nm,0.2s						
DNZT				*i* AML	AML	08 32 00.0	
	comp=N,53nm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.34**	**304**	P	Pg	08 31 49.6	-1.3
DNIZ				S	Sg	08 31 56.2	+0.8
DNIZ				*i* AML	AML	08 31 59.0	
	comp=E,215nm,0.2s						
DNIZ				*i* AML	AML	08 32 00.0	
	comp=N,142nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.38**	**274**	P	Pg	08 31 51.3	-0.4
TAVA				S	Sg	08 31 57.6	+0.8
TAVA				*i* AML	AML	08 32 00.0	
	comp=N,66nm,0.5s						
TAVA				*i* AML	AML	08 32 01.0	
	comp=E,47nm,0.1s						
BRDR	**BURDUR-Merkez**	**0.59**	**64**	P	Pg	08 31 53.0	-2.7
BRDR				S	Sb	08 32 07.0	+1.4
BASM	**Basmaki-Afyon**	**0.71**	**47**	Pg	Pn	08 32 00.2	-0.6
ELL	**Elmali**	**0.80**	**149**	Pg	Pn	08 32 03.3	+1.1
FETY	**Fethiye**	**0.84**	**197**	Pg	Pn	08 32 03.1	+0.5
DALY	**Dalyan (Mula)**	**0.86**	**224**	Pg	Pn	08 32 02.7	0.0
KORT	**Korkueli**	**0.88**	**119**	Pg	Pn	08 32 04.7	+1.5
YER	**Yerkesik**	**0.94**	**251**	Pg	Pn	08 32 03.7	-0.2
NAZL	**Nazilli-Aydin**	**1.02**	**301**	Pg	Pg	08 32 03.9	+0.1
TURN	**Turunc**	**1.13**	**235**	Pn	Pn	08 32 08.2	+1.7
AKAS	**Kas**	**1.22**	**172**	Pn	Pn	08 32 10.4	+2.6
KULA	**Kula-Manisa**	**1.22**	**332**	Pn	Pn	08 32 08.5	+0.6
AYDB	**Zeytinkoy-Aydi**	**1.29**	**294**	Pn	Pn	08 32 08.9	0.0
ODEM	**Odemis-Izmir**	**1.34**	**309**	Pn	Pg	08 32 10.4	+0.5

*NEIC **22** 08:32:01.2±1.3, 52.°0N±0.°2×170.°8E±0.°1, h10km±2km, mb4.1/50, Error ellipse: s-maj=37.5km s-min=12.5km az=169.0*
*MOS **22** 08:32:01.5±0.6, 52.°25N×170.°64E, h22km, mb4.0/1, Error ellipse: s-maj=14.8km s-min=6.8km az=28.1*
*IDC **22** 08:32:01.8±2.4, 52.°41N×170.°81E, h0km, mb3.5/8, mbtmp3.7/10, ML4.1/2, MS3.1/2, Error ellipse: s-maj=75.0km s-min=17.8km az=1.0*
*KRSC **22** 08:32:08.7±2.0, 52.°50N×169.50E, h17km±39km, Ml4.3*
ISC 22 08:32:01.4±0.8, 52.°27N±0.°09×170.°46E±0.°05, h10km, n126, σ2.°74/151, mb4.1/24, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.27**	**77**	Pn	**Pn**	**08 32 37.1**	**-1.9**
	251nm,0.3s,baz=308,slow=19,SNR=107						
SHEM				Sn	**Sn**	**08 33 01.4**	**-5.6**
	209nm,0.3s,baz=288,slow=20,SNR=26 462nm,0.3s						
SMY	**Shemya**	**2.27**	**77**	Pn	**Pn**	**08 32 36.8**	**-2.2**
SMY	**Shemya**	**2.27**	**77**	P	**Pn**	**08 32 36.8**	**-2.2**
BKI	**Bering**	**3.96**	**320**	P	**Pn**	**08 33 03.7**	**+1.6**
BKI				S	**Sn**	**08 33 45.5**	**-3.1**
BKI	**Bering**	**3.96**	**320**	*eP*	**Pn**	**08 33 03.7**	**+1.6**
BKI				*eS*	**Sn**	**08 33 45.5**	**-3.1**
MKZ	**Mys Kozlova**	**5.70**	**297**	P	**Pn**	**08 33 28.1**	**+2.2**
MKZ				S	**Sn**	**08 34 27.0**	**-4.3**
MKZ	**Mys Kozlova**	**5.70**	**297**	*eP*	**Pn**	**08 33 28.2**	**+2.2**
MKZ				*eS*	**Sn**	**08 34 27.0**	**-4.3**
KBTR	**Krutoberegovo**	**5.97**	**314**	P	**Pn**	**08 33 31.5**	**+1.9**
KBTR				S	**Sn**	**08 34 35.0**	**-2.9**
KBTR	**Krutoberegovo**	**5.97**	**314**	*eP*	**Pn**	**08 33 31.5**	**+1.9**
KBTR				*eS*	**Sn**	**08 34 35.0**	**-2.9**
KBG	**Krutoberegovo**	**6.04**	**314**	P	**Pn**	**08 33 34.6**	**+3.9**
KBG				S	**Sn**	**08 34 38.1**	**-1.7**
KBG	**Krutoberegovo**	**6.04**	**314**	*eP*	**Pn**	**08 33 34.6**	**+3.9**
KBG				*eS*	**Sn**	**08 34 38.2**	**-1.7**
SPN	**Mys Shipunski**	**6.40**	**282**	P	**Pn**	**08 33 37.9**	**+2.3**
SPN	**Mys Shipunski**	**6.40**	**282**	*eP*	**Pn**	**08 33 37.9**	**+2.3**
SPN				*eS*	**Sn**	**08 34 43.4**	**-5.3**
TUMD	**Tumrok D**	**6.65**	**300**	*eS*	**Sn**	**08 34 51.1**	**-3.7**
SMKR	**Semkarok**	**6.79**	**313**	P	**Pn**	**08 33 43.4**	**+2.4**
SMKR				S	**Sn**	**08 34 53.6**	**-4.8**
SMKR	**Semkarok**	**6.79**	**313**	*eP*	**Pn**	**08 33 43.5**	**+2.4**
SMKR				*eS*	**Sn**	**08 34 53.7**	**-4.8**
NLC	**Nalytchevo**	**6.81**	**282**	P	**Pn**	**08 33 44.0**	**+2.8**
NLC	**Nalytchevo**	**6.81**	**282**	*eP*	**Pn**	**08 33 44.1**	**+2.8**
NLC				*eS*	Sn	08 34 53.1	-5.7
KII	**Karymskiy**	**6.85**	**289**	P	**Pn**	**08 33 44.8**	**+2.9**
KII				S	**Sn**	**08 34 56.5**	**-3.4**
KII	**Karymskiy**	**6.85**	**289**	*eP*	**Pn**	**08 33 44.9**	**+2.9**
KII				*eS*	**Sn**	**08 34 56.5**	**-3.4**
KMNR	**Kamenistaya**	**6.96**	**304**	P	**Pn**	**08 33 45.7**	**+2.3**
KMNR	**Kamenistaya**	**6.96**	**304**	*eP*	**Pn**	**08 33 45.8**	**+2.3**
SDLR	**Sedlovina**	**7.09**	**283**	P	**Pn**	**08 33 48.6**	**+3.4**
SDLR				S	**Sn**	**08 35 02.1**	**-3.8**
SDLR	**Sedlovina**	**7.09**	**283**	*eP*	**Pn**	**08 33 48.7**	**+3.4**
SDLR				*eS*	**Sn**	**08 35 02.2**	**-3.8**
UGLR	**Uglovaya**	**7.13**	**282**	P	**Pn**	**08 33 49.4**	**+3.7**
UGLR				S	**Sn**	**08 35 03.5**	**-3.2**
UGLR	**Uglovaya**	**7.13**	**282**	*eP*	**Pn**	**08 33 49.4**	**+3.7**
UGLR				*eS*	**Sn**	**08 35 03.5**	**-3.2**
DALK	**Dalny**	**7.16**	**281**	P	**Pn**	**08 33 49.0**	**+3.0**
DALK	**Dalny**	**7.16**	**281**	*eP*	**Pn**	**08 33 49.0**	**+3.0**
DALK				*eS*	**Sn**	**08 35 02.0**	**-5.4**
KRER	**Koryakskii**	**7.18**	**283**	*eS*	**Sn**	**08 35 03.0**	**-5.1**
AVH	**Avacha**	**7.18**	**283**	P	**Pn**	**08 33 50.3**	**+3.9**
AVH				S	**Sn**	**08 35 03.3**	**-4.7**
AVH	**Avacha**	**7.18**	**283**	*eP*	**Pn**	**08 33 50.3**	**+3.9**
AVH				*eS*	**Sn**	**08 35 03.4**	**-4.7**
PET	**Petropavlovsk**	**7.22**	**281**	Pn	**Pn**	**08 33 49.8**	**+2.9**
PET	**Petropavlovsk**	**7.22**	**281**	*eP*	**Pn**	**08 33 50.4**	**+3.5**
PET				*eS*	**Sn**	**08 35 05.5**	**-3.4**
PET				smax	smax		
	comp=E,31nm,0.3s						
PET				smax	smax		
	comp=N,27nm,0.6s						
PET	**Petropavlovsk**	**7.22**	**281**	*eP*	**Pn**	**08 33 50.0**	**+3.1**
PET				*eS*	**Sn**	**08 35 05.5**	**-3.4**
KRX	**Arik**	**7.24**	**283**	P	**Pn**	**08 33 50.7**	**+3.4**
KRX				S	**Sn**	**08 35 05.8**	**-3.7**
KRX	**Arik**	**7.24**	**283**	*eP*	**Pn**	**08 33 50.7**	**+3.4**
KRX				*eS*	**Sn**	**08 35 05.8**	**-3.7**
KOK	**Koryaka**	**7.24**	**283**	P	**Pn**	**08 33 50.6**	**+3.3**
KOK	**Koryaka**	**7.24**	**283**	*eP*	**Pn**	**08 33 50.6**	**+3.3**
RUS	**Russkaya**	**7.32**	**276**	P	**Pn**	**08 33 51.3**	**+3.1**
RUS				S	**Sn**	**08 35 07.0**	**-4.2**
RUS	**Russkaya**	**7.32**	**276**	*eP*	**Pn**	**08 33 51.3**	**+3.1**
RUS				*eS*	**Sn**	**08 35 07.1**	**-4.2**
KRMR	**Karymshinskiy**	**7.54**	**279**	P	**Pn**	**08 33 54.2**	**+3.0**
KRMR				S	**Sn**	**08 35 12.3**	**-4.3**
KRMR	**Karymshinskiy**	**7.54**	**279**	*eP*	**Pn**	**08 33 54.2**	**+3.0**
KRMR				*eS*	**Sn**	**08 35 12.4**	**-4.3**
GRL	**Gorelyy**	**7.58**	**277**	P	**Pn**	**08 33 56.0**	**+4.1**
GRL				S	**Sn**	**08 35 13.9**	**-4.0**
GRL	**Gorelyy**	**7.58**	**277**	*eP*	**Pn**	**08 33 56.1**	**+4.1**
GRL				*eS*	**Sn**	**08 35 14.0**	**-4.0**
KDTR	**Khodutka, Kamc**	**7.65**	**271**	P	**Pn**	**08 33 54.3**	**+1.6**
KDTR	**Khodutka, Kamc**	**7.65**	**271**	*eP*	**Pn**	**08 33 54.4**	**+1.6**
GNL	**Ganaly**	**7.69**	**286**	P	**Pn**	**08 33 57.9**	**+4.5**
GNL	**Ganaly**	**7.69**	**286**	*eP*	**Pn**	**08 33 57.9**	**+4.5**
PEA0B	**Petropavlovsk-**	**7.80**	**281**	Pn	**Pn**	**08 33 58.8**	**+3.9**
PEA0B	**Petropavlovsk-**	**7.80**	**281**	P	**Pn**	**08 33 57.1**	**+2.3**
PEA0B				S	**Sn**	**08 35 19.0**	**-4.1**
PETK	**Petropavlovsk-**	**7.80**	**281**	Pn	**Pn**	**08 33 57.1**	**+2.3**
PETK	**Petropavlovsk-**	**7.80**	**281**	Pn	**Pn**	**08 33 58.6**	**+3.7**
	comp=N,2.8nm,0.3s,baz=96,slow=19,SNR=46				

J26L			IAmb	IAmb	08 37 39.5	
	comp=Z,3.6nm,0.8s					
BMAR	**Burnt Mountain**	**26.41 38**	P	**P**	**08 37 38.5**	**+0.7**
BCAR	**Beaver Creek A**	**27.07 48**	P	**P**	**08 37 43.8**	**+0.1**
I28M	**Miner Creek**	**27.98 43**	P	**P**	**08 37 51.9**	**-0.1**
K29M	**Barlow Dome**	**28.98 46**	P	**P**	**08 38 01.3**	**+0.4**
K29M			IAmb	IAmb	08 38 16.6	
	comp=Z,5.8nm,1.1s					
G31M	**Satah River**	**30.34 40**	P	**P**	**08 38 13.0**	**+0.3**
G31M			IAmb	IAmb	08 38 19.7	
	comp=Z,5.4nm,1.1s					
H11N2	**WAKE ISLAND Hy 32.59 186**		T	T	09 14 14.6	
	baz=5.2,slow=76,SNR=7.9					
H11N3	**WAKE ISLAND Hy 32.61 186**		T	T	09 14 14.8	
	baz=5.2,slow=76,SNR=12					
H11N1	**WAKE ISLAND Hy 32.61 186**		T	T	09 14 22.1	
	baz=5.2,slow=76,SNR=9.2					
H11S1	**WAKE ISLAND Hy 33.82 186**		T	T	09 15 43.9	
	baz=5.6,slow=76,SNR=13					
H11S3	**WAKE ISLAND Hy 33.84 186**		T	T	09 15 45.3	
	baz=5.6,slow=76,SNR=11					
H11S2	**WAKE ISLAND Hy 33.84 186**		T	T	09 15 45.2	
	baz=5.6,slow=76,SNR=10					
YKA	**Yellowknife Ar**	**39.39 45**	P	**P**	**08 39 31.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=289,slow=8.4,SNR=8.7					
	comp=Z,0.5nm,0.7s					
PDAR	**Pinedale Array**	**52.23 67**	P	**P**	**08 41 11.8**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=316,slow=7.5,SNR=1.6					
	comp=Z,0.1nm,0.6s					
KURK	**Kurchatov**	**53.38 308**	P	**P**	**08 41 22.5**	**+1.8**
KURBB	**Kurchatov Arra**	**53.49 308**	P	**P**	**08 41 22.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=52,slow=7.1,SNR=2.7					
	comp=Z,0.3nm,0.5s					
MKAR	**Makanchi Array**	**54.07 302**	P	**P**	**08 41 28.5**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=46,slow=8.3,SNR=2.3					
	comp=Z,0.1nm,0.3s					
BVAR	**Borovoye Array**	**55.68 314**	P	**P**	**08 41 41.4**	**+4.1**
	comp=Z,0.5nm,0.7s,baz=66,slow=7.0,SNR=1.8					
	comp=Z,0.5nm,0.7s					
TXAR	**Lajitas Array**	**64.97 74**	P	**P**	**08 42 42.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=330,slow=5.1,SNR=7.6					
	comp=Z,0.4nm,0.7s					
KAPI	**Kappang**	**71.38 234**	LR	LR	09 10 34.8	
	comp=Z,10nm,20.4s,baz=16,slow=32					

AFAD 22 08:33:54.7,37°.44N×29°.42E, h7km±7km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.23**	**150**	P	Pg	08 33 59.8	+0.6
GOLH				S	Sg	08 34 03.8	+1.4
GOLH				*i* AML	AML	08 34 04.0	
	comp=E,163nm,0.2s						
GOLH				*i* AML	AML	08 34 04.0	
	comp=N,110nm,0.2s						
INCE	**Denizli-Bozkur**	**0.30**	**24**	P	Pg	08 33 58.8	-1.8
INCE				S	Sb	08 34 06.6	-1.2
DNIZ	**Denizli-Tavas-**	**0.36**	**302**	P	Pg	08 34 01.9	+0.2
DNIZ				*i* AML	AML	08 34 08.0	
	comp=N,58nm,0.3s						
DNIZ				S	Sb	08 34 08.4	-1.0
DNIZ				*i* AML	AML	08 34 09.0	
	comp=E,82nm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.40**	**275**	P	Pg	08 34 02.9	+0.3
TAVA				S	Sg	08 34 09.1	+1.1
TAVA				*i* AML	AML	08 34 10.0	
	comp=N,19nm,0.1s						
TAVA				*i* AML	AML	08 34 10.0	
	comp=E,13nm,0.1s						

*IDC **22** 08:44:46.0±0.7, 63°.76N×126°.72W, h0km, mb3.3/7, mbtmp3.4/11, ML3.7/4, MS3.0/2, Error ellipse: s-maj=11.6km s-min=7.7km az=21.0*
*PGC **22** 08:44:46.7±0.1, 63°.80N×126°.90W, h1km, ML3.9/30, 138km southwest of Tulita, Nt Nw Territories - Nunavut, Canada*
*ANF **22** 08:44:48.0±0.2, 63°.81N×126°.94W, h15km, ML4.1/24, Error ellipse: s-maj=2.9km s-min=1.5km az=73.0*
ISC 22 08:44:45.2±0.5, 63°.84N±0°.03×126°.88W±0°.03, h10km, n196, σ2°25/253, mb3.4/7, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRGLY	**Wrigley**	**1.65**	**110**	P	**Pn**	**08 45 15.9**	**+1.8**
	baz=292,SNR=172						
WRGLY				S	**Sg**	**08 45 39.3**	**+1.2**
	baz=292						
TGTN	**Hyland Airport**	**2.41**	**196**	Pn	**Pn**	**08 45 26.5**	**+1.8**
TGTN				Sn	**Sn**	**08 45 55.5**	**+1.3**
TGTN				Sg	**Sb**	**08 46 00.5**	**+2.2**
TGTN	**Hyland Airport**	**2.41**	**196**	P	**Pn**	**08 45 26.4**	**+1.8**
	baz=14,SNR=220						
TGTN				Sb	**Sb**	**08 46 01.0**	**+2.7**
	baz=14						
FARO	**Faro, Yukon**	**3.36**	**244**	Pn	**Pn**	**08 45 38.6**	**+0.9**
FARO				Sn	**Sn**	**08 46 18.2**	**+0.6**
FARO				Sg	**Sb**	**08 46 29.7**	**+4.1**
FARO	**Faro, Yukon**	**3.36**	**244**	P	**Pn**	**08 45 39.3**	**+1.6**
	baz=59,SNR=16						
FARO				Sb	**Sb**	**08 46 29.8**	**+4.1**
	baz=59						
H31M	**Peel River**	**3.75**	**305**	Pn	**Pn**	**08 45 45.2**	**+2.2**
H31M				Sn	**Sn**	**08 46 28.0**	**+0.8**
H31M	**Peel River**	**3.75**	**305**	P	**Pn**	**08 45 45.2**	**+2.2**
	baz=119						
H31M				S	**Sn**	**08 46 28.3**	**+1.0**
	baz=119						
M31M	**Drury Creek, Y**	**3.80**	**248**	Pn	**Pn**	**08 45 45.3**	**+1.6**
M31M				Sn	**Sn**	**08 46 28.9**	**+0.5**
M31M				Sg	**Sb**	**08 46 42.5**	**+4.3**
M31M	**Drury Creek, Y**	**3.80**	**248**	P	**Pn**	**08 45 45.4**	**+1.6**
	baz=61,SNR=36						
M31M				Sb	**Sb**	**08 46 42.3**	**+4.1**
	baz=61						
WTLY	**Watson Lake, Y**	**3.85**	**194**	Pn	**Pn**	**08 45 45.7**	**+1.4**
WTLY	**Watson Lake, Y**	**3.85**	**194**	P	**Pn**	**08 45 45.7**	**+1.4**
	baz=12,SNR=19						
N32M	**Quiet Lake**	**3.94**	**230**	Pn	**Pn**	**08 45 47.1**	**+1.4**
N32M				Sn	**Sn**	**08 46 32.4**	**+0.4**
N32M				Sg	**Sb**	**08 46 46.2**	**+3.7**
N32M	**Quiet Lake**	**3.94**	**230**	P	**Pn**	**08 45 46.9**	**+1.2**
	baz=44						
N32M				Sb	**Sb**	**08 46 46.2**	**+3.7**
	baz=44						
KOTAN	**Kotaneelee Air**	**3.95**	**159**	P	**Pn**	**08 45 46.8**	**+1.1**
	baz=341						
MAYO	**Mayo, Yukon**	**4.02**	**271**	Pn	**Pn**	**08 45 48.8**	**+2.1**
J30M	**Hart River**	**4.20**	**284**	Pn	**Pn**	**08 45 51.4**	**+2.1**
J30M	**Hart River**	**4.20**	**284**	P	**Pn**	**08 45 50.9**	**+1.6**
	baz=96						
I30M	**Mount Dempster**	**4.33**	**293**	Pn	**Pn**	**08 45 53.0**	**+1.9**
I30M	**Mount Dempster**	**4.33**	**293**	P	**Pn**	**08 45 53.0**	**+1.9**
	baz=105						
G31M	**Satah River**	**4.38**	**318**	Pn	**Pn**	**08 45 52.8**	**+1.3**
G31M				Sn	**Sn**	**08 46 43.9**	**+1.4**
G31M	**Satah River**	**4.38**	**318**	P	**Pn**	**08 45 52.9**	**+1.3**
	baz=132,SNR=150						
G31M				S	**Sn**	**08 46 44.4**	**+1.9**
	baz=132						
P33M	**Teslin, Yukon**	**4.59**	**220**	Pn	**Pn**	**08 45 55.9**	**+1.3**
P33M				Sn	**Sn**	**08 46 48.9**	**+0.9**
P33M				Sg	**Sb**	**08 47 07.4**	**+6.4**
P33M	**Teslin, Yukon**	**4.59**	**220**	P	**Pn**	**08 45 55.9**	**+1.3**
	baz=35,SNR=64						
P33M				S	**Sn**	**08 46 49.1**	**+1.1**
	baz=35						
F31M	**Tsiigehtchic**	**4.60**	**325**	Pn	**Pn**	**08 45 56.4**	**+1.8**
F31M				Sn	**Sn**	**08 46 49.5**	**+1.5**
F31M				Sg	**Sg**	**08 47 09.3**	**-3.3**
F31M	**Tsiigehtchic**	**4.60**	**325**	P	**Pn**	**08 45 56.5**	**+1.9**
	baz=139,SNR=138						
F31M				S	**Sn**	**08 46 49.2**	**+1.2**
	baz=139						
M30M	**Minto, Yukon**	**4.66**	**259**	Pn	**Pn**	**08 45 56.4**	**+0.8**
M30M	**Minto, Yukon**	**4.66**	**259**	P	**Pn**	**08 45 56.7**	**+1.1**
	baz=70						
K29M	**Barlow Dome**	**4.71**	**275**	Pn	**Pn**	**08 45 57.4**	**+1.1**
K29M	**Barlow Dome**	**4.71**	**275**	P	**Pn**	**08 45 58.0**	**+1.7**
	baz=86						
K29M				Pg	**Pg**	**08 46 15.5**	**+0.2**
	baz=86						
N31M	**Braeburn, Yuko**	**4.73**	**244**	Pn	**Pn**	**08 45 58.5**	**+1.9**
N31M				Sn	**Sn**	**08 46 50.7**	**-0.8**
N31M				Sg	**Sg**	**08 47 12.8**	**-4.2**
N31M	**Braeburn, Yuko**	**4.73**	**244**	P	**Pn**	**08 45 58.1**	**+1.5**
	baz=56						
R33M	**Jennings River**	**4.87**	**205**	Pn	**Pn**	**08 46 00.3**	**+1.9**
R33M				Sg	**Sb**	**08 47 16.5**	**+7.4**
R33M	**Jennings River**	**4.87**	**205**	P	**Pn**	**08 46 00.4**	**+1.9**
	baz=22						
EPYK	**Eagle Plains**	**4.87**	**306**	Pn	**Pn**	**08 46 00.9**	**+2.4**
EPYK				Sn	**Sn**	**08 46 55.2**	**+0.3**
EPYK	**Eagle Plains**	**4.87**	**306**	P	**Pn**	**08 46 00.8**	**+2.4**
	baz=117,SNR=18						
WHY	**Whitehorse**	**4.92**	**233**	Pn	**Pn**	**08 46 00.4**	**+1.3**
WHY				Sn	**Sn**	**08 46 55.7**	**-0.3**
WHY				Sg	**Sg**	**08 47 18.3**	**-4.5**
WHY	**Whitehorse**	**4.92**	**233**	P	**Pn**	**08 46 00.4**	**+1.3**
	baz=46,SNR=64						
J29N	**Klondike Camp**	**5.00**	**282**	P	**Pn**	**08 46 01.7**	**+1.4**
	baz=92						
G30M	**tAoh Zraii Nji**	**5.02**	**313**	Pn	**Pn**	**08 46 01.4**	**+1.0**
G30M	**tAoh Zraii Nji**	**5.02**	**313**	P	**Pn**	**08 46 01.7**	**+1.3**
	baz=125						
TOAD	**Toad River Com**	**5.07**	**170**	Pn	**Pn**	**08 46 02.5**	**+1.3**
TOAD	**Toad River Com**	**5.07**	**170**	P	**Pn**	**08 46 02.0**	**+0.9**
	baz=351						
L29M	**L29M**	**5.10**	**267**	Pn	**Pn**	**08 46 03.3**	**+1.7**
L29M	**L29M**	**5.10**	**267**	P	**Pn**	**08 46 03.5**	**+1.9**
	baz=77						
I29M	**Ogilvie Camp,**	**5.15**	**292**	Sn	**Sn**	**08 47 02.0**	**+0.3**
I29M	**Ogilvie Camp,**	**5.15**	**292**	P	**Pn**	**08 46 04.3**	**+2.1**
	baz=102						
INK	**Inuvik**	**5.24**	**332**	Pn	**Pn**	**08 46 06.0**	**+2.6**
	2.3nm,0.3s,baz=150,slow=16,SNR=118						
INK				Pg	**Pg**	**08 46 23.1**	**-2.3**
	3.0nm,0.3s,baz=146,slow=14,SNR=13						
INK				Sn	**Sn**	**08 47 02.1**	**-1.6**
	2.0nm,0.3s,baz=166,slow=17,SNR=1.4						
INK				Lg	Lg	08 47 30.4	
	5.2nm,0.3s,baz=58,slow=32,SNR=7.9						
	10nm,0.5s						
INK	**Inuvik**	**5.24**	**332**	Pn	**Pn**	**08 46 05.6**	**+2.2**
INK				Sg	**Sg**	**08 47 30.3**	**-2.7**
INK	**Inuvik**	**5.24**	**332**	P	**Pn**	**08 46 05.5**	**+2.2**
	baz=146,SNR=126						
F30M	**Barrier River**	**5.28**	**320**	Pn	**Pn**	**08 46 05.8**	**+1.8**
F30M				Sn	**Sn**	**08 47 04.5**	**-0.2**
F30M	**Barrier River**	**5.28**	**320**	P	**Pn**	**08 46 06.0**	**+2.1**
	baz=132						
F30M				S	**Sn**	**08 47 04.7**	**0.0**
	baz=132						
N30M	**Aishikik Lake**	**5.28**	**248**	Pn	**Pn**	**08 46 05.7**	**+1.6**
N30M				Sn	**Sn**	**08 47 04.0**	**-0.9**
N30M				Sg	**Sg**	**08 47 30.2**	**-4.2**
N30M	**Aishikik Lake**	**5.28**	**248**	P	**Pn**	**08 46 05.6**	**+1.6**
	baz=59						
O30N	**Mendenhall**	**5.29**	**239**	Pn	**Pn**	**08 46 05.7**	**+1.5**
O30N				Sn	**Sn**	**08 47 04.8**	**-0.2**
O30N	**Mendenhall**	**5.29**	**239**	P	**Pn**	**08 46 05.8**	**+1.7**
	baz=50,SNR=112						
P32M	**Atlin**	**5.36**	**220**	Pn	**Pn**	**08 46 06.4**	**+1.3**
P32M	**Atlin**	**5.36**	**220**	P	**Pn**	**08 46 06.6**	**+1.5**
	baz=34,SNR=34						
H29M	**Whitestone**	**5.42**	**301**	Pn	**Pn**	**08 46 07.6**	**+1.7**
H29M	**Whitestone**	**5.42**	**301**	P	**Pn**	**08 46 07.7**	**+1.7**
	baz=111						
FNSB	**Fort Nelson**	**5.43**	**157**	Pn	**Pn**	**08 46 06.3**	**+0.3**
M29M	**Somme Creek**	**5.44**	**260**	Pn	**Pn**	**08 46 07.3**	**+1.1**
M29M	**Somme Creek**	**5.44**	**260**	P	**Pn**	**08 46 07.6**	**+1.3**
	baz=70						
DAWY	**Dawson**	**5.52**	**278**	Pn	**Pn**	**08 46 09.1**	**+1.7**
DAWY	**Dawson**	**5.52**	**278**	P	**Pn**	**08 46 09.3**	**+1.9**
	baz=87,SNR=9.8						
Q32M	**Nakina River**	**5.54**	**210**	Pn	**Pn**	**08 46 09.5**	**+1.9**
Q32M	**Nakina River**	**5.54**	**210**	P	**Pn**	**08 46 09.6**	**+1.9**
	baz=25						
G29M	**Pine Creek**	**5.59**	**308**	Pn	**Pn**	**08 46 10.4**	**+2.2**
G29M	**Pine Creek**	**5.59**	**308**	P	**Pn**	**08 46 10.0**	**+1.7**
	baz=119						
DLBC	**Dease Lake**	**5.63**	**197**	Pn	**Pn**	**08 46 10.0**	**+1.1**
	3.0nm,0.3s,baz=26,slow=8.9,SNR=76						
DLBC				Lg	Lg	08 47 41.8	
	3.9nm,0.3s,baz=15,slow=16,SNR=6.7						
	9.8nm,0.5s						
DLBC	**Dease Lake**	**5.63**	**197**	Pn	**Pn**	**08 46 10.3**	**+1.4**
DLBC				Sg	**Sg**	**08 47 41.0**	**-4.7**
DLBC	**Dease Lake**	**5.63**	**197**	P	**Pn**	**08 46 09.9**	**+1.1**
	baz=14,SNR=25						
C36M	**Paulatuk**	**5.65**	**10**	Pn	**Pn**	**08 46 10.6**	**+1.7**
C36M				Sn	**Sn**	**08 47 12.9**	**-0.8**
C36M	**Paulatuk**	**5.65**	**10**	P	**Pn**	**08 46 10.9**	**+1.9**
	baz=193,SNR=5.1						
YKAW3	**Yellowknife Wh**	**5.70**	**97**	Pn	**Pn**	**08 46 11.1**	**+1.4**
YKA	**Yellowknife Ar**	**5.72**	**98**	Pn	**Pn**	**08 46 11.1**	**+1.1**
	1.3nm,0.3s,baz=287,slow=14,SNR=87						
YKA				Sn	**Sn**	**08 47 14.7**	**-1.0**
	4.3nm,0.3s,baz=284,slow=22,SNR=6.3						
YKA				Lg	Lg	08 47 42.5	
	5.1nm,0.3s,baz=281,slow=27,SNR=3.7						
YKA				LR	LR	08 48 39.6	
	comp=Z,108nm,19.0s,baz=262,slow=41						
	2.9nm,0.5s						
YKAW1	**Yellowknife Wh**	**5.78**	**98**	Pn	**Pn**	**08 46 12.1**	**+1.3**
HYT	**Haines Junctio**	**5.80**	**243**	Pn	**Pn**	**08 46 13.1**	**+1.8**
HYT				Sn	**Sn**	**08 47 16.5**	**-1.3**
HYT				Sg	**Sg**	**08 47 45.3**	**-5.8**
HYT	**Haines Junctio**	**5.80**	**243**	P	**Pn**	**08 46 12.9**	**+1.6**
	baz=54,SNR=75						
I28M	**Miner Creek**	**5.84**	**292**	Pn	**Pn**	**08 46 13.6**	**+1.8**
I28M	**Miner Creek**	**5.84**	**292**	P	**Pn**	**08 46 13.5**	**+1.8**
	baz=100						
SKAG	**Skagway**	**5.96**	**226**	P	**Pn**	**08 46 14.5**	**+1.3**
	baz=39,SNR=16						
YUK4	**Talbot Arm**	**5.98**	**251**	Pn	**Pn**	**08 46 13.8**	**-0.1**
YUK4	**Talbot Arm**	**5.98**	**251**	P	**Pn**	**08 46 14.3**	**+0.5**
	baz=61,SNR=15						
P30M	**Million Dollar**	**6.04**	**236**	Pn	**Pn**	**08 46 16.2**	**+1.7**
P30M				Sn	**Sn**	**08 47 22.8**	**-0.8**
P30M	**Million Dollar**	**6.04**	**236**	P	**Pn**	**08 46 15.7**	**+1.2**
	baz=48						
YUK6	**Outpost Mounta**	**6.08**	**247**	Pn	**Pn**	**08 46 16.8**	**+1.6**
YUK6	**Outpost Mounta**	**6.08**	**247**	P	**Pn**	**08 46 16.4**	**+1.2**
	baz=57,SNR=10						
BRWY	**Burwash Landin**	**6.13**	**252**	Pn	**Pn**	**08 46 17.3**	**+1.6**
YUK7	**Dusty Glacier**	**6.23**	**243**	Pn	**Pn**	**08 46 18.7**	**+1.5**
YUK7				Sn	**Sn**	**08 47 26.3**	**-2.1**
KUKN	**Kugluktuk,NWT**	**6.27**	**45**	Pn	**Pn**	**08 46 20.1**	**+2.5**
S34M	**Telegraph Cree**	**6.30**	**201**	Pn	**Pn**	**08 46 19.6**	**+1.6**
S34M	**Telegraph Cree**	**6.30**	**201**	P	**Pn**	**08 46 19.5**	**+1.6**
	baz=17						
PLBC	**Pleasant Camp**	**6.30**	**230**	Pn	**Pn**	**08 46 19.9**	**+1.8**
PLBC				Sn	**Sn**	**08 47 26.5**	**-3.5**
PLBC	**Pleasant Camp**	**6.30**	**230**	P	**Pn**	**08 46 19.6**	**+1.6**
	baz=42,SNR=17						
E29M	**Blow River**	**6.39**	**320**	Pn	**Pn**	**08 46 20.4**	**+1.3**
E29M	**Blow River**	**6.39**	**320**	P	**Pn**	**08 46 20.6**	**+1.4**
	baz=131						
YUK8	**Steele Glacier**	**6.48**	**253**	Pn	**Pn**	**08 46 22.0**	**+1.2**
YUK8				Sn	**Sn**	**08 47 31.9**	**-3.0**
BVCY	**Beaver Creek**	**6.50**	**264**	Pn	**Pn**	**08 46 21.4**	**+0.7**
BVCY	**Beaver Creek**	**6.50**	**264**	P	**Pn**	**08 46 22.6**	**+1.8**
	baz=71						
BESE	**Bessie Mountai**	**6.53**	**220**	Pn	**Pn**	**08 46 22.6**	**+1.3**
O29M	**Mount Kennedy**	**6.54**	**242**	Pn	**Pn**	**08 46 23.1**	**+1.7**
O29M	**Mount Kennedy**	**6.54**	**242**	P	**Pn**	**08 46 22.7**	**+1.3**
	baz=52						
I27K	**Kandik River**	**6.55**	**292**	Pn	**Pn**	**08 46 22.8**	**+1.2**
I27K	**Kandik River**	**6.55**	**292**	P	**Pn**	**08 46 23.2**	**+1.6**
	baz=99						
YUK3	**Moose Creek**	**6.56**	**258**	Pn	**Pn**	**08 46 23.1**	**+1.4**
YUK3				Sn	**Sn**	**08 47 32.3**	**-4.3**
YUK3	**Moose Creek**	**6.56**	**258**	P	**Pn**	**08 46 23.2**	**+1.4**
	baz=66,SNR=19						
H27K	**Steamboat Moun**	**6.65**	**298**	Pn	**Pn**	**08 46 25.0**	**+2.2**
H27K	**Steamboat Moun**	**6.65**	**298**	P	**Pn**	**08 46 25.0**	**+2.2**
	baz=105						
K27K	**Chicken**	**6.70**	**278**	Pn	**Pn**	**08 46 24.9**	**+1.4**
K27K	**Chicken**	**6.70**	**278**	P	**Pn**	**08 46 25.8**	**+2.3**
	baz=85						
YUK2	**White River**	**6.72**	**258**	Pn	**Pn**	**08 46 25.5**	**+1.6**
L27K	**Beaver Creek,**	**6.75**	**270**	Pn	**Pn**	**08 46 25.7**	**+1.5**
L27K	**Beaver Creek,**	**6.75**	**270**	P	**Pn**	**08 46 25.9**	**+1.7**
	baz=77						
G27K	**Doyon Strip**	**6.86**	**302**	Pn	**Pn**	**08 46 27.5**	**+1.8**
G27K	**Doyon Strip**	**6.86**	**302**	P	**Pn**	**08 46 28.2**	**+2.4**
	baz=109						
M27K	**Edge Creek, AK**	**6.97**	**264**	Pn	**Pn**	**08 46 29.0**	**+1.7**
E28M	**Babbage River**	**7.00**	**319**	Pn	**Pn**	**08 46 29.4**	**+1.9**
E28M				Sn	**Sn**	**08 47 45.8**	**-1.2**
E28M	**Babbage River**	**7.00**	**319**	P	**Pn**	**08 46 29.5**	**+1.9**
	baz=127						
T35M	**Bob Quinn**	**7.08**	**195**	Pn	**Pn**	**08 46 30.3**	**+1.6**
T35M	**Bob Quinn**	**7.08**	**195**	P	**Pn**	**08 46 29.9**	**+1.2**
	baz=12						
I26K	**Coal Creek Min**	**7.16**	**289**	Pn	**Pn**	**08 46 30.7**	**+0.9**
I26K	**Coal Creek Min**	**7.16**	**289**	P	**Pn**	**08 46 31.7**	**+1.9**
	baz=95						
D28M	**Stokes Point**	**7.25**	**325**	Pn	**Pn**	**08 46 33.1**	**+2.2**
D28M				Sn	**Sn**	**08 47 51.1**	**-2.0**
D28M	**Stokes Point**	**7.25**	**325**	P	**Pn**	**08 46 33.2**	**+2.2**
	baz=134						
PNL	**Peninsula**	**7.26**	**241**	Pn	**Pn**	**08 46 32.0**	**+0.8**
E27K	**Coleen River**	**7.41**	**313**	Pn	**Pn**	**08 46 34.7**	**+1.5**
E27K	**Coleen River**	**7.41**	**313**	P	**Pn**	**08 46 35.2**	**+2.0**
	baz=119						
M26K	**Nabesna, AK**	**7.45**	**266**	Pn	**Pn**	**08 46 35.2**	**+1.4**
S31K	**Pelican**	**7.45**	**222**	Pn	**Pn**	**08 46 35.2**	**+1.6**
DOT	**Dot Lake**	**7.62**	**276**	Pn	**Pn**	**08 46 38.0**	**+1.8**
G26K	**Porcupine Rive**	**7.71**	**301**	Pn	**Pn**	**08 46 38.5**	**+1.2**
G26K	**Porcupine Rive**	**7.71**	**301**	P	**Pn**	**08 46 39.6**	**+2.4**
	baz=106						
D27M	**Malcolm River**	**7.79**	**320**	Pn	**Pn**	**08 46 40.0**	**+1.5**
D27M	**Malcolm River**	**7.79**	**320**	P	**Pn**	**08 46 40.5**	**+2.0**
	baz=128						
F26K	**Sheenjek River**	**8.07**	**306**	Pn	**Pn**	**08 46 44.2**	**+1.9**
F26K	**Sheenjek River**	**8.07**	**306**	P	**Pn**	**08 46 44.4**	**+2.0**
	baz=111						
U35K	**Hyder**	**8.10**	**193**	P	**Pn**	**08 46 45.0**	**+2.3**
	baz=9.8						
PRP	**Porcupine Dome**	**8.16**	**290**	P	**Pn**	**08 46 45.5**	**+1.8**
	baz=94						
A36M	**Sachs Harbour**	**8.21 4**		Pn	**Pn**	**08 46 46.4**	**+2.3**
A36M				Sn	**Sn**	**08 48 14.4**	**-2.3**
A36M	**Sachs Harbour**	**8.21 4**		P	**Pn**	**08 46 46.4**	**+2.3**
	baz=185,SNR=16						
H25L	**Birch Creek**	**8.36**	**295**	P	**Pn**	**08 46 48.6**	**+2.4**
	baz=98						
F25K	**Christian Rive**	**8.58**	**304**	Pn	**Pn**	**08 46 50.6**	**+1.2**
F25K	**Christian Rive**	**8.58**	**304**	P	**Pn**	**08 46 51.6**	**+2.3**
	baz=107						
E25K	**Arctic Village**	**8.73**	**308**	Pn	**Pn**	**08 46 52.9**	**+1.6**
E25K	**Arctic Village**	**8.73**	**308**	P	**Pn**	**08 46 53.4**	**+2.1**
	baz=111						
ILAR	**Eielson Array**	**8.74**	**285**	Pn	**Pn**	**08 46 54.9**	**+3.5**
	0.1nm,0.3s,baz=82,slow=12,SNR=10						
ILAR				Sn	**Sn**	**08 48 31.8**	**+2.0**
	baz=97,slow=27						
ILAR				Lg	Lg	08 49 24.6	
	0.2nm,0.3s,baz=82,slow=31,SNR=5.1						
ILAR				LR	LR	08 50 33.9	
	comp=Z,118nm,21.6s,baz=131,slow=39						
	0.7nm,0.6s						
C27K	**Jago River**	**8.81**	**319**	Pn	**Pn**	**08 46 54.0**	**+1.7**
C27K	**Jago River**	**8.81**	**319**	P	**Pn**	**08 46 54.2**	**+1.9**
	baz=123						
H24K	**Noodor Dome**	**9.15**	**292**	P	**Pn**	**08 46 59.2**	**+2.1**
	baz=93						
C26K	**Camden Bay**	**9.32**	**319**	Pn	**Pn**	**08 47 01.3**	**+2.0**
C26K				Sn	**Sn**	**08 48 39.9**	**-4.1**
C26K	**Camden Bay**	**9.32**	**319**	P	**Pn**	**08 47 01.9**	**+2.6**
	baz=122						
F24K	**Squaw Lake**	**9.40**	**302**	P	**Pn**	**08 47 02.6**	**+2.1**
	baz=103						
D25K	**Kavik River**	**9.48**	**314**	Pn	**Pn**	**08 47 03.1**	**+1.5**
D25K				Sn	**Sn**	**08 48 44.1**	**-3.9**
D25K	**Kavik River**	**9.48**	**314**	P	**Pn**	**08 47 04.0**	**+2.4**
	baz=116						
E24K	**Your Creek**	**9.76**	**305**	P	**Pn**	**08 47 07.2**	**+1.8**
	baz=106						
STPRA	**Salt Prairie L**	**9.90**	**141**	Pn	**Pn**	**08 47 06.8**	**-0.5**
STPRA				Sn	**Sn**	**08 48 51.8**	**-6.6**
BDMTA	**Bald Mountain**	**9.91**	**152**	Pn	**Pn**	**08 47 06.6**	**-1.0**
E23K	**Chandalar**	**10.16**	**305**	P	**Pn**	**08 47 13.0**	**+2.0**
	baz=104						
D24K	**Happy Valley**	**10.21**	**311**	P	**Pn**	**08 47 13.4**	**+1.9**
	baz=111						
COLD	**Coldfoot**	**10.22**	**300**	Pn	**Pn**	**08 47 13.3**	**+1.6**
COLD	**Coldfoot**	**10.22**	**300**	P	**Pn**	**08 47 14.1**	**+2.4**
	baz=99						
TOLK	**Toolik Lake Re**	**10.30**	**308**	P	**Pn**	**08 47 14.9**	**+2.1**
	baz=107						
SWHSA	**Sweathouse Loo**	**10.33**	**146**	Pn	**Pn**	**08 47 12.9**	**-0.3**
SWHSA				Sn	**Sn**	**08 49 01.8**	**-7.2**
C24K	**Franklin Bluff**	**10.39**

*STR **22** 08:54:57.6±0.7, 43°N±3°×±°, h2km, MLv3.7/24, Error ellipse: s-maj=0.0km s-min=0.0km az=75.8, preliminary*
*INMG **22** 08:54:57.5±1.8, 43°.17N×1°.58W, h15km±3km, ML3.1, Error ellipse: s-maj=2.7km s-min=2.4km az=10.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Pirinus (ESP)*
*MDD **22** 08:54:57.3±0.1, 43°.06N×1°.56W, h0km, mb_Lg3.6/73, Error ellipse: s-maj=1.3km s-min=0.9km az=177.0*
ISC 22 08:54:54.5±0.5, **43°.15N**±0°.02×**1°.59W**±0°.01, **h18**km±2km, **n149**, σ**2**°**35**/291, **1C-2D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.10**	**40**	⇓Pg	**Pb**	**08 55 00.6**	**+2.3**
EALK				Sg	**Sg**	**08 55 02.8**	**+2.0**
EALK				*i* Vmb_Lg		08 55 03.6	
EALK	**Alkurruntz**	**0.10**	**40**	Pg	**Pb**	**08 55 00.5**	**+2.3**
EALK				Sg	**Sg**	**08 55 03.0**	**+2.2**
OSSF	**Osses**	**0.27**	**65**	Pg	**Pb**	**08 55 02.5**	**+1.8**
OSSF				Sg	**Sg**	**08 55 06.5**	**+1.9**
SJPF	**Ste Jean**	**0.27**	**97**	*e*Pg	**Pb**	**08 55 02.4**	**+1.5**
SJPF				*e*Sg	**Sb**	**08 55 05.8**	**+0.7**
	4μm,0.2s						
EORO	**Oroz-Betelu**	**0.33**	**141**	⇓Pg	**Pb**	**08 55 02.8**	**+0.9**
EORO				Sg	**Sb**	**08 55 06.9**	**0.0**
EORO				*i* Vmb_Lg		08 55 07.9	
EARA	**Aranguren**	**0.37**	**178**	⇑Pg	**Pb**	**08 55 04.1**	**+1.4**
EARA				Sg	**Sb**	**08 55 08.5**	**+0.3**
EARA				*i* Vmb_Lg		08 55 10.6	
EARA	**Aranguren**	**0.37**	**178**	Pg	**Pb**	**08 55 04.1**	**+1.4**
IRAF	**Chalets d'Irat**	**0.42**	**105**	Pg	**Pb**	**08 55 05.0**	**+1.4**
ORDF	**Ordiarp**	**0.49**	**82**	Pg	**Pb**	**08 55 06.3**	**+1.7**
ORDF				Sg	**Sb**	**08 55 13.4**	**+2.1**
TERF	**Tercis-les-Bai**	**0.64**	**33**	Pg	**Pb**	**08 55 10.3**	**+1.6**
ATE	**Arette**	**0.66**	**95**	Pg	**Pb**	**08 55 08.9**	**+1.5**
ATE				Sg	**Sb**	**08 55 18.0**	**+1.7**
URDF	**Urds**	**0.79**	**68**	Pg	**Pn**	**08 55 12.4**	**+1.7**
URDF				Sg	**Sn**	**08 55 23.8**	**+1.8**
ETSF	**Etsaut**	**0.80**	**108**	*e*Pg	**Pb**	**08 55 11.5**	**+1.6**
ETSF				*e*Sg	**Sg**	**08 55 21.0**	**+0.3**
	908nm,0.2s						
CANF	**Canfranc**	**0.88**	**115**	Pg	**Pb**	**08 55 12.6**	**+1.3**
REYF	**Montagne du Re**	**0.88**	**95**	Pg	**Pb**	**08 55 12.8**	**+1.4**
REYF				Sg	**Sb**	**08 55 24.6**	**+1.8**
PYLO	**Lourdes**	**1.13**	**92**	Pg	**Pb**	**08 55 16.8**	**+1.2**
PYLO				Sg	**Sn**	**08 55 33.5**	**+2.9**
VIEF	**Viey**	**1.21**	**102**	Pg	**Pg**	**08 55 18.7**	**+0.7**
VIEF				Sg	**Sn**	**08 55 35.3**	**+2.5**
LABF	**Labassere**	**1.23**	**94**	Pg	**Pg**	**08 55 19.0**	**+0.8**
LABF				Sg	**Sn**	**08 55 36.5**	**+3.5**
ELAN	**Lanestosa**	**1.35**	**274**	Pg	**Pg**	**08 55 21.7**	**+1.1**
ELAN				Sg	**Sg**	**08 55 40.0**	**+1.9**
ELAN				*i* Vmb_Lg		08 55 45.9	
ECHI	**Chisagues Biel**	**1.40**	**110**	Pn	**Pg**	**08 55 21.8**	**+0.2**
ECHI				Pg	**Pb**	**08 55 22.7**	**+2.5**
ECHI				Sg	**Sg**	**08 55 40.8**	**+1.0**
ECHI				*i* Vmb_Lg		08 55 44.1	
ECHI	**Chisagues Biel**	**1.40**	**110**	Pg	**Pg**	**08 55 21.7**	**+0.2**
ECHI				Sg	**Sg**	**08 55 41.7**	**+1.9**
EPF	**Esparros**	**1.42**	**94**	*e*Pg	**Pg**	**08 55 23.8**	**+1.9**
EPF				*e*Sg	**Sg**	**08 55 40.6**	**+0.1**
	99nm,0.2s						
ESAC	**San Caprasio**	**1.65**	**149**	Pn	**Pb**	**08 55 25.0**	**+0.6**
ESAC				Pg	**Pg**	**08 55 26.8**	**+0.6**
ESAC				Sg	**Sg**	**08 55 47.4**	**-0.3**
MELF	**Melles**	**1.75**	**98**	Pn	**Pg**	**08 55 29.0**	**+0.8**
MELF				Sn	**Sg**	**08 55 52.1**	**+1.3**
CRAS	**Crastes**	**1.79**	**70**	Pn	**Pb**	**08 55 29.1**	**+2.4**
CRAS				Sg	**Sg**	**08 55 54.3**	**+2.2**
MLS	**Moulis**	**1.98**	**95**	Pn	**Pn**	**08 55 28.9**	**+1.8**
MLS				Pg	**Pb**	**08 55 32.2**	**+2.2**
MLS				Sg	**Sg**	**08 55 59.8**	**+1.6**
SALF	**Salau**	**2.08**	**100**	Pn	**Pb**	**08 55 33.8**	**+2.0**
SALF				Pg	**Pg**	**08 55 35.6**	**+1.1**
SALF				Sg	**Sg**	**08 56 03.2**	**+1.7**
ATANC	**Embalse El Ata**	**2.25**	**204**	Pn	**Pb**	**08 55 33.6**	**-1.0**
ATANC				Sn	**Sn**	**08 56 00.1**	**+1.8**
ETOR	**Torete**	**2.35**	**189**	Pn	**Pb**	**08 55 35.6**	**-0.8**
ETOR				Pg	**Pg**	**08 55 39.1**	**-0.5**
ETOR				Sn	**Sn**	**08 56 03.1**	**+2.3**
ETOR				Sg	**Sg**	**08 56 08.2**	**-1.9**
ETOR				*i* Vmb_Lg		08 56 17.9	
MONQ	**Montcuq**	**2.36**	**58**	Pn	**Pn**	**08 55 34.3**	**+1.9**
MONQ				Pg	**Pb**	**08 55 37.4**	**+0.9**
LFF	**La Frestale**	**2.46**	**42**	*e*P	**Pb**	**08 55 38.6**	**+0.4**
LFF	**La Frestale**	**2.46**	**42**	*e*Pg	**Pg**	**08 55 43.6**	**+1.9**
LFF				*e*Sg	**Sg**	**08 56 14.4**	**+0.8**
	79nm,0.2s						
DUNF	**Dun**	**2.50**	**92**	Pn	**Pn**	**08 55 37.1**	**+2.9**
EMIR	**Miracle**	**2.61**	**117**	Pn	**Pn**	**08 55 38.8**	**+2.8**
EMIR				Pg	**Pg**	**08 55 43.3**	**-1.3**
EMIR				Sn	**Sn**	**08 56 10.5**	**+3.3**
EMIR				Sg	**Sg**	**08 56 16.9**	**-1.6**
EPOB	**Poblet**	**2.67**	**131**	Pn	**Pn**	**08 55 38.9**	**+2.2**
EPOB				Pg	**Pg**	**08 55 44.8**	**-1.0**
EPOB				Sn	**Sn**	**08 56 09.5**	**+0.8**
EPOB				Sg	**Sg**	**08 56 17.8**	**-2.6**
EPOB				*i* Vmb_Lg		08 56 28.2	
E0901	**Celadas (Terue**	**2.69**	**172**	Pn	**Pn**	**08 55 39.2**	**+2.2**
E0901				Pg	**Pg**	**08 55 45.8**	**-0.2**
E0901				Sn	**Sn**	**08 56 11.5**	**+2.4**
E0901				Sg	**Sg**	**08 56 20.8**	**0.0**
E0901				*i* Vmb_Lg		08 56 27.6	
FNEB	**Nbias**	**2.73**	**94**	Pn	**Pb**	**08 55 41.8**	**-0.9**
CARF	**Carcanieres**	**2.75**	**98**	Pn	**Pb**	**08 55 43.1**	**-0.1**
VALC	**Valcebollere**	**2.78**	**105**	Pn	**Pb**	**08 55 42.6**	**-1.2**
VALC				Pg	**Pg**	**08 55 49.9**	**+2.0**
VALC				Sn	**Sb**	**08 56 16.2**	**-1.5**
MTLF	**Montolieu**	**2.79**	**85**	*e*Pn	**Pn**	**08 55 40.7**	**+2.4**
MTLF	**Montolieu**	**2.79**	**85**	*e*P	**Pb**	**08 55 43.6**	**-0.3**
MTLF				*e*Sn	**Sn**	**08 56 12.3**	**+0.8**
MTLF				*e*Sg	**Sg**	**08 56 24.4**	**+0.2**
	70nm,0.3s						
EMOS	**Mosqueruela**	**2.90**	**163**	Pn	**Pn**	**08 55 42.6**	**+2.6**
EMOS				Pg	**Pg**	**08 55 49.5**	**-0.7**
EMOS				Sn	**Sn**	**08 56 15.1**	**+0.6**
EMOS				Sg	**Sg**	**08 56 26.0**	**-1.9**
EMOS				*i* Vmb_Lg		08 56 36.4	
UCM	**Universidad Co**	**3.09**	**204**	Pn	**Pn**	**08 55 44.7**	**+2.2**
UCM				Sn	**Sn**	**08 56 19.3**	**+0.2**
RJF	**Les Rejaudoux**	**3.11**	**45**	*e*Pn	**Pn**	**08 55 45.4**	**+2.8**
RJF	**Les Rejaudoux**	**3.11**	**45**	*e*P	**Pb**	**08 55 48.3**	**-0.9**
RJF				*e*Sn	**Sn**	**08 56 19.7**	**+0.4**
	60nm,0.3s						
FILF	**Fillols**	**3.11**	**99**	Pn	**Pn**	**08 55 46.1**	**+3.4**
GUD	**Guadarrama**	**3.15**	**218**	Pn	**Pn**	**08 55 46.1**	**+2.7**
GUD				Sn	**Sn**	**08 56 22.2**	**+1.7**
CAF	**Calviac**	**3.18**	**55**	*e*Pn	**Pn**	**08 55 45.5**	**+1.8**
CAF	**Calviac**	**3.18**	**55**	*e*P	**Pn**	**08 55 48.2**	**+4.5**
CAF				*e*Sn	**Sn**	**08 56 21.9**	**+0.7**
CAF				*e*Sg	**Sg**	**08 56 36.9**	**+0.2**
	25nm,0.2s						
SJAF	**Saint Jean de**	**3.36**	**100**	Pn	**Pn**	**08 55 50.4**	**+4.3**
EJON	**La Jonquera**	**3.37**	**100**	Pn	**Pn**	**08 55 50.3**	**+4.0**
EJON				Pg	**Pg**	**08 55 59.0**	**-0.1**
EJON				Sn	**Sn**	**08 56 29.9**	**+4.0**
EJON				Sg	**Sg**	**08 56 41.4**	**-1.3**
EJON				*i* Vmb_Lg		08 56 50.3	
CLAF	**Gruissan**	**3.43**	**89**	Pn	**Pn**	**08 55 51.3**	**+4.3**
ECHE	**Chera**	**3.58**	**172**	Pn	**Pn**	**08 55 52.0**	**+2.8**
ECHE	**Chera**	**3.58**	**172**	Pn	**Pn**	**08 55 52.4**	**+3.2**
ECHE				Pg	**Pg**	**08 56 02.0**	**-1.2**
ECHE				Sn	**Sn**	**08 56 31.3**	**+0.2**
ECHE				Sg	**Sg**	**08 56 48.8**	**-0.8**
ECHE				*i* Vmb_Lg		08 56 51.7	
MFF	**Saint Martin d**	**3.61**	**16**	*e*Pn	**Pn**	**08 55 51.6**	**+2.1**
MFF	**Saint Martin d**	**3.61**	**16**	*e*Pg	**Pg**	**08 56 04.2**	**+0.6**
MFF				*e*Sn	**Sn**	**08 56 32.6**	**+1.0**
MFF				*e*Sg	**Sg**	**08 56 49.4**	**-0.9**
	54nm,0.3s						
EJUZ	**Juzbado, Salam**	**3.80**	**239**	Pn	**Pn**	**08 55 55.0**	**+2.8**
EJUZ				Sn	**Sn**	**08 56 37.3**	**+0.7**
EJUZ				Sg	**Sg**	**08 56 53.3**	**-3.3**
EVIV	**Cofrentes, Val**	**3.89**	**175**	Pn	**Pn**	**08 55 55.7**	**+2.3**
EVIV				Pg	**Pb**	**08 56 05.3**	**+2.6**
EVIV				Sn	**Sn**	**08 56 40.5**	**+1.8**
EVIV				Sg	**Sg**	**08 56 58.4**	**-1.1**
EVIV				*i* Vmb_Lg		08 57 11.6	
ESDC	**Sonseca Array**	**3.90**	**208**	Pn	**Pn**	**08 55 55.5**	**+1.9**
ESDC				Sn	**Sn**	**08 56 37.1**	**-1.9**
ESDC				Sg	**Sg**	**08 56 54.3**	**-5.4**
ESDC				*i* Vmb_Lg		08 57 06.7	
PBRG	**Braganca**	**4.04**	**252**	*e*Pn	**Pn**	**08 55 58.5**	**+3.0**
PBRG				*e*Sn	**Sn**	**08 56 43.6**	**+1.3**
PBRG				*e*Sg	**Sg**	**08 57 01.8**	**-2.4**
PBRG				*i* AML	AML	08 57 09.8	
PBRG				*i* AML	AML	08 57 10.0	
PBRG				*i* AML	AML	08 57 12.8	
EPON	**Pontenova**	**4.06**	**274**	Pn	**Pn**	**08 55 59.6**	**+3.8**
EPON				Pg	**Pb**	**08 56 09.7**	**+4.1**
EPON				Sn	**Sn**	**08 56 45.2**	**+2.3**
EPON				*i* Vmb_Lg		08 57 03.0	
LASF	**Ste Croix**	**4.07**	**75**	*e*Pn	**Pn**	**08 55 58.3**	**+2.5**
LASF	**Ste Croix**	**4.07**	**75**	*e*P	Pn	08 56 01.2	+5.4
LASF				*e*Sn	**Sn**	**08 56 43.4**	**+0.4**
	28nm,0.3s						
TCF	**Toulx Ste Croi**	**4.15**	**39**	*e*Pn	**Pn**	**08 55 59.0**	**+2.0**
TCF	**Toulx Ste Croi**	**4.15**	**39**	*e*P	**Pn**	**08 56 01.0**	**+4.0**
TCF	**Toulx Ste Croi**	**4.15**	**39**	*e*Pg	**Pg**	**08 56 13.4**	**-0.6**
TCF				*e*Sn	**Sn**	**08 56 43.9**	**-1.1**
TCF				*e*Sg	**Sg**	**08 57 05.8**	**-1.9**
	32nm,0.3s						
PAB	**San Pablo**	**4.15**	**211**	Pn	**Pn**	**08 55 59.1**	**+2.0**
PAB				Pg	**Pb**	**08 56 09.5**	**+2.4**
PAB				Sn	**Sn**	**08 56 43.9**	**-1.3**
PAB				*i* Vmb_Lg		08 57 00.9	
MVO	**Moncorvo**	**4.50**	**246**	*e*Pn	**Pn**	**08 56 04.6**	**+2.7**
MVO				*e*Sn	**Sn**	**08 56 53.6**	**-0.2**
MVO				*e*Sg	**Sg**	**08 57 15.7**	**-3.3**
MVO				*i* AML	AML	08 57 21.9	
MVO				*i* AML	AML	08 57 23.5	
MVO				*i* AML	AML	08 57 23.5	
EPLA	**Plasencia**	**4.56**	**229**	Pn	**Pn**	**08 56 04.8**	**+2.2**
EPLA				Pg	**Pb**	**08 56 17.6**	**+3.6**
EPLA				Sn	**Sn**	**08 56 54.7**	**-0.5**
EPLA				Sg	**Sg**	**08 57 17.8**	**-3.1**
EPLA				*i* Vmb_Lg		08 57 22.5	
EBEN2	**Beniarda presa**	**4.59**	**166**	Pn	**Pn**	**08 56 06.0**	**+3.0**
EBEN2				Sn	**Sn**	**08 56 56.3**	**+0.4**
EBEN2				Sg	**Sb**	**08 57 14.5**	**+5.0**
EBEN2				*i* Vmb_Lg		08 59 34.2	
PSIM	**Granatula de C**	**4.62**	**201**	Pn	**Pn**	**08 56 06.4**	**+2.9**
PSIM				Sn	**Sn**	**08 56 56.1**	**-0.6**
PSIM				Sg	**Sb**	**08 57 15.9**	**+5.5**
BGF	**Bois d'Agland**	**4.65**	**41**	*e*Pn	**Pn**	**08 56 04.2**	**+0.4**
BGF	**Bois d'Agland**	**4.65**	**41**	*e*P	**Pn**	**08 56 07.1**	**+3.3**
BGF				*e*Sn	**Sn**	**08 56 56.1**	**-1.2**
BGF				*e*Sg	**Sg**	**08 57 20.2**	**-3.4**
	109nm,0.5s						
EIBI	**Ibiza**	**4.67**	**151**	Pn	**Pn**	**08 56 08.0**	**+3.8**
EIBI				Sn	**Sn**	**08 56 53.9**	**-4.1**
EIBI	**Ibiza**	**4.67**	**151**	Pn	**Pn**	**08 56 06.1**	**+1.9**
EIBI				Sn	**Sn**	**08 56 54.2**	**-3.8**
EIBI				*i* Vmb_Lg		08 56 58.7	
PLDF	**La Plantade**	**4.67**	**51**	Pn	**Pn**	**08 56 07.9**	**+3.7**
ETOS	**Mallorca**	**4.73**	**134**	Pn	**Pn**	**08 56 06.7**	**+1.8**
ETOS				Sn	**Sn**	**08 56 56.5**	**-2.8**
ETOS	**Mallorca**	**4.73**	**134**	Pn	**Pn**	**08 56 07.0**	**+2.0**
ETOS				Pg	**Pb**	**08 56 19.5**	**+2.6**
ETOS				Sn	**Sn**	**08 56 57.0**	**-2.3**
EAGO	**Agolada(Pontev**	**4.78**	**268**	Pn	**Pn**	**08 56 09.1**	**+3.4**
EAGO				Sn	**Sn**	**08 57 03.3**	**+2.7**
VIVF	**Saint-Julien-l**	**4.83**	**67**	*e*Pn	**Pn**	**08 56 09.1**	**+2.7**
VIVF	**Saint-Julien-l**	**4.83**	**67**	*e*P	**Pn**	**08 56 11.1**	**+4.7**
VIVF				*e*Sn	**Sn**	**08 57 01.8**	**-0.1**
	46nm,0.3s						
QUIF	**Quistinic**	**4.90**	**348**	*e*Pn	**Pn**	**08 56 09.2**	**+2.0**
QUIF	**Quistinic**	**4.90**	**348**	*e*Pg	Pb	08 56 25.7	+6.0
QUIF				*e*Sn	**Sn**	**08 57 02.1**	**-1.3**
	13nm,0.2s						
SSB	**Saint Sauveur**	**4.90**	**62**	Pn	**Pn**	**08 56 11.5**	**+4.2**
PVRL	**Vila Real**	**4.92**	**250**	*e*Pn	**Pn**	**08 56 09.9**	**+2.4**
PVRL				*e*Sn	**Sn**	**08 57 05.0**	**+1.0**
PVRL				*e*Sg	**Sg**	**08 57 29.6**	**-2.7**
PVRL				*i* AML	AML	08 57 33.0	
PVRL				*i* AML	AML	08 57 38.8	
PVRL				*i* AML	AML	08 57 42.8	
POLO	**Lamas de Olo**	**4.93**	**251**	*e*Pn	**Pn**	**08 56 10.6**	**+2.8**
POLO				*e*Sn	**Sn**	**08 57 03.2**	**-1.2**
POLO				*e*Sg	**Sg**	**08 57 27.7**	**-5.0**
POLO				*i* AML	AML	08 57 42.9	
POLO				*i* AML	AML	08 57 46.1	
POLO				*i* AML	AML	08 57 49.8	
ELOB	**Lobios**	**4.95**	**257**	Pn	**Pn**	**08 56 10.5**	**+2.5**
ELOB				Sn	**Sn**	**08 57 04.9**	**+0.1**
ELOB				Sg	**Sg**	**08 57 30.0**	**-3.3**
ELOB				*i* Vmb_Lg		08 57 48.0	
PCAB	**Cabril**	**4.97**	**255**	*e*Pn	**Pn**	**08 56 11.6**	**+3.3**
PCAB				*e*Sn	**Sn**	**08 57 07.0**	**+1.6**
PCAB				*e*Sg	**Sg**	**08 57 34.6**	**+0.5**
PCAB				*i* AML	AML	08 57 44.1	
PCAB				*i* AML	AML	08 57 45.0	
PCAB				*i* AML	AML	08 57 45.2	
AVF	**Avril sur Loir**	**5.06**	**42**	*e*Pn	**Pn**	**08 56 12.2**	**+2.8**
AVF	**Avril sur Loir**	**5.06**	**42**	*e*P	Pn	08 56 16.7	+7.3
AVF	**Avril sur Loir**	**5.06**	**42**	*e*Pg	**Pg**	**08 56 29.7**	**-1.6**
AVF				*e*Sn	**Sn**	**08 57 07.8**	**+0.4**
AVF				*e*Sg	**Sg**	**08 57 35.5**	**-1.3**
	24nm,0.4s						
PGAV	**Gavieira, Arco**	**5.07**	**259**	*e*Pn	**Pn**	**08 56 12.5**	**+2.8**
PGAV				*e*Sn	**Sn**	**08 57 10.2**	**+2.3**
PGAV				*e*Sg	**Sg**	**08 57 33.8**	**-3.4**
PGAV				*i* AML	AML	08 57 51.3	
PGAV				*i* AML	AML	08 57 54.8	
PGAV				*i* AML	AML	08 57 54.8	
HYF	**Humbligny**	**5.09**	**34**	*e*P	Pn	08 56 15.4	+5.5
HYF				*e*Sn	**Sn**	**08 57 07.6**	**-0.6**
SGMF	**Saint Gilles**	**5.15**	**353**	*e*Pn	**Pn**	**08 56 13.7**	**+3.0**
SGMF	**Saint Gilles**	**5.15**	**353**	*e*P	Pn	08 56 16.4	+5.7
SGMF	**Saint Gilles**	**5.15**	**353**	*e*Pg	**Pg**	**08 56 32.0**	**-1.1**
SGMF				*e*Sn	**Sn**	**08 57 08.5**	**-1.2**
	4.7nm,0.3s						
SMF	**Signal de Mont**	**5.21**	**46**	*e*Pn	**Pn**	**08 56 15.1**	**+3.6**
SMF				*e*Sn	**Sn**	**08 57 11.3**	**+0.2**
SMF				*e*Sg	**Sg**	**08 57 40.4**	**-1.3**
	12nm,0.4s						
MTE	**Manteigas**	**5.23**	**240**	*e*Sn	**Sn**	**08 57 10.1**	**-1.6**
MTE				*e*Sg	**Sg**	**08 57 37.4**	**-4.9**
MTE				*i* AML	AML	08 57 41.7	
MTE				*i* AML	AML	08 57 43.2	
MTE				*i* AML	AML	08 57 46.1	
GRR	**Gorron**	**5.27**	**5**	*e*Pn	**Pn**	**08 56 13.9**	**+1.6**
GRR	**Gorron**	**5.27**	**5**	*e*Pg	**Pg**	**08 56 33.2**	**-2.1**
GRR				*e*Sn	**Sn**	**08 57 11.0**	**-1.5**
	4.4nm,0.2s						
SMRF	**Simiane la Rot**	**5.28**	**79**	*e*P	**Pn**	**08 56 16.9**	**+4.4**
SMRF				*e*Sn	**Sn**	**08 57 12.2**	**-0.6**
	12nm,0.4s						
PVIS	**Viseu**	**5.29**	**245**	*e*Sn	**Sn**	**08 57 13.7**	**+0.5**
PVIS				*e*Sg	**Sg**	**08 57 40.4**	**-3.9**
ROSF	**Rostrenen**	**5.32**	**348**	*e*Pn	**Pn**	**08 56 15.1**	**+2.0**
ROSF	**Rostrenen**	**5.32**	**348**	*e*P	Pn	08 56 19.0	+5.9
ROSF				*e*Sn	**Sn**	**08 57 12.8**	**-1.1**
	13nm,0.3s						
SSF	**Saint Saulge**	**5.32**	**41**	*e*Pn	**Pn**	**08 56 15.9**	**+2.8**
SSF	**Saint Saulge**	**5.32**	**41**	*e*P	Pn	08 56 21.8	+8.7
SSF				*e*Sn	**Sn**	**08 57 12.5**	**-1.4**
SSF				*e*Sg	**Sg**	**08 57 42.1**	**-3.2**
	34nm,0.6s						
EADA	**Adamuz**	**5.47**	**206**	Pn	**Pn**	**08 56 17.4**	**+2.3**
EADA				Sn	**Sn**	**08 57 16.5**	**-1.1**
PCBR	**Castelo Branco**	**5.52**	**235**	*e*Pn	**Pn**	**08 56 18.2**	**+2.5**
PCBR				*e*Sn	**Sn**	**08 57 16.7**	**-2.0**
PCBR				*e*Sg	**Sg**	**08 57 49.4**	**-2.1**
PCBR				*i* AML	AML	08 57 53.8	
PCBR				*i* AML	AML	08 57 54.4	
PCBR				*i* AML	AML	08 58 00.6	
LDF	**La Druitiere**	**5.54**	**10**	*e*Pn	**Pn**	**08 56 18.9**	**+2.8**
LDF	**La Druitiere**	**5.54**	**10**	*e*Pg	**Pg**	**08 56 39.9**	**-0.7**
LDF				*e*Sn	**Sn**	**08 57 17.6**	**-1.7**
	37nm,0.7s						
LOR	**Lormes**	**5.64**	**41**	*e*Pn	**Pn**	**08 56 20.0**	**+2.5**
LOR	**Lormes**	**5.64**	**41**	*e*P	Pn	08 56 23.8	+6.3
	baz=227						
LOR				*e*Sn	**Sn**	**08 57 20.3**	**-1.5**
LOR				*e*Sg	**Sg**	**08 57 52.9**	**-2.6**
	7.4nm,0.3s						
FLN	**La Foliniere**	**5.67**	**7**	*e*Pn	**Pn**	**08 56 19.3**	**+1.5**
	baz=188						
FLN				*e*Sn	**Sn**	**08 57 20.5**	**-1.9**
FLN				*e*Sg	**Sg**	**08 57 54.8**	**-1.6**
	7.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.67**	**69**	*e*P	Pn	08 56 23.4	+5.4
ORIF	**Oris-en-Rattie**	**5.67**	**69**	*e*Pg	**Pg**	**08 56 41.8**	**-1.3**
ORIF				*e*Sn	**Sn**	**08 57 21.4**	**-1.2**
	33nm,0.4s						
PMRV	**Marv??o**	**5.73**	**232**	*e*Pn	**Pn**	**08 56 20.9**	**+2.1**
PMRV				*e*Sn	**Sn**	**08 57 21.5**	**-2.6**
PMRV				*e*Sg	**Sg**	**08 57 55.4**	**-3.1**
PMRV				*i* AML	AML	08 57 58.2	
PMRV				*i* AML	AML	08 57 58.9	
PMRV				*i* AML	AML	08 58 08.8	
ECAB	**El Cabril**	**5.84**	**211**	Sn	**Sn**	**08 57 22.9**	**-3.9**
ECAB				Pn	**Pn**	**08 56 21.9**	**+1.7**
TRIGF	**Trigance**	**5.86**	**81**	Pn	**Pn**	**08 56 24.0**	**+3.5**
COI	**Coimbra**	**5.89**	**242**	Sg	**Sg**	**08 57 59.5**	**-3.9**
LMR	**La Mourre**	**5.92**	**85**	*e*Sn	**Sn**	**08 57 27.6**	**-1.1**
	6.6nm,0.3s						
EBAD	**Badajoz**	**6.00**	**225**	Pn	**Pn**	**08 56 24.1**	**+1.6**
EBAD				Sn	**Sn**	**08 57 29.0**	**-1.8**
PCAS	**Casmilo, Conde**	**6.03**	**241**	*e*Pn	**Pn**	**08 56 24.5**	**+1.7**
PCAS				*e*Sn	**Sn**	**08 57 29.2**	**-2.1**
PCAS				*e*Sg	**Sg**	**08 58 03.5**	**-4.4**
PCAS				*i* AML	AML	08 58 09.4	
PCAS				*i* AML	AML	08 58 15.3	
PCAS				*i* AML	AML	08 58 24.8	
EQTA	**Presa de Quent**	**6.10**	**194**	Pn	**Pn**	**08 56 27.7**	**+3.9**
EQTA				Sn	**Sn**	**08 57 33.0**	**-0.2**
PESTR	**Estremoz**	**6.23**	**229**	*e*Pn	**Pn**	**08 56 27.9**	**+2.3**
PESTR				*e*Sn	**Sn**	**08 57 34.3**	**-2.0**
PESTR				*i* AML	AML	08 58 15.3	
PESTR				*i* AML	AML	08 58 17.9	
PESTR				*i* AML	AML	08 58 19.5	
PESTR	**Estremoz**	**6.23**	**229**	Pn	**Pn**	**08 56 27.4**	**+1.8**
MBDF	**Montbardon**	**6.24**	**72**	*e*P	Pn	08 56 31.2	+5.3
MBDF				*e*Sn	**Sn**	**08 57 36.6**	**-0.2**
	24nm,0.6s						
EBER	**Berja**	**6.32**	**189**	Pn	**Pn**	**08 56 29.8**	**+2.9**
EGOR	**Sierra Gorda,**	**6.33**	**199**	Pn	**Pn**	**08 56 30.0**	**+2.9**
EGOR				Sn	**Sn**	**08 57 38.9**	**0.0**
LPL	**La Plagne**	**6.42**	**65**	*e*P	Pn	08 56 34.6	+6.2
LPG	**La Plagne**	**6.43**	**66**	*e*P	Pn	08 56 35.2	+6.6
LPG				*e*Sn	**Sn**	**08 57 38.9**	**-2.7**
	18nm,0.6s						
PMTG	**Montargil**	**6.46**	**233**	*e*Pn	**Pn**	**08 56 30.9**	**+2.3**
PMTG				*e*Sn	**Sn**	**08 57 39.3**	**-2.5**
PMTG				*e*Sg	**Sg**	**08 58 18.6**	**-3.0**
PMTG				*i* AML	AML	08 58 19.4	
PMTG				*i* AML	AML	08 58 22.6	
PMTG				*i* AML	AML	08 58 22.7	
ELGU	**Los Guajares,**	**6.46**	**195**	Pn	**Pn**	**08 56 33.0**	**+4.2**
ELGU				Sn	**Sn**	**08 57 43.0**	**+0.8**
CABF	**La Chapelle**	**6.46**	**55**	*e*Pn	**Pn**	**08 56 30.6**	**+1.8**
CABF	**La Chapelle**	**6.46**	**55**	*e*P	Pn	08 56 35.7	+6.9
CABF	**La Chapelle**	**6.46**	**55**	*e*Pg	**Pg**	**08 56 55.4**	**-2.8**
CABF				*e*Sn	**Sn**	**08 57 38.9**	**-3.2**
CABF				*e*Sg	**Sg**	**08 58 18.0**	**-3.8**
	27nm,0.7s						
PBAR	**Barrancos**	**6.46**	**222**	*e*Pn	**Pn**	**08 56 31.1**	**+2.3**
PBAR				*e*Sn	**Sn**	**08 57 40.8**	**-1.3**
PBAR				*e*Sg	**Sg**	**08 58 18.1**	**-3.8**
PBAR				*i* AML	AML	08 58 22.6	
PBAR				*i* AML	AML	08 58 29.5	
PBAR				*i* AML	AML	08 58 31.9	
PBAR	**Barrancos**	**6.46**	**222**	Sn	**S

RAZU	San Marcos de	4.51	219	*e*P	Pn	09 48 06.0	+0.6
VMAR	Armenia, Volca	4.55	239	*e*P	Pn	09 48 06.0	+0.2
PISJ	San Jermim	4.59	220	*e*P	Pn	09 48 07.3	+0.8
EDP2	Potrero Grande	4.62	206	*e*P	Pn	09 48 06.5	-0.2
PICV	PH. Pirrs	4.64	220	*e*P	Pn	09 48 07.5	+0.4
LLNJ	Naranjito	4.70	218	*e*P	Pn	09 48 09.2	+1.4
OCHAL	Ojochal	4.76	211	P	Pn	09 48 10.2	+1.6
RCPN	Sur Rio San Ju	4.82	274	P	Pn	09 48 10.6	+1.0
RCPN	Sur Rio San Ju	4.82	274	P	Pn	09 48 10.5	+1.0
RCPN	Sur Rio San Ju	4.82	274	S	Sn	09 49 02.6	-2.5
CDITO	Canoas	4.91	200	P	Pn	09 48 11.6	+1.0
CDITO	Canoas	4.91	200	S	Sn	09 49 08.8	+1.6
RCVN	Varillal2	4.92	275	P	Pn	09 48 11.7	+0.7
RCVN	Varillal2	4.92	275	P	Pn	09 48 11.9	+0.9
RCVN	Varillal2	4.92	275	S	Sn	09 49 05.5	-2.1
NYURE	Nandayure	5.13	232	*e*P	Pn	09 48 15.7	+2.0
GMAL	Guarumal, Vera	5.41	181	P	Pn	09 48 17.6	0.0
	997nm16nm,0.7s						
GMAL	Guarumal, Vera	5.41	181	*e*P	Pn	09 48 16.6	-1.0
AZU	Azuero	5.45	171	P	Pn	09 48 19.1	+0.9
	40nm,0.9s						
SJCC	San Jacinto, C	6.72	119	P	Pn	09 48 34.5	-1.1

NEIC ***22*** *09:52:44.3±0.8, 15°.24S±0°.05×172°.7W±0°.1, h100km±9km, mb4.7/13, Error ellipse: s-maj=14.9km s-min=6.9km az=96.0*
IDC ***22*** *09:52:52.1±4.9, 15°.37S×173°.57W, h121km±43km, mb3.5/8, mbtmp3.9/9, MS3.5/5, Error ellipse: s-maj=41.3km s-min=19.6km az=144.0*
ISC 22 09:52:40.3±0.6, 15°.33S±0°.09×173°.2W±0°.1, h29km, n38, σ1^{9}76/28, mb4.3/14, MS3.4/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.98	45	Pn	Pn	09 53 11.7	-0.2
AFI				Sn	Sn	09 53 31.7	-4.1
NIUE	Niue	4.88	140	Pn	Pn	09 53 52.3	+0.6
MSVF	Nonsavu	8.72	253	Pn	Pn	09 54 54.0	+9.4
MSVF	Nonsavu	8.72	253	P	Pn	09 54 52.0	+7.5
	10nm,0.8s,baz=103,slow=14,SNR=4.0						
MSVF				LR	LR	09 57 41.0	
	comp=Z,248nm,21.4s,baz=114,slow=34						
PINNC	Pines Island,	19.66	245	P	Pn	09 57 10.1	+1.5
PINNC				IAmb	IAmb	09 57 19.1	
	comp=Z,33nm,1.0s						
DZM	Mont Dzumac	20.39	248	LR	LR	10 03 54.0	
	comp=Z,81nm,21.9s,baz=44,slow=33						
URZ	Urewera	24.39	199	LR	LR	10 05 49.0	
	comp=Z,90nm,20.4s,baz=140,slow=32						
BKZ	Black Stump Fm	25.41	199	P	P	09 58 03.5	-1.9
BKZ				IAmb	IAmb	09 58 11.1	
	comp=Z,22nm,1.4s						
QRZ	Quartz Range	28.27	203	P	P	09 58 31.0	-0.1
QRZ				IAmb	IAmb	09 58 43.5	
	comp=Z,30nm,1.3s						
KHZ	Kahutara	29.31	200	P	P	09 58 39.1	-1.1
KHZ				IAmb	IAmb	09 58 55.4	
	comp=Z,21nm,1.2s						
LTZ	Lake Taylor	30.07	202	P	P	09 58 45.7	-1.3
ARMA	Armidale	35.54	239	P	P	09 59 34.8	-0.3
ARMA				IAmb	IAmb	09 59 41.9	
	comp=Z,6.0nm,1.2s						
H11S2	WAKE ISLAND Hy	38.99	329	T	T	10 41 30.1	
	baz=148,SNR=21						
H11S3	WAKE ISLAND Hy	39.01	329	T	T	10 41 29.6	
	baz=148,slow=74,SNR=6.6						
H11S1	WAKE ISLAND Hy	39.01	329	T	T	10 41 28.9	
	baz=148,slow=74,SNR=6.7						
H11N3	WAKE ISLAND Hy	39.94	330	T	T	10 42 51.6	
	baz=150,slow=77,SNR=4.3						
H11N1	WAKE ISLAND Hy	39.94	330	T	T	10 42 40.2	
	baz=150,slow=77,SNR=5.1						
H11N2	WAKE ISLAND Hy	39.95	330	T	T	10 42 45.0	
	baz=150,slow=77,SNR=4.1						
STKA	Stephens Creek	44.23	240	P	P	10 00 46.5	-0.8
STKA	Stephens Creek	44.23	240	P	P	10 00 46.4	-0.8
	comp=Z,1.6nm,0.6s,baz=70,slow=8.7,SNR=5.3						
	comp=Z,1.6nm,0.6s						
BBOO	Buckleboo	49.01	240	P	P	10 01 23.7	-0.9
BBOO				IAmb	IAmb	10 01 40.2	
	comp=Z,21nm,1.5s						
WR8	Warramunga Arr	49.89	257	P	P	10 01 31.1	-0.4
WB0	Warramunga Arr	50.00	257	P	P	10 01 31.7	-0.7
WB0				IAmb	IAmb	10 01 57.8	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	50.04	257	P	P	10 01 32.1	-0.6
WRA	Warramunga Arr	50.04	257	P	P	10 01 31.2	-1.5
	comp=Z,1.4nm,0.7s,baz=92,slow=7.9,SNR=13						
	comp=Z,1.4nm,0.7s						
AS31	Alice Springs	50.30	252	P	P	10 01 34.0	-0.8
ASAR	Alice Springs	50.31	252	P	P	10 01 33.4	-1.4
ASAR	Alice Springs	50.31	252	P	P	10 01 33.7	-1.0
	comp=Z,2.0nm,0.4s,baz=90,slow=7.8,SNR=52						
ASAR				LR	LR	10 21 29.0	
	comp=Z,55nm,18.5s,baz=98,slow=34						
	comp=Z,2.0nm,0.4s						
FORT	Forrest	55.61	243	P	P	10 02 13.0	-0.7
NVAR	Mina Array Bea	74.15	42	P	P	10 04 16.9	+2.5
	comp=Z,0.3nm,0.5s,baz=248,slow=5.8,SNR=5.2						
	comp=Z,0.3nm,0.5s						
QSPA	South Pole Qui	74.72	180	P	P	10 04 12.6	-4.7
QSPA	South Pole Qui	74.72	180	P	P	10 04 18.7	+1.5
	comp=Z,1.3nm,0.8s,baz=61,slow=1.1,SNR=5.4						
	comp=Z,1.3nm,0.8s						
USRK	Ussuriysk Ar.	77.43	323	LR	LR	10 38 30.8	
	comp=Z,40nm,18.3s,baz=18,slow=35						
TXAR	Lajitas Array	80.42	56	P	P	10 04 52.5	+2.8
	comp=Z,0.8nm,1.0s,baz=261,slow=4.0,SNR=4.7						
	comp=Z,0.8nm,1.0s						
PDAR	Pinedale Array	82.09	42	P	P	10 04 59.7	+1.3
	comp=Z,0.6nm,0.8s,baz=224,slow=4.4,SNR=5.2						
	comp=Z,0.6nm,0.8s						
YKA	Yellowknife Ar	89.96	23	P	P	10 05 37.6	+1.2
	comp=Z,0.2nm,0.7s,baz=235,slow=6.0,SNR=4.2						
	comp=Z,0.2nm,0.7s						
GERES	GERESS Array B	146.09	352	PKPbc	PKPab	10 12 19.2	+0.9
	comp=Z,0.6nm,0.7s,baz=33,slow=5.3,SNR=2.4						
BRTR	Keskin Array B	146.21	321	PKPbc	PKPab	10 12 19.1	0.0
	comp=Z,1.0nm,0.8s,baz=62,slow=3.4,SNR=5.2						

IDC ***22*** *09:55:18.5±1.7, 13°.06N×87°.12W, h0km, mb3.3/3, mbtmp3.7/5, ML3.4/2, MS3.1/3, Error ellipse: s-maj=85.9km s-min=16.8km az=51.0*
CATAC ***22*** *09:55:18.3±0.5, 12°.N±2°.×8°.8W±°., h18km±3km, M3.9/30, MLv3.9/30, Error ellipse: s-maj=5.4km s-min=2.2km az=27.9, confirmed*
UCR ***22*** *09:55:20.6±1.4, 12°.15N×87°.77W, h15km±14km, MW4.2*
ISC 22 09:55:16.3±1.3, 12°.16N±0°.04×87°.90W±0°.03, h8km±9km, n112, σ1^{9}23/118, mb3.3/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.88	22	P	Pn	09 55 35.6	+0.6
CSGN	Cosiguina Volc	0.88	22	P	Pn	09 55 36.0	+1.0
CSGN	Cosiguina Volc	0.88	22	*e*P	Pn	09 55 35.7	+0.6
CSGN				*e*S	Sn	09 55 48.4	+0.4
POTN	Potosi Cosigui	0.92	24	P	Pn	09 55 36.4	+0.9
POTN				S	Sn	09 55 50.2	+1.3
POTN	Potosi Cosigui	0.92	24	P	Pn	09 55 36.4	+0.9
POTN				S	Sn	09 55 50.4	+1.4
CRIN	San Cristobal	0.99	57	P	Pn	09 55 37.9	+1.4
CRIN	San Cristobal	0.99	57	S	Sn	09 55 54.3	+3.6
CRIN	San Cristobal	0.99	57	S	Sn	09 55 54.5	+3.8
CRIN	San Cristobal	0.99	57	P	Pn	09 55 37.8	+1.3
CRIN	San Cristobal	0.99	57	*e*P	Pn	09 55 37.6	+1.0
TEL3	Telica 3	1.11	68	P	Pb	09 55 38.2	+0.5
TEL3	Telica 3	1.11	68	P	Pb	09 55 38.0	+0.3
QUEN	Al S del Volca	1.11	67	P	Pn	09 55 38.8	+0.6
QUEN	Al S del Volca	1.11	67	P	Pn	09 55 39.1	+1.0
CNCH	Conchagua	1.11	3	P	Pn	09 55 39.6	+1.3
CNCH	Conchagua	1.11	3	S	Sn	09 55 55.9	+2.0
CNCH	Conchagua	1.11	3	P	Pn	09 55 39.5	+1.2
HERN	Volcan Telica	1.13	67	P	Pn	09 55 39.3	+0.7
LCND	La Caada	1.14	0	P	Pn	09 55 39.8	+1.1
LCND	La Caada	1.14	0	P	Pn	09 55 39.7	+1.1
PLRN	Geotermica Pol	1.18	69	P	Pb	09 55 39.3	+0.3
PLRN				S	Sn	09 55 55.5	+0.1
PLRN	Geotermica Pol	1.18	69	S	Sn	09 55 56.2	+0.8
PLRN	Geotermica Pol	1.18	69	P	Pb	09 55 39.3	+0.3
CNGN	Cerro Negro	1.22	74	P	Pn	09 55 40.2	+0.5
CNGN	Cerro Negro	1.22	74	S	Sn	09 55 58.6	+2.1
CNGN	Cerro Negro	1.22	74	P	Pn	09 55 40.5	+0.8
ILCN	San Idelfonso	1.24	70	S	Sn	09 55 58.0	+1.1
ILCN	San Idelfonso	1.24	70	S	Sn	09 55 58.4	+1.5
ILCN	San Idelfonso	1.24	70	P	Pn	09 55 40.5	+0.5
LEVN	Ruinas Leon Vi	1.27	79	P	Pn	09 55 40.8	+0.4
LEVN				S	Sn	09 55 59.1	+1.4
LEVN	Ruinas Leon Vi	1.27	79	P	Pg	09 55 41.1	+0.3
COPN	Copaltepe	1.28	89	P	Pn	09 55 40.8	+0.3
COPN	Copaltepe	1.28	89	P	Pn	09 55 41.0	+0.5
COPN	Copaltepe	1.28	89	*e*P	Pn	09 55 40.8	+0.3
RANC	El Ranchito	1.32	343	P	Pg	09 55 42.6	+0.9
RANC	El Ranchito	1.32	343	S	Sn	09 56 01.5	+2.3
RANC	El Ranchito	1.32	343	P	Pg	09 55 42.5	+0.7
MOMN	Momotombo	1.35	79	P	Pn	09 55 41.6	+0.1
MOMN				S	Sn	09 56 00.3	+0.6
MOMN	Momotombo	1.35	79	P	Pb	09 55 42.2	+0.3
PACA	Pacayal	1.37	342	P	Pg	09 55 43.3	+0.7
PACA	Pacayal	1.37	342	S	Sn	09 56 01.7	+1.5
PACA	Pacayal	1.37	342	P	Pg	09 55 43.4	+0.9
CRUN	El Crucero	1.57	96	P	Pb	09 55 46.2	+0.5
CRUN	El Crucero	1.57	96	P	Pg	09 55 56.6	+10
TISN	Laguna Tiscapa	1.59	90	P	Pn	09 55 45.6	+0.8
TISN	Laguna Tiscapa	1.59	90	P	Pn	09 55 45.8	+1.0
UNAN	Cigeo UNAN	1.59	92	P	Pn	09 55 44.4	-0.4
UNAN				S	Sb	09 56 06.7	+0.4
UNAN	Cigeo UNAN	1.59	92	S	Sb	09 56 07.1	+0.8
UNAN	Cigeo UNAN	1.59	92	P	Pn	09 55 45.8	+1.0
PQSS	Presa 15 de Se	1.59	336	P	Pb	09 55 46.6	+0.6
PQSS	Presa 15 de Se	1.59	336	S	Sg	09 56 08.1	+0.6
PQSS	Presa 15 de Se	1.59	336	P	Pg	09 55 46.9	0.0
MGAN	Managua	1.61	90	*e*P	Pn	09 55 45.6	+0.5
MGAN				*e*S	Sn	09 56 06.3	+0.3
TECO	Alcaldia de Te	1.62	328	P	Pb	09 55 46.7	+0.2
TECO	Alcaldia de Te	1.62	328	S	Sn	09 56 06.0	-0.3
TECO	Alcaldia de Te	1.62	328	S	Sn	09 56 06.5	+0.2
TECO	Alcaldia de Te	1.62	328	P	Pb	09 55 46.5	0.0
MAS3	Al N del Volca	1.69	94	P	Pn	09 55 47.3	+1.2
MAS3				S	Sn	09 56 08.6	+0.6
MAS3	Al N del Volca	1.69	94	P	Pn	09 55 47.1	+0.9
UESV	Universidad de	1.71	329	P	Pb	09 55 47.9	-0.1
UESV	Universidad de	1.71	329	S	Sb	09 56 09.5	-0.1
UESV	Universidad de	1.71	329	S	Sb	09 56 09.8	+0.2
UESV	Universidad de	1.71	329	P	Pb	09 55 47.9	-0.1
SCLA	Alcaldia de Sa	1.73	332	P	Pb	09 55 48.5	0.0
SCLA	Alcaldia de Sa	1.73	332	S	Sg	09 56 11.4	-0.7
SCLA	Alcaldia de Sa	1.73	332	P	Pb	09 55 48.4	0.0
COEG	Centro de Oper	1.74	327	P	Pb	09 55 49.3	+0.7
COEG	Centro de Oper	1.74	327	S	Sb	09 56 11.2	+0.6
COEG	Centro de Oper	1.74	327	S	Sg	09 56 11.4	-0.9
COEG	Centro de Oper	1.74	327	P	Pb	09 55 48.6	0.0
LIMN	Finca el Limon	1.74	59	P	Pn	09 55 47.9	+1.0
LIMN	Finca el Limon	1.74	59	P	Pn	09 55 47.9	+1.0
NANN	Nandasmo	1.75	97	P	Pb	09 55 48.9	+0.2
NANN	Nandasmo	1.75	97	S	Sg	09 56 12.3	-0.3
NANN	Nandasmo	1.75	97	P	Pb	09 55 49.1	+0.4
PAVA	Las Pavas	1.85	327	P	Pb	09 55 50.1	-0.3
PAVA	Las Pavas	1.85	327	S	Sg	09 56 14.9	-0.8
PAVA	Las Pavas	1.85	327	P	Pb	09 55 50.3	-0.1
LALI	Alcalda de L	1.92	314	P	Pg	09 56 05.3	+12
TGUH	Tegucigalpa,Un	1.98	18	P	Pb	09 55 52.0	-0.7
TGUH				S	Sb	09 56 17.6	0.0
TGUH	Tegucigalpa,Un	1.98	18	P	Pb	09 55 52.1	-0.6
MATN	Matagalpa	2.07	68	P	Pn	09 55 52.4	+1.0
MATN	Matagalpa	2.07	68	S	Sb	09 56 18.8	-1.4
MATN	Matagalpa	2.07	68	P	Pn	09 55 52.8	+1.3
JAYA	Jayaque - finc	2.12	315	S	Sn	09 56 17.9	-0.9
JAYA	Jayaque - finc	2.12	315	S	Sn	09 56 19.1	+0.2
JAYA	Jayaque - finc	2.12	315	P	Pb	09 55 56.1	+0.9
RCVN	Varillal2	2.18	49	P	Pb	09 55 54.7	-1.4
RCVN	Varillal2	2.18	49	P	Pb	09 55 54.7	-1.4
BOAB	BOACO BROADBAN	2.20	82	P	Pn	09 55 54.3	+1.2
BOAB	BOACO BROADBAN	2.20	82	S	Sb	09 56 22.6	-1.2
BOAB	BOACO BROADBAN	2.20	82	P	Pn	09 55 54.0	+0.9
RCPN	Sur Rio San Ju	2.22	52	P	Pb	09 55 55.6	-1.3
RCPN	Sur Rio San Ju	2.22	52	P	Pb	09 55 55.5	-1.3
CONN	Concepcion	2.30	105	P	Pn	09 55 56.3	+1.7
CONN	Concepcion	2.30	105	P	Pn	09 55 55.9	+1.3
CARN	Rivas	2.52	112	P	Pn	09 56 00.0	+2.5
CARN	Rivas	2.52	112	P	Pn	09 55 59.9	+2.3
NUBE	Las Nubes	2.52	314	P	Pn	09 55 59.1	+1.3
NUBE	Las Nubes	2.52	314	S	Sn	09 56 28.2	-0.6
NUBE	Las Nubes	2.52	314	P	Pn	09 55 58.8	+1.0
ACON	Acoyapa	2.67	94	P	Pn	09 56 00.4	+0.8
ACON	Acoyapa	2.67	94	P	Pn	09 56 02.5	+2.8
JTS	Las Juntas de	3.43	122	Pn	Pb	09 56 15.0	-2.4
	2.8nm,0.3s,baz=321,slow=13,SNR=9.3						
JTS				Lg	Lg	09 57 07.8	
	5.7nm,0.3s,baz=319,slow=20,SNR=4.4						
	23nm,0.6s						
PISJ	San Jermim	4.48	124	*e*P	Pn	09 56 27.5	+2.8
LCR2	La Lucha 2	4.51	122	*e*P	Pn	09 56 28.3	+3.1
CMIG	Matias Romero	8.35	307	LR	LR	10 01 03.4	
	comp=Z,146nm,20.4s,baz=134,slow=41						
SDV	Santo Domingo	17.28	99	Pn	Pn	09 59 14.9	-3.4
	1.9nm,0.3s,baz=262,slow=19,SNR=9.5						
SDV				LR	LR	10 06 33.3	
	comp=Z,46nm,19.0s,baz=62,slow=40						
	4.7nm,0.4s						
ATAH	Atahualpa	21.37	153	LR	LR	10 07 46.7	
	comp=Z,84nm,21.3s,baz=7.6,slow=34						
TXAR	Lajitas Array	22.52	322	P	P	10 00 18.1	+1.3
	1.4nm,0.6s,baz=135,slow=8.5,SNR=24						
	1.4nm,0.6s						
PDAR	Pinedale Array	35.82	332	P	P	10 02 16.1	-0.5
	0.3nm,0.7s,baz=145,slow=7.9,SNR=2.5						
	0.3nm,0.7s						
YKA	Yellowknife Ar	53.78	345	P	P	10 04 37.2	-1.8
	0.3nm,0.9s,baz=144,slow=7.9,SNR=4.0						
	0.3nm,0.9s						

NEIC ***22*** *10:01:32.5±0.9, 61°.48N±0°.03×151°.35W±0°.06, h72km±1km, Error ellipse: s-maj=4.5km s-min=3.9km az=149.0*
AEIC 22 10:01:33.0±1.0, 61°.46N±0°.03×151°.31W±0°.06, h69km±2km, ML2.8, ML2.9/189(NEIC), **Error ellipse: s-maj=4.5km s-min=4.1km az=179.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	Strandline Lak	0.25	279		Pn	10 01 43.2	-0.7
STLK					Sn	10 01 51.6	-0.2
STLK				IAML		10 01 52.4	
	comp=N,881nm,0.2s						
SUA	Susitna One	0.27	89		Pn	10 01 43.8	-0.3
SUA					Sn	10 01 52.4	+0.3
SUA				IAML		10 01 53.4	
	comp=E,955nm,0.6s						
SUA				IAML		10 01 53.6	
	comp=N,759nm,0.4s						
SPCR	Spurr Chakacha	0.50	239		Pn	10 01 45.0	-0.9
SPCR					Sn	10 01 54.8	-0.4
SKT	Skwentna	0.53	349		Pn	10 01 45.3	-0.8
SKT					Sn	10 01 55.5	-0.2
SKT				IAML		10 01 56.0	
	comp=N,621nm,0.3s						
SPBG	Spurr Blockage	0.55	249		Pn	10 01 45.4	-0.9
SPBG					Sn	10 01 56.0	0.0
CKL	Chakachamna La	0.56	242		Pn	10 01 45.6	-0.9
FIS	Fire Island	0.61	120	Pn	Pn	10 01 47.1	+0.2
FIS				IAML		10 01 60.0	
	comp=N,618nm,0.6s						
M22K	Willow	0.64	62		Pn	10 01 46.7	-0.4
CAPN	Captain Cook N	0.70	174	Pn	Pn	10 01 48.8	+1.0
RC01	Rabbit Creek A	0.85	115		Pn	10 01 48.9	-0.7
RC01				IAML		10 02 03.0	
	comp=E,576nm,0.3s						
RC01				IAML		10 02 03.4	
	comp=N,480nm,0.3s						
M20K	Styx River	0.97	297		Pn	10 01 50.6	-0.5
M20K				IAML		10 02 05.0	
	comp=N,234nm,0.5s						
M20K				IAML		10 02 05.2	
	comp=E,195nm,0.6s						
RDT	Redoubt	1.03	211		Pn	10 01 51.1	-0.9
RDT					Sn	10 02 06.0	-0.1
PMR	Palmer	1.05	82		Pn	10 01 51.4	-0.7
PMR				IAML		10 02 07.0	
	comp=N,321nm,0.4s						
PMR				IAML		10 02 07.5	
	comp=E,321nm,0.3s						
CUT	Chulitna	1.07	27		Pn	10 01 51.8	-0.5
SLKM	Skilak Lake	1.09	150		Pn	10 01 51.6	-1.1
SLKM				IAML		10 02 09.5	
	comp=E,198nm,0.2s						
SLKM				IAML		10 02 10.6	
	comp=N,215nm,0.3s						
RDJH	Redoubt Jeurge	1.13	220		Pn	10 01 52.5	-0.7
GHO	Glory Hole Cre	1.18	74		Pn	10 01 53.1	-0.7
GHO					Sn	10 02 09.7	+0.2
GHO				IAML		10 02 12.3	
	comp=N,263nm,0.6s						
GHO				IAML		10 02 13.3	
	comp=E,259nm,0.5s						
NCT	North Crescent	1.20	222		Pn	10 01 53.4	-0.6
RDWB	Redoubt West	1.23	218		Pn	10 01 53.7	-0.7
RDWB					Sn	10 02 10.3	-0.2
O22K	Cooper Landing	1.25	141	Pn	Pn	10 01 54.5	-0.1
RED	Redoubt Volcan	1.26	215		Pn	10 01 54.2	-0.7
KNK	Knik Glacier	1.37	91		Pn	10 01 55.5	-0.8
KNK					Sn	10 02 13.8	0.0
KNK				IAML		10 02 18.0	
	comp=E,259nm,0.2s						
SML	Sawmill	1.47	75		Pn	10 01 56.5	-1.0
SML				IAML		10 02 19.3	
	comp=N,160nm,0.3s						
SML				IAML		10 02 22.3	
	comp=E,221nm,0.7s						
PPLA	Purkeypile	1.50	344		Pn	10 01 57.8	-0.3
PPLA	Purkeypile	1.50	344		Sn	10 02 16.3	-0.6
O20K	Slope Mountain	1.52	206		Pn	10 01 57.9	-0.4
M19K	Big River Lodg	1.53	288		Pn	10 01 57.7	-0.7
PWL	Port Wells	1.56	111		Pn	10 01 57.3	-1.5
PWL				IAML		10 02 23.0	
	comp=N,252nm,0.4s						
PWL				IAML		10 02 26.6	
	comp=E,203nm,0.5s						
L20K	Farewell, AK	1.59	311		Pn	10 01 58.3	-0.8
L20K					Sn	10 02 17.8	-1.0
SEW	Seward	1.64	145	Pn	Pn	10 02 00.1	+0.4
N19K	Bonanza Creek	1.67	249		Pn	10 01 59.6	-0.7
BRLK	Bradley Lake	1.71	173	Pn	Pn	10 02 00.8	0.0
BRLK				IAML		10 02 27.1	
	comp=N,124nm,0.4s						
BRLK				IAML		10 02 31.9	
	comp=E,78nm,0.6s						
ILSW	Iliamna Southw	1.73	212	Pn	Pn	10 02 00.7	-0.5
ILSW				IAML		10 02 27.1	
	comp=N,54nm,0.9s						
ILSW				IAML		10 02 28.3	
	comp=E,58nm,0.7s						
ILS	Iliamna Low So	1.74	211		Pn	10 02 00.9	-0.3
BRSE	Bradley Lake S	1.75	170		Pn	10 02 01.3	+0.1
M23K	Glacier View	1.75	77		Pn	10 01 60.0	-1.3
M23K					Sn	10 02 21.8	-0.8
HOM	Homer	1.81	185	Pn	Pn	10 02 03.2	+1.1
L19K	White Mountain	1.83	295		Pn	10 02 01.9	-0.5
L19K				IAML		10 02 25.6	
	comp=E,55nm,0.6s						
SCM	Sheep Creek Mo	1.94	77		Pn	10 02 02.8	-1.0
SCM				IAML		10 02 31.2	
	comp=E,153nm,0.5s						
SCM				IAML		10 02 34.6	
	comp=N,154nm,0.7s						
CNPM	China Poot	1.94	179	Pn	Pn	10 02 03.3	-0.6
CNPM				IAML		10 02 31.0	
	comp=E,140nm,0.6s						
CNPM				IAML		10 02 32.6	
	comp=N,142nm,0.4s						
O19K	Port Alsworth	1.94	231	Pn	Pn	10 02 03.0	-0.8
O19K				IAML		10 02 34.6	
	comp=N,94nm,0.5s						
O19K				IAML		10 02 40.4	
	comp=E,84nm,0.4s						
CAST	Castle Rocks	2.00	350	Pn	Pn	10 02 04.3	-0.3
P19K	Oil Pt	2.04	208	Pn	Pn	10 02 05.1	-0.1
TRF	Thorofare Moun	2.06	13	Pn	Pn	10 02 05.0	-0.5
TRF				IAML		10 02 32.9	
	comp=E,101nm,0.6s						
TRF				IAML		10 02 34.1	
	comp=N,125nm,0.4s						
KTH	Kantishna Hill	2.11	5	Pn	Pn	10 02 06.4	+0.2
KTH				IAML		10 02 34.0	
	comp=E,99nm,0.7s						
GLI	Glacier Island	2.12	104		Pn	10 02 04.0	-2.3
GLI	Glacier Island	2.12	104	IAML		10 02 38.1	
	comp=N,110nm,0.4s						
M18K	Stony River	2.17	273		Pn	10 02 06.0	-0.8
M18K					Sn	10 02 31.8	-0.8
RND	Reindeer	2.27	29	Pn	Pn	10 02 08.4	+0.1
RND				IAML		10 02 41.2	
	comp=E,49nm,0.3s						
RND				IAML		10 02 46.3	
	comp=N,52nm,0.7s						
K20K	Telida	2.30	327		Pn	10 02 07.8	-0.8
N18K	Kilae Creek	2.36	253		Pn	10 02 08.7	-0.7
CHUM	Lake Minchumin	2.48	350		Pn	10 02 10.7	-0.4
O18K	Koktuh Hills	2.50	232	Pn	Pn	10 02 10.5	-0.9
O18K				IAML		10 02 41.0	
	comp=N,30nm,0.6s						
M24K	Tolsona, Glenn	2.53	73		Pn	10 02 11.3	-0

CCB	**Clear Creek Bu**	3.58	25		Pn	10 02 24.8	-1.2
CCB				IAML		10 03 11.8	
	comp=N,11nm,0.7s						
CCB				IAML		10 03 25.3	
	comp=E,11nm,1.0s						
GLB	**Gilahina Butte**	3.60	87	Pn	Pn	10 02 24.7	-1.7
GLB				IAML		10 03 20.8	
	comp=N,20nm,0.9s						
GLB				IAML		10 03 22.4	
	comp=E,15nm,0.5s						
HMT	**Hamilton**	3.62	105	Pn	Pn	10 02 26.5	-0.2
M16K	**Timber Creek**	3.72	267	Pn	Pn	10 02 27.5	-0.5
KDAK	**Kodiak Island**	3.74	190	Pn	Pn	10 02 29.2	+0.9
KDAK				IAML		10 03 15.4	
	comp=E,15nm,0.9s						
KDAK				IAML		10 03 32.5	
	comp=E,35nm,1.1s						
I21K	**Tanana**	3.75	356	Pn	Pn	10 02 28.6	+0.3
I21K				IAML		10 03 31.5	
	comp=N,10nm,0.8s						
RIDG	**Independent Ri**	3.77	50		Pn	10 02 28.8	+0.1
COLA	**College**	3.77	23		Pn	10 02 28.8	+0.2
VRDI	**Verde Repeater**	3.79	90	Pn	Pn	10 02 26.6	-2.6
VRDI				IAML		10 03 25.1	
	comp=N,12nm,0.9s						
I23K	**Minto, Yukon-K**	3.81	13		Pn	10 02 28.9	-0.2
ACHA	**Angle Creek He**	3.84	214	Pn	Pn	10 02 28.0	-1.6
O16K	**Kokwok River B**	3.84	244	Pn	Pn	10 02 29.0	-0.6
MENT	**Mentasta**	3.85	64	Pn	Pn	10 02 29.0	-0.9
IL31		3.88	29		Pn	10 02 30.4	+0.3
ILAR	**Eielson Array**	3.88	29	Pn	Pn	10 02 30.2	0.0
L16K	**Owhat River**	3.91	277	Pn	Pn	10 02 29.9	-0.6
DOT	**Dot Lake**	4.01	54	Pn	Pn	10 02 31.3	-0.7
M26K	**Nabesna, AK**	4.04	73		Pn	10 02 31.3	-1.1
M26K				IAML		10 03 41.2	
	comp=E,12nm,0.5s						
M26K				IAML		10 03 41.2	
	comp=N,18nm,0.5s						
L26K	**Log Cabin Wild**	4.04	64		Pn	10 02 31.9	-0.5
KHIT	**Khitrov Hills**	4.06	101		Pn	10 02 32.2	-0.6
POKR	**Poker Plat Res**	4.07	24	Pn	Pn	10 02 33.1	+0.4
POKR				IAML		10 03 41.9	
	comp=N,9.3nm,1.0s						
POKR				IAML		10 04 16.0	
	comp=E,11nm,1.0s						
P16K	**Nushagak River**	4.12	237		Pn	10 02 33.3	-0.1
J25K	**Salcha River,**	4.16	38		Pn	10 02 34.2	+0.2
J25K	**Salcha River,**	4.16	38	IAML		10 03 30.7	
	comp=N,27nm,0.5s						
SCRK	**Sand Creek**	4.21	50		Pn	10 02 34.0	-0.8
SCRK				IAML		10 03 35.3	
	comp=E,16nm,0.7s						
SCRK				IAML		10 03 46.1	
	comp=N,14nm,0.8s						
WAX	**Waxell Ridge**	4.25	100	Pn	Pn	10 02 32.5	-2.7
WAX				IAML		10 03 56.4	
	comp=E,18nm,0.8s						
H21K	**Melozitna Rive**	4.27	352		Pn	10 02 35.2	-0.2
BALM	**Baldy**	4.35	92		Pn	10 02 34.8	-1.9
H20K	**Anotleneega Mo**	4.35	340		Pn	10 02 35.9	-0.7
H23K	**Yukon River**	4.45	9		Pn	10 02 37.8	-0.2
H23K	**Yukon River**	4.45	9	IAML		10 03 28.9	
	comp=E,12nm,0.8s						
H23K				IAML		10 03 30.3	
	comp=N,7.1nm,0.9s						
N15K	**Kwethluk River**	4.49	257	Pn	Pn	10 02 37.9	-0.5
N15K				IAML		10 03 15.8	
	comp=N,9.8nm,1.0s						
N15K				IAML		10 03 43.3	
	comp=E,11nm,1.2s						
M27K	**Edge Creek, AK**	4.55	74		Pn	10 02 38.8	-0.6
M27K	**Edge Creek, AK**	4.55	74	IAML		10 04 05.6	
	comp=E,5.6nm,1.2s						
M27K				IAML		10 04 11.7	
	comp=N,7.3nm,1.0s						
M15K	**Kasigluk River**	4.62	265		Pn	10 02 39.3	-0.9
H24K	**Noodor Dome**	4.65	18		Pn	10 02 40.7	-0.1
H24K	**Noodor Dome**	4.65	18	IAML		10 03 34.3	
	comp=E,6.6nm,0.5s						
J26L	**Joseph Creek**	4.67	46		Pn	10 02 40.7	-0.3
J16K	**Anvik River**	4.70	297	Pn	Pn	10 02 40.7	-0.6
L27K	**Beaver Creek,**	4.72	66		Pn	10 02 40.4	-1.2
BCAR	**Beaver Creek A**	4.74	66	Pn	Pn	10 02 41.0	-0.8
MESA	**MESA**	4.76	102	Pn	Pn	10 02 42.1	-0.2
YAH	**Yahtse**	4.80	99	Pn	Pn	10 02 42.1	-0.8
YAH				IAML		10 04 02.0	
	comp=N,15nm,0.7s						
YAH				IAML		10 04 46.0	
	comp=E,11nm,1.2s						
O15K	**Ungalikthiuk R**	4.81	245		Pn	10 02 42.5	-0.4
PRP	**Porcupine Dome**	4.83	30		Pn	10 02 43.2	0.0
PRP				IAML		10 03 43.9	
	comp=E,8.2nm,0.7s						
PRP				IAML		10 04 11.0	
	comp=N,9.1nm,0.7s						
H18K	**Honhosa River**	4.88	322	Pn	Pn	10 02 43.5	-0.3
K15K	**Wolf Creek Mou**	4.91	284	Pn	Pn	10 02 44.0	-0.2
I17K	**Unalakleet**	4.96	303	Pn	Pn	10 02 43.4	-1.4
K27K	**Chicken**	4.97	55		Pn	10 02 44.1	-0.9
K27K	**Chicken**	4.97	55	IAML		10 03 51.2	
	comp=E,10nm,0.5s						
K27K				IAML		10 03 51.3	
	comp=N,8.9nm,0.6s						
BVCY	**Beaver Creek**	5.03	74		Pn	10 02 45.0	-0.9
G21K	**Allakaket**	5.17	350		Pn	10 02 47.3	-0.4
G21K	**Allakaket**	5.17	350	IAML		10 03 46.0	
	comp=E,7.2nm,1.0s						
G21K				IAML		10 03 47.9	
	comp=N,4.4nm,0.6s						
YUK3	**Moose Creek**	5.19	82		Pn	10 02 46.5	-1.7
M14K	**Bethel**	5.21	267	Pn	Pn	10 02 47.9	-0.4
M14K				IAML		10 05 32.0	
	comp=N,12nm,1.0s						
M14K				IAML		10 05 51.8	
	comp=E,6.4nm,0.8s						
G23K	**Bananza Creek**	5.30	6		Pn	10 02 49.2	-0.4
G23K	**Bananza Creek**	5.30	6	IAML		10 03 48.0	
	comp=E,4.4nm,0.7s						
G23K				IAML		10 03 50.9	
	comp=N,3.1nm,0.6s						
I26K	**Coal Creek Min**	5.32	40		Pn	10 02 49.4	-0.5
I26K	**Coal Creek Min**	5.32	40	IAML		10 04 22.7	
	comp=N,11nm,0.8s						
L14K	**Kuka Creek**	5.46	274	Pn	Pn	10 02 52.3	+0.5
G24K	**Hadweenzic Riv**	5.53	16	Pn	Pn	10 02 52.8	+0.2
PCA	**Pinnacle**	5.59	99		Pn	10 02 52.7	-0.8
COLD	**Coldfoot**	5.81	4	Pn	Pn	10 02 57.0	+0.5
M13K	**Dall Lake**	5.96	265	Pn	Pn	10 02 59.1	+0.6
DAWY	**Dawson**	6.07	59		Pn	10 02 59.3	-0.7
M29M	**Somme Creek**	6.14	75		Pn	10 03 00.3	-0.8
F24K	**Squaw Lake**	6.26	12	Pn	Pn	10 03 03.1	+0.4
O29M	**Mount Kennedy**	6.33	95		Pn	10 03 02.1	-1.6
L29M	**L29M**	6.37	69	Pn	Pn	10 03 03.2	-0.9
H27K	**Steamboat Moun**	6.45	38		Pn	10 03 04.1	-1.1
I28M	**Miner Creek**	6.48	47		Pn	10 03 05.2	-0.5
F25K	**Christian Rive**	6.62	19	Pn	Pn	10 03 07.6	0.0
F17K	**Baldwin Pennin**	6.64	323	Pn	Pn	10 03 08.4	+0.6
BMAR	**Burnt Mountain**	6.66	23	Pn	Pn	10 03 07.8	-0.4
J29N	**Klondike Camp**	6.68	58		Pn	10 03 07.8	-0.6
E22K	**Anaktuvuk Pass**	6.71	358	Pn	Pn	10 03 09.3	+0.5
HYT	**Haines Junctio**	6.72	89	Pn	Pn	10 03 07.7	-1.3
K29M	**Barlow Dome**	6.79	63	Pn	Pn	10 03 08.8	-1.2
N30M	**Aishikik Lake**	6.82	84	Pn	Pn	10 03 08.3	-2.1
F26K	**Sheenjek River**	6.97	23	Pn	Pn	10 03 12.2	-0.2
ANM	**Nome**	7.11	302	Pn	Pn	10 03 14.9	+0.6
E25K	**Arctic Village**	7.12	18	Pn	Pn	10 03 14.2	-0.2
TOLK	**Toolik Lake Re**	7.25	5	Pn	Pn	10 03 17.5	+1.3
F15K	**North Star Dit**	7.31	311	Pn	Pn	10 03 16.5	-0.4
MAYO	**Mayo, Yukon**	7.45	67	Pn	Pn	10 03 18.6	-0.2
J30M	**Hart River**	7.49	59		Pn	10 03 19.5	-0.1
I30M	**Mount Dempster**	7.70	54	Pn	Pn	10 03 21.6	-0.7
WHY	**Whitehorse**	8.01	88	Pn	Pn	10 03 25.6	-1.1

*ISK **22** 10:04:07.1, 37°.21N×36°.90E, h4km, ML3.8/46*
*AFAD **22** 10:04:07.4, 37°.24N×36°.88E, h7km±1km, MW3.9*
*IDC **22** 10:04:07.0±0.9, 37°.25N×36°.94E, h0km, mb3.6/6, mbtmp3.6/12, ML3.2/6, MS3.2/2, Error ellipse: s-maj=16.3km s-min=11.6km az=81.0*
*GII **22** 10:04:19.5±0.0, 36°.669N±0°.003×36°.487E±0°.001, h100km, Mws3.2, confirmed*

ISC 22 10:04:08.0±0.9, **37°.23N**±0°.02×**36°.91E**±0°.02, **h7**km±6km,
n93, σ1§**03**/121, **mb3.7**/5, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMR	**Kahramanmara**	**0.11**	**359**	P	**Pg**	**10 04 09.7**	**-0.8**
KHMR				S	**Sg**	**10 04 11.6**	**-0.6**
KAMA	**Osmaniye**	**0.20**	**257**	P	**Pg**	**10 04 11.5**	**-0.5**
KAMA				S	**Sg**	**10 04 14.8**	**+0.1**
GAZ	**Gaziantep**	**0.25**	**103**	Pg	**Pg**	**10 04 12.7**	**-0.2**
KHMN	**Narli-Kahraman**	**0.26**	**51**	Pg	**Pg**	**10 04 13.1**	**+0.1**
KHMN				Sg	**Sg**	**10 04 17.5**	**+1.0**
KMRS	**Kahramanmaras**	**0.28**	**358**	Pg	**Pg**	**10 04 12.7**	**-0.7**
KMRS				Sg	**Sg**	**10 04 17.5**	**+0.4**
KAHM	**Kahramanmaras,**	**0.29**	**12**	P	**Pg**	**10 04 13.2**	**-0.6**
KAHM				S	**Sg**	**10 04 17.9**	**+0.2**
KUZU	**Kuzuini**	**0.47**	**164**	P	**Pg**	**10 04 17.5**	**+0.4**
KUZU				S	**Sg**	**10 04 24.5**	**+1.1**
KUZU				*i* AML	AML	10 04 25.0	
	comp=N,2μm,0.5s						
KUZU				*i* AML	AML	10 04 25.0	
	comp=E,2μm,0.3s						
GZT	**Gaziantep**	**0.54**	**76**	P	**Pg**	**10 04 17.9**	**-0.5**
GZT				S	**Sn**	**10 04 30.2**	**-1.4**
GZT				*i* AML	AML	10 04 31.0	
	comp=E,7μm,0.5s						
ANDN	**Andirin**	**0.57**	**308**	P	**Pg**	**10 04 18.4**	**-0.6**
ANDN				S	**Sg**	**10 04 25.9**	**-0.5**
HASA	**Hatay-Hassa-Ha**	**0.59**	**215**	P	**Pg**	**10 04 19.4**	**+0.1**
HASA				S	**Sg**	**10 04 27.4**	**+0.4**
HASA				*i* AML	AML	10 04 28.0	
	comp=N,1μm,0.5s						
HASA				*i* AML	AML	10 04 28.0	
	comp=E,1μm,0.2s						
NZIP	**Nizip/Gaziante**	**0.64**	**107**	P	**Pg**	**10 04 20.4**	**+0.1**
NZIP				*i* AML	AML	10 04 33.0	
	comp=N,7μm,0.4s						
NZIP				S	**Sn**	**10 04 33.3**	**-0.7**
NZIP				*i* AML	AML	10 04 34.0	
	comp=E,5μm,0.4s						
KOZT	**Kozan**	**0.90**	**286**	Pg	**Pg**	**10 04 24.9**	**-0.3**
CEYT	**Ceyhan**	**0.95**	**257**	Pg	**Pg**	**10 04 26.2**	**-0.1**
SAIM	**ADANA**	**0.99**	**319**	P	**Pg**	**10 04 26.6**	**-0.4**
SAIM				S	**Sb**	**10 04 41.9**	**+0.9**
SAIM				*i* AML	AML	10 04 43.0	
	comp=N,7μm,0.6s						
SAIM				*i* AML	AML	10 04 43.0	
	comp=E,9μm,0.5s						
RHAN	**Hatay/Reyhanl**	**1.00**	**194**	P	**Pg**	**10 04 26.9**	**-0.3**
RHAN				S	**Sb**	**10 04 42.3**	**+1.3**
RHAN				*i* AML	AML	10 04 43.0	
	comp=N,5μm,0.3s						
RHAN				*i* AML	AML	10 04 43.0	
	comp=E,8μm,0.5s						
TAHT	**Tahtakopru-Hat**	**1.03**	**215**	Pg	**Pg**	**10 04 27.0**	**-0.8**
TAHT				Sg	**Sg**	**10 04 41.6**	**+0.4**
ATAB	**Bozova**	**1.13**	**77**	P	**Pg**	**10 04 29.6**	**0.0**
ATAB				S	**Sb**	**10 04 45.2**	**+0.4**
ATAB				*i* AML	AML	10 04 46.0	
	comp=N,4μm,0.5s						
ATAB				*i* AML	AML	10 04 46.0	
	comp=E,1μm,0.5s						
AKO	**Adana**	**1.19**	**282**	P	**Pg**	**10 04 29.9**	**-0.9**
AKO				S	**Sg**	**10 04 46.0**	**-0.2**
AZEY	**Adyaman-Merk**	**1.21**	**61**	P	**Pg**	**10 04 30.9**	**-0.3**
AZEY				S	**Sn**	**10 04 48.2**	**0.0**
SARI	**SarD1z-Kayseri**	**1.24**	**342**	Pn	**Pg**	**10 04 31.3**	**-0.5**
ASUZ	**Hatay-Arsuz**	**1.30**	**224**	P	**Pn**	**10 04 32.0**	**-0.5**
ASUZ				S	**Sg**	**10 04 50.4**	**+0.6**
ASUZ				*i* AML	AML	10 04 52.0	
	comp=N,2μm,0.4s						
AKCD	**Akcadag**	**1.33**	**37**	P	**Pg**	**10 04 33.1**	**-0.5**
AKCD				S	**Sn**	**10 04 51.8**	**+0.6**
AKCD				*i* AML	AML	10 04 53.0	
	comp=N,3μm,0.3s						
AKCD				*i* AML	AML	10 04 54.0	
	comp=E,3μm,0.3s						
SURC	**SANLIURFA_SURC**	**1.41**	**104**	P	**Pn**	**10 04 32.8**	**-1.3**
SURC				S	**Sb**	**10 04 52.3**	**-0.5**
SURC				*i* AML	AML	10 04 54.0	
	comp=N,2μm,0.5s						
SURC				*i* AML	AML	10 04 58.0	
	comp=E,4μm,0.6s						
DARE	**Darende-Malaty**	**1.41**	**19**	Pn	**Pn**	**10 04 34.6**	**+0.3**
KARA	**Karaisali**	**1.48**	**272**	Pn	**Pn**	**10 04 35.6**	**+0.5**
CUGUR	**Gurin_SVAS**	**1.52**	**11**	P	**Pn**	**10 04 36.0**	**+0.3**
CUGUR				S	**Sg**	**10 04 59.3**	**+2.5**
CUGUR				*i* AML	AML	10 05 02.0	
	comp=N,1μm,0.6s						
CUGUR				*i* AML	AML	10 05 16.0	
	comp=E,855nm,0.5s						
URFA	**Urfa**	**1.54**	**82**	Pn	**Pn**	**10 04 36.3**	**+0.4**
CMRD	**Camardi-Nigde**	**1.59**	**286**	Pn	**Pn**	**10 04 36.9**	**+0.2**
HANM	**anlurfa/Hi**	**1.61**	**77**	P	**Pn**	**10 04 36.1**	**-0.8**
HANM				S	**Sg**	**10 05 00.7**	**+1.1**
HANM				*i* AML	AML	10 05 10.0	
	comp=E,1μm,0.5s						
HANM				*i* AML	AML	10 05 13.0	
	comp=N,2μm,0.5s						
NARI	**Adyaman-Kaht**	**1.61**	**66**	P	**Pn**	**10 04 35.6**	**-1.3**
NARI				S	**Sg**	**10 04 59.5**	**-0.2**
NARI				*i* AML	AML	10 05 11.0	
	comp=N,1μm,0.6s						
MAYA	**Malatya/Merkez**	**1.62**	**47**	P	**Pn**	**10 04 36.1**	**-1.0**
MAYA				S	**Sg**	**10 04 59.5**	**-0.7**
MAYA				*i* AML	AML	10 05 01.0	
	comp=N,842nm,0.6s						
MAYA				*i* AML	AML	10 05 01.0	
	comp=E,1μm,0.6s						
SANL	**SANLIURFA_Merk**	**1.66**	**91**	P	**Pn**	**10 04 37.1**	**-0.5**
SANL				S	**Sg**	**10 05 01.0**	**-0.4**
SANL				*i* AML	AML	10 05 11.0	
	comp=N,3μm,0.5s						
SANL				*i* AML	AML	10 05 11.0	
	comp=E,2μm,0.5s						
GULE	**Gulek**	**1.70**	**272**	P	**Pn**	**10 04 38.2**	**-0.1**
GULE				S	**Sn**	**10 05 00.8**	**+0.4**
GULE				*i* AML	AML	10 05 03.0	
	comp=N,1μm,0.4s						
GULE				*i* AML	AML	10 05 06.0	
	comp=E,1μm,0.5s						
DED	**Mersin**	**1.71**	**262**	P	**Pn**	**10 04 35.5**	**-2.7**
DED				S	**Sn**	**10 05 00.8**	**+0.5**
BNN	**Bunyan**	**1.82**	**333**	Pn	**Pn**	**10 04 40.4**	**+0.5**
HEKM	**Malatya_Hekimh**	**1.84**	**26**	P	**Pn**	**10 04 41.1**	**+0.8**
HEKM				S	**Sg**	**10 05 07.9**	**+0.7**
HEKM				*i* AML	AML	10 05 10.0	
	comp=N,1μm,0.5s						
NIDE	**Nigde/Merkez-G**	**1.86**	**295**	P	**Pn**	**10 04 40.8**	**+0.4**
NIDE				S	**Sn**	**10 05 05.1**	**+0.8**
NIDE				*i* AML	AML	10 05 10.0	
	comp=E,898nm,0.8s						
MERS	**Mersin**	**1.94**	**260**	Pn	**Pn**	**10 04 41.5**	**0.0**
KIZK	**Mersin**	**2.34**	**252**	Pn	**Pn**	**10 04 47.3**	**+0.4**
GULA	**Gulagac**	**2.39**	**299**	Pn	**Pn**	**10 04 48.6**	**+0.9**
SILI	**Silifke-Mersin**	**2.55**	**251**	Pn	**Pn**	**10 04 50.4**	**+0.7**
PTK	**Pertek**	**2.57**	**49**	Pn	**Pn**	**10 04 50.3**	**+0.1**
YESY	**Yesilyurt**	**2.58**	**283**	Pn	**Pn**	**10 04 51.4**	**+1.1**
KEBE	**Keben-Mersin**	**2.68**	**254**	Pn	**Pn**	**10 04 52.4**	**+0.8**
SVSK	**Karacayir**	**2.68**	**1**	Pn	**Pn**	**10 04 52.9**	**+1.3**
YOZ	**Yozgat**	**2.71**	**333**	Pn	**Pn**	**10 04 52.7**	**+0.6**
KARG	**Kargicak-Mersi**	**2.77**	**249**	Pn	**Pn**	**10 04 53.7**	**+0.9**
EREN	**Erenkoy**	**2.79**	**233**	Pn	**Pn**	**10 04 53.7**	**+0.7**
TISA	**Tisan-Mersin**	**2.81**	**249**	Pn	**Pn**	**10 04 54.0**	**+0.7**
YESI	**Yesilovacik-Me**	**2.82**	**250**	Pn	**Pn**	**10 04 53.7**	**+0.2**
MAZI	**Mazidag**	**2.83**	**84**	Pn	**Pn**	**10 04 54.7**	**+1.0**
SULT	**Sultanhani-AKS**	**2.86**	**291**	Pn	**Pn**	**10 04 55.3**	**+1.2**
TEVE	**Tevekalti-Mers**	**2.89**	**255**	Pn	**Pn**	**10 04 55.1**	**+0.6**
AKKU	**Akkuyu-Mersin**	**2.90**	**249**	Pn	**Pn**	**10 04 54.9**	**+0.3**
KRMN	**Karaman**	**2.91**	**270**	Pn	**Pn**	**10 04 55.9**	**+1.1**
AKK1	**Akkuyu-Mersin**	**2.92**	**249**	Pn	**Pn**	**10 04 55.3**	**+0.5**
OREN	**Orenkoy-Mersin**	**2.96**	**251**	Pn	**Pn**	**10 04 56.5**	**+1.2**
BERE	**Bereket-Mersin**	**3.09**	**255**	Pn	**Pn**	**10 04 58.2**	**+0.9**
SERE	**Serefilikochisa**	**3.15**	**304**	Pn	**Pn**	**10 04 59.7**	**+1.6**
TEKE	**Tekeli-Mersin**	**3.24**	**252**	Pn	**Pn**	**10 04 59.8**	**+0.6**
KAMT	**Kaman**	**3.30**	**311**	Pn	**Pn**	**10 05 01.5**	**+1.3**
LFK	**Lefkose**	**3.35**	**236**	Pn	**Pn**	**10 05 01.7**	**+0.8**
BNGB	**Bingl**	**3.45**	**58**	Pn	**Pn**	**10 05 04.2**	**+1.9**
CHBY	**Cihanbeyli**	**3.45**	**294**	Pn	**Pn**	**10 05 03.5**	**+1.2**
SVAN	**Silvan-Diyarba**	**3.52**	**74**	Pn	**Pn**	**10 05 04.9**	**+1.7**
KULU	**Kulu**	**3.57**	**302**	Pn	**Pn**	**10 05 05.6**	**+1.7**
BR131	**Keskin Array S**	**3.58**	**315**	Pn	**Pn**	**10 05 05.3**	**+1.3**
BRTR	**Keskin Array B**	**3.58**	**315**	Pn	**Pn**	**10 05 04.8**	**+0.8**
	0.9nm,0.3s,baz=139,slow=16,SNR=28						
BRTR				Lg	Lg	10 06 01.3	
	1.1nm,0.3s,baz=145,slow=33,SNR=6.2						
	5.8nm,0.7s						
CSS	**Mathiatis**	**3.68**	**233**	Pn	**Pn**	**10 05 06.2**	**+0.9**
CSS	**Mathiatis**	**3.68**	**233**	P	**Pn**	**10 05 06.5**	**+1.2**
CSS	**Mathiatis**	**3.68**	**233**	S	**Sn**	**10 05 42.9**	**-6.0**
AFSR	**Afar-Bala (An**	**3.74**	**307**	Pn	**Pn**	**10 05 08.2**	**+1.9**
KARO	**Karliova-Bingo**	**3.86**	**56**	Pn	**Pn**	**10 05 09.8**	**+1.8**
NATI	**Neve Ativ**	**4.07**	**194**	P	**Pn**	**10 05 11.9**	**+1.2**
GEM	**Giv'at Ha'Em**	**4.14**	**195**	P	**Pn**	**10 05 12.0**	**+0.4**
KSHT	**Keshet**	**4.33**	**192**	P	**Pn**	**10 05 15.5**	**+1.2**
MMC7	**Mount Meron ar**	**4.38**	**197**	P	**Pn**	**10 05 15.1**	**+0.2**
MMA0B	**Mount Meron ar**	**4.38**	**197**	P	**Pn**	**10 05 15.7**	**+0.7**
MMAI	**Mount Meron Ar**	**4.38**	**197**	Pn	**Pn**	**10 05 15.7**	**+0.6**
	5.1nm,0.3s,baz=14,slow=12,SNR=10						
MMAI				Lg	Lg	10 06 26.3	
	14nm,0.3s,baz=24,slow=22,SNR=5.9						
MMAI				LR	LR	10 07 00.2	
	comp=Z,94nm,18.2s,baz=62,slow=39						
	2.9nm,0.3s						
MMLI	**Mount Malkishu**	**4.94**	**195**	P	**Pn**	**10 05 23.6**	**+1.0**
ASF	**Jabal al Asfar**	**5.04**	**180**	Pn	**Pn**	**10 05 25.2**	**+1.0**
	1.1nm,0.3s,baz=0.0,slow=5.1,SNR=8.3						
ASF				Lg	Lg	10 06 48.3	
	12nm,0.3s,baz=288,slow=20,SNR=8.2						
	2.4nm,0.3s						
HMDT	**Nahal Hemdat**	**5.09**	**193**	P	**Pn**	**10 05 25.0**	**+0.2**
SALP	**Salfit**	**5.34**	**196**	P	**Pn**	**10 05 27.9**	**-0.3**
GHAJ	**Ghor Haditha**	**6.01**	**191**	P	**Pn**	**10 05 38.0**	**+0.6**
EIL	**Elat**	**7.71**	**193**	Pn	**Pn**	**10 06 01.0**	**+0.2**
	0.2nm,0.3s,baz=68,slow=12,SNR=1.3						
EIL				Lg	Lg	10 08 14.0	
	0.4nm,0.3s,baz=360,slow=18,SNR=3.7						
	1.4nm,0.6s						
IDI	**Anoyia**	**9.90**	**262**	Pn	**Pn**	**10 06 30.6**	**-0.2**
	1.2nm,0.3s,baz=86,slow=15,SNR=7.1						
	9.0nm,0.6s						
AKASG	**Malin Array Be**	**14.55**	**340**	Pn	**Pn**	**10 07 34.4**	**+0.2**
	0.4nm,0.3s,baz=158,slow=9.6,SNR=7.8						
	0.1nm,0.3s						
GERES	**GERESS Array B**	**20.47**	**312**	P	**P**	**10 08 47.1**	**+0.8**
	0.8nm,0.8s,baz=116,slow=10,SNR=4.8						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**32.38**	**52**	P	**P**	**10 10 38.6**	**+0.5**
	0.5nm,0.5s,baz=265,slow=8.9,SNR=4.5						
KURBB				LR	LR	10 26 21.3	
	comp=Z,114nm,20.8s,baz=156,slow=41						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**34.62**	**59**	P	**P**	**10 10 57.6**	**-0.1**
	0.4nm,0.6s,baz=269,slow=6.6,SNR=5.8						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**36.66**	**47**	P	**P**	**10 11 14.3**	**-0.8**
	0.6nm,0.5s,baz=261,slow=8.6,SNR=2.2						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.98**	**91**	P	**P**	**10 13 53.3**	**-1.2**
	0.4nm,0.3s,baz=303,slow=7.6,SNR=1.7						
	0.4nm,0.3s						
YKA	**Yellowknife Ar**	**78.00**	**347**	P	**P**	**10 16 06.8**	**+0.1**
	0.5nm,0.8s,baz=17,slow=5.1,SNR=6.5						
	0.5nm,0.8s						

*NNC **22** 10:23:35.1±8.8, 51°.40N×82°.04E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=64.2km s-min=43.7km az=47.0, Suspected Mining explosion.*
*IDC **22** 10:23:38.6±1.5, 51°.28N×81°.91E, h0km, mbtmp1.7/2, ML1.5/2, Error ellipse: s-maj=17.3km s-min=13.3km az=134.0*

ISC 22 10:23:37.3±1.3, **51°.4N**±0°.1×**81°.94E**±0°.10, **h0**km, **n7**, σ1§**24**/5, **3C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.20**	**254**	⇑Pg	**Pb**	**10 24 16.9**	**-1.0**
	3.0nm,1.1s						
KURK				⇑Lg	Lg	10 24 47.5	
	7.2nm,0.8s						
KURBB	**Kurchatov Arra**	**2.29**	**252**	Pn	**Pn**	**10 24 17.4**	**+1.1**
	0.1nm,0.3s,baz=71,slow=18,SNR=7.5						
KURBB				Lg	Lg	10 24 47.9	
	0.1nm,0.3s,baz=70,slow=31,SNR=7.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**2.29**	**252**	⇑Pg	**Pn**	**10 24 17.0**	**+0.7**
	1.0nm,0.6s,baz=72,slow=19						
KURBB				⇓Lg	Lg	10 24 50.1	
	10nm,0.8s						
I46RU	**ZALESOVO INFRA**	**3.11**	**33**	I	I	10 41 20.0	
	baz=211,slow=318,SNR=2.2						
ZALV	**Zalesovo Beam**	**3.11**	**

NACB	**Ninganchiao**	**0.92 354**	*e*P	Pn	11 03 30.5	+1.0
NACB			*e*S	Sn	11 03 40.6	-0.9
ECL	**Taimali**	**0.95 227**	*e*P	Pn	11 03 31.1	+1.2
ECL			*e*S	Sn	11 03 44.5	+2.2
ETLH	**Xiulin Townshi**	**0.97 348**	P	Pn	11 03 29.9	-0.4
ETLH			S	Sn	11 03 42.2	-0.6
TPUB	**Ta-pu**	**0.99 273**	*e*P	Pn	11 03 32.0	+1.6
TPUB			*e*S	Sn	11 03 45.6	+2.4
CHN5	**Tsauling**	**1.00 290**	*e*P	Pn	11 03 32.1	+1.5
CHN5			*e*S	Sn	11 03 46.4	+2.8
WTP	**Ta-pu**	**1.00 270**	*e*P	Pn	11 03 31.9	+1.3
WTP			*e*S	Sn	11 03 46.1	+2.6
TYC	**Yuchr**	**1.01 310**	*e*P	Pn	11 03 31.9	+1.3
TYC			*e*S	Sn	11 03 45.6	+2.0
CHN4	**Tsaushan**	**1.02 276**	*e*P	Pn	11 03 32.6	+1.8
EOS4	**EOS4**	**1.03 33**	*e*P	Pn	11 03 30.3	-0.3
EOS4			*e*S	Sn	11 03 43.0	-0.7
CHN1	**Nanshi**	**1.08 267**	*e*P	Pn	11 03 33.0	+1.2
CHN1			*e*S	Sn	11 03 48.4	+2.9
SNST	**Tainan City**	**1.11 268**	*e*P	Pn	11 03 34.5	+2.5
SNST			*e*S	Sn	11 03 49.6	+3.5
TWK	**Hsinying**	**1.12 271**	*e*P	Pn	11 03 33.7	+1.5
TWK			*e*S	Sn	11 03 48.6	+2.2
MASBT	**Mashibuluo**	**1.18 237**	P	Pn	11 03 33.3	+0.4
MASBT			*e*S	Sn	11 03 49.9	+2.2
NNSB	**Datong**	**1.20 346**	*e*P	Pn	11 03 34.8	+1.3
NNSB			S	Sn	11 03 48.7	+0.1
WHP	**Taichung City**	**1.23 326**	*e*P	Pn	11 03 35.9	+2.1
WHP			*e*S	Sn	11 03 51.9	+2.6
LYUB	**Lan-yu**	**1.25 185**	*e*P	Pn	11 03 35.0	+1.0
LYUB			*e*S	Sn	11 03 49.5	-0.1

TRN 22 11:07:04.1, 16.71N×60.79W, h24km, MD3.5, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.00 290**		*e*P	Pb	11 07 24.1	+1.4
ANBD				*e*S	Sn	11 07 37.9	+1.9
TBG	**Guadaloupe-3**	**1.18 224**		*e*P	Pb	11 07 26.7	+0.8
TBG				*e*S	Sb	11 07 43.7	+2.9
MBWH		**1.35 272**		*e*P	Pb	11 07 29.9	+1.2
MBFL	**Flemmings, Mon**	**1.37 272**		*e*P	Pb	11 07 29.9	+0.9
DSLB	**Salisbury**	**1.40 206**		*e*P	Pb	11 07 29.3	-0.3
DSLB				*e*S	Sb	11 07 48.3	+1.3

*IDC **22** 11:18:17.5±2.3, 5.38S×145.95E, h102km±22km, mb3.7/7, mbtmp4.1/10, MS3.3/1, Error ellipse: s-maj=29.0km s-min=15.7km az=71.0*
*NEIC **22** 11:18:18.8±1.4, 5.35S±0.08×145.9E±0.1, h107km±10km, mb4.3/14, Error ellipse: s-maj=14.7km s-min=11.0km az=93.0*
ISC 22 11:18:17.1±0.7, **5.33S**±0.07×**145.99E**±0.09, **h100**km, **n45**, σ1§**44**/44, **mb4.2**/11, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.54**	**23**	Pn	Pn	11 19 12.8	+2.6
PMG	**Port Moresby**	**4.21 164**		P	**Pn**	**11 19 20.7**	**+1.5**
	86nm,0.5s,baz=346,slow=12,SNR=30						
PMG				S	**Sn**	**11 20 07.1**	**-0.2**
	155nm,0.5s,baz=323,slow=20,SNR=10						
TABU	**Tabubil**	**4.75 271**		P	**Pn**	**11 19 26.4**	**-0.1**
JAY	**Jayapura**	**5.97 298**		P	**Pn**	**11 19 44.0**	**+0.9**
	4.1nm,0.3s,baz=118,slow=17,SNR=1.6						
JAY				S	Sn	11 20 58.1	+8.0
	16nm,0.8s,baz=126,slow=19,SNR=1.7						
COEN	**Coen**	**9.01 198**		Pn	**Pn**	**11 20 26.1**	**+1.7**
COEN	**Coen**	**9.01 198**		P	**Pn**	**11 20 25.8**	**+1.4**
MTSU	**Mount Surprise**	**12.83 187**		P	**P**	**11 21 18.4**	**-4.4**
TATA	**Tatamba Isabel**	**14.04 103**		P	**P**	**11 21 34.0**	**-2.3**
KDU	**Kakadu**	**15.21 240**		P	**Pn**	**11 21 46.1**	**-0.6**
MTN	**Manton Dam**	**16.45 242**		Pn	**P**	**11 22 00.9**	**-2.1**
WB0	**Warramunga Arr**	**18.26 217**		P	**Pn**	**11 22 22.5**	**-1.6**
WB0				IAmb	IAmb	11 22 34.1	
	comp=Z,19nm,1.4s						
WR8	**Warramunga Arr**	**18.34 217**		P	**P**	**11 22 22.5**	**-1.4**
WRAB	**Tennant Creek**	**18.41 217**		P	**Pn**	**11 22 25.0**	**-0.8**
WRAB				IAmb	IAmb	11 22 40.3	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**18.42 217**		P	**Pn**	**11 22 25.1**	**-1.0**
WRA	**Warramunga Arr**	**18.42 217**		P	**P**	**11 22 23.2**	**-1.6**
	comp=Z,3.3nm,0.8s,baz=40,slow=11,SNR=22						
RK1H	**Rockhampton Ha**	**18.47 167**		P	**Pn**	**11 22 28.9**	**+2.4**
KNRA	**Kununurra**	**19.80 237**		P	**P**	**11 22 39.1**	**-0.6**
KNRA				IAmb	IAmb	11 22 44.2	
	comp=Z,30nm,1.3s						
QLP	**Quilpie**	**21.20 184**		P	**P**	**11 22 58.3**	**+3.6**
AS01	**Alice Springs**	**21.61 211**		P	**P**	**11 22 59.2**	**0.0**
AS31	**Alice Springs**	**21.63 211**		P	**P**	**11 22 58.9**	**-0.5**
ASAR	**Alice Springs**	**21.63 211**		P	**P**	**11 22 58.9**	**-0.5**
ASAR	**Alice Springs**	**21.63 211**		P	**P**	**11 22 58.5**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=38,slow=10,SNR=40						
ASAR				LR	LR	11 31 41.7	
	comp=Z,84nm,19.4s,baz=87,slow=37						
	comp=Z,5.4nm,1.0s						
INKA	**Innaminka**	**22.84 192**		P	**P**	**11 23 13.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.59 236**		P	**P**	**11 23 18.2**	**-0.8**
OOD	**Oodnadatta**	**24.39 203**		P	**P**	**11 23 26.6**	**+0.4**
ARMA	**Armidale**	**25.51 169**		P	**P**	**11 23 35.3**	**-1.2**
ARMA				IAmb	IAmb	11 23 40.4	
	comp=Z,16nm,1.2s						
WRKA	**Warakurna**	**25.93 219**		P	**P**	**11 23 39.1**	**-1.1**
LCRK	**Leigh Creek**	**26.04 195**		P	**P**	**11 23 42.2**	**+1.2**
STKA	**Stephens Creek**	**26.73 188**		P	**P**	**11 23 48.2**	**+1.0**
STKA	**Stephens Creek**	**26.73 188**		P	**P**	**11 23 47.1**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=0.5,slow=11,SNR=11						
	comp=Z,5.4nm,0.7s						
HTT	**Hallett**	**28.72 192**		P	**P**	**11 24 06.1**	**+1.0**
CAN	**Canberra**	**29.97 175**		P	**P**	**11 24 18.0**	**+1.8**
CAN				IAmb	IAmb	11 24 19.4	
	comp=Z,10nm,1.0s						
FORT	**Forrest**	**30.42 212**		P	**P**	**11 24 20.0**	**-0.1**
FORT	**Forrest**	**30.42 212**		P	**P**	**11 24 19.9**	**-0.2**
MEEK	**Meekatharra**	**33.63 228**		P	**P**	**11 24 48.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**50.89 347**		P	**P**	**11 27 06.9**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=142,slow=9.7,SNR=2.6						
	comp=Z,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.05 298**		P	**P**	**11 27 17.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=112,slow=7.3,SNR=1.2						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**72.64 176**		P	**P**	**11 29 34.2**	**+0.9**
QSPA	**South Pole Qui**	**84.63 180**		P	**P**	**11 30 40.8**	**+1.3**
QSPA				IAmb	IAmb	11 30 53.5	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	**84.63 180**		P	**P**	**11 30 40.3**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=326,slow=0.5,SNR=6.2						
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**85.27 23**		P	**P**	**11 30 42.4**	**0.0**
ILAR	**Eielson Array**	**85.27 23**		P	**P**	**11 30 42.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=256,slow=5.1,SNR=11						
	comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	**85.64 324**		P	**P**	**11 30 45.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=93,slow=7.9,SNR=2.0						
	comp=Z,0.3nm,0.5s						
M27K	**Edge Creek, AK**	**86.51**	**26**	P	**P**	**11 30 49.7**	**+0.9**
M27K				IAmb	IAmb	11 31 00.9	
	comp=Z,8.1nm,1.2s						
K29M	**Barlow Dome**	**88.83**	**26**	P	P	11 31 01.7	+1.9
K29M				IAmb	IAmb	11 31 02.5	
	comp=Z,1.6nm,1.1s						

NNC 22 11:21:10.9±3.0, 41.18N×83.29E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=27.6km s-min=20.8km az=148.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.55 309**		⇓Pn	Pn	11 22 06.2	-1.2
	11nm,0.7s						
PDGK				⇑Lg	Lg	11 23 03.8	
	21nm,0.5s						
MK31	**Makanchi Array**	**5.66 353**		Pn	Pn	11 22 36.5	+0.1
	0.1nm,0.3s,baz=187,slow=11,SNR=13						
MK31				Pg	Pg	11 22 55.3	-4.1
	1.7nm,0.6s,baz=172,slow=15,SNR=14						
MK31				⇑Lg	Lg	11 24 11.0	
	14nm,0.8s,baz=168,slow=15,SNR=10						
TKM2	**Tokmak 2**	**5.99 289**		⇑Pn	Pn	11 22 42.6	+1.7
	2.0nm,0.3s						
TKM2				⇓Lg	Lg	11 24 22.5	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**10.01 342**		⇑Lg	Lg	11 26 28.3	
	6.4nm,0.7s						

*IDC **22** 11:51:34.6±0.7, 64.4S×176.55E, h0km, mb4.5/8, mbtmp4.5/8, MS4.4/14, Error ellipse: s-maj=40.2km s-min=18.3km az=44.0*
*GCMT **22** 11:51:36.9±0.2, 64.46S±0.01×176.27E±0.05, h12km, MW5.0/91, Moment Tensor Solution. s46,c49; s91,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.28±.10; Mθθ3.40±.10; Mφφ0.88±.11; Mrθ-0.87±.33; Mrφ1.38±.08; Mθφ0.11±.38; Best double couple: M0 4.23500×10^16 NP1:φ241.00000°, δ40.00000°, λ-98.00000°. NP2: φ72.00000°, δ50.00000°, λ-83.00000°. Principal axes: T 4.0780, Plg5.0000°, Azm157.0000°; N 0.3180, Plg5.000°, Azm247.0000°; P -4.3920, Plg82.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 11:51:37.9±2.4, 64.5S±0.1×175.7E±0.3, h10km±1km, mb4.8/10 Error ellipse: s-maj=26.6km s-min=14.3km az=34.0*
ISC 22 11:51:36.0±0.5, **64.65**±0.1×**176.3E**±0.1, **h10**km, **n63**, σ0§**87**/46, **mb4.7**/12, **MS4.4**/13, **Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.68 189**		Pn	**Pn**	**11 54 49.9**	**+0.3**
VNDA	**Vanda**	**13.76 193**			**Pn**	**11 54 49.8**	**-1.0**
VNDA	**Vanda**	**13.76 193**		Pn	**Pn**	**11 54 48.0**	**-2.8**
	0.4nm,0.3s,baz=31,slow=16,SNR=18						
VNDA				LR	LR	11 58 56.0	
	comp=Z,1μm,19.1s,baz=35,slow=32						
WHZ	**Wether Hill Ro**	**19.26 342**		P	**Pn**	**11 56 00.6**	**-0.8**
WHZ				IAmb	IAmb	11 56 13.4	
	comp=Z,39nm,1.5s						
RPZ	**Rata Peaks**	**21.09 349**		LR	LR	12 03 31.3	
	comp=Z,1μm,19.9s,baz=160,slow=34						
QSPA	**South Pole Qui**	**25.54 180**		P	**P**	**11 57 05.9**	**+1.4**
QSPA				IAmb	IAmb	11 57 13.4	
	comp=Z,36nm,1.1s						
QSPA	**South Pole Qui**	**25.54 180**		P	**P**	**11 57 06.2**	**+1.6**
	comp=Z,7.2nm,0.9s,baz=35,slow=4.7,SNR=13						
	comp=Z,7.2nm,0.9s						
STKA	**Stephens Creek**	**39.08 310**		P	**P**	**11 59 03.8**	**+0.9**
STKA	**Stephens Creek**	**39.08 310**		P	**P**	**11 59 03.2**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=153,slow=11,SNR=4.8						
	comp=Z,3.7nm,0.9s						
BBOO	**Buckleboo**	**40.16 303**		P	**P**	**11 59 11.8**	**-0.1**
BBOO				IAmb	IAmb	11 59 14.9	
	comp=Z,18nm,1.2s						
SNAA	**Sanae**	**44.04 180**		LR	LR	12 16 59.7	
	comp=Z,570nm,19.3s,baz=204,slow=34						
H01W1	**Cape Leeuwin H**	**47.18 278**		T	T	12 50 57.0	
	baz=148,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**47.18 278**		T	T	12 50 57.2	
	baz=148,slow=76,SNR=25						
H01W3	**Cape Leeuwin H**	**47.19 278**		T	T	12 50 58.2	
	baz=148,slow=76,SNR=23						
NWAO	**Narrogin (SRO)**	**47.55 282**		LR	LR	12 15 19.9	
	comp=2,836nm,21.7s,baz=76,slow=30						
ASAR	**Alice Springs**	**49.25 305**		P	**P**	**12 00 24.6**	**+0.1**
	comp=Z,10nm,0.9s,baz=155,slow=8.0,SNR=54						
ASAR				PcP	**PcP**	**12 01 46.7**	**-0.7**
	comp=Z,1.3nm,1.1s,baz=149,slow=4.1,SNR=1.4						
ASAR				LR	LR	12 19 36.1	
	comp=Z,144nm,18.3s,baz=103,slow=34						
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**49.26 305**		P	**P**	**12 00 25.2**	**+0.7**
WR8	**Warramunga Arr**	**52.47 308**		P	**P**	**12 00 48.2**	**-0.6**
WR8				IAmb	IAmb	12 00 50.3	
	comp=Z,22nm,1.2s						
WRA	**Warramunga Arr**	**52.54 308**		P	**P**	**12 00 48.1**	**-1.1**
WRA	**Warramunga Arr**	**52.54 308**		P	**P**	**12 00 48.7**	**-0.6**
	comp=Z,7.3nm,0.8s,baz=156,slow=7.5,SNR=22						
WRA				LR	LR	12 20 17.9	
	comp=Z,723nm,21.5s,baz=159,slow=33						
	comp=Z,7.3nm,0.8s						
WRAB	**Tennant Creek**	**52.55 308**		P	**P**	**12 00 48.7**	**-0.6**
WRAB				IAmb	IAmb	12 00 50.8	
	comp=Z,25nm,1.3s						
WB0	**Warramunga Arr**	**52.68 308**		P	**P**	**12 00 49.5**	**-0.9**
WB0				IAmb	IAmb	12 00 50.9	
	comp=Z,13nm,1.0s						
HNR	**Honiara**	**56.23 341**		LR	LR	12 21 11.3	
	comp=Z,578nm,21.2s,baz=174,slow=32						
PLCA	**Paso Flores**	**62.81 128**		P	**P**	**12 02 01.2**	**-0.2**
	comp=Z,3.6nm,1.2s,baz=211,slow=12,SNR=3.1						
PLCA				LR	LR	12 23 55.3	
	comp=Z,290nm,20.7s,baz=222,slow=31						
	comp=Z,3.6nm,1.2s						
H03S2	**Juan Fernandez**	**65.93 118**		T	T	13 14 44.0	
	baz=205,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**65.93 118**		T	T	13 14 45.4	
	baz=205,slow=74,SNR=8.6						
H03S3	**Juan Fernandez**	**65.94 118**		T	T	13 14 44.8	
	baz=205,slow=74,SNR=11						
JAY	**Jayapura**	**67.02 321**		LR	LR	12 32 00.2	
	comp=Z,166nm,18.0s,baz=146,slow=36						
LEM	**Lembang**	**74.77 287**		P	**P**	**12 03 17.9**	**+1.7**
	comp=Z,8.7nm,0.4s,baz=168,slow=20,SNR=1.5						
	comp=Z,8.7nm,0.4s						
CPUP	**Villa Florida**	**80.34 133**		P	**P**	**12 03 46.5**	**-0.6**
	comp=Z,2.6nm,1.1s,baz=216,slow=8.7,SNR=2.5						
	comp=Z,2.6nm,1.1s						
DAV	**Davao City (W)**	**80.71 309**		LR	LR	12 40 49.4	
	comp=Z,68nm,19.4s,baz=152,slow=37						
SUR	**Sutherland**	**81.48 201**		LR	LR	12 38 12.3	
	comp=Z,413nm,18.9s,baz=170,slow=34						
KKM	**Kota Kinabalu**	**83.10 300**		P	**P**	**12 04 00.7**	**-1.0**
LPAZ	**La Paz**	**85.87 120**		P	**P**	**12 04 16.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=184,slow=9.9,SNR=2.4						
LPAZ				LR	LR	12 36 36.4	
	comp=Z,41nm,18.2s,baz=236,slow=32						
	comp=Z,0.9nm,0.7s						
PSI	**Prapat**	**87.09 283**		LR	LR	12 37 45.7	
	comp=Z,132nm,21.1s,baz=116,slow=32						
H08S2	**Diego Garcia H**	**89.01 254**		T	T	13 43 33.1	
	baz=155,slow=76,SNR=9.5						
H08S1	**Diego Carcia H**	**89.02 254**		T	T	13 43 34.4	
	baz=155,slow=76,SNR=6.9						
H08S3	**Diego Garcia H**	**89.03 254**		T	T	13 43 35.2	
	baz=155,slow=76,SNR=10						
BDFB	**Brasilia**	**93.23 138**		LR	LR	12 44 11.8	
	comp=Z,428nm,20.2s,baz=199,slow=34						
PDAR	**Pinedale Array**	**121.56**	**56**	PKP	**PKPdf**	**12 10 28.3**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=229,slow=1.9,SNR=2.3						
ILAR	**Eielson Array**	**131.81**	**20**	PKPdf	**PKiKP**	**12 10 48.6**	**+0.1**
ILAR	**Eielson Array**	**131.81**	**20**	PKP	**PKPdf**	**12 10 47.2**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=217,slow=2.8,SNR=9.9						
MKAR	**Makanchi Array**	**132.52 292**		PKPdf	**PKPdf**	**12 10 49.1**	**-0.3**
MKAR	**Makanchi Array**	**132.52 292**		PKP	**PKPdf**	**12 10 48.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=165,slow=2.4,SNR=6.2						
D19K	**Kuna River**	**134.00**	**13**	PKPdf	**PKiKP**	**12 10 53.3**	**+0.5**
YKA	**Yellowknife Ar**	**136.66**	**39**	PKP	**PKiKP**	**12 10 58.4**	**0.0**
	comp=Z,0.6nm,1.0s,baz=209,slow=1.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**137.07 292**		PKP	**PKPdf**	**12 10 57.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=166,slow=0.4,SNR=4.2						
BVAR	**Borovoye Array**	**142.19 289**		PKP	**PKPdf**	**12 11 07.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=169,slow=1.5,SNR=4.4						
KBZ	**Khabaz**	**146.75 254**		PKPbc	**PKPbc**	**12 11 17.4**	**+0.5**
	comp=Z,9.1nm,0.9s,baz=130,slow=0.8,SNR=12						
BRTR	**Keskin Array B**	**147.02 239**		PKPdf	**PKPdf**	**12 11 17.0**	**+1.0**
BRTR	**Keskin Array B**	**147.02 239**		PKPbc	**PKPbc**	**12 11 17.3**	**-0.8**
	comp=Z,7.4nm,1.1s,baz=159,slow=4.5,SNR=28						
BR131	**Keskin Array S**	**147.02 239**		PKPdf	**PKPbc**	**12 11 17.8**	**-0.3**
KIV	**Kislovodsk**	**147.02 254**		PKPdf	**PKPbc**	**12 11 17.4**	**-0.5**
NRIK	**Noril'sk**	**147.11 319**		PKPdf	**PKPbc**	**12 11 17.2**	**-0.1**
NRIK	**Noril'sk**	**147.11 319**		PKPbc	**PKPbc**	**12 11 17.4**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=117,slow=4.3,SNR=10						
ANTO	**Ankara**	**147.46 238**		PKPbc	**PKPab**	**12 11 20.4**	**-0.8**
MANT	**Manisa**	**147.73 232**		PKPbc	**PKPbc**	**12 11 20.6**	**+0.4**
SCHQ	**Schefferville**	**148.07**	**77**	PKPdf	**PKPbc**	**12 11 19.6**	**-0.7**
SCHQ	**Schefferville**	**148.07**	**77**	PKPbc	**PKPbc**	**12 11 19.4**	**-0.9**
	comp=Z,9.5nm,1.1s,baz=256,slow=4.2,SNR=5.0						
MDUB	**Mudurnu**	**148.57 237**		PKPbc	**PKPbc**	**12 11 22.7**	**+0.5**
ARTI	**Arti**	**149.53 284**		PKPbc	**PKiKP**	**12 11 26.4**	**+1.5**
RES	**Resolute Bay**	**150.12**	**32**	PKPbc	**PKiKP**	**12 11 25.6**	**-0.1**
ESDC	**Sonseca Array**	**155.08 180**		PKP	**PKPdf**	**12 11 29.5**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=180,slow=1.3,SNR=2.7						

*IDC **22** 11:56:15.1±0.8, 64.65S×174.88E, h0km, mb4.2/5, mbtmp4.2/6, ML3.5/1, Error ellipse: s-maj=41.7km s-min=19.8km az=57.0*
*NEIC **22** 11:56:19.6±0.9, 64.8S±0.1×174.2E±0.3, h10km±1km, mb4.6/7, Error ellipse: s-maj=23.3km s-min=18.4km az=216.0*
ISC 22 11:56:18.0±0.6, **64.8S**±0.1×**174.4E**±0.2, **h10**km, **n41**, σ1§**30**/36, **mb4.5**/7, **Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.34 187**		Pn	**Pn**	**11 59 27.0**	**0.0**
VNDA	**Vanda**	**13.36 192**		**Pn**	**Pn**	**11 59 28.4**	**+1.0**
VNDA	**Vanda**	**13.36 192**		Pn	**Pn**	**11 59 27.0**	**-0.3**
	0.2nm,0.3s,baz=32,slow=16,SNR=12						
	1.5nm,0.5s						
MQZ	**McQueen's Vall**	**21.15 356**		P	**P**	**12 01 04.9**	**+2.0**
MQZ				IAmb	IAmb	12 01 30.0	
	comp=Z,23nm,1.2s						
QSPA	**South Pole Qui**	**25.30 180**		P	**P**	**12 01 44.7**	**+0.3**
QSPA				IAmb	IAmb	12 01 47.0	
	comp=Z,18nm,1.1s						
QSPA	**South Pole Qui**	**25.30 180**		P	**P**	**12 01 44.2**	**-0.3**
	comp=Z,7.1nm,0.8s,baz=35,slow=5.2,SNR=18						
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**38.63 312**		P	**P**	**12 03 42.9**	**+1.7**
STKA				IAmb	IAmb	12 03 50.2	
	comp=Z,37nm,1.4s						
STKA	**Stephens Creek**	**38.63 312**		P	**P**	**12 03 40.6**	**-0.6**
	comp=Z,2.4nm,1.0s,baz=134,slow=10,SNR=4.4						
	comp=Z,2.4nm,1.0s						
H01W1	**Cape Leeuwin H**	**46.42 280**		T	T	12 55 37.1	
	baz=148,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**46.43 280**		T	T	12 55 36.9	
	baz=148,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**46.44 280**		T	T	12 55 38.3	
	baz=148,slow=76,SNR=11						
AS31	**Alice Springs**	**48.75 308**		P	**P**	**12 05 03.6**	**+0.9**
ASAR	**Alice Springs**	**48.75 308**		P	**P**	**12 05 03.8**	**+1.0**
ASAR	**Alice Springs**	**48.75 308**		P	**P**	**12 05 02.9**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=157,slow=7.8,SNR=30						
ASAR				PcP	**PcP**	**12 06 25.8**	**-1.8**
	comp=Z,0.9nm,1.1s,baz=188,slow=4.9,SNR=1.8						
	comp=Z,3.7nm,0.8s						
WR8	**Warramunga Arr**	**52.00 310**		P	**P**	**12 05 27.2**	**-0.1**
WR8				IAmb	IAmb	12 05 40.5	
	comp=Z,7.2nm,1.2s						
WRA	**Warramunga Arr**	**52.06 310**		P	**P**	**12 05 26.4**	**-1.4**
	comp=Z,4.9nm,1.0s,baz=161,slow=7.2,SNR=12						
	comp=Z,4.9nm,1.0s						
WB0	**Warramunga Arr**	**52.21 310**		P	**P**	**12 05 29.0**	**+0.2**
PLCA	**Paso Flores**	**63.28 130**		P	**P**	**12 06 48.2**	**+1.6**
PLCA				IAmb	IAmb	12 07 15.2	
	comp=Z,5.7nm,1.2s						
PLCA	**Paso Flores**	**63.28 130**		P	**P**	**12 06 46.1**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=188,slow=14,SNR=3.8						
	comp=Z,2.1nm,0.9s						
H03S2	**Juan Fernandez**	**66.51 120**		T	T	13 19 19.3	
	baz=205						
H03S1	**Juan Fernandez**	**66.51 120**		T	T	13 19 20.8	
	baz=205						
H03S3	**Juan Fernandez**	**66.53 120**		T	T	13 19 20.8	
	baz=205						
H08S2	**Diego Garcia H**	**88.18 256**		T	T	13 48 16.3	
	baz=155						
H08S1	**Diego Carcia H**	**88.19 256**		T	T	13 48 15.3	
	baz=155						
H08S3	**Diego Garcia H**	**88.20 256**		T	T	13 48 16.5	
	baz=155						
MKAR	**Makanchi Array**	**131.87 293**		PKP	**PKPdf**	**12 15 29.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=113,slow=3.7,SNR=6.0						
KK31	**Karatay Array**	**133.68 281**		PKPdf	**PKiKP**	**12 15 34.8**	**-0.3**
KKAR	**Karatay Array**	**133.68 281**		PKPdf	**PKiKP**	**12 15 34.8**	**-0.2**
KURBB	**Kurchatov Arra**	**136.43 293**		PKP	**PKPdf**	**12 15 35.5**	**-3.0**
	comp=Z,0.6nm,0.5s,baz=111,slow=2.1,SNR=4.2						
YKA	**Yellowknife Ar**	**137.35**	**40**	PKP	**PKPdf**	**12 15 38.6**	**-1.3**
	comp=Z,0.1nm,0.8s,baz=230,slow=1.3,SNR=4.3						
BVAR	**Borovoye Array**	**141.52 290**		PKP	**PKPdf**	**12 15 45.5**	**-2.4**
	comp=Z,0.8nm,0.7s,baz=98,slow=2.9,SNR=4.1						
KBZ	**Khabaz**	**145.91 256**		PKPbc	**PKPdf**	**12 15 56.1**	**+0.2**
	comp=Z,6.1nm,1.0s,baz=166,slow=4.2,SNR=4.0						
BRTR	**Keskin Array B**	**146.21 241**		PKPbc	**PKPdf**	**12 15 55.8**	**-0.9**
	comp=Z,4.6nm,1.1s,baz=160,slow=4.6,SNR=10						

0.8nm,0.6s
ASAR Alice Springs 67.64 261 P **P 12 11 34.2 +0.1**
0.4nm,0.8s,baz=137,slow=5.5,SNR=4.2
ASAR LR LR 12 36 48.6
comp=Z,180nm,20.6s,baz=100,slow=32
0.4nm,0.8s
H01W1 Cape Leeuwin H 68.82 239 T T 13 27 24.2
baz=145,slow=76,SNR=38
H01W2 Cape Leeuwin H 68.83 239 T T 13 27 30.1
baz=145,slow=76,SNR=40
H01W3 Cape Leeuwin H 68.84 239 T T 13 27 22.0
baz=145,slow=76,SNR=33
NWAO Narrogin (SRO) 68.93 242 LR LR 12 33 40.9
comp=Z,404nm,20.4s,baz=30,slow=29
WRA Warramunga Arr 70.39 263 P **P 12 11 50.5 -0.8**
0.4nm,0.8s,baz=141,slow=6.0,SNR=1.2
WRA LR LR 12 38 43.0
comp=Z,347nm,19.9s,baz=160,slow=32
0.4nm,0.8s
FITZ Fitzroy Crossi 76.64 258 LR LR 12 41 44.9
comp=Z,419nm,21.7s,baz=137,slow=32
JAY Jayapura 81.16 279 LR LR 12 45 30.8
comp=Z,131nm,20.0s,baz=148,slow=33
JTS Las Juntas de 81.21 56 LR LR 12 41 15.9
comp=Z,363nm,19.4s,baz=122,slow=30
CMIG Matias Romero 83.06 44 LR LR 12 42 13.4
comp=Z,106nm,21.1s,baz=199,slow=30
LPIG La Paz 84.53 28 LR LR 12 43 18.3
comp=Z,117nm,18.8s,baz=206,slow=30
SDV Santo Domingo 87.05 69 LR LR 12 48 05.6
comp=Z,305nm,19.2s,baz=174,slow=33
KAPI Kappang 90.65 260 LR LR 12 50 53.0
comp=Z,283nm,21.2s,baz=149,slow=33
PCRV Puerto La Cruz 91.28 74 LR LR 12 49 15.4
comp=Z,268nm,21.0s,slow=32
PFO Pinyon Flats O 92.27 21 LR LR 12 45 43.3
comp=Z,169nm,19.4s,baz=216,slow=29
BOSA Boshof 94.47 168 LR LR 12 54 47.1
comp=Z,308nm,18.1s,baz=184,slow=34
LEM Lembang 95.60 249 LR LR 12 50 50.7
comp=Z,55nm,21.9s,baz=146,slow=32
ANMO Albuquerque 95.85 28 LR LR 12 49 12.7
comp=Z,133nm,18.7s,baz=8.5,slow=30
NVAR Mina Array Bea 96.61 18 LR LR 12 49 08.2
comp=Z,122nm,18.1s,baz=174,slow=30
SJG San Juan 97.13 68 LR LR 12 54 53.2
comp=Z,94nm,18.1s,baz=214,slow=34
YBH Yreka Blue Hor 99.16 14 LR LR 12 48 49.3
comp=Z,203nm,20.6s,baz=184,slow=29
ILAR Eielson Array 121.03 357 PKP **PKiKP 12 19 29.2 +0.9**
0.5nm,0.9s,baz=208,slow=1.7,SNR=2.3

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*IDC **22** 12:03:07.6±1.7, 7°.80S×116°.59E, h0km, mb3.4/3, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=27.8km s-min=22.7km az=94.0*
*DJA **22** 12:03:09.5±0.2, 8°.5±2°×11°.6E±°, h10km, M4.1/17, mb4.5/2, MLv3.9/17*
ISC 22 12:03:11.8±0.9, 7°.84S±0°.06×116°.52E±0°.04, h35km, n18, σ1§45/24, mb3.5/3, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.96**	**158**	P	**Pn**	**12 03 27.8**	**-0.9**
TWSI				S	**Sn**	**12 03 41.9**	**+0.7**
SRBI	**Singaraja**	**1.32**	**259**	P	**Pn**	**12 03 32.4**	**-1.3**
SRBI				S	**Sn**	**12 03 49.6**	**-0.4**
DNP	**Denpasar**	**1.54**	**237**	P	**Pn**	**12 03 36.8**	**+0.1**
DNP				S	**Sn**	**12 03 57.4**	**+1.9**
PLAI	**Plampang**	**1.58**	**128**	P	**Pn**	**12 03 37.8**	**+0.5**
PLAI				S	**Sn**	**12 04 00.4**	**+3.8**
ABJI	**Asem Bagus**	**2.27**	**271**	P	**Pn**	**12 03 46.3**	**-0.4**
JAGI	**Jajag, Banyuwa**	**2.43**	**255**	P	**Pn**	**12 03 47.9**	**-1.0**
KMMI	**Kalianget**	**2.65**	**287**	P	**Pn**	**12 03 52.5**	**+0.5**
GMJI	**Gumukmas**	**3.08**	**262**	P	**Pn**	**12 03 58.8**	**+0.9**
WBSI	**Waikabubak, Su**	**3.35**	**122**	P	**Pn**	**12 04 01.3**	**-0.4**
WSI	**Waingapu**	**4.15**	**116**	P	**Pn**	**12 04 13.3**	**+0.6**
KAPI	**Kappang**	**4.27**	**49**	Pn	**Pn**	**12 04 12.8**	**-1.5**
1.6nm,0.3s,baz=232,slow=6.1,SNR=2.4							
KAPI				Sn	**Sn**	**12 05 03.2**	**+0.3**
3.2nm,0.3s,baz=60,slow=20,SNR=4.4							
KAPI				Lg	Lg	12 05 20.6	
3.0nm,0.3s,baz=208,slow=22,SNR=5.8							
4.4nm,0.2s							
BKSI	**Bulukumba**	**4.37**	**55**	P	**Pn**	**12 04 16.0**	**+0.3**
PCJI	**Pacitan**	**5.30**	**266**	P	**Pn**	**12 04 28.8**	**+0.3**
66nm,1.8s							
UGM	**Wanagama**	**5.94**	**269**	P	**Pn**	**12 04 37.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**13.52**	**140**	Pn	**Pn**	**12 06 20.5**	**-0.6**
0.1nm,0.3s,baz=322,slow=19,SNR=1.2							
FITZ				Sn	**Sn**	**12 08 46.3**	**-3.9**
0.1nm,0.3s,baz=297,slow=11,SNR=2.0							
2.8nm,1.0s							
WRA	**Warramunga Arr**	**21.04**	**127**	P	**P**	**12 07 52.7**	**-0.1**
1.4nm,0.6s,baz=302,slow=12,SNR=20							
1.4nm,0.6s							
ASAR	**Alice Springs**	**22.92**	**135**	P	**P**	**12 08 13.4**	**+0.5**
0.5nm,0.5s,baz=311,slow=9.2,SNR=11							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**62.34**	**334**	P	**P**	**12 13 31.7**	**+1.1**
0.5nm,0.7s,baz=123,slow=7.9,SNR=4.4							
0.5nm,0.7s							

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*TAP **22** 12:05:48.9, 24°.49N×122°.46E, h89km, ML4.9, C*
*ASIES **22** 12:05:48.9, 24°.49N×122°.46E, h89km, ML4.9, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.45; $M_{\theta\theta}$-0.78; $M_{\phi\phi}$-0.16; $M_{r\theta}$-0.13; $M_{\theta\phi}$0.88; $M_{\phi r}$-0.84; Fault plane solution: $M_0$1.69273×10^{22} NP1: ϕ_s280.42000°, δ43.78000°, λ48.67000°. NP2: ϕ_s151.04000°, δ58.70000°, λ122.33000°. Principal axes: T Plg61.3920°, Azm113.1940°; N Plg27.1890°, Azm312.8340°; P Plg8.2300°, Azm218.5730°;*
*NIED **22** 12:05:49.0, 24°.42N×122°.46E, h81km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.95; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-0.22; $M_{r\theta}$-0.26; $M_{\theta\phi}$0.83; $M_{\phi r}$-0.69; Fault plane solution: $M_0$1.40000×10^{15} NP1: ϕ_s277.00000°, δ49.00000°, λ43.00000°. NP2: ϕ_s156.00000°, δ59.00000°, λ130.00000°.*
*NEIC **22** 12:05:49.0±1.2, 24°.53N±0°.05×122°.46E±0°.04, h81km±6km, mb4.6/16 Error ellipse: s-maj=7.9km s-min=5.0km az=183.0*
*JMA **22** 12:05:49.0±0.2, 24°N1°×122°.5E±0°.4, h81km±1km, MD4.0/18, MV4.3/18, NW OFF ISHIGAKIJIMA IS*
*IDC **22** 12:05:50.8±3.4, 24°.58N×122°.62E, h107km±34km, mb3.4/11, mbtmp3.8/13, MS2.7/2, Error ellipse: s-maj=28.5km s-min=13.4km az=65.0*
ISC 22 12:05:48.9±0.6, 24°.48N±0°.02×122°.49E±0°.02, h86km±4km, n231, σ1§00/380, mb4.3/19, 47C-28D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.24**	**256**	⇑*i*P	**Pn**	**12 06 02.0**	**+0.5**
EOS2				*e*S	**Sn**	**12 06 12.0**	**+1.2**
EOS3	**EOS3**	**0.25**	**220**	⇑*i*P	**Pn**	**12 06 02.0**	**+0.5**
EOS3				*i* S	**Sn**	**12 06 11.8**	**+1.1**
EOS4	**EOS4**	**0.39**	**204**	P	**Pn**	**12 06 01.9**	**-0.1**
EOS4				*e*S	**Sn**	**12 06 11.9**	**+0.2**
JYNG	**Yonagunijimaku**	**0.41**	**94**	*i* P	**Pn**	**12 06 02.6**	**0.0**
JYNG				S	**Sn**	**12 06 12.3**	**-0.4**
JYNG	**Yonagunijimaku**	**0.41**	**94**	A	A	12 06 02.6	
comp=N,26nm,0.9s,comp=E,26nm,1.2s							
YOJ	**Yonaguni jima**	**0.47**	**92**		**Pn**	**12 06 03.1**	**+0.1**
YOJ				Sn	**Sn**	**12 06 12.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.47**	**92**	P	**Pn**	**12 06 02.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.47**	**92**	S	**Sn**	**12 06 13.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.47**	**92**	⇓*i*P	**Pn**	**12 06 03.1**	**+0.1**
YOJ				S	**Sn**	**12 06 13.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.47**	**92**	*i* P	**Pn**	**12 06 03.1**	**+0.1**
YOJ				S	**Sn**	**12 06 12.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.47**	**92**	A	A	12 06 03.1	
comp=N,16nm,0.6s,comp=E,17nm,0.5s							
ESAO	**Su ao**	**0.60**	**280**	⇑*i*P	**Pn**	**12 06 03.7**	**-0.4**
ESAO				S	**Sn**	**12 06 14.8**	**-0.6**
EGS		**0.63**	**306**	⇑*i*P	**Pn**	**12 06 04.2**	**-0.2**
EGS				*e*S	**Sn**	**12 06 15.0**	**-0.8**
EWUT	**Wuta**	**0.65**	**267**	⇑P	**Pn**	**12 06 04.3**	**-0.2**
EWUT				S	**Sn**	**12 06 15.5**	**-0.7**
ENA	**Nanau**	**0.69**	**266**	⇑*i*P	**Pn**	**12 06 04.6**	**-0.3**
ENA				*e*S	**Sn**	**12 06 16.6**	**-0.3**
TWB1	**Santiao Chiao**	**0.70**	**319**	⇑*i*P	**Pn**	**12 06 04.7**	**-0.4**
TWB1				*i* S	**Sn**	**12 06 16.4**	**-0.6**
EAHA	**Aohua**	**0.70**	**258**	⇑*i*P	**Pn**	**12 06 05.0**	**-0.1**
EAHA				*e*S	**Sn**	**12 06 17.2**	**+0.1**
EHP	**Heping Village**	**0.70**	**256**	*e*P	**Pn**	**12 06 05.1**	**0.0**
EHP				*e*S	**Sn**	**12 06 17.3**	**+0.1**
NTC	**Toucheng**	**0.71**	**302**	*e*P	**Pn**	**12 06 05.3**	**+0.1**
NTC				*e*S	**Sn**	**12 06 16.9**	**-0.4**
NDS	**Dongshan**	**0.72**	**283**	⇑*i*P	**Pn**	**12 06 05.2**	**-0.1**
NDS				*e*S	**Sn**	**12 06 17.4**	**-0.1**
ILA	**Ilan**	**0.73**	**293**	⇑*i*P	**Pn**	**12 06 05.5**	**+0.1**
ILA				*i* S	**Sn**	**12 06 17.3**	**-0.4**
TIPB	**Shuangxi**	**0.78**	**309**	⇑*i*P	**Pn**	**12 06 05.7**	**-0.3**
TIPB				*e*S	**Sn**	**12 06 17.7**	**-0.9**
TWE	**Neicheng**	**0.79**	**288**	⇑*i*P	**Pn**	**12 06 05.9**	**0.0**
TWE				*e*S	**Sn**	**12 06 18.2**	**-0.5**
SXI1	**Grass Mountain**	**0.83**	**318**	⇑*i*P	**Pn**	**12 06 06.6**	**+0.1**
SXI1				*i* S	**Sn**	**12 06 19.1**	**-0.6**
ETL	**Fush Village**	**0.85**	**248**	⇑*i*P	**Pn**	**12 06 06.2**	**-0.5**
ETL				*e*S	**Sn**	**12 06 19.1**	**-0.9**
ENTT	**Nioudou**	**0.86**	**281**	⇑*i*P	**Pn**	**12 06 07.1**	**+0.3**
ENTT				*e*S	**Sn**	**12 06 20.0**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.87**	**289**	⇑*i*P	**Pn**	**12 06 07.1**	**+0.2**
FUSB				*e*S	**Sn**	**12 06 19.8**	**-0.6**
NACB	**Ninganchiao**	**0.87**	**250**	Pn	**Pn**	**12 06 06.2**	**-0.7**
NACB				Sn	**Sn**	**12 06 19.0**	**-1.4**
NACB	**Ninganchiao**	**0.87**	**250**	P	**Pn**	**12 06 06.0**	**-0.9**
NACB	**Ninganchiao**	**0.87**	**250**	⇑*i*P	**Pn**	**12 06 06.2**	**-0.7**
NACB				*e*S	**Sn**	**12 06 19.0**	**-1.4**
NWF	**Wu-fen Shan**	**0.88**	**313**	⇑*i*P	**Pn**	**12 06 07.2**	**+0.1**
NWF				*i* S	**Sn**	**12 06 19.9**	**-0.6**
WFSB	**Wu-fen Shan**	**0.88**	**313**	⇑*i*P	**Pn**	**12 06 07.1**	**+0.2**
WFSB				*i* S	**Sn**	**12 06 20.1**	**-0.3**
LATG	**Datong**	**0.88**	**274**	⇑*i*P	**Pn**	**12 06 07.2**	**+0.1**
LATG				*e*S	**Sn**	**12 06 20.3**	**-0.4**
TWD	**Chiawan**	**0.91**	**244**	⇑*i*P	**Pn**	**12 06 06.8**	**-0.5**
TWD				*i* S	**Sn**	**12 06 19.9**	**-1.1**
TNOU	**National Taiwa**	**0.93**	**316**	⇑*i*P	**Pn**	**12 06 08.6**	**+1.0**
TNOU				*i* S	**Sn**	**12 06 21.9**	**+0.3**
NWLT	**Wulai**	**0.95**	**289**	⇑*i*P	**Pn**	**12 06 08.0**	**+0.2**
NWLT				*i* S	**Sn**	**12 06 21.2**	**-0.7**
HWA	**Hwalien**	**0.95**	**239**	P	**Pn**	**12 06 07.8**	**0.0**
HWA				*i* S	**Sn**	**12 06 21.6**	**-0.3**
ETLH	**Xiulin Townshi**	**0.96**	**254**	⇑*i*P	**Pn**	**12 06 07.6**	**-0.4**
ETLH				*e*S	**Sn**	**12 06 21.6**	**-0.6**
TWA	**Mucha**	**0.96**	**301**	⇑*i*P	**Pn**	**12 06 08.9**	**+1.0**
TWA				*e*S	**Sn**	**12 06 21.7**	**-0.5**
NHY	**Taipei**	**1.01**	**304**	*e*P	**Pn**	**12 06 08.6**	**+0.2**
NHY				*e*S	**Sn**	**12 06 22.6**	**-0.4**
NNSB	**Datong**	**1.01**	**267**	⇑*i*P	**Pn**	**12 06 08.5**	**-0.1**
NNSB				*e*S	**Sn**	**12 06 22.8**	**-0.6**
TEYL	**Yanliau Villag**	**1.02**	**234**	*e*P	**Pn**	**12 06 06.2**	**-2.3**
NNS	**Nan Shan**	**1.02**	**268**	⇑*i*P	**Pn**	**12 06 08.6**	**-0.1**
NNS				S	**Sn**	**12 06 22.9**	**-0.6**
YHNB	**Yeheng**	**1.03**	**281**	Pn	**Pn**	**12 06 09.1**	**+0.4**
YHNB				Sn	**Sn**	**12 06 23.3**	**-0.4**
YHNB	**Yeheng**	**1.03**	**281**	P	**Pn**	**12 06 08.7**	**-0.1**
YHNB	**Yeheng**	**1.03**	**281**	⇑*i*P	**Pn**	**12 06 09.2**	**+0.4**
YHNB				S	**Sn**	**12 06 23.5**	**-0.2**
TATO	**Taipei**	**1.04**	**299**		**Pn**	**12 06 08.6**	**-0.2**
TATO				Sn	**Sn**	**12 06 20.9**	**-2.7**
TATO	**Taipei**	**1.04**	**299**	P	**Pn**	**12 06 08.3**	**-0.5**
TATO	**Taipei**	**1.04**	**299**	S	**Sn**	**12 06 22.5**	**-1.2**
ETM	**Tongmen**	**1.04**	**241**	⇑*i*P	**Pn**	**12 06 08.4**	**-0.5**
ETM				*e*S	**Sn**	**12 06 22.9**	**-0.9**
NSK	**Sanguang**	**1.05**	**281**	⇑*i*P	**Pn**	**12 06 09.2**	**+0.3**
NSK				*i* S	**Sn**	**12 06 23.8**	**-0.3**
TAP	**Taipei**	**1.05**	**302**	⇑*i*P	**Pn**	**12 06 08.9**	**0.0**
TAP				*i* S	**Sn**	**12 06 23.1**	**-1.0**
YM08	**YM08**	**1.08**	**311**	⇑*i*P	**Pn**	**12 06 09.1**	**-0.3**
YM08				*e*S	**Sn**	**12 06 23.1**	**-1.5**
SHUL	**Shoufeng**	**1.09**	**231**	⇓P	**Pn**	**12 06 09.2**	**-0.2**
SHUL				S	**Sn**	**12 06 24.6**	**-0.2**
ZUZH	**Zhuzihu**	**1.10**	**309**	⇑*i*P	**Pn**	**12 06 09.4**	**-0.1**
ZUZH				*i* S	**Sn**	**12 06 23.9**	**-1.1**
ANP	**Anpu**	**1.13**	**309**	⇑*i*P	**Pn**	**12 06 09.6**	**-0.3**
ANP				*e*S	**Sn**	**12 06 25.1**	**-0.7**
TWY	**Chenhua**	**1.13**	**315**	⇑*i*P	**Pn**	**12 06 09.4**	**-0.5**
TWY				S	**Sn**	**12 06 24.8**	**-0.9**
IRIF	**Iriomote-Funau**	**1.14**	**97**	*i* P	**Pn**	**12 06 10.2**	**+0.3**
IRIF				S	**Sn**	**12 06 25.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.14**	**97**	A	A	12 06 10.2	
comp=N,12nm,1.1s,comp=E,7.0nm,1.1s							
TWS1	**Kuangyinshan**	**1.16**	**303**	⇑*i*P	**Pn**	**12 06 09.3**	**-0.8**
TWS1				S	**Sn**	**12 06 24.3**	**-1.9**
TEGC	**Jichi Village**	**1.16**	**229**	P	**Pn**	**12 06 10.0**	**-0.2**
TEGC				*e*S	**Sn**	**12 06 26.0**	**-0.2**
FUSS	**Fushou**	**1.16**	**259**	⇑P	**Pn**	**12 06 10.6**	**+0.2**
FUSS				*e*S	**Sn**	**12 06 26.6**	**-0.1**
WHF	**Hehuan Shan**	**1.17**	**254**	P	**Pn**	**12 06 10.7**	**-0.1**
WHF				*i* S	**Sn**	**12 06 26.1**	**-1.0**
NTST	**Danshui**	**1.17**	**306**	⇑*i*P	**Pn**	**12 06 10.5**	**+0.2**
NTST				S	**Sn**	**12 06 25.9**	**-0.5**
ESL	**Shilin**	**1.17**	**236**	⇓*i*P	**Pn**	**12 06 09.7**	**-0.7**
ESL				*e*S	**Sn**	**12 06 25.5**	**-1.1**
PCYT	**Pengchaiyu**	**1.21**	**342**	⇑*i*P	**Pn**	**12 06 11.6**	**+0.7**
TWT	**Tachien**	**1.22**	**260**	⇑*i*P	**Pn**	**12 06 11.8**	**+0.7**
TWT				*i* S	**Sn**	**12 06 27.8**	**-0.1**
KSHI	**Guanxi Townshi**	**1.23**	**284**	⇑P	**Pn**	**12 06 11.8**	**+0.7**
KSHI				*i* S	**Sn**	**12 06 28.5**	**+0.6**
TDCB	**Techi**	**1.24**	**260**	⇑*i*P	**Pn**	**12 06 11.9**	**+0.6**
TDCB				S	**Sn**	**12 06 27.7**	**-0.5**
NFF	**Wufeng Townshi**	**1.26**	**277**	⇑*i*P	**Pn**	**12 06 12.0**	**+0.5**
NFF				S	**Sn**	**12 06 28.6**	**+0.1**
EGFH	**Guangfu**	**1.26**	**231**	P	**Pn**	**12 06 11.2**	**-0.3**
EGFH				S	**Sn**	**12 06 27.4**	**-1.1**
WARBT	**Fenglin Townsh**	**1.26**	**233**	⇓*i*P	**Pn**	**12 06 10.8**	**-0.7**
WARBT				*e*S	**Sn**	**12 06 26.5**	**-2.0**
HATJ	**Hateruma jima**	**1.27**	**109**	P	**Pn**	**12 06 12.4**	**+0.8**
HATJ				S	**Sn**	**12 06 29.3**	**+0.7**
NCUH	**Zhongli**	**1.28**	**293**	P	**Pn**	**12 06 12.1**	**+0.4**
NCUH				*e*S	**Sn**	**12 06 29.9**	**+0.9**
OWD	**Renai**	**1.31**	**247**	⇓P	**Pn**	**12 06 12.2**	**0.0**
OWD				*e*S	**Sn**	**12 06 28.2**	**-1.5**
WUSB	**Renai**	**1.34**	**249**	⇓*i*P	**Pn**	**12 06 12.9**	**+0.2**
WUSB				*e*S	**Sn**	**12 06 29.0**	**-1.5**
LIOB	**Emei**	**1.35**	**277**	⇑P	**Pn**	**12 06 13.2**	**+0.5**
LIOB				*i* S	**Sn**	**12 06 30.5**	**0.0**
NSTT	**Nanjuang**	**1.36**	**277**	⇑P	**Pn**	**12 06 13.2**	**+0.4**
NSTT				*i* S	**Sn**	**12 06 30.4**	**-0.4**
HGSD	**Ruisui**	**1.38**	**225**	⇓*i*P	**Pn**	**12 06 12.5**	**-0.5**
HGSD				*e*S	**Sn**	**12 06 30.2**	**-0.9**
JKRS	**Kuro-shima**	**1.41**	**99**	*i* P	**Pn**	**12 06 13.9**	**+0.6**
JKRS				S	**Sn**	**12 06 32.1**	**+0.5**
SBCB	**Hsinchu**	**1.41**	**283**	*e*P	**Pn**	**12 06 13.7**	**+0.5**
SBCB				*e*S	**Sn**	**12 06 31.6**	**-0.1**
HSN	**Hsinchu**	**1.42**	**283**	*e*P	**Pn**	**12 06 13.5**	**+0.1**
HSN				*e*S	**Sn**	**12 06 31.2**	**-0.8**
WHP	**Taichung City**	**1.42**	**262**	⇑*i*P	**Pn**	**12 06 14.8**	**+1.3**
WHP				*i* S	**Sn**	**12 06 32.7**	**+0.5**
VWDT	**VWDT**	**1.43**	**240**	⇓*i*P	**Pn**	**12 06 13.9**	**+0.3**
VWDT				S	**Sn**	**12 06 31.0**	**-1.1**
EHYH	**Wanrong**	**1.44**	**227**	*e*P	**Pn**	**12 06 13.1**	**-0.5**
EHYH				*e*S	**Sn**	**12 06 31.2**	**-1.1**
EHY	**Hungye**	**1.44**	**228**	⇓*i*P	**Pn**	**12 06 12.9**	**-0.8**
EHY				*e*S	**Sn**	**12 06 30.6**	**-1.9**
ECBN	**Changbin**	**1.50**	**220**	*e*P	**Pn**	**12 06 14.1**	**-0.4**
ECBN				S	**Sn**	**12 06 32.4**	**-1.3**
WCS	**Beigang Elemen**	**1.50**	**254**	*e*P	**Pn**	**12 06 15.3**	**+0.8**
WCS				S	**Sn**	**12 06 34.4**	**+0.6**
JIJ	**Ishigaki jima**	**1.51**	**94**	*i* P	**Pn**	**12 06 14.7**	**+0.1**
JIJ				S	**Sn**	**12 06 33.5**	**-0.6**
YULB	**Yu-li**	**1.54**	**226**		**Pn**	**12 06 14.2**	**-0.8**
YULB	**Yu-li**	**1.54**	**226**	P	**Pn**	**12 06 13.8**	**-1.2**
YULB	**Yu-li**	**1.54**	**226**	S	**Sn**	**12 06 33.0**	**-1.7**
NMLH	**Miaoli**	**1.55**	**273**	*e*P	**Pn**	**12 06 15.9**	**+0.8**
NMLH				*e*S	**Sn**	**12 06 36.7**	**+1.8**
EYUL	**Yuli**	**1.56**	**224**	P	**Pn**	**12 06 14.9**	**-0.3**
EYUL				*e*S	**Sn**	**12 06 34.2**	**-0.8**
SSLB	**Suanglung**	**1.56**	**244**		**Pn**	**12 06 15.4**	**+0.1**
SSLB	**Suanglung**	**1.56**	**244**	P	**Pn**	**12 06 15.2**	**-0.1**
SSLB	**Suanglung**	**1.56**	**244**	S	**Sn**	**12 06 34.1**	**-1.2**
SSLB	**Suanglung**	**1.56**	**244**	⇓*i*P	**Pn**	**12 06 15.4**	**+0.1**
SSLB				*e*S	**Sn**	**12 06 33.8**	**-1.5**
TWF1	**Yuli**	**1.56**	**225**	⇓*i*P	**Pn**	**12 06 14.7**	**-0.6**
TWF1				S	**Sn**	**12 06 33.8**	**-1.6**
SMLT	**Sun Moon Lake**	**1.57**	**248**	⇓*i*P	**Pn**	**12 06 15.0**	**-0.5**
SMLT				S	**Sn**	**12 06 35.7**	**+0.1**
TWQ1	**Liyutan**	**1.57**	**266**	*e*P	**Pn**	**12 06 16.1**	**+0.7**
TWQ1				*e*S	**Sn**	**12 06 35.4**	**-0.1**
TYC	**Yuchr**	**1.60**	**249**	*e*P	**Pn**	**12 06 16.4**	**+0.7**
TYC				*e*S	**Sn**	**12 06 36.9**	**+0.8**
CHKH	**Chenggong**	**1.63**	**218**	⇓P	**Pn**	**12 06 15.2**	**-0.8**
CHKH				S	**Sn**	**12 06 35.3**	**-1.4**
JISG	**Ishigakijimahi**	**1.66**	**86**	*i* P	**Pn**	**12 06 16.8**	**+0.3**
JISG				S	**Sn**	**12 06 37.2**	**-0.3**
FULB	**Fuli**	**1.68**	**221**	*e*P	**Pn**	**12 06 16.3**	**-0.6**
FULB				S	**Sn**	**12 06 37.2**	**-0.8**
WHYT	**Xinyi Township**	**1.69**	**243**	⇓*e*P	**Pn**	**12 06 17.7**	**+0.8**
WHYT				S	**Sn**	**12 06 39.0**	**+0.8**
TCU	**Taichung**	**1.69**	**259**	*e*P	**Pn**	**12 06 17.8**	**+0.9**
TCU				*e*S	**Sn**	**12 06 38.6**	**+0.5**
WDJ	**Dajia District**	**1.69**	**266**	*e*P	**Pn**	**12 06 18.1**	**+1.2**
WDJ				*e*S	**Sn**	**12 06 37.5**	**-0.8**
CHKT	**Chengkung**	**1.72**	**217**	⇓*i*P	**Pn**	**12 06 16.3**	**-1.0**
CHKT				*e*S	**Sn**	**12 06 36.9**	**-1.9**
YUS	**Yu-Shan**	**1.72**	**235**	*e*P	**Pn**	**12 06 15.6**	**-2.1**
YUS				*e*S	**Sn**	**12 06 36.0**	**-3.6**
WJS	**Zhushan**	**1.74**	**248**	⇓P	**Pn**	**12 06 19.0**	**+1.4**
WJS				*e*S	**Sn**	**12 06 41.4**	**+2.1**
WNT	**Mingjian**	**1.75**	**250**	*e*P	**Pn**	**12 06 19.0**	**+1.2**
WNT				*i* S	**Sn**	**12 06 41.5**	**+1.8**
EHD	**Haiduan**	**1.77**	**222**	*e*P	**Pn**	**12 06 16.6**	**-1.4**
ECS	**Chishang**	**1.80**	**220**	*e*P	**Pn**	**12 06 18.3**	**-0.1**
ECS				S	**Sn**	**12 06 41.2**	**+0.3**
WCHH	**Zhanghua**	**1.81**	**258**	*e*P	**Pn**	**12 06 19.2**	**+0.8**
WCHH				*e*S	**Sn**	**12 06 40.6**	**-0.3**
ALS	**Alishan**	**1.82**	**238**	⇓*i*P	**Pn**	**12 06 19.6**	**+0.7**
ALS				*e*S	**Sn**	**12 06 41.9**	**+0.3**
EDH	**Donghe**	**1.85**	**216**	⇓P	**Pn**	**12 06 18.4**	**-0.6**
EDH				S	**Sn**	**12 06 40.0**	**-1.9**
ELDTW	**Lidau**	**1.86**	**227**	⇓*i*P	**Pn**	**12 06 18.8**	**-0.5**
ELDTW				*e*S	**Sn**	**12 06 40.6**	**-1.8**
CHN5	**Tsauling**	**1.88**	**242**	⇓*i*P	**Pn**	**12 06 20.4**	**+1.0**
CHN5				*i* S	**Sn**	**12 06 44.2**	**+1.6**
WGK	**Gukeng**	**1.93**	**246**	*e*P	**Pn**	**12 06 21.5**	**+1.5**
WGK				*i* S	**Sn**	**12 06 45.8**	**+1.9**
WDL	**Douliou City**	**1.94**	**247**	*e*P	**Pn**	**12 06 22.0**	**+1.8**
WDL				*e*S	**Sn**	**12 06 45.8**	**+1.9**
WDLH	**Douliu**	**1.95**	**247**	*e*P	**Pn**	**12 06 21.7**	**+1.4**
WDLH				S	**Sn**	**12 06 45.6**	**+1.4**
LONT	**Longtian**	**2.00**	**219**	*e*P	**Pn**	**12 06 20.4**	**-0.6**
LONT				*i* S	**Sn**	**12 06 44.0**	**-1.5**
WCKO	**Fanlu**	**2.01**	**239**	⇓P	**Pn**	**12 06 22.6**	**+1.4**
WCKO				*i* S	**Sn**	**12 06 47.6**	**+1.9**
JTJ	**Tarama**	**2.02**	**85**	*i* P	**Pn**	**12 06 21.9**	**+0.7**
JTJ				S	**Sn**	**12 06 46.0**	**+0.1**
LDUT	**Ludao**	**2.03**	**208**	*e*P	**Pn**	**12 06 20.4**	**-0.9**
LDUT				*e*S	**Sn**	**12 06 43.6**	**-2.4**
STYH	**Taoyuan**	**2.04**	**231**	*e*P	**Pn**	**12 06 21.4**	**-0.1**
STYH				*e*S	**Sn**	**12 06 45.6**	**-0.7**
CHN4	**Tsaushan**	**2.07**	**238**	P	**Pn**	**12 06 23.4**	**+1.2**
CHN4				*i* S	**Sn**	**12 06 49.3**	**+2.2**
TPUB	**Ta-pu**	**2.07**	**236**		**Pn**	**12 06 22.7**	**+0.8**
TPUB	**Ta-pu**	**2.07**	**236**	P	**Pn**	**12 06 22.7**	**+0.8**
TPUB	**Ta-pu**	**2.07**	**236**	*e*P	**Pn**	**12 06 22.8**	**+0.8**
TPUB				*e*S	**Sn**	**12 06 48.8**	**+1.7**
WTK	**Tuku**	**2.08**	**248**	*e*P	**Pn**	**12 06 22.9**	**+0.9**
WTK	

```
SXFK Yanhouchang      4.78 295 eP      Pn      12 06 58.1 -0.4
JOW  Kunigami         5.72  65 P       Pn      12 07 10.5 -0.8
     comp=E,50nm,0.3s,baz=123,slow=24,SNR=71
JOW                             S       Sn      12 08 11.8 -3.9
     comp=E,20nm,0.3s,baz=98,slow=26,SNR=1.9
HKPS Hong Kong Po S   7.98 256 Pn      Pn      12 07 41.1 -1.0
JMZ  Minamidaito 2    8.03  79 Pn      Pn      12 07 41.1 -1.6
KSRS Korea Array     13.74  18 P       Pn      12 09 00.8 +0.9
     comp=E,1.7nm,0.8s,baz=196,slow=12,SNR=12
JCJ  Chichijima      17.93  77 LR      LR      12 16 25.4
     comp=E,22nm,18.3s,baz=154,slow=36
CMAR Chiang Mai Arr  22.70 259 P       P       12 10 44.7 +1.1
     comp=E,0.5nm,0.6s,baz=73,slow=10,SNR=1.6
CMAR                            LR      LR      12 19 02.3
     comp=E,20nm,21.9s,baz=140,slow=35
     comp=E,0.5nm,0.6s
JKA  Kamikawa-asahi  25.56  35 P       P       12 11 08.5 -1.1
SONM Songino Array   26.58 335 P       P       12 11 18.4 -0.6
     comp=E,0.8nm,0.8s,baz=143,slow=8.0,SNR=4.7
     comp=E,0.8nm,0.8s
MK31 Makanchi Array  38.96 315 P       P       12 13 06.3 -0.2
MKAR Makanchi Array  38.96 315 P       P       12 13 06.0 -0.6
MKAR Makanchi Array  38.96 315 P       P       12 13 06.7 +0.1
     comp=E,0.3nm,0.4s,baz=98,slow=10,SNR=9.1
     comp=E,0.3nm,0.4s
KNRA Kununurra       40.38 171 P       P       12 13 18.5  0.0
KNRA                            IAmb    IAmb    12 13 31.8
     comp=Z,21nm,1.3s
ZALV Zalesovo Beam   40.65 326 P       P       12 13 19.6 -0.8
     comp=Z,0.4nm,0.4s,baz=119,slow=12,SNR=2.1
     comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 42.66 319 P       P       12 13 36.8  0.0
     comp=Z,0.2nm,0.3s,baz=111,slow=10.0,SNR=1.1
     comp=Z,0.2nm,0.3s
COEN Coen            43.21 150 P       P       12 13 43.1 +1.5
COEN                            IAmb    IAmb    12 14 06.2
     comp=Z,8.2nm,0.9s
WB0  Warramunga Arr  45.48 164 P       P       12 14 00.2 +0.5
WB0                             IAmb    IAmb    12 14 01.0
     comp=Z,11nm,1.1s
WRAB Tennant Creek   45.63 164 P       P       12 14 01.4 +0.6
WRAB                            IAmb    IAmb    12 14 02.1
     comp=Z,18nm,1.1s
WRA  Warramunga Arr  45.63 164 P       P       12 14 01.6 +0.8
WRA  Warramunga Arr  45.63 164 P       P       12 14 01.3 +0.4
     comp=Z,6.8nm,0.5s,baz=347,slow=8.8,SNR=62
WR8  Warramunga Arr  45.69 164 P       P       12 14 01.8 +0.5
BVAR Borovoye Array  48.21 320 P       P       12 14 20.4 -0.2
     comp=Z,0.4nm,0.5s,baz=111,slow=7.9,SNR=2.1
     comp=Z,0.4nm,0.5s
AS31 Alice Springs   49.12 166 P       P       12 14 29.2 +1.3
ASAR Alice Springs   49.12 166 P       P       12 14 28.9 +1.0
     comp=Z,4.8nm,0.7s,baz=344,slow=9.4,SNR=52
     comp=Z,4.8nm,0.7s
ABKAR Akbulak array  54.09 314 P       P       12 15 04.8 +0.1
EIDS Eidsvold        56.76 149 P       P       12 15 24.7 +0.7
EIDS                            IAmb    IAmb    12 15 26.3
     comp=Z,9.1nm,1.3s
BBOO Buckleboo       58.42 167 P       P       12 15 36.3 +0.7
STKA Stephens Creek  58.94 161 P       P       12 15 39.4 +0.2
STKA                            IAmb    IAmb    12 16 00.6
     comp=Z,3.7nm,0.8s
STKA Stephens Creek  58.94 161 P       P       12 15 38.0 -1.1
     comp=Z,1.0nm,0.5s,baz=315,slow=13,SNR=1.8
     comp=Z,1.0nm,0.5s
J17K VABM Dome       63.24  30 P       P       12 16 08.2 +0.3
J17K                            IAmb    IAmb    12 16 32.4
     comp=Z,8.5nm,1.4s
B21K Ikpikpuk River  64.82  23 P       P       12 16 17.6 -0.5
B21K                            IAmb    IAmb    12 16 41.0
     comp=Z,5.5nm,1.4s
B22K Teshekpuk Lake  65.20  22 P       P       12 16 21.3 +0.8
F21K Alatna River    65.39  25 P       P       12 16 22.1 +0.2
BMAR Burnt Mountain  68.77  24 P       P       12 16 43.3  0.0
SCM  Sheep Creek Mo  68.82  31 P       P       12 16 44.1 +0.3
FINES FINESS Array B 71.79 330 P       P       12 17 01.1 -0.6
     comp=Z,4.5nm,0.9s,baz=132,slow=32,SNR=3.1
     comp=Z,4.5nm,0.9s
NOA  NORSAR Array B  78.52 332 P       P       12 17 39.5 -1.1
     comp=Z,0.7nm,0.8s,baz=66,slow=9.8,SNR=1.0
     comp=Z,0.7nm,0.8s
YKA  Yellowknife Ar  82.23  23 P       P       12 17 59.2 -1.1
     comp=Z,0.3nm,0.7s,baz=313,slow=5.2,SNR=5.8
     comp=Z,0.3nm,0.7s
```

*IDC **22** 12:11:37.8±1.1,27°.25N×140°.87E,h471km±10km,mb3.1/8, mbtmp3.9/8,Error ellipse: s-maj=41.4km s-min=25.1km az=9.0*

ISC 22 12:11:39.5±1.3,28°.0N±0°.3×141°.0E±0°.2,h450km,n9, σ0°97/10,mb3.6/8,Bonin Islands region

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Code Station Name      Δ°   AZ°  Phase ID        Time     Res
                                Op    ISC       h m s    ISC
JCJ  Chichijima      1.38 129   P     P       12 12 36.9 -0.3
     38nm,0.4s,baz=106,slow=23,SNR=9.6
JCJ                             S     S       12 13 24.6 +0.9
     47nm,0.6s,baz=279,slow=23,SNR=5.5
SONM Songino Array  33.35 316   P     P       12 17 40.3 +1.6
     0.2nm,0.3s,baz=131,slow=8.0,SNR=1.7
     0.2nm,0.3s
ZALV Zalesovo Beam  48.13 319   P     P       12 19 36.9  0.0
     0.8nm,0.4s,baz=99,slow=9.0,SNR=4.0
     0.8nm,0.4s
MKAR Makanchi Array 49.10 309   P     P       12 19 43.3 -1.0
     0.2nm,0.4s,baz=96,slow=8.1,SNR=4.8
     0.2nm,0.4s
KURBB Kurchatov Arra 51.67 314  P     P       12 20 02.8 -0.3
     1.1nm,0.2s,baz=93,slow=7.1,SNR=6.7
     1.1nm,0.2s
BVAR Borovoye Array 56.68 317   P     P       12 20 38.3 -0.4
     1.4nm,0.4s,baz=94,slow=7.2,SNR=16
     1.4nm,0.4s
YKA  Yellowknife Ar 71.87  28   P     P       12 22 15.9 +0.5
     0.1nm,0.7s,baz=296,slow=5.6,SNR=3.1
     0.1nm,0.7s
YBH  Yreka Blue Hor 76.30  50   P     P       12 22 40.9 -0.2
     1.8nm,0.6s,baz=287,slow=3.3,SNR=2.3
     1.8nm,0.6s
FINES FINESS Array B 76.69 333  P     P       12 22 41.5 -1.3
     2.6nm,0.9s,baz=71,slow=5.7,SNR=4.5
     2.6nm,0.9s
```

*MOS **22** 12:17:16.5±0.9,36°.58N×71°.01E,h196km,mb4.6/33,Error ellipse: s-maj=5.3km s-min=3.2km az=87.8*
*BJI **22** 12:17:17.3,36°.77N×70°.91E,h199km,mB4.9/12,mb4.5/45*
*NEIC **22** 12:17:18.5±2.0,36°.57N±0°.06×70°.90E±0°.07,h195km±5km, mb4.6/142,Error ellipse: s-maj=8.6km s-min=8.2km az=119.0*
*IDC **22** 12:17:18.1±0.5,36°.44N×70°.99E,h202km±4km,mb4.1/30, mbtmp4.7/35,MS4.1/3,Error ellipse: s-maj=8.8km s-min=7.8km az=31.0*
*NNC **22** 12:17:24.4±1.8,37°.18N×71°.07E,h218km±19km,mb4.0, mpv5.2,Error ellipse: s-maj=16.4km s-min=10.5km az=12.0*

ISC 22 12:17:17.0±0.3,36°.48N±0°.03×71°.02E±0°.03,h191km±3km, h191km:pP-P,n682,σ173/698,mb4.6/166,37C-18D, Afghanistan-Tajikistan border region

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Code Station Name      Δ°   AZ°  Phase ID        Time     Res
                                Op    ISC       h m s    ISC
KBL  Kabul           2.52 220   Pn    Pn      12 18 01.7 +0.9
KBL  Kabul           2.52 220   PN    Pn      12 18 01.7 +0.9
GAR  Garm            2.58 348         Pn      12 18 01.1 -0.3
CHGR Chuyangaron     2.63 326         Pn      12 18 01.2 -0.7
CHGR Chuyangaron     2.63 326   PN    Pn      12 18 01.2 -0.7
SIMJ Simiganj        2.70 324         Pn      12 18 02.1 -0.7
DZET Dzherino        2.90 324   PN    Pn      12 18 04.3 -0.9
DRK  Karamyk         3.06  11   Pn    Pn      12 18 07.7 +0.5
DRK  Karamyk         3.06  11   PN    Pn      12 18 07.7 +0.5
NIL  Nilore          3.36 146   Pn    Pn      12 18 13.2 +2.5
NIL  Nilore          3.36 146   PN    Pn      12 18 13.2 +2.5
BTK  Batken          3.58 358         Pn      12 18 13.9 +0.6
BTK  Batken          3.58 358   PN    Pn      12 18 13.9 +0.6
SRNI Srinagar        3.93 126   eP    Pn      12 18 13.0 -4.6
SRNI                            eS    Sn      12 18 58.0 -7.1
OHH  Osh             4.27  18   PN    Pn      12 18 21.9  0.0
JMU  Jammu           4.93 138   ex    Pn      12 18 31.0 +0.7
JMU                             eS    Sn      12 19 22.8 -5.2
JMU                             IAML          12 19 28.6
     comp=E,515nm,0.6s
JMU                             IAML          12 19 29.7
     comp=N,477nm,0.5s
KSH  Kashi           4.95  51   P     Pn      12 18 27.1 -3.6
KSH                             S     Sn      12 19 18.9 -10
KSH                             smax  smax
     comp=N,1μm,0.8s
KSH                             smax  smax
     comp=N,690nm,0.7s
TRKS Terek-Say       5.05   1   PN    Pn      12 18 30.7 -1.2
ARSB Arslanbob       5.08  17   Pn    Pn      12 18 31.5 -0.8
ARSB Arslanbob       5.08  17   PN    Pn      12 18 31.5 -0.8
ARK  Arkit           5.36   8   PN    Pn      12 18 35.3 -0.7
THN  Thein Dam       5.60 135   eP    Pn      12 18 40.6 +1.7
THN                             eS    Sn      12 19 41.2 -2.2
THN                             IAML          12 19 46.9
     comp=E,317nm,0.4s
THN                             IAML          12 19 48.2
     comp=N,339nm,0.3s
IUG  Iuzhnay         5.71 353   ePN   Pn      12 18 39.8 -0.7
IUG  Iuzhnay         5.71 353   eP    Pn      12 18 39.8 -0.7
ARLS Aral            5.96  24   PN    Pn      12 18 42.8 -0.9
AML  Almayashu       6.01  19   P     Pn      12 18 44.2 -0.4
     SNR=915
UCH  Uchtor          6.35  24   P     Pn      12 18 49.0 -0.1
     SNR=82
DZA  Taraz           6.41   2   ePN   Pn      12 18 48.2 -1.2
DZA  Taraz           6.41   2   eP    Pn      12 18 48.2 -1.2
EKS2 Erkin-Say       6.53  18   P     Pn      12 18 50.9 -0.3
     SNR=228
BRLS Borolday        6.61 352   ePN   Pn      12 18 47.6 -4.4
BRLS Borolday        6.61 352   eP    Pn      12 18 47.7 -4.4
KK31 Karatay Array   6.63 357         Pn      12 18 51.4 -0.9
KK31 Karatay Array   6.63 357   P     Pn      12 18 51.0 -1.3
     comp=N,91nm,0.4s,baz=188,slow=18,SNR=1669
KK31                            ⇑S    Sn      12 20 00.1 -7.7
     comp=N,217nm,0.7s,baz=168,slow=15,SNR=8.6
KK31 Karatay Array   6.63 357   PN    Pn      12 18 51.4 -0.9
KKAR Karatay Array   6.63 357         Pn      12 18 51.3 -1.0
KKAR Karatay Array   6.63 357         Pn      12 18 51.4 -1.0
KKAR Karatay Array   6.63 357   PN    Pn      12 18 51.3 -1.0
AAK  Ala-Archa       6.71  22   P     Pn      12 18 53.4 -0.1
     comp=N,86nm,0.3s,baz=205,slow=7.9,SNR=339
AAK                             S     Sn      12 20 04.1 -5.8
     comp=N,118nm,0.7s,baz=163,slow=21,SNR=8.6
AAK                             LR    LR      12 22 01.3
     comp=N,37nm,19.2s,baz=80,slow=42
AAK  Ala-Archa       6.71  22   P     Pn      12 18 53.4 -0.1
     SNR=128
AAK  Ala-Archa       6.71  22   ⇓P    Pn      12 18 53.0 -0.5
     comp=N,146nm,0.7s
AAK                             ⇓S    Sn      12 20 03.4 -6.5
     comp=N,230nm,0.8s
AAK  Ala-Archa       6.71  22   i P   Pn      12 18 53.4 -0.1
     SNR=186
BHK  Bhakra          6.75 137   eP    Pn      12 18 54.0  0.0
BHK                             eS    Sn      12 20 07.9 -2.8
KBK  Karagaybulak    6.88  25   P     Pn      12 18 55.8 +0.1
     SNR=205
SRGN SRI GANGA NAGA  6.96 159   eP    Pn      12 18 52.4 -4.4
SRGN                            eS    Sn      12 20 05.5 -10
SRGN                            IAML          12 20 15.5
     comp=E,403nm,0.3s
SRGN                            IAML          12 20 17.6
     comp=N,179nm,0.2s
ULHL Ulahol          7.04  33   P     Pn      12 18 57.2 -0.6
     SNR=14
CHMS Chumysh         7.12  23   P     Pn      12 18 58.3 -0.4
     SNR=14
CHMS Chumysh         7.12  23   ⇑P    Pn      12 18 57.9 -0.8
     comp=N,175nm,0.6s
CHMS                            ⇑S    Sn      12 20 12.3 -7.0
     comp=N,96nm,0.6s
USP  Ospenovka       7.29  20   P     Pn      12 19 00.7 -0.2
     SNR=46
TKM2 Tokmak 2        7.34  27   P     Pn      12 19 01.6 -0.2
     SNR=580
TKM2 Tokmak 2        7.34  27   ⇓P    Pn      12 19 01.6 -0.2
     comp=N,401nm,0.6s
TKM2 Tokmak 2        7.34  27   i PN  Pn      12 19 01.0 -0.7
TKM2                            pmax  pmax
     comp=Z,401nm,0.6s
TARG Taragay, Kyrgy  7.44  43   Pn    Pn      12 19 02.8 -0.4
TARG Taragay, Kyrgy  7.44  43   PN    Pn      12 19 02.8 -0.4
HRA  Herat           7.46 256   Pn    Pn      12 19 03.3 -0.2
SGDS Sogindy         7.50  21   ePN   Pn      12 19 02.5 -1.1
SGDS Sogindy         7.50  21   eP    Pn      12 19 02.6 -1.1
WUS  Wushi           7.95  51   Pn    Pn      12 19 10.1 +0.5
TNSS Tian-Shan       7.98  33   ePN   Pn      12 19 09.3 -1.0
TNSS Tian-Shan       7.98  33   eP    Pn      12 19 09.3 -1.0
AAA  Alma-Ata        8.11  32   ePN   Pn      12 19 11.1 -0.6
AAA  Alma-Ata        8.11  32   eP    Pn      12 19 11.1 -0.6
KNDC Almaty          8.13  32   ⇑P    Pn      12 19 12.2 +0.2
     comp=Z,331nm,1.1s
KNDC                            ⇑S    Sn      12 20 38.3 -5.1
     comp=Z,96nm,0.8s
KNDC Almaty          8.13  32   PN    Pn      12 19 12.2 +0.2
BKNR BIKANER         8.65 167   eP    Pn      12 19 18.2 -0.6
BKNR                            eS    Sn      12 20 50.5 -5.3
BKNR                            IAML          12 20 54.8
     comp=N,290nm,0.4s
BKNR                            IAML          12 20 55.0
     comp=E,473nm,0.6s
CHKK Chushkaly       8.67  30   ePN   Pn      12 19 17.6 -1.3
CHKK Chushkaly       8.67  30   eP    Pn      12 19 17.7 -1.3
SATY Saty            8.69  39   ePN   Pn      12 19 18.4 -0.9
SATY Saty            8.69  39   eP    Pn      12 19 18.4 -0.9
RTK  Rohtak          8.70 147   eP    Pn      12 19 19.3 -0.1
RTK                             IAmb  IAmb    12 19 19.8
     comp=Z,271nm,0.6s
RTK                             eS    Sn      12 20 52.2 -4.8
BTLS Baital          8.86  14   ePN   Pn      12 19 20.1 -1.2
BTLS Baital          8.86  14   eP    Pn      12 19 20.2 -1.2
UZB  Uzynbulak       9.07  40   eP    Pn      12 19 23.7 -0.6
UZB  Uzynbulak       9.07  40   eP    Pn      12 19 23.8 -0.6
BHGR Bahadurgarh     9.23 146   eP    Pn      12 19 26.2 -0.2
BHGR                            eS    Sn      12 21 04.5 -5.1
JOSI Joshimath       9.25 127   eP    Pn      12 19 28.1 +1.2
JOSI                            eS    Sn      12 21 05.9 -4.6
JOSI                            IAML          12 21 11.2
     comp=N,563nm,0.7s
JOSI                            IAML          12 21 18.9
     comp=E,455nm,0.7s
SHLS Shalkode        9.31  42   eP    Pn      12 19 29.6 +2.2
SHLS Shalkode        9.31  42   eP    Pn      12 19 29.6 +2.2
ARXS Arharly         9.31  32   eP    Pn      12 19 25.6 -1.7
NDI  New Delhi       9.36 144   eP    Pn      12 19 27.8 -0.4
NDI                             eS    Sn      12 21 05.4 -7.5
NDI                             IAML          12 21 07.2
     comp=E,112nm,0.0s
NDI                             IAML          12 21 10.0
     comp=N,192nm,0.9s
NPLP NPLP New Delhi  9.38 145   eP    Pn      12 19 27.9 -0.5
NPLP                            eS    Sn      12 21 07.5 -5.7
PDGK Podgornoye      9.44  41   ⇑P    Pn      12 19 27.7 -1.4
     comp=N,11nm,0.7s
PDGK Podgornoye      9.44  41   P     Pn      12 19 27.7 -1.4
LDR  Lodi Road       9.45 145   eP    Pn      12 19 28.5 -0.7
LDR                             eS    Sn      12 21 08.7 -6.1
LDR                             IAML          12 21 15.3
     comp=E,483nm,0.8s
LDR                             IAML          12 21 15.4
     comp=N,314nm,0.5s
AYAN Aya Nagar       9.49 145   eP    Pn      12 19 29.4 -0.4
AYAN                            eS    Sn      12 21 09.0 -6.8
KUDL Kundal          9.51 149   eP    Pn      12 19 29.4 -0.6
KUDL                            eS    Sn      12 21 09.1 -7.1
KUDL                            IAML          12 21 11.0
     comp=E,346nm,0.7s
KUDL                            IAML          12 21 11.9
     comp=N,119nm,0.8s
JASL Jaisalmer       9.53 181   eP    Pn      12 19 28.3 -2.0
JASL                            eS    Sn      12 21 09.4 -7.3
JASL                            IAML          12 21 16.0
     comp=E,402nm,0.5s
JASL                            IAML          12 21 16.2
     comp=N,311nm,0.5s
SONA Sohna           9.67 146   eP    Pn      12 19 32.2 +0.1
SONA                            eS    Sn      12 21 12.5 -7.6
SONA                            IAML          12 21 20.3
     comp=N,174nm,0.5s
SONA                            IAML          12 21 22.7
     comp=E,351nm,0.4s
TKRD Thakurdwara     9.84 136   eS    Sn      12 21 21.4 -2.8
UGON Onchagaon      10.01 143   eP    Pn      12 19 36.5  0.0
UGON                            eS    Sn      12 21 23.4 -4.8
UGON                            IAML          12 21 27.4
     comp=E,413nm,0.4s
UGON                            IAML          12 21 27.9
     comp=N,421nm,0.5s
TDK  Taldyqorghan   10.19  31   eP    Pn      12 19 37.5 -1.2
TDK  Taldyqorghan   10.19  31   eP    Pn      12 19 37.6 -1.2
PTH  Pithoragarh    10.36 129   eP    Pn      12 19 40.1 -1.1
PTH                             eS    Sn      12 21 29.3 -7.5
AJM  Ajmer          10.43 162   eP    Pn      12 19 42.3 +0.2
AJM                             eS    Sn      12 21 34.9 -3.6
AJM                             IAML          12 21 36.0
     comp=E,76nm,0.5s
AJM                             IAML          12 21 39.4
     comp=N,76nm,0.7s
LGTI Lohaghat       10.44 130   eP    Pn      12 19 41.0 -1.1
LGTI                            eS    Sn      12 21 30.7 -7.8
LGTI                            IAML          12 21 35.6
     comp=E,145nm,0.6s
LGTI                            IAML          12 21 36.2
     comp=N,270nm,0.7s
OTUK Ortayu         11.80   4   ⇑P    Pn      12 19 56.7 -2.7
     comp=N,38nm,1.1s
OTUK Ortayu         11.80   4   P     Pn      12 19 56.7 -2.7
OTUK                            S     Sn      12 22 01.9 -8.8
JHNI Jhansi         12.72 148   eP    Pn      12 20 12.5 +1.1
JHNI                            eS    Sn      12 22 24.6 -8.5
JHNI                            IAML          12 22 26.9
     comp=E,100nm,0.7s
JHNI                            IAML          12 22 29.6
     comp=N,65nm,0.6s
GUNA GUNA           12.98 154   eP    Pn      12 20 14.0 -0.6
GUNA                            IAmb    IAmb    12 20 16.1
     comp=Z,67nm,0.6s
GUNA                            eS    Sn      12 22 29.7 -10
MAKZ Makanchi       13.16  35   Pn    Pn      12 20 15.9 -0.8
MAKZ Makanchi       13.16  35   ⇑P    Pn      12 20 15.0 -1.7
     comp=Z,32nm,1.1s
MAKZ Makanchi       13.16  35   P     Pn      12 20 15.9 -0.8
MK31 Makanchi Array 13.30  36   Pn    Pn      12 20 17.6 -0.8
MK31 Makanchi Array 13.30  36   ⇓P    Pn      12 20 17.0 -1.4
     comp=Z,6.6nm,0.7s,baz=226,slow=10,SNR=72
MK31 Makanchi Array 13.30  36   i P   Pn      12 20 17.0 -1.4
MK31                            pmax  pmax
     comp=Z,7.0nm,0.6s
MKAR Makanchi Array 13.30  36   Pn    Pn      12 20 17.4 -1.0
MKAR Makanchi Array 13.30  36   P     Pn      12 20 17.9 -0.6
     comp=Z,8.0nm,0.8s,baz=219,slow=9.4,SNR=68
BRZS Berezniki      13.55   5   eP    Pn      12 20 20.1 -1.4
BRZS Berezniki      13.55   5   eP    Pn      12 20 20.1 -1.4
ALBI Allahabad      14.47 137   eP    Pn      12 20 33.9 +0.8
WMQ  Urumqi         14.70  55   eP    Pn      12 20 33.6 -2.2
WMQ                             pmax  pmax
     comp=Z,16nm,0.7s
NRDN NARMADA NAGAR  14.71 157   eP    P       12 20 39.5 +2.2
NRDN                            IAmb    IAmb    12 20 42.8
     comp=Z,37nm,1.0s
NRDN                            ex    x       12 23 17.4
ZSN  Zaisan         15.02  39   eP    Pn      12 20 39.6  0.0
ZSN  Zaisan         15.02  39   eP    Pn      12 20 39.7  0.0
AB31 Akbulak array  15.11 331   Pn    Pn      12 20 39.3 -1.5
AB31 Akbulak array  15.11 331   P     Pn      12 20 38.9 -2.0
     comp=Z,52nm,0.8s,baz=144,slow=12,SNR=450
AB31 Akbulak array  15.11 331   i P   Pn      12 20 38.8 -2.0
AB31                            S     S       12 23 18.9 -10
ABKAR Akbulak array 15.11 331   Pn    Pn      12 20 38.7 -2.0
KURBB Kurchatov Arra 15.14  19  P     Pn      12 20 38.8 -2.3
     comp=Z,2.9nm,0.3s,baz=208,slow=12,SNR=20
KURK Kurchatov      15.25  19   Pn    Pn      12 20 40.7 -1.7
KURK Kurchatov      15.25  19   ⇑P    Pn      12 20 39.1 -3.3
     comp=Z,9.2nm,0.9s
KURK Kurchatov      15.25  19 ceP    Pn      12 20 40.3 -2.1
KURK                            pmax  pmax
     comp=Z,11nm,1.0s
BANOM Banah         16.39 234   P     P       12 20 55.9  0.0
SHME Shamm          16.41 235   P     P       12 20 56.4 +0.4
BVA0 Borovoye Array 16.55 359   P     P       12 20 57.0 -0.4
     comp=Z,13nm,0.6s,baz=163,slow=12,SNR=105
BVA0 Borovoye Array 16.55 359   i P   P       12 20 56.9 -0.4
BVAR Borovoye Array 16.55 359   P     P       12 20 57.1 -0.3
     comp=Z,22nm,0.5s,baz=170,slow=13,SNR=80
AKL  Akola          16.57 160   eP    Pn      12 20 59.7 +1.0
AKL                             IAmb    IAmb    12 21 04.1
     comp=Z,29nm,0.6s
AKL                             eS    S       12 23 55.2 -6.0
BRVK Borovoye       16.59 358   P     P       12 20 57.3 -0.5
BRVK Borovoye       16.59 358   ⇓P    P       12 20 56.7 -1.0
     comp=Z,18nm,0.6s
BRVK Borovoye       16.59 358   i P   P       12 20 56.7 -1.0
BRVK                            pmax  pmax
     comp=Z,19nm,0.6s
NGP  Nagpur         16.80 153   eP    Pn      12 21 05.5 +4.1
NGP                             eS    S       12 23 59.6 -6.4
AKTO Aktyubinsk     16.81 330   P     Pn      12 21 00.7 -0.6
     comp=Z,54nm,0.7s,baz=138,slow=8.8,SNR=64
AKTO                            LR    LR      12 28 02.5
     comp=Z,190nm,21.1s,baz=252,slow=38
AKTO Aktyubinsk     16.81 330   ⇓P    Pn      12 21 00.8 -0.5
     comp=Z,39nm,0.7s
MSFE Esma-Masafi    16.87 233   P     Pn      12 21 03.5 +1.2
WSAR Wadi Sarin     16.99 222   P     Pn      12 21 04.0 +0.2
     baz=61,slow=24,SNR=6.8
UOSS Minazif        17.14 232   P     P       12 21 03.2 -0.8
UOSS                            IAmb    IAmb    12 21 15.7
     comp=Z,10nm,0.6s
UOSS Minazif        17.14 232   P     P       12 21 03.6 -0.4
BLSP Bilaspur       17.25 143   IAmb    IAmb    12 21 10.0
     comp=Z,30nm,0.9s
BLSP                            eS    S       12 24 10.8 -4.3
HATD Hatta, Dubai   17.27 232   P     Pn      12 21 08.2 +1.3
ASHO Ashiyiah       17.41 232   P     P       12 21 08.2 +1.0
SOHO SOHO           17.52 229   P     P       12 21 08.9 +0.7
LKRN Lenkeran, Azer 17.76 284   P     P       12 21 11.6 +0.9
ASUD Al Ashush, Dub 17.92 233   P     Pn      12 21 14.4 -0.2
ALNE Al Ain         18.06 231   i P   P       12 21 15.3 +1.2
     SNR=14
LSA  Lhasa          18.16 106   P     Pn      12 21 19.1 +1.3
SEKA Sheki          19.13 292   P     P       12 21 25.9 +0.3
GOMU GeErMu         19.16  84   P     Pn      12 21 29.8 +0.3
GOMU                            pP    P       12 21 35.8 +9.4
GOMU                            pmax  pmax
     comp=Z,12nm,0.6s
MNGR Mingechevir, A 19.17 290   P     P       12 21 27.2 +1.2
GANJ Ganja          19.74 290   P     P       12 21 33.4 +1.3
ZAA0 Zalesovo Array 19.93  24   IAmb    IAmb    12 21 39.1
     comp=Z,15nm,0.7s
ZALV Zalesovo Beam  19.93  24   P     P       12 21 34.0  0.0
ZALV Zalesovo Beam  19.93  24   P     P       12 21 34.3 +0.3
     comp=Z,9.9nm,0.4s,baz=215,slow=11,SNR=53
NAX  Nakhchivan     20.32 285   P     P       12 21 39.8 +1.3
RAGD RAYAGADA       20.35 144   eS    S       12 25 22.4 +6.0
GNI  Garni          20.92 288   P     P       12 21 44.2 -0.6
GNI                             IAmb    IAmb    12 21 53.2
     comp=Z,22nm,0.8s
GNI  Garni          20.92 288   P     P       12 21 45.3 +0.4
     comp=Z,13nm,0.8s,baz=173,slow=9.2,SNR=10
     comp=Z,13nm,0.8s
GNI  Garni          20.92 288 deP     P       12 21 46.8 +1.9
GNI                             pmax  pmax
     comp=Z,39nm,1.4s
GNI  Garni          20.92 288   P     P       12 21 44.6 -0.3
     comp=Z,28nm,1.3s
SVE  Sverdlovsk     21.52 344   eP    P       12 21 51.3 +0.5
SVE                             pmax  pmax
     comp=Z,24nm,0.9s
ARTI Arti           21.67 341   P     P       12 21 51.9 -0.4
ARTI Arti           21.67 341   P     P       12 21 52.8 +0.4
     comp=Z,8.2nm,0.7s,baz=151,slow=5.6,SNR=10
     comp=Z,8.2nm,0.7s
ARTI Arti           21.67 341 d iP    P       12 21 52.6 +0.3
ARTI                            *PP   pP      12 22 26.1 +0.4
ARTI                            S     S       12 25 39.6 +0.6
ARTI                            pmax  pmax
     comp=Z,30nm,1.2s
NCK  Nalchik        22.09 297 ⇑i P    P       12 21 57.2 +0.5
NCK                             pmax  pmax
     comp=Z,26nm,0.8s
KBZ  Khabaz         22.63 297   P     P       12 22 01.4 -0.2
     comp=Z,1.9nm,0.6s,baz=119,slow=5.4,SNR=9.8
     comp=Z,1.9nm,0.6s
KBZ  Khabaz         22.63 297 ceP     P       12 22 00.9 -0.7
KBZ                             pmax  pmax
     comp=Z,3.0nm,0.9s
SHA1 Shidzhatmaz    22.80 297 d iP    P       12 22 04.4 +0.9
KIV  Kislovodsk     22.81 298   P     P       12 22 03.5  0.0
KIV  Kislovodsk     22.81 298   eP    P       12 22 03.4  0.0
KIV                             eS    S       12 25 58.0  0.0
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KIV pmax pmax
comp=Z,10.0nm,1.0s
GTA Gaotai 22.86 74 *eP* **P 12 22 06.0 +2.1**
GTA pP pP 12 22 43.6 +4.0
GTA pmax pmax
comp=Z,7.0nm,1.0s
RAYN Ar Rayn 25.50 247 P **P 12 22 27.8 -0.1**
RAYN IAmb IAmb 12 22 34.0
comp=Z,17nm,0.9s
RAYN Ar Rayn 25.50 247 P **P 12 22 27.8 -0.1**
RAYN pmax pmax
comp=Z,17nm,1.0s
RAYN Ar Rayn 25.50 247 *i* P **P 12 22 28.0 +0.1**
SNR=20
VRH Novokhopyorsk 25.54 314 *eP* **P 12 22 27.9 +0.1**
VRH pmax pmax
comp=Z,16nm,1.0s
MOY Mondy 26.11 45 *eP* **P 12 22 35.0 +1.8**
MOY pmax pmax
comp=Z,12nm,2.6s
KIRV Kirov 26.27 334*d i*P **P 12 22 35.0 +0.7**
ANN Anapa 26.66 299 *eP* **P 12 22 37.8 -0.2**
ANN *e**PP **pP 12 23 12.8 -4.1**
ANN *eS* **S 12 27 00.1 +1.4**
ANN pmax pmax
comp=Z,34nm,1.4s
VORD Divnogorie 26.87 313 *eP* **P 12 22 38.4 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 27.03 313 *eP* **P 12 22 39.6 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 27.17 314 P **P 12 22 42.5 0.0**
VORR pmax pmax
comp=Z,21nm,0.6s
LPSR Galich'ya Gora 27.68 316 *eP* **P 12 22 47.4 +0.4**
LPSR pmax pmax
comp=Z,28nm,0.9s
CD2 Chengdu 27.71 92 P **P 12 22 50.8 +3.2**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
PZH PanZhiHua 27.92 102 P **P 12 22 52.8 +3.2**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.1s
SONM Songino Array 28.33 55 P **P 12 22 54.9 +1.8**
SONM Songino Array 28.33 55 P **P 12 22 54.4 +1.3**
comp=Z,4.1nm,0.8s,baz=256,slow=9.9,SNR=24
SONM pP **pP 12 23 35.5 +2.1**
comp=Z,1.9nm,1.0s,baz=259,slow=9.9,SNR=2.4
SONM sP **PP 12 23 59.5 -1.3**
comp=Z,1.9nm,0.9s,baz=260,slow=11,SNR=3.5
comp=Z,4.1nm,0.8s
SONM Songino Array 28.33 55 P **P 12 22 54.9 +1.8**
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 28.78 55 P **P 12 22 58.6 +1.7**
ULN Ulaanbaatar 28.78 55*c i*P **P 12 22 58.3 +1.3**
ULN pmax pmax
comp=Z,4.0nm,0.7s
KMI Kunming 29.38 104 P P 12 23 07.6 +5.0
KMI pmax pmax
comp=Z,9.0nm,1.1s
BR131 Keskin Array S 29.46 288 P **P 12 23 01.8 -1.3**
BR131 Keskin Array S 29.46 288⇓*eP* **P 12 23 03.3 +0.2**
BRTR Keskin Array B 29.46 288 P **P 12 23 02.9 -0.2**
BRTR Keskin Array B 29.46 288 P **P 12 23 03.6 +0.6**
comp=Z,1.6nm,0.6s,baz=92,slow=8.4,SNR=9.1
BRTR PcP **PcP 12 26 03.0 -0.8**
comp=Z,1.0nm,0.7s,baz=102,slow=2.7,SNR=3.7
comp=Z,1.6nm,0.6s
BR106 Keskin Array S 29.47 288 P **P 12 23 02.8 -0.4**
comp=Z,2.3nm,0.7s
BR105 Keskin Array S 29.47 288 P **P 12 23 02.8 -0.4**
comp=Z,3.1nm,0.8s
MOS Moscow 29.69 321 *eP* **P 12 23 04.3 -0.4**
MOS *e* 12 24 07.3
MOS pmax pmax
comp=Z,48nm,0.7s
OBN Obninsk 29.97 319 *i* P **P 12 23 06.7 -0.4**
OBN *i* *PP **pP 12 23 47.6 +0.9**
OBN *i* 12 24 12.7
OBN pmax pmax
comp=Z,20nm,1.2s
CHTO Chiang Mai 30.19 118 P **P 12 23 10.3 +0.7**
CHTO Chiang Mai 30.19 118 P **P 12 23 10.3 +0.7**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CM31 Chiang Mai Arr 30.43 119 P **P 12 23 13.2 +1.5**
CMAR Chiang Mai Arr 30.43 119 P **P 12 23 13.4 +1.8**
CMAR Chiang Mai Arr 30.43 119 P **P 12 23 12.0 +0.4**
comp=Z,1.8nm,0.7s,baz=299,slow=8.2,SNR=14
CMAR PcP **PcP 12 26 06.8 +0.4**
comp=Z,1.4nm,0.8s,baz=298,slow=5.0,SNR=5.2
comp=Z,1.8nm,0.7s
CMAR Chiang Mai Arr 30.43 119 *i* P **P 12 23 13.5 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
XAN Xi'an 30.91 83 ⇑P **P 12 23 17.3 +1.4**
XAN pmax pmax
comp=Z,25nm,0.8s
KLMR Klimovskoe 31.51 331 *eP* **P 12 23 19.4 -1.2**
KLMR *e**PP **pP 12 23 59.5 -1.1**
KLMR *e**SP **sP 12 24 23.1 +0.2**
KLMR *e* 12 24 32.1
HHC Hu-ho-hao-te 31.75 70 *eP* **P 12 23 25.5 +2.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.7s
ENH Enshi 32.56 90 P **P 12 23 31.9 +1.7**
ENH IAmb IAmb 12 23 33.8
comp=Z,18nm,1.1s
ELL Elmali 32.82 283 P **P 12 23 33.4 +0.8**
ELL Elmali 32.82 283 P **P 12 23 33.4 +0.8**
ELL pmax pmax
comp=Z,62nm,0.6s
AK09 Malin Array Si 32.92 309 P **P 12 23 32.4 -0.7**
AK10 Malin Array Si 32.94 309 P **P 12 23 32.6 -0.6**
AK08 Malin Array Si 32.94 309 P **P 12 23 32.6 -0.7**
AKASG Malin Array Be 32.97 309 P **P 12 23 33.7 +0.2**
AKASG Malin Array Be 32.97 309 P **P 12 23 33.7 +0.2**
comp=Z,6.9nm,0.5s,baz=83,slow=6.9,SNR=56
AKASG sP **sP 12 24 37.2 +1.9**
comp=Z,1.4nm,0.5s,baz=92,slow=7.1,SNR=2.1
comp=Z,6.9nm,0.5s
AKBB Malin Array Si 32.97 309 P **P 12 23 33.6 +0.1**
AKBB Malin Array Si 32.97 309*de*P **P 12 23 33.6 +0.1**
AKBB Malin Array Si 32.97 309 P **P 12 23 33.0 -0.5**
AK02 Malin Array Si 32.98 309 P **P 12 23 33.0 -0.6**
KIEV Kiev 32.98 309 P **P 12 23 33.6 +0.1**
KIEV Kiev 32.98 309 ⇓P **P 12 23 33.8 +0.2**
KIEV Kiev 32.98 309 ⇓P **P 12 23 33.8 +0.2**
KIEV Kiev 32.98 309 *i* P **P 12 23 33.8 +0.2**
SNR=7.9
KIEV Kiev 32.98 309 P **P 12 23 33.0 -0.6**
comp=Z,86nm,1.1s
MANT Manisa 33.54 286 P **P 12 23 38.0 -0.9**
MANT IAmb IAmb 12 23 40.1
comp=Z,12nm,1.1s
MI30 MI30,Zelenitsa 33.63 309 P **P 12 23 38.9 -0.3**
comp=Z,47nm,1.0s
LUBAR Lubar, Ukraine 33.80 307 P **P 12 23 40.2 -0.5**
MI28 Mi28,Pidlybu 33.98 309 P **P 12 23 41.7 -0.5**
NRIK Noril'sk 34.15 10 P **P 12 23 44.7 +1.3**
NRIK Noril'sk 34.15 10 P **P 12 23 43.9 +0.5**
comp=Z,15nm,0.9s,baz=210,slow=5.2,SNR=14
NRIK pP **pP 12 24 26.5 +2.5**
comp=Z,2.5nm,0.4s,baz=164,slow=2.9,SNR=1.3
NRIK sP **sP 12 24 48.5 +2.3**
comp=Z,7.4nm,0.8s,baz=197,slow=6.0,SNR=2.8
comp=Z,15nm,0.9s
NRIK Noril'sk 34.15 10*c i*P **P 12 23 44.5 +1.1**
NRIK pmax pmax
comp=Z,18nm,0.9s
VRI Vrincioaia 34.25 300 ⇑P **P 12 23 44.9 +0.2**
VRI Vrincioaia 34.25 300 ⇑P **P 12 23 44.9 +0.2**
PLOR Plostina 34.31 300 ⇑P **P 12 23 46.6 +1.4**
PLOR Plostina 34.31 300 ⇑P **P 12 23 46.6 +1.4**
KMPD K-Podol'skiy 34.52 305 P **P 12 23 46.4 -0.5**
HORU Horodok 34.59 306 P **P 12 23 46.9 -0.6**
HNS HongShan 34.70 75 ⇓P **P 12 23 50.9 +2.3**
HNS pmax pmax
comp=Z,7.0nm,1.1s
MLR Muntele Rosu 34.81 299 ⇑P **P 12 23 51.5 +1.9**
MLR Muntele Rosu 34.81 299 ⇑P **P 12 23 51.5 +1.9**
MLR Muntele Rosu 34.81 299 P **P 12 23 48.9 -0.7**
comp=Z,20nm,0.8s
RNPP5 Staryi Chortor 35.14 309 P **P 12 23 51.6 -0.5**
RNPP9 Sopachiv 35.16 310 P **P 12 23 51.8 -0.5**
RNPP8 Varash 35.17 309 P **P 12 23 51.9 -0.5**
DOPR Dopca 35.19 300 ⇑P **P 12 23 51.6 -1.1**
NACGM Naroch 35.24 316 *eP* **P 12 23 53.2 +0.2**
comp=Z,3μm,1.1s
BURAR Bucovina Array 35.31 303 P **P 12 23 54.4 +0.6**
BURAR Bucovina Array 35.31 303 ⇑P **P 12 23 54.5 +0.6**
BURAR Bucovina Array 35.31 303 ⇑P **P 12 23 54.5 +0.6**
BUR08 Bucovina Ar. S 35.32 303 P **P 12 23 54.4 +0.5**
VOIR 35.44 299 ⇑P **P 12 23 55.5 +0.6**
VOIR 35.44 299 ⇑P **P 12 23 55.5 +0.6**
VOIR 35.44 299 P **P 12 23 54.3 -0.6**
ARR Arges 35.73 299 ⇑P **P 12 23 58.2 +0.8**
JOF Joensuu 35.90 330 *eP* **P 12 23 58.7 +0.3**
VSU Vasula 36.21 322⇓*eP* **P 12 24 00.0 -1.2**
VSU pmax pmax
comp=Z,47nm,2.5s
VSU Vasula 36.21 322 *eP* **P 12 24 00.4 -0.7**
MARR Marisel-Cluj 36.74 301 ⇑P **P 12 24 07.4 +1.4**
PABE Paberze 36.95 316 P **P 12 24 07.6 +0.2**
PABE Paberze 36.95 316 *eP* **P 12 24 07.7 +0.2**
KOLS Kolonicke sedl 37.30 305 *eP* **P 12 24 12.3 +1.7**
KOLS Kolonicke sedl 37.30 305 *eP* **P 12 24 12.3 +1.7**
SURR Surduc 37.47 300 ⇑P **P 12 24 13.0 +1.0**
FINES FINESS Array B 37.51 326 P **P 12 24 12.4 +0.3**
comp=Z,8.0nm,0.6s,baz=119,slow=9.3,SNR=34
FINES pP **pP 12 24 55.0 +2.2**
comp=Z,1.8nm,0.6s,baz=111,slow=8.5,SNR=1.5
comp=Z,8.0nm,0.6s
MTSE Matsula 37.75 321 *eP* **P 12 24 14.2 +0.1**
QIZ Qiongzhong 38.20 106 P **P 12 24 19.3 +0.9**
QIZ S **S 12 29 59.5 +1.9**
QIZ LR LR
comp=Z,190nm,9.8s
KEF Keuruu 38.30 327 *eP* **P 12 24 19.0 +0.3**
NIE Niedzica 38.60 306 P **P 12 24 20.6 -0.8**
comp=Z,7.1nm,1.5s
FNA Florina 38.61 292 P **P 12 24 21.5 -0.1**
FNA IAmb IAmb 12 24 46.8
comp=Z,15nm,1.4s
FNA Florina 38.61 292 P **P 12 24 21.5 -0.1**
FNA pmax pmax
comp=Z,15nm,1.4s
OJC Ojcow 38.93 307 P **P 12 24 24.2 +0.1**
OJC IAmb IAmb 12 24 25.4
comp=Z,7.3nm,0.7s
OJC Ojcow 38.93 307 P **P 12 24 24.2 +0.1**
OJC pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 39.15 305 *eP* **P 12 24 28.6 +2.6**
LANS Liptovska Anna 39.15 305 *eP* **P 12 24 28.6 +2.6**
NJ2 Nanjing 39.46 82 *eP* **P 12 24 30.0 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
VAF Ylistaro 39.56 328 *eP* **P 12 24 28.9 -0.1**
VADS Vadso 40.34 339 *eP* **P 12 24 36.1 +0.7**
VADS IAmb IAmb 12 24 36.6
comp=Z,346nm,1.9s
MORC Moravsky Berou 40.39 306 ⇑P **P 12 24 36.7 +0.5**
MORC Moravsky Berou 40.39 306 ⇑P **P 12 24 36.7 +0.5**
DPC Dobruska-Polom 41.16 307 P **P 12 24 41.7 -0.8**
comp=Z,6.7nm,2.5s
ARA0 ARCESS Array S 41.17 338 *eP* **P 12 24 42.2 -0.1**
ARA0 IAmb IAmb 12 24 44.0
comp=Z,28nm,1.0s
ARCES ARCESS Array B 41.17 338 P **P 12 24 42.8 +0.6**
comp=Z,13nm,0.6s,baz=115,slow=8.5,SNR=34
ARCES pP **pP 12 25 25.7 +2.0**
comp=Z,2.8nm,0.5s,baz=119,slow=7.8,SNR=1.8
comp=Z,13nm,0.6s
BLEU Blekinge 41.60 316 *i* P **P 12 24 45.4 -0.5**
CN2 Changchun 41.60 62 P **P 12 24 42.8 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CONA Conrad Observa 41.60 304 *i* P **P 12 24 47.0 +0.8**
comp=Z,5.4nm,1.1s
KTK1 Kautokeino 41.64 336 *eP* **P 12 24 45.8 -0.3**
KTK1 IAmb IAmb 12 24 46.8
comp=Z,24nm,0.3s
BSD Bornholm Skovb 42.04 315 *i* P **P 12 24 48.4 -1.0**
BSD IAmb IAmb 12 24 49.1
comp=Z,22nm,1.0s
HEH HeiHe 42.25 53 *eP* **P 12 24 52.3 +1.1**
HEH pmax pmax
comp=Z,30nm,0.8s
HAMF Hammerfest 42.25 339 *eP* **P 12 24 52.1 +1.1**
HAMF IAmb IAmb 12 24 52.4
comp=Z,432nm,1.9s
PSI Prapat 42.25 136 P **P 12 24 52.5 +0.7**
comp=Z,4.5nm,0.3s,baz=342,slow=24,SNR=8.4
comp=Z,4.5nm,0.3s
SOKA Soboth 42.30 302 *i* P **P 12 24 52.6 +0.8**
comp=Z,4.2nm,0.6s
RPSI Rantau Prapat 42.34 136 P **P 12 24 52.4 +0.1**
RPSI IAmb IAmb 12 24 53.9
comp=Z,17nm,1.3s
RPSI Rantau Prapat 42.34 136 P **P 12 24 52.5 +0.1**
BRG Berggiesshubel 42.65 308 *eP* **P 12 24 56.0 +1.5**
BRG Amp 12 24 56.3
comp=Z,5.4nm,0.7s
DEL Delary 42.69 317 *i* P **P 12 24 54.5 -0.2**
GSI Gunungsitoli 42.76 139 P **P 12 24 58.1 +2.4**
GSI Gunungsitoli 42.76 139 P **P 12 24 53.5 -2.3**
comp=Z,29nm,0.8s
JETT Jettan, Norway 42.79 336 *eP* **P 12 24 54.3 -1.1**
JETT IAmb IAmb 12 24 56.5
comp=Z,24nm,0.9s
LUNU Lund 42.89 315 *i* P **P 12 24 55.5 -0.8**
CUC Castrocucco 42.92 292 P **P 12 24 56.4 -0.5**
GERES GERESS Array B 42.96 305 P **P 12 24 57.7 +0.6**
comp=Z,0.4nm,0.5s,baz=98,slow=8.3,SNR=2.6
GERES PcP **PcP 12 26 43.2 -0.8**
comp=Z,1.5nm,0.9s,baz=94,slow=5.4,SNR=3.6
HFS Hagfors 43.09 322 P **P 12 24 58.1 +0.2**
comp=Z,19nm,0.6s,baz=98,slow=11,SNR=47
HFS pP **pP 12 25 40.8 +1.2**
comp=Z,3.2nm,0.3s,baz=170,slow=27,SNR=3.6
HFS sP **sP 12 26 03.6 +2.1**
comp=Z,4.6nm,0.5s,baz=104,slow=11,SNR=2.6
comp=Z,19nm,0.6s
CLL Collm 43.22 309 *eP* **P 12 24 59.0 0.0**
CLL Collm 43.22 309 *eP* **P 12 24 59.0 0.0**
PRED Cave del Predi 43.33 302 P **P 12 24 60.0 -0.1**
FABU Falkenberg 43.35 317 *i* P **P 12 24 59.6 -0.3**
BORU Boraas 43.35 318 *i* P **P 12 24 59.4 -0.6**
KBA Koelnbreinsper 43.39 303 *i* P **P 12 25 00.5 -0.2**
comp=Z,2.4nm,0.6s
DGAR Diego Garcia 43.68 178⇓*eP* **P 12 25 07.2 +4.2**
DGAR pmax pmax
comp=Z,136nm,2.3s
LESA Schwarzleotal 43.80 303 *i* P **P 12 25 04.0 +0.1**
comp=Z,5.7nm,0.5s
FAUS Fauske 43.83 333 IAmb IAmb 12 25 03.5
comp=Z,78nm,1.4s
FAUS *eP* **P 12 25 03.8 +0.2**
MOR8 Moi Rana 43.84 331 *eP* **P 12 25 03.3 -0.5**
MOR8 IAmb IAmb 12 25 04.0
comp=Z,40nm,0.5s
YAK Yakutsk 43.98 35 P **P 12 25 05.5 +0.6**
YAK Yakutsk 43.98 35 *eP* **P 12 25 05.1 +0.2**
YAK pmax pmax
comp=Z,15nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
TJOU Tjoern 43.99 319 *i* P **P 12 25 01.6 -3.4**
STEI Steigen 44.00 333 IAmb IAmb 12 25 08.7
comp=Z,1μm,2.5s
NC405 NORSAR Array S 44.17 323 P **P 12 25 06.3 -0.2**
NC405 IAmb IAmb 12 25 08.0
comp=Z,14nm,0.8s
NC602 NORSAR Array S 44.22 323 *eP* **P 12 25 06.7 -0.1**
STRU Stroemstad 44.27 320 *i* P **P 12 25 05.9 -1.3**
NC303 NORSAR Array S 44.35 323 P **P 12 25 08.0 0.0**
LEIR Leirfjorden 44.36 330 *eP* **P 12 25 08.0 +0.2**
LEIR IAmb IAmb 12 25 11.4
comp=Z,514nm,2.5s
NB201 NORSAR Array S 44.37 323 P **P 12 25 07.8 -0.3**
NB201 IAmb IAmb 12 25 08.3
comp=Z,28nm,1.1s
NB2 NORSAR Subarra 44.41 323 P **P 12 25 07.9 -0.5**
comp=Z,20nm,0.8s,baz=96,slow=7.9
NB2 pP **pP 12 25 51.2 +0.9**
comp=Z,3.5nm,0.8s,baz=96,slow=8.6
NB2 NORSAR Subarra 44.41 323 P **P 12 25 07.9 -0.5**
baz=96,slow=7.9
NOA NORSAR Array B 44.41 323 P **P 12 25 08.2 -0.2**
comp=Z,14nm,0.8s,baz=96,slow=7.8,SNR=53
NOA pP **pP 12 25 51.5 +1.2**
comp=Z,2.4nm,0.7s,baz=96,slow=8.0,SNR=2.6
NOA sP **sP 12 26 13.3 +1.3**
comp=Z,4.7nm,0.7s,baz=95,slow=8.0,SNR=5.5
comp=Z,14nm,0.8s
VAGH Vaagaholmen 44.43 331 *eP* **P 12 25 08.5 0.0**
VAGH IAmb IAmb 12 25 09.2
comp=Z,366nm,2.0s
KONS Konsvik 44.44 331 *eP* **P 12 25 08.1 -0.3**
KONS IAmb IAmb 12 25 12.2
comp=Z,544nm,2.4s
STOK Stokkvaagen 44.44 331 *eP* **P 12 25 08.1 -0.4**
STOK IAmb IAmb 12 25 09.4
comp=Z,462nm,2.0s
GRA1 Grafenberg Arr 44.49 307 P **P 12 25 07.1 -2.1**
GRF Grafenberg Arr 44.49 307 P **P 12 25 07.1 -2.1**
GRF pmax pmax
comp=Z,7.0nm,0.8s
NBO00 NORSAR Array S 44.62 323 P **P 12 25 09.2 -0.9**
NBO00 IAmb IAmb 12 25 11.0
comp=Z,26nm,1.0s
NC204 NORSAR Array S 44.65 323 P **P 12 25 09.1 -1.2**
CTI Castel Tesino 44.70 302 P **P 12 25 08.8 -2.2**
CTI Castel Tesino 44.70 302 P **P 12 25 08.8 -2.2**
CTI pmax pmax
comp=Z,5.0nm,0.6s
CESX Cesi 44.71 297 P **P 12 25 09.2 -1.8**
OVD Ostervraa, Den 44.73 318 *i* P **P 12 25 07.3 -3.6**
OVD IAmb IAmb 12 25 11.7
comp=Z,85nm,0.7s
SQTA Sankt Quirin 44.82 303 *eP* **P 12 25 11.9 0.0**
comp=Z,2.5nm,0.5s
KONO Kongsberg 45.11 321 *eP* **P 12 25 13.8 -0.1**
KONO IAmb IAmb 12 25 14.2
comp=Z,22nm,1.1s
KLR Kul'dur 45.14 54*c i*P **P 12 25 15.2 +0.9**
KLR pmax pmax
comp=Z,12nm,2.5s
FETA Feichten 45.17 303 *i* P **P 12 25 14.2 -0.6**
comp=Z,2.1nm,0.5s
FUORN Ofenpass-Fuorn 45.55 303 P **P 12 25 16.2 -1.7**
DAVA Damuels 45.70 304 *i* P **P 12 25 18.8 -0.1**
comp=Z,9.3nm,0.6s
PPI Padang Panjang 45.76 137 P **P 12 25 18.6 -0.9**
TIXI Tiksi 45.79 22 P **P 12 25 19.3 +0.3**
TIXI IAmb IAmb 12 25 20.3
comp=Z,15nm,0.8s
TIXI Tiksi 45.79 22⇑*i*P **P 12 25 19.4 +0.3**
TIXI pmax pmax
comp=Z,11nm,0.9s
SKAR Skarslia 45.80 322 *eP* **P 12 25 20.1 +0.7**
SKAR IAmb IAmb 12 25 20.4
comp=Z,68nm,1.6s
VLA Vladivostok 46.33 62⇑*eP* **P 12 25 23.8 +0.1**
VLA pmax pmax
comp=Z,13nm,0.8s
LODK Lodwar 46.46 233 P **P 12 25 25.8 +0.7**
BLS5 Blasjo 46.71 321 *eP* **P 12 25 26.9 +0.4**
SPA0 Spitsbergen Ar 47.52 347 *eP* **P 12 25 33.6 +1.2**
SPITS Spitsbergen Ar 47.52 347 P **P 12 25 33.4 +1.0**
comp=Z,30nm,1.1s,baz=118,slow=8.7,SNR=8.3
comp=Z,30nm,1.1s
SENIN Lac Senin/Sane 47.61 303 P **P 12 25 33.1 -0.7**
KMBO Kilima Mbogo 48.83 228 P **P 12 25 44.2 +0.7**
KMBO Kilima Mbogo 48.83 228 P **P 12 25 44.0 +0.5**
comp=Z,7.4nm,0.5s,baz=36,slow=12,SNR=17
comp=Z,7.4nm,0.5s
KMBO Kilima Mbogo 48.83 228 *i* P **P 12 25 45.2 +1.7**
KMBO pmax pmax
comp=Z,7.0nm,0.5s
KMBO Kilima Mbogo 48.83 228 *i* P **P 12 25 45.2 +1.7**
SNR=7.6
KEST Kesra 49.06 289 P **P 12 25 45.5 +0.6**
comp=Z,2.6nm,0.5s,baz=329,slow=5.5,SNR=2.3
comp=Z,2.6nm,0.5s
KIBK Kibwezi 49.34 226 P **P 12 25 47.9 +0.7**
KIBK IAmb IAmb 12 25 49.6
comp=Z,12nm,0.6s
KLI Kotabumi 51.88 135 P **P 12 26 05.6 -0.5**
EKA Eskdalemuir Ar 52.31 316 P **P 12 26 08.4 -0.3**
comp=Z,2.4nm,0.6s,baz=80,slow=7.9,SNR=5.6
comp=Z,2.4nm,0.6s
MBAR Mbarara 52.51 235 P **P 12 26 11.2 +0.3**
MBAR IAmb IAmb 12 26 12.4
comp=Z,12nm,0.7s
MBAR Mbarara 52.51 235*ce*P **P 12 26 12.0 +1.1**
MBAR pmax pmax
comp=Z,4.0nm,0.7s
MA2 Magadan 54.37 38 P **P 12 26 24.5 +0.8**
MA2 Magadan 54.37 38⇑*eP* **P 12 26 24.0 +0.3**
MA2 pmax pmax
comp=Z,10.0nm,2.5s
SEY Seymchan 54.43 34⇑*iP* **P 12 26 24.8 +0.8**
SEY pmax pmax
comp=Z,5.0nm,1.0s
ESDC Sonseca Array 57.48 298 P **P 12 26 45.8 -0.4**
comp=Z,1.5nm,0.6s,baz=64,slow=7.6,SNR=12
comp=Z,1.5nm,0.6s
BILL Bilibino 58.62 26 P **P 12 26 54.5 +1.0**
BILL IAmb IAmb 12 26 55.1
comp=Z,5.8nm,0.6s
BILL Bilibino 58.62 26*de*P **P 12 26 53.7 +0.2**
BILL pmax pmax
comp=Z,7.0nm,0.8s
NEEM North Greenlan 61.06 348 *i* P **P 12 27 09.5 -0.8**
NEEM IAmb IAmb 12 27 12.2
comp=Z,22nm,1.4s
SUMG Summit 61.09 341 P **P 12 27 12.1 +1.4**
SUMG IAmb IAmb 12 27 12.7
comp=Z,19nm,1.2s
SUMG Summit 61.09 341 P **P 12 27 12.1 +1.4**
SUMG pmax pmax
comp=Z,19nm,1.2s
SUMG Summit 61.09 341 *i* P **P 12 27 10.0 -0.7**
SUMG IAmb IAmb 12 27 13.1
comp=Z,18nm,1.2s
EUNU Eureka 63.03 356 P **P 12 27 24.6 +1.5**
ICESG Greenland Ices 63.24 338 *i* P **P 12 27 25.0 0.0**
ICESG IAmb IAmb 12 27 26.5
comp=Z,14nm,0.9s
LSZ Lusaka 65.45 226 P **P 12 27 40.3 +0.5**
LSZ IAmb IAmb 12 27 41.1
comp=Z,7.8nm,0.7s
LSZ Lusaka 65.45 226 LR LR 12 57 23.7
comp=Z,239nm,19.5s,baz=156,slow=37
LSZ Lusaka 65.45 226 P **P 12 27 40.3 +0.5**
LSZ pmax pmax
comp=Z,8.0nm,0.7s
TORD Torodi Ar. Bea 65.73 269 P **P 12 27 39.3 -2.3**
TORD Torodi Ar. Bea 65.73 269 P **P 12 27 39.8 -1.8**
comp=Z,3.6nm,0.5s,baz=32,slow=6.0,SNR=7.3
comp=Z,3.6nm,0.5s
A19K Wainwright 67.18 17 P **P 12 27 50.9 +1.0**
baz=316
A21K Barrow 67.33 15 P **P 12 27 51.3 +0.5**
baz=320
C16K Lisburne Hills 67.47 20 P **P 12 27 51.8 +0.1**
C16K IAmb IAmb 12 27 53.0
comp=Z,11nm,0.7s
C16K Lisburne Hills 67.47 20 P **P 12 27 52.1 +0.4**
baz=314
B18K Kokolik River 67.62 18 P **P 12 27 53.9 +1.3**
baz=316
C17K DeLong Mountai 67.91 19 P **P 12 27 55.2 +0.8**
baz=315
A22K Sinclair Lake 67.92 15 P **P 12 27 55.4 +0.9**
baz=321
B20K Meade River 68.22 16 P **P 12 27 57.3 +0.9**
baz=320
RDOG Red Dog Mine 68.28 19 P **P 12 27 57.1 +0.3**
baz=316
C18K Utukok River 68.29 18 IAmb IAmb 12 27 58.3
comp=Z,12nm,0.8s
C18K Utukok River 68.29 18 P **P 12 27 57.6 +0.7**
baz=317
D17K Noatak River 68.48 19 P **P 12 27 58.5 +0.5**
baz=316,SNR=17

TNA	**Tin City**	68.58	23	P	P	12 27 59.1 +0.5
	baz=312					
B22K	**Teshekpuk Lake**	68.76	15	IAmb	IAmb	12 28 01.6
	comp=Z,16nm,1.0s					
B22K	**Teshekpuk Lake**	68.76	15	P	P	12 28 00.4 +0.7
	baz=323,SNR=9.5					
B21K	**Ikpikpuk River**	69.08	16	IAmb	IAmb	12 28 03.5
	comp=Z,13nm,0.8s					
B21K	**Ikpikpuk River**	69.08	16	P	P	12 28 02.5 +0.9
	baz=322					
F14K	**Arctic Creek**	69.12	22	P	P	12 28 03.0 +1.0
	baz=314					
D19K	**Kuna River**	69.16	17	P	P	12 28 02.7 +0.5
D19K	**Kuna River**	69.16	17	P	P	12 28 02.7 +0.5
	baz=319,SNR=26					
E17K	**Hotham Inlet**	69.27	19	P	P	12 28 03.3 +0.4
	baz=317					
E18K	**Tukpahlearik C**	69.34	19	IAmb	IAmb	12 28 04.8
	comp=Z,14nm,1.0s					
E18K	**Tukpahlearik C**	69.34	19	P	P	12 28 03.9 +0.6
	baz=318					
D20K	**Etivluk River**	69.35	17	P	P	12 28 04.0 +0.6
	baz=321					
C21K	**Knifeblade Rid**	69.41	16	P	P	12 28 04.5 +0.7
	baz=322					
F15K	**North Star Dit**	69.46	21	P	P	12 28 05.2 +1.1
	baz=315,SNR=12					
C23K	**Itkillik River**	69.74	14	P	P	12 28 06.8 +1.1
	baz=325					
E20K	**Nigu River**	69.80	17	P	P	12 28 06.8 +0.6
	baz=321					
F17K	**Baldwin Pennin**	69.89	20	P	P	12 28 07.4 +0.8
F17K	**Baldwin Pennin**	69.89	20	P	P	12 28 07.5 +0.8
	baz=317,SNR=9.5					
ANM	**Nome**	70.05	22	P	P	12 28 08.9 +1.2
	baz=315					
D22K	**Ayikyak River**	70.09	15	P	P	12 28 08.7 +0.8
	baz=324					
G15K	**Niukluk**	70.15	22	P	P	12 28 09.1 +0.8
	baz=316					
E21K	**Killik River**	70.16	16	IAmb	IAmb	12 28 09.6
	comp=Z,13nm,0.9s					
E21K	**Killik River**	70.16	16	P	P	12 28 08.6 +0.2
	baz=323					
E19K	**Redstone River**	70.17	18	P	P	12 28 08.6 +0.2
	baz=320					
F18K	**Selawik**	70.21	19	P	P	12 28 08.9 +0.3
	baz=319,SNR=8.8					
C24K	**Franklin Bluff**	70.21	14	IAmb	IAmb	12 28 10.1
	comp=Z,10.0nm,0.7s					
C24K	**Franklin Bluff**	70.21	14	P	P	12 28 09.3 +0.7
	baz=327					
G16K	**Koyuk River**	70.35	21	P	P	12 28 10.2 +0.7
	baz=317					
D23K	**Nanushuk River**	70.44	15	IAmb	IAmb	12 28 11.9
	comp=Z,9.0nm,0.9s					
D23K	**Nanushuk River**	70.44	15	P	P	12 28 10.8 +0.8
	baz=325					
F19K	**Shaleruckik Mo**	70.52	18	P	P	12 28 10.4 -0.1
	baz=320					
D24K	**Happy Valley**	70.66	14	P	P	12 28 12.1 +0.8
D24K	**Happy Valley**	70.66	14	P	P	12 28 11.9 +0.5
	baz=327,SNR=5.0					
C26K	**Camden Bay**	70.73	12	P	P	12 28 12.5 +0.8
	baz=330					
G17K	**Kiwalik Mounta**	70.76	20	P	P	12 28 12.5 +0.6
	baz=318					
F20K	**Avaraart Lake**	70.86	18	IAmb	IAmb	12 28 13.5
	comp=Z,9.7nm,1.2s					
F20K	**Avaraart Lake**	70.86	18	P	P	12 28 12.5 -0.1
	baz=322					
E22K	**Anaktuvuk Pass**	70.89	16	P	P	12 28 12.8 0.0
E22K				IAmb	IAmb	12 28 14.2
	comp=Z,8.1nm,1.1s					
E22K	**Anaktuvuk Pass**	70.89	16	P	P	12 28 13.1 +0.3
	baz=325,SNR=9.1					
H16K	**Elim**	70.94	21	P	P	12 28 13.9 +0.9
	baz=317					
TOLK	**Toolik Lake Re**	70.94	15	P	P	12 28 14.0 +0.8
TOLK	**Toolik Lake Re**	70.94	15	P	P	12 28 13.9 +0.8
	baz=326,SNR=21					
D25K	**Kavik River**	70.98	13	IAmb	IAmb	12 28 15.4
	comp=Z,10nm,0.8s					
D25K	**Kavik River**	70.98	13	P	P	12 28 14.3 +0.9
	baz=329					
G18K	**Tagagawik**	71.00	19	P	P	12 28 13.3 -0.2
	baz=320					
C27K	**Jago River**	71.19	12	IAmb	IAmb	12 28 16.8
	comp=Z,11nm,0.8s					
C27K	**Jago River**	71.19	12	P	P	12 28 15.8 +1.3
	baz=331					
G19K	**Purcell Mounta**	71.22	19	P	P	12 28 15.0 +0.3
	baz=321,SNR=5.1					
A36M	**Sachs Harbour**	71.23	5	P	P	12 28 15.4 +0.7
A36M	**Sachs Harbour**	71.23	5	P	P	12 28 15.3 +0.7
	baz=346,SNR=27					
F21K	**Alatna River**	71.25	17	IAmb	IAmb	12 28 17.4
	comp=Z,12nm,0.9s					
F21K	**Alatna River**	71.25	17	P	P	12 28 15.4 +0.4
	baz=324					
F22K	**John River**	71.32	16	P	P	12 28 16.0 +0.6
	baz=324					
H17K	**Granite Mounta**	71.39	20	P	P	12 28 16.1 +0.4
	baz=319					
E23K	**Chandalar**	71.42	15	IAmb	IAmb	12 28 17.2
	comp=Z,5.7nm,0.8s					
E23K	**Chandalar**	71.42	15	P	P	12 28 16.6 +0.5
	baz=326					
E24K	**Your Creek**	71.64	15	P	P	12 28 17.9 +0.6
E24K				IAmb	IAmb	12 28 18.5
	comp=Z,6.6nm,0.7s					
E24K	**Your Creek**	71.64	15	P	P	12 28 17.7 +0.4
	baz=327					
H18K	**Honhosa River**	71.65	20	P	P	12 28 17.4 +0.1
	baz=320					
G21K	**Allakaket**	71.82	17	P	P	12 28 17.5 -0.8
G21K				IAmb	IAmb	12 28 19.1
	comp=Z,7.8nm,0.8s					
G21K	**Allakaket**	71.82	17	P	P	12 28 18.6 +0.3
	baz=324					
H19K	**Roundabout Mou**	71.87	19	P	P	12 28 19.2 +0.6
	baz=322					
J14K	**Nanvaranak Lak**	71.92	23	P	P	12 28 19.7 +0.8
	baz=316					
I17K	**Unalakleet**	71.95	21	P	P	12 28 20.0 +0.9
	baz=318					
D27M	**Malcolm River**	71.98	11	P	P	12 28 20.3 +1.0
	baz=333					
COLD	**Coldfoot**	71.99	16	P	P	12 28 19.8 +0.5
COLD				IAmb	IAmb	12 28 21.0
	comp=Z,11nm,1.0s					
COLD	**Coldfoot**	71.99	16	P	P	12 28 19.7 +0.5
	baz=326,SNR=11					
K13K	**Kusilvak Mount**	72.15	24	P	P	12 28 21.1 +0.8
	baz=316					
E25K	**Arctic Village**	72.17	14	P	P	12 28 21.0 +0.6
	baz=330,SNR=8.3					
F24K	**Squaw Lake**	72.23	15	P	P	12 28 21.5 +0.7
	baz=328					
D28M	**Stokes Point**	72.25	11	P	P	12 28 22.2 +1.5
	baz=335					
H20K	**Anotleneega Mo**	72.30	18	P	P	12 28 21.7 +0.5
	baz=323,SNR=11					
GCSA	**Galena City Sc**	72.37	20	P	P	12 28 22.2 +0.6
	baz=321					
J16K	**Anvik River**	72.43	22	IAmb	IAmb	12 28 24.0
	comp=Z,11nm,0.8s					
J16K	**Anvik River**	72.43	22	P	P	12 28 23.0 +1.0
	baz=319,SNR=5.5					
G23K	**Bananza Creek**	72.46	16	P	P	12 28 23.0 +0.8
	baz=326					
F25K	**Christian Rive**	72.61	14	IAmb	IAmb	12 28 25.3
	comp=Z,7.4nm,0.9s					
F25K	**Christian Rive**	72.61	14	P	P	12 28 24.1 +1.1
	baz=330,SNR=8.1					
H21K	**Melozitna Rive**	72.68	17	P	P	12 28 23.7 +0.2
H21K				IAmb	IAmb	12 28 24.4
	comp=Z,8.9nm,1.0s					
H21K	**Melozitna Rive**	72.68	17	P	P	12 28 24.0 +0.6
	baz=324,SNR=6.3					
E28M	**Babbage River**	72.78	11	IAmb	IAmb	12 28 26.1
	comp=Z,17nm,1.4s					
E28M	**Babbage River**	72.78	11	P	P	12 28 25.0 +1.0
	baz=335,SNR=7.6					
J17K	**VABM Dome**	72.80	21	P	P	12 28 24.6 +0.5
	baz=320					
F26K	**Sheenjek River**	72.81	13	P	P	12 28 25.2 +1.0
	baz=331					
E27K	**Coleen River**	72.83	12	P	P	12 28 25.4 +1.1
	baz=333					
H22K	**Ishtalitna Cre**	72.83	17	P	P	12 28 25.2 +0.9
	baz=326					
K15K	**Wolf Creek Mou**	72.89	23	P	P	12 28 26.1 +1.4
	baz=318					
BMAR	**Burnt Mountain**	72.96	14	P	P	12 28 26.4 +1.3
I20K	**Naaghedeneel**	72.96	19	P	P	12 28 26.0 +0.9
	baz=323					
G24K	**Hadweenzic Riv**	73.01	15	IAmb	IAmb	12 28 27.3
	comp=Z,9.5nm,0.8s					
G24K	**Hadweenzic Riv**	73.01	15	P	P	12 28 26.4 +1.0
	baz=328,SNR=5.2					
L14K	**Kuka Creek**	73.23	24	P	P	12 28 28.1 +1.4
	baz=317					
E29M	**Blow River**	73.23	11	IAmb	IAmb	12 28 28.7
	comp=Z,14nm,1.1s					
E29M	**Blow River**	73.23	11	P	P	12 28 27.8 +1.2
	baz=336					
G25K	**Bearman Lake**	73.24	14	P	P	12 28 28.1 +1.5
	baz=330					
I21K	**Tanana**	73.27	17	P	P	12 28 27.9 +1.0
	baz=325					
J19K	**Poorman**	73.30	20	IAmb	IAmb	12 28 28.9
	comp=Z,13nm,1.0s					
J19K	**Poorman**	73.30	20	P	P	12 28 28.1 +1.0
	baz=322,SNR=6.2					
H23K	**Yukon River**	73.31	16	P	P	12 28 28.2 +1.1
H23K				IAmb	IAmb	12 28 29.2
	comp=Z,7.6nm,0.8s					
H23K	**Yukon River**	73.31	16	P	P	12 28 28.4 +1.2
	baz=327					
J18K	**Innoko River**	73.42	20	IAmb	IAmb	12 28 29.4
	comp=Z,9.6nm,0.8s					
J18K	**Innoko River**	73.42	20	P	P	12 28 28.5 +0.7
	baz=322					
J20K	**Nowinta River**	73.55	19	IAmb	IAmb	12 28 30.2
	comp=Z,12nm,0.8s					
J20K	**Nowinta River**	73.55	19	P	P	12 28 29.6 +1.1
	baz=324					
K17K	**Iditarod**	73.55	21	P	P	12 28 29.7 +1.1
	baz=321					
H24K	**Noodor Dome**	73.67	16	IAmb	IAmb	12 28 31.1
	comp=Z,8.1nm,0.9s					
H24K	**Noodor Dome**	73.67	16	P	P	12 28 30.2 +0.9
	baz=328					
C36M	**Paulatuk**	73.90	6	P	P	12 28 30.6 +0.2
	baz=348,SNR=29					
M14K	**Bethel**	73.90	24	P	P	12 28 32.2 +1.6
M14K	**Bethel**	73.90	24	P	P	12 28 31.7 +1.1
	baz=318					
I23K	**Minto, Yukon-K**	73.92	17	P	P	12 28 31.5 +0.8
	baz=327					
INK	**Inuvik**	73.92	9	P	P	12 28 31.2 +0.6
INK				IAmb	IAmb	12 28 32.3
	comp=Z,11nm,0.7s					
INK	**Inuvik**	73.92	9	P	P	12 28 31.1 +0.5
	comp=Z,9.7nm,0.6s,baz=354,slow=6.6,SNR=78					
INK				LR	LR	13 04 39.0
	comp=Z,167nm,19.0s,baz=242,slow=38					
	comp=Z,9.7nm,0.6s					
INK	**Inuvik**	73.92	9	P	P	12 28 31.2 +0.6
INK				pmax	pmax	
	comp=Z,11nm,0.7s					
INK	**Inuvik**	73.92	9	P	P	12 28 31.5 +0.9
	baz=340,SNR=16					
L16K	**Owhat River**	73.97	22	P	P	12 28 32.5 +1.6
L16K				IAmb	IAmb	12 28 33.2
	comp=Z,9.1nm,0.8s					
L16K	**Owhat River**	73.97	22	P	P	12 28 32.2 +1.2
	baz=320					
L17K	**Donlin**	74.00	22	P	P	12 28 32.3 +1.1
	baz=321					
G27K	**Doyon Strip**	74.05	13	IAmb	IAmb	12 28 33.6
	comp=Z,8.1nm,0.7s					
G27K	**Doyon Strip**	74.05	13	P	P	12 28 32.6 +1.1
	baz=333					
K20K	**Telida**	74.23	19	IAmb	IAmb	12 28 34.3
	comp=Z,19nm,1.1s					
K20K	**Telida**	74.23	19	P	P	12 28 33.1 +0.6
	baz=324					
CHUM	**Lake Minchumin**	74.26	18	P	P	12 28 33.4 +0.8
	baz=325					
F30M	**Barrier River**	74.27	10	P	P	12 28 33.4 +0.7
	baz=338					
M15K	**Kasigluk River**	74.36	24	P	P	12 28 34.3 +1.1
	baz=319					
POKR	**Poker Plat Res**	74.38	16	P	P	12 28 34.2 +0.9
	baz=329					
L18K	**Granite Mounta**	74.41	21	P	P	12 28 34.4 +0.8
	baz=322					
BPAW	**Bear Paw Mtn.**	74.41	18	P	P	12 28 34.3 +0.8
	baz=326					
PRP	**Porcupine Dome**	74.44	15	P	P	12 28 34.6 +0.8
	baz=330					
NEA2	**Nenana**	74.45	17	IAmb	IAmb	12 28 35.0
	comp=Z,14nm,0.8s					
NEA2	**Nenana**	74.45	17	P	P	12 28 34.0 +0.3
	baz=328					
COLA	**College**	74.49	16	P	P	12 28 34.6 +0.6
COLA	**College**	74.49	16	P	P	12 28 34.6 +0.6
COLA				pmax	pmax	
	comp=Z,19nm,0.8s					
COLA	**College**	74.49	16	P	P	12 28 34.6 +0.6
	baz=328					
G29M	**Pine Creek**	74.57	11	P	P	12 28 35.2 +0.8
	baz=336					
H27K	**Steamboat Moun**	74.59	13	P	P	12 28 35.6 +1.0
	baz=333,SNR=10					
M16K	**Timber Creek**	74.66	23	P	P	12 28 35.5 +0.5
	baz=320					
LBTB	**Lobatse**	74.67	222	P	P	12 28 36.3 +0.7
LBTB	**Lobatse**	74.67	222	P	P	12 28 36.3 +0.7
LBTB				pmax	pmax	
	comp=Z,37nm,1.4s					
CAST	**Castle Rocks**	74.70	19	P	P	12 28 36.3 +1.1
CAST				IAmb	IAmb	12 28 36.8
	comp=Z,15nm,0.9s					
CAST	**Castle Rocks**	74.70	19	P	P	12 28 35.7 +0.5
	baz=325					
F31M	**Tsiigehtchic**	74.71	10	P	P	12 28 35.9 +0.7
F31M				IAmb	IAmb	12 28 36.7
	comp=Z,13nm,0.8s					
F31M	**Tsiigehtchic**	74.71	10	P	P	12 28 35.7 +0.6
	baz=340,SNR=12					
DBIC	**Dimbokro**	74.71	267	P	P	12 28 34.5 -1.6
	comp=Z,2.3nm,0.5s,baz=23,slow=6.0,SNR=5.0					
	comp=Z,2.3nm,0.5s					
G30M	**tAoh Zraii Nji**	74.79	11	P	P	12 28 35.8 +0.1
G30M				IAmb	IAmb	12 28 37.2
	comp=Z,8.0nm,0.8s					
G30M	**tAoh Zraii Nji**	74.79	11	P	P	12 28 36.2 +0.5
	baz=338					
IL31		74.80	16	P	P	12 28 35.8 +0.1
ILAR	**Eielson Array**	74.80	16	P	P	12 28 35.5 -0.3
ILAR	**Eielson Array**	74.80	16	P	P	12 28 35.6 -0.1
	comp=Z,3.5nm,0.9s,baz=314,slow=5.0,SNR=26					
ILAR				pP	pP	12 29 23.6 +0.9
	comp=Z,1.2nm,0.9s,baz=315,slow=5.0,SNR=2.2					
	comp=Z,3.5nm,0.9s					
M17K	**Holitna River**	74.83	22	P	P	12 28 37.5 +1.5
	baz=322					
KTH	**Kantishna Hill**	74.88	18	P	P	12 28 36.8 +0.5
KTH				IAmb	IAmb	12 28 37.6
	comp=Z,15nm,1.0s					
TSUM	**Tsumeb**	74.92	232	P	P	12 28 37.8 +0.6
TSUM				IAmb	IAmb	12 28 38.3
	comp=Z,10.0nm,1.1s					
L19K	**White Mountain**	74.96	20	P	P	12 28 37.5 +0.7
	baz=323					
L20K	**Farewell, AK**	74.99	20	P	P	12 28 37.6 +0.6
	baz=324					
HDA	**Harding Lake**	75.09	16	P	P	12 28 37.4 -0.1
	baz=329					
PPLA	**Purkeypile**	75.10	19	P	P	12 28 38.3 +0.6
	baz=325					
I26K	**Coal Creek Min**	75.11	14	P	P	12 28 38.3 +0.8
	baz=332					
G31M	**Satah River**	75.12	10	IAmb	IAmb	12 28 38.8
	comp=Z,9.4nm,0.8s					
G31M	**Satah River**	75.12	10	P	P	12 28 37.8 +0.3
	baz=339,SNR=7.1					
I27K	**Kandik River**	75.14	13	P	P	12 28 38.6 +0.9
	baz=333,SNR=5.1					
N16K	**Nishlik Lake**	75.14	23	P	P	12 28 39.3 +1.5
	baz=321					
H29M	**Whitestone**	75.15	12	P	P	12 28 38.8 +1.0
	baz=336,SNR=8.1					
MCK	**McKinley**	75.22	17	P	P	12 28 37.9 -0.3
	baz=328					
M18K	**Stony River**	75.23	21	P	P	12 28 38.6 +0.3
	baz=323					
J25K	**Salcha River,**	75.26	15	P	P	12 28 38.6 +0.1
	baz=330					
EPYK	**Eagle Plains**	75.28	11	P	P	12 28 38.6 +0.1
	baz=337					
I28M	**Miner Creek**	75.58	13	IAmb	IAmb	12 28 41.5
	comp=Z,7.6nm,0.7s					
I28M	**Miner Creek**	75.58	13	P	P	12 28 40.7 +0.4
	baz=335,SNR=6.7					
N17K	**Nushagak Hills**	75.59	22	P	P	12 28 40.9 +0.6
	baz=322					
J26L	**Joseph Creek**	75.74	15	IAmb	IAmb	12 28 42.5
	comp=Z,8.7nm,0.8s					
J26L	**Joseph Creek**	75.74	15	P	P	12 28 41.7 +0.5
	baz=332,SNR=7.2					
K24K	**Donnelly Dome**	75.88	16	P	P	12 28 42.0 0.0
	baz=330					
I29M	**Ogilvie Camp,**	75.95	12	IAmb	IAmb	12 28 43.3
	comp=Z,5.6nm,0.8s					
I29M	**Ogilvie Camp,**	75.95	12	P	P	12 28 42.4 +0.1
	baz=336					
CUT	**Chulitna**	76.01	18	P	P	12 28 43.2 +0.6
	baz=327					
SKT	**Skwentna**	76.03	19	P	P	12 28 43.1 +0.3
	baz=326					
O16K	**Kokwok River B**	76.04	23	P	P	12 28 43.4 +0.6
	baz=321					
SCRK	**Sand Creek**	76.11	15	P	P	12 28 43.5 +0.1
SCRK				IAmb	IAmb	12 28 44.4
	comp=Z,14nm,1.3s					
SCRK	**Sand Creek**	76.11	15	P	P	12 28 43.7 +0.3
	baz=332					
RIDG	**Independent Ri**	76.14	16	P	P	12 28 44.0 +0.5
	baz=331					
H31M	**Peel River**	76.16	10	IAmb	IAmb	12 28 44.7
	comp=Z,9.6nm,0.7s					
H31M	**Peel River**	76.16	10	P	P	12 28 43.8 +0.3
	baz=339					
DOT	**Dot Lake**	76.39	15	P	P	12 28 45.0 +0.2
I30M	**Mount Dempster**	76.39	12	IAmb	IAmb	12 28 46.2
	comp=Z,8.7nm,0.8s					
I30M	**Mount Dempster**	76.39	12	P	P	12 28 45.3 +0.3
	baz=338,SNR=8.4					
K27K	**Chicken**	76.46	14	IAmb	IAmb	12 28 47.1
	comp=Z,7.3nm,0.9s					
K27K	**Chicken**	76.46	14	P	P	12 28 45.9 +0.7
	baz=333					
P16K	**Nushagak River**	76.51	24	P	P	12 28 45.4 -0.1
	baz=321					
M22K	**Willow**	76.59	19	P	P	12 28 45.8 -0.1
	baz=327					
PAX	**Paxson**	76.67	16	P	P	12 28 46.6 0.0
	baz=331					
O19K	**Port Alsworth**	76.72	21	P	P	12 28 47.7 +1.0
	baz=324					
O18K	**Koktuh Hills**	76.73	22	P	P	12 28 47.8 +1.0
	baz=323					
J29N	**Klondike Camp**	76.80	13	IAmb	IAmb	12 28 48.4
	comp=Z,4.6nm,0.5s					
J29N	**Klondike Camp**	76.80	13	P	P	12 28 48.0 +0.8
	baz=336					
P17K	**Kvichak River**	76.88	23	P	P	12 28 48.6 +1.1
	baz=323					
DAWY	**Dawson**	76.94	13	P	P	12 28 48.3 +0.3
DAWY				IAmb	IAmb	12 28 49.2
	comp=Z,8.3nm,1.0s					
DAWY	**Dawson**	76.94	13	P	P	12 28 48.7 +0.7
	baz=335					
PMR	**Palmer**	76.98	18	P	P	12 28 48.3 +0.1
	baz=328					
SML	**Sawmill**	77.00	18	P	P	12 28 48.5 +0.2
	baz=328					
J30M	**Hart River**	77.00	12	P	P	12 28 49.1 +0.7
	baz=338					
L26K	**Log Cabin Wild**	77.09	15	P	P	12 28 49.2 +0.4
	baz=332					
M23K	**Glacier View**	77.16	18	P	P	12 28 49.5 +0.4
	baz=329					
SCM	**Sheep Creek Mo**	77.23	18	P	P	12 28 50.1 +0.5
	baz=329					
HARP	**HAARP**	77.25	16	P	P	12 28 50.6 +0.9
	baz=331					
M24K	**Tolsona, Glenn**	77.27	17	P	P	12 28 50.7 +0.9
	baz=330					
KNK	**Knik Glacier**	77.31	18	P	P	12 28 50.8 +0.8
	baz=328					
L27K	**Beaver Creek,**	77.38	15	P	P	12 28 51.2 +0.9
	baz=334					
K29M	**Barlow Dome**	77.48	13	P	P	12 28 51.9 +0.9
	baz=337,SNR=5.6					
BOSA	**Boshof**	77.74	220	P	P	12 28 52.7 -0.2
	comp=Z,7.7nm,0.6s,baz=24,slow=4.4,SNR=18					
	comp=Z,7.7nm,0.6s					
KLU	**Klutina**	77.86	17	P	P	12 28 54.1 +0.9
	baz=330					
M27K	**Edge Creek, AK**	78.00	15	P	P	12 28 55.0 +1.1
	baz=334					
L29M	**L29M**	78.05	13	P	P	12 28 55.2 +1.1
	baz=336					
N25K	**Chitina, Valde**	78.07	17	P	P	12 28 55.3 +1.0
	baz=332					
BVCY	**Beaver Creek**	78.16	15	P	P	12 28 55.6 +1.0
	baz=334					
M29M	**Somme Creek**	78.60	14	P	P	12 28 58.0 +0.7
	baz=336					
YUK8	**Steele Glacier**	79.40	15	P	P	12 29 01.9 +0.1
	baz=335					
OHAK	**Old Harbor**	79.46	23	P	P	12 29 02.3 +0.5
	baz=325					
M31M	**Drury Creek, Y**	79.54	12	P	P	12 29 03.0 +0.7
M31M				IAmb	IAmb	12 29 05.1
	comp=Z,15nm,1.5s					
M31M	**Drury Creek, Y**	79.54	12	P	P	12 29 02.9 +0.7
	baz=340					
YUK4	**Talbot Arm**	79.57	14	P	P	12 29 02.7 +0.1
	baz=336					
FARO	**Faro, Yukon**	79.68	11	P	P	12 29 03.4 +0.4
	baz=340					
N30M	**Aishikik Lake**	79.76	13	P	P	12 29 03.6 +0.1
	baz=337					
O28M	**Mount Upton**	79.78	15	P	P	12 29 03.7 -0.2
	baz=335					
MESA	**MESA**	79.94	16	P	P	12 29 05.3 +0.7
	baz=334					
WRGLY	**Wrigley**	79.96	7	P	P	12 29 05.2 +0.8
	baz=348					
N31M	**Braeburn, Yuko**	79.97	13	P	P	12 29 05.7 +1.2
	baz=338					
YUK6	**Outpost Mounta**	79.99	14	P	P	12 29 05.6 +0.7
	baz=336					
HYT	**Haines Junctio**	80.27	14	P	P	12 29 06.8 +0.5
	baz=337					
O30N	**Mendenhall**	80.58	13	P	P	12 29 08.2 +0.3
	baz=338					
N32M	**Quiet Lake**	80.75	12	P	P	12 29 09.0 +0.3
	baz=341					
WHY	**Whitehorse**	80.91	13	P	P	12 29 10.2 +0.6
	baz=339					
YKA	**Yellowknife Ar**	81.27	3	P	P	12 29 11.8 +0.4
	comp=Z,3.8nm,0.5s,baz=349,slow=5.4,SNR=126					
YKA				pP	pP	12 30 00.5 +1.6
	comp=Z,2.2nm,0.9s,baz=347,slow=5.3,SNR=5.3					
	comp=Z,3.8nm,0.5s					
P33M	**Teslin, Yukon**	81.68	12	IAmb	IAmb	12 29 15.0
	comp=Z,20nm,1.4s					
P33M	**Teslin, Yukon**	81.68	12	P	P	12 29 14.2 +0.5
	baz=341					
PLBC	**Pleasant Camp**	81.76	14	P	P	12 29 14.7 +0.8
	baz=338					
SKAG	**Skagway**	81.95	13	P	P	12 29 15.7 +0.8
	baz=339					
WRA	**Warramunga Arr**	81.96	122	P	P	12 29 15.1 -0.5
	comp=Z,8.4nm,0.7s,baz=325,slow=5.0,SNR=58					
	comp=Z,8.4nm,0.7s					
WB2	**Warramunga Arr**	81.97	122	P	P	12 29 15.5 -0.1
P32M	**Atlin**	82.11	12	P	P	12 29 16.9 +1.0
	baz=340					
SCHQ	**Schefferville**	82.12	337	P	P	12 29 15.8 -0.3
	comp=Z,3.4nm,1.0s,baz=65,slow=8.3,SNR=3.8					
	comp=Z,3.4nm,1.0s					
WTLY	**Watson Lake, Y**	82.38	10	P	P	12 29 17.8 +0.5
	baz=344					
R33M	**Jennings River**	82.75	11	P	P	12 29 20.3 +1.0
	baz=342					
KOTAN	**Kotaneelee Air**	82.94	8	P	P	12 29 21.5 +1.4

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     baz=348
Q32M Nakina River      82.96  12  P     P     12 29 21.5 +1.0
     baz=341
DLBC Dease Lake        83.81  11  P     P     12 29 24.5 -0.2
     comp=Z,3.0nm,1.1s,baz=61,slow=3.3,SNR=4.3
     comp=Z,3.0nm,1.1s
DLBC Dease Lake        83.81  11  P     P     12 29 25.3 +0.6
     baz=343
TOAD Toad River Com    84.06   8  P     P     12 29 26.4 +0.5
     baz=347
S34M Telegraph Cree    84.14  12  P     P     12 29 26.9 +0.7
S34M                               IAmb  IAmb  12 29 28.5
     comp=Z,17nm,1.2s
S34M Telegraph Cree    84.14  12  P     P     12 29 27.2 +0.9
     baz=342
AS31 Alice Springs     84.23 125  P     P     12 29 26.7 -0.5
ASAR Alice Springs     84.23 125  P     P     12 29 26.9 -0.3
ASAR Alice Springs     84.23 125  P     P     12 29 26.6 -0.5
     comp=Z,9.2nm,0.6s,baz=310,slow=5.0,SNR=220
     comp=Z,9.2nm,0.6s
ASAR Alice Springs     84.23 125  P   PKP     12 29 26.9 -0.3
T35M Bob Quinn         85.17  11  P     P     12 29 32.5 +1.0
     baz=343
FORT Forrest           85.64 134  P     P     12 29 33.4 -0.6
FFC  Flin Flon         88.96 356  P     P     12 29 50.2 +0.5
FFC                               IAmb  IAmb  12 29 50.9
     comp=Z,4.9nm,0.8s
FFC  Flin Flon         88.96 356  P     P     12 29 50.2 +0.5
FFC                               pmax  pmax
     comp=Z,5.0nm,0.8s
ULM  Lac du Bonnet     92.87 352  P     P     12 30 07.5 -0.4
     comp=Z,1.9nm,0.7s,baz=359,slow=6.9,SNR=4.4
     comp=Z,1.9nm,0.7s
STKA Stephens Creek    94.76 126  P     P     12 30 16.2 -0.5
STKA Stephens Creek    94.76 126  P     P     12 30 15.6 -1.2
     comp=Z,0.7nm,0.4s,baz=356,slow=6.5,SNR=3.7
     comp=Z,0.7nm,0.4s
STKA Stephens Creek    94.76 126  P     P     12 30 16.2 -0.5
STKA                               pmax  pmax
     comp=Z,20nm,1.4s
URZ  Urewera          122.74 116  PKP   PKPdf 12 35 47.1 -2.7
     comp=Z,1.4nm,0.3s,baz=316,slow=7.7,SNR=5.7
QSPA South Pole Qui   126.27 180  PKP   PKPdf 12 35 54.9 -0.9
     comp=Z,1.4nm,0.6s,baz=262,slow=1.6,SNR=11
CPUP Villa Florida    135.23 268  PKP   PKPdf 12 36 12.7 -1.3
     comp=Z,1.5nm,0.6s,baz=59,slow=1.1,SNR=4.3
TRQA Tornquist        142.87 253  PKPdf PKPdf 12 36 26.5 -1.1
TRQA Tornquist        142.87 253  PKIKP PKPdf 12 36 26.5 -1.1
GO02 Mina Guanaco     144.57 277  PKPdf PKPab 12 36 30.0 -0.3
AC02 Maricunga        144.95 274  PKPbc PKPbc 12 36 32.0 +0.1
PB14 IPOC Station P   144.96 279  PKPbc PKPbc 12 36 31.3 -0.4
AC01 Pan de Azucar    145.83 277  PKPbc PKPbc 12 36 33.7 -0.3
ZON  Zonda            146.41 266  PKPbc PKPbc 12 36 35.3 -0.3
ZON  Zonda            146.41 266  PKP2  PKPbc 12 36 35.3 -0.3
AC05 El Transito      146.71 272  PKPbc PKPdf 12 36 35.6 +1.0
AC04 Llanos de Chal   147.10 274  PKPbc PKPbc 12 36 37.5  0.0
LCO  Las Campanas     147.12 272  PKPbc PKPbc 12 36 37.0 -0.9
LCO  Las Campanas     147.12 272  PKP2  PKPbc 12 36 37.0 -0.9
GO04 Tololo Observa   147.64 270  PKPbc PKPbc 12 36 38.6 -0.7
CO03 El Pedregal      147.78 269  PKPbc PKPbc 12 36 39.7 +0.2
MG03 Isla Dawson      148.26 225  PKPbc PKPbc 12 36 39.8  0.0
VA03 San Esteban      148.30 265  PKPbc PKPbc 12 36 41.1 +0.4
MT13 San Alfonso      148.37 263  PKPbc PKPbc 12 36 41.3 +0.4
BO04 La Punta         148.70 263  PKPbc PKPbc 12 36 41.3 -0.4
MT02 Curacav          148.92 265  PKPbc PKPbc 12 36 41.8 -0.4
MT09 Talagante        148.94 264  PKPbc PKPbc 12 36 41.9 -0.5
BO02 Sierra Bellavi   149.04 262  PKPbc PKPbc 12 36 42.4 -0.1
BO01 Tunca            149.18 262  PKPbc PKPbc 12 36 42.5 -0.2
PLCA Paso Flores      149.83 250  PKPbc PKPbc 12 36 44.6 +0.3
PLCA Paso Flores      149.83 250  PKPbc PKPbc 12 36 44.1 -0.1
     comp=Z,5.0nm,0.9s,baz=108,slow=2.5,SNR=14
BI02 San Fabin de     149.84 258  PKPbc PKPbc 12 36 44.4 -0.1
LR05 Currie           150.90 251  PKPbc PKPbc 12 36 46.2 -0.5
LL01 San Ignacio de   151.30 247  PKPbc PKPbc 12 36 47.0 -0.5
AY01 Puyuhuapi        151.42 243  PKPbc PKPbc 12 36 46.7 -1.0
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*NEIC **22** 12:26:21.5±1.8, 60°.21N±0°.02×149°.07W±0°.03, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=326.0*

AEIC 22 12:26:23.9±1.4, 60°.25N±0°.02×149°.07W±0°.04, h15km±6km, ML2.3, ML2.4/110(NEIC), Error ellipse: s-maj=3.3km s-min=2.7km az=175.0, Kenai Peninsula

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Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
SEW  Seward           0.24 233  Pg    Pg    12 26 29.5 +0.4
O22K Cooper Landing   0.40 306  Pg    Pg    12 26 31.4 -0.5
O22K                              Sg    Sb    12 26 38.1 -0.4
SLKM Skilak Lake      0.63 295  Pg    Pg    12 26 35.1 -1.0
SLKM                              Sg    Sg    12 26 43.6 -0.9
PWL  Port Wells       0.71  30  Pg    Pg    12 26 36.7 -1.0
PWL                               Sg    Sg    12 26 46.9 -0.2
PWL                               IAML        12 26 47.5
     comp=E,272nm,0.4s
P23K Montague Islan   0.87 106        Pb    12 26 39.3 -1.4
P23K                              Sb    12 26 52.0 -0.2
RC01 Rabbit Creek A   0.90 339  Pg    Pb    12 26 39.7 -1.5
RC01                              Sg    Sb    12 26 52.1 -1.0
RC01                              IAML        12 26 53.3
     comp=N,115nm,0.3s
BRSE Bradley Lake S   0.98 239        Pb    12 26 40.6 -2.0
BRSE                              Sb    12 26 53.9 -1.5
BRLK Bradley Lake     1.03 243  Pn    Pb    12 26 41.7 -1.9
BRLK                              Sg    Sb    12 26 55.4 -1.5
FIS  Fire Island      1.06 328  Pn    Pb    12 26 42.8 -1.1
CAPN Captain Cook N   1.15 298  Pn    Pn    12 26 44.6 -0.9
GLI  Glacier Island   1.16  56  Pn    Pn    12 26 43.0 -2.6
GLI                               IAML        12 26 58.7
     comp=N,148nm,0.6s
KNK  Knik Glacier     1.20  14        Pn    12 26 44.1 -2.1
HIN  Hinchinbrook I   1.29  82  Pn    Pn    12 26 45.2 -2.2
HIN                               IAML        12 27 10.9
     comp=N,65nm,1.1s
HIN                               IAML        12 27 13.4
     comp=E,56nm,1.2s
HIN  Hinchinbrook I   1.29  82        Sb    12 27 02.1 -2.0
CNPM China Poot       1.31 237  Pn    Pn    12 26 45.9 -1.8
CNPM                              IAML        12 27 04.6
     comp=E,81nm,0.6s
CNPM China Poot       1.31 237        Sb    12 27 02.2 -2.7
PMR  Palmer           1.35 359        Pn    12 26 46.2 -2.0
HOM  Homer            1.43 246  Pn    Pn    12 26 48.0 -1.2
SUA  Susitna One      1.47 327  Pn    Pn    12 26 48.4 -1.6
SUA  Susitna One      1.47 327        Sn    12 27 07.8 -1.2
GHO  Glory Hole Cre   1.53   3  Pn    Pn    12 26 49.0 -1.7
GHO                               IAML        12 27 13.1
     comp=N,47nm,0.9s
M22K Willow           1.59 342  Pn    Pn    12 26 50.0 -1.5
SML  Sawmill          1.60  13  Pn    Pn    12 26 49.9 -1.8
SML  Sawmill          1.60  13        Sn    12 27 10.5 -1.7
EYAK Cordova Ski Ar   1.68  78  Pn    Pn    12 26 51.3 -1.3
M23K Glacier View     1.68  22        Pn    12 26 50.9 -1.9
RDT  Redoubt          1.69 283        Pn    12 26 50.4 -2.5
RDT                               Sn    12 27 12.3 -1.9
O20K Slope Mountain   1.79 266        Pn    12 26 53.0 -1.2
SCM  Sheep Creek Mo   1.80  27  Pn    Pn    12 26 53.0 -1.4
SCM                               IAML        12 27 20.6
     comp=E,37nm,0.9s
SCM                               IAML        12 27 24.9
     comp=N,39nm,1.0s
SPCR Spurr Chakacha   1.81 303        Pn    12 26 53.3 -1.3
SPCR                              Sn    12 27 16.0 -1.4
STLK Strandline Lak   1.84 314        Pn    12 26 53.3 -1.8
STLK                              IAML        12 27 22.6
     comp=E,30nm,0.5s
STLK                              IAML        12 27 23.1
     comp=N,25nm,0.5s
DIV  Divide           1.85  60  Pn    Pn    12 26 53.4 -1.7
RED  Redoubt Volcan   1.85 277        Pn    12 26 52.8 -2.3
CKL  Chakachamna La   1.86 302        Pn    12 26 54.0 -1.4
RDJH Redoubt Jeurge   1.88 282        Pn    12 26 54.1 -1.6
RDWB Redoubt West     1.89 279        Pn    12 26 53.6 -2.1
SPBG Spurr Blockage   1.91 303        Pn    12 26 54.7 -1.3
SPBG                              Sn    12 27 18.2 -1.6
KLU  Klutina          1.98  50  Pn    Pn    12 26 55.4 -1.6
KLU                               IAML        12 27 25.8
     comp=E,35nm,0.6s
KLU                               IAML        12 27 26.2
     comp=N,31nm,0.7s
ILS  Iliamna Low So   2.02 263        Pn    12 26 56.7 -0.9
ILSW Iliamna Southw   2.06 264  Pn    Pn    12 26 57.3 -0.7
ILSW                              IAML        12 27 36.7
     comp=N,23nm,1.0s
ILSW                              IAML        12 28 09.0
     comp=E,23nm,1.1s
SKT  Skwentna         2.11 327  Pn    Pn    12 26 57.9 -0.8
SKT                               IAML        12 27 28.5
     comp=E,46nm,0.4s
SKT                               IAML        12 27 30.9
     comp=N,48nm,0.4s
BMRM Bremner River    2.32  70  Pn    Pn    12 26 59.3 -2.2
M24K Tolsona, Glenn   2.33  36  Pn    Pn    12 27 01.7  0.0
M24K                              IAML        12 27 37.5
     comp=E,34nm,0.6s
M24K                              IAML        12 27 39.0
     comp=N,33nm,0.8s
M24K Tolsona, Glenn   2.33  36        Sn    12 27 30.7 +0.5
M20K Styx River       2.56 311  Pn    Pn    12 27 05.0 +0.1
M20K                              IAML        12 27 40.9
     comp=E,14nm,0.8s
N25K Chitina, Valde   2.57  56  Pn    Pn    12 27 03.8 -1.2
N25K                              IAML        12 27 41.7
     comp=E,13nm,0.8s
N25K                              IAML        12 27 48.2
     comp=N,19nm,0.7s
N19K Bonanza Creek    2.73 284  Pn    Pn    12 27 05.1 -2.2
N19K                              IAML        12 28 06.9
     comp=E,16nm,0.6s
N19K                              IAML        12 28 06.9
     comp=N,19nm,1.2s
GLB  Gilahina Butte   2.84  63  Pn    Pn    12 27 07.0 -1.7
GLB                               IAML        12 27 48.4
     comp=E,11nm,0.7s
GLB                               IAML        12 27 48.5
     comp=N,15nm,0.7s
WASW Wrangell South   2.91  53        Pn    12 27 08.6 -1.3
WASW                              Sn    12 27 42.9 -1.9
VRDI Verde Repeater   2.93  68  Pn    Pn    12 27 07.7 -2.3
VRDI                              IAML        12 27 52.3
     comp=N,12nm,0.6s
KDAK Kodiak Island    3.07 218  Pn    Pn    12 27 09.3 -2.5
KDAK                              IAML        12 27 44.0
     comp=N,7.4nm,1.0s
KDAK                              IAML        12 27 52.3
     comp=N,8.5nm,0.8s
M19K Big River Lodg   3.07 305  Pn    Pn    12 27 10.2 -1.7
O18K Koktuh Hills     3.10 265  Pn    Pn    12 27 10.7 -1.6
O18K                              IAML        12 28 01.7
     comp=E,9.8nm,1.1s
O18K                              IAML        12 28 57.1
     comp=N,9.1nm,0.9s
RND  Reindeer         3.17   2  Pn    Pn    12 27 13.1 -0.2
PAX  Paxson           3.23  31  Pn    Pn    12 27 13.8 -0.2
TRF  Thorofare Moun   3.26 350  Pn    Pn    12 27 14.2 -0.4
TRF                               IAML        12 28 07.6
     comp=E,7.1nm,1.1s
TRF                               IAML        12 28 09.3
     comp=N,7.6nm,1.0s
KIAG Kiagna River     3.38  76        Pn    12 27 14.3 -1.9
L19K White Mountain   3.40 307  Pn    Pn    12 27 15.0 -1.5
L19K                              IAML        12 27 48.7
     comp=E,5.9nm,1.2s
N18K Kilae Creek      3.41 280  Pn    Pn    12 27 13.9 -2.6
KTH  Kantishna Hill   3.43 346  Pn    Pn    12 27 15.9 -0.9
KTH                               IAML        12 28 04.8
     comp=E,7.9nm,0.7s
KTH                               IAML        12 28 27.1
     comp=N,5.8nm,1.1s
CAST Castle Rocks     3.49 337  Pn    Pn    12 27 16.3 -1.3
CAST                              IAML        12 28 19.6
     comp=E,6.9nm,1.1s
MCK  McKinley         3.50   1  Pn    Pn    12 27 16.7 -1.0
M18K Stony River      3.53 294        Pn    12 27 15.6 -2.6
MESA MESA             3.55  88  Pn    Pn    12 27 17.7 -1.0
M26K Nabesna, AK      3.64  51  Pn    Pn    12 27 18.7 -0.9
M26K                              IAML        12 28 15.6
     comp=N,4.9nm,0.5s
M26K                              IAML        12 28 25.7
     comp=E,4.5nm,1.1s
K24K Donnelly Dome    3.89  22        Pn    12 27 22.4 -0.7
RIDG Independent Ri   4.03  28  Pn    Pn    12 27 24.6 -0.4
RIDG                              IAML        12 28 33.6
     comp=N,4.1nm,1.1s
RIDG                              IAML        12 28 41.4
     comp=E,3.2nm,1.1s
N17K Nushagak Hills   4.04 277  Pn    Pn    12 27 22.7 -2.4
N17K                              IAML        12 28 38.1
     comp=E,6.1nm,1.1s
DOT  Dot Lake         4.15  33  Pn    Pn    12 27 26.6 -0.1
L18K Granite Mounta   4.18 301  Pn    Pn    12 27 25.1 -1.9
L18K                              IAML        12 28 46.0
     comp=E,3.7nm,1.1s
M17K Holitna River    4.26 289  Pn    Pn    12 27 26.1 -2.0
WRH  Wood River Hil   4.26   6  Pn    Pn    12 27 27.4 -0.8
HDA  Harding Lake     4.29  12  Pn    Pn    12 27 28.4 -0.2
HDA                               IAML        12 28 32.0
     comp=E,3.6nm,1.0s
CCB  Clear Creek Bu   4.45   7  Pn    Pn    12 27 30.2 -0.6
L27K Beaver Creek,    4.46  48  Pn    Pn    12 27 28.1 -2.8
L27K                              IAML        12 28 53.2
     comp=N,3.0nm,1.2s
BCAR Beaver Creek A   4.47  48  Pn    Pn    12 27 30.4 -0.7
IL31                  4.65  12  Pn    Pn    12 27 32.9 -0.5
ILAR Eielson Array    4.65  12  Pn    Pn    12 27 32.5 -1.0
J25K Salcha River,    4.70  20  Pn    Pn    12 27 33.5 -0.8
J19K Poorman          4.85 324  Pn    Pn    12 27 35.9 -0.4
J19K                              IAML        12 28 55.3
     comp=E,2.4nm,1.0s
J19K                              IAML        12 29 01.8
     comp=N,4.3nm,1.2s
M16K Timber Creek     4.93 283  Pn    Pn    12 27 36.3 -1.0
M16K                              IAML        12 29 53.2
     comp=E,4.7nm,1.1s
POKR Poker Plat Res   4.94   8  Pn    Pn    12 27 37.1 -0.4
POKR                              IAML        12 28 21.4
     comp=E,4.3nm,1.1s
POKR                              IAML        12 28 48.8
     comp=N,4.0nm,0.9s
J26L Joseph Creek     4.97  29  Pn    Pn    12 27 37.2 -0.8
J26L                              IAML        12 28 56.5
     comp=E,1.6nm,0.8s
K17K Iditarod         5.07 303  Pn    Pn    12 27 37.9 -1.4
K17K                              IAML        12 28 30.7
     comp=E,3.6nm,1.0s
K17K                              IAML        12 28 59.4
     comp=N,3.7nm,0.8s
L16K Owhat River      5.27 291  Pn    Pn    12 27 39.9 -2.1
L16K                              IAML        12 30 01.8
     comp=E,1.8nm,0.9s
L16K                              IAML        12 30 15.5
     comp=N,2.3nm,1.1s
M29M Somme Creek      5.56  62  Pn    Pn    12 27 44.9 -1.2
H24K Noodor Dome      5.63   5  Pn    Pn    12 27 46.7 -0.4
H21K Melozitna Rive   5.69 344  Pn    Pn    12 27 47.0 -0.7
I26K Coal Creek Min   5.75  26  Pn    Pn    12 27 48.4 -0.2
L29M L29M             5.94  56  Pn    Pn    12 27 50.0 -1.3
```

*IDC **22** 12:29:20.6±2.8, 18°.72S×177°.99W, h516km±21km, mb3.1/3, mbtmp3.9/4, Error ellipse: s-maj=44.5km s-min=40.0km az=15.0*

ISC 22 12:29:19.3±2.5, 19°.3S±0°.6×177°.9W±0°.4, h500km, n6, σ1°.08/6, mb3.5/3, Fiji Islands region

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
MSVF Nonsavu          4.16 291  P     P     12 30 39.4 +0.2
     19nm,0.7s,baz=100,slow=4.0,SNR=22
WRA  Warramunga Arr   44.91 261  P     P     12 36 48.4 -0.7
     0.6nm,0.7s,baz=96,slow=7.7,SNR=7.8
WRA                               PcP   PcP   12 38 19.5 -0.8
     0.3nm,0.5s,baz=95,slow=3.3,SNR=1.5
     0.6nm,0.7s
ASAR Alice Springs    44.93 256  P     P     12 36 50.0 +0.7
     2.5nm,0.6s,baz=90,slow=8.4,SNR=58
     2.5nm,0.6s
QSPA South Pole Qui   70.81 180  P     P     12 39 47.8 +3.1
     1.3nm,0.8s,baz=38,slow=14,SNR=2.1
     1.3nm,0.8s
BRTR Keskin Array B  146.09 314  PKPbc PKPdf 12 48 00.9 -0.6
     0.6nm,0.6s,baz=17,slow=1.5,SNR=2.6
MMAI Mount Meron Ar  147.29 301  PKPbc PKPdf 12 48 04.9 +1.3
     1.1nm,0.5s,baz=95,slow=7.2,SNR=2.5
```

IDC 22 12:32:35.7±7.0, 35°.39N×69°.16E, h0km, mb3.3/2, mbtmp3.2/4, ML2.7/2, MS3.7/3, Error ellipse: s-maj=135.0km s-min=33.9km az=151.0, Hindu Kush region

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
MKAR Makanchi Array   15.06  37  Pn    Pn    12 36 10.4 +0.6
     baz=224,slow=12,SNR=3.6
     0.1nm,0.5s
BVAR Borovoye Array   17.65   2  Pn    Pn    12 36 39.2 -3.7
     baz=186,slow=11,SNR=2.3
     0.3nm,0.4s
GNI  Garni            19.86 291  LR    LR    12 45 57.3
     comp=Z,82nm,19.0s,baz=336,slow=40
ZALV Zalesovo Beam    21.55  26  P     P     12 37 25.0 -1.4
     0.5nm,0.5s,baz=225,slow=9.4,SNR=2.0
     0.5nm,0.5s
BRTR Keskin Array B   28.37 289  P     P     12 38 31.9 +0.2
     0.4nm,0.7s,baz=87,slow=8.8,SNR=1.9
     0.4nm,0.7s
KLR  Kul'dur          47.00  53  LR    LR    13 00 48.3
     comp=Z,125nm,20.7s,baz=148,slow=36
USRK Ussuriysk Ar.    48.01  59  LR    LR    13 01 02.2
     comp=Z,129nm,21.1s,baz=152,slow=36
```

*GCG **22** 12:41:59.7±0.7, 14°.35N×92°.46W, h33km±3km, MD3.8*
*MEX **22** 12:42:00.2±0.3, 14°.60N×92°.56W, h74km±13km, MD3.9*

ISC 22 12:41:56.9±2.5, 14°.53N±0°.09×92°.63W±0°.05, h10km±12km, n14, σ1°.03/26, Near coast of Chipas

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
THIG                  0.51  43  eP    Pn    12 42 10.5 +0.2
THIG                              eS    Sn    12 42 19.5 +0.4
SMCA Catarina         0.62  59  i P   Pn    12 42 12.3 +0.4
SMCA                              eS    Sn    12 42 21.7 -0.3
SMCA Catarina         0.62  59  i P         12 42 12.3
SMCA                              eS          12 42 21.7
PATR El Naranjo       0.70  33  eP    Pn    12 42 13.0  0.0
PATR                              i S   Sn    12 42 23.5 -0.5
PAVE Pavencul         0.79  33  eP    Pn    12 42 14.4 +0.1
PAVE                              eS    Sn    12 42 25.4 -1.0
RTAL Retalhuleu       0.90  90  eP    Pn    12 42 15.7  0.0
RTAL                              i S   Sn    12 42 27.9 -0.8
SOKI Kika Raxquin     1.22  76  i S   Sn    12 42 37.5 +0.3
SOKI Kika Raxquin     1.22  76  i S         12 42 37.5
STG8 El Palmar, Qui   1.24  93  eP          12 42 17.1
STG8                              i S         12 42 30.7
STG0 El Palmar, Qui   1.25  95  eP          12 42 17.0
STG0                              i S         12 42 30.1
PCIG                  1.30 334  eP    Pn    12 42 21.1 -0.1
PCIG                              eS    Sn    12 42 37.0 -1.5
CCIG Comitan          1.81  15  eP    Pg    12 42 31.0 -0.5
CCIG                              eS    Sb    12 42 53.8 +0.9
CCIG Comitan          1.81  15  eP    Pg    12 42 31.2 -0.4
CCIG                              i S   Sg    12 42 55.7 +0.6
CCIG Comitan          1.81  15  eP          12 42 31.2
CCIG                              i S         12 42 55.7
CARR Arriaga          2.11 324  eP    Pn    12 42 32.2  0.0
CARR                              eS    Sn    12 42 58.6 +0.1
TGIG                  2.29 348  eP    Pn    12 42 33.6 -1.2
TGIG                              eS    Sn    12 43 01.0 -2.0
UXUV UXUV             3.13 332  eP    Pn    12 42 48.3 +2.0
UXUV                              eS    Sn    12 43 26.4 +2.5
CMIG Matias Romero    3.35 320  eP    Pn    12 42 49.8 +0.5
CMIG                              eS    Sn    12 43 28.1 -1.0
NEUV Arroyo Zacate    4.40 316  eP    Pn    12 43 03.6 -0.1
```

*NEIC **22** 12:44:38.8±1.1, 31°.66N±0°.01×104°.34W±0°.02, h7km±5km, Error ellipse: s-maj=2.4km s-min=1.8km az=67.0*

NEIC 22 12:44:38.9±1.0, 31°.657N±0°.006×104°.34W±0°.02, h6km±5km, mb_Lg2.8/42, ML2.9/11, ML3.0/50, Error ellipse: s-maj=2.4km s-min=0.5km az=70.0, Western Texas

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
PECS Pecos            0.49 125  Pg    Pg    12 44 48.5  0.0
PECS                              Sg    Sg    12 44 55.1 +0.2
GDL2 Guadalupe Moun   0.54 358  Pg    Pg    12 44 49.5 +0.1
CLNB Carlsbad         0.72  33        Pg    12 44 52.6 -0.2
CLN7 Carlsbad 7       0.88  31        Pg    12 44 55.3 -0.5
MNTX Cornudas Mount   0.89 273  Pg    Pg    12 44 56.2 +0.2
MNTX                              Sg    Sg    12 45 08.2 +0.6
HTMS Hat Mesa         1.01  36        Pg    12 44 57.6 -0.7
VHRN Van Horn         1.03 213        Pg    12 44 58.4 -0.2
VHRN                              Sg    Sg    12 45 12.4 +0.4
MNHN Monahans         1.39 103  Pg    Pn    12 45 04.0 -0.8
MNHN                              Sb    Sb    12 45 23.1 -0.1
MNHN                              IAML        12 45 26.5
     150nm,0.3s
MNHN                              IAML        12 45 26.9
     200nm,0.7s
ALPN Alpine           1.41 155  Pg    Pn    12 45 04.3 -1.0
ALPN                              Sg    Sb    12 45 22.8 -1.2
ALPN                              IAML        12 45 28.7
     230nm,0.2s
ALPN                              IAML        12 45 31.1
     294nm,0.4s
CPRX Cap Rock         1.43  16        Pn    12 45 05.3 -0.2
ODSA Odessa           1.59  73  Pg    Pn    12 45 07.4 -0.3
ODSA                              Sn    Sn    12 45 28.3 -0.3
EPT  El Paso          1.85 274  Pn    Pn    12 45 11.6 +0.3
EPT                               IAML        12 45 41.7
     comp=E,93nm,0.3s
TX31 Lajitas Ar. Si   2.39 166        Pn    12 45 19.8 +1.2
TX31                              Sg    Sb    12 45 53.5 +1.5
TXAR Lajitas Array    2.39 166        Pn    12 45 19.8 +1.2
SAND Sanderson        2.55 131  Pn    Pn    12 45 22.4 +1.5
SAND                              Sg    Sb    12 45 58.4 +1.6
SAND                              IAML        12 46 01.9
     comp=E,111nm,0.8s
SAND                              IAmb_Lg     12 46 06.7
     comp=Z,34nm,0.8s
MSTX Muleshoe         2.66  29        Pn    12 45 24.4 +2.0
SGCY Sterling City    2.75  84        Pn    12 45 24.6 +1.0
SGCY                              IAmb_Lg     12 46 08.7
     comp=Z,46nm,1.0s
POST Post             2.78  59        Pn    12 45 25.9 +1.8
POST                              Sg    Sb    12 46 03.6 +0.1
POST                              IAmb_Lg     12 46 10.7
     comp=Z,31nm,0.8s
OZNA Ozona            2.85 104  Pn    Pn    12 45 26.0 +1.1
OZNA                              IAML        12 46 13.3
     comp=Z,46nm,0.8s
OZNA                              IAML        12 46 13.3
     comp=Z,40nm,0.6s
OZNA                              IAmb_Lg     12 46 13.6
     comp=Z,22nm,0.8s
CRNM Carthage         3.05 319        Pn    12 45 30.3 +2.5
BNM  Barren Site      3.14 323        Pn    12 45 31.8 +2.6
SN05 Snyder 5         3.17  66  Pn    Pn    12 45 30.8 +1.4
SN05                              IAmb_Lg     12 46 20.9
     comp=Z,29nm,0.9s
SN07 Snyder 07        3.25  63  IAmb_Lg     12 46 28.9
     comp=Z,30nm,0.8s
SBM  South Baldy      3.33 315  Pn    Pn    12 45 33.9 +2.0
LENM Lemitar          3.34 319        Pn    12 45 34.2 +2.3
DKNS Dickens          3.51  54  Pn    Pn    12 45 35.3 +1.2
DKNS                              IAmb_Lg     12 46 35.5
     comp=Z,28nm,0.9s
ANMO Albuquerque      3.73 332  Pn    Pn    12 45 40.2 +3.0
ANMO Albuquerque      3.73 332  IAML        12 46 33.9
     comp=Z,28nm,0.8s
ANMO                              IAML        12 46 33.9
     comp=Z,28nm,0.8s
ANMO                              IAML        12 46 37.7
     comp=Z,35nm,0.9s
ANMO                              IAML        12 46 37.8
     comp=Z,35nm,0.9s
ANMO                              IAmb_Lg     12 46 45.4
     comp=Z,16nm,0.9s
DRIO Del Rio          3.91 124  Pn    Pn    12 45 40.0 +0.5
DRIO                              IAmb_Lg     12 46 48.8
     comp=Z,21nm,0.7s
APMT Aspermont        3.93  64        Pn    12 45 40.7 +0.8
JCT  Junction City    4.07 106  IAmb_Lg     12 46 57.4
     comp=Z,23nm,0.8s
ABTX Abilene, Hawle   4.10  75  Pn    Pn    12 45 42.7 +0.5
ABTX                              IAmb_Lg     12 46 54.8
     comp=Z,18nm,0.9s
319A Douglas          4.23 267  Pn    Pn    12 45 46.3 +2.3
319A                              IAML        12 47 00.5
```

comp=N,27nm,0.7s
319A IAML 12 47 03.5
comp=E,20nm,0.6s
BRDY Brady 4.58 93 Pn Pn 12 45 49.0 +0.3
BRDY IAmb_Lg 12 47 07.9
comp=Z,21nm,1.1s
HPIG 4.84 194 Pn Pn 12 45 53.4 +0.9
HPIG IAML 12 47 20.9
comp=E,11nm,0.7s
SMWD Samnorwood 4.86 44 Pn Pn 12 45 54.6 +2.1
RTBA Rita Blanca 4.95 15 Pn 12 45 56.0 +2.1
RTBA IAmb_Lg 12 47 24.0
comp=Z,16nm,0.9s
PLPT Palo Pinto 5.23 76 Pn Pn 12 45 59.0 +1.3
PLPT IAmb_Lg 12 47 38.0
comp=Z,15nm,0.8s
T25A Trinidad 5.47 359 Pn Pn 12 46 02.4 +1.2
T25A IAmb_Lg 12 47 35.8
comp=Z,14nm,0.8s
X18A Snowflake 5.51 303 Pn Pn 12 46 05.5 +3.8
WMOK Wichita Mounta 5.58 55 Pn Pn 12 46 03.7 +1.2
PV04 Paradox Valley 7.69 332 IAmb_Lg 12 48 41.2
comp=Z,7.2nm,1.1s

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*IDC **22** 12:50:26.9±1.5, 12°.78S×76°.80W, h35km±11km, mb3.9/13, mbtmp4.1/17, ML3.9/4, MS3.7/10, Error ellipse: s-maj=24.0km s-min=10.6km az=70.0*
*VAO **22** 12:50:28.1±0.5, 12°.70S×76°.76W, h49km, mb4.8*
*NEIC **22** 12:50:29.8±1.9, 12°.68S±0°.06×76°.66W±0°.10, h45km±5km, mb4.6/61, Error ellipse: s-maj=14.3km s-min=7.2km az=69.0*
*RSNC **22** 12:50:30.0±0.9, 13°.S±.8°×7°.7W±°, h48km±8km, M4.6, mB5.2, mb4.8, ML4.2, Mw(mB)4.6*
ISC 22 12:50:27.4±0.4,**12°.74S**±0°.04×**76°.75W**±0°.06,**h35**km,**n174,** σ1§**46**/163,**mb4.5**/33,**MS3.7**/7,**1C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.75**	**353**		**Pn**	**12 50 43.5**	**+1.8**
NNA				Sn	**Sn**	**12 50 53.6**	**+1.7**
NNA	**Nana**	**0.75**	**353**	Pg	**Pn**	**12 50 43.3**	**+1.7**
NNA	2μm,0.3s,baz=167,slow=12,SNR=168.1			Lg	Lg	12 50 53.4	
NNA	**Nana**	**0.75**	**353**	P	**Pn**	**12 50 43.3**	**+1.7**
NNA	2μm,0.3s,baz=256,slow=18,SNR=17			S	**Sn**	**12 50 53.5**	**+1.7**
ATAH	**Atahualpa**	**5.80**	**344**	Pn	**Pn**	**12 51 51.2**	**-0.1**
ATAH	10nm,0.3s,baz=245,slow=1.6,SNR=43			Sn	**Sn**	**12 53 01.6**	**+4.7**
CZSB	**Cruzeiro do Su**	**6.37**	**39**	Pn	**Pn**	**12 52 01.2**	**+2.3**
CZSB	14nm,0.3s,baz=125,slow=9.5,SNR=9.5			Sn	**Sn**	**12 53 10.1**	**-0.4**
CZSB	**Cruzeiro do Su**	**6.37**	**39**	*eP*	**Pn**	**12 51 59.9**	**+1.0**
AP01	**Chacalluta**	**8.33**	**133**	Sn	**Sn**	**12 54 00.4**	**+1.6**
PB12	**IPOC Station P**	**8.51**	**134**	Pn	Pn	12 52 26.1	-2.2
LPAZ	**La Paz**	**9.06**	**114**	Pn	**Pn**	**12 52 38.7**	**+2.4**
LPAZ	**La Paz**	**9.06**	**114**	Pn	**Pn**	**12 52 36.8**	**+0.5**
LPAZ	7.4nm,0.5s			Sn	**Sn**	**12 54 23.3**	**+5.8**
CZSB	**Cruzeiro do Su**	**6.37**	**39**	Pn	**Pn**	**12 52 01.2**	**+2.3**
CZSB	2μm,0.3s,baz=318,slow=13,SNR=18			Sn	**Sn**	**12 53 10.1**	**-0.4**
CZSB	**Cruzeiro do Su**	**6.37**	**39**	*eP*	**Pn**	**12 51 59.9**	**+1.0**
AP01	**Chacalluta**	**8.33**	**133**	Sn	**Sn**	**12 54 00.4**	**+1.6**
PB12	**IPOC Station P**	**8.51**	**134**	Pn	Pn	12 52 26.1	-2.2
LPAZ	**La Paz**	**9.06**	**114**	Pn	**Pn**	**12 52 38.7**	**+2.4**
LPAZ	**La Paz**	**9.06**	**114**	Pn	**Pn**	**12 52 36.8**	**+0.5**
LPAZ	2.0nm,0.3s,baz=318,slow=13,SNR=18			Sn	**Sn**	**12 54 23.3**	**+5.8**
LPAZ	0.5nm,0.3s,baz=9.3,slow=12,SNR=1.4			Lg	Lg	12 55 12.3	
LPAZ	0.2nm,0.3s,baz=175,slow=11,SNR=0.8			LR	LR	12 56 34.9	
LPAZ	**La Paz**	**9.06**	**114**	*eP*	**Pn**	**12 52 38.1**	**+1.7**
LPAZ	**La Paz**	**9.06**	**114**	P	**Pn**	**12 52 38.7**	**+2.4**
PB11	**IPOC Station P**	**9.75**	**137**	Pn	**Pn**	**12 52 45.8**	**+0.3**
TA02	**Huaiquique**	**9.81**	**141**	Pn	**Pn**	**12 52 47.9**	**+1.8**
HMBC	**Humberstone**	**9.97**	**140**		**Pn**	**12 52 49.5**	**+1.0**
TA01	**Diego Aracena**	**10.01**	**142**	Pn	**Pn**	**12 52 49.9**	**+1.1**
PATCX	**Punta Patache**	**10.22**	**143**	Pn	**Pn**	**12 52 52.3**	**+0.5**
PB08	**IPOC Station P**	**10.35**	**136**		**Pn**	**12 52 54.7**	**+0.8**
COHC	**Cochancay**	**10.50**	**346**	Pn	**Pn**	**12 52 58.2**	**+2.6**
COHC	**Cochancay**	**10.50**	**346**	P	**Pn**	**12 52 58.6**	**+3.0**
PB01	**IPOC Station P**	**10.79**	**141**		**Pn**	**12 53 01.9**	**+2.3**
TBTG	**Tabatinga, AM**	**10.86**	**39**	Pn	**Pn**	**12 53 00.2**	**-0.3**
TBTG	**Tabatinga, AM**	**10.86**	**39**	*eP*	**Pn**	**12 52 59.5**	**-0.9**
PB09	**IPOC Station P**	**11.51**	**143**	Pn	**Pn**	**12 53 12.2**	**+2.6**
PB05	**IPOC Station P**	**11.83**	**149**	Pn	**Pn**	**12 53 14.0**	**+0.1**
PB10	**IPOC Station P**	**12.22**	**152**	Pn	**Pn**	**12 53 19.3**	**+0.1**
FLF1	**Flavio Alfaro-**	**12.68**	**346**	P	**Pn**	**12 53 28.3**	**+2.9**
PTLC	94nm,0.6s **Puerto Leguiza**	**12.97**	**9**	P	Pn	12 53 24.5	-4.9
OTAV	**Otavalo**	**13.00**	**352**	*eP*	**Pn**	**12 53 29.8**	**-0.4**
OTAV	**Otavalo**	**13.00**	**352**	P	**Pn**	**12 53 32.5**	**+2.3**
PB14	**IPOC Station P**	**13.26**	**154**	Pn	**Pn**	**12 53 33.9**	**+0.3**
GO02	**Mina Guanaco**	**14.09**	**152**	Pn	**Pn**	**12 53 46.5**	**+1.7**
FLOC	**Florencia**	**14.27**	**4**		**Pn**	**12 53 47.0**	**-0.1**
FLOC	**Florencia**	**14.27**	**4**	P	**Pn**	**12 53 48.0**	**+0.9**
AC01	**Pan de Azucar**	**14.54**	**157**	Pn	**Pn**	**12 53 51.0**	**+0.2**
GARC	**Garzon, Huila**	**14.88**	**5**	P	**Pn**	**12 53 55.2**	**-0.4**
TEFE	**Tefe**	**15.08**	**54**	*eP*	**Pn**	**12 53 57.3**	**-0.8**
BETC	**Betania**	**15.37**	**5**	P	**Pn**	**12 54 03.8**	**+1.9**
SIV	**San Ignacio**	**15.53**	**104**	Pn	**Pn**	**12 54 04.9**	**+1.0**
SIV	0.1nm,0.3s,baz=214,slow=16,SNR=3.2			Lg	Lg	12 58 38.8	
SIV	1.2nm,0.6s			LR	LR	13 00 49.0	
AC06	**Mina Casimiro**	**15.73**	**159**	Pn	**Pn**	**12 54 08.4**	**+1.9**
AC02	**Maricunga**	**15.74**	**154**	Pn	**Pn**	**12 54 08.6**	**+1.5**
JAMC	**Jamundi, Valle**	**15.85**	**0**	P	**Pn**	**12 54 11.3**	**+3.1**
GO03	**Copiapo**	**15.99**	**159**	Pn	**Pn**	**12 54 11.7**	**+1.8**
VILB	**Vilhena**	**16.14**	**93**		**Pn**	**12 54 11.5**	**-0.3**
VILB	comp=Z,26nm,0.8s			IAmb	IAmb	12 54 28.1	
VILB	**Vilhena**	**16.14**	**93**	*eP*	**Pn**	**12 54 12.9**	**+1.1**
AC04	**Llanos de Chal**	**16.28**	**162**	Pn	**Pn**	**12 54 14.8**	**+1.3**
AC04	comp=Z,31nm,1.1s			IAmb	IAmb	12 54 44.4	
AC05	**El Transito**	**17.12**	**160**	Pn	**Pn**	**12 54 25.4**	**+1.3**
LCO	**Las Campanas**	**17.14**	**162**		**Pn**	**12 54 26.6**	**+2.0**
PTLB	**Pontes e Lacer**	**17.29**	**101**	Pn	**Pn**	**12 54 26.3**	**0.0**
PTLB	**Pontes e Lacer**	**17.29**	**101**	*eP*	**Pn**	**12 54 25.6**	**-0.7**
PLMC	**San Jos del P**	**17.53**	**2**	P	**Pn**	**12 54 29.6**	**+0.3**
ROSC	comp=Z,20nm,1.0s **El Rosal**	**17.63**	**8**	P	**Pn**	**12 54 31.2**	**+0.4**
ROSC	comp=Z,2.5nm,0.3s,baz=70,slow=22,SNR=4.3 comp=Z,9.4nm,0.6s,baz=142,slow=23,SNR=0.8			S	**Sn**	**12 57 47.2**	**+0.7**
ROSC				LR	LR	13 02 24.6	
GO04	**Tololo Observa**	**18.20**	**163**	P	**P**	**12 54 38.4**	**+0.7**
GO04	comp=Z,29nm,0.9s			IAmb	IAmb	12 54 42.2	
CO01	**Juntas del Tor**	**18.23**	**161**	P	**P**	**12 54 39.8**	**+1.8**
NORC	**Norcasia**	**18.28**	**6**	P	**Pn**	**12 54 37.4**	**-1.1**
CO06	comp=Z,14nm,0.7s **Fray Jorge**	**18.47**	**166**	P	**P**	**12 54 41.8**	**+1.5**
CO06	comp=Z,81nm,1.5s			IAmb	IAmb	12 55 02.2	
MACA	**Manacapuru-AM**	**18.52**	**60**	P	**P**	**12 54 39.7**	**-1.3**
MACA	**Manacapuru-AM**	**18.52**	**60**	*eP*	**P**	**12 54 40.1**	**-0.9**
RUSC	**La Rusia**	**18.86**	**11**	P	**P**	**12 54 44.1**	**-1.2**
RUSC	comp=Z,31nm,0.8s			IAmb	IAmb	12 54 54.0	
CO03	**El Pedregal**	**18.86**	**164**	P	**P**	**12 54 46.6**	**+1.8**
PTBC	**PUERTO BERRIO,**	**19.29**	**7**	P	**P**	**12 54 46.2**	**-3.2**
PDRB	comp=Z,139nmcomp=Z,14nm,0.6s **Porto dos Gac**	**19.60**	**89**	*eP*	**P**	**12 54 54.1**	**+1.2**
ZON	**Zonda**	**20.14**	**160**	P	**P**	**12 55 00.9**	**+2.2**
ZON	comp=Z,35nm,1.4s			IAmb	IAmb	12 55 03.9	
ZARC	**Zaragoza, Cauc**	**20.18**	**5**	P	**P**	**12 54 57.3**	**-1.9**
CFA	comp=Z,820nmcomp=Z,39nm,0.7s **Coronel Fontan**	**20.35**	**159**	P	**P**	**12 55 01.8**	**+0.8**
VA06	comp=Z,15nm,0.8s;baz=334,slow=10.0,SNR=26 comp=Z,15nm,0.8s **Catapilco**	**20.36**	**167**	P	**P**	**12 55 03.1**	**+2.2**
VA06	comp=Z,20nm,0.8s			IAmb	IAmb	12 55 04.2	
CLDB	**Colider**	**20.59**	**87**	*eP*	**P**	**12 55 02.4**	**-1.3**
BDQN	**Bodoquena, MS**	**20.63**	**114**	*eP*	**P**	**12 55 04.5**	**+0.5**
H03N1	**Juan Fernandez**	**20.70**	**185**	T	T	13 16 13.8	
H03N2	baz=6.0,slow=75,SNR=4.8 **Juan Fernandez**	**20.71**	**185**	T	T	13 16 04.3	
H03N3	baz=6.0,slow=75,SNR=42 **Juan Fernandez**	**20.72**	**185**	T	T	13 16 04.0	
MT02	baz=6.0,slow=75,SNR=5.0 **Curacav**	**21.06**	**167**	P	**P**	**12 55 10.5**	**+1.9**
MT02	comp=Z,32nm,1.2s			IAmb	IAmb	12 55 13.6	
VA05	**Santo Domingo**	**21.34**	**168**	P	**P**	**12 55 14.2**	**+2.6**
VA05	comp=Z,30nm,1.1s			IAmb	IAmb	12 55 51.8	
MT08	**Bocatoma Ro**	**21.51**	**165**	P	**P**	**12 55 16.7**	**+3.1**
MT08	comp=Z,25nm,0.9s			IAmb	IAmb	12 55 17.5	
AQDB	**Aquidauana**	**21.57**	**114**	*eP*	**P**	**12 55 13.1**	**-1.0**
MT09	**Talagante**	**21.59**	**167**	P	**P**	**12 55 15.9**	**+1.4**
MT01	**Popeta**	**21.62**	**168**	P	**P**	**12 55 16.5**	**+1.9**
MT13	**San Alfonso**	**21.73**	**165**	P	**P**	**12 55 18.2**	**+2.4**
MT13	comp=Z,29nm,0.7s			IAmb	IAmb	12 55 18.9	
NPGB	**Novo Progresso**	**21.81**	**77**	*eP*	**P**	**12 55 16.3**	**-0.5**
LMEL	**Las Melosas**	**21.84**	**165**	P	**P**	**12 55 19.7**	**+2.5**
BO04	**La Punta**	**21.88**	**166**	P	**P**	**12 55 19.5**	**+2.0**
BO04	comp=Z,27nm,1.1s			IAmb	IAmb	12 55 21.5	
BOAV	**Boa Vista**	**22.04**	**48**	P	**P**	**12 55 18.4**	**-0.8**
BOAV	comp=Z,31nm,0.7s			IAmb	IAmb	12 55 25.1	
BOAV	**Boa Vista**	**22.04**	**48**	*eP*	**P**	**12 55 17.8**	**-1.4**
BO01	**Tunca**	**22.16**	**168**	P	**P**	**12 55 22.0**	**+1.6**
BO01	comp=Z,33nm,1.4s			IAmb	IAmb	12 55 24.1	
SDV	**Santo Domingo**	**22.32**	**16**	P	**P**	**12 55 21.5**	**-1.0**
SDV	comp=Z,27nm,1.1s			IAmb	IAmb	12 55 36.2	
SDV	**Santo Domingo**	**22.32**	**16**	*eP*	**P**	**12 55 21.1**	**-1.4**
BO02	**Sierra Bellavi**	**22.61**	**167**	P	**P**	**12 55 27.6**	**+2.2**
BO02	comp=Z,18nm,1.1s			IAmb	IAmb	12 55 58.2	
CPUP	**Villa Florida**	**22.71**	**129**	P	**P**	**12 55 25.6**	**-0.8**
CPUP	comp=Z,2.3nm,0.7s;baz=306,slow=9.3,SNR=5.4 **Villa Florida**	**22.71**	**129**	*eP*	**P**	**12 55 25.5**	**-0.8**
SJPY	comp=Z,2.3nm,0.7s **San Joaquin**	**22.99**	**125**	*eP*	**P**	**12 55 29.6**	**+0.4**
BAUV	**El Baul**	**23.21**	**22**	P	**P**	**12 55 30.1**	**-1.4**
RPRD	**Ribas do Rio P**	**23.37**	**112**	*eP*	**P**	**12 55 33.7**	**+0.6**
ML02	**Panimavida**	**23.43**	**169**	P	**P**	**12 55 34.9**	**+1.5**
SMRC	**Santa Marta, M**	**23.88**	**6**	P	**P**	**12 55 36.8**	**-1.1**
BI02	**San Fabin de**	**24.33**	**169**	P	**P**	**12 55 43.0**	**+0.9**
BI02	comp=Z,32nm,1.1s			IAmb	IAmb	12 55 45.0	
MAL2	**Monte Alegre,**	**24.75**	**66**	P	**P**	**12 55 44.5**	**-1.5**
MAL2	comp=Z,30nm,1.0s			IAmb	IAmb	12 56 19.4	
SNDB	**Serra Nova Dou**	**24.87**	**91**	*eP*	**P**	**12 55 47.7**	**+0.6**
PCRV	**Puerto La Cruz**	**25.75**	**28**	LR	LR	13 07 10.8	
HERN	comp=Z,348nm,18.3s,slow=39 **Volcan Telica**	**27.10**	**338**	P	**P**	**12 56 07.1**	**-0.1**
HERN	comp=Z,335nm,0.9s			IAmb	IAmb	12 56 27.4	
LR05	**Currie**	**27.70**	**172**	P	**P**	**12 56 13.2**	**+0.8**
LR05	comp=Z,24nm,1.2s			IAmb	IAmb	12 56 14.5	
CPSB	**Cacapava Do Su**	**27.81**	**133**	*eP*	**P**	**12 56 12.6**	**-0.9**
IPMB	**Ipameri, GO**	**27.99**	**104**	*eP*	**P**	**12 56 12.9**	**-2.4**
BDFB	**Brasilia**	**28.00**	**99**	LR	LR	13 08 15.7	
PLCA	comp=Z,184nm,19.4s,baz=215,slow=38 **Paso Flores**	**28.41**	**170**	P	**P**	**12 56 19.4**	**+0.6**
PLCA	comp=Z,14nm,1.1s			IAmb	IAmb	12 56 20.0	
PLCA	**Paso Flores**	**28.41**	**170**	P	**P**	**12 56 17.9**	**-0.9**
PLCA	comp=Z,9.7nm,1.0s,baz=337,slow=9.5,SNR=15 comp=Z,89nm,20.9s,baz=8.5,slow=31 comp=Z,9.7nm,1.0s			LR	LR	13 05 16.5	
PLCA	**Paso Flores**	**28.41**	**170**	*eP*	**P**	**12 56 19.5**	**+0.6**
TRQA	**Tornquist**	**28.45**	**155**	P	**P**	**12 56 20.3**	**+1.2**
PLTB	**Pedras Altas**	**28.48**	**135**	*eP*	**P**	**12 56 18.4**	**-1.1**
CNLB	**Canela**	**29.16**	**128**	*eP*	**P**	**12 56 24.4**	**-1.2**
MDP	**Montagnes des**	**29.80**	**55**	LR	LR	13 08 54.5	
SJG	comp=Z,149nm,20.1s,baz=268,slow=37 **San Juan**	**32.39**	**19**	LR	LR	13 12 33.3	
ABR01	comp=Z,81nm,18.5s,baz=205,slow=41 **Abrolhos, BA**	**37.01**	**103**	*eP*	**P**	**12 57 33.3**	**-0.7**
NBAN	**Anadia - AL**	**39.79**	**90**	*eP*	**P**	**12 57 56.7**	**-0.8**
TXAR	**Lajitas Array**	**49.24**	**329**	P	**P**	**12 59 12.4**	**-0.5**
KNB	comp=Z,0.6nm,0.7s;baz=153,slow=9.1,SNR=9.7 comp=Z,0.6nm,0.7s **Kanab**	**60.01**	**327**	P	**P**	**13 00 31.5**	**+0.6**
KNB	comp=Z,7.2nm,1.2s			IAmb	IAmb	13 01 06.0	
BSUT	**Blindstream Ca**	**61.67**	**331**	P	**P**	**13 00 43.1**	**+0.7**
BSUT	comp=Z,3.3nm,0.9s			IAmb	IAmb	13 00 43.7	
R11B	**Troy Canyon, C**	**62.47**	**326**	P	**P**	**13 00 48.4**	**+0.8**
PDAR	**Pinedale Array**	**62.89**	**333**	P	**P**	**13 00 50.5**	**+0.1**
DSP	comp=Z,1.1nm,1.2s;baz=168,slow=6.4,SNR=2.6 comp=Z,1.1nm,1.2s **Deep Springs**	**63.11**	**324**	P	**P**	**13 00 52.5**	**+0.9**
DSP	comp=Z,5.0nm,1.4s			IAmb	IAmb	13 01 00.9	
DRLN	**Deer Lake**	**64.02**	**14**	P	**P**	**13 00 57.2**	**-0.2**
LHV	**Little Huntoon**	**64.03**	**324**	P	**P**	**13 00 58.9**	**+1.2**
LHV	comp=Z,5.2nm,1.2s			IAmb	IAmb	13 01 43.1	
NVAR	**Mina Array Bea**	**64.03**	**325**	P	**P**	**13 00 57.7**	**-0.3**
ULM	comp=Z,1.1nm,0.8s;baz=145,slow=6.3,SNR=11 comp=Z,1.1nm,0.8s **Lac du Bonnet**	**64.92**	**347**	P	**P**	**13 01 02.8**	**-0.5**
YHL	comp=Z,1.0nm,0.4s;baz=158,slow=5.6,SNR=3.9 comp=Z,1.0nm,0.4s **Hebgen Lake**	**65.27**	**334**	P	**P**	**13 01 06.6**	**+0.6**
YHL	comp=Z,7.2nm,1.4s			IAmb	IAmb	13 01 08.3	
PAHR	**Pah Rah Range**	**65.52**	**325**	P	**P**	**13 01 07.3**	**-0.3**
PAHR	comp=Z,3.4nm,0.9s			IAmb	IAmb	13 01 09.1	
HLID	**Hailey**	**65.73**	**331**	P	**P**	**13 01 09.6**	**+0.7**
MFID	**Camas Ranch**	**66.30**	**330**	P	**P**	**13 01 12.8**	**+0.3**
ORV	**Oroville**	**66.63**	**324**	P	**P**	**13 01 16.0**	**+1.5**
ORV	comp=Z,4.4nm,0.8s			IAmb	IAmb	13 01 16.1	
SNAA	**Sanae**	**72.94**	**161**	⇑P	**P**	**13 01 52.6**	**-0.4**
SNAA	comp=Z,79nm,1.1s **Sanae**	**72.94**	**161**	P	**P**	**13 01 52.4**	**-0.6**
DBIC	comp=Z,4.6nm,1.1s,baz=287,slow=8.6,SNR=8.3 comp=Z,4.6nm,1.1s **Dimbokro**	**73.98**	**79**	LR	LR	13 33 04.1	
QSPA	comp=Z,57nm,18.3s,baz=314,slow=34 **South Pole Qui**	**77.40**	**180**	P	**P**	**13 02 19.4**	**+0.6**
QSPA	**South Pole Qui**	**77.40**	**180**	P	**P**	**13 02 18.4**	**-0.4**
YKA	comp=Z,2.5nm,0.8s;baz=161,slow=2.2,SNR=14 comp=Z,2.5nm,0.8s **Yellowknife Ar**	**80.58**	**343**	P	**P**	**13 02 34.7**	**-1.3**
I30M	comp=Z,1.3nm,1.1s;baz=143,slow=5.4,SNR=9.5 comp=Z,1.3nm,1.1s **Torodi Ar. Bea**	**81.90**	**75**	P	**P**	**13 02 43.2**	**-0.8**
VNDA	comp=Z,2.1nm,0.8s;baz=278,slow=4.8,SNR=8.3 comp=Z,2.1nm,0.8s **Vanda**	**84.08**	**191**	P	**P**	**13 02 53.8**	**-0.3**
ESDC	comp=Z,1.1nm,0.9s;baz=299,slow=7.3,SNR=2.2 comp=Z,1.1nm,0.9s **Sonseca Array**	**85.20**	**48**	P	**P**	**13 03 00.6**	**0.0**
M29M	comp=Z,0.6nm,0.6s;baz=249,slow=5.9,SNR=2.1 comp=Z,0.6nm,0.6s **Somme Creek**	**88.79**	**336**	P	**P**	**13 03 17.5**	**0.0**
L29M	**L29M**	**89.00**	**336**	P	**P**	**13 03 18.3**	**-0.1**
K29M	**Barlow Dome**	**89.15**	**337**	P	**P**	**13 03 18.7**	**-0.5**
I30M	**Mount Dempster**	**89.47**	**339**	P	**P**	**13 03 20.6**	**-0.1**
I30M	comp=Z,3.8nm,1.0s			IAmb	IAmb	13 03 20.6	
G31M	**Satah River**	**89.70**	**341**	P	**P**	**13 03 21.1**	**-0.3**
DAWY	**Dawson**	**89.98**	**337**	P	**P**	**13 03 22.3**	**-0.7**
DAWY	comp=Z,3.9nm,0.9s			IAmb	IAmb	13 03 22.7	
M27K	**Edge Creek, AK**	**90.14**	**335**	P	**P**	**13 03 23.4**	**-0.4**
BCAR	**Beaver Creek A**	**90.43**	**336**	P	**P**	**13 03 24.8**	**-0.3**
L27K	**Beaver Creek,**	**90.45**	**336**	P	**P**	**13 03 24.8**	**-0.4**
GLB	**Gilahina Butte**	**90.54**	**334**	P	**P**	**13 03 26.4**	**+0.8**
KEST	**Kesra**	**94.20**	**54**	LR	LR	13 45 55.7	
H11N3	comp=Z,89nm,18.9s,baz=353,slow=35 **WAKE ISLAND Hyl**	**18.78**	**286**	T	T	15 19 26.5	
H11N2	baz=96,slow=75,SNR=11 **WAKE ISLAND Hyl**	**18.79**	**286**	T	T	15 19 32.3	
H11N1	baz=96,slow=75,SNR=7.3 **WAKE ISLAND Hyl**	**18.79**	**286**	T	T	15 19 32.5	
H11S2	baz=96,slow=75,SNR=7.3 **WAKE ISLAND Hyl**	**18.88**	**284**	T	T	15 19 13.4	
H11S1	baz=93,slow=74,SNR=47 **WAKE ISLAND Hyl**	**18.88**	**284**	T	T	15 19 24.2	
H11S3	baz=93,slow=74,SNR=28 **WAKE ISLAND Hyl**	**18.89**	**284**	T	T	15 19 42.7	
STKA	baz=93,slow=74,SNR=23 **Stephens Creek**	**122.41**	**219**	PKP	**PKPdf**	**13 09 18.3**	**-1.3**
ABKAR	comp=Z,0.5nm,0.3s,baz=12,slow=7.4,SNR=2.9 **Akbulak array**	**129.10**	**35**	PKPdf	**PKPdf**	**13 09 31.9**	**+0.1**
BVAR	**Borovoye Array**	**132.04**	**26**	PKP	**PKPdf**	**13 09 35.2**	**-2.1**
ASAR	comp=Z,0.3nm,0.5s,baz=350,slow=6.0,SNR=3.8 **Alice Springs**	**133.01**	**220**	PKPdf	**PKPdf**	**13 09 39.3**	**-0.9**
ASAR	**Alice Springs**	**133.01**	**220**	PKP	**PKPdf**	**13 09 39.0**	**-1.2**
WB2	comp=Z,1.0nm,0.6s,baz=123,slow=2.4,SNR=18 **Warramunga Arr**	**135.38**	**224**	PKPdf	**PKPdf**	**13 09 44.0**	**-0.6**
WRA	**Warramunga Arr**	**135.38**	**224**	PKP	**PKPdf**	**13 09 43.6**	**-1.1**
WB0	comp=Z,3.5nm,0.9s,baz=125,slow=1.9,SNR=18 **Warramunga Arr**	**135.47**	**224**	PKPdf	**PKPdf**	**13 09 44.3**	**-0.5**
ZALV	**Zalesovo Beam**	**136.37**	**16**	PKP	**PKPdf**	**13 09 44.3**	**-1.1**
KURBB	comp=Z,1.5nm,0.7s,baz=253,slow=1.5,SNR=8.0 **Kurchatov Arra**	**137.17**	**23**	PKP	**PKPdf**	**13 09 45.8**	**-1.1**
MKAR	comp=Z,0.5nm,0.3s,baz=299,slow=2.2,SNR=5.0 **Makanchi Array**	**141.74**	**23**	PKPdf	**PKPdf**	**13 09 54.5**	**-0.9**
MKAR	**Makanchi Array**	**141.74**	**23**	PKhKP	PKPpre	13 09 48.6	
MKAR	comp=Z,0.3nm,0.6s,baz=328,slow=4.3,SNR=3.7			PKP	**PKPdf**	**13 09 54.2**	**-1.3**
ULN	comp=Z,0.4nm,0.8s,baz=29,slow=2.8,SNR=4.9 **Ulaanbaatar**	**144.84**	**356**	PKPdf	**PKPab**	**13 10 00.5**	**+0.4**
SONM	**Songino Array**	**144.91**	**356**	PKPdf	**PKPab**	**13 09 59.9**	**-0.4**
SONM	**Songino Array**	**144.91**	**356**	PKP	**PKPab**	**13 09 59.3**	**-1.0**
KSRS	comp=Z,6.9nm,0.6s,baz=331,slow=2.4,SNR=49 **Korea Array**	**146.96**	**322**	PKPbc	**PKPdf**	**13 10 04.6**	**-0.1**
FAKI	comp=Z,0.8nm,0.7s,baz=2.2,slow=2.2,SNR=2.7 **Fak Fak**	**147.27**	**244**	PKPbc	**PKPdf**	**13 10 08.7**	**+2.7**
JOW	**Kunigami**	**152.67**	**305**	PKPdf	**PKPdf**	**13 10 14.2**	**+0.1**
TOLI2	**Tolitoli**	**159.14**	**238**	PKPdf	**PKPdf**	**13 10 22.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**172.96**	**36**	PKP	**PKPdf**	**13 10 33.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=91,slow=1.2,SNR=4.3						

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*IDC **22** 12:51:07.0±0.8, 10°.45N×122°.83E, h0km, mb3.7/10, mbtmp3.7/10, MS2.9/1, Error ellipse: s-maj=37.7km s-min=17.0km az=66.0*
ISC 22 12:51:12.1±0.8,**10°.4N**±0°.1×**122°.8E**±0°.2,**h35**km,**n11,** σ0§**72**/10,**mb3.6**/10,**Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.78**	**79**	LR	LR	13 03 58.3	
CMAR	comp=Z,29nm,19.2s,baz=222,slow=35 **Chiang Mai Arr**	**24.46**	**292**	P	**P**	**12 56 27.7**	**-0.3**
WRA	0.7nm,0.3s,baz=108,slow=7.1,SNR=9.3 0.7nm,0.3s **Warramunga Arr**	**32.22**	**159**	P	**P**	**12 57 36.9**	**-0.3**
ASAR	0.6nm,0.7s;baz=334,slow=10,SNR=6.1 0.6nm,0.7s **Alice Springs**	**35.56**	**162**	P	**P**	**12 58 07.7**	**+1.4**
SONM	0.3nm,0.4s;baz=338,slow=7.5,SNR=14 0.3nm,0.4s **Songino Array**	**39.79**	**343**	P	**P**	**12 58 42.2**	**+0.3**
STKA	1.4nm,0.9s;baz=162,slow=9.6,SNR=6.6 1.4nm,0.9s **Stephens Creek**	**45.73**	**158**	P	**P**	**12 59 29.3**	**-0.7**
MKAR	0.9nm,0.8s;baz=357,slow=17,SNR=1.7 0.9nm,0.8s **Makanchi Array**	**49.90**	**324**	P	**P**	**13 00 01.6**	**-0.7**
PETK	0.4nm,0.8s;baz=156,slow=6.1,SNR=4.0 0.4nm,0.8s **Petropavlovsk-**	**50.96**	**26**	P	**P**	**13 00 10.2**	**+0.1**
ZALV	3.9nm,1.0s;baz=220,slow=7.6,SNR=1.7 3.9nm,1.0s **Zalesovo Beam**	**52.92**	**333**	P	**P**	**13 00 24.8**	**+0.1**
ILAR	0.5nm,0.4s;baz=124,slow=7.2,SNR=2.7 0.5nm,0.4s **Eielson Array**	**80.78**	**26**	P	**P**	**13 03 21.6**	**-0.3**
BRTR	0.5nm,1.0s;baz=259,slow=4.2,SNR=3.1 0.5nm,1.0s **Keskin Array B**	**82.82**	**309**	P	**P**	**13 03 33.8**	**+0.5**
	0.5nm,0.8s;baz=107,slow=5.0,SNR=1.7 0.5nm,0.8s						

NOU 22 13:10:57.5,16°.55S×167°.82E,h0km,MLv4.4/15,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.22**	**163**	P	Pg	13 11 19.4	-1.5
DVP	**Devils Point**	**1.22**	**163**	S	Sg	13 11 37.0	+0.2
MARNC	**Mare, Loyalty**	**4.91**	**178**	P	Pn	13 12 12.2	-0.4
KOUNC	**Koumac, New Ca**	**5.20**	**220**	P	Pn	13 12 16.1	-0.5
YATNC	**Mamie plateau,**	**5.55**	**189**	P	Pn	13 12 20.5	-0.9
DZM	**Mont Dz

BNDS			*e*Sg	**Sb**	**13 27 27.2**	**+2.5**
BNDS			IAML		13 27 36.2	
	comp=Z,1.2nm,1.0s					
IBND	**Bandar-abas**	**2.39 113**	Pn	**Pn**	**13 26 59.4**	**+0.6**
KAZ2	**Kazeron-Fars-I**	**2.42 301**	Pn	**Pn**	**13 27 00.7**	**+1.3**
DSBU	**Dashti - Bushe**	**2.46 270**	Pn	**Pn**	**13 27 00.6**	**+0.7**
AHBU	**AHRAM**	**2.47 281**	Pn	**Pn**	**13 27 00.9**	**+0.9**
NGRK	**Negar Kerman**	**2.65 61**	Pn	**Pn**	**13 27 04.1**	**+1.3**
KRBR	**Kerman**	**2.84 56**	Pn	**Pn**	**13 27 07.5**	**+2.1**
KRBR	**Kerman**	**2.84 56**	*e*PnA		13 27 08.2	
KRBR			IAML		13 27 57.8	
	comp=Z,0.5nm,1.0s					
KHGB	**Koh Gabri**	**2.89 46**	Pn	**Pn**	**13 27 08.0**	**+2.1**
SHME	**Shamm**	**2.99 141**	P	**Pn**	**13 27 08.8**	**+1.8**
SHME			S	**Sn**	**13 27 44.0**	**+1.1**
SHME	**Shamm**	**2.99 141**	P	**Pn**	**13 27 08.8**	**+0.8**
BANOM	**Banah**	**3.17 140**	P	**Pn**	**13 27 10.8**	**+1.2**
BANOM			S	**Sn**	**13 27 48.3**	**+0.7**
BANOM	**Banah**	**3.17 140**	*e*P	**Pn**	**13 27 10.3**	**+0.6**
	SNR=25					
BANOM			S	**Sn**	**13 27 45.3**	**-2.3**
KHNJ	**Kahnooj**	**3.25 97**	Pn	**Pn**	**13 27 11.2**	**+0.4**
ZRDN	**Zarand Kerman**	**3.35 40**	Pn	**Pn**	**13 27 14.2**	**+2.0**
KLNJ	**Kolanjah**	**3.37 321**	Pn	**Pn**	**13 27 13.6**	**+0.9**
KLNJ	**Kolanjah**	**3.37 321**	*e*Pn	**Pn**	**13 27 13.6**	**+0.9**
KLNJ			IAML		13 28 28.1	
	comp=Z,0.2nm,1.0s					
CHMN	**Cheshme madani**	**3.38 64**	Pn	**Pn**	**13 27 14.6**	**+1.9**
IBAF	**Bafgh**	**3.44 22**	Pn	**Pn**	**13 27 15.7**	**+2.3**
KRM1	**Kerman Provinc**	**3.50 52**	Pn	**Pn**	**13 27 16.1**	**+1.8**
MASF	**Masafi**	**3.55 148**	P	**Pn**	**13 27 16.6**	**+1.7**
MASF			S	**Sn**	**13 27 59.1**	**+2.2**
MSFE	**Esma-Masafi**	**3.56 148**	*i* P	**Pn**	**13 27 16.0**	**+1.0**
	SNR=10					
MDH	**Madha**	**3.68 147**	P	**Pn**	**13 27 18.3**	**+1.7**
MDH			S	**Sn**	**13 28 02.3**	**+2.3**
MDH	**Madha**	**3.68 147**	P	**Pn**	**13 27 17.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.69 157**	P	**Pn**	**13 27 18.9**	**+2.2**
NAZ			S	**Sn**	**13 28 03.3**	**+3.1**
NAZ	**Nazwa, Dubai**	**3.69 157**	P	**Pn**	**13 27 16.9**	**+0.2**
IRAM	**Ramesheh**	**3.69 337**	Pn	**Pn**	**13 27 19.0**	**+1.9**
SHMA	**Al-Shehemyia**	**3.74 228**	P	**Pn**	**13 27 19.5**	**+2.1**
	SNR=30					
ICHK	**Chekchek**	**3.84 4**	Pn	**Pn**	**13 27 21.0**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.89 159**	P	**Pn**	**13 27 21.3**	**+1.8**
FAQ			S	**Sn**	**13 28 06.7**	**+1.5**
AJN	**Ajban**	**3.91 168**	P	**Pn**	**13 27 21.5**	**+1.7**
AJN			S	**Sn**	**13 28 05.5**	**-0.2**
ASUD	**Al Ashush, Dub**	**3.93 163**	P	**Pn**	**13 27 21.9**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.93 163**	*i* P	**Pn**	**13 27 21.3**	**+1.3**
	SNR=30					
KBAM	**BAM**	**3.93 78**	Pn	**Pn**	**13 27 21.7**	**+1.6**
UOSS	**Minazif**	**3.94 150**	P	**Pn**	**13 27 21.2**	**+1.0**
UOSS			S	**Sn**	**13 28 06.8**	**+0.3**
UOSS	**Minazif**	**3.94 150**	*i* P	**Pn**	**13 27 20.9**	**+0.7**
	SNR=17					
YZKH	**Yazd**	**4.00 6**	*e*Pn	**Pn**	**13 27 24.2**	**+3.1**
YZKH			IAML		13 28 35.1	
	comp=Z,0.1nm,1.0s					
HATD	**Hatta, Dubai**	**4.01 152**	P	**Pn**	**13 27 22.8**	**+1.6**
HATD			S	**Sn**	**13 28 10.2**	**+1.9**
HATD	**Hatta, Dubai**	**4.01 152**	*i* P	**Pn**	**13 27 22.4**	**+1.2**
	SNR=8.3					
ASHO	**Ashiyiah**	**4.11 154**	P	**Pn**	**13 27 23.8**	**+1.2**
ASHO			S	**Sn**	**13 28 11.8**	**+1.0**
ASHO	**Ashiyiah**	**4.11 154**	*i* P	**Pn**	**13 27 23.6**	**+1.0**
	SNR=45					
JASK	**Jask - Hormozg**	**4.23 126**	Pn	**Pn**	**13 27 23.8**	**-0.3**
JASK	**Jask - Hormozg**	**4.23 126**	P	**Pn**	**13 27 24.2**	**+0.1**
JASK			S	**Sn**	**13 28 14.4**	**+0.8**
IBRJ	**Brojen**	**4.25 326**	Pn	**Pn**	**13 27 26.4**	**+1.6**
TRNA	**Turayna**	**4.45 216**	P	**Pn**	**13 27 28.9**	**+1.7**
NASN	**Na'in**	**4.52 347**	*e*Pn	**Pn**	**13 27 30.0**	**+1.6**
NASN			IAML		13 28 58.4	
	comp=Z,0.0nm,1.0s					
ALNE	**Al Ain**	**4.58 160**	*i* P	**Pn**	**13 27 29.7**	**+0.7**
	SNR=12					
SMRA	**Abu-Samra**	**4.65 219**	P	**Pn**	**13 27 31.6**	**+1.7**
SMRA			S	**Sn**	**13 28 24.0**	**0.0**
IZEF	**Zefreh**	**4.72 342**	Pn	**Pn**	**13 27 32.1**	**+1.0**
ANAR	**Anarak**	**4.78 357**	Pn	**Pn**	**13 27 34.0**	**+2.1**
SOHO	**SOHO**	**4.79 152**	P	**Pn**	**13 27 32.3**	**+0.4**
SOHO			S	**Sn**	**13 28 27.9**	**+0.4**
SOHO	**SOHO**	**4.79 152**	P	**Pn**	**13 27 31.8**	**-0.1**
IPIR	**Pirpir**	**5.07 328**	Pn	**Pn**	**13 27 37.6**	**+1.6**
TPRV	**Parvadeh(Tabas**	**5.14 25**	Pn	**Pn**	**13 27 39.0**	**+2.3**
IKLH	**Kolahrood**	**5.35 337**	Pn	**Pn**	**13 27 41.0**	**+1.3**
MZR	**Muzera**	**5.40 186**	P	**Pn**	**13 27 40.4**	**+0.2**
ARQ	**Araqi**	**5.51 156**	P	**Pn**	**13 27 42.4**	**+0.7**
	SNR=17					
ARQ			S	**Sn**	**13 28 44.7**	**-0.5**
HOQ	**Hoqain**	**5.62 148**	P	**Pn**	**13 27 43.1**	**-0.1**
KBD	**Kabd**	**5.64 279**	P	**Pn**	**13 27 45.1**	**+1.6**
KBD			S	**Sn**	**13 28 47.8**	**-0.5**
UMZA	**Um Al Zommool**	**5.75 170**	P	**Pn**	**13 27 45.6**	**+0.6**
KRSH	**Karshahi**	**5.79 344**	Pn	**Pn**	**13 27 47.1**	**+1.3**
TKDS	**Koohdasht(Taba**	**5.83 26**	Pn	**Pn**	**13 27 48.2**	**+2.0**
TABS	**Tabas**	**5.86 26**	*e*Pn	**Pn**	**13 27 48.2**	**+1.6**
TABS			IAML		13 29 53.4	
	comp=Z,0.0nm,1.0s					
ISFB	**Sefidab**	**6.13 346**	Pn	**Pn**	**13 27 51.8**	**+1.4**
BSY	**Bisya**	**6.30 153**	P	**Pn**	**13 27 53.7**	**+1.0**
BSY			S	**Sn**	**13 29 04.5**	**-0.3**
CHBR	**Chabahar**	**6.38 115**	Pn	**Pn**	**13 27 53.3**	**-0.3**
SMDO	**Samad**	**6.42 145**	P	**Pn**	**13 27 55.0**	**+0.6**
SMDO			S	**Sn**	**13 29 08.5**	**+0.7**
GHVR	**GHOM**	**6.50 339**	*e*Pn	**Pn**	**13 27 57.1**	**+1.6**
GHVR			IAML		13 29 53.5	
	comp=Z,0.0nm,1.0s					
WSAR	**Wadi Sarin**	**6.59 140**	Pn	**Pn**	**13 27 56.9**	**+0.3**
	baz=326,slow=24,SNR=34					
WSAR			Sn	**Sn**	**13 29 07.8**	**-3.9**
	baz=332,slow=24,SNR=7.0					
IVRN	**Varamin**	**6.87 344**	Pn	**Pn**	**13 28 01.7**	**+1.2**
NGCH	**Negor - Chabah**	**7.01 114**	Pn	**Pn**	**13 28 02.4**	**0.0**
NGCH	**Negor - Chabah**	**7.01 114**	P	**Pn**	**13 28 01.8**	**-0.6**
ASAO	**Ashtian**	**7.03 332**	*e*PnA		13 28 04.3	
ASAO			IAML		13 29 29.2	
	comp=Z,0.0nm,1.0s					
WBK	**Wadi Bani Khal**	**7.27 141**	P	**Pn**	**13 28 05.6**	**-0.4**
DAMV	**Damavand**	**7.42 347**	*e*Pn	**Pn**	**13 28 09.7**	**+1.4**
DAMV			IAML		13 29 53.3	
	comp=Z,0.0nm,1.0s					
SRVN	**Saravan**	**7.45 96**	Pn	**Pn**	**13 28 09.5**	**+1.0**
JLN	**Jalan Bani Buh**	**7.88 141**	P	**Pn**	**13 28 13.4**	**-0.9**
	SNR=8.1					
MHTO	**MHTO**	**8.19 153**	P	**Pn**	**13 28 18.1**	**-0.5**
KLST	**Kelardasht - M**	**8.48 343**	Pn	**Pn**	**13 28 25.2**	**+2.3**
DQM	**DQM**	**9.01 159**	P	**Pn**	**13 28 29.1**	**-0.7**
RAYN	**Ar Rayn**	**9.10 240**	P	**Pn**	**13 28 29.5**	**-1.6**
DOK	**Doka**	**9.74 180**	P	**Pn**	**13 28 39.7**	**-0.1**
WHFO	**Wadi Hawf**	**10.44 182**	P	**Pn**	**13 28 48.5**	**-0.9**
RBK	**Rabkut**	**10.85 179**	P	**Pn**	**13 28 53.5**	**-1.5**
ABTO	**Aybut**	**11.02 184**	P	**Pn**	**13 28 55.9**	**-1.5**
BRTR	**Keskin Array B**	**20.29 309**	P	**P**	**13 30 56.2**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=118,slow=12,SNR=5.4					
	comp=Z,1.1nm,0.6s					
AKTO	**Aktyubinsk**	**22.21 7**	P	**P**	**13 31 16.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=165,slow=11,SNR=4.1					
	comp=Z,1.4nm,0.6s					
BVAR	**Borovoye Array**	**27.41 22**	P	**P**	**13 32 04.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=223,slow=8.1,SNR=6.4					
	comp=Z,0.8nm,0.7s					
MKAR	**Makanchi Array**	**28.71 43**	P	**P**	**13 32 15.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=238,slow=8.7,SNR=1.7					
	comp=Z,0.2nm,0.4s					
KURBB	**Kurchatov Arra**	**28.90 33**	P	**P**	**13 32 17.3**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=235,slow=8.7,SNR=1.8					
	comp=Z,0.2nm,0.6s					
ZALV	**Zalesovo Beam**	**33.99 33**	P	**P**	**13 33 00.9**	**-2.4**
	comp=Z,5.5nm,0.3s,baz=239,slow=9.3,SNR=4.4					
	comp=Z,0.5nm,0.3s					
FINES	**FINESS Array B**	**37.93 338**	P	**P**	**13 33 36.6**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=152,slow=8.4,SNR=4.8					
	comp=Z,2.0nm,0.8s					
HFS	**Hagfors**	**41.79 331**	P	**P**	**13 34 07.5**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=118,slow=8.3,SNR=2.0					
	comp=Z,1.7nm,0.8s					
YKA	**Yellowknife Ar**	**88.97 355**	P	**P**	**13 39 14.2**	**0.0**
	comp=Z,0.1nm,0.5s,baz=2.7,slow=4.1,SNR=4.7					
	comp=Z,0.1nm,0.5s					

*IDC **22** 13:26:45.6±2.5, 22°.69S×177°.80W, h326km±23km, mb3.6/7, mbtmp4.3/10, Error ellipse: s-maj=28.2km s-min=18.8km az=150.0*

*NEIC **22** 13:26:47.5±1.7, 22°.49S±0°.04×177°.7W±0°.1, h345km±12km, mb4.2/19, Error ellipse: s-maj=20.1km s-min=5.4km az=88.0*

ISC 22 13:26:47.4±0.6, 22°.5S±0°.1×177°.75W±0°.09, h350km, n41, σ1§25/41, mb4.0/20, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.19 320**		Pn	**Pn**	**13 28 20.0**	**-0.6**
MSVF	**Nonsavu**	**6.19 320**		P	**Pn**	**13 28 19.4**	**-1.2**
	13nm,0.8s,baz=136,slow=16,SNR=6.8						
NIUE	**Niue**	**8.08 66**		Pn	**Pn**	**13 28 42.0**	**-0.6**
FUTU	**Fugatoga**	**8.18 357**		Pn	**Pn**	**13 28 43.0**	**-0.8**
URZ	**Urewera**	**16.30 195**		P	**P**	**13 30 13.6**	**-2.3**
	6.0nm,0.9s,baz=322,slow=0.6,SNR=6.7						
RAR	**Rarotonga**	**16.74 89**		P	**P**	**13 30 20.8**	**-0.2**
	9.7nm,0.7s,baz=113,slow=19,SNR=1.7						
ARMA	**Armidale**	**28.45 247**		P	**P**	**13 32 12.5**	**+0.9**
EIDS	**Eidsvold**	**28.60 258**		P	**P**	**13 32 12.7**	**0.0**
EIDS				IAmb	IAmb	13 32 28.2	
	comp=Z,15nm,1.5s						
CAN	**Canberra**	**31.62 239**		P	**P**	**13 32 39.1**	**-0.1**
CAN				IAmb	IAmb	13 33 12.3	
	comp=Z,27nm,1.5s						
TOO	**Toolangi**	**34.93 236**		P	**P**	**13 33 08.5**	**+1.0**
TOO				IAmb	IAmb	13 33 44.9	
	comp=Z,9.2nm,1.4s						
PMG	**Port Moresby**	**36.06 286**		P	**P**	**13 33 18.2**	**+0.9**
PMG	**Port Moresby**	**36.06 286**		P	**P**	**13 33 17.6**	**+0.3**
	comp=Z,29nm,0.8s,baz=114,slow=5.2,SNR=7.5						
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**37.16 247**		P	**P**	**13 33 26.3**	**+0.1**
STKA				IAmb	IAmb	13 33 34.1	
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**37.16 247**		P	**P**	**13 33 25.5**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=87,slow=6.7,SNR=7.6						
	comp=Z,1.5nm,0.4s						
BBOO	**Buckleboo**	**41.89 246**		P	**P**	**13 34 04.0**	**-0.9**
BBOO				IAmb	IAmb	13 34 16.9	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**44.32 259**		P	**P**	**13 34 24.0**	**-0.3**
ASAR	**Alice Springs**	**44.32 259**		P	**P**	**13 34 24.5**	**+0.2**
ASAR	**Alice Springs**	**44.32 259**		P	**P**	**13 34 23.7**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=100,slow=7.3,SNR=42						
ASAR				PcP	**PcP**	**13 36 01.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=97,slow=4.1,SNR=1.1						
	comp=Z,3.2nm,0.6s						
WR8	**Warramunga Arr**	**44.44 264**		P	**P**	**13 34 24.3**	**-0.9**
WR8				IAmb	IAmb	13 35 04.4	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**44.58 264**		P	**P**	**13 34 25.4**	**-0.9**
WB0				IAmb	IAmb	13 34 52.8	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**44.59 264**		P	**P**	**13 34 25.6**	**-0.8**
WRA	**Warramunga Arr**	**44.59 264**		P	**P**	**13 34 25.2**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=97,slow=7.9,SNR=45						
	comp=Z,2.0nm,0.6s						
FORT	**Forrest**	**48.74 248**		P	**P**	**13 34 57.2**	**-0.9**
FORT				IAmb	IAmb	13 34 58.0	
	comp=Z,25nm,0.7s						
MTN	**Manton Dam**	**49.44 272**		P	**P**	**13 35 03.0**	**-0.6**
KNRA	**Kununurra**	**50.79 268**		P	**P**	**13 35 13.3**	**-0.2**
KNRA				IAmb	IAmb	13 35 41.8	
	comp=Z,29nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.02 264**		P	**P**	**13 35 30.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.02 264**		P	**P**	**13 35 29.9**	**0.0**
	comp=Z,1.7nm,0.4s,baz=70,slow=5.5,SNR=13						
	comp=Z,1.7nm,0.4s						
PSA00	**Pilbara Seismi**	**57.46 258**		P	**P**	**13 35 59.2**	**-2.0**
MBWA	**Marble Bar**	**57.66 259**		P	**P**	**13 36 02.1**	**-0.5**
MORW	**Morawa**	**59.30 249**		P	**P**	**13 36 13.5**	**-0.3**
MORW				IAmb	IAmb	13 36 17.7	
	comp=Z,25nm,1.4s						
TOLI2	**Tolitoli**	**64.27 283**		P	**P**	**13 36 48.0**	**+1.2**
TOLI2				IAmb	IAmb	13 37 22.2	
	comp=Z,4.9nm,0.8s						
QSPA	**South Pole Qui**	**67.56 180**		P	**P**	**13 37 08.7**	**+1.9**
VNA3	**Neumayer Olymp**	**86.12 176**	⇑	P	**P**	**13 38 49.8**	**+0.5**
	comp=Z,1.0nm,0.3s						
VNA2	**Neumayer--Watz**	**86.56 177**	⇑	P	**P**	**13 38 54.8**	**+3.5**
	comp=Z,0.3nm,0.1s,baz=320,slow=19						
VNA1	**Neumayer--Stat**	**86.79 177**	⇑	P	**P**	**13 38 50.4**	**-2.0**
	comp=Z,0.2nm,0.2s						
ILAR	**Eielson Array**	**90.22 13**		P	**P**	**13 39 09.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=219,slow=5.3,SNR=10						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.01 289**		P	**P**	**13 39 14.9**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=145,slow=3.5,SNR=4.7						
	comp=Z,0.3nm,0.3s						
KIBK	**Kibwezi**	**137.22 239**		PKPdf	**PKPdf**	**13 45 27.2**	**-3.3**
HFS	**Hagfors**	**141.56 351**		PKhKP	PKPpre	13 45 32.1	
	comp=Z,1.3nm,0.8s,baz=93,slow=3.3,SNR=4.3						
AKASG	**Malin Array Be**	**144.88 330**		PKPbc	**PKPdf**	**13 45 42.8**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=44,slow=4.1,SNR=8.6						
MMAI	**Mount Meron Ar**	**148.97 297**		PKPbc	**PKiKP**	**13 45 56.4**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=75,slow=6.5,SNR=5.9						

*NEIC **22** 13:36:34.5±1.2, 40°.452N±0°.010×111°.96W±0°.01, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.7km az=43.0*

UUSS 22 13:36:34.7±1.1, 40°.46N±0°.01×111°.95W±0°.01, h8km±2km, ML2.3/7, ML2.1/37(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=197.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.01 201**			Pg	13 36 36.4	+0.1
CWU	**Camp Williams**	**0.12 263**			Pg	13 36 37.7	+0.3
GMU	**Granite Mounta**	**0.18 51**			Pg	13 36 38.6	+0.1
MHD	**Mile High Driv**	**0.23 30**			Pg	13 36 39.4	+0.1
NOQ	**North Oquirrh**	**0.23 326**			Pg	13 36 39.8	+0.4
AAU	**Alta**	**0.27 61**			Pg	13 36 40.2	0.0
DCU	**Deer Creek Res**	**0.33 98**			Pg	13 36 41.4	+0.2
RBU	**Red Butte Cany**	**0.34 19**			Pg	13 36 41.3	-0.1
WMUT	**West Mountain**	**0.39 167**			Pg	13 36 43.0	+0.6
LDJ	**Lady**	**0.43 73**			Pg	13 36 43.8	+0.7
SAIU	**Southern Antel**	**0.43 336**			Pg	13 36 43.2	+0.1
RCJ	**Ross Creek**	**0.44 63**			Pg	13 36 43.4	+0.2
HLJ	**Hailstone**	**0.45 70**			Pg	13 36 43.7	+0.3
KLJ	**Keetly**	**0.45 67**			Pg	13 36 43.7	+0.2
MPU	**Maple Canyon**	**0.51 151**			Pg	13 36 44.8	+0.3
MPU				Sg	Sb	13 36 52.4	-1.1
DAU	**Daniels Canyon**	**0.53 95**			Pg	13 36 45.5	+0.5
FPU	**Francis Peak**	**0.57 9**			Pg	13 36 45.8	0.0
N16A	**Rees Ranch, Co**	**0.58 42**			Pg	13 36 46.5	+0.6
NAIU	**Northern Antel**	**0.59 339**			Pg	13 36 46.1	-0.1
HTU	**Hoyt Peak**	**0.60 69**			Pg	13 36 46.8	+0.5
DUG	**Dugway, Tooele**	**0.71 248**		Pg	Pg	13 36 47.8	-0.6
DUG				Sg	Sb	13 37 00.6	+1.2
DUG				IAML		13 37 02.3	
	185nm,0.3s						
TCUT	**Toone Canyon**	**0.78 32**		Pg	Pg	13 36 49.4	-0.2
TCUT				Sg	Sb	13 37 00.9	-0.5
LHUT	**Little Humpy P**	**0.84 59**			Pb	13 36 51.8	0.0
BSUT	**Blindstream Ca**	**0.91 85**		Pg	Pg	13 36 51.7	-0.5
BSUT				Sg	Sg	13 37 03.2	-0.9
BGU	**Big Grassy Mou**	**0.94 300**		Pg	Pg	13 36 52.2	-0.6
BGU				Sg	Sb	13 37 05.7	-0.4
BGU				IAML		13 37 08.1	
	comp=N,91nm,0.3s						
EPU	**East Promontor**	**0.99 340**			Pg	13 36 53.8	0.0
MCU	**Monte Cristo P**	**1.06 18**			Pg	13 36 55.1	+0.1
LTU	**Little Mountai**	**1.15 349**			Pg	13 36 56.4	-0.4
HWUT	**Hardware Ranch**	**1.18 14**			Pg	13 36 57.1	-0.3
HWUT				IAML		13 37 14.6	
	comp=N,63nm,0.6s						
HWUT				IAML		13 37 16.5	
	comp=N,47nm,0.4s						
TMUT	**Trail Mountain**	**1.29 154**		Pn	Pg	13 36 59.7	+0.2
TMUT				IAML		13 37 21.4	
	comp=E,23nm,0.8s						
TMUT				IAML		13 37 32.4	
	comp=N,22nm,1.3s						
HVU	**Hansel Valley**	**1.46 335**			Pn	13 37 00.4	-1.1
HVU				IAML		13 37 24.3	
	comp=E,39nm,0.3s						
HVU				IAML		13 37 25.4	
	comp=N,40nm,0.6s						
P18A	**Preston Nutter**	**1.55 122**			Pb	13 37 03.8	0.0
P18A				IAML		13 37 27.0	
	comp=N,16nm,0.6s						
SRU	**San Rafael Swe**	**1.74 140**		Pn	Pn	13 37 04.5	-0.9
SRU				IAML		13 37 32.1	
	comp=N,13nm,0.5s						
SRU				IAML		13 37 36.4	
	comp=E,14nm,0.5s						
TCRU	**Three Creeks R**	**1.89 192**		Pn	Pn	13 37 06.4	-1.1
TCRU				IAML		13 37 36.0	
	comp=E,12nm,0.8s						
MSU	**Marysvale**	**1.95 185**		Pn	Pn	13 37 06.9	-1.4
MVU	**Marysvale**	**1.96 186**		Pn	Pn	13 37 08.1	-0.4
MVU				IAML		13 37 20.8	
	comp=N,15nm,2.2s						
AHID	**Auburn Hatcher**	**2.39 15**		Pn	Pn	13 37 12.6	-1.7
PSUT	**Pine Spring**	**2.42 218**		Pn	Pn	13 37 14.0	-0.8
PSUT				IAML		13 38 01.7	
	comp=N,7.3nm,1.8s						
PSUT				IAML		13 38 07.5	
	comp=E,7.7nm,3.0s						
O20A	**White River Ci**	**2.85 95**		Pn	Pn	13 37 18.5	-2.2
PD31	**Pinedale Array**	**2.92 37**		Pn	Pn	13 37 19.8	-1.9
PDAR	**Pinedale Array**	**2.92 37**		Pn	Pn	13 37 21.5	-0.1
PKCU	**Pink Cliffs**	**3.02 185**		Pn	Pn	13 37 22.3	-0.9
PV23	**Carpenter Ridg**	**3.03 130**		Pn	Pn	13 37 21.3	-1.9
PV14	**Lion Creek, Pa**	**3.08 132**		Pn	Pn	13 37 24.8	+1.0

*IDC **22** 13:45:08.8±2.9, 37°.89N×142°.45E, h0km, mb3.3/3, mbtmp3.2/4, ML1.9/1, MS2.9/1, Error ellipse: s-maj=68.7km s-min=36.5km az=68.0*

*JMA **22** 13:45:14.6±0.2, 37°.8N±0°.4×142°.0E±0°.8, h36km±1km, MV3.4/33, SE OFF MIYAGI PREF*

ISC 22 13:45:13.9±1.5, 37°.86N±0°.05×142°.1E±0°.1, h30km, n24, σ1§14/27, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.68 312**		*i* P	**Pn**	**13 45 27.4**	**0.0**
JIKH				S	**Sb**	**13 45 36.4**	**-0.1**
JIO	**Ouri**	**0.85 315**		P	**Pn**	**13 45 30.0**	**+0.3**
JIO				S	**Sn**	**13 45 40.9**	**-0.2**
JMST	**Minamisoumatoc**	**0.98 263**		P	**Pn**	**13 45 31.0**	**-0.5**
JMST				S	**Sn**	**13 45 42.9**	**-1.4**
JMM	**Marumori**	**1.04 271**		*i* P	**Pn**	**13 45 32.3**	**-0.1**
JMM				S	**Sn**	**13 45 44.9**	**-1.0**
JKMT	**Kesennumamotoy**	**1.08 332**		P	**Pb**	**13 45 33.3**	**-0.6**
JKMT				S	**Sn**	**13 45 46.5**	**-0.3**
JFK	**Kawauchi**	**1.10 244**		P	**Pn**	**13 45 32.7**	**-0.5**
JFK				*e*S	**Sn**	**13 45 45.6**	**-1.8**
JOU	**Okura**	**1.25 294**		*e*P	**Pn**	**13 45 36.2**	**+0.9**
JOU				S	**Sn**	**13 45 52.0**	**+0.8**
JMK	**Ichinoseki**	**1.30 328**		P	**Pb**	**13 45 36.7**	**-1.0**
JMK				*e*S	**Sn**	**13 45 52.6**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.44 259**		*e*P	**Pn**	**13 45 38.9**	**+0.9**
JOTO				*e*S	**Sn**	**13 45 56.3**	**+0.4**
JYS	**Shiratake**	**1.66 283**		*e*P	**Pn**	**13 45 42.6**	**+1.7**
JOM	**Ohasama**	**1.74 339**		*e*P	**Pb**	**13 45 43.2**	**-1.9**
JYK	**Kaneyama**	**1.74 308**		*e*P	**Pn**	**13 45 43.3**	**+1.3**
JRG	**Rokugo**	**1.92 324**		*e*P	**Pb**	**13 45 46.5**	**-1.8**
MJAR	**Matsushiro Arr**	**3.38 248**		Pn	**Pn**	**13 46 06.2**	**+1.6**
	0.1nm,0.3s,baz=64,slow=8.8,SNR=4.3						
MJAR				Sn	**Sn**	**13 46 45.7**	**+2.0**
	0.1nm,0.3s,baz=72,slow=16,SNR=4.5						
	1.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.11 123**		T	T	14 20 16.1	
	baz=316,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**28.12 123**		T	T	14 20 30.8	
	baz=316,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**28.13 123**		T	T	14 20 26.8	
	baz=316,slow=75,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**28.86 125**		T	T	14 21 37.9	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**28.86 125**		T

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	2.21	1	P	Pn	14 04 33.5	+1.4
SRPI				S	Sb	14 05 03.4	+0.3
KMPI	Kaimana, Papua	2.51	280	P	Pn	14 04 37.4	+1.1
BAKI	Biak	2.88	358	P	Pn	14 04 43.7	+2.3
BAKI				S	Sb	14 05 19.9	-2.6
RKPI	Ransiki, Papua	3.25	322	P	Pn	14 04 47.4	+0.9
RKPI				S	Sb	14 05 28.9	-4.3
SMPI	Sarmi	3.27	50	P	Pn	14 04 46.9	+0.1
SMPI				S	Sn	14 05 25.5	+0.5
FAKI	Fak Fak	4.10	286	P	Pn	14 04 59.0	+0.9
FAKI				S	Sn	14 05 48.4	+3.1
JAY	Jayapura	4.78	71	Pn	Pn	14 05 09.0	+1.5
	0.3nm,0.3s,baz=217,slow=20,SNR=1.9 17nm,1.0s						
SWI	Sorong	5.87	303	P	Pn	14 05 23.0	+0.5
	0.1nm34nm,0.8s						
WRA	Warramunga Arr	15.86	186	Pn	Pn	14 07 38.6	-0.2
	0.3nm,0.3s,baz=8.5,slow=13,SNR=6.9 0.4nm,0.4s						
FITZ	Fitzroy Crossi	17.33	216	Pn	Pn	14 07 55.7	-1.7
	0.2nm,0.3s,baz=46,slow=12,SNR=2.1 4.5nm,1.0s						
ASAR	Alice Springs	19.59	186	P	P	14 08 22.9	-0.5
	0.3nm,0.3s,baz=8.4,slow=11,SNR=27 2.4nm,0.6s						
MKAR	Makanchi Array	69.37	324	P	P	14 15 03.2	+0.4
	0.5nm,0.5s,baz=109,slow=7.8,SNR=7.3 0.5nm,0.5s						
KURBB	Kurchatov Arra	73.42	326	P	P	14 15 27.0	-0.2
	0.3nm,0.7s,baz=111,slow=5.9,SNR=2.4 0.3nm,0.7s						
BVAR	Borovoye Array	79.01	326	P	P	14 15 58.7	-0.2
	0.3nm,0.7s,baz=131,slow=4.0,SNR=4.4 0.3nm,0.7s						

DJA 22 14:15:06.1±1.1, 4°S±6°×13°3E±°, h19km±12km, M4.0/8, mB4.8/2, mb4.2/3, MLv3.9/8, Mw(mB)4.1/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.11	45	P	Pn	14 15 25.9	-0.8
KMPI				S	Sn	14 15 41.4	-0.1
FAKI	Fak Fak	1.66	337	P	Pn	14 15 34.5	+0.3
FAKI				S	Sb	14 15 56.1	-0.5
BNDI	Bandanaira	3.00	269	P	Pn	14 15 52.0	-0.6
BNDI				S	Sn	14 16 29.2	+1.1
RKPI	Ransiki, Papua	3.18	23	P	Pn	14 15 56.0	+0.8
RKPI				S	Sn	14 16 33.8	+1.2
SWI	Sorong	3.93	335	P	Pn	14 16 05.3	-0.1
NLAI	Namlea	5.92	282	P	Pn	14 16 34.8	+2.0
	987nm16nm,0.4s						
SANI	Sanana	7.31	289	P	Pn	14 16 49.6	-2.3

*JMA **22** 14:46:56.8±0.2, 28°.1N±0°.5×128°.0E±0°.6, h15km±2km, MV3.2/11, NW OFF OKINAWAJIMA IS*
*IDC **22** 14:46:57.8±4.2, 27°.82N×127°.80E, h0km, mb3.4/5, mbtmp3.4/5, MS2.9/2, Error ellipse: s-maj=240.2km s-min=23.2km az=64.0*

ISC 22 14:46:59.5±1.8, 27°.99N±0°.05×128°.15E±0°.06, h20km±6km, n16, σ0s70/21, mb3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.73	149	P	Pb	14 47 13.3	-0.2
JOKE				eS	Sn	14 47 25.5	+0.2
JTK	Tokunoshima	0.74	106	P	Pb	14 47 13.6	-0.1
JTK				S	Sn	14 47 25.3	-0.2
JAMN	Amaminishikomi	0.94	74	i P	Pb	14 47 16.3	-0.8
JAMN				S	Sg	14 47 30.1	-0.2
JIH	Iheya	0.96	190	i P	Pb	14 47 16.3	-1.3
JIH				S	Sb	14 47 30.5	+0.7
JYRO	Yoronjima	1.00	164	i P	Pb	14 47 17.7	-0.4
JYRO				S	Sg	14 47 32.7	+0.7
JOW	Kunigami	1.16	174	i P	Pn	14 47 19.8	-0.8
JAM	Amami Oshima	1.35	71	P	Pn	14 47 22.6	-0.7
JAM				eS	Sn	14 47 41.2	+0.5
JNTH	Nagotoyohara	1.47	184	P	Pn	14 47 24.1	-0.8
JAGN	Aguni-jima	1.61	210	eP	Pn	14 47 26.3	-0.6
JAGN				S	Sb	14 47 48.7	+0.2
KSRS	Korea Array	9.44	359	LR	LR	14 53 01.4	
	comp=Z,57nm,18.3s,baz=195,slow=38						
MJAR	Matsushiro Arr	12.04	42	LR	LR	14 55 02.9	
	comp=Z,71nm,21.3s,baz=242,slow=39						
SONM	Songino Array	26.06	325	P	P	14 52 32.3	+0.6
	0.6nm,0.8s,baz=134,slow=10,SNR=2.8 0.6nm,0.8s						
MKAR	Makanchi Array	40.33	310	P	P	14 54 35.3	-0.4
	0.3nm,0.8s,baz=104,slow=9.4,SNR=4.0 0.3nm,0.8s						
KURBB	Kurchatov Arra	43.55	315	P	P	14 55 03.2	+1.3
	0.5nm,0.6s,baz=110,slow=8.6,SNR=1.2 0.5nm,0.6s						
WRA	Warramunga Arr	48.02	172	P	P	14 55 37.6	+0.1
	1.0nm,1.0s,baz=354,slow=8.2,SNR=2.3 1.0nm,1.0s						
ASAR	Alice Springs	51.65	173	P	P	14 56 05.5	+0.4
	0.2nm,0.7s,baz=355,slow=8.6,SNR=4.4 0.2nm,0.7s						

*IDC **22** 14:52:51.3±0.4, 11°.35S×162°.44E, h0km, mb5.1/21, mbtmp5.0/23, ML5.1/2, MS4.6/57, Error ellipse: s-maj=18.3km s-min=13.3km az=90.0*
*BJI **22** 14:52:53.9, 11°.00S×162°.40E, h14km, mB5.5/30, mb5.6/85, Ms5.1/55, Ms7 4.9/61*
*NEIC **22** 14:52:55.9, 11°.39S×162°.51E, h26km*
*NEIC **22** 14:52:55.9±1.9, 11°.39S±0°.05×162°.51E±0°.07, h23km±1km, mb5.4/305, Ms_20 4.9/75, Mww5.4/23, Error ellipse: s-maj=11.7km s-min=8.7km az=94.0*
*NEIC **22** 14:52:55.9, 11°.39S×163°.00E, h26km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17^Nm; M_{rr}0.48; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.35; $M_{r\theta}$1.02; $M_{\theta\phi}$0.81; $M_{\phi r}$0.52; Fault plane solution: $M_0$1.40000×10^17^ NP1: ϕ_s350.37000°, δ46.01000°, λ156.34000°. NP2: ϕ_s97.30000°, δ73.22000°, λ46.51000°. Principal axes: T 1.6526, Plg44.0000°, Azm325.0000°; N -0.5085, Plg41.0000°, Azm113.0000°; P -1.1442, Plg17.0000°, Azm218.0000°;*
*MOS **22** 14:52:56.7±1.1, 11°.26S×162°.25E, h39km, mb5.7/64, MS4.9/6 Error ellipse: s-maj=10.1km s-min=5.9km az=118.7*
*GCMT **22** 14:52:56.9±0.1, 11°.53S±0°.01×162°.45E±0°.01, h34km, MW5.4/146, Moment Tensor Solution. s120,c190; s146,c275; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; M_{rr}0.69±.02; $M_{\theta\theta}$-0.39±.02; $M_{\phi\phi}$-0.30±.02; $M_{r\theta}$0.71±.03; $M_{\theta\phi}$1.23±.01; $M_{\phi r}$0.24±.02; Best double couple: $M_0$1.55400×10^17^ NP1:ϕ_s352.00000°, δ54.00000°, λ154.00000°. NP2:ϕ_s97.00000°, δ69.00000°, λ39.00000°. Principal axes: T 1.4750, Plg42.0000°, Azm320.0000°; N 0.1580, Plg47.0000°, Azm122.0000°; P -1.6330, Plg9.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **22** 14:52:57.7, 11°.40S×162°.59E, h39km, ML5.4/115, Solomon Islands*

ISC 22 14:52:56.2±0.4, 11°.43S±0°.04×162°.55E±0°.04, h33km±2km, h32km:pP-P, n1225, σ1s05/1157, mb5.4/277, MS4.8/124, 62C-53D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGOA	Tingoa Renbel	2.44	267	P	Pn	14 53 33.9	+0.2
ALEG	Aligegeo Malai	3.22	325	P	Pn	14 53 45.9	+1.4
ALEG	Aligegeo Malai	3.22	325	S	Sn	14 54 24.2	+2.4
HNR	Honiara	3.24	308	Pn	Pn	14 53 45.8	+1.1
HNR	Honiara	3.24	308	Pn	Pn	14 53 45.5	+0.8
	4μm,0.3s,baz=157,slow=5.7,SNR=1.195						
HNR				Sn	Sn	14 54 22.2	+0.1
	2μm,0.3s,baz=156,slow=7.3,SNR=4.0						
HNR				LR	LR	14 54 51.2	
	comp=Z,16μm,20.6s,baz=221,slow=39						
HNR	Honiara	3.24	308	P	Pn	14 53 46.6	+1.9
HNR	Honiara	3.24	308	P	Pn	14 53 45.8	+1.1
LUES	Luesalemba Tem	3.39	77	P	Pn	14 53 45.1	-1.8
SAVO	Savo Central	3.52	310	P	Pn	14 53 50.5	+1.9
SAVO	Savo Central	3.52	310	S	Sn	14 54 31.9	+2.8
TATA	Tatamba Isabel	4.05	318	P	Pn	14 53 58.8	+2.8
TATA	Tatamba Isabel	4.05	318	S	Sn	14 54 44.9	+2.6
DVP	Devils Point	8.30	140	P	Pn	14 54 53.8	-0.6
KOUNC	Koumac, New Ca	9.22	170	P	Pn	14 55 07.0	0.0
DZM	Mont Dzumac	11.22	161	Pn	Pn	14 55 34.5	+0.1
	2.5nm,0.3s,baz=13,slow=7.3,SNR=115						
DZM				Sn	Sn	14 57 32.4	-6.4
	5.6nm,0.3s,baz=275,slow=22,SNR=4.2 13nm,0.5s						
ONTNC	Ouen Toro	11.44	161	Pn	Pn	14 55 38.5	+1.1
ONTNC	Ouen Toro	11.44	161	P	Pn	14 55 39.4	+2.0
OUENC	Ouen Island, N	11.67	160	P	Pn	14 55 41.4	+0.9
PINNC	Pines Island,	12.07	158	Pn	Pn	14 55 45.8	-0.1
PINNC	Pines Island,	12.07	158	P	Pn	14 55 47.5	+1.6
RABL	Rabaul	12.54	304	Pn	Pn	14 55 51.6	-0.9
BULU	Kimbe	13.44	295	P	Pn	14 56 04.8	+0.1
PMG	Port Moresby	15.27	276	Pn	Pn	14 56 28.9	-0.6
PMG	Port Moresby	15.27	276	Pn	Pn	14 56 30.8	+1.3
	0.7nm,0.3s,baz=96,slow=7.2,SNR=9.1						
PMG	Port Moresby	15.27	276	P	Pn	14 56 28.9	-0.6
PMG				pmax	pmax		
	comp=Z,71nm,1.1s						
MSVF	Nonsavu	16.26	114	Pn	Pn	14 56 44.1	+1.9
MSVF	Nonsavu	16.26	114	Pn	Pn	14 56 44.7	+2.4
	comp=Z,0.8nm,0.3s,baz=213,slow=8.7,SNR=16 comp=Z,19nm,1.2s						
MSVF	Nonsavu	16.26	114	P	Pn	14 56 42.2	-0.1
MSVF	Nonsavu	16.26	114	P	Pn	14 56 44.2	+1.9
MSVF				pmax	pmax		
	comp=Z,61nm,1.4s						
GD1S	Gladstone Soft	16.41	220	P	Pn	14 56 44.4	+0.2
RK1H	Rockhampton Ha	16.53	222	P	Pn	14 56 45.4	-0.2
FUNA	Funafuti	16.65	82	Pn	Pn	14 56 47.6	+0.4
FUNA	Funafuti	16.65	82	P	Pn	14 56 47.4	+0.2
TV1H	Townsville Har	17.06	241	P	Pn	14 56 53.6	+1.3
EIDS	Eidsvold	17.61	216		Pn	14 56 59.8	+0.6
EIDS				IAmb	IAmb	14 57 04.6	
	comp=Z,285nm,1.1s						
EIDS	Eidsvold	17.61	216	P	Pn	14 56 59.7	+0.6
	comp=Z,0.0nmcomp=Z,338nm,1.3s						
EIDS	Eidsvold	17.61	216	P	Pn	14 57 00.2	+1.1
MANU	Manus Island	17.71	301		P	14 57 01.3	+0.2
AUWSH	Wavell State H	18.23	208	P	P	14 57 08.1	+1.4
PATS	Pohnpei	18.63	347	P	P	14 57 11.3	+0.2
PATS				IAmb	IAmb	14 57 20.1	
	comp=Z,413nm,1.0s						
PATS	Pohnpei	18.63	347	P	Pn	14 57 11.9	+0.2
GC1S	Gold Coast 1 S	18.68	206	P	P	14 57 11.2	-0.4
MTSU	Mount Surprise	18.84	247	P	Pn	14 57 15.5	+1.3
	comp=Z,407nm,0.9s						
MTSU	Mount Surprise	18.84	247	P	Pn	14 57 15.9	+1.7
TW1H	Toowoomba 1 Ha	18.86	210	P	Pn	14 57 15.6	+1.2
COEN	Coen	19.06	260		Pn	14 57 19.7	+2.7
COEN	Coen	19.06	260	P	Pn	14 57 17.0	0.0
	comp=Z,303nm,1.5s						
COEN	Coen	19.06	260	P	Pn	14 57 18.2	+1.2
FUTU	Fugatoga	19.06	101	P	P	14 57 15.5	-0.5
RMQ	Roma	19.83	219	P	P	14 57 25.7	+1.4
	comp=Z,157nm,1.3s						
RMQ	Roma	19.83	219	P	Pn	14 57 26.6	+0.6
LHI	Lord Howe Isla	20.25	189	P	P	14 57 28.8	0.0
LHI	Lord Howe Isla	20.25	189	P	P	14 57 30.1	+1.3
	comp=Z,108nm,1.0s						
ARMA	Armidale	21.44	207	P	P	14 57 42.8	+1.0
ARMA				IAmb	IAmb	14 57 44.3	
	comp=Z,266nm,1.1s						
ARMA	Armidale	21.44	207	P	P	14 57 42.3	+0.5
	comp=Z,0.0nmcomp=Z,232nm,1.2s						
ARMA	Armidale	21.44	207	P	P	14 57 42.5	+0.7
TABU	Tabubil	21.96	284	P	P	14 57 48.1	+0.7
QLP	Quilpie	22.91	226	P	P	14 57 57.1	-0.3
	comp=Z,345nm,1.2s						
QLP	Quilpie	22.91	226	P	P	14 57 57.9	+0.5
JAY	Jayapura	23.40	291	P	P	14 58 01.1	-1.4
	comp=Z,4μmcomp=Z,327nm,1.1s						
NTLH	Newcastle Hard	23.57	203	P	P	14 58 04.8	+0.9
QIS	Mount Isa	23.82	245	P	P	14 58 06.7	+0.2
GENI	Genyem	23.86	290	P	P	14 58 07.6	+0.7
GENI	Genyem	23.86	290	P	P	14 58 06.2	-0.7
	comp=Z,5μmcomp=Z,420nm,1.1s						
MGCD	Mangrove Creek	24.08	204	P	P	14 58 10.3	+1.6
	comp=Z,239nm,1.1s						
RIV	Riverview	24.61	203	P	P	14 58 13.8	+0.3
	comp=Z,157nm,1.2s						
RIV	Riverview	24.61	203	P	P	14 58 14.6	+1.1
SYDH	Sydney Hard Ro	24.71	204	P	P	14 58 15.1	+0.6
CMSA	Cobar Meteorol	25.36	215	P	P	14 58 19.8	-0.5
	comp=Z,179nm,1.0s						
CMSA	Cobar Meteorol	25.36	215	P	P	14 58 20.0	-0.3
SMPI	Sarmi	25.44	290	P	P	14 58 20.8	-0.4
	comp=Z,3μmcomp=Z,252nm,1.0s						
OUZ	Omahuta	25.72	159	IAms_20	IAms_20	15 06 04.7	
	comp=Z,3μm,22.0s						
OUZ	Omahuta	25.72	159	P	P	14 58 25.8	+2.1
INKA	Innaminka	26.10	228	P	P	14 58 28.3	+1.2
WCZ	Waipu Caves	26.64	158	P	P	14 58 34.1	+2.2
CAN	Canberra	26.78	205	P	P	14 58 33.5	+0.3
CAN				IAms_20	IAms_20	15 07 09.8	
	comp=Z,2μm,20.0s						
CAN	Canberra	26.78	205	P	P	14 58 33.6	+0.3
	comp=Z,70nm,1.2s						
CAN	Canberra	26.78	205	P	P	14 58 33.8	+0.6
CAN	Canberra	26.78	205	P	P	14 58 33.6	+0.3
CAN				pmax	pmax		
	comp=Z,67nm,1.1s						
STKA	Stephens Creek	28.06	220	P	P	14 58 44.6	-0.1
STKA	Stephens Creek	28.06	220	P	P	14 58 44.5	-0.2
	comp=Z,333nm,1.1s						
STKA	Stephens Creek	28.06	220	P	P	14 58 44.8	+0.1
	comp=Z,38nm,0.9s,baz=31,slow=9.5,SNR=72						
STKA				LR	LR	15 09 12.2	
	comp=Z,4μm,19.2s,baz=44,slow=35 comp=Z,38nm,0.9s						
STKA	Stephens Creek	28.06	220	P	P	14 58 44.6	-0.1
STKA	Stephens Creek	28.06	220	d iP	P	14 58 44.4	-0.3
BAKI	Biak	28.14	289	P	P	14 58 52.3	+6.6
MILA	Mila	28.22	203	P	P	14 58 46.2	0.0
	comp=Z,19nm,0.9s						
WR0	Warramunga Arr	28.23	249	P	P	14 58 46.1	-0.3
WR0				IAmb	IAmb	14 59 27.8	
	comp=Z,74nm,1.0s						
WR8	Warramunga Arr	28.26	249	P	P	14 58 46.0	-0.7
WR8				IAmb	IAmb	14 59 24.9	
	comp=Z,155nm,1.4s						
WB0	Warramunga Arr	28.32	250	P	P	14 58 46.6	-0.6
WB0				IAmb	IAmb	14 59 23.7	
	comp=Z,160nm,1.4s						
WRAB	Tennant Creek	28.40	249	P	P	14 58 46.2	-1.7
WRAB				IAmb	IAmb	14 59 42.1	
	comp=Z,55nm,0.9s						
WRAB	Tennant Creek	28.40	249	eP	P	14 58 45.2	-2.7
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WB2	Warramunga Arr	28.40	249	P	P	14 58 47.4	-0.6
WB2				IAmb	IAmb	14 59 04.9	
	comp=Z,65nm,0.9s						
WB2	Warramunga Arr	28.40	249	P	P	14 58 47.3	-0.6
WRA	Warramunga Arr	28.41	249	P	P	14 58 47.1	-0.9
	comp=Z,10.0nm,1.1s,baz=80,slow=9.4,SNR=13						
WRA				PcP	PcP	15 02 00.6	+0.6
	comp=Z,6.9nm,0.9s,baz=61,slow=2.8,SNR=4.1						
WRA				LR	LR	15 09 43.7	
	comp=Z,1μm,18.1s,baz=58,slow=36 comp=Z,10.0nm,1.1s						
WRA	Warramunga Arr	28.41	249	i P	P	14 58 47.0	-0.9
WRA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TOZ	Tahuroa Road	28.65	158	P	P	14 58 51.3	+1.4
TOZ				IAmb	IAmb	14 58 58.4	
	comp=Z,109nm,1.2s						
HIZ	Hauiti	29.13	160	IAms_20	IAms_20	15 08 07.7	
	comp=Z,3μm,22.0s						
HIZ	Hauiti	29.13	160	P	P	14 58 56.5	+2.4
KDU	Kakadu	29.43	264	P	P	14 58 56.3	-0.8
	comp=Z,59nm,1.1s						
KDU	Kakadu	29.43	264	P	P	14 58 57.8	+0.7
LCRK	Leigh Creek	29.45	226	P	P	14 58 57.3	+0.2
KHEZ	Kahui Hut	29.57	162	P	P	14 58 58.4	+0.3
MXZ	Matakaoa Point	29.62	154	IAms_20	IAms_20	15 08 57.8	
	comp=Z,2μm,19.0s						
URZ	Urewera	29.72	156	LR	LR	15 09 16.8	
	comp=Z,2μm,19.5s,baz=58,slow=33						
URZ	Urewera	29.72	156	P	P	14 59 01.3	+1.9
AS01	Alice Springs	29.79	242	P	P	14 58 59.4	-0.8
RKPI	Ransiki, Papua	29.82	287	P	P	14 59 00.5	-0.1
	comp=Z,97nm,0.9s						
AS31	Alice Springs	29.83	242	P	P	14 58 59.3	-1.2
AS31	Alice Springs	29.83	242	P	P	14 58 59.2	-1.3
	comp=Z,10nm,0.8s						
ASAR	Alice Springs	29.83	242	P	P	14 58 59.1	-1.5
ASAR	Alice Springs	29.83	242	P	P	14 58 59.4	-1.2
	comp=Z,25nm,0.9s,baz=66,slow=9.5,SNR=150						
ASAR				LR	LR	15 10 28.7	
	comp=Z,2μm,19.6s,baz=70,slow=36 comp=Z,25nm,0.9s						
ASAR	Alice Springs	29.83	242	P	P	14 58 59.1	-1.5
OOD	Oodnadatta	29.98	233	P	P	14 59 01.8	0.0
RTZ	Ruatahuna	29.98	157	P	P	14 59 03.0	+1.2
RTZ				IAmb	IAmb	14 59 09.5	
	comp=Z,74nm,1.0s						
RTZ				IAms_20	IAms_20	15 10 05.4	
	comp=Z,2μm,18.0s						
RTZ	Ruatahuna	29.98	157	P	P	14 59 03.2	+1.4
H11S2	WAKE ISLAND Hy	30.01	8	T	T	15 30 02.4	
	baz=188,slow=76,SNR=2311						
H11S3	WAKE ISLAND Hy	30.01	8	T	T	15 30 01.6	
	baz=188,slow=76,SNR=147						
PUZ	Puketiti	30.03	155	P	P	14 59 03.6	+1.5
H11S1	WAKE ISLAND Hy	30.03	8	T	T	15 30 01.5	
	baz=188,slow=76,SNR=1519						
TOO	Toolangi	30.20	208	P	P	14 59 04.0	+0.3
	comp=Z,15nm,1.0s						
BKZ	Black Stump Fm	30.28	158	P	P	14 59 05.4	+0.9
BKZ				IAmb	IAmb	14 59 12.7	
	comp=Z,57nm,0.7s						
BKZ	Black Stump Fm	30.28	158	P	P	14 59 04.9	+0.5
BKZ	Black Stump Fm	30.28	158	P	P	14 59 05.8	+1.4
GUMO	Guam	30.42	324	IAms_20	IAms_20	15 10 09.7	
	comp=Z,3μm,21.0s						
GUMO	Guam	30.42	324	LR	LR	15 10 21.0	
	comp=Z,2μm,22.0s,baz=140,slow=35						
QRZ	Quartz Range	30.57	165	IAms_20	IAms_20	15 09 21.0	
	comp=Z,2μm,22.0s						
MTN	Manton Dam	30.73	264	P	P	14 59 08.1	-0.6
MTN				IAmb	IAmb	14 59 43.9	
	comp=Z,57nm,0.9s						
HTT	Hallett	30.78	221	P	P	14 59 09.0	+0.1
TKNZ	Takaka Hill	30.88	165	P	P	14 59 11.6	+1.9
TSZ	Takapari Road	30.89	160	P	P	14 59 11.1	+1.4
BRAT	Ballarat	30.91	210	P	P	14 59 11.2	+1.3
NNZ	Nelson	31.16	164	IAms_20	IAms_20	15 09 15.6	
	comp=Z,2μm,20.0s						
H11N1	WAKE ISLAND Hy	31.24	8	T	T	15 31 32.3	
	baz=188,slow=76,SNR=569						
H11N3	WAKE ISLAND Hy	31.25	8	T	T	15 31 32.9	
	baz=188,slow=76,SNR=823						
H11N2	WAKE ISLAND Hy	31.26	8	T	T	15 31 33.7	
	baz=188,slow=76,SNR=1107						
DSZ	Denniston Nort	31.27	167	IAms_20	IAms_20	15 11 15.4	
	comp=Z,3μm,18.0s						
MRZ	Mangatainoka R	31.30	161	IAms_20	IAms_20	15 09 39.3	
	comp=Z,2μm,22.0s						
MRZ	Mangatainoka R	31.30	161	P	P	14 59 13.9	+0.6
ARPS	Mount Arapiles	31.38	213	P	P	14 59 14.4	+0.3
	comp=Z,38nm,0.9s						
ARPS	Mount Arapiles	31.38	213	P	P	14 59 14.0	-0.1
WHYH	Whyalla	31.41	223	P	P	14 59 14.4	0.0
BFZ	Birch Farm	31.54	160	IAms_20	IAms_20	15 10 49.6	
	comp=Z,2μm,20.0s						
THZ	Tophouse	31.55	165	IAms_20	IAms_20	15 09 49.8	
	comp=Z,2μm,22.0s						
SNZO	South Karori	31.62	162	IAms_20	IAms_20	15 11 04.8	
	comp=Z,2μm,19.0s						
GHSS	Government Hou	31.95	219	P	P	14 59 19.6	+0.5
PLWZ	Palliser	32.03	162	P	P	14 59 19.8	0.0
INZ	Inchbonnie	32.13	168	IAmb	IAmb	14 59 22.4	
	comp=Z,49nm,1.2s						
INZ				IAms_20	IAms_20	15 11 33.0	
	comp=Z,3μm,18.0s						
BBOO	Buckleboo	32.31	225	P	P	14 59 21.8	-0.6
	comp=Z,100nm,1.0s						
BBOO	Buckleboo	32.31	225	P	P	14 59 21.7	-0.6
WVZ	Waitaha Valley	32.32	169	P	P	14 59 23.8	+1.6
KHZ	Kahutara	32.33	165	IAms_20	IAms_20	15 11 08.3	
	comp=Z,3μm,21.0s						
LTZ	Lake Taylor	32.36	167	IAmb	IAmb	14 59 31.1	
	comp=Z,48nm,1.2s						
LTZ				IAms_20	IAms_20	15 10 25.3	
	comp=Z,2μm,20.0s						
LTZ	Lake Taylor	32.36	167	P	P	14 59 23.8	+1.1
FOZ	Fox Glacier	32.60	170	P	P	14 59 26.0	+1.3
FOZ				IAmb	IAmb	14 59 26.8	
	comp=Z,67nm,1.1s						
FOZ	Fox Glacier	32.60	170	P	P	14 59 25.7	+1.1
GVZ	Greta Valley S	32.72	166	IAms_20	IAms_20	15 10 36.7	
	comp=Z,2μm,20.0s						
MGBR	Mount Gambier	32.76	213	P	P	14 59 27.6	+1.4
SWI	Sorong	32.78	286	P	P	14 59 26.7	0.0
	comp=Z,54nm,1.1s						
OXZ	Oxford	32.83	167	P	P	14 59 27.2	+0.5
OXZ				IAms_20	IAms_20	15 11 55.6	
	comp=Z,2μm,18.0s						
OXZ	Oxford	32.83	167	P	P	14 59 26.6	-0.1
JCZ	Jackson Bay	32.97	172	P	P	14 59 29.1	+1.1
JCZ	Jackson Bay	32.97	172	P	P	14 59 29.7	+1.7
RPZ	Rata Peaks	33.00	169	P	P	14 59 29.3	+1.1
RPZ				IAmb	IAmb	14 59 36.1	
	comp=Z,56nm,1.0s						
RPZ	Rata Peaks	33.00	169	LR	LR	15 12 17.3	
	comp=Z,1μm,18.1s,baz=338,slow=35						
RPZ	Rata Peaks	33.00	169	P	P	14 59 28.7	+0.5
BNDI	Bandanaira	33.02	279	P	P	14 59 29.7	+1.0
BNDI	Bandanaira	33.02	279	P	P	14 59 28.3	-0.4
KNRA	Kununurra	33.09	259	P	P	14 59 28.8	-0.4
KNRA				IAmb	IAmb	14 59 58.4	
	comp=Z,54nm,0.8s						
KNRA	Kununurra	33.09	259	P	P	14 59 28.9	-0.4
	comp=Z,74nm,0.8s						
MQZ	McQueen's Vall	33.33	167	IAmb	I

comp=Z,52nm,0.8s
SOEI Soe 37.65 269 P **P 15 00 09.6 +0.9**
SOEI Soe 37.65 269 P **P 15 00 08.4 -0.3**
comp=Z,59nm,0.9s
MMRI Maumere 39.77 270 P **P 15 00 24.4 -2.0**
MMRI IAmb IAmb 15 01 03.7
comp=Z,83nm,0.8s
BBSI Bau Bau 39.95 275 P **P 15 00 28.3 +0.4**
comp=Z,1μmcomp=Z,103nm,1.1s
KMSI Cibinong 40.13 285 P **P 15 00 29.2 -0.2**
LUWI Luwuk 40.80 282 P **P 15 00 34.2 -0.7**
LUWI Luwuk 40.80 282 P **P 15 00 35.7 +0.8**
LUWI Luwuk 40.80 282 P **P 15 00 34.8 -0.1**
comp=Z,6μmcomp=Z,188nm,1.0s
DAV Davao City (W) 41.11 295 LR LR 15 19 12.6
comp=Z,407nm,18.1s,baz=104,slow=39
BSSI Bau Bau, Buton 41.86 274 P **P 15 00 43.3 -0.3**
comp=Z,86nm,0.8s
APSI Ampana 41.92 282 P **P 15 00 44.2 +0.1**
comp=Z,2μmcomp=Z,174nm,1.5s
MRSI Marisa 42.04 284 P **P 15 00 44.9 -0.2**
comp=Z,58nm,1.1s
PSA00 Pilbara Seismi 42.04 250 P **P 15 00 44.9 -0.1**
MBWA Marble Bar 42.10 251 P **P 15 00 46.0 +0.5**
comp=Z,105nm,1.7s
BKSI Bulukumba 42.37 275 P **P 15 00 47.6 -0.2**
KMBL Kambalda 42.43 236 P **P 15 00 47.8 -0.3**
comp=Z,69nm,1.5s
KMBL Kambalda 42.43 236 P **P 15 00 48.8 +0.7**
WBSI Waikabubak, Su 42.44 268 P **P 15 00 47.1 -1.3**
comp=Z,140nm,0.8s
KAPI Kappang 42.79 275 P **P 15 00 51.0 -0.2**
KAPI Kappang 42.79 275 P **P 15 00 52.1 +0.9**
KAPI Kappang 42.79 275*c iP* **P 15 00 50.7 -0.5**
KAPI pmax pmax
comp=Z,140nm,1.2s
SPSI Sidrap Palu 42.99 276 P **P 15 00 51.9 -0.9**
comp=Z,2μmcomp=Z,79nm,1.0s
JCJ Chichijima 43.09 333 P **P 15 00 52.1 -1.3**
JCJ Chichijima 43.09 333 LR LR 15 17 41.4
comp=Z,1μm,21.6s,baz=145,slow=35
JCJ Chichijima 43.09 333 P **P 15 00 52.8 -0.6**
TTSI Tana Toraja 43.15 278 P **P 15 00 54.0 -0.1**
comp=Z,42nm,1.0s
TOLI2 Tolitoli 43.33 284 P **P 15 00 54.5 -1.1**
TOLI2 IAmb IAmb 15 00 55.2
comp=Z,57nm,0.8s
TOLI2 Tolitoli 43.33 284 P **P 15 00 56.2 +0.6**
PCI Palu 43.66 281 P **P 15 00 59.4 +1.1**
comp=Z,3μmcomp=Z,279nm,1.0s
MEEK Meekatharra 43.96 243 P **P 15 01 00.6 0.0**
comp=Z,105nm,0.8s
MEEK Meekatharra 43.96 243 P **P 15 01 01.2 +0.6**
PLAI Plampang 44.12 269 P **P 15 01 01.2 -0.7**
PLAI Plampang 44.12 269 P **P 15 01 00.2 -1.7**
comp=Z,129nm,0.7s
TWSI Taliwang, Sumb 45.00 269 P **P 15 01 07.7 -1.3**
comp=Z,54nm,0.9s
SMKI Samarinda 46.32 280 P **P 15 01 20.8 +1.4**
comp=Z,164nm,0.8s
BKB Balikpapan 46.41 279 P **P 15 01 19.4 -0.7**
BKB Balikpapan 46.41 279 P **P 15 01 22.0 +1.9**
BLDU Ballidu 46.48 239 P **P 15 01 20.1 -0.4**
BLDU Ballidu 46.48 239 P **P 15 01 20.1 -0.4**
NWAO Narrogin (SRO) 46.66 235 LR LR 15 21 02.7
comp=Z,2μm,18.9s,baz=56,slow=36
PPT Papeete 46.66 103 LR LR 15 16 27.0
comp=Z,315nm,21.3s,baz=278,slow=30
MORW Morawa 46.69 241 P **P 15 01 22.4 +0.2**
MORW Morawa 46.69 241 P **P 15 01 22.9 +0.7**
MYLDM Lahad Datu 46.83 288 P **P 15 01 24.3 +0.9**
MUN Mundaring 47.23 237 P **P 15 01 27.1 +0.8**
JAGI Jajag, Banyuwa 47.72 269 P **P 15 01 28.4 -2.0**
JAGI Jajag, Banyuwa 47.72 269 P **P 15 01 30.9 +0.6**
JAGI Jajag, Banyuwa 47.72 269 P **P 15 01 28.2 -2.1**
comp=Z,120nm,1.0s
TGY Tagaytay City 48.43 301 LR LR 15 21 02.9
comp=Z,265nm,21.4s,baz=96,slow=35
GMJI Gumukmas 48.44 269 P **P 15 01 35.4 -0.5**
KKM Kota Kinabalu 49.26 288 P **P 15 01 41.9 -0.4**
KKM Kota Kinabalu 49.26 288 P **P 15 01 42.7 +0.4**
JHJ Hachijo jima 2 49.34 335 LR LR 15 20 44.2
comp=Z,471nm,21.6s,baz=124,slow=34
JOW Kunigami 50.54 319 LR LR 15 23 50.7
comp=Z,322nm,18.3s,baz=118,slow=37
JOW Kunigami 50.54 319 P **P 15 01 52.2 +0.5**
PCJI Pacitan 50.67 269 P **P 15 01 52.2 -0.7**
UGM Wanagama 51.35 269 P **P 15 01 57.4 -0.7**
UGM IAMs_20 IAMs_20 15 23 30.8
comp=Z,779nm,20.0s
SMRI Semarang 51.56 270 P **P 15 01 58.6 -1.1**
SMRI Semarang 51.56 270 P **P 15 02 00.3 +0.7**
SMRI Semarang 51.56 270 P **P 15 02 00.6 +1.0**
comp=Z,3μmcomp=Z,177nm,0.9s
SBUM Sibu 51.90 282 P **P 15 02 02.6 +0.4**
SBUM Sibu 51.90 282 P **P 15 02 02.9 +0.7**
STKI Sintang 51.98 279 P **P 15 02 03.1 +0.3**
comp=Z,117nm,1.0s
INU Inuyama 52.42 334 P **P 15 02 06.0 +0.4**
JGF Kuroka 52.49 334 P **P 15 02 04.9 -1.2**
JGF IAmb IAmb 15 02 07.3
comp=Z,83nm,1.1s
JGF Kuroka 52.49 334 P **P 15 02 06.3 +0.1**
JMN Monobe 52.55 330 P **P 15 02 07.5 +0.9**
JMN Monobe 52.55 330 P **P 15 02 07.5 +0.9**
JSU Suzuyama 52.62 325 P **P 15 02 07.8 +0.6**
MJAR Matsushiro Arr 52.94 335 P **P 15 02 08.5 -1.0**
comp=Z,26nm,0.9s,baz=163,slow=7.7,SNR=30
MJAR PcP **PcP 15 03 18.6 +0.5**
comp=Z,16nm,0.8s,baz=153,slow=4.9,SNR=6.4
MJAR LR LR 15 22 47.2
comp=Z,349nm,21.8s,baz=146,slow=34
comp=Z,26nm,0.9s
MAJO Matsushiro 52.94 335 P **P 15 02 08.4 -1.0**
MAJO IAmb IAmb 15 02 10.0
comp=Z,44nm,0.9s
MAJO Matsushiro 52.94 335 P **P 15 02 08.9 -0.5**
MAJO Matsushiro 52.94 335*c iP* **P 15 02 08.5 -1.0**
MAJO pmax pmax
comp=Z,49nm,0.9s
MJB9 Matsu-Tunnel 52.94 335 P **P 15 02 09.2 -0.3**
MJB9 IAmb IAmb 15 02 11.0
comp=Z,44nm,0.9s
TWG Pinlang 53.00 310 IAMs_20 IAMs_20 15 22 14.8
comp=Z,1μm,19.0s
JMM Marumori 53.10 338 P **P 15 02 10.9 +0.3**
JMM Marumori 53.10 338 P **P 15 02 11.8 +1.2**
YULB Yu-li 53.16 311 P **P 15 02 10.4 -1.0**
YULB IAMs_20 IAMs_20 15 22 17.4
comp=Z,1μm,22.0s
KSM Kuching 53.47 280 P **P 15 02 13.4 -0.4**
KSM Kuching 53.47 280 P **P 15 02 13.7 -0.1**
TPUB Ta-pu 53.61 310 P **P 15 02 13.2 -1.4**
TPUB IAmb IAmb 15 02 14.6
comp=Z,50nm,0.9s
TPUB IAMs_20 IAMs_20 15 22 33.1
comp=Z,2μm,21.0s
JNU Nakatsue 53.62 327 P **P 15 02 14.3 -0.2**
JNU Nakatsue 53.62 327 LR LR 15 23 19.5
comp=Z,357nm,21.5s,baz=148,slow=34
JNU Nakatsue 53.62 327 P **P 15 02 15.0 +0.5**
SSLB Suanglung 53.65 311 P **P 15 02 14.1 -0.9**
YHNB Yeheng 53.86 312 IAMs_20 IAMs_20 15 20 54.9
comp=Z,2μm,21.0s
BBJI Bungbulang 54.23 269 P **P 15 02 19.5 0.0**
LEM Lembang 54.36 270 LR LR 15 28 55.2
comp=Z,326nm,19.1s,baz=150,slow=40
CNJI Cibinong 54.77 269 P **P 15 02 23.3 +0.1**
comp=Z,760nmcomp=Z,62nm,1.1s
TPI Tanjungpandan 55.07 275 P **P 15 02 25.8 +0.4**
comp=Z,1μmcomp=Z,126nm,1.1s
SKJI Sukabumi 55.37 269 P **P 15 02 28.4 +0.8**
JTM Tenmabayashi 55.62 340 P **P 15 02 29.1 +0.2**
XMI Christmas Isla 55.75 265 P **P 15 02 31.7 +1.3**
CGJI Cibinong 56.28 270 P **P 15 02 33.4 -0.7**
PPBI Pangkal Pinang 56.67 275 P **P 15 02 37.8 +0.9**
PMBI Palembang 57.85 274 IAMs_20 IAMs_20 15 30 54.1
comp=Z,530nm,18.0s
TJN Taejon 57.97 327 P **P 15 02 46.4 +0.8**
TJN Taejon 57.97 327 P **P 15 02 46.0 +0.4**
TJN Taejon 57.97 327*d iP* **P 15 02 45.1 -0.5**
MDSI Maura Dua 58.13 272 P **P 15 02 45.3 -1.9**
comp=Z,1μmcomp=Z,105nm,1.4s
LWLI Liwa 58.15 271 P **P 15 02 46.5 -1.0**
comp=Z,2μmcomp=Z,253nm,1.1s
JKA Kamikawa-asahi 58.18 343 P **P 15 02 48.2 +1.2**
ASAJ Asahikawa 58.18 343 LR LR 15 24 28.5
comp=Z,902nm,21.8s,baz=176,slow=33
ASAJ Asahikawa 58.18 343 P **P 15 02 48.2 +1.2**
ASAJ pmax pmax
comp=Z,139nm,0.9s
KSRS Korea Array 58.48 328 P **P 15 02 49.3 +0.2**
comp=Z,34nm,1.0s,baz=145,slow=7.0,SNR=59
KSRS LR LR 15 24 59.5
comp=Z,475nm,21.3s,baz=140,slow=33
comp=Z,34nm,1.0s
KSAR Wonju Array Be 58.49 328 P **P 15 02 50.2 +1.0**
KSAR Wonju Array Be 58.49 328 P **P 15 02 50.2 +1.0**
KS19 Wonju Array Si 58.54 328 P **P 15 02 49.2 -0.4**
KS19 IAmb IAmb 15 02 50.6
comp=Z,63nm,1.1s
TPRI Tanjung Pinang 58.93 278 P **P 15 02 52.8 0.0**
comp=Z,95nm,0.9s
INCN Inchon 59.18 327 IAMs_20 IAMs_20 15 25 12.5
comp=Z,825nm,20.0s
INCN Inchon 59.18 327 P **P 15 02 54.7 +0.6**
MYKOM Kota Tinggi 59.80 279 P **P 15 02 59.2 +0.5**
MYKOM IAmb IAmb 15 02 59.7
comp=Z,43nm,1.1s
MYKOM Kota Tinggi 59.80 279 P **P 15 02 59.3 +0.5**
QIZ Qiongzhong 60.12 300 P **P 15 03 01.1 +0.2**
QIZ Qiongzhong 60.12 300 P **P 15 03 00.8 -0.1**
QIZ S **S 15 11 10.8 -1.5**
QIZ ScS SKKSac 15 12 46.4 -3.0
QIZ pmax pmax
comp=Z,28nm,0.9s
QIZ LR LR
comp=Z,300nm,15.9s
QIZ LR LR
comp=Z,310nm,13.1s
QIZ LR LR
comp=Z,490nm,26.7s
NJ2 Nanjing 60.13 317 ⇑P **P 15 03 00.4 -0.3**
NJ2 PcP **PcP 15 03 45.9 -0.3**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 LR LR
comp=Z,420nm,20.1s
NJ2 LR LR
comp=Z,570nm,19.2s
NJ2 LR LR
comp=Z,1μm,23.4s
YSS Yuzhno-Sakhali 60.76 345 P **P 15 03 06.3 +1.7**
YSS Yuzhno-Sakhali 60.76 345⇑*eP* **P 15 03 05.4 +0.8**
YSS *eS* **S 15 11 19.9 +0.4**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,600nm,18.0s
MSHR Mys Shultsa 60.96 334*ceP* **P 15 03 06.1 0.0**
MSHR pmax pmax
comp=Z,65nm,1.3s
VLA Vladivostok 61.09 335*deP* **P 15 03 07.5 +0.5**
VLA pmax pmax
comp=Z,81nm,1.2s
PSTR Posyet 61.17 334*c iP* **P 15 03 07.7 +0.2**
USA0B Ussuriysk Arra 61.94 336 P **P 15 03 13.9 +1.2**
USA0B Ussuriysk Arra 61.94 336*c iP* **P 15 03 13.0 +0.3**
USRK Ussuriysk Ar. 61.94 336 P **P 15 03 13.0 +0.3**
comp=Z,176nm,1.0s,baz=148,slow=5.9,SNR=120
USRK LR LR 15 27 09.3
comp=Z,84nm,21.7s,baz=150,slow=33
comp=Z,176nm,1.0s
USRK Ussuriysk Ar. 61.94 336 P **P 15 03 13.0 +0.3**
CNSH ChangSha 62.08 310 P **P 15 03 14.0 0.0**
BKNI Bangkinang 62.19 276 P **P 15 03 16.9 +1.9**
BKNI Bangkinang 62.19 276 P **P 15 03 15.6 +0.6**
WHN Wuhan 62.34 313 ⇓P **P 15 03 15.4 -0.3**
WHN pmax pmax
comp=Z,80nm,1.0s
WHN LR LR
comp=Z,3μm,22.3s
PPSI Pulau Pagai 62.54 273 P **P 15 03 18.3 +0.9**
GULI GuiLin 62.58 306 P **P 15 03 18.3 +0.9**
PPI Padang Panjang 62.64 275 P **P 15 03 18.0 -0.1**
comp=Z,2μmcomp=Z,150nm,1.0s
UGL Uglegorsk 62.90 345 *eP* **P 15 03 20.3 +1.3**
UGL *e* 15 03 58.0
UGL *eS* **S 15 11 50.0 +3.6**
UGL pmax pmax
comp=Z,100nm,0.9s
DL2 Dalian 62.94 325 P **P 15 03 18.8 -0.7**
DL2 S **S 15 11 43.3 -4.1**
DL2 pmax pmax
comp=Z,100nm,0.9s
DL2 pmax pmax
comp=Z,190nm,4.6s
DL2 LR LR
comp=Z,590nm,18.3s
DL2 LR LR
comp=Z,510nm,17.5s
DL2 LR LR
comp=Z,910nm,17.8s
MDJ Mudanjiang 63.27 334 P **P 15 03 21.9 +0.2**
MDJ Mudanjiang 63.27 334 P **P 15 03 21.6 0.0**
MDJ pmax pmax
comp=Z,160nm,1.2s
MDJ pmax pmax
comp=Z,660nm,6.0s
MDJ Mudanjiang 63.27 334 P **P 15 03 21.7 +0.1**
MNSI Mandailing Nat 63.71 277 P **P 15 03 24.1 -1.1**
SISI Saibi 63.73 274 P **P 15 03 25.3 0.0**
comp=Z,86nm,1.1s
KULM Kulim 63.77 282 P **P 15 03 25.9 +0.3**
KULM Kulim 63.77 282 P **P 15 03 25.9 +0.3**
TIA Tai'an 63.85 320 P **P 15 03 24.6 -1.0**
TIA PcP **PcP 15 04 02.0 +0.8**
TIA pmax pmax
comp=Z,34nm,1.0s
TIA pmax pmax
comp=Z,180nm,5.6s
TIA LR LR
comp=Z,230nm,15.9s
TIA LR LR
comp=Z,560nm,24.1s
TIA LR LR
comp=Z,710nm,20.0s
PET Petropavlovsk 64.28 357 *eP* **P 15 03 28.1 +0.1**
PET *eS* **S 15 12 01.9 -1.6**
PET *eSS* **SS 15 16 18.1 +4.2**
PET pmax pmax
comp=Z,67nm,1.2s
PET MLR MLR
comp=Z,800nm,14.0s
PET MLR MLR
comp=Z,300nm,14.0s
PET Petropavlovsk 64.28 357 P **P 15 03 28.3 +0.3**
TYV Tymovskoe 64.41 346 *eP* **P 15 03 29.9 +1.0**
TYV *eS* **S 15 12 06.1 +0.9**
TYV pmax pmax
comp=Z,43nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.3s
TYV smax smax
comp=N,400nm,5.0s
TYV smax smax
comp=E,300nm,5.0s
PEA0B Petropavlovsk- 64.41 357 P **P 15 03 29.2 +0.3**
PEA0B Petropavlovsk- 64.41 357*c iP* **P 15 03 29.3 +0.3**
PETK Petropavlovsk- 64.41 357 P **P 15 03 29.2 +0.3**
PETK Petropavlovsk- 64.41 357 P **P 15 03 29.0 0.0**
comp=E,36nm,1.0s,baz=149,slow=6.9,SNR=16
PETK LR LR 15 26 33.1
comp=E,494nm,21.3s,baz=174,slow=31
comp=E,36nm,1.0s
CN2 Changchun 64.51 331 ⇑*iP* **P 15 03 29.9 +0.1**
CN2 pmax pmax
comp=E,110nm,1.1s
CN2 LR LR
comp=E,800nm,18.0s
CN2 LR LR
comp=E,700nm,18.0s
CN2 LR LR
comp=E,900nm,19.0s
SHEM Shemya Is, Ala 64.67 8 LR LR 15 26 27.1
comp=E,640nm,20.6s,baz=178,slow=31
RPSI Rantau Prapat 64.79 278 P **P 15 03 31.9 -0.4**
RPSI IAmb IAmb 15 03 32.5
comp=Z,47nm,1.1s
PBSI Pulau Batu 64.79 275 P **P 15 03 33.2 +0.9**
comp=Z,3μmcomp=Z,217nm,1.1s
PSI Prapat 64.82 279 LR LR 15 35 48.3
comp=Z,184nm,18.0s,baz=128,slow=40
PSI Prapat 64.82 279 P **P 15 03 32.6 0.0**
PSI Prapat 64.82 279 P **P 15 03 31.9 -0.7**
PSI pmax pmax
comp=Z,47nm,1.1s
CASY Casey 64.90 201 P **P 15 03 32.7 +0.7**
CASY IAmb IAmb 15 03 39.6
comp=Z,32nm,1.1s
BNX BinXian 65.11 334 ⇑P **P 15 03 33.6 0.0**
BNX pmax pmax
comp=Z,120nm,1.1s
TSI Tuntungan 65.33 279 P **P 15 03 35.6 -0.2**
comp=Z,4μmcomp=Z,114nm,1.3s
NONG Nongkai 65.54 296 P **P 15 03 36.3 -0.7**
SRIT Nakonsritamara 65.68 285 P **P 15 03 38.6 +0.6**
SRIT IAmb IAmb 15 03 39.2
comp=Z,38nm,1.0s
SRIT Nakonsritamara 65.68 285 P **P 15 03 38.4 +0.4**
ENH Enshi 65.73 311 P **P 15 03 37.1 -1.0**
ENH Enshi 65.73 311 P **P 15 03 37.1 -1.0**
GSI Gunungsitoli 65.78 277 P **P 15 03 38.3 -0.4**
GSI Gunungsitoli 65.78 277 P **P 15 03 39.7 +1.0**
GSI Gunungsitoli 65.78 277 P **P 15 03 38.2 -0.4**
comp=Z,2μmcomp=Z,163nm,1.0s
NAYO Nakonayok 65.85 291 P **P 15 03 39.3 +0.3**
LYN LuoYang 65.91 316 P **P 15 03 38.5 -0.6**
LYN PcP **PcP 15 04 10.0 +0.2**
LYN pmax pmax
comp=Z,77nm,1.0s
LYN LR LR
comp=Z,1μm,20.6s
LYN LR LR
comp=Z,730nm,22.3s
LYN LR LR
comp=Z,1μm,21.3s
GRNR Gornyy 65.99 342 ⇑*iP* **P 15 03 40.3 +1.0**
GRNR pmax pmax
comp=N,9.0nm,1.2s
GRNR pmax pmax
comp=E,5.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.3s
GYA Guiyang 66.06 306 ⇓P **P 15 03 40.3 -0.1**
GYA pmax pmax
comp=Z,30nm,1.3s
GYA LR LR
comp=Z,580nm,18.9s
VNDA Vanda 66.08 180 P **P 15 03 41.2 +1.7**
VNDA IAmb IAmb 15 03 48.4
comp=Z,35nm,1.1s
VNDA Vanda 66.08 180 P **P 15 03 40.8 +1.2**
comp=Z,6.5nm,0.9s,baz=341,slow=7.2,SNR=15
VNDA LR LR 15 28 48.4
comp=Z,658nm,18.3s,baz=8.0,slow=33
comp=Z,6.5nm,0.9s
HNS HongShan 66.11 320 ⇑P **P 15 03 40.1 -0.2**
HNS pmax pmax
comp=Z,86nm,1.1s
HNS LR LR
comp=Z,500nm,22.3s
HNS LR LR
comp=Z,340nm,22.0s
HNS LR LR
comp=Z,580nm,20.7s
SLVN Son La 66.14 299 P **P 15 03 41.1 +0.2**
KLR Kul'dur 66.21 338 LR LR 15 31 08.3
comp=Z,364nm,20.5s,baz=155,slow=35
KLR Kul'dur 66.21 338*c iP* **P 15 03 41.2 +0.5**
KLR pmax pmax
comp=Z,77nm,1.3s
BJT Baijiatuau 66.84 323 P **P 15 03 44.7 -0.2**
BJT Baijiatuau 66.84 323 IAMs_20 IAMs_20 15 29 29.3
comp=Z,514nm,22.0s
BJT Baijiatuau 66.84 323 P **P 15 03 45.1 +0.2**
BJT Baijiatuau 66.84 323 P **P 15 03 44.7 -0.2**
BJT pmax pmax
comp=Z,19nm,0.9s
BJI Beijing 66.85 323 P **P 15 03 44.3 -0.6**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI LR LR
comp=Z,150nm,24.3s
BJI LR LR
comp=Z,190nm,20.7s
BJI LR LR
comp=Z,290nm,20.7s
MLSI Meulaboh, Aceh 67.61 279 P **P 15 03 49.7 -0.6**
comp=Z,104nm,0.8s
TIY Taiyuan 67.75 319 *eP* **P 15 03 51.0 +0.2**
TIY pmax pmax
comp=Z,34nm,0.7s
TIY LR LR
comp=Z,460nm,18.4s
TIY LR LR
comp=Z,220nm,23.0s
TIY LR LR
comp=Z,400nm,17.7s
SRDT SRDT 67.88 291 P **P 15 03 52.7 +0.8**
XAN Xi'an 68.09 314 ⇓P **P 15 03 52.1 -0.9**
XAN pmax pmax
comp=Z,100nm,1.0s
XAN pmax pmax
comp=Z,270nm,5.1s
XAN LR LR
comp=Z,520nm,24.0s
XAN LR LR
comp=Z,920nm,20.6s
XAN LR LR
comp=Z,2μm,22.0s
KMI Kunming 68.66 303 ⇑P **P 15 03 57.3 +0.3**
KMI sP pwP 15 04 08.8 -5.4
KMI pmax pmax
comp=Z,39nm,1.0s
KMI pmax pmax
comp=Z,270nm,6.8s
KMI LR LR
comp=Z,240nm,24.3s
KMI LR LR
comp=Z,310nm,22.3s
KMI LR LR
comp=Z,410nm,23.2s
NIKH Nikolski High 68.67 18 P **P 15 03 56.8 +0.6**
baz=210
HEH HeiHe 68.67 337 *eP* **P 15 03 55.9 -0.3**
HEH pmax pmax
comp=Z,93nm,1.0s
HEH LR LR
comp=Z,240nm,20.8s
HEH LR LR
comp=Z,640nm,21.3s
HEH LR LR
comp=Z,680nm,20.7s
CRAI Chiangrai 68.77 297 P **P 15 03 57.4 -0.1**
BSI Banda Aceh 68.98 280 P **P 15 03 58.7 -0.3**
comp=Z,595nmcomp=Z,30nm,1.0s
XLT XiLinHaoTe 69.38 326 *eP* **P 15 04 01.3 +0.4**
XLT PcP **PcP 15 04 22.3 -1.9**
XLT SS SS 15 17 29.5 -4.2
XLT pmax pmax
comp=Z,220nm,0.8s
XLT LR LR
comp=Z,460nm,16.3s
XLT LR LR
comp=Z,680nm,18.5s
CM31 Chiang Mai Arr 69.40 295 P **P 15 04 01.8 +0.3**
CM31 IAmb IAmb 15 04 02.6
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 69.40 295 P **P 15 04 01.5 +0.1**
CMAR Chiang Mai Arr 69.40 295 P **P 15 04 01.4 -0.1**
comp=Z,20nm,0.9s,baz=114,slow=4.4,SNR=97
CMAR PKPPKP **P'P'df 15 32 10.1 -0.7**
comp=Z,0.4nm,0.3s,baz=272,slow=5.1,SNR=4.9
CMAR LR LR 15 36 59.9
comp=Z,91nm,18.1s,baz=110,slow=38
comp=Z,20nm,0.9s
CHTO Chiang Mai 69.53 295 P **P 15 04 01.9 -0.3**
CHTO IAmb IAmb 15 04 03.0
comp=Z,49nm,1.2s
CHTO Chiang Mai 69.53 295 P **P 15 04 02.2 0.0**
CHTO Chiang Mai 69.53 295 P **P 15 04 01.9 -0.3**
CHTO pmax pmax
comp=Z,49nm,1.3s
PZH PanZhiHua 70.05 304 P **P 15 04 04.8 -0.7**
PZH S **S 15 13 11.8 -2.6**
PZH pmax pmax

comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
PZH LR LR
comp=Z,350nm,20.8s
PZH LR LR
comp=Z,230nm,18.4s
PZH LR LR
comp=Z,410nm,17.9s
HHC Hu-ho-hao-te 70.12 321⇑ *i*P P 15 04 05.8 +0.2
HHC pmax pmax
comp=Z,46nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.0s
HHC LR LR
comp=Z,400nm,16.8s
HHC LR LR
comp=Z,330nm,17.2s
HHC LR LR
comp=Z,500nm,16.7s
CD2 Chengdu 70.36 309 P P 15 04 06.8 -0.4
CD2 S S 15 13 16.0 -1.8
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 LR LR
comp=Z,510nm,21.5s
CD2 LR LR
comp=Z,660nm,22.7s
BTO Baotou 70.94 320 *e*P P 15 04 12.3 +1.7
BTO S S 15 13 24.9 +0.7
BTO pmax pmax
comp=Z,67nm,1.2s
BTO pmax pmax
comp=Z,540nm,7.8s
BTO LR LR
comp=Z,970nm,18.3s
BTO LR LR
comp=Z,950nm,16.9s
BTO LR LR
comp=Z,1μm,21.3s
HIA Hailar 71.19 332 P P 15 04 12.3 +0.5
HIA Hailar 71.19 332 IAMs_20 IAMs_20 15 33 05.3
comp=Z,632nm,21.0s
HIA Hailar 71.19 332 P P 15 04 12.5 +0.7
HIA Hailar 71.19 332 P P 15 04 12.3 +0.5
HIA pmax pmax
comp=Z,114nm,0.9s
MA2 Magadan 71.40 354 P P 15 04 12.2 -0.5
MA2 IAmb IAmb 15 04 13.8
comp=Z,58nm,1.1s
MA2 Magadan 71.40 354 LR LR 15 30 39.3
comp=Z,272nm,21.8s,baz=162,slow=32
MA2 Magadan 71.40 354 P P 15 04 13.1 +0.3
MA2 Magadan 71.40 354*c i*P P 15 04 12.4 -0.4
MA2 pmax pmax
comp=Z,82nm,1.7s
MA2 Magadan 71.40 354 P P 15 04 12.4 -0.4
comp=Z,782nmcomp=Z,61nm,1.3s
ZEA Zeya 71.52 339 *e*P P 15 04 14.4 +0.8
ZEA pmax pmax
comp=N,200nm,1.9s
ZEA pmax pmax
comp=Z,400nm,1.9s
ZEA pmax pmax
comp=N,60nm,1.2s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
P08K Saint George I 71.63 16 P P 15 04 15.2 +1.0
baz=209
SPIA Saint Paul Isl 71.95 15 P P 15 04 16.9 +0.8
baz=208
FALS False Pass 71.99 20 P P 15 04 17.5 +1.1
baz=215
TNCH TengChong 72.14 301⇑ *i*P P 15 04 17.8 -0.4
TNCH pP pP 15 04 20.8 -5.3
TNCH S S 15 13 30.9 -7.9
TNCH pmax pmax
comp=Z,27nm,1.0s
TNCH pmax pmax
comp=Z,200nm,4.5s
TNCH LR LR
comp=Z,200nm,17.6s
TNCH LR LR
comp=Z,120nm,16.5s
TNCH LR LR
comp=Z,320nm,24.2s
LZH Lanzhou 72.72 314 ⇑P P 15 04 22.0 +0.6
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,440nm,5.0s
LZH LR LR
comp=Z,430nm,16.5s
LZH LR LR
comp=Z,830nm,16.5s
LZH LR LR
comp=Z,1μm,22.0s
CHNA Chernabura Isl 73.31 22 P P 15 04 24.8 +0.6
baz=219
SDPT Sand Point 73.40 21 P P 15 04 25.6 +0.9
baz=218
SEY Seymchan 74.55 355 LR LR 15 33 14.3
comp=Z,346nm,20.4s,baz=150,slow=32
SEY Seymchan 74.55 355⇓ *e*P P 15 04 30.3 -1.0
SEY pmax pmax
comp=Z,34nm,0.9s
M11K Mekoryuk 75.79 15 P P 15 04 39.9 +1.4
baz=212
CIT Chita 75.95 331 *e*P P 15 04 40.4 +0.6
CIT *e* 15 04 51.0
CIT *e* 15 04 59.6
CIT pmax pmax
comp=Z,340nm,1.4s
O14K Tigyukauivet M 76.25 18 P P 15 04 41.6 +0.4
baz=217
M13K Dall Lake 76.59 17 P P 15 04 44.0 +1.0
baz=214
SII Sitkinak Islan 76.63 23 P P 15 04 44.2 +0.8
baz=224
O15K Ungalikthiuk R 76.64 19 P P 15 04 43.9 +0.4
baz=218
N14K Kuskokwak Cree 76.67 18 P P 15 04 44.5 +1.0
baz=216
ULN Ulaanbaatar 76.80 325 P P 15 04 45.6 +0.8
ULN Ulaanbaatar 76.80 325 IAMs_20 IAMs_20 15 36 59.7
comp=Z,622nm,19.0s
ULN Ulaanbaatar 76.80 325*c i*P P 15 04 45.4 +0.6
ULN pmax pmax
comp=Z,126nm,1.0s
GTA Gaotai 77.08 315 P P 15 04 47.6 +1.0
GTA PP PP 15 07 37.9 -2.7
GTA pmax pmax
comp=Z,120nm,1.1s
GTA pmax pmax
comp=Z,370nm,4.4s
GTA LR LR
comp=Z,260nm,20.4s
GTA LR LR
comp=Z,410nm,22.2s
GTA LR LR
comp=Z,610nm,21.1s
P16K Nushagak River 77.12 20 P P 15 04 46.8 +0.7
baz=220
SONM Songino Array 77.15 325 P P 15 04 47.4 +0.6
SONM Songino Array 77.15 325 P P 15 04 47.2 +0.5
comp=Z,71nm,0.8s,baz=144,slow=5.9,SNR=384
SONM LR LR 15 41 05.6
comp=Z,383nm,18.0s,baz=122,slow=38
comp=Z,71nm,0.8s
BRDH Bariadhala 77.25 297 LR LR 15 38 55.9
comp=Z,122nm,20.3s,baz=114,slow=36
R18K Karluk 77.26 22 P P 15 04 47.6 +0.8
baz=223
M14K Bethel 77.26 17 P P 15 04 48.6 +1.8
baz=216
Q16K King Salmon 77.30 20 P P 15 04 47.3 +0.2
baz=221
N15K Kwethluk River 77.34 18 P P 15 04 48.0 +0.6
N15K Kwethluk River 77.34 18 P P 15 04 47.9 +0.6
baz=218
ACHA Angle Creek He 77.42 21 P P 15 04 47.2 -0.7
OHAK Old Harbor 77.45 23 P P 15 04 48.6 +0.6
baz=224
K13K Kusilvak Mount 77.51 15 P P 15 04 49.0 +0.8
K13K Kusilvak Mount 77.51 15 P P 15 04 49.5 +1.3
baz=213
O16K Kokwok River B 77.52 19 P P 15 04 49.3 +1.0
baz=220
GAMB Gambell 77.53 11 P P 15 04 48.3 0.0
GAMB IAmb IAmb 15 04 50.3
comp=Z,69nm,1.4s
GAMB Gambell 77.53 11 P P 15 04 48.7 +0.5
baz=206,SNR=6.5
L14K Kuka Creek 77.54 16 IAmb IAmb 15 05 04.9
comp=Z,44nm,1.1s
L14K Kuka Creek 77.54 16 P P 15 04 49.2 +0.8
baz=215
M15K Kasigluk River 77.59 18 P P 15 04 49.2 +0.6
baz=217
YAK Yakutsk 77.61 345 P P 15 04 48.8 +0.1
YAK IAMs_20 IAMs_20 15 35 53.7
comp=Z,507nm,20.0s
YAK Yakutsk 77.61 345 LR LR 15 36 10.9
comp=Z,404nm,21.8s,baz=132,slow=34
YAK Yakutsk 77.61 345*c i*P P 15 04 48.9 +0.1
YAK *e* 15 04 58.9
YAK *e**PP **pwP 15 05 02.0 -3.7**
YAK *e* 15 07 42.8
YAK *e*S **S 15 14 37.6 -0.2**
YAK *e**SS **sS 15 14 52.0 +1.0**
YAK *e* 15 15 03.2
YAK *e*SS **SS 15 19 38.0 -0.2**
YAK pmax pmax
comp=Z,119nm,1.1s
YAK pmax pmax
comp=N,44nm,1.5s
YAK pmax pmax
comp=E,12nm,1.5s
YAK pmax pmax
comp=Z,185nm,4.2s
YAK pmax pmax
comp=N,160nm,5.2s
YAK pmax pmax
comp=E,194nm,4.3s
YAK smax smax
comp=N,167nm,4.7s
YAK smax smax
comp=E,89nm,5.4s
P17K Kvichak River 77.77 20 P P 15 04 49.7 0.0
baz=221
Q18K Katmai Hardscr 77.85 21 P P 15 04 50.6 +0.2
baz=223
O17K Koliganek Bris 77.99 20 P P 15 04 51.2 +0.3
baz=220
N16K Nishlik Lake 77.99 18 P P 15 04 51.5 +0.5
baz=219
KDAK Kodiak Island 78.11 23 LR LR 15 35 29.2
comp=E,254nm,18.4s,baz=72,slow=33
KDAK Kodiak Island 78.11 23 P P 15 04 52.4 +0.7
baz=225
L15K Ungalak Mounta 78.15 17 P P 15 04 52.6 +0.8
baz=216
P18K Big Mountain, 78.33 21 P P 15 04 53.8 +0.9
baz=222
M16K Timber Creek 78.36 18 P P 15 04 54.2 +1.2
baz=219
J14K Nanvaranak Lak 78.47 15 IAmb IAmb 15 04 56.1
comp=Z,37nm,1.1s
J14K Nanvaranak Lak 78.47 15 P P 15 04 54.7 +1.2
baz=214
N17K Nushagak Hills 78.53 19 IAmb IAmb 15 05 04.6
comp=Z,50nm,1.1s
N17K Nushagak Hills 78.53 19 P P 15 04 54.6 +0.6
baz=220
Q19K Cape Douglas, 78.54 21 P P 15 04 54.7 +0.6
baz=224
QSPA South Pole Qui 78.58 180 P P 15 04 55.3 +0.9
QSPA IAmb IAmb 15 05 14.7
comp=Z,65nm,1.1s
QSPA South Pole Qui 78.58 180 P P 15 04 55.5 +1.1
comp=Z,15nm,1.0s,baz=322,slow=1.1,SNR=25
QSPA LR LR 15 34 48.2
comp=Z,401nm,21.2s,baz=14,slow=32
comp=Z,15nm,1.0s
K15K Wolf Creek Mou 78.64 16 P P 15 04 55.2 +0.7
K15K Wolf Creek Mou 78.64 16 P P 15 04 55.6 +1.1
baz=216
O18K Koktuh Hills 78.68 20 P P 15 04 55.3 +0.6
baz=222
L16K Owhat River 78.75 17 P P 15 04 55.8 +0.7
L16K Owhat River 78.75 17 P P 15 04 55.7 +0.5
baz=218
Q20K Shuyak Island 78.77 22 P P 15 04 56.0 +0.7
baz=225
N18K Kilae Creek 79.07 19 P P 15 04 57.7 +0.8
N18K IAmb IAmb 15 05 08.8
comp=Z,71nm,1.6s
N18K Kilae Creek 79.07 19 P P 15 04 57.9 +1.0
baz=222
M17K Holitna River 79.12 18 P P 15 04 58.7 +1.5
M17K IAmb IAmb 15 05 14.2
comp=Z,34nm,0.8s
M17K Holitna River 79.12 18 P P 15 04 58.4 +1.2
baz=220
P19K Oil Pt 79.21 21 P P 15 04 58.2 +0.4
baz=224
O19K Port Alsworth 79.23 20 P P 15 04 59.2 +1.4
baz=223
BILL Bilibino 79.31 1 P P 15 04 58.5 +0.4
BILL IAMs_20 IAMs_20 15 37 52.5
comp=Z,368nm,18.0s
BILL Bilibino 79.31 1*c i*P P 15 04 58.4 +0.4
BILL pmax pmax
comp=Z,153nm,1.1s
GOMU GeErMu 79.35 310 P P 15 04 59.8 +0.3
GOMU pP pP 15 05 06.0 -1.5
GOMU sP PcP 15 05 08.1 +0.5
GOMU pmax pmax
comp=Z,33nm,1.2s
L17K Donlin 79.43 18 P P 15 05 00.0 +1.2
baz=219
ANM Nome 79.56 13 P P 15 05 00.5 +1.0
baz=212
BOD Bodaibo 79.57 336 *e*P P 15 04 59.0 -0.7
BOD pmax pmax
comp=Z,87nm,1.2s
N19K Bonanza Creek 79.63 20 P P 15 05 00.2 +0.1
baz=223
J16K Anvik River 79.69 16 P P 15 05 01.7 +1.5
J16K IAmb IAmb 15 05 03.0
comp=Z,59nm,1.1s
J16K Anvik River 79.69 16 P P 15 05 01.5 +1.3
baz=217
M18K Stony River 79.70 19 P P 15 05 01.7 +1.4
baz=222
HOM Homer 79.79 22 P P 15 05 01.3 +0.5
baz=226
TNA Tin City 79.87 12 P P 15 05 01.7 +0.6
baz=209
K17K Iditarod 79.89 17 P P 15 05 03.0 +1.7
K17K Iditarod 79.89 17 P P 15 05 02.7 +1.4
baz=219
LSA Lhasa 79.92 303 P P 15 05 02.8 0.0
L18K Granite Mounta 79.98 18 P P 15 05 03.8 +1.9
L18K IAmb IAmb 15 05 05.3
comp=Z,63nm,1.2s
L18K Granite Mounta 79.98 18 P P 15 05 03.4 +1.6
baz=221
F14K Arctic Creek 80.13 13 P P 15 05 03.1 +0.5
baz=211
I17K Unalakleet 80.15 16 P P 15 05 04.0 +1.3
I17K Unalakleet 80.15 16 P P 15 05 04.1 +1.4
baz=217
BRSE Bradley Lake S 80.17 22 P P 15 05 03.3 +0.4
baz=226
J17K VABM Dome 80.20 16 P P 15 05 04.2 +1.2
J17K IAmb IAmb 15 05 05.6
comp=Z,54nm,1.1s
J17K VABM Dome 80.20 16 P P 15 05 04.0 +1.1
baz=218
G15K Niukluk 80.23 14 P P 15 05 03.8 +0.6
baz=213
ZAK Zakamensk 80.24 326 *e*P P 15 05 02.9 -0.7
ZAK pmax pmax
comp=Z,66nm,1.1s
H16K Elim 80.37 15 P P 15 05 04.7 +0.9
baz=215
M19K Big River Lodg 80.46 19 P P 15 05 04.2 -0.3
M19K IAmb IAmb 15 05 28.8
comp=Z,35nm,0.9s
M19K Big River Lodg 80.46 19 P P 15 05 04.3 -0.2
baz=223
L19K White Mountain 80.52 19 P P 15 05 05.8 +1.0
L19K IAmb IAmb 15 05 07.3
comp=Z,54nm,1.4s
L19K White Mountain 80.52 19 P P 15 05 05.6 +0.8
baz=222
SPCR Spurr Chakacha 80.68 20 P P 15 05 06.1 +0.4
baz=225
IRK Irkutsk 80.69 328 *e*P P 15 05 04.8 -1.1
IRK pmax pmax
comp=Z,115nm,1.7s
F15K North Star Dit 80.70 13 P P 15 05 06.5 +0.8
F15K North Star Dit 80.70 13 P P 15 05 06.1 +0.5
baz=213,SNR=13
CAPN Captain Cook N 80.74 21 P P 15 05 06.8 +0.9
baz=226
M20K Styx River 80.86 20 P P 15 05 06.8 +0.2
M20K IAmb IAmb 15 05 33.6
comp=Z,52nm,1.6s
SEW Seward 80.90 22 P P 15 05 07.4 +0.6
baz=228
J18K Innoko River 80.92 17 IAmb IAmb 15 05 09.1
comp=Z,40nm,1.3s
J18K Innoko River 80.92 17 P P 15 05 07.7 +0.8
baz=220,SNR=8.9
G16K Koyuk River 80.96 14 IAmb IAmb 15 05 09.3
comp=Z,35nm,1.1s
G16K Koyuk River 80.96 14 P P 15 05 07.8 +0.7
baz=215
L20K Farewell, AK 81.05 19 P P 15 05 08.3 +0.7
baz=223
H17K Granite Mounta 81.20 15 P P 15 05 08.8 +0.4
H17K Granite Mounta 81.20 15 P P 15 05 09.0 +0.7
baz=217,SNR=8.7
RC01 Rabbit Creek A 81.46 21 P P 15 05 11.0 +1.3
baz=227
G17K Kiwalik Mounta 81.47 15 P P 15 05 10.6 +0.9
baz=216,SNR=11
P23K Montague Islan 81.60 23 P P 15 05 10.9 +0.4
baz=229
K20K Telida 81.63 18 IAmb IAmb 15 05 13.2
comp=Z,54nm,1.4s
K20K Telida 81.63 18 P P 15 05 10.9 +0.3
baz=223
J19K Poorman 81.64 17 IAmb IAmb 15 05 13.3
comp=Z,45nm,1.2s
J19K Poorman 81.64 17 P P 15 05 11.7 +1.0
baz=221,SNR=13
H18K Honhosa River 81.77 16 P P 15 05 11.8 +0.5
baz=219,SNR=5.8
PWL Port Wells 81.81 22 P P 15 05 12.5 +0.9
baz=228
GCSA Galena City Sc 81.86 16 P P 15 05 12.7 +0.9
baz=220,SNR=12
PPLA Purkeypile 81.89 19 IAmb IAmb 15 05 13.3
comp=Z,71nm,1.6s
PPLA Purkeypile 81.89 19 P P 15 05 12.7 +0.5
baz=225
PMR Palmer 82.02 21 P P 15 05 13.2 +0.5
baz=228
F17K Baldwin Pennin 82.08 14 IAmb IAmb 15 05 15.3
comp=Z,47nm,1.3s
F17K Baldwin Pennin 82.08 14 P P 15 05 13.6 +0.7
baz=216,SNR=15
MOY Mondy 82.14 326 *e*P P 15 05 13.5 -0.2
MOY pmax pmax
comp=Z,78nm,3.4s
KNK Knik Glacier 82.14 21 P P 15 05 13.9 +0.5
baz=228
CUT Chulitna 82.18 20 P P 15 05 14.6 +1.1
baz=227
J20K Nowinta River 82.21 18 IAmb IAmb 15 05 30.2
comp=Z,34nm,1.2s
J20K Nowinta River 82.21 18 P P 15 05 14.6 +1.0
baz=223,SNR=13
G18K Tagagawik 82.28 15 P P 15 05 14.4 +0.4
baz=218
CAST Castle Rocks 82.30 19 P P 15 05 14.1 -0.1
CAST Castle Rocks 82.30 19 P P 15 05 13.5 -0.7
baz=225,SNR=9.1
SML Sawmill 82.45 21 P P 15 05 16.3 +1.3
baz=228
E17K Hotham Inlet 82.48 13 P P 15 05 16.0 +1.0
baz=215
CHUM Lake Minchumin 82.56 18 P P 15 05 15.8 +0.4
baz=224,SNR=5.7
I20K Naaghedeneel 82.58 17 P P 15 05 16.6 +1.1
baz=222
H19K Roundabout Mou 82.58 16 P P 15 05 16.4 +0.9
H19K IAmb IAmb 15 05 17.8
comp=Z,66nm,1.2s
H19K Roundabout Mou 82.58 16 P P 15 05 16.2 +0.7
baz=220,SNR=18
EYAK Cordova Ski Ar 82.58 23 P P 15 05 16.5 +0.9
baz=231
F18K Selawik 82.59 14 P P 15 05 16.1 +0.6
baz=217,SNR=15
M23K Glacier View 82.65 21 P P 15 05 16.8 +0.7
baz=229
D17K Noatak River 82.71 13 P P 15 05 17.2 +1.0
baz=214,SNR=18
KAIM Kayak Island 82.71 24 P P 15 05 17.1 +0.7
baz=232
C16K Lisburne Hills 82.74 12 P P 15 05 16.7 +0.4
baz=212
SCM Sheep Creek Mo 82.82 22 P P 15 05 17.6 +0.6
baz=229
G19K Purcell Mounta 82.88 15 P P 15 05 18.2 +1.1
baz=220,SNR=15
TRF Thorofare Moun 82.90 19 IAmb IAmb 15 05 36.5
comp=Z,35nm,1.4s
TRF Thorofare Moun 82.90 19 P P 15 05 18.5 +1.0
baz=226
H20K Anotleneega Mo 82.98 17 P P 15 05 18.5 +0.8
baz=222,SNR=22
E18K Tukpahlearik C 83.03 13 P P 15 05 18.9 +1.0
E18K Tukpahlearik C 83.03 13 P P 15 05 18.6 +0.8
baz=216
RDOG Red Dog Mine 83.04 12 IAmb IAmb 15 05 20.1
comp=Z,54nm,1.3s
RDOG Red Dog Mine 83.04 12 P P 15 05 18.8 +0.9
baz=214,SNR=15
KLU Klutina 83.12 22 P P 15 05 18.7 +0.2
KLU IAmb IAmb 15 05 20.0
comp=Z,56nm,1.4s
KLU Klutina 83.12 22 P P 15 05 19.2 +0.6
baz=231
BPAW Bear Paw Mtn. 83.13 19 IAmb IAmb 15 05 31.4
comp=Z,84nm,2.0s
BPAW Bear Paw Mtn. 83.13 19 P P 15 05 18.5 +0.1
baz=226,SNR=5.6
MAW Mawson 83.18 202 LR LR 15 39 10.9
comp=Z,298nm,19.1s,baz=100,slow=33
F19K Shaleruckik Mo 83.24 15 IAmb IAmb 15 05 20.9
comp=Z,38nm,1.2s
F19K Shaleruckik Mo 83.24 15 P P 15 05 19.4 +0.4
baz=219
BMRM Bremner River 83.28 23 P P 15 05 19.8 +0.4
baz=232
BGLC Bering Glacier 83.28 24 P P 15 05 19.9 +0.6
baz=233
C17K DeLong Mountai 83.34 12 P P 15 05 20.3 +0.8
baz=214,SNR=18
RND Reindeer 83.34 20 IAmb IAmb 15 05 29.2
comp=Z,40nm,1.2s
M24K Tolsona, Glenn 83.42 22 P P 15 05 20.4 +0.3
baz=230
PALK Pallekele 83.50 279 P P 15 05 21.0 -0.5
PALK IAmb IAmb 15 05 23.7
comp=Z,32nm,0.9s
PALK Pallekele 83.50 279 P P 15 05 21.0 -0.5
PALK pmax pmax
comp=Z,32nm,0.9s
MCK McKinley 83.53 20 P P 15 05 20.3 -0.2
baz=228,SNR=14
I21K Tanana 83.59 18 P P 15 05 21.8 +1.0
I21K IAmb IAmb 15 05 23.1
comp=Z,46nm,1.1s
I21K Tanana 83.59 18 P P 15 05 21.6 +0.8
baz=225,SNR=14
N25K Chitina, Valde 83.68 23 P P 15 05 22.0 +0.6
baz=232
H21K Melozitna Rive 83.69 17 IAmb IAmb 15 05 23.7
comp=Z,26nm,1.1s
H21K Melozitna Rive 83.69 17 P P 15 05 22.2 +0.9
baz=224,SNR=14
MESA MESA 83.86 24 P P 15 05 23.0 +0.5
baz=234
E19K Redstone River 83.86 15 IAmb IAmb 15 05 24.5

comp=Z,39nm,1.1s
E19K Redstone River 83.86 15 P **P 15 05 22.7 +0.6**
baz=220
GLB Gilahina Butte 83.88 23 IAmb IAmb 15 05 49.4
comp=Z,20nm,1.0s
C18K Utukok River 83.90 13 IAmb IAmb 15 05 25.1
comp=Z,47nm,1.4s
C18K Utukok River 83.90 13 P **P 15 05 22.9 +0.5**
baz=216
F20K Avaraart Lake 83.92 15 P **P 15 05 23.4 +0.9**
F20K Avaraart Lake 83.92 15 P **P 15 05 23.1 +0.6**
baz=221
HARP HAARP 83.97 22 P **P 15 05 22.9 +0.1**
baz=231
NEA2 Nenana 84.07 19 IAmb IAmb 15 05 32.5
comp=Z,21nm,1.0s
NEA2 Nenana 84.07 19 P **P 15 05 23.4 +0.1**
baz=228,SNR=5.4
G21K Allakaket 84.12 16 IAmb IAmb 15 05 25.5
comp=Z,24nm,1.1s
G21K Allakaket 84.12 16 P **P 15 05 24.2 +0.8**
baz=223
PAX Paxson 84.22 21 P **P 15 05 24.0 -0.2**
baz=231
H22K Ishtalitna Cre 84.27 17 P **P 15 05 25.1 +0.8**
baz=225,SNR=14
WRH Wood River Hil 84.31 19 IAmb IAmb 15 05 42.2
comp=Z,32nm,1.0s
B18K Kokolik River 84.36 12 P **P 15 05 25.5 +0.8**
baz=215
I23K Minto, Yukon-K 84.36 18 P **P 15 05 25.0 +0.3**
baz=227
D19K Kuna River 84.46 14 P **P 15 05 25.5 +0.3**
baz=219
PINM Pinnacle 84.51 25 P **P 15 05 25.8 +0.2**
baz=236
PNL Peninsula 84.63 26 P **P 15 05 26.2 0.0**
baz=237
HDA Harding Lake 84.64 20 IAmb IAmb 15 05 40.6
comp=Z,32nm,0.8s
HDA Harding Lake 84.64 20 P **P 15 05 26.3 +0.1**
baz=230,SNR=6.8
K24K Donnelly Dome 84.64 20 P **P 15 05 27.7 +1.4**
baz=231
F21K Alatna River 84.64 16 P **P 15 05 26.5 +0.4**
baz=223,SNR=10
COLA College 84.65 19 P **P 15 05 25.9 -0.2**
COLA IAmb IAmb 15 05 39.7
comp=Z,33nm,0.8s
COLA College 84.65 19 P **P 15 05 26.4 +0.3**
COLA College 84.65 19‖*e*P **P 15 05 25.3 -0.8**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 84.65 19 P **P 15 05 25.9 -0.2**
baz=229
E20K Nigu River 84.73 14 P **P 15 05 27.3 +0.7**
baz=220
H23K Yukon River 84.77 18 P **P 15 05 27.0 +0.2**
H23K IAmb IAmb 15 05 28.8
comp=Z,27nm,1.2s
H23K Yukon River 84.77 18 P **P 15 05 27.5 +0.7**
baz=227,SNR=9.1
M26K Nabesna, AK 84.77 22 IAmb IAmb 15 05 37.5
comp=Z,27nm,1.1s
M26K Nabesna, AK 84.77 22 P **P 15 05 27.6 +0.7**
baz=233,SNR=11
MENT Mentasta 84.83 22 P **P 15 05 27.3 +0.1**
IL31 84.89 19 P **P 15 05 27.6 +0.3**
IL31 IAmb IAmb 15 05 28.7
comp=Z,44nm,1.6s
ILAR Eielson Array 84.89 19 P **P 15 05 27.4 -0.1**
ILAR Eielson Array 84.89 19 P **P 15 05 27.1 -0.4**
comp=Z,7.0nm,1.1s,baz=247,slow=5.0,SNR=27
ILAR PKKP **PKKPdf 15 23 34.4 +3.2**
comp=Z,0.5nm,0.8s,baz=8.0,slow=1.5,SNR=5.9
ILAR LR LR 15 38 51.6
comp=Z,513nm,19.7s,baz=230,slow=32
comp=Z,7.0nm,1.1s
O28M Mount Upton 84.91 24 P **P 15 05 28.9 +0.9**
baz=236
RIDG Independent Ri 84.92 21 P **P 15 05 28.7 +1.0**
RIDG Independent Ri 84.92 21 P **P 15 05 28.0 +0.4**
baz=232,SNR=7.3
POKR Poker Plat Res 84.94 19 P **P 15 05 27.1 -0.6**
POKR Poker Plat Res 84.94 19 P **P 15 05 28.8 +1.1**
baz=229
D20K Etivluk River 84.98 14 P **P 15 05 28.4 +0.6**
baz=220
L26K Log Cabin Wild 85.02 22 P **P 15 05 29.1 +1.0**
L26K IAmb IAmb 15 05 38.8
comp=Z,33nm,1.1s
L26K Log Cabin Wild 85.02 22 P **P 15 05 29.2 +1.1**
baz=233,SNR=10.0
SIT Sitka 85.09 29 P **P 15 05 29.9 +1.4**
baz=240
S31K Pelican 85.12 28 P **P 15 05 29.7 +1.0**
baz=240
DOT Dot Lake 85.14 21 P **P 15 05 29.0 +0.3**
DOT IAmb IAmb 15 05 30.8
comp=Z,40nm,1.4s
M27K Edge Creek, AK 85.16 23 P **P 15 05 30.2 +1.2**
M27K Edge Creek, AK 85.16 23 P **P 15 05 29.8 +0.8**
baz=234
A19K Wainwright 85.19 12 P **P 15 05 29.4 +0.6**
baz=216
F22K John River 85.20 16 P **P 15 05 29.8 +0.8**
baz=224
G23K Bananza Creek 85.23 17 P **P 15 05 29.8 +0.6**
G23K IAMs_20 IAMs_20 15 38 56.0
comp=Z,768nm,20.0s
G23K Bananza Creek 85.23 17 P **P 15 05 30.2 +1.0**
baz=226,SNR=9.5
H24K Noodor Dome 85.28 18 P **P 15 05 30.3 +0.8**
H24K Noodor Dome 85.28 18 P **P 15 05 29.8 +0.4**
baz=228
J25K Salcha River, 85.29 20 P **P 15 05 29.8 +0.3**
J25K IAmb IAmb 15 05 44.2
comp=Z,20nm,0.7s
J25K Salcha River, 85.29 20 P **P 15 05 30.0 +0.5**
baz=231,SNR=9.3
O29M Mount Kennedy 85.32 25 P **P 15 05 29.8 -0.1**
baz=237
SCRK Sand Creek 85.37 21 P **P 15 05 30.7 +0.7**
SCRK Sand Creek 85.37 21 P **P 15 05 30.5 +0.5**
baz=232,SNR=15
YUK8 Steele Glacier 85.37 24 P **P 15 05 30.6 +0.4**
baz=236,SNR=5.7
YUK3 Moose Creek 85.37 24 P **P 15 05 30.8 +0.7**
baz=236,SNR=6.7
CRAG Craig 85.41 31 P **P 15 05 30.8 +0.6**
baz=242
E21K Killik River 85.41 15 P **P 15 05 30.8 +0.8**
E21K IAmb IAmb 15 05 33.4
comp=Z,30nm,1.1s
E21K Killik River 85.41 15 P **P 15 05 30.7 +0.8**
baz=223
COLD Coldfoot 85.54 17 P **P 15 05 31.2 +0.6**
baz=226
BVCY Beaver Creek 85.58 23 P **P 15 05 31.8 +0.8**
baz=235,SNR=7.2
L27K Beaver Creek, 85.59 22 P **P 15 05 32.5 +1.5**
L27K IAmb IAmb 15 05 33.6
comp=Z,56nm,1.6s
L27K Beaver Creek, 85.59 22 P **P 15 05 31.7 +0.7**
baz=234
BCAR Beaver Creek A 85.61 22 P **P 15 05 31.9 +0.8**
S32K Killisnoo 85.65 29 P **P 15 05 31.4 +0.1**
baz=241
U33K Whale Pass 85.71 30 P **P 15 05 32.6 +1.0**
baz=242
E22K Anaktuvuk Pass 85.74 16 IAmb IAmb 15 05 35.3
comp=Z,27nm,1.4s
E22K Anaktuvuk Pass 85.74 16 P **P 15 05 32.3 +0.7**
baz=225,SNR=11
C21K Knifeblade Rid 85.75 14 P **P 15 05 32.7 +1.1**
baz=222,SNR=28
YUK6 Outpost Mounta 85.75 25 P **P 15 05 32.4 +0.3**
baz=238
PRP Porcupine Dome 85.82 19 P **P 15 05 33.5 +1.3**
baz=231
PLBC Pleasant Camp 85.83 27 P **P 15 05 33.7 +1.6**
baz=239
J26L Joseph Creek 85.84 21 P **P 15 05 33.5 +1.2**
baz=233,SNR=6.5
B20K Meade River 85.85 13 P **P 15 05 32.7 +0.6**
B20K IAmb IAmb 15 05 35.4
comp=Z,24nm,0.9s
B20K Meade River 85.85 13 P **P 15 05 32.9 +0.8**
baz=220
YUK4 Talbot Arm 85.86 24 P **P 15 05 34.0 +1.4**
baz=237,SNR=5.5
O02D Mt. Diablo Mer 85.86 48 P **P 15 05 32.7 -0.3**
O02D IAmb IAmb 15 05 50.4
comp=Z,24nm,0.9s
TIXI Tiksi 85.89 350 P **P 15 05 31.7 -0.5**
TIXI Tiksi 85.89 350 LR LR 15 42 27.7
comp=Z,233nm,20.5s,baz=154,slow=35
TIXI Tiksi 85.89 350*c iP* **P 15 05 31.8 -0.5**
TIXI pmax pmax
comp=Z,79nm,1.4s
P30M Million Dollar 85.91 26 P **P 15 05 33.8 +1.1**
baz=239
G24K Hadweenzic Riv 85.98 18 P **P 15 05 33.5 +0.7**
baz=229,SNR=14
HYT Haines Junctio 86.05 25 P **P 15 05 34.2 +0.7**
baz=238
D22K Ayikyak River 86.06 15 P **P 15 05 34.3 +1.2**
baz=224
R32K Eaglecrest 86.07 28 P **P 15 05 34.8 +1.4**
baz=241
K27K Chicken 86.07 21 P **P 15 05 35.0 +1.7**
baz=234
V35K Ketchikan 86.11 32 P **P 15 05 35.3 +1.6**
baz=244
B21K Ikpikpuk River 86.14 14 P **P 15 05 34.5 +1.0**
B21K IAmb IAmb 15 05 36.9
comp=Z,36nm,1.0s
B21K Ikpikpuk River 86.14 14 P **P 15 05 34.3 +0.8**
baz=222
H25L Birch Creek 86.20 19 P **P 15 05 34.9 +1.1**
baz=230
WRAK Wrangell Islan 86.24 30 P **P 15 05 34.8 +0.6**
baz=243
E23K Chandalar 86.28 16 IAmb IAmb 15 05 37.1
comp=Z,54nm,1.4s
E23K IAMs_20 IAMs_20 15 37 56.5
comp=Z,752nm,20.0s
E23K Chandalar 86.28 16 P **P 15 05 35.3 +0.9**
baz=227
SKAG Skagway 86.28 27 P **P 15 05 35.2 +0.8**
baz=240
F24K Squaw Lake 86.40 17 P **P 15 05 36.0 +1.1**
baz=228,SNR=17
YBH Yreka Blue Hor 86.42 46 LR LR 15 38 43.6
comp=Z,420nm,18.9s,baz=283,slow=32
G25K Bearman Lake 86.43 18 P **P 15 05 36.4 +1.4**
baz=230
I26K Coal Creek Min 86.47 20 P **P 15 05 35.9 +0.6**
I26K Coal Creek Min 86.47 20 P **P 15 05 36.5 +1.3**
baz=233
M29M Somme Creek 86.53 24 P **P 15 05 36.5 +0.8**
baz=237
N30M Aishikik Lake 86.55 25 P **P 15 05 36.1 +0.2**
baz=239
FYU Fort Yukon 86.57 18 IAmb IAmb 15 05 38.2
comp=Z,56nm,1.4s
E24K Your Creek 86.60 16 IAmb IAmb 15 05 38.4
comp=Z,29nm,1.4s
E24K IAMs_20 IAMs_20 15 37 54.1
comp=Z,770nm,21.0s
E24K Your Creek 86.60 16 P **P 15 05 36.4 +0.5**
baz=228
O30N Mendenhall 86.61 26 P **P 15 05 36.3 +0.2**
baz=240
D23K Nanushuk River 86.63 15 P **P 15 05 37.5 +1.5**
baz=226
BBB Bella Bella 86.69 35 LR LR 15 39 26.6
comp=Z,227nm,18.1s,baz=246,slow=32
TOLK Toolik Lake Re 86.69 16 P **P 15 05 36.9 +0.5**
TOLK IAmb IAmb 15 05 38.9
comp=Z,35nm,1.4s
TOLK Toolik Lake Re 86.69 16 P **P 15 05 37.2 +0.9**
baz=227,SNR=9.1
AFDM Forest Hills D 86.82 49 IAmb IAmb 15 06 08.9
comp=Z,24nm,1.2s
B22K Teshekpuk Lake 86.95 14 P **P 15 05 38.0 +0.5**
baz=223
A21K Barrow 86.98 12 P **P 15 05 38.1 +0.5**
baz=220
L29M L29M 87.02 23 P **P 15 05 38.5 +0.5**
baz=238
DAWY Dawson 87.06 22 P **P 15 05 39.2 +1.0**
DAWY IAmb IAmb 15 05 52.2
comp=Z,28nm,1.2s
DAWY Dawson 87.06 22 P **P 15 05 39.0 +0.7**
baz=236,SNR=7.1
P32M Atlin 87.07 27 P **P 15 05 39.1 +0.7**
baz=242
WHY Whitehorse 87.07 26 P **P 15 05 39.2 +0.8**
baz=241
A22K Sinclair Lake 87.09 13 P **P 15 05 38.7 +0.5**
baz=222
F25K Christian Rive 87.10 18 P **P 15 05 40.0 +1.6**
F25K IAmb IAmb 15 05 41.5
comp=Z,34nm,1.2s
F25K Christian Rive 87.10 18 P **P 15 05 39.7 +1.4**
baz=230,SNR=18
N31M Braeburn, Yuko 87.11 25 P **P 15 05 38.8 +0.3**
baz=240
WMQ Urumqi 87.16 316 *e*P **P 15 05 38.8 -0.4**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,650nm,21.7s
I27K Kandik River 87.16 20 P **P 15 05 39.5 +0.9**
baz=234,SNR=21
D24K Happy Valley 87.24 16 P **P 15 05 40.5 +1.6**
baz=228
M30M Minto, Yukon 87.25 24 P **P 15 05 39.8 +0.6**
baz=239
C23K Itkillik River 87.26 15 P **P 15 05 40.4 +1.4**
baz=226
G26K Porcupine Rive 87.26 19 P **P 15 05 40.6 +1.6**
baz=232,SNR=24
BMAR Burnt Mountain 87.32 18 P **P 15 05 41.0 +1.6**
Q32M Nakina River 87.43 28 P **P 15 05 40.9 +0.6**
baz=243
E25K Arctic Village 87.46 17 IAmb IAmb 15 05 43.0
comp=Z,38nm,1.2s
E25K Arctic Village 87.46 17 P **P 15 05 41.7 +1.6**
baz=231,SNR=19
S34M Telegraph Cree 87.50 29 P **P 15 05 41.5 +1.1**
baz=244
T35M Bob Quinn 87.52 30 P **P 15 05 42.1 +1.5**
baz=245
H27K Steamboat Moun 87.56 20 P **P 15 05 42.1 +1.5**
baz=234,SNR=26
F26K Sheenjek River 87.61 18 IAmb IAmb 15 05 44.0
comp=Z,56nm,1.6s
F26K Sheenjek River 87.61 18 P **P 15 05 42.4 +1.6**
baz=232,SNR=14
K29M Barlow Dome 87.64 23 P **P 15 05 41.9 +0.8**
baz=238
I28M Miner Creek 87.64 21 P **P 15 05 42.2 +1.1**
baz=236,SNR=10
C24K Franklin Bluff 87.66 15 P **P 15 05 42.0 +1.1**
C24K Franklin Bluff 87.66 15 P **P 15 05 42.3 +1.4**
baz=228
J29N Klondike Camp 87.71 22 P **P 15 05 42.6 +1.2**
J29N IAmb IAmb 15 05 59.1
comp=Z,20nm,0.8s
J29N Klondike Camp 87.71 22 P **P 15 05 43.0 +1.7**
baz=238
HYB Hyderabad 87.74 288 *e*P **P 15 05 42.9 +0.4**
WAKR Walker 87.84 50 IAmb IAmb 15 06 01.3
comp=Z,49nm,1.9s
G27K Doyon Strip 87.85 19 IAmb IAmb 15 05 44.9
comp=Z,25nm,1.2s
G27K Doyon Strip 87.85 19 P **P 15 05 43.6 +1.7**
baz=234
J05D Fort Rock, OR 87.94 45 IAmb IAmb 15 05 59.8
comp=Z,21nm,1.1s
D25K Kavik River 88.01 16 IAmb IAmb 15 05 44.8
comp=Z,27nm,1.1s
D25K Kavik River 88.01 16 P **P 15 05 43.6 +0.9**
baz=230
M31M Drury Creek, Y 88.03 25 P **P 15 05 44.5 +1.6**
baz=241
N32M Quiet Lake 88.08 26 P **P 15 05 43.9 +0.7**
baz=242
MAYO Mayo, Yukon 88.13 23 P **P 15 05 44.9 +1.6**
baz=240
R33M Jennings River 88.22 28 P **P 15 05 44.9 +0.9**
baz=244
DLBC Dease Lake 88.25 29 P **P 15 05 45.3 +1.2**
comp=Z,1.2nm,0.8s,baz=151,slow=3.4,SNR=3.5
DLBC LR LR 15 38 12.0
comp=Z,944nm,20.2s,baz=260,slow=31
comp=Z,1.2nm,0.8s
DLBC Dease Lake 88.25 29 P **P 15 05 45.0 +0.9**
baz=245
PINE Pine Mountain 88.29 45 IAmb IAmb 15 06 01.6
comp=Z,18nm,1.0s
FARO Faro, Yukon 88.48 25 P **P 15 05 46.4 +1.4**
baz=242
RYN Ryan 88.57 50 P **P 15 05 46.9 +0.7**
H29M Whitestone 88.61 20 IAmb IAmb 15 05 58.4
comp=Z,56nm,1.8s
H29M Whitestone 88.61 20 P **P 15 05 46.8 +1.3**
baz=237
DSP Deep Springs 88.65 52 IAmb IAmb 15 06 19.0
comp=Z,24nm,1.2s
NVAR Mina Array Bea 88.68 50 P **P 15 05 47.9 +1.1**
comp=Z,1.3nm,0.6s,baz=242,slow=5.3,SNR=12
NVAR LR LR 15 40 27.8
comp=Z,529nm,19.0s,baz=308,slow=32
comp=Z,1.3nm,0.6s
E27K Coleen River 88.68 18 P **P 15 05 47.4 +1.5**
baz=234,SNR=36
I30M Mount Dempster 88.78 22 P **P 15 05 47.5 +1.0**
baz=239
C26K Camden Bay 88.79 16 P **P 15 05 47.8 +1.5**
baz=231
PFO Pinyon Flats O 88.88 56 P **P 15 05 47.9 +0.2**
PFO IAmb IAmb 15 06 02.6
comp=Z,30nm,1.5s
PFO Pinyon Flats O 88.88 56 LR LR 15 36 58.5
comp=Z,235nm,21.9s,baz=259,slow=30
PFO Pinyon Flats O 88.88 56 P **P 15 05 47.9 +0.2**
PFO pmax pmax
comp=Z,30nm,1.5s
VTX Valle De La Tr 88.89 58 P **P 15 05 47.6 -0.1**
VTX IAmb IAmb 15 05 50.8
comp=Z,33nm,1.3s
ESJX Sierra Juarez 88.90 57 IAmb IAmb 15 05 59.3
comp=Z,26nm,1.3s
C27K Jago River 88.93 16 P **P 15 05 48.6 +1.6**
baz=232
GSC Goldstone, Bar 89.02 54 IAmb IAmb 15 06 03.4
comp=Z,24nm,1.5s
YUH Yuha Desert 89.08 57 IAmb IAmb 15 06 03.1
comp=Z,17nm,1.0s
G29M Pine Creek 89.10 20 IAmb IAmb 15 05 59.3
comp=Z,28nm,1.1s
G29M Pine Creek 89.10 20 P **P 15 05 48.2 +0.4**
baz=238,SNR=11
MZP Montezuma Peak 89.19 51 P **P 15 05 49.8 +0.6**
EPYK Eagle Plains 89.25 21 P **P 15 05 49.5 +0.9**
EPYK IAmb IAmb 15 06 05.6
comp=Z,24nm,0.8s
EPYK Eagle Plains 89.25 21 P **P 15 05 49.7 +1.1**
baz=239,SNR=12
GWY Greenwater Val 89.35 53 P **P 15 05 49.9 0.0**
I07A Izee 89.37 45 P **P 15 05 50.1 +0.3**
I07A IAmb IAmb 15 06 00.7
comp=Z,25nm,1.4s
D27M Malcolm River 89.48 17 P **P 15 05 51.2 +1.6**
D27M IAmb IAmb 15 05 52.8
comp=Z,49nm,1.4s
D27M Malcolm River 89.48 17 P **P 15 05 51.0 +1.4**
baz=235
WVOR Wild Horse Val 89.52 47 IAmb IAmb 15 06 01.6
comp=Z,44nm,1.4s
WTLY Watson Lake, Y 89.53 28 P **P 15 05 51.0 +1.0**
baz=246
E28M Babbage River 89.55 18 P **P 15 05 51.3 +1.4**
baz=236
G30M tAoh Zraii Nji 89.74 20 P **P 15 05 51.2 +0.3**
G30M IAmb IAmb 15 05 54.0
comp=Z,42nm,1.2s
G30M tAoh Zraii Nji 89.74 20 P **P 15 05 51.6 +0.8**
baz=239
H31M Peel River 89.81 22 P **P 15 05 52.5 +1.3**
baz=241
E07A Sunnyside 89.84 42 P **P 15 05 51.8 +0.1**
E07A IAmb IAmb 15 05 54.3
comp=Z,66nm,2.0s
TPNV Topopah Spring 89.87 52 P **P 15 05 52.3 0.0**
TPNV Topopah Spring 89.87 52 P **P 15 05 52.3 0.0**
TPNV pmax pmax
comp=Z,14nm,1.1s
J08A Circle Bar Ran 89.89 46 IAmb IAmb 15 06 08.9
comp=Z,22nm,1.0s
E29M Blow River 89.93 19 P **P 15 05 52.4 +0.8**
baz=238
HAWA Hanford 90.01 43 IAmb IAmb 15 05 55.2
comp=Z,44nm,1.8s
G08A Pilot Rock 90.08 44 IAmb IAmb 15 05 55.6
comp=Z,31nm,1.6s
ZSN Zaisan 90.15 318 *e*P **P 15 05 52.7 -0.5**
ZSN pmax pmax
comp=Z,13nm,0.8s
ZSN Zaisan 90.15 318 *e*P **P 15 05 52.8 -0.5**
comp=Z,13nm,0.8s
D28M Stokes Point 90.19 18 P **P 15 05 53.7 +0.9**
baz=237
F30M Barrier River 90.21 20 P **P 15 05 53.9 +0.9**
baz=240,SNR=9.2
E08A Dider Farm, El 90.35 43 IAmb IAmb 15 05 56.8
comp=Z,23nm,1.2s
G31M Satah River 90.38 21 IAmb IAmb 15 05 57.2
comp=Z,38nm,1.4s
G31M Satah River 90.38 21 P **P 15 05 54.4 +0.6**
baz=241,SNR=5.3
S11A Rachel 90.43 52 IAmb IAmb 15 06 21.5
comp=Z,23nm,1.1s
SHPR Sheep Range 90.61 53 P **P 15 05 55.9 +0.1**
V12A Nelson 90.67 54 P **P 15 05 56.2 +0.2**
B08A Colville Reser 90.69 41 IAmb IAmb 15 05 57.7
comp=Z,32nm,1.9s
TOAD Toad River Com 90.72 30 P **P 15 05 56.3 +0.7**
baz=249
R11B Troy Canyon, C 90.72 51 P **P 15 05 56.7 +0.4**
F31M Tsiigehtchic 90.81 20 IAmb IAmb 15 05 59.0
comp=Z,26nm,1.3s
F31M Tsiigehtchic 90.81 20 P **P 15 05 56.5 +0.8**
baz=242,SNR=6.8
BMO Blue Mountains 91.09 45 IAmb IAmb 15 06 00.1
comp=Z,23nm,1.4s
INK Inuvik 91.29 20 LR LR 15 42 14.3
comp=Z,631nm,20.7s,baz=236,slow=32
INK Inuvik 91.29 20 P **P 15 05 59.2 +1.2**
baz=242
ELK Elko 91.55 49 IAmb IAmb 15 06 31.9
comp=Z,18nm,1.3s
ELK Elko 91.55 49 LR LR 15 41 07.8
comp=Z,285nm,19.8s,baz=266,slow=32
MK31 Makanchi Array 91.66 317 P **P 15 05 59.9 -0.3**
MK31 Makanchi Array 91.66 317*c iP* **P 15 05 59.7 -0.6**
MKAR Makanchi Array 91.66 317 P **P 15 05 59.6 -0.6**
MKAR Makanchi Array 91.66 317 P **P 15 06 00.0 -0.3**
comp=Z,37nm,0.6s,baz=97,slow=6.2,SNR=478
MKAR PKiKP **PKiKP 15 10 51.8 +0.3**
comp=Z,1.8nm,0.9s,baz=57,slow=4.5,SNR=3.9
MKAR LR LR 15 46 48.4
comp=Z,153nm,21.9s,baz=84,slow=35
comp=Z,37nm,0.6s
MKAR Makanchi Array 91.66 317 *i*P **P 15 05 59.9 -0.3**
MKAR pmax pmax
comp=Z,37nm,0.6s
MFID Camas Ranch 91.77 46 P **P 15 06 02.0 +1.1**
SPR3 Spring Creek 3 91.83 51 P **P 15 06 02.8 +1.2**
SPR3 IAmb IAmb 15 06 12.3
comp=Z,21nm,1.2s
MAKZ Makanchi 91.88 317 P **P 15 06 00.8 -0.4**
MAKZ Makanchi 91.88 317 P **P 15 06 00.8 -0.4**
MAKZ pmax pmax
comp=Z,50nm,1.1s
LPIG La Paz 92.03 66 LR LR 15 41 15.1
comp=Z,272nm,19.1s,baz=240,slow=32
ZAA0 Zalesovo Array 92.04 325 P **P 15 06 00.2 -1.6**
ZAA0 IAmb IAmb 15 06 01.8
comp=Z,27nm,1.1s
ZALV Zalesovo Beam 92.04 325 P **P 15 06 00.5 -1.3**
ZALV Zalesovo Beam 92.04 325 P **P 15 06 00.6 -1.2**
comp=Z,12nm,0.9s,baz=108,slow=4.8,SNR=43
ZALV LR LR 15 46 03.7
comp=Z,455nm,21.8s,baz=101,slow=35
comp=Z,12nm,0.9s
PLID Pearl Lake 92.05 45 P **P 15 06 02.5 +0.2**
PLID IAmb IAmb 15 06 12.5
comp=Z,16nm,1.1s

PSUT Pine Spring 92.09 51 P P 15 06 03.1 +0.5
NEW Newport 92.09 41 P P 15 06 03.0 +0.8
NEW Newport 92.09 41 LR LR 15 40 55.3
comp=Z,269nm,20.3s,baz=277,slow=31
NEW Newport 92.09 41 P P 15 06 03.0 +0.8
NEW pmax pmax
comp=Z,10.0nm,1.0s
ELIB Princess Elisa 92.54 192 *d*P **P 15 06 03.9 -0.2**
comp=Z,15nm,1.0s
KNB Kanab 92.56 53 IAmb IAmb 15 07 03.1
comp=Z,30nm,1.6s
SHLS Shalkode 92.74 313 *e*P **P 15 06 03.3 -2.1**
SHLS pmax pmax
comp=Z,13nm,0.8s
SHLS Shalkode 92.74 313 *e*P **P 15 06 03.3 -2.1**
comp=Z,14nm,0.8s
HLID Hailey 92.80 46 P P 15 06 06.3 +0.5
UZB Uzynbulak 93.05 313 *e*P **P 15 06 06.2 -0.7**
UZB pmax pmax
comp=Z,13nm,1.0s
UZB Uzynbulak 93.05 313 *e*P **P 15 06 06.2 -0.7**
comp=Z,13nm,1.0s
BGU Big Grassy Mou 93.23 49 IAmb IAmb 15 06 27.2
comp=Z,26nm,1.9s
SATY Saty 93.47 313 *e*P **P 15 06 08.0 -0.8**
SATY pmax pmax
comp=Z,8.0nm,1.1s
SATY Saty 93.47 313 *e*P **P 15 06 08.1 -0.8**
comp=Z,8.4nm,1.1s
TARG Taragay, Kyrgy 93.63 312 P P 15 06 10.1 +0.1
TARG Taragay, Kyrgy 93.63 312 P P 15 06 10.1 +0.1
TARG pmax pmax
comp=Z,9.0nm,1.0s
TDK Taldyqorghan 93.88 315 *e*P **P 15 06 09.8 -0.7**
TDK pmax pmax
comp=Z,15nm,0.7s
TDK Taldyqorghan 93.88 315 *e*P **P 15 06 09.8 -0.7**
comp=Z,15nm,0.7s
KDJ Kajisay 94.17 312 P P 15 06 11.4 -0.7
KDJ IAmb IAmb 15 06 13.8
comp=Z,16nm,0.9s
KDJ Kajisay 94.17 312 P P 15 06 11.4 -0.7
KDJ pmax pmax
comp=Z,16nm,0.9s
DLMT Dillon 94.46 45 IAmb IAmb 15 06 24.1
comp=Z,24nm,1.2s
DLMT IAMs_20 IAMs_20 15 39 58.8
comp=Z,569nm,18.0s
TNSS Tian-Shan 94.52 313 *e*P **P 15 06 12.5 -1.4**
TNSS Tian-Shan 94.52 313 *e*P **P 15 06 12.6 -1.4**
KSH Kashi 94.56 309 P P 15 06 15.1 +1.2
KSH pmax pmax
comp=Z,14nm,1.1s
KSH LR LR
comp=Z,450nm,10.0s
KSH LR LR
comp=Z,380nm,11.3s
KSH LR LR
comp=Z,610nm,18.9s
AAA Alma-Ata 94.57 313 *e*P **P 15 06 12.9 -0.9**
AAA pmax pmax
comp=Z,11nm,1.0s
AAA Alma-Ata 94.57 313 *e*P **P 15 06 12.9 -0.9**
comp=Z,11nm,1.0s
BSUT Blindstream Ca 94.84 50 P P 15 06 16.1 +0.6
C36M Paulatuk 94.85 20 P P 15 06 14.4 0.0
C36M IAmb IAmb 15 06 44.4
comp=Z,18nm,1.1s
C36M Paulatuk 94.85 20 P P 15 06 14.6 +0.3
baz=251
KURK Kurchatov 94.94 321 P P 15 06 13.9 -1.3
KURK Kurchatov 94.94 321 *c i*P **P 15 06 13.5 -1.7**
KURK pmax pmax
comp=Z,28nm,1.1s
KURBB Kurchatov Arra 94.97 321 P P 15 06 13.9 -1.4
comp=Z,12nm,0.9s,baz=108,slow=3.3,SNR=102
KURBB PP **PP 15 10 01.3 -3.6**
comp=Z,1.4nm,0.9s,baz=97,slow=8.6,SNR=4.3
KURBB PKiKP **PKiKP 15 10 56.3 -0.7**
comp=Z,2.3nm,1.0s,baz=86,slow=2.5,SNR=4.3
KURBB LR LR 15 48 53.6
comp=Z,279nm,20.2s,baz=166,slow=36
comp=Z,12nm,0.9s
BOOM Boomskoye usch 95.14 312 P P 15 06 15.8 -0.8
BOOM Boomskoye usch 95.14 312 P P 15 06 15.8 -0.8
BOOM pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 95.17 45 P P 15 06 17.1 +0.5
BOZ Bozeman (W) 95.17 45 P P 15 06 17.1 +0.5
BOZ pmax pmax
comp=Z,6.0nm,0.9s
A36M Sachs Harbour 95.39 17 P P 15 06 17.3 +0.5
A36M Sachs Harbour 95.39 17 P P 15 06 17.2 +0.5
baz=250
NRIK Noril'sk 95.39 340 P P 15 06 15.8 -1.0
NRIK Noril'sk 95.39 340 P P 15 06 15.0 -1.8
comp=Z,26nm,1.1s,baz=102,slow=4.7,SNR=23
NRIK LR LR 15 47 59.1
comp=Z,432nm,21.9s,baz=111,slow=35
comp=Z,26nm,1.1s
NRIK Noril'sk 95.39 340 *c i*P **P 15 06 15.5 -1.3**
NRIK pmax pmax
comp=Z,31nm,1.0s
NVL N'lazarevskaya 95.60 189 *e*P P 15 06 24.7 +6.8
NVL pmax pmax
comp=Z,15nm,1.0s
NVL MLR MLR
comp=Z,572nm,17.0s
NIL Nilore 95.65 303 P P 15 06 17.6 -1.3
NIL IAmb IAmb 15 06 18.7
comp=Z,35nm,1.7s
NIL Nilore 95.65 303 P P 15 06 17.7 -1.3
NIL pmax pmax
comp=Z,35nm,1.7s
TROLL Troll, Antarti 95.69 186 ⇑P **P 15 06 20.6 +2.1**
comp=Z,876nm,0.9s
PDAR Pinedale Array 96.12 48 P P 15 06 20.0 -1.1
comp=Z,1.2nm,1.1s,baz=286,slow=9.0,SNR=3.9
PDAR LR LR 15 43 46.6
comp=Z,186nm,19.8s,baz=262,slow=32
comp=Z,1.2nm,1.1s
AAK Ala-Archa 96.22 312 P P 15 06 20.4 -1.0
AAK Ala-Archa 96.22 312 LR LR 15 51 34.3
comp=Z,237nm,20.0s,baz=82,slow=37
AAK Ala-Archa 96.22 312⇓*e*P **P 15 06 20.7 -0.8**
AAK pmax pmax
comp=Z,2.0nm,0.9s
PMSA Palmer Station 96.36 162 LR LR 15 42 44.5
comp=Z,412nm,19.4s,baz=218,slow=31
SNAA Sanae 96.51 185 P P 15 06 21.8 -0.4
SNAA IAmb IAmb 15 06 43.5
comp=Z,14nm,1.1s
SNAA Sanae 96.51 185 ⇑P **P 15 06 24.0 +1.9**
comp=Z,133nm,1.0s
SNAA Sanae 96.51 185 P P 15 06 22.0 -0.1
comp=Z,3.4nm,1.0s,baz=113,slow=7.7,SNR=6.7
SNAA LR LR 15 48 17.0
comp=Z,451nm,18.0s,baz=148,slow=34
comp=Z,3.4nm,1.0s
SNAA Sanae 96.51 185⇓*e*P **P 15 06 23.2 +1.1**
SNAA pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 96.76 28 P P 15 06 22.3 -0.9
comp=Z,2.9nm,1.0s,baz=256,slow=4.9,SNR=23
YKA PP **PP 15 10 18.3 -0.1**
comp=Z,1.0nm,1.1s,baz=259,slow=7.9,SNR=3.8
YKA LR LR 15 44 38.7
comp=Z,425nm,19.8s,baz=260,slow=32
comp=Z,2.9nm,1.0s
YKAW1 Yellowknife Wh 96.81 28 P P 15 06 22.6 -0.8
YKAW1 IAmb IAmb 15 06 24.1
comp=Z,15nm,1.4s
EGMT Eagleton 96.86 43 P P 15 06 23.2 -0.9
EGMT IAmb IAmb 15 06 42.2
comp=Z,11nm,0.9s
BTLS Baital 96.93 314 *e*P **P 15 06 23.3 -1.1**
BTLS Baital 96.93 314 *e*P **P 15 06 23.3 -1.1**
ARSB Arslanbob 97.12 311 P P 15 06 24.5 -1.1
ARSB IAmb IAmb 15 06 29.1
comp=Z,31nm,1.7s
ARSB Arslanbob 97.12 311 P P 15 06 24.5 -1.1
ARSB pmax pmax
comp=Z,31nm,1.7s
VNA3 Neumayer Olymp 97.35 183 ⇑P **P 15 06 26.9 +1.0**
comp=Z,7.4nm,0.8s
VNA2 Neumayer--Watz 97.55 183 ⇑P Pdif 15 06 28.8 +1.9
comp=Z,5.5nm,0.8s,baz=158,slow=4.4
TXAR Lajitas Array 98.77 62 LR LR 15 44 23.2
comp=Z,177nm,19.5s,baz=269,slow=31
GAR Garm 98.81 308 P P 15 06 31.3 -1.8
GAR IAmb IAmb 15 06 34.0
comp=Z,19nm,1.5s
KK31 Karatay Array 99.18 312 P Pdif 15 06 33.5 -1.1
KK31 Karatay Array 99.18 312 P Pdif 15 06 33.5 -1.1
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 99.18 312 Pdif 15 06 33.4 -1.2
KKAR Karatay Array 99.18 312 P Pdif 15 06 33.4 -1.2
KBL Kabul 99.24 303 P Pdif 15 06 33.6 -1.7
KBL Kabul 99.24 303 P Pdif 15 06 33.6 -1.7
KBL pmax pmax
comp=Z,8.0nm,1.3s
IUG Iuzhnay 99.42 311 *e*P **Pdif 15 06 34.6 -1.2**
IUG pmax pmax
comp=Z,11nm,1.4s
IUG Iuzhnay 99.42 311 *e*P **Pdif 15 06 34.6 -1.2**
comp=Z,11nm,1.4s
CHGR Chuyangaron 99.66 308 Pdif 15 06 35.5 -1.5
CHGR Chuyangaron 99.66 308 P Pdif 15 06 35.5 -1.5
CHGR pmax pmax
comp=Z,8.0nm,0.8s
CHM Chimkent 99.75 311 *e*P **Pdif 15 06 36.0 -1.2**
CHM Chimkent 99.75 311 *e*P **Pdif 15 06 36.0 -1.2**
SIMJ Simiganj 99.78 308 Pdif **Pdif 15 06 36.7 -0.8**
BVAR Borovoye Array 100.32 322 P Pdif 15 06 37.8 -1.7
comp=Z,6.5nm,0.8s,baz=104,slow=4.7,SNR=29
BVAR PP **PP 15 10 45.9 -0.1**
comp=Z,3.5nm,1.0s,baz=95,slow=7.4,SNR=4.2
BRVK Borovoye 100.39 322 Pdif **Pdif 15 06 38.2 -1.5**
BRVK Borovoye 100.39 322 *c i*P **Pdif 15 06 38.2 -1.5**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
OK052 Battle Ridge R 105.20 56 IAMs_20 IAMs_20 15 48 53.1
comp=Z,468nm,20.0s
PLCA Paso Flores 108.63 140 PKKPbc PKKPbc 15 22 30.5 -2.0
comp=Z,4.5nm,1.1s,baz=57,slow=5.4,SNR=4.8
PLCA PKKP **PKKPab 15 22 44.0 -2.0**
comp=Z,2.7nm,0.8s,baz=50,slow=6.6,SNR=6.9
VOI Vohitsoka 108.82 242 IAMs_20 IAMs_20 15 52 26.0
comp=Z,483nm,20.0s
APA Apatity 114.79 341⇓*i*PKIKP **PKiKP 15 11 32.0 -0.9**
APA pmax pmax
comp=Z,9.0nm,0.9s
APA MLR MLR
comp=Z,3μm,19.0s
KLMR Klimovskoe 115.67 333 *e*PKIKP PKiKP 15 11 27.0 -7.8
KLMR pmax pmax
comp=Z,37nm,1.3s
ARCES ARCESS Array B 115.89 345 PKP **PKiKP 15 11 34.3 -0.8**
comp=Z,10nm,0.8s,baz=51,slow=1.9,SNR=8.9
VRH Novokhopyorsk 117.97 322 *e*PKIKP **PKPdf 15 11 38.1 -1.4**
VRH pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 118.67 328 *i* PKIKP **PKPdf 15 11 40.1 -0.6**
MOS *e* 15 12 56.0
MOS pmax pmax
comp=Z,31nm,0.6s
LPSR Galich'ya Gora 119.15 324 *e*PKIKP **PKPdf 15 11 40.9 -0.8**
LPSR pmax pmax
comp=Z,40nm,1.0s
KBZ Khabaz 119.16 314 PKP **PKPdf 15 11 41.5 -0.4**
comp=Z,2.7nm,0.8s,baz=124,slow=2.0,SNR=6.5
RAYN Ar Rayn 119.16 291 PKPdf **PKPdf 15 11 42.8 +0.1**
RAYN Ar Rayn 119.16 291⇓PKIKP **PKPdf 15 11 43.1 +0.4**
KIV Kislovodsk 119.26 314 PKPdf **PKPdf 15 11 43.0 +0.6**
KIV Kislovodsk 119.26 314 *i* PKIKP **PKPdf 15 11 41.3 -1.1**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,202nm,21.0s
VORR Voronezh 119.31 323 *e*PKIKP **PKPdf 15 11 40.6 -1.5**
VORR pmax pmax
comp=Z,30nm,0.9s
OBN Obninsk 119.48 328 PKPdf **PKPdf 15 11 42.7 +0.5**
OBN Obninsk 119.48 328 *i* PKIKP **PKPdf 15 11 42.5 +0.3**
OBN *i* 15 11 55.0
OBN pmax pmax
comp=Z,23nm,0.9s
VSR Storozhevoye 119.49 323 *e*PKIKP **PKPdf 15 11 40.0 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 119.50 323 *e*PKIKP **PKPdf 15 11 40.7 -1.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
GEVA Gevas 120.08 308 PKPdf **PKPdf 15 11 44.5 +0.3**
ERBR Yeremizino-Bor 120.34 317 *i* PKIKP **PKPdf 15 11 43.8 -0.5**
ERBR *e* 15 11 55.9
ERBR pmax pmax
comp=Z,69nm,1.2s
LABN Labinsk 120.46 315 *i* PKIKP **PKPdf 15 11 41.3 -3.2**
LABN *e* 15 11 56.5
LABN pmax pmax
comp=Z,27nm,0.5s
GURO Guroymak-BITLI 120.83 308 PKPdf **PKPdf 15 11 46.7 +1.0**
FIA1 FINESS Array S 120.94 337 PKPdf **PKPdf 15 11 45.1 +0.2**
FINES FINESS Array B 120.94 337 PKP **PKPdf 15 11 44.5 -0.5**
comp=Z,15nm,0.9s,baz=108,slow=4.5,SNR=18
SCHQ Schefferville 122.00 31 PKP **PKPdf 15 11 46.9 -0.3**
comp=Z,2.1nm,0.6s,baz=236,slow=3.6,SNR=2.4
VSU Vasula 122.48 334⇑*i*PKIKP **PKPdf 15 11 46.9 -1.0**
BOSA Boshof 122.66 225 PKP **PKPdf 15 11 49.8 +0.3**
comp=Z,3.1nm,0.8s,baz=116,slow=1.6,SNR=4.3
ANN Anapa 122.67 316 *i* PKIKP **PKPdf 15 11 46.0 -2.7**
ANN *e* 15 11 59.7
ANN pmax pmax
comp=Z,30nm,0.9s
LPAZ La Paz 122.81 118 PKPdf **PKPdf 15 11 50.8 +0.2**
LPAZ La Paz 122.81 118 PKP **PKPdf 15 11 51.5 +0.9**
comp=Z,5.9nm,1.0s,baz=319,slow=1.8,SNR=13
LPAZ La Paz 122.81 118 PKIKP **PKPdf 15 11 50.8 +0.2**
LPAZ La Paz 122.81 118 *e*P **PKiKP 15 11 52.1 +1.3**
KIBK Kibwezi 123.15 260 IAMs_20 IAMs_20 16 01 32.7
comp=Z,410nm,20.0s
ROSC El Rosal 123.40 92 PKP **PKPdf 15 11 52.7 +1.1**
comp=Z,9.1nm,0.4s,baz=217,slow=20,SNR=4.5
MNK Minsk 124.19 330 *i* PKIKP **PKPdf 15 11 52.2 +0.8**
MNK *i* 15 12 06.8
MNK *i* 15 13 37.7
MNK *i* PPP PPP 15 16 16.5
MNK *i* 15 18 59.7
MNK *i* SS SS 15 30 19.8 -4.9
MNK *i* SSS SSS 15 35 02.0
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=E,50nm,1.2s
MNK MLR MLR
comp=E,1μm,20.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=Z,506nm,19.0s
NMDO Nuevo Mundo 124.19 73 PKPdf **PKPdf 15 11 51.5 -0.9**
KMBO Kilima Mbogo 124.23 261 IAMs_20 IAMs_20 16 01 00.3
comp=Z,357nm,20.0s
KMBO Kilima Mbogo 124.23 261 PKP **PKPdf 15 11 53.6 +0.6**
comp=Z,0.8nm,0.2s,baz=125,slow=8.1,SNR=4.3
RUSC La Rusia 124.80 91 PKPdf **PKPdf 15 11 53.8 -0.6**
SIM Simferopol' 124.84 317 *i* PKIKP **PKPdf 15 11 54.0 +1.1**
SIM pmax pmax
comp=Z,26nm,0.8s
AKASG Malin Array Be 125.43 325 PKP **PKPdf 15 11 53.6 -0.2**
comp=Z,25nm,0.9s,baz=63,slow=2.2,SNR=54
AKBB Malin Array Si 125.43 325⇑*i*PKIKP **PKPdf 15 11 53.4 -0.4**
AKBB Malin Array Si 125.43 325 PKP **PKPdf 15 11 53.0 -0.8**
AK09 Malin Array Si 125.44 325 PKP **PKPdf 15 11 53.9 0.0**
AK01 Malin Array Si 125.44 325 PKP **PKPdf 15 11 53.6 -0.3**
KIEV Kiev 125.44 325 PKPdf **PKPdf 15 11 53.9 +0.1**
KIEV Kiev 125.44 325 PKIKP **PKPdf 15 11 53.9 +0.1**
KIEV Kiev 125.44 325 PKP **PKPdf 15 11 53.4 -0.5**
AK08 Malin Array Si 125.44 325 PKP **PKPdf 15 11 53.4 -0.5**
AK04 Malin Array Si 125.45 325 PKP **PKPdf 15 11 53.4 -0.5**
NC303 NORSAR Array S 126.01 343 PKPdf 15 11 55.0 +0.3
CPUP Villa Florida 126.04 135 PKPdf **PKPdf 15 11 56.4 +0.5**
CPUP Villa Florida 126.04 135 PKP **PKPdf 15 11 55.7 -0.1**
comp=Z,1.6nm,0.3s,baz=23,slow=4.6,SNR=4.5
MI28 Mi28,Pidlybu 126.17 326 PKP **PKPdf 15 11 55.3 0.0**
HFS Hagfors 126.19 341 PKP **PKPdf 15 11 54.0 -1.0**
comp=Z,17nm,0.8s,baz=144,slow=3.3,SNR=19
HFS Hagfors 126.19 341 PKIKP **PKPdf 15 11 54.0 -1.0**
NB2 NORSAR Subarra126.20 343 PKPdf **PKPdf 15 11 54.4 -0.7**
comp=Z,11nm,1.0s,baz=39,slow=1.9
NB2 NORSAR Subarra126.20 343 PKPdf **PKPdf 15 11 54.4 -0.7**
baz=39,slow=1.9
NOA NORSAR Array B126.20 343 PKP **PKPdf 15 11 54.3 -0.7**
comp=Z,13nm,0.9s,baz=35,slow=2.0,SNR=24
LUBAR Lubar, Ukraine 126.63 325 PKP **PKPdf 15 11 55.7 -0.5**
CIDE Kastamonu/Cide 126.70 314 ⇑P **PKPdf 15 11 56.4 -0.1**
SUW Suwalki 126.73 331 *e*PKP **PKPdf 15 11 57.1 +0.9**
KIRS Kirsehir-Merke 126.85 311 ⇓P **PKPdf 15 11 56.6 -0.5**
RNPP9 Sopachiv 126.87 327 PKP **PKPdf 15 11 56.9 +0.3**
BR131 Keskin Array S 126.89 311 PKPdf **PKPdf 15 11 56.9 -0.3**
BR131 Keskin Array S 126.89 311 *d i*PKIKP **PKPdf 15 11 57.0 -0.2**
BRTR Keskin Array B 126.89 311 PKPdf **PKPdf 15 11 57.0 -0.2**
BRTR Keskin Array B 126.89 311 PKP **PKPdf 15 11 57.2 0.0**
comp=Z,7.7nm,1.1s,baz=126,slow=2.1,SNR=26
BRTR Keskin Array B 126.89 311 PKIKP **PKPdf 15 11 57.1 -0.2**
BR104 Keskin Array S 126.89 311 PKP **PKPdf 15 11 57.0 -0.2**
BR106 Keskin Array S 126.90 311 PKP **PKPdf 15 11 57.0 -0.2**
BR105 Keskin Array S 126.90 311 PKP **PKPdf 15 11 57.0 -0.2**
RNPP8 Varash 126.93 327 PKP **PKPdf 15 11 56.5 -0.2**
SORM Soroca 127.16 323 ⇓P **PKPdf 15 11 57.5 +0.3**
SORM Soroca 127.16 323⇓PKIKP **PKPdf 15 11 57.5 +0.3**
MMAI Mount Meron Ar 127.17 303 PKP **PKPdf 15 11 58.5 +0.7**
comp=Z,18nm,1.1s,baz=90,slow=4.2,SNR=17
MILM Milestii Mici 127.44 321 ⇑P **PKPdf 15 11 58.3 +0.5**
MILM Milestii Mici 127.44 321⇑PKIKP **PKPdf 15 11 58.3 +0.5**
ANTO Ankara 127.46 312 PKPdf 15 11 58.4 +0.1
ANTO Ankara 127.46 312 ⇓P **PKPdf 15 11 58.7 +0.5**
ANTO Ankara 127.46 312⇓PKIKP **PKPdf 15 11 58.7 +0.5**
ANTO Ankara 127.46 312 PKP **PKPdf 15 11 57.9 -0.3**
LSZ Lusaka 127.59 241 PKPdf **PKPdf 15 11 59.2 0.0**
LSZ Lusaka 127.59 241 PKIKP **PKPdf 15 11 59.2 0.0**
SDV Santo Domingo 127.65 88 PKPdf **PKPdf 15 11 59.7 +0.2**
SDV Santo Domingo 127.65 88 *e*P **PKPdf 15 12 00.3 +0.9**
SDDR Presa de Saban 127.67 75 PKPdf **PKPdf 15 11 59.4 +0.2**
KMPD K-Podol'skiy 128.05 324 PKP **PKPdf 15 11 58.6 -0.3**
TLCR 128.21 319 ⇓P **PKPdf 15 12 00.6 +1.3**
TLCR 128.21 319⇓PKIKP **PKPdf 15 12 00.6 +1.3**
CSS Mathiatis 128.42 306 PKPdf **PKPdf 15 11 59.9 -0.2**
CSS Mathiatis 128.42 306 PKP **PKPdf 15 12 00.5 +0.4**
TPGR Topolog 128.60 319 ⇓P **PKPdf 15 12 01.2 +1.0**
CFR Carcaliu 128.64 320 ⇑P **PKPdf 15 12 01.3 +1.2**
CFR Carcaliu 128.64 320⇑PKIKP **PKPdf 15 12 01.3 +1.2**
SCHLR Schela 128.70 320 ⇓P **PKiKP 15 12 02.3 +1.4**
TIRR Tirgusor 128.78 319 PKPdf **PKPdf 15 12 00.4 0.0**
TIRR Tirgusor 128.78 319 ⇓P **PKPdf 15 12 01.5 +1.1**
TIRR Tirgusor 128.78 319⇓PKIKP **PKPdf 15 12 01.5 +1.1**
MFTR Murfatlar 128.89 318 ⇓P **PKiKP 15 12 02.4 +1.0**
MANR Mangalia 128.94 318 ⇑P **PKiKP 15 12 02.4 +0.9**
TESR Tescani 128.95 322 ⇑P **PKPdf 15 12 01.9 +1.2**
HARR Harsova 128.99 319 ⇑P **PKiKP 15 12 03.1 +1.6**
HARR Harsova 128.99 319⇑PKIKP **PKiKP 15 12 03.1 +1.6**
ONER Baraj Valea Uz 129.19 322 ⇑P **PKiKP 15 12 03.2 +1.2**
VRI Vrincioaia 129.21 321 ⇑P **PKPdf 15 12 02.1 +0.8**
VRI Vrincioaia 129.21 321⇑PKIKP **PKPdf 15 12 02.1 +0.8**
BEL Belsk 129.21 330 *e*PKP **PKPdf 15 12 01.6 +0.6**
BUR08 Bucovina Ar. S 129.24 324 PKPdf **PKPdf 15 12 01.9 +0.4**
BURAR Bucovina Array 129.25 324 PKPdf **PKPdf 15 12 01.6 +0.1**
BURAR Bucovina Array 129.25 324 ⇑P **PKiKP 15 12 02.9 +0.8**
BURAR Bucovina Array 129.25 324⇑PKIKP **PKiKP 15 12 02.9 +0.8**
PLOR Plostina 129.26 321 ⇓P **PKPdf 15 12 02.7 +1.3**
PLOR Plostina 129.26 321⇓PKIKP **PKPdf 15 12 02.7 +1.3**
COVR Voineasa-Covas 129.54 321 ⇓P **PKPdf 15 12 03.0 +1.1**
KWP Kalwaria Pacla 129.55 327 *e*PKP **PKPdf 15 12 03.2 +1.4**
ISR Istrita 129.67 320 ⇑P **PKPdf 15 12 03.5 +1.2**
ISR Istrita 129.67 320⇑PKIKP **PKPdf 15 12 03.5 +1.2**
ISR Istrita 129.67 320 PKP PKPdf 15 12 03.4 +1.2
MEZ Mezhgor'ye 129.74 325 PKP PKPdf 15 12 03.2 +1.0
MLR Muntele Rosu 129.87 321 PKPdf PKPdf 15 12 03.0 +0.3
MLR Muntele Rosu 129.87 321 ⇑P **PKPdf 15 12 03.6 +0.9**
MLR Muntele Rosu 129.87 321⇑PKIKP **PKPdf 15 12 03.6 +0.9**
MLR Muntele Rosu 129.87 321 PKP PKPdf 15 12 03.3 +0.6
GKP Gorka Klasztor 129.91 334 *e*PKP **PKiKP 15 12 04.0 +0.9**
DOPR Dopca 129.98 322 ⇑P **PKiKP 15 12 04.4 +0.9**
KOLS Kolonicke sedl 130.19 327 *e*PKIKP **PKiKP 15 12 04.6 +0.8**
KOLS Kolonicke sedl 130.19 327 *e*PKP **PKiKP 15 12 04.6 +0.8**
BAUV El Baul 130.20 88 PKPdf **PKPdf 15 12 04.3 +0.3**
VOIR 130.44 321 ⇑P **PKiKP 15 12 05.7 +1.1**
VOIR 130.44 321⇑PKIKP **PKiKP 15 12 05.7 +1.1**
STHS Stebnicka Huta 130.45 328 *e*PKIKP **PKiKP 15 12 05.4 +1.0**
STHS Stebnicka Huta 130.45 328 *e*PKP **PKiKP 15 12 05.4 +1.0**
OJC Ojcow 130.71 329 *e*PKP **PKPdf 15 12 03.9 -0.1**
ARR Arges 130.73 321 ⇑P **PKiKP 15 12 06.0 +0.8**
PTLB Pontes e Lacer 130.84 122 PKPdf PKPdf 15 12 05.5 +0.3
NIE Niedzica 130.94 328 *e*PKP **PKPdf 15 12 05.7 +1.2**
MARR Marisel-Cluj 130.96 324 ⇓P **PKPdf 15 12 05.1 +0.4**
DRGR 131.13 324 ⇓P **PKiKP 15 12 06.9 +1.0**
DRGR 131.13 324⇓PKIKP **PKiKP 15 12 06.9 +1.0**
VILB Vilhena 131.15 119 PKPdf PKPdf 15 12 06.3 +0.4
LANS Liptovska Anna 131.54 328 *e*PKIKP **PKiKP 15 12 07.5 +0.9**
LANS Liptovska Anna 131.54 328 *e*PKP **PKiKP 15 12 07.5 +0.9**
GZR Gura Zlata 131.84 322 ⇑P **PKiKP 15 12 06.5 +0.1**
GZR Gura Zlata 131.84 322⇑PKIKP **PKPdf 15 12 06.5 +0.1**
STEB Steborice 131.90 330 *e*PKPDF **PKPdf 15 12 07.1 +0.9**
KSP Ksiaz 132.00 332 *e*PKP **PKPdf 15 12 06.5 +0.1**
KSP Ksiaz 132.00 332 PKP PKPdf 15 12 06.8 +0.4
SIRR Siria 132.03 324 ⇑P **PKPdf 15 12 07.7 +1.1**
SURR Surduc 132.04 323 ⇓P **PKPdf 15 12 07.0 +0.4**
PSZ Piszkesteto 132.06 327 ⇓P **PKPdf 15 12 07.4 +0.7**
PSZ Piszkesteto 132.06 327⇓PKIKP **PKPdf 15 12 07.4 +0.7**
MORC Moravsky Berou 132.11 330 PKPdf **PKPdf 15 12 06.0 -0.7**
MORC Moravsky Berou 132.11 330 *e*PKP **PKPdf 15 12 07.1 +0.4**
MORC Moravsky Berou 132.11 330 ⇓P **PKPdf 15 12 07.7 +1.0**
MORC Moravsky Berou 132.11 330 PKIKP PKPdf 15 12 06.0 -0.7
RDO Rodhopi 132.12 316 PKPdf **PKPdf 15 12 07.0 +0.1**
CELP Cerrillos 132.15 76 PKPdf 15 12 06.9 -0.7
MAUC Maruska 132.24 329 *e*PKPDF **PKiKP 15 12 09.6 +1.6**
CHVC Chvalec 132.28 332 *e*PKPDF **PKPdf 15 12 07.9 +0.9**
CHVC Chvalec 132.28 332 *e*PKIKP **PKPdf 15 12 07.9 +0.9**
KRLC Kraliky 132.28 331 *e*PKPDF **PKPdf 15 12 08.0 +1.0**
KRLC Kraliky 132.28 331 *e*PKIKP **PKPdf 15 12 08.0 +1.0**
DPC Dobruska-Polom 132.32 331 PKP PKPdf 15 12 07.9 +0.8
HERR Herculane 132.33 322 ⇑P **PKPdf 15 12 06.9 -0.3**
UPC Upice 132.36 332 *e*PKPDF **PKPdf 15 12 08.1 +1.0**
UPC Upice 132.36 332 *e*PKIKP **PKPdf 15 12 08.1 +1.0**
BZS Buzias 132.41 323 ⇓P **PKPdf 15 12 07.9 +0.6**
BZS Buzias 132.41 323⇓PKIKP **PKPdf 15 12 07.9 +0.6**
SJG San Juan 132.56 76 PKPdf PKPdf 15 12 08.1 -0.3
SJG San Juan 132.56 76 PKIKP PKPdf 15 12 08.1 -0.3
IGPR InterUniversit 132.60 76 PKPdf PKPdf 15 12 08.6 +0.1
JAVC Velka Javorina 132.64 329 *e*PKP **PKPdf 15 12 09.0 +1.3**
PDPR Patillas Dam, 132.68 76 PKPdf 15 12 07.5 -1.1
MDVR Moldovita 132.81 322 ⇑P **PKPdf 15 12 08.9 +0.8**
HUMP Col San Antoni 132.84 76 PKPdf 15 12 08.9 0.0
VRAC Vranov 132.89 330 *e*PKP **PKPdf 15 12 08.5 +0.4**
PVCC Panska Ves 133.01 332 *ex* x 15 12 23.9
BRG Berggiesshubel 133.04 333 *i* PKP **PKPdf 15 12 09.3 +1.0**
BRG Amp 15 12 10.6
comp=Z,20nm,0.9s
BRG pPKP **sPKPdf 15 12 24.0 +3.9**
BRG Amp 15 12 24.8
comp=Z,13nm,1.1s
CLL Collm 133.14 334 PKPdf **PKPdf 15 12 08.7 +0.2**
CLL Collm 133.14 334 *i* PKIKP **PKPdf 15 12 08.5 0.0**
CLL *i* 15 12 23.6
CLL pmax pmax
comp=Z,23nm,1.0s
CLL MLR MLR
comp=Z,300nm,19.3s
CLL Collm 133.14 334 *i* PKPdf **PKPdf 15 12 08.5 0.0**
comp=Z,23nm,1.0s
CLL *e*(pPKPdf) 15 12 14.0
CLL *i* x x 15 12 23.6
CLL *e*PP **PP 15 14 34.0 -0.5**
CLL AMS AMS 16 12 00.0
comp=Z,300nm,19.3s
KRUC Moravsky 133.15 330 *e*PKP **PKPdf 15 12 09.0 +0.4**
MODS Modra-Piesok 133.16 329 *e*PKIKP **PKPdf 15 12 09.5 +0.8**
MODS Modra-Piesok 133.16 329 *e*PKP **PKPdf 15 12 09.5 +0.8**
RICC Richard 133.21 333 *e*PKPDF **PKPdf 15 12 10.2 +1.5**
GOPC GO Pecny, Ondr 133.34 332 *e*PKPDF **PKPdf 15 12 09.5 +0.5**
GOPC GO Pecny, Ondr 133.34 332 *e*PKIKP **PKPdf 15 12 09.5 +0.5**
PRU Pruhonice 133.40 332 *e*PKPDF **PKPdf 15 12 09.7 +0.7**
PRU Pruhonice 133.40 332 *e*PKIKP **PKPdf 15 12 09.7 +0.7**
BOVS Bovan 133.42 321 ⇓P **PKPdf 15 12 09.9 +0.6**
HSKC Hora Svate Kat 133.46 333 *e*PKPDF **PKPdf 15 12 09.3 +0.1**
MORH Mrgy, Hungar 133.77 325 ⇓P **PKPdf 15 12 10.3 +0.5**
ZVC Zvikov 133.95 332 *e*PKPDF **PKPdf 15 12 11.1 +1.0**

RONA	Rosalia, Austr	134.09 328	*e*PKP	PKPdf	15 12 10.0	-0.5	
	comp=Z,25nm,1.0s,SNR=9.8						
CONA	Conrad Observa	134.16 329	*i* PKP	PKPdf	15 12 09.7	-1.0	
	comp=Z,18nm,1.3s,SNR=6.8						
NKC	Novy Kostel	134.16 333	*e*PKPDF	PKPdf	15 12 11.9	+1.4	
NKC	Novy Kostel	134.16 333	*e*PKIKP	PKPdf	15 12 11.9	+1.4	
CKRC	Cesky Krumlov	134.32 331	*e*PKPDF	PKPdf	15 12 11.5	+0.6	
CKRC	Cesky Krumlov	134.32 331	*e*PKIKP	PKPdf	15 12 11.5	+0.6	
KHC	Kasperske Hory	134.45 332	*e*PKPDF	PKPdf	15 12 11.8	+0.7	
KHC			*ex*	x	15 12 26.5		
KHC	Kasperske Hory	134.45 332	*c i*PKIKP	PKPdf	15 12 11.4	+0.3	
GERES	GERESS Array B	134.59 331	PKPdf	PKPdf	15 12 11.2	-0.3	
GERES	GERESS Array B	134.59 331	PKhKP	PKPpre	15 11 59.4		
	comp=Z,0.5nm,0.5s,baz=122,slow=1.3,SNR=4.4						
GERES			PKP	PKPdf	15 12 12.0	+0.5	
	comp=Z,13nm,1.0s,baz=48,slow=2.0,SNR=29						
GERES			SKPbc	SKPbc	15 15 41.9	+2.7	
GERES	GERESS Array B	134.59 331	PKIKP	PKPdf	15 12 11.2	-0.3	
LIT	Litokhoron	134.66 316	PKPdf	PKPdf	15 12 11.8	0.0	
LIT	Litokhoron	134.66 316	PKIKP	PKPdf	15 12 11.8	0.0	
PDRB	Porto dos Gac	134.77 119	*e*P	PKiKP	15 12 15.7	+1.6	
ARSA	Arzberg	134.78 329	*i* PKP	PKPdf	15 12 10.3	-1.5	
	comp=Z,7.4nm,1.0s						
EKA	Eskdalemuir Ar	134.78 349	PKP	PKPdf	15 12 11.4	0.0	
	comp=Z,7.3nm,0.9s,baz=15,slow=3.5,SNR=5.6						
MOA	Molln	135.01 330	*i* PKP	PKPdf	15 12 11.3	-0.9	
	comp=Z,7.4nm,0.7s						
GRFO	Grafenberg	135.10 334		PKPdf	15 12 12.6	+0.3	
GRFO	Grafenberg	135.10 334	PKIKP	PKPdf	15 12 12.6	+0.3	
PUK	Puka	135.39 320		PKPdf	15 12 13.8	+0.7	
SOKA	Soboth	135.41 328	*e*PKP	PKPdf	15 12 12.2	-0.9	
	comp=Z,22nm,1.1s,SNR=8.6						
BIOA	Bad Ischl, Aus	135.43 330	*e*PKP	PKPdf	15 12 11.7	-1.2	
	comp=Z,22nm,1.2s,SNR=6.5						
SMRT	St. Maarten	135.48 76	IAMs_20	IAMs_20	16 13 18.0		
	comp=Z,274nm,20.0s						
PDG	Podgorica	135.58 321	⇓P	PKPdf	15 12 14.5	+1.2	
GCIS	Gornji Cirnik	135.63 327	*i* PKiKP	PKPdf	15 12 13.9	+0.6	
OBKA	Obir	135.78 328	*i* PKP	PKPdf	15 12 12.5	-1.2	
	comp=Z,9.6nm,1.2s						
KBA	Koelnbreinsper	136.00 330	*i* PKP	PKPdf	15 12 13.5	-0.8	
	comp=Z,25nm,1.0s,SNR=11						
LESA	Schwarzleotal	136.08 331	*e*PKP	PKPdf	15 12 13.7	-0.6	
	comp=Z,19nm,0.9s,SNR=6.4						
VISS	Visnje	136.09 327	*i* PKiKP	PKPdf	15 12 14.7	+0.4	
MYKA	Terra Mystica	136.16 329	*e*PKP	PKPdf	15 12 14.3	-0.2	
	comp=Z,21nm,1.0s,SNR=5.6						
CRNS	Crni Vrh	136.21 328	*e*PKiKP	PKPdf	15 12 14.4	-0.1	
BTNL	Ternell	136.43 338	*d*PKP	PKPdf	15 12 15.1	+0.4	
BTNL			*dp*PKP	sPKPdf	15 12 31.7	+5.3	
MEM	Membach	136.45 338	*d*PKP	PKiKP	15 12 16.8	+0.4	
ABTA	Abfaltersbach	136.64 330	*e*PKP	PKPdf	15 12 15.1	-0.2	
	comp=Z,41nm,1.0s,SNR=10						
STU	Stuttgart	136.66 334	PKPdf	PKPdf	15 12 15.8	+0.6	
STU	Stuttgart	136.66 334	PKIKP	PKPdf	15 12 15.8	+0.6	
WATA	Walderalm	136.67 331	*i* PKP	PKPdf	15 12 15.1	-0.4	
	comp=Z,27nm,1.1s						
WTTA	Wattenberg	136.69 331	*e*PKP	PKPdf	15 12 14.9	-0.7	
	comp=Z,40nm,1.1s,SNR=6.7						
BCLA	Clavier	136.86 339	*d*PKP	PKPdf	15 12 17.4	+1.9	
MOTA	Moosalm	136.88 332	*i* PKP	PKPdf	15 12 15.6	-0.3	
	comp=Z,32nm,1.0s						
SQTA	Sankt Quirin	136.92 331	*e*PKP	PKPdf	15 12 15.5	-0.4	
	comp=Z,34nm,1.0s,SNR=7.7						
RETA	Reutte	136.94 332	*i* PKP	PKPdf	15 12 15.5	-0.3	
	comp=Z,7.5nm,0.7s						
BGES	Gesves	136.97 339	*d*PKP	PKPdf	15 12 17.5	+1.8	
RCHB	Rochefort	137.11 339	*d*PKP	PKPdf	15 12 16.7	+0.8	
BMRD	Maredsous	137.15 339	*d*PKP	PKiKP	15 12 18.2	+0.3	
BMRD			*dp*PKP	sPKPdf	15 12 32.9	+5.1	
WLF	Walferdange	137.17 337	*d*PKP	PKPdf	15 12 17.2	+1.1	
FETA	Feichten	137.29 332	*e*PKP	PKPdf	15 12 16.3	-0.3	
	comp=Z,32nm,1.1s,SNR=7.5						
BFO	Black Forest	137.37 335		PKPdf	15 12 14.9	-1.6	
BFO	Black Forest	137.37 335	PKIKP	PKPdf	15 12 15.0	-1.6	
DOU	Dourbes	137.38 339	*d*PKP	PKiKP	15 12 18.9	+0.5	
DOU			*dp*PKP	sPKPdf	15 12 33.7	+5.5	
DAVA	Damuels	137.49 332	*i* PKP	PKPdf	15 12 16.8	-0.1	
	comp=Z,22nm,0.9s						
CTI	Castel Tesino	137.55 330	PKPdf	PKPdf	15 12 17.2	+0.1	
CTI	Castel Tesino	137.55 330	PKIKP	PKPdf	15 12 17.2	+0.1	
FUORN	Ofenpass-Fuorn	137.81 331	PKPdf	PKPdf	15 12 17.6	-0.1	
TEOL	Teolo	138.03 329		PKPdf	15 12 17.8	-0.1	
MATE	Matera	138.16 320	⇓P	PKiKP	15 12 20.9	+0.7	
TUE	Stuetta	138.34 332	PKPdf	PKPdf	15 12 19.1	+0.5	
TIP	Timpagrande	138.94 318	PKPdf	PKPdf	15 12 18.5	-1.3	
NRCA	Norcia	138.97 325		PKPdf	15 12 18.3	-1.5	
CAMP	Campotosto	139.00 325		PKPdf	15 12 19.8	0.0	
BDFB	Brasilia	139.52 131	PKP	PKPdf	15 12 22.0	+0.4	
	comp=Z,3.2nm,0.5s,baz=270,slow=3.0,SNR=3.8						
BDFB	Brasilia	139.52 131	PKIKP	PKPdf	15 12 22.0	+0.4	
MSSA	Maissana	139.84 330		PKPdf	15 12 20.0	-1.3	
CEST	Esterri de Car	144.93 336	PKPdf	PKPab	15 12 30.4	+0.8	
KEST	Kesra	145.74 319		PKPdf	15 12 33.0	+1.1	
KEST	Kesra	145.74 319	PKPbc	PKPdf	15 12 32.4	+0.4	
	comp=Z,151nm,1.0s,baz=350,slow=1.7,SNR=62						
CMAH	Djebel Manchou	146.36 322	P	PKPdf	15 12 34.1	+1.1	
ABSA	Djebel Ababsia	146.56 322	P	PKPdf	15 12 34.9	+1.5	
TMAB	Tom-Au,PA,Br	146.59 112	*e*P	PKPbc	15 12 36.7	+1.2	
CAEH	'Ain El Ouahch	146.59 323	P	PKPdf	15 12 34.5	+1.2	
CKFL	Kef-Lekhel	146.93 323	P	PKPbc	15 12 36.2	+0.2	
CASM	Ain Smara	147.16 323	P	PKPbc	15 12 37.2	+0.7	
DFRA	Djebel Bou Aff	147.32 324	P	PKPbc	15 12 38.3	+1.2	
CTEI	Djebel Teioual	147.34 323	P	PKPbc	15 12 37.9	+0.8	
CKHR	Kef el Ahmar	147.90 323	P	PKPbc	15 12 38.9	+0.2	
PBRG	Braganca	148.32 345	*e*PKPdf	PKPbc	15 12 40.0	+0.6	
PBRG			*e*PKPab	sPKPab	15 12 55.3	+1.8	
PGAV	Gavieira, Arco	148.54 347	*e*PKPdf	PKPbc	15 12 41.1	+1.0	
PGAV			*e*PKPab	sPKPab	15 12 56.0	+1.6	
PCAB	Cabril	148.72 346	*e*PKPdf	PKPbc	15 12 41.5	+1.0	
POLO	Lamas de Olo	148.99 346	*e*PKPdf	PKPbc	15 12 42.4	+1.1	
POLO			*e*PKPab	sPKPab	15 12 57.5	+1.2	
MVO	Moncorvo	148.99 345	*e*PKPdf	PKPbc	15 12 42.3	+1.0	
MVO			*e*PKPab	sPKPab	15 12 57.3	+1.0	
PVRL	Vila Real	149.06 346	*e*PKPdf	PKPbc	15 12 42.5	+1.1	
PVRL			*e*PKPab	sPKPab	15 12 57.1	+0.6	
PTO	Porto	149.40 347	*e*PKPdf	PKPbc	15 12 41.6	-0.6	
ESDC	Sonseca Array	149.43 339	PKPbc	PKPbc	15 12 42.8	+0.4	
ESDC	Sonseca Array	149.43 339	PKP	PKPdf	15 12 37.8	-0.1	
	comp=Z,22nm,1.0s,baz=15,slow=2.3,SNR=41						
ESDC			PKPbc	PKPbc	15 12 43.0	+0.6	
	comp=Z,22nm,1.0s,baz=13,slow=3.5,SNR=33						
ESDC			SKP		15 16 12.6		
	comp=Z,3.0nm,1.0s,baz=22,slow=6.7,SNR=4.0						
PVIS	Viseu	149.63 346	*e*PKPdf	PKPbc	15 12 43.9	+1.0	
PVIS			*e*PKPab	sPKPab	15 12 58.9	+0.1	
PAB	San Pablo	149.68 340	PKPbc	PKPbc	15 12 43.7	+0.7	
PAB	San Pablo	149.68 340	⇑PKP2	PKPbc	15 12 43.9	+0.9	
MTE	Manteigas	149.84 345	PKPbc	PKPbc	15 12 44.3	+0.9	
MTE	Manteigas	149.84 345	*e*PKPdf	PKPbc	15 12 44.5	+1.1	
MTE			*e*PKPab	sPKPab	15 12 59.6	-0.1	
COI	Coimbra	150.24 346	PKPdf	PKPdf	15 12 39.0	-0.2	
COI			PKPbc	PKPbc	15 12 44.6	+0.4	
COI			PKPab	pKPbc	15 12 50.4	-2.1	
COI	Coimbra	150.24 346	*e*PKPdf	PKPbc	15 12 45.5	+1.2	
COI	Coimbra	150.24 346	PKIKP	PKPbc	15 12 44.6	+0.4	
COI					15 12 50.4		
PCBR	Castelo Branco	150.35 344	*e*PKPdf	PKPbc	15 12 45.5	+1.0	
PCBR			*e*PKPab	sPKPab	15 13 00.5	-1.2	
PCAS	Casmilo, Conde	150.41 346	*e*PKPdf	PKPbc	15 12 45.3	+0.6	
PMRV	Marv??o	150.72 344	*e*PKPdf	PKPbc	15 12 46.5	+1.0	
PMRV			*e*PKPab	sPKPab	15 13 01.7	-1.6	
PSBE	So Bento	150.99 346	*e*PKPdf	PKPbc	15 12 47.2	+1.1	
PSBE			*e*PKPab	sPKPab	15 13 02.2	-2.2	
PMTG	Montargil	151.27 345	*e*PKPdf	PKPbc	15 12 47.4	+0.6	
PMTG			*e*PKPab	sPKPab	15 13 02.5	-3.0	
PESTR	Estremoz	151.29 344		PKPbc	15 12 47.2	+0.5	
PESTR			PKPab	PKPab	15 12 55.5	+0.7	
PESTR	Estremoz	151.29 344	*e*PKPdf	PKPbc	15 12 47.3	+0.5	
EVO	Evora	151.72 344	*e*PKPdf	PKPbc	15 12 48.8	+1.0	
EVO			*e*PKPab	pKPab	15 13 03.7	-1.0	
PBAR	Barrancos	151.78 342	*e*PKPdf	PKPbc	15 12 48.9	+0.9	
PBAR			*e*PKPab	pKPab	15 13 03.9	-1.1	
PBEJ	Beja	152.16 344	*e*PKPdf	PKiKP	15 12 50.1	+1.0	
MESJ	Messejana	152.43 344	PKPdf	PKPdf	15 12 41.5	-1.1	
MESJ				PKPbc	15 12 50.1	+0.7	
MESJ			PKPab	PKPab	15 13 00.8	+1.3	
MESJ	Messejana	152.43 344	*e*PKP	PKPbc	15 12 50.2	+0.8	
MESJ	Messejana	152.43 344	*e*PKPdf	PKPbc	15 12 50.4	+0.9	
MESJ			*e*PKPab	PKPab	15 13 00.6	+1.1	
MESJ	Messejana	152.43 344	PKIKP	PKPdf	15 12 41.5	-1.1	
MESJ					15 12 50.1		
PCVE	Castro Verde	152.57 344	*e*PKPdf	PKPbc	15 12 50.8	+1.1	
PVAQ	Vaqueiros	152.70 343	*e*PKPdf	PKPbc	15 12 51.1	+1.1	
PVAQ			*e*PKPab	PKPab	15 13 01.2	+0.6	
PTEO	Sao Teotonio	152.84 345	*e*PKPdf	PKPbc	15 12 51.5	+1.1	
PBDV	Barranco-do-Ve	152.91 343	*e*PKPdf	PKiKP	15 12 52.0	+1.3	
MORF	Marmelete	153.05 344	*e*PKP	PKPbc	15 12 51.7	+0.8	
MORF	Marmelete	153.05 344	*e*PKPdf	PKiKP	15 12 52.2	+1.2	
RCBR	Riachuelo	154.88 132	PKPdf	PKPdf	15 12 44.5	-2.3	
RCBR				sPKPdf	15 12 55.0	-3.4	
RCBR			PKPab	sPKPbc	15 13 08.0	+0.9	
RCBR	Riachuelo	154.88 132	PKIKP	PKPdf	15 12 44.5	-2.3	
RCBR					15 12 55.0		
TAM	Tamanrasset	155.34 300	PKPdf	PKPdf	15 12 46.8	-0.5	
TAM				sPKPdf	15 12 57.2	-1.9	
TAM			PKPab	PKPab	15 13 09.6	-3.0	
TAM	Tamanrasset	155.34 300	PKP2	PKPab	15 13 09.6	-3.0	
TAM					16 12 46.8		
TAM					16 12 57.2		
TORD	Torodi Ar. Bea	161.21 277	PKP	PKPdf	15 12 54.3	-0.1	
	comp=Z,4.3nm,0.7s,baz=8.4,slow=3.0,SNR=5.2						
TORD			PKPab	PKPab	15 13 35.6	-2.5	
	comp=Z,2.2nm,0.3s,baz=73,slow=5.1,SNR=4.3						
MACI	Morro de la Ar	163.24 357	PKPdf	PKPdf	15 12 54.7	-1.7	
MACI			PKPab	PKPab	15 13 46.2	-0.3	
DBIC	Dimbokro	166.69 250	PKPdf	PKPdf	15 12 59.3	-0.2	
DBIC	Dimbokro	166.69 250	PKP	PKPdf	15 12 57.9	-1.6	
	comp=Z,26nm,1.2s,baz=73,slow=4.4,SNR=6.1						
SACV	Santiago Islan	173.05 59	PKPdf	PKPdf	15 13 02.7	-0.4	
SACV			PKPab	PKPab	15 14 29.2	-1.1	

NEIC **22** *14:57:48.7±1.3,61°.47N±0°.02×149°.97W±0°.04,h35km±2km, Error ellipse: s-maj=3.4km s-min=3.2km az=35.0*
AEIC 22 14:57:49.1±1.2,61°.46N±0°.03×149°.91W±0°.05,h55km±4km, ML2.5,ML2.5/154(NEIC),**Error ellipse: s-maj=3.9km s-min=3.7km az=117.0,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.32	341		Pn	14 57 57.4	-1.4
M22K					Sn	14 58 05.1	-0.6
FIS	Fire Island	0.35	206		Pn	14 57 58.2	-0.9
FIS					Sn	14 58 08.2	+2.1
RC01	Rabbit Creek A	0.38	167		Pn	14 57 58.6	-0.8
RC01					Sn	14 58 06.8	0.0
PMR	Palmer	0.40	69		Pn	14 57 58.6	-0.9
PMR					Sn	14 58 06.6	-0.4
GHO	Glory Hole Cre	0.57	55		Pn	14 58 00.5	-1.0
GHO					Sn	14 58 10.3	-0.2
KNK	Knik Glacier	0.70	93		Pn	14 58 02.7	-0.4
KNK				Sn	Sn	14 58 13.7	+0.5
SML	Sawmill	0.83	64		Pn	14 58 04.0	-0.8
SML				Sn	Sn	14 58 16.2	-0.1
SML				IAML		14 58 17.8	
	comp=N,269nm,0.7s						
CAPN	Captain Cook N	0.92	222	Pn	Pn	14 58 06.5	+0.7
CAPN				Sn	Sn	14 58 21.9	+3.7
STLK	Strandline Lak	0.93	274		Pn	14 58 05.3	-0.8
STLK				Sn	Sn	14 58 18.0	-0.5
SKT	Skwentna	0.94	305		Pn	14 58 04.8	-1.3
SKT				Sn	Sn	14 58 18.0	-0.7
SLKM	Skilak Lake	0.96	189	Pn	Pn	14 58 05.6	-0.9
SLKM				Sn	Sn	14 58 19.0	-0.3
SLKM				IAML		14 58 20.3	
	comp=N,145nm,0.2s						
SLKM				IAML		14 58 21.6	
	comp=E,147nm,0.3s						
PWL	Port Wells	0.97	127		Pn	14 58 06.2	-0.4
PWL				Sn	Sn	14 58 19.3	-0.1
CUT	Chulitna	0.97	350		Pn	14 58 05.5	-1.1
CUT				Sn	Sn	14 58 18.8	-0.5
CUT				IAML		14 58 19.6	
	comp=N,179nm,0.4s						
O22K	Cooper Landing	0.98	175	Pn	Pn	14 58 05.9	-0.8
O22K				Sn	Sn	14 58 19.3	-0.3
M23K	Glacier View	1.09	71		Pn	14 58 07.9	-0.4
M23K					Sn	14 58 22.7	+0.3
SPCR	Spurr Chakacha	1.14	258		Pn	14 58 07.8	-1.1
CKL	Chakachamna La	1.20	259		Pn	14 58 08.7	-1.0
SPBG	Spurr Blockage	1.20	262		Pn	14 58 08.6	-1.2
SCM	Sheep Creek Mo	1.29	72	Pn	Pn	14 58 10.6	-0.3
SCM				Sn	Sn	14 58 28.0	+0.9
SCM				IAML		14 58 28.9	
	comp=N,118nm,0.9s						
SEW	Seward	1.37	170	Pn	Pn	14 58 11.4	-0.5
GLI	Glacier Island	1.48	112	Pn	Pn	14 58 12.5	-0.9
GLI				IAML		14 58 32.7	
	comp=N,130nm,0.8s						
GLI				IAML		14 58 45.5	
	comp=E,95nm,0.6s						
GLI	Glacier Island	1.48	112		Sn	14 58 31.3	-0.3
RDT	Redoubt	1.50	235		Pn	14 58 12.8	-1.0
M20K	Styx River	1.60	287		Pn	14 58 14.4	-0.7
M20K				IAML		14 58 36.2	
	comp=E,51nm,0.7s						
M20K				IAML		14 58 36.5	
	comp=N,42nm,0.9s						
RDJH	Redoubt Jeurge	1.66	240		Pn	14 58 15.1	-0.8
RDWB	Redoubt West	1.73	237		Pn	14 58 16.0	-0.9
RDWB					Sn	14 58 37.0	-0.9
RED	Redoubt Volcan	1.74	235		Pn	14 58 16.1	-1.0
BRLK	Bradley Lake	1.76	196	Pn	Pn	14 58 16.9	-0.4
BRLK				IAML		14 58 47.1	
	comp=N,39nm,0.1s						
BRLK				IAML		14 58 52.0	
	comp=E,36nm,1.1s						
BRSE	Bradley Lake S	1.77	194		Pn	14 58 17.6	+0.2
PPLA	Purkeypile	1.80	324		Pn	14 58 16.7	-1.1
M24K	Tolsona, Glenn	1.89	68		Pn	14 58 19.2	+0.2
M24K	Tolsona, Glenn	1.89	68		Sn	14 58 43.2	+1.4
KLU	Klutina	1.91	87		Pn	14 58 18.7	-0.7
KLU				IAML		14 58 43.5	
	comp=E,58nm,0.2s						
HIN	Hinchinbrook I	1.97	121	Pn	Pn	14 58 20.1	-0.1
HIN				IAML		14 58 54.6	
	comp=E,50nm,1.2s						
HIN				IAML		14 59 29.7	
	comp=N,60nm,1.1s						
TRF	Thorofare Moun	2.01	355	Pn	Pn	14 58 20.0	-0.8
TRF				IAML		14 58 45.2	
	comp=E,20nm,0.8s						
TRF				IAML		14 58 45.5	
	comp=N,38nm,1.1s						
RND	Reindeer	2.02	14	Pn	Pn	14 58 20.3	-0.5
DIV	Divide	2.02	97	Pn	Pn	14 58 20.1	-0.8
CNPM	China Poot	2.04	199	Pn	Pn	14 58 20.0	-1.1
CNPM				IAML		14 59 03.2	
	comp=N,22nm,0.9s						
CNPM				IAML		14 59 03.4	
	comp=E,20nm,0.9s						
L20K	Farewell, AK	2.14	300		Pn	14 58 21.0	-1.4
KTH	Kantishna Hill	2.16	348	Pn	Pn	14 58 21.7	-1.0
KTH				IAML		14 58 48.4	
	comp=N,24nm,1.2s						
KTH				IAML		14 58 49.2	
	comp=E,18nm,1.0s						
KTH	Kantishna Hill	2.16	348		Sn	14 58 47.3	-1.0
ILSW	Iliamna Southw	2.17	229	Pn	Pn	14 58 21.5	-1.4
ILSW				IAML		14 59 10.5	
	comp=E,18nm,0.9s						
M19K	Big River Lodg	2.19	284		Pn	14 58 21.9	-1.2
M19K				IAML		14 58 51.8	
	comp=N,43nm,0.5s						
CAST	Castle Rocks	2.22	334	Pn	Pn	14 58 22.4	-1.1
CAST				IAML		14 59 08.3	
	comp=N,14nm,0.5s						
EYAK	Cordova Ski Ar	2.22	112	Pn	Pn	14 58 23.6	+0.2
N19K	Bonanza Creek	2.31	256	Pn	Pn	14 58 23.8	-1.0
N19K				IAML		14 58 57.5	
	comp=N,14nm,0.8s						
N19K	Bonanza Creek	2.31	256		Sn	14 58 51.4	-0.7
MCK	McKinley	2.33	11	Pn	Pn	14 58 24.9	-0.1
HARP	HAARP	2.44	65		Pn	14 58 26.5	+0.1
HARP					Sn	14 58 56.7	+1.6
P19K	Oil Pt	2.44	224	Pn	Pn	14 58 25.2	-1.3
L19K	White Mountain	2.46	289	Pn	Pn	14 58 25.8	-0.9
L19K				IAML		14 59 15.1	
	comp=N,16nm,1.0s						
L19K				IAML		14 59 15.9	
	comp=E,13nm,0.9s						
O19K	Port Alsworth	2.50	242	Pn	Pn	14 58 25.9	-1.4
O19K				IAML		14 58 59.8	
	comp=E,40nm,0.4s						
O19K				IAML		14 59 03.0	
	comp=N,35nm,0.4s						
N25K	Chitina, Valde	2.55	84	Pn	Pn	14 58 27.9	-0.1
N25K				IAML		14 59 05.9	
	comp=E,14nm,0.8s						
N25K				IAML		14 59 07.5	
	comp=N,26nm,0.5s						
PAX	Paxson	2.58	52	Pn	Pn	14 58 27.7	-0.7
BMRM	Bremner River	2.61	98	Pn	Pn	14 58 28.6	-0.3
CHUM	Lake Minchumin	2.68	337		Pn	14 58 28.3	-1.4
BPAW	Bear Paw Mtn.	2.70	350	Pn	Pn	14 58 28.8	-1.3
BPAW				IAML		14 59 00.2	
	comp=N,10nm,0.5s						
BPAW				IAML		14 59 00.3	
	comp=E,11nm,0.5s						
BPAW	Bear Paw Mtn.	2.70	350		Sn	14 58 59.2	-2.3
K20K	Telida	2.72	316		Pn	14 58 29.2	-1.1
M18K	Stony River	2.84	273		Pn	14 58 30.8	-1.1
GLB	Gilahina Butte	2.93	88	Pn	Pn	14 58 33.8	+0.6
GLB				IAML		14 59 16.6	
	comp=N,15nm,0.7s						
GLB				IAML		14 59 17.6	
	comp=E,12nm,0.8s						
N18K	Kilae Creek	3.01	258	Pn	Pn	14 58 33.2	-1.1
N18K				IAML		14 59 25.6	
	comp=E,6.8nm,1.1s						
N18K				IAML		14 59 32.0	
	comp=N,9.0nm,1.1s						
O18K	Koktuh Hills	3.06	241	Pn	Pn	14 58 33.6	-1.5
O18K				IAML		14 59 32.7	
	comp=E,8.6nm,1.0s						
O18K				IAML		15 00 14.3	
	comp=N,10nm,0.7s						
SYI	Shuyak Island	3.11	205	Pn	Pn	14 58 34.3	-1.4
VRDI	Verde Repeater	3.12	91	Pn	Pn	14 58 35.9	0.0
VRDI				IAML		14 59 25.1	
	comp=N,8.3nm,1.1s						
WRH	Wood River Hil	3.14	15	Pn	Pn	14 58 35.3	-0.7
HDA	Harding Lake	3.26	23	Pn	Pn	14 58 36.8	-0.8
HDA				IAML		14 59 24.1	
	comp=E,6.4nm,1.1s						
HDA				IAML		14 59 34.5	
	comp=N,8.8nm,1.0s						
MENT	Mentasta	3.26	60	Pn	Pn	14 58 36.8	-0.9
MENT				IAML		14 59 30.9	
	comp=N,19nm,0.5s						
MENT				IAML		14 59 31.8	
	comp=E,21nm,0.5s						
RIDG	Independent Ri	3.28	43	Pn	Pn	14 58 37.6	-0.4
RIDG				IAML		14 59 31.1	
	comp=E,7.8nm,0.7s						
RIDG				IAML		14 59 40.1	
	comp=N,7.3nm,0.8s						
L18K	Granite Mounta	3.31	286	Pn	Pn	14 58 37.0	-1.3
CCB	Clear Creek Bu	3.34	16	Pn	Pn	14 58 39.3	+0.5
J20K	Nowinta River	3.35	326	Pn	Pn	14 58 37.7	-1.3
J20K				IAML		14 59 40.7	
	comp=N,7.7nm,0.9s						
J20K				IAML		14 59 41.7	
	comp=E,11nm,0.7s						
M26K	Nabesna, AK	3.40	71	Pn	Pn	14 58 39.7	0.0
M26K				IAML		14 59 36.3	
	comp=N,6.9nm,0.4s						
L26K	Log Cabin Wild	3.45	60	Pn	Pn	14 58 40.5	+0.2
L26K				IAML		14 59 37.2	
	comp=N,9.9nm,0.8s						
L26K				IAML		14 59 38.7	
	comp=E,16nm,0.8s						
DOT	Dot Lake	3.49	48	Pn	Pn	14 58 40.6	-0.3
WAX	Waxell Ridge	3.58	103	Pn	Pn	14 58 41.4	-0.9
WAX				IAML		14 59 45.0	
	comp=E,11nm,1.0s						
IL31		3.60	21	Pn	Pn	14 58 42.8	+0.5
ILAR	Eielson Array	3.60	21	Pn	Pn	14 58 42.6	+0.3
M17K	Holitna River	3.62	272	Pn	Pn	14 58 41.4	-1.2
M17K				IAML		14 59 41.6	
	comp=N,16nm,1.2s						
M17K				IAML		15 00 01.9	
	comp=E,12nm,0.9s						
J19K	Poorman	3.66	317	Pn	Pn	14 58 41.9	-1.3
J19K				IAML		14 59 43.0	
	comp=E,5.9nm,1.1s						
J19K				IAML		14 59 51.0	
	comp=N,6.1nm,0.7s						
N17K	Nushagak Hills	3.67	258	Pn	Pn	14 58 42.0	-1.2
N17K				IAML		15

SRIG IAML 15 07 42.8
comp=E,5μm,0.7s
SFQB San Francisqui 1.22 331 *eP* **Pn 15 07 47.7 -0.4**
SFQB *eS* **Sn 15 08 04.0 0.0**
GUYB Guaymas 1.31 64 *eP* **Pn 15 07 49.0 -0.4**
NE77 Loreto B.C.S 1.51 150 *eP* **Pn 15 07 52.3 +0.1**
BKIRB Bahia Kino 1.53 7 *eP* **Pn 15 07 53.0 +0.6**

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*IDC **22** 15:19:59.4±0.9, 48°.60N×155°.56E, h0km, mb3.8/19, mbtmp3.8/24, ML3.7/5, MS4.3/11, Error ellipse: s-maj=20.8km s-min=14.4km az=125.0*
*SKHL **22** 15:20:00.3±0.5, 48°.20N×155°.90E, h28km±5km, mb4.6/5*
*MOS **22** 15:20:00.5±1.3, 48°.47N×155°.55E, h19km, mb4.4/3, Error ellipse: s-maj=12.6km s-min=4.8km az=78.4*
*KRSC **22** 15:20:01.8±1.6, 48°.46N×157°.01E, h16km±30km, Ml4.1*
*NEIC **22** 15:20:07.6±1.8, 48°.8N±0°.1×155°.2E±0°.2, h45km±10km, mb4.1/9, Error ellipse: s-maj=28.4km s-min=11.1km az=126.0*
ISC 22 15:20:04.1±0.7, 48°.46N±0°.08×155°.61E±0°.09, h36km, n106, σ1§32/99, mb4.0/25, MS4.4/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.25**	**8**	*e*PN	**Pn**	**15 20 38.6**	**-0.1**
SKR				*e*S	**Sn**	**15 21 05.7**	**+0.5**
SKR				pmax	pmax		
	comp=Z,161nm,0.5s						
SKR				smax	smax		
	comp=E,285nm,0.5s						
SKR				smax	smax		
	comp=N,449nm,0.5s						
SKR	**Severo-Kuril's**	**2.25**	**8**	*e*P	**Pn**	**15 20 38.9**	**+0.2**
SKR	**Severo-Kuril's**	**2.25**	**8**	*e*P	**Pn**	**15 20 38.9**	**+0.2**
SKR				AMB	AMB	15 20 39.3	
	comp=N,160nm,0.5s						
SKR				*e*S	**Sn**	**15 21 06.6**	**+1.4**
SKR				A	A	15 21 15.3	
	comp=N,450nm,0.5s						
SKR				A	A	15 21 15.3	
	comp=N,290nm,0.5s						
PAU	**Pauzhetka**	**3.11**	**14**	PN	**Pn**	**15 20 50.9**	**+0.4**
PAU	**Pauzhetka**	**3.11**	**14**	*e*P	**Pn**	**15 20 51.0**	**+0.4**
PAU	**Pauzhetka**	**3.11**	**14**	*e*P	**Pn**	**15 20 50.8**	**+0.3**
PAU				AMB	AMB	15 20 51.8	
	comp=N,60nm,0.2s						
PAU				*e*S	**Sn**	**15 21 27.5**	**+1.1**
PAU				A	A	15 21 36.6	
	comp=N,330nm,0.4s						
PAU				A	A	15 21 36.6	
	comp=N,220nm,0.4s						
GRL	**Gorelyy**	**4.39**	**20**	PN	**Pn**	**15 21 08.9**	**+0.7**
GRL	**Gorelyy**	**4.39**	**20**	*e*P	**Pn**	**15 21 08.9**	**+0.7**
RUS	**Russkaya**	**4.39**	**24**	PN	**Pn**	**15 21 07.3**	**-0.8**
RUS	**Russkaya**	**4.39**	**24**	*e*P	**Pn**	**15 21 07.4**	**-0.8**
RUS				*e*S	**Sn**	**15 21 55.3**	**-2.6**
RUS	**Russkaya**	**4.39**	**24**	*e*P	**Pn**	**15 21 07.3**	**-0.8**
KRMR	**Karymshinskiy**	**4.66**	**19**	PN	**Pn**	**15 21 12.6**	**+0.8**
KRMR	**Karymshinskiy**	**4.66**	**19**	*e*P	**Pn**	**15 21 12.7**	**+0.8**
PEA0B	**Petropavlovsk-**	**4.84**	**15**	Pn	**Pn**	**15 21 13.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**4.84**	**15**	PN	**Pn**	**15 21 15.7**	**+1.4**
PETK	**Petropavlovsk-**	**4.84**	**15**	Pn	**Pn**	**15 21 15.0**	**+0.7**
PETK	**Petropavlovsk-**	**4.84**	**15**	Pn	**Pn**	**15 21 13.6**	**-0.7**
	comp=N,3.0nm,0.3s,baz=176,slow=12,SNR=55						
PETK				Lg	Lg	15 22 27.7	
	baz=117,slow=15						
	comp=N,9.4nm,0.6s						
PETK	**Petropavlovsk-**	**4.84**	**15**	PN	**Pn**	**15 21 15.0**	**+0.7**
PET	**Petropavlovsk**	**4.96**	**22**	Pn	**Pn**	**15 21 15.9**	**0.0**
PET	**Petropavlovsk**	**4.96**	**22**	*e*PN	**Pn**	**15 21 15.9**	**0.0**
PET				pmax	pmax		
	comp=Z,34nm,0.5s						
PET	**Petropavlovsk**	**4.96**	**22**	*e*P	**Pn**	**15 21 16.1**	**+0.2**
PET				*e*S	**Sn**	**15 22 11.2**	**-0.8**
PET	**Petropavlovsk**	**4.96**	**22**	*e*P	**Pn**	**15 21 16.0**	**0.0**
PET				AMB	AMB	15 21 16.5	
	comp=Z,20nm,0.3s						
PET				*e*S	**Sn**	**15 22 12.2**	**+0.2**
PET				A	A	15 22 14.0	
	comp=Z,50nm,0.4s						
PET				A	A	15 22 14.0	
	comp=Z,40nm,0.4s						
DALK	**Dalny**	**4.99**	**22**	PN	**Pn**	**15 21 16.0**	**-0.3**
DALK	**Dalny**	**4.99**	**22**	*e*P	**Pn**	**15 21 16.1**	**-0.3**
UGLR	**Uglovaya**	**5.17**	**22**	PN	**Pn**	**15 21 19.5**	**+0.6**
UGLR	**Uglovaya**	**5.17**	**22**	*e*P	**Pn**	**15 21 19.6**	**+0.6**
AVH	**Avacha**	**5.20**	**21**	PN	**Pn**	**15 21 20.7**	**+1.4**
AVH	**Avacha**	**5.20**	**21**	*e*P	**Pn**	**15 21 20.7**	**+1.4**
AVH	**Avacha**	**5.20**	**21**	*e*P	**Pn**	**15 21 20.7**	**+1.4**
KOK	**Koryaka**	**5.20**	**20**	PN	**Pn**	**15 21 20.7**	**+1.4**
KOK	**Koryaka**	**5.20**	**20**	*e*P	**Pn**	**15 21 20.8**	**+1.4**
KOK	**Koryaka**	**5.20**	**20**	*e*P	**Pn**	**15 21 20.7**	**+1.4**
SDLR	**Sedlovina**	**5.25**	**22**	PN	**Pn**	**15 21 19.8**	**-0.2**
SDLR	**Sedlovina**	**5.25**	**22**	*e*P	**Pn**	**15 21 19.9**	**-0.2**
KRX	**Arik**	**5.27**	**20**	PN	**Pn**	**15 21 21.3**	**+1.0**
KRX	**Arik**	**5.27**	**20**	*e*P	**Pn**	**15 21 21.3**	**+1.0**
SPN	**Mys Shipunski**	**5.42**	**29**	PN	**Pn**	**15 21 21.8**	**-0.4**
SPN	**Mys Shipunski**	**5.42**	**29**	*e*P	**Pn**	**15 21 21.9**	**-0.4**
SPN	**Mys Shipunski**	**5.42**	**29**	*e*P	**Pn**	**15 21 21.8**	**-0.4**
GNL	**Ganaly**	**5.45**	**15**	PN	**Pn**	**15 21 25.0**	**+2.3**
GNL	**Ganaly**	**5.45**	**15**	*e*P	**Pn**	**15 21 25.1**	**+2.3**
KUR	**Kuril'sk**	**6.21**	**242**	*e*P	**Pn**	**15 21 33.4**	**+0.3**
KUR				AMB	AMB	15 21 34.0	
	comp=Z,20nm,0.3s						
SHO	**Shikotan**	**7.63**	**236**	*e*P	**Pn**	**15 21 50.9**	**-1.7**
SHO				AMB	AMB	15 21 51.2	
	comp=Z,10.0nm,0.3s						
SHO				*e*S	**Sn**	**15 23 13.3**	**-4.4**
SHO				A	A	15 23 17.6	
	comp=Z,20nm,0.2s						
SHO				A	A	15 23 17.6	
	comp=Z,10.0nm,0.2s						
NMR	**Nemuro--Hokkai**	**8.56**	**237**	*e*P	**Pn**	**15 22 05.0**	**-0.4**
YSS	**Yuzhno-Sakhali**	**8.80**	**265**	AMS	AMS	15 28 48.5	
	comp=Z,400nm,18.0s						
YSS				AMS	AMS	15 28 48.5	
	comp=Z,600nm,18.0s						
KBTR	**Krutoberegovo**	**8.92**	**27**	PN	**Pn**	**15 22 09.1**	**-1.1**
KBTR	**Krutoberegovo**	**8.92**	**27**	*e*P	**Pn**	**15 22 09.2**	**-1.1**
JKA	**Kamikawa-asahi**	**10.00**	**249**	Pn	**Pn**	**15 22 28.5**	**+3.5**
JKA	**Kamikawa-asahi**	**10.00**	**249**	*e*P	**Pn**	**15 22 28.5**	**+3.5**
ASAJ	**Asahikawa**	**10.00**	**249**	Pn	**Pn**	**15 22 27.6**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=61,slow=12,SNR=6.2						
ASAJ	**Asahikawa**	**10.00**	**249**	PN	**Pn**	**15 22 28.5**	**+3.5**
ERM	**Erimo**	**10.88**	**238**	Pn	**Pn**	**15 22 39.2**	**+2.0**
ERM	**Erimo**	**10.88**	**238**	PN	**Pn**	**15 22 39.2**	**+2.0**
MA2	**Magadan**	**11.49**	**348**	Pn	**Pn**	**15 22 47.7**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=182,slow=12,SNR=5.1						
	comp=Z,1.5nm,0.5s						
GRNR	**Gornyy**	**12.66**	**288**	AMS	AMS	15 29 05.2	
	comp=Z,310nm,14.0s						
GRNR				AMS	AMS	15 29 05.2	
	comp=Z,500nm,14.0s						
GRNR				AMS	AMS	15 29 05.2	
	comp=Z,500nm,14.0s						
SEY	**Seymchan**	**14.62**	**354**	Pn	**Pn**	**15 23 28.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=6.3						
	comp=Z,0.8nm,0.7s						
EKMR	**Ekimchan**	**15.04**	**296**	*e*P	**Pn**	**15 23 34.1**	**+0.4**
KLR	**Kul'dur**	**15.72**	**282**	Pn	**Pn**	**15 23 42.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=82,slow=8.9,SNR=6.2						
	comp=Z,0.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**16.84**	**264**	Pn	**Pn**	**15 23 56.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=50,slow=14,SNR=2.5						
	comp=Z,2.8nm,0.7s						
YAK	**Yakutsk**	**19.89**	**323**	P	**P**	**15 24 29.8**	**-2.2**
YAK				IAmb	IAmb	15 24 41.7	
	comp=Z,7.9nm,0.7s						
BILL	**Bilibino**	**20.36**	**12**	P	**P**	**15 24 36.7**	**-0.4**
KSRS	**Korea Array**	**22.93**	**252**	P	**P**	**15 25 04.0**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=46,slow=10,SNR=7.1						
	comp=Z,1.1nm,0.5s						
TIXI	**Tiksi**	**26.35**	**341**	P	**P**	**15 25 34.3**	**-1.8**
TIXI	**Tiksi**	**26.35**	**341**	P	**P**	**15 25 34.3**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
C18K	**Utukok River**	**29.29**	**31**	P	**P**	**15 26 02.5**	**-0.1**
C18K				IAmb	IAmb	15 26 27.0	
	comp=Z,5.3nm,1.3s						
B20K	**Meade River**	**31.11**	**29**	P	**P**	**15 26 19.1**	**+0.6**
B20K				IAmb	IAmb	15 26 55.5	
	comp=Z,3.2nm,1.0s						
SONM	**Songino Array**	**32.39**	**288**	P	**P**	**15 26 28.6**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=60,slow=8.5,SNR=2.5						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**47.66**	**297**	P	**P**	**15 28 35.7**	**-0.9**
MK31				IAmb	IAmb	15 28 37.0	
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**47.66**	**297**	P	**P**	**15 28 35.7**	**-0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**47.66**	**297**	P	**P**	**15 28 36.2**	**-0.4**
MKAR	**Makanchi Array**	**47.66**	**297**	P	**P**	**15 28 35.7**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=70,slow=8.6,SNR=21						
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**47.66**	**297**	P	**P**	**15 28 36.2**	**-0.4**
KURK	**Kurchatov**	**47.83**	**303**	P	**P**	**15 28 37.7**	**-0.1**
KURK				IAmb	IAmb	15 28 57.0	
	comp=Z,1.6nm,1.0s						
KURK	**Kurchatov**	**47.83**	**303**	P	**P**	**15 28 37.8**	**0.0**
KURK	**Kurchatov**	**47.83**	**303**	*e*P	**P**	**15 28 37.8**	**0.0**
KURBB	**Kurchatov Arra**	**47.93**	**303**	P	**P**	**15 28 37.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=67,slow=8.2,SNR=11						
	comp=Z,0.8nm,0.6s						
YKA	**Yellowknife Ar**	**48.54**	**38**	P	**P**	**15 28 42.4**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=300,slow=7.6,SNR=2.1						
	comp=Z,0.2nm,0.7s						
BVAR	**Borovoye Array**	**51.08**	**309**	P	**P**	**15 29 01.5**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=55,slow=7.6,SNR=8.0						
	comp=Z,0.6nm,0.4s						
CHTO	**Chiang Mai**	**54.15**	**258**	P	**P**	**15 29 26.7**	**+1.0**
CHTO	**Chiang Mai**	**54.15**	**258**	P	**P**	**15 29 26.7**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.41**	**257**	P	**P**	**15 29 29.3**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=37,slow=6.6,SNR=6.0						
	comp=Z,0.8nm,0.5s						
KIRV	**Kirov**	**57.42**	**323**	LR	LR	15 57 37.6	
	comp=Z,201nm,19.6s,baz=67,slow=39						
PDAR	**Pinedale Array**	**62.38**	**56**	P	**P**	**15 30 22.3**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=279,slow=6.0,SNR=2.0						
	comp=Z,0.3nm,0.8s						
SFJD	**Kangerlussuaq**	**63.16**	**11**	LR	LR	15 59 52.1	
	comp=Z,193nm,19.0s,baz=332,slow=38						
FINES	**FINESS Array B**	**63.20**	**335**	P	**P**	**15 30 27.3**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=35,slow=7.9,SNR=4.5						
	comp=Z,4.2nm,1.0s						
OBN	**Obninsk**	**64.84**	**326**	LR	LR	16 02 41.9	
	comp=Z,425nm,20.6s,baz=10.0,slow=40						
BORG	**Borgarnes**	**67.11**	**359**	LR	LR	16 02 42.2	
	comp=Z,184nm,18.1s,baz=0.1,slow=38						
NOA	**NORSAR Array B**	**67.14**	**342**	P	**P**	**15 30 53.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=28,slow=6.7,SNR=1.6						
	comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**67.43**	**340**	P	**P**	**15 30 55.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=14,slow=1.8,SNR=5.0						
	comp=Z,0.8nm,0.5s						
KVAR	**Kislovodsk Arr**	**70.79**	**315**	P	**P**	**15 31 18.1**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=40,slow=7.9,SNR=1.2						
	comp=Z,1.2nm,0.3s						
KBZ	**Khabaz**	**70.87**	**315**	LR	LR	16 07 49.5	
	comp=Z,185nm,20.0s,baz=64,slow=41						
AKASG	**Malin Array Be**	**71.05**	**327**	P	**P**	**15 31 17.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=32,slow=6.4,SNR=6.6						
AKASG				LR	LR	16 06 56.2	
	comp=Z,367nm,19.9s,baz=58,slow=40						
	comp=Z,1.2nm,0.5s						
GNI	**Garni**	**72.69**	**311**	LR	LR	16 05 47.8	
	comp=Z,133nm,18.3s,baz=85,slow=38						
ASAR	**Alice Springs**	**74.39**	**201**	P	**P**	**15 31 39.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=19,slow=4.9,SNR=5.6						
	comp=Z,0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**75.05**	**348**	P	**P**	**15 31 42.5**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=20,slow=4.8,SNR=3.8						
	comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**75.19**	**63**	P	**P**	**15 31 44.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=291,slow=4.3,SNR=5.1						
	comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**75.19**	**63**	P	**P**	**15 31 44.0**	**+1.0**
VRAC	**Vranov**	**76.39**	**334**	LR	LR	16 08 36.6	
	comp=Z,296nm,21.4s,baz=36,slow=38						
GERES	**GERESS Array B**	**77.63**	**335**	P	**P**	**15 31 57.5**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=32,slow=5.7,SNR=2.9						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**78.28**	**318**	P	**P**	**15 32 01.4**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=56,slow=3.3,SNR=6.0						
BRTR				LR	LR	16 11 40.1	
	comp=Z,160nm,19.1s,baz=34,slow=40						
	comp=Z,1.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**80.56**	**337**	LR	LR	16 13 18.6	
	comp=Z,224nm,19.9s,baz=64,slow=40						
MMAI	**Mount Meron Ar**	**82.92**	**313**	P	**P**	**15 32 26.8**	**+1.7**
	comp=Z,1.5nm,0.4s,baz=54,slow=6.3,SNR=5.4						
	comp=Z,1.5nm,0.4s						
VAE	**Valguarnera**	**87.74**	**330**	LR	LR	16 20 06.9	
	comp=Z,135nm,18.3s,baz=98,slow=41						
H03N2	**Juan Fernandez**	**137.07**	**90**	T	T	18 12 58.3	
	baz=311						
H03N1	**Juan Fernandez**	**137.08**	**90**	T	T	18 12 36.4	
	baz=311						
H03N3	**Juan Fernandez**	**137.09**	**90**	T	T	18 12 37.3	
	baz=311						

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*NEIC **22** 15:22:07.3±0.8, 40°.454N±0°.007×111°.944W±0°.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.4km az=317.0*
UUSS 22 15:22:07.4±0.9, 40°.46N±0°.01×111°.95W±0°.01, h8km±6km, ML2.2/9, ML2.1/29(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=220.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.01**	**205**		Pg	15 22 10.4	+1.3
CWU	**Camp Williams**	**0.12**	**262**		Pg	15 22 10.5	+0.3
GMU	**Granite Mounta**	**0.18**	**51**		Pg	15 22 11.4	+0.1
GMU					Sg	15 22 14.1	+0.1
MHD	**Mile High Driv**	**0.23**	**29**		Pg	15 22 12.2	+0.1
NOQ	**North Oquirrh**	**0.23**	**325**		Pg	15 22 12.6	+0.5
NOQ					Sg	15 22 16.0	+0.6
AAU	**Alta**	**0.27**	**61**		Pg	15 22 13.0	+0.1
DCU	**Deer Creek Res**	**0.33**	**98**		Pg	15 22 14.1	+0.2
RBU	**Red Butte Cany**	**0.34**	**19**		Pg	15 22 14.1	0.0
RBU	**Red Butte Cany**	**0.34**	**19**		Sg	15 22 18.8	+0.2
WMUT	**West Mountain**	**0.40**	**167**		Pg	15 22 15.6	+0.4
LDJ	**Lady**	**0.43**	**74**		Pg	15 22 16.4	+0.6
SAIU	**Southern Antel**	**0.43**	**336**		Pg	15 22 16.0	+0.2
RCJ	**Ross Creek**	**0.43**	**63**		Pg	15 22 16.2	+0.2
KLJ	**Keetly**	**0.45**	**68**		Pg	15 22 16.5	+0.3
MPU	**Maple Canyon**	**0.51**	**152**		Pg	15 22 17.6	+0.3
MPU					Sg	15 22 24.4	+0.4
DAU	**Daniels Canyon**	**0.53**	**95**		Pg	15 22 18.3	+0.5
FPU	**Francis Peak**	**0.57**	**8**		Pg	15 22 18.7	+0.2
N16A	**Rees Ranch, Co**	**0.57**	**42**		Pb	15 22 19.3	-0.6
NAIU	**Northern Antel**	**0.59**	**339**		Pg	15 22 18.9	0.0
HTU	**Hoyt Peak**	**0.59**	**69**		Pg	15 22 19.5	+0.6
SNUT	**Stansbury Nort**	**0.60**	**315**		Pg	15 22 19.5	+0.4
DUG	**Dugway, Tooele**	**0.71**	**248**	Pg	Pg	15 22 21.1	-0.1
TCUT	**Toone Canyon**	**0.77**	**32**	Pg	Pg	15 22 22.0	-0.4
LHUT	**Little Humpy P**	**0.84**	**59**		Pb	15 22 24.5	0.0
BSUT	**Blindstream Ca**	**0.91**	**85**	Pg	Pg	15 22 24.6	-0.3
BSUT				Sg	Sg	15 22 36.7	0.0
BGU	**Big Grassy Mou**	**0.94**	**300**	Pg	Pg	15 22 25.3	-0.2
BGU				Sg	Sb	15 22 38.6	-0.2
BGU				IAML		15 22 39.5	
	comp=N,54nm,0.5s						
LEVU	**Levan**	**0.96**	**174**		Pb	15 22 26.3	-0.1
EPU	**East Promontor**	**0.99**	**340**		Pg	15 22 26.6	+0.1
MCU	**Monte Cristo P**	**1.05**	**18**		Pg	15 22 27.5	-0.2
WVUT	**Wellsville**	**1.15**	**360**		Pg	15 22 29.4	0.0
HWUT	**Hardware Ranch**	**1.18**	**14**	Pg	Pg	15 22 29.5	-0.6
HWUT				IAML		15 22 47.5	
	comp=N,48nm,0.8s						
HWUT				IAML		15 22 49.4	
	comp=N,41nm,0.6s						
ARGU	**Argyle Ridge**	**1.25**	**120**		Pn	15 22 31.7	+0.2
TMUT	**Trail Mountain**	**1.30**	**154**		Pn	15 22 31.7	-0.4
TMUT				IAML		15 22 51.7	
	comp=E,34nm,0.5s						
TMUT				IAML		15 22 55.0	
	comp=N,30nm,0.6s						
FSU	**Fish Springs**	**1.33**	**237**		Pn	15 22 32.1	-0.3
HVU	**Hansel Valley**	**1.46**	**335**		Pn	15 22 33.0	-1.1
HVU				IAML		15 22 57.3	
	comp=E,32nm,0.4s						
HVU				IAML		15 22 58.6	
	comp=N,31nm,0.6s						
SRU	**San Rafael Swe**	**1.74**	**140**	Pn	Pn	15 22 36.9	-1.2
SRU				IAML		15 23 05.9	
	comp=E,19nm,0.4s						
SRU				IAML		15 23 06.8	
	comp=N,17nm,0.5s						
MSU	**Marysvale**	**1.96**	**185**	Pn	Pn	15 22 41.0	-0.1
PSUT	**Pine Spring**	**2.43**	**218**	Pn	Pn	15 22 47.9	+0.4
PSUT				IAML		15 23 34.8	
	comp=N,6.7nm,1.2s						
PSUT				IAML		15 23 38.2	
	comp=E,6.5nm,0.9s						
ELK	**Elko**	**2.52**	**277**	IAML		15 23 30.4	
	comp=E,7.6nm,0.3s						
FXWY	**Fox Creek**	**3.25**	**12**	IAML		15 23 32.4	
	comp=E,6.3nm,4.5s						

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*GII **22** 15:32:45.2±0.0, 37°.50N×29°.41E, h6km, confirmed*
*IDC **22** 15:32:46.0±0.9, 37°.51N×29°.37E, h0km, mb3.7/10, mbtmp3.8/19, ML4.0/7, MS3.5/7, Error ellipse: s-maj=17.9km s-min=13.6km az=21.0*
*ISK **22** 15:32:46.7, 37°.50N×29°.41E, h6km, ML4.2/27*
*MOS **22** 15:32:46.4±0.9, 37°.52N×29°.38E, h10km, mb4.1/5, Error ellipse: s-maj=9.9km s-min=6.3km az=92.8*
*AFAD **22** 15:32:46.9, 37°.47N×29°.37E, h7km±3km, MW4.1*
*HLW **22** 15:32:48.8, 37°.60N×29°.79E, h28km±12km, Ml4.0*
*THE **22** 15:32:48.1, 37°.57N×29°.46E, h0km±2km, ML4.3/4, Error ellipse: s-maj=4.3km s-min=1.2km az=37.0*
ISC 22 15:32:47.3±0.9, 37°.49N±0°.02×29°.41E±0°.02, h6km±6km, n219, σ1§42/242, mb3.7/13, MS3.6/3, 21C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**259**	Pg	**Pg**	**15 32 49.1**	**-0.2**
APMY				Sg	**Sg**	**15 32 51.2**	**+0.5**
INCE	**Denizli-Bozkur**	**0.26**	**31**	P	**Pg**	**15 32 52.6**	**+0.1**
INCE				S	**Sg**	**15 32 57.3**	**+1.4**
INCE				*i* AML	AML	15 32 59.0	
	comp=E,10μm,0.3s						
GOLH	**Golhisar**	**0.28**	**154**	P	**Pg**	**15 32 52.6**	**-0.2**
DNIZ	**Denizli-Tavas-**	**0.32**	**295**	P	**Pg**	**15 32 53.8**	**+0.2**
DNIZ				S	**Sb**	**15 32 59.2**	**-2.0**
DNIZ				*i* AML	AML	15 33 03.0	
	comp=N,3μm,0.4s						
DNZT	**Denizli-Tavas-**	**0.37**	**236**	P	**Pg**	**15 32 54.0**	**-0.5**
DNZT				P	**Pb**	**15 32 54.2**	**-2.1**
DNZT				S	**Sg**	**15 32 58.7**	**-0.6**
DNZT				S	**Sb**	**15 32 59.3**	**-3.1**
DNZT				*i* AML	AML	15 33 00.0	
	comp=N,2μm,0.3s						
DNZT				*i* AML	AML	15 33 02.0	
	comp=E,3μm,0.3s						
DNZT				*i* AML	AML	15 33 02.0	
	comp=E,3μm,0.4s						
CAEL	**Denizli, Camel**	**0.37**	**191**	P	**Pg**	**15 32 54.2**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.39**	**267**	P	**Pg**	**15 32 54.8**	**-0.2**
TAVA				S	**Sg**	**15 33 00.2**	**+0.1**
TAVA				*i* AML	AML	15 33 01.0	
	comp=N,3μm,0.2s						
TAVA				*i* AML	AML	15 33 01.0	
	comp=E,2μm,0.2s						
CAME	**Cameli-Denizli**	**0.55**	**189**	Pg	**Pg**	**15 32 56.8**	**-1.1**
BRDR	**BURDUR-Merkez**	**0.56**	**68**	P	**Pg**	**15 32 57.6**	**-0.6**
BRDR				S	**Sb**	**15 33 07.5**	**-0.5**
BRDR				*i* AML	AML	15 33 15.0	
	comp=N,3μm,0.6s						
KNIK	**Mula-Seydike**	**0.66**	**168**	P	**Pg**	**15 32 59.0**	**-0.9**
BASM	**Basmaki-Afyon**	**0.67**	**50**	Pg	**Pg**	**15 32 59.7**	**-0.5**
SABU	**Mula-Dalaman**	**0.75**	**208**	P	**Pg**	**15 33 01.5**	**-0.2**
SABU				S	**Sg**	**15 33 11.3**	**-0.2**
SABU				*i* AML	AML	15 33 13.0	
	comp=E,10μm,0.4s						
KHL	**Karahalli**	**0.84**	**6**	Pg	**Pb**	**15 33 03.3**	**-1.1**
ELL	**Elmali**	**0.84**	**151**	Pg	**Pg**	**15 33 03.3**	**-0.2**
PASA	**Karahalli, USA**	**0.86**	**4**	P	**Pn**	**15 33 04.6**	**-1.6**
FETY	**Fethiye**	**0.89**	**197**	Pg	**Pg**	**15 33 04.5**	**+0.1**
FETY				Sg	**Sb**	**15 33 17.1**	**-0.2**
FETY	**Fethiye**	**0.89**	**197**	P	**Pb**	**15 33 05.1**	**-0.1**
ESEN	**Aydn-Nazilli**	**0.90**	**291**	P	**Pb**	**15 33 04.8**	**-0.4**
ESEN				S	**Sb**	**15 33 16.1**	**-1.3**
ESEN				*i* AML	AML	15 33 19.0	
	comp=N,6μm,0.8s						
MULA	**Mugla, Merkez-**	**0.90**	**255**	P	**Pg**	**15 33 04.0**	**-0.5**
MULA				S	**Sg**	**15 33 14.6**	**-1.5**
MULA				*i* AML	AML	15 33 20.0	
	comp=E,10μm,0.5s						
KORT	**Korkueli**	**0.90**	**123**	Pg	**Pg**	**15

YAZI S Sn 15 33 40.4 -0.6
YAZI *i* AML AML 15 33 49.0
comp=N,1μm,0.4s
AKHS Akhisar 1.87 318 P Pn 15 33 18.4 -1.5
DGB zmir 2.08 287 P Pn 15 33 22.8 0.0
KARP Karpathos 2.65 224 P Pn 15 33 31.0 +0.3
KARP S Sb 15 34 06.2 -1.9
5μm,0.4s
PRK Paraskevi 3.02 306 P Pn 15 33 36.0 +0.2
BAND Balkesir-Ban 3.04 341 ⇑P Pn 15 33 36.8 +0.7
BAND ⇑S Sn 15 34 13.8 +1.1
EZN Ezine 3.36 315 P Pn 15 33 39.8 -0.5
ZKR Zakros 3.50 228 P Pn 15 33 43.8 +1.5
ZKR S Sn 15 34 26.4 +2.3
1μm,0.5s
ANTO Ankara 3.56 47 ⇑P Pn 15 33 44.0 +0.7
ANTO Ankara 3.56 47 P Pn 15 33 43.9 +0.7
KIRS Kirsehir-Merke 3.91 64 ⇑P Pn 15 33 49.3 +1.3
BR131 Keskin Array S 4.00 55*c i P* Pn 15 33 49.6 +0.3
BRTR Keskin Array B 4.00 55 Pn Pn 15 33 49.3 0.0
5.0nm,0.3s,baz=243,slow=17,SNR=106
BRTR Sn Sn 15 34 34.9 -1.7
0.9nm,0.3s,baz=219,slow=19,SNR=4.1
BRTR LR LR 15 35 52.9
comp=Z,1μm,19.6s,baz=223,slow=47
8.8nm,0.5s
BRTR Keskin Array B 4.00 55 *i P* Pn 15 33 49.9 +0.6
BRTR pmax pmax
comp=Z,14nm,0.4s
CSS Mathiatis 4.05 127 P Pn 15 33 48.2 -1.8
CSS Mathiatis 4.05 127 S Sn 15 34 36.4 -1.4
LIA Limnos Island 4.09 307 P Pn 15 33 50.7 +0.3
SMTH Samothraki Isl 4.24 316 P Pn 15 33 52.9 +0.4
IDI Anoyia 4.25 240 Pn Pn 15 33 51.1 -1.7
comp=Z,38nm,0.6s,baz=59,slow=16,SNR=9.1
IDI Sn Sn 15 34 42.1 -0.7
comp=Z,20nm,0.3s,baz=60,slow=16,SNR=4.8
ALN Alexandroupoli 4.29 324 P Pn 15 33 53.2 0.0
DION Dionisos Attik 4.38 279 P Pn 15 33 55.0 +0.6
CIDE Kastamonu/Cide 5.17 31 ⇑P Pn 15 34 05.8 +0.6
HNTI Hanita 6.45 131 P Pn 15 34 21.4 -1.5
HNTI Hanita 6.45 131 S Sn 15 35 34.7 -2.0
DB3 El Dabaa 6.47 187 P Pn 15 34 24.5 +1.3
DB3 S Sn 15 35 34.5 -2.9
MMA0B Mount Meron ar 6.63 131 P Pn 15 34 24.2 -1.2
MMA0B Mount Meron ar 6.63 131 S Sn 15 35 39.9 -1.5
MMAI Mount Meron Ar 6.63 131 Pn Pn 15 34 25.1 -0.3
comp=Z,13nm,0.3s,baz=317,slow=12,SNR=56
MMAI Sn Sn 15 35 38.6 -2.8
comp=Z,11nm,0.3s,baz=312,slow=32,SNR=5.8
comp=Z,7.2nm,0.3s
GEM Giv'at Ha'Em 6.66 128 P Pn 15 34 24.3 -1.5
GEM Giv'at Ha'Em 6.66 128 S Sn 15 35 39.9 -2.1
OFRI `Ofer 6.67 135 P Pn 15 34 24.5 -1.5
OFRI `Ofer 6.67 135 S Sn 15 35 40.5 -1.8
NATI Neve Ativ 6.67 127 P Pn 15 34 24.8 -1.1
NATI Neve Ativ 6.67 127 S Sn 15 35 41.2 -1.1
BLGI Bet Lehem HaGe 6.71 133 P Pn 15 34 24.8 -1.6
BLGI Bet Lehem HaGe 6.71 133 S Sn 15 35 41.2 -1.9
KSHT Keshet 6.90 129 P Pn 15 34 27.9 -1.3
KSHT Keshet 6.90 129 S Sn 15 35 46.7 -1.4
SLTI Sal'it 6.99 137 P Pn 15 34 28.8 -1.5
SLTI Sal'it 6.99 137 S Sn 15 35 48.3 -1.8
TIRR Tirgusor 7.00 354 ⇑P Pn 15 34 30.9 +0.5
TIRR Tirgusor 7.00 354 P Pn 15 34 30.9 +0.5
MMLI Mount Malkishu 7.05 134 P Pn 15 34 30.0 -1.2
MMLI Mount Malkishu 7.05 134 S Sn 15 35 49.3 -2.5
SALP Salfit 7.20 137 P Pn 15 34 31.8 -1.4
SALP Salfit 7.20 137 S Sn 15 35 53.1 -2.3
HMDT Nahal Hemdat 7.25 134 P Pn 15 34 32.2 -1.7
HMDT Nahal Hemdat 7.25 134 S Sn 15 35 55.1 -1.4
TPGR Topolog 7.40 355 ⇑P Pn 15 34 36.5 +0.6
UJAP Al Uja 7.44 136 P Pn 15 34 34.9 -1.6
UJAP Al Uja 7.44 136 S Sn 15 35 59.6 -1.6
AMAZ Amatzia 7.48 141 P Pn 15 34 35.4 -1.6
AMAZ Amatzia 7.48 141 S Sn 15 36 00.2 -2.0
DSI Dead Sea 7.69 138 P Pn 15 34 38.6 -1.3
DSI Dead Sea 7.69 138 S Sn 15 36 05.1 -2.3
YTIR Yattir 7.72 141 P Pn 15 34 39.1 -1.3
YTIR Yattir 7.72 141 S Sn 15 36 06.0 -2.1
CFR Carcaliu 7.74 353 ⇑P Pn 15 34 41.0 +0.4
CFR Carcaliu 7.74 353 P Pn 15 34 41.0 +0.4
KZIT Kziot 7.76 146 P Pn 15 34 38.8 -2.0
KZIT Kziot 7.76 146 S Sn 15 36 07.3 -1.7
MSBI Mazada 7.88 140 P Pn 15 34 41.0 -1.5
MSBI Mazada 7.88 140 S Sn 15 36 09.9 -2.1
HNAT Natroun 7.90 172 P Pn 15 34 43.1 +0.3
GHAJ Ghor Haditha 8.00 139 P Pn 15 34 42.7 -1.4
GHAJ Ghor Haditha 8.00 139 S Sn 15 36 13.1 -1.8
ASF Jabal al Asfar 8.12 129 Pn Pn 15 34 44.5 -1.5
comp=Z,0.7nm,0.3s,baz=348,slow=5.6,SNR=12
ASF Sn Sn 15 36 19.9 +1.7
comp=Z,0.5nm,0.3s,baz=352,slow=18,SNR=1.2
comp=Z,1.3nm,0.3s
MLR Muntele Rosu 8.41 343 Pn Pn 15 34 48.2 -1.6
comp=Z,0.6nm,0.3s,baz=216,slow=9.1,SNR=5.9
MLR LR LR 15 37 56.2
comp=Z,260nm,18.4s,baz=166,slow=37
comp=Z,4.0nm,0.6s
MLR Muntele Rosu 8.41 343 ⇑P Pn 15 34 50.7 +0.9
MLR Muntele Rosu 8.41 343 P Pn 15 34 50.7 +0.9
ZFRI Zfri 8.41 144 P Pn 15 34 48.1 -1.7
ZFRI Zfri 8.41 144 S Sn 15 36 22.5 -2.6
PRNI Paran 8.50 145 P Pn 15 34 49.4 -1.7
PRNI Paran 8.50 145 S Sn 15 36 26.3 -1.0
KRMI Paran Flat 8.58 147 P Pn 15 34 50.6 -1.6
KRMI Paran Flat 8.58 147 S Sn 15 36 27.9 -1.3
VOIR 8.59 339 ⇑P Pn 15 34 52.1 -0.1
VOIR 8.59 339 P Pn 15 34 52.1 -0.1
PLOR Plostina 8.61 347 ⇑P Pn 15 34 53.5 +1.0
PLOR Plostina 8.61 347 P Pn 15 34 53.4 +1.0
VRI Vrincioaia 8.61 347 ⇑P Pn 15 34 53.5 +1.0
VRI Vrincioaia 8.61 347 P Pn 15 34 53.4 +1.0
HRFI Mount Harif 8.78 146 P Pn 15 34 53.6 -1.3
HRFI Mount Harif 8.78 146 S Sn 15 36 32.5 -1.9
MBRI Mt Berech 8.94 148 P Pn 15 34 55.9 -1.2
MBRI Mt Berech 8.94 148 S Sn 15 36 36.7 -1.6
DOPR Dopca 8.99 342 ⇓P Pn 15 34 58.7 +1.0
EIL Elat 9.06 148 Pn Pn 15 34 57.2 -1.5
comp=Z,1.1nm,0.3s,baz=319,slow=1.4,SNR=22
EIL Sn Sn 15 36 33.6 -7.6
comp=Z,1.2nm,0.3s,baz=29,slow=19,SNR=2.2
comp=Z,8.9nm,0.4s
EIL Elat 9.06 148 P Pn 15 34 57.2 -1.5
EIL Elat 9.06 148 S Sn 15 36 38.9 -2.2
HERR Herculane 9.07 327 ⇑P Pn 15 34 58.2 -0.6
MDVR Moldovita 9.31 324 ⇑P Pn 15 35 02.5 +0.4
GZR Gura Zlata 9.33 330 ⇑P Pn 15 35 03.2 +0.7
GZR Gura Zlata 9.33 330 P Pn 15 35 03.1 +0.7
HKAT Jabal Katrina 9.73 155 P Pn 15 35 07.5 -0.6
SOC Sochi 9.93 49 *eP* Pn 15 35 08.0 -2.6
SOC *e* 15 36 56.7
SOC MLR MLR
comp=Z,392nm,14.0s
TIP Timpagrande 10.08 284 ⇑P Pn 15 35 13.7 +1.0
MARR Marisel-Cluj 10.30 335 ⇓P Pn 15 35 16.5 +0.8
KBZ Khabaz 11.99 54 Pn Pn 15 35 42.1 +3.3
comp=Z,0.7nm,0.6s,baz=252,slow=19,SNR=2.1
KBZ Khabaz 11.99 54⇑*eP* Pn 15 35 41.9 +3.1
KBZ pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 12.26 73 LR LR 15 40 30.5
comp=Z,92nm,19.4s,baz=288,slow=38
KOLS Kolonicke sedl 12.56 338 *eP* Pn 15 35 51.2 +4.7
KOLS Kolonicke sedl 12.56 338 *e*PN Pn 15 35 51.2 +4.7
LANS Liptovska Anna 13.70 331 *eP* **P** 15 36 14.5 +3.4
LANS Liptovska Anna 13.70 331 *e*PN **P** 15 36 14.5 +3.4
MODS Modra-Piesok 14.03 325 *eP* **P** 15 36 16.5 +1.9
MODS Modra-Piesok 14.03 325 *e*PN **P** 15 36 16.5 +1.9
JAVC Velka Javorina 14.21 327 *eP* **P** 15 36 15.8 -0.9
KRUC Moravsky 14.93 325 *eP* **P** 15 36 25.0 +0.4
MORC Moravsky Berou 14.96 329 *eP* **P** 15 36 25.9 +0.8
VRAC Vranov 15.02 326 Pn Pn 15 36 19.3 -0.8
comp=Z,0.3nm,0.3s,baz=157,slow=13,SNR=6.7
comp=Z,1.2nm,0.4s
VRAC Vranov 15.02 326 *eP* **P** 15 36 26.2 +0.6
GERES GERESS Array B 16.09 320 Pn **P** 15 36 38.1 +0.5
baz=129,slow=9.4,SNR=16
KEST Kesra 16.20 270 Pn Pn 15 36 35.2 -0.6
comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=1.8
comp=Z,5.7nm,1.1s
WTTA Wattenberg 16.33 312 *i* Pn Pn 15 36 37.6 +0.2
comp=Z,6.1nm,1.2s

KHC Kasperske Hory 16.34 320 *eP* **P** 15 36 41.0 +0.7
KHC Kasperske Hory 16.34 320⇓*eP* **P** 15 36 41.3 +1.0
KHC pmax pmax
comp=Z,24nm,2.5s
WATA Walderalm 16.40 312 *i* P Pn 15 36 38.8 +0.5
comp=Z,8.0nm,1.0s
SQTA Sankt Quirin 16.56 312 *eP* **P** 15 36 41.7 -1.2
comp=Z,4.7nm,0.8s
WET Wettzell 16.70 319 P **P** 15 36 46.7 +2.4
FETA Feichten 16.75 311 *i* P **P** 15 36 43.3 -1.8
comp=Z,8.6nm,1.2s
PVCC Panska Ves 16.80 326 P **P** 15 36 46.9 +1.5
DAVOX Davos/Dischmat 17.17 309 LR LR 15 43 53.2
comp=Z,147nm,18.1s,baz=245,slow=39
BRG Berggiesshubel 17.33 325 *eP* **P** 15 36 53.5 +2.3
BRG Amp 15 36 54.5
comp=Z,5.1nm,1.1s
DAVA Damuels 17.39 310 *e*Pn **P** 15 36 51.9 -0.2
comp=Z,6.7nm,1.1s
CLL Collm 18.06 325 *eP* Pn 15 36 58.0 -0.8
ECH Echery 19.45 310 P Pn 15 37 16.7 +0.9
RAYN Ar Rayn 19.61 131 P Pn 15 37 19.2 +1.4
FINES FINESS Array B 24.07 356 P **P** 15 38 02.6 -0.7
comp=Z,1.4nm,0.7s,baz=154,slow=10,SNR=5.7
comp=Z,1.4nm,0.7s
FINES FINESS Array B 24.07 356 *i* P **P** 15 38 07.4 +4.2
FINES pmax pmax
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 24.25 12 *eP* **P** 15 38 05.1 +0.2
KLMR pmax pmax
comp=Z,33nm,1.5s
HFS Hagfors 24.78 341 P **P** 15 38 09.3 -0.5
comp=Z,2.7nm,0.8s,baz=148,slow=14,SNR=3.6
comp=Z,2.7nm,0.8s
TAM Tamanrasset 25.22 241 P **P** 15 38 15.2 +1.0
ESDC Sonseca Array 26.09 285 P **P** 15 38 22.5 +0.6
comp=Z,0.7nm,0.8s,baz=89,slow=8.6,SNR=5.6
comp=Z,0.7nm,0.8s
NOA NORSAR Array B 26.21 340 P **P** 15 38 22.6 -0.1
comp=Z,1.5nm,0.8s,baz=146,slow=9.2,SNR=3.6
NOA LR LR 15 50 03.4
comp=Z,85nm,18.5s,baz=0.0,slow=40
comp=Z,1.5nm,0.8s
ARTI Arti 27.05 36 P **P** 15 38 31.0 +0.7
ARTI 15 39 10.7
ARTI S **S** 15 43 08.4 +0.2
ARTI SS **SnSn** 15 44 13.9 0.0
AAK Ala-Archa 34.57 67⇑*eP* P 15 39 41.1 +4.1
AAK pmax pmax
comp=Z,6.0nm,2.5s
KURBB Kurchatov Arra 36.99 53 P **P** 15 39 57.4 -0.1
comp=Z,1.1nm,0.8s,baz=273,slow=8.9,SNR=8.3
comp=Z,1.1nm,0.8s
KURK Kurchatov 37.05 53 P **P** 15 39 57.4 -0.5
MK31 Makanchi Array 39.64 59⇓*eP* **P** 15 40 20.9 +1.1
MKAR Makanchi Array 39.64 59 P **P** 15 40 19.7 -0.1
comp=Z,0.9nm,0.7s,baz=284,slow=6.3,SNR=9.5
comp=Z,0.9nm,0.7s
MKAR Makanchi Array 39.64 59*ceP* **P** 15 40 23.1 +3.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BORG Borgarnes 40.23 329 *i* P P 15 40 29.2 +4.7
ZALV Zalesovo Beam 40.91 48 P **P** 15 40 30.7 +0.5
comp=Z,0.5nm,0.6s,baz=254,slow=10,SNR=2.2
comp=Z,0.5nm,0.6s
SONM Songino Array 55.36 53 P **P** 15 42 21.4 -0.8
comp=Z,0.2nm,0.3s,baz=285,slow=9.2,SNR=1.6
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 62.96 87 P **P** 15 43 15.2 +0.2
comp=Z,0.7nm,0.6s,baz=312,slow=8.0,SNR=7.5
comp=Z,0.7nm,0.6s
CMAR Chiang Mai Arr 62.96 87 *i* P **P** 15 43 17.2 +2.1
CMAR pmax pmax
comp=Z,1.0nm,0.6s
MA2 Magadan 71.88 27 LR LR 16 17 40.0
comp=Z,32nm,20.2s,baz=240,slow=38
MA2 Magadan 71.88 27⇑*eP* P 15 44 15.9 +5.0
MA2 pmax pmax
comp=Z,7.0nm,2.5s
YKA Yellowknife Ar 76.24 344 P **P** 15 44 35.1 -1.2
comp=Z,0.5nm,0.9s,baz=26,slow=5.7,SNR=5.1
comp=Z,0.5nm,0.9s
FFC Flin Flon 79.13 334 *i* P P 15 45 00.1 +7.5
NEW Newport 89.57 338 LR LR 16 25 50.6
comp=Z,74nm,20.1s,baz=320,slow=36

*NNC **22** 15:36:25.9±0.8, 43°.10N×78°.24E, h0km, mpv2.8, Error ellipse: s-maj=8.2km s-min=4.8km az=9.0*
*SOME **22** 15:36:26.5, 43°.07N×78°.27E, h10km*
ISC 22 15:36:25.1±1.2, **43°.0N**±0°.1×**78°.2E**±0°.0**5**, **h17**km±9km, **n7**, σ0°**32**/14, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.11**	**69**	P	**Pb**	**15 36 29.1**	**+0.2**
	12nm,0.1s						
SATY				S	**Sg**	**15 36 31.1**	**-0.5**
	208nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**77**	P	**Pg**	**15 36 36.7**	**+0.2**
	2.8nm,0.1s						
UZB				S	**Sg**	**15 36 44.1**	**-0.1**
	5.7nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**77**	*eP*	**Pg**	**15 36 36.7**	**+0.2**
	2.8nm,0.1s						
UZB				*eS*	**Sg**	**15 36 44.1**	**-0.1**
	5.7nm,0.1s						
KOTS	**Kotyrbulak**	**0.87**	**285**	*eP*	**Pn**	**15 36 42.5**	**-0.2**
	0.8nm,0.1s						
KOTS				*eS*	**Sg**	**15 36 54.1**	**+0.4**
	2.9nm,0.2s						
TNSS	**Tian-Shan**	**0.97**	**271**	P	**Pn**	**15 36 44.4**	**+0.1**
	0.3nm,0.1s						
TNSS				S	**Sn**	**15 36 57.3**	**-0.5**
	1.0nm,0.2s						
TNSS	**Tian-Shan**	**0.97**	**271**	*eP*	**Pn**	**15 36 44.4**	**+0.1**
	0.3nm,0.1s						
TNSS				*eS*	**Sn**	**15 36 57.3**	**-0.5**
	1.0nm,0.2s						
BLB	**Baldybastay**	**1.09**	**8**	P	**Pn**	**15 36 45.6**	**0.0**
	2.8nm,0.1s						
BLB				S	**Sb**	**15 36 59.4**	**0.0**
	2.3nm,0.2s						

*DNK **22** 15:37:20.3±2.9, 82°.83N×5°.90W, h14km±39km, ML1.5*
*BER **22** 15:37:21.0±1.8, 82°.94N×6°.30W, h10km, mb(Pn)3.8, Confirmed Earthquake*
ISC 22 15:37:18.8±1.7, **82°.7N**±0°.1×**6°.94W**±0°.0**5**, **h10**km, **n9**, σ2°**31**/16, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.71**	**237**	*i* P	**Pg**	**15 37 52.0**	**+0.6**
NOR				*i* S	**Sg**	**15 38 14.2**	**+0.7**
NOR	**Nord**	**1.71**	**237**	*i* P	**Pg**	**15 37 52.0**	**+0.6**
NOR				*i* S	**Sg**	**15 38 14.2**	**+0.7**
NOR				IAML		15 38 19.7	
	comp=Z,4.7nm,0.3s						
KBS	**Kingsbay**	**4.78**	**131**	*i* P	**Pn**	**15 38 32.6**	**+1.9**
KBS				*i* S	**Sn**	**15 39 23.3**	**-2.7**
BRBB	**Barentsburg B**	**5.73**	**131**	*eP*	**Pn**	**15 38 46.0**	**+2.3**
BRBB				*eS*	**Sn**	**15 39 47.0**	**-2.5**
BRBA	**Barentsburg A**	**5.76**	**132**	*eP*	**Pn**	**15 38 47.1**	**+3.0**
BRBA				IAML		15 39 38.0	
	comp=Z,6.2nm,1.4s						
SPA0	**Spitsbergen Ar**	**5.87**	**127**	*eP*	**Pn**	**15 38 47.5**	**+1.8**
SPA0				*eS*	**Sn**	**15 39 50.1**	**-2.8**
SPA0				IAML		15 39 52.4	
	comp=Z,4.3nm,0.8s						
DBG	**Daneborg**	**8.75**	**204**	*eP*	**Pn**	**15 39 27.3**	**+2.1**
DBG				*eS*	**Sn**	**15 41 02.2**	**-1.4**
DBG	**Daneborg**	**8.75**	**204**	*e*	Pn	15 39 30.6	+5.5
DBG				*eS*	**Sn**	**15 41 01.6**	**-2.0**
NEEM	**North Greenlan**	**8.93**	**259**	*eP*	**Pn**	**15 39 28.1**	**+0.2**
NEEM				*eS*	**Sn**	**15 41 04.6**	**-3.9**

*IDC **22** 15:42:16.7±0.7, 28°.46S×62°.11E, h0km, mb4.0/13, mbtmp4.0/14, ML4.5/1, Error ellipse: s-maj=26.6km s-min=19.1km az=78.0*
*NEIC **22** 15:42:17.6±1.4, 28°.5S±0°.1×62°.0E±0°.1, h10km±1km, mb4.4/8, Error ellipse: s-maj=25.9km s-min=17.6km az=222.0*

ISC 22 15:42:17.5±0.6, **28°.4S**±0°.1×**61°.87E**±0°.1**0**, **h10**km, **n35**, σ1°**49**/27, **mb4.2**/16, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.14**	**321**	Pn	**Pn**	**15 44 29.8**	**+0.2**
FOMA	**Nahampoana Res**	**13.75**	**281**	Pn	**Pn**	**15 45 32.6**	**+0.1**
ABPO	**Ambohimpanom**	**16.35**	**302**		**Pn**	**15 46 08.0**	**+0.6**
OPO	**Ambohidratompo**	**16.65**	**303**	Pn	**P**	**15 46 15.4**	**+1.7**
	0.2nm,0.3s,baz=111,slow=18,SNR=13						
OPO				Sn	**Sn**	**15 49 11.2**	**-5.2**
	baz=110,slow=20,SNR=2.4						
	3.4nm,0.3s						
H04N2	**CROZET ISLANDS**	**19.39**	**201**	T	T	16 06 46.4	
	baz=28,slow=74,SNR=213						
H04N1	**CROZET ISLANDS**	**19.39**	**202**	T	T	16 06 46.9	
	baz=28,slow=74,SNR=228						
H04N3	**CROZET ISLANDS**	**19.40**	**201**	T	T	16 06 43.1	
	baz=28,slow=74,SNR=206						
H08S1	**Diego Carcia H**	**22.99**	**28**	T	T	16 11 05.1	
	baz=203,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**23.00**	**28**	T	T	16 11 04.8	
	baz=203,slow=76,SNR=5.5						
H08S3	**Diego Garcia H**	**23.01**	**28**	T	T	16 11 07.5	
	baz=203,slow=76,SNR=9.5						
H01W2	**Cape Leeuwin H**	**44.53**	**112**	T	T	16 37 52.7	
	baz=263,slow=75,SNR=6.1						
H01W3	**Cape Leeuwin H**	**44.54**	**112**	T	T	16 37 53.5	
	baz=263,slow=75,SNR=4.5						
H01W1	**Cape Leeuwin H**	**44.55**	**112**	T	T	16 37 53.5	
	baz=263,slow=75,SNR=4.0						
SNAA	**Sanae**	**55.35**	**200**	P	**P**	**15 51 51.9**	**+0.6**
	2.0nm,1.0s,baz=151,slow=10,SNR=2.1						
	2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.82**	**42**	P	**P**	**15 52 17.1**	**+0.7**
	1.8nm,0.8s,baz=232,slow=7.3,SNR=14						
	1.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**58.91**	**95**	P	**P**	**15 52 14.5**	**-2.6**
FITZ				IAmb	IAmb	15 52 33.6	
	comp=Z,4.2nm,1.4s						
CHTO	**Chiang Mai**	**59.10**	**42**	P	**P**	**15 52 18.2**	**-0.1**
CHTO				IAmb	IAmb	15 52 32.0	
	comp=Z,5.5nm,1.5s						
QSPA	**South Pole Qui**	**61.71**	**180**	P	**P**	**15 52 35.2**	**-0.6**
QSPA	**South Pole Qui**	**61.71**	**180**	P	**P**	**15 52 36.4**	**+0.7**
	comp=Z,6.4nm,0.8s,baz=247,slow=1.3,SNR=25						
	comp=Z,6.4nm,0.8s						
BBOO	**Buckleboo**	**62.77**	**114**	P	**P**	**15 52 42.0**	**-1.2**
ASAR	**Alice Springs**	**64.02**	**104**	P	**P**	**15 52 50.1**	**-1.6**
ASAR	**Alice Springs**	**64.02**	**104**	P	**P**	**15 52 51.2**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=246,slow=5.9,SNR=17						
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**65.79**	**100**	P	**P**	**15 53 03.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=249,slow=5.8,SNR=4.0						
	comp=Z,1.3nm,0.8s						
STKA	**Stephens Creek**	**67.50**	**115**	P	**P**	**15 53 13.6**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=245,slow=6.1,SNR=4.0						
	comp=Z,1.8nm,0.8s						
BRTR	**Keskin Array B**	**72.74**	**338**	P	**P**	**15 53 48.5**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=165,slow=10.0,SNR=5.0						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**77.13**	**14**	P	**P**	**15 54 10.0**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=164,slow=4.8,SNR=6.2						
	comp=Z,0.4nm,0.8s						
ABKAR	**Akbulak array**	**77.37**	**359**	P	**P**	**15 54 12.6**	**+0.4**
KURBB	**Kurchatov Arra**	**80.09**	**11**	P	**P**	**15 54 27.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=207,slow=6.4,SNR=4.1						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**81.46**	**5**	P	**P**	**15 54 34.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=157,slow=4.7,SNR=2.9						
	comp=Z,0.6nm,0.6s						
ZAA0	**Zalesovo Array**	**84.43**	**13**	P	**P**	**15 54 50.7**	**+0.9**
ZAA0				IAmb	IAmb	15 54 52.3	
	comp=Z,6.6nm,1.4s						
ZALV	**Zalesovo Beam**	**84.43**	**13**	P	**P**	**15 54 50.2**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=202,slow=3.1,SNR=7.0						
	comp=Z,1.9nm,0.9s						
SONM	**Songino Array**	**85.82**	**28**	P	**P**	**15 54 57.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=201,slow=7.9,SNR=4.1						
	comp=Z,0.4nm,0.3s						
KSRS	**Korea Array**	**90.14**	**47**	P	**P**	**15 55 17.5**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=250,slow=4.4,SNR=3.3						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**145.87**	**357**	PKPbc	**PKPab**	**16 01 57.7**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=348,slow=3.1,SNR=21						
ULM	**Lac du Bonnet**	**152.44**	**328**	PKPbc	**PKiKP**	**16 02 14.3**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=34,slow=5.7,SNR=4.7						

*IDC **22** 16:09:22.5±0.6, 14°.87N×119°.50E, h0km, mb4.0/21, mbtmp4.1/21, MS3.4/9, Error ellipse: s-maj=20.9km s-min=9.8km az=48.0*
*NEIC **22** 16:09:23.1±2.0, 14°.75N±0°.07×119°.8E±0°.2, h10km±1km, mb4.4/26, Error ellipse: s-maj=26.0km s-min=12.2km az=94.0*
ISC 22 16:09:27.1±0.4, **14°.78N**±0°.06×**119°.6E**±0°.1, **h39**km, **n64**, σ1°**54**/62, **mb4.3**/31, **MS3.2**/8, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.45**	**117**	Pg	**Pn**	**16 09 53.1**	**+2.4**
	557nm,0.3s,baz=303,slow=5.9,SNR=16						
TGY				Lg	Lg	16 10 14.1	
	502nm,0.3s,baz=267,slow=17,SNR=9.3						
KKM	**Kota Kinabalu**	**9.30**	**201**	Pn	**Pn**	**16 11 35.3**	**-3.4**
DAV	**Davao City (W)**	**9.64**	**142**	Pn	**Pn**	**16 11 47.5**	**+4.2**
	25nm,0.3s,baz=38,slow=15,SNR=1.2						
DAV				LR	LR	16 16 21.6	
	comp=Z,291nm,18.4s,baz=329,slow=43						
YHNB	**Yeheng**	**9.98**	**9**	Pn	**Pn**	**16 11 44.9**	**-3.1**
CMAR	**Chiang Mai Arr**	**20.14**	**283**	P	**P**	**16 13 58.5**	**+0.4**
	0.4nm,0.3s,baz=95,slow=11,SNR=4.3						
CMAR				LR	LR	16 22 46.2	
	comp=Z,59nm,18.5s,baz=75,slow=40						
	0.4nm,0.3s						
JNU	**Nakatsue**	**20.93**	**27**	LR	LR	16 22 05.6	
	comp=Z,81nm,18.8s,baz=242,slow=36						
FAKI	**Fak Fak**	**21.58**	**144**	P	**P**	**16 14 12.3**	**-1.3**
KSRS	**Korea Array**	**23.76**	**17**	P	**P**	**16 14 35.0**	**-0.9**
	1.7nm,0.7s,baz=194,slow=11,SNR=5.3						
KSRS				LR	LR	16 24 31.7	
	comp=Z,58nm,19.0s,baz=295,slow=38						
	1.7nm,0.7s						
GUMO	**Guam**	**24.51**	**90**	LR	LR	16 23 48.4	
	comp=Z,44nm,19.1s,baz=292,slow=35						
SOEI	**Soe**	**24.81**	**169**	P	**P**	**16 14 41.3**	**-4.5**
USRK	**Ussuriysk Ar.**	**31.16**	**17**	P	**P**	**16 15 42.5**	**+0.3**
	0.5nm,0.7s,baz=215,slow=8.2,SNR=1.8						
USRK				LR	LR	16 27 48.2	
	comp=Z,61nm,21.1s,baz=290,slow=36						
	0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**33.20**	**169**	P	**P**	**16 15 58.8**	**-1.6**
FITZ				IAmb	IAmb	16 16 04.8	
	comp=Z,6.8nm,1.4s						
FITZ	**Fitzroy Crossi**	**33.20**	**169**	P	**P**	**16 16 02.8**	**+2.4**
	comp=Z,5.0nm,1.0s,baz=358,slow=11,SNR=2.1						
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**34.74**	**344**	P	**P**	**16 16 12.8**	**-0.8**
SONM	**Songino Array**	**34.74**	**344**	P	**P**	**16 16 14.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=173,slow=7.8,SNR=4.0						
	comp=Z,0.6nm,0.8s						
JKA	**Kamikawa-asahi**	**35.19**	**29**	P	**P**	**16 16 14.4**	**-2.9**
MBWA	**Marble Bar**	**35.71**	**180**	P	**P**	**16 16 20.2**	**-1.9**
KLR	**Kul'dur**	**35.77**	**14**	LR	LR	16 30 54.4	
	comp=Z,72nm,18.3s,baz=233,slow=36						
PSA00	**Pilbara Seismi**	**36.12**	**180**	P	**P**	**16 16 24.6**	**-0.9**
PSA00				IAmb	IAmb	16

ASAR	**Alice Springs**	**40.68**	**160**	P	**P**	**16 17 05.2**	**+1.2**
	comp=Z,5.0nm,0.5s,baz=336,slow=7.2,SNR=91						
	comp=Z,5.0nm,0.5s						
MK31	**Makanchi Array**	**44.55**	**324**	P	**P**	**16 17 35.1**	**0.0**
MKAR	**Makanchi Array**	**44.55**	**324**	P	**P**	**16 17 35.3**	**+0.2**
MKAR	**Makanchi Array**	**44.55**	**324**	P	**P**	**16 17 35.1**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=130,slow=6.8,SNR=5.0						
MKAR				PcP	**PP**	**16 19 19.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=99,slow=4.0,SNR=6.2						
	comp=Z,0.6nm,0.9s						
FORT	**Forrest**	**46.02**	**170**	P	**P**	**16 17 47.1**	**+0.3**
AAK	**Ala-Archa**	**47.57**	**315**	LR	LR	16 38 35.3	
	comp=Z,71nm,20.7s,baz=14,slow=37						
ZALV	**Zalesovo Beam**	**47.62**	**333**	P	**P**	**16 17 59.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=121,slow=7.8,SNR=2.5						
ZALV				LR	LR	16 36 58.0	
	comp=Z,46nm,18.3s,baz=354,slow=35						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**48.60**	**30**	P	**P**	**16 18 05.8**	**-0.9**
PETK	**Petropavlovsk-**	**48.60**	**30**	P	**P**	**16 18 06.4**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=223,slow=6.8,SNR=1.8						
	comp=Z,2.1nm,0.7s						
KURBB	**Kurchatov Arra**	**48.71**	**326**	P	**P**	**16 18 08.3**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=119,slow=8.7,SNR=6.3						
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**48.72**	**326**	P	**P**	**16 18 08.9**	**+1.3**
KURK				IAmb	IAmb	16 18 22.0	
	comp=Z,2.3nm,0.8s						
BBOO	**Buckleboo**	**49.86**	**162**	P	**P**	**16 18 17.0**	**+0.4**
BBOO				IAmb	IAmb	16 18 19.4	
	comp=Z,6.2nm,1.1s						
KKAR	**Karatay Array**	**50.48**	**314**	P	**P**	**16 18 21.9**	**+0.7**
BVAR	**Borovoye Array**	**54.30**	**326**	P	**P**	**16 18 50.8**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=98,slow=7.4,SNR=2.3						
	comp=Z,0.3nm,0.5s						
TIXI	**Tiksi**	**57.12**	**3**	P	**P**	**16 19 08.7**	**-0.6**
TIXI				IAmb	IAmb	16 19 10.3	
	comp=Z,6.6nm,1.1s						
NRIK	**Noril'sk**	**58.13**	**347**	P	**P**	**16 19 16.3**	**-0.1**
NRIK				IAmb	IAmb	16 19 44.3	
	comp=Z,6.3nm,1.3s						
NRIK	**Noril'sk**	**58.13**	**347**	P	**P**	**16 19 16.9**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=126,slow=7.1,SNR=4.8						
	comp=Z,1.7nm,0.6s						
AB31	**Akbulak array**	**59.23**	**319**	P	**P**	**16 19 25.8**	**+1.4**
ABKAR	**Akbulak array**	**59.23**	**319**	P	**P**	**16 19 25.5**	**+1.1**
ABKAR	**Akbulak array**	**59.23**	**319**	P	**P**	**16 19 25.7**	**+1.2**
ABKAR				IAmb	IAmb	16 19 40.3	
	comp=Z,1.3nm,0.9s						
F15K	**North Star Dit**	**70.77**	**25**	P	**P**	**16 20 39.6**	**+0.5**
F15K				IAmb	IAmb	16 21 06.3	
	comp=Z,2.0nm,1.1s						
J17K	**VABM Dome**	**73.01**	**28**	P	**P**	**16 20 52.6**	**0.0**
K17K	**Iditarod**	**73.36**	**28**	P	**P**	**16 20 55.3**	**+0.6**
D19K	**Kuna River**	**73.53**	**22**	P	**P**	**16 20 55.8**	**+0.2**
D19K				IAmb	IAmb	16 21 04.9	
	comp=Z,2.2nm,1.1s						
ARCES	**ARCESS Array B**	**77.71**	**339**	P	**P**	**16 21 19.1**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=76,slow=5.8,SNR=4.4						
	comp=Z,5.2nm,0.9s						
ILAR	**Eielson Array**	**78.25**	**26**	P	**P**	**16 21 23.2**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=253,slow=6.6,SNR=4.1						
	comp=Z,0.7nm,1.0s						
SPITS	**Spitsbergen Ar**	**78.33**	**348**	P	**P**	**16 21 24.3**	**+1.5**
	comp=Z,5.3nm,0.6s,baz=55,slow=7.6,SNR=5.0						
	comp=Z,5.3nm,0.6s						
BMAR	**Burnt Mountain**	**78.69**	**23**	P	**P**	**16 21 25.0**	**-0.1**
FINES	**FINESS Array B**	**78.84**	**331**	P	**P**	**16 21 25.7**	**-0.1**
FINES	**FINESS Array B**	**78.84**	**331**	P	**P**	**16 21 26.1**	**+0.3**
	comp=Z,19nm,1.4s,baz=47,slow=5.5,SNR=9.5						
	comp=Z,19nm,1.4s						
HFS	**Hagfors**	**85.03**	**331**	P	**P**	**16 21 58.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=145,slow=5.4,SNR=5.5						
	comp=Z,0.9nm,0.5s						
NB2	**NORSAR Subarra**	**85.83**	**332**	P	**P**	**16 22 03.5**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**85.83**	**332**	P	**P**	**16 22 02.9**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=67,slow=4.9,SNR=6.8						
	comp=Z,3.3nm,0.9s						
GERES	**GERESS Array B**	**89.14**	**321**	P	**P**	**16 22 20.1**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=34,slow=0.4,SNR=2.8						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**92.18**	**22**	P	**P**	**16 22 33.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=308,slow=4.5,SNR=10						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**119.43**	**43**	PKP	**PKiKP**	**16 28 14.6**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=225,slow=1.2,SNR=4.0						
PLCA	**Paso Flores**	**152.66**	**163**	PKPbc	**PKiKP**	**16 29 21.8**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=296,slow=1.8,SNR=6.6						

IDC 22 16:17:06.1±1.6, 17°.08S×172°.86W, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/2, Error ellipse: s-maj=52.3km s-min=38.8km az=139.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.70**	**264**	LR	LR	16 22 26.1	
	comp=Z,134nm,20.1s,baz=94,slow=37						
PPT	**Papeete**	**22.23**	**95**	LR	LR	16 28 35.0	
	comp=Z,76nm,19.4s,baz=150,slow=31						
WRA	**Warramunga Arr**	**49.98**	**258**	P	P	16 26 02.3	-0.2
	0.4nm,0.4s,baz=96,slow=7.1,SNR=8.6						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**50.10**	**253**	P	P	16 26 03.5	0.0
	1.5nm,0.5s,baz=88,slow=8.7,SNR=68						
	1.5nm,0.5s						
QSPA	**South Pole Qui**	**72.97**	**180**	P	P	16 28 37.5	+0.1
	1.3nm,0.9s,baz=30,slow=4.6,SNR=2.6						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**83.99**	**11**	P	P	16 29 37.9	-0.1
	0.2nm,0.7s,baz=206,slow=5.0,SNR=4.4						
	0.2nm,0.7s						

*IDC **22** 16:48:24.3±7.2, 34°.68N×24°.27E, h0km, mb3.8/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=119.1km s-min=70.1km az=42.0*
*THE **22** 16:48:28.0, 34°.39N×24°.10E, h18km±1km, ML3.3/2, Error ellipse: s-maj=4.5km s-min=1.6km az=264.0*
*ATH **22** 16:48:33.4, 34°.81N×24°.16E, h19km±2km, ML2.6/3, Manual Solution by A.Agalos First location: 2019/03/22 16:49:56, This location: 2019/03/22 17:05:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*

ISC 22 16:48:28.3±2.1, 34°.5N±0°.1×24°.15E±0°.07, h32km±9km, n18, σ1°.77/25, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.37**	**352**	P	**Pb**	**16 48 36.5**	**-0.4**
GVD				S	**Sb**	**16 48 44.3**	**+1.5**
	5μm,0.4s						
GVD	**Gavdhos**	**0.37**	**352**	P	**Pb**	**16 48 37.1**	**+0.2**
TMBK	**Timbaki Herakl**	**0.78**	**40**	P	**Pn**	**16 48 45.3**	**+2.2**
PRNS	**Prines Rethymn**	**0.93**	**18**	P	**Pn**	**16 48 46.1**	**+0.9**
PRNS				S	**Sb**	**16 48 59.0**	**+0.9**
PRNS	**Prines Rethymn**	**0.93**	**18**	P	**Pn**	**16 48 45.4**	**+0.2**
IMMV	**Iera Moni Meta**	**0.99**	**352**	P	**Pn**	**16 48 46.6**	**+0.6**
IMMV				S	**Sn**	**16 49 01.7**	**+2.8**
	1μm,0.4s						
IMMV	**Iera Moni Meta**	**0.99**	**352**	P	**Pn**	**16 48 46.6**	**+0.6**
IMMV				S	**Sb**	**16 48 55.6**	**-4.2**
IDI	**Anoyia**	**1.01**	**37**	P	**Pb**	**16 48 48.3**	**+0.8**
IDI				S	**Sb**	**16 48 58.2**	**-2.3**
CHAN	**Chania**	**1.05**	**355**	P	**Pb**	**16 48 48.0**	**+0.1**
ANKY	**Antikythira Is**	**1.55**	**334**	P	**Pb**	**16 48 56.4**	**-0.1**
ANKY				S	**Sn**	**16 49 13.2**	**+0.5**
THR6	**Thira Island,**	**2.14**	**28**	P	**Pn**	**16 49 03.1**	**+1.4**
THR5	**Thira Island,**	**2.17**	**26**	P	**Pn**	**16 49 03.1**	**+0.9**
VLI	**Veliai**	**2.45**	**337**	P	**Pn**	**16 49 08.2**	**+2.2**
VLI				S	**Sn**	**16 49 35.7**	**+0.9**
KARP	**Karpathos**	**2.69**	**66**	P	**Pn**	**16 49 12.3**	**+2.9**
BRTR	**Keskin Array B**	**9.21**	**53**	Pn	**Pn**	**16 50 37.5**	**-1.5**
	baz=239,slow=13,SNR=2.3						
	0.3nm,0.4s						
MMAI	**Mount Meron Ar**	**9.48**	**96**	Pn	**Pn**	**16 50 41.1**	**-1.6**
	1.1nm,0.3s,baz=278,slow=13,SNR=6.7						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**44.84**	**56**	P	**P**	**16 56 38.9**	**-0.4**
	0.6nm,0.5s,baz=264,slow=7.5,SNR=10						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**46.08**	**46**	P	**P**	**16 56 47.5**	**-1.5**
	0.8nm,0.4s,baz=274,slow=9.0,SNR=4.6						
	0.8nm,0.4s						

IDC 22 16:58:04.6±7.1, 5°.00S×151°.65E, h100km±52km, mb3.3/3, mbtmp3.7/4, Error ellipse: s-maj=86.7km s-min=33.5km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**225**	P	Pn	16 59 33.0	-1.2
	9.4nm,0.8s,baz=267,slow=4.6,SNR=2.3						
PMG				S	Sn	17 00 46.9	+2.6
	13nm,0.3s,baz=23,slow=15,SNR=15						
WRA	**Warramunga Arr**	**22.46**	**227**	P	P	17 02 54.8	-0.9
	1.7nm,0.6s,baz=50,slow=10,SNR=13						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**25.24**	**221**	P	P	17 03 21.2	-0.2
	1.1nm,0.7s,baz=54,slow=8.6,SNR=19						
	1.1nm,0.7s						
SONM	**Songino Array**	**65.89**	**328**	P	P	17 08 40.6	+0.8
	0.4nm,0.8s,baz=146,slow=5.1,SNR=2.7						
	0.4nm,0.8s						

*IDC **22** 16:59:03.0±10.0, 30°.22N×67°.36E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=186.0km s-min=40.8km az=163.0*

ISC 22 16:59:05.4±8.0, 30°.2N±0°.9×67°.4E±0°.4, h17km, n6, σ0°.25/6, mb3.4/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.20**	**31**	P	**P**	**17 03 39.3**	**-0.1**
	1.1nm,0.6s,baz=211,slow=10,SNR=19						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**22.04**	**19**	P	**P**	**17 03 58.9**	**-0.1**
	0.9nm,0.8s,baz=211,slow=9.4,SNR=6.4						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**22.90**	**5**	P	**P**	**17 04 08.2**	**0.0**
	0.3nm,0.4s,baz=183,slow=12,SNR=2.1						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**26.88**	**23**	P	**P**	**17 04 45.3**	**+0.2**
	0.3nm,0.3s,baz=229,slow=10.0,SNR=3.8						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**41.27**	**331**	P	**P**	**17 06 49.7**	**+0.3**
	1.6nm,0.7s,baz=111,slow=7.2,SNR=4.9						
	1.6nm,0.7s						
HFS	**Hagfors**	**46.36**	**326**	P	**P**	**17 07 30.1**	**-0.3**
	4.9nm,1.1s,baz=109,slow=8.5,SNR=5.5						
	4.9nm,1.1s						

*JMA **22** 17:00:17.7±0.2, 34°.N±2°.×13°.7E±°, h368km, MV3.3/24, SE OFF KII PENINSULA*
*IDC **22** 17:00:17.6±0.6, 33°.60N×137°.32E, h360km±8km, mb3.3/13, mbtmp4.0/20, Error ellipse: s-maj=17.9km s-min=9.5km az=70.0*

ISC 22 17:00:17.5±0.7, 33°.57N±0°.07×137°.34E±0°.06, h363km±6km, n40, σ1°.29/52, mb3.6/13, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.31**	**303**	*eP*	**Pn**	**17 01 04.0**	**+1.5**
TTO4	**TONANKAI O.B.S**	**0.47**	**21**	*eP*	**Pn**	**17 01 04.3**	**+1.6**
JIE	**Ise**	**0.97**	**328**	*eP*	**Pn**	**17 01 05.3**	**+0.8**
JIE				*eS*	**S**	**17 01 42.4**	**+0.1**
JTNC	**Tanabenakahech**	**1.46**	**280**	*eP*	**Pn**	**17 01 07.5**	**+0.8**
JTNC				*eS*	**S**	**17 01 45.5**	**-0.8**
JWY	**Kouya**	**1.59**	**295**	*eP*	**Pn**	**17 01 08.0**	**+0.5**
JWY				*eS*	**S**	**17 01 46.8**	**-0.9**
INU	**Inuyama**	**1.80**	**352**	P	**Pn**	**17 01 09.4**	**+0.8**
JGF	**Kuroka**	**2.03**	**0**	P	**Pn**	**17 01 10.8**	**+0.6**
JYTA	**Yamagatataniai**	**2.08**	**346**	P	**Pn**	**17 01 11.1**	**+0.6**
JYTA				*eS*	**S**	**17 01 52.2**	**-0.9**
JHJ	**Hachijo jima 2**	**2.10**	**102**	P	**Pn**	**17 01 12.7**	**+2.0**
	140nm,0.5s,baz=35,slow=23,SNR=6.3						
JHJ				S	**S**	**17 01 53.2**	**-0.2**
	63nm,0.5s,baz=292,slow=6.0,SNR=1.1						
JHJ2	**Mitsune**	**2.12**	**102**	P	**Pn**	**17 01 12.8**	**+1.9**
JHJ2	**Mitsune**	**2.12**	**102**	*eP*	**Pn**	**17 01 12.6**	**+1.8**
JYN	**Shimob**	**2.17**	**27**	*eP*	**Pn**	**17 01 13.2**	**+2.0**
JOD2	**Odawara 2**	**2.23**	**40**	*eP*	**Pn**	**17 01 12.7**	**+1.1**
JWT	**Wachi**	**2.34**	**317**	P	**Pn**	**17 01 12.5**	**+0.2**
JWT				*eS*	**S**	**17 01 54.5**	**-2.1**
JRY	**Ryogami san**	**2.76**	**27**	P	**Pn**	**17 01 16.6**	**+0.8**
JRY				*eS*	**S**	**17 02 02.4**	**-0.4**
JKG	**Kaga**	**2.83**	**343**	*eP*	**Pn**	**17 01 16.4**	**+0.2**
MJAR	**Matsushiro Art**	**3.05**	**13**	P	**Pn**	**17 01 18.4**	**+0.1**
	22nm,0.5s,baz=167,slow=7.7,SNR=79						
MJAR				S	**S**	**17 02 06.5**	**-0.7**
	4.0nm,0.4s,baz=22,slow=15,SNR=5.5						
MAJO	**Matsushiro**	**3.05**	**13**	P	**Pn**	**17 01 18.5**	**+0.3**
MAT	**Matsushiro**	**3.05**	**13**	P	**Pn**	**17 01 18.4**	**+0.2**
MAT				*eS*	**S**	**17 02 06.0**	**-1.3**
BSO1	**Boso 1**	**3.21**	**69**	*eP*	**Pn**	**17 01 18.5**	**-0.5**
BSO1				*eS*	**S**	**17 02 07.9**	**-0.8**
JSD	**Sado**	**4.52**	**9**	P	**Pn**	**17 01 32.5**	**0.0**
JNU	**Nakatsue**	**5.42**	**267**	P	**Pn**	**17 01 42.5**	**+0.1**
	13nm,0.8s,baz=97,slow=5.2,SNR=8.0						
JCJ	**Chichijima**	**7.69**	**146**	P	Pn	17 02 04.4	-3.9
	41nm,0.8s,baz=352,slow=18,SNR=1.4						
JCJ				S	**S**	**17 03 32.4**	**-6.3**
	82nm,0.5s,baz=103,slow=23,SNR=11						
KSRS	**Korea Array**	**8.60**	**299**	P	**Pn**	**17 02 19.2**	**+0.4**
	3.6nm,0.7s,baz=124,slow=10,SNR=12						
ASAJ	**Asahikawa**	**11.30**	**20**	P	**P**	**17 02 50.2**	**-0.4**
	4.2nm,0.4s,baz=220,slow=13,SNR=19						
USRK	**Ussuriysk Ar.**	**11.40**	**340**	P	**P**	**17 02 51.3**	**-0.4**
	5.0nm,0.7s,baz=160,slow=10,SNR=11						
KLR	**Kul'dur**	**16.19**	**347**	P	**P**	**17 03 45.5**	**+1.3**
	1.3nm,0.4s,baz=158,slow=13,SNR=8.4						
SONM	**Songino Array**	**27.23**	**311**	P	**P**	**17 05 30.1**	**+0.5**
	2.6nm,0.9s,baz=126,slow=11,SNR=13						
	2.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.41**	**256**	P	**P**	**17 06 56.9**	**-0.4**
	0.8nm,0.6s,baz=49,slow=7.4,SNR=11						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**41.91**	**315**	P	**P**	**17 07 33.5**	**0.0**
	1.0nm,0.4s,baz=98,slow=9.7,SNR=4.9						
ZALV				PcP	**PcP**	**17 09 21.0**	**-0.3**
	0.6nm,0.4s,baz=76,slow=6.1,SNR=3.6						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.24**	**305**	P	**P**	**17 07 44.3**	**0.0**
	0.6nm,0.4s,baz=86,slow=9.8,SNR=22						
MKAR				PcP	**PcP**	**17 09 25.7**	**-0.3**
	0.1nm,0.4s,baz=82,slow=5.7,SNR=2.7						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**45.60**	**310**	P	**P**	**17 08 02.3**	**-0.3**
	2.2nm,0.5s,baz=89,slow=8.7,SNR=25						
	2.2nm,0.5s						
BVAR	**Borovoye Array**	**50.50**	**314**	P	**P**	**17 08 39.5**	**-0.3**
	0.7nm,0.3s,baz=92,slow=8.6,SNR=8.9						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**53.29**	**184**	P	**P**	**17 09 01.0**	**+0.6**
	2.2nm,0.3s,baz=360,slow=7.6,SNR=45						
	2.2nm,0.3s						
ASAR	**Alice Springs**	**57.01**	**184**	P	**P**	**17 09 27.4**	**+0.8**
	0.9nm,0.3s,baz=355,slow=4.4,SNR=80						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**17 10 52.2**	**+0.1**
	1.8nm,0.4s,baz=60,slow=5.6,SNR=20						
	1.8nm,0.4s						
AKASG	**Malin Array Be**	**74.95**	**321**	P	**P**	**17 11 19.2**	**-0.3**
	0.5nm,0.4s,baz=52,slow=5.7,SNR=2.7						
	0.5nm,0.4s						
HFS	**Hagfors**	**75.82**	**335**	P	**P**	**17 11 24.2**	**+0.1**
	1.2nm,0.5s,baz=72,slow=4.8,SNR=7.0						
	1.2nm,0.5s						
NOA	**NORSAR Array B**	**76.04**	**336**	P	**P**	**17 11 25.5**	**+0.1**
	0.7nm,0.7s,baz=32,slow=7.8,SNR=2.3						
	0.7nm,0.7s						
BRTR	**Keskin Array B**	**78.59**	**310**	P	**P**	**17 11 41.0**	**+1.0**
	0.8nm,0.8s,baz=85,slow=4.3,SNR=4.4						
	0.8nm,0.8s						

*NEIC **22** 17:07:33.4±1.2, 18°.00S±0°.10×174°.15W±0°.10, h148km±9km, mb4.9/20, Error ellipse: s-maj=13.9km s-min=13.3km az=166.0*
*IDC **22** 17:07:40.4±3.9, 18°.16S×174°.68W, h178km±33km, mb4.0/7, mbtmp4.4/8, MS2.8/1, Error ellipse: s-maj=25.8km s-min=24.0km az=85.0*
*NOU **22** 17:07:44.3, 18°.79S×173°.37W, h194km, mb4.4/8, Tonga Islands*

ISC 22 17:07:33.5±0.5, 18°.00S±0°.07×174°.17W±0°.06, h150km, n71, σ1°.51/74, mb4.8/20, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.16**	**106**	Pn	**Pn**	**17 08 36.2**	**+0.3**
NIUE				Sn	**Sn**	**17 09 22.9**	**-1.6**
NIUE	**Niue**	**4.16**	**106**	P	**Pn**	**17 08 36.5**	**+0.6**
NIUE	**Niue**	**4.16**	**106**	P	**Pn**	**17 08 36.5**	**+0.6**
NIUE				S	**Sn**	**17 09 23.6**	**-0.8**
AFI	**Afiamalu**	**4.68**	**30**	Pn	**Pn**	**17 08 42.3**	**-0.5**
MSVF	**Nonsavu**	**7.42**	**271**	Pn	**Pn**	**17 09 20.6**	**+1.4**
MSVF	**Nonsavu**	**7.42**	**271**	P	**Pn**	**17 09 20.8**	**+1.6**
	15nm,0.7s,baz=114,slow=16,SNR=12						
MSVF				LR	LR	17 11 37.1	
	comp=Z,62nm,18.3s,baz=75,slow=34						
FUNA	**Funafuti**	**11.42**	**325**	Pn	**Pn**	**17 10 11.8**	**-0.5**
GLKZ	**Green Lake**	**11.72**	**196**	P	**Pn**	**17 10 13.5**	**-2.7**
GLKZ				S	Sn	17 12 15.6	-10
DZM	**Mont Dzumac**	**18.66**	**254**	P	**Pn**	**17 11 40.8**	**-1.5**
PKGZ	**Pakihiroa**	**20.92**	**197**	P	**P**	**17 12 05.4**	**+1.1**
PUZ	**Puketiti**	**21.07**	**197**	P	**P**	**17 12 04.7**	**-1.1**
RUGZ	**Raukumara Rang**	**21.13**	**198**	P	**P**	**17 12 06.1**	**-0.5**
MKAZ	**Moumakai**	**21.22**	**204**	P	**P**	**17 12 08.8**	**+1.3**
TWGZ	**Tauwhareparae**	**21.24**	**197**	P	**P**	**17 12 10.7**	**+3.0**
WTAZ	**Waiatarua**	**21.31**	**206**	P	**P**	**17 12 07.6**	**-0.9**
MWZ	**Matawai**	**21.52**	**198**	P	**P**	**17 12 12.9**	**+2.2**
MWZ				S	**S**	**17 15 59.4**	**-0.5**
URZ	**Urewera**	**21.57**	**199**	P	**P**	**17 12 12.1**	**+0.9**
	6.0nm,0.3s,baz=116,slow=3.3,SNR=18						
	6.0nm,0.3s						
URZ	**Urewera**	**21.57**	**199**	P	**P**	**17 12 11.6**	**+0.3**
URZ	**Urewera**	**21.57**	**199**	P	**P**	**17 12 11.3**	**+0.1**
URZ				S	**S**	**17 16 00.3**	**-0.4**
RIGZ	**Rimuhau**	**21.80**	**197**	P	**P**	**17 12 14.2**	**+0.6**
RTZ	**Ruatahuna**	**21.94**	**199**	P	**P**	**17 12 14.4**	**-0.7**
RTZ				IAmb	IAmb	17 12 19.5	
	comp=Z,65nm,1.9s						
SNGZ	**Shannon Statio**	**21.99**	**198**	P	**P**	**17 12 17.3**	**+1.8**
RAHZ	**Arahi**	**22.19**	**198**	P	**P**	**17 12 18.4**	**+0.8**
HIZ	**Hauiti**	**22.57**	**203**	P	**P**	**17 12 23.9**	**+2.6**
HIZ	**Hauiti**	**22.57**	**203**	P	**P**	**17 12 23.8**	**+2.6**
BKZ	**Black Stump Fm**	**22.60**	**199**	P	**P**	**17 12 21.1**	**-0.4**
BKZ	**Black Stump Fm**	**22.60**	**199**	P	**P**	**17 12 23.8**	**+2.3**
BKZ	**Black Stump Fm**	**22.60**	**199**	P	**P**	**17 12 21.6**	**+0.1**
PXZ	**Pawanui**	**23.28**	**198**	P	**P**	**17 12 30.4**	**+2.7**
BFZ	**Birch Farm**	**24.06**	**198**	P	**P**	**17 12 37.7**	**+2.8**
MRZ	**Mangatainoka R**	**24.25**	**199**	P	**P**	**17 12 37.3**	**+0.7**
QRZ	**Quartz Range**	**25.46**	**204**	P	**P**	**17 12 45.6**	**-1.9**
QRZ				IAmb	IAmb	17 12 51.9	
	comp=Z,33nm,1.4s						
QRZ	**Quartz Range**	**25.46**	**204**	P	**P**	**17 12 49.4**	**+1.8**
QRZ	**Quartz Range**	**25.46**	**204**	P	**P**	**17 12 49.2**	**+1.7**
INZ	**Inchbonnie**	**27.51**	**203**	P	**P**	**17 13 04.3**	**-1.6**
INZ	**Inchbonnie**	**27.51**	**203**	P	**P**	**17 13 06.8**	**+0.9**
OXZ	**Oxford**	**27.81**	**202**	P	**P**	**17 13 11.3**	**+2.7**
FOZ	**Fox Glacier**	**28.82**	**205**	P	**P**	**17 13 16.2**	**-1.4**
FOZ				IAmb	IAmb	17 13 33.5	
	comp=Z,25nm,1.3s						
FOZ	**Fox Glacier**	**28.82**	**205**	P	**P**	**17 13 18.1**	**+0.5**
JCZ	**Jackson Bay**	**29.69**	**205**	P	**P**	**17 13 28.1**	**+2.8**
JCZ	**Jackson Bay**	**29.69**	**205**	P	**P**	**17 13 25.9**	**+0.6**
MLZ	**Mavora Lakes**	**31.02**	**205**	P	**P**	**17 13 39.4**	**+2.4**
WHZ	**Wether Hill Ro**	**31.53**	**204**	P	**P**	**17 13 39.5**	**-1.9**
WHZ				IAmb	IAmb	17 14 47.8	
	comp=Z,73nm,2.0s						
WHZ	**Wether Hill Ro**	**31.53**	**204**	P	**P**	**17 13 43.6**	**+2.3**
EIDS	**Eidsvold**	**33.04**	**251**	P	**P**	**17 13 54.3**	**-0.6**
EIDS				IAmb	IAmb	17 14 59.1	
	comp=Z,37nm,1.9s						
ARMA	**Armidale**	**33.42**	**242**	P	**P**	**17 13 57.8**	**-0.5**
STKA	**Stephens Creek**	**42.14**	**242**	P	**P**	**17 15 11.2**	**-0.1**
STKA				IAmb	IAmb	17 16 45.5	
	comp=Z,92nm,1.9s						
STKA	**Stephens Creek**	**42.14**	**242**	P	**P**	**17 15 11.6**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=72,slow=11,SNR=7.0						
	comp=Z,1.6nm,0.5s						
BBOO	**Buckleboo**	**46.90**	**242**	P	**P**	**17 15 48.2**	**-0.9**
BBOO				IAmb	IAmb	17 16 56.5	
	comp=Z,50nm,1.7s						
WB0	**Warramunga Arr**	**48.55**	**259**	P	**P**	**17 16 01.4**	**-0.6**
WB2	**Warramunga Arr**	**48.57**	**259**	P	**P**	**17 16 01.5**	**-0.6**
**W

CLEM			S	Sg	17 11 34.2	+0.8
VLS	**Valsamata**	**0.54 358**	P	Pg	17 11 27.9	0.0
VLS			S	Sg	17 11 35.8	+0.6
	245nm,0.2s					
VLS	**Valsamata**	**0.54 358**	P	Pg	17 11 27.7	-0.2
VLS			S	Sg	17 11 35.4	+0.2
SMHA	**Samh**	**0.62 3**	P	Pg	17 11 28.4	-0.9
DMLN	**Damoulianata-K**	**0.63 343**	P	Pg	17 11 29.9	+0.3
DMLN			S	Sb	17 11 40.4	+1.5
	522nm,0.4s					
DMLN	**Damoulianata-K**	**0.63 343**	P	Pg	17 11 29.7	+0.1
DMLN			S	Sb	17 11 38.9	0.0
YRMI	**Loutra Irminis**	**0.75 51**	P	Pg	17 11 31.4	-0.4
YRMI			S	Sg	17 11 42.0	+0.4
RLS	**Riolos of Patr**	**0.80 58**	P	Pg	17 11 32.8	+0.1
RLS	**Riolos of Patr**	**0.80 58**	P	Pg	17 11 32.2	-0.6
RLS			S	Sg	17 11 43.2	0.0
FSK	**Fiskardo**	**0.82 357**	P	Pg	17 11 32.6	-0.7
FSK			S	Sb	17 11 45.6	+1.1
FSK	**Fiskardo**	**0.82 357**	P	Pg	17 11 32.6	-0.7
FSK			S	Sg	17 11 44.3	+0.3
AXS	**Araxos**	**0.82 47**	P	Pg	17 11 32.8	-0.5
AXS			S	Sg	17 11 44.1	+0.1
AMT	**Artemida-Makis**	**0.88 96**	P	Pg	17 11 34.4	+0.1
AMT			S	Sg	17 11 45.4	-0.3
DRO	**Drossia**	**0.93 70**	P	Pg	17 11 35.3	+0.1
DRO			S	Sn	17 11 49.3	+0.1
	210nm,0.4s					
DRO	**Drossia**	**0.93 70**	P	Pg	17 11 35.1	0.0
DRO			S	Sn	17 11 48.9	-0.3
EVGI	**Lefkada island**	**0.98 2**	P	Pg	17 11 35.9	-0.4
EVGI			S	Sn	17 11 50.7	+0.1
	118nm,0.2s					
EVGI	**Lefkada island**	**0.98 2**	P	Pg	17 11 35.1	-1.2
EVGI			S	Sb	17 11 49.8	+0.6
DRAG	**Dragano-Lefkad**	**1.05 358**	P	Pb	17 11 36.2	-1.0
DRAG			S	Sb	17 11 51.1	+0.2
NYDR	**Nydri-Lefkada**	**1.08 4**	P	Pb	17 11 37.2	-0.6
NYDR			S	Sn	17 11 53.2	+0.3
NYDR	**Nydri-Lefkada**	**1.08 4**	P	Pb	17 11 36.7	-1.1
NYDR			S	Sn	17 11 53.2	+0.3
ITM	**Ithomi**	**1.14 113**	P	Pg	17 11 39.3	0.0
LKD2	**Lefkada island**	**1.15 2**	P	Pb	17 11 38.6	-0.5
LKD2	**Lefkada island**	**1.15 2**	P	Pb	17 11 38.5	-0.5
TSLK	**Tsoukalades, L**	**1.19 2**	P	Pn	17 11 39.4	-0.2
TSLK	**Tsoukalades, L**	**1.19 2**	P	Pn	17 11 39.4	-0.2
PVO	**Paravola**	**1.22 36**	P	Pn	17 11 39.9	-0.1
KLV	**Kalavryta, Ach**	**1.28 71**	P	Pn	17 11 41.1	+0.1
KLV	**Kalavryta, Ach**	**1.28 71**	P	Pn	17 11 41.5	+0.5
EFP	**Efpalio**	**1.29 52**	P	Pn	17 11 40.4	-0.6
GUR	**Goura**	**1.40 77**	P	Pn	17 11 42.9	+0.2
ANX	**Ano Chora**	**1.41 47**	P	Pn	17 11 43.2	+0.5
ANX	**Ano Chora**	**1.41 47**	P	Pn	17 11 42.7	0.0
TETR	**Tetrakomo, Epi**	**1.79 17**	P	Pb	17 11 49.4	-0.5

WEL 22 17:12:21.9±0.6, 42°S±4°×17°4E±°, h22km±6km, M1.8/5, ML2.0/8, MLv1.8/5, Error ellipse: s-maj=6.3km s-min=4.6km az=133.5, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.27**	**26**	P	Pn	17 12 30.4	-0.2
BSWZ	**Blackbirch Sta**	**0.31**	**334**	P	Pn	17 12 30.0	-1.1
TUWZ	**Tuamarina**	**0.57**	**351**	P	Pn	17 12 34.4	-0.3
TUWZ				S	Sn	17 12 42.7	-0.6
KHZ	**Kahutara**	**0.57**	**222**	P	Pn	17 12 34.2	-0.5
KHZ				S	Sn	17 12 42.6	-0.8
TCW	**Tory Channel**	**0.80**	**12**	P	Pb	17 12 37.4	+0.4
TCW				S	Sn	17 12 48.5	-0.5
THZ	**Tophouse**	**0.89**	**284**	P	Pb	17 12 38.7	+0.1
THZ				S	Sn	17 12 51.5	+0.2
NNZ	**Nelson**	**0.92**	**327**	P	Pb	17 12 39.2	-0.1
NNZ				S	Sn	17 12 51.7	-0.4
PLWZ	**Palliser**	**0.99**	**65**	P	Pb	17 12 40.3	-0.1
MSWZ	**Moikau Station**	**1.06**	**58**	P	Pn	17 12 41.1	-0.4
MRNZ	**Matariki Terra**	**1.14**	**301**	P	Pb	17 12 42.7	-0.2
MRNZ				S	Sn	17 12 58.0	+0.6
DUWZ	**D'Urville Isla**	**1.19**	**355**	P	Pb	17 12 44.1	+0.3
PAWZ	**Paruwai Farm**	**1.20**	**60**	P	Pn	17 12 42.8	-0.5
GVZ	**Greta Valley S**	**1.23**	**217**	P	Pn	17 12 43.6	-0.3
GVZ				S	Sn	17 12 59.0	-0.8
TKNZ	**Takaka Hill**	**1.26**	**319**	P	Pn	17 12 43.5	-0.8
LTZ	**Lake Taylor**	**1.54**	**239**	P	Pn	17 12 47.8	-0.3
DSZ	**Denniston Nort**	**1.70**	**278**	P	Pn	17 12 50.9	+0.7

IDC 22 17:41:40.4±1.8, 5°68S×148°77E, h0km, mb3.6/2, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=101.8km s-min=24.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**203**	Pn	Pn	17 42 45.4	+2.1
	29nm,0.3s,baz=21,slow=9.5,SNR=29						
PMG				Sn	Sn	17 43 29.8	-1.5
	4.5nm,0.3s,baz=9.8,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**19.95**	**223**	P	P	17 46 13.8	-0.3
	0.4nm,0.3s,baz=48,slow=11,SNR=12						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**22.90**	**217**	P	P	17 46 45.4	-0.7
	1.0nm,0.5s,baz=54,slow=9.1,SNR=83						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**84.50**	**23**	P	P	17 54 15.2	+0.2
	0.4nm,0.7s,baz=254,slow=5.4,SNR=6.7						
	0.4nm,0.7s						

NEIC ***22*** *18:14:54.1±2.3, 22°.93S±0°.05×68°.72W±0°.06, h113km±6km, mb3.9/2, Error ellipse: s-maj=8.7km s-min=7.0km az=82.0*
SJA ***22*** *18:14:54.6±0.7, 22°.91S×68°.74W, h102km±5km, ML4.4, MW4.0*
SCB ***22*** *18:14:55.0±1.1, 21°.32S×67°.43W, h141km±32km, ML2.2/1, Error ellipse: s-maj=11.7km s-min=10.6km az=0.0*
IDC ***22*** *18:14:55.7±2.4, 22°.97S×68°.35W, h90km±22km, mb4.0/2, mbtmp4.0/7, Error ellipse: s-maj=35.8km s-min=16.3km az=103.0*
GUC ***22*** *18:14:56.1±0.8, 22°.90S×68°.76W, h106km±5km, ML4.3*
ISC 22 18:14:54.4±0.7, 22°90S±0°.04×68°69W±0°.04, h102km±7km, n75, σ1§65/88, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.47**	**96**		**Pn**	**18 15 12.1**	**+1.5**
AF01				Sn	**Sn**	**18 15 24.8**	**+2.1**
AF01	**San Pedro de A**	**0.47**	**96**	⇓*iP*	**Pn**	**18 15 12.5**	**+1.9**
AF01				*i* S	**Sn**	**18 15 24.8**	**+2.1**
AF01	**San Pedro de A**	**0.47**	**96**	*eP*	**Pn**	**18 15 11.6**	**+1.0**
AF01				IAML		18 15 26.1	
	comp=Z,30μm,0.2s						
PB06	**IPOC Station P**	**0.84**	**284**	⇓*iP*	**Pn**	**18 15 14.5**	**+1.0**
PB06				*i* S	**Sn**	**18 15 28.4**	**+0.6**
PB06				IAML		18 15 29.6	
	comp=N,16μm,0.1s						
PB06	**IPOC Station P**	**0.84**	**284**	*eP*	**Pn**	**18 15 13.8**	**+0.3**
PB06				*eS*	**Sn**	**18 15 28.6**	**+0.8**
PB06				IAML		18 15 29.5	
	comp=Z,8μm,0.1s						
PB09	**IPOC Station P**	**1.22**	**335**		**Pn**	**18 15 19.0**	**+1.4**
PB09				Sn	**Sn**	**18 15 35.7**	**+0.7**
PB09	**IPOC Station P**	**1.22**	**335**	⇓*iP*	**Pn**	**18 15 19.6**	**+2.0**
PB09				*eS*	**Sn**	**18 15 36.9**	**+1.8**
PB09	**IPOC Station P**	**1.22**	**335**	*eP*	**Pn**	**18 15 19.0**	**+1.4**
PB09				*eS*	**Sn**	**18 15 37.4**	**+2.4**
PB03	**IPOC Station P**	**1.30**	**311**	⇓*iP*	**Pn**	**18 15 19.6**	**+1.1**
PB03				*i* S	**Sn**	**18 15 36.9**	**+0.2**
PB03				IAML		18 15 40.8	
	comp=N,4μm,0.3s						
PB03	**IPOC Station P**	**1.30**	**311**	*eP*	**Pn**	**18 15 19.7**	**+1.1**
PB03				*eS*	**Sn**	**18 15 37.0**	**+0.2**
PB03				IAML		18 15 41.2	
	comp=Z,3μm,0.3s						
PB03	**IPOC Station P**	**1.30**	**311**	Pg	**Sn**	**18 15 34.1**	**-2.7**
PB05	**IPOC Station P**	**1.39**	**272**		**Pn**	**18 15 19.9**	**+0.3**
PB05				Sn	**Sn**	**18 15 38.1**	**-0.6**
PB05	**IPOC Station P**	**1.39**	**272**	⇑*iP*	**Pn**	**18 15 20.4**	**+0.8**
PB05				*i* S	**Sn**	**18 15 39.1**	**+0.4**
PB05				IAML		18 15 43.5	
	comp=E,3μm,0.1s						
PB05	**IPOC Station P**	**1.39**	**272**	*eP*	**Pn**	**18 15 20.4**	**+0.8**
PB05				*eS*	**Sn**	**18 15 39.3**	**+0.6**
PB05				IAML		18 15 40.0	
	comp=Z,3μm,0.4s						
PB10	**IPOC Station P**	**1.82**	**250**		**Pn**	**18 15 25.4**	**+0.7**
PB10				Sn	**Sn**	**18 15 46.1**	**-1.7**
PB10	**IPOC Station P**	**1.82**	**250**	⇑*iP*	**Pn**	**18 15 25.7**	**+0.9**
PB10				IAML		18 15 56.6	
	comp=N,2μm,0.5s						
PB10	**IPOC Station P**	**1.82**	**250**	*eP*	**Pn**	**18 15 25.1**	**+0.4**
PB10				*eS*	**Sn**	**18 15 51.6**	**+3.8**
PB01	**IPOC Station P**	**1.99**	**338**		**Pn**	**18 15 28.6**	**+1.5**
PB01				Sn	**Sn**	**18 15 53.4**	**+1.4**
PB01	**IPOC Station P**	**1.99**	**338**	⇓*iP*	**Pn**	**18 15 28.9**	**+1.8**
PB01				*i* S	**Sn**	**18 15 54.0**	**+1.9**
PB01				IAML		18 15 57.5	
	comp=N,4μm,0.4s						
PB01	**IPOC Station P**	**1.99**	**338**	*eP*	**Pn**	**18 15 28.6**	**+1.5**
PB01	**IPOC Station P**	**1.99**	**338**	Pg	**Pn**	**18 15 30.3**	**+3.2**
PB14	**IPOC Station P**	**2.32**	**222**		**Pn**	**18 15 32.8**	**+1.3**
PB14				Sn	**Sn**	**18 15 58.9**	**-1.1**
PB14	**IPOC Station P**	**2.32**	**222**	*eP*	**Pn**	**18 15 33.0**	**+1.4**
PB14	**IPOC Station P**	**2.32**	**222**	*eP*	**Pn**	**18 15 32.8**	**+1.3**
PB14				*eS*	**Sn**	**18 16 03.1**	**+3.2**
PB14				IAML		18 16 07.0	
	comp=Z,1μm,0.2s						
GO02	**Mina Guanaco**	**2.39**	**200**		**Pn**	**18 15 34.3**	**+1.9**
GO02	**Mina Guanaco**	**2.39**	**200**	*eP*	**Pn**	**18 15 34.4**	**+1.9**
GO02				IAML		18 16 12.7	
	comp=N,2μm,0.2s						
GO02	**Mina Guanaco**	**2.39**	**200**	*eP*	**Pn**	**18 15 34.0**	**+1.5**
PATCX	**Punta Patache**	**2.48**	**327**	Pn	**Pn**	**18 15 34.1**	**+0.8**
PATCX	**Punta Patache**	**2.48**	**327**	*eP*	**Pn**	**18 15 34.1**	**+0.8**
PATCX	**Punta Patache**	**2.48**	**327**	*eP*	**Pn**	**18 15 34.2**	**+0.8**
TA01	**Diego Aracena**	**2.71**	**329**	Pn	**Pn**	**18 15 36.8**	**+0.5**
TA01	**Diego Aracena**	**2.71**	**329**	IAML		18 16 17.7	
	comp=E,759nm,0.4s						
TA01	**Diego Aracena**	**2.71**	**329**	*eP*	**Pn**	**18 15 37.1**	**+0.8**
TA01				*eS*	Sn	18 15 50.6	-18
HMBC	**Humberstone**	**2.84**	**337**		**Pn**	**18 15 38.6**	**+0.4**
HMBC	**Humberstone**	**2.84**	**337**	*eP*	**Pn**	**18 15 39.8**	**+1.6**
HMBC	**Humberstone**	**2.84**	**337**	Pg	**Pn**	**18 15 36.6**	**-1.6**
TA02	**Huaiquique**	**2.94**	**333**		**Pn**	**18 15 39.6**	**+0.2**
YJA	**Yavi**	**3.02**	**77**	*eP*	Pn	18 15 46.8	+5.8
PB11	**IPOC Station P**	**3.25**	**344**	Pn	**Pn**	**18 15 44.5**	**+0.7**
PB11	**IPOC Station P**	**3.25**	**344**	Pg	Pn	18 15 37.8	-6.0
MOCB	**Mochara**	**3.28**	**60**	Pg	Pn	18 15 27.0	-17
MOCB				Sg	Sn	18 15 51.0	-32
MOCB				IAML		18 15 56.9	
	comp=E,16nm,4.0s						
AC01	**Pan de Azucar**	**3.67**	**208**	Pn	**Pn**	**18 15 49.2**	**+0.1**
AC02	**Maricunga**	**3.93**	**186**	Pn	**Pn**	**18 15 54.6**	**+1.4**
PB12	**IPOC Station P**	**4.54**	**340**	Pn	**Pn**	**18 16 01.4**	**+0.4**
PB12	**IPOC Station P**	**4.54**	**340**	Pg	Pn	18 15 52.7	-8.3
PB16	**IPOC Station P**	**4.61**	**350**	Pn	**Pn**	**18 16 03.2**	**+0.8**
PB16	**IPOC Station P**	**4.61**	**350**	Pg	Pn	18 15 51.2	-11
AC06	**Mina Casimiro**	**4.68**	**198**	Pn	**Pn**	**18 16 03.0**	**+0.1**
AP01	**Chacalluta**	**4.77**	**341**	Pn	**Pn**	**18 16 03.2**	**-0.9**
GO03	**Copiapo**	**4.87**	**196**	Pn	**Pn**	**18 16 04.7**	**-0.7**
PB18	**Visviri**	**5.34**	**352**		**Pn**	**18 16 12.2**	**-0.1**
AC04	**Llanos de Chal**	**5.70**	**202**	Pn	**Pn**	**18 16 15.7**	**-0.9**
AOEA	**Aiquile**	**5.71**	**35**	Pg	Pn	18 15 52.8	-24
AC05	**El Transito**	**6.08**	**193**		**Pn**	**18 16 22.2**	**+0.3**
LCO	**Las Campanas**	**6.34**	**196**	Pn	**Pn**	**18 16 23.9**	**-1.7**
LPAZ	**La Paz**	**6.60**	**5**	Pn	**Pn**	**18 16 27.7**	**-1.8**
LPAZ	**La Paz**	**6.60**	**5**	P	**Pn**	**18 16 31.9**	**+2.3**
	comp=E,3.5nm,0.5s,baz=182,slow=7.4,SNR=12						
CO01	**Juntas del Tor**	**7.16**	**190**		**Pn**	**18 16 34.7**	**-1.9**
GO04	**Tololo Observa**	**7.48**	**194**		**Pn**	**18 16 40.0**	**-1.1**
CO03	**El Pedregal**	**8.10**	**192**	Pn	**Pn**	**18 16 47.6**	**-1.8**
CO06	**Fray Jorge**	**8.17**	**198**	Pn	**Pn**	**18 16 47.9**	**-2.4**
CFA	**Coronel Fontan**	**8.68**	**177**	P	**Pn**	**18 16 56.7**	**-0.4**
	comp=E,1.6nm,0.3s,baz=328,slow=9.0,SNR=4.5						
CFA				S	**Sn**	**18 18 31.3**	**-1.9**
	comp=E,1.2nm,0.4s,baz=113,slow=19,SNR=1.1						
SIV	**San Ignacio**	**9.95**	**48**	P	**Pn**	**18 17 14.2**	**-0.2**
	comp=E,16nm,0.5s,baz=250,slow=9.9,SNR=70						
SIV				S	**Sn**	**18 18 59.3**	**-4.9**
	comp=E,3.4nm,0.8s,baz=304,slow=20,SNR=3.1						
MT02	**Curacav**	**10.54**	**191**	Pn	**Pn**	**18 17 19.6**	**-2.8**
CPUP	**Villa Florida**	**10.88**	**111**	P	**Pn**	**18 17 24.9**	**-2.3**
	comp=E,0.5nm,0.4s,baz=268,slow=9.9,SNR=5.1						
PTLB	**Pontes e Lacer**	**11.68**	**52**	Pn	**Pn**	**18 17 36.5**	**-1.3**
VILB	**Vilhena**	**12.77**	**41**		**Pn**	**18 17 51.3**	**-1.0**
BI02	**San Fabin de**	**13.89**	**189**	Pn	**Pn**	**18 18 04.8**	**-2.1**
PLTB	**Pedras Altas**	**16.04**	**127**		**Pn**	**18 18 32.9**	**-1.1**
PLTB				IAmb	IAmb	18 18 51.8	
	comp=Z,14nm,1.4s						
TRQA	**Tornquist**	**16.16**	**161**		**Pn**	**18 18 34.6**	**-1.0**
TRQA				IAmb	IAmb	18 19 16.9	
	comp=Z,4.2nm,0.8s						
PLCA	**Paso Flores**	**17.84**	**185**	P	**Pn**	**18 18 59.1**	**+2.9**
	comp=Z,0.6nm,0.4s,baz=324,slow=16,SNR=4.6						
TORD	**Torodi Ar. Bea**	**77.64**	**70**	P	**P**	**18 26 41.6**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=264,slow=5.0,SNR=2.3						
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**92.57**	**340**	P	**P**	**18 27 56.7**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=144,slow=4.3,SNR=13						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**128.76**	**207**	PKP	**PKiKP**	**18 33 53.4**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=163,slow=1.0,SNR=6.9						
WRA	**Warramunga Arr**	**131.84**	**210**	PKP	**PKiKP**	**18 33 58.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=149,slow=1.7,SNR=2.2						

IDC 22 18:21:35.9±2.4, 3°02N×126°66E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=216.7km s-min=24.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**162**	P	P	18 26 51.3	-1.4
	0.5nm,0.6s,baz=340,slow=9.9,SNR=5.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**27.44**	**165**	P	P	18 27 24.9	+1.1
	0.6nm,1.1s,baz=344,slow=8.6,SNR=2.0						
	0.6nm,1.1s						
MKAR	**Makanchi Array**	**58.10**	**326**	P	P	18 31 31.3	+0.1
	0.3nm,0.4s,baz=116,slow=8.3,SNR=11						
	0.3nm,0.4s						

HLW ***22*** *18:24:30.8, 35°.22N×28°.00E, h8km±7km, Ml3.8*
IDC ***22*** *18:24:30.9±0.8, 35°.17N×27°.82E, h0km, mb4.0/17, mbtmp3.9/27, ML3.6/10, MS3.3/4, Error ellipse: s-maj=18.6km s-min=13.2km az=12.0*
ATH ***22*** *18:24:33.6, 35°.00N×28°.03E, h9km±4km, ML3.8/10, Manual Solution by F.Xalaris First location: 2019/03/22 18:26:02, This location: 2020/10/03 06:07:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
ISK ***22*** *18:24:33.9, 35°.03N×28°.05E, h14km, ML3.7/25*
GII ***22*** *18:24:34.1±0.0, 35°.07N×27°.99E, h69km, confirmed*
THE ***22*** *18:24:34.7, 35°.03N×28°.04E, h0km, ML3.3/3, Error ellipse: s-maj=2.8km s-min=0.8km az=156.0*
NIC ***22*** *18:24:34.6, 34°.96N×27°.95E, h64km±6km, Ml3.6/13*
AFAD ***22*** *18:24:36.0, 35°.21N×28°.00E, h43km, MW4.0*
NAO ***22*** *18:25:13.3, 39°.07N×24°.47E, h10km, mb3.9*
ISC 22 18:24:34.4±1.2, 35°02N±0°.03×28°03E±0°.02, h29km±9km, n206, σ1§50/233, mb3.9/17, 1C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.88**	**307**	Pg	**Pn**	**18 24 51.4**	**+0.5**
KARP				Sg	**Sn**	**18 25 04.4**	**+1.6**
KARP	**Karpathos**	**0.88**	**307**	P	**Pn**	**18 24 51.1**	**+0.2**
KARP				S	**Sn**	**18 25 04.5**	**+1.8**
KARP				AML	AML	18 25 09.4	
	17nm,0.5s						
KARP				AML	AML	18 25 09.5	
	13nm,0.6s						
KARP	**Karpathos**	**0.88**	**307**	P	**Pn**	**18 24 50.9**	**0.0**
KARP				S	**Sn**	**18 25 03.4**	**+0.6**
ARG	**Arkhangelos**	**1.19**	**4**	Pn	**Pb**	**18 24 56.5**	**+0.1**
ARG	**Arkhangelos**	**1.19**	**4**	P	**Pb**	**18 24 56.7**	**+0.3**
ARG				S	**Sb**	**18 25 14.2**	**+2.7**
	2μm,0.8s						
ARG	**Arkhangelos**	**1.19**	**4**	⇑*iP*	**Pb**	**18 24 56.8**	**+0.4**
ARG				S	**Sb**	**18 25 13.0**	**+1.5**
ARG				AML	AML	18 25 24.9	
	5.6nm,1.9s						
ARG				AML	AML	18 25 30.1	
	4.6nm,0.6s						
ARG	**Arkhangelos**	**1.19**	**4**	P	**Pb**	**18 24 56.5**	**+0.1**
ARG				S	**Sb**	**18 25 13.2**	**+1.7**
ZKR	**Zakros**	**1.49**	**274**	Pn	**Pb**	**18 25 01.2**	**-0.2**
ZKR	**Zakros**	**1.49**	**274**	P	**Pb**	**18 25 01.2**	**-0.2**
ZKR				S	**Sb**	**18 25 22.3**	**+2.4**
	1μm,0.6s						
ZKR	**Zakros**	**1.49**	**274**	P	**Pn**	**18 24 58.9**	**-0.3**
ZKR				AML	AML	18 25 35.7	
	3.5nm,0.7s						
ZKR				AML	AML	18 25 37.2	
	2.7nm,0.6s						
ZKR	**Zakros**	**1.49**	**274**	P	**Pb**	**18 25 01.1**	**-0.4**
KSL	**Kastellorizon**	**1.69**	**48**	P	**Pb**	**18 25 03.6**	**-1.3**
KSL				S	**Sb**	**18 25 27.1**	**+1.4**
	232nm,0.6s						
KSL	**Kastellorizon**	**1.69**	**48**	P	**Pb**	**18 25 03.5**	**-1.3**
KSL				AML	AML	18 25 59.3	
	1.4nm,1.3s						
KSL				AML	AML	18 26 17.9	
	0.9nm,1.0s						
KSL	**Kastellorizon**	**1.69**	**48**	P	**Pb**	**18 25 03.9**	**-0.9**
KSL				S	**Sb**	**18 25 25.7**	**0.0**
IZZE	**Mula-Seydike**	**1.71**	**34**	P	**Pb**	**18 25 03.7**	**-1.5**
YAZI	**Mula-Dat§a-**	**1.72**	**344**	P	**Pb**	**18 25 03.6**	**-1.7**
TURN	**Turunc**	**1.76**	**6**	Pn	**Pb**	**18 25 04.6**	**-1.3**
TURN	**Turunc**	**1.76**	**6**	P	**Pb**	**18 25 05.3**	**-0.7**
AKAS	**Kas**	**1.76**	**46**	Pn	**Pb**	**18 25 04.8**	**-1.3**
AKAS	**Kas**	**1.76**	**46**	P	**Pb**	**18 25 05.3**	**-0.8**
FETY	**Fethiye**	**1.82**	**28**	Pn	**Pb**	**18 25 05.4**	**-1.7**
DALY	**Dalyan (Mula)**	**1.86**	**16**	Pn	**Pb**	**18 25 05.9**	**-1.8**
SABU	**Mula-Dalaman**	**1.95**	**23**	P	**Pn**	**18 25 05.8**	**+0.2**
ASTA	**Astypalaia**	**2.04**	**319**	P	**Pn**	**18 25 08.3**	**+1.6**
BDRM	**Kayabasi**	**2.09**	**347**	P	**Pn**	**18 25 07.5**	**-0.1**
BODT	**Bodrum**	**2.12**	**344**	Pn	**Pb**	**18 25 09.9**	**-2.2**
YER	**Yerkesik**	**2.12**	**5**	Pn	**Pb**	**18 25 09.9**	**-2.2**
CAME	**Cameli-Denizli**	**2.18**	**28**	Pn	**Pb**	**18 25 10.8**	**-2.4**
YKAV	**Yalikavak-Bodr**	**2.19**	**344**	Pn	**Pb**	**18 25 10.9**	**-2.3**
KNIK	**Mula-Seydike**	**2.21**	**34**	P	**Pn**	**18 25 10.8**	**+1.6**
MULA	**Mugla, Merkez-**	**2.24**	**6**	P	**Pb**	**18 25 12.4**	**-1.9**
MLSB	**Milas**	**2.28**	**355**	Pn	**Pn**	**18 25 12.0**	**+1.9**
AKUM	**Antalya-Kumluc**	**2.29**	**55**	P	**Pb**	**18 25 12.9**	**-2.0**
ELL	**Elmali**	**2.30**	**41**	Pn	**Pn**	**18 25 12.3**	**+1.8**
ELL	**Elmali**	**2.30**	**41**	P	**Pn**	**18 25 11.6**	**+1.1**
ELL				S	**Sb**	**18 25 41.6**	**-1.8**
ELL				AML	AML	18 26 16.6	
	2.3nm,1.0s						
ELL				AML	AML	18 26 27.0	
	1.7nm,1.2s						
ELL	**Elmali**	**2.30**	**41**	P	**Pn**	**18 25 12.2**	**+1.8**
ELL				S	**Sb**	**18 25 41.5**	**-1.8**
CAEL	**Denizli, Camel**	**2.34**	**26**	P	**Pb**	**18 25 13.5**	**-2.5**
DDIM	**Aydin, Didim**	**2.51**	**346**	P	**Pn**	**18 25 14.0**	**+0.8**
THR6	**Thira Island,**	**2.52**	**303**	P	**Pn**	**18 25 15.1**	**+1.7**
TAVA	**DENIZLI_Tavas**	**2.54**	**16**	P	**Pn**	**18 25 14.6**	**+0.8**
CMBO	**Columbo, Santo**	**2.58**	**305**	P	**Pn**	**18 25 15.6**	**+1.4**
IDI	**Anoyia**	**2.59**	**277**	Pn	**Pb**	**18 25 16.9**	**-3.2**
IDI	**Anoyia**	**2.59**	**277**	P	**Pn**	**18 25 16.2**	**+1.9**
IDI	**Anoyia**	**2.59**	**277**	Pn	**Pn**	**18 25 16.4**	**+2.1**
	12nm,0.3s,baz=92,slow=12,SNR=45						
IDI				Sn	**Sn**	**18 25 46.6**	**+1.8**
	20nm,0.3s,baz=87,slow=20,SNR=3.8						
IDI	**Anoyia**	**2.59**	**277**	P	**Pn**	**18 25 15.8**	**+1.4**
THR5	**Thira Island,**	**2.59**	**303**	P	**Pn**	**18 25 15.8**	**+1.5**
SAP3	**Santorini-Thir**	**2.60**	**304**	P	**Pn**	**18 25 16.3**	**+1.9**
AYDN	**Tasoluk**	**2.64**	**357**	P	**Pn**	**18 25 16.2**	**+1.2**
APMY	**Acipayam-Deniz**	**2.65**	**22**	Pn	**Pn**	**18 25 17.4**	**+2.1**
TMBK	**Timbaki Herakl**	**2.68**	**272**	P	**Pn**	**18 25 17.0**	**+1.5**
DNIZ	**Denizli-Tavas-**	**2.72**	**17**	P	**Pn**	**18 25 16.8**	**+0.5**
KORT	**Korkueli**	**2.73**	**43**	Pn	**Pn**	**18 25 18.2**	**+1.9**
KORT	**Korkueli**	**2.73**	**43**	P	**Pb**	**18 25 21.7**	**-0.8**
KORT				S	**Sb**	**18 25 56.2**	**+0.6**
GCAM	**G?zelcaml?**	**2.75**	**347**	Pn	**Pn**	**18 25 18.7**	**+2.2**
ESEN	**Aydn-Nazilli**	**2.78**	**5**	P	**Pn**	**18 25 19.0**	**+2.

OFRI ˙Ofer 6.26 111 S **Sn 18 27 16.1 +0.7**
MMA0B Mount Meron ar 6.44 106 P **Pn 18 26 07.7 +0.4**
MMA0B Mount Meron ar 6.44 106 S **Sn 18 27 20.0 +0.1**
MMAI Mount Meron Ar 6.44 106 Pn **Pn 18 26 08.4 +1.1**
3.2nm,0.3s,baz=298,slow=12,SNR=20
MMAI Sn **Sn 18 27 23.1 +3.2**
8.7nm,0.3s,baz=322,slow=24,SNR=7.8
2.3nm,0.3s
SLTI Sal'it 6.47 113 P **Pn 18 26 07.8 +0.2**
SLTI Sal'it 6.47 113 S **Sn 18 27 20.9 +0.3**
BRTR Keskin Array B 6.48 42 Pn **Pn 18 26 10.4 +2.5**
0.5nm,0.3s,baz=220,slow=17,SNR=15
BRTR Sn **Sn 18 27 23.3 +2.4**
0.6nm,0.3s,baz=210,slow=26,SNR=7.5
1.3nm,0.5s
GEM Giv'at Ha'Em 6.58 104 P **Pn 18 26 09.3 +0.1**
GEM Giv'at Ha'Em 6.58 104 S **Sn 18 27 23.9 +0.7**
NATI Neve Ativ 6.63 103 P **Pn 18 26 10.1 +0.4**
NATI Neve Ativ 6.63 103 S **Sn 18 27 25.1 +0.8**
SALP Salfit 6.66 114 P **Pn 18 26 10.5 +0.1**
SALP Salfit 6.66 114 S **Sn 18 27 26.2 +0.8**
MMLI Mount Malkishu 6.67 111 P **Pn 18 26 10.8 +0.3**
MMLI Mount Malkishu 6.67 111 S **Sn 18 27 25.1 -0.6**
AMAZ Amatzia 6.73 119 P **Pn 18 26 11.5 +0.2**
AMAZ Amatzia 6.73 119 S **Sn 18 27 27.0 0.0**
KZIT Kziot 6.74 126 P **Pn 18 26 11.7 +0.3**
KZIT Kziot 6.74 126 S **Sn 18 27 27.0 -0.2**
KSHT Keshet 6.77 105 P **Pn 18 26 12.2 +0.3**
KSHT Keshet 6.77 105 S **Sn 18 27 27.9 -0.2**
HMDT Nahal Hemdat 6.83 112 P **Pn 18 26 13.0 +0.4**
HMDT Nahal Hemdat 6.83 112 S **Sn 18 27 29.2 -0.2**
UJAP Al Uja 6.92 114 P **Pn 18 26 13.9 +0.1**
UJAP Al Uja 6.92 114 S **Sn 18 27 32.0 +0.4**
NBNS Bani Suef 6.96 156 P **Pn 18 26 15.7 +1.4**
YTIR Yattir 6.97 120 P **Pn 18 26 14.8 +0.2**
YTIR Yattir 6.97 120 S **Sn 18 27 32.6 -0.4**
DSI Dead Sea 7.05 117 P **Pn 18 26 15.9 +0.3**
DSI Dead Sea 7.05 117 S **Sn 18 27 35.1 +0.3**
MSBI Mazada 7.17 119 P **Pn 18 26 17.5 +0.3**
MSBI Mazada 7.17 119 S **Sn 18 27 37.1 -0.6**
GHAJ Ghor Haditha 7.33 118 P **Pn 18 26 19.7 +0.3**
GHAJ Ghor Haditha 7.33 118 S **Sn 18 27 41.8 +0.3**
KRMI Paran Flat 7.47 129 P **Pn 18 26 21.5 +0.1**
KRMI Paran Flat 7.47 129 S **Sn 18 27 45.4 +0.2**
ZFRI Zfri 7.49 125 P **Pn 18 26 21.8 +0.2**
ZFRI Zfri 7.49 125 S **Sn 18 27 44.9 -0.6**
PRNI Paran 7.50 126 P **Pn 18 26 22.0 +0.2**
PRNI Paran 7.50 126 S **Sn 18 27 46.1 +0.2**
TAMRE El Minia 7.72 161 P **Pn 18 26 26.2 +1.3**
HRFI Mount Harif 7.72 128 P **Pn 18 26 25.1 +0.1**
HRFI Mount Harif 7.72 128 S **Sn 18 27 51.0 -0.5**
MBRI Mt Berech 7.81 130 P **Pn 18 26 26.5 +0.3**
MBRI Mt Berech 7.81 130 S **Sn 18 27 53.8 +0.1**
EIL Elat 7.92 130 Pn **Pn 18 26 28.9 +1.3**
1.5nm,0.3s,baz=346,slow=17,SNR=33
EIL Sn **Sn 18 27 54.4 -1.9**
2.2nm,0.3s,baz=258,slow=0.8,SNR=6.9
6.4nm,0.5s
EIL Elat 7.92 130 P **Pn 18 26 27.8 +0.3**
EIL Elat 7.92 130 S **Sn 18 27 55.8 -0.4**
ASF Jabal al Asfar 7.92 109 Pn **Pn 18 26 29.1 +1.3**
0.7nm,0.3s,baz=308,slow=5.3,SNR=5.6
ASF Sn **Sn 18 27 55.9 -0.5**
0.1nm,0.3s,baz=123,slow=20,SNR=1.4
1.7nm,0.3s
HKAT Jabal Katrina 8.23 140 P **Pn 18 26 33.6 +1.6**
HKAT S **Sn 18 28 02.5 -1.6**
HDK1 Dakhla 9.52 172 P **Pn 18 26 51.3 +1.7**
MLR Muntele Rosu 10.58 352 Pn **Pn 18 27 02.9 -1.2**
0.1nm,0.3s,baz=169,slow=14,SNR=1.8
MLR LR LR 18 32 00.8
comp=Z,203nm,19.4s,baz=241,slow=43
1.0nm,0.5s
KBZ Khabaz 14.40 48 Pn **P 18 28 00.1 -2.6**
0.2nm,0.3s,baz=230,slow=15,SNR=6.2
1.1nm,0.9s
KOLS Kolonicke sedl 14.54 345 *e*P **Pn 18 28 00.6 +2.6**
KOLS *e* 18 28 05.2
SOKA Soboth 15.22 324 *i* Pn **Pn 18 28 07.1 -0.1**
4.5nm,1.1s
KEST Kesra 15.26 278 Pn **Pn 18 28 06.7 -1.2**
0.6nm,0.3s,baz=94,slow=14,SNR=4.1
1.9nm,0.4s
OBKA Obir 15.34 322 *i* Pn **Pn 18 28 08.8 0.0**
9.5nm,1.2s
ARSA Arzberg 15.40 326 *i* Pn **Pn 18 28 10.1 +0.6**
2.7nm,0.7s
RONA Rosalia, Austr 15.40 329 *e*Pn **Pn 18 28 10.3 +0.7**
8.7nm,1.1s
MODS Modra-Piesok 15.55 332 *e*P **Pn 18 28 12.3 +0.8**
MODS *e* 18 28 17.3
AKASG Malin Array Be 15.70 3 Pn **Pn 18 28 10.7 -2.6**
0.7nm,0.3s,baz=197,slow=12,SNR=5.4
0.1nm,0.3s
CONA Conrad Observa 15.77 329 *e*Pn **Pn 18 28 14.6 +0.2**
2.8nm,1.3s
MYKA Terra Mystica 15.88 321 *e*Pn **Pn 18 28 14.8 -1.0**
5.5nm,1.1s
KBA Koelnbreinsper 16.33 322 *i* Pn **Pn 18 28 21.2 -0.4**
8.6nm,1.1s
ABTA Abfaltersbach 16.55 320 *e*Pn **Pn 18 28 23.1 -1.1**
4.3nm,0.7s,SNR=4.9
BIOA Bad Ischl, Aus 16.61 324 *i* Pn **Pn 18 28 25.2 +0.2**
7.0nm,1.1s
LESA Schwarzleotal 16.90 322 *i* Pn **Pn 18 28 28.9 +0.1**
4.5nm,0.8s
CKRC Cesky Krumlov 17.12 328 *e*P **Pn 18 28 31.0 -0.4**
WTTA Wattenberg 17.34 320 *i* Pn **Pn 18 28 34.2 -0.1**
10.0nm,1.1s
GERES GERESS Array B 17.41 327 P **Pn 18 28 33.4 -1.7**
baz=134,slow=11,SNR=33
5.2nm,0.9s
WATA Walderalm 17.41 320 *i* Pn **Pn 18 28 34.3 -0.9**
9.4nm,1.1s
DPC Dobruska-Polom 17.54 334 *e*P **P 18 28 37.5 0.0**
SQTA Sankt Quirin 17.54 319 *i* Pn **Pn 18 28 36.8 0.0**
6.2nm,0.7s
MOTA Moosalm 17.67 319 *e*Pn **Pn 18 28 38.2 -0.2**
7.3nm,1.2s
KHC Kasperske Hory 17.67 327 *e*P **Pn 18 28 37.5 -0.8**
FETA Feichten 17.68 318 *e*Pn **P 18 28 38.8 -0.4**
27nm,1.0s,SNR=30
RETA Reutte 17.94 319 *i* Pn **Pn 18 28 41.2 -0.5**
5.6nm,0.8s
DAVOX Davos/Dischmat 18.01 316 P **Pn 18 28 41.2 -1.4**
0.3nm,0.3s,baz=99,slow=13,SNR=5.0
DAVOX LR LR 18 38 05.4
comp=Z,37nm,21.0s,baz=37,slow=46
2.4nm,0.7s
DAVA Damuels 18.30 318 *i* Pn **P 18 28 45.2 -0.9**
8.8nm,1.0s
CLL Collm 19.56 331 *i* Px **Pn 18 29 00.9 -0.2**
OBN Obninsk 20.95 14 LR LR 18 38 48.6
comp=Z,123nm,18.5s,baz=170,slow=41
BSD Bornholm Skovb 22.05 340 *e*P **P 18 29 24.2 -2.3**
LUNU Lund 22.93 338 *e*P **P 18 29 33.3 -2.6**
DEL Delary 23.52 340 *i* P **P 18 29 39.0 -2.8**
BORU Boraas 24.84 340 *e*P **P 18 29 53.8 -0.1**
ESDC Sonseca Array 25.78 290 P **P 18 30 02.3 -0.4**
1.8nm,0.6s,baz=81,slow=9.7,SNR=22
1.8nm,0.6s
FINES FINESS Array B 26.47 358 P **P 18 30 07.5 -1.2**
1.3nm,0.5s,baz=179,slow=9.5,SNR=12
1.3nm,0.5s
HFS Hagfors 26.80 344 P **P 18 30 10.5 -1.2**
3.3nm,0.6s,baz=139,slow=9.6,SNR=11
3.3nm,0.6s
NB2 NORSAR Subarra 28.18 343 P **P 18 30 21.9 -2.2**
comp=Z,4.5nm,1.1s,baz=153,slow=10
NOA NORSAR Array B 28.18 343 P **P 18 30 21.9 -2.2**
comp=Z,0.7nm,0.5s,baz=153,slow=8.0,SNR=5.9
NOA LR LR 18 44 23.1
comp=Z,57nm,18.4s,baz=295,slow=43
comp=Z,0.7nm,0.5s
EKA Eskdalemuir Ar 29.54 323 P **P 18 30 33.8 -2.3**
comp=Z,1.1nm,0.7s,baz=125,slow=9.5,SNR=1.8
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 34.60 358 P **P 18 31 19.2 -1.1**
comp=Z,2.5nm,0.7s,baz=161,slow=8.1,SNR=4.3
comp=Z,2.5nm,0.7s
KURBB Kurchatov Arra 39.38 51 P **P 18 32 01.2 0.0**
comp=Z,0.8nm,0.6s,baz=276,slow=8.8,SNR=5.3
KURBB PcP **PcP 18 34 11.0 +2.0**
comp=Z,0.2nm,0.6s,baz=265,slow=4.2,SNR=4.1
comp=Z,0.8nm,0.6s
DBIC Dimbokro 41.36 235 P **P 18 32 18.2 +0.2**
comp=Z,1.5nm,0.6s,baz=51,slow=14,SNR=1.5
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 41.88 57 P **P 18 32 24.7 +2.7**
comp=Z,1.0nm,0.5s,baz=273,slow=7.5,SNR=28
MKAR PcP **PcP 18 34 18.9 +1.6**
comp=Z,1.4nm,0.8s,baz=296,slow=5.1,SNR=6.0
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.40 46 P **P 18 32 35.6 +1.4**
comp=Z,0.5nm,0.5s,baz=284,slow=9.1,SNR=1.7
comp=Z,0.5nm,0.5s
SPITS Spitsbergen Ar 43.55 357 P **P 18 32 34.5 -0.6**
comp=Z,7.7nm,0.9s,baz=143,slow=10,SNR=7.0
comp=Z,7.7nm,0.9s
SONM Songino Array 57.74 51 P **P 18 34 25.2 +2.6**
comp=Z,0.8nm,0.5s,baz=292,slow=8.2,SNR=11
comp=Z,0.8nm,0.5s
SCHQ Schefferville 64.80 320 P **P 18 35 09.8 -0.4**
comp=Z,3.1nm,0.5s,baz=53,slow=5.2,SNR=16
comp=Z,3.1nm,0.5s
USRK Ussuriysk Ar. 75.25 46 P **P 18 36 14.7 +0.2**
comp=Z,1.5nm,0.5s,baz=293,slow=4.4,SNR=6.4
comp=Z,1.5nm,0.5s
KSRS Korea Array 76.48 54 P **P 18 36 23.4 +1.9**
comp=Z,1.3nm,0.6s,baz=307,slow=4.7,SNR=5.7
comp=Z,1.3nm,0.6s
YKA Yellowknife Ar 78.28 343 P **P 18 36 30.4 -0.7**
comp=Z,0.3nm,0.6s,baz=29,slow=5.1,SNR=5.2
comp=Z,0.3nm,0.6s
ILAR Eielson Array 80.46 358 P **P 18 36 43.2 +0.2**
comp=Z,0.4nm,0.6s,baz=332,slow=3.0,SNR=7.4
comp=Z,0.4nm,0.6s

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*NEIC **22** 18:28:28.4±1.0, 18°.6S±0°.1×169°.1E±0°.1, h161km±9km, mb4.4/15, Error ellipse: s-maj=19.8km s-min=16.2km az=111.0*
*IDC **22** 18:28:30.6±8.5, 18°.29S×168°.34E, h136km±65km, mb3.5/3, mbtmp3.9/4, Error ellipse: s-maj=148.3km s-min=65.4km az=107.0*
*NOU **22** 18:28:35.4, 19°.16S×168°.85E, h0km, MLv3.6/13, Vanuatu Islands*
ISC 22 18:28:30.6±1.4, 18°.86S±0°.06×169°.1E±0°.2, h200km, n34, σ§18/23, mb4.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.40**	**324**	P	**Pn**	**18 29 02.7**	**-0.8**
DVP	**Devils Point**	**1.40**	**324**	S	**Sn**	**18 29 25.2**	**-3.7**
MARNC	**Mare, Loyalty**	**2.78**	**200**	P	**Pn**	**18 29 16.4**	**-1.3**
MARNC	**Mare, Loyalty**	**2.78**	**200**	S	**Sn**	**18 29 48.3**	**-6.3**
YATNC	**Mamie plateau,**	**3.77**	**212**	P	**Pn**	**18 29 28.5**	**-1.1**
YATNC	**Mamie plateau,**	**3.77**	**212**	S	**Sn**	**18 30 12.4**	**-3.6**
DZM	**Mont Dzumac**	**4.02**	**217**		**Pn**	**18 29 31.9**	**-0.9**
DZM	**Mont Dzumac**	**4.02**	**217**	P	**Pn**	**18 29 33.2**	**+0.4**
	5.1nm,0.3s,baz=323,slow=19,SNR=36						
DZM				S	**Sn**	**18 30 21.0**	**-0.7**
	6.4nm,0.4s,baz=329,slow=16,SNR=5.1						
DZM	**Mont Dzumac**	**4.02**	**217**	P	**Pn**	**18 29 33.5**	**+0.7**
PINNC	**Pines Island,**	**4.03**	**202**	Pn	**Pn**	**18 29 33.5**	**+0.8**
PINNC	**Pines Island,**	**4.03**	**202**	P	**Pn**	**18 29 34.0**	**+1.3**
OUENC	**Ouen Island, N**	**4.10**	**210**	P	**Pn**	**18 29 34.8**	**+1.1**
ONTNC	**Ouen Toro**	**4.21**	**215**		**Pn**	**18 29 34.8**	**-0.2**
ONTNC	**Ouen Toro**	**4.21**	**215**	P	**Pn**	**18 29 35.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.80**	**249**	P	**Pn**	**18 29 44.4**	**+2.0**
RTZ	**Ruatahuna**	**20.86**	**162**	P	**P**	**18 32 59.5**	**+2.3**
RTZ				IAmb	IAmb	18 33 25.0	
	comp=Z,35nm,1.5s						
FOZ	**Fox Glacier**	**24.61**	**179**	P	**P**	**18 33 35.1**	**+2.7**
FOZ				IAmb	IAmb	18 34 05.2	
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**27.90**	**237**	P	P	18 34 04.8	+2.7
STKA				IAmb	IAmb	18 34 05.8	
	comp=Z,6.4nm,0.7s						
STKA	**Stephens Creek**	**27.90**	**237**	P	P	18 34 04.9	+2.8
	comp=Z,0.9nm,0.5s,baz=67,slow=8.7,SNR=5.1						
	comp=Z,0.9nm,0.5s						
WR8	**Warramunga Arr**	**32.58**	**262**	P	**P**	**18 34 44.5**	**+1.1**
BBOO	**Buckleboo**	**32.63**	**238**	P	P	18 34 46.6	+2.8
BBOO				IAmb	IAmb	18 34 48.5	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**32.69**	**263**	P	**P**	**18 34 45.2**	**+0.8**
WRA	**Warramunga Arr**	**32.73**	**262**	P	**P**	**18 34 45.5**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=89,slow=8.4,SNR=9.6						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**33.05**	**255**	P	P	18 34 49.6	+2.1
AS31				IAmb	IAmb	18 34 49.9	
	comp=Z,2.2nm,0.3s						
ASAR	**Alice Springs**	**33.05**	**255**	P	P	18 34 49.3	+1.8
	comp=Z,2.4nm,0.5s,baz=82,slow=8.6,SNR=90						
	comp=Z,2.4nm,0.5s						
KNRA	**Kununurra**	**38.55**	**268**	P	P	18 35 36.0	+1.8
FAKI	**Fak Fak**	**39.33**	**289**	P	**P**	**18 35 40.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.11**	**264**	P	P	18 35 56.9	+1.5
MMRI	**Maumere**	**46.47**	**276**	P	P	18 36 39.3	+1.2
TOLI2	**Tolitoli**	**51.39**	**287**	P	**P**	**18 37 15.8**	**+0.3**
TOLI2				IAmb	IAmb	18 37 52.2	
	comp=Z,7.7nm,1.0s						
VNDA	**Vanda**	**58.80**	**182**	P	P	18 38 11.1	+3.7
SBA	**Scott Base**	**59.04**	**181**	P	P	18 38 13.5	+4.4
KSAR	**Wonju Array Be**	**68.11**	**326**	P	P	18 39 09.4	+0.5
QSPA	**South Pole Qui**	**71.19**	**180**	P	P	18 39 30.1	+2.5
QSPA				IAmb	IAmb	18 39 37.3	
	comp=Z,6.9nm,1.3s						

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*NEIC **22** 18:32:47.4±2.6, 43°.66N±0°.05×105°.55W±0°.07, h0km±1km, ML3.3/69, Error ellipse: s-maj=9.2km s-min=7.5km az=117.0*
*IDC **22** 18:32:48.4±2.5, 43°.60N×105°.57W, h0km, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=53.4km s-min=10.7km az=150.0*
ISC 22 18:32:48.1±1.1, 43°.64N±0°.05×105°.51W±0°.06, h0km, n47, σ§43/46, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.24**	**217**		**Pg**	**18 33 11.4**	**-0.4**
K22A				IAML		18 33 35.7	
	499nm,0.2s						
RLMT	**Red Lodge**	**3.08**	**300**		**Pn**	**18 33 39.1**	**+1.0**
PD31	**Pinedale Array**	**3.09**	**255**		**Pn**	**18 33 38.6**	**+0.3**
PDAR	**Pinedale Array**	**3.09**	**255**		**Pn**	**18 33 39.5**	**+1.2**
PDAR	**Pinedale Array**	**3.09**	**255**	Pn	**Pn**	**18 33 41.0**	**+2.7**
	0.6nm,0.3s,baz=71,slow=17,SNR=4.8						
PDAR				Lg	Lg	18 34 23.7	
	2.0nm,0.3s,baz=75,slow=28,SNR=3.6						
	2.4nm,0.4s						
LAO	**LASA Array**	**3.09**	**351**		**Pn**	**18 33 39.5**	**+1.4**
LAO				IAML		18 34 41.5	
	104nm,1.1s						
LAO				IAML		18 34 44.4	
	105nm,1.6s						
BRIGG	**Briggsdale**	**3.18**	**163**	Pn	**Pn**	**18 33 41.0**	**+1.5**
BRIGG				IAML		18 34 53.9	
	comp=E,80nm,1.5s						
YNE	**Yellowstone No**	**3.51**	**294**		**Pn**	**18 33 46.9**	**+2.8**
YNE				IAML		18 34 48.6	
	comp=N,51nm,0.4s						
YMP	**Mirror Lake Pl**	**3.52**	**290**		**Pn**	**18 33 45.6**	**+1.3**
YMP				IAML		18 34 50.8	
	comp=N,79nm,2.0s						
YMP				IAML		18 34 57.4	
	comp=E,85nm,0.9s						
LKWY	**Lake**	**3.64**	**286**		**Pn**	**18 33 45.9**	**-0.1**
LKWY				IAML		18 34 08.3	
	comp=E,50nm,0.9s						
LOHW	**Long Hollow**	**3.70**	**271**		**Pn**	**18 33 46.4**	**-0.3**
OGNE	**Ogallala**	**3.73**	**135**		**Pn**	**18 33 47.1**	**+0.2**
H17A	**Grant Village**	**3.73**	**283**		**Pn**	**18 33 45.9**	**-1.3**
H17A				IAML		18 34 55.5	
	comp=E,48nm,1.9s						
H17A				IAML		18 34 57.0	
	comp=N,60nm,1.8s						
MOOW	**Moose Ponds**	**3.80**	**273**		**Pn**	**18 33 48.1**	**0.0**
ISCO	**Idaho Springs**	**3.84**	**181**		**Pn**	**18 33 49.8**	**+1.1**
ISCO				IAML		18 34 20.8	
	comp=N,51nm,1.7s						
YNR	**Norris Junctio**	**3.87**	**288**		**Pn**	**18 33 52.9**	**+3.7**
YFT	**Old Faithful**	**3.93**	**284**		**Pn**	**18 33 48.9**	**-0.9**
YFT				IAML		18 35 08.2	
	comp=N,49nm,2.1s						
TPAW	**Teton Pass**	**3.96**	**270**	Pn	**Pn**	**18 33 52.8**	**+2.4**
TPAW				IAML		18 35 13.7	
	comp=N,53nm,1.4s						
TPAW				IAML		18 35 24.4	
	comp=N,36nm,2.0s						
FXWY	**Fox Creek**	**4.01**	**272**		**Pn**	**18 33 51.9**	**+1.0**
O20A	**White River Ci**	**4.05**	**211**	Pn	**Pn**	**18 33 53.5**	**+1.9**
YMR	**Madison River**	**4.06**	**287**		**Pn**	**18 33 52.5**	**+0.9**
YMR				IAML		18 35 31.6	
	comp=E,46nm,1.1s						
YMR				IAML		18 35 34.1	
	comp=N,58nm,1.9s						
AHID	**Auburn Hatcher**	**4.18**	**260**	Pn	**Pn**	**18 33 53.9**	**+0.6**
AHID				IAML		18 35 15.8	
	comp=N,32nm,1.3s						
AHID				IAML		18 35 31.3	
	comp=N,46nm,2.4s						
YHB	**Horse Butte**	**4.24**	**287**		**Pn**	**18 33 55.7**	**+1.6**
YHB				IAML		18 35 16.8	
	comp=E,36nm,1.7s						
YHL	**Hebgen Lake**	**4.25**	**288**		**Pn**	**18 33 53.9**	**-0.5**
YHL				IAML		18 35 40.9	
	comp=E,45nm,1.6s						
RDMU	**Red Mountain**	**4.30**	**226**		**Pn**	**18 33 54.8**	**-0.2**
RDMU				IAML		18 35 20.5	
	comp=E,32nm,1.6s						
RDMU				IAML		18 35 22.9	
	comp=N,37nm,1.4s						
K30B	**Basset**	**4.42**	**101**	Pn	**Pn**	**18 33 58.9**	**+2.5**
E28A	**Huff**	**4.50**	**48**	Pn	**Pn**	**18 33 58.6**	**+1.1**
Q24A	**Divide**	**4.68**	**177**		**Pn**	**18 34 00.3**	**0.0**
Q24A				IAML		18 35 15.9	
	comp=N,22nm,2.7s						
Q24A				IAML		18 35 17.1	
	comp=E,21nm,1.3s						
BOZ	**Bozeman (W)**	**4.79**	**296**		**Pn**	**18 34 01.2**	**-0.4**
BOZ				IAML		18 35 35.6	
	comp=E,22nm,2.4s						
HWUT	**Hardware Ranch**	**4.91**	**248**		**Pn**	**18 34 02.1**	**-1.2**
HWUT				IAML		18 35 34.6	
	comp=E,31nm,2.2s						
HWUT				IAML		18 35 52.5	
	comp=E,28nm,1.9s						
DGMT	**Dagmar**	**4.92**	**10**		**Pn**	**18 34 04.6**	**+1.4**
BSUT	**Blindstream Ca**	**4.99**	**233**		**Pn**	**18 34 05.2**	**+0.6**
BSUT				IAML		18 35 41.5	
	comp=N,18nm,1.9s						
BSUT				IAML		18 35 51.8	
	comp=E,22nm,1.7s						
TCUT	**Toone Canyon**	**5.04**	**242**		**Pn**	**18 34 05.1**	**-0.1**
EGMT	**Eagleton**	**5.29**	**327**	Pn	**Pn**	**18 34 10.4**	**+1.9**
P18A	**Preston Nutter**	**5.35**	**223**		**Pn**	**18 34 10.6**	**+1.1**
HVU	**Hansel Valley**	**5.67**	**253**	Pn	**Pn**	**18 34 13.6**	**-0.1**
PV07	**Paradox Valley**	**5.71**	**206**	Pn	**Pn**	**18 34 16.1**	**+1.7**
PV15	**Paradox Valley**	**5.75**	**204**	Pn	**Pn**	**18 34 17.6**	**+2.7**
PV23	**Carpenter Ridg**	**5.82**	**208**		**Pn**	**18 34 16.3**	**+0.4**
BGNE	**Belgrade**	**5.88**	**110**		**Pn**	**18 34 16.5**	**0.0**
SRU	**San Rafael Swe**	**5.89**	**222**		**Pn**	**18 34 16.9**	**+0.1**
PV10	**Paradox Valley**	**5.90**	**208**		**Pn**	**18 34 18.2**	**+1.2**
PV11	**David Mesa, Pa**	**5.91**	**207**		**Pn**	**18 34 18.6**	**+1.5**
PV13	**Radium Mtn., P**	**6.02**	**206**		**Pn**	**18 34 19.1**	**+0.4**
I10CA	**LAC DU BONNET**	**9.22**	**41**	I	I	19 31 27.5	
	comp=E,0.2nm,1.4s,baz=225,slow=326,SNR=19						
ULM	**Lac du Bonnet**	**9.33**	**42**	Pn	**Pn**	**18 35 02.7**	**-1.1**
	comp=E,0.2nm,0.3s,baz=230,slow=14,SNR=2.2						
ULM				Lg	Lg	18 37 40.8	
	comp=E,0.2nm,0.3s,baz=28,slow=4.4,SNR=3.2						
	comp=E,0.7nm,0.3s						
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**P**	**18 37 16.8**	**-1.1**
	baz=161,slow=10,SNR=1.9						
	comp=E,0.1nm,0.4s						

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*SKHL **22** 18:45:46.2±0.5, 44°.50N×147°.50E, h119km±2km, mb4.8/3, msha5.4/3*
*JMA **22** 18:45:47.5±0.4, 44°.N±2°.×14°.7E±°, h125km, MV3.7/21, E OFF HOKKAIDO*
ISC 22 18:45:43.9±2.9, 44°.3N±0°.1×147°.7E±0°.2, h131km±17km, n15, σ§22/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.75**	**234**	*e*P	**Pn**	**18 46 06.0**	**+1.3**
SHO				AMB	AMB	18 46 06.5	
	330nm,0.4s						
SHO				AMB	AMB	18 46 06.5	
	360nm,0.4s						
SHO				AMB	AMB	18 46 06.5	
	680nm,0.4s						
SHO				*i* S	**Sn**	**18 46 20.4**	**0.0**
SHO				A	A	18 46 21.7	
	760nm,0.4s						
SHO				A	A	18 46 21.7	
	1μm,0.4s						
KUR	**Kuril'sk**	**0.93**	**9**	*i* P	**Pn**	**18 46 06.5**	**+0.4**
KUR				AMB	AMB	18 46 07.3	
	150nm,0.4s						
KUR				AMB	AMB	18 46 07.3	
	150nm,0.4s						
KUR				AMB	AMB	18 46 07.3	
	320nm,0.4s						
KUR				*e*S	**Sn**	**18 46 21.9**	**-1.2**
KUR				A	A	18 46 22.6	
	460nm,0.3s						
KUR				A	A	18 46 22.6	
	270nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.33**	**258**	*i* P	**Pn**	**18 46 10.7**	**+0.6**
YUK				AMB	AMB	18 46 10.9	
	40nm,0.4s						
YUK				AMB	AMB	18 46 10.9	
	330nm,0.4s						
YUK				*e*S	**Sn**	**18 46 29.0**	**-1.0**
YUK				A	A	18 46 29.7	
	480nm,0.3s						
YUK				A	A	18 46 29.7	
	760nm,0.3s						
NEM2	**Nemuro 2**	**1.69**	**236**	P	**Pn**	**18 46 14.9**	**+0.8**
NEM2				S	**Sn**	**18 46 35.9**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.69**	**237**	*i* P	**Pn**	**18 46 15.0**	**+0.8**
NMR				*e*S	**Sn**	**18 46 36.1**	**-1.2**
JRA	**Rausu**	**1.87**	**259**	P	**Pn**	**18 46 18.3**	**+2.0**
JNSB	**Nemuroshibetsu**	**1.99**	**255**	P	**Pn**	**18 46 18.9**	**+1.1**
JNSB				S	**Sn**	**18 46 43.4**	**-0.3**
JKHN	**Kushirohamanak**	**2.20**	**237**	P	**Pn**	**18 46 21.3**	**+1.1**
JNK	**Nakash**	**2.25**	**252**	P	**Pn**	**18 46 21.9**	**+0.9**
AKK	**Akkeshi**	**2.43**	**239**	*i* P	**Pn**	**18 46 24.0**	**+0.9**
AKK				*e*S	**Sn**	**18 46 51.9**	**-1.4**
JAK	**Akkeshi**	**2.53**	**239**	P	**Pn**	**18 46 25.2**	**+0.8**
JAK				S	**Sn**	**18 46 54.1**	**-1.5**
JAR	**Ashorobuto**	**3.00**	**251**	P	**Pn**	**18 46 32.0**	**+1.5**
JOB	**Onbets**	**3.12**	**244**	P	**Pn**	**18 46 33.4**	**+1.3**
JOB				S	**Sn**	**18 47 08.1**	**-1.1**
JCH	**Churui**	**3.56**	**243**	P	**Pn**	**18 46 38.7**	**+0.8**
JCH				S	**Sn**	**18 47 17.8**	**-1.8**
JNBK	**Urakawa-nobuka**	**4.12**	**242**	*e*P	**Pn**	**18 46 45.4**	**+0.1**

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*GCG **22** 18:53:36.6±1.6, 14°.64N×92°.95W, h28km±12km, MD3.5*
*MEX **22** 18:53:38.7±0.5, 14°.86N×92°.96W, h67km±15km, MD3.8*
ISC 22 18:53:37.9±2.2, 14°.9N±0°.1×92°.97W±0°.05, h32km±15km, n11, σ§46/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.68**	**85**	*i* S	**Sn**	**18 54 02.4**	**+1.5**
PATR	**El Naranjo**	**0.76**	**69**	*e*P	**Pn**	**18 53 52.4**	**-0.2**
PATR				*i* S	**Sn**	**18 54 03.4**	**+0.3**
PAVE	**Pavencul**	**0.84**	**66**	*i* P	**Pn**	**18 53 53.8**	**+0.1**
PAVE				*i* S	**Sn**	**18 54 05.8**	**+0.7**
SMCA	**Catarina**	**0.86**	**90**	*e*S

UXUV	**UXUV**	**2.70 335**	*e*P	**Pn**	**18 54 20.7 +1.5**
UXUV			*e*S	**Sn**	**18 54 51.7 +0.9**
CMIG	**Matias Romero**	**2.89 321**	*e*P	**Pb**	**18 54 26.3 -2.6**
CMIG			*e*S	**Sn**	**18 54 54.5 -1.0**

*IDC **22** 19:09:24.1±0.9, 48°.66N×155°.52E, h0km, mb3.9/22, mbtmp3.9/26, ML4.5/2, MS3.2/4, Error ellipse: s-maj=21.5km s-min=15.6km az=134.0*
*KRSC **22** 19:09:26.4±2.1, 48°.46N×156°.94E, h20km±56km, Ml4.3*
*SKHL **22** 19:09:26.8±0.2, 48°.30N×155°.90E, h55km±5km, mb4.7/7*
*MOS **22** 19:09:27.9±1.1, 48°.54N×155°.53E, h49km, mb4.3/12, Error ellipse: s-maj=9.7km s-min=4.2km az=80.0*
*NEIC **22** 19:09:30.3±1.8, 48°.66N±0°.03×155°.4E±0°.1, h46km±9km, mb4.2/31, Error ellipse: s-maj=11.8km s-min=3.3km az=71.0*

ISC 22 19:09:27.0±0.6, 48°.33N±0°.06×155°.79E±0°.06, h35km, n177, σ1§61/195, mb4.1/46, 5C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.37**	**5**	*e*PN	**Pn**	**19 10 03.4**	**+0.1**
SKR				*e*S	**Sn**	**19 10 30.8**	**-0.2**
SKR				pmax	pmax		
	comp=Z,100nm,0.3s						
SKR				smax	smax		
	comp=N,830nm,0.6s						
SKR				smax	smax		
	comp=E,300nm,0.6s						
SKR	**Severo-Kuril's**	**2.37**	**5**	*e*P	**Pn**	**19 10 03.3**	**+0.1**
SKR				*e*S	**Sn**	**19 10 31.0**	**0.0**
SKR	**Severo-Kuril's**	**2.37**	**5**	*e*P	**Pn**	**19 10 03.4**	**+0.1**
SKR				AMB	AMB	19 10 03.5	
	comp=E,100nm,0.3s						
SKR				*e*S	**Sn**	**19 10 30.8**	**-0.2**
SKR				A	A	19 10 45.3	
	comp=E,830nm,0.6s						
SKR				A	A	19 10 45.3	
	comp=E,300nm,0.6s						
PAU	**Pauzhetka**	**3.21**	**11**	PN	**Pn**	**19 10 15.1**	**+0.3**
PAU				S	**Sn**	**19 10 51.8**	**0.0**
PAU	**Pauzhetka**	**3.21**	**11**	*e*P	**Pn**	**19 10 15.1**	**+0.3**
PAU				*e*S	**Sn**	**19 10 51.8**	**0.0**
PAU	**Pauzhetka**	**3.21**	**11**	*e*P	**Pn**	**19 10 15.3**	**+0.5**
PAU				AMB	AMB	19 10 30.1	
	comp=E,160nm,0.3s						
PAU				*e*S	**Sn**	**19 10 51.8**	**0.0**
PAU				A	A	19 11 06.0	
	comp=E,460nm,0.5s						
PAU				A	A	19 11 06.0	
	comp=E,240nm,0.5s						
RUS	**Russkaya**	**4.46**	**22**	PN	**Pn**	**19 10 31.6**	**-0.4**
RUS				S	**Sn**	**19 11 20.4**	**-2.2**
RUS	**Russkaya**	**4.46**	**22**	*e*P	**Pn**	**19 10 31.7**	**-0.4**
RUS				*e*S	**Sn**	**19 11 20.5**	**-2.2**
RUS	**Russkaya**	**4.46**	**22**	*e*P	**Pn**	**19 10 31.6**	**-0.4**
GRL	**Gorelyy**	**4.47**	**18**	PN	**Pn**	**19 10 33.3**	**+1.0**
GRL				S	**Sn**	**19 11 22.6**	**-0.5**
GRL	**Gorelyy**	**4.47**	**18**	*e*P	**Pn**	**19 10 33.4**	**+1.0**
GRL				*e*S	**Sn**	**19 11 22.6**	**-0.5**
APC	**Apacha**	**4.68**	**10**	PN	**Pn**	**19 10 36.3**	**+1.3**
APC	**Apacha**	**4.68**	**10**	*e*P	**Pn**	**19 10 36.4**	**+1.3**
KRMR	**Karymshinskiy**	**4.75**	**17**	PN	**Pn**	**19 10 37.1**	**+1.2**
KRMR	**Karymshinskiy**	**4.75**	**17**	*e*P	**Pn**	**19 10 37.1**	**+1.2**
PEA0B	**Petropavlovsk-**	**4.94**	**13**		**Pn**	**19 10 39.8**	**+1.2**
PEA0B	**Petropavlovsk-**	**4.94**	**13**	*c i*PN	**Pn**	**19 10 40.0**	**+1.4**
PETK	**Petropavlovsk-**	**4.94**	**13**		**Pn**	**19 10 38.8**	**+0.2**
PETK	**Petropavlovsk-**	**4.94**	**13**	Pn	**Pn**	**19 10 39.5**	**+1.0**
	comp=E,3.3nm,0.3s,baz=175,slow=12,SNR=50						
PETK				Sn	**Sn**	**19 11 42.3**	**+7.9**
	baz=237,slow=14						
PETK				LR	LR	19 12 48.6	
	comp=E,192nm,20.1s,baz=199,slow=44						
PETK	**Petropavlovsk-**	**4.94**	**13**	PN	**Pn**	**19 10 38.8**	**+0.2**
PET	**Petropavlovsk**	**5.04**	**20**	Pn	**Pn**	**19 10 39.4**	**-0.5**
PET	**Petropavlovsk**	**5.04**	**20**	*e*PN	**Pn**	**19 10 40.4**	**+0.4**
PET				pmax	pmax		
	comp=Z,42nm,0.6s						
PET	**Petropavlovsk**	**5.04**	**20**	*e*P	**Pn**	**19 10 41.1**	**+1.2**
PET				*e*S	**Sn**	**19 11 36.6**	**-0.3**
PET	**Petropavlovsk**	**5.04**	**20**	*e*P	**Pn**	**19 10 40.6**	**+0.6**
PET				AMB	AMB	19 10 40.8	
	comp=Z,40nm,0.6s						
PET				*e*S	**Sn**	**19 11 35.9**	**-1.0**
PET				A	A	19 11 38.5	
	comp=Z,60nm,0.4s						
PET				A	A	19 11 38.5	
	comp=Z,50nm,0.4s						
DALK	**Dalny**	**5.07**	**21**	PN	**Pn**	**19 10 40.6**	**+0.3**
DALK	**Dalny**	**5.07**	**21**	*e*P	**Pn**	**19 10 40.7**	**+0.3**
DALK				*e*S	**Sn**	**19 11 34.6**	**-3.0**
UGLR	**Uglovaya**	**5.25**	**20**	PN	**Pn**	**19 10 44.6**	**+1.7**
UGLR	**Uglovaya**	**5.25**	**20**	*e*P	**Pn**	**19 10 44.7**	**+1.7**
AVH	**Avacha**	**5.28**	**20**	PN	**Pn**	**19 10 44.7**	**+1.3**
AVH	**Avacha**	**5.28**	**20**	*e*P	**Pn**	**19 10 44.8**	**+1.3**
AVH	**Avacha**	**5.28**	**20**	*e*P	**Pn**	**19 10 44.7**	**+1.3**
KOK	**Koryaka**	**5.29**	**19**	PN	**Pn**	**19 10 45.3**	**+1.9**
KOK	**Koryaka**	**5.29**	**19**	*e*P	**Pn**	**19 10 45.4**	**+1.9**
KOK	**Koryaka**	**5.29**	**19**	*e*P	**Pn**	**19 10 45.3**	**+1.9**
KRER	**Koryakskii**	**5.32**	**20**	PN	**Pn**	**19 10 45.6**	**+1.6**
KRER	**Koryakskii**	**5.32**	**20**	*e*P	**Pn**	**19 10 45.7**	**+1.6**
SDLR	**Sedlovina**	**5.33**	**20**	PN	**Pn**	**19 10 44.4**	**+0.3**
SDLR	**Sedlovina**	**5.33**	**20**	*e*P	**Pn**	**19 10 44.4**	**+0.3**
NLC	**Nalytchevo**	**5.35**	**24**	PN	**Pn**	**19 10 42.7**	**-1.4**
NLC	**Nalytchevo**	**5.35**	**24**	*e*P	**Pn**	**19 10 42.8**	**-1.4**
NLC				*e*S	**Sn**	**19 11 40.3**	**-4.1**
KRX	**Arik**	**5.35**	**19**	PN	**Pn**	**19 10 46.3**	**+1.9**
KRX				S	**Sn**	**19 11 45.8**	**+1.0**
KRX	**Arik**	**5.35**	**19**	*e*P	**Pn**	**19 10 46.4**	**+1.9**
KRX				*e*S	**Sn**	**19 11 45.8**	**+1.0**
SPN	**Mys Shipunski**	**5.48**	**28**	PN	**Pn**	**19 10 46.1**	**+0.2**
SPN	**Mys Shipunski**	**5.48**	**28**	*e*P	**Pn**	**19 10 46.2**	**+0.2**
SPN				*e*S	**Sn**	**19 11 45.8**	**-1.9**
GNL	**Ganaly**	**5.54**	**13**	PN	**Pn**	**19 10 48.3**	**+1.4**
GNL	**Ganaly**	**5.54**	**13**	*e*P	**Pn**	**19 10 48.4**	**+1.4**
KUR	**Kuril'sk**	**6.26**	**243**	*e*P	**Pn**	**19 10 59.0**	**+2.3**
KUR				AMB	AMB	19 11 02.1	
	comp=Z,50nm,0.5s						
MKZ	**Mys Kozlova**	**7.25**	**29**	*e*S	**Sn**	**19 12 27.3**	**-4.1**
SHO	**Shikotan**	**7.66**	**238**	*e*P	**Pn**	**19 11 15.5**	**-0.4**
SHO				AMB	AMB	19 11 19.3	
	comp=Z,10.0nm,0.3s						
SHO				*e*S	**Sn**	**19 12 38.8**	**-2.6**
SHO				A	A	19 12 45.5	
	comp=Z,30nm,0.5s						
SHO				A	A	19 12 45.5	
	comp=Z,30nm,0.5s						
NMR	**Nemuro--Hokkai**	**8.60**	**238**	*e*P	**Pn**	**19 11 28.7**	**-0.1**
NMR				*e*S	**Sn**	**19 12 59.8**	**-4.6**
TYV	**Tymovskoe**	**8.90**	**291**	*e*PN	**Pn**	**19 11 36.1**	**+3.2**
TYV				*e*S	**Sn**	**19 13 13.7**	**+1.8**
TYV				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV				smax	smax		
	comp=N,4.0nm,0.7s						
TYV				smax	smax		
	comp=E,4.0nm,0.7s						
TYV				smax	smax		
	comp=N,100nm,2.7s						
TYV				smax	smax		
	comp=E,100nm,2.7s						
TYV	**Tymovskoe**	**8.90**	**291**	*e*P	**Pn**	**19 11 36.1**	**+3.2**
TYV				AMB	AMB	19 11 37.4	
	comp=E,20nm,0.4s						
TYV				AMB	AMB	19 11 38.9	
	comp=E,100nm,2.5s						
TYV				*e*S	**Sn**	**19 13 11.7**	**-0.2**
TYV				A	A	19 13 15.4	
	comp=E,10.0nm,0.6s						
TYV				A	A	19 13 15.4	
	comp=E,10.0nm,0.6s						
TYV				A	A	19 13 23.5	
	comp=E,100nm,2.7s						
TYV				A	A	19 13 23.5	
	comp=E,100nm,2.7s						
YSS	**Yuzhno-Sakhali**	**8.91**	**266**	Pn	**Pn**	**19 11 32.9**	**-0.2**
YSS	**Yuzhno-Sakhali**	**8.91**	**266**	*e*PN	**Pn**	**19 11 35.1**	**+2.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
YSS	**Yuzhno-Sakhali**	**8.91**	**266**	*e*P	**Pn**	**19 11 35.4**	**+2.3**
YSS				AMB	AMB	19 11 40.2	
	comp=Z,10.0nm,0.5s						
YSS				*e*S	**Sn**	**19 13 11.8**	**-0.3**
YSS				AMS	AMS	19 15 19.8	
	comp=Z,200nm,17.0s						
KBTR	**Krutoberegovo**	**8.99**	**26**	PN	**Pn**	**19 11 32.7**	**-1.3**
KBTR	**Krutoberegovo**	**8.99**	**26**	*e*P	**Pn**	**19 11 32.8**	**-1.3**
BKI	**Bering**	**9.33**	**39**	*e*S	Sn	19 13 12.8	-10
JKA	**Kamikawa-asahi**	**10.06**	**250**	Pn	**Pn**	**19 11 50.2**	**+1.3**
JKA	**Kamikawa-asahi**	**10.06**	**250**	*e*P	**Pn**	**19 11 50.2**	**+1.3**
ASAJ	**Asahikawa**	**10.06**	**250**	Pn	**Pn**	**19 11 52.5**	**+3.6**
	comp=Z,1.2nm,0.3s,baz=71,slow=16,SNR=11						
ASAJ	**Asahikawa**	**10.06**	**250**	PN	**Pn**	**19 11 50.2**	**+1.3**
ERM	**Erimo**	**10.92**	**239**	Pn	**Pn**	**19 12 02.1**	**+1.5**
ERM	**Erimo**	**10.92**	**239**	PN	**Pn**	**19 12 02.1**	**+1.5**
MA2	**Magadan**	**11.65**	**347**	Pn	**Pn**	**19 12 06.3**	**-4.2**
MA2	**Magadan**	**11.65**	**347**	Pn	**Pn**	**19 12 10.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=344,slow=23,SNR=1.8						
MA2				LR	LR	19 16 51.2	
	comp=Z,100nm,18.4s,baz=72,slow=40						
	comp=Z,2.4nm,0.6s						
MA2	**Magadan**	**11.65**	**347**	⇓*e*PN	**Pn**	**19 12 10.5**	**0.0**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MA2	**Magadan**	**11.65**	**347**	*e*P	**Pn**	**19 12 10.5**	**0.0**
SEY	**Seymchan**	**14.76**	**354**	Pn	**Pn**	**19 12 52.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=150,slow=16,SNR=5.6						
SEY	**Seymchan**	**14.76**	**354**	⇑*e*P	**Pn**	**19 12 52.3**	**-0.6**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SEY	**Seymchan**	**14.76**	**354**	*e*P	**Pn**	**19 12 51.3**	**-1.6**
KLR	**Kul'dur**	**15.86**	**282**	Pn	**Pn**	**19 13 08.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=84,slow=9.3,SNR=7.4						
KLR				LR	LR	19 19 38.2	
	comp=Z,110nm,18.2s,baz=74,slow=39						
KLR	**Kul'dur**	**15.86**	**282**	⇑*e*P	**P**	**19 13 10.8**	**+0.1**
KLR				pmax	pmax		
	comp=Z,26nm,4.5s						
KLR	**Kul'dur**	**15.86**	**282**	*e*P	**Pn**	**19 13 06.8**	**-0.6**
USA0B	**Ussuriysk Arra**	**16.95**	**265**	*i* P	**P**	**19 13 24.8**	**+2.0**
MJAR	**Matsushiro Arr**	**17.48**	**234**	P	**Pn**	**19 13 27.9**	**0.0**
	comp=Z,1.2nm,0.7s,baz=32,slow=13,SNR=2.9						
MJB9	**Matsu-Tunnel**	**17.48**	**234**	P	**P**	**19 13 29.6**	**+0.9**
MJB9				IAmb	IAmb	19 13 36.5	
	comp=Z,27nm,1.5s						
MAJO	**Matsushiro**	**17.48**	**234**	P	**P**	**19 13 29.6**	**+0.9**
MAJO				IAmb	IAmb	19 13 35.5	
	comp=Z,29nm,1.5s						
MAJO	**Matsushiro**	**17.48**	**234**	P	**P**	**19 13 29.6**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,29nm,1.5s						
YAK	**Yakutsk**	**20.07**	**323**	P	**P**	**19 13 52.7**	**-4.2**
YAK				IAmb	IAmb	19 14 06.2	
	comp=Z,11nm,0.7s						
YAK	**Yakutsk**	**20.07**	**323**	P	**P**	**19 13 53.3**	**-3.5**
	comp=Z,1.2nm,0.3s,baz=95,slow=0.9,SNR=5.8						
	comp=Z,4.6nm,0.5s						
YAK	**Yakutsk**	**20.07**	**323**	*e*P	**P**	**19 13 55.3**	**-1.6**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
BILL	**Bilibino**	**20.46**	**11**	P	**P**	**19 13 58.8**	**-2.4**
BILL	**Bilibino**	**20.46**	**11**	⇑*e*P	**P**	**19 14 01.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.8s						
KSRS	**Korea Array**	**23.00**	**252**	P	**P**	**19 14 29.4**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=49,slow=10,SNR=8.2						
	comp=Z,1.7nm,0.5s						
TIXI	**Tiksi**	**26.51**	**341**	P	**P**	**19 14 57.9**	**-2.8**
TIXI	**Tiksi**	**26.51**	**341**	⇓*e*P	**P**	**19 14 58.9**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
F15K	**North Star Dit**	**27.02**	**35**	P	**P**	**19 15 04.1**	**-1.2**
F15K				IAmb	IAmb	19 15 18.2	
	comp=Z,6.3nm,1.4s						
C18K	**Utukok River**	**29.34**	**31**	P	**P**	**19 15 25.0**	**-1.1**
C18K				IAmb	IAmb	19 15 42.9	
	comp=Z,5.5nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**29.91**	**159**	T	T	19 47 41.3	
	baz=342,slow=74,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**29.93**	**159**	T	T	19 47 33.2	
	baz=342,slow=74,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**29.93**	**159**	T	T	19 47 51.3	
	baz=342,slow=74,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**31.04**	**160**	T	T	19 49 01.3	
	baz=345,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**31.05**	**160**	T	T	19 48 47.1	
	baz=345,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**31.06**	**160**	T	T	19 48 58.5	
	baz=345,slow=76,SNR=39						
B20K	**Meade River**	**31.16**	**29**	P	**P**	**19 15 42.3**	**+0.3**
B20K				IAmb	IAmb	19 16 19.2	
	comp=Z,6.2nm,1.2s						
B21K	**Ikpikpuk River**	**31.89**	**30**	P	**P**	**19 15 48.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**32.00**	**273**	*e*P	**P**	**19 15 50.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,43nm,5.1s						
ULN	**Ulaanbaatar**	**32.12**	**288**	⇑*e*P	**P**	**19 15 49.3**	**-1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ULN	**Ulaanbaatar**	**32.12**	**288**	*e*P	**P**	**19 15 49.3**	**-1.6**
B22K	**Teshekpuk Lake**	**32.48**	**29**	P	**P**	**19 15 54.3**	**+0.7**
B22K				IAmb	IAmb	19 16 10.9	
	comp=Z,7.0nm,1.5s						
E22K	**Anaktuvuk Pass**	**32.53**	**33**	P	**P**	**19 15 54.4**	**+0.2**
SONM	**Songino Array**	**32.55**	**288**	P	**P**	**19 15 53.7**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=74,slow=7.8,SNR=2.3						
SONM				LR	LR	19 29 05.6	
	comp=Z,66nm,20.5s,baz=13,slow=37						
	comp=Z,0.2nm,0.4s						
C23K	**Itkillik River**	**33.29**	**31**	P	**P**	**19 16 01.5**	**+0.8**
TOLK	**Toolik Lake Re**	**33.44**	**33**	P	**P**	**19 16 03.1**	**+1.0**
E24K	**Your Creek**	**33.76**	**34**	P	**P**	**19 16 07.1**	**+2.2**
E24K				IAmb	IAmb	19 16 20.5	
	comp=Z,2.4nm,0.8s						
F24K	**Squaw Lake**	**33.92**	**35**	P	**P**	**19 16 08.1**	**+1.8**
F24K				IAmb	IAmb	19 16 39.2	
	comp=Z,4.8nm,1.2s						
ILAR	**Eielson Array**	**34.18**	**40**	P	**P**	**19 16 09.9**	**+1.4**
	comp=Z,0.4nm,1.0s,baz=264,slow=7.7,SNR=1.9						
	comp=Z,0.4nm,1.0s						
D25K	**Kavik River**	**34.68**	**32**	P	**P**	**19 16 14.1**	**+1.3**
E25K	**Arctic Village**	**34.85**	**34**	P	**P**	**19 16 14.9**	**+0.6**
E25K				IAmb	IAmb	19 16 30.5	
	comp=Z,2.5nm,0.9s						
BCAR	**Beaver Creek A**	**36.51**	**43**	P	**P**	**19 16 30.8**	**+2.2**
NRIK	**Noril'sk**	**38.36**	**328**	P	**P**	**19 16 43.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=106,slow=7.4,SNR=4.0						
	comp=Z,0.6nm,0.3s						
I30M	**Mount Dempster**	**38.60**	**39**	P	**P**	**19 16 49.1**	**+2.7**
I30M				IAmb	IAmb	19 16 59.8	
	comp=Z,6.0nm,1.4s						
INK	**Inuvik**	**39.34**	**34**	P	**P**	**19 16 54.0**	**+1.8**
INK	**Inuvik**	**39.34**	**34**	P	**P**	**19 16 54.0**	**+1.8**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LZH	**Lanzhou**	**39.65**	**272**	*e*P	**P**	**19 16 53.5**	**-2.0**
LZH				pP	pP	19 17 03.3	-1.5
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
ZALV	**Zalesovo Beam**	**43.17**	**305**	P	**P**	**19 17 24.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=74,slow=11,SNR=2.2						
	comp=Z,0.3nm,0.3s						
PZH	**PanZhiHua**	**47.03**	**262**	P	**P**	**19 17 56.6**	**+1.6**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
MK31	**Makanchi Array**	**47.83**	**297**	P	**P**	**19 18 00.2**	**-0.7**
MK31				IAmb	IAmb	19 18 01.6	
	comp=Z,2.2nm,0.6s						
MK31	**Makanchi Array**	**47.83**	**297**	*de*P	**P**	**19 18 00.6**	**-0.3**
MKAR	**Makanchi Array**	**47.83**	**297**	P	**P**	**19 18 00.1**	**-0.9**
MKAR	**Makanchi Array**	**47.83**	**297**	P	**P**	**19 18 00.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=71,slow=8.7,SNR=25						
	comp=Z,1.6nm,0.5s						
MKAR	**Makanchi Array**	**47.83**	**297**	*e*P	**P**	**19 18 02.6**	**+1.7**
KURK	**Kurchatov**	**48.00**	**303**	P	**P**	**19 18 00.8**	**-1.3**
KURK				IAmb	IAmb	19 18 03.8	
	comp=Z,1.8nm,0.7s						
KURK	**Kurchatov**	**48.00**	**303**	P	**P**	**19 18 02.6**	**+0.5**
KURK	**Kurchatov**	**48.00**	**303**	*e*P	**P**	**19 18 02.6**	**+0.5**
MAKZ	**Makanchi**	**48.01**	**297**	P	**P**	**19 18 01.4**	**-0.9**
MAKZ				IAmb	IAmb	19 18 19.5	
	comp=Z,2.2nm,0.6s						
MAKZ	**Makanchi**	**48.01**	**297**	P	**P**	**19 18 01.4**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**48.10**	**303**	P	**P**	**19 18 02.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=67,slow=8.3,SNR=10.0						
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**48.57**	**38**	P	**P**	**19 18 08.0**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=300,slow=8.2,SNR=4.0						
	comp=Z,0.3nm,0.7s						
RES	**Resolute Bay**	**48.75**	**19**	P	**P**	**19 18 08.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=320,slow=6.0,SNR=4.3						
	comp=Z,0.6nm,0.4s						
RES	**Resolute Bay**	**48.75**	**19**	P	**P**	**19 18 08.0**	**+0.4**
BVAR	**Borovoye Array**	**51.26**	**309**	P	**P**	**19 18 26.0**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=56,slow=7.4,SNR=17						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**51.26**	**309**	P	**P**	**19 18 26.0**	**-0.9**
BRVK	**Borovoye**	**51.29**	**310**	P	**P**	**19 18 24.9**	**-2.2**
BRVK	**Borovoye**	**51.29**	**310**	P	**P**	**19 18 24.9**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
CRAI	**Chiangrai**	**52.29**	**258**	P	**P**	**19 18 36.3**	**+1.3**
KDJ	**Kajisay**	**53.43**	**295**	P	**P**	**19 18 41.6**	**-1.8**
KDJ				IAmb	IAmb	19 18 44.4	
	comp=Z,1.8nm,0.8s						
KDJ	**Kajisay**	**53.43**	**295**	P	**P**	**19 18 41.6**	**-1.8**
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOOM	**Boomskoye usch**	**53.97**	**296**	P	**P**	**19 18 46.1**	**-1.3**
BOOM				IAmb	IAmb	19 18 50.2	
	comp=Z,2.2nm,0.6s						
BOOM	**Boomskoye usch**	**53.97**	**296**	P	**P**	**19 18 46.1**	**-1.3**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SHL	**Shillong**	**54.21**	**269**	P	**P**	**19 18 48.0**	**-1.3**
SHL	**Shillong**	**54.21**	**269**	P	**P**	**19 18 48.0**	**-1.3**
SHL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**54.24**	**258**	P	**P**	**19 18 49.4**	**+0.1**
CHTO	**Chiang Mai**	**54.24**	**258**	P	**P**	**19 18 49.4**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.49**	**257**	P	**P**	**19 18 50.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**54.49**	**257**	P	**P**	**19 18 53.8**	**+2.5**
	comp=Z,1.0nm,0.5s,baz=32,slow=6.9,SNR=7.8						
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**54.75**	**297**	P	**P**	**19 18 51.8**	**-1.1**
AAK	**Ala-Archa**	**54.75**	**297**	⇓*e*P	**P**	**19 18 53.2**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AAK	**Ala-Archa**	**54.75**	**297**	*e*P	**P**	**19 18 53.2**	**+0.2**
ARCES	**ARCESS Array B**	**56.95**	**341**	P	**P**	**19 19 07.1**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=42,slow=7.6,SNR=4.5						
	comp=Z,3.1nm,0.8s						
ABKAR	**Akbulak array**	**58.80**	**310**	P	**P**	**19 19 20.7**	**-0.7**
ABKAR				IAmb	IAmb	19 19 36.0	
	comp=Z,1.9nm,1.4s						
ABKAR	**Akbulak array**	**58.80**	**310**	P	**P**	**19 19 20.7**	**-0.7**
SUMG	**Summit**	**58.98**	**5**	P	**P**	**19 19 22.4**	**-0.4**
SUMG	**Summit**	**58.98**	**5**	P	**P**	**19 19 22.4**	**-0.4**
GAR	**Garm**	**59.48**	**296**	P	**P**	**19 19 25.8**	**-0.6**
FINES	**FINESS Array B**	**63.37**	**336**	P	**P**	**19 19 51.6**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=41,slow=6.1,SNR=6.3						
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**63.37**	**336**	*e*P	**P**	**19 19 52.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**67.30**	**342**	P	**P**	**19 20 17.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=27,slow=6.5,SNR=2.1						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**67.59**	**341**	P	**P**	**19 20 20.1**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=29,slow=3.4,SNR=5.5						
	comp=Z,1.8nm,0.7s						
KBZ	**Khabaz**	**71.05**	**315**	*e*P	**P**	**19 20 43.5**	**+2.4**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.22**	**327**	P	**P**	**19 20 42.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=33,slow=6.3,SNR=8.5						
	comp=Z,1.4nm,0.5s						
AKASG	**Malin Array Be**	**71.22**	**327**	*e*P	**P**	**19 20 42.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**74.31**	**201**	P	**P**	**19 21 03.7**	**+3.2**
	comp=Z,0.3nm,0.4s,baz=14,slow=6.2,SNR=2.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.11**	**215**	P	**Pn**	**19 11 05.8**	**-2.7**
PCI	**Palu**	**1.37**	**333**	P	**Pn**	**19 11 10.8**	**-1.3**
APSI	**Ampana**	**1.70**	**44**	P	**Pn**	**19 11 17.6**	**+0.9**
SPSI	**Sidrap Palu**	**1.94**	**201**	P	**Pn**	**19 11 19.9**	**-0.1**
LUWI	**Luwuk**	**2.56**	**65**	Pn	**Pn**	**19 11 28.2**	**-0.2**
LUWI	**Luwuk**	**2.56**	**65**	P	**Pn**	**19 11 29.4**	**+0.9**
KAPI	**Kappang**	**2.95**	**194**		**Pn**	**19 11 34.2**	**+0.4**
KAPI	**Kappang**	**2.95**	**194**	Pn	**Pn**	**19 11 35.4**	**+1.6**
	26nm,0.3s,baz=304,slow=7.9,SNR=74						
KAPI				Sn	**Sn**	**19 12 11.4**	**+3.3**
	20nm,0.3s,baz=22,slow=9.6,SNR=4.4						
KAPI				LR	LR	19 12 43.2	
	comp=Z,314nm,18.3s,baz=5.5,slow=39						
	180nm,0.6s						
MRSI	**Marisa**	**2.99**	**30**	P	**Pn**	**19 11 35.4**	**+1.0**
BKSI	**Bulukumba**	**3.19**	**186**	P	**Pn**	**19 11 36.8**	**-0.3**
TOLI2	**Tolitoli**	**3.24**	**6**		**Pn**	**19 11 38.3**	**+0.5**
SMKI	**Samarinda**	**3.65**	**297**	P	**Pn**	**19 11 45.8**	**+2.2**
BKB	**Balikpapan**	**3.66**	**284**	Pn	**Pn**	**19 11 44.7**	**+1.0**
BKB	**Balikpapan**	**3.66**	**284**	P	**Pn**	**19 11 45.3**	**+1.6**
BBSI	**Bau Bau**	**3.94**	**148**	P	**Pn**	**19 11 47.3**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.98**	**180**	P	**Pn**	**19 11 49.5**	**+1.4**
KMSI	**Cibinong**	**4.43**	**53**	P	**Pn**	**19 11 56.8**	**+2.5**
SANI	**Sanana**	**5.53**	**89**	P	**Pn**	**19 12 08.7**	**-0.7**
MTKI	**Muara Teweh, K**	**5.68**	**282**	P	**Pn**	**19 12 12.4**	**+0.9**
PLAI	**Plampang**	**7.17**	**202**	P	**Pn**	**19 12 31.7**	**-0.2**
	0.2nm21nm,0.7s						
TNTI	**Ternate**	**7.49**	**67**	Pn	**Pn**	**19 12 34.0**	**-2.3**
SOEI	**Soe**	**8.47**	**154**	Pn	**Pn**	**19 12 48.7**	**-1.2**
SOEI	**Soe**	**8.47**	**154**	P	**Pn**	**19 12 50.4**	**+0.6**
	47nm,0.9s						
JAGI	**Jajag, Banyuwa**	**8.89**	**225**	Pn	**Pn**	**19 12 55.9**	**+0.4**
KKM	**Kota Kinabalu**	**9.16**	**332**	Pn	**Pn**	**19 13 02.2**	**+2.9**
KULM	**Kulim**	**21.11**	**291**	P	**P**	**19 15 32.2**	**+0.8**
WRA	**Warramunga Arr**	**22.30**	**144**	P	**P**	**19 15 43.9**	**-0.2**
	7.8nm,0.8s,baz=321,slow=11,SNR=14						
	7.8nm,0.8s						
WRAB	**Tennant Creek**	**22.30**	**143**	P	**P**	**19 15 42.6**	**-1.6**
WRAB				IAmb	IAmb	19 15 48.1	
	comp=Z,13nm,0.8s						
WR8	**Warramunga Arr**	**22.41**	**143**	P	**P**	**19 15 44.1**	**-1.2**
WR8				IAmb	IAmb	19 15 49.5	
	comp=Z,26nm,1.3s						
UBPT	**Khong Chiam**	**22.79**	**320**	P	**P**	**19 15 50.2**	**+0.9**
GSI	**Gunungsitoli**	**23.13**	**278**	P	**P**	**19 15 53.2**	**+0.3**
GSI				IAmb	IAmb	19 15 55.2	
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**25.06**	**150**	P	**P**	**19 16 12.9**	**+2.0**
	comp=Z,1.7nm,0.8s,baz=318,slow=8.0,SNR=14						
ASAR				LR	LR	19 25 54.3	
	comp=Z,53nm,18.5s,baz=4.0,slow=36						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.45**	**315**	P	**P**	**19 16 51.1**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=139,slow=7.5,SNR=12						
CMAR				LR	LR	19 29 15.2	
	comp=Z,22nm,19.0s,baz=150,slow=38						
	comp=Z,1.3nm,0.8s						
BBOO	**Buckleboo**	**33.85**	**156**	P	**P**	**19 17 26.4**	**-2.4**
BBOO				IAmb	IAmb	19 17 33.9	
	comp=Z,5.4nm,1.0s						
STKA	**Stephens Creek**	**35.67**	**148**	P	**P**	**19 17 42.5**	**-2.1**
STKA	**Stephens Creek**	**35.67**	**148**	P	**P**	**19 17 47.1**	**+2.6**
	comp=Z,3.3nm,0.9s,baz=354,slow=7.2,SNR=7.0						
STKA				LR	LR	19 32 54.4	
	comp=Z,65nm,18.1s,baz=58,slow=37						
	comp=Z,3.3nm,0.9s						
KSRS	**Korea Array**	**39.99**	**9**	LR	LR	19 33 58.7	
	comp=Z,10nm,21.4s,baz=50,slow=35						
ERM	**Erimo**	**48.52**	**23**	P	**P**	**19 19 28.0**	**-1.1**
SONM	**Songino Array**	**51.26**	**348**	P	**P**	**19 19 50.2**	**+0.1**
SONM	**Songino Array**	**51.26**	**348**	P	**P**	**19 19 51.3**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=166,slow=9.0,SNR=7.4						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**59.14**	**330**	P	**P**	**19 20 46.2**	**-0.6**
MKAR	**Makanchi Array**	**59.14**	**330**	P	**P**	**19 20 46.2**	**-0.6**
MKAR	**Makanchi Array**	**59.14**	**330**	P	**P**	**19 20 47.1**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=129,slow=7.6,SNR=16						
	comp=Z,1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**63.57**	**332**	P	**P**	**19 21 15.6**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=143,slow=6.0,SNR=5.0						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**69.02**	**330**	P	**P**	**19 21 50.4**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=126,slow=7.4,SNR=3.1						
	comp=Z,0.7nm,0.9s						
SEY	**Seymchan**	**69.20**	**15**	LR	LR	19 53 46.3	
	comp=Z,77nm,19.1s,baz=172,slow=37						
TIXI	**Tiksi**	**73.86**	**3**	P	**P**	**19 22 19.1**	**-1.2**
TIXI				IAmb	IAmb	19 22 22.0	
	comp=Z,3.0nm,1.1s						

*NEIC **22** 19:52:01.8±1.8,20°.3S±0°.1×177°.54W±0°.09,h496^{km}±6^{km}, mb4.4/24,Error ellipse: s-maj=17.0km s-min=12.8km az=185.0*

*IDC **22** 19:52:04.0±3.2,20°.21S×177°.72W,h513^{km}±27^{km},mb3.1/8, mbtmp4.0/9,Error ellipse: s-maj=69.5km s-min=17.0km az=147.0*

ISC 22 19:52:02.2±0.5,20°.10S±0°.10×177°.62W±0°.07,h500^{km}, n47,σ1^{s}67/51,mb4.2/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.72**	**299**	P	**P**	**19 53 29.1**	**+2.2**
MSVF				S	**S**	**19 54 37.1**	**+1.2**
MSVF	**Nonsavu**	**4.72**	**299**	P	**P**	**19 53 29.7**	**+2.8**
	30nm,0.4s,baz=192,slow=5.2,SNR=89						
FUTU	**Fugatoga**	**5.78**	**355**	P	**P**	**19 53 36.5**	**-0.1**
NIUE	**Niue**	**7.33**	**83**	P	**P**	**19 53 51.2**	**-0.5**
NIUE				S	**S**	**19 55 26.3**	**+4.9**
AFI	**Afiamalu**	**8.31**	**43**	P	**P**	**19 53 60.0**	**-2.1**
AFI				S	**S**	**19 55 34.1**	**-6.2**
PININC	**Pines Island,**	**14.13**	**257**	P	**P**	**19 55 03.8**	**+0.5**
RTZ	**Ruatahuna**	**19.04**	**193**	P	**P**	**19 55 48.3**	**-3.7**
RTZ				IAmb	IAmb	19 56 22.4	
	comp=Z,20nm,1.4s						
TCW	**Tory Channel**	**22.15**	**196**	P	**P**	**19 56 18.6**	**-1.5**
QRZ	**Quartz Range**	**22.30**	**200**	P	**P**	**19 56 19.6**	**-1.9**
ARMA	**Armidale**	**29.56**	**244**	P	**P**	**19 57 26.2**	**+0.3**
TOO	**Toolangi**	**36.42**	**233**	P	**P**	**19 58 23.0**	**-0.9**
STKA	**Stephens Creek**	**38.28**	**244**	P	**P**	**19 58 39.0**	**-0.3**
STKA				IAmb	IAmb	19 58 40.0	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**38.28**	**244**	P	**P**	**19 58 39.0**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=86,slow=9.0,SNR=8.6						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	**43.04**	**243**	P	**P**	**19 59 16.7**	**-0.7**
BBOO				IAmb	IAmb	19 59 17.3	
	comp=Z,4.9nm,0.6s						
WR8	**Warramunga Arr**	**44.86**	**262**	P	**P**	**19 59 30.8**	**-0.8**
AS31	**Alice Springs**	**44.96**	**256**		**P**	**19 59 31.4**	**-1.0**
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**19 59 31.8**	**-0.6**
ASAR				PcP	**PcP**	**20 01 03.0**	**-0.2**
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**19 59 32.1**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=97,slow=7.9,SNR=53						
	comp=Z,4.8nm,0.8s						
WB0	**Warramunga Arr**	**44.98**	**262**	P	**P**	**19 59 31.8**	**-0.8**
WRA	**Warramunga Arr**	**45.01**	**262**	P	**P**	**19 59 32.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=97,slow=7.5,SNR=20						
	comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**49.78**	**246**	P	**P**	**20 00 07.6**	**-0.9**
FORT				IAmb	IAmb	20 00 13.2	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**51.04**	**266**	P	**P**	**20 00 17.5**	**-0.4**
KNRA				IAmb	IAmb	20 00 35.8	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**58.10**	**257**	P	**P**	**20 01 07.9**	**+0.3**
PSA00	**Pilbara Seismi**	**58.10**	**257**	P	**P**	**20 01 07.0**	**-0.6**
MBWA	**Marble Bar**	**58.29**	**257**	P	**P**	**20 01 08.0**	**-0.9**
QSPA	**South Pole Qui**	**69.97**	**180**	P	**P**	**20 02 22.0**	**-0.6**
NIKH	**Nikolski High**	**73.16**	**6**	P	**P**	**20 02 41.2**	**+0.1**
TPUB	**Ta-pu**	**74.06**	**303**	P	**P**	**20 02 45.9**	**-1.1**
NVAR	**Mina Array Bea**	**80.49**	**43**	P	**P**	**20 03 23.6**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.5,SNR=3.6						
	comp=Z,0.7nm,0.7s						
M16K	**Timber Creek**	**82.23**	**9**	P	**P**	**20 03 32.2**	**+2.1**
M16K				IAmb	IAmb	20 03 56.9	
	comp=Z,26nm,1.4s						
K15K	**Wolf Creek Mou**	**83.10**	**7**	P	**P**	**20 03 36.1**	**+1.6**
K15K				IAmb	IAmb	20 04 04.6	
	comp=Z,26nm,1.4s						
L18K	**Granite Mounta**	**83.71**	**10**	P	**P**	**20 03 39.0**	**+1.5**
L18K				IAmb	IAmb	20 04 19.4	
	comp=Z,17nm,1.4s						
GHO	**Glory Hole Cre**	**84.75**	**13**	P	**P**	**20 03 43.0**	**+0.2**
GHO				IAmb	IAmb	20 04 16.2	
	comp=Z,20nm,1.2s						
TXAR	**Lajitas Array**	**86.54**	**57**	P	**P**	**20 03 53.5**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=190,slow=6.4,SNR=5.1						
	comp=Z,0.5nm,0.7s						
WRH	**Wood River Hil**	**87.34**	**12**	P	**P**	**20 03 54.5**	**-0.4**
CCB	**Clear Creek Bu**	**87.55**	**12**	P	**P**	**20 03 56.1**	**+0.2**
CCB				IAmb	IAmb	20 03 56.7	
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**87.85**	**13**	P	**P**	**20 03 57.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=219,slow=5.8,SNR=12						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**88.43**	**43**	P	**P**	**20 04 02.1**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=237,slow=4.3,SNR=4.6						
	comp=Z,0.3nm,0.5s						
M30M	**Minto, Yukon**	**88.48**	**18**	P	**P**	**20 04 01.5**	**+1.0**
M30M				IAmb	IAmb	20 04 26.9	
	comp=Z,6.5nm,1.4s						
D19K	**Kuna River**	**89.48**	**7**	P	**P**	**20 04 05.7**	**+0.8**
D19K				IAmb	IAmb	20 04 32.3	
	comp=Z,4.4nm,1.4s						
CMAR	**Chiang Mai Arr**	**90.32**	**289**	P	**P**	**20 04 11.7**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=106,slow=4.6,SNR=2.7						
	comp=Z,0.2nm,0.3s						
AKASG	**Malin Array Be**	**142.83**	**332**	PKhKP	PKPpre	20 10 34.8	
	comp=Z,0.3nm,0.4s,baz=42,slow=4.3,SNR=5.3						
EKA	**Eskdalemuir Ar**	**144.57**	**5**	PKP	**PKPdf**	**20 10 41.3**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=22,slow=3.1,SNR=3.5						
BRTR	**Keskin Array B**	**146.83**	**313**	PKPbc	**PKPbc**	**20 10 48.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=135,slow=0.2,SNR=3.7						
BURAR	**Bucovina Array**	**146.88**	**331**	PKPdf	**PKPdf**	**20 10 43.9**	**-1.5**
BURAR					**PKPbc**	**20 10 49.0**	**+0.9**
MMAI	**Mount Meron Ar**	**147.92**	**300**	PKPbc	**PKPbc**	**20 10 51.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=70,slow=4.7,SNR=2.2						
MLR	**Muntele Rosu**	**148.08**	**328**	PKPbc	**PKPbc**	**20 10 50.1**	**-1.2**

IDC 22 20:05:17.3±1.9,2°.69N×127°.42E,h0^{km},mb3.3/4, mbtmp3.4/4,Error ellipse: s-maj=162.0km s-min=22.6km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**163**	P	P	20 10 27.0	-2.0
	0.9nm,0.6s,baz=343,slow=11,SNR=5.4						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**26.95**	**167**	P	P	20 11 02.3	+1.6
	0.2nm,0.4s,baz=344,slow=11,SNR=6.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.80**	**325**	P	P	20 15 17.4	-0.2
	0.2nm,0.5s,baz=135,slow=8.7,SNR=3.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.98**	**327**	P	P	20 15 45.9	0.0
	0.2nm,0.6s,baz=133,slow=6.7,SNR=5.6						
	0.2nm,0.6s						

*NNC **22** 20:06:00.6±6.6,43°.54N×77°.25E,h0^{km},mpv2.5,Error ellipse: s-maj=66.0km s-min=18.2km az=143.0*

SOME 22 20:05:56.1,42°.37N×80°.75E,h10^{km}, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.23**	**310**	*e*P	Pn	20 06 14.9	-4.6
	0.8nm,0.1s						
SHLS				*e*S	Sb	20 06 28.5	-7.1
	4.3nm,0.1s						
UZB	**Uzynbulak**	**1.49**	**302**	P	Pg	20 06 25.0	+0.2
	1.8nm,0.2s						
UZB				S	Sg	20 06 46.0	+1.9
	3.3nm,0.5s						
UZB	**Uzynbulak**	**1.49**	**302**	*e*P	Pb	20 06 23.6	-0.4
	2.1nm,0.2s						
UZB				*e*S	Sb	20 06 43.5	+0.5
	3.3nm,0.5s						
DJR	**Jarkent**	**2.08**	**341**	Pg	Pb	20 06 34.1	0.0
	0.3nm,0.1s						
DJR				Lg	Lg	20 07 01.5	
	1.2nm,0.2s						
DJR	**Jarkent**	**2.08**	**341**	*e*P	Pb	20 06 34.1	0.0
	0.3nm,0.1s						
DJR				*e*S	Sb	20 07 01.5	+1.4
	1.2nm,0.2s						
KOTS	**Kotyrbulak**	**2.81**	**289**	*e*P	Pb	20 06 47.3	+0.7
	0.4nm,0.1s						
KOTS				*e*S	Sg	20 07 24.0	-2.5
	4.4nm,0.5s						

IDC 22 20:08:39.1±2.2,6°.92S×128°.86E,h0^{km},mb3.3/1, mbtmp3.6/4,ML3.8/3,Error ellipse: s-maj=80.2km s-min=29.7km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.55**	**195**	Pn	Pn	20 11 24.6	-0.9
	0.5nm,0.3s,baz=23,slow=9.0,SNR=21						
FITZ				Sn	Sn	20 13 22.0	-13
	1.0nm,0.3s,baz=162,slow=20,SNR=6.1						
	4.0nm,1.0s						
WRA	**Warramunga Arr**	**14.00**	**158**	Pn	Pn	20 11 59.6	+0.6
	0.4nm,0.3s,baz=338,slow=13,SNR=14						
WRA				Sn	Sn	20 14 21.1	-14
	0.9nm,0.3s,baz=335,slow=23,SNR=8.4						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**17.35**	**164**	P	Pn	20 12 43.1	+0.3
	0.2nm,0.3s,baz=338,slow=11,SNR=11						
ASAR				S	Sn	20 15 39.5	-17
	2.1nm,0.5s,baz=347,slow=25,SNR=25						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**67.54**	**327**	P	P	20 19 37.4	+0.1
	0.2nm,0.5s,baz=117,slow=8.3,SNR=2.0						
	0.2nm,0.5s						

*NEIC **22** 20:14:54.2±1.7,61°.38N±0°.02×149°.96W±0°.05,h46^{km}±1^{km}, Error ellipse: s-maj=3.8km s-min=3.3km az=137.0*

AEIC 22 20:14:54.3±1.2,61°.35N±0°.02×149°.97W±0°.05,h50^{km}±4^{km}, ML2.3,ML2.4/147(NEIC),Error ellipse: s-maj=3.8km s-min=2.6km az=121.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.24**	**210**		Pn	20 15 02.7	-0.2
FIS					Sn	20 15 10.2	+1.2
RC01	**Rabbit Creek A**	**0.29**	**157**		Pn	20 15 02.3	-1.0
RC01					Sn	20 15 09.2	-0.5
RC01				IAML		20 15 09.6	
	comp=N,446nm,0.1s						
M22K	**Willow**	**0.41**	**350**		Pn	20 15 02.9	-1.6
M22K					Sn	20 15 10.6	-1.2
M22K				IAML		20 15 11.4	
	comp=E,378nm,0.4s						
M22K				IAML		20 15 11.6	
	comp=N,361nm,0.3s						
PMR	**Palmer**	**0.47**	**59**		Pn	20 15 04.1	-1.0
PMR					Sn	20 15 12.1	-0.9
PMR				IAML		20 15 12.9	
	comp=E,154nm,0.2s						
PMR				IAML		20 15 12.9	
	comp=N,196nm,0.3s						
GHO	**Glory Hole Cre**	**0.66**	**49**		Pn	20 15 06.8	-0.7
GHO				Sn	Sn	20 15 16.6	-0.5
GHO				IAML		20 15 18.2	
	comp=N,218nm,0.3s						
GHO				IAML		20 15 18.3	
	comp=E,183nm,0.5s						
KNK	**Knik Glacier**	**0.73**	**84**		Pn	20 15 08.1	-0.3
KNK				Sn	Sn	20 15 19.3	+0.5
KNK				IAML		20 15 22.1	
	comp=E,162nm,0.2s						
KNK				IAML		20 15 22.2	
	comp=N,211nm,0.4s						
CAPN	**Captain Cook N**	**0.82**	**225**	Pn	Pn	20 15 10.0	+0.4
SLKM	**Skilak Lake**	**0.86**	**188**		Pn	20 15 09.2	-0.9
SLKM				Sn	Sn	20 15 21.2	-0.5
O22K	**Cooper Landing**	**0.88**	**172**	Pn	Pn	20 15 09.9	-0.4
O22K				Sn	Sn	20 15 22.4	+0.2
SML	**Sawmill**	**0.91**	**59**		Pn	20 15 10.2	-0.7
SML				Sn	Sn	20 15 23.7	+0.8
SML				IAML		20 15 25.2	
	comp=N,64nm,0.2s						
SML				IAML		20 15 25.7	
	comp=E,52nm,0.6s						
STLK	**Strandline Lak**	**0.91**	**280**		Pn	20 15 10.2	-0.7
STLK				Sn	Sn	20 15 22.4	-0.6
PWL	**Port Wells**	**0.94**	**121**		Pn	20 15 11.0	-0.1
PWL				Sn	Sn	20 15 24.3	+0.8
SKT	**Skwentna**	**0.98**	**311**		Pn	20 15 10.7	-1.0
SKT				Sn	Sn	20 15 23.7	-0.8
CUT	**Chulitna**	**1.07**	**352**		Pn	20 15 12.4	-0.5
CUT				Sn	Sn	20 15 26.8	+0.2
SPCR	**Spurr Chakacha**	**1.09**	**263**		Pn	20 15 12.6	-0.7
CKL	**Chakachamna La**	**1.16**	**263**		Pn	20 15 13.5	-0.7
M23K	**Glacier View**	**1.16**	**67**		Pn	20 15 14.3	+0.1
M23K					Sn	20 15 30.5	+1.5
SPBG	**Spurr Blockage**	**1.16**	**267**		Pn	20 15 13.7	-0.6
SEW	**Seward**	**1.28**	**168**	Pn	Pn	20 15 15.0	-0.7
SCM	**Sheep Creek Mo**	**1.35**	**68**	Pn	Pn	20 15 17.1	+0.3
SCM				Sn	Sn	20 15 35.7	+2.0
SCM				IAML		20 15 36.6	
	comp=E,81nm,0.7s						
SCM				IAML		20 15 37.4	
	comp=N,66nm,0.8s						
RDT	**Redoubt**	**1.42**	**238**		Pn	20 15 17.2	-0.6
RDT					Sn	20 15 36.0	+0.7
DFR	**Drift River**	**1.53**	**241**		Pn	20 15 18.8	-0.4
RDJH	**Redoubt Jeurge**	**1.58**	**242**		Pn	20 15 19.5	-0.4
M20K	**Styx River**	**1.60**	**291**		Pn	20 15 20.2	0.0
M20K				Sn	Sn	20 15 41.2	+1.4
M20K				IAML		20 15 43.3	
	comp=E,40nm,0.8s						
NCT	**North Crescent**	**1.65**	**243**		Pn	20 15 20.5	-0.3
RDWB	**Redoubt West**	**1.65**	**240**		Pn	20 15 20.5	-0.4
BRLK	**Bradley Lake**	**1.66**	**196**	Pn	Pn	20 15 19.9	-1.0
BRLK				IAML		20 15 45.6	
	comp=N,40nm,0.7s						
BRLK				IAML		20 15 47.6	
	comp=E,47nm,1.1s						
RED	**Redoubt Volcan**	**1.66**	**237**		Pn	20 15 20.7	-0.3
RED					Sn	20 15 41.4	+0.2
BRSE	**Bradley Lake S**	**1.66**	**194**		Pn	20 15 20.4	-0.6
O20K	**Slope Mountain**	**1.82**	**227**		Pn	20 15 23.3	+0.1
PPLA	**Purkeypile**	**1.87**	**327**		Pn	20 15 23.9	-0.1
PPLA	**Purkeypile**	**1.87**	**327**		Sn	20 15 46.0	-0.4
HOM	**Homer**	**1.89**	**207**	Pn	Pn	20 15 23.5	-0.6
CNPM	**China Poot**	**1.94**	**199**	Pn	Pn	20 15 24.0	-0.7
CNPM				IAML		20 15 52.3	
	comp=E,26nm,1.0s						
CNPM				IAML		20 15 54.0	
	comp=N,39nm,1.3s						
HIN	**Hinchinbrook I**	**1.95**	**118**	Pn	Pn	20 15 24.3	-0.6
KLU	**Klutina**	**1.95**	**84**	Pn	Pn	20 15 25.0	0.0
KLU				IAML		20 15 57.6	
	comp=N,30nm,1.3s						
KLU				IAML		20 15 58.3	
	comp=E,20nm,0.4s						
M24K	**Tolsona, Glenn**	**1.96**	**66**		Pn	20 15 25.8	+0.7
M24K				IAML		20 15 56.5	
	comp=E,36nm,1.1s						
M24K				IAML		20 15 58.3	
	comp=N,29nm,1.1s						
DIV	**Divide**	**2.04**	**94**	Pn	Pn	20 15 26.0	-0.3
TRF	**Thorofare Moun**	**2.11**	**356**	Pn	Pn	20 15 26.9	-0.4
TRF				IAML		20 15 58.2	
	comp=E,16nm,0.5s						
TRF				IAML		20 16 05.4	
	comp=N,25nm,0.8s						
TRF	**Thorofare Moun**	**2.11**	**356**		Sn	20 15 53.7	+1.3
RND	**Reindeer**	**2.13**	**14**		Pn	20 15 27.8	+0.4
RND				IAML		20 16 05.2	
	comp=N,14nm,1.0s						
RND				IAML		20 16 06.1	
	comp=E,14nm,0.6s						
L20K	**Farewell, AK**	**2.17**	**303**		Pn	20 15 27.7	-0.2
M19K	**Big River Lodg**	**2.18**	**287**		Pn	20 15 27.7	-0.4
M19K				IAML		20 16 12.6	
	comp=E,12nm,1.2s						
EYAK	**Cordova Ski Ar**	**2.21**	**110**	Pn	Pn	20 15 27.8	-0.6
KTH	**Kantishna Hill**	**2.25**	**349**	Pn	Pn	20 15 29.0	-0.1
KTH				IAML		20 15 58.8	
	comp=E,15nm,0.5s						
KTH				IAML		20 16 10.4	
	comp=N,16nm,1.0s						
N19K	**Bonanza Creek**	**2.26**	**258**	Pn	Pn	20 15 28.9	-0.4
N19K				IAML		20 15 57.5	
	comp=N,11nm,1.3s						
N19K	**Bonanza Creek**	**2.26**	**258**		Sn	20 15 56.4	+0.5
CAST	**Castle Rocks**	**2.30**	**336**	Pn	Pn	20 15 29.4	-0.2
CAST				IAML		20 16 13.8	
	comp=E,14nm,1.0s						
P19K	**Oil Pt**	**2.35**	**225**	Pn	Pn	20 15 29.6	-0.8
O19K	**Port Alsworth**	**2.43**	**243**	Pn	Pn	20 15 31.3	-0.1
O19K				IAML		20 16 24.2	
	comp=N,28nm,0.4s						
O19K				IAML		20 16 25.7	
	comp=E,33nm,0.5s						
MCK	**McKinley**	**2.44**	**11**	Pn	Pn	20 15 32.1	+0.5
L19K	**White Mountain**	**2.47**	**292**		Pn	20 15 32.1	+0.1
HARP	**HAARP**	**2.51**	**63**		Pn	20 15 33.9	+1.3
N25K	**Chitina, Valde**	**2.59**	**82**	Pn	Pn	20 15 34.0	+0.2
N25K				IAML		20 16 14.3	
	comp=N,12nm,0.3s						
N25K				IAML		20 16 21.6	
	comp=E,8.1nm,0.6s						
BMRM	**Bremner River**	**2.63**	**96**	Pn	Pn	20 15 33.9	-0.3
PAX	**Paxson**	**2.66**	**50**	Pn	P

comp=N,3.6nm,1.2s
IL31 3.71 21 Pn Pn 20 15 47.3 -1.6
ILAR Eielson Array 3.71 21 Pn Pn 20 15 48.2 -0.8
IL03 Eielson Array 3.71 21 Pn Pn 20 15 49.3 +0.2
J19K Poorman 3.72 318 Pn Pn 20 15 48.0 -1.1
J19K IAML 20 16 43.3
comp=E,4.7nm,1.2s
J18K Innoko River 3.79 307 Pn 20 15 49.0 -1.0
SCRK Sand Creek 3.81 44 Pn Pn 20 15 52.8 +2.2
I23K Minto, Yukon-K 3.82 4 Pn Pn 20 15 50.9 +0.4
I23K IAML 20 17 02.6
comp=E,3.1nm,1.1s
J25K Salcha River, 3.89 31 Pn Pn 20 15 53.2 +1.7
J25K IAML 20 16 46.2
comp=N,3.9nm,0.9s
I21K Tanana 3.95 348 Pn Pn 20 15 52.9 +0.7
I21K IAML 20 17 21.3
comp=E,3.4nm,0.8s
M27K Edge Creek, AK 3.96 72 Pn Pn 20 15 52.6 -0.1
M27K IAML 20 17 04.4
comp=N,4.9nm,1.2s
K17K Iditarod 4.16 293 Pn Pn 20 15 54.1 -1.0
K17K IAML 20 17 08.1
comp=E,5.8nm,1.1s
K17K IAML 20 17 32.1
comp=N,2.5nm,1.1s
L27K Beaver Creek, 4.18 62 Pn Pn 20 15 55.0 -0.5
J26L Joseph Creek 4.31 40 Pn Pn 20 15 58.9 +1.6
J26L IAML 20 16 55.1
comp=E,3.1nm,0.7s
J26L IAML 20 16 57.4
comp=N,4.3nm,1.1s
M16K Timber Creek 4.36 270 Pn Pn 20 15 57.7 -0.3
M16K IAML 20 18 18.2
comp=E,4.8nm,1.1s
H23K Yukon River 4.50 2 Pn Pn 20 16 00.5 +0.7
H21K Melozitna Rive 4.50 345 Pn Pn 20 16 00.2 +0.3
L16K Owhat River 4.56 279 Pn Pn 20 16 00.2 -0.5
L16K IAML 20 17 12.7
comp=E,3.1nm,1.2s
L16K IAML 20 17 30.6
comp=N,2.9nm,1.1s
H24K Noodor Dome 4.60 11 Pn Pn 20 16 02.1 +0.9
H24K IAML 20 17 27.7
comp=E,2.8nm,1.3s
PRP Porcupine Dome 4.63 24 Pn Pn 20 16 02.2 +0.4
PRP IAML 20 17 04.1
comp=E,1.9nm,1.3s
PRP IAML 20 17 15.5
comp=N,2.3nm,1.2s
J17K VABM Dome 4.71 300 Pn Pn 20 16 01.6 -1.0
J17K IAML 20 16 58.0
comp=E,2.3nm,1.2s
J17K IAML 20 18 03.8
comp=N,3.3nm,1.3s
I26K Coal Creek Min 5.02 35 Pn Pn 20 16 06.8 -0.1
I26K IAML 20 17 17.4
comp=N,1.8nm,1.0s
I26K IAML 20 17 34.4
comp=E,3.6nm,1.3s
J16K Anvik River 5.32 296 Pn Pn 20 16 09.8 -1.3
J16K IAML 20 18 44.3
comp=N,3.4nm,1.2s
H18K Honhosa River 5.38 319 Pn Pn 20 16 11.1 -0.7
G21K Allakaket 5.41 345 Pn Pn 20 16 12.4 +0.1
M29M Somme Creek 5.55 74 Pn Pn 20 16 14.3 0.0
K15K Wolf Creek Mou 5.56 285 Pn Pn 20 16 13.2 -1.2
I17K Unalakleet 5.56 302 Pn Pn 20 16 13.3 -1.1
G19K Purcell Mounta 5.75 330 Pn Pn 20 16 16.6 -0.4
M14K Bethel 5.86 269 Pn Pn 20 16 18.3 -0.1
G18K Tagagawik 5.98 323 Pn Pn 20 16 19.8 -0.3
F21K Alatna River 6.09 347 Pn Pn 20 16 22.5 +0.9
I28M Miner Creek 6.10 43 Pn Pn 20 16 23.0 +1.2
L14K Kuka Creek 6.12 275 Pn Pn 20 16 22.8 +0.8
N30M Aishikik Lake 6.19 83 Pn Pn 20 16 24.4 +1.3
F20K Avaraart Lake 6.24 339 Pn Pn 20 16 24.9 +1.3
F19K Shaleruckik Mo 6.47 332 Pn Pn 20 16 26.5 -0.3
J14K Nanvaranak Lak 6.54 288 Pn Pn 20 16 27.2 -0.5

*ISK **22** 20:17:34.1,38.′82N×26.′49E, h6km, ML3.2/41*
*ATH **22** 20:17:34.6,38.′83N×26.′47E, h17km±3km, ML3.0/13, Manual Solution by G.Panopoulou First location: 2019/03/22 20:18:49, This location: 2019/03/22 21:13:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km*
*AFAD **22** 20:17.′34.1,38.′81N×26.′47E, h7km±1km, ML3.3*
*THE **22** 20:17:35.7,38.′84N×26.′41E, h12km±1km, ML3.3/6, Error ellipse: s-maj=1.9km s-min=1.2km az=293.0*
ISC 22 20:17:34.5±0.9,**38.′82N**±0.′02×**26.′46E**±0.′02,**h13**km±7km,
n112, σ0**.85**/144,**11C-7D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**193**	P	**Pg**	**20 17 38.1**	**-0.3**
FOCM	**Foa**	**0.24**	**117**	Pg	**Pg**	**20 17 38.9**	**-0.7**
FOCM				Sg	**Sg**	**20 17 42.5**	**-0.5**
CAND	**Candarli**	**0.30**	**63**	Pg	**Pg**	**20 17 40.5**	**-0.2**
EAG2	**Marmaro, Chios**	**0.39**	**225**	P	**Pg**	**20 17 42.8**	**+0.5**
EAG2				S	**Sg**	**20 17 48.7**	**+1.2**
IZMD	**zmir-Dikili-**	**0.40**	**66**	P	**Pg**	**20 17 42.1**	**-0.5**
IZMD				P	**Pg**	**20 17 42.1**	**-0.5**
DKL	**Dikili**	**0.43**	**54**	Pg	**Pg**	**20 17 42.7**	**-0.3**
DKL	**Dikili**	**0.43**	**54**	P	**Pg**	**20 17 42.7**	**-0.3**
DKL				S	**Sg**	**20 17 48.9**	**+0.1**
PRK	**Paraskevi**	**0.45**	**341**	P	**Pg**	**20 17 43.6**	**+0.2**
PRK				S	**Sb**	**20 17 50.4**	**-0.5**
	5μm,0.5s						
PRK	**Paraskevi**	**0.45**	**341**	P	**Pg**	**20 17 43.7**	**+0.3**
PRK				S	**Sb**	**20 17 50.5**	**-0.3**
URLA	**Izmir**	**0.47**	**167**	P	**Pg**	**20 17 43.3**	**-0.5**
URLA				S	**Sg**	**20 17 50.3**	**+0.2**
URLA				*i* AML	AML	20 17 53.0	
	comp=N,2μm,0.2s						
URLA				*i* AML	AML	20 17 55.0	
	comp=E,1μm,0.5s						
CESE	**eme**	**0.50**	**194**	Pg	**Pg**	**20 17 44.4**	**0.0**
ZEDA	**zmir-Bergama**	**0.50**	**73**	P	**Pg**	**20 17 43.8**	**-0.6**
AYVA	**Ayvalik**	**0.52**	**20**	P	**Pg**	**20 17 44.4**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**0.58**	**177**	P	**Pg**	**20 17 45.5**	**-0.4**
SIGR	**SIGRI**	**0.61**	**310**	Pg	**Pb**	**20 17 47.0**	**-0.1**
SIGR	**SIGRI**	**0.61**	**310**	P	**Pb**	**20 17 46.9**	**-0.1**
SIGR				S	**Sb**	**20 17 55.5**	**0.0**
	2μm,0.4s						
SIGR	**SIGRI**	**0.61**	**310**	P	**Pb**	**20 17 47.0**	**-0.1**
SIGR				S	**Sg**	**20 17 55.0**	**+0.5**
BLCB	**Balcova**	**0.63**	**133**	Pg	**Pg**	**20 17 46.5**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.68**	**338**	Pg	**Pg**	**20 17 47.9**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.73**	**340**	P	**Pg**	**20 17 48.6**	**0.0**
KOCA				S	**Sg**	**20 17 58.0**	**-0.2**
KOCA				*i* AML	AML	20 18 02.0	
	comp=N,2μm,0.4s						
GMLD	**Gumuldur**	**0.82**	**154**	Pg	**Pg**	**20 17 49.8**	**-0.6**
BUHA	**Balikesir, Bur**	**0.83**	**35**	P	**Pg**	**20 17 50.1**	**-0.5**
BUHA				S	**Sb**	**20 18 02.0**	**+0.1**
BUHA				*i* AML	AML	20 18 04.0	
	comp=N,787nm,0.8s						
BUHA				*i* AML	AML	20 18 08.0	
	comp=E,1μm,0.5s						
DGB	**zmir**	**0.84**	**156**	P	**Pg**	**20 17 50.0**	**-0.7**
DGB				S	**Sg**	**20 18 01.4**	**-0.2**
SOMA	**Soma-Manisa**	**0.90**	**68**	Pg	**Pb**	**20 17 52.0**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.92**	**4**	P	**Pg**	**20 17 51.8**	**-0.5**
EZNE	**Ezine-Canakkal**	**0.94**	**356**	Pg	**Pb**	**20 17 52.6**	**0.0**
EZN	**Ezine**	**1.01**	**354**	Pg	**Pg**	**20 17 53.7**	**-0.3**
EZN	**Ezine**	**1.01**	**354**	P	**Pg**	**20 17 53.5**	**-0.5**
EZN				S	**Sn**	**20 18 07.9**	**-0.5**
	2μm,0.4s						
AKHS	**Akhisar**	**1.06**	**86**	P	**Pb**	**20 17 54.7**	**0.0**
AKHS				S	**Sg**	**20 18 08.9**	**+0.2**
AKS	**Akhisar**	**1.06**	**86**	Pg	**Pb**	**20 17 54.6**	**-0.1**
BOZC	**Bozcaada**	**1.07**	**343**	Pg	**Pb**	**20 17 54.9**	**+0.1**
BOZC	**Bozcaada**	**1.07**	**343**	P	**Pb**	**20 17 54.7**	**-0.1**
BOZC				P	**Pb**	**20 17 54.9**	**+0.1**
BOZC				S	**Sg**	**20 18 08.9**	**-0.2**
BOZC				S	**Sb**	**20 18 09.1**	**+0.4**
BOZC				*i* AML	AML	20 18 11.0	
	comp=N,974nm,0.3s						
BOZC				*i* AML	AML	20 18 11.0	
	comp=N,763nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.13**	**60**	P	**Pb**	**20 17 55.7**	**-0.2**
STEP				S	**Sg**	**20 18 10.8**	**-0.1**
STEP				*i* AML	AML	20 18 21.0	
	comp=E,569nm,0.7s						
GOMA	**Golmarmara-Man**	**1.15**	**95**	Pn	**Pb**	**20 17 55.9**	**-0.2**
ECEA	**Canakkale, Ece**	**1.24**	**350**	P	**Pn**	**20 17 57.3**	**-0.2**
ECEA				S	**Sg**	**20 18 15.3**	**+0.7**
ECEA				*i* AML	AML	20 18 17.0	
	comp=N,1μm,0.3s						
CNKL	**anakkale-Mer**	**1.25**	**357**	P	**Pn**	**20 17 57.3**	**-0.3**
CNKL				P	**Pb**	**20 17 57.8**	**0.0**
CNKL				S	**Sn**	**20 18 14.1**	**0.0**
CNKL				*i* AML	AML	20 18 18.0	
	comp=N,814nm,0.5s						
YENI	**Yenice-Canakka**	**1.27**	**28**	Pn	**Pb**	**20 17 58.4**	**+0.2**
GCAM	**G?zelcaml?**	**1.27**	**151**	Pn	**Pn**	**20 17 58.4**	**+0.5**
GCAM	**G?zelcaml?**	**1.27**	**151**	P	**Pn**	**20 17 58.0**	**+0.1**
CANM	**Can-anakkale**	**1.28**	**21**	Pn	**Pg**	**20 17 58.8**	**-0.2**
COMU	**Canakkale**	**1.28**	**0**	Pn	**Pg**	**20 17 58.8**	**-0.3**
BALY	**Balya**	**1.29**	**44**	P	**Pn**	**20 17 57.6**	**-0.6**
BALY				S	**Sn**	**20 18 15.3**	**0.0**
BALY				*i* AML	AML	20 18 20.0	
	comp=N,541nm,0.5s						
GORD	**Gordes-Manisa**	**1.34**	**86**	Pn	**Pb**	**20 17 59.7**	**+0.2**
EFSA	**Agios Efstrati**	**1.35**	**303**	P	**Pn**	**20 17 58.8**	**-0.2**
IZMR	**zmir-demi**	**1.36**	**120**	P	**Pb**	**20 17 59.8**	**+0.1**
ODEM	**Odemis-Izmir**	**1.38**	**113**	Pn	**Pn**	**20 17 59.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.42**	**127**	Pn	**Pn**	**20 17 59.7**	**-0.4**
GADA	**Gvkgeada**	**1.44**	**343**	Pn	**Pg**	**20 18 01.6**	**-0.5**
LIA	**Limnos Island**	**1.46**	**318**	P	**Pn**	**20 18 00.8**	**+0.3**
LIA				S	**Sn**	**20 18 19.1**	**-0.4**
	960nm,0.4s						
LIA	**Limnos Island**	**1.46**	**318**	P	**Pn**	**20 18 00.8**	**+0.3**
LIA				S	**Sn**	**20 18 18.2**	**-1.3**
DDIM	**Aydin, Didim**	**1.49**	**155**	P	**Pb**	**20 18 02.0**	**0.0**
GONE	**Gonen-Balikesi**	**1.55**	**37**	Pn	**Pn**	**20 18 01.9**	**+0.2**
LPK	**Lapseki**	**1.57**	**8**	Pn	**Pb**	**20 18 03.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.58**	**0**	Pn	**Pb**	**20 18 03.4**	**-0.1**
TNSA	**Tinos**	**1.64**	**219**	P	**Pn**	**20 18 02.7**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.68**	**120**	Pn	**Pb**	**20 18 04.8**	**-0.4**
SUSR	**Susurluk-Balik**	**1.70**	**47**	Pn	**Pb**	**20 18 04.9**	**-0.7**
KRBG	**Karabiga-Canak**	**1.70**	**22**	Pn	**Pb**	**20 18 04.1**	**+0.3**
KULA	**Kula-Manisa**	**1.75**	**99**	Pn	**Pb**	**20 18 05.8**	**-0.7**
KARY	**Karystos**	**1.77**	**244**	P	**Pn**	**20 18 05.1**	**+0.3**
KARY				S	**Sn**	**20 18 25.8**	**-1.4**
SMTH	**Samothraki Isl**	**1.80**	**337**	P	**Pn**	**20 18 05.3**	**+0.1**
SMTH				S	**Sn**	**20 18 27.3**	**-0.6**
	172nm,0.3s						
SMTH	**Samothraki Isl**	**1.80**	**337**	P	**Pn**	**20 18 05.3**	**+0.1**
SMTH				S	**Sn**	**20 18 27.2**	**-0.6**
ENZZ	**Sultanice-Enez**	**1.80**	**352**	Pn	**Pb**	**20 18 07.1**	**-0.2**
MLSB	**Milas**	**1.84**	**145**	Pn	**Pn**	**20 18 07.1**	**+1.3**
ERIK	**Erikli-Kesan**	**1.85**	**1**	Pn	**Pb**	**20 18 07.1**	**-1.0**
DST	**Dursunbey**	**1.85**	**64**	Pn	**Pb**	**20 18 07.2**	**-1.0**
KYMI	**Kymi, Euboea I**	**1.85**	**265**	P	**Pn**	**20 18 05.6**	**-0.4**
KYMI	**Kymi, Euboea I**	**1.85**	**265**	P	**Pn**	**20 18 05.5**	**-0.4**
EDC	**Edincik**	**1.87**	**35**	Pn	**Pn**	**20 18 06.7**	**+0.5**
BODT	**Bodrum**	**1.88**	**159**	Pn	**Pn**	**20 18 07.8**	**+1.5**
CAVK	**Edirne/Enez-Ca**	**1.88**	**353**	⇓P	**Pb**	**20 18 08.5**	**-0.2**
CAVK				⇑S	**Sg**	**20 18 33.8**	**-1.3**
APE	**Apeiranthos**	**1.90**	**203**	⇑P	**Pn**	**20 18 07.8**	**+1.2**
APE	**Apeiranthos**	**1.90**	**203**	P	**Pn**	**20 18 06.5**	**0.0**
ENEZ	**Enez**	**1.93**	**353**	Pn	**Pb**	**20 18 08.6**	**-0.9**
ENEZ	**Enez**	**1.93**	**353**	P	**Pn**	**20 18 07.5**	**+0.6**
ENEZ				S	**Sb**	**20 18 32.9**	**-0.5**
	868nm,0.3s						
RKY	**Sarkoy-Tekirda**	**1.95**	**16**	Pn	**Pb**	**20 18 08.8**	**-1.0**
MRMT	**Marmara Adasi**	**1.98**	**26**	Pn	**Pb**	**20 18 09.3**	**-1.2**
SIMA	**Simav-Kutahya**	**1.98**	**82**	Pn	**Pn**	**20 18 08.9**	**+1.1**
BAND	**Balkesir-Ban**	**1.99**	**39**	⇑P	**Pn**	**20 18 08.6**	**+0.8**
BAND				⇓S	**Sn**	**20 18 32.6**	**0.0**
AOS	**Alonnisos**	**2.04**	**281**	P	**Pn**	**20 18 07.9**	**-0.6**
KCTX	**Karacabey (Bur**	**2.06**	**45**	Pn	**Pn**	**20 18 10.2**	**+1.4**
ALN	**Alexandrouporli**	**2.10**	**351**	Pn	**Pn**	**20 18 10.9**	**+1.6**
ALN	**Alexandrouporli**	**2.10**	**351**	P	**Pn**	**20 18 09.5**	**+0.2**
YER	**Yerkesik**	**2.21**	**139**	Pn	**Pn**	**20 18 12.7**	**+1.7**
THAS	**Thassos island**	**2.23**	**324**	P	**Pn**	**20 18 11.2**	**0.0**
THAS	**Thassos island**	**2.23**	**324**	P	**Pn**	**20 18 11.1**	**0.0**
THAS				S	**Sn**	**20 18 36.9**	**-1.6**
DAT	**Datca**	**2.27**	**157**	Pn	**Pn**	**20 18 13.4**	**+1.7**
TVSB	**Tavsanli**	**2.42**	**74**	Pn	**Pn**	**20 18 15.3**	**+1.5**
PAIG	**Paliouri**	**2.42**	**298**	P	**Pn**	**20 18 13.2**	**-0.5**
RDO	**Rodhopi**	**2.43**	**343**	P	**Pn**	**20 18 14.6**	**+0.8**
RDO	**Rodhopi**	**2.43**	**343**	P	**Pn**	**20 18 14.5**	**+0.6**
RDO				S	**Sn**	**20 18 42.6**	**-0.7**
OUR	**Ouranopolis**	**2.44**	**309**	P	**Pn**	**20 18 14.6**	**+0.6**
OUR	**Ouranopolis**	**2.44**	**309**	P	**Pn**	**20 18 14.4**	**+0.4**
KAVA	**Kavala**	**2.64**	**326**	P	**Pn**	**20 18 16.5**	**-0.2**
KOKK	**Kokkinochori,**	**2.75**	**317**	P	**Pn**	**20 18 18.5**	**+0.2**
KOKK	**Kokkinochori,**	**2.75**	**317**	P	**Pn**	**20 18 18.3**	**0.0**
EDRB	**Edirne**	**3.03**	**4**	P	**Pn**	**20 18 22.5**	**+0.4**
SRS	**Serrai**	**3.18**	**317**	P	**Pn**	**20 18 24.8**	**+0.6**
SRS	**Serrai**	**3.18**	**317**	P	**Pn**	**20 18 24.5**	**+0.3**
BOVS	**Bovan**	**6.00**	**325**	⇓P	**Pn**	**20 19 04.6**	**+1.8**
MLR	**Muntele Rosu**	**6.68**	**357**	⇑P	**Pn**	**20 19 14.0**	**+1.6**
VOIR		**6.70**	**351**	⇓P	**Pn**	**20 19 14.2**	**+1.7**
BISRR	**Bisoca**	**6.73**	**2**	⇑P	**Pn**	**20 19 15.1**	**+2.1**
HERR	**Herculane**	**6.77**	**335**	⇑P	**Pn**	**20 19 14.8**	**+1.4**
MDVR	**Moldovita**	**6.93**	**331**	⇓P	**Pn**	**20 19 17.6**	**+1.9**
PLOR	**Plostina**	**7.03**	**1**	⇑P	**Pn**	**20 19 18.6**	**+1.6**
VRI	**Vrincioaia**	**7.04**	**2**	⇓P	**Pn**	**20 19 19.6**	**+2.4**
GZR	**Gura Zlata**	**7.12**	**339**	⇑P	**Pn**	**20 19 19.6**	**+1.3**
SURR	**Surduc**	**7.64**	**337**	⇑P	**Pn**	**20 19 27.8**	**+2.4**
BZS	**Buzias**	**7.68**	**334**	⇑P	**Pn**	**20 19 27.7**	**+1.7**
TESR	**Tescani**	**7.69**	**1**	⇓P	**Pn**	**20 19 28.1**	**+2.0**
BURAR	**Bucovina Array**	**8.84**	**355**	⇑P	**Pn**	**20 19 45.0**	**+3.1**

*MOS **22** 20:25:03.0±0.9, 51.′41N×178.′29W, h55km, mb4.9/33, MS4.2/6, Error ellipse: s-maj=7.8km s-min=5.5km az=100.2*
*AEIC **22** 20:25:04.2±2.6, 51.′34N±0.′07×178.′32W±0.′07, h36km±5km, Error ellipse: s-maj=10.4km s-min=6.4km az=180.0*
*NEIC **22** 20:25:04.7±1.9, 51.′41N±0.′07×178.′37W±0.′07, h57km±3km, mb4.8/407, ML4.9/6, ML4.5(AEIC), Error ellipse: s-maj=10.8km s-min=6.2km az=172.0*
*IDC **22** 20:25:04.4±1.5, 51.′54N×178.′42W, h48km±12km, mb4.2/34, mbtmp4.4/39, ML4.7/4, MS4.1/76, Error ellipse: s-maj=14.9km s-min=8.9km az=168.0*
*BJI **22** 20:25:04.6, 51.′55N×178.′94W, h54km, mB5.3/14, mb5.1/66, Ms4.7/29, Ms7 4.5/33*
*GCMT **22** 20:25:05.7±0.2, 51.′39N±0.′02×178.′42W±0.′02, h40km, MW5.0/114, Moment Tensor Solution. s83,c111; s114,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.80±.13; $M_{\theta\theta}$-3.75±.09; $M_{\phi\phi}$-0.04±.09; $M_{r\theta}$1.40±.09; $M_{\theta\phi}$-1.14±.07; $M_{r\phi}$1.80±.08; Best double couple: $M_0$4.55400×10^{16} NP1:ϕ_s271.00000°, δ35.00000°, λ118.00000°. NP2:ϕ_s57.00000°, δ60.00000°, λ72.00000°. Principal axes: T 4.6100, Plg69.0000°, Azm288.0000°; N -0.1080, Plg16.0000°, Azm67.0000°; P -4.4990, Plg13.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 20:25:05.2±0.5,**51.′44N**±0.′07×**178.′33W**±0.′03,**h59**km±3km,
h58km:**pP-P,n845,** σ0**.95**/706,**mb4.8**/249,**MS4.1**/87,
40C-22D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.43**	**320**		**Pn**	**20 25 15.3**	**-1.0**
TASE	**Tanaga Southea**	**0.44**	**24**		**Pn**	**20 25 15.5**	**-1.0**
GASW	**Gareloi Southw**	**0.47**	**317**		**Pn**	**20 25 15.6**	**-1.2**
GANO	**Gareloi North**	**0.48**	**323**		**Pn**	**20 25 15.8**	**-1.1**
TAPA	**Tanaga Point A**	**0.50**	**40**		**Pn**	**20 25 16.0**	**-1.1**
KIMD	**Kanaga Island**	**0.76**	**64**		**Pn**	**20 25 18.9**	**-1.1**
KIMD					**Sn**	**20 25 30.7**	**-0.3**
KIWB	**Kanaga Island**	**0.85**	**60**		**Pn**	**20 25 20.2**	**-1.0**
KICM	**Kanaga Island**	**0.86**	**55**		**Pn**	**20 25 20.9**	**-0.4**
KIRH	**Kanaga Island**	**0.90**	**58**		**Pn**	**20 25 21.2**	**-0.7**
ADK	**Adak**	**1.12**	**66**	Pn	**Pn**	**20 25 23.8**	**-1.0**
ADK				Sn	**Sn**	**20 25 38.3**	**-1.0**
ADK				IAML		20 25 42.9	
	20μm,0.4s						
ADAG	**Mount Adagdak**	**1.21**	**62**		**Pn**	**20 25 25.7**	**-0.2**
GSCK	**Great Sitkin C**	**1.47**	**66**		**Pn**	**20 25 29.3**	**-0.1**
GSMY	**Great Sitkin M**	**1.54**	**66**		**Pn**	**20 25 30.6**	**+0.2**
GSMY					**Sn**	**20 25 52.1**	**+2.7**
GSTR	**Great Sitkin T**	**1.56**	**64**		**Pn**	**20 25 30.6**	**0.0**
ATKA	**Atka Island**	**2.68**	**72**	Pn	**Pn**	**20 25 45.0**	**-0.8**
ATKA				Sn	**Sn**	**20 26 17.0**	**-0.1**
ATKA				IAML		20 26 34.2	
	comp=N,4μm,1.4s						
ATKA	**Atka Island**	**2.68**	**72**	P	**Pn**	**20 25 45.4**	**-0.4**
SHEM	**Shemya Is, Ala**	**4.84**	**288**	P	**Pn**	**20 26 14.8**	**-0.7**
	comp=N,25nm,0.3s,baz=288,slow=4.8,SNR=13						
SHEM				S	**Sn**	**20 27 07.2**	**-3.0**
	comp=N,126nm,0.7s,baz=268,slow=9.5,SNR=1.4						
	comp=N,92nm,0.5s						
SMY	**Shemya**	**4.84**	**288**	Pn	**Pn**	**20 26 14.0**	**-1.5**
SMY				IAML		20 27 34.5	
	comp=E,972nm,0.9s						
SMY				IAML		20 27 35.0	
	comp=N,730nm,0.9s						
SMY	**Shemya**	**4.84**	**288**		**Sn**	**20 27 14.5**	**+4.3**
SMY	**Shemya**	**4.84**	**288**	P	**Pn**	**20 26 15.0**	**-0.5**
SMY	**Shemya**	**4.84**	**288**	S	Sn	20 27 19.5	+9.3
SMY	**Shemya**	**4.84**	**288**	P	**Pn**	**20 26 14.0**	**-1.5**
SMY						20 27 14.5	
NIKH	**Nikolski High**	**6.03**	**72**	Pn	**Pn**	**20 26 27.8**	**-3.8**
NIKH	**Nikolski High**	**6.03**	**72**		**Sn**	**20 27 41.6**	**+2.4**
NIKH	**Nikolski High**	**6.03**	**72**	P	**Pn**	**20 26 31.6**	**0.0**
	baz=259						
P08K	**Saint George I**	**7.31**	**42**	P	**Pn**	**20 26 49.2**	**-0.1**
	baz=228						
SPIA	**Saint Paul Isl**	**7.44**	**36**	Pn	**Pn**	**20 26 52.3**	**+1.3**
SPIA	**Saint Paul Isl**	**7.44**	**36**	P	**Pn**	**20 26 51.4**	**+0.4**
	baz=223						
UNV	**Unalaska Valle**	**7.59**	**67**	Pn	**Pn**	**20 26 54.6**	**+1.6**
UNV	**Unalaska Valle**	**7.59**	**67**	P	**Pn**	**20 26 53.3**	**+0.3**
	baz=256						
FALS	**False Pass**	**9.59**	**63**	Pn	**Pn**	**20 27 22.3**	**+1.9**
FALS	**False Pass**	**9.59**	**63**	P	**Pn**	**20 27 20.5**	**+0.2**
	baz=255						
M11K	**Mekoryuk**	**11.24**	**32**	Pn	**Pn**	**20 27 42.5**	**-0.3**
M11K	**Mekoryuk**	**11.24**	**32**	P	**Pn**	**20 27 43.1**	**+0.3**
	baz=222						
SDPT	**Sand Point**	**11.35**	**63**	Pn	**Pn**	**20 27 42.8**	**-1.6**
SDPT	**Sand Point**	**11.35**	**63**	P	**Pn**	**20 27 44.7**	**+0.3**
	baz=257						
CNBA	**Chernabura Isl**	**11.75**	**66**	Pn	**Pn**	**20 27 48.5**	**-1.3**
CHNA	**Chernabura Isl**	**11.75**	**66**	P	**Pn**	**20 27 49.9**	**0.0**
	baz=261						
M13K	**Dall Lake**	**12.28**	**37**	Pn	**Pn**	**20 27 59.4**	**+2.5**
M13K	**Dall Lake**	**12.28**	**37**	P	**Pn**	**20 27 58.8**	**+1.8**
	baz=229						
O14K	**Tigyukauivet M**	**12.45**	**44**	Pn	**Pn**	**20 28 00.5**	**+1.2**
O14K	**Tigyukauivet M**	**12.45**	**44**	P	**Pn**	**20 28 00.2**	**+0.9**
	baz=238						
N14K	**Kuskokwak Cree**	**12.63**	**41**	P	**Pn**	**20 28 02.8**	**+0.9**
	baz=235						
CHGN	**Chignik**	**12.71**	**60**	Pn	**Pn**	**20 28 01.9**	**-0.9**
CHGN	**Chignik**	**12.71**	**60**	P	**Pn**	**20 28 03.1**	**+0.3**
	baz=256						
GAMB	**Gambell**	**12.86**	**13**	Pn	**Pn**	**20 28 05.3**	**+0.4**
GAMB	**Gambell**	**12.86**	**13**	P	**Pn**	**20 28 05.6**	**+0.7**
	baz=199,SNR=7.5						
K13K	**Kusilvak Mount**	**12.89**	**30**	Pn	**Pn**	**20 28 06.4**	**+1.0**
K13K	**Kusilvak Mount**	**12.89**	**30**	P	**Pn**	**20 28 06.2**	**+0.9**
	baz=221						
M14K	**Bethel**	**13.02**	**38**	Pn	**Pn**	**20 28 08.9**	**+1.8**
M14K	**Bethel**	**13.02**	**38**	P	**Pn**	**20 28 05.8**	**-1.3**
	baz=231						
O15K	**Ungalikthiuk R**	**13.05**	**46**	P	**Pn**	**20 28 06.7**	**-0.8**
	baz=242						
L14K	**Kuka Creek**	**13.14**	**35**	Pn	**Pn**	**20 28 10.2**	**+1.5**
L14K	**Kuka Creek**	**13.14**	**35**	P	**Pn**	**20 28 08.0**	**-0.6**
	baz=228						
N15K	**Kwethluk River**	**13.44**	**42**	Pn	**Pn**	**20 28 15.2**	**+2.4**
N15K	**Kwethluk River**	**13.44**	**42**	P	**Pn**	**20 28 12.3**	**-0.5**
	baz=237						
M15K	**Kasigluk River**	**13.49**	**40**	P	**Pn**	**20 28 12.4**	**-1.1**
	baz=234						
R16K	**Pilot Point**	**13.50**	**55**	P	**Pn**	**20 28 13.5**	**-0.1**
	baz=252						
L15K	**Ungalak Mounta**	**13.79**	**35**	P	**Pn**	**20 28 16.4**	**-1.1**
	baz=229						
P16K	**Nushagak River**	**13.83**	**49**	P	**Pn**	**20 28 16.9**	**-1.2**
	baz=245						
J14K	**Nanvaranak Lak**	**13.85**	**29**		**Pn**	**20 28 18.8**	**+0.5**
J14K	**Nanvaranak Lak**	**13.85**	**29**	P	**Pn**	**20 28 18.0**	**-0.3**
	baz=222						
O16K	**Kokwok River B**	**14.03**	**47**	Pn	**Pn**	**20 28 22.1**	**+1.4**
O16K	**Kokwok River B**	**14.03**	**47**	P	**Pn**	**20 28 20.2**	**-0.5**
	baz=243						
N16K	**Nishlik Lake**	**14.16**	**43**	P	**Pn**	**20 28 22.5**	**+0.1**
	baz=239						
K15K	**Wolf Creek Mou**	**14.18**	**33**	P	**Pn**	**20 28 22.4**	**-0.3**
	baz=228						
PET	**Petropavlovsk**	**14.18**	**285**	*e*P	**P**	**20 28 26.9**	**-1.7**
PET				*e*S	**Sn**	**20 30 56.8**	**-1.6**
PET				M

baz=229
Q19K Cape Douglas, 15.90 52 Pn Pn 20 28 42.2 -2.7
Q19K IAmb IAmb 20 28 44.6
comp=Z,214nm,1.4s
Q19K Cape Douglas, 15.90 52 P Pn 20 28 44.4 -0.5
baz=252
M18K Stony River 15.91 42 P Pn 20 28 45.1 +0.1
baz=241
F15K North Star Dit 15.93 21 P Pn 20 28 45.8 +0.5
baz=213
L18K Granite Mounta 15.94 39 P Pn 20 28 45.1 -0.2
baz=237
O19K Port Alsworth 16.01 47 P Pn 20 28 45.7 -0.6
baz=247
KDAK Kodiak Island 16.15 57 Pn Pn 20 28 44.4 -3.6
KDAK IAmb IAmb 20 28 53.5
comp=Z,322nm,2.0s
KDAK Kodiak Island 16.15 57 P Pn 20 28 47.2 -0.8
comp=Z,6.0nm,0.3s,baz=45,slow=3.1,SNR=30
comp=Z,17nm,0.4s
KDAK Kodiak Island 16.15 57⇓ eP Pn 20 28 47.1 -0.9
KDAK pmax pmax
comp=Z,25nm,0.3s
KDAK Kodiak Island 16.15 57 P Pn 20 28 46.9 -1.1
baz=258
N19K Bonanza Creek 16.18 45 P Pn 20 28 47.5 -1.1
baz=245
G16K Koyuk River 16.22 24 P Pn 20 28 48.3 -0.6
baz=218
P19K Oil Pt 16.33 50 Pn Pn 20 28 48.1 -2.2
P19K Oil Pt 16.33 50 P Pn 20 28 49.5 -0.9
baz=251
Q20K Shuyak Island 16.44 54 P Pn 20 28 49.9 -1.8
baz=255
SYI Shuyak Island 16.44 54 Pn Pn 20 28 51.5 -0.2
SYI IAmb IAmb 20 28 53.7
comp=Z,248nm,1.6s
ILSW Iliamna Southw 16.48 49 Pn 20 28 52.8 +0.5
H17K Granite Mounta 16.55 28 IAmb IAmb 20 29 00.6
comp=Z,75nm,1.8s
H17K Granite Mounta 16.55 28 P Pn 20 28 51.3 -1.8
baz=224
J18K Innoko River 16.64 35 P Pn 20 28 52.8 -1.3
baz=234
L19K White Mountain 16.65 41 IAmb IAmb 20 29 04.1
comp=Z,30nm,0.8s
L19K White Mountain 16.65 41 P Pn 20 28 53.1 -1.2
baz=240
M19K Big River Lodg 16.71 42 P Pn 20 28 53.5 -1.5
baz=242
O20K Slope Mountain 16.76 49 P Pn 20 28 54.2 -1.5
baz=250
G17K Kiwalik Mounta 16.76 26 P Pn 20 28 54.5 -1.2
baz=221
HOM Homer 17.09 51 Pn Pn 20 28 58.6 -1.3
HOM Homer 17.09 51 P Pn 20 28 58.2 -1.7
baz=253
H18K Honhosa River 17.17 29 P Pn 20 29 00.3 -0.5
baz=226
L20K Farewell, AK 17.19 41 P Pn 20 28 59.8 -1.3
baz=241
M20K Styx River 17.23 43 P Pn 20 29 00.7 -0.9
baz=244
CNPM China Poot 17.26 51 Pn Pn 20 28 60.0 -1.9
CNPM IAmb IAmb 20 29 02.9
comp=Z,126nm,1.7s
F17K Baldwin Pennin 17.33 23 P Pn 20 29 02.0 -0.7
baz=218
J19K Poorman 17.34 35 P Pn 20 29 01.9 -1.0
baz=234
SPCR Spurr Chakacha 17.35 46 P Pn 20 29 01.9 -1.2
baz=247
GCSA Galena City Sc 17.37 32 P Pn 20 29 02.3 -0.9
baz=230
BRLK Bradley Lake 17.49 51 Pn Pn 20 29 02.8 -2.0
BRLK IAmb IAmb 20 29 11.6
comp=Z,230nm,2.0s
BRSE Bradley Lake S 17.56 51 P Pn 20 29 04.0 -1.5
baz=254
K20K Telida 17.56 38 P Pn 20 29 03.8 -1.8
baz=238
G18K Tagagawik 17.61 27 P Pn 20 29 05.7 -0.5
G18K Tagagawik 17.61 27 P Pn 20 29 05.5 -0.7
baz=224
STLK Strandline Lak 17.64 45 P Pn 20 29 05.8 -0.7
CAPN Captain Cook N 17.68 48 P P 20 29 10.6 +3.4
E17K Hotham Inlet 17.71 21 P Pn 20 29 06.9 -0.4
baz=216
F18K Selawik 17.86 25 P P 20 29 08.9 -0.3
baz=221,SNR=8.3
D17K Noatak River 17.95 19 P Pn 20 29 10.3 0.0
baz=212,SNR=13
SKT Skwentna 17.96 44 P Pn 20 29 10.7 +0.2
SKT Skwentna 17.96 44 P P 20 29 09.8 -0.6
baz=246
J20K Nowinta River 17.98 36 P P 20 29 09.9 -0.6
baz=236
H19K Roundabout Mou 18.02 30 P P 20 29 10.6 -0.4
baz=229
SLKM Skilak Lake 18.03 49 P Pn 20 29 11.4 +0.1
C16K Lisburne Hills 18.03 16 P P 20 29 10.9 -0.1
baz=207,SNR=11
PPLA Purkeypile 18.08 41 P Pn 20 29 12.4 +0.4
PPLA IAmb IAmb 20 29 19.9
comp=Z,28nm,0.6s
PPLA Purkeypile 18.08 41 P P 20 29 11.4 -0.4
baz=243,SNR=6.9
FIS Fire Island 18.23 47 P P 20 29 12.1 -1.1
G19K Purcell Mounta 18.24 28 P Pn 20 29 14.0 +0.2
baz=226
O22K Cooper Landing 18.26 49 P P 20 29 12.4 -1.2
O22K IAmb IAmb 20 29 25.5
comp=Z,71nm,0.6s
O22K Cooper Landing 18.26 49 P P 20 29 12.8 -0.7
baz=253
E18K Tukpahlearik C 18.27 22 P P 20 29 13.4 -0.2
baz=217
BILL Bilibino 18.27 341 P Pn 20 29 14.9 +0.7
BILL Bilibino 18.27 341⇑ eP Pn 20 29 15.3 +1.1
BILL pmax pmax
comp=Z,12nm,0.7s
SEW Seward 18.28 50 P P 20 29 13.4 -0.4
SEW IAmb IAmb 20 29 13.6
comp=Z,105nm,1.6s
SEW Seward 18.28 50 P P 20 29 13.8 0.0
baz=254
RDOG Red Dog Mine 18.29 19 P Pn 20 29 14.4 0.0
RDOG Red Dog Mine 18.29 19 P Pn 20 29 14.6 +0.2
baz=212
CAST Castle Rocks 18.37 39 P Pn 20 29 16.2 +0.8
CAST IAmb IAmb 20 29 22.5
comp=Z,20nm,0.6s
CAST Castle Rocks 18.37 39 P Pn 20 29 15.5 +0.1
baz=241,SNR=11
RC01 Rabbit Creek A 18.44 47 P Pn 20 29 16.2 0.0
RC01 Rabbit Creek A 18.44 47 P Pn 20 29 16.1 -0.2
baz=251
H20K Anotleneega Mo 18.50 32 P P 20 29 16.4 +0.1
baz=232
CHUM Lake Minchumin 18.51 38 P P 20 29 16.5 +0.3
baz=240
F19K Shaleruckik Mo 18.54 26 P P 20 29 16.4 -0.2
baz=224
C17K DeLong Mountai 18.60 18 P Pn 20 29 17.8 -0.3
baz=211
CUT Chulitna 18.67 43 P P 20 29 18.0 -0.1
CUT IAmb IAmb 20 29 27.7
comp=Z,37nm,0.7s
CUT Chulitna 18.67 43 P P 20 29 18.2 +0.1
baz=247
PMR Palmer 18.88 46 P Pn 20 29 21.8 +0.3
PMR Palmer 18.88 46 P Pn 20 29 21.8 +0.3
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 18.88 46 P Pn 20 29 21.1 -0.4
baz=251
KTH Kantishna Hill 18.89 40 P P 20 29 21.0 +0.4
KTH IAmb IAmb 20 29 26.7
comp=Z,46nm,0.6s
PWL Port Wells 19.02 49 P P 20 29 22.0 +0.1
baz=254
TRF Thorofare Moun 19.10 40 IAmb IAmb 20 29 33.3
comp=Z,32nm,0.8s
TRF Thorofare Moun 19.10 40 P P 20 29 22.7 -0.3
baz=244,SNR=13
BPAW Bear Paw Mtn. 19.12 38 P Pn 20 29 24.0 -0.4
BPAW IAmb IAmb 20 29 29.7
comp=Z,24nm,0.6s
BPAW Bear Paw Mtn. 19.12 38 P P 20 29 23.3 +0.2
baz=241,SNR=18
KNK Knik Glacier 19.13 47 P P 20 29 23.2 0.0
KNK IAmb IAmb 20 29 32.6
comp=Z,24nm,0.8s
KNK Knik Glacier 19.13 47 P P 20 29 23.4 +0.2
baz=252
C18K Utukok River 19.14 19 P P 20 29 23.4 +0.2
baz=214
E19K Redstone River 19.14 25 P P 20 29 23.8 +0.6
baz=223
MA2 Magadan 19.15 307 P P 20 29 23.9 +0.5
MA2 Magadan 19.15 307 P P 20 29 23.4 +0.1
comp=Z,0.4nm,0.3s,baz=96,slow=10,SNR=12
MA2 LR LR 20 36 19.5
comp=Z,854nm,20.3s,baz=100,slow=36
comp=Z,6.5nm,0.6s
MA2 Magadan 19.15 307 P Pn 20 29 28.0 +3.2
MA2 Magadan 19.15 307⇑ eP Pn 20 29 25.1 +0.3
MA2 pmax pmax
comp=Z,7.0nm,0.7s
MA2 Magadan 19.15 307 P Pn 20 29 24.2 -0.6
comp=Z,12nm,0.7s
P23K Montague Islan 19.25 52 P P 20 29 24.8 +0.4
baz=257
F20K Avaraart Lake 19.26 27 P P 20 29 24.8 +0.2
F20K Avaraart Lake 19.26 27 P P 20 29 24.7 +0.2
baz=227,SNR=15
H21K Melozitna Rive 19.29 33 P P 20 29 24.5 -0.3
baz=235
SML Sawmill 19.31 46 P P 20 29 24.5 -0.6
baz=251
I21K Tanana 19.31 35 P P 20 29 25.2 +0.2
baz=237
SEY Seymchan 19.40 318 P P 20 29 25.4 -0.6
comp=Z,0.3nm,0.3s,baz=107,slow=11,SNR=21
SEY PcP PcP 20 33 45.5 +0.4
comp=Z,1.9nm,0.6s,baz=147,slow=4.2,SNR=6.0
SEY ScP ScP 20 37 15.5 -0.2
comp=Z,1.0nm,0.7s,baz=136,slow=5.6,SNR=5.3
SEY LR LR 20 37 15.7
comp=Z,1μm,19.0s,baz=140,slow=38
comp=Z,2.7nm,0.7s
SEY Seymchan 19.40 318⇓ eP Pn 20 29 27.9 +0.2
SEY pmax pmax
comp=Z,20nm,2.5s
M23K Glacier View 19.58 46 P P 20 29 27.2 -0.8
baz=252
G21K Allakaket 19.58 30 IAmb IAmb 20 29 31.6
comp=Z,46nm,0.7s
G21K Allakaket 19.58 30 P P 20 29 28.9 +0.9
baz=232
B18K Kokolik River 19.62 17 P P 20 29 29.1 +0.7
baz=212
RND Reindeer 19.67 41 P P 20 29 29.6 +0.6
RND IAmb IAmb 20 29 36.4
comp=Z,30nm,0.6s
RND Reindeer 19.67 41 P P 20 29 29.6 +0.6
RND pmax pmax
comp=Z,30nm,0.6s
D19K Kuna River 19.70 22 IAmb IAmb 20 29 36.1
comp=Z,30nm,0.9s
D19K Kuna River 19.70 22 P P 20 29 29.7 +0.5
baz=220
BWN Browne 19.75 39 P Pn 20 29 31.8 0.0
BWN IAmb IAmb 20 29 46.7
comp=Z,102nm,1.4s
MCK McKinley 19.77 40 P P 20 29 30.5 +0.4
MCK McKinley 19.77 40 P P 20 29 30.5 +0.4
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 19.77 40 P P 20 29 29.9 -0.2
baz=245
SCM Sheep Creek Mo 19.77 46 IAmb IAmb 20 29 43.6
comp=Z,24nm,0.7s
SCM Sheep Creek Mo 19.77 46 P P 20 29 30.0 -0.2
baz=252
H22K Ishtalitna Cre 19.91 33 P P 20 29 31.7 +0.1
baz=236
E20K Nigu River 19.99 24 P P 20 29 33.2 +0.7
baz=224
F21K Alatna River 20.04 29 IAmb IAmb 20 29 36.3
comp=Z,21nm,0.7s
F21K Alatna River 20.04 29 P P 20 29 33.5 +0.5
baz=230
NEA2 Nenana 20.09 38 P P 20 29 34.4 +0.8
NEA2 Nenana 20.09 38 P P 20 29 34.5 +0.9
baz=243,SNR=17
EYAK Cordova Ski Ar 20.18 50 P P 20 29 35.3 +0.8
baz=258
D20K Etivluk River 20.22 23 P Pn 20 29 36.3 -1.1
baz=222
I23K Minto, Yukon-K 20.24 36 IAmb IAmb 20 29 52.3
comp=Z,112nm,1.7s
I23K Minto, Yukon-K 20.24 36 P Pn 20 29 36.6 -1.0
baz=241,SNR=17
DIV Divide 20.30 49 P P 20 29 36.4 +0.5
DIV IAmb IAmb 20 29 49.2
comp=Z,62nm,1.4s
KLU Klutina 20.32 48 P P 20 29 36.9 +0.8
KLU Klutina 20.32 48 P P 20 29 36.9 +0.8
baz=255
M24K Tolsona, Glenn 20.37 46 IAmb IAmb 20 29 51.0
comp=Z,179nm,1.6s
M24K Tolsona, Glenn 20.37 46 P P 20 29 37.0 +0.3
baz=253
WRH Wood River Hil 20.42 39 P P 20 29 37.5 +0.4
WRH IAmb IAmb 20 29 54.5
comp=Z,60nm,1.8s
A19K Wainwright 20.47 17 P Pn 20 29 39.0 -1.2
baz=212
H23K Yukon River 20.52 34 P P 20 29 38.4 +0.2
baz=239
CCB Clear Creek Bu 20.61 38 P P 20 29 39.2 +0.1
F22K John River 20.61 29 P P 20 29 40.0 +0.8
baz=232
COLA College 20.69 38 P P 20 29 40.9 +0.9
COLA IAmb IAmb 20 29 55.9
comp=Z,25nm,0.7s
COLA College 20.69 38 P Pn 20 29 46.6 +3.8
COLA College 20.69 38⇑ eP Pn 20 29 41.5 -1.3
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 20.69 38 P P 20 29 40.6 +0.6
baz=244
E21K Killik River 20.71 26 P P 20 29 40.7 +0.5
E21K IAmb IAmb 20 29 57.7
comp=Z,33nm,1.2s
E21K PcP 20 33 49.1 +1.6
E21K Killik River 20.71 26 P P 20 29 40.9 +0.7
baz=227
KAIM Kayak Island 20.71 53 P P 20 29 40.4 0.0
baz=261
BMRM Bremner River 20.81 50 P P 20 29 42.5 +1.0
BMRM IAmb IAmb 20 29 54.4
comp=Z,39nm,1.2s
BMRM Bremner River 20.81 50 P P 20 29 41.6 +0.1
baz=258
G23K Bananza Creek 20.82 32 P P 20 29 42.9 +1.4
G23K IAmb IAmb 20 29 54.9
comp=Z,80nm,1.6s
G23K Bananza Creek 20.82 32 P P 20 29 41.9 +0.5
baz=236
HDA Harding Lake 20.84 39 P P 20 29 41.7 0.0
HDA Harding Lake 20.84 39 P P 20 29 41.7 0.0
baz=246,SNR=7.9
HARP HAARP 20.91 46 P P 20 29 42.7 +0.3
baz=254
PAX Paxson 20.94 44 P P 20 29 43.5 +0.6
PAX IAmb IAmb 20 29 49.2
comp=Z,26nm,0.6s
PAX Paxson 20.94 44 P P 20 29 43.5 +0.6
PAX pmax pmax
comp=Z,26nm,0.6s
PAX Paxson 20.94 44 P P 20 29 43.1 +0.2
baz=252,SNR=17
POKR Poker Plat Res 20.95 37 P P 20 29 42.6 -0.3
POKR Poker Plat Res 20.95 37 P P 20 29 43.5 +0.6
baz=244
N25K Chitina, Valde 20.96 48 P P 20 29 43.6 +0.5
N25K Chitina, Valde 20.96 48 P P 20 29 43.4 +0.3
baz=256
C21K Knifeblade Rid 21.00 24 P P 20 29 43.8 +0.4
baz=224,SNR=19
IL31 21.02 39 P P 20 29 42.6 -0.9
ILAR Eielson Array 21.02 39 P P 20 29 43.6 +0.1
ILAR Eielson Array 21.02 39 P P 20 29 42.6 -0.9
comp=Z,2.7nm,0.8s,baz=239,slow=9.1,SNR=34
ILAR PcP PcP 20 33 47.8 -0.3
comp=Z,2.5nm,0.6s,baz=275,slow=3.2,SNR=18
ILAR ScP ScP 20 37 19.4 -0.1
comp=Z,0.6nm,0.9s,baz=288,slow=3.6,SNR=6.3
ILAR LR LR 20 38 55.7
comp=Z,619nm,19.7s,baz=236,slow=40
comp=Z,2.7nm,0.8s
ILAR Eielson Array 21.02 39 P P 20 29 43.6 +0.1
COLD Coldfoot 21.05 31 P P 20 29 44.9 +0.9
COLD Coldfoot 21.05 31 P P 20 29 44.2 +0.2
baz=235,SNR=10
B20K Meade River 21.09 20 P P 20 29 43.9 -0.3
B20K IAmb IAmb 20 29 48.9
comp=Z,27nm,0.8s
B20K Meade River 21.09 20 P P 20 29 44.7 +0.5
baz=219,SNR=17
K24K Donnelly Dome 21.09 42 P P 20 29 44.0 -0.4
baz=249
E22K Anaktuvuk Pass 21.11 28 P P 20 29 44.0 -0.5
E22K IAmb IAmb 20 30 03.3
comp=Z,38nm,1.2s
E22K Anaktuvuk Pass 21.11 28 P P 20 29 45.3 +0.7
baz=231,SNR=5.4
H24K Noodor Dome 21.12 35 IAmb IAmb 20 30 03.0
comp=Z,34nm,1.4s
H24K Noodor Dome 21.12 35 P P 20 29 45.2 +0.6
baz=242
GLB Gilahina Butte 21.29 49 P P 20 29 46.0 -0.6
GLB IAmb IAmb 20 29 53.3
comp=Z,23nm,0.6s
D22K Ayikyak River 21.35 26 IAmb IAmb 20 30 04.2
comp=Z,140nm,1.9s
D22K Ayikyak River 21.35 26 P P 20 29 47.2 +0.1
baz=228
B21K Ikpikpuk River 21.38 23 IAmb IAmb 20 29 59.9
comp=Z,54nm,1.2s
B21K Ikpikpuk River 21.38 23 P P 20 29 47.5 +0.2
baz=224,SNR=21
VRDI Verde Repeater 21.42 49 P P 20 29 48.2 +0.1
RIDG Independent Ri 21.46 42 P P 20 29 47.9 -0.4
RIDG Independent Ri 21.46 42 P P 20 29 48.5 +0.2
baz=251
J25K Salcha River, 21.55 40 P P 20 29 48.9 -0.4
baz=248
WAX Waxell Ridge 21.57 52 P P 20 29 50.6 +1.1
WAX IAmb IAmb 20 30 05.1
comp=Z,78nm,1.6s
G24K Hadweenzic Riv 21.68 34 IAmb IAmb 20 30 11.0
comp=Z,45nm,1.1s
G24K Hadweenzic Riv 21.68 34 P P 20 29 50.9 +0.3
baz=240,SNR=7.0
MENT Mentasta 21.70 45 P P 20 29 50.8 -0.1
MENT IAmb IAmb 20 30 08.1
comp=Z,14nm,0.7s
MENT Mentasta 21.70 45 P P 20 29 56.7 +5.8
E23K Chandalar 21.72 29 P P 20 29 51.1 0.0
baz=234
DOT Dot Lake 21.76 43 P P 20 29 51.4 -0.2
PRP Porcupine Dome 21.85 37 P P 20 29 52.0 -0.6
PRP Porcupine Dome 21.85 37 P P 20 29 52.6 0.0
baz=246
M26K Nabesna, AK 21.88 46 P P 20 29 52.4 -0.5
baz=256
L26K Log Cabin Wild 21.89 45 IAmb IAmb 20 30 15.2
comp=Z,18nm,0.6s
L26K Log Cabin Wild 21.89 45 P P 20 29 52.9 0.0
baz=254
SCRK Sand Creek 21.89 42 P P 20 29 52.2 -0.9
SCRK Sand Creek 21.89 42 P P 20 29 52.6 -0.5
baz=251,SNR=12
D23K Nanushuk River 21.96 27 IAmb IAmb 20 30 11.2
comp=Z,32nm,0.9s
D23K Nanushuk River 21.96 27 P P 20 29 53.8 +0.2
baz=231,SNR=17
F24K Squaw Lake 21.96 31 IAmb IAmb 20 29 59.7
comp=Z,20nm,0.6s
F24K Squaw Lake 21.96 31 P P 20 29 54.3 +0.6
baz=238
MESA MESA 21.98 52 P P 20 29 53.0 -1.0
baz=263
H25L Birch Creek 22.06 35 P P 20 29 54.8 +0.1
baz=244,SNR=11
E24K Your Creek 22.08 30 P P 20 29 54.9 0.0
baz=236
TOLK Toolik Lake Re 22.08 28 P P 20 29 55.6 +0.7
TOLK Toolik Lake Re 22.08 28 P P 20 29 55.2 +0.3
baz=233,SNR=16
YAH Yahtse 22.10 52 P P 20 29 55.2 -0.2
B22K Teshekpuk Lake 22.18 22 P P 20 29 56.0 +0.1
baz=224,SNR=7.8
A21K Barrow 22.23 18 P P 20 29 56.7 +0.2
baz=218
J26L Joseph Creek 22.24 41 P P 20 29 56.4 -0.4
baz=250
A22K Sinclair Lake 22.32 20 P P 20 29 57.9 +0.4
baz=221
M27K Edge Creek, AK 22.38 47 P P 20 29 59.0 +0.6
baz=258
FYU Fort Yukon 22.41 35 P P 20 29 58.3 -0.1
FYU IAmb IAmb 20 30 19.1
comp=Z,28nm,0.8s
C23K Itkillik River 22.54 25 IAmb IAmb 20 30 01.5
comp=Z,25nm,0.7s
C23K Itkillik River 22.54 25 P P 20 29 59.9 +0.1
baz=229
L27K Beaver Creek, 22.57 45 IAmb IAmb 20 30 25.2
comp=Z,35nm,1.6s
L27K Beaver Creek, 22.57 45 P P 20 29 59.3 -0.9
baz=256
BCAR Beaver Creek A 22.59 45 P P 20 29 59.9 -0.5
D24K Happy Valley 22.60 27 IAmb IAmb 20 30 16.0
comp=Z,28nm,0.7s
D24K Happy Valley 22.60 27 P P 20 30 00.9 +0.4
baz=233
I26K Coal Creek Min 22.68 39 P P 20 30 00.6 -0.8
baz=249
K27K Chicken 22.71 42 IAmb IAmb 20 30 13.5
comp=Z,79nm,1.9s
K27K Chicken 22.71 42 P P 20 30 00.3 -1.4
baz=253
F25K Christian Rive 22.74 32 P P 20 30 02.4 +0.3
F25K Christian Rive 22.74 32 P P 20 30 02.6 +0.6
baz=241,SNR=15
PINM Pinnacle 22.81 53 P P 20 30 02.5 -0.4
baz=265
BVCY Beaver Creek 22.86 47 P P 20 30 02.3 -0.9
baz=258,SNR=6.0
YUK3 Moose Creek 22.93 49 P P 20 30 03.1 -1.1
baz=260
C24K Franklin Bluff 22.98 26 IAmb IAmb 20 30 16.9
comp=Z,35nm,1.0s
C24K Franklin Bluff 22.98 26 P P 20 30 04.5 +0.1
baz=232,SNR=11
BMAR Burnt Mountain 23.03 33 P P 20 30 05.2 +0.3
E25K Arctic Village 23.03 31 P P 20 30 04.6 -0.4
E25K Arctic Village 23.03 31 P P 20 30 04.5 -0.4
baz=240,SNR=12
G26K Porcupine Rive 23.09 35 P P 20 30 05.2 -0.3
baz=245
YUK8 Steele Glacier 23.18 50 P P 20 30 05.9 -0.8
baz=262
PNL Peninsula 23.21 54 P P 20 30 06.7 0.0
baz=266
F26K Sheenjek River 23.30 33 P P 20 30 07.4 -0.1
baz=243
I27K Kandik River 23.39 39 P P 20 30 07.6 -0.9
baz=250
D25K Kavik River 23.41 28 IAmb IAmb 20 30 31.4
comp=Z,97nm,1.9s
D25K Kavik River 23.41 28 P P 20 30 08.0 -0.6
baz=236
H27K Steamboat Moun 23.64 37 P P 20 30 09.6 -1.2
baz=249
O29M Mount Kennedy 23.66 53 P P 20 30 10.3 -0.8
baz=266
YUK4 Talbot Arm 23.73 50 P P 20 30 10.4 -1.4
baz=263
G27K Doyon Strip 23.81 36 P P 20 30 10.8 -1.4
baz=248
YUK6 Outpost Mounta 23.82 51 P P 20 30 11.3 -1.4
baz=264
DAWY Dawson 23.86 43 P P 20 30 12.8 0.0
DAWY Dawson 23.86 43 P P 20 30 12.2 -0.6
baz=256,SNR=9.5
M29M Somme Creek 23.96 47 P P 20 30 12.4 -1.3

baz=261
I28M Miner Creek 24.01 40 IAmb IAmb 20 30 20.9
comp=Z,16nm,0.8s
I28M Miner Creek 24.01 40 P **P 20 30 13.5 -0.7**
baz=253
C26K Camden Bay 24.17 28 P **P 20 30 15.3 -0.1**
baz=237
L29M L29M 24.22 46 P **P 20 30 15.8 -0.2**
baz=260
HYT Haines Junctio 24.23 51 P **P 20 30 16.0 -0.2**
HYT Haines Junctio 24.23 51 P **P 20 30 15.6 -0.6**
baz=266
TYV Tymovskoe 24.29 284 *eP* **P 20 30 18.1 +1.4**
TYV pmax pmax
comp=Z,10.0nm,0.5s
TYV pmax pmax
comp=Z,100nm,2.8s
C27K Jago River 24.37 29 P **P 20 30 17.1 -0.3**
baz=239,SNR=9.5
E27K Coleen River 24.38 33 P **P 20 30 17.7 +0.2**
baz=245
J29N Klondike Camp 24.45 42 P **P 20 30 17.9 -0.3**
baz=257
P30M Million Dollar 24.46 53 P **P 20 30 17.8 -0.5**
baz=268
N30M Aishikik Lake 24.48 50 P **P 20 30 17.9 -0.6**
baz=265
K29M Barlow Dome 24.62 44 IAmb IAmb 20 30 45.4
comp=Z,16nm,0.7s
K29M Barlow Dome 24.62 44 P **P 20 30 19.9 +0.1**
baz=259,SNR=16
I29M Ogilvie Camp, 24.64 40 IAmb IAmb 20 30 37.1
comp=Z,18nm,0.8s
I29M Ogilvie Camp, 24.64 40 P **P 20 30 19.8 0.0**
baz=255,SNR=11
PLBC Pleasant Camp 24.74 55 P **P 20 30 20.6 -0.2**
baz=270
M30M Minto, Yukon 24.75 47 P **P 20 30 20.4 -0.4**
M30M IAmb IAmb 20 30 45.0
comp=Z,37nm,1.9s
M30M Minto, Yukon 24.75 47 P **P 20 30 20.8 -0.1**
baz=262
H29M Whitestone 24.85 38 P **P 20 30 21.8 +0.1**
baz=253
S31K Pelican 24.85 58 P **P 20 30 21.4 -0.3**
baz=273
O30N Mendenhall 24.92 52 P **P 20 30 22.1 -0.3**
D27M Malcolm River 25.05 31 P **P 20 30 23.7 +0.2**
baz=244
N31M Braeburn, Yuko 25.11 50 P **P 20 30 24.3 +0.1**
baz=266
G29M Pine Creek 25.19 37 P **P 20 30 25.3 +0.5**
baz=252
E28M Babbage River 25.25 33 IAmb IAmb 20 30 46.1
comp=Z,20nm,1.2s
E28M Babbage River 25.25 33 P **P 20 30 25.1 -0.2**
baz=247,SNR=12
J30M Hart River 25.28 43 P **P 20 30 24.7 -1.1**
baz=259
I30M Mount Dempster 25.39 41 P **P 20 30 26.1 -0.7**
baz=257,SNR=14
EPYK Eagle Plains 25.53 38 P **P 20 30 28.2 +0.3**
baz=255
YSS Yuzhno-Sakhali 25.61 275 P **P 20 30 28.7 0.0**
YSS IAmb IAmb 20 30 32.6
comp=Z,45nm,0.7s
YSS Yuzhno-Sakhali 25.61 275 P **P 20 30 29.9 +1.2**
YSS Yuzhno-Sakhali 25.61 275 *eP* **P 20 30 29.9 +1.2**
YSS *eS* **S 20 34 51.8 -0.6**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS MLR MLR
comp=Z,400nm,16.0s
E29M Blow River 25.73 34 P **P 20 30 29.8 +0.2**
baz=249
M31M Drury Creek, Y 25.82 48 P **P 20 30 30.5 0.0**
M31M Drury Creek, Y 25.82 48 P **P 20 30 29.8 -0.7**
baz=266
F30M Barrier River 26.23 36 P **P 20 30 34.3 +0.2**
baz=253
FARO Faro, Yukon 26.31 48 P **P 20 30 34.0 -1.0**
H31M Peel River 26.34 40 IAmb IAmb 20 30 40.7
comp=Z,38nm,1.9s
H31M Peel River 26.34 40 P **P 20 30 34.7 -0.5**
baz=258
N32M Quiet Lake 26.40 51 P **P 20 30 35.4 -0.4**
baz=269
G31M Satah River 26.62 38 P **P 20 30 36.0 -1.6**
G31M Satah River 26.62 38 P **P 20 30 37.0 -0.6**
baz=256
U33K Whale Pass 26.74 62 P **P 20 30 37.9 -0.9**
baz=279
CRAG Craig 26.85 63 P **P 20 30 39.9 +0.1**
baz=280
F31M Tsiigehtchic 26.94 37 P **P 20 30 40.3 -0.3**
baz=256
JKA Kamikawa-asahi 27.00 270 P **P 20 30 41.4 +0.1**
JKA IAmb IAmb 20 30 45.0
comp=Z,33nm,0.9s
ASAJ Asahikawa 27.00 270 LR LR 20 39 40.9
comp=Z,239nm,22.0s,baz=80,slow=32
ASAJ Asahikawa 27.00 270 P **P 20 30 41.4 +0.1**
ASAJ pmax pmax
comp=Z,33nm,0.9s
INK Inuvik 27.24 35 P **P 20 30 43.0 -0.2**
INK Inuvik 27.24 35 P **P 20 30 43.1 -0.1**
comp=Z,1.7nm,0.5s,baz=275,slow=8.4,SNR=12
INK PcP **PcP 20 34 01.7 +0.3**
comp=Z,5.1nm,0.7s,baz=255,slow=2.2,SNR=12
INK LR LR 20 42 33.2
comp=Z,386nm,19.6s,baz=237,slow=39
comp=Z,1.7nm,0.5s
INK Inuvik 27.24 35 P **P 20 30 43.2 -0.1**
baz=254
MMPY Sheldon Lake, 27.30 48 P **P 20 30 44.6 +0.7**
MMPY IAmb IAmb 20 31 27.8
comp=Z,38nm,1.9s
MMPY Sheldon Lake, 27.30 48 P **P 20 30 43.7 -0.2**
baz=268
R33M Jennings River 27.50 55 P **P 20 30 44.4 -1.4**
baz=274
S34M Telegraph Cree 27.57 58 P **P 20 30 46.3 +0.1**
baz=277
ERM Erimo 27.74 265 P **P 20 30 49.0 +1.1**
ERM Erimo 27.74 265 P **P 20 30 49.0 +1.1**
ERM pmax pmax
comp=Z,100nm,1.3s
DLBC Dease Lake 28.08 57 LR LR 20 42 23.5
comp=Z,304nm,19.1s,baz=278,slow=37
YAK Yakutsk 29.60 311 LR LR 20 43 07.5
comp=Z,674nm,18.8s,baz=96,slow=37
YAK Yakutsk 29.60 311 *eP* **P 20 31 06.0 +1.8**
YAK *e* 20 34 07.5
YAK pmax pmax
comp=Z,4.0nm,1.0s
YAK MLR MLR
comp=Z,783nm,27.0s
YAK MLR MLR
comp=N,189nm,23.0s
YAK MLR MLR
comp=E,549nm,22.0s
BBB Bella Bella 30.56 69 LR LR 20 43 04.1
comp=E,138nm,19.7s,baz=299,slow=35
TIXI Tiksi 30.73 330 P **P 20 31 15.0 +0.9**
TIXI IAmb IAmb 20 31 30.2
comp=Z,18nm,1.9s
TIXI Tiksi 30.73 330 LR LR 20 44 25.2
comp=Z,601nm,19.0s,baz=151,slow=38
TIXI Tiksi 30.73 330 P **P 20 31 15.0 +0.9**
TIXI pmax pmax
comp=Z,18nm,1.9s
TIXI Tiksi 30.73 330 P **P 20 31 17.6 +3.5**
TIXI PcP **PcP 20 34 09.8 -0.4**
WRGLY Wrigley 30.86 46 P **P 20 31 15.7 +0.3**
WRGLY IAmb IAmb 20 31 17.8
comp=Z,7.5nm,0.8s
A36M Sachs Harbour 30.89 29 IAmb IAmb 20 31 19.0
comp=Z,21nm,0.8s
A36M Sachs Harbour 30.89 29 P **P 20 31 16.1 +0.5**
baz=257,SNR=12
KLR Kul'dur 31.45 286 LR LR 20 43 56.0
comp=Z,478nm,21.4s,baz=70,slow=36
KLR Kul'dur 31.45 286 *cePP* **P 20 31 20.0 -0.7**
KLR pmax pmax
comp=Z,16nm,1.3s
ZEA Zeya 32.47 296 *eP* **P 20 31 28.2 -1.4**
ZEA MLR MLR
comp=E,100nm,13.0s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,200nm,17.0s
USA0B Ussuriysk Arra 33.58 277 P **P 20 31 37.5 -1.9**
USA0B IAmb IAmb 20 31 40.3
comp=Z,17nm,0.7s
USA0B Ussuriysk Arra 33.58 277⇓ *eP* **P 20 31 38.8 -0.6**
USRK Ussuriysk Ar. 33.58 277 P **P 20 31 38.9 -0.5**
comp=Z,22nm,0.7s,baz=57,slow=8.3,SNR=29
USRK LR LR 20 46 45.1
comp=Z,156nm,18.6s,baz=43,slow=39
comp=Z,22nm,0.7s
HEH HeiHe 33.62 290 *eP* **P 20 31 38.3 -1.4**
HEH pmax pmax
comp=Z,16nm,0.6s
HEH LR LR
comp=Z,270nm,20.1s
HEH LR LR
comp=Z,280nm,20.7s
HEH LR LR
comp=Z,540nm,20.4s
H11N2 WAKE ISLAND Hy 33.71 206 T T 21 07 28.8
baz=17,slow=76,SNR=3541
H11N3 WAKE ISLAND Hy 33.72 206 T T 21 07 29.5
baz=17,slow=76,SNR=3945
H11N1 WAKE ISLAND Hy 33.73 206 T T 21 07 33.7
baz=17,slow=76,SNR=3368
MAJO Matsushiro 34.08 261 P **P 20 31 42.9 -1.0**
MAJO Matsushiro 34.08 261 P **P 20 31 44.8 +0.9**
MAJO Matsushiro 34.08 261⇑ *eP* **P 20 31 44.2 +0.3**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 34.08 261 P **P 20 31 44.5 +0.6**
MAJO PcP **PcP 20 34 21.0 +0.9**
MJAR Matsushiro Arr 34.08 261 P **P 20 31 44.2 +0.3**
comp=Z,8.8nm,0.6s,baz=49,slow=7.2,SNR=32
MJAR PcP **PcP 20 34 20.5 +0.4**
comp=Z,2.5nm,0.7s,baz=56,slow=2.0,SNR=5.9
MJAR LR LR 20 43 44.3
comp=Z,353nm,22.0s,baz=58,slow=33
comp=Z,8.8nm,0.6s
MJB9 Matsu-Tunnel 34.08 261 P **P 20 31 43.4 -0.5**
VLA Vladivostok 34.20 276⇑ *eP* **P 20 31 45.5 +0.7**
VLA pmax pmax
comp=Z,6.0nm,0.9s
LLLB Lillooet 34.77 69 P **P 20 31 50.6 +0.9**
LLLB IAmb IAmb 20 32 02.0
comp=Z,20nm,1.3s
MDJ Mudanjiang 34.85 280 IAmb IAmb 20 31 51.4
comp=Z,7.2nm,0.8s
MDJ Mudanjiang 34.85 280 P **P 20 31 49.3 -1.1**
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ Mudanjiang 34.85 280 P **P 20 31 51.1 +0.7**
comp=Z,11nm,1.0s
H11S1 WAKE ISLAND Hy 34.93 205 T T 21 09 06.5
baz=17,slow=76,SNR=7177
MSHR Mys Shultsa 34.94 276 *cP* **P 20 31 51.8 +0.6**
MSHR pmax pmax
comp=Z,34nm,0.7s
H11S2 WAKE ISLAND Hy 34.94 205 T T 21 09 07.7
baz=17,slow=76,SNR=2871
H11S3 WAKE ISLAND Hy 34.94 205 T T 21 09 02.7
baz=17,slow=76,SNR=3641
YKA Yellowknife Ar 34.98 47 P **P 20 31 49.7 -1.6**
YKA Yellowknife Ar 34.98 47 P **P 20 31 51.5 +0.3**
comp=Z,2.3nm,0.7s,baz=285,slow=8.3,SNR=30
YKA PcP **PcP 20 34 23.2 +1.0**
comp=Z,2.9nm,0.8s,baz=289,slow=3.2,SNR=14
YKA ScP **ScP 20 38 03.7 +1.3**
comp=Z,0.5nm,0.8s,baz=292,slow=3.3,SNR=4.3
YKA LR LR 20 47 41.4
comp=Z,327nm,19.8s,baz=230,slow=39
comp=Z,2.3nm,0.7s
PSTR Posyet 35.12 276 *dP* **P 20 31 53.4 +0.7**
JGF Kuroka 35.22 261 P **P 20 31 54.0 +0.3**
JHJ Hachijo jima 2 35.40 255 LR LR 20 43 58.4
comp=Z,170nm,21.7s,baz=50,slow=32
BNX BinXian 35.64 283⇓ P **P 20 31 56.0 -1.1**
BNX pmax pmax
comp=Z,20nm,0.7s
LON Longmire 36.52 75 IAmb IAmb 20 32 28.4
comp=Z,13nm,0.9s
LTY Liberty 36.96 73 IAmb IAmb 20 32 50.0
comp=Z,51nm,2.0s
E07A Sunnyside 37.79 74 IAmb IAmb 20 32 27.6
comp=Z,44nm,1.5s
CN2 Changchun 37.83 281 P **P 20 32 13.3 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
I05D Terrebonne, OR 38.01 78 P **P 20 32 16.9 -0.6**
HAWA Hanford 38.06 74 IAmb IAmb 20 32 35.7
comp=Z,15nm,0.8s
F07A Phinny Hill Vi 38.07 75 IAmb IAmb 20 32 41.0
comp=Z,15nm,0.7s
D08A Wollman Farm, 38.10 73 IAmb IAmb 20 32 29.8
comp=Z,22nm,1.3s
E08A Dider Farm, El 38.30 73 IAmb IAmb 20 32 31.6
comp=Z,22nm,1.2s
JCJ Chichijima 38.37 246 LR LR 20 45 38.7
comp=Z,188nm,19.7s,baz=328,slow=32
HIA Hailar 38.54 292 P **P 20 32 20.5 -1.2**
HIA IAmb IAmb 20 32 22.3
comp=Z,9.3nm,0.6s
HIA Hailar 38.54 292 P **P 20 32 20.5 -1.2**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 38.54 292 P **P 20 32 20.9 -0.9**
PINE Pine Mountain 38.55 78 IAmb IAmb 20 32 35.8
comp=Z,30nm,1.3s
YBH Yreka Blue Hor 38.58 82 LR LR 20 44 52.5
comp=Z,325nm,21.4s,baz=310,slow=31
NEW Newport 38.59 70 P **P 20 32 21.4 -0.8**
NEW IAmb IAmb 20 32 24.5
comp=Z,19nm,0.7s
NEW Newport 38.59 70 LR LR 20 46 18.6
comp=Z,214nm,21.0s,baz=300,slow=33
NEW Newport 38.59 70 P **P 20 32 21.4 -0.8**
NEW pmax pmax
comp=Z,19nm,0.7s
J05D Fort Rock, OR 38.64 79 IAmb IAmb 20 32 35.8
comp=Z,22nm,1.2s
E09A Wood Farm, Sta 38.84 73 P **P 20 32 24.0 -0.2**
E09A IAmb IAmb 20 32 35.9
comp=Z,34nm,1.3s
G08A Pilot Rock 38.97 75 IAmb IAmb 20 32 37.3
comp=Z,10nm,1.2s
I07A Izee 39.27 77 IAmb IAmb 20 32 40.4
comp=Z,21nm,1.2s
RES Resolute Bay 39.57 24 P **P 20 32 30.9 +0.9**
comp=Z,0.8nm,0.4s,baz=282,slow=7.0,SNR=6.0
RES PcP **PcP 20 34 36.8 +0.8**
comp=Z,7.7nm,0.7s,baz=251,slow=2.1,SNR=20
RES ScP **ScP 20 38 21.4 +2.0**
comp=Z,0.7nm,0.8s,baz=292,slow=5.6,SNR=3.6
RES LR LR 20 51 06.5
comp=Z,346nm,20.9s,baz=248,slow=40
comp=Z,0.8nm,0.4s
KSRS Korea Array 39.93 271 P **P 20 32 34.2 +0.8**
comp=Z,10.0nm,0.7s,baz=54,slow=8.1,SNR=32
KSRS LR LR 20 48 01.7
comp=Z,73nm,22.0s,baz=55,slow=34
comp=Z,10.0nm,0.7s
BMO Blue Mountains 40.20 75 IAmb IAmb 20 32 47.8
comp=Z,41nm,1.7s
J08A Circle Bar Ran 40.29 77 IAmb IAmb 20 32 48.8
comp=Z,28nm,1.4s
WVOR Wild Horse Val 40.70 79 IAmb IAmb 20 32 52.2
comp=Z,27nm,1.4s
INCN Inchon 40.72 272 P **P 20 32 41.4 +1.4**
PLID Pearl Lake 40.86 74 P **P 20 32 40.8 -0.5**
JNU Nakatsue 40.87 264 LR LR 20 48 22.0
comp=Z,280nm,21.9s,baz=57,slow=34
TJN Taejon 40.95 270 P **P 20 32 42.1 +0.3**
TJN Taejon 40.95 270 P **P 20 32 43.2 +1.4**
comp=Z,202nm,0.8s
TJN Taejon 40.95 270⇑ *eP* **P 20 32 42.2 +0.3**
MSO Missoula 41.17 70 IAmb IAmb 20 32 54.9
comp=Z,40nm,1.4s
PAHR Pah Rah Range 41.81 82 IAmb IAmb 20 33 07.9
comp=Z,9.3nm,1.0s
MFID Camas Ranch 41.87 76 IAmb IAmb 20 33 01.3
comp=Z,27nm,1.6s
PNTR Pine Nut 42.05 83 P **P 20 32 51.0 -0.1**
PNTR IAmb IAmb 20 33 04.1
comp=Z,25nm,1.1s
WAKR Walker 42.50 84 P **P 20 32 55.4 +0.7**
HLID Hailey 42.64 75 P **P 20 32 55.7 -0.1**
HLID IAmb IAmb 20 33 07.9
comp=Z,24nm,1.4s
DLMT Dillon 42.74 71 IAmb IAmb 20 33 11.5
comp=Z,17nm,1.4s
EGMT Eagleton 42.99 66 IAmb IAmb 20 33 42.7
comp=Z,20nm,1.2s
BOZ Bozeman (W) 43.18 70 IAmb IAmb 20 33 02.2
comp=Z,20nm,0.7s
NVAR Mina Array Bea 43.25 83 P **P 20 33 02.1 +1.3**
comp=Z,2.3nm,0.8s,baz=268,slow=8.0,SNR=8.4
NVAR LR LR 20 48 15.0
comp=Z,169nm,20.7s,baz=298,slow=32
comp=Z,2.3nm,0.8s
ELK Elko 43.76 78 P **P 20 33 05.3 +0.4**
ELK IAmb IAmb 20 33 07.7
comp=Z,8.7nm,0.8s
ELK Elko 43.76 78 P **P 20 33 05.3 +0.4**
ELK pmax pmax
comp=Z,9.0nm,0.8s
YHL Hebgen Lake 43.86 71 IAmb IAmb 20 33 19.5
comp=Z,21nm,1.0s
YHB Horse Butte 43.91 71 P **P 20 33 06.0 0.0**
YHB IAmb IAmb 20 33 08.4
comp=Z,15nm,0.8s
YMR Madison River 44.09 71 IAmb IAmb 20 33 10.0
comp=Z,12nm,0.7s
DSP Deep Springs 44.11 84 IAmb IAmb 20 33 20.1
comp=Z,13nm,1.2s
YNR Norris Junctio 44.23 71 IAmb IAmb 20 33 21.4
comp=Z,22nm,1.1s
YFT Old Faithful 44.29 71 IAmb IAmb 20 33 28.5
comp=Z,21nm,1.2s
YNE Yellowstone No 44.46 70 P **P 20 33 10.5 0.0**
YNE IAmb IAmb 20 33 21.8
comp=Z,26nm,1.3s
H17A Grant Village 44.47 71 IAmb IAmb 20 33 24.2
comp=Z,18nm,0.9s
LKWY Lake 44.48 71 IAmb IAmb 20 33 14.2
comp=Z,12nm,0.7s
NRIK Noril'sk 44.51 330 P **P 20 33 09.7 -0.5**
comp=Z,1.2nm,0.5s,baz=107,slow=11,SNR=1.4
NRIK PcP **PcP 20 34 52.8 +0.3**
comp=Z,1.6nm,0.5s,baz=85,slow=1.3,SNR=3.6
NRIK LR LR 20 52 02.8
comp=Z,178nm,21.6s,baz=55,slow=36
comp=Z,1.2nm,0.5s
RLMT Red Lodge 44.84 70 IAmb IAmb 20 33 16.6
comp=Z,21nm,0.7s
BGU Big Grassy Mou 45.00 77 IAmb IAmb 20 33 26.9
comp=Z,17nm,1.2s
SPR3 Spring Creek 3 45.36 80 IAmb IAmb 20 33 20.5
comp=Z,6.8nm,0.6s
TPNV Topopah Spring 45.45 83 IAmb IAmb 20 33 32.2
comp=Z,13nm,0.8s
DUG Dugway, Tooele 45.57 77 IAmb IAmb 20 33 31.4
comp=Z,24nm,1.1s
GWY Greenwater Val 45.67 85 IAmb IAmb 20 33 31.8
comp=Z,16nm,1.5s
PRN Pahroc Range 45.91 82 IAmb IAmb 20 33 34.7
comp=Z,30nm,1.1s
PSUT Pine Spring 45.94 80 IAmb IAmb 20 33 29.4
comp=Z,7.7nm,0.7s
PDAR Pinedale Array 46.01 73 P **P 20 33 22.3 -0.5**
PDAR Pinedale Array 46.01 73 P **P 20 33 23.4 +0.7**
comp=Z,5.2nm,0.5s,baz=327,slow=2.7,SNR=41
PDAR LR LR 20 50 14.9
comp=Z,116nm,21.4s,baz=318,slow=33
comp=Z,5.2nm,0.5s
GSC Goldstone, Bar 46.15 86 IAmb IAmb 20 33 35.5
comp=Z,20nm,1.4s
ULN Ulaanbaatar 46.50 296 P **P 20 33 25.9 -0.5**
ULN IAmb IAmb 20 33 48.5
comp=Z,4.3nm,0.7s
ULN Ulaanbaatar 46.50 296⇑ *eP* **P 20 33 27.4 +1.0**
ULN pmax pmax
comp=Z,3.0nm,0.8s
TCRU Three Creeks R 46.76 79 IAmb IAmb 20 33 41.2
comp=Z,33nm,1.4s
JOW Kunigami 46.87 259 LR LR 20 52 44.7
comp=Z,61nm,20.4s,baz=286,slow=36
SONM Songino Array 46.88 297 P **P 20 33 28.8 -0.6**
SONM Songino Array 46.88 297 P **P 20 33 29.6 +0.2**
comp=Z,1.8nm,0.5s,baz=66,slow=6.0,SNR=16
SONM PcP **PcP 20 35 01.9 +0.6**
comp=Z,2.9nm,0.8s,baz=81,slow=2.1,SNR=5.6
SONM ScP **ScP 20 38 52.4 +2.8**
comp=Z,0.8nm,0.8s,baz=88,slow=1.8,SNR=4.6
SONM LR LR 20 54 07.9
comp=Z,548nm,19.9s,baz=62,slow=37
comp=Z,1.8nm,0.5s
TMUT Trail Mountain 47.10 77 IAmb IAmb 20 33 35.7
comp=Z,16nm,0.8s
ZAK Zakamensk 47.18 301 *eP* **P 20 33 32.0 +0.4**
ZAK *e* 20 35 02.5
ZAK pmax pmax
comp=Z,7.0nm,1.4s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
LCMT Little Creek M 47.27 81 IAmb IAmb 20 33 44.9
comp=Z,22nm,1.2s
MTPU Mount Pierson 47.28 79 P **P 20 33 33.2 +0.3**
MTPU IAmb IAmb 20 33 45.3
comp=Z,18nm,1.2s
Q16A Castle Valley 47.35 78 IAmb IAmb 20 33 45.6
comp=Z,21nm,1.1s
TIA Tai'an 47.45 278 P **P 20 33 33.8 0.0**
TIA pmax pmax
comp=Z,26nm,0.7s
PFO Pinyon Flats O 47.47 87 LR LR 20 50 24.5
comp=Z,108nm,19.9s,baz=290,slow=32
P18A Preston Nutter 47.48 76 IAmb IAmb 20 33 46.7
comp=Z,25nm,1.1s
KNB Kanab 47.53 81 IAmb IAmb 20 33 47.1
comp=Z,26nm,1.4s
PKCU Pink Cliffs 47.58 80 IAmb IAmb 20 33 47.7
comp=Z,19nm,1.2s
SRU San Rafael Swe 47.63 77 P **P 20 33 35.2 -0.2**
SRU IAmb IAmb 20 33 56.4
comp=Z,14nm,0.7s
SRU San Rafael Swe 47.63 77 P **P 20 33 35.2 -0.2**
SRU pmax pmax
comp=Z,14nm,0.7s
K22A Casper 47.88 71 IAmb IAmb 20 33 47.5
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 47.95 286 *eP* **P 20 33 38.3 +0.5**
GUMO Guam 47.98 232 LR LR 20 49 55.2
comp=Z,60nm,21.9s,baz=48,slow=31
W13A Hualapai Mount 48.10 84 IAmb IAmb 20 33 50.6
comp=Z,9.4nm,1.2s
HNS HongShan 48.19 280⇑ P **P 20 33 39.9 +0.5**
HNS pmax pmax
comp=Z,20nm,0.7s
HNS LR LR
comp=Z,250nm,21.1s
HNS LR LR
comp=Z,290nm,21.2s
PV23 Carpenter Ridg 48.96 77 P **P 20 33 44.7 -1.1**
BTO Baotou 49.03 287⇑ *iP* **P 20 33 47.3 +1.2**
BTO pP **pP 20 34 03.0 +1.6**
BTO sP **sP 20 34 10.1 +2.0**
BTO PP **PP 20 35 41.1 +1.4**
BTO S **S 20 40 45.0 -1.2**
BTO sS **sS 20 41 12.4 +0.4**
BTO pmax pmax
comp=Z,88nm,0.7s
BTO pmax pmax
comp=Z,440nm,6.7s
BTO LR LR
comp=Z,540nm,17.8s
BTO LR LR
comp=Z,810nm,16.4s
BTO LR LR
comp=Z,820nm,19.8s
NJ2 Nanjing 49.10 272 *eP* **P 20 33 46.0 -0.5**
NJ2 pmax pmax
comp=Z,8.0nm,1.0s
PV11 David Mesa, Pa 49.15 77 P **P 20 33 46.9 -0.2**
PV07 Paradox Valley 49.20 77 IAmb IAmb 20 33 58.8

comp=Z,21nm,1.2s
PV15 Paradox Valley 49.36 77 IAmb IAmb 20 34 00.8
comp=Z,20nm,1.0s
WUAZ Wupatki 49.39 81 IAmb IAmb 20 34 01.0
comp=Z,29nm,1.4s
ULM Lac du Bonnet 49.41 57 IAmb IAmb 20 35 08.3
comp=Z,22nm,1.9s
ULM Lac du Bonnet 49.41 57 P **P** **20 33 47.7 -0.9**
comp=Z,1.8nm,0.5s,baz=315,slow=8.3,SNR=6.4
ULM LR LR 20 54 43.9
comp=Z,165nm,21.8s,baz=295,slow=36
comp=Z,1.8nm,0.5s
MVCO Mesa Verde 50.07 78 P **P** **20 33 54.0 -0.2**
MVCO IAmb IAmb 20 34 05.8
comp=Z,28nm,1.3s
X16A Lo Mia Camp, P 50.07 83 IAmb IAmb 20 34 06.3
comp=Z,11nm,1.2s
ISCO Idaho Springs 50.17 73 IAmb IAmb 20 34 07.1
comp=Z,26nm,1.6s
SPITS Spitsbergen Ar 50.34 356 P **P** **20 33 54.9 -0.5**
SPITS LR LR 20 58 55.3
comp=Z,110nm,18.3s,baz=332,slow=40
comp=Z,5.7nm,0.4s
S22A 4UR Ranch, Cre 50.74 76 IAmb IAmb 20 34 11.8
comp=Z,27nm,1.3s
LYN LuoYang 51.41 279 P **P** **20 34 04.3 +0.3**
LYN pmax pmax
comp=Z,49nm,0.6s
SDCO Great Sand Dun 51.55 75 IAmb IAmb 20 34 17.5
comp=Z,26nm,1.4s
TUC Tucson 51.88 84 P **P** **20 34 06.5 -1.1**
TUC IAmb IAmb 20 34 19.3
comp=Z,11nm,1.1s
TUC Tucson 51.88 84 P **P** **20 34 06.5 -1.1**
TUC pmax pmax
comp=Z,11nm,1.1s
TUC Tucson 51.88 84 P **P** **20 34 09.0 +1.4**
T25A Trinidad 52.60 75 P **P** **20 34 12.8 -0.2**
ANMO Albuquerque 52.80 79 LR LR 20 54 03.3
comp=Z,138nm,21.9s,baz=153,slow=33
ANMO Albuquerque 52.80 79⇑ *eP* **P** **20 34 14.3 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
FRB Frobisher Bay 52.82 32 LR LR 20 59 49.4
comp=Z,396nm,18.0s,baz=307,slow=40
ECSD EROS Data Cent 52.94 64 IAmb IAmb 20 34 23.1
comp=Z,12nm,1.4s
WHN Wuhan 52.95 274 ⇓P **P** **20 34 15.4 0.0**
WHN pmax pmax
comp=Z,80nm,0.8s
BGNE Belgrade 53.55 67 P **P** **20 34 18.7 -1.0**
E38A The Farm, Brul 53.90 58 IAmb IAmb 20 34 23.1
comp=Z,7.9nm,0.6s
XAN Xi'an 53.94 281 ⇑P **P** **20 34 22.4 -0.3**
XAN pP pP 20 34 34.1 -4.0
XAN pmax pmax
comp=Z,18nm,0.7s
XAN Xi'an 53.94 281 P **P** **20 34 22.5 -0.3**
ZALV Zalesovo Beam 54.20 314 P **P** **20 34 24.2 0.0**
comp=Z,1.1nm,0.7s,baz=30,slow=7.0,SNR=4.3
ZALV PcP **PcP** **20 35 28.5 +0.5**
comp=Z,7.2nm,0.6s,baz=32,slow=4.3,SNR=24
ZALV LR LR 20 57 57.2
comp=Z,187nm,20.9s,baz=51,slow=36
comp=Z,1.1nm,0.7s
ZALV Zalesovo Beam 54.20 314 *i* P **P** **20 34 28.2 +3.9**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
SFJD Kangerlussuaq 55.48 22 LR LR 21 02 10.8
comp=Z,131nm,18.7s,baz=325,slow=40
LZH Lanzhou 55.65 286 *eP* **P** **20 34 36.3 +1.1**
LZH sP sP 20 34 56.3 -1.2
LZH pmax pmax
comp=Z,55nm,1.1s
LZH LR LR
comp=Z,420nm,16.8s
LZH LR LR
comp=Z,350nm,18.6s
LZH LR LR
comp=Z,500nm,22.0s
GTA Gaotai 55.82 292 P **P** **20 34 36.6 +0.3**
GTA pP pP 20 34 46.1 -5.8
GTA pmax pmax
comp=Z,42nm,0.7s
GTA LR LR
comp=Z,230nm,18.2s
GTA LR LR
comp=Z,220nm,18.9s
GTA LR LR
comp=Z,380nm,18.9s
ENH Enshi 56.16 277 P **P** **20 34 39.1 +0.3**
ENH Enshi 56.16 277 P **P** **20 34 38.0 -0.8**
ENH PcP **PcP** **20 35 36.3 +0.3**
NOKA Waynoka 56.22 72 IAmb IAmb 20 34 41.0
comp=Z,12nm,0.7s
SMWD Samnorwood 56.47 74 IAmb IAmb 20 34 43.2
comp=Z,13nm,0.7s
VHRN Van Horn 56.52 81 IAmb IAmb 20 34 53.3
comp=Z,18nm,1.3s
CROK Carrier 56.87 72 P **P** **20 34 41.9 -1.9**
POST Post 57.09 77 IAmb IAmb 20 34 48.8
comp=Z,9.5nm,0.8s
T35A Sooner Cattle 57.47 70 IAmb IAmb 20 34 59.2
comp=Z,17nm,1.0s
MNHN Monahans 57.51 79 IAmb IAmb 20 34 49.9
comp=Z,12nm,0.7s
WMOK Wichita Mounta 57.60 74 IAmb IAmb 20 34 51.0
comp=Z,7.8nm,0.8s
ALPN Alpine 57.64 81 IAmb IAmb 20 35 00.4
comp=Z,20nm,1.5s
LPIG La Paz 57.94 91 LR LR 20 55 12.7
comp=Z,59nm,20.1s,baz=254,slow=31
ARCES ARCESS Array B 58.09 350 P **P** **20 34 50.9 -0.9**
comp=Z,5.1nm,0.7s,baz=359,slow=7.3,SNR=16
ARCES PcP **PcP** **20 35 42.3 -0.6**
comp=Z,6.0nm,0.8s,baz=6.9,slow=4.0,SNR=4.0
ARCES LR LR 21 02 15.6
comp=Z,96nm,19.1s,baz=22,slow=38
comp=Z,5.1nm,0.7s
P40A Paris 58.28 65 P **P** **20 34 52.3 -1.2**
TX31 Lajitas Ar. Si 58.35 82 IAmb IAmb 20 35 06.5
comp=Z,25nm,1.4s
TXAR Lajitas Array 58.35 82 P **P** **20 34 53.7 -0.6**
TXAR Lajitas Array 58.35 82 P **P** **20 34 54.4 0.0**
comp=Z,2.0nm,0.6s,baz=302,slow=4.9,SNR=25
TXAR LR LR 20 56 47.1
comp=Z,67nm,21.9s,baz=335,slow=33
comp=Z,2.0nm,0.6s
SZP Santa 58.58 258 P **P** **20 34 57.0 +1.1**
OZNA Ozona 58.81 78 IAmb IAmb 20 35 01.3
comp=Z,9.3nm,1.1s
U38A Gravette 59.04 69 P **P** **20 34 57.7 -1.2**
U38A IAmb IAmb 20 34 60.0
comp=Z,12nm,0.9s
KURK Kurchatov 59.19 314 P **P** **20 34 58.7 -1.0**
KURK IAmb IAmb 20 35 49.0
comp=Z,4.0nm,0.8s
KURK Kurchatov 59.19 314 ⇓ *eP* **P** **20 34 59.9 +0.2**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURK Kurchatov 59.19 314 P **P** **20 34 59.5 -0.2**
KURK PcP **PcP** **20 35 47.9 +0.4**
PLPT Palo Pinto 59.20 75 IAmb IAmb 20 35 03.6
comp=Z,16nm,0.9s
CD2 Chengdu 59.25 282 P **P** **20 35 00.8 +0.3**
CD2 pmax pmax
comp=Z,30nm,0.6s
KURBB Kurchatov Arra 59.30 314 P **P** **20 34 59.0 -1.5**
comp=Z,3.8nm,0.6s,baz=42,slow=6.6,SNR=23
KURBB PcP **PcP** **20 35 48.6 +0.6**
comp=Z,3.4nm,0.7s,baz=42,slow=3.5,SNR=11
KURBB LR LR 21 02 30.5
comp=Z,378nm,18.5s,baz=172,slow=38
comp=Z,3.8nm,0.6s
HHAR Hobbs 59.41 69 IAmb IAmb 20 35 02.4
comp=Z,8.7nm,0.7s
WMQ Urumqi 59.56 303 *eP* **P** **20 35 03.8 +1.4**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,320nm,20.5s
CCM Cathedral Cave 59.74 66 P **P** **20 35 02.2 -1.5**
CCM IAmb IAmb 20 35 04.2
comp=Z,9.1nm,0.6s
CCM Cathedral Cave 59.74 66 P **P** **20 35 02.2 -1.5**
CCM pmax pmax
comp=Z,9.0nm,0.6s
CCM Cathedral Cave 59.74 66 P **P** **20 35 02.9 -0.8**
CCM pP **pP** **20 35 18.1 -1.1**
CCM PcP **PcP** **20 35 50.1 +0.1**
SCHQ Schefferville 59.78 39 P **P** **20 35 03.6 0.0**
comp=Z,1.6nm,0.6s,baz=329,slow=9.1,SNR=3.7
SCHQ PcP **PcP** **20 35 50.5 +0.6**
comp=Z,2.3nm,0.6s,baz=316,slow=0.9,SNR=4.6
SCHQ LR LR 21 03 41.9
comp=Z,160nm,18.2s,baz=282,slow=39
comp=Z,1.6nm,0.6s
MGMO Mountain Grove 59.78 67 IAmb IAmb 20 35 04.3
comp=Z,12nm,0.7s
DRIO Del Rio 60.17 79 IAmb IAmb 20 35 17.8
comp=Z,5.7nm,0.9s
MK31 Makanchi Array 60.23 309 ⇓ *eP* **P** **20 35 07.0 +0.1**
MKAR Makanchi Array 60.23 309 P **P** **20 35 04.9 -2.1**
MKAR Makanchi Array 60.23 309 P **P** **20 35 05.3 -1.6**
comp=Z,2.5nm,0.5s,baz=40,slow=6.5,SNR=27
MKAR PcP **PcP** **20 35 52.8 +1.0**
comp=Z,1.4nm,0.5s,baz=38,slow=1.8,SNR=5.5
MKAR LR LR 21 01 35.8
comp=Z,346nm,21.9s,baz=28,slow=36
comp=Z,2.5nm,0.5s
MKAR Makanchi Array 60.23 309 *i* P **P** **20 35 05.8 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 60.37 309 P **P** **20 35 05.4 -2.5**
MAKZ IAmb IAmb 20 37 12.0
comp=Z,4.0nm,0.6s
MAKZ Makanchi 60.37 309 P **P** **20 35 05.4 -2.5**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
Q44A Meyer Farm, Va 60.42 64 IAmb IAmb 20 35 10.2
comp=Z,20nm,1.0s
T42A Van Buren 60.54 67 IAmb IAmb 20 35 09.3
comp=Z,6.2nm,0.7s
GOMU GeErMu 60.90 292 P **P** **20 35 11.3 -0.8**
GOMU pmax pmax
comp=Z,35nm,0.8s
GOMU LR LR
comp=Z,510nm,13.5s
GOMU LR LR
comp=Z,350nm,15.3s
GOMU LR LR
comp=Z,800nm,16.9s
BVAR Borovoye Array 61.03 320 P **P** **20 35 11.1 -1.2**
comp=Z,3.7nm,0.5s,baz=51,slow=6.5,SNR=36
BVAR PcP **PcP** **20 35 55.5 +0.6**
comp=Z,3.7nm,0.6s,baz=59,slow=2.4,SNR=6.8
BVAR LR LR 21 04 03.8
comp=Z,339nm,19.5s,baz=44,slow=38
comp=Z,3.7nm,0.5s
BRVK Borovoye 61.05 320 P **P** **20 35 11.3 -1.1**
BRVK IAmb IAmb 20 35 16.9
comp=Z,3.3nm,0.6s
BRVK Borovoye 61.05 320 ⇑ *eP* **P** **20 35 12.8 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 61.05 320 P **P** **20 35 11.7 -0.7**
BRVK PcP **PcP** **20 35 55.0 +0.1**
OLIL Olney 61.05 63 P **P** **20 35 11.5 -1.1**
LCAR Lake Charles 61.18 67 P **P** **20 35 12.4 -1.1**
LCAR IAmb IAmb 20 35 14.1
comp=Z,14nm,1.2s
SADO Sadowa 61.56 53 LR LR 21 04 49.8
comp=Z,106nm,18.2s,baz=261,slow=39
P48A Milroy 62.02 61 P **P** **20 35 18.2 -1.0**
WCI Wyandotte Cave 62.41 63 P **P** **20 35 20.9 -0.9**
WCI Wyandotte Cave 62.41 63 P **P** **20 35 20.9 -0.9**
WCI pmax pmax
comp=Z,30nm,0.8s
HKT Hockley 62.72 75 *i* P **P** **20 35 25.1 +1.3**
BORG Borgarnes 62.79 11 LR LR 21 03 25.9
comp=Z,89nm,19.7s,baz=334,slow=37
ARTI Arti 62.80 328 P **P** **20 35 23.4 -0.6**
ARTI IAmb IAmb 20 36 02.6
comp=Z,9.3nm,0.5s
ARTI Arti 62.80 328 LR LR 21 05 25.5
comp=Z,174nm,20.3s,baz=26,slow=39
ARTI Arti 62.80 328 *c i* P **P** **20 35 24.2 +0.1**
ARTI 20 35 57.7
ARTI S **S** **20 43 47.8 -0.6**
ARTI SS **SS** **20 47 51.9 -1.2**
ARTI pmax pmax
comp=Z,11nm,1.7s
ARTI Arti 62.80 328 P **P** **20 35 24.1 0.0**
ARTI PcP **PcP** **20 36 01.0 -1.0**
WVT Waverly 63.04 65 P **P** **20 35 24.7 -1.2**
WVT IAmb IAmb 20 35 27.8
comp=Z,14nm,0.8s
WVT Waverly 63.04 65 P **P** **20 35 24.7 -1.2**
WVT pmax pmax
comp=Z,14nm,0.8s
WVT Waverly 63.04 65 P **P** **20 35 26.0 0.0**
HNR Honiara 63.46 204 LR LR 20 57 38.8
comp=Z,79nm,21.0s,baz=352,slow=31
PZH PanZhiHua 63.62 280 P **P** **20 35 30.3 +0.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.8s
KIRV Kirov 63.65 334 LR LR 21 05 29.7
comp=Z,484nm,20.9s,baz=16,slow=38
KIRV Kirov 63.65 334 *c eP* **P** **20 35 29.9 +0.3**
DAV Davao City (W) 63.77 247 LR LR 20 58 20.8
comp=Z,197nm,21.9s,baz=52,slow=31
V48A Smith Brothers 63.89 65 IAmb IAmb 20 35 33.2
comp=Z,16nm,0.7s
U49A Red Boiling Sp 63.92 64 P **P** **20 35 31.2 -0.6**
JAY Jayapura 64.01 227 LR LR 20 59 03.1
comp=Z,150nm,19.7s,baz=2.0,slow=32
KMI Kunming 64.01 278 P **P** **20 35 33.6 +0.8**
KMI pmax pmax
comp=Z,12nm,0.8s
KMI LR LR
comp=Z,240nm,22.3s
KLMR Klimovskoe 64.02 340 *eP* **P** **20 35 31.5 -0.5**
KLMR pmax pmax
comp=Z,21nm,1.4s
QIZ Qiongzhong 64.06 268 P **P** **20 35 33.5 +0.6**
QIZ S **S** **20 44 06.5 +1.5**
QIZ LR LR
comp=Z,240nm,13.0s
QIZ LR LR
comp=Z,200nm,7.5s
QIZ LR LR
comp=Z,220nm,9.9s
X48A Hartselle 64.69 66 IAmb IAmb 20 35 37.5
comp=Z,9.9nm,0.8s
W50A Signal Mountai 65.13 64 P **P** **20 35 39.2 -0.6**
FPAL Fort Paine 65.44 65 P **P** **20 35 41.7 -0.1**
Y49A Blount Mountai 65.48 66 IAmb IAmb 20 35 43.2
comp=Z,18nm,0.8s
TKL Tuckaleechee C 65.66 63 P **P** **20 35 42.4 -0.8**
TKL Tuckaleechee C 65.66 63 LR LR 21 05 48.3
comp=Z,173nm,18.8s,baz=318,slow=37
TKL Tuckaleechee C 65.66 63 P **P** **20 35 42.4 -0.8**
TKL pmax pmax
comp=Z,21nm,0.8s
LRAL Lakeview Retre 65.74 67 IAmb IAmb 20 35 44.5
comp=Z,12nm,0.8s
FINES FINESS Array B 65.79 347 P **P** **20 35 42.4 -1.1**
comp=Z,2.6nm,0.5s,baz=28,slow=7.7,SNR=25
FINES LR LR 21 04 58.4
comp=Z,77nm,21.6s,baz=8.5,slow=36
comp=Z,2.6nm,0.5s
WUS Wushi 65.80 306 IAmb IAmb 20 36 26.3
comp=Z,7.0nm,0.8s
W52A Murphy 65.99 64 P **P** **20 35 44.7 -0.6**
V53A Saluda 66.19 62 IAmb IAmb 20 35 48.7
comp=Z,14nm,0.7s
AAK Ala-Archa 67.05 310 P **P** **20 35 51.5 -0.6**
AAK IAmb IAmb 20 35 55.5
comp=Z,3.5nm,0.6s
AAK Ala-Archa 67.05 310 LR LR 21 08 10.1
comp=Z,160nm,18.9s,baz=21,slow=39
AAK Ala-Archa 67.05 310 *c eP* **P** **20 35 54.3 +2.2**
AAK pmax pmax
comp=Z,12nm,2.5s
AAK Ala-Archa 67.05 310 P **P** **20 35 53.2 +1.1**
AAK pP **pP** **20 36 09.0 +1.0**
AAK PcP **PcP** **20 36 20.7 +0.7**
152A Waverly Hall 67.31 66 IAmb IAmb 20 35 54.7
comp=Z,13nm,0.8s
NB2 NORSAR Subarra 67.61 355 P **P** **20 35 56.5 +1.3**
comp=Z,1.3nm,0.6s,baz=7.4,slow=6.9
NOA NORSAR Array B 67.61 355 P **P** **20 35 55.9 +0.7**
comp=Z,1.2nm,0.5s,baz=3.8,slow=7.3,SNR=9.4
NOA LR LR 21 06 48.8
comp=Z,96nm,19.4s,baz=5.0,slow=37
comp=Z,1.2nm,0.5s
LSA Lhasa 67.70 290 P **P** **20 35 58.3 +1.6**
LSA pmax pmax
comp=Z,24nm,0.8s
AKTO Aktyubinsk 67.81 325 LR LR 21 08 45.6
comp=Z,292nm,18.2s,baz=42,slow=39
HFS Hagfors 68.36 354 P **P** **20 35 59.2 -0.6**
comp=Z,2.8nm,0.5s,baz=22,slow=7.0,SNR=19
HFS LR LR 21 06 25.8
comp=Z,110nm,19.9s,baz=356,slow=36
comp=Z,2.8nm,0.5s
KKAR Karatay Array 68.56 313 P **P** **20 36 00.6 -0.8**
KKAR Karatay Array 68.56 313 P **P** **20 36 00.6 -0.8**
KSH Kashi 68.70 307 P P 20 36 07.6 +5.1
KSH pmax pmax
comp=Z,7.0nm,0.7s
CRAI Chiangrai 69.08 276 P **P** **20 36 04.6 -0.4**
CRAI IAmb IAmb 20 36 06.5
comp=Z,14nm,0.6s
OBN Obninsk 69.92 340 LR LR 21 09 43.6
comp=Z,124nm,21.1s,baz=20,slow=38
OBN Obninsk 69.92 340 *i* P **P** **20 36 09.8 +0.3**
OBN *i* 20 36 28.9
OBN *i* 20 38 47.2
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,296nm,18.0s
SHL Shillong 70.32 286 P **P** **20 36 11.9 -0.8**
SHL Shillong 70.32 286 P **P** **20 36 11.9 -0.8**
SHL pmax pmax
comp=Z,33nm,0.7s
CHTO Chiang Mai 71.03 277 P **P** **20 36 16.6 -0.3**
CHTO pP **pP** **20 36 32.3 -0.6**
CM31 Chiang Mai Arr 71.30 276 IAmb IAmb 20 36 20.2
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 71.30 276 P **P** **20 36 17.6 -0.9**
CMAR Chiang Mai Arr 71.30 276 P **P** **20 36 18.5 0.0**
comp=Z,4.0nm,0.7s,baz=28,slow=6.4,SNR=34
CMAR LR LR 21 11 38.1
comp=Z,65nm,18.4s,baz=55,slow=39
comp=Z,4.0nm,0.7s
GAR Garm 71.87 310 IAmb IAmb 20 36 41.6
comp=Z,9.0nm,0.7s
BRDH Bariadhala 72.62 285 LR LR 21 10 17.5
comp=Z,100nm,21.4s,baz=70,slow=37
SIMJ Simiganj 72.76 311 P **P** **20 36 26.6 -0.6**
SIMJ IAmb IAmb 20 37 10.8
comp=Z,7.2nm,1.1s
CMIG Matias Romero 72.78 84 LR LR 21 04 00.4
comp=Z,84nm,22.0s,baz=350,slow=32
EKA Eskdalemuir Ar 73.52 3 P **P** **20 36 31.0 -0.2**
comp=Z,1.4nm,0.5s,baz=7.4,slow=7.2,SNR=11
comp=Z,1.4nm,0.5s
AK04 Malin Array Si 75.57 342 P **P** **20 36 42.5 -0.6**
RNPP1 Kostyukhnivka 75.58 345 P **P** **20 36 43.1 0.0**
AK20 Malin Array Si 75.58 342 P **P** **20 36 42.4 -0.8**
AKASG Malin Array Be 75.58 342 P **P** **20 36 42.3 -0.9**
comp=Z,6.2nm,0.6s,baz=22,slow=5.9,SNR=14
AKASG LR LR 21 13 19.9
comp=Z,126nm,20.5s,baz=40,slow=38
comp=Z,6.2nm,0.6s
AKBB Malin Array Si 75.58 342 IAmb IAmb 20 37 00.7
comp=Z,47nm,1.9s
AKBB Malin Array Si 75.58 342 ⇓ *eP* **P** **20 36 43.3 +0.1**
AKBB Malin Array Si 75.58 342 P **P** **20 36 43.3 +0.1**
AK18 Malin Array Si 75.59 342 P **P** **20 36 42.9 -0.3**
KIEV Kiev 75.59 342 P **P** **20 36 42.0 -1.2**
KIEV IAmb IAmb 20 37 00.7
comp=Z,45nm,1.9s
KIEV Kiev 75.59 342 P **P** **20 36 42.0 -1.2**
KIEV pmax pmax
comp=Z,45nm,1.9s
KIEV Kiev 75.59 342 P **P** **20 36 42.7 -0.5**
comp=Z,45nm,0.7s
AK01 Malin Array Si 75.59 342 P **P** **20 36 42.4 -0.8**
AK19 Malin Array Si 75.60 342 P **P** **20 36 42.4 -0.9**
AK15 Malin Array Si 75.61 342 P **P** **20 36 42.4 -0.9**
AK11 Malin Array Si 75.62 342 P **P** **20 36 42.5 -0.9**
MI28 Mi28,Pidlybu 75.65 343 P **P** **20 36 44.0 +0.4**
AK09 Malin Array Si 75.65 342 P **P** **20 36 42.8 -0.8**
KBL Kabul 76.03 308 P **P** **20 36 44.9 -1.4**
KBL IAmb IAmb 20 36 48.4
comp=Z,4.3nm,0.7s
KBL Kabul 76.03 308 P **P** **20 36 44.9 -1.4**
KBL pmax pmax
comp=Z,4.0nm,0.7s
LUBAR Lubar, Ukraine 76.61 343 P **P** **20 36 48.1 -0.9**
KAPI Kappang 76.95 244 LR LR 21 08 15.0
comp=Z,20nm,20.6s,baz=40,slow=34
CLL Collm 77.18 353 *eP* **P** **20 36 53.0 +0.8**
CLL Collm 77.18 353 *eP* **P** **20 36 53.0 +0.8**
CLL AMS AMS 21 15 00.0
comp=Z,200nm,18.6s
KWP Kalwaria Pacla 77.72 346 P **P** **20 36 54.2 -1.1**
comp=Z,27nm,0.6s
DPC Dobruska-Polom 77.83 350 *eP* **P** **20 36 56.0 +0.1**
DPC Dobruska-Polom 77.83 350 *eP* **P** **20 36 56.0 +0.1**
NDNU Novodnistrovsk 77.95 343 P **P** **20 36 56.1 -0.5**
STEB Steborice 78.08 349 *eP* **P** **20 36 57.9 +0.6**
KMPD K-Podol'skiy 78.14 343 P **P** **20 36 57.5 -0.1**
KMPD P **P** **20 36 56.4 -1.2**
SORM Soroca 78.21 342 ⇑P **P** **20 36 57.5 -0.5**
SORM Soroca 78.21 342 ⇑P **P** **20 36 57.5 -0.5**
SORM Soroca 78.21 342 P **P** **20 36 57.1 -0.9**
comp=Z,23nm,0.5s
MORC Moravsky Berou 78.26 350 *eP* **P** **20 36 58.3 0.0**
BTNL Ternell 78.28 357 *dP* **P** **20 36 58.4 0.0**
comp=Z,5.5nm,0.6s
BSTI Sart Tilman 78.30 357 *dP* **P** **20 36 59.3 +0.9**
comp=Z,2.7nm,0.6s
PRU Pruhonice 78.36 352 *eP* **P** **20 36 59.6 +0.8**
PRU Pruhonice 78.36 352 *eP* **P** **20 36 59.6 +0.8**
KOLS Kolonicke sedl 78.47 346 *eP* **P** **20 36 59.8 +0.3**
KOLS pmax pmax
comp=Z,7.0nm,0.6s
KOLS Kolonicke sedl 78.47 346 *eP* **P** **20 36 59.8 +0.3**
BCLA Clavier 78.47 358 *dP* **P** **20 36 59.6 +0.2**
comp=Z,4.2nm,0.9s
KVAR Kislovodsk Arr 78.56 331 LR LR 21 16 27.9
comp=Z,233nm,20.1s,baz=256,slow=39
KIV Kislovodsk 78.56 331 *eP* **P** **20 37 00.8 +0.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,186nm,19.0s
BMRD Maredsous 78.61 358 *dP* **P** **20 37 00.9 +0.8**
comp=Z,7.1nm,0.7s
MAUC Maruska 78.63 349 *eP* **P** **20 37 00.9 +0.5**
LANS Liptovska Anna 78.64 348 *eP* **P** **20 37 02.1 +1.6**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 78.64 348 *eP* **P** **20 37 02.1 +1.6**
KBZ Khabaz 78.70 331 P **P** **20 37 00.7 -0.1**
comp=Z,3.6nm,0.8s,baz=36,slow=4.7,SNR=9.6
KBZ LR LR 21 16 49.1
comp=Z,317nm,19.9s,baz=14,slow=40
comp=Z,3.6nm,0.8s
RCHB Rochefort 78.74 358 *dP* **P** **20 37 01.6 +0.7**
DOU Dourbes 78.81 358 *dP* **P** **20 37 01.8 +0.6**
VRAC Vranov 78.83 350 LR LR 21 11 46.9
comp=Z,82nm,21.1s,baz=10.0,slow=36
ZVC Zvikov 78.94 352 *eP* **P** **20 37 02.0 0.0**
KRUC Moravsky 79.09 350 *eP* **P** **20 37 02.5 -0.3**
JAVC Velka Javorina 79.15 349 *eP* **P** **20 37 04.5 +1.2**
WLF Walferdange 79.20 357 *dP* **P** **20 37 03.6 +0.2**
comp=Z,5.8nm,0.9s
BURAR Bucovina Array 79.28 344 P **P** **20 37 03.3 -0.8**
BURAR Bucovina Array 79.28 344 ⇑P **P** **20 37 04.0 0.0**
BURAR Bucovina Array 79.28 344 ⇑P **P** **20 37 04.0 0.0**
KHC Kasperske Hory 79.30 352 *eP* **P** **20 37 04.4 +0.4**
KHC Kasperske Hory 79.30 352 ⇓ *eP* **P** **20 37 04.9 +0.9**
KHC pmax pmax
comp=Z,4.0nm,0.6s
CKRC Cesky Krumlov 79.54 352 *eP* **P** **20 37 06.0 +0.7**
CKRC Cesky Krumlov 79.54 352 *eP* **P** **20 37 06.0 +0.7**
GERES GERESS Array B 79.57 352 P **P** **20 37 05.1 -0.5**
comp=Z,2.5nm,0.6s,baz=26,slow=5.1,SNR=22
comp=Z,2.5nm,0.6s
MODS Modra-Piesok 79.67 349 *eP* **P** **20 37 07.6 +1.5**

MODS Modra-Piesok 79.67 349 *e*P **P 20 37 07.6 +1.5**
TESR Tescani 80.09 343 ⇑P **P 20 37 08.2 -0.1**
CONA Conrad Observa 80.27 350 *i* P **P 20 37 10.0 +0.6**
comp=Z,3.5nm,0.8s
RONA Rosalia, Austr 80.45 350 *i* P **P 20 37 11.0 +0.8**
comp=Z,1.8nm,0.6s
DRGR 80.49 346 ⇑P **P 20 37 10.3 -0.3**
DRGR 80.49 346 ⇑P **P 20 37 10.3 -0.3**
VRI Vrincioaia 80.70 343 ⇑P **P 20 37 11.8 +0.2**
VRI Vrincioaia 80.70 343 ⇑P **P 20 37 11.8 +0.2**
BIOA Bad Ischl, Aus 80.72 352 *i* P **P 20 37 13.3 +1.6**
comp=Z,2.6nm,0.5s
PLOR Plostina 80.72 343 ⇑P **P 20 37 12.5 +0.7**
PLOR Plostina 80.72 343 ⇑P **P 20 37 12.5 +0.7**
SPBR Spulber 80.80 343 ⇓P **P 20 37 12.7 +0.5**
COVR Voineasa-Covas 80.81 343 ⇑P **P 20 37 13.2 +1.0**
ARSA Arzberg 80.97 350 *i* P **P 20 37 14.4 +1.4**
comp=Z,2.2nm,0.7s
LESA Schwarzleotal 81.07 352 *e*P **P 20 37 14.6 +0.9**
comp=Z,2.8nm,0.6s,SNR=4.6
CFR Carcaliu 81.08 341 ⇑P **P 20 37 14.0 +0.4**
CFR Carcaliu 81.08 341 ⇑P **P 20 37 14.0 +0.4**
MLR Muntele Rosu 81.20 343 IAmb IAmb 20 37 34.2
comp=Z,18nm,1.4s
MLR Muntele Rosu 81.20 343 LR LR 21 18 31.2
comp=Z,185nm,18.4s,baz=33,slow=40
MLR Muntele Rosu 81.20 343 ⇑P **P 20 37 14.3 -0.1**
MLR Muntele Rosu 81.20 343 ⇑P **P 20 37 14.3 -0.1**
MLR Muntele Rosu 81.20 343 P **P 20 37 15.3 +0.9**
comp=Z,701nmcomp=Z,7.4nm,0.9s
WATA Walderalm 81.24 353 *i* P **P 20 37 15.0 +0.4**
comp=Z,3.3nm,0.5s
MOTA Moosalm 81.27 354 *i* P **P 20 37 15.5 +0.7**
comp=Z,6.0nm,1.0s
WTTA Wattenberg 81.31 353 *e*P **P 20 37 15.6 +0.5**
comp=Z,6.9nm,0.7s,SNR=6.4
GNI Garni 81.35 328 LR LR 21 17 36.8
comp=Z,201nm,20.9s,baz=30,slow=39
KBA Koelnbreinsper 81.35 352 *i* P **P 20 37 15.7 +0.4**
comp=Z,17nm,0.5s
SQTA Sankt Quirin 81.38 353 *e*P **P 20 37 15.9 +0.5**
comp=Z,5.5nm,0.6s,SNR=5.4
DAVA Damuels 81.40 354 *i* P **P 20 37 16.1 +0.5**
comp=Z,5.2nm,1.2s
VOIR 81.42 344 ⇑P **P 20 37 16.1 +0.6**
VOIR 81.42 344 ⇑P **P 20 37 16.1 +0.6**
VOIR 81.42 344 P **P 20 37 16.6 +1.1**
comp=Z,5.7nm,1.0s
ARR Arges 81.56 344 ⇑P **P 20 37 17.5 +1.2**
SOKA Soboth 81.59 351 *e*P **P 20 37 17.3 +0.8**
comp=Z,6.0nm,0.7s,SNR=10
SURR Surduc 81.59 346 ⇓P **P 20 37 16.0 -0.4**
FETA Feichten 81.61 354 *e*P **P 20 37 17.1 +0.5**
comp=Z,3.1nm,0.6s,SNR=5.5
ABTA Abfaltersbach 81.75 352 *i* P **P 20 37 18.2 +0.9**
comp=Z,5.1nm,1.1s
OBKA Obir 81.81 351 *i* P **P 20 37 18.1 +0.5**
comp=Z,7.5nm,0.8s
GZR Gura Zlata 81.84 345 ⇑P **P 20 37 17.4 -0.3**
GZR Gura Zlata 81.84 345 ⇑P **P 20 37 17.4 -0.3**
DAVOX Davos/Dischmat 81.91 354 LR LR 21 12 44.2
comp=Z,93nm,21.8s,baz=24,slow=35
PRED Cave del Predi 81.96 352 IAmb IAmb 20 37 19.9
comp=Z,8.7nm,0.7s
FUORN Ofenpass-Fuorn 82.04 354 IAmb IAmb 20 37 21.1
comp=Z,4.5nm,0.7s
TUE Stuetta 82.25 355 IAmb IAmb 20 37 23.4
comp=Z,5.1nm,0.7s
TUE Stuetta 82.25 355 P **P 20 37 21.2 +1.2**
comp=Z,28nm,0.7s
WRA Warramunga Arr 82.26 224 P **P 20 37 19.2 -0.8**
comp=Z,1.8nm,0.6s,baz=32,slow=5.9,SNR=11
comp=Z,1.8nm,0.6s
WRA Warramunga Arr 82.26 224 *i* P **P 20 37 19.6 -0.4**
WRA pmax pmax
comp=Z,2.0nm,0.6s
HERR Herculane 82.40 345 ⇓P **P 20 37 20.2 -0.3**
CTI Castel Tesino 82.52 353 P **P 20 37 20.2 -1.1**
CTI IAmb IAmb 20 37 23.7
comp=Z,4.9nm,0.7s
CTI Castel Tesino 82.52 353 P **P 20 37 20.2 -1.1**
CTI pmax pmax
comp=Z,5.0nm,0.7s
MDVR Moldovita 82.61 346 ⇓P **P 20 37 21.8 +0.1**
PSI Prapat 83.29 266 LR LR 21 16 35.6
comp=Z,24nm,19.3s,baz=338,slow=37
PSI Prapat 83.29 266 P **P 20 37 24.8 -1.0**
PSI pmax pmax
comp=Z,18nm,0.6s
RPSI Rantau Prapat 83.37 266 P **P 20 37 24.8 -1.2**
BOVS Bovan 83.73 346 ⇑P **P 20 37 27.3 -0.1**
BNI Bardonecchia 83.80 356 IAmb IAmb 20 37 32.0
comp=Z,5.8nm,0.8s
ZCCA Zocca 84.25 353 IAmb IAmb 20 37 36.7
comp=Z,17nm,1.1s
BR106 Keskin Array S 85.01 336 P **P 20 37 34.1 -0.1**
comp=Z,47nmcomp=Z,6.0nm,0.8s
BR131 Keskin Array S 85.02 336 IAmb IAmb 20 37 35.6
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 85.02 336 *d i*P **P 20 37 34.1 -0.1**
BRTR Keskin Array B 85.02 336 P **P 20 37 32.9 -1.4**
BRTR Keskin Array B 85.02 336 P **P 20 37 33.7 -0.5**
comp=Z,4.3nm,0.7s,baz=43,slow=2.2,SNR=34
BRTR LR LR 21 21 05.3
comp=Z,91nm,19.1s,baz=348,slow=40
comp=Z,4.3nm,0.7s
BRTR Keskin Array B 85.02 336 *ce*P **P 20 37 34.2 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BNN Bunyan 85.25 334 P **P 20 37 34.8 -0.6**
GSI Gunungsitoli 85.30 266 IAmb IAmb 20 37 36.9
comp=Z,12nm,0.6s
FDMO Fiordimonte 85.39 352 IAmb IAmb 20 37 37.9
comp=Z,8.4nm,0.8s
NRCA Norcia 85.58 352 IAmb IAmb 20 37 38.9
comp=Z,12nm,0.8s
ARMA Armidale 85.69 206 P **P 20 37 37.8 +0.5**
ARMA IAmb IAmb 20 37 41.0
comp=Z,18nm,1.6s
ASAR Alice Springs 85.73 223 P **P 20 37 37.4 -0.2**
comp=Z,3.7nm,0.6s,baz=25,slow=5.7,SNR=55
ASAR LR LR 21 10 30.2
comp=Z,61nm,20.0s,baz=44,slow=32
comp=Z,3.7nm,0.6s
CESX Cesi 85.85 352 IAmb IAmb 20 37 40.0
comp=Z,9.2nm,0.7s
SJG San Juan 89.07 62 LR LR 21 20 39.8
comp=Z,76nm,19.3s,baz=41,slow=37
ESDC Sonseca Array 89.13 4 P **P 20 37 52.7 -1.3**
ESDC Sonseca Array 89.13 4 P **P 20 37 53.2 -0.8**
comp=Z,1.5nm,0.7s,baz=347,slow=4.0,SNR=16
comp=Z,1.5nm,0.7s
STKA Stephens Creek 90.13 213 P **P 20 37 59.2 +0.7**
comp=Z,4.9nm,0.6s,baz=354,slow=5.4,SNR=19
comp=Z,4.9nm,0.6s
MMAI Mount Meron Ar 90.83 332 P **P 20 38 01.9 -0.1**
comp=Z,1.3nm,0.7s,baz=356,slow=6.7,SNR=4.3
MMAI LR LR 21 24 15.4
comp=Z,79nm,18.1s,baz=6.0,slow=39
comp=Z,1.3nm,0.7s
ASF Jabal al Asfar 91.17 331 LR LR 21 25 56.6
comp=Z,189nm,18.6s,baz=360,slow=40
IDI Anoyia 91.27 341 LR LR 21 25 11.3
comp=Z,93nm,18.3s,baz=310,slow=40
EIL Elat 94.09 331 LR LR 21 26 29.7
comp=Z,102nm,19.0s,baz=65,slow=39
RPZ Rata Peaks 95.22 188 LR LR 21 13 59.0
comp=Z,174nm,19.8s,baz=10,slow=31
RAYN Ar Rayn 96.03 320 P **P 20 38 24.3 -1.8**
RAYN IAmb IAmb 20 38 26.7
comp=Z,3.1nm,0.8s
RAYN Ar Rayn 96.03 320 P **P 20 38 24.3 -1.8**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
PCRV Puerto La Cruz 96.36 65 LR LR 21 23 54.9
comp=Z,53nm,18.8s,slow=37
TORD Torodi Ar. Bea 115.69 360 PKP **PKiKP 20 43 40.1 -0.9**
comp=Z,1.5nm,0.4s,baz=4.4,slow=2.5,SNR=3.1
H03N2 Juan Fernandez 120.88 106 T T 22 55 45.9
SNR=143
H03N1 Juan Fernandez 120.89 106 T T 22 55 47.2
baz=319,slow=74,SNR=179
H03N3 Juan Fernandez 120.89 106 T T 22 56 18.1
baz=70,slow=74,SNR=164
DBIC Dimbokro 121.85 8 PKP **PKPdf 20 43 52.5 -0.3**
comp=Z,3.9nm,0.5s,baz=15,slow=2.5,SNR=9.9
PLCA Paso Flores 130.71 107 PKP **PKiKP 20 44 09.9 +0.1**
comp=Z,1.3nm,1.0s,baz=258,slow=4.8,SNR=3.4
QSPA South Pole Qui 141.19 180 PKhKP PKPpre 20 44 23.1
comp=Z,1.4nm,0.6s,baz=306,slow=1.0,SNR=16
LPHEP Lephephe 146.33 317 *i* P **PKPab 20 44 39.8 -0.3**
GRTLG Ghanzi 146.33 326 *i* P **PKPab 20 44 39.9 -0.3**
KDWAN Kaudwane 146.85 319 *i* P **PKPbc 20 44 41.3 +0.5**
KGCAE Kacgae 147.34 323 *i* P **PKPbc 20 44 42.7 +0.6**
KOOLE Kule 148.19 326 *i* P **PKPbc 20 44 45.0 +0.6**
LKGWB Lokgwabe 148.85 324 *i* P **PKPbc 20 44 46.1 0.0**
MAKGR Makgori 148.93 317 *i* P **PKPbc 20 44 46.8 +0.5**
PHPEN Phepeng 149.45 320 *i* P **PKiKP 20 44 48.3 -0.4**
BOSA Boshof 151.15 313 PKPbc **PKiKP 20 44 51.9 -0.2**
comp=Z,20nm,0.6s,baz=28,slow=2.4,SNR=49

IDC 22 20:44:40.6±2.2, 2°.31N×126°.75E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=270.1km s-min=20.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**162**	P	P	20 49 49.5	-1.2
	1.0nm,0.9s,baz=336,slow=9.7,SNR=6.3						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**26.74**	**165**	P	P	20 50 22.9	+0.7
	0.4nm,0.7s,baz=346,slow=9.9,SNR=5.2						
	0.4nm,0.7s						
STKA	**Stephens Creek**	**36.81**	**159**	P	P	20 51 49.9	-0.5
	1.2nm,0.6s,baz=339,slow=10,SNR=4.4						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**58.73**	**326**	P	P	20 54 41.4	+1.0
	0.2nm,0.5s,baz=113,slow=7.2,SNR=4.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.94**	**328**	P	P	20 55 08.5	-0.4
	0.2nm,0.5s,baz=129,slow=6.1,SNR=4.2						
	0.2nm,0.5s						

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*NEIC **22** 20:50:06.4±1.5, 7°.57N±0°.06×94°.21E±0°.09, h10km±1km, mb4.2/20, Error ellipse: s-maj=18.8km s-min=3.0km az=236.0*
*IDC **22** 20:50:42.2±10.0, 9°.92N×94°.01E, h162km±80km, mb3.5/8, mbtmp3.9/9, MS2.6/1, Error ellipse: s-maj=104.9km s-min=76.1km az=143.0*
ISC 22 20:50:07.9±0.6, 7°.55N±0°.07×94°.27E±0°.06, h24km, n36, σ1§00/35, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.64**	**212**	*e*P	**Pn**	**20 50 21.6**	**+0.2**
CMBY				*e*S	**Sn**	**20 50 31.1**	**+0.4**
CMBY				IAML		20 50 36.3	
	comp=E,11μm,0.5s						
CMBY				IAML		20 50 38.2	
	comp=N,6μm,0.4s						
LHMI	**Lhok Sumawe**	**3.52**	**131**	Pn	**Pn**	**20 51 00.7**	**-0.5**
LHMI				Sn	**Sn**	**20 51 43.9**	**+1.8**
PBA	**Port Blair**	**4.35**	**340**	Pn	**Pn**	**20 51 11.2**	**-1.3**
SRIT	**Nakonsritamara**	**5.38**	**79**	Pn	**Pn**	**20 51 28.3**	**+1.5**
KULM	**Kulim**	**6.73**	**109**		**Pn**	**20 51 45.2**	**0.0**
KULM				Sn	**Sn**	**20 52 58.4**	**-2.7**
CMAR	**Chiang Mai Arr**	**11.76**	**22**	P	Pn	20 52 58.7	+4.5
	comp=N,0.6nm,0.4s,baz=213,slow=16,SNR=4.2						
CMAR				LR	LR	20 57 19.6	
	comp=N,37nm,19.2s,baz=45,slow=41						
SHL	**Shillong**	**18.06**	**353**	P	**Pn**	**20 54 16.4**	**-1.1**
ENH	**Enshi**	**26.73**	**30**	P	**P**	**20 55 45.4**	**-0.3**
ENH				IAmb	IAmb	20 56 07.4	
	comp=Z,5.3nm,1.0s						
WUS	**Wushi**	**36.09**	**341**	P	**P**	**20 57 07.2**	**-0.8**
WUS				IAmb	IAmb	20 57 16.7	
	comp=Z,2.8nm,0.8s						
DRK	**Karamyk**	**37.65**	**331**	P	**P**	**20 57 21.0**	**-0.5**
SIMJ	**Simiganj**	**38.45**	**327**	P	**P**	**20 57 27.5**	**-0.5**
BTK	**Batken**	**38.58**	**331**	P	**P**	**20 57 29.1**	**+0.1**
BTK				IAmb	IAmb	20 57 40.4	
	comp=Z,3.9nm,0.9s						
ARSB	**Arslanbob**	**38.59**	**334**	P	**P**	**20 57 29.7**	**+0.5**
ARSB				IAmb	IAmb	20 57 39.8	
	comp=Z,5.7nm,1.1s						
MK31	**Makanchi Array**	**40.43**	**347**	P	**P**	**20 57 44.1**	**-0.2**
MKAR	**Makanchi Array**	**40.43**	**347**	P	**P**	**20 57 44.4**	**+0.1**
MKAR	**Makanchi Array**	**40.43**	**347**	P	**P**	**20 57 45.4**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=170,slow=8.3,SNR=19						
	comp=Z,1.6nm,0.8s						
KK31	**Karatay Array**	**41.11**	**333**	P	**P**	**20 57 49.5**	**-0.5**
KKAR	**Karatay Array**	**41.11**	**333**	P	**P**	**20 57 50.0**	**0.0**
SONM	**Songino Array**	**41.45**	**12**	P	**P**	**20 57 54.5**	**+1.7**
	comp=Z,0.6nm,1.0s,baz=206,slow=7.6,SNR=3.9						
	comp=Z,0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**44.89**	**346**	P	**P**	**20 58 21.9**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=164,slow=7.1,SNR=19						
	comp=Z,1.7nm,0.8s						
ZAA0	**Zalesovo Array**	**46.89**	**352**	P	**P**	**20 58 36.7**	**+0.5**
ZALV	**Zalesovo Beam**	**46.89**	**352**	P	**P**	**20 58 36.4**	**+0.3**
ZALV	**Zalesovo Beam**	**46.89**	**352**	P	**P**	**20 58 36.8**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=168,slow=7.6,SNR=8.8						
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**49.34**	**341**	P	**P**	**20 58 56.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=146,slow=8.4,SNR=4.2						
	comp=Z,0.7nm,0.7s						
RAYN	**Ar Rayn**	**49.34**	**294**	P	**P**	**20 58 57.3**	**+1.7**
RAYN				IAmb	IAmb	20 59 06.1	
	comp=Z,2.6nm,0.8s						
BRVK	**Borovoye**	**49.40**	**341**	P	**P**	**20 58 56.4**	**+0.9**
BRVK				IAmb	IAmb	20 59 00.4	
	comp=Z,3.2nm,1.2s						
AB31	**Akbulak array**	**50.58**	**331**	P	**P**	**20 59 04.3**	**-0.3**
AB31				IAmb	IAmb	20 59 16.6	
	comp=Z,2.6nm,1.1s						
ABKAR	**Akbulak array**	**50.58**	**331**	P	**P**	**20 59 04.2**	**-0.4**
ABKAR				IAmb	IAmb	20 59 16.6	
	comp=Z,2.6nm,1.1s						
JKA	**Kamikawa-asahi**	**55.58**	**41**	P	**P**	**20 59 41.1**	**-0.4**
TIXI	**Tiksi**	**67.52**	**11**	P	**P**	**21 01 02.1**	**+0.4**
TIXI				IAmb	IAmb	21 01 12.6	
	comp=Z,1.9nm,0.8s						
TAU	**Tasmania Unive**	**69.56**	**141**	P	**P**	**21 01 14.7**	**-0.2**
ITM	**Ithomi**	**71.41**	**307**	P	**P**	**21 01 25.1**	**-1.3**
FINES	**FINESS Array B**	**73.06**	**332**	P	**P**	**21 01 35.1**	**-0.6**
FINES	**FINESS Array B**	**73.06**	**332**	P	P	21 01 41.2	+5.4
	comp=Z,2.4nm,0.9s,baz=108,slow=7.5,SNR=2.2						
	comp=Z,2.4nm,0.9s						
GERES	**GERESS Array B**	**78.15**	**318**	P	P	21 02 12.8	+7.4
	comp=Z,0.8nm,0.8s,baz=96,slow=5.5,SNR=4.1						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**78.80**	**330**	P	P	21 02 15.3	+6.7
	comp=Z,1.3nm,0.6s,baz=75,slow=6.1,SNR=1.5						
	comp=Z,1.3nm,0.6s						

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*IDC **22** 21:23:48.4±0.5, 16°.74S×173°.46W, h0km, mb4.6/13, mbtmp4.6/15, ML4.0/2, MS3.7/47, Error ellipse: s-maj=23.4km s-min=14.5km az=129.0*
*NEIC **22** 21:23:51.4±1.3, 16°.78S±0°.06×173°.02W±0°.08, h10km±1km, mb5.0/193, Error ellipse: s-maj=12.5km s-min=9.8km az=256.0*
*MOS **22** 21:23:53.6±1.3, 16°.25S×172°.97W, h21km, mb5.1/17, Error ellipse: s-maj=15.3km s-min=10.1km az=50.5*
*NOU **22** 21:23:58.0, 16°.71S×172°.71W, h78km, mb5.1/16, Samoa Islands Region*
*GCMT **22** 21:24:01.4±0.2, 16°.88S±0°.02×173°.12W±0°.02, h84km±2km, MW5.0/100, Moment Tensor Solution. s56,c65; s100,c138; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.71±.11; $M_{\theta\theta}$3.44±.10; $M_{\phi\phi}$-1.73±.12; $M_{r\theta}$-0.06±.09; $M_{\theta\phi}$-0.69±.11; $M_{\phi r}$1.85±.06; Best double couple: $M_0$3.57500×10^16^ NP1:ϕ_s242.00000°, δ57.00000°, λ-148.00000°. NP2:ϕ_s133.00000°, δ63.00000°, λ-37.00000°. Principal axes: T 3.5520, Plg4.0000°, Azm189.0000°; N 0.0470, Plg46.0000°, Azm283.0000°; P -3.5990, Plg44.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 21:23:54.5±0.3, 16°.90S±0°.04×173°.11W±0°.05, h41km, n444, σ1§54/401, mb5.0/116, MS3.8/45, 20C-20D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.24**	**24**		**Pn**	**21 24 42.6**	**-0.4**
AFI				Sn	**Sn**	**21 25 17.2**	**-3.2**
AFI	**Afiamalu**	**3.24**	**24**	P	**Pn**	**21 24 42.8**	**-0.1**
AFI	**Afiamalu**	**3.24**	**24**	S	**Sn**	**21 25 17.6**	**-2.8**
AFI	**Afiamalu**	**3.24**	**24**	P	**Pn**	**21 24 42.9**	**-0.1**
NIUE	**Niue**	**3.72**	**126**		**Pn**	**21 24 52.2**	**+2.7**
NIUE				Sn	**Sn**	**21 25 32.0**	**-0.1**
NIUE	**Niue**	**3.72**	**126**	P	**Pn**	**21 24 52.6**	**+3.1**
NIUE	**Niue**	**3.72**	**126**	S	**Sn**	**21 25 32.0**	**-0.1**
NIUE	**Niue**	**3.72**	**126**	P	**Pn**	**21 24 52.7**	**+3.2**
NIUE				S	**Sn**	**21 25 31.9**	**-0.3**
FUTU	**Fugatoga**	**5.47**	**297**		**Pn**	**21 25 16.8**	**+3.2**
MSVF	**Nonsavu**	**8.48**	**263**	Pn	Pn	21 26 01.1	+6.2
MSVF	**Nonsavu**	**8.48**	**263**	Pn	Pn	21 26 01.6	+6.6
	0.8nm,0.3s,baz=98,slow=13,SNR=15						
MSVF				LR	LR	21 28 01.3	
	comp=Z,158nm,21.8s,baz=99,slow=31						
MSVF	**Nonsavu**	**8.48**	**263**	P	Pn	21 26 02.1	+7.2
MSVF	**Nonsavu**	**8.48**	**263**	P	Pn	21 26 01.1	+6.2
GLKZ	**Green Lake**	**13.07**	**199**	P	**Pn**	**21 26 55.8**	**-1.8**
GLKZ				S	Sn	21 29 11.6	-10
RAR	**Rarotonga**	**13.32**	**111**	Pn	**Pn**	**21 27 01.6**	**+0.6**
RAR	**Rarotonga**	**13.32**	**111**	Pn	**Pn**	**21 27 03.8**	**+2.8**
	14nm,0.3s,baz=260,slow=6.9,SNR=22						
RAR				Sn	**Sn**	**21 29 21.5**	**-6.3**
	1.5nm,0.3s,baz=58,slow=23,SNR=1.4						
RAR				LR	LR	21 30 54.1	
	comp=Z,315nm,21.4s,baz=282,slow=31						
	79nm,0.6s						
RAR	**Rarotonga**	**13.32**	**111**	S	**Sn**	**21 29 24.1**	**-3.8**
RAR	**Rarotonga**	**13.32**	**111**	P	**Pn**	**21 26 59.7**	**-1.4**
RAR	**Rarotonga**	**13.32**	**111**	P	**Pn**	**21 27 03.2**	**+2.1**
DZM	**Mont Dzumac**	**19.94**	**252**	P	**P**	**21 28 22.1**	**-1.1**
DZM	**Mont Dzumac**	**19.94**	**252**	P	**P**	**21 28 20.7**	**-2.6**
	0.2nm,0.3s,baz=99,slow=18,SNR=3.9						
	4.8nm,0.7s						
GRZ	**Great Barrier**	**21.78**	**206**	P	**P**	**21 28 44.6**	**+1.8**
MXZ	**Matakaoa Point**	**21.93**	**199**	P	**P**	**21 28 45.7**	**+1.3**
MXZ	**Matakaoa Point**	**21.93**	**199**	P	**P**	**21 28 48.9**	**+4.5**
MXZ	**Matakaoa Point**	**21.93**	**199**	P	**P**	**21 28 45.5**	**+1.1**
WCZ	**Waipu Caves**	**22.00**	**208**	P	**P**	**21 28 46.8**	**+1.6**
HAZ	**Te Kaha**	**22.27**	**199**	P	**P**	**21 28 50.2**	**+2.2**
HAZ				S	**S**	**21 32 42.3**	**-8.3**
PUZ	**Puketiti**	**22.41**	**198**	P	**P**	**21 28 50.9**	**+1.3**
PUZ				S	**S**	**21 32 43.3**	**-10**
PPT	**Papeete**	**22.49**	**95**	LR	LR	21 35 23.0	
	comp=Z,80nm,19.5s,baz=262,slow=30						
MWZ	**Matawai**	**22.88**	**199**	P	**P**	**21 28 57.5**	**+2.9**
URZ	**Urewera**	**22.94**	**200**	P	**P**	**21 28 55.3**	**+0.1**
	53nm,0.5s,baz=133,slow=2.1,SNR=57						
URZ				S	**S**	**21 32 55.9**	**-6.5**
	8.2nm,0.5s,baz=172,slow=23,SNR=8.1						
	53nm,0.5s						
URZ	**Urewera**	**22.94**	**200**	P	**P**	**21 28 56.0**	**+0.8**
URZ	**Urewera**	**22.94**	**200**	S	**S**	**21 33 00.6**	**-1.8**
TOZ	**Tahuroa Road**	**23.05**	**204**	P	**P**	**21 28 58.6**	**+2.4**
RTZ	**Ruatahuna**	**23.31**	**200**	P	**P**	**21 29 00.5**	**+1.6**
RTZ				IAmb	IAmb	21 29 02.5	
	comp=Z,42nm,0.7s						
RTZ	**Ruatahuna**	**23.31**	**200**	P	**P**	**21 28 59.2**	**+0.3**
RTZ				S	**S**	**21 33 02.6**	**-6.1**
KNZ	**Kokohu**	**23.46**	**198**	P	**P**	**21 29 03.6**	**+3.3**
BKZ	**Black Stump Fm**	**23.97**	**200**	P	**P**	**21 29 06.0**	**+0.9**
BKZ	**Black Stump Fm**	**23.97**	**200**	P	**P**	**21 29 06.0**	**+0.9**
BKZ	**Black Stump Fm**	**23.97**	**200**	S	**S**	**21 33 21.1**	**+1.9**
BKZ	**Black Stump Fm**	**23.97**	**200**	P	**P**	**21 29 06.1**	**+1.0**
HIZ	**Hauiti**	**23.98**	**204**	P	**P**	**21 29 06.7**	**+1.6**
HIZ	**Hauiti**	**23.98**	**204**	P	**P**	**21 29 07.8**	**+2.7**
HIZ	**Hauiti**	**23.98**	**204**	P	**P**	**21 29 07.6**	**+2.4**
NGZ	**Ngauruhoe**	**24.28**	**202**	P	**P**	**21 29 10.1**	**+2.0**
PXZ	**Pawanui**	**24.64**	**199**	P	**P**	**21 29 14.6**	**+3.5**
PXZ				S	**S**	**21 33 34.7**	**+4.9**
BFZ	**Birch Farm**	**25.42**	**199**	P	**P**	**21 29 19.3**	**+1.0**
BFZ				IAmb	IAmb	21 29 57.1	
	comp=Z,79nm,1.6s						
BFZ	**Birch Farm**	**25.42**	**199**	P	**P**	**21 29 20.0**	**+1.7**
BFZ	**Birch Farm**	**25.42**	**199**	S	**S**	**21 33 44.5**	**+2.1**
BFZ	**Birch Farm**	**25.42**	**199**	P	**P**	**21 29 17.4**	**-0.9**
BFZ				S	**S**	**21 33 48.1**	**+5.7**
MRZ	**Mangatainoka R**	**25.62**	**200**	P	**P**	**21 29 20.9**	**+0.8**
MSWZ	**Moikau Station**	**26.41**	**200**	P	**P**	**21 29 28.7**	**+1.4**
BHW	**Baring Head**	**26.52**	**201**	P	**P**	**21 29 29.6**	**+1.3**
PLWZ	**Palliser**	**26.54**	**200**	P	**P**	**21 29 30.4**	**+2.0**
TCW	**Tory Channel**	**26.55**	**202**	P	**P**	**21 29 29.9**	**+1.4**
TUWZ	**Tuamarina**	**26.86**	**202**	P	**P**	**21 29 33.0**	**+1.7**
QRZ	**Quartz Range**	**26.88**	**205**	P	**P**	**21 29 34.0**	**+2.5**
QRZ	**Quartz Range**	**26.88**	**205**	P	**P**	**21 29 33.3**	**+1.9**
QRZ	**Quartz Range**	**26.88**	**205**	P	**P**	**21 29 32.9**	**+1.5**
NNZ	**Nelson**	**26.89**	**203**	P	**P**	**21 29 33.0**	**+1.5**
NNZ	**Nelson**	**26.89**	**203**	P	**P**	**21 29 32.8**	**+1.3**
TKNZ	**Takaka Hill**	**26.89**	**204**	P	**P**	**21 29 32.8**	**+1.2**
BSWZ	**Blackbirch Sta**	**27.14**	**202**	P	**P**	**21 29 37.2**	**+3.4**
HNR	**Honiara**	**27.24**	**282**	LR	LR	21 38 49.2	
	comp=Z,318nm,20.2s,baz=167,slow=34						
MRNZ	**Matariki Terra**	**27.28**	**204**	P	**P**	**21 29 37.0**	**+1.9**
MRNZ	**Matariki Terra**	**27.28**	**204**	P	**P**	**21 29 37.3**	**+2.3**
THZ	**Tophouse**	**27.54**	**203**	P	**P**	**21 29 37.7**	**+0.3**
THZ	**Tophouse**	**27.54**	**203**	P	**P**	**21 29 38.5**	**+1.1**
KHZ	**Kahutara**	**27.88**	**201**	P	**P**	**21 29 43.7**	**+3.3**
KHZ				IAmb	IAmb	21 29 46.0	
	comp=Z,19nm,0.9s						
DSZ	**Denniston Nort**	**27.95**	**205**	P	**P**	**21 29 42.2**	**+1.2**
DSZ				IAmb	IAmb	21 29 47.2	
	comp=Z,34nm,0.8s						
DSZ	**Denniston Nort**	**27.95**	**205**	P	**P**	**21 29 42.3**	**+1.2**
GVZ	**Greta Valley S**	**28.54**	**202**	P	**P**	**21 29 48.6**	**+2.3**
GVZ	**Greta Valley S**	**28.54**	**202**	P	P	21 29 52.4	+6.1
LTZ	**Lake Taylor**	**28.65**	**203**	P	**P**	**21 29 49.3**	**+1.9**
LTZ	**Lake Taylor**	**28.65**	**203**	P	**P**	**21 29 49.4**	**+2.1**
AMCZ	**Amberley**	**28.86**	**202**	P	**P**	**21 29 51.9**	**+2.8**
INZ	**Inchbonnie**	**28.92**	**204**		**P**	**21 29 50.6**	**+0.9**
INZ	**Inchbonnie**	**28.92**	**204**	P	**P**	**21 29 50.3**	**+0.6**
OKCZ	**Okains Bay**	**29.19**	**201**	P	P	21 30 00.2	+8.0
OXZ	**Oxford**	**29.21**	**203**	P	**P**	**21 29 54.4**	**+2.2**
OXZ	**Oxford**	**29.21**	**203**	P	**P**	**21 29 54.2**	**+2.0**
MQZ	**McQueen's Vall**	**29.32**	**201**	P	P	21 30 00.7	+7.5
WVZ	**Waitaha Valley**	**29.49**	**204**	P	**P**	**21 29 59.4**	**+4.7**
RPZ	**Rata Peaks**	**29.91**	**203**	P	**P**	**21 30 00.3**	**+1.8**
RPZ	**Rata Pea

STKA pmax pmax
comp=Z,74nm,1.0s
JAY Jayapura 47.56 282 LR LR 21 50 45.8
comp=Z,62nm,21.4s,baz=350,slow=34
BBOO Buckleboo 48.31 241 P **P** **21 32 30.4 -1.7**
BBOO IAmb IAmb 21 32 33.7
comp=Z,41nm,1.7s
WRA Warramunga Arr 49.79 258 P **P** **21 32 39.7 -3.8**
comp=Z,3.2nm,0.9s,baz=102,slow=7.8,SNR=18
WRA LR LR 21 52 51.3
comp=Z,73nm,19.3s,baz=76,slow=35
comp=Z,3.2nm,0.9s
AS31 Alice Springs 49.92 253 P **P** **21 32 41.7 -2.9**
ASAR Alice Springs 49.92 253 P **P** **21 32 41.9 -2.7**
ASAR Alice Springs 49.92 253 P **P** **21 32 41.6 -3.0**
comp=Z,32nm,0.7s,baz=87,slow=8.7,SNR=271
ASAR LR LR 21 53 16.3
comp=Z,109nm,18.0s,baz=96,slow=36
comp=Z,32nm,0.7s
ASAR Alice Springs 49.92 253 P **P** **21 32 41.9 -2.7**
GUMO Guam 51.38 304 LR LR 21 51 15.7
comp=Z,38nm,21.8s,baz=110,slow=32
FITZ Fitzroy Crossi 58.18 259 LR LR 21 56 31.6
comp=Z,66nm,21.7s,baz=108,slow=34
SOEI Soe 61.14 268 P **P** **21 34 05.2 -0.2**
JCJ Chichijima 61.59 315 LR LR 21 55 32.4
comp=Z,69nm,19.3s,baz=142,slow=31
VNDA Vanda 61.92 186 P **P** **21 34 10.1 +0.6**
comp=Z,1.7nm,0.9s,baz=354,slow=6.6,SNR=5.9
VNDA LR LR 22 01 04.4
comp=Z,15nm,18.3s,baz=332,slow=36
comp=Z,1.7nm,0.9s
NWAO Narrogin (SRO) 64.13 241 LR LR 22 00 32.4
comp=Z,57nm,19.2s,baz=244,slow=34
KAPI Kappang 66.69 272 LR LR 22 01 53.5
comp=Z,24nm,20.0s,baz=106,slow=34
JHJ Hachijo jima 2 67.06 318 LR LR 22 03 44.7
comp=Z,12nm,18.4s,baz=36,slow=36
SHEM Shemya Is, Ala 70.22 352 LR LR 21 58 52.4
comp=Z,69nm,21.0s,baz=129,slow=30
MJAR Matsushiro Arr 70.26 320 LR LR 21 59 34.4
comp=Z,62nm,21.5s,baz=120,slow=31
JOW Kunigami 71.59 306 LR LR 22 03 23.2
comp=Z,42nm,18.8s,baz=106,slow=33
ASAJ Asahikawa 72.95 328 LR LR 22 00 43.5
comp=Z,33nm,21.6s,baz=152,slow=30
JNU Nakatsue 73.02 313 LR LR 22 00 23.1
comp=Z,54nm,20.2s,baz=102,slow=30
QSPA South Pole Qui 73.15 180 P **P** **21 35 22.0 +1.2**
comp=Z,2.4nm,0.8s,baz=144,slow=1.4,SNR=14
QSPA LR LR 22 02 59.6
comp=Z,33nm,21.1s,baz=6.5,slow=32
comp=Z,2.4nm,0.8s
LPIG La Paz 73.59 58 LR LR 21 58 38.2
comp=Z,82nm,21.2s,baz=262,slow=28
CMB Columbia Colle 73.71 41 P **P** **21 35 24.5 +0.2**
CMB Columbia Colle 73.71 41 P **P** **21 35 24.5 +0.2**
CMB pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flats O 73.74 47 LR LR 21 59 27.4
comp=Z,98nm,20.2s,baz=233,slow=29
PFO Pinyon Flats O 73.74 47 P **P** **21 35 24.9 +0.2**
PET Petropavlovsk 73.79 343 P **P** **21 35 22.8 -1.5**
PET Petropavlovsk 73.79 343 P **P** **21 35 22.8 -1.5**
comp=Z,56nm,1.9s
PETK Petropavlovsk- 74.14 342 P **P** **21 35 25.3 -1.1**
comp=Z,5.5nm,0.9s,baz=126,slow=7.7,SNR=3.8
comp=Z,5.5nm,0.9s
GSC Goldstone, Bar 74.44 45 P **P** **21 35 29.1 +0.4**
GSC Goldstone, Bar 74.44 45 P **P** **21 35 29.1 +0.4**
GSC pmax pmax
comp=Z,12nm,1.3s
WAKR Walker 74.59 41 P **P** **21 35 30.2 +0.6**
WAKR IAmb IAmb 21 35 32.1
comp=Z,25nm,1.5s
YBH Yreka Blue Hor 74.63 37 P **P** **21 35 30.1 +0.5**
YBH IAmb IAmb 21 35 32.2
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 74.63 37 LR LR 22 00 32.7
comp=Z,120nm,20.2s,baz=244,slow=30
YBH Yreka Blue Hor 74.63 37 P **P** **21 35 30.1 +0.5**
YBH pmax pmax
comp=Z,19nm,1.2s
HATC Hat Creek Radi 74.77 38 P **P** **21 35 28.5 -2.0**
PIX Pinacate 74.79 50 P **P** **21 35 31.4 +0.7**
PIX IAmb IAmb 21 35 33.3
comp=Z,14nm,1.1s
PNTR Pine Nut 74.84 40 P **P** **21 35 31.2 +0.1**
PNTR IAmb IAmb 21 35 34.1
comp=Z,20nm,1.1s
DSP Deep Springs 74.85 43 P **P** **21 35 30.1 -0.8**
DSP IAmb IAmb 21 35 33.6
comp=Z,24nm,1.4s
LHV Little Huntoon 75.03 42 P **P** **21 35 32.9 +1.0**
LHV IAmb IAmb 21 35 34.6
comp=Z,24nm,1.4s
GRAC Grapevine Rang 75.03 43 P **P** **21 35 33.2 +1.2**
GRAC IAmb IAmb 21 35 34.8
comp=Z,17nm,1.1s
GWY Greenwater Val 75.03 44 P **P** **21 35 32.0 -0.3**
GWY IAmb IAmb 21 35 34.1
comp=Z,22nm,1.5s
L04D Klamath Falls 75.17 37 P **P** **21 35 33.1 +0.3**
BLYC Blythe 75.17 47 P **P** **21 35 33.0 +0.2**
113A Mohawk Valley, 75.19 49 P **P** **21 35 33.5 +0.5**
DBO Dodson Butte 75.23 35 P **P** **21 35 33.9 +0.9**
RYN Ryan 75.24 41 P **P** **21 35 33.4 +0.1**
RYN IAmb IAmb 21 35 35.6
comp=Z,17nm,1.3s
NVAR Mina Array Bea 75.26 42 P **P** **21 35 34.4 +0.8**
comp=Z,12nm,1.1s,baz=228,slow=9.1,SNR=30
NVAR LR LR 22 00 47.0
comp=Z,100nm,20.2s,baz=186,slow=29
comp=Z,12nm,1.1s
GMN Gold Mountain 75.28 43 P **P** **21 35 33.2 -0.5**
PAHR Pah Rah Range 75.34 40 P **P** **21 35 34.0 +0.1**
PAHR IAmb IAmb 21 35 36.2
comp=Z,18nm,1.2s
WCT Wildcat Mounta 75.41 44 P **P** **21 35 34.5 +0.3**
TPNV Topopah Spring 75.74 44 P **P** **21 35 36.5 +0.2**
TPNV IAmb IAmb 21 35 38.6
comp=Z,21nm,1.5s
TPNV Topopah Spring 75.74 44 P **P** **21 35 36.5 +0.2**
TPNV pmax pmax
comp=Z,21nm,1.5s
J04A Umpqua Nationa 75.94 36 P **P** **21 35 37.2 -0.1**
V12A Nelson 76.01 45 P **P** **21 35 37.2 -0.5**
V12A IAmb IAmb 21 35 40.2
comp=Z,36nm,2.0s
SHPR Sheep Range 76.22 45 P **P** **21 35 38.8 -0.3**
KDAK Kodiak Island 76.33 11 LR LR 22 01 46.9
comp=Z,108nm,19.3s,baz=18,slow=30
W13A Hualapai Mount 76.34 46 P **P** **21 35 40.2 +0.5**
J05D Fort Rock, OR 76.46 36 P **P** **21 35 40.6 +0.4**
J05D IAmb IAmb 21 35 42.5
comp=Z,21nm,1.1s
S11A Rachel 76.46 43 P **P** **21 35 40.1 -0.2**
S11A IAmb IAmb 21 35 41.5
comp=Z,14nm,1.1s
PRN Pahroc Range 76.79 44 P **P** **21 35 42.0 -0.2**
PRN IAmb IAmb 21 35 45.0
comp=Z,24nm,1.3s
PINE Pine Mountain 76.94 36 P **P** **21 35 42.3 -0.7**
R11B Troy Canyon, C 76.96 43 P **P** **21 35 43.3 +0.1**
TUC Tucson 77.13 50 P **P** **21 35 44.8 +0.7**
TUC IAmb IAmb 21 35 46.9
comp=Z,12nm,1.1s
TUC Tucson 77.13 50 P **P** **21 35 44.8 +0.7**
TUC pmax pmax
comp=Z,12nm,1.1s
KSRS Korea Array 77.42 316 LR LR 22 04 52.9
comp=Z,18nm,20.4s,baz=10.0,slow=32
WVOR Wild Horse Val 77.44 38 P **P** **21 35 45.7 0.0**
WVOR IAmb IAmb 21 35 47.9
comp=Z,12nm,1.1s
WVOR Wild Horse Val 77.44 38 P **P** **21 35 45.7 0.0**
WVOR pmax pmax
comp=Z,13nm,1.1s
X16A Lo Mia Camp, P 77.70 48 P **P** **21 35 47.8 +0.3**
LCMT Little Creek M 77.79 45 P **P** **21 35 47.3 -0.5**
I07A Izee 77.94 36 P **P** **21 35 48.9 +0.5**
I07A IAmb IAmb 21 35 50.6
comp=Z,12nm,1.1s
KNB Kanab 78.08 45 P **P** **21 35 50.5 +1.0**
KNB IAmb IAmb 21 35 52.1
comp=Z,35nm,1.7s
KNB Kanab 78.08 45 P **P** **21 35 50.5 +1.0**
KNB pmax pmax
comp=Z,35nm,1.7s
J08A Circle Bar Ran 78.09 37 P **P** **21 35 49.5 +0.2**
J08A IAmb IAmb 21 35 51.4
comp=Z,17nm,1.1s
U15A North Rim 78.14 46 P **P** **21 35 49.8 -0.2**
U15A IAmb IAmb 21 35 52.8
comp=Z,18nm,1.3s
SPR3 Spring Creek 3 78.14 43 P **P** **21 35 49.5 -0.4**
PSUT Pine Spring 78.20 44 P **P** **21 35 50.4 +0.2**
PSUT IAmb IAmb 21 35 52.2
comp=Z,12nm,1.0s
DUN6 Lazy B Ranch 78.50 51 P **P** **21 35 52.1 +0.3**
ELK Elko 78.53 41 P **P** **21 35 52.4 +0.5**
ELK IAmb IAmb 21 35 53.8
comp=Z,13nm,1.1s
ELK Elko 78.53 41 P **P** **21 35 52.4 +0.5**
ELK pmax pmax
comp=Z,13nm,1.1s
D05A Enumclaw 78.55 33 P **P** **21 35 53.0 +1.4**
PKCU Pink Cliffs 78.65 45 P **P** **21 35 53.5 +0.7**
USRK Ussuriysk Ar. 78.74 323 LR LR 22 04 20.7
comp=Z,54nm,19.6s,baz=143,slow=31
PGC Sidney 78.77 31 P **P** **21 35 53.0 +0.2**
CBB Campbell River 78.80 29 P **P** **21 35 53.5 +0.6**
X18A Snowflake 78.83 49 P **P** **21 35 52.8 -0.9**
G08A Pilot Rock 78.98 36 P **P** **21 35 54.4 +0.2**
G08A IAmb IAmb 21 35 56.1
comp=Z,15nm,1.1s
MTPU Mount Pierson 79.05 45 P **P** **21 35 55.5 +0.5**
MTPU IAmb IAmb 21 35 58.3
comp=Z,20nm,1.3s
MXC Moxie City 79.05 34 P **P** **21 35 54.0 -0.4**
BBB Bella Bella 79.10 26 LR LR 22 05 31.8
comp=Z,64nm,19.9s,baz=320,slow=32
TCRU Three Creeks R 79.17 44 P **P** **21 35 55.9 +0.4**
TCRU IAmb IAmb 21 35 58.3
comp=Z,21nm,1.2s
A04D Lummi Island 79.19 31 P **P** **21 35 55.4 +0.4**
MVU Marysvale 79.27 44 P **P** **21 35 57.3 +1.3**
MVU IAmb IAmb 21 35 58.9
comp=Z,18nm,1.1s
E07A Sunnyside 79.28 34 P **P** **21 35 56.0 +0.4**
E07A IAmb IAmb 21 35 57.7
comp=Z,17nm,1.0s
LTY Liberty 79.28 33 P **P** **21 35 55.0 -0.7**
LTY IAmb IAmb 21 35 55.9
comp=Z,44nm,1.9s
MSU Marysvale 79.30 44 P **P** **21 35 56.6 +0.4**
MSU Marysvale 79.30 44 P **P** **21 35 56.6 +0.4**
HAWA Hanford 79.35 35 P **P** **21 35 55.7 -0.3**
HAWA IAmb IAmb 21 35 58.0
comp=Z,36nm,1.6s
BMO Blue Mountains 79.66 37 P **P** **21 35 57.8 0.0**
BMO Blue Mountains 79.66 37 P **P** **21 35 57.8 0.0**
BMO pmax pmax
comp=Z,12nm,1.1s
E08A Dider Farm, El 79.67 35 P **P** **21 35 57.7 0.0**
E08A IAmb IAmb 21 35 59.7
comp=Z,28nm,1.4s
MFID Camas Ranch 79.68 39 P **P** **21 35 58.2 +0.2**
LNOR Lincton Mounta 79.71 35 P **P** **21 35 58.2 +0.2**
LNOR IAmb IAmb 21 36 06.2
comp=Z,26nm,1.8s
DUG Dugway, Tooele 79.77 43 P **P** **21 35 59.2 +0.6**
DUG Dugway, Tooele 79.77 43 P **P** **21 35 59.2 +0.6**
DUG pmax pmax
comp=Z,14nm,1.4s
BGU Big Grassy Mou 80.02 42 P **P** **21 36 00.0 0.0**
D08A Wollman Farm, 80.09 34 P **P** **21 36 00.1 +0.1**
D08A IAmb IAmb 21 36 01.9
comp=Z,20nm,1.1s
Q16A Castle Valley 80.18 44 P **P** **21 36 02.0 +1.0**
TMUT Trail Mountain 80.35 44 P **P** **21 36 03.3 +1.3**
TMUT IAmb IAmb 21 37 18.5
comp=Z,23nm,0.9s
J16K Anvik River 80.52 6 P **P** **21 36 02.7 +0.8**
J16K IAmb IAmb 21 36 42.4
comp=Z,42nm,1.6s
PLID Pearl Lake 80.54 37 P **P** **21 36 02.7 -0.1**
PLID IAmb IAmb 21 36 04.3
comp=Z,22nm,1.6s
HLID Hailey 80.61 39 P **P** **21 36 02.9 -0.3**
HLID IAmb IAmb 21 36 05.4
comp=Z,15nm,1.1s
HVU Hansel Valley 80.64 41 P **P** **21 36 03.8 +0.5**
HVU Hansel Valley 80.64 41 P **P** **21 36 03.8 +0.5**
HVU pmax pmax
comp=Z,9.0nm,1.0s
B08A Colville Reser 80.68 33 P **P** **21 36 02.7 -0.5**
B08A IAmb IAmb 21 36 04.2
comp=Z,17nm,1.1s
SRU San Rafael Swe 80.72 44 P **P** **21 36 03.8 0.0**
SRU San Rafael Swe 80.72 44 P **P** **21 36 03.8 0.0**
SRU pmax pmax
comp=Z,11nm,1.0s
VHRN Van Horn 80.81 54 P **P** **21 36 04.2 -0.2**
LLLB Lillooet 80.84 30 P **P** **21 36 03.2 -0.8**
LLLB IAmb IAmb 21 36 05.4
comp=Z,16nm,1.2s
BNM Barren Site 81.06 50 P **P** **21 36 06.2 +0.4**
SCM Sheep Creek Mo 81.10 12 P **P** **21 36 05.3 +0.2**
SCM Sheep Creek Mo 81.10 12 P **P** **21 36 05.4 +0.2**
SCM pmax pmax
comp=Z,56nm,1.4s
P18A Preston Nutter 81.16 44 P **P** **21 36 06.3 0.0**
P18A IAmb IAmb 21 36 08.7
comp=Z,30nm,1.8s
PV05 Paradox Valley 81.17 46 P **P** **21 36 07.3 +1.0**
PV05 IAmb IAmb 21 36 09.2
comp=Z,35nm,1.4s
TCUT Toone Canyon 81.17 42 P **P** **21 36 05.7 -0.6**
TX31 Lajitas Ar. Si 81.22 56 P **P** **21 36 06.8 +0.2**
TX31 IAmb IAmb 21 36 09.5
comp=Z,22nm,1.4s
TXAR Lajitas Array 81.22 56 P **P** **21 36 07.2 +0.6**
TXAR Lajitas Array 81.22 56 P **P** **21 36 07.4 +0.8**
comp=Z,5.1nm,1.1s,baz=225,slow=4.8,SNR=22
TXAR LR LR 22 03 41.8
comp=Z,44nm,19.9s,baz=252,slow=29
comp=Z,5.1nm,1.1s
BSUT Blindstream Ca 81.28 43 P **P** **21 36 06.9 -0.1**
NJ2 Nanjing 81.29 307 *e*P **P** **21 36 10.0 +3.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
HWUT Hardware Ranch 81.32 42 P **P** **21 36 06.4 -0.6**
HWUT IAmb IAmb 21 36 08.7
comp=Z,37nm,1.9s
PV10 Paradox Valley 81.35 46 P **P** **21 36 06.7 -0.6**
PV10 IAmb IAmb 21 36 09.8
comp=Z,18nm,1.1s
PV19 Morning Glory 81.36 46 P **P** **21 36 07.7 +0.4**
PV19 IAmb IAmb 21 36 10.2
comp=Z,23nm,1.3s
PV17 East Wray Mesa 81.36 46 P **P** **21 36 07.4 +0.1**
PV17 IAmb IAmb 21 36 09.6
comp=Z,15nm,1.1s
PV14 Lion Creek, Pa 81.36 46 P **P** **21 36 06.4 -0.9**
PV18 Skein Mesa, Pa 81.38 46 P **P** **21 36 06.7 -0.7**
PV20 West Nyswonger 81.39 46 P **P** **21 36 07.7 +0.3**
PV13 Radium Mtn., P 81.40 46 P **P** **21 36 07.9 +0.4**
PV13 IAmb IAmb 21 36 09.8
comp=Z,18nm,1.2s
PV16 Nyswonger Mesa 81.41 46 P **P** **21 36 07.2 -0.3**
PV23 Carpenter Ridg 81.41 46 P **P** **21 36 07.7 +0.1**
PV11 David Mesa, Pa 81.43 46 P **P** **21 36 08.7 +1.1**
PV11 IAmb IAmb 21 36 10.6
comp=Z,25nm,1.3s
PV04 Paradox Valley 81.45 46 P **P** **21 36 07.9 +0.2**
PV04 IAmb IAmb 21 36 10.1
comp=Z,22nm,1.3s
PV02 Paradox Valley 81.48 46 P **P** **21 36 08.3 +0.4**
PV12 Saucer Basin, 81.49 46 P **P** **21 36 07.8 -0.2**
ANMO Albuquerque 81.55 50 P **P** **21 36 09.2 +0.8**
ANMO Albuquerque 81.55 50 LR LR 22 04 06.8
comp=Z,49nm,21.3s,baz=88,slow=30
ANMO Albuquerque 81.55 50 P **P** **21 36 09.2 +0.8**
ANMO pmax pmax
comp=Z,12nm,1.3s
PV01 Paradox Valley 81.56 46 P **P** **21 36 08.4 +0.1**
PV01 IAmb IAmb 21 36 10.5
comp=Z,16nm,1.1s
PV22 Blue Mesa, Par 81.60 46 P **P** **21 36 09.1 +0.6**
PV22 IAmb IAmb 21 36 10.9
comp=Z,18nm,1.3s
PV07 Paradox Valley 81.65 46 P **P** **21 36 08.4 -0.4**
MA2 Magadan 81.67 342 LR LR 22 04 56.2
comp=Z,55nm,21.3s,baz=105,slow=30
MA2 Magadan 81.67 342 P **P** **21 36 07.1 -1.0**
comp=Z,7.9nm,1.5s
CAST Castle Rocks 81.72 9 P **P** **21 36 08.0 -0.4**
CAST IAmb IAmb 21 38 24.1
comp=Z,25nm,1.7s
NEW Newport 81.79 34 LR LR 22 05 13.7
comp=Z,87nm,18.6s,baz=221,slow=30
KLR Kul'dur 81.92 327 LR LR 22 05 20.7
comp=Z,29nm,22.0s,baz=41,slow=30
KTH Kantishna Hill 82.04 10 P **P** **21 36 09.8 -0.3**
TRF Thorofare Moun 82.05 10 P **P** **21 36 09.2 -1.0**
H17K Granite Mounta 82.21 6 P **P** **21 36 11.1 +0.3**
H17K IAmb IAmb 21 36 12.3
comp=Z,37nm,1.9s
S34M Telegraph Cree 82.21 21 P **P** **21 36 11.3 +0.3**
S34M IAmb IAmb 21 36 12.3
comp=Z,36nm,1.6s
RND Reindeer 82.25 11 P **P** **21 36 10.7 -0.5**
RND IAmb IAmb 21 36 17.0
comp=Z,40nm,1.8s
RND Reindeer 82.25 11 P **P** **21 36 10.7 -0.5**
RND pmax pmax
comp=Z,40nm,1.8s
BNX BinXian 82.29 322 ⇓P **P** **21 36 11.8 +0.1**
BNX pmax pmax
comp=Z,6.0nm,1.1s
TNA Tin City 82.31 2 P **P** **21 36 11.7 +0.4**
G16K Koyuk River 82.45 5 P **P** **21 36 13.1 +1.0**
G16K IAmb IAmb 21 37 35.5
comp=Z,32nm,2.0s
M26K Nabesna, AK 82.53 14 P **P** **21 36 13.1 +0.5**
M26K IAmb IAmb 21 36 13.8
comp=Z,22nm,1.4s
BPAW Bear Paw Mtn. 82.54 10 P **P** **21 36 12.7 +0.1**
BPAW IAmb IAmb 21 37 11.0
comp=Z,28nm,1.8s
MCK McKinley 82.54 11 P **P** **21 36 12.7 +0.1**
MCK IAmb IAmb 21 36 43.6
comp=Z,13nm,1.0s
MCK McKinley 82.54 11 P **P** **21 36 12.7 +0.1**
MCK pmax pmax
comp=Z,13nm,1.0s
S22A 4UR Ranch, Cre 82.58 47 P **P** **21 36 14.8 +0.9**
S22A IAmb IAmb 21 36 14.4
comp=Z,19nm,1.0s
PD31 Pinedale Array 83.20 42 P **P** **21 36 16.8 0.0**
PD31 IAmb IAmb 21 36 18.1
comp=Z,14nm,1.1s
PDAR Pinedale Array 83.20 42 P **P** **21 36 16.4 -0.4**
PDAR Pinedale Array 83.20 42 P **P** **21 36 16.9 0.0**
comp=Z,6.9nm,0.8s,baz=213,slow=3.2,SNR=56
PDAR LR LR 22 05 02.0
comp=Z,53nm,20.3s,baz=254,slow=30
comp=Z,6.9nm,0.8s
N30M Aishikik Lake 83.20 17 P **P** **21 36 17.1 +1.0**
N30M IAmb IAmb 21 39 17.8
comp=Z,35nm,2.0s
YHB Horse Butte 83.20 39 P **P** **21 36 17.5 +0.7**
ODSA Odessa 83.26 54 P **P** **21 36 17.5 +0.3**
ODSA IAmb IAmb 21 36 19.1
comp=Z,26nm,1.4s
YHL Hebgen Lake 83.26 39 P **P** **21 36 18.2 +1.1**
YFT Old Faithful 83.26 40 P **P** **21 36 18.1 +1.0**
YFT IAmb IAmb 21 36 20.3
comp=Z,18nm,1.2s
G18K Tagagawik 83.27 6 P **P** **21 36 16.3 0.0**
G18K IAmb IAmb 21 36 17.5
comp=Z,18nm,1.6s
YMR Madison River 83.30 39 P **P** **21 36 18.0 +0.7**
WRH Wood River Hil 83.37 11 P **P** **21 36 16.4 -0.4**
L27K Beaver Creek, 83.37 14 P **P** **21 36 17.5 +0.5**
BCAR Beaver Creek A 83.39 14 P **P** **21 36 17.5 +0.5**
BOZ Bozeman (W) 83.39 38 P **P** **21 36 18.2 +0.6**
BOZ IAmb IAmb 21 36 19.6
comp=Z,15nm,0.9s
BOZ Bozeman (W) 83.39 38 P **P** **21 36 18.2 +0.6**
BOZ pmax pmax
comp=Z,15nm,1.0s
H17A Grant Village 83.39 40 P **P** **21 36 18.2 +0.4**
H17A IAmb IAmb 21 36 20.9
comp=Z,12nm,1.0s
R33M Jennings River 83.40 20 P **P** **21 36 18.0 +0.7**
R33M IAmb IAmb 21 36 19.2
comp=Z,16nm,1.2s
YHH Holmes Hill 83.43 39 P **P** **21 36 19.2 +1.1**
YNR Norris Junctio 83.50 40 P **P** **21 36 19.4 +1.0**
YNR IAmb IAmb 21 36 22.1
comp=Z,11nm,1.0s
SDCO Great Sand Dun 83.52 48 P **P** **21 36 18.1 -0.6**
CCB Clear Creek Bu 83.58 11 P **P** **21 36 17.3 -0.6**
LKWY Lake 83.59 40 P **P** **21 36 19.8 +1.0**
LKWY Lake 83.59 40 P **P** **21 36 19.8 +1.0**
LKWY pmax pmax
comp=Z,20nm,1.1s
M29M Somme Creek 83.66 15 P **P** **21 36 19.2 +0.7**
M29M IAmb IAmb 21 36 37.0
comp=Z,12nm,1.4s
G19K Purcell Mounta 83.67 6 P **P** **21 36 19.2 +0.8**
DRIO Del Rio 83.68 57 P **P** **21 36 19.8 +0.4**
H21K Melozitna Rive 83.73 8 P **P** **21 36 19.9 +1.2**
H21K IAmb IAmb 21 36 20.3
comp=Z,16nm,1.5s
MG03 Isla Dawson 83.77 144 P **P** **21 36 18.6 -0.7**
I23K Minto, Yukon-K 83.78 10 P **P** **21 36 19.6 +0.7**
IL31 83.86 11 P **P** **21 36 18.3 -1.0**
IL31 IAmb IAmb 21 36 50.7
comp=Z,34nm,1.9s
ILAR Eielson Array 83.86 11 P **P** **21 36 19.1 -0.3**
ILAR Eielson Array 83.86 11 P **P** **21 36 18.6 -0.8**
comp=Z,1.4nm,0.8s,baz=224,slow=6.2,SNR=19
ILAR LR LR 22 07 23.8
comp=Z,45nm,19.5s,baz=160,slow=31
comp=Z,1.4nm,0.8s
MSTX Muleshoe 83.86 52 P **P** **21 36 20.7 +0.4**
SEY Seymchan 84.03 345 P **P** **21 36 19.4 -0.8**
comp=Z,4.8nm,0.9s,baz=153,slow=5.9,SNR=20
comp=Z,4.8nm,0.9s
SEY Seymchan 84.03 345 *e*P **P** **21 36 18.4 -1.9**
SEY pmax pmax
comp=Z,12nm,1.6s
CMIG Matias Romero 84.12 70 LR LR 22 09 09.6
comp=Z,16nm,18.4s,baz=182,slow=32
H03S2 Juan Fernandez 84.15 123 T T 23 10 25.6
baz=251,slow=75,SNR=4.2
H03S1 Juan Fernandez 84.16 123 T T 23 10 26.7
baz=251,slow=75,SNR=6.0
H03S3 Juan Fernandez 84.16 123 T T 23 10 11.4
baz=251,slow=75,SNR=8.2
PRP Porcupine Dome 84.78 11 P **P** **21 36 24.3 +0.1**
PRP IAmb IAmb 21 36 56.1
comp=Z,8.4nm,1.0s
MMPY Sheldon Lake, 85.78 18 P **P** **21 36 29.7 +0.5**
I28M Miner Creek 85.86 13 P **P** **21 36 29.6 +0.1**
I28M IAmb IAmb 21 36 29.9
comp=Z,33nm,1.9s
BILL Bilibino 86.03 352 P **P** **21 36 30.6 +0.4**
BILL IAmb IAmb 21 36 31.1
comp=Z,11nm,1.1s
BILL Bilibino 86.03 352 P **P** **21 36 30.6 +0.4**
I29M Ogilvie Camp, 86.15 14 P **P** **21 36 31.1 +0.2**
E22K Anaktuvuk Pass 86.20 8 P **P** **21 36 31.7 +0.5**
SMWD Samnorwood 86.23 52 P **P** **21 36 32.1 +0.1**
I30M Mount Dempster 86.49 15 P **P** **21 36 32.4 -0.3**
I30M IAmb IAmb 21 36 34.0
comp=Z,9.7nm,1.1s
E24K Your Creek 86.61 9 P **P** **21 36 35.6 +2.5**
E24K IAmb IAmb 21 36 45.0
comp=Z,21nm,1.9s
BMAR Burnt Mountain 86.67 11 P **P** **21 36 34.1 +0.7**
E25K Arctic Village 87.12 10 P **P** **21 36 36.0 +0.4**
G31M Satah River 88.37 14 P **P** **21 36 41.1 -0.5**
G31M IAmb IAmb 21 38 00.9
comp=Z,24nm,1.8s
PSI Prapat 88.86 273 LR LR 22 16 39.0
comp=Z,31nm,20.2s,baz=156,slow=36
HHC Hu-ho-hao-te 90.24 313 *e*P **P** **21 36 55.3 +4.2**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.1s

YAK	Yakutsk	90.59	337	LR	LR	22 09 13.5
	comp=Z,40nm,22.0s,baz=80,slow=30					
SYO	Syowa Base	91.19	191	⇑iP	P	21 36 56.4 +1.5
SYO	Syowa Base	91.19	191	⇑iPcP	PcP	21 36 58.0 +2.2
YKA	Yellowknife Ar	91.36	23	P	P	21 36 55.2 -0.4
	comp=Z,1.9nm,1.0s,baz=238,slow=4.8,SNR=16					
YKA				LR	LR	22 13 14.7
	comp=Z,62nm,18.4s,baz=212,slow=32					
	comp=Z,1.9nm,1.0s					
ATAH	Atahualpa	92.44	98	LR	LR	22 08 55.4
	comp=Z,22nm,18.6s,baz=229,slow=29					
MGMO	Mountain Grove	92.98	52	P	P	21 37 03.8 0.0
PZH	PanZhiHua	93.19	297	P	P	21 37 07.4 +2.3
PZH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,120nm,4.8s					
CMAR	Chiang Mai Arr	93.34	288	LR	LR	22 14 17.1
	comp=Z,22nm,22.0s,baz=100,slow=33					
ULM	Lac du Bonnet	94.92	39	LR	LR	22 12 01.1
	comp=Z,144nm,21.4s,baz=274,slow=30					
SONM	Songino Array	96.14	318	LR	LR	22 13 36.3
	comp=Z,30nm,21.5s,baz=53,slow=31					
TIXI	Tiksi	96.52	344	LR	LR	22 13 20.3
	comp=Z,35nm,21.3s,baz=26,slow=31					
LPAZ	La Paz	99.04	110	LR	LR	22 13 49.3
	comp=Z,13nm,19.2s,baz=158,slow=30					
WMQ	Urumqi	108.06	311	Pdif	Pdif	21 38 13.8 +2.4
KURK	Kurchatov	114.44	318	PKIKP	PKPdf	21 42 28.5 -1.4
KURBB	Kurchatov Arra	114.51	318	PKP	PKPdf	21 42 28.4 -1.5
	comp=Z,0.5nm,0.8s,baz=94,slow=1.7,SNR=4.7					
BVAR	Borovoye Array	119.23	322	PKP	PKPdf	21 42 38.1 -0.9
	comp=Z,1.8nm,0.9s,baz=96,slow=1.5,SNR=7.9					
AK02	Malin Array Si	141.87	337	PKP	PKPdf	21 43 20.8 -0.9
AK10	Malin Array Si	141.90	337	PKP	PKPdf	21 43 21.0 -0.8
BAL3X	Bal3x, Balta	143.87	334	PKP	PKPbc	21 43 24.0 +0.9
KMBO	Kilima Mbogo	145.11	242		PKPdf	21 43 29.0 +0.2
KMBO	Kilima Mbogo	145.11	242	PKP	PKPdf	21 43 28.9 0.0
	comp=Z,3.5nm,0.8s,baz=84,slow=4.6,SNR=7.1					
OJC	Ojcow	145.17	345	*e*PKP	PKPbc	21 43 27.1 -0.1
OJC	Ojcow	145.17	345		PKPbc	21 43 27.0 -0.1
OJC	Ojcow	145.17	345	PKIKP	PKPbc	21 43 27.0 -0.1
KSP	Ksiaz	145.31	350	*e*PKP	PKPdf	21 43 28.1 +0.3
KSP	Ksiaz	145.31	350	PKP	PKPdf	21 43 27.8 0.0
CLL	Collm	145.33	353		PKPbc	21 43 27.4 -0.2
CLL	Collm	145.33	353	*i* PKIKP	PKPbc	21 43 27.0 -0.6
CLL				pmax	pmax	
	comp=Z,12nm,1.2s					
CLL	Collm	145.33	353	PKP	PKPbc	21 43 26.9 -0.6
CLL	Collm	145.33	353	*i* PKPbc	PKPbc	21 43 27.0 -0.6
	comp=Z,12nm,1.2s					
CLL				*ex*	x	21 43 50.0
CHVC	Chvalec	145.60	350	*e*PKP	PKPab	21 43 29.2 +0.3
CHVC	Chvalec	145.60	350	*e*PKIKP	PKPab	21 43 29.2 +0.3
OSTC	Ostas	145.60	349	*e*PKP	PKPab	21 43 28.7 -0.2
OSTC				*ex*	x	21 43 51.9
OSTC	Ostas	145.60	349	*e*PKIKP	PKPab	21 43 28.7 -0.2
BRG	Berggiesshubel	145.64	352	*i* PKP	PKPbc	21 43 28.7 +0.1
BRG				Amp		21 43 30.3
	comp=Z,8.6nm,1.0s					
KOLS	Kolonicke sedl	145.68	342	*e*PKIKP	PKPab	21 43 29.7 +0.5
KOLS	Kolonicke sedl	145.68	342	*e*PKP	PKPab	21 43 29.7 +0.5
DPC	Dobruska-Polom	145.78	349	*e*PKP	PKPab	21 43 29.5 -0.1
DPC				*ex*	x	21 43 50.0
DPC	Dobruska-Polom	145.78	349	*e*PKIKP	PKPab	21 43 29.5 -0.1
DPC	Dobruska-Polom	145.78	349	PKP	PKPab	21 43 29.4 -0.1
NIE	Niedzica	145.79	344	*e*PKP	PKPab	21 43 30.1 +0.4
BUR08	Bucovina Ar. S	145.84	338	PKPdf	PKPdf	21 43 28.6 -0.4
BURAR	Bucovina Array	145.86	338	⇑P	PKPbc	21 43 29.6 0.0
BURAR	Bucovina Array	145.86	338	⇑PKP2	PKPbc	21 43 29.6 0.0
PVCC	Panska Ves	145.89	351	*e*PKP	PKPab	21 43 29.8 -0.1
PVCC	Panska Ves	145.89	351	*e*PKIKP	PKPab	21 43 29.8 -0.1
STEB	Steborice	145.90	347	*e*PKP	PKPbc	21 43 29.2 -0.3
STEB				*ex*	x	21 43 51.1
MORC	Moravsky Berou	146.09	348	*e*PKP	PKPdf	21 43 28.3 -0.9
MORC	Moravsky Berou	146.09	348	⇓P	PKPbc	21 43 29.8 -0.3
MORC	Moravsky Berou	146.09	348	⇓PKP2	PKPbc	21 43 29.8 -0.3
TESR	Tescani	146.22	335	⇓P	PKPab	21 43 31.1 -0.3
LANS	Liptovska Anna	146.25	345	*e*PKP2	PKPab	21 43 32.4 +1.0
LANS	Liptovska Anna	146.25	345	*e*PKP	PKPab	21 43 32.3 +0.9
LANS				*e*		21 43 54.4
MEM	Membach	146.37	1	*d*PKPdf	PKPbc	21 43 30.2 -0.6
BTNL	Ternell	146.39	1	*d*PKPdf	PKPdf	21 43 29.8 +0.2
BCLA	Clavier	146.54	2	*d*PKP	PKPab	21 43 32.0 -0.3
BGES	Gesves	146.57	2	*d*PKP	PKPab	21 43 32.0 -0.4
BHOU	Houvegnez	146.62	1	*d*PKP	PKPbc	21 43 31.9 +0.3
CFR	Carcaliu	146.65	332	⇑P	PKPdf	21 43 30.8 +0.6
CFR	Carcaliu	146.65	332	⇑PKIKP	PKPdf	21 43 30.8 +0.6
VRI	Vrincioaia	146.71	334	⇑P	PKPbc	21 43 32.1 0.0
VRI	Vrincioaia	146.71	334	⇑PKP2	PKPbc	21 43 32.1 0.0
VRAC	Vranov	146.73	348	*e*PKP	PKPbc	21 43 31.7 -0.3
VRAC	Vranov	146.73	348	⇓P	PKPab	21 43 32.9 -0.3
VRAC	Vranov	146.73	348	⇓PKP2	PKPab	21 43 32.9 -0.3
RCHB	Rochefort	146.80	2	*d*PKPdf	PKPdf	21 43 30.9 +0.6
RCHB				*d*PKP	PKPbc	21 43 32.3 +0.2
DOU	Dourbes	146.84	3	*d*PKP	PKPbc	21 43 32.4 +0.2
JAVC	Velka Javorina	146.94	347	*e*PKP	PKPbc	21 43 33.3 +0.7
KRUC	Moravsky	147.00	348	*e*PKP	PKPbc	21 43 32.1 -0.6
DOPR	Dopca	147.17	336	⇑P	PKPbc	21 43 33.9 +0.5
WLF	Walferdange	147.31	1	*d*PKP	PKPbc	21 43 34.1 +0.5
MLR	Muntele Rosu	147.34	335		PKPbc	21 43 33.9 -0.1
MLR	Muntele Rosu	147.34	335	⇓P	PKPbc	21 43 34.3 +0.3
MLR	Muntele Rosu	147.34	335	⇓PKP2	PKPbc	21 43 34.3 +0.3
KHC	Kasperske Hory	147.40	352	*e*PKP	PKPbc	21 43 34.2 +0.3
KHC				*ex*	x	21 43 57.7
KHC	Kasperske Hory	147.40	352	*e*PKP2	PKPbc	21 43 34.2 +0.3
MARR	Marisel-Cluj	147.40	339	⇑P	PKPbc	21 43 34.1 0.0
DRGR		147.44	340	⇑P	PKPbc	21 43 33.3 -0.8
DRGR		147.44	340	⇑PKIKP	PKPbc	21 43 33.3 -0.8
MODS	Modra-Piesok	147.48	347	*e*PKP2	PKPab	21 43 35.3 -0.9
MODS	Modra-Piesok	147.48	347	*e*PKP	PKPab	21 43 35.3 -0.9
MODS				*e*		21 43 57.7
BRTR	Keskin Array B	147.48	320		PKPbc	21 43 34.2 -0.4
BRTR	Keskin Array B	147.48	320	PKPbc	PKPbc	21 43 34.5 0.0
	comp=Z,3.8nm,1.0s,baz=150,slow=2.7,SNR=17					
BRTR	Keskin Array B	147.48	320	PKIKP	PKPbc	21 43 34.2 -0.4
GERES	GERESS Array B	147.66	352	PKPbc	PKPbc	21 43 34.9 +0.2
	comp=Z,1.8nm,0.9s,baz=52,slow=2.2,SNR=12					
VOIR		147.74	336	⇓P	PKPbc	21 43 36.0 +1.0
VOIR		147.74	336	⇓PKP2	PKPbc	21 43 36.0 +1.0
ARR	Arges	147.96	336	⇑P	PKPbc	21 43 36.5 +0.9
CONA	Conrad Observa	148.19	349	*i* PKP	PKPbc	21 43 36.8 +0.7
	comp=Z,9.6nm,1.1s					
CONA				*i* sPKP		21 43 59.9
	comp=Z,7.8nm,0.8s					
RONA	Rosalia, Austr	148.32	348	*e*PKP	PKPbc	21 43 36.9 +0.5
	comp=Z,9.7nm,1.3s					
RONA				*i* sPKP		21 44 00.0
	comp=Z,12nm,1.2s					
SURR	Surduc	148.54	339	⇓P	PKPbc	21 43 37.3 +0.3
GZR	Gura Zlata	148.63	338	⇑P	PKPbc	21 43 36.7 -0.6
GZR	Gura Zlata	148.63	338	⇑PKIKP	PKPbc	21 43 36.7 -0.6
BIOA	Bad Ischl, Aus	148.80	351	*i* PKP	PKPbc	21 43 37.7 0.0
	comp=Z,2.6nm,0.9s					
BIOA				*i* sPKP		21 44 00.3
	comp=Z,3.4nm,0.8s					
BZS	Buzias	148.83	340	⇑P	PKPbc	21 43 37.7 -0.1
BZS	Buzias	148.83	340	⇑PKIKP	PKPbc	21 43 37.7 -0.1
ARSA	Arzberg	148.91	349	*i* PKP	PKPbc	21 43 38.2 +0.3
	comp=Z,5.2nm,1.3s					
ARSA				*es*PKP		21 44 00.9
	comp=Z,6.5nm,1.2s					
MORH	Mrgy, Hungar	149.18	344	⇑P	PKPbc	21 43 38.4 -0.2
LESA	Schwarzleotal	149.19	352	*e*PKP	PKPbc	21 43 38.8 +0.1
	comp=Z,5.9nm,1.9s					
LESA				*es*PKP		21 44 01.8
	comp=Z,9.3nm,1.3s					
HERR	Herculane	149.20	338	⇑P	PKPbc	21 43 38.6 -0.1
RETA	Reutte	149.33	355	*i* PKP	PKPbc	21 43 39.3 +0.2
	comp=Z,2.0nm,0.5s					
RETA				*i* sPKP		21 44 02.5
	comp=Z,7.5nm,1.3s					
WATA	Walderalm	149.41	354	*e*PKP	PKPbc	21 43 39.3 -0.1
	comp=Z,5.6nm,1.2s					
WATA				*i* sPKP		21 44 02.5
	comp=Z,13nm,1.4s					
KBA	Koelnbreinsper	149.44	351	*i* PKP	PKPdf	21 43 35.6 +0.6
	comp=Z,7.2nm,1.7s					
KBA				*i* PKP	PKPbc	21 43 39.3 -0.2
	comp=Z,4.6nm,1.1s					
KBA				*i* sPKP		21 44 02.2
	comp=Z,3.9nm,0.8s					
MOTA	Moosalm	149.44	354	*i* PKP	PKPbc	21 43 39.5 0.0
	comp=Z,12nm,1.2s					
MOTA				*i* sPKP		21 44 02.6
	comp=Z,16nm,1.4s					
WTTA	Wattenberg	149.47	354	*i* PKP	PKPbc	21 43 39.7 +0.2
	comp=Z,12nm,1.1s					
WTTA				*i* sPKP		21 44 02.9
	comp=Z,7.9nm,0.6s					
MDVR	Moldovita	149.53	339	⇑P	PKPbc	21 43 39.6 -0.1
SQTA	Sankt Quirin	149.56	354	*i* PKP	PKPbc	21 43 39.9 +0.3
	comp=Z,5.0nm,0.9s					
SQTA				*i* sPKP		21 44 03.1
	comp=Z,13nm,1.4s					
DAVA	Damuels	149.60	356	*i* PKP	PKiKP	21 43 40.4 -0.5
	comp=Z,3.6nm,0.4s					
DAVA				*i* sPKP		21 44 03.5
	comp=Z,13nm,1.4s					
MMAI	Mount Meron Ar	149.71	307	PKPbc	PKPbc	21 43 40.6 +0.1
	comp=Z,2.8nm,0.9s,baz=30,slow=6.8,SNR=5.5					
FETA	Feichten	149.80	355	*i* PKP	PKPbc	21 43 40.7 +0.3
	comp=Z,13nm,1.3s					
FETA				*i* sPKP		21 44 03.8
	comp=Z,16nm,1.5s					
OBKA	Obir	149.80	349	*i* PKP	PKPdf	21 43 35.8 +0.3
	comp=Z,7.1nm,1.2s					
OBKA				*i* sPKP		21 44 02.6
	comp=Z,13nm,1.6s					
MYKA	Terra Mystica	149.83	351	*i* PKP	PKiKP	21 43 40.8 -0.4
	comp=Z,1.7nm,0.5s					
MYKA				*i* sPKP		21 44 02.8
	comp=Z,6.5nm,0.9s					
ABTA	Abfaltersbach	149.88	352	*e*PKP	PKPbc	21 43 40.2 -0.2
	comp=Z,13nm,1.0s					
ABTA				*es*PKP		21 44 03.2
	comp=Z,8.3nm,1.0s					
BNI	Bardonecchia	151.94	0	PKPab	PKPab	21 43 55.6 +1.1

GCG ***22*** *21:25:07.8±2.8, 14°.61N×94°.16W, h36km±999km, MD4.4*
MEX ***22*** *21:25:10.4±1.0, 14°.89N×94°.08W, h16km±22km, MD4.1*

ISC 22 21:25:02.2±1.8, 14°.77N±0°.06×94°.10W±0°.04, h6km±11km, n16, σ1°.98/32, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.25	42	*e*P	Pn	21 25 29.0	+2.7
PCIG				*e*S	Sg	21 25 42.0	-0.6
CARR	Arriaga	1.48	7	*e*P	Pg	21 25 32.1	+1.5
CARR				*i* S	Sb	21 25 46.9	-2.2
PATR	El Naranjo	1.83	79	*e*P	Pg	21 25 37.3	-0.1
PATR				*e*S	Sn	21 25 58.6	+0.5
PAVE	Pavencul	1.90	77	*e*P	Pg	21 25 38.4	-0.3
PAVE				*e*S	Sn	21 26 00.1	+0.3
HUIG	Huatulco	2.18	297	*e*P	Pn	21 25 41.4	+2.4
HUIG				*e*S	Sn	21 26 04.0	-2.3
TGIG		2.20	25	*e*P	Pb	21 25 42.8	+0.2
TGIG				*e*S	Sb	21 26 10.1	0.0
TGIG		2.20	25	*e*P	Pg	21 25 44.3	-0.2
TGIG				*e*S	Sg	21 26 11.8	-1.3
TGIG		2.20	25	*e*P		21 25 44.3	
TGIG				*e*S		21 26 11.8	
RTAL	Retalhuleu	2.34	96	*e*P	Pn	21 25 42.2	+1.0
RTAL				*e*S	Sb	21 26 13.8	-0.1
CCIG	Comitan	2.41	51	*e*P	Pg	21 25 48.1	-0.4
CCIG				*e*S	Sb	21 26 14.9	-1.3
CCIG	Comitan	2.41	51	*e*P	Pg	21 25 48.2	-0.3
CCIG				*e*S	Sg	21 26 18.5	-1.3
CCIG	Comitan	2.41	51	*e*P		21 25 48.2	
CCIG				*e*S		21 26 18.5	
CMIG	Matias Romero	2.43	342	*e*P	Pb	21 25 45.8	-0.5
CMIG				*e*S	Sn	21 26 13.1	+0.6
UXUV	UXUV	2.53	359	*e*P	Pb	21 25 48.2	+0.2
UXUV				*e*S	Sn	21 26 16.4	+1.3
HUEH	Huehuetenango	2.56	77	*e*P	Pn	21 25 45.2	+0.6
HUEH				*e*S	Sb	21 26 20.4	-0.3
STG8	El Palmar, Qui	2.68	97	*e*P		21 25 46.2	
STG8				*e*S		21 26 14.7	
STG0	El Palmar, Qui	2.69	97	*e*P		21 25 46.8	
STG0				*e*S		21 26 16.3	
NEUV	Arroyo Zacate	3.35	331	*e*P	Pn	21 25 58.5	+3.4
NEUV				*e*S	Sn	21 26 37.3	+2.0
YOIG	Yosondua	3.91	302	*e*P	Pn	21 26 06.6	+3.5
YOIG				*e*S	Sn	21 26 45.4	-4.2
JAUV	Jalcomulco	5.25	331	*e*P	Pn	21 26 21.7	+0.4
JAUV				*e*S	Sn	21 27 16.9	-5.4

THE ***22*** *21:30:35.5, 37°.58N×20°.83E, h12km±1km, ML2.5/7, Error ellipse: s-maj=2.0km s-min=0.9km az=41.0*
ATH ***22*** *21:30:35.4, 37°.63N×20°.85E, h17km±3km, ML2.5/17, Manual Solution by G.Panopoulou First location: 2019/03/22 21:31:33, This location: 2019/03/22 22:17:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*

ISC 22 21:30:35.4±1.1, 37°.62N±0°.05×20°.86E±0°.03, h15km±5km, n43, σ0°.51/66, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.05	321	P	Pg	21 30 38.5	+0.3
KRI1				S	Sg	21 30 40.2	+0.2
	7μm,0.3s						
LTHK	Lithakia	0.09	349	P	Pg	21 30 38.5	0.0
LTHK				S	Sg	21 30 40.5	-0.1
	15μm,0.2s						
LTHK	Lithakia	0.09	349	P	Pg	21 30 38.5	0.0
LTHK				S	Sg	21 30 40.5	-0.1
KYPS	Kipseli, Zakin	0.20	352	P	Pg	21 30 40.8	+0.9
KYPS				S	Sb	21 30 43.7	-0.6
ORTH	Orthonies,Zaky	0.26	331	P	Pb	21 30 41.8	-0.1
ORTH				S	Sb	21 30 46.1	-0.2
CLEM	Kyllini,Ilia,G	0.34	39	P	Pg	21 30 42.8	+0.3
CLEM				S	Sb	21 30 48.5	-0.1
RTZL	Ratzakli, Kefa	0.46	352	P	Pg	21 30 44.9	+0.4
RTZL				S	Sb	21 30 52.6	+0.8
PSDA	Pessada-Kefalo	0.54	336	P	Pg	21 30 46.3	+0.3
PSDA				S	Sb	21 30 54.8	+0.7
	810nm,0.2s						
PSDA	Pessada-Kefalo	0.54	336	P	Pg	21 30 45.9	-0.1
PSDA				S	Sg	21 30 53.6	+0.5
VLS	Valsamata	0.59	339	P	Pg	21 30 47.1	0.0
VLS				S	Sb	21 30 56.6	+0.9
	558nm,0.2s						
VLS	Valsamata	0.59	339	P	Pg	21 30 46.9	-0.1
VLS				S	Sb	21 30 55.5	-0.3
YRMI	Loutra Irminis	0.62	39	P	Pb	21 30 47.7	-0.3
YRMI				S	Sb	21 30 55.3	-1.1
ZARO	Zacharo	0.64	102	P	Pg	21 30 48.9	+0.9
RLS	Riolos of Patr	0.65	48	P	Pb	21 30 48.5	0.0
RLS				S	Sb	21 30 56.3	-1.0
AMT	Artemida-Makis	0.68	97	P	Pg	21 30 49.1	+0.4
AMT				S	Sg	21 30 59.0	+1.2
AXS	Araxos	0.70	36	P	Pb	21 30 49.1	-0.3
AXS				S	Sb	21 30 58.8	-0.2
DMLN	Damoulianata-K	0.72	328	P	Pb	21 30 49.6	-0.2
DMLN				S	Sn	21 31 01.8	-0.2
	402nm,0.2s						
DMLN	Damoulianata-K	0.72	328	P	Pb	21 30 49.5	-0.3
DMLN				S	Sg	21 30 59.7	+0.6
DRO	Drossia	0.75	64	P	Pb	21 30 50.1	-0.2
DRO				S	Sn	21 31 02.4	-0.3
	600nm,0.4s						
DRO	Drossia	0.75	64	P	Pg	21 30 50.4	+0.3
DRO				S	Sb	21 31 00.0	-0.3
FSK	Fiskardo	0.87	345	P	Pb	21 30 51.5	-0.7
FSK				S	Sn	21 31 06.0	+0.5
FSK	Fiskardo	0.87	345	P	Pb	21 30 51.4	-0.7
FSK				S	Sb	21 31 03.5	-0.1
ITM	Ithomi	0.96	117	P	Pn	21 30 54.1	-0.3
ITM	Ithomi	0.96	117	P	Pn	21 30 54.1	-0.3
EVGI	Lefkada island	1.01	351	P	Pb	21 30 54.1	-0.5
EVGI				S	Sn	21 31 09.9	+0.9
	108nm,0.3s						
EVGI	Lefkada island	1.01	351	P	Pb	21 30 54.1	-0.5
NYDR	Nydri-Lefkada	1.09	354	P	Pn	21 30 55.9	-0.4
NYDR	Nydri-Lefkada	1.09	354	P	Pn	21 30 55.7	-0.5
KLV	Kalavryta, Ach	1.11	67	P	Pg	21 30 57.0	+0.2
KLV	Kalavryta, Ach	1.11	67	P	Pn	21 30 55.6	-0.9
PVO	Paravola	1.12	28	P	Pb	21 30 56.9	+0.3
PVO				S	Sb	21 31 11.2	+0.2
LKD2	Lefkada island	1.17	352	P	Pn	21 30 57.1	-0.3
LKD2	Lefkada island	1.17	352	P	Pn	21 30 57.0	-0.4
TSLK	Tsoukalades, L	1.21	353	P	Pb	21 30 57.9	-0.2
GUR	Goura	1.22	75	P	Pb	21 30 58.1	-0.2
SERG	Sergoula	1.23	50	P	Pn	21 30 57.9	-0.3
KALE	Kalithea	1.27	53	P	Pn	21 30 58.2	-0.6
ANX	Ano Chora	1.28	41	P	Pb	21 30 59.5	+0.2
ANX	Ano Chora	1.28	41	P	Pn	21 30 58.9	0.0
MAKR	Makrakomi, Fth	1.71	35	P	Pn	21 31 05.2	+0.4
LTK	Loutraki	1.72	76	P	Pb	21 31 05.8	-0.9
VIL2	Platees	2.00	72	P	Pn	21 31 07.9	-0.7
DION	Dionisos Attik	2.48	79	P	Pn	21 31 15.4	+0.1

IDC 22 22:00:14.6±6.2, 13°.78N×141°.55E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=160.8km s-min=41.1km az=165.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	41.13	282	P	P	22 08 00.8	0.0
	0.7nm,0.4s,baz=88,slow=6.4,SNR=4.9						
	0.7nm,0.4s						
MKAR	Makanchi Array	59.12	317	P	P	22 10 16.9	-0.2
	0.5nm,0.7s,baz=97,slow=8.0,SNR=7.1						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	62.41	320	P	P	22 10 39.5	+0.1
	1.6nm,0.7s,baz=105,slow=6.8,SNR=14						
	1.6nm,0.7s						
BVAR	Borovoye Array	67.78	322	P	P	22 11 14.1	-0.1
	1.1nm,0.5s,baz=102,slow=6.9,SNR=12						
	1.1nm,0.5s						
ILAR	Eielson Array	69.78	26	P	P	22 11 26.6	+0.1
	0.5nm,0.7s,baz=247,slow=5.8,SNR=5.2						
	0.5nm,0.7s						

ROM 22 22:07:22.1±0.1, 42°.870N±0°.003×12°.866E±0°.004, h10km, ML1.3/39, Error ellipse: s-maj=0.3km s-min=0.2km az=44.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	CESI - Serrava	0.14	12	P	Pg	22 07 25.9	+0.6
CESI				S	Sg	22 07 28.4	+0.9
CESI				AML	AML		
	comp=E,1160μm,0.2s						
CESI				AML	AML		
	comp=N,1720μm,0.6s						
CESI				AML	AML		
	comp=N,1529μm,0.1s						
CESI				AML	AML		
	comp=E,1157μm,0.1s						
FOPC	Foligno Prot C	0.15	310	P	Pg	22 07 26.3	+0.8
FOPC				S	Sg	22 07 29.4	+1.5
MTCL	Monte Cavallo	0.16	38	P	Pg	22 07 26.1	+0.5
MTCL				S	Sg	22 07 28.7	+0.7
GAVE	Gavelli	0.18	173	P	Pg	22 07 26.7	+0.7
GAVE				S	Sg	22 07 29.8	+1.2
GAVE				AML	AML		
	comp=E,1192μm,0.3s						
GAVE				AML	AML		
	comp=N,864μm,0.7s						
GAVE				AML	AML		
	comp=N,864μm,0.7s						
GAVE				AML	AML		
	comp=E,1191μm,0.3s						
GAVE				AML	AML		
	comp=N,810μm,0.1s						
GAVE				AML	AML		
	comp=E,1008μm,0.2s						
GAVE				AML	AML		
	comp=N,245μm,0.1s						
NRCA	Norcia	0.19	101	P	Pg	22 07 26.6	+0.5
NRCA				S	Sg	22 07 29.7	+0.9
NRCA				AML	AML		
	comp=E,454μm,1.1s						
NRCA				AML	AML		
	comp=N,580μm,0.1s						
NRCA				AML	AML		
	comp=N,581μm,0.1s						
NRCA				AML	AML		
	comp=E,561μm,0.2s						
NRCA				AML	AML		
	comp=N,565μm,0.1s						
NRCA				AML	AML		
	comp=E,446μm,0.1s						
MOMA	Monte Martano	0.23	253	P	Pg	22 07 27.6	+0.8
MOMA				S	Sg	22 07 31.8	+1.8
MOMA				AML	AML		
	comp=E,186μm,0.2s						
MOMA				AML	AML		
	comp=N,131μm,1.1s						
MOMA				AML	AML		
	comp=E,171μm,0.2s						
MOMA				AML	AML		
	comp=N,133μm,0.2s						
MOMA				AML	AML		
	comp=N,117μm,0.1s						
MOMA				AML	AML		
	comp=E,186μm,0.2s						
ASSB	Assisi San Ben	0.23	319	P	Pg	22 07 27.4	+0.5
ASSB				S	Sg	22 07 31.4	+1.3
ASSB				AML	AML		
	comp=E,260μm,0.4s						
ASSB				AML	AML		
	comp=N,216μm,0.1s						
ASSB				AML	AML		
	comp=E,222μm,0.1s						
ASSB				AML	AML		
	comp=N,217μm,0.1s						
LNSS	Leonessa	0.30	154	P	Pg	22 07 28.4	+0.4
LNSS				S	Sg	22 07 33.2	+1.1
LNSS				AML	AML		
	comp=E,191μm,0.6s						
LNSS				AML	AML		
	comp=N,262μm,1.0s						
LNSS				AML	AML		
	comp=E,153μm,0.4s						
LNSS				AML	AML		
	comp=N,215μm,0.2s						
LNSS				AML	AML		
	comp=E,188μm,0.2s						
LNSS				AML	AML		
	comp=N,234μm,0.2s						

comp=N,1385μm,1.3s
GUMA AML AML
comp=N,1385μm,0.7s
GUMA AML AML
comp=N,160μm,0.5s
SMA1 SAN MARTINO 0.42 125 P Pg 22 07 30.9 +0.6
SMA1 S Sb 22 07 37.9 -0.2
SMA1 AML AML
comp=E,86μm,0.2s
SMA1 AML AML
comp=N,83μm,0.5s
SMA1 AML AML
comp=N,70μm,0.3s
SMA1 AML AML
comp=E,86μm,0.2s
FOSV Fossato di Vic 0.43 350 P Pg 22 07 30.7 +0.1
FOSV AML AML
comp=E,28μm,0.7s
FOSV AML AML
comp=N,40μm,1.2s
FOSV AML AML
comp=E,24μm,0.3s
FOSV AML AML
comp=N,25μm,0.3s
RM33 Pellescritta (0.44 144 P Pg 22 07 31.0 +0.2
RM33 S Sg 22 07 37.6 +1.0
RM33 AML AML
comp=E,133μm,0.6s
RM33 AML AML
comp=N,136μm,0.7s
RM33 AML AML
comp=N,51μm,0.2s
RM33 AML AML
comp=E,133μm,1.4s
RM33 AML AML
comp=E,72μm,0.2s
MF5 Montefalcone A 0.45 75 P Pb 22 07 31.6 -0.6
MF5 S Sb 22 07 38.9 -0.1
MF5 AML AML
comp=N,42μm,0.2s
MF5 AML AML
comp=E,49μm,0.6s
MURB Monte Urbino 0.47 328 P Pg 22 07 31.6 +0.4
MURB AML AML
comp=E,228μm,0.2s
MURB AML AML
comp=N,148μm,0.3s
MURB AML AML
comp=E,236μm,0.2s
MURB AML AML
comp=E,228μm,0.2s
MURB AML AML
comp=N,182μm,0.4s
MURB AML AML
comp=N,148μm,0.3s
EL6 Elcito 0.49 21 P Pg 22 07 31.8 +0.1
EL6 AML AML
comp=E,100μm,1.2s
EL6 AML AML
comp=N,89μm,1.3s
EL6 AML AML
comp=E,83μm,0.2s
EL6 AML AML
comp=N,70μm,0.1s
CAMP Campotosto 0.52 130 P Pg 22 07 32.4 +0.2
CAMP S Sb 22 07 40.3 -0.7
CAMP AML AML
comp=N,20μm,1.1s
CAMP AML AML
comp=E,25μm,0.5s
SSFR Montelago di S 0.57 354 P Pg 22 07 33.1 0.0
SSFR AML AML
comp=E,72μm,0.1s
SSFR AML AML
comp=N,61μm,0.2s
SSFR AML AML
comp=E,72μm,0.1s
SSFR AML AML
comp=E,116μm,0.8s
SSFR AML AML
comp=N,91μm,0.2s
SSFR AML AML
comp=E,116μm,1.2s
SSFR AML AML
comp=N,61μm,0.1s
ATVO AVT- Monte Val 0.61 327 P Pg 22 07 34.0 0.0
ATVO AML AML
comp=N,26μm,0.3s
ATVO AML AML
comp=E,31μm,0.4s
ARVD Arcevia 0.63 5 P Pg 22 07 34.2 -0.1
ARVD AML AML
comp=E,22μm,0.1s
ARVD AML AML
comp=N,22μm,0.1s
FIAM Fiamignano 0.63 163 P Pg 22 07 34.4 +0.1
FIAM AML AML
comp=E,6968μm,1.1s
FIAM AML AML
comp=N,235μm,1.2s
FIAM AML AML
comp=E,14μm,0.5s
FIAM AML AML
comp=N,11μm,0.3s
FIAM AML AML
comp=N,235μm,0.8s
FIAM AML AML
comp=E,6968μm,0.8s
FRON Frontone 0.66 351 AML AML
comp=E,17μm,0.1s
FRON AML AML
comp=N,21μm,0.1s

*LDG **22** 22:08:13.3±0.1, 44.°12N×12.°06E, h7km, Ml1.5/2, Error ellipse: s-maj=3.0km s-min=2.6km az=90.0*
ROM 22 22:08:12.6±0.1, 44.°113N±0.°007×12.°058E±0.°006, h8km, ML2.0/60, Error ellipse: s-maj=0.6km s-min=0.5km az=356.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A309A	**Martorano (FC)**	**0.15**	**67**	P	Pg	22 08 15.8	+0.1
A309A				S	Sg	22 08 19.5	+1.7
BRSN	**Barisano**	**0.17**	**5**	P	Pg	22 08 16.4	+0.2
BRSN				S	Sg	22 08 20.6	+2.0
BRSN				AML	AML		
comp=N,3910μm,0.4s							
BRSN				AML	AML		
comp=E,4525μm,0.3s							
BRSN				AML	AML		
comp=E,4240μm,0.3s							
BRSN				AML	AML		
comp=N,4135μm,0.3s							
BRSN				AML	AML		
comp=E,4235μm,0.3s							
BRSN				AML	AML		
comp=N,3905μm,0.4s							
BRSN				AML	AML		
comp=E,4530μm,0.3s							
BRSN				AML	AML		
comp=N,4140μm,0.3s							
FAEN	**Faenza**	**0.22**	**324**	P	Pg	22 08 17.8	+0.8
FAEN				S	Sg	22 08 22.8	+2.7
LMD	**Lutirano**	**0.26**	**262**	P	Pg	22 08 17.9	+0.3
LMD				S	Sb	22 08 23.0	-1.1
LMD				AML	AML		
comp=N,1110μm,0.5s							
LMD				AML	AML		
comp=E,1024μm,0.2s							
SFI	**Santa Sofia**	**0.26**	**216**	P	Pg	22 08 18.3	+0.6
SFI				S	Sb	22 08 23.3	-0.9
SFI				AML	AML		
comp=E,596μm,0.8s							
SFI				AML	AML		
comp=N,520μm,0.5s							
SFI				AML	AML		
comp=N,534μm,0.5s							
SFI				AML	AML		
comp=E,568μm,0.2s							
SFI				AML	AML		
comp=N,520μm,0.5s							
SFI				AML	AML		
comp=E,596μm,0.8s							
BLLA	**Bellaria**	**0.30**	**84**	P	Pg	22 08 18.9	+0.3
BLLA				S	Sb	22 08 25.2	-0.1
BLLA				AML	AML		
comp=E,1054μm,0.4s							
BLLA				AML	AML		
comp=E,1055μm,0.4s							
BLLA				AML	AML		
comp=N,809μm,0.5s							
BLLA				AML	AML		
comp=N,809μm,1.5s							
BLLA				AML	AML		
comp=E,1054μm,0.4s							
IMOL	**Imola, Italy**	**0.34**	**318**	P	Pg	22 08 19.9	+0.6
RSM	**Repubblica di**	**0.34**	**123**	P	Pb	22 08 20.6	-0.3
CPGN	**Carpegna, Ital**	**0.36**	**149**	P	Pb	22 08 21.1	-0.3
CPGN				AML	AML		
comp=E,183μm,0.4s							
CPGN				AML	AML		
comp=N,266μm,0.5s							
ASQU	**Asqua**	**0.37**	**212**	P	Pg	22 08 20.5	+0.6
ASQU				S	Sb	22 08 27.1	-0.4
ASQU				AML	AML		
comp=E,428μm,0.8s							
ASQU				AML	AML		
comp=E,428μm,0.8s							
ASQU				AML	AML		
comp=N,506μm,0.3s							
BRIS	**BRISIGHELLA**	**0.40**	**276**	P	Pg	22 08 17.7	-2.6
BRIS				S	Sg	22 08 22.2	-3.3
BRIS				AML	AML		
comp=N,742μm,0.4s							
BRIS				AML	AML		
comp=E,798μm,0.7s							
RUFI	**Rufina**	**0.48**	**236**	P	Pg	22 08 22.0	+0.1
RUFI				S	Sb	22 08 30.3	-0.2
RUFI				AML	AML		
comp=E,150μm,0.4s							
RUFI				AML	AML		
comp=N,144μm,0.3s							
RUFI				AML	AML		
comp=E,150μm,1.6s							
RUFI				AML	AML		
comp=N,144μm,1.7s							
PARC	**Parchiule**	**0.48**	**164**	P	Pg	22 08 22.5	+0.6
PARC				S	Sb	22 08 30.9	+0.3
PARC				AML	AML		
comp=E,103μm,0.6s							
PARC				AML	AML		
comp=N,108μm,0.8s							
MTRZ	**Monterenzio**	**0.50**	**302**	P	Pb	22 08 23.1	-0.6
MTRZ				AML	AML		
comp=E,308μm,0.3s							
MTRZ				AML	AML		
comp=N,471μm,0.3s							
MTRZ				AML	AML		
comp=N,474μm,0.3s							
MTRZ				AML	AML		
comp=N,472μm,0.3s							
MTRZ				AML	AML		
comp=E,318μm,0.3s							
PE3	**Peglio**	**0.52**	**143**	P	Pg	22 08 23.4	+0.6
PE3				AML	AML		
comp=E,862μm,0.3s							
PE3				AML	AML		
comp=N,591μm,0.3s							
PE3				AML	AML		
comp=E,859μm,0.3s							
PE3				AML	AML		
comp=N,590μm,0.3s							
SSP9	**Sansepolcro**	**0.54**	**174**	P	Pg	22 08 23.1	0.0
APEC	**Apecchio**	**0.61**	**155**	P	Pg	22 08 25.0	+0.5
APEC				AML	AML		
comp=E,163μm,0.8s							
APEC				AML	AML		
comp=N,143μm,0.6s							
BADI	**Badiali**	**0.62**	**167**	P	Pg	22 08 24.9	+0.4
BADI				AML	AML		
comp=N,172μm,0.3s							
BADI				AML	AML		
comp=E,135μm,0.3s							
NARO	**Abbazia di Nar**	**0.63**	**143**	P	Pg	22 08 24.4	-0.3
NARO				AML	AML		
comp=E,119μm,0.4s							
NARO				AML	AML		
comp=N,98μm,0.3s							
NARO				AML	AML		
comp=E,119μm,1.6s							
PIEI	**Pieia**	**0.67**	**149**	P	Pg	22 08 25.2	-0.4
PIEI				AML	AML		
comp=N,98μm,0.5s							
PIEI				AML	AML		
comp=E,150μm,0.9s							
MPAG	**Monte Paganucc**	**0.70**	**133**	P	Pg	22 08 26.3	+0.2
MPAG				AML	AML		
comp=E,72μm,0.8s							
MPAG				AML	AML		
comp=N,122μm,1.4s							
MPAG				AML	AML		
comp=E,72μm,0.8s							
MPAG				AML	AML		
comp=N,122μm,1.4s							
MPAG				AML	AML		
comp=N,122μm,0.6s							
MPAG				AML	AML		
comp=E,72μm,1.2s							
FRON	**Frontone**	**0.77**	**141**	P	Pg	22 08 27.5	+0.2
FRON				AML	AML		
comp=E,59μm,1.5s							
FRON				AML	AML		
comp=E,59μm,1.5s							
FRON				AML	AML		
comp=E,59μm,0.5s							
FRON				AML	AML		
comp=N,136μm,1.0s							
ATVO	**AVT- Monte Val**	**0.77**	**161**	P	Pg	22 08 27.8	+0.3
ATVO				AML	AML		
comp=N,197μm,0.4s							
ATVO				AML	AML		
comp=E,130μm,1.0s							
CAFI	**Castiglion Fio**	**0.79**	**185**	P	Pg	22 08 28.0	+0.3
CAFI				AML	AML		
comp=N,65μm,0.8s							
CAFI				AML	AML		
comp=E,123μm,0.8s							
OSSC	**Osservatorio P**	**0.83**	**225**	P	Pb	22 08 29.2	-0.1
OSSC				AML	AML		
comp=E,120μm,0.4s							
OSSC				AML	AML		
comp=N,130μm,0.7s							
OSSC				AML	AML		
comp=N,130μm,1.3s							
CSNT	**Castellina Chi**	**0.85**	**221**	P	Pb	22 08 29.9	+0.3
CSNT				AML	AML		
comp=E,99μm,0.5s							
CSNT				AML	AML		
comp=N,82μm,0.4s							
CSNT				AML	AML		
comp=N,82μm,1.6s							
CRMI	**Carmignano**	**0.85**	**248**	P	Pg	22 08 29.1	+0.2
CRMI				AML	AML		
comp=E,21μm,1.0s							
CRMI				AML	AML		
comp=N,18μm,0.5s							
CRMI				AML	AML		
comp=E,21μm,1.0s							
CRMI				AML	AML		
comp=E,21μm,1.0s							
ARVD	**Arcevia**	**0.89**	**134**	P	Pg	22 08 29.6	-0.1
ARVD				AML	AML		
comp=E,42μm,0.9s							
ARVD				AML	AML		
comp=N,52μm,0.8s							
ARVD				AML	AML		
comp=N,52μm,1.2s							
ARVD				AML	AML		
comp=E,42μm,1.1s							
A305A	**Porto Tolle (R**	**0.89**	**17**	P	Pb	22 08 30.4	+0.1
SNTG	**Esanatoglia**	**1.07**	**143**	P	Pg	22 08 32.8	-0.3
SNTG				AML	AML		
comp=E,55μm,0.6s							
SNTG				AML	AML		
comp=E,55μm,1.4s							
SNTG				AML	AML		
comp=N,76μm,0.3s							
PII	**Pisa**	**1.18**	**251**	P	Pg	22 08 34.4	-0.7
PII				AML	AML		
comp=E,75μm,1.3s							
PII				AML	AML		
comp=N,65μm,0.7s							
PII				AML	AML		
comp=E,75μm,0.7s							
CESI	**CESI - Serrava**	**1.27**	**151**	AML	AML		
comp=E,79μm,0.3s							
CESI				AML	AML		
comp=N,115μm,0.4s							
CSP1	**Cessapalombo**	**1.32**	**140**	P	Pb	22 08 37.8	+0.1
GUMA	**Gualdo di Mace**	**1.40**	**138**	AML	AML		
comp=E,394μm,0.3s							
GUMA				AML	AML		
comp=N,362μm,0.2s							
BRJN	**Brijuni**	**1.45**	**56**	P	Pn	22 08 37.1	-2.0
MF5	**Montefalcone A**	**1.52**	**137**	P	Pg	22 08 41.6	-0.1
ABTA	**Abfaltersbach**	**2.65**	**7**	*e*Pn	Pn	22 08 57.2	+1.4
comp=N,1.1nm,0.3s							
ABTA				*e*Sn	Sn	22 09 26.5	-1.7
comp=N,2.7nm,0.5s							
PGF	**Pioggiola**	**2.73**	**236**	*e*Pn	Pn	22 08 55.5	-1.3
PGF				*e*Sn	Sn	22 09 27.1	-2.9
comp=N,0.1nm,0.1s							
OBKA	**Obir**	**2.97**	**35**	Pn	Pn	22 08 59.3	-0.9
comp=N,1.2nm,0.3s							
OBKA				*e*Sn	Sn	22 09 37.1	+1.0
comp=N,3.6nm,0.3s							
OBKA				Sg	Sg	22 09 51.6	+3.6
comp=N,7.0nm,0.7s							
SQTA	**Sankt Quirin**	**3.17**	**349**	*i* Pn	Pn	22 09 04.1	+1.3
comp=N,0.5nm,0.2s							
SQTA				*i* Sn	Sn	22 09 41.7	+0.8
comp=N,1.2nm,0.2s							
WTTA	**Wattenberg**	**3.17**	**355**	*i* Pn	Pn	22 09 04.4	+1.5
comp=N,0.6nm,0.2s							
WTTA				*i* Sn	Sn	22 09 39.5	-1.4
comp=N,0.4nm,0.2s							
LESA	**Schwarzleotal**	**3.34**	**7**	*i* Pn	Pn	22 09 05.4	+0.2
comp=N,0.6nm,0.2s							
LESA				*i* Sn	Sn	22 09 43.3	-1.8
comp=N,3.8nm,0.4s							
SBF	**Sospel**	**3.34**	**267**	*e*Pn	Pn	22 09 03.6	-1.7
MBDF	**Montbardon**	**3.84**	**281**	*e*Pn	Pn	22 09 12.1	0.0
LPG	**La Plagne**	**4.02**	**292**	*e*Pn	Pn	22 09 14.5	-0.3
HINF	**Hinteralfeld**	**5.18**	**317**	*e*Pn	Pn	22 09 28.8	-1.7
CDF	**Champ du Feu**	**5.43**	**324**	*e*Pn	Pn	22 09 32.3	-1.6
CDF	**Champ du Feu**	**5.43**	**324**	*e*P	Pn	22 09 36.9	+3.0
HAU	**Haudompre**	**5.56**	**316**	*e*Pn	Pn	22 09 34.4	-1.3

ROM 22 22:08:50.2±0.1, 42.°848N±0.°003×13.°214E±0.°004, h10km, ML1.1/8, 1D, Error ellipse: s-maj=0.3km s-min=0.3km az=325.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.07**	**345**	P	Pg	22 08 52.8	+0.1
MC2				S	Sg	22 08 54.5	+0.1
NRCA	**Norcia**	**0.07**	**259**	P	Pg	22 08 52.9	+0.3
NRCA				S	Sg	22 08 54.6	+0.3
NRCA				AML	AML		
comp=E,2440μm,0.1s							
NRCA				AML	AML		
comp=N,2285μm,0.2s							
NRCA				AML	AML		
comp=E,2555μm,0.2s							
NRCA				AML	AML		
comp=N,2450μm,0.2s							
NRCA				AML	AML		
comp=N,2285μm,0.1s							
MMO1	**Montemonaco**	**0.10**	**58**	P	Pg	22 08 53.1	+0.3
MMO1				S	Sg	22 08 55.2	+0.4
MTRA	**Matera**	**0.16**	**124**	P	Pg	22 08 54.3	+0.6
MTRA				S	Sg	22 08 57.3	+1.0
MTRA				AML	AML		
comp=E,124μm,1.6s							
MTRA				AML	AML		
comp=E,124μm,0.4s							
MTRA				AML	AML		
comp=N,144μm,0.2s							
MF5	**Montefalcone A**	**0.23**	**52**	P	Pg	22 08 55.6	+0.7
MF5				S	Sg	22 08 59.9	+1.7
SMA1	**SAN MARTINO**	**0.23**	**158**	P	Pg	22 08 55.9	+0.8
SMA1				S	Sg	22 09 00.0	+1.7
SMA1				AML	AML		
comp=N,52μm,0.5s							
SMA1				AML	AML		
comp=E,63μm,0.3s							
SMA1				AML	AML		
comp=N,52μm,1.5s							
LNSS	**Leonessa**	**0.28**	**208**	⇓P	Pg	22 08 56.4	+0.6
LNSS				AML	AML		
comp=E,89μm,0.6s							
LNSS				AML	AML		
comp=N,83μm,0.7s							
MNTT	**Montottone**	**0.35**	**53**	P	Pg	22 08 57.7	+0.5
MNTT				S	Sb	22 09 03.1	-1.2
TERO	**Teramo**	**0.36**	**128**	P	Pg	22 08 57.7	+0.3
TERO				S	Sb	22 09 03.7	-0.9
TERO				AML	AML		
comp=E,42μm,1.6s							
TERO				AML	AML		
comp=N,36μm,0.5s							
TERO				AML	AML		
comp=E,42μm,0.4s							

IDC 22 22:11:50.2±2.1, 5.°59S×154.°56E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=47.5km s-min=38.9km az=67.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.02**	**146**	P	P	22 16 24.7	-0.2
5.4nm,0.8s,baz=261,slow=19,SNR=1.9							
5.4nm,0.8s							
WRA	**Warramunga Arr**	**24.29**	**232**	P	P	22 17 10.2	+0.6
0.6nm,0.5s,baz=57,slow=9.8,SNR=5.7							
0.6nm,0.5s							
ASAR	**Alice Springs**	**26.81**	**226**	P	P	22 17 32.0	-0.4
0.3nm,0.8s,baz=49,slow=10,SNR=2.3							
0.3nm,0.8s							
MKAR	**Makanchi Array**	**82.07**	**319**	P	P	22 24 12.5	-0.1
0.3nm,0.7s,baz=103,slow=5.1,SNR=4.0							
0.3nm,0.7s							

VIE 22 22:26:21.9±1.9, 44.°38N×12.°44E, h8km, mb2.4/1, ml2.0/9, Error ellipse: s-maj=12.1km s-min=7.1km az=172.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD	**Lutirano**	**0.61**	**240**	P	Pg	22 26 27.6	-6.1
LMD				S	Sg	22 26 32.4	-9.2
MTRZ	**Monterenzio**	**0.70**	**270**	P	Pg	22 26 32.6	-2.8
MTRZ				S	Sg	22 26 42.3	-2.2
ASQU	**Asqua**	**0.75**	**219**	P	Pg	22 26 29.9	-6.4
ASQU				S	Sg	22 26 37.1	-9.0
SEI	**Scarperia**	**0.85**	**248**	S	Sg	22 26 41.1	-8.1
RUFI	**Rufina**	**0.86**	**231**	P	Pg	22 26 31.6	-6.8
RUFI				S	Sg	22 26 40.0	-10
TEOL	**Teolo**	**1.12**	**331**	*e*Pg	Pn	22 26 44.2	+0.3
TEOL				*e*Sg	Sn	22 27 01.8	+2.3
OSSC	**Osservatorio P**	**1.22**	**226**	P	Pb	22 26 39.4	-5.7
CSNT	**Castellina Chi**	**1.23**	**223**	P	Pb	22 26 39.5	-5.9
CGRP	**Cima Grappa**	**1.57**	**343**	*e*Pg	Pb	22 26 51.3	+0.1
CGRP				*e*Sg	Sg	22 27 14.1	+1.9
ABTA	**Abfaltersbach**	**2.37**	**1**	*e*Pn	Pb	22 27 04.0	-0.8
0.4nm,0.2s							
ABTA				Sn	Sn	22 27 32.2	+1.9
0.9nm,0.3s							
OBKA	**Obir**	**2.59**	**34**	*e*Pn	Pb	22 27 07.9	-0.7
0.1nm,0.1s							
OBKA				*i* Pg	Pg	22 27 17.5	+6.0
0.9nm,0.2s							
OBKA				*i* Sn	Sb	22 27 42.3	+1.6
0.5nm,0.2s							
OBKA				Sg	Sg	22 27 54.3	+9.2
2.5nm,0.3s							
KBA	**Koelnbreinsper**	**2.77**	**13**	*e*Pn	Pb	22 27 10.6	-1.1
1.2nm,0.2s							
KBA				*e*Sn	Sn	22 27 40.9	+0.5
0.4nm,0.2s							
FETA	**Feichten**	**2.90**	**336**	*i* Pn	Pb	22 27 12.0	-1.9
0.2nm,0.1s							
WTTA	**Wattenberg**	**2.94**	**349**	*e*Pn	Pn	22 27 11.0	+2.0
0.2nm,0.1s							
WTTA				*e*Sn	Sb	22 27 47.7	-2.9
2.3nm,0.4s							

SQTA	**Sankt Quirin**	**2.97 344**	*e*Pn	Pb	22 27 13.4 -1.6
	1.3nm,0.2s				
SQTA			*i* Sn	Sb	22 27 50.9 -0.5
	1.1nm,0.2s				
WATA	**Walderalm**	**3.02 349**	*i* Pn	Pn	22 27 11.9 +1.9
	0.2nm,0.1s				
WATA			*i* Sn	Sn	22 27 48.6 +2.2
	1.0nm,0.2s				
LESA	**Schwarzleotal**	**3.05 3**	*i* Pn	Pb	22 27 13.5 -2.8
	1.3nm,0.2s				
LESA			*i* Sn	Sb	22 27 52.8 -1.0
	3.5nm,0.3s				
MOTA	**Moosalm**	**3.11 343**	*i* Pn	Pb	22 27 15.2 -2.3
	0.2nm,0.1s				

*IDC **22** 22:26:02.2±10.0, 35.°36N×71.°59E, h0km, mb3.9/2, mbtmp3.7/5, ML2.9/3, Error ellipse: s-maj=164.5km s-min=47.2km az=157.0*
*NNC **22** 22:26:25.6±1.9, 36.°94N×71.°04E, h74km±40km, mb3.5, mpv3.8, Error ellipse: s-maj=16.1km s-min=14.2km az=106.0*

ISC 22 22:26:25.0±2.4, 36.°9N±0.°2×71.°1E±0.°1, h100km, n18, σ1§16/21, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.61**	**20**	P	**Pn**	**22 27 46.6**	**+0.2**
	SNR=42						
EKS2	**Erkin-Say**	**6.13**	**19**	P	**Pn**	**22 27 53.7**	**+0.6**
	SNR=12						
KK31	**Karatay Array**	**6.24**	**356**	⇓P	**Pn**	**22 27 54.4**	**-0.1**
	3.2nm,0.3s,baz=176,slow=12,SNR=173						
KK31				S	**Sn**	**22 29 04.1**	**-0.2**
	4.5nm,0.4s,baz=150,slow=15,SNR=6.2						
AAK	**Ala-Archa**	**6.32**	**23**	P	**Pn**	**22 27 56.3**	**+0.6**
	SNR=18						
AAK	**Ala-Archa**	**6.32**	**23**	⇑P	**Pn**	**22 27 56.0**	**+0.4**
	3.7nm,0.3s						
AAK				⇑S	**Sn**	**22 29 06.4**	**0.0**
	5.2nm,0.7s						
CHMS	**Chumysh**	**6.72**	**23**	P	**Pn**	**22 28 01.6**	**+0.5**
	SNR=6.3						
CHMS	**Chumysh**	**6.72**	**23**	⇓P	**Pn**	**22 28 01.1**	**0.0**
	5.2nm,0.5s						
CHMS				⇓S	**Sn**	**22 29 16.6**	**+0.5**
	6.5nm,0.9s						
USP	**Ospenovka**	**6.89**	**21**	P	**Pn**	**22 28 03.2**	**-0.2**
	SNR=11						
TKM2	**Tokmak 2**	**6.95**	**28**	⇑P	**Pn**	**22 28 04.1**	**-0.3**
	2.0nm,0.6s						
MK31	**Makanchi Array**	**12.93**	**37**	⇑P	**Pn**	**22 29 26.3**	**+1.4**
	0.1nm,0.3s,baz=227,slow=16,SNR=3.6						
MKAR	**Makanchi Array**	**12.93**	**37**	Pn	**Pn**	**22 29 21.8**	**-3.2**
	baz=225,slow=17,SNR=4.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**14.74**	**19**	Pn	**Pn**	**22 29 48.8**	**+0.6**
	0.1nm,0.3s,baz=208,slow=10,SNR=4.6						
	0.3nm,0.2s						
AB31	**Akbulak array**	**14.80**	**330**	P	**Pn**	**22 29 46.9**	**-2.1**
	0.4nm,0.4s,baz=142,slow=12,SNR=18						
BVA0	**Borovoye Array**	**16.16**	**358**	P	**P**	**22 30 08.8**	**+1.5**
	0.7nm,0.6s,baz=168,slow=12,SNR=4.4						
BVAR	**Borovoye Array**	**16.16**	**358**	P	**P**	**22 30 08.5**	**+1.1**
	baz=158,slow=12,SNR=6.9						
	1.1nm,0.5s						
AKTO	**Aktyubinsk**	**16.50**	**329**	⇓P	**P**	**22 30 12.2**	**+0.9**
	2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**19.54**	**25**	P	**P**	**22 30 43.9**	**-0.5**
	1.5nm,0.3s,baz=214,slow=10.0,SNR=12						
	1.5nm,0.3s						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**22 33 27.4**	**+1.1**
	2.1nm,0.9s,baz=101,slow=9.5,SNR=3.6						
	2.1nm,0.9s						

ROM 22 22:27:10.6±0.3, 44.°15N±0.°01×12.°02E±0.°01, h28km±2km, ML2.1/36, Error ellipse: s-maj=1.1km s-min=1.1km az=98.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	**Barisano**	**0.14**	**16**	P	Pb	22 27 15.2	-0.8
BRSN				S	Sb	22 27 19.6	-0.1
BRSN				AML	AML		
	comp=N,3995μm,0.3s						
BRSN				AML	AML		
	comp=N,5500μm,0.4s						
BRSN				AML	AML		
	comp=E,4765μm,0.3s						
BRSN				AML	AML		
	comp=N,3995μm,0.3s						
BRSN				AML	AML		
	comp=E,3730μm,0.3s						
BRSN				AML	AML		
	comp=E,4765μm,0.4s						
BRSN				AML	AML		
	comp=E,3735μm,0.3s						
BRSN				AML	AML		
	comp=E,3731μm,0.3s						
BRSN				AML	AML		
	comp=N,3996μm,0.3s						
BRSN				AML	AML		
	comp=N,5500μm,0.4s						
BRSN				AML	AML		
	comp=E,4765μm,0.4s						
FAEN	**Faenza**	**0.18**	**324**	P	Pb	22 27 16.4	+0.1
FAEN				S	Sb	22 27 21.5	+1.3
FAZ	**Faenza**	**0.18**	**329**	P	Pb	22 27 16.5	+0.2
FAZ				S	Sb	22 27 21.8	+1.5
LMD	**Lutirano**	**0.24**	**253**	P	Pb	22 27 16.7	-0.4
LMD				S	Sb	22 27 21.6	+0.1
LMD				AML	AML		
	comp=N,575μm,0.2s						
LMD				AML	AML		
	comp=E,614μm,0.2s						
LMD				AML	AML		
	comp=N,575μm,0.2s						
LMD				AML	AML		
	comp=E,614μm,0.2s						
SFI	**Santa Sofia**	**0.27**	**208**	P	Pb	22 27 17.1	-0.4
SFI				S	Sb	22 27 22.5	+0.3
SFI				AML	AML		
	comp=E,315μm,0.2s						
SFI				AML	AML		
	comp=N,348μm,0.2s						
SFI				AML	AML		
	comp=E,317μm,0.2s						
SFI				AML	AML		
	comp=N,364μm,0.2s						
SFI				AML	AML		
	comp=N,348μm,0.2s						
SFI				AML	AML		
	comp=E,318μm,0.2s						
SFI				AML	AML		
	comp=N,348μm,0.2s						
SFI				AML	AML		
	comp=E,317μm,0.2s						
SFI				AML	AML		
	comp=N,365μm,0.2s						
SFI				AML	AML		
	comp=N,348μm,0.2s						
SFI				AML	AML		
	comp=E,315μm,0.2s						
IMOL	**Imola, Italy**	**0.29**	**317**	P	Pn	22 27 18.8	-0.3
IMOL				S	Sn	22 27 25.6	+1.1
IMOL				AML	AML		
	comp=N,844μm,0.2s						
IMOL				AML	AML		
	comp=E,723μm,0.3s						
IMOL				AML	AML		
	comp=N,844μm,0.2s						
IMOL				AML	AML		
	comp=E,723μm,0.3s						
IMOL				AML	AML		
	comp=N,843μm,0.2s						
BLLA	**Bellaria**	**0.32**	**90**	P	Pb	22 27 18.1	-0.1
BLLA				S	Sb	22 27 24.2	+0.8
BLLA				AML	AML		
	comp=E,544μm,0.4s						
BLLA				AML	AML		
	comp=N,657μm,0.4s						
BLLA				AML	AML		
	comp=E,544μm,0.4s						
BLLA				AML	AML		
	comp=E,544μm,0.4s						
BLLA				AML	AML		
	comp=N,657μm,0.4s						
BLLA				AML	AML		
	comp=N,657μm,1.6s						
BLLA				AML	AML		
	comp=E,544μm,1.6s						
BRIS	**BRISIGHELLA**	**0.37**	**271**	P	Pb	22 27 16.5	-2.4
BRIS				S	Sb	22 27 21.1	-3.3
BRIS				AML	AML		
	comp=E,508μm,0.1s						
BRIS				AML	AML		
	comp=N,441μm,0.5s						
BRIS				AML	AML		
	comp=E,508μm,0.1s						
BRIS				AML	AML		
	comp=N,430μm,0.3s						
BRIS				AML	AML		
	comp=N,491μm,0.4s						
BRIS				AML	AML		
	comp=E,482μm,0.1s						
RSM	**Repubblica di**	**0.38**	**125**	P	Pb	22 27 19.2	+0.1
ASQU	**Asqua**	**0.39**	**206**	P	Pb	22 27 19.1	-0.2
ASQU				S	Sn	22 27 26.2	-0.7
ASQU				AML	AML		
	comp=N,320μm,1.2s						
ASQU				AML	AML		
	comp=E,256μm,0.7s						
ASQU				AML	AML		
	comp=N,243μm,0.3s						
ASQU				AML	AML		
	comp=E,249μm,0.4s						
CPGN	**Carpegna, Ital**	**0.41**	**148**	P	Pb	22 27 19.9	+0.3
CPGN				AML	AML		
	comp=N,173μm,0.6s						
CPGN				AML	AML		
	comp=E,229μm,1.6s						
CPGN				AML	AML		
	comp=N,173μm,0.6s						
CPGN				AML	AML		
	comp=N,173μm,0.6s						
CPGN				AML	AML		
	comp=E,219μm,0.3s						
CPGN				AML	AML		
	comp=N,173μm,0.6s						
CPGN				AML	AML		
	comp=E,170μm,0.4s						
CPGN				AML	AML		
	comp=E,219μm,1.7s						
CPGN				AML	AML		
	comp=N,217μm,0.9s						
MTRZ	**Monterenzio**	**0.46**	**300**	P	Pn	22 27 21.4	0.0
MTRZ				AML	AML		
	comp=E,256μm,0.3s						
MTRZ				AML	AML		
	comp=E,267μm,0.3s						
MTRZ				AML	AML		
	comp=N,158μm,0.4s						
MTRZ				AML	AML		
	comp=N,156μm,0.3s						
RUFI	**Rufina**	**0.48**	**231**	P	Pb	22 27 20.6	0.0
RUFI				S	Sn	22 27 28.6	-0.5
RUFI				AML	AML		
	comp=E,86μm,0.3s						
RUFI				AML	AML		
	comp=N,106μm,0.4s						
RUFI				AML	AML		
	comp=N,106μm,1.6s						
PARC	**Parchiule**	**0.52**	**162**	P	Pb	22 27 21.3	-0.1
PARC				S	Sn	22 27 30.1	-0.1
PARC				AML	AML		
	comp=N,76μm,0.3s						
PARC				AML	AML		
	comp=E,57μm,0.2s						
PARC				AML	AML		
	comp=N,76μm,1.7s						
PE3	**Peglio**	**0.57**	**142**	P	Pb	22 27 22.1	+0.1
PE3				AML	AML		
	comp=N,842μm,0.2s						
PE3				AML	AML		
	comp=E,624μm,0.2s						
PE3				AML	AML		
	comp=N,842μm,0.2s						
PE3				AML	AML		
	comp=N,842μm,0.2s						
PE3				AML	AML		
	comp=E,624μm,0.2s						
SSP9	**Sansepolcro**	**0.58**	**172**	P	Pb	22 27 22.4	+0.1
SSP9				AML	AML		
	comp=N,50μm,0.6s						
SSP9				AML	AML		
	comp=E,45μm,0.4s						
SSP9				AML	AML		
	comp=N,50μm,1.4s						
NARO	**Abbazia di Nar**	**0.67**	**143**	AML	AML		
	comp=E,85μm,1.9s						
NARO				AML	AML		
	comp=E,85μm,0.1s						
NARO				AML	AML		
	comp=N,70μm,0.2s						
NARO				AML	AML		
	comp=E,85μm,0.1s						
NARO				AML	AML		
	comp=N,70μm,0.2s						
PIEI	**Pieia**	**0.71**	**148**	AML	AML		
	comp=E,198μm,0.3s						
PIEI				AML	AML		
	comp=N,106μm,0.3s						
PIEI				AML	AML		
	comp=E,198μm,0.3s						
PIEI				AML	AML		
	comp=N,105μm,0.1s						
MPAG	**Monte Paganucc**	**0.74**	**134**	AML	AML		
	comp=N,60μm,0.2s						
MPAG				AML	AML		
	comp=E,66μm,0.6s						
MPAG				AML	AML		
	comp=N,64μm,1.1s						
MPAG				AML	AML		
	comp=N,442μm,1.0s						
MPAG				AML	AML		
	comp=E,60μm,0.2s						
MPAG				AML	AML		
	comp=E,395μm,1.0s						
MPAG				AML	AML		
	comp=N,442μm,1.0s						
FRON	**Frontone**	**0.81**	**141**	AML	AML		
	comp=N,130μm,0.3s						
FRON				AML	AML		
	comp=E,42μm,1.0s						
FRON				AML	AML		
	comp=N,130μm,0.3s						
FRON				AML	AML		
	comp=E,42μm,1.0s						
FRON				AML	AML		
	comp=E,40μm,0.3s						
CAFI	**Castiglion Fio**	**0.82**	**183**	AML	AML		
	comp=E,99μm,0.6s						
CAFI				AML	AML		
	comp=E,99μm,0.6s						
CAFI				AML	AML		
	comp=N,51μm,0.7s						
CAFI				AML	AML		
	comp=E,102μm,0.7s						
CAFI				AML	AML		
	comp=N,53μm,0.6s						
CAFI				AML	AML		
	comp=E,102μm,1.3s						
CAFI				AML	AML		
	comp=N,45μm,0.3s						
OSSC	**Osservatorio P**	**0.84**	**222**	AML	AML		
	comp=E,123μm,0.5s						
OSSC				AML	AML		
	comp=E,64μm,0.6s						
OSSC				AML	AML		
	comp=N,73μm,0.5s						
OSSC				AML	AML		
	comp=N,73μm,0.5s						
OSSC				AML	AML		
	comp=E,64μm,0.6s						
OSSC				AML	AML		
	comp=N,131μm,0.4s						
SSFR	**Montelago di S**	**0.90**	**142**	AML	AML		
	comp=E,237μm,0.2s						
SSFR				AML	AML		
	comp=E,236μm,0.2s						
SSFR				AML	AML		
	comp=N,156μm,0.2s						
SSFR				AML	AML		
	comp=N,156μm,0.2s						
SSFR				AML	AML		
	comp=E,235μm,0.2s						
SSFR				AML	AML		
	comp=N,222μm,0.2s						
ARVD	**Arcevia**	**0.93**	**134**	AML	AML		
	comp=N,42μm,0.4s						
ARVD				AML	AML		
	comp=E,50μm,0.7s						
ARVD				AML	AML		
	comp=N,42μm,0.4s						
ARVD				AML	AML		
	comp=E,40μm,0.1s						
FOSV	**Fossato di Vic**	**1.01**	**147**	AML	AML		
	comp=E,47μm,0.4s						
FOSV				AML	AML		
	comp=N,41μm,0.5s						
PII	**Pisa**	**1.16**	**249**	AML	AML		
	comp=N,34μm,0.5s						
PII				AML	AML		
	comp=E,35μm,0.4s						
PII				AML	AML		
	comp=N,34μm,1.5s						
FDMO	**Fiordimonte**	**1.35**	**145**	AML	AML		
	comp=E,23μm,0.3s						
FDMO				AML	AML		
	comp=E,23μm,1.7s						
FDMO				AML	AML		
	comp=N,26μm,0.2s						

*NEIC **22** 22:36:19.2±1.1, 36.°70N±0.°01×97.°69W±0.°01, h7km±4km, Error ellipse: s-maj=1.7km s-min=1.4km az=47.0*

NEIC 22 22:36:18.5±1.4, 36.°713N±0.°010×97.°68W±0.°01, h5km±1km, mb_Lg3.1/94, ML3.4/59, ML3.0/22, Error ellipse: s-maj=2.9km s-min=1.9km az=222.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.20**	**313**		Pg	22 36 23.7	+1.3
GC02				Sg	Sg	22 36 26.9	+1.8
KAN14	**Manchester OK**	**0.33**	**317**		Pg	22 36 24.3	-0.7
KAN14				Sg	Sg	22 36 30.9	+1.5
KAN14				IAML		22 36 31.6	
	comp=N,3μm,0.3s						
KAN14				IAML		22 36 31.6	
	comp=E,4μm,0.3s						
KAN17	**Caldwell West**	**0.34**	**348**		Pb	22 36 26.4	-0.7
KAN17				Sg	Sb	22 36 31.5	-1.3
KAN17				IAML		22 36 32.1	
	comp=E,4μm,0.3s						
KAN13	**South Haven SW**	**0.34**	**28**	Sg	Sb	22 36 31.6	-1.2
BLOK	**Blackwell**	**0.38**	**83**		Pg	22 36 26.3	+0.6
BLOK				Sg	Sb	22 36 32.5	-1.3
KAN05	**Bluff City Nor**	**0.42**	**338**		Pg	22 36 27.5	+0.8
KAN05				Sg	Sb	22 36 33.9	-1.3
KAN05				IAML		22 36 36.3	
	comp=N,2μm,0.3s						
KAN09	**Caldwell North**	**0.42**	**6**		Pb	22 36 28.0	-0.5
KAN09				Sg	Sg	22 36 32.8	+0.5
KAN09				IAML		22 36 36.2	
	comp=N,3μm,0.2s						
KAN09				IAML		22 36 41.2	
	comp=E,2μm,0.2s						
OK032	**Salt Plains WL**	**0.44**	**282**		Pg	22 36 27.8	+0.8
OK032				Sg	Sg	22 36 33.8	+1.2
OK032				IAML		22 36 34.6	
	comp=E,4μm,0.2s						
OK032				IAML		22 36 38.0	
	comp=E,3μm,0.2s						
KAN01	**Argonia South**	**0.44**	**352**		Pg	22 36 27.8	+0.7
KAN01				Sg	Sb	22 36 34.8	-1.0
KAN01				IAML		22 36 35.4	
	comp=E,2μm,0.2s						
KAN10	**Anthony SW Sta**	**0.53**	**321**		Pb	22 36 29.9	-0.3
KAN10					Sb	22 36 37.4	-0.8
KAN06	**Argonia West S**	**0.55**	**345**	Pg	Pg	22 36 28.4	-0.8
KAN08	**Anthony NE Sta**	**0.56**	**335**		Pg	22 36 29.6	+0.3
KAN08				IAML		22 36 39.2	
	comp=E,3μm,0.3s						
KAN08				IAML		22 36 41.4	
	comp=N,1μm,0.1s						
KAN12	**Harper NE Stat**	**0.64**	**336**		Pb	22 36 31.4	-0.7
OK048	**Pawnee Station**	**0.66**	**116**		Pg	22 36 31.5	+0.3
OK048					Sg	22 36 40.7	+1.0
OK051	**E0350 and S346**	**0.71**	**107**		Pg	22 36 32.5	+0.4
OK051				IAML		22 36 46.7	
	comp=N,2μm,0.1s						
OK051				IAML		22 36 49.0	
	comp=N,2μm,0.2s						
OK038	**West end E0370**	**0.89**	**255**		Pg	22 36 35.6	+0.1
OK029	**Liberty Lake**	**0.93**	**169**		Pg	22 36 36.2	-0.1
OK029				IAML		22 36 53.7	
	comp=N,915nm,0.4s						
QUOK	**Quay**	**0.95**	**124**		Pg	22 36 37.0	+0.3
QUOK				IAML		22 36 55.8	
	comp=E,1μm,0.2s						
T35A	**Sooner Cattle**	**0.96**	**77**		Pg	22 36 37.0	+0.2
T35A				IAML		22 36 52.3	
	comp=E,690nm,0.1s						
OK052	**Battle Ridge R**	**1.01**	**135**	Pg	Pb	22 36 38.2	-0.2
OK052				IAML		22 36 52.9	
	comp=E,1μm,0.2s						
OK052				IAML		22 36 53.3	
	comp=E,1μm,0.2s						
NOKA	**Waynoka**	**1.01**	**266**		Pg	22 36 37.7	-0.2
NOKA				IAML		22 36 56.3	
	comp=E,1μm,0.2s						
NOKA				IAML		22 36 59.2	
	comp=N,1μm,0.3s						
OK031	**S. Brethren Rd**	**1.02**	**138**		Pg	22 36 37.8	-0.1
OK031				IAML		22 36 53.5	
	comp=N,808nm,0.2s						
OK031				IAML		22 36 54.4	
	comp=N,922nm,0.6s						
ADOK	**Arcadia Dam**	**1.09**	**167**		Pg	22 36 38.9	-0.4
DEOK	**Depew**	**1.29**	**132**		Pn	22 36 42.6	-0.6
OKCSW	**OKLAHOMA CITY**	**1.32**	**171**		Pn	22 36 43.0	-0.6
CSTR	**Hydro, Custer**	**1.34**	**218**		Pn	22 36 43.0	-0.9
FNO	**Franklin**	**1.47**	**171**		Pn	22 36 45.2	-0.4
ELIS	**Ellis County**	**1.55**	**246**		Pn	22 36 47.1	+0.4
W35A	**Tecumseh**	**1.69**	**157**		Pn	22 36 48.6	0.0
W35A				Sg	Sg	22 37 12.7	-0.1
TUL3	**Leonard**	**1.72**	**117**	Pg	Pb	22 36 49.9	-0.7
TUL3					Sb	22 37 12.6	+0.1
X34A	**Smith Ranch, M**	**2.11**	**183**		Pn	22 36 55.0	+0.6
X34A				IAmb_Lg		22 37 27.9	
	comp=Z,58nm,0.7s						
WMOK	**Wichita Mounta**	**2.17**	**205**		Pn	22 36 55.6	+0.4
WMOK					Sn	22 37 23.6	+1.1
WMOK	**Wichita Mounta**	**2.17**	**205**	Pn	Pn	22 36 55.0	-0.3
WMOK				IAmb_Lg		22 37 29.7	
	comp=Z,82nm,1.1s						
KSU1	**Kansas State U**	**2.53**	**19**		Pn	22 36 59.4	-0.8
SMWD	**Samnorwood**	**2.63**	**233**		Pn	22 37 01.8	+0.1
CBKS	**Cedar Bluff**	**2.66**	**323**		Pn	22 37 02.1	+0.1
U38A	**Gravette**	**2.66**	**95**		Pn	22 37 02.4	+0.3
WTFS	**Witchita Falls**	**3.01**	**193**		Pn	22 37 05.7	-1.1
HHAR	**Hobbs**	**3.04**	**97**		Pn	22 37 07.4	+0.1
Z35A	**Perchaven, San**	**3.39**	**174**	Pn	Pn	22 37 10.9	-1.2
Z35A				IAmb_Lg		22 38 12.2	
	comp=Z,40nm,1.1s						
FW06	**Azle**	**3.73**	**178**		Pn	22 37 15.9	-0.9
FW06				Pg	Pb	22 37 26.1	+1.2
PLPT	**Palo Pinto**	**3.93**	**188**		Pn	22 37 18.3	-1.1
APMT	**Aspermont**	**3.93**	**211**		Pn	22 37 18.9	-0.6
MIAR	**Mount Ida**	**3.98**	**122**		Pn	22 37 19.8	-0.3
MIAR				IAmb_Lg		22 38 34.9	
	comp=Z,42nm,0.7s						
FW07	**Weatherford**	**4.00**	**181**	Pn	Pn	22 37 19.4	-1.0
DKNS	**Dickens**	**4.04**	**222**		Pn	22 37 21.4	+0.4
DKNS				IAmb_Lg		22 38 31.4	
	comp=Z,34nm,0.7s						
RTBA	**Rita Blanca**	**4.08**	**268**		Pn	22 37 22.3	+0.6
RTBA				Pg	Pb	22 37 33.8	+2.9
RTBA				IAmb_Lg		22 38 33.5	
	comp=Z,32nm,0.7s						
Z38A	**Mt. Pleasant**	**4.09**	**147**	Pn	Pn	22 37 21.1	-0.6
FW16	**Waxahatchie**	**4.27**	**171**	IAmb_Lg		22 38 37.5	
	comp=Z,54nm,0.8s						
FW14	**Alvarado**	**4.32**	**175**		Pn	22 37 23.4	-1.5
FW14				Pg	Pg	22 37 38.6	-2.7
FW14				IAmb_Lg		22 38 38.0	
	comp=Z,43nm,0.8s						
FW13	**Cleburne**	**4.36**	**177**		Pn	22 37 24.6	-0.8

MGMO	**Mountain Grove**	**4.36**	**83**		Pn	22 37 25.8 +0.5
MGMO				IAmb_Lg		22 38 35.9
	comp=Z,36nm,0.8s					
ABTX	**Abilene, Hawle**	**4.39**	**202**	IAmb_Lg		22 38 44.0
	comp=Z,26nm,0.8s					
X40A	**Basin Creek Fa**	**4.53**	**118**	IAmb_Lg		22 38 54.7
	comp=Z,40nm,0.9s					
FCAR	**Ozark Folk Cen**	**4.56**	**99**	IAmb_Lg		22 38 50.2
	comp=Z,26nm,0.7s					
R40A	**Maddies Statio**	**4.58**	**68**	IAmb_Lg		22 38 55.3
	comp=Z,60nm,1.0s					
WHAR	**Wooly Hollow**	**4.59**	**106**	IAmb_Lg		22 38 54.1
	comp=Z,37nm,0.8s					
UALR	**University of**	**4.75**	**112**	IAmb_Lg		22 38 52.7
	comp=Z,29nm,0.7s					
WLAR	**White Oak Lake**	**4.80**	**128**	IAmb_Lg		22 38 57.9
	comp=Z,29nm,0.8s					
POST	**Post**	**4.81**	**222**	IAmb_Lg		22 38 57.4
	comp=Z,38nm,1.1s					
MSTX	**Muleshoe**	**4.98**	**238**	IAmb_Lg		22 39 07.3
	comp=Z,23nm,0.9s					
P40A	**Paris**	**5.25**	**56**	IAmb_Lg		22 39 14.6
	comp=Z,50nm,1.0s					
Z41A	**Richland Creek**	**5.28**	**129**	IAmb_Lg		22 39 17.6
	comp=Z,41nm,0.9s					
T42A	**Van Buren**	**5.29**	**85**	IAmb_Lg		22 39 16.6
	comp=Z,22nm,0.8s					
CCM	**Cathedral Cave**	**5.29**	**73**	IAmb_Lg		22 39 14.6
	comp=Z,55nm,0.8s					
LCAR	**Lake Charles**	**5.30**	**95**	IAmb_Lg		22 39 13.1
	comp=Z,28nm,1.0s					
L34A	**Svendsen Farm,**	**5.34**	**10**	IAmb_Lg		22 39 17.2
	comp=Z,42nm,0.8s					
T25A	**Trinidad**	**5.41**	**277**	IAmb_Lg		22 39 15.7
	comp=Z,36nm,1.0s					
BRDY	**Brady**	**5.52**	**192**	IAmb_Lg		22 39 21.4
	comp=Z,22nm,1.2s					
NATX	**Nacogdoches**	**5.54**	**152**	IAmb_Lg		22 39 27.5
	comp=Z,35nm,0.8s					
SGCY	**Sterling City**	**5.57**	**212**	IAmb_Lg		22 39 29.3
	comp=Z,37nm,0.9s					
PBMO	**Poplar Bluff**	**5.82**	**87**	IAmb_Lg		22 39 33.8
	comp=Z,31nm,0.8s					
FVM	**French Village**	**5.92**	**75**	IAmb_Lg		22 39 27.3
	comp=Z,48nm,0.8s					
435B	**Jarrell**	**5.92**	**179**	IAmb_Lg		22 39 41.6
	comp=Z,28nm,0.9s					
SLM	**Saint Louis**	**6.21**	**70**	IAmb_Lg		22 39 37.0
	comp=Z,34nm,0.8s					
SCIA	**State Center**	**6.23**	**32**	IAmb_Lg		22 39 47.8
	comp=Z,40nm,0.8s					
JCT	**Junction City**	**6.46**	**197**	IAmb_Lg		22 39 52.8
	comp=Z,21nm,0.8s					
N41A	**Harden Midland**	**6.66**	**51**	IAmb_Lg		22 40 05.5
	comp=Z,43nm,0.8s					
ISCO	**Idaho Springs**	**6.96**	**299**	IAmb_Lg		22 40 07.3
	comp=Z,20nm,1.1s					
HNDO	**Hondo**	**7.29**	**191**	IAmb_Lg		22 40 18.4
	comp=Z,19nm,1.1s					
SUSD	**Miller**	**7.78**	**353**	IAmb_Lg		22 40 34.6
	comp=Z,23nm,0.8s					
JFWS	**Jewell Farm**	**8.43**	**40**	IAmb_Lg		22 40 48.9
	comp=Z,25nm,0.9s					
VHRN	**Van Horn**	**8.48**	**228**	IAmb_Lg		22 41 05.1
	comp=Z,18nm,1.3s					
K22A	**Casper**	**9.03**	**314**	IAmb_Lg		22 41 25.2
	comp=Z,19nm,0.9s					

*GII **22** 22:40:46.4±0.0, 36°.20N×29°.22E, h23km, confirmed*
*ISK **22** 22:40:55.2, 36°.18N×29°.23E, h21km, ML2.5/11*
ISC 22 22:40:52.8±1.3, 35°.95N±0°.05×29°.32E±0°.05, h40km±17km, n41, σ1°58/46, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.36**	**39**	Pg	**Pn**	**22 41 02.8**	**+0.9**
AKAS				Sg	**Sn**	**22 41 07.9**	**-0.4**
DEMR	**Demre-Antalya**	**0.55**	**59**	Pg	**Pn**	**22 41 06.0**	**+1.8**
FETY	**Fethiye**	**0.71**	**344**	Pg	**Pn**	**22 41 05.3**	**-1.1**
FETY				Sg	**Sn**	**22 41 12.9**	**-3.2**
ELL	**Elmali**	**0.92**	**31**	Pg	**Pn**	**22 41 10.6**	**+1.2**
ELL				Sg	**Sn**	**22 41 22.3**	**+0.7**
CAME	**Cameli-Denizli**	**0.99**	**359**	Pg	**Pn**	**22 41 10.1**	**-0.2**
CAME				Sg	**Sn**	**22 41 21.9**	**-1.3**
ARG	**Arkhangelos**	**1.00**	**285**	Pg	**Pn**	**22 41 12.9**	**+2.5**
DALY	**Dalyan (Mula)**	**1.02**	**328**	Pg	**Pn**	**22 41 10.9**	**+0.3**
DALY				Sg	**Sn**	**22 41 22.7**	**-0.9**
TURN	**Turunc**	**1.20**	**314**	Pg	**Pn**	**22 41 14.4**	**+1.4**
KORT	**Korkueli**	**1.33**	**38**	Pn	**Pn**	**22 41 17.2**	**+2.1**
ANTB	**Antalya**	**1.43**	**48**	Pn	**Pn**	**22 41 19.6**	**+3.4**
YER	**Yerkesik**	**1.45**	**325**	Pn	**Pn**	**22 41 17.7**	**+1.2**
CSS	**Mathiatis**	**3.42**	**106**	P	**Pn**	**22 41 40.9**	**-2.7**
CSS	**Mathiatis**	**3.42**	**106**	S	**Sn**	**22 42 22.5**	**-0.4**
HNTI	**Hanita**	**5.62**	**119**	P	**Pn**	**22 42 12.2**	**-1.6**
HNTI	**Hanita**	**5.62**	**119**	S	**Sn**	**22 43 17.2**	**+0.2**
MMA0B	**Mount Meron ar**	**5.81**	**119**	P	**Pn**	**22 42 14.3**	**-2.3**
MMA0B	**Mount Meron ar**	**5.81**	**119**	S	**Sn**	**22 43 22.2**	**+0.2**
GEM	**Giv'at Ha'Em**	**5.90**	**116**	P	**Pn**	**22 42 16.0**	**-1.7**
GEM	**Giv'at Ha'Em**	**5.90**	**116**	S	**Sn**	**22 43 24.3**	**+0.2**
SLTI	**Sal'it**	**6.02**	**126**	P	**Pn**	**22 42 17.6**	**-1.8**
SLTI	**Sal'it**	**6.02**	**126**	S	**Sn**	**22 43 27.6**	**+0.7**
MMLI	**Mount Malkishu**	**6.15**	**123**	P	**Pn**	**22 42 19.6**	**-1.6**
MMLI	**Mount Malkishu**	**6.15**	**123**	S	**Sn**	**22 43 30.5**	**+0.3**
HMDT	**Nahal Hemdat**	**6.33**	**124**	P	**Pn**	**22 42 21.9**	**-1.7**
HMDT	**Nahal Hemdat**	**6.33**	**124**	S	**Sn**	**22 43 35.9**	**+1.2**
KZIT	**Kziot**	**6.58**	**138**	P	**Pn**	**22 42 25.8**	**-1.3**
KZIT	**Kziot**	**6.58**	**138**	S	**Sn**	**22 43 42.2**	**+1.4**
DSI	**Dead Sea**	**6.67**	**129**	P	**Pn**	**22 42 27.2**	**-1.1**
DSI	**Dead Sea**	**6.67**	**129**	S	**Sn**	**22 43 44.5**	**+1.3**
GHAJ	**Ghor Haditha**	**6.97**	**130**	P	**Pn**	**22 42 30.8**	**-1.6**
GHAJ	**Ghor Haditha**	**6.97**	**130**	S	**Sn**	**22 43 52.1**	**+1.7**
PRNI	**Paran**	**7.34**	**138**	P	**Pn**	**22 42 36.4**	**-1.1**
PRNI	**Paran**	**7.34**	**138**	S	**Sn**	**22 43 59.8**	**+0.2**
KRMI	**Paran Flat**	**7.38**	**141**	P	**Pn**	**22 42 37.3**	**-0.8**
KRMI	**Paran Flat**	**7.38**	**141**	S	**Sn**	**22 44 02.2**	**+1.8**
HRFI	**Mount Harif**	**7.61**	**139**	P	**Pn**	**22 42 40.5**	**-0.6**
HRFI	**Mount Harif**	**7.61**	**139**	S	**Sn**	**22 44 07.4**	**+1.4**
MBRI	**Mt Berech**	**7.73**	**141**	P	**Pn**	**22 42 41.7**	**-1.3**
MBRI	**Mt Berech**	**7.73**	**141**	S	**Sn**	**22 44 11.3**	**+2.0**
EIL	**Elat**	**7.85**	**141**	P	**Pn**	**22 42 43.7**	**-0.8**
EIL	**Elat**	**7.85**	**141**	S	**Sn**	**22 44 14.3**	**+2.2**

IDC 22 22:50:00.3±1.8, 55°.09N×164°.35E, h0km, mb3.4/2, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=157.0km s-min=25.9km az=152.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.39**	**246**	Pn	Pn	22 51 09.0	+0.9
	0.6nm,0.3s,baz=76,slow=19,SNR=7.2						
PETK				Sn	Sn	22 51 58.8	-1.2
	0.8nm,0.3s,baz=269,slow=25,SNR=4.1						
	1.2nm,0.3s						
ILAR	**Eielson Array**	**25.62**	**48**	P	P	22 55 30.9	0.0
	1.0nm,1.0s,baz=272,slow=10,SNR=5.4						
	1.0nm,1.0s						
TXAR	**Lajitas Array**	**67.58**	**71**	P	P	23 00 58.5	-0.1
	0.2nm,0.5s,baz=317,slow=6.7,SNR=4.4						
	0.2nm,0.5s						

IDC 22 23:09:57.1±6.7, 29°.49S×178°.60W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=415.4km s-min=84.3km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.65**	**266**	P	P	23 17 56.2	+0.5
	0.6nm,0.6s,baz=104,slow=7.4,SNR=6.9						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**43.55**	**272**	P	P	23 18 02.3	-0.7
	0.5nm,0.3s,baz=115,slow=8.6,SNR=8.8						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**144.12**	**340**	PKP	PKPdf	23 29 33.5	-0.6
	1.3nm,0.8s,baz=45,slow=3.2,SNR=3.8						

*MDD **22** 23:21:47.4±1.0, 35°.34N×11°.33W, h0km, Mb3.9/5, M_mb3.2/5, Error ellipse: s-maj=9.7km s-min=5.9km az=94.0*
*IGIL **22** 23:21:50.0, 35°.31N×11°.55W, h36km, ML1.9*
*INMG **22** 23:21:50.6±1.2, 35°.33N×11°.57W, h38km, ML2.0, Error ellipse: s-maj=9.8km s-min=5.5km az=109.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Horseshoe-Ampre*
*CNRM **22** 23:21:57.0, 34°.47N×11°.07W, h28km*
ISC 22 23:21:46.5±2.2, 35°.24N±0°.04×11°.5W±0°.1, h35km, n48, σ1°92/74, 5C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.89**	**48**	⇓*i*P	**Pn**	**23 22 32.1**	**+2.1**
PFVI				*e*S	**Sn**	**23 23 03.4**	**-0.1**
PFVI				*i* AML	AML	23 23 04.2	
PFVI				*i* AML	AML	23 23 04.6	
PFVI				*i* AML	AML	23 23 05.1	
PFVI	**Vila Bisbo**	**2.89**	**48**	P	**Pn**	**23 22 31.9**	**+1.9**
PFVI				S	**Sn**	**23 23 03.0**	**-0.5**
MORF	**Marmelete**	**3.10**	**48**	*e*P	**Pn**	**23 22 35.2**	**+2.1**
MORF				*e*S	**Sn**	**23 23 08.4**	**-0.5**
MORF				IAML		23 23 09.9	
	comp=N,5.0nm,0.1s						
MORF	**Marmelete**	**3.10**	**48**	*e*P	**Pn**	**23 22 35.2**	**+2.1**
MORF				*e*S	**Sn**	**23 23 09.0**	**+0.1**
MORF				*i* AML	AML	23 23 10.7	
MORF				*i* AML	AML	23 23 11.0	
MORF				*i* AML	AML	23 23 13.7	
PTEO	**Sao Teotonio**	**3.23**	**44**	*e*P	**Pn**	**23 22 34.4**	**-0.2**
PTEO				*e*S	**Sn**	**23 23 11.5**	**-0.3**
PTEO				*i* AML	AML	23 23 13.2	
PTEO				*i* AML	AML	23 23 14.4	
PTEO				*i* AML	AML	23 23 14.9	
PBDV	**Barranco-do-Ve**	**3.53**	**54**	*e*P	**Pn**	**23 22 41.2**	**+2.3**
PBDV				*e*S	**Sn**	**23 23 18.9**	**-0.4**
PBDV				*i* AML	AML	23 23 21.4	
PBDV				*i* AML	AML	23 23 21.8	
PBDV				*i* AML	AML	23 23 22.1	
PCVE	**Castro Verde**	**3.69**	**49**	*e*P	**Pn**	**23 22 43.6**	**+2.5**
PCVE				*e*S	**Sn**	**23 23 23.0**	**-0.3**
PCVE				*i* AML	AML	23 23 24.3	
PCVE				*i* AML	AML	23 23 24.4	
PCVE				*i* AML	AML	23 23 24.4	
PCVE	**Castro Verde**	**3.69**	**49**	P	**Pn**	**23 22 43.1**	**+2.1**
PCVE				S	**Sn**	**23 23 23.1**	**-0.3**
MESJ	**Messejana**	**3.72**	**45**	*e*P	**Pn**	**23 22 43.3**	**+1.9**
MESJ				*e*S	**Sn**	**23 23 22.5**	**-1.5**
MESJ				IAML		23 23 25.6	
	comp=N,2.3nm,0.3s						
MESJ	**Messejana**	**3.72**	**45**	*e*P	**Pn**	**23 22 43.3**	**+1.9**
MESJ				*e*S	**Sn**	**23 23 23.3**	**-0.7**
MESJ				*i* AML	AML	23 23 24.9	
MESJ				*i* AML	AML	23 23 25.6	
MESJ				*i* AML	AML	23 23 26.3	
PVAQ	**Vaqueiros**	**3.76**	**54**	*e*P	**Pn**	**23 22 44.2**	**+2.3**
PVAQ				*e*S	**Sn**	**23 23 24.6**	**-0.4**
PVAQ				*i* AML	AML	23 23 28.4	
AVE	**Averroes**	**3.92**	**118**	S	**Sn**	**23 23 30.4**	**+1.5**
EGRO	**El Granado**	**3.99**	**54**	P	**Pn**	**23 22 47.3**	**+2.2**
EGRO				S	**Sn**	**23 23 30.1**	**-0.5**
EGRO	**El Granado**	**3.99**	**54**	P	**Pn**	**23 22 46.2**	**+1.1**
EGRO				⇑*i*Vmb_V		23 22 46.8	
	comp=N,168nm,SNR=1.2						
EGRO				S	**Sn**	**23 23 28.8**	**-1.8**
PBEJ	**Beja**	**4.05**	**46**	*e*P	**Pn**	**23 22 48.8**	**+2.8**
PBEJ				*e*S	**Sn**	**23 23 31.9**	**-0.3**
PBEJ				*i* AML	AML	23 23 32.7	
PBEJ				*i* AML	AML	23 23 33.1	
PBEJ				*i* AML	AML	23 23 33.6	
PMAFR	**Mafra**	**4.12**	**25**	*e*S	**Sn**	**23 23 32.3**	**-1.8**
PMAFR	**Mafra**	**4.12**	**25**	S	**Sn**	**23 23 32.2**	**-1.8**
EVO	**Evora**	**4.33**	**40**	*e*P	Pn	23 22 57.5	+7.7
EVO				*e*S	**Sn**	**23 23 37.8**	**-1.2**
PMTG	**Montargil**	**4.64**	**34**	*e*P	**Pn**	**23 22 55.8**	**+1.6**
PMTG				*e*S	**Sn**	**23 23 44.6**	**-2.3**
PMTG				*i* AML	AML	23 23 46.8	
PMTG				*i* AML	AML	23 23 49.5	
PMTG				*i* AML	AML	23 23 49.5	
PBAR	**Barrancos**	**4.65**	**50**	*e*P	**Pn**	**23 22 56.3**	**+2.1**
PBAR				*e*S	**Sn**	**23 23 45.8**	**-1.1**
PBAR				*i* AML	AML	23 23 52.3	
PBAR				*i* AML	AML	23 23 52.6	
PBAR				*i* AML	AML	23 23 53.3	
PBAR	**Barrancos**	**4.65**	**50**	P	**Pn**	**23 22 55.8**	**+1.6**
PBAR				S	**Sn**	**23 23 46.2**	**-0.6**
EMIN	**Mina Concepcio**	**4.65**	**56**	P	**Pn**	**23 22 56.4**	**+2.1**
EMIN				⇑*i*Vmb_V		23 22 58.0	
	comp=N,116nm,SNR=1.4						
EMIN				S	**Sn**	**23 23 45.3**	**-1.8**
PESTR	**Estremoz**	**4.80**	**40**	*e*S	**Sn**	**23 23 49.6**	**-1.0**
PESTR	**Estremoz**	**4.80**	**40**	S	**Sn**	**23 23 49.6**	**-1.0**
ESPR	**Espera**	**4.87**	**69**	S	**Sn**	**23 23 52.4**	**0.0**
ESPR				P	**Pn**	**23 22 58.6**	**+1.3**
EBAD	**Badajoz**	**5.04**	**44**	P	**Pn**	**23 22 61.9**	**+2.3**
EBAD				S	**Sn**	**23 23 54.9**	**-1.6**
EBAD	**Badajoz**	**5.04**	**44**	P	**Pn**	**23 22 59.5**	**0.0**
EBAD				⇑*i*Vmb_V		23 23 06.3	
	comp=N,90nm,SNR=1.3						
EBAD				S	**Sn**	**23 23 53.6**	**-2.9**
PMRV	**Marv??o**	**5.32**	**37**	*e*P	**Pn**	**23 23 05.8**	**+2.3**
PMRV				*e*S	**Sn**	**23 24 00.9**	**-2.8**
PMRV				*i* AML	AML	23 24 02.5	
PMRV				*i* AML	AML	23 24 03.5	
PMRV				*i* AML	AML	23 24 04.1	
TTIG	**Tnine Tigouga,**	**5.35**	**150**	P	**Pn**	**23 23 03.7**	**-0.3**
TTIG	**Tnine Tigouga,**	**5.35**	**150**	S	Sn	23 23 55.8	-8.6
PCAS	**Casmilo, Conde**	**5.37**	**26**	*e*S	**Sn**	**23 24 03.6**	**-1.2**
IFR	**Ifrane**	**5.56**	**106**	P	**Pn**	**23 23 08.2**	**+1.2**
IFR				S	**Sn**	**23 24 06.7**	**-3.0**
TIO	**Tiouine**	**5.59**	**139**	P	**Pn**	**23 23 09.0**	**+1.7**
TIO				S	**Sn**	**23 24 08.1**	**-2.3**
TIO	**Tiouine**	**5.59**	**139**	P	**Pn**	**23 23 07.5**	**+0.2**
TIO	**Tiouine**	**5.59**	**139**	S	Sn	23 24 02.5	-8.0
ECAB	**El Cabril**	**5.67**	**58**	P	**Pn**	**23 23 09.8**	**+1.6**
ECAB				S	**Sn**	**23 24 09.8**	**-2.3**
ECAB	**El Cabril**	**5.67**	**58**	P	**Pn**	**23 23 10.2**	**+2.0**
ECAB				⇑*i*Vmb_V		23 23 18.2	
	comp=N,80nm,SNR=1.2						
ECAB				S	**Sn**	**23 24 09.5**	**-2.6**
OUZM	**OUZ**	**5.88**	**136**	P	**Pn**	**23 23 11.5**	**+0.2**
OUZM	**OUZ**	**5.88**	**136**	S	Sn	23 24 09.4	-8.3
MD31	**MD31**	**6.09**	**111**	P	**Pn**	**23 23 16.6**	**+2.4**
MD31	**MD31**	**6.09**	**111**	S	**Sn**	**23 24 19.7**	**-3.0**
MDT	**Midelt**	**6.23**	**111**	P	**Pn**	**23 23 18.7**	**+2.6**
MDT	**Midelt**	**6.23**	**111**	S	**Sn**	**23 24 24.5**	**-1.6**
EADA	**Adamuz**	**6.30**	**60**	P	**Pn**	**23 23 18.5**	**+1.5**
EADA				S	**Sn**	**23 24 26.0**	**-1.7**
EADA	**Adamuz**	**6.30**	**60**	P	**Pn**	**23 23 18.9**	**+1.9**
EADA				⇑*i*Vmb_V		23 23 23.5	
	comp=N,58nm,SNR=1.2						
EADA				S	**Sn**	**23 24 25.2**	**-2.6**
EPLA	**Plasencia**	**6.47**	**40**	S	**Sn**	**23 24 28.6**	**-3.3**
ELOB	**Lobios**	**7.15**	**21**	S	**Sn**	**23 24 43.3**	**-5.4**
PSIM	**Granatula de C**	**7.17**	**58**	P	**Pn**	**23 23 29.4**	**+0.5**
PSIM				S	**Sn**	**23 24 45.9**	**-3.2**

*MOS **22** 23:54:03.7±1.1, 45°.09N×149°.57E, h41km, mb4.4/1, Error ellipse: s-maj=23.0km s-min=12.0km az=143.0*
*SKHL **22** 23:54:03.6±0.3, 44°.80N×149°.80E, h55km±5km, mb4.9/3*
*JMA **22** 23:54:04.8±0.9, 45°N±4°×15°0E±°, h30km, MV4.3/16, SE OFF ETOROFU*
*IDC **22** 23:54:10.6±3.1, 45°.14N×149°.42E, h87km±22km, mb3.3/9, mbtmp3.6/11, MS2.7/3, Error ellipse: s-maj=54.2km s-min=16.3km az=161.0*
ISC 22 23:54:05.3±2.2, 44°.46N±0°.09×149°.8E±0°.1, h67km±19km, n52, σ1°47/56, mb3.5/9, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.56**	**300**	⇓*i*PN	**Pn**	**23 54 31.5**	**+0.7**
KUR				pmax	pmax		
	comp=Z,885nm,0.3s						
KUR	**Kuril'sk**	**1.56**	**300**	*e*P	Pn	23 54 26.2	-4.6
KUR				AMB	AMB	23 54 27.1	
	comp=Z,450nm,0.4s						
KUR				*i* S	Sn	23 54 42.0	-8.1
KUR				A	A	23 54 44.0	
	comp=Z,1μm,0.4s						
KUR				A	A	23 54 44.0	
	comp=Z,520nm,0.4s						
SHO	**Shikotan**	**2.19**	**255**	*e*PN	**Pn**	**23 54 38.9**	**-0.5**
SHO				*e*S	**Sn**	**23 55 04.1**	**-1.4**
SHO				pmax	pmax		
	comp=E,71nm,0.3s						
SHO				pmax	pmax		
	comp=Z,89nm,0.3s						
SHO				pmax	pmax		
	comp=N,40nm,0.1s						
SHO				smax	smax		
	comp=N,411nm,0.3s						
SHO				smax	smax		
	comp=E,343nm,0.3s						
SHO	**Shikotan**	**2.19**	**255**	*e*P	**Pn**	**23 54 39.0**	**-0.5**
SHO				AMB	AMB	23 54 43.7	
	comp=E,70nm,0.3s						
SHO				AMB	AMB	23 54 43.7	
	comp=E,90nm,0.3s						
SHO				*e*S	**Sn**	**23 55 04.1**	**-1.4**
SHO				A	A	23 55 12.5	
	comp=E,410nm,0.3s						
SHO				A	A	23 55 12.5	
	comp=E,340nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.84**	**263**	*c*PN	**Pn**	**23 54 48.9**	**+0.8**
YUK				*e*S	**Sn**	**23 55 20.6**	**-0.6**
YUK				pmax	pmax		
	comp=E,79nm,0.2s						
YUK				pmax	pmax		
	comp=Z,394nm,0.2s						
YUK				pmax	pmax		
	comp=N,64nm,0.1s						
YUK				smax	smax		
	comp=N,519nm,0.3s						
YUK				smax	smax		
	comp=E,610nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.84**	**263**	*i* P	**Pn**	**23 54 47.9**	**-0.2**
YUK				AMB	AMB	23 54 50.6	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	23 54 50.6	
	comp=E,80nm,0.3s						
YUK				AMB	AMB	23 54 50.6	
	comp=E,290nm,0.3s						
YUK				*i* S	**Sn**	**23 55 20.1**	**-1.1**
YUK				A	A	23 55 29.8	
	comp=E,470nm,0.4s						
YUK				A	A	23 55 29.8	
	comp=E,580nm,0.4s						
NEM2	**Nemuro 2**	**3.10**	**251**	P	**Pn**	**23 54 51.8**	**0.0**
NEM2				*e*S	**Sn**	**23 55 27.2**	**-0.5**
NMR	**Nemuro--Hokkai**	**3.11**	**251**	⇑*i*PN	**Pn**	**23 54 51.7**	**-0.2**
NMR	**Nemuro--Hokkai**	**3.11**	**251**	*i* P	**Pn**	**23 54 51.9**	**0.0**
NMR				*e*S	**Sn**	**23 55 28.0**	**+0.1**
RUSJ	**Misakicho**	**3.26**	**265**	*e*PN	**Pn**	**23 54 52.9**	**-1.1**
RUSJ				*e*S	**Sn**	**23 55 29.7**	**-1.9**
JRA	**Rausu**	**3.38**	**263**	*e*P	**Pn**	**23 54 56.7**	**+1.1**
JRA				*e*S	**Sn**	**23 55 36.4**	**+2.0**
JNK	**Nakash**	**3.74**	**258**	P	**Pn**	**23 55 02.1**	**+1.6**
AKK	**Akkeshi**	**3.85**	**250**	*e*P	**Pn**	**23 55 02.3**	**+0.4**
AKK				*e*S	**Sn**	**23 55 46.0**	**+0.1**
JAK	**Akkeshi**	**3.95**	**250**	P	**Pn**	**23 55 04.4**	**+1.0**
JAK				*e*S	**Sn**	**23 55 48.4**	**-0.1**
JTKR	**Abashiri--Toko**	**4.24**	**265**	*e*P	**Pn**	**23 55 08.1**	**+0.8**
JAR	**Ashorobuto**	**4.49**	**257**	P	**Pn**	**23 55 12.9**	**+2.2**
JAR				*e*S	**Sn**	**23 56 04.0**	**+2.4**
JOB	**Onbets**	**4.57**	**252**	P	**Pn**	**23 55 14.4**	**+2.5**
JOB				*e*S	**Sn**	**23 56 03.5**	**-0.1**
JCH	**Churui**	**5.01**	**251**	P	**Pn**	**23 55 20.6**	**+2.8**
JCH				*e*S	**Sn**	**23 56 14.7**	**+0.4**
JKA	**Kamikawa-asahi**	**5.16**	**269**	*e*P	**Pn**	**23 55 21.4**	**+1.6**
ASAJ	**Asahikawa**	**5.16**	**269**	P	**Pn**	**23 55 21.4**	**+1.6**
	comp=E,8.7nm,0.3s,baz=48,slow=14,SNR=10						
ASAJ				S	**Sn**	**23 56 20.3**	**+2.3**
	comp=E,3.3nm,0.4s,baz=84,slow=30,SNR=1.0						
ERM	**Erimo**	**5.41**	**245**	⇑*e*PN	**Pn**	**23 55 27.0**	**+3.7**
JNBK	**Urakawa-nobuka**	**5.56**	**249**	*e*P	**Pn**	**23 55 26.9**	**+1.6**
JNBK				*e*S	**Sn**	**23 56 26.2**	**-1.6**
JRBN	**Rebuntou**	**6.25**	**282**	*e*P	**Pn**	**23 55 36.4**	**+1.6**
JANG	**Nango**	**7.34**	**239**	*e*P	**Pn**	**23 55 50.5**	**+0.8**
JANG				S	**Sn**	**23 57 09.1**	**-2.5**
JTH	**Tanohata**	**7.40**	**235**	*e*S	**Sn**	**23 57 11.8**	**-1.3**
PETK	**Petropavlovsk-**	**10.11**	**28**	P	Pn	23 56 27.7	+0.2
	comp=E,3.0nm,0.8s,baz=209,slow=12,SNR=7.2						
PET	**Petropavlovsk**	**10.38**	**31**	⇑*e*PN	Pn	23 56 22.2	-8.9
PET	**Petropavlovsk**	**10.38**	**31**	*e*P	Pn	23 56 26.6	-4.5
MJAR	**Matsushiro Arr**	**11.82**	**232**	LR	LR	00 00 52.3	
	comp=E,27nm,18.9s,baz=14,slow=33						
KSRS	**Korea Array**	**17.89**	**255**	LR	LR	00 05 10.4	
	comp=E,16nm,18.4s,baz=10.0,slow=37						
YAK	**Yakutsk**	**21.15**	**333**	LR	LR	00 06 22.0	
	comp=E,38nm,18.7s,baz=88,slow=36						
H11N2	**WAKE ISLAND Hy 28.49**	**144**		T	T	00 30 53.5	
	baz=334,slow=76,SNR=137						
H11N1	**WAKE ISLAND Hy 28.51**	**144**		T	T	00 30 52.0	
	baz=334,slow=76,SNR=158						
H11N3	**WAKE ISLAND Hy 28.51**	**144**		T	T	00 30 51.9	
	baz=334,slow=76,SNR=138						
H11S1	**WAKE ISLAND Hy 29.51**	**146**		T	T	00 32 07.6	
	baz=335,slow=76,SNR=178						
H11S3	**WAKE ISLAND Hy 29.52**	**146**		T	T	00 32 08.1	
	baz=335,slow=76,SNR=100						
H11S2	**WAKE ISLAND Hy 29.53**	**146**		T	T	00 32 09.1	
	baz=335,slow=76,SNR=169						
ILAR	**Eielson Array**	**39.80**	**37**	P	**P**	**00 01 31.1**	**-0.2**
	comp=E,0.2nm,0.4

0.3nm,0.6s
INK Inuvik 84.33 22 LR LR 00 57 21.2
comp=Z,20nm,19.2s,baz=245,slow=38
FINES FINESS Array B 86.25 332 P P 00 16 38.1 0.0
1.6nm,0.8s,baz=83,slow=3.2,SNR=4.2
1.6nm,0.8s

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*GCMT **23** 00:09:13.8±0.4, 19°.52S±0°.03×169°.10E±0°.03, h173km±5km, MW4.9/82, Moment Tensor Solution. s12,c13; s82,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.54±.11; Mθθ1.64±.15; Mφφ-2.18±.14; Mrθ-1.16±.10; Mθφ1.00±.12; Mφr-1.35±.09; Best double couple: M0 2.83400×10^16 NP1:φs305.00000°, δ51.00000°, λ12.00000°. NP2: φs208.00000°, δ81.00000°, λ140.00000°. Principal axes: T 2.8710, Plg34.0000°, Azm159.0000°; N -0.0770, Plg49.0000°, Azm17.0000°; P -2.7960, Plg20.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **23** 00:09:13.8±1.2, 19°.41S±0°.10×169°.2E±0°.1, h148km±9km, mb4.7/64 Error ellipse: s-maj=16.2km s-min=11.8km az=138.0*

*IDC **23** 00:09:13.3±0.6, 19°.39S×169°.05E, h153km±5km, mb4.0/12, mbtmp4.5/14, MS3.3/5, Error ellipse: s-maj=15.2km s-min=10.2km az=135.0*

*NOU **23** 00:09:14.0, 19°.40S×169°.12E, h142km, mb4.6/33, Vanuatu Islands*

ISC 23 00:09:13.4±0.5, 19°.39S±0°.04×169°.16E±0°.06, h151km±4km, h150km; pP-P, n178, σ1°.07/186, mb4.7/43, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.90**	**331**	P	**Pn**	**00 09 47.2**	**-0.2**
DVP	**Devils Point**	**1.90**	**331**	S	**Sn**	**00 10 13.4**	**-0.1**
MARNC	**Mare, Loyalty**	**2.33**	**207**	P	**Pn**	**00 09 51.5**	**-1.1**
MARNC	**Mare, Loyalty**	**2.33**	**207**	P	**Sn**	**00 10 20.5**	**-2.3**
YATNC	**Mamie plateau,**	**3.40**	**218**	P	**Pn**	**00 10 04.7**	**-1.2**
YATNC	**Mamie plateau,**	**3.40**	**218**	S	**Sn**	**00 10 46.8**	**+0.1**
PINNC	**Pines Island,**	**3.58**	**206**	Pn	**Pn**	**00 10 08.3**	**0.0**
PINNC				Sn	**Sn**	**00 10 49.2**	**-1.7**
PINNC	**Pines Island,**	**3.58**	**206**	P	**Pn**	**00 10 08.8**	**+0.5**
PINNC	**Pines Island,**	**3.58**	**206**	S	**Sn**	**00 10 51.2**	**+0.3**
DZM	**Mont Dzumac**	**3.68**	**223**	Pn	**Pn**	**00 10 09.1**	**-0.6**
DZM				Sn	**Sn**	**00 10 52.2**	**-1.2**
DZM	**Mont Dzumac**	**3.68**	**223**	P	**Pn**	**00 10 10.2**	**+0.5**
	64nm,0.5s,baz=57,slow=18,SNR=89						
DZM				S	**Sn**	**00 10 51.9**	**-1.4**
	95nm,0.5s,baz=21,slow=17,SNR=8.1						
DZM				LR	LR	00 11 32.6	
	comp=Z,343nm,18.4s,baz=84,slow=39						
OUENC	**Ouen Island, N**	**3.71**	**215**	P	**Pn**	**00 10 10.9**	**+1.0**
OUENC	**Ouen Island, N**	**3.71**	**215**	S	**Sn**	**00 10 54.2**	**+0.4**
ONTNC	**Ouen Toro**	**3.85**	**221**	Pn	**Pn**	**00 10 11.3**	**-0.5**
ONTNC				Sn	**Sn**	**00 10 56.6**	**-0.4**
ONTNC	**Ouen Toro**	**3.85**	**221**	P	**Pn**	**00 10 12.1**	**+0.4**
ONTNC	**Ouen Toro**	**3.85**	**221**	S	**Sn**	**00 10 57.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**4.72**	**255**	P	**Pn**	**00 10 24.5**	**+1.3**
MSVF	**Nonsavu**	**8.59**	**80**		**Pn**	**00 11 14.6**	**-0.3**
MSVF	**Nonsavu**	**8.59**	**80**	P	**Pn**	**00 11 17.2**	**+2.4**
	36nm,0.9s,baz=257,slow=12,SNR=14						
FUTU	**Fugatoga**	**13.18**	**69**	Pn	**Pn**	**00 12 14.9**	**-0.2**
HNR	**Honiara**	**13.32**	**317**	Pn	**Pn**	**00 12 17.1**	**+0.3**
OUZ	**Omahuta**	**16.25**	**167**	P	**P**	**00 12 54.5**	**+1.2**
OUZ	**Omahuta**	**16.25**	**167**	S	**Sn**	**00 15 55.9**	**+1.5**
OUZ	**Omahuta**	**16.25**	**167**	P	**P**	**00 12 54.6**	**+1.3**
WCZ	**Waipu Caves**	**17.11**	**166**	P	**Pn**	**00 13 05.5**	**+2.1**
GRZ	**Great Barrier**	**17.69**	**163**	P	**Pn**	**00 13 13.6**	**+3.2**
EIDS	**Eidsvold**	**17.74**	**247**		**P**	**00 13 10.4**	**+0.6**
MKAZ	**Moumakai**	**18.41**	**165**	P	**Pn**	**00 13 18.5**	**-0.5**
TOZ	**Tahuroa Road**	**19.09**	**164**	P	**P**	**00 13 25.8**	**+1.4**
TOZ				IAmb	IAmb	00 13 27.3	
	comp=Z,54nm,1.1s						
TOZ	**Tahuroa Road**	**19.09**	**164**	P	**P**	**00 13 25.8**	**+1.4**
HIZ	**Hauiti**	**19.69**	**167**	P	**P**	**00 13 31.9**	**+1.0**
HIZ	**Hauiti**	**19.69**	**167**	P	**Pn**	**00 13 33.1**	**-0.8**
HAZ	**Te Kaha**	**19.79**	**159**	P	**P**	**00 13 33.3**	**+1.4**
MXZ	**Matakaoa Point**	**19.79**	**158**	P	**P**	**00 13 32.2**	**+0.2**
MXZ				IAmb	IAmb	00 13 38.9	
	comp=Z,37nm,0.9s						
MXZ	**Matakaoa Point**	**19.79**	**158**	P	**Pn**	**00 13 35.8**	**+0.7**
RUGZ	**Raukumara Rang**	**19.94**	**160**	P	**Pn**	**00 13 35.6**	**-1.4**
PKGZ	**Pakihiroa**	**19.98**	**159**	P	**Pn**	**00 13 36.1**	**-1.3**
URZ	**Urewera**	**20.03**	**161**	P	**P**	**00 13 35.6**	**+1.0**
	comp=Z,40nm,0.9s,baz=19,slow=3.3,SNR=36						
	comp=Z,40nm,0.9s						
URZ	**Urewera**	**20.03**	**161**	P	**P**	**00 13 36.2**	**+1.6**
URZ	**Urewera**	**20.03**	**161**	P	**P**	**00 13 36.1**	**+1.6**
MWZ	**Matawai**	**20.23**	**161**	P	**P**	**00 13 38.4**	**+1.6**
PUZ	**Puketiti**	**20.23**	**159**	P	**P**	**00 13 37.8**	**+1.1**
RTZ	**Ruatahuna**	**20.32**	**162**	P	**P**	**00 13 38.3**	**+0.5**
RTZ	**Ruatahuna**	**20.32**	**162**	P	**P**	**00 13 39.6**	**+1.7**
OTVZ	**Oturere**	**20.49**	**165**	P	Pn	00 13 41.9	-1.7
RAHZ	**Arahi**	**20.63**	**162**	P	**P**	**00 13 42.5**	**+1.5**
RIGZ	**Rimuhau**	**20.64**	**161**	P	**P**	**00 13 41.9**	**+0.7**
BKZ	**Black Stump Fm**	**20.70**	**164**	P	**P**	**00 13 42.2**	**+0.4**
BKZ	**Black Stump Fm**	**20.70**	**164**	P	Pn	00 13 44.1	-1.9
BKZ	**Black Stump Fm**	**20.70**	**164**	P	**P**	**00 13 42.9**	**+1.1**
KNZ	**Kokohu**	**20.91**	**161**	P	**P**	**00 13 44.0**	**+0.1**
TSZ	**Takapari Road**	**21.41**	**166**	P	**P**	**00 13 50.6**	**+1.2**
QRZ	**Quartz Range**	**21.56**	**173**	P	**P**	**00 13 51.3**	**+0.4**
QRZ				IAmb	IAmb	00 13 54.5	
	comp=Z,46nm,1.2s						
QRZ	**Quartz Range**	**21.56**	**173**	P	**P**	**00 13 52.7**	**+1.8**
QRZ	**Quartz Range**	**21.56**	**173**	P	**P**	**00 13 53.7**	**+2.7**
PXZ	**Pawanui**	**21.61**	**164**	P	**P**	**00 13 52.6**	**+1.1**
TKNZ	**Takaka Hill**	**21.82**	**172**	P	**P**	**00 13 55.2**	**+1.5**
MRZ	**Mangatainoka R**	**21.90**	**167**	P	**P**	**00 13 54.4**	**-0.1**
MRZ				IAmb	IAmb	00 13 56.6	
	comp=Z,46nm,1.2s						
MRZ	**Mangatainoka R**	**21.90**	**167**	P	**P**	**00 13 54.0**	**-0.5**
NNZ	**Nelson**	**22.05**	**171**	P	**P**	**00 13 57.5**	**+1.5**
BFZ	**Birch Farm**	**22.07**	**166**	P	**P**	**00 13 56.0**	**-0.2**
BFZ				IAmb	IAmb	00 13 59.2	
	comp=Z,39nm,1.1s						
BFZ	**Birch Farm**	**22.07**	**166**	P	**P**	**00 13 56.2**	**0.0**
BFZ	**Birch Farm**	**22.07**	**166**	P	**P**	**00 13 55.3**	**-0.9**
MRNZ	**Matariki Terra**	**22.15**	**173**	P	**P**	**00 13 57.7**	**+0.7**
TCW	**Tory Channel**	**22.18**	**170**	P	**P**	**00 13 56.9**	**-0.4**
TUWZ	**Tuamarina**	**22.34**	**171**	P	**P**	**00 13 59.6**	**+0.7**
SNZO	**South Karori**	**22.36**	**169**	P	**P**	**00 13 59.1**	**+0.2**
SNZO				IAmb	IAmb	00 14 00.8	
	comp=Z,26nm,0.8s						
SNZO	**South Karori**	**22.36**	**169**	P	**P**	**00 14 00.4**	**+1.5**
DSZ	**Denniston Nort**	**22.40**	**175**	P	**P**	**00 14 00.1**	**+0.7**
DSZ	**Denniston Nort**	**22.40**	**175**	P	**P**	**00 14 01.3**	**+1.8**
KRVT	**Keravat (AS076**	**22.45**	**310**	LR	LR	00 20 32.1	
	comp=Z,52nm,21.7s,baz=9.6,slow=30						
BHW	**Baring Head**	**22.48**	**169**	P	**P**	**00 14 00.5**	**+0.3**
BHW				IAmb	IAmb	00 14 02.0	
	comp=Z,24nm,0.6s						
THZ	**Tophouse**	**22.53**	**173**	P	**P**	**00 14 00.9**	**+0.2**
THZ				IAmb	IAmb	00 14 02.2	
	comp=Z,25nm,0.7s						
THZ	**Tophouse**	**22.53**	**173**	P	**P**	**00 14 01.1**	**+0.4**
MSWZ	**Moikau Station**	**22.56**	**168**	P	**P**	**00 14 00.2**	**-0.8**
BSWZ	**Blackbirch Sta**	**22.61**	**171**	P	**P**	**00 14 01.6**	**+0.2**
PLWZ	**Palliser**	**22.71**	**168**	P	**P**	**00 14 02.0**	**-0.4**
KHZ	**Kahutara**	**23.25**	**172**	P	**P**	**00 14 06.9**	**-0.3**
KHZ				IAmb	IAmb	00 14 08.7	
	comp=Z,27nm,0.8s						
KHZ	**Kahutara**	**23.25**	**172**	P	**P**	**00 14 07.1**	**-0.2**
KHZ	**Kahutara**	**23.25**	**172**	P	**P**	**00 14 06.5**	**-0.8**
INZ	**Inchbonnie**	**23.34**	**176**	P	**P**	**00 14 08.3**	**+0.2**
INZ	**Inchbonnie**	**23.34**	**176**	P	**P**	**00 14 08.6**	**+0.4**
LTZ	**Lake Taylor**	**23.47**	**174**	P	**P**	**00 14 08.8**	**-0.6**
LTZ	**Lake Taylor**	**23.47**	**174**	P	**P**	**00 14 09.9**	**+0.6**
GVZ	**Greta Valley S**	**23.73**	**173**	P	**P**	**00 14 11.9**	**+0.2**
AMCZ	**Amberley**	**23.90**	**174**	P	**P**	**00 14 13.9**	**+0.8**
OXZ	**Oxford**	**23.99**	**175**	P	**P**	**00 14 14.0**	**+0.1**
FOZ	**Fox Glacier**	**24.08**	**179**	P	**P**	**00 14 15.4**	**+0.6**
FOZ				IAmb	IAmb	00 14 16.5	
	comp=Z,22nm,0.8s						
FOZ	**Fox Glacier**	**24.08**	**179**	P	**P**	**00 14 15.4**	**+0.6**
RPZ	**Rata Peaks**	**24.30**	**177**	P	**P**	**00 14 17.9**	**+1.0**
JCZ	**Jackson Bay**	**24.61**	**181**	P	**P**	**00 14 21.4**	**+1.6**
JCZ	**Jackson Bay**	**24.61**	**181**	P	**P**	**00 14 21.3**	**+1.5**
ODZ	**Otahua Downs**	**25.61**	**178**	P	**P**	**00 14 27.9**	**-0.8**
ODZ				IAmb	IAmb	00 14 40.9	
	comp=Z,22nm,1.4s						
TUZ	**Tuapeka**	**26.49**	**179**	P	**P**	**00 14 37.1**	**+0.6**
STKA	**Stephens Creek**	**27.70**	**238**	P	**P**	**00 14 45.7**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=80,slow=11,SNR=3.1						
STKA				LR	LR	00 26 01.8	
	comp=Z,41nm,19.7s,baz=44,slow=36						
	comp=Z,1.2nm,0.6s						
LCRK	**Leigh Creek**	**30.05**	**242**	P	**P**	**00 15 09.4**	**+1.0**
OOD	**Oodnadatta**	**31.71**	**248**	P	**P**	**00 15 24.3**	**+1.2**
BBOO	**Buckleboo**	**32.44**	**239**	P	**P**	**00 15 30.6**	**+1.2**
JAY	**Jayapura**	**32.48**	**298**	LR	LR	00 28 51.8	
	comp=Z,65nm,18.4s,slow=36						
WRA	**Warramunga Arr**	**32.76**	**263**	P	**P**	**00 15 31.6**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=95,slow=8.9,SNR=16						
	comp=Z,3.8nm,0.7s						
AS01	**Alice Springs**	**32.97**	**256**	P	**P**	**00 15 34.2**	**0.0**
AS31	**Alice Springs**	**33.02**	**256**	P	**P**	**00 15 34.2**	**-0.4**
ASAR	**Alice Springs**	**33.02**	**256**	P	**P**	**00 15 34.0**	**-0.6**
ASAR	**Alice Springs**	**33.02**	**256**	P	**P**	**00 15 34.4**	**-0.1**
	comp=Z,7.1nm,0.4s,baz=88,slow=8.4,SNR=77						
ASAR				pP	**pP**	**00 16 06.3**	**+1.3**
	comp=Z,3.7nm,0.8s,baz=90,slow=8.4,SNR=2.9						
ASAR				PcP	**PcP**	**00 18 13.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=83,slow=2.8,SNR=1.2						
ASAR				S	**S**	**00 20 37.2**	**-4.9**
	comp=Z,0.6nm,0.9s,baz=100,slow=16,SNR=3.3						
ASAR				LR	LR	00 27 49.1	
	comp=Z,65nm,19.4s,baz=72,slow=34						
	comp=Z,7.1nm,0.4s						
WRKA	**Warakurna**	**38.14**	**254**	P	**P**	**00 16 18.8**	**+0.5**
FAKI	**Fak Fak**	**39.60**	**290**	P	**P**	**00 16 31.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**41.15**	**264**	P	**P**	**00 16 43.1**	**-0.1**
SOEI	**Soe**	**44.38**	**276**	P	**P**	**00 17 09.6**	**+0.2**
MBWA	**Marble Bar**	**46.25**	**259**	P	**P**	**00 17 24.5**	**+0.6**
MEEK	**Meekatharra**	**46.84**	**251**	P	**P**	**00 17 29.6**	**+1.1**
VNDA	**Vanda**	**58.28**	**182**	P	**P**	**00 18 50.7**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=8.0,slow=7.5,SNR=6.5						
	comp=Z,2.0nm,0.9s						
SBA	**Scott Base**	**58.51**	**181**	P	**P**	**00 18 53.8**	**+0.4**
NJ2	**Nanjing**	**70.26**	**316**	*e*P	**P**	**00 20 12.9**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
QSPA	**South Pole Qui**	**70.66**	**180**	P	**P**	**00 20 12.5**	**0.0**
	comp=Z,17nm,1.0s,baz=23,slow=2.6,SNR=41						
	comp=Z,17nm,1.0s						
XAN	**Xi'an**	**78.16**	**313**	P	**P**	**00 20 56.8**	**+0.6**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.50**	**294**	P	**P**	**00 20 59.2**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=111,slow=6.2,SNR=6.2						
CMAR				pP	**pP**	**00 21 35.4**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=110,slow=6.0,SNR=1.5						
	comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**79.72**	**303**	P	**P**	**00 21 04.6**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,7.1s						
HHC	**Hu-ho-hao-te**	**80.28**	**319**	*e*P	**P**	**00 21 11.4**	**+3.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,96nm,5.2s						
SYO	**Syowa Base**	**84.77**	**196**	⇑*e*P	**P**	**00 21 30.5**	**+0.2**
ELIB	**Princess Elisa**	**85.98**	**190**	*d*P	**P**	**00 21 35.8**	**-0.7**
	comp=Z,5.2nm,1.3s						
SONM	**Songino Array**	**87.29**	**323**	P	**P**	**00 21 44.2**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=130,slow=5.8,SNR=4.5						
SONM				pP	**pP**	**00 22 20.3**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=131,slow=4.0,SNR=6.4						
	comp=Z,0.8nm,0.9s						
CMB	**Columbia Colle**	**87.31**	**48**		**P**	**00 21 43.0**	**-0.4**
AFDM	**Forest Hills D**	**87.32**	**47**		**P**	**00 21 43.0**	**-0.4**
AFDM				IAmb	IAmb	00 21 44.7	
	comp=Z,6.6nm,1.0s						
TROLL	**Troll, Antarti**	**88.38**	**184**	⇑P	**P**	**00 21 47.3**	**-0.7**
	comp=Z,418nm,0.7s						
DSP	**Deep Springs**	**88.74**	**50**		**P**	**00 21 50.8**	**+0.7**
PAHR	**Pah Rah Range**	**88.76**	**47**	P	**P**	**00 21 49.2**	**-1.1**
PAHR				IAmb	IAmb	00 21 51.8	
	comp=Z,7.7nm,1.2s						
RYN	**Ryan**	**88.89**	**48**	P	**P**	**00 21 50.9**	**0.0**
NVAR	**Mina Array Bea**	**88.96**	**49**	P	**P**	**00 21 50.6**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=253,slow=5.5,SNR=8.8						
	comp=Z,1.8nm,0.8s						
SNAA	**Sanae**	**89.01**	**183**	⇑P	**P**	**00 21 49.8**	**-1.1**
	comp=Z,91nm,0.7s						
SNAA	**Sanae**	**89.01**	**183**	P	**P**	**00 21 49.5**	**-1.4**
	comp=Z,4.5nm,0.8s,baz=200,slow=7.2,SNR=14						
	comp=Z,4.5nm,0.8s						
J05D	**Fort Rock, OR**	**89.16**	**43**	P	**P**	**00 21 51.9**	**-0.2**
GWY	**Greenwater Val**	**89.18**	**51**		**P**	**00 21 52.4**	**0.0**
GWY				IAmb	IAmb	00 21 54.1	
	comp=Z,8.8nm,1.1s						
GMN	**Gold Mountain**	**89.22**	**50**	P	**P**	**00 21 51.9**	**-0.7**
GLA	**Glamis**	**89.29**	**55**	P	**P**	**00 21 52.4**	**-0.4**
GLA				IAmb	IAmb	00 21 55.5	
	comp=Z,6.8nm,0.9s						
MZP	**Montezuma Peak**	**89.30**	**50**	P	**P**	**00 21 52.9**	**-0.2**
WCT	**Wildcat Mounta**	**89.47**	**51**	P	**P**	**00 21 53.3**	**-0.3**
WCT				IAmb	IAmb	00 21 55.6	
	comp=Z,7.7nm,1.2s						
PINE	**Pine Mountain**	**89.58**	**43**	P	**P**	**00 21 54.8**	**+0.6**
VNA3	**Neumayer Olymp**	**89.60**	**180**	⇑P	**P**	**00 21 52.5**	**-1.1**
	comp=Z,15nm,0.7s						
BLYC	**Blythe**	**89.80**	**54**		**P**	**00 21 55.6**	**+0.5**
BLYC				IAmb	IAmb	00 21 56.9	
	comp=Z,7.8nm,1.1s						
TPNV	**Topopah Spring**	**89.81**	**51**		**P**	**00 21 55.4**	**+0.1**
TPNV				IAmb	IAmb	00 21 56.8	
	comp=Z,8.9nm,1.0s						
VNA2	**Neumayer--Watz**	**89.89**	**181**	⇑P	**P**	**00 21 54.0**	**-1.0**
	comp=Z,6.8nm,0.7s,baz=175,slow=4.8						
V12A	**Nelson**	**90.34**	**52**		**P**	**00 21 57.9**	**+0.2**
IL31		**90.40**	**17**	P	**P**	**00 21 56.9**	**-0.2**
IL31				IAmb	IAmb	00 21 57.6	
	comp=Z,12nm,1.5s						
ILAR	**Eielson Array**	**90.40**	**17**	P	**P**	**00 21 55.5**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=240,slow=5.7,SNR=5.5						
ILAR				pP	**pP**	**00 22 33.6**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=231,slow=4.9,SNR=2.6						
	comp=Z,0.8nm,0.9s						
SHPR	**Sheep Range**	**90.42**	**51**	P	**P**	**00 21 58.3**	**+0.1**
WVOR	**Wild Horse Val**	**90.48**	**45**	P	**P**	**00 21 58.1**	**-0.2**
WVOR				IAmb	IAmb	00 21 59.9	
	comp=Z,6.3nm,1.1s						
I07A	**Izee**	**90.64**	**43**	P	**P**	**00 21 58.8**	**-0.2**
W13A	**Hualapai Mount**	**90.81**	**53**	P	**P**	**00 22 00.2**	**+0.1**
W13A				IAmb	IAmb	00 22 01.6	
	comp=Z,5.0nm,1.0s						
PRN	**Pahroc Range**	**90.87**	**51**		**P**	**00 22 01.0**	**+0.8**
J08A	**Circle Bar Ran**	**90.99**	**44**	P	**P**	**00 22 00.5**	**-0.1**
J08A				IAmb	IAmb	00 22 01.9	
	comp=Z,7.8nm,1.1s						
Y14A	**Wickenburg**	**91.03**	**54**	P	**P**	**00 22 01.2**	**+0.2**
Y14A				IAmb	IAmb	00 22 02.2	
	comp=Z,4.7nm,1.0s						
G08A	**Pilot Rock**	**91.52**	**42**	P	**P**	**00 22 03.9**	**+0.9**
E07A	**Sunnyside**	**91.53**	**41**	P	**P**	**00 22 02.5**	**-0.3**
HAWA	**Hanford**	**91.65**	**41**	P	**P**	**00 22 03.5**	**+0.1**
HAWA				IAmb	IAmb	00 22 05.0	
	comp=Z,7.3nm,1.1s						
LCMT	**Little Creek M**	**92.04**	**51**	P	**P**	**00 22 05.9**	**+0.2**
LCMT				IAmb	IAmb	00 22 07.1	
	comp=Z,4.5nm,1.0s						
TUC	**Tucson**	**92.15**	**57**	P	**P**	**00 22 06.9**	**+0.7**
TUC				IAmb	IAmb	00 22 08.0	
	comp=Z,4.3nm,1.0s						
DLBC	**Dease Lake**	**92.21**	**27**	P	**P**	**00 22 05.0**	**-0.8**
	comp=Z,6.0nm,1.2s,baz=252,slow=20,SNR=3.8						
	comp=Z,6.0nm,1.2s						
X16A	**Lo Mia Camp, P**	**92.42**	**54**	P	**P**	**00 22 07.6**	**+0.1**
X16A				IAmb	IAmb	00 22 09.4	
	comp=Z,4.0nm,1.0s						
U15A	**North Rim**	**92.52**	**52**	P	**P**	**00 22 08.2**	**+0.1**
319A	**Douglas**	**93.01**	**58**	P	**P**	**00 22 09.7**	**-0.5**
YKA	**Yellowknife Ar**	**100.84**	**27**	P	**Pdif**	**00 22 44.3**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=254,slow=4.6,SNR=5.2						
YKA				pP	pP	00 23 23.8	+0.9
	comp=Z,0.2nm,0.7s,baz=241,slow=4.7,SNR=2.2						
MKAR	**Makanchi Array**	**101.79**	**316**	P	**Pdif**	**00 22 46.8**	**-2.5**
	comp=Z,0.2nm,0.7s,baz=115,slow=6.8,SNR=1.6						
MKAR				pP	pP	00 23 28.1	+0.7
	comp=Z,0.2nm,0.7s,baz=104,slow=4.9,SNR=2.1						
ARCES	**ARCESS Array B**	**125.19**	**345**	PKP	**PKPdf**	**00 27 54.6**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=39,slow=2.2,SNR=7.2						
EKA	**Eskdalemuir Ar**	**143.65**	**353**	PKP	PKPbc	00 28 27.8	-0.2
	comp=Z,1.8nm,0.8s,baz=16,slow=3.2,SNR=1.8						
RONA	**Rosalia, Austr**	**144.17**	**328**	*i* PKP	PKPbc	00 28 30.5	+0.7
	comp=Z,5.5nm,1.3s						
RONA				*i* pPKP	pPKPdf	00 29 10.7	-0.3
	comp=Z,5.0nm,0.9s						
CONA	**Conrad Observa**	**144.23**	**329**	*e*PKP	**PKPdf**	**00 28 31.2**	**-0.3**
	comp=Z,1.0nm,0.5s						
CONA				*e*pPKP	**pPKPdf**	**00 29 09.9**	**-1.3**
	comp=Z,0.4nm,0.3s						
GERES	**GERESS Array B**	**144.59**	**332**	PKP	**PKPab**	**00 28 30.9**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=24,slow=3.8,SNR=11						
GERES				pPKP	**pPKPdf**	**00 29 10.1**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=46,slow=2.8,SNR=4.3						
MOA	**Molln**	**145.05**	**330**	*i* PKP	**PKPdf**	**00 28 33.0**	**+0.1**
	comp=Z,3.8nm,0.6s						
MOA				*i* pPKP	**pPKPdf**	**00 29 12.3**	**-0.2**
	comp=Z,7.9nm,1.0s						
BIOA	**Bad Ischl, Aus**	**145.46**	**330**	*i* pPKP	pPKPdf	00 29 12.1	-1.1
	comp=Z,5.5nm,1.1s						
LESA	**Schwarzleotal**	**146.10**	**331**	*i* PKP	**PKPbc**	**00 28 35.6**	**-0.2**
	comp=Z,1.3nm,0.4s						
LESA				*e*pPKP	**pPKPdf**	**00 29 13.8**	**-0.7**
	comp=Z,9.7nm,1.1s						
WATA	**Walderalm**	**146.66**	**332**	*e*pPKP	pPKPdf	00 29 16.7	+1.2
	comp=Z,3.9nm,0.7s						
ABTA	**Abfaltersbach**	**146.67**	**330**	*i* PKP	**PKPdf**	**00 28 35.4**	**-0.3**
	comp=Z,1.3nm,0.6s						
WTTA	**Wattenberg**	**146.69**	**332**	*i* PKP	**PKPbc**	**00 28 36.9**	**-0.9**
	comp=Z,1.8nm,0.6s						
MOTA	**Moosalm**	**146.87**	**332**	*e*PKP	**PKPbc**	**00 28 37.8**	**-0.3**
	comp=Z,0.8nm,0.3s						
MOTA				*i* pPKP	pPKPbc	00 29 17.6	+0.2
	comp=Z,6.2nm,0.8s						
RETA	**Reutte**	**146.91**	**333**	*e*PKP	**PKPbc**	**00 28 38.2**	**+0.1**
	comp=Z,5.3nm,1.1s						
SQTA	**Sankt Quirin**	**146.91**	**332**	*i* PKP	**PKPbc**	**00 28 38.0**	**-0.2**
	comp=Z,2.6nm,0.6s						
SQTA				*e*pPKP	pPKPbc	00 29 17.6	+0.1
	comp=Z,8.5nm,0.9s						
FETA	**Feichten**	**147.28**	**332**	*e*PKP	**PKPbc**	**00 28 39.4**	**0.0**
	comp=Z,3.8nm,0.7s						
FETA				*e*pPKP	**pPKPbc**	**00 29 18.9**	**+0.3**
	comp=Z,8.2nm,1.0s						
DAVA	**Damuels**	**147.44**	**333**	*e*PKP	**PKPbc**	**00 28 38.7**	**-1.1**
	comp=Z,1.9nm,0.5s						
DAVA				*e*pPKP	**pPKPbc**	**00 29 19.3**	**+0.3**
	comp=Z,8.0nm,1.2s						

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*IDC **23** 00:21:31.7±1.3, 39°.64N×38°.03E, h0km, mb3.4/1, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=24.7km s-min=12.7km az=156.0*

*ISK **23** 00:21:32.6, 39°.68N×38°.04E, h7km, ML3.6/16*

*TIF **23** 00:21:32.0, 39°.68N×38°.03E, h7km±3km*

*AFAD **23** 00:21:32.7, 39°.67N×38°.01E, h18km±2km, MW3.6*

ISC 23 00:21:32.3±1.2, 39°.67N±0°.02×38°.07E±0°.02, h5km±10km, n42, σ1°.12/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUZAR	**Zara_SIVAS**	**0.32**	**313**	P	**Pg**	**00 21 39.3**	**+0.8**
SUSE	**Susehri**	**0.54**	**11**	P	**Pb**	**00 21 44.0**	**-0.5**
SUSE				S	**Sb**	**00 21 51.7**	**-1.0**
SUSE				*i* AML	AML	00 21 53.0	
	comp=E,2μm,0.2s						
CUKAN	**kangal_SIVAS**	**0.59**	**233**	P	**Pg**	**00 21 43.7**	**+0.1**
**

KBZ Khabaz 5.43 40 Pn **Pn 00 22 57.6 +3.7**
0.2nm,0.3s,baz=225,slow=14,SNR=5.1
0.8nm,0.4s
MMAI Mount Meron Ar 6.99 199 Pn **Pn 00 23 14.4 -1.0**
0.4nm,0.3s,baz=17,slow=15,SNR=4.3
MMAI Lg Lg 00 25 16.0
0.2nm,0.3s,baz=18,slow=35,SNR=1.3
0.1nm,0.3s
MKAR Makanchi Array 32.64 63 P **P 00 28 03.8 -1.3**
0.5nm,1.0s,baz=282,slow=8.5,SNR=1.9
0.5nm,1.0s

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*DJA **23** 00:47:41.8±1.0,2°N±7°×12°9E±°, h31km±14km, M3.9/5, MLv3.9/5*
IDC 23 00:47:39.0±1.9, 2°.60N×128°.99E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=142.3km s-min=21.0km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**167**	P	P	00 52 45.0	-0.7
	1.1nm,0.6s,baz=347,slow=11,SNR=5.6 1.1nm,0.6s						
ASAR	**Alice Springs**	**26.54**	**170**	P	P	00 53 18.9	+0.2
	0.4nm,0.8s,baz=349,slow=10,SNR=6.9 0.4nm,0.8s						
MKAR	**Makanchi Array**	**59.78**	**325**	P	P	00 57 45.9	-0.1
	0.3nm,0.5s,baz=122,slow=7.4,SNR=4.8 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**63.91**	**327**	P	P	00 58 13.7	0.0
	0.4nm,0.5s,baz=124,slow=6.1,SNR=5.1 0.4nm,0.5s						
BVAR	**Borovoye Array**	**69.50**	**327**	P	P	00 58 49.7	+0.3
	0.3nm,0.4s,baz=100,slow=5.7,SNR=5.0 0.3nm,0.4s						

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*THE **23** 00:52:40.2,37°.57N×19°.76E, h0km±2km, ML3.1/7, Error ellipse: s-maj=2.7km s-min=1.3km az=212.0*
*ATH **23** 00:52:44.2±0.5,37°.71N×20°.00E, h10km, ML3.1/25, Manual Solution by N.Liadopoulou First location: 2019/03/23 00:53:03, This location: 2020/06/29 15:25:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*IDC **23** 00:52:46.1±14.0,38°.18N×20°.71E, h0km, mb3.5/6, mbtmp3.5/7, ML2.7/1, Error ellipse: s-maj=266.3km s-min=29.0km az=35.0*
ISC 23 00:52:43.3±1.8, 37°.67N±0°.05×19°.95E±0°.06, h15km±9km, n82, σ1°07/93, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.62**	**73**	P	**Pg**	**00 52 54.5**	**-0.9**
DMLN	**Damoulianata-K**	**0.66**	**30**	P	**Pg**	**00 52 54.9**	**-1.3**
DMLN				S	**Sn**	**00 53 08.4**	**0.0**
	2μm,0.4s						
DMLN	**Damoulianata-K**	**0.66**	**30**	P	**Pg**	**00 52 55.2**	**-1.0**
DMLN				S	**Sn**	**00 53 06.8**	**-1.6**
PSDA	**Pessada-Kefalo**	**0.67**	**48**	P	**Pg**	**00 52 55.2**	**-1.2**
PSDA	**Pessada-Kefalo**	**0.67**	**48**	P	**Pg**	**00 52 55.3**	**-1.1**
PSDA				S	**Sb**	**00 53 05.7**	**-0.1**
KRI1	**kERI**	**0.69**	**90**	P	**Pg**	**00 52 56.2**	**-0.6**
LTHK	**Lithakia**	**0.71**	**86**	P	**Pg**	**00 52 56.1**	**-0.9**
LTHK				S	**Sn**	**00 53 09.4**	**0.0**
	3μm,0.8s						
LTHK	**Lithakia**	**0.71**	**86**	P	**Pg**	**00 52 56.1**	**-0.9**
LTHK				S	**Sb**	**00 53 07.2**	**+0.3**
KYPS	**Kipseli, Zakin**	**0.71**	**78**	P	**Pg**	**00 52 56.8**	**-0.3**
VLS	**Valsamata**	**0.72**	**45**	P	**Pg**	**00 52 55.9**	**-1.4**
VLS				S	**Sn**	**00 53 10.6**	**+0.8**
	1μm,0.8s						
VLS	**Valsamata**	**0.72**	**45**	P	**Pg**	**00 52 56.5**	**-0.8**
RTZL	**Ratzakli, Kefa**	**0.77**	**58**	P	**Pg**	**00 52 57.2**	**-1.0**
RTZL				S	**Sn**	**00 53 12.6**	**+1.6**
	665nm,0.5s						
SMHA	**Samh**	**0.80**	**43**	P	**Pb**	**00 52 58.7**	**-0.2**
FSK	**Fiskardo**	**0.93**	**31**	P	**Pb**	**00 53 00.7**	**-0.4**
FSK				S	**Sn**	**00 53 16.4**	**+1.5**
	892nm,0.9s						
FSK	**Fiskardo**	**0.93**	**31**	P	**Pb**	**00 53 00.7**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.96**	**76**	P	**Pn**	**00 53 01.9**	**-0.4**
LCHA	**Lechaina**	**1.08**	**75**	P	**Pn**	**00 53 04.2**	**+0.3**
EVGI	**Lefkada island**	**1.10**	**30**	P	**Pn**	**00 53 04.4**	**+0.2**
EVGI	**Lefkada island**	**1.10**	**30**	P	**Pn**	**00 53 04.9**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.13**	**26**	P	**Pn**	**00 53 05.0**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.13**	**26**	P	**Pg**	**00 53 04.3**	**-0.7**
YRMI	**Loutra Irminis**	**1.19**	**68**	P	**Pb**	**00 53 05.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.20**	**29**	P	**Pn**	**00 53 05.4**	**-0.1**
NYDR				S	**Sn**	**00 53 24.7**	**+3.1**
	555nm,0.9s						
NYDR	**Nydri-Lefkada**	**1.20**	**29**	P	**Pg**	**00 53 06.1**	**-0.3**
AXS	**Araxos**	**1.25**	**65**	P	**Pg**	**00 53 07.0**	**-0.3**
LKD2	**Lefkada island**	**1.25**	**26**	P	**Pg**	**00 53 06.8**	**-0.6**
LKD2	**Lefkada island**	**1.25**	**26**	P	**Pg**	**00 53 07.1**	**-0.3**
RLS	**Riolos of Patr**	**1.26**	**72**	P	**Pb**	**00 53 06.6**	**-0.2**
RLS	**Riolos of Patr**	**1.26**	**72**	P	**Pg**	**00 53 06.9**	**-0.8**
TSLK	**Tsoukalades, L**	**1.28**	**26**	P	**Pg**	**00 53 07.4**	**-0.6**
TSLK				S	**Sg**	**00 53 27.5**	**+2.8**
	645nm,0.5s						
TSLK	**Tsoukalades, L**	**1.28**	**26**	P	**Pn**	**00 53 06.4**	**-0.3**
ZARO	**Zacharo**	**1.36**	**97**	P	**Pb**	**00 53 08.8**	**+0.2**
AMT	**Artemida-Makis**	**1.41**	**95**	P	**Pn**	**00 53 08.6**	**+0.1**
DRO	**Drossia**	**1.42**	**78**	P	**Pn**	**00 53 08.7**	**0.0**
DRO	**Drossia**	**1.42**	**78**	P	**Pg**	**00 53 09.8**	**-0.9**
PATC	**Patra C**	**1.55**	**67**	P	**Pn**	**00 53 10.8**	**+0.4**
PVO	**Paravola**	**1.56**	**52**	P	**Pb**	**00 53 11.0**	**-0.9**
UPR	**University Cam**	**1.58**	**67**	P	**Pb**	**00 53 11.7**	**-0.5**
ITM	**Ithomi**	**1.65**	**107**	P	**Pb**	**00 53 13.4**	**0.0**
PRGA	**Parga**	**1.65**	**12**	P	**Pb**	**00 53 12.9**	**-0.6**
ARTB	**Arta**	**1.69**	**28**	P	**Pb**	**00 53 13.3**	**-0.9**
EFP	**Efpalio**	**1.72**	**63**	P	**Pb**	**00 53 14.0**	**-0.6**
EFP	**Efpalio**	**1.72**	**63**	P	**Pb**	**00 53 14.0**	**-0.6**
KLV	**Kalavryta, Ach**	**1.78**	**77**	P	**Pn**	**00 53 14.3**	**+0.6**
KLV	**Kalavryta, Ach**	**1.78**	**77**	P	**Pb**	**00 53 15.3**	**-0.5**
ANX	**Ano Chora**	**1.81**	**59**	P	**Pn**	**00 53 14.8**	**+0.7**
ANX	**Ano Chora**	**1.81**	**59**	P	**Pn**	**00 53 14.5**	**+0.4**
SERG	**Sergoula**	**1.82**	**65**	P	**Pn**	**00 53 14.8**	**+0.6**
KALE	**Kalithea**	**1.88**	**67**	P	**Pn**	**00 53 14.9**	**0.0**
IGT	**Igoumenitsa**	**1.88**	**9**	P	**Pn**	**00 53 14.8**	**-0.2**
IGT	**Igoumenitsa**	**1.88**	**9**	P	**Pn**	**00 53 15.0**	**0.0**
GUR	**Goura**	**1.92**	**81**	P	**Pb**	**00 53 16.7**	**-1.3**
GUR	**Goura**	**1.92**	**81**	P	**Pn**	**00 53 15.3**	**-0.3**
EVR	**Evrytania**	**1.92**	**49**	P	**Pn**	**00 53 15.9**	**+0.3**
VLX	**Vlachokerasia**	**1.96**	**98**	P	**Pn**	**00 53 16.7**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.97**	**31**	P	**Pn**	**00 53 16.9**	**+0.6**
KEK	**Kerkira**	**2.04**	**357**	P	**Pn**	**00 53 16.9**	**-0.3**
KEK	**Kerkira**	**2.04**	**357**	P	**Pn**	**00 53 18.1**	**+0.9**
JAN	**Janina**	**2.11**	**19**	P	**Pn**	**00 53 18.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.18**	**51**	P	**Pn**	**00 53 20.0**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.18**	**51**	P	**Pn**	**00 53 19.5**	**+0.4**
AXAR	**Agios Charalam**	**2.40**	**62**	P	**Pn**	**00 53 22.4**	**+0.3**
LTK	**Loutraki**	**2.42**	**81**	P	**Pb**	**00 53 25.4**	**-1.1**
THL	**Klokotos Trika**	**2.49**	**40**	P	**Pn**	**00 53 24.2**	**+0.9**
THL	**Klokotos Trika**	**2.49**	**40**	P	**Pn**	**00 53 24.5**	**+1.2**
LSK	**Leskovik**	**2.53**	**11**	P	**Pn**	**00 53 23.8**	**-0.1**
KPRO	**Kipourio**	**2.54**	**25**	P	**Pn**	**00 53 24.7**	**+0.7**
KPRO	**Kipourio**	**2.54**	**25**	P	**Pn**	**00 53 24.2**	**+0.2**
LKR	**Lokris**	**2.60**	**67**	P	**Pn**	**00 53 25.7**	**+0.9**
PENT	**Pentalofos**	**2.69**	**20**	P	**Pn**	**00 53 26.3**	**+0.2**
NEST	**Nestorio**	**2.87**	**17**	P	**Pn**	**00 53 29.1**	**+0.4**
XOR	**Xorichti**	**3.06**	**55**	P	**Pn**	**00 53 31.9**	**+0.8**
FNA	**Florina**	**3.30**	**19**	P	**Pn**	**00 53 35.3**	**+0.8**
OHR	**Ohrid**	**3.50**	**11**	*i* Pn	**Pn**	**00 53 39.6**	**+2.3**
OHR				*e*Sn	**Sb**	**00 54 22.6**	**-4.8**
KNT	**Kendrikon**	**4.17**	**32**	P	**Pn**	**00 53 47.3**	**+0.9**
GERES	**GERESS Array B**	**12.06**	**340**	Pn	**Pn**	**00 55 37.3**	**+2.6**
	baz=151,slow=14,SNR=2.6 0.3nm,0.5s						
HFS	**Hagfors**	**22.84**	**352**	P	**P**	**00 57 46.0**	**+0.4**
	5.4nm,1.1s,baz=163,slow=12,SNR=2.0 5.4nm,1.1s						
FINES	**FINESS Array B**	**24.11**	**7**	P	**P**	**00 57 57.8**	**-0.4**
	0.9nm,0.6s,baz=178,slow=10.0,SNR=5.0 0.9nm,0.6s						
BVAR	**Borovoye Array**	**37.79**	**49**	P	**P**	**00 59 58.2**	**-0.6**
	0.2nm,0.5s,baz=264,slow=8.5,SNR=1.7 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.90**	**53**	P	**P**	**01 00 39.2**	**-1.8**
	0.2nm,0.6s,baz=280,slow=9.1,SNR=3.0 0.2nm,0.6s						
MKAR	**Makanchi Array**	**45.95**	**58**	P	**P**	**01 01 04.4**	**-1.3**
	0.5nm,0.4s,baz=280,slow=7.6,SNR=15 0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**46.37**	**48**	P	**P**	**01 01 07.3**	**-1.4**
	0.5nm,0.4s,baz=287,slow=5.6,SNR=3.9 0.5nm,0.4s						

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*JMA **23** 01:04:14.1±0.2,36°.7N±0°.5×14°.1E±°, h51km±2km, MV3.6/39, E OFF IBARAKI PREF*
*NIED **23** 01:04:14.1,36°.73N×141°.44E, h51km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}1.16; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-0.74; $M_{r\theta}$1.30; $M_{\theta\phi}$-0.26; $M_{\phi r}$3.79; Fault plane solution: $M_0$4.13000×10^14^ NP1: ϕ_s211.00000°, δ7.00000°, λ101.00000°. NP2:ϕ_s19.00000°, δ83.00000°, λ89.00000°.*
*IDC **23** 01:04:19.2±2.3,36°.46N×141°.31E, h85km±20km, mb3.3/9, mbtmp3.7/13, MS2.8/4 Error ellipse: s-maj=21.8km s-min=12.4km az=67.0*
ISC 23 01:04:13.0±2.0, 36°.70N±0°.04×141°.56E±0°.08, h25km±14km, n32, σ1°41/30, mb3.6/8, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.73**	**304**	P	**Pb**	**01 04 26.9**	**-0.3**
ONAJ				*e*S	**Sb**	**01 04 36.0**	**-0.8**
JHO	**Hitachi**	**0.80**	**264**	⇓*i*P	**Pn**	**01 04 27.7**	**-1.0**
JHO				⇓S	**Sb**	**01 04 38.0**	**-0.8**
JHYU	**Hitachinakayam**	**0.86**	**246**	⇓*i*P	**Pn**	**01 04 29.1**	**-0.5**
JHYU				⇓S	**Sb**	**01 04 40.0**	**-0.4**
JFK	**Kawauchi**	**0.86**	**321**	P	**Pn**	**01 04 28.8**	**-0.9**
JFFD	**Fukushimafurud**	**0.89**	**296**	P	**Pn**	**01 04 29.0**	**-1.0**
JOTO	**OTAMA OYAMA**	**1.30**	**312**	*i* P	**Pn**	**01 04 36.2**	**+0.5**
JMM	**Marumori**	**1.32**	**332**	P	**Pn**	**01 04 35.3**	**-0.5**
JFY	**Yanaizu**	**1.65**	**296**	*e*P	**Pn**	**01 04 41.3**	**+0.9**
JAG	**Ashikaga**	**1.72**	**262**	P	**Pn**	**01 04 41.3**	**0.0**
JIO	**Ouri**	**1.76**	**355**	*e*P	**Pn**	**01 04 41.6**	**-0.3**
JIO				S	**Sn**	**01 05 01.8**	**-1.8**
JOU	**Okura**	**1.81**	**337**	S	**Sn**	**01 05 05.5**	**+0.7**
JKT	**Katashina**	**1.86**	**273**	P	**Pn**	**01 04 44.1**	**+0.7**
MJAR	**Matsushiro Arr**	**2.70**	**268**	P	**Pn**	**01 04 56.1**	**+1.2**
	18nm,0.4s,baz=84,slow=13,SNR=44						
MJAR				S	**Sn**	**01 05 28.4**	**+1.5**
	10nm,0.5s,baz=81,slow=15,SNR=5.9						
MJAR				LR	LR	01 06 19.0	
	comp=Z,197nm,20.0s,baz=53,slow=48						
JHJ	**Hachijo jima 2**	**3.86**	**203**	P	**Pn**	**01 05 12.4**	**+1.7**
	55nm,0.4s,baz=53,slow=20,SNR=1.8						
JHJ				S	**Sn**	**01 05 52.8**	**-2.6**
	137nm,0.8s,baz=73,slow=19,SNR=1.7						
USRK	**Ussuriysk Ar.**	**10.45**	**319**	P	Pn	01 06 48.2	+7.0
	6.2nm,0.7s,baz=128,slow=11,SNR=6.3						
USRK				LR	LR	01 10 38.3	
	comp=Z,49nm,21.0s,baz=116,slow=36						
KSRS	**Korea Array**	**10.93**	**278**	P	**Pn**	**01 06 51.2**	**+3.5**
	1.4nm,0.4s,baz=85,slow=14,SNR=5.6						
KSRS				LR	LR	01 10 46.4	
	comp=Z,55nm,19.0s,baz=75,slow=36						
KLR	**Kul'dur**	**14.42**	**333**	LR	LR	01 12 31.7	
	comp=Z,37nm,19.1s,baz=184,slow=34						
PETK	**Petropavlovsk-**	**19.92**	**29**	P	**Pn**	**01 08 46.8**	**+2.3**
	6.1nm,0.9s,baz=212,slow=6.4,SNR=3.7 6.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.87**	**120**	T	T	01 39 13.9	
	baz=313,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**27.88**	**120**	T	T	01 39 23.4	
	baz=313,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**27.89**	**120**	T	T	01 39 23.7	
	baz=313,slow=75,SNR=21						
SONM	**Songino Array**	**28.07**	**304**	P	**P**	**01 10 02.2**	**-0.3**
	0.9nm,0.7s,baz=100,slow=8.7,SNR=5.5 0.9nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.58**	**123**	T	T	01 40 11.3	
	baz=315,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.58**	**123**	T	T	01 40 11.4	
	baz=315,slow=76,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**28.59**	**123**	T	T	01 40 13.5	
	baz=315,slow=76,SNR=9.6						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**01 12 03.6**	**-0.2**
	0.7nm,0.5s,baz=101,slow=7.4,SNR=4.5 0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.40**	**302**	P	**P**	**01 12 20.6**	**-0.9**
	0.4nm,0.6s,baz=88,slow=11,SNR=6.0 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.30**	**308**	P	**P**	**01 12 35.2**	**-1.2**
	0.9nm,0.6s,baz=83,slow=7.9,SNR=13 0.9nm,0.6s						
BVAR	**Borovoye Array**	**50.89**	**313**	P	**P**	**01 13 10.7**	**-1.0**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.3 0.2nm,0.4s						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**01 13 53.3**	**-1.6**
	0.9nm,1.1s,baz=7.6,slow=7.3,SNR=1.8 0.9nm,1.1s						
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**01 14 19.0**	**-1.8**
	0.6nm,1.0s,baz=8.7,slow=7.7,SNR=2.5 0.6nm,1.0s						
NVAR	**Mina Array Bea**	**75.09**	**53**	P	**P**	**01 15 54.7**	**+1.6**
	0.4nm,0.7s,baz=298,slow=4.0,SNR=4.5 0.4nm,0.7s						

KRSC 23 01:24:35.9±1.9, 49°.14N×157°.29E, h31km±37km, Ml4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.72**	**334**	*e*P	Pn	01 25 03.7	0.0
SKR				*e*S	Sn	01 25 25.8	+1.2
PAU	**Pauzhetka**	**2.35**	**353**	*e*P	Pn	01 25 14.7	+2.3
PAU				*e*S	Sb	01 25 44.4	-1.7
GRL	**Gorelyy**	**3.45**	**8**	*e*P	Pn	01 25 31.3	+3.7
KRMR	**Karymshinskiy**	**3.73**	**8**	*e*P	Pn	01 25 36.0	+4.7
KRMR				*e*S	Sn	01 26 18.8	+4.5
DALK	**Dalny**	**4.00**	**13**	*e*P	Pn	01 25 39.9	+4.9
KOK	**Koryaka**	**4.24**	**11**	*e*P	Pn	01 25 43.9	+5.4
SDLR	**Sedlovina**	**4.26**	**13**	*e*P	Pn	01 25 43.0	+4.3
KRX	**Arik**	**4.31**	**11**	*e*P	Pb	01 25 45.4	-5.6
SPN	**Mys Shipunski**	**4.32**	**22**	*e*P	Pn	01 25 44.2	+4.8
GNL	**Ganaly**	**4.58**	**5**	*e*P	Pn	01 25 48.1	+5.0
KBTR	**Krutoberegovo**	**7.83**	**23**	*e*P	Pn	01 26 31.8	+4.2

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*DNK **23** 01:26:53.9±1.3,51°.44N×16°.01E, h45km±13km, ML2.6*
*IPEC **23** 01:26:53.0±0.2,51°.57N×16°.10E, h1km, ML2.5/5, Error ellipse: s-maj=3.1km s-min=1.5km az=69.0*
*VIE **23** 01:26:56.1±0.6,51°.38N×15°.86E, h0km, mb2.5/5, ml2.6/8, Error ellipse: s-maj=5.3km s-min=3.1km az=33.0, Suspected Mining induced.*
*PRU **23** 01:26:56.2,51°.45N×15°.97E, h0km*
ISC 23 01:26:51.9±0.8, 51°.62N±0°.03×16°.02E±0°.02, h0km, n38, σ1°40/73, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**167**	*e*Pg	**Pg**	**01 27 07.3**	**+0.2**
KSP				*e*Sg	**Sg**	**01 27 17.0**	**-0.4**
CHVC	**Chvalec**	**1.03**	**179**	*e*PG	**Pg**	**01 27 11.6**	**0.0**
CHVC				*e*SG	**Sg**	**01 27 24.9**	**-0.1**
	comp=Z,48nm,0.8s						
OSTC	**Ostas**	**1.07**	**173**	*e*PG	**Pg**	**01 27 12.8**	**+0.4**
OSTC				*e*SG	**Sg**	**01 27 26.0**	**-0.3**
UPC	**Upice**	**1.11**	**180**	*e*PG	**Pg**	**01 27 12.9**	**-0.3**
UPC				*e*SG	**Sg**	**01 27 26.6**	**-1.0**
	comp=Z,59nm,0.5s						
DPC	**Dobruska-Polom**	**1.29**	**171**	*e*PG	**Pg**	**01 27 16.0**	**-0.5**
DPC				*e*SG	**Sg**	**01 27 31.6**	**-1.5**
	comp=Z,50nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**220**	*e*PG	**Pg**	**01 27 19.3**	**+0.2**
PVCC				*e*SG	**Sg**	**01 27 37.4**	**-0.2**
	comp=Z,123nm,0.2s						
PIVO	**Bartosovice**	**1.47**	**167**	*e*Pg	**Pn**	**01 27 19.4**	**-0.3**
	baz=349						
PIVO				*e*Sg	**Sg**	**01 27 37.3**	**-1.9**
	48nm,0.3s,baz=349						
BRG	**Berggiesshubel**	**1.50**	**241**	Pg	**Pg**	**01 27 21.5**	**+0.8**
BRG				Sg	**Sn**	**01 27 41.1**	**+0.7**
BRG				Amp		01 27 41.5	
	comp=Z,125nm,0.4s						
KRLC	**Kraliky**	**1.62**	**162**	*e*PG	**Pn**	**01 27 22.0**	**+0.3**
KRLC				*e*SG	**Sn**	**01 27 42.6**	**-0.7**
	comp=Z,45nm,0.4s						
PRU	**Pruhonice**	**1.88**	**210**	*e*SG	**Sn**	**01 27 50.2**	**+0.5**
	comp=Z,32nm,0.4s						
CLL	**Collm**	**1.91**	**262**	*i* Pn	**Pn**	**01 27 25.9**	**+0.2**
CLL				*e*Pg	**Pg**	**01 27 29.0**	**+0.5**
CLL				*e*Sg	**Sg**	**01 27 54.0**	**+0.7**
	comp=Z,26nm,0.5s						
HSKC	**Hora Svate Kat**	**1.92**	**239**	*e*SG	**Sb**	**01 27 52.4**	**+0.1**
	comp=Z,52nm,0.4s						
STEB	**Steborice**	**2.02**	**146**	*e*PG	**Pb**	**01 27 30.0**	**+0.5**
STEB				*e*SG	**Sg**	**01 27 56.3**	**-0.5**
MORC	**Moravsky Berou**	**2.08**	**152**	*e*Pn	**Pn**	**01 27 28.0**	**-0.1**
	baz=333						
MORC				*e*Sg	**Sb**	**01 27 56.3**	**-0.7**
	comp=Z,30nm,0.5s,baz=333						
VRAC	**Vranov**	**2.34**	**171**	*e*Pn	**Pn**	**01 27 32.0**	**+0.4**
	baz=352						
VRAC				*e*Sg	**Sb**	**01 28 04.6**	**+0.2**
	comp=Z,19nm,0.4s,baz=352						
KRUC	**Moravsky**	**2.57**	**174**	*e*Pn	**Pn**	**01 27 35.0**	**+0.3**
	baz=356						
KRUC				*e*Sg	**Sb**	**01 28 12.1**	**+1.1**
	comp=Z,28nm,0.8s,baz=356						
KRUC	**Moravsky**	**2.57**	**174**	*e*PN	**Pn**	**01 27 35.1**	**+0.3**
KRUC				*e*SG	**Sb**	**01 28 12.2**	**+1.2**
NKC	**Novy Kostel**	**2.65**	**240**	*e*PN	**Pn**	**01 27 36.9**	**+1.0**
NKC				*e*PG	**Pg**	**01 27 42.8**	**+0.1**
NKC				*e*SG	**Sg**	**01 28 16.6**	**-0.4**
	comp=Z,57nm,0.5s						
OJC	**Ojcow**	**2.77**	**119**	*e*Pg	**Pg**	**01 27 45.5**	**+0.5**
OJC				*e*Sg	**Sg**	**01 28 20.9**	**+0.1**
KHC	**Kasperske Hory**	**2.94**	**213**	*e*PN	**Pn**	**01 27 40.6**	**+0.7**
KHC				*e*PG	**Pg**	**01 27 46.8**	**-1.4**
KHC				*e*SN	**Sn**	**01 28 13.5**	**-2.4**
KHC				*e*SG	**Sb**	**01 28 23.6**	**+2.0**
	comp=Z,9.8nm,0.5s						
JAVC	**Velka Javorina**	**2.96**	**158**	*e*Pn	**Pn**	**01 27 40.3**	**+0.2**
	baz=340						
CKRC	**Cesky Krumlov**	**3.01**	**202**	*e*PG	**Pb**	**01 27 47.3**	**+1.0**
CKRC				*e*SG	**Sg**	**01 28 26.0**	**-2.5**
LANS	**Liptovska Anna**	**3.31**	**137**	*e*PN	**Pn**	**01 27 48.1**	**+3.1**
LANS				*e*PG	**Pg**	**01 27 54.6**	**-0.7**
LANS				*e*SG	**Sg**	**01 28 37.4**	**-0.9**
MODS	**Modra-Piesok**	**3.35**	**165**	*e*PG	**Pg**	**01 27 55.7**	**-0.3**
MODS				*e*SG	**Sg**	**01 28 40.0**	**+0.6**
NIE	**Niedzica**	**3.51**	**127**	*e*Pg	**Pg**	**01 27 58.9**	**-0.2**
NIE				*e*Sg	**Sg**	**01 28 43.3**	**-1.2**
BSD	**Bornholm Skovb**	**3.56**	**350**	*i* P	**Pn**	**01 27 49.4**	**+1.0**
BSD				*e*S	**Sn**	**01 28 30.5**	**-0.6**
BSD				IAML		01 28 32.9	
	comp=Z,6.1nm,0.2s						
CONA	**Conrad Observa**	**3.70**	**182**	*i* Pn	**Pn**	**01 27 51.4**	**+1.1**
	comp=Z,0.6nm,0.3s						
CONA				Sg	**Sb**	**01 28 46.1**	**+2.6**
	comp=Z,12nm,0.6s						
RONA	**Rosalia, Austr**	**3.93**	**177**	*i* Pn	**Pn**	**01 27 55.3**	**+1.9**
	comp=Z,0.2nm,0.2s						
RONA				*e*Sg	**Sg**	**01 28 54.7**	**-3.3**
	comp=Z,8.4nm,0.5s						
MOA	**Molln**	**3.94**	**197**	*i* Pn	**Pn**	**01 27 54.4**	**+0.8**
	comp=Z,0.8nm,0.3s						
MOA				*e*Sg	**Sg**	**01 28 56.9**	**-1.5**
	comp=Z,17nm,0.8s						
STHS	**Stebnicka Huta**	**4.00**	**121**	*e*PG	**Pg**	**01 28 08.1**	**-0.3**
STHS				*e*SG	**Sg**	**01 29 01.6**	**+1.4**
LUNU	**Lund**	**4.30**	**340**	*i* P	**Pn**	**01 27 59.0**	**+0.5**
ARSA	**Arzberg**	**4.39**	**184**	Sg	**Sg**	**01 29 09.3**	**-3.4**
	comp=Z,3.0nm,0.4s						
BLEU	**Blekinge**	**4.70**	**359**	*i* P	**Pn**	**01 28 05.8**	**+1.9**
BLEU				*e*S	**Sn**	**01 28 55.8**	**-3.2**
BJUU	**Bjuv**	**4.80**	**340**	*e*P	**Pn**	**01 28 05.8**	**+0.5**
BJUU				*e*S	**Sn**	**01 28 58.8**	**-2.8**
DEL	**Delary**	**5.02**	**346**	*i* P	**Pn**	**01 28 09.1**	**+0.7**
DEL				*e*S	**Sn**	**01 29 04.0**	**-3.1**
MYKA	**Terra Mystica**	**5.23**	**198**	*e*Sg	**Sg**	**01 29 39.4**	**-0.4**
	comp=Z,2.7nm,0.4s						
ABTA	**Abfaltersbach**	**5.39**	**207**	*e*Sg	**Sg**	**01 29 41.3**	**-3.6**
	comp=Z,4.2nm,0.6s						
SQTA	**Sankt Quirin**	**5.41**	**217**	*i* Pn	**Pn**	**01 28 15.0**	**+1.2**
	comp=Z,0.6nm,0.3s						

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*IDC **23** 01:46:14.4±1.2,5°.05N×126°.14E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=118.7km s-min=18.4km az=72.0*
ISC 23 01:46:26.8±1.2, 4°.9N±0°.2×126°.0E±0°.7, h100km, n12, σ0°75/11, mb3.8/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.85**	**181**	P	**P**	**01 51 21.4**

s-min=16.1km az=7.0

ISC 23 02:08:22.2±1.0, 52°.4N±0°.2×154°.1E±0°.1, h427km, n12, σ1°37/12, mb3.1/10, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	2.33	71	P	P	02 09 19.2	-3.3
	4.4nm,0.8s,baz=247,slow=1.4,SNR=14						
SEY	**Seymchan**	10.61	356	P	P	02 10 46.1	+0.5
	0.9nm,0.5s,baz=239,slow=23,SNR=6.9						
KURBB	**Kurchatov Arra**	45.03	299	P	P	02 15 57.2	-0.3
	1.0nm,0.4s,baz=60,slow=7.4,SNR=19						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	45.09	293	P	P	02 15 57.7	-0.4
	0.4nm,0.7s,baz=70,slow=7.0,SNR=4.4						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	46.12	40	P	P	02 16 06.2	+0.5
	0.1nm,0.6s,baz=302,slow=8.1,SNR=2.3						
	0.1nm,0.6s						
BVAR	**Borovoye Array**	47.89	306	P	P	02 16 19.0	-0.3
	1.5nm,0.5s,baz=61,slow=7.8,SNR=6.6						
	1.5nm,0.5s						
FINES	**FINESS Array B**	59.22	334	P	P	02 17 39.7	-0.4
	2.1nm,1.0s,baz=50,slow=6.2,SNR=6.5						
	2.1nm,1.0s						
NVAR	**Mina Array Bea**	59.41	66	P	P	02 17 43.0	+1.0
	0.4nm,0.8s,baz=308,slow=8.4,SNR=2.3						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	61.03	57	P	P	02 17 54.4	+1.6
	0.2nm,0.5s,baz=316,slow=8.7,SNR=2.2						
	0.2nm,0.5s						
HFS	**Hagfors**	63.39	339	P	P	02 18 07.5	-0.1
	1.2nm,0.6s,baz=38,slow=2.6,SNR=4.1						
	1.2nm,0.6s						
TXAR	**Lajitas Array**	74.26	62	P	P	02 19 15.1	+0.8
	0.1nm,0.5s,baz=323,slow=7.3,SNR=2.5						
	0.1nm,0.5s						
ASAR	**Alice Springs**	77.75	199	P	P	02 19 34.4	+0.9
	0.4nm,0.5s,baz=7.4,slow=5.5,SNR=7.3						
	0.4nm,0.5s						

*SJA **23** 02:24:18.3±0.7, 30°.28S×72°.47W, h8km, ML3.8, MW3.5*
*GUC **23** 02:24:24.0±0.7, 30°.41S×72°.06W, h15km±3km, ML3.7*

ISC 23 02:24:17.2±1.6, 30°.48S±0°.03×72°.34W±0°.06, h6km±11km, n42, σ1°63/51, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	0.64	108	⇓iP	Pn	02 24 33.5	+0.6
CO06				eS	Sb	02 24 39.6	-0.5
CO06				IAML		02 24 42.8	
	comp=N,5μm,0.2s						
GO04	**Tololo Observa**	1.37	78	eP	Pg	02 24 44.3	+0.8
GO04				eS	Sb	02 24 59.7	-1.6
GO04	**Tololo Observa**	1.37	78	eP	Pb	02 24 43.6	+0.2
CO03	**El Pedregal**	1.47	105	⇓iP	Pg	02 24 46.3	+0.9
CO03				eS	Sn	02 25 03.6	-0.4
CO03				IAML		02 25 05.9	
	comp=N,2μm,0.2s						
CO03	**El Pedregal**	1.47	105	eP	Pg	02 24 46.6	+1.2
CO03				eS	Sg	02 25 05.2	+0.8
CO03				IAML		02 25 07.7	
	comp=Z,984nm,0.5s						
CO01	**Juntas del Tor**	2.01	76	⇓iP	Pb	02 24 54.8	+0.4
CO01				IAML		02 25 20.6	
	comp=N,467nm,0.4s						
CO01	**Juntas del Tor**	2.01	76	eP	Pb	02 24 55.3	+0.9
CO01				eS	Sn	02 25 13.4	-4.1
CO01				IAML		02 25 20.8	
	comp=Z,570nm,0.3s						
LCO	**Las Campanas**	2.04	45	⇑iP	Pb	02 24 55.2	+0.2
LCO				IAML		02 25 25.8	
	comp=Z,3μm,0.3s						
LCO	**Las Campanas**	2.04	45	eP	Pb	02 24 54.4	-0.5
VA06	**Catapilco**	2.26	157	eP	Pg	02 25 00.7	+0.1
VA06				IAML		02 25 38.8	
	comp=E,571nm,0.5s						
AC05	**El Transito**	2.43	48	⇑iP	Pb	02 25 01.0	-0.5
AC05				IAML		02 25 37.5	
	comp=N,340nm,0.4s						
AROD	**Rodeo**	2.50	84	eP	Pb	02 25 03.8	+1.0
AROD				eS	Sb	02 25 33.8	-0.2
AC04	**Llanos de Chal**	2.52	26	⇑iP	Pb	02 25 01.2	-1.7
AC04	**Llanos de Chal**	2.52	26	eP	Pb	02 25 01.2	-1.7
AC04				eS	Sg	02 25 38.5	+0.2
VA03	**San Esteban**	2.74	147	eP	Pg	02 25 08.3	-1.5
VA03				IAML		02 25 49.4	
	comp=E,515nm,0.6s						
VA03	**San Esteban**	2.74	147	eP	Pg	02 25 08.3	-1.5
VA03				eS	Sn	02 25 38.0	+2.4
VA03				eS	Sb	02 25 38.5	-2.3
VA03				IAML		02 25 56.5	
	comp=Z,208nm,0.8s						
ACDV	**Cuesta del Vie**	2.80	85	eP	Pb	02 25 09.2	+1.4
ACDV				eS	Sn	02 25 38.0	+0.9
ACDV				IAML		02 25 47.2	
	comp=Z,295nm,0.5s						
ACCO	**Cerro Coronel**	2.83	93	eP	Pg	02 25 10.6	-0.9
ACCO				eS	Sg	02 25 46.5	-1.7
DOCA	**Reserva Natura**	2.85	100	eP	Pb	02 25 08.8	+0.1
DOCA				eS	Sg	02 25 47.9	-0.9
DOCA				IAML		02 25 49.6	
	comp=Z,273nm,0.9s						
RTLS	**Leoncito**	2.92	118	eP	Pb	02 25 11.6	+1.6
RTLS				eS	Sg	02 25 51.7	+0.5
RTLS				IAML		02 25 56.6	
	comp=Z,598nm,0.7s						
MT02	**Curacav**	2.96	160	iP	Pb	02 25 10.4	+0.1
MT02				IAML		02 26 05.7	
	comp=N,90nm,0.4s						
MT02	**Curacav**	2.96	160	eP	Pb	02 25 10.7	+0.3
PEL	**Peldehue**	3.01	152	eP	Pb	02 25 12.9	+1.6
PEL				IAML		02 26 00.8	
	comp=N,180nm,0.5s						
MT10	**Hacienda Santa**	3.18	152	eP	Pb	02 25 15.1	+0.8
MT10				IAML		02 26 07.0	
	comp=N,497nm,0.6s						
VA05	**Santo Domingo**	3.23	169	IAML		02 26 29.3	
	comp=E,194nm,0.3s						
MT14	**Cerro Calan**	3.29	153	IAML		02 26 11.3	
	comp=E,374nm,0.6s						
ZON	**Zonda**	3.32	110	eP	Pb	02 25 16.4	-0.2
ZON				eS	Sb	02 25 59.0	+1.6
MT16	**CCHEN**	3.32	153	IAML		02 26 12.7	
	comp=E,116nm,0.7s						
FCH	**Farellones**	3.33	149	eP	Pb	02 25 17.5	+0.5
FCH				IAML		02 26 11.8	
	comp=E,78nm,0.3s						
MT03	**Universidad Ad**	3.39	153	eP	Pb	02 25 17.5	-0.2
MT03				IAML		02 26 12.7	
	comp=E,240nm,0.4s						
MT03	**Universidad Ad**	3.39	153	eP	Pb	02 25 17.5	-0.2
GO03	**Copiapo**	3.42	33	eP	Pn	02 25 13.9	+2.7
GO03				IAML		02 26 18.1	
	comp=E,133nm,0.5s						
GO03	**Copiapo**	3.42	33	eP	Pn	02 25 13.8	+2.6
MT04	**Ro Olivares**	3.47	148	eP	Pb	02 25 18.3	-0.9
MT04				IAML		02 26 14.8	
	comp=E,102nm,0.8s						
MT04	**Ro Olivares**	3.47	148	eP	Pb	02 25 19.3	0.0
MT15	**Las Vizcachas**	3.48	154	IAML		02 26 15.9	
	comp=E,278nm,0.5s						
AGUA	**GUANDACOL**	3.48	75	eP	Pb	02 25 19.2	-0.3
MT09	**Talagante**	3.48	161	eP	Pb	02 25 19.1	-0.3
MT09				IAML		02 26 22.6	
	comp=N,124nm,0.4s						
MT01	**Popeta**	3.50	165	IAML		02 26 25.0	
	comp=N,66nm,0.4s						
AC06	**Mina Casimiro**	3.56	30	eP	Pn	02 25 15.9	+2.8
AC06				IAML		02 26 22.9	
	comp=E,95nm,0.4s						
MT12	**Pirque**	3.58	155	eP	Pb	02 25 19.5	-1.6
MT12				IAML		02 26 31.0	
	comp=E,218nm,0.5s						
ACHE	**Chepes**	4.93	99	eS	Sb	02 26 38.0	-5.8

*SJA **23** 02:32:41.6±0.6, 29°.51S×71°.69W, h24km±2km, ML3.7, MW3.9*
*GUC **23** 02:32:43.8±0.8, 29°.51S×71°.49W, h47km±3km, ML3.7*
*IDC **23** 02:32:49.3±3.0, 29°.50S×71°.49W, h74km±27km, mb3.4/6, mbtmp3.6/11, MS3.0/1, Error ellipse: s-maj=29.1km s-min=18.2km az=78.0*

ISC 23 02:32:42.4±1.8, 29°.47S±0°.02×71°.70W±0°.04, h16km±11km, n60, σ1°67/80, mb3.7/6, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	0.99	62	eP	Pb	02 33 01.0	-0.3
LCO				eS	Sb	02 33 14.5	+0.2
LCO	**Las Campanas**	0.99	62	eP	Pb	02 33 01.1	-0.3
LCO				eS	Sg	02 33 15.2	+0.6
GO04	**Tololo Observa**	1.05	132	⇑eP	Pb	02 33 02.0	-0.3
GO04				eS	Sb	02 33 15.2	-0.8
GO04	**Tololo Observa**	1.05	132	eP	Pb	02 33 01.5	-0.8
CO06	**Fray Jorge**	1.20	177	⇑eP	Pb	02 33 04.3	-0.5
CO06				eS	Sb	02 33 18.9	-1.1
CO06				IAML		02 33 27.6	
	comp=N,1μm,0.2s						
AC04	**Llanos de Chal**	1.38	24	eP	Pb	02 33 07.7	-0.1
AC04				eS	Sb	02 33 26.1	+0.8
AC04				IAML		02 33 33.0	
	comp=E,2μm,0.2s						
AC04	**Llanos de Chal**	1.38	24	eP	Pb	02 33 07.7	-0.1
AC04				eS	Sn	02 33 19.6	-5.3
AC04				IAML		02 33 33.1	
	comp=Z,529nm,0.8s						
AC05	**El Transito**	1.40	63	⇓eP	Pb	02 33 08.1	-0.1
AC05				eS	Sn	02 33 24.3	-1.4
AC05				IAML		02 33 29.2	
	comp=N,1μm,0.3s						
AC05	**El Transito**	1.40	63	eP	Pb	02 33 08.2	-0.1
AC05				eS	Sb	02 33 25.9	-0.1
AC05				IAML		02 33 29.4	
	comp=Z,573nm,0.2s						
CO01	**Juntas del Tor**	1.48	110	⇓eP	Pb	02 33 09.2	-0.7
CO01				eS	Sn	02 33 26.5	-1.5
CO01				IAML		02 33 29.3	
	comp=N,1μm,0.3s						
CO01	**Juntas del Tor**	1.48	110	eP	Pb	02 33 09.2	-0.7
CO01				eS	Sb	02 33 28.7	+0.1
CO01				IAML		02 33 29.4	
	comp=Z,819nm,0.5s						
CO03	**El Pedregal**	1.62	147	⇓eP	Pn	02 33 10.3	-0.1
CO03				IAML		02 33 29.8	
	comp=E,2μm,0.3s						
CO03				eS	Sn	02 33 30.4	-0.7
CO03	**El Pedregal**	1.62	147	eP	Pn	02 33 10.2	-0.2
CO03				eS	Sn	02 33 29.3	-1.7
CO03				IAML		02 33 35.6	
	comp=Z,819nm,0.7s						
AROD	**Rodeo**	2.06	110	eP	Pb	02 33 18.4	-1.2
AROD				eS	Sn	02 33 41.5	-0.7
GO03	**Copiapo**	2.27	35	⇓eP	Pn	02 33 20.4	+0.9
GO03				eS	Sn	02 33 48.0	+0.8
GO03				IAML		02 33 59.3	
	comp=N,729nm,0.2s						
GO03	**Copiapo**	2.27	35	eP	Pn	02 33 20.4	+1.0
GO03				eS	Sb	02 33 49.6	-1.4
ACDV	**Cuesta del Vie**	2.35	108	eP	Pb	02 33 23.2	-1.2
ACDV				IAML		02 33 57.0	
	comp=Z,254nm,0.3s						
AC06	**Mina Casimiro**	2.42	30	⇑eP	Pn	02 33 22.5	+1.2
AC06				eS	Sn	02 33 52.0	+1.3
AC06				IAML		02 34 07.1	
	comp=N,396nm,0.3s						
ACCO	**Cerro Coronel**	2.54	117	eP	Pb	02 33 27.1	-0.8
DOCA	**Reserva Natura**	2.70	124	eP	Pb	02 33 28.5	-2.2
DOCA				IAML		02 34 19.1	
	comp=Z,154nm,0.5s						
AGUA	**GUANDACOL**	2.80	91	eP	Pb	02 33 30.3	-1.8
AGUA				IAML		02 34 22.2	
	comp=Z,401nm,0.4s						
RTLS	**Leoncito**	3.11	139	eP	Pn	02 33 28.6	-2.5
RTLS				IAML		02 34 27.4	
	comp=Z,606nm,0.5s						
VCA	**Vinchina**	3.15	77	eP	Pn	02 33 30.6	-0.9
VCA				IAML		02 34 33.0	
	comp=Z,319nm,1.0s						
ZON	**Zonda**	3.33	129	eP	Pn	02 33 16.7	-17
ZON				IAML		02 34 36.8	
	comp=Z,113nm,0.6s						
RTLL	**Cerro Villicun**	3.34	124	eP	Pn	02 33 32.1	-2.0
RTLL				eS	Sb	02 34 25.3	+3.4
VA03	**San Esteban**	3.42	164	eP	Pn	02 33 37.0	+1.7
VA03				IAML		02 34 39.2	
	comp=Z,232nm,0.5s						
AC01	**Pan de Azucar**	3.45	17	⇑eP	Pn	02 33 35.1	-0.5
AC01				IAML		02 34 37.6	
	comp=E,179nm,0.1s						
AC01	**Pan de Azucar**	3.45	17	eP	Pn	02 33 35.1	-0.5
AC01				eS	Sg	02 34 29.5	-3.8
AC01				IAML		02 34 38.2	
	comp=Z,140nm,0.7s						
AC02	**Maricunga**	3.47	41	⇑eP	Pn	02 33 37.9	+1.6
AC02				eS	Sn	02 34 18.6	+1.3
AC02				IAML		02 34 36.3	
	comp=E,356nm,0.2s						
AC02	**Maricunga**	3.47	41	eP	Pn	02 33 38.0	+1.7
AC02				eS	Sg	02 34 33.8	-0.3
AC02				IAML		02 34 36.8	
	comp=Z,216nm,0.3s						
CFA	**Coronel Fontan**	3.67	126	P	Pn	02 33 40.8	+2.2
	comp=Z,21nm,0.3s,baz=312,slow=11,SNR=111						
CFA				S	Sn	02 34 22.9	+1.4
	comp=Z,10nm,0.3s,baz=278,slow=20,SNR=3.8						
MT02	**Curacav**	3.80	173	eP	Pn	02 33 40.7	+0.3
MT02				eS	Sb	02 34 33.5	-1.6
MT02				IAML		02 34 44.4	
	comp=Z,110nm,1.0s						
AVFE	**Valle Fertil**	3.87	109	eP	Pn	02 33 43.1	+1.8
AVFE				eS	Sb	02 34 39.4	+2.5
AVFE				IAML		02 34 46.4	
	comp=Z,238nm,1.0s						
ASAL	**Salagasta**	3.96	142	eP	Pn	02 33 40.7	-1.9
ASAL				eP	Pb	02 33 45.7	-6.2
MT05	**Renca**	3.99	168	eP	Pn	02 33 45.3	+2.3
MT05				eS	Sn	02 34 31.7	+2.2
MT05				IAML		02 34 47.6	
	comp=Z,152nm,0.4s						
MT03	**Universidad Ad**	4.13	166	eP	Pn	02 33 47.2	+2.2
MT03				eS	Sn	02 34 33.5	+0.4
MT03				IAML		02 34 57.5	
	comp=Z,139nm,0.3s						
MT04	**Ro Olivares**	4.14	162	eP	Pn	02 33 42.8	-2.5
MT04				eS	Sn	02 34 35.6	+2.2
MT04				IAML		02 34 38.5	
	comp=Z,74nm,0.4s						
ACLC	**CERRO LA CRUZ**	4.14	90	eP	Pn	02 33 47.0	+1.8
ACLC				IAML		02 34 57.9	
	comp=Z,92nm,0.4s						
MT08	**Bocatoma Ro**	4.21	160	eP	Pn	02 33 45.1	-1.1
MT08				eS	Sn	02 34 34.1	-1.1
MT08				IAML		02 34 55.1	
	comp=Z,65nm,0.5s						
MT01	**Popeta**	4.39	175	eS	Sn	02 34 40.3	+0.9
MT01				IAML		02 34 57.3	
	comp=Z,66nm,0.7s						
LMEL	**Las Melosas**	4.54	164	eS	Sn	02 34 44.0	+0.7
H03N1	**Juan Fernandez**	7.32	235	T	T	02 42 08.8	
	baz=64,slow=72,SNR=2387						
H03N2	**Juan Fernandez**	7.33	236	T	T	02 42 12.1	
	baz=64,slow=72,SNR=1738						
H03N3	**Juan Fernandez**	7.33	235	T	T	02 42 03.4	
	baz=64,slow=72,SNR=1829						
PLCA	**Paso Flores**	11.27	176	P	Pn	02 35 26.5	+3.5
	comp=Z,1.0nm,0.9s,baz=331,slow=10,SNR=3.1						
PLCA				LR	LR	02 40 02.5	
	comp=Z,69nm,18.0s,baz=230,slow=39						
CPUP	**Villa Florida**	13.09	80	P	Pn	02 35 49.7	+1.9
	comp=Z,0.6nm,0.6s,baz=239,slow=13,SNR=1.2						
LPAZ	**La Paz**	13.53	15	P	Pn	02 35 58.3	+4.0
	comp=Z,0.4nm,0.6s,baz=201,slow=8.6,SNR=1.6						
SIV	**San Ignacio**	16.60	38	P	P	02 36 36.2	-0.9
	comp=Z,0.5nm,0.3s,baz=216,slow=11,SNR=4.4						
BDFB	**Brasilia**	25.78	63	P	P	02 38 10.9	-1.9
	comp=Z,2.1nm,0.5s,baz=240,slow=6.2,SNR=3.9						
	comp=Z,2.1nm,0.5s						
SNAA	**Sanae**	55.68	159	P	P	02 42 16.4	-1.1
	comp=Z,1.0nm,0.9s,baz=239,slow=5.9,SNR=1.4						
	comp=Z,1.0nm,0.9s						
QSPA	**South Pole Qui**	60.75	180	P	P	02 42 52.4	-0.9
	comp=Z,2.3nm,1.1s,baz=117,slow=3.1,SNR=3.2						
	comp=Z,2.3nm,1.1s						
TXAR	**Lajitas Array**	65.96	330	P	P	02 43 28.4	+0.4
	comp=Z,0.3nm,0.6s,baz=152,slow=7.7,SNR=4.2						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	79.88	333	P	P	02 44 50.7	+0.3
	comp=Z,0.2nm,0.6s,baz=132,slow=2.9,SNR=2.3						
	comp=Z,0.2nm,0.6s						
NVAR	**Mina Array Bea**	80.36	325	P	P	02 44 54.1	+0.9
	comp=Z,0.2nm,0.5s,baz=156,slow=2.3,SNR=1.9						
	comp=Z,0.2nm,0.5s						
H11S2	**WAKE ISLAND Hyl**	26.00	272	T	T	05 10 36.4	
	baz=114,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hyl**	26.02	272	T	T	05 10 35.4	
	baz=114,slow=75,SNR=105						
H11S3	**WAKE ISLAND Hyl**	26.02	272	T	T	05 10 37.7	
	baz=114,slow=75,SNR=91						
KURBB	**Kurchatov Arra**	149.26	38	PKPbc	PKPbc	02 52 29.6	-0.4
	comp=Z,0.5nm,0.4s,baz=302,slow=3.1,SNR=8.7						
ZALV	**Zalesovo Beam**	150.18	28	PKPbc	PKPbc	02 52 30.4	-1.7
	comp=Z,3.2nm,0.7s,baz=303,slow=3.8,SNR=7.3						
MKAR	**Makanchi Array**	153.40	42	PKPbc	PKPbc	02 52 37.6	-2.2
	comp=Z,0.2nm,0.6s,baz=317,slow=1.6,SNR=3.0						

*IDC **23** 02:34:20.9±3.6, 11°.81S×166°.28E, h42km±32km, mb3.9/12, mbtmp4.1/14, ML4.1/2, MS3.4/8, Error ellipse: s-maj=23.5km s-min=21.3km az=101.0*
*NEIC **23** 02:34:26.8±2.0, 11°.9S±0°.1×166°.1E±0°.1, h81km±7km, mb4.5/21, Error ellipse: s-maj=23.2km s-min=10.8km az=128.0*

ISC 23 02:34:20.0±0.6, 11°.76S±0°.07×166°.22E±0°.09, h30km, n42, σ1°25/41, mb4.4/22, MS3.3/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	6.59	290	P	Pn	02 35 56.5	+1.6
	11nm,0.3s,baz=2.8,slow=8.3,SNR=3.7						
HNR				S	Sn	02 37 08.0	-1.0
	57nm,0.4s,baz=161,slow=9.2,SNR=1.4						
HNR				LR	LR	02 38 40.6	
	comp=Z,240nm,21.7s,baz=38,slow=39						
	84nm,0.7s						
DZM	**Mont Dzumac**	10.25	179	Pn	Pn	02 36 48.4	+3.1
DZM	**Mont Dzumac**	10.25	179	P	Pn	02 36 45.7	+0.5
	0.6nm,0.3s,baz=13,slow=19,SNR=6.0						
DZM				S	Sn	02 38 37.2	-2.1
	7.4nm,1.1s,baz=50,slow=17,SNR=2.0						
DZM				LR	LR	02 40 15.9	
	comp=Z,136nm,21.6s,baz=306,slow=35						
	4.8nm,0.6s						
MSVF	**Nonsavu**	12.89	119	LR	LR	02 41 27.8	
	comp=Z,192nm,18.9s,baz=277,slow=33						
ARMA	**Armidale**	22.97	214	P	P	02 39 23.9	+1.6
BKZ	**Black Stump Fm**	28.78	163	P	P	02 40 15.8	+0.4
STKA	**Stephens Creek**	30.25	225	P	P	02 40 27.5	-0.9
STKA	**Stephens Creek**	30.25	225	P	P	02 40 28.5	+0.1
	2.1nm,0.7s,baz=48,slow=9.6,SNR=5.4						
STKA				LR	LR	02 51 15.1	
	comp=Z,78nm,21.0s,baz=26,slow=34						
	2.1nm,0.7s						
THZ	**Tophouse**	30.45	170	P	P	02 40 31.0	+0.8
THZ				IAmb	IAmb	02 41 03.2	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	31.60	251	P	P	02 40 40.1	-0.3
WB2	**Warramunga Arr**	31.67	251	P	P	02 40 40.2	-0.9
WRA	**Warramunga Arr**	31.68	251	P	P	02 40 40.9	-0.3
	comp=Z,3.2nm,0.7s,baz=83,slow=7.8,SNR=12						
	comp=Z,3.2nm,0.7s						
AS31	**Alice Springs**	32.89	244	P	P	02 40 51.1	-0.7
ASAR	**Alice Springs**	32.89	244	P	P	02 40 50.9	-1.0
	comp=Z,4.4nm,0.7s,baz=74,slow=9.3,SNR=41						
ASAR				PcP	PcP	02 43 35.0	-1.1
	comp=Z,0.3nm,0.6s,baz=83,slow=2.5,SNR=1.8						
ASAR				LR	LR	02 53 06.5	
	comp=Z,84nm,19.8s,baz=90,slow=34						
	comp=Z,4.4nm,0.7s						
RAR	**Rarotonga**	33.87	111	LR	LR	02 52 14.3	
	comp=Z,51nm,19.0s,baz=300,slow=32						
FITZ	**Fitzroy Crossi**	39.65	256	P	P	02 41 49.8	+0.3
FORT	**Forrest**	40.02	236	P	P	02 41 53.0	+0.5
KAPI	**Kappang**	46.41	274	LR	LR	03 03 46.6	
	comp=Z,15nm,19.2s,baz=214,slow=38						
CMAR	**Chiang Mai Arr**	72.82	294	P	P	02 45 47.2	+0.8
	comp=Z,0.9nm,0.3s,baz=122,slow=4.6,SNR=6.3						
	comp=Z,0.9nm,0.3s						
K15K	**Wolf Creek Mou**	77.99	15	P	P	02 46 16.6	+1.4
K15K				IAmb	IAmb	02 46 40.9	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	78.25	180	P	P	02 46 14.6	-2.2
QSPA				IAmb	IAmb	02 46 17.5	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	78.25	180	P	P	02 46 15.9	-1.0
	comp=Z,2.2nm,0.9s,baz=7.2,slow=4.3,SNR=4.2						
	comp=Z,2.2nm,0.9s						
L18K	**Granite Mounta**	79.22	17	P	P	02 46 23.3	+1.3
L18K				IAmb	IAmb	02 46 45.9	
	comp=Z,17nm,1.5s						
SONM	**Songino Array**	79.52	324	P	P	02 46 23.6	-0.5
	comp=Z,0.7nm,0.6s,baz=147,slow=5.0,SNR=4.7						
	comp=Z,0.7nm,0.6s						
D19K	**Kuna River**	83.97	12	P	P	02 46 47.6	+0.6
D19K				IAmb	IAmb	02 46 57.2	
	comp=Z,6.2nm,1.2s						
ILAR	**Eielson Array**	84.04	18	P	P	02 46 45.9	-1.5
	comp=Z,0.5nm,0.6s,baz=258,slow=5.4,SNR=9.5						
	comp=Z,0.5nm,0.6s						
DOT	**Dot Lake**	84.19	20	P	P	02 46 48.5	+0.3
DOT				IAmb	IAmb	02 46 59.4	
	comp=Z,4.4nm,1.2s						
BBB	**Bella Bella**	84.91	34	LR	LR	03 22 50.7	
	comp=Z,64nm,18.5s,baz=330,slow=34						
J05D	**Fort Rock, OR**	85.64	44	P	P	02 46 57.5	+1.4
J05D				IAmb	IAmb	02 47 01.4	
	comp=Z,12nm,1.5s						
PINE	**Pine Mountain**	86.01	44	P	P	02 46 59.6	+1.6
PINE				IAmb	IAmb	02 47 08.6	
	comp=Z,8.2nm,1.3s						
DAWY	**Dawson**	86.06	21	P	P	02 46 58.1	+0.5
DAWY				IAmb	IAmb	02 47 21.6	
	comp=Z,5.5nm,1.4s						
DSP	**Deep Springs**	86.06	51	P	P	02 46 59.4	+1.3
NVAR	**Mina Array Bea**	86.13	50	P	P	02 46 58.5	-0.2
	comp=Z,0.6nm,0.7s,baz=230,slow=7.2,SNR=5.9						
	comp=Z,0.6nm,0.7s						
U15A	**North Rim**	90.17	53	P	P	02 47 19.6	+1.5
U15A				IAmb	IAmb	02 47 20.5	
	comp=Z,2

DZM	**Mont Dzumac**	**15.05 252**	P		**P**	**02 46 12.8**	**-3.2**
	9.4nm,1.1s,baz=127,slow=15,SNR=8.2						
DZM	**Mont Dzumac**	**15.05 252**	P		**P**	**02 46 15.2**	**-0.7**
KOUNC	**Koumac, New Ca**	**16.79 258**	P		**P**	**02 46 31.8**	**-0.9**
URZ	**Urewera**	**20.64 191**	P		**P**	**02 47 05.4**	**-2.1**
	3.1nm,0.4s,baz=20,slow=12,SNR=2.1						
	3.1nm,0.4s						
SAVO	**Savo Central**	**23.13 289**	P		**P**	**02 47 30.1**	**-0.1**
TATA	**Tatamba Isabel**	**23.46 291**	P		**P**	**02 47 32.9**	**-0.2**
QRZ	**Quartz Range**	**24.16 197**	P		**P**	**02 47 38.1**	**-0.8**
QRZ			IAmb	IAmb		02 47 48.2	
	comp=Z,11nm,1.1s						
QRZ	**Quartz Range**	**24.16 197**	P		**P**	**02 47 38.1**	**-0.8**
LTZ	**Lake Taylor**	**26.05 196**	P		**P**	**02 47 53.3**	**-2.4**
LTZ			IAmb	IAmb		02 48 28.3	
	comp=Z,18nm,1.4s						
PPT	**Papeete**	**27.19 94**	P		**P**	**02 48 06.3**	**+0.3**
	comp=Z,16nm,0.6s,baz=107,slow=22,SNR=2.0						
	comp=Z,16nm,0.6s						
JCZ	**Jackson Bay**	**28.27 200**	P		**P**	**02 48 14.1**	**-1.0**
EIDS	**Eidsvold**	**29.49 250**	P		**P**	**02 48 25.3**	**-0.6**
EIDS			IAmb	IAmb		02 48 25.9	
	comp=Z,13nm,0.7s						
EIDS	**Eidsvold**	**29.49 250**	P		**P**	**02 48 25.6**	**-0.3**
MLZ	**Mavora Lakes**	**29.63 200**	P		**P**	**02 48 26.6**	**-0.3**
MLZ			IAmb	IAmb		02 48 58.8	
	comp=Z,18nm,1.2s						
ARMA	**Armidale**	**30.14 240**	P		**P**	**02 48 31.7**	**+0.2**
ARMA			IAmb	IAmb		02 48 32.6	
	comp=Z,8.1nm,0.8s						
ARMA	**Armidale**	**30.14 240**	P		**P**	**02 48 31.8**	**+0.2**
TOO	**Toolangi**	**37.34 231**	P		**P**	**02 49 32.0**	**+0.1**
COEN	**Coen**	**37.36 270**	P		**P**	**02 49 32.2**	**-0.2**
STKA	**Stephens Creek**	**38.83 241**	P		**P**	**02 49 43.8**	**-0.3**
STKA	**Stephens Creek**	**38.83 241**	P		**P**	**02 49 44.0**	**-0.1**
	comp=Z,9.6nm,0.7s,baz=95,slow=11,SNR=20						
	comp=Z,9.6nm,0.7s						
BBOO	**Buckleboo**	**43.60 241**	P		**P**	**02 50 21.8**	**-0.1**
BBOO			IAmb	IAmb		02 50 22.5	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**44.84 260**	P		**P**	**02 50 30.5**	**-1.1**
WB0			IAmb	IAmb		02 50 35.4	
	comp=Z,16nm,1.1s						
WB2	**Warramunga Arr**	**44.86 260**	P		**P**	**02 50 30.9**	**-0.9**
WB2			IAmb	IAmb		02 50 31.5	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**44.87 260**	P		**P**	**02 50 31.2**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=95,slow=6.9,SNR=30						
	comp=Z,5.8nm,0.6s						
AS31	**Alice Springs**	**45.02 254**	P		**P**	**02 50 32.6**	**-0.4**
ASAR	**Alice Springs**	**45.02 254**	P		**P**	**02 50 32.6**	**-0.3**
	comp=Z,54nm,0.6s,baz=88,slow=8.3,SNR=593						
FORT	**Forrest**	**50.22 245**	P		**P**	**02 51 11.1**	**-0.5**
FORT			IAmb	IAmb		02 51 16.8	
	comp=Z,24nm,1.0s						
KNRA	**Kununurra**	**50.74 264**	P		**P**	**02 51 15.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.27 261**	P		**P**	**02 51 34.4**	**+0.5**
PSA00	**Pilbara Seismi**	**58.14 255**	P		**P**	**02 52 06.8**	**-0.8**
MBWA	**Marble Bar**	**58.31 256**	P		**P**	**02 52 08.6**	**-0.1**
VNDA	**Vanda**	**60.41 185**	P		**P**	**02 52 22.8**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=40,slow=7.9,SNR=1.5						
	comp=Z,0.4nm,0.8s						
JHJ	**Hachijo jima 2**	**64.77 322**	P		**P**	**02 52 50.4**	**-0.1**
	comp=Z,88nm,0.4s,baz=90,slow=13,SNR=2.1						
MJAR	**Matsushiro Arr**	**68.10 323**	P		**P**	**02 53 10.9**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=158,slow=6.1,SNR=8.8						
	comp=Z,4.3nm,0.8s						
UGM	**Wanagama**	**69.90 268**	P		**P**	**02 53 23.0**	**+0.5**
ASAJ	**Asahikawa**	**71.45 331**	P		**P**	**02 53 32.1**	**+1.2**
	comp=Z,8.5nm,0.8s,baz=165,slow=4.0,SNR=2.4						
	comp=Z,8.5nm,0.8s						
QSPA	**South Pole Qui**	**72.09 180**	P		**P**	**02 53 35.8**	**+1.3**
QSPA	**South Pole Qui**	**72.09 180**	P		**P**	**02 53 35.5**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=340,slow=0.3,SNR=11						
	comp=Z,2.9nm,0.8s						
PETK	**Petropavlovsk-**	**73.80 345**	P		**P**	**02 53 43.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=174,slow=5.8,SNR=4.1						
	comp=Z,1.6nm,0.6s						
KSRS	**Korea Array**	**74.91 318**	P		**P**	**02 53 52.5**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=130,slow=6.2,SNR=2.7						
	comp=Z,1.0nm,0.6s						
USRK	**Ussurlysk Ar.**	**76.80 326**	P		**P**	**02 54 02.6**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=119,slow=4.4,SNR=4.9						
	comp=Z,1.7nm,0.6s						
WAKR	**Walker**	**78.58 43**	P		**P**	**02 54 13.2**	**+2.0**
DSP	**Deep Springs**	**78.93 45**	P		**P**	**02 54 14.3**	**+1.6**
L04D	**Klamath Falls**	**78.94 39**	P		**P**	**02 54 14.1**	**+1.3**
L04D			IAmb	IAmb		02 54 48.9	
	comp=Z,21nm,1.4s						
NVAR	**Mina Array Bea**	**79.29 44**	P		**P**	**02 54 16.7**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=223,slow=8.9,SNR=15						
	comp=Z,1.4nm,0.7s						
TPNV	**Topopah Spring**	**79.87 46**	P		**P**	**02 54 20.2**	**+2.3**
J05D	**Fort Rock, OR**	**80.20 38**	P		**P**	**02 54 20.5**	**+1.1**
J05D			IAmb	IAmb		02 54 33.7	
	comp=Z,14nm,1.5s						
M17K	**Holitna River**	**80.81 10**	P		**P**	**02 54 23.9**	**+1.9**
M17K			IAmb	IAmb		02 55 01.9	
	comp=Z,25nm,1.4s						
K15K	**Wolf Creek Mou**	**81.06 8**	P		**P**	**02 54 24.9**	**+1.7**
K15K			IAmb	IAmb		02 54 29.3	
	comp=Z,19nm,1.4s						
U15A	**North Rim**	**82.36 48**	P		**P**	**02 54 33.3**	**+2.4**
U15A			IAmb	IAmb		02 54 34.0	
	comp=Z,4.7nm,0.8s						
CAST	**Castle Rocks**	**83.63 11**	P		**P**	**02 54 35.6**	**-0.6**
CAST			IAmb	IAmb		02 54 36.1	
	comp=Z,4.1nm,1.0s						
WRH	**Wood River Hil**	**85.37 13**	P		**P**	**02 54 45.1**	**+0.4**
PV10	**Paradox Valley**	**85.56 47**	P		**P**	**02 54 47.8**	**+1.2**
PV10			IAmb	IAmb		02 55 07.8	
	comp=Z,5.3nm,1.4s						
MG03	**Isla Dawson**	**85.66 146**	P		**P**	**02 54 48.5**	**+2.0**
TX31	**Lajitas Ar. Si**	**85.81 58**	P		**P**	**02 54 50.1**	**+2.4**
TX31			IAmb	IAmb		02 54 51.5	
	comp=Z,5.8nm,1.1s						
TXAR	**Lajitas Array**	**85.81 58**	P		**P**	**02 54 50.5**	**+2.7**
TXAR	**Lajitas Array**	**85.81 58**	P		**P**	**02 54 50.3**	**+2.6**
	comp=Z,1.8nm,0.8s,baz=221,slow=5.9,SNR=19						
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**85.88 13**	P		**P**	**02 54 47.1**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=221,slow=5.3,SNR=36						
	comp=Z,0.7nm,0.4s						
J26L	**Joseph Creek**	**86.39 14**	P		**P**	**02 54 51.2**	**+1.5**
J26L			IAmb	IAmb		02 54 52.5	
	comp=Z,5.2nm,1.5s						
M30M	**Minto, Yukon**	**86.61 18**	P		**P**	**02 54 51.7**	**+1.1**
M30M			IAmb	IAmb		02 55 03.8	
	comp=Z,6.6nm,1.5s						
MG02	**Cerro Sombrero**	**86.79 145**	P		**P**	**02 54 53.9**	**+2.1**
PD31	**Pinedale Array**	**87.22 43**	P		**P**	**02 54 55.9**	**+1.6**
PDAR	**Pinedale Array**	**87.22 43**	P		**P**	**02 54 55.0**	**+0.8**
PDAR	**Pinedale Array**	**87.22 43**	P		**P**	**02 54 55.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=250,slow=2.8,SNR=8.5						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.14 290**	P		**P**	**02 55 05.2**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=110,slow=4.7,SNR=4.0						
	comp=Z,0.8nm,0.3s						
SNAA	**Sanae**	**90.54 179**	P		**P**	**02 55 08.9**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=135,slow=10.0,SNR=3.1						
	comp=Z,1.3nm,0.8s						
PLCA	**Paso Flores**	**91.11 134**	P		**P**	**02 55 14.4**	**+2.0**
	comp=Z,1.9nm,1.1s,baz=264,slow=9.4,SNR=3.6						
	comp=Z,1.9nm,1.1s						
SONM	**Songino Array**	**93.76 319**	P		**P**	**02 55 25.6**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=105,slow=4.8,SNR=2.5						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**94.27 25**	P		**P**	**02 55 26.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=252,slow=4.7,SNR=6.1						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**109.36 314**	PKiKP		**PKiKP**	**03 00 34.1**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=179,slow=1.0,SNR=8.8						
KURBB	**Kurchatov Arra**	**112.09 318**	PKiKP		**PKiKP**	**03 00 38.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=88,slow=1.7,SNR=7.1						
BVAR	**Borovoye Array**	**117.05 321**	PKP		**PKiKP**	**03 00 49.0**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=98,slow=2.9,SNR=12						
ARCES	**ARCESS Array B**	**126.41 350**	PKP		**PKiKP**	**03 01 06.5**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=339,slow=3.0,SNR=3.9						
FINES	**FINESS Array B**	**133.31 344**	PKP		**PKiKP**	**03 01 19.6**	**-0.8**
	comp=Z,4.4nm,1.1s,baz=90,slow=0.4,SNR=4.0						
HFS	**Hagfors**	**137.03 351**	PKhKP		PKPpre	03 01 20.6	
	comp=Z,3.7nm,0.9s,baz=111,slow=2.0,SNR=5.0						
AKASG	**Malin Array Be**	**140.73 333**	PKP		**PKiKP**	**03 01 34.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=35,slow=0.6,SNR=5.4						
BNN	**Bunyan**	**143.88 312**			**PKiKP**	**03 01 40.3**	**-2.6**
ILGA	**Ilgaz**	**144.29 317**	PKPbc		**PKiKP**	**03 01 42.0**	**-1.8**
BUR08	**Bucovina Ar. S**	**144.77 332**			**PKiKP**	**03 01 43.0**	**-1.4**
BURAR	**Bucovina Array**	**144.78 332**	PKPdf		**PKiKP**	**03 01 43.0**	**-1.4**
BR131	**Keskin Array S**	**145.00 315**			**PKiKP**	**03 01 42.9**	**-2.2**
BRTR	**Keskin Array B**	**145.00 315**			**PKiKP**	**03 01 43.1**	**-2.0**
BRTR	**Keskin Array B**	**145.00 315**	PKP		**PKiKP**	**03 01 43.0**	**-2.2**
	comp=Z,2.1nm,0.4s,baz=100,slow=3.1,SNR=28						
MMAI	**Mount Meron Ar**	**146.39 303**	PKPbc		**PKPab**	**03 01 47.7**	**-0.6**
	comp=Z,3.1nm,0.4s,baz=70,slow=7.2,SNR=39						
GERES	**GERESS Array B**	**147.73 345**	PKPbc		**PKPab**	**03 01 50.3**	**-3.0**
	comp=Z,1.6nm,0.5s,baz=22,slow=3.2,SNR=21						
CONA	**Conrad Observa**	**147.99 342**	*e*PKP		**PKPab**	**03 01 51.1**	**-3.2**
	comp=Z,1.0nm,0.4s						
RONA	**Rosalia, Austr**	**148.07 341**	*i* PKP		**PKPab**	**03 01 51.4**	**-3.2**
	comp=Z,1.9nm,0.5s						
LESA	**Schwarzleotal**	**149.30 346**	*i* PKP		**PKiKP**	**03 01 53.7**	**0.0**
	comp=Z,0.8nm,0.3s						
WATA	**Walderalm**	**149.64 347**	*i* PKP		**PKiKP**	**03 01 54.5**	**0.0**
	comp=Z,1.5nm,0.5s						
RETA	**Reutte**	**149.66 348**	*i* PKP		**PKiKP**	**03 01 54.6**	**+0.2**
	comp=Z,0.8nm,0.5s						
WTTA	**Wattenberg**	**149.69 347**	*i* PKP		**PKiKP**	**03 01 55.1**	**+0.4**
	comp=Z,2.7nm,0.3s						
MOTA	**Moosalm**	**149.73 347**	*e*PKP		**PKiKP**	**03 01 54.9**	**+0.2**
	comp=Z,0.5nm,0.3s						
SQTA	**Sankt Quirin**	**149.82 347**	*i* PKP		**PKiKP**	**03 01 55.3**	**+0.4**
	comp=Z,1.9nm,0.5s						
ABTA	**Abfaltersbach**	**149.98 345**	*i* PKP		**PKiKP**	**03 01 55.0**	**-0.1**
	comp=Z,2.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**150.51 349**	PKPbc		**PKiKP**	**03 01 57.0**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=315,slow=4.3,SNR=18						
PUK	**Puka**	**151.49 331**	PKPbc		**PKiKP**	**03 01 59.4**	**+1.0**
FNA	**Florina**	**151.73 328**			**PKiKP**	**03 01 59.2**	**+0.3**

AFAD ***23*** *02:51:11.5,40°.81N×27°.75E,h7km±3km,ML3.3*
ISK ***23*** *02:51:11.6,40°.79N×27°.76E,h18km,ML3.5/24*
CFUSG ***23*** *02:51:12.8,40°.85N×27°.70E,h10km,mb2.7/2,*
Mediterranean Magtype MSH 3.1 from 2 stations
SOF ***23*** *02:51:13.3,40°.89N±0°.02×27°.55E±0°.02,h19km±2km,*
MD3.1/7
THE ***23*** *02:51:13.4,40°.85N×27°.78E,h22km±2km,ML3.1/7, Error*
ellipse: s-maj=2.7km s-min=0.7km az=131.0

ISC 23 02:51:12.5±0.9,40°.82N±0°.01×27°.75E±0°.01,h18km±3km,
n113,σ1°33/157,19C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.23**	**315**	Pg	**Pb**	**02 51 18.3**	**+0.2**
TKR				Sg	**Sb**	**02 51 22.3**	**+0.5**
MRMT	**Marmara Adasi**	**0.25**	**209**	Pg	**Pb**	**02 51 17.3**	**-1.1**
MRMT				Sg	**Sb**	**02 51 21.3**	**-1.1**
CRLT	**Corlu**	**0.30**	**358**	Pg	**Pg**	**02 51 19.6**	**+0.5**
CRLT				Sg	**Sg**	**02 51 24.9**	**+1.2**
SART	**Tekirdag**	**0.46**	**253**	P	**Pg**	**02 51 21.2**	**-0.6**
SART				S	**Sg**	**02 51 27.5**	**-0.5**
RKY	**Sarkoy-Tekirda**	**0.46**	**253**	Pg	**Pg**	**02 51 20.9**	**-0.9**
RKY				Sg	**Sg**	**02 51 27.3**	**-0.8**
EDC	**Edincik**	**0.48**	**170**	Pg	**Pb**	**02 51 21.5**	**-1.0**
SLVT	**Silivri**	**0.53**	**40**	Pg	**Pb**	**02 51 23.1**	**-0.2**
BAND	**Balkesir-Ban**	**0.54**	**150**	P	**Pb**	**02 51 23.2**	**-0.2**
BAND				S	**Sb**	**02 51 30.0**	**-0.7**
BAND				*i* AML	AML	02 51 32.0	
	comp=N,2μm,0.2s						
BAND	**Balkesir-Ban**	**0.54**	**150**	⇑P	**Pb**	**02 51 23.4**	**+0.1**
BAND				⇓S	**Sb**	**02 51 30.7**	**0.0**
KRBG	**Karabiga-Canak**	**0.55**	**219**	Pg	**Pb**	**02 51 22.6**	**-1.0**
ELBA	**Catalca**	**0.61**	**58**	P	**Pb**	**02 51 24.0**	**-0.6**
ELBA				S	**Sb**	**02 51 32.1**	**-0.6**
ELBA				*i* AML	AML	02 51 36.0	
	comp=N,884nm,0.2s						
CTKS	**Kestanelik-??a**	**0.70**	**54**	Pg	**Pb**	**02 51 25.8**	**-0.4**
KCTX	**Karacabey (Bur**	**0.72**	**140**	Pg	**Pb**	**02 51 25.7**	**-0.9**
AVCI	**Avcilar-stanb**	**0.76**	**77**	Pg	**Pb**	**02 51 26.8**	**-0.3**
VIZE	**Kirklareli, Vi**	**0.76**	**5**	P	**Pb**	**02 51 27.2**	**+0.1**
VIZE				S	**Sb**	**02 51 36.8**	**-0.4**
VIZE				*i* AML	AML	02 51 39.0	
	comp=N,3μm,0.2s						
VIZE				*i* AML	AML	02 51 39.0	
	comp=E,2μm,0.2s						
CTYL	**Yalikoy Yolu**	**0.77**	**32**	Pg	**Pb**	**02 51 26.8**	**-0.5**
GONE	**Gonen-Balikesi**	**0.78**	**184**	Pg	**Pb**	**02 51 26.7**	**-0.8**
PHSR	**Pinarhisar**	**0.82**	**348**	Pg	**Pb**	**02 51 28.6**	**+0.3**
BGKT	**Bogazkoy**	**0.85**	**65**	Pg	**Pb**	**02 51 28.2**	**-0.5**
LPK	**Lapseki**	**0.88**	**240**	Pg	**Pb**	**02 51 28.6**	**-0.6**
ARMT	**Armutlu**	**0.88**	**107**	Pg	**Pb**	**02 51 29.1**	**-0.2**
SUSR	**Susurluk-Balik**	**0.90**	**164**	Pg	**Pb**	**02 51 29.1**	**-0.4**
UKOP	**Uzunkopru-Edir**	**0.90**	**290**	Pg	**Pb**	**02 51 29.9**	**+0.3**
ERIK	**Erikli-Kesan**	**0.95**	**261**	Pg	**Pb**	**02 51 30.1**	**-0.4**
YYLC	**Yaylacik**	**0.96**	**122**	P	**Pb**	**02 51 30.6**	**0.0**
YYLC				S	**Sb**	**02 51 43.7**	**+0.7**
YYLC				*i* AML	AML	02 51 46.0	
	comp=E,1μm,0.4s						
YENI	**Yenice-Canakka**	**0.97**	**204**	Pg	**Pb**	**02 51 30.3**	**-0.4**
CANM	**Can-anakkale**	**0.97**	**214**	Pg	**Pb**	**02 51 30.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.97**	**117**	Pg	**Pb**	**02 51 30.9**	**+0.1**
ISK	**Istanbul-Kandi**	**1.02**	**76**	Pg	**Pb**	**02 51 30.9**	**-0.7**
ISK	**Istanbul-Kandi**	**1.02**	**76**	P	**Pb**	**02 51 30.9**	**-0.7**
ISK				S	**Sb**	**02 51 44.5**	**-0.1**
	1μm,0.3s						
KAVV	**Kandilli-Istan**	**1.02**	**76**	Pg	**Pb**	**02 51 31.4**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.06**	**247**	Pg	**Pb**	**02 51 31.3**	**-1.0**
KLYT	**Kilyos**	**1.06**	**66**	Pg	**Pb**	**02 51 32.2**	**-0.2**
ARMN	**Kirklareli, Me**	**1.07**	**347**	P	**Pb**	**02 51 32.8**	**+0.3**
ARMN				S	**Sb**	**02 51 46.7**	**+0.6**
ARMN				*i* AML	AML	02 51 47.0	
	comp=N,598nm,0.2s						
ARMN				*i* AML	AML	02 51 47.0	
	comp=E,794nm,0.3s						
KIRK	**Kırklareli**	**1.08**	**333**	P	**Pb**	**02 51 32.4**	**-0.2**
KIRK				S	**Sb**	**02 51 46.3**	**0.0**
BALY	**Balya**	**1.09**	**185**	P	**Pn**	**02 51 33.2**	**+0.4**
BALY				S	**Sb**	**02 51 47.1**	**+0.5**
BKES	**Balkesir-Mer**	**1.10**	**173**	P	**Pb**	**02 51 33.7**	**+0.8**
BKES				S	**Sn**	**02 51 48.1**	**+0.5**
BKES				*i* AML	AML	02 51 49.0	
	comp=N,1μm,0.3s						
BKES				*i* AML	AML	02 51 49.0	
	comp=E,3μm,0.4s						
KURT	**Yalova, Merkez**	**1.13**	**101**	P	**Pn**	**02 51 32.8**	**-0.6**
KURT				S	**Sn**	**02 51 48.6**	**+0.2**
AVDN	**Avdancik/Bursa**	**1.20**	**116**	P	**Pn**	**02 51 34.0**	**-0.3**
AVDN				S	**Sn**	**02 51 50.9**	**+0.7**
AVDN				*i* AML	AML	02 51 52.0	
	comp=N,502nm,0.2s						
AVDN				*i* AML	AML	02 51 52.0	
	comp=E,966nm,0.5s						
CAVK	**Edirne/Enez-Ca**	**1.21**	**264**	P	**Pn**	**02 51 35.1**	**+0.5**
CAVK				S	**Sn**	**02 51 51.1**	**+0.6**
CAVK				*i* AML	AML	02 51 53.0	
	comp=N,868nm,0.8s						
CAVK	**Edirne/Enez-Ca**	**1.21**	**264**	⇓P	**Pn**	**02 51 33.8**	**-0.7**
CAVK				⇑S	**Sb**	**02 51 49.8**	**-0.3**
COMU	**Canakkale**	**1.22**	**234**	Pn	**Pn**	**02 51 33.8**	**-0.8**
ENEZ	**Enez**	**1.22**	**266**	Pn	**Pn**	**02 51 34.3**	**-0.3**
ENEZ	**Enez**	**1.22**	**266**	P	**Pn**	**02 51 34.7**	**+0.1**
ENEZ				S	**Sb**	**02 51 50.8**	**+0.4**
	3μm,0.5s						
KRSK	**Karsak**	**1.22**	**110**	P	**Pn**	**02 51 35.0**	**+0.4**
KRSK				S	**Sg**	**02 51 51.6**	**-0.4**
IGD	**Bursa**	**1.24**	**116**	P	**Pn**	**02 51 34.8**	**-0.1**
IGD				S	**Sn**	**02 51 51.9**	**+0.8**
IGD				*i* AML	AML	02 51 53.0	
	comp=N,317nm,0.2s						
ENZZ	**Sultanice-Enez**	**1.24**	**261**	Pn	**Pn**	**02 51 34.7**	**-0.3**
ULDT	**Uludag**	**1.26**	**122**	P	**Pb**	**02 51 36.0**	**+0.3**
EDRB	**Edirne**	**1.27**	**324**	Pn	**Pn**	**02 51 35.1**	**-0.3**
EDRB	**Edirne**	**1.27**	**324**	P	**Pn**	**02 51 35.2**	**-0.2**
EDRB				S	**Sn**	**02 51 50.9**	**-1.1**
	328nm,0.6s						
CNKL	**anakkale-Mer**	**1.29**	**234**	P	**Pn**	**02 51 35.2**	**-0.4**
CNKL				P	**Pb**	**02 51 35.4**	**-0.8**
CNKL				S	**Sn**	**02 51 52.6**	**+0.3**
CNKL				S	**Sb**	**02 51 52.8**	**+0.5**
ALN	**Alexandroupoli**	**1.30**	**274**	Pn	**Pn**	**02 51 35.5**	**-0.2**
ALN	**Alexandroupoli**	**1.30**	**274**	P	**Pn**	**02 51 35.5**	**-0.2**
ALN				S	**Sn**	**02 51 52.6**	**0.0**
	895nm,0.6s						
DURS	**Dursunbey**	**1.34**	**155**	P	**Pg**	**02 51 38.4**	**+0.1**
DURS				S	**Sb**	**02 51 55.2**	**+1.3**
BUHA	**Balikesir, Bur**	**1.42**	**202**	P	**Pn**	**02 51 37.1**	**-0.3**
BUHA				S	**Sg**	**02 51 58.4**	**+0.1**
BUHA				*i* AML	AML	02 52 00.0	
	comp=E,621nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.42**	**221**	P	**Pn**	**02 51 38.2**	**+0.8**
BAYC				S	**Sn**	**02 51 56.3**	**+0.7**
BAYC				*i* AML	AML	02 51 59.0	
	comp=N,265nm,0.5s						
ECEA	**Canakkale, Ece**	**1.43**	**238**	P	**Pn**	**02 51 37.6**	**0.0**
ECEA				S	**Sb**	**02 51 57.2**	**+0.6**
ECEA				*i* AML	AML	02 51 58.0	
	comp=N,424nm,0.4s						
ECEA				*i* AML	AML	02 51 58.0	
	comp=E,590nm,0.4s						
STEP	**BALIKESIR_Sava**	**1.45**	**181**	P	**Pb**	**02 51 39.8**	**+1.0**
STEP				S	**Sb**	**02 51 58.3**	**+1.3**
STEP				*i* AML	AML	02 52 01.0	
	comp=N,828nm,0.5s						
STEP				*i* AML	AML	02 52 03.0	
	comp=E,968nm,0.5s						
EZN	**Ezine**	**1.48**	**228**	P	**Pn**	**02 51 38.1**	**-0.1**
SEMS	**Kocaeli-K¶rfe**	**1.51**	**88**	P	**Pn**	**02 51 38.7**	**+0.1**
SEMS				S	**Sb**	**02 51 58.5**	**-0.3**
SEMS				*i* AML	AML	02 52 01.0	
	comp=N,593nm,0.4s						
GOAD	**anakkale-G¶**	**1.55**	**245**	P	**Pn**	**02 51 39.5**	**+0.3**
GOAD				S	**Sn**	**02 51 58.8**	**-0.1**
GOAD				*i* AML	AML	02 52 02.0	
	comp=E,505nm,0.7s						
BOZC	**Bozcaada**	**1.63**	**234**	P	**Pn**	**02 51 41.0**	**+0.7**
BOZC				S	**Sb**	**02 52 03.0**	**+0.9**
BOZC				*i* AML	AML	02 52 04.0	
	comp=N,226nm,0.4s						
HISA	**Bilecik-Osmane**	**1.69**	**102**	P	**Pb**	**02 51 42.4**	**-0.6**
HISA				S	**Sb**	**02 52 04.9**	**+0.9**
HISA				*i* AML	AML	02 52 08.0	
	comp=N,275nm,0.4s						
RDO	**Rodhopi**	**1.71**	**282**	P	**Pn**	**02 51 41.5**	**+0.2**
RDO				S	**Sn**	**02 52 03.4**	**+0.7**
	378nm,0.4s						
AYVA	**Ayvalik**	**1.72**	**209**	P	**Pb**	**02 51 44.0**	**+0.5**
SMTH	**Samothraki Isl**	**1.73**	**259**	P	**Pn**	**02 51 41.2**	**-0.4**
BILE	**Bilecik/Merkez**	**1.75**	**112**	P	**Pn**	**02 51 43.1**	**+1.1**
KOCA	**Canakkale, Ayv**	**1.81**	**224**	P	**Pb**	**02 51 45.0**	**-0.1**
KAND	**Kocaeli-Kandir**	**1.87**	**81**	P	**Pn**	**02 51 44.1**	**+0.5**
JMB	**Yambol**	**1.90**	**332**	*i* P	**Pn**	**02 51 44.7**	**+0.7**
JMB				S	**Sb**	**02 52 12.3**	**+2.2**
PRK	**Paraskevi**	**1.94**	**216**	P	**Pn**	**02 51 44.5**	**-0.1**
PRK				S	**Sn**	**02 52 09.3**	**+0.8**
	422nm,0.8s						
KAYN	**Sakarya, Kayna**	**1.97**	**85**	P	**Pn**	**02 51 45.5**	**+0.6**
KDZ	**Kurdzhali**	**1.99**	**295**	*i* P	**Pb**	**02 51 49.8**	**+1.6**
KDZ				S	**Sb**	**02 52 14.6**	**+2.0**
LIA	**Limnos Island**	**2.17**	**246**	P	**Pn**	**02 51 47.4**	**-0.3**
SIGR	**SIGRI**	**2.17**	**223**	P	**Pn**	**02 51 48.5**	**+0.8**
SIGR				S	**Sn**	**02 52 15.0**	**+0.9**
	302nm,0.5s						
THAS	**Thassos island**	**2.32**	**266**	P	**Pn**	**02 51 49.1**	**-0.6**
PRD	**Provadia**	**2.35**	**354**	*i* P	**Pg**	**02 51 57.7**	**+0.1**
PRD				S	**Sg**	**02 52 28.0**	**0.0**
RZN	**Rozhen**	**2.43**	**292**	*e*P	**Pb**	**02 51 58.0**	**+2.2**
RZN				S	**Sn**	**02 52 19.1**	**-1.8**
NEF	**NEVSHA**	**2.46**	**352**	*e*P	**Pn**	**02 51 52.7**	**+0.9**
NEF				S	**Sg**	**02 52 31.8**	**+0.1**
PLD	**Plovdiv**	**2.62**	**301**	*e*P	**Pg**	**02 52 03.2**	**+0.5**
PLD				S	**Sg**	**02 52 34.8**	**-1.8**
RAZG	**Razgrad**	**2.89**	**342**	⇑P	**Pb**	**02 52 02.1**	**-1.4**
RAZG				⇓S	**Sb**	**02 52 37.2**	**-1.4**

HWQ	Hawqa	1.32	59	eP	Pn	03 09 26.4	+0.1
MMLI	Mount Malkishu	1.37	148	P	Pb	03 09 27.4	-0.5
MMLI	Mount Malkishu	1.37	148	S	Sn	03 09 44.4	0.0
SLTI	Sal'it	1.42	164	P	Pn	03 09 27.2	-0.4
SLTI	Sal'it	1.42	164	S	Sn	03 09 44.0	-1.7
HMDT	Nahal Hemdat	1.57	149	P	Pb	03 09 30.6	-0.8
BEIL	Beino	1.63	55	eP	Pn	03 09 30.6	+0.1
AMAZ	Amatzia	2.09	172	P	Pn	03 09 37.9	+1.1
AMAZ	Amatzia	2.09	172	S	Sn	03 10 01.4	-0.8
DSI	Dead Sea	2.15	161	P	Pn	03 09 38.7	+1.1
YTIR	Yattir	2.29	168	P	Pn	03 09 40.6	+1.0
YTIR	Yattir	2.29	168	S	Sn	03 10 07.0	-0.1
MSBI	Mazada	2.39	164	P	Pn	03 09 41.2	+0.4
MSBI	Mazada	2.39	164	S	Sn	03 10 08.9	-0.4
KZIT	Kziot	2.70	183	P	Pn	03 09 46.0	+0.9
KZIT	Kziot	2.70	183	S	Sn	03 10 15.9	-1.3
PRNI	Paran	3.27	173	P	Pn	03 09 54.0	+1.0
PRNI	Paran	3.27	173	S	Sn	03 10 30.9	-0.4
HRFI	Mount Harif	3.58	174	P	Pn	03 09 58.2	+0.8
HRFI	Mount Harif	3.58	174	S	Sn	03 10 39.4	+0.4
MBRI	Mt Berech	3.81	176	P	Pn	03 10 01.4	+0.8

*IDC **23** 03:15:55.5±1.0, 6°.82N×73°.13W, h162km±40km, mb3.1/3, mbtmp3.8/6, Error ellipse: s-maj=85.1km s-min=15.5km az=140.0*
*RSNC **23** 03:15:56.0±0.0, 7°.N±1°.×7°.3W±°, h148km±2km, M3.4, mb3.7, mB4.9, ML3.1, Mw(mB)4.2*

ISC 23 03:15:54.6±0.8, 6°.86N±0°.03×73°.10W±0°.04, h155km±6km, n49, σ1°37/85, mb3.5/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	197	P	Pn	03 16 16.0	0.0
BARC				S	Sn	03 16 31.4	-1.0
PAMC	Pamplona, Colo	0.62	40	P	Pn	03 16 18.8	+1.0
PAMC				S	Sn	03 16 36.0	+0.5
BRJC	Barrancabermej	0.65	280	P	Pn	03 16 17.7	+0.4
BRJC				S	Sn	03 16 34.2	-0.5
RUSC	La Rusia	0.96	179	P	Pn	03 16 19.9	-0.2
RUSC				S	Sn	03 16 38.6	-1.0
TAMC	Tame, Arauca	1.37	108	P	Pn	03 16 24.5	+1.2
TAMC				S	Sn	03 16 45.7	+0.5
PTBC	PUERTO BERRIO,	1.38	257	P	Pn	03 16 22.5	-0.9
PTBC				S	Sn	03 16 44.0	-1.4
OCAC	Ocana	1.39	351	P	Pn	03 16 24.0	+0.4
OCAC				S	Sn	03 16 46.8	+0.8
ZARC	Zaragoza, Cauc	1.85	290	P	Pn	03 16 28.2	-0.2
ZARC				S	Sn	03 16 55.4	+1.0
NORC	Norcasia	2.18	234	P	Pn	03 16 31.7	-0.5
NORC				S	Sn	03 16 59.3	-1.8
CHIC	Chingaza	2.30	196	P	Pn	03 16 34.0	0.0
CHIC				S	Sn	03 17 03.4	-1.0
ROSC	El Rosal	2.34	211	P	Pn	03 16 36.0	+1.5
	146nm,0.3s,baz=306,slow=23,SNR=252						
ROSC				S	Sn	03 17 06.0	+0.8
	232nm,0.3s,baz=139,slow=19,SNR=11						
ROSC	El Rosal	2.34	211	P	Pn	03 16 35.7	+1.2
ROSC				S	Sn	03 17 05.7	+0.5
HELC	Santa Helena	2.50	255	P	Pn	03 16 36.6	+0.3
HELC				S	Sn	03 17 06.7	-1.8
CVER	Cruz Verde, Cu	2.51	203	P	Pn	03 16 37.4	+0.8
CVER				S	Sn	03 17 10.0	+0.9
UREC	San Jos de Ur	2.57	290	P	Pn	03 16 35.9	-1.0
UREC				S	Sn	03 17 08.5	-1.0
GUY2C	Guyana, Caldas	2.77	234	P	Pn	03 16 40.1	+0.3
GUY2C				S	Sn	03 17 14.5	-0.2
VILC	Villavicencio,	2.79	192	P	Pn	03 16 39.3	-0.4
VILC				S	Sn	03 17 13.8	-0.8
PTGC	Puerto Gaitan,	2.81	160	P	Pn	03 16 39.2	-0.6
PTGC				S	Sn	03 17 12.5	-2.4
CBOC	Ciudad Bolivar	3.06	251	P	Pn	03 16 43.5	+0.4
CBOC				S	Sn	03 17 18.9	-1.7
DBBC	Dabeiba	3.09	273	P	Pn	03 16 43.4	0.0
DBBC				S	Sn	03 17 19.1	-2.1
SDV	Santo Domingo	3.17	50	P	Pn	03 16 45.9	+1.4
	21nm,0.3s,baz=233,slow=10,SNR=36						
SDV				S	Sn	03 17 22.1	-1.1
	32nm,0.5s,baz=243,slow=23,SNR=23						
SDV	Santo Domingo	3.17	50	P	Pn	03 16 45.2	+0.7
SDV				S	Sn	03 17 22.8	-0.4
ARGC	Ariguani, Magd	3.19	339	P	Pn	03 16 45.9	+1.3
ARGC				S	Sn	03 17 24.7	+1.3
PRAC	Prado	3.59	210	P	Pn	03 16 49.3	-0.5
PRAC				S	Sn	03 17 31.3	-1.4
APAC	Apartado, Choc	3.60	287	P	Pn	03 16 49.8	0.0
APAC				S	Sn	03 17 32.5	-0.3
ORTC	Ortega, Tolima	3.62	216	P	Pn	03 16 50.4	+0.2
ORTC				S	Sn	03 17 33.9	+0.5
SJCC	San Jacinto, C	3.65	326	P	Pn	03 16 49.6	-1.0
SJCC				S	Sn	03 17 31.1	-3.0
PLMC	San Jos del P	3.71	239	P	Pn	03 16 51.5	+0.2
PLMC				S	Sn	03 17 34.1	-1.3
LCBC	Los crdobas,	3.80	302	P	Pn	03 16 52.3	-0.1
LCBC				S	Sn	03 17 36.4	-0.9
URMC	La Uribe, Meta	3.81	200	P	Pn	03 16 53.0	+0.4
URMC				S	Sn	03 17 36.4	-1.3
CRJC	Cerrejon, Guaj	4.14	3	P	Pn	03 16 56.1	-0.8
CRJC				S	Sn	03 17 43.3	-2.2
GUVC	San Jose del G	4.31	174	P	Pn	03 16 58.7	-0.4
GUVC				S	Sn	03 17 47.3	-2.0
YOTC	Yotoco, Valle	4.31	229	P	Pn	03 17 00.7	+1.5
SMRC	Santa Marta, M	4.42	346	P	Pn	03 17 01.4	+0.9
SMRC				S	Sn	03 17 49.1	-2.8
PIZC	Pizarro, Choco	4.63	246	P	Pn	03 17 04.7	+1.4
MACC	Macarena, Meta	4.74	189	P	Pn	03 17 03.3	-1.4
MACC				S	Sn	03 17 54.5	-5.0
BETC	Betania	4.76	209	P	Pn	03 17 04.3	-0.7
URIC	Uribia, Colomb	4.94	13	P	Pn	03 17 06.4	-0.9
MALC	Bahia Malaga	5.07	236	P	Pn	03 17 08.5	-0.6
JAMC	Jamundi, Valle	5.08	225	P	Pn	03 17 09.3	0.0
GARC	Garzon, Huila	5.22	207	P	Pn	03 17 09.6	-1.6
POPC	Popayan, Colom	5.58	220	P	Pn	03 17 16.0	0.0
	5.0nm,1.0s						
POPC				S	Sn	03 18 18.8	-0.8
	5.0nm,1.0s						
FLOC	Florencia	5.82	206	P	Pn	03 17 18.9	-0.2
	13nm,1.1s						
BBAC	Balboa, Cauca	6.34	221	P	Pn	03 17 25.5	-0.6
BCIP	Isla Barro Col	7.05	289	P	Pn	03 17 32.4	-3.0
PCRV	Puerto La Cruz	9.00	68	P	Pn	03 18 03.5	+2.2
	13nm,1.0s,baz=245,slow=14,SNR=1.9						
PCRV				S	Sn	03 19 37.3	-4.1
	41nm,1.3s,baz=233,slow=20,SNR=2.2						
ULM	Lac du Bonnet	47.26	340	P	P	03 24 12.1	+0.1
	0.9nm,0.4s,baz=144,slow=8.1,SNR=2.2						
	0.9nm,0.4s						
PDAR	Pinedale Array	48.06	324	P	P	03 24 19.7	+1.1
	0.1nm,0.4s,baz=142,slow=8.3,SNR=2.0						
	0.1nm,0.4s						
YKA	Yellowknife Ar	63.24	340	P	P	03 26 06.4	+0.2
	0.4nm,0.6s,baz=137,slow=6.4,SNR=13						
	0.4nm,0.6s						

*IDC **23** 04:03:21.7±2.4, 13°.72N×120°.61E, h100km±28km, mb3.4/8, mbtmp3.7/8, Error ellipse: s-maj=107.6km s-min=15.3km az=66.0*

ISC 23 04:03:21.5±1.0, 13°.7N±0°.1×120°.4E±0°.2, h100km, n9, σ0°82/10, mb3.8/8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.66	48	P	Pn	04 03 38.6	+0.1
	928nm,0.3s,baz=268,slow=1.9,SNR=24						
TGY				S	Sn	04 03 51.0	-0.4
	2μm,0.5s,baz=118,slow=21,SNR=18						
SONM	Songino Array	36.03	344	P	P	04 10 14.0	+0.8
	0.9nm,0.6s,baz=159,slow=9.8,SNR=6.1						
	0.9nm,0.6s						
WRA	Warramunga Arr	36.08	157	P	P	04 10 14.2	+0.5
	0.3nm,0.3s,baz=337,slow=9.7,SNR=9.5						
	0.3nm,0.3s						
ASAR	Alice Springs	39.36	160	P	P	04 10 41.3	-0.1
	0.4nm,0.6s,baz=338,slow=6.2,SNR=6.9						
	0.4nm,0.6s						
MKAR	Makanchi Array	45.91	324	P	P	04 11 34.9	+0.7
	0.6nm,0.6s,baz=133,slow=8.8,SNR=6.2						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	48.98	333	P	P	04 11 57.7	0.0
	0.5nm,0.3s,baz=116,slow=6.2,SNR=2.9						
	0.5nm,0.3s						

KURBB	Kurchatov Arra	50.08	326	P	P	04 12 07.3	+1.2
	1.3nm,0.7s,baz=128,slow=7.6,SNR=12						
	1.3nm,0.7s						
BVAR	Borovoye Array	55.66	326	P	P	04 12 46.2	-1.0
	0.6nm,0.5s,baz=94,slow=7.7,SNR=2.8						
	0.6nm,0.5s						
GERES	GERESS Array B	90.50	321	P	P	04 16 11.6	-0.8
	0.1nm,0.3s,baz=38,slow=4.7,SNR=1.7						
	0.1nm,0.3s						

IDC 23 04:07:31.5±20.0, 18°.16S×179°.66W, h589km±76km, mb3.1/3, mbtmp4.1/4, Error ellipse: s-maj=418.4km s-min=117.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.22	281	P	P	04 08 45.9	0.0
	38nm,0.8s,baz=82,slow=3.3,SNR=19						
STKA	Stephens Creek	37.47	241	P	P	04 13 56.2	-0.1
	1.4nm,0.5s,baz=79,slow=10,SNR=3.4						
	1.4nm,0.5s						
WRA	Warramunga Arr	43.42	260	P	P	04 14 43.6	-0.2
	1.1nm,0.5s,baz=96,slow=6.9,SNR=15						
	1.1nm,0.5s						
ASAR	Alice Springs	43.58	255	P	P	04 14 44.9	-0.1
	2.8nm,0.4s,baz=89,slow=8.4,SNR=49						
	2.8nm,0.4s						

*SJA **23** 04:40:49.1±0.6, 35°.33S×72°.47W, h27km±4km, ML3.5, MW3.5*
*GUC **23** 04:40:55.7±0.8, 35°.25S×71°.88W, h45km±3km, ML3.5*

ISC 23 04:40:54.3±1.4, 35°.28S±0°.03×72°.06W±0°.06, h21km±5km, n39, σ1°36/63, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Hualane	0.29	22	↑iP	Pn	04 41 03.1	-0.2
GO05				eS	Sn	04 41 09.2	+0.2
GO05				IAML		04 41 10.2	
	comp=E,8μm,0.2s						
ML02	Panimavida	0.71	133	↓iP	Pb	04 41 08.0	-0.1
ML02				eS	Sb	04 41 18.1	+0.6
ML02				IAML		04 41 19.5	
	comp=N,2μm,0.3s						
ML02	Panimavida	0.71	133	eP	Pb	04 41 07.8	-0.2
ML02				IAML		04 41 22.6	
	comp=Z,881nm,0.9s						
BO03	Pichilemu	0.78	6	↑iP	Pb	04 41 09.8	+0.6
BO03				eS	Sn	04 41 21.1	-0.1
BO03				IAML		04 41 23.3	
	comp=N,2μm,0.3s						
BO02	Sierra Bellavi	1.16	66	eP	Pn	04 41 14.2	-1.0
BO02				eS	Sn	04 41 27.3	-3.2
BO02				IAML		04 41 32.9	
	comp=E,4μm,0.2s						
BO02	Sierra Bellavi	1.16	66	eP	Pn	04 41 14.3	-1.0
BO02				eS	Sn	04 41 30.6	0.0
BO02				IAML		04 41 32.4	
	comp=Z,2μm,0.1s						
BO01	Tunca	1.20	43	eP	Pn	04 41 15.3	-0.4
BO01				eS	Sn	04 41 32.0	+0.7
BO01				IAML		04 41 33.2	
	comp=Z,595nm,0.4s						
BI02	San Fabin de	1.52	155	eP	Pn	04 41 18.5	-1.9
BI02				IAML		04 41 41.9	
	comp=Z,278nm,0.9s						
MT01	Popeta	1.56	26	eP	Pn	04 41 20.5	-0.3
MT01				eS	Sn	04 41 42.2	+1.8
MT01				IAML		04 41 46.8	
	comp=E,1μm,0.3s						
MT01	Popeta	1.56	26	eP	Pn	04 41 20.6	-0.3
MT01				eS	Sn	04 41 37.1	-3.2
MT01				eS		04 41 43.1	
MT01				IAML		04 41 45.1	
	comp=Z,688nm,0.5s						
VA05	Santo Domingo	1.66	13	eP	Pn	04 41 22.3	+0.2
VA05				IAML		04 41 51.7	
	comp=E,738nm,0.2s						
BI05	Punta Hualpn	1.73	212	eP	Pn	04 41 24.0	+1.0
MT09	Talagante	1.74	31	eP	Pn	04 41 23.2	-0.2
MT09				eS	Sn	04 41 45.7	+0.7
MT09				IAML		04 41 49.3	
	comp=N,2μm,0.2s						
MT12	Pirque	1.98	39	eP	Pn	04 41 26.4	-0.3
MT12				IAML		04 41 56.3	
	comp=N,676nm,0.3s						
LMEL	Las Melosas	2.10	48	eP	Pn	04 41 28.1	-0.2
LMEL				IAML		04 42 02.6	
	comp=N,723nm,0.1s						
LMEL	Las Melosas	2.10	48	eP	Pn	04 41 28.7	+0.5
LMEL				eS	Sb	04 41 58.3	+1.0
MT13	San Alfonso	2.12	44	eP	Pn	04 41 29.0	+0.4
MT13				IAML		04 42 06.0	
	comp=E,314nm,0.2s						
MT13	San Alfonso	2.12	44	eP	Pn	04 41 29.2	+0.7
MT13				eS	Sb	04 41 58.9	+1.0
MT13				IAML		04 42 04.5	
	comp=Z,205nm,0.4s						
MT02	Curacav	2.15	21	iP	Pn	04 41 28.2	-0.7
MT02				eS	Sn	04 41 54.8	-0.2
MT02				IAML		04 42 03.6	
	comp=E,322nm,0.8s						
MT02	Curacav	2.15	21	eP	Pn	04 41 28.2	-0.7
MT02				IAML		04 42 01.5	
	comp=Z,162nm,0.3s						
MT05	Renca	2.18	31	↑eP	Pn	04 41 29.4	+0.2
MT05				IAML		04 42 05.7	
	comp=E,682nm,0.3s						
MT05	Renca	2.18	31	eP	Pn	04 41 29.5	+0.2
MT05				eS	Sb	04 42 02.3	+2.8
MT05				IAML		04 42 03.8	
	comp=Z,243nm,0.4s						
MT03	Universidad Ad	2.19	36	eP	Pn	04 41 29.9	+0.3
MT03				eS	Sb	04 42 00.4	+0.3
MT03				IAML		04 42 02.9	
	comp=Z,319nm,0.1s						
EDS3	Malargue	2.23	104	eP	Pn	04 41 31.5	+1.4
EDS3				eS	Sn	04 41 46.1	-11
PEL	Peldehue	2.42	29	eP	Pn	04 41 32.9	+0.3
PEL				eS	Sn	04 42 02.8	+1.2
MT04	Ro Olivares	2.46	41	eP	Pn	04 41 34.2	+0.9
MT04				eS	Sb	04 42 07.2	-0.5
MT04				IAML		04 42 11.5	
	comp=Z,156nm,0.2s						
ROC1	El Roble	2.46	21	eP	Pn	04 41 33.1	-0.2
ROC1				eS	Sn	04 42 03.4	+0.6
MT08	Bocatoma Ro	2.49	43	eP	Pn	04 41 37.1	+3.3
MT08				eP		04 41 37.8	
MT08				eS	Sb	04 42 08.5	-0.3
MT08				IAML		04 42 20.0	
	comp=Z,103nm,0.4s						
CANA	Caviahue	2.73	163	eP	Pn	04 41 37.2	+0.2
CANA				eS	Sn	04 41 51.9	-17
VA03	San Esteban	2.80	27	eP	Pn	04 41 37.8	-0.2
VA03				eS	Sn	04 42 14.2	+3.0
VA03				IAML		04 42 27.7	
	comp=Z,152nm,0.5s						
AVIZ	Vizcacheras	3.44	59	eP	Pb	04 42 03.8	+9.2
AAGR	Agrelo	3.46	52	eP	Pb	04 41 53.7	-1.2
ARCO	CERRO ARCO	3.56	48	eP	Pn	04 41 52.1	+3.7
ARCO				IAML		04 42 54.9	
	comp=Z,24nm,1.5s						
RTLS	Leoncito	4.17	34	eP	Pn	04 41 58.3	+1.4
RTLS				eS	Sb	04 42 57.9	+0.8
RTLS				IAML		04 43 09.5	
	comp=Z,89nm,0.8s						
CO03	El Pedregal	4.57	15	eP	Pn	04 42 01.6	-0.7
CO03				eS	Sn	04 42 54.9	0.0
CO03				IAML		04 43 15.4	
	comp=Z,30nm,0.6s						
CFA	Coronel Fontan	4.86	42	eP	Pn	04 42 07.3	+1.1
CFA				eS	Sb	04 43 15.8	-1.1
CFA				IAML		04 43 15.8	
	comp=Z,80nm,0.5s						
DOCA	Reserva Natura	4.99	31	eP	Pn	04 42 08.6	+0.3
DOCA				eS	Sb	04 43 19.4	-1.4
DOCA				IAML		04 43 21.9	
	comp=Z,15nm,1.6s						
GO04	Tololo Observa	5.20	12	eP	Pn	04 42 10.1	-1.0
GO04				eS	Sn	04 43 09.5	-1.0
ACCO	Cerro Coronel	5.31	29	eP	Pn	04 42 13.3	+0.7
ACCO				eS	Sb	04 43 26.2	-3.8

NOU 23 04:47:55.3, 16°.72S×167°.88E, h73km, mb3.7/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.04	164	P	Pn	04 48 14.8	+0.3
DVP	Devils Point	1.04	164	S	Sn	04 48 28.9	+0.1
KOUNC	Koumac, New Ca	5.11	221	P	Pn	04 49 09.5	+0.1
YATNC	Mamie plateau,	5.39	190	P	Pn	04 49 12.8	-0.4
DZM	Mont Dzumac	5.49	194	P	Pn	04 49 14.7	0.0

*DJA **23** 05:10:51.7±0.4, 7°.S±3°.×12°.5E±°, h522km±4km, M4.6/22, mb4.8/22, mB5.1/16, MLv4.9/19, Mw(mB)4.5/16*
*IDC **23** 05:10:53.8±1.2, 7°.08S×125°.23E, h523km±15km, mb3.4/12, mbtmp4.4/16, Error ellipse: s-maj=20.9km s-min=7.9km az=64.0*
*NEIC **23** 05:10:53.0±1.6, 7°.09S±0°.10×125°.12E±0°.09, h515km±9km, mb4.5/37, Error ellipse: s-maj=16.1km s-min=11.1km az=216.0*

ISC 23 05:10:52.1±0.4, 7°.10S±0°.05×125°.16E±0°.05, h500km, n140, σ1°37/148, mb4.3/31, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.78	198	P	P	05 12 03.9	+2.1
SOEI	Soe	2.78	198	P	P	05 12 04.3	+2.5
SOEI	Soe	2.78	198	S	S	05 13 00.4	+1.9
SOEI	Soe	2.78	198	P	P	05 12 03.7	+1.9
SOEI				S	S	05 13 00.3	+1.8
BBSI	Bau Bau	3.03	302	P	P	05 12 05.9	+2.5
BBSI				S	S	05 13 06.1	+4.9
MMRI	Maumere	3.27	242	P	P	05 12 05.7	+0.7
MMRI	Maumere	3.27	242	P	P	05 12 06.4	+1.4
MMRI	Maumere	3.27	242	S	S	05 13 07.0	+2.7
MMRI	Maumere	3.27	242	P	P	05 12 05.9	+0.9
MMRI				S	S	05 13 06.7	+2.4
NLAI	Namlea	4.29	27	P	P	05 12 15.2	+2.2
NLAI				S	S	05 13 22.3	+3.5
BSSI	Bau Bau, Buton	4.74	281	P	P	05 12 18.9	+2.1
SANI	Sanana	5.08	9	P	P	05 12 21.6	+1.7
SANI	Sanana	5.08	9	P	P	05 12 21.8	+1.9
	1.6nm5μm507nm,0.7s						
MSAI	Masohi	5.29	45	P	P	05 12 23.5	+1.7
	1.2nm4μm57nm,0.6s						
BKSI	Bulukumba	5.31	289	P	P	05 12 24.1	+2.1
	0.3nm970nm82nm,0.5s						
WSI	Waingapu	5.45	242	P	P	05 12 23.0	-0.2
	1μm,0.8s						
BASI	Baing, Sumba	5.49	235	P	P	05 12 23.5	-0.1
KAPI	Kappang	5.76	291	P	P	05 12 29.1	+2.9
KAPI	Kappang	5.76	291	P	P	05 12 29.4	+3.1
	60nm,0.5s,baz=131,slow=5.7,SNR=23						
KAPI				S	S	05 13 47.4	+4.3
	17nm,0.8s,baz=192,slow=22,SNR=7.7						
SPSI	Sidrap Palu	6.21	300	P	P	05 12 31.7	+1.2
WBSI	Waikabubak, Su	6.24	246	P	P	05 12 29.9	-1.0
	7μm653nm,0.9s						
LUWI	Luwuk	6.47	338		P	05 12 34.8	+1.7
LUWI	Luwuk	6.47	338	P	P	05 12 34.6	+1.5
	1.0nm3μm338nm,1.0s						
APSI	Ampana	7.08	330	P	P	05 12 40.9	+1.8
	0.9nm3μm271nm,0.9s						
PLAI	Plampang	7.51	256	P	P	05 12 42.9	-0.7
PLAI	Plampang	7.51	256	P	P	05 12 42.4	-1.2
	0.9nm3μm283nm,0.8s						
KMSI	Cibinong	7.71	351	P	P	05 12 47.8	+2.2
DRS	Darwin Rock St	7.75	134	P	P	05 12 48.3	+2.3
PCI	Palu	8.13	319	P	P	05 12 51.7	+1.8
	130nm,0.6s						
MRSI	Marisa	8.18	337	P	P	05 12 51.9	+1.4
	3μm391nm,0.8s						
FAKI	Fak Fak	8.19	60		P	05 12 50.6	0.0
FAKI	Fak Fak	8.19	60	P	P	05 12 50.9	+0.3
FAKI	Fak Fak	8.19	60	P	P	05 12 50.3	-0.3
	69nm,0.7s						
MTN	Manton Dam	8.20	135		P	05 12 51.7	+1.2
MTN	Manton Dam	8.20	135	P	P	05 12 52.5	+1.9
TWSI	Taliwang, Sumb	8.36	258	P	P	05 12 51.2	-1.1
	2μm110nm,0.7s						
SWI	Sorong	8.68	45	P	P	05 12 56.5	+0.8
	53nm,0.7s						
KDU	Kakadu	9.09	128	P	P	05 13 01.1	+1.1
KNRA	Kununurra	9.23	158		P	05 13 02.3	+0.9
TOLI2	Tolitoli	9.25	332		P	05 13 01.9	+0.2
TOLI2	Tolitoli	9.25	332	P	P	05 13 02.9	+1.2
FITZ	Fitzroy Crossi	10.94	178	P	P	05 13 20.7	+1.2
FITZ	Fitzroy Crossi	10.94	178	P	P	05 13 21.0	+1.5
	75nm,0.3s,baz=5.1,slow=8.1,SNR=882						
FITZ				S	S	05 15 19.3	-1.5
	19nm,0.9s,baz=186,slow=23,SNR=11						
FITZ	Fitzroy Crossi	10.94	178	P	P	05 13 20.6	+1.2
JAGI	Jajag, Banyuwa	10.99	262	P	P	05 13 18.7	-1.4
JAGI	Jajag, Banyuwa	10.99	262	P	P	05 13 19.8	-0.3
JAGI	Jajag, Banyuwa	10.99	262	P	P	05 13 19.3	-0.8
MBWA	Marble Bar	14.93	200	P	P	05 14 01.8	+0.2
PSA00	Pilbara Seismi	15.28	199	P	P	05 14 05.4	+0.2
PSA00	Pilbara Seismi	15.28	199	P	P	05 14 05.5	+0.2
WB0	Warramunga Arr	15.46	145	P	P	05 14 06.8	-0.3
WB0				IAmb	IAmb	05 14 09.0	
	comp=Z,35nm,1.1s						
WRA	Warramunga Arr	15.57	146	P	P	05 14 08.5	+0.3
WRA	Warramunga Arr	15.57	146	P	P	05 14 08.4	+0.1
	comp=Z,11nm,0.5s,baz=323,slow=11,SNR=126						
WRA				S	S	05 16 48.9	-1.2
	comp=Z,6.8nm,0.9s,baz=325,slow=16,SNR=5.6						
WB2	Warramunga Arr	15.57	146	P	P	05 14 08.1	-0.3
WB2				IAmb	IAmb	05 14 09.7	
	comp=Z,49nm,1.2s						
WR0	Warramunga Arr	15.69	145	P	P	05 14 09.4	-0.2
SBUM	Sibu	16.02	306	P	P	05 14 11.9	-1.2
SBUM				IAmb	IAmb	05 14 13.7	
	comp=Z,7.0nm,0.6s						
SBUM	Sibu	16.02	306	P	P	05 14 13.2	0.0
TABU	Tabubil	16.07	84	P	P	05 14 14.9	+1.2
JAY	Jayapura	16.14	74	P	P	05 14 13.3	-1.1
	comp=Z,28nm,0.7s,baz=184,slow=6.0,SNR=5.6						
KSM	Kuching	17.09	299	P	P	05 14 22.7	-1.5
BBJI	Bungbulang	17.38	268	P	P	05 14 26.2	-0.7
WRKA	Warakurna	18.09	171	P	P	05 14 34.1	+0.7
AS31	Alice Springs	18.49	154	P	P	05 14

HTT	Hallett	29.14	156	P		P		05 16 13.5 +1.4
TPUB	Ta-pu	30.54	352	P		P		05 16 22.8 -1.5
CMSA	Cobar Meteorol	30.96	144	P		P		05 16 29.6 +1.8
SSLB	Suanglung	30.97	352	P		P		05 16 25.6 -2.4
SSLB				IAmb		IAmb		05 16 38.4
	comp=Z,30nm,1.1s							
YHNB	Yeheng	31.79	353	P		P		05 16 33.0 -2.0
ARPS	Mount Arapiles	33.22	155	P		P		05 16 47.6 +0.6
ARMA	Armidale	33.97	136	P		P		05 16 55.1 +1.5
ARMA				IAmb		IAmb		05 17 11.2
	comp=Z,14nm,1.5s							
TATA	Tatamba Isabel	34.34	94	P		P		05 16 57.5 +0.7
ALEG	Aligegeo Malai	35.23	95	P		P		05 17 04.0 -0.2
TOO	Toolangi	35.51	152	P		P		05 17 07.5 +1.2
TOO				IAmb		IAmb		05 17 41.1
	comp=Z,7.8nm,1.3s							
CAN	Canberra	35.61	145	P		P		05 17 08.7 +1.5
CAN				IAmb		IAmb		05 17 10.0
	comp=Z,9.4nm,0.7s							
CAN	Canberra	35.61	145	P		P		05 17 07.9 +0.7
CNB	Canberra Magne	35.81	145	P		P		05 17 09.2 +0.3
CMAR	Chiang Mai Arr	36.25	315	P		P		05 17 11.7 -1.0
CMAR	Chiang Mai Arr	36.25	315	P		P		05 17 13.2 +0.5
	comp=Z,3.5nm,0.7s,baz=144,slow=6.4,SNR=26							
	comp=Z,3.5nm,0.7s							
CHTO	Chiang Mai	36.49	315	P		P		05 17 12.9 -1.6
CHTO				IAmb		IAmb		05 17 15.6
	comp=Z,5.8nm,0.8s							
NJ2	Nanjing	39.39	352	eP		P		05 17 39.6 +1.5
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
PZH	PanZhiHua	40.40	327	P		P		05 17 47.3 +0.8
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,160nm,6.1s							
XAN	Xi'an	43.71	340	⇑P		P		05 18 11.3 -1.1
XAN				pmax		pmax		
	comp=Z,12nm,0.6s							
KSRS	Korea Array	44.40	3	P		P		05 18 17.9 +0.3
	comp=Z,1.1nm,0.4s,baz=182,slow=8.8,SNR=3.0							
	comp=Z,1.1nm,0.4s							
MJAR	Matsushiro Arr	45.10	15	P		P		05 18 22.2 -0.9
	comp=Z,2.9nm,0.7s,baz=195,slow=8.5,SNR=6.1							
	comp=Z,2.9nm,0.7s							
HHC	Hu-ho-hao-te	49.33	346	eP		P		05 18 57.6 +2.6
HHC				pmax		pmax		
	comp=Z,14nm,0.5s							
HHC				pmax		pmax		
	comp=Z,81nm,4.0s							
JTM	Tenmabayashi	49.85	16	P		P		05 18 58.7 0.0
CN2	Changchun	50.66	0	P		P		05 18 59.0 -5.6
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
USRK	Ussuriysk Ar.	51.43	6	P		P		05 19 10.3 +0.1
	comp=Z,2.2nm,0.5s,baz=191,slow=6.8,SNR=6.3							
	comp=Z,2.2nm,0.5s							
BKZ	Black Stump Fm	55.99	133	P		P		05 19 42.8 -0.1
ULN	Ulaanbaatar	57.02	346	P		P		05 19 49.5 -0.3
SONM	Songino Array	57.15	345	P		P		05 19 50.9 +0.2
	comp=Z,0.5nm,0.3s,baz=174,slow=8.2,SNR=3.9							
	comp=Z,0.5nm,0.3s							
MK31	Makanchi Array	65.76	329	P		P		05 20 46.7 -0.4
MK31				IAmb		IAmb		05 20 48.8
	comp=Z,2.9nm,0.6s							
MKAR	Makanchi Array	65.76	329	P		P		05 20 46.3 -0.7
MKAR	Makanchi Array	65.76	329	P		P		05 20 47.0 -0.1
	comp=Z,4.3nm,0.4s,baz=124,slow=6.9,SNR=62							
	comp=Z,4.3nm,0.4s							
MAKZ	Makanchi	65.93	329	P		P		05 20 47.5 -0.6
PEA0B	Petropavlovsk-	66.02	21	P		P		05 20 49.5 +1.0
PEA0B				IAmb		IAmb		05 21 18.2
	comp=Z,40nm,1.1s							
PETK	Petropavlovsk-	66.02	21	P		P		05 20 48.1 -0.4
PETK	Petropavlovsk-	66.02	21	P		P		05 20 48.2 -0.3
	comp=Z,4.0nm,0.5s,baz=209,slow=2.3,SNR=6.9							
	comp=Z,4.0nm,0.5s							
BOOM	Boomskoye usch	66.62	322	P		P		05 20 52.0 -0.7
AAK	Ala-Archa	67.58	322	P		P		05 20 58.2 -0.4
ARSB	Arslanbob	67.81	320	P		P		05 20 59.2 -0.8
ARSB				IAmb		IAmb		05 21 00.7
	comp=Z,3.4nm,0.6s							
ZALV	Zalesovo Beam	69.63	336	P		P		05 21 09.0 -1.5
ZALV	Zalesovo Beam	69.63	336	P		P		05 21 09.5 -1.0
	comp=Z,1.4nm,0.4s,baz=128,slow=5.3,SNR=7.0							
	comp=Z,1.4nm,0.4s							
KURBB	Kurchatov Arra	70.16	331	P		P		05 21 13.3 -0.4
	comp=Z,0.9nm,0.6s,baz=139,slow=5.1,SNR=16							
	comp=Z,0.9nm,0.6s							
KURK	Kurchatov	70.17	331	P		P		05 21 13.3 -0.5
RAR	Rarotonga	73.57	110	P		P		05 21 32.9 -1.5
BVAR	Borovoye Array	75.64	329	P		P		05 21 45.4 +0.1
	comp=Z,1.2nm,0.6s,baz=116,slow=10,SNR=7.0							
	comp=Z,1.2nm,0.6s							
BRVK	Borovoye	75.72	329	P		P		05 21 45.3 -0.4
ATKA	Atka Island	78.31	33	P		P		05 21 59.3 -0.5
TIXI	Tiksi	78.62	1	P		P		05 21 59.9 -1.3
ABKAR	Akbulak array	79.64	323	P		P		05 22 05.7 -1.3
G19K	Purcell Mounta	91.52	23	P		P		05 23 03.7 -0.7
G19K				IAmb		IAmb		05 23 05.0
	comp=Z,2.6nm,0.8s							
E19K	Redstone River	91.78	22	P		P		05 23 04.6 -1.1
E19K				IAmb		IAmb		05 23 07.0
	comp=Z,5.5nm,1.2s							
ILAR	Eielson Array	95.49	25	P		P		05 23 20.5 -2.2
	comp=Z,0.3nm,0.5s,baz=262,slow=4.6,SNR=5.1							
	comp=Z,0.3nm,0.5s							
TXAR	Lajitas Array	129.07	58	PKP		PKPdf		05 29 04.0 +0.3
	comp=Z,0.6nm,0.8s,baz=292,slow=3.4,SNR=3.6							
CPUP	Villa Florida	146.68	176	PKPbc		PKPdf		05 29 37.0 +1.3
	comp=Z,0.9nm,0.4s,baz=231,slow=1.3,SNR=4.8							

*IDC **23** 05:31:12.9±1.7, 13°.80N×88°.73W, h0km, mb3.7/4, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=58.5km s-min=19.0km az=43.0*
*CATAC **23** 05:31:12.1±0.5, 13°.N±2°×9°.0W±°, h11km±2km, M4.0/25, MLv4.0/25, Error ellipse: s-maj=4.7km s-min=3.6km az=34.1, confirmed*
*SNET **23** 05:31:14.6±2.1, 12°.98N×89°.52W, h31km, ML4.0*
*GCG **23** 05:31:14.6±0.7, 13°.02N×89°.68W, h18km±5km, MD4.5*

ISC 23 05:31:12.5±1.5, 12°.92N±0°.05×89°.53W±0°.04, h16km±9km, n120, σ0°.80/130, mb3.7/3, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.60	19	⇑i P	Pb	05 31 25.8	+1.0
LALI	Alcalda de L	0.60	19	P	Pb	05 31 25.8	+1.0
LALI	Alcalda de L	0.60	19	S	Sn	05 31 34.6	-1.4
LALI	Alcalda de L	0.60	19	P	Pb	05 31 25.8	+1.0
LALI	Alcalda de L	0.60	19	i P	Pb	05 31 25.7	+1.0
LALI				eS	Sn	05 31 33.7	-2.3
LALI	Alcalda de L	0.60	19	i P		05 31 25.7	
LALI				eS		05 31 33.7	
PANCS	Alcalda de	0.77	26	eP	Pg	05 31 27.8	+0.3
PANCS	Alcalda de	0.77	26	S	Sn	05 31 39.2	-1.0
PANCS	Alcalda de	0.77	26	P	Pg	05 31 27.9	+0.3
PANCS	Alcalda de	0.77	26	P	Pg	05 31 28.0	+0.4
ITCA	Escuela Especi	0.79	18	eS	Sn	05 31 39.9	-0.9
ITCA	Escuela Especi	0.79	18	P	Pg	05 31 28.4	+0.4
ITCA	Escuela Especi	0.79	18	S	Sn	05 31 40.0	-0.7
ITCA	Escuela Especi	0.79	18	P	Pg	05 31 28.5	+0.4
LOMA	Loma Larga	0.80	25	eP	Pg	05 31 28.7	+0.5
LOMA	Loma Larga	0.80	25	S	Sn	05 31 40.8	-0.3
LOMA	Loma Larga	0.80	25	P	Pg	05 31 28.7	+0.5
LOMA	Loma Larga	0.80	25	P	Pg	05 31 28.7	+0.5
LFRS	El Faro	0.84	33	eP	Pg	05 31 29.2	+0.4
SEMO	Seminario San	0.84	21	P	Pg	05 31 29.2	+0.3
SEMO	Seminario San	0.84	21	S	Sn	05 31 41.0	-0.9
SEMO	Seminario San	0.84	21	P	Pg	05 31 29.1	+0.3
UTEC	Universidad Te	0.84	22	S	Sn	05 31 41.6	-0.4
UTEC	Universidad Te	0.84	22	P	Pg	05 31 29.3	+0.3
UTEC	Universidad Te	0.84	22	P	Pg	05 31 29.3	+0.3
UEES	Universidad Ev	0.84	19	P	Pg	05 31 29.3	+0.3
UEES	Universidad Ev	0.84	19	S	Sn	05 31 41.5	-0.6
UEES	Universidad Ev	0.84	19	P	Pg	05 31 29.2	+0.3
BOQS	Boqueron	0.85	16	⇑i P	Pg	05 31 29.5	+0.4
IGN	Direccin Gen	0.87	24	eP	Pg	05 31 29.6	+0.2
IGN	Direccin Gen	0.87	24	S	Sn	05 31 42.2	-0.4
IGN	Direccin Gen	0.87	24	P	Pg	05 31 29.7	+0.3
IGN	Direccin Gen	0.87	24	P	Pg	05 31 29.7	+0.3
CEVE	Cerro Verde	0.91	354	eP	Pb	05 31 30.2	0.0
CEVE	Cerro Verde	0.91	354	P	Pb	05 31 30.3	+0.1
CEVE	Cerro Verde	0.91	354	S	Sn	05 31 43.7	-0.3
CEVE	Cerro Verde	0.91	354	P	Pb	05 31 30.3	+0.1
COEG	Centro de Oper	0.94	42	eP	Pb	05 31 30.5	-0.1
COEG				eS	Sn	05 31 43.8	-0.6
COEG	Centro de Oper	0.94	42	S	Sn	05 31 44.1	-0.4
COEG	Centro de Oper	0.94	42	P	Pb	05 31 30.6	-0.1
COEG	Centro de Oper	0.94	42	P	Pb	05 31 30.5	-0.1
TECO	Alcaldia de Te	0.95	50	P	Pb	05 31 30.5	-0.2
TECO	Alcaldia de Te	0.95	50	S	Sn	05 31 44.2	-0.5
TECO	Alcaldia de Te	0.95	50	P	Pb	05 31 30.6	-0.1
PAVA	Las Pavas	0.98	36	eP	Pb	05 31 31.4	+0.2
PAVA	Las Pavas	0.98	36	S	Sn	05 31 45.6	+0.2
PAVA	Las Pavas	0.98	36	P	Pb	05 31 31.5	+0.2
PAVA	Las Pavas	0.98	36	P	Pb	05 31 31.5	+0.2
NUBE	Las Nubes	1.01	346	eP	Pb	05 31 31.2	-0.5
NUBE	Las Nubes	1.01	346	P	Pb	05 31 31.4	-0.5
NUBE	Las Nubes	1.01	346	S	Sn	05 31 45.3	-1.0
NUBE	Las Nubes	1.01	346	P	Pb	05 31 31.4	-0.5
NUBE	Las Nubes	1.01	346	i P	Pb	05 31 31.3	-0.5
NUBE				eS	Sg	05 31 44.2	-1.3
NUBE	Las Nubes	1.01	346	i P		05 31 31.3	
NUBE				eS		05 31 44.2	
UESV	Universidad de	1.01	45	P	Pb	05 31 31.6	-0.2
UESV	Universidad de	1.01	45	S	Sn	05 31 45.7	-0.5
UESV	Universidad de	1.01	45	P	Pb	05 31 31.7	-0.2
ALJI	Alcalda de J	1.02	66	eP	Pb	05 31 31.6	-0.2
ALJI				eS	Sb	05 31 45.6	+0.6
ALJI	Alcalda de J	1.02	66	P	Pb	05 31 31.6	-0.2
ALJI	Alcalda de J	1.02	66	P	Pb	05 31 31.6	-0.2
UNIC	Universidad Ca	1.06	359	S	Sn	05 31 47.7	+0.3
UNIC	Universidad Ca	1.06	359	P	Pb	05 31 32.4	-0.1
UNIC	Universidad Ca	1.06	359	P	Pb	05 31 32.5	-0.1
SCLA	Alcaldia de Sa	1.10	45	P	Pb	05 31 33.3	0.0
SCLA	Alcaldia de Sa	1.10	45	S	Sg	05 31 48.8	+0.5
SCLA	Alcaldia de Sa	1.10	45	P	Pb	05 31 33.3	0.0
LOAL	Lomas de Alarc	1.10	347	eP	Pb	05 31 33.1	-0.3
LOAL	Lomas de Alarc	1.10	347	S	Sn	05 31 48.8	+0.4
LOAL	Lomas de Alarc	1.10	347	P	Pb	05 31 33.3	0.0
LOAL	Lomas de Alarc	1.10	347	P	Pb	05 31 33.3	0.0
SLOZ	Alcaldia de Sa	1.13	347	P	Pb	05 31 33.5	-0.3
SLOZ	Alcaldia de Sa	1.13	347	S	Sg	05 31 49.3	+0.1
SLOZ	Alcaldia de Sa	1.13	347	P	Pb	05 31 33.5	-0.3
PQSS	Presa 15 de Se	1.18	53	S	Sg	05 31 50.4	-0.2
PQSS	Presa 15 de Se	1.18	53	P	Pn	05 31 34.2	-0.2
PQSS	Presa 15 de Se	1.18	53	P	Pn	05 31 34.1	-0.2
PACA	Pacayal	1.29	65	eP	Pn	05 31 36.1	0.0
PACA	Pacayal	1.29	65	P	Pn	05 31 36.2	0.0
PACA	Pacayal	1.29	65	S	Sn	05 31 53.5	+0.3
PACA	Pacayal	1.29	65	P	Pn	05 31 36.2	0.0
RANC	El Ranchito	1.31	67	S	Sn	05 31 54.6	+1.0
RANC	El Ranchito	1.31	67	P	Pn	05 31 36.1	-0.3
RANC	El Ranchito	1.31	67	P	Pn	05 31 36.0	-0.3
BLLM	Bellamira	1.36	67	eP	Pn	05 31 36.6	-0.4
LLGN	La Laguna	1.36	24	eP	Pb	05 31 37.8	0.0
LLGN				eS	Sg	05 31 56.5	-0.1
LLGN	La Laguna	1.36	24	P	Pb	05 31 37.8	0.0
LLGN	La Laguna	1.36	24	P	Pn	05 31 37.6	+0.5
CNRM	Centro Naciona	1.43	67	S	Sb	05 31 57.6	+0.6
CNRM	Centro Naciona	1.43	67	P	Pn	05 31 38.3	+0.3
CNRM	Centro Naciona	1.43	67	P	Pn	05 31 38.2	+0.3
CAHU	Cacacuatique	1.54	56	eP	Pn	05 31 39.9	+0.3
LCND	La Caada	1.64	76	eP	Pn	05 31 40.6	-0.1
LCND	La Caada	1.64	76	P	Pn	05 31 40.7	-0.1
LCND	La Caada	1.64	76	S	Sn	05 32 02.7	+1.0
LCND	La Caada	1.64	76	P	Pn	05 31 40.7	-0.1
ESQI	Esquipulas	1.64	6	eP	Pn	05 31 41.5	+0.6
ESQI				eS	Sg	05 32 04.2	-1.4
ESQI	Esquipulas	1.64	6	S	Sg	05 32 03.6	-2.1
ESQI	Esquipulas	1.64	6	P	Pn	05 31 41.6	+0.7
ESQI	Esquipulas	1.64	6	P	Pn	05 31 41.7	+0.7
CNCH	Conchagua	1.69	78	eS	Sn	05 32 03.9	+1.0
CNCH	Conchagua	1.69	78	P	Pn	05 31 41.7	+0.2
CNCH	Conchagua	1.69	78	S	Sn	05 32 03.9	+1.0
CNCH	Conchagua	1.69	78	P	Pn	05 31 41.3	-0.3
CSGN	Cosiguina Volc	1.92	88	P	Pn	05 31 44.1	-0.6
CSGN				S	Sn	05 32 10.5	+1.9
CSGN	Cosiguina Volc	1.92	88	P	Pn	05 31 44.2	-0.5
POTN	Potosi Cosigui	1.97	87	P	Pn	05 31 45.8	+0.5
POTN				S	Sn	05 32 10.8	+1.1
POTN	Potosi Cosigui	1.97	87	P	Pn	05 31 45.5	+0.2
STG0	El Palmar, Qui	2.32	311	eP		05 31 54.8	
STG8	El Palmar, Qui	2.34	311	eP		05 31 55.5	
TGUH	Tegucigalpa,Un	2.47	62	P	Pn	05 31 52.8	+0.5
COPN	Copaltepe	2.96	104	P	Pn	05 31 59.3	+0.4
COPN	Copaltepe	2.96	104	P	Pn	05 31 59.1	+0.2
LIMN	Finca el Limon	3.08	87	P	Pn	05 32 01.0	+0.2
LIMN	Finca el Limon	3.08	87	P	Pn	05 32 00.9	+0.1
RCVN	Varillal2	3.31	78	P	Pn	05 32 03.8	-0.1
RCVN	Varillal2	3.31	78	P	Pn	05 32 03.8	-0.1
RCPN	Sur Rio San Ju	3.40	79	P	Pn	05 32 06.8	+1.7
JTS	Las Juntas de	5.18	120	Pn	Pn	05 32 30.5	+0.9
	0.6nm,0.3s,baz=305,slow=19,SNR=1.5						
JTS				Pg	Pb	05 32 42.2	-0.7
	3.4nm,0.3s,baz=286,slow=22,SNR=6.0						
JTS				Sn	Sn	05 33 26.6	-2.5
	0.3nm,0.3s,baz=319,slow=18,SNR=0.9						
JTS				Lg	Lg	05 33 54.7	
	1.8nm,0.3s,baz=106,slow=19,SNR=12						
	3.4nm,0.4s						
BLUN	Bluefields	5.69	99	P	Pn	05 32 35.1	-1.4
CMIG	Matias Romero	6.63	309	Pn	Pn	05 32 53.5	+4.0
	1.3nm,0.3s,baz=107,slow=9.3,SNR=18						
CMIG				Sn	Sn	05 34 05.8	+0.9
	0.7nm,0.3s,baz=88,slow=21,SNR=1.8						
	5.7nm,0.5s						
TXAR	Lajitas Array	20.96	323	P	P	05 35 56.5	+1.3
	1.3nm,0.5s,baz=131,slow=11,SNR=16						
	1.3nm,0.5s						
NVAR	Mina Array Bea	36.03	320	P	P	05 38 14.6	+1.0
	0.7nm,0.8s,baz=128,slow=9.6,SNR=5.4						
	0.7nm,0.8s						
SCHQ	Schefferville	45.45	18	P	P	05 39 24.9	-5.8
	3.1nm,0.8s,baz=198,slow=6.4,SNR=2.1						
	3.1nm,0.8s						
YKA	Yellowknife Ar	52.65	346	P	P	05 40 23.2	-2.5
	0.8nm,0.7s,baz=148,slow=7.3,SNR=14						
	0.8nm,0.7s						

*SNET **23** 06:23:46.7±0.7, 12°.52N×87°.97W, h26km±2km, ML2.9*
*CATAC **23** 06:23:46.4±0.6, 13°.N±4°×8°.8W±°, h34km±4km, M3.4/14, MLv3.4/14, Error ellipse: s-maj=9.7km s-min=2.8km az=31.3, confirmed*

ISC 23 06:23:45.4±1.2, 12°.50N±0°.08×87°.85W±0°.05, h64km±12km, n82, σ0°.81/97, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.55	31	P	Pn	06 23 58.4	0.0
CSGN				S	Sn	06 24 07.8	0.0
CSGN	Cosiguina Volc	0.55	31	P	Pn	06 23 58.3	-0.1
CSGN				S	Sn	06 24 08.1	+0.2
POTN	Potosi Cosigui	0.60	34	P	Pn	06 23 58.7	-0.1
POTN				S	Sn	06 24 08.5	-0.1
POTN	Potosi Cosigui	0.60	34	P	Pn	06 23 58.7	-0.1
POTN				S	Sn	06 24 08.5	-0.1
CNCH	Conchagua	0.77	1	eP	Pn	06 24 01.0	0.0
CNCH				eS	Sn	06 24 12.9	+0.4
CNCH	Conchagua	0.77	1	P	Pn	06 24 01.0	0.0
CNCH	Conchagua	0.77	1	S	Sn	06 24 12.8	+0.4
CNCH	Conchagua	0.77	1	S	Sn	06 24 13.1	+0.8
CNCH	Conchagua	0.77	1	P	Pn	06 24 01.0	0.0
CRIN	San Cristobal	0.80	76	S	Sn	06 24 14.7	+1.8
CRIN	San Cristobal	0.80	76	P	Pn	06 24 02.5	+1.2
CRIN	San Cristobal	0.80	76	S	Sn	06 24 14.8	+1.8
CRIN	San Cristobal	0.80	76	P	Pn	06 24 02.5	+1.2
LCND	La Caada	0.81	357	eP	Pn	06 24 01.4	+0.1
LCND				eS	Sn	06 24 12.8	-0.1
LCND				IAML		06 24 15.0	
	comp=Z,540nm,0.3s						
LCND	La Caada	0.81	357	P	Pn	06 24 01.3	0.0
LCND	La Caada	0.81	357	S	Sn	06 24 13.4	+0.5
LCND	La Caada	0.81	357	P	Pn	06 24 01.3	+0.1
QUEN	Al S del Volca	0.97	84	P	Sn	06 24 16.6	-0.1
HERN	Volcan Telica	1.00	84	S	Sn	06 24 17.7	+0.4
HERN	Volcan Telica	1.00	84	P	Pn	06 24 04.2	+0.5
HERN	Volcan Telica	1.00	84	S	Sn	06 24 17.6	+0.4
HERN	Volcan Telica	1.00	84	P	Pn	06 24 04.2	+0.5
BLLM	Bellamira	1.01	338	eP	Pn	06 24 04.2	+0.3
LCY	Lacayo	1.02	335	eP	Pn	06 24 04.4	+0.4
CNRM	Centro Naciona	1.02	342	eS	Sn	06 24 18.3	+0.6
CNRM	Centro Naciona	1.02	342	S	Sn	06 24 18.3	+0.6
CNRM	Centro Naciona	1.02	342	P	Pn	06 24 04.4	+0.4
CNRM	Centro Naciona	1.02	342	P	Pn	06 24 04.4	+0.4
POLN	Al Sur del Vol	1.02	81	P	Pn	06 24 04.7	+0.8
POLN				S	Sn	06 24 18.0	+0.3
POLN	Al Sur del Vol	1.02	81	P	Sn	06 24 18.0	+0.3
POLN	Al Sur del Vol	1.02	81	P	Pn	06 24 04.7	+0.8
RANC	El Ranchito	1.02	335	P	Pn	06 24 04.6	+0.5
RANC	El Ranchito	1.02	335	S	Sn	06 24 18.5	+0.5
RANC	El Ranchito	1.02	335	S	Sn	06 24 18.6	+0.5
RANC	El Ranchito	1.02	335	P	Pn	06 24 04.6	+0.5
PLRN	Geotermica Pol	1.06	85	P	Pn	06 24 03.9	-0.5
PLRN				S	Sn	06 24 18.1	-0.4
PLRN	Geotermica Pol	1.06	85	S	Sn	06 24 17.8	-0.7
PLRN	Geotermica Pol	1.06	85	P	Pn	06 24 03.9	-0.5
PACA	Pacayal	1.07	334	eP	Pn	06 24 05.5	+0.8
PACA				eS	Sn	06 24 19.5	+0.5
PACA	Pacayal	1.07	334	P	Pn	06 24 05.3	+0.5
PACA	Pacayal	1.07	334	S	Sn	06 24 19.6	+0.5
PACA	Pacayal	1.07	334	S	Sn	06 24 19.8	+0.7
PACA	Pacayal	1.07	334	P	Pn	06 24 05.2	+0.5
ALJI	Alcalda de J	1.08	319	eP	Pn	06 24 05.0	+0.2
ALJI				eS	Sn	06 24 18.6	-0.5
ALJI	Alcalda de J	1.08	319	S	Sn	06 24 19.3	+0.1
ALJI	Alcalda de J	1.08	319	P	Pn	06 24 05.0	+0.2
ALJI	Alcalda de J	1.08	319	S	Sn	06 24 18.6	-0.5
ALJI	Alcalda de J	1.08	319	P	Pn	06 24 05.0	+0.2
CNGA	Al SSO del Vol	1.12	90	P	Sn	06 24 21.0	+1.0
CNGN	Cerro Negro	1.12	90	P	Pn	06 24 06.3	+1.1
CNGN	Cerro Negro	1.12	90	S	Sn	06 24 20.6	+0.6
CNGN	Cerro Negro	1.12	90	P	Pn	06 24 06.3	+1.1
ILCN	San Idelfonso	1.12	86	P	Sn	06 24 20.8	+1.0
TECA	Tecapa	1.18	327	eP	Pn	06 24 06.7	+0.6
COPN	Copaltepe	1.27	104	P	Pn	06 24 08.0	+0.9
COPN	Copaltepe	1.27	104	P	Pn	06 24 08.0	+0.9
MOMN	Momotombo	1.28	94	P	Pn	06 24 07.7	+0.3
MOMN				S	Sn	06 24 24.2	+0.5
MOMN	Momotombo	1.28	94	S	Sn	06 24 24.0	+0.3
MOMN	Momotombo	1.28	94	P	Pn	06 24 03.8	-3.5
PQSS	Presa 15 de Se	1.32	328	eP	Pn	06 24 08.6	+0.8
PQSS				eS	Sn	06 24 25.6	+1.0
PQSS	Presa 15 de Se	1.32	328	S	Sn	06 24 25.3	+0.7
PQSS	Presa 15 de Se	1.32	328	P	Pn	06 24 08.7	+0.8
PQSS	Presa 15 de Se	1.32	328	S	Sn	06 24 25.7	+1.2
PQSS	Presa 15 de Se	1.32	328	P	Pn	06 24 08.6	+0.8
SCLA	Alcaldia de Sa	1.47	324	eP	Pn	06 24 10.6	+0.7
SCLA				eS	Sn	06 24 29.5	+1.2
SCLA	Alcaldia de Sa	1.47	324	P	Pn	06 24 10.7	+0.8
SCLA	Alcaldia de Sa	1.47	324	S	Sn	06 24 29.3	+1.0
SCLA	Alcaldia de Sa	1.47	324	P	Pn	06 24 10.6	+0.7
COEG	Centro de Oper	1.50	318	eP	Pn	06 24 10.9	+0.6
COEG				eS	Sn	06 24 29.5	+0.4
COEG				IAML		06 24 32.9	
	comp=Z,162nm,0.2s						
COEG	Centro de Oper	1.50	318	P	Pn	06 24 11.0	+0.6
APQ2	Apoyeque	1.52	101	P	Sn	06 24 30.0	+0.6
LIMN	Finca el Limon	1.55	69	P	Pn	06 24 11.6	+0.6
UNAN	Cigeo UNAN	1.59	104	P	Pn	06 24 12.8	+1.4
TGUH	Tegucigalpa,Un	1.65	20	P	Pn	06 24 13.0	+0.7
LOMA	Loma Larga	1.72	312	eP	Pn	06 24 13.9	+0.6
LOMA				eS	Sn	06 24 35.2	+0.7
LALI	Alcalda de L	1.74	305	eS	Sn	06 24 34.4	-0.3
MATN	Matagalpa	1.92	77	P	Pn	06 24 16.6	+0.6
RCVN	Varillal2	1.94	56	P	Pn	06 24 17.2	+0.9
RCPN	Sur Rio San Ju

CAPC			S	Sn	06 47 09.5	-0.5
APAC	**Apartado, Choc**	**0.74 165**	P	Pn	06 47 03.1	-0.7
APAC			S	Sn	06 47 14.2	+0.3
UREC	**San Jos de Ur**	**1.50 125**	P	Pn	06 47 13.1	-1.1
UREC			S	Sn	06 47 29.9	-2.7
DBBC	**Dabeiba**	**1.69 161**	P	Pn	06 47 15.2	-1.7
DBBC			S	Sn	06 47 34.9	-2.4
PTAC	**Punta Ardita,**	**1.79 215**	P	Pn	06 47 17.5	-0.7
PTAC			S	Sn	06 47 39.4	-0.3
SJCC	**San Jacinto, C**	**2.02 51**	P	Pn	06 47 21.4	0.0
SJCC			S	Sn	06 47 44.8	-0.7
ZARC	**Zaragoza, Cauc**	**2.20 120**	P	Pn	06 47 23.1	-0.8
ZARC			S	Sn	06 47 46.6	-3.3
HELC	**Santa Helena**	**2.71 153**	P	Pn	06 47 29.5	-1.7
HELC			S	Sn	06 47 59.6	-3.4
ARGC	**Ariguani, Magd**	**2.78 64**	P	Pn	06 47 32.1	+0.3
ARGC			S	Sn	06 48 02.5	-1.7
CBOC	**Ciudad Bolivar**	**2.84 165**	P	Pn	06 47 32.4	-0.4
CBOC			S	Sn	06 48 04.7	-1.2
PTBC	**PUERTO BERRIO,**	**3.09 132**	P	Pn	06 47 34.4	-1.7
PTBC			S	Sn	06 48 07.5	-4.3
BRJC	**Barrancabermej**	**3.42 118**	P	Pn	06 47 40.9	+0.3
BRJC			S	Sn	06 48 18.0	-1.9
OCAC	**Ocana**	**3.44 96**	P	Pn	06 47 40.5	-0.5
OCAC			S	Sn	06 48 18.2	-2.4
NORC	**Norcasia**	**3.58 148**	P	Pn	06 47 42.5	-0.3
NORC			S	Sn	06 48 22.1	-1.8
BARC	**Barichara**	**4.09 119**	P	Pn	06 47 50.2	+0.2
BARC			S	Sn	06 48 35.2	-1.6
PAMC	**Pamplona, Colo**	**4.23 107**	P	Pn	06 47 52.2	0.0
PAMC			S	Sn	06 48 38.0	-2.6
CRJC	**Cerrejon, Guaj**	**4.51 58**	P	Pn	06 47 54.9	-0.9
CRJC			S	Sn	06 48 43.3	-3.8
RUSC	**La Rusia**	**4.55 126**	P	Pn	06 47 56.6	-0.1
RUSC			S	Sn	06 48 45.7	-2.9
URIC	**Uribia, Colomb**	**5.61 57**	P	Pn	06 48 10.0	-0.8
URIC			S	Sn	06 49 09.7	-4.3

*THE **23** 06:53:05.0, 37.64N×20.60E, h0km±3km, ML3.3/10, Error ellipse: s-maj=3.7km s-min=0.6km az=219.0*
*ATH **23** 06:53:06.2, 37.69N×20.61E, h8km±2km, ML3.2/36, Manual Solution by N.Liadopoulou First location: 2019/03/23 06:53:59, This location: 2019/03/24 07:09:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

ISC 23 06:53:06.0±1.2, 37.68N±0.04×20.62E±0.04, h9km±7km, n79, σ0.9 76/94, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.16**	**95**	P	**Pg**	**06 53 09.0**	**-0.4**
KRI1				S	**Sg**	**06 53 11.3**	**-0.5**
	33μm,0.5s						
LTHK	**Lithakia**	**0.18**	**79**	P	**Pg**	**06 53 09.2**	**-0.5**
LTHK				S	**Sg**	**06 53 11.3**	**-1.0**
	37μm,0.4s						
LTHK	**Lithakia**	**0.18**	**79**	P	**Pg**	**06 53 09.4**	**-0.4**
LTHK				S	**Sg**	**06 53 12.1**	**-0.2**
ORTH	**Orthonies,Zaky**	**0.18**	**20**	P	**Pg**	**06 53 10.1**	**+0.2**
ORTH				S	**Sg**	**06 53 12.9**	**+0.3**
KYPS	**Kipseli, Zakin**	**0.22**	**49**	P	**Pg**	**06 53 10.8**	**+0.3**
KYPS				S	**Sg**	**06 53 14.1**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.42**	**17**	P	**Pg**	**06 53 13.9**	**-0.3**
RTZL				S	**Sg**	**06 53 20.7**	**+1.0**
	3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.44**	**357**	P	**Pg**	**06 53 14.5**	**-0.1**
PSDA				S	**Sg**	**06 53 21.4**	**+1.1**
	4μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.44**	**357**	P	**Pg**	**06 53 14.5**	**-0.1**
PSDA				S	**Sg**	**06 53 20.2**	**-0.1**
CLEM	**Kyllini,Ilia,G**	**0.46**	**62**	P	**Pg**	**06 53 15.2**	**+0.2**
CLEM				S	**Sg**	**06 53 21.6**	**+0.6**
VLS	**Valsamata**	**0.50**	**358**	P	**Pg**	**06 53 15.3**	**-0.4**
VLS				S	**Sg**	**06 53 23.2**	**+0.9**
	2μm,0.2s						
VLS	**Valsamata**	**0.50**	**358**	P	**Pg**	**06 53 15.5**	**-0.2**
SMHA	**Samh**	**0.57**	**2**	P	**Pg**	**06 53 15.9**	**-1.2**
LCHA	**Lechaina**	**0.57**	**63**	P	**Pb**	**06 53 18.1**	**-0.1**
DMLN	**Damoulianata-K**	**0.59**	**341**	P	**Pg**	**06 53 17.4**	**-0.1**
DMLN				S	**Sb**	**06 53 26.3**	**-0.8**
	5μm,0.5s						
DMLN	**Damoulianata-K**	**0.59**	**341**	P	**Pg**	**06 53 17.4**	**-0.1**
YRMI	**Loutra Irminis**	**0.72**	**54**	P	**Pg**	**06 53 19.3**	**-0.5**
VSK1	**VASILIKIADES**	**0.73**	**357**	P	**Pg**	**06 53 19.4**	**-0.7**
RLS	**Riolos of Patr**	**0.77**	**60**	P	**Pg**	**06 53 20.1**	**-0.8**
RLS				S	**Sg**	**06 53 31.4**	**+0.4**
	2μm,0.5s						
RLS	**Riolos of Patr**	**0.77**	**60**	P	**Pg**	**06 53 20.2**	**-0.7**
FSK	**Fiskardo**	**0.78**	**357**	P	**Pg**	**06 53 20.2**	**-0.9**
FSK				S	**Sb**	**06 53 32.4**	**-0.1**
	2μm,0.7s						
FSK	**Fiskardo**	**0.78**	**357**	P	**Pg**	**06 53 20.2**	**-0.9**
AXS	**Araxos**	**0.79**	**49**	P	**Pg**	**06 53 20.7**	**-0.6**
ZARO	**Zacharo**	**0.84**	**103**	P	**Pg**	**06 53 22.1**	**-0.1**
AMT	**Artemida-Makis**	**0.88**	**99**	P	**Pg**	**06 53 22.3**	**-0.7**
DRO	**Drossia**	**0.91**	**72**	P	**Pg**	**06 53 22.9**	**-0.6**
DRO				S	**Sb**	**06 53 36.9**	**+0.8**
	2μm,0.8s						
DRO	**Drossia**	**0.91**	**72**	P	**Pg**	**06 53 23.0**	**-0.4**
EVGI	**Lefkada island**	**0.94**	**2**	P	**Pg**	**06 53 23.2**	**-0.9**
EVGI				S	**Sb**	**06 53 38.6**	**+1.5**
	1μm,0.5s						
EVGI	**Lefkada island**	**0.94**	**2**	P	**Pg**	**06 53 23.2**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.01**	**358**	P	**Pg**	**06 53 24.2**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.01**	**358**	P	**Pg**	**06 53 24.6**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.04**	**4**	P	**Pg**	**06 53 24.9**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.04**	**4**	P	**Pg**	**06 53 25.4**	**-0.6**
PATC	**Patra C**	**1.08**	**56**	P	**Pb**	**06 53 27.0**	**+0.1**
UPR	**University Cam**	**1.10**	**56**	P	**Pg**	**06 53 27.2**	**-0.1**
LKD2	**Lefkada island**	**1.11**	**2**	P	**Pg**	**06 53 25.8**	**-1.6**
LKD2	**Lefkada island**	**1.11**	**2**	P	**Pg**	**06 53 26.6**	**-0.7**
TSLK	**Tsoukalades, L**	**1.15**	**1**	P	**Pg**	**06 53 27.0**	**-1.0**
TSLK	**Tsoukalades, L**	**1.15**	**1**	P	**Pg**	**06 53 27.1**	**-1.0**
ITM	**Ithomi**	**1.15**	**115**	P	**Pg**	**06 53 26.7**	**-1.5**
ITM	**Ithomi**	**1.15**	**115**	P	**Pg**	**06 53 27.5**	**-0.7**
PVO	**Paravola**	**1.18**	**37**	P	**Pg**	**06 53 27.7**	**-0.9**
MTHA	**Methoni**	**1.22**	**134**	P	**Pn**	**06 53 30.2**	**+1.0**
EFP	**Efpalio**	**1.26**	**53**	P	**Pg**	**06 53 28.7**	**-1.6**
EFP	**Efpalio**	**1.26**	**53**	P	**Pg**	**06 53 28.7**	**-1.6**
KLV	**Kalavryta, Ach**	**1.27**	**73**	P	**Pg**	**06 53 28.9**	**-1.4**
KLV	**Kalavryta, Ach**	**1.27**	**73**	P	**Pg**	**06 53 29.0**	**-1.3**
ALIK	**Aliki, Aigiali**	**1.32**	**63**	P	**Pn**	**06 53 30.6**	**+0.1**
SERG	**Sergoula**	**1.35**	**57**	P	**Pn**	**06 53 30.1**	**-1.0**
ANX	**Ano Chora**	**1.38**	**48**	P	**Pn**	**06 53 30.5**	**-1.0**
ANX	**Ano Chora**	**1.38**	**48**	P	**Pn**	**06 53 30.6**	**-0.8**
GUR	**Goura**	**1.39**	**79**	P	**Pn**	**06 53 31.2**	**-0.5**
GUR	**Goura**	**1.39**	**79**	P	**Pn**	**06 53 31.5**	**-0.2**
KALE	**Kalithea**	**1.40**	**59**	P	**Pn**	**06 53 31.4**	**-0.3**
EVR	**Evrytania**	**1.55**	**37**	P	**Pn**	**06 53 34.2**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.74**	**17**	P	**Pn**	**06 53 36.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.79**	**41**	P	**Pn**	**06 53 37.1**	**0.0**
MAKR	**Makrakomi, Fth**	**1.79**	**41**	P	**Pn**	**06 53 37.7**	**+0.6**
IGT	**Igoumenitsa**	**1.87**	**353**	P	**Pn**	**06 53 38.6**	**+0.5**
LTK	**Loutraki**	**1.89**	**79**	P	**Pn**	**06 53 39.4**	**+0.9**
AXAR	**Agios Charalam**	**1.94**	**55**	P	**Pn**	**06 53 40.0**	**+0.8**
VLI	**Veliai**	**2.08**	**117**	P	**Pn**	**06 53 42.5**	**+1.4**
LKR	**Lokris**	**2.12**	**62**	P	**Pn**	**06 53 42.4**	**+0.8**
KEK	**Kerkira**	**2.13**	**343**	P	**Pn**	**06 53 42.1**	**+0.4**
VIL2	**Platees**	**2.16**	**75**	P	**Pn**	**06 53 42.6**	**+0.4**
THL	**Klokotos Trika**	**2.18**	**30**	P	**Pn**	**06 53 43.4**	**+1.0**
THL	**Klokotos Trika**	**2.18**	**30**	P	**Pn**	**06 53 42.9**	**+0.5**
KPRO	**Kipourio**	**2.35**	**14**	P	**Pn**	**06 53 45.4**	**+0.6**
VLY	**Voula,Athens**	**2.52**	**85**	P	**Pn**	**06 53 48.0**	**+0.8**
NEO	**Neokhori**	**2.61**	**51**	P	**Pn**	**06 53 48.2**	**-0.2**
XOR	**Xorichti**	**2.63**	**49**	P	**Pn**	**06 53 49.2**	**+0.5**
XOR	**Xorichti**	**2.63**	**49**	P	**Pn**	**06 53 48.6**	**-0.1**
DION	**Dionisos Attik**	**2.65**	**80**	P	**Pn**	**06 53 49.6**	**+0.6**
NEST	**Nestorio**	**2.75**	**7**	P	**Pn**	**06 53 50.8**	**+0.3**
LIT	**Litokhoron**	**2.83**	**31**	P	**Pn**	**06 53 51.2**	**-0.2**
KYMI	**Kymi, Euboea I**	**2.91**	**70**	P	**Pn**	**06 53 52.6**	**+0.2**
SCTE	**Santa Cesarea**	**2.92**	**326**	P	**Pn**	**06 53 51.7**	**-0.9**
FNA	**Florina**	**3.16**	**11**	P	**Pn**	**06 53 55.5**	**-0.5**
TIP	**Timpagrande**	**3.38**	**298**	P	**Pn**	**06 53 59.0**	**0.0**
HORT	**Hortiatis**	**3.50**	**33**	P	**Pn**	**06 54 01.2**	**+0.5**

*NNC **23** 07:00:17.0±2.3, 51.75N×74.19E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=61.1km s-min=14.4km az=27.0, Suspected Mining explosion.*
*IDC **23** 07:00:17.2±0.9, 51.94N×74.45E, h0km, mbtmp2.7/4, ML2.3/4, Error ellipse: s-maj=31.3km s-min=7.4km az=30.0*

ISC 23 07:00:17.4±1.0, 51.9N±0.1×74.34E±0.07, h0km, n9, σ1.9 43/10, 2C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.69**	**297**	⇓Pg	**Pb**	**07 01 05.7**	**-0.6**
	2.4nm,0.5s,baz=118,slow=14,SNR=20						
BVA0				⇑Lg	Lg	07 01 39.3	
	12nm,0.6s,baz=108,slow=24,SNR=16						
BVAR	**Borovoye Array**	**2.69**	**297**	Pn	**Pn**	**07 01 02.3**	**+0.4**
	0.2nm,0.3s,baz=112,slow=14,SNR=25						
BVAR				Pg	**Pb**	**07 01 05.2**	**-1.2**
	0.2nm,0.3s,baz=110,slow=19,SNR=19						
BVAR				Lg	Lg	07 01 39.1	
	1.2nm,0.3s,baz=112,slow=28,SNR=41						
	3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**2.91**	**114**	Pn	**Pn**	**07 01 03.2**	**-1.7**
	0.6nm,0.3s,baz=296,slow=15,SNR=5.6						
KURBB				Lg	Lg	07 01 48.5	
	0.6nm,0.3s,baz=301,slow=33,SNR=11						
	1.5nm,0.3s						
KURBB	**Kurchatov Arra**	**2.91**	**114**	⇓Pg	**Pb**	**07 01 10.9**	**+0.7**
	2.0nm,0.4s,baz=296,slow=17						
KURBB				⇓Lg	Lg	07 01 48.3	
	21nm,0.6s						
KURK	**Kurchatov**	**2.92**	**111**	⇑Pg	**Pg**	**07 01 14.6**	**+1.2**
	1.1nm,0.4s						
KURK				⇓Lg	Lg	07 01 48.6	
	15nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.68**	**68**	I	I	07 38 00.0	
	baz=253,slow=327,SNR=16						
ZALV	**Zalesovo Beam**	**6.68**	**68**	Pn	**Pn**	**07 01 56.7**	**+0.1**
	0.1nm,0.3s,baz=258,slow=14,SNR=5.3						
	1.2nm,0.6s						
MK31	**Makanchi Array**	**7.26**	**131**	⇓Sn	**Sn**	**07 03 26.9**	**-0.8**
	0.3nm,0.5s						
MK31				⇓Lg	Lg	07 04 03.5	
	1.3nm,0.6s,baz=315,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**7.26**	**131**	Pn	**Pn**	**07 02 05.0**	**+0.3**
	0.1nm,0.3s,baz=309,slow=11,SNR=4.1						
MKAR				Sn	**Sn**	**07 03 25.1**	**-2.6**
	baz=321,slow=25,SNR=1.9						
MKAR				Lg	Lg	07 04 05.2	
	0.2nm,0.3s,baz=314,slow=26,SNR=7.3						
	0.1nm,0.3s						

*IDC **23** 07:23:32.1±1.0, 50.05N×78.77E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=12.9km s-min=6.2km az=65.0*
*NNC **23** 07:23:32.9±1.0, 50.07N×78.41E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=9.1km s-min=5.5km az=93.0, Suspected Mining explosion.*

ISC 23 07:23:26.2±0.9, 50.01N±0.03×77.79E±0.05, h0km, n24, σ1.9 17/33, 16C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.74**	**39**	⇓P	**Pb**	**07 23 42.4**	**+0.5**
KUR07				⇓S	**Sg**	**07 23 51.3**	**+1.4**
KUR06	**Kurchatov Arra**	**0.76**	**38**	⇑P	**Pb**	**07 23 42.7**	**+0.5**
KUR06				⇓S	**Sg**	**07 23 52.2**	**+1.7**
KUR17	**Kurchatov Arra**	**0.76**	**35**	⇓P	**Pn**	**07 23 43.6**	**-0.6**
KUR17				⇑S	**Sb**	**07 23 53.7**	**+0.6**
KUR16	**Kurchatov Arra**	**0.77**	**36**	⇑P	**Pb**	**07 23 43.0**	**+0.6**
KUR16				⇑S	**Sb**	**07 23 52.8**	**-0.5**
KURBB	**Kurchatov Arra**	**0.78**	**38**	Pg	**Pb**	**07 23 43.0**	**+0.3**
	0.8nm,0.3s,baz=167,slow=19,SNR=37						
KURBB				Lg	Lg	07 23 53.3	
	1.5nm,0.3s,baz=164,slow=37,SNR=22						
KURBB	**Kurchatov Arra**	**0.78**	**38**	⇑P	**Pb**	**07 23 42.9**	**+0.3**
	4.3nm,0.3s						
KURBB				⇑S	**Sg**	**07 23 52.1**	**+1.0**
	56nm,0.8s						
KUR15	**Kurchatov Arra**	**0.78**	**39**	⇑P	**Pb**	**07 23 42.4**	**-0.3**
KUR15				⇑S	**Sg**	**07 23 52.2**	**+0.8**
KUR05	**Kurchatov Arra**	**0.79**	**37**	⇓P	**Pb**	**07 23 43.3**	**+0.4**
KUR05				⇓S	**Sg**	**07 23 52.6**	**+0.9**
KUR14	**Kurchatov Arra**	**0.79**	**40**	⇑P	**Pg**	**07 23 42.2**	**+0.8**
KUR14				⇓S	**Sg**	**07 23 51.7**	**-0.1**
KUR04	**Kurchatov Arra**	**0.81**	**37**	⇓P	**Pb**	**07 23 43.8**	**+0.6**
KUR04				⇓S	**Sg**	**07 23 53.2**	**+0.9**
KURK	**Kurchatov**	**0.88**	**37**	⇑P	**Pb**	**07 23 44.4**	**-0.1**
	10nm,0.7s						
KURK				⇑S	**Sg**	**07 23 54.5**	**-0.1**
	19nm,0.7s						
SEM	**Semipalatinsk**	**1.63**	**75**	P	**Pg**	**07 23 58.4**	**+1.0**
	2.1nm,0.1s						
SEM				S	**Sn**	**07 24 15.8**	**-2.5**
	30nm,0.3s						
BRZS	**Berezniki**	**3.29**	**271**	Pg	Pg	07 24 44.8	+15
	2.2nm,0.8s						
BRZS				Lg	Lg	07 25 34.7	
	7.7nm,1.2s						
OTUK	**Ortayu**	**3.99**	**246**	Pg	Pg	07 24 55.4	+13
	0.8nm,1.0s						
OTUK				Lg	Lg	07 25 53.9	
	2.2nm,1.0s						
OTUK	**Ortayu**	**3.99**	**246**	⇑Pn	**Pg**	**07 24 42.7**	**0.0**
	0.1nm,0.1s						
OTUK				⇑Pg	Pb	07 24 56.0	+19
	0.7nm,0.5s						
OTUK				⇑Lg	Lg	07 25 54.6	
	9.4nm,0.8s						
MK31	**Makanchi Array**	**4.40**	**135**	⇑Pg	**Pb**	**07 24 44.4**	**0.0**
	0.8nm,0.5s,baz=333,slow=15,SNR=15						
MK31				⇑Lg	Lg	07 25 38.6	
	16nm,0.7s,baz=328,slow=26,SNR=20						
MKAR	**Makanchi Array**	**4.40**	**135**	Pn	**Pn**	**07 24 34.9**	**+0.6**
	0.1nm,0.3s,baz=329,slow=12,SNR=5.3						
MKAR				Pg	**Pb**	**07 24 42.9**	**-1.5**
	0.3nm,0.3s,baz=330,slow=16,SNR=12						
MKAR				Sn	**Sn**	**07 25 23.6**	**-2.6**
	0.2nm,0.3s,baz=323,slow=26,SNR=7.2						
MKAR				Lg	Lg	07 25 36.7	
	1.3nm,0.3s,baz=327,slow=26,SNR=18						
	0.2nm,0.4s						
TDK	**Taldyqorghan**	**5.03**	**175**	Pg	**Pg**	**07 25 06.1**	**+3.5**
	29nm,0.4s						
TDK				Lg	Lg	07 26 11.5	
	32nm,0.4s						
ZSN	**Zaisan**	**5.34**	**116**	Pg	**Pb**	**07 25 00.5**	**+0.1**
	1.8nm,0.1s						
ZSN				Lg	Lg	07 26 02.1	
	9.6nm,1.1s						
BVAR	**Borovoye Array**	**5.51**	**306**	Sn	**Sb**	**07 26 09.9**	**-0.1**
	0.1nm,0.3s,baz=111,slow=22,SNR=7.1						
BVAR				Lg	Lg	07 26 39.5	
	baz=118,slow=28,SNR=6.7						
DJR	**Jarkent**	**5.85**	**166**	Pg	**Pg**	**07 25 18.1**	**0.0**
	0.5nm,0.1s						
DJR				Lg	Lg	07 26 32.0	
	4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**5.87**	**45**	Pn	**Pn**	**07 24 53.2**	**-1.1**
	0.3nm,0.3s,baz=231,slow=13,SNR=5.5						
ZALV				Lg	Lg	07 26 21.9	
	0.2nm,0.3s,baz=221,slow=31,SNR=7.3						
	0.9nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.87**	**45**	I	I	07 57 05.0	
	0.1nm,1.1s,baz=224,slow=323,SNR=3.6						
AAK	**Ala-Archa**	**7.72**	**198**	Lg	Lg	07 27 40.4	
	0.1nm,0.3s,baz=247,slow=22,SNR=3.5						

*NEIC **23** 07:34:17.9±1.4, 37.28N±0.02×117.491W±0.009, h10km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=10.0*

REN 23 07:34:18.6±1.6, 37.30N±0.01×117.49W±0.01, h7km±4km, ML3.3/11, ML3.0/74(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=186.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCH	**Last Change Ra**	**0.13**	**251**		Pg	07 34 21.7	+0.6
LCH					Sg	07 34 24.2	+0.9
GMN	**Gold Mountain**	**0.19**	**82**		Pg	07 34 22.5	+0.5
GMN					Sg	07 34 25.5	+0.6
GMN	**Gold Mountain**	**0.19**	**82**	IAML		07 34 27.0	
	comp=N,3μm,0.5s						
GMN				IAML		07 34 27.4	
	comp=E,3μm,0.3s						
GRAC	**Grapevine Rang**	**0.30**	**160**		Sb	07 34 29.9	-0.4
GRAC	**Grapevine Rang**	**0.30**	**160**		Pb	07 34 24.7	-0.6
GRAC				IAML		07 34 35.1	
	comp=E,4μm,0.4s						
GRAC				IAML		07 34 35.7	
	comp=N,3μm,0.7s						
DSP	**Deep Springs**	**0.39**	**284**		Pg	07 34 26.1	+0.4
DSP					Sg	07 34 31.9	+1.0
DSP	**Deep Springs**	**0.39**	**284**	IAML		07 34 32.2	
	comp=E,1μm,0.3s						
DSP				IAML		07 34 33.0	
	comp=N,1μm,0.2s						
MZP	**Montezuma Peak**	**0.43**	**11**		Pg	07 34 26.7	+0.2
MZP					Sg	07 34 32.7	+0.4
MZP	**Montezuma Peak**	**0.43**	**11**	IAML		07 34 33.0	
	comp=E,680nm,0.2s						
MZP				IAML		07 34 33.6	
	comp=N,502nm,0.2s						
TIN	**Tinemaha, Big**	**0.63**	**250**		Pb	07 34 31.3	+0.2
TIN					Sb	07 34 40.4	+0.3
POCCA	**Poleta Canyon**	**0.64**	**278**		Pb	07 34 30.9	-0.4
BHPR	**Bishop**	**0.80**	**272**		Pb	07 34 34.1	+0.1
WCT	**Wildcat Mounta**	**0.84**	**125**		Pb	07 34 34.6	-0.1
WCT					Sb	07 34 46.0	-0.1
WCT	**Wildcat Mounta**	**0.84**	**125**	IAML		07 34 51.6	
	comp=E,677nm,0.4s						
WCT				IAML		07 34 51.7	
	comp=N,722nm,0.4s						
FURC	**Furnace Creek,**	**0.95**	**148**		Pn	07 34 38.1	+0.8
CWC	**Cottonwood Cre**	**0.96**	**210**		Pb	07 34 36.9	+0.1
BENR	**Benton**	**0.97**	**297**		Pb	07 34 36.8	-0.1
TPNV	**Topopah Spring**	**1.04**	**108**		Pg	07 34 37.4	-0.6
TPNV	**Topopah Spring**	**1.04**	**108**		Sn	07 34 56.0	+2.5
SDH	**Striped Hills**	**1.12**	**124**		Pn	07 34 39.6	-0.1
NSP	**Numbskull Pass**	**1.16**	**118**		Pn	07 34 40.3	0.0
MCBM	**Casa Benchmark**	**1.18**	**289**		Pn	07 34 41.0	+0.3
CPY	**CP-1**	**1.20**	**106**		Pg	07 34 40.9	0.0
LHV	**Little Huntoon**	**1.26**	**321**		Pg	07 34 42.6	+0.4
LHV	**Little Huntoon**	**1.26**	**321**	IAML		07 35 04.8	
	comp=N,384nm,0.5s						
LHV				IAML		07 35 11.2	
	comp=E,334nm,0.9s						
AMDNV	**Amargosa**	**1.27**	**130**		Pg	07 34 42.7	+0.4
GWY	**Greenwater Val**	**1.27**	**148**		Pg	07 34 42.8	+0.4
GWY	**Greenwater Val**	**1.27**	**148**	IAML		07 35 03.5	
	comp=N,277nm,0.7s						
GWY				IAML		07 35 16.6	
	comp=E,278nm,0.8s						
MDPB	**Devils Postpil**	**1.31**	**286**		Pg	07 34 43.0	-0.1
MDPB	**Devils Postpil**	**1.31**	**286**	IAML		07 35 01.8	
	comp=E,237nm,0.3s						
MDPB				IAML		07 35 02.8	
	comp=N,189nm,0.5s						
MCY	**Mercury**	**1.37**	**116**		Pg	07 34 44.3	+0.1
S11A	**Rachel**	**1.44**	**75**		Pg	07 34 45.4	-0.1
Q09A	**Carvers**	**1.57**	**9**		Pn	07 34 46.5	+0.4
RYN	**Ryan**	**1.58**	**329**		Pb	07 34 47.1	-0.2
RYN	**Ryan**	**1.58**	**329**	IAML		07 35 11.9	
	comp=E,235nm,0.6s						
RYN				IAML		07 35 13.4	
	comp=N,188nm,0.3s						
SHOC	**Shoshone, Teco**	**1.69**	**144**		Pb	07 34 48.6	-0.5
ISA	**Isabella, Lake**	**1.79**	**207**	Pn	Pb	07 34 50.0	-1.0
R11B	**Troy Canyon, C**	**1.85**	**54**		Pn	07 34 50.8	+0.9
R11B				IAML		07 35 22.3	
	comp=E,65nm,0.2s						
PRN	**Pahroc Range**	**1.95**	**85**		Pb	07 34 52.5	-1.0
WAKR	**Walker**	**1.97**	**309**		Pn	07 34 51.8	+0.2
SHPR	**Sheep Range**	**2.02**	**112**		Pb	07 34 54.1	-0.7
GSC	**Goldstone, Bar**	**2.05**	**164**		Pn	07 34 53.4	+0.9
GSC				IAML		07 35 32.4	
	comp=N,70nm,1.2s						
GSC				IAML		07 35 33.5	
	comp=E,79nm,1.0s						
TUQ	**Turquoise Moun**	**2.23**	**145**		Pn	07 34 56.7	+1.6
CMB	**Columbia Colle**	**2.42**	**289**	Pn	Pn	07 34 58.9	+1.3
CMB				IAML		07 35 39.1	
	comp=N,44nm,0.5s						
PNTR	**Pine Nut**	**2.46**	**318**		Pn	07 34 59.8	+1.5
PNTR	**Pine Nut**	**2.46**	**318**	IAML		07 35 45.5	
	comp=N,76nm,1.0s						
PNTR				IAML		07 35 47.2	
	comp=E,98nm,1.2s						
Q12A	**Willow Creek R**	**2.74**	**49**		Pb	07 35 05.0	-2.1
PAHR	**Pah Rah Range**	**2.85**	**329**		Pn	07 35 03.5	0.0
BBGB	**Big Mountain B**	**2.93**	**257**		Pn	07 35 05.8	+1.2
SPR3	**Spring Creek 3**	**3.03**	**54**		Pn	07 35 07.4	+1.2
SPR3	**Spring Creek 3**	**3.03**	**54**	IAML		07 35 57.4	
	comp=N,59nm,0.9s						
SPR3				IAML		07 36 00.8	
	comp=E,59nm,0.6s						
PSUT	**Pine Spring

PKGZ Pakihiroa 7.06 209 P **Pn** **07 46 50.4 -2.0**
PKGZ S **Sn** **07 48 12.0 -0.6**
HAZ Te Kaha 7.10 211 P **Pn** **07 46 51.8 -1.0**
HAZ S **Sn** **07 48 14.8 +1.3**
PUZ Puketiti 7.17 207 P **Pn** **07 46 51.2 -2.6**
PUZ S **Sn** **07 48 13.3 -2.0**
RUGZ Raukumara Rang 7.32 211 P **Pn** **07 46 54.2 -1.7**
RUGZ S **Sn** **07 48 18.9 -0.2**
TWGZ Tauwhareparae 7.37 208 P **Pn** **07 46 55.1 -1.5**
TWGZ S **Sn** **07 48 18.1 -2.2**
CNGZ Carnagh Statio 7.54 206 P **Pn** **07 46 56.5 -2.5**
CNGZ S **Sn** **07 48 24.8 +0.2**
MWZ Matawai 7.69 210 P **Pn** **07 46 59.1 -1.9**
MWZ S **Sn** **07 48 26.1 -2.0**
URZ Urewera 7.81 212 Pn **Pn** **07 47 00.4 -2.1**
1.1nm,0.3s,baz=350,slow=4.6,SNR=16
URZ Sn **Sn** **07 48 28.8 -2.3**
3.8nm,0.3s,baz=97,slow=7.1,SNR=4.0
URZ Urewera 7.81 212 P **Pn** **07 47 00.1 -2.5**
URZ Urewera 7.81 212 P **Pn** **07 47 00.5 -2.1**
URZ S **Sn** **07 48 27.6 -3.5**
RAGZ Rawiri 7.87 210 P **Pn** **07 47 02.0 -1.6**
RAGZ S **Sn** **07 48 31.5 -1.2**
WCZ Waipu Caves 7.91 236 P **Pn** **07 47 05.3 +1.4**
RIGZ Rimuhau 7.91 208 P **Pn** **07 47 02.0 -2.0**
RIGZ S **Sn** **07 48 32.2 -1.4**
OUZ Omahuta 8.14 243 P Pn 07 47 12.9 +5.8
OUZ Omahuta 8.14 243 P Pn 07 47 12.9 +5.8
MUGZ Murupara 8.14 213 P **Pn** **07 47 06.5 -0.7**
MUGZ S **Sn** **07 48 36.9 -2.4**
SNGZ Shannon Statio 8.14 209 P **Pn** **07 47 06.2 -1.0**
SNGZ S **Sn** **07 48 38.2 -1.1**
RTZ Ruatahuna 8.16 212 Pn **Pn** **07 47 06.2 -1.2**
RTZ Ruatahuna 8.16 212 P **Pn** **07 47 06.4 -1.1**
RTZ S **Sn** **07 48 36.2 -3.6**
TOZ Tahuroa Road 8.24 222 Pn **Pn** **07 47 08.1 -0.4**
RAHZ Arahi 8.37 210 P **Pn** **07 47 10.0 -0.3**
RAHZ S **Sn** **07 48 42.3 -2.4**
MTHZ Maungataniwha 8.42 211 P **Pn** **07 47 10.8 -0.1**
MTHZ S **Sn** **07 48 44.1 -2.0**
BKZ Black Stump Fm 8.83 212 Pn **Pn** **07 47 14.9 -1.8**
BKZ Black Stump Fm 8.83 212 P **Pn** **07 47 15.0 -1.6**
BKZ S **Sn** **07 48 51.1 -5.1**
KWHZ Kaweka Forest 9.07 211 P **Pn** **07 47 19.0 -1.0**
KWHZ S **Sn** **07 48 58.5 -3.7**
HIZ Hauiti 9.15 221 Pn **Pn** **07 47 19.6 -1.4**
HIZ Hauiti 9.15 221 P **Pn** **07 47 21.4 +0.4**
KAHZ Kahuranaki 9.19 208 P **Pn** **07 47 18.0 -3.7**
KAHZ S **Sn** **07 49 01.8 -3.3**
OTVZ Oturere 9.21 215 P **Pn** **07 47 23.3 +1.3**
OTVZ S **Sn** **07 49 02.2 -3.6**
BFZ Birch Farm 10.20 208 Pn **Pn** **07 47 33.2 -2.2**
BFZ Birch Farm 10.20 208 P **Pn** **07 47 32.2 -3.2**
MSWZ Moikau Station 11.22 209 Pn **Pn** **07 47 49.0 -0.4**
CTZ Chatham Island 11.98 177 Pn **Pn** **07 47 57.3 -2.4**
QRZ Quartz Range 12.06 219 Pn **Pn** **07 47 59.6 -1.2**
QRZ Quartz Range 12.06 219 P **Pn** **07 48 00.2 -0.6**
QRZ Quartz Range 12.06 219 S **Sn** **07 50 07.8 -7.5**
KHZ Kahutara 12.78 211 Pn **Pn** **07 48 08.6 -2.0**
KHZ Kahutara 12.78 211 P **Pn** **07 48 08.3 -2.2**
KHZ Kahutara 12.78 211 S Sn 07 50 22.7 -10
LTZ Lake Taylor 13.64 213 Pn **Pn** **07 48 20.7 -1.7**
MSVF Nonsavu 14.52 343 Pn **Pn** **07 48 33.3 -1.2**
0.3nm,0.3s,baz=170,slow=11,SNR=5.5
14nm,0.8s
RPZ Rata Peaks 14.93 214 Pn **Pn** **07 48 36.2 -3.7**
1.4nm,0.3s,baz=231,slow=0.9,SNR=7.0
ODZ Otahua Downs 16.14 211 P **Pn** **07 48 52.9 -2.8**
JCZ Jackson Bay 16.31 217 P **Pn** **07 48 55.5 -2.6**
DZM Mont Dzumac 17.19 300 **P** **07 49 11.1 +0.2**
DZM Mont Dzumac 17.19 300 P **P** **07 49 12.5 +1.6**
21nm,0.9s,baz=81,slow=16,SNR=8.7
DZM Mont Dzumac 17.19 300 P P 07 49 22.6 +12
FUTU Fugatoga 17.38 358 P P 07 49 26.2 +13
SYZ Scrubby Hill 17.96 211 P **Pn** **07 49 15.3 -3.3**
AFI Afiamalu 18.55 18 P **P** **07 49 22.9 -3.0**
AFI IAmb IAmb 07 49 26.6
comp=Z,69nm,0.9s
RAR Rarotonga 19.06 61 P **P** **07 49 28.4 -3.0**
RAR IAmb IAmb 07 49 35.3
comp=Z,87nm,1.3s
RAR Rarotonga 19.06 61 P **P** **07 49 29.3 -2.2**
comp=Z,1.8nm,0.3s,baz=313,slow=19,SNR=2.8
comp=Z,14nm,0.6s
ARMA Armidale 26.37 265 P **P** **07 50 46.2 +0.7**
CNB Canberra Magne 27.71 254 P **P** **07 51 00.2 +2.7**
CAN Canberra 28.01 254 P **P** **07 51 01.9 +1.7**
CAN IAmb IAmb 07 51 15.9
comp=Z,17nm,1.4s
EIDS Eidsvold 28.19 275 P **P** **07 51 03.0 +1.2**
EIDS IAmb IAmb 07 51 04.4
comp=Z,17nm,0.9s
TOO Toolangi 30.79 249 P **P** **07 51 25.0 +0.2**
CMSA Cobar Meteorol 31.18 261 P **P** **07 51 30.7 +2.5**
STKA Stephens Creek 34.55 259 P **P** **07 51 59.1 +1.4**
STKA Stephens Creek 34.55 259 P **P** **07 51 59.1 +1.4**
comp=Z,11nm,0.7s,baz=100,slow=11,SNR=34
comp=Z,11nm,0.7s
MGBR Mount Gambier 34.69 248 P **P** **07 52 00.2 +1.4**
HTT Hallett 36.49 255 P **P** **07 52 16.0 +1.5**
LCRK Leigh Creek 37.68 260 P **P** **07 52 25.8 +1.3**
BBOO Buckleboo 38.97 256 P **P** **07 52 35.0 -0.3**
BBOO IAmb IAmb 07 52 36.1
comp=Z,22nm,0.8s
COEN Coen 40.01 287 P **P** **07 52 45.0 +0.8**
COEN IAmb IAmb 07 52 54.9
comp=Z,56nm,1.4s
OOD Oodnadatta 40.52 263 P **P** **07 52 50.1 +1.8**
AS31 Alice Springs 43.41 268 P **P** **07 53 12.1 0.0**
ASAR Alice Springs 43.41 268 P **P** **07 53 11.4 -0.7**
ASAR Alice Springs 43.41 268 P **P** **07 53 11.8 -0.3**
comp=Z,6.8nm,0.7s,baz=106,slow=7.2,SNR=68
ASAR PcP **PcP** **07 55 00.6 +0.1**
comp=Z,0.7nm,0.5s,baz=108,slow=4.3,SNR=1.2
comp=Z,6.8nm,0.7s
WB2 Warramunga Arr 44.52 273 P **P** **07 53 21.1 +0.2**
WRA Warramunga Arr 44.52 273 P **P** **07 53 20.8 -0.2**
WRA Warramunga Arr 44.52 273 P **P** **07 53 21.0 0.0**
comp=Z,16nm,0.7s,baz=115,slow=7.6,SNR=37
WRA PcP **PP** **07 55 04.3 -0.6**
comp=Z,2.2nm,0.7s,baz=125,slow=3.1,SNR=1.8
comp=Z,16nm,0.7s
WB0 Warramunga Arr 44.55 274 P **P** **07 53 21.0 -0.2**
FORT Forrest 46.06 256 P **P** **07 53 32.6 -0.5**
KNRA Kununurra 51.18 275 P **P** **07 54 11.9 -0.6**
KNRA IAmb IAmb 07 54 22.3
comp=Z,28nm,1.2s
FITZ Fitzroy Crossi 52.73 271 P **P** **07 54 23.9 -0.3**
CASY Casey 54.12 208 P **P** **07 54 34.7 +1.0**
QSPA South Pole Qui 58.35 180 P **P** **07 55 06.4 +2.3**
QSPA IAmb IAmb 07 55 31.3
comp=Z,21nm,1.1s
QSPA South Pole Qui 58.35 180 P **P** **07 55 06.7 +2.6**
comp=Z,6.0nm,0.8s,baz=39,slow=3.2,SNR=12
comp=Z,6.0nm,0.8s
KAPI Kappang 64.21 281 P **P** **07 55 46.3 +1.9**
comp=Z,5.8nm,0.3s,baz=89,slow=14,SNR=1.4
comp=Z,5.8nm,0.3s
TROLL Troll, Antarti 76.52 180 ⇑P **P** **07 57 00.5 +1.6**
comp=Z,356nm,0.9s
SNAA Sanae 76.79 178 P **P** **07 57 01.4 +1.0**
SNAA IAmb IAmb 07 57 27.4
comp=Z,19nm,1.4s
SNAA Sanae 76.79 178 ⇑P **P** **07 57 01.2 +0.8**
comp=Z,115nm,0.9s
SNAA Sanae 76.79 178 P **P** **07 57 01.4 +1.0**
comp=Z,5.0nm,0.9s,baz=199,slow=9.6,SNR=13
comp=Z,5.0nm,0.9s
VNA3 Neumayer Olymp 76.93 176 ⇑P **P** **07 57 01.9 +0.8**
comp=Z,20nm,0.8s
VNA2 Neumayer--Watz 77.37 177 ⇑P **P** **07 57 05.0 +1.5**
comp=Z,12nm,0.7s,baz=162,slow=7.7
MJAR Matsushiro Arr 79.56 325 P **P** **07 57 17.3 +1.2**
comp=Z,1.1nm,0.7s,baz=71,slow=6.8,SNR=2.2
comp=Z,1.1nm,0.7s
PLCA Paso Flores 81.32 133 P **P** **07 57 27.5 +1.7**
comp=Z,1.7nm,0.9s,baz=219,slow=12,SNR=3.0
comp=Z,1.7nm,0.9s
PEA0B Petropavlovsk- 87.22 345 P **P** **07 57 55.5 +0.5**
PETK Petropavlovsk- 87.22 345 P **P** **07 57 55.3 +0.3**
PETK Petropavlovsk- 87.22 345 P **P** **07 57 55.0 0.0**
comp=Z,8.0nm,0.9s,baz=177,slow=5.8,SNR=4.3
comp=Z,8.0nm,0.9s
CMB Columbia Colle 87.53 42 P **P** **07 57 57.8 +0.8**
CMB IAmb IAmb 07 57 59.2
comp=Z,6.9nm,1.1s
GSC Goldstone, Bar 87.77 46 P **P** **07 57 59.0 +0.8**
GSC IAmb IAmb 07 58 01.0
comp=Z,8.3nm,1.3s
USRK Ussuriysk Ar. 88.49 326 P **P** **07 58 01.9 +0.6**
comp=Z,4.3nm,0.8s,baz=151,slow=5.1,SNR=4.9
comp=Z,4.3nm,0.8s
LHV Little Huntoon 88.75 42 P **P** **07 58 03.9 +1.2**
LHV IAmb IAmb 07 58 06.1
comp=Z,10.0nm,1.3s
GMN Gold Mountain 88.84 44 P **P** **07 58 04.1 +0.7**
GMN IAmb IAmb 07 58 06.6
comp=Z,2.5nm,1.1s
NVAR Mina Array Bea 88.99 42 P **P** **07 58 05.3 +1.2**
comp=Z,2.1nm,0.9s,baz=219,slow=7.2,SNR=13
comp=Z,2.1nm,0.9s
Y14A Wickenburg 89.25 49 P **P** **07 58 06.8 +1.6**
Y14A IAmb IAmb 07 58 08.2
comp=Z,5.0nm,1.0s
TXAR Lajitas Array 92.82 57 P **P** **07 58 23.0 +1.0**
comp=Z,0.9nm,1.0s,baz=207,slow=5.2,SNR=4.7
comp=Z,0.9nm,1.0s
PDAR Pinedale Array 96.87 43 P **P** **07 58 40.9 +0.5**
comp=Z,0.6nm,0.9s,baz=209,slow=2.7,SNR=4.8
comp=Z,0.6nm,0.9s
LPAZ La Paz 97.26 114 P Pdif 07 58 43.4 -0.1
comp=Z,0.8nm,0.8s,baz=254,slow=3.6,SNR=2.7
comp=Z,0.8nm,0.8s
MKAR Makanchi Array 118.92 309 PKP **PKiKP** **08 03 57.1 -0.4**
comp=Z,0.4nm,0.6s,baz=156,slow=1.0,SNR=4.9
KURBB Kurchatov Arra 122.28 313 PKP **PKiKP** **08 04 03.2 -0.7**
comp=Z,1.1nm,0.7s,baz=110,slow=1.7,SNR=13
BVAR Borovoye Array 127.62 315 PKP **PKiKP** **08 04 13.9 -0.6**
comp=Z,0.6nm,0.4s,baz=79,slow=2.2,SNR=4.7
ARCES ARCESS Array B 139.39 348 PKhKP PKPpre 08 04 33.6
comp=Z,3.2nm,0.8s,baz=60,slow=2.2,SNR=3.6
GNI Garni 145.01 296 PKP **PKiKP** **08 04 48.8 -1.6**
comp=Z,9.1nm,0.6s,baz=261,slow=15,SNR=3.0
VRH Novokhopyorsk 145.27 316 *e*P **PKPdf** **08 04 45.5 -0.9**
KBZ Khabaz 146.16 302 PKPbc **PKiKP** **08 04 50.4 -2.1**
comp=Z,11nm,1.0s,baz=104,slow=2.7,SNR=14
KBZ PKKP **PKKPdf** **08 13 51.9 +1.2**
comp=Z,3.8nm,0.8s,baz=132,slow=5.7,SNR=5.7
LPSR Galich'ya Gora 146.38 319 *e*P **PKPab** **08 04 50.0 -0.4**
OBN Obninsk 146.49 324 PKPbc **PKPab** **08 04 49.8 -1.0**
comp=Z,9.0nm,0.3s,baz=91,slow=10,SNR=4.8
FINES FINESS Array B 146.54 340 PKPbc **PKPab** **08 04 49.2 -1.5**
comp=Z,10.0nm,0.7s,baz=46,slow=2.9,SNR=21
VORR Voronezh 146.58 317 P **PKPab** **08 04 50.9 -0.4**
VSR Storozhevoye 146.78 317 *e*P **PKiKP** **08 04 52.8 -0.7**
VORD Divnogorie 146.79 316 *e*P **PKPab** **08 04 50.6 -1.5**
NB2 NORSAR Subarra 150.15 351 PKP **PKPbc** **08 04 58.6 -0.7**
comp=Z,17nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 150.15 351 PKPbc **PKiKP** **08 04 59.1 -1.1**
comp=Z,0.7nm,0.6s,baz=16,slow=4.2,SNR=4.7
HFS Hagfors 150.65 348 PKPbc **PKiKP** **08 05 00.0 -1.2**
comp=Z,5.9nm,0.9s,baz=90,slow=1.5,SNR=4.6
ASF Jabal al Asfar 150.82 280 PKPbc **PKiKP** **08 05 03.1 +0.5**
comp=Z,6.5nm,0.8s,baz=146,slow=1.4,SNR=13
EIL Elat 152.01 274 PKPbc **PKiKP** **08 05 06.0 +1.0**
comp=Z,9.5nm,0.8s,baz=311,slow=4.5,SNR=7.9
MMAI Mount Meron Ar 152.18 281 PKPbc **PKiKP** **08 05 06.7 +1.3**
comp=Z,4.8nm,0.4s,baz=78,slow=4.7,SNR=19
AKASG Malin Array Be 152.59 321 PKPbc **PKiKP** **08 05 05.0 -0.5**
comp=Z,2.2nm,0.7s,baz=54,slow=2.5,SNR=7.3
BRTR Keskin Array B 153.54 296 PKPbc **PKiKP** **08 05 08.0 -0.1**
comp=Z,2.7nm,0.9s,baz=95,slow=4.3,SNR=6.8
CLL Collm 158.97 341 *e*PKPab **PKPab** **08 05 43.0 0.0**
CONA Conrad Observa 160.88 331 *i* PKP **PKPab** **08 05 52.6 +1.0**
comp=Z,3.8nm,1.1s
RONA Rosalia, Austr 160.88 330 *i* PKP **PKPab** **08 05 52.5 +0.9**
comp=Z,6.2nm,1.2s
GERES GERESS Array B 160.93 337 PKPab **PKPab** **08 05 50.9 -0.9**
comp=Z,0.8nm,0.6s,baz=39,slow=4.8,SNR=6.3
IDI Anoyia 160.95 287 PKP **PKPdf** **08 05 13.9 +4.3**
comp=Z,17nm,1.0s,baz=326,slow=3.6,SNR=3.3
SOKA Soboth 162.22 331 *e*PKP **PKPab** **08 05 57.8 +0.3**
comp=Z,3.8nm,1.1s
LESA Schwarzleotal 162.50 336 *e*PKP **PKPab** **08 05 59.4 +0.7**
comp=Z,3.9nm,1.4s
WATA Walderalm 162.94 338 *i* PKP **PKPab** **08 06 01.3 +0.6**
comp=Z,2.2nm,0.5s
WTTA Wattenberg 162.98 338 *e*PKP **PKPab** **08 06 01.6 +0.6**
comp=Z,4.7nm,0.8s
RETA Reutte 163.05 340 *i* PKP **PKPab** **08 06 01.4 +0.4**
comp=Z,7.0nm,1.0s
MOTA Moosalm 163.08 339 *i* PKP **PKPab** **08 06 02.0 +0.8**
comp=Z,6.6nm,0.9s
ABTA Abfaltersbach 163.14 335 *i* PKP **PKPab** **08 06 01.1 -0.3**
comp=Z,4.7nm,1.1s
SQTA Sankt Quirin 163.16 339 *e*PKP **PKPab** **08 06 02.4 +0.9**
comp=Z,3.1nm,0.6s
FETA Feichten 163.48 340 *i* PKP **PKPab** **08 06 03.9 +0.8**
comp=Z,4.4nm,1.0s
DAVOX Davos/Dischmat 163.94 341 PKPab **PKPab** **08 06 05.5 +0.4**
comp=Z,1.8nm,0.6s,baz=12,slow=9.3,SNR=3.5
ESDC Sonseca Array 170.55 32 PKPab **PKPab** **08 06 33.8 -0.6**
comp=Z,0.5nm,0.9s,baz=315,slow=9.2,SNR=2.7

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*IDC **23** 07:47:39.6±0.4,31°.65S×177°.80W,h0km,mb4.7/17, mbtmp4.7/20,ML4.5/3,MS4.5/26,Error ellipse: s-maj=16.1km s-min=13.7km az=165.0*
*MOS **23** 07:47:40.6±1.6,31°.68S×177°.78W,h10km,mb5.2/13, Error ellipse: s-maj=13.1km s-min=11.6km az=94.8*
*BJI **23** 07:47:40.0,31°.22S×177°.10W,h9km,mB5.7/5,mb5.2/16, Ms5.3/4,Ms7 4.8/4*
*NEIC **23** 07:47:42.2,31°.85S×177°.79W,h18km*
*NEIC **23** 07:47:42.2,31°.65S×177°.00W,h18km,Moment Tensor Solution. Duration: 1ŝ1.0 Moment tensor: Scale 10^16 Nm; Mrr6.14; Mθθ0.50; Mφφ-6.64; Mrθ-1.87; Mθφ-1.79; Mφr2.30; Fault plane solution: M0 7.28000×10^16 NP1: φs212.68000°,δ40.80000°,λ121.09000°. NP2: φs354.15000°,δ55.98000°,λ65.98000°. Principal axes: T 7.2410, Plg69.0000°, Azm212.0000°; N 0.0780, Plg20.0000°, Azm8.0000°; P -7.3189, Plg8.0000°, Azm101.0000°;*
*NEIC **23** 07:47:42.2±2.2,31°.9S±0°.1×177°.8W±0°.1,h10km±1km, mb5.2/56,Mww5.2/25 Error ellipse: s-maj=20.7km s-min=18.3km az=119.0*
*GCMT **23** 07:47:44.2±0.1,31°.64S±0°.01×177°.31W±0°.01,h12km, MW5.2/128,Moment Tensor Solution. s91,c135; s128,c209; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.43±.11; Mθθ-0.36±.11; Mφφ-6.08±.09; Mrθ0.68±.34; Mθφ-2.17±.09; Mφr3.00±.27; Best double couple: M0 7.30000×10^16 NP1:φs201.00000°,δ33.00000°, λ94.00000°. NP2:φs16.00000°,δ57.00000°,λ87.00000°. Principal axes: T 7.1170, Plg77.0000°, Azm277.0000°; N 0.3590, Plg2.0000°, Azm18.0000°; P -7.4840, Plg12.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 07:47:41.1±0.3,31°.78S±0°.04×177°.65W±0°.06,h10km, n283,σ1ŝ75/289,mb5.2/71,MS4.6/28,15C-13D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.52**	**355**	P	**Pn**	**07 48 17.6**	**-4.5**
GLKZ				S	**Sn**	**07 48 47.0**	**-5.9**
RIZ	**Raoul Island**	**2.54**	**355**	P	**Pn**	**07 48 17.9**	**-4.5**
RIZ				S	**Sn**	**07 48 49.9**	**-3.5**
MXZ	**Matakaoa Point**	**6.66**	**209**	Pn	**Pn**	**07 49 15.1**	**-3.9**
MXZ	**Matakaoa Point**	**6.66**	**209**	P	**Pn**	**07 49 15.7**	**-3.3**
MXZ				S	**Sn**	**07 50 31.1**	**-3.8**
WMGZ	**Waiomatatini S**	**6.84**	**207**	P	**Pn**	**07 49 19.5**	**-1.9**
WMGZ				S	**Sn**	**07 50 39.5**	**+0.2**
PKGZ	**Pakihiroa**	**7.01**	**209**	P	**Pn**	**07 49 21.2**	**-2.6**
PKGZ				S	**Sn**	**07 50 43.5**	**-0.2**
HAZ	**Te Kaha**	**7.04**	**211**	P	**Pn**	**07 49 23.1**	**-1.1**
HAZ				S	**Sn**	**07 50 45.4**	**+1.0**
PUZ	**Puketiti**	**7.12**	**207**	P	**Pn**	**07 49 21.8**	**-3.5**
PUZ				S	**Sn**	**07 50 45.1**	**-1.2**
GRZ	**Great Barrier**	**7.25**	**230**	P	**Pn**	**07 49 31.2**	**+4.1**
RUGZ	**Raukumara Rang**	**7.26**	**211**	P	**Pn**	**07 49 25.4**	**-2.0**
RUGZ				S	**Sn**	**07 50 49.3**	**-0.8**
TWGZ	**Tauwhareparae**	**7.32**	**208**	P	**Pn**	**07 49 24.9**	**-3.2**
TWGZ				S	**Sn**	**07 50 49.1**	**-2.1**
CNGZ	**Carnagh Statio**	**7.50**	**206**	P	**Pn**	**07 49 27.1**	**-3.5**
CNGZ				S	**Sn**	**07 50 55.8**	**+0.3**
MWZ	**Matawai**	**7.64**	**210**	P	**Pn**	**07 49 29.4**	**-3.1**
MWZ				S	**Sn**	**07 50 57.5**	**-1.6**
OPRZ	**Ohinepanea**	**7.70**	**217**	P	**Pn**	**07 49 31.9**	**-1.3**
OPRZ				S	**Sn**	**07 50 59.4**	**-1.1**
URZ	**Urewera**	**7.76**	**212**	Pn	**Pn**	**07 49 33.0**	**-1.0**
3.8nm,0.3s,baz=346,slow=4.5,SNR=6.2							
URZ				Sn	**Sn**	**07 51 00.1**	**-1.9**
24nm,0.3s,baz=105,slow=9.0,SNR=4.8							
28nm,0.5s							
WCZ	**Waipu Caves**	**7.84**	**236**	P	**Pn**	**07 49 36.2**	**+1.0**
OUZ	**Omahuta**	**8.07**	**243**	P	Pn	07 49 43.8	+5.4
RTZ	**Ruatahuna**	**8.11**	**211**	Pn	**Pn**	**07 49 36.3**	**-2.7**
TOZ	**Tahuroa Road**	**8.18**	**222**	Pn	**Pn**	**07 49 39.6**	**-0.3**
TOZ	**Tahuroa Road**	**8.18**	**222**	P	**Pn**	**07 49 43.2**	**+3.3**
TOZ				S	**Sn**	**07 51 14.6**	**+2.2**
MTHZ	**Maungataniwha**	**8.37**	**211**	P	**Pn**	**07 49 40.3**	**-2.2**
MTHZ				S	**Sn**	**07 51 15.2**	**-1.8**
WHHZ	**Waihua**	**8.39**	**208**	S	**Sn**	**07 51 15.6**	**-1.9**
ARHZ	**Aropaoanui**	**8.64**	**209**	P	**Pn**	**07 49 44.8**	**-1.5**
BKZ	**Black Stump Fm**	**8.78**	**211**	Pn	**Pn**	**07 49 44.4**	**-3.8**
HIZ	**Hauiti**	**9.09**	**220**	Pn	**Pn**	**07 49 50.9**	**-1.5**
HIZ	**Hauiti**	**9.09**	**220**	P	**Pn**	**07 49 53.9**	**+1.5**
HIZ				S	**Sn**	**07 51 33.8**	**-1.0**
NGZ	**Ngauruhoe**	**9.20**	**215**	S	**Sn**	**07 51 34.6**	**-3.1**
KRHZ	**Kereru**	**9.22**	**210**	S	**Sn**	**07 51 32.5**	**-5.6**
MOVZ	**Moawhango**	**9.31**	**213**	S	**Sn**	**07 51 33.3**	**-7.0**
PNHZ	**Pukenui**	**9.52**	**210**	S	**Sn**	**07 51 38.9**	**-6.6**
WPHZ	**Waipukurau**	**9.55**	**208**	S	**Sn**	**07 51 39.0**	**-7.1**
ANWZ	**Angora Road**	**9.87**	**207**	S	**Sn**	**07 51 45.6**	**-8.4**
MSVF	**Nonsavu**	**14.52**	**343**		**Pn**	**07 51 06.7**	**-0.1**
MSVF	**Nonsavu**	**14.52**	**343**	Pn	**Pn**	**07 51 04.1**	**-2.7**
0.3nm,0.3s,baz=146,slow=12,SNR=5.8							
12nm,0.9s							
MSVF	**Nonsavu**	**14.52**	**343**	⇑*e*P	**Pn**	**07 51 07.3**	**+0.5**
RPZ	**Rata Peaks**	**14.87**	**214**	Pn	**Pn**	**07 51 07.3**	**-4.1**
2.4nm,0.3s,baz=46,slow=4.9,SNR=5.1							
RPZ				Sn	Sn	07 53 41.4	-15
3.2nm,0.3s,baz=293,slow=20,SNR=14							
ONTNC	**Ouen Toro**	**17.00**	**300**		**Pn**	**07 51 39.6**	**+0.5**
DZM	**Mont Dzumac**	**17.15**	**300**		**P**	**07 51 43.4**	**+0.7**
DZM	**Mont Dzumac**	**17.15**	**300**	Pn	**P**	**07 51 44.0**	**+1.4**
0.7nm,0.3s,baz=120,slow=9.9,SNR=8.6							
DZM				LR	LR	07 56 56.5	
comp=Z,3μm,18.5s,baz=143,slow=33							
RAR	**Rarotonga**	**19.13**	**61**	P	**P**	**07 52 03.1**	**-1.2**
1.9nm,0.3s,baz=277,slow=7.3,SNR=4.3							
17nm,0.6s							
LHI	**Lord Howe Isla**	**19.82**	**265**	P	**Pn**	**07 52 15.9**	**+2.4**
comp=Z,83nm,1.4s							
ARMA	**Armidale**	**26.30**	**265**	P	**P**	**07 53 16.4**	**-0.7**
ARMA	**Armidale**	**26.30**	**265**	P	**P**	**07 53 19.7**	**+2.6**
comp=Z,22nm,1.0s							
CNB	**Canberra Magne**	**27.64**	**254**	P	**P**	**07 53 30.5**	**+1.4**
comp=Z,26nm,1.2s							
CAN	**Canberra**	**27.94**	**254**	P	**P**	**07 53 32.3**	**+0.5**
CAN	**Canberra**	**27.94**	**254**	P	**P**	**07 53 33.3**	**+1.5**
comp=Z,24nm,1.1s							
CAN	**Canberra**	**27.94**	**254**	P	**P**	**07 53 32.3**	**+0.5**
CAN				pmax	pmax		
comp=Z,22nm,1.0s							
EIDS	**Eidsvold**	**28.13**	**275**	P	**P**	**07 53 33.2**	**-0.2**
EIDS				IAmb	IAmb	07 53 37.0	
comp=Z,34nm,1.0s							
EIDS	**Eidsvold**	**28.13**	**275**	P	**P**	**07 53 33.7**	**+0.2**
comp=Z,36nm,1.2s							
PPT	**Papeete**	**29.07**	**68**	LR	LR	08 04 39.3	
comp=Z,784nm,18.3s,baz=244,slow=35							
HNR	**Honiara**	**30.43**	**312**	LR	LR	08 05 09.3	
comp=Z,439nm,18.0s,baz=150,slow=35							
TOO	**Toolangi**	**30.72**	**249**	P	**P**	**07 53 55.6**	**-0.8**
TOO	**Toolangi**	**30.72**	**249**	P	**P**	**07 53 57.1**	**+0.7**
comp=Z,10nm,1.4s							
TOO	**Toolangi**	**30.72**	**249**	P	**P**	**07 53 55.6**	**-0.8**
TOO				pmax	pmax		
comp=Z,28nm,1.6s							
CMSA	**Cobar Meteorol**	**31.11**	**261**	P	**P**	**07 54 00.2**	**+0.3**
comp=Z,51nm,0.9s							
QLP	**Quilpie**	**33.56**	**269**	P	**P**	**07 54 21.9**	**+0.5**
comp=Z,98nm,1.3s							
ARPS	**Mount Arapiles**	**33.66**	**250**	P	**P**	**07 54 22.0**	**-0.2**
comp=Z,110nm,1.0s							
STKA	**Stephens Creek**	**34.48**	**259**		**P**	**07 54 28.9**	**-0.5**
STKA	**Stephens Creek**	**34.48**	**259**	P	**P**	**07 54 29.2**	**-0.1**
comp=Z,147nm,1.0s							
STKA	**Stephens Creek**	**34.48**	**259**	P	**P**	**07 54 29.7**	**+0.4**
comp=Z,12nm,0.6s,baz=92,slow=9.9,SNR=17							
STKA				LR	LR	08 08 28.0	
comp=Z,2μm,18.1s,baz=99,slow=36							
comp=Z,12nm,0.6s							
STKA	**Stephens Creek**	**34.48**	**259**	*ce*P	**P**	**07 54 29.2**	**-0.1**
MGBR	**Mount Gambier**	**34.62**	**248**	P	**P**	**07 54 30.1**	**-0.3**
MTSU	**Mount Surprise**	**36.86**	**282**	P	**P**	**07 54 50.0**	**+0.1**
comp=Z,21nm,1.2s							
BBOO	**Buckleboo**	**38.90**	**256**		**P**	**07 55 05.5**	**-1.5**
BBOO				IAmb	IAmb	07 55 08.7	
comp=Z,36nm,0.8s							
BBOO	**Buckleboo**	**38.90**	**256**	P	**P**	**07 55 05.4**	**-1.5**
comp=Z,55nm,1.0s							
AS31	**Alice Springs**	**43.35**	**268**		**P**	**07 55 42.6**	**-1.1**
AS31	**Alice Springs**	**43.35**	**268**	P	**P**	**07 55 42.2**	**-1.5**
comp=Z,13nm,1.2s							
ASAR	**Alice Springs**	**43.35**	**268**		**P**	**07 55 42.0**	**-1.7**
ASAR	**Alice Springs**	**43.35**	**268**	P	**P**	**07 55 42.2**	**-1.6**
comp=Z,19nm,0.9s,baz=105,slow=6.7,SNR=22							
ASAR				PcP	**PcP**	**07 57 31.3**	**-1.1**
comp=Z,2.2nm,0.5s,baz=121,slow=3.6,SNR=1.0							
ASAR				ScP	**ScP**	**08 01 25.0**	**+1.1**
comp=Z,2.4nm,0.9s,baz=109,slow=4.2,SNR=5.8							
ASAR				S	**S**	**08 02 09.9**	**-1.8**
comp=Z,1.5nm,0.8s,baz=119,slow=15,SNR=6.3							
ASAR				LR	LR	08 14 58.7	
comp=Z,490nm,18.1s,baz=120,slow=38							
comp=Z,19nm,0.9s							
WR0	**Warramunga Arr**	**44.28**	**273**	P	**P**	**07 55 50.1**	**-1.1**
WR0				IAmb	IAmb	07 56 10.2	
comp=Z,56nm,0.9s							
WRAB	**Tennant Creek**	**44.46**	**273**	⇑*e*P	**P**	**07 55 53.1**	**+0.5**
WRAB				pmax	pmax		
comp=Z,90nm,1.5s							
WRA	**Warramunga Arr**	**44.46**	**273**		**P**	**07 55 51.8**	**-0.9**
WRA	**Warramunga Arr**	**44.46**	**273**	P	**P**	**07 55 51.5**	**-1.1**
comp=Z,25nm,0.6s,baz=112,slow=7.9,SNR=30							
WRA				PcP	**PP**	**07 57 36.9**	**+0.5**
comp=Z,2.8nm,0.9s,baz=129,slow=4.0

PSA00 Pilbara Seismi 56.11 264 P **P 07 57 18.0 -2.9**
MBWA Marble Bar 56.38 264 P **P 07 57 21.4 -1.4**
GUMO Guam 57.67 316 LR LR 08 21 32.7
comp=Z,296nm,19.0s,baz=136,slow=35
SOEI Soe 57.85 279 P **P 07 57 34.4 +0.9**
SOEI Soe 57.85 279 P **P 07 57 34.6 +1.1**
comp=Z,43nm,1.0s
QSPA South Pole Qui 58.33 180 P **P 07 57 36.8 +0.6**
QSPA South Pole Qui 58.33 180 P **P 07 57 37.3 +1.1**
comp=Z,16nm,0.8s,baz=43,slow=1.3,SNR=15
QSPA LR LR 08 18 10.9
comp=Z,498nm,21.9s,baz=46,slow=31
comp=Z,16nm,0.8s
GIRL Giralia 60.40 260 P **P 07 57 51.2 +0.2**
PLAI Plampang 63.81 276 P **P 07 58 14.1 +0.1**
comp=Z,49nm,1.3s
KAPI Kappang 64.15 281 P **P 07 58 16.5 +0.3**
comp=Z,4.2nm,0.3s,baz=108,slow=6.5,SNR=3.8
comp=Z,4.2nm,0.3s
KAPI Kappang 64.15 281⇑*e*P **P 07 58 16.7 +0.5**
DAV Davao City (W) 66.48 295 LR LR 08 29 42.2
comp=Z,91nm,18.1s,baz=148,slow=38
PCJI Pacitan 69.74 273 P **P 07 58 52.3 +0.6**
comp=Z,107nm,1.5s
JCJ Chichijima 69.95 322 LR LR 08 25 10.6
comp=Z,266nm,21.5s,baz=169,slow=32
PMSA Palmer Station 70.89 155 P **P 07 58 59.7 +1.8**
PMSA Palmer Station 70.89 155 LR LR 08 27 08.8
comp=Z,414nm,18.3s,baz=240,slow=33
MAW Mawson 71.12 201 P P 07 59 05.4 +6.0
comp=Z,60nm,0.8s,baz=79,slow=3.9,SNR=3.0
LEM Lembang 73.46 272 LR LR 08 33 59.9
comp=Z,678nm,18.0s,baz=148,slow=38
ESPZ Base Esperanza 74.19 156 P **P 07 59 16.6 -1.0**
MG05 Puerto Natales 74.24 141 P **P 07 59 18.4 +0.2**
MG05 IAmb IAmb 08 00 01.9
comp=Z,32nm,1.4s
SBUM Sibu 74.52 283 P **P 07 59 19.0 -1.4**
SBJI Serang 75.09 272 P **P 07 59 24.0 +0.3**
ELIB Princess Elisa 75.52 187 *d*P **P 07 59 25.8 +0.4**
comp=Z,10nm,1.0s
KSM Kuching 75.57 281 P **P 07 59 24.5 -2.0**
KSM IAmb IAmb 07 59 29.7
comp=Z,15nm,0.7s
SYO Syowa Base 75.84 193⇑*e*pP pP 07 59 31.0 +2.6
JHJ Hachijo jima 2 76.03 324 LR LR 08 26 14.4
comp=Z,259nm,21.6s,baz=150,slow=30
TROLL Troll, Antarti 76.50 180⇑P **P 07 59 30.4 -0.6**
comp=Z,692nm,0.8s
SNAA Sanae 76.77 178 P **P 07 59 32.2 -0.3**
SNAA IAmb IAmb 07 59 51.0
comp=Z,23nm,1.0s
SNAA Sanae 76.77 178⇑P **P 07 59 32.1 -0.3**
comp=Z,312nm,1.0s
SNAA Sanae 76.77 178 P **P 07 59 32.1 -0.3**
comp=Z,17nm,1.1s,baz=164,slow=11,SNR=10
comp=Z,17nm,1.1s
SNAA Sanae 76.77 178⇓*e*P **P 07 59 33.3 +0.8**
SNAA pmax pmax
comp=Z,27nm,1.2s
VNA3 Neumayer Olymp 76.91 176⇑P **P 07 59 32.8 -0.4**
comp=Z,49nm,0.6s
VNA2 Neumayer--Watz 77.35 177⇑P **P 07 59 35.6 -0.1**
comp=Z,34nm,0.6s,baz=193,slow=4.4
NVL N'lazarevskaya 77.52 183 *e*P **P 07 59 38.3 +1.8**
NVL *e*S **S 08 09 31.8 +4.5**
NVL pmax pmax
comp=Z,8.0nm,0.9s
NVL MLR MLR
comp=Z,432nm,18.0s
VNA1 Neumayer--Stat 77.58 176⇑P **P 07 59 34.5 -2.4**
comp=Z,25nm,0.7s
MDSI Maura Dua 77.60 272 P **P 07 59 37.9 0.0**
comp=Z,823nmcomp=Z,31nm,0.9s
JOW Kunigami 77.81 312 LR LR 08 32 56.5
comp=Z,251nm,18.5s,baz=98,slow=35
LL02 Futaleuf 79.18 134 P **P 07 59 47.3 +1.1**
LL02 IAmb IAmb 08 00 05.1
comp=Z,37nm,1.6s
MJAR Matsushiro Arr 79.54 325 P **P 07 59 46.2 -1.9**
comp=Z,4.0nm,1.1s,baz=157,slow=6.6,SNR=4.2
MJAR LR LR 08 33 26.6
comp=Z,112nm,18.5s,baz=120,slow=35
comp=Z,4.0nm,1.1s
PLCA Paso Flores 81.35 133 P **P 07 59 58.2 +0.1**
PLCA IAmb IAmb 08 00 03.4
comp=Z,39nm,1.8s
PLCA Paso Flores 81.35 133 P **P 07 59 59.3 +1.2**
comp=Z,3.3nm,0.9s,baz=212,slow=8.8,SNR=7.5
comp=Z,3.3nm,0.9s
BI02 San Fabin de 83.19 129 P **P 08 00 09.4 +1.5**
ASAJ Asahikawa 83.80 332 LR LR 08 30 17.3
comp=Z,176nm,21.9s,baz=158,slow=31
MT01 Popeta 84.80 127 P **P 08 00 17.4 +1.4**
KSRS Korea Array 85.59 320 P **P 08 00 19.6 +0.1**
comp=Z,2.6nm,0.9s,baz=142,slow=6.3,SNR=4.4
KSRS LR LR 08 34 38.1
comp=Z,71nm,20.9s,baz=105,slow=33
comp=Z,2.6nm,0.9s
QIZ Qiongzhong 85.85 295 P **P 08 00 23.3 +2.0**
QIZ S **S 08 10 55.3 +0.4**
QIZ SS **SS 08 16 35.8 +3.2**
QIZ LR LR
comp=Z,350nm,9.0s
QIZ LR LR
comp=Z,420nm,9.5s
QIZ LR LR
comp=Z,460nm,30.4s
YSS Yuzhno-Sakhali 86.12 334 P **P 08 00 22.5 +0.6**
YSS IAmb IAmb 08 00 24.2
comp=Z,17nm,0.8s
YSS Yuzhno-Sakhali 86.12 334 *e*P **P 08 00 22.0 +0.1**
YSS *e* 08 03 43.2
YSS *e*S **S 08 10 54.4 -1.8**
YSS *e*SS **SS 08 16 34.4 -1.2**
YSS pmax pmax
comp=Z,20nm,1.0s
GSI Gunungsitoli 86.23 274 P **P 08 00 23.7 +0.3**
GSI Gunungsitoli 86.23 274 P **P 08 00 24.9 +1.5**
PFO Pinyon Flats O 86.92 47⇓*e*P **P 08 00 27.6 +1.1**
PFO pmax pmax
comp=Z,32nm,2.5s
ISA Isabella, Lake 87.07 44 P **P 08 00 28.4 +1.3**
ISA IAmb IAmb 08 00 29.6
comp=Z,12nm,1.1s
ISA Isabella, Lake 87.07 44 P **P 08 00 28.4 +1.3**
ISA pmax pmax
comp=Z,12nm,1.2s
PEA0B Petropavlovsk- 87.22 345⇓*e*P **P 08 00 26.2 -1.0**
PETK Petropavlovsk- 87.22 345 P **P 08 00 26.2 -1.1**
comp=Z,9.7nm,0.8s,baz=161,slow=6.3,SNR=7.1
PETK LR LR 08 37 30.0
comp=Z,213nm,18.8s,baz=178,slow=34
comp=Z,9.7nm,0.8s
NJ2 Nanjing 87.37 310 *e*P **P 08 00 30.8 +2.4**
NJ2 pmax pmax
comp=Z,18nm,0.5s
O02D Mt. Diablo Mer 87.78 39 P **P 08 00 30.2 -0.1**
O02D IAmb IAmb 08 00 33.2
comp=Z,18nm,1.0s
AFDM Forest Hills D 87.90 41 P **P 08 00 31.5 +0.6**
AFDM IAmb IAmb 08 00 48.9
comp=Z,15nm,1.4s
WAKR Walker 88.45 42 P **P 08 00 34.7 +0.9**
WAKR IAmb IAmb 08 00 36.1
comp=Z,31nm,1.5s
USA0B Ussuriysk Arra 88.47 326⇓*e*P **P 08 00 34.1 +0.7**
USRK Ussuriysk Ar. 88.47 326 P **P 08 00 30.1 -3.3**
comp=Z,3.6nm,0.7s,baz=161,slow=7.2,SNR=5.7
GWY Greenwater Val 88.50 45 P **P 08 00 34.8 +0.8**
GWY IAmb IAmb 08 00 40.1
comp=Z,7.2nm,1.0s
DSP Deep Springs 88.53 43 P **P 08 00 33.5 -0.3**
DSP IAmb IAmb 08 00 36.3
comp=Z,30nm,1.8s
GRAC Grapevine Rang 88.63 44 P **P 08 00 35.8 +1.3**
GRAC IAmb IAmb 08 00 37.0
comp=Z,20nm,1.1s
NVAR Mina Array Bea 89.05 43 P **P 08 00 35.5 -1.2**
comp=Z,2.7nm,0.8s,baz=223,slow=6.5,SNR=14
comp=Z,2.7nm,0.8s
TYV Tymovskoe 89.44 336 *e*P **P 08 00 39.3 +1.5**
TYV *e*S **S 08 11 27.5 -0.3**
TYV pmax pmax
comp=Z,10.0nm,0.6s
TYV pmax pmax
comp=Z,100nm,2.9s
TYV smax smax
comp=N,200nm,4.4s
TYV smax smax
comp=E,100nm,4.4s
W13A Hualapai Mount 89.50 47 P **P 08 00 39.6 +0.8**
W13A IAmb IAmb 08 00 45.6
comp=Z,9.0nm,1.0s
MDJ Mudanjiang 89.93 325 P **P 08 00 41.4 +1.1**
MDJ pmax pmax
comp=Z,13nm,1.3s
X16A Lo Mia Camp, P 90.62 49 P **P 08 00 44.3 +0.2**
X16A IAmb IAmb 08 00 51.0
comp=Z,9.5nm,0.9s
LCMT Little Creek M 91.13 46 P **P 08 00 47.5 +1.2**
PINE Pine Mountain 91.31 37 P **P 08 00 48.2 +1.2**
PINE IAmb IAmb 08 00 49.2
comp=Z,15nm,1.0s
CN2 Changchun 91.42 323 P **P 08 00 46.3 -0.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 91.81 325⇑P **P 08 00 48.8 -0.2**
BNX pmax pmax
comp=Z,15nm,0.9s
PKCU Pink Cliffs 91.98 46 P **P 08 00 51.5 +1.1**
PKCU IAmb IAmb 08 00 53.5
comp=Z,15nm,1.1s
ELK Elko 92.36 42 P **P 08 00 52.2 +0.2**
ELK Elko 92.36 42 P **P 08 00 52.2 +0.2**
ELK pmax pmax
comp=Z,3.0nm,1.0s
KLR Kul'dur 92.37 330⇓*e*P **P 08 00 52.0 +0.5**
KLR pmax pmax
comp=Z,8.0nm,0.9s
TXAR Lajitas Array 92.88 57 P **P 08 00 55.1 +0.6**
comp=Z,1.1nm,1.0s,baz=199,slow=6.1,SNR=6.0
comp=Z,1.1nm,1.0s
HNS HongShan 93.38 312⇑P **P 08 00 57.8 +1.4**
HNS pmax pmax
comp=Z,10.0nm,1.1s
CMAR Chiang Mai Arr 94.13 289 P **P 08 01 01.9 +1.6**
comp=Z,0.8nm,0.4s,baz=128,slow=3.4,SNR=1.8
CMAR PP **PP 08 04 45.2 -2.0**
comp=Z,0.7nm,0.3s,baz=118,slow=6.4,SNR=4.4
CMAR LR LR 08 43 48.6
comp=Z,47nm,21.9s,baz=115,slow=36
BBB Bella Bella 94.17 28 LR LR 08 37 28.3
comp=Z,328nm,19.2s,baz=232,slow=32
HLID Hailey 94.66 41 P **P 08 01 02.9 +0.4**
MA2 Magadan 94.70 344 LR LR 08 39 43.0
comp=Z,193nm,20.4s,baz=135,slow=33
PLID Pearl Lake 94.79 39 P **P 08 01 03.1 +0.1**
PLID IAmb IAmb 08 01 04.4
comp=Z,6.8nm,1.1s
PZH PanZhiHua 96.20 297 P **P 08 01 11.0 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
NEW Newport 96.31 36 LR LR 08 37 38.7
comp=Z,501nm,20.2s,baz=231,slow=31
PDAR Pinedale Array 96.93 43 P **P 08 01 12.2 -0.7**
comp=Z,0.7nm,0.8s,baz=191,slow=3.0,SNR=8.1
PDAR PP **PP 08 05 13.9 +5.2**
comp=Z,0.4nm,0.8s,baz=256,slow=8.6,SNR=4.4
comp=Z,0.7nm,0.8s
LPAZ La Paz 97.31 114 P Pdif 08 01 17.6 +1.8
comp=Z,0.8nm,0.8s,baz=194,slow=3.0,SNR=3.2
comp=Z,0.8nm,0.8s
HHC Hu-ho-hao-te 97.40 314 *e*P Pdif 08 01 17.3 +2.3
HHC pmax pmax
comp=Z,11nm,0.6s
ZEA Zeya 97.59 331 *e*P Pdif 08 01 16.7 +1.4
JTS Las Juntas de 97.61 83 LR LR 08 37 46.3
comp=Z,219nm,18.7s,baz=100,slow=31
ILAR Eielson Array 99.20 13 P **Pdif 08 01 21.6 -0.6**
comp=Z,0.6nm,0.8s,baz=225,slow=3.7,SNR=3.3
comp=Z,0.6nm,0.8s
LZH Lanzhou 99.78 306 *e*P **Pdif 08 01 24.8 -0.9**
LZH pP pwP 08 01 32.1 -2.6
LZH pmax pmax
comp=Z,29nm,1.1s
YKA Yellowknife Ar 106.56 26 PKKPbc PKKPbc 08 17 25.2 -1.7
comp=Z,0.3nm,0.7s,baz=47,slow=2.5,SNR=3.7
WMQ Urumqi 114.31 308 *e*PKP **PKiKP 08 06 21.9 +1.0**
WMQ LR LR
comp=Z,160nm,15.5s
MK31 Makanchi Array 118.88 309⇓*i*PKIKP **PKPdf 08 06 29.3 -0.3**
MKAR Makanchi Array 118.88 309 PKP **PKPdf 08 06 28.0 -1.5**
comp=Z,0.6nm,0.6s,baz=243,slow=1.4,SNR=5.6
NRIK Noril'sk 121.01 336 PKP **PKPdf 08 06 32.2 -0.7**
comp=Z,1.4nm,0.4s,baz=133,slow=3.1,SNR=3.9
NRIK Noril'sk 121.01 336⇓*i*PKIKP **PKiKP 08 06 35.6 +2.5**
KURK Kurchatov 122.21 313⇓*e*PKIKP **PKPdf 08 06 33.3 -2.5**
KURBB Kurchatov Arra 122.25 313 PKP **PKPdf 08 06 34.5 -1.4**
comp=Z,1.2nm,0.5s,baz=116,slow=1.9,SNR=15
AAK Ala-Archa 123.12 303⇓*e*PKIKP **PKiKP 08 06 38.2 -0.1**
BVAR Borovoye Array 127.59 315 PKP **PKPdf 08 06 46.0 -0.1**
comp=Z,1.6nm,0.5s,baz=129,slow=2.1,SNR=7.0
BVAR Borovoye Array 127.59 315 PKIKP **PKPdf 08 06 46.0 -0.1**
BRVK Borovoye 127.66 315⇑*e*PKIKP **PKPdf 08 06 45.2 -1.0**
ARTI Arti 134.44 320 *i* PKIKP **PKiKP 08 06 59.8 -0.5**
ARTI 08 09 29.4
ARTI SS SS 08 27 19.9 -2.3
ARCES ARCESS Array B 140.00 348 PKhKP PKPpre 08 07 02.6
comp=Z,2.5nm,0.7s,baz=39,slow=2.2,SNR=3.6
GNI Garni 144.96 296 PKPdf **PKPab 08 07 17.6 -0.4**
GNI Garni 144.96 296 PKP **PKPab 08 07 16.8 -1.2**
comp=Z,23nm,0.9s,baz=74,slow=5.9,SNR=8.0
VRH Novokhopyorsk 145.24 316 *e* **PKPbc 08 07 18.0 -0.3**
VRH pmax pmax
comp=Z,11nm,0.9s
VRH pmax pmax
comp=Z,15nm,1.0s
MOS Moscow 145.63 325 *e*PKP2 **PKPdf 08 07 16.6 -2.5**
MOS pmax pmax
comp=Z,193nm,1.3s
NCK Nalchik 145.63 302⇑*e*PKIKP **PKPdf 08 07 19.4 -0.2**
GOF Gofitskoye 145.83 305*ce*PKP2 **PKPab 08 07 20.9 +0.1**
KBZ Khabaz 146.11 302 PKPbc **PKPbc 08 07 21.2 -0.1**
comp=Z,25nm,1.0s,baz=79,slow=2.4,SNR=15
KBZ Khabaz 146.11 302*d i* PKP2 **PKPbc 08 07 21.4 +0.1**
KIV Kislovodsk 146.24 303 *i* PKP2 **PKPdf 08 07 20.4 -0.3**
KIV pmax pmax
comp=Z,16nm,1.0s
GEVA Gevas 146.24 293 PKPdf **PKPdf 08 07 21.4 +0.4**
SHA1 Shidzhatmaz 146.28 302*d i* PKP2 **PKPbc 08 07 22.0 -0.1**
LPSR Galich'ya Gora 146.35 319 *e* **PKPdf 08 07 20.0 -0.5**
LPSR pmax pmax
comp=Z,47nm,1.0s
LPSR pmax pmax
comp=Z,95nm,1.0s
OBN Obninsk 146.47 324 PKPbc **PKPbc 08 07 21.4 -0.5**
comp=Z,18nm,0.4s,baz=56,slow=3.0,SNR=12
OBN Obninsk 146.47 324*d i* PKIKP **PKPdf 08 07 20.5 0.0**
OBN *e*PPP PPP 08 14 00.3
OBN pmax pmax
comp=Z,26nm,1.0s
FIA1 FINESS Array S 146.54 339 PKPdf 08 07 21.1 +0.7
FINES FINESS Array B 146.54 339 PKPdf 08 07 20.9 +0.4
FINES FINESS Array B 146.54 339 PKPbc **PKPdf 08 07 21.2 +0.7**
comp=Z,18nm,0.7s,baz=48,slow=3.5,SNR=24
FINES FINESS Array B 146.54 339 PKP2 **PKPdf 08 07 20.9 +0.4**
VORR Voronezh 146.56 317 PKPdf 08 07 21.4 +0.6
VORR pmax pmax
comp=Z,44nm,1.3s
VORR pmax pmax
comp=Z,51nm,0.9s
VSR Storozhevoye 146.75 317 *e* **PKPdf 08 07 20.4 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,1.1s
VORD Divnogorie 146.76 316 *e* **PKPdf 08 07 20.1 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=Z,20nm,1.0s
GURO Guroymak-BITLI 147.05 293 PKPdf 08 07 22.4 0.0
MARD Mardin 148.02 291 PKPbc **PKPbc 08 07 27.2 +0.1**
KOPT Kop Dagi 148.21 296 PKPbc **PKPbc 08 07 28.5 +0.8**
ANN Anapa 149.79 306 *i* PKP2 **PKPbc 08 07 31.6 +0.5**
ANN pmax pmax
comp=Z,73nm,1.5s
NB2 NORSAR Subarra150.16 351 PKP **PKPbc 08 07 31.6 0.0**
comp=Z,7.2nm,1.0s,baz=13,slow=4.3
NOA NORSAR Array B150.16 351 PKPbc **PKiKP 08 07 33.2 +0.8**
comp=Z,1.5nm,0.7s,baz=17,slow=2.6,SNR=4.9
HFS Hagfors 150.65 348 PKPbc **PKPbc 08 07 32.5 -0.2**
comp=Z,6.1nm,0.8s,baz=116,slow=3.4,SNR=5.6
ASF Jabal al Asfar 150.76 280 PKPbc **PKPbc 08 07 34.0 0.0**
comp=Z,14nm,0.9s,baz=114,slow=1.8,SNR=15
MNK Minsk 150.92 329 *i* PKIKP **PKPdf 08 07 27.3 -0.5**
MNK *i* 08 07 34.3
MNK 08 07 37.6
MNK *i* 08 11 10.7
MNK *i* PPP PPP 08 14 34.2
MNK *i* 08 14 35.6
MNK *i* SSS SSS 08 36 15.4
MNK pmax pmax
comp=Z,20nm,0.7s
EIL Elat 151.95 274 PKPbc **PKPbc 08 07 36.6 -0.1**
comp=Z,13nm,0.8s,baz=18,slow=0.8,SNR=8.5
MMAI Mount Meron Ar 152.12 281 PKPbc **PKPbc 08 07 36.9 -0.2**
comp=Z,14nm,0.7s,baz=87,slow=5.9,SNR=16
AKASG Malin Array Be 152.57 321 PKPbc **PKPbc 08 07 36.8 -0.6**
comp=Z,0.8nm,0.3s,baz=48,slow=3.4,SNR=10
AKBB Malin Array Si 152.57 321 PKP **PKPdf 08 07 29.8 -0.6**
AK01 Malin Array Si 152.58 321 PKP **PKPdf 08 07 29.7 -0.7**
AK14 Malin Array Si 152.67 321 PKP **PKPdf 08 07 29.6 -1.0**
BRTR Keskin Array B 153.50 296 PKPbc **PKPbc 08 07 38.9 -1.2**
comp=Z,3.7nm,1.0s,baz=148,slow=3.5,SNR=6.3
LUBAR Lubar, Ukraine 153.78 321 PKP **PKPdf 08 07 31.6 -0.6**
DBIC Dimbokro 154.13 163 PKPbc **PKPbc 08 07 41.1 -0.8**
comp=Z,5.3nm,1.0s,baz=213,slow=3.3,SNR=3.6
EKA Eskdalemuir Ar 156.14 8 PKPab **PKPab 08 08 03.2 +0.3**
comp=Z,3.8nm,1.0s,baz=0.2,slow=2.9,SNR=3.5
KOLS Kolonicke sedl 157.22 325 *e*PKP2 **PKPab 08 08 08.5 +0.7**
KOLS Kolonicke sedl 157.22 325 *e*PKP **PKPab 08 08 08.5 +0.7**
STHS Stebnicka Huta 157.39 327 *e*PKP2 **PKPab 08 08 07.5 -1.0**
STHS Stebnicka Huta 157.39 327 *e*PKP **PKPab 08 08 07.5 -1.0**
OJC Ojcow 157.46 330 *e*PKP **PKPab 08 08 09.1 +0.3**
KSP Ksiaz 158.33 336 *e*PKP **PKPab 08 08 13.0 +0.5**
LANS Liptovska Anna 158.39 328 *e*PKP2 **PKPab 08 08 14.2 +1.3**
LANS Liptovska Anna 158.39 328 *e*PKP **PKPab 08 08 14.2 +1.3**
STEB Steborice 158.51 332 *e*PKPAB **PKPab 08 08 13.8 +0.5**
CHVC Chvalec 158.63 336 *e*PKPAB **PKPab 08 08 14.9 +1.1**
CHVC Chvalec 158.63 336 *e*PKP2 **PKPab 08 08 14.9 +1.1**
UPC Upice 158.71 335 *e*PKPAB **PKPab 08 08 15.1 +0.9**
UPC Upice 158.71 335 *e*PKP2 **PKPab 08 08 15.1 +0.9**
MORC Moravsky Berou 158.73 332 *e*PKP **PKPab 08 08 14.5 +0.2**
DPC Dobruska-Polom 158.73 335 *e*PKPAB **PKPab 08 08 15.4 +1.1**
DPC Dobruska-Polom 158.73 335 *e*PKP2 **PKPab 08 08 15.4 +1.1**
KRLC Kraliky 158.78 334 *e*PKPAB **PKPab 08 08 14.8 +0.2**
KRLC Kraliky 158.78 334 *e*PKP2 **PKPab 08 08 14.8 +0.2**
CLL Collm 158.97 341 *i* PKP2 **PKPab 08 08 14.7 -0.5**
CLL pmax pmax
comp=Z,16nm,1.2s
CLL Collm 158.97 341 *i* PKPab **PKPab 08 08 14.7 -0.5**
comp=Z,16nm,1.2s
BRG Berggiesshubel 159.08 339 *e*PKP **PKPab 08 08 15.8 +0.1**
BRG Amp 08 08 16.7
comp=Z,18nm,1.3s
JAVC Velka Javorina 159.39 330 *e*PKP **PKPab 08 08 18.2 +0.9**
VRAC Vranov 159.48 333 PKPab **PKPab 08 08 16.8 -0.7**
comp=Z,1.6nm,0.5s,baz=26,slow=3.8,SNR=4.7
VRAC Vranov 159.48 333 *e*PKP **PKPab 08 08 18.0 +0.5**
KRUC Moravsky 159.75 333 *e*PKP **PKPab 08 08 18.9 +0.2**
ZVC Zvikov 160.24 337 *e*PKPAB **PKPab 08 08 21.7 +0.8**
KHC Kasperske Hory 160.72 337 *e*PKPAB **PKPab 08 08 23.4 +0.4**
KHC Kasperske Hory 160.72 337 *e*PKP2 **PKPab 08 08 23.4 +0.4**
CKRC Cesky Krumlov 160.73 335 *e*PKPAB **PKPab 08 08 22.2 -0.8**
CKRC Cesky Krumlov 160.73 335 *e*PKP2 **PKPab 08 08 22.2 -0.8**
CONA Conrad Observa 160.87 331 *i* PKP **PKPab 08 08 24.3 +0.6**
comp=Z,7.9nm,0.9s
RONA Rosalia, Austr 160.87 330 *i* PKP **PKPab 08 08 24.3 +0.6**
comp=Z,10nm,1.0s
GERES GERESS Array B 160.92 337 PKPab **PKPab 08 08 22.5 -1.5**
comp=Z,1.6nm,0.7s,baz=38,slow=5.8,SNR=7.8
TORD Torodi Ar. Bea 161.44 178 PKPab **PKPab 08 08 28.1 +1.3**
comp=Z,1.4nm,0.3s,baz=178,slow=3.4,SNR=2.2
ARSA Arzberg 161.55 331 *i* PKP **PKPab 08 08 26.6 -0.1**
comp=Z,12nm,1.3s
MOA Molln 161.56 334 *i* PKP **PKPab 08 08 25.4 -1.3**
comp=Z,12nm,1.6s
BIOA Bad Ischl, Aus 161.93 335 *i* PKP **PKPab 08 08 28.0 -0.3**
comp=Z,10nm,1.1s
SOKA Soboth 162.21 330 *i* PKP **PKPab 08 08 27.8 -1.8**
comp=Z,6.5nm,1.0s
LESA Schwarzleotal 162.49 336 *i* PKP **PKPab 08 08 30.9 +0.1**
comp=Z,9.8nm,1.5s
OBKA Obir 162.54 331 *i* PKP **PKPab 08 08 29.7 -1.4**
comp=Z,6.2nm,1.4s
WATA Walderalm 162.93 338 *i* PKP **PKPab 08 08 32.9 +0.1**
comp=Z,14nm,1.7s
WTTA Wattenberg 162.98 338 *i* PKP **PKPab 08 08 33.5 +0.4**
comp=Z,5.3nm,0.8s
RETA Reutte 163.05 340 *i* PKP **PKPab 08 08 33.5 +0.3**
comp=Z,11nm,1.1s
MOTA Moosalm 163.07 339 *e*PKP **PKPab 08 08 33.1 -0.4**
comp=Z,16nm,1.0s
ABTA Abfaltersbach 163.13 335 *i* PKP **PKPab 08 08 33.1 -0.6**
comp=Z,5.2nm,0.9s
SQTA Sankt Quirin 163.15 339 *i* PKP **PKPab 08 08 33.5 -0.3**
comp=Z,8.6nm,0.7s
DAVA Damuels 163.47 342 *e*PKP **PKPab 08 08 32.9 -2.4**
comp=Z,8.9nm,1.1s
DAVOX Davos/Dischmat 163.94 341 PKPab **PKPab 08 08 37.1 -0.2**
comp=Z,3.7nm,0.7s,baz=352,slow=7.1,SNR=7.1
ESDC Sonseca Array 170.60 31 PKPab **PKPab 08 09 06.5 -0.3**
comp=Z,1.0nm,0.9s,baz=332,slow=3.3,SNR=2.1

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*BEO **23** 07:56:20.6±1.3, 38°.84N×20°.74E, h47km±9km, ML3.4/12*
*TIR **23** 07:56:21.1, 39°.23N×20°.95E, h30km±1km, Md3.1/10, Ml3.7/10*
*THE **23** 07:56:22.8, 39°.26N×20°.94E, h0km±2km, ML3.3/11, Error ellipse: s-maj=2.2km s-min=0.5km az=100.0*
*ATH **23** 07:56:22.6, 39°.27N×20°.93E, h5km±1km, ML3.4/44, Manual Solution by N.Liadopoulou First location: 2019/03/23 07:57:16, This location: 2019/03/24 08:12:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*IDC **23** 07:56:22.3±1.5, 39°.74N×21°.01E, h0km, mb3.6/6, mbtmp3.6/9, ML3.3/3, Error ellipse: s-maj=25.6km s-min=21.7km az=37.0*
ISC 23 07:56:22.3±0.9, 39°.26N±0°.01×20°.89E±0°.02, h17km±6km, n168, σ1°38/207, mb3.7/6, 7C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TETR	**Tetrakomo, Epi**	**0.31**	**73**	P	**Pg**	**07 56 28.1**	**-0.9**
TETR				S	**Sg**	**07 56 32.5**	**-1.1**
PRGA	**Parga**	**0.38**	**275**	P	**Pb**	**07 56 30.7**	**+0.2**
PRGA				S	**Sg**	**07 56 35.9**	**+0.5**
JAN	**Janina**	**0.40**	**356**	P	**Pg**	**07 56 30.6**	**+0.1**
JAN				S	**Sb**	**07 56 37.0**	**+0.1**
	7μm,0.4s						
JAN	**Janina**	**0.40**	**356**	P	**Pg**	**07 56 30.3**	**-0.2**
JAN				S	**Sg**	**07 56 35.4**	**-0.7**
TSLK	**Tsoukalades, L**	**0.47**	**203**	P	**Pb**	**07 56 32.2**	**+0.2**
TSLK				S	**Sb**	**07 56 40.3**	**+1.7**
	6μm,0.4s						
TSLK	**Tsoukalades, L**	**0.47**	**203**	P	**Pb**	**07 56 32.2**	**+0.2**
TSLK				S	**Sg**	**07 56 38.3**	**+0.4**
LKD2	**Lefkada island**	**0.50**	**201**	Pg	**Pg**	**07 56 31.9**	**-0.4**
LKD2				Sg	**Sb**	**07 56 39.9**	**+0.3**
LKD2				AML	AML	07 56 43.9	
	23nm,0.5s						
LKD2				AMd		07 57 20.9	
LKD2	**Lefkada island**	**0.50**	**201**	P	**Pg**	**07 56 32.7**	**+0.4**
LKD2				S	**Sb**	**07 56 40.3**	**+0.7**
	6μm,0.4s						
LKD2	**Lefkada island**	**0.50**	**201**	P	**Pg**	**07 56 32.7**	**+0.4**
LKD2				S	**Sb**	**07 56 40.3**	**+0.7**
IGT	**Igoumenitsa**	**0.51**	**303**	Pg	**Pg**	**07 56 33.0**	**+0.5**
IGT				Sg	**Sb**	**07 56 41.2**	**+1.2**
IGT				AML	AML	07 56 45.6	
	7.5nm,0.6s						
IGT				AMd		07 57 24.5	
IGT	**Igoumenitsa**	**0.51**	**303**	P	**Pg**	**07 56 32.8**	**+0.3**
IGT				S	**Sb**	**07 56 41.8**	**+1.8**
	3μm,0.5s						
IGT	**Igoumenitsa**	**0.51**	**303**	P	**Pg**	**07 56 32.5**	**0.0**
IGT				S	**Sb**	**07 56 40.9**	**+0.9**
NYDR	**Nydri-Lefkada**	**0.56**	**195**	P	**Pg**	**07 56 33.3**	**-0.1**
NYDR				S	**Sb**	**07 56 42.8**	**+1.5**
	4μm,0.7s						

NYDR	**Nydri-Lefkada**	**0.56 195**	P	**Pg**	**07 56 33.6**	**+0.2**
NYDR			S	**Sb**	**07 56 42.2**	**+0.9**
MSVA	**Metsovo**	**0.56 24**	P	**Pg**	**07 56 33.8**	**+0.3**
MSVA			S	**Sg**	**07 56 40.6**	**-0.5**
DRAG	**Dragano-Lefkad**	**0.62 203**	P	**Pg**	**07 56 34.6**	**+0.1**
DRAG			S	**Sn**	**07 56 45.3**	**-0.6**
	2μm,0.4s					
DRAG	**Dragano-Lefkad**	**0.62 203**	P	**Pb**	**07 56 35.4**	**+0.7**
EVGI	**Lefkada island**	**0.66 196**	P	**Pg**	**07 56 35.1**	**-0.1**
EVGI	**Lefkada island**	**0.66 196**	P	**Pg**	**07 56 35.2**	**-0.1**
TRKA	**Trikala**	**0.74 66**	P	**Pb**	**07 56 36.1**	**-0.6**
KPRO	**Kipourio**	**0.79 28**	P	**Pb**	**07 56 37.4**	**-0.2**
KPRO			S	**Sb**	**07 56 48.4**	**+0.3**
	2μm,0.6s					
KPRO	**Kipourio**	**0.79 28**	P	**Pb**	**07 56 37.5**	**-0.2**
EVR	**Evrytania**	**0.79 115**	P	**Pb**	**07 56 37.7**	**+0.1**
EVR	**Evrytania**	**0.79 115**	P	**Pg**	**07 56 38.4**	**+0.7**
PVO	**Paravola**	**0.81 142**	P	**Pb**	**07 56 38.0**	**+0.2**
FSK	**Fiskardo**	**0.83 198**	P	**Pb**	**07 56 37.7**	**-0.5**
FSK			S	**Sn**	**07 56 50.7**	**-0.4**
	2μm,0.7s					
FSK	**Fiskardo**	**0.83 198**	P	**Pb**	**07 56 37.8**	**-0.5**
LSK	**Leskovik**	**0.92 346**	Pg	**Pb**	**07 56 39.6**	**-0.2**
LSK			Sg	**Sn**	**07 56 53.4**	**0.0**
LSK			AML	AML	07 57 07.7	
	9.8nm,0.6s					
LSK			AMd		07 57 50.1	
LSK	**Leskovik**	**0.92 346**	P	**Pb**	**07 56 39.8**	**-0.1**
LSK			S	**Sn**	**07 56 54.8**	**+1.4**
	3μm,0.7s					
THL	**Klokotos Trika**	**0.93 70**	P	**Pb**	**07 56 39.0**	**-0.9**
THL			S	**Sg**	**07 56 52.6**	**+0.2**
	865nm,0.5s					
THL	**Klokotos Trika**	**0.93 70**	P	**Pb**	**07 56 39.2**	**-0.7**
SRN	**Sarande**	**0.93 313**	Pg	**Pb**	**07 56 40.0**	**+0.1**
SRN			Sg	**Sn**	**07 56 54.8**	**+1.4**
SRN			AML	AML	07 57 01.0	
	3.4nm,0.5s					
SRN			AMd		07 57 41.9	
SRN	**Sarande**	**0.93 313**	P	**Pb**	**07 56 39.9**	**+0.1**
SRN			S	**Sn**	**07 56 55.0**	**+1.6**
	1μm,0.5s					
SOFA	**Sofades**	**0.94 85**	P	**Pb**	**07 56 39.1**	**-1.0**
KEK	**Kerkira**	**0.96 299**	P	**Pn**	**07 56 42.0**	**+1.0**
KEK	**Kerkira**	**0.96 299**	P	**Pn**	**07 56 42.5**	**+1.5**
PENT	**Pentalofos**	**0.96 12**	P	**Pb**	**07 56 40.4**	**-0.1**
PENT	**Pentalofos**	**0.96 12**	P	**Pb**	**07 56 40.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.00 104**	P	**Pb**	**07 56 40.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.00 104**	P	**Pb**	**07 56 41.1**	**0.0**
SMHA	**Samh**	**1.02 191**	P	**Pg**	**07 56 42.6**	**+0.7**
ANX	**Ano Chora**	**1.04 129**	P	**Pb**	**07 56 42.2**	**+0.3**
ANX	**Ano Chora**	**1.04 129**	P	**Pb**	**07 56 42.0**	**+0.1**
DMLN	**Damoulianata-K**	**1.09 202**	P	**Pb**	**07 56 42.9**	**+0.2**
DMLN	**Damoulianata-K**	**1.09 202**	P	**Pg**	**07 56 44.0**	**+0.7**
VLS	**Valsamata**	**1.10 192**	P	**Pb**	**07 56 42.2**	**-0.7**
VLS	**Valsamata**	**1.10 192**	P	**Pg**	**07 56 43.9**	**+0.4**
AXS	**Araxos**	**1.12 160**	P	**Pn**	**07 56 42.9**	**-0.3**
TYRN	**Tyrnavos**	**1.14 66**	P	**Pn**	**07 56 42.8**	**-0.6**
EFP	**Efpalio**	**1.15 136**	P	**Pg**	**07 56 44.4**	**0.0**
EFP	**Efpalio**	**1.15 136**	P	**Pg**	**07 56 45.0**	**+0.6**
PSDA	**Pessada-Kefalo**	**1.16 192**	P	**Pn**	**07 56 43.4**	**-0.3**
PSDA	**Pessada-Kefalo**	**1.16 192**	P	**Pg**	**07 56 45.2**	**+0.4**
NEST	**Nestorio**	**1.17 6**	Pg	**Pn**	**07 56 43.7**	**-0.2**
NEST			Sg	**Sg**	**07 57 00.6**	**+0.5**
NEST			AML	AML	07 57 09.5	
	2.3nm,0.6s					
NEST			AMd		07 57 50.1	
NEST	**Nestorio**	**1.17 6**	P	**Pb**	**07 56 44.4**	**+0.4**
NEST	**Nestorio**	**1.17 6**	P	**Pg**	**07 56 44.9**	**+0.1**
RTZL	**Ratzakli, Kefa**	**1.18 184**	P	**Pn**	**07 56 43.8**	**-0.2**
UPR	**University Cam**	**1.20 144**	P	**Pg**	**07 56 45.6**	**+0.2**
YRMI	**Loutra Irminis**	**1.21 162**	P	**Pg**	**07 56 46.4**	**+0.9**
SERG	**Sergoula**	**1.24 132**	P	**Pg**	**07 56 46.0**	**-0.2**
KZN	**Kozani**	**1.25 33**	P	**Pn**	**07 56 45.5**	**+0.4**
KZN	**Kozani**	**1.25 33**	P	**Pb**	**07 56 45.6**	**+0.1**
RLS	**Riolos of Patr**	**1.28 159**	P	**Pg**	**07 56 46.9**	**0.0**
RLS	**Riolos of Patr**	**1.28 159**	P	**Pg**	**07 56 47.1**	**+0.2**
KALE	**Kalithea**	**1.30 131**	P	**Pg**	**07 56 47.4**	**0.0**
KALE	**Kalithea**	**1.30 131**	P	**Pb**	**07 56 46.6**	**+0.3**
KBN	**Korca**	**1.37 357**	Pn	**Pg**	**07 56 50.6**	**+1.9**
KBN			Sn	**Sg**	**07 57 06.5**	**-0.1**
KBN			AML	AML	07 57 15.4	
	5.0nm,0.8s					
CLEM	**Kyllini,Ilia,G**	**1.38 172**	P	**Pg**	**07 56 49.0**	**+0.2**
ORTH	**Orthonies,Zaky**	**1.41 186**	P	**Pb**	**07 56 48.7**	**+0.6**
KYPS	**Kipseli, Zakin**	**1.44 182**	P	**Pb**	**07 56 49.1**	**+0.6**
DRO	**Drossia**	**1.45 153**	P	**Pb**	**07 56 49.3**	**+0.5**
DRO	**Drossia**	**1.45 153**	P	**Pg**	**07 56 50.1**	**-0.1**
AXAR	**Agios Charalam**	**1.46 109**	P	**Pb**	**07 56 49.1**	**+0.1**
AXAR	**Agios Charalam**	**1.46 109**	P	**Pb**	**07 56 49.2**	**+0.2**
DLFA	**Delphi**	**1.48 121**	P	**Pb**	**07 56 49.1**	**-0.1**
KTI	**Kastanea**	**1.48 39**	P	**Pb**	**07 56 49.6**	**+0.2**
LIT	**Litokhoron**	**1.50 55**	P	**Pn**	**07 56 49.3**	**+0.9**
LIT	**Litokhoron**	**1.50 55**	P	**Pb**	**07 56 49.5**	**-0.1**
LTHK	**Lithakia**	**1.54 182**	P	**Pb**	**07 56 51.0**	**+0.7**
KLV	**Kalavryta, Ach**	**1.56 140**	P	**Pb**	**07 56 51.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.56 140**	P	**Pb**	**07 56 51.6**	**+0.8**
FNA	**Florina**	**1.57 14**	Pn	**Pn**	**07 56 50.2**	**+0.8**
FNA			Sn	**Sg**	**07 57 12.2**	**-0.8**
FNA			AML	AML	07 57 18.8	
	2.8nm,0.7s					
FNA			AMd		07 58 04.2	
FNA	**Florina**	**1.57 14**	P	**Pb**	**07 56 51.2**	**+0.2**
FNA	**Florina**	**1.57 14**	*e*Pn	**Pb**	**07 56 51.1**	**+0.2**
FNA			*e*Sn	**Sg**	**07 57 14.2**	**+1.2**
FNA	**Florina**	**1.57 14**	P	**Pb**	**07 56 51.1**	**+0.2**
VLO	**Vlora**	**1.62 319**	Pn	**Pn**	**07 56 51.1**	**+1.1**
VLO			Sn	**Sg**	**07 57 13.7**	**-0.8**
VLO			AML	AML	07 57 23.5	
	6.9nm,0.4s					
VLO			AMd		07 57 58.5	
GUR	**Goura**	**1.74 139**	P	**Pb**	**07 56 54.0**	**+0.1**
LKR	**Lokris**	**1.75 109**	P	**Pb**	**07 56 54.0**	**0.0**
XOR	**Xorichti**	**1.79 86**	P	**Pb**	**07 56 54.3**	**-0.3**
XOR	**Xorichti**	**1.79 86**	P	**Pb**	**07 56 54.1**	**-0.5**
NEO	**Neokhori**	**1.81 88**	P	**Pn**	**07 56 53.9**	**+1.1**
AMT	**Artemida-Makis**	**1.84 159**	P	**Pb**	**07 56 55.2**	**-0.2**
OHR	**Ohrid**	**1.86 358**	⇑*i*Pn	**Pg**	**07 56 57.6**	**-0.3**
OHR			*i* Sn	**Sg**	**07 57 24.0**	**+2.0**
OHR	**Ohrid**	**1.86 358**	*e*Pn	**Pb**	**07 56 55.7**	**-0.1**
OHR			*e*Sn	**Sg**	**07 57 21.5**	**-0.5**
SCTE	**Santa Cesarea**	**2.04 294**	Pn	**Pn**	**07 56 57.5**	**+1.7**
SCTE			Sn	**Sn**	**07 57 22.0**	**+1.1**
SCTE			AML	AML	07 57 24.1	
	2.0nm,0.6s					
SCTE			AMd		07 58 18.4	
SCTE	**Santa Cesarea**	**2.04 294**	P	**Pn**	**07 56 57.1**	**+1.3**
LTK	**Loutraki**	**2.04 126**	P	**Pb**	**07 56 58.0**	**-0.9**
GRG	**Griva**	**2.06 34**	P	**Pn**	**07 56 56.9**	**+0.8**
THE	**Thessaloniki**	**2.11 49**	Pn	**Pn**	**07 56 57.8**	**+1.0**
THE			Sn	**Sb**	**07 57 25.2**	**-0.7**
THE			AML	AML	07 57 30.1	
	0.4nm,0.5s					
THE			AMd		07 58 10.9	
HORT	**Hortiatis**	**2.17 51**	P	**Pn**	**07 56 58.9**	**+1.3**
ITM	**Ithomi**	**2.23 158**	P	**Pb**	**07 57 01.0**	**-1.1**
TIR	**Tirane**	**2.23 340**	Pn	**Pb**	**07 57 00.7**	**-1.4**
TIR			AMd		07 58 13.4	
TIR	**Tirane**	**2.23 340**	⇑P	**Pg**	**07 57 08.3**	**+3.2**
TIR	**Tirane**	**2.23 340**	*e*Pn	**Pn**	**07 56 59.9**	**+1.4**
TIR			*e*Sn	**Sb**	**07 57 29.9**	**+0.4**
PLG	**Polygyros**	**2.27 60**	P	**Pn**	**07 56 60.0**	**+1.0**
VAY	**Valandovo**	**2.43 31**	*i* Pn	**Pb**	**07 57 04.7**	**-0.8**
VAY			*i* Sn	**Sb**	**07 57 35.7**	**+0.5**
KNT	**Kendrikon**	**2.45 38**	P	**Pn**	**07 57 03.3**	**+1.8**
KNT	**Kendrikon**	**2.45 38**	P	**Pn**	**07 57 03.2**	**+1.8**
SOH	**Sokhos**	**2.46 50**	P	**Pn**	**07 57 03.1**	**+1.5**
MET4	**Agioi Theodoro**	**2.56 129**	P	**Pn**	**07 57 04.9**	**+2.0**
KYMI	**Kymi, Euboea I**	**2.58 103**	P	**Pn**	**07 57 05.2**	**+1.9**
ATHU	**Athens Univers**	**2.61 119**	P	**Pn**	**07 57 05.3**	**+1.7**
OUR	**Ouranopolis**	**2.62 65**	P	**Pn**	**07 57 05.0**	**+1.3**
DION	**Dionisos Attik**	**2.66 115**	P	**Pn**	**07 57 06.3**	**+2.0**
VLY	**Voula,Athens**	**2.67 121**	P	**Pn**	**07 57 06.7**	**+2.1**
SRS	**Serrai**	**2.78 47**	*e*Pn	**Pn**	**07 57 07.2**	**+1.1**
SRS			*e*Sn	**Sn**	**07 57 41.7**	**+2.4**
DRME	**Dracevica, Mon**	**3.20 337**	*e*Pn	**Pn**	**07 57 13.1**	**+1.3**
THAS	**Thassos island**	**3.24 64**	P	**Pn**	**07 57 12.7**	**+0.4**
PDG	**Podgorica**	**3.41 339**	⇑P	**Pn**	**07 57 16.8**	**+2.2**
BOSS	**Bosilegrad**	**3.46 20**	*e*Pn	**Pn**	**07 57 17.9**	**+2.6**
BARS	**Barje**	**3.63 11**	*e*Pn	**Pn**	**07 57 20.1**	**+2.4**
BARS			*e*Sn	**Sn**	**07 58 02.5**	**+2.4**
HCY	**Herceg Novi**	**3.67 331**	*e*Pn	**Pn**	**07 57 18.0**	**-0.2**
VTS	**Vitosha**	**3.80 27**	*e*Pn	**Pn**	**07 57 22.4**	**+2.2**
VTS			*e*Sn	**Sn**	**07 58 07.4**	**+2.8**
TREB	**Trebinje**	**3.96 332**	*e*Pn	**Pn**	**07 57 22.1**	**-0.1**
TREB	**Trebinje**	**3.96 332**	*e*Pn	**Pn**	**07 57 22.3**	**+0.1**
TREB			*e*Sn	**Sn**	**07 58 08.0**	**-0.2**
SELS	**Selova**	**3.96 2**	*e*Pn	**Pn**	**07 57 23.8**	**+1.5**
BRY	**Bratogost**	**4.05 335**	*e*Pn	**Pn**	**07 57 24.1**	**+0.5**
UPM	**Unac-Piva**	**4.22 340**	*e*Pn	**Pn**	**07 57 29.0**	**+3.1**
ZAPS	**Zavoj**	**4.22 18**	*e*Pn	**Pn**	**07 57 28.8**	**+2.9**
STON	**Ston**	**4.34 327**	*e*Pn	**Pn**	**07 57 26.4**	**-1.1**
STON	**Ston**	**4.34 327**	*e*Pn	**Pn**	**07 57 27.9**	**+0.5**
STON			*e*Sn	**Sn**	**07 58 16.9**	**-0.8**
BOVS	**Bovan**	**4.42 8**	⇑P	**Pn**	**07 57 29.9**	**+1.4**
BOVS	**Bovan**	**4.42 8**	*e*Pn	**Pn**	**07 57 30.0**	**+1.4**
GRUS	**Gruza**	**4.63 358**	*e*Pn	**Pn**	**07 57 32.4**	**+1.0**
ZAGS	**Zajecar**	**4.66 12**	*e*Pn	**Pn**	**07 57 33.0**	**+1.1**
BBLS	**Lazi&#263i**	**4.74 347**	*e*Pn	**Pn**	**07 57 34.1**	**+1.1**
DIVS	**Divibare**	**4.89 352**	*e*Pn	**Pn**	**07 57 36.1**	**+1.1**
KUBS	**Kucevo**	**5.19 6**	*e*Pn	**Pn**	**07 57 39.1**	**0.0**
TEKS	**Tekeris**	**5.39 350**	*e*Pn	**Pn**	**07 57 42.8**	**+1.0**
TEKS	**Tekeris**	**5.39 350**	*e*Pn	**Pn**	**07 57 42.2**	**+0.4**
MDVR	**Moldovita**	**5.56 6**	⇑P	**Pn**	**07 57 46.6**	**+2.4**
BLY	**Banja Luka**	**6.14 335**	*e*Pn	Pn	07 57 57.5	+5.3
A050A	**Klekovaca**	**6.15 330**	*e*Pn	**Pn**	**07 57 53.3**	**+0.9**
MLR	**Muntele Rosu**	**7.27 29**	Pn	Pn	07 58 14.7	+6.9
	0.8nm,0.3s,baz=222,slow=10,SNR=8.2					
MLR			Sn	**Sn**	**07 59 31.6**	**+1.7**
	0.2nm,0.3s,baz=272,slow=20,SNR=1.0					
BOJS	**Bojanci**	**7.51 328**	*e*Pn	**Pn**	**07 58 11.2**	**+0.3**
PLOR	**Plostina**	**7.84 31**	⇑P	**Pn**	**07 58 19.1**	**+3.5**
VRI	**Vrincioaia**	**7.89 31**	⇑P	**Pn**	**07 58 19.4**	**+3.3**
CEY	**Cerknica**	**8.05 326**	*e*Pn	**Pn**	**07 58 18.3**	**0.0**
SKDS	**Skadanscina**	**8.08 323**	*e*Pn	**Pn**	**07 58 17.4**	**-1.5**
SOKA	**Soboth**	**8.57 332**	*i* Pn	**Pn**	**07 58 26.3**	**+0.7**
	1.3nm,0.3s					
SOKA			*i* Sn	**Sn**	**07 59 57.3**	**-4.6**
	2.1nm,0.4s					
OBKA	**Obir**	**8.61 329**	*i* Pn	**Pn**	**07 58 27.4**	**+1.2**
	2.5nm,0.4s					
OBKA			*i* Sn	**Sn**	**08 00 02.3**	**-0.6**
	7.1nm,0.4s					
OBKA	**Obir**	**8.61 329**	*e*Pn	**Pn**	**07 58 26.1**	**-0.1**
ABTA	**Abfaltersbach**	**9.68 323**	*i* Sn	**Sn**	**08 00 23.7**	**-5.3**
	9.7nm,0.6s					
KOLS	**Kolonicke sedl**	**9.73 5**	*e*PN	Pn	07 58 46.7	+5.3
KOLS			*e*		08 15 14.7	
LESA	**Schwarzleotal**	**10.12 326**	*i* Pn	**Pn**	**07 58 47.6**	**+0.8**
	1.1nm,0.4s					
LESA			*e*Sn	**Sn**	**08 00 34.8**	**-5.0**
	2.0nm,0.4s					
STHS	**Stebnicka Huta**	**10.16 1**	*e*PN	**Pn**	**07 58 51.5**	**+4.2**
WTTA	**Wattenberg**	**10.46 323**	*e*Sn	**Sn**	**08 00 43.4**	**-5.0**
	2.5nm,0.3s					
FETA	**Feichten**	**10.73 320**	*i* Sn	**Sn**	**08 00 53.2**	**-1.8**
	1.3nm,0.4s					
MOTA	**Moosalm**	**10.77 322**	*i* Sn	**Sn**	**08 00 53.3**	**-2.7**
	3.6nm,0.5s					
GERES	**GERESS Array B**	**10.89 334**	Pn	**Pn**	**07 58 54.3**	**-3.0**
	baz=148,slow=13,SNR=6.8					
	0.5nm,0.4s					
DAVOX	**Davos/Dischmat**	**11.02 317**	Pn	Pn	07 58 56.0	-3.1
	0.4nm,0.3s,baz=144,slow=20,SNR=2.6					
DAVOX			Sn	**Sn**	**08 00 57.9**	**-4.2**
	baz=131,slow=18					
	0.5nm,0.4s					
ESDC	**Sonseca Array**	**19.18 279**	P	**Pn**	**08 00 47.0**	**+1.0**
	baz=80,slow=10,SNR=2.3					
	0.6nm,0.8s					
HFS	**Hagfors**	**21.39 350**	P	**P**	**08 01 06.1**	**-2.6**
	5.2nm,1.0s,baz=153,slow=13,SNR=4.0					
	5.2nm,1.0s					
NOA	**NORSAR Array B**	**22.62 348**	P	**P**	**08 01 21.6**	**-0.5**
	1.0nm,0.7s,baz=161,slow=11,SNR=2.1					
	1.0nm,0.7s					
EKA	**Eskdalemuir Ar**	**22.73 323**	P	**P**	**08 01 23.8**	**+0.6**
	0.6nm,0.7s,baz=126,slow=10,SNR=5.9					
	0.6nm,0.7s					
TORD	**Torodi Ar. Bea**	**31.05 218**	P	P	08 02 46.0	+6.7
	1.0nm,0.3s,baz=33,slow=8.9,SNR=1.4					
	1.0nm,0.3s					
MKAR	**Makanchi Array**	**44.50 59**	P	**P**	**08 04 32.3**	**-0.4**
	0.4nm,0.5s,baz=281,slow=6.4,SNR=4.2					
	0.4nm,0.5s					
ZALV	**Zalesovo Beam**	**44.76 49**	P	**P**	**08 04 33.7**	**-0.9**
	0.6nm,0.4s,baz=261,slow=8.5,SNR=4.3					
	0.6nm,0.4s					

*WEL **23** 07:59:11.3±0.7,32°S±7°×17°8W±2°1,h12km,mB4.6/2, ML4.9/11,MLv4.4/6,Mw(mB)3.8/2,Error ellipse: s-maj=28.4km s-min=3.2km az=107.0,confirmed*
*IDC **23** 07:59:11.1±2.1,31°20S×178°59W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=61.8km s-min=38.8km az=48.0*

ISC 23 07:59:11.7±1.0,**31°50S**±0°07×**178°4W**±0°2,**h10**km,**n21**, σ1°**61**/33,**mb3.7**/3,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.26**	**10**	P	**Sn**	**07 59 49.0**	**-0.1**
GLKZ				S	**Sn**	**08 00 15.0**	**-2.0**
RIZ	**Raoul Island**	**2.27**	**9**	P	**Pn**	**07 59 49.1**	**-0.2**
RIZ				S	**Sn**	**08 00 17.5**	**+0.1**
WMGZ	**Waiomatatini S**	**6.85**	**202**	P	**Pn**	**08 00 51.5**	**-0.7**
WMGZ				S	**Sn**	**08 02 11.1**	**+0.9**
PKGZ	**Pakihiroa**	**7.00**	**204**	P	**Pn**	**08 00 54.1**	**-0.2**
HAZ	**Te Kaha**	**7.01**	**206**	P	**Pn**	**08 00 52.8**	**-1.6**
HAZ				S	**Sn**	**08 02 14.5**	**+0.3**
PUZ	**Puketiti**	**7.13**	**202**	P	**Pn**	**08 00 53.0**	**-3.0**
PUZ				S	**Sn**	**08 02 15.3**	**-1.8**
TWGZ	**Tauwhareparae**	**7.32**	**203**	P	**Pn**	**08 01 01.5**	**+2.8**
TWGZ				S	**Sn**	**08 02 20.1**	**-1.7**
CNGZ	**Carnagh Statio**	**7.52**	**201**	P	**Pn**	**08 01 01.5**	**+0.1**
CNGZ				S	**Sn**	**08 02 24.4**	**-2.4**
OPRZ	**Ohinepanea**	**7.60**	**212**	P	**Pn**	**08 01 03.9**	**+1.4**
MWZ	**Matawai**	**7.62**	**205**	P	**Pn**	**08 01 04.8**	**+2.0**
MWZ				S	**Sn**	**08 02 26.8**	**-2.4**
OUZ	**Omahuta**	**7.69**	**239**	P	**Pn**	**08 01 05.0**	**+1.2**
URZ	**Urewera**	**7.71**	**208**	P	**Pn**	**08 01 04.4**	**+0.4**
URZ				S	**Sn**	**08 02 30.7**	**-0.7**
RAGZ	**Rawiri**	**7.80**	**205**	P	**Pn**	**08 01 05.4**	**+0.1**
RAGZ				S	**Sn**	**08 02 32.6**	**-1.1**
RIGZ	**Rimuhau**	**7.87**	**203**	P	**Pn**	**08 01 06.8**	**+0.6**
RIGZ				S	**Sn**	**08 02 33.9**	**-1.5**
MUGZ	**Murupara**	**8.03**	**209**	P	**Pn**	**08 01 09.2**	**+0.7**
MUGZ				S	**Sn**	**08 02 38.7**	**-0.7**
SNGZ	**Shannon Statio**	**8.08**	**205**	S	**Sn**	**08 02 37.8**	**-2.8**
OTVZ	**Oturere**	**9.08**	**211**	P	**Pn**	**08 01 24.9**	**+1.9**
ASAR	**Alice Springs**	**42.77**	**268**	P	**P**	**08 07 08.5**	**-1.1**
	0.6nm,0.8s,baz=108,slow=7.4,SNR=4.2						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**43.85**	**273**	P	**P**	**08 07 17.8**	**-0.7**
	0.7nm,0.5s,baz=114,slow=8.2,SNR=2.1						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**08 09 11.8**	**+3.0**
	2.0nm,1.0s,baz=2.7,slow=1.3,SNR=6.6						
	2.0nm,1.0s						
FINES	**FINESS Array B**	**146.06**	**339**	PKPbc	**PKPdf**	**08 18 50.3**	**0.0**
	4.5nm,0.9s,baz=46,slow=4.6,SNR=7.0						

*NEIC **23** 08:02:14.7±2.5,4°64S±0°06×102°34E±0°03,h15km±5km, mb4.9/29,Error ellipse: s-maj=9.2km s-min=1.5km az=156.0*
*BJI **23** 08:02:16.3,4°80S×102°30E,h44km,mB5.0/6,mb4.6/20, Ms4.6/5,Ms7 4.4/5*
*DJA **23** 08:02:17.7±0.4,5°S±2°×10°2E±°,h30km±4km,M4.9/32, mb5.0/32,mB5.3/8,MLv5.0/24,Mw(mB)4.8/8*
*IDC **23** 08:02:19.7±1.8,4°40S×102°48E,h58km±14km,mb4.1/21, mbtmp4.4/24,MS3.7/3,Error ellipse: s-maj=21.5km s-min=9.0km az=46.0*

ISC 23 08:02:19.3±0.4,**4°52S**±0°05×**102°43E**±0°05,**h56**km,**n168**, σ1°**54**/167,**mb4.7**/42,**3D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.54**	**74**		**Pn**	**08 02 28.4**	**-3.0**
MNAI					**Sn**	**08 02 36.9**	**-3.4**
MNAI	**Manna**	**0.54**	**74**	P	**Pn**	**08 02 29.0**	**-2.5**
MNAI				S	**Sn**	**08 02 37.0**	**-3.3**
KSI	**Kapahiang**	**0.87**	**11**	P	**Pn**	**08 02 33.6**	**-2.1**
KSI				S	**Sn**	**08 02 44.5**	**-3.1**
LWLI	**Liwa**	**1.69 107**	P	**Pn**	**08 02 45.5**	**-1.2**
MDSI	**Maura Dua**	**1.74 89**	P	**Pn**	**08 02 46.0**	**-1.2**
KASI	**Kota Agung**	**2.29 116**	P	**Pn**	**08 02 53.3**	**-1.4**
PMBI	**Palembang**	**2.82 56**	Pn	**Pn**	**08 02 58.3**	**-3.6**
PMBI	**Palembang**	**2.82 56**	P	**Pn**	**08 03 00.8**	**-1.1**
BLSI	**Bandar Lampung**	**2.93 107**	P	**Pn**	**08 03 03.7**	**+0.3**
PPSI	**Pulau Pagai**	**2.98 306**	P	**Pn**	**08 03 04.2**	**0.0**
CGJI	**Cibinong**	**3.86 123**	P	**Pn**	**08 03 14.1**	**-2.1**
PPBI	**Pangkal Pinang**	**4.37 58**	P	**Pn**	**08 03 22.9**	**-0.4**
PPI	**Padang Panjang**	**4.52 333**	P	**Pn**	**08 03 26.4**	**+1.2**
SISI	**Saibi**	**4.60 313**	P	**Pn**	**08 03 26.2**	**-0.2**
SKJI	**Sukabumi**	**4.79 121**	P	**Pn**	**08 03 28.9**	**-0.1**
BKNI	**Bangkinang**	**5.01 344**		**Pn**	**08 03 31.2**	**-0.8**
BKNI	**Bangkinang**	**5.01 344**	P	**Pn**	**08 03 31.9**	**-0.1**
	2.1nm5μm274nm,0.9s					
CNJI	**Cibinong**	**5.43 121**	P	**Pn**	**08 03 36.4**	**-1.4**
	2μm55nm,0.4s					
TPI	**Tanjungpandan**	**5.50 72**	P	**Pn**	**08 03 37.5**	**-1.2**
LEM	**Lembang**	**5.65 114**	P	**Pn**	**08 03 42.9**	**+2.0**
	32nm,0.5s,baz=332,slow=15,SNR=4.2					
LEM			S	**Sn**	**08 04 48.7**	**+4.1**
	63nm,0.7s,baz=330,slow=20,SNR=1.2					
LEM			LR	LR	08 06 17.2	
	comp=Z,461nm,19.6s,baz=254,slow=42					
LEM	**Lembang**	**5.65 114**	P	**Pn**	**08 03 40.3**	**-0.6**
	0.5nm97nm,0.8s					
MNSI	**Mandailing Nat**	**6.00 332**	P	**Pn**	**08 03 45.0**	**-0.5**
	0.7nm4μm105nm,0.5s					
PBSI	**Pulau Batu**	**6.07 317**	P	**Pn**	**08 03 46.0**	**-0.6**
	1.2nm3μm224nm,0.6s					
MYKOM	**Kota Tinggi**	**6.42 13**	Pn	**Pn**	**08 03 50.5**	**-0.9**
XMIS	**Christmas Isla**	**6.73 152**	Pn	Pn	08 03 49.2	-6.4
CMJI	**Cimerak**	**6.80 119**	P	**Pn**	**08 03 55.9**	**-0.7**
	0.6nm101nm,0.4s					
GSI	**Gunungsitoli**	**7.55 320**	Pn	**Pn**	**08 04 04.9**	**-1.9**
GSI	**Gunungsitoli**	**7.55 320**	P	**Pn**	**08 04 05.7**	**-1.1**
RPSI	**Rantau Prapat**	**7.97 334**	Pn	**Pn**	**08 04 09.6**	**-3.0**
RPSI	**Rantau Prapat**	**7.97 334**		**Pn**	**08 04 11.3**	**-1.3**
PSI	**Prapat**	**8.07 334**	P	**Pn**	**08 04 11.3**	**-2.7**
	5.5nm,0.4s,baz=154,slow=10,SNR=5.6					
PSI			LR	LR	08 07 30.8	
	comp=Z,394nm,19.8s,baz=111,slow=39					
UGM	**Wanagama**	**8.72 113**	Pn	**Pn**	**08 04 20.7**	**-2.2**
UGM	**Wanagama**	**8.72 113**	P	**Pn**	**08 04 22.8**	**-0.1**
	129nm,1.8s					
SNSI	**Sinabang, Aceh**	**9.20 318**	P	**Pn**	**08 04 28.6**	**-0.8**
COCO	**West Island**	**9.42 216**		**Pn**	**08 04 28.9**	**-3.6**
PCJI	**Pacitan**	**9.43 113**	P	**Pn**	**08 04 32.0**	**-0.5**
	68nm,1.4s					
KULM	**Kulim**	**9.90 350**	Pn	**Pn**	**08 04 38.3**	**-0.7**
MLSI	**Meulaboh, Aceh**	**10.60 325**	P	**Pn**	**08 04 46.5**	**-2.1**
GMJI	**Gumukmas**	**11.56 109**	P	**Pn**	**08 05 02.4**	**+0.7**
	27nm,0.8s					
SBUM	**Sibu**	**11.98 55**	Pn	**Pn**	**08 05 07.2**	**-0.3**
ABJI	**Asem Bagus**	**12.18 106**	P	**Pn**	**08 05 10.5**	**+0.4**
	111nm,0.8s					
BSI	**

WMQ Urumqi 49.92 346 *eP* **P 08 11 09.9 +2.4**
KDJ Kajisay 51.80 336 P **P 08 11 20.9 -0.9**
KDJ IAmb IAmb 08 11 36.0
comp=Z,6.5nm,0.7s
SONM Songino Array 52.24 3 P **P 08 11 24.9 -0.1**
SONM Songino Array 52.24 3 P **P 08 11 24.8 -0.2**
comp=Z,4.0nm,0.9s,baz=186,slow=9.9,SNR=15
comp=Z,4.0nm,0.9s
CAN Canberra 52.73 132 P **P 08 11 29.5 +0.7**
CAN IAmb IAmb 08 11 43.3
comp=Z,19nm,1.2s
ARSB Arslanbob 52.96 332 P **P 08 11 30.2 -0.2**
ARSB IAmb IAmb 08 11 46.9
comp=Z,6.3nm,0.6s
ARMA Armidale 52.98 125 P **P 08 11 31.4 +0.7**
ARMA IAmb IAmb 08 11 43.7
comp=Z,32nm,1.9s
MK31 Makanchi Array 54.11 343 P **P 08 11 37.4 -1.2**
MK31 IAmb IAmb 08 11 51.5
comp=Z,3.5nm,0.6s
MKAR Makanchi Array 54.11 343 P **P 08 11 37.4 -1.2**
MKAR Makanchi Array 54.11 343 P **P 08 11 37.7 -0.9**
comp=Z,2.0nm,0.5s,baz=148,slow=9.3,SNR=24
comp=Z,2.0nm,0.5s
BNX BinXian 54.75 21 ⇓P **P 08 11 44.5 +1.3**
BNX pmax pmax
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 55.29 26 P **P 08 11 46.0 -1.1**
comp=Z,2.4nm,0.6s,baz=222,slow=5.2,SNR=7.0
comp=Z,2.4nm,0.6s
KKAR Karatay Array 55.49 332 **P 08 11 48.1 -0.5**
KKAR Karatay Array 55.49 332 P **P 08 11 47.9 -0.8**
ZALV Zalesovo Beam 60.09 348 P **P 08 12 19.7 -0.9**
ZALV Zalesovo Beam 60.09 348 P **P 08 12 19.6 -1.1**
comp=Z,2.0nm,0.4s,baz=172,slow=4.9,SNR=8.2
comp=Z,2.0nm,0.4s
H04N2 CROZET ISLANDS 60.28 218 T T 09 17 51.9
baz=60,slow=75,SNR=257
H04N1 CROZET ISLANDS 60.30 218 T T 09 17 52.4
baz=60,slow=75,SNR=334
H04N3 CROZET ISLANDS 60.30 218 T T 09 17 51.0
baz=60,slow=75,SNR=192
BVAR Borovoye Array 63.38 339 P **P 08 12 41.1 -1.7**
comp=Z,1.4nm,0.5s,baz=141,slow=9.4,SNR=5.3
comp=Z,1.4nm,0.5s
ABKAR Akbulak array 65.00 331 P **P 08 12 52.3 -1.2**
ABKAR IAmb IAmb 08 13 07.3
comp=Z,16nm,1.5s
KMBO Kilima Mbogo 65.17 271 P **P 08 12 56.3 +0.7**
comp=Z,1.1nm,0.2s,baz=100,slow=11,SNR=1.8
comp=Z,1.1nm,0.2s
LBZ Lake Benmore 71.03 135 P **P 08 13 31.2 -0.3**
LBZ IAmb IAmb 08 15 51.9
comp=Z,26nm,1.4s
RPZ Rata Peaks 71.50 135 P **P 08 13 34.3 -0.1**
RPZ IAmb IAmb 08 14 52.6
comp=Z,20nm,1.3s
DSZ Denniston Nort 71.66 132 P **P 08 13 35.8 +0.4**
QRZ Quartz Range 72.03 131 P **P 08 13 38.6 +1.0**
OXZ Oxford 72.12 134 P **P 08 13 37.5 -0.6**
LTZ Lake Taylor 72.19 133 P **P 08 13 38.7 +0.2**
THZ Tophouse 72.47 132 P **P 08 13 40.5 +0.2**
NNZ Nelson 72.73 132 P **P 08 13 41.6 -0.2**
NEZ North Egmont 72.98 130 P **P 08 13 45.3 +1.9**
KHZ Kahutara 73.05 133 P **P 08 13 43.3 -0.3**
BSWZ Blackbirch Sta 73.18 132 P **P 08 13 44.3 -0.1**
HIZ Hauiti 73.46 129 P **P 08 13 47.8 +1.7**
MMAI Mount Meron Ar 73.47 306 P **P 08 13 47.6 +1.2**
comp=Z,1.2nm,0.5s,baz=109,slow=9.9,SNR=4.1
comp=Z,1.2nm,0.5s
WAZ Wanganui 73.72 130 P **P 08 13 49.3 +1.6**
FWVZ Far West T-bar 74.09 129 P **P 08 13 51.0 +0.9**
TRVZ Turoa 74.10 129 P **P 08 13 51.0 +0.9**
WTVZ West Tongariro 74.11 129 P **P 08 13 51.2 +1.2**
NGZ Ngauruhoe 74.12 129 P **P 08 13 50.8 +0.6**
NNVZ North Ngauruho 74.13 129 P **P 08 13 50.9 +0.6**
WNVZ Wahianoa 74.14 129 P **P 08 13 51.1 +0.8**
SNVZ South Ngauruho 74.15 129 P **P 08 13 51.5 +1.1**
NTVZ North Tongarir 74.17 129 P **P 08 13 48.1 -2.4**
OTVZ Oturere 74.17 129 P **P 08 13 51.5 +1.0**
MOVZ Moawhango 74.27 130 P **P 08 13 51.4 +0.5**
MRZ Mangatainoka R 74.30 131 P **P 08 13 51.3 +0.3**
NRIK Noril'sk 74.40 355 P **P 08 13 52.1 +1.2**
comp=Z,2.0nm,0.7s,baz=139,slow=2.5,SNR=4.5
comp=Z,2.0nm,0.7s
TSZ Takapari Road 74.51 130 P **P 08 13 53.2 +0.9**
PNHZ Pukenui 74.67 130 P **P 08 13 54.0 +0.8**
DVHZ Dannevirke 74.69 130 P **P 08 13 53.9 +0.6**
KWHZ Kaweka Forest 74.78 130 P **P 08 13 54.5 +0.5**
BFZ Birch Farm 74.80 131 P **P 08 13 53.2 -0.7**
BKZ Black Stump Fm 74.81 129 P **P 08 13 54.1 +0.1**
BKZ Black Stump Fm 74.81 129 P **P 08 13 54.2 +0.2**
WPHZ Waipukurau 74.88 130 P **P 08 13 55.2 +0.8**
ANWZ Angora Road 74.95 131 P **P 08 13 55.6 +0.9**
PRHZ Porangahau 75.05 130 P **P 08 13 56.5 +1.1**
RTZ Ruatahuna 75.13 129 P **P 08 13 55.8 -0.2**
KAHZ Kahuranaki 75.18 130 P **P 08 13 57.1 +0.9**
URZ Urewera 75.19 128 P **P 08 13 55.5 -0.7**
PXZ Pawanui 75.19 130 P **P 08 13 56.8 +0.6**
RAGZ Rawiri 75.45 128 P **P 08 13 57.5 -0.3**
MWZ Matawai 75.52 128 P **P 08 13 57.9 -0.3**
HAZ Te Kaha 75.67 128 P **P 08 13 58.7 -0.2**
PUZ Puketiti 76.07 128 P **P 08 14 00.7 -0.5**
BRTR Keskin Array B 76.80 312 P **P 08 14 05.0 -0.5**
comp=Z,1.2nm,0.6s,baz=136,slow=6.5,SNR=5.2
comp=Z,1.2nm,0.6s
VNDA Vanda 79.24 169 P **P 08 14 19.4 +1.3**
comp=Z,1.4nm,1.0s,baz=265,slow=3.5,SNR=3.5
comp=Z,1.4nm,1.0s
ELIB Princess Elisa 82.35 198 *dP* **P 08 14 38.0 +3.1**
AKASG Malin Array Be 82.95 322 P **P 08 14 36.7 -1.5**
comp=Z,0.3nm,0.3s,baz=217,slow=17,SNR=1.4
comp=Z,0.3nm,0.3s
BURAR Bucovina Array 84.74 319 P **P 08 14 48.2 +0.5**
BUR08 Bucovina Ar. S 84.76 319 P **P 08 14 48.1 +0.4**
BUR08 IAmb IAmb 08 14 53.3
comp=Z,20nm,1.8s
QSPA South Pole Qui 85.46 180 P **P 08 14 52.1 +1.2**
QSPA South Pole Qui 85.46 180 P **P 08 14 52.4 +1.4**
comp=Z,1.6nm,1.1s,baz=338,slow=4.8,SNR=1.8
comp=Z,1.6nm,1.1s
FINES FINESS Array B 87.45 332 P **P 08 15 00.6 +0.1**
comp=Z,3.0nm,0.8s,baz=132,slow=2.8,SNR=4.8
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 89.65 340 P **P 08 15 10.5 -0.3**
comp=Z,3.6nm,1.0s,baz=119,slow=7.5,SNR=1.3
comp=Z,3.6nm,1.0s
VRAC Vranov 90.68 319 P **P 08 15 17.4 +1.4**
comp=Z,1.3nm,0.4s,baz=135,slow=1.4,SNR=1.9
comp=Z,1.3nm,0.4s
GERES GERESS Array B 92.53 319 P **P 08 15 22.8 -1.9**
comp=Z,0.1nm,0.4s,baz=140,slow=3.8,SNR=1.6
comp=Z,0.1nm,0.4s
CLL Collm 93.13 321 *i P* **P 08 15 27.9 +0.6**
NVAR Mina Array Bea 129.92 42 PKP **PKPdf 08 21 23.3 -0.2**
comp=Z,0.1nm,0.4s,baz=316,slow=0.8,SNR=1.5
PDAR Pinedale Array 132.50 32 PKP **PKiKP 08 21 29.4 +0.1**
comp=Z,0.3nm,0.9s,baz=352,slow=3.7,SNR=1.9
PDAR SKPbc **SKPab 08 24 51.0 -0.9**
comp=Z,0.6nm,0.7s,baz=333,slow=3.1,SNR=6.4
PLCA Paso Flores 134.51 187 PKP **PKPdf 08 21 31.9 0.0**
comp=Z,1.9nm,1.0s,baz=304,slow=3.6,SNR=2.8
BDFB Brasilia 144.55 235 PKP **PKPdf 08 21 50.2 -0.5**
comp=Z,2.6nm,0.5s,baz=126,slow=5.1,SNR=4.8
TXAR Lajitas Array 145.07 42 PKP **PKPab 08 21 50.5 -0.4**
comp=Z,0.8nm,0.6s,baz=256,slow=0.7,SNR=10

*IDC **23** 08:07:46.0±1.8, 2.°42S×141.°16E, h0km, mb3.5/2, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=31.6km s-min=12.6km az=172.0*
*DJA **23** 08:07:48.3±1.5, 3.°S±18.°×14.°1E±.°, h21km±4km, M3.5/3, MLv3.5/3*
ISC 23 08:07:49.8±1.8, 2.°4S±0.°2×140.°50E±0.°05, h15km±11km, n7, σ0°93/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.24**	**121**	Pg	**Pb**	**08 07 55.6**	**-0.3**
	1μm,0.3s,baz=264,slow=9.3,SNR=4306						
JAY				Lg	Lg	08 08 01.0	
	1μm,0.3s,baz=161,slow=18,SNR=22						
JAY	**Jayapura**	**0.24**	**121**	P	**Pb**	**08 07 55.5**	**-0.4**
JAY				S	**Sg**	**08 07 59.7**	**+0.9**
GENI	**Genyem**	**0.39**	**239**	P	**Pg**	**08 07 57.1**	**-0.6**
GENI				S	**Sg**	**08 08 04.1**	**+1.1**
SMPI	**Sarmi**	**1.83**	**283**	P	**Pn**	**08 08 19.7**	**-1.1**
SMPI				S	**Sn**	**08 08 44.5**	**+0.8**
WRA	**Warramunga Arr**	**18.45**	**199**	P	**Pn**	**08 12 05.3**	**0.0**
	0.4nm,0.3s,baz=22,slow=12,SNR=3.9						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**22.09**	**196**	P	**P**	**08 12 44.8**	**+0.1**
	1.6nm,0.5s,baz=29,slow=10,SNR=11						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**70.64**	**322**	P	**P**	**08 19 05.8**	**+0.9**
	0.3nm,0.7s,baz=114,slow=5.2,SNR=4.1						
	0.3nm,0.7s						

*SJA **23** 08:11:18.4±1.0, 22.°81S×63.°82W, h568km±15km, ML4.8, MW4.6*
*IDC **23** 08:11:22.3±0.8, 22.°75S×63.°68W, h523km±7km, mb3.7/16, mbtmp4.6/23, Error ellipse: s-maj=12.5km s-min=8.5km az=76.0*
*VAO **23** 08:11:22.9±0.3, 22.°77S×63.°70W, h542km±3km, mb4.7*
*RSNC **23** 08:11:22.0±4.0, 23.°S±10.°×6.°4W±1.°0, h533km±13km, M4.4, mB5.1, mb4.6, Mw(mB)4.7*
*NEIC **23** 08:11:22.8±1.5, 22.°85S±0.°1×63.°76W±0.°09, h532km±8km, mb4.7/44, Error ellipse: s-maj=17.0km s-min=11.0km az=200.0*
ISC 23 08:11:22.5±0.3, 22.°78S±0.°05×63.°80W±0.°05, h535km, n177, σ1°22/207, mb4.5/30, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.69**	**290**	*eP*	**P**	**08 12 31.7**	**+1.6**
YJA				*i* S	**S**	**08 13 24.9**	**0.0**
SLA	**San Lorenzo**	**2.49**	**219**	*eP*	**P**	**08 12 34.1**	**+0.6**
SALTA		**2.74**	**238**	*eP*	**P**	**08 12 36.5**	**+1.2**
SALTA				*i* S	**S**	**08 13 35.6**	**+1.0**
FSA	**Cafayete**	**3.87**	**210**	*eP*	**P**	**08 12 42.6**	**0.0**
AF01	**San Pedro de A**	**4.04**	**267**	P	**P**	**08 12 44.1**	**+0.1**
AF01	**San Pedro de A**	**4.04**	**267**	*eP*	**P**	**08 12 44.5**	**+0.5**
AF01				*i* S	**S**	**08 13 49.7**	**-0.7**
AF01				IAML		08 14 09.7	
	comp=Z,207nm,0.4s						
PB09	**IPOC Station P**	**5.13**	**280**	P	**P**	**08 12 52.8**	**-0.1**
PB09	**IPOC Station P**	**5.13**	**280**	*eP*	**P**	**08 12 53.5**	**+0.6**
PB09				*eS*	**S**	**08 14 01.0**	**-5.6**
PB06	**IPOC Station P**	**5.33**	**270**	*eP*	**P**	**08 12 54.5**	**-0.1**
PB06				*eS*	**S**	**08 14 02.9**	**-6.8**
PB01	**IPOC Station P**	**5.56**	**287**	P	**P**	**08 12 56.6**	**0.0**
PB08	**IPOC Station P**	**5.63**	**297**	P	**P**	**08 12 58.2**	**+0.7**
GO02	**Mina Guanaco**	**5.80**	**245**		**P**	**08 12 58.9**	**0.0**
MURT	**Porto Murtinho**	**5.84**	**80**	*eP*	**P**	**08 12 59.4**	**+0.4**
MURT				*eS*	**S**	**08 14 17.5**	**-0.3**
PB05	**IPOC Station P**	**5.91**	**268**	P	**P**	**08 12 58.9**	**-0.8**
HMBC	**Humberstone**	**6.19**	**293**	P	**P**	**08 13 02.1**	**-0.3**
PATCX	**Punta Patache**	**6.22**	**287**	P	**P**	**08 13 02.7**	**+0.1**
PB11	**IPOC Station P**	**6.23**	**298**		**P**	**08 13 02.4**	**-0.5**
PB10	**IPOC Station P**	**6.26**	**262**		**P**	**08 13 02.3**	**-0.6**
AC02	**Maricunga**	**6.31**	**229**		**P**	**08 13 03.8**	**-0.1**
PB14	**IPOC Station P**	**6.33**	**252**		**P**	**08 13 03.8**	**0.0**
TA01	**Diego Aracena**	**6.33**	**289**		**P**	**08 13 03.4**	**-0.1**
TA02	**Huaiquique**	**6.40**	**292**	P	**P**	**08 13 04.2**	**0.0**
CPUP	**Villa Florida**	**6.87**	**122**	P	**P**	**08 13 08.5**	**-0.1**
CPUP	**Villa Florida**	**6.87**	**122**	P	**P**	**08 13 09.0**	**+0.3**
	comp=Z,78nm,0.5s,baz=308,slow=9.6,SNR=226						
CPUP				S	**S**	**08 14 34.9**	**-0.7**
	comp=Z,6.9nm,0.6s,baz=161,slow=19,SNR=1.5						
PB16	**IPOC Station P**	**6.94**	**309**	P	**P**	**08 13 09.9**	**-0.2**
BDQN	**Bodoquena, MS**	**6.96**	**72**	*eP*	**P**	**08 13 09.6**	**0.0**
BDQN				*eS*	**S**	**08 14 36.7**	**-0.5**
AC01	**Pan de Azucar**	**7.04**	**240**		**P**	**08 13 10.9**	**+0.5**
SIV	**San Ignacio**	**7.22**	**21**	P	**P**	**08 13 12.7**	**+0.4**
	comp=Z,8.5nm,0.3s,baz=186,slow=8.3,SNR=62						
SIV				S	**S**	**08 14 40.9**	**-1.2**
	comp=Z,7.2nm,0.7s,baz=264,slow=19,SNR=8.0						
PB12	**IPOC Station P**	**7.38**	**303**		**P**	**08 13 13.4**	**-0.4**
SJPY	**San Joaquin**	**7.38**	**109**	*eP*	**P**	**08 13 14.5**	**+0.8**
SJPY				*eS*	**S**	**08 14 44.3**	**-0.5**
PB18	**Visviri**	**7.42**	**313**	P	**P**	**08 13 16.1**	**+1.4**
AC06	**Mina Casimiro**	**7.49**	**231**		**P**	**08 13 14.9**	**+0.2**
GO03	**Copiapo**	**7.55**	**229**	P	**P**	**08 13 16.0**	**+0.7**
LPAZ	**La Paz**	**7.64**	**327**	P	**P**	**08 13 17.0**	**0.0**
LPAZ	**La Paz**	**7.64**	**327**	P	**P**	**08 13 17.8**	**+0.7**
	comp=Z,71nm,0.4s,baz=120,slow=5.0,SNR=660						
LPAZ				S	**S**	**08 14 49.1**	**-1.5**
	comp=Z,23nm,0.7s,baz=38,slow=25,SNR=6.6						
LPAZ	**La Paz**	**7.64**	**327**	*eP*	**P**	**08 13 17.9**	**+0.9**
AQDB	**Aquidauana**	**7.88**	**75**		**P**	**08 13 18.9**	**+0.3**
AQDB	**Aquidauana**	**7.88**	**75**	*eP*	**P**	**08 13 19.0**	**+0.4**
AMBA	**Amambai (Brazi**	**8.13**	**93**	*eP*	**P**	**08 13 21.9**	**+0.7**
AMBA				*eS*	**S**	**08 14 58.0**	**-0.4**
AC05	**El Transito**	**8.39**	**223**	P	**P**	**08 13 24.8**	**+0.9**
AC04	**Llanos de Chal**	**8.51**	**229**		**P**	**08 13 25.5**	**+0.6**
PTLB	**Pontes e Lacer**	**8.52**	**32**	P	**P**	**08 13 25.5**	**+0.4**
PTLB	**Pontes e Lacer**	**8.52**	**32**	*eP*	**P**	**08 13 26.1**	**+1.0**
PTLB				*eS*	**S**	**08 15 06.0**	**+0.3**
LCO	**Las Campanas**	**8.78**	**224**	P	**P**	**08 13 28.7**	**+0.8**
CO01	**Juntas del Tor**	**9.12**	**217**	P	**P**	**08 13 33.0**	**+1.6**
CFA	**Coronel Fontan**	**9.64**	**203**	P	**P**	**08 13 36.5**	**+0.1**
	comp=Z,50nm,0.5s,baz=28,slow=12,SNR=279						
CFA				S	**S**	**08 15 24.3**	**-2.3**
	comp=Z,12nm,0.3s,baz=231,slow=22,SNR=17						
RPRD	**Ribas do Rio P**	**9.67**	**78**	*eP*	**P**	**08 13 37.3**	**+0.3**
GO04	**Tololo Observa**	**9.67**	**219**	P	**P**	**08 13 37.8**	**+0.7**
ZON	**Zonda**	**9.75**	**205**	P	**P**	**08 13 37.7**	**+0.1**
CO03	**El Pedregal**	**10.11**	**216**	P	**P**	**08 13 41.6**	**+0.2**
SALV	**Santo Antonio**	**10.26**	**50**	*eP*	**P**	**08 13 43.1**	**0.0**
VILB	**Vilhena**	**10.35**	**20**	P	**P**	**08 13 44.0**	**-0.1**
VILB	**Vilhena**	**10.35**	**20**	*eP*	**P**	**08 13 44.5**	**+0.4**
VILB				*eS*	**S**	**08 15 41.0**	**+0.6**
CO06	**Fray Jorge**	**10.53**	**220**	P	**P**	**08 13 45.6**	**-0.1**
PTGB	**Pitanga**	**10.92**	**103**	*eP*	**P**	**08 13 50.3**	**+0.3**
PTGB				*eS*	**S**	**08 15 50.2**	**-1.0**
C2SB	**Chapadao do Su**	**11.00**	**71**	*eP*	**P**	**08 13 51.6**	**+0.9**
TBOT	**Tacuaremb**	**11.29**	**143**	*eP*	**P**	**08 13 53.7**	**+0.1**
TBOT				*eS*	**S**	**08 15 57.8**	**-0.1**
ITAB	**Concordia**	**11.47**	**115**	P	**P**	**08 13 54.4**	**-1.1**
ITAB	**Concordia**	**11.47**	**115**	*eP*	**P**	**08 13 54.9**	**-0.6**
ITAB				*eS*	**S**	**08 15 59.6**	**-1.8**
VA03	**San Esteban**	**11.60**	**210**	P	**P**	**08 13 58.0**	**+1.1**
LDASE	**Londrina, Braz**	**11.69**	**95**	*eP*	**P**	**08 13 57.3**	**-0.6**
LDASE				*eS*	**S**	**08 16 04.4**	**-1.4**
VA06	**Catapilco**	**11.79**	**213**	P	**P**	**08 13 58.8**	**0.0**
MT08	**Bocatoma Ro**	**11.96**	**206**	P	**P**	**08 14 02.2**	**+1.4**
CPSB	**Cacapava Do Su**	**11.98**	**132**	*eP*	**P**	**08 14 00.3**	**-0.5**
PEL	**Peldehue**	**11.98**	**209**	P	**P**	**08 14 00.8**	**-0.1**
MT16	**CCHEN**	**12.15**	**208**	P	**P**	**08 14 02.2**	**-0.4**
MT03	**Universidad Ad**	**12.21**	**208**	P	**P**	**08 14 02.9**	**-0.3**
MT05	**Renca**	**12.22**	**209**	P	**P**	**08 14 03.5**	**+0.3**
MT02	**Curacav**	**12.29**	**210**	P	**P**	**08 14 03.6**	**-0.3**
MT13	**San Alfonso**	**12.33**	**206**	P	**P**	**08 14 04.7**	**+0.2**
LMEL	**Las Melosas**	**12.38**	**206**	P	**P**	**08 14 06.0**	**+0.8**
MT09	**Talagante**	**12.65**	**208**	P	**P**	**08 14 07.7**	**-0.2**
BO04	**La Punta**	**12.67**	**207**	P	**P**	**08 14 07.7**	**-0.3**
PLTB	**Pedras Altas**	**12.73**	**137**	P	**P**	**08 14 07.1**	**-1.5**
PLTB	**Pedras Altas**	**12.73**	**137**	*eP*	**P**	**08 14 07.9**	**-0.8**
MT01	**Popeta**	**12.84**	**209**	P	**P**	**08 14 09.1**	**-0.6**
ITRB	**Iturama**	**12.90**	**79**	*eP*	**P**	**08 14 09.8**	**-0.7**
PDRB	**Porto dos Gac**	**12.99**	**32**	*eP*	**P**	**08 14 10.4**	**-1.1**
FRTB	**Fartura**	**13.12**	**95**	*eP*	**P**	**08 14 12.2**	**-0.6**
FRTB				*eS*	**S**	**08 16 32.8**	**-0.2**
BO01	**Tunca**	**13.22**	**207**	P	**P**	**08 14 13.5**	**-0.1**
ARAG	**Araguaiana, MT**	**13.32**	**60**	*eP*	**P**	**08 14 13.9**	**-1.1**
BO02	**Sierra Bellavi**	**13.44**	**205**	P	**P**	**08 14 15.8**	**-0.2**
CLDB	**Colider**	**14.09**	**34**	*eP*	**P**	**08 14 21.4**	**-1.6**
BB19B	**Bebedouro**	**14.28**	**86**	*eP*	**P**	**08 14 23.7**	**-1.2**
ML02	**Panimavida**	**14.54**	**205**	P	**P**	**08 14 26.6**	**-0.7**
BI02	**San Fabin de**	**15.28**	**203**	P	**P**	**08 14 34.1**	**-1.0**
BI02				IAmb	IAmb	08 14 36.5	
	comp=Z,14nm,1.2s						
IPMB	**Ipameri, GO**	**15.37**	**75**	*eP*	**P**	**08 14 34.9**	**-1.4**
VAO	**Valinhos**	**15.52**	**94**	P	**P**	**08 14 35.0**	**-2.8**
VAO	**Valinhos**	**15.52**	**94**	*eP*	**P**	**08 14 35.9**	**-1.9**
SNDB	**Serra Nova Dou**	**16.04**	**50**	*eP*	**P**	**08 14 41.1**	**-2.0**
SNDB				*eS*	**S**	**08 17 25.9**	**-1.3**
NNA	**Nana**	**16.42**	**309**	P	**P**	**08 14 47.1**	**+0.4**
NNA	**Nana**	**16.42**	**309**	P	**P**	**08 14 47.5**	**+0.7**
	comp=Z,35nm,0.5s,baz=146,slow=8.2,SNR=21						
BDFB	**Brasilia**	**16.50**	**67**	P	**P**	**08 14 45.9**	**-1.8**
BDFB	**Brasilia**	**16.50**	**67**	P	**P**	**08 14 46.4**	**-1.2**
	comp=Z,21nm,0.4s,baz=241,slow=10,SNR=56						
BDFB				S	**S**	**08 17 32.4**	**-2.8**
	comp=Z,2.0nm,0.5s,baz=175,slow=27,SNR=1.8						
PMNB	**Patos De Minas**	**16.78**	**79**	*eP*	**P**	**08 14 48.8**	**-1.4**
PMNB				*eS*	**S**	**08 17 39.7**	**-0.1**
CZSB	**Cruzeiro do Su**	**17.24**	**329**	P	**P**	**08 14 53.5**	**-0.8**
CZSB	**Cruzeiro do Su**	**17.24**	**329**	*eP*	**P**	**08 14 53.9**	**-0.5**
NPGB	**Novo Progresso**	**17.63**	**29**	*eP*	**P**	**08 14 56.7**	**-1.3**
LR05	**Currie**	**18.74**	**200**	P	**P**	**08 15 08.4**	**+0.7**
LR05				IAmb	IAmb	08 15 10.0	
	comp=Z,18nm,0.8s						
PLCA	**Paso Flores**	**18.79**	**196**	P	**P**	**08 15 08.2**	**-0.1**
PLCA	**Paso Flores**	**18.79**	**196**	P	**P**	**08 15 09.3**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=16,slow=12,SNR=20						
TEFE	**Tefe**	**19.17**	**357**	*eP*	**P**	**08 15 11.9**	**-0.1**
TEFE				*eS*	**S**	**08 18 15.8**	**-2.7**
TBTG	**Tabatinga, AM**	**19.40**	**341**	P	**P**	**08 15 14.9**	**+0.8**
TBTG	**Tabatinga, AM**	**19.40**	**341**	*eP*	**P**	**08 15 15.3**	**+1.3**
LL04	**Puerto Octay**	**19.48**	**200**	P	**P**	**08 15 14.8**	**+0.3**
LL04				IAmb	IAmb	08 15 17.2	
	comp=Z,35nm,1.4s						
MACA	**Manacapuru-AM**	**19.73**	**9**	P	**P**	**08 15 16.4**	**-0.6**
MACA	**Manacapuru-AM**	**19.73**	**9**	*eP*	**P**	**08 15 17.0**	**-0.1**
JANB	**Januaria**	**19.96**	**71**	*eP*	**P**	**08 15 19.1**	**-0.1**
SDBA	**SAO DESIDERIO**	**20.73**	**63**	*eP*	**P**	**08 15 26.0**	**-0.2**
PRPB	**Parauapebas**	**21.32**	**41**	*eP*	**P**	**08 15 30.7**	**-0.7**
PRPB				*eS*	**S**	**08 18 53.2**	**+0.5**
MAL2	**Monte Alegre,**	**22.65**	**26**	P	**P**	**08 15 42.5**	**-1.0**
MAL2				IAmb	IAmb	08 15 49.1	
	comp=Z,26nm,0.9s						
BOAV	**Boa Vista**	**25.22**	**8**	P	**P**	**08 16 05.8**	**-0.4**
BOAV				IAmb	IAmb	08 16 06.8	
	comp=Z,36nm,1.0s						
BOAV	**Boa Vista**	**25.22**	**8**	*eP*	**P**	**08 16 06.2**	**0.0**
TMAB	**Tom-Au,PA,Br**	**25.37**	**39**	*eP*	**P**	**08 16 08.6**	**+1.1**
NBPB	**Pedra_Branca-C**	**28.98**	**57**	*eP*	**P**	**08 16 39.8**	**+0.5**
MDP	**Montagnes des**	**29.78**	**23**	P	**P**	**08 16 46.1**	**0.0**
	comp=Z,28nm,0.6s,baz=199,slow=9.4,SNR=18						
	comp=Z,28nm,0.6s						
RUSC	**La Rusia**	**29.90**	**341**	P	**P**	**08 16 46.9**	**-0.8**
RUSC				IAmb	IAmb	08 16 51.8	
	comp=Z,11nm,0.9s						
RCBR	**Riachuelo**	**31.75**	**62**	P	**P**	**08 17 03.7**	**+0.6**
RCBR				IAmb	IAmb	08 17 04.7	
	comp=Z,11nm,0.7s						
BAUV	**El Baul**	**31.80**	**352**	P	**P**	**08 17 02.5**	**-0.9**
BAUV				IAmb	IAmb	08 17 04.4	
	comp=Z,49nm,1.2s						
SDV	**Santo Domingo**	**32.17**	**347**	P	**P**	**08 17 06.0**	**-0.8**
SDV				IAmb	IAmb	08 17 06.4	
	comp=Z,8.8nm,0.5s						
SDV	**Santo Domingo**	**32.17**	**347**	P	**P**	**08 17 06.0**	**-0.8**
	comp=Z,7.3nm,0.4s,baz=147,slow=7.5,SNR=15						
SDV				S	**S**	**08 21 46.7**	**+4.5**
	comp=Z,3.1nm,0.7s,baz=327,slow=20,SNR=1.9						
	comp=Z,7.3nm,0.4s						
SDV	**Santo Domingo**	**32.17**	**347**	*eP*	**P**	**08 17 06.3**	**-0.5**
PCRV	**Puerto La Cruz**	**32.76**	**358**	P	**P**	**08 17 11.7**	**0.0**
	comp=Z,11nm,0.6s,baz=184,slow=7.3,SNR=12						
	comp=Z,11nm,0.6s						
FDF	**Fort de France**	**37.37**	**4**	P	**P**	**08 17 49.7**	**-0.3**
GDSD	**La Dsirade Is**	**38.94**	**4**	P	**P**	**08 18 01.9**	**-0.8**
GDSD				IAmb	IAmb	08 18 08.9	
	comp=Z,44nm,1.1s						
PDPR	**Patillas Dam,**	**40.60**	**357**	P	**P**	**08 18 14.2**	**-1.8**
PDPR				IAmb	IAmb	08 18 15.2	
	comp=Z,17nm,0.6s						
OBIP	**Obispado Ponce**	**40.66**	**356**	P	**P**	**08 18 14.2**	**-2.2**
CELP	**Cerrillos**	**40.69**	**356**	P	**P**	**08 18 15.3**	**-1.5**
SJG	**San Juan**	**40.70**	**357**	P	**P**	**08 18 15.7**	**-1.1**
SJG				IAmb	IAmb	08 18 16.3	
	comp=Z,54nm,1.4s						
UUPR	**Utuado, UPR, P**	**40.88**	**356**	P	**P**	**08 18 16.5**	**-1.7**
BANI	**BANI**	**41.41**	**351**	P	**P**	**08 18 22.0**	**-0.6**
SNAA	**Sanae**	**59.54**	**161**	P	**P**	**08 20 35.0**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=300,slow=8.1,SNR=4.1						
	comp=Z,2.1nm,0.8s						
WVT	**Waverly**	**62.84**	**338**	P	**P**	**08 20 55.5**	**-0.5**
WVT				IAmb	IAmb	08 20 56.4	
	comp=Z,9.8nm,0.6s						
SAND	**Sanderson**	**64.08**	**323**	P	**P**	**08 21 04.8**	**+0.6**
PBMO	**Poplar Bluff**	**64.34**	**336**	P	**P**	**08 21 05.4**	**-0.3**
PBMO				IAmb	IAmb	08 21 06.6	
	comp=Z,11nm,1.0s						
TXAR	**Lajitas Array**	**64.47**	**322**	P	**P**	**08 21 07.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=135,slow=5.9,SNR=8.3						
	comp=Z,0.6nm,0.6s						
DBIC	**Dimbokro**	**64.62**	**70**	P	**P**	**08 21 07.1**	**-0.9**
DBIC				IAmb	IAmb	08 21 08.8	
	comp=Z,16nm,0.8s						
DBIC	**Dimbokro**	**64.62**	**70**	P	**P**	**08

ZALV SKPbc **SKiKP** **08 32 39.5 -0.1**
comp=Z,1.3nm,0.8s,baz=349,slow=3.1,SNR=4.4
MAKZ Makanchi 143.51 41 PKPbc 08 29 55.2 +0.3
MK31 Makanchi Array 143.70 40 PKPbc 08 29 55.7 +0.1
MKAR Makanchi Array 143.70 40 PKPbc 08 29 56.0 +0.4
MKAR Makanchi Array 143.70 40 PKP **PKPdf** **08 29 56.2 -0.4**
comp=Z,11nm,0.7s,baz=302,slow=4.0,SNR=119
SONM Songino Array 153.79 15 PKP **PKPdf** **08 30 14.2 +1.4**
comp=Z,0.6nm,0.7s,baz=146,slow=1.6,SNR=3.9
SONM PKPbc **PKiKP** **08 30 22.4 +1.2**
comp=Z,0.4nm,0.4s,baz=315,slow=2.4,SNR=7.0
SONM PKPab **PKPab** **08 30 37.1 +0.3**
comp=Z,2.1nm,0.6s,baz=308,slow=3.4,SNR=11
GTA Gaotai 158.34 36 *eP* **PKPab** **08 30 57.6 +0.8**
GTA pmax pmax
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 161.56 11 *eP* **PKPdf** **08 30 20.3 -2.1**
PZH PanZhiHua 166.34 71 PKP **PKPdf** **08 30 31.5 +4.4**
NJ2 Nanjing 170.46 346 *eP* **PKPdf** **08 30 29.4 -0.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s

WEL ***23*** *08:28:33.0±0.8, 32°.S±.5°×17°.8W±1°.2, h12km, M4.6/9, mB4.9/8, ML5.4/10, MLv5.1/9, Mw(mB)4.1/8, Error ellipse: s-maj=17.1km s-min=3.8km az=108.6, confirmed*
IDC ***23*** *08:28:35.0±0.7, 32°.29S×178°.22W, h0km, mb4.1/7, mbtmp4.1/9, ML4.1/2, MS3.3/1, Error ellipse: s-maj=27.6km s-min=22.8km az=138.0*
NEIC ***23*** *08:28:36.9±1.5, 32°.5S±0°.1×178°.1W±0°.2, h10km±2km, mb4.7/13, Error ellipse: s-maj=27.9km s-min=20.1km az=117.0*
NOU ***23*** *08:28:58.3, 33°.87S×178°.77W, h92km, mb4.2/13, South of Kermadec Islands*
ISC 23 08:28:33.6±0.7, 32°.52S±0°.06×177°.6W±0°.1, h10km, n85, σ1§74/93, mb4.5/15, 3C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.25**	**355**	P	**Pn**	**08 29 22.1**	**-2.7**
GLKZ				S	**Sn**	**08 29 57.7**	**-5.9**
MXZ	**Matakaoa Point**	**6.04**	**212**	Pn	**Pn**	**08 30 02.0**	**-1.1**
MXZ	**Matakaoa Point**	**6.04**	**212**	P	**Pn**	**08 30 03.2**	**+0.1**
MXZ				S	**Sn**	**08 31 11.2**	**-1.0**
WMGZ	**Waiomatatini S**	**6.21**	**210**	P	**Pn**	**08 30 04.9**	**-0.5**
WMGZ				S	**Sn**	**08 31 17.7**	**+1.4**
PKGZ	**Pakihiroa**	**6.39**	**212**	P	**Pn**	**08 30 07.0**	**-0.9**
PKGZ				S	**Sn**	**08 31 20.5**	**-0.5**
HAZ	**Te Kaha**	**6.44**	**215**	P	**Pn**	**08 30 08.9**	**+0.3**
HAZ				S	**Sn**	**08 31 22.3**	**+0.2**
PUZ	**Puketiti**	**6.49**	**210**	P	**Pn**	**08 30 09.8**	**+0.6**
PUZ				S	**Sn**	**08 31 19.9**	**-3.4**
RUGZ	**Raukumara Rang**	**6.66**	**214**	P	**Pn**	**08 30 11.7**	**0.0**
RUGZ				S	**Sn**	**08 31 27.6**	**-0.1**
TWGZ	**Tauwhareparae**	**6.70**	**211**	P	**Pn**	**08 30 10.3**	**-1.7**
TWGZ				S	**Sn**	**08 31 28.5**	**0.0**
CNGZ	**Carnagh Statio**	**6.86**	**209**	P	**Pn**	**08 30 12.8**	**-1.5**
CNGZ				S	**Sn**	**08 31 33.1**	**+0.7**
TKGZ	**Te Karaka**	**6.97**	**211**	P	**Pn**	**08 30 13.9**	**-1.9**
TKGZ				S	**Sn**	**08 31 33.1**	**-2.1**
MWZ	**Matawai**	**7.03**	**213**	P	**Pn**	**08 30 15.5**	**-1.1**
MWZ				S	**Sn**	**08 31 34.0**	**-2.6**
OPRZ	**Ohinepanea**	**7.14**	**220**	P	**Pn**	**08 30 19.2**	**+1.1**
OPRZ				S	**Sn**	**08 31 38.7**	**-0.6**
URZ	**Urewera**	**7.17**	**215**	Pn	**Pn**	**08 30 18.0**	**-0.5**
	2.3nm,0.3s,baz=145,slow=3.8,SNR=22						
URZ				Sn	**Sn**	**08 31 36.7**	**-3.2**
	15nm,0.3s,baz=157,slow=19,SNR=22						
	7.4nm,0.4s						
URZ	**Urewera**	**7.17**	**215**	P	**Pn**	**08 30 17.3**	**-1.2**
URZ	**Urewera**	**7.17**	**215**	S	Sn	08 31 20.4	-20
URZ	**Urewera**	**7.17**	**215**	P	**Pn**	**08 30 18.1**	**-0.4**
URZ				S	**Sn**	**08 31 38.7**	**-1.3**
RAGZ	**Rawiri**	**7.21**	**213**	S	**Sn**	**08 31 39.6**	**-1.6**
RIGZ	**Rimuhau**	**7.23**	**210**	P	**Pn**	**08 30 17.7**	**-1.7**
RIGZ				S	**Sn**	**08 31 39.7**	**-2.0**
PRGZ	**Paritu Road**	**7.37**	**209**	P	**Pn**	**08 30 21.3**	**+0.1**
PRGZ				S	**Sn**	**08 31 41.7**	**-3.2**
SNGZ	**Shannon Statio**	**7.48**	**212**	P	**Pn**	**08 30 22.3**	**-0.5**
SNGZ				S	**Sn**	**08 31 46.9**	**-0.8**
WCZ	**Waipu Caves**	**7.48**	**241**	P	**Pn**	**08 30 25.7**	**+2.9**
MUGZ	**Murupara**	**7.50**	**216**	P	**Pn**	**08 30 23.5**	**+0.3**
MUGZ				S	**Sn**	**08 31 46.3**	**-2.0**
RTZ	**Ruatahuna**	**7.51**	**214**		**Pn**	**08 30 23.5**	**+0.2**
KNZ	**Kokohu**	**7.54**	**209**	P	**Pn**	**08 30 21.1**	**-2.4**
KNZ				S	**Sn**	**08 31 46.8**	**-2.2**
MHGZ	**Mahia Peninsul**	**7.55**	**207**	P	**Pn**	**08 30 20.9**	**-2.9**
TOZ	**Tahuroa Road**	**7.67**	**225**		**Pn**	**08 30 25.7**	**+0.3**
OUZ	**Omahuta**	**7.79**	**247**	P	Pn	08 30 30.2	+3.2
OUZ	**Omahuta**	**7.79**	**247**	P	Pn	08 30 30.3	+3.2
BKZ	**Black Stump Fm**	**8.18**	**214**		**Pn**	**08 30 30.9**	**-1.5**
BKZ	**Black Stump Fm**	**8.18**	**214**	P	**Pn**	**08 30 31.2**	**-1.2**
BKZ	**Black Stump Fm**	**8.18**	**214**	S	Sn	08 31 44.9	-20
BKZ	**Black Stump Fm**	**8.18**	**214**	P	**Pn**	**08 30 31.6**	**-0.8**
BKZ				S	**Sn**	**08 32 02.3**	**-2.7**
HIZ	**Hauiti**	**8.57**	**224**	Pn	**Pn**	**08 30 37.5**	**-0.2**
HIZ	**Hauiti**	**8.57**	**224**	P	**Pn**	**08 30 38.7**	**+1.0**
HIZ	**Hauiti**	**8.57**	**224**	P	**Pn**	**08 30 38.3**	**+0.6**
NGZ	**Ngauruhoe**	**8.63**	**218**	P	**Pn**	**08 30 36.9**	**-1.8**
NGZ				S	**Sn**	**08 32 12.2**	**-3.9**
WAZ	**Wanganui**	**9.38**	**218**	S	**Sn**	**08 32 31.0**	**-3.4**
BFZ	**Birch Farm**	**9.52**	**209**	Pn	**Pn**	**08 30 48.1**	**-2.8**
BFZ	**Birch Farm**	**9.52**	**209**	P	**Pn**	**08 30 48.3**	**-2.5**
BFZ	**Birch Farm**	**9.52**	**209**	S	Sn	08 32 18.2	-20
CTZ	**Chatham Island**	**11.23**	**176**	P	Pn	08 31 19.2	+5.1
CTZ	**Chatham Island**	**11.23**	**176**	S	Sn	08 33 09.6	-10
CTZ	**Chatham Island**	**11.23**	**176**	P	**Pn**	**08 31 14.7**	**+0.5**
CTZ				S	Sn	08 33 10.2	-9.4
KHZ	**Kahutara**	**12.12**	**213**	P	**Pn**	**08 31 26.6**	**+0.3**
RPZ	**Rata Peaks**	**14.29**	**215**	Pn	**Pn**	**08 31 55.2**	**-0.7**
	1.1nm,0.3s,baz=98,slow=6.0,SNR=5.9						
RPZ				Sn	Sn	08 34 19.3	-15
	2.1nm,0.3s,baz=294,slow=12,SNR=5.3						
	4.1nm,0.4s						
ODZ	**Otahua Downs**	**15.48**	**213**	P	**Pn**	**08 32 09.3**	**-2.7**
JCZ	**Jackson Bay**	**15.69**	**219**	P	**Pn**	**08 32 13.4**	**-1.5**
DZM	**Mont Dzumac**	**17.56**	**302**	P	**P**	**08 32 41.9**	**+2.2**
RAR	**Rarotonga**	**19.47**	**59**	LR	LR	08 40 59.1	
	comp=Z,92nm,18.8s,baz=272,slow=38						
CAN	**Canberra**	**27.77**	**255**	P	**P**	**08 34 23.9**	**+1.2**
CAN				IAmb	IAmb	08 35 08.5	
	comp=Z,13nm,1.5s						
EIDS	**Eidsvold**	**28.23**	**276**	P	**P**	**08 34 27.2**	**+0.4**
EIDS				IAmb	IAmb	08 34 30.0	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**34.38**	**260**	P	**P**	**08 35 22.1**	**+1.2**
STKA	**Stephens Creek**	**34.38**	**260**	P	**P**	**08 35 21.1**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=95,slow=13,SNR=4.4						
	comp=Z,2.3nm,0.8s						
BBOO	**Buckleboo**	**38.76**	**257**	P	**P**	**08 35 57.0**	**-1.2**
BBOO				IAmb	IAmb	08 36 00.3	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**43.36**	**269**	P	**P**	**08 36 35.5**	**-0.8**
ASAR	**Alice Springs**	**43.36**	**269**	P	**P**	**08 36 35.0**	**-1.4**
ASAR	**Alice Springs**	**43.36**	**269**	P	**P**	**08 36 35.7**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=108,slow=7.6,SNR=35						
ASAR				PcP	**PcP**	**08 38 25.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=114,slow=5.0,SNR=1.2						
	comp=Z,2.6nm,0.6s						
WB2	**Warramunga Arr**	**44.53**	**274**		**P**	**08 36 44.9**	**-0.9**
WB2				IAmb	IAmb	08 36 49.2	
	comp=Z,25nm,1.3s						
WRA	**Warramunga Arr**	**44.54**	**274**		**P**	**08 36 45.0**	**-0.9**
WRA	**Warramunga Arr**	**44.54**	**274**	P	**P**	**08 36 44.6**	**-1.3**
	comp=Z,4.4nm,0.4s,baz=114,slow=7.9,SNR=37						
	comp=Z,4.4nm,0.4s						
FORT	**Forrest**	**45.86**	**257**	P	**P**	**08 36 55.2**	**-1.0**
VNDA	**Vanda**	**46.03**	**186**	P	P	08 37 05.3	+8.4
	comp=Z,0.7nm,0.5s,baz=109,slow=9.2,SNR=6.7						
FITZ	**Fitzroy Crossi**	**52.71**	**271**	P	**P**	**08 37 47.9**	**-0.8**
FITZ				IAmb	IAmb	08 38 27.6	
	comp=Z,8.5nm,1.5s						
CASY	**Casey**	**53.44**	**209**	P	**P**	**08 37 54.7**	**+1.3**
QSPA	**South Pole Qui**	**57.60**	**180**	P	P	08 38 28.9	+5.3
QSPA				IAmb	IAmb	08 38 40.7	
	comp=Z,23nm,1.4s						
QSPA	**South Pole Qui**	**57.60**	**180**	P	P	08 38 28.8	+5.3
	comp=Z,1.5nm,0.8s,baz=329,slow=1.0,SNR=7.6						
	comp=Z,1.5nm,0.8s						
SYO	**Syowa Base**	**75.13**	**193**	*eP*	**P**	**08 40 18.0**	**+2.5**
TROLL	**Troll, Antarti**	**75.76**	**180**	⇑P	**P**	**08 40 16.5**	**-2.8**
	comp=Z,85nm,0.6s						
SNAA	**Sanae**	**76.04**	**178**	P	**P**	**08 40 24.0**	**+3.2**
SNAA				IAmb	IAmb	08 40 55.2	
	comp=Z,8.8nm,1.2s						
SNAA	**Sanae**	**76.04**	**178**	P	P	08 40 25.6	+4.8
	comp=Z,1.5nm,0.8s,baz=146,slow=9.8,SNR=3.5						
	comp=Z,1.5nm,0.8s						
VNA3	**Neumayer Olymp**	**76.18**	**176**	⇑P	**P**	**08 40 22.2**	**+0.7**
	comp=Z,10.0nm,0.8s						
VNA2	**Neumayer–Watz**	**76.61**	**177**	⇑P	**P**	**08 40 23.7**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=154,slow=1.8						
NVAR	**Mina Array Bea**	**89.57**	**42**	P	P	08 41 37.0	+5.5
	comp=Z,0.8nm,0.8s,baz=244,slow=7.0,SNR=4.6						
	comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**93.25**	**57**	P	P	08 41 53.3	+4.6
	comp=Z,0.2nm,0.7s,baz=277,slow=3.9,SNR=2.8						
	comp=Z,0.2nm,0.7s						
MKAR	**Makanchi Array**	**119.37**	**309**	PKP	**PKiKP**	**08 47 24.9**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**122.77**	**313**	PKP	**PKiKP**	**08 47 30.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=115,slow=1.5,SNR=4.5						
BVAR	**Borovoye Array**	**128.13**	**315**	PKP	**PKiKP**	**08 47 40.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=126,slow=2.5,SNR=3.4						
FINES	**FINESS Array B**	**147.24**	**339**	PKPbc	**PKPab**	**08 48 17.6**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=50,slow=3.6,SNR=15						
ASF	**Jabal al Asfar**	**150.91**	**279**	PKPbc	**PKiKP**	**08 48 26.4**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=147,slow=3.0,SNR=4.3						
HFS	**Hagfors**	**151.38**	**348**	PKPbc	**PKiKP**	**08 48 27.7**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=349,slow=5.9,SNR=1.7						
EIL	**Elat**	**152.03**	**273**	PKPbc	**PKiKP**	**08 48 30.5**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=170,slow=6.1,SNR=5.4						
MMAI	**Mount Meron Ar**	**152.29**	**280**	PKPbc	**PKiKP**	**08 48 32.2**	**+1.9**
	comp=Z,2.9nm,0.5s,baz=60,slow=4.9,SNR=13						
AKASG	**Malin Array Be**	**153.16**	**321**	PKPbc	**PKiKP**	**08 48 32.5**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=61,slow=2.0,SNR=4.6						
VAE	**Valguarnera**	**168.97**	**300**	PKP	**PKPdf**	**08 48 42.1**	**+1.1**
	comp=Z,9.0nm,0.4s,baz=39,slow=6.5,SNR=1.9						

WEL ***23*** *08:42:56.5±1.1, 32°.S±6°.×17°.8W±1°.8, h12km, M4.3/9, mB4.6/5, ML4.9/11, MLv4.6/9, Mw(mB)3.8/5, Error ellipse: s-maj=24.9km s-min=4.2km az=106.0, confirmed*
IDC ***23*** *08:43:00.1±0.7, 32°.30S×178°.24W, h0km, mb3.9/8, mbtmp3.9/9, ML3.9/1, MS3.4/1, Error ellipse: s-maj=28.1km s-min=23.5km az=170.0*
NEIC ***23*** *08:43:03.2±1.3, 32°.6S±0°.1×178°.3W±0°.2, h10km±2km, mb4.2/11, Error ellipse: s-maj=29.0km s-min=16.6km az=120.0*
ISC 23 08:42:59.8±0.9, 32°.46S±0°.08×178°.0W±0°.2, h10km, n67, σ1§99/82, mb4.0/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.19**	**1**	P	**Pn**	**08 43 46.6**	**-3.4**
GLKZ				S	**Sn**	**08 44 21.4**	**-6.6**
MXZ	**Matakaoa Point**	**5.95**	**210**	Pn	**Pn**	**08 44 27.6**	**-0.3**
MXZ	**Matakaoa Point**	**5.95**	**210**	P	**Pn**	**08 44 27.6**	**-0.3**
MXZ				S	**Sn**	**08 45 37.2**	**+1.2**
WMGZ	**Waiomatatini S**	**6.12**	**208**	P	**Pn**	**08 44 28.9**	**-1.4**
WMGZ				S	**Sn**	**08 45 37.9**	**-2.5**
PKGZ	**Pakihiroa**	**6.30**	**210**	P	**Pn**	**08 44 31.6**	**-1.2**
PKGZ				S	**Sn**	**08 45 41.4**	**-3.4**
HAZ	**Te Kaha**	**6.34**	**212**	P	**Pn**	**08 44 32.9**	**-0.3**
HAZ				S	**Sn**	**08 45 46.0**	**+0.3**
PUZ	**Puketiti**	**6.40**	**208**	P	**Pn**	**08 44 32.9**	**-1.2**
PUZ				S	**Sn**	**08 45 46.8**	**-0.5**
RUGZ	**Raukumara Rang**	**6.55**	**212**	P	**Pn**	**08 44 35.4**	**-1.0**
RUGZ				S	**Sn**	**08 45 52.1**	**+0.9**
TWGZ	**Tauwhareparae**	**6.60**	**209**	P	**Pn**	**08 44 35.3**	**-1.7**
TWGZ				S	**Sn**	**08 45 53.2**	**+0.9**
CNGZ	**Carnagh Statio**	**6.78**	**206**	P	**Pn**	**08 44 36.5**	**-2.8**
CNGZ				S	**Sn**	**08 45 58.6**	**+2.0**
TKGZ	**Te Karaka**	**6.88**	**209**	P	**Pn**	**08 44 39.4**	**-1.3**
TKGZ				S	**Sn**	**08 45 59.0**	**0.0**
URZ	**Urewera**	**7.05**	**213**	Pn	**Pn**	**08 44 42.4**	**-0.7**
	2.2nm,0.3s,baz=17,slow=12,SNR=15						
URZ				Sn	**Sn**	**08 46 02.3**	**-1.0**
	4.3nm,0.3s,baz=304,slow=3.5,SNR=17						
	2.9nm,0.3s						
RAGZ	**Rawiri**	**7.11**	**211**	P	**Pn**	**08 44 41.6**	**-2.4**
RAGZ				S	**Sn**	**08 46 03.7**	**-1.2**
RIGZ	**Rimuhau**	**7.14**	**208**	P	**Pn**	**08 44 44.2**	**-0.2**
RIGZ				S	**Sn**	**08 46 04.6**	**-1.0**
WCZ	**Waipu Caves**	**7.26**	**239**	P	Pn	08 44 55.7	+10
PRGZ	**Paritu Road**	**7.29**	**207**	S	Sn	**08 46 07.2**	**-1.9**
SNGZ	**Shannon Statio**	**7.38**	**210**	P	**Pn**	**08 44 48.5**	**+0.8**
SNGZ				S	**Sn**	**08 46 10.6**	**-0.9**
MUGZ	**Murupara**	**7.39**	**214**	P	**Pn**	**08 44 45.8**	**-1.9**
MUGZ				S	**Sn**	**08 46 09.6**	**-2.0**
RTZ	**Ruatahuna**	**7.40**	**212**		**Pn**	**08 44 48.1**	**+0.2**
MHGZ	**Mahia Peninsul**	**7.48**	**206**	P	**Pn**	**08 44 48.0**	**-0.9**
MHGZ				S	**Sn**	**08 46 13.4**	**-0.4**
OUZ	**Omahuta**	**7.55**	**246**	P	Pn	08 44 55.0	+5.1
MTHZ	**Maungataniwha**	**7.66**	**212**	P	**Pn**	**08 44 52.9**	**+1.5**
MTHZ				S	**Sn**	**08 46 19.4**	**+1.1**
WHHZ	**Waihua**	**7.67**	**209**	S	**Sn**	**08 46 18.2**	**-0.4**
NMHZ	**Naumai**	**7.87**	**211**	P	**Pn**	**08 44 55.6**	**+1.1**
NMHZ				S	**Sn**	**08 46 23.6**	**0.0**
BKZ	**Black Stump Fm**	**8.07**	**212**		**Pn**	**08 44 55.8**	**-1.3**
MCHZ	**McNeill Hill**	**8.21**	**210**	P	**Pn**	**08 44 59.5**	**+0.6**
MCHZ				S	**Sn**	**08 46 31.5**	**-0.3**
KWHZ	**Kaweka Forest**	**8.31**	**212**	P	**Pn**	**08 45 01.3**	**+0.8**
KWHZ				S	**Sn**	**08 46 34.2**	**-0.2**
ETVZ	**East Tongariro**	**8.42**	**216**	P	**Pn**	**08 45 04.4**	**+2.5**
ETVZ				S	**Sn**	**08 46 35.5**	**-1.6**
KAHZ	**Kahuranaki**	**8.43**	**208**	P	**Pn**	**08 44 58.4**	**-3.6**
KAHZ				S	**Sn**	**08 46 33.6**	**-3.6**
NGZ	**Ngauruhoe**	**8.50**	**216**	S	**Sn**	**08 46 37.8**	**-1.4**
KRHZ	**Kereru**	**8.51**	**211**	S	**Sn**	**08 46 36.1**	**-3.2**
WNVZ	**Wahianoa**	**8.62**	**216**	S	**Sn**	**08 46 40.9**	**-1.2**
PXZ	**Pawanui**	**8.64**	**208**	S	**Sn**	**08 46 38.5**	**-3.8**
PNHZ	**Pukenui**	**8.81**	**211**	P	**Pn**	**08 45 04.9**	**-2.4**
PNHZ				S	**Sn**	**08 46 43.0**	**-3.7**
WPHZ	**Waipukurau**	**8.84**	**209**	S	**Sn**	**08 46 44.0**	**-3.2**
PRHZ	**Porangahau**	**8.93**	**208**	S	**Sn**	**08 46 46.8**	**-2.7**
DVHZ	**Dannevirke**	**9.15**	**210**	P	**Pn**	**08 45 10.1**	**-1.7**
DVHZ				S	**Sn**	**08 46 48.2**	**-6.6**
BFZ	**Birch Farm**	**9.44**	**208**	Pn	**Pn**	**08 45 14.7**	**-1.2**
NIUE	**Niue**	**15.15**	**30**	Pn	**P**	**08 46 39.1**	**0.0**
ODZ	**Otahua Downs**	**15.38**	**212**	Pn	**Pn**	**08 46 36.0**	**-0.8**
ODZ				IAmb	IAmb	08 46 59.3	
	comp=Z,5.8nm,1.1s						
DZM	**Mont Dzumac**	**17.28**	**303**	LR	LR	08 52 46.8	
	comp=Z,126nm,18.7s,baz=226,slow=34						
EIDS	**Eidsvold**	**27.94**	**277**	P	**P**	**08 48 51.9**	**+1.4**
EIDS				IAmb	IAmb	08 49 04.7	
	comp=Z,5.2nm,1.1s						
STKA	**Stephens Creek**	**34.10**	**260**	P	**P**	**08 49 43.3**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=135,slow=5.7,SNR=2.2						
	comp=Z,0.8nm,0.6s						
BBOO	**Buckleboo**	**38.49**	**257**	P	**P**	**08 50 22.7**	**+0.4**
BBOO				IAmb	IAmb	08 50 28.6	
	comp=Z,8.6nm,1.1s						
AS31	**Alice Springs**	**43.08**	**269**	P	**P**	**08 51 00.6**	**+0.3**
AS31				IAmb	IAmb	08 51 13.3	
	comp=Z,1.3nm,1.0s						
ASAR	**Alice Springs**	**43.08**	**269**	P	**P**	**08 51 00.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=107,slow=8.3,SNR=16						
ASAR				PcP	**PcP**	**08 52 52.3**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=101,slow=4.8,SNR=1.5						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.25**	**274**	P	**P**	**08 51 09.8**	**+0.1**
WRA	**Warramunga Arr**	**44.25**	**274**	P	**P**	**08 51 09.8**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=112,slow=8.1,SNR=19						
	comp=Z,1.5nm,0.3s						
FORT	**Forrest**	**45.59**	**257**	P	**P**	**08 51 20.4**	**+0.2**
FORT				IAmb	IAmb	08 51 29.1	
	comp=Z,15nm,1.0s						
VNDA	**Vanda**	**46.06**	**186**	P	P	08 51 26.8	+3.5
MTN	**Manton Dam**	**50.37**	**281**	P	**P**	**08 51 57.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.42**	**271**	P	**P**	**08 52 13.1**	**+0.4**
CASY	**Casey**	**53.35**	**209**	P	**P**	**08 52 21.1**	**+2.2**
CASY				IAmb	IAmb	08 52 40.7	
	comp=Z,7.5nm,1.1s						
QSPA	**South Pole Qui**	**57.66**	**180**	P	P	08 52 53.1	+2.9
QSPA				IAmb	IAmb	08 53 13.7	
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**57.66**	**180**	P	P	08 52 53.6	+3.5
	comp=Z,0.6nm,0.6s,baz=299,slow=17,SNR=3.1						
	comp=Z,0.6nm,0.6s						
SNAA	**Sanae**	**76.10**	**178**	P	P	08 54 49.9	+2.6
	comp=Z,0.9nm,0.7s,baz=64,slow=15,SNR=1.5						
	comp=Z,0.9nm,0.7s						
PLCA	**Paso Flores**	**81.08**	**133**	P	P	08 55 19.7	+4.3
	comp=Z,1.8nm,1.1s,baz=225,slow=5.7,SNR=2.9						
	comp=Z,1.8nm,1.1s						
NVAR	**Mina Array Bea**	**89.72**	**43**	P	P	08 56 00.0	+1.6
	comp=Z,0.3nm,0.7s,baz=236,slow=8.7,SNR=2.6						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**93.46**	**57**	P	P	08 56 17.8	+1.9
	comp=Z,0.1nm,0.6s,baz=222,slow=2.0,SNR=1.3						
	comp=Z,0.1nm,0.6s						
MKAR	**Makanchi Array**	**119.11**	**309**	PKP	**PKiKP**	**09 01 49.1**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=266,slow=3.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**122.52**	**313**	PKP	**PKiKP**	**09 01 54.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=121,slow=2.1,SNR=3.0						
BVAR	**Borovoye Array**	**127.89**	**315**	PKP	**PKiKP**	**09 02 06.8**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=60,slow=3.5,SNR=3.5						
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc	**PKiKP**	**09 02 42.4**	**-2.2**
	comp=Z,1.9nm,0.4s,baz=53,slow=1.0,SNR=22						
HFS	**Hagfors**	**151.26**	**348**	PKPbc	**PKiKP**	**09 02 53.4**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=72,slow=4.7,SNR=1.4						
MMAI	**Mount Meron Ar**	**152.00**	**280**	PKPbc	**PKiKP**	**09 02 57.3**	**+1.5**
	comp=Z,2.1nm,0.5s,baz=81,slow=6.9,SNR=6.2						
BRTR	**Keskin Array B**	**153.56**	**295**	PKPbc	**PKiKP**	**09 03 00.6**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=14,slow=8.0,SNR=2.7						
ESDC	**Sonseca Array**	**171.31**	**32**	PKP	**PKPdf**	**09 03 11.7**	**+3.2**
	comp=Z,0.3nm,0.4s,baz=257,slow=2.8,SNR=2.6						

GII ***23*** *08:46:56.4±0.0, 36°.16N±0°.06×27°.77E±0°.02, h66km, Mws3.4, confirmed*
HLW ***23*** *08:46:57.8, 36°.02N×27°.56E, h30km±12km, Ml4.1*
ISK ***23*** *08:46:58.3, 36°.11N×27°.40E, h76km±1km, ML3.4/27*
IDC ***23*** *08:46:58.5±1.3, 35°.99N×27°.39E, h90km±27km, mb3.8/5, mbtmp3.9/11, Error ellipse: s-maj=31.0km s-min=13.4km az=1.0*
ATH ***23*** *08:46:59.8, 36°.12N×27°.38E, h66km±2km, ML3.3/7, Manual Solution by S.Liakopoulos First location: 2019/03/23 08:48:17, This location: 2020/10/03 23:39:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
THE ***23*** *08:46:59.6, 36°.08N×27°.45E, h82km±3km, ML3.5/4, Error ellipse: s-maj=3.6km s-min=0.8km az=149.0*
AFAD ***23*** *08:47:00.7, 36°.28N×27°.51E, h71km, ML3.1*
ISC 23 08:46:57.9±0.7, 36°.02N±0°.03×27°.52E±0°.03, h87km±6km, n130, σ1§73/164, mb3.9/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.53**	**68**	Pg	**Pn**	**08 47 13.6**	**+1.0**
ARG				Sg	**Sn**	**08 47 24.1**	**+0.7**
ARG	**Arkhangelos**	**0.53**	**68**	P	**Pn**	**08 47 13.5**	**+1.0**
ARG				S	**Sn**	**08 47 23.1**	**-0.3**
	7μm,0.2s						
ARG	**Arkhangelos**	**0.53**	**68**	P	**Pn**	**08 47 13.6**	**+1.0**
ARG				S	**Sn**	**08 47 23.5**	**+0.1**
KARP	**Karpathos**	**0.56**	**212**	Pg	**Pn**	**08 47 13.2**	**+0.3**
KARP				Sg	**Sn**	**08 47 23.4**	**-0.5**
KARP	**Karpathos**	**0.56**	**212**	P	**Pn**	**08 47 13.1**	**+0.2**
KARP				S	**Sn**	**08 47 23.6**	**-0.3**
	5μm,0.3s						
KARP

ELL	**Elmali**	**2.06 69**	P	**Pn**	**08 47 33.2**	**+2.3**
DGB	**zmir**	**2.09 346**	P	**Pn**	**08 47 30.4**	**-0.7**
IZMR	**zmir-demi**	**2.14 9**	P	**Pn**	**08 47 32.1**	**+0.3**
IZMR			S	**Sn**	**08 47 53.0**	**-4.8**
IZMR			*i* AML	AML	08 47 56.0	
	comp=E,118nm,0.7s					
IDI	**Anoyia**	**2.26 252**	Pn	**Pn**	**08 47 33.3**	**-0.3**
IDI	**Anoyia**	**2.26 252**	P	**Pn**	**08 47 33.6**	**0.0**
	32nm,0.2s,baz=22,slow=6.2,SNR=148					
IDI			S	**Sn**	**08 47 59.4**	**-1.4**
	29nm,0.3s,baz=103,slow=18,SNR=8.2					
IDI	**Anoyia**	**2.26 252**	P	**Pn**	**08 47 33.2**	**-0.3**
KIRA	**zmir-Kiraz**	**2.28 18**	P	**Pn**	**08 47 34.5**	**+0.6**
ODEM	**Odemis-Izmir**	**2.29 11**	Pn	**Pn**	**08 47 34.1**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**2.36 340**	P	**Pn**	**08 47 34.0**	**-0.8**
BLCB	**Balcova**	**2.39 351**	Pn	**Pn**	**08 47 35.4**	**+0.2**
TNSA	**Tinos**	**2.42 309**	P	**Pn**	**08 47 35.0**	**-0.7**
TMBK	**Timbaki Herakl**	**2.44 248**	P	**Pn**	**08 47 37.4**	**+1.6**
URLA	**Izmir**	**2.45 343**	P	**Pn**	**08 47 35.5**	**-0.6**
KORT	**Korkueli**	**2.48 66**	Pn	**Pn**	**08 47 39.1**	**+2.6**
CESE	**eme**	**2.50 337**	Pn	**Pn**	**08 47 37.1**	**+0.4**
KEMT	**Kemer-ANTALYA**	**2.52 76**	Pn	**Pn**	**08 47 39.5**	**+2.6**
KULA	**Kula-Manisa**	**2.65 20**	Pn	**Pn**	**08 47 39.3**	**+0.6**
ANTB	**Antalya**	**2.67 70**	Pn	**Pn**	**08 47 41.6**	**+2.7**
BASM	**Basmaki-Afyon**	**2.77 46**	Pn	**Pn**	**08 47 40.9**	**+0.5**
BCK	**Bucak**	**2.85 59**	Pn	**Pn**	**08 47 43.9**	**+2.5**
GORD	**Gordes-Manisa**	**2.93 10**	Pn	**Pn**	**08 47 43.6**	**+1.1**
IMMV	**Iera Moni Meta**	**2.93 260**	Pn	**Pn**	**08 47 43.6**	**+1.1**
IMMV	**Iera Moni Meta**	**2.93 260**	P	**Pn**	**08 47 42.7**	**+0.2**
GVD	**Gavdhos**	**3.04 248**	Pn	**Pn**	**08 47 45.1**	**+1.2**
GVD	**Gavdhos**	**3.04 248**	P	**Pn**	**08 47 44.7**	**+0.8**
CSS	**Mathiatis**	**4.86 101**	P	**Pn**	**08 48 05.0**	**-3.6**
SLUM	**Salum**	**4.91 204**	P	**Pn**	**08 48 09.8**	**+0.5**
SLUM	**Salum**	**4.91 204**	P	**Pn**	**08 48 10.0**	**+0.7**
DB3	**El Dabaa**	**5.04 170**	S	**Sn**	**08 49 04.3**	**-3.7**
BRTR	**Keskin Array B**	**6.09 51**	P	**Pn**	**08 48 26.9**	**+1.4**
	2.3nm,0.6s,baz=220,slow=15,SNR=14					
HNAT	**Natroun**	**6.88 157**	P	**Pn**	**08 48 36.8**	**+0.6**
HNAT	**Natroun**	**6.88 157**	P	**Pn**	**08 48 37.1**	**+0.9**
HNTI	**Hanita**	**6.96 113**	P	**Pn**	**08 48 34.1**	**-3.1**
HNTI	**Hanita**	**6.96 113**	S	**Sn**	**08 49 51.1**	**-3.7**
SWA2		**6.98 195**	P	**Pn**	**08 48 38.5**	**+1.0**
SWA2		**6.98 195**	P	**Pn**	**08 48 38.4**	**+1.0**
OFRI	**`Ofer**	**7.04 117**	P	**Pn**	**08 48 35.6**	**-2.8**
OFRI	**`Ofer**	**7.04 117**	S	**Sn**	**08 49 53.1**	**-3.9**
KOT	**Kottamia**	**7.07 148**	P	**Pn**	**08 48 39.4**	**+0.6**
KOT	**Kottamia**	**7.07 148**	P	**Pn**	**08 48 39.3**	**+0.6**
MMA0B	**Mount Meron ar**	**7.16 112**	P	**Pn**	**08 48 36.7**	**-3.3**
MMA0B	**Mount Meron ar**	**7.16 112**	S	**Sn**	**08 49 56.3**	**-3.6**
MMAI	**Mount Meron Ar**	**7.16 112**	P	**Pn**	**08 48 42.0**	**+1.9**
	2.0nm,0.3s,baz=302,slow=13,SNR=11					
HHAG	**Hagoal**	**7.17 146**	P	**Pn**	**08 48 41.2**	**+1.1**
RYAN	**Fayoum**	**7.30 161**	P	**Pn**	**08 48 42.6**	**+0.8**
RYAN			S	**Sn**	**08 49 59.2**	**-3.9**
RYAN	**Fayoum**	**7.30 161**	P	**Pn**	**08 48 42.8**	**+1.0**
RYAN			S	**Sn**	**08 49 59.2**	**-3.9**
KSHT	**Keshet**	**7.48 111**	P	**Pn**	**08 48 40.9**	**-3.5**
KSHT	**Keshet**	**7.48 111**	S	**Sn**	**08 50 03.9**	**-3.8**
HMDT	**Nahal Hemdat**	**7.62 117**	P	**Pn**	**08 48 43.8**	**-2.5**
HMDT	**Nahalal Hemdat**	**7.62 117**	S	**Sn**	**08 50 07.8**	**-3.3**
KZIT	**Kziot**	**7.68 130**	P	**Pn**	**08 48 45.6**	**-1.4**
KZIT	**Kziot**	**7.68 130**	S	**Sn**	**08 50 09.5**	**-3.0**
YTIR	**Yattir**	**7.85 124**	P	**Pn**	**08 48 47.3**	**-2.1**
DSI	**Dead Sea**	**7.90 122**	P	**Pn**	**08 48 47.4**	**-2.6**
ZAF	**Zafarana**	**7.94 146**	P	**Pn**	**08 48 51.3**	**+0.7**
NBNS	**Bani Suef**	**8.04 156**	P	**Pn**	**08 48 52.9**	**+0.9**
PRNI	**Paran**	**8.44 130**	P	**Pn**	**08 48 56.2**	**-1.3**
HRFI	**Mount Harif**	**8.68 131**	P	**Pn**	**08 48 59.7**	**-1.1**
HRFI	**Mount Harif**	**8.68 131**	S	**Sn**	**08 50 34.4**	**-2.6**
HRDS	**Abu Rudays**	**8.77 145**	P	**Pn**	**08 49 02.9**	**+1.0**
HFRF	**Wahat Farafira**	**8.87 175**	P	**Pn**	**08 49 04.1**	**+0.8**
EIL	**Elat**	**8.89 133**	P	**Pn**	**08 49 03.7**	**+0.1**
	5.1nm,0.5s,baz=334,slow=8.9,SNR=25					
GRB	**Gharib**	**8.92 149**	P	**Pn**	**08 49 04.4**	**+0.4**
GTR	**Jabal at Tayr**	**10.80 165**	P	**Pn**	**08 49 29.6**	**0.0**
AKASG	**Malin Array Be**	**14.73 4**	P	**P**	**08 50 24.4**	**-0.9**
	0.3nm,0.4s,baz=197,slow=12,SNR=2.5					
ABTA	**Abfaltersbach**	**15.52 318**	*i* Pn	**P**	**08 50 35.4**	**+1.1**
	3.6nm,0.7s					
LESA	**Schwarzleotal**	**15.86 320**	*i* Pn	**P**	**08 50 39.7**	**+1.6**
	2.9nm,0.4s					
GERES	**GERESS Array B**	**16.35 326**	P	**P**	**08 50 43.4**	**0.0**
	0.6nm,0.6s,baz=135,slow=13,SNR=5.3					
SQTA	**Sankt Quirin**	**16.52 318**	*i* P	**P**	**08 50 47.5**	**+2.1**
	3.1nm,0.7s					
FETA	**Feichten**	**16.66 316**	*i* Pn	**P**	**08 50 48.5**	**+1.4**
	3.7nm,0.7s					
DEL	**Delary**	**22.45 340**	*i* P	**P**	**08 51 48.2**	**-1.3**
FINES	**FINESS Array B**	**25.46 358**	P	**P**	**08 52 16.8**	**-0.6**
	5.2nm,1.1s,baz=174,slow=8.4,SNR=2.1					
	5.2nm,1.1s					
HFS	**Hagfors**	**25.73 344**	P	**P**	**08 52 20.4**	**+0.5**
	1.7nm,0.7s,baz=163,slow=12,SNR=4.8					
	1.7nm,0.7s					
ARCES	**ARCESS Array B**	**33.59 359**	P	**P**	**08 53 28.6**	**-0.8**
	3.7nm,0.9s,baz=174,slow=8.2,SNR=5.4					
	3.7nm,0.9s					
MKAR	**Makanchi Array**	**41.69 58**	P	**P**	**08 54 40.4**	**+2.5**
	0.2nm,0.4s,baz=266,slow=8.9,SNR=3.1					
	0.2nm,0.4s					
SPITS	**Spitsbergen Ar**	**42.53 357**	P	**P**	**08 54 45.1**	**+0.8**
	15nm,1.1s,baz=157,slow=7.8,SNR=2.2					
	15nm,1.1s					

*ATH **23** 08:52:01.9,37.°51N×29.°97E,h137km±39km,ML3.6/3,*
Manual Solution by S.Liakopoulos First location:
2019/03/23 08:53:47, This location: 2020/10/03 23:47:36
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty:
65 km; Longitude uncertainty: 55 km
*ISK **23** 08:52:04.6,37.°43N×29.°42E,h6km,ML3.3/24*
*AFAD **23** 08:52:04.6,37.°43N×29.°40E,h7km±2km,ML3.1*

ISC 23 08:52:05.0±0.8,37.°44N±0.°02×29.°42E±0.°02,h12km±6km,
n56,σ0°74/80,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APMY	**Acipayam-Deniz**	**0.10 287**		Pg	**Pg**	**08 52 07.6**	**-0.4**
APMY				Sg	**Sg**	**08 52 09.9**	**-0.2**
GOLH	**Golhisar**	**0.23 152**		P	**Pg**	**08 52 09.8**	**-0.1**
GOLH				S	**Sg**	**08 52 13.9**	**+0.5**
INCE	**Denizli-Bozkur**	**0.29 24**		P	**Pg**	**08 52 10.9**	**-0.2**
INCE				S	**Sg**	**08 52 15.8**	**+0.7**
INCE				*i* AML	AML	08 52 16.0	
	comp=N,2μm,0.7s						
INCE				*i* AML	AML	08 52 17.0	
	comp=E,2μm,0.3s						
CAEL	**Denizli, Camel**	**0.33 194**		P	**Pg**	**08 52 11.2**	**-0.5**
CAEL				S	**Sg**	**08 52 16.2**	**0.0**
CAEL				*i* AML	AML	08 52 22.0	
	comp=N,3μm,0.4s						
CAEL				*i* AML	AML	08 52 24.0	
	comp=E,4μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.36 301**		P	**Pg**	**08 52 12.0**	**-0.2**
DNIZ				S	**Sg**	**08 52 17.3**	**+0.2**
DNZT	**Denizli-Tavas-**	**0.36 243**		P	**Pg**	**08 52 12.0**	**-0.2**
DNZT				S	**Sg**	**08 52 16.8**	**-0.2**
DNZT				*i* AML	AML	08 52 18.0	
	comp=N,2μm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.41 273**		P	**Pg**	**08 52 12.8**	**-0.2**
TAVA				S	**Sg**	**08 52 18.5**	**0.0**
CAME	**Cameli-Denizli**	**0.51 191**		Pg	**Pg**	**08 52 14.1**	**-0.9**
CAME				Sg	**Sb**	**08 52 22.2**	**-1.1**
BRDR	**BURDUR-Merkez**	**0.57 63**		P	**Pg**	**08 52 15.8**	**-0.3**
KNIK	**Mula-Seydike**	**0.61 169**		P	**Pg**	**08 52 15.9**	**-0.9**
KNIK				S	**Sg**	**08 52 24.3**	**-0.6**
BASM	**Basmaki-Afyon**	**0.69 46**		Pg	**Pg**	**08 52 18.1**	**-0.3**
BASM				Sg	**Sb**	**08 52 28.4**	**-0.1**
SABU	**Mula-Dalaman**	**0.72 211**		P	**Pg**	**08 52 17.9**	**-1.0**
SABU				S	**Sb**	**08 52 28.4**	**-0.8**
SABU				*i* AML	AML	08 52 29.0	
	comp=E,1μm,0.7s						
ELL	**Elmali**	**0.79 151**		Pg	**Pg**	**08 52 20.1**	**-0.3**
ELL				Sg	**Sb**	**08 52 31.6**	**+0.1**
FETY	**Fethiye**	**0.85 199**		Pg	**Pg**	**08 52 20.8**	**-0.6**
FETY				Sg	**Sb**	**08 52 33.3**	**+0.3**
KORT	**Korkueli**	**0.86 120**		Pg	**Pb**	**08 52 21.6**	**-0.3**
KORT				Sg	**Sb**	**08 52 34.1**	**+0.6**
KORT	**Korkueli**	**0.86 120**		P	**Pg**	**08 52 20.1**	**-1.5**
KORT				S	**Sg**	**08 52 32.8**	**-0.1**
DALY	**Dalyan (Mula)**	**0.88 225**		Pg	**Pg**	**08 52 21.6**	**-0.3**
DALY				Sg	**Sb**	**08 52 34.1**	**+0.4**
MULA	**Mugla, Merkez-**	**0.90 258**		P	**Pg**	**08 52 21.9**	**-0.4**
MULA				*i* AML	AML	08 52 38.0	
	comp=E,607nm,0.9s						
PASA	**Karahalli, USA**	**0.91 3**		P	**Pg**	**08 52 21.2**	**-1.3**
PASA				S	**Sb**	**08 52 35.1**	**+0.4**
BUCA	**Burdur, Bucak-**	**0.91 97**		P	**Pg**	**08 52 22.1**	**-0.5**
BUCA				S	**Sb**	**08 52 36.1**	**+1.2**
ESEN	**Aydn-Nazilli**	**0.92 293**		P	**Pg**	**08 52 22.4**	**-0.4**
ESEN				S	**Sg**	**08 52 34.2**	**-0.6**
ESEN				*i* AML	AML	08 52 39.0	
	comp=N,570nm,0.5s						
BCK	**Bucak**	**0.93 89**		Pg	**Pb**	**08 52 23.0**	**0.0**
ISP	**Isparta**	**0.95 66**		Pg	**Pb**	**08 52 23.5**	**+0.1**
ISP	**Isparta**	**0.95 66**		P	**Pg**	**08 52 22.1**	**-1.2**
ISP				S	**Sn**	**08 52 37.7**	**-0.1**
YER	**Yerkesik**	**0.96 252**		Pg	**Pg**	**08 52 23.0**	**-0.5**
KZIL	**AFYON_Kizioren**	**0.99 35**		P	**Pg**	**08 52 23.4**	**-0.8**
KZIL				S	**Sb**	**08 52 38.0**	**+0.7**
IZZE	**Mula-Seydike**	**1.02 189**		P	**Pg**	**08 52 23.5**	**-1.0**
IZZE				S	**Sn**	**08 52 39.0**	**-0.2**
IZZE				*i* AML	AML	08 52 46.0	
	comp=E,413nm,0.5s						
IZZE				*i* AML	AML	08 52 47.0	
	comp=N,859nm,0.4s						
NAZL	**Nazilli-Aydin**	**1.04 300**		Pg	**Pg**	**08 52 24.7**	**-0.3**
KIRA	**zmir-Kiraz**	**1.11 313**		P	**Pg**	**08 52 25.7**	**-0.6**
KIRA				S	**Sg**	**08 52 40.0**	**-0.8**
KIRA				*i* AML	AML	08 52 43.0	
	comp=E,454nm,0.2s						
KIRA				*i* AML	AML	08 52 44.0	
	comp=N,343nm,0.5s						
ANTB	**Antalya**	**1.12 118**		Pn	**Pn**	**08 52 26.5**	**+0.1**
TURN	**Turunc**	**1.15 235**		Pn	**Pn**	**08 52 26.9**	**0.0**
TURN	**Turunc**	**1.15 235**		P	**Pg**	**08 52 26.4**	**-0.8**
TURN				S	**Sb**	**08 52 42.2**	**+0.5**
AFYN	**Afyon-Dinar-K**	**1.19 46**		P	**Pg**	**08 52 27.3**	**-0.6**
BAGO	**Egridir - ISPA**	**1.21 63**		P	**Pg**	**08 52 25.5**	**-2.8**
AKAS	**Kas**	**1.22 173**		Pn	**Pn**	**08 52 28.3**	**+0.4**
AKAS	**Kas**	**1.22 173**		P	**Pn**	**08 52 28.5**	**+0.6**
AKAS				*i* AML	AML	08 52 57.0	
	comp=N,346nm,0.5s						
KULA	**Kula-Manisa**	**1.23 331**		Pn	**Pn**	**08 52 28.4**	**+0.4**
AYDN	**Tasoluk**	**1.25 281**		P	**Pb**	**08 52 28.1**	**-0.4**
AYDN				*i* AML	AML	08 52 49.0	
	comp=E,321nm,0.3s						
AYDN				*i* AML	AML	08 52 51.0	
	comp=N,438nm,0.5s						
KSL	**Kastellorizon**	**1.30 174**		P	**Pg**	**08 52 29.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.32 293**		Pn	**Pb**	**08 52 29.8**	**+0.1**
MLSB	**Milas**	**1.32 264**		Pn	**Pg**	**08 52 30.2**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.34 146**		P	**Pg**	**08 52 32.8**	**+2.1**
ODEM	**Odemis-Izmir**	**1.35 308**		Pn	**Pb**	**08 52 30.1**	**+0.4**
SHUT	**Suhut-Afyon**	**1.42 38**		Pn	**Pb**	**08 52 31.7**	**+0.2**
SHAP	**Saphane-Kutahy**	**1.59 354**		Pn	**Pb**	**08 52 34.1**	**-0.2**
GEDZ	**Gediz**	**1.60 360**		Pn	**Pb**	**08 52 34.4**	**-0.1**
ARG	**Arkhangelos**	**1.61 221**		Pn	**Pb**	**08 52 34.3**	**-0.2**
ARG	**Arkhangelos**	**1.61 221**		P	**Pg**	**08 52 35.5**	**-0.3**
SIMA	**Simav-Kutahya**	**1.68 348**		Pn	**Pb**	**08 52 35.5**	**-0.3**
BODT	**Bodrum**	**1.73 258**		Pn	**Pb**	**08 52 36.1**	**-0.5**
GOMA	**Golmarmara-Man**	**1.73 317**		Pn	**Pb**	**08 52 36.3**	**-0.4**
YKAV	**Yalikavak-Bodr**	**1.74 260**		Pn	**Pb**	**08 52 36.1**	**-0.7**
GCAM	**G?zelcaml?**	**1.76 279**		Pn	**Pn**	**08 52 36.3**	**+1.1**
GORD	**Gordes-Manisa**	**1.76 327**		Pn	**Pn**	**08 52 36.4**	**+1.0**
DKL	**Dikili**	**2.56 310**		P	**Pn**	**08 52 47.4**	**+1.1**
KARP	**Karpathos**	**2.63 225**		P	**Pn**	**08 52 48.9**	**+1.7**

*IDC **23** 09:07:05.8±1.3,36.°15S×99.°32W,h0km,mb3.8/7,*
mbtmp3.8/7,MS3.7/6,Error ellipse: s-maj=37.4km
s-min=24.6km az=48.0

ISC 23 09:07:07.3±1.2,36.°2S±0.°2×99.°3W±0.°2,h10km,n14,
σ1°16/7,mb3.8/7,MS3.7/6,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**16.95**	**87**	T	T	09 28 44.7	
	baz=248,slow=72,SNR=9.4						
H03N3	**Juan Fernandez**	**16.96**	**87**	T	T	09 28 46.7	
	baz=248,slow=72,SNR=9.5						
H03N1	**Juan Fernandez**	**16.97**	**87**	T	T	09 28 47.2	
	baz=248,slow=72,SNR=14						
PLCA	**Paso Flores**	**22.94**	**110**	P	**P**	**09 12 13.5**	**+1.8**
	2.4nm,0.9s,baz=264,slow=11,SNR=4.4						
PLCA				LR	LR	09 18 40.4	
	comp=Z,109nm,20.1s,baz=270,slow=30						
	2.4nm,0.9s						
LPAZ	**La Paz**	**34.03**	**63**	P	**P**	**09 13 51.5**	**-0.9**
	0.6nm,0.7s,baz=186,slow=1.2,SNR=4.7						
LPAZ				LR	LR	09 24 29.9	
	comp=Z,80nm,18.3s,baz=255,slow=31						
	0.6nm,0.7s						
CPUP	**Villa Florida**	**36.96**	**87**	P	**P**	**09 14 16.2**	**-0.6**
	0.7nm,0.4s,baz=253,slow=7.2,SNR=3.4						
	0.7nm,0.4s						
SIV	**San Ignacio**	**39.45**	**70**	LR	LR	09 28 18.9	
	comp=Z,93nm,20.6s,baz=288,slow=32						
ROSC	**El Rosal**	**47.02**	**35**	LR	LR	09 34 05.3	
	comp=Z,97nm,18.4s,baz=84,slow=34						
QSPA	**South Pole Qui**	**54.07**	**180**	P	**P**	**09 16 31.3**	**-0.6**
	1.9nm,1.0s,baz=287,slow=22,SNR=2.4						
	1.9nm,1.0s						
PCRV	**Puerto La Cruz**	**56.48**	**42**	LR	LR	09 39 25.4	
	comp=Z,143nm,18.2s,slow=34						
VNDA	**Vanda**	**56.90**	**195**	LR	LR	09 36 08.7	
	comp=Z,88nm,18.5s,baz=220,slow=31						
TXAR	**Lajitas Array**	**65.26**	**356**	P	**P**	**09 17 49.4**	**+0.2**
	0.6nm,0.9s,baz=185,slow=4.2,SNR=5.2						
	0.6nm,0.9s						
NVAR	**Mina Array Bea**	**76.26**	**345**	P	**P**	**09 18 56.9**	**+0.8**
	0.9nm,0.8s,baz=184,slow=4.7,SNR=7.0						
	0.9nm,0.8s						
PDAR	**Pinedale Array**	**79.09**	**352**	P	**P**	**09 19 11.9**	**0.0**
	1.8nm,0.9s,baz=161,slow=6.2,SNR=16						
	1.8nm,0.9s						

*NEIC **23** 09:13:08.5±1.2,19.°417N±0.°006×155.°301W±0.°008,*
h10km±1km,Error ellipse: s-maj=2.1km s-min=1.2km
az=187.0

HVO 23 09:13:08.1±1.0,19.°392N±0.°009×155.°272W±0.°007,
h13km±1km,ML3.5/45,ML3.8/42(NEIC),Error ellipse:
s-maj=1.4km s-min=0.9km az=155.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.00 332**		P	**Pg**	09 13 12.6	+2.0
KKO	**Keanakako'i**	**0.01 43**		Pg	**Pg**	09 13 10.9	+0.2
KKO				Sg	**Sg**	09 13 12.9	+0.5
SDHHI	**Sand Hill**	**0.02 264**		Pg	**Pg**	09 13 12.8	+2.1
BYL	**Byron's Ledge**	**0.02 29**		Pg	**Pg**	09 13 10.8	+0.1
BYL				IAML		09 13 13.1	
	comp=E,30μm,0.5s						
OBL	**Observatory Le**	**0.03 336**			Pg	09 13 10.8	+0.1
OBL					Sg	09 13 12.8	+0.3
WRMHI	**West Rim**	**0.03 299**			Pg	09 13 10.8	+0.1
HATHI	**Halema'uma'u T**	**0.03 18**			Pg	09 13 10.8	0.0
UWB	**Uwekahuna Bluf**	**0.03 350**			Pg	09 13 12.8	+2.0
SBLHI	**Steaming Bluff**	**0.04 6**			Pg	09 13 10.8	0.0
SBLHI					Sg	09 13 12.8	+0.3
UWE	**Uwekahuna**	**0.04 326**			Pg	09 13 10.8	+0.1
UWE				IAML		09 13 13.3	
	comp=N,53μm,0.3s						
UWE				IAML		09 13 14.0	
	comp=E,49μm,0.4s						
PUH	**Pauahi**	**0.06 109**			Pg	09 13 11.0	+0.1
PUH				IAML		09 13 13.4	
	comp=E,28μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.10 97**			Pg	09 13 11.5	+0.2
HLP	**Hilina Pali**	**0.10 200**			Pg	09 13 11.5	+0.2
HLP				IAML		09 13 14.5	
	comp=E,59μm,0.3s						
STCH	**Steam Cracks**	**0.14 93**			Pg	09 13 12.0	+0.2
MLH	**Mauna Loa**	**0.15 313**			Pg	09 13 12.1	+0.1
MLH				IAML		09 13 16.0	
	comp=E,27μm,0.2s						
MLH				IAML		09 13 16.5	
	comp=N,32μm,0.3s						
NPOC	**North of Pu'u**	**0.15 90**			Pg	09 13 12.2	+0.3
NPOC					Sg	09 13 15.2	+0.6
JCUZ	**Jacuzzi**	**0.16 93**			Pg	09 13 12.3	+0.3
JCUZ					Sg	09 13 15.5	+0.7
HTC	**Hot Caves**	**0.19 218**			Pg	09 13 13.0	+0.4
JOKA	**Jonika Flow**	**0.26 81**			Pg	09 13 13.4	-0.2
HMH	**Humu'ula Sheep**	**0.29 317**			Pg	09 13 14.2	-0.1
MWH	**Mokuaweoweo**	**0.32 287**			Pg	09 13 14.7	-0.3
MWH				IAML		09 13 20.4	
	comp=N,18μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.32 297**		Pg	Pg	09 13 14.7	-0.2
MLOA				Sg	Sg	09 13 19.7	+0.1
KHU	**Kahuku**	**0.35 246**			Pg	09 13 14.9	-0.5
KHU				IAML		09 13 21.0	
	comp=E,6μm,0.2s						
KHU				IAML		09 13 21.3	
	comp=N,10μm,0.1s						
ALEP	**Alea Permanent**	**0.38 293**			Pg	09 13 15.4	-0.6
ALEP					Sg	09 13 21.2	0.0
HPO	**Honuapo**	**0.40 222**		Pg	Pg	09 13 15.7	-0.5
POHA	**Pohakuloa**	**0.44 326**			Pg	09 13 16.2	-0.8
POHA					Sg	09 13 22.4	-0.6
POHA				IAML		09 13 22.8	
	comp=N,8μm,0.6s						
POHA				IAML		09 13 22.8	
	comp=N,6μm,0.4s						
HUH	**Hualalai**	**0.61 299**			Pg	09 13 18.7	-1.4
CPH	**Captain Cook**	**0.62 279**			Pg	09 13 18.2	-2.0
HPAH	**Hawaii Prepara**	**0.75 328**		Pg	Pg	09 13 20.4	-2.3
HPAH				IAML		09 13 32.8	
	comp=E,3μm,0.3s						
MHA	**Mahukona**	**0.99 323**		Pg	Pb	09 13 24.0	-3.1
HLK	**Haleakala**	**1.64 326**		Pn	Pn	09 13 32.5	-4.4
DHH	**Diamond Head**	**3.02 309**		Pn	Pn	09 13 50.7	-4.9
HON	**Honolulu**	**3.20 307**		Pn	Pn	09 13 53.3	-4.8

*IDC **23** 09:17:14.5±1.0,21.°28S×174.°11W,h0km,mb4.1/9,*
mbtmp4.1/9,MS3.7/4,Error ellipse: s-maj=40.5km
s-min=24.1km az=137.0

ISC 23 09:17:16.0±0.9,21.°3S±0.°2×174.°1W±0.°2,h10km,n18,
σ0°88/14,mb4.2/9,MS3.9/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.36**	**92**	Pn	Pn	09 20 18.3	-7.5
	6.2nm,0.3s,baz=261,slow=8.5,SNR=19						
PPT	**Papeete**	**23.41**	**85**	LR	LR	09 28 50.1	
	comp=Z,45nm,20.8s,baz=272,slow=30						
STKA	**Stephens Creek**	**40.76**	**246**	P	**P**	**09 24 57.8**	**+0.3**
	1.0nm,0.5s,baz=66,slow=7.9,SNR=3.6						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**47.89**	**257**	P	**P**	**09 25 54.5**	**-0.2**
	3.3nm,0.8s,baz=90,slow=8.3,SNR=26						
ASAR				PcP	**PcP**	**09 27 22.7**	**-0.7**
	0.4nm,0.7s,baz=86,slow=4.2,SNR=2.3						
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**48.10**	**262**	P	**P**	**09 25 55.6**	**-0.7**
	1.7nm,0.8s,baz=99,slow=8.3,SNR=4.9						
	1.7nm,0.8s						
QSPA	**South Pole Qui**	**68.80**	**180**	P	**P**	**09 28 20.6**	**+0.3**
	1.8nm,1.0s,baz=49,slow=9.6,SNR=2.4						
	1.8nm,1.0s						
MJAR	**Matsushiro Arr**	**73.04**	**321**	P	**P**	**09 28 46.2**	**-0.1**
	0.6nm,0.6s,baz=141,slow=7.2,SNR=1.8						
	0.6nm,0.6s						
JOW	**Kunigami**	**73.48**	**308**	LR	LR	09 53 52.2	
	comp=Z,112nm,21.6s,baz=357,slow=30						
PETK	**Petropavlovsk-**	**78.01**	**343**	P	**P**	**09 29 14.8**	**+0.4**
	4.6nm,0.9s,baz=155,slow=5.3,SNR=2.4						
	4.6nm,0.9s						
NVAR	**Mina Array Bea**	**79.13**	**41**	P	**P**	**09 29 21.6**	**+0.3**
	0.5nm,0.7s,baz=237,slow=8.7,SNR=4.3						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**88.30**	**11**	P	**P**	**09 30 07.5**	**+0.3**
	0.5nm,0.8s,baz=210,slow=5.6,SNR=6.9						
	0.5nm,0.8s						
NNA	**Nana**	**92.34**	**104**	LR	LR	10 02 53.3	
	comp=Z,94nm,20.3s,baz=155,slow=30						
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P	**P**	**09 30 35.9**	**+1.8**
	1.9nm,0.3s,baz=119,slow=5.2,SNR=1.7						
	1.9nm,0.3s	

JMJ2	Miyako jima3	3.11 265	P	Pn	09 30 20.8	+0.6
JMJ2			S	Sn	09 30 56.4	-1.0
JMJ	Miyako jima 2	3.13 267	P	Pn	09 30 20.8	+0.3
JIKM	Ikemajima	3.17 269	P	Pn	09 30 21.8	+0.8
JIKM			S	Sn	09 30 57.2	-1.6
JAMN	Amaminishikomi	3.23 7	eS	Sn	09 30 58.4	-1.9
JIRB	Irabujima	3.24 267	P	Pn	09 30 22.4	+0.4
JIRB			eS	Sn	09 30 58.3	-2.4
JAM	Amami Oshima	3.46 13	S	Sn	09 31 04.7	-1.3
JTJ	Tarama	3.69 265	P	Pn	09 30 28.4	+0.3
JTJ			eS	Sn	09 31 08.4	-3.2
JISG	Ishigakijimahi	4.05 265	P	Pn	09 30 33.0	0.0
JISG			S	Sn	09 31 16.7	-3.8
JIJ	Ishigaki jima	4.23 262	P	Pn	09 30 35.5	-0.1
JIJ			S	Sn	09 31 20.5	-4.5
JYAK	Yakushimahirau	5.42 16	eP	Pn	09 30 52.4	+0.5
NACB	Ninganchiao	6.56 264	P	Pn	09 31 05.9	-1.6
YULB	Yu-li	6.99 258	P	Pn	09 31 10.8	-2.6
SSLB	Suanglung	7.20 262	P	Pn	09 31 15.8	-0.6
TWGBT	Beinan	7.34 254	P	Pn	09 31 16.2	-2.1
TPUB	Ta-pu	7.60 259	P	Pn	09 31 21.7	-0.2
JNU	Nakatsue	8.28 13	Pn	Pn	09 31 32.9	+1.7
	0.4nm,0.3s,baz=184,slow=16,SNR=13					
	7.4nm,0.9s					
JNU	Nakatsue	8.28 13	P	Pn	09 31 33.4	+2.2
MKAR	Makanchi Array	42.68 313	P	P	09 37 29.9	+1.9
	0.2nm,0.4s,baz=119,slow=12,SNR=4.6					
	0.2nm,0.4s					
ZALV	Zalesovo Beam	43.48 323	P	P	09 37 36.1	+1.8
	0.7nm,0.5s,baz=116,slow=8.4,SNR=2.9					
	0.7nm,0.5s					
WRA	Warramunga Arr	45.03 173	P	P	09 37 47.7	+0.7
	1.9nm,0.6s,baz=353,slow=8.0,SNR=8.2					
	1.9nm,0.6s					
KURBB	Kurchatov Arra	46.04 317	P	P	09 37 55.1	+0.3
	0.3nm,0.5s,baz=107,slow=8.5,SNR=3.6					
	0.3nm,0.5s					
ASAR	Alice Springs	48.66 174	P	P	09 38 16.9	+1.4
	0.7nm,0.7s,baz=4.8,slow=12,SNR=12					
	0.7nm,0.7s					
BVAR	Borovoye Array	51.48 319	P	P	09 38 38.8	+2.3
	0.8nm,0.6s,baz=88,slow=8.0,SNR=4.0					
	0.8nm,0.6s					

IDC 23 09:38:36.7±10.0, 19°.88N×147°.48E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=306.3km s-min=47.0km az=2.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	43.30	320	P	P	09 46 40.5	+0.1
	0.5nm,0.7s,baz=134,slow=10,SNR=3.7						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	58.12	322	P	P	09 48 31.5	-0.4
	0.8nm,0.3s,baz=94,slow=7.8,SNR=7.9						
	0.8nm,0.3s						
MKAR	Makanchi Array	58.87	313	P	P	09 48 37.7	+0.3
	0.6nm,0.8s,baz=81,slow=8.9,SNR=4.8						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	61.58	317	P	P	09 48 55.5	-0.3
	1.6nm,0.8s,baz=91,slow=7.6,SNR=14						
	1.6nm,0.8s						
BVAR	Borovoye Array	66.64	320	P	P	09 49 29.2	+0.1
	1.5nm,0.5s,baz=82,slow=6.8,SNR=9.1						
	1.5nm,0.5s						
YKA	Yellowknife Ar	76.16	28	P	P	09 50 26.5	+0.1
	0.2nm,0.5s,baz=284,slow=7.2,SNR=5.6						
	0.2nm,0.5s						

*NAO **23** 09:40:09.7±0.6, 66°.82N×14°.03E, ML2.7*
*IDC **23** 09:40:11.2±1.6, 66°.88N×13°.97E, h0km, mbtmp3.2/4, ML2.4/4, Error ellipse: s-maj=21.7km s-min=9.0km az=118.0*
*UPP **23** 09:40:11.1±1.1, 66°.85N×13°.94E, h0km, ML2.5*
*HEL **23** 09:40:11.3±0.1, 66°.84N×13°.86E, h7km, ML2.4, ML2.5(UPP), ML2.2(BER), Confirmed Earthquake*
*BER **23** 09:40:11.8±3.1, 66°.83N×13°.83E, h0km±7km, ML2.2, MW2.6, ML2.4(HEL), Confirmed Earthquake*

ISC 23 09:40:10.2±0.7, 66°.82N±0°.02×13°.95E±0°.02, h10km, n92, σ2°20/167, 1C-5D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGH	Vaagaholmen	0.28 251	⇑	iP	Pg	09 40 15.9	0.0
VAGH				eS	Sg	09 40 19.9	+0.1
VAGH				IAML		09 40 21.1	
	comp=Z,298nm,0.2s						
KONS	Konsvik	0.47 226	⇓	iP	Pg	09 40 19.4	+0.2
KONS				eS	Sg	09 40 25.4	0.0
KONS				IAML		09 40 26.6	
	comp=Z,200nm,0.3s						
KONS	Konsvik	0.47 226		Pg	Pg	09 40 19.4	+0.2
KONS				Lg	Lg	09 40 25.5	
KONS	Konsvik	0.47 226	⇓	iP	Pg	09 40 19.4	+0.2
KONS				i S	Sg	09 40 25.4	0.0
KONS				IAML		09 40 26.6	
	comp=Z,200nm,0.3s						
STOK	Stokkvaagen	0.62 217	⇓	iP	Pg	09 40 22.2	+0.1
STOK				eS	Sg	09 40 30.3	+0.1
STOK				IAML		09 40 33.1	
	comp=Z,99nm,0.3s						
STOK	Stokkvaagen	0.62 217		Pg	Pg	09 40 22.3	+0.1
STOK				Lg	Lg	09 40 30.6	
STOK	Stokkvaagen	0.62 217	⇓	iP	Pg	09 40 22.2	+0.1
STOK				i S	Sg	09 40 30.3	+0.1
STOK				IAML		09 40 33.1	
	comp=Z,99nm,0.3s						
MOR8	Moi Rana	0.69 163		eP	Pg	09 40 22.4	-1.0
MOR8				eS	Sg	09 40 30.8	-1.5
MOR8				IAML		09 40 32.3	
	comp=Z,139nm,0.3s						
MOR8	Moi Rana	0.69 163		Pg	Pg	09 40 22.6	-0.8
MOR8				Lg	Lg	09 40 31.7	
MOR8	Moi Rana	0.69 163		i P	Pg	09 40 22.4	-1.0
MOR8				i S	Sg	09 40 30.8	-1.5
MOR8				IAML		09 40 32.3	
	comp=Z,139nm,0.3s						
FAUS	Fauske	0.77 42		eP	Pg	09 40 24.5	-0.5
FAUS				eS	Sg	09 40 34.6	-0.4
FAUS				IAML		09 40 39.7	
	comp=Z,125nm,0.5s						
FAUS	Fauske	0.77 42		Pg	Pg	09 40 24.5	-0.5
FAUS				Lg	Lg	09 40 34.3	
FAUS	Fauske	0.77 42		i P	Pg	09 40 24.5	-0.5
FAUS				i S	Sg	09 40 34.6	-0.4
FAUS				IAML		09 40 39.7	
	comp=Z,125nm,0.5s						
LEIR	Leirfjorden	0.79 205	⇓	iP	Pg	09 40 25.3	-0.1
LEIR				eS	Sg	09 40 35.5	-0.1
LEIR				IAML		09 40 38.3	
	comp=Z,62nm,0.3s						
STEI	Steigen	1.22 24		eP	Pn	09 40 33.0	-0.1
STEI				eS	Sn	09 40 50.7	+1.0
STEI				IAML		09 40 56.7	
	comp=Z,70nm,0.3s						
STEI	Steigen	1.22 24		Pn	Pn	09 40 33.1	-0.1
STEI				Lg	Lg	09 40 49.6	
STEI	Steigen	1.22 24		eP	Pn	09 40 33.1	-0.1
STEI				eS	Sn	09 40 49.9	+0.2
LOF	Lofoten	1.32 353		eP	Pn	09 40 34.0	-0.7
LOF				eS	Sb	09 40 51.3	-0.8
LOF				e		09 40 51.6	
LOF				IAML		09 40 56.3	
	comp=Z,54nm,0.3s						
LOF	Lofoten	1.32 353		Pn	Pn	09 40 33.4	-1.2
LOF				Lg	Lg	09 40 51.4	
LOF	Lofoten	1.32 353		eP	Pn	09 40 34.0	-0.7
LOF				eS	Sb	09 40 51.3	-0.8
LOF				eSG	Sn	09 40 51.6	-0.7
LOF				IAML		09 40 56.3	
	comp=Z,54nm,0.3s						
RATU	Laukkuluspa	2.41 63		P	Pb	09 40 51.9	-1.6
RATU				S	Sb	09 41 22.2	-1.0
RATU	Laukkuluspa	2.41 63		eP	Pb	09 40 51.9	-1.6
RATU				eS	Sb	09 41 22.2	-1.0
NSS	Namsos	2.45 201		eP	Pn	09 40 52.5	+2.4
NSS				eSg	Sb	09 41 25.3	+1.0
NSS				IAML		09 41 31.6	
	comp=Z,31nm,0.4s						
NSS	Namsos	2.45 201		eP	Pn	09 40 52.5	+2.4
NSS				eSB	Sb	09 41 24.6	+0.3
KUA	Kurravaara	2.72 62		P	Pn	09 40 55.6	+1.8
KUA	Kurravaara	2.72 62		eP	Pn	09 40 55.6	+1.8
KOVU	Salmi	2.77 57		P	Pn	09 40 56.9	+2.3
KOVU				S	Sn	09 41 30.9	+2.9
KOVU	Salmi	2.77 57		eP	Pn	09 40 56.9	+2.3
KOVU				eS	Sn	09 41 30.9	+2.9
MASU	Masugnsbyn	3.21 75		P	Pn	09 41 02.5	+2.0
MASU	Masugnsbyn	3.21 75		eP	Pn	09 41 02.5	+2.0
ERTU	Ertsjaerv	3.29 91		P	Pn	09 41 03.8	+2.1
ERTU				S	Sn	09 41 43.4	+2.6
ERTU	Ertsjaerv	3.29 91		eP	Pn	09 41 03.8	+2.1
ERTU				eS	Sn	09 41 43.4	+2.6
SVAU	Svanoeiden	3.30 133		P	Pn	09 41 04.0	+2.2
SVAU	Svanoeiden	3.30 133		eP	Pn	09 41 04.0	+2.2
LANU	Lannavaara	3.34 65		eP	Pn	09 41 04.3	+2.0
LANU	Lannavaara	3.34 65		P	Pn	09 41 04.4	+2.0
LANU	Lannavaara	3.34 65		eP	Pn	09 41 04.3	+2.0
TRO	Tromso	3.38 31		eP	Pn	09 41 05.4	+2.5
TRO				eS	Sn	09 41 43.8	+0.9
TRO				IAML		09 42 01.8	
	comp=Z,14nm,0.5s						
TRO	Tromso	3.38 31		eP	Pn	09 41 05.4	+2.5
SJUU	Sjulsmark	3.38 109		P	Pn	09 41 05.2	+2.3
SJUU				S	Sn	09 41 45.7	+2.8
SJUU	Sjulsmark	3.38 109		eP	Pn	09 41 05.2	+2.3
SJUU				eS	Sn	09 41 45.7	+2.8
KIF	Kilpisjarvi	3.39 47		eP	Pn	09 41 05.3	+2.3
KIF				eSG	Sg	09 41 57.1	-1.8
KIF				MSG		09 42 05.2	
	comp=Z,20nm,0.2s						
KIF	Kilpisjarvi	3.39 47		Pn	Pn	09 41 05.4	+2.4
KIF				Sn	Sn	09 41 46.1	+2.9
KIF				Lg	Lg	09 41 57.0	
KIF	Kilpisjarvi	3.39 47		eP	Pn	09 41 05.3	+2.3
KIF				eSG	Sg	09 41 57.1	-1.8
KIF				MSG		09 42 05.2	
	comp=Z,20nm,0.2s						
PAJU	Pajala	3.61 83		P	Pn	09 41 08.2	+2.1
PAJU				S	Sn	09 41 51.2	+2.4
PAJU	Pajala	3.61 83		eP	Pn	09 41 08.2	+2.1
PAJU				eS	Sn	09 41 51.2	+2.4
JETT	Jettan, Norway	3.65 38		Pn	Pn	09 41 08.8	+2.1
JETT				e		09 41 52.9	
JETT				Sg	Sg	09 42 05.3	-2.0
JETT	Jettan, Norway	3.65 38		Pn	Pn	09 41 08.8	+2.1
JETT				Sn	Sn	09 41 52.9	+3.1
JETT				Lg	Lg	09 42 05.3	
JETT	Jettan, Norway	3.65 38		eP	Pn	09 41 08.8	+2.1
JETT				eS	Sn	09 41 52.9	+3.1
JETT				eSG	Sg	09 42 05.3	-2.0
BURU	Burvik	3.81 123		eP	Pn	09 41 11.3	+2.6
BURU	Burvik	3.81 123		P	Pn	09 41 11.3	+2.6
BURU				S	Sn	09 41 55.9	+2.4
BURU	Burvik	3.81 123		eP	Pn	09 41 11.3	+2.6
KALU	Kalix	3.91 100		eP	Pn	09 41 11.9	+1.6
KALU				eS	Sn	09 41 58.4	+2.3
KALU	Kalix	3.91 100		P	Pn	09 41 11.9	+1.6
KALU				S	Sn	09 41 58.3	+2.1
KALU	Kalix	3.91 100		eP	Pn	09 41 11.9	+1.6
KALU				eS	Sn	09 41 58.4	+2.3
KLF	Kolari	3.95 79		eP	Pn	09 41 12.5	+1.8
KLF				eSG	Sg	09 42 16.0	-0.8
KLF				MSG		09 42 18.9	
	comp=Z,9.8nm,0.2s						
KLF	Kolari	3.95 79		eP	Pn	09 41 12.5	+1.8
KLF				eSG	Sg	09 42 16.0	-0.8
KLF				MSG		09 42 18.9	
	comp=Z,9.8nm,0.2s						
HEF	Hetta	4.04 62		eP	Pn	09 41 13.5	+1.5
HEF				eS	Sn	09 42 01.2	+1.9
HEF				eSG	Sg	09 42 17.5	-2.2
HEF				MSG		09 42 25.2	
	comp=Z,5.2nm,0.2s						
HEF	Hetta	4.04 62		eP	Pn	09 41 13.5	+1.5
HEF				eS	Sn	09 42 01.2	+1.9
HEF				eSG	Sg	09 42 17.5	-2.2
HEF				MSG		09 42 25.2	
	comp=Z,5.2nm,0.2s						
KTK1	Kautokeino	4.14 54		eP	Pn	09 41 14.7	+1.4
KTK1				eS	Sn	09 42 02.0	+0.3
KTK1				i		09 42 19.4	
KTK1				IAML		09 42 23.0	
	comp=Z,14nm,0.3s						
KTK1	Kautokeino	4.14 54		eP	Pn	09 41 15.1	+1.8
HUSU	Husum	4.15 145		eS	Sn	09 42 04.3	+2.5
HUSU	Husum	4.15 145		eS	Sn	09 42 04.3	+2.5
HEMU	Hemsoen	4.52 155		eP	Pn	09 41 19.6	+1.1
HEMU	Hemsoen	4.52 155		P	Pn	09 41 20.2	+1.7
HEMU	Hemsoen	4.52 155		eP	Pn	09 41 19.6	+1.1
HASU	Hassela	4.83 165		P	Pn	09 41 24.6	+1.8
HASU				S	Sn	09 42 20.4	+1.7
HASU	Hassela	4.83 165		eP	Pn	09 41 24.6	+1.8
HASU				eS	Sn	09 42 20.4	+1.7
ARA0	ARCESS Array S	5.10 52		Pn	Pn	09 41 26.3	-0.2
	baz=239,slow=14						
ARA0				Sn	Sn	09 42 24.8	-0.5
	baz=236,slow=22						
ARA0				Sg	Sb	09 42 47.0	+6.5
	baz=248,slow=37						
ARA0				IAML		09 42 56.2	
	comp=Z,5.9nm,0.4s						
ARA0	ARCESS Array S	5.10 52		Pn	Pn	09 41 26.3	-0.2
	baz=239,slow=14						
ARA0				Sn	Sn	09 42 24.8	-0.5
	baz=236,slow=22						
ARA0				Lg	Lg	09 42 47.0	
	baz=248,slow=37						
ARA0	ARCESS Array S	5.10 52		eP	Pn	09 41 26.3	-0.2
ARA0				eS	Sn	09 42 24.8	-0.5
ARA0				eSG	Sb	09 42 47.0	+6.5
ARA0				IAML		09 42 56.2	
	comp=Z,5.9nm,0.4s						
ARCES	ARCESS Array B	5.10 52		Pn	Pn	09 41 27.1	+0.7
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=19						
ARCES				Sn	Sn	09 42 24.4	-0.9
	comp=Z,0.4nm,0.3s,baz=240,slow=21,SNR=3.5						
ARCES				Lg	Lg	09 42 47.0	
	comp=Z,1.4nm,0.3s,baz=236,slow=29,SNR=11						
	comp=Z,1.4nm,0.5s						
VAF	Ylistaro	5.30 132		eP	Pn	09 41 31.6	+2.3
VAF				eS	Sn	09 42 31.1	+0.7
VAF				eSG	Sg	09 42 55.6	-4.7
VAF				MSG		09 42 59.7	
	comp=Z,3.5nm,0.2s						
VAF	Ylistaro	5.30 132		eP	Pn	09 41 31.6	+2.3
VAF				eS	Sn	09 42 31.1	+0.7
VAF				eSG	Sg	09 42 55.6	-4.7
VAF				MSG		09 42 59.7	
	comp=Z,3.5nm,0.2s						
ARNU	Arnoeviken	5.36 162		eP	Pn	09 41 31.5	+1.3
ARNU	Arnoeviken	5.36 162		eP	Pn	09 41 31.5	+1.3
NB2	NORSAR Subarra	5.93 193		Pn	Pn	09 41 40.0	+1.9
	baz=5.9,slow=14						
NB2				Sg	Sg	09 43 14.4	-5.9
	baz=16,slow=28						
NB2	NORSAR Subarra	5.93 193		Pn	Pn	09 41 40.0	+1.9
	baz=5.9,slow=14						
NB2				Lg	Lg	09 43 14.4	
	baz=16,slow=28						
NB2	NORSAR Subarra	5.93 193		eP	Pn	09 41 40.0	+1.9
NB2				eSG	Sg	09 43 14.4	-5.9
NOA	NORSAR Array B	5.93 193		Pn	Pn	09 41 39.7	+1.7
	baz=5.4,slow=13,SNR=1.6						
NOA				Lg	Lg	09 43 11.2	
	comp=Z,0.1nm,0.3s,baz=39,slow=3.9,SNR=5.1						
	comp=Z,0.2nm,0.3s						
NRA0	NORESS Array S	6.21 191		Pn	Pn	09 41 44.0	+2.2
	baz=2.9,slow=14						
NRA0				Sn	Sn	09 42 53.0	+0.4
	baz=9.5,slow=28						
NRA0				Sg	Sg	09 43 22.8	-6.3
	baz=17,slow=28						
NRA0	NORESS Array S	6.21 191		Pn	Pn	09 41 44.0	+2.2
	baz=2.9,slow=14						
NRA0				Sn	Sn	09 42 53.0	+0.4
	baz=9.5,slow=28						
NRA0				Lg	Lg	09 43 22.8	
	baz=17,slow=28						
NRA0	NORESS Array S	6.21 191		eP	Pn	09 41 44.0	+2.2
NRA0				eS	Sn	09 42 53.0	+0.4
NRA0				eSG	Sg	09 43 22.8	-6.3
VADS	Vadso	6.56 53		eP	Pn	09 41 47.7	+1.3
VADS				eS	Sn	09 42 58.2	-3.0
VADS				IAML		09 43 42.5	
	comp=Z,6.7nm,0.5s						
HFS	Hagfors	6.72 181		Pn	Pn	09 41 50.5	+1.7
	baz=359,slow=12						
HFS				Sn	Sn	09 43 07.6	+2.3
	slow=22						
HFS				Sg	Sg	09 43 40.2	-5.4
	slow=37						
HFS	Hagfors	6.72 181		Pn	Pn	09 41 50.5	+1.7
	baz=359,slow=12						
HFS				Sn	Sn	09 43 07.6	+2.3
	slow=22						
HFS				Lg	Lg	09 43 40.2	
	slow=37						
HFS	Hagfors	6.72 181		Pn	Pn	09 41 50.3	+1.6
	comp=Z,0.3nm,0.3s,baz=359,slow=12,SNR=8.9						
HFS				Lg	Lg	09 43 39.9	
	comp=Z,1.0nm,0.3s,baz=356,slow=28,SNR=7.1						
	comp=Z,3.9nm,0.9s						
HFS	Hagfors	6.72 181		eP	Pn	09 41 50.5	+1.7
HFS				eS	Sn	09 43 07.6	+2.3
HFS				eSG	Sg	09 43 40.2	-5.4
FIA0	FINESS Array S	7.56 130		Pn	Pn	09 42 01.2	+1.0
	baz=313,slow=14						
FIA0				Sn	Sn	09 43 24.4	-1.4
	baz=325,slow=18						
FIA0				Sg	Sg	09 44 03.0	-9.4
	baz=335,slow=28						
FIA0	FINESS Array S	7.56 130		Pn	Pn	09 42 01.2	+1.0
	baz=313,slow=14						
FIA0				Sn	Sn	09 43 24.4	-1.4
	baz=325,slow=18						
FIA0				Lg	Lg	09 44 03.0	
	baz=335,slow=28						
FIA0	FINESS Array S	7.56 130		eP	Pn	09 42 01.2	+1.0
FIA0				eS	Sn	09 43 24.4	-1.4
FIA0				eSG	Sg	09 44 03.0	-9.4
FINES	FINESS Array B	7.56 130		Pn	Pn	09 42 01.2	+1.0
	comp=Z,0.3nm,0.3s,baz=306,slow=14,SNR=8.1						
FINES				Sn	Sn	09 43 25.5	-0.3
	comp=Z,0.5nm,0.3s,baz=327,slow=20,SNR=6.4						
FINES				Lg	Lg	09 44 02.7	
	comp=Z,0.7nm,0.3s,baz=326,slow=27,SNR=5.2						
	comp=Z,3.1nm,0.9s						

*WEL **23** 10:01:09.9±1.0, 32°.5±6°×17°.8W±1°.9, h12km, M4.5/9, mB4.8/9, ML4.9/9, MLv5.2/9, Mw(mB)4.0/9, Error ellipse: s-maj=25.3km s-min=4.1km az=105.3, confirmed*
*IDC **23** 10:01:10.8±0.5, 31°.58S×177°.66W, h0km, mb4.5/12, mbtmp4.5/13, ML3.7/1, MS3.7/5, Error ellipse: s-maj=21.8km s-min=19.4km az=23.0*
*NEIC **23** 10:01:13.7±1.2, 31°.87S±0°.07×177°.8W±0°.1, h10km±1km, mb4.8/26, Error ellipse: s-maj=20.5km s-min=11.1km az=105.0*

ISC 23 10:01:12.8±0.5, 31°.76S±0°.05×177°.86W±0°.08, h10km, n94, σ1°60/103, mb4.8/26, MS3.8/4, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.48 359		P	Pn	10 01 50.3	-3.0
GLKZ				S	Sn	10 02 22.2	-1.4
MXZ	Matakaoa Point	6.60 208		Pn	Pn	10 02 48.9	-0.9
WMGZ	Waiomatatini S	6.78 206		P	Pn	10 02 51.1	-1.3
WMGZ				S	Sn	10 04 10.7	+1.1
PKGZ	Pakihiroa	6.95 208		S	Sn	10 04 15.0	+1.2
HAZ	Te Kaha	6.98 210		P	Pn	10 02 54.1	-0.9
HAZ				S	Sn	10 04 17.2	+2.8
PUZ	Puketiti	7.06 206		P	Pn	10 02 54.0	-2.2
PUZ				S	Sn	10 04 16.6	0.0
RUGZ	Raukumara Rang	7.20 209		P	Pn	10 02 57.2	-0.9
RUGZ				S	Sn	10 04 21.6	+1.5
TWGZ	Tauwhareparae	7.26 207		P	Pn	10 02 57.2	-1.7
TWGZ				S	Sn	10 04 22.2	+0.7
CNGZ	Carnagh Statio	7.45 205		P	Pn	10 02 59.6	-1.8
CNGZ				S	Sn	10 04 27.1	+1.2
MWZ	Matawai	7.58 209		P	Pn	10 03 01.2	-2.0
MWZ				S	Sn	10 04 28.0	-1.2
URZ	Urewera	7.69 211		Pn	Pn	10 03 02.0	-2.8
	0.7nm,0.3s,baz=355,slow=2.9,SNR=16						
URZ				Sn	Sn	10 04 29.1	-2.8
	12nm,0.3s,baz=6.4,slow=19,SNR=15						
URZ	Urewera	7.69 211		P	Pn	10 03 03.1	-1.7
URZ				S	Sn	10 04 30.2	-1.7
WCZ	Waipu Caves	7.71 235		P	Pn	10 03 11.8	+6.7
RAGZ	Rawiri	7.76 209		P	Pn	10 03 03.7	-2.1
RAGZ				S	Sn	10 04 33.2	-0.5
RIGZ	Rimuhau	7.80 206		P	Pn	10 03 03.7	-2.7
RIGZ				S	Sn	10 04 33.0	-1.8
OUZ	Omahuta	7.93 242		P	Pn	10 03 15.2	+7.1
PRGZ	Paritu Road	7.95 205		S	Sn	10 04 36.3	-2.2
MUGZ	Murupara	8.02 212		P	Pn	10 03 07.4	-1.9
MUGZ				S	Sn	10 04 39.5	-0.6
SNGZ	Shannon Statio	8.03 208		P	Pn	10 03 07.2	-2.3
SNGZ				S	Sn	10 04 40.5	0.0
RTZ	Ruatahuna	8.04 210			Pn	10 03 08.7	-1.0
MHGZ	Mahia Peninsul	8.15 204		P	Pn	10 03 07.4	-3.7
MHGZ				S	Sn	10 04 40.7	-2.6
MTHZ	Maungataniwha	8.30 210		P	Pn	10 03 13.4	+0.2
MTHZ				S	Sn	10 04 47.3	+0.2
HIZ	Hauiti	9.00 219		Pn	Pn	10 03 23.3	+0.6
NGZ	Ngauruhoe	9.12 214		S	Sn	10 05 06.6	-0.9
WAZ	Wanganui	9.87 214		P	Pn	10 03 38.6	+3.8
WAZ				S	Sn	10 05 25.4	-0.2
LTZ	Lake Taylor	13.51 213		Pn	Pn	10 04 23.5	-1.1
MSVF	Nonsavu	14.44 344		Pn	Pn	10 04 38.7	+1.2
MSVF	Nonsavu	14.44 344		Pn	Pn	10 04 31.5	-5.9
	0.4nm,0.3s,baz=108,slow=16,SNR=2.1						
RPZ	Rata Peaks	14.80 213		Pn	Pn	10 04 37.9	-4.1
	0.7nm,0.3s,baz=57,slow=5.4,SNR=1.6						
RPZ				Sn	Sn	10 07 12.4	-14
	0.7nm,0.3s,baz=335,slow=17,SNR=4.1						
PINNC	Pines Island,	15.92 301		Pn	Pn	10 04 58.5	+1.6
PINNC				IAmb	IAmb	10 05 08.2	
	comp=Z,174nm,1.5s						
DZM	Mont Dzumac	16.98 301		P	Pn	10 05 11.9	+1.3
DZM	Mont Dzumac	16.98 301		P	Pn	10 05 12.3	+1.7
	comp=Z,0.3nm,0.3s,baz=99,slow=15,SNR=5.2						
DZM				S	Sn	10 08 12.5	-7.0
	comp=Z,16nm,1.1s,baz=119,slow=15,SNR=3.8						
	comp=Z,11nm,1.1s						
AFI	Afiamalu	18.62 19		P	P	10 05 30.0	-0.5
AFI				IAmb	IAmb	10 05 30.2	
	comp=Z,31nm,0.8s						
RAR	Rarotonga	19.27 61		LR	LR	10 13 41.8	
	comp=Z,112nm,18.1s,baz=269,slow=40						
ARMA	Armidale	26.13 265		P	P	10 06 48.2	+1.0
CAN	Canberra	27.78 254		P	P	10 07 02.2	+0.3
CAN				IAmb	IAmb	10 07 06.1	
	comp=Z,8.8nm,1.0s						
EIDS	Eidsvold	27.95 275		P	P	10 07

FITZ	Fitzroy Crossi	52.49 271	P	P	10 10 27.3	+1.1
CASY	Casey	54.01 208	P	P	10 10 37.6	+0.9
CASY			IAmb	IAmb	10 10 38.7	
	comp=Z,13nm,1.0s					
PSA00	Pilbara Seismi	55.94 264	P	P	10 10 51.0	-0.4
PSA00			IAmb	IAmb	10 11 14.3	
	comp=Z,20nm,1.1s					
MBWA	Marble Bar	56.21 265	P	P	10 10 53.3	+0.1
MBWA			IAmb	IAmb	10 11 11.6	
	comp=Z,3.8nm,0.7s					
QSPA	South Pole Qui	58.36 180	P	P	10 11 08.4	+0.4
QSPA	South Pole Qui	58.36 180	P	P	10 11 09.3	+1.3
	comp=Z,9.5nm,1.0s,baz=23,slow=1.4,SNR=13					
	comp=Z,9.5nm,1.0s					
KAPI	Kappang	63.97 281	LR	LR	10 40 22.5	
	comp=Z,54nm,18.6s,baz=112,slow=37					
LEM	Lembang	73.29 272	LR	LR	10 47 31.5	
	comp=Z,80nm,18.1s,baz=164,slow=38					
TROLL	Troll, Antarti	76.52 180	⇑P	P	10 13 03.2	+0.4
	comp=Z,420nm,0.9s					
SNAA	Sanae	76.80 178	P	P	10 13 04.5	+0.2
SNAA			IAmb	IAmb	10 13 07.8	
	comp=Z,10nm,1.1s					
SNAA	Sanae	76.80 178	⇑P	P	10 13 04.9	+0.7
	comp=Z,117nm,0.9s					
SNAA	Sanae	76.80 178	P	P	10 13 04.4	+0.2
	comp=Z,6.6nm,1.0s,baz=180,slow=14,SNR=6.3					
	comp=Z,6.6nm,1.0s					
VNA3	Neumayer Olymp	76.95 176	⇑P	P	10 13 05.2	+0.1
	comp=Z,19nm,0.8s					
VNA2	Neumayer--Watz	77.38 177	⇑P	P	10 13 08.0	+0.5
	comp=Z,15nm,1.0s,baz=161,slow=5.2					
VNA1	Neumayer--Stat	77.61 176	⇑P	P	10 13 09.7	+1.0
	comp=Z,19nm,0.9s					
PLCA	Paso Flores	81.50 133	P	P	10 13 30.5	-0.1
	comp=Z,2.2nm,1.0s,baz=193,slow=2.5,SNR=3.1					
	comp=Z,2.2nm,1.0s					
PETK	Petropavlovsk-	87.15 346	P	P	10 13 59.1	+0.6
PETK	Petropavlovsk-	87.15 346	P	P	10 13 58.0	-0.5
	comp=Z,5.6nm,0.8s,baz=101,slow=6.3,SNR=4.0					
	comp=Z,5.6nm,0.8s					
O02D	Mt. Diablo Mer	87.87 39	P	P	10 14 03.3	+0.9
O02D			IAmb	IAmb	10 14 06.8	
	comp=Z,9.9nm,1.1s					
CFA	Coronel Fontan	88.33 126	P	P	10 14 04.5	-0.6
	comp=Z,1.7nm,0.9s,baz=284,slow=1.8,SNR=4.4					
	comp=Z,1.7nm,0.9s					
USRK	Ussuriysk Ar.	88.35 326	P	P	10 14 03.4	-1.1
	comp=Z,1.8nm,0.7s,baz=92,slow=6.2,SNR=4.3					
	comp=Z,1.8nm,0.7s					
NVAR	Mina Array Bea	89.15 43	P	P	10 14 07.8	-0.9
	comp=Z,3.4nm,1.0s,baz=214,slow=7.1,SNR=12					
	comp=Z,3.4nm,1.0s					
PINE	Pine Mountain	91.40 37	P	P	10 14 19.6	+0.6
PINE			IAmb	IAmb	10 14 23.0	
	comp=Z,9.1nm,1.1s					
KNB	Kanab	91.50 47	P	P	10 14 20.6	+0.9
KNB			IAmb	IAmb	10 14 24.0	
	comp=Z,4.4nm,1.0s					
NNA	Nana	92.93 106	LR	LR	10 48 06.1	
	comp=Z,34nm,19.2s,baz=229,slow=30					
TXAR	Lajitas Array	93.02 57	P	P	10 14 25.8	-1.0
	comp=Z,1.2nm,1.1s,baz=193,slow=5.1,SNR=5.6					
	comp=Z,1.2nm,1.1s					
PDAR	Pinedale Array	97.03 44	P	P	10 14 43.5	-1.5
	comp=Z,0.5nm,0.9s,baz=214,slow=2.6,SNR=4.0					
	comp=Z,0.5nm,0.9s					
MKAR	Makanchi Array	118.73 309	PKP	PKPdf	10 19 59.9	-1.0
	comp=Z,1.4nm,1.1s,baz=111,slow=1.7,SNR=4.9					
KURBB	Kurchatov Arra	122.10 313	PKP	PKPdf	10 20 06.0	-1.1
	comp=Z,1.4nm,0.8s,baz=108,slow=1.7,SNR=7.3					
BVAR	Borovoye Array	127.45 315	PKP	PKPdf	10 20 16.6	-0.9
	comp=Z,0.7nm,0.4s,baz=75,slow=1.7,SNR=7.0					
KBZ	Khabaz	145.95 302	PKPbc	PKPdf	10 20 52.1	+0.4
	comp=Z,13nm,1.1s,baz=112,slow=3.3,SNR=9.3					
FINES	FINESS Array B	146.45 339	PKPbc	PKPdf	10 20 51.7	-0.3
	comp=Z,8.9nm,0.7s,baz=36,slow=4.3,SNR=24					
HFS	Hagfors	150.59 348	PKPbc	PKPdf	10 21 02.6	+3.9
	comp=Z,6.0nm,1.0s,baz=7.6,slow=4.4,SNR=2.6					
MMAI	Mount Meron Ar	151.95 282	PKPbc	PKPbc	10 21 08.8	+0.4
	comp=Z,4.2nm,0.6s,baz=73,slow=5.7,SNR=14					
AKASG	Malin Array Be	152.44 321	PKPbc	PKPbc	10 21 08.2	-0.6
	comp=Z,3.1nm,0.8s,baz=61,slow=2.4,SNR=11					
BRTR	Keskin Array B	153.33 296	PKPbc	PKPbc	10 21 11.1	-0.2
	comp=Z,1.5nm,0.6s,baz=111,slow=6.8,SNR=6.1					
GERES	GERESS Array B	160.83 336	PKPab	PKPab	10 21 54.1	-1.0
	comp=Z,0.6nm,0.6s,baz=26,slow=2.6,SNR=5.0					
TORD	Torodi Ar. Bea	161.47 179	PKPab	PKPab	10 21 58.2	-0.4
	comp=Z,0.9nm,0.3s,baz=184,slow=2.5,SNR=3.8					
DAVOX	Davos/Dischmat	163.86 341	PKPab	PKPab	10 22 07.4	-1.2
	comp=Z,2.5nm,0.8s,baz=3.9,slow=8.3,SNR=4.3					
ESDC	Sonseca Array	170.67 30	PKP	PKPdf	10 21 21.3	+0.1
	comp=Z,1.7nm,1.3s,baz=332,slow=4.0,SNR=2.7					

*NEIC **23** 10:04:07.8±1.0, 32°.19S±0°.09×177°.71W±0°.2, h10km±1km, mb4.6/18, Error ellipse: s-maj=24.0km s-min=15.8km az=84.0*

*WEL **23** 10:04:08.1±1.0, 32°S±5°×17°7W±1°5, h12km, M4.7/8, mB4.8/6, ML5.3/11, MLv5.1/8, Mw(mB)4.0/6, Error ellipse: s-maj=19.9km s-min=4.1km az=103.7, confirmed*

*IDC **23** 10:04:10.3±1.0, 31°.38S×177°.89W, h0km, mb4.4/6, mbtmp4.4/6, Error ellipse: s-maj=33.0km s-min=31.6km az=13.0*

ISC 23 10:04:06.8±0.9, 31°.93S±0°.06×177°.1W±0°.1, h10km, n66, σ1°95/79, mb4.5/15, 3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.76	344	P	Pn	10 04 49.1	-2.0
GLKZ				S	Sn	10 05 17.3	-7.2
MXZ	Matakaoa Point	6.79	213	P	Pn	10 05 45.2	-1.2
MXZ				S	Sn	10 07 02.8	-1.0
WMGZ	Waiomatatini S	6.95	211	P	Pn	10 05 50.2	+1.5
WMGZ				S	Sn	10 07 10.2	+2.5
PKGZ	Pakihiroa	7.14	213	S	Sn	10 07 12.2	-0.3
HAZ	Te Kaha	7.19	215	P	Pn	10 05 54.4	+2.5
HAZ				S	Sn	10 07 15.7	+2.1
PUZ	Puketiti	7.23	211	P	Pn	10 05 53.6	+1.1
PUZ				S	Sn	10 07 15.4	+0.7
RUGZ	Raukumara Rang	7.41	214	P	Pn	10 05 55.7	+0.6
RUGZ				S	Sn	10 07 19.9	+0.7
TWGZ	Tauwhareparae	7.44	212	P	Pn	10 05 56.2	+0.8
TWGZ				S	Sn	10 07 19.8	0.0
CNGZ	Carnagh Statio	7.59	209	P	Pn	10 05 58.5	+1.0
CNGZ				S	Sn	10 07 25.7	+2.0
TKGZ	Te Karaka	7.71	211	S	Sn	10 07 26.8	+0.3
MWZ	Matawai	7.77	213	P	Pn	10 06 01.0	+1.0
MWZ				S	Sn	10 07 27.2	-0.9
OPRZ	Ohinepanea	7.89	220	P	Pn	10 06 03.0	+1.4
OPRZ				S	Sn	10 07 31.0	+0.1
URZ	Urewera	7.91	215	Pn	Pn	10 06 02.1	+0.2
	2.2nm,0.3s,baz=354,slow=4.3,SNR=0.6						
URZ				Sn	Sn	10 07 29.2	-2.3
	4.8nm,0.3s,baz=185,slow=20,SNR=7.4						
URZ	Urewera	7.91	215	P	Pn	10 06 02.6	+0.7
URZ				S	Sn	10 07 29.2	-2.3
RAGZ	Rawiri	7.95	213	P	Pn	10 06 02.9	+0.4
RAGZ				S	Sn	10 07 32.2	-0.4
RIGZ	Rimuhau	7.97	211	P	Pn	10 06 03.7	+0.9
RIGZ				S	Sn	10 07 31.7	-1.3
WCZ	Waipu Caves	8.18	238	P	Pn	10 06 08.3	+2.7
RTZ	Ruatahuna	8.25	214	P	Pn	10 06 07.2	+0.5
KNZ	Kokohu	8.27	210	P	Pn	10 06 06.4	-0.4
OUZ	Omahuta	8.45	245	P	Pn	10 06 13.0	+3.7
BKZ	Black Stump Fm	8.92	214	Pn	Pn	10 06 13.2	-2.7
BKZ	Black Stump Fm	8.92	214	P	Pn	10 06 17.6	+1.8
MCHZ	McNeill Hill	9.05	212	P	Pn	10 06 18.5	+1.0
MCHZ				S	Sn	10 07 58.8	-0.6
KWHZ	Kaweka Forest	9.16	213	P	Pn	10 06 19.4	+0.3
KWHZ				S	Sn	10 08 00.3	-1.9
HIZ	Hauiti	9.31	223	P	Pn	10 06 24.8	+3.7
KRHZ	Kereru	9.36	213	S	Sn	10 08 02.2	-4.8
PXZ	Pawanui	9.46	210	P	Pn	10 06 25.6	+2.5
PXZ				S	Sn	10 08 04.9	-4.6
PNHZ	Pukenui	9.65	213	P	Pn	10 06 26.0	+0.2
PNHZ				S	Sn	10 08 08.9	-5.4
PRHZ	Porangahau	9.75	210	P	Pn	10 06 26.0	-1.2
TSZ	Takapari Road	9.88	213	P	Pn	10 06 28.0	-0.9
DZM	Mont Dzumac	17.65	300	P	Pn	10 08 14.1	+1.1
DZM				IAmb	IAmb	10 08 19.9	
	comp=Z,26nm,1.1s						
WHZ	Wether Hill Ro	18.13	215	P	Pn	10 08 15.9	-2.8
LHI	Lord Howe Isla	20.30	265	P	P	10 08 42.0	-0.9
LHI				IAmb	IAmb	10 09 00.6	
	comp=Z,33nm,1.1s						
ARMA	Armidale	26.78	265	P	P	10 09 46.0	-1.1
ARMA				IAmb	IAmb	10 10 02.8	
	comp=Z,9.8nm,1.1s						
CAN	Canberra	28.38	254	P	P	10 10 00.7	-0.6
CAN				IAmb	IAmb	10 10 14.9	
	comp=Z,5.9nm,1.1s						
EIDS	Eidsvold	28.64	275	P	P	10 10 03.5	-0.2
EIDS				IAmb	IAmb	10 10 06.2	
	comp=Z,5.3nm,0.9s						
STKA	Stephens Creek	34.94	259	P	P	10 10 59.1	+0.2
STKA	Stephens Creek	34.94	259	P	P	10 10 59.2	+0.2
	comp=Z,4.4nm,0.7s,baz=102,slow=9.3,SNR=6.7						
	comp=Z,4.4nm,0.7s						
MGBR	Mount Gambier	35.03	249	P	P	10 10 59.0	-0.6
BBOO	Buckleboo	39.35	256	P	P	10 11 35.8	-0.7
BBOO				IAmb	IAmb	10 11 37.1	
	comp=Z,7.5nm,0.8s						
COEN	Coen	40.47	287	P	P	10 11 46.7	+0.8
AS31	Alice Springs	43.84	268		P	10 12 12.8	-0.6
ASAR	Alice Springs	43.84	268	P	P	10 12 12.5	-0.9
ASAR	Alice Springs	43.84	268	P	P	10 12 12.8	-0.7
	comp=Z,1.8nm,0.4s,baz=106,slow=8.0,SNR=11						
	comp=Z,1.8nm,0.4s						
WR8	Warramunga Arr	44.83	273	P	P	10 12 21.4	+0.1
WB2	Warramunga Arr	44.96	273		P	10 12 22.1	-0.2
WRA	Warramunga Arr	44.97	273		P	10 12 22.2	-0.2
WRA	Warramunga Arr	44.97	273	P	P	10 12 21.4	-1.1
	comp=Z,9.3nm,0.6s,baz=112,slow=7.9,SNR=14						
	comp=Z,9.3nm,0.6s						
WB0	Warramunga Arr	45.00	273		P	10 12 22.3	-0.3
FORT	Forrest	46.44	256	P	P	10 12 33.1	-0.9
FORT				IAmb	IAmb	10 12 34.2	
	comp=Z,18nm,0.8s						
KNRA	Kununurra	51.63	275	P	P	10 13 14.0	+0.1
KNRA				IAmb	IAmb	10 13 28.4	
	comp=Z,28nm,1.1s						
FITZ	Fitzroy Crossi	53.16	271	P	P	10 13 24.5	-0.8
CASY	Casey	54.17	208	P	P	10 13 30.6	-1.3
CASY				IAmb	IAmb	10 13 41.6	
	comp=Z,7.9nm,0.8s						
QSPA	South Pole Qui	58.18	180	P	P	10 13 59.9	-1.0
QSPA				IAmb	IAmb	10 14 16.4	
	comp=Z,3.4nm,0.8s						
QSPA	South Pole Qui	58.18	180	P	P	10 14 08.8	+8.0
	comp=Z,2.1nm,0.8s,baz=316,slow=11,SNR=2.5						
	comp=Z,2.1nm,0.8s						
TROLL	Troll, Antarti	76.35	180	⇓P	P	10 16 12.5	+17
	comp=Z,210nm,0.7s						
SNAA	Sanae	76.61	178	P	P	10 16 06.9	+10
	comp=Z,2.0nm,0.9s,baz=193,slow=14,SNR=2.1						
	comp=Z,2.0nm,0.9s						
VNA3	Neumayer Olymp	76.73	176	⇓P	P	10 16 14.5	+17
	comp=Z,5.7nm,0.6s						
VNA2	Neumayer--Watz	77.17	177	⇓P	P	10 16 16.7	+16
	comp=Z,5.9nm,0.6s,baz=162,slow=3.0						
PETK	Petropavlovsk-	87.49	345	P	P	10 16 56.9	+2.7
	comp=Z,5.0nm,0.8s,baz=187,slow=6.8,SNR=2.9						
	comp=Z,5.0nm,0.8s						
KBZ	Khabaz	146.61	302	PKPbc	PKPab	10 23 50.9	+1.3
	comp=Z,6.0nm,1.0s,baz=117,slow=5.5,SNR=5.0						
FINES	FINESS Array B	146.85	340	PKPbc	PKPab	10 23 50.7	+0.8
	comp=Z,11nm,0.8s,baz=44,slow=4.2,SNR=14						
HFS	Hagfors	150.90	349	PKPbc	PKiKP	10 24 01.9	+2.3
	comp=Z,3.5nm,0.8s,baz=73,slow=4.8,SNR=5.1						
MMAI	Mount Meron Ar	152.64	281	PKPbc	PKiKP	10 24 07.4	+3.2
	comp=Z,3.1nm,0.4s,baz=105,slow=3.4,SNR=17						
AKASG	Malin Array Be	153.00	322	PKPbc	PKiKP	10 24 06.8	+2.6
	comp=Z,0.4nm,0.3s,baz=51,slow=3.2,SNR=2.8						
BRTR	Keskin Array B	154.01	296	PKPbc	PKiKP	10 24 08.2	+1.3
	comp=Z,0.7nm,0.4s,baz=138,slow=3.4,SNR=4.3						

IDC 23 10:07:51.2±5.3, 30°.54S×178°.32W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=194.4km s-min=55.7km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.17	257	P	P	10 14 37.9	-0.4
	1.4nm,0.5s,baz=90,slow=14,SNR=3.1						
	1.4nm,0.5s						
ASAR	Alice Springs	42.82	267	P	P	10 15 50.9	-0.3
	1.1nm,0.5s,baz=108,slow=7.5,SNR=7.2						
	1.1nm,0.5s						
WRA	Warramunga Arr	43.82	272	P	P	10 15 59.7	+0.4
	2.1nm,0.5s,baz=112,slow=7.9,SNR=6.1						
	2.1nm,0.5s						
JMJ	Miyako jima 2	77.11	309	P	P	10 19 56.6	+10
FINES	FINESS Array B	145.18	340	PKPbc	PKPbc	10 27 28.7	-0.9
	7.6nm,1.0s,baz=46,slow=4.0,SNR=4.1						

*IDC **23** 10:09:40.2±2.2, 31°.67S×177°.71W, h0km, mb4.1/3, mbtmp4.2/4, ML3.5/1, Error ellipse: s-maj=66.7km s-min=41.5km az=138.0*

ISC 23 10:09:42.3±2.1, 31°.9S±0°.2×177°.8W±0°.4, h10km, n6, σ0°92/8, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.64	212	Pn	Pn	10 11 34.6	+1.0
	0.7nm,0.3s,baz=45,slow=4.3,SNR=1.5						
URZ				Sn	Sn	10 12 58.9	-1.2
	2.6nm,0.3s,baz=221,slow=21,SNR=6.0						
	13nm,0.6s						
STKA	Stephens Creek	34.35	259	P	P	10 16 30.1	+0.7
	2.7nm,0.7s,baz=107,slow=14,SNR=3.7						
	2.7nm,0.7s						
ASAR	Alice Springs	43.23	268	P	P	10 17 43.7	-0.3
	1.2nm,0.6s,baz=108,slow=7.3,SNR=8.0						
ASAR				PcP	PcP	10 19 32.3	-0.9
	0.2nm,0.4s,baz=106,slow=4.3,SNR=1.5						
	1.2nm,0.6s						
WRA	Warramunga Arr	44.35	274	P	P	10 17 52.7	-0.3
	2.4nm,0.6s,baz=114,slow=7.6,SNR=5.7						
	2.4nm,0.6s						
FINES	FINESS Array B	146.57	339	PKPbc	PKPdf	10 29 21.3	-0.4
	3.0nm,0.7s,baz=41,slow=4.4,SNR=6.2						
MMAI	Mount Meron Ar	152.02	281	PKPbc	PKPbc	10 29 38.3	+0.3
	1.1nm,0.6s,baz=54,slow=9.7,SNR=3.8						

*JMA **23** 10:19:06.3±0.2, 25°N±1°×123°.6E±0°.4, h114km±2km, MV3.0/16, NW OFF ISHIGAKIJIMA IS*

ISC 23 10:19:06.2±1.8, 24°.9N±0°.1×123°.56E±0°.05, h122km±13km, n18, σ0°50/28, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.55	164	P	Pn	10 19 24.4	-0.2
IRIF				S	Sn	10 19 38.5	0.0
YOJ	Yonaguni jima	0.64	232	eP	Pn	10 19 25.2	0.0
YOJ				S	Sn	10 19 39.3	-0.4
JYNG	Yonagunijimaku	0.69	234	P	Pn	10 19 25.6	0.0
JYNG				eS	Sn	10 19 40.0	-0.3
JIJ	Ishigaki jima	0.72	133	i P	Pn	10 19 25.9	0.0
JIJ				S	Sn	10 19 40.3	-0.5
JISG	Ishigakijimahi	0.73	112	i P	Pn	10 19 25.8	-0.1
JISG				S	Sn	10 19 40.8	-0.1
JKRS	Kuro-shima	0.74	147	i P	Pn	10 19 26.5	+0.4
JKRS				S	Sn	10 19 41.7	+0.6
HATJ	Hateruma jima	0.83	164	eP	Pn	10 19 27.3	+0.4
HATJ				eS	Sn	10 19 43.1	+0.7
JTJ	Tarama	1.06	102	P	Pn	10 19 29.1	+0.2
JTJ				S	Sn	10 19 46.4	+0.3
JIRB	Irabujima	1.46	91	eP	Pn	10 19 33.1	-0.2
JIRB				S	Sn	10 19 53.1	-0.9
JIKM	Ikemajima	1.53	87	eS	Sn	10 19 55.0	-0.3
JMJ2	Miyako jima3	1.61	94	eP	Pn	10 19 35.3	+0.3
JMJ2				eS	Sn	10 19 57.0	+0.1
TATO	Taipei	1.89	274	P	Pn	10 19 39.0	+0.7
NACB	Ninganchiao	1.92	249	P	Pn	10 19 37.9	-0.8
YHNB	Yeheng	2.00	265	P	Pn	10 19 40.3	+0.5
YULB	Yu-li	2.53	235	P	Pn	10 19 45.6	-0.9
SSLB	Suanglung	2.61	246	P	Pn	10 19 47.4	-0.1
TWGBT	Beinan	3.05	229	P	Pn	10 19 53.1	-0.1
TPUB	Ta-pu	3.10	240	P	Pn	10 19 54.7	+0.8

*NEIC **23** 10:28:50.0±1.4, 29°.03N±0°.02×97°.89W±0°.02, h6km±4km, Error ellipse: s-maj=3.3km s-min=2.2km az=147.0*

NEIC 23 10:28:50.2±1.3, 29°.04N±0°.02×97°.92W±0°.02, h5km±1km, mb_Lg2.9/44, ML2.8/6, ML2.6/12, Error ellipse:

s-maj=4.5km s-min=3.0km az=151.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
735A	Kenedy	0.20	153	Pg	Pg	10 28 53.2	-1.1
735A				Sg	Sg	10 28 56.8	-0.1
735A				IAML		10 28 58.0	
	2μm,0.8s						
EF04	Eagle Ford 04	0.20	32		Pg	10 28 53.7	-0.5
EF01	Eagle Ford 01	0.42	283		Pg	10 28 58.2	-0.1
MLDN	Muldoon	1.05	45		Pg	10 29 09.6	-0.7
MLDN				IAmb_Lg		10 29 24.6	
	comp=Z,69nm,0.8s						
MLDN				IAML		10 29 27.1	
	comp=Z,280nm,0.7s						
HNDO	Hondo	1.29	293		Pn	10 29 13.0	-2.0
KVTX	Kingsville	1.49	179		Pn	10 29 17.9	+0.3
435B	Jarrell	1.76	9		Pn	10 29 20.8	-0.7
HKT	Hockley	2.03	63		Pn	10 29 23.2	-1.8
JCT	Junction City	2.18	312		Pn	10 29 27.9	+0.6
JCT				IAmb_Lg		10 30 03.3	
	comp=Z,49nm,0.8s						
DRIO	Del Rio	2.39	280		Pn	10 29 30.1	0.0
BRDY	Brady	2.43	338		Pn	10 29 30.6	0.0
BRDY				IAmb_Lg		10 30 10.0	
	comp=Z,37nm,0.8s						
WHTX	Lake Whitney,	2.97	8	Pn	Pn	10 29 37.8	-0.2
OZNA	Ozona	3.36	305		Pn	10 29 44.2	+0.8
OZNA				IAmb_Lg		10 30 45.6	
	comp=Z,23nm,0.8s						
FW14	Alvarado	3.41	10	IAmb_Lg		10 30 43.6	
	comp=Z,23nm,1.0s						
FW07	Weatherford	3.66	2	IAmb_Lg		10 30 49.8	
	comp=Z,28nm,0.9s						
PLPT	Palo Pinto	3.78	355		Pn	10 29 49.6	+0.4
SAND	Sanderson	3.78	285	Pn	Pn	10 29 48.9	-0.3
ABTX	Abilene, Hawle	3.87	338		Pn	10 29 50.4	0.0
FW06	Azle	3.94	4	IAmb_Lg		10 31 04.5	
	comp=Z,27nm,1.0s						
Z35A	Perchaven, San	4.32	7	IAmb_Lg		10 31 13.1	
	comp=Z,18nm,0.9s						
SN05	Snyder 5	4.60	327	IAmb_Lg		10 31 20.0	
	comp=Z,26nm,0.8s						
APMT	Aspermont	4.67	337		Pn	10 30 02.0	+0.5
APMT				IAmb_Lg		10 31 30.1	
	comp=Z,20nm,0.9s						
WTFS	Witchita Falls	4.74	354	Pn	Pn	10 30 02.6	+0.3
WTFS				IAmb_Lg		10 31 31.0	
	comp=Z,16nm,1.1s						
SN07	Snyder 07	4.78	328	Pn	Pn	10 30 01.2	-1.7
MNHN	Monahans	4.78	300	IAmb_Lg		10 31 35.2	
	comp=Z,28nm,0.8s						
TX31	Lajitas Ar. Si	5.04	275	Pn	Pn	10 30 06.5	-0.1
POST	Post	5.06	323	Pn	Pn	10 30 08.1	+1.2
POST				IAmb_Lg		10 31 38.9	
	comp=Z,27nm,1.0s						
ALPN	Alpine	5.15	286	IAmb_Lg		10 31 46.3	
	comp=Z,22nm,1.2s						
PECS	Pecos	5.65	296	IAmb_Lg		10 32 02.1	
	comp=Z,16nm,0.8s						
WMOK	Wichita Mounta	5.73	353	IAmb_Lg		10 31 57.8	
	comp=Z,22nm,1.1s						
FNO	Franklin	6.22	4	IAmb_Lg		10 32 22.3	
	comp=Z,15nm,0.7s						
SMWD	Samnorwood	6.36	343	IAmb_Lg		10 32 25.2	
	comp=Z,17nm,0.7s						

*IDC **23** 10:35:59.4±2.1, 9°.96S×159°.91E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=81.3km s-min=26.8km az=123.0*

ISC 23 10:36:04.3±2.1, 10°.0S±0°.3×159°.9E±0°.5, h32km, n6, σ0°68/6, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.57	245	P	P	10 41 38.9	-0.8
	1.2nm,0.7s,baz=70,slow=9.6,SNR=3.4						
	1.2nm,0.7s						
STKA	Stephens Creek	27.60	215	P	P	10 41 49.3	+0.4
	2.0nm,1.0s,baz=49,slow=9.3,SNR=2.0						
	2.0nm,1.0s						
ASAR	Alice Springs	28.29	238	P	P	10 41 55.1	-0.1
	0.4nm,0.7s,baz=59,slow=9.8,SNR=5.9						
	0.4nm,0.7s						
SONM	Songino Array	74.50	326	P	P	10 47 40.5	+0.6
	0.3nm,0.5s,baz=123,slow=7.1,SNR=2.3						
	0.3nm,0.5s						
ILAR	Eielson Array	84.43	20	P	P	10 48 33.1	-0.3
	0.2nm,0.6s,baz=237,slow=4.9,SNR=7.2						
	0.2nm,0.6s						
MKAR	Makanchi Array	88.86	318	P	P	10 48 55.3	-0.2
	0.1nm,0.4s,baz=104,slow=5.3,SNR=3.3						
	0.1nm,0.4s						

TRN 23 10:40:44.5, 13°.22N×58°.81W, h68km, MD3.8, East of Barbados., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLAC	Saint Lucia, A	2.14	289	eP	Pn	10 41 19.4	+1.4
SLAC				eS	Sn	10 41 44.9	+1.3
SLBI	Saint Lucia, B	2.25	291	eP	Pn	10 41 20.1	+0.6
SLBI				eS	Sn	10 41 46.1	-0.1
SVT	Saint Vincent	2.37	269	eP	Pn	10 41 22.7	+1.6
SVT				eS	Sn	10 41 50.6	+1.5
SVB	Belmont	2.38	272	eP	Pn	10 41 22.9	+1.6
SVB				eS

JMN Monobe 17.96 326 P **P 10 58 18.2 -0.5**
JMN Monobe 17.96 326 P **Pn 10 58 20.8 +0.9**
JGF Kuroka 17.97 337 P **P 10 58 19.2 +0.4**
JGF Kuroka 17.97 337 P **P 10 58 19.1 +0.3**
MJAR Matsushiro Arr 18.53 341 P **P 10 58 24.2 -0.7**
12nm,0.6s,baz=170,slow=12,SNR=45
MJAR S **S 11 01 41.0 -9.0**
1.0nm,0.8s,baz=123,slow=13,SNR=1.0
MAJO Matsushiro 18.53 341 P **P 10 58 24.4 -0.6**
MAJO Matsushiro 18.53 341 P **P 10 58 25.4 +0.4**
MAJO Matsushiro 18.53 341 *de*P **P 10 58 25.9 +0.9**
MAJO pmax pmax
comp=Z,30nm,0.7s
MJB9 Matsu-Tunnel 18.53 341 P **P 10 58 24.9 -0.1**
JMM Marumori 19.12 348 P **P 10 58 32.4 +1.1**
JMM IAmb IAmb 10 58 34.9
comp=Z,56nm,0.7s
JMM Marumori 19.12 348 P **Pn 10 58 33.2 -0.3**
JNU Nakatsue 19.24 319 P **P 10 58 32.4 -0.3**
JNU Nakatsue 19.24 319 P **P 10 58 32.6 -0.1**
comp=Z,9.4nm,0.8s,baz=4.2,slow=5.3,SNR=4.8
JNU LR LR 11 03 58.9
comp=Z,73nm,19.9s,baz=100,slow=30
JNU Nakatsue 19.24 319 P **P 10 58 33.9 +1.1**
H11S3 WAKE ISLAND Hy 19.81 89 T T 11 19 28.6
baz=275,slow=75
H11S1 WAKE ISLAND Hy 19.82 89 T T 11 19 29.0
baz=275,slow=75
H11S2 WAKE ISLAND Hy 19.83 89 T T 11 19 29.5
baz=275,slow=75
JSD Sado 19.89 342 P **P 10 58 40.0 +0.2**
H11N1 WAKE ISLAND Hy 19.92 85 T T 11 19 54.1
baz=274,slow=74
H11N2 WAKE ISLAND Hy 19.93 85 T T 11 19 49.4
baz=274,slow=74
H11N3 WAKE ISLAND Hy 19.94 85 T T 11 19 55.6
baz=274,slow=74
MANU Manus Island 21.15 176 P **P 10 58 52.3 -1.1**
MANU IAmb IAmb 10 58 53.4
comp=Z,90nm,0.8s
JTM Tenmabayashi 21.91 350 P **P 10 59 00.9 -0.4**
JTM IAmb IAmb 10 59 24.5
comp=Z,107nm,1.3s
JTM Tenmabayashi 21.91 350 P **P 10 59 02.2 +1.0**
JAY Jayapura 22.13 194 LR LR 11 06 27.8
comp=Z,75nm,20.9s,baz=324,slow=33
JAY Jayapura 22.13 194 P **P 10 59 03.0 -0.8**
SMPI Sarmi 22.16 199 P **P 10 59 04.4 +0.4**
GENI Genyem 22.33 195 P **P 10 59 05.6 -0.2**
comp=Z,182nm,1.0s
BAKI Biak 22.36 206 P **P 10 59 07.7 +1.6**
comp=Z,2μmcomp=Z,196nm,1.2s
ERM Erimo 22.87 355 P **P 10 59 11.4 +0.6**
ERM IAmb IAmb 10 59 19.6
comp=Z,51nm,1.0s
ERM Erimo 22.87 355 P **P 10 59 12.3 +1.5**
ERM Erimo 22.87 355 P **P 10 59 11.4 +0.6**
ERM pmax pmax
comp=Z,51nm,1.0s
JEM Erimo 22.87 355 P **P 10 59 13.3 +2.5**
SRPI Serui, Papua 22.92 205 P **P 10 59 13.6 +2.0**
comp=Z,186nm,1.1s
DAV Davao City (W) 23.02 241 LR LR 11 10 00.9
comp=Z,34nm,18.1s,baz=28,slow=41
YULB Yu-li 23.18 285 P **P 10 59 14.4 +0.4**
YULB Yu-li 23.18 285 P **P 10 59 16.0 +2.0**
YHNB Yeheng 23.27 288 P **P 10 59 16.0 +1.1**
YHNB IAmb IAmb 10 59 28.2
comp=Z,119nm,1.4s
SSLB Suanglung 23.53 286 P **P 10 59 18.8 +1.5**
TPUB Ta-pu 23.78 284 P **P 10 59 20.1 +0.7**
TPUB IAmb IAmb 10 59 22.6
comp=Z,45nm,1.0s
KSRS Korea Array 23.97 323 P **P 10 59 20.6 -0.4**
comp=Z,32nm,0.7s,baz=147,slow=9.2,SNR=89
KSRS pP **pP 10 59 47.6 +2.3**
comp=Z,13nm,0.8s,baz=147,slow=9.0,SNR=4.9
KSRS LR LR 11 08 50.4
comp=Z,31nm,19.0s,baz=115,slow=36
comp=Z,32nm,0.7s
KSAR Wonju Array Be 23.99 323 P **P 10 59 20.8 -0.4**
KSAR Wonju Array Be 23.99 323 P **P 10 59 20.8 -0.4**
KS19 Wonju Array Si 24.04 323 P **P 10 59 21.2 -0.5**
KS19 IAmb IAmb 10 59 22.3
comp=Z,48nm,0.8s
SWI Sorong 24.49 217 P **P 10 59 28.8 +2.9**
comp=Z,1μmcomp=Z,59nm,1.1s
JKA Kamikawa-asahi 25.00 355 P **P 10 59 31.4 +1.1**
JKA IAmb IAmb 10 59 35.4
comp=Z,41nm,0.9s
ASAJ Asahikawa 25.00 355 LR LR 11 11 23.2
comp=Z,64nm,18.2s,baz=172,slow=41
ASAJ Asahikawa 25.00 355 P **P 10 59 31.4 +1.1**
ASAJ pmax pmax
comp=Z,41nm,0.9s
FAKI Fak Fak 25.68 213 P **P 10 59 36.2 -0.5**
FAKI IAmb IAmb 10 59 41.2
comp=Z,43nm,0.9s
FAKI Fak Fak 25.68 213 P **P 10 59 36.6 -0.1**
FAKI Fak Fak 25.68 213 P **P 10 59 37.2 +0.5**
comp=Z,49nm,0.7s
NJ2 Nanjing 27.36 303 *e*P **P 10 59 53.4 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USA0B Ussuriysk Arra 27.48 338⇓*e*P **P 10 59 52.9 +0.3**
USRK Ussuriysk Ar. 27.48 338 P **P 10 59 52.6 0.0**
comp=Z,7.6nm,0.7s,baz=146,slow=9.0,SNR=7.6
USRK pP **pP 11 00 19.4 +0.9**
comp=Z,4.9nm,0.7s,baz=162,slow=9.2,SNR=3.4
USRK LR LR 11 09 35.1
comp=Z,67nm,20.2s,baz=81,slow=33
comp=Z,7.6nm,0.7s
YSS Yuzhno-Sakhali 27.81 356 *e*P **P 10 59 56.2 +0.7**
YSS *e* 11 00 34.8
YSS pmax pmax
comp=Z,30nm,0.7s
MDJ Mudanjiang 28.73 336 P **P 11 00 03.6 -0.1**
MDJ pmax pmax
comp=Z,12nm,1.2s
MRSI Marisa 29.86 234 P **P 11 00 15.1 +1.1**
comp=Z,55nm,1.0s
TOLI2 Tolitoli 30.37 237 P **P 11 00 18.9 +0.4**
TOLI2 IAmb IAmb 11 00 20.6
comp=Z,37nm,1.0s
TOLI2 Tolitoli 30.37 237 P **P 11 00 19.7 +1.2**
BNX BinXian 30.53 334 ⇓P **P 11 00 20.4 +0.8**
BNX pmax pmax
comp=Z,10.0nm,0.8s
WHN Wuhan 30.57 298 P P 11 00 26.0 +5.8
APSI Ampana 30.98 233 P **P 11 00 25.7 +1.8**
comp=Z,52nm,1.3s
KKM Kota Kinabalu 31.59 249 P **P 11 00 30.7 +1.3**
KKM Kota Kinabalu 31.59 249 P **P 11 00 31.0 +1.6**
HNR Honiara 31.68 153 LR LR 11 12 23.0
comp=Z,71nm,20.6s,baz=298,slow=34
TYV Tymovskoe 31.71 356 *e*P **P 11 00 31.0 +1.1**
TYV pmax pmax
comp=Z,16nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 32.03 343 *d i*P **P 11 00 33.2 +0.5**
KLR pmax pmax
comp=Z,67nm,0.8s
GRNR Gornyy 32.38 349 ⇓*i*P **P 11 00 37.1 +1.3**
GRNR pmax pmax
comp=N,10.0nm,0.7s
GRNR pmax pmax
comp=E,7.0nm,0.7s
GRNR pmax pmax
comp=Z,30nm,0.7s
HNS HongShan 32.62 310 ⇑P **P 11 00 38.8 +0.8**
HNS pmax pmax
comp=Z,25nm,0.7s
BJI Beijing 32.84 316 P **P 11 00 40.8 +0.9**
BJI pmax pmax
comp=Z,5.0nm,0.9s
COEN Coen 33.03 185 P **P 11 00 41.0 -0.8**
COEN IAmb IAmb 11 00 49.5
comp=Z,34nm,1.5s
NGOA Tingoa Renbel 33.63 154 P **P 11 00 46.0 -1.0**
TTSI Tana Toraja 33.75 232 P **P 11 00 50.3 +2.2**
comp=Z,111nm,0.9s
QIZ Qiongzhong 33.91 276 P **P 11 00 51.5 +2.0**
QIZ S **S 11 06 08.9 +3.5**
QIZ LR LR
comp=Z,320nm,7.1s
QIZ LR LR
comp=Z,290nm,9.4s
QIZ LR LR
comp=Z,330nm,8.8s
KDU Kakadu 34.27 203 P **P 11 00 51.8 -0.7**
HEH HeiHe 34.28 339 *e*P **P 11 00 52.4 +0.1**
HEH pmax pmax
comp=Z,47nm,0.9s
SPSI Sidrap Palu 34.41 231 P **P 11 00 54.9 +1.1**
comp=Z,80nm,0.9s
MTN Manton Dam 34.94 205 P **P 11 00 57.8 -0.5**
MTN Manton Dam 34.94 205 P **P 11 00 58.4 +0.1**
XLT XiLinHaoTe 34.99 321 *e*P **P 11 00 59.1 +0.5**
XLT pmax pmax
comp=Z,25nm,0.7s
XLT pmax pmax
comp=Z,160nm,5.9s
BKSI Bulukumba 35.08 229 P **P 11 01 00.9 +1.3**
comp=Z,35nm,1.0s
PEA0B Petropavlovsk- 35.10 13 P **P 11 00 59.9 +0.6**
PEA0B Petropavlovsk- 35.10 13 P **P 11 00 59.9 +0.6**
PEA0B pmax pmax
comp=Z,48nm,1.2s
PETK Petropavlovsk- 35.10 13 P **P 11 00 59.6 +0.3**
PETK Petropavlovsk- 35.10 13 P **P 11 00 59.9 +0.5**
comp=Z,13nm,0.9s,baz=183,slow=7.6,SNR=14
PETK LR LR 11 14 04.9
comp=Z,85nm,19.6s,baz=229,slow=34
comp=Z,13nm,0.9s
PETK Petropavlovsk- 35.10 13 P **P 11 00 59.7 +0.3**
KAPI Kappang 35.13 229 P **P 11 01 01.0 +1.0**
KAPI Kappang 35.13 229 *c i*P **P 11 01 01.0 +1.0**
KAPI pmax pmax
comp=Z,33nm,0.8s
BSSI Bau Bau, Buton 35.41 227 P **P 11 01 03.7 +1.4**
SOEI Soe 35.72 218 P **P 11 01 04.1 -1.1**
SOEI Soe 35.72 218 P **P 11 01 04.4 -0.8**
SOEI Soe 35.72 218 P **P 11 01 04.1 -1.1**
comp=Z,49nm,0.8s
XAN Xi'an 35.90 302 P P 11 00 58.8 -7.7
XAN pmax pmax
comp=Z,5.0nm,0.5s
HHC Hu-ho-hao-te 36.32 314 *e*P **P 11 01 10.3 +0.3**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.8s
HIA Hailar 36.57 331 P **P 11 01 11.8 -0.2**
HIA IAmb IAmb 11 01 12.4
comp=Z,10nm,0.7s
HIA Hailar 36.57 331 P **P 11 01 11.8 -0.2**
HIA pmax pmax
comp=Z,10.0nm,0.7s
SBUM Sibu 36.79 247 P **P 11 01 14.4 +0.3**
SBUM IAmb IAmb 11 01 17.1
comp=Z,15nm,0.6s
SBUM Sibu 36.79 247 P **P 11 01 15.9 +1.7**
MTSU Mount Surprise 37.11 182 P **P 11 01 16.2 -0.6**
BTO Baotou 37.27 313 *e*P **P 11 01 20.3 +2.2**
BTO pmax pmax
comp=Z,41nm,0.9s
BTO pmax pmax
comp=Z,350nm,5.8s
ZEA Zeya 37.33 342 *e*P **P 11 01 18.5 +0.2**
ZEA *e* 11 01 44.7
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
WSI Waingapu 38.11 223 P **P 11 01 26.6 +1.3**
TV1H Townsville Har 38.22 178 P **P 11 01 25.8 -0.2**
KNRA Kununurra 38.47 207 P **P 11 01 27.9 -0.3**
KSM Kuching 38.93 247 P **P 11 01 31.9 -0.3**
KSM IAmb IAmb 11 01 33.8
comp=Z,16nm,0.6s
PLAI Plampang 39.19 227 P **P 11 01 34.5 +0.2**
TWSI Taliwang, Sumb 39.76 228 P **P 11 01 39.3 +0.3**
comp=Z,129nm,0.8s
QIS Mount Isa 39.95 189 P **P 11 01 40.1 -0.4**
WB0 Warramunga Arr 40.28 197 P **P 11 01 43.1 -0.2**
SANVU Saraoutou 40.36 147 P **P 11 01 43.0 -0.9**
LZH Lanzhou 40.44 303 *e*P **P 11 01 46.1 +1.5**
LZH pmax pmax
comp=Z,31nm,1.0s
WRAB Tennant Creek 40.45 197 P **P 11 01 45.1 +0.5**
WRAB Tennant Creek 40.45 197 *de*P **P 11 01 44.5 -0.1**
WB2 Warramunga Arr 40.46 197 P **P 11 01 44.7 0.0**
WRA Warramunga Arr 40.47 197 P **P 11 01 44.7 -0.1**
WRA Warramunga Arr 40.47 197 P **P 11 01 44.5 -0.2**
comp=Z,30nm,0.5s,baz=9.7,slow=8.5,SNR=59
WRA ScP **ScP 11 07 21.6 -1.8**
comp=Z,1.5nm,0.8s,baz=20,slow=4.1,SNR=4.2
WRA LR LR 11 19 38.1
comp=Z,55nm,19.3s,baz=130,slow=38
comp=Z,30nm,0.5s
WRA Warramunga Arr 40.47 197 *i*P **P 11 01 44.7 -0.1**
WRA pmax pmax
comp=Z,53nm,0.8s
MA2 Magadan 40.51 4 P **P 11 01 46.2 +1.6**
MA2 IAmb IAmb 11 01 47.1
comp=Z,29nm,0.8s
MA2 Magadan 40.51 4 *d i*P **P 11 01 45.7 +1.1**
MA2 pmax pmax
comp=Z,27nm,0.7s
MA2 Magadan 40.51 4 P **P 11 01 44.7 +0.1**
comp=Z,44nm,0.8s
MA2 Magadan 40.51 4 P **P 11 01 45.8 +1.2**
MA2 PcP **PcP 11 03 45.1 +0.4**
PZH PanZhiHua 41.07 289 P **P 11 01 50.0 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,190nm,5.6s
FITZ Fitzroy Crossi 41.99 209 P **P 11 01 57.9 +0.7**
ULN Ulaanbaatar 42.44 321 P **P 11 02 01.5 +0.7**
ULN IAmb IAmb 11 02 02.1
comp=Z,19nm,0.7s
ULN Ulaanbaatar 42.44 321 *ce*P **P 11 02 00.9 +0.2**
ULN pmax pmax
comp=Z,19nm,0.7s
ULN Ulaanbaatar 42.44 321 P **P 11 02 01.0 +0.2**
SONM Songino Array 42.81 321 P **P 11 02 04.4 +0.6**
SONM IAmb IAmb 11 02 05.0
comp=Z,16nm,0.7s
SONM Songino Array 42.81 321 P **P 11 02 04.0 +0.2**
comp=Z,14nm,0.7s,baz=137,slow=8.8,SNR=119
comp=Z,14nm,0.7s
SONM Songino Array 42.81 321 P **P 11 02 04.4 +0.6**
SONM pmax pmax
comp=Z,16nm,0.7s
KIWB Kanaga Island 43.62 33 P **P 11 02 11.7 +1.7**
ADK Adak 43.88 33 P **P 11 02 13.4 +1.3**
ADK Adak 43.88 33 P **P 11 02 13.4 +1.3**
ADK pmax pmax
comp=Z,55nm,0.9s
UGM Wanagama 43.95 235 P **P 11 02 14.1 +1.0**
UGM Wanagama 43.95 235 P **P 11 02 14.2 +1.0**
SEY Seymchan 43.95 4 ⇓*i*P **P 11 02 14.0 +1.5**
SEY pmax pmax
comp=Z,43nm,1.7s
AS01 Alice Springs 44.12 196 P **P 11 02 14.1 -0.3**
AS31 Alice Springs 44.13 196 P **P 11 02 14.7 +0.3**
ASAR Alice Springs 44.13 196 P **P 11 02 14.0 -0.4**
ASAR Alice Springs 44.13 196 P **P 11 02 13.8 -0.7**
comp=Z,7.4nm,0.6s,baz=21,slow=7.3,SNR=83
ASAR ScP **ScP 11 07 35.7 -2.4**
comp=Z,0.6nm,0.7s,baz=19,slow=5.9,SNR=3.3
ASAR LR LR 11 19 46.2
comp=Z,68nm,21.5s,baz=52,slow=35
comp=Z,7.4nm,0.6s
ASAR Alice Springs 44.13 196 P **P 11 02 14.0 -0.4**
CMAR Chiang Mai Arr 44.23 277 P **P 11 02 15.9 +0.6**
comp=Z,1.6nm,0.7s,baz=68,slow=7.1,SNR=13
CMAR pP **pP 11 02 43.5 +1.3**
comp=Z,2.2nm,0.7s,baz=69,slow=7.0,SNR=2.8
comp=Z,1.6nm,0.7s
CMAR Chiang Mai Arr 44.23 277 *i*P **P 11 02 17.3 +1.9**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
YAK Yakutsk 44.26 349 P **P 11 02 15.4 +0.5**
YAK Yakutsk 44.26 349 *e*P **P 11 02 15.2 +0.3**
YAK *e* 11 03 56.7
YAK *e*PPP PPP 11 04 39.7
YAK *e*S **S 11 08 42.0 +2.8**
YAK *e*SS **ScS 11 11 57.5 -2.7**
YAK *e*SSS SSS 11 12 53.6
YAK pmax pmax
comp=Z,158nm,0.9s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,17nm,1.5s
YAK pmax pmax
comp=Z,332nm,8.0s
YAK pmax pmax
comp=N,76nm,4.9s
YAK pmax pmax
comp=E,208nm,6.0s
YAK smax smax
comp=N,142nm,5.3s
YAK smax smax
comp=E,55nm,3.2s
YAK Yakutsk 44.26 349 P **P 11 02 15.3 +0.3**
YAK pP **pP 11 02 40.3 -1.9**
GTA Gaotai 44.31 307 *e*P **P 11 02 17.4 +1.5**
GTA pmax pmax
comp=E,5.0nm,0.9s
EIDS Eidsvold 44.58 173 P **P 11 02 16.8 -1.2**
ATKA Atka Island 45.35 34 P **P 11 02 24.8 +1.1**
ATKA Atka Island 45.35 34 P **P 11 02 24.9 +1.2**
NOUC Port Laguerre 45.68 153 P **P 11 02 26.4 -0.3**
NOUC pP **pP 11 02 51.8 -1.8**
DZM Mont Dzumac 45.71 153 P **P 11 02 26.7 -0.3**
DZM Mont Dzumac 45.71 153 LR LR 11 18 32.0
comp=E,82nm,20.8s,baz=144,slow=32
DZM Mont Dzumac 45.71 153 P **P 11 02 27.1 0.0**
DZM Mont Dzumac 45.71 153 P **P 11 02 27.1 0.0**
ZAK Zakamensk 45.81 323 *e*P **P 11 02 27.0 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
YATNC Mamie plateau, 45.90 152 P **P 11 02 29.3 +0.9**
ONTNC Ouen Toro 45.92 153 P **P 11 02 28.3 -0.3**
KULM Kulim 46.05 259 P **P 11 02 31.8 +1.9**
KULM Kulim 46.05 259 P **P 11 02 30.7 +0.9**
OUENC Ouen Island, N 46.19 153 P **P 11 02 30.0 -0.7**
PINNC Pines Island, 46.63 152 P **P 11 02 33.8 -0.3**
INKA Innaminka 46.90 186 P **P 11 02 34.7 -1.4**
WRKA Warakurna 47.13 202 P **P 11 02 38.1 +0.1**
MBWA Marble Bar 47.51 214 P **P 11 02 41.0 0.0**
MBWA IAmb IAmb 11 02 42.2
comp=Z,26nm,0.8s
MBWA Marble Bar 47.51 214 P **P 11 02 41.0 0.0**
GOMU GeErMu 47.65 302 P **P 11 02 45.1 +2.6**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
MOY Mondy 47.67 324 *e*P **P 11 02 42.6 +0.5**
MOY pmax pmax
comp=Z,22nm,2.4s
OOD Oodnadatta 47.71 192 P **P 11 02 41.5 -0.9**
PSA00 Pilbara Seismi 47.79 213 P **P 11 02 43.3 +0.2**
PSA00 Pilbara Seismi 47.79 213 P **P 11 02 43.4 +0.2**
NIKH Nikolski High 48.57 35 P **P 11 02 48.4 -0.3**
baz=244
ARMA Armidale 49.63 173 P **P 11 02 56.5 -0.7**
ARMA Armidale 49.63 173 P **P 11 02 56.5 -0.7**
LCRK Leigh Creek 49.88 189 P **P 11 02 58.3 -0.6**
SPIA Saint Paul Isl 49.88 30 P **P 11 02 58.7 0.0**
baz=239
P08K Saint George I 49.92 31 P **P 11 02 58.7 -0.3**
baz=240
UNV Unalaska Valle 50.22 35 P **P 11 03 01.7 +0.5**
UNV Unalaska Valle 50.22 35 P **P 11 03 02.1 +0.9**
baz=245
CMSA Cobar Meteorol 50.43 180 P **P 11 03 01.9 -1.2**
BILL Bilibino 50.53 10 P **P 11 03 03.8 +0.4**
BILL Bilibino 50.53 10 *de*P **P 11 03 04.5 +1.1**
BILL pmax pmax
comp=Z,38nm,0.9s
BILL Bilibino 50.53 10 P **P 11 03 04.5 +1.1**
BILL pP **pP 11 03 30.6 -0.6**
STKA Stephens Creek 50.92 185 P **P 11 03 05.8 -1.0**
STKA Stephens Creek 50.92 185 P **P 11 03 05.0 -1.8**
comp=Z,3.8nm,0.4s,baz=3.5,slow=8.0,SNR=14
STKA LR LR 11 24 38.7
comp=Z,38nm,19.3s,baz=23,slow=36
comp=Z,3.8nm,0.4s
STKA Stephens Creek 50.92 185 P **P 11 03 06.2 -0.6**
GIRL Giralia 51.74 218 P **P 11 03 14.0 +0.9**
GIRL Giralia 51.74 218 P **P 11 03 13.7 +0.7**
FORT Forrest 52.51 199 P **P 11 03 18.3 -0.3**
FORT Forrest 52.51 199 P **P 11 03 19.3 +0.7**
BBOO Buckleboo 52.53 190 P **P 11 03 17.9 -0.8**
BBOO IAmb IAmb 11 03 21.9
comp=Z,13nm,0.7s
BBOO Buckleboo 52.53 190 P **P 11 03 18.4 -0.3**
KIP Kipapa 52.53 77 P **P 11 03 18.0 -1.0**
KIP Kipapa 52.53 77 P **P 11 03 18.2 -0.8**
MEEK Meekatharra 52.62 211 P **P 11 03 19.3 -0.2**
HTT Hallett 52.72 187 P **P 11 03 20.0 -0.2**
GAMB Gambell 52.98 22 P **P 11 03 23.2 +1.6**
baz=233
M11K Mekoryuk 53.31 27 P **P 11 03 25.8 +1.7**
M11K IAmb IAmb 11 03 36.7
comp=Z,18nm,1.1s
M11K Mekoryuk 53.31 27 P **P 11 03 25.3 +1.2**
baz=241
TIXI Tiksi 53.40 353 P **P 11 03 24.9 +0.3**
TIXI IAmb IAmb 11 03 25.6
comp=Z,9.5nm,0.6s
TIXI Tiksi 53.40 353 ⇑*i*P **P 11 03 24.4 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 53.40 353 P **P 11 03 24.6 0.0**
SDPT Sand Point 54.03 35 P **P 11 03 29.5 +0.1**
SDPT Sand Point 54.03 35 P **P 11 03 30.5 +1.0**
baz=250
WMQ Urumqi 54.05 311 *e*P **P 11 03 32.4 +2.5**
WMQ pmax pmax
comp=Z,20nm,0.7s
CAN Canberra 54.29 177 P **P 11 03 31.6 0.0**
CAN IAmb IAmb 11 03 34.1
comp=Z,18nm,1.3s
CAN Canberra 54.29 177 P **P 11 03 31.6 0.0**
CAN pmax pmax
comp=Z,18nm,1.3s
CHNA Chernabura Isl 54.35 35 P **P 11 03 32.7 +1.0**
baz=252
M13K Dall Lake 54.59 28 P **P 11 03 35.5 +2.2**
baz=244
K13K Kusilvak Mount 54.71 26 P **P 11 03 36.4 +2.1**
baz=242,SNR=12
S14K Fog Glacier 54.84 34 P **P 11 03 35.9 +0.5**
baz=251
O14K Tigyukauivet M 55.06 30 P **P 11 03 37.7 +0.9**
baz=247
N14K Kuskokwak Cree 55.13 29 P **P 11 03 38.8 +1.5**
baz=246
L14K Kuka Creek 55.28 27 IAmb IAmb 11 03 41.8
comp=Z,21nm,1.2s
L14K Kuka Creek 55.28 27 P **P 11 03 40.1 +1.8**
baz=244
TNA Tin City 55.34 21 P **P 11 03 39.4 +0.7**
TNA IAmb IAmb 11 03 41.1
comp=Z,10nm,0.9s
TNA Tin City 55.34 21 P **P 11 03 40.2 +1.5**
baz=236
M14K Bethel 55.35 28 P **P 11 03 40.3 +1.5**
M14K Bethel 55.35 28 P **P 11 03 40.6 +1.7**
baz=245
CHGN Chignik 55.45 34 P **P 11 03 39.4 -0.2**
J14K Nanvaranak Lak 55.55 26 IAmb IAmb 11 03 43.0
comp=Z,15nm,0.8s
J14K Nanvaranak Lak 55.55 26 P **P 11 03 42.0 +1.8**
baz=242
O15K Ungalikthiuk R 55.72 30 P **P 11 03 42.9 +1.4**
baz=248
ANM Nome 55.73 23 P **P 11 03 42.6 +1.1**
ANM IAmb IAmb 11 03 43.7
comp=Z,13nm,0.8s
ANM Nome 55.73 23 P **P 11 03 42.6 +1.1**
ANM pmax pmax
comp=Z,13nm,0.8s
ANM Nome 55.73 23 P **P 11 03 43.2 +1.7**
baz=239,SNR=6.0
ARPS Mount Arapiles 55.77 184 P **P 11 03 41.8 -0.3**
F14K Arctic Creek 55.85 22 P **P 11 03 44.2 +1.8**
baz=238
M15K Kasigluk River 55.90 29 P **P 11 03 44.4 +1.6**
baz=247

MORW	Morawa	55.90	212	P	P	11 03 43.0	-0.2
MORW	Morawa	55.90	212	P	P	11 03 43.4	+0.2
L15K	Ungalak Mounta	55.95	27	P	P	11 03 44.5	+1.4
	baz=245						
N15K	Kwethluk River	55.97	29	P	P	11 03 45.0	+1.7
	baz=248						
K15K	Wolf Creek Mou	56.19	27	P	P	11 03 46.6	+1.8
	baz=245						
G15K	Niukluk	56.44	23	P	P	11 03 47.8	+1.3
	baz=241,SNR=8.1						
F15K	North Star Dit	56.57	22	IAmb	IAmb	11 03 49.7	
	comp=Z,11nm,0.8s						
F15K	North Star Dit	56.57	22	P	P	11 03 49.1	+1.6
	baz=240						
N16K	Nishlik Lake	56.69	29	P	P	11 03 50.3	+1.8
	baz=249						
O16K	Kokwok River B	56.70	30	IAmb	IAmb	11 03 51.0	
	comp=Z,27nm,1.1s						
O16K	Kokwok River B	56.70	30	P	P	11 03 49.9	+1.4
	baz=250						
CHIR	Chirikof Islan	56.80	35	P	P	11 03 50.2	+0.9
	baz=255						
M16K	Timber Creek	56.80	29	P	P	11 03 50.7	+1.4
	baz=248						
L16K	Owhat River	56.84	28	P	P	11 03 50.9	+1.5
	baz=247						
BLDU	Ballidu	56.86	210	P	P	11 03 49.8	-0.2
H16K	Elim	56.95	24	P	P	11 03 51.3	+1.1
	baz=243						
J16K	Anvik River	57.00	26	IAmb	IAmb	11 03 53.4	
	comp=Z,17nm,0.8s						
J16K	Anvik River	57.00	26	P	P	11 03 52.5	+1.9
	baz=245,SNR=10.0						
Q16K	King Salmon	57.09	32	P	P	11 03 51.6	+0.3
	baz=252						
KLBR	Kellerberrin	57.20	208	P	P	11 03 52.2	-0.1
I17K	Unalakleet	57.22	25	P	P	11 03 53.4	+1.4
I17K				IAmb	IAmb	11 03 54.9	
	comp=Z,20nm,0.9s						
I17K	Unalakleet	57.22	25	P	P	11 03 53.9	+1.9
	baz=245,SNR=5.6						
O17K	Koliganek Bris	57.23	30	P	P	11 03 52.6	+0.4
	baz=251						
G16K	Koyuk River	57.25	23	P	P	11 03 53.0	+0.7
	baz=242						
P17K	Kvichak River	57.36	31	P	P	11 03 53.4	+0.3
	baz=252						
N17K	Nushagak Hills	57.44	29	IAmb	IAmb	11 03 56.6	
	comp=Z,18nm,0.9s						
N17K	Nushagak Hills	57.44	29	P	P	11 03 55.4	+1.7
	baz=250						
L17K	Donlin	57.52	27	P	P	11 03 56.0	+1.8
	baz=248,SNR=5.4						
M17K	Holitna River	57.63	28	P	P	11 03 55.6	+0.6
	baz=249						
J17K	VABM Dome	57.67	26	P	P	11 03 56.0	+0.7
	baz=247						
ZALV	Zalesovo Beam	57.68	322	P	P	11 03 54.8	-0.7
ZALV	Zalesovo Beam	57.68	322	P	P	11 03 54.6	-0.9
	comp=Z,4.6nm,0.6s,baz=109,slow=8.5,SNR=19						
	comp=Z,4.6nm,0.6s						
ZALV	Zalesovo Beam	57.68	322	*i* P	P	11 03 55.0	-0.5
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
C16K	Lisburne Hills	57.69	19	IAmb	IAmb	11 03 57.4	
	comp=Z,19nm,0.9s						
C16K	Lisburne Hills	57.69	19	P	P	11 03 56.4	+1.1
	baz=237,SNR=16						
K17K	Iditarod	57.73	27	P	P	11 03 56.1	+0.4
	baz=248						
SII	Sitkinak Islan	57.77	35	P	P	11 03 57.2	+1.1
SII	Sitkinak Islan	57.77	35	P	P	11 03 57.9	+1.8
SII	Sitkinak Islan	57.77	35	P	P	11 03 56.4	+0.3
	baz=255						
R18K	Karluk	57.89	33	P	P	11 03 57.1	+0.2
	baz=255						
Q18K	Katmai Hardscr	57.91	32	P	P	11 03 57.0	-0.1
	baz=253						
G17K	Kiwalik Mounta	57.94	23	P	P	11 03 58.7	+1.6
	baz=244						
H17K	Granite Mounta	57.97	24	P	P	11 03 59.2	+1.8
	baz=245,SNR=15						
P18K	Big Mountain,	58.01	31	P	P	11 03 58.1	+0.4
	baz=253						
N18K	Kilae Creek	58.10	30	P	P	11 04 00.0	+1.7
	baz=251						
D17K	Noatak River	58.12	20	P	P	11 03 60.0	+1.7
	baz=240,SNR=17						
F17K	Baldwin Pennin	58.14	22	P	P	11 04 00.0	+1.6
	baz=243,SNR=12						
O18K	Koktuh Hills	58.16	31	P	P	11 04 00.5	+1.7
	baz=252						
MK31	Makanchi Array	58.18	314	P	P	11 03 59.2	0.0
MK31	Makanchi Array	58.18	314	‖ *i* P	P	11 03 59.4	+0.2
MKAR	Makanchi Array	58.18	314	P	P	11 03 59.6	+0.4
MKAR	Makanchi Array	58.18	314	P	P	11 03 59.1	0.0
	comp=Z,5.6nm,0.7s,baz=94,slow=8.3,SNR=53						
MKAR				pP	pP	11 04 28.8	+1.1
	comp=Z,2.7nm,0.7s,baz=90,slow=8.5,SNR=3.3						
	comp=Z,5.6nm,0.7s						
MKAR	Makanchi Array	58.18	314	*i* P	P	11 03 59.4	+0.2
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MUN	Mundaring	58.23	210	P	P	11 03 59.7	+0.2
E17K	Hotham Inlet	58.24	21	P	P	11 04 00.7	+1.6
	baz=242						
L18K	Granite Mounta	58.25	28	P	P	11 04 01.1	+1.8
L18K				IAmb	IAmb	11 04 02.4	
	comp=Z,22nm,1.3s						
L18K	Granite Mounta	58.25	28	P	P	11 04 01.1	+1.7
	baz=250						
RDOG	Red Dog Mine	58.35	20	IAmb	IAmb	11 04 02.6	
	comp=Z,15nm,1.0s						
RDOG	Red Dog Mine	58.35	20	P	P	11 04 01.5	+1.6
	baz=240						
M18K	Stony River	58.39	29	P	P	11 04 01.9	+1.6
	baz=251,SNR=6.5						
MAKZ	Makanchi	58.40	314	P	P	11 04 01.1	+0.4
MAKZ				IAmb	IAmb	11 04 02.9	
	comp=Z,9.2nm,0.8s						
MAKZ	Makanchi	58.40	314	P	P	11 04 01.1	+0.4
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAKZ	Makanchi	58.40	314	P	P	11 04 00.9	+0.2
OHAK	Old Harbor	58.41	34	P	P	11 04 01.6	+1.1
OHAK	Old Harbor	58.41	34	P	P	11 04 01.4	+0.9
	baz=256						
C17K	DeLong Mountai	58.48	20	P	P	11 04 02.5	+1.6
	baz=240,SNR=13						
NWAO	Narrogin (SRO)	58.56	208	P	P	11 04 02.0	+0.2
NWAO	Narrogin (SRO)	58.56	208	P	P	11 04 02.2	+0.4
NWAO	Narrogin (SRO)	58.56	208	P	P	11 04 02.0	+0.2
NWAO	Narrogin (SRO)	58.56	208	P	P	11 04 02.1	+0.2
NWAO				pmax	pmax		
	comp=Z,28nm,0.7s						
NWAO	Narrogin (SRO)	58.56	208	P	P	11 04 01.6	-0.2
H18K	Honhosa River	58.66	24	P	P	11 04 03.5	+1.3
	baz=246,SNR=13						
Q19K	Cape Douglas,	58.67	32	P	P	11 04 02.9	+0.6
	baz=254						
J18K	Innoko River	58.68	26	P	P	11 04 03.5	+1.2
	baz=249						
O19K	Port Alsworth	58.69	30	P	P	11 04 03.8	+1.4
	baz=253,SNR=5.2						
F18K	Selawik	58.79	22	P	P	11 04 04.2	+1.3
	baz=244,SNR=8.5						
N19K	Bonanza Creek	58.80	30	P	P	11 04 04.9	+1.7
	baz=253,SNR=7.4						
E18K	Tukpahlearik C	58.82	21	IAmb	IAmb	11 04 05.9	
	comp=Z,15nm,0.9s						
E18K	Tukpahlearik C	58.82	21	P	P	11 04 04.8	+1.7
	baz=243						
G18K	Tagagawik	58.85	23	P	P	11 04 04.7	+1.3
	baz=246,SNR=17						
KDAK	Kodiak Island	58.92	33	P	P	11 04 04.8	+0.8
	baz=256						
L19K	White Mountain	59.05	28	IAmb	IAmb	11 04 08.1	
	comp=Z,15nm,1.2s						
L19K	White Mountain	59.05	28	P	P	11 04 05.8	+0.9
	baz=252						
P19K	Oil Pt	59.06	31	P	P	11 04 05.6	+0.5
	baz=254						
GCSA	Galena City Sc	59.08	25	P	P	11 04 05.9	+0.9
	baz=248						
M19K	Big River Lodg	59.17	28	P	P	11 04 06.7	+1.0
	baz=252						
C18K	Utukok River	59.20	20	IAmb	IAmb	11 04 07.9	
	comp=Z,8.8nm,0.8s						
C18K	Utukok River	59.20	20	P	P	11 04 07.0	+1.2
	baz=242						
Q20K	Shuyak Island	59.22	32	P	P	11 04 07.3	+1.2
	baz=256						
J19K	Poorman	59.32	26	P	P	11 04 08.3	+1.6
	baz=250,SNR=11						
B18K	Kokolik River	59.35	19	P	P	11 04 08.8	+2.0
	baz=240,SNR=16						
O20K	Slope Mountain	59.47	31	P	P	11 04 08.3	+0.4
	baz=255						
G19K	Purcell Mounta	59.54	23	P	P	11 04 09.6	+1.4
	baz=247,SNR=16						
H19K	Roundabout Mou	59.55	24	P	P	11 04 09.7	+1.5
	baz=248,SNR=20						
F19K	Shaleruckik Mo	59.56	22	P	P	11 04 09.2	+1.0
	baz=246						
L20K	Farewell, AK	59.57	28	P	P	11 04 10.0	+1.5
	baz=252						
M20K	Styx River	59.73	29	IAmb	IAmb	11 04 12.1	
	comp=Z,7.8nm,0.8s						
M20K	Styx River	59.73	29	P	P	11 04 11.4	+1.7
	baz=253						
K20K	Telida	59.76	27	IAmb	IAmb	11 04 12.7	
	comp=Z,18nm,0.9s						
K20K	Telida	59.76	27	P	P	11 04 11.8	+2.0
	baz=252,SNR=7.2						
HOM	Homer	59.85	31	P	P	11 04 10.8	+0.4
	baz=256						
A19K	Wainwright	59.99	18	P	P	11 04 13.2	+2.0
	baz=241						
J20K	Nowinta River	59.99	26	P	P	11 04 13.3	+2.0
	baz=251,SNR=11						
E19K	Redstone River	60.01	22	P	P	11 04 12.9	+1.5
	baz=246,SNR=10						
I20K	Naaghedeneel	60.06	25	P	P	11 04 13.5	+1.8
	baz=250						
D19K	Kuna River	60.14	21	IAmb	IAmb	11 04 14.2	
	comp=Z,14nm,0.8s						
D19K	Kuna River	60.14	21	P	P	11 04 13.7	+1.4
	baz=245,SNR=12						
H20K	Anotleneega Mo	60.14	24	P	P	11 04 13.8	+1.5
	baz=250,SNR=10						
OUZ	Omahuta	60.21	154	P	P	11 04 12.8	-0.3
STLK	Strandline Lak	60.22	29	P	P	11 04 13.3	+0.3
BRSE	Bradley Lake S	60.31	31	P	P	11 04 13.9	+0.3
	baz=257						
F20K	Avaraart Lake	60.39	23	P	P	11 04 15.5	+1.6
	baz=248						
PPLA	Purkeypile	60.44	28	P	P	11 04 15.3	+0.8
	baz=254						
SKT	Skwentna	60.49	29	IAmb	IAmb	11 04 16.1	
	comp=Z,17nm,1.0s						
SKT	Skwentna	60.49	29	P	P	11 04 15.2	+0.4
	baz=255,SNR=6.2						
CAST	Castle Rocks	60.63	27	P	P	11 04 17.2	+1.5
	baz=254,SNR=15						
CHUM	Lake Minchumin	60.67	27	P	P	11 04 17.7	+1.8
	baz=253,SNR=7.6						
E20K	Nigu River	60.69	21	P	P	11 04 17.5	+1.4
	baz=247,SNR=19						
D20K	Etivluk River	60.73	21	P	P	11 04 17.8	+1.5
	baz=246						
KURK	Kurchatov	60.96	318	P	P	11 04 17.9	-0.2
KURK	Kurchatov	60.96	318	‖ *i* P	P	11 04 17.5	-0.6
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	Kurchatov	60.96	318	P	P	11 04 17.7	-0.4
KURK				pP	pP	11 04 44.4	-2.6
O22K	Cooper Landing	60.97	31	P	P	11 04 18.6	+0.6
	baz=257						
KURBB	Kurchatov Arra	61.01	318	P	P	11 04 17.8	-0.7
	comp=Z,7.0nm,0.7s,baz=95,slow=7.6,SNR=46						
KURBB				pP	pP	11 04 47.7	+0.3
	comp=Z,4.3nm,0.6s,baz=98,slow=6.8,SNR=3.8						
	comp=Z,7.0nm,0.7s						
H21K	Melozitna River	61.01	25	IAmb	IAmb	11 04 20.4	
	comp=Z,11nm,0.8s						
H21K	Melozitna River	61.01	25	P	P	11 04 19.8	+1.6
	baz=252,SNR=12						
G21K	Allakaket	61.02	24	IAmb	IAmb	11 04 20.4	
	comp=Z,9.7nm,0.9s						
G21K	Allakaket	61.02	24	P	P	11 04 19.7	+1.5
	baz=250						
SEW	Seward	61.02	31	P	P	11 04 18.9	+0.6
	baz=258						
M22K	Willow	61.08	29	P	P	11 04 19.1	+0.4
	baz=256						
B20K	Meade River	61.09	19	P	P	11 04 19.9	+1.3
	baz=245						
RC01	Rabbit Creek A	61.10	30	P	P	11 04 19.3	+0.5
	baz=257						
CUT	Chulitna	61.17	29	P	P	11 04 19.8	+0.5
	baz=256						
NRIK	Noril'sk	61.18	340	P	P	11 04 19.6	+0.3
NRIK				IAmb	IAmb	11 04 20.5	
	comp=Z,27nm,1.5s						
NRIK	Noril'sk	61.18	340	P	P	11 04 18.9	-0.3
	comp=Z,4.2nm,0.5s,baz=94,slow=6.8,SNR=6.9						
	comp=Z,4.2nm,0.5s						
NRIK	Noril'sk	61.18	340	*d i* P	P	11 04 19.1	-0.2
NRIK				pmax	pmax		
	comp=Z,18nm,1.5s						
I21K	Tanana	61.19	25	IAmb	IAmb	11 04 21.7	
	comp=Z,11nm,0.8s						
I21K	Tanana	61.19	25	P	P	11 04 21.2	+1.8
	baz=253						
F21K	Alatna River	61.27	23	P	P	11 04 21.1	+1.2
	baz=250,SNR=10.0						
BPAW	Bear Paw Mtn.	61.29	27	P	P	11 04 21.5	+1.3
	baz=254,SNR=16						
TRF	Thorofare Moun	61.42	27	P	P	11 04 21.9	+0.7
	baz=255,SNR=9.2						
PMR	Palmer	61.50	30	IAmb	IAmb	11 04 22.9	
	comp=Z,15nm,1.0s						
PMR	Palmer	61.50	30	P	P	11 04 21.9	+0.4
	baz=257						
C21K	Knifeblade Rid	61.51	21	P	P	11 04 23.1	+1.5
	baz=248,SNR=10						
E21K	Killik River	61.52	21	P	P	11 04 22.7	+1.0
	baz=249						
GHO	Glory Hole Cre	61.64	29	IAmb	IAmb	11 04 24.0	
	comp=Z,17nm,0.7s						
H22K	Ishtalitna Cre	61.65	25	P	P	11 04 23.6	+1.1
	baz=253						
PWL	Port Wells	61.72	30	P	P	11 04 23.7	+0.7
	baz=258						
B21K	Ikpikpuk River	61.75	20	IAmb	IAmb	11 04 25.7	
	comp=Z,19nm,0.9s						
B21K	Ikpikpuk River	61.75	20	P	P	11 04 24.4	+1.4
	baz=248						
KNK	Knik Glacier	61.78	30	P	P	11 04 24.3	+0.8
	baz=258,SNR=7.8						
F22K	John River	61.84	23	P	P	11 04 25.6	+1.8
	baz=251						
SML	Sawmill	61.92	29	P	P	11 04 25.0	+0.6
	baz=258,SNR=12						
RND	Reindeer	62.04	28	IAmb	IAmb	11 04 26.6	
	comp=Z,37nm,1.5s						
MCK	McKinley	62.08	27	IAmb	IAmb	11 04 26.8	
	comp=Z,14nm,1.0s						
MCK	McKinley	62.08	27	P	P	11 04 25.9	+0.5
	baz=256						
D22K	Ayikyak River	62.12	21	P	P	11 04 27.0	+1.4
	baz=250,SNR=16						
A22K	Sinclair Lake	62.17	19	P	P	11 04 27.5	+1.6
	baz=247						
E22K	Anaktuvuk Pass	62.17	22	P	P	11 04 27.6	+1.5
	baz=251,SNR=19						
M23K	Glacier View	62.20	30	P	P	11 04 27.2	+0.9
	baz=258,SNR=6.5						
NEA2	Nenana	62.23	26	IAmb	IAmb	11 04 28.6	
	comp=Z,17nm,0.9s						
NEA2	Nenana	62.23	26	P	P	11 04 26.9	+0.6
	baz=256,SNR=5.9						
I23K	Minto, Yukon-K	62.25	26	IAmb	IAmb	11 04 29.1	
	comp=Z,15nm,0.8s						
I23K	Minto, Yukon-K	62.25	26	P	P	11 04 27.5	+1.1
	baz=255,SNR=12						
GLI	Glacier Island	62.32	31	P	P	11 04 28.0	+0.9
	baz=260						
H23K	Yukon River	62.35	25	P	P	11 04 28.1	+0.9
	baz=255						
SCM	Sheep Creek Mo	62.39	30	P	P	11 04 28.6	+1.0
	baz=259,SNR=8.4						
B22K	Teshekpuk Lake	62.40	19	IAmb	IAmb	11 04 29.8	
	comp=Z,22nm,1.0s						
B22K	Teshekpuk Lake	62.40	19	P	P	11 04 27.8	+0.4
	baz=249						
G23K	Bananza Creek	62.41	24	IAmb	IAmb	11 04 30.4	
	comp=Z,23nm,1.2s						
G23K	Bananza Creek	62.41	24	P	P	11 04 29.4	+1.8
	baz=254,SNR=8.0						
COLD	Coldfoot	62.48	23	IAmb	IAmb	11 04 30.9	
	comp=Z,14nm,1.0s						
COLD	Coldfoot	62.48	23	P	P	11 04 29.5	+1.4
	baz=253,SNR=11						
WRH	Wood River Hil	62.61	27	P	P	11 04 29.2	+0.3
WRH				IAmb	IAmb	11 04 29.7	
	comp=Z,25nm,1.4s						
KSH	Kashi	62.65	305	P	P	11 04 34.8	+5.0
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CCB	Clear Creek Bu	62.77	26	P	P	11 04 30.2	+0.3
COLA	College	62.80	26	P	P	11 04 31.0	+0.9
COLA	College	62.80	26	‖ *i* P	P	11 04 31.5	+1.4
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	College	62.80	26	P	P	11 04 31.0	+0.9
	baz=257						
COLA	College	62.80	26	P	P	11 04 30.8	+0.7
COLA				PcP	pwP	11 05 06.9	+4.0
D23K	Nanushuk River	62.83	21	IAmb	IAmb	11 04 33.6	
	comp=Z,28nm,1.1s						
D23K	Nanushuk River	62.83	21	P	P	11 04 32.3	+1.9
	baz=252						
EYAK	Cordova Ski Ar	62.92	31	P	P	11 04 32.7	+1.7
EYAK	Cordova Ski Ar	62.92	31	P	P	11 04 31.3	+0.4
	baz=261						
E23K	Chandalar	62.94	22	P	P	11 04 33.2	+2.1
	baz=254,SNR=24						
M24K	Tolsona, Glenn	62.98	29	P	P	11 04 32.3	+0.8
	baz=260						
KLU	Klutina	62.99	30	IAmb	IAmb	11 04 33.8	
	comp=Z,14nm,0.7s						
KLU	Klutina	62.99	30	P	P	11 04 32.9	+1.3
	baz=260,SNR=5.8						
H24K	Noodor Dome	63.02	25	IAmb	IAmb	11 04 33.9	
	comp=Z,7.6nm,0.6s						
H24K	Noodor Dome	63.02	25	P	P	11 04 33.1	+1.4
	baz=256						
POKR	Poker Plat Res	63.03	26	P	P	11 04 33.3	+1.6
	baz=257						
HDA	Harding Lake	63.08	27	P	P	11 04 32.0	0.0
	baz=258,SNR=7.6						
TOLK	Toolik Lake Re	63.12	22	IAmb	IAmb	11 04 35.2	
	comp=Z,33nm,1.3s						
TOLK	Toolik Lake Re	63.12	22	P	P	11 04 34.0	+1.7
	baz=253,SNR=18						
C23K	Itkillik River	63.13	20	P	P	11 04 33.8	+1.6
	baz=252						
TOZ	Tahuroa Road	63.15	154	P	P	11 04 33.0	+0.3
TOZ				IAmb	IAmb	11 04 33.8	
	comp=Z,16nm,1.0s						
IL31		63.18	26	IAmb	IAmb	11 04 32.9	
	comp=Z,12nm,0.8s						
ILAR	Eielson Array	63.18	26	P	P	11 04 32.6	-0.1
ILAR	Eielson Array	63.18	26	P	P	11 04 31.9	-0.8
	comp=Z,8.6nm,0.8s,baz=253,slow=4.9,SNR=94						
ILAR				LR	LR	11 33 20.6	
	comp=Z,17nm,18.3s,baz=244,slow=37						
	comp=Z,8.6nm,0.8s						
ILAR	Eielson Array	63.18	26	P	P	11 04 32.6	-0.1
E24K	Your Creek	63.35	23	IAmb	IAmb	11 04 36.1	
	comp=Z,9.7nm,0.7s						
E24K	Your Creek	63.35	23	P	P	11 04 35.6	+1.8
	baz=255						
G24K	Hadweenzic Riv	63.38	24	P	P	11 04 35.7	+1.6
	baz=256,SNR=6.8						
F24K	Squaw Lake	63.43	23	P	P	11 04 36.3	+1.9
	baz=255,SNR=9.9						
PAX	Paxson	63.45	28	IAmb	IAmb	11 04 36.1	
	comp=Z,9.0nm,0.6s						
PAX	Paxson	63.45	28	P	P	11 04 35.7	+1.1
	baz=260,SNR=8.3						
K24K	Donnelly Dome	63.46	27	P	P	11 04 35.5	+0.9
	baz=259						
HARP	HAARP	63.50	29	P	P	11 04 36.1	+1.3
	baz=260,SNR=5.7						
D24K	Happy Valley	63.53	21	P	P	11 04 36.9	+2.0
	baz=254						
BMRM	Bremner River	63.53	31	IAmb	IAmb	11 04 37.7	
	comp=Z,35nm,1.2s						
BMRM	Bremner River	63.53	31	P	P	11 04 36.4	+1.2
	baz=262						
HIZ	Hauiti	63.55	155	IAmb	IAmb	11 04 36.8	
	comp=Z,15nm,0.8s						
HIZ	Hauiti	63.55	155	P	P	11 04 34.9	-0.5
AAK	Ala-Archa	63.62	309	‖ *e* P	P	11 04 35.0	-1.2
AAK				pmax	pmax		
	comp=Z,10.0nm,2.9s						
N25K	Chitina, Valde	63.63	30	IAmb	IAmb	11 04 37.8	
	comp=Z,10nm,0.8s						
N25K	Chitina, Valde	63.63	30	P	P	11 04 37.4	+1.6
	baz=261						
C24K	Franklin Bluff	63.73	21	IAmb	IAmb	11 04 38.9	
	comp=Z,25nm,0.9s						
C24K	Franklin Bluff	63.73	21	P	P	11 04 37.7	+1.5
	baz=254						
J25K	Salcha River,	63.79	27	P	P	11 04 36.5	-0.3
	baz=259,SNR=6.2						
RIDG	Independent Ri	63.86	28	IAmb	IAmb	11 04 39.0	
	comp=Z,37nm,1.3s						
RIDG	Independent Ri	63.86	28	P	P	11 04 36.9	-0.4
	baz=260,SNR=10.0						
PRP	Porcupine Dome	63.90	26	P	P	11 04 38.4	+0.8
	baz=259						
G25K	Bearman Lake	63.93	24	P	P	11 04 38.4	+0.9
	baz=258						
H25L	Birch Creek	63.93	25	P	P	11 04 38.9	+1.3
	baz=258,SNR=9.2						
GLB	Gilahina Butte	63.98	30	IAmb	IAmb	11 04 40.5	
	comp=Z,31nm,1.2s						
VRDI	Verde Repeater	64.12	31	IAmb	IAmb	11 04 41.2	
	comp=Z,9.5nm,0.6s						
DOT	Dot Lake	64.19	28	IAmb	IAmb	11 04 41.1	
	comp=Z,13nm,0.8s						
URZ	Urewera	64.27	153	P	P	11 04 38.7	-1.4
	comp=Z,8.9nm,0.6s,baz=348,slow=3.9,SNR=13						
	comp=Z,8.9nm,0.6s						
URZ	Urewera	64.27	153	P	P	11 04 38.8	-1.3
SCRK	Sand Creek	64.28	27	IAmb	IAmb	11 04 41.8	
	comp=Z,20nm,1.0s						
SCRK	Sand Creek	64.28	27	P	P	11 04 40.8	+0.8
	baz=261,SNR=15						
F25K	Christian Rive	64.28	23	IAmb	IAmb	11 04 43.1	
	comp=Z,21nm,1.1s						
F25K	Christian Rive	64.28	23	P	P	11 04 42.0	+2.0
	baz=258						
D25K	Kavik River	64.41	21	P	P	11 04 42.4	+1.7
	baz=256						
L26K	Log Cabin Wild	64.42	29	P	P	11 04 42.2	+1.3
	baz=262						
E25K	Arctic Village	64.42	23	IAmb	IAmb	11 04 44.0	
	comp=Z,21nm,1.2s						
E25K	Arctic Village	64.42	23	P	P	11 04 42.9	+2.1
	baz=257,SNR=14						
M26K	Nabesna, AK	64.49	29	P	P	11 04 42.5	+1.1
	baz=262						
J26L	Joseph Creek	64.54	27	IAmb	IAmb	11 04 43.5	
	comp=Z,28nm,1.1s						
J26L	Joseph Creek	64.54	27	P	P	11 04 42.5	+0.8
	baz=261,SNR=17						
BMAR	Burnt Mountain	64.65	24	P	P	11 04 44.7	+2.4
QRZ	Quartz Range	64.67	158	IAmb	IAmb	11 04 43.4	
	comp=Z,23nm,1.0s						
QRZ	Quartz Range	64.67	158	P	P	11 04 42.7	0.0
MESA	MESA	64.74	32	P	P	11 04 44.1	+0.9
	baz=264						
BKZ	Black Stump Fm	64.77	154

baz=263,SNR=7.2
K27K Chicken 65.12 28 P **P 11 04 46.9 +1.6**
baz=263
BCAR Beaver Creek A 65.13 29 P **P 11 04 46.7 +1.2**
C27K Jago River 65.40 21 IAmb IAmb 11 04 50.0
comp=Z,14nm,0.9s
C27K Jago River 65.40 21 P **P 11 04 48.9 +1.8**
baz=258
BVCY Beaver Creek 65.48 29 P **P 11 04 49.2 +1.4**
baz=264
I27K Kandik River 65.52 26 P **P 11 04 48.5 +0.5**
baz=262,SNR=5.1
PINM Pinnacle 65.58 32 P **P 11 04 48.6 +0.1**
baz=266
YUK3 Moose Creek 65.61 30 P **P 11 04 50.4 +1.5**
baz=265
THZ Tophouse 65.63 158 IAmb IAmb 11 04 52.8
comp=Z,10nm,0.7s
H27K Steamboat Moun 65.64 25 P **P 11 04 50.3 +1.5**
baz=262
O28M Mount Upton 65.66 31 P **P 11 04 50.8 +1.5**
baz=266,SNR=9.4
G27K Doyon Strip 65.67 24 P **P 11 04 50.0 +1.1**
baz=262,SNR=5.7
MRZ Mangatainoka R 65.67 155 IAmb IAmb 11 04 50.2
comp=Z,9.3nm,0.7s
E27K Coleen River 65.90 23 P **P 11 04 51.7 +1.3**
baz=261,SNR=12
SNZO South Karori 65.90 156 P **P 11 04 49.3 -1.2**
YUK8 Steele Glacier 65.91 31 P **P 11 04 52.2 +1.4**
baz=266,SNR=7.1
BFZ Birch Farm 65.96 155 P **P 11 04 49.8 -1.2**
PNL Peninsula 65.99 32 P **P 11 04 51.9 +0.8**
PNL Peninsula 65.99 32 P **P 11 04 51.6 +0.5**
baz=267
BVA0 Borovoye Array 66.15 320 *i* P **P 11 04 51.7 -0.5**
BVAR Borovoye Array 66.15 320 P **P 11 04 51.8 -0.4**
comp=Z,8.1nm,0.5s,baz=95,slow=7.2,SNR=40
comp=Z,8.1nm,0.5s
I28M Miner Creek 66.19 26 P **P 11 04 53.4 +1.0**
baz=264,SNR=8.0
BRVK Borovoye 66.21 320 P **P 11 04 52.6 +0.1**
BRVK Borovoye 66.21 320 *de*P **P 11 04 51.8 -0.8**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 66.21 320 P **P 11 04 52.0 -0.6**
BRVK pP **PcP 11 05 18.9 -3.0**
D27M Malcolm River 66.29 22 IAmb IAmb 11 04 55.9
D27M Malcolm River 66.29 22 P **P 11 04 54.7 +1.8**
baz=261
DAWY Dawson 66.29 28 P **P 11 04 54.4 +1.4**
DAWY IAmb IAmb 11 04 54.9
comp=Z,14nm,1.0s
DAWY Dawson 66.29 28 P **P 11 04 53.9 +0.9**
baz=265,SNR=9.1
PLWZ Palliser 66.33 156 P **P 11 04 52.4 -1.0**
O29M Mount Kennedy 66.43 32 IAmb IAmb 11 04 57.2
comp=Z,30nm,1.2s
O29M Mount Kennedy 66.43 32 P **P 11 04 56.2 +2.2**
baz=267,SNR=6.8
KHZ Kahutara 66.43 158 P **P 11 04 52.0 -1.9**
YUK4 Talbot Arm 66.45 31 P **P 11 04 56.4 +2.2**
baz=267,SNR=11
KK31 Karatay Array 66.52 309 P **P 11 04 55.0 +0.3**
KK31 Karatay Array 66.52 309 *i* P **P 11 04 54.3 -0.4**
KKAR Karatay Array 66.52 309 P **P 11 04 55.1 +0.4**
KKAR Karatay Array 66.52 309 P **P 11 04 55.1 +0.4**
YUK6 Outpost Mounta 66.56 31 P **P 11 04 56.8 +1.8**
baz=267
M29M Somme Creek 66.60 29 IAmb IAmb 11 04 57.9
comp=Z,24nm,1.1s
M29M Somme Creek 66.60 29 P **P 11 04 57.1 +2.1**
baz=267,SNR=14
E28M Babbage River 66.71 23 IAmb IAmb 11 04 58.6
comp=Z,27nm,1.2s
E28M Babbage River 66.71 23 P **P 11 04 56.8 +1.3**
baz=263,SNR=18
L29M L29M 66.79 29 IAmb IAmb 11 04 59.2
comp=Z,29nm,1.0s
L29M L29M 66.79 29 P **P 11 04 57.6 +1.5**
baz=267,SNR=16
J29N Klondike Camp 66.84 27 IAmb IAmb 11 04 59.3
comp=Z,35nm,1.4s
J29N Klondike Camp 66.84 27 P **P 11 04 56.9 +0.5**
baz=266,SNR=6.4
I29M Ogilvie Camp, 66.86 26 P **P 11 04 57.7 +1.2**
baz=266,SNR=7.4
H29M Whitestone 66.91 25 IAmb IAmb 11 04 58.7
comp=Z,12nm,0.8s
H29M Whitestone 66.91 25 P **P 11 04 58.5 +1.8**
baz=265,SNR=9.9
HYT Haines Junctio 66.98 31 P **P 11 04 58.3 +0.8**
baz=268,SNR=11
D28M Stokes Point 67.08 22 P **P 11 04 59.0 +1.2**
baz=263
K29M Barlow Dome 67.10 28 IAmb IAmb 11 05 01.0
comp=Z,26nm,1.1s
K29M Barlow Dome 67.10 28 P **P 11 04 59.6 +1.4**
baz=267
G29M Pine Creek 67.11 25 IAmb IAmb 11 05 00.9
comp=Z,24nm,1.0s
G29M Pine Creek 67.11 25 P **P 11 04 59.3 +1.2**
baz=265,SNR=11
N30M Aishikik Lake 67.20 31 P **P 11 05 00.8 +2.0**
baz=268,SNR=8.4
P30M Million Dollar 67.23 32 P **P 11 05 00.2 +1.2**
baz=269,SNR=6.5
E29M Blow River 67.29 23 P **P 11 05 00.7 +1.6**
baz=265
M30M Minto, Yukon 67.38 29 P **P 11 05 01.6 +1.8**
baz=268,SNR=7.8
PLBC Pleasant Camp 67.53 33 P **P 11 05 01.9 +1.1**
baz=270,SNR=6.1
EPYK Eagle Plains 67.59 25 IAmb IAmb 11 05 03.4
comp=Z,25nm,1.1s
EPYK Eagle Plains 67.59 25 P **P 11 05 02.3 +1.2**
baz=266,SNR=11
J30M Hart River 67.66 27 P **P 11 05 02.6 +0.9**
baz=268,SNR=7.3
I30M Mount Dempster 67.67 26 P **P 11 05 02.6 +0.9**
baz=267,SNR=6.9
O30N Mendenhall 67.67 31 P **P 11 05 03.0 +1.2**
baz=269
MAYO Mayo, Yukon 67.82 28 P **P 11 05 03.7 +1.2**
baz=268,SNR=8.3
G30M tAoh Zraii Nji 67.82 25 IAmb IAmb 11 05 05.2
comp=Z,15nm,0.9s
G30M tAoh Zraii Nji 67.82 25 P **P 11 05 03.4 +0.9**
baz=267
N31M Braeburn, Yuko 67.83 31 IAmb IAmb 11 05 05.8
comp=Z,30nm,1.1s
N31M Braeburn, Yuko 67.83 31 P **P 11 05 04.3 +1.6**
baz=269,SNR=5.9
R31K City Hall, Gus 67.85 34 P **P 11 05 04.0 +1.2**
baz=271
F30M Barrier River 68.02 24 P **P 11 05 04.7 +1.0**
baz=267,SNR=18
SKAG Skagway 68.05 33 P **P 11 05 05.9 +1.8**
SKAG Skagway 68.05 33 P **P 11 05 05.5 +1.5**
baz=271
WHY Whitehorse 68.27 31 P **P 11 05 06.4 +0.8**
baz=270
M31M Drury Creek, Y 68.49 30 P **P 11 05 08.3 +1.5**
baz=270,SNR=7.1
S32K Killisnoo 68.50 35 P **P 11 05 08.3 +1.4**
baz=272
R32K Eaglecrest 68.50 34 P **P 11 05 07.7 +0.8**
baz=272
H31M Peel River 68.53 26 IAmb IAmb 11 05 09.8
comp=Z,25nm,0.9s
H31M Peel River 68.53 26 P **P 11 05 07.9 +0.9**
baz=269
G31M Satah River 68.58 25 P **P 11 05 08.4 +1.2**
baz=269,SNR=23
F31M Tsiigehtchic 68.80 24 IAmb IAmb 11 05 10.2
comp=Z,16nm,0.9s
F31M Tsiigehtchic 68.80 24 P **P 11 05 08.6 +0.1**
baz=269,SNR=12
P32M Atlin 68.87 33 P **P 11 05 10.3 +1.0**
baz=272,SNR=5.7
INK Inuvik 68.90 23 IAmb IAmb 11 05 10.9
comp=Z,22nm,0.8s
INK Inuvik 68.90 23 P **P 11 05 09.2 +0.1**
comp=Z,20nm,0.8s,baz=260,slow=7.3,SNR=49
comp=Z,20nm,0.8s
INK Inuvik 68.90 23 P **P 11 05 09.4 +0.2**
baz=269,SNR=25

FARO Faro, Yukon 68.98 30 P **P 11 05 11.1 +1.3**
baz=271,SNR=7.5
N32M Quiet Lake 69.13 31 IAmb IAmb 11 05 13.5
comp=Z,25nm,1.0s
N32M Quiet Lake 69.13 31 P **P 11 05 12.6 +1.8**
baz=272
P33M Teslin, Yukon 69.30 32 P **P 11 05 13.6 +1.6**
baz=272,SNR=8.4
CRAG Craig 69.41 37 P **P 11 05 13.2 +0.7**
baz=274
T33K Petersburg 69.41 35 P **P 11 05 14.2 +1.7**
baz=274
Q32M Nakina River 69.64 33 P **P 11 05 15.6 +1.4**
baz=273
V35K Ketchikan 70.28 37 P **P 11 05 19.4 +1.5**
baz=275
R33M Jennings River 70.28 33 P **P 11 05 19.6 +1.5**
baz=274,SNR=5.8
S34M Telegraph Cree 70.32 34 IAmb IAmb 11 05 21.0
comp=Z,15nm,0.9s
S34M Telegraph Cree 70.32 34 P **P 11 05 19.5 +1.4**
baz=275,SNR=6.1
DLBC Dease Lake 70.85 34 IAmb IAmb 11 05 24.5
comp=Z,25nm,1.0s
DLBC Dease Lake 70.85 34 P **P 11 05 22.4 +1.0**
baz=276,SNR=11
T35M Bob Quinn 70.88 35 P **P 11 05 23.3 +1.7**
baz=276
WTLY Watson Lake, Y 71.31 32 IAmb IAmb 11 05 27.1
comp=Z,18nm,1.0s
WTLY Watson Lake, Y 71.31 32 P **P 11 05 25.5 +1.4**
baz=276,SNR=8.6
TGTN Hyland Airport 71.42 30 P **P 11 05 26.3 +1.5**
baz=276,SNR=13
SVE Sverdlovsk 71.53 325 *e*P **P 11 05 25.2 -0.2**
A36M Sachs Harbour 71.60 19 IAmb IAmb 11 05 27.6
comp=Z,28nm,0.8s
A36M Sachs Harbour 71.60 19 P **P 11 05 27.1 +1.5**
baz=275
C36M Paulatuk 72.28 22 IAmb IAmb 11 05 31.2
comp=Z,33nm,0.8s
C36M Paulatuk 72.28 22 P **P 11 05 29.3 -0.3**
baz=277
ARTI Arti 72.82 324 *d i* P **P 11 05 31.2 -1.9**
ARTI S **S 11 14 46.0 -3.1**
ARTI pmax pmax
comp=Z,21nm,2.6s
AB31 Akbulak array 73.03 317 *i* P **P 11 05 33.7 -0.8**
ABKAR Akbulak array 73.03 317 P **P 11 05 33.9 -0.7**
TOAD Toad River Com 73.28 33 P **P 11 05 36.2 +0.4**
baz=279,SNR=7.5
WRGLY Wrigley 73.41 28 IAmb IAmb 11 05 39.0
comp=Z,32nm,0.8s
WRGLY Wrigley 73.41 28 P **P 11 05 37.6 +1.2**
baz=280,SNR=14
KOTAN Kotaneelee Air 73.66 31 P **P 11 05 39.1 +1.1**
baz=280
E03A Lebam 76.78 45 IAmb IAmb 11 05 59.1
comp=Z,30nm,0.8s
LLLB Lilloоet 76.88 41 P **P 11 05 58.8 +2.2**
LLLB IAmb IAmb 11 05 59.4
comp=Z,15nm,0.8s
HEBO Mount Hebo 76.97 47 P **P 11 05 57.1 -0.2**
GNW Green Mountain 77.02 44 IAmb IAmb 11 06 00.7
comp=Z,28nm,0.9s
EUNU Eureka 77.24 8 P **P 11 05 59.1 +0.9**
EUNU IAmb IAmb 11 06 00.0
comp=Z,17nm,0.7s
YKA Yellowknife Ar 77.53 28 P **P 11 06 00.4 +0.5**
comp=Z,18nm,0.7s,baz=290,slow=5.7,SNR=242
comp=Z,18nm,0.7s
YKA Yellowknife Ar 77.53 28 *i* P **P 11 06 00.7 +0.7**
YKA pmax pmax
comp=Z,19nm,0.7s
D05A Enumclaw 77.66 44 IAmb IAmb 11 06 04.3
comp=Z,31nm,0.8s
HOOD Mount Hood Mea 78.38 46 IAmb IAmb 11 06 11.5
comp=Z,26nm,0.9s
LTY Liberty 78.51 44 IAmb IAmb 11 06 08.1
comp=Z,16nm,0.8s
SPITS Spitsbergen Ar 78.70 351 P **P 11 06 06.0 -0.3**
comp=Z,2.0nm,0.6s,baz=79,slow=7.5,SNR=5.1
comp=Z,2.0nm,0.6s
SPITS Spitsbergen Ar 78.70 351 P **P 11 06 06.0 -0.3**
L04D Klamath Falls 78.75 49 IAmb IAmb 11 06 09.9
comp=Z,41nm,1.2s
KBS Kingsbay 78.82 352 *i* P **P 11 06 06.7 -0.1**
MXC Moxie City 78.95 45 IAmb IAmb 11 06 10.9
comp=Z,25nm,1.1s
K04D Chiloquin, OR 79.03 49 IAmb IAmb 11 06 11.6
comp=Z,33nm,0.8s
B08A Colville Reser 79.07 43 IAmb IAmb 11 06 11.1
comp=Z,21nm,0.9s
E07A Sunnyside 79.24 44 IAmb IAmb 11 06 12.5
comp=Z,30nm,0.8s
F07A Phinny Hill Vi 79.38 45 IAmb IAmb 11 06 13.3
comp=Z,24nm,1.2s
HAWA Hanford 79.50 45 IAmb IAmb 11 06 13.8
comp=Z,24nm,0.8s
D08A Wollman Farm, 79.71 44 IAmb IAmb 11 06 14.8
comp=Z,25nm,0.9s
HATC Hat Creek Radi 79.75 50 IAmb IAmb 11 06 15.4
comp=Z,28nm,0.9s
E08A Dider Farm, El 79.79 44 IAmb IAmb 11 06 15.3
comp=Z,13nm,0.8s
C09A Chrisman Ranch 79.91 43 IAmb IAmb 11 06 15.7
comp=Z,19nm,0.8s
YPT Yellepit 79.98 45 IAmb IAmb 11 06 16.5
comp=Z,29nm,1.0s
E09A Wood Farm, Sta 80.38 44 IAmb IAmb 11 06 18.4
comp=Z,30nm,0.8s
NEW Newport 80.51 42 IAmb IAmb 11 06 18.9
comp=Z,23nm,0.8s
J08A Circle Bar Ran 81.12 47 IAmb IAmb 11 06 22.6
comp=Z,19nm,0.8s
WVOR Wild Horse Val 81.29 48 IAmb IAmb 11 06 23.4
comp=Z,21nm,0.9s
CMB Columbia Colle 81.35 53 IAmb IAmb 11 06 23.6
comp=Z,16nm,0.8s
BMO Blue Mountains 81.46 46 IAmb IAmb 11 06 24.1
comp=Z,37nm,1.2s
PAHR Pah Rah Range 81.59 51 IAmb IAmb 11 06 25.0
comp=Z,22nm,1.1s
WAKR Walker 81.92 52 IAmb IAmb 11 06 27.2
comp=Z,17nm,0.7s
ARCES ARCESS Array B 82.06 342 P **P 11 06 24.0 -0.3**
comp=Z,4.8nm,0.6s,baz=54,slow=4.6,SNR=20
ARCES pP **pP 11 06 54.0 -0.6**
comp=Z,1.8nm,0.5s,baz=60,slow=7.2,SNR=1.6
comp=Z,4.8nm,0.6s
TULEG Thule 82.23 8 *i* P **P 11 06 25.8 +0.8**
TULEG IAmb IAmb 11 06 26.7
comp=Z,26nm,0.9s
RYN Ryan 82.56 52 IAmb IAmb 11 06 30.3
comp=Z,23nm,0.8s
LHV Little Huntoon 82.69 52 IAmb IAmb 11 06 31.2
comp=Z,23nm,0.9s
NVAR Mina Array Bea 82.79 52 P **P 11 06 30.6 +1.6**
comp=Z,27nm,0.7s,baz=266,slow=6.0,SNR=226
NVAR pP **pP 11 07 01.1 +1.9**
comp=Z,4.0nm,0.8s,baz=274,slow=5.0,SNR=2.5
MFID Camas Ranch 82.93 47 IAmb IAmb 11 06 32.0
comp=Z,24nm,0.8s
BCW Bitter Crk WRg 83.05 56 IAmb IAmb 11 06 33.1
comp=Z,18nm,1.0s
NEEM North Greenlan 83.06 4 *i* P **P 11 06 29.5 -0.2**
NEEM IAmb IAmb 11 06 32.0
comp=Z,22nm,0.9s
DSP Deep Springs 83.38 53 IAmb IAmb 11 06 34.5
comp=Z,16nm,1.2s
GMN Gold Mountain 83.94 53 IAmb IAmb 11 06 37.2
comp=Z,15nm,0.8s
CCAC Calif City Air 84.06 55 IAmb IAmb 11 06 37.7
comp=Z,12nm,0.8s
ELK Elko 84.25 49 IAmb IAmb 11 06 38.9
comp=Z,22nm,0.8s
WCT Wildcat Mounta 84.58 53 IAmb IAmb 11 06 40.2
comp=Z,18nm,0.8s
TPNV Topopah Spring 84.81 53 IAmb IAmb 11 06 41.5
comp=Z,20nm,0.7s
OBN Obninsk 84.91 327 *e*P **P 11 06 38.7 -0.4**
OBN *e**PP **pP 11 07 06.5 -3.1**
OBN *e* 11 09 57.0
OBN *e*PPP PPP 11 11 49.8
OBN pmax pmax
comp=Z,3.0nm,0.9s
S11A Rachel 84.95 52 IAmb IAmb 11 06 42.0
comp=Z,22nm,0.9s

BOZ Bozeman (W) 84.96 43 IAmb IAmb 11 06 42.0
comp=Z,14nm,0.8s
EGMT Eagleton 85.21 41 IAmb IAmb 11 06 42.8
comp=Z,19nm,1.1s
SPR3 Spring Creek 3 85.52 50 IAmb IAmb 11 06 45.7
comp=Z,17nm,1.1s
PRN Pahroc Range 85.55 52 IAmb IAmb 11 06 45.5
comp=Z,13nm,1.0s
HVU Hansel Valley 85.62 47 IAmb IAmb 11 06 45.9
comp=Z,29nm,1.1s
PFO Pinyon Flats O 85.79 56 P **P 11 06 44.4 +0.2**
PFO Pinyon Flats O 85.79 56 P **P 11 06 44.4 +0.2**
PFO pmax pmax
comp=Z,10.0nm,1.3s
GNI Garni 85.92 311⇓ *e*P **P 11 06 44.9 +0.2**
GNI pmax pmax
comp=Z,19nm,1.7s
PSUT Pine Spring 86.03 51 IAmb IAmb 11 06 47.6
comp=Z,16nm,0.9s
FXWY Fox Creek 86.11 45 IAmb IAmb 11 06 48.4
comp=Z,14nm,1.0s
DUG Dugway, Tooele 86.18 49 IAmb IAmb 11 06 48.2
comp=Z,20nm,0.8s
TPAW Teton Pass 86.22 45 IAmb IAmb 11 06 48.0
comp=Z,18nm,1.2s
MOOW Moose Ponds 86.25 45 IAmb IAmb 11 06 48.9
comp=Z,11nm,0.9s
DBG Daneborg 86.29 356 *i* P **P 11 06 44.4 -1.2**
DBG IAmb IAmb 11 06 46.4
comp=Z,5.6nm,0.7s
V12A Nelson 86.30 54 IAmb IAmb 11 06 49.1
comp=Z,14nm,0.8s
AHID Auburn Hatcher 86.39 46 IAmb IAmb 11 06 49.3
comp=Z,18nm,0.9s
FINES FINESS Array B 86.48 335 P **P 11 06 45.2 -1.5**
comp=Z,4.0nm,0.4s,baz=75,slow=4.9,SNR=64
comp=Z,4.0nm,0.4s
FFC Flin Flon 86.65 33 P **P 11 06 48.6 +0.9**
FFC IAmb IAmb 11 06 49.7
comp=Z,21nm,0.9s
FFC Flin Flon 86.65 33 P **P 11 06 48.6 +0.9**
FFC pmax pmax
comp=Z,21nm,0.9s
RLMT Red Lodge 86.68 43 IAmb IAmb 11 06 51.4
comp=Z,15nm,0.8s
TCRU Three Creeks R 87.03 50 IAmb IAmb 11 06 52.9
comp=Z,14nm,1.2s
MPU Maple Canyon 87.08 49 IAmb IAmb 11 06 52.6
comp=Z,11nm,0.9s
MVU Marysvale 87.24 50 IAmb IAmb 11 06 54.0
comp=Z,12nm,1.0s
PDAR Pinedale Array 87.44 45 P **P 11 06 52.7 +0.6**
PDAR Pinedale Array 87.44 45 P **P 11 06 52.2 +0.1**
comp=Z,1.1nm,0.5s,baz=178,slow=1.1,SNR=24
comp=Z,1.1nm,0.5s
PKCU Pink Cliffs 87.57 51 IAmb IAmb 11 07 05.5
comp=Z,9.6nm,0.9s
TMUT Trail Mountain 87.66 49 IAmb IAmb 11 06 55.6
comp=Z,11nm,0.9s
Q16A Castle Valley 87.84 50 IAmb IAmb 11 06 56.7
comp=Z,18nm,1.0s
LAO LASA Array 87.95 41 IAmb IAmb 11 06 56.5
comp=Z,12nm,1.1s
U15A North Rim 87.97 52 IAmb IAmb 11 06 57.5
comp=Z,13nm,0.9s
SOC Sochi 88.03 316 *e*P **P 11 06 51.5 -3.1**
SOC *e**PP pP 11 07 19.9 -5.7
SOC *e* 11 10 30.5
SOC *e*PPP PPP 11 12 21.0
SOC *e*S **SKSac 11 17 08.9 -3.0**
SOC *e*SS **SS 11 23 13.8 -4.3**
SRU San Rafael Swe 88.22 49 IAmb IAmb 11 06 57.9
comp=Z,17nm,0.9s
Y14A Wickenburg 88.36 55 IAmb IAmb 11 06 58.9
comp=Z,12nm,0.7s
SUMG Summit 88.43 1 *i* P **P 11 06 56.0 -0.4**
SUMG IAmb IAmb 11 06 58.5
comp=Z,7.6nm,0.7s
O20A White River Ci 89.42 47 IAmb IAmb 11 07 03.3
comp=Z,8.3nm,0.9s
MNK Minsk 89.57 329 *i* P **P 11 06 59.3 -2.3**
MNK *i **PP **pP 11 07 28.6 -3.7**
MNK *i* 11 10 34.4
MNK *i* PPP PPP 11 12 29.1
MNK *i* S **SKSac 11 17 18.9 -1.7**
MNK *i* SS **SS 11 23 39.8 0.0**
MNK *i* SSS SSS 11 27 16.2
MNK pmax pmax
comp=E,24nm,1.1s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,24nm,0.9s
MNK MLR MLR
comp=E,274nm,14.0s
MNK MLR MLR
comp=Z,258nm,9.0s
MNK MLR MLR
comp=N,196nm,10.0s
PV13 Radium Mtn., P 89.83 49 IAmb IAmb 11 07 05.4
comp=Z,13nm,0.8s
SCO Scoresbysund 90.16 356 *i* P **P 11 07 04.0 +0.1**
SCO IAmb IAmb 11 07 05.2
comp=Z,18nm,0.6s
TUC Tucson 90.71 55 P **P 11 07 07.9 +0.4**
TUC IAmb IAmb 11 07 10.4
comp=Z,9.4nm,1.2s
TUC Tucson 90.71 55 P **P 11 07 07.9 +0.4**
TUC pmax pmax
comp=Z,9.0nm,1.3s
AKASG Malin Array Be 90.95 325 P **P 11 07 07.0 -1.1**
comp=Z,0.3nm,0.4s,baz=94,slow=16,SNR=1.6
comp=Z,0.3nm,0.4s
S22A 4UR Ranch, Cre 91.43 49 IAmb IAmb 11 07 13.5
comp=Z,5.7nm,0.9s
HFS Hagfors 91.96 338 P **P 11 07 10.4 -2.2**
comp=Z,2.3nm,0.8s,baz=102,slow=5.1,SNR=5.1
comp=Z,2.3nm,0.8s
ULM Lac du Bonnet 92.16 34 P **P 11 07 13.4 -0.4**
comp=Z,3.3nm,0.8s,baz=310,slow=5.3,SNR=8.1
comp=Z,3.3nm,0.8s
ANMO Albuquerque 92.91 52⇓ *i*P **P 11 07 19.0 +1.2**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
BR131 Keskin Array S 93.83 314⇑ *e*P **P 11 07 21.7 -0.1**
TXAR Lajitas Array 97.51 56 P **P 11 07 38.1 -0.6**
comp=Z,0.2nm,0.5s,baz=299,slow=3.9,SNR=7.3
comp=Z,0.2nm,0.5s
BFO Black Forest 102.79 332 *i* P **Pdif 11 08 04.1 +2.4**
M65A Busby, Falmout 110.79 28 P **PKiKP 11 12 38.1 +1.5**
baz=323
ESDC Sonseca Array 114.98 335 PKKPab PKKPab 11 23 27.8 -2.0
comp=Z,1.2nm,1.0s,baz=260,slow=3.5,SNR=4.4
ELIB Princess Elisa 117.93 197 *d*PKPdf **PKPdf 11 12 48.8 -0.8**
DBIC Dimbokro 141.30 309 SKPbc **SKPbc 11 16 59.1 -2.0**
comp=Z,3.5nm,0.8s,baz=23,slow=2.7,SNR=4.5
PLCA Paso Flores 142.28 133 PKhKP PKPpre 11 13 31.9
comp=Z,0.8nm,0.5s,baz=242,slow=4.2,SNR=8.9
PLCA SKPbc **SKPbc 11 17 01.7 -1.2**
comp=Z,2.1nm,0.8s,baz=271,slow=4.7,SNR=5.1
MT01 Popeta 144.00 122 PKPbc 11 13 37.8 +0.1
BO02 Sierra Bellavi 144.13 123 **PKPdf 11 13 38.8 -0.9**
MT09 Talagante 144.24 121 PKPdf PKPbc 11 13 38.7 +0.2
LPAZ La Paz 147.61 90 PKPbc **PKPbc 11 13 49.6 0.0**
comp=Z,1.4nm,0.4s,baz=251,slow=1.1,SNR=6.4

TAP 23 11:08:25.7, 22°66N×121°27E, h30km, ML1.7, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.18**	**87**	*e*P	Pb	11 08 31.7	+0.1
LDUT				*e*S	Sb	11 08 36.4	+0.7
TWGBT	**Beinan**	**0.23**	**311**	P	Pb	11 08 32.1	-0.1
TWGBT				S	Sb	11 08 37.0	+0.3
TWG	**Pinlang**	**0.24**	**310**	*e*P	Pb	11 08 32.2	-0.2
TWG				*e*S	Sb	11 08 36.9	0.0
LONT	**Longtian**	**0.28**	**331**	*e*P	Pb	11 08 32.6	-0.2
LONT				*e*S	Sb	11 08 37.9	+0.3
ECL	**Taimali**	**0.30**	**257**	*e*P	Pb	11 08 32.6	-0.6
ECL				*e*S	Sb	11 08 37.7	-0.4
EDH	**Donghe**	**0.31**	**5**	*e*P	Pb	11 08 33.0	-0.3
EDH				*e*S	Sb	11 08 38.9	+0.5
CHKT	**Chengkung**	**0.44**	**11**	*e*P	Pb	11 08 35.3	+0.1
CHKT				*e*S	Sb	11 08 42.1	+0.4

TAWH	**Dawu Township**	**0.48 228**	*e*P	Pb	11 08 35.1	-0.7
TAWH			*e*S	Sb	11 08 41.8	-0.9
EHD	**Haiduan**	**0.49 353**	*e*P	Pb	11 08 35.0	-0.9
EHD			*e*S	Sb	11 08 41.1	-1.8
FULB	**Fuli**	**0.53 2**	*e*P	Pb	11 08 35.9	-0.8
FULB			*e*S	Sn	11 08 44.8	-0.5
CHKH	**Chenggong**	**0.54 12**	*e*P	Pb	11 08 36.0	-0.7
CHKH			*e*S	Sb	11 08 44.3	+0.1
ELDTW	**Lidau**	**0.57 336**	*e*P	Pb	11 08 36.4	-1.0
ELDTW			*e*S	Sb	11 08 43.2	-2.2
MASBT	**Mashibuluo**	**0.59 265**	*e*P	Pb	11 08 37.2	-0.4
MASBT			*e*S	Sb	11 08 45.3	-0.5
SLIU	**Shizi**	**0.62 225**	*e*P	Pb	11 08 37.2	-1.0
SLIU			*e*S	Sb	11 08 45.2	-1.4
SCZT	**Fangliau**	**0.67 244**	*e*S	Sb	11 08 47.3	-0.6
STYH	**Taoyuan**	**0.68 318**	*e*P	Pb	11 08 38.9	-0.2
STYH			*e*S	Sb	11 08 47.1	-1.1
YULB	**Yu-li**	**0.72 2**	*e*P	Pb	11 08 38.1	-1.7
WTP	**Ta-pu**	**0.84 314**	*e*P	Pb	11 08 42.1	+0.4
WTP			*e*S	Sn	11 08 54.5	+1.6
CHN1	**Nanshi**	**0.86 307**	*e*P	Pb	11 08 42.6	+0.5
CHN1			*e*S	Sn	11 08 55.2	+1.7
TPUB	**Ta-pu**	**0.87 317**	*e*P	Pb	11 08 42.5	+0.3
TPUB			*e*S	Sn	11 08 55.3	+1.7
CHN4	**Tsaushan**	**0.93 318**	*e*P	Pb	11 08 44.1	+0.9
CHN4			*e*S	Sb	11 08 57.7	+2.5

TAP 23 11:08:27.4,24°.02N×121°.59E,h28km,ML1.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.05**	**161**	*e*P	Pb	11 08 32.4	+0.2
HWA				*e*S	Sb	11 08 36.6	+1.1
TWD	**Chiawan**	**0.06**	**7**	P	Pb	11 08 32.2	-0.1
TWD				S	Sb	11 08 35.8	+0.2
ETM	**Tongmen**	**0.10**	**237**	*e*P	Pb	11 08 32.1	-0.4
ETM				*e*S	Sb	11 08 36.0	0.0
ETL	**Fush Village**	**0.14**	**13**	*e*P	Pb	11 08 32.5	-0.4
ETL				*e*S	Sb	11 08 37.0	+0.3
NACB	**Ninganchiao**	**0.15**	**2**	*i*P	Pb	11 08 32.4	-0.5
NACB				S	Sb	11 08 36.5	-0.3
LXIB	**Xiulin Townshi**	**0.16**	**269**	*e*P	Pb	11 08 33.1	-0.1
LXIB				*e*S	Sb	11 08 37.1	0.0
ETLH	**Xiulin Townshi**	**0.21**	**332**	P	Pb	11 08 33.3	-0.4
ETLH				S	Sb	11 08 37.6	-0.3
SHUL	**Shoufeng**	**0.24**	**186**	*e*P	Pn	11 08 34.4	-0.6
SHUL				*e*S	Sb	11 08 39.6	+1.4
ESL	**Shilin**	**0.25**	**214**	*e*P	Pb	11 08 34.2	+0.1
ESL				*e*S	Sb	11 08 38.5	-0.2
WHF	**Hehuan Shan**	**0.32**	**292**	*e*P	Pb	11 08 35.2	-0.1
WHF				*e*S	Sb	11 08 41.1	+0.4
WARBT	**Fenglin Townsh**	**0.36**	**211**	*e*P	Pb	11 08 35.0	-0.5
WARBT				*e*S	Sb	11 08 40.6	-0.4
OWD	**Renai**	**0.38**	**260**	*e*P	Pb	11 08 36.1	+0.1
OWD				*e*S	Sb	11 08 42.0	+0.1
FUSS	**Fushou**	**0.39**	**305**	*e*P	Pb	11 08 36.2	0.0
FUSS				*e*S	Sb	11 08 42.8	+0.6
WUSB	**Renai**	**0.43**	**266**	*e*P	Pb	11 08 37.0	+0.2
WUSB				*e*S	Sn	11 08 44.2	-0.7
NNSB	**Datong**	**0.45**	**335**	*e*P	Pb	11 08 36.6	-0.4
NNSB				*e*S	Sb	11 08 43.6	+0.1
NNS	**Nan Shan**	**0.46**	**335**	*e*P	Pb	11 08 37.0	-0.3
NNS				*e*S	Sb	11 08 44.0	+0.1
VWDT	**VWDT**	**0.49**	**237**	*e*P	Pb	11 08 37.9	+0.4
VWDT				*e*S	Sn	11 08 45.8	-0.2
LATG	**Datong**	**0.51**	**354**	*e*P	Pb	11 08 37.5	-0.6
LATG				*e*S	Sb	11 08 44.6	-0.8
HGSD	**Ruisui**	**0.55**	**196**	*e*P	Pn	11 08 39.1	-0.2
HGSD				*e*S	Sn	11 08 47.6	0.0
ENTT	**Nioudou**	**0.61**	**358**	*e*P	Pb	11 08 38.9	-0.8
ENTT				*e*S	Sb	11 08 47.4	-0.7
SSLB	**Suanglung**	**0.63**	**248**	*e*P	Pb	11 08 40.0	+0.1
SSLB				*e*S	Sn	11 08 49.0	-0.6
WHP	**Taichung City**	**0.64**	**294**	*e*P	Pb	11 08 39.8	-0.4
WHP				*e*S	Sn	11 08 49.7	-0.2
SMLT	**Sun Moon Lake**	**0.65**	**258**	*e*P	Pb	11 08 39.5	-0.7
SMLT				*e*S	Sb	11 08 49.4	+0.4
YHNB	**Yeheng**	**0.67**	**343**	*e*P	Pb	11 08 40.1	-0.6
YHNB				*e*S	Sb	11 08 47.8	-2.0
YULB	**Yu-li**	**0.68**	**203**	*e*S	Sb	11 08 49.9	0.0
NSK	**Sanguang**	**0.68**	**342**	*e*P	Pb	11 08 40.2	-0.6
NSK				*e*S	Sb	11 08 49.2	-0.8
FUSB	**Fushanzhiwuyua**	**0.73**	**360**	*e*P	Pb	11 08 41.4	-0.3
FUSB				*e*S	Sb	11 08 50.8	-0.7
NFF	**Wufeng Townshi**	**0.74**	**325**	*e*P	Pb	11 08 41.8	0.0
NFF				*e*S	Sb	11 08 51.0	-0.6
NWLT	**Wulai**	**0.76**	**354**	*e*P	Pb	11 08 40.9	-1.2
NWLT				*e*S	Sb	11 08 50.9	-1.1
LIOB	**Emei**	**0.81**	**320**	*e*P	Pb	11 08 43.5	+0.5

*IDC **23** 11:10:05.8±4.1, 14°.16N×145°.85E, h72km±94km, mb3.5/5, mbtmp3.8/5, Error ellipse: s-maj=189.8km s-min=32.4km az=175.0*
*NEIC **23** 11:10:06.2±1.4, 14°.24N±0°.08×145°.8E±0°.1, h60km±5km, mb3.9/4, Error ellipse: s-maj=21.4km s-min=7.0km az=119.0*

ISC 23 11:10:03.9±1.5,14°.5N±0°.3×145°.8E±0°.3,h35km,n18, σ0°.68/14,mb3.9/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.29**	**225**	Pn	**Pn**	**11 10 25.6**	**+0.2**
GUMO				Sn	**Sn**	**11 10 41.0**	**-0.5**
GUMO	**Guam**	**1.29**	**225**	P	**Pn**	**11 10 26.3**	**+0.9**
GUMO	278nm,0.3s,baz=132,slow=6.3,SNR=63 681nm,0.3s,baz=248,slow=22,SNR=26			S	**Sn**	**11 10 40.9**	**-0.5**
GUMO	comp=Z,72nm,18.1s,baz=46,slow=39			LR	LR	11 10 48.8	
H11S3	**WAKE ISLAND Hy**	**20.41**	**76**	T	T	11 35 53.1	
H11S1	baz=263,slow=75 **WAKE ISLAND Hy**	**20.42**	**76**	T	T	11 35 55.5	
H11S2	baz=263,slow=75 **WAKE ISLAND Hy**	**20.42**	**76**	T	T	11 35 56.8	
H11N1	baz=263,slow=75 **WAKE ISLAND Hy**	**20.80**	**73**	T	T	11 36 23.2	
H11N2	baz=260 **WAKE ISLAND Hy**	**20.81**	**73**	T	T	11 36 21.2	
H11N3	baz=260 **WAKE ISLAND Hy**	**20.82**	**73**	T	T	11 36 22.1	
MK31	baz=260 **Makanchi Array**	**61.48**	**316**	P	**P**	**11 20 17.9**	**+0.7**
MK31	comp=Z,1.3nm,1.2s			IAmb	IAmb	11 20 37.4	
MKAR	**Makanchi Array**	**61.48**	**316**	P	**P**	**11 20 17.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=92,slow=8.3,SNR=15 comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**64.48**	**320**	P	**P**	**11 20 36.8**	**-0.2**
KURK	comp=Z,1.0nm,0.8s			IAmb	IAmb	11 20 44.3	
KURBB	**Kurchatov Arra**	**64.52**	**319**	P	**P**	**11 20 36.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=98,slow=7.4,SNR=7.3 comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**67.36**	**25**	P	**P**	**11 20 54.5**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=249,slow=5.8,SNR=22 comp=Z,0.6nm,0.4s						
D24K	**Happy Valley**	**67.86**	**21**	P	**P**	**11 20 59.4**	**+1.0**
J26L	**Joseph Creek**	**68.69**	**26**	P	**P**	**11 21 03.7**	**0.0**
BMAR	**Burnt Mountain**	**68.91**	**23**	P	**P**	**11 21 06.1**	**+1.0**
BVAR	**Borovoye Array**	**69.78**	**321**	P	**P**	**11 21 10.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=79,slow=7.5,SNR=2.6 comp=Z,0.5nm,0.4s						
YKA	**Yellowknife Ar**	**81.63**	**28**	P	**P**	**11 22 17.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=287,slow=5.5,SNR=8.5 comp=Z,0.3nm,0.5s						

*MOS **23** 11:29:24.2±0.8, 14°.01N×93°.09E, h10km, mb5.6/72, MS4.7/8, Error ellipse: s-maj=5.9km s-min=3.6km az=111.0*
*IDC **23** 11:29:24.0±0.4, 14°.00N×93°.11E, h0km, mb5.0/38, mbtmp5.0/40, ML4.4/2, MS4.7/61, Error ellipse: s-maj=12.2km s-min=10.6km az=48.0*
*NDI **23** 11:29:25.6±2.7, 13°.95N×92°.99E, h10km, mb5.4, ML5.1, mb5.6(NEIC)*
*BJI **23** 11:29:25.0, 13°.79N×93°.05E, h26km, mB5.3/44, mb5.2/85, Ms5.0/85, Ms7 4.9/82*
*NEIC **23** 11:29:27.1±1.3, 14°.12N±0°.07×93°.04E±0°.07, h10km±1km, mb5.6/176, Mww5.2/22, Error ellipse: s-maj=11.9km s-min=11.0km az=257.0*
*NEIC **23** 11:29:27.4, 14°.12N×93°.00E, h18km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.02; $M_{\theta\theta}$3.05; $M_{\phi\phi}$3.98; $M_{r\theta}$0.25; $M_{\theta\phi}$3.91; $M_{\phi r}$-2.09; Fault plane solution: $M_0$7.54000×10^{16} NP1: ϕ_s233.88000°,δ40.86000°,λ-71.01000°. NP2:ϕ_s29.41000°, δ51.79000°,λ-105.72000°. Principal axes: T 7.5824, Plg6.0000°, Azm131.0000°; N -0.0784, Plg12.0000°, Azm39.0000°; P -7.5040, Plg76.0000°, Azm244.0000°;*
*NEIC **23** 11:29:27.4, 14°.12N×93°.07E, h18km*
*DJA **23** 11:29:29.5±0.8, 14°N±2°×9°3E±°, h27km±6km, M5.2/48, mb5.1/48, mB5.6/25, MLv5.9/3, Mw(mB)5.1/25, MwMwp5.0/11, Mwp5.3/11*
*GCMT **23** 11:29:29.1±0.1, 14°.11N±0°.01×92°.97E±0°.01, h19km, MW5.3/122, Moment Tensor Solution. s101,c143; s122,c198; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.68±.02; $M_{\theta\theta}$0.23±.02; $M_{\phi\phi}$0.45±.02; $M_{r\theta}$0.76±.04; $M_{\theta\phi}$0.54±.01; $M_{\phi r}$0.06±.03; Best double couple: $M_0$1.10800×10^{17} NP1:ϕ_s13.00000°,δ34.00000°, λ-140.00000°. NP2:ϕ_s248.00000°,δ69.00000°, λ-62.00000°. Principal axes: T 1.0720, Plg19.0000°, Azm318.0000°; N 0.0730, Plg26.0000°, Azm57.0000°; P -1.1440, Plg57.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 11:29:27.7±0.4,14°.04N±0°.03×93°.02E±0°.03,h21km±4km, h21km:pP-P,n1064,σ1§16/1070,mb5.4/271,MS4.8/90, 55C-56D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDT	**SRDT**	**5.93**	**86**	P	**Pn**	**11 30 56.1**	**+1.8**
CM31	**Chiang Mai Arr**	**7.19**	**52**		**Pn**	**11 31 11.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**7.19**	**52**	Pn	**Pn**	**11 31 11.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.19**	**52**	Pn	**Pn**	**11 31 11.8**	**+0.1**
CMAR	5.1nm,0.3s,baz=241,slow=15,SNR=242 12nm,0.3s,baz=237,slow=26,SNR=6.2			Sn	**Sn**	**11 32 27.8**	**-5.1**
CMAR	comp=Z,8μm,18.4s,baz=235,slow=45 59nm,0.8s			LR	LR	11 34 44.2	
CMAR	**Chiang Mai Arr**	**7.19**	**52**	P	**Pn**	**11 31 11.4**	**-0.3**
CHTO	**Chiang Mai**	**7.41**	**49**	Pn	**Pn**	**11 31 14.1**	**-0.6**
CHTO	**Chiang Mai**	**7.41**	**49**	P	**Pn**	**11 31 14.1**	**-0.6**
NAYO	**Nakonayok**	**8.06**	**87**	P	**Pn**	**11 31 24.6**	**+1.0**
SRIT	**Nakonsritamara**	**8.42**	**129**		**Pn**	**11 31 30.3**	**+1.7**
BRDH	**Bariadhala**	**8.69**	**352**	Pn	Pn	11 31 39.2	+6.9
BRDH	118nm,0.3s,baz=179,slow=6.5,SNR=6.9 137nm,0.3s,baz=339,slow=23,SNR=7.2			Sn	**Sn**	**11 33 06.7**	**-3.0**
BRDH	comp=Z,11μm,18.0s,baz=164,slow=52			LR	LR	11 36 54.5	
BSI	**Banda Aceh**	**8.78**	**165**	P	**Pn**	**11 31 33.9**	**+0.4**
	5μm2μm165nm,1.2s						
CRAI	**Chiangrai**	**9.35**	**48**		**Pn**	**11 31 41.5**	**+0.2**
CAL	**Calcutta**	**9.56**	**333**	*e*P	**Pn**	**11 31 44.0**	**-0.1**
LHMI	**Lhok Sumawe**	**9.57**	**156**	Pn	**Pn**	**11 31 46.3**	**+2.0**
LHMI	**Lhok Sumawe**	**9.57**	**156**	P	**Pn**	**11 31 48.5**	**+4.2**
	4μm240nm,1.4s						
AZL	**Aizawl**	**9.66**	**358**	*e*P	**Pn**	**11 31 45.5**	**-0.1**
AZL				*e*S	**Sn**	**11 33 28.8**	**-4.8**
AZL	comp=E,613nm,0.8s			IAML		11 33 35.2	
AZL	comp=E,593nm,0.5s			IAML		11 33 41.9	
AGT	**Agartala**	**9.94**	**351**	*e*S	**Sn**	**11 33 34.4**	**-5.9**
MLSI	**Meulaboh, Aceh**	**10.27**	**161**	P	**Pn**	**11 31 53.5**	**-0.4**
	comp=E,5μmcomp=E,5μmcomp=E,261nm,1.1s						
RAGD	**RAYAGADA**	**10.52**	**301**	*e*P	**Pn**	**11 31 56.5**	**-0.9**
IMP	**Imphal**	**10.78**	**5**	*e*P	**Pn**	**11 32 00.5**	**-0.4**
IMP				*e*S	**Sn**	**11 33 56.2**	**-4.8**
IMP	comp=E,571nm,1.0s			IAML		11 34 26.1	
IMP	comp=E,478nm,1.4s			IAML		11 34 26.7	
KULM	**Kulim**	**11.49**	**138**	Pn	**Pn**	**11 32 12.8**	**+2.2**
KOHI	**KOHIMA**	**11.67**	**5**	*e*P	**Pn**	**11 32 12.0**	**-1.2**
KOHI				*e*S	Sn	11 34 13.5	-9.5
JHSG	**JHARSUGUGA**	**11.68**	**312**	*e*P	**Pn**	**11 32 12.6**	**-0.6**
TNCH	**TengChong**	**12.10**	**25**	P	**Pn**	**11 32 21.8**	**+2.6**
TNCH				S	**Sn**	**11 34 35.8**	**+2.2**
TNCH	comp=E,140nm,0.4s			pmax	pmax		
TNCH	comp=E,220nm,2.9s			pmax	pmax		
TNCH	comp=E,3μm,17.8s			LR	LR		
TNCH	comp=E,3μm,19.7s			LR	LR		
TNCH	comp=E,6μm,17.9s			LR	LR		
UBPT	**Khong Chiam**	**12.11**	**83**		**Pn**	**11 32 20.4**	**+1.2**
UBPT	**Khong Chiam**	**12.11**	**83**	P	**Pn**	**11 32 21.7**	**+2.5**
GUWA	**GUWÄHATI**	**12.16**	**354**	*e*P	**Pn**	**11 32 17.7**	**-2.1**
GUWA				*e*S	Sn	11 34 23.8	-11
GUWA	comp=E,527nm,1.1s			IAML		11 34 57.6	
GUWA	comp=E,484nm,0.9s			IAML		11 35 03.2	
PSI	**Prapat**	**12.60**	**152**	Pn	**Pn**	**11 32 26.5**	**+0.6**
	comp=E,0.4nm,0.3s,baz=325,slow=14,SNR=18						
PSI				LR	LR	11 37 51.8	
	comp=E,3μm,19.5s,baz=312,slow=40 comp=E,14nm,0.8s						
SLVN	**Son La**	**12.66**	**53**		**Pn**	**11 32 25.7**	**-0.9**
RPSI	**Rantau Prapat**	**12.69**	**152**		**Pn**	**11 32 29.6**	**+2.6**
JPG	**JALPAIGURI**	**13.08**	**343**	*e*P	**Pn**	**11 32 31.3**	**-1.1**
BLSP	**Bilaspur**	**13.11**	**309**	*e*P	**Pn**	**11 32 33.1**	**+0.3**
BLSP				IAmb	IAmb	11 32 57.6	
	comp=Z,207nm,1.0s						
ZIRO	**ZIRO**	**13.45**	**3**	*e*P	**Pn**	**11 32 35.7**	**-1.8**
ZIRO				IAmb	IAmb	11 33 00.0	
	comp=Z,132nm,0.8s						
ZIRO				IAML		11 35 03.1	
	comp=E,7μm,0.4s						
TAWA	**Tawang**	**13.53**	**356**	*e*x	x	11 32 48.8	
TAWA				*e*S	Sn	11 34 59.8	-9.1
TAWA	comp=E,543nm,0.6s			IAML		11 35 10.5	
TAWA	comp=N,496nm,0.6s			IAML		11 35 18.5	
PALK	**Pallekele**	**13.84**	**242**	Pn	**Pn**	**11 32 42.3**	**-0.5**
PALK	**Pallekele**	**13.84**	**242**	P	**Pn**	**11 32 42.3**	**-0.5**
GTK	**Tadong**	**13.85**	**343**	*e*P	**Pn**	**11 32 40.6**	**-2.3**
GTK				*e*S	Sn	11 35 04.7	-11
GTK				*e*x	x	11 35 06.4	
GTK	comp=E,770nm,0.8s			IAML		11 35 26.2	
GTK	comp=E,758nm,1.0s			IAML		11 35 41.9	
HYB	**Hyderabad**	**14.32**	**285**	*e*P	**Pn**	**11 32 49.5**	**0.0**
HYB				*e*		11 35 15.8	
HYB				*e*S	**Sn**	**11 35 28.3**	**+0.5**
HYB	comp=Z,2μm,15.4s			IVMs_BB	IVMs_BB	11 40 01.8	
KMI	**Kunming**	**14.33**	**38**	P	**Pn**	**11 32 53.1**	**+3.4**
KMI				S	**Sn**	**11 35 32.3**	**+4.1**
KMI	comp=Z,59nm,1.3s			pmax	pmax		
KMI	comp=Z,240nm,5.4s			pmax	pmax		
KMI	comp=Z,3μm,18.3s			LR	LR		
KMI	comp=Z,4μm,13.8s			LR	LR		
KMI	comp=Z,5μm,15.8s			LR	LR		
SALM	**Salem**	**14.64**	**262**	*e*P	**Pn**	**11 32 52.2**	**-1.6**
MNSI	**Mandailing Nat**	**14.67**	**153**	P	**P**	**11 33 04.1**	**+3.9**
PZH	**PanZhiHua**	**14.85**	**32**	P	**P**	**11 33 04.3**	**+1.9**
PZH				S	**Sn**	**11 35 43.8**	**+3.1**
PZH	comp=Z,180nm,1.1s			pmax	pmax		
PZH	comp=Z,430nm,4.9s			pmax	pmax		
PZH	comp=N,2μm,16.2s			LR	LR		
PZH	comp=E,2μm,16.2s			LR	LR		
PZH	comp=Z,3μm,14.1s			LR	LR		
NGP	**Nagpur**	**15.07**	**300**	*e*P	**Pn**	**11 32 57.9**	**-1.7**
NGP				*e*P	**P**	**11 32 58.5**	**-6.3**
NGP				IAmb	IAmb	11 33 12.3	
NGP	comp=Z,162nm,0.7s			*e*S	Sn	11 35 33.1	-13
ALBI	**Allahabad**	**15.39**	**318**	*e*P	**Pn**	**11 33 03.0**	**-0.7**
ALBI				*e*S	Sn	11 35 38.5	-15
LSA	**Lhasa**	**15.68**	**354**	Pn	**Pn**	**11 33 06.0**	**-2.0**
LSA	**Lhasa**	**15.68**	**354**	P	**P**	**11 33 13.6**	**+1.6**
LSA	comp=Z,86nm,0.7s			pmax	pmax		
LSA	comp=Z,2μm,20.2s			LR	LR		
LSA	comp=Z,3μm,20.4s			LR	LR		
LSA	**Lhasa**	**15.68**	**354**	P	**Pn**	**11 33 06.0**	**-2.0**
LSA	comp=Z,65nm,0.7s			pmax	pmax		
BKNI	**Bangkinang**	**15.77**	**149**		**Pn**	**11 33 08.4**	**-0.2**
PPI	**Padang Panjang**	**16.15**	**152**	P	**Pn**	**11 33 13.8**	**+0.3**
	comp=Z,3μmcomp=Z,2μmcomp=Z,55nm,0.8s						
MYKOM	**Kota Tinggi**	**16.21**	**138**		**Pn**	**11 33 15.2**	**+0.9**
MYKOM	**Kota Tinggi**	**16.21**	**138**	P	**Pn**	**11 33 13.7**	**-0.6**
BNDA	**BANDA**	**16.48**	**316**	*e*P	**Pn**	**11 33 17.3**	**-0.5**
BNDA				*e*S	Sn	11 36 05.6	-15
AKL	**Akola**	**16.64**	**296**	*e*P	**Pn**	**11 33 20.8**	**+0.9**
AKL	comp=Z,265nm,1.4s			IAmb	IAmb	11 33 47.6	
AKL				*e*S	Sn	11 36 11.8	-12
QIZ	**Qiongzhong**	**16.88**	**71**	P	**P**	**11 33 24.3**	**-0.4**
QIZ	comp=Z,50nm,2.2s			pmax	pmax		
QIZ	comp=Z,520nm,5.3s			pmax	pmax		
QIZ	comp=Z,2μm,17.3s			LR	LR		
QIZ	comp=Z,4μm,16.5s			LR	LR		
QIZ	comp=Z,6μm,15.8s			LR	LR		
TPRI	**Tanjung Pinang**	**17.31**	**138**	P	**P**	**11 33 30.4**	**+0.9**
	comp=Z,65nm,0.6s						
NRDN	**NARMADA NAGAR**	**17.33**	**302**	*e*P	**P**	**11 33 30.3**	**+0.5**
JHNI	**Jhansi**	**17.73**	**312**	*e*P	**Pn**	**11 33 32.6**	**-0.8**
JHNI				*e*S	Sn	11 36 31.8	-19
GYA	**Guiyang**	**17.77**	**44**	⇑P	**P**	**11 33 34.8**	**0.0**
GYA				sP	sP	11 33 43.1	-0.2
GYA				S	**Sn**	**11 36 47.0**	**-4.8**
GYA	comp=Z,59nm,1.2s			pmax	pmax		
GYA	comp=Z,2μm,16.5s			LR	LR		
GYA	comp=Z,2μm,16.8s			LR	LR		
GYA	comp=Z,4μm,16.2s			LR	LR		
GUNA	**GUNA**	**18.16**	**308**	*e*P	**Pn**	**11 33 38.5**	**-0.2**
GUNA				IAmb	IAmb	11 33 57.9	
GUNA	comp=Z,356nm,1.2s			*e*S	Sn	11 36 43.0	-18
FRKB	**FARRUKHABAD**	**18.28**	**319**	*e*P	**Pn**	**11 33 39.3**	**-0.8**
FRKB				*e*S	Sn	11 36 46.6	-17
LGTI	**Lohaghat**	**19.36**	**324**	*e*P	**Pn**	**11 33 55.7**	**+2.5**
PTH	**Pithoragarh**	**19.46**	**325**	*e*P	**Pn**	**11 33 55.2**	**+0.7**
PTH				*e*S	S	11 37 17.7	-15
CD2	**Chengdu**	**19.48**	**29**	P	**P**	**11 33 53.6**	**+0.1**
CD2				S	**S**	**11 37 30.9**	**-1.9**
CD2				sS	sS	11 37 40.6	-1.6
CD2	comp=Z,110nm,1.2s			pmax	pmax		
CD2	comp=Z,3μm,14.8s			LR	LR		
CD2	comp=Z,3μm,15.8s			LR	LR		
TKRD	**Thakurdwara**	**19.96**	**321**	*e*P	**Pn**	**11 34 02.1**	**+1.8**
UGON	**Onchagaon**	**19.97**	**318**	*e*S	S	11 37 28.3	-14
KSI	**Kapahiang**	**19.98**	**151**	P	**P**	**11 33 59.3**	**+0.4**
	comp=Z,159nm,0.9s						
ASOR	**Ausora**	**20.36**	**318**	*e*P	Pn	11 34 07.1	+2.0
MERT	**Meerut**	**20.53**	**319**	*e*P	Pn	11 34 09.3	+2.3
JMIU	**JAMIA UNIVERSI**	**20.55**	**317**	*e*P	Pn	11 34 09.6	+2.3
JMIU				*e*S	S	11 37 39.3	-15
JOSI	**Joshimath**	**20.59**	**325**	*e*P	Pn	11 34 09.6	+1.6
JOSI				*e*S	S	11 37 42.0	-13
AYAN	**Aya Nagar**	**20.60**	**317**	*e*S	S	11 37 43.8	-11
LDR	**Lodi Road**	**20.61**	**317**	*e*P	Pn	11 34 08.6	+0.6
LDR				*e*S	S	11 37 44.5	-11
NDI	**New Delhi**	**20.68**	**317**	*e*S	S	11 37 41.0	-16
PPBI	**Pangkal Pinang**	**20.69**	**140**	P	**P**	**11 34 06.9**	**+0.3**
MNAI	**Manna**	**20.77**	**151**	P	**P**	**11 34 04.1**	**-3.4**
HMDM	**Hanimaadhoo**	**20.79**	**252**	P	**P**	**11 34 07.7**	**0.0**
KUDL	**Kundal**	**20.82**	**315**	*e*x	x	11 34 09.0	
KUDL				*e*S	S	11 37 44.5	-15
BHGR	**Bahadurgarh**	**20.86**	**317**	*e*x	x	11 34 10.3	
BHGR				*e*S	S	11 37 44.9	-15
KSM	**Kuching**	**21.17**	**125**	P	**P**	**11 34 11.0**	**-0.8**
AJM	**Ajmer**	**21.19**	**309**	*e*P	**P**	**11 34 18.0**	**+6.0**
AJM				IAmb	IAmb	11 34 29.6	
	comp=Z,102nm,0.8s						
GZH	**Guangzhou**	**21.25**	**62**	P	**P**	**11 34 17.9**	**+5.3**
GZH	comp=Z,91nm,1.3s			pmax	pmax		
GZH	comp=Z,3μm,14.3s			LR	LR		
GZH	comp=Z,2μm,16.9s			LR	LR		
GZH	comp=Z,3μm,14.3s			LR	LR		
RTK	**Rohtak**	**21.44**	**317**	*e*S	S	11 37 59.0	-13
MDSI	**Maura Dua**	**21.48**	**148**	P	**P**	**11 34 16.0**	**+0.9**
TPI	**Tanjungpandan**	**22.11**	**138**	P	**P**	**11 34 21.8**	**-0.1**
	comp=Z,1μmcomp=Z,60nm,1.3s						
GOMU	**GeErMu**	**22.13**	**4**	P	**P**	**11 34 22.8**	**+0.4**
GOMU				pP	sP	11 34 35.3	+4.8
GOMU	comp=Z,90nm,1.2s			pmax	pmax		
GOMU	comp=Z,3μm,16.7s			LR	LR		
GOMU	comp=Z,2μm,17.7s			LR	LR		
ENH	**Enshi**	**22.17**	**41**	P	**P**	**11 34 21.2**	**-1.3**
ENH				IAmb	IAmb	11 34 23.4	
	comp=Z,171nm,0.9s						
SBUM	**Sibu**	**22.19**	**120**	P	**P**	**11 34 23.2**	**+0.4**
KASI	**Kota Agung**	**22.52**	**149**	P	**P**	**11 34 28.8**	**+2.4**
STKI	**Sintang**	**22.95**	**126**	P	**P**	**11 34 32.8**	**+2.0**
	comp=Z,37nm,1.3s						
BKNR	**BIKANER**	**23.04**	**310**	*e*S	**S**	**11 38 40.1**	**-1.4**
CNSH	**ChangSha**	**23.26**	**50**	P	**P**	**11 34 33.4**	**-0.5**
CNSH				S	**S**	**11 38 45.1**	**0.0**
CNSH	comp=Z,130nm,1.8s			pmax	pmax		
CNSH	comp=Z,4μm,13.9s			LR	LR		
CNSH	comp=Z,3μm,17.1s			LR	LR		
CNSH	comp=Z,5μm,14.9s			LR	LR		
KAAM	**Kaadhehdhoo**	**23.95**	**237**	P	**P**	**11 34 42.9**	**+2.1**
KAAM				IAmb	IAmb	11 34 45.6	
	comp=Z,506nm,2.0s						
LZH	**Lanzhou**	**24.01**	**22**	⇓P	**P**

comp=Z,2μm,12.0s
XAN LR LR
comp=Z,2μm,9.9s
XAN LR LR
comp=Z,4μm,12.6s
WHN Wuhan 25.60 47 P **P 11 34 53.0 -2.7**
WHN LR LR
comp=Z,8μm,13.8s
WHN LR LR
comp=Z,6μm,13.2s
WHN LR LR
comp=Z,11μm,14.9s
GTA Gaotai 25.98 12 P **P 11 35 01.1 +2.0**
GTA pP sP 11 35 09.8 +2.2
GTA sP pP 11 35 13.6 +8.3
GTA PcP **PcP 11 38 28.8 +1.5**
GTA S **S 11 39 31.6 +2.9**
GTA sS sS 11 39 47.3 +8.5
GTA PcS **PcS 11 42 09.5 +1.3**
GTA ScS **ScS 11 45 54.5 -1.1**
GTA pmax pmax
comp=Z,76nm,1.4s
GTA pmax pmax
comp=Z,400nm,7.1s
GTA LR LR
comp=Z,1μm,18.2s
GTA LR LR
comp=Z,520nm,17.4s
GTA LR LR
comp=Z,1μm,20.0s
NIL Nilore 26.52 321 P **P 11 35 04.6 +0.6**
NIL Nilore 26.52 321 P **P 11 35 04.6 +0.6**
NIL pmax pmax
comp=Z,37nm,0.8s
LYN LuoYang 26.95 37 *e*P **P 11 35 08.5 +0.7**
LYN S **S 11 39 44.1 +0.2**
LYN pmax pmax
comp=Z,150nm,1.1s
LYN pmax pmax
comp=Z,430nm,4.5s
LYN LR LR
comp=Z,4μm,16.7s
LYN LR LR
comp=Z,5μm,16.4s
LYN LR LR
comp=Z,7μm,15.9s
TGY Tagaytay City 27.08 86 LR LR 11 46 19.3
comp=Z,846nm,18.6s,baz=282,slow=38
TWG Pinlang 27.97 68 P **P 11 35 16.9 -0.2**
TWG IAmb IAmb 11 35 20.3
comp=Z,135nm,1.1s
SSLB Suanglung 28.10 66 P **P 11 35 17.8 -0.5**
SSLB IAmb IAmb 11 35 21.5
comp=Z,160nm,1.1s
TIY Taiyuan 29.22 33 *e*P **P 11 35 29.5 +1.3**
TIY pmax pmax
comp=Z,38nm,1.0s
TIY pmax pmax
comp=Z,350nm,6.9s
TIY LR LR
comp=Z,1μm,14.1s
TIY LR LR
comp=Z,2μm,15.1s
TIY LR LR
comp=Z,1μm,16.9s
KSH Kashi 29.48 333 P **P 11 35 30.8 +0.3**
KSH sP sP 11 35 39.4 +0.4
KSH pmax pmax
comp=Z,30nm,0.9s
KSH LR LR
comp=Z,1μm,15.8s
KSH LR LR
comp=Z,1μm,14.4s
KSH LR LR
comp=Z,1μm,16.1s
WUS Wushi 29.61 339 P **P 11 35 32.4 +0.7**
H08S3 Diego Garcia H 29.64 225 T T 12 06 25.9
baz=42,slow=76
H08S2 Diego Garcia H 29.65 225 T T 12 06 36.5
baz=42,slow=76
NJ2 Nanjing 29.65 48 ⇓P **P 11 35 32.5 +0.6**
NJ2 pmax pmax
comp=Z,56nm,0.8s
NJ2 pmax pmax
comp=Z,280nm,4.5s
NJ2 LR LR
comp=Z,3μm,14.2s
NJ2 LR LR
comp=Z,4μm,14.2s
NJ2 LR LR
comp=Z,4μm,15.5s
H08S1 Diego Carcia H 29.66 225 T T 12 06 33.3
baz=42,slow=76
KBL Kabul 29.77 317 P **P 11 35 34.2 +1.0**
KBL Kabul 29.77 317 P **P 11 35 34.2 +1.0**
KBL pmax pmax
comp=Z,77nm,1.4s
WMQ Urumqi 30.03 352 *e*P **P 11 35 37.3 +2.1**
WMQ S **S 11 40 36.8 +4.4**
WMQ SS **SnSn 11 42 09.5 +4.3**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,2μm,16.5s
WMQ LR LR
comp=Z,1μm,18.5s
WMQ LR LR
comp=Z,1μm,17.5s
HNS HongShan 30.24 36 ⇓P **P 11 35 37.6 +0.6**
HNS S **S 11 40 33.4 -2.2**
HNS pmax pmax
comp=Z,63nm,1.4s
HNS LR LR
comp=Z,2μm,17.5s
HNS LR LR
comp=Z,2μm,17.5s
HNS LR LR
comp=Z,3μm,17.5s
BTO Baotou 30.36 26 ⇓*i*P **P 11 35 39.1 +0.9**
BTO pP **pP 11 35 43.6 -0.8**
BTO sP **sP 11 35 46.1 -0.7**
BTO PP **PnPn 11 36 38.6 +1.9**
BTO S **S 11 40 41.5 +3.8**
BTO SS **ScP 11 42 18.9 -0.5**
BTO pmax pmax
comp=Z,150nm,0.9s
BTO pmax pmax
comp=Z,620nm,9.1s
BTO LR LR
comp=Z,4μm,16.6s
BTO LR LR
comp=Z,2μm,15.1s
BTO LR LR
comp=Z,3μm,16.0s
TARG Taragay, Kyrgy 30.59 337 P **P 11 35 41.2 +0.5**
TARG Taragay, Kyrgy 30.59 337 P **P 11 35 41.2 +0.5**
TARG pmax pmax
comp=Z,65nm,1.3s
TIA Tai'an 30.89 40 P **P 11 35 42.9 +0.1**
TIA pmax pmax
comp=Z,84nm,1.0s
TIA pmax pmax
comp=Z,290nm,6.3s
TIA LR LR
comp=Z,2μm,17.7s
TIA LR LR
comp=Z,2μm,16.7s
TIA LR LR
comp=Z,3μm,16.2s
SSE Sheshan 30.93 52 P **P 11 35 44.0 +0.8**
SSE S **S 11 40 47.3 +0.7**
SSE pmax pmax
comp=Z,24nm,1.2s
SSE pmax pmax
comp=Z,200nm,3.5s
SSE LR LR
comp=Z,720nm,16.3s
SSE LR LR
comp=Z,1μm,16.3s
KDJ Kajisay 31.17 337 P **P 11 35 46.8 +1.3**
KDJ Kajisay 31.17 337 P **P 11 35 46.8 +1.3**
KDJ pmax pmax
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 31.24 28 ⇓*i*P **P 11 35 47.1 +1.1**
HHC sP sP 11 35 54.8 +0.2
HHC PP **PnPn 11 36 49.8 +1.6**
HHC S **S 11 40 51.8 +0.4**
HHC pmax pmax
comp=Z,62nm,0.9s
HHC pmax pmax
comp=Z,220nm,4.7s
HHC LR LR
comp=Z,1μm,13.7s
HHC LR LR
comp=Z,1μm,11.6s
HHC LR LR
comp=Z,1μm,17.5s
UZB Uzynbulak 31.41 340 *e*P **P 11 35 48.4 +0.9**
UZB Uzynbulak 31.41 340 *e*P **P 11 35 48.4 +0.9**
PDGK Podgornoye 31.42 341 P **P 11 35 48.9 +1.3**
TTSI Tana Toraja 31.53 121 P **P 11 35 50.2 +1.5**
comp=Z,21nm,1.3s
ZHN Zhinishke 31.63 339 *e*P **P 11 35 50.4 +1.0**
ZHN Zhinishke 31.63 339 *e*P **P 11 35 50.5 +1.0**
GAR Garm 31.93 325 P **P 11 35 52.8 +0.7**
GAR IAmb IAmb 11 35 54.7
comp=Z,96nm,1.3s
BOOM Boomskoye usch 31.96 336 P **P 11 35 52.7 +0.3**
BOOM Boomskoye usch 31.96 336 P **P 11 35 52.7 +0.3**
BOOM pmax pmax
comp=Z,17nm,1.0s
APSI Ampana 32.01 115 P P 11 36 00.3 +7.4
TNSS Tian-Shan 32.04 338 *e*P **P 11 35 53.8 +0.4**
TNSS Tian-Shan 32.04 338 *e*P **P 11 35 53.8 +0.4**
ARSB Arslanbob 32.30 331 P **P 11 35 56.0 +0.6**
ARSB IAmb IAmb 11 36 07.2
comp=Z,60nm,1.0s
ARSB Arslanbob 32.30 331 P **P 11 35 56.0 +0.6**
ARSB pmax pmax
comp=Z,60nm,1.0s
SIMJ Simiganj 32.43 324 P **P 11 35 56.7 +0.1**
SIMJ IAmb IAmb 11 36 07.4
comp=Z,76nm,1.0s
TKM2 Tokmak 2 32.46 336 P **P 11 35 58.4 +1.5**
SNR=9.2
TKM2 Tokmak 2 32.46 336 *i* P **P 11 35 58.0 +1.1**
TKM2 pmax pmax
comp=Z,19nm,1.0s
KBK Karagaybulak 32.51 335 P **P 11 35 59.5 +2.3**
SNR=6.3
KAPI Kappang 32.59 124 LR LR 11 51 19.2
comp=Z,1μm,18.4s,baz=286,slow=40
AML Almayashu 32.61 333 P **P 11 36 00.1 +1.7**
SNR=23
AAK Ala-Archa 32.68 334 P **P 11 35 59.7 +1.0**
AAK Ala-Archa 32.68 334 LR LR 11 52 07.8
comp=Z,2μm,18.9s,baz=146,slow=42
AAK Ala-Archa 32.68 334 P **P 11 36 00.9 +2.2**
SNR=16
AAK Ala-Archa 32.68 334 ⇓*i*P **P 11 36 00.8 +2.1**
AAK pmax pmax
comp=Z,71nm,2.5s
DAV Davao City (W) 32.72 99 LR LR 11 50 27.0
comp=Z,384nm,18.7s,baz=326,slow=39
ARXS Arharly 32.76 340 *e*P **P 11 36 01.0 +1.7**
CHMS Chumysh 32.87 335 P **P 11 36 01.9 +1.7**
SNR=6.6
BJT Baijiatuau 32.90 34 P **P 11 36 01.0 +0.6**
BJT IAmb IAmb 11 36 02.9
comp=Z,47nm,0.9s
BJT Baijiatuau 32.90 34 P **P 11 36 01.0 +0.6**
BJT pmax pmax
comp=Z,47nm,0.9s
BJI Beijing 32.91 34 P **P 11 36 01.6 +1.0**
BJI pmax pmax
comp=Z,28nm,0.9s
BJI LR LR
comp=Z,710nm,19.4s
BJI LR LR
comp=Z,780nm,20.3s
BJI LR LR
comp=Z,1μm,17.1s
EKS2 Erkin-Say 33.00 333 P **P 11 36 03.5 +2.0**
SNR=14
USP Ospenovka 33.19 335 P **P 11 36 04.8 +1.7**
SNR=28
TDK Taldyqorghan 33.27 341 *e*P **P 11 36 04.5 +0.9**
TDK pmax pmax
comp=Z,29nm,0.6s
TDK Taldygorghan 33.27 341 *e*P **P 11 36 04.5 +0.9**
comp=Z,29nm,0.6s
SGDS Sogindy 33.29 335 *e*P **P 11 36 04.8 +0.9**
SGDS Sogindy 33.29 335 *e*P **P 11 36 04.9 +0.9**
PLAI Plampang 33.46 131 P **P 11 36 05.1 -0.5**
WSAR Wadi Sarin 33.77 291 LR LR 11 49 31.5
comp=Z,10nm,21.2s,baz=126,slow=36
MK31 Makanchi Array 33.87 347 P **P 11 36 09.2 +0.3**
MK31 IAmb IAmb 11 36 11.3
comp=Z,52nm,0.9s
MK31 Makanchi Array 33.87 347 *d i* P **P 11 36 10.0 +1.1**
MKAR Makanchi Array 33.87 347 P **P 11 36 09.2 +0.3**
MKAR Makanchi Array 33.87 347 P **P 11 36 10.1 +1.2**
comp=Z,37nm,0.8s,baz=162,slow=8.9,SNR=284
MKAR LR LR 11 54 06.7
comp=Z,1μm,19.2s,baz=158,slow=44
comp=Z,37nm,0.8s
MAKZ Makanchi 33.96 346 P **P 11 36 09.9 +0.3**
MAKZ IAmb IAmb 11 36 11.9
comp=Z,44nm,0.9s
MAKZ Makanchi 33.96 346 P **P 11 36 10.3 +0.7**
ZSN Zaisan 34.00 350 *e*P **P 11 36 10.8 +0.8**
ZSN pmax pmax
comp=Z,60nm,1.5s
ZSN Zaisan 34.00 350 *e*P **P 11 36 10.8 +0.8**
comp=Z,60nm,1.5s
DZA Taraz 34.29 331 *e*P **P 11 36 13.6 +1.0**
DZA Taraz 34.29 331 *e*P **P 11 36 13.6 +1.0**
IUG Iuzhnay 34.35 329 *e*P **P 11 36 14.2 +1.0**
IUG pmax pmax
comp=Z,54nm,0.9s
IUG Iuzhnay 34.35 329 *e*P **P 11 36 14.3 +1.0**
comp=Z,54nm,0.9s
KK31 Karatay Array 34.84 331 P **P 11 36 17.9 +0.6**
KK31 Karatay Array 34.84 331 *i* P **P 11 36 18.5 +1.2**
KKAR Karatay Array 34.84 331 P **P 11 36 17.8 +0.5**
KKAR Karatay Array 34.84 331 P **P 11 36 17.8 +0.5**
BTLS Baital 34.85 336 *e*P **P 11 36 18.2 +0.9**
BTLS Baital 34.85 336 *e*P **P 11 36 18.2 +0.9**
BRLS Borolday 35.11 330 *e*P **P 11 36 19.6 0.0**
BRLS Borolday 35.11 330 *e*P **P 11 36 19.6 0.0**
JOW Kunigami 35.28 63 LR LR 11 53 27.1
comp=Z,2μm,18.5s,baz=28,slow=41
DL2 Dalian 35.36 40 P **P 11 36 22.3 +0.5**
DL2 S **S 11 41 55.3 +0.1**
DL2 pmax pmax
comp=Z,180nm,0.9s
DL2 pmax pmax
comp=Z,700nm,3.9s
DL2 LR LR
comp=Z,1μm,20.8s
DL2 LR LR
comp=Z,1μm,19.3s
DL2 LR LR
comp=Z,2μm,20.2s
SONM Songino Array 35.49 16 P **P 11 36 23.4 +0.4**
SONM IAmb IAmb 11 36 25.5
comp=Z,122nm,1.2s
SONM Songino Array 35.49 16 P **P 11 36 24.1 +1.1**
comp=Z,62nm,1.0s,baz=201,slow=9.3,SNR=200
SONM PcP **PcP 11 38 51.6 -0.6**
comp=Z,11nm,1.1s,baz=202,slow=3.7,SNR=5.4
SONM LR LR 11 53 08.7
comp=Z,1μm,20.4s,baz=200,slow=40
comp=Z,62nm,1.0s
SONM Songino Array 35.49 16 P **P 11 36 23.4 +0.4**
SONM pmax pmax
comp=Z,123nm,1.2s
ULN Ulaanbaatar 35.69 16 P **P 11 36 24.7 0.0**
ULN IAmb IAmb 11 36 27.0
comp=Z,98nm,1.3s
ULN Ulaanbaatar 35.69 16 *i* P **P 11 36 25.4 +0.7**
ULN pmax pmax
comp=Z,95nm,1.4s
XLT XiLinHaoTe 35.71 29 *e*P **P 11 36 25.5 +0.7**
XLT sP sP 11 36 33.4 -0.3
XLT PcP **PcP 11 38 54.1 +1.3**
XLT pmax pmax
comp=Z,55nm,1.4s
XLT pmax pmax
comp=Z,230nm,4.2s
XLT LR LR
comp=Z,800nm,15.6s
XLT LR LR
comp=Z,760nm,20.5s
ZAK Zakamensk 37.20 11 *e*P **P 11 36 37.8 +0.3**
ZAK *e* 11 38 57.9
ZAK pmax pmax
comp=Z,24nm,1.3s
ZAK pmax pmax
comp=Z,19nm,1.2s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TJN Taejon 37.91 48 P **P 11 36 42.7 -0.9**
TJN Taejon 37.91 48 *d i* P **P 11 36 43.1 -0.5**
MOY Mondy 38.08 8 *e*P **P 11 36 46.5 +1.5**
MOY pmax pmax
comp=Z,50nm,1.9s
OTUK Ortayu 38.17 338 P **P 11 36 46.2 +0.5**
SNY Shenyang 38.31 38 ⇓P **P 11 36 47.0 +0.2**
SNY pmax pmax
comp=Z,58nm,1.3s
SNY pmax pmax
comp=Z,160nm,4.7s
SNY LR LR
comp=Z,720nm,14.2s
SNY LR LR
comp=Z,1μm,18.0s
SNY LR LR
comp=Z,2μm,16.3s
KURBB Kurchatov Arra 38.34 345 P **P 11 36 48.0 +1.0**
comp=Z,56nm,0.9s,baz=161,slow=7.9,SNR=266
KURBB PcP **PcP 11 39 00.4 -0.1**
comp=Z,3.2nm,0.9s,baz=162,slow=2.6,SNR=2.5
KURBB LR LR 11 56 16.6
comp=Z,1μm,18.5s,baz=159,slow=42
comp=Z,56nm,0.9s
KURK Kurchatov 38.41 345 P **P 11 36 48.0 +0.5**
KURK IAmb IAmb 11 36 49.9
comp=Z,107nm,1.1s
KURK Kurchatov 38.41 345 *d i* P **P 11 36 48.4 +0.8**
KURK pmax pmax
comp=Z,125nm,1.2s
KSAR Wonju Array Be 38.77 47 P **P 11 36 50.2 -0.5**
KSAR Wonju Array Be 38.77 47 P **P 11 36 50.3 -0.5**
KS19 Wonju Array Si 38.78 47 P **P 11 36 50.4 -0.6**
KSRS Korea Array 38.80 47 P **P 11 36 50.0 -1.1**
comp=Z,14nm,0.9s,baz=244,slow=9.3,SNR=26
KSRS LR LR 11 54 32.7
comp=Z,2μm,19.8s,baz=235,slow=39
comp=Z,14nm,0.9s
KSRS Korea Array 38.80 47 P **P 11 36 50.0 -1.1**
SOEI Soe 38.98 126 P **P 11 36 51.9 -1.1**
SOEI Soe 38.98 126 P P 11 37 06.9 +14
IRK Irkutsk 39.16 11 *e*P **P 11 36 54.6 +0.7**
IRK pmax pmax
comp=Z,97nm,1.8s
JNU Nakatsue 39.28 54 P **P 11 36 55.2 0.0**
JNU Nakatsue 39.28 54 LR LR 11 56 35.4
comp=Z,763nm,18.6s,baz=248,slow=42
JNU Nakatsue 39.28 54 P **P 11 36 55.9 +0.7**
BRZS Berezniki 39.51 339 *e*P **P 11 36 57.6 +0.8**
BRZS Berezniki 39.51 339 *e*P **P 11 36 57.7 +0.8**
ZAA0 Zalesovo Array 40.34 353 P **P 11 37 04.0 +0.3**
ZALV Zalesovo Beam 40.34 353 P **P 11 37 03.6 -0.1**
ZALV Zalesovo Beam 40.34 353 P **P 11 37 04.2 +0.6**
comp=Z,38nm,0.8s,baz=174,slow=8.8,SNR=149
ZALV LR LR 11 56 19.0
comp=Z,775nm,18.8s,baz=170,slow=40
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 40.34 353 P **P 11 37 03.6 -0.1**
CN2 Changchun 40.59 37 ⇓*i*P **P 11 37 06.3 +0.4**
CN2 PcP **PcP 11 39 08.3 +0.4**
CN2 S **S 11 43 14.0 -0.4**
CN2 pmax pmax
comp=Z,80nm,1.0s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,2μm,16.0s
CIT Chita 41.31 19 *e*P **P 11 37 11.4 -0.4**
CIT *e* 11 37 17.4
CIT *e* 11 39 11.6
CIT pmax pmax
comp=Z,183nm,1.4s
HIA Hailar 41.42 26 P **P 11 37 12.4 -0.3**
HIA Hailar 41.42 26 P **P 11 37 12.4 -0.3**
HIA pmax pmax
comp=Z,111nm,1.8s
JMN Monobe 41.85 55 P **P 11 37 15.0 -1.5**
JMN IAmb IAmb 11 37 20.7
comp=Z,109nm,1.3s
JMN Monobe 41.85 55 P **P 11 37 18.5 +2.0**
FAKI Fak Fak 42.39 110 P **P 11 37 20.4 -0.6**
FAKI Fak Fak 42.39 110 P **P 11 37 21.2 +0.2**
BVA0 Borovoye Array 42.85 340 *i* P **P 11 37 24.3 +0.1**
BVAR Borovoye Array 42.85 340 P **P 11 37 24.8 +0.5**
comp=Z,18nm,0.9s,baz=145,slow=8.2,SNR=52
comp=Z,18nm,0.9s
BNX BinXian 42.87 36 ⇓P **P 11 37 24.4 -0.1**
BNX pmax pmax
comp=Z,85nm,1.0s
BRVK Borovoye 42.91 340 P **P 11 37 25.7 +1.0**
BRVK Borovoye 42.91 340 *de*P **P 11 37 25.2 +0.5**
BRVK pmax pmax
comp=Z,38nm,1.3s
MSHR Mys Shultsa 43.43 42 ⇑*i*P **P 11 37 29.2 +0.1**
MSHR pmax pmax
comp=Z,66nm,1.5s
MDJ Mudanjiang 43.50 38 P **P 11 37 28.7 -1.0**
MDJ Mudanjiang 43.50 38 P **P 11 37 29.9 +0.2**
MDJ PcS **PcS 11 43 08.0 -2.0**
MDJ sS sS 11 44 08.0 +0.1
MDJ pmax pmax
comp=Z,25nm,1.3s
MDJ LR LR
comp=Z,1μm,15.0s
MDJ LR LR
comp=Z,1μm,14.4s
MDJ LR LR
comp=Z,2μm,15.8s
VLA Vladivostok 44.16 41 ⇑*e*P **P 11 37 35.5 +0.6**
VLA pmax pmax
comp=Z,39nm,1.3s
AB31 Akbulak array 44.36 329 *i* P **P 11 37 37.4 +0.9**
ABKAR Akbulak array 44.36 329 P **P 11 37 36.9 +0.4**
USA0B Ussuriysk Arra 44.75 40 P **P 11 37 39.6 -0.1**
USA0B Ussuriysk Arra 44.75 40 *d i* P **P 11 37 39.5 -0.2**
USRK Ussuriysk Ar. 44.75 40 P **P 11 37 39.6 -0.1**
comp=Z,16nm,0.8s,baz=242,slow=8.9,SNR=21
USRK LR LR 11 59 01.5
comp=Z,932nm,18.7s,baz=231,slow=40
comp=Z,16nm,0.8s
INU Inuyama 44.80 54 P **P 11 37 40.2 -0.1**
INU IAmb IAmb 11 37 41.6
comp=Z,64nm,1.0s
JGF Kuroka 45.14 53 P **P 11 37 42.6 -0.4**
JGF IAmb IAmb 11 37 44.3
comp=Z,116nm,1.3s
JGF Kuroka 45.14 53 P **P 11 37 43.5 +0.5**
FITZ Fitzroy Crossi 45.33 134 P **P 11 37 42.5 -2.0**
FITZ Fitzroy Crossi 45.33 134 P **P 11 37 42.5 -2.0**
comp=Z,12nm,0.8s
FITZ Fitzroy Crossi 45.33 134 P **P 11 37 43.3 -1.2**
HEH HeiHe 45.66 30 *e*P **P 11 37 46.9 +0.1**
HEH PcP **PcP 11 39 24.5 -0.2**
HEH pmax pmax
comp=Z,58nm,1.0s
RAYN Ar Rayn 45.79 289 P **P 11 37 48.4 +0.1**
RAYN Ar Rayn 45.79 289 P **P 11 37 48.4 +0.1**
RAYN pmax pmax
comp=Z,30nm,1.3s
MJB9 Matsu-Tunnel 46.07 52 P **P 11 37 50.9 +0.5**
MJB9 IAmb IAmb 11 37 52.7
comp=Z,76nm,1.0s
MAJO Matsushiro 46.08 52 P **P 11 37 49.6 -0.7**
MAJO IAmb IAmb 11 37 51.7
comp=Z,75nm,0.9s
MAJO Matsushiro 46.08 52 *d i* P **P 11 37 50.2 -0.2**
MAJO pmax pmax
comp=Z,80nm,0.9s
MJAR Matsushiro Arr 46.08 52 P **P 11 37 51.0 +0.7**
comp=Z,30nm,0.9s,baz=265,slow=9.5,SNR=72
MJAR PcP **PcP 11 39 26.7 +0.1**

comp=Z,8.3nm,0.7s,baz=243,slow=3.7,SNR=9.6
MJAR LR LR 11 59 13.6
comp=Z,1μm,19.6s,baz=242,slow=39
comp=Z,30nm,0.9s
AKTO Aktyubinsk 46.08 329 P **P 11 37 50.5 +0.4**
comp=Z,11nm,0.7s,baz=117,slow=6.8,SNR=35
comp=Z,11nm,0.7s
AKTO Aktyubinsk 46.08 329 P **P 11 37 49.9 -0.2**
MTN Manton Dam 46.25 124 P **P 11 37 50.7 -1.2**
BOD Bodaibo 46.49 15 *e*P **P 11 37 53.7 +0.5**
BOD pmax pmax
comp=Z,102nm,1.2s
KDU Kakadu 47.26 122 P **P 11 37 59.6 -0.2**
KLR Kul'dur 47.29 34 LR LR 12 00 59.1
comp=Z,2μm,19.4s,baz=235,slow=40
KLR Kul'dur 47.29 34*d i*P **P 11 37 59.5 -0.1**
KLR pmax pmax
comp=Z,47nm,1.6s
MEEK Meekatharra 47.47 148 P **P 11 37 59.8 -1.5**
MEEK Meekatharra 47.47 148 P **P 11 38 00.0 -1.3**
ZEA Zeya 47.89 27 *e*P **P 11 38 04.7 +0.5**
ZEA *e*S **S 11 45 01.4 +1.1**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=E,200nm,8.9s
ZEA MLR MLR
comp=E,600nm,18.0s
ZEA MLR MLR
comp=Z,500nm,17.0s
JMM Marumori 48.43 52 P **P 11 38 08.4 -0.2**
JMM Marumori 48.43 52 P **P 11 38 09.8 +1.1**
MAK Makhachkala 48.48 316 *e*P **P 11 38 07.4 -1.5**
MAK *e* 11 40 03.2
MAK *e*S **S 11 45 05.8 -3.1**
MAK *e*SS **SS 11 48 37.2 -1.7**
MAK *e*SSS SSS 11 49 57.4
MAK pmax pmax
comp=Z,104nm,0.7s
MAK MLR MLR
comp=Z,692nm,17.0s
SVE Sverdlovsk 49.31 337*ce*P **P 11 38 16.3 +1.2**
SVE pmax pmax
comp=Z,125nm,1.3s
GNI Garni 49.47 311 P **P 11 38 18.8 +2.0**
GNI Garni 49.47 311 LR LR 12 02 56.5
comp=Z,824nm,18.1s,baz=100,slow=41
GNI Garni 49.47 311*d i*P **P 11 38 19.4 +2.6**
GNI pmax pmax
comp=Z,127nm,1.3s
GNI Garni 49.47 311 P **P 11 38 17.3 +0.5**
comp=Z,2μmcomp=Z,143nm,1.2s
ARTI Arti 49.88 336 P **P 11 38 19.3 -0.1**
ARTI IAmb IAmb 11 38 29.6
comp=Z,77nm,1.2s
ARTI Arti 49.88 336 P **P 11 38 19.4 0.0**
comp=Z,36nm,1.0s,baz=122,slow=9.5,SNR=25
ARTI LR LR 12 01 39.9
comp=Z,728nm,20.8s,baz=123,slow=39
comp=Z,36nm,1.0s
ARTI Arti 49.88 336*c i*P **P 11 38 19.9 +0.5**
ARTI 11 39 38.9
ARTI 11 40 10.7
ARTI S **S 11 45 28.4 +0.2**
ARTI SS **SS 11 49 00.0 -1.0**
ARTI pmax pmax
comp=Z,69nm,1.1s
BLDU Ballidu 49.91 153 P **P 11 38 19.2 -0.7**
GEVA Gevas 50.21 308 P **P 11 38 23.9 +1.4**
GRNR Gornyy 50.66 34⇓*i*P **P 11 38 25.8 +0.3**
GRNR pmax pmax
comp=E,10.0nm,1.2s
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=E,850nm,17.0s
GRNR MLR MLR
comp=N,660nm,15.0s
GRNR MLR MLR
comp=Z,950nm,15.0s
KARS Kars 50.82 311 P **P 11 38 28.0 +0.9**
KARS Kars 50.82 311 P **P 11 38 28.0 +0.9**
KARS pmax pmax
comp=Z,498nm,1.3s
MUN Mundaring 50.87 154 P **P 11 38 26.7 -0.5**
comp=Z,79nm,0.9s
MUN Mundaring 50.87 154 P **P 11 38 26.6 -0.6**
GURO Guroymak-BITLI 51.05 308 P **P 11 38 30.4 +1.6**
KLBR Kellerberrin 51.20 153 P **P 11 38 28.6 -1.1**
NCK Nalchik 51.34 315⇑*e*P **P 11 38 32.9 +2.2**
NCK pmax pmax
comp=Z,24nm,0.4s
ASAJ Asahikawa 51.65 44 LR LR 12 01 38.2
comp=Z,860nm,18.9s,baz=245,slow=38
MARD Mardin 51.73 307 P **P 11 38 34.3 +0.4**
WRKA Warakurna 51.88 138 P **P 11 38 33.6 -1.4**
comp=Z,40nm,0.8s
WRKA Warakurna 51.88 138 P **P 11 38 33.9 -1.1**
KBZ Khabaz 51.89 315 P **P 11 38 35.5 +0.7**
comp=Z,8.9nm,1.0s,baz=114,slow=8.2,SNR=11
comp=Z,8.9nm,1.0s
KBZ Khabaz 51.89 315*d i*P **P 11 38 35.8 +1.0**
KBZ pmax pmax
comp=Z,20nm,1.3s
SHA1 Shidzhatmaz 52.06 315*d i*P **P 11 38 37.8 +1.4**
KVAR Kislovodsk Arr 52.11 315 P **P 11 38 37.5 +0.9**
comp=Z,16nm,1.1s,baz=30,slow=8.1,SNR=4.4
comp=Z,16nm,1.1s
KIV Kislovodsk 52.11 315 P **P 11 38 37.8 +1.2**
KIV IAmb IAmb 11 38 48.4
comp=Z,107nm,1.0s
KIV Kislovodsk 52.11 315 ⇑P **P 11 38 38.7 +2.1**
KIV Kislovodsk 52.11 315 *e*P **P 11 38 38.1 +1.5**
KIV pmax pmax
comp=Z,86nm,1.0s
KIV MLR MLR
comp=Z,567nm,17.0s
KIV Kislovodsk 52.11 315 P **P 11 38 37.3 +0.7**
comp=Z,79nm,1.0s
NWAO Narrogin (SRO) 52.12 154 P **P 11 38 35.5 -1.1**
NWAO Narrogin (SRO) 52.12 154 LR LR 12 02 51.9
comp=Z,655nm,18.1s,baz=296,slow=39
NWAO Narrogin (SRO) 52.12 154 P **P 11 38 35.4 -1.1**
NWAO Narrogin (SRO) 52.12 154 P **P 11 38 34.9 -1.7**
GOF Gofitskoye 52.24 317*ce*P **P 11 38 39.2 +1.8**
YSS Yuzhno-Sakhali 52.75 41 P **P 11 38 41.7 +0.6**
YSS IAmb IAmb 11 38 43.0
comp=Z,115nm,1.1s
YSS Yuzhno-Sakhali 52.75 41κ*e*P **P 11 38 41.9 +0.8**
YSS *e*S **S 11 46 09.3 +1.1**
YSS *e*PS **PKiKP 11 46 24.9 -4.4**
YSS *e*SS **SS 11 49 44.5 -2.4**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=Z,300nm,3.7s
YSS MLR MLR
comp=N,800nm,15.0s
YSS MLR MLR
comp=E,700nm,15.0s
YSS MLR MLR
comp=Z,900nm,15.0s
WB0 Warramunga Arr 52.78 129 P **P 11 38 40.0 -1.7**
WRA Warramunga Arr 52.84 129 P **P 11 38 40.5 -1.7**
WRA Warramunga Arr 52.84 129 P **P 11 38 40.9 -1.3**
comp=Z,16nm,0.7s,baz=310,slow=8.0,SNR=57
WRA PcP **PcP 11 39 50.4 -1.0**
comp=Z,13nm,0.6s,baz=308,slow=4.0,SNR=24
comp=Z,16nm,0.7s
KMBL Kambalda 52.97 149 P **P 11 38 42.4 -0.5**
LABN Labinsk 53.66 315 *e*P **P 11 38 46.7 -1.2**
LABN *e**PP **pP 11 38 55.8 +1.6**
LABN *e*S **S 11 46 19.0 -1.7**
LABN pmax pmax
comp=Z,14nm,0.3s
SOC Sochi 54.05 314 *e*P **P 11 38 47.5 -3.3**
SOC *e* 11 40 50.7
SOC *e*S **S 11 46 20.6 -5.4**
SOC *e*SS **SS 11 50 06.2 -1.3**
SOC *e*SSS SSS 11 52 05.8
ASF Jabal al Asfar 54.09 300 LR LR 12 05 36.2
comp=Z,443nm,18.7s,baz=143,slow=40
ERBR Yeremizino-Bor 54.16 317 *e*P **P 11 38 53.0 +1.5**
ERBR *e**PP **sP 11 39 02.2 +2.0**
ERBR *e*S **S 11 46 30.6 +3.3**
ERBR pmax pmax
comp=Z,130nm,1.3s
TYV Tymovskoe 54.22 37 *e*P **P 11 38 53.4 +1.6**
TYV pmax pmax
comp=Z,37nm,1.3s
TYV pmax pmax
comp=Z,200nm,4.3s
TYV MLR MLR
comp=N,2μm,15.0s
TYV MLR MLR
comp=Z,1μm,16.0s
YAK Yakutsk 54.58 20 P **P 11 38 53.1 -1.2**
YAK Yakutsk 54.58 20 P **P 11 38 53.3 -0.9**
comp=Z,63nm,0.8s,baz=236,slow=3.3,SNR=34
YAK LR LR 12 05 09.8
comp=Z,887nm,19.6s,baz=220,slow=39
comp=Z,63nm,0.8s
YAK Yakutsk 54.58 20*de*P **P 11 38 53.8 -0.4**
YAK *e**PP **pP 11 38 56.9 -3.8**
YAK *e* 11 39 56.8
YAK *e* 11 40 55.9
YAK *e*PPP PPP 11 42 05.2
YAK *e*S **S 11 46 34.1 +1.7**
YAK *e* 11 48 44.0
YAK *e*SS **SS 11 50 17.6 +2.5**
YAK *e*SSS SSS 11 52 12.8
YAK pmax pmax
comp=Z,89nm,1.1s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=E,54nm,1.5s
YAK pmax pmax
comp=Z,276nm,10.0s
YAK pmax pmax
comp=N,213nm,6.9s
YAK pmax pmax
comp=E,135nm,4.7s
YAK smax smax
comp=E,186nm,7.0s
YAK smax smax
comp=N,168nm,9.9s
YAK MLR MLR
comp=Z,582nm,26.0s
YAK MLR MLR
comp=N,565nm,24.0s
YAK MLR MLR
comp=E,501nm,20.0s
AS31 Alice Springs 54.79 133 P **P 11 38 55.0 -1.4**
AS31 Alice Springs 54.79 133 P **P 11 38 55.0 -1.4**
comp=Z,10nm,0.9s
ASAR Alice Springs 54.79 133 P **P 11 38 55.0 -1.5**
comp=Z,16nm,0.5s,baz=308,slow=6.7,SNR=272
ASAR PcP **PcP 11 39 58.6 -0.2**
comp=Z,10nm,0.7s,baz=306,slow=4.2,SNR=8.5
ASAR LR LR 12 05 35.4
comp=Z,425nm,19.6s,baz=315,slow=40
comp=Z,16nm,0.5s
AS01 Alice Springs 54.83 133 P **P 11 38 55.7 -1.0**
KIRV Kirov 55.01 334 LR LR 12 05 14.0
comp=Z,1μm,18.1s,baz=139,slow=39
KIRV Kirov 55.01 334*ce*P **P 11 38 58.2 +0.8**
GHAJ Ghor Haditha 55.14 298 P **P 11 38 58.8 0.0**
VRH Novokhopyorsk 55.31 323 *e*P **P 11 38 59.9 +0.2**
VRH pmax pmax
comp=Z,48nm,1.1s
NRIK Noril'sk 55.38 358 P **P 11 39 00.3 +0.4**
NRIK IAmb IAmb 11 39 01.9
comp=Z,90nm,1.5s
NRIK Noril'sk 55.38 358 P **P 11 38 59.6 -0.3**
comp=Z,13nm,0.9s,baz=160,slow=5.3,SNR=30
NRIK LR LR 12 06 58.0
comp=Z,764nm,19.4s,baz=194,slow=41
comp=Z,13nm,0.9s
NRIK Noril'sk 55.38 358*ce*P **P 11 39 00.7 +0.8**
MMAI Mount Meron Ar 55.43 300 P **P 11 39 01.3 +0.2**
comp=Z,1.8nm,0.6s,baz=97,slow=12,SNR=6.8
MMAI PcP **PcP 11 40 01.9 +0.7**
comp=Z,5.3nm,0.8s,baz=88,slow=4.5,SNR=5.8
MMAI LR LR 12 05 51.1
comp=Z,706nm,20.4s,baz=86,slow=39
comp=Z,1.8nm,0.6s
EIL Elat 55.56 296 LR LR 12 05 18.1
comp=Z,516nm,19.3s,baz=70,slow=39
ABPO Ambohimpanom 55.79 235 P **P 11 39 04.7 +0.8**
ABPO IAmb IAmb 11 39 06.7
comp=Z,99nm,1.8s
ABPO Ambohimpanom 55.79 235 P **P 11 39 04.7 +0.8**
ABPO pmax pmax
comp=Z,99nm,1.8s
BNN Bunyan 55.85 308 P **P 11 39 04.2 +0.2**
BNN IAmb IAmb 11 39 21.4
comp=Z,141nm,1.4s
FORT Forrest 55.86 143 P **P 11 39 03.3 -0.6**
comp=Z,51nm,1.3s
FORT Forrest 55.86 143 P **P 11 39 04.6 +0.6**
ANN Anapa 55.96 315 *e*P **P 11 39 03.7 -0.8**
ANN *e* 11 41 08.9
ANN *e*S **S 11 46 50.7 -0.8**
ANN *e*SS **SS 11 50 42.9 +5.4**
ANN pmax pmax
comp=Z,61nm,1.0s
VORD Divnogorie 56.65 322 *e*P **P 11 39 07.6 -1.7**
VORD pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 56.95 323 P **P 11 39 10.6 -0.8**
VORR pmax pmax
comp=Z,33nm,0.8s
KMBO Kilima Mbogo 57.23 259 P **P 11 39 15.2 +0.8**
KMBO Kilima Mbogo 57.23 259 P **P 11 39 15.5 +1.1**
comp=Z,1.8nm,0.3s,baz=52,slow=8.8,SNR=11
KMBO LR LR 12 02 42.0
comp=Z,766nm,19.0s,baz=91,slow=35
comp=Z,1.8nm,0.3s
KMBO Kilima Mbogo 57.23 259 *i* P **P 11 39 16.6 +2.2**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
QIS Mount Isa 57.26 126 P **P 11 39 13.6 -0.5**
CSS Mathiatis 57.33 303 P **P 11 39 14.1 -0.4**
CSS IAmb IAmb 11 39 30.3
comp=Z,61nm,1.5s
CSS Mathiatis 57.33 303 P **P 11 39 14.9 +0.4**
comp=Z,431nmcomp=Z,21nm,1.1s
KIRS Kirsehir-Merke 57.38 308 ⇑P **P 11 39 14.9 +0.1**
LPSR Galich'ya Gora 57.44 324 *e*P **P 11 39 14.9 0.0**
LPSR pmax pmax
comp=Z,37nm,0.9s
BR104 Keskin Array S 57.67 308 P **P 11 39 17.1 +0.1**
comp=Z,245nmcomp=Z,32nm,1.1s
BR131 Keskin Array S 57.68 308 P **P 11 39 16.8 -0.2**
BR131 Keskin Array S 57.68 308*d i*P **P 11 39 16.9 -0.1**
BRTR Keskin Array B 57.68 308 P **P 11 39 16.9 -0.1**
BRTR Keskin Array B 57.68 308 P **P 11 39 17.1 +0.1**
comp=Z,13nm,0.9s,baz=125,slow=6.5,SNR=41
BRTR LR LR 12 07 24.2
comp=Z,613nm,19.7s,baz=94,slow=40
comp=Z,13nm,0.9s
BR105 Keskin Array S 57.69 308 P **P 11 39 17.1 0.0**
comp=Z,264nmcomp=Z,34nm,1.3s
BR106 Keskin Array S 57.70 308 P **P 11 39 17.1 0.0**
comp=Z,257nmcomp=Z,33nm,1.0s
VOI Vohitsoka 57.71 232 P **P 11 39 17.4 0.0**
LODK Lodwar 57.82 265 P **P 11 39 19.0 +0.7**
ILGA Ilgaz 57.83 310 P **P 11 39 18.4 +0.2**
ANTO Ankara 58.34 308 P **P 11 39 21.4 -0.1**
ANTO IAmb IAmb 11 39 32.2
comp=Z,68nm,1.2s
ANTO Ankara 58.34 308 ⇑P **P 11 39 21.5 -0.1**
ANTO Ankara 58.34 308 ⇑P **P 11 39 21.5 -0.1**
OOD Oodnadatta 58.64 135 P **P 11 39 22.7 -0.9**
MOS Moscow 59.30 327 *e*P **P 11 39 25.0 -2.8**
MOS *e* 11 39 33.8
MOS pmax pmax
comp=Z,132nm,1.4s
FOMA Nahampoana Res 59.32 229 P **P 11 39 29.5 +1.1**
FOMA IAmb IAmb 11 39 30.4
comp=Z,36nm,0.9s
OBN Obninsk 59.64 326 P **P 11 39 30.3 +0.1**
OBN IAmb IAmb 11 39 31.6
comp=Z,94nm,1.3s
OBN Obninsk 59.64 326 LR LR 12 09 45.3
comp=Z,717nm,18.4s,baz=134,slow=40
OBN Obninsk 59.64 326*ce*P **P 11 39 30.8 +0.6**
OBN *e**PP **sP 11 39 39.3 +0.4**
OBN *e* 11 40 17.1
OBN *e* 11 41 39.4
OBN *e*S **S 11 47 39.1 -0.2**
OBN *e*SS **SS 11 51 33.9 -1.0**
OBN pmax pmax
comp=Z,105nm,1.7s
OBN MLR MLR
comp=Z,1μm,8.0s
OBN Obninsk 59.64 326 P **P 11 39 30.8 +0.6**
comp=Z,38nm,0.9s
ELL Elmali 60.26 304 P **P 11 39 35.0 0.0**
ELL Elmali 60.26 304 P **P 11 39 35.0 0.0**
ELL pmax pmax
comp=Z,978nm,1.7s
KLMR Klimovskoe 60.48 333 *e*P **P 11 39 31.6 -4.2**
KLMR *e* 11 40 16.3
KLMR pmax pmax
comp=Z,106nm,1.5s
TIXI Tiksi 61.46 12 P **P 11 39 41.6 -0.7**
TIXI Tiksi 61.46 12 P **P 11 39 41.4 -0.9**
comp=Z,59nm,1.1s,baz=235,slow=4.0,SNR=73
TIXI LR LR 12 10 04.4
comp=Z,792nm,19.0s,baz=238,slow=40
comp=Z,59nm,1.1s
TIXI Tiksi 61.46 12*d i*P **P 11 39 41.8 -0.5**
TIXI pmax pmax
comp=Z,136nm,1.4s
PURM Purcari 61.51 316 P **P 11 39 43.7 +0.6**
comp=Z,107nm,1.0s
MA2 Magadan 61.90 29 P **P 11 39 44.9 -0.6**
MA2 IAmb IAmb 11 39 46.5
comp=Z,53nm,1.0s
MA2 Magadan 61.90 29 P **P 11 39 44.5 -1.0**
comp=Z,34nm,0.9s,baz=234,slow=4.8,SNR=18
MA2 LR LR 12 10 20.8
comp=Z,750nm,18.4s,baz=248,slow=40
comp=Z,34nm,0.9s
MA2 Magadan 61.90 29*ce*P **P 11 39 45.6 +0.1**
MA2 pmax pmax
comp=Z,66nm,1.3s
MA2 Magadan 61.90 29 P **P 11 39 45.1 -0.4**
comp=Z,58nm,1.1s
TLCR 62.02 314 ⇓P P 11 39 56.6 +10
TLCR 62.02 314 ⇓P P 11 39 56.6 +10
LCRK Leigh Creek 62.03 136 P **P 11 39 46.0 -0.8**
BBOO Buckleboo 62.14 139 P **P 11 39 46.5 -1.1**
comp=Z,24nm,1.0s
BBOO Buckleboo 62.14 139 P **P 11 39 46.4 -1.1**
INKA Innaminka 62.16 132 P **P 11 39 48.0 +0.3**
TIRR Tirgusor 62.21 313 P **P 11 39 48.3 +0.4**
TIRR Tirgusor 62.21 313 ⇑P **P 11 39 48.7 +0.9**
TIRR Tirgusor 62.21 313 ⇑P **P 11 39 48.7 +0.9**
TIRR Tirgusor 62.21 313 P **P 11 39 48.1 +0.3**
comp=Z,41nm,1.4s
TPGR Topolog 62.26 313 ⇑P **P 11 39 49.0 +0.8**
KARP Karpathos 62.41 303 P **P 11 39 49.5 +0.1**
KARP Karpathos 62.41 303 *e*P **P 11 39 50.3 +0.9**
KARP Karpathos 62.41 303 P **P 11 39 49.8 +0.4**
comp=Z,145nm,1.0s
CFR Carcaliu 62.50 314 ⇑P **P 11 39 49.9 +0.2**
CFR Carcaliu 62.50 314 P **P 11 39 50.3 +0.5**
AK09 Malin Array Si 62.65 320 P **P 11 39 50.6 -0.1**
AK10 Malin Array Si 62.67 320 P **P 11 39 50.4 -0.4**
AK08 Malin Array Si 62.67 320 P **P 11 39 50.4 -0.4**
AK07 Malin Array Si 62.69 320 P **P 11 39 50.5 -0.5**
AKASG Malin Array Be 62.71 320 P **P 11 39 50.8 -0.2**
AKASG Malin Array Be 62.71 320 P **P 11 39 50.1 -0.9**
comp=Z,4.1nm,0.7s,baz=89,slow=4.8,SNR=39
AKASG LR LR 12 12 29.5
comp=Z,559nm,18.5s,baz=64,slow=41
comp=Z,4.1nm,0.7s
AKASG Malin Array Be 62.71 320 *i* P **P 11 39 50.7 -0.4**
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 62.71 320 P **P 11 39 50.3 -0.7**
AKBB Malin Array Si 62.71 320*ce*P **P 11 39 50.9 -0.2**
AKBB Malin Array Si 62.71 320 P **P 11 39 50.6 -0.5**
KIEV Kiev 62.72 320 P **P 11 39 50.3 -0.8**
KIEV Kiev 62.72 320 ⇑P **P 11 39 50.5 -0.6**
KIEV Kiev 62.72 320 ⇑P **P 11 39 50.5 -0.6**
KIEV Kiev 62.72 320 P **P 11 39 50.6 -0.6**
comp=Z,10μmcomp=Z,105nm,1.1s
SORM Soroca 62.80 317 P **P 11 39 51.2 -0.5**
comp=Z,48nm,1.2s
MBAR Mbarara 63.33 262 P **P 11 39 57.1 +1.1**
MBAR IAmb IAmb 11 39 59.4
comp=Z,103nm,1.8s
MBAR Mbarara 63.33 262*d i*P **P 11 39 58.1 +2.1**
MBAR pmax pmax
comp=Z,55nm,1.7s
JMB Yambol 63.35 311 P **P 11 39 56.4 +0.9**
LUBAR Lubar, Ukraine 63.49 319 P **P 11 39 56.0 -0.3**
MI29 MI29, Kamyanyy 63.51 320 P **P 11 39 56.2 -0.2**
comp=Z,31μmcomp=Z,268nm,1.0s
BISRR Bisoca 63.54 314 P **P 11 39 57.5 +0.7**
comp=Z,229nm,1.1s
VRI Vrincioaia 63.57 314 ⇑P **P 11 39 58.6 +1.7**
VRI Vrincioaia 63.57 314 ⇑P **P 11 39 58.6 +1.7**
VRI Vrincioaia 63.57 314 P **P 11 39 57.7 +0.8**
comp=Z,2μmcomp=Z,75nm,1.2s
ALN Alexandroupoli 63.58 309 P **P 11 39 57.5 +0.4**
ALN IAmb IAmb 11 39 58.8
comp=Z,58nm,1.3s
ALN Alexandroupoli 63.58 309 P **P 11 39 57.5 +0.4**
ALN pmax pmax
comp=Z,58nm,1.3s
ISR Istrita 63.61 314 P **P 11 39 57.9 +0.6**
comp=Z,8μmcomp=Z,72nm,1.3s
PLOR5 Plostina Array 63.61 314 P **P 11 39 57.9 +0.6**
comp=Z,64nm,1.4s
PLOR Plostina 63.62 314 ⇑P **P 11 39 58.5 +1.2**
PLOR Plostina 63.62 314 ⇑P **P 11 39 58.5 +1.2**
TESR Tescani 63.71 315 P **P 11 39 58.5 +0.7**
comp=Z,39nm,1.4s
MI28 Mi28,Pidlybu 63.72 320 P **P 11 39 57.3 -0.5**
PETK Petropavlovsk- 63.74 37 P **P 11 39 56.2 -1.7**
comp=Z,7.2nm,0.8s,baz=204,slow=3.3,SNR=5.9
PETK PKKP **PKKPdf 12 00 35.4 +0.9**
comp=Z,6.2nm,1.0s,baz=199,slow=4.1,SNR=3.7
PETK LR LR 12 11 51.6
comp=Z,507nm,19.8s,baz=244,slow=40
comp=Z,7.2nm,0.8s
ONER Baraj Valea Uz 63.86 315 ⇑P **P 11 40 00.2 +1.4**
SEY Seymchan 63.86 26 P **P 11 39 57.2 -1.2**
comp=Z,13nm,1.1s,baz=260,slow=7.5,SNR=20
comp=Z,13nm,1.1s
SEY Seymchan 63.86 26⇓*i P* **P 11 39 57.8 -0.7**
SEY pmax pmax
comp=Z,33nm,1.5s
COVR Voineasa-Covas 63.93 314 ⇑P **P 11 39 59.7 +0.3**
RDO Rodhopi 63.98 309 P **P 11 40 00.1 +0.4**
RDO IAmb IAmb 11 40 13.8
comp=Z,62nm,1.3s
MLR Muntele Rosu 64.07 314 P **P 11 40 01.0 +0.6**
MLR Muntele Rosu 64.07 314 LR LR 12 14 57.4
comp=Z,581nm,18.2s,baz=76,slow=43
MLR Muntele Rosu 64.07 314 ⇓P **P 11 40 01.3 +0.9**
MLR Muntele Rosu 64.07 314 ⇓P **P 11 40 01.3 +0.9**
MLR Muntele Rosu 64.07 314 P **P 11 40 01.0 +0.6**
comp=Z,70nm,1.4s
QLP Quilpie 64.08 129 P **P 11 40 00.5 0.0**
comp=Z,93nm,1.4s
QLP Quilpie 64.08 129 P **P 11 40 01.0 +0.5**
KMPD K-Podol'skiy 64.11 317 P **P 11 39 59.8 -0.6**
KMPD P **P 11 39 59.8 -0.6**
KDZ Kurdzhali 64.16 310 P **P 11 40 01.5 +0.6**
MNK Minsk 64.29 324 *i* P **P 11 40 00.6 -0.9**
MNK *i* 11 42 20.7
MNK *i* PPP PPP 11 43 52.9
MNK *i* S **S 11 48 37.0 -1.2**
MNK *i* SS **SS 11 52 48.7 +0.9**
MNK pmax pmax
comp=Z,51nm,1.0s
MNK pmax pmax
comp=N,55nm,1.0s
MNK pmax pmax
comp=E,27nm,0.9s
MNK MLR MLR
comp=N,729nm,17.0s
MNK MLR MLR
comp=Z,609nm,15.0s

PUL Pulkovo 64.33 330⇓ *e*P P 11 40 03.3 +1.7
PUL pmax pmax
comp=Z,105nm,0.5s
PVL Pavlikeni 64.40 311 P **P 11 40 03.7 +1.3**
DOPR Dopca 64.51 314 ⇑P **P 11 40 03.3 +0.1**
RZN Rozhen 64.61 310 P **P 11 40 04.8 +0.7**
PLD Plovdiv 64.64 310 P **P 11 40 05.3 +1.3**
VOIR 64.69 314 ⇑P **P 11 40 05.9 +1.5**
VOIR 64.69 314 ⇑P **P 11 40 05.9 +1.5**
VOIR 64.69 314 P **P 11 40 05.2 +0.8**
comp=Z,16nm,1.7s
BURAR Bucovina Array 64.81 316 P **P 11 40 05.6 +0.4**
BURAR Bucovina Array 64.81 316 ⇑P **P 11 40 05.8 +0.6**
BURAR Bucovina Array 64.81 316 ⇑P **P 11 40 05.8 +0.6**
BUR08 Bucovina Ar. S 64.83 316 P **P 11 40 05.8 +0.5**
JOF Joensuu 64.86 334 *e*P **P 11 40 05.7 +0.7**
RNPP5 Staryi Chortor 64.88 320 P **P 11 40 04.6 -0.8**
RNPP9 Sopachiv 64.90 320 P **P 11 40 05.3 -0.2**
RNPP8 Varash 64.91 320 P **P 11 40 05.4 -0.2**
ARR Arges 64.98 314 ⇑P **P 11 40 06.3 +0.1**
IDID Didziasalis 65.11 325 *e*P **P 11 40 07.9 +1.1**
STKA Stephens Creek 65.19 135 P **P 11 40 06.8 -0.9**
comp=Z,97nm,1.0s
STKA Stephens Creek 65.19 135 P **P 11 40 06.4 -1.2**
comp=Z,10nm,0.7s,baz=311,slow=5.9,SNR=23
STKA LR LR 12 10 10.7
comp=Z,547nm,21.1s,baz=302,slow=38
comp=Z,10nm,0.7s
STKA Stephens Creek 65.19 135 ⇓*i*P **P 11 40 06.7 -0.9**
IIGN Ignalina 65.40 325 *e*P **P 11 40 10.1 +1.4**
STNU Starunia 65.42 317 P **P 11 40 09.3 +0.3**
LVZ Lovozero 65.44 339 ⇑*i*P **P 11 40 09.0 +0.2**
LVZ pmax pmax
comp=Z,61nm,1.1s
LVZ Lovozero 65.44 339 P **P 11 40 09.0 +0.2**
comp=Z,56nm,1.1s
MPEP Malo Peshtene 65.46 311 P **P 11 40 10.5 +1.2**
LOT Lotru 65.59 314 ⇑P **P 11 40 09.4 -0.9**
APA Apatity 65.73 339 ⇓*i*P **P 11 40 13.4 +2.8**
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,3μm,22.0s
VSU Vasula 65.78 328 ⇑*i*P **P 11 40 10.4 -0.7**
VSU pmax pmax
comp=Z,49nm,1.4s
VTS Vitosha 65.78 311 P **P 11 40 12.4 +0.8**
KKB Krupnik 65.83 310 P **P 11 40 12.5 +0.8**
LVV L'vov 65.86 318 P **P 11 40 12.5 +0.7**
MEZ Mezhgor'ye 66.05 317 P **P 11 40 13.8 +0.8**
MARR Marisel-Cluj 66.14 315 ⇑P **P 11 40 14.3 +0.5**
SHIU Shidnytsya 66.22 318 P **P 11 40 13.3 -0.9**
VAY Valandovo 66.22 309 ⇓*i*P **P 11 40 14.1 -0.2**
LIT Litokhoron 66.25 308 P **P 11 40 13.6 -0.9**
LIT IAmb IAmb 11 40 15.1
comp=Z,66nm,1.4s
LIT Litokhoron 66.25 308 P **P 11 40 13.6 -0.9**
LIT pmax pmax
comp=Z,66nm,1.4s
GZR Gura Zlata 66.28 314 ⇑P **P 11 40 15.2 +0.5**
GZR Gura Zlata 66.28 314 ⇑P **P 11 40 15.2 +0.5**
BRIU Brid 66.36 317 P **P 11 40 15.6 +0.6**
DRGR 66.43 315 ⇑P **P 11 40 16.3 +0.7**
DRGR 66.43 315 ⇑P **P 11 40 16.3 +0.7**
HERR Herculane 66.51 313 ⇑P **P 11 40 16.2 +0.2**
MUKU Mukachevo 66.59 317 P **P 11 40 17.3 +0.8**
BERU Beregovo 66.60 317 P **P 11 40 16.4 -0.1**
KWP Kalwaria Pacla 66.69 318 *e*P **P 11 40 17.2 +0.1**
KWP Kalwaria Pacla 66.69 318 P **P 11 40 17.3 +0.1**
comp=Z,65nm,1.2s
PABE Paberze 66.69 325 P **P 11 40 17.0 0.0**
PABE Paberze 66.69 325 *e*P **P 11 40 18.0 +1.0**
SURR Surduc 66.77 314 ⇓P **P 11 40 15.4 -2.3**
FINES FINESS Array B 66.80 331 P **P 11 40 17.4 -0.1**
comp=Z,6.3nm,0.4s,baz=110,slow=7.5,SNR=38
FINES LR LR 12 14 20.7
comp=Z,1μm,18.4s,baz=84,slow=40
comp=Z,6.3nm,0.4s
FINES FINESS Array B 66.80 331 *i*P **P 11 40 18.0 +0.5**
FINES pmax pmax
comp=Z,6.0nm,0.3s
HOLU Holmets 66.80 317 P **P 11 40 18.0 +0.2**
UZHM Uzhgorod 66.87 317 P **P 11 40 19.2 +1.0**
KOLS Kolonicke sedl 66.91 317 *e*P **P 11 40 19.5 +1.0**
KOLS pmax pmax
comp=Z,13nm,1.2s
KOLS Kolonicke sedl 66.91 317 *e*P **P 11 40 19.5 +1.0**
BOVS Bovan 66.95 312 ⇑P **P 11 40 18.9 0.0**
MDVR Moldovita 67.00 313 ⇑P **P 11 40 19.2 -0.1**
BZS Buzias 67.11 314 ⇑P **P 11 40 20.7 +0.8**
BZS Buzias 67.11 314 ⇑P **P 11 40 20.7 +0.8**
SIRR Siria 67.12 314 ⇑P **P 11 40 20.5 +0.6**
KEF Keuruu 67.52 332 *e*P **P 11 40 21.9 -0.2**
OHR Ohrid 67.55 309 ⇓*i*P **P 11 40 22.2 -0.6**
STHS Stebnicka Huta 67.62 318 *e*P **P 11 40 22.9 -0.2**
STHS pmax pmax
comp=Z,16nm,1.3s
STHS Stebnicka Huta 67.62 318 *e*P **P 11 40 22.9 -0.2**
CMSA Cobar Meteorol 67.85 133 P **P 11 40 24.4 -0.3**
comp=Z,68nm,0.9s
PBUR Paburge 67.91 325 *e*P **P 11 40 25.2 +0.5**
R9F13 Warsaw-Wawer 67.93 321 *e*P **P 11 40 25.8 +0.9**
VADS Vadso 68.05 341 *e*P **P 11 40 26.3 +1.0**
VADS IAmb IAmb 11 40 27.4
comp=Z,84nm,1.4s
KECS Kecovo 68.05 317 *e*P **P 11 40 26.4 +0.6**
KECS pmax pmax
comp=Z,20nm,0.6s
KECS Kecovo 68.05 317 *e*P **P 11 40 26.4 +0.6**
KECS *e* 11 45 10.1
BEL Belsk 68.11 320 *e*P **P 11 40 26.6 +0.6**
NIE Niedzica 68.23 318 *e*P **P 11 40 28.7 +1.8**
NIE Niedzica 68.23 318 P **P 11 40 27.6 +0.7**
comp=Z,22nm,1.9s
PUK Puka 68.24 310 P **P 11 40 26.5 -0.7**
PUK IAmb IAmb 11 40 27.6
comp=Z,87nm,1.3s
TIR Tirane 68.26 309 P **P 11 40 27.8 +0.6**
comp=Z,42nm,1.4s
ARPS Mount Arapiles 68.32 139 P **P 11 40 26.5 -1.0**
comp=Z,29nm,0.9s
PSZ Piszkesteto 68.42 316 P **P 11 40 28.3 +0.2**
PSZ IAmb IAmb 11 40 30.0
comp=Z,68nm,1.4s
PSZ Piszkesteto 68.42 316 ⇑P **P 11 40 28.2 +0.1**
PSZ Piszkesteto 68.42 316 ⇑P **P 11 40 28.2 +0.1**
PSZ Piszkesteto 68.42 316 *e*P **P 11 40 29.1 +1.0**
OJC Ojcow 68.61 319 *e*P **P 11 40 29.7 +0.5**
OJC Ojcow 68.61 319 P **P 11 40 29.4 +0.2**
OJC IAmb IAmb 11 40 31.0
comp=Z,62nm,1.2s
OJC Ojcow 68.61 319 P **P 11 40 29.4 +0.2**
OJC pmax pmax
comp=Z,62nm,1.2s
OJC Ojcow 68.61 319 P **P 11 40 29.4 +0.2**
comp=Z,46nm,1.3s
VAF Ylistaro 68.70 333 *e*P **P 11 40 30.0 +0.5**
PDG Podgorica 68.72 310 P **P 11 40 29.2 -0.9**
PDG IAmb IAmb 11 40 30.8
comp=Z,102nm,1.6s
PDG Podgorica 68.72 310 ⇑P **P 11 40 29.8 -0.2**
RAF Rauma 68.75 330 *e*P **P 11 40 30.0 +0.1**
LANS Liptovska Anna 68.76 318 *e*P **P 11 40 31.4 +1.1**
LANS *e* 11 40 39.8
LANS pmax pmax
comp=Z,11nm,1.3s
LANS Liptovska Anna 68.76 318 *e*P **P 11 40 31.4 +1.1**
LANS *e* 11 40 39.8
LANS *e* 11 45 15.2
EIDS Eidsvold 68.79 125 P **P 11 40 30.4 -0.3**
comp=Z,15nm,1.9s
ARA0 ARCESS Array S 69.14 340 *e*P **P 11 40 33.1 +1.0**
ARCES ARCESS Array B 69.14 340 P **P 11 40 31.7 -0.5**
comp=Z,15nm,0.9s,baz=89,slow=6.1,SNR=15
ARCES LR LR 12 14 32.2
comp=Z,958nm,18.2s,baz=116,slow=39
comp=Z,15nm,0.9s
MORH Mrgy, Hungar 69.21 314 ⇓P **P 11 40 33.4 +0.3**
MORH Mrgy, Hungar 69.21 314 P **P 11 40 33.3 +0.3**
comp=Z,31nm,1.3s
SRO Srobarova 69.48 316 *e*P **P 11 40 35.8 +1.2**
SRO *e* 11 40 44.6
SRO pmax pmax
comp=Z,67nm,1.4s
SRO Srobarova 69.48 316 *e*P **P 11 40 35.8 +1.2**
SRO *e* 11 40 44.6
OKC Ostrava-Krasne 69.66 318 *e*P **P 11 40 36.5 +0.8**
OKC Ostrava-Krasne 69.66 318 *e*P **P 11 40 36.5 +0.8**
KTK1 Kautokeino 69.78 339 *e*P **P 11 40 37.4 +1.3**
STEB Steborice 69.90 318 *e*P **P 11 40 37.7 +0.5**
STEB *ex* x 11 40 46.5
JAVC Velka Javorina 69.93 317 *e*P **P 11 40 39.0 +1.5**
MPLH Magyarpolny 69.99 315 P **P 11 40 38.1 +0.3**
comp=Z,154nm,1.2s
HAMF Hammerfest 70.04 341 *e*P **P 11 40 38.7 +1.0**
HAMF IAmb IAmb 11 40 44.5
comp=Z,31nm,1.0s
MORC Moravsky Berou 70.04 318 P **P 11 40 38.5 +0.4**
MORC IAmb IAmb 11 40 40.4
comp=Z,69nm,1.2s
MORC Moravsky Berou 70.04 318 *e*P **P 11 40 39.0 +0.9**
MORC Moravsky Berou 70.04 318 ⇑P **P 11 40 39.1 +0.9**
MORC Moravsky Berou 70.04 318 ⇑P **P 11 40 39.1 +0.9**
SMOL Smolenice 70.09 317 *e*P **P 11 40 39.5 +1.1**
SMOL pmax pmax
comp=Z,26nm,1.6s
MODS Modra-Piesok 70.18 317 *e*P **P 11 40 40.1 +1.1**
MODS *e* 11 40 48.0
MODS pmax pmax
comp=Z,65nm,1.2s
MODS Modra-Piesok 70.18 317 *e*P **P 11 40 40.1 +1.1**
MODS *e* 11 40 48.0
GKP Gorka Klasztor 70.38 322 *e*P **P 11 40 40.8 +0.8**
LSZ Lusaka 70.41 248 P **P 11 40 41.9 +0.9**
LSZ IAmb IAmb 11 40 43.7
comp=Z,55nm,0.8s
LSZ Lusaka 70.41 248 LR LR 12 07 47.4
comp=Z,2μm,20.7s,baz=116,slow=33
LSZ Lusaka 70.41 248 P **P 11 40 41.9 +0.9**
LSZ pmax pmax
comp=Z,55nm,0.9s
BEHE Becsehely 70.51 315 P **P 11 40 41.5 +0.5**
VRAC Vranov 70.65 318 LR LR 12 17 31.9
comp=Z,487nm,18.1s,baz=36,slow=41
VRAC Vranov 70.65 318 *e*P **P 11 40 42.5 +0.6**
TIP Timpagrande 70.68 307 ⇑P **P 11 40 42.1 -0.2**
TIP Timpagrande 70.68 307 P **P 11 40 42.6 +0.3**
comp=Z,21nm,1.6s
KRUC Moravsky 70.78 317 *e*P **P 11 40 43.2 +0.6**
BILL Bilibino 70.82 22 P **P 11 40 42.0 -0.5**
BILL IAmb IAmb 11 40 43.5
comp=Z,42nm,1.0s
BILL Bilibino 70.82 22 *d i*P **P 11 40 42.0 -0.5**
BILL pmax pmax
comp=Z,81nm,1.7s
RONA Rosalia, Austr 70.83 316 *i*P **P 11 40 43.6 +0.5**
comp=Z,16nm,1.1s,SNR=5.4
DPC Dobruska-Polom 70.84 319 *e*P **P 11 40 43.9 +0.9**
DPC Dobruska-Polom 70.84 319 *e*P **P 11 40 43.9 +0.9**
DPC Dobruska-Polom 70.84 319 P **P 11 40 44.0 +0.9**
comp=Z,30nm,1.5s
KOGS Kog 70.87 315 *i*P **P 11 40 43.9 +0.6**
KSP Ksiaz 70.87 319 *e*P **P 11 40 44.0 +0.9**
KSP Ksiaz 70.87 319 P **P 11 40 43.5 +0.4**
comp=Z,38nm,1.5s
JETT Jettan, Norway 70.88 339 *e*P **P 11 40 43.8 +0.9**
OSTC Ostas 70.92 319 *e*P **P 11 40 43.6 +0.1**
OSTC Ostas 70.92 319 *e*P **P 11 40 43.6 +0.1**
CHVC Chvalec 71.02 319 *e*P **P 11 40 45.1 +1.0**
CHVC *ex* x 11 40 53.8
CHVC Chvalec 71.02 319 *e*P **P 11 40 45.1 +1.0**
CHVC *e* 11 40 53.8
CONA Conrad Observa 71.13 316 *e*P **P 11 40 44.9 +0.1**
comp=Z,38nm,1.9s,SNR=9.9
TOO Toolangi 71.13 138 P **P 11 40 45.0 +0.1**
comp=Z,15nm,1.6s
ARSA Arzberg 71.36 315 *e*P **P 11 40 46.8 +0.6**
comp=Z,31nm,1.6s,SNR=8.7
ARSA Arzberg 71.36 315 P **P 11 40 47.0 +0.8**
ARSA IAmb IAmb 11 40 48.3
comp=Z,121nm,2.0s
TRO Tromso 71.40 339 *e*P **P 11 40 46.1 +0.1**
TRO IAmb IAmb 11 40 46.4
comp=Z,37nm,1.1s
CEL Celeste 71.41 306 P **P 11 40 47.4 +0.7**
comp=Z,962nmcomp=Z,82nm,1.2s
ARMA Armidale 71.62 129 P **P 11 40 48.7 +0.6**
ARMA Armidale 71.62 129 P **P 11 40 48.7 +0.6**
comp=Z,42nm,0.9s
SOKA Soboth 71.71 315 *i*P **P 11 40 49.1 +0.7**
comp=Z,51nm,1.3s,SNR=19
BSD Bornholm Skovb 71.81 324 *e*P **P 11 40 47.8 -0.9**
GOPC GO Pecny, Ondr 71.83 318 *e*P **P 11 40 50.2 +1.2**
GOPC GO Pecny, Ondr 71.83 318 *e*P **P 11 40 50.2 +1.2**
PRU Pruhonice 71.99 318 *e*P **P 11 40 51.1 +1.2**
PRU *ex* x 11 40 59.1
PRU Pruhonice 71.99 318 *e*P **P 11 40 51.1 +1.2**
PRU *e* 11 40 59.1
OBKA Obir 72.04 315 *i*P **P 11 40 51.2 +0.7**
comp=Z,50nm,1.3s,SNR=12
LJU Ljubljana 72.07 314 *i*P **P 11 40 51.2 +0.7**
CKRC Cesky Krumlov 72.15 317 *e*P **P 11 40 51.5 +0.5**
CKRC Cesky Krumlov 72.15 317 *e*P **P 11 40 51.5 +0.5**
MOA Molln 72.20 316 *e*P **P 11 40 51.6 +0.3**
comp=Z,36nm,1.3s,SNR=10
ZVC Zvikov 72.22 318 *e*P **P 11 40 52.0 +0.7**
ZVC *ex* x 11 40 59.4
CAN Canberra 72.22 135 P **P 11 40 50.4 -1.2**
comp=Z,28nm,1.6s
BRG Berggiesshubel 72.36 319 *i*P **P 11 40 53.4 +1.2**
BRG Amp 11 40 54.3
comp=Z,49nm,1.2s
BRG Berggiesshubel 72.36 319 P P 11 41 02.0 +10
BRG Amp 11 41 02.9
comp=Z,18nm,0.9s
FAUS Fauske 72.42 337 *e*P **P 11 40 53.2 +1.1**
FAUS IAmb IAmb 11 41 00.1
comp=Z,62nm,1.2s
RUE Ruedersdorf 72.45 321 *e*P **P 11 40 53.1 +0.6**
GERES GERESS Array B 72.56 317 P **P 11 40 53.5 +0.1**
GERES GERESS Array B 72.56 317 P **P 11 40 53.8 +0.3**
comp=Z,18nm,0.8s,baz=90,slow=5.3,SNR=95
comp=Z,18nm,0.8s
CADS Cadrg 72.62 314 *i*P **P 11 40 53.9 +0.1**
HFS Hagfors 72.62 329 P **P 11 40 53.3 -0.2**
comp=Z,16nm,0.8s,baz=76,slow=6.3,SNR=17
HFS LR LR 12 15 46.7
comp=Z,492nm,18.5s,baz=58,slow=38
comp=Z,16nm,0.8s
KHC Kasperske Hory 72.63 317 *e*P **P 11 40 54.2 +0.4**
KHC *ex* x 11 41 02.8
KHC Kasperske Hory 72.63 317 *ce*P **P 11 40 53.9 +0.1**
KHC pmax pmax
comp=Z,90nm,1.5s
KHC Kasperske Hory 72.63 317 P **P 11 40 54.1 +0.3**
comp=Z,29nm,2.0s
VAE Valguarnera 72.63 305 LR LR 12 19 51.0
comp=Z,266nm,18.1s,baz=198,slow=42
BIOA Bad Ischl, Aus 72.63 316 *i*P **P 11 40 54.0 +0.1**
comp=Z,27nm,1.4s,SNR=7.6
MYKA Terra Mystica 72.67 315 *i*P **P 11 40 54.5 +0.3**
comp=Z,22nm,1.6s,SNR=5.1
PRED Cave del Predi 72.73 315 P **P 11 40 54.3 -0.2**
PRED IAmb IAmb 11 40 55.9
comp=Z,38nm,1.0s
KBA Koelnbreinsper 72.85 315 *i*P **P 11 40 55.3 -0.1**
comp=Z,24nm,1.3s,SNR=12
CLL Collm 72.95 320 P **P 11 40 55.5 0.0**
CLL IAmb IAmb 11 40 57.2
comp=Z,43nm,1.3s
CLL Collm 72.95 320 ⇓*i*P **P 11 40 55.7 +0.1**
CLL *i* 11 41 04.3
CLL pmax pmax
comp=Z,57nm,1.5s
CLL Collm 72.95 320 P **P 11 40 55.9 +0.3**
comp=Z,29nm,1.5s
CLL Collm 72.95 320 ⇓*i*P **P 11 40 55.7 +0.1**
comp=Z,57nm,1.5s
CLL *i* x x 11 41 04.3
CLL *e*PP **PP 11 43 36.0 -1.9**
LEIR Leirfjorden 73.18 335 *e*P **P 11 40 57.3 +0.6**
LESA Schwarzleotal 73.29 316 *i*P **P 11 40 57.7 -0.1**
comp=Z,41nm,1.5s,SNR=17
NKC Novy Kostel 73.33 319 *e*P **P 11 40 59.1 +1.2**
NKC Novy Kostel 73.33 319 *e*P **P 11 40 59.1 +1.2**
ABTA Abfaltersbach 73.44 315 *i*P **P 11 40 58.3 -0.4**
comp=Z,24nm,1.2s,SNR=8.0
SHEM Shemya Is, Ala 73.57 39 LR LR 12 17 18.1
comp=Z,261nm,18.8s,baz=36,slow=39
SPA0 Spitsbergen Ar 73.62 348 *e*P **P 11 41 00.1 +1.0**
SPA0 IAmb IAmb 11 41 00.6
comp=Z,70nm,1.4s
SPITS Spitsbergen Ar 73.62 348 P **P 11 40 58.8 -0.3**
comp=Z,22nm,1.1s,baz=102,slow=7.8,SNR=20
SPITS LR LR 12 20 03.6
comp=Z,669nm,18.6s,baz=86,slow=41
comp=Z,22nm,1.1s
NC602 NORSAR Array S 73.70 330 *e*P **P 11 40 59.6 -0.2**
NC602 NORSAR Array S 73.70 330 P **P 11 40 59.2 -0.6**
NC602 IAmb IAmb 11 42 50.1
comp=Z,176nm,1.9s
NB2 NORSAR Subarra 73.87 330 P **P 11 41 00.3 -0.6**
comp=Z,29nm,1.0s,baz=91,slow=5.9
NB2 NORSAR Subarra 73.87 330 P **P 11 41 00.3 -0.6**
baz=91,slow=5.9
NOA NORSAR Array B 73.87 330 P **P 11 41 00.5 -0.4**
comp=Z,11nm,0.8s,baz=90,slow=5.8,SNR=15
comp=Z,11nm,0.8s
WTTA Wattenberg 74.01 316 *i*P **P 11 41 01.8 -0.4**
comp=Z,37nm,1.0s,SNR=15
WATA Walderalm 74.04 316 *i*P **P 11 41 01.8 -0.5**
comp=Z,41nm,1.5s,SNR=10
CTI Castel Tesino 74.07 314 P **P 11 41 02.5 0.0**
CTI IAmb IAmb 11 41 04.0
comp=Z,90nm,1.3s
CTI Castel Tesino 74.07 314 P **P 11 41 02.5 0.0**
CTI pmax pmax
comp=Z,90nm,1.3s
OSL Oslo 74.11 329 *e*P **P 11 41 02.6 +0.4**
OSL IAmb IAmb 11 41 03.0
comp=Z,99nm,1.1s
GRFO Grafenberg 74.15 318 P **P 11 41 03.7 +1.0**
GRFO IAmb IAmb 11 41 05.0
comp=Z,130nm,1.6s
GRFO Grafenberg 74.15 318 P **P 11 41 03.7 +1.0**
GRFO pmax pmax
comp=Z,130nm,1.6s
SQTA Sankt Quirin 74.30 316 *i*P **P 11 41 03.4 -0.4**
comp=Z,25nm,1.0s,SNR=12
MOTA Moosalm 74.36 316 *e*P **P 11 41 03.7 -0.5**
comp=Z,42nm,1.2s
RETA Reutte 74.58 316 *i*P **P 11 41 05.3 -0.1**
comp=Z,63nm,1.5s,SNR=16
FETA Feichten 74.64 315 *i*P **P 11 41 05.7 -0.1**
comp=Z,33nm,1.2s,SNR=12
ZCCA Zocca 74.67 313 P **P 11 41 06.8 +0.9**
ZCCA IAmb IAmb 11 41 08.9
comp=Z,128nm,1.6s
KONO Kongsberg 74.69 328 *e*P **P 11 41 05.6 0.0**
DOMB Dombas 74.89 331 *e*P **P 11 41 06.8 0.0**
DOMB IAmb IAmb 11 41 08.3
comp=Z,32nm,0.9s
FUORN Ofenpass-Fuorn 74.99 315 P **P 11 41 08.1 +0.1**
MUD Monsted U'grnd 75.03 325 *i*P P 11 41 00.4 -7.3
MUD IAmb IAmb 11 41 03.9
comp=Z,14nm,0.8s
DAVA Damuels 75.20 316 *i*P **P 11 41 09.2 +0.1**
comp=Z,68nm,1.2s,SNR=18
DAVOX Davos/Dischmat 75.24 315 LR LR 12 19 53.6
comp=Z,349nm,20.2s,baz=76,slow=40
SKAR Skarslia 75.30 330 *e*P **P 11 41 09.6 +0.4**
SKAR IAmb IAmb 11 41 10.5
comp=Z,36nm,1.1s
PHDHD Phuduhudu 75.42 245 *i*P **P 11 41 12.7 +2.0**
LPHEP Lephephe 75.45 241 *i*P **P 11 41 12.4 +1.6**
TUE Stuetta 75.63 315 P **P 11 41 11.1 -0.5**
TUE IAmb IAmb 11 41 13.2
comp=Z,96nm,1.6s
TUE Stuetta 75.63 315 P **P 11 41 11.8 +0.2**
comp=Z,145nm,2.1s
LBTB Lobatse 76.31 240 P **P 11 41 16.5 +0.9**
LBTB IAmb IAmb 11 41 18.1
comp=Z,89nm,1.3s
LBTB Lobatse 76.31 240 LR LR 12 11 25.6
comp=Z,833nm,20.0s,baz=64,slow=33
LBTB Lobatse 76.31 240 P **P 11 41 16.5 +0.9**
LBTB pmax pmax
comp=Z,89nm,1.3s
KDWAN Kaudwane 76.48 241 *i*P **P 11 41 18.1 +1.5**
KEST Kesra 76.87 304 P **P 11 41 19.0 +0.3**
comp=Z,24nm,1.0s,baz=42,slow=2.6,SNR=12
comp=Z,24nm,1.0s
MAKGR Makgori 77.28 239 *i*P **P 11 41 22.5 +1.4**
BTNL Ternell 77.33 319 *d*P **P 11 41 21.6 +0.7**
MEM Membach 77.41 319 *d*P **P 11 41 21.9 +0.6**
WLF Walferdange 77.43 318 P **P 11 41 21.6 +0.2**
WLF IAmb IAmb 11 41 23.9
comp=Z,80nm,1.6s
WLF Walferdange 77.43 318 *d*P **P 11 41 22.0 +0.5**
WLF Walferdange 77.43 318 P **P 11 41 21.7 +0.2**
WLF pmax pmax
comp=Z,80nm,1.6s
BHOU Houvegnez 77.44 319 *d*P **P 11 41 22.1 +0.6**
comp=Z,7.6nm,1.4s
BNI Bardonecchia 77.65 314 P **P 11 41 22.4 -0.6**
BNI IAmb IAmb 11 41 27.0
comp=Z,42nm,1.1s
BNI Bardonecchia 77.65 314 P **P 11 41 22.4 -0.6**
BNI pmax pmax
comp=Z,43nm,1.1s
BCLA Clavier 77.88 319 *d*P **P 11 41 24.3 +0.4**
BCLA *d*PcP **PcP 11 41 34.3 +0.6**
RCHB Rochefort 77.96 319 *d*P **P 11 41 24.7 +0.4**
RCHB *d*PcP **PcP 11 41 34.7 +0.6**
BOSA Boshof 77.99 236 P **P 11 41 25.5 +0.5**
comp=Z,40nm,0.7s,baz=75,slow=5.0,SNR=58
BOSA LR LR 12 12 55.4
comp=Z,310nm,18.7s,baz=42,slow=34
comp=Z,40nm,0.7s
BGES Gesves 78.02 319 *d*P **P 11 41 25.1 +0.4**
comp=Z,10nm,1.2s
BGES *d*PcP **PcP 11 41 34.3 -0.1**
QNGWA Qangwa 78.16 246 *i*P **P 11 41 28.0 +1.8**
BMRD Maredsous 78.23 319 *d*P **P 11 41 26.2 +0.3**
comp=Z,8.9nm,1.4s
BMRD *d*PcP PKiKP 11 46 10.2 -53
DOU Dourbes 78.37 319 *d*P **P 11 41 27.1 +0.4**
comp=Z,9.3nm,1.4s
KGCAE Kacgae 78.39 243 *i*P **P 11 41 29.0 +1.6**
NOR Nord 79.03 352 *i*P **P 11 41 29.0 -0.8**
NOR IAmb IAmb 11 41 30.7
comp=Z,62nm,1.2s
LKGWB Lokgwabe 79.68 242 *i*P **P 11 41 33.4 -1.0**
GAMB Gambell 79.85 27 P **P 11 41 34.8 +0.3**
baz=281
TNA Tin City 81.05 25 P **P 11 41 40.8 -0.1**
TNA Tin City 81.05 25 P **P 11 41 41.1 +0.3**
baz=284,SNR=7.3
CASY Casey 81.14 173 P **P 11 41 41.4 +0.2**
TSUM Tsumeb 81.26 248 LR LR 12 14 14.0
comp=Z,878nm,21.0s,baz=51,slow=33
C16K Lisburne Hills 81.33 22 P **P 11 41 42.7 +0.4**
C16K IAmb IAmb 11 41 44.2
comp=Z,70nm,1.1s
C16K Lisburne Hills 81.33 22 P **P 11 41 43.0 +0.7**
baz=286,SNR=33
F14K Arctic Creek 81.71 24 P **P 11 41 45.5 +1.0**
baz=286
SPIA Saint Paul Isl 81.94 33 P **P 11 41 47.0 +1.3**
baz=283
C17K DeLong Mountai 82.04 21 P **P 11 41 47.0 +0.9**
baz=286
EKA Eskdalemuir Ar 82.06 325 P **P 11 41 46.1 -0.4**
comp=Z,17nm,1.0s,baz=95,slow=5.3,SNR=12
comp=Z,17nm,1.0s
A19K Wainwright 82.19 19 P **P 11 41 48.4 +1.6**
baz=290
B18K Kokolik River 82.23 20 P **P 11 41 48.7 +1.7**
baz=289
RDOG Red Dog Mine 82.26 22 P **P 11 41 47.8 +0.5**
baz=288,SNR=7.0
D17K Noatak River 82.31 22 P **P 11 41 48.4 +0.8**
baz=288,SNR=53
F15K North Star Dit 82.32 24 P **P 11 41 47.7 0.0**
F15K IAmb IAmb 11 41 49.5
comp=Z,38nm,1.1s
F15K North Star Dit 82.32 24 P **P 11 41 48.3 +0.7**
baz=287,SNR=28
ANM Nome 82.36 25 P **P 11 41 48.2 +0.5**
ANM IAmb IAmb 11 41 49.8
comp=Z,54nm,1.2s
ANM Nome 82.36 25 P **P 11 41 48.3 +0.5**
ANM pmax pmax

comp=Z,54nm,1.2s
ANM Nome 82.36 25 P P 11 41 48.4 +0.6
baz=286,SNR=11
P08K Saint George I 82.45 34 P P 11 41 49.2 +0.7
baz=284
DBG Daneborg 82.66 345 *i* P **P 11 41 48.4 -0.9**
DBG IAmb IAmb 11 41 50.3
comp=Z,10nm,1.0s
C18K Utukok River 82.67 21 P P 11 41 50.3 +0.8
C18K IAmb IAmb 11 41 51.6
comp=Z,78nm,1.1s
C18K Utukok River 82.67 21 P P 11 41 50.3 +0.8
baz=290
WIN Windhoek 82.74 245 P P 11 41 52.2 +1.3
WIN IAmb IAmb 11 41 54.0
comp=Z,108nm,1.6s
WIN Windhoek 82.74 245 P P 11 41 52.2 +1.3
WIN pmax pmax
comp=Z,109nm,1.6s
G15K Niukluk 82.78 25 P P 11 41 50.3 +0.3
baz=288,SNR=12
SUR Sutherland 82.96 234 P P 11 41 52.9 +1.1
SUR Sutherland 82.96 234 LR LR 12 14 44.3
comp=Z,543nm,18.6s,baz=62,slow=33
E17K Hotham Inlet 82.97 22 P P 11 41 52.0 +1.0
baz=289
A21K Barrow 83.15 18 P P 11 41 52.8 +1.0
baz=294
M11K Mekoryuk 83.17 29 P P 11 41 51.9 -0.2
baz=286
E18K Tukpahlearik C 83.30 22 P P 11 41 53.7 +1.0
baz=290
G16K Koyuk River 83.33 24 P P 11 41 53.6 +0.8
baz=289
F17K Baldwin Pennin 83.40 23 P P 11 41 54.1 +0.9
baz=290,SNR=29
K13K Kusilvak Mount 83.43 28 P P 11 41 53.7 +0.3
K13K IAmb IAmb 11 41 54.6
comp=Z,37nm,1.1s
K13K Kusilvak Mount 83.43 28 P P 11 41 54.0 +0.6
baz=287,SNR=10.0
B20K Meade River 83.50 19 P P 11 41 54.1 +0.5
B20K Meade River 83.50 19 P P 11 41 54.8 +1.2
baz=293
H16K Elim 83.62 25 P P 11 41 54.8 +0.4
baz=289,SNR=15
J14K Nanvaranak Lak 83.67 27 P P 11 41 55.1 +0.5
baz=288
A22K Sinclair Lake 83.77 18 P P 11 41 56.0 +1.0
baz=295
D19K Kuna River 83.78 21 P P 11 41 56.1 +0.9
D19K Kuna River 83.78 21 P P 11 41 56.2 +1.0
baz=292,SNR=78
F18K Selawik 83.95 23 P P 11 41 56.8 +0.8
baz=291,SNR=28
G17K Kiwalik Mounta 83.96 24 P P 11 41 56.9 +0.8
baz=290,SNR=16
D20K Etivluk River 84.20 20 P P 11 41 58.5 +1.1
baz=294,SNR=84
H17K Granite Mounta 84.45 24 P P 11 41 59.6 +1.0
baz=291
B21K Ikpikpuk River 84.47 19 P P 11 41 59.4 +0.9
B21K Ikpikpuk River 84.47 19 P P 11 41 59.9 +1.3
baz=296
E19K Redstone River 84.50 21 P P 11 41 59.4 +0.6
E19K Redstone River 84.50 21 P P 11 41 59.7 +0.9
baz=293
M13K Dall Lake 84.51 29 P P 11 41 59.8 +0.9
baz=289
I17K Unalakleet 84.51 25 P P 11 41 59.5 +0.6
I17K IAmb IAmb 11 42 01.2
comp=Z,70nm,1.4s
I17K Unalakleet 84.51 25 P P 11 41 59.7 +0.8
baz=291,SNR=8.3
L14K Kuka Creek 84.52 28 P P 11 41 59.4 +0.4
baz=289
B22K Teshekpuk Lake 84.52 18 P P 11 41 59.6 +0.8
baz=297
E20K Nigu River 84.53 20 P P 11 41 59.9 +0.8
baz=294
F19K Shaleruckik Mo 84.55 22 P P 11 41 59.0 0.0
F19K Shaleruckik Mo 84.55 22 P P 11 41 59.6 +0.5
baz=293,SNR=40
G18K Tagagawik 84.58 23 P P 11 41 58.9 -0.4
G18K IAmb IAmb 11 42 00.8
comp=Z,50nm,1.5s
G18K Tagagawik 84.58 23 P P 11 41 59.6 +0.3
baz=292,SNR=12
C21K Knifeblade Rid 84.62 19 P P 11 42 00.5 +1.2
baz=296,SNR=53
K15K Wolf Creek Mou 84.71 27 P P 11 42 00.5 +0.5
K15K IAmb IAmb 11 42 02.2
comp=Z,52nm,1.3s
K15K Wolf Creek Mou 84.71 27 P P 11 42 00.7 +0.7
baz=290
J16K Anvik River 84.76 26 P P 11 42 01.1 +0.8
J16K Anvik River 84.76 26 P P 11 42 01.2 +1.0
baz=291,SNR=28
UNV Unalaska Valle 84.86 36 P P 11 42 00.7 -0.2
baz=287
L15K Ungalak Mounta 84.94 27 P P 11 42 00.9 -0.2
baz=290
H18K Honhosa River 84.98 24 P P 11 42 01.6 +0.3
H18K IAmb IAmb 11 42 03.2
comp=Z,88nm,1.5s
H18K Honhosa River 84.98 24 P P 11 42 02.0 +0.7
baz=293
M14K Bethel 85.04 28 P P 11 42 01.9 +0.3
baz=290
G19K Purcell Mounta 85.08 23 P P 11 42 02.5 +0.7
baz=294
E21K Killik River 85.20 20 P P 11 42 02.8 +0.5
E21K Killik River 85.20 20 P P 11 42 03.1 +0.8
baz=296
F20K Avaraart Lake 85.20 22 P P 11 42 03.2 +0.9
baz=295
J17K VABM Dome 85.36 25 P P 11 42 03.4 +0.2
J17K VABM Dome 85.36 25 P P 11 42 04.2 +1.0
baz=292
D22K Ayikyak River 85.42 19 P P 11 42 04.1 +0.6
D22K Ayikyak River 85.42 19 P P 11 42 04.6 +1.1
baz=298
N14K Kuskokwak Cree 85.46 29 P P 11 42 04.3 +0.6
baz=290
H19K Roundabout Mou 85.57 23 P P 11 42 04.7 +0.5
H19K Roundabout Mou 85.57 23 P P 11 42 05.4 +1.3
baz=294,SNR=31
C23K Itkillik River 85.61 18 P P 11 42 04.9 +0.6
C23K Itkillik River 85.61 18 P P 11 42 05.3 +1.0
baz=299
M15K Kasigluk River 85.65 28 P P 11 42 04.8 +0.1
baz=291
GCSA Galena City Sc 85.72 24 P P 11 42 06.0 +1.0
baz=294,SNR=27
L16K Owhat River 85.83 27 P P 11 42 06.2 +0.7
baz=292,SNR=7.4
O14K Tigyukauivet M 85.89 30 P P 11 42 06.1 +0.2
baz=290
F21K Alatna River 85.91 21 P P 11 42 06.3 +0.3
F21K IAmb IAmb 11 42 07.8
comp=Z,66nm,1.1s
F21K Alatna River 85.91 21 P P 11 42 06.5 +0.6
baz=297,SNR=49
K17K Iditarod 85.95 26 P P 11 42 07.1 +0.9
baz=293
D23K Nanushuk River 86.02 19 P P 11 42 07.0 +0.7
D23K Nanushuk River 86.02 19 P P 11 42 07.7 +1.3
baz=295
E22K Anaktuvuk Pass 86.05 20 P P 11 42 06.8 +0.2
E22K IAmb IAmb 11 42 08.6
comp=Z,82nm,1.2s
E22K Anaktuvuk Pass 86.05 20 P P 11 42 07.4 +0.8
baz=298,SNR=50
N15K Kwethluk River 86.12 29 P P 11 42 07.4 +0.4
baz=292
H20K Anotleneega Mo 86.17 23 P P 11 42 08.3 +1.1
baz=296
L17K Donlin 86.18 26 P P 11 42 08.1 +0.8
baz=293
G21K Allakaket 86.22 22 P P 11 42 08.2 +0.8
baz=297
F22K John River 86.23 20 P P 11 42 08.5 +1.0
baz=298
C24K Franklin Bluff 86.24 18 P P 11 42 07.8 +0.3
baz=301
FALS False Pass 86.27 34 P P 11 42 08.6 +0.7
baz=289

J18K Innoko River 86.31 25 P P 11 42 08.8 +0.9
baz=294
M16K Timber Creek 86.31 28 P P 11 42 09.0 +1.0
baz=292
NEEM North Greenlan 86.38 353 *i* P **P 11 42 08.2 -0.2**
NEEM IAmb IAmb 11 42 09.2
comp=Z,277nm,2.5s
ESDC Sonseca Array 86.43 310 P P 11 42 09.1 0.0
ESDC IAmb IAmb 11 42 10.2
comp=Z,43nm,1.1s
ESDC Sonseca Array 86.43 310 P P 11 42 08.7 -0.4
comp=Z,7.8nm,0.9s,baz=54,slow=4.5,SNR=45
comp=Z,7.8nm,0.9s
D24K Happy Valley 86.50 18 P P 11 42 09.5 +0.8
baz=301
TOLK Toolik Lake Re 86.53 19 P P 11 42 09.9 +1.0
baz=300,SNR=45
J19K Poorman 86.53 24 P P 11 42 10.0 +1.0
baz=295
O15K Ungalikthiuk R 86.61 30 P P 11 42 10.0 +0.5
baz=292
N16K Nishlik Lake 86.61 28 P P 11 42 10.4 +0.9
baz=293
I20K Naaghedeneel 86.63 23 P P 11 42 10.9 +1.4
baz=296
E23K Chandalar 86.81 20 P P 11 42 11.1 +0.7
E23K IAmb IAmb 11 42 12.6
comp=Z,58nm,1.1s
E23K Chandalar 86.81 20 P P 11 42 11.2 +0.8
baz=300
L18K Granite Mounta 86.84 26 P P 11 42 11.4 +0.9
baz=294,SNR=8.1
M17K Holitna River 86.84 27 P P 11 42 11.1 +0.5
baz=294
H21K Melozitna Rive 86.87 22 P P 11 42 11.5 +0.9
H21K Melozitna Rive 86.87 22 P P 11 42 11.9 +1.3
baz=298
COLD Coldfoot 87.03 20 P P 11 42 12.3 +0.9
baz=300,SNR=19
J20K Nowinta River 87.04 24 P P 11 42 12.7 +1.3
baz=296,SNR=20
D25K Kavik River 87.15 18 P P 11 42 12.7 +0.7
baz=303
E24K Your Creek 87.17 19 P P 11 42 13.0 +0.9
baz=301
C26K Camden Bay 87.24 17 P P 11 42 13.7 +1.4
baz=305
O16K Kokwok River B 87.27 29 P P 11 42 14.2 +1.5
baz=293
H22K Ishtalitna Cre 87.28 22 P P 11 42 13.8 +1.1
baz=299,SNR=37
N17K Nushagak Hills 87.31 28 P P 11 42 13.6 +0.7
baz=294
G23K Bananza Creek 87.35 21 P P 11 42 14.1 +1.0
baz=300,SNR=32
BORG Borgarnes 87.36 337 LR LR 12 23 14.8
comp=Z,416nm,20.6s,baz=52,slow=37
I21K Tanana 87.40 23 P P 11 42 14.6 +1.5
baz=298
K20K Telida 87.43 25 P P 11 42 14.8 +1.4
baz=296
M18K Stony River 87.51 27 P P 11 42 15.1 +1.3
baz=295
P16K Nushagak River 87.54 29 P P 11 42 14.4 +0.5
baz=293
L19K White Mountain 87.63 26 P P 11 42 15.8 +1.4
baz=296,SNR=12
F24K Squaw Lake 87.65 20 P P 11 42 15.4 +0.9
baz=302
O17K Koliganek Bris 87.66 28 P P 11 42 15.2 +0.7
baz=294,SNR=5.3
SDPT Sand Point 87.69 33 P P 11 42 15.7 +0.9
baz=291
C27K Jago River 87.75 17 P P 11 42 15.7 +0.9
baz=306
S14K Fog Glacier 87.83 32 P P 11 42 15.2 -0.4
baz=292
N18K Kilae Creek 87.83 27 P P 11 42 15.4 0.0
baz=295
PBRG Braganca 87.88 312 *eP* **P 11 42 16.4 +0.4**
PBRG *i* Amb 11 42 17.2
comp=Z,28nm,1.7s
CHUM Lake Minchumin 87.89 24 P P 11 42 17.1 +1.5
baz=298,SNR=40
L20K Farewell, AK 87.91 25 P P 11 42 17.1 +1.4
baz=297
SUMG Summit 87.93 347 *i* P **P 11 42 16.0 -0.1**
SUMG IAmb IAmb 11 42 17.9
comp=Z,41nm,1.1s
M19K Big River Lodg 87.95 26 P P 11 42 17.2 +1.3
baz=296
H23K Yukon River 87.97 21 P P 11 42 17.2 +1.2
baz=300
E25K Arctic Village 88.06 19 P P 11 42 17.2 +0.8
baz=304,SNR=21
TORD Torodi Ar. Bea 88.13 283 P P 11 42 17.7 0.0
TORD IAmb IAmb 11 45 21.2
comp=Z,37nm,0.8s
TORD Torodi Ar. Bea 88.13 283 P P 11 42 17.9 +0.3
comp=Z,21nm,1.0s,baz=53,slow=5.9,SNR=20
comp=Z,21nm,1.0s
CAST Castle Rocks 88.20 24 P P 11 42 18.2 +1.1
baz=298,SNR=50
P17K Kvichak River 88.20 29 P P 11 42 17.9 +0.8
baz=295,SNR=6.1
G24K Hadweenzic Riv 88.23 20 P P 11 42 17.7 +0.5
G24K IAmb IAmb 11 42 19.5
comp=Z,48nm,1.2s
G24K Hadweenzic Riv 88.23 20 P P 11 42 18.3 +1.1
baz=302,SNR=16
MVO Moncorvo 88.27 312 *eP* **P 11 42 18.7 +0.7**
MVO *i* Amb 11 42 20.7
comp=Z,22nm,1.6s
BPAW Bear Paw Mtn. 88.30 23 P P 11 42 18.3 +0.7
BPAW Bear Paw Mtn. 88.30 23 P P 11 42 18.5 +1.0
baz=299,SNR=44
Q16K King Salmon 88.32 29 P P 11 42 17.7 +0.1
baz=294
R16K Pilot Point 88.33 31 P P 11 42 17.9 +0.2
baz=294
F25K Christian Rive 88.33 19 P P 11 42 18.3 +0.6
F25K IAmb IAmb 11 42 20.4
comp=Z,43nm,1.0s
F25K Christian Rive 88.33 19 P P 11 42 19.3 +1.6
baz=304
CHNA Chernabura Isl 88.36 34 P P 11 42 18.5 +0.6
baz=292
I23K Minto, Yukon-K 88.38 22 P P 11 42 18.7 +0.8
I23K IAmb IAmb 11 42 20.1
comp=Z,63nm,1.3s
I23K Minto, Yukon-K 88.38 22 P P 11 42 18.9 +1.1
baz=301,SNR=21
N19K Bonanza Creek 88.39 27 P P 11 42 19.4 +1.3
baz=296,SNR=13
CHGN Chignik 88.41 32 P P 11 42 19.6 +1.4
baz=293
PPLA Purkeypile 88.41 25 P P 11 42 18.9 +0.6
baz=298,SNR=7.8
O18K Koktuh Hills 88.49 28 P P 11 42 19.8 +1.3
baz=296,SNR=9.7
M20K Styx River 88.49 26 P P 11 42 19.7 +1.2
baz=297
H24K Noodor Dome 88.55 21 P P 11 42 19.7 +0.9
baz=302
G25K Bearman Lake 88.65 20 P P 11 42 20.5 +1.5
baz=304,SNR=13
P18K Big Mountain, 88.68 28 P P 11 42 19.9 +0.4
baz=296
PVRL Vila Real 88.73 312 *eP* **P 11 42 20.7 +0.6**
PVRL *i* Amb 11 42 31.6
comp=Z,25nm,1.6s
O19K Port Alsworth 88.74 27 P P 11 42 19.9 +0.3
O19K Port Alsworth 88.74 27 P P 11 42 20.5 +0.8
baz=296,SNR=11
F26K Sheenjek River 88.75 19 P P 11 42 20.7 +1.1
baz=305
D27M Malcolm River 88.76 17 P P 11 42 20.6 +1.0
baz=308
POLO Lamas de Olo 88.76 312 *eP* **P 11 42 21.1 +0.8**
POLO *i* Amb 11 42 22.5
comp=Z,8.9nm,1.4s
BMAR Burnt Mountain 88.77 19 P P 11 42 20.5 +0.8
MDT Midelt 88.77 303 LR LR 12 27 24.1
comp=Z,319nm,18.2s,baz=80,slow=39
NEA2 Nenana 88.77 22 P P 11 42 19.7 -0.1
NEA2 IAmb IAmb 11 42 31.1
comp=Z,24nm,0.9s
NEA2 Nenana 88.77 22 P P 11 42 20.2 +0.5

baz=301,SNR=7.9
PCAB Cabril 88.82 313 *eP* **P 11 42 21.4 +0.9**
PCAB *i* Amb 11 42 22.5
comp=Z,35nm,1.2s
MTE Manteigas 88.87 311 *eP* **P 11 42 21.8 +1.0**
MTE *i* Amb 11 42 23.8
comp=Z,50nm,1.4s
TRF Thorofare Moun 88.89 24 P P 11 42 20.8 +0.2
TRF IAmb IAmb 11 42 22.6
comp=Z,27nm,1.0s
TRF Thorofare Moun 88.89 24 P P 11 42 20.7 +0.2
baz=300,SNR=6.8
PGAV Gavieira, Arco 88.92 313 *eP* **P 11 42 21.8 +0.8**
PGAV *i* Amb 11 42 23.9
comp=Z,30nm,1.7s
PCBR Castelo Branco 88.99 311 *eP* **P 11 42 22.2 +0.9**
PCBR *i* Amb 11 42 24.0
comp=Z,42nm,1.5s
H25L Birch Creek 89.02 20 P P 11 42 22.1 +1.2
baz=304,SNR=14
PVIS Viseu 89.03 312 *eP* **P 11 42 22.6 +1.0**
FYU Fort Yukon 89.05 20 P P 11 42 21.5 +0.6
PMRV Marv??o 89.05 310 *eP* **P 11 42 22.8 +1.2**
PMRV *i* Amb 11 42 24.2
comp=Z,25nm,1.7s
COLA College 89.07 22 || *eP* **P 11 42 21.2 +0.1**
COLA pmax pmax
comp=Z,60nm,2.5s
COLA College 89.07 22 P P 11 42 21.0 -0.1
baz=302
POKR Poker Plat Res 89.09 22 P P 11 42 21.6 +0.4
baz=302,SNR=13
Q18K Katmai Hardscr 89.11 29 P P 11 42 21.1 -0.5
baz=296
SKT Skwentna 89.11 25 P P 11 42 21.6 +0.1
SKT Skwentna 89.11 25 P P 11 42 21.8 +0.4
baz=299,SNR=37
PBAR Barrancos 89.15 309 *eP* **P 11 42 23.2 +1.1**
PBAR *i* Amb 11 42 25.1
comp=Z,60nm,1.5s
SPCR Spurr Chakacha 89.20 26 P P 11 42 22.5 +0.6
baz=298,SNR=15
E27K Coleen River 89.23 18 P P 11 42 22.6 +0.8
baz=308,SNR=29
MCK McKinley 89.27 23 P P 11 42 22.5 +0.4
baz=301,SNR=31
G26K Porcupine Rive 89.30 19 P P 11 42 23.4 +1.3
baz=306
D28M Stokes Point 89.31 16 P P 11 42 23.5 +1.3
baz=310,SNR=9.9
CUT Chulitna 89.42 25 P P 11 42 23.0 +0.3
CUT IAmb IAmb 11 42 25.0
comp=Z,59nm,1.1s
CUT Chulitna 89.42 25 P P 11 42 23.1 +0.3
baz=300,SNR=7.5
RND Reindeer 89.47 23 P P 11 42 22.7 -0.4
RND Reindeer 89.47 23 P P 11 42 22.7 -0.4
RND pmax pmax
comp=Z,102nm,1.4s
IL31 89.47 22 P P 11 42 21.9 -1.1
IL31 IAmb IAmb 11 42 24.5
comp=Z,24nm,1.0s
ILAR Eielson Array 89.47 22 P P 11 42 22.2 -0.8
comp=Z,11nm,0.8s,baz=300,slow=4.1,SNR=76
ILAR PP **PP 11 45 50.1 -3.8**
comp=Z,1.3nm,0.9s,baz=303,slow=7.2,SNR=4.1
ILAR PKKP **PKKPdf 11 59 55.4 +0.9**
comp=Z,0.5nm,0.9s,baz=109,slow=1.3,SNR=4.8
ILAR LR LR 12 26 24.8
comp=Z,323nm,18.5s,baz=294,slow=38
comp=Z,11nm,0.8s
P19K Oil Pt 89.48 28 P P 11 42 24.2 +1.0
baz=297
PRP Porcupine Dome 89.54 21 P P 11 42 24.0 +0.5
PRP Porcupine Dome 89.54 21 P P 11 42 24.5 +1.0
baz=304,SNR=50
O20K Slope Mountain 89.55 27 P P 11 42 22.3 -1.2
baz=298
E28M Babbage River 89.56 17 P P 11 42 24.3 +1.0
baz=310,SNR=35
Q19K Cape Douglas, 89.62 28 P P 11 42 24.4 +0.5
baz=297
HDA Harding Lake 89.65 22 P P 11 42 23.2 -0.7
baz=303,SNR=10
PCAS Casmilo, Conde 89.67 311 *eP* **P 11 42 24.9 +0.4**
PCAS *i* Amb 11 42 25.9
comp=Z,32nm,1.5s
PMTG Montargil 89.77 310 *eP* **P 11 42 25.7 +0.8**
PMTG *i* Amb 11 42 27.6
comp=Z,49nm,1.4s
M22K Willow 89.81 25 P P 11 42 24.9 +0.3
baz=300
PBEJ Beja 89.82 309 *eP* **P 11 42 25.7 +0.4**
PBEJ *i* Amb 11 42 28.1
comp=Z,44nm,1.7s
R18K Karluk 89.85 30 P P 11 42 25.7 +0.8
baz=296
CAPN Captain Cook N 89.86 26 P P 11 42 25.8 +1.0
baz=299
PVAQ Vaqueiros 89.90 309 *eP* **P 11 42 26.6 +1.0**
PVAQ *i* Amb 11 42 28.0
comp=Z,47nm,1.3s
G27K Doyon Strip 90.06 19 P P 11 42 26.3 +0.6
baz=308,SNR=20
J25K Salcha River, 90.11 22 P P 11 42 25.8 -0.3
baz=304,SNR=15
MESJ Messejana 90.14 309 *eP* **P 11 42 25.9 -0.9**
E29M Blow River 90.16 17 P P 11 42 26.8 +0.6
E29M IAmb IAmb 11 42 28.2
comp=Z,47nm,1.1s
E29M Blow River 90.16 17 P P 11 42 27.0 +0.8
baz=311,SNR=42
PMR Palmer 90.30 25 P P 11 42 27.1 +0.2
PMR Palmer 90.30 25 P P 11 42 27.1 +0.2
PMR pmax pmax
comp=Z,79nm,1.1s
PMR Palmer 90.30 25 P P 11 42 27.5 +0.6
baz=301,SNR=13
RC01 Rabbit Creek A 90.30 26 P P 11 42 27.6 +0.7
baz=300,SNR=19
Q20K Shuyak Island 90.34 28 P P 11 42 27.5 +0.3
baz=298
K24K Donnelly Dome 90.41 22 P P 11 42 27.8 +0.3
baz=304,SNR=13
SII Sitkinak Islan 90.43 31 P P 11 42 28.3 +0.6
baz=297
H27K Steamboat Moun 90.45 19 P P 11 42 28.4 +0.8
baz=308
A36M Sachs Harbour 90.46 11 P P 11 42 27.5 0.0
A36M Sachs Harbour 90.46 11 P P 11 42 27.8 +0.3
baz=323,SNR=69
I26K Coal Creek Min 90.47 20 P P 11 42 28.6 +0.9
baz=306
SML Sawmill 90.51 25 P P 11 42 28.6 +0.6
SML Sawmill 90.51 25 P P 11 42 28.6 +0.6
baz=302,SNR=13
BRSE Bradley Lake S 90.55 27 P P 11 42 28.4 +0.2
baz=300,SNR=7.9
OHAK Old Harbor 90.57 30 P P 11 42 28.9 +0.7
baz=297
O22K Cooper Landing 90.62 26 P P 11 42 28.8 +0.4
baz=300
ICESG Greenland Ices 90.64 345 *i* P **P 11 42 28.6 -0.2**
ICESG IAmb IAmb 11 42 30.9
comp=Z,59nm,1.3s
KDAK Kodiak Island 90.64 29 LR LR 12 25 24.9
comp=Z,358nm,19.4s,baz=145,slow=37
KDAK Kodiak Island 90.64 29 P P 11 42 29.1 +0.5
baz=298
KNK Knik Glacier 90.67 25 P P 11 42 29.7 +1.0
baz=302,SNR=11
M23K Glacier View 90.76 24 P P 11 42 29.9 +0.8
baz=302
RIDG Independent Ri 90.79 22 P P 11 42 29.3 0.0
baz=305,SNR=16
I27K Kandik River 90.81 20 P P 11 42 30.6 +1.3
baz=308
J26L Joseph Creek 90.81 21 P P 11 42 30.0 +0.6
baz=306,SNR=41
SCM Sheep Creek Mo 90.90 24 P P 11 42 31.0 +1.2
baz=302,SNR=7.8
SEW Seward 90.92 26 P P 11 42 30.4 +0.6
baz=301
SCRK Sand Creek 90.97 22 P P 11 42 30.8 +0.7
baz=306,SNR=29
PAX Paxson 91.00 23 P P 11 42 30.9 +0.6
baz=304,SNR=8.1

PWL	Port Wells	91.01	25	P	P	11 42 31.0	+0.7
	baz=302,SNR=12						
UPNV	Upernavik	91.04	351	*i* P	P	11 42 30.6	+0.5
UPNV				IAmb	IAmb	11 42 31.5	
	comp=Z,58nm,1.2s						
G29M	Pine Creek	91.10	18	P	P	11 42 31.2	+0.6
	baz=311						
DOT	Dot Lake	91.13	22	P	P	11 42 30.7	-0.1
DOT				IAmb	IAmb	11 42 32.3	
	comp=Z,24nm,1.0s						
RPZ	Rata Peaks	91.15	135	LR	LR	12 24 00.6	
	comp=Z,454nm,21.5s,baz=317,slow=36						
M24K	Tolsona, Glenn	91.21	24	P	P	11 42 32.3	+1.0
	baz=304						
F30M	Barrier River	91.28	17	P	P	11 42 32.1	+0.7
	baz=313,SNR=13						
RES	Resolute Bay	91.33	2	P	P	11 42 31.4	0.0
RES	Resolute Bay	91.33	2	LR	LR	12 27 08.6	
	comp=Z,340nm,20.5s,baz=13,slow=38						
RES	Resolute Bay	91.33	2	P	P	11 42 31.4	0.0
RES				pmax	pmax		
	comp=Z,12nm,1.0s						
INK	Inuvik	91.40	16	P	P	11 42 31.9	0.0
INK				IAmb	IAmb	11 42 33.5	
	comp=Z,46nm,1.1s						
INK	Inuvik	91.40	16	LR	LR	12 29 14.0	
	comp=Z,294nm,21.0s,baz=284,slow=39						
INK	Inuvik	91.40	16	P	P	11 42 31.9	0.0
INK				pmax	pmax		
	comp=Z,47nm,1.2s						
INK	Inuvik	91.40	16	P	P	11 42 32.4	+0.5
	baz=315,SNR=26						
HARP	HAARP	91.44	23	P	P	11 42 33.5	+1.3
	baz=304,SNR=11						
H29M	Whitestone	91.45	18	P	P	11 42 32.7	+0.5
	baz=311,SNR=20						
I28M	Miner Creek	91.45	19	P	P	11 42 32.8	+0.4
	baz=309						
GLI	Glacier Island	91.51	25	P	P	11 42 33.1	+0.5
	baz=303						
G30M	tAoh Zraii Nji	91.58	17	P	P	11 42 32.5	-0.3
G30M	tAoh Zraii Nji	91.58	17	P	P	11 42 33.0	+0.1
	baz=313,SNR=14						
K27K	Chicken	91.61	21	P	P	11 42 33.5	+0.5
K27K	Chicken	91.61	21	P	P	11 42 34.5	+1.5
	baz=307						
KLU	Klutina	91.65	24	P	P	11 42 34.6	+1.3
	baz=304,SNR=9.1						
L26K	Log Cabin Wild	91.76	22	P	P	11 42 34.6	+0.8
L26K	Log Cabin Wild	91.76	22	P	P	11 42 35.1	+1.4
	baz=306,SNR=24						
EPYK	Eagle Plains	91.85	18	P	P	11 42 34.3	+0.2
	baz=312,SNR=21						
P23K	Montague Islan	91.86	26	P	P	11 42 34.4	+0.2
	baz=302						
DIV	Divide	91.91	25	P	P	11 42 35.3	+0.8
DIV				IAmb	IAmb	11 42 36.7	
	comp=Z,42nm,1.4s						
F31M	Tsiigehtchic	91.96	16	P	P	11 42 34.6	+0.1
F31M	Tsiigehtchic	91.96	16	P	P	11 42 34.8	+0.3
	baz=315,SNR=26						
I29M	Ogilvie Camp,	92.03	19	P	P	11 42 35.2	+0.2
	baz=311,SNR=13						
N25K	Chitina, Valde	92.11	24	P	P	11 42 36.7	+1.3
	baz=305,SNR=16						
G31M	Satah River	92.18	17	P	P	11 42 35.7	+0.2
	baz=314,SNR=20						
EYAK	Cordova Ski Ar	92.25	25	P	P	11 42 35.7	-0.3
	baz=304						
M26K	Nabesna, AK	92.26	23	P	P	11 42 37.3	+1.2
	baz=306,SNR=32						
L27K	Beaver Creek,	92.29	22	P	P	11 42 37.7	+1.5
	baz=308,SNR=24						
BMRM	Bremner River	92.47	24	P	P	11 42 37.7	+0.6
BMRM	Bremner River	92.47	24	P	P	11 42 38.2	+1.1
	baz=305,SNR=8.1						
DAWY	Dawson	92.52	20	P	P	11 42 38.0	+0.7
	baz=310,SNR=34						
TOZ	Tahuroa Road	92.65	128	P	P	11 42 38.1	-0.1
J29N	Klondike Camp	92.66	20	P	P	11 42 39.1	+1.2
	baz=311,SNR=19						
M27K	Edge Creek, AK	92.70	22	P	P	11 42 39.6	+1.3
	baz=307						
I30M	Mount Dempster	92.73	19	P	P	11 42 38.6	+0.3
	baz=312,SNR=36						
VRDI	Verde Repeater	92.78	24	P	P	11 42 39.6	+0.9
VRDI				IAmb	IAmb	11 42 41.1	
	comp=Z,42nm,1.3s						
C36M	Paulatuk	92.83	12	P	P	11 42 38.3	-0.2
	baz=324,SNR=30						
H31M	Peel River	92.94	18	P	P	11 42 39.6	+0.5
	baz=314,SNR=38						
BVCY	Beaver Creek	93.04	22	P	P	11 42 41.2	+1.5
	baz=308,SNR=13						
KAIM	Kayak Island	93.15	25	P	P	11 42 41.6	+1.5
	baz=305						
J30M	Hart River	93.18	19	P	P	11 42 41.4	+1.0
	baz=312,SNR=16						
K29M	Barlow Dome	93.29	20	P	P	11 42 42.0	+1.1
	baz=311,SNR=25						
L29M	L29M	93.57	21	P	P	11 42 43.3	+1.2
	baz=311,SNR=29						
YUK3	Moose Creek	93.59	23	P	P	11 42 43.5	+1.1
	baz=309,SNR=6.6						
M29M	Somme Creek	93.89	21	P	P	11 42 45.2	+1.6
	baz=310,SNR=17						
MAYO	Mayo, Yukon	93.99	20	P	P	11 42 45.2	+1.2
MAYO	Mayo, Yukon	93.99	20	P	P	11 42 45.1	+1.1
	baz=313,SNR=12						
MESA	MESA	94.00	24	P	P	11 42 44.8	+0.5
	baz=307						
URZ	Urewera	94.01	128	LR	LR	12 29 50.9	
	comp=Z,203nm,18.5s,baz=5.5,slow=39						
YUK8	Steele Glacier	94.16	23	P	P	11 42 45.8	+0.7
	baz=309,SNR=7.5						
O28M	Mount Upton	94.32	23	P	P	11 42 46.9	+0.9
	baz=309						
M30M	Minto, Yukon	94.38	21	P	P	11 42 47.0	+1.2
	baz=312,SNR=14						
YUK4	Talbot Arm	94.53	22	P	P	11 42 47.5	+0.8
	baz=310						
PCA	Pinnacle	94.72	24	P	P	11 42 47.5	0.0
PCA				IAmb	IAmb	11 42 51.9	
	comp=Z,33nm,1.0s						
PINM	Pinnacle	94.72	24	P	P	11 42 48.6	+1.1
	baz=309						
YUK6	Outpost Mounta	94.90	23	P	P	11 42 49.5	+1.0
	baz=310,SNR=8.3						
SFJD	Kangerlussuaq	94.91	346	LR	LR	12 35 09.6	
	comp=Z,423nm,18.5s,baz=32,slow=42						
N30M	Aishikik Lake	95.02	22	P	P	11 42 50.1	+1.3
	baz=312						
O29M	Mount Kennedy	95.23	23	P	P	11 42 51.0	+1.1
	baz=310						
HYT	Haines Junctio	95.29	22	P	P	11 42 50.9	+0.7
HYT				IAmb	IAmb	11 42 52.5	
	comp=Z,21nm,1.0s						
HYT	Haines Junctio	95.29	22	P	P	11 42 51.1	+0.9
	baz=311,SNR=9.8						
PNL	Peninsula	95.32	24	P	P	11 42 51.1	+0.9
	baz=310						
M31M	Drury Creek, Y	95.45	20	P	P	11 42 51.1	+0.4
M31M				IAmb	IAmb	11 42 52.6	
	comp=Z,15nm,1.1s						
M31M	Drury Creek, Y	95.45	20	P	P	11 42 51.6	+0.8
	baz=314,SNR=8.3						
N31M	Braeburn, Yuko	95.47	21	P	P	11 42 51.7	+0.9
N31M	Braeburn, Yuko	95.47	21	P	P	11 42 52.1	+1.2
	baz=313,SNR=14						
FARO	Faro, Yukon	95.78	20	P	P	11 42 53.8	+1.6
	baz=315						
O30N	Mendenhall	95.85	22	P	P	11 42 54.0	+1.5
	baz=312,SNR=17						
P30M	Million Dollar	95.96	23	P	P	11 42 54.1	+1.0
	baz=312						
DBIC	Dimbokro	95.98	278	P	P	11 42 54.6	+0.5
	comp=Z,5.4nm,0.8s,baz=3.3,slow=4.1,SNR=5.3						
	comp=Z,5.4nm,0.8s						
WHY	Whitehorse	96.36	22	P	P	11 42 55.7	+0.7
	baz=314,SNR=6.2						
PLBC	Pleasant Camp	96.63	23	P	P	11 42 56.8	+0.7
	baz=312						
N32M	Quiet Lake	96.64	21	P	P	11 42 56.9	+0.7
	baz=315						
SKAG	Skagway	97.02	23	P	Pdif	11 42 58.6	+0.7
SKAG				IAmb	IAmb	11 43 00.4	
	comp=Z,23nm,1.1s						
SKAG	Skagway	97.02	23	P	Pdif	11 42 59.1	+1.1
	baz=313,SNR=6.9						
P33M	Teslin, Yukon	97.40	21	P	Pdif	11 43 00.5	+0.7
	baz=315						
P32M	Atlin	97.52	22	P	Pdif	11 43 01.1	+0.8
	baz=315,SNR=6.0						
R31K	City Hall, Gus	97.58	24	P	Pdif	11 43 01.6	+1.2
	baz=313						
S31K	Pelican	97.69	24	P	Pdif	11 43 02.1	+1.2
	baz=312						
TGTN	Hyland Airport	97.93	19	P	Pdif	11 43 03.1	+1.1
	baz=320,SNR=9.0						
WRGLY	Wrigley	97.96	16	P	Pdif	11 43 02.7	+0.6
	baz=324						
R32K	Eaglecrest	98.14	23	P	Pdif	11 43 04.3	+1.3
	baz=314						
Q32M	Nakina River	98.49	22	P	Pdif	11 43 05.6	+0.8
	baz=316						
R33M	Jennings River	98.64	21	P	Pdif	11 43 06.4	+1.0
	baz=317,SNR=8.8						
SIT	Sitka	98.66	24	P	Pdif	11 43 06.1	+0.8
	baz=313						
S32K	Killisnoo	98.68	24	P	Pdif	11 43 06.1	+0.8
	baz=314						
WTLY	Watson Lake, Y	98.84	20	P	Pdif	11 43 06.6	+0.5
	baz=319,SNR=6.4						
VNDA	Vanda	99.15	168	LR	LR	12 27 28.0	
	comp=Z,186nm,18.8s,baz=300,slow=35						
S34M	Telegraph Cree	99.67	22	P	**Pdif**	**11 43 10.2**	**+0.5**
	baz=317						
DLBC	Dease Lake	99.68	21	LR	LR	12 33 46.4	
	comp=Z,426nm,19.4s,baz=326,slow=39						
DLBC	Dease Lake	99.68	21	P	**Pdif**	**11 43 10.4**	**+0.5**
	baz=318						
U33K	Whale Pass	100.20	24	P	**Pdif**	**11 43 12.2**	**0.0**
	baz=315						
CRAG	Craig	100.65	25	P	**Pdif**	**11 43 14.6**	**+0.4**
	baz=315						
T35M	Bob Quinn	100.67	22	P	**Pdif**	**11 43 14.7**	**+0.4**
	baz=317						
YKA	Yellowknife Ar	100.71	13	P	**Pdif**	**11 43 14.2**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=327,slow=4.3,SNR=22						
YKA				PP	**PP**	**11 47 19.8**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=330,slow=7.3,SNR=8.3						
YKA				PKKPbc	**PKKPbc**	**11 59 27.1**	**-3.0**
	comp=Z,0.8nm,0.8s,baz=160,slow=2.6,SNR=12						
YKA	Yellowknife Ar	100.71	13	*i* P	**Pdif**	**11 43 14.1**	**-0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TOAD	Toad River Com	100.97	19	P	**Pdif**	**11 43 16.5**	**+0.8**
	baz=322						
ULM	Lac du Bonnet	115.52	6	PKKPbc	PKKPbc	11 58 39.0	-4.1
	comp=Z,2.5nm,0.6s,baz=180,slow=5.5,SNR=5.5						
PDAR	Pinedale Array	119.79	19	PKP	**PKPdf**	**11 48 16.6**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=38,slow=1.1,SNR=28						
PDAR				PP	**PP**	**11 49 39.2**	**0.0**
	comp=Z,2.1nm,1.1s,baz=304,slow=8.1,SNR=5.9						
PDAR				PKKPbc	**PKKPbc**	**11 58 24.9**	**-3.1**
	comp=Z,0.5nm,0.8s,baz=125,slow=6.4,SNR=4.6						
NVAR	Mina Array Bea	120.13	28	PKP	**PKiKP**	**11 48 18.3**	**+0.4**
	comp=Z,7.6nm,0.9s,baz=303,slow=1.8,SNR=37						
Y22D	IRIS PASSCAL I	128.53	21	P	**PKiKP**	**11 48 35.1**	**+0.5**
	baz=335						
TXAR	Lajitas Array	133.97	20	PKhKP	PKPpre	11 48 29.9	
	comp=Z,0.5nm,0.9s,baz=309,slow=6.0,SNR=4.0						
TXAR				PKP	**PKPdf**	**11 48 44.8**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=220,slow=1.3,SNR=24						
BDFB	Brasilia	142.33	263	PKhKP	PKPpre	11 48 54.3	
	comp=Z,5.3nm,0.6s,baz=121,slow=4.3,SNR=7.7						
BDFB				PKP	**PKPdf**	**11 48 59.8**	**-0.1**
	comp=Z,5.3nm,0.6s,baz=177,slow=12,SNR=6.3						
FRTB	Fartura	143.46	250	*e*P	PKPbc	11 48 59.3	+0.5
ITRB	Iturama	144.55	256	*e*P	PKPbc	11 49 02.8	+0.5
ITAB	Concordia	144.97	242	*e*P	PKPbc	11 49 03.5	+0.1
CPSB	Cacapava Do Su	145.11	237	*e*P	**PKPbc**	**11 49 03.5**	**-0.3**
SNDB	Serra Nova Dou	145.19	269	*e*P	**PKPbc**	**11 49 04.0**	**-0.3**
TBOT	Tacuaremb	146.60	233	*e*P	**PKPdf**	**11 49 06.7**	**0.0**
C2SB	Chapadao do Su	146.94	257	*e*P	**PKPdf**	**11 49 07.3**	**-0.3**
RPRD	Ribas do Rio P	147.62	254	*e*P	**PKPdf**	**11 49 08.4**	**-0.4**
NPGB	Novo Progresso	148.17	279	*e*P	**PKPdf**	**11 49 09.4**	**-0.5**
AMBA	Amambai (Brazi	148.45	249	*e*P	**PKPdf**	**11 49 07.8**	**-2.3**
SJPY	San Joaquin	148.99	245	*e*P	**PKPdf**	**11 49 10.8**	**-0.2**
BOAV	Boa Vista	149.10	300	*e*P	**PKPdf**	**11 49 11.0**	**-0.5**
CLDB	Colider	149.40	272	*e*P	**PKPdf**	**11 49 11.2**	**-0.7**
AQDB	Aquidauana	149.48	253	*e*P	**PKPdf**	**11 49 11.4**	**-0.4**
CPUP	Villa Florida	149.68	242	PKPbc	**PKPbc**	**11 49 15.7**	**-0.9**
	comp=Z,7.9nm,0.8s,baz=58,slow=6.6,SNR=3.5						
PLCA	Paso Flores	149.78	205	PKPbc	**PKPbc**	**11 49 16.6**	**+0.1**
	comp=Z,12nm,0.8s,baz=127,slow=2.5,SNR=5.6						
PLCA	Paso Flores	149.78	205	*e*P	**PKPdf**	**11 49 11.6**	**-0.2**
PDRB	Porto dos Gac	150.41	271	*e*P	**PKPdf**	**11 49 12.5**	**-0.9**
MACA	Manacapuru-AM	151.88	290	*e*P	**PKPdf**	**11 49 14.9**	**-0.8**
SDV	Santo Domingo	152.04	324	*e*P	**PKPdf**	**11 49 15.5**	**-0.7**
PTLB	Pontes e Lacer	153.04	263	*e*P	**PKPdf**	**11 49 16.7**	**-0.6**
ROSC	El Rosal	157.43	325	PKP	**PKPdf**	**11 49 23.6**	**-0.3**
	comp=Z,5.8nm,0.4s,baz=214,slow=13,SNR=5.8						
ROSC				PKPab	**PKPab**	**11 49 56.2**	**+1.0**
	comp=Z,21nm,0.7s,baz=58,slow=8.4,SNR=9.0						
LPAZ	La Paz	161.67	261	PKP	**PKPdf**	**11 49 27.9**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=26,slow=3.1,SNR=8.4						
LPAZ				PKPab	**PKPab**	**11 50 13.0**	**-1.0**
	comp=Z,6.8nm,0.8s,baz=94,slow=4.1,SNR=11						

*UPP **23** 11:32:26.3±2.3, 67°.54N×31°.17E, h0km, ML1.8*
*KOLA **23** 11:32:31.2, 67°.48N×30°.46E, h0km, ML2.3, Error ellipse: s-maj=5.1km s-min=3.5km az=30.0, Murmansk region, Kovdor district*
*HEL **23** 11:32:31.1±0.4, 67°.50N×30°.57E, h0km, ML1.9, Suspected explosion*

ISC 23 11:32:29.7±0.8, **67°.50N**±0°.03×**30°.52E**±0°.02, **h0**km, **n43**, σ1°**27**/62, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	Varrio	0.43	306	PG	Pg	11 32 39.1	+1.2
APA0	Apatity Array	0.96	82	P	Pg	11 32 47.7	-0.3
APA	Apatity	1.11	85	P	Pg	11 32 50.7	-0.3
KVDA	Kovda	1.23	130	P	Pb	11 32 53.4	-0.4
OLKF	Oulanka, Finla	1.26	201	PG	Pb	11 32 53.9	-0.4
	baz=19						
OLKF				MSG		11 33 09.5	
	comp=Z,14nm,0.2s						
OLKF				SN	Sn	11 33 15.2	+3.0
RAJF	Raja-Jooseppi	1.29	321	PG	Pg	11 32 54.6	+0.3
RAJF				SG	Sg	11 33 11.3	+0.3
KU6	Riekki	1.50	190	PG	Pb	11 32 58.2	-0.1
	baz=14						
KU6				MSG		11 33 16.2	
	comp=Z,4.7nm,0.2s						
KU6				SG	Sn	11 33 18.1	+0.1
LVZ	Lovozero	1.63	74	P	Pn	11 32 59.8	+0.1
LVZ				S	Sg	11 33 22.1	+0.1
MSF	Maaselka	1.70	201	PG	Pb	11 33 01.4	-0.4
RNF	Rovaniemi	1.98	245	PN	Pn	11 33 05.1	+0.7
	baz=61						
RNF				SN	Sb	11 33 32.1	+0.5
KU1	Kurvinen	1.98	192	PG	Pb	11 33 06.7	+0.1
	baz=10.0						
KU2	Taivalkoski	2.01	208	PG	Pb	11 33 07.1	-0.1
	baz=27						
RANF	Ranua	2.10	227	PN	Pb	11 33 07.7	-0.9
	baz=39						
RANF				SN	Sb	11 33 35.3	+0.2
PRVG	Vayda Guba	2.34	14	P	Pn	11 33 10.7	+1.3
PRVG				S	Sn	11 33 39.8	+0.9
TERR	Teriberka	2.42	43	S	Sb	11 33 43.8	-0.4
KLF	Kolari	2.55	267	PN	Pn	11 33 13.4	+1.2
KLF				MSG		11 33 47.0	
	comp=Z,5.3nm,0.2s						
KLF				SN	Sb	11 33 47.8	-0.3
KEV	Kevo	2.61	332	*e*P	Pn	11 33 12.4	-0.6
KEV	Kevo	2.61	332	PN	Pn	11 33 13.1	+0.1
KEV				SN	Sn	11 33 46.7	+1.4
KEV				MSG		11 33 48.3	
	comp=Z,9.4nm,0.2s						
VADS	Vadso	2.67	351	P	Pn	11 33 14.2	+0.3
VADS				S	Sn	11 33 47.5	+0.6
HEF	Hetta	2.74	293	PN	Pn	11 33 15.7	+0.7
HEF				SN	Sn	11 33 50.8	+2.0
HEF				MSG		11 33 52.5	
	comp=Z,4.2nm,0.2s						
ARA0	ARCESS Array S	2.75	320	*e*P	Pn	11 33 15.3	+0.2
ARA0	ARCESS Array S	2.75	320	PN	Pn	11 33 15.3	+0.2
ARA0				SN	Sn	11 33 51.5	+2.5
ARCES	ARCESS Array B	2.75	320	P	Pn	11 33 15.2	+0.1
ARCES				S	Sn	11 33 51.1	+2.1
TOF	Tornio	2.83	243	PN	Pn	11 33 16.5	+0.4
TOF				MSG		11 33 55.0	
	comp=Z,2.2nm,0.2s						
PAJU	Pajala	2.92	264	P	Pn	11 33 17.1	-0.2
PAJU				S	Sn	11 33 55.9	+2.9
OUL	Oulu	3.06	220	PN	Pn	11 33 21.1	+1.9
OUL				SG	Sg	11 34 05.6	-2.2
KTK1	Kautokeino	3.11	303	PN	Pn	11 33 20.1	+0.1
LANU	Lannavaara	3.29	284	P	Pn	11 33 21.8	-0.6
LANU				S	Sn	11 34 03.8	+1.7
LANU	Lannavaara	3.29	284	PN	Pb	11 33 26.3	-2.5
KALU	Kalix	3.29	243	P	Pn	11 33 22.0	-0.3
KALU	Kalix	3.29	243	PN	Pb	11 33 26.7	-2.2
	baz=55						
RMF	Romuvaara	3.30	184	PB	Pb	11 33 26.9	-2.2
ERTU	Ertsjaerv	3.40	258	P	Pn	11 33 24.1	+0.2
ERTU	Ertsjaerv	3.40	258	PN	Pn	11 33 24.4	+0.4
OBF4	Vikkela, Lumij	3.48	222	PN	Pn	11 33 25.9	+0.9
	baz=37						
DUNU	Dundret	3.87	269	P	Pn	11 33 30.1	-0.4
DUNU				S	Sn	11 34 18.5	+1.9
KUA	Kurravaara	3.90	281	P	Pn	11 33 30.4	-0.4
KUA				S	Sn	11 34 18.8	+1.5
KIF	Kilpisjarvi	3.92	297	PN	Pn	11 33 31.4	+0.3
	baz=104						
KOVU	Salmi	3.99	285	P	Pn	11 33 31.7	-0.4
KOVU				S	Sn	11 34 20.7	+1.2
SJUU	Sjulsmark	4.09	245	P	Pn	11 33 33.2	-0.2
RATU	Laukkuluspa	4.18	280	P	Pn	11 33 34.0	-0.7
NIF	Nilsia	4.28	197	PB	Pb	11 33 43.4	-2.3
FAUS	Fauske	5.86	276	S	Sn	11 35 02.5	-3.0

*MOS **23** 11:33:59.6±0.8, 13°.90N×93°.14E, h15km, mb5.1/43, Error ellipse: s-maj=9.9km s-min=7.4km az=101.3*
*IDC **23** 11:33:59.2±0.4, 13°.99N×93°.12E, h0km, mb4.6/38, mbtmp4.6/40, ML4.4/2, Error ellipse: s-maj=13.2km s-min=11.0km az=45.0*
*NDI **23** 11:34:00.8±3.8, 13°.90N×93°.05E, h10km, mb5.2, MW5.2, mb5.2(NEIC)*
*NEIC **23** 11:34:01.6±1.2, 13°.98N±0°.06×93°.10E±0°.05, h10km±1km, mb5.2/105, Mww4.9/13, Error ellipse: s-maj=12.1km s-min=3.3km az=140.0*
*BJI **23** 11:34:02.5, 13°.88N×93°.15E, h31km, mB5.3/15, mb4.6/41, Ms5.0/21, Ms7 4.8/20*
*DJA **23** 11:34:07.0±0.6, 14°N±3°×9°3E±°, h47km±6km, M5.4/20, mb5.1/20, mB5.0/3, MLv5.7/3, Mw(mB)4.4/3, MwMwp5.7/1, Mwp5.8/1*

ISC 23 11:34:03.7±0.5, **13°.96N**±0°.04×**93°.08E**±0°.04, **h28**km±3km, **h28**km:**pP-P**, **n418**, σ1°**23**/446, **mb5.**1/185, **MS4.9**/12, **15C-13D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	Chiang Mai Arr	7.19	51	Pn	Pn	11 35 46.9	-0.2
CMAR	Chiang Mai Arr	7.19	51	Pn	Pn	11 35 46.4	-0.7
CMAR	Chiang Mai Arr	7.19	51	Pn	Pn	11 35 46.0	-1.1
	2.9nm,0.3s,baz=237,slow=14,SNR=6.4						
CMAR				Sn	Sn	11 37 04.2	-3.7
	4.6nm,0.3s,baz=239,slow=28,SNR=5.3						
	5.9nm,0.8s						
CMAR	Chiang Mai Arr	7.19	51	P	Pn	11 35 46.4	-0.7
CHTO	Chiang Mai	7.42	49	Pn	Pn	11 35 50.2	+0.1
CHTO	Chiang Mai	7.42	49	P	Pn	11 35 50.2	+0.1
BSI	Banda Aceh	8.69	165	P	Pn	11 36 09.9	+2.2
	58nm,1.0s						
AZL	Aizawl	9.73	358	*e*P	Pn	11 36 20.4	-1.6
MLSI	Meulaboh, Aceh	10.18	161	P	Pn	11 36 29.0	+1.0
	201nm,0.9s						
IMP	Imphal	10.85	4	*e*P	Pn	11 36 36.6	-0.6
IMP				IAmb	IAmb	11 36 43.6	
	comp=Z,57nm,0.7s						
KULM	Kulim	11.40	138	Pn	Pn	11 36 43.4	-1.4
KOHI	KOHIMA	11.74	5	*e*P	Pn	11 36 49.2	-0.3
UBPT	Khong Chiam	12.07	82	Pn	Pn	11 36 54.8	+0.9
TNCH	TengChong	12.14	24	P	Pn	11 36 53.8	-1.3
TNCH				S	Sn	11 39 08.6	-1.2
TNCH				pmax	pmax		
	comp=Z,100nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,1μm,4.2s						
TNCH				LR	LR		
	comp=Z,2μm,13.4s						
TNCH				LR	LR		
	comp=Z,1μm,11.5s						
TNCH				LR	LR		
	comp=Z,2μm,12.0s						
PSI	Prapat	12.50	152	Pn	Pn	11 37 00.7	+0.6
	comp=Z,0.8nm,0.3s,baz=319,slow=11,SNR=6.8						
	comp=Z,5.0nm,0.7s						
RPSI	Rantau Prapat	12.60	152		Pn	11 37 03.3	+2.2
RPSI	Rantau Prapat	12.60	152		Pn	11 37 00.7	-0.5
PALK	Pallekele	13.86	243	Pn	Pn	11 37 17.8	-0.6
PALK	Pallekele	13.86	243	P	Pn	11 37 17.8	-0.6
PZH	PanZhiHua	14.88	32	P	Pn	11 37 33.5	+1.0
PZH				pmax	pmax		
	comp=Z,20nm,0.7s						
BKNI	Bangkinang	15.67	149	Pn	Pn	11 37 42.2	-0.6
BKNI				IAmb	IAmb	11 37 47.0	
	comp=Z,130nm,1.0s						
BKNI	Bangkinang	15.67	149	P	P	11 37 45.1	-1.5
KOD	Kodaikanal	15.71	258	*e*P	Pn	11 37 42.0	-1.4
PPI	Padang Panjang	16.05	153	P	Pn	11 37 48.1	+0.4
	comp=Z,39nm,1.1s						
MYKOM	Kota Tinggi	16.12	138		P	11 37 50.9	-0.6
MYKOM	Kota Tinggi	16.12	138	P	P	11 37 52.7	+1.2
AKL	Akola	16.73	296	IAmb	IAmb	11 36 33.8	
	comp=Z,168nm,0.9s						
AKL				*e*P	Pn	11 37 55.6	-0.6
MNGI	Mangalore	17.78	269	*e*P	Pn	11 38 06.0	-3.4
KAD	Karad	18.50	283	IAmb	IAmb	11 37 06.5	
	comp=Z,192nm,0.9s						
KAD			

XAN SS **SnSn** **11 44 34.9 +6.7**
XAN pmax pmax
comp=Z,17nm,1.2s
XAN pmax pmax
comp=Z,470nm,3.6s
XAN LR LR
comp=N,2μm,13.1s
XAN LR LR
comp=E,1μm,13.1s
XAN LR LR
comp=Z,3μm,13.7s
WHN Wuhan 25.61 46 P **P** **11 39 34.6 +3.8**
GTA Gaotai 26.04 12 *e*P **P** **11 39 37.8 +3.1**
GTA pP sP 11 39 45.0 -1.3
GTA sP pP 11 39 48.3 +5.5
GTA PcP **PcP** **11 43 04.1 +1.7**
GTA ScS ScS 11 50 30.4 +0.3
GTA pmax pmax
comp=Z,12nm,1.5s
NIL Nilore 26.61 321 P **P** **11 39 39.5 -0.4**
NIL IAmb IAmb 11 39 51.8
comp=Z,40nm,0.8s
NIL Nilore 26.61 321 P **P** **11 39 39.5 -0.4**
NIL pmax pmax
comp=Z,40nm,0.8s
SSLB Suanglung 28.08 65 P **P** **11 39 53.0 -0.2**
SSLB IAmb IAmb 11 39 56.8
comp=Z,50nm,1.0s
SSLB Suanglung 28.08 65 P **P** **11 39 54.3 +1.1**
YULB Yu-li 28.29 66 P **P** **11 39 54.9 -0.2**
YULB IAmb IAmb 11 39 59.3
comp=Z,37nm,1.0s
H08S3 Diego Garcia H 29.63 225 T T 12 11 03.2
baz=42,slow=76,SNR=3.4
H08S2 Diego Garcia H 29.63 225 T T 12 11 03.8
baz=42,slow=76,SNR=4.1
H08S1 Diego Carcia H 29.65 225 T T 12 11 06.6
baz=42,slow=76,SNR=9.9
NJ2 Nanjing 29.66 48 ⇑P **P** **11 40 07.3 +0.2**
NJ2 pmax pmax
comp=Z,19nm,0.5s
WMQ Urumqi 30.11 352 *e*P **P** **11 40 12.9 +1.9**
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,2μm,16.7s
WMQ LR LR
comp=Z,970nm,16.7s
HNS HongShan 30.27 36 ⇑P **P** **11 40 13.1 +0.7**
HNS S **S** **11 45 11.8 +1.3**
HNS pmax pmax
comp=Z,11nm,1.2s
HNS LR LR
comp=Z,990nm,13.7s
HNS LR LR
comp=Z,1μm,15.3s
HNS LR LR
comp=Z,1μm,16.2s
BTO Baotou 30.40 26 *e*P **P** **11 40 15.0 +1.3**
BTO pP **pP** **11 40 22.4 +0.5**
BTO sP **sP** **11 40 25.4 +0.1**
BTO PP **PnPn** **11 41 15.0 +2.4**
BTO S **S** **11 45 15.0 +2.2**
BTO sS **sS** **11 45 25.3 -0.9**
BTO SS **ScP** **11 46 55.5 +1.7**
BTO pmax pmax
comp=Z,31nm,1.0s
BTO pmax pmax
comp=Z,500nm,10.0s
BTO LR LR
comp=Z,3μm,19.8s
BTO LR LR
comp=Z,4μm,15.9s
BTO LR LR
comp=Z,3μm,19.6s
KDJ Kajisay 31.27 337 P **P** **11 40 19.9 -1.5**
KDJ Kajisay 31.27 337 P **P** **11 40 19.9 -1.5**
KDJ pmax pmax
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 31.28 28 *e*P **P** **11 40 22.3 +0.9**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.3s
HHC LR LR
comp=Z,1μm,11.4s
HHC LR LR
comp=Z,740nm,17.2s
HHC LR LR
comp=Z,2μm,14.2s
SIMJ Simiganj 32.52 324 P **P** **11 40 31.8 -0.6**
BJI Beijing 32.95 34 P **P** **11 40 37.6 +1.7**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BKSI Bulukumba 32.98 124 P **P** **11 40 37.4 +0.9**
comp=Z,26nm,0.9s
TRKS Terek-Say 33.44 329 P **P** **11 40 41.8 +1.4**
MK31 Makanchi Array 33.96 347 P **P** **11 40 44.2 -0.5**
MK31 Makanchi Array 33.96 347 *d i*P **P** **11 40 46.1 +1.4**
MKAR Makanchi Array 33.96 347 P **P** **11 40 45.1 +0.4**
comp=Z,8.3nm,0.8s,baz=162,slow=8.7,SNR=9.5
comp=Z,8.3nm,0.8s
MKAR Makanchi Array 33.96 347 *i* P **P** **11 40 45.7 +1.0**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 34.04 346 P **P** **11 40 46.1 +0.6**
MAKZ Makanchi 34.04 346 ⇑P **P** **11 40 45.0 -0.4**
HRA Herat 34.49 312 P **P** **11 40 48.8 -1.0**
KKAR Karatay Array 34.93 331 P **P** **11 40 53.8 +0.6**
KKAR Karatay Array 34.93 331 P **P** **11 40 53.8 +0.6**
DL2 Dalian 35.38 40 P **P** **11 40 58.3 +1.2**
DL2 pmax pmax
comp=Z,60nm,0.9s
DL2 pmax pmax
comp=Z,390nm,5.3s
DL2 LR LR
comp=Z,960nm,14.8s
DL2 LR LR
comp=Z,950nm,17.0s
DL2 LR LR
comp=Z,860nm,21.5s
SONM Songino Array 35.55 15 P **P** **11 40 58.6 +0.1**
SONM Songino Array 35.55 15 P **P** **11 40 59.1 +0.6**
comp=Z,5.5nm,0.9s,baz=202,slow=7.0,SNR=6.0
SONM PcP **PcP** **11 43 27.6 +0.3**
comp=Z,4.9nm,1.0s,baz=189,slow=4.3,SNR=4.3
comp=Z,5.5nm,0.9s
XLT XiLinHaoTe 35.74 29 *e*P **P** **11 41 01.3 +1.1**
XLT sP sP 11 41 12.0 +0.1
XLT PcP **PcP** **11 43 29.1 +1.2**
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,160nm,4.5s
XLT LR LR
comp=Z,1μm,15.1s
XLT LR LR
comp=Z,2μm,15.7s
ULN Ulaanbaatar 35.75 16⇑*e*P **P** **11 41 01.1 +0.8**
ULN pmax pmax
comp=Z,16nm,1.1s
MOY Mondy 38.15 8 *e*P P 11 41 29.0 +8.4
MOY pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 38.43 345 P **P** **11 41 22.7 -0.1**
comp=Z,10nm,0.8s,baz=160,slow=8.0,SNR=13
KURBB PcP **PcP** **11 43 36.0 +0.3**
comp=Z,1.1nm,0.6s,baz=163,slow=2.6,SNR=2.0
comp=Z,10nm,0.8s
KURK Kurchatov 38.49 345⇑*e*P **P** **11 41 24.2 +0.9**
KURK pmax pmax
comp=Z,41nm,1.0s
KSRS Korea Array 38.81 47 P **P** **11 41 25.8 -0.4**
comp=Z,2.3nm,0.7s,baz=243,slow=9.1,SNR=6.3
KSRS PcP **PcP** **11 43 37.3 +0.1**
comp=Z,1.3nm,0.7s,baz=240,slow=4.1,SNR=2.5
comp=Z,2.3nm,0.7s
ZAA0 Zalesovo Array 40.42 352 P **P** **11 41 39.1 -0.3**
ZALV Zalesovo Beam 40.42 352 P **P** **11 41 39.1 -0.3**
ZALV Zalesovo Beam 40.42 352 P **P** **11 41 39.6 +0.2**
comp=Z,4.7nm,0.6s,baz=177,slow=9.2,SNR=9.8
comp=Z,4.7nm,0.6s
CN2 Changchun 40.62 37 P **P** **11 41 41.9 +0.7**
CN2 PcP **PcP** **11 43 43.1 +0.2**
CN2 S **S** **11 47 48.8 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,2μm,16.0s
BNX BinXian 42.90 35 ⇓P **P** **11 41 59.5 -0.3**
BNX pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 42.94 340 P **P** **11 41 59.3 -0.7**
comp=Z,3.3nm,0.9s,baz=134,slow=8.5,SNR=3.6
comp=Z,3.3nm,0.9s
BRVK Borovoye 43.00 340⇑*e*P **P** **11 42 01.5 +1.0**
BRVK pmax pmax
comp=Z,11nm,0.9s
ABKAR Akbulak array 44.46 329 P **P** **11 42 12.6 +0.3**
ABKAR IAmb IAmb 11 42 22.1
comp=Z,33nm,0.8s
ABKAR Akbulak array 44.46 329 P **P** **11 42 12.3 +0.1**
USRK Ussuriysk Ar. 44.77 40 P **P** **11 42 13.5 -1.4**
comp=Z,3.1nm,0.7s,baz=225,slow=8.8,SNR=4.7
comp=Z,3.1nm,0.7s
INU Inuyama 44.80 54 P **P** **11 42 14.8 -0.5**
HEH HeiHe 45.70 30 *e*P **P** **11 42 22.3 +0.2**
HEH PcP **PcP** **11 43 59.6 -0.2**
HEH pmax pmax
comp=Z,12nm,0.9s
HEH LR LR
comp=Z,910nm,17.3s
HEH LR LR
comp=Z,2μm,17.5s
HEH LR LR
comp=Z,2μm,16.3s
RAYN Ar Rayn 45.87 289 P **P** **11 42 23.8 -0.2**
RAYN Ar Rayn 45.87 289 P **P** **11 42 23.8 -0.2**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
MJB9 Matsu-Tunnel 46.08 52 P **P** **11 42 25.3 -0.1**
MJB9 IAmb IAmb 11 42 28.1
comp=Z,20nm,0.8s
MAJO Matsushiro 46.08 52 P **P** **11 42 25.5 +0.2**
MAJO IAmb IAmb 11 42 27.1
comp=Z,22nm,0.9s
MAJO Matsushiro 46.08 52 P **P** **11 42 26.2 +0.8**
MAJO Matsushiro 46.08 52 *de*P **P** **11 42 25.6 +0.2**
MAJO pmax pmax
comp=Z,23nm,0.9s
MJAR Matsushiro Arr 46.08 52 P **P** **11 42 23.9 -1.5**
comp=Z,9.5nm,0.8s,baz=264,slow=9.5,SNR=21
MJAR PcP **PcP** **11 44 01.4 -0.1**
comp=Z,6.8nm,0.8s,baz=229,slow=2.2,SNR=9.4
comp=Z,9.5nm,0.8s
AKTO Aktyubinsk 46.17 329 P **P** **11 42 24.8 -1.1**
comp=Z,3.4nm,0.7s,baz=118,slow=8.8,SNR=4.4
comp=Z,3.4nm,0.7s
KLR Kul'dur 47.32 34 P **P** **11 42 33.5 -1.4**
comp=Z,1.4nm,0.7s,baz=262,slow=9.7,SNR=2.0
comp=Z,1.4nm,0.7s
KLR Kul'dur 47.32 34⇑*e*P **P** **11 42 35.2 +0.3**
KLR pmax pmax
comp=Z,35nm,5.1s
ZEA Zeya 47.93 27 *e*P P 11 42 47.9 +8.3
ZEA pmax pmax
comp=Z,10.0nm,1.1s
SVE Sverdlovsk 49.41 337 *e*P **P** **11 42 51.8 +1.0**
SVE pmax pmax
comp=Z,61nm,0.9s
GNI Garni 49.56 311 P **P** **11 42 53.0 +0.4**
GNI Garni 49.56 311 P **P** **11 42 52.0 -0.5**
comp=Z,18nm,0.9s,baz=324,slow=13,SNR=3.1
comp=Z,18nm,0.9s
GNI Garni 49.56 311⇓*e*P **P** **11 42 54.6 +2.1**
GNI pmax pmax
comp=Z,24nm,0.7s
GNI Garni 49.56 311 P **P** **11 42 52.3 -0.2**
comp=Z,57nm,1.2s
ARTI Arti 49.97 336 P **P** **11 42 55.1 0.0**
ARTI IAmb IAmb 11 43 04.7
comp=Z,24nm,0.8s
ARTI Arti 49.97 336 P **P** **11 42 55.4 +0.3**
comp=Z,7.2nm,0.9s,baz=180,slow=6.0,SNR=5.0
comp=Z,7.2nm,0.9s
ARTI Arti 49.97 336*c i*P **P** **11 42 55.9 +0.7**
ARTI **11 44 44.4**
ARTI S **S** **11 50 05.0 +1.1**
ARTI SS **SS** **11 53 36.0 -0.9**
ARTI pmax pmax
comp=Z,12nm,1.1s
MUN Mundaring 50.77 154 P **P** **11 43 01.4 -0.1**
comp=Z,64nm,1.6s
KLBR Kellerberrin 51.11 153 P **P** **11 43 03.7 -0.4**
GURO Guroymak-BITLI 51.14 308 P **P** **11 43 04.8 +0.3**
WRKA Warakurna 51.79 138 P **P** **11 43 08.6 -0.7**
comp=Z,27nm,0.8s
WRKA Warakurna 51.79 138 P **P** **11 43 08.5 -0.8**
KBZ Khabaz 51.99 315 P **P** **11 43 11.2 +0.6**
comp=Z,4.8nm,0.9s,baz=131,slow=5.0,SNR=4.6
comp=Z,4.8nm,0.9s
KBZ Khabaz 51.99 315⇑*e*P **P** **11 43 11.6 +1.1**
KBZ pmax pmax
comp=Z,12nm,0.9s
SHA1 Shidzhatmaz 52.16 315*ce*P **P** **11 43 13.3 +1.2**
KIV Kislovodsk 52.20 315 P **P** **11 43 12.4 +0.1**
KIV Kislovodsk 52.20 315 *e*P **P** **11 43 13.5 +1.2**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV Kislovodsk 52.20 315 P **P** **11 43 12.0 -0.3**
comp=Z,46nm,0.9s
WRA Warramunga Arr 52.75 129 P **P** **11 43 14.2 -2.3**
WRA Warramunga Arr 52.75 129 P **P** **11 43 15.6 -0.9**
comp=Z,20nm,0.9s,baz=310,slow=8.1,SNR=27
WRA PcP **PcP** **11 44 25.8 -0.2**
comp=Z,11nm,0.7s,baz=316,slow=3.4,SNR=18
comp=Z,20nm,0.9s
WRA Warramunga Arr 52.75 129 *i* P **P** **11 43 15.8 -0.7**
WRA pmax pmax
comp=Z,20nm,0.9s
WRAB Tennant Creek 52.76 129 P **P** **11 43 15.8 -0.7**
WRAB IAmb IAmb 11 43 16.9
comp=Z,22nm,0.8s
WRAB Tennant Creek 52.76 129⇓*e*P **P** **11 43 15.8 -0.7**
WRAB pmax pmax
comp=Z,24nm,0.8s
WB2 Warramunga Arr 52.76 129 P **P** **11 43 15.3 -1.3**
WB2 IAmb IAmb 11 43 16.9
comp=Z,24nm,0.8s
WB2 Warramunga Arr 52.76 129 P **P** **11 43 15.8 -0.8**
comp=Z,37nm,0.8s
WB1 Warramunga Ar. 52.77 129 P **P** **11 43 16.0 -0.7**
YSS Yuzhno-Sakhali 52.77 41 P **P** **11 43 15.6 -0.6**
YSS IAmb IAmb 11 43 25.9
comp=Z,18nm,0.7s
YSS Yuzhno-Sakhali 52.77 41 P **P** **11 43 17.1 +0.8**
YSS Yuzhno-Sakhali 52.77 41 *e*P **P** **11 43 17.3 +1.0**
YSS pmax pmax
comp=Z,20nm,0.8s
VSLR Vesyoloye 53.89 314*c i*P **P** **11 43 26.1 +1.5**
ASF Jabal al Asfar 54.18 300 P **P** **11 43 26.7 -0.3**
comp=Z,2.4nm,0.7s,baz=82,slow=6.7,SNR=4.2
comp=Z,2.4nm,0.7s
TYV Tymovskoe 54.24 36 *e*P **P** **11 43 28.7 +1.7**
TYV pmax pmax
comp=Z,6.0nm,1.5s
TYV pmax pmax
comp=Z,100nm,3.2s
GAZ Gaziantep 54.59 306 P **P** **11 43 30.1 +0.1**
GAZ IAmb IAmb 11 43 39.9
comp=Z,34nm,1.1s
YAK Yakutsk 54.63 20 P **P** **11 43 28.4 -1.2**
comp=Z,9.5nm,0.5s,baz=253,slow=2.9,SNR=4.1
comp=Z,9.5nm,0.5s
YAK Yakutsk 54.63 20 *e*P **P** **11 43 28.9 -0.7**
YAK pmax pmax
comp=Z,25nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
AS31 Alice Springs 54.70 133 P **P** **11 43 29.5 -1.3**
AS31 PcP **PcP** **11 44 33.3 -0.1**
AS31 Alice Springs 54.70 133 P **P** **11 43 30.1 -0.7**
comp=Z,8.6nm,0.7s
ASAR Alice Springs 54.70 133 P **P** **11 43 29.6 -1.2**
ASAR Alice Springs 54.70 133 P **P** **11 43 30.4 -0.4**
comp=Z,19nm,0.7s,baz=308,slow=6.7,SNR=60
ASAR PcP **PcP** **11 44 33.5 +0.1**
comp=Z,8.7nm,0.8s,baz=318,slow=3.8,SNR=9.3
comp=Z,19nm,0.7s
AS01 Alice Springs 54.73 133 P **P** **11 43 30.7 -0.3**
VRH Novokhopyorsk 55.41 323 *e*P **P** **11 43 39.0 +3.6**
VRH pmax pmax
comp=Z,20nm,0.8s
NRIK Noril'sk 55.45 358 P **P** **11 43 36.1 +0.6**
comp=Z,2.9nm,0.3s,baz=143,slow=5.0,SNR=5.6
comp=Z,2.9nm,0.3s
MMAI Mount Meron Ar 55.51 301 P **P** **11 43 36.0 -0.7**
comp=Z,1.2nm,0.6s,baz=86,slow=6.5,SNR=2.1
MMAI PcP **PcP** **11 44 37.5 +1.0**
comp=Z,4.2nm,0.8s,baz=35,slow=6.1,SNR=5.0
comp=Z,1.2nm,0.6s
ABPO Ambohimpanom 55.80 235 P **P** **11 43 39.5 +0.6**
ABPO IAmb IAmb 11 43 41.6
comp=Z,34nm,1.3s
ABPO Ambohimpanom 55.80 235 P **P** **11 43 39.5 +0.6**
ABPO pmax pmax
comp=Z,33nm,1.3s
VORD Divnogorie 56.74 322 *e*P **P** **11 43 49.1 +4.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s
KIBK Kibwezi 56.89 258 P **P** **11 43 46.8 0.0**
KIBK PcP **PcP** **11 44 41.2 -1.0**
VSR Storozhevoye 56.90 323 *e*P **P** **11 43 48.5 +2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 57.04 323 *e*P P 11 43 51.8 +4.7
VORR pmax pmax
comp=Z,20nm,0.8s
QIS Mount Isa 57.16 126 P **P** **11 43 48.2 -0.3**
KMBO Kilima Mbogo 57.28 259 P **P** **11 43 49.5 -0.2**
KMBO Kilima Mbogo 57.28 259 P **P** **11 43 50.0 +0.4**
comp=Z,2.0nm,0.4s,baz=44,slow=9.8,SNR=5.9
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 57.28 259*de*P **P** **11 43 51.2 +1.5**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
LPSR Galich'ya Gora 57.53 324 *e*P **P** **11 43 54.2 +3.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
VOI Vohitsoka 57.71 233 P **P** **11 43 52.9 +0.4**
VOI IAmb IAmb 11 43 55.0
comp=Z,26nm,1.1s
BR104 Keskin Array S 57.77 308 P **P** **11 43 52.6 0.0**
comp=Z,131nmcomp=Z,21nm,0.9s
BR131 Keskin Array S 57.77 308 P **P** **11 43 51.3 -1.4**
BR131 IAmb IAmb 11 44 01.8
comp=Z,20nm,0.8s
BR131 Keskin Array S 57.77 308*c i*P **P** **11 43 52.5 -0.2**
BRTR Keskin Array B 57.77 308 P **P** **11 43 51.6 -1.1**
BRTR Keskin Array B 57.77 308 P **P** **11 43 52.5 -0.2**
comp=Z,8.5nm,0.8s,baz=124,slow=7.5,SNR=19
comp=Z,8.5nm,0.8s
BR105 Keskin Array S 57.78 308 P **P** **11 43 52.7 -0.1**
comp=Z,163nmcomp=Z,26nm,0.9s
BR106 Keskin Array S 57.79 308 P **P** **11 43 52.7 -0.1**
comp=Z,136nmcomp=Z,21nm,0.9s
LODK Lodwar 57.87 265 P **P** **11 43 53.5 -0.1**
SIM Simferopol' 58.38 314 *e*P **P** **11 43 55.7 -1.0**
SIM *e*S **S** **11 51 55.5 -2.3**
SIM pmax pmax
comp=Z,28nm,0.8s
SIM smax smax
comp=E,179nm,13.9s
SIM MLR MLR
comp=Z,128nm,15.2s
ANTO Ankara 58.44 308 P **P** **11 43 57.2 0.0**
comp=Z,13nm,1.1s
OOD Oodnadatta 58.55 135 P **P** **11 43 57.9 -0.1**
MOS Moscow 59.40 327 *e*P P 11 44 09.0 +5.5
OBN Obninsk 59.73 326 *e*P **P** **11 44 06.6 +0.8**
OBN *e* 11 44 52.4
OBN pmax pmax
comp=Z,41nm,1.1s
OBN MLR MLR
comp=Z,808nm,17.0s
ELL Elmali 60.34 304 P **P** **11 44 09.4 -1.1**
ELL Elmali 60.34 304 P **P** **11 44 09.4 -1.1**
ELL pmax pmax
comp=Z,143nm,1.1s
KLMR Klimovskoe 60.57 333 *e*P **P** **11 44 15.2 +3.7**
KLMR pmax pmax
comp=Z,36nm,2.0s
TIXI Tiksi 61.52 12 P **P** **11 44 16.8 -1.0**
TIXI IAmb IAmb 11 44 26.0
comp=Z,15nm,0.9s
TIXI Tiksi 61.52 12 P **P** **11 44 16.8 -1.0**
comp=Z,3.9nm,0.6s,baz=222,slow=4.2,SNR=7.6
comp=Z,3.9nm,0.6s
PURM Purcari 61.60 316 P **P** **11 44 18.6 -0.1**
LCRK Leigh Creek 61.93 136 P **P** **11 44 21.4 +0.2**
MA2 Magadan 61.94 29 P **P** **11 44 20.2 -0.5**
MA2 IAmb IAmb 11 44 29.5
comp=Z,13nm,0.8s
MA2 Magadan 61.94 29 P **P** **11 44 19.8 -1.0**
comp=Z,9.1nm,0.9s,baz=243,slow=9.0,SNR=5.3
comp=Z,9.1nm,0.9s
MA2 Magadan 61.94 29⇑*i i*P **P** **11 44 20.5 -0.3**
MA2 pmax pmax
comp=Z,15nm,0.9s
MA2 Magadan 61.94 29 P **P** **11 44 19.8 -1.0**
comp=Z,22nm,0.9s
BBOO Buckleboo 62.04 139 P **P** **11 44 21.2 -0.7**
BBOO Buckleboo 62.04 139 P **P** **11 44 21.2 -0.7**
comp=Z,26nm,1.6s
BBOO Buckleboo 62.04 139 P **P** **11 44 21.7 -0.2**
INKA Innaminka 62.07 132 P **P** **11 44 22.5 +0.4**
KARP Karpathos 62.49 303 P **P** **11 44 24.9 -0.2**
KARP Karpathos 62.49 303 P **P** **11 44 24.8 -0.2**
comp=Z,137nm,0.9s
AK09 Malin Array Si 62.75 320 P **P** **11 44 26.1 -0.2**
AK10 Malin Array Si 62.76 320 P **P** **11 44 26.2 -0.2**
AK07 Malin Array Si 62.78 320 P **P** **11 44 25.8 -0.8**
AKASG Malin Array Be 62.80 320 P **P** **11 44 25.5 -1.2**
comp=Z,0.7nm,0.5s,baz=86,slow=5.5,SNR=5.8
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 62.80 320 *i* P **P** **11 44 26.1 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 62.80 320⇑*e*P **P** **11 44 28.7 +2.0**
AKBB pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 62.80 320 P **P** **11 44 26.2 -0.5**
KIEV Kiev 62.81 320 P **P** **11 44 26.2 -0.5**
comp=Z,68nm,1.1s
SORM Soroca 62.89 317 P **P** **11 44 26.9 -0.4**
comp=Z,33nm,0.9s
MBAR Mbarara 63.37 262 P **P** **11 44 32.4 +1.1**
MBAR IAmb IAmb 11 44 34.3
comp=Z,20nm,1.1s
MBAR Mbarara 63.37 262*de*P **P** **11 44 33.0 +1.7**
MBAR pmax pmax
comp=Z,24nm,1.1s
LUBAR Lubar, Ukraine 63.58 319 P **P** **11 44 31.6 -0.3**
MI29 MI29, Kamyanyy 63.61 320 P **P** **11 44 30.8 -1.3**
comp=Z,177nm,0.8s
NDNU Novodnistrovsk 63.61 318 P **P** **11 44 31.8 -0.3**
VRI Vrincioaia 63.66 314 P **P** **11 44 32.5 -0.1**
PLOR5 Plostina Array 63.70 314 P **P** **11 44 32.9 0.0**
comp=Z,62nm,0.9s
SEY Seymchan 63.90 26 P **P** **11 44 32.8 -1.0**
comp=Z,1.6nm,0.7s,baz=247,slow=13,SNR=2.9
comp=Z,1.6nm,0.7s
QLP Quilpie 63.99 129 P **P** **11 44 35.0 +0.1**
comp=Z,66nm,1.3s
QLP Quilpie 63.99 129 P **P** **11 44 35.6 +0.7**
MLR Muntele Rosu 64.16 314 P **P** **11 44 36.4 +0.4**
comp=Z,12nm,0.9s,baz=184,slow=2.7,SNR=6.9
comp=Z,12nm,0.9s
MLR Muntele Rosu 64.16 314 P **P** **11 44 35.7 -0.3**
comp=Z,38nm,1.0s
HTT Hallett 64.27 138 P **P** **11 44 36.8 +0.1**
HORU Horodok 64.32 318 P **P** **11 44 36.4 -0.4**
MNK Minsk 64.39 324 *i* P **P** **11 44 35.9 -1.2**
MNK *i* 11 46 56.2
MNK *i* PPP PPP 11 48 30.8
MNK *i* S **S** **11 53 12.1 -1.6**
MNK *i* SS **SS** **11 57 24.4 +0.7**
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=E,616nm,18.0s
MNK MLR MLR

comp=N,760nm,13.0s
MNK MLR MLR
comp=Z,322nm,12.0s
BURAR **Bucovina Array** 64.91 316 P **P** 11 44 41.0 +0.2
RNPP9 **Sopachiv** 65.00 320 P **P** 11 44 40.8 -0.3
STKA **Stephens Creek** 65.10 135 P **P** 11 44 41.1 -0.9
STKA **Stephens Creek** 65.10 135 P **P** 11 44 41.7 -0.4
comp=Z,75nm,0.8s
STKA **Stephens Creek** 65.10 135 P **P** 11 44 41.9 -0.2
comp=Z,9.6nm,0.8s,baz=314,slow=7.4,SNR=11
comp=Z,9.6nm,0.8s
STKA **Stephens Creek** 65.10 135 ‖ *i* P **P** 11 44 41.8 -0.3
SHIU **Shidnytsya** 66.31 318 P **P** 11 44 49.8 0.0
KWP **Kalwaria Pacla** 66.78 318 *e*P **P** 11 44 52.4 -0.3
KWP **Kalwaria Pacla** 66.78 318 P **P** 11 44 52.4 -0.3
comp=Z,35nm,0.9s
FINES **FINESS Array B** 66.89 331 P **P** 11 44 52.7 -0.4
comp=Z,3.7nm,0.7s,baz=93,slow=3.8,SNR=7.3
comp=Z,3.7nm,0.7s
KOLS **Kolonicke sedl** 67.00 317 *e*P **P** 11 44 54.7 +0.6
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS **Kolonicke sedl** 67.00 317 *e*P **P** 11 44 54.7 +0.6
KOLS *e* 11 45 08.8
CMSA **Cobar Meteorol** 67.76 133 P **P** 11 44 59.1 0.0
comp=Z,49nm,0.8s
ARPS **Mount Arapiles** 68.22 139 P **P** 11 45 00.9 -1.0
comp=Z,25nm,0.9s
NIE **Niedzica** 68.33 318 *e*P **P** 11 45 03.7 +1.1
NIE **Niedzica** 68.33 318 P **P** 11 45 02.3 -0.2
comp=Z,8.8nm,1.1s
PSZ **Piszkesteto** 68.51 316 P **P** 11 45 03.1 -0.6
PSZ IAmb IAmb 11 45 13.1
comp=Z,14nm,0.9s
PSZ **Piszkesteto** 68.51 316 P **P** 11 45 03.1 -0.6
PSZ pmax pmax
comp=Z,14nm,0.9s
EIDS **Eidsvold** 68.70 125 P **P** 11 45 05.3 +0.1
EIDS **Eidsvold** 68.70 125 P **P** 11 45 05.6 +0.4
comp=Z,11nm,1.2s
OJC **Ojcow** 68.70 319 *e*P **P** 11 45 04.7 -0.1
OJC **Ojcow** 68.70 319 P **P** 11 45 04.4 -0.4
comp=Z,24nm,1.8s
ARCES **ARCESS Array B** 69.22 340 P **P** 11 45 07.1 -0.6
comp=Z,4.4nm,0.8s,baz=85,slow=7.4,SNR=6.3
comp=Z,4.4nm,0.8s
MORH **Mrgy, Hungar** 69.30 314 P **P** 11 45 08.4 -0.2
comp=Z,12nm,1.0s
SRO **Srobarova** 69.57 316 *e*P **P** 11 45 10.8 +0.6
SRO *e* 11 45 19.8
SRO pmax pmax
comp=Z,12nm,0.9s
SRO **Srobarova** 69.57 316 *e*P **P** 11 45 10.8 +0.6
SRO *e* 11 45 19.8
STEB **Steborice** 69.99 318 *e*P **P** 11 45 12.8 0.0
STEB *e*pP **pP** 11 45 21.3 -0.2
JAVC **Velka Javorina** 70.03 317 *e*P **P** 11 45 13.9 +0.8
MPLH **Magyarpolny** 70.08 315 P **P** 11 45 13.3 -0.1
comp=Z,56nm,1.3s
MORC **Moravsky Berou** 70.14 318 *e*P **P** 11 45 14.0 +0.3
MODS **Modra-Piesok** 70.28 317 *e*P **P** 11 45 15.0 +0.4
MODS pmax pmax
comp=Z,16nm,1.1s
MODS **Modra-Piesok** 70.28 317 *e*P **P** 11 45 15.0 +0.4
LSZ **Lusaka** 70.44 248 P **P** 11 45 16.1 -0.1
LSZ **Lusaka** 70.44 248 P **P** 11 45 16.1 -0.1
LSZ pmax pmax
comp=Z,37nm,0.9s
BILL **Bilibino** 70.87 22 P **P** 11 45 17.5 -0.3
BILL **Bilibino** 70.87 22 *i* P **P** 11 45 17.1 -0.7
BILL pmax pmax
comp=Z,8.0nm,0.6s
KRUC **Moravsky** 70.87 317 *e*P **P** 11 45 17.6 -0.6
RONA **Rosalia, Austr** 70.93 316 *e*P **P** 11 45 18.9 +0.3
comp=Z,10nm,1.0s
DPC **Dobruska-Polom** 70.94 319 *e*P **P** 11 45 19.8 +1.2
DPC **Dobruska-Polom** 70.94 319 *e*P **P** 11 45 19.8 +1.2
DPC **Dobruska-Polom** 70.94 319 P **P** 11 45 18.3 -0.3
comp=Z,13nm,1.0s
KOGS **Kog** 70.96 315 *i* P **P** 11 45 19.0 +0.2
KOGS *e* 11 45 27.5
KSP **Ksiaz** 70.97 319 *e*P **P** 11 45 19.4 +0.7
KSP **Ksiaz** 70.97 319 P **P** 11 45 18.5 -0.2
CHVC **Chvalec** 71.11 319 *e*P **P** 11 45 20.2 +0.6
CHVC **Chvalec** 71.11 319 *e*P **P** 11 45 20.2 +0.6
CONA **Conrad Observa** 71.22 316 *i* P **P** 11 45 20.7 +0.3
comp=Z,10nm,1.8s
ARSA **Arzberg** 71.45 315 *e*P **P** 11 45 22.3 +0.5
comp=Z,6.1nm,0.8s
CEL **Celeste** 71.50 306 P **P** 11 45 21.9 -0.3
CEL **Celeste** 71.50 306 P **P** 11 45 22.2 0.0
comp=Z,39nm,1.1s
ARMA **Armidale** 71.53 129 P **P** 11 45 22.5 -0.1
ARMA IAmb IAmb 11 45 25.1
comp=Z,24nm,0.8s
ARMA **Armidale** 71.53 129 P **P** 11 45 23.5 +0.9
comp=Z,33nm,1.0s
SOKA **Soboth** 71.80 315 *i* P **P** 11 45 24.5 +0.6
comp=Z,11nm,1.1s,SNR=5.3
PRU **Pruhonice** 72.08 318 *e*P **P** 11 45 26.3 +0.9
PRU **Pruhonice** 72.08 318 *e*P **P** 11 45 26.3 +0.9
OBKA **Obir** 72.14 315 *i* P **P** 11 45 26.6 +0.6
comp=Z,13nm,1.0s
LJU **Ljubljana** 72.17 314 *i* P **P** 11 45 26.3 +0.3
POGA **Pongola** 72.29 235 P **P** 11 45 27.3 +0.3
MOA **Molln** 72.30 316 *i* P **P** 11 45 27.0 +0.2
comp=Z,6.7nm,1.0s
ZVC **Zvikov** 72.31 318 *e*P **P** 11 45 27.0 +0.1
ZVC *e*pP **pP** 11 45 34.6 -1.0
BRG **Berggiesshubel** 72.46 319 *i* P **P** 11 45 28.4 +0.8
BRG Amp 11 45 29.2
comp=Z,9.2nm,0.9s
BRG **Berggiesshubel** 72.46 319 P P 11 45 36.7 +9.0
BRG Amp 11 45 37.4
comp=Z,12nm,0.9s
GERES **GERESS Array B** 72.65 317 P **P** 11 45 28.7 -0.3
GERES **GERESS Array B** 72.65 317 P **P** 11 45 29.2 +0.2
comp=Z,8.4nm,0.8s,baz=87,slow=5.5,SNR=25
comp=Z,8.4nm,0.8s
HFS **Hagfors** 72.72 329 P **P** 11 45 28.8 -0.2
comp=Z,11nm,0.8s,baz=90,slow=4.6,SNR=9.1
comp=Z,11nm,0.8s
KHC **Kasperske Hory** 72.72 317 *e*P **P** 11 45 29.4 +0.1
KHC *e*pP **pP** 11 45 38.0 -0.1
KHC **Kasperske Hory** 72.72 317 *e*P **P** 11 45 29.4 +0.1
KHC *e**PP **pP** 11 45 38.0 -0.1
KHC **Kasperske Hory** 72.72 317 P **P** 11 45 29.2 -0.1
comp=Z,13nm,0.8s
BIOA **Bad Ischl, Aus** 72.72 316 *e*P **P** 11 45 28.8 -0.6
comp=Z,3.9nm,1.0s
MYKA **Terra Mystica** 72.76 315 *i* P **P** 11 45 29.9 +0.3
comp=Z,3.9nm,0.9s
PRED **Cave del Predi** 72.82 315 P **P** 11 45 29.4 -0.6
PRED IAmb IAmb 11 45 39.5
comp=Z,24nm,0.9s
KBA **Koelnbreinsper** 72.94 315 *i* P **P** 11 45 30.7 -0.2
comp=Z,4.2nm,0.7s
CLL **Collm** 73.04 320 *i* P **P** 11 45 31.3 +0.2
CLL *i* *PP **pP** 11 45 39.3 -0.6
CLL *e**SP **PcP** 11 45 48.0 +0.2
CLL **Collm** 73.04 320 P **P** 11 45 31.0 -0.1
comp=Z,13nm,2.8s
CLL **Collm** 73.04 320 *i* P **P** 11 45 31.3 +0.2
CLL *i* x x 11 45 39.3
comp=Z,8.0nm,1.0s
LESA **Schwarzleotal** 73.39 316 *i* P **P** 11 45 32.6 -0.7
comp=Z,9.1nm,1.0s,SNR=5.6
ABTA **Abfaltersbach** 73.53 315 *i* P **P** 11 45 33.8 -0.4
comp=Z,8.4nm,1.0s
NB2 **NORSAR Subarra** 73.96 330 P **P** 11 45 35.7 -0.7
comp=Z,19nm,1.1s,baz=89,slow=6.2
NB2 **NORSAR Subarra** 73.96 330 P **P** 11 45 35.7 -0.7
baz=89,slow=6.2
NOA **NORSAR Array B** 73.96 330 P **P** 11 45 35.1 -1.3
comp=Z,5.0nm,0.8s,baz=89,slow=5.8,SNR=9.1
comp=Z,5.0nm,0.8s
KSANE **Kasane** 74.04 247 *i* P **P** 11 45 39.5 +1.8
WTTA **Wattenberg** 74.10 316 *i* P **P** 11 45 36.4 -1.3
comp=Z,15nm,1.0s,SNR=6.4
WATA **Walderalm** 74.14 316 *i* P **P** 11 45 37.2 -0.7
comp=Z,6.0nm,0.8s
CTI **Castel Tesino** 74.17 314 P **P** 11 45 37.9 -0.1
CTI IAmb IAmb 11 45 47.2
comp=Z,21nm,1.0s
CTI **Castel Tesino** 74.17 314 P **P** 11 45 37.9 -0.1
CTI pmax pmax
comp=Z,21nm,1.0s
SQTA **Sankt Quirin** 74.39 316 *i* P **P** 11 45 37.6 -1.7
comp=Z,11nm,1.0s
MOTA **Moosalm** 74.46 316 *i* P **P** 11 45 39.1 -0.6
comp=Z,15nm,1.0s
RETA **Reutte** 74.68 316 *i* P **P** 11 45 40.1 -0.8
comp=Z,15nm,1.0s
FETA **Feichten** 74.73 315 *i* P **P** 11 45 41.1 -0.2
comp=Z,11nm,1.0s,SNR=7.7
ZCCA **Zocca** 74.77 313 P **P** 11 45 41.9 +0.5
ZCCA IAmb IAmb 11 45 56.7
comp=Z,21nm,1.0s
DAVA **Damuels** 75.29 316 *i* P **P** 11 45 44.6 0.0
comp=Z,22nm,0.9s
PHDHD **Phuduhudu** 75.44 245 *i* P **P** 11 45 47.5 +1.7
LPHEP **Lephephe** 75.47 241 *i* P **P** 11 45 47.4 +1.6
TUE **Stuetta** 75.73 315 P **P** 11 45 46.2 -0.9
TUE **Stuetta** 75.73 315 P **P** 11 45 46.8 -0.3
comp=Z,68nm,1.0s
LBTB **Lobatse** 76.32 240 P **P** 11 45 50.6 -0.1
LBTB **Lobatse** 76.32 240 P **P** 11 45 50.6 -0.1
LBTB pmax pmax
comp=Z,38nm,1.1s
KDWAN **Kaudwane** 76.49 241 *i* P **P** 11 45 53.1 +1.4
KEST **Kesra** 76.96 304 P **P** 11 45 54.0 -0.2
comp=Z,12nm,0.9s,baz=25,slow=8.4,SNR=7.4
comp=Z,12nm,0.9s
MAKGR **Makgori** 77.28 239 *i* P **P** 11 45 57.3 +1.1
BCLA **Clavier** 77.97 319 *d*P **P** 11 45 59.7 +0.3
BCLA *d*PcP **pP** 11 46 07.0 -1.3
BOSA **Boshof** 77.99 236 P **P** 11 46 00.0 0.0
BOSA **Boshof** 77.99 236 P **P** 11 46 00.5 +0.4
comp=Z,32nm,0.8s,baz=80,slow=5.3,SNR=34
comp=Z,32nm,0.8s
BOSA **Boshof** 77.99 236 P **P** 11 46 00.0 0.0
BOSA pmax pmax
comp=Z,46nm,0.9s
QNGWA **Qangwa** 78.18 246 ‖ *i* P **P** 11 46 02.9 +1.6
KGCAE **Kacgae** 78.41 243 *i* P **P** 11 46 04.0 +1.5
PHPEN **Phepeng** 78.79 240 ‖ *i* P **P** 11 46 05.8 +1.3
NOR **Nord** 79.11 352 *i* P **P** 11 46 04.6 -0.6
NOR IAmb IAmb 11 46 05.5
comp=Z,8.4nm,0.7s
TSUM **Tsumeb** 81.29 248 P **P** 11 46 18.5 +0.3
C16K **Lisburne Hills** 81.38 22 P **P** 11 46 17.8 +0.3
EKA **Eskdalemuir Ar** 82.16 325 P **P** 11 46 21.7 -0.2
comp=Z,5.3nm,0.8s,baz=94,slow=5.0,SNR=6.2
comp=Z,5.3nm,0.8s
ANM **Nome** 82.40 25 P **P** 11 46 22.0 -1.0
ANM **Nome** 82.40 25 P **P** 11 46 22.0 -1.0
ANM pmax pmax
comp=Z,10.0nm,1.0s
C18K **Utukok River** 82.72 21 P **P** 11 46 24.9 +0.2
C18K IAmb IAmb 11 46 34.3
comp=Z,13nm,0.7s
E18K **Tukpahlearik C** 83.35 22 P **P** 11 46 28.3 +0.4
E18K IAmb IAmb 11 46 38.6
comp=Z,28nm,1.1s
G16K **Koyuk River** 83.37 24 P **P** 11 46 28.1 +0.1
F17K **Baldwin Pennin** 83.45 23 P **P** 11 46 29.1 +0.7
F17K IAmb IAmb 11 46 38.5
comp=Z,15nm,0.7s
B20K **Meade River** 83.56 19 P **P** 11 46 29.5 +0.6
B20K IAmb IAmb 11 46 31.0
comp=Z,22nm,1.0s
H17K **Granite Mounta** 84.50 24 P **P** 11 46 34.8 +1.0
H17K IAmb IAmb 11 46 43.9
comp=Z,12nm,0.8s
B21K **Ikpikpuk River** 84.52 19 P **P** 11 46 34.7 +0.9
E19K **Redstone River** 84.55 21 P **P** 11 46 34.5 +0.5
E19K IAmb IAmb 11 46 44.0
comp=Z,22nm,0.9s
B22K **Teshekpuk Lake** 84.58 18 P **P** 11 46 34.4 +0.4
J16K **Anvik River** 84.81 26 P **P** 11 46 36.2 +0.9
J16K IAmb IAmb 11 46 45.9
comp=Z,18nm,0.8s
H18K **Honhosa River** 85.03 24 P **P** 11 46 36.8 +0.3
H18K IAmb IAmb 11 46 46.2
comp=Z,9.4nm,0.8s
F20K **Avaraart Lake** 85.25 22 P **P** 11 46 37.7 +0.2
F20K IAmb IAmb 11 46 47.4
comp=Z,21nm,0.8s
J17K **VABM Dome** 85.41 25 P **P** 11 46 38.7 +0.3
J17K IAmb IAmb 11 46 48.9
comp=Z,18nm,1.1s
H19K **Roundabout Mou** 85.61 23 P **P** 11 46 40.0 +0.7
K17K **Iditarod** 85.99 26 P **P** 11 46 42.0 +0.7
K17K IAmb IAmb 11 46 51.4
comp=Z,17nm,0.8s
EUNU **Eureka** 86.14 360 P **P** 11 46 42.0 +0.1
NEEM **North Greenlan** 86.46 353 *i* P **P** 11 46 43.2 -0.6
NEEM IAmb IAmb 11 46 46.3
comp=Z,7.9nm,0.6s
ESDC **Sonseca Array** 86.53 310 P **P** 11 46 44.2 -0.3
comp=Z,4.0nm,0.8s,baz=52,slow=4.5,SNR=18
comp=Z,4.0nm,0.8s
D24K **Happy Valley** 86.55 18 P **P** 11 46 44.4 +0.5
D24K IAmb IAmb 11 46 54.3
comp=Z,16nm,0.8s
TOLK **Toolik Lake Re** 86.58 19 P **P** 11 46 44.5 +0.4
J20K **Nowinta River** 87.08 24 P **P** 11 46 47.0 +0.3
D25K **Kavik River** 87.20 18 P **P** 11 46 48.0 +0.8
E24K **Your Creek** 87.22 19 P **P** 11 46 47.8 +0.5
E24K IAmb IAmb 11 46 49.0
comp=Z,12nm,0.9s
F24K **Squaw Lake** 87.70 20 P **P** 11 46 49.9 +0.2
F24K IAmb IAmb 11 46 59.7
comp=Z,8.7nm,0.8s
SUMG **Summit** 88.01 347 P **P** 11 46 50.9 -0.6
SUMG IAmb IAmb 11 47 02.3
comp=Z,14nm,1.0s
SUMG **Summit** 88.01 347 P **P** 11 46 50.9 -0.6
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG **Summit** 88.01 347 *i* P **P** 11 46 51.0 -0.5
SUMG IAmb IAmb 11 46 52.3
comp=Z,10nm,0.6s
TORD **Torodi Ar. Bea** 88.20 283 P **P** 11 46 53.2 +0.3
comp=Z,10nm,0.8s,baz=43,slow=6.1,SNR=10
comp=Z,10nm,0.8s
CAST **Castle Rocks** 88.25 24 P **P** 11 46 53.4 +1.1
MVO **Moncorvo** 88.36 312 *e*P **P** 11 46 54.2 +0.8
MVO *i* Amb 11 46 54.7
comp=Z,15nm,2.0s
MVO *e*pP **pP** 11 47 02.5 +0.3
F25K **Christian Rive** 88.39 19 P **P** 11 46 53.3 +0.4
F25K IAmb IAmb 11 47 03.5
comp=Z,13nm,0.8s
I23K **Minto, Yukon-K** 88.43 22 P **P** 11 46 53.2 +0.2
I23K IAmb IAmb 11 47 04.3
comp=Z,13nm,0.8s
N19K **Bonanza Creek** 88.44 27 P **P** 11 46 54.4 +1.1
PPLA **Purkeypile** 88.45 25 P **P** 11 46 53.5 +0.1
M20K **Styx River** 88.53 26 P **P** 11 46 52.0 -1.7
M20K IAmb IAmb 11 47 08.8
comp=Z,24nm,1.2s
H24K **Noodor Dome** 88.60 21 P **P** 11 46 54.7 +0.7
H24K IAmb IAmb 11 47 04.5
comp=Z,12nm,0.9s
F26K **Sheenjek River** 88.80 19 P **P** 11 46 55.4 +0.5
PVRL **Vila Real** 88.82 312 *e*pP pP 11 47 04.9 +0.5
POLO **Lamas de Olo** 88.85 312 *e*P **P** 11 46 55.9 +0.2
POLO *e*pP **pP** 11 47 04.8 +0.2
MTE **Manteigas** 88.96 311 *e*P **P** 11 46 57.2 +1.0
MTE *i* Amb 11 46 58.0
comp=Z,20nm,1.2s
PCBR **Castelo Branco** 89.08 311 *e*P **P** 11 46 57.2 +0.6
PCBR *e*pP **pP** 11 47 05.7 +0.1
COLA **College** 89.12 22 ‖ *e*P **P** 11 46 56.3 0.0
COLA pmax pmax
comp=Z,9.0nm,0.9s
PVIS **Viseu** 89.12 312 *e*P **P** 11 46 57.8 +0.9
PVIS *e*pP **pP** 11 47 06.1 +0.3
PMRV **Marv??o** 89.14 310 *e*P **P** 11 46 57.4 +0.5
PBAR **Barrancos** 89.25 309 *e*P **P** 11 46 58.2 +0.7
PBAR *e*pP **pP** 11 47 06.2 -0.2
WRH **Wood River Hil** 89.25 22 P **P** 11 46 56.7 -0.2
MCK **McKinley** 89.31 23 P **P** 11 46 57.3 0.0
MCK **McKinley** 89.31 23 P **P** 11 46 57.3 0.0
MCK pmax pmax
comp=Z,23nm,1.0s
ILAR **Eielson Array** 89.52 22 P **P** 11 46 57.6 -0.6
comp=Z,4.6nm,0.8s,baz=300,slow=3.7,SNR=17
comp=Z,4.6nm,0.8s
KULLO **Kullorsuaq** 89.69 352 *i* P **P** 11 46 58.6 -0.2
KULLO IAmb IAmb 11 47 00.2
comp=Z,30nm,0.9s
HDA **Harding Lake** 89.70 22 P **P** 11 46 58.4 -0.7
PVAQ **Vaqueiros** 89.99 309 *e*pP pP 11 47 10.3 +0.4
E29M **Blow River** 90.22 17 P **P** 11 47 01.9 +0.5
E29M IAmb IAmb 11 47 11.8
comp=Z,17nm,1.1s
PMR **Palmer** 90.34 25 P **P** 11 47 02.3 +0.2
PMR **Palmer** 90.34 25 P **P** 11 47 02.3 +0.2
PMR pmax pmax
comp=Z,21nm,0.7s
SML **Sawmill** 90.55 25 P **P** 11 47 03.1 -0.1
ICESG **Greenland Ices** 90.73 345 *i* P **P** 11 47 03.7 -0.5
ICESG IAmb IAmb 11 47 05.6
comp=Z,6.2nm,0.8s
RIDG **Independent Ri** 90.84 22 P **P** 11 47 04.5 0.0
RIDG IAmb IAmb 11 47 14.1
comp=Z,12nm,0.8s
UPNV **Upernavik** 91.12 351 *i* P **P** 11 47 05.4 -0.1
UPNV IAmb IAmb 11 47 06.5
comp=Z,7.6nm,0.8s
DOT **Dot Lake** 91.18 22 P **P** 11 47 05.9 -0.1
DOT IAmb IAmb 11 47 15.8
comp=Z,10nm,0.8s
INK **Inuvik** 91.46 16 P **P** 11 47 07.1 0.0
INK IAmb IAmb 11 47 17.0
comp=Z,9.4nm,0.9s
INK **Inuvik** 91.46 16 P **P** 11 47 07.1 0.0
INK pmax pmax
comp=Z,9.0nm,0.9s
K27K **Chicken** 91.66 21 P **P** 11 47 09.4 +1.2
K27K IAmb IAmb 11 47 10.7
comp=Z,14nm,1.1s
MENT **Mentasta** 91.72 23 P **P** 11 47 09.6 +1.1
F31M **Tsiigehtchic** 92.02 16 P **P** 11 47 09.4 -0.3
F31M IAmb IAmb 11 47 11.0
comp=Z,13nm,1.2s
UMMG **Uummannaq** 92.25 349 *i* P **P** 11 47 10.7 0.0
UMMG IAmb IAmb 11 47 11.6
comp=Z,4.9nm,0.7s
DAWY **Dawson** 92.57 20 P **P** 11 47 12.8 +0.4
DAWY IAmb IAmb 11 47 22.7
comp=Z,11nm,0.9s
RTZ **Ruatahuna** 93.91 129 P **P** 11 47 16.9 -2.2
RTZ IAmb IAmb 11 47 18.8
comp=Z,14nm,0.9s
YKA **Yellowknife Ar** 100.77 13 PKKPbc PKKPbc 12 04 02.1 -2.8
comp=Z,0.8nm,0.8s,baz=164,slow=2.4,SNR=9.0
PDAR **Pinedale Array** 119.85 19 PKP **PKiKP** 11 52 51.9 -0.2
comp=Z,2.3nm,0.7s,baz=47,slow=1.0,SNR=20
PDAR PKKPbc **PKKPbc** 12 02 59.5 -3.3
comp=Z,0.2nm,0.7s,baz=219,slow=2.3,SNR=3.7
NVAR **Mina Array Bea** 120.17 28 PKP **PKiKP** 11 52 53.7 +0.8
comp=Z,3.6nm,0.7s,baz=290,slow=1.8,SNR=25
TXAR **Lajitas Array** 134.02 20 PKP **PKiKP** 11 53 19.9 -0.7
comp=Z,2.1nm,0.8s,baz=213,slow=1.5,SNR=9.6
BDFB **Brasilia** 142.38 262 PKhKP PKPpre 11 53 30.4
comp=Z,4.2nm,0.6s,baz=143,slow=5.9,SNR=5.0
BDFB PKP **PKPdf** 11 53 35.0 +0.1
comp=Z,2.8nm,0.6s,baz=186,slow=9.7,SNR=4.5
BDFB **Brasilia** 142.38 262 PKIKP **PKPdf** 11 53 35.0 +0.1
CPUP **Villa Florida** 149.69 241 PKPbc **PKPbc** 11 53 51.0 -0.5
comp=Z,7.0nm,1.0s,baz=79,slow=2.3,SNR=7.7
PLCA **Paso Flores** 149.73 205 PKPbc **PKiKP** 11 53 51.8 -0.6
comp=Z,11nm,1.0s,baz=114,slow=2.3,SNR=2.8
LPAZ **La Paz** 161.71 260 PKPab **PKPab** 11 54 48.8 -0.4
comp=Z,5.2nm,0.9s,baz=167,slow=2.7,SNR=8.5

AFAD 23 11:37:12.6, 37.40N×29.44E, h7km±3km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.19**	**150**	P	Pg	11 37 17.3	+0.8
GOLH				S	Sg	11 37 20.1	+0.9
GOLH				*i* AML	AML	11 37 24.0	
	comp=E,150nm,0.5s						
GOLH				*i* AML	AML	11 37 25.0	
	comp=N,142nm,0.4s						
CAEL	**Denizli, Camel**	**0.30**	**199**	P	Pg	11 37 18.6	+0.1
CAEL				S	Sb	11 37 24.1	-1.4
CAEL				*i* AML	AML	11 37 31.0	
	comp=N,52nm,0.3s						
INCE	**Denizli-Bozkur**	**0.32**	**20**	P	Pg	11 37 19.0	0.0
INCE				S	Sg	11 37 24.2	+0.9
INCE				*i* AML	AML	11 37 25.0	
	comp=N,47nm,0.2s						
DNZT	**Denizli-Tavas-**	**0.35**	**249**	P	Pg	11 37 19.8	+0.3
DNZT				S	Sg	11 37 24.4	+0.2
DNIZ	**Denizli-Tavas-**	**0.39**	**305**	P	Pg	11 37 20.1	-0.1
DNIZ				S	Sg	11 37 26.6	+1.3
TAVA	**DENIZLI_Tavas**	**0.42**	**279**	P	Pg	11 37 21.4	+0.6
KNIK	**Mula-Seydike**	**0.57**	**169**	P	Pb	11 37 24.4	-0.5
KNIK				S	Sg	11 37 32.1	+1.1
BRDR	**BURDUR-Merkez**	**0.57**	**59**	P	Pg	11 37 23.3	-0.4
BRDR				S	Sg	11 37 32.2	+1.0
BRDR				*i* AML	AML	11 37 35.0	
	comp=E,26nm,0.2s						
BRDR				*i* AML	AML	11 37 40.0	
	comp=N,29nm,0.7s						
SABU	**Mula-Dalaman**	**0.69**	**213**	P	Pb	11 37 26.7	-0.3
SABU				S	Sb	11 37 36.1	-0.6
SABU				*i* AML	AML	11 37 38.0	
	comp=E,20nm,0.4s						
SABU				*i* AML	AML	11 37 42.0	
	comp=N,15nm,0.3s						

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*IDC **23** 11:48:59.8±1.0, 31.66S×177.75W, h0km, mb4.2/5, mbtmp4.2/7, ML3.7/2, MS3.4/1, Error ellipse: s-maj=31.6km s-min=23.6km az=62.0*
*NEIC **23** 11:49:03.7±1.0, 32.01S±0.09×177.9W±0.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=23.0km s-min=14.8km az=94.0*

ISC 23 11:49:04.2±0.6, 31.68S±0.05×177.7W±0.1, h35km, n58, σ29 04/75, mb4.5/11, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.41**	**356**	P	**Pn**	11 49 37.7	-3.5
GLKZ				S	**Sn**	11 50 08.6	-0.8
RIZ	**Raoul Island**	**2.43**	**356**	P	**Pn**	11 49 38.6	-2.8
RIZ				S	**Sn**	11 50 09.9	0.0
MXZ	**Matakaoa Point**	**6.71**	**208**	P	**Pn**	11 50 36.8	-3.4
MXZ				S	**Sn**	11 51 55.4	0.0
WMGZ	**Waiomatatini S**	**6.89**	**206**	P	**Pn**	11 50 41.9	-0.8
WMGZ				S	**Sn**	11 52 02.0	+2.0
PKGZ	**Pakihiroa**	**7.07**	**208**	P	**Pn**	11 50 41.5	-3.5
PKGZ				S	**Sn**	11 52 04.0	-0.2
HAZ	**Te Kaha**	**7.10**	**210**	P	**Pn**	11 50 42.9	-2.5
HAZ				S	**Sn**	11 52 05.8	+1.0
PUZ	**Puketiti**	**7.18**	**206**	P	**Pn**	11 50 43.1	-3.5
PUZ				S	**Sn**	11 52 05.6	-1.3
RUGZ	**Raukumara Rang**	**7.32**	**210**	P	**Pn**	11 50 45.7	-3.0
RUGZ				S	**Sn**	11 52 10.3	-0.2
TWGZ	**Tauwhareparae**	**7.37**	**207**	P	**Pn**	11 50 45.7	-3.7
TWGZ				S	**Sn**	11 52 12.3	+0.5
CNGZ	**Carnagh Statio**	**7.56**	**205**	P	**Pn**	11 50 48.6	-3.3
CNGZ				S	**Sn**	11 52 16.9	+0.6
TKGZ	**Te Karaka**	**7.65**	**207**	S	**Sn**	11 52 16.9	-1.7
MWZ	**Matawai**	**7.69**	**209**	P	**Pn**	11 50 50.9	-2.8
MWZ				S	**Sn**	11 52 19.4	-0.2
URZ	**Urewera**	**7.81**	**211**	Pn	**Pn**	11 50 52.8	-2.4
	1.7nm,0.3s,baz=350,slow=2.5,SNR=12						
URZ				Sn	**Sn**	11 52 16.9	-5.4
	3.1nm,0.3s,baz=130,slow=12,SNR=3.6						
	3.7nm,0.3s						
URZ	**Urewera**	**7.81**	**211**	P	**Pn**	11 50 52.0	-3.2
URZ				S	**Sn**	11 52 19.9	-2.4
WCZ	**Waipu Caves**	**7.84**	**235**	P	**Pn**	11 50 58.7	+3.1
RAGZ	**Rawiri**	**7.88**	**209**	P	**Pn**	11 50 52.2	-4.0
RAGZ				S	**Sn**	11 52 23.2	-0.9
RIGZ	**Rimuhau**	**7.92**	**206**	P	**Pn**	11 50 53.2	-3.6
RIGZ				S	**Sn**	11 52 25.2	0.0
OUZ	**Omahuta**	**8.05**	**242**	P	Pn	11 51 04.4	+5.7
PRGZ	**Paritu Road**	**8.06**	**205**	S	**Sn**	11 52 26.2	-2.5
MUGZ	**Murupara**	**8.14**	**212**	P	**Pn**	11 50 57.4	-2.4
MUGZ				S	**Sn**	11 52 29.2	-1.4
SNGZ	**Shannon Statio**	**8.15**	**208**	S	**Sn**	11 52 31.1	+0.3
RTZ	**Ruatahuna**	**8.16**	**211**		**Pn**	11 50 57.1	-3.1
MHGZ	**Mahia Peninsul**	**8.26**	**204**	S	**Sn**	11 52 31.8	-1.7
CTZ	**Chatham Island**	**12.07**	**176**	Pn	**Pn**	11 51 50.3	-3.3
NIUE	**Niue**	**14.39**	**31**	Pn	**P**	11 52 32.1	+0.2

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EAZ  Earnscleugh          16.88 213  P      P      11 52 59.3  0.0
DZM  Mont Dzumac          17.03 300  P      P      11 52 59.4 -1.9
     0.2nm,0.3s,baz=120,slow=20,SNR=1.6
DZM                                  LR     LR     11 57 55.4
     comp=Z,132nm,20.6s,baz=216,slow=32
     5.2nm,1.0s
LHI  Lord Howe Isla       19.76 264  P      Pn     11 53 31.3 -1.4
LHI                                  IAmb   IAmb   11 53 40.8
     comp=Z,31nm,1.1s
ARMA Armidale             26.23 265  P      P      11 54 37.0 +0.9
CAN  Canberra             27.90 253  P      P      11 54 49.1 -1.8
CAN                                  IAmb   IAmb   11 54 56.5
     comp=Z,16nm,1.3s
EIDS Eidsvold             28.04 275  P      P      11 54 52.8 +0.5
EIDS                                 IAmb   IAmb   11 54 56.7
     comp=Z,5.0nm,0.8s
STKA Stephens Creek       34.43 259  P      P      11 55 50.1 +1.8
     comp=Z,4.0nm,0.7s,baz=86,slow=9.7,SNR=11
     comp=Z,4.0nm,0.7s
BBOO Buckleboo            38.85 256  P      P      11 56 26.9 +0.8
BBOO                                 IAmb   IAmb   11 56 28.1
     comp=Z,9.4nm,0.7s
COEN Coen                 39.85 287  P      P      11 56 36.3 +1.8
AS31 Alice Springs        43.28 268  P      P      11 57 03.7 +1.1
ASAR Alice Springs        43.28 268  P      P      11 57 03.2 +0.6
ASAR Alice Springs        43.28 268  P      P      11 57 03.0 +0.3
     comp=Z,3.1nm,0.8s,baz=105,slow=7.1,SNR=41
ASAR                                 PcP    PcP    11 58 50.8 -0.5
     comp=Z,0.4nm,0.4s,baz=101,slow=4.1,SNR=2.0
     comp=Z,3.1nm,0.8s
WR8  Warramunga Arr       44.24 273  P      P      11 57 11.8 +1.5
WR8                                  IAmb   IAmb   11 57 13.7
     comp=Z,8.7nm,0.8s
WB2  Warramunga Arr       44.37 273  P      P      11 57 11.9 +0.5
WB2                                  IAmb   IAmb   11 57 13.9
     comp=Z,9.1nm,0.9s
WRA  Warramunga Arr       44.38 273  P      P      11 57 12.9 +1.5
WRA  Warramunga Arr       44.38 273  P      P      11 57 11.8 +0.3
     comp=Z,7.4nm,0.7s,baz=114,slow=7.6,SNR=20
WRA                                  PcP    PcP    11 58 55.2 +0.1
     comp=Z,0.7nm,0.8s,baz=125,slow=2.4,SNR=1.5
     comp=Z,7.4nm,0.7s
WB0  Warramunga Arr       44.41 274  P      P      11 57 12.5 +0.8
FORT Forrest              45.95 256  P      P      11 57 23.9 +0.1
VNDA Vanda                46.85 186  P      P      11 57 30.4 +0.2
     comp=Z,101nm,0.4s,baz=41,slow=9.9,SNR=111
FITZ Fitzroy Crossi       52.59 271  P      P      11 58 15.3 +0.6
CASY Casey                54.12 208  P      P      11 58 25.6 +0.3
QSPA South Pole Qui       58.44 180  P      P      11 58 56.6 +0.4
QSPA                                 IAmb   IAmb   11 59 14.0
     comp=Z,4.9nm,0.9s
QSPA South Pole Qui       58.44 180  P      P      11 58 58.2 +1.9
     comp=Z,1.3nm,0.9s,baz=66,slow=1.7,SNR=2.9
     comp=Z,1.3nm,0.9s
SYO  Syowa Base           75.92 193  eP     P      12 00 50.0 +3.2
SNAA Sanae                76.88 178  P      P      12 00 54.0 +1.8
SNAA Sanae                76.88 178  P      P      12 00 54.0 +1.8
     comp=Z,0.7nm,0.6s,baz=192,slow=16,SNR=1.2
     comp=Z,0.7nm,0.6s
KBZ  Khabaz               145.99 302 PKPbc  PKiKP  12 08 41.3 -2.0
     comp=Z,0.9nm,0.6s,baz=121,slow=6.3,SNR=4.6
FINES FINESS Array B      146.42 339 PKPbc  PKPbc  12 08 40.1 -0.5
     comp=Z,4.3nm,0.8s,baz=35,slow=3.4,SNR=10
ASF  Jabal al Asfar       150.67 280 PKPbc  PKiKP  12 08 55.0 +1.5
     comp=Z,1.6nm,0.4s,baz=74,slow=2.1,SNR=3.5
EIL  Elat                 151.87 275 PKPbc  PKiKP  12 08 58.0 +2.1
     comp=Z,3.8nm,0.7s,baz=166,slow=8.3,SNR=4.1
MMAI Mount Meron Ar       152.03 282 PKPbc  PKiKP  12 08 57.5 +1.2
     comp=Z,1.8nm,0.4s,baz=87,slow=5.9,SNR=8.7
AKASG Malin Array Be      152.44 321 PKPbc  PKiKP  12 08 56.6 +0.2
     comp=Z,0.8nm,0.5s,baz=48,slow=4.1,SNR=7.5
BRTR Keskin Array B       153.38 296 PKPbc  PKiKP  12 08 59.8 +0.9
     comp=Z,0.9nm,0.8s,baz=134,slow=4.2,SNR=2.5
```

IDC 23 12:03:12.1±3.5, 31°.98S×177°.39W, h0km, mb3.6/3, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=82.7km s-min=48.5km az=126.0, Kermadec Islands region

```
Code Station Name         Δ°   AZ°   Phase ID        Time      Res
                                     Op    ISC       h m s     ISC
URZ  Urewera              7.72 214   Pn    Pn        12 05 05.0 -0.6
     0.2nm,0.3s,baz=45,slow=2.9,SNR=1.9
URZ                                  Sn    Sn        12 06 26.1 -7.6
     1.3nm,0.3s,baz=236,slow=19,SNR=12
     4.4nm,0.9s
STKA Stephens Creek       34.66 259  P     P         12 10 04.5 +1.2
     1.9nm,1.0s,baz=34,slow=7.4,SNR=2.8
     1.9nm,1.0s
ASAR Alice Springs        43.57 268  P     P         12 11 17.5 -0.5
     0.3nm,0.6s,baz=108,slow=7.4,SNR=6.1
     0.3nm,0.6s
WRA  Warramunga Arr       44.70 273  P     P         12 11 26.5 -0.6
     0.7nm,0.6s,baz=112,slow=8.2,SNR=6.2
     0.7nm,0.6s
FINES FINESS Array B      146.81 340 PKPbc PKPbc     12 22 54.6 -0.8
     5.4nm,1.0s,baz=67,slow=6.7,SNR=1.7
```

IDC 23 12:25:29.0±3.5, 31°.20S×177°.99W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=171.4km s-min=45.3km az=158.0

ISC 23 12:25:24.4±1.8, 31°.90S±0°.08×177°.1W±0°.2, h10km, n19, σ3°06/21, mb4.1/3, Kermadec Islands region

```
Code Station Name         Δ°   AZ°   Phase ID        Time      Res
                                     Op    ISC       h m s     ISC
GLKZ Green Lake           2.73 344   P     Pn        12 26 06.6 -1.7
GLKZ                                 S     Sn        12 26 35.5 -5.8
MXZ  Matakaoa Point       6.82 213   S     Sn        12 28 21.4 -0.8
HAZ  Te Kaha              7.22 215   P     Pn        12 27 08.8 -1.2
HAZ                                  S     Sn        12 28 33.3 +1.3
PUZ  Puketiti             7.26 211   P     Pn        12 27 09.9 -0.7
PUZ                                  S     Sn        12 28 33.3 +0.3
MWZ  Matawai              7.80 213   S     Sn        12 28 42.5 -4.0
URZ  Urewera              7.94 215   P     Pn        12 27 14.7 -5.3
URZ                                  S     Sn        12 28 47.8 -2.0
RTZ  Ruatahuna            8.29 214   P     Sn        12 28 56.1 -2.3
KNZ  Kokohu               8.30 210   P     Sn        12 28 55.9 -2.8
OUZ  Omahuta              8.47 244   P     Pn        12 27 31.5 +4.4
BKZ  Black Stump Fm       8.95 214   S     Sn        12 29 10.9 -3.9
NGZ  Ngauruhoe            9.40 217   P     Sn        12 29 25.0 -0.9
PXZ  Pawanui              9.49 210   P     Sn        12 29 23.8 -4.0
WPHZ Waipukurau           9.70 211   P     Pn        12 27 34.4 -10
WPHZ                                 P     Sn        12 29 31.8 -1.2
TSZ  Takapari Road        9.91 213   P     Sn        12 29 34.0 -4.2
STKA Stephens Creek       34.95 259  P     P         12 32 17.6 +1.0
     1.6nm,0.5s,baz=105,slow=9.8,SNR=5.1
     1.6nm,0.5s
ASAR Alice Springs        43.85 268  P     P         12 33 30.9 -0.1
     1.4nm,0.5s,baz=109,slow=7.5,SNR=22
     1.4nm,0.5s
WRA  Warramunga Arr       44.97 273  P     P         12 33 39.1 -1.0
     2.9nm,0.5s,baz=115,slow=7.4,SNR=7.0
     2.9nm,0.5s
FINES FINESS Array B      146.82 340 PKPbc PKPbc     12 45 08.8 +2.7
     4.0nm,0.8s,baz=46,slow=4.0,SNR=8.2
MMAI Mount Meron Ar       152.64 281 PKPbc PKiKP     12 45 25.7 +3.9
     0.7nm,0.4s,baz=76,slow=6.1,SNR=4.7
```

IDC 23 12:35:21.8±0.5, 7°.64N×37°.26W, h0km, mb4.3/26, mbtmp4.3/27, ML4.0/1, MS4.7/73, Error ellipse: s-maj=16.3km s-min=12.5km az=145.0

MOS 23 12:35:22.4±0.9, 7°.53N×37°.11W, h13km, mb5.1/18, Error ellipse: s-maj=11.4km s-min=7.7km az=54.9

NEIC 23 12:35:24.3±1.4, 7°.53N±0°.09×37°.10W±0°.06, h10km±1km, mb5.2/114, Ms_20 5.0/121, Mwb5.5/18, Mww5.5/31, Error ellipse: s-maj=17.8km s-min=4.3km az=148.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.54; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$0.13; $M_{r\theta}$-0.41; $M_{\theta\phi}$-2.01; $M_{\phi r}$0.60; Fault plane solution: $M_0$2.23000×10^{17} NP1: ϕ_s272.96000°, δ71.76000°, λ163.02000°. NP2:ϕ_s8.42000°, δ73.89000°, λ19.01000°. Principal axes: T 2.1163, Plg25.0000°, Azm231.0000°; N 0.2071, Plg65.0000°, Azm47.0000°; P -2.3234, Plg1.0000°, Azm140.0000°;

NEIC 23 12:35:24.4, 7°.53N×37°.13W, h12km

NEIC 23 12:35:24.4, 7°.53N×37°.00W, h12km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.17; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$0.30; $M_{r\theta}$1.27; $M_{\theta\phi}$-1.86; $M_{\phi r}$-0.06; Fault plane solution: $M_0$2.27000×10^{17} NP1: ϕ_s182.61000°, δ55.68000°, λ-3.54000°. NP2:ϕ_s274.61000°, δ87.07000°, λ-145.63000°. Principal axes: T 2.3040, Plg21.0000°, Azm43.0000°; N -0.0697, Plg56.0000°, Azm279.0000°; P -2.2343, Plg26.0000°, Azm144.0000°;

RSNC 23 12:35:24.1±8.3, 7°N±10°×3°7W±1°0, h10km, M5.4, mB6.2, mb5.0, Mw(mB)5.9

NEIC 23 12:35:24.4, 7°.51N×37°.07W, h10km

GCMT 23 12:35:27.4±0.1, 7°.79N±0°.01×37°.19W±0°.01, h21km, MW5.6/157, Moment Tensor Solution. s122,c204; s157,c310; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.10±.04; $M_{\theta\theta}$-0.30±.04; $M_{\phi\phi}$0.40±.04; $M_{r\theta}$0.24±.07; $M_{\theta\phi}$-3.27±.04; $M_{\phi r}$0.26±.07; Best double couple: M0 3.30900×10^{17} NP1:ϕ_s273.00000°, δ85.00000°, λ-176.00000°. NP2:ϕ_s183.00000°, δ86.00000°, λ-5.00000°. Principal axes: T 3.3410, Plg1.0000°, Azm228.0000°; N -0.0630, Plg84.0000°, Azm323.0000°; P -3.2780, Plg6.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 23 12:35:25.3±0.3, 7°.56N±0°.06×37°.17W±0°.06, h20km, n396, σ1°28/284, mb5.0/118, MS4.9/136, 6C-6D, Central Mid-Atlantic Ridge

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Code Station Name         Δ°   AZ°   Phase ID        Time      Res
                                     Op    ISC       h m s     ISC
NBPB Pedra_Branca-C       13.23 191  eP    Pn        12 38 33.1 +0.9
RCBR Riachuelo            13.36 175  Pn    Pn        12 38 33.7 -0.2
RCBR Riachuelo            13.36 175  P     Pn        12 38 33.7 -0.2
RCBR Riachuelo            13.36 175  eP    Pn        12 38 36.8 +2.8
TMAB Tom-Au,PA,Br         14.70 228  eP    Pn        12 38 49.7 -2.7
SACV Santiago Islan       15.20  60  Pn    Pn        12 38 52.2 -6.7
MDP  Montagnes des        15.57 262  Pn    Pn        12 39 01.0 -2.9
     0.6nm,0.3s,baz=75,slow=9.0,SNR=10
MDP                                  Sn    Sn        12 41 33.2 -23
     1.9nm,0.3s,baz=348,slow=5.2,SNR=6.7
MDP                                  LR    LR        12 43 42.8
     comp=Z,3μm,22.0s,baz=70,slow=32
     20nm,0.9s
NBCA Caruaru-PE           15.72 176  eP    P         12 39 08.9 -0.8
NBAN Anadia - AL          17.14 177  eP    P         12 39 27.5 +2.1
PRPB Paraua pebas         18.58 223  eP    P         12 39 41.1 -0.3
MAL2 Monte Alegre,        19.46 241  P     P         12 39 50.5 -0.5
MBO  M'Bour               20.96  69          P      12 40 05.7 -1.6
MBO                                  IAmb  IAmb      12 40 17.6
     comp=Z,204nm,1.5s
GDU01 Guandu, BA          21.27 186  eP    P         12 40 12.6 +1.9
SDBA SAO DESIDERIO        21.27 201  eP    P         12 40 11.6 +0.9
BBTS Babate               21.43  69  P     P         12 40 13.7 +1.3
     comp=Z,32nm,0.8s,baz=248,slow=3.0,SNR=4.6
BBTS                                 LR    LR        12 46 15.8
     comp=Z,4μm,21.9s,baz=136,slow=30
     comp=Z,32nm,0.8s
BBGH Gun Hill             22.71 286  IAms_20 IAms_20 12 49 43.3
     comp=Z,4μm,18.0s
CMC01 Camacan, BA         22.89 186  eP    P         12 40 28.3 +0.4
NPGB Novo Progresso       23.23 232  eP    P         12 40 30.3 -1.2
JANB Januaria             23.56 197  eP    P         12 40 32.1 -2.6
BOAV Boa Vista            23.82 259  P     P         12 40 35.9 -1.4
BOAV                                 IAmb  IAmb      12 40 38.8
     comp=Z,52nm,0.8s
BOAV Boa Vista            23.82 259  eP    P         12 40 36.6 -0.7
SNDB Serra Nova Dou       23.95 216  eP    P         12 40 38.3 -0.2
GUA01 Guaratinga, BA      24.13 186  eP    P         12 40 43.0 +2.9
ABR01 Abrolhos, BA        25.40 183  eP    P         12 40 55.0 +3.4
BDFB Brasilia             25.43 205  P     P         12 40 51.8 -0.2
BDFB                                 IAmb  IAmb      12 41 02.1
     comp=Z,63nm,1.0s
BDFB Brasilia             25.43 205  P     P         12 40 52.1 +0.1
     comp=Z,30nm,1.0s,baz=29,slow=11,SNR=12
BDFB                                 LR    LR        12 49 50.2
     comp=Z,3μm,21.2s,baz=25,slow=34
     comp=Z,30nm,1.0s
BDFB Brasilia             25.43 205  P     P         12 40 51.8 -0.2
BDFB                                 pmax  pmax
     comp=Z,63nm,1.0s
MACA Manacapuru-AM        25.77 246  P     P         12 40 54.3 -0.8
MACA Manacapuru-AM        25.77 246  eP    P         12 40 54.4 -0.8
CLDB Colider              26.06 226  eP    P         12 40 58.4 +0.7
SJMB Sao Joao De Ma       26.39 189  eP    P         12 41 01.3 +0.7
DIAM Diamantina, MG       26.48 194  eP    P         12 41 03.5 +1.9
SEUS St. Eustatius        27.03 294  P     P         12 41 06.5 +0.1
PDRB Porto dos Gac        27.23 226  eP    P         12 41 08.8 +0.5
ARAG Araguaiana, MT       27.29 212  eP    P         12 41 09.5 +0.8
H10N3 ASCENSION HYDR      27.29 124  T     T         13 10 09.8
     baz=303,slow=76
H10N2 ASCENSION HYDR      27.29 124  T     T         13 10 06.1
     baz=303,slow=76
H10N1 ASCENSION HYDR      27.31 124  T     T         13 10 05.1
     baz=303,slow=76
PMNB Patos De Minas       27.49 199  eP    P         12 41 12.2 +1.5
IPMB Ipameri, GO          27.62 203  eP    P         12 41 12.1 +0.4
TEFE Tefe                 29.53 249  eP    P         12 41 29.6 +0.8
SALV Santo Antonio        29.66 218  eP    P         12 41 30.3 +0.4
HUMP Col San Antoni       29.83 293  P     P         12 41 32.6 +1.2
HUMP                                 IAmb  IAmb      12 41 57.2
     comp=Z,25nm,1.0s
IGPR InterUniversit       30.01 293  P     P         12 41 32.9 -0.2
IGPR                                 IAmb  IAmb      12 41 41.6
     comp=Z,28nm,0.8s
ITRB Iturama              30.04 205  eP    P         12 41 34.7 +1.5
SJG  San Juan             30.09 293  LR    LR        12 52 31.2
     comp=Z,2μm,18.8s,baz=104,slow=34
CELP Cerrillos            30.48 293  P     P         12 41 36.0 -1.1
CELP                                 IAmb  IAmb      12 41 54.3
     comp=Z,26nm,0.8s
OBIP Obispado Ponce       30.49 293  P     P         12 41 36.4 -0.9
OBIP                                 IAmb  IAmb      12 41 46.4
     comp=Z,24nm,0.8s
BB19B Bebedouro           30.55 201  eP    P         12 41 39.5 +1.7
BAUV El Baul              30.58 275  P     P         12 41 37.8 -0.3
UUPR Utuado, UPR, P       30.65 293  P     P         12 41 37.9 -0.9
UUPR                                 IAmb  IAmb      12 41 48.9
     comp=Z,45nm,1.0s
PRSN Puerto Rico Se       31.03 293  P     P         12 41 41.9 -0.2
PRSN                                 IAmb  IAmb      12 41 49.3
     comp=Z,37nm,1.1s
PMOZ Porto Moniz, M       31.23  34  eLR   LR        12 49 00.5
PMOZ                                 i AMs_20        12 51 05.5
     comp=Z,1μm,22.0s
PMOZ                                 eT    T         13 13 53.3
PMAR Madeira              31.32  34  eT    T         13 13 55.3
PTLB Pontes e Lacer       31.56 224  P     P         12 41 47.1 +0.4
PTLB Pontes e Lacer       31.56 224  eP    P         12 41 47.8 +1.1
DBIC Dimbokro             32.07  89  P     P         12 41 50.3 -0.9
DBIC Dimbokro             32.07  89  P     P         12 41 51.0 -0.2
     comp=Z,2.3nm,0.6s,baz=272,slow=12,SNR=3.9
DBIC                                 LR    LR        12 52 36.2
     comp=Z,1μm,18.5s,baz=252,slow=32
     comp=Z,2.3nm,0.6s
SPB  Sao Paulo            32.54 198  eP    P         12 41 57.4 +2.2
FRTB Fartura              33.02 201  eP    P         12 42 01.8 +2.4
SDV  Santo Domingo        33.14 275  P     P         12 42 01.0 +0.1
SDV  Santo Domingo        33.14 275  LR    LR        12 56 27.9
     comp=Z,981nm,18.8s,baz=81,slow=38
SDV  Santo Domingo        33.14 275  eP    P         12 42 01.5 +0.6
DR12 Loma Pena Alta       33.23 293  P     P         12 42 01.6 +0.1
DR12                                 IAmb  IAmb      12 42 07.5
     comp=Z,31nm,1.0s
SIV  San Ignacio          33.28 225  LR    LR        12 54 43.8
     comp=Z,3μm,20.8s,baz=68,slow=35
AQDB Aquidauana           33.29 213  P     P         12 42 02.9 +1.1
AQDB Aquidauana           33.29 213  eP    P         12 42 03.0 +1.2
BDQN Bodoquena, MS        33.84 214  eP    P         12 42 08.3 +1.6
BANI BANI                 34.02 292  P     P         12 42 08.9 +0.5
SDDR Presa de Saban       35.02 292  P     P         12 42 17.4 +0.4
SDDR                                 IAmb  IAmb      12 42 28.2
     comp=Z,40nm,1.2s
MURT Porto Murtinho       35.29 214  eP    P         12 42 20.0 +0.9
RUSC La Rusia             35.70 270  P     P         12 42 23.6 +0.3
RUSC                                 IAmb  IAmb      12 42 43.3
     comp=Z,56nm,1.2s
SMRC Santa Marta, M       36.72 279  P     P         12 42 32.3 +0.8
ROSC El Rosal             37.02 268  P     P         12 42 34.0 -0.6
ROSC El Rosal             37.02 268  P     P         12 42 33.8 -0.9
     comp=Z,19nm,0.7s,baz=110,slow=9.8,SNR=8.1
     comp=Z,19nm,0.7s
SJPY San Joaquin          37.25 209  eP    P         12 42 38.0 +2.2
ITAB Concordia            37.50 202  eP    P         12 42 40.2 +2.3
CZSB Cruzeiro do Su       38.55 248  P     P         12 42 46.2 -0.8
CZSB                                 IAmb  IAmb      12 42 47.6
     comp=Z,36nm,0.9s
CZSB Cruzeiro do Su       38.55 248  eP    P         12 42 46.3 -0.8
TORD Torodi Ar. Bea       38.60  78  P     P         12 42 47.4 -0.1
     comp=Z,4.5nm,0.6s,baz=280,slow=9.1,SNR=3.5
     comp=Z,4.5nm,0.6s
LPAZ La Paz               38.73 232  P     P         12 42 49.7 +0.4
LPAZ La Paz               38.73 232  P     P         12 42 49.6 +0.4
     comp=Z,21nm,0.8s,baz=49,slow=5.3,SNR=66
LPAZ                                 LR    LR        12 57 59.4
     comp=Z,2μm,21.9s,baz=40,slow=35
     comp=Z,21nm,0.8s
FLOC Florencia            38.80 263  P     P         12 42 49.5 +0.3
CNLB Canela               38.95 199  eP    P         12 42 52.2 +1.9
CPUP Villa Florida        38.96 209  LR    LR        12 58 30.1
     comp=Z,2μm,19.2s,baz=36,slow=36
MDT  Midelt               39.28  46  LR    LR        12 59 14.1
     comp=Z,1μm,18.2s,baz=240,slow=36
PVAQ Vaqueiros            39.96  38  eLR   LR        12 53 40.5
PVAQ                                 i AMs_20        12 55 48.1
     comp=Z,1μm,22.0s
PBEJ Beja                 40.28  37  eP    P         12 43 00.9 -0.2
EVO  Evora                40.53  36  eP    P         12 43 03.6 +0.4
EVO                                  i Amb           12 43 43.9
     comp=Z,41nm,1.7s
PMTG Montargil            40.77  35  eP    P         12 43 04.0 -1.2
PMTG                                 i Amb           12 43 25.4
     comp=Z,43nm,1.5s
CPSB Cacapava Do Su       40.85 202  eP    P         12 43 07.9 +2.0
PCAS Casmilo, Conde       41.29  34  eP    P         12 43 09.2 -0.3
PCAS                                 i Amb           12 43 39.2
     comp=Z,40nm,1.8s
PMRV Marv??o              41.48  35  eP    P         12 43 12.0 +0.9
PMRV                                 i Amb           12 43 13.7
     comp=Z,42nm,1.3s
PMRV                                 i tx    tx      12 43 22.4
PMRV                                 eLR     LR      12 54 30.4
PMRV                                 i AMs_20        12 56 19.5
     comp=Z,1μm,22.0s
PCBR Castelo Branco       41.71  35  eP    P         12 43 13.4 +0.5
PCBR                                 i Amb           12 44 24.5
     comp=Z,25nm,1.9s
OTAV Otavalo              41.79 262  P     P         12 43 14.5  0.0
OTAV Otavalo              41.79 262  P     P         12 43 14.5  0.0
OTAV                                 pmax    pmax
     comp=Z,18nm,1.3s
OTAV Otavalo              41.79 262  eP    P         12 43 14.8 +0.3
SLOR San Lorenzo -        42.03 260  P     P         12 43 16.3 -0.2
MTE  Manteigas            42.05  34  P     P         12 43 15.1 -0.7
MTE                                  IAmb    IAmb    12 43 37.8
     comp=Z,49nm,1.5s
MTE                                  IAms_20 IAms_20 12 56 14.4
     comp=Z,2μm,18.0s
MTE  Manteigas            42.05  34  eP    P         12 43 15.0 -0.7
MTE                                  i tx    tx      12 43 29.6
MTE                                  i Amb           12 43 49.0
     comp=Z,33nm,1.5s
MTE                                  eS      S       12 49 39.4 +5.3
MTE                                  eLQ     LQ      12 52 33.3
MTE                                  eLR     LR      12 54 23.9
MTE                                  i AMs_20        12 56 47.7
     comp=Z,2μm,22.0s
PVIS Viseu                42.08  34  eP    P         12 43 16.3 +0.3
PVIS                                 i tx    tx      12 43 26.7
PLTB Pedras Altas         42.13 201  eP    P         12 43 18.2 +1.7
HMBC Humberstone          42.44 229  P     P         12 43 17.9 -1.4
POLO Lamas de Olo         42.59  33  eP    P         12 43 20.3 +0.1
POLO                                 i tx    tx      12 43 33.4
POLO                                 i Amb           12 43 46.8
     comp=Z,8.8nm,1.4s
PGAV Gavieira, Arco       42.75  32  eP    P         12 43 22.3 +0.8
PGAV                                 i tx    tx      12 43 34.5
PGAV                                 i Amb           12 43 44.0
     comp=Z,35nm,1.2s
PGAV                                 eS      S       12 49 54.0 +10
PGAV                                 eLQ     LQ      12 53 03.5
PGAV                                 eLR     LR      12 54 53.8
PGAV                                 i AMs_20        12 56 30.1
     comp=Z,1μm,24.0s
MVO  Moncorvo             42.86  34  eP    P         12 43 21.9 -0.5
MVO                                  i Amb           12 44 18.4
     comp=Z,16nm,1.4s
MVO                                  eS      S       12 49 55.3 +9.2
MVO                                  eLQ     LQ      12 53 09.6
MVO                                  eLR     LR      12 54 50.2
MVO                                  i AMs_20        12 57 12.9
     comp=Z,2μm,20.0s
PB09 IPOC Station P       42.90 226  P     P         12 43 21.1 -2.0
PB09                                 IAmb    IAmb    12 43 48.5
     comp=Z,72nm,1.8s
PATCX Punta Patache       42.96 228  P     P         12 43 22.0 -1.5
COHC Cochancay            43.15 258  P     P         12 43 23.8 -1.3
PAB  San Pablo            43.36  38  P     P         12 43 25.3 -1.2
PAB  San Pablo            43.36  38  P     P         12 43 25.3 -1.2
PAB                                  pmax    pmax
     comp=Z,41nm,1.8s
PBRG Braganca             43.46  33  eP    P         12 43 27.6 +0.5
PBRG                                 i Amb           12 43 49.9
     comp=Z,28nm,1.6s
ATAH Atahualpa            43.63 251  LR    LR        13 03 15.0
     comp=Z,1μm,18.4s,baz=87,slow=38
ESDC Sonseca Array        43.67  38  P     P         12 43 27.9 -1.1
     comp=Z,2.6nm,1.1s,baz=244,slow=8.7,SNR=8.0
ESDC                                 LR    LR        12 58 19.7
     comp=Z,1μm,19.7s,baz=226,slow=32
     comp=Z,2.6nm,1.1s
TAM  Tamanrasset          43.71  65  P     P         12 43 29.1 -0.5
TAM  Tamanrasset          43.71  65  P     P         12 43 29.1 -0.5
TAM                                  pmax    pmax
     comp=Z,20nm,1.5s
NNA  Nana                 43.97 244  LR    LR        13 01 47.6
     comp=Z,2μm,21.6s,baz=66,slow=36
PB05 IPOC Station P       44.26 226  P     P         12 43 33.1 -0.8
PB05                                 IAmb    IAmb    12 43 59.7
     comp=Z,38nm,1.1s
DRLN Deer Lake            44.95 341  P     P         12 43 40.4 +1.5
DRLN                                 IAmb    IAmb    12 44 34.5
     comp=Z,40nm,1.1s
GO02 Mina Guanaco         45.32 223  P     P         12 43 42.1 -0.5
GO02                                 IAmb    IAmb    12 43 53.1
     comp=Z,28nm,0.8s
PB14 IPOC Station P       45.53 224  P     P         12 43 43.2 -1.1
AC02 Maricunga            46.14 221  P     P         12 43 49.0 -0.3
AC02                                 IAmb    IAmb    12 44 14.4
     comp=Z,19nm,1.0s
AC01 Pan de Azucar        46.65 223  P     P         12 43 53.5 +0.8
AC01                                 IAmb    IAmb    12 44 04.7
     comp=Z,14nm,0.8s
R58B Mineral              47.62 316  IAms_20 IAms_20 12 59 04.0
     comp=Z,1μm,19.0s
456A Hilliard             47.81 305  IAms_20 IAms_20 12 58 40.1
     comp=Z,2μm,20.0s
W57A Gilead               47.88 311  IAms_20 IAms_20 12 59 31.9
     comp=Z,2μm,20.0s
BOAB BOACO BROADBAND      47.96 280  IAms_20 IAms_20 13 00 58.4
     comp=Z,1μm,19.0s
AC05 El Transito          48.24 220  P     P         12 44 05.0 -0.3
AC05                                 IAmb    IAmb    12 44 22.3
     comp=Z,16nm,0.9s
S57A Dark Hollow, R       48.27 315  IAms_20 IAms_20 12 59 02.3
     comp=Z,2μm,22.0s
AC04 Llanos de Chal       48.33 221  P     P         12 44 03.9 -1.8
AC04                                 IAmb    IAmb    12 44 29.2
     comp=Z,31nm,1.1s
KMSC Kings Mountain       48.88 311  IAms_20 IAms_20 12 59 20.3
     comp=Z,1μm,20.0s
CO01 Juntas del Tor       48.92 219  P     P         12 44 09.9 -0.7
CO01                                 IAmb    IAmb    12 44 38.7
     comp=Z,48nm,1.6s
CFA  Coronel Fontan       48.97 216  LR    LR        13 06 54.5
     comp=Z,709nm,18.6s,baz=52,slow=39
V55A Taylorsville         49.07 312  IAms_20 IAms_20 13 00 17.6
     comp=Z,2μm,21.0s
TIGA Tifton               49.31 305  IAms_20 IAms_20 12 59 60.0
     comp=Z,2μm,22.0s
154A Montrose             49.31 307  IAms_20 IAms_20 12 59 49.9
     comp=Z,2μm,21.0s
GO04 Tololo Observa       49.49 219  P     P         12 44 13.5 -1.5
U54A Nelsons Funny        49.79 312  IAms_20 IAms_20 13 00 41.6
     comp=Z,1μm,19.0s
GOGA Godfrey              49.87 308  IAms_20 IAms_20 13 00 36.7
     comp=Z,2μm,19.0s
CO03 El Pedregal          49.89 218  P     P         12 44 17.3 -0.5
CO03                                 IAmb    IAmb    12 44 32.7
     comp=Z,17nm,0.9s
352A Blakely              50.41 305  IAms_20 IAms_20 12 59 57.9
     comp=Z,2μm,22.0s
Y52A Lilburn              50.49 308  IAms_20 IAms_20 13 00 56.2
     comp=Z,1μm,20.0s
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152A Waverly Hall 50.61 306 IAMs_20 IAMs_20 13 00 29.4
comp=Z,1µm,22.0s
KEST Kesra 50.87 50 LR LR 13 06 33.6
comp=Z,2µm,19.1s,baz=242,slow=37
TKL Tuckaleechee C 50.91 310 LR LR 13 01 18.3
comp=Z,1µm,21.8s,baz=119,slow=31
TRQA Tornquist 50.94 205 IAMs_20 IAMs_20 13 03 41.6
comp=Z,2µm,19.0s
MT08 Bocatoma Ro 51.34 216 P **P** **12 44 29.4 +0.5**
MT08 IAmb IAmb 12 44 51.1
comp=Z,31nm,1.2s
S51A Beattyville 51.54 313 IAMs_20 IAMs_20 13 01 13.9
comp=Z,1µm,19.0s
W50A Signal Mountai 51.92 309 IAMs_20 IAMs_20 13 03 21.0
comp=Z,1µm,19.0s
SADO Sadowa 51.92 323 LR LR 13 02 11.7
comp=Z,646nm,20.1s,baz=144,slow=31
BRAL Brewton 52.06 304 IAMs_20 IAMs_20 13 01 12.7
comp=Z,2µm,21.0s
BO04 La Punta 52.07 215 P **P** **12 44 33.8 -0.3**
BO04 IAmb IAmb 12 44 35.4
comp=Z,29nm,1.1s
MT09 Talagante 52.14 216 P **P** **12 44 33.7 -1.0**
SCHQ Schefferville 52.77 339 P **P** **12 44 39.4 +0.4**
SCHQ IAmb IAmb 12 45 05.0
comp=Z,41nm,1.4s
SCHQ Schefferville 52.77 339 P **P** **12 44 37.0 -2.0**
comp=Z,2.2nm,0.7s,baz=146,slow=9.6,SNR=5.9
SCHQ LR LR 13 03 52.3
comp=Z,437nm,19.2s,baz=134,slow=32
comp=Z,2.2nm,0.7s
X48A Hartselle 53.02 308 IAMs_20 IAMs_20 13 01 53.1
comp=Z,2µm,22.0s
O49A Covington 53.11 315 IAMs_20 IAMs_20 13 02 26.3
comp=Z,1µm,19.0s
BNI Bardonecchia 53.20 38 P **P** **12 44 42.4 -0.1**
BNI Bardonecchia 53.20 38 P **P** **12 44 42.4 -0.1**
BNI pmax pmax
comp=Z,20nm,1.2s
V48A Smith Brothers 53.26 309 IAMs_20 IAMs_20 13 01 47.6
comp=Z,1µm,22.0s
Z47A Carrollton 53.46 306 IAMs_20 IAMs_20 13 02 30.7
comp=Z,1µm,22.0s
ML02 Panimavida 53.81 215 P **P** **12 44 46.1 -0.6**
T47A Sharon Grove 53.90 311 P **P** **12 44 48.4 +0.9**
T47A IAMs_20 IAMs_20 13 02 41.4
comp=Z,1µm,21.0s
WVT Waverly 54.16 309 P **P** **12 44 51.3 +1.8**
WVT IAmb IAmb 12 45 04.0
comp=Z,34nm,1.1s
WVT Waverly 54.16 309 P **P** **12 44 51.3 +1.8**
WVT pmax pmax
comp=Z,34nm,1.2s
SENIN Lac Senin/Sane 54.25 37 P **P** **12 44 50.2 0.0**
BI02 San Fabin de 54.38 214 P **P** **12 44 49.8 -1.3**
EKA Eskdalemuir Ar 54.77 23 P **P** **12 44 53.5 -0.1**
comp=Z,0.9nm,0.7s,baz=215,slow=6.1,SNR=3.7
comp=Z,0.9nm,0.7s
Y45A Yeager Farm, C 54.83 306 IAMs_20 IAMs_20 13 03 01.0
comp=Z,2µm,21.0s
BMRD Maredsous 55.03 32 *d*P **P** **12 44 55.4 -0.1**
T45A Paducah 55.07 310 IAMs_20 IAMs_20 13 02 54.4
comp=Z,1µm,21.0s
ECH Echery 55.15 35 P **P** **12 44 56.1 -0.3**
ECH Echery 55.15 35 P **P** **12 44 56.1 -0.3**
ECH pmax pmax
comp=Z,12nm,1.1s
OLIL Olney 55.24 312 P **P** **12 44 56.9 -0.4**
VAE Valguarnera 55.30 49 LR LR 13 07 11.8
comp=Z,2µm,20.8s,baz=288,slow=35
OSSC Osservatorio P 55.37 41 P **P** **12 44 58.6 +0.5**
OSSC IAmb IAmb 12 45 22.9
comp=Z,29nm,1.2s
TUE Stuetta 55.53 37 P **P** **12 44 59.5 0.0**
comp=Z,27nm,2.6s
S44A Carbondale 55.75 311 IAMs_20 IAMs_20 13 03 59.2
comp=Z,1µm,20.0s
BFO Black Forest 55.87 35 P **P** **12 45 01.6 -0.1**
BFO Black Forest 55.87 35 P **P** **12 45 01.6 -0.1**
BFO pmax pmax
comp=Z,18nm,1.2s
DAVOX Davos/Dischmat 56.00 37 LR LR 13 05 12.1
comp=Z,2µm,21.5s,baz=250,slow=32
DAVA Damuels 56.25 37 *i* P **P** **12 45 04.3 -0.2**
comp=Z,7.9nm,0.9s
P43A Skaggs, Pawnee 56.59 313 IAMs_20 IAMs_20 13 04 44.6
comp=Z,1µm,20.0s
FETA Feichten 56.63 37 *e*P **P** **12 45 06.4 -0.8**
comp=Z,11nm,1.2s
CEL Celeste 56.66 49 IAMs_20 IAMs_20 13 07 59.0
comp=Z,2µm,22.0s
CEL Celeste 56.66 49 P **P** **12 45 07.7 +0.2**
comp=Z,13nm,0.9s
CTI Castel Tesino 56.74 39 P **P** **12 45 08.0 0.0**
CTI Castel Tesino 56.74 39 P **P** **12 45 08.0 0.0**
CTI pmax pmax
comp=Z,11nm,0.7s
RETA Reutte 56.87 37 *e*P **P** **12 45 08.2 -0.6**
comp=Z,9.6nm,1.3s
CMIG Matias Romero 57.00 285 LR LR 13 10 07.4
comp=Z,254nm,19.2s,baz=86,slow=37
MOTA Moosalm 57.01 37 *e*P **P** **12 45 09.9 0.0**
comp=Z,9.7nm,1.4s
SQTA Sankt Quirin 57.01 37 *e*P **P** **12 45 09.1 -0.8**
comp=Z,8.2nm,1.1s
PLCA Paso Flores 57.03 210 P **P** **12 45 10.3 +0.3**
PLCA IAmb IAmb 12 45 24.8
comp=Z,23nm,1.1s
PLCA Paso Flores 57.03 210 P **P** **12 45 09.4 -0.7**
comp=Z,4.8nm,0.9s,baz=44,slow=4.9,SNR=7.2
PLCA LR LR 13 09 51.4
comp=Z,2µm,18.2s,baz=44,slow=36
comp=Z,4.8nm,0.9s
PLCA Paso Flores 57.03 210 P **P** **12 45 10.4 +0.3**
PLCA pmax pmax
comp=Z,23nm,1.2s
WATA Walderalm 57.29 37 *e*P **P** **12 45 10.9 -1.0**
comp=Z,9.3nm,1.1s
WTTA Wattenberg 57.29 38 *e*P **P** **12 45 11.2 -0.8**
comp=Z,12nm,1.0s
UALR University of 57.30 307 P **P** **12 45 12.1 +0.1**
CCM Cathedral Cave 57.36 311 IAMs_20 IAMs_20 13 04 12.9
comp=Z,1µm,21.0s
FCAR Ozark Folk Cen 57.42 308 P **P** **12 45 13.9 +1.0**
FCAR IAmb IAmb 12 45 26.8
comp=Z,20nm,1.3s
ABTA Abfaltersbach 57.59 38 *e*P **P** **12 45 13.4 -0.6**
comp=Z,12nm,1.4s
TIP Timpagrande 57.59 48 IAMs_20 IAMs_20 13 08 27.7
comp=Z,1µm,22.0s
TIP Timpagrande 57.59 48 P **P** **12 45 14.2 +0.1**
comp=Z,11nm,1.3s
WLAR White Oak Lake 57.65 305 P **P** **12 45 14.0 -0.5**
MGMO Mountain Grove 57.88 309 P **P** **12 45 16.9 +0.9**
MGMO IAmb IAmb 12 45 30.9
comp=Z,30nm,1.2s
LESA Schwarzleotal 57.99 38 *e*P **P** **12 45 15.9 -0.9**
comp=Z,7.0nm,1.1s
R40A Maddies Statio 58.20 311 P **P** **12 45 18.7 +0.4**
MIAR Mount Ida 58.23 306 IAMs_20 IAMs_20 13 05 17.1
comp=Z,1µm,22.0s
MYKA Terra Mystica 58.24 39 *e*P **P** **12 45 18.2 -0.3**
comp=Z,7.3nm,0.7s
KBA Koelnbreinsper 58.25 38 *e*P **P** **12 45 16.9 -1.8**
comp=Z,7.9nm,1.2s
P40A Paris 58.40 312 P **P** **12 45 19.2 -0.5**
P40A IAmb IAmb 12 45 34.3
comp=Z,27nm,1.0s
P40A IAMs_20 IAMs_20 13 06 09.6
comp=Z,1µm,19.0s
NATX Nacogdoches 58.51 303 P **P** **12 45 20.0 -0.6**
NATX IAMs_20 IAMs_20 13 06 35.8
comp=Z,1µm,21.0s
BIOA Bad Ischl, Aus 58.70 38 *e*P **P** **12 45 18.9 -2.7**
comp=Z,5.8nm,1.0s
OBKA Obir 58.76 39 *e*P **P** **12 45 20.1 -2.0**
comp=Z,19nm,1.3s
SOKA Soboth 59.13 39 *e*P **P** **12 45 24.1 -0.6**
comp=Z,7.3nm,1.0s
MOA Molln 59.15 38 *e*P **P** **12 45 22.6 -2.1**
comp=Z,9.9nm,1.6s
HKT Hockley 59.18 300‖ *e*P **P** **12 45 28.3 +3.1**
HKT pmax pmax
comp=Z,17nm,1.5s
GERES GERESS Array B 59.24 37 P **P** **12 45 25.3 -0.2**
GERES GERESS Array B 59.24 37 P **P** **12 45 26.0 +0.5**
comp=Z,0.4nm,0.5s,baz=237,slow=9.4,SNR=5.8
GERES LR LR 13 08 25.7
comp=Z,342nm,20.5s,baz=242,slow=34
comp=Z,0.4nm,0.5s
GERES GERESS Array B 59.24 37 P **P** **12 45 26.0 +0.5**
KHC Kasperske Hory 59.30 36‖ *e*P **P** **12 45 26.0 +0.3**
KHC pmax pmax
comp=Z,29nm,2.5s
KHC Kasperske Hory 59.30 36 P **P** **12 45 26.1 +0.3**
comp=Z,10nm,1.8s
P38A Dawn 59.53 312 P **P** **12 45 29.0 +1.5**
P38A IAmb IAmb 12 45 36.6
comp=Z,13nm,0.9s
P38A IAMs_20 IAMs_20 13 06 55.3
comp=Z,2µm,20.0s
N38A Joes South For 59.65 313 IAMs_20 IAMs_20 13 05 55.6
comp=Z,1µm,21.0s
TSUM Tsumeb 60.13 117 LR LR 13 05 01.3
comp=Z,891nm,21.4s,baz=297,slow=30
CONA Cerro Observa 60.15 38 *e*P **P** **12 45 30.8 -1.0**
comp=Z,13nm,1.6s
TUL3 Leonard 60.31 307 P **P** **12 45 33.2 +0.2**
TUL3 IAMs_20 IAMs_20 13 06 41.1
comp=Z,1µm,20.0s
RONA Rosalia, Austr 60.33 39 *e*P **P** **12 45 32.3 -0.6**
comp=Z,12nm,1.2s
FRB Frobisher Bay 60.43 345 LR LR 13 07 22.5
comp=Z,789nm,21.1s,baz=142,slow=32
MPLH Magyarpolny 60.90 40 P **P** **12 45 37.1 +0.3**
comp=Z,36nm,1.1s
KRUC Moravsky 60.94 37 *e*P P 12 45 42.6 +5.6
Z35A Perchaven, San 60.96 304 P **P** **12 45 38.0 +0.6**
WIN Windhoek 60.97 121 IAMs_20 IAMs_20 13 05 23.7
comp=Z,907nm,21.0s
T35A Sooner Cattle 61.10 308 P **P** **12 45 39.0 +0.7**
VRAC Vranov 61.16 37 LR LR 13 08 28.2
comp=Z,1µm,21.6s,baz=257,slow=32
VRAC Vranov 61.16 37 *e*P P 12 45 44.8 +6.3
MORH Mrgy, Hungar 61.26 41 P **P** **12 45 39.6 +0.4**
comp=Z,6.6nm,2.3s
OK051 ED350 and S346 61.26 308 IAMs_20 IAMs_20 13 05 26.4
comp=Z,1µm,22.0s
OK048 Pawnee Station 61.33 307 P **P** **12 45 40.2 +0.3**
DPC Dobruska-Polom 61.43 36 P **P** **12 45 40.8 +0.4**
comp=Z,7.3nm,2.0s
KSP Ksiaz 61.62 35 *e*P **P** **12 45 38.0 -3.6**
SRO Srobarova 61.63 39 *e*P **P** **12 45 42.9 +1.2**
SRO Srobarova 61.63 39 *e*P **P** **12 45 42.9 +1.2**
KSU1 Kansas State U 61.69 310 IAMs_20 IAMs_20 13 06 47.5
comp=Z,900nm,20.0s
L34A Svendsen Farm, 62.26 314 IAMs_20 IAMs_20 13 06 39.4
comp=Z,1µm,22.0s
OK032 Salt Plains WL 62.41 308 IAMs_20 IAMs_20 13 07 34.7
comp=Z,1µm,20.0s
WMOK Wichita Mounta 62.47 305 P **P** **12 45 48.0 +0.4**
WMOK Wichita Mounta 62.47 305 IAMs_20 IAMs_20 13 09 16.3
comp=Z,1µm,20.0s
WMOK Wichita Mounta 62.47 305 P **P** **12 45 48.0 +0.4**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
JCT Junction City 62.65 300 P **P** **12 45 49.9 +1.0**
JCT IAmb IAmb 12 46 03.5
comp=Z,21nm,1.1s
JCT Junction City 62.65 300 P **P** **12 45 49.9 +1.0**
JCT pmax pmax
comp=Z,21nm,1.1s
PSZ Piszkesteto 62.66 39 P **P** **12 45 48.1 -0.6**
PSZ IAmb IAmb 12 46 16.0
comp=Z,14nm,1.1s
PSZ Piszkesteto 62.66 39 P **P** **12 45 48.1 -0.6**
PSZ pmax pmax
comp=Z,14nm,1.1s
ECSD EROS Data Cent 62.91 315 P **P** **12 45 52.2 +1.8**
ECSD IAmb IAmb 12 46 03.3
comp=Z,11nm,0.9s
IDI Anoyia 62.92 54 LR LR 13 12 48.8
comp=Z,1µm,21.8s,baz=268,slow=36
APMT Aspermont 63.33 303 P **P** **12 45 53.9 +0.5**
OJC Ojcow 63.43 37 *e*P P 12 45 59.3 +5.6
NIE Niedzica 63.44 38 *e*P **P** **12 45 54.6 +0.8**
OZNA Ozona 63.84 301 P **P** **12 45 57.4 +0.6**
OZNA IAmb IAmb 12 46 13.8
comp=Z,19nm,1.1s
NOA NORSAR Array B 64.24 24 P **P** **12 45 59.4 +0.5**
comp=Z,2.3nm,0.8s,baz=235,slow=6.6,SNR=2.6
NOA LR LR 13 08 50.2
comp=Z,514nm,21.9s,baz=235,slow=31
comp=Z,2.3nm,0.8s
HOLU Holmets 64.43 39 P **P** **12 46 00.3 0.0**
ZAIG Zacatecas 64.45 292 P **P** **12 46 01.7 +0.4**
ZAIG IAmb IAmb 12 46 54.4
comp=Z,25nm,1.7s
ULM Lac du Bonnet 64.48 323 P **P** **12 46 00.6 0.0**
comp=Z,6.3nm,0.8s,baz=108,slow=6.3,SNR=7.1
ULM LR LR 13 09 15.3
comp=Z,470nm,21.3s,baz=114,slow=32
comp=Z,6.3nm,0.8s
KOLS Kolonicke sedl 64.49 39 *e*P **P** **12 46 01.6 +0.9**
KOLS Kolonicke sedl 64.49 39 *e*P **P** **12 46 01.6 +0.9**
BERU Beregovo 64.50 40 P **P** **12 46 01.0 +0.2**
RDO Rodhopi 64.60 48 P **P** **12 46 01.8 +0.3**
RDO IAmb IAmb 12 46 37.2
comp=Z,21nm,1.2s
HFS Hagfors 64.77 25 P **P** **12 46 02.7 +0.4**
comp=Z,1.7nm,0.7s,baz=251,slow=4.4,SNR=1.1
HFS LR LR 13 09 38.9
comp=Z,513nm,19.6s,baz=256,slow=32
comp=Z,1.7nm,0.7s
BRIU Brid 64.78 40 P **P** **12 46 02.7 +0.2**
KARP Karpathos 64.80 54 IAMs_20 IAMs_20 13 13 48.4
comp=Z,1µm,20.0s
SUMG Summit 64.96 360 *i* P P 12 46 10.4 +6.6
TXAR Lajitas Array 65.86 299 P **P** **12 46 09.2 -1.0**
comp=Z,0.8nm,0.6s,baz=114,slow=6.5,SNR=12
TXAR LR LR 13 15 36.6
comp=Z,121nm,20.3s,baz=76,slow=37
comp=Z,0.8nm,0.6s
JMIC Jan Mayen 65.89 10 LR LR 13 08 17.2
comp=Z,390nm,20.3s,baz=257,slow=30
MLR Muntele Rosu 65.91 43 P **P** **12 46 09.3 -0.8**
MLR Muntele Rosu 65.91 43 LR LR 13 13 46.7
comp=Z,391nm,20.1s,baz=276,slow=35
MLR Muntele Rosu 65.91 43 P **P** **12 46 09.3 -0.8**
MLR pmax pmax
comp=Z,77nm,1.6s
MLR Muntele Rosu 65.91 43 P **P** **12 46 10.1 0.0**
comp=Z,29nm,1.4s
ALPN Alpine 65.93 300 P **P** **12 46 10.2 -0.4**
ALPN IAmb IAmb 12 46 22.1
comp=Z,18nm,1.0s
E28A Huff 66.45 318 P **P** **12 46 14.8 +1.3**
VHRN Van Horn 67.13 300 P **P** **12 46 18.5 +0.3**
VHRN IAmb IAmb 12 46 33.6
comp=Z,25nm,1.3s
RNPP8 Varash 67.43 37 P **P** **12 46 19.7 +0.2**
USHA Ushuaia 67.43 199 LR LR 13 14 42.6
comp=Z,476nm,19.4s,baz=24,slow=35
ISP Isparta 67.80 52 IAMs_20 IAMs_20 13 16 33.8
comp=Z,963nm,22.0s
SUR Sutherland 67.97 129 LR LR 13 09 15.8
comp=Z,547nm,21.0s,baz=292,slow=30
LUBAR Lubar, Ukraine 68.21 39 P **P** **12 46 23.7 -0.8**
SDCO Great Sand Dun 68.30 308 IAMs_20 IAMs_20 13 12 34.6
comp=Z,694nm,19.0s
MI28 Mi28,Pidlybu 68.41 38 P **P** **12 46 25.6 -0.1**
LSZ Lusaka 68.61 110 LR LR 13 11 05.9
comp=Z,401nm,20.4s,baz=305,slow=31
ISCO Idaho Springs 68.66 310 IAMs_20 IAMs_20 13 12 16.1
comp=Z,1µm,19.0s
ANMO Albuquerque 68.75 304 LR LR 13 12 49.9
comp=Z,1µm,21.2s,baz=265,slow=33
ANMO Albuquerque 68.75 304‖ *e*P **P** **12 46 29.1 +0.7**
ANMO pmax pmax
comp=Z,5.0nm,1.5s
LBTB Lobatse 69.10 120 LR LR 13 10 38.4
comp=Z,507nm,20.9s,baz=283,slow=31
AK17 Malin Array Si 69.20 39 P **P** **12 46 31.0 +0.4**
AK16 Malin Array Si 69.23 39 P **P** **12 46 31.4 +0.6**
AKASG Malin Array Be 69.31 39 P **P** **12 46 30.8 -0.6**
comp=Z,0.7nm,0.5s,baz=256,slow=5.9,SNR=4.0
AKASG LR LR 13 16 51.6
comp=Z,347nm,18.6s,baz=252,slow=36
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 69.31 39 *i* P **P** **12 46 31.8 +0.5**
AKBB Malin Array Si 69.31 39‖ *e*P **P** **12 46 35.5 +4.2**
AKBB pmax pmax
comp=Z,84nm,5.0s
AKBB Malin Array Si 69.31 39 P **P** **12 46 32.3 +1.0**
CSS Mathiatis 69.73 56 IAMs_20 IAMs_20 13 16 19.2
comp=Z,688nm,20.0s
CSS Mathiatis 69.73 56 P **P** **12 46 34.6 +0.3**
comp=Z,6.8nm,0.8s
BOSA Boshof 70.05 124 P **P** **12 46 35.2 -1.2**
BOSA IAmb IAmb 12 47 01.2
comp=Z,27nm,1.3s
BOSA Boshof 70.05 124 P **P** **12 46 36.2 -0.2**
comp=Z,8.2nm,1.0s,baz=288,slow=2.4,SNR=5.5
BOSA LR LR 13 12 24.1
comp=Z,176nm,18.9s,baz=292,slow=32
comp=Z,8.2nm,1.0s
LAO LASA Array 70.20 317 P **P** **12 46 38.2 +1.2**
LAO IAmb IAmb 12 46 49.2
comp=Z,27nm,1.1s
BR105 Keskin Array S 70.44 51 P **P** **12 46 39.1 +0.4**
comp=Z,6.2nm,1.0s
BR104 Keskin Array S 70.46 51 P **P** **12 46 38.9 +0.1**
comp=Z,67nmcomp=Z,6.2nm,1.0s
BR131 Keskin Array S 70.46 51 P **P** **12 46 38.1 -0.7**
BR131 IAmb IAmb 12 46 59.9
comp=Z,17nm,1.4s
BR131 Keskin Array S 70.46 51‖ *e*P **P** **12 46 40.0 +1.2**
BRTR Keskin Array B 70.46 51 P **P** **12 46 38.6 -0.2**
BRTR Keskin Array B 70.46 51 P **P** **12 46 38.8 -0.1**
comp=Z,1.4nm,0.8s,baz=258,slow=6.2,SNR=5.2
BRTR LR LR 13 17 27.2
comp=Z,464nm,21.8s,baz=248,slow=36
comp=Z,1.4nm,0.8s
MVCO Mesa Verde 70.61 307 IAMs_20 IAMs_20 13 09 51.6
comp=Z,858nm,19.0s
O20A White River Ci 70.71 310 P **P** **12 46 41.2 +0.8**
O20A IAmb IAmb 12 47 07.3
comp=Z,22nm,1.0s
EIL Elat 70.78 61 LR LR 13 17 05.6
comp=Z,1µm,21.2s,baz=266,slow=35
FINES FINESS Array B 70.79 27 P **P** **12 46 39.8 -0.4**
comp=Z,4.0nm,1.0s,baz=253,slow=3.8,SNR=3.9
FINES LR LR 13 14 12.1
comp=Z,834nm,20.1s,baz=250,slow=33
comp=Z,4.0nm,1.0s
PV13 Radium Mtn., P 70.95 308 P **P** **12 46 44.1 +2.1**
PV10 Paradox Valley 71.14 308 P **P** **12 46 43.1 0.0**
PV10 IAmb IAmb 12 47 22.3
comp=Z,26nm,1.3s
MMAI Mount Meron Ar 71.32 58 LR LR 13 18 06.3
comp=Z,319nm,21.4s,baz=266,slow=36
GHAJ Ghor Haditha 71.37 60 IAMs_20 IAMs_20 13 17 27.7
comp=Z,715nm,19.0s
LPIG La Paz 71.59 293 LR LR 13 19 23.8
comp=Z,186nm,18.7s,baz=84,slow=37
PDAR Pinedale Array 71.98 312 P **P** **12 46 47.0 -1.1**
comp=Z,0.5nm,0.9s,baz=96,slow=9.1,SNR=4.1
PDAR LR LR 13 14 14.8
comp=Z,572nm,21.9s,baz=103,slow=32
comp=Z,0.5nm,0.9s
P18A Preston Nutter 72.19 309 P **P** **12 46 49.8 +0.3**
P18A IAmb IAmb 12 47 18.4
comp=Z,39nm,1.4s
SRU San Rafael Swe 72.36 309 P **P** **12 46 50.7 +0.3**
SRU San Rafael Swe 72.36 309 P **P** **12 46 50.7 +0.3**
SRU pmax pmax
comp=Z,11nm,1.0s
ASF Jabal al Asfar 72.54 59 LR LR 13 21 49.0
comp=Z,271nm,18.2s,baz=295,slow=38
YMP Mirror Lake Pl 72.64 314 P **P** **12 46 52.6 +0.5**
YMP IAmb IAmb 12 47 02.2
comp=Z,20nm,1.0s
BSUT Blindstream Ca 72.66 310 P **P** **12 46 52.7 +0.3**
BSUT IAmb IAmb 12 47 19.4
comp=Z,24nm,1.2s
LKWY Lake 72.79 314 IAMs_20 IAMs_20 13 14 22.3
comp=Z,1µm,20.0s
X16A Lo Mia Camp, P 72.80 304 P **P** **12 46 53.4 +0.3**
YMR Madison River 73.21 314 P **P** **12 46 55.4 0.0**
HWUT Hardware Ranch 73.36 311 P **P** **12 46 56.1 -0.1**
YHL Hebgen Lake 73.38 314 P **P** **12 46 56.9 +0.5**
YHL IAmb IAmb 12 47 09.4
comp=Z,25nm,1.0s
MTPU Mount Pierson 73.59 307 P **P** **12 46 58.8 +0.9**
ARCES ARCESS Array B 73.60 19 P **P** **12 46 56.9 0.0**
comp=Z,4.3nm,1.0s,baz=259,slow=2.5,SNR=3.9
ARCES LR LR 13 15 16.9
comp=Z,452nm,19.8s,baz=248,slow=33
comp=Z,4.3nm,1.0s
MVU Marysvale 73.64 308 P **P** **12 46 58.4 +0.4**
BGU Big Grassy Mou 74.41 310 P **P** **12 47 02.4 0.0**
BGU IAmb IAmb 12 47 14.5
comp=Z,16nm,1.0s
RES Resolute Bay 74.54 347 LR LR 13 15 58.6
comp=Z,312nm,20.0s,baz=148,slow=33
OBN Obninsk 74.55 35 LR LR 13 17 07.5
comp=Z,452nm,20.3s,baz=251,slow=34
OBN Obninsk 74.55 35 *e*P **P** **12 47 03.5 +0.9**
OBN *e* 12 47 19.8
OBN *e* 12 49 51.0
OBN *e*PPP PPP 12 51 37.2
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,319nm,11.0s
KMBO Kilima Mbogo 74.71 93 LR LR 13 16 22.0
comp=Z,454nm,21.8s,baz=278,slow=33
PSUT Pine Spring 74.92 308 P **P** **12 47 05.5 0.0**
MOS Moscow 75.24 34 *e*P **P** **12 47 06.0 -0.6**
SOC Sochi 75.33 47 *e*P **P** **12 47 08.5 +1.1**
SOC *e* 12 49 57.8
SOC *e*PPP PPP 12 51 45.8
SOC *e*S **S** **12 56 50.1 +4.0**
SOC *e*SS **SS** **13 01 35.0 -1.2**
SOC *e*SSS SSS 13 04 59.3
SPITS Spitsbergen Ar 75.56 10 LR LR 13 13 05.6
comp=Z,435nm,19.5s,baz=196,slow=30
EUNU Eureka 76.04 352 P **P** **12 47 11.7 +0.8**
ELK Elko 76.08 310 LR LR 13 17 21.1
comp=Z,721nm,21.1s,baz=88,slow=33
PFO Pinyon Flats O 76.95 303 LR LR 13 19 30.6
comp=Z,357nm,19.2s,baz=87,slow=34
KLMR Klimovskoe 76.96 29 *e*P **P** **12 47 15.5 -0.8**
KLMR *e**PP **pP** **12 47 19.9 -1.9**
KLMR *e* 12 47 26.4
KIV Kislovodsk 77.50 47 *e*P **P** **12 47 20.5 +0.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KVAR Kislovodsk Arr 77.50 47 LR LR 13 24 33.9
comp=Z,155nm,18.2s,baz=187,slow=38
YKA Yellowknife Ar 77.54 332 P **P** **12 47 16.9 -2.6**
comp=Z,0.7nm,0.7s,baz=103,slow=5.7,SNR=13
YKA LR LR 13 17 24.2
comp=Z,922nm,21.2s,baz=100,slow=33
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 77.54 332*ce*P **P** **12 47 20.7 +1.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 77.64 47 P **P** **12 47 20.1 -0.4**
comp=Z,2.5nm,0.9s,baz=102,slow=3.2,SNR=5.0
comp=Z,2.5nm,0.9s
KBZ Khabaz 77.64 47‖ *e*P **P** **12 47 23.4 +2.9**
KBZ pmax pmax
comp=Z,12nm,1.0s
NEW Newport 77.72 318 LR LR 13 19 02.7
comp=Z,304nm,20.0s,baz=102,slow=34
NVAR Mina Array Bea 78.41 308 P **P** **12 47 23.3 -2.0**
comp=Z,0.8nm,0.9s,baz=91,slow=7.4,SNR=5.9
NVAR LR LR 13 20 36.2
comp=Z,300nm,19.1s,baz=82,slow=35
comp=Z,0.8nm,0.9s
LHV Little Huntoon 78.57 307 P **P** **12 47 26.9 +1.1**
ATD Arta Tunnel 78.79 80 IAMs_20 IAMs_20 13 19 18.6
comp=Z,583nm,20.0s
ATD Arta Tunnel 78.79 80 LR LR 13 20 13.5
comp=Z,22nm,20.9s,baz=276,slow=34
GNI Garni 79.00 51 LR LR 13 22 52.4
comp=Z,458nm,21.7s,baz=293,slow=36
HAWA Hanford 79.31 316 IAMs_20 IAMs_20 13 16 10.7
comp=Z,722nm,18.0s
YBH Yreka Blue Hor 81.70 311 LR LR 13 23 41.0
comp=Z,440nm,18.0s,baz=96,slow=36
KIRV Kirov 81.82 32 LR LR 13 21 02.0
comp=Z,437nm,20.8s,baz=279,slow=34
KIRV Kirov 81.82 32‖ *e*P **P** **12 47 45.8 +2.9**
SNAA Sanae 82.23 170 P **P** **12 47 45.2 +0.3**
comp=Z,1.8nm,0.9s,baz=319,slow=9.3,SNR=3.0
SNAA LR LR 13 16 26.5
comp=Z,303nm,20.9s,baz=322,slow=30
comp=Z,1.8nm,0.9s

SNAA	**Sanae**	**82.23 170**	‖ *e*P	**P**	**12 47 44.6**	**-0.2**
SNAA			pmax	pmax		
comp=Z,56nm,3.5s						
BBB	**Bella Bella**	**84.67 322**	LR	LR	13 21 58.8	
comp=Z,335nm,20.2s,baz=76,slow=33						
NVL	**N'lazarevskaya**	**84.70 165**	*e*P	P	12 48 15.5	+18
NVL			pmax	pmax		
comp=Z,8.0nm,0.8s						
NVL			MLR	MLR		
comp=Z,192nm,15.0s						
DLBC	**Dease Lake**	**85.12 328**	LR	LR	13 21 43.1	
comp=Z,513nm,20.9s,baz=82,slow=33						
INK	**Inuvik**	**85.39 338**	P	**P**	**12 48 00.5**	**-0.5**
INK			IAmb	IAmb	12 48 37.1	
comp=Z,16nm,1.2s						
INK	**Inuvik**	**85.39 338**	LR	LR	13 23 48.9	
comp=Z,982nm,19.1s,baz=84,slow=34						
INK	**Inuvik**	**85.39 338**	P	**P**	**12 48 00.5**	**-0.5**
INK			pmax	pmax		
comp=Z,16nm,1.2s						
F31M	**Tsiigehtchic**	**85.60 337**	P	**P**	**12 48 01.0**	**-1.1**
G31M	**Satah River**	**85.89 337**	P	**P**	**12 48 02.9**	**-0.6**
G31M			IAmb	IAmb	12 48 15.2	
comp=Z,16nm,0.8s						
P33M	**Teslin, Yukon**	**86.30 330**	P	**P**	**12 48 05.8**	**0.0**
P33M			IAmb	IAmb	12 48 17.4	
comp=Z,12nm,0.9s						
ARTI	**Arti**	**86.83 34**	LR	LR	13 23 45.2	
comp=Z,586nm,21.9s,baz=282,slow=33						
ARTI	**Arti**	**86.83 34**	*d iP*	**P**	**12 48 10.3**	**+1.9**
ARTI			S	**SKSac**	**12 58 36.2**	**+1.9**
ARTI			pmax	pmax		
comp=Z,7.0nm,1.2s						
AKTO	**Aktyubinsk**	**87.53 40**	LR	LR	13 26 14.6	
comp=Z,248nm,19.8s,baz=275,slow=35						
ELIB	**Princess Elisa**	**88.39 164**	*d*P	P	12 48 29.1	+13
comp=Z,4.5nm,1.0s						
ILAR	**Eielson Array**	**91.45 336**	P	**P**	**12 48 29.9**	**0.0**
comp=Z,0.6nm,0.9s,baz=46,slow=4.4,SNR=5.2						
ILAR			LR	LR	13 26 42.8	
comp=Z,610nm,20.2s,baz=60,slow=34						
comp=Z,0.6nm,0.9s						
ILAR	**Eielson Array**	**91.45 336**	P	**P**	**12 48 30.0**	**0.0**
H23K	**Yukon River**	**92.08 338**	IAms_20	IAms_20	13 27 05.9	
comp=Z,772nm,21.0s						
WSAR	**Wadi Sarin**	**92.34 66**	LR	LR	13 32 03.4	
comp=Z,5.5nm,19.1s,baz=292,slow=37						
E21K	**Killik River**	**92.51 341**	IAms_20	IAms_20	13 27 16.1	
comp=Z,678nm,22.0s						
BVAR	**Borovoye Array**	**94.39 35**	LR	LR	13 31 33.9	
comp=Z,439nm,18.2s,baz=293,slow=36						
NRIK	**Noril'sk**	**94.49 17**	LR	LR	13 29 01.5	
comp=Z,295nm,20.3s,baz=304,slow=34						
KDAK	**Kodiak Island**	**96.75 331**	LR	LR	13 29 14.2	
comp=Z,538nm,21.7s,baz=265,slow=33						
QSPA	**South Pole Qui**	**97.58 180**	LR	LR	13 31 29.6	
comp=Z,221nm,18.0s,baz=184,slow=34						
KURBB	**Kurchatov Arra**	**99.97 36**	LR	LR	13 33 18.2	
comp=Z,297nm,20.5s,baz=334,slow=35						
BILL	**Bilibino**	**102.77 351**	IAms_20	IAms_20	13 33 28.3	
comp=Z,379nm,21.0s						
WMQ	**Urumqi**	**108.67 39**	Pdif	**Pdif**	**12 49 49.3**	**+1.3**
WMQ			LR	LR		
comp=Z,530nm,18.5s						
LSA	**Lhasa**	**118.06 51**	IAms_20	IAms_20	13 48 35.9	
comp=Z,430nm,19.0s						
HHC	**Hu-ho-hao-te**	**123.90 28**	*e*P	**PKPdf**	**12 54 17.3**	**-5.3**
HHC			LR	LR		
comp=N,560nm,16.2s						
HHC			LR	LR		
comp=E,410nm,18.6s						
HHC			LR	LR		
comp=Z,820nm,17.1s						
PZH	**PanZhiHua**	**127.71 48**	PKP	**PKPdf**	**12 54 29.6**	**-0.7**
CHTO	**Chiang Mai**	**129.41 58**	IAms_20	IAms_20	13 55 57.9	
comp=Z,253nm,20.0s						
QIZ	**Qiongzhong**	**138.10 50**	PKP	**PKPdf**	**12 54 48.8**	**-1.1**
QIZ			PP	**PP**	**12 57 36.3**	**-1.4**
KKM	**Kota Kinabalu**	**150.21 64**	IAms_20	IAms_20	13 55 26.4	
comp=Z,264nm,22.0s						
ASAR	**Alice Springs**	**161.83 153**	PKPab	**PKPab**	**12 56 11.3**	**-0.1**
comp=Z,3.8nm,0.9s,baz=200,slow=3.9,SNR=6.7						

*IDC **23** 12:54:03.9±4.0, 17°.50S×178°.85W, h566km±37km, mb3.9/4, mbtmp4.8/5, Error ellipse: s-maj=36.6km s-min=33.9km az=27.0*
*NEIC **23** 12:54:04.6±1.7, 17°.6S±0°.1×178°.72W±0°.10, h573km±11km, mb4.7/22, Error ellipse: s-maj=22.7km s-min=4.8km az=145.0*

ISC 23 12:54:05.0±0.7, 17°.5S±0°.1×178°.7W±0°.1, h600km, n38, σ1°29/40, mb4.7/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.15**	**265**	P	**P**	**12 55 23.3**	**-1.8**
FUTU	**Fugatoga**	**3.20**	**9**	P	**P**	**12 55 23.5**	**-1.9**
AFI	**Afiamalu**	**7.51**	**63**	P	**P**	**12 55 57.8**	**-2.1**
NIUE	**Niue**	**8.44**	**102**	P	**P**	**12 56 08.3**	**-0.2**
PINNC	**Pines Island,**	**14.02**	**246**	P	**P**	**12 57 02.0**	**-2.0**
DZM	**Mont Dzumac**	**14.75**	**250**	P	**P**	**12 57 08.4**	**-2.6**
DZM	**Mont Dzumac**	**14.75**	**250**	P	**P**	**12 57 08.2**	**-2.8**
17nm,0.8s,baz=86,slow=18,SNR=20							
ONTNC	**Ouen Toro**	**14.80**	**249**	P	**P**	**12 57 09.6**	**-1.7**
EIDS	**Eidsvold**	**29.20**	**249**	P	**P**	**12 59 18.8**	**-1.1**
EIDS				IAmb	IAmb	12 59 19.5	
comp=Z,8.5nm,0.8s							
MLZ	**Mavora Lakes**	**29.92**	**199**	P	**P**	**12 59 25.7**	**-0.2**
MLZ				IAmb	IAmb	12 59 53.0	
comp=Z,16nm,1.4s							
ARMA	**Armidale**	**29.95**	**239**	P	**P**	**12 59 26.5**	**0.0**
ARMA				IAmb	IAmb	12 59 27.2	
comp=Z,10.0nm,0.7s							
CAN	**Canberra**	**33.78**	**232**	P	**P**	**12 59 58.5**	**-0.3**
CAN				IAmb	IAmb	13 00 00.7	
comp=Z,28nm,1.5s							
PMG	**Port Moresby**	**34.16**	**279**	P	**P**	**13 00 03.4**	**+1.3**
COEN	**Coen**	**36.87**	**270**	P	**P**	**13 00 24.9**	**+0.4**
COEN				IAmb	IAmb	13 00 25.6	
comp=Z,17nm,0.8s							
TOO	**Toolangi**	**37.26**	**230**	P	**P**	**13 00 27.6**	**+0.2**
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**13 00 38.6**	**+0.1**
comp=Z,9.8nm,0.4s,baz=88,slow=9.9,SNR=43							
comp=Z,9.8nm,0.4s							
BBOO	**Buckleboo**	**43.41**	**241**	P	**P**	**13 01 16.2**	**-0.1**
BBOO				IAmb	IAmb	13 01 16.7	
comp=Z,23nm,0.8s							
WR8	**Warramunga Arr**	**44.33**	**259**	P	**P**	**13 01 22.7**	**-0.8**
WB0	**Warramunga Arr**	**44.45**	**259**	P	**P**	**13 01 23.6**	**-0.8**
WB0				IAmb	IAmb	13 01 27.5	
comp=Z,36nm,1.5s							
WB2	**Warramunga Arr**	**44.47**	**259**	P	**P**	**13 01 23.6**	**-1.0**
WB2				IAmb	IAmb	13 01 24.5	
comp=Z,11nm,0.7s							
WRA	**Warramunga Arr**	**44.48**	**259**	P	**P**	**13 01 23.7**	**-1.0**
comp=Z,5.6nm,0.6s,baz=94,slow=6.9,SNR=47							
comp=Z,5.6nm,0.6s							
AS31	**Alice Springs**	**44.68**	**254**	P	**P**	**13 01 26.2**	**0.0**
AS31				IAmb	IAmb	13 01 26.5	
comp=Z,16nm,0.7s							
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**13 01 26.1**	**-0.1**
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**13 01 25.9**	**-0.3**
comp=Z,42nm,0.4s,baz=88,slow=8.1,SNR=483							
ASAR				PcP	**PcP**	**13 02 56.7**	**+1.2**
comp=Z,1.1nm,0.5s,baz=85,slow=3.5,SNR=3.5							
ASAR				ScP	**ScP**	**13 05 55.0**	**+3.6**
comp=Z,0.5nm,0.7s,baz=89,slow=4.1,SNR=2.6							
comp=Z,42nm,0.4s							
MTN	**Manton Dam**	**48.58**	**268**	P	**P**	**13 01 55.4**	**-0.1**
MTN				IAmb	IAmb	13 02 14.0	
comp=Z,47nm,1.3s							
FORT	**Forrest**	**49.98**	**244**	P	**P**	**13 02 05.0**	**-0.6**
FAKI	**Fak Fak**	**50.27**	**281**	P	**P**	**13 02 08.8**	**+0.8**
FAKI				IAmb	IAmb	13 02 31.3	
comp=Z,35nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.87**	**260**	P	**P**	**13 02 27.0**	**+0.4**
PSA00	**Pilbara Seismi**	**57.79**	**255**	P	**P**	**13 03 00.5**	**-0.1**
MBWA	**Marble Bar**	**57.95**	**256**	P	**P**	**13 03 01.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**65.82**	**268**	P	**P**	**13 03 52.4**	**-0.3**
JAGI				IAmb	IAmb	13 04 09.8	
comp=Z,33nm,1.1s							
KKM	**Kota Kinabalu**	**68.42**	**284**	P	**P**	**13 04 10.2**	**+1.5**
UGM	**Wanagama**	**69.43**	**268**	P	**P**	**13 04 15.7**	**+1.0**
QSPA	**South Pole Qui**	**72.57**	**180**	P	**P**	**13 04 32.9**	**+0.7**
QSPA	**South Pole Qui**	**72.57**	**180**	P	**P**	**13 04 33.7**	**+1.4**
comp=Z,1.4nm,0.9s,baz=72,slow=16,SNR=5.6							
comp=Z,1.4nm,0.9s							
BRTR	**Keskin Array B**	**144.32**	**315**	PKP	**PKPab**	**13 12 35.1**	**+0.4**
comp=Z,0.5nm,0.4s,baz=70,slow=4.7,SNR=4.7							
MMAI	**Mount Meron Ar**	**145.72**	**303**	PKPbc	**PKPbc**	**13 12 38.8**	**+0.4**
comp=Z,1.5nm,0.5s,baz=57,slow=5.3,SNR=5.2							
GERES	**GERESS Array B**	**147.15**	**345**	PKPbc	**PKiKP**	**13 12 44.0**	**+0.5**
comp=Z,0.7nm,0.5s,baz=35,slow=3.6,SNR=4.8							

ANF 23 12:54:13.9±0.2, 66°.06N×135°.24W, h10km±1km, ML3.7/57, Error ellipse: s-maj=1.4km s-min=0.8km az=95.0, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H31M	**Peel River**	**0.45**	**125**	P	Pg	12 54 22.6	0.0
baz=308,SNR=1000							
H31M				S	Sg	12 54 28.4	-0.1
baz=308							
EPYK	**Eagle Plains**	**0.68**	**298**	P	Pb	12 54 27.7	-0.1
baz=116,SNR=774							
EPYK				Sb	Sb	12 54 37.5	+0.3
baz=116							
G31M	**Satah River**	**0.95**	**24**	P	Pg	12 54 31.9	-0.2
baz=203,SNR=1000							
G31M				S	Sb	12 54 44.8	-0.1
baz=203							
I30M	**Mount Dempster**	**0.96**	**210**	P	Pg	12 54 32.5	+0.1
baz=30,SNR=1000							
I30M				S	Sb	12 54 45.6	0.0
baz=30							
G30M	**tAoh Zraii Nji**	**1.01**	**337**	P	Pg	12 54 32.8	-0.4
baz=155,SNR=86							
G30M				S	Sb	12 54 46.9	+0.2
baz=155							
H29M	**Whitestone**	**1.28**	**279**	P	Pb	12 54 38.1	0.0
baz=96							
H29M				S	Sg	12 54 55.8	+0.6
baz=96							
G29M	**Pine Creek**	**1.41**	**309**	P	Pn	12 54 39.6	+0.1
baz=126,SNR=1000							
G29M				S	Sg	12 54 58.7	-0.4
baz=126							
I29M	**Ogilvie Camp,**	**1.45**	**242**	P	Pn	12 54 40.2	+0.1
baz=60,SNR=171							
I29M				S	Sg	12 54 60.0	-0.5
baz=60							
F31M	**Tsiigehtchic**	**1.51**	**22**	P	Pn	12 54 40.8	-0.1
baz=203,SNR=764							
F31M				S	Sn	12 55 00.7	+0.2
baz=203							
J30M	**Hart River**	**1.56**	**198**	P	Pn	12 54 41.8	0.0
baz=18,SNR=1000							
J30M				Sb	Sg	12 55 03.6	-0.4
baz=18							
F30M	**Barrier River**	**1.57**	**352**	P	Pn	12 54 41.8	0.0
baz=171,SNR=1000							
F30M				S	Sb	12 55 02.9	0.0
baz=171							
I28M	**Miner Creek**	**2.04**	**255**	P	Pn	12 54 48.0	-0.2
baz=70,SNR=332							
I28M				Sb	Sb	12 55 17.7	+1.4
baz=70							
J29N	**Klondike Camp**	**2.04**	**219**	P	Pn	12 54 48.8	+0.5
baz=37,SNR=25							
J29N				Sb	Sg	12 55 18.2	-1.3
baz=37							
INK	**Inuvik**	**2.35**	**16**	P	Pn	12 54 51.9	-0.6
baz=196,SNR=99							
INK				Sb	Sb	12 55 27.1	+1.8
baz=196							
K29M	**Barlow Dome**	**2.43**	**205**	P	Pn	12 54 54.0	+0.4
baz=23,SNR=194							
K29M				Sb	Sb	12 55 29.5	+1.9
baz=23							
MAYO	**Mayo, Yukon**	**2.49**	**187**	P	Pn	12 54 54.6	+0.2
baz=6.9							
MAYO				S	Sn	12 55 25.9	+1.1
baz=6.9							
E29M	**Blow River**	**2.56**	**337**	P	Pn	12 54 55.8	+0.5
baz=154,SNR=245							
E29M				S	Sn	12 55 27.1	+0.7
baz=154							
H27K	**Steamboat Moun**	**2.56**	**277**	P	Pn	12 54 55.5	0.0
baz=91,SNR=148							
H27K				S	Sn	12 55 26.4	-0.2
baz=91							
I27K	**Kandik River**	**2.67**	**263**	P	Pn	12 54 57.1	+0.2
baz=77,SNR=125							
I27K				S	Sn	12 55 29.7	+0.6
baz=77							
DAWY	**Dawson**	**2.67**	**223**	P	Pn	12 54 57.2	+0.4
baz=40,SNR=275							
DAWY				S	Sn	12 55 29.4	+0.3
baz=40							
G27K	**Doyon Strip**	**2.69**	**289**	P	Pn	12 54 57.2	+0.1
baz=103							
G27K				S	Sn	12 55 29.8	+0.1
baz=103							
E28M	**Babbage River**	**3.05**	**329**	P	Pn	12 55 02.1	0.0
baz=144,SNR=81							
E28M				S	Sn	12 55 38.4	-0.1
baz=144							
L29M	**L29M**	**3.21**	**204**	P	Pn	12 55 04.9	+0.5
baz=22,SNR=27							
L29M				Sb	Sb	12 55 52.8	+2.7
baz=22							
E27K	**Coleen River**	**3.28**	**314**	P	Pn	12 55 04.7	-0.5
baz=127							
I26K	**Coal Creek Min**	**3.36**	**261**	P	Pn	12 55 06.3	-0.1
baz=74,SNR=64							
I26K				S	Sn	12 55 45.7	-0.5
baz=74							
G26K	**Porcupine Rive**	**3.54**	**289**	P	Pn	12 55 08.1	-0.7
baz=100							
G26K				Sb	Sb	12 56 01.7	+2.3
baz=100							
K27K	**Chicken**	**3.54**	**238**	P	Pn	12 55 08.1	-0.7
baz=52							
K27K				S	Sn	12 55 50.0	-0.7
baz=52							
D28M	**Stokes Point**	**3.54**	**339**	P	Pn	12 55 09.5	+0.7
baz=156,SNR=7.2							
D28M				S	Sn	12 55 51.0	+0.3
baz=156							
M30M	**Minto, Yukon**	**3.56**	**192**	P	Pn	12 55 09.4	+0.3
baz=11,SNR=61							
M30M				Sb	Sb	12 56 03.9	+3.8
baz=11							
J26L	**Joseph Creek**	**3.83**	**250**	P	Pn	12 55 12.3	-0.5
baz=62,SNR=102							
J26L				S	Sn	12 55 56.2	-1.8
baz=62							
D27M	**Malcolm River**	**3.87**	**328**	P	Pn	12 55 13.6	+0.2
baz=143							
D27M				S	Sn	12 55 58.5	-0.4
baz=143							
F26K	**Sheenjek River**	**3.88**	**299**	P	Pn	12 55 13.2	-0.3
baz=111,SNR=12							
F26K				S	Sn	12 55 58.7	-0.3
baz=111							
M31M	**Drury Creek, Y**	**3.89**	**174**	P	Pn	12 55 13.9	+0.3
baz=355,SNR=16							
M31M				Sb	Sb	12 56 12.6	+3.0
baz=355							
M29M	**Somme Creek**	**3.89**	**203**	P	Pn	12 55 14.2	+0.5
baz=20,SNR=45							
M29M				S	Sn	12 55 59.4	-0.1
baz=20							
FARO	**Faro, Yukon**	**3.93**	**167**	P	Pn	12 55 14.5	+0.3
baz=349,SNR=21							
FARO				S	Sn	12 56 00.7	+0.4
baz=349							
L27K	**Beaver Creek,**	**4.14**	**226**	P	Pn	12 55 17.3	+0.2
baz=41,SNR=84							
L27K				S	Sn	12 56 04.4	-1.1
baz=41							
SCRK	**Sand Creek**	**4.26**	**245**	P	Pn	12 55 18.6	-0.2
baz=57,SNR=30							
SCRK				S	Sn	12 56 07.2	-1.3
baz=57							
PRP	**Porcupine Dome**	**4.27**	**267**	P	Pn	12 55 18.7	-0.3
baz=78							
PRP				S	Sn	12 56 08.1	-0.8
baz=78							
H25L	**Birch Creek**	**4.30**	**278**	P	Pn	12 55 19.2	0.0
baz=88							
H25L				Sb	Sb	12 56 24.9	+3.6
baz=88							
F25K	**Christian Rive**	**4.39**	**295**	P	Pn	12 55 20.4	-0.1
baz=106,SNR=21							
F25K				Sb	Sb	12 56 27.6	+3.6
baz=106							
BVCY	**Beaver Creek**	**4.41**	**216**	P	Pn	12 55 20.9	+0.2
baz=32,SNR=148							
G25K	**Bearman Lake**	**4.42**	**284**	P	Pn	12 55 21.2	+0.3
baz=94							
J25K	**Salcha River,**	**4.49**	**256**	P	Pn	12 55 21.3	-0.5
baz=67							
J25K				S	Sn	12 56 12.1	-1.9
baz=67							
E25K	**Arctic Village**	**4.54**	**302**	P	Pn	12 55 22.5	0.0
baz=112,SNR=17							
N31M	**Braeburn, Yuko**	**4.60**	**183**	P	Pn	12 55 24.3	+1.0
baz=3.1							
L26K	**Log Cabin Wild**	**4.64**	**233**	P	Pn	12 55 23.7	-0.2
baz=46							
N30M	**Aishikik Lake**	**4.69**	**191**	P	Pn	12 55 25.0	+0.3
baz=9.6,SNR=23							
RIDG	**Independent Ri**	**4.71**	**245**	P	Pn	12 55 24.3	-0.6
baz=56							
M27K	**Edge Creek, AK**	**4.71**	**221**	P	Pn	12 55 24.7	-0.4
baz=35							
C27K	**Jago River**	**4.81**	**322**	P	Pn	12 55 26.5	+0.4
baz=134							
YUK3	**Moose Creek**	**4.88**	**211**	P	Pn	12 55 28.0	+0.6
baz=26,SNR=42							
YUK4	**Talbot Arm**	**4.97**	**199**	P	Pn	12 55 28.3	-0.3
baz=16,SNR=19							
M26K	**Nabesna, AK**	**4.99**	**226**	P	Pn	12 55 29.1	+0.3
baz=40,SNR=35							
N32M	**Quiet Lake**	**5.02**	**168**	P	Pn	12 55 29.5	+0.4
baz=350							
K24K	**Donnelly Dome**	**5.02**	**248**	P	Pn	12 55 29.1	-0.1
baz=59							
POKR	**Poker Plat Res**	**5.15**	**265**	P	Pn	12 55 30.5	-0.3
baz=74							
H24K	**Noodor Dome**	**5.18**	**273**	P	Pn	12 55 30.7	-0.6
baz=82							
HDA	**Harding Lake**	**5.20**	**257**	P	Pn	12 55 30.4	-1.1
baz=66							
YUK8	**Steele Glacier**	**5.20**	**205**	P	Pn	12 55 32.3	+0.5
baz=21,SNR=9.2							
F24K	**Squaw Lake**	**5.21**	**292**	P	Pn	12 55 31.3	-0.5
baz=100							
C26K	**Camden Bay**	**5.31**	**321**	P	Pn	12 55 34.2	+1.1
baz=132,SNR=24							
YUK6	**Outpost Mounta**	**5.32**	**197**	P	Pn	12 55 34.4	+0.9
baz=14,SNR=11							
O30N	**Mendenhall**	**5.32**	**185**	P	Pn	12 55 33.9	+0.5
baz=4.1,SNR=18							
HYT	**Haines Junctio**	**5.35**	**192**	P	Pn	12 55 34.6	+0.8
baz=10,SNR=12							
D25K	**Kavik River**	**5.36**	**313**	P	Pn	12 55 34.0	+0.2
baz=122							
C36M	**Paulatuk**	**5.38**	**47**	P	Pn	12 55 33.8	-0.1
baz=237							
PAX	**Paxson**	**5.40**	**240**	P	Pn	12 55 34.4	+0.1
baz=51							
TGTN	**Hyland Airport**	**5.50**	**143**	P	Pn	12 55 36.0	+0.3
baz=329							
E24K	**Your Creek**	**5.56**	**297**	P	Pn	12 55 36.7	+0.1
baz=105							
E23K	**Chandalar**	**5.97**	**296**	P	Pn	12 55 42.6	+0.5
baz=103							
P33M	**Teslin, Yukon**	**5.97**	**168**	P	Pn	12 55 42.3	+0.1
baz=351,SNR=7.3							
P30M	**Million Dollar**	**6.01**	**188**	P	Pn	12 55 41.3	-1.4
baz=7.0							
D24K	**Happy Valley**	**6.04**	**307**	P	Pn	12 55 43.0	-0.2
baz=114							
COLD	**Coldfoot**	**6.07**	**288**	P	Pn	12 55 43.3	-0.1
baz=94							
TOLK	**Toolik Lake Re**	**6.11**	**302**	P	Pn	12 55 44.7	+0.6
baz=108							
C24K	**Franklin Bluff**	**6.26**	**312**	P	Pn	12 55 46.2	+0.1
baz=119							
MCK	**McKinley**	**6.28**	**255**	P	Pn	12 55 46.5	+0.1
baz=62							
D23K	**Nanushuk River**	**6.60**	**303**	P	Pn	12 55 51.1	+0.4
baz=109							
SKAG	**Skagway**	**6.62**	**180**	P	Pn	12 55 51.5	+0.5
baz=0.6							
E22K	**Anaktuvuk Pass**	**6.79**	**295**	P	Pn	12 55 53.8	+0.4
baz=100							
F22K	**John River**	**6.85**	**290**	P	Pn	12 55 54.4	+0.2
baz=94							
C23K	**Itkillik River**	**6.91**	**310**	P	Pn	12 55 55.2	+0.2
baz=116							
A36M	**Sachs Harbour**	**6.94**	**27**	P	Pn	12 55 54.9	-0.4
baz=216,SNR=25							
F21K	**Alatna River**	**7.34**	**287**	P	Pn	12 56 01.0	+0.1
baz=91							
G21K	**Allakaket**	**7.38**	**282**	P	Pn	12 56 00.1	-1.3
baz=85							
B22K	**Teshekpuk Lake**	**7.99**	**311**	P	Pn	12 56 10.0	+0.2
baz=114							
B21K	**Ikpikpuk River**	**8.13**	**305**	P	Pn	12 56 12.3	+0.7
baz=107							
F20K	**Avaraart Lake**	**8.22**	**286**	P	Pn	12 56 13.3	+0.4
baz=87							

AUST 23 12:58:27.1±1.1, 26°.5S±3°.5×13°.0E±°, h10km±7km, mb4.2/2, ML2.7/5, Error ellipse: s-maj=6.0km s-min=4.5km az=145.9, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	**Warakurna**	**2.06**	**295**	P	Pn	12 59 01.5	-0.3
WRKA	**Warakurna**	**2.06**	**295**	S	Sb	12 59 29.4	-1.0
AS11	**Alice Springs**	**3.94**	**56**	P	Pn	12 59 28.9	+1.2
AS11	**Alice Springs**	**3.94**	**56**	S	Sn	13 00 14.6	+0.6
AS31	**Alice Springs**	**3.95**	**56**	P	Pn	12 59 28.0	+0.2
AS31	**Alice Springs**	**3.95**	**56**	S	Sn	13 00 15.2	+0.9
AS17	**Alice Springs**	**4.01**	**56**	P	Pn	12 59 28.6	-0.1
AS17	**Alice Springs**	**4.01**	**56**	S	Sn	13 00 16.7	+0.8
FORT	**Forrest**	**5.22**	**202**	P	Pn	12 59 45.7	+0.4
FORT	**Forrest**	**5.22**	**202**	S	Sn	13 00 46.0	+0.3
WB10	**Warramunga Arr**	**7.19**	**32**	P	Pn	13 00 10.9	-1.5
LCRK	**Leigh Creek**	**8.27**	**125**	P	Pn	13 00 27.7	+0.6
comp=Z,0.1nmcomp=Z,15nm,1.5s							
BBOO	**Buckleboo**	**8.46**	**145**	P	Pn	13 00 29.2	-0.6
FITZ	**Fitzroy Crossi**	**8.94**	**330**	P	Pn	13 00 35.7	-0.7
YAPP	**Yappala Statio**	**9.14**	**132**	P	Pn	13 00 39.5	+0.4
comp=Z,0.0nmcomp=Z,20nm,0.9s							

*DJA **23** 13:09:34.1±0.3, 2°N±4°×12°7E±°, h10km, M4.5/13, mB5.0/2, mb4.7/4, MLv4.3/13, Mw(mB)4.3/2*
*IDC **23** 13:09:35.0±5.0, 2°.25N×126°.78E, h54km±48km, mb4.0/17, mbtmp4.2/18, ML3.9/1, MS4.1/3, Error ellipse: s-maj=28.3km s-min=12.0km az=77.0*
*NEIC **23** 13:09:35.2±1.8, 2°.30N±0°.09×126°.98E±0°.10, h55km±8km, mb4.7/31, Error ellipse: s-maj=15.9km s-min=10.3km az=50.0*

ISC 23 13:09:35.0±0.4, 2°.30N±0°.05×126°.95E±0°.07, h53km, n72, σ1°44/71, mb4.5/36, MS4.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.57**	**165**		**Pn**	**13 10 00.7**	**+0.1**

YULB	**Yu-li**	**21.67 346**	P	P	13 14 14.1	-7.4
YULB			IAmb	IAmb	13 14 20.2	
comp=Z,75nm,1.5s						
TPUB	**Ta-pu**	**21.76 344**	P	**P**	**13 14 18.6**	**-3.8**
SSLB	**Suanglung**	**22.14 345**	P	**P**	**13 14 23.0**	**-3.4**
SSLB			IAmb	IAmb	13 14 28.3	
comp=Z,51nm,1.3s						
COEN	**Coen**	**22.80 136**	P	**P**	**13 14 32.1**	**-1.4**
COEN			IAmb	IAmb	13 14 43.1	
comp=Z,30nm,1.4s						
WB0	**Warramunga Arr**	**23.11 162**	P	**P**	**13 14 35.5**	**-1.2**
WB0			IAmb	IAmb	13 14 49.5	
comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**23.26 162**	P	**P**	**13 14 35.7**	**-2.4**
WRA	**Warramunga Arr**	**23.26 162**	P	**P**	**13 14 37.5**	**-0.7**
comp=Z,7.5nm,0.6s,baz=338,slow=10,SNR=26						
WRA			LR	LR	13 24 28.8	
comp=Z,89nm,19.6s,baz=50,slow=38						
comp=Z,7.5nm,0.6s						
WB2	**Warramunga Arr**	**23.27 162**	P	**P**	**13 14 37.3**	**-0.9**
WR8	**Warramunga Arr**	**23.32 162**	P	**P**	**13 14 38.2**	**-0.5**
WR8			IAmb	IAmb	13 14 50.2	
comp=Z,30nm,1.4s						
AS31	**Alice Springs**	**26.68 166**	P	**P**	**13 15 09.2**	**-0.1**
ASAR	**Alice Springs**	**26.68 166**	P	**P**	**13 15 09.2**	**-0.1**
ASAR	**Alice Springs**	**26.68 166**	P	**P**	**13 15 08.9**	**-0.4**
comp=Z,0.9nm,0.4s,baz=348,slow=7.1,SNR=30						
ASAR			PcP	**PcP**	**13 18 32.8**	**+0.7**
comp=Z,0.8nm,0.6s,baz=3.5,slow=2.3,SNR=5.0						
comp=Z,0.9nm,0.4s						
NJ2	**Nanjing**	**30.56 346**	*e*P	**P**	**13 15 44.3**	**+0.6**
NJ2			pmax	pmax		
comp=Z,9.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.80 302**	P	**P**	**13 15 52.4**	**-2.4**
CMAR	**Chiang Mai Arr**	**31.80 302**	P	**P**	**13 15 53.6**	**-1.2**
comp=Z,2.8nm,0.8s,baz=121,slow=6.9,SNR=23						
comp=Z,2.8nm,0.8s						
CHTO	**Chiang Mai**	**31.96 303**	P	**P**	**13 15 54.0**	**-2.3**
CHTO			IAmb	IAmb	13 15 56.6	
comp=Z,6.7nm,0.8s						
FORT	**Forrest**	**32.91 178**	P	**P**	**13 16 03.2**	**-1.2**
PZH	**PanZhiHua**	**34.13 317**	P	**P**	**13 16 15.9**	**+0.7**
PZH			pmax	pmax		
comp=Z,10.0nm,0.5s						
PZH			pmax	pmax		
comp=Z,180nm,5.6s						
INU	**Inuyama**	**34.19 15**	P	**P**	**13 16 15.2**	**-0.3**
JGF	**Kuroka**	**34.52 15**	P	**P**	**13 16 17.4**	**-0.9**
KSRS	**Korea Array**	**35.00 1**	P	**P**	**13 16 22.9**	**+0.5**
comp=Z,1.8nm,0.7s,baz=176,slow=10,SNR=8.1						
comp=Z,1.8nm,0.7s						
TNCH	**TengChong**	**35.52 312**	P	**P**	**13 16 30.3**	**+3.0**
TNCH			pmax	pmax		
comp=Z,61nm,0.5s						
TNCH			pmax	pmax		
comp=Z,82nm,1.1s						
MJAR	**Matsushiro Arr**	**35.63 16**	P	**P**	**13 16 27.4**	**-0.5**
comp=Z,1.7nm,0.6s,baz=197,slow=8.5,SNR=9.8						
comp=Z,1.7nm,0.6s						
MAJO	**Matsushiro**	**35.63 16**	P	**P**	**13 16 26.5**	**-1.4**
MAJO			IAmb	IAmb	13 16 38.1	
comp=Z,11nm,1.1s						
XAN	**Xi'an**	**35.79 334**	P	**P**	**13 16 28.4**	**-0.9**
XAN			pmax	pmax		
comp=Z,8.0nm,0.5s						
BBOO	**Buckleboo**	**35.97 167**	P	**P**	**13 16 30.2**	**-0.6**
BBOO			IAmb	IAmb	13 16 33.6	
comp=Z,18nm,1.4s						
EIDS	**Eidsvold**	**36.10 141**	P	**P**	**13 16 31.4**	**-0.7**
EIDS			IAmb	IAmb	13 16 33.4	
comp=Z,6.3nm,0.8s						
STKA	**Stephens Creek**	**36.72 159**	P	**P**	**13 16 36.7**	**-0.5**
STKA	**Stephens Creek**	**36.72 159**	P	**P**	**13 16 37.0**	**-0.3**
comp=Z,10nm,0.6s,baz=330,slow=9.2,SNR=31						
comp=Z,10nm,0.6s						
ARMA	**Armidale**	**40.16 146**	P	**P**	**13 17 06.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**40.82 342**	*e*P	**P**	**13 17 11.5**	**-0.1**
HHC			pmax	pmax		
comp=Z,29nm,0.6s						
HHC			pmax	pmax		
comp=Z,330nm,5.6s						
USRK	**Ussuriysk Ar.**	**41.96 5**	P	**P**	**13 17 22.1**	**+1.3**
comp=Z,3.1nm,0.7s,baz=176,slow=4.7,SNR=4.6						
comp=Z,3.1nm,0.7s						
CAN	**Canberra**	**42.74 153**	P	**P**	**13 17 27.2**	**-0.1**
CAN			IAmb	IAmb	13 17 28.5	
comp=Z,22nm,1.4s						
HEH	**HeiHe**	**47.78 0**	*e*P	**P**	**13 18 08.1**	**+1.2**
SONM	**Songino Array**	**48.72 342**	P	**P**	**13 18 14.3**	**0.0**
comp=Z,1.2nm,0.7s,baz=161,slow=9.3,SNR=7.0						
SONM			LR	LR	13 41 09.5	
comp=Z,681nm,21.2s,baz=328,slow=39						
comp=Z,1.2nm,0.7s						
WMQ	**Urumqi**	**54.02 326**	*e*P	**P**	**13 18 55.8**	**+1.7**
WMQ			LR	LR		
comp=Z,450nm,17.5s						
PETK	**Petropavlovsk-**	**56.67 22**	P	**P**	**13 19 14.6**	**+1.7**
comp=Z,2.7nm,0.8s,baz=215,slow=7.6,SNR=2.0						
comp=Z,2.7nm,0.8s						
MK31	**Makanchi Array**	**58.85 326**	P	**P**	**13 19 27.7**	**-0.7**
MKAR	**Makanchi Array**	**58.85 326**	P	**P**	**13 19 27.7**	**-0.7**
MKAR	**Makanchi Array**	**58.85 326**	P	**P**	**13 19 27.8**	**-0.5**
comp=Z,1.6nm,0.5s,baz=122,slow=8.4,SNR=22						
comp=Z,1.6nm,0.5s						
MAKZ	**Makanchi**	**59.04 326**	P	**P**	**13 19 29.7**	**+0.1**
URZ	**Urewera**	**61.36 136**	LR	LR	13 46 50.4	
comp=Z,326nm,21.6s,baz=218,slow=36						
ZALV	**Zalesovo Beam**	**61.96 333**	P	**P**	**13 19 48.9**	**-0.4**
comp=Z,0.8nm,0.5s,baz=180,slow=5.9,SNR=3.7						
comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**63.06 328**	P	**P**	**13 19 56.0**	**-0.7**
comp=Z,2.2nm,0.5s,baz=128,slow=6.3,SNR=38						
comp=Z,2.2nm,0.5s						
KURK	**Kurchatov**	**63.06 328**	P	**P**	**13 19 56.8**	**0.0**
KURK			IAmb	IAmb	13 19 58.1	
comp=Z,5.2nm,0.6s						
BVAR	**Borovoye Array**	**68.63 327**	P	**P**	**13 20 32.1**	**-0.5**
comp=Z,1.4nm,0.6s,baz=127,slow=10.0,SNR=11						
comp=Z,1.4nm,0.6s						
TIXI	**Tiksi**	**69.26 1**	P	**P**	**13 20 36.4**	**+0.3**
CASY	**Casey**	**69.43 187**	P	**P**	**13 20 37.0**	**-0.3**
CASY			IAmb	IAmb	13 20 50.6	
comp=Z,22nm,1.4s						
NRIK	**Noril'sk**	**71.86 346**	P	**P**	**13 20 50.7**	**-1.3**
comp=Z,2.4nm,0.6s,baz=153,slow=2.3,SNR=5.3						
comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**73.39 321**	P	**P**	**13 21 01.1**	**-0.4**
VNDA	**Vanda**	**81.99 173**	P	**P**	**13 21 48.0**	**-0.8**
comp=Z,1.7nm,0.7s,baz=313,slow=6.6,SNR=6.6						
comp=Z,1.7nm,0.7s						
D19K	**Kuna River**	**82.37 21**	P	**P**	**13 21 53.2**	**+2.1**
D19K			IAmb	IAmb	13 22 06.3	
comp=Z,15nm,1.5s						
RC01	**Rabbit Creek A**	**84.76 29**	P	**P**	**13 22 03.9**	**+0.5**
C23K	**Itkillik River**	**85.24 20**	P	**P**	**13 22 07.5**	**+1.9**
C23K			IAmb	IAmb	13 22 40.5	
comp=Z,5.3nm,1.4s						
SML	**Sawmill**	**85.48 28**	P	**P**	**13 22 07.8**	**+0.7**
BRTR	**Keskin Array B**	**91.10 310**	P	**P**	**13 22 35.1**	**+0.7**
comp=Z,0.9nm,0.7s,baz=66,slow=4.9,SNR=3.7						
comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**92.21 180**	P	**P**	**13 22 36.7**	**-2.3**
QSPA			IAmb	IAmb	13 22 42.1	
comp=Z,2.9nm,1.2s						

*IDC **23** 13:14:51.6±1.2, 2.°22N×126.°76E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=74.2km s-min=15.8km az=65.0*
*DJA **23** 13:14:57.4±0.3, 2.°N±4.°×12.°7E±.°, h10km, M4.0/9, mb4.1/1, MLv3.9/9*
ISC 23 13:14:58.4±0.9, 2.°31N±0.°10×126.°9E±0.°1, h53km, n11, σ0§84/12, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**164**	P	**Pn**	**13 15 25.0**	**+0.9**
SGSI	**Sangihe**	**1.96**	**314**	P	**Pn**	**13 15 29.8**	**+0.5**
KMSI	**Cibinong**	**3.42**	**240**	P	**Pn**	**13 15 49.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**20.32**	**184**	P	**P**	**13 19 29.3**	**-0.9**
1.8nm,0.5s,baz=19,slow=12,SNR=7.2							
1.8nm,0.5s							
WRA	**Warramunga Arr**	**23.27**	**162**	P	**P**	**13 20 00.3**	**-1.3**
1.7nm,0.5s,baz=338,slow=11,SNR=10							
1.7nm,0.5s							
ASAR	**Alice Springs**	**26.69**	**166**	P	**P**	**13 20 32.2**	**-0.6**
0.5nm,0.4s,baz=344,slow=8.0,SNR=9.6							
ASAR				PcP	**PcP**	**13 23 56.1**	**+0.6**
0.2nm,0.7s,baz=338,slow=2.3,SNR=1.3							
0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**31.78**	**302**	P	**P**	**13 21 17.4**	**-0.7**
0.9nm,0.8s,baz=118,slow=6.7,SNR=6.4							
0.9nm,0.8s							
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**13 22 00.8**	**0.0**
3.2nm,0.6s,baz=333,slow=9.8,SNR=9.5							
3.2nm,0.6s							
MKAR	**Makanchi Array**	**58.84**	**326**	P	**P**	**13 24 51.3**	**-0.3**
0.3nm,0.3s,baz=120,slow=8.1,SNR=7.9							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**63.04**	**328**	P	**P**	**13 25 20.3**	**+0.3**
0.6nm,0.5s,baz=126,slow=5.7,SNR=4.7							
0.6nm,0.5s							
BVAR	**Borovoye Array**	**68.62**	**327**	P	**P**	**13 25 56.9**	**+1.0**
0.6nm,0.7s,baz=125,slow=7.2,SNR=3.6							
0.6nm,0.7s							

*IDC **23** 13:23:26.2±1.8, 1.°04S×126.°93E, h0km, mb3.8/4, mbtmp3.9/4, MS4.0/1, Error ellipse: s-maj=151.2km s-min=25.4km az=65.0*
*DJA **23** 13:23:30.5±0.7, 1.°S±3.°×12.°7E±.°, h13km±6km, M4.0/11, mB4.8/1, mb4.2/3, MLv3.9/11, Mw(mB)4.0/1*
ISC 23 13:23:32.2±1.0, 1.°11S±0.°06×126.°77E±0.°07, h35km, n13, σ1§28/14, mb3.8/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.22**	**220**	P	**Pn**	**13 23 52.7**	**0.0**
SANI				S	**Sn**	**13 24 10.1**	**+2.2**
TNTI	**Ternate**	**1.96**	**18**	P	**Pn**	**13 24 04.1**	**+1.1**
NLAI	**Namlea**	**2.14**	**171**	P	**Pn**	**13 24 05.8**	**+0.3**
NLAI				S	**Sn**	**13 24 32.3**	**+1.5**
AAI	**Ambon**	**2.93**	**151**	P	**Pn**	**13 24 17.7**	**+1.3**
LUWI	**Luwuk**	**3.99**	**271**	P	**Pn**	**13 24 30.6**	**-0.3**
SWI	**Sorong**	**4.50**	**87**	P	**Pn**	**13 24 38.7**	**+0.8**
APSI	**Ampana**	**5.12**	**272**	P	**Pn**	**13 24 47.1**	**+0.7**
825nm37nm,0.5s							
FAKI	**Fak Fak**	**5.77**	**108**	P	**Pn**	**13 24 54.8**	**-0.6**
32nm,1.4s							
WRA	**Warramunga Arr**	**20.13**	**159**	P	**P**	**13 28 01.3**	**-2.1**
2.6nm,0.8s,baz=339,slow=12,SNR=8.6							
2.6nm,0.8s							
ASAR	**Alice Springs**	**23.47**	**163**	P	**P**	**13 28 37.4**	**-1.5**
2.7nm,0.8s,baz=345,slow=11,SNR=29							
2.7nm,0.8s							
STKA	**Stephens Creek**	**33.66**	**157**	P	**P**	**13 30 09.8**	**0.0**
4.2nm,0.8s,baz=327,slow=7.9,SNR=6.8							
4.2nm,0.8s							
ASAJ	**Asahikawa**	**47.20**	**16**	LR	LR	13 53 54.8	
comp=Z,150nm,18.9s,baz=356,slow=39							
MKAR	**Makanchi Array**	**61.56**	**327**	P	**P**	**13 33 45.4**	**-0.6**
0.2nm,0.4s,baz=119,slow=7.8,SNR=4.1							
0.2nm,0.4s							

*GCMT **23** 13:26:21.0±0.3, 7.°77N±0.°02×36.°94W±0.°02, h37km±1km, MW5.1/94, Moment Tensor Solution. s26,c28; s94,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.54±.34; $M_{\theta\theta}$0.90±.23; $M_{\phi\phi}$0.64±.23; $M_{r\theta}$0.71±.19; $M_{\theta\phi}$-5.05±.18; $M_{r\phi}$0.10±.17; Best double couple: $M_0$5.12200×10^{16} NP1:ϕ_s179.00000°, δ80.00000°, λ-6.00000°. NP2: ϕ_s270.00000°, δ84.00000°, λ-169.00000°. Principal axes: T 5.8460, Plg3.0000°, Azm44.0000°; N -1.4510, Plg78.0000°, Azm298.0000°; P -4.3980, Plg11.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 23 13:26:14.3±1.9, 7.°70N×36.°85W, h0km, mb3.6/4, mbtmp3.6/4, MS3.9/26 Error ellipse: s-maj=57.3km s-min=32.0km az=92.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**15.90**	**262**	LR	LR	13 35 47.7	
comp=Z,155nm,18.0s,baz=32,slow=36							
BBTS	**Babate**	**21.09**	**69**	LR	LR	13 37 07.3	
comp=Z,277nm,21.8s,baz=143,slow=31							
BDFB	**Brasilia**	**25.69**	**205**	P	P	13 31 45.9	-0.6
1.2nm,0.5s,baz=37,slow=6.7,SNR=4.4							
BDFB				LR	LR	13 40 45.7	
comp=Z,132nm,20.9s,baz=32,slow=34							
1.2nm,0.5s							
H10N3	**ASCENSION HYDR**	**27.11**	**124**	T	T	14 00 48.5	
baz=303,slow=76							
H10N2	**ASCENSION HYDR**	**27.11**	**124**	T	T	14 00 48.7	
baz=303,slow=76							
H10N1	**ASCENSION HYDR**	**27.13**	**124**	T	T	14 00 51.9	
baz=303,slow=76							
SJG	**San Juan**	**30.33**	**293**	LR	LR	13 42 23.1	
comp=Z,134nm,19.2s,baz=94,slow=32							
DBIC	**Dimbokro**	**31.76**	**90**	LR	LR	13 42 11.1	
comp=Z,102nm,21.5s,baz=336,slow=30							
SDV	**Santo Domingo**	**33.44**	**274**	LR	LR	13 47 13.5	
comp=Z,91nm,18.2s,baz=84,slow=38							
SIV	**San Ignacio**	**33.60**	**225**	LR	LR	13 45 38.6	
comp=Z,232nm,20.1s,baz=29,slow=35							
LPAZ	**La Paz**	**39.07**	**232**	P	P	13 33 44.3	+0.2
3.6nm,1.0s,baz=36,slow=8.6,SNR=8.5							
LPAZ				LR	LR	13 50 21.7	
comp=Z,116nm,18.5s,baz=64,slow=37							
3.6nm,1.0s							
CPUP	**Villa Florida**	**39.24**	**210**	LR	LR	13 49 22.5	
comp=Z,152nm,18.5s,baz=42,slow=35							
ESDC	**Sonseca Array**	**43.37**	**38**	LR	LR	13 51 41.5	
comp=Z,230nm,18.7s,baz=266,slow=35							
ATAH	**Atahualpa**	**43.97**	**251**	LR	LR	13 54 27.2	
comp=Z,121nm,18.1s,baz=68,slow=38							
NNA	**Nana**	**44.31**	**244**	LR	LR	13 52 19.8	
comp=Z,130nm,21.9s,baz=64,slow=35							
KEST	**Kesra**	**50.54**	**50**	LR	LR	13 55 32.3	
comp=Z,181nm,20.7s,baz=353,slow=35							
TKL	**Tuckaleechee C**	**51.06**	**310**	LR	LR	13 55 53.0	
comp=Z,127nm,18.0s,baz=35,slow=35							
DAVOX	**Davos/Dischmat**	**55.70**	**37**	LR	LR	13 57 14.0	
comp=Z,262nm,18.6s,baz=272,slow=33							
PLCA	**Paso Flores**	**57.31**	**210**	LR	LR	14 00 36.6	
comp=Z,127nm,18.4s,baz=23,slow=36							
GERES	**GERESS Array B**	**58.94**	**37**	LR	LR	13 58 51.5	
comp=Z,123nm,18.9s,baz=352,slow=33							
IDI	**Anoyia**	**62.59**	**54**	LR	LR	14 03 30.1	
comp=Z,135nm,19.0s,baz=291,slow=36							
NOA	**NORSAR Array B**	**63.99**	**24**	LR	LR	14 01 44.1	
comp=Z,54nm,19.2s,baz=5.0,slow=33							
ULM	**Lac du Bonnet**	**64.56**	**322**	LR	LR	14 03 10.5	
comp=Z,96nm,18.8s,baz=22,slow=34							
TXAR	**Lajitas Array**	**66.07**	**299**	P	P	13 37 04.0	+0.4
0.1nm,0.4s,baz=87,slow=5.9,SNR=1.9							
0.1nm,0.4s							
SUR	**Sutherland**	**67.81**	**129**	LR	LR	14 01 46.3	
comp=Z,76nm,21.1s,baz=331,slow=31							
LBTB	**Lobatse**	**68.90**	**120**	LR	LR	14 02 00.2	
comp=Z,51nm,19.0s,baz=300,slow=31							
ANMO	**Albuquerque**	**68.92**	**304**	LR	LR	14 05 04.3	
comp=Z,60nm,18.7s,baz=251,slow=34							
EIL	**Elat**	**70.43**	**61**	LR	LR	14 07 57.6	
comp=Z,123nm,21.3s,baz=250,slow=36							
PDAR	**Pinedale Array**	**72.12**	**312**	LR	LR	14 08 01.7	
comp=Z,66nm,18.5s,baz=20,slow=35							
YKA	**Yellowknife Ar**	**77.56**	**332**	P	P	13 38 11.6	-0.3
0.3nm,0.9s,baz=102,slow=5.2,SNR=4.4							
0.3nm,0.9s							
YBH	**Yreka Blue Hor**	**81.85**	**311**	LR	LR	14 15 36.5	
comp=Z,63nm,18.1s,baz=8.0,slow=36							
ASAR	**Alice Springs**	**161.81**	**152**	PKPab	PKPab	13 47 03.8	+0.1
0.3nm,0.8s,baz=207,slow=3.9,SNR=1.8							

*IDC **23** 13:31:47.1±2.5, 24.°68S×112.°33W, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/1, Error ellipse: s-maj=84.2km s-min=40.6km az=32.0*
ISC 23 13:31:48.3±2.9, 24.°8S±0.°6×112.°4W±0.°4, h10km, n16, σ1§02/6, mb3.7/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**30.36**	**114**	T	T	14 09 54.5	
baz=282,slow=75							
H03N3	**Juan Fernandez**	**30.36**	**114**	T	T	14 09 55.5	
baz=282,slow=75							
H03N1	**Juan Fernandez**	**30.37**	**114**	T	T	14 09 58.7	
baz=282,slow=75							
LPAZ	**La Paz**	**42.12**	**87**	P	**P**	**13 39 41.9**	**+0.2**
0.8nm,0.5s,baz=268,slow=7.1,SNR=4.8							
0.8nm,0.5s							
CMIG	**Matias Romero**	**44.94**	**24**	LR	LR	13 53 32.8	
comp=Z,74nm,18.1s,baz=69,slow=29							
NVAR	**Mina Array Bea**	**63.10**	**355**	P	**P**	**13 42 17.5**	**+1.3**
0.8nm,0.7s,baz=187,slow=7.6,SNR=5.2							
0.8nm,0.7s							
PDAR	**Pinedale Array**	**67.23**	**2**	P	**P**	**13 42 41.9**	**-1.1**
0.4nm,0.6s,baz=171,slow=6.4,SNR=5.8							
0.4nm,0.6s							
YKA	**Yellowknife Ar**	**86.96**	**359**	P	**P**	**13 44 32.8**	**-0.3**
0.3nm,0.8s,baz=174,slow=4.4,SNR=5.9							
0.3nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**89.74**	**290**	T	T	15 24 17.4	
baz=116,slow=75							
H11S1	**WAKE ISLAND Hy**	**89.75**	**290**	T	T	15 24 18.4	
baz=116,slow=75							
H11S3	**WAKE ISLAND Hy**	**89.75**	**290**	T	T	15 24 18.7	
baz=116,slow=75							
H11N3	**WAKE ISLAND Hy**	**90.10**	**292**	T	T	15 24 44.0	
baz=117,slow=76							
H11N1	**WAKE ISLAND Hy**	**90.12**	**292**	T	T	15 24 47.6	
baz=117,slow=76							
H11N2	**WAKE ISLAND Hy**	**90.12**	**292**	T	T	15 24 45.5	
baz=117,slow=76							
ZALV	**Zalesovo Beam**	**148.14**	**341**	PKPbc	**PKPbc**	**13 51 33.6**	**-0.4**
0.7nm,0.5s,baz=26,slow=3.7,SNR=4.9							
KURBB	**Kurchatov Arra**	**152.84**	**345**	PKPbc	**PKiKP**	**13 51 45.8**	**+0.2**
0.8nm,0.7s,baz=22,slow=1.9,SNR=11							

*NDI **23** 13:53:18.8±3.0, 33.°85N×96.°77E, h10km, ML4.0, MW3.9, mb4.2(NEIC)*
*NEIC **23** 13:53:26.0±2.3, 33.°46N±0.°07×96.°6E±0.°1, h10km±1km, mb4.2/20, Error ellipse: s-maj=20.4km s-min=8.5km az=63.0*
*IDC **23** 13:53:25.4±1.0, 33.°22N×96.°11E, h0km, mb4.0/11, mbtmp4.0/15, ML4.0/4, MS3.8/4, Error ellipse: s-maj=41.8km s-min=18.2km az=58.0*
*BJI **23** 13:53:26.0, 33.°34N×96.°24E, h9km, mb4.4/18, ML4.0/3, Ms4.0/5, Ms7 3.8/5*
ISC 23 13:53:26.5±0.5, 33.°33N±0.°04×96.°34E±0.°06, h10km, n60, σ1§87/65, mb4.1/16, MS3.7/3, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**3.13**	**337**	Pn	**Pb**	**13 54 20.3**	**-2.1**
GOMU				Pg	**Pg**	**13 54 25.4**	**-1.1**
GOMU				Sn	**Sg**	**13 55 04.3**	**-2.7**
GOMU				Sg	**Sb**	**13 55 07.3**	**+6.5**
GOMU				smax	smax		
comp=N,140nm,0.9s							
GOMU				smax	smax		
comp=E,230nm,1.1s							
GOMU				LR	LR		
comp=N,3μm,5.2s							
GOMU				LR	LR		
comp=E,5μm,4.2s							
GOMU				LR	LR		
comp=Z,2μm,4.5s							
LSA	**Lhasa**	**5.72**	**232**	Pn	**Pn**	**13 54 55.9**	**+4.0**
LSA	**Lhasa**	**5.72**	**232**	P	**Pn**	**13 54 55.8**	**+3.9**
LSA				S	**Sb**	**13 56 17.0**	**+1.5**
LSA				pmax	pmax		
comp=Z,41nm,0.9s							
LSA				LR	LR		
comp=N,460nm,6.2s							
LSA				LR	LR		
comp=Z,560nm,7.9s							
ZIRO	**ZIRO**	**6.17**	**201**	*e*P	**Pn**	**13 54 59.5**	**+1.7**
ZIRO				*e*S	**Sn**	**13 56 11.1**	**+2.6**
ZIRO				IAML		13 56 22.8	
comp=Z,142nm,0.7s							
ZIRO				IAML		13 56 24.0	
comp=E,203nm,0.6s							
GTA	**Gaotai**	**6.69**	**24**	Pn	Pn	13 54 50.8	-14
GTA				Pg	Pb	13 55 09.0	-14
GTA				Sn	Sn	13 55 57.8	-23
GTA				Sg	Sb	13 56 27.5	-15
GTA				smax	smax		
comp=N,11nm,0.9s							
GTA				smax	smax		
comp=E,18nm,0.7s							
GTA				LR	LR		
comp=N,380nm,9.8s							
GTA				LR	LR		
comp=E,940nm,10.5s							
GTA				LR	LR		
comp=Z,320nm,11.3s							
CD2	**Chengdu**	**6.74**	**109**	Pg	Pg	13 55 39.8	+4.3
CD2				Sg	Sg	13 57 08.5	+5.8
CD2				smax	smax		
comp=N,70nm,1.4s							
TAWA	**Tawang**	**6.90**	**215**	*e*P	**Pn**	**13 55 10.4**	**+2.4**
KOHI	**KOHIMA**	**7.83**	**195**	*e*P	**Pn**	**13 55 18.9**	**-1.7**
KOHI				*e*S	**Sn**	**13 56 48.7**	**-0.6**
KOHI				IAML		13 56 56.9	
comp=E,82nm,0.5s							
KOHI				IAML		13 57 00.6	
comp=E,111nm,0.8s							
GUWA	**GUWAHATI**	**8.18**	**211**	*e*P	**Pn**	**13 55 24.3**	**-1.0**
GUWA				*e*S	**Sn**	**13 56 56.5**	**-1.2**
PZH	**PanZhiHua**	**8.26**	**144**	P	**Pn**	**13 55 30.1**	**+3.6**
PZH				pmax	pmax		
comp=E,20nm,1.3s							
TNCH	**TengChong**	**8.48**	**166**	*e*P	**Pn**	**13 55 31.3**	**+1.7**
TNCH				S	**Sn**	**13 57 07.3**	**+1.7**
TNCH				pmax	pmax		
comp=E,18nm,0.6s							
TNCH				LR	LR		
comp=E,860nm,6.6s							
TNCH				LR	LR		
comp=E,2μm,9.4s							
IMP	**Imphal**	**8.72**	**195**	*e*P	**Pn**	**13 55 33.6**	**+0.9**
KMI	**Kunming**	**9.90**	**144**	P	Pn	13 55 53.5	+4.4
KMI				pmax	pmax		
comp=E,24nm,0.5s							
KMI				LR	LR		
comp=E,590nm,7.8s							
KMI				LR	LR		
comp=E,530nm,12.0s							
AZL	**Aizawl**	**10.08**	**199**	*e*P	**Pn**	**13 55 49.3**	**-2.1**
AZL				*e*S	**Sn**	**13 57 43.5**	**-1.1**
AZL				IAML		13 57 54.5	
comp=E,26nm,0.8s							
AZL				IAML		13 57 54.5

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QIZ                                  LR    LR
     comp=Z,750nm,8.4s
NIL  Nilore          19.26 277  P     P     13 57 48.3 -2.9
NIL                              IAmb  IAmb  13 58 00.8
     comp=Z,11nm,0.7s
AAK  Ala-Archa       19.53 305  P     P     13 57 50.3 -3.9
AAK                              IAmb  IAmb  13 57 59.6
     comp=Z,10nm,1.2s
AAK  Ala-Archa       19.53 305  P     P     13 57 54.2  0.0
     comp=Z,0.5nm,0.3s,baz=118,slow=7.5,SNR=10
AAK                              LR    LR    14 06 23.7
     comp=Z,225nm,18.3s,baz=58,slow=40
     comp=Z,4.1nm,0.9s
KURBB Kurchatov Arra 21.68 328  P     P     13 58 17.7 +0.5
     comp=Z,7.1nm,0.9s,baz=136,slow=11,SNR=71
KURBB                            LR    LR    14 07 12.7
     comp=Z,236nm,18.3s,baz=178,slow=38
     comp=Z,7.1nm,0.9s
KURK Kurchatov       21.70 328  P     P     13 58 14.7 -2.8
KURK                             IAmb  IAmb  13 58 21.0
     comp=Z,22nm,1.4s
GAR  Garm            21.73 293  P     P     13 58 17.1 -1.0
ZAA0 Zalesovo Array  22.18 342  P     P     13 58 20.5 -2.1
ZAA0                             IAmb  IAmb  13 58 29.7
     comp=Z,5.8nm,0.8s
ZALV Zalesovo Beam   22.18 342  P     P     13 58 22.7 +0.1
     comp=Z,4.7nm,0.8s,baz=153,slow=11,SNR=17
     comp=Z,4.7nm,0.8s
KK31 Karatay Array   22.44 303  P     P     13 58 24.5 -1.1
KK31                             IAmb  IAmb  13 58 30.1
     comp=Z,12nm,1.2s
KKAR Karatay Array   22.44 303  P     P     13 58 26.1 +0.6
KKAR Karatay Array   22.44 303  P     P     13 58 24.7 -0.9
KKAR                             IAmb  IAmb  13 58 30.2
     comp=Z,12nm,1.2s
KBL  Kabul           22.66 281  P     P     13 58 29.0 +0.8
SIMJ Simiganj        22.71 291  P     P     13 58 28.0 -0.5
SIMJ                             IAmb  IAmb  13 58 32.6
     comp=Z,6.7nm,0.9s
SRIT Nakonsritamara  24.80 172  P     P     13 58 47.3 -1.4
BVAR Borovoye Array  27.06 324  P     P     13 59 09.7 +0.8
     comp=Z,0.4nm,0.5s,baz=137,slow=11,SNR=2.2
BVAR                             LR    LR    14 12 04.4
     comp=Z,214nm,20.1s,baz=329,slow=41
     comp=Z,0.4nm,0.5s
ABKAR Akbulak array  31.28 312  P     P     13 59 47.9 +1.4
JGF  Kuroka          33.72  74  P     P     14 00 07.4 -0.7
BRTR Keskin Array B  49.89 296  P     P     14 02 19.4 -0.9
     comp=Z,0.9nm,0.8s,baz=71,slow=8.3,SNR=3.7
     comp=Z,0.9nm,0.8s
AKASG Malin Array Be 51.02 311  P     P     14 02 28.5  0.0
     comp=Z,1.3nm,0.6s,baz=71,slow=7.3,SNR=5.7
     comp=Z,1.3nm,0.6s
EIL  Elat            51.81 284  LR    LR    14 27 26.0
     comp=Z,129nm,19.0s,baz=51,slow=40
FINES FINESS Array B 52.02 325  P     P     14 02 35.4 -0.4
     comp=Z,2.4nm,0.9s,baz=65,slow=4.7,SNR=4.2
     comp=Z,2.4nm,0.9s
ARCES ARCESS Array B 52.51 335  P     P     14 02 39.4 -0.1
     comp=Z,3.1nm,0.9s,baz=76,slow=5.8,SNR=6.5
     comp=Z,3.1nm,0.9s
SPITS Spitsbergen Ar 55.59 346  P     P     14 03 03.5 +1.7
     comp=Z,8.9nm,1.0s,baz=145,slow=3.5,SNR=2.4
     comp=Z,8.9nm,1.0s
NOA  NORSAR Array B  59.18 326  P     P     14 03 26.7 -0.7
     comp=Z,0.9nm,0.6s,baz=76,slow=6.9,SNR=1.9
     comp=Z,0.9nm,0.6s
GERES GERESS Array B 61.23 312  P     P     14 03 41.9 +0.2
     comp=Z,0.6nm,0.6s,baz=83,slow=5.6,SNR=5.1
     comp=Z,0.6nm,0.6s
ASAR Alice Springs   67.03 143  P     P     14 04 20.7 +0.8
     comp=Z,0.5nm,0.5s,baz=323,slow=6.3,SNR=13
     comp=Z,0.5nm,0.5s
```

*NEIC **23** 14:02:13.7±2.0, 31°.90S±0°.08×177°.4W±0°.2, h10km±2km, mb4.3/10, Error ellipse: s-maj=25.6km s-min=11.3km az=67.0*

*WEL **23** 14:02:13.0±1.1, 32°S±7°×17°8W±2°3, h12km, M4.7/9, mB4.5/4, ML5.2/10, MLv5.0/9, Mw(mB)3.6/4, Error ellipse: s-maj=30.8km s-min=4.3km az=105.5, confirmed*

*IDC **23** 14:02:15.2±1.4, 31°.84S×177°.91W, h0km, mb4.2/4, mbtmp4.2/6, ML3.6/2, Error ellipse: s-maj=36.3km s-min=28.5km az=115.0*

ISC 23 14:02:13.0±0.9, 31°.97S±0°.07×177°.2W±0°.1, h10km, n45, σ2°00/57, mb4.3/8, Kermadec Islands region

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
GLKZ Green Lake          2.77 347  P     Pn                14 02 53.5 -3.9
GLKZ                               S     Sn                14 03 24.5 -6.5
MXZ  Matakaoa Point      6.69 212  Pn    Pn                14 03 50.5 -0.8
MXZ  Matakaoa Point      6.69 212  P     Pn                14 03 49.7 -1.6
MXZ                                S     Sn                14 05 07.6  0.0
WMGZ Waiomatatini S      6.86 210  P     Pn                14 03 51.6 -2.0
WMGZ                               S     Sn                14 05 11.2 -0.4
PKGZ Pakihiroa           7.04 212  P     Pn                14 03 55.5 -0.6
PKGZ                               S     Sn                14 05 16.1 -0.2
HAZ  Te Kaha             7.09 214  P     Pn                14 03 57.2 +0.4
HAZ                                S     Sn                14 05 16.5 -0.9
PUZ  Puketiti            7.13 210  P     Pn                14 03 55.4 -2.0
PUZ                                S     Sn                14 05 17.9 -0.7
RUGZ Raukumara Rang      7.31 214  P     Pn                14 03 59.2 -0.7
RUGZ                               S     Sn                14 05 22.7 -0.3
TWGZ Tauwhareparae       7.34 211  P     Pn                14 03 57.4 -2.9
TWGZ                               S     Sn                14 05 23.4 -0.3
CNGZ Carnagh Statio      7.50 209  P     Pn                14 04 01.7 -0.8
CNGZ                               S     Sn                14 05 30.6 +3.0
MWZ  Matawai             7.67 213  P     Pn                14 03 54.7  -10
MWZ                                S     Sn                14 05 30.5 -1.4
URZ  Urewera             7.81 215  Pn    Pn                14 04 06.1 -0.6
     1.0nm,0.3s,baz=0.5,slow=2.1,SNR=9.6
URZ                                Sn    Sn                14 05 33.6 -1.6
     8.9nm,0.3s,baz=219,slow=20,SNR=21
     3.0nm,0.3s
URZ  Urewera             7.81 215  P     Pn                14 04 05.5 -1.2
URZ                                S     Sn                14 05 33.6 -1.6
RAGZ Rawiri              7.86 213  P     Pn                14 04 06.4 -1.0
RAGZ                               S     Sn                14 05 35.2 -1.3
RIGZ Rimuhau             7.88 210  P     Pn                14 04 06.5 -1.1
WCZ  Waipu Caves         8.06 238  P     Pn                14 04 13.5 +3.4
SNGZ Shannon Statio      8.12 212  P     Pn                14 04 10.0 -1.1
RTZ  Ruatahuna           8.16 214  Pn    Pn                14 04 11.7 +0.2
RTZ  Ruatahuna           8.16 214  P     Pn                14 04 11.9 +0.4
RTZ                                S     Sn                14 05 42.4 -1.4
OUZ  Omahuta             8.33 245  P     Pn                14 04 18.0 +4.2
BKZ  Black Stump Fm      8.82 214  Pn    Pn                14 04 16.8 -3.9
BKZ  Black Stump Fm      8.82 214  P     Pn                14 04 17.8 -2.8
BKZ                                S     Sn                14 05 56.8 -3.4
TUWZ Tuamarina           11.81 214 Pn    Pn                14 05 00.3 -1.1
GVZ  Greta Valley S      13.43 212 Pn    Pn                14 05 20.8 -2.8
RPZ  Rata Peaks          14.93 215 Pn    Pn                14 05 42.8 -1.3
     0.3nm,0.3s,baz=37,slow=12,SNR=1.3
     5.3nm,0.6s
STKA Stephens Creek      34.82 259 P     P                 14 09 03.6 -0.5
STKA                               IAmb  IAmb              14 09 31.1
     comp=Z,4.3nm,1.0s
STKA Stephens Creek      34.82 259 P     P                 14 09 03.9 -0.2
     comp=Z,2.0nm,0.5s,baz=106,slow=12,SNR=11
     comp=Z,2.0nm,0.5s
MGBR Mount Gambier       34.91 249 P     P                 14 09 05.6 +0.9
BBOO Buckleboo           39.23 256 P     P                 14 09 40.2 -1.4
BBOO                               IAmb  IAmb              14 09 41.8
     comp=Z,5.9nm,1.0s
AS31 Alice Springs       43.73 268 P     P                 14 10 17.5 -1.1
ASAR Alice Springs       43.73 268 P     P                 14 10 16.7 -1.9
ASAR Alice Springs       43.73 268 P     P                 14 10 17.3 -1.4
     comp=Z,1.3nm,0.4s,baz=109,slow=7.3,SNR=80
ASAR                               PcP   PcP               14 12 06.5 +0.9
     comp=Z,0.4nm,0.7s,baz=109,slow=3.4,SNR=1.6
     comp=Z,1.3nm,0.4s
WR8  Warramunga Arr      44.71 273 P     P                 14 10 25.7 -0.9
WR8                                IAmb  IAmb              14 10 49.0
     comp=Z,3.8nm,0.8s
WRA  Warramunga Arr      44.85 273 P     P                 14 10 26.6 -1.2
     comp=Z,2.9nm,0.5s,baz=112,slow=8.0,SNR=26
     comp=Z,2.9nm,0.5s
WB0  Warramunga Arr      44.88 274 P     P                 14 10 27.2 -0.8
WB0                                IAmb  IAmb              14 10 50.2
     comp=Z,9.6nm,1.1s
FORT Forrest             46.32 256 P     P                 14 10 37.7 -1.5
KNRA Kununurra           51.52 275 P     P                 14 11 17.7 -1.5
FITZ Fitzroy Crossi      53.05 271 P     P                 14 11 28.6 -2.0
QSPA South Pole Qui      58.14 180 P     P                 14 12 09.2 +2.5
QSPA                               IAmb  IAmb              14 12 25.1
     comp=Z,2.6nm,0.9s
QSPA South Pole Qui      58.14 180 P     P                 14 12 12.3 +5.6
     comp=Z,0.9nm,0.8s,baz=72,slow=20,SNR=1.6
     comp=Z,0.9nm,0.8s
SNAA Sanae               76.57 178 P     P                 14 14 03.7 +0.5
SNAA                               IAmb  IAmb              14 14 20.5
     comp=Z,3.6nm,1.1s
FINES FINESS Array B     146.85 340 PKPbc PKPdf            14 21 55.4 +2.5
     comp=Z,2.5nm,0.8s,baz=42,slow=2.3,SNR=5.3
MMAI Mount Meron Ar      152.54 281 PKPbc PKiKP            14 22 12.8 +2.6
     comp=Z,1.3nm,0.5s,baz=70,slow=7.2,SNR=6.0
AKASG Malin Array Be     152.96 322 PKPbc PKiKP            14 22 14.7 +4.4
     comp=Z,1.1nm,0.5s,baz=48,slow=0.8,SNR=3.0
BRTR Keskin Array B      153.92 296 PKPbc PKPbc            14 22 13.6 +0.8
     comp=Z,0.4nm,0.6s,baz=84,slow=2.6,SNR=2.4
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*NEIC **23** 14:04:58.9±1.2, 31°.161N±0°.010×103°.48W±0°.01, h5km, Error ellipse: s-maj=1.5km s-min=1.3km az=208.0*

NEIC 23 14:04:59.5±0.9, 31°.159N±0°.010×103°.48W±0°.01, h5km±1km, mb_Lg2.6/28, ML2.5/44, ML2.2/2, Error ellipse: s-maj=2.3km s-min=1.7km az=107.0, Western Texas

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
PCOS Crockett Middl      0.25 353  P     Pb                14 05 05.6 -1.1
PCOS                               S     Sb                14 05 09.8 -1.5
PECS Pecos               0.40 302  P     Pg                14 05 07.4 +0.2
PECS                               S     Sg                14 05 13.6 +1.2
PECS                               IAML                    14 05 18.5
     650nm,0.3s
MNHN Monahans            0.64  73  Pg    Pg                14 05 11.4 -0.4
MNHN                               S     Sg                14 05 20.2 +0.1
ALPN Alpine              0.79 190  Pg    Pg                14 05 14.2 -0.5
ALPN                               S     Sg                14 05 25.3 +0.2
CLNB Carlsbad            1.15 343  Pg    Pg                14 05 20.7 -1.0
ODSA Odessa              1.24  39  Pg    Pg                14 05 22.3 -1.1
ODSA                               S     Sg                14 05 39.5  0.0
CLN7 Carlsbad 7          1.28 347  P     Pg                14 05 23.8 -0.3
GDL2 Guadalupe Moun      1.28 324  Pg    Pg                14 05 23.9 -0.2
VHRN Van Horn            1.35 254  Pg    Pn                14 05 24.6 -0.5
VHRN                               S     Sb                14 05 43.0  0.0
VHRN                               IAML                    14 05 47.8
     96nm,0.5s
VHRN                               IAML                    14 05 50.3
     114nm,0.4s
SAND Sanderson           1.67 135  P     Pb                14 05 30.4 -0.5
SAND                               S     Sg                14 05 53.2 -0.1
SAND                               IAML                    14 05 55.9
     44nm,0.3s
SAND                               IAML                    14 05 55.9
     39nm,0.6s
MNTX Cornudas Mount      1.71 289  P     Pb                14 05 30.9 -0.6
MNTX                               S     Sg                14 05 54.4 -0.3
MNTX                               IAML                    14 05 58.0
     44nm,0.6s
MNTX                               IAML                    14 05 58.1
     59nm,0.6s
TX31 Lajitas Ar. Si      1.83 185  P     Pn                14 05 32.5 +0.8
TX31                               S     Sb                14 05 57.5 +0.8
TXAR Lajitas Array       1.83 185  P     Pn                14 05 32.5 +0.8
CPRX Cap Rock            1.90 350  P     Pb                14 05 34.0 -0.7
OZNA Ozona               2.03  96  P     Pb                14 05 35.8 -1.2
OZNA                               S     Sb                14 06 03.3 +0.7
SGCY Sterling City       2.14  69  P     Pn                14 05 37.0 +0.9
SGCY                               S     Sb                14 06 05.4 -0.4
SN05 Snyder 5            2.79  51  Pn    Pn                14 05 44.8 -0.1
SN05                               IAmb_Lg                 14 06 33.1
     comp=Z,15nm,0.8s
MSTX Muleshoe            2.87  12  Pn    Pn                14 05 45.7 -0.3
SN07 Snyder 07           2.92  48  Pn    Pn                14 05 45.9 -0.8
SN07                               IAmb_Lg                 14 06 39.3
     comp=Z,23nm,0.8s
DRIO Del Rio             3.02 124  IAmb_Lg                14 06 35.3
     comp=Z,13nm,0.8s
JCT  Junction City       3.23 101  IAmb_Lg                14 06 49.3
     comp=Z,22nm,0.8s
DKNS Dickens             3.30  40  IAmb_Lg                14 06 48.4
     comp=Z,16nm,0.8s
APMT Aspermont           3.57  52  Pn    Pn                14 05 55.8 +0.2
ABTX Abilene, Hawle      3.57  65  IAmb_Lg                14 06 56.7
     comp=Z,14nm,0.8s
BRDY Brady               3.84  87  IAmb_Lg                14 07 07.1
     comp=Z,15nm,0.7s
AMTX Amarillo            4.01  22  IAmb_Lg                14 07 16.2
     comp=Z,14nm,0.8s
PLPT Palo Pinto          4.69  68  Pn    Pn                14 06 10.9  0.0
PLPT                               IAmb_Lg                 14 07 36.1
     comp=Z,9.3nm,0.9s
SMWD Samnorwood          4.78  34  IAmb_Lg                14 07 38.6
     comp=Z,13nm,0.9s
WTFS Witchita Falls      4.97  57  Pn    Pn                14 06 14.5 -0.3
WMOK Wichita Mounta      5.32  47  Pn    Pn                14 06 20.2 +0.6
Z35A Perchaven, San      5.70  66  IAmb_Lg                14 08 16.0
     comp=Z,9.8nm,0.9s
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*NEIC **23** 14:08:02.6±2.1, 2°.99S±0°.03×147°.7E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=17.4km s-min=4.6km az=261.0*

*IDC **23** 14:08:03.1±0.7, 3°.03S×147°.71E, h0km, mb3.9/15, mbtmp4.0/16, ML3.2/1, MS4.0/30, Error ellipse: s-maj=26.1km s-min=16.0km az=97.0*

*GCMT **23** 14:08:07.6±0.4, 3°.00S±0°.02×147°.66E±0°.03, h12km, MW4.8/71, Moment Tensor Solution. s5,c7; s71,c97; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.08±.09; Mθθ0.88±.06; Mφφ=-0.79±.09; Mrθ0.84±.23; Mφθ1.36±.06; Mφr0.08±.23; Best double couple: M0=1.78800×1016 NP1:φs=14.00000°, δ65.00000°, λ25.00000°. NP2: φs=106.00000°, δ85.00000°, λ25.00000°. Principal axes: T 1.9370, Plg21.0000°, Azm333.0000°; N -0.2960, Plg64.0000°, Azm116.0000°; P -1.6400, Plg14.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 14:08:03.4±0.5, 3°.01S±0°.06×147°.81E±0°.08, h10km, n67, σ1°92/40, mb4.2/20, MS4.0/27, Bismarck Sea

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
MANU Manus Island        1.06 335  P     Pg                14 08 21.0 -2.7
RABL Rabaul              4.50 105  Pn    Pn                14 09 11.4 -0.3
PMG  Port Moresby        6.39 186  Pn    Pn                14 09 39.0 +1.4
PMG  Port Moresby        6.39 186  Pn    Pn                14 09 40.6 +3.0
     0.3nm,0.3s,baz=347,slow=5.3,SNR=1.6
PMG                                Sn    Sn                14 10 51.3 +0.7
     0.3nm,0.3s,baz=321,slow=13,SNR=1.4
JAY  Jayapura            7.11 274  Pn    Pn                14 09 49.0 +1.4
     0.4nm,0.3s,baz=126,slow=1.3,SNR=5.0
JAY                                LR    LR                14 12 15.2
     comp=Z,1μm,18.4s,baz=92,slow=36
     41nm,1.0s
COEN Coen                11.80 203 Pn    Pn                14 10 49.1 -2.8
HNR  Honiara             13.64 118 LR    LR                14 16 56.9
     comp=Z,425nm,18.1s,baz=124,slow=39
GUMO Guam                16.75 350 LR    LR                14 17 01.2
     comp=Z,308nm,18.5s,baz=156,slow=32
MTN  Manton Dam          19.17 238 P     P                 14 12 23.6 -3.7
MTN                                IAmb  IAmb              14 12 28.5
     comp=Z,40nm,1.1s
WB0  Warramunga Arr      21.19 217 P     P                 14 12 44.5 -4.8
WB0                                IAmb  IAmb              14 13 05.0
     comp=Z,28nm,1.4s
WR8  Warramunga Arr      21.27 217 P     P                 14 12 47.6 -2.6
WRA  Warramunga Arr      21.36 217 P     P                 14 12 49.5 -1.5
WRA  Warramunga Arr      21.36 217 P     P                 14 12 50.9 -0.2
     comp=Z,5.9nm,0.8s,baz=40,slow=11,SNR=15
WRA                                LR    LR                14 21 49.8
     comp=Z,554nm,18.2s,baz=22,slow=39
     comp=Z,5.9nm,0.8s
AS31 Alice Springs       24.54 212 P     P                 14 13 22.9 -0.7
ASAR Alice Springs       24.55 212 P     P                 14 13 21.4 -2.2
ASAR Alice Springs       24.55 212 P     P                 14 13 24.4 +0.9
     comp=Z,6.9nm,0.7s,baz=37,slow=7.2,SNR=65
     comp=Z,6.9nm,0.7s
DZM  Mont Dzumac         26.20 138 P     P                 14 13 38.0 -0.7
DZM                                IAmb  IAmb              14 14 19.9
     comp=Z,16nm,1.3s
DZM  Mont Dzumac         26.20 138 LR    LR                14 22 30.2
     comp=Z,536nm,20.0s,baz=8.0,slow=33
FITZ Fitzroy Crossi      26.39 234 P     P                 14 13 39.6 -0.7
FITZ Fitzroy Crossi      26.39 234 LR    LR                14 24 47.3
     comp=Z,862nm,19.0s,baz=73,slow=38
PINNC Pines Island,      27.25 137 P     P                 14 13 49.1 +1.2
KAPI Kappang             28.06 265 LR    LR                14 27 12.3
     comp=Z,100nm,18.1s,baz=76,slow=41
H11S3 WAKE ISLAND Hy 28.33  40 T     T                 14 43 45.1
     baz=222,slow=76,SNR=380
H11S2 WAKE ISLAND Hy 28.34  40 T     T                 14 43 42.6
     baz=222,slow=76,SNR=220
H11S1 WAKE ISLAND Hy 28.34  40 T     T                 14 43 43.3
     baz=222,slow=76,SNR=323
STKA Stephens Creek      29.30 191 P     P                 14 14 04.4 -1.8
STKA                               IAmb  IAmb              14 14 15.1
     comp=Z,20nm,1.2s
STKA Stephens Creek      29.30 191 P     P                 14 14 06.8 +0.6
     comp=Z,0.8nm,0.6s,baz=0.0,slow=5.1,SNR=1.3
STKA                               LR    LR                14 26 15.8
     comp=Z,299nm,20.1s,baz=7.7,slow=37
     comp=Z,0.8nm,0.6s
H11N1 WAKE ISLAND Hy 29.35  39 T     T                 14 45 00.7
     baz=221,slow=76,SNR=82
H11N3 WAKE ISLAND Hy 29.37  39 T     T                 14 45 01.8
     baz=221,slow=76,SNR=256
H11N2 WAKE ISLAND Hy 29.37  39 T     T                 14 45 01.9
     baz=221,slow=76,SNR=213
JCJ  Chichijima          30.42 350 P     P                 14 14 13.7 -2.4
JCJ  Chichijima          30.42 350 LR    LR                14 25 36.5
     comp=Z,97nm,20.0s,baz=156,slow=35
CAN  Canberra            32.17 178 P     P                 14 14 29.9 -1.6
CAN                                IAmb  IAmb              14 14 57.6
     comp=Z,24nm,1.5s
MSVF Nonsavu             33.07 118 LR    LR                14 26 39.9
     comp=Z,160nm,20.3s,baz=3.9,slow=34
FORT Forrest             33.33 212 P     P                 14 14 39.8 -1.9
JOW  Kunigami            35.16 329 LR    LR                14 26 20.4
     comp=Z,294nm,19.8s,baz=194,slow=31
JHJ  Hachijo jima 2      36.73 349 LR    LR                14 27 31.9
     comp=Z,265nm,21.8s,baz=104,slow=32
JNU  Nakatsue            39.34 337 LR    LR                14 29 02.3
     comp=Z,115nm,20.9s,baz=94,slow=32
MJAR Matsushiro Arr      40.35 348 P     P                 14 15 42.4 +1.0
     comp=Z,0.7nm,0.9s,baz=167,slow=14,SNR=4.5
MJAR                               LR    LR                14 30 20.9
     comp=Z,143nm,20.0s,baz=168,slow=33
     comp=Z,0.7nm,0.9s
NWAO Narrogin (SRO)      41.29 220 LR    LR                14 33 58.4
     comp=Z,369nm,19.1s,baz=19,slow=38
URZ  Urewera             44.13 146 LR    LR                14 32 08.3
     comp=Z,336nm,20.4s,baz=28,slow=33
KSRS Korea Array         44.30 337 P     P                 14 16 13.7 +0.3
     comp=Z,2.3nm,0.8s,baz=145,slow=13,SNR=8.4
KSRS                               LR    LR                14 32 49.9
     comp=Z,111nm,20.1s,baz=145,slow=34
     comp=Z,2.3nm,0.8s
ASAJ Asahikawa           47.15 355 LR    LR                14 35 01.3
     comp=Z,45nm,21.3s,baz=168,slow=34
USRK Ussuriysk Ar.       49.09 345 LR    LR                14 36 34.1
     comp=Z,76nm,19.5s,baz=173,slow=35
CMAR Chiang Mai Arr      52.62 296 P     P                 14 17 19.2 +1.2
     comp=Z,0.4nm,0.3s,baz=120,slow=5.4,SNR=4.8
     comp=Z,0.4nm,0.3s
KLR  Kul'dur             53.86 347 LR    LR                14 38 04.5
     comp=Z,78nm,19.3s,baz=343,slow=33
PETK Petropavlovsk-      56.53  7  P     P                 14 17 48.0 +2.2
     comp=Z,2.1nm,0.7s,baz=145,slow=6.3,SNR=6.1
PETK                               LR    LR                14 37 29.4
     comp=Z,83nm,21.2s,baz=212,slow=31
     comp=Z,2.1nm,0.7s
BRDH Bariadhala          60.42 298 LR    LR                14 46 52.8
     comp=Z,104nm,18.1s,baz=298,slow=39
SONM Songino Array       62.22 330 P     P                 14 18 27.4 +1.9
     comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=4.1
     comp=Z,0.2nm,0.4s
MA2  Magadan             62.44  2  LR    LR                14 46 36.4
     comp=Z,68nm,18.5s,baz=128,slow=37
YAK  Yakutsk             66.33 351 LR    LR                14 47 25.5
     comp=Z,89nm,18.7s,baz=104,slow=36
M14K Bethel              74.44  23 P     P                 14 19 40.2 -1.3
VNDA Vanda               74.83 177 P     P                 14 19 44.2 +0.6
     comp=Z,0.9nm,0.7s,baz=349,slow=3.7,SNR=5.2
VNDA                               LR    LR                14 50 12.5
     comp=Z,82nm,19.6s,baz=314,slow=34
     comp=Z,0.9nm,0.7s
MKAR Makanchi Array      75.73 320 P     P                 14 19 50.3 +0.9
     comp=Z,0.4nm,0.8s,baz=99,slow=7.5,SNR=3.5
     comp=Z,0.4nm,0.8s
ZALV Zalesovo Beam       76.94 327 LR    LR                14 53 17.2
     comp=Z,176nm,19.8s,baz=340,slow=35
M20K Styx River          78.62  24 P     P                 14 20 03.9 -1.5
M20K                               IAmb  IAmb              14 20 13.8
     comp=Z,14nm,1.5s
KURBB Kurchatov Arra     79.35 323 P     P                 14 20 09.8 +0.3
     comp=Z,0.3nm,0.5s,baz=117,slow=4.7,SNR=4.9
     comp=Z,0.3nm,0.5s
ILAR Eielson Array       82.43  23 P     P                 14 20 26.2 +0.5
     comp=Z,0.9nm,0.8s,baz=242,slow=4.6,SNR=9.3
     comp=Z,0.9nm,0.8s
F24K Squaw Lake          83.20  20 P     P                 14 20 30.6 +1.0
BVAR Borovoye Array      84.85 324 P     P                 14 20 38.8 +0.5
     comp=Z,1.1nm,0.6s,baz=115,slow=6.7,SNR=5.9
     comp=Z,1.1nm,0.6s
K29M Barlow Dome         85.97  25 P     P                 14 20 45.4 +1.6
K29M                               IAmb  IAmb              14 20 47.9
     comp=Z,3.1nm,0.9s
QSPA South Pole Qui      86.94 180 LR    LR                14 58 58.4
     comp=Z,97nm,18.5s,baz=320,slow=35
YBH  Yreka Blue Hor      91.60  48 LR    LR                14 55 21.4
     comp=Z,78nm,18.9s,baz=338,slow=31
NVAR Mina Array Bea      94.91  52 P     P                 14 21 29.8 +3.2
     comp=Z,0.2nm,0.4s,baz=283,slow=6.5,SNR=2.3
NVAR                               LR    LR                14 56 10.0
     comp=Z,105nm,21.1s,baz=312,slow=30
     comp=Z,0.2nm,0.4s
YKA  Yellowknife Ar      96.17  28 P     P                 14 21 33.4 +2.0
     comp=Z,0.7nm,0.7s,baz=275,slow=4.8,SNR=15
     comp=Z,0.7nm,0.7s
KIRV Kirov               96.94 329 LR    LR                15 07 33.3
     comp=Z,236nm,18.6s,baz=315,slow=37
SIV  San Ignacio         145.77 124 PKPbc PKiKP            14 27 45.5 -2.0
     comp=Z,1.5nm,0.5s,baz=236,slow=4.7,SNR=8.9
```

IDC 23 14:13:51.1±3.9, 7°.22N×37°.55W, h0km, mb3.8/5, mbtmp3.8/5, MS3.2/1, Error ellipse: s-maj=116.7km s-min=30.3km az=99.0, Central Mid-Atlantic Ridge

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
BDFB Brasilia            24.97 204 P     P                 14 19 16.8 +0.1
     2.5nm,0.5s,baz=41,slow=5.1,SNR=3.6
     2.5nm,0.5s
H10N3 ASCENSION HYDR27.42 123 T     T                 14 48 16.2
     baz=304,slow=75,SNR=26
H10N2 ASCENSION HYDR27.43 123 T     T                 14 48 16.6
     baz=304,slow=75,SNR=25
H10N1 ASCENSION HYDR27.44 123 T     T                 14 48 17.8
     baz=304,slow=75,SNR=24
SIV  San Ignacio         32.78 225 P     P                 14 20 26.6 +0.2
     0.8nm,0.4s,baz=56,slow=8.9,SNR=6.5
     0.8nm,0.4s
LPAZ La Paz              38.23 232 P     P                 14 21 13.5 -0.4
     2.3nm,0.8s,baz=46,slow=7.4,SNR=6.9
LPAZ                               LR    LR                14 36 12.6
     comp=Z,36nm,20.8s,baz=51,slow=35
     2.3nm,0.8s
TXAR Lajitas Array       65.70 299 P     P                 14 24 38.2 +0.1
     0.2nm,0.6s,baz=94,slow=7.3,SNR=2.4
     0.2nm,0.6s
YKA  Yellowknife Ar      77.66 332 P     P                 14 25 49.3  0.0
     0.4nm,0.7s,baz=101,slow=4.9,SNR=4.2
     0.4nm,0.7s
```

IDC 23 14:40:32.0±5.5, 20°.34S×179°.02W, h628km±36km, mb2.9/3, mbtmp3.9/4, Error ellipse: s-maj=146.9km s-min=45.9km az=141.0, Fiji Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
MSVF Nonsavu             3.80 313  P     P                 14 41 58.3 -0.1
     7.0nm,0.5s,baz=184,slow=13,SNR=14
STKA Stephens Creek      37.00 244 P     P                 14 46 50.2 -0.5
     1.1nm,0.7s,baz=73,slow=11,SNR=2.9
     1.1nm,0.7s
ASAR Alice Springs       43.62 257 P     P                 14 47 43.6 +0.3
     2.5nm,0.8s,baz=95,slow=8.1,SNR=32
     2.5nm,0.8s
WRA  Warramunga Arr      43.67 262 P     P                 14 47 43.6 -0.1
     0.6nm,0.3s,baz=97,slow=7.6,SNR=5.0
     0.6nm,0.3s
```

AKASG Malin Array Be 142.41 330 PKP PKPdf 14 58 53.9 -0.6
0.6nm,0.4s,baz=42,slow=4.3,SNR=4.7

*IDC **23** 15:06:52.8±2.1,24°.77S×112°.59W,h0km,mb3.5/3, mbtmp3.5/3,MS3.5/1,Error ellipse: s-maj=160.8km s-min=61.3km az=94.0*

ISC 23 15:06:54.0±2.2,24°.9S±0°.4×11°2W±°,h10km,n14,σ0.84/7, mb3.6/3,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**30.33**	**114**	T	T	15 44 58.6	
	baz=283,slow=75,SNR=3.3						
H03N3	**Juan Fernandez**	**30.34**	**114**	T	T	15 45 00.4	
	baz=283,slow=75,SNR=3.8						
H03N1	**Juan Fernandez**	**30.35**	**114**	T	T	15 44 55.9	
	baz=283,slow=75,SNR=3.6						
CPUP	**Villa Florida**	**49.34**	**104**	LR	LR	15 32 55.0	
	comp=Z,46nm,18.1s,baz=160,slow=32						
TXAR	**Lajitas Array**	**54.52**	**9**	P	**P**	**15 16 22.8**	**+0.6**
	0.1nm,0.4s,baz=175,slow=5.8,SNR=4.8						
	0.1nm,0.4s						
NVAR	**Mina Array Bea**	**63.20**	**355**	P	**P**	**15 17 22.8**	**+0.3**
	0.7nm,0.7s,baz=184,slow=9.4,SNR=4.0						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**67.33**	**2**	P	**P**	**15 17 47.9**	**-1.4**
	0.3nm,0.7s,baz=167,slow=5.9,SNR=3.2						
	0.3nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**89.76**	**290**	T	T	16 59 21.7	
	baz=116,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**89.77**	**290**	T	T	16 59 22.4	
	baz=116,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**89.77**	**290**	T	T	16 59 22.6	
	baz=116,slow=75,SNR=7.2						
ZALV	**Zalesovo Beam**	**148.23**	**341**	PKPbc	**PKPbc**	**15 26 40.1**	**+0.1**
	0.2nm,0.3s,baz=7.8,slow=3.2,SNR=1.6						
BVAR	**Borovoye Array**	**151.79**	**356**	PKPbc	**PKiKP**	**15 26 49.0**	**-0.1**
	0.8nm,0.6s,baz=29,slow=3.3,SNR=3.1						
KBZ	**Khabaz**	**152.38**	**41**	PKPbc	**PKiKP**	**15 26 51.1**	**+0.5**
	2.1nm,0.8s,baz=287,slow=2.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**152.93**	**345**	PKPbc	**PKPbc**	**15 26 50.9**	**-0.4**
	0.2nm,0.5s,baz=19,slow=1.9,SNR=4.4						

*IDC **23** 15:11:47.2±3.1,25°.58S×178°.94W,h397km±34km,mb3.6/6, mbtmp4.4/7,Error ellipse: s-maj=29.1km s-min=22.9km az=50.0*

ISC 23 15:11:44.3±0.7,25°.94S±0°.06×178°.5W±0°.1,h400km,n39, σ1.78/55,mb3.8/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**3.33**	**172**	P	**Pn**	**15 12 51.0**	**+0.8**
RIZ				S	**S**	**15 13 41.4**	**-2.2**
GLKZ	**Green Lake**	**3.35**	**171**	P	**Pn**	**15 12 51.3**	**+0.9**
GLKZ				S	**S**	**15 13 42.7**	**-1.3**
MSVF	**Nonsavu**	**8.77**	**338**	P	**P**	**15 13 45.6**	**-2.9**
	37nm,0.7s,baz=178,slow=15,SNR=20						
NIUE	**Niue**	**10.45**	**51**	P	**Pn**	**15 14 11.0**	**+3.3**
NIUE				S	**S**	**15 16 04.2**	**-0.5**
MXZ	**Matakaoa Point**	**11.90**	**192**	P	**Pn**	**15 14 26.4**	**+2.2**
MXZ	**Matakaoa Point**	**11.90**	**192**	P	**Pn**	**15 14 26.2**	**+1.9**
MXZ				S	**S**	**15 16 33.5**	**-0.3**
WMGZ	**Waiomatatini S**	**12.13**	**192**	P	**Pn**	**15 14 28.6**	**+1.7**
WMGZ				S	**S**	**15 16 36.1**	**-2.3**
HAZ	**Te Kaha**	**12.20**	**194**	P	**Pn**	**15 14 27.2**	**-0.4**
HAZ				S	**S**	**15 16 39.6**	**-0.1**
PKGZ	**Pakihiroa**	**12.24**	**193**	P	**P**	**15 14 24.7**	**-1.8**
PKGZ				S	**S**	**15 16 39.5**	**-1.2**
PUZ	**Puketiti**	**12.41**	**192**	P	**Pn**	**15 14 29.5**	**-0.6**
PUZ				S	**S**	**15 16 40.2**	**-3.8**
RUGZ	**Raukumara Rang**	**12.42**	**194**	P	**Pn**	**15 14 30.1**	**-0.2**
RUGZ				S	**S**	**15 16 43.1**	**-1.4**
TWGZ	**Tauwhareparae**	**12.56**	**193**	P	**Pn**	**15 14 31.4**	**-0.6**
TWGZ				S	**S**	**15 16 48.4**	**+1.3**
KMRZ	**Kaimai**	**12.77**	**200**	P	**Pn**	**15 14 37.2**	**+2.9**
MWZ	**Matawai**	**12.81**	**194**	P	**Pn**	**15 14 34.9**	**+0.1**
MWZ				S	**S**	**15 16 51.0**	**-1.1**
CNGZ	**Carnagh Statio**	**12.81**	**192**	P	**Pn**	**15 14 33.9**	**-0.9**
CNGZ				S	**S**	**15 16 51.0**	**-1.2**
URZ	**Urewera**	**12.83**	**196**	P	**Pn**	**15 14 34.1**	**-0.9**
	6.7nm,0.3s,baz=0.1,slow=3.0,SNR=24						
URZ				S	**S**	**15 16 53.3**	**+0.7**
	25nm,0.5s,baz=158,slow=23,SNR=20						
URZ	**Urewera**	**12.83**	**196**	P	**Pn**	**15 14 34.0**	**-1.0**
URZ	**Urewera**	**12.83**	**196**	P	**Pn**	**15 14 34.3**	**-0.7**
URZ				S	**S**	**15 16 53.2**	**+0.6**
TKGZ	**Te Karaka**	**12.84**	**193**	P	**Pn**	**15 14 34.7**	**-0.4**
TKGZ				S	**S**	**15 16 52.1**	**-0.6**
RAGZ	**Rawiri**	**12.99**	**194**	P	**Pn**	**15 14 35.2**	**-1.7**
RAGZ				S	**S**	**15 16 55.9**	**0.0**
RIGZ	**Rimuhau**	**13.12**	**193**	P	**P**	**15 14 35.6**	**-0.6**
RIGZ				S	**S**	**15 16 55.9**	**-2.4**
MUGZ	**Murupara**	**13.13**	**197**	P	**Pn**	**15 14 38.6**	**+0.1**
MUGZ				S	**S**	**15 16 59.4**	**+0.9**
SNGZ	**Shannon Statio**	**13.28**	**194**	S	**S**	**15 17 01.4**	**-0.2**
PRGZ	**Paritu Road**	**13.30**	**192**	P	**P**	**15 14 38.0**	**-0.3**
PRGZ				S	**S**	**15 17 04.0**	**+1.9**
MHGZ	**Mahia Peninsul**	**13.52**	**192**	S	**S**	**15 17 05.5**	**-0.8**
HIZ	**Hauiti**	**13.74**	**203**	P	**Pn**	**15 14 48.1**	**+2.6**
BKZ	**Black Stump Fm**	**13.85**	**196**	P	**P**	**15 14 42.9**	**-1.3**
NGZ	**Ngauruhoe**	**14.10**	**199**	S	**S**	**15 17 24.4**	**+6.1**
DZM	**Mont Dzumac**	**14.29**	**282**	P	P	15 14 42.1	-7.2
	8.5nm,0.9s,baz=117,slow=18,SNR=3.2						
WAZ	**Wanganui**	**14.82**	**200**	S	**S**	**15 17 34.0**	**+1.6**
KHZ	**Kahutara**	**17.69**	**200**	P	**P**	**15 15 27.6**	**+2.2**
	28nm,1.3s						
STKA	**Stephens Creek**	**35.29**	**251**	P	**P**	**15 18 03.9**	**+0.3**
	1.9nm,0.5s,baz=106,slow=12,SNR=6.7						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**43.09**	**262**	P	**P**	**15 19 07.7**	**+0.4**
	6.8nm,0.4s,baz=93,slow=7.6,SNR=138						
	6.8nm,0.4s						
WRA	**Warramunga Arr**	**43.67**	**268**	P	**P**	**15 19 11.7**	**-0.2**
	7.8nm,0.4s,baz=103,slow=7.7,SNR=28						
	7.8nm,0.4s						
VNDA	**Vanda**	**52.48**	**185**	P	P	15 20 23.4	+5.9
	1.2nm,0.7s,baz=1.9,slow=7.9,SNR=5.6						
	1.2nm,0.7s						
QSPA	**South Pole Qui**	**64.15**	**180**	P	P	15 21 42.6	+5.1
	3.2nm,1.1s,baz=26,slow=3.6,SNR=7.4						
	3.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.51**	**290**	P	**P**	**15 24 08.4**	**+1.3**
	0.6nm,0.8s,baz=109,slow=5.8,SNR=2.9						
	0.6nm,0.8s						
NOA	**NORSAR Array B**	**144.29**	**352**	PKP	**PKiKP**	**15 30 33.8**	**-2.9**
	0.8nm,0.7s,baz=18,slow=2.8,SNR=3.4						
HFS	**Hagfors**	**144.80**	**349**	PKP	**PKiKP**	**15 30 36.1**	**-1.6**
	1.7nm,0.3s,baz=8.5,slow=2.9,SNR=12						

WEL 23 15:14:37.4±0.6,40°S±2°×17°7E±°,h25km±5km,M2.2/24, ML2.6/13,MLv2.2/24,Error ellipse: s-maj=4.2km s-min=3.1km az=104.5,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.09**	**89**	P	Pb	15 14 42.7	+0.7
KAHZ				S	Sb	15 14 46.8	+1.7
PXZ	**Pawanui**	**0.25**	**162**	P	Pn	15 14 44.6	-0.9
PXZ				S	Sb	15 14 50.9	+2.9
CKHZ	**Cape Kidnapper**	**0.28**	**60**	P	Pn	15 14 45.2	-0.6
CKHZ				S	Sn	15 14 51.5	+0.2
KRHZ	**Kereru**	**0.34**	**296**	P	Pn	15 14 46.0	-0.8
KRHZ				S	Sn	15 14 52.4	-0.5
MCHZ	**McNeill Hill**	**0.35**	**351**	P	Pn	15 14 46.5	-0.4
MCHZ				S	Sn	15 14 53.8	+0.6
WPHZ	**Waipukurau**	**0.37**	**223**	P	Pn	15 14 46.8	-0.4
WPHZ				S	Sn	15 14 54.4	+0.8
PNHZ	**Pukenui**	**0.45**	**255**	P	Pn	15 14 47.8	-0.5
PNHZ				S	Sn	15 14 56.1	+0.5
KWHZ	**Kaweka Forest**	**0.46**	**324**	P	Pn	15 14 47.8	-0.6
KWHZ				S	Sn	15 14 55.9	+0.2
PRHZ	**Porangahau**	**0.48**	**192**	P	Pn	15 14 48.2	-0.5
PRHZ				S	Sn	15 14 56.8	+0.5
ARHZ	**Aropaoanui**	**0.56**	**19**	P	Pb	15 14 49.0	+0.4
ARHZ				S	Sn	15 14 59.4	+1.1
BKZ	**Black Stump Fm**	**0.66**	**341**	P	Pn	15 14 51.1	-0.2
TSZ	**Takapari Road**	**0.67**	**247**	P	Pn	15 14 51.1	-0.2
DVHZ	**Dannevirke**	**0.68**	**222**	P	Pn	15 14 51.5	-0.3
NMHZ	**Naumai**	**0.70**	**3**	P	Pn	15 14 51.9	+0.2
ANWZ	**Angora Road**	**0.70**	**198**	P	Pb	15 14 51.2	+0.2
ANWZ				S	Sn	15 15 02.2	+0.5
MOVZ	**Moawhango**	**0.87**	**296**	P	Pn	15 14 54.7	+0.6
BFZ	**Birch Farm**	**0.97**	**204**	P	Pn	15 14 54.6	-0.8
BFZ	**Birch Farm**	**0.97**	**204**	P	Pn	15 14 54.5	-0.9
POWZ	**Post Office Ro**	**0.97**	**232**	P	Pb	15 14 55.7	+0.2
PRWZ	**Pori Road**	**0.97**	**218**	P	Pn	15 14 55.3	-0.1
MRHZ	**Matea Rd**	**1.00**	**344**	P	Pb	15 14 56.5	+0.5
TUVZ	**Tukino**	**1.01**	**301**	P	Pb	15 14 57.3	+1.1
WNVZ	**Wahianoa**	**1.02**	**297**	P	Pb	15 14 57.5	+1.1
WHVZ	**Whangaehu Hut**	**1.04**	**299**	P	Pb	15 14 58.0	+1.1
ETVZ	**East Tongariro**	**1.05**	**309**	P	Pb	15 14 58.0	+1.1
SNVZ	**South Ngauruho**	**1.06**	**305**	P	Pb	15 14 58.2	+1.0
TRVZ	**Turoa**	**1.06**	**297**	P	Pb	15 14 58.0	+0.8
TMVZ	**Te Maari**	**1.07**	**309**	P	Pb	15 14 58.2	+1.0
RITZ	**Rihia Road**	**1.08**	**319**	P	Pb	15 14 58.5	+1.1
MTVZ	**Mangateitei**	**1.08**	**292**	P	Pb	15 14 58.4	+1.0
FWVZ	**Far West T-bar**	**1.08**	**300**	P	Pb	15 14 58.6	+1.0
NGZ	**Ngauruhoe**	**1.09**	**304**	P	Pb	15 14 58.8	+1.1
NTVZ	**North Tongarir**	**1.09**	**309**	P	Pb	15 14 58.5	+0.8
NNVZ	**North Ngauruho**	**1.11**	**306**	P	Pb	15 14 59.0	+1.0
KRVZ	**Karewarewa**	**1.12**	**308**	P	Pb	15 14 59.1	+1.0
COVZ	**Chateau Observ**	**1.12**	**302**	P	Pb	15 14 59.0	+0.9
WTVZ	**West Tongariro**	**1.14**	**306**	P	Pb	15 14 59.3	+0.9
KATZ	**Kakaramea**	**1.17**	**314**	P	Pb	15 14 59.9	+1.0
TIWZ	**Tintock**	**1.19**	**214**	P	Pn	15 14 57.7	-0.7
PKVZ	**Pokaka**	**1.21**	**294**	P	Pb	15 15 00.7	+1.1
MRZ	**Mangatainoka R**	**1.25**	**226**	P	Pn	15 14 58.6	-0.7
TWVZ	**Taurewa**	**1.26**	**305**	P	Pb	15 15 01.2	+0.7
HOWZ	**Holdsworth Sta**	**1.46**	**221**	P	Pn	15 15 01.2	-1.0
OGWZ	**Otaki Gorge**	**1.59**	**230**	P	Pn	15 15 03.6	-0.3
CAW	**Cannon Point**	**1.84**	**224**	P	Pn	15 15 06.4	-1.0
MSWZ	**Moikau Station**	**1.99**	**215**	P	Pn	15 15 07.5	-1.9

*IDC **23** 15:14:39.5±3.0,61°.42N×150°.10W,h23km±17km,mb3.8/19, mbtmp3.8/23,ML3.5/4,MS3.3/4,Error ellipse: s-maj=18.1km s-min=11.7km az=34.0*

*ANF **23** 15:14:44.8±0.1,61°.45N×149°.93W,h35km±3km,ML4.4/102, Error ellipse: s-maj=0.9km s-min=0.7km az=175.0*

*NEIC **23** 15:14:44.4±1.2,61°.51N±0°.03×149°.88W±0°.05,h49km±4km, Error ellipse: s-maj=4.7km s-min=2.4km az=132.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.80; $M_{\theta\theta}$0.06; $M_{\phi\phi}$1.74; $M_{r\theta}$0.98; $M_{\theta\phi}$0.91; $M_{\phi r}$-0.00; Fault plane solution: $M_0$2.22000×10^{15} NP1:ϕ_s0.78000°, δ44.46000°,λ-126.58000°. NP2:ϕ_s226.90000°, δ55.77000°,λ-59.67000°. Principal axes: T 2.1764, Plg6.0000°, Azm296.0000°; N 0.0787, Plg25.0000°, Azm29.0000°; P -2.2550, Plg64.0000°, Azm193.0000°;*

*AEIC **23** 15:14:45.1±1.5,61°.53N±0°.03×149°.86W±0°.06,h47km±5km, ML4.1,mb4.1/3(NEIC),ML4.2/174(NEIC), Mwr4.2/104(NEIC) Error ellipse: s-maj=4.7km s-min=3.6km az=123.0*

*NEIC **23** 15:14:45.2,61°.50N×149°.91W,h41km*

ISC 23 15:14:43.9±0.6,61°.48N±0°.03×149°.90W±0°.02,h53km±5km, n484,σ1.09/485,mb4.1/25,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**339**		**Pn**	**15 14 52.5**	**-0.7**
M22K					**Sn**	**15 14 59.7**	**-0.2**
M22K	**Willow**	**0.29**	**339**	IAML		15 15 00.2	
	comp=E,46μm,0.6s						
M22K				IAML		15 15 02.0	
	comp=N,56μm,0.5s						
M22K	**Willow**	**0.29**	**339**	P	**Pn**	**15 14 52.5**	**-0.7**
	baz=165						
M22K				S	**Sn**	**15 14 59.1**	**-0.8**
	baz=165						
FIS	**Fire Island**	**0.37**	**205**	Pn	**Pn**	**15 14 54.7**	**+0.8**
FIS				Sn	**Sn**	**15 15 03.8**	**+2.6**
FIS				IAML		15 15 04.1	
	comp=E,24μm,0.4s						
PMR	**Palmer**	**0.39**	**73**		**Pn**	**15 14 53.2**	**-0.8**
PMR				IAML		15 15 01.6	
	comp=N,22μm,0.4s						
PMR				IAML		15 15 01.7	
	comp=E,28μm,0.7s						
PMR	**Palmer**	**0.39**	**73**		**Sn**	**15 15 01.1**	**-0.2**
PMR	**Palmer**	**0.39**	**73**	P	**Pn**	**15 14 53.8**	**-0.3**
PMR	**Palmer**	**0.39**	**73**	S	**Sn**	**15 15 01.0**	**-0.4**
PMR	**Palmer**	**0.39**	**73**	P	**Pn**	**15 14 53.6**	**-0.4**
	baz=250,SNR=1000						
PMR				S	**Sn**	**15 15 01.2**	**-0.2**
	baz=250						
RC01	**Rabbit Creek A**	**0.40**	**169**		**Pn**	**15 14 54.1**	**-0.2**
RC01				Sn	**Sn**	**15 15 02.4**	**+0.6**
RC01				IAML		15 15 03.3	
	comp=N,22μm,0.3s						
RC01				IAML		15 15 03.6	
	comp=E,19μm,0.3s						
RC01	**Rabbit Creek A**	**0.40**	**169**	P	**Pn**	**15 14 54.3**	**0.0**
	baz=344,SNR=506						
GHO	**Glory Hole Cre**	**0.55**	**58**		**Pn**	**15 14 55.5**	**-0.5**
GHO	**Glory Hole Cre**	**0.55**	**58**		**Sn**	**15 15 05.0**	**+0.2**
KNK	**Knik Glacier**	**0.70**	**95**		**Pn**	**15 14 58.0**	**+0.3**
KNK	**Knik Glacier**	**0.70**	**95**		**Sn**	**15 15 08.7**	**+0.9**
KNK	**Knik Glacier**	**0.70**	**95**	P	**Pn**	**15 14 58.1**	**+0.4**
	baz=273,SNR=733						
KNK				S	**Sn**	**15 15 08.6**	**+0.9**
	baz=273						
SML	**Sawmill**	**0.82**	**66**		**Pn**	**15 14 59.1**	**-0.3**
SML				IAML		15 15 12.3	
	comp=N,11μm,1.2s						
SML				IAML		15 15 13.1	
	comp=E,11μm,0.8s						
SML	**Sawmill**	**0.82**	**66**		**Sn**	**15 15 11.2**	**+0.6**
SML	**Sawmill**	**0.82**	**66**	P	**Pn**	**15 14 59.3**	**0.0**
	baz=245,SNR=228						
SML				S	**Sn**	**15 15 10.7**	**+0.1**
	baz=245						
SKT	**Skwentna**	**0.92**	**303**		**Pn**	**15 15 00.2**	**-0.5**
SKT				IAML		15 15 13.9	
	comp=N,7μm,0.3s						
SKT				IAML		15 15 14.7	
	comp=E,12μm,0.5s						
SKT	**Skwentna**	**0.92**	**303**		**Sn**	**15 15 13.2**	**+0.1**
SKT	**Skwentna**	**0.92**	**303**	P	**Pn**	**15 15 00.4**	**-0.3**
	baz=125,SNR=1000						
SKT				S	**Sn**	**15 15 13.0**	**0.0**
	baz=125						
STLK	**Strandline Lak**	**0.93**	**272**		**Pn**	**15 15 01.1**	**+0.3**
STLK				IAML		15 15 14.5	
	comp=N,8μm,0.3s						
STLK				IAML		15 15 16.2	
	comp=E,6μm,0.4s						
STLK	**Strandline Lak**	**0.93**	**272**		**Sn**	**15 15 13.7**	**+0.5**
CAPN	**Captain Cook N**	**0.94**	**221**		**Pn**	**15 15 03.3**	**+2.4**
CAPN	**Captain Cook N**	**0.94**	**221**	P	**Pn**	**15 15 02.9**	**+2.1**
	baz=40,SNR=6.5						
CUT	**Chulitna**	**0.94**	**349**		**Pn**	**15 15 00.5**	**-0.4**
CUT	**Chulitna**	**0.94**	**349**		**Sn**	**15 15 13.2**	**-0.2**
CUT	**Chulitna**	**0.94**	**349**	P	**Pn**	**15 15 00.7**	**-0.1**
	baz=171,SNR=437						
CUT				S	**Sn**	**15 15 13.4**	**0.0**
	baz=171						
PWL	**Port Wells**	**0.98**	**129**	Pn	**Pn**	**15 15 02.1**	**+0.7**
PWL	**Port Wells**	**0.98**	**129**		**Sn**	**15 15 16.3**	**+1.9**
PWL	**Port Wells**	**0.98**	**129**	P	**Pn**	**15 15 02.2**	**+0.7**
	baz=308,SNR=1000						
PWL				S	**Sn**	**15 15 16.5**	**+2.1**
	baz=308						
SLKM	**Skilak Lake**	**0.99**	**189**	Pn	**Pn**	**15 15 02.0**	**+0.4**
SLKM				IAML		15 15 18.1	
	comp=N,7μm,0.2s						
SLKM	**Skilak Lake**	**0.99**	**189**		**Sn**	**15 15 16.0**	**+1.4**
O22K	**Cooper Landing**	**1.01**	**175**		**Pn**	**15 15 02.2**	**+0.5**
O22K	**Cooper Landing**	**1.01**	**175**		**Sn**	**15 15 16.4**	**+1.5**
O22K	**Cooper Landing**	**1.01**	**175**	P	**Pn**	**15 15 02.0**	**+0.3**
	baz=354,SNR=166						
O22K				S	**Sn**	**15 15 15.7**	**+0.7**
	baz=354						
M23K	**Glacier View**	**1.08**	**72**	P	**Pn**	**15 15 03.3**	**+0.5**
	baz=253,SNR=897						
M23K				S	**Sn**	**15 15 18.1**	**+1.3**
	baz=253						
SPCR	**Spurr Chakacha**	**1.15**	**257**		**Pn**	**15 15 04.1**	**+0.4**
SPCR					**Sn**	**15 15 19.7**	**+1.2**
SPCR	**Spurr Chakacha**	**1.15**	**257**	P	**Pn**	**15 15 04.3**	**+0.5**
	baz=76,SNR=532						
SPCR				S	**Sn**	**15 15 19.1**	**+0.7**
	baz=76						
CKL	**Chakachamna La**	**1.21**	**257**		**Pn**	**15 15 05.1**	**+0.5**
SPBG	**Spurr Blockage**	**1.21**	**260**		**Pn**	**15 15 05.1**	**+0.6**
SCM	**Sheep Creek Mo**	**1.28**	**73**		**Pn**	**15 15 05.9**	**+0.5**
SCM	**Sheep Creek Mo**	**1.28**	**73**	P	**Pn**	**15 15 06.1**	**+0.6**
	baz=254,SNR=394						
SCM				S	**Sn**	**15 15 22.8**	**+1.3**
	baz=254						
SEW	**Seward**	**1.40**	**171**		**Pn**	**15 15 07.1**	**+0.1**
SEW	**Seward**	**1.40**	**171**	P	**Pn**	**15 15 07.1**	**+0.1**
	baz=350,SNR=31						
GLI	**Glacier Island**	**1.49**	**113**		**Pn**	**15 15 08.5**	**+0.3**
GLI				IAML		15 15 33.6	
	comp=E,4μm,0.6s						
GLI				IAML		15 15 34.3	
	comp=N,3μm,0.5s						
GLI	**Glacier Island**	**1.49**	**113**	P	**Pn**	**15 15 08.6**	**+0.3**
	baz=294,SNR=123						
GLI				S	**Sn**	**15 15 27.6**	**+1.1**
	baz=294						
M20K	**Styx River**	**1.59**	**286**		**Pn**	**15 15 10.4**	**+0.7**
M20K	**Styx River**	**1.59**	**286**	IAML		15 15 33.2	
	comp=N,3μm,0.7s						
M20K	**Styx River**	**1.59**	**286**	P	**Pn**	**15 15 10.4**	**+0.7**
	baz=105						
M20K				S	**Sn**	**15 15 30.8**	**+1.5**
	baz=105						
PPLA	**Purkeypile**	**1.78**	**324**		**Pn**	**15 15 12.7**	**+0.3**
PPLA	**Purkeypile**	**1.78**	**324**	P	**Pn**	**15 15 12.6**	**+0.3**
	baz=143						
PPLA				S	**Sn**	**15 15 34.9**	**+1.0**
	baz=143						
BRLK	**Bradley Lake**	**1.79**	**196**		**Pn**	**15 15 12.9**	**+0.5**
BRLK				IAML		15 15 40.5	
	comp=N,3μm,0.7s						
BRLK				IAML		15 15 41.2	
	comp=E,3μm,0.6s						
BRSE	**Bradley Lake S**	**1.79**	**194**	P	**Pn**	**15 15 12.7**	**+0.3**
	baz=12,SNR=28						
M24K	**Tolsona, Glenn**	**1.88**	**69**	Pn	**Pn**	**15 15 15.0**	**+1.4**
M24K	**Tolsona, Glenn**	**1.88**	**69**	P	**Pn**	**15 15 14.9**	**+1.3**
	baz=251,SNR=186						
M24K				S	**Sn**	**15 15 40.5**	**+4.3**
	baz=251						
KLU	**Klutina**	**1.91**	**88**		**Pn**	**15 15 14.3**	**+0.3**
KLU				IAML		15 15 46.1	
	comp=N,2μm,0.6s						
KLU				IAML		15 15 50.5	
	comp=E,1μm,0.8s						
KLU	**Klutina**	**1.91**	**88**	P	**Pn**	**15 15 14.4**	**+0.3**
	baz=270,SNR=125						
P23K	**Montague Islan**	**1.93**	**139**		**Pn**	**15 15 14.0**	**-0.2**
P23K	**Montague Islan**	**1.93**	**139**	P	**Pn**	**15 15 14.8**	**+0.5**
	baz=320,SNR=25						
O20K	**Slope Mountain**	**1.94**	**225**	P	**Pn**	**15 15 15.3**	**+0.8**
	baz=43,SNR=29						
O20K				S	**Sn**	**15 15 40.3**	**+2.6**
	baz=43						
HIN	**Hinchinbrook I**	**1.98**	**122**		**Pn**	**15 15 15.6**	**+0.6**
HIN				IAML		15 15 48.2	
	comp=N,2μm,0.8s						
HIN				IAML		15 15 54.7	
	comp=E,3μm,0.6s						
TRF	**Thorofare Moun**	**1.98**	**355**		**Pn**	**15 15 15.8**	**+0.7**
TRF				IAML		15 15 55.6	
	comp=N,2μm,0.9s						
TRF				IAML		15 15 55.9	
	comp=E,1μm,1.2s						
TRF	**Thorofare Moun**	**1.98**	**355**	P	**Pn**	**15 15 15.7**	**+0.6**
	baz=175,SNR=183						
TRF				S	**Sn**	**15 15 40.9**	**+2.0**
	baz=175						
RND	**Reindeer**	**1.99**	**14**		**Pn**	**15 15 15.6**	**+0.4**
RND				IAML		15 15 51.4	
	comp=E,1μm,0.8s						
DIV	**Divide**	**2.02**	**98**		**Pn**	**15 15 15.7**	**+0.1**
HOM	**Homer**	**2.02**	**206**		**Pn**	**15 15 16.3**	**+0.8**
HOM	**Homer**	**2.02**	**206**	P	**Pn**	**15 15 16.4**	**+0.9**
	baz=24,SNR=15						
CNPM	**China Poot**	**2.07**	**199**		**Pn**	**15 15 16.7**	**+0.5**
CNPM				IAML		15 15 47.3	
	comp=E,2μm,0.6s						
CNPM				IAML		15 15 51.0	
	comp=N,1μm,0.5s						
L20K	**Farewell, AK**	**2.13**	**300**		**Pn**	**15 15 17.5**	**+0.5**
L20K	**Farewell, AK**	**2.13**	**300**	P	**Pn**	**15 15 17.5**	**+0.5**
	baz=118,SNR=301						
L20K				S	**Sn**	**15 15 43.2**	**+0.9**
	baz=118						
KTH	**Kantishna Hill**	**2.13**	**348**		**Pn**	**15 15 17.7**	**+0.6**
KTH				IAML		15 15 44.7	
	comp=E,2μm,0.6s						
KTH				IAML		15 15 45.5	
	comp=N,2μm,0.8s						
M19K	**Big River Lodg**	**2.18**	**283**		**Pn**	**15 15 18.1**	**+0.4**
M19K	**Big River Lodg**	**2.18**	**283**	P	**Pn**	**15 15 18.2**	**+0.4**
	baz=100,SNR=167						
ILSW	**Iliamna Southw**	**2.19**	**228**		**Pn**	**15 15 19.2**	**+1.3**
CAST	**Castle Rocks**	**2.19**	**333**		**Pn**	**15 15 17.8**	**-0.1**
CAST	**Castle Rocks**	**2.19**	**333**	IAML		15 16 01.7	
	comp=N,1μm,0.6s						
CAST				IAML		15 16 02.8	
	comp=E,1μm,0.7s						
CAST	**Castle Rocks**	**2.19**	**333**	P	**Pn**	**15 15 18.7**	**+0.8**
	baz=152						

WACK	Wrangell Chich	2.70	77		Pn	15 15 25.9 +0.9
K20K	Telida	2.70	316		Pn	15 15 25.0 +0.1
K20K	Telida	2.70	316	IAML		15 16 04.0
	comp=N,704nm,0.8s					
K20K				IAML		15 16 18.2
	comp=E,818nm,0.6s					
K20K	Telida	2.70	316	P	Pn	15 15 25.2 +0.3
	baz=133					
BWN	Browne	2.71	4	Pn	Pn	15 15 25.9 +1.0
AUCH	Augustine Cone	2.76	221		Pn	15 15 27.1 +1.4
WAZA	Wrangell Mount	2.79	75		Pn	15 15 27.5 +1.1
M18K	Stony River	2.84	273		Pn	15 15 27.3 +0.6
M18K	Stony River	2.84	273	P	Pn	15 15 27.5 +0.7
	baz=88					
M18K				S	Sn	15 16 00.5 +0.9
	baz=88					
GLB	Gilahina Butte	2.92	88		Pn	15 15 28.2 +0.3
GLB				IAML		15 16 14.2
	comp=N,1μm,0.7s					
HMT	Hamilton	2.98	110		Pn	15 15 28.4 -0.3
K24K	Donnelly Dome	3.01	37		Pn	15 15 33.0 +3.9
K24K	Donnelly Dome	3.01	37	P	Pn	15 15 32.5 +3.5
	baz=221,SNR=184					
N18K	Kilae Creek	3.02	257		Pn	15 15 29.7 +0.5
N18K	Kilae Creek	3.02	257	IAML		15 16 20.4
	comp=N,516nm,1.2s					
N18K	Kilae Creek	3.02	257	P	Pn	15 15 29.7 +0.5
	baz=72,SNR=44					
N18K				S	Sn	15 16 04.0 -0.1
	baz=72					
O18K	Koktuh Hills	3.08	240		Pn	15 15 30.2 +0.2
O18K				IAML		15 16 35.9
	comp=N,607nm,0.8s					
O18K	Koktuh Hills	3.08	240	P	Pn	15 15 30.4 +0.4
	baz=56,SNR=19					
WRH	Wood River Hil	3.11	15		Pn	15 15 31.8 +1.4
WRH				IAML		15 16 23.0
	comp=E,493nm,1.1s					
WRH				IAML		15 16 27.0
	comp=N,550nm,0.9s					
SYI	Shuyak Island	3.14	205	Pn	Pn	15 15 31.5 +0.7
Q20K	Shuyak Island	3.14	205	P	Pn	15 15 31.2 +0.4
	baz=22					
NEA2	Nenana	3.15	7		Pn	15 15 30.7 -0.2
NEA2	Nenana	3.15	7	P	Pn	15 15 31.5 +0.7
	baz=188,SNR=19					
Q19K	Cape Douglas,	3.17	218	Pn	Pn	15 15 32.4 +1.1
Q19K	Cape Douglas,	3.17	218	P	Pn	15 15 31.9 +0.6
	baz=34,SNR=11					
HDA	Harding Lake	3.23	23		Pn	15 15 33.3 +1.2
HDA				IAML		15 16 28.5
	comp=E,479nm,0.6s					
HDA				IAML		15 16 28.9
	comp=N,741nm,0.7s					
HDA	Harding Lake	3.23	23	P	Pn	15 15 33.9 +1.8
	baz=206,SNR=46					
RIDG	Independent Ri	3.25	44	P	Pn	15 15 35.9 +3.4
	baz=228,SNR=145					
L18K	Granite Mounta	3.30	286		Pn	15 15 33.4 +0.3
L18K	Granite Mounta	3.30	286	IAML		15 16 30.9
	comp=N,479nm,0.9s					
L18K	Granite Mounta	3.30	286	P	Pn	15 15 33.3 +0.3
	baz=101,SNR=60					
CCB	Clear Creek Bu	3.32	16	Pn	Pn	15 15 34.5 +1.3
J20K	Nowinta River	3.33	326		Pn	15 15 33.3 -0.1
J20K	Nowinta River	3.33	326	IAML		15 16 35.9
	comp=E,990nm,0.7s					
J20K				IAML		15 16 42.2
	comp=N,909nm,1.4s					
J20K	Nowinta River	3.33	326	P	Pn	15 15 33.4 -0.1
	baz=143,SNR=475					
P18K	Big Mountain,	3.37	234	Pn	Pn	15 15 34.1 +0.1
P18K	Big Mountain,	3.37	234	P	Pn	15 15 34.0 0.0
	baz=50					
M26K	Nabesna, AK	3.39	71		Pn	15 15 34.7 +0.4
M26K	Nabesna, AK	3.39	71	IAML		15 16 38.4
	comp=N,391nm,0.5s					
M26K	Nabesna, AK	3.39	71	P	Pn	15 15 35.7 +1.4
	baz=257,SNR=21					
KHIT	Khitrov Hills	3.41	105		Pn	15 15 34.3 -0.3
L26K	Log Cabin Wild	3.43	60	P	Pn	15 15 36.2 +1.3
	baz=246,SNR=22					
GRIN	Grindle Hills	3.44	108		Pn	15 15 34.6 -0.2
COLA	College	3.53	14	Pn	Pn	15 15 36.6 +0.6
COLA	College	3.53	14	P	Pn	15 15 36.7 +0.6
COLA	College	3.53	14	S	Sn	15 16 18.6 +2.1
COLA	College	3.53	14	P	Pn	15 15 37.6 +1.5
	baz=196					
IL31		3.57	21	Pn	Pn	15 15 37.7 +1.1
ILAR	Eielson Array	3.57	21	Pn	Pn	15 15 33.4 -3.3
	comp=N,5.6nm,0.3s,baz=209,slow=14,SNR=118					
ILAR				Pg		15 15 43.0
	comp=N,9.5nm,0.3s,baz=196,slow=14,SNR=23					
ILAR				Lg	Lg	15 16 36.1
	comp=N,30nm,0.3s,baz=122,slow=17,SNR=7.2					
ILAR				LR	LR	15 17 06.9
	comp=N,176nm,19.7s,baz=132,slow=40					
	comp=N,3.1nm,0.4s					
WAX	Waxell Ridge	3.59	104		Pn	15 15 36.9 -0.1
M17K	Holitna River	3.62	272	IAML		15 16 37.9
	comp=N,787nm,0.9s					
M17K				IAML		15 16 49.1
	comp=E,715nm,1.0s					
M17K	Holitna River	3.62	272	P	Pn	15 15 38.1 +0.7
	baz=86,SNR=43					
J19K	Poorman	3.64	316	IAML		15 16 39.4
	comp=E,504nm,0.8s					
J19K				IAML		15 16 57.0
	comp=N,476nm,1.2s					
J19K	Poorman	3.64	316	P	Pn	15 15 38.0 +0.3
	baz=132,SNR=99					
N17K	Nushagak Hills	3.67	258		Pn	15 15 38.6 +0.4
N17K	Nushagak Hills	3.67	258	IAML		15 16 37.7
	comp=N,373nm,1.3s					
N17K	Nushagak Hills	3.67	258	P	Pn	15 15 38.5 +0.3
	baz=72					
I23K	Minto, Yukon-K	3.69	4	IAML		15 16 40.9
	comp=E,312nm,1.0s					
I23K				IAML		15 16 46.8
	comp=N,425nm,0.8s					
I23K	Minto, Yukon-K	3.69	4	P	Pn	15 15 38.9 +0.6
	baz=184,SNR=77					
KIAG	Kiagna River	3.69	95		Pn	15 15 38.3 -0.2
SNH	Sunshine Point	3.70	108		Pn	15 15 38.7 +0.3
SNH	Sunshine Point	3.70	108	IAML		15 16 48.9
	comp=E,438nm,0.7s					
SCRK	Sand Creek	3.70	45	P	Pn	15 15 40.2 +1.7
	baz=230,SNR=39					
J18K	Innoko River	3.74	305		Pn	15 15 39.3 +0.4
J18K	Innoko River	3.74	305	P	Pn	15 15 39.5 +0.5
	baz=120,SNR=146					
J25K	Salcha River,	3.76	31		Pn	15 15 40.8 +1.5
J25K	Salcha River,	3.76	31	IAML		15 16 31.0
	comp=N,322nm,0.5s					
J25K				IAML		15 16 32.9
	comp=E,401nm,0.7s					
J25K	Salcha River,	3.76	31	P	Pn	15 15 41.4 +2.0
	baz=215,SNR=60					
KAHG	Katmai Hook Gl	3.80	220		Pn	15 15 40.7 +0.8
POKR	Poker Plat Res	3.81	16		Pn	15 15 40.8 +0.8
POKR	Poker Plat Res	3.81	16	P	Pn	15 15 41.7 +1.6
	baz=198,SNR=39					
KAHC	Katmai Hardscr	3.83	224		Pn	15 15 40.8 +0.4
Q18K	Katmai Hardscr	3.83	224	P	Pn	15 15 40.7 +0.4
	baz=40					
I21K	Tanana	3.83	347		Pn	15 15 40.6 +0.4
I21K	Tanana	3.83	347	P	Pn	15 15 41.2 +1.0
	baz=165					
M27K	Edge Creek, AK	3.89	73		Pn	15 15 42.7 +1.4
M27K	Edge Creek, AK	3.89	73	P	Pn	15 15 42.5 +1.2
	baz=260					
I20K	Naaghedeneel	3.92	330	P	Pn	15 15 41.9 +0.4
	baz=147,SNR=51					
O17K	Koliganek Bris	3.94	247		Pn	15 15 42.3 +0.6
O17K	Koliganek Bris	3.94	247	P	Pn	15 15 42.1 +0.4
	baz=52					
KDAK	Kodiak Island	3.95	201	Pn	Pn	15 15 40.8 -1.1
	comp=E,1.4nm,0.3s,baz=242,slow=4.0,SNR=60					
KDAK				Sn	Sn	15 16 24.2 -2.8
	comp=E,15nm,0.3s,baz=299,slow=3.4,SNR=4.9					
KDAK				Lg	Lg	15 16 43.7
	comp=E,15nm,0.3s,baz=360,slow=22,SNR=6.9					
KDAK				LR	LR	15 17 30.2
	comp=E,290nm,20.7s,baz=247,slow=44					
KDAK	Kodiak Island	3.95	201	P	Pn	15 15 42.2 +0.3
	baz=19					
P17K	Kvichak River	3.98	238		Pn	15 15 43.2 +0.9
P17K	Kvichak River	3.98	238	P	Pn	15 15 42.9 +0.7
	baz=52					
L17K	Donlin	4.04	283		Pn	15 15 43.5 +0.4
L17K	Donlin	4.04	283	P	Pn	15 15 43.6 +0.6
	baz=96,SNR=45					
L27K	Beaver Creek,	4.09	64	P	Pn	15 15 45.0 +1.2
	baz=250					
MESA	MESA	4.11	105		Pn	15 15 43.9 -0.3
MESA	MESA	4.11	105	IAML		15 16 59.4
	comp=E,432nm,0.9s					
MESA	MESA	4.11	105	P	Pn	15 15 44.5 +0.3
	baz=291					
YAH	Yahtse	4.14	102	Pn	Pn	15 15 45.1 +0.5
YAH				IAML		15 16 52.9
	comp=E,253nm,0.8s					
YAH				IAML		15 17 01.2
	comp=N,326nm,1.1s					
K17K	Iditarod	4.14	291		Pn	15 15 44.9 +0.4
K17K	Iditarod	4.14	291	IAML		15 17 02.9
	comp=N,433nm,1.0s					
K17K				IAML		15 17 07.3
	comp=E,355nm,1.1s					
K17K	Iditarod	4.14	291	P	Pn	15 15 45.0 +0.5
	baz=104					
J26L	Joseph Creek	4.19	41	P	Pn	15 15 47.7 +2.5
	baz=226,SNR=96					
ACHA	Angle Creek He	4.27	222		Pn	15 15 47.2 +0.9
ANCK	Angle Creek	4.34	223		Pn	15 15 48.2 +1.0
RKAV	Rock Avalanche	4.34	102		Pn	15 15 47.8 +0.3
H23K	Yukon River	4.36	2		Pn	15 15 48.1 +0.6
H23K	Yukon River	4.36	2	P	Pn	15 15 48.7 +1.1
	baz=183					
BVCY	Beaver Creek	4.37	74	P	Pn	15 15 48.8 +1.1
	baz=261,SNR=12					
H21K	Melozitna Rive	4.39	344		Pn	15 15 47.7 -0.1
H21K	Melozitna Rive	4.39	344	IAML		15 16 54.3
	comp=E,182nm,0.8s					
H21K	Melozitna Rive	4.39	344	P	Pn	15 15 48.5 +0.6
	baz=162,SNR=84					
M16K	Timber Creek	4.40	268	IAML		15 17 07.3
	comp=N,218nm,0.9s					
M16K				IAML		15 17 09.1
	comp=E,222nm,1.5s					
M16K	Timber Creek	4.40	268	P	Pn	15 15 48.7 +0.6
	baz=80,SNR=10					
Q16K	King Salmon	4.40	233		Pn	15 15 48.9 +0.9
Q16K	King Salmon	4.40	233	P	Pn	15 15 48.5 +0.5
	baz=48					
K27K	Chicken	4.41	51	P	Pn	15 15 48.9 +0.7
	baz=238					
N16K	Nishlik Lake	4.44	261		Pn	15 15 49.4 +0.7
N16K	Nishlik Lake	4.44	261	P	Pn	15 15 49.1 +0.5
	baz=73					
H24K	Noodor Dome	4.46	11		Pn	15 15 49.9 +0.9
H24K	Noodor Dome	4.46	11	IAML		15 17 14.7
	comp=E,169nm,0.8s					
H24K	Noodor Dome	4.46	11	P	Pn	15 15 50.3 +1.4
	baz=193					
O16K	Kokwok River B	4.47	249	IAML		15 17 02.8
	comp=N,206nm,0.8s					
O16K				IAML		15 17 14.3
	comp=E,196nm,1.2s					
O16K	Kokwok River B	4.47	249	P	Pn	15 15 49.7 +0.8
	baz=62,SNR=22					
H22K	Ishtalitna Cre	4.48	352	P	Pn	15 15 50.3 +1.2
	baz=171					
PRP	Porcupine Dome	4.50	24		Pn	15 15 50.3 +0.8
PRP	Porcupine Dome	4.50	24	IAML		15 17 08.4
	comp=E,233nm,1.1s					
PRP				IAML		15 17 12.0
	comp=N,199nm,0.6s					
PRP	Porcupine Dome	4.50	24	P	Pn	15 15 51.3 +1.7
	baz=208,SNR=26					
YUK3	Moose Creek	4.51	82		Pn	15 15 50.5 +0.6
YUK3	Moose Creek	4.51	82	P	Pn	15 15 50.5 +0.6
	baz=270					
GCSA	Galena City Sc	4.56	319		Pn	15 15 50.4 +0.3
GCSA	Galena City Sc	4.56	319	P	Pn	15 15 50.5 +0.3
	baz=133,SNR=85					
R18K	Karluk	4.56	213	P	Pn	15 15 50.3 +0.1
	baz=29					
L16K	Owhat River	4.58	277	P	Pn	15 15 50.8 +0.3
	baz=89					
H20K	Anotleneega Mo	4.60	333	P	Pn	15 15 51.2 +0.4
	baz=149,SNR=27					
OHAK	Old Harbor	4.61	204		Pn	15 15 49.7 -1.2
OHAK	Old Harbor	4.61	204	P	Pn	15 15 49.8 -1.2
OHAK	Old Harbor	4.61	204	P	Pn	15 15 50.6 -0.3
	baz=20					
J17K	VABM Dome	4.68	298		Pn	15 15 51.8 -0.1
J17K	VABM Dome	4.68	298	IAML		15 17 17.3
	comp=E,164nm,1.0s					
J17K				IAML		15 17 35.6
	comp=N,183nm,1.1s					
J17K	VABM Dome	4.68	298	P	Pn	15 15 51.9 +0.1
	baz=111					
P16K	Nushagak River	4.72	242		Pn	15 15 53.4 +1.0
P16K	Nushagak River	4.72	242	P	Pn	15 15 53.5 +1.0
	baz=55					
O28M	Mount Upton	4.76	94		Pn	15 15 53.8 +0.5
O28M	Mount Upton	4.76	94	P	Pn	15 15 54.0 +0.7
	baz=282,SNR=10					
YUK8	Steele Glacier	4.88	88	P	Pn	15 15 55.9 +1.1
	baz=276					
I26K	Coal Creek Min	4.89	35	P	Pn	15 15 56.5 +1.7
	baz=221					
PCA	Pinnacle	4.92	102		Pn	15 15 55.0 -0.3
PINM	Pinnacle	4.93	102	P	Pn	15 15 55.8 +0.4
	baz=290					
H19K	Roundabout Mou	5.01	327		Pn	15 15 56.2 -0.1
H19K	Roundabout Mou	5.01	327	IAML		15 17 30.5
	comp=N,268nm,1.3s					
H19K				IAML		15 17 30.5
	comp=E,220nm,1.0s					
H19K	Roundabout Mou	5.01	327	P	Pn	15 15 56.6 +0.3
	baz=142					
PLK1	Peulik 1	5.02	226		Pn	15 15 57.5 +1.0
H25L	Birch Creek	5.13	19	P	Pn	15 16 00.2 +2.2
	baz=203					
N15K	Kwethluk River	5.16	260		Pn	15 15 59.4 +1.0
N15K	Kwethluk River	5.16	260	P	Pn	15 15 59.4 +1.0
	baz=71,SNR=8.0					
G23K	Bananza Creek	5.25	359	P	Pn	15 16 01.0 +1.3
	baz=180,SNR=26					
BCPM	Bancas Point	5.27	102		Pn	15 16 00.2 +0.2
BCPM	Bancas Point	5.27	102	IAML		15 17 35.7
	comp=N,218nm,1.4s					
BCPM				IAML		15 17 39.0
	comp=E,210nm,1.4s					
G21K	Allakaket	5.30	344		Pn	15 16 00.8 +0.5
G21K	Allakaket	5.30	344	IAML		15 17 03.2
	comp=E,134nm,0.8s					
G21K				IAML		15 17 04.2
	comp=N,102nm,0.8s					
G21K	Allakaket	5.30	344	P	Pn	15 16 01.1 +0.8
	baz=161,SNR=40					
M15K	Kasigluk River	5.30	266		Pn	15 16 00.9 +0.6
M15K	Kasigluk River	5.30	266	P	Pn	15 16 00.7 +0.4
	baz=77					
J16K	Anvik River	5.30	295	IAML		15 17 35.5
	comp=N,109nm,1.3s					
J16K				IAML		15 17 39.1
	comp=E,95nm,1.1s					
J16K	Anvik River	5.30	295	P	Pn	15 16 00.6 +0.3
	baz=106,SNR=32					
H18K	Honhosa River	5.30	318		Pn	15 16 00.5 +0.1
H18K	Honhosa River	5.30	318	IAML		15 17 37.5
	comp=E,122nm,1.1s					
H18K				IAML		15 17 51.9
	comp=N,109nm,1.1s					
H18K	Honhosa River	5.30	318	P	Pn	15 16 00.7 +0.3
	baz=131					
G24K	Hadweenzic Riv	5.35	10	P	Pn	15 16 02.7 +1.7
	baz=193					
YUK4	Talbot Arm	5.41	87	P	Pn	15 16 03.5 +1.5
	baz=275					
SII	Sitkinak Islan	5.41	206		Pn	15 16 02.0 +0.1
SII	Sitkinak Islan	5.41	206	P	Pn	15 16 02.7 +0.8
SII	Sitkinak Islan	5.41	206	P	Pn	15 16 02.1 +0.1
	baz=22					
O15K	Ungalikthiuk R	5.45	249		Pn	15 16 03.6 +1.2
O15K	Ungalikthiuk R	5.45	249	P	Pn	15 16 03.5 +1.2
	baz=61,SNR=11					
DAWY	Dawson	5.48	57	P	Pn	15 16 03.7 +0.8
	baz=246,SNR=12					
M29M	Somme Creek	5.48	75		Pn	15 16 03.8 +0.8
M29M	Somme Creek	5.48	75	P	Pn	15 16 03.6 +0.6
	baz=265,SNR=18					
PNL	Peninsula	5.49	105	P	Pn	15 16 03.9 +0.9
PNL	Peninsula	5.49	105	P	Pn	15 16 03.7 +0.7
	baz=293					
I17K	Unalakleet	5.53	301		Pn	15 16 03.5 +0.1
I17K	Unalakleet	5.53	301	P	Pn	15 16 04.1 +0.7
	baz=112					
R16K	Pilot Point	5.54	228	P	Pn	15 16 04.6 +1.0
	baz=42					
L15K	Ungalak Mounta	5.54	277		Pn	15 16 04.0 +0.4
L15K	Ungalak Mounta	5.54	277	P	Pn	15 16 04.0 +0.4
	baz=87					
I27K	Kandik River	5.55	38	P	Pn	15 16 05.2 +1.4
	baz=226,SNR=22					
G25K	Bearman Lake	5.56	16	P	Pn	15 16 05.1 +1.3
	baz=199					
K15K	Wolf Creek Mou	5.56	284	P	Pn	15 16 04.5 +0.5
	baz=94,SNR=16					
YUK6	Outpost Mounta	5.60	90	P	Pn	15 16 05.3 +0.5
	baz=280					
O29M	Mount Kennedy	5.65	97	P	Pn	15 16 05.8 +0.4
	baz=287					
G19K	Purcell Mounta	5.66	329		Pn	15 16 04.9 -0.3
G19K	Purcell Mounta	5.66	329	P	Pn	15 16 04.9 -0.3
	baz=143,SNR=24					
H17K	Granite Mounta	5.70	312		Pn	15 16 06.5 +0.6
H17K	Granite Mounta	5.70	312	P	Pn	15 16 06.8 +0.9
	baz=123,SNR=41					
L29M	L29M	5.73	68		Pn	15 16 07.0 +0.7
L29M	L29M	5.73	68	P	Pn	15 16 07.4 +1.1
	baz=258					
COLD	Coldfoot	5.77	359		Pn	15 16 07.5 +0.7
COLD	Coldfoot	5.77	359	P	Pn	15 16 08.0 +1.2
	baz=179,SNR=46					
YUK5	Granite Creek	5.81	88		Pn	15 16 07.8 +0.2
G18K	Tagagawik	5.89	322		Pn	15 16 08.9 +0.4
G18K	Tagagawik	5.89	322	P	Pn	15 16 09.1 +0.6
	baz=135,SNR=52					
M14K	Bethel	5.89	268		Pn	15 16 09.4 +0.9
M14K	Bethel	5.89	268	P	Pn	15 16 09.3 +0.9
	baz=78					
F21K	Alatna River	5.97	346		Pn	15 16 10.8 +1.3
F21K	Alatna River	5.97	346	P	Pn	15 16 11.1 +1.6
	baz=164,SNR=34					
I28M	Miner Creek	5.98	44	P	Pn	15 16 11.1 +1.4
	baz=233,SNR=31					
N14K	Kuskokwak Cree	6.00	260		Pn	15 16 10.9 +1.1
N14K	Kuskokwak Cree	6.00	260	P	Pn	15 16 10.8 +0.9
	baz=70					
H27K	Steamboat Moun	6.03	34		Pn	15 16 11.2 +0.8
H27K	Steamboat Moun	6.03	34	P	Pn	15 16 11.2 +0.8
	baz=222					
HYT	Haines Junctio	6.04	91	P	Pn	15 16 11.2 +0.6
	baz=281					
O14K	Tigyukauivet M	6.06	253		Pn	15 16 11.9 +1.1
O14K	Tigyukauivet M	6.06	253	P	Pn	15 16 11.2 +0.4
	baz=64					
G26K	Porcupine Rive	6.10	23	P	Pn	15 16 11.9 +0.6
	baz=209,SNR=15					
J29N	Klondike Camp	6.10	56	P	Pn	15 16 12.1 +0.6
	baz=246,SNR=15					
F24K	Squaw Lake	6.12	7	P	Pn	15 16 12.7 +1.0
	baz=189,SNR=25					
F22K	John River	6.13	352	P	Pn	15 16 12.9 +1.2
	baz=170					
F20K	Avaraart Lake	6.13	338		Pn	15 16 12.4 +0.7
F20K	Avaraart Lake	6.13	338	P	Pn	15 16 12.6 +0.8
	baz=153					
L14K	Kuka Creek	6.14	274		Pn	15 16 13.3 +1.5
L14K	Kuka Creek	6.14	274	P	Pn	15 16 12.4 +0.6
	baz=84					
N30M	Aishikik Lake	6.14	85	P	Pn	15 16 11.9 0.0
	baz=276					
K29M	Barlow Dome	6.17	62	P	Pn	15 16 13.1 +0.6
	baz=253					
M30M	Minto, Yukon	6.26	74		Pn	15 16 14.1 +0.5
M30M	Minto, Yukon	6.26	74	P	Pn	15 16 14.1 +0.5
	baz=266					
G17K	Kiwalik Mounta	6.28	315		Pn	15 16 14.2 +0.5
G17K	Kiwalik Mounta	6.28	315	P	Pn	15 16 14.7 +1.0
	baz=126					
F19K	Shaleruckik Mo	6.38	331	P	Pn	15 16 15.0 0.0
	baz=144,SNR=19					
F25K	Christian Rive	6.40	15		Pn	15 16 16.7 +1.2
F25K	Christian Rive	6.40	15	P	Pn	15 16 17.2 +1.7
	baz=199,SNR=16					
H16K	Elim	6.44	305		Pn	15 16 16.9 +1.0
H16K	Elim	6.44	305	P	Pn	15 16 16.8 +1.0
	baz=114,SNR=7.2					
G27K	Doyon Strip	6.44	30	P	Pn	15 16 17.5 +1.4
	baz=218					
P30M	Million Dollar	6.48	96	P	Pn	15 16 17.3 +0.7
	baz=287					
I29M	Ogilvie Camp,	6.49	48	P	Pn	15 16 19.0 +2.3
	baz=238					
J14K	Nanvaranak Lak	6.53	287		Pn	15 16 17.7 +0.5
J14K	Nanvaranak Lak	6.53	287	P	Pn	15 16 18.0 +0.9
	baz=96					
E23K	Chandalar	6.61	1	P	Pn	15 16 20.0 +1.7
	baz=181,SNR=17					
M13K	Dall Lake	6.64	267		Pn	15 16 20.1 +1.4
M13K	Dall Lake	6.64	267	P	Pn	15 16 19.1 +0.4
	baz=75					
E24K	Your Creek	6.65	5	P	Pn	15 16 20.4 +1.5
	baz=186					
F18K	Selawik	6.68	324		Pn	15 16 19.6 +0.4
F18K	Selawik	6.68	324	P	Pn	15 16 19.9 +0.7
	baz=136					
F26K	Sheenjek River	6.71	19	P	Pn	15 16 21.0 +1.4
	baz=204,SNR=17					
O30N	Mendenhall	6.73	90		Pn	15 16 19.8 -0.2
O30N	Mendenhall	6.73	90	P	Pn	15 16 20.1 +0.2
	baz=282					
E22K	Anaktuvuk Pass	6.73	354	P	Pn	15 16 21.2 +1.2
	baz=172					
N31M	Braeburn, Yuko	6.76	84	P	Pn	15 16 21.7 +1.2
	baz=276					
E19K	Redstone River	6.78	335		Pn	15 16 20.8 +0.2
E19K	Redstone River	6.78	335	P	Pn	15 16 22.3 +1.7
	baz=149,SNR=52					
CHGN	Chignik	6.81	224	P	Pn	15 16 20.8 -0.2
	baz=37					
MAYO	Mayo, Yukon	6.81	66	P	Pn	15 16 22.6 +1.5
	baz=258					
G16K	Koyuk River	6.82	311		Pn	15 16 21.5 +0.4
G16K	Koyuk River	6.82	311	P	Pn	15 16 22.4 +1.2
	baz=120,SNR=10					
J30M	Hart River	6.90	57	P	Pn	15 16 23.9 +1.5
	baz=249,SNR=20					
E25K	Arctic Village	6.92	14		Pn	15 16 23.9 +1.4
E25K	Arctic Village	6.92	14	P	Pn	15 16 24.1 +1.6
	baz=198,SNR=8.6					
H29M	Whitestone	6.96	42	P	Pn	15 16 25.2 +2.1
	baz=232					
PLBC	Pleasant Camp	6.99	101	P	Pn	15 16 24.3 +0.7
	baz=292					
K13K	Kusilvak Mount	7.03	280		Pn	15 16 24.4 +0.4
K13K	Kusilvak Mount	7.03	280	P	Pn	15 16 25.0 +1.0
	baz=88					
F17K	Baldwin Pennin	7.04	320		Pn	15 16 24.9 +0.7
F17K	Baldwin Pennin	7.04	320	P	Pn	15 16 25.1 +0.9
	baz=130,SNR=27					
I30M	Mount Dempster	7.14	52	P	Pn	15 16 27.4 +1.8
	baz=244,SNR=12					
TOLK	Toolik Lake Re	7.19	1	P	Pn	15 16 28.6 +2.3
	baz=181,SNR=21					
E21K	Killik River	7.20	348	P	Pn	15 16 28.3 +1.9
	baz=164					
G15K	Niukluk	7.29	305		Pn	15 16 28.8 +1.3
G15K	Niukluk	7.29	305	P	Pn	15 16 29.0 +1.5
	baz=113,SNR=12					
E20K	N

D23K	Nanushuk River	7.52 358	P		Pn	15 16 32.2 +1.5
	baz=177					
E18K	Tukpahlearik C	7.54 327			Pn	15 16 31.4 +0.5
E18K	Tukpahlearik C	7.54 327	P		Pn	15 16 32.7 +1.7
	baz=138					
E27K	Coleen River	7.60 24	P		Pn	15 16 32.5 +0.7
	baz=212,SNR=8.5					
E17K	Hotham Inlet	7.64 322			Pn	15 16 32.6 +0.3
E17K	Hotham Inlet	7.64 322	P		Pn	15 16 33.5 +1.2
	baz=132					
ANM	Nome	7.68 300	Pn		Pn	15 16 34.3 +1.4
ANM	Nome	7.68 300	P		Pn	15 16 34.4 +1.5
	baz=107,SNR=5.2					
D24K	Happy Valley	7.72 3	P		Pn	15 16 35.5 +2.1
	baz=184					
R31K	City Hall, Gus	7.74 107	P		Pn	15 16 35.1 +1.3
	baz=299					
S31K	Pelican	7.75 111	P		Pn	15 16 35.0 +1.1
	baz=302					
D20K	Etivluk River	7.79 342	P		Pn	15 16 35.9 +1.4
	baz=156					
F15K	North Star Dit	7.81 309	P		Pn	15 16 36.3 +1.6
	baz=116,SNR=17					
D19K	Kuna River	7.84 337			Pn	15 16 36.6 +1.4
D19K	Kuna River	7.84 337	P		Pn	15 16 36.6 +1.4
	baz=150					
FARO	Faro, Yukon	7.86 77	Pn		Pn	15 16 36.0 +0.5
FARO	Faro, Yukon	7.86 77	P		Pn	15 16 35.9 +0.4
	baz=272					
C21K	Knifeblade Rid	7.97 347	P		Pn	15 16 39.1 +2.3
	baz=163,SNR=15					
D25K	Kavik River	8.01 9	P		Pn	15 16 39.7 +2.3
	baz=192					
M11K	Mekoryuk	8.01 269			Pn	15 16 39.2 +1.7
M11K	Mekoryuk	8.01 269	P		Pn	15 16 38.5 +1.0
	baz=75					
BESE	Bessie Mountai	8.07 104	Pn		Pn	15 16 38.2 -0.2
G30M	tAoh Zraii Nji	8.11 41	P		Pn	15 16 40.9 +2.1
	baz=234					
H31M	Peel River	8.16 51	P		Pn	15 16 41.4 +2.0
	baz=245					
P32M	Atlin	8.20 96	Pn		Pn	15 16 39.9 -0.3
P32M	Atlin	8.20 96	P		Pn	15 16 40.8 +0.6
	baz=290					
C24K	Franklin Bluff	8.29 3	P		Pn	15 16 42.8 +1.6
	baz=184					
F14K	Arctic Creek	8.36 306			Pn	15 16 43.9 +1.6
C23K	Itkillik River	8.40 358	P		Pn	15 16 44.4 +1.7
	baz=178,SNR=9.6					
B21K	Ikpikpuk River	8.40 349	P		Pn	15 16 44.2 +1.5
	baz=165,SNR=10.0					
D17K	Noatak River	8.41 323	P		Pn	15 16 44.0 +1.1
	baz=132					
JIS	Juneau Island	8.44 106			Pn	15 16 43.4 +0.2
JIS	Juneau Island	8.44 106	P		Pn	15 16 43.5 +0.2
P33M	Teslin, Yukon	8.44 91	Pn		Pn	15 16 43.2 -0.2
P33M	Teslin, Yukon	8.44 91	P		Pn	15 16 43.7 +0.3
	baz=286					
C27K	Jago River	8.56 15	P		Pn	15 16 47.1 +2.1
	baz=200					
E29M	Blow River	8.59 31	P		Pn	15 16 46.7 +1.4
	baz=222					
RDOG	Red Dog Mine	8.61 326	Pn		Pn	15 16 48.1 +2.5
RDOG	Red Dog Mine	8.61 326	P		Pn	15 16 46.9 +1.3
	baz=134,SNR=14					
C18K	Utukok River	8.62 331			Pn	15 16 46.6 +0.9
C18K	Utukok River	8.62 331	P		Pn	15 16 46.5 +0.7
	baz=141					
F30M	Barrier River	8.63 39	P		Pn	15 16 47.2 +1.4
	baz=231					
D27M	Malcolm River	8.63 22	P		Pn	15 16 47.2 +1.3
	baz=210					
SIT	Sitka	8.68 114	P		Pn	15 16 46.7 +0.1
	baz=307					
G31M	Satah River	8.71 45	P		Pn	15 16 48.5 +1.5
	baz=238					
C26K	Camden Bay	8.71 11	P		Pn	15 16 48.3 +1.3
	baz=196					
S32K	Kilisnoo	8.77 110	P		Pn	15 16 48.3 +0.5
	baz=303					
C17K	DeLong Mountai	8.97 327	P		Pn	15 16 51.5 +0.9
	baz=135					
B22K	Teshekpuk Lake	9.01 352	P		Pn	15 16 52.2 +1.2
	baz=169					
TNA	Tin City	9.01 305	Pn		Pn	15 16 52.8 +1.7
TNA	Tin City	9.01 305	P		Pn	15 16 52.5 +1.3
	baz=109,SNR=21					
B20K	Meade River	9.06 344	P		Pn	15 16 52.4 +0.7
	baz=158					
Q32M	Nakina River	9.12 98			Pn	15 16 53.2 +0.3
Q32M	Nakina River	9.12 98	P		Pn	15 16 52.9 -0.1
	baz=293					
D28M	Stokes Point	9.13 26	P		Pn	15 16 53.8 +1.1
	baz=216					
F31M	Tsiigehtchic	9.16 42	P		Pn	15 16 53.8 +0.6
	baz=237					
B18K	Kokolik River	9.31 333			Pn	15 16 55.6 +0.4
B18K	Kokolik River	9.31 333	P		Pn	15 16 55.9 +0.6
	baz=143					
C16K	Lisburne Hills	9.44 323	P		Pn	15 16 58.8 +1.9
	baz=129,SNR=6.8					
R33M	Jennings River	9.58 94			Pn	15 16 59.5 +0.4
R33M	Jennings River	9.58 94	P		Pn	15 16 59.6 +0.4
	baz=290					
INK	Inuvik	9.73 38	Pn		Pn	15 17 03.5 +2.7
INK	Inuvik	9.73 38	Pn		Pn	15 17 01.9 +1.0
	comp=N,0.3nm,0.3s,baz=244,slow=18,SNR=9.6					
INK			Lg		Lg	15 19 52.7
	comp=N,0.1nm,0.3s,baz=158,slow=2.4,SNR=3.9					
	comp=N,2.0nm,0.7s					
INK	Inuvik	9.73 38	P		Pn	15 17 02.4 +1.5
	baz=233					
FALS	False Pass	9.74 233	P		Pn	15 17 01.3 +0.2
	baz=42					
A22K	Sinclair Lake	9.77 350	P		Pn	15 17 02.5 +1.0
	baz=166					
A19K	Wainwright	9.86 337	P		Pn	15 17 03.4 +0.7
	baz=147					
S34M	Telegraph Cree	10.12 102	P		Pn	15 17 06.5 +0.1
	baz=298					
GAMB	Gambell	10.28 292	Pn		Pn	15 17 07.6 -0.9
GAMB	Gambell	10.28 292	P		Pn	15 17 09.4 +0.9
	baz=93					
WTLY	Watson Lake, Y	10.39 88	P		Pn	15 17 11.2 +1.1
	baz=286					
DLBC	Dease Lake	10.41 98	Pn		Pn	15 17 10.4 +0.1
DLBC	Dease Lake	10.41 98	Pn		Pn	15 17 09.4 -0.9
	comp=N,0.2nm,0.3s,baz=276,slow=11,SNR=5.9					
	comp=N,1.5nm,0.7s					
T35M	Bob Quinn	11.01 105	P		Pn	15 17 19.3 +0.8
	baz=302					
TOAD	Toad River Com	12.53 91	P		Pn	15 17 40.4 +1.1
	baz=292					
C36M	Paulatuk	13.22 43	P		Pn	15 17 49.3 +0.8
	baz=246					
NIKH	Nikolski High	13.30 239	P		Pn	15 17 49.4 -0.3
	baz=43					
A36M	Sachs Harbour	14.19 32	P		P	15 18 09.3 +1.7
A36M	Sachs Harbour	14.19 32	P		Pn	15 18 02.3 +0.7
	baz=235					
YKA	Yellowknife Ar	16.49 71	Pn		Pn	15 18 29.5 -1.7
	comp=N,0.1nm,0.3s,baz=280,slow=14,SNR=7.3					
	comp=N,0.3nm,0.5s					
B08A	Colville Reser	21.68 113	P		P	15 19 30.8 +0.9
B08A			IAmb		IAmb	15 19 49.8
	comp=Z,13nm,1.4s					
H04D	Lebanon	23.29 124	P		P	15 19 46.3 -0.4
H04D			IAmb		IAmb	15 19 54.2
	comp=Z,12nm,1.2s					
PETK	Petropavlovsk-	28.78 277	LR		LR	15 31 07.1
	comp=Z,77nm,20.6s,baz=359,slow=34					
NVAR	Mina Array Bea	30.22 125	P		P	15 20 48.6 -0.8
	comp=Z,0.7nm,0.8s,baz=336,slow=12,SNR=2.3					
NVAR			PcP		PcP	15 23 49.2 +0.3
	comp=Z,0.4nm,0.5s,baz=354,slow=4.2,SNR=2.6					
	comp=Z,0.7nm,0.8s					
PDAR	Pinedale Array	30.36 109	P		P	15 20 50.4 -0.2
	comp=Z,0.3nm,0.6s,baz=270,slow=4.4,SNR=4.5					
PDAR			PcP		PcP	15 23 48.7 -0.6
	comp=Z,0.2nm,0.7s,baz=283,slow=2.6,SNR=2.2					
PDAR			LR		LR	15 35 11.9
	comp=Z,110nm,19.6s,baz=4.0,slow=40					
	comp=Z,0.3nm,0.6s					
ULM	Lac du Bonnet	31.39 86	P		P	15 20 58.5 -0.8
	comp=Z,1.4nm,0.6s,baz=306,slow=8.7,SNR=4.3					
	comp=Z,1.4nm,0.6s					
SPITS	Spitsbergen Ar	40.33 4	P		P	15 22 14.2 -1.3
	comp=Z,4.1nm,0.8s,baz=19,slow=9.2,SNR=5.6					
	comp=Z,4.1nm,0.8s					
TXAR	Lajitas Array	44.15 115	P		P	15 22 46.2 -0.9
	comp=Z,0.4nm,0.7s,baz=321,slow=9.7,SNR=3.6					
	comp=Z,0.4nm,0.7s					
ARCES	ARCESS Array B	49.23 2	P		P	15 23 25.5 -0.8
	comp=Z,6.0nm,1.0s,baz=14,slow=8.4,SNR=2.3					
	comp=Z,6.0nm,1.0s					
MJAR	Matsushiro Arr	50.19 275	P		P	15 23 32.7 -1.3
	comp=Z,0.8nm,0.9s,baz=52,slow=7.9,SNR=1.7					
	comp=Z,0.8nm,0.9s					
KSRS	Korea Array	54.32 284	P		P	15 24 04.3 -0.2
	comp=Z,2.4nm,0.7s,baz=34,slow=6.6,SNR=7.1					
	comp=Z,2.4nm,0.7s					
SONM	Songino Array	55.13 307	P		P	15 24 10.5 +0.1
	comp=Z,2.2nm,0.8s,baz=32,slow=7.4,SNR=14					
	comp=Z,2.2nm,0.8s					
ZALV	Zalesovo Beam	57.06 325	P		P	15 24 22.9 -1.0
	comp=Z,0.5nm,0.4s,baz=31,slow=6.7,SNR=2.9					
	comp=Z,0.5nm,0.4s					
FINES	FINESS Array B	57.36 2	P		P	15 24 25.2 -0.7
	comp=Z,3.4nm,0.9s,baz=22,slow=7.0,SNR=1.9					
	comp=Z,3.4nm,0.9s					
HHC	Hu-ho-hao-te	58.83 299	*e*P		P	15 24 39.4 +2.8
HHC			pmax		pmax	
	comp=Z,15nm,0.5s					
HHC			pmax		pmax	
	comp=Z,220nm,8.7s					
EKA	Eskdalemuir Ar	60.61 21	P		P	15 24 47.7 -0.8
	comp=Z,0.9nm,0.5s,baz=332,slow=5.5,SNR=4.8					
	comp=Z,0.9nm,0.5s					
BVAR	Borovoye Array	61.44 334	P		P	15 24 52.9 -1.3
	comp=Z,0.8nm,0.5s,baz=44,slow=8.8,SNR=5.9					
	comp=Z,0.8nm,0.5s					
KURBB	Kurchatov Arra	61.74 327	P		P	15 24 54.7 -1.5
	comp=Z,0.5nm,0.5s,baz=30,slow=6.6,SNR=8.3					
	comp=Z,0.5nm,0.5s					
MKAR	Makanchi Array	64.19 323	P		P	15 25 10.7 -1.9
	comp=Z,0.7nm,0.7s,baz=49,slow=6.8,SNR=7.8					
	comp=Z,0.7nm,0.7s					
GTA	Gaotai	64.80 307	*e*P		P	15 25 16.3 -0.5
GTA			pP		pP	15 25 24.5 -7.0
GTA			sP		sP	15 25 29.9 -7.6
GTA			pmax		pmax	
	comp=Z,3.0nm,1.0s					
LZH	Lanzhou	66.07 302	*e*P		P	15 25 36.4 +11
LZH			pP		sP	15 25 43.3 -2.5
LZH			pmax		pmax	
	comp=Z,17nm,1.3s					
AKASG	Malin Array Be	68.17 1	P		P	15 25 36.8 -1.1
	comp=Z,1.2nm,0.4s,baz=2.2,slow=6.3,SNR=8.0					
	comp=Z,1.2nm,0.4s					
GERES	GERESS Array B	69.24 12	P		P	15 25 44.9 +0.1
	comp=Z,0.2nm,0.4s,baz=70,slow=1.6,SNR=3.8					
	comp=Z,0.2nm,0.4s					
PZH	PanZhiHua	75.29 298	P		P	15 26 24.6 +3.4
PZH			pmax		pmax	
	comp=Z,10.0nm,0.5s					
PZH			pmax		pmax	
	comp=Z,210nm,7.5s					
ESDC	Sonseca Array	75.46 27	P		P	15 26 22.3 +0.3
	comp=Z,0.9nm,0.8s,baz=334,slow=6.5,SNR=5.9					
	comp=Z,0.9nm,0.8s					
CMAR	Chiang Mai Arr	83.59 297	P		P	15 27 05.2 -1.1
	comp=Z,1.3nm,0.7s,baz=7.0,slow=6.0,SNR=11					
	comp=Z,1.3nm,0.7s					
BOSA	Boshof	146.97 8	PKPbc		PKPdf	15 34 17.8 -0.3
	comp=Z,1.9nm,0.8s,baz=339,slow=4.0,SNR=3.0					
QSPA	South Pole Qui	151.29 180	PKPbc		PKPbc	15 34 29.7 0.0
	comp=Z,4.7nm,0.7s,baz=45,slow=2.1,SNR=23					

*ISK **23** 15:17:59.1,40°.81N×27°.75E,h18km,ML3.7/30*
*THE **23** 15:17:59.6,40°.83N×27°.78E,h10km±3km,ML3.4/7,Error ellipse: s-maj=3.9km s-min=0.9km az=94.0*
*AFAD **23** 15:17:59.4,40°.82N×27°.74E,h7km±2km,MW3.5*
*CFUSG **23** 15:17:59.5,40°.83N×27°.81E,h10km,mb2.9/2,Sea of Marmara Magtype MSH 3.3 from 2 stations*
*SOF **23** 15:18:00.8,40°.90N±0°.01×27°.51E±0°.01,h16km±1km, MD3.1/8*

ISC 23 15:17:59.8±0.9,40°.82N±0°.02×27°.75E±0°.02,h18km±5km, n95,σ1°910/129,15C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	Tekirdag	0.24	317	Pg	Pg	15 18 05.3	+0.1
TKR				Sg	Sg	15 18 09.5	+0.5
MRMT	Marmara Adasi	0.24	208	Pg	Pg	15 18 04.9	-0.5
MRMT				Sg	Sg	15 18 08.7	-0.5
CRLT	Corlu	0.31	359	Pg	Pb	15 18 06.9	0.0
SART	Tekirdag	0.45	254	P	Pg	15 18 08.7	-0.2
SART				S	Sg	15 18 15.5	+0.4
SART				*i* AML	AML	15 18 16.0	
	comp=N,1μm,0.3s						
SART				*i* AML	AML	15 18 16.0	
	comp=E,2μm,0.3s						
RKY	Sarkoy-Tekirda	0.45	254	Pg	Pg	15 18 08.2	-0.8
RKY				Sg	Sg	15 18 14.8	-0.3
EDC	Edincik	0.48	169	Pg	Pb	15 18 09.7	0.0
EDC				Sg	Sg	15 18 16.2	+0.3
BAND	Balkesir-Ban	0.53	150	P	Pg	15 18 10.5	+0.1
BAND				S	Sb	15 18 18.2	+0.3
BAND				*i* AML	AML	15 18 20.0	
	comp=N,3μm,0.2s						
BAND				*i* AML	AML	15 18 20.0	
	comp=E,2μm,0.2s						
BAND	Balkesir-Ban	0.53	150	⇑P	Pb	15 18 10.6	0.0
BAND				⇑S	Sg	15 18 17.8	+0.1
SLVT	Silivri	0.54	40	Pg	Pb	15 18 10.6	-0.2
KRBG	Karabiga-Canak	0.54	219	Pg	Pg	15 18 10.6	0.0
KRBG				Sg	Sb	15 18 18.6	+0.3
ELBA	Catalca	0.61	57	P	Pg	15 18 11.4	-0.6
ELBA				S	Sg	15 18 19.7	-0.5
ELBA				*i* AML	AML	15 18 23.0	
	comp=N,1μm,0.2s						
ELBA				*i* AML	AML	15 18 24.0	
	comp=E,1μm,0.2s						
CTKS	Kestanelik-??a	0.71	54	Pg	Pg	15 18 13.2	-0.6
KCTX	Karacabey (Bur	0.72	140	Pg	Pg	15 18 13.6	-0.3
AVCI	Avcilar-stanb	0.76	76	Pg	Pg	15 18 14.0	-0.7
AVCI				Sg	Sb	15 18 24.8	+0.2
VIZE	Kirklareli, Vi	0.76	5	P	Pb	15 18 14.4	-0.2
VIZE				S	Sb	15 18 24.6	-0.1
VIZE				*i* AML	AML	15 18 26.0	
	comp=N,4μm,0.4s						
VIZE				*i* AML	AML	15 18 26.0	
	comp=E,3μm,0.4s						
GONE	Gonen-Balikesi	0.77	183	Pg	Pg	15 18 14.6	-0.2
CTYL	Yalikoy Yolu	0.78	32	Pg	Pg	15 18 14.4	-0.6
PHSR	Pinarhisar	0.83	348	Pg	Pb	15 18 15.7	0.0
PHSR				Sg	Sb	15 18 27.5	+0.9
BGKT	Bogazkoy	0.86	65	Pg	Pg	15 18 15.7	-0.8
LPK	Lapseki	0.87	240	Pg	Pg	15 18 15.9	-0.9
ARMT	Armutlu	0.88	106	Pg	Pb	15 18 16.8	+0.2
SUSR	Susurluk-Balik	0.89	163	Pg	Pg	15 18 17.0	-0.1
UKOP	Uzunkopru-Edir	0.90	291	Pg	Pn	15 18 18.1	+0.5
ERIK	Erikli-Kesan	0.95	262	Pg	Pg	15 18 17.4	-0.8
YENI	Yenice-Canakka	0.96	204	Pg	Pg	15 18 17.7	-0.7
CANM	Can-anakkale	0.96	214	Pg	Pg	15 18 17.1	-1.4
YYLC	Yaylacik	0.96	122	P	Pb	15 18 18.2	+0.3
YYLC				S	Sb	15 18 31.6	+1.2
YYLC				*i* AML	AML	15 18 34.0	
	comp=E,4μm,0.4s						
MDNY	Mudanya-Bursa	0.97	117	Pg	Pg	15 18 18.2	-0.5
ISK	Istanbul-Kandi	1.02	76	Pg	Pg	15 18 18.4	-1.3
ISK	Istanbul-Kandi	1.02	76	P	Pg	15 18 18.3	-1.4
ISK				S	Sg	15 18 32.2	-0.9
	3μm,0.3s						
KAVV	Kandilli-Istan	1.02	76	Pg	Pg	15 18 18.7	-1.0
GELI	Tayfur-Gelibol	1.05	247	Pg	Pg	15 18 18.9	-1.3
ARMN	Kirklareli, Me	1.07	347	P	Pb	15 18 20.0	+0.1
ARMN				S	Sb	15 18 34.1	+0.5
ARMN				*i* AML	AML	15 18 36.0	
	comp=N,641nm,0.4s						
ARMN				*i* AML	AML	15 18 36.0	
	comp=E,524nm,0.2s						
KLYT	Kilyos	1.07	66	Pg	Pg	15 18 19.5	-1.1
KIRK	Kırklareli	1.08	333	P	Pg	15 18 19.7	-1.0
KIRK				S	Sg	15 18 33.9	-1.0
KIRK				*i* AML	AML	15 18 35.0	
	comp=N,341nm,0.2s						
KIRK				*i* AML	AML	15 18 36.0	
	comp=E,281nm,0.2s						
KURT	Yalova, Merkez	1.14	101	S	Sn	15 18 37.3	+1.3
ORLT	Orhaneli	1.17	131	Pn	Pb	15 18 20.7	-0.8
CAVK	Edirne/Enez-Ca	1.21	265	⇑P	Pn	15 18 22.1	+0.4
CAVK				⇑S	Sg	15 18 38.7	-0.1
COMU	Canakkale	1.21	234	Pn	Pn	15 18 21.8	0.0
ENEZ	Enez	1.21	267	Pn	Pn	15 18 21.5	-0.4
ENEZ	Enez	1.21	267	P	Pn	15 18 22.0	+0.1
ENEZ				S	Sg	15 18 38.6	-0.5
	5μm,0.6s						
ENZZ	Sultanice-Enez	1.24	261	Pn	Pn	15 18 22.1	-0.1
EDRB	Edirne	1.28	324	Pn	Pn	15 18 22.5	-0.3
EDRB	Edirne	1.28	324	P	Pn	15 18 22.8	0.0
EDRB				S	Sn	15 18 40.5	+1.0
	512nm,0.6s						
ALN	Alexandroupoli	1.29	274	Pn	Pn	15 18 22.8	-0.2
ALN	Alexandroupoli	1.29	274	P	Pn	15 18 22.8	-0.2
ALN				S	Sb	15 18 40.6	+0.8
	1μm,0.7s						
YAYO	Edremit-Balk	1.31	203	Pn	Pn	15 18 22.9	-0.3
DST	Dursunbey	1.38	151	Pn	Pn	15 18 24.0	-0.3
EZN	Ezine	1.47	228	Pn	Pn	15 18 25.6	+0.2
EZN	Ezine	1.47	228	P	Pn	15 18 25.5	+0.2
EZNE	Ezine-Canakkal	1.50	225	Pn	Pn	15 18 25.3	-0.5
GADA	Gvkgeada	1.54	247	Pn	Pn	15 18 26.7	+0.3
BOZC	Bozcaada	1.62	234	Pn	Pn	15 18 27.8	+0.3
RDO	Rodhopi	1.70	282	Pn	Pn	15 18 28.8	+0.2
RDO	Rodhopi	1.70	282	P	Pn	15 18 29.0	+0.4
RDO				S	Sn	15 18 51.5	+1.5
	522nm,0.3s						
SMTH	Samothraki Isl	1.72	259	P	Pn	15 18 28.6	-0.3
JMB	Yambol	1.91	332	*e*P	Pn	15 18 31.9	+0.5
JMB				S	Sg	15 18 59.6	-1.6
PRK	Paraskevi	1.93	216	P	Pn	15 18 32.2	+0.4
PRK				S	Sb	15 18 58.4	+0.1
	810nm,0.9s						
KDZ	Kurdzhali	1.99	295	Pn	Pn	15 18 32.4	-0.1
KDZ	Kurdzhali	1.99	295	*i* P	Pn	15 18 32.5	-0.1
KDZ				S	Sb	15 19 00.1	+0.2
DIM	Dimitrovgrad	2.04	308	*e*P	Pn	15 18 33.7	+0.4
DIM				S	Sb	15 19 03.0	+1.6
LIA	Limnos Island	2.16	246	P	Pn	15 18 34.9	0.0
SIGR	SIGRI	2.16	223	P	Pn	15 18 36.0	+1.1
SIGR				S	Sn	15 19 01.8	+0.5
	528nm,1.0s						
THAS	Thassos island	2.31	266	P	Pn	15 18 36.6	-0.4
PRD	Provadia	2.35	354	*e*P	Pb	15 18 41.9	+0.2
PRD				S	Sg	15 19 15.4	-0.1
RZN	Rozhen	2.43	292	*i* P	Pn	15 18 39.3	+0.5
RZN				S	Sb	15 19 15.3	+2.5
KAVA	Kavala	2.46	275	P	Pn	15 18 39.0	0.0
NEF	NEVSHA	2.47	352	*e*P	Pg	15 18 48.0	+0.8
NEF				S	Sg	15 19 19.3	+0.1
SZH	Strazhitsa	2.78	332	*e*P	Pn	15 18 43.9	+0.5
SZH				S	Sg	15 19 28.1	-1.0
RAZG	Razgrad	2.90	342	⇑P	Pg	15 18 53.1	-2.3
OUR	Ouranopolis	2.91	262	P	Pn	15 18 45.1	-0.1
MMB	Musomishta	3.10	285	*e*P	Pg	15 18 58.3	-1.0
MMB				S	Sg	15 19 36.4	-3.1
SRS	Serrai	3.16	277	P	Pn	15 18 48.8	+0.1
KKB	Krupnik	3.62	288	S	Sg	15 19 53.5	-2.7
PLNA	Plana	3.64	299	*e*P	Pg	15 19 09.0	-0.5
PLNA				S	Sg	15 19 54.0	-2.6
TIRR	Tirgusor	3.67	7	⇓P	Pg	15 19 07.2	-2.9
VAY	Valandovo	3.94	279	*e*Pn	Pg	15 19 14.8	-0.5
VAY				*e*Sn	Sg	15 20 05.3	-1.1
SULR		4.01	345	⇑P	Pn	15 19 04.7	+4.3
TPGR	Topolog	4.07	7	⇑P	Pb	15 19 12.3	+1.4
CFR	Carcaliu	4.37	4	⇑P	Pn	15 19 10.8	+5.6
NEHR	Nehoiu	4.73	348	⇑P	Pn	15 19 13.1	+2.9
MLR	Muntele Rosu	4.85	345	⇑P	Pn	15 19 14.3	+2.3
VOIR		5.02	338	⇑P	Pn	15 19 15.3	+1.0
PLOR	Plostina	5.10	351	⇓P	Pn	15 19 17.8	+2.6
VRI	Vrincioaia	5.10	352	⇓P	Pn	15 19 17.5	+2.1
COVR	Voineasa-Covas	5.15	348	⇑P	Pn	15 19 18.3	+2.2
DOPR	Dopca	5.43	342	⇑P	Pn	15 19 21.4	+1.6
ONER	Baraj Valea Uz	5.60	350	⇓P	Pn	15 19 23.6	+1.4
SEV	Sevastopol'	5.74	48	*e*P	Pn	15 19 23.3	-0.7
SEV				Pm		15 19 26.5	
	comp=Z,5.0nm,0.3s						
SEV				*e*S	Sn	15 20 27.5	-1.9
TARU	Tarkhankut	5.75	36	*e*S	Sn	15 20 28.8	-0.8
TARU				Sm		15 20 29.1	
	comp=N,15nm,0.4s						
TARU				Sm		15 20 29.1	
	comp=E,13nm,0.3s						
GZR	Gura Zlata	5.84	323	⇑P	Pn	15 19 25.7	+0.1
MDVR	Moldovita	5.95	314	⇑P	Pn	15 19 27.0	0.0
DNZ2	Donuzlav2	6.06	39	*e*S	Sn	15 20 38.6	+1.2
DNZ2				Sm		15 20 46.4	
	comp=N,5.0nm,0.3s						
DNZ2				Sm		15 20 46.4	
	comp=E,8.0nm,0.3s						
ALU	Alushta	6.24	50	*e*S	Sn	15 20 43.5	+1.8
ALU				Sm		15 20 45.8	
	comp=N,28nm,0.2s						
ALU				Sm		15 20 45.8	
	comp=E,6.0nm,0.2s						
SUDU	Sudak	6.71	50	*e*P	Pn	15 19 35.8	-1.5
SUDU				Pm		15 19 41.4	
	comp=Z,5.0nm,0.4s						
SUDU				*e*S	Sn	15 20 52.5	-0.8
SUDU				Sm		15 20 59.6	
	comp=N,16nm,0.4s						
SUDU				Sm		15 20 59.6	
	comp=E,3.0nm,0.4s						

*IDC **23** 15:20:49.0±2.4,18°.45S×174°.96W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=70.3km s-min=46.2km az=32.0*

ISC 23 15:21:12.6±2.2,18°.3S±0°.2×175°.2W±0°.4,h200km,n13, σ0°77/14,mb3.8/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	20.54	195	P	P	15 25 36.5	+0.8
RUGZ	Raukumara Rang	20.59	196	P	P	15 25 36.3	0.0
TWGZ	Tauwhareparae	20.71	195	P	P	15 25 39.2	+1.7
MWZ	Matawai	20.97	196	P	P	15 25 40.0	-0.3
URZ	Urewera	21.02	197	P	P	15 25 39.9	-0.9
MUGZ	Murupara	21.32	198	P	P	15 25 44.2	+0.4
RTZ	Ruatahuna	21.39	197	P	P	15 25 44.8	+0.2

KMNR	Kamenistaya	2.52 272	eP	Pn	15 34 48.0	+3.6
KMNR			eS	Sn	15 35 16.6	+2.6
KPT	Kopyto	2.53 277	eP	Pn	15 34 48.1	+3.6
KPT			eS	Sn	15 35 19.0	+4.8
KOZ	Kozyrevsk	2.73 279	eP	Pn	15 34 51.0	+3.8
KOZ			eS	Sn	15 35 22.1	+3.0
SRDR	Sredinnyy	2.85 284	eP	Pn	15 34 53.1	+4.2
SRDR			eS	Sn	15 35 25.8	+3.7
ESO	Esso	3.39 276	eP	Pn	15 35 00.0	+3.8
OSSR	Ossora	3.64 347	eP	Pn	15 35 02.8	+3.2
OSSR			eS	Sn	15 35 42.8	+1.6
SDLR	Sedlovina	4.18 236	eP	Pn	15 35 10.1	+2.9
KRX	Arik	4.25 238	eP	Pn	15 35 10.5	+2.5
UGLR	Uglovaya	4.25 236	eP	Pn	15 35 11.2	+3.0
AVH	Avacha	4.26 237	eP	Pn	15 35 12.1	+3.9
KOK	Koryaka	4.29 238	eP	Pn	15 35 12.2	+3.5
DALK	Dalny	4.40 235	eP	Pn	15 35 12.7	+2.7
GNL	Ganaly	4.41 245	eP	Pn	15 35 14.1	+3.8
PET	Petropavlovsk	4.45 235	eP	Pn	15 35 13.4	+2.7
KRMR	Karymshinskiy	4.82 236	eP	Pn	15 35 18.9	+3.2
GRL	Gorelyy	5.03 233	eP	Pn	15 35 21.9	+3.1
APC	Apacha	5.23 241	eP	Pn	15 35 25.7	+4.4

KRSC 23 15:37:16.6±1.2, 55°72′N×164°78′E, h52km±22km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.85	127	eP	Pn	15 37 34.3	+1.9
BKI				eS	Sn	15 37 47.8	+3.8
KBTR	Krutoberegovo	1.21	295	eP	Pn	15 37 36.6	-0.6
KBTR				eS	Sn	15 37 52.1	-0.3
KBG	Krutoberegovo	1.28	296	eP	Pn	15 37 38.2	0.0
KBG				eS	Sn	15 37 54.6	+0.3
SMKR	Semkarok	2.04	296	eP	Pn	15 37 50.7	+2.1
SMKR				eS	Sn	15 38 15.8	+2.8
BDR	Baidarnaya	2.17	294	eS	Sn	15 38 20.3	+4.2
ZLN	Zelenaya	2.26	279	eP	Pn	15 37 55.5	+3.9
ZLN				eS	Sn	15 38 22.9	+4.6
CIRR	Tsirk	2.30	282	eP	Pn	15 37 55.8	+3.6
CIRR				eS	Sn	15 38 22.1	+2.7
BZGR	Bezymyannyi-Gr	2.31	277	eP	Pn	15 37 56.2	+3.9
BZGR				eS	Sn	15 38 23.9	+4.3
KLY	Klyuchi	2.39	286	eP	Pn	15 37 54.8	+1.5
KLY				eS	Sn	15 38 21.6	+0.2
BZWR	Bezymyannyi-We	2.43	278	eP	Pn	15 37 58.1	+4.2
BZWR				eS	Sn	15 38 27.5	+5.0
KIRR	Kirishev	2.51	277	eP	Pn	15 37 58.1	+3.0
KIRR				eS	Sn	15 38 27.5	+2.9
TUMD	Tumrok D	2.55	260	eP	Pn	15 37 58.9	+3.4
TUMD				eS	Sn	15 38 27.7	+2.5
KMNR	Kamenistaya	2.57	273	eP	Pn	15 38 00.1	+4.3
KMNR				eS	Sn	15 38 29.6	+3.7
KPT	Kopyto	2.58	277	eP	Pn	15 37 59.6	+3.6
KPT				eS	Sn	15 38 29.7	+3.6
KOZ	Kozyrevsk	2.78	279	eS	Sn	15 38 34.8	+3.7
SRDR	Sredinnyy	2.90	284	eP	Pn	15 38 04.8	+4.5
SRDR				eS	Sn	15 38 38.6	+4.6
ESO	Esso	3.44	276	eP	Pn	15 38 11.5	+3.9
OSSR	Ossora	3.66	346	eP	Pn	15 38 13.7	+3.1
OSSR				eS	Sn	15 38 54.7	+2.3
SDLR	Sedlovina	4.22	237	eP	Pn	15 38 20.1	+1.7
KRX	Arik	4.28	239	eP	Pn	15 38 22.2	+2.9
UGLR	Uglovaya	4.29	237	eP	Pn	15 38 23.1	+3.7
AVH	Avacha	4.30	238	eP	Pn	15 38 23.1	+3.6
KOK	Koryaka	4.33	238	eP	Pn	15 38 22.4	+2.5
DALK	Dalny	4.44	235	eP	Pn	15 38 23.4	+2.1
GNL	Ganaly	4.46	246	eP	Pn	15 38 24.4	+2.7
KRMR	Karymshinskiy	4.86	236	eP	Pn	15 38 30.2	+3.2
GRL	Gorelyy	5.06	234	eP	Pn	15 38 33.9	+3.9

*IDC **23** 15:40:51.6±2.2, 6°90′S×128°85′E, h0km, mb3.3/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=131.4km s-min=33.2km az=67.0*

ISC 23 15:40:53.3±1.6, 7°1′S±0°1′×128°9′E±0°1, h10km, n11, σ3°20′/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.53	110	P	Pg	15 41 44.6	+2.8
SAUI	Saumlaki	2.53	110	S	Sn	15 42 00.6	-4.7
DRS	Darwin Rock St	5.62	160	P	Pb	15 42 28.9	-2.8
DRS	Darwin Rock St	5.62	160	S	Sn	15 43 19.3	-2.5
MTN	Manton Dam	6.09	159	P	Pb	15 42 34.8	-4.8
MTN	Manton Dam	6.09	159	S	Sn	15 43 31.1	-2.2
KDU	Kakadu	6.55	148	P	Pn	15 42 38.9	+9.1
KDU	Kakadu	6.55	148	S	Sn	15 43 38.0	-6.6
WRA	Warramunga Arr	13.79	158	Pn	Pn	15 44 10.0	+1.0
	0.1nm,0.3s,baz=337,slow=13,SNR=1.7						
WRA				Sn	Sn	15 46 36.5	-5.8
	0.3nm,0.3s,baz=160,slow=25,SNR=6.4						
	0.4nm,0.5s						
ASAR	Alice Springs	17.13	164	Pn	P	15 44 57.0	+2.2
	0.1nm,0.3s,baz=341,slow=12,SNR=17						
ASAR				Sn	Sn	15 48 02.5	-1.3
	baz=332,slow=30,SNR=1.3						
	0.8nm,0.8s						
MKAR	Makanchi Array	67.74	327	P	P	15 51 49.7	-1.5
	0.1nm,0.4s,baz=118,slow=7.4,SNR=4.9						
	0.1nm,0.4s						

*IDC **23** 15:40:47.8±1.4, 8°30′N×75°43′W, h0km, mb3.5/1, mbtmp3.7/2, ML3.0/1, Error ellipse: s-maj=45.0km s-min=18.2km az=71.0*

*RSNC **23** 15:40:54.9±0.0, 8°N±1°×7°5′W±°, h8km±2km, M3.2, ML3.0*

ISC 23 15:40:53.1±1.2, 8°43′N±0°02′×74°98′W±0°03, h7km±10km, n36, σ1°74/68, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	San Jos de Ur	0.87	219	P	Pg	15 41 09.9	0.0
UREC				S	Sg	15 41 22.1	+0.9
ZARC	Zaragoza, Cauc	0.94	173	P	Pg	15 41 10.6	-0.6
ZARC				S	Sg	15 41 22.5	-0.9
LCBC	Los crdobas,	1.44	287	P	Pb	15 41 20.2	0.0
LCBC				S	Sn	15 41 40.4	+1.7
SJCC	San Jacinto, C	1.47	352	P	Pn	15 41 19.5	-0.6
SJCC				S	Sn	15 41 39.9	+0.3
ARGC	Ariguani, Magd	1.59	27	P	Pg	15 41 24.2	+0.6
ARGC				S	Sg	15 41 43.9	-0.4
OCAC	Ocana	1.65	97	P	Pn	15 41 21.7	-1.0
OCAC				S	Sn	15 41 43.3	-0.9
APAC	Apartado, Choc	1.67	252	P	Pb	15 41 24.8	+0.6
APAC				S	Sn	15 41 45.9	+0.4
DBBC	Dabeiba	1.86	221	P	Pn	15 41 25.9	+0.4
DBBC				S	Sn	15 41 47.7	-1.6
BRJC	Barrancabermej	1.90	140	P	Pn	15 41 25.6	-0.3
BRJC				S	Sn	15 41 50.1	+0.1
PTBC	PUERTO BERRIO,	1.95	165	P	Pn	15 41 26.0	-0.6
PTBC				S	Sn	15 41 50.0	-1.4
HELC	Santa Helena	2.29	194	P	Pn	15 41 30.5	-1.1
HELC				S	Sn	15 41 59.9	-0.4
PAMC	Pamplona, Colo	2.50	116	P	Pn	15 41 34.8	+0.1
PAMC				S	Sn	15 42 06.1	+0.4
BARC	Barichara	2.55	136	P	Pn	15 41 35.4	+0.3
BARC				S	Sn	15 42 06.5	0.0
CBOC	Ciudad Bolivar	2.75	202	P	Pn	15 41 37.1	-0.7
CBOC				S	Sn	15 42 10.2	-1.1
NORC	Norcasia	2.85	178	P	Pn	15 41 38.2	-0.9
NORC				S	Sn	15 42 15.4	+1.7
PTAC	Punta Ardita,	3.08	246	P	Pn	15 41 41.4	-0.8
PTAC				S	Sn	15 42 18.7	-0.6
RUSC	La Rusia	3.15	143	P	Pn	15 41 43.8	+0.3
RUSC				S	Sn	15 42 21.7	+0.1
GUY2C	Guyana, Caldas	3.21	187	P	Pn	15 41 44.5	+0.1
GUY2C				S	Sn	15 42 21.7	-1.4
CRJC	Cerrejon, Guaj	3.30	39	P	Pn	15 41 46.0	+0.7
CRJC				S	Sn	15 42 22.4	-2.4
NIZA	Niza - Manizal	3.39	188	P	Pn	15 41 47.7	+1.0
NIZA				S	Sn	15 42 27.9	+0.6
ROSC	El Rosal	3.63	170	Pg	Pn	15 41 53.6	+3.5
	7.8nm,0.3s,baz=45,slow=20,SNR=5.6						
ROSC				Sn	Sn	15 42 30.9	-2.4
	9.0nm,0.3s,baz=51,slow=23,SNR=4.1						
ROSC				Lg	Lg	15 42 42.1	
	36nm,0.3s,baz=59,slow=22,SNR=9.6						
ROSC	El Rosal	3.63	170	P	Pb	15 41 55.2	-2.6
ROSC				S	Sn	15 42 34.2	+0.9
TAMC	Tame, Arauca	3.73	122	P	Pn	15 41 54.3	+3.1
TAMC				S	Sn	15 42 35.0	-0.4
CHIC	Chingaza	3.98	162	P	Pn	15 41 55.3	+0.4
CHIC				S	Sn	15 42 42.5	+0.6
CVER	Cruz Verde, Cu	3.99	167	P	Pn	15 41 58.7	+3.6
CVER				S	Sn	15 42 44.4	+2.1
SDV	Santo Domingo	4.32	84	Pn	Pn	15 42 01.1	+1.7
	6.0nm,0.3s,baz=301,slow=18,SNR=8.4						
SDV				Sn	Sn	15 42 50.6	+0.4
	32nm,0.3s,baz=8.5,slow=16,SNR=13						
	18nm,0.5s						
SDV	Santo Domingo	4.32	84	P	Pn	15 42 01.3	+1.9
SDV				S	Sn	15 42 50.7	+0.5
URIC	Uribia, Colomb	4.38	42	P	Pn	15 42 02.5	+2.4
URIC				S	Sn	15 42 52.1	+0.7
VILC	Villavicencio,	4.48	163	P	Pn	15 42 04.4	+2.9
VILC				S	Sn	15 42 54.7	+0.7
ORTC	Ortega, Tolima	4.50	183	P	Pn	15 42 03.2	+1.4
ORTC				S	Sn	15 42 58.7	+4.3
YOTC	Yotoco, Valle	4.62	197	P	Pn	15 42 05.9	+2.4
YOTC				S	Sn	15 42 57.4	-0.1
PRAC	Prado	4.69	179	P	Pn	15 42 09.3	+5.0
PRAC				S	Sn	15 43 02.6	+3.6
BCIP	Isla Barro Col	4.86	279	P	Pn	15 42 09.8	+3.2
BCIP				S	Sn	15 42 59.4	-3.8
URMC	La Uribe, Meta	5.18	173	P	Pn	15 42 15.2	+4.0
URMC				S	Sn	15 43 12.8	+1.4
YKA	Yellowknife Ar	61.13	340	P	P	15 51 03.4	-4.4
	0.3nm,0.5s,baz=138,slow=6.6,SNR=6.2						
	0.3nm,0.5s						
ASAR	Alice Springs	148.48	238	PKPbc	PKPdf	16 00 35.5	-2.4
	0.3nm,0.7s,baz=111,slow=3.0,SNR=4.2						

*IDC **23** 15:52:43.1±1.1, 4°07′N×125°67′E, h90km±10km, mb3.6/9, mbtmp3.9/9, MS2.9/2, Error ellipse: s-maj=37.7km s-min=12.7km az=65.0*

*DJA **23** 15:52:43.2±0.7, 4°N±6°×12°6′E±°, h56km±11km, M4.4/13, mB5.0/6, mb4.5/6, MLv4.4/13, Mw(mB)4.4/6*

*NEIC **23** 15:52:44.1±1.2, 4°1′N±0°1′×125°8′E±0°1, h89km±12km, mb4.4/13, Error ellipse: s-maj=18.7km s-min=11.8km az=50.0*

ISC 23 15:52:44.1±0.6, 4°06′N±0°07′×125°85′E±0°08, h107km, n38, σ1°49/41, mb4.2/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.49	221	P	Pn	15 52 56.0	-4.6
TNTI	Ternate	3.60	155	Pn	Pn	15 53 37.4	-0.7
TNTI	Ternate	3.60	155	P	Pn	15 53 37.3	-0.8
KMSI	Cibinong	3.93	208	P	Pn	15 53 42.9	+0.3
MRSI	Marisa	5.28	228	P	Pn	15 54 00.2	-0.6
TOLI2	Tolitoli	5.85	240	Pn	Pn	15 54 05.8	-2.6
LUWI	Luwuk	5.93	211	Pn	Pn	15 54 09.9	+0.4
LUWI	Luwuk	5.93	211	P	Pn	15 54 09.8	+0.3
	0.4nm79nm,0.7s						
SANI	Sanana	6.07	179	P	Pn	15 54 09.5	-2.0
	0.1nm1μm24nm,0.7s						
APSI	Ampana	6.48	220	P	Pn	15 54 18.0	+1.0
	0.3nm46nm,0.9s						
NLAI	Namlea	7.36	170	P	Pn	15 54 27.6	-1.3
	0.2nm1μm38nm,0.9s						
KKM	Kota Kinabalu	9.80	282	Pn	Pn	15 55 02.8	+0.6
KAPI	Kappang	10.88	214	LR	LR	15 59 15.7	
	comp=Z,40nm,19.4s,baz=2.5,slow=36						
SBUM	Sibu	13.70	264	Pn	Pn	15 55 54.1	+0.1
MTN	Manton Dam	17.59	163	P	P	15 56 38.3	-3.9
MTN				IAmb	IAmb	15 56 51.2	
	comp=Z,21nm,1.1s						
TPUB	Ta-pu	19.78	346	P	P	15 57 03.2	-2.9
TPUB				IAmb	IAmb	15 57 17.0	
	comp=Z,26nm,1.1s						
KNRA	Kununurra	19.82	172	P	P	15 57 06.2	-0.2
KNRA				IAmb	IAmb	15 57 19.2	
	comp=Z,20nm,1.0s						
FITZ	Fitzroy Crossi	22.02	181	P	P	15 57 30.2	+0.2
BKNI	Bangkinang	25.06	262	P	P	15 57 59.8	+1.0
WB0	Warramunga Arr	25.12	161	P	P	15 58 00.2	+0.9
WRA	Warramunga Arr	25.27	161	P	P	15 58 01.4	+0.7
	comp=Z,8.3nm,0.8s,baz=343,slow=10,SNR=6.1						
WRA				pP	pP	15 58 23.3	0.0
	comp=Z,1.7nm,0.7s,baz=336,slow=11,SNR=2.0						
	comp=Z,8.3nm,0.8s						
WR8	Warramunga Arr	25.33	161	P	P	15 58 02.8	+1.5
WR8				IAmb	IAmb	15 58 05.2	
	comp=Z,11nm,1.0s						
AS31	Alice Springs	28.65	164	P	P	15 58 31.8	+0.9
ASAR	Alice Springs	28.66	164	P	P	15 58 31.4	+0.5
ASAR	Alice Springs	28.66	164	P	P	15 58 31.6	+0.7
	comp=Z,1.2nm,0.9s,baz=341,slow=6.9,SNR=22						
ASAR				pP	pP	15 58 51.2	-2.6
	comp=Z,0.2nm,0.4s,baz=342,slow=11,SNR=1.4						
ASAR				PcP	PcP	16 01 40.5	+1.1
	comp=Z,0.3nm,0.4s,baz=344,slow=3.0,SNR=5.8						
	comp=Z,1.2nm,0.9s						
CMAR	Chiang Mai Arr	29.95	301	P	P	15 58 43.3	+0.8
	comp=Z,0.3nm,0.3s,baz=118,slow=7.4,SNR=6.1						
CMAR				pP	pP	15 59 02.1	-3.1
	comp=Z,1.0nm,0.8s,baz=105,slow=6.9,SNR=3.6						
CMAR				LR	LR	16 12 29.1	
	comp=Z,36nm,18.2s,baz=350,slow=40						
	comp=Z,0.3nm,0.3s						
KSRS	Korea Array	33.29	3	P	P	15 59 12.6	+1.1
	comp=Z,1.0nm,0.8s,baz=182,slow=11,SNR=4.8						
	comp=Z,1.0nm,0.8s						
FORT	Forrest	34.71	177	P	P	15 59 24.7	+0.9
BBOO	Buckleboo	37.92	166	P	P	15 59 52.3	+1.1
BBOO				IAmb	IAmb	15 59 53.4	
	comp=Z,6.1nm,1.1s						
EIDS	Eidsvold	38.15	141	P	P	15 59 54.4	+1.1
EIDS				IAmb	IAmb	15 59 55.4	
	comp=Z,4.1nm,0.9s						
STKA	Stephens Creek	38.75	158	P	P	15 59 59.4	+1.2
STKA	Stephens Creek	38.75	158	P	P	16 00 00.1	+1.9
	comp=Z,8.5nm,0.7s,baz=330,slow=8.7,SNR=18						
	comp=Z,8.5nm,0.7s						
CAN	Canberra	44.80	153	P	P	16 00 48.9	+1.5
CAN				IAmb	IAmb	16 00 53.9	
	comp=Z,7.4nm,1.0s						
PETK	Petropavlovsk-	55.46	23	P	P	16 02 09.1	+1.5
	comp=Z,1.7nm,0.7s,baz=233,slow=6.3,SNR=1.4						
	comp=Z,1.7nm,0.7s						
MKAR	Makanchi Array	56.79	326	P	P	16 02 16.0	-1.2
MKAR	Makanchi Array	56.79	326	P	P	16 02 15.7	-1.6
	comp=Z,0.2nm,0.4s,baz=132,slow=7.8,SNR=6.5						
MKAR				PcP	PcP	16 03 12.5	+0.7
	comp=Z,0.9nm,0.9s,baz=98,slow=4.4,SNR=2.6						
	comp=Z,0.2nm,0.4s						
KURBB	Kurchatov Arra	60.99	328	P	P	16 02 44.6	-1.5
	comp=Z,0.3nm,0.5s,baz=126,slow=7.0,SNR=3.2						
	comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	66.57	327	P	P	16 03 23.7	+0.9
	comp=Z,0.3nm,0.3s,baz=103,slow=6.5,SNR=2.7						
	comp=Z,0.3nm,0.3s						

*IDC **23** 16:07:48.8±1.3, 18°19S×177°98W, h629km±12km, mb3.1/12, mbtmp4.1/14, Error ellipse: s-maj=22.6km s-min=15.0km az=109.0*

*NOU **23** 16:08:05.6, 20°28S×179°48E, h486km, mb4.1/13, South of Fiji Islands*

ISC 23 16:07:46.3±0.7, 18°2S±0°1×177°7W±0°1, h600km, n32, σ1°64/33, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.09	276	P	P	16 09 14.6	+2.1
	82nm,0.5s,baz=138,slow=4.1,SNR=81						
MSVF				S	S	16 10 27.1	+4.3
	9.3nm,0.9s,baz=132,slow=23,SNR=5.5						
MSVF	Nonsavu	4.09	276	P	P	16 09 14.4	+1.9
DZM	Mont Dzumac	15.38	253	P	P	16 10 57.5	-0.7
	2.1nm,0.6s,baz=81,slow=19,SNR=1.3						
URZ	Urewera	20.48	192	P	P	16 11 43.4	-0.8
	2.2nm,0.7s,baz=335,slow=3.4,SNR=1.1						
	2.2nm,0.7s						
NGOA	Tingoa Renbel	22.49	284	P	P	16 12 11.4	+8.9
ALEG	Aligegeo Malai	23.01	291	P	P	16 12 18.3	+11
QRZ	Quartz Range	24.05	198	P	P	16 12 17.2	+1.2
CAN	Canberra	34.06	233	P	P	16 13 40.3	-2.2
CMSA	Cobar Meteorol	35.60	241	P	P	16 13 54.3	-0.9
QLP	Quilpie	36.07	250	P	P	16 13 58.4	-0.7
STKA	Stephens Creek	39.08	242	P	P	16 14 22.9	-0.7
	2.4nm,0.5s,baz=88,slow=10,SNR=7.7						
	2.4nm,0.5s						
STKA	Stephens Creek	39.08	242	P	P	16 14 23.4	-0.1
INKA	Innaminka	39.27	248	P	P	16 14 25.0	0.0
HTT	Hallett	41.58	240	P	P	16 14 42.6	-0.8
LCRK	Leigh Creek	41.74	245	P	P	16 14 44.1	-0.5
OOD	Oodnadatta	43.74	249	P	P	16 15 00.5	+0.3
BBOO	Buckleboo	43.86	241	P	P	16 15 00.1	-0.9
WRA	Warramunga Arr	45.25	260	P	P	16 15 09.8	-2.2
	1.9nm,0.4s,baz=96,slow=6.8,SNR=40						
WRA				PcP	PcP	16 16 37.0	-1.8
	0.3nm,0.3s,baz=94,slow=3.4,SNR=4.8						
	1.9nm,0.4s						
ASAR	Alice Springs	45.37	254	P	P	16 15 10.9	-1.9
	4.5nm,0.4s,baz=91,slow=8.0,SNR=206						
ASAR				PcP	PcP	16 16 38.4	-0.9
	0.9nm,0.4s,baz=105,slow=3.8,SNR=10						
	4.5nm,0.4s						
MJAR	Matsushiro Arr	68.57	323	P	P	16 17 48.7	-1.7
	1.0nm,0.5s,baz=153,slow=5.8,SNR=11						
	1.0nm,0.5s						
QSPA	South Pole Qui	71.83	180	P	P	16 18 10.6	+1.3
	2.2nm,1.1s,baz=99,slow=1.8,SNR=7.0						
	2.2nm,1.1s						
PETK	Petropavlovsk-	74.16	345	P	P	16 18 21.2	-1.3
	2.9nm,0.8s,baz=104,slow=7.9,SNR=7.6						
	2.9nm,0.8s						
USRK	Ussurysk Ar.	77.26	325	P	P	16 18 40.4	+0.6
	0.7nm,0.6s,baz=155,slow=15,SNR=1.7						
	0.7nm,0.6s						
ILAR	Eielson Array	86.04	13	P	P	16 19 23.1	-0.8
	0.5nm,0.4s,baz=221,slow=4.8,SNR=19						
	0.5nm,0.4s						
PDAR	Pinedale Array	87.11	43	P	P	16 19 30.9	+1.0
	0.3nm,0.7s,baz=252,slow=8.1,SNR=2.7						
	0.3nm,0.7s						
CMAR	Chiang Mai Arr	89.64	289	P	P	16 19 41.1	-0.7
	0.4nm,0.3s,baz=155,slow=3.1,SNR=5.3						
	0.4nm,0.3s						
YKA	Yellowknife Ar	94.33	25	P	P	16 20 02.5	+0.2
	0.1nm,0.4s,baz=195,slow=12,SNR=2.6						
	0.1nm,0.4s						
BVAR	Borovoye Array	117.52	321	PKP	PKPdf	16 25 23.3	-1.4
	0.4nm,0.3s,baz=94,slow=2.5,SNR=3.0						
ARCES	ARCESS Array B	126.74	350	PKP	PKPdf	16 25 41.2	-0.8
	4.2nm,1.1s,baz=354,slow=1.2,SNR=5.1						
BRTR	Keskin Array B	145.49	315	PKPbc	PKPdf	16 26 17.8	+0.3
	0.9nm,0.5s,baz=130,slow=2.9,SNR=5.0						
MMAI	Mount Meron Ar	146.89	303	PKPbc	PKPdf	16 26 22.4	+2.5
	1.3nm,0.5s,baz=56,slow=4.5,SNR=6.2						
GERES	GERESS Array B	148.09	346	PKPbc	PKPdf	16 26 25.0	+3.6
	0.8nm,0.5s,baz=46,slow=3.9,SNR=9.9						

*KRNET **23** 16:30:36.5±0.1, 42°23′N×71°60′E, h21km, mb2.9*

*SOME **23** 16:30:37.6, 42°22′N×71°65′E, h15km*

*NNC **23** 16:30:37.4±0.7, 42°46′N×71°49′E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=11.4km s-min=3.9km az=170.0*

*KNET **23** 16:30:38.6±0.8, 42°27′N×71°76′E, h8km±9km, ml2.6, Error ellipse: s-maj=14.0km s-min=5.7km az=13.0*

ISC 23 16:30:36.8±1.1, 42°24′N±0°02′×71°61′E±0°02, h2km±10km, n57, σ1°26/100, 38C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.52	149	⇑eP	Pg	16 30 46.6	0.0
ARK				⇑eS	Sg	16 30 53.8	+0.5
DZA	Taraz	0.68	343	P	Pb	16 30 51.1	-0.3
	171nm,0.1s						
DZA				S	Sb	16 31 00.8	-0.5
	246nm,0.2s						
DZA	Taraz	0.68	343	eP	Pb	16 30 51.1	-0.3
	171nm,0.1s						
DZA				eS	Sb	16 31 00.5	-0.9
	246nm,0.2s						
MNAS	Manas	0.71	69	⇓iP	Pg	16 30 49.6	-0.8
MNAS				⇓iS	Sg	16 31 00.1	+0.5
TRKS	Terek-Say	0.79	206	⇓eP	Pg	16 30 51.5	-0.4
TRKS				⇓eS	Sb	16 31 03.7	-0.8
IUG	Iuzhnay	1.17	266	P	Pb	16 30 59.5	-0.3
	38nm,0.1s						
IUG				S	Sg	16 31 14.9	+0.4
	116nm,0.1s						
KK31	Karatay Array	1.18	317	⇓Pn	Pg	16 30 58.9	-0.5
	4.3nm,0.1s,baz=143,slow=17,SNR=145						
KK31				⇑Sn	Sg	16 31 14.4	-0.3
	19nm,0.2s,baz=137,slow=30,SNR=12						
KKAR	Karatay Array	1.18	317	⇑iP	Pg	16 30 58.7	-0.7
KKAR				⇑iS	Sg	16 31 14.2	-0.5
MRKS	Merke	1.30	67	P	Pn	16 31 02.0	-0.1
	5.2nm,0.1s						
MRKS				S	Sb	16 31 19.0	-0.1
	28nm,0.3s						
MRKS	Merke	1.30	67	eP	Pn	16 31 02.0	-0.1
	5.2nm,0.1s						
MRKS				eS	Sb	16 31 19.0	-0.1
	28nm,0.3s						
ARSB	Arslanbob	1.38	131	⇑eP	Pn	16 31 01.6	-1.5
ARSB				⇑eS	Sg	16 31 20.0	-1.0
CHM	Chimkent	1.49	274	eP	Pg	16 31 06.8	+1.5
	25nm,0.1s						
CHM				eS	Sg	16 31 27.6	+3.0
	82nm,0.2s						
BRLS	Borolday	1.53	302	eP	Pb	16 31 05.3	-0.4
	16nm,0.2s						
BRLS				eS	Sg	16 31 25.4	-0.4
AML	Almayashu	1.56	93	⇑Pn	Pn	16 31 05.9	0.0
	8.4nm,0.1s,SNR=37						
AML				⇑S	Sg	16 31 27.2	+0.4
	22nm,0.2s						
AML	Almayashu	1.56	93	⇓iP	Pn	16 31 05.7	-0.1
AML				⇓iS	Sn	16 31 25.9

SFK ⇑iS **Sn** **16 31 52.2 -1.2**
DRK Karamyk 2.76 177 ⇓iP **Pn** **16 31 21.9 -0.4**
DRK ⇓iS **Sn** **16 31 55.3 -1.0**
TKM2 Tokmak 2 3.02 76 ⇑Pn **Pn** **16 31 28.2 +2.3**
1.1nm,0.6s
TKM2 ⇑Sn **Sb** **16 32 11.0 +2.1**
7.9nm,0.5s
TKM2 Tokmak 2 3.02 76 ⇓iP **Pn** **16 31 26.1 +0.2**
TKM2 ⇓iS **Sn** **16 32 01.7 -1.1**
BOOM Boomskoye usch 3.22 84 ⇓eP **Pn** **16 31 28.6 +0.1**
BOOM ⇑eS **Sn** **16 32 06.5 -1.1**
DGS Degeres 3.23 71 Pg **Pb** **16 31 35.3 +0.4**
1.6nm,0.3s
DGS Lg Lg 16 32 16.7
14nm,0.2s
BTLS Baital 3.31 31 Pg **Pb** **16 31 32.8 -3.4**
1.2nm,0.1s
BTLS Lg Lg 16 32 12.2
10nm,0.5s
BTLS Baital 3.31 31 eP **Pb** **16 31 37.1 +0.9**
6.8nm,0.2s
BTLS eS **Sb** **16 32 19.6 +2.6**
4.9nm,0.2s
KST Kastek 3.31 75 Pg **Pb** **16 31 37.9 +1.6**
1.9nm,0.2s
KST Lg Lg 16 32 20.5
16nm,0.4s
KST Kastek 3.31 75 eP **Pb** **16 31 37.9 +1.6**
1.9nm,0.2s
KST eS **Sg** **16 32 20.6 -2.6**
16nm,0.4s
KRBS Karabastau 3.32 63 Pg **Pb** **16 31 37.2 +0.7**
0.9nm,0.2s
KRBS Lg Lg 16 32 19.3
5.9nm,0.2s
GAR Garm 3.38 197 ⇓iP **Pn** **16 31 31.2 +0.5**
GAR ⇓iS **Sn** **16 32 10.0 -1.4**
MTBS Maitube 3.67 74 Pg **Pb** **16 31 43.9 +1.6**
1.0nm,0.2s
MTBS Lg Lg 16 32 30.9
5.2nm,0.3s
MTBS Maitube 3.67 74 eP **Pb** **16 31 43.8 +1.6**
1.0nm,0.2s
MTBS eS **Sb** **16 32 30.6 +3.4**
5.2nm,0.3s
KTBS Karatobe 4.00 67 Pg **Pb** **16 31 49.3 +1.3**
2.6nm,0.3s
KTBS Lg Lg 16 32 40.2
11nm,0.5s
TNSS Tian-Shan 4.02 77 Pg **Pb** **16 31 50.4 +1.8**
1.3nm,0.4s
TNSS Lg Lg 16 32 41.8
2.2nm,0.4s
TNSS Tian-Shan 4.02 77 eP **Pg** **16 31 52.5 -1.3**
1.6nm,0.2s
TNSS eS **Sg** **16 32 45.6 -0.4**
2.5nm,0.2s
KOTS Kotyrbulak 4.18 74 Pg **Pg** **16 31 54.9 -1.9**
1.9nm,0.2s
KOTS Lg Lg 16 32 49.8
9.8nm,0.4s
KOTS Kotyrbulak 4.18 74 eP **Pg** **16 31 55.8 -1.0**
1.9nm,0.2s
KOTS eS **Sg** **16 32 51.2 +0.3**
9.8nm,0.4s
CHKK Chushkaly 4.26 66 Pg **Pb** **16 31 55.2 +2.8**
0.5nm,0.1s
CHKK Lg Lg 16 32 50.3
11nm,0.3s
CHKK Chushkaly 4.26 66 eP **Pb** **16 31 55.3 +2.8**
0.5nm,0.1s
CHKK eS **Sg** **16 32 50.6 -3.0**
9.9nm,0.2s
KURS Kuram 4.98 73 eP **Pn** **16 31 55.3 +2.6**
0.5nm,0.1s
KURS eS **Sn** **16 32 50.6 -0.2**
9.9nm,0.2s
BLB Baldybastay 5.36 67 Pg **Pb** **16 32 14.7 +3.6**
2.8nm,0.4s
BLB Lg Lg 16 33 23.9
5.4nm,0.4s

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*IDC **23** 17:04:48.2±1.9, 6°.10S×147°.97E, h154km±19km, mb3.1/4, mbtmp3.7/6, Error ellipse: s-maj=58.1km s-min=16.0km az=110.0*

ISC 23 17:04:48.5±1.2, 6°.0S±0°.1×147°.7E±0°.3, h150km, n7, σ1§63/10, mb3.5/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.40**	**189**	P	**Pn**	**17 05 41.4**	**+0.4**
29nm,0.3s,baz=20,slow=5.8,SNR=54							
PMG				S	**Sn**	**17 06 21.2**	**-0.5**
52nm,0.4s,baz=222,slow=21,SNR=13							
WRA	**Warramunga Arr**	**18.96**	**222**	P	**P**	**17 08 59.9**	**+1.6**
3.1nm,0.4s,baz=42,slow=12,SNR=64							
WRA				S	**S**	**17 12 23.1**	**-2.8**
0.5nm,0.7s,baz=58,slow=26,SNR=1.4							
ASAR	**Alice Springs**	**21.99**	**216**	P	**P**	**17 09 32.7**	**+2.0**
2.0nm,0.6s,baz=47,slow=8.9,SNR=56							
ASAR				S	**S**	**17 13 24.5**	**+1.3**
0.4nm,0.9s,baz=25,slow=24,SNR=1.4							
SONM	**Songino Array**	**64.76**	**331**	P	**P**	**17 15 10.5**	**-0.5**
2.0nm,0.6s							
0.4nm,0.6s,baz=115,slow=6.5,SNR=2.3							
MKAR	**Makanchi Array**	**77.95**	**320**	P	**P**	**17 16 30.6**	**+0.5**
0.4nm,0.6s							
0.1nm,0.4s,baz=117,slow=5.2,SNR=1.3							
MAW	**Mawson**	**82.49**	**203**	P	**P**	**17 16 52.6**	**-1.3**
0.1nm,0.4s							
38nm,0.7s,baz=108,slow=6.4,SNR=4.1							
ILAR	**Eielson Array**	**85.24**	**23**	P	**P**	**17 17 07.7**	**-0.2**
0.6nm,1.0s,baz=256,slow=5.6,SNR=2.4							
0.6nm,1.0s							

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*IDC **23** 17:13:06.0±1.7, 31°.97S×177°.57W, h0km, mb4.2/3, mbtmp4.1/4, ML3.5/1, MS3.6/3, Error ellipse: s-maj=56.9km s-min=30.2km az=135.0*

*WEL **23** 17:13:05.6±1.1, 32°.S±6°.×17°.8W±1°.8, h12km, M4.7/8, mB4.4/2, ML4.9/11, MLv4.7/8, Mw(mB)3.5/2, Error ellipse: s-maj=23.7km s-min=4.1km az=104.8, confirmed*

ISC 23 17:13:07.7±1.5, 31°.78S±0°.09×177°.6W±0°.3, h18km, n29, σ1§27/44, mb4.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.53**	**353**	P	**Pn**	**17 13 46.5**	**-1.4**
GLKZ				S	**Sn**	**17 14 15.6**	**-2.6**
MXZ	**Matakaoa Point**	**6.70**	**209**	P	**Pn**	**17 14 45.7**	**+0.5**
MXZ				S	**Sn**	**17 16 01.5**	**+0.3**
WMGZ	**Waiomatatini S**	**6.88**	**208**	P	**Pn**	**17 14 46.5**	**-1.2**
WMGZ				S	**Sn**	**17 16 03.7**	**-1.8**
PKGZ	**Pakihiroa**	**7.06**	**209**	P	**Pn**	**17 14 49.0**	**-1.2**
PKGZ				S	**Sn**	**17 16 10.6**	**+0.7**
HAZ	**Te Kaha**	**7.09**	**212**	P	**Pn**	**17 14 51.3**	**+0.8**
HAZ				S	**Sn**	**17 16 13.0**	**+2.3**
PUZ	**Puketiti**	**7.16**	**208**	P	**Pn**	**17 14 49.8**	**-1.8**
PUZ				S	**Sn**	**17 16 12.6**	**+0.2**
RUGZ	**Raukumara Rang**	**7.31**	**211**	P	**Pn**	**17 14 52.9**	**-0.8**
RUGZ				S	**Sn**	**17 16 17.1**	**+0.8**
TWGZ	**Tauwhareparae**	**7.36**	**209**	P	**Pn**	**17 14 52.9**	**-1.5**
TWGZ				S	**Sn**	**17 16 18.6**	**+1.1**
CNGZ	**Carnagh Statio**	**7.54**	**206**	P	**Pn**	**17 14 55.3**	**-1.4**
CNGZ				S	**Sn**	**17 16 21.2**	**-0.5**
MWZ	**Matawai**	**7.68**	**210**	P	**Pn**	**17 14 57.7**	**-1.1**
MWZ				S	**Sn**	**17 16 25.4**	**0.0**
URZ	**Urewera**	**7.81**	**213**	Pn	**Pn**	**17 14 58.6**	**-1.8**
0.7nm,0.3s,baz=347,slow=4.6,SNR=10							
URZ				Sn	**Sn**	**17 16 26.8**	**-1.5**
4.9nm,0.3s,baz=148,slow=24,SNR=14							
1.8nm,0.3s							
URZ	**Urewera**	**7.81**	**213**	P	**Pn**	**17 14 59.1**	**-1.3**
URZ				S	**Sn**	**17 16 27.2**	**-1.1**
RAGZ	**Rawiri**	**7.87**	**210**	S	**Sn**	**17 16 28.0**	**-1.9**
RIGZ	**Rimuhau**	**7.90**	**208**	P	**Pn**	**17 15 00.2**	**-1.5**
RIGZ				S	**Sn**	**17 16 30.6**	**-0.1**
WCZ	**Waipu Caves**	**7.92**	**236**	P	Pn	17 15 08.2	+6.3
SNGZ	**Shannon Statio**	**8.14**	**209**	P	**Pn**	**17 15 05.4**	**+0.4**
SNGZ				S	**Sn**	**17 16 35.9**	**-0.7**
RTZ	**Ruatahuna**	**8.16**	**212**	P	**Pn**	**17 15 04.9**	**-0.4**
RTZ				S	**Sn**	**17 16 35.1**	**-2.0**
MTHZ	**Maungataniwha**	**8.41**	**211**	P	**Pn**	**17 15 09.4**	**+0.6**
MTHZ				S	**Sn**	**17 16 43.7**	**+0.3**

BKZ Black Stump Fm 8.83 212 P **Pn** **17 15 12.4 -2.1**
BKZ S **Sn** **17 16 51.9 -1.5**
DZM Mont Dzumac 17.22 300 LR LR 17 23 16.1
comp=Z,243nm,18.4s,baz=94,slow=35
STKA Stephens Creek 34.57 259 P **P** **17 19 56.2 +0.8**
1.4nm,0.5s,baz=72,slow=8.6,SNR=3.4
STKA LR LR 17 33 28.2
comp=Z,52nm,18.7s,baz=23,slow=35
1.4nm,0.5s
ASAR Alice Springs 43.44 268 P **P** **17 21 10.3 +0.5**
1.6nm,0.5s,baz=106,slow=7.2,SNR=21
ASAR PcP **PcP** **17 22 59.4 +1.4**
0.5nm,0.9s,baz=100,slow=4.1,SNR=1.1
1.6nm,0.5s
WRA Warramunga Arr 44.55 273 P **P** **17 21 19.6 +0.9**
2.4nm,0.4s,baz=112,slow=8.0,SNR=22
2.4nm,0.4s
QSPA South Pole Qui 58.34 180 LR LR 17 45 48.7
comp=Z,53nm,19.7s,baz=272,slow=34
KBZ Khabaz 146.19 302 PKPbc **PKiKP** **17 32 48.6 -1.3**
4.7nm,1.0s,baz=74,slow=5.7,SNR=4.9
FINES FINESS Array B 146.57 340 PKPbc **PKPab** **17 32 48.3 -0.1**
2.0nm,0.7s,baz=52,slow=4.8,SNR=11
MMAI Mount Meron Ar 152.21 281 PKPbc **PKiKP** **17 33 03.3 +0.5**
0.6nm,0.4s,baz=96,slow=4.3,SNR=2.2
AKASG Malin Array Be 152.62 321 PKPbc **PKiKP** **17 33 04.0 +1.0**
1.8nm,0.9s,baz=62,slow=2.2,SNR=1.6
BRTR Keskin Array B 153.57 296 PKPbc **PKiKP** **17 33 06.5 +0.9**
1.3nm,0.9s,baz=107,slow=1.5,SNR=4.2

WBNET 23 17:16:07.1, 50°.26N×12°.45E, h8km, MI0.9, 7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**291**	⇑P	Pg	17 16 08.9	+0.1
LBCW				S	Sg	17 16 10.1	+0.2
NKC	**Novy Kostel**	**0.02**	**179**	ePG	Pg	17 16 08.9	+0.2
NKC	**Novy Kostel**	**0.02**	**179**	⇑P	Pg	17 16 08.9	+0.1
NKC				S	Sg	17 16 09.9	+0.1
STCW	**Studenec**	**0.05**	**87**	⇑P	Pg	17 16 09.0	+0.1
STCW				S	Sg	17 16 10.2	0.0
VAC	**Vackov**	**0.05**	**244**	⇑P	Pg	17 16 09.0	+0.1
VAC				S	Sg	17 16 10.2	0.0
POCW	**Potky**	**0.06**	**349**	⇑P	Pg	17 16 09.3	+0.1
POCW				S	Sg	17 16 10.7	+0.1
KVC	**Kvetna**	**0.07**	**139**	⇓P	Pg	17 16 09.2	+0.1
KVC				S	Sg	17 16 10.6	0.0
KRCW	**Kraslice**	**0.09**	**36**	⇑P	Pg	17 16 09.5	0.0
KRCW				S	Sg	17 16 11.1	-0.1
SKC	**Skalna**	**0.10**	**212**	⇓P	Pg	17 16 09.7	+0.1
SKC				S	Sg	17 16 11.4	+0.1
KOCW	**Kopaniny**	**0.14**	**274**	⇓P	Pg	17 16 10.2	0.0
KOCW				S	Sg	17 16 12.2	-0.1
TRCW	**Trojmez**	**0.20**	**284**	⇓P	Pg	17 16 11.2	0.0
TRCW				S	Sg	17 16 14.0	0.0
ZHC	**Zelena Hora**	**0.21**	**206**	⇑P	Pg	17 16 11.5	+0.1
ZHC				S	Sg	17 16 14.3	+0.1
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	17 16 12.1	+0.2
LACW				S	Sg	17 16 15.5	+0.4

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*PRU **23** 17:16:06.0, 50°.27N×12°.46E, h10km, West Bohemia*

WBNET 23 17:16:07.8, 50°.26N×12°.44E, h9km, MI0.7, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**290**	S	Sg	17 16 10.8	+0.2
NKC	**Novy Kostel**	**0.03**	**174**	⇓P	Pg	17 16 09.7	+0.2
NKC				S	Sg	17 16 10.8	+0.1
STCW	**Studenec**	**0.05**	**89**	⇑P	Pg	17 16 09.7	+0.1
STCW				S	Sg	17 16 10.9	-0.1
VAC	**Vackov**	**0.05**	**242**	S	Sg	17 16 11.0	0.0
POCW	**Potky**	**0.06**	**350**	⇑P	Pg	17 16 10.0	+0.1
POCW				S	Sg	17 16 11.4	+0.1
KVC	**Kvetna**	**0.07**	**139**	⇓P	Pg	17 16 09.9	+0.1
KRCW	**Kraslice**	**0.09**	**37**	⇑P	Pg	17 16 10.2	0.0
KRCW				S	Sg	17 16 11.9	-0.1
SKC	**Skalna**	**0.10**	**211**	S	Sg	17 16 12.2	+0.1
KOCW	**Kopaniny**	**0.14**	**273**	⇓P	Pg	17 16 10.9	+0.1
KOCW				S	Sg	17 16 12.9	0.0
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	17 16 12.0	+0.1
TRCW				S	Sg	17 16 14.7	0.0
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P	Pg	17 16 12.2	+0.1
ZHC				S	Sg	17 16 15.0	+0.1
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	17 16 12.8	+0.2
HSKC	**Hora Svate Kat**	**0.72**	**61**	eSG	Sg	17 16 28.5	-2.6

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*NEIC **23** 17:20:33.7±1.4, 24°.72S±0°.05×71°.91W±0°.07, h10km±2km, mb4.1/8, Error ellipse: s-maj=11.7km s-min=7.4km az=292.0*

*IDC **23** 17:20:34.9±0.6, 24°.71S×71°.77W, h0km, mb4.1/9, mbtmp4.1/12, ML3.8/3, MS3.7/5, Error ellipse: s-maj=24.2km s-min=17.6km az=74.0*

*GUC **23** 17:20:35.9±0.5, 24°.71S×71°.73W, h27km±5km, ML3.9*

*SJA **23** 17:20:37.0±0.9, 24°.57S×71°.69W, h37km, ML3.6, MW3.6*

*VAO **23** 17:20:40.2±0.4, 24°.46S×71°.46W, h10km, mb4.3*

ISC 23 17:20:35.4±0.5, 24°.69S±0°.03×71°.81W±0°.05, h10km, n134, σ2§00/141, mb4.3/9, MS4.0/4, 5C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.28**	**87**		**Pn**	**17 20 58.9**	**-0.7**
PB14				Sn	**Sb**	**17 21 14.7**	**-1.6**
PB14	**IPOC Station P**	**1.28**	**87**	⇑iP	**Pn**	**17 20 58.8**	**-0.7**
PB14				eS	**Sb**	**17 21 14.5**	**-1.9**
PB14	**IPOC Station P**	**1.28**	**87**	eP	**Pn**	**17 20 58.9**	**-0.7**
PB14				eS	**Sb**	**17 21 15.5**	**-0.8**
PB14				IAML		17 21 15.6	
comp=Z,837nm,0.7s							
PB10	**IPOC Station P**	**1.64**	**45**		**Pn**	**17 21 03.1**	**-1.1**
PB10				Sn	**Sn**	**17 21 21.6**	**-3.9**
PB10	**IPOC Station P**	**1.64**	**45**	⇑iP	**Pn**	**17 21 03.3**	**-0.9**
PB10				eS	**Sn**	**17 21 21.3**	**-4.1**
PB10	**IPOC Station P**	**1.64**	**45**	eP	**Pn**	**17 21 03.4**	**-0.9**
PB10				eS	**Sn**	**17 21 21.5**	**-3.9**
PB10				IAML		17 21 23.6	
comp=Z,618nm,0.4s							
AC01	**Pan de Azucar**	**1.82**	**143**		**Pn**	**17 21 05.7**	**-1.1**
AC01				Sn	**Sn**	**17 21 25.8**	**-4.1**
AC01	**Pan de Azucar**	**1.82**	**143**	eP	**Pn**	**17 21 05.7**	**-1.1**
AC01				IAML		17 21 27.9	
comp=N,2μm,0.6s							
GO02	**Mina Guanaco**	**2.06**	**104**		**Pn**	**17 21 09.7**	**-0.8**
GO02	**Mina Guanaco**	**2.06**	**104**	⇑iP	**Pn**	**17 21 10.8**	**+0.4**
GO02	**Mina Guanaco**	**2.06**	**104**	eP	**Pn**	**17 21 10.9**	**+0.5**
GO02				eS	**Sn**	**17 21 35.9**	**-0.5**
PB05	**IPOC Station P**	**2.34**	**39**		**Pn**	**17 21 13.5**	**-0.6**
PB05				Sn	**Sn**	**17 21 39.1**	**-4.0**
PB05	**IPOC Station P**	**2.34**	**39**	iP	**Pn**	**17 21 13.5**	**-0.6**
PB05				IAML		17 21 39.7	
comp=E,538nm,0.2s							
PB05	**IPOC Station P**	**2.34**	**39**	eP	**Pn**	**17 21 13.3**	**-0.8**
PB05				eS	**Sn**	**17 21 39.4**	**-3.6**
PB05				IAML		17 21 45.8	
comp=Z,167nm,0.9s							
PB06	**IPOC Station P**	**2.84**	**46**	eP	**Pn**	**17 21 20.9**	**-0.1**
PB06				IAML		17 21 53.5	
comp=E,292nm,0.5s							
PB06	**IPOC Station P**	**2.84**	**46**	eP	**Pn**	**17 21 20.6**	**-0.4**
PB06				eS	**Sn**	**17 21 52.2**	**-3.3**
PB06				IAML		17 22 01.2	
comp=Z,206nm,0.9s							
AC06	**Mina Casimiro**	**2.96**	**154**		**Pn**	**17 21 21.4**	**-1.1**
AC06				Sn	**Sn**	**17 21 53.7**	**-4.4**
AC06	**Mina Casimiro**	**2.96**	**154**	eP	**Pn**	**17 21 21.6**	**-0.9**
AC06				IAML		17 21 58.8	
comp=N,544nm,0.3s							
GO03	**Copiapo**	**3.22**	**154**		**Pn**	**17 21 24.8**	**-1.2**
GO03				Sn	**Sn**	**17 22 00.7**	**-3.9**
GO03	**Copiapo**	**3.22**	**154**	eP	**Pn**	**17 21 25.8**	**-0.3**
GO03				IAML		17 22 03.6	
comp=E,492nm,0.3s							
AC02	**Maricunga**	**3.22**	**132**		**Pn**	**17 21 27.2**	**+0.6**
AC02	**Maricunga**	**3.22**	**132**	⇑iP	**Pn**	**17 21 27.9**	**+1.4**
AC02	**Maricunga**	**3.22**	**132**	eP	**Pn**	**17 21 27.8**	**+1.3**
AC02				eS	**Sn**	**17 22 06.0**	**+0.8**
AC02				IAML		17 22 06.5	
comp=Z,453nm,0.9s							
PB03	**IPOC Station P**	**3.23**	**36**	⇑iP	**Pn**	**17 21 26.2**	**-0.2**
PB03				IAML		17 22 04.7	
comp=E,233nm,0.3s							
AC04	**Llanos de Chal**	**3.56**	**170**		**Pn**	**17 21 28.4**	**-2.4**
AC04	**Llanos de Chal**	**3.56**	**170**	eP	**Pn**	**17 21 28.1**	**-2.6**
AC04				IAML		17 22 09.4	
comp=E,218nm,0.3s							
PB09	**IPOC Station P**	**3.72**	**40**		**Pn**	**17 21 33.9**	**+0.8**
PB09	**IPOC Station P**	**3.72**	**40**	eP	**Pn**	**17 21 33.9**	**+0.8**
PB09	**IPOC Station P**	**3.72**	**40**	eP	**Pn**	**17 21 33.1**	**0.0**
PB09				IAML		17 22 21.4	
comp=Z,243nm,0.8s							
AF01	**San Pedro de A**	**3.74**	**63**		**Pn**	**17 21 35.5**	**+2.0**
AF01	**San Pedro de A**	**3.74**	**63**	eP	**Pn**	**17 21 37.0**	**+3.4**
PATCX	**Punta Patache**	**4.14**	**22**		**Pn**	**17 21 37.9**	**-0.9**
PB01	**IPOC Station P**	**4.21**	**31**		**Pn**	**17 21 39.2**	**-0.6**
PB01	**IPOC Station P**	**4.21**	**31**	eP	**Pn**	**17 21 39.8**	**0.0**
PB01	**IPOC Station P**	**4.21**	**31**	eP	**Pn**	**17 21 39.8**	**0.0**
PB01				eS	**Sn**	**17 22 25.6**	**-3.5**
PB01				IAML		17 22 31.1	
comp=Z,103nm,0.2s							
AC05	**El Transito**	**4.35**	**162**		**Pn**	**17 21 40.4**	**-1.3**
TA01	**Diego Aracena**	**4.37**	**20**		**Pn**	**17 21 40.4**	**-1.4**
LCO	**Las Campanas**	**4.42**	**167**		**Pn**	**17 21 40.5**	**-2.2**
TA02	**Huaiquique**	**4.66**	**20**		**Pn**	**17 21 44.6**	**-1.3**
HMBC	**Humberstone**	**4.74**	**22**		**Pn**	**17 21 45.6**	**-1.4**
PB08	**IPOC Station P**	**5.15**	**29**		**Pn**	**17 21 53.4**	**+0.5**
PB11	**IPOC Station P**	**5.29**	**23**	Pn	**Pn**	**17 21 53.8**	**-0.9**
CO01	**Juntas del Tor**	**5.48**	**164**		**Pn**	**17 21 56.1**	**-1.2**
GO04	**Tololo Observa**	**5.53**	**171**		**Pn**	**17 21 56.9**	**-1.2**
CO06	**Fray Jorge**	**5.96**	**179**	Pn	**Pn**	**17 22 01.8**	**-2.0**
PB12	**IPOC Station P**	**6.20**	**13**	Pn	**Pn**	**17 22 05.5**	**-1.7**
CO03	**El Pedregal**	**6.21**	**171**	Pn	**Pn**	**17 22 04.8**	**-2.3**
AP01	**Chacalluta**	**6.43**	**12**	Pn	**Pn**	**17 22 09.6**	**-0.7**
PB16	**IPOC Station P**	**6.67**	**19**		**Pn**	**17 22 13.5**	**-0.6**
ZON	**Zonda**	**7.37**	**159**	Pn	**Pn**	**17 22 22.1**	**-1.0**
PB18	**Visviri**	**7.39**	**18**	Pn	**Pn**	**17 22 22.6**	**-1.3**
CFA	**Coronel Fontan**	**7.57**	**156**	Pn	**Pn**	**17 22 27.1**	**+1.2**
comp=Z,1.0nm,0.3s,baz=346,slow=12,SNR=15							
CFA				Sn	**Sn**	**17 23 49.0**	**-2.9**
comp=Z,1.6nm,0.3s,baz=217,slow=16,SNR=5.0							
comp=Z,2.1nm,0.3s							
VA06	**Catapilco**	**7.86**	**177**	Pn	**Pn**	**17 22 27.6**	**-2.1**
VA03	**San Esteban**	**8.12**	**172**	Pn	**Pn**	**17 22 32.7**	**-0.8**
PEL	**Peldehue**	**8.48**	**174**	Pn	**Pn**	**17 22 36.9**	**-1.5**
MT02	**Curacav**	**8.56**	**176**	Pn	**Pn**	**17 22 36.7**	**-2.7**
MT08	**Bocatoma Ro**	**8.86**	**170**	Pn	**Pn**	**17 22 41.5**	**-2.3**
LPAZ	**La Paz**	**9.04**	**23**		**Pn**	**17 22 48.5**	**+1.9**
LPAZ	**La Paz**	**9.04**	**23**	Pn	**Pn**	**17 22 48.7**	**+2.1**
comp=Z,1.2nm,0.3s,baz=216,slow=3.0,SNR=33							
comp=Z,3.6nm,0.3s							
LPAZ	**La Paz**	**9.04**	**23**	eP	**Pn**	**17 22 46.1**	**-0.5**
MT01	**Popeta**	**9.15**	**177**	Pn	**Pn**	**17 22 45.7**	**-1.8**
BO04	**La Punta**	**9.32**	**174**	Pn	**Pn**	**17 22 47.5**	**-2.4**
H03N1	**Juan Fernandez**	**10.71**	**214**	T	T	17 34 09.2	
baz=39,slow=71,SNR=37							
H03N2	**Juan Fernandez**	**10.71**	**214**	T	T	17 34 11.0	
baz=39,slow=71,SNR=30							
H03N3	**Juan Fernandez**	**10.72**	**214**	T	T	17 34 10.5	
baz=39,slow=71,SNR=33							
VA04	**Juan Fernndez**	**10.82**	**213**	Pn	**Pn**	**17 23 05.8**	**-4.6**
BI02	**San Fabin de**	**11.94**	**178**	Pn	**Pn**	**17 23 22.1**	**-3.7**
CPUP	**Villa Florida**	**13.18**	**100**	Pn	**Pn**	**17 23 41.6**	**-1.0**
comp=Z,0.1nm,0.3s,baz=263,slow=17,SNR=3.2							
CPUP				LR	LR	17 29 13.6	
comp=Z,105nm,21.1s,baz=276,slow=40							
comp=Z,1.3nm,0.8s							
MURT	**Porto Murtinho**	**13.40**	**80**	eP	**Pn**	**17 23 46.0**	**+0.3**
BDQN	**Bodoquena, MS**	**14.53**	**76**	eP	**Pn**	**17 23 59.7**	**-1.5**
VBST	**Vila Bela da S**	**15.00**	**50**	eP	**Pn**	**17 24 04.9**	**-2.7**
PTLB	**Pontes e Lacer**	**15.03**	**55**	Pn	**Pn**	**17 24 02.1**	**-5.9**
PTLB	**Pontes e Lacer**	**15.03**	**55**	eP	**Pn**	**17 24 05.1**	**-2.9**
AQDB	**Aquidauana**	**15.45**	**77**	eP	**Pn**	**17 24 14.1**	**+0.5**
AMBA	**Amambai (Brazi**	**15.49**	**87**	eP	**Pn**	**17 24 15.0**	**+0.9**
TRQA	**Tornquist**	**15.73**	**150**		**Pn**	**17 24 11.5**	**-5.6**
TRQA				IAmb	IAmb	17 24 28.8	
comp=Z,15nm,1.0s							
VILB	**Vilhena**	**16.02**	**45**	P	**Pn**	**17 24 19.2**	**-1.7**
VILB				IAmb	IAmb	17 24 34.9	
comp=Z,11nm,0.6s							
VILB	**Vilhena**	**16.02**	**45**	eP	**Pn**	**17 24 22.0**	**+1.1**
PLCA	**Paso Flores**	**16.03**	**177**	P	**Pn**	**17 24 19.2**	**-1.8**
PLCA				IAmb	IAmb	17 24 27.4	
comp=Z,19nm,1.1s							
PLCA	**Paso Flores**	**16.03**	**177**	Pn	**P**	**17 24 26.1**	**+1.6**
comp=Z,0.3nm,0.3s,baz=0.6,slow=12,SNR=21							
PLCA	**Paso Flores**	**16.03**	**177**	eP	**P**	**17 24 26.6**	**+2.1**
LL04	**Puerto Octay**	**16.18**	**182**	P	**Pn**	**17 24 19.4**	**-3.5**
LL04				IAmb	IAmb	17 24 28.3	
comp=Z,13nm,0.9s							
PTET	**Porto Estrela**	**16.57**	**59**	eP	**Pn**	**17 24 26.5**	**-1.5**
RVDE	**Rio Verde (Bra**	**16.63**	**74**	eP	**P**	**17 24 29.8**	**-1.4**
CZSB	**Cruzeiro do Su**	**16.89**	**357**	eP	**P**	**17 24 35.0**	**+1.0**
RPRD	**Ribas do Rio P**	**17.23**	**80**	eP	**P**	**17 24 36.9**	**-1.0**
CPSB	**Cacapava Do Su**	**17.25**	**113**	eP	**P**	**17 24 38.9**	**+1.0**
PP1B	**Ponte de Pedra**	**17.28**	**69**	eP	**Pn**	**17 24 34.2**	**-2.7**
SALV	**Santo Antonio**	**17.45**	**63**	eP	**Pn**	**17 24 37.5**	**-1.4**
PLTB	**Pedras Altas**	**17.51**	**118**	P	**Pn**	**17 24 37.1**	**-2.6**
PLTB				IAmb	IAmb	17 24 48.8	
comp=Z,23nm,1.4s							
PLTB	**Pedras Altas**	**17.51**	**118**	eP	**P**	**17 24 42.5**	**+1.7**
TRCB	**Terra Rica**	**17.65**	**88**	eP	**P**	**17 24 42.9**	**+0.4**
PTGB	**Pitanga**	**17.94**	**94**	eP	**P**	**17 24 47.2**	**+1.5**
NBRS	**Nobres**	**18.27**	**59**	eP	**P**	**17 24 50.5**	**+1.0**
C2SB	**Chapadao do Su**	**18.57**	**75**	eP	**Pn**	**17 24 54.1**	**+1.3**
LDASE	**Londrina, Braz**	**18.94**	**90**	eP	**Pn**	**17 24 58.5**	**+1.2**
PCMB	**Pacaembu**	**19.14**	**85**	eP	**Pn**	**17 25 00.7**	**+0.9**
PDRB	**Porto dos Gac**	**19.32**	**50**	eP	**Pn**	**17 25 01.4**	**-0.6**
DVLD	**Doverlandia**	**20.03**	**70**	eP	Pn	17 25 09.4	-1.0
ITRB	**Iturama**	**20.46**	**80**	eP	Pn	17 25 14.3	-1.2
CLDB	**Colider**	**20.49**	**51**	eP	Pn	17 25 14.2

WRA	Warramunga Arr	128.86	212	PKP		PKiKP	17 39 45.1	+0.4
	comp=Z,1.7nm,0.8s,baz=159,slow=1.7,SNR=6.6							
KURBB	Kurchatov Arra	145.46	34	PKPbc		PKiKP	17 40 14.9	-2.6
	comp=Z,2.4nm,0.9s,baz=303,slow=3.2,SNR=15							
ZALV	Zalesovo Beam	145.96	25	PKPbc		PKiKP	17 40 16.2	-2.1
	comp=Z,5.6nm,0.7s,baz=317,slow=3.9,SNR=25							
MKAR	Makanchi Array	149.77	37	PKPbc		PKiKP	17 40 26.6	+0.1
	comp=Z,2.7nm,0.7s,baz=332,slow=2.6,SNR=35							
MJAR	Matsushiro Arr	151.71	302	PKPbc		PKiKP	17 40 30.9	+0.1
	comp=Z,2.0nm,0.8s,baz=79,slow=3.1,SNR=3.7							
SONM	Songino Array	156.86	3	PKPab		PKPab	17 41 02.0	+1.3
	comp=Z,0.8nm,0.9s,baz=336,slow=6.3,SNR=4.2							

*NEIC **23** 17:38:01.0±1.3, 31°.63N±0°.01×104°.58W±0°.02, h3km±5km, Error ellipse: s-maj=2.3km s-min=2.1km az=72.0*

NEIC 23 17:38:01.0±1.5, 31°.65N±0°.01×104°.59W±0°.02, h5km±1km, mb_Lg2.3/21, ML2.3/13, ML2.3/28, Error ellipse: s-maj=2.9km s-min=2.3km az=220.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDL2	Guadalupe Moun	0.58	20		Pg	17 38 12.5	+0.2
MNTX	Cornudas Mount	0.67	274	Pg	Pg	17 38 14.3	+0.3
MNTX					Sg	17 38 23.8	+1.0
PECS	Pecos	0.68	114		Pg	17 38 13.9	-0.2
PECS				Sg	Sg	17 38 22.9	-0.2
CLNB	Carlsbad	0.86	45		Pg	17 38 17.6	0.0
VHRN	Van Horn	0.93	201		Pg	17 38 18.6	-0.2
VHRN				Sg	Sg	17 38 31.4	+0.5
VHRN				IAML		17 38 32.0	
	74nm,0.4s						
VHRN				IAML		17 38 32.7	
	67nm,0.4s						
PCOS	Crockett Middl	0.96	104		Sg	17 38 32.1	+0.2
CLN7	Carlsbad 7	1.01	41		Pg	17 38 20.2	-0.2
HTMS	Hat Mesa	1.15	45	Pg	Pg	17 38 23.2	0.0
CPRX	Cap Rock	1.50	24		Pn	17 38 28.1	-0.7
ALPN	Alpine	1.52	147		Pn	17 38 28.3	-0.7
ALPN					Sn	17 38 48.0	-1.2
MNHN	Monahans	1.60	101		Pn	17 38 29.8	-0.2
MNHN					Sn	17 38 51.3	+0.2
EPT	El Paso	1.63	275	Pg	Pn	17 38 29.8	-0.8
EPT					Sg	17 38 55.5	+2.0
EPT				IAML		17 38 56.2	
	comp=E,45nm,0.5s						
EPT				IAML		17 38 56.9	
	comp=N,32nm,0.2s						
ODSA	Odessa	1.80	74	Pn	Pb	17 38 34.2	-0.4
TX31	Lajitas Ar. Si	2.45	161	Pn	Pn	17 38 43.5	+1.7
TXAR	Lajitas Array	2.45	161	Pn	Pn	17 38 42.4	+0.7
SAND	Sanderson	2.72	128	Pn	Pn	17 38 46.1	+0.7
SAND					Sb	17 39 24.4	+0.5
SAND				IAmb_Lg		17 39 25.9	
	comp=Z,15nm,0.8s						
MSTX	Muleshoe	2.77	33	Pn	Pn	17 38 46.0	-0.2
MSTX				Sg	Sb	17 39 26.9	+1.4
MSTX				IAmb_Lg		17 39 29.2	
	comp=Z,8.5nm,0.8s						
CRNM	Carthage	2.92	322	Pn	Pn	17 38 47.2	-1.1
SGCY	Sterling City	2.96	84		Pn	17 38 47.1	-1.7
SGCY				IAmb_Lg		17 39 39.8	
	comp=Z,7.6nm,0.7s						
POST	Post	2.97	61		Pn	17 38 48.4	-0.5
BNM	Barren Site	3.02	326	Pn	Pn	17 38 48.6	-1.2
OZNA	Ozona	3.06	103	Pn	Pn	17 38 51.0	+1.0
OZNA				IAmb_Lg		17 39 44.9	
	comp=Z,6.4nm,0.8s						
SBM	South Baldy	3.18	317		Pn	17 38 51.3	-0.8
LENM	Lemitar	3.21	322	Pn	Pn	17 38 50.8	-1.5
SN05	Snyder 5	3.37	68	IAmb_Lg		17 39 56.6	
	comp=Z,6.5nm,0.8s						
SN07	Snyder 07	3.44	64	Pn	Pn	17 38 54.6	-0.8
ANMO	Albuquerque	3.63	335	IAmb_Lg		17 39 54.9	
	comp=Z,7.2nm,1.1s						
ANMO	Albuquerque	3.63	335		Pn	17 38 56.3	-1.8
DKNS	Dickens	3.69	56	Pn	Pn	17 38 56.9	-1.9
319A	Douglas	4.01	267	Pn	Pn	17 39 02.1	-1.2
AMTX	Amarillo	4.04	36	IAmb_Lg		17 40 19.0	
	comp=Z,8.5nm,0.8s						
DRIO	Del Rio	4.09	122	Pn	Pn	17 39 04.2	0.0
DRIO				IAmb_Lg		17 40 15.4	
	comp=Z,6.9nm,0.9s						
APMT	Aspermont	4.13	65	Pn	Pn	17 39 04.5	-0.3
JCT	Junction City	4.27	105	Pn	Pn	17 39 07.8	+1.0
JCT				IAmb_Lg		17 40 25.4	
	comp=Z,8.7nm,0.7s						
ABTX	Abilene, Hawle	4.31	76	Pn	Pn	17 39 07.8	+0.5
BRDY	Brady	4.79	93	Pn	Pn	17 39 12.6	-1.3
SMWD	Samnorwood	5.01	45	Pn	Pn	17 39 14.0	-2.9
RTBA	Rita Blanca	5.01	17	Pn	Pn	17 39 13.6	-3.5
PLPT	Palo Pinto	5.44	76	Pn	Pn	17 39 20.2	-2.7
WMOK	Wichita Mounta	5.76	56	Pn	Pn	17 39 24.9	-2.4

*NEIC **23** 17:52:54.8±1.8, 66°.30N±0°.01×157°.18W±0°.05, h5km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=279.0*

AEIC 23 17:52:55.1±1.6, 66°.31N±0°.02×157°.26W±0°.05, h6km±6km, ML2.4, ML2.6/146(NEIC), Error ellipse: s-maj=2.9km s-min=2.5km az=138.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	Purcell Mounta	0.18	157		Pg	17 52 58.4	-0.2
G19K					Sg	17 53 01.4	+0.4
G19K				IAML		17 53 02.3	
	comp=N,2μm,0.3s						
F19K	Shaleruckik Mo	0.57	339		Sb	17 53 14.8	-1.0
G18K	Tagagawik	0.70	235		Pg	17 53 08.8	+0.2
G18K	Tagagawik	0.70	235		Sb	17 53 19.2	-0.4
H19K	Roundabout Mou	0.85	157		Pg	17 53 10.9	-0.5
H19K				IAML		17 53 28.2	
	comp=N,199nm,0.2s						
H19K				IAML		17 53 28.9	
	comp=E,229nm,0.3s						
F20K	Avaraart Lake	0.96	39		Pg	17 53 12.3	-1.3
F20K				Sg	Sg	17 53 25.1	-1.0
F18K	Selawik	1.00	288		Pg	17 53 13.9	-0.4
F18K					Sb	17 53 28.8	+0.5
E19K	Redstone River	1.16	1		Pg	17 53 16.2	-1.1
E19K	Redstone River	1.16	1	IAML		17 53 34.6	
	comp=E,155nm,0.5s						
H18K	Honhosa River	1.24	202		Pg	17 53 18.0	-1.0
H18K				Sg	Sg	17 53 34.8	-0.2
H20K	Anotleneega Mo	1.27	129		Pn	17 53 18.1	-1.3
H20K					Sg	17 53 36.0	0.0
G21K	Allakaket	1.52	80		Pn	17 53 22.0	-0.9
G21K				Sn	Sn	17 53 42.3	-0.7
G21K				IAML		17 53 45.4	
	comp=N,99nm,0.6s						
GCSA	Galena City Sc	1.57	174		Pn	17 53 23.6	+0.1
G17K	Kiwalik Mounta	1.61	241		Pn	17 53 23.4	-0.6
F17K	Baldwin Pennin	1.61	277	Pn	Pn	17 53 23.7	-0.3
F17K				Sn	Sb	17 53 45.5	-0.2
F17K				IAML		17 53 49.0	
	comp=N,47nm,0.8s						
E18K	Tukpahlearik C	1.73	312		Pn	17 53 26.2	+0.5
E18K				Sn	Sn	17 53 48.6	+0.6
E18K				IAML		17 53 53.9	
	comp=E,44nm,0.5s						
F21K	Alatna River	1.76	57		Pn	17 53 25.7	-0.4
F21K				IAML		17 53 56.0	
	comp=E,76nm,0.6s						
F21K				IAML		17 53 56.5	
	comp=N,51nm,0.6s						
H17K	Granite Mounta	1.76	220		Pn	17 53 25.9	-0.2
H17K				Sn	Sn	17 53 48.9	+0.1
I20K	Naaghedeneel	1.91	141		Pn	17 53 28.5	+0.5
H21K	Melozitna Rive	1.94	108		Pn	17 53 28.5	0.0
H21K				IAML		17 53 59.2	
	comp=E,64nm,0.4s						
E17K	Hotham Inlet	1.98	295		Pn	17 53 29.0	0.0
E20K	Nigu River	2.00	11		Pn	17 53 30.6	+1.1
D19K	Kuna River	2.22	352		Pn	17 53 33.4	+0.9
D19K	Kuna River	2.22	352	IAML		17 54 06.3	
	comp=N,46nm,0.8s						
D19K				IAML		17 54 12.7	
	comp=E,32nm,0.8s						
G16K	Koyuk River	2.29	249	Pn	Pn	17 53 32.4	-0.9
G16K				IAML		17 54 09.0	
	comp=N,44nm,0.8s						
G16K				IAML		17 54 12.6	
	comp=E,37nm,0.4s						
F22K	John River	2.34	57		Pn	17 53 33.9	-0.1
J19K	Poorman	2.42	163		Pn	17 53 35.3	+0.1
J19K				IAML		17 54 10.9	
	comp=E,22nm,0.5s						
J19K				IAML		17 54 11.6	
	comp=N,24nm,0.4s						
I21K	Tanana	2.46	115		Pn	17 53 36.1	+0.5
E21K	Killik River	2.49	29	Pn	Pn	17 53 36.2	0.0
E21K				IAML		17 54 17.6	
	comp=E,30nm,0.9s						
E21K				IAML		17 54 24.6	
	comp=N,28nm,0.7s						
J20K	Nowinta River	2.51	147		Pn	17 53 36.8	+0.4
J20K				IAML		17 54 22.5	
	comp=E,19nm,0.6s						
H16K	Elim	2.67	233		Pn	17 53 37.1	-1.4
C18K	Utukok River	2.80	329		Pn	17 53 40.2	-0.1
E22K	Anaktuvuk Pass	2.80	47		Pn	17 53 40.7	+0.3
E22K				IAML		17 54 30.6	
	comp=E,15nm,0.9s						
E22K				IAML		17 54 31.8	
	comp=N,15nm,1.0s						
RDOG	Red Dog Mine	2.82	311	Pn	Pn	17 53 40.8	+0.2
RDOG				IAML		17 55 03.7	
	comp=E,17nm,0.1s						
I17K	Unalakleet	2.83	212		Pn	17 53 39.6	-1.1
J18K	Innoko River	2.86	175		Pn	17 53 40.0	-1.2
G23K	Bananza Creek	2.93	79		Pn	17 53 41.6	-0.5
G23K				IAML		17 54 34.0	
	comp=E,20nm,0.8s						
COLD	Coldfoot	2.95	68		Pn	17 53 42.9	+0.5
J17K	VABM Dome	3.02	196	Pn	Pn	17 53 43.7	+0.3
J17K				IAML		17 54 35.8	
	comp=N,20nm,1.1s						
F15K	North Star Dit	3.08	262	Pn	Pn	17 53 43.0	-1.2
F15K				IAML		17 54 37.6	
	comp=E,15nm,0.5s						
F15K				IAML		17 54 38.1	
	comp=N,22nm,0.6s						
D22K	Ayikyak River	3.12	32		Pn	17 53 44.4	-0.4
H23K	Yukon River	3.18	95		Pn	17 53 45.1	-0.5
H23K				IAML		17 54 39.2	
	comp=E,15nm,0.6s						
H23K				IAML		17 54 43.4	
	comp=N,19nm,1.0s						
J16K	Anvik River	3.35	207		Pn	17 53 48.0	0.0
BPAW	Bear Paw Mtn.	3.45	127	Pn	Pn	17 53 50.5	+1.3
BPAW				IAML		17 54 56.3	
	comp=E,10nm,1.0s						
E23K	Chandalar	3.46	56		Pn	17 53 48.5	-1.0
E23K				IAML		17 54 58.1	
	comp=N,12nm,1.2s						
I23K	Minto, Yukon-K	3.46	106	Pn	Pn	17 53 50.4	+0.9
I23K				IAML		17 54 48.0	
	comp=N,9.8nm,0.5s						
I23K				IAML		17 54 49.4	
	comp=E,16nm,1.0s						
B21K	Ikpikpuk River	3.48	15	Pn	Pn	17 53 48.1	-1.6
K17K	Iditarod	3.63	188	Pn	Pn	17 53 51.3	-0.5
K17K				IAML		17 55 05.7	
	comp=E,9.4nm,1.2s						
CAST	Castle Rocks	3.64	140	Pn	Pn	17 53 52.6	+0.7
D23K	Nanushuk River	3.67	40		Pn	17 53 52.0	-0.2
D23K				IAML		17 54 53.6	
	comp=E,11nm,0.8s						
D23K				IAML		17 55 04.1	
	comp=N,14nm,1.2s						
C16K	Lisburne Hills	3.71	306	Pn	Pn	17 53 51.9	-0.9
B20K	Meade River	3.72	1	Pn	Pn	17 53 52.9	-0.1
B20K				IAML		17 54 58.1	
	comp=N,8.9nm,0.8s						
B20K				IAML		17 54 59.9	
	comp=E,11nm,1.1s						
TOLK	Toolik Lake Re	3.77	48	Pn	Pn	17 53 53.1	-0.7
TOLK				IAML		17 55 13.2	
	comp=N,11nm,1.0s						
ANM	Nome	3.81	246	Pn	Pn	17 53 53.5	-0.7
ANM				IAML		17 55 03.1	
	comp=N,9.4nm,0.7s						
ANM				IAML		17 55 11.0	
	comp=E,10nm,1.2s						
NEA2	Nenana	3.83	113		Pn	17 53 54.1	-0.3
E24K	Your Creek	3.85	59		Pn	17 53 53.7	-1.1
E24K				IAML		17 55 07.2	
	comp=N,7.7nm,0.8s						
E24K				IAML		17 55 12.7	
	comp=E,7.3nm,1.1s						
H24K	Noodor Dome	3.85	93	Pn	Pn	17 53 54.4	-0.4
H24K				IAML		17 55 06.0	
	comp=E,8.3nm,1.3s						
H24K				IAML		17 55 09.4	
	comp=N,7.8nm,1.0s						
KTH	Kantishna Hill	3.86	133	Pn	Pn	17 53 54.7	-0.3
KTH				IAML		17 55 04.5	
	comp=N,12nm,1.0s						
F24K	Squaw Lake	3.89	67		Pn	17 53 54.6	-0.7
F24K				IAML		17 55 04.1	
	comp=N,8.1nm,0.9s						
F24K				IAML		17 55 05.9	
	comp=E,11nm,0.5s						
BWN	Browne	3.92	120	Pn	Pn	17 53 55.1	-0.6
G24K	Hadweenzic Riv	3.94	80		Pn	17 53 54.7	-1.3
G24K				IAML		17 55 06.1	
	comp=N,11nm,1.0s						
PPLA	Purkeypile	4.06	145		Pn	17 53 59.0	+1.3
L18K	Granite Mounta	4.11	176	Pn	Pn	17 53 59.3	+0.9
L18K				IAML		17 55 07.2	
	comp=N,8.1nm,1.2s						
TRF	Thorofare Moun	4.13	131	Pn	Pn	17 53 57.4	-1.3
TRF				IAML		17 54 51.4	
	comp=N,6.1nm,1.1s						
COLA	College	4.16	106	Pn	Pn	17 53 57.8	-1.2
POKR	Poker Plat Res	4.23	102	Pn	Pn	17 53 57.9	-2.1
POKR				IAML		17 55 09.5	
	comp=N,7.7nm,0.9s						
POKR				IAML		17 55 14.1	
	comp=E,6.0nm,0.9s						
WRH	Wood River Hil	4.25	111	Pn	Pn	17 53 58.6	-1.7
L19K	White Mountain	4.27	165	Pn	Pn	17 53 58.8	-1.8
CCB	Clear Creek Bu	4.28	109		Pn	17 53 58.9	-1.7
B22K	Teshekpuk Lake	4.30	18	Pn	Pn	17 53 59.3	-1.6
B22K				IAML		17 54 53.2	
	comp=N,6.6nm,1.1s						
D24K	Happy Valley	4.30	44	Pn	Pn	17 53 59.1	-1.8
D24K				IAML		17 55 15.3	
	comp=E,6.8nm,0.9s						
D24K				IAML		17 55 16.5	
	comp=N,7.8nm,0.7s						
C23K	Itkillik River	4.33	32	Pn	Pn	17 53 59.6	-1.8
C23K				IAML		17 55 18.2	
	comp=E,6.0nm,0.8s						
C23K				IAML		17 55 24.1	
	comp=N,7.0nm,1.2s						
MCK	McKinley	4.37	122	Pn	Pn	17 54 00.5	-1.5
TNA	Tin City	4.43	265	Pn	Pn	17 54 00.7	-2.0
K15K	Wolf Creek Mou	4.44	207	Pn	Pn	17 54 00.8	-2.0
K15K				IAML		17 55 14.4	
	comp=E,4.1nm,1.1s						
K15K				IAML		17 55 20.9	
	comp=N,5.3nm,0.9s						
J14K	Nanvaranak Lak	4.49	220	Pn	Pn	17 54 01.4	-2.1
IL31		4.58	105		Pn	17 54 02.9	-1.8
ILAR	Eielson Array	4.58	105	Pn	Pn	17 54 03.3	-1.5
M19K	Big River Lodg	4.59	163		Pn	17 54 03.3	-1.7
M19K				IAML		17 55 10.6	
	comp=E,3.9nm,1.2s						
L16K	Owhat River	4.71	193	Pn	Pn	17 54 04.6	-2.1
L16K				IAML		17 55 39.0	
	comp=N,4.2nm,1.3s						
HDA	Harding Lake	4.72	109	Pn	Pn	17 54 05.0	-1.7
HDA				IAML		17 55 28.0	
	comp=E,3.5nm,0.7s						
HDA				IAML		17 55 29.3	
	comp=N,4.1nm,0.8s						
F25K	Christian Rive	4.75	69	Pn	Pn	17 54 05.4	-1.7
F25K				IAML		17 55 33.3	
	comp=E,3.3nm,1.1s						
F25K				IAML		17 55 34.1	
	comp=N,4.0nm,1.3s						
M20K	Styx River	4.79	156	Pn	Pn	17 54 05.9	-1.9
M18K	Stony River	4.88	172		Pn	17 54 09.7	+0.8
E25K	Arctic Village	4.90	63	Pn	Pn	17 54 07.3	-1.9
E25K				IAML		17 55 42.2	
	comp=N,3.3nm,1.1s						
E25K				IAML		17 55 44.2	
	comp=E,3.4nm,1.2s						
M17K	Holitna River	4.92	181	Pn	Pn	17 54 07.7	-1.8
M17K				IAML		17 55 07.5	
	comp=E,4.7nm,1.3s						
SKT	Skwentna	5.01	147	Pn	Pn	17 54 06.8	-3.9
SKT				IAML		17 55 24.6	
	comp=E,2.7nm,1.3s						
SKT				IAML		17 55 43.3	
	comp=N,3.5nm,1.2s						
D25K	Kavik River	5.11	49	Pn	Pn	17 54 08.6	-3.6
D25K				IAML		17 55 44.8	
	comp=N,2.4nm,0.6s						
D25K				IAML		17 55 49.4	
	comp=E,2.8nm,0.9s						
BMAR	Burnt Mountain	5.12	72	Pn	Pn	17 54 10.2	-2.1
J25K	Salcha River,	5.24	103	Pn	Pn	17 54 11.2	-2.7
J25K				IAML		17 55 41.2	
	comp=N,3.6nm,0.7s						
F26K	Sheenjek River	5.33	69	Pn	Pn	17 54 10.4	-4.7
F26K				IAML		17 55 49.8	
	comp=N,3.0nm,1.2s						
M16K	Timber Creek	5.36	189	Pn	Pn	17 54 10.1	-5.4
STLK	Strandline Lak	5.39	151	Pn	Pn	17 54 10.6	-5.3
K13K	Kusilvak Mount	5.45	220	Pn	Pn	17 54 11.1	-5.7
L14K	Kuka Creek	5.53	208	Pn	Pn	17 54 12.5	-5.3
N19K	Bonanza Creek	5.65	166	Pn	Pn	17 54 15.7	-3.9
N18K	Kilae Creek	5.68	173	Pn	Pn	17 54 15.7	-4.3
N17K	Nushagak Hills	5.80	180	Pn	Pn	17 54 17.8	-3.8
GHO	Glory Hole Cre	5.84	137	Pn	Pn	17 54 20.3	-1.8
I26K	Coal Creek Min	5.89	93	Pn	Pn	17 54 21.6	-1.1
J26L	Joseph Creek	6.00	101	Pn	Pn	17 54 22.8	-1.6
SCRK	Sand Creek	6.06	107	Pn	Pn	17 54 23.8	-1.5
C27K	Jago River	6.08	51	Pn	Pn	17 54 24.5	-0.9
SCM	Sheep Creek Mo	6.25	131	Pn	Pn	17 54 26.5	-1.2
E27K	Coleen River	6.36	66	Pn	Pn	17 54 27.3	-1.9
O18K	Koktuh Hills	6.54	171	Pn	Pn	17 54 30.1	-1.6
O16K	Kokwok River B	6.75	184	Pn	Pn	17 54 34.0	-0.5
E29M	Blow River	7.75	66	Pn	Pn	17 54 48.4	+0.1

*MEX **23** 17:58:04.7±1.0, 13°.93N×92°.18W, h26km±25km, MD4.1*
*GCG **23** 17:58:06.0±1.4, 14°.22N×91°.96W, h61km±15km, MD4.2*

ISC 23 17:58:01.3±2.1, 14°.07N±0°.08×92°.06W±0°.06, h6km±12km, n18, σ1°32/30, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.57	38	eP	Pn	17 58 17.1	+1.1
RTAL				i S	Sn	17 58 25.8	0.0
STG0	El Palmar, Qui	0.78	63	i P		17 58 19.5	
STG8	El Palmar, Qui	0.78	61	i P		17 58 19.7	
STG8				i S		17 58 31.2	
SMCA	Catarina	0.79	359	eP	Pn	17 58 19.2	+0.3
SMCA	Catarina	0.79	359	eP		17 58 19.2	
THIG		0.86	346	eP	Pn	17 58 20.6	+0.7
THIG				eS	Sn	17 58 32.1	-0.8
THIG		0.86	346	eP	Pn	17 58 20.3	+0.4
THIG				i S	Sn	17 58 32.2	-0.6
THIG		0.86	346	eP		17 58 20.3	
THIG				i S		17 58 32.2	
QUEO	Labor Ovalle	0.96	33	i P	Pn	17 58 22.4	+0.8
QUEO	Labor Ovalle	0.96	33	i P		17 58 22.4	
SOKI	Kika Raxquin	0.98	40	i P	Pn	17 58 22.7	+0.7
SOKI	Kika Raxquin	0.98	40	i P		17 58 22.7	
PATR	El Naranjo	1.06	351	eP	Pb	17 58 22.4	+0.2
PATR				eS	Sg	17 58 34.9	-0.5
PAVE	Pavencul	1.13	354	eP	Pn	17 58 23.7	-0.1
PAVE				eS	Sg	17 58 37.2	-0.4
ESSG	Sabana Grande	1.23	75	eP	Pn	17 58 25.5	+0.4
ESSG	Sabana Grande	1.23	75	eP		17 58 25.5	
HUEH	Huehuetenango	1.35	23	eP	Pg	17 58 28.1	+0.8
HUEH				eS	Sn	17 58 45.7	+0.3
FG8	Yepocapa, Chim	1.46	82	i P		17 58 24.8	
PCIG		1.98	326	eP	Pn	17 58 35.8	+0.5
PCIG				i S	Sn	17 58 57.3	-3.1
CCIG	Comitan	2.20	358	eP	Pb	17 58 40.2	-1.5
CCIG				i S	Sn	17 59 07.2	+0.9
CCIG	Comitan	2.20	358	eP	Pb	17 58 40.5	-1.2
CCIG	Comitan	2.20	358	eP		17 58 40.5	
NUBE	Las Nubes	2.22	94	eP	Pb	17 58 40.0	-1.9
NUBE	Las Nubes	2.22	94	eP		17 58 40.0	
JAYA	Jayaque - finc	2.57	99	i P	Pn	17 58 45.1	+1.5
JAYA				i S	Sn	17 59 15.3	+0.1
JAYA	Jayaque - finc	2.57	99	i P		17 58 45.1	
JAYA				i S		17 59 15.3	
TGIG		2.88	339	eP	Pb	17 58 52.1	-1.2
TGIG				eS	Sn	17 59 21.9	-1.0
UXUV	UXUV	3.81	328	eP	Pn	17 59 02.6	+2.1
UXUV				eS	Sn	17 59 48.4	+2.8
CMIG	Matias Romero	4.06	318	eP	Pn	17 59 05.8	+1.8
CMIG				eS	Sn	17 59 50.4	-1.4

IDC 23 18:20:01.8±2.2, 7°.90S×127°.69E, h0km, mb3.4/1, mbtmp3.3/4, ML3.1/3, MS3.3/1, Error ellipse: s-maj=86.0km s-min=27.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.33	191	Pn	Pn	18 22 32.5	+1.1
	0.1nm,0.3s,baz=11,slow=9.0,SNR=1.4						
FITZ				Sn	Sn	18 24 28.6	+0.7
	0.2nm,0.3s,baz=346,slow=4.2,SNR=1.9 2.2nm,0.8s						
WRA	Warramunga Arr	13.59	152	Pn	Pn	18 23 17.0	+1.0
	0.1nm,0.3s,baz=326,slow=13,SNR=1.3 0.4nm,0.6s						
ASAR	Alice Springs	16.77	160	Pn	Pn	18 23 56.6	-1.7
	0.1nm,0.3s,baz=339,slow=13,SNR=5.5 0.3nm,0.8s						
STKA	Stephens Creek	27.14	153	LR	LR	18 37 21.6	
	comp=Z,63nm,19.6s,baz=15,slow=38						
MKAR	Makanchi Array	67.75	328	P	P	18 31 01.3	0.0
	0.3nm,0.7s,baz=114,slow=7.0,SNR=3.0 0.3nm,0.7s						

*NCEDC **23** 18:20:07.9±2.5, 40°.341N±0°.010×124°.43W±0°.05, h18km±2km, Error ellipse: s-maj=5.2km s-min=1.1km az=79.0*

NEIC 23 18:20:02.7±2.0, 40°.30N±0°.02×124°.79W±0°.04, h10km±2km, ML3.1/75, ML3.0/18(NCEDC), Error ellipse: s-maj=4.7km s-min=3.0km az=70.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETL	Petrolia	0.34	92		Pb	18 20 11.8	+0.9
PETL					Sg	18 20 15.0	+0.9
KCTM	Capetown	0.39	63		Pb	18 20 12.7	+1.0
KCTM					Sb	18 20 16.8	-1.0
KSMM	Slide Mountain	0.48	103		Pb	18 20 13.9	+0.5
KMPM	Mount Pierce	0.53	77		Pb	18 20 13.8	-0.3
KMPM				Sg	Sg	18 20 18.4	-1.5
BRIC	Briceland Vine	0.71	105		Pb	18 20 17.7	+0.5
BRIC

KOMM	**Orleans Mounta**	**1.41**	**46**		Pn	18 20 27.7	-0.9
WEAV	**Weaverville**	**1.45**	**72**		Pn	18 20 27.5	-1.6
LBPM	**Beegum Peak**	**1.46**	**89**		Pn	18 20 28.1	-1.1
O02D	**Mt. Diablo Mer**	**1.54**	**94**	Pn	Pn	18 20 29.2	-1.1
O02D				IAML		18 20 50.6	
	comp=N,253nm,0.6s						
O02D				IAML		18 20 55.0	
	comp=E,181nm,0.8s						
GWRM	**Wonder Ranch**	**1.58**	**133**		Pn	18 20 30.8	-0.1
SIGP	**Signal Peak, C**	**1.66**	**19**		Pn	18 20 32.1	+0.1
GROM	**Round Mountain**	**1.67**	**103**		Pn	18 20 32.1	-0.1
GVV	**Valley View**	**1.71**	**107**		Pn	18 20 32.1	-0.6
N02D	**Trinity Center**	**1.72**	**66**		Pn	18 20 31.6	-1.2
LBKM	**Bonanza King**	**1.80**	**63**		Pn	18 20 32.8	-1.1
M02C	**Callahan**	**1.83**	**53**		Pn	18 20 33.6	-0.7
KBO	**Bosley Butte**	**1.96**	**12**	Pn	Pn	18 20 36.4	+0.3
KBO				IAML		18 20 59.9	
	comp=E,157nm,0.3s						
KBO				IAML		18 21 20.6	
	comp=N,148nm,2.5s						
GCK	**Clark Valley**	**1.96**	**112**		Pn	18 20 37.2	+1.1
L02F	**Cave Junction**	**2.04**	**26**		Pn	18 20 37.2	+0.1
L02F				IAML		18 21 01.3	
	comp=N,77nm,0.3s						
L02F				IAML		18 21 02.8	
	comp=E,108nm,0.4s						
LTCM	**Tuscan Springs**	**2.04**	**92**		Pn	18 20 36.6	-0.6
LAMM	**Antelope Mount**	**2.10**	**51**		Pn	18 20 37.6	-0.5
YBH	**Yreka Blue Hor**	**2.13**	**47**		Pn	18 20 37.8	-0.6
GDXM	**Geysers**	**2.15**	**133**		Pn	18 20 39.5	+0.9
LSHM	**Sage Hen Hill**	**2.15**	**76**		Pn	18 20 37.9	-0.9
LGBM	**Gray Butte**	**2.23**	**61**		Pn	18 20 40.1	+0.2
LDBM	**Digger Butte**	**2.30**	**86**		Pn	18 20 39.6	-1.3
LMPM	**Military Pass**	**2.32**	**58**		Pn	18 20 41.6	+0.5
NMTM	**Middletown**	**2.35**	**129**		Pn	18 20 42.9	+1.5
B040	**Montague**	**2.36**	**49**		Pn	18 20 41.6	+0.1
B040	**Montague**	**2.36**	**49**		Pn	18 20 41.5	0.0
LHEM	**Herd Peak**	**2.36**	**55**		Pn	18 20 42.1	+0.4
LBFM	**Black Fox Moun**	**2.44**	**64**		Pn	18 20 42.7	-0.1
OSUM	**Sutter Buttes**	**2.49**	**113**		Pn	18 20 42.6	-0.7
LRDM	**Redding Peak**	**2.55**	**85**		Pn	18 20 43.7	-0.4
SUTB	**Sutter Butte**	**2.55**	**114**		Pn	18 20 43.2	-1.0
SUTB	**Sutter Butte**	**2.55**	**114**	IAML		18 21 11.5	
	comp=E,89nm,0.6s						
SUTB				IAML		18 21 22.1	
	comp=N,75nm,0.5s						
HATC	**Hat Creek Radi**	**2.59**	**77**		Pn	18 20 44.3	-0.5
HATC				IAML		18 21 55.7	
	comp=N,87nm,2.4s						
HATC				IAML		18 22 07.4	
	comp=E,83nm,4.3s						
LGMM	**Garner Mountai**	**2.59**	**59**		Pn	18 20 44.9	+0.1
MCCM	**Marconi Confer**	**2.62**	**145**	Pn	Pn	18 20 46.0	+1.0
MCCM				IAML		18 21 35.7	
	comp=E,94nm,2.0s						
MCCM				IAML		18 22 01.0	
	comp=N,92nm,2.3s						
OSTM	**Stimpson Lane**	**2.63**	**110**		Pn	18 20 44.5	-0.7
ORV	**Oroville**	**2.64**	**105**		Pn	18 20 44.9	-0.4
LTIM	**Timbered Crate**	**2.66**	**70**		Pn	18 20 45.2	-0.5
PAM	**Palermo**	**2.66**	**108**		Pn	18 20 45.0	-0.6
M04C	**Macdoel**	**2.68**	**55**		Pn	18 20 46.2	+0.2
L04D	**Klamath Falls**	**2.68**	**44**		Pn	18 20 47.1	+1.0
L04D				IAML		18 21 18.8	
	comp=N,50nm,0.5s						
L04D				IAML		18 21 18.9	
	comp=E,65nm,0.6s						
LMHM	**Little Mount H**	**2.70**	**61**		Pn	18 20 46.1	-0.2
SFRE	**Sierra Foothil**	**2.87**	**110**		Pn	18 20 44.7	-3.8
J01E	**Myrtle Point**	**2.93**	**12**	Pn	Pn	18 20 50.7	+1.4
J01E				IAML		18 21 28.3	
	comp=N,43nm,3.7s						
J01E				IAML		18 22 08.4	
	comp=E,48nm,4.9s						
BBOR	**Butler Butte**	**3.03**	**31**		Pn	18 20 51.6	+0.7
DBO	**Dodson Butte**	**3.04**	**22**		Pn	18 20 52.4	+1.4
DBO				IAML		18 21 13.2	
	comp=N,28nm,3.1s						
DBO				IAML		18 21 28.9	
	comp=E,49nm,4.7s						
AFDM	**Forest Hills D**	**3.24**	**113**		Pn	18 20 53.8	+0.1
K04D	**Chiloquin, OR**	**3.26**	**44**		Pn	18 20 54.3	+0.4
K04D				IAML		18 21 40.7	
	comp=E,62nm,2.2s						
K04D				IAML		18 21 45.1	
	comp=N,68nm,1.6s						
J04A	**Umpqua Nationa**	**3.56**	**33**		Pn	18 20 59.1	+0.9
I03D	**Drain, OR**	**3.56**	**17**		Pn	18 20 59.2	+1.3
I03D				IAML		18 21 29.3	
	comp=N,33nm,4.4s						
I03D				IAML		18 22 18.9	
	comp=E,26nm,3.6s						
I02E	**Swisshome, OR**	**3.87**	**10**	Pn	Pn	18 21 03.7	+1.5
J05D	**Fort Rock, OR**	**4.00**	**41**		Pn	18 21 04.5	+0.4
J05D				IAML		18 21 51.9	
	comp=E,22nm,4.4s						
J05D				IAML		18 22 58.7	
	comp=N,19nm,4.6s						
CMB	**Columbia Colle**	**4.10**	**122**	Pn	Pn	18 21 06.9	+1.3
BUCK	**Buck Mountain**	**4.12**	**18**	Pn	Pn	18 21 08.1	+2.3
BUCK				IAML		18 23 48.4	
	comp=N,30nm,2.7s						
PNTR	**Pine Nut**	**4.18**	**105**		Pn	18 21 07.8	+1.0
PNTR				IAML		18 22 11.9	
	comp=E,21nm,3.4s						
PNTR				IAML		18 22 24.5	
	comp=N,21nm,2.5s						
PAHR	**Pah Rah Range**	**4.19**	**96**		Pn	18 21 06.6	-0.3
PAHR				IAML		18 22 22.1	
	comp=E,11nm,4.8s						
SAO	**San Andreas Ge**	**4.40**	**142**	Pn	Pn	18 21 11.9	+2.4
H04D	**Lebanon**	**4.49**	**19**	Pn	Pn	18 21 13.0	+2.3
PINE	**Pine Mountain**	**4.51**	**38**		Pn	18 21 12.6	+1.3
PINE				IAML		18 22 04.9	
	comp=N,20nm,4.3s						
PINE				IAML		18 23 35.5	
	comp=E,18nm,4.4s						
WAKR	**Walker**	**4.52**	**112**		Pn	18 21 13.0	+1.6
WAKR				IAML		18 22 48.7	
	comp=E,11nm,3.9s						
H04A	**Detroit Lake**	**4.79**	**23**	Pn	Pn	18 21 16.7	+1.8
LHV	**Little Huntoon**	**5.29**	**111**	Pn	Pn	18 21 24.1	+2.4

IDC 23 18:21:02.7±2.2, 7°50S×126°99E, h0km, mb3.2/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=100.6km s-min=29.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.62**	**187**	Pn	Pn	18 23 36.7	+0.5
	0.2nm,0.3s,baz=0.0,slow=10,SNR=6.8						
FITZ				Sn	Sn	18 25 21.9	-14
	1.1nm,0.3s,baz=296,slow=24,SNR=8.2						
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**14.28**	**151**	Pn	Pn	18 24 26.4	0.0
	0.3nm,0.3s,baz=325,slow=14,SNR=7.4						
WRA				Sn	Sn	18 26 52.5	-13
	0.7nm,0.3s,baz=325,slow=24,SNR=7.5						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**17.39**	**158**	P	Pn	18 25 06.3	-0.7
	0.1nm,0.3s,baz=332,slow=11,SNR=4.7						
ASAR				S	Sn	18 28 04.8	-17
	0.3nm,0.7s,baz=325,slow=16,SNR=5.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.04**	**328**	P	P	18 31 57.9	+0.1
	0.2nm,0.5s,baz=127,slow=6.3,SNR=2.1						
	0.2nm,0.5s						

*NEIC **23** 18:28:54.1±1.6, 24°6S±0°1×179°6W±0°1, h491km±11km, mb4.5/29, Error ellipse: s-maj=20.5km s-min=10.4km az=48.0*

*IDC **23** 18:28:58.0±2.1, 24°69S×179°79E, h496km±23km, mb3.3/9, mbtmp4.1/11, Error ellipse: s-maj=22.4km s-min=18.2km az=98.0*

*NOU **23** 18:28:58.4, 24°34S×179°67W, h568km, mb4.2/34, South of Fiji Islands*

ISC 23 18:28:56.8±0.6, 24°66S±0°09×179°97W±0°09, h500km, n85, σ1§42/82, mb4.4/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.13**	**345**	P	**P**	**18 30 45.4**	**+0.8**
MSVF	**Nonsavu**	**7.13**	**345**	P	**P**	**18 30 45.8**	**+1.2**
	4.1nm,0.3s,baz=75,slow=24,SNR=17						
MSVF	**Nonsavu**	**7.13**	**345**	P	**P**	**18 30 46.1**	**+1.5**
NIUE	**Niue**	**10.85**	**61**	P	P	18 31 15.1	-8.2
NIUE	**Niue**	**10.85**	**61**	P	**P**	**18 31 21.4**	**-1.9**
PINNC	**Pines Island,**	**11.71**	**277**	P	**P**	**18 31 33.9**	**+1.5**
PINNC	**Pines Island,**	**11.71**	**277**	P	**P**	**18 31 36.2**	**+3.8**
DZM	**Mont Dzumac**	**12.74**	**279**	P	**P**	**18 31 44.4**	**+1.0**
DZM	**Mont Dzumac**	**12.74**	**279**	P	**P**	**18 31 45.4**	**+2.0**
	2.9nm,0.5s,baz=63,slow=22,SNR=5.9						
DZM	**Mont Dzumac**	**12.74**	**279**	P	**P**	**18 31 46.8**	**+3.4**
URZ	**Urewera**	**13.78**	**190**	P	**P**	**18 31 54.5**	**+0.5**
	3.1nm,0.7s,baz=0.0,slow=16,SNR=1.7						
URZ	**Urewera**	**13.78**	**190**	P	P	18 31 59.3	+5.2
RTZ	**Ruatahuna**	**14.15**	**190**	P	**P**	**18 31 56.6**	**-1.4**
BKZ	**Black Stump Fm**	**14.77**	**191**	P	**P**	**18 32 02.4**	**-2.1**
BKZ	**Black Stump Fm**	**14.77**	**191**	P	**P**	**18 32 08.4**	**+3.9**
KOUNC	**Koumac, New Ca**	**15.10**	**283**	P	**P**	**18 32 10.8**	**+2.6**
BFZ	**Birch Farm**	**16.29**	**190**	P	**P**	**18 32 18.5**	**-1.8**
BFZ				IAmb	IAmb	18 32 34.5	
	comp=Z,28nm,1.2s						
BFZ	**Birch Farm**	**16.29**	**190**	P	**P**	**18 32 22.9**	**+2.6**
MRZ	**Mangatainoka R**	**16.39**	**192**	P	**P**	**18 32 18.2**	**-3.1**
MRZ				IAmb	IAmb	18 32 25.2	
	comp=Z,21nm,1.4s						
QRZ	**Quartz Range**	**17.30**	**199**	P	**P**	**18 32 29.8**	**-0.7**
QRZ	**Quartz Range**	**17.30**	**199**	P	**P**	**18 32 30.7**	**+0.2**
THZ	**Tophouse**	**18.06**	**197**	P	**P**	**18 32 35.9**	**-1.7**
THZ				IAmb	IAmb	18 33 12.3	
	comp=Z,13nm,1.1s						
KHZ	**Kahutara**	**18.51**	**195**	P	**P**	**18 32 44.4**	**+2.8**
INZ	**Inchbonnie**	**19.36**	**199**	P	**P**	**18 32 48.8**	**-0.6**
INZ				IAmb	IAmb	18 32 50.7	
	comp=Z,9.9nm,0.7s						
RPZ	**Rata Peaks**	**20.38**	**199**	P	**P**	**18 32 58.2**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=34,slow=7.3,SNR=1.7						
	comp=Z,3.4nm,0.4s						
JCZ	**Jackson Bay**	**21.44**	**203**	P	**P**	**18 33 09.6**	**+1.2**
WHZ	**Wether Hill Ro**	**23.32**	**202**	P	**P**	**18 33 25.1**	**0.0**
WHZ				IAmb	IAmb	18 33 53.9	
	comp=Z,32nm,1.3s						
ARMA	**Armidale**	**25.79**	**251**	P	**P**	**18 33 48.7**	**+1.2**
ARMA				IAmb	IAmb	18 33 54.9	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**25.79**	**251**	P	**P**	**18 33 48.9**	**+1.4**
EIDS	**Eidsvold**	**26.22**	**262**	P	**P**	**18 33 51.7**	**+0.4**
CNB	**Canberra Magne**	**28.50**	**241**	P	**P**	**18 34 12.7**	**+1.5**
CAN	**Canberra**	**28.79**	**241**	P	**P**	**18 34 14.4**	**+0.7**
CAN				IAmb	IAmb	18 34 40.8	
	comp=Z,16nm,1.2s						
CAN	**Canberra**	**28.79**	**241**	P	**P**	**18 34 14.6**	**+0.9**
CMSA	**Cobar Meteorol**	**30.97**	**249**	P	**P**	**18 34 32.9**	**+0.3**
TOO	**Toolangi**	**32.06**	**238**	P	**P**	**18 34 42.5**	**+0.5**
QLP	**Quilpie**	**32.27**	**259**	P	**P**	**18 34 44.2**	**+0.4**
TAU	**Tasmania Unive**	**32.44**	**228**	P	**P**	**18 34 45.3**	**+0.3**
TAU	**Tasmania Unive**	**32.44**	**228**	P	**P**	**18 34 45.8**	**+0.8**
MTSU	**Mount Surprise**	**33.81**	**274**	P	**P**	**18 34 56.4**	**-0.6**
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**18 35 02.5**	**+0.2**
STKA				IAmb	IAmb	18 35 03.6	
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**18 35 02.4**	**0.0**
	comp=Z,4.0nm,0.4s,baz=87,slow=8.5,SNR=31						
	comp=Z,4.0nm,0.4s						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**18 35 02.7**	**+0.3**
ARPS	**Mount Arapiles**	**34.77**	**241**	P	**P**	**18 35 05.2**	**+0.5**
INKA	**Innaminka**	**35.28**	**256**	P	**P**	**18 35 08.8**	**-0.4**
COEN	**Coen**	**36.27**	**280**	P	**P**	**18 35 17.7**	**+0.2**
COEN				IAmb	IAmb	18 35 25.0	
	comp=Z,17nm,1.4s						
HTT	**Hallett**	**36.79**	**247**	P	**P**	**18 35 21.5**	**-0.2**
LCRK	**Leigh Creek**	**37.36**	**252**	P	**P**	**18 35 26.6**	**+0.2**
QIS	**Mount Isa**	**37.45**	**268**	P	**P**	**18 35 26.9**	**-0.3**
BBOO	**Buckleboo**	**39.18**	**248**	P	**P**	**18 35 40.1**	**-1.0**
BBOO	**Buckleboo**	**39.18**	**248**	P	**P**	**18 35 40.8**	**-0.4**
OOD	**Oodnadatta**	**39.74**	**256**	P	**P**	**18 35 45.3**	**-0.4**
AS01	**Alice Springs**	**41.90**	**261**	P	**P**	**18 36 02.7**	**-0.4**
AS31	**Alice Springs**	**41.94**	**261**	P	**P**	**18 36 02.7**	**-0.7**
ASAR	**Alice Springs**	**41.94**	**261**	P	**P**	**18 36 03.0**	**-0.5**
ASAR	**Alice Springs**	**41.94**	**261**	P	**P**	**18 36 02.6**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=91,slow=6.9,SNR=29						
	comp=Z,4.6nm,0.8s						
WR8	**Warramunga Arr**	**42.24**	**267**	P	**P**	**18 36 05.2**	**-0.6**
WR8				IAmb	IAmb	18 36 19.9	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**18 36 06.1**	**-0.9**
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**18 36 06.0**	**-0.9**
	comp=Z,10nm,0.6s,baz=100,slow=7.1,SNR=70						
	comp=Z,10nm,0.6s						
FORT	**Forrest**	**46.08**	**250**	P	**P**	**18 36 34.1**	**-1.3**
FORT	**Forrest**	**46.08**	**250**	P	**P**	**18 36 34.2**	**-1.2**
KDU	**Kakadu**	**46.39**	**276**	P	**P**	**18 36 36.4**	**-1.5**
WRKA	**Warakurna**	**46.70**	**258**	P	**P**	**18 36 39.9**	**-0.4**
MTN	**Manton Dam**	**47.54**	**275**	P	**P**	**18 36 45.7**	**-1.0**
DRS	**Darwin Rock St**	**47.91**	**275**	P	**P**	**18 36 48.0**	**-1.4**
KNRA	**Kununurra**	**48.72**	**270**	P	**P**	**18 36 55.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P	**P**	**18 37 10.8**	**0.0**
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P	**P**	**18 37 09.8**	**-1.0**
FAKI	**Fak Fak**	**50.83**	**287**	P	**P**	**18 37 10.0**	**-1.1**
VNDA	**Vanda**	**53.63**	**185**	P	**P**	**18 37 32.9**	**+2.7**
	comp=Z,0.3nm,0.5s,baz=24,slow=11,SNR=1.4						
	comp=Z,0.3nm,0.5s						
PSA00	**Pilbara Seismi**	**55.06**	**260**	P	**P**	**18 37 40.1**	**-1.1**
PSA00				IAmb	IAmb	18 38 06.6	
	comp=Z,68nm,1.4s						
MBWA	**Marble Bar**	**55.27**	**261**	P	**P**	**18 37 41.6**	**-1.1**
BLDU	**Ballidu**	**55.78**	**249**	P	**P**	**18 37 45.0**	**-1.1**
MORW	**Morawa**	**56.64**	**250**	P	**P**	**18 37 51.1**	**-1.1**
MORW				IAmb	IAmb	18 38 33.2	
	comp=Z,32nm,1.2s						
CASY	**Casey**	**59.44**	**206**	P	**P**	**18 38 10.1**	**-0.3**
CASY				IAmb	IAmb	18 38 41.5	
	comp=Z,18nm,1.4s						
PLAI	**Plampang**	**61.19**	**273**	P	**P**	**18 38 20.3**	**-2.6**
QSPA	**South Pole Qui**	**65.43**	**180**	P	**P**	**18 38 49.2**	**-0.3**
QSPA	**South Pole Qui**	**65.43**	**180**	P	**P**	**18 38 50.1**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=12,slow=9.3,SNR=2.3						
	comp=Z,1.4nm,0.9s						
KKM	**Kota Kinabalu**	**69.15**	**287**	P	**P**	**18 39 11.9**	**-1.3**
KKM				IAmb	IAmb	18 39 30.1	
	comp=Z,14nm,1.0s						
TPUB	**Ta-pu**	**74.77**	**305**	P	**P**	**18 39 44.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**89.81**	**290**	P	**P**	**18 41 03.8**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=127,slow=3.6,SNR=5.3						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**92.76**	**14**	P	**P**	**18 41 17.0**	**+2.3**
	comp=Z,0.9nm,1.1s,baz=215,slow=3.0,SNR=2.8						
	comp=Z,0.9nm,1.1s						
PDAR	**Pinedale Array**	**93.22**	**44**	P	**P**	**18 41 18.3**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=226,slow=4.5,SNR=2.5						
	comp=Z,0.1nm,0.4s						
HFS	**Hagfors**	**143.29**	**349**	PKhKP	PKPpre	18 47 30.3	
	comp=Z,4.3nm,1.0s,baz=35,slow=3.6,SNR=4.3						
MMAI	**Mount Meron Ar**	**148.03**	**293**	PKPbc	**PKiKP**	**18 47 47.1**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=70,slow=7.2,SNR=9.0						
BRTR	**Keskin Array B**	**148.05**	**306**	PKPab	**PKPab**	**18 47 50.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=124,slow=2.9,SNR=4.9						

*IDC **23** 18:32:43.2±1.4, 31°79S×177°93W, h0km, mb4.1/4, mbtmp4.1/5, ML3.8/1, MS3.0/1, Error ellipse: s-maj=37.4km s-min=29.8km az=111.0*

*NEIC **23** 18:32:53.0±1.7, 32°92S±0°09×179°2W±0°2, h10km±1km, mb4.9/10, Error ellipse: s-maj=23.9km s-min=13.5km az=74.0*

ISC 23 18:32:53.6±1.0, 32°88S±0°06×179°4W±0°1, h10km, n64, σ3§13/63, mb4.3/6, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.04**	**201**	S	**Sg**	**18 35 36.6**	**+1.3**
WMGZ	**Waiomatatini S**	**5.24**	**199**	P	Pn	18 34 17.9	+5.9
WMGZ				S	**Sg**	**18 35 41.2**	**-0.7**
HAZ	**Te Kaha**	**5.38**	**205**	P	Pn	18 34 19.3	+5.3
HAZ				S	**Sg**	**18 35 47.6**	**+1.1**
PUZ	**Puketiti**	**5.52**	**200**	P	Pn	18 34 21.5	+5.6
PUZ				S	**Sg**	**18 35 48.1**	**-2.8**
RUGZ	**Raukumara Rang**	**5.61**	**204**	P	Pn	18 34 22.0	+4.8
RUGZ				S	**Sg**	**18 35 51.5**	**-2.1**
TWGZ	**Tauwhareparae**	**5.70**	**201**	P	**Pn**	**18 34 22.3**	**+3.9**
TWGZ				S	**Sg**	**18 35 52.9**	**-3.8**
MWZ	**Matawai**	**5.99**	**204**	P	**Pn**	**18 34 24.5**	**+2.1**
MWZ				S	**Sg**	**18 35 58.2**	**-7.7**
URZ	**Urewera**	**6.07**	**207**	Pn	Pb	18 34 33.6	-5.9
	1.4nm,0.3s,baz=15,slow=17,SNR=6.5						
URZ				Sn	**Sg**	**18 36 02.0**	**-6.6**
	2.1nm,0.3s,baz=114,slow=10.0,SNR=4.2						
	7.3nm,0.7s						
URZ	**Urewera**	**6.07**	**207**	P	Pb	18 34 32.3	-7.2
URZ				S	**Sg**	**18 36 02.1**	**-6.5**
RIGZ	**Rimuhau**	**6.25**	**201**	P	**Pn**	**18 34 30.1**	**+4.1**
RIGZ				S	**Sb**	**18 36 04.8**	**+7.3**
RTZ	**Ruatahuna**	**6.43**	**206**	**Pn**	**Pn**	**18 34 25.0**	**-3.5**
RTZ	**Ruatahuna**	**6.43**	**206**	**Pn**	**Pn**	**18 34 29.6**	**+1.1**
RTZ				S	**Sb**	**18 36 10.2**	**+7.5**
KNZ	**Kokohu**	**6.57**	**200**	P	Pn	18 34 37.5	+7.2
KNZ				S	**Sb**	**18 36 10.5**	**+3.9**
MTHZ	**Maungataniwha**	**6.70**	**206**	P	Pn	18 34 37.6	+5.5
MTHZ				S	**Sb**	**18 36 16.8**	**+6.6**
WHHZ	**Waihua**	**6.76**	**203**	P	Pn	18 34 37.7	+4.8
WHHZ				S	**Sb**	**18 36 15.9**	**+4.0**
NMHZ	**Naumai**	**6.92**	**205**	P	Pn	18 34 41.6	+6.3
NMHZ				S	**Sb**	**18 36 21.9**	**+5.1**
BKZ	**Black Stump Fm**	**7.10**	**207**		**Pn**	**18 34 35.2**	**-2.4**
BKZ	**Black Stump Fm**	**7.10**	**207**	P	**Pn**	**18 34 35.5**	**-2.1**
BKZ				S	**Sb**	**18 36 25.7**	**+3.9**
KWHZ	**Kaweka Forest**	**7.35**	**206**	P	**Pn**	**18 34 42.6**	**+1.5**
KWHZ				S	**Sb**	**18 36 30.2**	**+1.1**
ETVZ	**East Tongariro**	**7.39**	**211**	P	**Pn**	**18 34 44.8**	**+3.1**
ETVZ				S	**Sb**	**18 36 34.5**	**+4.2**
KAHZ	**Kahuranaki**	**7.53**	**202**	P	**Pn**	**18 34 47.9**	**+4.4**
KAHZ				S	**Sb**	**18 36 33.7**	**-0.3**
PXZ	**Pawanui**	**7.75**	**202**	P	**Pn**	**18 34 50.6**	**+4.2**
PXZ				S	**Sb**	**18 36 38.6**	**-1.7**
TSZ	**Takapari Road**	**8.08**	**206**	P	**Pn**	**18 34 55.5**	**+4.5**
TSZ				S	Sb	18 36 46.6	-3.4
BFZ	**Birch Farm**	**8.53**	**203**	Pn	**Pn**	**18 34 57.5**	**+0.3**
BFZ	**Birch Farm**	**8.53**	**203**	P	Pn	18 35 04.2	+6.9
BFZ				S	Sn	18 36 55.6	+22
MRZ	**Mangatainoka R**	**8.75**	**206**		**Pn**	**18 35 00.8**	**+0.6**
MRZ	**Mangatainoka R**	**8.75**	**206**	P	Pn	18 35 06.7	+6.6
MRZ				S	Sn	18 37 00.6	+22
HOWZ	**Holdsworth Sta**	**8.98**	**205**	P	Pn	18 35 10.7	+7.4
HOWZ				S	Sn	18 37 04.9	+20
CAW	**Cannon Point**	**9.33**	**207**	P	Pn	18 35 17.4	+9.3
CAW				S	Sn	18 37 13.0	+20
PAWZ	**Paruwai Farm**	**9.44**	**204**	P	Pn	18 35 18.9	+9.3
PAWZ				S	Sn	18 37 16.6	+21
MSWZ	**Moikau Station**	**9.53**	**205**		**Pn**	**18 35 11.7**	**+0.8**
MSWZ	**Moikau Station**	**9.53**	**205**	P	Pn	18 35 20.1	+9.2
MSWZ				S	Sn	18 37 19.8	+22
PLWZ	**Palliser**	**9.66**	**205**	Pn	**Pn**	**18 35 13.4**	**+0.6**
TCW	**Tory Channel**	**9.73**	**209**	Pn	**Pn**	**18 35 12.9**	**-0.6**
TUWZ	**Tuamarina**	**10.05**	**210**		**Pn**	**18 35 18.1**	**+0.1**
NNZ	**Nelson**	**10.12**	**213**	Pn	**Pn**	**18 35 19.5**	**+0.5**
MRNZ	**Matariki Terra**	**10.55**	**214**	Pn	**Pn**	**18 35 25.1**	**+0.2**
THZ	**Tophouse**	**10.77**	**212**		**Pn**	**18 35 26.1**	**-1.9**
THZ	**Tophouse**	**10.77**	**212**	P	Pn	18 35 35.1	+7.1
THZ				S	Sn	18 37 49.7	+21
KHZ	**Kahutara**	**11.04**	**208**	Pn	**Pn**	**18 35 32.1**	**+0.6**
CTZ	**Chatham Island**	**11.06**	**169**	S	**Sn**	**18 37 32.8**	**-2.7**
WKZ	**Wanaka**	**14.94**	**214**	P	**P**	**18 36 29.5**	**-0.9**
DZM	**Mont Dzumac**	**16.52**	**307**	LR	LR	18 40 39.5	
	comp=Z,57nm,20.6s,baz=232,slow=28						
PYZ	**Puysegur Point**	**17.04**	**215**	P	**P**	**18 36 52.9**	**-0.8**
PYZ				IAmb	IAmb	18 37 42.4	
	comp=Z,92nm,1.3s						
STKA	**Stephens Creek**	**32.83**	**261**	P	**P**	**18 39 28.3**	**+0.9**
STKA	**Stephens Creek**	**32.83**	**261**	P	**P**	**18 39 30.4**	**+3.0**
	comp=Z,2.2nm,0.8s,baz=78,slow=11,SNR=4.9						
	comp=Z,2.2nm,0.8s						
BBOO	**Buckleboo**	**37.21**	**258**	P	**P**	**18 40 04.9**	**-0.3**
BBOO				IAmb	IAmb	18 40 33.2	
	comp=Z,58nm,1.9s						
AS31	**Alice Springs**	**41.85**	**270**	P	**P**	**18 40 44.9**	**+0.8**
ASAR	**Alice Springs**	**41.85**	**270**	P	**P**	**18 40 43.2**	**-0.8**
ASAR	**Alice Springs**	**41.85**	**270**	P	**P**	**18 40 45.6**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=105,slow=7.2,SNR=13						
	comp=Z,0.8nm,0.4s

LATG	Datong	1.25 271	eP	Pn	18 50 01.1	+0.3
LATG			S	Sn	18 50 18.1	-0.3
TWD	Chiawan	1.27 250	eP	Pn	18 50 00.5	-0.4
TWD			i S	Sn	18 50 17.4	-1.1
TWA	Mucha	1.28 291	eP	Pn	18 50 01.0	-0.1
TWA			S	Sn	18 50 19.1	+0.2
JISG	Ishigakijimahi	1.29 87	P	Pn	18 50 01.0	-0.1
JISG			eS	Sn	18 50 18.1	-0.9
NWLT	Wulai	1.30 282	eP	Pn	18 50 01.9	+0.6
NWLT			i S	Sn	18 50 18.4	-0.8
ETLH	Xiulin Townshi	1.33 257	eP	Pn	18 50 01.4	-0.4
ETLH			S	Sn	18 50 19.2	-0.8
TEYL	Yanliau Villag	1.35 242	eP	Pn	18 49 59.8	-2.2
TEYL			eS	Sn	18 50 18.9	-1.5
TATO	Taipei	1.36 290	P	Pn	18 50 05.1	+3.1
TATO	Taipei	1.36 290	eP	Pn	18 50 01.6	-0.4
TATO			i S	Sn	18 50 19.4	-1.1
YM08	YM08	1.36 300	eP	Pn	18 50 01.6	-0.5
YM08			eS	Sn	18 50 19.5	-1.1
NNSB	Datong	1.38 267	i P	Pn	18 50 02.5	+0.1
NNSB			eS	Sn	18 50 20.6	-0.7
ZUZH	Zhuzihu	1.39 298	eS	Sn	18 50 22.5	+1.3
NNS	Nan Shan	1.39 267	eP	Pn	18 50 02.5	-0.1
NNS			eS	Sn	18 50 20.8	-0.6
YHNB	Yeheng	1.39 277	P	Pn	18 50 02.4	-0.1
YHNB	Yeheng	1.39 277	P	Pn	18 50 02.8	+0.3
YHNB			i S	Sn	18 50 20.9	-0.5
ETM	Tongmen	1.40 247	eP	Pn	18 50 01.9	-0.6
ETM			i S	Sn	18 50 20.3	-1.0
NSK	Sanguang	1.41 277	eP	Pn	18 50 02.5	-0.2
NSK			eS	Sn	18 50 21.3	-0.5
SHUL	Shoufeng	1.42 240	i P	Pn	18 50 02.6	-0.1
SHUL			eS	Sn	18 50 21.7	-0.1
LXIB	Xiulin Townshi	1.44 250	i P	Pn	18 50 02.7	-0.5
LXIB			eS	Sn	18 50 21.4	-1.2
TEGC	Jichi Village	1.48 237	eP	Pn	18 50 03.4	0.0
ESL	Shilin	1.51 243	eP	Pn	18 50 03.4	-0.5
ESL			eS	Sn	18 50 22.5	-1.3
FUSS	Fushou	1.53 260	i P	Pn	18 50 04.8	+0.4
FUSS			S	Sn	18 50 24.6	-0.1
WHF	Hehuan Shan	1.54 256	eP	Pn	18 50 04.5	-0.1
WHF			i S	Sn	18 50 24.3	-0.7
EGFH	Guangfu	1.59 238	eP	Pn	18 50 04.7	-0.1
EGFH			S	Sn	18 50 25.1	-0.4
KSHI	Guanxi Townshi	1.59 280	eS	Sn	18 50 26.0	+0.4
TWT	Tachien	1.59 261	eP	Pn	18 50 05.8	+0.7
TWT			eS	Sn	18 50 25.7	-0.2
WARBT	Fenglin Townsh	1.59 240	i P	Pn	18 50 04.5	-0.5
WARBT			S	Sn	18 50 24.5	-1.2
TDCB	Techi	1.61 261	eP	Pn	18 50 05.9	+0.6
TDCB			S	Sn	18 50 25.6	-0.6
NCU	National Centr	1.62 287	eP	Pn	18 50 05.1	-0.2
NCUH	Zhongli	1.62 286	eP	Pn	18 50 05.6	+0.3
NCUH			eS	Sn	18 50 26.8	+0.5
NFF	Wufeng Townshi	1.62 274	eP	Pn	18 50 05.7	+0.3
NFF			S	Sn	18 50 26.0	-0.5
JTJ	Tarama	1.65 85	eP	Pn	18 50 06.1	+0.5
JTJ			eS	Sn	18 50 26.8	0.0
OWD	Renai	1.67 251	i P	Pn	18 50 06.0	-0.1
OWD			S	Sn	18 50 26.3	-1.3
HGSD	Ruisui	1.69 233	P	Pn	18 50 05.8	-0.3
HGSD			eS	Sn	18 50 27.4	-0.4
WUSB	Renai	1.71 253	i P	Pn	18 50 06.8	+0.3
WUSB			i S	Sn	18 50 27.9	-0.5
LIOB	Emei	1.72 275	i P	Pn	18 50 07.3	+0.8
LIOB			i S	Sn	18 50 28.4	-0.1
EHY	Hungye	1.76 235	eP	Pn	18 50 06.5	-0.5
SBCB	Hsinchu	1.76 279	eP	Pn	18 50 07.0	0.0
SBCB			eS	Sn	18 50 29.0	-0.5
VWDT	VWDT	1.77 245	i P	Pn	18 50 07.6	+0.4
VWDT			eS	Sn	18 50 29.6	-0.2
HSN	Hsinchu	1.78 280	eS	Sn	18 50 29.0	-0.8
WHP	Taichung City	1.80 263	P	Pn	18 50 08.8	+1.2
WHP			S	Sn	18 50 30.0	-0.3
YULB	Yu-li	1.84 233	P	Pn	18 50 07.6	-0.5
YULB	Yu-li	1.84 233	P	Pn	18 50 07.7	-0.4
YULB			i S	Sn	18 50 30.1	-1.2
EYUL	Yuli	1.85 231	i P	Pn	18 50 08.3	+0.1
EYUL			S	Sn	18 50 31.5	-0.1
DPDB	Guoxing	1.86 255	i P	Pn	18 50 09.2	+0.8
DPDB			eS	Sn	18 50 32.2	+0.4
TWF1	Yuli	1.87 232	i P	Pn	18 50 08.2	-0.2
TWF1			eS	Sn	18 50 31.5	-0.4
WCS	Beigang Elemen	1.87 256	eP	Pn	18 50 09.9	+1.5
WCS			eS	Sn	18 50 33.2	+1.3
SSLB	Suanglung	1.92 248	P	Pn	18 50 09.1	0.0
SSLB	Suanglung	1.92 248	eP	Pn	18 50 09.9	+0.8
SSLB			eS	Sn	18 50 34.0	+0.9
NMLH	Miaoli	1.92 271	eS	Sn	18 50 33.1	0.0
SMLT	Sun Moon Lake	1.93 251	eP	Pn	18 50 09.6	+0.3
SMLT			eS	Sn	18 50 33.6	+0.1
TYC	Yuchr	1.96 252	P	Pn	18 50 10.3	+0.8
TYC			eS	Sn	18 50 34.7	+0.7
FULB	Fuli	1.97 229	eP	Pn	18 50 09.5	-0.3
FULB			eS	Sn	18 50 33.3	-0.9
CHKT	Chengkung	1.99 225	eP	Pn	18 50 09.2	-0.7
CHKT			eS	Sn	18 50 32.8	-1.9
WHYT	Xinyi Township	2.04 247	i P	Pn	18 50 11.8	+1.1
WHYT			eS	Sn	18 50 36.5	+0.6
YUS	Yu-Shan	2.05 241	eP	Pn	18 50 09.4	-1.9
YUS			eS	Sn	18 50 33.4	-3.5
WWF	Wufeng	2.06 257	eP	Pn	18 50 11.7	+0.8
WWF			S	Sn	18 50 38.0	+1.6
WJS	Zhushan	2.10 251	P	Pn	18 50 12.8	+1.4
WJS			i S	Sn	18 50 38.9	+1.7
WNT	Mingjian	2.12 253	eP	Pn	18 50 11.7	0.0
WNT			eS	Sn	18 50 39.2	+1.5
EDH	Donghe	2.12 224	P	Pn	18 50 11.2	-0.5
EDH			S	Sn	18 50 36.0	-1.7
ALS	Alishan	2.16 243	eP	Pn	18 50 13.5	+1.0
ALS			eS	Sn	18 50 40.1	+1.0
ELDTW	Lidau	2.17 233	eP	Pn	18 50 11.6	-0.9
ELDTW			eS	Sn	18 50 35.9	-3.2
WCHH	Zhanghua	2.18 259	eP	Pn	18 50 13.0	+0.6
WCHH			eS	Sn	18 50 39.0	0.0
CHN5	Tsauling	2.23 246	eP	Pn	18 50 14.8	+1.6
CHN5			eS	Sn	18 50 42.8	+2.5
LDUT	Ludao	2.25 216	eP	Pn	18 50 13.3	-0.1
LDUT			eS	Sn	18 50 39.2	-1.6
LONT	Longtian	2.28 226	eP	Pn	18 50 13.6	-0.2
LONT			eS	Sn	18 50 41.0	-0.5
WGK	Gukeng	2.29 249	eP	Pn	18 50 15.5	+1.7
WGK			eS	Sn	18 50 44.6	+3.0
WDLH	Douliu	2.31 250	P	Pn	18 50 15.5	+1.4
WDLH			eS	Sn	18 50 44.5	+2.4
WCKO	Fanlu	2.36 243	eP	Pn	18 50 16.4	+1.6
WCKO			i S	Sn	18 50 45.3	+2.0
STYH	Taoyuan	2.36 236	eP	Pn	18 50 14.6	-0.2
STYH			S	Sn	18 50 42.5	-0.8
TWGBT	Beinan	2.37 225	eP	Pn	18 50 14.8	-0.2
TWGBT			S	Sn	18 50 42.9	-0.8
TWG	Pinlang	2.38 225	eP	Pn	18 50 14.5	-0.6
TWG			eS	Sn	18 50 43.0	-0.7
STYT	Tauyuan	2.38 236	eP	Pn	18 50 15.4	+0.3
STYT			eS	Sn	18 50 44.4	+0.5
RLNB	Erlin	2.40 256	eP	Pn	18 50 15.9	+0.6
RLNB			eS	Sn	18 50 45.6	+1.3
TPUB	Ta-pu	2.40 240	P	Pn	18 50 16.9	+1.5
TPUB	Ta-pu	2.40 240	i P	Pn	18 50 17.1	+1.7
TPUB			eS	Sn	18 50 46.4	+2.0
CHN4	Tsaushan	2.41 242	eP	Pn	18 50 16.6	+1.2
CHN4			eS	Sn	18 50 46.2	+1.8
WTK	Tuku	2.44 251	eP	Pn	18 50 15.3	-0.5
WTK			eS	Sn	18 50 45.3	+0.2
WTP	Ta-pu	2.44 239	eS	Sn	18 50 46.1	+0.7
CHY	Chiayi	2.48 246	eP	Pn	18 50 18.2	+1.8
CHY			eS	Sn	18 50 48.7	+2.6
TWK	Hsinying	2.53 241	eP	Pn	18 50 18.5	+1.4
TWK			eS	Sn	18 50 49.3	+1.8
CHN1	Nanshi	2.54 239	eP	Pn	18 50 18.6	+1.3
CHN1			eS	Sn	18 50 49.3	+1.6
SGST	Jiashian	2.56 237	eP	Pn	18 50 18.3	+0.9
SGST			eS	Sn	18 50 48.9	+0.9
ECL	Taimali	2.61 223	eP	Pn	18 50 17.5	-0.7
ECL			eS	Sn	18 50 47.7	-1.6
WSL	Shuilin Townsh	2.63 249	P	Pn	18 50 18.9	+0.5
WSL			S	Sn	18 50 50.2	+0.4
SSD	Sandimen	2.72 230	P	Pn	18 50 21.1	+1.5
SSD			eS	Sn	18 50 54.2	+2.2
TSMG	Majia	2.74 229	P	Pn	18 50 20.6	+0.7
TSMG			eS	Sn	18 50 52.9	+0.5
LYUB	Lan-yu	2.78 206	eP	Pn	18 50 19.4	-0.9
LYUB			eS	Sn	18 50 50.4	-2.9
MASBT	Mashibuluo	2.81 228	eP	Pn	18 50 22.5	+1.7
MASBT			eS	Sn	18 50 56.1	+2.1
TSCK	Chigu Township	2.91 243	eP	Pn	18 50 22.8	+0.6
TSCK			eS	Sn	18 50 56.7	+0.3
SLIU	Shizi	2.99 221	eP	Pn	18 50 23.5	+0.2
SLIU			eS	Sn	18 50 57.7	-0.7
VWUC	VWUC	3.17 279	eP	Pn	18 50 24.7	-0.9
VWUC			eS	Sn	18 50 59.8	-2.8

*IDC **23** 19:02:42.8±0.8, 33°.01S×71°.72W, h0km, mb4.3/7, mbtmp4.2/11, ML4.1/4, MS4.9/2, Error ellipse: s-maj=24.2km s-min=15.8km az=127.0*
*SJA **23** 19:02:44.2±0.7, 33°.11S×72°.06W, h23km±2km, ML4.2, MW4.5*
*NEIC **23** 19:02:45.8±1.7, 33°.01S±0°.03×72°.03W±0°.03, h24km±4km, mb4.5/17, Mwr4.3/75, Error ellipse: s-maj=5.0km s-min=3.7km az=173.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.73; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-2.02; $M_{r\theta}$0.42; $M_{\theta\phi}$-0.24; $M_{\phi r}$-2.43; Fault plane solution: M_o3.12000×10^{15} NP1:φ21.63000°, δ20.60000°, λ117.26000°. NP2:φ172.80000°, δ71.78000°, λ80.23000°. Principal axes: T 3.0088, Plg62.0000°, Azm68.0000°; N 0.2061, Plg9.0000°, Azm176.0000°; P -3.2149, Plg26.0000°, Azm270.0000°;*
*NEIC **23** 19:02:45.7, 33°.02S×72°.01W, h21km*
*GUC **23** 19:02:47.4±0.7, 33°.07S×71°.90W, h28km±5km, ML3.9*
*VAO **23** 19:03:05.8±2.7, 32°.44S×71°.48W, h174km±17km, mb3.8*
ISC 23 19:02:42.7±1.9, **32°.96S**±0°.02×**72°.10W**±0°.04, **h8**km±11km, **n157**, σ1°.42/176, **mb4.5**/12, **MS4.8**/3, **1C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.39	99		Pb	19 02 52.8	+0.9
VA01				Sg	Sb	19 02 57.4	-0.7
VA01	Torpederas	0.39	99	⇓iP	Pb	19 02 52.8	+0.9
VA01				i S	Sb	19 02 57.3	-0.7
VA01				IAML		19 02 58.1	
	comp=E,25μm,0.3s						
VA01	Torpederas	0.39	99	eP	Pb	19 02 52.0	+0.2
VA01				eS	Pb	19 02 52.7	+0.9
VA01				IAML		19 02 57.8	
	comp=Z,18μm,0.8s						
VA06	Catapilco	0.79	60		Pn	19 03 00.2	0.0
VA05	Santo Domingo	0.80	150		Pb	19 02 59.2	+0.3
VA05				Sg	Sb	19 03 08.6	-1.4
MT02	Curacav	0.86	110		Pb	19 02 59.7	-0.2
MT02	Curacav	0.86	110	⇓iP	Pb	19 02 59.7	-0.2
MT02				i S	Sb	19 03 08.8	-2.9
MT02	Curacav	0.86	110	eP	Pb	19 02 59.7	-0.2
MT02				eS	Sg	19 03 11.2	+0.8
MT02				IAML		19 03 18.5	
	comp=Z,3μm,0.5s						
ROC1	El Roble	0.91	91	eP	Pb	19 02 55.7	-5.3
ROCH	El Roble	0.92	91	⇓iP	Pb	19 03 01.1	0.0
ROCH				i S	Sb	19 03 11.8	-1.7
ROCH				IAML		19 03 14.4	
	comp=E,5μm,0.3s						
MT01	Popeta	1.15	142		Pb	19 03 04.4	-0.4
MT01	Popeta	1.15	142	eP	Pb	19 03 04.4	-0.4
MT01				i S	Sb	19 03 17.2	-2.7
MT01				IAML		19 03 19.6	
	comp=E,8μm,0.6s						
MT01	Popeta	1.15	142	eP	Pb	19 03 04.4	-0.4
MT01				eS	Sb	19 03 18.6	-1.3
MT01				IAML		19 03 20.8	
	comp=Z,4μm,0.8s						
PEL	Peldehue	1.20	99	Pn	Pn	19 03 05.9	0.0
PEL	Peldehue	1.20	99	eP	Pn	19 03 05.5	-0.5
MT05	Renca	1.22	111		Pn	19 03 05.8	-0.4
MT05	Renca	1.22	111	eP	Pn	19 03 05.8	-0.4
MT05				i S	Sb	19 03 19.2	-2.8
MT05				IAML		19 03 24.3	
	comp=E,8μm,0.4s						
MT05	Renca	1.22	111	eP	Pn	19 03 05.2	-1.0
MT05				IAML		19 03 24.2	
	comp=Z,4μm,1.6s						
MT09	Talagante	1.23	131		Pn	19 03 06.0	-0.5
MT09	Talagante	1.23	131	⇓iP	Pn	19 03 06.0	-0.5
MT09				i S	Sb	19 03 20.4	-2.2
MT09				IAML		19 03 23.4	
	comp=N,13μm,0.4s						
VA03	San Esteban	1.32	82		Pn	19 03 07.5	-0.1
VA03	San Esteban	1.32	82	eP	Pn	19 03 07.5	-0.1
VA03				eS	Sg	19 03 27.4	+2.3
VA03				IAML		19 03 37.9	
	comp=Z,3μm,0.7s						
MT10	Hacienda Santa	1.35	104	eP	Pn	19 03 08.2	+0.1
MT10				i S	Sb	19 03 23.4	-2.4
MT14	Cerro Calµn	1.38	109	⇓iP	Pb	19 03 08.7	-0.2
MT14				i S	Sb	19 03 26.2	-0.6
MT14				IAML		19 03 37.0	
	comp=N,9μm,0.5s						
MT16	CCHEN	1.40	110		Pn	19 03 08.9	+0.2
MT03	Universidad Ad	1.44	112		Pn	19 03 09.4	+0.2
MT15	Las Vizcachas	1.48	116	eP	Pn	19 03 09.9	+0.2
MT15				i S	Sn	19 03 27.3	-2.0
BO03	Pichilemu	1.53	176	eP	Pn	19 03 10.7	+0.3
BO03				i S	Sn	19 03 26.6	-4.0
BO03				IAML		19 03 37.4	
	comp=N,2μm,0.7s						
FCH	Farellones	1.56	104	⇓iP	Pn	19 03 11.4	+0.3
FCH				i S	Sn	19 03 30.3	-1.4
FCH				IAML		19 03 37.1	
	comp=E,3μm,0.5s						
BO04	La Punta	1.61	130		Pn	19 03 11.9	+0.3
BO04	La Punta	1.61	130	eP	Pn	19 03 11.9	+0.3
BO04				i S	Sn	19 03 31.5	-1.2
BO04				IAML		19 03 38.0	
	comp=N,3μm,0.7s						
BO01	Tunca	1.66	149	Pn	Pn	19 03 12.0	-0.1
BO01	Tunca	1.66	149	eP	Pn	19 03 12.1	-0.1
BO01				i S	Sn	19 03 30.8	-2.9
BO01				IAML		19 03 34.3	
	comp=E,1μm,0.5s						
BO01	Tunca	1.66	149	eP	Pn	19 03 11.5	-0.7
BO01				IAML		19 03 33.6	
	comp=Z,1μm,0.4s						
MT04	Ro Olivares	1.71	105	⇓iP	Pn	19 03 13.7	+0.7
MT04				i S	Sn	19 03 33.8	-1.4
MT04				IAML		19 03 38.0	
	comp=N,3μm,0.5s						
MT04	Ro Olivares	1.71	105	eP	Pn	19 03 13.8	+0.7
MT04				eS	Sb	19 03 35.1	-1.1
MT04				IAML		19 03 38.5	
	comp=Z,2μm,1.1s						
MT13	San Alfonso	1.71	118		Pn	19 03 13.5	+0.5
MT13	San Alfonso	1.71	118	eP	Pb	19 03 13.8	-0.7
MT13				eS	Sb	19 03 35.0	-1.2
MT13				IAML		19 03 36.0	
	comp=Z,3μm,0.5s						
MT08	Bocatoma Ro	1.81	106	Pn	Pb	19 03 15.7	-0.7
MT08	Bocatoma Ro	1.81	106	eP	Pb	19 03 15.5	-0.8
MT08				i S	Sn	19 03 36.6	-1.2
MT08				IAML		19 03 43.7	
	comp=N,2μm,0.4s						
MT08	Bocatoma Ro	1.81	106	eP	Pb	19 03 15.4	-0.9
MT08				IAML		19 03 48.4	
	comp=Z,1μm,0.8s						
LMEL	Las Melosas	1.82	120		Pb	19 03 15.5	-0.9
LMEL	Las Melosas	1.82	120	eP	Pb	19 03 15.5	-0.9
LMEL				eS	Sg	19 03 40.2	-0.9
BO02	Sierra Bellavi	2.13	149	Pn	Pn	19 03 19.5	+0.8
BO02	Sierra Bellavi	2.13	149	⇑iP	Pn	19 03 19.5	+0.8
BO02				i S	Sn	19 03 44.6	-0.8
BO02				IAML		19 03 52.9	
	comp=E,2μm,0.3s						
BO02	Sierra Bellavi	2.13	149	eP	Pn	19 03 18.8	+0.1
BO02				IAML		19 04 00.8	
	comp=Z,2μm,0.7s						
CO06	Fray Jorge	2.32	10		Pn	19 03 22.8	+1.6
CO03	El Pedregal	2.44	30	Pn	Pn	19 03 25.1	+2.2
CO03	El Pedregal	2.44	30	eP	Pn	19 03 25.1	+2.2
CO03				i S	Sn	19 03 54.5	+1.5
CO03				IAML		19 04 04.5	
	comp=E,2μm,0.1s						
CO03	El Pedregal	2.44	30	eP	Pn	19 03 24.5	+1.6
CO03				IAML		19 04 05.9	
	comp=Z,1μm,0.5s						
RTLS	Leoncito	2.64	65	eP	Pb	19 03 29.9	-0.6
RTLS				IAML		19 04 18.4	
	comp=Z,2μm,1.0s						
ARCO	CERRO ARCO	2.67	88	eP	Pb	19 03 30.9	+0.1
ARCO				IAML		19 04 09.0	
	comp=Z,1μm,1.0s						
AAGR	Agrelo	2.75	93	eP	Pb	19 03 31.8	-0.4
AAGR				IAML		19 04 16.5	
	comp=Z,817nm,1.1s						
ASAL	Salagasta	2.78	83	eP	Pb	19 03 31.7	-1.0
ASAL				IAML		19 04 23.0	
	comp=Z,554nm,1.1s						
ML02	Panimavida	2.85	169		Pn	19 03 27.9	-0.6
ML02	Panimavida	2.85	169	eP	Pn	19 03 25.5	-3.0
ML02				IAML		19 04 17.5	
	comp=Z,1μm,0.6s						
GO04	Tololo Observa	3.00	22		Pn	19 03 32.4	+1.6
GO04	Tololo Observa	3.00	22	eP	Pn	19 03 27.4	-3.3
GO04				eP	Pb	19 03 32.9	-3.6
GO04				eS	Sb	19 04 13.4	+0.1
ZON	Zonda	3.23	65	Pn	Pn	19 03 36.7	+2.9
DOCA	Reserva Natura	3.26	53	eP	Pb	19 03 38.3	-2.8
DOCA				eS	Sb	19 04 19.6	-1.5
DOCA				IAML		19 04 32.0	
	comp=Z,970nm,1.1s						
CO01	Juntas del Tor	3.44	30		Pn	19 03 39.2	+2.4
CO01	Juntas del Tor	3.44	30	eP	Pn	19 03 39.5	+2.7
CO01	Juntas del Tor	3.44	30	eP	Pn	19 03 39.6	+2.8
CO01				eS	Sb	19 04 24.4	-1.7
CO01				IAML		19 04 33.8	
	comp=Z,876nm,1.1s						
ACCO	Cerro Coronel	3.51	48	eP	Pn	19 03 37.9	0.0
ACCO				eS	Sg	19 04 35.4	0.0
CFA	Coronel Fontan	3.54	69	Pg	Pn	19 03 40.9	+2.8
	comp=Z,2.7nm,0.3s,baz=247,slow=9.7,SNR=62						
CFA				Lg	Lg	19 04 28.4	
	comp=Z,29nm,0.3s,baz=330,slow=20,SNR=9.5						
CFA	Coronel Fontan	3.54	69	eP	Pn	19 03 42.0	+3.9
CFA				eS	Sb	19 04 26.7	-2.2
AROD	Rodeo	3.58	40	eP	Pb	19 03 43.4	-3.0
BI02	San Fabin de	3.75	170	Pn	Pn	19 03 41.8	+0.8
BI02	San Fabin de	3.75	170	eP	Pn	19 03 41.7	+0.7
BI02				IAML		19 04 42.5	
	comp=Z,522nm,0.8s						
BI05	Punta Hualpn	3.88	193		Pn	19 03 43.0	+0.4
BI05	Punta Hualpn	3.88	193	eP	Pn	19 03 43.7	+1.1
BI05				IAML		19 05 02.9	
	comp=Z,215nm,0.9s						
LCO	Las Campanas	4.12	17	Pn	Pn	19 03 48.0	+1.7
LCO	Las Campanas	4.12	17	eP	Pn	19 03 47.6	+1.3
LCO				eS	Sn	19 04 30.7	-4.1
LCO				IAML		19 05 03.5	
	comp=Z,1μm,0.8s						
AC05	El Transito	4.40	21		Pn	19 03 52.4	+2.4
AC05	El Transito	4.40	21	eP	Pn	19 03 52.3	+2.2
AC05				IAML		19 05 14.8	
	comp=Z,446nm,0.6s						
AVFE	Valle Fertil	4.57	61	eS	Sb	19 04 55.9	-2.7
AGUA	GUANDACOL	4.64	43	eS	Sb	19 05 00.7	0.0
AGUA				IAML		19 05 19.1	
	comp=Z,697nm,0.8s						
AC04	Llanos de Chal	4.83	11	Pn	Pn	19 03 56.6	+0.9
GO03	Copiapo	5.59	17		Pn	19 04 07.7	+1.4
VA04	Juan Fernndez	5.67	261	Pn	Pn	19 04 09.9	+2.6
H03N1	Juan Fernandez	5.73	263	T	T	19 11 10.2	
	baz=89,slow=74,SNR=51						
H03N3	Juan Fernandez	5.74	263	T	T	19 10 47.0	
	baz=89,slow=74,SNR=80						
H03N2	Juan Fernandez	5.75	263	T	T	19 10 42.0	
	baz=89,slow=74,SNR=67						
H03S1	Juan Fernandez	5.76	259	T	T	19 10 21.8	
	baz=84,slow=74,SNR=115						
H03S3	Juan Fernandez	5.76	260	T	T	19 10 21.8	
	baz=84,slow=74,SNR=78						
H03S2	Juan Fernandez	5.77	259	T	T	19 10 22.1	
	baz=84,slow=74,SNR=256						
AC06	Mina Casimiro	5.79	16	Pn	Pn	19 04 09.7	+0.7
AC02	Maricunga	6.63	24	Pn	Pn	19 04 21.5	+0.6
AC01	Pan de Azucar	6.92	11	Pn	Pn	19 04 24.8	+0.4
LR05	Currie	7.25	179		Pn	19 04 29.3	+0.3
PLCA	Paso Flores	7.85	171		Pn	19 04 38.4	+1.0
PLCA	Paso Flores	7.85	171	Pn	Pn	19 04 38.0	+0.6
	comp=Z,1.0nm,0.3s,baz=332,slow=11,SNR=31						
PLCA				Lg	Lg	19 06 42.4	
	comp=Z,0.1nm,0.3s,baz=306,slow=17,SNR=3.5						
PLCA				LR	LR	19 07 55.3	
	comp=Z,190nm,18.0s,baz=344,slow=40						
	comp=Z,2.9nm,0.4s						
GO02	Mina Guanaco	8.08	16	Pn	Pn	19 04 41.5	+0.9
PB14	IPOC Station P	8.44	11	Pn	Pn	19 04 44.9	-0.7
TRQA	Tornquist	9.69	124	Pn	Pn	19 05 02.5	0.0
TBOT	Tacuaremb	13.73	89	eP	P	19 06 07.3	+0.8
CPUP	Villa Florida	14.44	67	Pn	Pn	19 06 06.2	-1.3
CPUP	Villa Florida	14.44	67	Pn	Pn	19 06 06.8	-0.7
	comp=Z,0.1nm,0.3s,baz=245,slow=13,SNR=3.5						
CPUP				Lg	Lg	19 10 02.1	
	comp=Z,0.3nm,0.3s,baz=306,slow=15,SNR=2.9						
CPUP				LR	LR	19 11 54.1	
	comp=Z,253nm,20.7s,baz=251,slow=39						
	comp=Z,1.3nm,0.7s						
CPUP	Villa Florida	14.44	67	eP	P	19 06 14.0	-0.4
PB16	IPOC Station P	14.75	10		Pn	19 06 13.8	+1.5
PLTB	Pedras Altas	15.68	91	Pn	Pn	19 06 24.1	0.0
PLTB	Pedras Altas	15.68	91	eP	P	19 06 32.0	+3.8
LPAZ	La Paz	16.99	13	Pn	Pn	19 06 41.0	-0.4
LPAZ	La Paz	16.99	13	Pn	P	19 06 43.1	-0.2
	comp=Z,0.2nm,0.3s,baz=187,slow=8.7,SNR=6.7						
	comp=Z,1.8nm,0.7s						
LPAZ	La Paz	16.99	13	eP	P	19 06 43.9	+0.5
MURT	Porto

comp=Z,5.3nm,1.1s
QSPA South Pole Qui 57.27 180 P **P 19 12 31.8 +1.2**
comp=Z,4.2nm,0.9s,baz=146,slow=2.8,SNR=11
comp=Z,4.2nm,0.9s
TXAR Lajitas Array 68.81 331 P **P 19 13 48.9 +1.2**
TXAR Lajitas Array 68.81 331 P **P 19 13 50.4 +2.8**
comp=Z,0.3nm,0.5s,baz=146,slow=8.8,SNR=3.5
TXAR LR LR 19 38 15.4
comp=Z,603nm,21.8s,baz=132,slow=31
comp=Z,0.3nm,0.5s
DBIC Dimbokro 74.90 72 P **P 19 14 24.3 -0.2**
DBIC IAmb IAmb 19 14 25.6
comp=Z,4.8nm,0.8s
DBIC Dimbokro 74.90 72 P **P 19 14 23.5 -1.0**
comp=Z,4.2nm,0.6s,baz=220,slow=6.5,SNR=6.8
comp=Z,4.2nm,0.6s
GWY Greenwater Val 80.43 325 P **P 19 14 56.5 +1.4**
GWY IAmb IAmb 19 14 57.2
comp=Z,3.0nm,0.7s
BOSA Boshof 80.60 118 P **P 19 14 56.1 -0.2**
BOSA Boshof 80.60 118 P **P 19 14 55.8 -0.5**
comp=Z,3.7nm,0.7s,baz=256,slow=4.7,SNR=9.8
comp=Z,3.7nm,0.7s
PDAR Pinedale Array 82.82 333 LR LR 19 49 19.9
comp=Z,881nm,20.4s,baz=132,slow=34
TORD Torodi Ar. Bea 83.91 70 P **P 19 15 13.7 +0.1**
TORD Torodi Ar. Bea 83.91 70 P **P 19 15 12.8 -0.7**
comp=Z,1.4nm,0.3s,baz=283,slow=3.7,SNR=4.8
comp=Z,1.4nm,0.3s
H11S2 WAKE ISLAND Hyl25.73 270 T T 21 40 31.4
baz=118,slow=75,SNR=73
H11S1 WAKE ISLAND Hyl25.74 270 T T 21 40 32.0
baz=118,slow=75,SNR=35
H11S3 WAKE ISLAND Hyl25.74 270 T T 21 40 32.7
baz=118,slow=75,SNR=35
H11N3 WAKE ISLAND Hyl26.11 271 T T 21 41 11.9
baz=113,slow=78,SNR=1.5
H11N1 WAKE ISLAND Hyl26.13 271 T T 21 41 06.7
baz=113,slow=78,SNR=3.7
H11N2 WAKE ISLAND Hyl26.13 271 T T 21 41 19.0
baz=113,slow=78,SNR=8.2
BVAR Borovoye Array 146.55 42 PKPbc **PKPab 19 22 25.6 +0.3**
comp=Z,1.5nm,0.5s,baz=298,slow=3.2,SNR=9.2
KURBB Kurchatov Arra 152.15 42 PKPbc **PKiKP 19 22 39.3 +0.6**
comp=Z,1.6nm,0.7s,baz=303,slow=3.0,SNR=19
ZALV Zalesovo Beam 153.38 31 PKPbc **PKiKP 19 22 42.1 +1.0**
comp=Z,2.4nm,0.8s,baz=281,slow=2.0,SNR=12
MKAR Makanchi Array 156.11 47 PKP **PKPdf 19 22 35.5 -2.0**
comp=Z,0.1nm,0.7s,baz=297,slow=16,SNR=2.7
MKAR PKPab **PKPab 19 23 06.0 +0.9**
comp=Z,1.0nm,0.7s,baz=300,slow=3.8,SNR=9.9

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*WEL **23** 19:19:46.2±1.0,32°S±5°×17°8W±1°6,h12km,M4.2/8, mB4.5/7,ML4.9/10,MLv4.7/8,Mw(mB)3.7/7,Error ellipse: s-maj=21.8km s-min=3.2km az=103.7,confirmed*
*IDC **23** 19:19:47.0±1.1,31°66S×177°72W,h0km,mb4.1/5, mbtmp4.1/6,ML5.9/1,MS3.8/2,Error ellipse: s-maj=32.8km s-min=31.5km az=45.0*
ISC 23 19:19:48.3±1.0,31°81S±0°07×177°9W±0°2,h10km,n35, σ1°93/49,mb4.0/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.54**	**0**	P	**Pn**	**19 20 28.6**	**-2.0**
GLKZ				S	**Sn**	**19 20 58.3**	**-2.1**
RIZ	**Raoul Island**	**2.55**	**0**	P	**Pn**	**19 20 27.3**	**-2.5**
RIZ				S	**Sn**	**19 20 59.3**	**-1.6**
WMGZ	**Waiomatatini S**	**6.70**	**206**	P	**Pn**	**19 21 26.7**	**-0.1**
WMGZ				S	**Sn**	**19 22 41.0**	**-2.3**
PKGZ	**Pakihiroa**	**6.87**	**207**	P	**Pn**	**19 21 28.3**	**-0.8**
PKGZ				S	**Sn**	**19 22 47.3**	**-0.1**
HAZ	**Te Kaha**	**6.90**	**209**	P	**Pn**	**19 21 29.8**	**+0.3**
HAZ				S	**Sn**	**19 22 49.9**	**+1.9**
WSRZ	**White Island S**	**6.97**	**214**	S	**Sn**	**19 22 46.5**	**-3.4**
PUZ	**Puketiti**	**6.99**	**205**	S	**Sn**	**19 22 49.9**	**-0.3**
RUGZ	**Raukumara Rang**	**7.12**	**209**	P	**Pn**	**19 21 32.4**	**-0.3**
RUGZ				S	**Sn**	**19 22 53.4**	**-0.2**
TWGZ	**Tauwhareparae**	**7.18**	**207**	P	**Pn**	**19 21 34.6**	**+1.1**
TWGZ				S	**Sn**	**19 22 54.8**	**-0.3**
CNGZ	**Carnagh Statio**	**7.37**	**204**	P	**Pn**	**19 21 33.7**	**-2.3**
CNGZ				S	**Sn**	**19 23 00.3**	**+0.7**
MWZ	**Matawai**	**7.50**	**208**	P	**Pn**	**19 21 36.3**	**-1.4**
MWZ				S	**Sn**	**19 23 00.2**	**-2.6**
URZ	**Urewera**	**7.61**	**211**	Pn	**Pn**	**19 21 37.3**	**-1.9**
0.6nm,0.3s,baz=357,slow=3.3,SNR=10							
URZ				Sn	**Sn**	**19 23 03.6**	**-1.8**
2.7nm,0.3s,baz=296,slow=2.7,SNR=11							
URZ	**Urewera**	**7.61**	**211**	P	**Pn**	**19 21 38.0**	**-1.2**
URZ				S	**Sn**	**19 23 02.2**	**-3.3**
WCZ	**Waipu Caves**	**7.62**	**235**	P	Pn	19 21 45.8	+6.4
RIGZ	**Rimuhau**	**7.73**	**206**	P	**Pn**	**19 21 37.6**	**-3.3**
RIGZ				S	**Sn**	**19 23 04.5**	**-3.9**
OUZ	**Omahuta**	**7.84**	**242**	P	Pn	19 21 49.9	+7.5
RTZ	**Ruatahuna**	**7.96**	**210**	P	**Pn**	**19 21 43.5**	**-0.6**
RTZ				S	**Sn**	**19 23 11.5**	**-2.9**
MTHZ	**Maungataniwha**	**8.22**	**210**	P	**Pn**	**19 21 48.0**	**+0.3**
MTHZ				S	**Sn**	**19 23 18.4**	**-2.2**
BKZ	**Black Stump Fm**	**8.63**	**210**	P	**Pn**	**19 21 52.3**	**-1.0**
BKZ				S	**Sn**	**19 23 26.8**	**-4.0**
KWHZ	**Kaweka Forest**	**8.88**	**210**	P	**Pn**	**19 21 55.3**	**-1.4**
KWHZ				S	**Sn**	**19 23 33.5**	**-3.3**
BFZ	**Birch Farm**	**10.02**	**206**	P	**Pn**	**19 22 09.3**	**-3.0**
BFZ				S	Sn	19 23 56.2	-8.6
MSVF	**Nonsavu**	**14.47**	**345**	Pn	**Pn**	**19 23 12.7**	**-0.7**
1.9nm,0.3s,baz=246,slow=23,SNR=9.4							
MSVF				LR	LR	19 28 41.5	
comp=Z,243nm,18.1s,baz=140,slow=37							
4.5nm,0.4s							
DZM	**Mont Dzumac**	**16.95**	**301**	LR	LR	19 29 38.4	
comp=Z,410nm,18.3s,baz=124,slow=35							
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**19 26 36.4**	**+2.0**
2.2nm,1.0s,baz=110,slow=4.0,SNR=3.7							
2.2nm,1.0s							
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**	**19 27 50.5**	**+1.5**
1.6nm,0.6s,baz=107,slow=7.0,SNR=32							
1.6nm,0.6s							
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**19 27 59.1**	**+1.2**
3.3nm,0.9s,baz=113,slow=7.9,SNR=12							
3.3nm,0.9s							
FITZ	**Fitzroy Crossi**	**52.42**	**271**	P	**P**	**19 29 03.3**	**+2.1**
3.7nm,1.0s,baz=113,slow=7.7,SNR=1.6							
3.7nm,1.0s							
QSPA	**South Pole Qui**	**58.31**	**180**	P	**P**	**19 29 44.5**	**+1.3**
1.5nm,1.1s,baz=312,slow=0.7,SNR=7.5							
1.5nm,1.1s							
MKAR	**Makanchi Array**	**118.71**	**309**	PKP	**PKPdf**	**19 38 36.2**	**-0.2**
0.6nm,0.8s,baz=50,slow=3.8,SNR=3.8							
KURBB	**Kurchatov Arra**	**122.08**	**313**	PKP	**PKPdf**	**19 38 42.3**	**-0.4**
0.3nm,0.7s,baz=106,slow=2.0,SNR=5.2							
KBZ	**Khabaz**	**145.92**	**302**	PKPbc	**PKPdf**	**19 39 27.9**	**+0.8**
5.2nm,1.0s,baz=75,slow=16,SNR=4.4							
FINES	**FINESS Array B**	**146.48**	**339**	PKPbc	**PKPdf**	**19 39 26.9**	**-0.6**
4.8nm,0.8s,baz=33,slow=3.5,SNR=8.7							
MMAI	**Mount Meron Ar**	**151.89**	**281**	PKPbc	**PKiKP**	**19 39 46.3**	**+2.2**
2.9nm,0.8s,baz=61,slow=8.7,SNR=5.1							
AKASG	**Malin Array Be**	**152.43**	**321**	PKPbc	**PKiKP**	**19 39 45.6**	**+1.1**
0.6nm,0.4s,baz=64,slow=2.5,SNR=4.6							
AKASG				PKPab	**PKPab**	**19 39 55.1**	**+0.6**
2.8nm,0.9s,baz=50,slow=2.7,SNR=5.1							
BRTR	**Keskin Array B**	**153.29**	**296**	PKPbc	**PKPbc**	**19 39 46.4**	**-0.4**
3.4nm,1.0s,baz=131,slow=4.1,SNR=2.7							

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*BJI **23** 19:21:15.8,4°55N×76°20W,h110km,mB5.8/41*
*UPA **23** 19:21:15.8±2.3,4°73N×76°32W,h0km±17km,MW6.2*
*IPGP **23** 19:21:16.0,4°56N×76°28W,h124km,Mw6.1,Fault plane solution: NP1:φ₁226.00000°,δ11.00000°,λ-50.00000°. NP2:φ₂5.00000°,δ82.00000°,λ-97.00000°.*
*VAO **23** 19:21:17.6±0.4,4°42N×76°16W,h130km±4km,mb6.1*
*IDC **23** 19:21:17.6±0.4,4°57N×76°09W,h131km±2km,mb5.4/28, mbtmp5.8/34,MS5.0/49,Error ellipse: s-maj=9.0km s-min=7.7km az=63.0*
*NEIC **23** 19:21:18.0±2.2,4°56N±0°05×76°22W±0°05,h122km±1km, mb5.9/299,Mwb6.1/57,Mww6.1/30,Error ellipse: s-maj=8.5km s-min=8.0km az=128.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.16; Mθθ=0.19; Mφφ=0.35; Mrθ=-0.18; Mφθ=0.23; Mφr=-1.44; Fault plane solution: M₀1.50000×10¹⁸ NP1:φ₁236.59000°, δ8.28000°,λ-39.89000°. NP2:φ₂6.19000°,δ84.70000°, λ-96.37000°. Principal axes: T 1.6085, Plg39.0000°, Azm102.0000°; N -0.2415, Plg6.0000°, Azm7.0000°; P -1.3670, Plg50.0000°, Azm269.0000°;*
*RSNC **23** 19:21:17.3±0.0,5°N±1°×7°6W±°,h126km±2km,M5.9, mB6.5,mb6.5,ML5.7,Mw6.1,Mw(mB)6.3*
*NEIC **23** 19:21:17,4°51N×76°00W,h120km,Moment Tensor Solution. Duration:5s5 Moment tensor: Scale 10¹⁸Nm; Mrr=0.12; Mθθ=0.30; Mφφ=0.42; Mrθ=0.02; Mθφ=0.42; Mφr=-1.46; Fault plane solution: M₀1.54000×10¹⁸ NP1: φ₁252.75000°,δ17.26000°,λ-15.17000°. NP2: φ₂357.27000°,δ85.55000°,λ-106.69000°. Principal axes: T 1.6894, Plg38.0000°, Azm102.0000°; N -0.2900, Plg17.0000°, Azm359.0000°; P -1.3995, Plg47.0000°, Azm250.0000°;*
*PPT **23** 19:21:17.0±0.3,4°63N×76°17W,h108km±2km,mb5.9/99, MLv6.6/7 Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MOS **23** 19:21:17.6±1.1,4°57N×76°39W,h132km,mb5.7/21, MS5.2/4,Error ellipse: s-maj=10.7km s-min=6.9km az=69.8*
*NEIC **23** 19:21:17.6,4°57N×76°22W,h118km*
*NEIC **23** 19:21:17,4°51N×76°33W,h124km*
*CATAC **23** 19:21:17.9±0.3,5°N±3°×7°6W±°,h113km±5km,M6.1/18, mb6.2/18,mB6.3/18,MLv6.6/5,Mw(mB)6.0/18, MwMwp5.8/10,Mwp5.9/10,Error ellipse: s-maj=8.2km s-min=4.9km az=35.5,confirmed*
*OSUNB **23** 19:21:20.3±0.2,4°34N×75°98W,h147km±1km,mb6.1/62, Error ellipse: s-maj=1.8km s-min=1.9km az=0.0*
*GCMT **23** 19:21:20.0±0.1,4°62N×76°31W,h129km,MW6.1/174, Moment Tensor Solution. s164,c386; s174,c588; Duration: 2s7 Moment tensor: Scale 10¹⁸Nm; Mrr=0.38±.01; Mθθ=0.25±.01; Mφφ0.62±.01; Mrθ0.00±.01; Mθφ0.10±.01; Mφr-1.58±.01; Best double couple: M₀1.66100×10¹⁸ NP1:φ₁201.00000°,δ9.00000°, λ-69.00000°. NP2:φ₂360.00000°,δ81.00000°, λ-93.00000°. Principal axes: T 1.7860, Plg36.0000°, Azm93.0000°; N -0.2490, Plg3.0000°, Azm0.0000°; P -1.5360, Plg54.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 19:21:17.2±0.2,4°53N±0°02×76°15W±0°02,h128km±1km, h128km:pP-P,n1877,σ1°74/2486,mb5.9/276,154C-100D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jose del P**	**0.40**	**341**	P	**Pn**	**19 21 33.6**	**-2.0**
PLMC				P	**Pn**	**19 21 33.6**	**-2.0**
PLMC				S	**Sn**	**19 21 48.4**	**-1.1**
YOTC	**Yotoco, Valle**	**0.57**	**200**	P	**Pn**	**19 21 35.7**	**-0.9**
YOTC				S	**Sn**	**19 21 51.5**	**+0.2**
CMAN1	**Manizales, Cal**	**0.83**	**49**	P	**Pn**	**19 21 39.0**	**+0.3**
CMAN1				S	**Sn**	**19 21 55.4**	**+0.5**
NIZA	**Niza - Manizal**	**0.86**	**52**	P	**Pn**	**19 21 38.7**	**-0.2**
NIZA				S	**Sn**	**19 21 55.9**	**+0.5**
GUY2C	**Guyana, Caldas**	**1.05**	**49**	P	**Pn**	**19 21 40.7**	**-0.1**
GUY2C				S	**Sn**	**19 21 58.8**	**+0.1**
ORTC	**Ortega, Tolima**	**1.09**	**124**	P	**Pn**	**19 21 41.8**	**+1.0**
ORTC				S	**Sn**	**19 22 01.2**	**+2.4**
PIZC	**Pizarro, Choco**	**1.28**	**290**	P	**Pn**	**19 21 41.0**	**-1.7**
PIZC				S	**Sn**	**19 22 00.1**	**-2.0**
MALC	**Bahia Malaga**	**1.29**	**247**	P	**Pn**	**19 21 42.1**	**-0.7**
MALC				S	**Sn**	**19 22 01.5**	**-0.7**
CBOC	**Ciudad Bolivar**	**1.33**	**6**	P	**Pn**	**19 21 41.6**	**-1.9**
CBOC				S	**Sn**	**19 22 02.7**	**-0.8**
JAMC	**Jamundi, Valle**	**1.40**	**202**	P	**Pn**	**19 21 43.8**	**-0.5**
JAMC				S	**Sn**	**19 22 05.4**	**+0.5**
PRAC	**Prado**	**1.50**	**123**	P	**Pn**	**19 21 46.8**	**+1.6**
PRAC				S	**Sn**	**19 22 09.9**	**+3.4**
PRAC	**Prado**	**1.50**	**123**	P	**Pn**	**19 21 46.4**	**+1.3**
PRAC	**Prado**	**1.50**	**123**	P	**Pn**	**19 21 47.0**	**+1.9**
PRAC				S	**Sn**	**19 22 09.2**	**+2.7**
NORC	**Norcasia**	**1.64**	**51**	P	**Pn**	**19 21 47.1**	**+0.3**
NORC				S	**Sn**	**19 22 10.5**	**+1.1**
HELC	**Santa Helena**	**1.77**	**21**	P	**Pn**	**19 21 47.3**	**-1.3**
HELC				S	**Sn**	**19 22 10.6**	**-1.9**
MEDEC	**Medelln, Ant**	**1.82**	**18**	P	**Pn**	**19 21 48.6**	**-0.5**
MEDEC				S	**Sn**	**19 22 12.8**	**-0.7**
ROSC	**El Rosal**	**1.85**	**80**		**Pn**	**19 21 52.2**	**+2.6**
ROSC				Sn	**Sn**	**19 22 19.5**	**+5.2**
ROSC	**El Rosal**	**1.85**	**80**	P	**Pn**	**19 21 52.1**	**+2.5**
54µm,0.8s,baz=353,slow=2.5,SNR=1300							
ROSC				S	**Sn**	**19 22 21.0**	**+6.7**
15µm,0.6s,baz=253,slow=19,SNR=3.6							
ROSC				LR	LR	19 22 47.5	
comp=Z,552µm,18.4s,baz=243,slow=50							
ROSC	**El Rosal**	**1.85**	**80**	P	**Pn**	**19 21 52.5**	**+2.9**
ROSC				S	**Sn**	**19 22 19.6**	**+5.2**
BETC	**Betania**	**1.97**	**159**	P	**Pn**	**19 21 51.9**	**+1.2**
BETC				S	**Sn**	**19 22 18.7**	**+2.4**
POPC	**Popayan, Colom**	**2.04**	**195**	P	**Pn**	**19 21 51.4**	**-0.4**
POPC				S	**Sn**	**19 22 17.9**	**-0.4**
CVER	**Cruz Verde, Cu**	**2.07**	**90**	P	**Pn**	**19 21 55.3**	**+2.9**
CVER				S	**Sn**	**19 22 23.4**	**+4.2**
SOLC	**Bahia Solano**	**2.10**	**324**	P	**Pn**	**19 21 49.6**	**-2.7**
SOLC				S	**Sn**	**19 22 15.4**	**-3.8**
URMC	**La Uribe, Meta**	**2.18**	**126**	P	**Pn**	**19 21 54.9**	**+1.6**
URMC				S	**Sn**	**19 22 24.0**	**+3.0**
CHIC	**Chingaza**	**2.42**	**88**	P	**Pn**	**19 21 59.4**	**+2.8**
CHIC				S	**Sn**	**19 22 29.4**	**+2.6**
DBBC	**Dabeiba**	**2.47**	**359**	P	**Pn**	**19 21 55.6**	**-1.5**
DBBC				S	**Sn**	**19 22 27.0**	**-0.7**
VILC	**Villavicencio,**	**2.49**	**99**	P	**Pn**	**19 22 00.2**	**+3.0**
VILC				S	**Sn**	**19 22 33.4**	**+5.4**
GR1C	**Gorgona, Isla**	**2.52**	**233**	P	**Pn**	**19 21 54.8**	**-2.7**
GR1C				S	**Sn**	**19 22 24.3**	**-4.2**
PTBC	**PUERTO BERRIO,**	**2.62**	**40**	P	**Pn**	**19 21 58.3**	**-0.5**
PTBC				S	**Sn**	**19 22 30.0**	**-0.8**
BBAC	**Balboa, Cauca**	**2.72**	**204**	P	**Pn**	**19 22 01.0**	**+0.7**
BBAC				S	**Sn**	**19 22 32.4**	**-1.1**
FLOC	**Florencia**	**2.97**	**170**	Pn	**Pn**	**19 22 04.3**	**+0.9**
FLOC				Sn	**Sn**	**19 22 36.0**	**-3.0**
FLOC	**Florencia**	**2.97**	**170**	P	**Pn**	**19 22 04.5**	**+1.1**
FLOC				S	**Sn**	**19 22 37.9**	**-1.1**
CRUC	**La Cruz**	**3.05**	**195**	P	**Pn**	**19 22 06.2**	**+1.5**
CRUC				S	**Sn**	**19 22 41.0**	**-0.3**
ZARC	**Zaragoza, Cauc**	**3.21**	**24**	P	**Pn**	**19 22 05.6**	**-1.0**
ZARC				S	**Sn**	**19 22 43.6**	**-1.1**
UREC	**San Jos de Ur**	**3.26**	**11**	P	**Pn**	**19 22 05.7**	**-1.5**
UREC				S	**Sn**	**19 22 44.2**	**-1.6**
UREC	**San Jos de Ur**	**3.26**	**11**	*eP*	**Pn**	**19 22 06.2**	**-1.0**
UREC				*eS*	**Sn**	**19 22 43.1**	**-2.7**
RUSC	**La Rusia**	**3.34**	**66**	Pn	**Pn**	**19 22 09.7**	**+1.1**
RUSC	**La Rusia**	**3.34**	**66**	P	**Pn**	**19 22 09.8**	**+1.1**
RUSC				S	**Sn**	**19 22 49.9**	**+1.5**
RUSC	**La Rusia**	**3.34**	**66**	P	**Pn**	**19 22 10.8**	**+2.1**
RUSC				S	**Sn**	**19 22 44.3**	**-4.1**
RUSC	**La Rusia**	**3.34**	**66**	P	**Pn**	**19 22 10.6**	**+1.9**
RUSC	**La Rusia**	**3.34**	**66**	P	**Pn**	**19 22 10.8**	**+2.1**
APAC	**Apartado, Choc**	**3.38**	**353**	P	**Pn**	**19 22 08.9**	**+0.2**
APAC				S	**Sn**	**19 22 45.2**	**-3.3**
BARC	**Barichara**	**3.60**	**55**	P	**Pn**	**19 22 12.4**	**+0.6**
BARC				S	**Sn**	**19 22 54.6**	**+0.6**
TUMC	**Tumaco**	**3.72**	**224**		**Pn**	**19 22 11.1**	**-2.1**
TUMC	**Tumaco**	**3.72**	**224**	P	**Pn**	**19 22 11.5**	**-1.6**
TUMC				S	**Sn**	**19 22 54.6**	**-1.9**
TUMC	**Tumaco**	**3.72**	**224**	P	**Pn**	**19 22 11.4**	**-1.8**
TUMC				S	**Sn**	**19 22 54.1**	**-2.4**
TUMC	**Tumaco**	**3.72**	**224**	P	**Pn**	**19 22 11.6**	**-1.6**
TUMC	**Tumaco**	**3.72**	**224**	P	**Pn**	**19 22 11.4**	**-1.8**
GUVC	**San Jose del G**	**4.03**	**119**	P	**Pn**	**19 22 19.1**	**+1.8**
GUVC				S	**Sn**	**19 23 06.7**	**+2.7**
CAPC	**Capurgana**	**4.25**	**344**	P	**Pn**	**19 22 18.0**	**-2.3**
CAPC				S	**Sn**	**19 23 06.5**	**-2.7**
CAP2	**Capurgana**	**4.27**	**344**	P	**Pn**	**19 22 20.2**	**-0.3**
CAP2				S	**Sn**	**19 23 01.3**	**-8.3**
CAP2	**Capurgana**	**4.27**	**344**	P	**Pn**	**19 22 19.3**	**-1.2**
CAP2	**Capurgana**	**4.27**	**344**	P	**Pn**	**19 22 17.9**	**-2.6**
LCBC	**Los crdobas,**	**4.31**	**357**	*eP*	**Pn**	**19 22 20.7**	**-0.3**
UPD2	**Meteti**	**4.40**	**335**	*eP*	**Pn**	**19 22 20.9**	**-1.4**
UPD2				*eS*	**Sn**	**19 23 09.6**	**-3.2**
PAMC	**Pamplona, Colo**	**4.43**	**51**	P	**Pn**	**19 22 23.0**	**0.0**
PAMC				S	**Sn**	**19 23 14.3**	**+0.2**
OCAC	**Ocana**	**4.64**	**37**	P	**Pn**	**19 22 24.9**	**-0.7**
OCAC				S	**Sn**	**19 23 17.4**	**-1.3**
OTAV	**Otavalo**	**4.84**	**208**	Pn	**Pn**	**19 22 26.9**	**-1.7**
OTAV				Sn	**Sn**	**19 23 19.9**	**-4.1**
OTAV	**Otavalo**	**4.84**	**208**	⇑P	**Pn**	**19 22 27.1**	**-1.5**
OTAV	**Otavalo**	**4.84**	**208**	P	**Pn**	**19 22 27.0**	**-1.5**
OTAV				S	**Sn**	**19 23 22.0**	**-2.0**
OTAV	**Otavalo**	**4.84**	**208**	*eP*	**Pn**	**19 22 27.7**	**-0.9**
PEDA3	**Pedasi**	**4.87**	**308**	*eP*	**Pn**	**19 22 25.8**	**-2.7**
PEDA3				*eS*	**Sn**	**19 23 18.8**	**-5.2**
ACHO3	**Achotines, Los**	**4.92**	**306**	⇑*eP*	**Pn**	**19 22 26.6**	**-2.6**
ACHO3				*eS*	**Sn**	**19 23 20.1**	**-5.1**
PCRI3	**Pocri, Los San**	**5.02**	**308**	⇑*iP*	**Pn**	**19 22 28.4**	**-2.2**
PCRI3				*eS*	**Sn**	**19 23 23.3**	**-4.4**
AZU	**Azuero**	**5.23**	**309**	⇑*iP*	**Pn**	**19 22 30.6**	**-2.7**
AZU				*eS*	**Sn**	**19 23 27.6**	**-4.9**
CNTA3	**Canitas, Panam**	**5.40**	**330**	*eP*	**Pn**	**19 22 32.8**	**-2.8**
CNTA3				*eS*	**Sn**	**19 23 33.1**	**-3.6**
TABO3	**Taboga, Panama**	**5.42**	**322**	*eP*	**Pn**	**19 22 33.2**	**-2.7**
TABO3				*eS*	**Sn**	**19 23 34.0**	**-3.2**
SJCC	**San Jacinto, C**	**5.42**	**10**	P	**Pn**	**19 22 34.6**	**-1.4**
SJCC	**San Jacinto, C**	**5.42**	**10**	P	**Pn**	**19 22 34.4**	**-1.6**
SJCC				S	Sn	19 23 22.8	-15
CHIT3	**Chitre**	**5.44**	**309**	⇑*iP*	**Pn**	**19 22 34.2**	**-2.0**
CHIT3				*eS*	**Sn**	**19 23 34.1**	**-3.6**
CACAO	**El Cacao, Vera**	**5.46**	**301**	*eP*	**Pn**	**19 22 33.1**	**-3.3**
CACAO				*eS*	**Sn**	**19 23 34.4**	**-3.7**
UPA	**Univ. de Panam**	**5.55**	**323**	*eP*	**Pn**	**19 22 34.8**	**-2.9**
UPA				*eS*	**Sn**	**19 23 35.9**	**-4.6**
PESE3	**Pese, Herrera**	**5.56**	**307**	⇑*eP*	**Pn**	**19 22 36.2**	**-1.6**
PESE3				*eS*	**Sn**	**19 23 36.5**	**-4.2**
ARRA3	**Arraijan, Pana**	**5.62**	**322**	*eP*	**Pn**	**19 22 36.0**	**-2.5**
ARRA3				*eS*	**Sn**	**19 23 38.6**	**-3.5**
CHOR3	**La Chorrera**	**5.63**	**321**	*eP*	**Pn**	**19 22 36.7**	**-2.0**
CHOR3				*eS*	**Sn**	**19 23 38.5**	**-3.8**
PNME	**Penonome**	**5.72**	**314**	*eP*	**Pn**	**19 22 37.7**	**-2.1**
PNME				*eS*	**Sn**	**19 23 42.3**	**-2.1**
SLOR	**San Lorenzo -**	**5.72**	**204**		**Pn**	**19 22 40.5**	**0.0**
ZANG	**Zanguenga, Cho**	**5.74**	**320**	*eP*	**Pn**	**19 22 38.9**	**-1.3**
ZANG				*eS*	**Sn**	**19 23 42.1**	**-2.9**
CRIS3	**El Cristo, Coc**	**5.78**	**310**	*eP*	**Pn**	**19 22 39.1**	**-1.6**
CRIS3				*eS*	**Sn**	**19 23 43.1**	**-2.8**
BCIP	**Isla Barro Col**	**5.88**	**322**	Pn	**Pn**	**19 22 39.6**	**-2.6**
BCIP				Sn	**Sn**	**19 23 43.9**	**-4.6**
BCIP	**Isla Barro Col**	**5.88**	**322**	P	**Pn**	**19 22 39.2**	**-2.9**
BCIP				S	**Sn**	**19 23 44.2**	**-4.3**
BCIP	**Isla Barro Col**	**5.88**	**322**	*eP*	**Pn**	**19 22 40.3**	**-1.8**
BCIP				*eS*	**Sn**	**19 23 45.6**	**-2.8**
STIA3	**Santiago, Vera**	**5.96**	**307**	⇑*eP*	**Pn**	**19 22 42.0**	**-1.2**
STIA3				*eS*	**Sn**	**19 23 47.6**	**-2.7**
GMAL	**Guarumal, Vera**	**5.99**	**303**	*iP*	**Pn**	**19 22 41.9**	**-1.6**
GMAL				*eS*	**Sn**	**19 23 48.2**	**-2.8**
CALO3	**Calobre, Verag**	**5.99**	**309**	*eP*	**Pn**	**19 22 42.8**	**-0.9**
CALO3				*eS*	**Sn**	**19 23 48.0**	**-3.1**
SMRC	**Santa Marta, M**	**6.86**	**16**	Pn	**Pn**	**19 22 54.2**	**-1.2**
SDV	**Santo Domingo**	**6.98**	**51**	Pn	**Pn**	**19 22 56.9**	**-0.3**
SDV	**Santo Domingo**	**6.98**	**51**	P	**Pn**	**19 22 57.4**	**+0.2**
742nm,0.3s,baz=234,slow=11,SNR=229							
SDV				S	**Sn**	**19 24 11.8**	**-3.5**
5µm,0.7s,baz=240,slow=20,SNR=11							
SDV	**Santo Domingo**	**6.98**	**51**	P	**Pn**	**19 22 57.0**	**-0.1**
SDV				S	**Sn**	**19 24 13.0**	**-2.3**
SDV	**Santo Domingo**	**6.98**	**51**	*eP*	**Pn**	**19 22 57.9**	**+0.8**
GUAL3	**Gualaca, Chiri**	**7.29**	**303**	⇓*iP*	**Pn**	**19 23 01.8**	**+0.7**
GUAL3				*eS*	**Sn**	**19 24 19.5**	**-2.9**
LOMA3	**Las Lomas, Chi**	**7.31**	**302**	*eP*	**Pn**	**19 23 01.5**	**+0.1**
LOMA3				*eS*	**Sn**	**19 24 19.6**	**-3.4**
PEDE3	**Pedregal, Chir**	**7.31**	**302**	⇑*eP*	**Pn**	**19 23 01.2**	**-0.2**
PEDE3				*eS*	**Sn**	**19 24 19.7**	**-3.3**
CHGR2	**Aguacate**	**7.39**	**307**	*eP*	**Pn**	**19 23 01.0**	**-1.4**
CHGR2				*eS*	**Sn**	**19 24 23.6**	**-1.3**
PTAR3	**Potrerillos Ar**	**7.54**	**304**	*eP*	**Pn**	**19 23 04.7**	**+0.1**
PTAR3				*eS*	**Sn**	**19 24 25.0**	**-3.6**
LNBQ3	**Los Naranjos,**	**7.55**	**304**	*eP*	**Pn**	**19 23 04.8**	**+0.1**
LNBQ3				*eS*	**Sn**	**19 24 30.8**	**+1.9**
COHC	**Cochancay**	**7.61**	**204**		**Pn**	**19 23 03.4**	**-2.0**
BC3P	**Paso Ancho**	**7.70**	**304**	*eP*	**Pn**	**19 23 06.5**	**-0.3**
BC3P				*eS*	**Sn**	**19 24 28.1**	**-4.6**
BRU2	**Volcan**

POTN	Potosi Cosigui	14.02	308	P	P	19 24 35.1	+1.0
POTN	Potosi Cosigui	14.02	308	P	Pn	19 24 29.4	-0.9
PAPH	Port-au-Prince	14.41	15		Pn	19 24 35.3	0.0
CNCH	Conchagua	14.44	308	P	P	19 24 40.1	+1.2
CNCH	Conchagua	14.44	308	P	Pn	19 24 34.5	-1.3
TGUH	Tegucigalpa,Un	14.49	312		Pn	19 24 34.9	-1.6
TGUH	Tegucigalpa,Un	14.49	312	⇓P	Pn	19 24 35.0	-1.4
BANI	BANI	14.90	22		Pn	19 24 40.8	-0.8
PACA	Pacayal	14.94	307	P	P	19 24 47.0	+2.5
PACA	Pacayal	14.94	307	P	Pn	19 24 41.2	-0.9
PAYG	Puerto Ayora	15.04	250		Pn	19 24 41.9	-1.4
I20EC	Galapagos	15.09	251	I	I	20 37 50.0	
	baz=76,slow=315,SNR=4.0						
SDD	Santo Domingo	15.13	23		Pn	19 24 43.9	-0.4
SDDR	Presa de Saban	15.13	18		Pn	19 24 45.0	+0.6
SDDR	Presa de Saban	15.13	18	*eP*	P	19 24 46.6	+0.1
SDDR	Presa de Saban	15.13	18	⇑P	P	19 24 46.9	+0.4
PILO	Pilon	15.34	356	*eP*	Pn	19 24 47.3	+0.3
GTBY	Guantanamo Bay	15.34	4		Pn	19 24 46.6	-0.3
GTBY	Guantanamo Bay	15.34	4	*eP*	P	19 24 48.5	-0.3
GTBY	Guantanamo Bay	15.34	4	⇑P	P	19 24 48.9	+0.1
CHIV	Chivirico	15.36	359		Pn	19 24 45.7	-1.4
CHIV	Chivirico	15.36	359	*eP*	Pn	19 24 45.9	-1.2
RCC	Rio Carpintero	15.38	2	*eP*	Pn	19 24 48.2	+0.8
MARVS	Santiago de Cu	15.38	1	*eP*	Pn	19 24 47.8	+0.3
SCLA	Alcaldía de Sa	15.39	307	P	Pn	19 24 47.7	0.0
SCLA	Alcaldía de Sa	15.39	307	P	Pn	19 24 47.5	-0.3
LMGC	Las Mercedes	15.46	357	*eP*	Pn	19 24 46.8	-1.6
DR12	Loma Pena Alta	15.64	24		Pn	19 24 48.2	-2.6
MASC	Masc	15.66	7	*eP*	Pn	19 24 51.2	+0.3
SC01	Santiago de Io	15.73	19		Pn	19 24 49.4	-2.4
BOAV	Boa Vista	15.74	97		Pn	19 24 50.2	-1.8
BOAV	Boa Vista	15.74	97	P	Pn	19 24 50.2	-1.8
BOAV				S	Sn	19 27 44.0	-2.9
BOAV	Boa Vista	15.74	97	*eP*	Pn	19 24 51.0	-1.0
TRN	Trinidad (W)	15.83	67	*eP*	Pn	19 24 49.3	-3.7
PCDR	Punta Cana, DR	15.84	28		Pn	19 24 51.2	-1.9
PINC	Pinares de May	15.87	1	*eP*	Pn	19 24 53.8	+0.3
NMDO	Nuevo Mundo	15.98	4		Pn	19 24 53.8	-1.1
NMDO	Nuevo Mundo	15.98	4	*eP*	Pn	19 24 54.7	-0.1
CRPR	Cabo Rojo, PR	16.05	33		Pn	19 24 54.9	-0.9
MOAC	Moa	16.08	4	*eP*	P	19 24 58.2	+1.3
TBH	Brigand Hill	16.08	68	*eP*	P	19 24 59.0	+2.0
GRFF	Grenada Fort F	16.09	61	*eP*	Pn	19 24 53.9	-2.5
GRGR	Grenville	16.20	61		Pn	19 24 57.1	-0.6
GRGR	Grenville	16.20	61	*eP*	Pn	19 24 53.2	-4.5
GRGR	Grenville	16.20	61	⇑P	Pn	19 24 57.3	-0.4
PRSN	Puerto Rico Se	16.21	32		Pn	19 24 55.5	-2.2
GRW	Mount Saint Ca	16.21	61	*eP*	Pn	19 24 55.8	-2.0
HLGC	Holguin	16.27	0	*eP*	Pn	19 24 58.6	+0.3
MTO3	Montecristo	16.30	308		Pn	19 24 57.1	-2.0
GRSS	Sisters	16.32	61	*eP*	Pn	19 24 58.5	-0.6
OBIP	Obispado Ponce	16.36	34		Pn	19 24 57.6	-1.9
CELP	Cerrillos	16.40	34		Pn	19 24 58.2	-1.9
NNA	Nana	16.42	182		P	19 25 00.6	-0.2
NNA	Nana	16.42	182	P	Pn	19 25 00.4	+0.1
	48nm,0.7s,baz=358,slow=8.9,SNR=37						
NNA				S	Sn	19 28 02.7	-0.5
	43nm,1.0s,baz=3.7,slow=23,SNR=1.2						
NNA				LR	LR	19 32 16.3	
	comp=Z,8µm,21.8s,baz=356,slow=40						
NNA	Nana	16.42	182	*d iP*	P	19 25 02.4	+1.6
NNA				pmax	pmax		
	comp=Z,600nm,1.3s						
NNA	Nana	16.42	182	⇓P	P	19 25 02.8	+2.0
AOPR	Arecibo Observ	16.52	33	*eP*	Pn	19 24 58.3	-3.3
GCMP	Grenada, Carri	16.56	61	*eP*	Pn	19 24 59.8	-2.3
SJG	San Juan	16.67	35		Pn	19 25 01.6	-1.8
SJG	San Juan	16.67	35	P	Pn	19 25 01.1	-2.3
	comp=Z,247nm,0.6s,baz=220,slow=12,SNR=61						
SJG				S	Sn	19 28 08.7	-0.4
	comp=Z,77nm,0.6s,baz=246,slow=19,SNR=2.1						
SJG				LR	LR	19 32 07.5	
	comp=Z,5µm,19.5s,baz=216,slow=39						
SJG	San Juan	16.67	35	*eP*	Pn	19 24 59.6	-3.8
SJG	San Juan	16.67	35	⇓P	Pn	19 25 01.8	-1.6
TOSP	Speyside	16.86	66	*eP*	P	19 24 57.3	-8.3
GCPR	Guaynabo City	16.87	35		P	19 25 04.6	-1.1
SVT	Saint Vincent	17.04	59	*eP*	P	19 25 07.1	-0.6
SVOC	Richmond Hill,	17.05	59	*eP*	P	19 25 07.3	-0.4
SVB	Belmont	17.08	58	*eP*	P	19 25 07.6	-0.5
SVV	Soufriere Volc	17.14	58	*eP*	Pn	19 25 10.9	+1.9
SSV	Crater Summit	17.16	58	*eP*	Pn	19 25 10.4	+1.0
MACA	Manacapuru-AM	17.24	116	P	P	19 25 09.4	-0.4
MACA	Manacapuru-AM	17.24	116	P	Pn	19 25 10.6	+0.2
MACA				S	Sn	19 28 21.5	-1.4
MACA	Manacapuru-AM	17.24	116	*eP*	Pn	19 25 10.4	+0.1
GRTK	Grand Turk	17.57	16	P	P	19 25 13.7	+0.3
GRTK	Grand Turk	17.57	16	⇓P	Pn	19 25 15.2	+1.0
SLBI	Saint Lucia, B	17.69	57	*eP*	P	19 25 09.0	-5.7
SLAC	Saint Lucia, A	17.69	57	*eP*	P	19 25 13.0	-1.8
BIM	Bigot	17.87	55	P	P	19 25 15.8	-0.9
BIM	Bigot	17.87	55	*eP*	P	19 25 16.7	0.0
FDF	Fort de France	17.92	54	P	P	19 25 16.5	-0.9
FDF	Fort de France	17.92	54	⇑P	P	19 25 17.2	-0.1
SVN	Savane Anatole	17.96	54	*eP*	Pn	19 25 20.4	+1.4
MPOM	Morne Pois Mar	18.00	56	P	P	19 25 18.0	-0.2
MDN	Morne-Daniel	18.05	53	*eP*	P	19 25 14.8	-3.9
DSLB	Salisbury	18.09	52	*eP*	P	19 25 16.8	-2.4
SABA	Saba	18.14	43	P	Pn	19 25 20.5	-0.6
CAIB	Caibarien	18.15	350	*eP*	P	19 25 18.8	-0.9
TBG	Guadaloupe-3	18.16	51	*eP*	P	19 25 17.9	-2.0
ILAM	Ilet Lapin Mar	18.16	55	P	P	19 25 19.6	-0.4
ILAM	Ilet Lapin Mar	18.16	55	*eP*	P	19 25 18.9	-1.0
SEUS	St. Eustatius	18.23	44	P	P	19 25 21.0	+0.3
SKUC	St. Kitts, UWI	18.27	45	*eP*	Pn	19 25 22.2	-0.4
MBFL	Flemmings, Mon	18.29	47	*eP*	Pn	19 25 22.8	-0.1
SKI	Saint Kitts	18.29	45	*eP*	Pn	19 25 23.4	+0.5
GDHS	Morne Mazeau,	18.32	49	P	P	19 25 21.2	-0.6
BCHC	Barbados, Cave	18.42	61	*eP*	Pn	19 25 32.9	+8.6
BBGH	Gun Hill	18.48	61	P	P	19 25 23.1	-0.4
BBGH	Gun Hill	18.48	61	*eP*	P	19 25 19.2	-4.3
BBGH	Gun Hill	18.48	61	⇑P	P	19 25 23.4	-0.1
MAGL	Barre de l'ile	18.50	51	*eP*	P	19 25 22.7	-1.0
SMRT	St. Maarten	18.56	43	P	P	19 25 23.9	-0.3
ANBD	Bethesda, Anti	18.81	47	*eP*	P	19 25 24.1	-2.9
GDSD	La Dsirade Is	18.88	51	P	P	19 25 27.2	-0.6
ANWB	Willy Bob	19.19	46	P	P	19 25 30.4	-0.8
ANWB	Willy Bob	19.19	46	*eP*	P	19 25 27.1	-4.1
ANWB	Willy Bob	19.19	46	⇑P	P	19 25 30.4	-0.8
SOR	Soroa	19.33	341	P	P	19 25 32.4	-0.2
SOR	Soroa	19.33	341	*eP*	P	19 25 32.5	-0.1
CCIG	Comitan	19.56	308	⇓P	P	19 25 34.4	-1.0
CCIG	Comitan	19.56	308	⇓P	P	19 25 34.7	-0.7
CCIG	Comitan	19.56	308	P	Pn	19 25 37.3	-0.7
CCIG	Comitan	19.56	308	P	P	19 25 34.0	-1.4
TEIG	Tepich	19.57	324	P	P	19 25 34.2	-1.0
TEIG	Tepich	19.57	324	S	S	19 29 08.1	-1.2
	comp=Z,0.3nm,0.5s,baz=95,slow=24,SNR=3.0						
TEIG	Tepich	19.57	324	⇑P	P	19 25 35.5	+0.3
061Z	Ochoppi	21.70	348	P	P	19 25 57.5	-0.5
LPAZ	La Paz	22.15	159	P	P	19 26 02.4	-1.0
	comp=Z,80nm,0.8s,baz=335,slow=10,SNR=104						
LPAZ				LR	LR	19 35 25.5	
	comp=Z,6µm,19.1s,baz=319,slow=38						
	comp=Z,80nm,0.8s						
LPAZ	La Paz	22.15	159	⇓P	P	19 26 02.3	-1.2
LPAZ	La Paz	22.15	159	P	P	19 26 02.6	-0.8
LPAZ				S	S	19 29 55.8	-3.6
LPAZ	La Paz	22.15	159	*eP*	P	19 26 02.2	-1.2
CMIG	Matias Romero	22.20	306	LR	LR	19 35 31.1	
	comp=Z,7µm,21.9s,baz=142,slow=38						
ITTB	Itaituba	22.23	113	P	P	19 26 03.8	+0.1
ITTB				S	S	19 29 59.4	-0.4
ITTB	Itaituba	22.23	113	*eP*	P	19 26 03.3	-0.3
060A	Indiantown	22.74	350	P	P	19 26 07.9	-0.7
MAL2	Monte Alegre,	22.90	106	P	P	19 26 09.7	-0.6
MAL2	Monte Alegre,	22.90	106	P	P	19 26 09.6	-0.6
PB18	Visviri	22.94	163	P	P	19 26 10.9	-0.2
MDP	Montagnes des	23.43	88	P	P	19 26 14.6	-0.6
	comp=Z,582nm,0.8s,baz=264,slow=9.2,SNR=130						
MDP				S	S	19 30 19.3	+0.1
	comp=Z,34nm,0.8s,baz=288,slow=20,SNR=1.8						
MDP				LR	LR	19 35 54.1	
	comp=Z,23µm,19.2s,baz=274,slow=38						
	comp=Z,582nm,0.8s						
AP01	Chacalluta	23.46	166	P	P	19 26 16.1	+0.8
VILB	Vilhena	23.51	138	P	P	19 26 16.2	+0.3
VILB	Vilhena	23.51	138	P	P	19 26 16.6	+0.8
VILB	Vilhena	23.51	138	*eP*	P	19 26 15.8	0.0
PB16	IPOC Station P	23.64	164	P	P	19 26 17.6	0.0
PB12	IPOC Station P	23.70	166	P	P	19 26 16.4	-1.2
NPGB	Novo Progresso	23.73	119	P	P	19 26 17.4	-0.4
NPGB				S	S	19 30 21.8	-2.0
NPGB	Novo Progresso	23.73	119	*eP*	P	19 26 17.6	-0.3
DWPF	Disney Wildern	23.99	348	P	P	19 26 20.1	+0.2
DWPF	Disney Wildern	23.99	348	⇑P	P	19 26 21.1	+1.1
PB11	IPOC Station P	24.97	165	P	P	19 26 29.5	+0.3
PB11				IAmb	IAmb	19 27 02.4	
	comp=Z,570nm,1.0s						
PDRB	Porto dos Gac	25.11	130	P	P	19 26 30.2	-0.1
PDRB				S	S	19 30 43.7	-2.2
PDRB	Porto dos Gac	25.11	130	*eP*	P	19 26 30.2	-0.1
CN01	Coaracy Nunes	25.12	97	P	P	19 26 27.8	-2.7
SIV	San Ignacio	25.27	144	S	S	19 30 49.9	+1.6
	comp=Z,49nm,0.9s,baz=288,slow=19,SNR=3.5						
SIV				LR	LR	19 37 16.2	
	comp=Z,8µm,20.3s,baz=327,slow=38						
TA02	Huaiquique	25.34	167	P	P	19 26 33.5	+1.1
TA02				IAmb	IAmb	19 26 39.5	
	comp=Z,411nm,1.0s						
BMO2	UHE Belo Monte	25.38	108	P	P	19 26 32.5	-0.4
CLDB	Colider	25.39	127	P	P	19 26 33.0	0.0
CLDB	Colider	25.39	127	*eP*	P	19 26 32.7	-0.2
HMBC	Humberstone	25.41	166	P	P	19 26 33.1	0.0
HMBC				IAmb	IAmb	19 26 36.8	
	comp=Z,239nm,0.6s						
656A	Willston	25.44	347	P	P	19 26 32.9	-0.2
PB08	IPOC Station P	25.46	165	P	P	19 26 34.7	+0.8
PB08	IPOC Station P	25.46	165	P	P	19 26 30.6	-3.2
TLIG	Tlapa	25.48	302	P	P	19 26 35.2	+1.3
TLIG	Tlapa	25.48	302	⇑P	P	19 26 31.1	-2.8
TA01	Diego Aracena	25.62	167	P	P	19 26 35.8	+1.0
TA01				IAmb	IAmb	19 27 18.6	
	comp=Z,249nm,0.9s						
PTLB	Pontes e Lacer	26.04	140	P	P	19 26 38.4	-0.2
PTLB				IAmb	IAmb	19 26 41.9	
	comp=Z,467nm,1.1s						
PTLB	Pontes e Lacer	26.04	140	P	P	19 26 38.5	-0.2
PTLB	Pontes e Lacer	26.04	140	*eP*	P	19 26 38.6	-0.1
PB01	IPOC Station P	26.24	166	P	P	19 26 41.4	+0.8
PB01				IAmb	IAmb	19 26 45.2	
	comp=Z,382nm,1.1s						
456A	Hilliard	26.64	349	P	P	19 26 45.2	+1.2
UNM	Universidad Na	26.85	305	P	P	19 26 46.5	+0.2
PB09	IPOC Station P	27.02	166	P	P	19 26 49.1	+1.4
TUC4	UHE Tucurui	27.98	108	P	P	19 26 55.9	-0.3
PRPB	Parauapebas	28.36	112	P	P	19 26 58.8	-0.8
PRPB	Parauapebas	28.36	112	*eP*	P	19 26 59.3	-0.3
AF01	San Pedro de A	28.40	164	P	P	19 27 01.4	+1.4
PB10	IPOC Station P	28.40	169	P	P	19 27 00.4	+0.7
PB10				IAmb	IAmb	19 27 09.9	
	comp=Z,290nm,0.9s						
BRAL	Brewton	28.42	340	P	P	19 27 00.6	+0.8
BRAL				IAmb	IAmb	19 27 03.7	
	comp=Z,276nm,0.9s						
JRQG	Juriquilla Cam	28.57	306	P	P	19 27 02.7	+1.1
SALV	Santo Antonio	28.67	135	P	P	19 27 02.5	+0.3
SALV				S	S	19 31 39.6	-2.3
SALV	Santo Antonio	28.67	135	*eP*	P	19 27 02.0	-0.2
MOIG	Morelia	28.67	304	P	P	19 27 03.0	+0.5
MOIG	Morelia	28.67	304	⇓P	P	19 27 04.5	+2.0
TMAB	Tom-Au,PA,Br	28.86	103	P	P	19 27 04.4	+0.5
TMAB	Tom-Au,PA,Br	28.86	103	*eP*	P	19 27 04.7	+0.7
250A	Grady	28.91	342	P	P	19 27 03.9	-0.2
250A				IAmb	IAmb	19 27 08.7	
	comp=Z,750nm,1.7s						
Y58A	Scranton	29.41	354	P	P	19 27 09.7	+1.2
Y58A				IAmb	IAmb	19 27 11.8	
	comp=Z,204nm,0.7s						
346A	Big Creek Wild	29.51	336	P	P	19 27 09.6	+0.1
346A				IAmb	IAmb	19 27 13.0	
	comp=Z,214nm,0.9s						
PB14	IPOC Station P	29.51	169	P	P	19 27 11.7	+1.7
PB14	IPOC Station P	29.51	169	P	P	19 27 06.8	-3.1
GOGA	Godfrey	29.54	348	⇓P	P	19 27 10.4	+0.7
SNDB	Serra Nova Dou	29.66	124	P	P	19 27 10.9	-0.2
SNDB	Serra Nova Dou	29.66	124	*eP*	P	19 27 10.8	-0.2
BBSR	BB Station	29.70	20	P	P	19 27 12.3	+1.2
HODGE	Hodges	30.09	350	P	P	19 27 15.1	+0.4
HODGE				PcP	PcP	19 30 13.8	+0.5
LRAL	Lakeview Retre	30.12	342	P	P	19 27 14.8	0.0
LRAL				IAmb	IAmb	19 27 18.2	
	comp=Z,319nm,1.4s						
LRAL	Lakeview Retre	30.12	342	⇓P	P	19 27 15.3	+0.5
GO02	Mina Guanaco	30.19	168	P	P	19 27 16.8	+0.8
GO02	Mina Guanaco	30.19	168	⇓P	P	19 27 17.9	+2.0
PAL01	Palmeiras do T	30.62	111	P	P	19 27 19.1	-0.5
VBMS	Vicksburg	30.66	336	P	P	19 27 19.7	+0.1
VBMS				IAmb	IAmb	19 27 22.6	
	comp=Z,432nm,1.2s						
PAL2	UHE Estreito -	30.88	111	P	P	19 27 22.7	+0.9
AC01	Pan de Azucar	30.96	170	P	P	19 27 23.9	+1.5
HBVL	Hebbronville	31.05	319	P	P	19 27 23.0	-0.2
HBVL				IAmb	IAmb	19 27 25.4	
	comp=Z,367nm,1.2s						
FPAL	Fort Paine	31.13	345	P	P	19 27 24.2	+0.4
LAJE	UHE Lajeado	31.25	118	P	P	19 27 24.9	-0.2
BDQN	Bodoquena, MS	31.29	143	*eP*	P	19 27 24.9	-0.4
ZAIG	Zacatecas	31.32	308	P	P	19 27 27.4	+1.5
ZAIG				IAmb	IAmb	19 27 30.1	
	comp=Z,269nm,1.1s						
ZAIG	Zacatecas	31.32	308	⇓P	P	19 27 27.9	+1.9
ARAG	Araguaiana, MT	31.38	130	P	P	19 27 25.6	-0.6
ARAG				S	S	19 32 19.1	-5.3
ARAG	Araguaiana, MT	31.38	130	*eP*	P	19 27 25.4	-0.8
HKT	Hockley	31.39	326	*d iP*	P	19 27 25.1	-0.9
HKT				pmax	pmax		
	comp=Z,256nm,1.3s						
HKT				MLR	MLR		
	comp=Z,2µm,13.0s						
HKT	Hockley	31.39	326	⇑P	P	19 27 25.8	-0.2
HKT	Hockley	31.39	326	P	P	19 27 25.8	-0.2
HKT				pP	pP	19 27 53.8	0.0
HKT				PcP	PcP	19 30 18.8	+2.0
HKT				ScP	ScP	19 33 49.9	+1.7
MURT	Porto Murtinho	31.74	146	*eP*	P	19 27 28.3	-0.9
TKL	Tuckaleechee C	31.77	348	P	P	19 27 29.6	+0.2
TKL	Tuckaleechee C	31.77	348	⇑P	P	19 27 30.0	+0.7
AC02	Maricunga	31.91	168	P	P	19 27 33.2	+2.0
AC02				IAmb	IAmb	19 27 37.3	
	comp=Z,200nm,1.1s						
AQDB	Aquidauana	31.95	142	P	P	19 27 30.8	-0.3
AQDB	Aquidauana	31.95	142	P	P	19 27 31.1	0.0
AQDB				S	S	19 32 30.2	-3.0
AQDB	Aquidauana	31.95	142	*eP*	P	19 27 30.9	-0.2
NATX	Nacogdoches	32.18	329	⇑P	P	19 27 32.6	-0.4
AC06	Mina Casimiro	32.19	170	P	P	19 27 34.1	+1.0
PLAL	Pickwick Lake	32.25	341	P	P	19 27 33.4	-0.2
PLAL				IAmb	IAmb	19 27 37.1	
	comp=Z,418nm,1.6s						
GO03	Copiapo	32.44	170	P	P	19 27 37.3	+1.9
GO03	Copiapo	32.44	170	⇓P	P	19 27 37.5	+2.1
Z41A	Richland Creek	32.53	333	P	P	19 27 34.8	-1.2
Z41A				IAmb	IAmb	19 27 38.0	
	comp=Z,267nm,1.1s						
TZTN	Tazewell	32.58	349	⇑P	P	19 27 37.2	+0.8
C2SB	Chapadao do Su	32.61	136	*eP*	P	19 27 36.8	-0.1
SSV2	Sao Salvador	32.69	122	P	P	19 27 38.0	+0.3
CAN3	Cana Brava	32.75	123	P	P	19 27 37.9	-0.2
BLA	Blacksburg	32.76	354	P	P	19 27 38.9	+0.8
BLA				IAmb	IAmb	19 28 27.8	
	comp=Z,203nm,1.0s						
BLA	Blacksburg	32.76	354	⇑P	P	19 27 39.5	+1.4
ROSB	Rosrio	32.84	102	S	S	19 32 45.3	-2.0
RCRC	Randolf Colleg	32.87	355	P	P	19 27 39.3	+0.3
AC04	Llanos de Chal	32.91	172	P	P	19 27 41.4	+2.0
RPRD	Ribas do Rio P	33.22	139	*eP*	P	19 27 42.0	-0.3
WVT	Waverly	33.24	343	P	P	19 27 41.2	-0.9
WVT				IAmb	IAmb	19 27 44.3	
	comp=Z,126nm,0.6s						
WVT	Waverly	33.24	343	⇑P	P	19 27 41.3	-0.9
WVT	Waverly	33.24	343	P	P	19 27 41.3	-0.9
WVT				pP	pP	19 28 11.6	+1.5
WVT				PcP	PcP	19 30 23.2	+1.4
WVT				ScP	ScP	19 33 55.0	+0.5
AC05	El Transito	33.65	171	P	P	19 27 48.0	+2.0
AC05				IAmb	IAmb	19 27 50.9	
	comp=Z,212nm,0.8s						
LCO	Las Campanas	33.76	171	P	P	19 27 48.5	+1.4
LCO	Las Campanas	33.76	171	⇑P	P	19 27 49.2	+2.1
MIAR	Mount Ida	33.96	334	P	P	19 27 47.1	-1.3
MIAR	Mount Ida	33.96	334	⇑P	P	19 27 47.4	-1.1
JCT	Junction City	34.11	322	P	P	19 27 48.8	-1.1
JCT				IAmb	IAmb	19 27 52.3	
	comp=Z,306nm,1.3s						
JCT	Junction City	34.11	322	⇑P	P	19 27 48.9	-1.0
AMBA	Amambai (Brazi	34.23	144	*eP*	P	19 27 50.1	-0.9
BDFB	Brasilia	34.31	126	P	P	19 27 52.4	+0.5
BDFB	Brasilia	34.31	126	P	P	19 27 51.0	-0.8
	comp=Z,370nm,1.0s,baz=294,slow=9.4,SNR=147						
BDFB				LR	LR	19 42 44.2	
	comp=Z,11µm,18.6s,baz=308,slow=38						
	comp=Z,370nm,1.0s						
SDMD	Soldier's Deli	34.73	359	P	P	19 27 55.6	+0.6
CO01	Juntas del Tor	34.80	171	P	P	19 27 58.0	+2.0
WCI	Wyandotte Cave	34.80	346	P	P	19 27 54.9	-0.6
WCI				IAmb	IAmb	19 28 27.5	
	comp=Z,228nm,1.2s						
WCI	Wyandotte Cave	34.80	346	⇑P	P	19 27 55.0	-0.6
WCI	Wyandotte Cave	34.80	346	P	P	19 27 55.4	-0.2
WCI				pP	pP	19 28 25.1	+1.4
WCI				sP	sP	19 28 39.9	+1.5
WCI				PcP	PcP	19 30 27.9	+1.7
WCI				ScP	ScP	19 34 01.1	+1.2
GO04	Tololo Observa	34.88	172	P	P	19 27 58.3	+1.6
GO04	Tololo Observa	34.88	172	⇑P	P	19 27 59.1	+2.4
ITRB	Iturama	34.98	134	P	P	19 27 57.5	0.0
ITRB				S	S	19 33 16.6	-3.5
ITRB	Iturama	34.98	134	*eP*	P	19 27 56.9	-0.6
MCWV	Mont Chateau	35.13	355	P	P	19 27 59.7	+1.2
MCWV				IAmb	IAmb	19 28 47.7	
	comp=Z,190nm,1.2s						
MCWV	Mont Chateau	35.13	355	⇓P	P	19 28 00.4	+1.9
ITU3	Corumbazu	35.14	131	P	P	19 27 58.7	-0.1
ITU3				S	S	19 33 18.9	-3.7
SJPY	San Joaquin	35.23	147	*eP*	P	19 27 57.8	-1.7
CO06	Fray Jorge	35.27	173	P	P	19 28 01.4	+1.6
CO06				IAmb	IAmb	19 28 45.5	
	comp=Z,206nm,1.2s						
SDBA	SAO DESIDERIO	35.32	119	P	P	19 28 00.5	0.0
SDBA	SAO DESIDERIO	35.32	119	*eP*	P	19 28 00.2	-0.3
P52A	Corning	35.36	352	P	P	19 28 00.6	+0.2
P52A				IAmb	IAmb	19 28 03.0	
	comp=Z,126nm,0.8s						
IPMB	Ipameri, GO	35.49	130	P	P	19 28 01.4	-0.5
IPMB				S	S	19 33 24.5	-3.7
IPMB	Ipameri, GO	35.49	130	*eP*	P	19 28 01.1	-0.8
CO03	El Pedregal	35.55	172	P	P	19 28 03.4	+1.2
CO03				IAmb	IAmb	19 28 07.1	
	comp=Z,143nm,0.9s						
BAT3	Ipameri	35.68	128	P	P	19 28 03.8	+0.3
BAT3				S	S	19 33 27.0	-4.0
CPUP	Villa Florida	35.69	150	P	P	19 28 01.8	-1.5
CPUP	Villa Florida	35.69	150	P	P	19 28 01.7	-1.6
	comp=Z,67nm,0.8s,baz=333,slow=8.7,SNR=85						
CPUP				PcP	PcP	19 30 29.6	+0.6
	comp=Z,63nm,1.1s,baz=358,slow=4.2,SNR=3.7						
CPUP				S	S	19 33 25.4	-5.3
	comp=Z,10nm,1.0s,baz=228,slow=20,SNR=1.9						
CPUP				LR	LR	19 44 20.8	
	comp=Z,3µm,20.5s,baz=328,slow=39						
	comp=Z,67nm,0.8s						
CPUP	Villa Florida	35.69	150	⇓P	P	19 28 01.5	-1.9
CPUP	Villa Florida	35.69	150	P	P	19 28 01.4	-1.9
CPUP				S	S	19 33 23.7	-7.0
CPUP	Villa Florida	35.69	150	*eP*	P	19 28 01.5	-1.9
CPUP	Villa Florida	35.69	150	P	P	19 28 01.3	-2.0
CPUP				pP	pP	19 28 30.4	-1.8
CPUP				PcP	PcP

PEL Peldehue 37.82 173 ⇑P **P 19 28 24.0 +2.6**
NBPB Pedra_Branca-C 37.87 105 P **P 19 28 21.2 -0.8**
NBPB S **S 19 34 00.9 -3.4**
NBPB Pedra_Branca-C 37.87 105 *e*P **P 19 28 21.3 -0.8**
MT02 Curacav 37.88 173 P **P 19 28 23.5 +1.7**
MT02 IAmb IAmb 19 29 12.9
comp=Z,237nm,1.3s
FRTB Fartura 37.96 138 P **P 19 28 21.7 -0.9**
FRTB S **S 19 34 00.3 -5.1**
FRTB Fartura 37.96 138 *e*P **P 19 28 21.8 -0.9**
KAN14 Manchester OK 37.97 331 P **P 19 28 21.6 -1.1**
HRV Adam Dziewonsk 38.04 6 P **P 19 28 24.4 +1.3**
HRV Adam Dziewonsk 38.04 6 ⇓P **P 19 28 25.5 +2.5**
HRV Adam Dziewonsk 38.04 6 P **P 19 28 24.1 +1.0**
HRV sP **sP 19 29 07.9 +1.4**
HRV PcP **PcP 19 30 38.3 +2.4**
MT05 Renca 38.06 173 P **P 19 28 24.9 +1.4**
MMNY Mt. Morris Dam 38.08 358 P **P 19 28 24.1 +0.7**
MMNY IAmb IAmb 19 28 26.5
comp=Z,88nm,0.6s
MT16 CCHEN 38.12 172 P **P 19 28 25.5 +1.5**
MT16 IAmb IAmb 19 28 29.5
comp=Z,119nm,0.6s
JQT1 Jequitai-MG 38.13 125 P **P 19 28 24.0 -0.2**
MT03 Universidad Ad 38.19 172 P **P 19 28 26.5 +1.9**
MC01 Montes Claros 38.19 124 P **P 19 28 24.5 -0.3**
AAM Ann Arbor 38.20 351 P **P 19 28 24.6 +0.2**
AAM IAmb IAmb 19 28 28.8
comp=Z,148nm,0.6s
AAM Ann Arbor 38.20 351 ⇑P **P 19 28 25.3 +0.9**
MC08 Montes Claros 38.21 124 S **S 19 34 05.9 -3.6**
LPIG La Paz 38.21 304 LR LR 19 44 31.8
comp=Z,2µm,18.3s,baz=106,slow=36
VA05 Santo Domingo 38.22 174 P **P 19 28 26.7 +2.1**
AMTX Amarillo 38.35 325 ⇓P **P 19 28 25.7 -0.3**
L46A Eue Claire 38.41 348 P **P 19 28 25.3 -0.9**
L46A pP **pP 19 28 53.9 -0.8**
L46A IAmb IAmb 19 28 57.9
comp=Z,294nm,1.1s
L46A PcP **PcP 19 30 38.0 +1.0**
MT09 Talagante 38.41 173 P **P 19 28 28.0 +1.6**
MT09 IAmb IAmb 19 28 31.3
comp=Z,264nm,1.0s
MT13 San Alfonso 38.47 172 P **P 19 28 28.9 +2.0**
MT13 IAmb IAmb 19 29 17.3
comp=Z,189nm,1.1s
MT13 PcP **PcP 19 30 39.0 +1.4**
MNTX Cornudas Mount 38.50 318 ⇓P **P 19 28 26.6 -0.5**
MEDO Medina 38.53 357 P **P 19 28 28.0 +0.9**
MEDO IAmb IAmb 19 28 30.5
comp=Z,166nm,0.7s
NBCL Cascavel-CE 38.81 102 P **P 19 28 30.0 0.0**
BO01 Tunca 39.00 173 P **P 19 28 32.6 +1.3**
BO01 IAmb IAmb 19 29 17.0
comp=Z,426nm,1.6s
BO01 PcP **PcP 19 30 40.6 +1.5**
KSU1 Kansas State U 39.10 334 ⇓P **P 19 28 30.1 -1.9**
NBMA Muriti-CE 39.13 107 P **P 19 28 32.4 -0.3**
NBMA S **S 19 34 20.9 -2.5**
ITAB Concordia 39.19 145 P **P 19 28 31.8 -1.1**
ITAB pP **pP 19 29 01.3 -1.0**
ITAB PcP **PcP 19 30 41.4 +1.6**
ITAB Concordia 39.19 145 P **P 19 28 31.8 -1.1**
ITAB S **S 19 34 17.7 -6.0**
ITAB Concordia 39.19 145 *e*P **P 19 28 31.1 -1.8**
DIAM Diamantina, MG 39.24 126 P **P 19 28 33.3 -0.3**
DIAM S **S 19 34 21.8 -3.2**
DIAM Diamantina, MG 39.24 126 *e*P **P 19 28 33.2 -0.4**
EPT El Paso 39.30 317 P **P 19 28 33.3 -0.7**
EPT IAmb IAmb 19 28 35.7
comp=Z,173nm,1.1s
BO02 Sierra Bellavi 39.44 173 P **P 19 28 36.7 +1.8**
BO02 IAmb IAmb 19 28 40.6
comp=Z,278nm,1.2s
BO02 Sierra Bellavi 39.44 173 ⇑P **P 19 28 37.4 +2.4**
VABB Valinhos 39.51 135 P **P 19 28 34.9 -0.8**
VABB S **S 19 34 23.5 -5.3**
VAO Valinhos 39.51 135 P **P 19 28 34.5 -1.2**
VAO Valinhos 39.51 135 *e*P **P 19 28 35.0 -0.8**
SPB Sao Paulo 39.57 136 P **P 19 28 35.0 -1.0**
SPB IAmb IAmb 19 28 37.8
comp=Z,284nm,1.0s
SPB Sao Paulo 39.57 136 ⇑P **P 19 28 35.3 -0.8**
SPB Sao Paulo 39.57 136 *e*P **P 19 28 35.2 -0.8**
SADO Sadowa 40.17 357 P **P 19 28 41.1 +0.4**
SADO pP **pP 19 29 09.7 +0.2**
SADO IAmb IAmb 19 29 13.8
comp=Z,293nm,1.1s
SADO PcP **PcP 19 30 41.6 -1.0**
SADO Sadowa 40.17 357 ⇑P **P 19 28 41.1 +0.4**
SCIA State Center 40.22 340 ⇑P **P 19 28 39.9 -1.3**
CBKS Cedar Bluff 40.30 331 ⇓P **P 19 28 41.7 -0.3**
NBPA Parau_RN 40.30 104 P **P 19 28 41.2 -1.1**
NBPA S **S 19 34 36.0 -4.7**
CAR01 Carai MG 40.52 123 P **P 19 28 43.8 -0.3**
CAR01 S **S 19 34 40.4 -3.6**
PARB Paraibuna 40.68 134 P **P 19 28 45.3 -0.1**
PARB S **S 19 34 41.3 -4.9**
PARB Paraibuna 40.68 134 *e*P **P 19 28 44.5 -0.8**
TBOT Tacuaremb 40.84 153 *e*P **P 19 28 44.4 -2.0**
MNTQ Montreal, Queb 40.87 3 P **P 19 28 47.3 +0.8**
CPSB Cacapava Do Su 40.97 149 P **P 19 28 45.1 -2.5**
CPSB S **S 19 34 42.3 -7.9**
CPSB Cacapava Do Su 40.97 149 *e*P **P 19 28 45.3 -2.2**
HSIG 40.99 310 P **P 19 28 47.9 +0.1**
HSIG IAmb IAmb 19 28 50.4
comp=Z,610nm,2.0s
HSIG PcP **PcP 19 30 46.7 +1.1**
HSIG ScP **ScP 19 34 25.2 +1.5**
Y22D IRIS PASSCAL I 41.00 320 P **P 19 28 49.1 +1.2**
baz=129
319A Douglas 41.00 315 P **P 19 28 48.6 +0.6**
319A ScP **ScP 19 34 25.5 +1.7**
PKME Peaks-Kenny Pk 41.02 7 P **P 19 28 48.7 +1.0**
PKME Peaks-Kenny Pk 41.02 7 ⇓P **P 19 28 49.9 +2.2**
GAC Glen Almond 41.02 1 ⇑P **P 19 28 50.6 +2.9**
BI05 Punta Hualpn 41.15 176 P **P 19 28 50.4 +1.5**
MAJ01 Sao Joao Batis 41.16 142 *e*P **P 19 28 47.6 -1.6**
NBLA Lagarto - SE 41.18 112 P **P 19 28 48.7 -0.8**
NBLA S **S 19 34 48.1 -5.7**
SRIG Santa Rosalia 41.19 307 P **P 19 28 49.8 +0.4**
SRIG IAmb IAmb 19 28 52.8
comp=Z,272nm,0.8s
SRIG Santa Rosalia 41.19 307 ⇓P **P 19 28 50.1 +0.7**
NBIT Itapeh - BA 41.20 119 P **P 19 28 49.9 +0.3**
BI02 San Fabin de 41.23 174 P **P 19 28 51.3 +1.6**
GGN Saint George 41.24 10 P **P 19 28 50.3 +0.8**
GGN IAmb IAmb 19 28 53.2
comp=Z,150nm,0.9s
ANMO Albuquerque 41.26 321 P **P 19 28 49.9 -0.2**
ANMO Albuquerque 41.26 321 S **S 19 34 56.5 +1.7**
comp=Z,3.9nm,1.0s,baz=252,slow=6.1,SNR=1.2
ANMO LR LR 19 49 53.4
comp=Z,1µm,18.7s,baz=302,slow=42
ANMO Albuquerque 41.26 321 *d iP* **P 19 28 50.1 0.0**
ANMO pmax pmax
comp=Z,249nm,1.1s
ANMO Albuquerque 41.26 321 ⇓P **P 19 28 50.3 +0.2**
ANMO Albuquerque 41.26 321 P **P 19 28 50.4 +0.3**
ANMO pP **pP 19 29 20.7 +1.8**
ANMO PcP **PcP 19 30 47.9 +1.3**
ANMO ScP **ScP 19 34 26.1 +1.3**
CMC01 Camacan, BA 41.31 119 P **P 19 28 50.5 0.0**
CMC01 Camacan, BA 41.31 119 *e*P **P 19 28 49.8 -0.8**
HAL Halifax 41.45 14 P **P 19 28 52.9 +1.7**
SJMB Sao Joao De Ma 41.47 125 P **P 19 28 51.8 0.0**
SJMB S **S 19 34 54.5 -3.3**
SJMB Sao Joao De Ma 41.47 125 *e*P **P 19 28 51.5 -0.2**
RCBR Riachuelo 41.49 104 P **P 19 28 51.5 -0.6**
RCBR IAmb IAmb 19 28 54.9
comp=Z,335nm,1.1s
RCBR pP **pP 19 29 20.2 -1.3**
RCBR ScP **ScP 19 34 26.7 +0.7**
RCBR Riachuelo 41.49 104 ⇑P **P 19 28 51.4 -0.7**
RCBR Riachuelo 41.49 104 P **P 19 28 52.1 0.0**
RCBR S **S 19 34 55.4 -3.0**
RCBR Riachuelo 41.49 104 *e*P **P 19 28 51.5 -0.6**
RCBR Riachuelo 41.49 104 P **P 19 28 51.6 -0.6**
CNLB Canela 41.50 146 P **P 19 28 50.4 -1.6**
CNLB S **S 19 34 49.6 -8.5**
CNLB Canela 41.50 146 *e*P **P 19 28 49.4 -2.6**
TRQ Mont Tremblant 41.56 2 P **P 19 28 52.9 +0.7**

TRQ ScP **ScP 19 34 25.3 -0.3**
MAN01 Angra dos Reis 41.59 132 P **P 19 28 52.4 -0.4**
MAN01 Angra dos Reis 41.59 132 *e*P **P 19 28 52.2 -0.6**
GUA01 Guaratinga, BA 41.60 121 P **P 19 28 53.1 +0.2**
GUA01 S **S 19 34 57.2 -2.7**
GUA01 Guaratinga, BA 41.60 121 *e*P **P 19 28 53.1 +0.2**
VAS01 Vassouras-RJ 41.63 131 P **P 19 28 53.0 -0.1**
VAS01 S **S 19 34 55.7 -4.6**
VAS01 Vassouras-RJ 41.63 131 *e*P **P 19 28 53.1 0.0**
SIM2 UHE Simplicio 41.91 130 P **P 19 28 55.1 -0.3**
TER01 Tubaro-SC 41.91 143 P **P 19 28 54.5 -0.7**
TER01 Tubaro-SC 41.91 143 *e*P **P 19 28 53.6 -1.7**
NBCA Caruaru-PE 41.99 107 P **P 19 28 56.0 -0.3**
NBCA S **S 19 35 02.5 -3.4**
NBCA Caruaru-PE 41.99 107 *e*P **P 19 28 56.0 -0.3**
PLTB Pedras Altas 42.00 151 P **P 19 28 54.3 -1.6**
PLTB Pedras Altas 42.00 151 P **P 19 28 53.8 -2.1**
PLTB S **S 19 34 57.9 -7.5**
PLTB Pedras Altas 42.00 151 *e*P **P 19 28 54.0 -1.9**
NBAN Anadia - AL 42.16 110 P **P 19 28 56.4 -1.1**
NBAN S **S 19 35 03.2 -5.1**
NBAN Anadia - AL 42.16 110 *e*P **P 19 28 56.9 -0.7**
NBPV Pedro Velho 42.22 105 P **P 19 28 57.4 -0.6**
DUB01 Friburgo-RJ 42.33 130 P **P 19 28 59.3 +0.5**
DUB01 S **S 19 35 06.0 -4.6**
DUB01 Friburgo-RJ 42.33 130 *e*P **P 19 28 58.0 -0.8**
RIB01 Linhares ES 42.42 125 P **P 19 28 59.6 +0.1**
RIB01 S **S 19 35 07.6 -4.3**
RIB01 Linhares ES 42.42 125 *e*P **P 19 28 58.7 -0.8**
SDCO Great Sand Dun 42.55 325 P **P 19 29 01.0 +0.3**
SDCO IAmb IAmb 19 29 04.1
comp=Z,442nm,1.2s
SDCO ScP **ScP 19 34 32.4 +2.3**
SDCO Great Sand Dun 42.55 325 ⇓P **P 19 29 01.2 +0.5**
TUC Tucson 42.58 315 P **P 19 29 00.9 +0.1**
TUC Tucson 42.58 315 ⇓P **P 19 29 01.1 +0.3**
TUC Tucson 42.58 315 P **P 19 29 01.1 +0.3**
TUC pP **pP 19 29 30.8 +1.2**
TUC ScP **ScP 19 34 30.9 +0.8**
GBN Guysborough 42.68 15 P **P 19 29 02.0 +0.8**
GBN IAmb IAmb 19 29 35.8
comp=Z,223nm,1.3s
CAM01 Campos-RJ 42.74 129 P **P 19 29 02.6 +0.6**
CAM01 Campos-RJ 42.74 129 *e*P **P 19 29 01.9 -0.2**
COWI Conover 42.92 347 P **P 19 29 02.4 -0.9**
COWI Conover 42.92 347 ⇑P **P 19 29 02.5 -0.7**
NBBL Bica de Lurdes 42.94 108 P **P 19 29 03.5 -0.3**
ECSD EROS Data Cent 43.02 338 P **P 19 29 02.0 -2.1**
ECSD EROS Data Cent 43.02 338 ⇑P **P 19 29 01.7 -2.4**
OGNE Ogallala 43.06 331 P **P 19 29 04.0 -0.6**
OGNE Ogallala 43.06 331 ⇑P **P 19 29 04.2 -0.3**
LMQ La Malbaie 43.15 6 P **P 19 29 06.0 +1.0**
ABR01 Abrolhos, BA 43.18 122 P **P 19 29 05.3 -0.3**
ABR01 S **S 19 35 18.7 -4.2**
ABR01 Abrolhos, BA 43.18 122 *e*P **P 19 29 05.8 +0.2**
X18A Snowflake 43.26 318 P **P 19 29 06.6 +0.2**
X18A IAmb IAmb 19 29 41.9
comp=Z,373nm,1.1s
BATG Bathurst New B 43.47 10 P **P 19 29 08.5 +0.9**
BATG IAmb IAmb 19 29 11.5
comp=Z,213nm,1.0s
MVCO Mesa Verde 43.98 322 ⇑P **P 19 29 12.1 0.0**
ISCO Idaho Springs 44.05 327 P **P 19 29 13.1 +0.3**
ISCO IAmb IAmb 19 29 15.8
comp=Z,330nm,1.6s
ISCO Idaho Springs 44.05 327 ⇓P **P 19 29 12.8 0.0**
LR03 Panguipulli 44.08 176 P **P 19 29 14.0 +1.5**
PIX Pinacate 44.13 312 P **P 19 29 13.2 +0.1**
PIX IAmb IAmb 19 29 15.8
comp=Z,396nm,1.3s
TRQA Tornquist 44.37 164 P **P 19 29 15.4 +0.5**
TRQA IAmb IAmb 19 29 18.3
comp=Z,164nm,0.9s
TRQA Tornquist 44.37 164 P **P 19 29 15.9 +1.0**
TRQA S **S 19 35 36.8 -3.0**
TRQA Tornquist 44.37 164 *e*P **P 19 29 14.0 -0.9**
LR05 Currie 44.70 175 P **P 19 29 18.6 +1.2**
LR05 IAmb IAmb 19 29 59.3
comp=Z,374nm,1.2s
WUAZ Wupatki 44.79 318 ⇑P **P 19 29 18.9 +0.4**
SFX San Felipe 44.92 311 P **P 19 29 19.4 0.0**
SFX San Felipe 44.92 311 P **P 19 29 20.6 +1.2**
RPN Rapa Nui 44.92 224 P **P 19 29 21.0 +1.6**
VA02 Isla de Pascua 45.01 224 P **P 19 29 21.8 +1.7**
VA02 Isla de Pascua 45.01 224 ⇑P **P 19 29 23.0 +2.9**
Y14A Wickenburg 45.03 315 P **P 19 29 20.4 +0.2**
Y14A IAmb IAmb 19 29 24.4
comp=Z,202nm,1.0s
EYMN Ely 45.22 345 ⇓P **P 19 29 19.9 -1.6**
PLCA Paso Flores 45.33 174 P **P 19 29 23.6 +1.1**
PLCA IAmb IAmb 19 30 08.3
comp=Z,263nm,1.2s
PLCA Paso Flores 45.33 174 P **P 19 29 23.3 +0.7**
comp=Z,79nm,0.8s,baz=354,slow=9.1,SNR=79
PLCA PcP **PcP 19 31 01.6 +1.6**
comp=Z,20nm,0.7s,baz=341,slow=10,SNR=1.0
PLCA S **S 19 35 56.1 +2.4**
comp=Z,6.6nm,1.1s,baz=74,slow=21,SNR=2.0
comp=Z,79nm,0.8s
PLCA Paso Flores 45.33 174 ⇑P **P 19 29 23.8 +1.2**
PLCA Paso Flores 45.33 174 P **P 19 29 23.7 +1.2**
PLCA S **S 19 35 56.9 +3.2**
PLCA Paso Flores 45.33 174 *e*P **P 19 29 23.6 +1.2**
PLCA Paso Flores 45.33 174 P **P 19 29 23.8 +1.2**
PLCA pP **pP 19 29 54.8 +2.2**
PLCA PcP **PcP 19 31 02.0 +2.0**
PLCA ScP **ScP 19 34 41.9 +0.9**
LL04 Puerto Octay 45.35 176 P **P 19 29 23.6 +1.0**
ICQ Pointe Anglais 45.46 8 P **P 19 29 24.5 +1.2**
LL03 Petrohue 45.58 176 P **P 19 29 25.9 +1.6**
LL03 IAmb IAmb 19 30 35.2
comp=Z,196nm,1.1s
BLYC Blythe 46.01 314 P **P 19 29 28.4 +0.5**
ESJX Sierra Juarez 46.20 311 P **P 19 29 31.0 +1.3**
ESJX Sierra Juarez 46.20 311 P **P 19 29 30.6 +0.9**
P18A Preston Nutter 46.58 323 P **P 19 29 32.8 +0.1**
AGMN Agassiz Nation 46.76 342 ⇑P **P 19 29 32.3 -1.3**
LL01 San Ignacio de 46.81 176 P **P 19 29 34.6 +0.6**
LL01 San Ignacio de 46.81 176 ⇑P **P 19 29 35.0 +1.1**
TKX Tecate 46.96 311 P **P 19 29 35.9 +0.5**
MVU Marysvale 47.08 321 P **P 19 29 36.9 +0.3**
DRLN Deer Lake 47.30 17 P **P 19 29 38.7 +1.0**
DRLN Deer Lake 47.30 17 ⇓P **P 19 29 39.1 +1.3**
PFO Pinyon Flats O 47.34 313 P **P 19 29 39.1 +0.6**
PFO IAmb IAmb 19 29 41.7
comp=Z,348nm,1.5s
PFO Pinyon Flats O 47.34 313 LR LR 19 51 41.3
comp=Z,2µm,18.7s,baz=122,slow=38
PFO Pinyon Flats O 47.34 313 *d iP* **P 19 29 39.5 +1.0**
PFO pmax pmax
comp=Z,384nm,1.5s
PFO Pinyon Flats O 47.34 313 P **P 19 29 39.0 +0.6**
PFO PcP **PcP 19 31 08.5 +1.1**
GO07 Milladeo Hill, 47.47 178 P **P 19 29 40.7 +1.6**
LL02 Futaleuf 47.66 176 P **P 19 29 41.4 +0.9**
LL02 IAmb IAmb 19 30 14.6
comp=Z,176nm,1.1s
SHPR Sheep Range 47.89 317 P **P 19 29 43.1 +0.4**
ELS Elsinore Mount 48.07 312 P **P 19 29 44.7 +0.6**
ELS IAmb IAmb 19 29 47.0
comp=Z,222nm,1.1s
BW06 Boulder Array 48.25 327 ⇓P **P 19 29 44.5 -1.0**
PDAR Pinedale Array 48.25 327 P **P 19 29 45.0 -0.5**
PDAR Pinedale Array 48.25 327 P **P 19 29 44.5 -0.9**
comp=Z,46nm,0.6s,baz=135,slow=8.8,SNR=200
PDAR ScP **ScP 19 34 54.1 +0.6**
comp=Z,19nm,1.0s,baz=140,slow=5.0,SNR=6.5
PDAR S **S 19 36 36.0 +0.4**
comp=Z,1.9nm,1.1s,baz=126,slow=9.3,SNR=0.8
comp=Z,46nm,0.6s
PRN Pahroc Range 48.30 318 ⇑P **P 19 29 46.9 +1.0**
DUG Dugway, Tooele 48.47 322 ⇓P **P 19 29 47.2 +0.1**
ULM Lac du Bonnet 48.50 343 P **P 19 29 44.9 -2.1**
comp=Z,45nm,0.5s,baz=150,slow=8.4,SNR=75
comp=Z,45nm,0.5s
ULM Lac du Bonnet 48.50 343 *d iP* **P 19 29 45.3 -1.7**
ULM Lac du Bonnet 48.50 343 ⇓P **P 19 29 44.9 -2.1**
HWUT Hardware Ranch 48.61 325 ⇑P **P 19 29 48.8 +0.6**
AY01 Puyuhuapi 48.83 177 P **P 19 29 50.6 +1.2**
TPNV Topopah Spring 48.86 317 P **P 19 29 50.9 +0.7**
TPNV IAmb IAmb 19 29 53.6
comp=Z,170nm,1.1s

TPNV Topopah Spring 48.86 317 ⇓P **P 19 29 51.3 +1.1**
AHID Auburn Hatcher 49.09 326 P **P 19 29 51.0 -0.8**
AHID IAmb IAmb 19 29 54.1
comp=Z,148nm,0.9s
AHID Auburn Hatcher 49.09 326 ⇓P **P 19 29 51.1 -0.8**
SNOW Snow King Moun 49.37 327 P **P 19 29 53.8 -0.2**
LAO LASA Array 49.40 333 P **P 19 29 53.0 -1.0**
LAO IAmb IAmb 19 30 43.4
comp=Z,484nm,1.8s
LAO LASA Array 49.40 333 ⇑P **P 19 29 53.1 -0.8**
MOOW Moose Ponds 49.55 327 P **P 19 29 54.7 -0.7**
MOOW IAmb IAmb 19 29 57.7
comp=Z,140nm,1.0s
RLMT Red Lodge 49.72 330 P **P 19 29 55.6 -1.0**
RLMT IAmb IAmb 19 29 58.8
comp=Z,186nm,1.1s
RLMT Red Lodge 49.72 330 ⇑P **P 19 29 56.1 -0.5**
H17A Grant Village 49.90 328 P **P 19 29 58.3 +0.3**
DGMT Dagmar 49.90 336 P **P 19 29 57.1 -0.6**
DGMT Dagmar 49.90 336 ⇑P **P 19 29 57.3 -0.4**
LKWY Lake 49.92 328 ⇓P **P 19 29 59.0 +0.8**
COYC Coyhaique 50.01 176 P **P 19 29 59.7 +1.3**
COYC IAmb IAmb 19 30 54.0
comp=Z,228nm,1.3s
COYC Coyhaique 50.01 176 ⇑P **P 19 30 00.1 +1.6**
COYC Coyhaique 50.01 176 P **P 19 29 59.8 +1.3**
COYC pP **pP 19 30 29.8 +0.9**
COYC sP **sP 19 30 45.0 +1.6**
YNR Norris Junctio 50.17 328 P **P 19 30 00.1 +0.1**
ELK Elko 50.29 321 P **P 19 30 01.0 0.0**
ELK IAmb IAmb 19 30 03.5
comp=Z,314nm,1.9s
ELK Elko 50.29 321 ⇑P **P 19 30 00.9 -0.1**
SCHQ Schefferville 50.72 7 P **P 19 30 04.0 +0.3**
SCHQ IAmb IAmb 19 30 07.1
comp=Z,307nm,1.1s
SCHQ Schefferville 50.72 7 P **P 19 30 03.3 -0.4**
comp=Z,184nm,0.9s,baz=199,slow=6.2,SNR=104
SCHQ LR LR 19 53 50.9
comp=Z,1µm,18.2s,baz=194,slow=38
comp=Z,184nm,0.9s
SCHQ Schefferville 50.72 7 ⇑P **P 19 30 04.1 +0.4**
NVAR Mina Array Bea 51.02 317 P **P 19 30 06.8 +0.2**
comp=Z,216nm,0.8s,baz=126,slow=6.1,SNR=353
NVAR PcP **PcP 19 31 22.0 +1.1**
comp=Z,55nm,0.8s,baz=136,slow=4.5,SNR=13
NVAR PP **PP 19 32 02.5 -1.8**
comp=Z,55nm,0.9s,baz=131,slow=3.3,SNR=4.5
NVAR ScP **ScP 19 35 06.5 +1.0**
comp=Z,12nm,1.1s,baz=134,slow=4.3,SNR=4.7
NVAR LR LR 19 53 52.0
comp=Z,1µm,21.2s,baz=136,slow=38
comp=Z,216nm,0.8s
BOZ Bozeman (W) 51.26 329 P **P 19 30 07.8 -0.3**
BOZ IAmb IAmb 19 30 10.8
comp=Z,184nm,0.9s
HLID Hailey 51.47 325 ⇓P **P 19 30 09.5 -0.3**
AY03 Cochrane 51.65 177 P **P 19 30 13.0 +2.3**
PMPB Monarch Peak 51.71 314 P **P 19 30 12.0 +0.5**
EGMT Eagleton 52.01 332 ⇓P **P 19 30 12.9 -0.7**
SAO San Andreas Ge 52.42 314 P **P 19 30 17.0 +0.3**
SAO IAmb IAmb 19 30 19.4
comp=Z,231nm,1.4s
SAO San Andreas Ge 52.42 314 ⇑P **P 19 30 16.6 0.0**
SACV Santiago Islan 52.69 75 P **P 19 30 19.2 +0.2**
SACV Santiago Islan 52.69 75 ⇑P **P 19 30 19.6 +0.6**
MSO Missoula 53.28 328 P **P 19 30 22.3 -0.6**
MSO IAmb IAmb 19 31 11.8
comp=Z,229nm,1.6s
MSO Missoula 53.28 328 ⇓P **P 19 30 22.4 -0.6**
WVOR Wild Horse Val 53.35 321 ⇓P **P 19 30 23.1 -0.5**
J08A Circle Bar Ran 53.75 322 P **P 19 30 26.5 0.0**
BMO Blue Mountains 53.91 325 ⇓P **P 19 30 26.8 -0.8**
FFC Flin Flon 54.24 342 P **P 19 30 28.4 -1.2**
FFC IAmb IAmb 19 31 19.8
comp=Z,120nm,1.1s
FFC Flin Flon 54.24 342 ⇑P **P 19 30 28.2 -1.5**
CALA Caldeira 54.76 45 *e*P **P 19 30 37.6 +3.8**
CALA *i* Amb 19 30 39.5
comp=Z,264nm,0.7s
PCED Cedros 54.78 45 *e*P **P 19 30 37.6 +3.8**
PCED *i* Amb 19 30 40.8
comp=Z,255nm,0.7s
HOR Horta 54.78 45 *e*P **P 19 30 37.8 +3.9**
HOR *i* Amb 19 30 39.2
comp=Z,378nm,0.7s
PCAN Candelaria 54.86 45 *e*P **P 19 30 37.0 +2.6**
PCAN *i* Amb 19 30 39.4
comp=Z,619nm,1.1s
PICO Pico 54.91 45 *e*P **P 19 30 38.3 +3.4**
PICO *i* Amb 19 30 40.5
comp=Z,970nm,0.9s
PPNO Prainha do Nor 55.02 45 *e*P **P 19 30 39.4 +3.7**
PPNO *i* Amb 19 30 41.2
comp=Z,736nm,1.4s
PID Ribeirinha 55.11 45 *e*P **P 19 30 39.4 +3.1**
PID *i* Amb 19 30 40.3
comp=Z,595nm,1.4s
ROSA Rosais 55.14 45 *e*P **P 19 30 38.5 +2.0**
ROSA *i* Amb 19 30 40.8
comp=Z,704nm,1.3s
PMAN Manadas 55.21 45 *e*P **P 19 30 39.0 +2.0**
PMAN *i* Amb 19 30 42.6
comp=Z,357nm,1.2s
K04D Chiloquin, OR 55.41 320 P **P 19 30 38.4 -0.1**
SRBC Serra Branca 55.42 45 *e*P **P 19 30 39.4 +0.9**
SRBC *i* Amb 19 30 43.3
comp=Z,878nm,1.3s
YBH Yreka Blue Hor 55.59 319 LR LR 19 57 00.5
comp=Z,2µm,21.7s,baz=142,slow=38
PSBA Serra de Santa 55.81 45 *e*P **P 19 30 42.8 +1.5**
PSBA *i* Amb 19 30 46.4
comp=Z,741nm,1.2s
NEW Newport 55.85 328 ⇓P **P 19 30 40.4 -1.1**
FCC Fort Churchill 55.86 349 ⇑P **P 19 30 39.4 -1.7**
PAGU Aguaiva, Azore 55.91 45 *e*P **P 19 30 45.3 +3.4**
PAGU *i* Amb 19 30 46.2
comp=Z,393nm,1.2s
MG05 Puerto Natales 56.08 177 P **P 19 30 45.4 +2.6**
MG05 IAmb IAmb 19 31 37.8
comp=Z,118nm,1.2s
HAWA Hanford 56.08 325 ⇓P **P 19 30 43.0 0.0**
PDA Ponta Delgada 56.59 47 *e*P **P 19 30 48.9 +2.1**
PDA *i* Amb 19 30 50.3
comp=Z,517nm,1.2s
CMLA Cha da Macela 56.70 47 *e*P **P 19 30 49.5 +1.9**
CMLA *i* Amb 19 30 51.5
comp=Z,667nm,1.1s
PSMN Pico do Norte, 56.75 48 *e*P **P 19 30 49.5 +1.6**
PSMN *i* Amb 19 30 50.7
comp=Z,165nm,1.4s
BART Pico Bartolome 56.97 47 *e*P **P 19 30 52.0 +2.5**
BART *i* Amb 19 30 54.6
comp=Z,431nm,0.9s
MG04 Isla Riesco 57.30 177 P **P 19 30 53.4 +2.0**
MG04 IAmb IAmb 19 31 39.1
comp=Z,242nm,1.1s
COR Corvallis 57.36 322 P **P 19 30 52.2 +0.1**
COR Corvallis 57.36 322 ⇓P **P 19 30 52.8 +0.7**
COR Corvallis 57.36 322 P **P 19 30 52.8 +0.7**
COR pP **pP 19 31 23.6 +1.1**
GO10 Punta Arenas 57.63 176 P **P 19 30 56.6 +2.8**
GO10 IAmb IAmb 19 31 42.7
comp=Z,202nm,1.1s
EFI East Falkland 58.08 167 P **P 19 30 57.8 +0.9**
EFI IAmb IAmb 19 31 00.5
comp=Z,105nm,0.8s
EFI East Falkland 58.08 167 *d iP* **P 19 30 59.0 +2.1**
EFI pmax pmax
comp=Z,63nm,1.0s
EFI East Falkland 58.08 167 ⇑P **P 19 30 58.0 +1.2**
EFI East Falkland 58.08 167 P **P 19 30 57.5 +0.6**
EFI pP **pP 19 31 28.4 +0.1**
MG03 Isla Dawson 58.36 176 P **P 19 31 00.6 +1.8**
MG03 IAmb IAmb 19 31 51.1
comp=Z,136nm,0.9s
MBO M'Bour 59.07 76 P **P 19 31 06.0 +1.5**
NLWA Neilton Lookou 59.12 324 P **P 19 31 04.8 +0.4**
BBTS Babate 59.49 76 LR LR 19 55 05.7
comp=Z,4µm,19.6s,baz=141,slow=34
LLLB Lillooet 59.75 328 P **P 19 31 08.4 -0.1**
PTCN Pitcairn Islan 60.06 238 P **P 19 31 12.4 +1.2**
PTCN Pitcairn Islan 60.06 238 P **P 19 31 14.0 +2.9**
SHB Sechelt 60.27 326 ⇑P **P 19 31 12.2 0.0**

IVI Ivigtut 60.34 15 P **P** **19 31 13.4 +1.1**
IVI pP **pP** **19 31 43.9 +0.4**
IVI sP **sP** **19 31 57.0 -0.7**
OZB Mount Ozzard 60.85 325 P **P** **19 31 17.1 +0.9**
OZB IAmb IAmb 19 31 19.6
comp=Z,168nm,0.8s
OZB Mount Ozzard 60.85 325 ⇓P **P** **19 31 17.3 +1.1**
NRS Narsarsuaq 61.05 16 P **P** **19 31 17.4 +0.3**
NRS Narsarsuaq 61.05 16 *i* P **P** **19 31 17.5 +0.3**
NRS IAmb IAmb 19 31 23.1
comp=Z,286nm,0.9s
NRS Narsarsuaq 61.05 16 ⇓P **P** **19 31 17.9 +0.7**
MACI Morro de la Ar 61.22 60 P **P** **19 31 20.5 +1.2**
PMOZ Porto Moniz, M 61.63 55 P **P** **19 31 23.0 +1.2**
PMOZ Porto Moniz, M 61.63 55 *eP* **P** **19 31 23.4 +1.6**
PMOZ *i* Amb 19 31 29.6
comp=Z,462nm,1.5s
PMOZ *ep*P **pP** **19 31 49.7 -3.4**
PMOZ *etx* tx 19 32 07.6
PMOZ Porto Moniz, M 61.63 55 P **P** **19 31 24.1 +2.3**
PMAR Madeira 61.84 55 *eP* **P** **19 31 25.5 +2.2**
PMAR *i* Amb 19 31 34.9
comp=Z,190nm,1.6s
PMAR *ep*P **pP** **19 31 50.6 -4.0**
PMAR *etx* tx 19 32 08.9
EOSO Osorio 62.02 61 P **P** **19 31 23.8 -0.7**
NUUK Nuuk 62.09 12 *i* P **P** **19 31 24.0 0.0**
NUUK IAmb IAmb 19 31 27.3
comp=Z,323nm,1.0s
NUUK Nuuk 62.09 12 ⇑P **P** **19 31 25.0 +0.9**
PMPST Porto Santo, M 62.39 55 *eP* **P** **19 31 28.5 +1.7**
PMPST *i* Amb 19 31 32.5
comp=Z,279nm,2.4s
PMPST *etx* tx 19 32 13.0
ASCN Ascension 62.87 101 P **P** **19 31 30.8 +0.6**
BBB Bella Bella 63.90 327 LR LR 20 04 20.8
comp=Z,611nm,18.7s,baz=122,slow=40
BBB Bella Bella 63.90 327 ⇑P **P** **19 31 36.6 +0.4**
YKA Yellowknife Ar 64.41 341 P **P** **19 31 37.8 -1.6**
comp=Z,60nm,0.7s,baz=139,slow=6.1,SNR=314
YKA pP **PcP** **19 32 12.6 -0.1**
comp=Z,53nm,0.9s,baz=140,slow=5.9,SNR=4.8
YKA ScP 19 36 04.5
comp=Z,16nm,1.0s,baz=133,slow=4.7,SNR=6.4
YKA PKP2bc 20 00 31.5
comp=Z,0.8nm,1.0s,baz=328,slow=4.2,SNR=5.5
YKA LR LR 20 03 06.0
comp=Z,1µm,18.3s,baz=131,slow=39
comp=Z,60nm,0.7s
SFJD Kangerlussuaq 64.81 11 P **P** **19 31 41.9 0.0**
SFJD IAmb IAmb 19 31 44.0
comp=Z,116nm,1.1s
SFJD Kangerlussuaq 64.81 11 LR LR 19 57 57.2
comp=Z,796nm,21.6s,baz=212,slow=34
SFJD Kangerlussuaq 64.81 11 *i* P **P** **19 31 41.3 -0.6**
SFJD IAmb IAmb 19 31 43.8
comp=Z,131nm,1.1s
SFJD Kangerlussuaq 64.81 11 P **P** **19 31 42.0 +0.1**
TAOE Nuku Hiva Isla 65.17 258 P **P** **19 31 46.0 +0.6**
TAOE Nuku Hiva Isla 65.17 258 ⇑*i*P **P** **19 31 46.9 +1.5**
TAOE Nuku Hiva Isla 65.17 258 P **P** **19 31 46.9 +1.5**
TAOE Nuku Hiva Isla 65.17 258 ⇑P **P** **19 31 46.6 +1.3**
TOAD Toad River Com 66.02 335 P **P** **19 31 48.8 -1.2**
baz=125,SNR=132
TOAD S **S** **19 40 26.9 -0.6**
baz=125
KOTAN Kotaneelee Air 66.27 336 P **P** **19 31 51.1 -0.4**
baz=126,SNR=26
KOTAN S **S** **19 40 30.6 +0.2**
baz=126
ISOG Isortoq, Green 66.30 16 *i* P **P** **19 31 51.6 +0.1**
ISOG IAmb IAmb 19 31 53.9
comp=Z,424nm,0.9s
U35K Hyder 66.69 330 P **P** **19 31 53.8 -0.3**
baz=119,SNR=16
U35K S **S** **19 40 37.0 +1.4**
baz=119
ILULI Ilulissat 66.69 9 P **P** **19 31 54.1 +0.2**
ILULI Ilulissat 66.69 9 *i* P **P** **19 31 53.5 -0.4**
ILULI IAmb IAmb 19 31 56.1
comp=Z,378nm,1.1s
ILULI Ilulissat 66.69 9 ⇓P **P** **19 31 53.9 0.0**
ANGG Ammassalik, Gr 66.72 16 P **P** **19 31 54.4 +0.2**
ANGG IAmb IAmb 19 31 56.6
comp=Z,151nm,1.0s
ANGG Ammassalik, Gr 66.72 16 *i* P **P** **19 31 53.0 -1.2**
ANGG IAmb IAmb 19 31 55.8
comp=Z,125nm,0.9s
V35K Ketchikan 67.21 329 P **P** **19 31 57.3 -0.1**
baz=117,SNR=6.4
V35K S **S** **19 40 40.2 -1.7**
baz=117
HOPE Hope Point 67.27 156 P **P** **19 31 58.6 +0.8**
HOPE IAmb IAmb 19 32 01.2
comp=Z,191nm,0.9s
T35M Bob Quinn 67.31 331 P **P** **19 31 59.0 +0.8**
baz=119,SNR=37
T35M S **S** **19 40 46.8 +3.6**
baz=119
UMMG Ummannaq 67.85 8 *i* P **P** **19 32 01.7 +0.4**
UMMG IAmb IAmb 19 32 03.5
comp=Z,140nm,1.1s
WRGLY Wrigley 67.91 339 P **P** **19 32 01.1 -0.6**
baz=128,SNR=32
DLBC Dease Lake 67.92 333 P **P** **19 32 02.3 +0.3**
DLBC IAmb IAmb 19 32 05.0
comp=Z,113nm,0.8s
DLBC Dease Lake 67.92 333 LR LR 20 06 14.9
comp=Z,1µm,18.0s,baz=116,slow=40
DLBC Dease Lake 67.92 333 P **P** **19 32 02.3 +0.3**
baz=120,SNR=85
DLBC S **S** **19 40 52.7 +2.2**
baz=120
CRAG Craig 68.05 329 P **P** **19 32 04.0 +1.2**
CRAG Craig 68.05 329 ⇑P **P** **19 32 03.9 +1.2**
CRAG Craig 68.05 329 P **P** **19 32 03.1 +0.4**
baz=116,SNR=6.1
CRAG S **S** **19 40 55.1 +3.3**
baz=116
WRAK Wrangell Islan 68.07 330 P **P** **19 32 03.0 +0.1**
WRAK Wrangell Islan 68.07 330 P **P** **19 32 04.0 +1.1**
baz=117
S34M Telegraph Cree 68.18 332 P **P** **19 32 04.2 +0.6**
baz=119,SNR=66
S34M S **S** **19 40 55.6 +2.2**
baz=119
WTLY Watson Lake, Y 68.23 335 P **P** **19 32 03.8 -0.1**
WTLY IAmb IAmb 19 32 06.5
comp=Z,154nm,0.9s
WTLY Watson Lake, Y 68.23 335 P **P** **19 32 04.3 +0.4**
baz=122,SNR=30
U33K Whale Pass 68.33 330 P **P** **19 32 05.1 +0.7**
baz=116,SNR=6.5
U33K S **S** **19 40 57.3 +2.2**
baz=116
NUUG Nuugaatsiaq 68.48 8 *i* P **P** **19 32 05.4 +0.3**
NUUG IAmb IAmb 19 32 07.9
comp=Z,197nm,1.0s
NUUG Nuugaatsiaq 68.48 8 ⇑P **P** **19 32 05.1 -0.1**
T33K Petersburg 68.55 330 P **P** **19 32 06.5 +0.7**
baz=116
TGTN Hyland Airport 68.77 336 P **P** **19 32 07.9 +0.6**
baz=123,SNR=22
TGTN S **S** **19 41 01.4 +1.0**
baz=123
R33M Jennings River 68.82 333 P **P** **19 32 07.9 +0.2**
baz=119
R33M S **S** **19 41 01.7 +0.4**
baz=119
ICESG Greenland Ices 68.85 13 *i* P **P** **19 32 07.9 0.0**
ICESG IAmb IAmb 19 32 10.1
comp=Z,346nm,1.0s
Q32M Nakina River 69.20 333 P **P** **19 32 11.4 +1.2**
baz=118
Q32M S **S** **19 41 06.1 +0.2**
baz=118
PMAFR Mafra 69.24 50 P **P** **19 32 10.6 +0.1**
PFVI Vila Bisbo 69.25 52 P **P** **19 32 12.1 +1.5**
PFVI IAmb IAmb 19 32 14.9
comp=Z,267nm,0.9s
PFVI Vila Bisbo 69.25 52 *eP* **P** **19 32 11.8 +1.1**
PFVI *ep*P **pP** **19 32 44.1 +1.6**
PFVI *etx* tx 19 32 58.0
PFVI *i* Amb 19 33 02.8
comp=Z,431nm,1.9s

PFVI Vila Bisbo 69.25 52 P **P** **19 32 09.8 -0.9**
ESPZ Base Esperanza 69.27 171 P **P** **19 32 11.3 +1.2**
UPNV Upernavik 69.28 6 *i* P **P** **19 32 10.1 0.0**
UPNV IAmb IAmb 19 32 13.9
comp=Z,47nm,0.8s
LIS Lisbon 69.30 50 *eP* **P** **19 32 12.3 +1.4**
LIS IAmb IAmb 19 32 14.4
comp=Z,266nm,0.8s
LIS *eS* **S** **19 41 10.6 +3.3**
LIS Lisbon 69.30 50 *eP* **P** **19 32 12.7 +1.9**
LIS *i* Amb 19 32 14.4
comp=Z,400nm,0.9s
LIS *etx* tx 19 32 58.3
PTEO Sao Teotonio 69.41 52 *eP* **P** **19 32 14.0 +2.4**
PTEO *i* Amb 19 32 16.0
comp=Z,475nm,1.2s
PTEO *ep*P **pP** **19 32 45.0 +1.5**
PTEO *etx* tx 19 32 58.9
MORF Marmelete 69.42 52 P **P** **19 32 13.1 +1.3**
MORF Marmelete 69.42 52 *eP* **P** **19 32 13.0 +1.3**
MORF IAmb IAmb 19 32 16.3
comp=Z,527nm,1.1s
MORF *ep*P **pP** **19 32 41.1 -2.6**
MORF *eS* **S** **19 41 12.5 +3.6**
MORF Marmelete 69.42 52 *eP* **P** **19 32 14.0 +2.3**
MORF *i* Amb 19 32 16.3
comp=Z,650nm,1.2s
MORF *ep*P **pP** **19 32 45.4 +1.8**
MORF *etx* tx 19 32 59.2
TIO Tiouine 69.60 59 P **P** **19 32 13.7 +0.7**
S32K Killisnoo 69.63 331 P **P** **19 32 13.4 +0.9**
baz=115,SNR=20
PMSA Palmer Station 69.70 175 LR LR 20 03 10.5
comp=Z,377nm,18.3s,baz=343,slow=36
PMSA Palmer Station 69.70 175 *eP* **P** **19 32 13.0 +0.3**
PSBE So Bento 69.72 50 *eP* **P** **19 32 15.1 +1.6**
PSBE *i* Amb 19 32 17.5
comp=Z,251nm,1.3s
PSBE *etx* tx 19 33 00.8
AVE Averroes 69.78 56 P **P** **19 32 15.7 +1.7**
AVE Averroes 69.78 56 P **P** **19 32 15.4 +1.5**
AVE Averroes 69.78 56 ⇑P **P** **19 32 15.9 +2.0**
SIT Sitka 69.83 330 P **P** **19 32 15.4 +1.7**
SIT Sitka 69.83 330 P **P** **19 32 14.0 +0.3**
baz=114,SNR=5.3
MESJ Messejana 69.85 51 P **P** **19 32 15.2 +0.9**
MESJ IAmb IAmb 19 32 18.3
comp=Z,160nm,1.0s
MESJ Messejana 69.85 51 *eP* **P** **19 32 15.6 +1.3**
MESJ IAmb IAmb 19 32 18.6
comp=Z,229nm,1.2s
MESJ *ep*P **pP** **19 32 43.7 -2.6**
MESJ *eS* **S** **19 41 17.1 +3.2**
MESJ Messejana 69.85 51 *eP* **P** **19 32 16.1 +1.7**
MESJ *i* Amb 19 32 18.6
comp=Z,194nm,1.1s
MESJ *ep*P **pP** **19 32 43.9 -2.3**
MESJ *etx* tx 19 33 01.4
JIS Juneau Island 69.89 331 P **P** **19 32 15.1 +1.1**
R32K Eaglecrest 69.95 331 P **P** **19 32 14.8 +0.3**
baz=116,SNR=14
PCVE Castro Verde 69.96 52 *eP* **P** **19 32 17.3 +2.4**
PCVE *i* Amb 19 32 19.3
comp=Z,229nm,1.2s
PCVE *ep*P **pP** **19 32 46.9 0.0**
PCVE *etx* tx 19 33 01.7
PCVE Castro Verde 69.96 52 P **P** **19 32 15.2 +0.2**
PBDV Barranco-do-Ve 69.97 52 *eP* **P** **19 32 17.5 +2.4**
PBDV *i* Amb 19 32 21.4
comp=Z,160nm,2.0s
PBDV *ep*P **pP** **19 32 46.6 -0.5**
PBDV *etx* tx 19 33 02.1
P33M Teslin, Yukon 70.03 334 P **P** **19 32 14.9 -0.2**
baz=118,SNR=53
P33M S **S** **19 41 17.1 +1.7**
baz=118
PCAS Casmilo, Conde 70.05 49 *eP* **P** **19 32 16.9 +1.4**
PCAS *i* Amb 19 32 19.6
comp=Z,482nm,1.2s
PCAS *ep*P **pP** **19 32 48.0 +0.5**
PCAS *etx* tx 19 33 02.5
PMTG Montargil 70.07 50 *eP* **P** **19 32 16.7 +1.1**
PMTG *i* Amb 19 32 19.4
comp=Z,181nm,1.2s
PMTG *ep*P **pP** **19 32 48.2 +0.6**
PMTG *etx* tx 19 33 02.2
EVO Evora 70.14 51 *eP* **P** **19 32 17.3 +1.2**
EVO *i* Amb 19 32 20.7
comp=Z,154nm,1.5s
EVO *ep*P **pP** **19 32 48.9 +0.9**
EVO *etx* tx 19 33 03.0
EVO Evora 70.14 51 P **P** **19 32 16.0 0.0**
COI Coimbra 70.14 49 P **P** **19 32 17.0 +1.0**
COI Coimbra 70.14 49 *eP* **P** **19 32 17.6 +1.6**
COI *i* Amb 19 32 20.2
comp=Z,871nm,1.1s
COI *ep*P **pP** **19 32 47.9 -0.1**
COI *etx* tx 19 33 03.1
P32M Atlin 70.15 333 P **P** **19 32 15.8 +0.1**
baz=117,SNR=24
P32M S **S** **19 41 17.0 +0.3**
baz=117
PBEJ Beja 70.16 51 *eP* **P** **19 32 18.3 +2.1**
PBEJ *i* Amb 19 32 19.8
comp=Z,150nm,1.1s
PBEJ *ep*P **pP** **19 32 49.3 +1.1**
PBEJ *etx* tx 19 33 03.0
PVAQ Vaqueiros 70.17 52 P **P** **19 32 17.5 +1.3**
PVAQ Vaqueiros 70.17 52 *eP* **P** **19 32 18.6 +2.3**
PVAQ *i* Amb 19 32 21.4
comp=Z,141nm,1.5s
PVAQ *ep*P **pP** **19 32 48.2 -0.1**
PVAQ *etx* tx 19 33 03.6
PVAQ Vaqueiros 70.17 52 P **P** **19 32 18.0 +1.7**
BESE Bessie Mountai 70.24 332 P **P** **19 32 17.1 +0.8**
BESE IAmb IAmb 19 32 19.4
comp=Z,178nm,1.3s
RTC Rabat Centre 70.34 56 P **P** **19 32 18.0 +0.7**
EGRO El Granado 70.38 52 P **P** **19 32 18.0 +0.5**
PESTR Estremoz 70.52 50 P **P** **19 32 19.1 +0.7**
PESTR Estremoz 70.52 50 *eP* **P** **19 32 19.9 +1.5**
PESTR *i* Amb 19 32 22.4
comp=Z,505nm,1.1s
PESTR *ep*P **pP** **19 32 50.7 +0.3**
PESTR *etx* tx 19 33 05.0
PESTR Estremoz 70.52 50 P **P** **19 32 19.4 +1.0**
MMPY Sheldon Lake, 70.54 336 P **P** **19 32 18.6 +0.5**
baz=120,SNR=38
MMPY S **S** **19 41 22.3 +1.2**
baz=120
N32M Quiet Lake 70.58 334 P **P** **19 32 19.1 +0.7**
baz=118
N32M S **S** **19 41 21.7 0.0**
baz=118
R31K City Hall, Gus 70.59 331 P **P** **19 32 19.0 +0.7**
baz=114
PGAV Gavieira, Arco 70.60 47 *eP* **P** **19 32 20.2 +1.3**
PGAV *i* Amb 19 32 22.1
comp=Z,204nm,1.1s
PGAV *ep*P **pP** **19 32 50.8 0.0**
PGAV *etx* tx 19 33 05.5
PVIS Viseu 70.63 48 *eP* **P** **19 32 20.1 +1.0**
PVIS *ep*P **pP** **19 32 50.4 -0.7**
PVIS *etx* tx 19 33 05.8
S31K Pelican 70.65 331 P **P** **19 32 19.2 +0.6**
baz=114,SNR=8.8
S31K S **S** **19 41 26.2 +3.9**
baz=114
PCAB Cabril 70.73 47 *eP* **P** **19 32 20.6 +1.0**
PCAB *i* Amb 19 32 23.2
comp=Z,244nm,1.4s
PCAB *ep*P **pP** **19 32 51.9 +0.4**
PCAB *etx* tx 19 33 06.5
PMRV Marv??o 70.77 50 *eP* **P** **19 32 20.9 +1.0**
PMRV *i* Amb 19 32 23.5
comp=Z,205nm,1.2s
PMRV *ep*P **pP** **19 32 50.1 -1.8**
PMRV *etx* tx 19 33 06.1
PCBR Castelo Branco 70.78 49 *eP* **P** **19 32 21.1 +1.2**
PCBR *i* Amb 19 32 23.7
comp=Z,304nm,1.2s
PCBR *ep*P **pP** **19 32 52.0 +0.1**
PCBR *etx* tx 19 33 06.9

PBAR Barrancos 70.83 51 *eP* **P** **19 32 21.9 +1.7**
PBAR *i* Amb 19 32 24.4
comp=Z,222nm,1.3s
PBAR *ep*P **pP** **19 32 51.7 -0.6**
PBAR *etx* tx 19 33 07.0
PBAR Barrancos 70.83 51 P **P** **19 32 21.1 +0.9**
POLO Lamas de Olo 70.83 48 *eP* **P** **19 32 21.5 +1.2**
POLO *i* Amb 19 32 24.1
comp=Z,192nm,1.2s
POLO *ep*P **pP** **19 32 51.4 -0.8**
POLO *etx* tx 19 33 07.0
MTE Manteigas 70.83 49 P **P** **19 32 21.1 +0.8**
MTE Manteigas 70.83 49 *eP* **P** **19 32 21.2 +0.8**
MTE *i* Amb 19 32 26.6
comp=Z,177nm,1.5s
MTE *ep*P **pP** **19 32 51.3 -1.0**
MTE *etx* tx 19 33 06.3
MTE Manteigas 70.83 49 *eP* **P** **19 32 22.1 +1.8**
SKAG Skagway 70.84 332 P **P** **19 32 19.9 +0.1**
SKAG Skagway 70.84 332 P **P** **19 32 20.7 +0.9**
SKAG Skagway 70.84 332 P **P** **19 32 20.3 +0.5**
baz=115,SNR=18
SKAG S **S** **19 41 26.5 +2.1**
baz=115
KULLO Kullorsuaq 70.86 5 *i* P **P** **19 32 19.8 +0.1**
KULLO IAmb IAmb 19 32 22.2
comp=Z,80nm,0.9s
PVRL Vila Real 70.87 48 *eP* **P** **19 32 21.7 +1.2**
PVRL *i* Amb 19 32 24.2
comp=Z,304nm,1.2s
PVRL *ep*P **pP** **19 32 52.2 -0.2**
PVRL *etx* tx 19 33 08.1
DBIC Dimbokro 70.94 85 P **P** **19 32 21.3 -0.1**
DBIC Dimbokro 70.94 85 P **P** **19 32 20.1 -1.2**
comp=Z,493nm,0.9s,baz=269,slow=6.3,SNR=132
DBIC S **S** **19 41 26.0 -1.2**
comp=Z,14nm,1.1s,baz=245,slow=13,SNR=11
DBIC PKPPKP **P'P'df** **20 00 16.5 -2.5**
comp=Z,11nm,0.9s,baz=82,slow=5.3,SNR=9.7
DBIC LR LR 20 01 40.1
comp=Z,2µm,19.9s,baz=246,slow=34
comp=Z,493nm,0.9s
DBIC Dimbokro 70.94 85 P **P** **19 32 21.2 -0.1**
DBIC S **S** **19 41 25.7 -1.6**
DBIC Dimbokro 70.94 85 P **P** **19 32 20.8 -0.5**
DBIC pP **pP** **19 32 51.8 -1.7**
DBIC sP **sP** **19 33 05.8 -1.7**
RES Resolute Bay 70.94 355 P **P** **19 32 19.3 -0.9**
RES Resolute Bay 70.94 355 LR LR 20 04 22.4
comp=Z,1µm,20.8s,baz=170,slow=36
EBAD Badajoz 70.95 51 P **P** **19 32 20.0 -1.0**
EMIN Mina Concepcio 71.05 52 P **P** **19 32 22.8 +1.2**
WHY Whitehorse 71.15 334 P **P** **19 32 21.6 -0.2**
baz=116,SNR=10
WHY S **S** **19 41 27.2 -1.1**
baz=116
FARO Faro, Yukon 71.20 335 P **P** **19 32 22.6 +0.6**
baz=118,SNR=35
FARO S **S** **19 41 30.1 +1.3**
baz=118
SFS San Fernando 71.22 53 P **P** **19 32 25.4 +2.8**
PLBC Pleasant Camp 71.32 332 P **P** **19 32 23.6 +0.9**
baz=114,SNR=7.1
PLBC S **S** **19 41 34.5 +4.4**
baz=114
MVO Moncorvo 71.36 48 *eP* **P** **19 32 24.8 +1.3**
MVO *i* Amb 19 32 26.7
comp=Z,336nm,1.1s
MVO *ep*P **pP** **19 32 55.1 -0.3**
MVO *etx* tx 19 33 10.2
BORG Borgarnes 71.51 22 LR LR 20 00 31.6
comp=Z,781nm,21.9s,baz=237,slow=33
ESPR Espera 71.56 53 P **P** **19 32 25.4 +0.8**
M31M Drury Creek, Y 71.62 335 P **P** **19 32 25.1 +0.6**
baz=117,SNR=49
M31M S **S** **19 41 34.3 +0.7**
baz=117
PBRG Braganca 71.69 47 *eP* **P** **19 32 26.8 +1.3**
PBRG *i* Amb 19 32 29.3
comp=Z,157nm,1.3s
PBRG *ep*P **pP** **19 32 55.1 -2.3**
PBRG *etx* tx 19 33 12.4
IFR Ifrane 71.71 56 P **P** **19 32 27.7 +1.8**
VAL Valentia 71.73 37 P **P** **19 32 25.7 +0.3**
VAL Valentia 71.73 37 P **P** **19 32 27.0 +1.7**
O30N Mendenhall 71.73 333 P **P** **19 32 25.7 +0.4**
baz=115,SNR=57
O30N S **S** **19 41 35.3 +0.4**
baz=115
SUMG Summit 71.80 11 P **P** **19 32 25.8 -0.1**
SUMG Summit 71.80 11 *i* P **P** **19 32 26.4 +0.6**
SUMG IAmb IAmb 19 32 28.7
comp=Z,420nm,1.1s
ECEU Ceuta 71.80 54 P **P** **19 32 27.9 +1.8**
CEU Ceuta 71.81 54 P **P** **19 32 28.5 +2.4**
P30M Million Dollar 71.86 333 P **P** **19 32 26.8 +0.7**
baz=114
P30M S **S** **19 41 39.4 +3.0**
baz=114
N31M Braeburn, Yuko 71.90 334 P **P** **19 32 26.7 +0.4**
baz=115,SNR=28
N31M S **S** **19 41 38.4 +1.6**
baz=115
LIJA Lijar 71.92 53 P **P** **19 32 28.2 +1.3**
C36M Paulatuk 71.92 344 P **P** **19 32 24.4 -1.7**
baz=129,SNR=7.9
MDT Midelt 72.06 57 LR LR 20 01 43.0
comp=Z,457nm,20.8s,baz=275,slow=34
ECAB El Cabril 72.08 52 P **P** **19 32 28.2 +0.4**
TRIS Tristan da Cun 72.27 131 P **P** **19 32 29.7 +0.9**
TRIS IAmb IAmb 19 32 31.5
comp=Z,297nm,1.1s
HYT Haines Junctio 72.39 333 P **P** **19 32 30.2 +0.9**
baz=114,SNR=12
HYT S **S** **19 41 45.1 +2.5**
baz=114
N30M Aishikik Lake 72.46 334 P **P** **19 32 30.6 +1.0**
baz=114
N30M S **S** **19 41 44.2 +1.0**
baz=114
SHEL Horse Pasture 72.53 108 P **P** **19 32 31.5 +0.6**
SHEL IAmb IAmb 19 32 34.2
comp=Z,307nm,1.0s
IGLA Glengowla, Co 72.66 35 P **P** **19 32 32.2 +1.4**
O29M Mount Kennedy 72.67 332 P **P** **19 32 31.6 +0.6**
baz=112
O29M S **S** **19 41 47.6 +1.7**
baz=112
SMAI San Martin Ant 72.77 176 P **P** **19 32 33.3 +2.2**
SMAI IAmb IAmb 19 32 43.6
comp=Z,161nm,1.1s
M30M Minto, Yukon 72.79 335 P **P** **19 32 31.7 +0.1**
baz=115
M30M S **S** **19 41 48.3 +1.4**
baz=115
PNL Peninsula 72.82 332 P **P** **19 32 33.5 +1.8**
PNL Peninsula 72.82 332 P **P** **19 32 32.0 +0.3**
baz=111,SNR=6.5
PNL S **SKiKP** **19 41 50.1 -2.4**
baz=111
YUK6 Outpost Mounta 72.82 333 P **P** **19 32 32.8 +0.8**
baz=113,SNR=20
YUK6 S **S** **19 41 49.3 +1.6**
baz=113
MAYO Mayo, Yukon 72.86 336 P **P** **19 32 32.2 +0.3**
baz=116,SNR=15
MAYO S **S** **19 41 49.1 +1.6**
baz=116
YUK4 Talbot Arm 73.10 333 P **P** **19 32 34.2 +0.6**
baz=113,SNR=26
YUK4 S **SKiKP** **19 41 54.7 +1.5**
baz=113
PAB San Pablo 73.12 50 P **P** **19 32 35.0 +1.1**
PAB IAmb IAmb 19 32 37.9
comp=Z,352nm,1.2s
H31M Peel River 73.26 339 P **P** **19 32 34.6 +0.4**
baz=118
H31M S **S** **19 41 52.4 +0.3**
baz=118
PINM Pinnacle 73.38 332 P **P** **19 32 36.1 +1.0**
baz=111,SNR=6.9
ESDC Sonseca Array 73.43 50 P **P** **19 32 36.8 +1.0**
ESDC Sonseca Array 73.43 50 P **P** **19 32 36.2 +0.4**
comp=Z,188nm,1.1s,baz=264,slow=5.3,SNR=234
ESDC PKPPKP P'P'df 20 00 03.4 -10
comp=Z,1.6nm,0.9s,baz=69,slow=3.1,SNR=9.2

ESDC LR LR 20 01 08.6
comp=Z,903nm,19.2s,baz=252,slow=33
comp=Z,188nm,1.1s
ESBB Sonseca Array 73.43 50 P **P** **19 32 37.0 +1.3**
ESBB IAmb IAmb 19 32 39.8
comp=Z,297nm,1.2s
M29M Somme Creek 73.45 335 P **P** **19 32 35.8 +0.3**
baz=113,SNR=26
M29M S **S** **19 41 54.7 +0.2**
baz=113
J30M Hart River 73.46 337 P **P** **19 32 36.3 +0.7**
baz=116
J30M S **S** **19 41 55.6 +1.1**
baz=116
L29M L29M 73.57 335 P **P** **19 32 36.6 +0.5**
baz=114,SNR=54
L29M S **S** **19 41 55.4 -0.3**
baz=114
YUK8 Steele Glacier 73.58 333 P **P** **19 32 37.2 +0.7**
baz=112,SNR=20
YUK8 S **S** **19 41 58.4 +2.0**
baz=112
O28M Mount Upton 73.59 333 P **P** **19 32 37.5 +1.0**
baz=111,SNR=7.0
O28M S **S** **19 41 58.4 +1.9**
baz=111
K29M Barlow Dome 73.62 336 P **P** **19 32 36.3 -0.2**
baz=114,SNR=73
K29M S **S** **19 41 57.0 +0.6**
baz=114
I30M Mount Dempster 73.75 338 P **P** **19 32 37.6 +0.3**
baz=116
I30M S **S** **19 41 58.6 +0.7**
baz=116
G31M Satah River 73.76 340 P **P** **19 32 36.7 -0.3**
baz=118,SNR=42
G31M S **S** **19 41 55.7 -1.8**
baz=118
F31M Tsiigehtchic 73.83 340 P **P** **19 32 36.8 -0.6**
baz=119,SNR=46
F31M S **S** **19 41 56.1 -2.1**
baz=119
A36M Sachs Harbour 73.88 346 P **P** **19 32 36.5 -1.1**
baz=128,SNR=86
A36M S **SKiKP** **19 41 53.6 -0.1**
baz=128
IWEX Carrickbyrne, 73.91 37 *e*P **P** **19 32 39.6 +1.4**
IWEX Carrickbyrne, 73.91 37 P **P** **19 32 39.6 +1.4**
YUK3 Moose Creek 74.07 334 P **P** **19 32 39.7 +0.4**
baz=111,SNR=27
YUK3 S **S** **19 42 04.1 +2.4**
baz=111
NEEM North Greenlan 74.09 6 *i* P **P** **19 32 39.9 +0.7**
NEEM IAmb IAmb 19 32 42.0
comp=Z,225nm,0.9s
J29N Klondike Camp 74.15 337 P **P** **19 32 39.9 +0.4**
baz=114,SNR=22
J29N S **S** **19 42 03.0 +0.8**
baz=114
IDGL Inch Island, C 74.16 34 P **P** **19 32 40.8 +1.2**
YAH Yahtse 74.17 332 P **P** **19 32 40.7 +0.8**
YAH IAmb IAmb 19 33 16.6
comp=Z,268nm,1.2s
INK Inuvik 74.18 341 P **P** **19 32 38.8 -0.6**
INK Inuvik 74.18 341 LR LR 20 08 14.1
comp=Z,1μm,18.3s,baz=114,slow=38
INK Inuvik 74.18 341 P **P** **19 32 38.8 -0.6**
baz=119,SNR=48
INK S **S** **19 41 59.4 -2.7**
baz=119
MESA MESA 74.21 332 P **P** **19 32 41.0 +0.9**
MESA IAmb IAmb 19 33 24.2
comp=Z,211nm,1.1s
MESA MESA 74.21 332 P **P** **19 32 41.1 +1.1**
baz=109,SNR=7.2
MESA S **S** **19 42 07.0 +3.8**
baz=109
SCO Scoresbysund 74.35 16 P **P** **19 32 41.5 +1.1**
SCO Scoresbysund 74.35 16 *i* P **P** **19 32 41.8 +1.4**
SCO IAmb IAmb 19 32 43.2
comp=Z,31nm,1.0s
DSB Dublin 74.35 36 P **P** **19 32 41.6 +0.9**
DSB Dublin 74.35 36 P **P** **19 32 41.7 +0.9**
EPYK Eagle Plains 74.38 339 P **P** **19 32 40.2 -0.5**
baz=116,SNR=31
EPYK S **S** **19 42 02.2 -2.4**
baz=116
DAWY Dawson 74.47 336 P **P** **19 32 41.0 -0.2**
DAWY IAmb IAmb 19 33 16.6
comp=Z,300nm,2.0s
DAWY Dawson 74.47 336 P **P** **19 32 41.1 -0.2**
baz=113,SNR=20
DAWY S **S** **19 42 06.1 +0.4**
baz=113
G30M tAoh Zraii Nji 74.47 339 P **P** **19 32 41.1 -0.2**
baz=116
G30M S **S** **19 42 01.1 -4.5**
baz=116
BVCY Beaver Creek 74.47 334 P **P** **19 32 42.1 +0.8**
baz=111,SNR=27
BVCY S **S** **19 42 07.3 +1.5**
baz=111
I29M Ogilvie Camp, 74.55 337 P **P** **19 32 42.0 +0.3**
baz=114
I29M S **S** **19 42 05.7 -0.8**
baz=114
ILTH Belurgan, Co L 74.56 35 *e*P **P** **19 32 43.4 +1.5**
ILTH Belurgan, Co L 74.56 35 P **P** **19 32 43.3 +1.4**
F30M Barrier River 74.60 340 P **P** **19 32 42.4 +0.4**
baz=117
F30M S **S** **19 42 04.4 -2.6**
baz=117
SBD Saint Breward 74.78 39 *e*P **P** **19 32 44.9 +1.5**
M27K Edge Creek, AK 74.90 334 P **P** **19 32 44.5 +0.5**
baz=110
M27K S **S** **19 42 14.4 +3.6**
baz=110
H29M Whitestone 74.92 338 P **P** **19 32 44.0 +0.1**
baz=114
H29M S **S** **19 42 09.1 -1.5**
baz=114
CLGH Cloghs, Cushen 74.94 34 *e*P **P** **19 32 45.6 +1.5**
CLGH IAmb IAmb 19 32 47.4
comp=Z,279nm,1.4s
HTL Hartland 74.99 38 *e*P **P** **19 32 46.2 +1.7**
HTL IAmb IAmb 19 32 48.1
comp=Z,433nm,1.3s
RSBS Rosebush, Pemb 75.03 37 *e*P **P** **19 32 46.0 +1.2**
RSBS IAmb IAmb 19 32 47.7
comp=Z,213nm,1.1s
G29M Pine Creek 75.08 339 P **P** **19 32 44.6 -0.2**
baz=115
G29M S **S** **19 42 09.6 -2.8**
baz=115
BCAR Beaver Creek A 75.10 335 P **P** **19 32 45.1 +0.1**
L27K Beaver Creek, 75.12 335 P **P** **19 32 45.7 +0.6**
baz=110
L27K S **S** **19 42 15.6 +2.7**
baz=110
I28M Miner Creek 75.21 337 P **P** **19 32 45.6 0.0**
baz=112,SNR=66
I28M S **S** **19 42 12.9 -1.2**
baz=112
KAIM Kayak Island 75.31 331 P **P** **19 32 46.7 +0.6**
baz=107
KAIM S **S** **19 42 18.3 +3.3**
baz=107
M26K Nabesna, AK 75.41 334 P **P** **19 32 47.6 +0.8**
baz=109
M26K S **S** **19 42 17.7 +1.5**
baz=109
GLB Gilahina Butte 75.47 333 P **P** **19 32 47.4 +0.3**
GLB IAmb IAmb 19 33 23.5
comp=Z,292nm,1.3s
WPS Cemaes, Angles 75.48 36 *e*P **P** **19 32 48.1 +0.9**
WPS IAmb IAmb 19 32 51.1
comp=Z,175nm,1.2s
WLF1 Llynfaes 75.52 36⇑ *e*P **P** **19 32 48.6 +1.2**
WLF1 IAmb IAmb 19 32 50.4
comp=Z,190nm,1.0s
WIM Isle of Man 75.54 35⇑ *e*P **P** **19 32 49.1 +1.5**
K27K Chicken 75.55 335 P **P** **19 32 48.5 +1.1**
baz=110
K27K S **S** **19 42 20.7 +3.0**
baz=110
RAGM Ragged Mountai 75.56 331 P **P** **19 32 47.9 +0.3**
RAGM IAmb IAmb 19 33 24.1
comp=Z,374nm,1.2s
WME Myndd Eilian 75.59 36⇑ *e*P **P** **19 32 48.9 +1.0**
ACRG Accra 75.61 85 P **P** **19 32 48.1 -0.7**
IOMK Kirk Michael 75.63 35 *e*P **P** **19 32 49.6 +1.5**
IOMK IAmb IAmb 19 32 51.4
comp=Z,231nm,1.3s
PPTF Pamatai, Papee 75.65 251 P **P** **19 32 49.4 +0.4**
PPTF Pamatai, Papee 75.65 251 P **P** **19 32 51.5 +2.5**
EUNU Eureka 75.65 358 P **P** **19 32 48.0 +0.1**
PPT Papeete 75.65 251 P **P** **19 32 49.9 +0.9**
comp=Z,193nm,0.8s,baz=46,slow=2.5,SNR=28
PPT LR LR 19 57 30.6
comp=Z,987nm,21.8s,baz=76,slow=29
comp=Z,193nm,0.8s
E29M Blow River 75.66 340 P **P** **19 32 47.9 -0.1**
baz=115
E29M S **S** **19 42 15.9 -2.8**
baz=115
GAL1 Galloway 75.68 34 *e*P **P** **19 32 49.5 +1.2**
GAL1 IAmb IAmb 19 32 51.4
comp=Z,322nm,1.0s
BMRM Bremner River 75.70 332 P **P** **19 32 48.7 +0.3**
baz=107,SNR=34
BMRM S **S** **19 42 20.6 +1.1**
baz=107
KPL Plockton 75.74 32 *e*P **P** **19 32 49.6 +1.0**
KPL IAmb IAmb 19 32 51.4
comp=Z,179nm,1.0s
L26K Log Cabin Wild 75.76 334 P **P** **19 32 49.2 +0.5**
baz=109,SNR=31
L26K S **S** **19 42 22.6 +2.6**
baz=109
LLW Llanuwychllyn 75.86 37 *e*P **P** **19 32 50.5 +1.0**
N25K Chitina, Valde 75.88 333 P **P** **19 32 50.2 +0.8**
baz=107,SNR=14
N25K S **S** **19 42 22.1 +0.6**
baz=107
I27K Kandik River 75.92 337 P **P** **19 32 49.6 0.0**
baz=111
I27K S **S** **19 42 19.4 -2.3**
baz=111
PGBU Glenifferbraes 76.01 34 *e*P **P** **19 32 51.6 +1.4**
PGBU IAmb IAmb 19 32 53.2
comp=Z,617nm,1.0s
MCH1 Michaelchurch 76.10 38 *e*P **P** **19 32 51.8 +1.0**
MCH1 IAmb IAmb 19 32 53.7
comp=Z,224nm,1.1s
H27K Steamboat Moun 76.11 338 P **P** **19 32 50.5 -0.2**
baz=111
H27K S **S** **19 42 21.3 -2.5**
baz=111
EYAK Cordova Ski Ar 76.12 332 P **P** **19 32 54.0 +3.3**
EYAK Cordova Ski Ar 76.12 332 P **P** **19 32 50.9 +0.2**
baz=106
EYAK S **S** **19 42 23.8 -0.1**
baz=106
JSA Saint Aubin 76.13 41 *e*P **P** **19 32 52.8 +1.7**
JSA IAmb IAmb 19 32 54.3
comp=Z,203nm,1.1s
FOEL Foel Wylfa 76.14 37 *e*P **P** **19 32 52.2 +1.1**
FOEL IAmb IAmb 19 32 54.0
comp=Z,250nm,1.0s
MONM Monmouth 76.19 38 *e*P **P** **19 32 52.7 +1.4**
MONM IAmb IAmb 19 32 54.4
comp=Z,311nm,1.0s
DOT Dot Lake 76.26 335 P **P** **19 32 51.4 -0.1**
HLM1 Long Mynd 76.27 37 *e*P **P** **19 32 52.9 +1.2**
HLM1 IAmb IAmb 19 32 54.8
comp=Z,339nm,1.2s
E28M Babbage River 76.30 340 P **P** **19 32 51.1 -0.5**
baz=114
E28M S **S** **19 42 22.0 -3.7**
baz=114
OLDB Oldbury-Upon-S 76.31 38 *e*P **P** **19 32 53.8 +1.8**
OLDB IAmb IAmb 19 32 55.1
comp=Z,308nm,1.0s
J26L Joseph Creek 76.32 336 P **P** **19 32 52.6 +0.6**
baz=109
J26L S **S** **19 42 26.3 0.0**
baz=109
D28M Stokes Point 76.33 341 P **P** **19 32 51.4 -0.3**
baz=114
D28M S **S** **19 42 23.9 -2.0**
baz=114
SCRK Sand Creek 76.33 335 P **P** **19 32 51.6 -0.4**
SCRK IAmb IAmb 19 33 29.3
comp=Z,366nm,1.6s
SCRK Sand Creek 76.33 335 P **P** **19 32 52.3 +0.2**
baz=108,SNR=50
SCRK S **S** **19 42 26.7 +0.3**
baz=108
HARP HAARP 76.36 333 P **P** **19 32 52.3 +0.2**
baz=107,SNR=5.2
HARP S **S** **19 42 27.7 +1.1**
baz=107
G27K Doyon Strip 76.37 338 P **P** **19 32 51.7 -0.4**
baz=111
G27K S **S** **19 42 24.5 -2.1**
baz=111
INVG Invergeldie, C 76.39 33 *e*P **P** **19 32 53.2 +0.9**
I26K Coal Creek Min 76.42 337 P **P** **19 32 52.2 -0.2**
baz=109
I26K S **S** **19 42 26.4 -0.7**
baz=109
KLU Klutina 76.46 332 P **P** **19 32 52.9 +0.2**
baz=106,SNR=18
KLU S **S** **19 42 27.0 -0.8**
baz=106
KESW Keswick, Cumbr 76.53 35 *e*P **P** **19 32 54.4 +1.3**
KESW IAmb IAmb 19 32 56.3
comp=Z,328nm,1.0s
STRD Stroud 76.57 38 *e*P **P** **19 32 54.7 +1.3**
STRD IAmb IAmb 19 32 56.5
comp=Z,377nm,0.9s
ESK Eskdalemuir 76.62 34 P **P** **19 32 54.4 +0.7**
ESK IAmb IAmb 19 32 56.8
comp=Z,205nm,1.0s
ESK Eskdalemuir 76.62 34 *e*P **P** **19 32 54.6 +1.0**
ESK IAmb IAmb 19 32 56.5
comp=Z,218nm,1.0s
RIDG Independent Ri 76.62 335 P **P** **19 32 53.8 +0.2**
RIDG IAmb IAmb 19 33 30.8
comp=Z,296nm,1.2s
RIDG Independent Ri 76.62 335 P **P** **19 32 53.8 +0.2**
baz=107,SNR=68
RIDG S **S** **19 42 30.5 +1.0**
baz=107
EKA Eskdalemuir Ar 76.65 34 P **P** **19 32 54.1 +0.3**
comp=Z,150nm,0.9s,baz=254,slow=4.3,SNR=125
EKA pP **pP** **19 33 27.7 +1.6**
comp=Z,124nm,1.1s,baz=254,slow=6.0,SNR=4.6
comp=Z,150nm,0.9s
PAX Paxson 76.67 334 P **P** **19 32 53.4 -0.5**
baz=107,SNR=37
PAX S **S** **19 42 29.9 -0.2**
baz=107
M24K Tolsona, Glenn 76.74 333 P **P** **19 32 53.8 -0.5**
baz=106,SNR=18
M24K S **S** **19 42 30.2 -0.6**
baz=106
SWN1 Swindon 76.75 38 *e*P **P** **19 32 55.8 +1.4**
SWN1 IAmb IAmb 19 32 57.6
comp=Z,436nm,1.0s
P23K Montague Islan 76.77 331 P **P** **19 32 54.8 +0.3**
baz=104
P23K S **S** **19 42 23.7 -7.4**
baz=104
STNC Stoke 76.77 37 *e*P **P** **19 32 56.1 +1.5**
STNC IAmb IAmb 19 32 58.0
comp=Z,399nm,1.0s
GLI Glacier Island 76.84 332 P **P** **19 32 54.4 -0.4**
baz=105
GLI S **S** **19 42 28.3 -3.6**
baz=105
E27K Coleen River 76.84 340 P **P** **19 32 54.7 0.0**
baz=112
E27K S **S** **19 42 28.0 -3.7**
baz=112
DBG Daneborg 76.85 13 *i* P **P** **19 32 55.9 +1.3**
DBG IAmb IAmb 19 32 57.9
comp=Z,30nm,1.0s
D27M Malcolm River 77.03 341 P **P** **19 32 55.7 -0.1**
baz=112
D27M S **S** **19 42 30.3 -3.4**
baz=112
K24K Donnelly Dome 77.04 335 P **P** **19 32 56.1 +0.2**
baz=107
K24K S **S** **19 42 33.6 -0.3**
baz=107
MCD Coleburn Disti 77.06 32 *e*P **P** **19 32 57.3 +1.2**
MCD IAmb IAmb 19 32 59.0
comp=Z,398nm,1.1s
ESY Stoneypath 77.06 34⇑ *e*P **P** **19 32 57.3 +1.1**
J25K Salcha River, 77.10 336 P **P** **19 32 56.3 0.0**
baz=107
J25K S **S** **19 42 33.1 -1.5**
baz=107
LBWR Ladybower, Pea 77.11 36 *e*P **P** **19 32 58.2 +1.7**
LBWR IAmb IAmb 19 32 59.9
comp=Z,504nm,1.0s
TOA0 Torodi Ar. Sit 77.16 78 P **P** **19 32 54.2 -3.3**
TOA0 S **S** **19 42 28.8 -8.2**
TORD Torodi Ar. Bea 77.16 78 P **P** **19 32 57.1 -0.4**
TORD pP **pP** **19 33 28.9 -1.1**
TORD sP **sP** **19 33 42.1 -1.7**
TORD Torodi Ar. Bea 77.16 78 P **P** **19 32 56.2 -1.3**
comp=Z,56nm,0.6s,baz=310,slow=6.0,SNR=78
TORD S **S** **19 42 33.7 -3.3**
comp=Z,0.6nm,0.3s,baz=258,slow=34,SNR=1.3
comp=Z,56nm,0.6s
SCM Sheep Creek Mo 77.19 333 P **P** **19 32 57.0 +0.1**
SCM IAmb IAmb 19 33 32.7
comp=Z,312nm,1.2s
SCM Sheep Creek Mo 77.19 333 P **P** **19 32 56.7 -0.2**
baz=105,SNR=19
SCM S **S** **19 42 34.0 -1.7**
baz=105
G26K Porcupine Rive 77.20 338 P **P** **19 32 56.5 -0.2**
baz=109,SNR=28
G26K S **S** **19 42 33.3 -2.2**
baz=109
EDMD Edmundbyers 77.22 35 *e*P **P** **19 32 58.2 +1.2**
EDMD IAmb IAmb 19 33 00.8
comp=Z,258nm,1.2s
CWF Charnwood Fore 77.25 37 *e*P **P** **19 32 58.6 +1.3**
CWF IAmb IAmb 19 33 00.3
comp=Z,221nm,1.2s
HPK Haverah Park 77.27 36 *e*P **P** **19 32 58.9 +1.6**
HPK IAmb IAmb 19 33 00.5
comp=Z,235nm,0.9s
DRUM Mains of Drumt 77.33 33 *e*P **P** **19 32 58.6 +1.0**
DRUM IAmb IAmb 19 33 00.5
comp=Z,182nm,1.1s
M23K Glacier View 77.37 332 P **P** **19 32 57.8 0.0**
baz=104,SNR=21
M23K S **S** **19 42 36.3 -1.3**
baz=104
PWL Port Wells 77.43 331 P **P** **19 32 58.2 +0.1**
baz=104,SNR=7.0
PWL S **S** **19 42 34.9 -3.3**
baz=104
PRP Porcupine Dome 77.43 336 P **P** **19 32 58.0 -0.3**
baz=107,SNR=40
PRP S **S** **19 42 36.2 -2.1**
baz=107
F26K Sheenjek River 77.58 339 P **P** **19 32 59.3 +0.4**
baz=109,SNR=40
F26K S **S** **19 42 38.8 -0.9**
baz=109
KNK Knik Glacier 77.61 332 P **P** **19 32 59.2 0.0**
KNK IAmb IAmb 19 33 35.0
comp=Z,214nm,1.2s
KNK Knik Glacier 77.61 332 P **P** **19 32 59.4 +0.3**
baz=104,SNR=14
KNK S **S** **19 42 39.3 -0.9**
baz=104
SML Sawmill 77.65 332 P **P** **19 32 59.5 +0.1**
baz=104,SNR=17
SML S **S** **19 42 40.3 -0.3**
baz=104
BMAR Burnt Mountain 77.65 338 P **P** **19 32 59.0 -0.3**
CEST Esterri de Car 77.68 48 P **P** **19 33 01.6 +1.6**
CEST IAmb IAmb 19 33 04.7
comp=Z,295nm,1.1s
HDA Harding Lake 77.70 335 P **P** **19 32 59.2 -0.3**
baz=106,SNR=126
HDA S **S** **19 42 39.0 -2.0**
baz=106
H25L Birch Creek 77.77 337 P **P** **19 33 00.3 +0.5**
baz=107,SNR=24
H25L S **S** **19 42 43.1 +1.6**
baz=107
ILAR Eielson Array 77.77 336 P **P** **19 32 58.9 -1.0**
ILAR pP **pP** **19 33 32.0 -0.2**
ILAR Eielson Array 77.77 336 P **P** **19 32 58.6 -1.3**
comp=Z,32nm,0.7s,baz=116,slow=3.5,SNR=239
ILAR PP **PP** **19 35 54.8 -2.2**
comp=Z,19nm,1.0s,baz=107,slow=6.1,SNR=5.8
ILAR PKKPbc **PKKPbc** **19 52 01.9 -2.2**
comp=Z,0.6nm,1.0s,baz=311,slow=4.2,SNR=4.3
ILAR LR LR 20 09 38.9
comp=Z,245nm,22.0s,baz=94,slow=37
comp=Z,32nm,0.7s
SEW Seward 77.80 331 P **P** **19 33 00.1 0.0**
baz=102,SNR=6.9
SEW S **S** **19 42 41.1 -1.0**
baz=102
GDLE Glaisdale, N Y 77.81 35 *e*P **P** **19 33 02.0 +1.6**
GDLE IAmb IAmb 19 33 03.6
comp=Z,568nm,1.0s
LMK Market Rasen 77.95 36 *e*P **P** **19 33 03.0 +1.9**
LMK IAmb IAmb 19 33 04.4
comp=Z,317nm,1.0s
PMR Palmer 77.97 332 P **P** **19 33 01.4 +0.4**
PMR Palmer 77.97 332 P **P** **19 33 01.0 -0.1**
baz=103
PMR S **S** **19 42 42.1 -1.8**
baz=103
HMNX Herstmonceux 77.98 39 *e*P **P** **19 33 03.0 +1.7**
HMNX IAmb IAmb 19 33 04.8
comp=Z,404nm,0.9s
O22K Cooper Landing 78.01 331 P **P** **19 33 01.3 0.0**
baz=102
O22K S **S** **19 42 42.7 -1.7**
baz=102
G25K Bearman Lake 78.02 338 P **P** **19 33 02.1 +0.9**
baz=107
C27K Jago River 78.07 341 P **P** **19 33 01.4 -0.1**
baz=110
C27K S **S** **19 42 41.1 -3.7**
baz=110
POKR Poker Plat Res 78.09 336 P **P** **19 33 01.6 0.0**
POKR IAmb IAmb 19 33 37.6
comp=Z,389nm,1.8s
POKR Poker Plat Res 78.09 336 P **P** **19 33 01.7 0.0**
baz=105,SNR=18
POKR S **S** **19 42 43.6 -1.5**
baz=105
F25K Christian Rive 78.09 338 P **P** **19 33 02.1 +0.4**
baz=108
F25K S **S** **19 42 44.5 -0.7**
baz=108
CCB Clear Creek Bu 78.12 335 P **P** **19 33 01.5 -0.3**
STCH Steam Cracks 78.12 289 P **P** **19 33 03.2 +0.3**
RC01 Rabbit Creek A 78.14 332 P **P** **19 33 01.8 -0.2**
baz=102,SNR=7.1
RC01 S **S** **19 42 44.3 -1.6**
baz=102
KNHH Kane Nui o Ham 78.16 289 P **P** **19 33 03.2 +0.1**
WRH Wood River Hil 78.19 335 P **P** **19 33 01.6 -0.7**
COLA College 78.20 336 P **P** **19 33 01.8 -0.5**
COLA College 78.20 336 P **P** **19 33 02.1 -0.1**
COLA College 78.20 336 *d* iP **P** **19 33 01.7 -0.5**
COLA pmax pmax
comp=Z,94nm,1.0s
COLA College 78.20 336 P **P** **19 33 01.8 -0.5**
baz=105
COLA S **S** **19 42 44.7 -1.5**
baz=105
E25K Arctic Village 78.22 339 P **P** **19 33 02.6 +0.2**
baz=108,SNR=61
E25K S **S** **19 42 44.4 -2.1**
baz=108
HATHI Halema'uma'u T 78.25 289 P **P** **19 33 03.7 +0.1**
HATHI IAmb IAmb 19 33 06.4
comp=Z,281nm,1.0s
SLKM Skilak Lake 78.26 331 P **P** **19 33 02.6 -0.1**
SLKM IAmb IAmb 19 33 38.3
comp=Z,261nm,1.3s
BRSE Bradley Lake S 78.36 330 P **P** **19 33 03.5 +0.2**
baz=101,SNR=16
BRSE S **S** **19 42 45.9 -2.4**
baz=101
MCK McKinley 78.37 334 P **P** **19 33 03.6 +0.3**

baz=104,SNR=36
MCK S **S** **19 42 48.1 -0.2**
baz=104
WACR West Acre 78.41 37 *e*P **P** **19 33 04.9 +1.2**
BRLK Bradley Lake 78.44 330 P **P** **19 33 03.7 -0.1**
BRLK IAmb IAmb 19 33 39.8
comp=Z,288nm,1.0s
H24K Noodor Dome 78.45 336 P **P** **19 33 03.9 +0.2**
baz=105,SNR=54
H24K S **S** **19 42 47.3 -1.8**
baz=105
M22K Willow 78.47 332 P **P** **19 33 03.3 -0.5**
baz=102
M22K S **S** **19 42 47.3 -1.9**
baz=102
POHA Pohakuloa 78.50 289 P **P** **19 33 05.5 +0.4**
POHA IAmb IAmb 19 33 07.7
comp=Z,270nm,1.0s
POHA Pohakuloa 78.50 289 P **P** **19 33 06.8 +1.7**
G24K Hadwenzic Riv 78.53 337 P **P** **19 33 04.4 +0.4**
baz=106
G24K S **S** **19 42 51.1 +1.3**
baz=106
ELMS Elmsett, Ipswi 78.55 38 *e*P **P** **19 33 05.6 +1.2**
ELMS IAmb IAmb 19 33 07.4
comp=Z,424nm,1.1s
C26K Camden Bay 78.56 341 P **P** **19 33 04.6 +0.4**
baz=109
C26K S **S** **19 42 46.3 -3.7**
baz=109
JMIC Jan Mayen 78.56 18 LR LR 20 04 58.4
comp=Z,527nm,20.5s,baz=252,slow=33
NEA2 Nenana 78.63 335 P **P** **19 33 04.6 -0.1**
baz=104,SNR=78
NEA2 S **S** **19 42 49.1 -1.9**
baz=104
CUT Chulitna 78.67 333 P **P** **19 33 04.3 -0.6**
baz=102,SNR=17
CUT S **S** **19 42 48.0 -3.3**
baz=102
BWN Browne 78.70 335 P **P** **19 33 04.4 -0.7**
CAPN Captain Cook N 78.76 331 P **P** **19 33 06.4 +1.0**
baz=101
CAPN S **S** **19 42 54.0 +1.6**
baz=101
HOM Homer 78.79 330 P **P** **19 33 05.7 +0.1**
baz=100
HOM S **S** **19 42 51.2 -1.6**
baz=100
D25K Kavik River 78.86 340 P **P** **19 33 04.8 -1.2**
D25K IAmb IAmb 19 33 40.8
comp=Z,164nm,1.0s
D25K Kavik River 78.86 340 P **P** **19 33 06.0 +0.1**
baz=107
D25K S **S** **19 42 49.2 -4.2**
baz=107
I23K Minto, Yukon-K 78.89 336 P **P** **19 33 05.9 -0.1**
baz=104,SNR=54
I23K S **S** **19 42 52.6 -1.0**
baz=104
F24K Squaw Lake 78.90 338 P **P** **19 33 06.5 +0.3**
baz=105,SNR=52
F24K S **S** **19 42 51.9 -1.9**
baz=105
TRF Thorofare Moun 78.90 334 P **P** **19 33 05.7 -0.7**
TRF IAmb IAmb 19 33 43.1
comp=Z,362nm,1.6s
TRF Thorofare Moun 78.90 334 P **P** **19 33 06.0 -0.4**
baz=102,SNR=17
TRF S **S** **19 42 51.8 -2.4**
baz=102
KDAK Kodiak Island 78.96 328 P **P** **19 33 06.0 -0.5**
KDAK Kodiak Island 78.96 328 LR LR 20 11 03.5
comp=Z,634nm,19.8s,baz=304,slow=38
KDAK Kodiak Island 78.96 328 *c i*P **P** **19 33 06.9 +0.3**
KDAK pmax pmax
comp=Z,111nm,1.5s
KDAK Kodiak Island 78.96 328 P **P** **19 33 05.2 -1.4**
baz=99
Q20K Shuyak Island 78.99 329 P **P** **19 33 06.8 0.0**
baz=100,SNR=8.0
H23K Yukon River 79.12 336 P **P** **19 33 07.3 0.0**
baz=104
H23K S **S** **19 42 54.7 -1.4**
baz=104
SKT Skwentna 79.17 332 P **P** **19 33 07.5 -0.2**
baz=101,SNR=24
SKT S **S** **19 42 54.1 -2.7**
baz=101
OHAK Old Harbor 79.25 327 P **P** **19 33 08.7 +0.6**
OHAK Old Harbor 79.25 327 P **P** **19 33 07.9 -0.2**
baz=98,SNR=12
E24K Your Creek 79.26 339 P **P** **19 33 08.7 +0.6**
baz=105,SNR=31
E24K S **S** **19 42 56.4 -1.3**
baz=105
BPAW Bear Paw Mtn. 79.34 334 P **P** **19 33 08.5 -0.1**
baz=102,SNR=102
BPAW S **S** **19 42 55.9 -2.6**
baz=102
SPCR Spurr Chakacha 79.34 331 P **P** **19 33 08.2 -0.5**
baz=100,SNR=14
SPCR S **S** **19 42 54.6 -4.2**
baz=100
O20K Slope Mountain 79.35 330 P **P** **19 33 08.5 -0.3**
baz=100,SNR=18
O20K S **S** **19 42 55.9 -3.0**
baz=100
G23K Bananza Creek 79.51 337 P **P** **19 33 09.8 +0.3**
baz=103
G23K S **S** **19 43 00.6 +0.3**
baz=103
P19K Oil Pt 79.59 330 P **P** **19 33 09.8 -0.2**
baz=99,SNR=11
P19K S **S** **19 42 59.3 -2.0**
baz=99
PPLA Purkeypile 79.64 333 P **P** **19 33 09.4 -0.9**
PPLA IAmb IAmb 19 33 46.8
comp=Z,356nm,1.4s
PPLA Purkeypile 79.64 333 P **P** **19 33 10.0 -0.4**
baz=100,SNR=27
PPLA S **S** **19 42 58.7 -3.2**
baz=100
SII Sitkinak Islan 79.64 327 P **P** **19 33 10.8 +0.4**
SII IAmb IAmb 19 33 45.8
comp=Z,229nm,1.2s
SII Sitkinak Islan 79.64 327 P **P** **19 33 12.7 +2.3**
SII Sitkinak Islan 79.64 327 P **P** **19 33 09.8 -0.6**
baz=98
D24K Happy Valley 79.66 340 P **P** **19 33 09.7 -0.5**
baz=105,SNR=49
D24K S **S** **19 42 58.9 -2.7**
baz=105
E23K Chandalar 79.67 339 P **P** **19 33 10.9 +0.5**
baz=104,SNR=57
E23K S **S** **19 42 59.8 -2.2**
baz=104
CAST Castle Rocks 79.69 334 P **P** **19 33 09.7 -0.8**
baz=101,SNR=46
CAST S **S** **19 42 58.6 -3.6**
baz=101
Q19K Cape Douglas, 79.69 329 P **P** **19 33 09.5 -1.1**
baz=98,SNR=8.6
Q19K S **S** **19 42 58.5 -3.9**
baz=98
COLD Coldfoot 79.70 338 P **P** **19 33 10.6 +0.1**
COLD Coldfoot 79.70 338 P **P** **19 33 11.2 +0.8**
baz=103,SNR=65
COLD S **S** **19 43 01.2 -0.9**
baz=103
MAHO Mahon 79.76 50 P **P** **19 33 12.4 +1.1**
MAHO IAmb IAmb 19 33 15.2
comp=Z,261nm,1.1s
C24K Franklin Bluff 79.76 340 P **P** **19 33 11.0 +0.3**
baz=105
C24K S **S** **19 42 59.1 -3.6**
baz=105
TOLK Toolik Lake Re 79.80 339 P **P** **19 33 10.7 -0.3**
TOLK Toolik Lake Re 79.80 339 P **P** **19 33 11.1 +0.1**
baz=104,SNR=37
TOLK S **S** **19 43 00.1 -3.1**
baz=104
H22K Ishtalitna Cre 79.87 336 P **P** **19 33 11.2 -0.2**
baz=102
H22K S **S** **19 43 01.7 -2.3**
baz=102
CHUM Lake Minchumin 79.87 334 P **P** **19 33 11.1 -0.3**
baz=101,SNR=45
CHUM S **S** **19 43 00.0 -4.0**
baz=101
M20K Styx River 79.89 332 P **P** **19 33 11.3 -0.4**
baz=100
M20K S **S** **19 43 01.4 -3.2**
baz=100
R18K Karluk 79.92 328 P **P** **19 33 11.3 -0.5**
baz=98
R18K S **S** **19 43 01.9 -2.9**
baz=98
I21K Tanana 79.97 335 P **P** **19 33 11.5 -0.5**
baz=101
I21K S **S** **19 43 01.4 -3.7**
baz=101
O19K Port Alsworth 80.21 330 P **P** **19 33 12.1 -1.1**
baz=98,SNR=12
O19K S **S** **19 43 04.3 -3.4**
baz=98
SSB Saint Sauveur 80.25 45 P **P** **19 33 15.2 +1.3**
D23K Nanushuk River 80.26 339 P **P** **19 33 14.3 +0.9**
baz=103,SNR=102
D23K S **S** **19 43 04.7 -3.3**
baz=103
L20K Farewell, AK 80.34 333 P **P** **19 33 13.4 -0.6**
baz=99
L20K S **S** **19 43 05.0 -4.1**
baz=99
Q18K Katmai Hardscr 80.35 329 P **P** **19 33 13.5 -0.7**
baz=97,SNR=24
Q18K S **S** **19 43 03.4 -6.2**
baz=97
N19K Bonanza Creek 80.38 331 P **P** **19 33 13.6 -0.8**
baz=98
N19K S **S** **19 43 06.7 -3.0**
baz=98
H21K Melozitna Rive 80.40 336 P **P** **19 33 14.0 -0.3**
baz=100
H21K S **S** **19 43 07.5 -2.1**
baz=100
C23K Itkillik River 80.44 340 P **P** **19 33 14.8 +0.5**
baz=103,SNR=173
C23K S **S** **19 43 05.4 -4.3**
baz=103
M19K Big River Lodg 80.49 332 P **P** **19 33 14.7 -0.1**
baz=98
M19K S **S** **19 43 07.6 -3.0**
baz=98
E22K Anaktuvuk Pass 80.49 338 P **P** **19 33 14.7 0.0**
baz=102,SNR=38
E22K S **S** **19 43 07.7 -2.8**
baz=102
F22K John River 80.50 338 P **P** **19 33 15.2 +0.4**
baz=101
F22K S **S** **19 43 08.1 -2.5**
baz=101
UCC Uccle 80.51 39 P **P** **19 33 16.0 +1.0**
UCC Uccle 80.51 39 *d*P **P** **19 33 16.3 +1.3**
comp=Z,74nm,1.1s
SET Setif 80.53 54 P **P** **19 33 18.0 +2.3**
K20K Telida 80.56 333 P **P** **19 33 14.3 -0.8**
baz=99
K20K S **S** **19 43 07.3 -4.0**
baz=99
P18K Big Mountain, 80.56 329 P **P** **19 33 14.1 -1.2**
baz=97,SNR=12
P18K S **S** **19 43 06.3 -5.2**
baz=97
TAM Tamanrasset 80.60 68 P **P** **19 33 17.6 +1.2**
DHH Diamond Head 80.60 291 P **P** **19 33 15.7 -0.5**
DOU Dourbes 80.61 40 *d*P **P** **19 33 17.0 +1.4**
comp=Z,121nm,1.1s
DOU *d*pP **pP** **19 33 46.0 -2.2**
O18K Koktuh Hills 80.61 330 P **P** **19 33 14.9 -0.6**
baz=97,SNR=27
O18K S **S** **19 43 08.9 -3.1**
baz=97
J20K Nowinta River 80.72 334 P **P** **19 33 15.5 -0.4**
baz=99
J20K S **S** **19 43 10.2 -2.7**
baz=99
BMRD Maredsous 80.73 40 *d*P **P** **19 33 17.6 +1.3**
comp=Z,64nm,1.1s
L19K White Mountain 80.74 332 P **P** **19 33 16.2 0.0**
baz=98
L19K S **S** **19 43 09.9 -3.4**
baz=98
KIP Kipapa 80.80 291 P **P** **19 33 17.2 0.0**
KIP IAmb IAmb 19 33 20.4
comp=Z,200nm,1.1s
KIP Kipapa 80.80 291 P **P** **19 33 19.4 +2.2**
G21K Allakaket 80.83 337 P **P** **19 33 17.0 +0.4**
baz=100
G21K S **S** **19 43 13.1 -0.9**
baz=100
BGES Gesves 80.94 40 *d*P **P** **19 33 19.0 +1.6**
comp=Z,69nm,1.0s
F21K Alatna River 80.95 337 P **P** **19 33 17.9 +0.8**
baz=100
F21K S **S** **19 43 15.1 -0.2**
baz=100
D22K Ayikyak River 80.95 339 P **P** **19 33 17.4 +0.2**
baz=101
D22K S **S** **19 43 12.1 -3.1**
baz=101
I20K Naaghedeneel 80.95 335 P **P** **19 33 17.2 +0.1**
baz=99
I20K S **S** **19 43 12.8 -2.5**
baz=99
RCHB Rochefort 81.02 40 *d*P **P** **19 33 19.3 +1.5**
comp=Z,137nm,1.0s
N18K Kilae Creek 81.04 331 P **P** **19 33 17.1 -0.7**
baz=97,SNR=36
N18K S **S** **19 43 12.8 -3.6**
baz=97
BCLA Clavier 81.08 40 *d*P **P** **19 33 19.6 +1.5**
comp=Z,54nm,1.0s
BCLA *d*pP **pP** **19 33 46.0 -4.8**
BCLA *d*sP **sP** **19 33 59.5 -5.0**
M18K Stony River 81.11 331 P **P** **19 33 17.7 -0.4**
baz=97
M18K S **S** **19 43 12.5 -4.5**
baz=97
P17K Kvichak River 81.15 329 P **P** **19 33 17.9 -0.4**
baz=96,SNR=13
P17K S **S** **19 43 13.7 -3.8**
baz=96
XMAS Kiritimati 81.17 271 P **P** **19 33 19.8 +0.4**
XMAS IAmb IAmb 19 33 22.2
comp=Z,364nm,1.1s
XMAS Kiritimati 81.17 271 P **P** **19 33 21.5 +2.2**
Q16K King Salmon 81.21 329 P **P** **19 33 18.1 -0.5**
baz=96,SNR=14
H20K Anotleneega Mo 81.23 336 P **P** **19 33 18.6 -0.1**
baz=98
H20K S **S** **19 43 16.2 -2.0**
baz=98
NOR Nord 81.25 7 *i* P **P** **19 33 19.1 +0.6**
NOR IAmb IAmb 19 33 21.1
comp=Z,44nm,0.9s
BSTI Sart Tilman 81.26 40 *d*P **P** **19 33 21.0 +1.9**
comp=Z,32nm,1.1s
J19K Poorman 81.33 334 P **P** **19 33 18.3 -0.9**
baz=98
J19K S **S** **19 43 16.2 -3.1**
baz=98
E21K Killik River 81.34 339 P **P** **19 33 19.0 -0.3**
baz=100
E21K S **S** **19 43 16.7 -2.6**
baz=100
BEBN Eben Emael 81.34 39 *d*P **P** **19 33 20.8 +1.3**
comp=Z,112nm,1.1s
B22K Teshekpuk Lake 81.48 340 P **P** **19 33 20.1 +0.2**
baz=101
B22K S **S** **19 43 17.8 -2.7**
baz=101
BHOU Houvegnez 81.53 40 *d*P **P** **19 33 22.3 +1.8**
comp=Z,132nm,1.1s
MEM Membach 81.54 40 *d*P **P** **19 33 21.7 +1.1**
comp=Z,120nm,1.1s
O17K Koliganek Bris 81.55 330 P **P** **19 33 20.0 -0.4**
baz=96,SNR=43
O17K S **S** **19 43 18.0 -3.5**
baz=96
WLF Walferdange 81.58 41 P **P** **19 33 22.0 +1.2**
WLF Walferdange 81.58 41 *d*P **P** **19 33 22.7 +1.9**
comp=Z,234nm,1.0s
R16K Pilot Point 81.59 327 P **P** **19 33 20.1 -0.6**
baz=95
L18K Granite Mounta 81.60 332 P **P** **19 33 20.1 -0.5**
baz=96
L18K S **S** **19 43 19.0 -3.1**
baz=96
BTNL Ternell 81.62 40 *d*P **P** **19 33 22.7 +1.6**
comp=Z,60nm,1.3s
N17K Nushagak Hills 81.66 330 P **P** **19 33 21.0 0.0**
baz=96,SNR=21
N17K S **S** **19 43 19.5 -3.4**
baz=96
KMY Karmoy 81.72 31 *e*P **P** **19 33 23.4 +2.1**
KMY IVmB_BB 19 33 37.5
comp=Z,10μm,6.6s
KMY *e*pP **pP** **19 33 53.5 -0.7**
C21K Knifeblade Rid 81.75 339 P **P** **19 33 21.6 +0.2**
baz=99
C21K S **S** **19 43 20.4 -3.0**
baz=99
BNI Bardonecchia 81.75 45 P **P** **19 33 23.5 +1.5**
J18K Innoko River 81.75 333 P **P** **19 33 21.6 +0.1**
baz=96,SNR=15
J18K S **S** **19 43 20.7 -2.9**
baz=96
B21K Ikpikpuk River 81.76 340 P **P** **19 33 21.5 +0.2**
baz=99
B21K S **S** **19 43 19.9 -3.6**
baz=99
F20K Avaraart Lake 81.78 337 P **P** **19 33 22.1 +0.6**
baz=98
M17K Holitna River 81.87 331 P **P** **19 33 22.0 -0.1**
baz=96
M17K S **S** **19 43 21.1 -3.8**
baz=96
BER Bergen 81.87 30 *e*P **P** **19 33 23.5 +1.4**
BER *e*pP **pP** **19 33 55.4 +0.5**
H19K Roundabout Mou 81.88 335 P **P** **19 33 22.4 +0.4**
baz=97
H19K S **S** **19 43 23.8 -1.0**
baz=97
P16K Nushagak River 81.94 329 P **P** **19 33 22.0 -0.5**
baz=95,SNR=11
CHGN Chignik 81.96 326 P **P** **19 33 23.0 +0.4**
baz=94
GCSA Galena City Sc 81.97 335 P **P** **19 33 22.8 +0.3**
baz=97,SNR=6.3
GCSA S **S** **19 43 23.5 -2.2**
baz=97
O16K Kokwok River B 82.03 329 P **P** **19 33 22.4 -0.6**
baz=95
O16K S **S** **19 43 23.2 -3.4**
baz=95
A22K Sinclair Lake 82.10 341 P **P** **19 33 23.5 +0.5**
baz=99
A22K S **S** **19 43 24.1 -2.8**
baz=99
E20K Nigu River 82.12 338 P **P** **19 33 23.8 +0.5**
baz=98
E20K S **S** **19 43 25.3 -2.1**
baz=98
ECH Echery 82.19 42 P **P** **19 33 25.1 +1.0**
ECH IAmb IAmb 19 33 27.5
comp=Z,250nm,1.1s
G19K Purcell Mounta 82.21 336 P **P** **19 33 23.7 -0.1**
baz=97,SNR=55
G19K S **S** **19 43 27.5 -0.7**
baz=97
SENIN Lac Senin/Sane 82.22 44 P **P** **19 33 25.9 +1.3**
D20K Etivluk River 82.34 339 P **P** **19 33 24.7 +0.3**
baz=97
D20K S **S** **19 43 27.6 -1.9**
baz=97
L17K Donlin 82.34 332 P **P** **19 33 24.6 0.0**
baz=95,SNR=12
L17K S **S** **19 43 27.4 -2.3**
baz=95
HYA Hoyanger 82.36 29 *e*P **P** **19 33 25.6 +1.0**
HYA IVmBBB 19 33 36.2
comp=Z,8μm,4.3s
HYA *e*pP **pP** **19 33 57.9 +0.5**
BLS5 Blasjo 82.36 31 *e*P **P** **19 33 25.8 +1.1**
BLS5 IVmB_BB 19 33 36.4
comp=Z,8μm,6.5s
BLS5 *e*pP **pP** **19 33 58.9 +1.5**
K17K Iditarod 82.39 333 P **P** **19 33 24.8 0.0**
baz=95,SNR=16
K17K S **S** **19 43 28.4 -1.8**
baz=95
E19K Redstone River 82.42 337 P **P** **19 33 24.9 +0.1**
baz=97
E19K S **S** **19 43 29.4 -0.9**
baz=97
N16K Nishlik Lake 82.44 330 P **P** **19 33 25.5 +0.4**
baz=94
N16K S **S** **19 43 29.4 -1.4**
baz=94
ODD1 Odda 82.48 30 *e*P **P** **19 33 26.7 +1.4**
ODD1 IVmBBB 19 33 33.2
comp=Z,7μm,6.5s
ODD1 *e*pP **pP** **19 33 57.8 -0.4**
CNBA Chernabura Isl 82.54 325 P **P** **19 33 25.7 0.0**
CNBA IAmb IAmb 19 34 01.4
comp=Z,233nm,1.2s
CHNA Chernabura Isl 82.54 325 P **P** **19 33 25.3 -0.4**
baz=93
CHNA S **S** **19 43 30.9 -1.0**
baz=93
F19K Shaleruckik Mo 82.56 337 P **P** **19 33 25.4 -0.1**
baz=96
F19K S **S** **19 43 31.1 -0.6**
baz=96
M16K Timber Creek 82.57 331 P **P** **19 33 25.8 +0.1**
baz=94,SNR=20
M16K S **S** **19 43 31.3 -0.8**
baz=94
S14K Fog Glacier 82.59 326 P **P** **19 33 26.7 +0.6**
baz=93
S14K S **S** **19 43 32.1 -0.5**
baz=93
H18K Honhosa River 82.64 335 P **P** **19 33 27.0 +1.0**
baz=95
H18K S **SKSac** **19 43 33.1 -2.2**
baz=95
A21K Barrow 82.68 341 P **P** **19 33 26.2 +0.1**
baz=98
A21K S **S** **19 43 30.4 -2.4**
baz=98
SNART Snartemo 82.68 32 *e*P **P** **19 33 28.4 +2.1**
SNART *e*pP **pP** **19 33 59.6 +0.5**
B20K Meade River 82.69 340 P **P** **19 33 26.7 +0.5**
baz=97
B20K S **S** **19 43 30.8 -2.1**
baz=97
J17K VABM Dome 82.80 333 P **P** **19 33 27.5 +0.6**
baz=94
J17K S **S** **19 43 33.1 -1.2**
baz=94
AKN Aaknes 82.82 28 *e*P **P** **19 33 28.7 +1.7**
AKN *e*pP **pP** **19 34 01.3 +1.4**
G18K Tagagawik 82.82 336 P **P** **19 33 27.4 +0.5**
baz=95
G18K S **S** **19 43 33.8 -0.7**
baz=95
D19K Kuna River 82.86 338 P **P** **19 33 28.0 +0.8**
baz=96
D19K S **S** **19 43 33.9 -1.0**
baz=96
L16K Owhat River 82.87 332 P **P** **19 33 28.0 +0.7**
baz=94,SNR=28
L16K S **S** **19 43 34.4 -0.6**
baz=94
O15K Ungalikthiuk R 82.89 329 P **P** **19 33 26.8 -0.6**
baz=93
BFO Black Forest 82.97 42 P **P** **19 33 28.7 +0.6**
SDPT Sand Point 83.07 325 P **P** **19 33 28.2 -0.2**
SDPT Sand Point 83.07 325 P **P** **19 33 29.1 +0.7**
SDPT Sand Point 83.07 325 P **P** **19 33 28.1 -0.2**
baz=92,SNR=8.2
N15K Kwethluk River 83.08 330 P **P** **19 33 28.7 +0.3**
baz=93
N15K S **SKSac** **19 43 37.9 -0.5**
baz=93
H17K Granite Mounta 83.28 335 P **P** **19 33 29.5 +0.2**
baz=94,SNR=24
H17K S **SKSac** **19 43 39.3 -0.1**
baz=94
F18K Selawik 83.28 336 P **P** **19 33 29.4 +0.2**
baz=94,SNR=36

F18K S **SKSac** **19 43 39.0 -0.4**
baz=94
SKAR Skarslia 83.36 30 *eP* **P** **19 33 30.7 +0.8**
SKAR IVmBBB 19 33 35.6
comp=Z,6μm,5.4s
SKAR *ep*P **pP** **19 34 02.8 +0.1**
SKAR *e*SKSac **S** **19 43 37.9 -2.3**
HOMB Homborsund 83.36 32 *eP* **P** **19 33 32.5 +2.6**
HOMB *ep*P **pP** **19 34 03.5 +0.8**
M15K Kasigluk River 83.40 330 P **P** **19 33 30.3 +0.3**
baz=93
M15K S **SKSac** **19 43 39.5 -0.8**
baz=93
J16K Anvik River 83.48 333 P **P** **19 33 31.0 +0.6**
baz=93
J16K S **S** **19 43 42.3 +1.1**
baz=93
STU Stuttgart 83.55 42 P **P** **19 33 32.3 +1.3**
STU IAmb IAmb 19 33 34.4
comp=Z,125nm,0.9s
STU Stuttgart 83.55 42 *eP* **P** **19 33 32.7 +1.6**
I17K Unalakleet 83.55 334 P **P** **19 33 31.2 +0.5**
baz=93,SNR=17
I17K S **S** **19 43 43.3 +1.5**
baz=93
G17K Kiwalik Mounta 83.62 335 P **P** **19 33 31.6 +0.6**
baz=93
G17K S **S** **19 43 42.1 -0.5**
baz=93
O14K Tigyukauivet M 83.63 329 P **P** **19 33 30.8 -0.4**
baz=92
TUE Stuetta 83.64 44 P **P** **19 33 33.2 +1.3**
TUE IAmb IAmb 19 34 11.5
comp=Z,335nm,1.4s
TUE Stuetta 83.64 44 P **P** **19 33 32.7 +0.9**
comp=Z,14μmcomp=Z,625nm,1.4s
MUD Monsted U'grnd 83.67 34 *i* P **P** **19 33 32.6 +1.1**
MUD IAmb IAmb 19 33 36.0
comp=Z,540nm,1.5s
VSL Villasalto 83.70 51 P **P** **19 33 33.2 +1.1**
E18K Tukpahlearik C 83.71 337 P **P** **19 33 31.6 +0.2**
baz=94,SNR=43
E18K S **S** **19 43 41.7 -1.6**
baz=94
KEST Kesra 83.73 55 P **P** **19 33 34.1 +1.8**
KEST Kesra 83.73 55 P **P** **19 33 32.5 +0.1**
comp=Z,258nm,1.1s,baz=259,slow=1.5,SNR=74
KEST S **SKSac** **19 43 44.4 +0.6**
comp=Z,1.5nm,0.9s,baz=42,slow=19,SNR=1.1
KEST LR LR 20 08 39.6
comp=Z,646nm,20.4s,baz=278,slow=34
comp=Z,258nm,1.1s
MSSA Maissana 83.76 46 P **P** **19 33 33.2 +0.8**
MSSA IAmb IAmb 19 33 35.0
comp=Z,151nm,1.1s
L15K Ungalak Mounta 83.82 331 P **P** **19 33 32.6 +0.5**
baz=92,SNR=13
L15K S **S** **19 43 44.6 0.0**
baz=92
K15K Wolf Creek Mou 83.87 332 P **P** **19 33 32.8 +0.5**
baz=92
K15K S **S** **19 43 45.4 +0.4**
baz=92
N14K Kuskokwak Cree 83.87 330 P **P** **19 33 32.6 +0.2**
baz=92
SSRD Sdr. Stenderup 83.90 35 *i* P **P** **19 33 33.8 +1.2**
SSRD IAmb IAmb 19 33 36.3
comp=Z,303nm,1.0s
F17K Baldwin Pennin 83.91 336 P **P** **19 33 32.5 +0.1**
baz=93
F17K S **S** **19 43 43.9 -1.4**
baz=93
KONO Kongsberg 83.97 31 *eP* **P** **19 33 35.2 +2.2**
KONO IVmB_BB 19 33 37.9
comp=Z,7μm,6.3s
KONO *ep*P **pP** **19 34 06.1 +0.3**
C18K Utukok River 84.00 338 P **P** **19 33 33.0 0.0**
baz=93
C18K S **S** **19 43 45.2 -1.2**
baz=93
DAVA Damuels 84.01 43 *i* P **P** **19 33 35.3 +1.7**
comp=Z,213nm,1.0s,SNR=67
DAVA *ep*P **pP** **19 34 07.5 +1.1**
comp=Z,208nm,1.1s,SNR=7.1
DAVA *i* PKKP **PKKPbc** **19 51 47.3 -2.1**
comp=Z,6.7nm,1.4s
DAVA *i* P'P' 19 59 55.3
comp=Z,8.4nm,1.1s
M14K Bethel 84.03 330 P **P** **19 33 33.0 -0.1**
baz=92,SNR=15
M14K S **S** **19 43 46.2 -0.4**
baz=92
A19K Wainwright 84.04 340 P **P** **19 33 33.6 +0.5**
baz=93
A19K S **S** **19 43 45.6 -0.9**
baz=93
E17K Hotham Inlet 84.17 337 P **P** **19 33 33.8 0.0**
baz=92
E17K S **S** **19 43 46.0 -1.9**
baz=92
B18K Kokolik River 84.25 339 P **P** **19 33 34.8 +0.7**
baz=93
B18K S **S** **19 43 48.3 -0.4**
baz=93
H16K Elim 84.26 334 P **P** **19 33 35.0 +0.8**
baz=92,SNR=37
H16K S **S** **19 43 49.0 +0.1**
baz=92
FUORN Ofenpass-Fuorn 84.27 44 P **P** **19 33 36.5 +1.4**
G16K Koyuk River 84.33 335 P **P** **19 33 35.0 +0.4**
baz=92,SNR=59
G16K S **S** **19 43 49.6 0.0**
baz=92
L14K Kuka Creek 84.39 331 P **P** **19 33 34.9 -0.1**
baz=91
L14K S **S** **19 43 51.4 +1.2**
baz=91
OSL Oslo 84.54 30 *eP* **P** **19 33 37.5 +1.7**
OSL *ep*P **pP** **19 34 08.9 +0.2**
OSL IVmB_BB 19 34 14.5
comp=Z,6μm,6.5s
FETA Feichten 84.59 43 *i* P **P** **19 33 38.2 +1.6**
comp=Z,180nm,1.0s,SNR=96
FETA *i* pP **pP** **19 34 10.7 +1.3**
comp=Z,183nm,1.1s,SNR=8.2
FETA *i* PKKP **PKKPbc** **19 51 45.6 -2.4**
comp=Z,4.2nm,1.4s
RETA Reutte 84.61 43 *i* P **P** **19 33 38.0 +1.5**
comp=Z,67nm,1.1s,SNR=31
RETA *i* pP **pP** **19 34 10.3 +0.9**
comp=Z,131nm,1.1s
RDOG Red Dog Mine 84.61 338 P **P** **19 33 36.1 0.0**
baz=91,SNR=15
RDOG S **S** **19 43 50.8 -1.5**
baz=91
D17K Noatak River 84.67 337 P **P** **19 33 36.5 +0.2**
baz=91,SNR=56
D17K S **S** **19 43 52.5 -0.4**
baz=91
M13K Dall Lake 84.71 330 P **P** **19 33 36.7 +0.1**
baz=90
C17K DeLong Mountai 84.72 338 P **P** **19 33 37.0 +0.3**
baz=91
C17K S **S** **19 43 52.8 -0.7**
baz=91
FALS False Pass 84.75 325 P **P** **19 33 36.7 -0.2**
FALS False Pass 84.75 325 P **P** **19 33 37.3 +0.4**
FALS False Pass 84.75 325 P **P** **19 33 37.4 +0.5**
baz=90,SNR=7.0
FALS S **S** **19 43 55.0 +0.9**
baz=90
NB2 NORSAR Subarra 84.79 29 P **P** **19 33 38.4 +1.3**
comp=Z,160nm,1.2s,baz=271,slow=5.3
NB2 NORSAR Subarra 84.79 29 P **P** **19 33 38.4 +1.3**
baz=271,slow=5.3
NOA NORSAR Array B 84.79 29 P **P** **19 33 38.2 +1.1**
comp=Z,41nm,1.0s,baz=269,slow=4.9,SNR=30
NOA LR LR 20 09 12.2
comp=Z,435nm,20.4s,baz=265,slow=34
comp=Z,41nm,1.0s
J14K Nanvaranak Lak 84.81 333 P **P** **19 33 38.4 +1.3**
baz=90
J14K S **S** **19 43 55.5 +1.1**
baz=90
MOTA Moosalm 84.84 43 *i* P **P** **19 33 39.0 +1.2**
comp=Z,65nm,0.9s
MOTA *ep*P **pP** **19 34 11.3 +0.7**
comp=Z,70nm,1.1s
MOTA *i* PKKP **PKKPbc** **19 51 47.1 -0.4**
comp=Z,4.9nm,0.9s
MOTA *i* P'P' 19 59 52.3
comp=Z,4.0nm,1.0s
NC303 NORSAR Array S 84.87 29 P **P** **19 33 38.8 +1.4**
GRFO Grafenberg 84.88 41 P **P** **19 33 38.7 +0.9**
GRA1 Grafenberg Arr 84.88 41 P **P** **19 33 38.6 +0.9**
GRA1 IAmb IAmb 19 33 41.6
comp=Z,131nm,1.1s
SQTA Sankt Quirin 84.91 43 *i* P **P** **19 33 39.6 +1.4**
comp=Z,83nm,0.8s,SNR=36
SQTA *i* pP **pP** **19 34 12.0 +0.9**
comp=Z,85nm,1.1s
SQTA *i* PKKP **PKKPbc** **19 51 47.0 -0.2**
comp=Z,7.1nm,1.6s
SQTA *i* P'P' 19 59 51.0
comp=Z,6.5nm,1.3s
NC602 NORSAR Array S 84.95 30 *eP* **P** **19 33 39.9 +2.0**
NC602 *ep*P **pP** **19 34 11.5 +0.7**
G15K Niukluk 85.03 335 P **P** **19 33 39.1 +1.0**
baz=90
G15K S **S** **19 43 57.2 +0.7**
baz=90
NSS Namsos 85.13 26 *eP* **P** **19 33 39.9 +1.2**
NSS *ep*P **pP** **19 34 11.0 -0.6**
WATA Walderalm 85.16 43 *i* P **P** **19 33 40.6 +1.2**
comp=Z,51nm,1.4s,SNR=23
WATA *i* pP **pP** **19 34 13.1 +0.8**
comp=Z,102nm,1.4s
WATA *i* PKKP **PKKPbc** **19 51 45.4 -1.2**
comp=Z,3.4nm,0.9s
WATA *i* P'P' 19 59 51.5
comp=Z,5.0nm,0.9s
WTTA Wattenberg 85.20 43 *i* P **P** **19 33 41.1 +1.5**
comp=Z,129nm,1.1s,SNR=48
WTTA *i* pP **pP** **19 34 12.3 -0.3**
comp=Z,62nm,1.2s
WTTA *i* PKKP **PKKPbc** **19 51 45.7 -0.9**
comp=Z,4.2nm,0.8s
WTTA *i* P'P' 19 59 51.9
comp=Z,6.5nm,0.9s
KBS Kingsbay 85.22 11 P **P** **19 33 40.1 +1.2**
KBS Kingsbay 85.22 11 *i* P **P** **19 33 40.1 +1.2**
F15K North Star Dit 85.28 335 P **P** **19 33 40.4 +1.0**
baz=90
F15K S **S** **19 44 00.5 +1.4**
baz=90
K13K Kusilvak Mount 85.33 332 P **P** **19 33 40.2 +0.5**
baz=89
K13K S **S** **19 44 01.1 +1.5**
baz=89
C16K Lisburne Hills 85.53 338 P **P** **19 33 41.0 +0.5**
baz=89
C16K S **S** **19 44 00.9 -0.3**
baz=89
KONS Konsvik 85.59 24 *eP* **P** **19 33 43.4 +2.5**
LEIR Leirfjorden 85.59 24 *eP* **P** **19 33 43.5 +2.6**
LEIR *ep*P **pP** **19 34 14.9 +1.0**
ANM Nome 85.61 334 P **P** **19 33 41.6 +0.6**
baz=89,SNR=7.3
ANM S **S** **19 44 03.3 +1.0**
baz=89
VAGH Vaagaholmen 85.64 23 *eP* **P** **19 33 44.5 +3.4**
VAGH IVmBBB 19 33 51.2
comp=Z,8μm,6.1s
VAGH *ep*P **pP** **19 34 13.1 -1.0**
NKC Novy Kostel 85.66 40 *eP* **P** **19 33 43.6 +2.0**
NKC *e*SKS **S** **19 43 59.8 -3.5**
NKC Novy Kostel 85.66 40 *eP* **P** **19 33 43.6 +2.0**
NKC *e* 19 43 59.8
RAR Rarotonga 85.69 248 P **P** **19 33 43.1 +0.8**
RAR IAmb IAmb 19 35 52.0
comp=Z,338nm,1.9s
RAR Rarotonga 85.69 248 P **P** **19 33 41.7 -0.6**
comp=Z,38nm,1.0s,baz=128,slow=17,SNR=4.7
RAR LR LR 20 04 09.8
comp=Z,853nm,19.5s,baz=90,slow=30
comp=Z,38nm,1.0s
ABTA Abfaltersbach 85.82 44 *i* P **P** **19 33 44.1 +1.5**
comp=Z,191nm,1.0s,SNR=107
ABTA *i* pP **pP** **19 34 16.6 +1.1**
comp=Z,118nm,1.0s
ABTA *i* PKKP **PKKPbc** **19 51 44.3 -0.7**
comp=Z,3.7nm,1.0s
ABTA *i* P'P' 19 59 50.1
comp=Z,5.6nm,1.0s
LESA Schwarzleotal 85.91 43 *i* P **P** **19 33 44.5 +1.5**
comp=Z,168nm,1.2s,SNR=74
LESA *i* pP **pP** **19 34 16.9 +0.9**
comp=Z,82nm,1.1s
CLL Collm 85.97 39 P **P** **19 33 44.6 +1.5**
CLL IAmb IAmb 19 33 46.9
comp=Z,205nm,1.0s
CLL Collm 85.97 39 *i* P **P** **19 33 44.7 +1.6**
CLL *i* *PP **pP** **19 34 16.6 +0.5**
CLL *e*S **S** **19 44 05.0 -1.3**
CLL pmax pmax
comp=Z,223nm,1.0s
CLL Collm 85.97 39 P **P** **19 33 44.0 +0.9**
comp=Z,215nm,1.0s
F14K Arctic Creek 85.99 335 P **P** **19 33 43.5 +0.6**
baz=88,SNR=33
F14K S **S** **19 44 07.7 +1.8**
baz=88
HSPB Hornsund (broa 86.00 13 *eP* **P** **19 33 45.9 +3.2**
HSPB *ep*P **pP** **19 34 15.6 -0.4**
HFS Hagfors 86.03 30 P **P** **19 33 42.1 -1.1**
comp=Z,53nm,1.0s,baz=222,slow=2.0,SNR=23
HFS pP **pP** **19 34 16.3 +0.1**
comp=Z,43nm,0.9s,baz=237,slow=5.1,SNR=6.1
HFS sP **sP** **19 34 32.0 +2.2**
comp=Z,59nm,0.9s,baz=318,slow=2.0,SNR=6.2
HFS LR LR 20 11 04.6
comp=Z,470nm,19.2s,baz=283,slow=35
comp=Z,53nm,1.0s
RGN Rugen 86.04 36 P **P** **19 33 44.7 +1.3**
SPA0 Spitsbergen Ar 86.12 12 *eP* **P** **19 33 44.1 +0.7**
SPA0 IVmBBB 19 33 46.4
comp=Z,930nm,1.4s
SPA0 *ep*P **pP** **19 34 15.4 -1.2**
SPA0 *e*SKSac **S** **19 44 03.2 -3.7**
SPITS Spitsbergen Ar 86.12 12 P **P** **19 33 42.0 -1.4**
comp=Z,57nm,0.8s,baz=195,slow=2.6,SNR=44
SPITS PKKPbc **PKKPbc** **19 51 41.8 -3.5**
comp=Z,4.7nm,0.7s,baz=106,slow=1.2,SNR=5.5
SPITS LR LR 20 10 58.4
comp=Z,785nm,21.6s,baz=231,slow=35
comp=Z,57nm,0.8s
SPITS Spitsbergen Ar 86.12 12 P **P** **19 33 42.0 -1.4**
M11K Mekoryuk 86.12 330 P **P** **19 33 44.5 +0.9**
baz=88
SPB2 Spitsbergen Ar 86.12 12 P **P** **19 33 44.5 +1.2**
SPB2 IAmb IAmb 19 34 39.6
comp=Z,123nm,1.1s
MOR8 Moi Rana 86.13 24 *eP* **P** **19 33 45.1 +1.5**
MOR8 IVmBBB 19 34 03.1
comp=Z,9μm,5.0s
MOR8 *ep*P **pP** **19 34 16.0 -0.6**
MOR8 *e*SKSac **SKSac** **19 43 59.5 +1.9**
HSKC Hora Svate Kat 86.27 40 *eP* **P** **19 33 46.7 +2.0**
STEI Steigen 86.36 22 *eP* **P** **19 33 46.4 +1.8**
STEI *ep*P **pP** **19 34 16.5 -1.2**
KBA Koelnbreinsper 86.38 43 *i* P **P** **19 33 46.7 +1.3**
comp=Z,166nm,1.2s,SNR=74
KBA *i* pP **pP** **19 34 19.5 +1.1**
comp=Z,153nm,1.3s
RUE Ruedersdorf 86.40 38 *eP* **P** **19 33 47.0 +1.8**
FAUS Fauske 86.41 23 *eP* **P** **19 33 46.5 +1.6**
FAUS *ep*P **pP** **19 34 17.0 -0.9**
KHC Kasperske Hory 86.43 41 *eP* **P** **19 33 47.3 +1.8**
KHC *ep*P **pP** **19 34 19.3 +0.8**
KHC *e*SKS **S** **19 44 04.9 -6.1**
KHC Kasperske Hory 86.43 41 *c i P* **P** **19 33 46.8 +1.3**
KHC pmax pmax
comp=Z,472nm,1.1s
KHC Kasperske Hory 86.43 41 P **P** **19 33 46.4 +0.9**
comp=Z,3μmcomp=Z,182nm,1.1s
GEC2 GERESS Array S 86.53 41 P **P** **19 33 47.6 +1.5**
GEC2 IAmb IAmb 19 33 49.6
comp=Z,168nm,1.0s
GERES GERESS Array B 86.53 41 P **P** **19 33 46.9 +0.9**
GERES GERESS Array B 86.53 41 P **P** **19 33 46.5 +0.5**
comp=Z,105nm,0.9s,baz=264,slow=3.6,SNR=231
GERES pP **pP** **19 34 20.0 +1.0**
comp=Z,52nm,1.0s,baz=262,slow=3.0,SNR=6.4
GERES PKKPbc **PKKPbc** **19 51 42.5 -0.9**
comp=Z,2.1nm,0.9s,baz=90,slow=1.3,SNR=10
GERES SKKP 19 55 07.6
comp=Z,0.2nm,0.3s,baz=0.0,slow=4.5,SNR=3.5
GERES PKPPKP P'P'df 19 59 41.2 -8.0
comp=Z,0.5nm,0.6s,baz=225,slow=2.8,SNR=4.6
comp=Z,105nm,0.9s
BIOA Bad Ischl, Aus 86.54 43 *i* P **P** **19 33 47.3 +1.3**
comp=Z,276nm,1.3s,SNR=103
BIOA *i* pP **pP** **19 34 20.2 +1.1**
comp=Z,141nm,1.1s
PRED Cave del Predi 86.56 44 P **P** **19 33 47.3 +1.1**
BRG Berggiesshubel 86.58 39 *i* P **P** **19 33 48.1 +1.9**
BRG Amp 19 33 50.2
comp=Z,186nm,1.0s
BRG pP **pP** **19 34 21.1 +2.0**
BRG Amp 19 34 22.6
comp=Z,140nm,1.1s
UNV Unalaska Valle 86.59 324 P **P** **19 33 45.8 -0.2**
UNV Unalaska Valle 86.59 324 P **P** **19 33 46.6 +0.5**
baz=87,SNR=6.6
MYKA Terra Mystica 86.60 44 *i* P **P** **19 33 48.0 +1.5**
comp=Z,140nm,0.8s,SNR=58
MYKA *i* pP **pP** **19 34 20.4 +1.0**
comp=Z,152nm,1.1s
TNA Tin City 86.65 335 P **P** **19 33 46.5 +0.4**
TNA Tin City 86.65 335 P **P** **19 33 46.7 +0.6**
baz=87,SNR=27
TNA S **S** **19 44 13.7 +1.4**
baz=87
CADS Cadrg 86.69 44 *i* P **P** **19 33 48.0 +1.2**
CADS *i* pP **pP** **19 34 20.9 +1.1**
CADS *e*sP **sP** **19 34 34.0 +0.6**
CADS *e*S **S** **19 44 14.8 +1.3**
RICC Richard 86.70 40 *eP* **P** **19 33 49.0 +2.3**
RICC *ep*P **pP** **19 34 22.0 +2.3**
ZVC Zvikov 86.82 41 *eP* **P** **19 33 49.4 +2.1**
ZVC *e*SKS **SKSac** **19 44 04.0 +1.5**
VNA3 Neumayer Olymp 86.88 163 ⇑P **P** **19 33 48.0 +0.9**
comp=Z,82nm,0.9s
SKDS Skadanscina 86.92 45 ⇑*i P* **P** **19 33 48.9 +1.0**
CKRC Cesky Krumlov 86.93 41 *eP* **P** **19 33 49.5 +1.6**
CKRC Cesky Krumlov 86.93 41 *eP* **P** **19 33 49.5 +1.6**
BSD Bornholm Skovb 86.93 35 *eP* **P** **19 33 49.7 +2.0**
BSD Bornholm Skovb 86.93 35 *i P* **P** **19 33 48.5 +0.9**
BSD IAmb IAmb 19 33 51.4
comp=Z,138nm,0.9s
PRA Prague 86.94 40 *eP* **P** **19 33 50.0 +2.1**
PRA Prague 86.94 40 *eP* **P** **19 33 50.0 +2.1**
MOA Molin 86.96 42 *i P* **P** **19 33 49.4 +1.4**
comp=Z,138nm,1.0s,SNR=69
MOA *i* pP **pP** **19 34 22.1 +1.0**
comp=Z,123nm,1.1s
PVCC Panska Ves 87.00 40 *eP* **P** **19 33 50.5 +2.3**
PVCC *ep*P **pP** **19 34 23.4 +2.2**
PVCC *e*SKS **S** **19 44 15.6 -0.7**
PVCC Panska Ves 87.00 40 *eP* **P** **19 33 50.5 +2.3**
PVCC *e**PP **pP** **19 34 23.4 +2.2**
PVCC *e* 19 44 15.6
PRU Pruhonice 87.01 40 *eP* **P** **19 33 50.4 +2.2**
PRU *ep*P **pP** **19 34 23.3 +2.0**
PRU *e*SKS **S** **19 44 08.5 -7.9**
PRU Pruhonice 87.01 40 *eP* **P** **19 33 50.4 +2.2**
PRU *e**PP **pP** **19 34 23.3 +2.0**
PRU *e* 19 44 08.5
VNA1 Neumayer--Stat 87.07 162 ⇑P **P** **19 33 50.5 +2.6**
comp=Z,92nm,0.8s
VNA1 ⇓pP **pP** **19 34 22.3 +1.2**
comp=Z,114nm,1.0s
GOPC GO Pecny, Ondr 87.18 40 *eP* **P** **19 33 51.3 +2.2**
GOPC GO Pecny, Ondr 87.18 40 *eP* **P** **19 33 51.3 +2.2**
CEY Cerknica 87.20 45 ⇑*i P* **P** **19 33 50.5 +1.2**
OBKA Obir 87.23 44 *i P* **P** **19 33 50.8 +1.3**
comp=Z,86nm,0.9s,SNR=44
OBKA *i* pP **pP** **19 34 23.4 +0.8**
comp=Z,84nm,1.2s
OBKA Obir 87.23 44 ⇑*i P* **P** **19 33 50.2 +0.7**
LJU Ljubljana 87.25 44 *i P* **P** **19 33 51.2 +1.7**
LJU *i* pP **pP** **19 34 24.0 +1.5**
LJU *i* sP **sP** **19 34 37.2 +1.1**
LJU *e*S **S** **19 44 19.6 +0.8**
VNA2 Neumayer--Watz 87.44 162 ⇑P **P** **19 33 50.6 +0.8**
comp=Z,61nm,0.6s,baz=297,slow=3.9
TRO Tromso 87.56 20 *eP* **P** **19 33 51.2 +0.8**
TRO *ep*P **pP** **19 34 24.6 +0.9**
TRO IVmB_BB 19 34 40.8
comp=Z,6μm,4.9s
TREC Trest 87.67 41 *eP* **P** **19 33 53.7 +2.2**
TREC *e*SKS **SKSac** **19 44 08.3 +0.5**
TREC Trest 87.67 41 *eP* **P** **19 33 53.7 +2.2**
TREC *e* 19 44 08.3
VAE Valguarnera 87.72 53 LR LR 20 09 11.9
comp=Z,1μm,20.4s,baz=311,slow=33
ARSA Arzberg 87.85 43 *i P* **P** **19 33 53.8 +1.4**
comp=Z,80nm,0.9s,SNR=37
ARSA *i* pP **pP** **19 34 26.3 +0.9**
comp=Z,77nm,1.1s
ARSA Arzberg 87.85 43 P **P** **19 33 53.4 +1.0**
ARSA IAmb IAmb 19 33 55.8
comp=Z,82nm,0.9s
UPC Upice 87.92 40 *eP* **P** **19 33 54.8 +2.2**
UPC Upice 87.92 40 *eP* **P** **19 33 54.8 +2.2**
CHVC Chvalec 87.94 40 *ep*P pP 19 34 27.7 +1.9
CONA Conrad Observa 88.03 42 *i* PcP **PcP** **19 33 55.0 0.0**
comp=Z,103nm,1.0s,SNR=37
CONA *i* pP **pP** **19 34 27.6 +1.3**
comp=Z,128nm,1.1s,SNR=7.0
OSTC Ostas 88.05 40 *eP* **P** **19 33 55.7 +2.5**
OSTC Ostas 88.05 40 *eP* **P** **19 33 55.7 +2.5**
NIKH Nikolski High 88.05 323 P **P** **19 33 53.0 -0.1**
baz=85
KSP Ksiaz 88.07 39 *eP* **P** **19 33 55.7 +2.5**
KSP *ep*P **pP** **19 34 27.1 +0.7**
JETT Jettan, Norway 88.09 20 *eP* **P** **19 33 53.8 +0.8**
JETT *ep*P **pP** **19 34 25.1 -1.2**
P08K Saint George I 88.13 326 P **P** **19 33 54.2 +0.8**
baz=85
P08K S **S** **19 44 29.4 +2.7**
baz=85
DPC Dobruska-Polom 88.13 40 *eP* **P** **19 33 56.0 +2.4**
DPC *ep*P **pP** **19 34 28.6 +1.8**
DPC Dobruska-Polom 88.13 40 *eP* **P** **19 33 56.0 +2.4**
DPC *e**PP **pP** **19 34 28.6 +1.8**
DPC Dobruska-Polom 88.13 40 P **P** **19 33 54.6 +1.0**
comp=Z,161nm,1.1s
HOPEN Hopen 88.23 13 *eP* **P** **19 33 54.8 +1.3**
HOPEN IVmBBB 19 33 55.1
comp=Z,1μm,3.1s
HOPEN *ep*P **pP** **19 34 26.6 -0.3**
HOPEN *e*SKSac **SKSac** **19 44 16.8 +6.8**
KRUC Moravsky 88.28 41 *eP* **P** **19 33 56.2 +1.9**
KRUC *e* 19 34 27.7
RONA Rosalia, Austr 88.33 42 *i* PcP **PcP** **19 33 56.3 +0.1**
comp=Z,81nm,1.0s,SNR=37
RONA *i* pP **pP** **19 34 29.0 +1.2**
comp=Z,92nm,1.1s
VRAC Vranov 88.39 41 LR LR 20 12 14.2
comp=Z,436nm,18.2s,baz=273,slow=35
VRAC Vranov 88.39 41 *eP* **P** **19 33 56.8 +2.0**
VRAC *e* 19 34 28.1
VRAC Vranov 88.39 41 ⇓P **P** **19 33 56.9 +2.0**
VRAC Vranov 88.39 41 P **P** **19 33 56.8 +2.0**
KOGS Kog 88.41 44 *eP* **P** **19 33 56.4 +1.4**
GAMB Gambell 88.43 334 P **P** **19 33 55.3 +0.7**
baz=83,SNR=31
GAMB S **S** **19 44 31.0 +1.8**
baz=83
GKP Gorka Klasztor 88.44 37 *eP* **P** **19 33 57.6 +2.7**
GKP *ep*P **pP** **19 34 29.9 +1.9**
GKP Gorka Klasztor 88.44 37 *eP* **P** **19 33 57.9 +3.0**
KRLC Kraliky 88.45 40 *eP* **P** **19 33 57.7 +2.6**
KRLC *ep*P **pP** **19 34 29.8 +1.5**
KRLC Kraliky 88.45 40 *eP* **P** **19 33 57.7 +2.6**
KRLC *e**PP **pP** **19 34 29.8 +1.5**
SPIA Saint Paul Isl 88.45 327 P **P** **19 33 56.0 +1.2**
baz=84
SPIA S **S** **19 44 30.7 +0.9**
baz=84
CUC Castrocucco 88.63 50 P **P** **19 33 56.7 +0.5**
BEHE Becsehely 88.77 44 P **P** **19 33 58.5 +1.9**
A050A Klekovaca 88.78 46 ⇑*i P* **P** **19 33 58.3 +1.5**
MODS Modra-Piesok 88.93 42 *eP* **P** **19 33 59.6 +2.2**
MODS pmax pmax
comp=Z,285nm,1.4s

MODS Modra-Piesok 88.93 42 *eP* **P 19 33 59.6 +2.2**
MODS *epP* **pP 19 34 32.2 +1.6**
MORC Moravsky Berou 88.97 40 P **P 19 33 58.7 +1.1**
MORC IAmb IAmb 19 34 33.9
comp=Z,111nm,1.1s
MORC Moravsky Berou 88.97 40 *eP* **P 19 33 59.5 +1.9**
MORC *e* 19 34 31.3
MORC Moravsky Berou 88.97 40 ⇑P **P 19 33 59.4 +1.8**
MORC Moravsky Berou 88.97 40 P **P 19 33 59.3 +1.8**
SMOL Smolenice 89.02 42 *eP* **P 19 34 00.6 +2.8**
SMOL pmax pmax
comp=Z,17nm,1.2s
HAMF Hammerfest 89.02 19 *eP* **P 19 33 59.1 +1.8**
SNAA Sanae 89.07 162 P **P 19 33 58.1 +0.5**
SNAA IAmb IAmb 19 34 46.3
comp=Z,317nm,1.9s
SNAA Sanae 89.07 162 ⇑P **P 19 33 58.5 +0.9**
comp=Z,659nm,0.7s
SNAA ⇓pP **pP 19 34 31.4 +0.5**
comp=Z,782nm,0.8s
SNAA Sanae 89.07 162 P **P 19 33 57.7 +0.1**
comp=Z,49nm,1.0s,baz=264,slow=7.7,SNR=46
SNAA pP **pP 19 34 31.2 +0.3**
comp=Z,52nm,1.1s,baz=264,slow=2.7,SNR=6.1
SNAA LR LR 20 15 20.8
comp=Z,593nm,20.1s,baz=296,slow=36
comp=Z,49nm,1.0s
SNAA Sanae 89.07 162 *d iP* **P 19 33 59.3 +1.7**
SNAA pmax pmax
comp=Z,65nm,1.0s
STEB Steborice 89.10 40 *eP* **P 19 34 00.6 +2.5**
STEB *epP* **pP 19 34 33.1 +1.8**
JAVC Velka Javorina 89.14 41 *eP* **P 19 34 01.5 +3.1**
JAVC *e* 19 34 33.2
KTK1 Kautokeino 89.17 21 *eP* **P 19 33 59.8 +1.8**
KTK1 IVmB_BB 19 34 04.7
comp=Z,5μm,6.0s
KTK1 *epP* **pP 19 34 31.9 +0.5**
MAUC Maruska 89.19 41 *eP* **P 19 34 01.3 +2.7**
MAUC *epP* **pP 19 34 34.1 +2.3**
BLY Banja Luka 89.22 45 ⇑*iP* **P 19 33 59.9 +1.1**
MPLH Magyarpolny 89.22 43 P **P 19 33 59.9 +1.1**
comp=Z,9μmcomp=Z,138nm,1.5s
MATE Matera 89.25 49 ⇑P **P 19 34 00.1 +1.1**
MATE Matera 89.25 49 *eP* **P 19 34 00.6 +1.6**
OKC Ostrava-Krasne 89.35 40 *eP* **P 19 34 01.8 +2.5**
OKC Ostrava-Krasne 89.35 40 *eP* **P 19 34 01.8 +2.5**
SRO Srobarova 89.68 42 *eP* **P 19 34 03.0 +2.1**
SRO pmax pmax
comp=Z,47nm,1.2s
SRO Srobarova 89.68 42 *eP* **P 19 34 03.0 +2.1**
SRO *epP* **pP 19 34 34.5 +0.5**
STON Ston 89.78 47 ⇑*iP* **P 19 34 02.1 +0.7**
ARA0 ARCESS Array S 89.85 20 *eP* **P 19 34 01.9 +0.7**
ARCES ARCESS Array B 89.85 20 P **P 19 34 00.9 -0.3**
comp=Z,10nm,0.8s,baz=286,slow=2.8,SNR=18
ARCES PKKPbc **PKKPbc 19 51 35.1 -0.9**
comp=Z,5.3nm,1.0s,baz=38,slow=2.2,SNR=6.1
comp=Z,10nm,0.8s
ARCES ARCESS Array B 89.85 20 P **P 19 34 01.0 -0.3**
RAF Rauma 89.91 29 *eP* **P 19 34 02.3 +0.7**
VAF Ylistaro 89.99 27 *eP* **P 19 34 03.6 +1.6**
MORH Mrgy, Hungar 90.08 44 ⇑P **P 19 34 04.8 +2.0**
MORH Mrgy, Hungar 90.08 44 P **P 19 34 04.1 +1.3**
comp=Z,3μmcomp=Z,63nm,1.4s
TREB Trebinje 90.27 47 *eP* **P 19 34 04.6 +0.8**
LANS Liptovska Anna 90.28 41 *eP* **P 19 34 07.0 +3.3**
LANS pmax pmax
comp=Z,43nm,1.4s
LANS Liptovska Anna 90.28 41 *eP* **P 19 34 07.0 +3.3**
LANS *epP* **pP 19 34 40.2 +3.3**
OJC Ojcow 90.36 40 *eP* **P 19 34 06.5 +2.5**
OJC *epP* **pP 19 34 39.0 +1.8**
OJC Ojcow 90.36 40 P **P 19 34 05.2 +1.2**
OJC Ojcow 90.36 40 P **P 19 34 05.2 +1.2**
comp=Z,83nm,1.2s
BRY Bratogost 90.39 47 *eP* **P 19 34 06.6 +2.1**
BRY Bratogost 90.39 47 ⇑*iP* **P 19 34 04.9 +0.4**
HCY Herceg Novi 90.40 48 *eP* **P 19 34 06.4 +2.0**
HCY Herceg Novi 90.40 48 ⇑*iP* **P 19 34 06.8 +2.4**
UPM Unac-Piva 90.62 47 *eP* **P 19 34 07.1 +1.5**
UPM Unac-Piva 90.62 47 ⇑*iP* **P 19 34 06.3 +0.7**
CEME Cevo 90.70 47 ⇑*iP* **P 19 34 07.4 +1.5**
NKME Niksic 90.70 47 ⇑*iP* **P 19 34 07.1 +1.3**
BUM Brajici-Budva 90.71 48 ⇑*iP* **P 19 34 07.7 +1.8**
PSZ Piszkesteto 90.72 42 P **P 19 34 06.9 +1.0**
PSZ IAmb IAmb 19 34 47.9
comp=Z,167nm,1.6s
PSZ Piszkesteto 90.72 42 ⇑P **P 19 34 08.0 +2.1**
PSZ Piszkesteto 90.72 42 P **P 19 34 07.9 +2.1**
PSZ Piszkesteto 90.72 42 *eP* **P 19 34 08.4 +2.5**
BEL Belsk 90.76 38 *eP* **P 19 34 08.6 +2.8**
BEL *epP* **pP 19 34 40.5 +1.5**
TROLL Troll, Antarti 90.79 162 ⇑P **P 19 34 06.4 +0.8**
comp=Z,4μm,0.7s
TROLL ⇓pP **pP 19 34 39.9 +0.8**
comp=Z,4μm,0.8s
NIE Niedzica 90.79 40 *eP* **P 19 34 09.6 +3.6**
NIE *epP* **pP 19 34 42.0 +2.8**
PBUR Paburge 90.79 34 *eP* **P 19 34 08.7 +2.9**
BBLS Lazi&#263i 90.90 46 *eP* **P 19 34 08.9 +2.1**
TEKS Tekeris 90.90 45 *eP* **P 19 34 08.4 +1.7**
RUDO Rudo 90.90 46 *eP* **P 19 34 07.1 +0.4**
R9F13 Warsaw-Wawer 90.92 38 *eP* P 19 34 13.2 +6.7
R9F13 *epP* pP 19 34 41.8 +2.1
R9F13 *eS* **SKSac 19 44 23.9 -2.7**
R9F13 *e* 19 44 56.4
DRME Dracevica, Mon 90.94 48 ⇑*iP* **P 19 34 07.8 +0.9**
DRME Dracevica, Mon 90.94 48 ⇑*iP* **P 19 34 08.2 +1.3**
PLE Pljevlja 90.95 47 ⇑*iP* **P 19 34 08.3 +1.2**
PDG Podgorica 90.97 47 *eP* **P 19 34 08.9 +1.9**
PDG Podgorica 90.97 47 ⇑*iP* **P 19 34 08.7 +1.7**
ULC Ulcinj 91.01 48 ⇑*iP* **P 19 34 09.1 +1.8**
KECS Kecovo 91.04 41 *eP* **P 19 34 11.0 +3.8**
KECS pmax pmax
comp=Z,51nm,1.4s
KECS Kecovo 91.04 41 *eP* **P 19 34 11.0 +3.8**
KECS *epP* **pP 19 34 43.8 +3.4**
KOME Kolasin 91.10 47 ⇑*iP* **P 19 34 09.8 +2.0**
KEF Keuruu 91.16 27 *eP* **P 19 34 09.1 +1.6**
IVA Berane 91.38 47 ⇑*iP* **P 19 34 10.9 +1.9**
ATKA Atka Island 91.38 322 P **P 19 34 08.6 0.0**
ATKA Atka Island 91.38 322 P **P 19 34 09.2 +0.6**
SJES Sjenica 91.39 47 ⇑*iP* **P 19 34 10.3 +1.2**
STHS Stebnicka Huta 91.40 40 *eP* **P 19 34 11.7 +2.8**
STHS pmax pmax
comp=Z,37nm,1.2s
STHS Stebnicka Huta 91.40 40 *eP* **P 19 34 11.7 +2.8**
STHS *epP* **pP 19 34 43.5 +1.4**
PUK Puka 91.48 48 P **P 19 34 10.4 +0.9**
PUK IAmb IAmb 19 34 13.7
comp=Z,67nm,1.0s
TIR Tirane 91.55 49 ⇑P **P 19 34 12.7 +2.9**
TIR Tirane 91.55 49 P **P 19 34 12.6 +2.9**
KEK Kerkira 91.71 50 P **P 19 34 14.3 +3.8**
FINES FINESS Array B 91.87 28 P **P 19 34 11.3 +0.6**
comp=Z,22nm,0.9s,baz=329,slow=2.2,SNR=22
FINES pP **pP 19 34 44.4 +0.4**
comp=Z,38nm,0.9s,baz=260,slow=1.2,SNR=9.2
FINES sP **sP 19 34 59.6 +2.0**
comp=Z,35nm,0.9s,baz=270,slow=1.9,SNR=6.3
FINES PKKPbc **PKKPdf 19 51 27.5 +0.5**
comp=Z,4.3nm,1.0s,baz=186,slow=3.8,SNR=3.8
FINES LR LR 20 13 15.3
comp=Z,493nm,19.6s,baz=284,slow=34
comp=Z,22nm,0.9s
VSVD Vaisvydziai 91.90 34 *eP* **P 19 34 13.1 +2.1**
BANR Banloc 91.92 44 ⇑P **P 19 34 13.9 +2.6**
PHP Peshkopia 91.94 48 P **P 19 34 14.0 +2.4**
PABE Paberze 92.02 34 P **P 19 34 12.8 +1.2**
PABE Paberze 92.02 34 *eP* **P 19 34 13.5 +2.0**
BORR Bors 92.11 43 ⇑P **P 19 34 15.1 +3.0**
IGT Igoumenitsa 92.14 50 P **P 19 34 14.0 +1.5**
KOLS Kolonicke sedl 92.14 41 *eP* **P 19 34 15.4 +3.1**
KOLS pmax pmax
comp=Z,21nm,1.2s
KOLS Kolonicke sedl 92.14 41 *eP* **P 19 34 15.4 +3.1**
SIRR Siria 92.15 43 ⇑P **P 19 34 14.7 +2.3**
BZS Buzias 92.22 44 ⇓P **P 19 34 15.1 +2.3**
BZS Buzias 92.22 44 P **P 19 34 15.0 +2.3**
LSK Leskovik 92.26 50 P **P 19 34 15.8 +2.6**
ARBE Arbavere 92.28 30 *eP* **P 19 34 14.5 +1.9**
OHR Ohrid 92.28 49 ⇑*iP* **P 19 34 15.9 +2.7**

KWP Kalwaria Pacla 92.31 40 *eP* **P 19 34 16.5 +3.4**
KWP *epP* **pP 19 34 47.4 +1.1**
KBN Korca 92.34 49 P **P 19 34 16.4 +2.9**
KBN Korca 92.34 49 P **P 19 34 15.4 +1.9**
MDVR Moldovita 92.41 45 ⇑P **P 19 34 14.8 +1.1**
MUKU Mukachevo 92.49 41 P **P 19 34 15.0 +1.1**
BERU Beregovo 92.50 41 P **P 19 34 14.8 +0.9**
EVGI Lefkada island 92.51 51 P **P 19 34 16.4 +2.2**
NYDR Nydri-Lefkada 92.53 51 P **P 19 34 16.1 +1.8**
SURR Surduc 92.55 44 ⇑P **P 19 34 16.5 +2.3**
NEST Nestorio 92.57 49 P **P 19 34 17.3 +2.7**
BOVS Bovan 92.58 46 ⇑P **P 19 34 16.4 +1.9**
BRIU Brid 92.73 41 P **P 19 34 15.9 +0.9**
FNA Florina 92.76 49 P **P 19 34 17.9 +2.5**
FNA Florina 92.76 49 P **P 19 34 16.8 +1.4**
FNA IAmb IAmb 19 34 18.8
comp=Z,50nm,0.9s
DRGR 92.78 43 ⇑P **P 19 34 17.9 +2.5**
KPRO Kipourio 92.87 50 P **P 19 34 18.2 +2.2**
VSU Vasula 92.88 31 ⇓*iP* **P 19 34 16.0 +0.6**
VSU pmax pmax
comp=Z,55nm,1.2s
VSU Vasula 92.88 31 *eP* **P 19 34 16.2 +0.8**
HERR Herculane 92.89 45 ⇑P **P 19 34 17.4 +1.5**
ADK Adak 92.95 322 P **P 19 34 15.5 -0.4**
DJES Djerdap 93.00 45 ⇑P **P 19 34 18.2 +1.8**
GZR Gura Zlata 93.06 44 ⇑P **P 19 34 18.9 +2.2**
GZR Gura Zlata 93.06 44 P **P 19 34 18.9 +2.2**
DEV Deva 93.07 44 ⇓P **P 19 34 19.1 +2.5**
DEV Deva 93.07 44 P **P 19 34 19.1 +2.5**
MARR Marisel-Cluj 93.08 43 ⇓P **P 19 34 18.7 +1.9**
KZN Kozani 93.13 49 P **P 19 34 18.5 +1.3**
BMR Baia Mare 93.16 42 ⇑P **P 19 34 19.4 +2.3**
BMR Baia Mare 93.16 42 P **P 19 34 19.3 +2.3**
APA Apatity 93.19 21 ⇓*iP* **P 19 34 14.8 -1.9**
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,5μm,20.0s
IIGN Ignalina 93.31 34 *eP* **P 19 34 19.6 +2.1**
CBBR Cluj-Babes-Bol 93.36 43 ⇑P **P 19 34 20.6 +2.6**
EVR Evrytania 93.36 51 P **P 19 34 20.8 +2.5**
CJR Cluj-Napoca 93.40 43 ⇑P **P 19 34 20.5 +2.3**
CJR Cluj-Napoca 93.40 43 P **P 19 34 20.5 +2.3**
THL Klokotos Trika 93.42 50 P **P 19 34 19.4 +1.0**
DRO Drossia 93.43 52 P **P 19 34 20.6 +2.1**
ANX Ano Chora 93.50 51 P **P 19 34 21.8 +2.9**
GRG Griva 93.50 49 P **P 19 34 21.2 +2.4**
RAKU Rahkiv 93.54 41 P **P 19 34 19.7 +0.9**
VAY Valandovo 93.57 48 ⇑*iP* **P 19 34 20.9 +1.8**
NVL N'lazarevskaya 93.58 161 *eP* **P 19 34 20.9 +2.5**
NVL *e**PP **pP 19 34 51.6 -0.2**
NVL *eS* **SKSac 19 44 47.8 +7.2**
NVL MLR MLR
comp=Z,556nm,18.0s
IDID Didziasalis 93.60 34 *eP* **P 19 34 20.9 +2.1**
ITM Ithomi 93.71 52 P **P 19 34 21.0 +1.2**
ITM IAmb IAmb 19 34 23.4
comp=Z,89nm,1.0s
ARCR ARCALIA 93.84 42 ⇓P **P 19 34 22.8 +2.7**
JOF Joensuu 93.85 26 *eP* **P 19 34 19.9 +0.1**
GUR Goura 93.92 52 P **P 19 34 23.3 +2.4**
RNPP8 Varash 93.96 38 P **P 19 34 21.7 +1.1**
RNPP9 Sopachiv 93.96 38 P **P 19 34 21.7 +1.1**
KSV Kosov 94.08 41 P **P 19 34 22.3 +1.1**
HORT Hortiatis 94.08 49 P **P 19 34 22.7 +1.2**
BUR08 Bucovina Ar. S 94.30 42 P **P 19 34 23.6 +1.2**
BUR08 IAmb IAmb 19 35 06.8
comp=Z,89nm,1.4s
BURAR Bucovina Array 94.31 42 P **P 19 34 23.9 +1.4**
BURAR Bucovina Array 94.31 42 ⇑P **P 19 34 24.2 +1.7**
BURAR Bucovina Array 94.31 42 P **P 19 34 24.1 +1.7**
PUL Pulkovo 94.32 29 ⇓*eP* **P 19 34 24.0 +1.9**
PUL pmax pmax
comp=Z,70nm,0.9s
ARR Arges 94.35 44 ⇑P **P 19 34 25.2 +2.5**
MNK Minsk 94.44 35 *iP* **P 19 34 21.9 -0.8**
MNK *i* *PP **pP 19 34 53.4 -2.6**
MNK *i* 19 38 09.0
MNK *i* S **SKSac 19 44 46.4 +0.4**
MNK *i* SS **SS 19 51 51.6 +3.1**
MNK *i* SSS SSS 19 55 30.5
MNK pmax pmax
comp=Z,67nm,1.0s
MNK pmax pmax
comp=N,23nm,1.0s
MNK pmax pmax
comp=E,31nm,1.4s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=E,479nm,11.0s
QSPA South Pole Qui 94.55 180 P **P 19 34 24.4 +1.3**
QSPA South Pole Qui 94.55 180 P **P 19 34 24.0 +0.9**
comp=E,52nm,0.8s,baz=154,slow=1.0,SNR=107
QSPA PKKPbc **PKKPdf 19 51 19.4 -4.1**
comp=E,3.3nm,0.9s,baz=209,slow=0.9,SNR=9.3
comp=E,52nm,0.8s
VOIR 94.63 44 ⇑P **P 19 34 25.4 +1.4**
VOIR 94.63 44 P **P 19 34 25.3 +1.4**
VOIR 94.63 44 P **P 19 34 25.0 +1.1**
comp=E,36nm,1.4s
PAIG Paliouri 94.63 49 P **P 19 34 25.7 +1.8**
WIN Windhoek 94.72 112 P **P 19 34 24.7 -0.2**
WIN IAmb IAmb 19 34 27.2
comp=Z,57nm,1.1s
HUMR Humele 94.75 45 ⇑P **P 19 34 26.6 +2.2**
DOPR Dopca 94.76 43 ⇓P **P 19 34 26.2 +1.8**
HORU Horodok 94.77 40 P **P 19 34 25.5 +1.1**
KMPD K-Podol'skiy 94.93 41 P **P 19 34 25.8 +0.7**
TSUM Tsumeb 94.99 109 P **P 19 34 26.4 +0.3**
TSUM IAmb IAmb 19 34 28.8
comp=Z,85nm,1.3s
TSUM Tsumeb 94.99 109 LR LR 20 15 51.0
comp=Z,3μm,18.6s,baz=294,slow=34
OZUR 95.00 43 ⇑P **P 19 34 27.8 +2.2**
MI28 Mi28,Pidlybu 95.16 38 P **P 19 34 27.2 +1.1**
MLR Muntele Rosu 95.23 44 P **P 19 34 27.9 +1.1**
MLR Muntele Rosu 95.23 44 LR LR 20 15 24.2
comp=Z,630nm,20.1s,baz=280,slow=34
MLR Muntele Rosu 95.23 44 ⇑P **P 19 34 28.7 +1.9**
MLR Muntele Rosu 95.23 44 P **P 19 34 28.7 +1.9**
MLR Muntele Rosu 95.23 44 P **P 19 34 27.8 +1.1**
COVR Voineasa-Covas 95.34 43 ⇑P **P 19 34 28.9 +1.8**
LUBAR Lubar, Ukraine 95.46 39 P **P 19 34 28.7 +1.2**
TESR Tescani 95.50 43 ⇑P **P 19 34 28.7 +0.9**
TESR Tescani 95.50 43 P **P 19 34 29.0 +1.2**
comp=Z,24nm,1.7s
MI30 MI30,Zelenitsa 95.53 38 P **P 19 34 28.4 +0.6**
comp=Z,105nm,1.1s
PLOR Plostina 95.64 43 ⇑P **P 19 34 30.6 +2.1**
PLOR Plostina 95.64 43 P **P 19 34 30.6 +2.1**
VRI Vrincioaia 95.69 43 ⇑P **P 19 34 31.0 +2.2**
VRI Vrincioaia 95.69 43 P **P 19 34 30.9 +2.2**
BILL Bilibino 95.79 340 P **P 19 34 28.2 -0.5**
BILL Bilibino 95.79 340 *d iP* **P 19 34 27.8 -0.8**
BILL pmax pmax
comp=Z,19nm,1.5s
AK20 Malin Array Si 96.03 38 P **P 19 34 31.1 +1.0**
AK16 Malin Array Si 96.11 38 P **P 19 34 31.3 +0.9**
KIEV Kiev 96.17 38 P **P 19 34 30.7 0.0**
KIEV Kiev 96.17 38 ⇑P **P 19 34 31.6 +0.9**
KIEV Kiev 96.17 38 P **P 19 34 31.5 +0.9**
AKASG Malin Array Be 96.18 38 P **P 19 34 31.1 +0.4**
AKASG Malin Array Be 96.18 38 P **P 19 34 30.8 +0.1**
comp=Z,11nm,1.0s,baz=273,slow=3.9,SNR=24
AKASG PP **PP 19 38 23.6 -1.5**
comp=Z,9.6nm,1.1s,baz=284,slow=7.9,SNR=9.1
AKASG PKKPbc **PKKPbc 19 51 17.4 -1.4**
comp=Z,0.5nm,0.5s,baz=85,slow=2.6,SNR=6.6
AKASG LR LR 20 13 42.8
comp=Z,686nm,21.4s,baz=283,slow=33
comp=Z,11nm,1.0s
AKASG Malin Array Be 96.18 38 *iP* **P 19 34 31.3 +0.6**
AKASG pmax pmax
comp=Z,11nm,1.0s
AKBB Malin Array Si 96.18 38 ⇑*iP* **P 19 34 30.3 -0.4**
AKBB pmax pmax
comp=Z,20nm,1.1s
AKBB Malin Array Si 96.18 38 P **P 19 34 31.3 +0.6**
SORM Soroca 96.26 41 ⇓P **P 19 34 32.3 +1.1**

SORM Soroca 96.26 41 P **P 19 34 32.2 +1.1**
IDI Anoyia 96.38 54 LR LR 20 16 11.2
comp=Z,180nm,21.4s,baz=272,slow=34
CFR Carcaliu 96.81 44 ⇑P **P 19 34 34.9 +1.2**
CFR Carcaliu 96.81 44 P **P 19 34 34.9 +1.2**
KIS Kishinev 96.84 42 *eP* **P 19 34 35.0 +1.2**
comp=Z,50nm,0.7s
KIS *epP* **pP 19 35 08.0 +0.9**
KIS Kishinev 96.84 42 *eP* **P 19 34 35.0 +1.2**
KIS pmax pmax
comp=Z,50nm,0.7s
MILM Milestii Mici 96.86 42 *i P* **P 19 34 35.0 +1.1**
comp=Z,180nm,1.1s
MILM *epP* **pP 19 35 08.0 +0.8**
MILM Milestii Mici 96.86 42 ⇑P **P 19 34 32.7 -1.2**
MILM Milestii Mici 96.86 42 *i P* **P 19 34 35.0 +1.1**
MILM *i* 19 35 08.0
MILM pmax pmax
comp=Z,180nm,1.1s
TIRR Tirgusor 97.17 44 P Pdif 19 34 36.7 +1.3
TIRR IAmb IAmb 19 35 11.1
comp=Z,49nm,1.2s
ELIB Princess Elisa 97.23 162 *dP* **P 19 34 35.2 0.0**
comp=Z,8.3nm,1.3s
TLCR 97.28 44 ⇑P Pdif 19 34 37.7 +1.9
TLCR 97.28 44 P Pdif 19 34 37.7 +1.8
KOOLE Kule 97.59 112 *eP* Pdif 19 34 39.2 +1.2
SHEM Shemya Is, Ala 98.20 325 LR LR 20 23 00.1
comp=Z,213nm,19.7s,baz=332,slow=38
KLMR Klimovskoe 98.22 26 *eP* **P 19 34 38.5 -1.2**
KLMR *e**PP **pP 19 35 08.5 -4.5**
KLMR pmax pmax
comp=Z,33nm,1.4s
SUR Sutherland 98.28 122 P Pdif 19 34 41.1 +0.2
SUR IAmb IAmb 19 34 43.6
comp=Z,56nm,1.4s
SUR Sutherland 98.28 122 LR LR 20 17 21.8
comp=Z,2μm,18.7s,baz=272,slow=34
GRTLG Ghanzi 98.49 111 *i P* Pdif 19 34 42.6 +0.7
LKGWB Lokgwabe 98.55 114 *eP* Pdif 19 34 45.2 +3.1
OBN Obninsk 99.03 32 LR LR 20 19 23.9
comp=Z,785nm,19.8s,baz=306,slow=35
OBN Obninsk 99.03 32 *eP* **Pdif 19 34 43.4 0.0**
OBN *e**PP **pP 19 35 13.2 -3.6**
OBN *e* 19 38 46.8
OBN *e*PPP PPP 19 40 54.5
OBN *eS* **SKSac 19 45 11.2 +1.5**
OBN *e*SS **SS 19 52 55.0 +1.9**
OBN *e*SSS SSS 19 56 43.7
OBN pmax pmax
comp=Z,37nm,1.5s
OBN MLR MLR
comp=Z,1μm,20.0s
MOS Moscow 99.36 32 *eP* **Pdif 19 34 44.5 -0.4**
MOS *e* 19 35 18.2
KGCAE Kacgae 99.44 112 *i P* **Pdif 19 34 47.2 +1.1**
VNDA Vanda 101.04 191 Pdiff **Pdif 19 34 52.4 +0.5**
comp=Z,2.4nm,0.9s,baz=165,slow=3.1,SNR=5.5
LPSR Galich'ya Gora 101.28 34 *eP* **Pdif 19 34 54.0 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KDWAN Kaudwane 101.70 113 *i P* **Pdif 19 34 57.8 +1.6**
VORR Voronezh 101.80 35 P **Pdif 19 34 57.9 +2.0**
VORR pmax pmax
comp=Z,15nm,1.2s
BRTR Keskin Array B 102.15 48 Pdiff **Pdif 19 34 58.7 +0.8**
comp=Z,3.7nm,1.1s,baz=297,slow=5.4,SNR=8.7
BRTR PP **PP 19 39 09.7 -1.3**
comp=Z,7.4nm,1.1s,baz=284,slow=5.0,SNR=7.3
BRTR PKKPbc **PKKPbc 19 51 01.1 -0.8**
comp=Z,4.3nm,0.8s,baz=142,slow=6.0,SNR=17
BOSA Boshof 102.17 118 Pdiff **Pdif 19 34 59.0 +0.9**
comp=Z,6.7nm,0.9s,baz=332,slow=12,SNR=3.7
BOSA PKKPbc **PKKPbc 19 51 00.4 -1.1**
comp=Z,5.9nm,0.7s,baz=81,slow=2.9,SNR=9.8
TIXI Tiksi 102.23 352 ⇑*eP* **Pdif 19 34 56.7 -0.6**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
SYO Syowa Base 103.25 161 ⇓*e*Pdiff **Pdif 19 35 01.8 -0.1**
SYO Syowa Base 103.25 161 ⇑*e*pPdiff pPdif 19 35 35.2 0.0
VRH Novokhopyorsk 103.43 35 P **Pdif 19 35 03.7 +0.6**
VRH pmax pmax
comp=Z,7.0nm,1.1s
MMAI Mount Meron Ar 105.38 54 PKiKP **PKiKP 19 39 26.0 +0.4**
comp=Z,1.1nm,0.5s,baz=293,slow=9.2,SNR=4.8
MMAI PKKPbc **PKKPbc 19 50 50.8 -1.2**
comp=Z,3.1nm,0.7s,baz=104,slow=6.1,SNR=9.3
NRIK Noril'sk 105.44 6 Pdiff **Pdif 19 35 13.3 +1.6**
comp=Z,1.5nm,0.5s,baz=346,slow=3.8,SNR=1.8
PET Petropavlovsk 106.53 329 *eP* **Pdif 19 35 26.1 +9.2**
PET *e* 19 45 43.2
PET *e*SP SP 19 48 54.6 +6.3
PET *e*SS **SS 19 54 33.9 -2.4**
PET pmax pmax
comp=Z,100nm,14.9s
PET pmax pmax
comp=Z,400nm,18.4s
KBZ Khabaz 107.27 42 PKKPbc PKKPbc 19 50 44.3 -2.1
comp=Z,5.0nm,1.0s,baz=206,slow=3.4,SNR=5.8
KBZ PKKP **PKKPdf 19 50 59.5 +0.8**
comp=Z,7.8nm,0.9s,baz=216,slow=2.5,SNR=8.6
YAK Yakutsk 110.72 347 ⇑*i*PKIKP **PKiKP 19 39 34.7 +0.1**
KMBO Kilima Mbogo 113.42 89 PP **PP 19 40 33.2 -1.2**
comp=Z,2.1nm,0.6s,baz=238,slow=6.6,SNR=3.3
KIBK Kibwezi 114.30 91 P **PKiKP 19 39 43.9 +0.9**
BRVK Borovoye 116.03 22 ⇑*i*PKIKP **PKPdf 19 39 46.7 +1.6**
BVAR Borovoye Array 116.10 22 PKP **PKPdf 19 39 44.4 -0.9**
comp=Z,2.9nm,0.7s,baz=333,slow=0.7,SNR=7.9
BVAR pPKP pPKPdf 19 40 19.3 -0.8
comp=Z,4.2nm,0.8s,baz=318,slow=2.0,SNR=4.9
BVAR PKKPbc **PKKPbc 19 50 15.7 -2.1**
comp=Z,1.8nm,0.7s,baz=128,slow=2.4,SNR=3.7
RAYN Ar Rayn 116.69 61 **PKiKP 19 39 47.6 +0.4**
RAYN Ar Rayn 116.69 61 P **PKiKP 19 39 47.9 +0.7**
YSS Yuzhno-Sakhali 118.31 331 *i* PKIKP **PKiKP 19 39 50.2 +0.5**
YSS *e* 19 40 20.4
YSS *e* 19 41 08.4
YSS *e*PPP PPP 19 43 47.0
YSS *e* 19 46 32.0
YSS *e*PS **PS 19 50 49.5 -5.4**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,500nm,5.2s
ZEA Zeya 118.71 344 ⇑*e*PKIKP **PKiKP 19 39 51.2 +0.9**
BRZS Berezniki 119.39 23 *e*PKIKP **PKiKP 19 39 52.2 +0.5**
BRZS *e* 19 41 14.3
BRZS Berezniki 119.39 23 *e*PKP **PKiKP 19 39 52.2 +0.5**
BRZS *e*PP **PP 19 41 14.3 +0.5**
ZAA0 Zalesovo Array 119.59 13 **PKPdf 19 39 51.6 -0.3**
ZALV Zalesovo Beam 119.59 13 **PKPdf 19 39 51.3 -0.6**
ZALV Zalesovo Beam 119.59 13 PKP **PKPdf 19 39 51.1 -0.8**
comp=Z,6.6nm,0.4s,baz=286,slow=2.1,SNR=50
ZALV pPKP **pPKPdf 19 40 25.5 -1.2**
comp=Z,20nm,0.9s,baz=318,slow=2.0,SNR=8.1
ZALV PKKPbc **PKKPbc 19 50 02.6 -2.8**
comp=Z,1.2nm,0.5s,baz=164,slow=4.9,SNR=4.1
ZALV PKKP **PKKPdf 19 50 34.5 -1.1**
comp=Z,1.6nm,0.9s,baz=176,slow=4.0,SNR=3.6
KURK Kurchatov 120.85 18 **PKPdf 19 39 54.0 -0.4**
KURK Kurchatov 120.85 18 P **PKiKP 19 39 54.9 +0.4**
KURK Kurchatov 120.85 18 *c i*PKIKP **PKiKP 19 39 54.8 +0.3**
KURK pmax pmax
comp=Z,29nm,1.7s
KURBB Kurchatov Arra 120.90 19 PKP **PKPdf 19 39 53.9 -0.7**
comp=Z,11nm,0.7s,baz=322,slow=2.1,SNR=67
KURBB pPKP **pPKPdf 19 40 28.4 -1.0**
comp=Z,11nm,0.9s,baz=327,slow=2.3,SNR=8.1
KURBB PKKPbc **PKKPbc 19 49 57.6 -2.8**
comp=Z,2.6nm,0.7s,baz=153,slow=3.4,SNR=16
KURBB PKKP **PKKPdf 19 50 31.3 -1.8**
comp=Z,1.9nm,0.8s,baz=157,slow=3.4,SNR=6.2
KLR Kul'dur 121.22 339 *d i*PKIKP **PKiKP 19 39 55.8 +0.5**
KLR pmax pmax
comp=Z,14nm,1.0s
HEH HeiHe 121.77 342 PKP **PKPdf 19 39 55.4 -0.8**
HEH AMB AMB
comp=Z,580nm,6.6s
VOI Vohitsoka 122.18 113 **PKiKP 19 39 58.4 +0.2**
VOI Vohitsoka 122.18 113 P **PKPdf 19 39 56.9 -1.0**
CIT Chita 123.06 353 *e*PKIKP **PKiKP 19 40 00.6 +1.7**
CIT *e* 19 40 35.8
CIT *e* 19 40 54.0
CIT *e* 19 41 43.4

BRLS	**Borolday**	**123.55**	**29**	*e*PKIKP	**PKiKP**	**19 40 00.3**	**+0.2**
BRLS	**Borolday**	**123.55**	**29**	*e*PKP	**PKiKP**	**19 40 00.3**	**+0.2**
MZR	**Muzera**	**123.74**	**59**	P	**PKiKP**	**19 40 01.4**	**+0.4**
KKAR	**Karatay Array**	**123.82**	**29**	PKPdf	**PKiKP**	**19 40 00.6**	**-0.1**
BTLS	**Baital**	**123.92**	**25**	*e*PKIKP	**PKiKP**	**19 40 01.1**	**+0.3**
BTLS				*e*		19 41 45.5	
BTLS	**Baital**	**123.92**	**25**	*e*PKP	**PKiKP**	**19 40 01.1**	**+0.3**
BTLS				*e*PP	**PP**	**19 41 45.5**	**+0.9**
MOY	**Mondy**	**123.97**	**2**	*e*PKIKP	**PKiKP**	**19 40 03.0**	**+2.2**
IUG	**Iuzhnay**	**124.30**	**30**	*e*PKIKP	**PKpdf**	**19 40 01.6**	**+0.1**
IUG	**Iuzhnay**	**124.30**	**30**	*e*PKP	**PKpdf**	**19 40 01.6**	**+0.1**
DZA	**Taraz**	**124.38**	**29**	*e*PKIKP	**PKiKP**	**19 40 01.8**	**0.0**
DZA	**Taraz**	**124.38**	**29**	*e*PKP	**PKiKP**	**19 40 01.9**	**0.0**
ASUD	**Al Ashush, Dub**	**124.64**	**56**	P	**PKiKP**	**19 40 03.3**	**+0.5**
SHME	**Shamm**	**124.70**	**54**	P	**PKPdf**	**19 40 01.6**	**-0.9**
SHME				P	**PKiKP**	**19 40 02.2**	**-0.6**
HRA	**Herat**	**124.92**	**42**		**PKPdf**	**19 40 03.1**	**+0.1**
MASF	**Masafi**	**125.01**	**55**	P	**PKiKP**	**19 40 03.7**	**+0.2**
ASHO	**Ashiyiah**	**125.22**	**56**	P	**PKPdf**	**19 40 02.5**	**-1.2**
HATD	**Hatta, Dubai**	**125.22**	**55**	P	**PKPdf**	**19 40 03.4**	**-0.2**
UOSS	**Minazif**	**125.23**	**55**	PKPdf	**PKPdf**	**19 40 02.6**	**-1.0**
ALNE	**Al Ain**	**125.23**	**56**	P	**PKiKP**	**19 40 03.8**	**-0.2**
UMZA	**Um Al Zommool**	**125.28**	**58**	P	**PKiKP**	**19 40 04.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**125.30**	**335**		**PKiKP**	**19 40 03.8**	**+0.3**
USA0B	**Ussuriysk Arra**	**125.30**	**335**⇑	*e*PKIKP	**PKPdf**	**19 40 02.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**125.30**	**335**	PKP	**PKPdf**	**19 40 02.9**	**-0.2**
	comp=Z,29nm,0.8s,baz=311,slow=0.8,SNR=39						
USRK				SKP		19 43 27.3	
	comp=Z,15nm,1.0s,baz=41,slow=1.0,SNR=5.8						
ZAK	**Zakamensk**	**125.31**	**0**	*e*PKIKP	**PKPdf**	**19 40 03.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**125.34**	**18**		**PKPdf**	**19 40 02.3**	**-1.0**
MK31	**Makanchi Array**	**125.45**	**18***c*	*i*PKIKP	**PKPdf**	**19 40 03.3**	**-0.1**
MKAR	**Makanchi Array**	**125.45**	**18**		**PKPdf**	**19 40 02.6**	**-0.8**
MKAR	**Makanchi Array**	**125.45**	**18**	PKP	**PKPdf**	**19 40 02.0**	**-1.4**
	comp=Z,6.8nm,0.5s,baz=301,slow=2.5,SNR=115						
MKAR				PP	**PP**	**19 41 56.0**	**+1.3**
	comp=Z,11nm,1.1s,baz=5.7,slow=4.9,SNR=3.6						
MKAR				PKKPab	**PKKPab**	**19 49 41.3**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=147,slow=6.8,SNR=4.2						
MKAR				PKKP	**PKKPdf**	**19 50 20.7**	**-3.7**
	comp=Z,2.0nm,1.0s,baz=104,slow=3.9,SNR=4.2						
ABTO	**Aybut**	**125.57**	**65**	P	**PKiKP**	**19 40 04.8**	**-0.1**
ABTO				P	**PKPdf**	**19 40 05.3**	**+0.9**
ZSN	**Zaisan**	**125.61**	**16**	*e*PKIKP	**PKiKP**	**19 40 04.0**	**-0.1**
ZSN	**Zaisan**	**125.61**	**16**	*e*PKP	**PKiKP**	**19 40 04.0**	**-0.1**
TDK	**Taldyqorghan**	**125.69**	**22**	*e*PKIKP	**PKiKP**	**19 40 04.5**	**+0.2**
TDK	**Taldyqorghan**	**125.69**	**22**	*e*PKP	**PKiKP**	**19 40 04.5**	**+0.2**
EKS2	**Erkin-Say**	**125.69**	**27**	P	**PKiKP**	**19 40 05.7**	**+1.1**
	SNR=32						
BNX	**BinXian**	**125.73**	**340**	⇓PKP	**PKPdf**	**19 40 03.0**	**-0.9**
BNX				sPKP		19 40 43.6	
BNX				SS	SS	19 58 46.5	+0.5
BNX				AMB	AMB		
	comp=Z,540nm,7.6s						
BNX				LR	LR		
	comp=Z,690nm,16.3s						
BNX				LR	LR		
	comp=Z,390nm,13.6s						
BNX				LR	LR		
	comp=Z,480nm,20.6s						
WHFO	**Wadi Hawf**	**125.81**	**64**	P	**PKPdf**	**19 40 04.9**	**0.0**
SOHO	**SOHO**	**125.85**	**56**	P	**PKPdf**	**19 40 04.8**	**0.0**
CHMS	**Chumysh**	**125.86**	**26**	P	**PKiKP**	**19 40 06.0**	**+1.3**
	SNR=8.2						
DOK	**Doka**	**125.90**	**63**	P	**PKPdf**	**19 40 05.0**	**0.0**
MDJ	**Mudanjiang**	**125.90**	**337**	PKPdf	**PKiKP**	**19 40 04.8**	**+0.1**
MDJ	**Mudanjiang**	**125.90**	**337**	PKP	**PKPdf**	**19 40 04.5**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,630nm,6.0s						
MDJ				LR	LR		
	comp=Z,680nm,18.6s						
MDJ				LR	LR		
	comp=Z,400nm,15.1s						
MDJ				LR	LR		
	comp=Z,1μm,20.8s						
MDJ	**Mudanjiang**	**125.90**	**337**	P	**PKiKP**	**19 40 04.9**	**+0.1**
AAK	**Ala-Archa**	**126.03**	**27**		**PKiKP**	**19 40 05.9**	**+0.6**
AAK	**Ala-Archa**	**126.03**	**27**	P	**PKiKP**	**19 40 06.2**	**+0.9**
AAK	**Ala-Archa**	**126.03**	**27**	P	**PKiKP**	**19 40 06.2**	**+0.9**
	SNR=30						
AAK	**Ala-Archa**	**126.03**	**27***d*	*i*PKIKP	**PKiKP**	**19 40 06.1**	**+0.8**
AML	**Almayashu**	**126.07**	**28**	P	**PKiKP**	**19 40 06.6**	**+0.9**
	SNR=22						
CHKK	**Chushkaly**	**126.10**	**24**	*e*PKIKP	**PKiKP**	**19 40 05.1**	**-0.1**
CHKK	**Chushkaly**	**126.10**	**24**	*e*PKP	**PKiKP**	**19 40 05.2**	**0.0**
ARQ	**Araqi**	**126.17**	**57**	P	**PKPdf**	**19 40 04.7**	**-0.8**
KBK	**Karagaybulak**	**126.22**	**26**	P	**PKiKP**	**19 40 07.0**	**+1.3**
	SNR=7.5						
SIMJ	**Simiganj**	**126.29**	**34**		**PKiKP**	**19 40 05.9**	**0.0**
TKM2	**Tokmak 2**	**126.29**	**26**	P	**PKiKP**	**19 40 06.6**	**+0.7**
	SNR=16						
HOQ	**Hoqain**	**126.72**	**56**	P	**PKPdf**	**19 40 06.3**	**-0.2**
GAR	**Garm**	**126.75**	**32**		**PKiKP**	**19 40 07.2**	**+0.5**
TNSS	**Tian-Shan**	**126.76**	**24**	*e*PKIKP	**PKPdf**	**19 40 06.4**	**-0.1**
TNSS	**Tian-Shan**	**126.76**	**24**	*e*PKP	**PKPdf**	**19 40 06.5**	**-0.1**
DMTO	**DMTO**	**126.94**	**64**	P	**PKiKP**	**19 40 07.5**	**0.0**
MSHR	**Mys Shultsa**	**126.97**	**335**⇓	*e*PKIKP	**PKiKP**	**19 40 07.2**	**+0.3**
BSY	**Bisya**	**126.99**	**57**	P	**PKPdf**	**19 40 07.0**	**0.0**
	SNR=6.2						
ULHL	**Ulahol**	**127.12**	**26**	P	**PKiKP**	**19 40 08.6**	**+1.1**
	SNR=12						
SATY	**Saty**	**127.33**	**23**	*e*PKIKP	**PKPdf**	**19 40 07.5**	**+0.2**
SATY	**Saty**	**127.33**	**23**	*e*PKP	**PKPdf**	**19 40 07.5**	**+0.2**
BIDO	**Bidbid**	**127.43**	**56**	P	**PKiKP**	**19 40 08.3**	**0.0**
UZB	**Uzynbulak**	**127.50**	**23**	*e*PKIKP	**PKPdf**	**19 40 07.7**	**+0.1**
UZB				*e*		19 42 09.0	
UZB	**Uzynbulak**	**127.50**	**23**	*e*PKP	**PKPdf**	**19 40 07.7**	**+0.1**
UZB				*e*PP	**PP**	**19 42 09.1**	**+0.6**
SMDO	**Samad**	**127.56**	**56**	P	**PKPdf**	**19 40 08.0**	**-0.2**
KDJ	**Kajisay**	**127.61**	**25**		**PKiKP**	**19 40 08.8**	**+0.3**
SYDH	**Sydney Hard Ro**	**127.66**	**230**	P	**PKiKP**	**19 40 09.2**	**+0.7**
SHLS	**Shalkode**	**127.66**	**22**	*e*PKIKP	**PKiKP**	**19 40 08.4**	**-0.1**
SHLS				*e*		19 42 11.4	
SHLS	**Shalkode**	**127.66**	**22**	*e*PKP	**PKiKP**	**19 40 08.4**	**-0.1**
SHLS				*e*PP	**PP**	**19 42 11.4**	**+1.9**
ULN	**Ulaanbaatar**	**127.75**	**357**		**PKPdf**	**19 40 08.1**	**+0.2**
ULN	**Ulaanbaatar**	**127.75**	**357**⇓	*e*PKIKP	**PKPdf**	**19 40 07.2**	**-0.8**
SONM	**Songino Array**	**127.81**	**358**		**PKiKP**	**19 40 08.5**	**-0.2**
SONM	**Songino Array**	**127.81**	**358**	PKP	**PKPdf**	**19 40 08.2**	**+0.1**
	comp=Z,9.2nm,0.8s,baz=335,slow=1.0,SNR=43						
SONM				pPKP	**pPKPdf**	**19 40 42.3**	**-0.5**
	comp=Z,12nm,0.9s,baz=300,slow=1.0,SNR=7.6						
JMDO	**Jabal Madar**	**127.90**	**57**	P	**PKPdf**	**19 40 08.0**	**-0.7**
MAJO	**Matsushiro**	**128.04**	**325**		**PKPdf**	**19 40 08.3**	**-0.4**
MAJO	**Matsushiro**	**128.04**	**325**	P	**PKiKP**	**19 40 09.7**	**+0.4**
MAJO	**Matsushiro**	**128.04**	**325***c*	*e*PKIKP	**PKiKP**	**19 40 09.0**	**-0.3**
MJAR	**Matsushiro Arr**	**128.04**	**325**	PKP	**PKPdf**	**19 40 08.0**	**-0.7**
	comp=Z,15nm,0.8s,baz=72,slow=1.2,SNR=34						
MJB9	**Matsu-Tunnel**	**128.04**	**325**		**PKPdf**	**19 40 08.8**	**+0.1**
CNB	**Canberra Magne**	**128.06**	**228**	P	**PKiKP**	**19 40 10.3**	**+0.9**
CN2	**Changchun**	**128.10**	**340**	PKP	**PKPdf**	**19 40 08.8**	**+0.3**
CN2				LR	LR		
	comp=Z,500nm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
ARMA	**Armidale**	**128.18**	**234**		**PKiKP**	**19 40 10.1**	**+0.3**
ARMA	**Armidale**	**128.18**	**234**	P	**PKiKP**	**19 40 10.9**	**+1.1**
CAN	**Canberra**	**128.32**	**228**		**PKPdf**	**19 40 09.3**	**0.0**
CAN	**Canberra**	**128.32**	**228**	P	**PKiKP**	**19 40 11.0**	**+1.1**
MHTO	**MHTO**	**128.36**	**59**	P	**PKPdf**	**19 40 09.6**	**0.0**
DQM	**DQM**	**128.41**	**60**	P	**PKiKP**	**19 40 10.4**	**0.0**
WBK	**Wadi Bani Khal**	**128.52**	**56**	P	**PKPdf**	**19 40 10.0**	**+0.1**
TW1H	**Toowoomba 1 Ha**	**128.82**	**238**	P	**PKiKP**	**19 40 12.0**	**+0.9**
JLN	**Jalan Bani Buh**	**129.09**	**57**	P	**PKPdf**	**19 40 10.4**	**-0.6**
KBL	**Kabul**	**129.16**	**37**		**PKPdf**	**19 40 11.0**	**-0.1**
KBL	**Kabul**	**129.16**	**37**	P	**PKiKP**	**19 40 12.1**	**+0.3**
	SNR=8.2						
KSH	**Kashi**	**129.20**	**28**	PKP	**PKiKP**	**19 40 12.8**	**+1.1**
WUS	**Wushi**	**129.23**	**24**	PKPdf	**PKPdf**	**19 40 11.3**	**+0.3**
INU	**Inuyama**	**129.57**	**325**	P	**PKiKP**	**19 40 12.3**	**0.0**
WMQ	**Urumqi**	**129.72**	**15**	*e*PKP	**PKiKP**	**19 40 12.9**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,1μm,4.7s						
WMQ				LR	LR		
	comp=Z,1μm,16.7s						
WMQ				LR	LR		
	comp=Z,560nm,18.1s						
TOO	**Toolangi**	**129.76**	**223**		**PKiKP**	**19 40 12.6**	**-0.1**
GEXS	**Deakin Univers**	**130.25**	**222**	P	**PKiKP**	**19 40 15.1**	**+1.5**
SNY	**Shenyang**	**130.48**	**341**	SS	SS	19 59 35.3	-9.4
SNY				AMB	AMB		
	comp=Z,660nm,8.7s						
SNY				LR	LR		
	comp=N,540nm,22.7s						
SNY				LR	LR		
	comp=E,330nm,17.5s						
SNY				LR	LR		
	comp=Z,630nm,22.7s						
XLT	**XiLinHaoTe**	**130.55**	**348**	*e*PKP	**PKiKP**	**19 40 14.3**	**+0.1**
XLT				SS	SS	19 59 52.5	+7.0
XLT				LR	LR		
	comp=Z,53nm,18.1s						
XLT				LR	LR		
	comp=Z,440nm,15.9s						
XLT				LR	LR		
	comp=Z,400nm,18.0s						
RK1H	**Rockhampton Ha**	**131.28**	**243**	P	**PKiKP**	**19 40 16.3**	**+0.2**
RABL	**Rabaul**	**131.83**	**268**		**PKPdf**	**19 40 16.4**	**0.0**
NIL	**Nilore**	**132.26**	**35**		**PKPdf**	**19 40 17.2**	**+0.5**
CMSA	**Cobar Meteorol**	**132.45**	**231**	P	**PKiKP**	**19 40 18.0**	**-0.2**
JMN	**Monobe**	**132.53**	**326**	P	**PKiKP**	**19 40 21.2**	**+2.8**
KS19	**Wonju Array Si**	**132.58**	**334**		**PKiKP**	**19 40 18.0**	**-0.4**
KSRS	**Korea Array**	**132.60**	**334**	PKP	**PKPdf**	**19 40 17.3**	**+0.1**
	comp=Z,18nm,0.6s,baz=16,slow=2.0,SNR=44						
KSRS				pPKP	**pPKPdf**	**19 40 52.5**	**+0.4**
	comp=Z,26nm,0.9s,baz=23,slow=1.5,SNR=6.9						
KSRS				SKPbc	**SKPbc**	**19 43 33.0**	**+0.3**
	comp=Z,66nm,1.1s,baz=17,slow=3.2,SNR=25						
KSAR	**Wonju Array Be**	**132.63**	**334**		**PKPdf**	**19 40 17.6**	**+0.3**
DL2	**Dalian**	**133.76**	**341**	PKP	**PKPdf**	**19 40 14.1**	**-5.3**
DL2				sPKP		19 40 56.4	
DL2				AMB	AMB		
	comp=Z,400nm,5.7s						
BJI	**Beijing**	**134.22**	**347**	PKP	**PKiKP**	**19 40 22.4**	**+0.8**
BJI				SS	SS	20 00 37.8	+8.0
BJI				LR	LR		
	comp=Z,310nm,19.7s						
BJI				LR	LR		
	comp=Z,190nm,15.9s						
BJI				LR	LR		
	comp=Z,320nm,18.5s						
HHC	**Hu-ho-hao-te**	**134.29**	**352**⇑	*i*PKP	**PKiKP**	**19 40 22.6**	**+0.7**
HHC				PP	**PP**	**19 42 54.8**	**+2.8**
BTO	**Baotou**	**134.73**	**353**	*e*PKP	**PKPdf**	**19 40 20.3**	**-1.0**
BTO				PP	**PP**	**19 42 58.0**	**+3.3**
BTO				SS	SS	20 00 38.4	+2.4
BTO				LR	LR		
	comp=Z,1μm,17.9s						
BTO				LR	LR		
	comp=Z,1μm,17.4s						
BTO				LR	LR		
	comp=Z,2μm,23.7s						
DHRM	**DHARAMSHALA**	**135.02**	**34**	*e*P	**PKPdf**	**19 40 22.3**	**+0.1**
DHRM				IAmb	IAmb	19 40 29.3	
	comp=Z,36nm,1.2s						
STKA	**Stephens Creek**	**135.39**	**228**		**PKPdf**	**19 40 23.1**	**+0.4**
STKA	**Stephens Creek**	**135.39**	**228**	PKhKP	PKPpre	19 40 04.5	
	comp=Z,2.4nm,1.1s,baz=132,slow=6.9,SNR=3.0						
STKA				PKP	**PKPdf**	**19 40 23.4**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=104,slow=2.9,SNR=5.4						
STKA				pPKP	pPKPdf	19 40 57.5	+0.1
	comp=Z,20nm,0.8s,baz=76,slow=1.3,SNR=5.5						
STKA				SKPbc	**SKPbc**	**19 43 42.0**	**-0.1**
	comp=Z,12nm,0.9s,baz=103,slow=3.6,SNR=5.5						
STKA	**Stephens Creek**	**135.39**	**228**	P	**PKiKP**	**19 40 23.7**	**-0.5**
STKA	**Stephens Creek**	**135.39**	**228***de*	PKiKP	**PKPdf**	**19 40 23.2**	**+0.6**
GUMO	**Guam**	**135.48**	**294**	PKP	**PKPdf**	**19 40 22.6**	**-0.6**
	comp=Z,125nm,0.9s,baz=6.3,slow=19,SNR=4.5						
TV1H	**Townsville Har**	**135.65**	**247**	P	**PKiKP**	**19 40 24.8**	**-0.2**
GTA	**Gaotai**	**136.12**	**5**	*e*P	PKPpre	19 40 20.0	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA	**Gaotai**	**136.12**	**5**	PKP	**PKPdf**	**19 40 24.3**	**+0.3**
GTA				SS	SS	20 00 53.6	+0.9
GTA				LR	LR		
	comp=Z,600nm,21.1s						
GTA				LR	LR		
	comp=Z,430nm,20.7s						
GTA				LR	LR		
	comp=Z,660nm,20.7s						
SMLA	**Simla**	**136.35**	**34**	*e*P	**PKPdf**	**19 40 24.8**	**+0.3**
SMLA				IAmb	IAmb	19 40 27.4	
	comp=Z,18nm,0.7s						
MANU	**Manus Island**	**136.49**	**272**	PKPdf	**PKPdf**	**19 40 26.0**	**+0.8**
PMG	**Port Moresby**	**136.76**	**261**	PKP	**PKPdf**	**19 40 24.7**	**-0.9**
	comp=Z,25nm,1.0s,baz=44,slow=2.1,SNR=4.5						
HNS	**HongShan**	**137.08**	**347**	⇓PKP	**PKPdf**	**19 40 25.4**	**-0.2**
HNS				PKS	**PKSdf**	**19 43 59.0**	**-2.8**
HNS				LR	LR		
	comp=Z,730nm,19.6s						
DDI	**Dehra Dun**	**137.46**	**34**	*e*P	**PKPdf**	**19 40 25.9**	**-0.7**
TIA	**Tai'an**	**137.61**	**344**	PKP	PKPpre	19 40 19.8	
TIA				PP	PP	19 43 50.0	+37
TIA	**Tai'an**	**137.61**	**344**	SS	SS	20 01 00.0	-10
TIA				AMB	AMB		
	comp=Z,1μm,10.2s						
TIA				LR	LR		
	comp=N,510nm,16.9s						
TIA				LR	LR		
	comp=E,510nm,17.5s						
TIA				LR	LR		
	comp=Z,880nm,19.6s						
JOSI	**Joshimath**	**138.09**	**32**	*e*P	**PKPdf**	**19 40 27.3**	**-0.6**
JOSI				IAmb	IAmb	19 40 31.1	
	comp=Z,28nm,0.7s						
MTSU	**Mount Surprise**	**138.20**	**248**	P	**PKPdf**	**19 40 28.7**	**+0.5**
GOMU	**GeErMu**	**138.61**	**11**	PKP	PKPpre	19 40 23.1	
GOMU				AMB	AMB		
	comp=Z,1μm,7.5s						
GOMU				LR	LR		
	comp=Z,520nm,17.2s						
GOMU				LR	LR		
	comp=Z,1μm,16.0s						
GOMU				LR	LR		
	comp=Z,670nm,19.4s						
BBOO	**Buckleboo**	**138.82**	**223**	PKPdf	**PKPdf**	**19 40 28.9**	**-0.1**
LGTI	**Lohaghat**	**139.32**	**32**	*e*P	**PKPdf**	**19 40 28.6**	**-1.4**
LGTI				IAmb	IAmb	19 41 07.8	
	comp=Z,56nm,1.4s						
LZH	**Lanzhou**	**139.60**	**0**	*e*P	PKPpre	19 40 24.4	
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LZH	**Lanzhou**	**139.60**	**0**	*e*PKP	**PKiKP**	**19 40 33.8**	**+0.9**
LZH				sPKP		19 41 07.3	
LZH				SS	SS	20 01 33.5	-0.3
LZH				AMB	AMB		
	comp=Z,510nm,9.0s						
LZH				LR	LR		
	comp=Z,850nm,19.9s						
LZH				LR	LR		
	comp=Z,770nm,17.2s						
LZH				LR	LR		
	comp=Z,950nm,17.5s						
COEN	**Coen**	**140.13**	**254**	PKPdf	**PKPdf**	**19 40 32.5**	**+0.7**
LYN	**LuoYang**	**140.29**	**349**	PKP	**PKPdf**	**19 40 30.1**	**-1.5**
NJ2	**Nanjing**	**140.92**	**340**	⇑PKP	**PKPdf**	**19 40 33.4**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,870nm,5.9s						
GUNA	**GUNA**	**141.19**	**40**	*e*P	**PKPdf**	**19 40 32.7**	**-0.8**
XAN	**Xi'an**	**141.34**	**353**	⇑PKP	**PKPdf**	**19 40 33.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,750nm,5.5s						
JHNI	**Jhansi**	**141.37**	**38**	*e*P	**PKPdf**	**19 40 33.6**	**-0.2**
JHNI				IAmb	IAmb	19 40 38.4	
	comp=Z,32nm,0.9s						
BHPL	**Bhopal**	**142.22**	**42**	*e*P	**PKPdf**	**19 40 32.5**	**-2.9**
BHPL				IAmb	IAmb	19 40 39.3	
	comp=Z,16nm,0.6s						
NRDN	**NARMADA NAGAR**	**142.41**	**43**	*e*P	**PKPdf**	**19 40 33.5**	**-2.2**
NRDN				IAmb	IAmb	19 40 38.5	
	comp=Z,40nm,1.4s						
JAY	**Jayapura**	**143.16**	**272**	PKP	PKPbc	19 40 35.5	+0.9
ALBI	**Allahabad**	**143.42**	**35**	*e*P	**PKPdf**	**19 40 36.3**	**-1.1**
KAD	**Karad**	**143.55**	**53**	*e*P	**PKPdf**	**19 40 37.3**	**-0.6**
KAD				IAmb	IAmb	19 40 38.0	
	comp=Z,104nm,1.3s						
AKL	**Akola**	**143.64**	**45**	*e*P	PKPbc	19 40 35.8	+0.1
AKL				IAmb	IAmb	19 40 37.3	
	comp=Z,73nm,0.9s						
GENI	**Genyem**	**143.70**	**272**	PKP	PKPbc	19 40 37.0	+0.9
WHN	**Wuhan**	**143.71**	**345**	PKP	PKPbc	19 40 35.8	+0.2
WHN				pPKP	pPKPdf	19 41 06.3	-6.4
WHN				LR	LR		
	comp=Z,2μm,17.2s						
LSA	**Lhasa**	**143.85**	**19**	PKP	PKPbc	19 40 36.8	+0.1
LSA	**Lhasa**	**143.85**	**19**	P	PKPbc	19 40 37.5	+0.8
CD2	**Chengdu**	**144.76**	**0**	PKP	**PKPab**	**19 40 38.8**	**0.0**
CD2				pPKP	pPKPdf	19 41 10.8	-3.7
CD2				PP	**PP**	**19 43 56.8**	**+0.6**
CD2				SKS	**SKSdf**	**19 47 38.0**	**+0.4**
CD2				AMB	AMB		
	comp=Z,160nm,5.6s						
CD2				LR	LR		
	comp=Z,730nm,24.0s						
CD2				LR	LR		
	comp=Z,480nm,20.9s						
ENH	**Enshi**	**144.98**	**351**		PKPbc	19 40 38.9	-0.7
GTK	**Tadong**	**145.08**	**24**	*e*P	**PKPdf**	**19 40 41.0**	**+0.5**
SMPI	**Sarmi**	**145.11**	**273**	PKP	**PKPdf**	**19 40 41.4**	**+0.7**
WAMI	**Wamena**	**145.23**	**270**	PKP	**PKPab**	**19 40 41.4**	**+0.4**
AS31	**Alice Springs**	**145.33**	**234**		**PKPdf**	**19 40 39.8**	**-1.1**
ASAR	**Alice Springs**	**145.33**	**234**		**PKPdf**	**19 40 40.0**	**-0.9**
ASAR	**Alice Springs**	**145.33**	**234**	PKPbc	**PKPdf**	**19 40 39.6**	**-1.2**
	comp=Z,310nm,0.8s,baz=120,slow=3.5,SNR=546						
ASAR				pPKP	pPKPab	19 41 15.0	-0.1
	comp=Z,136nm,1.0s,baz=121,slow=3.8,SNR=5.1						
ASAR				SKPbc	**SKPbc**	**19 44 06.4**	**-2.5**
	comp=Z,23nm,0.9s,baz=132,slow=1.8,SNR=7.3						
FORT	**Forrest**	**145.33**	**218**		**PKPdf**	**19 40 40.2**	**-0.4**
BLSP	**Bilaspur**	**146.04**	**38**	*e*P	**PKPbc**	**19 40 43.1**	**0.0**
BLSP				IAmb	IAmb	19 40 45.8	
	comp=Z,354nm,1.2s						
TAWA	**Tawang**	**146.04**	**19**	*e*P	**PKPab**	**19 40 43.9**	**-0.1**
CNSH	**ChangSha**	**146.32**	**345**	PKPbc	**PKPbc**	**19 40 43.3**	**-0.4**
CNSH				PP	**PP**	**19 44 11.8**	**+6.3**
CNSH				AMB	AMB		
	comp=Z,670nm,4.7s						
CNSH				LR	LR		
	comp=Z,470nm,17.6s						
CNSH				LR	LR		
	comp=Z,760nm,16.5s						
CNSH				LR	LR		
	comp=Z,340nm,14.9s						
MNGI	**Mangalore**	**146.35**	**59**	*e*P	**PKPbc**	**19 40 44.3**	**+0.2**
MNGI				IAmb	IAmb	19 40 48.6	
	comp=Z,67nm,0.9s						
WR0	**Warramunga Arr**	**146.41**	**240**		**PKPbc**	**19 40 43.7**	**-0.5**
WRAB	**Tennant Creek**	**146.59**	**240***d*	*i*PKP2	**PKPbc**	**19 40 44.2**	**-0.5**
WRA	**Warramunga Arr**	**146.59**	**240**	PKPbc	**PKPdf**	**19 40 42.9**	**-0.1**
	comp=Z,198nm,0.8s,baz=114,slow=3.5,SNR=258						
WRA				pPKPab	**pPKPdf**	**19 41 18.2**	**+0.2**
	comp=Z,102nm,0.9s,baz=109,slow=2.7,SNR=5.2						
WRA				SKPbc	**SKPbc**	**19 44 11.3**	**-0.5**
	comp=Z,40nm,0.9s,baz=109,slow=1.9,SNR=5.9						
WB0	**Warramunga Arr**	**146.61**	**240**		**PKPbc**	**19 40 43.9**	**-0.9**
BOK	**Bokaro**	**146.85**	**31**	*e*P	**PKPbc**	**19 40 44.6**	**-0.7**
BOK				IAmb	IAmb	19 40 47.3	
	comp=Z,226nm,1.2s						
HYB	**Hyderabad**	**146.85**	**48**	*e*PKPdf	**PKPdf**	**19 40 42.9**	**-0.6**
HYB				*e*PKPbc	**PKPbc**	**19 40 46.3**	**+0.7**
HYB				*e*PKPab	**PKiKP**	**19 40 48.1**	**+0.1**
HYB				*e*PKiKP	**PKPab**	**19 40 48.5**	**+1.5**
HYB				*ep*PKPab	pPKPbc	19 41 19.1	-0.7
HYB				*ep*PKiKP	pPKPab	19 41 21.1	+0.3
HYB				*es*PKiKP	sPKPab	19 41 34.2	-0.1
HYB				*e*SKSdf	**SKSdf**	**19 47 41.4**	**+0.4**
HYB				*e*PKKPdf	**PKKPdf**	**19 49 42.7**	**-0.4**
HYB				*e*SKKSac	**SKKSac**	**19 50 48.3**	**-2.3**
KNTI	**KHUNTI**	**147.13**	**33**	*e*P	**PKPdf**	**19 40 44.6**	**+0.7**
KNTI				IAmb	IAmb	19 40 47.9	
	comp=Z,92nm,0.9s						
GUWA	**GUWAHATI**	**147.27**	**20**	*e*P	**PKPbc**	**19 40 45.8**	**-0.6**
SSLB	**Suanglung**	**147.28**	**330**		**PKPbc**	**19 40 45.8**	**-0.9**
QZH

comp=Z,514nm,0.9s,baz=72,slow=19,SNR=15
TGY pPKPab **pPKPab** **19 41 55.3 +1.4**
comp=Z,222nm,0.3s,baz=45,slow=2.9,SNR=3.2
QIZ Qiongzhong 155.86 346 PKP **PKPdf** **19 40 57.3 +0.2**
QIZ pPKP **PKPab** **19 41 24.5 +0.3**
QIZ sPKP 19 41 37.3
QIZ PP **PP** **19 45 00.8 +0.7**
QIZ SS SS 20 04 39.8 +3.2
QIZ AMB AMB
comp=Z,420nm,5.5s
QIZ LR LR
comp=Z,440nm,13.8s
QIZ LR LR
comp=Z,600nm,14.3s
QIZ LR LR
comp=Z,630nm,17.3s
CHTO Chiang Mai 156.31 12 **PKPdf** **19 40 57.2 -0.5**
CHTO PKPab **PKPab** **19 41 25.9 -0.2**
CHTO Chiang Mai 156.31 12 P **PKPdf** **19 40 60.0 +2.2**
CMAR Chiang Mai Arr 156.65 12 PKP **PKPdf** **19 40 58.5 +0.4**
comp=Z,11nm,0.9s,baz=302,slow=2.2,SNR=56
CMAR PKPab **PKPab** **19 41 26.9 -0.8**
comp=Z,2.4nm,0.7s,baz=336,slow=3.1,SNR=4.8
KKM Kota Kinabalu 163.79 310 PKPdf **PKPdf** **19 41 05.8 -0.6**
JAGI Jajag, Banyuwa 169.04 249 **PKPab** **19 42 21.3 -1.1**
SBUM Sibu 169.14 309 **PKPdf** **19 41 09.8 -0.5**
KSM Kuching 171.21 313 PKPdf **PKPdf** **19 41 10.6 -1.0**
KSM **PKPab** **19 42 30.4 -1.5**
MYKOM Kota Tinggi 173.72 360 **PKPdf** **19 41 11.6 -1.0**

*IDC **23** 19:27:00.9±2.5, 4°.43S×133°.36E, h0km, mb3.4/2, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=124.1km s-min=26.2km az=83.0*
ISC 23 19:27:04.8±1.4, 4°.71S±0°.09×133°.4E±0°.3, h35km, n5, σ2°12/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.17**	**177**	Pn	**P**	**19 30 39.4**	**-1.9**
	0.3nm,0.3s,baz=356,slow=13,SNR=8.0						
WRA				Sn	**Sn**	**19 33 24.0**	**+0.4**
	0.2nm,0.3s,baz=356,slow=23,SNR=1.8						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.31**	**209**	Pn	**P**	**19 30 41.9**	**-0.9**
	0.5nm,0.3s,baz=33,slow=9.3,SNR=9.1						
FITZ				Sn	**Sn**	**19 33 27.3**	**+0.5**
	0.2nm,0.3s,baz=296,slow=18,SNR=1.6						
	3.9nm,0.7s						
ASAR	**Alice Springs**	**18.86**	**178**	P	**Pn**	**19 31 26.3**	**+3.5**
	0.3nm,0.3s,baz=4.9,slow=12,SNR=44						
ASAR				S	**S**	**19 34 52.4**	**-2.2**
	0.3nm,0.6s,baz=359,slow=27,SNR=1.6						
	3.0nm,0.6s						
SONM	**Songino Array**	**57.44**	**339**	P	**P**	**19 36 50.4**	**+0.2**
	0.2nm,0.4s,baz=130,slow=5.8,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**68.22**	**325**	P	**P**	**19 38 01.4**	**-0.5**
	0.3nm,0.6s,baz=104,slow=6.1,SNR=3.0						
	0.3nm,0.6s						

*NNC **23** 19:32:16.7±2.2, 46°.58N×84°.32E, h0km, mb2.2, mpv2.1, Error ellipse: s-maj=15.4km s-min=6.7km az=98.0*
*SOME **23** 19:32:17.1, 46°.70N×83°.93E, h5km*
*ASRS **23** 19:32:19.9±0.5, 47°.N±3°.×8°.4E±°, h9km, MLh3.0/10, Error ellipse: s-maj=7.4km s-min=2.7km az=150.8, confirmed*
ISC 23 19:32:18.5±1.2, 46°.62N±0°.07×84°.23E±0°.04, h10km, n17, σ1°71/34, 4C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.94**	**28**	*e*P	**Pg**	**19 32 35.8**	**-0.8**
	38nm,0.2s						
ZSN				*e*S	**Sb**	**19 32 49.7**	**+0.4**
	31nm,0.2s						
MK31	**Makanchi Array**	**1.34**	**278**	⇑P	**Pn**	**19 32 42.9**	**-0.5**
	0.3nm,0.1s,baz=99,slow=16,SNR=152						
MK31				⇑S	**Sg**	**19 33 01.5**	**-0.2**
	2.2nm,0.2s,baz=98,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**1.34**	**278**	Pg	**Pb**	**19 32 43.0**	**-0.7**
MKAR				Sg	**Sg**	**19 33 02.3**	**+0.6**
MAKZ	**Makanchi**	**1.56**	**278**	⇑P	**Pb**	**19 32 46.3**	**-1.1**
	0.5nm,0.2s						
MAKZ				⇓S	**Sg**	**19 33 08.7**	**+0.1**
	2.3nm,0.2s						
MAKZ	**Makanchi**	**1.56**	**278**	Pg	**Pb**	**19 32 46.7**	**-0.8**
MAKZ				Sg	**Sg**	**19 33 08.7**	**+0.1**
DGZ	**Jazzator, Alta**	**3.75**	**34**	Pn	**Pn**	**19 33 18.0**	**+1.4**
DGZ				Pg	**Pg**	**19 33 29.0**	**-1.4**
DGZ				Sg	**Sg**	**19 34 16.3**	**-2.7**
DJR	**Jarkent**	**3.87**	**235**	*e*P	**Pb**	**19 33 26.5**	**-0.3**
	0.4nm,0.1s						
DJR				*e*S	**Sb**	**19 34 16.5**	**+2.7**
	2.3nm,0.3s						
CHBI	**Chibit, Altay**	**4.29**	**29**	Pn	**Pn**	**19 33 26.1**	**+2.2**
CHBI				Pg	**Pb**	**19 33 35.1**	**+1.1**
CHBI				Sg	**Sg**	**19 34 34.3**	**-1.9**
AKAR	**Aktash**	**4.33**	**30**	Pn	**Pn**	**19 33 26.8**	**+2.3**
AKAR				Pg	**Pb**	**19 33 35.4**	**+0.6**
AKAR				Sg	**Sg**	**19 34 37.4**	**-0.2**
UKR	**Ust'-Kan**	**4.33**	**5**	Pn	**Pn**	**19 33 26.6**	**+2.1**
UKR				Pg	**Pb**	**19 33 36.9**	**+2.2**
UKR				Sg	**Sg**	**19 34 36.5**	**-1.1**
CUR	**Chagan-Uzun**	**4.43**	**37**	Pn	**Pn**	**19 33 23.0**	**-2.9**
CUR				Pg	**Pb**	**19 33 35.4**	**-1.1**
CUR				Sg	**Sg**	**19 34 40.8**	**0.0**
ULGR	**Ulagan, Altay**	**4.71**	**30**	Pn	**Pn**	**19 33 33.3**	**+3.7**
ULGR				Pg	**Pg**	**19 33 46.7**	**-1.9**
ULGR				Sg	**Sg**	**19 34 49.7**	**+0.1**
ELDR	**Elanda**	**4.76**	**14**	Pg	**Pb**	**19 33 44.0**	**+2.0**
ELDR				Sg	**Sg**	**19 34 48.9**	**-2.4**
KURBB	**Kurchatov Arra**	**5.50**	**319**	⇓Lg	Lg	19 35 12.9	
	7.7nm,0.7s						
KURK	**Kurchatov**	**5.53**	**320**	⇑Lg	Lg	19 35 10.7	
	7.0nm,0.6s						
KURK	**Kurchatov**	**5.53**	**320**	Sg	**Sg**	**19 35 13.5**	**-2.3**
TEL	**Teeli**	**5.91**	**40**	Sg	**Sg**	**19 35 27.1**	**-1.0**

*GCG **23** 19:41:55.7±1.5, 13°.86N×90°.71W, h71km±8km, MD3.8, ML3.4, MW3.3*
*CATAC **23** 19:41:55.2±0.7, 14°.N±4°.×9°.1W±°, h26km±5km, M4.0/12, MLv4.0/12, Error ellipse: s-maj=9.3km s-min=3.1km az=26.1, confirmed*
*SNET **23** 19:41:58.5±0.9, 13°.73N×90°.53W, h14km±13km, ML3.7*
ISC 23 19:41:56.2±2.5, 13°.7N±0°.1×90°.78W±0°.06, h32km±16km, n60, σ0°64/66, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.30**	**116**	*e*P		19 42 05.8	
ESSJ				*i*S		19 42 15.2	
FG8	**Yepocapa, Chim**	**0.60**	**21**	*i*P		19 42 10.4	
FG8				*i*S		19 42 21.3	
ESSG	**Sabana Grande**	**0.69**	**356**	*i*P	**Pn**	**19 42 09.1**	**-0.6**
ESSG				*i*S	**Sb**	**19 42 19.2**	**+0.1**
ESSG				IAML		19 42 21.0	
	comp=Z,3μm,0.3s						
ESSG	**Sabana Grande**	**0.69**	**356**	*i*P		19 42 09.1	
ESSG				*i*S		19 42 19.2	
ESSG				IAML		19 42 21.0	
	comp=Z,3μm,0.3s						
FAME	**Alcaldia de Sa**	**0.76**	**79**	S	**Sn**	**19 42 20.4**	**-0.6**
STG0	**El Palmar, Qui**	**0.91**	**323**	*e*P		19 42 17.3	
STG0				*i*S		19 42 33.5	
STG8	**El Palmar, Qui**	**0.93**	**324**	*e*P		19 42 17.8	
STG8				*i*S		19 42 33.4	
NUBE	**Las Nubes**	**0.99**	**78**	P	**Pn**	**19 42 13.5**	**-0.5**
NUBE	**Las Nubes**	**0.99**	**78**	S	**Sn**	**19 42 26.6**	**-0.4**
NUBE	**Las Nubes**	**0.99**	**78**	S	**Sn**	**19 42 27.2**	**+0.2**
NUBE	**Las Nubes**	**0.99**	**78**	P	**Pn**	**19 42 13.5**	**-0.5**
NUBE	**Las Nubes**	**0.99**	**78**	*e*P	**Pn**	**19 42 13.4**	**-0.7**
NUBE				*e*S	**Sn**	**19 42 26.7**	**-0.4**
NUBE	**Las Nubes**	**0.99**	**78**	*e*P		19 42 13.4	
NUBE				*e*S		19 42 26.7	
LOAL	**Lomas de Alarc**	**1.02**	**73**	P	**Pn**	**19 42 14.2**	**-0.1**
LOAL	**Lomas de Alarc**	**1.02**	**73**	S	**Sb**	**19 42 28.4**	**-0.1**
LOAL	**Lomas de Alarc**	**1.02**	**73**	S	**Sb**	**19 42 28.5**	**+0.1**
LOAL	**Lomas de Alarc**	**1.02**	**73**	P	**Pn**	**19 42 14.4**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.02**	**71**	P	**Pn**	**19 42 14.3**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.02**	**71**	S	**Sb**	**19 42 28.5**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.02**	**71**	S	**Sb**	**19 42 28.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.02**	**71**	P	**Pn**	**19 42 14.3**	**0.0**
CEVE	**Cerro Verde**	**1.13**	**83**	*e*P	**Pn**	**19 42 15.6**	**-0.4**
CEVE				IAML		19 42 31.8	
	comp=Z,4μm,0.3s						
CEVE	**Cerro Verde**	**1.13**	**83**	P	**Pn**	**19 42 15.7**	**-0.4**
CEVE	**Cerro Verde**	**1.13**	**83**	S	**Sn**	**19 42 30.9**	**+0.4**
CEVE	**Cerro Verde**	**1.13**	**83**	S	**Sn**	**19 42 31.8**	**+1.2**
CEVE	**Cerro Verde**	**1.13**	**83**	P	**Pn**	**19 42 15.7**	**-0.4**
UNIC	**Universidad Ca**	**1.23**	**76**	S	**Sn**	**19 42 33.6**	**+0.8**
UNIC	**Universidad Ca**	**1.23**	**76**	P	**Pn**	**19 42 17.3**	**+0.1**
UNIC	**Universidad Ca**	**1.23**	**76**	S	**Sn**	**19 42 33.4**	**+0.6**
UNIC	**Universidad Ca**	**1.23**	**76**	P	**Pn**	**19 42 17.0**	**-0.2**
SOKI	**Kika Raxquin**	**1.27**	**332**	*e*P	**Pn**	**19 42 18.2**	**+0.1**
	comp=Z,1μm,0.7s						
SOKI				*e*S	**Sn**	**19 42 34.8**	**+0.6**
SOKI				IAML		19 42 37.9	
	comp=Z,1μm,0.7s						
SOKI	**Kika Raxquin**	**1.27**	**332**	*e*P		19 42 18.2	
	comp=Z,1μm,0.7s						
SOKI				*e*S		19 42 34.8	
SOKI				IAML		19 42 37.9	
	comp=Z,1μm,0.7s						
JAYA	**Jayaque - finc**	**1.29**	**92**	*e*P	**Pn**	**19 42 17.5**	**-0.7**
JAYA				IAML		19 42 41.1	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**1.29**	**92**	S	**Sn**	**19 42 34.4**	**-0.2**
JAYA	**Jayaque - finc**	**1.29**	**92**	P	**Pn**	**19 42 17.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.29**	**92**	S	**Sn**	**19 42 34.3**	**-0.2**
JAYA	**Jayaque - finc**	**1.29**	**92**	P	**Pn**	**19 42 17.4**	**-0.7**
JAYA	**Jayaque - finc**	**1.29**	**92**	*e*P	**Pn**	**19 42 17.2**	**-0.9**
JAYA				*i*S	**Sn**	**19 42 34.2**	**-0.3**
JAYA	**Jayaque - finc**	**1.29**	**92**	*e*P		19 42 17.2	
JAYA				*i*S		19 42 34.2	
CEDA	**San Andres**	**1.35**	**85**	*e*P	**Pn**	**19 42 18.4**	**-0.4**
CEDA				IAML		19 42 41.9	
	comp=Z,1μm,0.2s						
QUEO	**Labor Ovalle**	**1.37**	**329**	*i*S	**Sn**	**19 42 38.7**	**+2.2**
QUEO	**Labor Ovalle**	**1.37**	**329**	*i*S		19 42 38.7	
PMON	**Piamonte**	**1.43**	**89**	S	**Sn**	**19 42 37.8**	**+0.2**
PMON	**Piamonte**	**1.43**	**89**	P	**Pn**	**19 42 19.7**	**-0.2**
PMON	**Piamonte**	**1.43**	**89**	S	**Sn**	**19 42 37.6**	**0.0**
PMON	**Piamonte**	**1.43**	**89**	P	**Pn**	**19 42 19.8**	**-0.2**
BOQS	**Boqueron**	**1.46**	**88**	*e*P	**Pn**	**19 42 20.5**	**0.0**
UEES	**Universidad Ev**	**1.50**	**89**	S	**Sn**	**19 42 39.3**	**-0.1**
MTO3	**Montecristo**	**1.54**	**63**	S	**Sb**	**19 42 43.7**	**0.0**
MTO3	**Montecristo**	**1.54**	**63**	P	**Pn**	**19 42 21.0**	**-0.6**
MTO3	**Montecristo**	**1.54**	**63**	P	**Pn**	**19 42 21.1**	**-0.6**
MTO3	**Montecristo**	**1.54**	**63**	*i*P	**Pn**	**19 42 21.1**	**-0.6**
MTO3				IAML		19 42 44.5	
	comp=Z,111nm,0.3s						
MTO3	**Montecristo**	**1.54**	**63**	*i*P		19 42 21.1	
MTO3				IAML		19 42 44.5	
	comp=Z,111nm,0.3s						
PANCS	**Alcalda de**	**1.56**	**93**	P	**Pn**	**19 42 21.4**	**-0.2**
PANCS	**Alcalda de**	**1.56**	**93**	S	**Sn**	**19 42 40.1**	**-0.8**
PANCS	**Alcalda de**	**1.56**	**93**	P	**Pn**	**19 42 21.5**	**-0.2**
LOMA	**Loma Larga**	**1.56**	**92**	P	**Pn**	**19 42 21.9**	**+0.1**
LOMA	**Loma Larga**	**1.56**	**92**	S	**Sn**	**19 42 40.7**	**-0.4**
LOMA	**Loma Larga**	**1.56**	**92**	P	**Pn**	**19 42 22.0**	**+0.1**
LFRS	**El Faro**	**1.67**	**92**	*e*P	**Pn**	**19 42 23.5**	**+0.2**
LFRS				*e*S	**Sn**	**19 42 43.6**	**-0.1**
SMCA	**Catarina**	**1.71**	**313**	*e*P	**Pn**	**19 42 23.1**	**-0.6**
SMCA				*i*S	**Sn**	**19 42 43.0**	**-1.4**
SMCA	**Catarina**	**1.71**	**313**	*e*P		19 42 23.1	
SMCA				*i*S		19 42 43.0	
COEG	**Centro de Oper**	**1.85**	**92**	*e*P	**Pn**	**19 42 25.8**	**+0.1**
COEG	**Centro de Oper**	**1.85**	**92**	P	**Pn**	**19 42 26.1**	**+0.4**
COEG	**Centro de Oper**	**1.85**	**92**	P	**Pn**	**19 42 25.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.00**	**90**	P	**Pn**	**19 42 27.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**2.00**	**90**	P	**Pn**	**19 42 27.4**	**-0.3**
PQSS	**Presa 15 de Se**	**2.16**	**92**	P	**Pn**	**19 42 29.8**	**-0.1**
PACA	**Pacayal**	**2.40**	**95**	P	**Pn**	**19 42 35.6**	**+2.3**
BLLM	**Bellamira**	**2.49**	**96**	*e*P	**Pn**	**19 42 35.8**	**+1.4**
CNCH	**Conchagua**	**2.90**	**98**	P	**Pn**	**19 42 40.0**	**-0.2**

IDC 23 19:47:47.8±9.8, 31°.37S×179°.56W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=424.7km s-min=62.4km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.39**	**201**	Sn	Sn	19 50 54.9	-6.7
	2.3nm,0.3s,baz=228,slow=22,SNR=11						
ASAR	**Alice Springs**	**41.73**	**269**	P	P	19 55 38.6	-0.2
	0.4nm,0.3s,baz=106,slow=7.1,SNR=6.4						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**42.81**	**274**	P	P	19 55 47.5	-0.1
	0.8nm,0.3s,baz=114,slow=8.2,SNR=7.1						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**145.57**	**338**	PKPbc	PKPdf	20 07 26.6	-0.7
	4.9nm,0.9s,baz=67,slow=3.6,SNR=3.7						

*IDC **23** 19:49:32.2±2.3, 6°.41S×146°.76E, h107km±22km, mb3.4/5, mbtmp3.9/8, MS4.3/1, Error ellipse: s-maj=33.0km s-min=18.2km az=70.0*
ISC 23 19:49:31.8±1.2, 6°.4S±0°.1×146°.7E±0°.2, h100km, n9, σ0°84/9, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.07**	**172**	P	**Pn**	**19 50 19.7**	**+1.2**
	51nm,0.3s,baz=349,slow=5.2,SNR=76						
PMG				S	**Sn**	**19 50 54.1**	**-0.3**
	132nm,0.5s,baz=168,slow=19,SNR=34						
JAY	**Jayapura**	**7.11**	**302**	P	**Pn**	**19 51 13.6**	**+0.3**
	5.0nm,0.5s,baz=152,slow=7.5,SNR=5.8						
WRA	**Warramunga Arr**	**18.10**	**221**	P	**P**	**19 53 34.9**	**-1.0**
	3.5nm,0.5s,baz=41,slow=12,SNR=16						
ASAR	**Alice Springs**	**21.18**	**214**	P	**P**	**19 54 08.9**	**-0.4**
	2.1nm,0.3s,baz=52,slow=8.9,SNR=154						
	2.1nm,0.3s						
STKA	**Stephens Creek**	**25.85**	**190**	P	**P**	**19 54 53.3**	**-0.7**
	0.9nm,0.3s,baz=18,slow=8.4,SNR=4.2						
	0.9nm,0.3s						
URZ	**Urewera**	**42.03**	**144**	LR	LR	20 16 13.3	
	comp=Z,374nm,18.0s,baz=186,slow=38						
CMAR	**Chiang Mai Arr**	**53.18**	**299**	P	**P**	**19 58 40.8**	**+0.7**
	0.7nm,0.6s,baz=122,slow=4.9,SNR=6.4						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**77.59**	**321**	P	**P**	**20 01 16.8**	**-0.3**
	0.2nm,0.6s,baz=79,slow=6.3,SNR=2.1						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.91**	**23**	P	**P**	**20 01 59.8**	**-0.5**
	0.4nm,0.7s,baz=245,slow=4.8,SNR=6.8						
	0.4nm,0.7s						

BUC 23 20:02:16.1±0.3, 45°.57N×26°.42E, h114km±2km, ml3.5/47, 57C-32D, Error ellipse: s-maj=1.7km s-min=1.3km az=171.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.16**	**213**	⇑P	Pn	20 02 32.8	+0.8
NEHR				⇑S	Sn	20 02 43.6	-0.3
BISRR	**Bisoca**	**0.20**	**95**	⇑P	Pn	20 02 32.8	+0.7
BISRR				⇑S	Sn	20 02 45.7	+1.5
SPBR	**Spulber**	**0.29**	**51**	⇓P	Pn	20 02 33.2	+0.8
SPBR				⇑S	Sn	20 02 45.3	+0.7
COVR	**Voineasa-Covas**	**0.32**	**332**	⇑P	Pn	20 02 32.7	+0.2
COVR				⇓S	Sn	20 02 44.8	0.0
PLOR	**Plostina**	**0.33**	**29**	⇓P	Pn	20 02 32.7	+0.2
PLOR				⇑S	Sn	20 02 45.3	+0.4
MLR	**Muntele Rosu**	**0.34**	**258**	⇑P	Pn	20 02 33.5	+0.8
MLR				⇑S	Sn	20 02 45.7	+0.5
VRI	**Vrincioaia**	**0.37**	**35**	⇑P	Pn	20 02 33.1	+0.4
VRI				⇑S	Sn	20 02 45.4	+0.2
ISR	**Istrita**	**0.46**	**169**	⇓P	Pn	20 02 34.1	+0.9
ISR				⇓S	Sn	20 02 47.2	+1.2
ODBI	**Odobesti**	**0.49**	**66**	⇓S	Sn	20 02 47.6	+1.3
PANC	**Panciu**	**0.59**	**59**	⇓P	Pn	20 02 34.7	+0.7
PANC				⇑S	Sn	20 02 48.0	+0.5
COSR	**Cosmesti PH**	**0.69**	**65**	⇓P	Pn	20 02 35.2	+0.5
COSR				⇓S	Sn	20 02 48.7	-0.1
OZUR		**0.69**	**320**	⇑P	Pn	20 02 34.7	-0.1
DOPR	**Dopca**	**0.83**	**299**	⇑P	Pn	20 02 36.2	+0.3
DOPR				⇑S	Sn	20 02 50.7	-0.3
GHRR		**0.85**	**54**	⇓P	Pn	20 02 36.6	+0.5
GHRR				⇓S	Sn	20 02 51.6	+0.4
TUDR		**0.88**	**88**	⇓P	Pn	20 02 36.1	-0.2
TUDR				⇑S	Sn	20 02 51.7	0.0
SULR		**0.90**	**188**	⇑S	Sn	20 02 53.6	+1.6
IZVR	**Izvoarele**	**0.94**	**91**	⇓P	Pn	20 02 37.6	+0.7
IZVR				⇑S	Sn	20 02 52.2	-0.6
TESR	**Tescani**	**0.96**	**9**	⇓P	Pn	20 02 37.0	-0.2
VOIR		**0.97**	**263**	⇑P	Pn	20 02 37.7	+0.3
VOIR				⇑S	Sn	20 02 53.3	-0.2
SCHLR	**Schela**	**0.99**	**95**	⇑P	Pn	20 02 37.2	-0.3
SCHLR				⇑S	Sn	20 02 53.2	-0.5
NEGRR	**Negrea**	**1.02**	**91**	⇑P	Pn	20 02 38.4	+0.6
NEGRR				⇓S	Sn	20 02 54.0	-0.2
VARL	**Varlezi**	**1.05**	**71**	⇑P	Pn	20 02 38.2	+0.1
VARL				⇓S	Sn	20 02 54.8	0.0
BIR	**Birlad**	**1.09**	**50**	⇓P	Pn	20 02 38.8	+0.3
BIR				⇑S	Sn	20 02 55.1	-0.5
SCTR	**Scanteiesti**	**1.11**	**84**	⇑P	Pn	20 02 39.2	+0.5
SCTR				⇑S	Sn	20 02 56.0	+0.2
LEHL	**Lehliu**	**1.13**	**165**	⇓S	Sn	20 02 57.4	+1.3
TATR	**Tatarca**	**1.14**	**88**	⇑P	Pn	20 02 39.6	+0.6
TATR				⇑S	Sn	20 02 56.9	+0.5
AMRR	**Amara**	**1.15**	**146**	⇓S	Sn	20 02 58.0	+1.4
CIOR	**Ciorogarla**	**1.18**	**199**	⇑S	Sn	20 02 58.2	+1.1
VLDR	**Vladesti**	**1.20**	**76**	⇓P	Pn	20 02 40.1	+0.5
VLDR				⇑S	Sn	20 02 57.1	-0.4
BUC1	**Bucharest**	**1.25**	**193**	⇑S	Sn	20 02 59.8	+1.3
CFR	**Carcaliu**	**1.27**	**107**	⇑P	Pn	20 02 40.8	+0.4
CFR				⇑S	Sn	20 02 58.0	-0.9
ARR	**Arges**	**1.27**	**262**	⇓S	Sn	20 02 59.1	-0.1
SGRR	**Singureni**	**1.38**	**193**	⇑S	Sn	20 03 01.9	+0.7
HARR	**Harsova**	**1.38**	**129**	⇑P	Pn	20 02 42.3	+0.6
BIZ	**Bicaz**	**1.39**	**351**	⇑S	Sn	20 03 01.8	+0.4
HUMR	**Humele**	**1.46**	**225**	⇓P	Pn	20 02 42.6	0.0
HUMR				⇓S	Sn	20 03 03.4	+0.7
TNR	**Turnu Rosu**	**1.51**	**274**	⇑S	Sn	20 03 03.3	-0.7
TLBR	**Topalu**	**1.54**	**131**	⇑P	Pn	20 02 43.8	+0.2
TLBR				⇓S	Sn	20 03 03.9	-0.6
TPGR	**Topolog**	**1.58**	**116**	⇑P	Pn	20 02 44.3	+0.2
COPA	**Copaceanca**	**1.67**	**211**	⇓P	Pn	20 02 45.4	+0.2
COPA				⇑S	Sn	20 03 07.5	+0.3
CVDA	**Cernavoda**	**1.68**	**136**	⇑S	Sn	20 03 07.3	-0.2
TLCR		**1.73**	**102**	⇑P	Pn	20 02 46.4	+0.6
TLCR				⇑S	Sn	20 03 08.5	0.0
ICOR	**Ion Corvin**	**1.75**	**145**	⇑S	Sn	20 03 09.5	+0.5
TIRR	**Tirgusor**	**1.79**	**127**	⇑P	Pn	20 02 47.3	+0.6
TIRR				⇓S	Sn	20 03 09.1	-0.8
LOT	**Lotru**	**1.87**	**267**	⇑P	Pn	20 02 46.9	-0.8
LOT				⇑S	Sn	20 03 12.0	+0.2
MFTR	**Murfatlar**	**1.99**	**134**	⇑P	Pn	20 02 49.9	+0.9
MFTR				⇑S	Sn	20 03 14.0	-0.2
RAZG	**Razgrad**	**2.00**	**178**	⇓S	Sn	20 03 14.6	0.0
ZIMR		**2.05**	**202**	⇑S	Sn	20 03 15.3	-0.4
VLAD	**Vladila**	**2.13**	**223**	⇓S	Sn	20 03 17.0	-0.4
MILM	**Milestii Mici**	**2.14**	**50**	⇑P	Pn	20 02 50.5	-0.4
BURAR	**Bucovina Array**	**2.21**	**338**	⇑P	Pn	20 02 52.9	+1.0
MARR	**Marisel-Cluj**	**2.55**	**297**	⇓P	Pn	20 02 56.4	+0.1
GZR	**Gura Zlata**	**2.57**	**267**	⇑P	Pn	20 02 56.8	+0.3
GZR				⇑S	Sn	20 03 28.3	+0.6
BAIL	**Bailesti**	**2.68**	**236**	⇓S	Sn	20 03 30.2	+0.1
HERR	**Herculane**	**2.91**	**258**	⇓P	Pn	20 03 00.7	-0.3
BZS	**Buzias**	**3.37**	**273**	⇓P	Pn	20 03 06.4	-0.7
MDVR	**Moldovita**	**3.42**	**258**	⇑P	Pn	20 03 07.5	-0.3
BOVS	**Bovan**	**3.88**	**242**	⇑P	Pn	20 03 13.6	-0.3

*IDC **23** 20:05:54.8±2.3, 43°.65N×105°.55W, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=59.2km s-min=10.5km az=151.0*
*NEIC **23** 20:05:54.0±2.0, 43°.56N±0°.05×105°.34W±0°.08, h0km±1km, ML3.1/36, Error ellipse: s-maj=10.5km s-min=8.0km az=120.0*
ISC 23 20:05:54.3±1.3, 43°.60N±0°.06×105°.29W±0°.07, h0km, n22, σ1°39/20, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.31**	**224**		**Pg**	**20 06 18.0**	**-1.3**
LAO	**LASA Array**	**3.16**	**348**	Pn	**Pn**	**20 06 47.9**	**+2.6**
LAO				IAML		20 07 47.1	
	77nm,2.1s						
PD31	**Pinedale Array**	**3.23**	**257**	Pn	**Pn**	**20 06 46.4**	**-0.1**
PDAR	**Pinedale Array**	**3.23**	**257**	Pn	**Pn**	**20 06 48.5**	**+2.1**
	1.7nm,0.3s,baz=72,slow=14,SNR=20						
PDAR				Lg	Lg	20 07 29.4	
	1.2nm,0.3s,baz=72,slow=32,SNR=4.7						
	1.4nm,0.3s						
RLMT	**Red Lodge**	**3.24**	**300

0.8nm,0.7s

IDC 23 20:28:51.4±8.2,20°.25S×176°.18W,h0km,mb4.0/4, mbtmp3.9/4,Error ellipse: s-maj=237.6km s-min=59.8km az=127.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.44	244	P	P	20 36 22.8	-0.6
	1.2nm,0.5s,baz=93,slow=11,SNR=5.6 1.2nm,0.5s						
ASAR	Alice Springs	46.24	256	P	P	20 37 18.6	-0.2
	1.3nm,0.7s,baz=99,slow=8.1,SNR=14 1.3nm,0.7s						
WRA	Warramunga Arr	46.33	261	P	P	20 37 19.9	+0.4
	0.5nm,0.3s,baz=95,slow=8.1,SNR=11 0.5nm,0.3s						
SONM	Songino Array	96.69	319	P	P	20 42 23.5	-0.2
	0.3nm,0.7s,baz=131,slow=4.4,SNR=3.7 0.3nm,0.7s						

IDC 23 20:34:58.4±2.4,50°.20N×114°.64W,h0km,mbtmp2.9/2, ML3.3/2,Error ellipse: s-maj=71.6km s-min=14.1km az=77.0,Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	NEWPORT INFRAS	2.53	221	I	I	20 50 00.0	
	baz=39,slow=326,SNR=2.2						
PDAR	Pinedale Array	8.22	153	Pn	Pn	20 37 00.3	+1.3
	baz=341,slow=12,SNR=2.3 0.1nm,0.3s						
YKA	Yellowknife Ar	12.33	0	Pn	Pn	20 37 50.7	-4.3
	0.2nm,0.3s,baz=183,slow=17,SNR=9.2						
YKA				Sn	Sn	20 40 03.6	-9.3
	baz=180,slow=23,SNR=2.4						
YKA				Lg	Lg	20 41 21.9	
	baz=174,slow=28,SNR=4.4 0.4nm,0.6s						

ASRS 23 20:43:29.5±0.4,51°N±2°×97°E±°,h5km,MLh3.9/14,1C, Error ellipse: s-maj=4.8km s-min=3.3km az=59.3, confirmed,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	0.36	166	↑Pg	Pg	20 43 34.3	-2.3
KNGR				Sg	Sg	20 43 41.5	+0.2
TDJR	Todzha	1.65	332	Pg	Pg	20 44 03.2	+2.2
TDJR				Sg	Sg	20 44 29.2	+6.8
KZLR	Kyzyl	1.98	293	Pg	Pg	20 44 07.6	+0.2
KZLR				Sg	Sg	20 44 39.6	+6.6
ARDR	Aradan	2.94	305	Pg	Pb	20 44 23.4	+1.0
ARDR				Sg	Sg	20 45 07.9	+4.1
CERR	Cheremushki	4.15	300	Pg	Pg	20 44 47.3	-1.6
CERR				Sg	Sg	20 45 44.6	+1.9
DJO	Djoy, Khakassi	4.23	298	Pg	Pg	20 44 47.8	-2.6
DJO				Sg	Sg	20 45 49.1	+3.9
MINR	Mina	4.39	335	Pg	Pg	20 44 53.6	+0.1
MINR				Sg	Sg	20 45 55.0	+4.6
TEL	Teeli	4.53	274	Pn	Pn	20 44 43.2	+4.4
TEL				Pg	Pg	20 44 57.0	+0.7
TEL				Sg	Sg	20 46 00.6	+5.6
VEH	Verkhnyaya Baz	4.92	301	Pn	Pn	20 44 49.7	+5.6
VEH				Pg	Pg	20 45 02.6	-1.0
VEH				Sg	Sg	20 46 09.3	+2.0
CUR	Chagan-Uzun	5.82	265	Pg	Pg	20 45 17.2	-3.7
CUR				Sg	Sg	20 46 41.8	+5.5
LUZB	Luzhba, Kemero	5.86	301	Pg	Pg	20 45 17.2	-4.4
LUZB				Sg	Sg	20 46 37.1	-0.5
ULGR	Ulagan, Altay	5.98	270	Pg	Pg	20 45 24.3	+0.3
ULGR				Sg	Sg	20 46 48.5	+7.2
AKAR	Aktash	6.24	268	Sg	Sg	20 46 52.3	+2.6
CHBI	Chibit, Altay	6.31	268	Pn	Pn	20 45 08.6	+5.3
CHBI				Pg	Pg	20 45 31.3	+0.9
CHBI				Sg	Sg	20 46 57.7	+5.6

NEIC 23 20:51:38.7±1.3,10°.57S±0°.06×151°.83E±0°.10,h10km±1km, mb4.4/13,Error ellipse: s-maj=16.6km s-min=10.1km az=74.0
IDC 23 20:51:39.4±1.0,10°.20S×152°.32E,h0km,mb3.7/8, mbtmp3.7/10,ML4.0/1,MS3.8/6,Error ellipse: s-maj=22.0km s-min=20.8km az=43.0

ISC 23 20:51:38.7±0.8,10°.63S±0°.08×151°.86E±0°.10,h10km,n38, σ1§46/27,mb3.9/12,MS3.9/4,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.79	284	Pn	Pn	20 52 50.2	-0.8
PMG	Port Moresby	4.79	284	Pn	Pb	20 52 56.9	-5.8
	4.7nm,0.4s,baz=112,slow=16,SNR=3.7						
PMG				Pg	Pg	20 53 11.8	+1.3
	3.1nm,0.3s,baz=85,slow=7.9,SNR=6.2						
PMG				Lg	Lg	20 54 21.2	
	baz=108,slow=20,SNR=1.2						
RABL	Rabaul	6.40	3	Pn	Pn	20 53 11.0	-2.2
HNR	Honiara	8.05	82	LR	LR	20 56 04.7	
	comp=Z,604nm,21.6s,baz=310,slow=35						
COEN	Coen	9.11	248	Pn	Pn	20 53 48.1	-2.3
EIDS	Eidsvold	14.68	183		Pn	20 55 07.2	+0.6
DZM	Mont Dzumac	18.02	131	LR	LR	21 00 12.6	
	comp=Z,240nm,21.0s,baz=202,slow=29						
WR8	Warramunga Arr	19.13	239	P	P	20 56 00.9	-1.2
WR8				IAmb	IAmb	20 56 17.4	
	comp=Z,14nm,1.1s						
WB0	Warramunga Arr	19.13	240		P	20 56 01.6	-0.6
WRA	Warramunga Arr	19.26	239	P	Pn	20 56 13.0	+8.5
	comp=Z,0.5nm,0.3s,baz=63,slow=11,SNR=6.0 comp=Z,4.2nm,0.7s						
ARMA	Armidale	19.69	181		P	20 56 07.7	-0.7
ARMA				IAmb	IAmb	20 56 25.2	
	comp=Z,15nm,1.2s						
AS31	Alice Springs	21.47	231	P	P	20 56 25.9	-1.7
ASAR	Alice Springs	21.47	231	P	P	20 56 27.4	-0.3
ASAR	Alice Springs	21.47	231	P	P	20 56 35.6	+8.0
	comp=Z,0.9nm,0.7s,baz=60,slow=9.1,SNR=10 comp=Z,0.9nm,0.7s						
KNRA	Kununurra	23.04	255	P	P	20 56 43.5	-0.8
STKA	Stephens Creek	23.18	203	P	P	20 56 54.8	+9.1
	comp=Z,3.7nm,0.9s,baz=35,slow=11,SNR=6.2 comp=Z,3.7nm,0.9s						
MSVF	Nonsavu	26.34	109	LR	LR	21 06 15.8	
	comp=Z,207nm,18.1s,baz=247,slow=34						
FITZ	Fitzroy Crossi	26.44	251	P	P	20 57 16.4	+0.3
URZ	Urewera	35.62	145	LR	LR	21 12 21.7	
	comp=Z,369nm,18.2s,baz=359,slow=35						
JCJ	Chichijima	38.66	346	LR	LR	21 14 37.8	
	comp=Z,42nm,19.2s,baz=290,slow=36						
USRK	Ussuriysk Ar.	57.48	343	LR	LR	21 24 22.8	
	comp=Z,170nm,20.2s,baz=232,slow=34						
CMAR	Chiang Mai Arr	59.67	299	P	P	21 01 48.3	+4.5
	comp=Z,0.4nm,0.8s,baz=115,slow=7.2,SNR=2.9 comp=Z,0.4nm,0.8s						
VNDA	Vanda	67.08	178	P	P	21 02 32.2	+0.3
VNDA				IAmb	IAmb	21 02 46.0	
	comp=Z,2.8nm,1.3s						
VNDA	Vanda	67.08	178	P	P	21 02 37.9	+6.0
	comp=Z,0.8nm,0.9s,baz=347,slow=7.9,SNR=4.1 comp=Z,0.8nm,0.9s						
SONM	Songino Array	70.78	329	P	P	21 02 57.9	+2.3
	comp=Z,0.8nm,0.8s,baz=132,slow=5.2,SNR=5.4 comp=Z,0.8nm,0.8s						
QSPA	South Pole Qui	79.37	180	P	P	21 03 44.1	-0.7
QSPA	South Pole Qui	79.37	180	P	P	21 03 47.6	+2.7
	comp=Z,1.4nm,1.0s,baz=297,slow=2.3,SNR=6.1 comp=Z,1.4nm,1.0s						
J17K	VABM Dome	82.74	20	P	P	21 04 03.6	+1.1
J17K				IAmb	IAmb	21 04 05.6	
	comp=Z,4.1nm,1.1s						
MKAR	Makanchi Array	84.11	320	P	P	21 04 08.8	-1.2
MKAR	Makanchi Array	84.11	320	P	P	21 04 12.9	+2.9
	comp=Z,0.2nm,0.7s,baz=112,slow=5.1,SNR=4.5 comp=Z,0.2nm,0.7s						
E19K	Redstone River	85.99	17	P	P	21 04 18.9	0.0
E19K				IAmb	IAmb	21 04 34.6	
	comp=Z,7.5nm,1.2s						
D19K	Kuna River	86.41	16	P	P	21 04 20.3	-0.8
D19K				IAmb	IAmb	21 04 31.4	
	comp=Z,3.5nm,1.1s						
ILAR	Eielson Array	87.88	22	P	P	21 04 27.6	-0.5
ILAR	Eielson Array	87.88	22	P	P	21 04 26.8	-1.4
	comp=Z,0.7nm,1.1s,baz=257,slow=6.0,SNR=10 comp=Z,0.7nm,1.1s						
D23K	Nanushuk River	88.85	18	P	P	21 04 32.6	-0.1
D23K				IAmb	IAmb	21 04 38.8	
	comp=Z,3.3nm,1.3s						
BCAR	Beaver Creek A	89.06	25	P	P	21 04 31.8	-2.1
K27K	Chicken	89.36	24	P	P	21 04 35.1	-0.1
BMAR	Burnt Mountain	90.00	20	P	P	21 04 37.4	-0.8

IDC 23 21:46:36.6±0.8,51°.60N×176°.82W,h0km,mb3.5/11, mbtmp3.6/13,ML3.9/2,MS4.2/1,Error ellipse: s-maj=29.5km s-min=16.5km az=172.0
AEIC 23 21:46:43.5±2.2,51°.6N±0°.1×176°.69W±0°.06,h51km±6km, Error ellipse: s-maj=16.7km s-min=3.3km az=166.0
NEIC 23 21:46:44.3±2.4,51°.6N±0°.1×176°.66W±0°.07,h49km±9km, mb3.8/31,ML3.8(AEIC),Error ellipse: s-maj=16.2km s-min=5.6km az=170.0

ISC 23 21:46:43.3±0.7,51°.54N±0°.09×176°.70W±0°.04,h47km,n82, σ1§15/76,mb3.7/17,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.34	2		Pn	21 46 52.5	0.0
ADK				Sn	Sn	21 46 59.4	+0.3
KIMD	Kanaga Island	0.40	303		Pn	21 46 53.3	+0.1
KIWB	Kanaga Island	0.42	318		Pn	21 46 53.7	+0.3
KIWB				Sn	Sn	21 47 01.1	+0.6
KIRH	Kanaga Island	0.43	326		Pn	21 46 54.0	+0.5
GSCK	Great Sitkin C	0.58	35		Pn	21 46 55.7	+0.4
GSMY	Great Sitkin M	0.64	38		Pn	21 46 56.5	+0.4
TAPA	Tanaga Point A	0.74	292		Pn	21 46 58.0	+0.4
TASE	Tanaga Southea	0.88	290		Pn	21 47 00.1	+0.7
GALAA	Gareloi Lava P	1.31	280		Pn	21 47 06.0	+0.9
GANO	Gareloi North	1.34	283		Pn	21 47 06.3	+0.8
GANO					Sn	21 47 23.9	+1.7
GASW	Gareloi Southw	1.36	281		Pn	21 47 06.6	+0.8
ATKA	Atka Island	1.69	66		Pn	21 47 10.5	+0.2
ATKA				Sn	Sn	21 47 30.9	+0.3
NIKH	Nikolski High	5.03	70		Pn	21 47 57.9	+1.8
MAPS	Pakushin South	6.35	65		Pn	21 48 17.2	+2.9
MREP	Makushin Rep't	6.46	66		Pn	21 48 18.4	+2.6
UNV	Unalaska Valle	6.61	66	Pn	Pn	21 48 16.8	-0.9
SPIA	Saint Paul Isl	6.79	31	Pn	Pn	21 48 19.7	-0.4
CNBA	Chernabura Isl	10.78	66	Pn	Pn	21 49 14.1	-0.6
GAMB	Gambell	12.55	10	Pn	Pn	21 49 41.2	+2.4
M17K	Holitna River	14.46	39	Pn	P	21 50 08.2	-2.3
OHAK	Old Harbor	14.74	58	Pn	Pn	21 50 09.9	+1.4
Q19K	Cape Douglas,	15.03	52	Pn	P	21 50 14.8	-2.1
J17K	VABM Dome	15.12	31	P	P	21 50 18.6	+0.7
KDAK	Kodiak Island	15.24	56	Pn	Pn	21 50 13.6	-1.4
	1.1nm,0.3s,baz=276,slow=10.0,SNR=12 4.8nm,0.7s						
P19K	Oil Pt	15.48	49	Pn	P	21 50 19.9	-2.0
F15K	North Star Dit	15.48	19		P	21 50 21.8	0.0
G16K	Koyuk River	15.72	23		P	21 50 24.3	-0.1
L19K	White Mountain	15.91	40	P	P	21 50 27.8	+1.1
L19K				IAmb	IAmb	21 50 41.0	
	comp=Z,11nm,1.1s						
CNPM	China Poot	16.39	51	Pn	P	21 50 30.4	-1.6
H18K	Honhosa River	16.59	28		P	21 50 35.8	+1.7
SLKM	Skilak Lake	17.19	48		P	21 50 40.1	-0.8
SLKM				IAmb	IAmb	21 51 06.1	
	comp=Z,13nm,1.1s						
CAST	Castle Rocks	17.65	38	P	P	21 50 47.1	+1.3
CAST				IAmb	IAmb	21 51 10.6	
	comp=Z,9.6nm,1.3s						
C16K	Lisburne Hills	17.67	14		P	21 50 47.5	+1.5
E18K	Tukpahlearik C	17.80	21		P	21 50 49.5	+2.0
F19K	Shaleruckik Mo	18.01	25		P	21 50 50.7	+1.0
KTH	Kantishna Hill	18.16	39	P	Pn	21 50 52.4	+0.6
KTH				IAmb	IAmb	21 50 55.7	
	comp=Z,7.8nm,0.7s						
BPAW	Bear Paw Mtn.	18.42	37	P	Pn	21 50 56.0	+1.2
BPAW				IAmb	IAmb	21 51 02.1	
	comp=Z,11nm,1.4s						
E19K	Redstone River	18.62	24		Pn	21 50 58.4	+1.2
RND	Reindeer	18.92	40	P	P	21 50 59.0	-0.9
MCK	McKinley	19.03	39	P	Pn	21 51 02.1	0.0
MCK				IAmb	IAmb	21 51 05.8	
	comp=Z,5.3nm,0.6s						
SEY	Seymchan	20.02	317	P	P	21 51 09.3	-2.4
	comp=Z,0.1nm,0.3s,baz=109,slow=12,SNR=5.6 comp=Z,0.7nm,0.9s						
PAX	Paxson	20.16	43	P	Pn	21 51 14.4	-1.2
PAX				IAmb	IAmb	21 51 17.7	
	comp=Z,3.4nm,0.6s						
ILAR	Eielson Array	20.30	38	P	P	21 51 15.2	+0.4
ILAR	Eielson Array	20.30	38	P	P	21 51 13.1	-1.7
	comp=Z,0.3nm,0.5s,baz=226,slow=9.5,SNR=12 comp=Z,0.3nm,0.5s						
H24K	Noodor Dome	20.44	35	P	Pn	21 51 17.3	-1.6
H24K				IAmb	IAmb	21 51 33.0	
	comp=Z,9.2nm,1.4s						
RIDG	Independent Ri	20.70	42	P	P	21 51 19.3	+0.1
RIDG				IAmb	IAmb	21 51 33.8	
	comp=Z,4.1nm,0.7s						
DOT	Dot Lake	20.99	42	P	P	21 51 23.3	+1.0
DOT				IAmb	IAmb	21 51 27.5	
	comp=Z,4.0nm,0.6s						
SCRK	Sand Creek	21.14	41		P	21 51 23.5	-0.5
SCRK				IAmb	IAmb	21 51 35.8	
	comp=Z,5.7nm,0.8s						
D23K	Nanushuk River	21.41	26	P	P	21 51 27.3	+0.5
D23K				IAmb	IAmb	21 51 51.7	
	comp=Z,3.5nm,1.0s						
TOLK	Toolik Lake Re	21.51	27	P	P	21 51 28.3	+0.4
TOLK				IAmb	IAmb	21 51 44.7	
	comp=Z,4.7nm,1.2s						
BMAR	Burnt Mountain	22.38	33	P	P	21 51 37.7	+0.5
D25K	Kavik River	22.84	28	P	P	21 51 41.4	-0.6
D25K				IAmb	IAmb	21 51 48.1	
	comp=Z,3.6nm,1.1s						
C27K	Jago River	23.79	28	P	P	21 51 50.9	-0.4
C27K				IAmb	IAmb	21 51 52.1	
	comp=Z,2.4nm,1.0s						
I30M	Mount Dempster	24.64	41	P	P	21 51 57.7	-1.4
INK	Inuvik	26.57	35	P	P	21 52 15.5	-0.9
INK				IAmb	IAmb	21 52 42.1	
	comp=Z,3.8nm,1.4s						
YKA	Yellowknife Ar	34.16	47	P	P	21 53 22.4	-1.1
	comp=Z,0.3nm,0.8s,baz=281,slow=9.1,SNR=3.8						
YKA				PcP	PcP	21 55 59.5	+0.2
	comp=Z,0.6nm,0.8s,baz=289,slow=2.9,SNR=9.1 comp=Z,0.3nm,0.8s						
H11N2	WAKE ISLAND Hy	34.27	208	T	T	22 29 48.4	
	baz=18,slow=76,SNR=727						
H11N3	WAKE ISLAND Hy	34.27	208	T	T	22 29 49.9	
	baz=18,slow=76,SNR=746						
H11N1	WAKE ISLAND Hy	34.28	208	T	T	22 29 50.8	
	baz=18,slow=76,SNR=674						
H11S1	WAKE ISLAND Hy	35.48	208	T	T	22 31 20.7	
	baz=17,slow=76,SNR=665						
H11S2	WAKE ISLAND Hy	35.49	208	T	T	22 31 22.5	
	baz=17,slow=76,SNR=341						
H11S3	WAKE ISLAND Hy	35.50	208	T	T	22 31 23.7	
	baz=17,slow=76,SNR=272						
LON	Longmire	35.51	76	P	P	21 53 36.4	+1.1
LON				IAmb	IAmb	21 54 05.5	
	comp=Z,1.0nm,1.1s						
PD31	Pinedale Array	45.00	74	P	P	21 54 54.4	+0.3
PDAR	Pinedale Array	45.00	74	P	P	21 54 54.6	+0.5
PDAR	Pinedale Array	45.00	74	P	P	21 54 54.5	+0.3
	comp=Z,0.7nm,0.6s,baz=339,slow=2.9,SNR=14 comp=Z,0.7nm,0.6s						
SONM	Songino Array	47.74	298	P	P	21 55 16.1	+0.7
	comp=Z,0.1nm,0.3s,baz=46,slow=4.2,SNR=1.7						
SONM				PcP	PcP	21 56 43.9	0.0
	comp=Z,0.5nm,0.5s,baz=29,slow=1.5,SNR=5.3 comp=Z,0.1nm,0.3s						
TXAR	Lajitas Array	57.33	83	P	P	21 56 26.9	+0.4
	comp=Z,0.5nm,0.6s,baz=313,slow=5.8,SNR=8.6 comp=Z,0.5nm,0.6s						
JMIC	Jan Mayen	57.48	5	LR	LR	22 22 41.1	
	comp=Z,198nm,18.2s,baz=39,slow=38						
KURBB	Kurchatov Arra	59.95	315	P	P	21 56 42.6	-1.6
	comp=Z,0.3nm,0.3s,baz=41,slow=6.7,SNR=5.2 comp=Z,0.3nm,0.3s						
MKAR	Makanchi Array	60.95	310	P	P	21 56 50.3	-0.9
	comp=Z,0.1nm,0.4s,baz=38,slow=9.7,SNR=2.1 comp=Z,0.1nm,0.4s						
BVAR	Borovoye Array	61.60	321	P	P	21 56 55.2	-0.3
	comp=Z,0.7nm,0.5s,baz=49,slow=6.7,SNR=3.9 comp=Z,0.7nm,0.5s						
ABKAR	Akbulak array	68.59	324	P	P	21 57 41.7	+0.8
ABKAR	Akbulak array	68.59	324	P	P	21 57 41.3	+0.5
ABKAR				IAmb	IAmb	21 57 55.6	
	comp=Z,3.6nm,1.4s						
KKAR	Karatay Array	69.23	314	P	P	21 57 43.8	-1.1
CMAR	Chiang Mai Arr	72.30	277	P	P	21 58 03.5	-0.4
	comp=Z,0.6nm,0.6s,baz=37,slow=8.8,SNR=1.9 comp=Z,0.6nm,0.6s						
WRA	Warramunga Arr	83.06	226	P	P	21 59 02.8	-0.8
	comp=Z,0.6nm,0.6s,baz=25,slow=4.7,SNR=1.8 comp=Z,0.6nm,0.6s						
ASAR	Alice Springs	86.51	224	P	P	21 59 21.4	+0.5
	comp=Z,0.4nm,0.7s,baz=33,slow=6.4,SNR=5.4 comp=Z,0.4nm,0.7s						
H03N2	Juan Fernandez	119.93	107	T	T	00 17 07.0	
	baz=317,slow=77,SNR=16						
H03N1	Juan Fernandez	119.94	107	T	T	00 17 07.6	
	baz=317,slow=77,SNR=21						
H03N3	Juan Fernandez	119.95	107	T	T	00 17 07.9	
	baz=317,slow=77,SNR=21						
BOSA	Boshof	151.81	316	PKPbc	PKPbc	22 06 32.0	-0.6
	comp=Z,1.5nm,0.5s,baz=8.7,slow=1.2,SNR=4.7						

IDC 23 22:00:28.6±4.4,20°.32S×178°.81W,h619km±25km,mb3.3/4, mbtmp4.3/6,Error ellipse: s-maj=79.9km s-min=51.3km az=110.0

ISC 23 22:00:25.1±4.0,20°.6S±0°.3×178°.3W±0°.5,h600km,n6, σ1§25/7,mb3.9/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.45	309	P	P	22 01 54.9	+0.9
	19nm,0.5s,baz=163,slow=11,SNR=23						
DZM	Mont Dzumac	14.26	261	P	P	22 03 27.7	+1.1
	5.6nm,0.6s,baz=95,slow=19,SNR=2.7						
STKA	Stephens Creek	37.46	244	P	P	22 06 49.5	+0.3
	1.4nm,0.5s,baz=59,slow=10.0,SNR=4.8 1.4nm,0.5s						
JAY	Jayapura	43.78	289	P	P	22 07 38.4	-1.1
	16nm,0.8s,baz=124,slow=6.4,SNR=5.2 16nm,0.8s						
ASAR	Alice Springs	44.19	257	P	P	22 07 42.0	-0.6
	2.5nm,0.6s,baz=92,slow=7.6,SNR=40						
ASAR				PcP	PcP	22 09 14.2	+0.3
	0.4nm,0.7s,baz=103,slow=3.8,SNR=2.4 2.5nm,0.6s						
WRA	Warramunga Arr	44.28	262	P	P	22 07 41.6	-1.6
	0.9nm,0.3s,baz=96,slow=7.3,SNR=16 0.9nm,0.3s						

IDC 23 22:06:09.4±2.5,7°.38S×128°.54E,h134km±23km,mb3.9/11, mbtmp4.2/15,MS3.4/2,Error ellipse: s-maj=27.4km s-min=12.4km az=76.0
NEIC 23 22:06:11.4±1.6,7°.32S±0°.07×128°.57E±0°.06,h146km±7km, mb4.4/31,Error ellipse: s-maj=10.7km s-min=7.9km az=146.0

ISC 23 22:06:11.1±0.4,7°.42S±0°.05×128°.63E±0°.04,h151km,n96, σ1§64/98,mb4.3/28,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.71	102		Pn	22 06 56.3	+1.5
SAUI				Sn	Sn	22 07 29.8	+1.3
SAUI	Saumlaki	2.71	102	P	Pn	22 06 56.1	+1.3
SAUI	Saumlaki	2.71	102	S	Sn	22 07 28.3	-0.2
SOEI	Soe	4.90	241	Pn	Pn	22 07 23.6	+0.3
SOEI				Sn	Sn	22 08 18.6	-1.0
SOEI	Soe	4.90	241	P	Pn	22 07 23.8	+0.5
SOEI	Soe	4.90	241	S	Sn	22 08 19.2	-0.4
SOEI	Soe	4.90	241	P	Pn	22 07 23.4	+0.1
DRS	Darwin Rock St	5.46	156	P	Pn	22 07 30.6	0.0
DRS	Darwin Rock St	5.46	156	S	Sn	22 08 30.4	-2.3
FAKI	Fak Fak	5.75	39	Pn	Pn	22 07 32.6	-1.9
MTN	Manton Dam	5.92	156	Pn	Pn	22 07 36.7	-0.1
MTN	Manton Dam	5.92	156	P	Pn	22 07 36.2	-0.6
MMRI	Maumere	6.44	259	Pn	Pn	22 07 43.4	-0.3
KDU	Kakadu	6.46	144	P	Pn	22 07 43.1	-0.8
KNRA	Kununurra	8.20	179	Pn	Pn	22 08 06.3	-0.9
FITZ	Fitzroy Crossi	11.00	195	Pn	Pn	22 08 41.1	-3.2
FITZ	Fitzroy Crossi	11.00	195	P	Pn	22 08 41.4	-2.9
	4.5nm,0.3s,baz=30,slow=10,SNR=60						
FITZ				S	Sn	22 10 35.5	-11
	23nm,0.4s,baz=73,slow=21,SNR=13						
WB0	Warramunga Arr	13.48	156	Pn	Pn	22 09 14.1	-2.5
WRA	Warramunga Arr	13.62	157	P	Pn	22 09 16.4	-1.8
	0.6nm,0.4s,baz=339,slow=12,SNR=14						
WRA				S	Sn	22 11 39.1	-10
	6.3nm,0.4s,baz=337,slow=22,SNR=9.0						
JAGI	Jajag, Banyuwa	14.38	265	Pn	Pn	22 09 26.4	-1.4
JAGI	Jajag, Banyuwa	14.38	265	P	P	22 09 29.6	-0.9
COEN	Coen	15.69	116		P	22 09 46.3	+1.2
COEN				IAmb	IAmb	22 09 47.5	
	comp=Z,17nm,1.1s						
MBWA	Marble Bar	16.14	211	Pn	Pn	22 09 48.7	-0.9
MBWA	Marble Bar	16.14	211	P	P	22 09 50.0	+0.1
PSA00	Pilbara Seismi	16.43	210	P	P	22 09 53.7	+0.6
QIS	Mount Isa	16.83	142	P	Pn	22 09 58.9	+0.9
AS31	Alice Springs	16.92	163	P	Pn	22 10 00.3	+1.2
ASAR	Alice Springs	16.93	163	P	Pn	22 09 60.0	+0.8
ASAR	Alice Springs	16.93	163	P	Pn	22 10 00.5	+1.3
	comp=Z,3.5nm,0.7s,baz=340,slow=9.7,SNR=49						
ASAR				S	S	22 13 00.4	-6.9
	comp=Z,1.6nm,0.4s,baz=340,slow=24,SNR=5.9						
ASAR				ScP	ScP	22 17 57.7	0.0
	comp=Z,0.7nm,0.5s,baz=8.3,slow=1.4,SNR=4.3						
AS01	Alice Springs	16.94	163	P	Pn	22 10 00.0	+0.7
WRKA	Warakurna	17.52	181	P	Pn	22 10 07.1	+0.9
UGM	Wanagama	17.95	267	P	P	22 10 07.9	-2.1
PMG	Port Moresby	18.44	97	P	Pn	22 10 16.4	-0.7
	comp=Z,5.8nm,0.6s,baz=245,slow=17,SNR=3.6						
PMG				S	S	22 13 31.7	-6.2
	comp=Z,2.8nm,0.6s,baz=220,slow=19,SNR=1.5						
MTSU	Mount Surprise	18.62	126	P	Pn	22 10 19.8	+0.5
GIRL	Giralia	20.52	221	P	Pn	22 10 40.3	-1.3
OOD	Oodnadatta	21.34	163	P	P	22 10 48.0	+1.7
MEEK	Meekatharra	21.35	205	P	P	22 10 48.7	+2.2
INKA	Innaminka	23.24	152	P	P	22 11 08.3	+3.3
QLP	Quilpie	24.15	144	P	P	22 11 15.8	+2.5
MORW	Morawa	24.58	207	P	P	22 11 19.1	+1.9
MORW

comp=Z,13nm,0.4s
RPZ Rata Peaks 51.74 141 P P 22 15 04.6 +1.6
RPZ IAmb IAmb 22 15 05.9
comp=Z,20nm,1.2s
JKA Kamikawa-asahi 52.83 13 P P 22 15 10.4 -0.6
GTA Gaotai 53.70 332 *e*P **P 22 15 18.3 +0.7**
GTA pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 58.42 343 P P 22 15 50.9 -0.1
SONM IAmb IAmb 22 15 52.9
comp=Z,2.4nm,1.1s
SONM Songino Array 58.42 343 P P 22 15 51.5 +0.5
comp=Z,2.0nm,0.9s,baz=164,slow=5.7,SNR=11
comp=Z,2.0nm,0.9s
PETK Petropavlovsk- 65.16 19 P P 22 16 35.4 -0.3
PETK Petropavlovsk- 65.16 19 P P 22 16 35.6 -0.2
comp=Z,6.6nm,0.8s,baz=152,slow=3.3,SNR=7.9
comp=Z,6.6nm,0.8s
MK31 Makanchi Array 67.84 328 P P 22 16 53.4 +0.4
MKAR Makanchi Array 67.84 328 P P 22 16 53.3 +0.3
comp=Z,2.0nm,0.4s,baz=116,slow=8.1,SNR=60
comp=Z,2.0nm,0.4s
MAKZ Makanchi 68.02 327 P P 22 16 54.1 0.0
BOOM Boomskoye usch 69.01 321 P P 22 17 00.3 -0.2
BOOM IAmb IAmb 22 17 05.1
comp=Z,3.8nm,1.2s
AAK Ala-Archa 69.99 320 P P 22 17 07.2 +0.6
AAK IAmb IAmb 22 17 37.4
comp=Z,4.2nm,1.5s
ZAA0 Zalesovo Array 71.37 334 P P 22 17 13.7 -0.8
ZAA0 IAmb IAmb 22 17 14.8
comp=Z,2.4nm,0.6s
ZALV Zalesovo Beam 71.37 334 P P 22 17 13.8 -0.7
comp=Z,3.2nm,0.6s,baz=134,slow=6.2,SNR=16
comp=Z,3.2nm,0.6s
SIMJ Simiganj 71.77 315 P P 22 17 18.5 +1.1
KURBB Kurchatov Arra 72.17 329 P P 22 17 19.2 0.0
comp=Z,3.5nm,0.5s,baz=130,slow=5.0,SNR=52
comp=Z,3.5nm,0.5s
KURK Kurchatov 72.18 329 P P 22 17 18.9 -0.4
KURK IAmb IAmb 22 17 21.6
comp=Z,3.5nm,0.6s
KKAR Karatay Array 72.77 319 P P 22 17 22.6 -0.4
KKAR Karatay Array 72.77 319 P P 22 17 23.4 +0.3
BVAR Borovoye Array 77.70 328 P P 22 17 50.6 -0.4
comp=Z,1.2nm,0.5s,baz=123,slow=10.0,SNR=19
comp=Z,1.2nm,0.5s
BRVK Borovoye 77.77 328 P P 22 17 51.2 -0.2
TIXI Tiksi 78.91 0 P P 22 17 56.4 -0.9
TIXI IAmb IAmb 22 17 57.3
comp=Z,3.2nm,0.5s
VOI Vohitsoka 79.72 249 P P 22 18 02.4 -0.6
ABKAR Abkulak array 82.00 322 P P 22 18 13.8 -0.4
ABKAR Abkulak array 82.00 322 P P 22 18 14.0 -0.2
ABKAR IAmb IAmb 22 18 15.9
comp=Z,3.7nm,1.2s
QSPA South Pole Qui 82.56 180 P P 22 18 17.5 +0.5
QSPA IAmb IAmb 22 18 18.4
comp=Z,5.7nm,1.4s
QSPA South Pole Qui 82.56 180 P P 22 18 17.6 +0.6
comp=Z,2.1nm,1.0s,baz=326,slow=0.6,SNR=11
comp=Z,2.1nm,1.0s
K13K Kusilvak Mount 85.85 26 P P 22 18 33.9 +0.4
K13K IAmb IAmb 22 19 06.5
comp=Z,7.7nm,1.3s
C18K Utukok River 89.79 20 P P 22 18 51.1 -1.1
C18K IAmb IAmb 22 19 30.2
comp=Z,3.8nm,1.5s
B20K Meade River 91.59 19 P P 22 18 59.9 -0.5
B20K IAmb IAmb 22 19 09.6
comp=Z,9.5nm,1.4s
B21K Ikpikpuk River 92.33 20 P P 22 19 03.2 -0.6
B21K IAmb IAmb 22 19 09.1
comp=Z,7.8nm,1.5s
GERES GERESS Array B 111.87 320 PKiKP PKiKP 22 24 28.0 -0.4
comp=Z,0.2nm,0.4s,baz=40,slow=1.7,SNR=4.2
TORD Torodi Ar. Bea 127.56 281 PKP PKPdf 22 24 58.8 -0.5
comp=Z,1.6nm,0.3s,baz=24,slow=3.1,SNR=3.9
LPAZ La Paz 151.19 145 PKPbc PKiKP 22 25 49.5 +0.7
comp=Z,0.6nm,0.4s,baz=270,slow=2.0,SNR=4.6

DJA 23 22:06:15.4±0.3, 8°S±4°×11°6E±°, h21km±3km, M3.9/12, mB4.6/1, mb4.5/2, MLv3.6/12, Mw(mB)3.8/1, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.63**	**287**	P	Pn	22 06 28.5	-0.6
SRBI				S	Sn	22 06 37.8	-0.7
DNP	**Denpasar**	**0.73**	**236**	P	Pb	22 06 29.8	+0.4
DNP				S	Sn	22 06 41.2	+0.3
ABJI	**Asem Bagus**	**1.64**	**287**	P	Pn	22 06 42.9	-0.1
JAGI	**Jajag, Banyuwa**	**1.66**	**263**	P	Pn	22 06 42.1	-1.2
PLAI	**Plampang**	**2.01**	**106**	P	Pn	22 06 48.3	+0.1
KMMI	**Kalianget**	**2.20**	**303**	P	Pn	22 06 51.7	+1.0
GMJI	**Gumukmas**	**2.35**	**270**	P	Pn	22 06 52.3	-0.5
WBSI	**Waikabubak, Su**	**3.78**	**111**	P	Pn	22 07 12.2	-0.3
PCJI	**Pacitan**	**4.60**	**271**	P	Pn	22 07 23.6	-0.1
BSSI	**Bau Bau, Buton**	**5.09**	**66**	P	Pn	22 07 30.5	0.0
	51nm,0.5s						
BKSI	**Bulukumba**	**5.18**	**56**	P	Pn	22 07 32.0	+0.3

*IDC **23** 22:09:40.7±2.9, 15°.96S×168°.05E, h236km±23km, mb4.0/7, mbtmp4.5/9, Error ellipse: s-maj=27.4km s-min=16.2km az=17.0*
*NEIC **23** 22:09:42.0±1.3, 16°.10S±0°.04×168°.1E±0°.1, h232km±7km, mb4.6/17, Error ellipse: s-maj=16.5km s-min=5.2km az=98.0*
*NOU **23** 22:09:50.7, 16°.27S×167°.54E, h87km, MLv4.6/5, Vanuatu Islands*
ISC 23 22:09:38.4±0.7, 15°.90S±0°.09×168°.08E±0°.09, h200km, n71, σ1§50/64, mb4.7/13, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.82**	**177**	P	Pn	22 10 17.4	+2.3
KOUNC	**Koumac, New Ca**	**5.87**	**217**	P	Pn	22 11 06.9	+2.9
DZM	**Mont Dzumac**	**6.33**	**194**	P	Pn	22 11 11.4	+1.3
	16nm,0.5s,baz=21,slow=14,SNR=10						
DZM				S	Sn	22 12 24.8	+2.1
	9.1nm,0.8s,baz=315,slow=20,SNR=0.8						
ONTNC	**Ouen Toro**	**6.56**	**193**		Pn	22 11 13.9	+1.0
PINNC	**Pines Island,**	**6.71**	**185**	Pn	Pn	22 11 16.5	+1.6
MSVF	**Nonsavu**	**9.72**	**102**	P	Pn	22 11 57.2	+3.0
	7.9nm,0.9s,baz=252,slow=11,SNR=4.6						
HNR	**Honiara**	**10.21**	**308**	Pn	Pn	22 12 04.2	+3.6
TATA	**Tatamba Isabel**	**11.01**	**312**	P	Pn	22 12 16.6	+5.8
LHI	**Lord Howe Isla**	**17.59**	**206**	P	P	22 13 29.3	-0.5
LHI				IAmb	IAmb	22 13 31.4	
	comp=Z,18nm,0.7s						
EIDS	**Eidsvold**	**18.47**	**237**	P	P	22 13 40.8	+1.3
EIDS				IAmb	IAmb	22 13 42.1	
	comp=Z,17nm,0.7s						
ARMA	**Armidale**	**20.88**	**223**	P	P	22 14 05.9	+0.6
ARMA				IAmb	IAmb	22 14 06.4	
	comp=Z,8.3nm,0.6s						
MKAZ	**Moumakai**	**22.03**	**165**	P	P	22 14 16.5	-0.4
TOZ	**Tahuroa Road**	**22.71**	**165**	P	P	22 14 22.7	-0.5
TOZ	**Tahuroa Road**	**22.71**	**165**	P	P	22 14 23.9	+0.8
TLZ	**Tolley Road**	**23.29**	**165**	P	P	22 14 30.0	+1.6
HIZ	**Hauiti**	**23.30**	**166**	P	P	22 14 29.2	+0.8
MXZ	**Matakaoa Point**	**23.40**	**159**	P	P	22 14 28.7	-0.6
HAZ	**Te Kaha**	**23.40**	**160**	P	P	22 14 28.6	-0.7
RUGZ	**Raukumara Rang**	**23.55**	**161**	P	P	22 14 29.4	-1.5
PKGZ	**Pakihiroa**	**23.60**	**160**	P	P	22 14 30.5	-0.7
URZ	**Urewera**	**23.65**	**162**	P	P	22 14 30.6	-1.0
	comp=Z,5.5nm,0.3s,baz=335,slow=4.1,SNR=16						
	comp=Z,5.5nm,0.3s						
URZ	**Urewera**	**23.65**	**162**	P	P	22 14 30.7	-1.0
WMGZ	**Waiomatatini S**	**23.66**	**159**	P	P	22 14 31.0	-0.7
MUGZ	**Murupara**	**23.76**	**163**	P	P	22 14 32.6	0.0
PUZ	**Puketiti**	**23.84**	**160**	P	P	22 14 31.4	-2.0
TWGZ	**Tauwhareparae**	**23.84**	**160**	P	P	22 14 32.4	-1.0
MWZ	**Matawai**	**23.85**	**161**	P	P	22 14 34.8	+1.4
RTZ	**Ruatahuna**	**23.94**	**163**	P	P	22 14 33.4	-1.0
MRHZ	**Matea Rd**	**23.99**	**164**	P	P	22 14 35.2	+0.4
NGZ	**Ngauruhoe**	**24.11**	**166**	P	P	22 14 36.9	+0.9
MTHZ	**Maungataniwha**	**24.12**	**163**	P	P	22 14 35.2	-0.8
BKZ	**Black Stump Pm**	**24.32**	**164**		P	22 14 36.8	-1.0
BKZ				IAmb	IAmb	22 14 37.7	
	comp=Z,12nm,0.6s						
BKZ	**Black Stump Fm**	**24.32**	**164**	P	P	22 14 36.9	-0.9
WAZ	**Wanganui**	**24.52**	**167**	P	P	22 14 40.5	+0.9
KNZ	**Kokohu**	**24.52**	**162**	P	P	22 14 37.9	-1.6
TSZ	**Takapari Road**	**25.03**	**166**	P	P	22 14 42.5	-1.7
PXZ	**Pawanui**	**25.23**	**164**	P	P	22 14 45.1	-0.8
MRZ	**Mangatainoka R**	**25.52**	**167**	P	P	22 14 46.3	-2.2
BFZ	**Birch Farm**	**25.69**	**166**	P	P	22 14 47.8	-2.3
THZ	**Tophouse**	**26.11**	**172**	P	P	22 14 53.1	-0.8
LTZ	**Lake Taylor**	**27.03**	**173**	P	P	22 15 00.9	-1.2
STKA	**Stephens Creek**	**28.86**	**232**	P	P	22 15 17.9	-0.6
STKA	**Stephens Creek**	**28.86**	**232**	P	P	22 15 18.0	-0.4
	comp=Z,5.8nm,0.6s,baz=61,slow=6.9,SNR=9.6						
	comp=Z,5.8nm,0.6s						
WB0	**Warramunga Arr**	**32.27**	**258**	P	P	22 15 46.6	-1.9
WRA	**Warramunga Arr**	**32.32**	**258**	P	P	22 15 46.5	-2.6
WRA	**Warramunga Arr**	**32.32**	**258**	P	P	22 15 46.0	-3.1
	comp=Z,0.8nm,0.3s,baz=86,slow=9.2,SNR=3.1						
	comp=Z,0.8nm,0.3s						
AS31	**Alice Springs**	**33.01**	**251**	P	P	22 15 53.5	-1.5
AS31				IAmb	IAmb	22 15 54.7	
	comp=Z,5.6nm,0.4s						
ASAR	**Alice Springs**	**33.01**	**251**	P	P	22 15 53.8	-1.3
	comp=Z,12nm,0.6s,baz=79,slow=8.8,SNR=21						
	comp=Z,12nm,0.6s						
BBOO	**Buckleboo**	**33.51**	**234**	P	P	22 15 58.8	-0.4
KNRA	**Kununurra**	**37.80**	**265**	P	P	22 16 34.2	-1.6
KNRA				IAmb	IAmb	22 16 53.2	
	comp=Z,31nm,1.2s						
FORT	**Forrest**	**39.39**	**241**	P	P	22 16 47.6	-1.3
FORT				IAmb	IAmb	22 17 06.6	
	comp=Z,31nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.59**	**261**	P	P	22 16 57.8	-1.1
FITZ	**Fitzroy Crossi**	**40.59**	**261**	P	P	22 16 57.8	-1.1
	comp=Z,13nm,0.6s,baz=101,slow=6.7,SNR=11						
	comp=Z,13nm,0.6s						
MBWA	**Marble Bar**	**46.01**	**256**	P	P	22 17 40.9	-1.4
VNDA	**Vanda**	**61.72**	**182**	P	P	22 19 33.5	-1.5
VNDA	**Vanda**	**61.72**	**182**	P	P	22 19 33.0	-2.1
	comp=Z,1.4nm,0.6s,baz=360,slow=7.6,SNR=7.0						
	comp=Z,1.4nm,0.6s						
SBA	**Scott Base**	**61.98**	**180**	P	P	22 19 36.0	-0.7
SBA				IAmb	IAmb	22 19 40.8	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**74.14**	**180**	P	P	22 20 51.0	-1.7
QSPA				IAmb	IAmb	22 20 52.1	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**74.14**	**180**	P	P	22 20 50.8	-1.9
	comp=Z,11nm,0.9s,baz=0.0,slow=7.1,SNR=48						
	comp=Z,11nm,0.9s						
SYO	**Syowa Base**	**87.81**	**196**	‖*e*PcP	P	22 22 05.4	+0.8
TROLL	**Troll, Antarti**	**91.77**	**184**	⇑P	P	22 22 20.8	-2.4
	comp=Z,288nm,0.6s						
VNA2	**Neumayer--Watz**	**93.34**	**181**	⇑P	P	22 22 27.9	-2.4
	comp=Z,5.3nm,0.6s,baz=159,slow=9.5						
ARCES	**ARCESS Array B**	**121.58**	**345**	PKP	PKPdf	22 28 04.9	-2.7
	comp=Z,5.5nm,1.1s,baz=64,slow=2.8,SNR=4.7						
BURAR	**Bucovina Array**	**136.01**	**324**	PKPdf	PKPdf	22 28 35.5	-0.3
FUORN	**Ofenpass-Fuorn**	**144.23**	**334**	PKPdf	PKPab	22 28 48.4	-0.9
TUE	**Stuetta**	**144.74**	**334**	PKPbc	PKPbc	22 28 49.3	-1.8
FDMO	**Fiordimonte**	**145.54**	**327**	PKPdf	PKPdf	22 28 50.8	-2.1
SENIN	**Lac Senin/Sane**	**145.65**	**336**		PKPdf	22 28 51.5	-1.8
BNI	**Bardonecchia**	**146.98**	**335**	PKPbc	PKPdf	22 28 56.3	+0.8
RCBR	**Riachuelo**	**147.91**	**130**	PKPbc	PKPdf	22 28 57.5	-0.3
VSL	**Villasalto**	**150.02**	**326**	PKPbc	PKPdf	22 29 02.9	+2.5

*WEL **23** 22:14:45.6±1.0, 32°S±5°×17°8W±1°8, h12km, M4.5/6, mB4.3/2, ML4.8/9, MLv4.5/6, Mw(mB)3.5/2, Error ellipse: s-maj=23.6km s-min=3.1km az=104.2, confirmed*
*IDC **23** 22:14:47.2±1.8, 31°.75S×177°.70W, h0km, mb4.1/2, mbtmp4.0/3, ML3.3/1, Error ellipse: s-maj=62.5km s-min=38.3km az=140.0*
ISC 23 22:14:49.7±1.5, 31°.73S±0°.08×177°.7W±0°.3, h26km, n28, σ1§40/42, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.46**	**356**	P	Pn	22 15 26.2	-1.9
GLKZ				S	Sn	22 15 56.2	-1.1
RIZ	**Raoul Island**	**2.48**	**356**	P	Pn	22 15 26.2	-2.1
RIZ				S	Sn	22 15 58.1	+0.3
WMGZ	**Waiomatatini S**	**6.86**	**207**	P	Pn	22 16 26.5	-2.1
WMGZ				S	Sn	22 17 46.3	+0.4
PKGZ	**Pakihiroa**	**7.04**	**208**	P	Pn	22 16 30.3	-0.7
PKGZ				S	Sn	22 17 50.3	+0.2
HAZ	**Te Kaha**	**7.07**	**210**	P	Pn	22 16 29.1	-2.3
HAZ				S	Sn	22 17 52.8	+1.9
PUZ	**Puketiti**	**7.14**	**207**	P	Pn	22 16 29.5	-3.0
PUZ				S	Sn	22 17 52.8	0.0
RUGZ	**Raukumara Rang**	**7.29**	**210**	P	Pn	22 16 32.7	-1.8
RUGZ				S	Sn	22 17 56.7	+0.2
TWGZ	**Tauwhareparae**	**7.34**	**208**	S	Sn	22 17 58.7	+1.0
CNGZ	**Carnagh Statio**	**7.53**	**205**	P	Pn	22 16 35.8	-1.9
CNGZ				S	Sn	22 18 02.7	+0.6
TKGZ	**Te Karaka**	**7.62**	**207**	S	Sn	22 18 04.7	+0.2
MWZ	**Matawai**	**7.66**	**209**	P	Pn	22 16 39.3	-0.3
MWZ				S	Sn	22 18 04.4	-1.2
URZ	**Urewera**	**7.78**	**212**	Pn	Pn	22 16 41.7	+0.6
	0.4nm,0.3s,baz=7.7,slow=6.9,SNR=1.8						
URZ				Sn	Sn	22 18 06.8	-1.6
	2.5nm,0.3s,baz=41,slow=20,SNR=13						
	2.7nm,0.4s						
URZ	**Urewera**	**7.78**	**212**	P	Pn	22 16 40.8	-0.3
URZ				S	Sn	22 18 05.6	-2.8
RAGZ	**Rawiri**	**7.84**	**209**	S	Sn	22 18 09.6	-0.6
RIGZ	**Rimuhau**	**7.89**	**207**	P	Pn	22 16 41.7	-1.0
RIGZ				S	Sn	22 18 11.0	-0.1
PRGZ	**Paritu Road**	**8.03**	**205**	S	Sn	22 18 14.2	-0.4
MUGZ	**Murupara**	**8.11**	**212**	S	Sn	22 18 14.4	-2.2
SNGZ	**Shannon Statio**	**8.12**	**209**	S	Sn	22 18 15.7	-1.1
RAHZ	**Arahi**	**8.34**	**209**	S	Sn	22 18 22.0	-0.2
MTHZ	**Maungataniwha**	**8.39**	**211**	P	Pn	22 16 48.6	-0.9
MTHZ				S	Sn	22 18 22.9	-0.5
WHHZ	**Waihua**	**8.41**	**208**	S	Sn	22 18 23.7	-0.3
NGZ	**Ngauruhoe**	**9.22**	**214**	S	Sn	22 18 43.7	-0.3
ASAR	**Alice Springs**	**43.30**	**268**	P	P	22 22 50.7	+1.2
	1.8nm,0.8s,baz=109,slow=7.4,SNR=14						
ASAR				PcP	PcP	22 24 38.9	+0.6
	0.2nm,0.6s,baz=124,slow=4.6,SNR=1.3						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**44.41**	**273**	P	P	22 23 00.0	+1.6
	1.8nm,0.5s,baz=114,slow=7.5,SNR=12						
	1.8nm,0.5s						
BVAR	**Borovoye Array**	**127.52**	**315**	PKP	PKiKP	22 33 53.3	+0.9
	0.5nm,0.8s,baz=111,slow=3.2,SNR=2.5						
FINES	**FINESS Array B**	**146.47**	**339**	PKPbc	PKPab	22 34 28.3	-0.3
	10nm,1.1s,baz=48,slow=2.1,SNR=9.0						
MMAI	**Mount Meron Ar**	**152.06**	**282**	PKPbc	PKiKP	22 34 45.3	+2.1
	1.5nm,0.5s,baz=72,slow=6.5,SNR=7.5						
AKASG	**Malin Array Be**	**152.50**	**321**	PKPab	PKPab	22 34 55.8	+2.3
	1.2nm,0.8s,baz=63,slow=2.2,SNR=4.6						

*NEIC **23** 22:16:57.5±1.2, 60°.53N±0°.04×151°.74W±0°.06, h84km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=164.0*
AEIC 23 22:16:58.3±1.3, 60°.55N±0°.04×151°.76W±0°.06, h79km±4km, ML2.5, ML2.7/112(NEIC), Error ellipse: s-maj=5.7km s-min=3.8km az=163.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDT	**Redoubt**	**0.32**	**274**		Pn	22 17 09.5	-1.2
RDT					Sn	22 17 18.7	-1.1
CAPN	**Captain Cook N**	**0.37**	**54**		Pn	22 17 11.1	+0.2
CAPN				Sn	Sn	22 17 21.4	+1.2
REF	**Redoubt East F**	**0.47**	**263**		Pn	22 17 11.1	-0.9
REF					Sn	22 17 21.4	-0.6
O20K	**Slope Mountain**	**0.64**	**223**		Pn	22 17 13.0	-0.4
O20K					Sn	22 17 24.9	+0.4
SPCR	**Spurr Chakacha**	**0.69**	**342**		Pn	22 17 13.1	-0.8
SLKM	**Skilak Lake**	**0.76**	**93**	Pn	Pn	22 17 13.3	-1.3
SLKM					Sn	22 17 24.7	-2.0
ILSW	**Iliamna Southw**	**0.89**	**231**		Pn	22 17 15.8	-0.4
ILSW				IAML		22 17 32.3	
	comp=E,78nm,0.6s						
HOM	**Homer**	**0.90**	**176**	Pn	Pn	22 17 15.6	-0.5
HOM				IAML		22 17 30.1	
	comp=N,248nm,0.5s						
BRLK	**Bradley Lake**	**0.90**	**151**		Pn	22 17 15.3	-0.9
BRLK				IAML		22 17 30.4	
	comp=E,264nm,0.1s						
STLK	**Strandline Lak**	**0.95**	**358**		Pn	22 17 16.3	-0.5
STLK				IAML		22 17 32.0	
	comp=N,74nm,0.5s						
BRSE	**Bradley Lake S**	**0.96**	**147**		Pn	22 17 15.8	-1.0
O22K	**Cooper Landing**	**1.01**	**93**		Pn	22 17 16.9	-0.5
CNPM	**China Poot**	**1.06**	**165**		Pn	22 17 17.4	-0.7
CNPM				IAML		22 17 32.6	
	comp=N,123nm,0.4s						
CNPM				IAML		22 17 33.2	
	comp=E,266nm,0.3s						
RC01	**Rabbit Creek A**	**1.13**	**61**		Pn	22 17 17.9	-0.9
RC01				IAML		22 17 34.3	
	comp=N,154nm,0.3s						
RC01				IAML		22 17 34.5	
	comp=E,128nm,0.5s						
P19K	**Oil Pt**	**1.17**	**220**		Pn	22 17 19.3	-0.1
SEW	**Seward**	**1.23**	**110**		Pn	22 17 18.8	-1.3
O19K	**Port Alsworth**	**1.32**	**255**		Pn	22 17 20.5	-0.7
N19K	**Bonanza Creek**	**1.36**	**282**		Pn	22 17 21.3	-0.6
N19K				IAML		22 17 39.4	
	comp=N,72nm,0.5s						
N19K				IAML		22 17 40.1	
	comp=E,96nm,0.3s						
SKT	**Skwentna**	**1.44**	**4**		Pn	22 17 22.2	-0.5
SKT				IAML		22 17 42.3	
	comp=N,58nm,0.4s						
SKT				IAML		22 17 42.5	
	comp=E,119nm,0.3s						
M22K	**Willow**	**1.44**	**33**		Pn	22 17 21.8	-1.0
M22K				IAML		22 17 43.4	
	comp=E,176nm,0.6s						
M20K	**Styx River**	**1.49**	**334**		Pn	22 17 23.6	0.0
PMR	**Palmer**	**1.65**	**50**		Pn	22 17 25.0	-0.5
PMR				IAML		22 17 48.8	
	comp=E,49nm,0.4s						
PWL	**Port Wells**	**1.71**	**78**	Pn	Pn	22 17 24.8	-1.6
KNK	**Knik Glacier**	**1.83**	**60**		Pn	22 17 26.8	-1.1
KNK				IAML		22 17 49.1	
	comp=N,94nm,0.5s						
KNK				IAML		22 17 50.8	
	comp=E,78nm,0.4s						
GHO	**Glory Hole Cre**	**1.84**	**47**		Pn	22 17 26.8	-1.3
GHO				IAML		22 17 56.3	
	comp=E,98nm,0.8s						
GHO				IAML		22 17 57.0	
	comp=N,57nm,0.8s						
O18K	**Koktuh Hills**	**1.86**	**249**		Pn	22 17 27.3	-1.0
O18K				IAML		22 17 50.9	
	comp=E,41nm,0.5s						
O18K				IAML		22 17 51.2	
	comp=N,75nm,0.7s						
M19K	**Big River Lodg**	**1.86**	**318**	Pn	Pn	22 17 28.1	-0.2
Q19K	**Cape Douglas,**	**1.89**	**211**		Pn	22 17 28.8	+0.1
Q19K				IAML		22 18 00.8	
	comp=N,104nm,0.8s						
SYI	**Shuyak Island**	**1.98**	**190**	Pn	Pn	22 17 29.6	-0.2
SYI				IAML		22 17 59.3	
	comp=N,75nm,0.6s						
SYI				IAML		22 17 59.5	
	comp=E,73nm,0.7s						
CUT	**Chulitna**	**1.99**	**20**	Pn	Pn	22 17 29.2	-0.8
CUT				IAML		22 18 06.2	
	comp=E,66nm,0.5s						
CUT				IAML		22 18 21.3	
	comp=N,65nm,1.2s						
N18K	**Kilae Creek**	**2.04**	**275**		Pn	22 17 30.0	-0.7
SML	**Sawmill**	**2.08**	**51**		Pn	22 17 30.0	-1.3
SML				IAML		22 18 00.5	
	comp=E,34nm,0.9s						
SML				IAML		22 18 07.4	
	comp=N,36nm,0.8s						
P18K	**Big Mountain,**	**2.10**	**238**	Pn	Pn	22 17 30.7	-0.8
L19K	**White Mountain**	**2.21**	**319**	Pn	Pn	22 17 32.7	-0.3
GLI	**Glacier Island**	**2.32**	**80**	Pn	Pn	22 17 31.7	-2.7
GLI				IAML		22 18 01.5	
	comp=E,79nm,0.3s						
GLI				IAML		22 18 01.6	
	comp=N,78nm,0.3s						
PPLA	**Purkeypile**	**2.36**	**355**	Pn	Pn	22 17 35.5	+0.4
SCM	**Sheep Creek Mo**	**2.50**	**57**	Pn	Pn	22 17 35.7	-1.2
SCM				IAML		22 18 05.9	
	comp=E,39nm,0.7s						
SCM				IAML		22 18 07.7	
	comp=N,33nm,0.7s						
KAHG	**Katmai Hook Gl**	**2.50**	**216**		Pn	22 17 36.8	-0.2
KAHC	**Katmai Hardscr**	**2.52**	**222**		Pn	22 17 36.9	-0.4
HIN	**Hinchinbrook I**	**2.61**	**91**	Pn	Pn	22 17 37.4	-1.0
HIN				IAML		22 18 49.5	
	comp=N,60nm,1.3s						
N17K	**Nushagak Hills**	**2.68**	**272**		Pn	22 17 39.0	-0.3
P17K	**Kvichak River**	**2.72**	**242**		Pn	22 17 39.7	-0.1
KDAK	**Kodiak Island**	**2.81**	**189**	Pn	Pn	22 17 39.4	-1.7
KDAK				IAML		22 18 24.3	
	comp=N,18nm,0.5s						
KDAK				IAML		22 18 25.6	
	comp=N,22nm,1.3s						
CAST	**Castle Rocks**	**2.88**	**357**		Pn	22 17 42.7	+0.7
M17K	**Holitna River**	**2.89**	**290**	Pn	Pn	22 17 42.1	-0.1
M17K				IAML		22 18 16.9	
	comp=E,38nm,1.1s						
M17K				IAML		22 18 39.6	
	comp=N,19nm,0.9s						
L18K	**Granite Mounta**	**2.90**	**307**	Pn	Pn	22 17 42.1	-0.2
EYAK	**Cordova Ski Ar**	**2.97**	**87**	Pn	Pn	22 17 42.4	-0.8
ACHA	**Angle Creek He**	**2.97**	**219**	Pn	Pn	22 17 44.1	+0.8
TRF	**Thorofare Moun**	**2.99**	**13**		Pn	22 17 44.3	+0.7
TRF				IAML		22 18 31.9	
	comp=E,11nm,1.5s						
TRF				IAML		22 18 39.9	
	comp=N,16nm,0.9s						
KLU	**Klutina**	**3.00**	**69**		Pn	22 17 42.0	-1.6
ANCK	**Angle Creek**	**3.04**	**221**		Pn	22 17 43.6	-0.6
KTH	**Kantishna Hill**	**3.04**	**7**		Pn	22 17 44.7	+0.6
KTH				IAML		22 18 25.8	
	comp=E,12nm,0.9s						
KTH				IAML		22 18 26.4	
	comp=N,12nm,1.5s						
M24K	**Tolsona, Glenn**	**3.11**	**58**		Pn	22 17 44.5	-0.7
M24K				IAML		22 18 34.1	
	comp=N,29nm,1.4s						
M24K				IAML		22 18 55.1	
	comp=E,33nm,1.5s						
**

1.1nm,0.4s,baz=334,slow=11,SNR=13
1.1nm,0.4s
ASAR Alice Springs 26.21 160 P P 22 35 23.2 +0.4
0.7nm,0.6s,baz=340,slow=7.3,SNR=9.2
0.7nm,0.6s
MKAR Makanchi Array 58.52 327 P P 22 39 44.3 -0.1
0.4nm,1.0s,baz=134,slow=8.3,SNR=1.6
0.4nm,1.0s

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*SJA **23** 22:35:20.6±0.7, 20°.73S×68°.99W, h98km±8km, ML3.6, MW3.6*
*GUC **23** 22:35:21.3±0.8, 20°.71S×68°.95W, h104km±4km, ML3.5*
ISC 23 22:35:21.6±1.4, 20°.69S±0°.03×68°.96W±0°.09, h98km±10km, n27, σ1§39/39, 3C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.57**	**342**	⇓*i*P	**Pn**	**22 35 38.5**	**+0.2**
PB08				*i* S	**Sn**	**22 35 51.5**	**+0.9**
PB08				IAML		22 35 52.7	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**0.57**	**342**	*e*P	**Pn**	**22 35 38.2**	**0.0**
PB08				IAML		22 35 52.0	
	comp=Z,812nm,0.2s						
PB01	**IPOC Station P**	**0.61**	**234**	⇑*i*P	**Pn**	**22 35 37.7**	**-0.4**
PB01				*i* S	**Sn**	**22 35 50.2**	**-0.3**
PB01	**IPOC Station P**	**0.61**	**234**	*e*P	**Pn**	**22 35 37.1**	**-1.0**
PB01				IAML		22 35 51.6	
	comp=Z,3μm,0.2s						
HMBC	**Humberstone**	**0.96**	**295**	⇓*i*P	**Pn**	**22 35 41.4**	**-0.2**
HMBC				*i* S	**Sn**	**22 35 57.2**	**+0.6**
HMBC				IAML		22 35 59.2	
	comp=N,3μm,0.2s						
HMBC	**Humberstone**	**0.96**	**295**	*e*P	**Pn**	**22 35 41.4**	**-0.2**
HMBC				IAML		22 36 01.1	
	comp=Z,2μm,0.2s						
PB11	**IPOC Station P**	**1.13**	**325**	⇓*i*P	**Pn**	**22 35 43.6**	**0.0**
PB11				*i* S	**Sn**	**22 36 00.4**	**+0.4**
PB11				IAML		22 36 04.1	
	comp=N,1μm,0.1s						
PB11	**IPOC Station P**	**1.13**	**325**	*e*P	**Pn**	**22 35 43.4**	**-0.1**
PB11				IAML		22 36 02.1	
	comp=Z,564nm,0.3s						
PB09	**IPOC Station P**	**1.13**	**193**	*e*P	**Pn**	**22 35 43.3**	**-0.3**
PB09				*i* S	**Sn**	**22 36 00.5**	**+0.4**
PB09				IAML		22 36 02.9	
	comp=E,690nm,0.1s						
PB09	**IPOC Station P**	**1.13**	**193**	*e*P	**Pn**	**22 35 43.3**	**-0.3**
PB09				IAML		22 36 03.6	
	comp=Z,901nm,0.5s						
TA01	**Diego Aracena**	**1.15**	**276**	⇑*i*P	**Pn**	**22 35 43.4**	**-0.1**
TA01				*e*S	**Sn**	**22 36 00.6**	**+0.5**
TA01				IAML		22 36 01.6	
	comp=E,2μm,0.4s						
TA01	**Diego Aracena**	**1.15**	**276**	*e*P	**Pn**	**22 35 43.4**	**-0.1**
TA01				IAML		22 36 03.4	
	comp=Z,573nm,0.6s						
TA02	**Huaiquique**	**1.17**	**291**	*e*P	**Pn**	**22 35 44.1**	**+0.3**
TA02	**Huaiquique**	**1.17**	**291**	*e*P	**Pn**	**22 35 44.0**	**+0.2**
TA02				IAML		22 36 04.0	
	comp=Z,2μm,0.1s						
PB03	**IPOC Station P**	**1.54**	**208**	⇑*i*P	**Pn**	**22 35 48.0**	**-0.4**
PB03				*i* S	**Sn**	**22 36 08.1**	**-0.7**
PB03				IAML		22 36 14.4	
	comp=N,423nm,0.3s						
PB03	**IPOC Station P**	**1.54**	**208**	*e*P	**Pn**	**22 35 48.1**	**-0.4**
PB03				IAML		22 36 12.2	
	comp=Z,578nm,0.4s						
PB06	**IPOC Station P**	**2.09**	**196**	*e*P	**Pn**	**22 35 55.1**	**-0.3**
PB06				*i* S	**Sn**	**22 36 19.3**	**-1.8**
PB06				IAML		22 36 25.9	
	comp=E,577nm,0.7s						
PB06	**IPOC Station P**	**2.09**	**196**	*e*P	**Pn**	**22 35 55.4**	**0.0**
PB06				IAML		22 36 25.7	
	comp=Z,303nm,0.6s						
PB16	**IPOC Station P**	**2.40**	**347**	*e*P	**Pn**	**22 36 01.2**	**+1.4**
PB16				*i* S	**Sn**	**22 36 30.1**	**+1.1**
PB16				IAML		22 36 37.0	
	comp=N,114nm,0.4s						
PB16	**IPOC Station P**	**2.40**	**347**	*e*P	**Pn**	**22 36 01.0**	**+1.1**
PB16				IAML		22 36 43.4	
	comp=Z,81nm,0.6s						
PB12	**IPOC Station P**	**2.43**	**328**	*e*P	**Pn**	**22 35 59.4**	**-0.5**
PB12				*i* S	**Sn**	**22 36 28.3**	**-0.9**
PB12				IAML		22 36 40.4	
	comp=E,346nm,0.5s						
PB12	**IPOC Station P**	**2.43**	**328**	*e*P	**Pn**	**22 35 59.5**	**-0.4**
PB12				IAML		22 36 41.0	
	comp=Z,197nm,0.4s						
PB05	**IPOC Station P**	**2.44**	**208**	*e*P	**Pn**	**22 35 59.6**	**-0.4**
PB05				*i* S	**Sn**	**22 36 28.0**	**-1.5**
PB05				IAML		22 36 37.6	
	comp=E,372nm,0.3s						
PB05	**IPOC Station P**	**2.44**	**208**	*e*P	**Pn**	**22 35 59.6**	**-0.4**
PB05				IAML		22 36 37.1	
	comp=Z,234nm,0.5s						
PB14	**IPOC Station P**	**4.14**	**199**	*e*P	**Pn**	**22 36 22.1**	**-0.8**
PB14				IAML		22 37 22.7	
	comp=Z,90nm,0.4s						
LPAZ	**La Paz**	**4.45**	**10**	*e*P	**Pn**	**22 36 24.6**	**-2.8**
GO02	**Mina Guanaco**	**4.49**	**187**	*e*P	**Pn**	**22 36 26.8**	**-0.8**
GO02				*e*S	**Sn**	**22 37 25.5**	**+6.5**

NNC 23 22:58:13.7±4.3, 37°.67N×71°.67E, h0km, mb3.6, mpv3.2, 3C-4D, Error ellipse: s-maj=46.2km s-min=26.9km az=141.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.42**	**23**	⇓P	Pn	22 59 36.3	+0.4
AAK				⇓S	Sn	23 00 40.1	+1.2
	3.8nm,0.4s						
KK31	**Karatay Array**	**5.50**	**351**	⇑P	Pn	22 59 38.6	+1.7
KK31				⇓S	Sn	23 00 41.8	+0.9
	0.2nm,0.2s,baz=160,slow=10,SNR=14						
TKM2	**Tokmak 2**	**6.05**	**29**	⇑P	Pn	22 59 43.9	-0.7
TKM2				⇑S	Sn	23 00 55.5	+0.9
	1.5nm,0.2s,baz=160,slow=24,SNR=4.1						
AB31	**Akbulak array**	**14.36**	**328**	⇓P	Pn	23 01 34.6	-3.4
	1.2nm,0.4s						
	0.6nm,0.6s,baz=144,slow=12,SNR=7.3						

NNC 23 23:04:29.6±2.6, 39°.06N×75°.07E, h0km, mb3.8, mpv3.4, 2C-5D, Error ellipse: s-maj=20.0km s-min=15.0km az=146.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.60**	**353**	⇓Pn	Pn	23 05 28.8	+2.0
AAK				Pg	Pb	23 05 35.9	+1.6
	3.4nm,0.6s						
	6.7nm,0.6s						
AAK				Lg	Lg	23 06 28.6	
	5.3nm,0.6s						
TKM2	**Tokmak 2**	**3.88**	**6**	⇓Pn	Pn	23 05 31.6	+0.9
TKM2				⇑Sn	Sn	23 06 18.0	+0.9
	3.3nm,0.5s						
	5.8nm,0.6s						
TKM2				⇓Lg	Lg	23 06 33.7	
	11nm,0.6s						
MRKS	**Merke**	**3.94**	**340**	Pg	Pn	23 05 29.0	-2.4
MRKS				Lg	Lg	23 06 14.5	
	0.4nm,0.2s						
	3.3nm,0.5s						
KST	**Kastek**	**4.04**	**9**	Pg	Pb	23 05 42.6	+0.9
KST				Lg	Lg	23 06 39.6	
	3.9nm,0.3s						
	18nm,0.8s						
TNSS	**Tian-Shan**	**4.22**	**19**	Pg	Pb	23 05 46.2	+1.3
TNSS				Lg	Lg	23 06 44.7	
KRBS	**Karabastau**	**4.66**	**5**	Pg	Pb	23 05 52.1	-0.1
KRBS				Lg	Lg	23 06 54.9	
	6.0nm,0.2s						
	4.8nm,0.6s						
KTBS	**Karatobe**	**4.81**	**14**	Pg	Pb	23 05 56.0	+1.3
KTBS				Lg	Lg	23 07 01.0	
	3.8nm,0.4s						
	7.6nm,0.4s						
IUG	**Iuzhnay**	**4.92**	**310**	Pg	Pn	23 05 42.4	-2.6
IUG				Lg	Lg	23 06 38.6	
	6.3nm,0.4s						
	24nm,0.6s						
CHKK	**Chushkaly**	**5.00**	**16**	Pg	Pb	23 05 59.6	+1.6
CHKK				Lg	Lg	23 07 09.4	
	3.6nm,0.6s						
	6.9nm,0.3s						
KK31	**Karatay Array**	**5.31**	**321**	⇓Pn	Pn	23 05 49.3	-0.9
KK31				⇓Sn	Sn	23 06 53.0	+0.9
	1.1nm,0.5s,baz=134,slow=13,SNR=15						
	0.9nm,0.5s						
KK31				⇑Lg	Lg	23 07 13.8	
	1.0nm,0.4s						

IDC 23 23:06:44.9±1.9, 8°.17S×124°.82E, h0km, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=204.3km s-min=31.7km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.90**	**143**	Pn	Pn	23 10 17.3	+0.3
WRA				Sn	Sn	23 12 51.1	-12
	0.2nm,0.3s,baz=321,slow=12,SNR=6.3						
	0.3nm,0.3s,baz=300,slow=23,SNR=5.3						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.70**	**152**	P	Pn	23 10 53.1	+0.1
ASAR				S	Sn	23 13 56.2	-15
	0.1nm,0.3s,baz=319,slow=12,SNR=12						
	0.2nm,0.3s,baz=310,slow=20,SNR=1.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**66.51**	**330**	P	P	23 17 36.5	0.0
	0.2nm,0.5s,baz=128,slow=6.2,SNR=4.9						
	0.2nm,0.5s						

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*KRNET **23** 23:22:00.8±0.1, 40°.92N×78°.88E, mb2.9*
*SOME **23** 23:22:01.4, 40°.65N×78°.30E, h10km*
*NNC **23** 23:22:07.0±3.5, 40°.84N×78°.61E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.6km s-min=15.2km az=158.0*
ISC 23 23:21:58.8±2.0, 40°.56N±0°.08×78°.30E±0°.04, h14km±12km, n41, σ1§18/64, 21C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.78**	**332**	⇑*i*P	**Pg**	**23 22 33.7**	**+0.7**
KDJ				⇑*i*S	**Sg**	**23 22 57.5**	**+1.4**
PRZ	**Przheval'sk**	**1.92**	**2**	*e*P	**Pn**	**23 22 31.4**	**+0.2**
PRZ				⇑*e*S	**Sn**	**23 22 53.6**	**-1.6**
ANVS	**Anan'yevo**	**2.27**	**348**	⇓*e*P	**Pb**	**23 22 38.8**	**-0.8**
ANVS				⇓*e*S	**Sb**	**23 23 07.1**	**-0.5**
ULHL	**Ulahol**	**2.29**	**318**	⇑*i*P	**Pg**	**23 22 42.8**	**+0.2**
ULHL				⇑*i*S	**Sg**	**23 23 13.8**	**+1.5**
SATY	**Saty**	**2.50**	**2**	Pg	**Pg**	**23 22 46.5**	**-0.1**
SATY				Lg	Lg	23 23 19.1	
	5.5nm,0.5s						
	44nm,0.9s						
ZHN	**Zhinishke**	**2.60**	**2**	Pg	**Pg**	**23 22 48.8**	**+0.1**
ZHN				Lg	Lg	23 23 22.6	
	7.2nm,0.3s						
	36nm,0.5s						
ZHN	**Zhinishke**	**2.60**	**2**	*e*P	**Pg**	**23 22 48.8**	**+0.1**
ZHN				*e*S	**Sg**	**23 23 22.6**	**+0.1**
	7.2nm,0.3s						
	36nm,0.5s						
BOOM	**Boomskoye usch**	**2.62**	**318**	⇑*i*P	**Pg**	**23 22 47.5**	**-1.5**
BOOM				⇑*i*S	**Sg**	**23 23 21.9**	**-1.0**
UZB	**Uzynbulak**	**2.64**	**12**	Pg	**Pg**	**23 22 49.0**	**-0.3**
UZB				Lg	Lg	23 23 22.9	
	4.9nm,0.3s						
	18nm,0.5s						
UZB	**Uzynbulak**	**2.64**	**12**	*e*P	**Pg**	**23 22 49.0**	**-0.3**
UZB				*e*S	**Sg**	**23 23 22.9**	**-0.6**
	4.9nm,0.3s						
	18nm,0.5s						
TNSS	**Tian-Shan**	**2.67**	**338**	Pg	**Pg**	**23 22 50.1**	**+0.1**
TNSS				Lg	Lg	23 23 24.7	
	6.5nm,0.2s						
	3.9nm,0.5s						
TNSS	**Tian-Shan**	**2.67**	**338**	*e*P	**Pg**	**23 22 50.1**	**+0.1**
TNSS				*e*S	**Sg**	**23 23 24.8**	**+0.1**
	6.5nm,0.2s						
	3.9nm,0.5s						
SHLS	**Shalkode**	**2.73**	**18**	Pg	**Pg**	**23 22 52.8**	**+1.6**
SHLS				Lg	Lg	23 23 29.5	
	6.2nm,0.3s						
	13nm,0.4s						
SHLS	**Shalkode**	**2.73**	**18**	*e*P	**Pg**	**23 22 52.8**	**+1.6**
SHLS				*e*S	**Sg**	**23 23 29.6**	**+3.0**
	6.2nm,0.3s						
	13nm,0.4s						
KOTS	**Kotyrbulak**	**2.81**	**342**	Pg	**Pg**	**23 22 52.6**	**-0.1**
KOTS				Lg	Lg	23 23 30.1	
	6.1nm,0.3s						
	23nm,0.2s						
KOTS	**Kotyrbulak**	**2.81**	**342**	*e*P	**Pg**	**23 22 52.8**	**+0.1**
KOTS				*e*S	**Sg**	**23 23 29.4**	**+0.2**
	6.1nm,0.3s						
	23nm,0.2s						
PDGK	**Podgornoye**	**2.90**	**17**	⇑Pn	**Pb**	**23 22 50.6**	**+0.2**
PDGK				⇓Sn	**Sb**	**23 23 26.6**	**+0.9**
	3.3nm,0.6s						
	12nm,0.7s						
KPKS	**Kokpek**	**2.91**	**5**	*e*P	Pg	23 23 00.7	+6.0
KPKS				*e*S	Sg	23 23 43.2	+11
	2.6nm,0.3s						
	9.6nm,0.3s						
MTBS	**Maitube**	**2.92**	**332**	Pg	**Pg**	**23 22 54.2**	**-0.6**
MTBS				Lg	Lg	23 23 32.0	
	2.0nm,0.2s						
	16nm,0.3s						
MTBS	**Maitube**	**2.92**	**332**	*e*P	**Pg**	**23 22 54.2**	**-0.6**
MTBS				*e*S	**Sg**	**23 23 32.0**	**-0.6**
	2.0nm,0.2s						
	16nm,0.3s						
KURS	**Kuram**	**2.92**	**358**	Pg	**Pg**	**23 22 54.1**	**-0.8**
KURS				Lg	Lg	23 23 33.0	
	3.6nm,0.4s						
	11nm,0.5s						
KST	**Kastek**	**3.03**	**326**	Pg	**Pg**	**23 22 56.5**	**-0.4**
KST				Lg	Lg	23 23 35.3	
	3.3nm,0.4s						
	8.6nm,0.4s						
KST	**Kastek**	**3.03**	**326**	*e*P	**Pg**	**23 22 56.5**	**-0.4**
KST				*e*S	**Sg**	**23 23 36.1**	**-0.1**
	3.3nm,0.4s						
	8.6nm,0.4s						
TKM2	**Tokmak 2**	**3.11**	**320**	⇓Pn	**Pg**	**23 22 56.8**	**-1.6**
TKM2				⇑Sn	**Sg**	**23 23 39.3**	**+0.8**
	3.0nm,0.6s						
	6.3nm,0.5s						
TKM2	**Tokmak 2**	**3.11**	**320**	⇑*i*P	**Pb**	**23 22 53.4**	**-0.5**
TKM2				⇑*i*S	**Sb**	**23 23 32.3**	**+0.6**
ARLS	**Aral**	**3.27**	**295**	⇓*e*P	**Pg**	**23 22 59.7**	**-1.7**
ARLS				⇓*e*S	**Sg**	**23 23 42.4**	**-1.4**
KBK	**Karagaybulak**	**3.27**	**311**	⇑*i*P	**Pb**	**23 22 57.3**	**+0.6**
KBK				⇑*i*S	**Sb**	**23 23 38.6**	**+2.2**
DGS	**Degeres**	**3.28**	**326**	Pg	**Pg**	**23 23 00.7**	**-0.9**
DGS				Lg	Lg	23 23 43.5	
	2.6nm,0.3s						
	9.6nm,0.6s						
KTBS	**Karatobe**	**3.37**	**340**	Pg	**Pg**	**23 23 02.7**	**-0.6**
KTBS				Lg	Lg	23 23 46.5	
	0.9nm,0.1s						
	10nm,0.4s						
SALK	**Salom-Alik**	**3.42**	**277**	⇓*i*P	**Pg**	**23 23 03.4**	**-0.9**
SALK				⇓*i*S	**Sg**	**23 23 49.4**	**+0.7**
AAK	**Ala-Archa**	**3.53**	**307**	⇑Pn	**Pg**	**23 23 05.6**	**-0.8**
AAK				⇓Sn	**Sg**	**23 23 51.9**	**-0.2**
	3.0nm,0.7s						
	4.7nm,0.7s						
AAK	**Ala-Archa**	**3.53**	**307**	⇑*i*P	**Pb**	**23 23 01.2**	**+0.2**
AAK				⇑*i*S	**Sb**	**23 23 45.6**	**+1.8**
BLB	**Baldybastay**	**3.53**	**2**	Pg	**Pg**	**23 23 05.4**	**-1.1**
BLB				Lg	Lg	23 23 50.9	
	9.2nm,0.2s						
	8.2nm,0.5s						
CHMS	**Chumysh**	**3.60**	**314**	⇓Pn	**Pg**	**23 23 07.0**	**-0.8**
CHMS				⇓Sn	**Sg**	**23 23 54.4**	**-0.1**
	1.6nm,0.5s						
	2.0nm,0.4s						
ARXS	**Arharly**	**3.66**	**355**	Pg	**Pg**	**23 23 07.9**	**-1.0**
ARXS				Lg	Lg	23 23 55.8	
	7.4nm,0.2s						
	64nm,0.6s						
KRBS	**Karabastau**	**3.69**	**329**	Pg	**Pg**	**23 23 07.8**	**-1.7**
KRBS				Lg	Lg	23 23 55.2	
	2.1nm,0.3s						
	8.1nm,0.5s						
AML	**Almayashu**	**3.81**	**296**	⇑*e*P	**Pb**	**23 23 06.9**	**+1.0**
AML				⇑*i*S	**Sb**	**23 23 55.5**	**+3.5**
KNOS	**Konyrlen**	**3.85**	**9**	Pg	**Pg**	**23 23 11.3**	**-1.2**
KNOS				Lg	Lg	23 24 01.3	
	1.2nm,0.2s						
	2.6nm,0.7s						
DJR	**Jarkent**	**3.92**	**16**	Pg	**Pg**	**23 23 12.0**	**-1.9**
DJR				Lg	Lg	23 24 02.5	
	0.5nm,0.1s						
	5.2nm,0.4s						
DJR	**Jarkent**	**3.92**	**16**	*e*P	**Pg**	**23 23 11.8**	**-2.1**
DJR				*e*S	**Sg**	**23 24 02.5**	**-2.2**
	0.5nm,0.1s						
	5.2nm,0.4s						
EKS2	**Erkin-Say**	**3.99**	**303**	⇑*i*P	**Pb**	**23 23 08.1**	**-0.8**
EKS2				⇑*i*S	**Sb**	**23 23 57.5**	**+0.5**

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*IDC **23** 23:57:59.9±1.7, 31°.82S×177°.79W, h0km, mb3.8/3, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=43.0km s-min=33.0km az=97.0*
ISC 23 23:58:03.8±1.6, 31°.9S±0°.2×177°.9W±0°.3, h24km, n6, σ1§18/7, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.61**	**211**	Pn	**Pn**	**23 59 51.4**	**-1.7**
URZ				Sn	**Sn**	**00 01 19.7**	**+1.3**
	0.4nm,0.3s,baz=27,slow=6.8,SNR=6.7						
	2.6nm,0.3s,baz=21,slow=22,SNR=11						
	3.8nm,0.8s						
ASAR	**Alice Springs**	**43.17**	**268**	P	**P**	**00 06 03.3**	**+0.4**
	0.4nm,0.5s,baz=107,slow=7.4,SNR=8.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.29**	**274**	P	**P**	**00 06 12.2**	**+0.3**
	1.0nm,0.6s,baz=115,slow=7.8,SNR=5.9						
	1.0nm,0.6s						
QSPA	**South Pole Qui**	**58.26**	**180**	P	**P**	**00 07 57.0**	**+0.8**
	1.2nm,0.8s,baz=48,slow=2.3,SNR=2.0						
	1.2nm,0.8s						
FINES	**FINESS Array B**	**146.55**	**339**	PKPbc	**PKPdf**	**00 17 40.5**	**-0.3**
	7.9nm,1.2s,baz=26,slow=6.0,SNR=6.9						
MMAI	**Mount Meron Ar**	**151.97**	**281**	PKPbc	**PKiKP**	**00 17 57.4**	**0.0**
	0.5nm,0.4s,baz=101,slow=6.0,SNR=4.9						

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*IDC **24** 00:11:09.0±0.9, 34°.72N×73°.45E, h0km, mb3.9/12, mbtmp3.8/17, ML3.3/5, MS3.6/2, Error ellipse: s-maj=23.3km s-min=16.2km az=60.0*
*NNC **24** 00:11:14.5±9.5, 34°.98N×73°.00E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=87.5km s-min=71.2km az=111.0*
ISC 24 00:11:10.6±0.9, 34°.69N±0°.08×73°.4E±0°.1, h10km, n21, σ1§41/24, mb3.9/11, 3C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.98**	**6**	Pn	**Pn**	**00 13 09.2**	**+2.5**
AAK				Sn	**Sn**	**00 14 34.7**	**-2.3**
	0.4nm,0.3s,baz=182,slow=13,SNR=7.5						
	0.1nm,0.3s,baz=307,slow=23,SNR=1.6						
	1.1nm,0.5s						
AAK	**Ala-Archa**	**7.98**	**6**	⇓P	**Pn**	**00 13 09.0**	**+2.3**
AAK				S	**Sn**	**00 14 39.6**	**+2.5**
	1.9nm,0.8s						
	6.0nm,1.4s						
TKM2	**Tokmak 2**	**8.39**	**11**	⇑P	**Pn**	**00 13 13.1**	**+0.7**
TKM2				⇑S	**Sn**	**00 14 47.5**	**+0.3**
	1.0nm,0.4s						
	3.4nm,0.6s						
KK31	**Karatay Array**	**8.70**	**346**	⇓P	**Pn**	**00 13 18.2**	**+1.8**
KK31				⇑S	**Sn**	**00 14 52.6**	**-2.0**
	3.4nm,0.5s,baz=160,slow=12,SNR=50						
	11nm,0.7s,baz=170,slow=23,SNR=11						
MKAR	**Makanchi Array**	**13.82**	**26**	Pn	**Pn**	**00 14 26.3**	**-0.1**
	0.1nm,0.3s,baz=207,slow=13,SNR=5.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**16.35**	**12**	Pn	**Pn**	**00 14 57.9**	**-2.2**
	0.1nm,0.3s,baz=200,slow=11,SNR=7.3						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**18.45**	**354**	P	**P**	**00 15 24.4**	**-1.8**
	0.1nm,0.3s,baz=176,slow=12,SNR=8.5						
	0.9nm,0.3s						
AKTO	**Aktyubinsk**	**19.34**	**329**	P	**P**	**00 15 36.7**	**+0.8**
	0.6nm,0.3s,baz=134,slow=6.5,SNR=8.8						
AKTO				LR	LR	00 22 30.2	
	comp=Z,247nm,19.7s,baz=308,slow=35						
	1.9nm,0.3s						
ZALV	**Zalesovo Beam**	**20.86**	**19**	P	**P**	**00 15 51.3**	**-1.1**
	2.8nm,0.3s,baz=214,slow=11,SNR=14						
	2.8nm,0.3s						
ARTI	**Arti**	**24.01**	**339**	P	**P**	**00 16 24.9**	**-0.4**
	1.8nm,0.5s,baz=156,slow=5.9,SNR=3.8						
	1.8nm,0.5s						
SONM	**Songino Array**	**27.82**	**52**	P	**P**	**00 17 00.0**	**0.0**
	0.5nm,0.5s,baz=255,slow=8.7,SNR=5.4						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.86**	**119**	P	**P**	**00 17 00.3**	**-0.1**
	0.7nm,0.3s,baz=310,slow=8.1,SNR=4.2						
	0.7nm,0.3s						
NRIK	**Noril'sk**	**35.58**	**9**	P	**P**	**00 18 08.1**	**+0.4**
	0.3nm,0.4s,baz=221,slow=12,SNR=1.6						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**43.56**	**338**	P	**P**	**00 19 14.3**	**+0.1**
	1.4nm,0.8s,baz=119,slow=8.5,SNR=4.3						
	1.4nm,0.8s						
HFS	**Hagfors**	**45.70**	**323**	P	**P**	**00 19 31.0**	**-0.4**
	8.0nm,1.0s,baz=95,slow=8.5,SNR=3.6						
	8.0nm,1.0s						
NOA	**NORSAR Array B**	**47.00**	**324**	P	**P**	**00 19 41.3**	**-0.4**
	1.4nm,1.0s,baz=99,slow=6.4,SNR=2.7						
	1.4nm,1.0s						
MA2	**Magadan**	**54.58**	**38**	LR	LR	00 46 45.4	
	comp=Z,51nm,20.5s,baz=313,slow=39						
TORD	**Torodi Ar. Bea**	**67.68**	**271**	P	**P**	**00 22 08.5**	**+0.1**
	0.6nm,0.6s,baz=47,slow=6.2,SNR=7.1						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**75.96**	**17**	P	**P**	**00 22 56.8**	**-0.5**
	0.4nm,0.8s,baz=320,slow=4.2,SNR=5.1						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**79.36**	**123**	P	**P**	**00 23 16.8**	**0.0**
	0.8nm,0.6s,baz=321,slow=5.2,SNR=8.2						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**81.60**	**126**	P	**P**	**00 23 29.3**	**+0.4**
	0.4nm,0.6s,baz=315,slow=5.6,SNR=9.5						
	0.4nm,0.6s						

IDC 24 00:19:40.6±2.5, 3°.65S×128°.10E, h0km, mb3.4/2, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=210.3km s-min=29.9km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.30**	**160**	P	Pn	00 23 43.6	-0.2
	0.1nm,0.3s,baz=342,slow=12,SNR=3.3						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**20.67**	**165**	P	P	00 24 22.4	+0.1
	2.9nm,0.8s,baz=348,slow=10,SNR=19						
	2.9nm,0.8s						
MKAR	**Makanchi Array**	**64.41**	**327**	P

	comp=N,7μm,0.4s						
INCE				*i* AML	AML	00 26 25.0	
	comp=E,4μm,0.3s						
CAEL	**Denizli, Camel**	**0.31 201**	P		**Pg**	**00 26 19.0**	**-0.6**
CAEL			S		**Sb**	**00 26 25.4**	**-0.7**
CAEL				*i* AML	AML	00 26 27.0	
	comp=E,7μm,0.4s						
CAEL				*i* AML	AML	00 26 32.0	
	comp=N,8μm,0.6s						
DNZT	**Denizli-Tavas-**	**0.37 249**	P		**Pg**	**00 26 20.0**	**-0.7**
DNZT				*i* AML	AML	00 26 26.0	
	comp=N,3μm,0.4s						
DNZT				*i* AML	AML	00 26 26.0	
	comp=E,2μm,0.2s						
DNZT			S		**Sg**	**00 26 26.0**	**+0.4**
DNIZ	**Denizli-Tavas-**	**0.39 303**	P		**Pg**	**00 26 20.4**	**-0.7**
DNIZ			S		**Sg**	**00 26 26.9**	**+0.6**
DNIZ				*i* AML	AML	00 26 27.0	
	comp=E,1μm,0.3s						
DNIZ				*i* AML	AML	00 26 30.0	
	comp=N,7μm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.43 277**	P		**Pg**	**00 26 21.2**	**-0.7**
TAVA			S		**Sg**	**00 26 28.0**	**+0.3**
TAVA				*i* AML	AML	00 26 30.0	
	comp=N,2μm,0.4s						
TAVA				*i* AML	AML	00 26 30.0	
	comp=E,2μm,0.4s						
CAME	**Cameli-Denizli**	**0.49 195**	Pg		**Pg**	**00 26 21.7**	**-1.1**
CAME			Sg		**Sg**	**00 26 30.2**	**+0.9**
BASM	**Basmaki-Afyon**	**0.69 43**	Pg		**Pg**	**00 26 25.3**	**-1.4**
SABU	**Mula-Dalaman**	**0.71 214**	P		**Pg**	**00 26 25.9**	**-1.1**
SABU				*i* AML	AML	00 26 37.0	
	comp=N,3μm,0.3s						
SABU				*i* AML	AML	00 26 37.0	
	comp=E,4μm,0.5s						
SABU			S		**Sg**	**00 26 37.2**	**+0.9**
ELL	**Elmali**	**0.76 151**	Pg		**Pg**	**00 26 26.6**	**-1.3**
ELL			Sg		**Sb**	**00 26 39.2**	**+0.2**
KORT	**Korkueli**	**0.82 120**	Pg		**Pg**	**00 26 28.7**	**-0.5**
FETY	**Fethiye**	**0.83 201**	Pg		**Pg**	**00 26 28.8**	**-0.6**
DALY	**Dalyan (Mula)**	**0.88 227**	Pg		**Pg**	**00 26 29.5**	**-0.7**
BCK	**Bucak**	**0.90 87**	Pg		**Pg**	**00 26 30.0**	**-0.7**
KHL	**Karahalli**	**0.91 3**	Pg		**Pg**	**00 26 29.8**	**-1.0**
MULA	**Mugla, Merkez-**	**0.92 260**	P		**Pg**	**00 26 29.9**	**-1.1**
MULA				*i* AML	AML	00 26 48.0	
	comp=E,973nm,0.7s						
MULA				*i* AML	AML	00 26 49.0	
	comp=N,504nm,0.5s						
ISP	**Isparta**	**0.94 64**	Pg		**Pg**	**00 26 30.5**	**-0.9**
ISP	**Isparta**	**0.94 64**	P		**Pg**	**00 26 30.0**	**-1.4**
YER	**Yerkesik**	**0.98 254**	Pg		**Pg**	**00 26 31.2**	**-0.9**
NAZL	**Nazilli-Aydin**	**1.07 301**	Pg		**Pg**	**00 26 32.8**	**-1.2**
ANTB	**Antalya**	**1.09 118**	Pn		**Pg**	**00 26 33.7**	**-0.5**
TURN	**Turunc**	**1.16 237**	Pn		**Pg**	**00 26 34.8**	**-0.8**
AKAS	**Kas**	**1.19 174**	Pn		**Pg**	**00 26 35.5**	**-0.6**
DEMR	**Demre-Antalya**	**1.23 163**	Pn		**Pb**	**00 26 36.5**	**-0.1**
KULA	**Kula-Manisa**	**1.27 330**	Pn		**Pn**	**00 26 36.4**	**-0.7**
MLSB	**Milas**	**1.34 265**	Pn		**Pn**	**00 26 38.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.35 294**	Pn		**Pn**	**00 26 38.0**	**-0.3**
ODEM	**Odemis-Izmir**	**1.39 309**	Pn		**Pn**	**00 26 38.3**	**-0.5**
SHUT	**Suhut-Afyon**	**1.43 37**	Pn		**Pn**	**00 26 38.9**	**-0.4**
ARG	**Arkhangelos**	**1.60 222**	Pn		**Pn**	**00 26 41.7**	**+0.1**
SHAP	**Saphane-Kutahy**	**1.62 354**	Pn		**Pn**	**00 26 41.9**	**0.0**
GEDZ	**Gediz**	**1.63 359**	Pn		**Pn**	**00 26 42.0**	**0.0**
DAT	**Datca**	**1.65 246**	Pn		**Pn**	**00 26 42.5**	**+0.1**
MNVG	**Manavgat-Antal**	**1.69 111**	Pn		**Pn**	**00 26 43.0**	**+0.3**
SIMA	**Simav-Kutahya**	**1.71 348**	Pn		**Pn**	**00 26 43.1**	**0.0**
SMAA	**Simav-Kutahya**	**1.72 348**	Pn		**Pn**	**00 26 43.5**	**+0.1**
BODT	**Bodrum**	**1.75 259**	Pn		**Pn**	**00 26 43.9**	**+0.3**
YKAV	**Yalikavak-Bodr**	**1.76 261**	Pn		**Pn**	**00 26 43.9**	**+0.2**
GOMA	**Golmarmara-Man**	**1.77 317**	Pn		**Pn**	**00 26 43.9**	**0.0**
GCAM	**G?zelcaml?**	**1.79 280**	Pn		**Pn**	**00 26 44.4**	**+0.3**
GORD	**Gordes-Manisa**	**1.80 326**	Pn		**Pn**	**00 26 44.2**	**-0.2**
SEYD	**Seydisehir-KON**	**1.90 90**	Pn		**Pn**	**00 26 45.9**	**+0.1**
KARP	**Karpathos**	**2.63 225**	Pn		**Pn**	**00 26 56.6**	**+0.9**
BAND	**Balkesir-Ban**	**3.12 341**	⇓P		**Pn**	**00 27 02.6**	**+0.1**
BAND			⇑S		**Sn**	**00 27 40.0**	**+0.2**
SAHE	**Sakarya_HENDEK**	**3.60 17**	⇑P		**Pn**	**00 27 10.7**	**+1.6**
CSS	**Mathiatis**	**3.98 127**	P		**Pn**	**00 27 14.2**	**0.0**
CSS	**Mathiatis**	**3.98 127**	S		**Sn**	**00 27 59.3**	**-1.6**
BRTR	**Keskin Array B**	**4.01 54**	Pn		**Pn**	**00 27 15.6**	**+0.8**
	1.4nm,0.3s,baz=240,slow=18,SNR=52						
BRTR			Sn		**Sn**	**00 28 03.6**	**+1.8**
	0.4nm,0.3s,baz=225,slow=23,SNR=7.4						
	4.4nm,0.5s						
IDI	**Anoyia**	**4.25 241**	Pn		**Pn**	**00 27 19.7**	**+1.6**
	6.2nm,0.2s,baz=42,slow=14,SNR=30						
IDI			Sn		**Sn**	**00 28 09.6**	**+1.8**
	9.1nm,0.3s,baz=343,slow=18,SNR=11						
HWQ	**Hawqa**	**6.13 119**	*e*P		**Pn**	**00 27 45.5**	**+1.6**
BHL	**Bhannes**	**6.14 123**	*e*P		**Pn**	**00 27 45.2**	**+1.1**
BEIL	**Beino**	**6.16 116**	*e*P		**Pn**	**00 27 46.3**	**+1.9**
ZAHL	**Zahle**	**6.32 122**	*e*P		**Pn**	**00 27 47.5**	**+0.9**
HNTI	**Hanita**	**6.37 131**	P		**Pn**	**00 27 46.7**	**-0.4**
HNTI	**Hanita**	**6.37 131**	S		**Sn**	**00 28 58.5**	**-1.3**
RCY	**Rachaya**	**6.51 125**	*e*P		**Pn**	**00 27 49.9**	**+0.7**
MMC7	**Mount Meron ar**	**6.54 130**	P		**Pn**	**00 27 49.7**	**+0.2**
SHBL	**Chebaa**	**6.54 126**	*e*P		**Pn**	**00 27 49.9**	**+0.3**
MMA0B	**Mount Meron ar**	**6.55 130**	P		**Pn**	**00 27 50.1**	**+0.4**
MMA0B	**Mount Meron ar**	**6.55 130**	S		**Sn**	**00 29 03.0**	**-1.5**
MMAI	**Mount Meron Ar**	**6.55 130**	Pn		**Pn**	**00 27 49.9**	**+0.2**
	6.7nm,0.3s,baz=319,slow=11,SNR=25						
MMAI			Sn		**Sn**	**00 29 04.2**	**-0.3**
	5.9nm,0.3s,baz=302,slow=27,SNR=7.5						
	6.3nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.58 128**	P		**Pn**	**00 27 50.4**	**+0.3**
GEM	**Giv'at Ha'Em**	**6.58 128**	S		**Sn**	**00 29 03.9**	**-1.2**
OFRI	**`Ofer**	**6.59 135**	P		**Pn**	**00 27 50.2**	**0.0**
OFRI	**`Ofer**	**6.59 135**	S		**Sn**	**00 29 04.2**	**-1.2**
NATI	**Neve Ativ**	**6.59 127**	P		**Pn**	**00 27 50.7**	**+0.5**
NATI	**Neve Ativ**	**6.59 127**	S		**Sn**	**00 29 04.4**	**-1.0**
BLGI	**Bet Lehem HaGe**	**6.63 133**	P		**Pn**	**00 27 50.8**	**+0.2**
BLGI	**Bet Lehem HaGe**	**6.63 133**	S		**Sn**	**00 29 05.4**	**-0.8**
KSHT	**Keshet**	**6.83 128**	P		**Pn**	**00 27 53.4**	**-0.1**
KSHT	**Keshet**	**6.83 128**	S		**Sn**	**00 29 09.9**	**-1.3**
SLTI	**Sal'it**	**6.91 137**	P		**Pn**	**00 27 54.6**	**+0.1**
SLTI	**Sal'it**	**6.91 137**	S		**Sn**	**00 29 11.7**	**-1.4**
MMLI	**Mount Malkishu**	**6.97 134**	P		**Pn**	**00 27 55.3**	**-0.1**
MMLI	**Mount Malkishu**	**6.97 134**	S		**Sn**	**00 29 13.7**	**-1.2**
TIRR	**Tirgusor**	**7.08 354**	⇓P		**Pn**	**00 27 57.3**	**+0.5**
SALP	**Salfit**	**7.12 137**	P		**Pn**	**00 27 57.4**	**-0.1**
SALP	**Salfit**	**7.12 137**	S		**Sn**	**00 29 16.9**	**-1.6**
HMDT	**Nahal Hemdat**	**7.17 134**	P		**Pn**	**00 27 58.1**	**0.0**
HMDT	**Nahal Hemdat**	**7.17 134**	S		**Sn**	**00 29 18.2**	**-1.4**
UJAP	**Al Uja**	**7.36 136**	P		**Pn**	**00 28 00.7**	**0.0**
UJAP	**Al Uja**	**7.36 136**	S		**Sn**	**00 29 22.8**	**-1.4**
AMAZ	**Amatzia**	**7.40 141**	P		**Pn**	**00 28 01.1**	**-0.2**
AMAZ	**Amatzia**	**7.40 141**	S		**Sn**	**00 29 24.0**	**-1.2**
TPGR	**Topolog**	**7.48 354**	⇑P		**Pn**	**00 28 02.6**	**+0.3**
DSI	**Dead Sea**	**7.61 138**	P		**Pn**	**00 28 03.9**	**-0.3**
DSI	**Dead Sea**	**7.61 138**	S		**Sn**	**00 29 28.7**	**-1.7**
YTIR	**Yattir**	**7.63 141**	P		**Pn**	**00 28 04.5**	**-0.1**
YTIR	**Yattir**	**7.63 141**	S		**Sn**	**00 29 30.3**	**-0.9**
KZIT	**Kziot**	**7.67 146**	P		**Pn**	**00 28 04.9**	**-0.2**
KZIT	**Kziot**	**7.67 146**	S		**Sn**	**00 29 30.7**	**-1.3**
TLCR		**7.78 357**	⇑P		**Pn**	**00 28 06.8**	**+0.4**
MSBI	**Mazada**	**7.80 140**	P		**Pn**	**00 28 07.0**	**+0.3**
MSBI	**Mazada**	**7.80 140**	S		**Sn**	**00 29 33.4**	**-1.6**
SEV	**Sevastopol'**	**7.80 23**	*e*P		**Pn**	**00 28 06.5**	**-0.2**
SEV			Pm			00 28 07.0	
	comp=Z,6.0nm,0.4s						
SEV			*ex*		x	00 29 33.3	
SEV			Sm			00 29 53.9	
	comp=N,6.0nm,0.8s						
SEV			Sm			00 29 53.9	
	comp=E,2.0nm,0.6s						
CFR	**Carcaliu**	**7.82 353**	⇑P		**Pn**	**00 28 07.0**	**0.0**
YAL	**Yalta**	**7.91 25**	*e*P		**Pn**	**00 28 09.0**	**+0.8**
YAL			Pm			00 28 10.1	
	comp=Z,4.0nm,0.5s						
GHAJ	**Ghor Haditha**	**7.92 139**	P		**Pn**	**00 28 08.1**	**-0.2**
GHAJ	**Ghor Haditha**	**7.92 139**	S		**Sn**	**00 29 36.4**	**-1.4**
ASF	**Jabal al Asfar**	**8.05 128**	Pn		**Pn**	**00 28 11.3**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=350,slow=11,SNR=13						
ASF			Sn		**Sn**	**00 29 43.6**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=242,slow=0.7,SNR=1.9						
	comp=Z,1.4nm,0.3s						
TARU	**Tarkhankut**	**8.28 15**	*e*P		**Pn**	**00 28 13.8**	**+0.5**
TARU			Pm			00 28 16.7	
	comp=Z,13nm,0.6s						
SCTR	**Scanteiesti**	**8.32 353**	⇑P		**Pn**	**00 28 15.2**	**+1.2**
BISRR	**Bisoca**	**8.38 347**	⇓P		**Pn**	**00 28 15.0**	**+0.2**
PRNI	**Paran**	**8.42 145**	P		**Pn**	**00 28 15.4**	**+0.1**
PRNI	**Paran**	**8.42 145**	S		**Sn**	**00 29 49.4**	**-1.0**
DNZ2	**Donuzlav2**	**8.44 18**	*e*P		**Pn**	**00 28 16.4**	**+0.9**
DNZ2			Pm			00 28 18.7	
	comp=Z,4.0nm,0.5s						
DNZ2			*ex*		x	00 29 50.8	
DNZ2			Sm			00 29 59.9	
	comp=N,2.0nm,0.5s						
DNZ2			Sm			00 29 59.9	
	comp=E,2.0nm,0.5s						
MLR	**Muntele Rosu**	**8.49 343**	Pn		**Pn**	**00 28 17.5**	**+1.2**
	comp=E,0.8nm,0.3s,baz=148,slow=15,SNR=9.5						
MLR			Sn		**Sn**	**00 29 53.1**	**+0.9**
	comp=E,0.1nm,0.3s,baz=254,slow=15,SNR=1.4						
	comp=E,1.7nm,0.3s						
MLR	**Muntele Rosu**	**8.49 343**	⇑P		**Pn**	**00 28 16.6**	**+0.3**
KRMI	**Paran Flat**	**8.50 147**	P		**Pn**	**00 28 16.6**	**+0.2**
KRMI	**Paran Flat**	**8.50 147**	S		**Sn**	**00 29 51.2**	**-1.1**
PLOR	**Plostina**	**8.69 347**	⇑P		**Pn**	**00 28 19.6**	**+0.7**
HRFI	**Mount Harif**	**8.70 146**	P		**Pn**	**00 28 19.4**	**+0.2**
HRFI	**Mount Harif**	**8.70 146**	S		**Sn**	**00 29 56.5**	**-0.8**
COVR	**Voineasa-Covas**	**8.77 345**	⇑P		**Pn**	**00 28 21.1**	**+1.0**
MBRI	**Mt Berech**	**8.86 148**	P		**Pn**	**00 28 21.4**	**+0.1**
MBRI	**Mt Berech**	**8.86 148**	S		**Sn**	**00 30 00.3**	**-1.0**
EIL	**Elat**	**8.98 148**	Pn		**Pn**	**00 28 22.0**	**-0.9**
	comp=E,0.8nm,0.3s,baz=343,slow=11,SNR=17						
EIL			Sn		**Sn**	**00 29 59.5**	**-4.7**
	comp=E,1.1nm,0.3s,baz=75,slow=17,SNR=5.0						
	comp=E,2.8nm,0.4s						
EIL	**Elat**	**8.98 148**	P		**Pn**	**00 28 23.2**	**+0.3**
EIL	**Elat**	**8.98 148**	S		**Sn**	**00 30 02.9**	**-1.2**
DOPR	**Dopca**	**9.07 342**	⇑P		**Pn**	**00 28 25.2**	**+1.1**
BZS	**Buzias**	**10.08 327**	⇑P		**Pn**	**00 28 37.5**	**-0.4**
BURAR	**Bucovina Array**	**10.66 344**	⇑P		**Pn**	**00 28 47.4**	**+1.3**
SORM	**Soroca**	**10.74 356**	⇓P		**Pn**	**00 28 46.7**	**-0.3**
GERES	**GERESS Array B**	**16.17 320**	Pn		**Pn**	**00 30 02.2**	**+1.6**
	baz=125,slow=11,SNR=5.5						
	comp=E,0.2nm,0.4s						
FINES	**FINESS Array B**	**24.15 356**	P		**P**	**00 31 29.1**	**0.0**
	comp=E,1.7nm,0.8s,baz=173,slow=9.6,SNR=3.7						
	comp=E,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**34.60 233**	P		**P**	**00 33 02.6**	**+0.2**
	comp=E,0.7nm,0.5s,baz=31,slow=8.9,SNR=11						
	comp=E,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**37.00 53**	P		**P**	**00 33 23.3**	**+0.6**
	comp=E,0.2nm,0.4s,baz=275,slow=8.9,SNR=4.2						
	comp=E,0.2nm,0.4s						
MKAR	**Makanchi Array**	**39.64 59**	P		**P**	**00 33 45.6**	**+0.6**
	comp=E,0.3nm,0.7s,baz=274,slow=7.7,SNR=4.2						
	comp=E,0.3nm,0.7s						

*IDC **24** 00:40:50.6±2.6, 24°.72S×112°.42W, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/14, Error ellipse: s-maj=90.7km s-min=32.7km az=32.0*

ISC 24 00:40:51.8±2.9, 24°.8S±0°.6×112°.4W±0°.4, h10km, n28, σ0°52/7, mb3.8/5, MS3.6/14, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**30.42**	**114**	T	T	01 19 00.5	
	baz=282,slow=75,SNR=3.9						
H03N3	**Juan Fernandez**	**30.43**	**114**	T	T	01 18 58.0	
	baz=282,slow=75,SNR=5.3						
H03N1	**Juan Fernandez**	**30.44**	**114**	T	T	01 19 03.0	
	baz=282,slow=75,SNR=6.3						
PPT	**Papeete**	**35.28**	**274**	LR	LR	00 57 57.7	
	comp=Z,65nm,20.8s,baz=94,slow=29						
ATAH	**Atahualpa**	**36.97**	**67**	LR	LR	00 58 35.1	
	comp=Z,117nm,21.5s,baz=227,slow=29						
LPAZ	**La Paz**	**42.20**	**87**	P	**P**	**00 48 46.3**	**+0.4**
	1.6nm,1.0s,baz=262,slow=4.8,SNR=3.7						
LPAZ				LR	LR	01 01 52.4	
	comp=Z,68nm,20.8s,baz=246,slow=30						
	1.6nm,1.0s						
RAR	**Rarotonga**	**43.55**	**265**	LR	LR	01 01 57.1	
	comp=Z,111nm,20.6s,baz=107,slow=29						
CMIG	**Matias Romero**	**44.98**	**24**	LR	LR	01 03 06.2	
	comp=Z,69nm,19.4s,baz=14,slow=30						
ROSC	**El Rosal**	**47.33**	**57**	LR	LR	01 05 52.4	
	comp=Z,20nm,18.1s,baz=208,slow=32						
SIV	**San Ignacio**	**48.71**	**90**	P	**P**	**00 49 36.6**	**-0.3**
	0.6nm,0.7s,baz=250,slow=7.0,SNR=4.6						
SIV				LR	LR	01 05 29.7	
	comp=Z,58nm,21.7s,baz=283,slow=30						
	0.6nm,0.7s						
CPUP	**Villa Florida**	**49.43**	**104**	LR	LR	01 06 53.1	
	comp=Z,51nm,19.2s,baz=225,slow=32						
SDV	**Santo Domingo**	**52.72**	**56**	LR	LR	01 09 35.8	
	comp=Z,45nm,18.2s,baz=259,slow=33						
URZ	**Urwera**	**60.24**	**239**	LR	LR	01 10 43.3	
	comp=Z,52nm,20.0s,baz=222,slow=30						
BDFB	**Brasilia**	**60.68**	**95**	LR	LR	01 13 55.2	
	comp=Z,42nm,19.6s,baz=94,slow=33						
NVAR	**Mina Array Bea**	**63.10**	**355**	P	**P**	**00 51 20.4**	**+0.6**
	0.8nm,0.8s,baz=186,slow=9.1,SNR=4.9						
	0.8nm,0.8s						
MSVF	**Nonsavu**	**64.57**	**261**	LR	LR	01 13 03.2	
	comp=Z,34nm,18.5s,baz=176,slow=30						
MDP	**Montagnes des**	**65.25**	**71**	LR	LR	01 17 11.2	
	comp=Z,45nm,18.6s,baz=257,slow=33						
YBH	**Yreka Blue Hor**	**66.84**	**352**	LR	LR	01 16 31.2	
	comp=Z,122nm,18.9s,baz=21,slow=32						
PDAR	**Pinedale Array**	**67.25**	**2**	P	**P**	**00 51 46.4**	**-0.2**
	0.6nm,1.1s,baz=194,slow=5.3,SNR=2.3						
	0.6nm,1.1s						
YKA	**Yellowknife Ar**	**86.97**	**359**	P	**P**	**00 53 36.1**	**-0.6**
	0.6nm,1.0s,baz=183,slow=4.7,SNR=6.2						
	0.6nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**89.67**	**290**	T	T	02 33 17.2	
	baz=116,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**89.68**	**290**	T	T	02 33 20.5	
	baz=116,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**89.68**	**290**	T	T	02 33 20.9	
	baz=116,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**90.03**	**292**	T	T	02 33 47.5	
	baz=111,slow=79,SNR=17						
H11N1	**WAKE ISLAND Hy**	**90.05**	**292**	T	T	02 33 47.6	
	baz=111,slow=79,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**90.05**	**292**	T	T	02 33 48.9	
	baz=111,slow=79,SNR=12						
BVAR	**Borovoye Array**	**151.70**	**356**	PKPbc	**PKiKP**	**01 00 46.9**	**+0.2**
	1.2nm,0.8s,baz=29,slow=3.4,SNR=5.7						
KURBB	**Kurchatov Arra**	**152.82**	**345**	PKPbc	**PKPbc**	**01 00 49.1**	**+0.2**
	0.8nm,0.9s,baz=22,slow=1.3,SNR=5.9						

*ISK **24** 00:48:03.2, 37°.48N×29°.44E, h9km, ML2.0/7*
*AFAD **24** 00:48:04.3, 37°.47N×29°.39E, h7km±2km, ML2.6*

ISC 24 00:48:03.6±1.0, 37°.48N±0°.03×29°.43E±0°.04, h12km±7km, n11, σ0°49/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.11**	**266**	Pg	**Pg**	**00 48 08.4**	**-0.2**
APMY				Sg	**Sg**	**00 48 08.3**	**-0.5**
INCE	**Denizli-Bozkur**	**0.26**	**26**	P	**Pg**	**00 48 09.6**	**+0.6**
INCE				S	**Sb**	**00 48 14.7**	**+0.1**
INCE				*i* AML	AML	00 48 15.0	
	comp=N,722nm,0.2s						
INCE				*i* AML	AML	00 48 15.0	
	comp=E,630nm,0.7s						
GOLH	**Golhisar**	**0.26**	**157**	P	**Pg**	**00 48 09.7**	**+0.6**
GOLH				S	**Sb**	**00 48 14.4**	**-0.3**
GOLH				*i* AML	AML	00 48 19.0	
	comp=N,855nm,0.4s						
GOLH				*i* AML	AML	00 48 19.0	
	comp=E,851nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.35**	**295**	P	**Pg**	**00 48 10.8**	**+0.2**
DNIZ				S	**Sb**	**00 48 16.7**	**-0.6**
DNIZ				*i* AML	AML	00 48 17.0	
	comp=N,1μm,0.3s						
DNIZ				*i* AML	AML	00 48 17.0	
	comp=E,1μm,0.2s						
TAVA	**DENIZLI_Tavas**	**0.41**	**268**	P	**Pg**	**00 48 12.2**	**+0.3**
TAVA				S	**Sg**	**00 48 18.1**	**+0.7**
CAME	**Cameli-Denizli**	**0.54**	**191**	Pg	**Pg**	**00 48 14.3**	**0.0**
CAME				Sg	**Sb**	**00 48 22.5**	**-0.5**
BASM	**Basmaki-Afyon**	**0.66**	**48**	Pg	**Pg**	**00 48 15.9**	**-0.5**
YER	**Yerkesik**	**0.98**	**250**	Pg	**Pg**	**00 48 22.9**	**+0.4**
NAZL	**Nazilli-Aydin**	**1.03**	**299**	Pg	**Pb**	**00 48 23.7**	**+0.4**
KULA	**Kula-Manisa**	**1.20**	**330**	Pn	**Pb**	**00 48 26.7**	**+0.4**
ODEM	**Odemis-Izmir**	**1.34**	**307**	Pn	**Pn**	**00 48 27.8**	**-0.4**

KRSC 24 00:51:27.6±1.7, 53°.73N×166°.92E, h31km±37km, Ml4.0,

Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.58**	**340**	*e*P	Pn	00 51 54.0	+0.5
BKI				*e*S	Sb	00 52 15.7	0.0
KBTR	**Krutoberegovo**	**3.43**	**318**	*e*P	Pn	00 52 22.7	+3.8
KBTR				*e*S	Sn	00 53 01.9	+3.4
TUMD	**Tumrok D**	**4.08**	**294**	*e*P	Pn	00 52 32.7	+4.8
TUMD				*e*S	Sn	00 53 21.0	+6.4
SPN	**Mys Shipunski**	**4.17**	**264**	*e*P	Pn	00 52 33.4	+4.3
KMNR	**Kamenistaya**	**4.37**	**300**	*e*P	Pn	00 52 37.0	+5.1
KPT	**Kopyto**	**4.47**	**303**	*e*P	Pn	00 52 37.7	+4.3
NLC	**Nalytchevo**	**4.56**	**266**	*e*P	Pn	00 52 39.0	+4.6
SDLR	**Sedlovina**	**4.82**	**268**	*e*P	Pn	00 52 42.8	+4.8
UGLR	**Uglovaya**	**4.86**	**267**	*e*P	Pn	00 52 43.7	+5.0
KRER	**Koryakskii**	**4.89**	**268**	*e*P	Pn	00 52 44.5	+5.3
AVH	**Avacha**	**4.91**	**268**	*e*P	Pn	00 52 44.4	+5.1
DALK	**Dalny**	**4.94**	**265**	*e*P	Pn	00 52 44.1	+4.5
KRX	**Arik**	**4.95**	**269**	*e*P	Pn	00 52 44.8	+4.9
KOK	**Koryaka**	**4.96**	**268**	*e*P	Pn	00 52 44.9	+4.9
PET	**Petropavlovsk**	**5.00**	**265**	*e*P	Pn	00 52 45.2	+4.8
ESO	**Esso**	**5.24**	**298**	*e*P	Pn	00 52 48.6	+4.8
GNL	**Ganaly**	**5.33**	**273**	*e*P	Pn	00 52 51.0	+5.9
KRMR	**Karymshinskiy**	**5.35**	**264**	*e*P	Pn	00 52 49.8	+4.6
KRMR				*e*S	Sn	00 53 49.6	+3.9
GRL	**Gorelyy**	**5.45**	**261**	*e*P	Pn	00 52 52.0	+5.2
KDTR	**Khodutka, Kamc**	**5.70**	**254**	*e*P	Pn	00 52 53.6	+3.6
APC	**Apacha**	**5.90**	**266**	*e*P	Pn	00 52 57.7	+4.8

*NEIC **24** 01:03:09.3±1.0, 31°.62N±0°.01×104°.41W±0°.02, h7km±5km, Error ellipse: s-maj=2.9km s-min=2.1km az=78.0*

NEIC 24 01:03:09.4±1.1, 31°.63N±0°.01×104°.39W±0°.02, h5km±1km, mb_Lg2.9/47, ML2.8/13, ML2.8/39, Error ellipse: s-maj=3.3km s-min=2.9km az=257.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.52**	**120**		Pg	01 03 19.8	+0.4
PECS				Sg	Sg	01 03 26.4	+0.3
PECS				IAML		01 03 29.5	
	431nm,0.3s						
GDL2	**Guadalupe Moun**	**0.57**	**2**	Pg	Pg	01 03 20.7	+0.2
CLNB	**Carlsbad**	**0.77**	**34**	Pg	Pg	01 03 24.3	+0.1
PCOS	**Crockett Middl**	**0.78**	**106**		Pb	01 03 25.4	-0.2
PCOS					Sb	01 03 36.2	-0.4
MNTX	**Cornudas Mount**	**0.85**	**275**		Pg	01 03 25.4	-0.3
MNTX					Sg	01 03 36.7	-0.1
CLN7	**Carlsbad 7**	**0.93**	**32**		Pg	01 03 27.1	-0.2
VHRN	**Van Horn**	**0.98**	**211**		Pg	01 03 27.8	-0.4
VHRN				Sg	Sg	01 03 41.4	+0.4
VHRN				IAML		01 03 47.1	
	287nm,0.2s						
VHRN				IAML		01 03 47.1	
	218nm,0.2s						
ALPN	**Alpine**	**1.41**	**152**		Pn	01 03 34.8	-1.1
ALPN					Sb	01 03 53.7	-0.9
MNHN	**Monahans**	**1.42**	**101**		Pn	01 03 35.7	-0.3
CPRX	**Cap Rock**	**1.47**	**17**		Pn	01 03 36.7	-0.1
ODSA	**Odessa**	**1.64**	**72**		Pb	01

FAKI	Fak Fak	8.58	57	P	Pn	01 08 53.8	-1.7
FAKI	Fak Fak	8.58	57	P	Pn	01 08 53.4	-2.1
96nm,0.6s							
KNRA	Kununurra	8.78	156	P	P	01 08 58.7	-0.4
SWI	Sorong	9.16	43	P	Pn	01 09 01.2	-1.0
43nm,0.8s							
TOLI2	Tolitoli	9.67	334	P	P	01 09 10.7	+1.6
SRBI	Singaraja	9.74	267	P	Pn	01 09 07.3	-1.7
35nm,0.7s							
FITZ	Fitzroy Crossi	10.41	177	P	P	01 09 17.5	+0.3
4.5nm,0.5s,baz=0.7,slow=11,SNR=27							
FITZ				S	S	01 11 29.9	+16
2.7nm,0.4s,baz=283,slow=13,SNR=2.0							
WB0	Warramunga Arr	15.09	144	P	P	01 10 08.7	-0.1
WRA	Warramunga Arr	15.20	145	P	P	01 10 09.8	-0.2
1.4nm,0.4s,baz=318,slow=13,SNR=18							
WRA				S	S	01 12 52.9	+0.6
4.6nm,0.8s,baz=320,slow=20,SNR=9.9							
WB2	Warramunga Arr	15.20	144	P	P	01 10 09.9	-0.1
WB2				IAmb	IAmb	01 10 23.8	
comp=Z,15nm,1.3s							
ASAR	Alice Springs	18.07	153	P	P	01 10 41.9	+1.1
comp=Z,0.5nm,0.4s,baz=330,slow=10,SNR=10							
ASAR				S	S	01 13 50.5	+1.9
comp=Z,1.7nm,0.8s,baz=338,slow=21,SNR=5.9							
GIRL	Giralia	18.18	214	P	P	01 10 43.3	+1.4
COEN	Coen	18.89	111	P	P	01 10 48.7	-0.8
BBOO	Buckleboo	27.05	159	P	P	01 12 04.3	+0.3
BBOO				IAmb	IAmb	01 12 21.9	
comp=Z,25nm,1.5s							
CMAR	Chiang Mai Arr	36.54	315	P	P	01 13 26.7	+0.6
comp=Z,2.6nm,0.7s,baz=145,slow=6.9,SNR=18							
comp=Z,2.6nm,0.7s							
NIL	Nilore	63.98	313	P	P	01 16 48.5	-0.8
NIL				IAmb	IAmb	01 16 49.2	
comp=Z,4.5nm,0.5s							
MK31	Makanchi Array	66.16	329	P	P	01 17 02.5	-0.4
MKAR	Makanchi Array	66.16	329	P	P	01 17 02.4	-0.5
MKAR	Makanchi Array	66.16	329	P	P	01 17 02.6	-0.3
comp=Z,3.1nm,0.7s,baz=130,slow=7.8,SNR=35							
comp=Z,3.1nm,0.7s							
PETK	Petropavlovsk-	66.57	21	P	P	01 17 06.1	+0.8
BOOM	Boomskoye usch	66.97	323	P	P	01 17 07.7	-0.6
BOOM				IAmb	IAmb	01 17 34.2	
comp=Z,3.6nm,1.0s							
AAK	Ala-Archa	67.93	322	P	P	01 17 14.3	+0.1
AAK	Ala-Archa	67.93	322	P	P	01 17 14.5	+0.3
comp=Z,1.8nm,0.7s,baz=142,slow=7.6,SNR=8.7							
comp=Z,1.8nm,0.7s							
ARSB	Arslanbob	68.15	320	P	P	01 17 15.8	+0.2
ARSB				IAmb	IAmb	01 17 16.1	
comp=Z,2.9nm,0.5s							
ZALV	Zalesovo Beam	70.07	336	P	P	01 17 26.0	-0.7
ZALV	Zalesovo Beam	70.07	336	P	P	01 17 25.8	-1.0
comp=Z,1.0nm,0.6s,baz=145,slow=7.4,SNR=5.4							
comp=Z,1.0nm,0.6s							
KURBB	Kurchatov Arra	70.56	331	P	P	01 17 29.4	-0.4
comp=Z,1.1nm,0.8s,baz=136,slow=5.2,SNR=15							
comp=Z,1.1nm,0.8s							
KURK	Kurchatov	70.58	331	P	P	01 17 29.8	-0.1
BVAR	Borovoye Array	76.04	329	P	P	01 18 01.1	-0.3
comp=Z,1.1nm,0.5s,baz=127,slow=6.1,SNR=8.9							
comp=Z,1.1nm,0.5s							
ABKAR	Abkulak array	79.99	323	P	P	01 18 22.3	-0.7
QSPA	South Pole Qui	82.34	180	P	P	01 18 35.1	0.0
QSPA				IAmb	IAmb	01 19 05.3	
comp=Z,2.8nm,1.1s							
QSPA	South Pole Qui	82.34	180	P	P	01 18 35.5	+0.3
comp=Z,1.6nm,1.0s,baz=324,slow=2.1,SNR=5.4							
comp=Z,1.6nm,1.0s							
SNAA	Sanae	93.85	194	P	P	01 19 30.2	+0.4
comp=Z,2.2nm,0.9s,baz=211,slow=18,SNR=2.3							
comp=Z,2.2nm,0.9s							
TORD	Torodi Ar. Bea	124.09	281	PKP	PKPdf	01 25 09.9	-0.1
comp=Z,0.8nm,0.3s,baz=110,slow=2.4,SNR=1.6							
T59A	Double "B" Far	144.30	32	PKPbc	PKPab	01 25 45.2	-0.9

*IDC **24** 01:26:36.2±0.5, 23°.13N×143°.80E, h0km, mb4.1/20, mbtmp4.1/23, MLJ3.8/3, Error ellipse: s-maj=19.9km s-min=12.6km az=80.0*

*NEIC **24** 01:26:38.4±1.7, 23°.14N±0°.09×143°.9E±0°.2, h10km±1km, mb4.7/35, Error ellipse: s-maj=24.6km s-min=14.6km az=81.0*

ISC 24 01:26:41.4±0.5, 23°.14N±0°.07×143°.8E±0°.1, h34km, n69, σ0s94/62, mb4.5/39, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.19	340	Pn	Pn	01 27 42.7	-0.2
JCJ	Chichijima	4.19	340	Pn	Pn	01 27 41.9	-1.0
17nm,0.3s,baz=283,slow=20,SNR=4.9							
JCJ				Sn	Sn	01 28 29.8	-1.0
32nm,0.3s,baz=322,slow=24,SNR=7.4							
73nm,0.6s							
MJAR	Matsushiro Arr	14.20	341	Pn	Pn	01 29 59.0	-1.0
0.2nm,0.3s,baz=155,slow=14,SNR=7.8							
1.4nm,0.4s							
MAJO	Matsushiro	14.20	341	Pn	Pn	01 29 58.7	-1.4
MJB9	Matsu-Tunnel	14.20	341	Pn	Pn	01 29 58.8	-1.3
JMM	Marumori	14.90	351	Pn	Pn	01 30 05.2	-4.2
KSRS	Korea Array	19.73	320	P	P	01 31 07.7	-0.5
0.2nm,0.3s,baz=131,slow=12,SNR=8.3							
3.5nm,0.9s							
JKA	Kamikawa-asahi	20.94	358	Pn	Pn	01 31 24.6	+0.7
JKA				IAmb	IAmb	01 31 33.0	
comp=Z,50nm,1.5s							
SSLB	Suanglung	20.95	276	P	Pn	01 31 25.3	+1.1
H11N1	WAKE ISLAND Hy	21.78	95	T	T	01 53 47.4	
baz=283,slow=74,SNR=16							
H11N2	WAKE ISLAND Hy	21.78	95	T	T	01 53 49.1	
baz=283,slow=74,SNR=13							
H11N3	WAKE ISLAND Hy	21.79	95	T	T	01 53 48.9	
baz=283,slow=74,SNR=15							
USRK	Ussuriysk Ar.	23.13	338	P	P	01 31 44.2	-0.3
comp=Z,3.6nm,0.7s,baz=107,slow=10,SNR=5.2							
comp=Z,3.6nm,0.7s							
BNX	BinXian	26.18	333	⇓P	P	01 32 13.8	+1.2
BNX				pmax	pmax		
comp=Z,11nm,0.8s							
COEN	Coen	36.88	181	P	P	01 33 47.3	+0.4
COEN				IAmb	IAmb	01 33 57.3	
comp=Z,31nm,1.4s							
SONM	Songino Array	38.60	319	P	P	01 34 01.0	-0.3
comp=Z,1.0nm,0.8s,baz=129,slow=7.6,SNR=6.0							
comp=Z,1.0nm,0.8s							
CMAR	Chiang Mai Arr	42.05	272	P	P	01 34 30.9	+0.8
comp=Z,0.5nm,0.3s,baz=48,slow=7.9,SNR=5.9							
comp=Z,0.5nm,0.3s							
WB0	Warramunga Arr	43.62	193	P	P	01 34 42.2	-0.5
WB0				IAmb	IAmb	01 35 26.0	
comp=Z,15nm,1.4s							
WB2	Warramunga Arr	43.80	193	P	P	01 34 43.9	-0.2
WB2				IAmb	IAmb	01 35 12.2	
comp=Z,14nm,1.3s							
WRA	Warramunga Arr	43.80	193	P	P	01 34 43.9	-0.3
comp=Z,0.8nm,0.4s,baz=16,slow=9.1,SNR=16							
WRA				PcP	PcP	01 36 30.8	+0.4
comp=Z,1.0nm,0.8s,baz=8.5,slow=3.3,SNR=3.5							
comp=Z,0.8nm,0.4s							
GOMU	GeErMu	44.06	299	P	P	01 34 48.8	+2.2
GOMU				pP	pP	01 34 52.8	-2.3
GOMU				sP	sP	01 34 57.9	-1.1
GOMU				PcP	pwP	01 35 04.8	+2.9
GOMU				pmax	pmax		
comp=Z,38nm,0.9s							
SMRI	Semarang	44.31	231	P	P	01 34 46.7	-1.6
FITZ	Fitzroy Crossi	44.66	205	P	P	01 34 51.5	+0.5
FITZ	Fitzroy Crossi	44.66	205	P	P	01 34 51.0	0.0
comp=Z,5.0nm,0.9s,baz=27,slow=13,SNR=5.8							
comp=Z,5.0nm,0.9s							
UGM	Wanagama	44.84	230	P	P	01 34 50.7	-1.9
SHL	Shillong	47.10	284	P	P	01 35 10.3	-0.2
SHL				IAmb	IAmb	01 35 11.5	
comp=Z,6.1nm,0.7s							
AS31	Alice Springs	47.51	192	P	P	01 35 12.4	-1.0
ASAR	Alice Springs	47.51	192	P	P	01 35 12.7	-0.8
comp=Z,0.4nm,0.4s,baz=9.3,slow=7.0,SNR=20							
ASAR				PcP	PcP	01 36 43.4	+0.1
comp=Z,0.5nm,0.7s,baz=4.3,slow=4.5,SNR=2.4							
comp=Z,0.4nm,0.4s							
ZALV	Zalesovo Beam	53.43	321	P	P	01 35 57.4	-0.5
comp=Z,1.6nm,0.5s,baz=98,slow=7.1,SNR=6.8							
comp=Z,1.6nm,0.5s							
MK31	Makanchi Array	54.14	312	P	P	01 36 03.7	+0.5
MKAR	Makanchi Array	54.14	312	P	P	01 36 03.3	+0.1
MKAR	Makanchi Array	54.14	312	P	P	01 36 03.7	+0.5
comp=Z,3.4nm,0.7s,baz=91,slow=8.7,SNR=36							
MKAR				PcP	PcP	01 37 07.6	0.0
comp=Z,0.6nm,0.6s,baz=83,slow=5.1,SNR=2.4							
comp=Z,3.4nm,0.7s							
MAKZ	Makanchi	54.35	312	P	P	01 36 05.5	+0.8
MAKZ				IAmb	IAmb	01 36 07.3	
comp=Z,5.3nm,0.9s							
STKA	Stephens Creek	54.75	182	P	P	01 36 06.8	-0.8
STKA	Stephens Creek	54.75	182	P	P	01 36 06.5	-1.1
comp=Z,2.2nm,0.6s,baz=354,slow=10.0,SNR=4.6							
comp=Z,2.2nm,0.6s							
KURK	Kurchatov	56.80	316	P	P	01 36 22.1	-0.2
NRIK	Noril'sk	56.84	339	P	P	01 36 22.6	+0.4
NRIK				IAmb	IAmb	01 36 23.6	
comp=Z,5.7nm,0.9s							
NRIK	Noril'sk	56.84	339	P	P	01 36 22.6	+0.3
comp=Z,1.9nm,0.4s,baz=114,slow=9.4,SNR=8.7							
comp=Z,1.9nm,0.4s							
KURBB	Kurchatov Arra	56.86	316	P	P	01 36 22.7	+0.1
comp=Z,3.5nm,1.0s,baz=93,slow=7.8,SNR=27							
comp=Z,3.5nm,1.0s							
BOOM	Boomskoye usch	58.68	307	P	P	01 36 37.2	+1.3
BOOM				IAmb	IAmb	01 36 38.7	
comp=Z,4.7nm,0.7s							
C23K	Itkillik River	60.11	21	P	P	01 36 45.4	+0.4
ILAR	Eielson Array	60.51	27	P	P	01 36 47.1	-0.7
comp=Z,1.4nm,0.7s,baz=255,slow=5.6,SNR=13							
comp=Z,1.4nm,0.7s							
ARSB	Arslanbob	60.98	306	IAmb	IAmb	01 36 55.0	
comp=Z,9.7nm,1.2s							
D25K	Kavik River	61.45	22	IAmb	IAmb	01 36 56.2	
comp=Z,3.2nm,0.7s							
SCRK	Sand Creek	61.66	29	P	P	01 36 55.7	-0.1
NIL	Nilore	61.87	297	P	P	01 36 58.8	+1.1
J26L	Joseph Creek	61.90	28	P	P	01 36 57.3	-0.1
J26L				IAmb	IAmb	01 36 58.3	
comp=Z,2.9nm,0.8s							
BVAR	Borovoye Array	61.94	319	P	P	01 36 58.0	+0.3
comp=Z,5.5nm,0.5s,baz=88,slow=7.5,SNR=44							
comp=Z,5.5nm,0.5s							
BRVK	Borovoye	62.00	319	P	P	01 36 58.4	+0.3
BRVK				IAmb	IAmb	01 36 59.3	
comp=Z,5.0nm,0.8s							
KK31	Karatay Array	62.60	308	IAmb	IAmb	01 37 05.0	
comp=Z,3.3nm,0.8s							
KKAR	Karatay Array	62.60	308	P	P	01 37 02.7	+0.4
KKAR	Karatay Array	62.60	308	IAmb	IAmb	01 37 05.0	
comp=Z,2.2nm,0.8s							
E28M	Babbage River	63.81	23	P	P	01 37 11.4	+1.5
E28M				IAmb	IAmb	01 37 11.8	
comp=Z,5.8nm,1.2s							
SIMJ	Simiganj	64.38	303	P	P	01 37 15.3	+0.9
KBL	Kabul	65.13	299	P	P	01 37 19.9	+0.5
G31M	Satah River	65.80	25	IAmb	IAmb	01 37 23.7	
comp=Z,3.9nm,0.6s							
ABKAR	Abkulak array	68.90	316	IAmb	IAmb	01 38 20.7	
comp=Z,5.1nm,1.4s							
YKA	Yellowknife Ar	74.92	28	P	P	01 38 18.8	+0.2
comp=Z,1.4nm,0.7s,baz=292,slow=5.9,SNR=18							
comp=Z,1.4nm,0.7s							
ARCES	ARCESS Array B	77.73	342	P	P	01 38 35.4	+0.9
comp=Z,4.5nm,1.0s,baz=54,slow=6.1,SNR=4.2							
comp=Z,4.5nm,1.0s							
KBZ	Khabaz	81.77	314	P	P	01 38 57.7	+0.9
comp=Z,4.3nm,0.9s,baz=97,slow=2.6,SNR=7.1							
comp=Z,4.3nm,0.9s							
NVAR	Mina Array Bea	81.82	52	P	P	01 38 58.4	+0.8
comp=Z,1.2nm,0.8s,baz=269,slow=5.5,SNR=6.5							
comp=Z,1.2nm,0.8s							
FINES	FINESS Array B	82.12	335	P	P	01 38 57.6	-0.7
comp=Z,1.0nm,0.5s,baz=64,slow=6.5,SNR=12							
comp=Z,1.0nm,0.5s							
PDAR	Pinedale Array	85.98	45	P	P	01 39 18.8	+0.1
comp=Z,0.3nm,0.7s,baz=294,slow=5.1,SNR=2.9							
comp=Z,0.3nm,0.7s							
KNB	Kanab	86.36	51	P	P	01 39 21.6	+0.9
KNB				IAmb	IAmb	01 39 26.1	
comp=Z,4.1nm,1.0s							
AKASG	Malin Array Be	86.65	325	P	P	01 39 19.2	-2.4
comp=Z,0.4nm,0.4s,baz=50,slow=5.6,SNR=2.7							
RAYN	Ar Rayn	88.08	295	P	P	01 39 28.9	-0.1
RAYN				IAmb	IAmb	01 39 31.4	
comp=Z,5.4nm,0.9s							
BRTR	Keskin Array B	89.75	314	P	P	01 39 36.1	-0.7
comp=Z,0.9nm,0.9s,baz=33,slow=3.7,SNR=3.6							
comp=Z,0.9nm,0.9s							
PLCA	Paso Flores	146.27	129	PKPbc	PKPbc	01 46 18.8	+0.1
comp=Z,3.6nm,0.6s,baz=246,slow=5.0,SNR=20							
LPAZ	La Paz	149.24	83	PKPbc	PKPbc	01 46 28.6	+0.5
comp=Z,2.2nm,0.6s,baz=307,slow=3.3,SNR=11							

*MOS **24** 01:31:57.7±1.1, 1°.74S×120°.37E, h10km, mb5.9/68, MS4.7/5, Error ellipse: s-maj=7.3km s-min=4.1km az=110.6*

*IDC **24** 01:31:57.8±0.3, 1°.78S×120°.40E, h0km, mb5.2/40, mbtmp5.2/44, ML4.7/4, MS4.7/49, Error ellipse: s-maj=13.6km s-min=8.5km az=75.0*

*NEIC **24** 01:32:00.2, 1°.87S×120°.52E, h16km*

*NEIC **24** 01:32:00.2, 1°.97S×121°.00E, h16km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.78; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-1.73; $M_{r\theta}$0.63; $M_{\theta\phi}$0.75; $M_{\phi r}$-0.45; Fault plane solution: $M_0$2.06000×10^{17} NP1: ϕ_s352.87000°, δ37.20000°, λ112.02000°. NP2: ϕ_s145.95000°, δ55.91000°, λ74.12000°. Principal axes: T 1.9921, Plg74.0000°, Azm13.0000°; N 0.1317, Plg13.0000°, Azm155.0000°; P -2.1238, Plg10.0000°, Azm247.0000°;*

*ISC-PP **24** 01:32:00, 1°.87S×120°.52E, h7km, Moment Tensor Solution. s46 Moment tensor: M_{rr}-0.33±.10; $M_{\theta\theta}$-0.24±.16; $M_{\phi\phi}$-0.37±.11; $M_{r\theta}$0.24±.09; $M_{\theta\phi}$0.16±.07; $M_{\phi r}$-0.52±.08; Fault plane solution: NP1:ϕ_s268.30000°, δ79.60000°, λ204.00000°. NP2:ϕ_s173.70000°, δ66.40000°, λ-11.40000°.*

*NEIC **24** 01:32:00.2±2.6, 1°.87S±0°.05×120°.52E±0°.05, h10km±1km, mb5.7/314, Ms_20 5.0/44, Mww5.5/38 Error ellipse: s-maj=9.2km s-min=8.8km az=281.0*

*GCMT **24** 01:32:02.2±0.1, 1°.77S±0°.01×120°.53E±0°.01, h12km, MW5.5/153, Moment Tensor Solution. s142,c256; s153,c291; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.68±.02; $M_{\theta\theta}$-0.07±.02; $M_{\phi\phi}$-1.60±.02; $M_{r\theta}$0.23±.04; $M_{\theta\phi}$0.99±.01; $M_{\phi r}$0.58±.04; Best double couple: $M_0$2.00200×10^{17} NP1:ϕ_s136.00000°, δ41.00000°, λ63.00000°. NP2:ϕ_s350.00000°, δ54.00000°, λ112.00000°. Principal axes: T 1.8710, Plg71.0000°, Azm316.0000°; N 0.2700, Plg17.0000°, Azm157.0000°; P -2.1320, Plg6.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **24** 01:32:02.3±0.2, 2°S±1°×12°1E±°, h21km±1km, MS.7/126, mb5.5/126, mB6.1/103, MLv5.9/29, Mw(mB)5.8/103, MwMwp5.5/67, Mwp5.6/67*

ISC 24 01:31:59.3±0.2, 1°.89S±0°.02×120°.47E±0°.03, h7km, h7km:pP-P, n1188, σ1s86/1148, mb5.6/288, MS4.8/100, 55C-31D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	1.17	327	P	Pg	01 32 21.0	-0.7
TTSI	Tana Toraja	1.32	210	P	Pn	01 32 24.4	+0.2
APSI	Ampana	1.52	50	P	Pn	01 32 27.0	0.0
SPSI	Sidrap Palu	2.18	199	P	Pn	01 32 38.2	+2.2
LUWI	Luwuk	2.45	70		Pn	01 32 39.1	-0.6
LUWI	Luwuk	2.45	70	P	Pn	01 32 42.0	+2.3
LUWI	Luwuk	2.45	70	P	Pn	01 32 38.6	-1.1
MRSI	Marisa	2.77	32	P	Pn	01 32 43.4	-0.7
KDI	Kendari	2.97	134	P	Pn	01 32 47.9	+1.0
TOLI2	Tolitoli	2.99	6		Pn	01 32 49.1	+1.9
TOLI2	Tolitoli	2.99	6	P	Pn	01 32 51.2	+4.0
KAPI	Kappang	3.19	193		Pn	01 32 52.8	+2.8
KAPI	Kappang	3.19	193	Pn	Pn	01 32 51.6	+1.7
68nm,0.3s,baz=14,slow=9.2,SNR=92							
KAPI				Sn	Sn	01 33 31.6	+3.4
187nm,0.3s,baz=56,slow=20,SNR=5.7							
KAPI				LR	LR	01 34 25.0	
comp=Z,37μm,19.3s,baz=9.0,slow=45							
942nm,0.7s							
KAPI	Kappang	3.19	193	P	Pn	01 32 53.8	+3.8
KAPI				S	Sn	01 33 31.5	+3.3
KAPI	Kappang	3.19	193	P	Pn	01 32 53.7	+3.8
KAPI	Kappang	3.19	193	iP	Pn	01 32 52.7	+2.8
BKSI	Bulukumba	3.43	186	P	Pn	01 32 54.6	+1.4
SMKI	Samarinda	3.56	294	P	Pn	01 32 56.9	+1.8
BKB	Balikpapan	3.63	280	Pn	Pn	01 32 58.6	+2.6
BKB	Balikpapan	3.63	280	P	Pn	01 33 00.3	+4.3
BKB	Balikpapan	3.63	280	P	Pn	01 32 58.0	+2.0
BBSI	Bau Bau	4.14	150	P	Pn	01 33 05.0	+1.9
BSSI	Bau Bau, Buton	4.23	180	P	Pn	01 33 05.6	+1.4
KMSI	Cibinong	4.28	55	P	Pn	01 33 05.5	+0.6
SANI	Sanana	5.51	92	P	Pn	01 33 22.0	+0.1
SANI	Sanana	5.51	92	P	Pn	01 33 19.6	-2.3
6.0nm26μm246nm,0.7s							
MTKI	Muara Teweh, K	5.66	279	P	Pn	01 33 27.3	+3.4
NLAI	Namlea	6.75	102	P	Pn	01 33 39.5	+0.5
1.7nm26μm7μm301nm,0.6s							
MMRI	Maumere	6.93	165	Pn	Pn	01 33 44.4	+3.0
MMRI	Maumere	6.93	165	P	Pn	01 33 46.6	+5.2
MMRI	Maumere	6.93	165	P	Pn	01 33 43.5	+2.1
265nm,1.4s							
LBMI	Labuha	7.13	80	P	Pn	01 33 45.2	+1.0
TNTI	Ternate	7.38	69	Pn	Pn	01 33 49.1	+1.6
TNTI	Ternate	7.38	69	P	Pn	01 33 50.9	+3.3
TNTI	Ternate	7.38	69	P	Pn	01 33 48.9	+1.3
1.7nm12μm216nm,0.9s							
PLAI	Plampang	7.40	201	P	Pn	01 33 51.6	+3.8
PLAI	Plampang	7.40	201	P	Pn	01 33 50.0	+2.2
1.8nm19μm214nm,1.4s							
SGSI	Sangihe	7.50	42	P	Pn	01 33 50.5	+1.4
13μm11μm899nm,0.9s							
TWSI	Taliwang, Sumb	7.69	208	P	Pn	01 33 55.2	+3.4
1.4nm22μm138nm,0.8s							
WSI	Waingapu	7.73	181	P	Pn	01 33 54.4	+2.0
2.6nm10μm650nm,1.4s							
WBSI	Waikabubak, Su	7.78	188	P	Pn	01 33 56.2	+3.1
1.9nm7μm611nm,1.0s							
AAI	Ambon	7.92	103	P	Pn	01 33 56.7	+1.8
1.7nm6μm594nm,1.3s							
SRBI	Singaraja	8.08	220	P	Pn	01 33 59.3	+2.1
21μm6μm263nm,1.4s							
KMMI	Kalianget	8.27	231	P	Pn	01 34 04.7	+4.9
23μm5μm228nm,1.6s							
ABJI	Asem Bagus	8.55	226	P	Pn	01 34 09.4	+5.8
MSAI	Masohi	8.57	100	P	Pn	01 34 07.9	+4.0
17μm340nm,0.9s							
SOEI	Soe	8.68	154	Pn	Pn	01 34 10.5	+5.0
SOEI	Soe	8.68	154	P	Pn	01 34 10.8	+5.3
SOEI	Soe	8.68	154	P	Pn	01 34 08.1	+2.6
5μm399nm,0.9s							
KKM	Kota Kinabalu	8.95	332	Pn	Pn	01 34 12.4	+3.1
KKM	Kota Kinabalu	8.95	332	P	Pn	01 34 12.5	+3.2
JAGI	Jajag, Banyuwa	9.08	224	Pn	Pn	01 34 15.0	+4.2
JAGI	Jajag, Banyuwa	9.08	224	P	Pn	01 34 15.1	+4.2
JAGI	Jajag, Banyuwa	9.08	224	P	Pn	01 34 13.9	+3.0
22μm7μm315nm,1.0s							
STKI	Sintang	9.20	282	P	Pn	01 34 15.8	+3.2
13μm396nm,1.3s							
SBUM	Sibu	9.31	298	Pn	Pn	01 34 16.2	+2.2
SBUM	Sibu	9.31	298	P	Pn	01 34 17.6	+3.6
GRJI	Gresik	9.40	238	P	Pn	01 34 19.2	+3.8
20μm8μm421nm,1.4s							
GMJI	Gumukmas	9.45	228	P	Pn	01 34 20.2	+4.3
BNDI	Bandanaira	9.77	106	P	Pn	01 34 21.8	+1.4
12μm508nm,1.4s							
TBJI	Tambak Boyo	9.90	240	P	Pn	01 34 23.7	+1.6
19μm8μm333nm,1.1s							
DAV	Davao City (W)	10.25	30	Pn	Pn	01 34 25.8	-1.2
21nm,0.3s,baz=272,slow=14,SNR=1.4							
DAV				Sn	Sn	01 36 21.9	-0.4
1.8nm,0.3s,baz=123,slow=23,SNR=4.3							
DAV				LR	LR	01 38 38.0	
comp=Z,4μm,18.9s,baz=236,slow=39							
67nm,0.4s							
DAV	Davao City (W)	10.25	30	P	Pn	01 34 30.0	+3.0
DAV				P	Pn	01 34 30.0	+3.0
DAV				P	Pn	01 34 30.0	+3.0
DAV				S	Sn	01 36 26.5	+4.2
DAV				S	Sn	01 36 26.5	+4.2
DAV				S	Sn	01 36 26.5	+4.2
DAV	Davao City (W)	10.25	30	P	Pn	01 34 30.8	+3.8
DAV	Davao City (W)	10.25	30	P	Pn	01 34 31.0	+4.0
NGJI	Ngawi	10.50	238	P	Pn	01 34 34.8	+4.4
22μm185nm,1.3s							
KSM	Kuching	10.70	288		Pn	01 34 36.0	+2.9
KSM	Kuching	10.70	288	P	Pn	01 34 38.0	+4.9
SWI	Sorong	10.83	85	P	Pn	01 34 35.9	+1.0
10μm123nm,1.1s							
PCJI	Pacitan	11.18	236	P	Pn	01 34 43.7	+4.0
14μm8μm304nm,1.5s							
SMRI	Semarang	11.24	243	P	Pn	01 34 45.8	+5.3
177nm,1.2s							
UGM	Wanagama	11.58	239	P	Pn	01 34 51.9	+6.7
10μm9μm247nm,1.9s							
YOGI	Yogyakarta	11.72	240	P	Pn	01 34 53.7	+6.5
10μm468nm,1.7s							
FAKI	Fak Fak	11.81	95	Pn	Pn	01 34 49.0	+0.6
FAKI	Fak Fak	11.81	95	P	Pn	01 34 51.1	+2.8
FAKI	Fak Fak	11.81	95	P	Pn	01 34 47.9	-0.4
10μm143nm,0.9s					

MBWA	**Marble Bar**	**19.17 182**	P	**P**	**01 36 25.4 +1.9**
MBWA	**Marble Bar**	**19.17 182**	P	**Pn**	**01 36 27.5 +3.1**
	comp=Z,142nm,1.9s				
MBWA	**Marble Bar**	**19.17 182**	P	**P**	**01 36 22.0 -1.6**
MBWA	**Marble Bar**	**19.17 182**	P	**Pn**	**01 36 27.3 +2.9**
SZP	**Santa**	**19.32 360**	P	**P**	**01 36 26.1 +0.9**
BKNI	**Bangkinang**	**19.55 276**	P	**P**	**01 36 29.8 +1.9**
BKNI			IAmb	IAmb	01 36 34.3
	comp=Z,968nm,1.4s				
BKNI	**Bangkinang**	**19.55 276**	P	**Pn**	**01 36 30.9 +1.7**
BKNI	**Bangkinang**	**19.55 276**	P	**Pn**	**01 36 31.1 +1.9**
	comp=Z,12μmcomp=Z,13μmcomp=Z,459nm,1.4s				
GENI	**Genyem**	**19.69 92**	P	**P**	**01 36 31.9 +2.5**
GENI	**Genyem**	**19.69 92**	P	**P**	**01 36 31.4 +2.0**
	comp=Z,11μmcomp=Z,7μmcomp=Z,383nm,1.7s				
PPI	**Padang Panjang**	**20.12 274**	P	Pn	01 36 37.1 +1.2
	comp=Z,7μmcomp=Z,285nm,1.5s				
JAY	**Jayapura**	**20.23 92**	P	**P**	**01 36 36.9 +1.7**
	comp=Z,19nm,0.8s,baz=186,slow=9.3,SNR=6.6				
	comp=Z,19nm,0.8s				
JAY	**Jayapura**	**20.23 92**	P	**P**	**01 36 38.2 +2.9**
PPSI	**Pulau Pagai**	**20.47 267**	P	**P**	**01 36 40.4 +2.6**
	comp=Z,19μmcomp=Z,1μm,1.6s				
MMPI	**Merauke**	**20.87 109**	P	**P**	**01 36 45.4 +3.2**
TABU	**Tabubil**	**20.98 100**	P	**P**	**01 36 44.9 +1.5**
KULM	**Kulim**	**21.05 290**	P	**P**	**01 36 45.3 +1.2**
KULM	**Kulim**	**21.05 290**	P	**P**	**01 36 46.3 +2.2**
MNSI	**Mandailing Nat**	**21.06 277**	P	**P**	**01 36 46.7 +2.4**
	comp=Z,12μmcomp=Z,7μmcomp=Z,496nm,1.0s				
SISI	**Saibi**	**21.38 271**	P	**P**	**01 36 49.1 +1.4**
	comp=Z,8μmcomp=Z,580nm,1.1s				
PSI	**Prapat**	**22.04 282**	LR	LR	01 47 31.5
	comp=Z,6μm,18.0s,baz=108,slow=43				
PSI	**Prapat**	**22.04 282**	P	**P**	**01 36 57.4 +2.4**
PBSI	**Pulau Batu**	**22.26 274**	P	**P**	**01 37 00.5 +3.3**
	comp=Z,13μmcomp=Z,426nm,1.7s				
WB0	**Warramunga Arr**	**22.39 143**	P	**P**	**01 36 57.8 -0.7**
WRAB	**Tennant Creek**	**22.49 144** *c i*	P	**P**	**01 36 59.6 0.0**
WRAB			pmax	pmax	
	comp=Z,181nm,0.9s				
WRA	**Warramunga Arr**	**22.49 144**	P	**P**	**01 36 58.5 -1.1**
	comp=Z,20nm,0.8s,baz=319,slow=11,SNR=63				
WRA			PcP	**PcP**	**01 40 53.7 -0.3**
	comp=Z,5.9nm,1.2s,baz=312,slow=1.8,SNR=2.4				
WRA			S	**S**	**01 41 04.2 -2.6**
	comp=Z,4.8nm,1.1s,baz=318,slow=17,SNR=2.4				
WRA			LR	LR	01 46 54.5
	comp=Z,3μm,19.1s,baz=342,slow=40				
	comp=Z,20nm,0.8s				
WRA	**Warramunga Arr**	**22.49 144** *i*	P	**P**	**01 36 58.5 -1.1**
WRA			pmax	pmax	
	comp=Z,23nm,0.8s				
WB2	**Warramunga Arr**	**22.50 144**	P	**P**	**01 36 58.9 -0.8**
WB2			IAmb	IAmb	01 37 07.0
	comp=Z,152nm,0.8s				
TSI	**Tuntungan**	**22.54 284**	P	**P**	**01 37 02.8 +2.6**
	comp=Z,9μmcomp=Z,16μmcomp=Z,320nm,1.5s				
UBPT	**Khong Chiam**	**22.61 319**	P	**P**	**01 37 03.1 +2.2**
WR0	**Warramunga Arr**	**22.62 144**	IAmb	IAmb	01 37 11.9
	comp=Z,196nm,1.0s				
GSI	**Gunungsitoli**	**23.11 278**	P	**P**	**01 37 07.0 +0.8**
GSI	**Gunungsitoli**	**23.11 278**	P	**P**	**01 37 09.0 +2.8**
GSI	**Gunungsitoli**	**23.11 278**	P	**P**	**01 37 07.7 +1.5**
	comp=Z,9μmcomp=Z,12μmcomp=Z,713nm,1.5s				
QIZ	**Qiongzhong**	**23.27 334**	P	**P**	**01 37 07.0 -0.7**
QIZ			S	**S**	**01 41 22.6 +2.2**
QIZ			SS	**SnSn**	**01 42 03.9 +9.4**
QIZ			pmax	pmax	
	comp=Z,130nm,1.2s				
QIZ			pmax	pmax	
	comp=Z,2μm,4.6s				
QIZ			LR	LR	
	comp=Z,1μm,18.8s				
QIZ			LR	LR	
	comp=Z,1μm,16.3s				
QIZ			LR	LR	
	comp=Z,2μm,19.3s				
QIZ	**Qiongzhong**	**23.27 334**	P	**P**	**01 37 07.8 +0.1**
SRIT	**Nakonsritamara**	**23.27 297**	P	**P**	**01 37 09.8 +2.1**
WRKA	**Warakurna**	**24.22 162**	P	**P**	**01 37 17.4 +0.5**
SNSI	**Sinabang, Aceh**	**24.52 280**	P	**P**	**01 37 22.1 +2.4**
LHMI	**Lhok Sumawe**	**24.54 287**	P	**P**	**01 37 21.8 +1.9**
LHMI	**Lhok Sumawe**	**24.54 287**	P	**P**	**01 37 21.8 +1.9**
TWGBT	**Beinan**	**24.56 1**	P	**P**	**01 37 20.9 +0.9**
TWG	**Pinlang**	**24.57 1**	IAmb	IAmb	01 37 48.1
	comp=Z,268nm,1.1s				
MEEK	**Meekatharra**	**24.67 184**	P	**P**	**01 37 20.8 -0.2**
HKPS	**Hong Kong Po S**	**24.80 346**	P	**P**	**01 37 23.6 +1.5**
HKPS	**Hong Kong Po S**	**24.80 346**	P	**P**	**01 37 23.5 +1.3**
MLSI	**Meulaboh, Aceh**	**24.82 284**	P	**P**	**01 37 23.0 +0.6**
NAYO	**Nakonayok**	**24.88 311**	P	**P**	**01 37 24.6 +1.6**
TPUB	**Ta-pu**	**25.04 0**	P	**P**	**01 37 24.3 0.0**
TPUB	**Ta-pu**	**25.04 0**	P	**P**	**01 37 25.1 +0.8**
YULB	**Yu-li**	**25.14 2**	P	**P**	**01 37 26.0 +0.8**
ASAR	**Alice Springs**	**25.26 150**	P	**P**	**01 37 25.9 -0.5**
ASAR	**Alice Springs**	**25.26 150**	P	**P**	**01 37 26.1 -0.3**
	comp=Z,6.4nm,0.6s,baz=338,slow=11,SNR=43				
ASAR			PcP	**PcP**	**01 40 59.6 -0.3**
	comp=Z,2.7nm,0.5s,baz=346,slow=2.0,SNR=6.5				
ASAR			S	**S**	**01 41 51.0 -1.6**
	comp=Z,0.7nm,0.7s,baz=326,slow=15,SNR=1.1				
ASAR			LR	LR	01 48 33.8
	comp=Z,4μm,19.6s,baz=326,slow=39				
	comp=Z,6.4nm,0.6s				
AS01	**Alice Springs**	**25.28 150**	P	**P**	**01 37 27.6 +1.0**
COEN	**Coen**	**25.45 119**	P	**P**	**01 37 27.7 -0.4**
SSLB	**Suanglung**	**25.52 1**	P	**P**	**01 37 28.6 -0.1**
SSLB			IAMs_20	IAMs_20	01 47 18.7
	comp=Z,2μm,20.0s				
SSLB	**Suanglung**	**25.52 1**	P	**P**	**01 37 29.5 +0.8**
COCO	**West Island**	**25.57 245**	P	**P**	**01 37 29.1 -0.1**
COCO	**West Island**	**25.57 245**	P	**P**	**01 37 30.0 +0.8**
COCO	**West Island**	**25.57 245**	P	**P**	**01 37 31.7 +2.5**
COCO	**West Island**	**25.57 245**	P	**P**	**01 37 29.1 -0.1**
COCO			pmax	pmax	
	comp=Z,728nm,1.8s				
GZH	**Guangzhou**	**25.78 345**	P	**P**	**01 37 36.0 +5.0**
GZH			sP	sP	01 37 42.9 +8.4
GZH			S	**S**	**01 42 09.5 +8.9**
GZH			pmax	pmax	
	comp=Z,200nm,1.5s				
GZH			LR	LR	
	comp=Z,1μm,15.1s				
GZH			LR	LR	
	comp=Z,2μm,14.4s				
GZH			LR	LR	
	comp=Z,2μm,16.3s				
NACB	**Ninganchiao**	**25.93 2**	IAmb	IAmb	01 37 48.5
	comp=Z,123nm,0.9s				
NACB	**Ninganchiao**	**25.93 2**	P	**P**	**01 37 33.1 +0.8**
NONG	**Nongkai**	**26.16 320**	P	**P**	**01 37 35.6 +1.1**
BSI	**Banda Aceh**	**26.20 286**	P	**P**	**01 37 34.9 -0.1**
	comp=Z,4μmcomp=Z,3μmcomp=Z,97nm,1.0s				
QIS	**Mount Isa**	**26.33 136**	P	**P**	**01 37 35.1 -1.0**
YHNB	**Yeheng**	**26.41 2**	IAmb	IAmb	01 37 51.3
	comp=Z,294nm,1.0s				
YHNB			IAMs_20	IAMs_20	01 47 29.2
	comp=Z,3μm,22.0s				
YHNB	**Yeheng**	**26.41 2**	P	**P**	**01 37 37.3 +0.5**
SRDT	**SRDT**	**26.60 308**	P	**P**	**01 37 40.4 +1.8**
TATO	**Taipei**	**26.72 2**	P	**P**	**01 37 39.0 -0.5**
TATO	**Taipei**	**26.72 2**	P	**P**	**01 37 38.4 -1.1**
TATO	**Taipei**	**26.72 2**	P	**P**	**01 37 40.2 +0.7**
QZH	**Quanzhou**	**26.73 356**	P	**P**	**01 37 40.3 +0.7**
QZH			S	**S**	**01 42 15.1 -0.6**
QZH			pmax	pmax	
	comp=Z,140nm,1.0s				
QZH			pmax	pmax	
	comp=Z,1μm,6.0s				
QZH			LR	LR	
	comp=Z,2μm,17.5s				
QZH			LR	LR	
	comp=Z,2μm,17.2s				
MORW	**Morawa**	**27.36 188**	P	**P**	**01 37 45.1 -0.2**
MORW			IAmb	IAmb	01 37 49.5
	comp=Z,143nm,1.5s				
MORW	**Morawa**	**27.36 188**	P	**P**	**01 37 46.1 +0.8**
PMG	**Port Moresby**	**27.57 107**	P	**P**	**01 37 48.1 +0.8**
	comp=Z,24nm,0.9s,baz=272,slow=7.5,SNR=6.4				
	comp=Z,24nm,0.9s				
SLVN	**Son La**	**28.20 326**	P	**P**	**01 37 53.9 +0.9**
SLVN			IAmb	IAmb	01 37 56.3
	comp=Z,220nm,1.4s				
SLVN	**Son La**	**28.20 326**	P	**P**	**01 37 55.4 +2.4**
MTSU	**Mount Surprise**	**28.43 126**	P	**P**	**01 37 56.6 +1.6**
GULI	**GuiLin**	**28.74 341**	P	**P**	**01 38 00.3 +2.7**
GULI			S	**S**	**01 42 50.5 +3.2**
GULI			pmax	pmax	
	comp=Z,70nm,1.8s				
GULI			pmax	pmax	
	comp=Z,1μm,11.4s				
GULI			LR	LR	
	comp=Z,800nm,15.5s				
GULI			LR	LR	
	comp=Z,620nm,18.4s				
GULI			LR	LR	
	comp=Z,1μm,14.1s				
BLDU	**Ballidu**	**28.79 187**	P	**P**	**01 37 57.7 -0.4**
CMAR	**Chiang Mai Arr**	**29.29 315**	P	**P**	**01 38 03.3 +0.8**
CMAR	**Chiang Mai Arr**	**29.29 315**	P	**P**	**01 38 03.5 +0.9**
	comp=Z,171nm,0.9s,baz=139,slow=7.0,SNR=260				
CMAR			PcP	**PcP**	**01 41 08.7 -0.9**
	comp=Z,7.1nm,0.9s,baz=125,slow=3.0,SNR=5.6				
CMAR			PKiKP	**PKiKP**	**01 48 42.7 -0.8**
	comp=Z,0.7nm,0.3s,baz=100,slow=1.1,SNR=6.0				
CHTO	**Chiang Mai**	**29.52 315**	P	**P**	**01 38 05.6 +1.0**
CHTO			IAMs_20	IAMs_20	01 51 18.7
	comp=Z,2μm,20.0s				
CHTO	**Chiang Mai**	**29.52 315**	P	**P**	**01 38 06.5 +1.9**
CHTO			P	**P**	**01 38 06.5 +1.9**
CHTO	**Chiang Mai**	**29.52 315**	P	**P**	**01 38 05.6 +1.0**
CHTO	**Chiang Mai**	**29.52 315**	P	**P**	**01 38 05.6 +1.0**
CHTO			pmax	pmax	
	comp=Z,448nm,1.3s				
CHTO			MLR	MLR	
	comp=Z,2μm,20.0s				
CRAI	**Chiangrai**	**29.52 319**	IAmb	IAmb	01 38 07.8
	comp=Z,166nm,1.1s				
JOW	**Kunigami**	**29.53 14**	LR	LR	01 50 25.5
	comp=Z,304nm,19.8s,baz=170,slow=38				
OOD	**Oodnadatta**	**29.59 152**	P	**P**	**01 38 06.2 +1.1**
FORT	**Forrest**	**29.62 167**	P	**P**	**01 38 04.8 -0.6**
FORT			IAmb	IAmb	01 38 08.7
	comp=Z,162nm,1.5s				
FORT	**Forrest**	**29.62 167**	P	**P**	**01 38 07.1 +1.7**
KLBR	**Kellerberrin**	**29.66 185**	P	**P**	**01 38 05.5 -0.2**
PBA	**Port Blair**	**30.67 297**	IAmb	IAmb	01 38 40.5
	comp=Z,188nm,1.2s				
PBA	**Port Blair**	**30.67 297**	P	**P**	**01 38 14.8 -0.1**
	SNR=7.2				
CNSH	**ChangSha**	**30.76 347**	P	**P**	**01 38 17.3 +1.8**
CNSH			S	**S**	**01 43 20.9 +1.8**
CNSH			LR	LR	
	comp=Z,1μm,16.2s				
CNSH			LR	LR	
	comp=Z,760nm,13.2s				
CNSH			LR	LR	
	comp=Z,1μm,19.2s				
NWAO	**Narrogin (SRO)**	**31.03 185**	P	**P**	**01 38 17.3 -0.5**
NWAO			IAmb	IAmb	01 38 19.5
	comp=Z,146nm,1.4s				
NWAO	**Narrogin (SRO)**	**31.03 185**	IAMs_20	IAMs_20	01 52 24.2
	comp=Z,2μm,18.0s				
NWAO	**Narrogin (SRO)**	**31.03 185**	LR	LR	01 52 17.5
	comp=Z,2μm,18.9s,baz=326,slow=39				
NWAO	**Narrogin (SRO)**	**31.03 185**	P	**P**	**01 38 18.2 +0.4**
NWAO	**Narrogin (SRO)**	**31.03 185**	P	**P**	**01 38 19.1 +1.3**
NWAO	**Narrogin (SRO)**	**31.03 185**	P	**P**	**01 38 19.2 +1.4**
NWAO	**Narrogin (SRO)**	**31.03 185**	P	**P**	**01 38 17.3 -0.5**
NWAO			pmax	pmax	
	comp=Z,146nm,1.4s				
NWAO			MLR	MLR	
	comp=Z,2μm,18.0s				
GYA	**Guiyang**	**31.18 336** ⇓	P	**P**	**01 38 21.0 +1.7**
GYA			PP	**PnPn**	**01 39 22.3 +1.3**
GYA			PcP	**PcP**	**01 41 14.6 +0.1**
GYA			S	**S**	**01 43 26.5 +0.6**
GYA			pmax	pmax	
	comp=Z,110nm,1.6s				
GYA			LR	LR	
	comp=Z,1μm,20.2s				
GYA			LR	LR	
	comp=Z,1μm,19.4s				
GYA			LR	LR	
	comp=Z,2μm,18.8s				
KMI	**Kunming**	**31.88 328** ⇑	P	**P**	**01 38 28.0 +2.3**
KMI			S	**S**	**01 43 43.9 +6.8**
KMI			pmax	pmax	
	comp=Z,280nm,1.1s				
KMI			pmax	pmax	
	comp=Z,1μm,5.8s				
KMI			LR	LR	
	comp=Z,1μm,20.2s				
KMI			LR	LR	
	comp=Z,2μm,20.4s				
KMI			LR	LR	
	comp=Z,2μm,21.4s				
INKA	**Innaminka**	**32.20 145**	P	**P**	**01 38 31.1 +2.9**
WHN	**Wuhan**	**32.77 350**	P	**P**	**01 38 34.8 +1.7**
WHN			pP	**sP**	**01 38 40.8 +4.1**
WHN			PP	**PnPn**	**01 39 44.8 +3.3**
WHN			S	**S**	**01 43 55.0 +4.6**
WHN			pmax	pmax	
	comp=Z,810nm,1.2s				
WHN			pmax	pmax	
	comp=Z,5μm,3.0s				
WHN			LR	LR	
	comp=Z,4μm,14.1s				
WHN			LR	LR	
	comp=Z,6μm,13.2s				
WHN			LR	LR	
	comp=Z,4μm,21.7s				
SSE	**Sheshan**	**32.81 1**	P	**P**	**01 38 34.8 +1.4**
SSE			S	**S**	**01 43 51.4 +0.5**
SSE			pmax	pmax	
	comp=Z,73nm,1.2s				
SSE			pmax	pmax	
	comp=Z,410nm,3.7s				
LCRK	**Leigh Creek**	**33.01 151**	P	**P**	**01 38 37.0 +1.7**
QLP	**Quilpie**	**33.52 139**	P	**P**	**01 38 40.1 +0.3**
PZH	**PanZhiHua**	**33.52 329**	P	**P**	**01 38 40.4 +0.5**
PZH			S	**S**	**01 44 06.5 +4.0**
PZH			pmax	pmax	
	comp=Z,260nm,1.1s				
PZH			pmax	pmax	
	comp=Z,1μm,4.7s				
PZH			LR	LR	
	comp=Z,940nm,17.8s				
PZH			LR	LR	
	comp=Z,1μm,18.2s				
PZH			LR	LR	
	comp=Z,1μm,16.7s				
ENH	**Enshi**	**33.65 343**	P	**P**	**01 38 41.3 +0.4**
ENH	**Enshi**	**33.65 343**	P	**P**	**01 38 42.0 +1.1**
NJ2	**Nanjing**	**33.79 358** ⇑	P	**P**	**01 38 43.3 +1.3**
NJ2			sP	**sP**	**01 38 51.3 +5.7**
NJ2			PP	**PP**	**01 39 57.3 -1.2**
NJ2			S	**S**	**01 44 08.4 +2.3**
NJ2			pmax	pmax	
	comp=Z,66nm,1.0s				
NJ2			pmax	pmax	
	comp=Z,1μm,4.3s				
NJ2			LR	LR	
	comp=Z,940nm,18.0s				
NJ2			LR	LR	
	comp=Z,970nm,15.6s				
NJ2			LR	LR	
	comp=Z,2μm,21.3s				
BBOO	**Buckleboo**	**34.07 156**	P	**P**	**01 38 44.6 +0.1**
TNCH	**TengChong**	**34.19 323** ⇑ *i*	P	**P**	**01 38 46.8 +1.0**
TNCH			pP	pP	01 38 50.9 +2.6
TNCH			sP	sP	01 38 53.5 +4.1
TNCH			PP	**PP**	**01 40 05.6 +2.3**
TNCH			S	**S**	**01 44 16.5 +3.5**
TNCH			pmax	pmax	
	comp=Z,230nm,1.3s				
TNCH			pmax	pmax	
	comp=Z,1μm,2.9s				
TNCH			LR	LR	
	comp=Z,800nm,17.6s				
TNCH			LR	LR	
	comp=Z,2μm,16.8s				
TNCH			LR	LR	
	comp=Z,2μm,19.4s				
WHYH	**Whyalla**	**34.90 154**	P	**P**	**01 38 53.6 +2.0**
JCJ	**Chichijima**	**35.61 34**	LR	LR	01 52 34.5
	comp=Z,423nm,21.2s,baz=253,slow=35				
JCJ	**Chichijima**	**35.61 34**	P	**P**	**01 38 58.3 +0.4**
HTT	**Hallett**	**35.83 153**	P	**P**	**01 39 00.4 +0.7**
STKA	**Stephens Creek**	**35.87 148**	P	**P**	**01 38 59.6 -0.4**
	comp=Z,13nm,0.5s,baz=320,slow=9.2,SNR=32				
STKA			LR	LR	01 55 35.4
	comp=Z,4μm,18.0s,baz=313,slow=39				
	comp=Z,13nm,0.5s				
STKA	**Stephens Creek**	**35.87 148**	P	**P**	**01 38 59.8 -0.2**
RK1H	**Rockhampton Ha**	**36.10 129**	P	**P**	**01 39 02.3 +0.2**
JNU	**Nakatsue**	**36.18 15**	P	**P**	**01 39 00.4 -2.3**
	comp=Z,36nm,1.0s,baz=153,slow=4.9,SNR=9.8				
JNU			LR	LR	01 55 02.6
	comp=Z,603nm,19.5s,baz=208,slow=38				
	comp=Z,36nm,1.0s				
JNU	**Nakatsue**	**36.18 15**	P	**P**	**01 39 02.1 -0.6**
CD2	**Chengdu**	**36.29 335**	P	**P**	**01 39 03.1 -0.6**
CD2			S	**S**	**01 44 45.8 +0.9**
CD2			pmax	pmax	
	comp=Z,210nm,1.2s				
CD2			pmax	pmax	
	comp=Z,2μm,2.7s				
CD2			LR	LR	
	comp=Z,2μm,18.4s				
CD2			LR	LR	
	comp=Z,1μm,17.8s				
LYN	**LuoYang**	**37.02 349** ⇑	P	**P**	**01 39 10.4 +0.6**
LYN			pP	sP	01 39 15.3 +1.9
LYN			PP	**PP**	**01 40 36.3 +2.1**
LYN			S	**S**	**01 44 58.5 +2.7**
LYN			sS	sS	01 45 02.6 +2.7
LYN			pmax	pmax	
	comp=Z,180nm,1.2s				
LYN			pmax	pmax	
	comp=Z,2μm,4.1s				
LYN			LR	LR	
	comp=Z,2μm,12.0s				
LYN			LR	LR	
	comp=Z,4μm,19.9s				
LYN			LR	LR	
	comp=Z,2μm,19.9s				
XAN	**Xi'an**	**37.35 344** ⇑	P	**P**	**01 39 12.4 -0.3**
XAN			pP	pP	01 39 14.6 -0.6
XAN			S	**S**	**01 44 56.3 -4.7**
XAN			pmax	pmax	
	comp=Z,100nm,1.2s				
XAN			pmax	pmax	
	comp=Z,2μm,4.2s				
XAN			LR	LR	
	comp=Z,1μm,13.3s				
XAN			LR	LR	
	comp=Z,2μm,15.1s				
XAN			LR	LR	
	comp=Z,3μm,22.7s				
JMN	**Monobe**	**37.61 18**	P	**P**	**01 39 16.4 +1.5**
CMSA	**Cobar Meteorol**	**37.90 144**	P	**P**	**01 39 17.5 +0.2**
TIA	**Tai'an**	**38.03 356**	P	**P**	**01 39 17.9 -0.5**
TIA			sP	**sP**	**01 39 27.3 +5.3**
TIA			PcP	**PcP**	**01 41 34.4 +0.5**
TIA			S	**S**	**01 45 10.8 -0.3**
TIA			pmax	pmax	
	comp=Z,93nm,0.7s				
TIA			pmax	pmax	
	comp=Z,1μm,3.9s				
TIA			LR	LR	
	comp=Z,1μm,15.8s				
TIA			LR	LR	
	comp=Z,470nm,15.8s				
TIA			LR	LR	
	comp=Z,1μm,15.8s				
TJN	**Taejon**	**38.61 9**	P	**P**	**01 39 23.4 +0.2**
SHL	**Shillong**	**38.87 316**	IAmb	IAmb	01 39 28.3
	comp=Z,198nm,1.0s				
SHL	**Shillong**	**38.87 316**	P	**P**	**01 39 26.3 +0.5**
	SNR=86				
JHJ	**Hachijo jima 2**	**39.30 26**	LR	LR	01 54 40.9
	comp=Z,1μm,21.9s,baz=117,slow=35				
HNS	**HongShan**	**39.45 353** ⇑	P	**P**	**01 39 30.3 +0.1**
HNS			PP	**PnPn**	**01 41 07.8 +4.1**
HNS			S	**S**	**01 45 32.4 -0.1**
HNS			SS	**SS**	**01 48 22.0 -4.9**
HNS			pmax	pmax	
	comp=Z,96nm,1.8s				
HNS			LR	LR	
	comp=Z,980nm,15.7s				
HNS			LR	LR	
	comp=Z,630nm,17.7s				
HNS			LR	LR	
	comp=Z,1μm,17.5s				
INCN	**Inchon**	**39.59 8**	P	**P**	**01 39 30.8 -0.6**
INCN	**Inchon**	**39.59 8**	P	**P**	**01 39 32.1 +0.7**
INCN			P	**P**	**01 39 32.1 +0.7**
INCN			P	**P**	**01 39 32.1 +0.7**
INCN	**Inchon**	**39.59 8**	P	**P**	**01 39 32.0 +0.6**
INCN	**Inchon**	**39.59 8**	P	**P**	**01 39 30.8 -0.6**
INCN			pmax	pmax	
	comp=Z,88nm,1.2s				
KSAR	**Wonju Array Be**	**39.73 9**	P	**P**	**01 39 32.2 -0.3**
KSAR	**Wonju Array Be**	**39.73 9**	P	**P**	**01 39 32.2 -0.3**
KSRS	**Korea Array**	**39.75 9**	P	**P**	**01 39 32.5 -0.1**
	comp=Z,24nm,1.0s,baz=190,slow=9.1,SNR=60				
KSRS			LR	LR	01 55 26.7
	comp=Z,687nm,21.9s,baz=195,slow=36				
	comp=Z,24nm,1.0s				
KS19	**Wonju Array Si**	**39.79 9**	IAmb	IAmb	01 39 34.1
	comp=Z,155nm,1.4s				
ARPS	**Mount Arapiles**	**39.92 153**	P	**P**	**01 39 35.6 +1.4**
TIY	**Taiyuan**	**40.10 350**	P	**P**	**01 39 37.0 +1.3**
TIY			PP	**PnPn**	**01 41 12.5 +1.0**
TIY			S	**S**	**01 45 42.3 -0.1**
TIY			pmax	pmax	
	comp=Z,82nm,0.7s				
TIY			pmax	pmax	
	comp=Z,1μm,4.2s				
TIY			LR	LR	
	comp=Z,510nm,9.8s				
TIY			LR	LR	
	comp=Z,2μm,19.1s				
TIY			LR	LR	
	comp=Z,380nm,15.7s				
INU	**Inuyama**	**40.15 21**	P	**P**	**01 39 34.8 -1.3**
INU	**Inuyama**	**40.15 21**	P	**P**	**01 39 36.9 +0.8**
JGF	**Kuroka**	**40.50 21**	P	**P**	**01 39 39.2 +0.2**
DL2	**Dalian**	**40.61 1**	P	**P**	**01 39 38.8 -1.0**
DL2			S	**S**	**01 45 43.8 -5.9**
DL2			pmax	pmax	
	comp=Z,280nm,1.2s				
DL2			pmax	pmax	
	comp=Z,710nm,6.5s				
DL2			LR	LR	
	comp=Z,530nm,20.2s				
DL2			LR	LR	
	comp=Z,900nm,19.0s				
DL2			LR	LR	
	comp=Z,1μm,17.3s				
PALK	**Pallekele**	**40.71 283**	P	**P**	**01 39 40.6 -0.6**
PALK			IAmb	IAmb	01 39 42.8
	comp=Z,125nm,1.3s				
PALK	**Pallekele**	**40.71 283**	P	**P**	**01 39 41.4 +0.2**
PALK			P	**P**	**01 39 41.4 +0.2**
PALK	**Pallekele**	**40.71 283**	P	**P**	**01 39 40.6 -0.6**
PALK			pmax	pmax	
	comp=Z,125nm,1.3s				
LZH	**Lanzhou**	**40.84 339** ⇑	P	**P**	**01 39 42.5 +0.5**
LZH			sP	sP	01 39 51.0 +5.4
LZH			PP	**PP**	**01 41 18.8 +2.6**
LZH			PcP	**PcP**	**01 41 42.8 -0.2**
LZH			pmax	pmax	
	comp=Z,86nm,1.3s				
LZH			pmax	pmax	
	comp=Z,1μm,4.8s				
LZH			LR	LR	
	comp=Z,1μm,16.5s				
LZH			LR	LR	
	comp=Z,930nm,15.5s				
LZH			LR	LR	
	comp=Z,2μm,16.1s				
ARMA	**Armidale**	**40.95 137**	P	**P**	**01 39 44.1 +1.1**
ARMA	**Armidale**	**40.95 137**	P	**P**	**01 39 43.6 +0.7**
MAJO	**Matsushiro**	**41.65 22**	P	**P**	**01 39 46.3 -2.2**
MAJO			IAmb	IAmb	01 39 48.6
	comp=Z,172nm,1.5s				
MAJO	**Matsushiro**	**41.65 22**	P	**P**	**01 39 47.5 -1.0**
MAJO	**Matsushiro**	**41.65 22** *c i*	P	P	01 39 45.9 -2.6
MAJO			pmax	pmax	
	comp=Z,129nm,1.5s				
MJAR	**Matsushiro Arr**	**41.65 22**	P	**P**	**01 39 46.6 -1.8**
	comp=Z,14nm,0.9s,baz=192,slow=8.6,SNR=25				
MJAR			PcP	**PcP**	**01 41 45.1 -0.3**
	comp=Z,14nm,1.0s,baz=202,slow=2.5,SNR=6.0				

comp=Z,14nm,0.9s
MJB9 Matsu-Tunnel 41.65 22 IAmb IAmb 01 39 48.6
comp=Z,154nm,1.4s
BJT Baijiatuau 41.89 355 IAmb IAmb 01 40 00.4
comp=Z,157nm,1.0s
BJT Baijiatuau 41.89 355 P **P** **01 39 50.9 +0.5**
BJI Beijing 41.91 355 P **P** **01 39 50.1 -0.4**
BJI PcP **PcP** **01 41 46.4 +0.3**
BJI S **S** **01 46 07.8 -1.3**
BJI pmax pmax
comp=Z,75nm,1.0s
BJI pmax pmax
comp=Z,650nm,3.9s
BJI LR LR
comp=Z,490nm,22.7s
BJI LR LR
comp=Z,360nm,16.4s
LSA Lhasa 42.09 321 IAmb IAmb 01 40 02.2
comp=Z,146nm,1.1s
LSA Lhasa 42.09 321 P **P** **01 39 54.0 +1.2**
LSA S **S** **01 46 10.1 -3.0**
LSA pmax pmax
comp=Z,100nm,1.2s
LSA LR LR
comp=Z,600nm,22.6s
LSA LR LR
comp=Z,1μm,20.6s
LSA Lhasa 42.09 321 P **P** **01 39 54.7 +1.9**
LSA P **P** **01 39 54.7 +1.9**
LSA Lhasa 42.09 321 P **P** **01 39 53.8 +1.0**
GEXS Deakin Univers 42.22 152 P **P** **01 39 54.2 +1.1**
TOO Toolangi 42.31 150 P **P** **01 39 55.1 +1.2**
TOO Toolangi 42.31 150 P **P** **01 39 55.1 +1.2**
TOO pmax pmax
comp=Z,39nm,1.8s
CAN Canberra 42.53 145 P **P** **01 39 56.4 +0.6**
CAN Canberra 42.53 145 P **P** **01 39 56.8 +1.0**
CAN Canberra 42.53 145 P **P** **01 39 56.4 +0.6**
CAN pmax pmax
comp=Z,72nm,1.0s
CNB Canberra Magne 42.74 144 P **P** **01 39 59.1 +1.6**
HHC Hu-ho-hao-te 43.30 350⇑ *i* P **P** **01 40 02.0 0.0**
HHC pP pP 01 40 07.3 +2.7
HHC S **S** **01 46 33.6 +3.7**
HHC pmax pmax
comp=Z,81nm,1.0s
HHC pmax pmax
comp=Z,1μm,4.2s
HHC LR LR
comp=Z,850nm,15.4s
HHC LR LR
comp=Z,530nm,11.8s
HHC LR LR
comp=Z,1μm,17.7s
BTO Baotou 43.35 348⇓ *i* P **P** **01 40 04.0 +1.6**
BTO pP **sP** **01 40 08.4 +2.4**
BTO sP **pP** **01 40 11.5 +6.5**
BTO PP **PP** **01 41 47.1 +3.9**
BTO S **S** **01 46 35.0 +4.4**
BTO sS **sS** **01 46 38.6 +3.8**
BTO pmax pmax
comp=Z,93nm,1.2s
BTO pmax pmax
comp=Z,2μm,4.3s
BTO LR LR
comp=Z,4μm,16.7s
SNY Shenyang 43.60 3⇑ P **P** **01 40 03.3 -0.9**
SNY S S 01 46 24.1 -10
SNY pmax pmax
comp=Z,260nm,1.2s
SNY pmax pmax
comp=Z,680nm,3.5s
SNY LR LR
comp=Z,500nm,22.6s
SNY LR LR
comp=Z,330nm,11.0s
SNY LR LR
comp=Z,890nm,16.7s
JMM Marumori 43.80 23 IAmb IAmb 01 40 06.3
comp=Z,325nm,1.6s
JMM Marumori 43.80 23 P **P** **01 40 06.2 +0.3**
GOMU GeErMu 44.81 330 P **P** **01 40 15.6 +1.1**
GOMU pP sP 01 40 22.3 +4.2
GOMU sP pP 01 40 25.3 +8.3
GOMU PcP **PP** **01 42 00.6 +1.4**
GOMU S **S** **01 46 55.9 +3.4**
GOMU pmax pmax
comp=Z,58nm,1.3s
GOMU LR LR
comp=Z,2μm,16.7s
GOMU LR LR
comp=Z,1μm,18.7s
GOMU LR LR
comp=Z,3μm,16.6s
GTA Gaotai 45.27 337 P **P** **01 40 18.8 +1.0**
GTA pP sP 01 40 24.6 +3.2
GTA sP pP 01 40 28.1 +7.7
GTA PcP **PcP** **01 41 57.9 +0.2**
GTA PP **PP** **01 42 08.8 +5.1**
GTA sS sS 01 47 08.4 +5.6
GTA pmax pmax
comp=Z,130nm,1.5s
GTA pmax pmax
comp=Z,1μm,4.7s
GTA LR LR
comp=Z,720nm,18.2s
GTA LR LR
comp=Z,750nm,20.4s
GTA LR LR
comp=Z,900nm,20.4s
MSHR Mys Shultsa 45.30 11⇓ *i* P **P** **01 40 17.3 -0.5**
MSHR pmax pmax
comp=Z,54nm,1.0s
HYB Hyderabad 45.55 297 *e*P P **01 40 20.1 -0.1**
HYB *e*PP **PP** **01 42 08.1 +1.2**
HYB *e*ScP **ScP** **01 45 52.0 -0.5**
HYB *e*S **S** **01 47 05.6 +2.5**
HYB *e*ScS **ScS** **01 50 18.0 0.0**
CN2 Changchun 45.70 5 *e*P **P** **01 40 19.5 -1.5**
CN2 *e*S **S** **01 47 02.1 -2.3**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,500nm,5.0s
XLT XiLinHaoTe 45.75 356 *e*P **P** **01 40 21.8 +0.3**
XLT pP sP 01 40 27.8 +2.7
XLT sP pP 01 40 30.3 +6.2
XLT PcP **PcP** **01 41 58.9 -0.3**
XLT PP **PP** **01 42 13.1 +4.4**
XLT S **S** **01 47 02.6 -2.7**
XLT SS **ScS** **01 50 22.6 +4.2**
XLT pmax pmax
comp=Z,300nm,1.3s
XLT LR LR
comp=Z,900nm,16.2s
XLT LR LR
comp=Z,760nm,14.5s
VLA Vladivostok 45.97 12⇑ *e*P **P** **01 40 24.1 +1.0**
VLA pmax pmax
comp=Z,26nm,1.0s
JTM Tenmabayashi 46.44 22 P **P** **01 40 27.4 +0.6**
MDJ Mudanjiang 47.01 9 IAmb IAmb 01 40 38.1
comp=Z,96nm,1.0s
MDJ Mudanjiang 47.01 9 P **P** **01 40 30.3 -0.9**
MDJ sP pP 01 40 35.8 +1.9
MDJ S **S** **01 47 23.1 -0.1**
MDJ pmax pmax
comp=Z,580nm,1.3s
MDJ pmax pmax
comp=Z,1μm,4.1s
MDJ LR LR
comp=Z,600nm,19.6s
MDJ LR LR
comp=Z,770nm,16.6s
MDJ Mudanjiang 47.01 9 P **P** **01 40 31.0 -0.2**
USA0B Ussuriysk Arra 47.03 11 IAmb IAmb 01 40 32.6
comp=Z,48nm,1.1s
USA0B Ussuriysk Arra 47.03 11 *c i* P **P** **01 40 30.0 -1.4**
USRK Ussuriysk Ar. 47.03 11 P **P** **01 40 30.1 -1.2**
comp=Z,29nm,0.9s,baz=193,slow=6.4,SNR=22
USRK LR LR 01 59 35.1
comp=Z,376nm,22.0s,baz=198,slow=35
comp=Z,29nm,0.9s
BNX BinXian 47.82 7⇓ P **P** **01 40 36.3 -1.2**
BNX PcP **PcP** **01 42 05.3 -1.1**
BNX PP **PP** **01 42 29.5 0.0**
BNX S **S** **01 47 33.4 -1.2**
BNX pmax pmax
comp=Z,47nm,1.4s
BNX pmax pmax
comp=Z,870nm,4.1s
BNX LR LR
comp=Z,540nm,15.7s
BNX LR LR
comp=Z,1μm,18.4s
BNX LR LR
comp=Z,780nm,18.4s
TEY Ternei 48.88 15⇑ *e*P **P** **01 40 43.9 -1.8**
TEY pmax pmax
comp=Z,20nm,2.0s
TEY pmax pmax
comp=N,100nm,4.3s
TEY pmax pmax
comp=Z,200nm,3.9s
TEY pmax pmax
comp=N,10.0nm,2.1s
ASAJ Asahikawa 49.90 21 P **P** **01 40 52.2 -1.3**
comp=N,57nm,1.0s,baz=229,slow=7.8,SNR=17
ASAJ LR LR 02 02 31.4
comp=N,684nm,19.9s,baz=194,slow=37
comp=N,57nm,1.0s
JKA Kamikawa-asahi 49.90 21 IAmb IAmb 01 40 54.7
comp=Z,76nm,1.0s
ULN Ulaanbaatar 50.92 348 P **P** **01 41 01.1 -0.3**
ULN Ulaanbaatar 50.92 348 IAMs_20 IAMs_20 02 03 21.3
comp=Z,798nm,19.0s
ULN Ulaanbaatar 50.92 348 P **P** **01 41 01.9 +0.5**
ULN P **P** **01 41 01.9 +0.5**
ULN P **P** **01 41 01.9 +0.5**
ULN Ulaanbaatar 50.92 348 *c i* P **P** **01 41 01.1 -0.3**
ULN pmax pmax
comp=Z,420nm,1.1s
HIA Hailar 50.95 359 P **P** **01 41 01.0 -0.5**
HIA Hailar 50.95 359 *c i* P **P** **01 41 00.6 -0.9**
HIA pmax pmax
comp=Z,229nm,1.3s
SONM Songino Array 51.02 348 P **P** **01 41 01.3 -0.8**
SONM Songino Array 51.02 348 P **P** **01 41 01.4 -0.8**
comp=Z,116nm,0.9s,baz=164,slow=8.5,SNR=173
SONM LR LR 02 04 42.2
comp=Z,1μm,19.1s,baz=158,slow=39
comp=Z,116nm,0.9s
YUK Yuzh-Kuril'sk 51.05 23⇓ *e*P **P** **01 41 01.5 -0.8**
KLR Kul'dur 51.84 9 LR LR 02 04 21.7
comp=Z,318nm,20.2s,baz=195,slow=38
KLR Kul'dur 51.84 9 *c i* P **P** **01 41 05.9 -2.2**
KLR pmax pmax
comp=Z,58nm,1.6s
HEH HeiHe 52.28 6 *e*P **P** **01 41 09.5 -1.8**
HEH pP **sP** **01 41 16.9 +1.9**
HEH PcP **PcP** **01 42 18.9 -3.7**
HEH PP **PP** **01 43 09.3 -0.7**
HEH S **S** **01 48 34.1 -2.6**
HEH pmax pmax
comp=Z,100nm,0.9s
HEH pmax pmax
comp=Z,2μm,4.1s
HEH LR LR
comp=Z,670nm,16.2s
HEH LR LR
comp=Z,390nm,17.1s
HEH LR LR
comp=Z,980nm,17.1s
YSS Yuzhno-Sakhali 52.43 19 P **P** **01 41 10.5 -2.0**
YSS IAmb IAmb 01 41 12.7
comp=Z,149nm,1.5s
YSS Yuzhno-Sakhali 52.43 19 P **P** **01 41 11.8 -0.7**
YSS Yuzhno-Sakhali 52.43 19 *c i* P **P** **01 41 11.1 -1.4**
YSS *e*S **S** **01 48 32.9 -6.0**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,700nm,4.3s
KUR Kuril'sk 52.85 24 *d i* P **P** **01 41 15.0 -0.6**
KUR pmax pmax
comp=Z,315nm,1.2s
CIT Chita 54.03 355 *e*P **P** **01 41 23.4 -0.9**
CIT *e* 01 42 28.4
CIT *e* 01 43 19.2
CIT *e* 01 44 36.0
CIT *e* 01 49 02.0
CIT pmax pmax
comp=Z,418nm,1.5s
UGL Uglegorsk 54.10 17 *e*P **P** **01 41 23.6 -1.1**
UGL *e*S S 01 48 53.5 -8.0
UGL pmax pmax
comp=Z,2μm,4.6s
UGL pmax pmax
comp=Z,100nm,1.3s
UGL smax smax
comp=N,1μm,19.0s
UGL smax smax
comp=E,1μm,19.0s
ZAK Zakamensk 54.12 346 *e*P **P** **01 41 24.7 -0.3**
ZAK pmax pmax
comp=Z,109nm,1.5s
WMQ Urumqi 54.15 331⇑ P **P** **01 41 25.9 +0.6**
WMQ pmax pmax
comp=Z,88nm,1.7s
WMQ pmax pmax
comp=Z,1μm,3.8s
WMQ LR LR
comp=Z,1μm,7.3s
WMQ LR LR
comp=Z,620nm,22.9s
GRNR Gornyy 54.20 12⇓ *i* P **P** **01 41 25.0 -0.5**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
IRK Irkutsk 55.64 348 *e*P **P** **01 41 35.3 -0.6**
IRK pmax pmax
comp=Z,329nm,2.0s
ZEA Zeya 55.72 5 *e*P **P** **01 41 35.2 -1.2**
ZEA pmax pmax
comp=N,400nm,5.0s
ZEA pmax pmax
comp=Z,400nm,5.0s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=E,300nm,20.0s
ZEA MLR MLR
comp=Z,400nm,19.0s
MOY Mondy 55.86 345 *e*P **P** **01 41 37.4 -0.2**
MOY pmax pmax
comp=Z,459nm,1.8s
TYV Tymovskoe 55.86 17 *e*P **P** **01 41 37.6 +0.1**
TYV *e*S **S** **01 49 24.5 -0.6**
TYV pmax pmax
comp=Z,42nm,1.7s
TYV pmax pmax
comp=Z,1μm,3.3s
TYV smax smax
comp=N,500nm,5.5s
TYV smax smax
comp=E,900nm,5.5s
NIL Nilore 56.76 313 P **P** **01 41 43.0 -1.2**
NIL IAmb IAmb 01 41 45.5
comp=Z,107nm,0.9s
NIL Nilore 56.76 313 P **P** **01 41 43.1 -1.2**
NIL pmax pmax
comp=Z,107nm,1.0s
KSH Kashi 57.95 320 P **P** **01 41 53.0 +0.3**
KSH pmax pmax
comp=Z,160nm,1.1s
SHLS Shalkode 58.02 326 *e*P P 01 41 50.0 -3.2
SHLS pmax pmax
comp=Z,90nm,1.2s
SHLS Shalkode 58.02 326 *e*P P 01 41 50.1 -3.1
comp=Z,90nm,1.2s
TARG Taragay, Kyrgy 58.10 323 IAmb IAmb 01 42 07.4
comp=Z,133nm,1.3s
PDGK Podgornoye 58.12 326 P **P** **01 41 53.1 -0.7**
ZSN Zaisan 58.16 332 *e*P **P** **01 41 52.7 -1.2**
ZSN *e*S **S** **01 49 52.0 -3.7**
ZSN pmax pmax
comp=Z,62nm,1.2s
ZSN Zaisan 58.16 332 *e*P **P** **01 41 52.8 -1.2**
comp=Z,62nm,1.2s
ZSN *e*S **S** **01 49 52.1 -3.7**
UZB Uzynbulak 58.27 325 *e*P **P** **01 41 53.4 -1.5**
UZB pmax pmax
comp=Z,65nm,1.5s
UZB Uzynbulak 58.27 325 *e*P **P** **01 41 53.5 -1.5**
comp=Z,65nm,1.5s
SATY Saty 58.56 325 *e*P **P** **01 41 55.6 -1.4**
SATY pmax pmax
comp=Z,69nm,1.1s
SATY Saty 58.56 325 *e*P **P** **01 41 55.6 -1.4**
comp=Z,70nm,1.1s
ZHN Zhinishke 58.61 325 *e*P **P** **01 41 56.0 -1.3**
ZHN pmax pmax
comp=Z,58nm,1.2s
ZHN Zhinishke 58.61 325 *e*P **P** **01 41 56.0 -1.3**
comp=Z,58nm,1.2s
MSVF Nonsavu 58.62 110 P **P** **01 41 59.0 +1.3**
MSVF IAmb IAmb 01 42 02.9
comp=Z,42nm,1.1s
MSVF Nonsavu 58.62 110 P **P** **01 41 59.3 +1.5**
MSVF Nonsavu 58.62 110⇑ *e*P **P** **01 41 59.5 +1.7**
MSVF pmax pmax
comp=Z,54nm,1.2s
KDJ Kajisay 58.72 323 IAmb IAmb 01 42 00.5
comp=Z,94nm,1.0s
MK31 Makanchi Array 58.94 330 *c i* P **P** **01 41 58.6 -0.7**
MKAR Makanchi Array 58.94 330 P **P** **01 41 58.6 -0.7**
comp=Z,69nm,0.9s,baz=126,slow=6.2,SNR=195
MKAR LR LR 02 10 52.0
comp=Z,306nm,18.3s,baz=120,slow=40
MKAR PKPPKP **P'P'df** **02 11 30.9 -2.7**
comp=Z,0.4nm,0.8s,baz=129,slow=1.7,SNR=4.4
MKAR PKP2bc 02 11 45.3
comp=Z,0.6nm,0.8s,baz=281,slow=3.7,SNR=4.8
comp=Z,69nm,0.9s
MAKZ Makanchi 59.10 330 P **P** **01 41 59.5 -1.0**
MAKZ Makanchi 59.10 330 P **P** **01 41 59.8 -0.7**
OUZ Omahuta 59.34 130 IAMs_20 IAMs_20 02 09 50.1
comp=Z,1μm,18.0s
ULHL Ulahol 59.35 323 P **P** **01 42 03.6 +1.1**
SNR=11
TNSS Tian-Shan 59.40 324 *e*P **P** **01 42 01.4 -1.6**
TNSS Tian-Shan 59.40 324 *e*P **P** **01 42 01.5 -1.6**
KNDC Almaty 59.49 324 P **P** **01 42 03.7 +0.4**
AAA Alma-Ata 59.52 324 *e*P **P** **01 42 02.3 -1.2**
AAA Alma-Ata 59.52 324 *e*P **P** **01 42 02.4 -1.2**
ARXS Arharly 59.61 326 *e*P **P** **01 42 03.7 -0.4**
BOD Bodaibo 59.75 356 *e*P **P** **01 42 03.3 -1.4**
BOD pmax pmax
comp=Z,183nm,1.5s
TDK Taldyqorghan 59.78 327 *e*P **P** **01 42 04.1 -1.1**
TDK Taldyqorghan 59.78 327 *e*P **P** **01 42 04.1 -1.1**
CHKK Chushkaly 59.87 325 *e*P **P** **01 42 04.5 -1.3**
CHKK Chushkaly 59.87 325 *e*P **P** **01 42 04.5 -1.3**
JCZ Jackson Bay 59.88 142 P **P** **01 42 08.2 +2.2**
TKM2 Tokmak 2 60.13 323 P **P** **01 42 07.5 -0.4**
SNR=101
TKM2 Tokmak 2 60.13 323 *i* P **P** **01 42 06.9 -1.0**
TKM2 pmax pmax
comp=Z,188nm,1.1s
KBL Kabul 60.27 312 P **P** **01 42 07.8 -1.2**
KBL Kabul 60.27 312 P **P** **01 42 08.7 -0.3**
SNR=157
KBL P **P** **01 42 08.7 -0.3**
SNR=157
KBL Kabul 60.27 312 P **P** **01 42 07.8 -1.2**
KBL pmax pmax
comp=Z,368nm,1.1s
KBK Karagaybulak 60.37 323 P **P** **01 42 09.3 -0.2**
SNR=129
UCH Uchtor 60.39 322 P **P** **01 42 11.3 +1.3**
SNR=13
AAK Ala-Archa 60.63 322 P **P** **01 42 11.0 -0.2**
AAK Ala-Archa 60.63 322 P **P** **01 42 11.0 -0.2**
comp=Z,46nm,0.8s,baz=132,slow=5.0,SNR=98
AAK LR LR 02 14 23.1
comp=Z,506nm,19.4s,baz=124,slow=42
comp=Z,46nm,0.8s
AAK Ala-Archa 60.63 322 P **P** **01 42 12.0 +0.7**
AAK P **P** **01 42 12.0 +0.7**
AAK Ala-Archa 60.63 322 P **P** **01 42 11.1 -0.2**
SNR=97
AAK Ala-Archa 60.63 322 *de*P **P** **01 42 11.2 -0.1**
AAK pmax pmax
comp=Z,212nm,1.7s
AAK Ala-Archa 60.63 322 *i* P **P** **01 42 11.1 -0.2**
SNR=126
FRU1 Bishkek 60.65 323 IAmb IAmb 01 42 16.8
comp=Z,117nm,1.4s
CHMS Chumysh 60.68 323 P **P** **01 42 12.0 +0.5**
SNR=26
DSZ Denniston Nort 60.72 138 IAmb IAmb 01 42 15.9
comp=Z,116nm,1.3s
QRZ Quartz Range 60.81 137 P **P** **01 42 13.5 +1.2**
QRZ IAMs_20 IAMs_20 02 13 16.9
comp=Z,2μm,18.0s
AML Almayashu 60.84 322 P **P** **01 42 12.6 -0.4**
SNR=163
LBZ Lake Benmore 60.91 141 P **P** **01 42 11.8 -1.2**
LBZ IAmb IAmb 01 42 28.0
comp=Z,48nm,1.3s
USP Ospenovka 60.98 323 P **P** **01 42 12.8 -0.7**
SNR=146
SGDS Sogindy 61.01 323 *e*P **P** **01 42 12.4 -1.3**
SGDS pmax pmax
comp=Z,34nm,1.1s
SGDS Sogindy 61.01 323 *e*P **P** **01 42 12.5 -1.3**
comp=Z,34nm,1.1s
EKS2 Erkin-Say 61.08 322 P **P** **01 42 15.6 +1.3**
SNR=70
RPZ Rata Peaks 61.14 140 P **P** **01 42 14.1 -0.4**
THZ Tophouse 61.47 138 IAmb IAmb 01 42 22.4
comp=Z,29nm,0.7s
NNZ Nelson 61.56 137 IAMs_20 IAMs_20 02 11 31.7
comp=Z,1μm,18.0s
OXZ Oxford 61.59 139 IAmb IAmb 01 42 19.6
comp=Z,119nm,1.7s
TOZ Tahuroa Road 61.70 132 IAmb IAmb 01 42 23.2
comp=Z,104nm,1.6s
TOZ IAMs_20 IAMs_20 02 12 37.3
comp=Z,1μm,18.0s
SIMJ Simiganj 62.15 316 P **P** **01 42 20.5 -1.1**
BTLS Baital 62.27 325 *e*P **P** **01 42 21.0 -1.1**
BTLS pmax pmax
comp=Z,39nm,1.1s
BTLS Baital 62.27 325 *e*P **P** **01 42 21.1 -1.1**
comp=Z,39nm,1.1s
BHW Baring Head 62.66 136 IAMs_20 IAMs_20 02 12 16.8
comp=Z,1μm,18.0s
DZA Taraz 62.72 321 *e*P **P** **01 42 24.1 -1.1**
DZA pmax pmax
comp=Z,28nm,1.3s
DZA Taraz 62.72 321 *e*P **P** **01 42 24.1 -1.1**
comp=Z,28nm,1.3s
BKZ Black Stump Fm 62.95 134 IAmb IAmb 01 42 30.1
comp=Z,77nm,1.4s
BKZ Black Stump Fm 62.95 134 P **P** **01 42 27.3 +0.5**
PEA0B Petropavlovsk- 63.02 24 *ce*P **P** **01 42 26.9 0.0**
PETK Petropavlovsk- 63.02 24 P **P** **01 42 26.8 -0.2**
PETK Petropavlovsk- 63.02 24 P **P** **01 42 27.0 +0.1**
comp=Z,25nm,0.9s,baz=216,slow=4.3,SNR=14
PETK LR LR 02 08 24.6
comp=Z,306nm,22.0s,baz=211,slow=35
PETK PKPPKP **P'P'df** **02 11 25.3 -1.5**
comp=Z,8.8nm,1.1s,baz=339,slow=7.9,SNR=3.5
comp=Z,25nm,0.9s
PETK Petropavlovsk- 63.02 24 P **P** **01 42 27.0 +0.1**
ZALV Zalesovo Beam 63.02 337 P **P** **01 42 24.4 -2.5**
ZALV Zalesovo Beam 63.02 337 P **P** **01 42 25.0 -1.9**
comp=Z,97nm,1.0s,baz=130,slow=5.1,SNR=163
ZALV PKPPKP **P'P'df** **02 11 28.3 +1.6**
comp=Z,0.9nm,0.5s,baz=164,slow=5.9,SNR=6.6
ZALV LR LR 02 12 53.6
comp=Z,320nm,18.7s,baz=144,slow=39
comp=Z,97nm,1.0s
ZALV Zalesovo Beam 63.02 337 P **P** **01 42 25.0 -1.9**
URZ Urewera 63.07 132 LR LR 02 09 38.0
comp=Z,541nm,20.7s,baz=22,slow=36
IUG Iuzhnay 63.16 320 *e*P **P** **01 42 27.0 -1.2**
IUG pmax pmax
comp=Z,58nm,1.0s
IUG Iuzhnay 63.16 320 *e*P **P** **01 42 27.0 -1.2**
comp=Z,58nm,1.0s
KK31 Karatay Array 63.34 321 P **P** **01 42 28.1 -1.2**
KK31 IAmb IAmb 01 42 31.0

comp=Z,65nm,1.1s
KK31 Karatay Array 63.34 321 P **P 01 42 28.1 -1.2**
KK31 pmax pmax
comp=Z,65nm,1.2s
KKAR Karatay Array 63.34 321 P **P 01 42 27.4 -1.9**
KKAR Karatay Array 63.34 321 IAmb IAmb 01 42 30.9
comp=Z,41nm,1.1s
KKAR Karatay Array 63.34 321 P **P 01 42 27.4 -1.9**
PET Petropavlovsk 63.35 25 P **P 01 42 29.2 +0.1**
PET Petropavlovsk 63.35 25 *e*P P 01 42 35.8 +6.7
PET *e*S **S 01 51 05.0 +3.2**
PET pmax pmax
comp=Z,300nm,14.8s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 63.35 25 P **P 01 42 27.7 -1.4**
comp=Z,92nm,1.8s
KURBB Kurchatov Arra 63.36 332 P **P 01 42 27.9 -1.3**
comp=Z,68nm,1.0s,baz=132,slow=6.1,SNR=195
KURBB S **S 01 51 01.4 -0.6**
comp=Z,0.3nm,0.8s,baz=131,slow=13,SNR=1.8
KURBB PKPPKP P'P'df 02 11 19.6 -6.9
comp=Z,0.7nm,0.8s,baz=288,slow=3.9,SNR=7.2
comp=Z,68nm,1.0s
KURK Kurchatov 63.38 332 P **P 01 42 28.1 -1.3**
KURK Kurchatov 63.38 332 P **P 01 42 28.7 -0.7**
KURK P **P 01 42 28.7 -0.7**
KURK Kurchatov 63.38 332*ce*P **P 01 42 28.8 -0.6**
KURK pmax pmax
comp=Z,273nm,1.1s
NGCH Negor - Chabah 63.43 300 P **P 01 42 29.8 -0.4**
SNR=7.9
BRLS Borolday 63.73 321 *e*P **P 01 42 30.5 -1.4**
BRLS pmax pmax
comp=Z,44nm,1.2s
BRLS Borolday 63.73 321 *e*P **P 01 42 30.6 -1.4**
comp=Z,44nm,1.2s
YAK Yakutsk 64.13 5 P **P 01 42 32.2 -1.9**
YAK Yakutsk 64.13 5 P **P 01 42 32.9 -1.2**
comp=Z,118nm,0.9s,baz=356,slow=0.9,SNR=16
YAK LR LR 02 10 40.6
comp=Z,491nm,20.6s,baz=184,slow=36
comp=Z,118nm,0.9s
YAK Yakutsk 64.13 5*c i*P **P 01 42 32.3 -1.8**
YAK *e* 01 43 08.6
YAK *e* 01 44 50.8
YAK *e*S **S 01 51 05.0 -6.2**
YAK *e**SS sS 01 51 32.1 +16
YAK *e* 01 52 21.6
YAK *e*SS **SS 01 55 18.3 -2.1**
YAK pmax pmax
comp=Z,166nm,1.1s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,42nm,1.1s
YAK pmax pmax
comp=Z,121nm,2.5s
YAK pmax pmax
comp=N,103nm,2.5s
YAK smax smax
comp=E,228nm,4.3s
YAK smax smax
comp=N,158nm,4.0s
JLN Jalan Bani Buh 64.15 296 P **P 01 42 34.0 -1.0**
SNR=7.4
JLN P **P 01 42 34.0 -1.0**
SNR=7.4
CASY Casey 64.65 184 P **P 01 42 37.0 -0.4**
CASY IAmb IAmb 01 43 53.0
comp=Z,129nm,1.9s
WBK Wadi Bani Khal 64.65 296 P **P 01 42 39.0 +0.6**
SNR=7.2
WBK P **P 01 42 39.0 +0.6**
SNR=7.2
OTUK Ortayu 65.07 327 P **P 01 42 39.3 -1.3**
WSAR Wadi Sarin 65.10 297 P **P 01 42 40.5 -0.7**
comp=Z,0.2nm,0.9s,baz=138,slow=23,SNR=13
MHTO MHTO 65.19 294 P **P 01 42 40.3 -1.5**
SNR=20
MHTO P **P 01 42 40.3 -1.5**
SNR=20
DQM DQM 65.37 293 P **P 01 42 42.0 -1.0**
SNR=20
JMDO Jabal Madar 65.38 296 P **P 01 42 42.0 -1.1**
SNR=18
JMDO P **P 01 42 42.0 -1.1**
SNR=18
JMDO P **P 01 42 42.0 -1.1**
SNR=18
SMDO Samad 65.58 296 P **P 01 42 42.9 -1.5**
SNR=7.9
BIDO Bidbid 65.62 297 P **P 01 42 43.5 -1.1**
SNR=11
MA2 Magadan 65.73 16 P **P 01 42 44.1 -0.5**
MA2 Magadan 65.73 16 LR LR 02 12 15.0
comp=Z,138nm,19.8s,baz=164,slow=37
MA2 Magadan 65.73 16 P **P 01 42 45.2 +0.6**
MA2 Magadan 65.73 16 P **P 01 42 44.1 -0.5**
MA2 pmax pmax
comp=Z,203nm,1.4s
MA2 Magadan 65.73 16 P **P 01 42 43.2 -1.4**
comp=Z,2µmcomp=Z,104nm,1.8s
BRZS Berezniki 65.89 328 *e*P **P 01 42 44.7 -1.1**
BRZS pmax pmax
comp=Z,35nm,1.4s
BRZS Berezniki 65.89 328 *e*P **P 01 42 44.8 -1.1**
comp=Z,36nm,1.4s
BSY Bisya 66.27 296 P **P 01 42 47.8 -1.0**
SNR=13
BSY P **P 01 42 47.8 -1.0**
SNR=13
HOQ Hoqain 66.36 297 P **P 01 42 48.8 -0.6**
SNR=8.8
HOQ P **P 01 42 48.8 -0.6**
SNR=8.8
HOQ P **P 01 42 48.8 -0.6**
SNR=8.8
ARQ Araqi 67.01 296 P **P 01 42 52.4 -1.1**
SNR=7.8
ARQ P **P 01 42 52.4 -1.1**
SNR=7.8
SOHO SOHO 67.18 297 P **P 01 42 53.6 -1.0**
SOHO P **P 01 42 53.6 -1.0**
SOHO P **P 01 42 53.6 -1.0**
SOHO SOHO 67.18 297 *i* P **P 01 42 52.1 -2.4**
SNR=6.6
DMTO DMTO 67.37 290 P **P 01 42 54.6 -1.3**
MDH Madha 67.65 298 P **P 01 42 55.7 -1.8**
UOSS Minazif 67.66 298 P **P 01 42 55.5 -2.1**
UOSS IAmb IAmb 01 42 57.2
comp=Z,95nm,1.6s
UOSS Minazif 67.66 298 P **P 01 42 55.9 -1.7**
UOSS Minazif 67.66 298 P **P 01 42 55.6 -1.9**
HATD Hatta, Dubai 67.69 298 P **P 01 42 57.3 -0.6**
SNR=5.2
HATD P **P 01 42 57.3 -0.6**
SNR=5.2
HATD Hatta, Dubai 67.69 298 *i* P **P 01 42 56.4 -1.4**
SNR=7.3
ASHO Ashiyiah 67.72 298 P **P 01 42 57.7 -0.3**
SNR=6.1
ASHO Ashiyiah 67.72 298 *i* P **P 01 42 56.6 -1.4**
SNR=7.2
MASF Masafi 67.79 298 P **P 01 42 56.4 -2.1**
ALNE Al Ain 67.86 297 P **P 01 42 58.0 -0.9**
SNR=24
ALNE P **P 01 42 58.0 -0.9**
SNR=24
ALNE Al Ain 67.86 297 *i* P **P 01 42 57.6 -1.2**
SNR=17
RBK Rabkut 68.03 290 P **P 01 42 59.4 -0.7**
RBK P **P 01 42 59.4 -0.7**
UMZA Um Al Zommool 68.11 295 P **P 01 42 59.6 -0.9**
UMZA P **P 01 42 59.6 -0.9**
FAQ Al Faqa, Dubai 68.15 298 P **P 01 43 00.6 -0.1**
FAQ P **P 01 43 00.6 -0.1**
FAQ P **P 01 43 00.6 -0.1**
FAQ Al Faqa, Dubai 68.15 298 P **P 01 42 58.9 -1.8**
DOK Doka 68.29 291 P **P 01 42 59.4 -2.3**
SNR=6.0
DOK P **P 01 42 59.4 -2.3**
SNR=6.0
ASUD Al Ashush, Dub 68.36 297 P **P 01 43 00.5 -1.4**
SNR=9.5
ASUD Al Ashush, Dub 68.36 297 *i* P **P 01 43 00.8 -1.2**
SNR=17
WHFO Wadi Hawf 68.51 290 P **P 01 43 01.3 -1.8**
WHFO P **P 01 43 01.3 -1.8**
WHFO P **P 01 43 01.3 -1.8**
AJN Ajban 68.65 297 P **P 01 43 02.9 -0.9**
SNR=6.9
AJN P **P 01 43 02.9 -0.9**
SNR=6.9
AJN Ajban 68.65 297 *i* P **P 01 43 02.2 -1.6**
SNR=5.8
BVA0 Borovoye Array 68.82 330 P **P 01 43 03.1 -1.2**
BVAR Borovoye Array 68.82 330 P **P 01 43 02.5 -1.9**
comp=Z,45nm,1.1s,baz=128,slow=6.2,SNR=100
BVAR LR LR 02 16 12.5
comp=Z,641nm,20.1s,baz=116,slow=39
comp=Z,45nm,1.1s
ABTO Aybut 68.87 289 P **P 01 43 04.0 -1.4**
SNR=9.6
ABTO P **P 01 43 04.0 -1.4**
SNR=9.6
BRVK Borovoye 68.89 330 P **P 01 43 03.6 -1.2**
BRVK Borovoye 68.89 330 P **P 01 43 04.0 -0.8**
BRVK Borovoye 68.89 330*c i*P **P 01 43 03.0 -1.7**
BRVK pmax pmax
comp=Z,115nm,1.3s
SEY Seymchan 68.96 15 LR LR 02 11 00.6
comp=Z,227nm,22.0s,baz=157,slow=34
SEY Seymchan 68.96 15*c i*P **P 01 43 04.2 -0.7**
SEY pmax pmax
comp=Z,104nm,1.5s
MZWR Madinat Zayed 69.47 296 P **P 01 43 09.1 +0.1**
MZR Muzera 69.68 295 P **P 01 43 12.3 +2.0**
SNR=5.1
MZR P **P 01 43 12.3 +2.0**
SNR=5.1
MZR Muzera 69.68 295 *i* P **P 01 43 08.5 -1.8**
SNR=6.2
GHWR Ruwais 70.41 296 P **P 01 43 14.7 0.0**
GHWR P **P 01 43 14.7 0.0**
SHEM Shemya Is, Ala 70.46 31 LR LR 02 11 10.2
comp=Z,139nm,20.1s,baz=286,slow=33
JRN Qarnain Island 70.63 297 P **P 01 43 15.4 -0.6**
SLWR Sila 71.50 296 P **P 01 43 20.7 -0.6**
SLWR P **P 01 43 20.7 -0.6**
TRNA Turayna 72.05 297 P **P 01 43 23.9 -0.7**
SMRA Abu-Samra 72.40 297 P **P 01 43 26.1 -0.6**
SHMA Al-Shehemyia 72.48 298 P **P 01 43 26.6 -0.5**
AB31 Akbulak array 72.70 323 *i* P **P 01 43 25.8 -2.2**
ABKAR Akbulak array 72.70 323 P **P 01 43 26.4 -1.6**
ABKAR Akbulak array 72.70 323 IAmb IAmb 01 43 30.6
comp=Z,35nm,0.8s
SAKB Bahrain 72.88 298 P **P 01 43 27.7 -1.9**
ABPO Ambohimpanom 73.55 251 P **P 01 43 32.6 -1.2**
ABPO Ambohimpanom 73.55 251 P **P 01 43 32.7 -1.2**
ABPO pmax pmax
comp=Z,64nm,1.7s
TIXI Tiksi 73.61 3 P **P 01 43 30.4 -2.5**
TIXI IAmb IAmb 01 43 33.5
comp=Z,109nm,1.1s
TIXI Tiksi 73.61 3 P **P 01 43 30.6 -2.3**
comp=Z,68nm,0.9s,baz=171,slow=1.9,SNR=83
TIXI PP **PP 01 46 14.2 -2.8**
comp=Z,5.2nm,0.9s,baz=181,slow=6.2,SNR=3.5
TIXI LR LR 02 17 09.3
comp=Z,658nm,21.3s,baz=204,slow=37
comp=Z,68nm,0.9s
TIXI Tiksi 73.61 3*c i*P **P 01 43 30.5 -2.5**
TIXI pmax pmax
comp=Z,120nm,1.1s
VOI Vohitsoka 74.16 248 P **P 01 43 36.9 -0.4**
VOI IAmb IAmb 01 43 40.2
comp=Z,117nm,1.6s
VOI Vohitsoka 74.16 248 P **P 01 43 37.3 0.0**
AKTO Aktyubinsk 74.31 324 P **P 01 43 36.1 -1.3**
comp=Z,38nm,1.0s,baz=120,slow=3.4,SNR=50
AKTO PP **PP 01 46 22.1 -1.5**
comp=Z,2.5nm,0.7s,baz=169,slow=8.8,SNR=3.6
AKTO LR LR 02 20 59.1
comp=Z,622nm,18.1s,baz=124,slow=40
comp=Z,38nm,1.0s
NRIK Noril'sk 74.50 348 IAmb IAmb 01 43 39.8
comp=Z,161nm,1.2s
NRIK Noril'sk 74.50 348 P **P 01 43 36.6 -1.6**
comp=Z,70nm,1.0s,baz=132,slow=5.9,SNR=68
comp=Z,70nm,1.0s
NRIK Noril'sk 74.50 348*c i*P **P 01 43 36.4 -1.8**
NRIK pmax pmax
comp=Z,161nm,1.3s
SVE Sverdlovsk 75.60 331 *e*P **P 01 43 43.2 -1.6**
SVE pmax pmax
comp=Z,81nm,1.1s
KBD Kabd 75.94 301 P **P 01 43 46.0 -1.3**
MAW Mawson 76.38 199 LR LR 02 12 59.2
comp=Z,683nm,19.1s,baz=56,slow=32
ARTI Arti 76.53 330 P P 01 43 47.4 -2.7
ARTI Arti 76.53 330 P **P 01 43 48.6 -1.4**
comp=Z,23nm,0.9s,baz=129,slow=2.3,SNR=29
comp=Z,23nm,0.9s
ARTI Arti 76.53 330*c i*P **P 01 43 47.7 -2.4**
ARTI S **S 01 53 32.6 -3.7**
ARTI pmax pmax
comp=Z,41nm,1.1s
BILL Bilibino 76.60 16 P **P 01 43 48.8 -1.4**
BILL IAmb IAmb 01 43 50.5
comp=Z,94nm,1.8s
BILL Bilibino 76.60 16*c i*P **P 01 43 47.7 -2.5**
BILL pmax pmax
comp=Z,48nm,1.6s
RAYN Ar Rayn 77.00 295 P **P 01 43 51.5 -2.1**
RAYN Ar Rayn 77.00 295 P **P 01 43 52.5 -1.1**
RAYN Ar Rayn 77.00 295 P **P 01 43 51.5 -2.1**
RAYN Ar Rayn 77.00 295 *i* P **P 01 43 51.4 -2.1**
SNR=13
ATD Arta Tunnel 78.26 282 LR LR 02 17 29.3
comp=Z,14nm,19.1s,baz=76,slow=35
VNDA Vanda 78.75 172 P **P 01 44 02.1 0.0**
VNDA Vanda 78.75 172 P **P 01 44 02.1 0.0**
comp=Z,5.5nm,0.6s,baz=319,slow=6.2,SNR=24
comp=Z,5.5nm,0.6s
VNDA Vanda 78.75 172 P **P 01 44 02.2 0.0**
VNDA pmax pmax
comp=Z,24nm,1.3s
NIKH Nikolski High 79.98 35 P **P 01 44 08.5 -0.8**
baz=253
GNI Garni 80.34 311 P **P 01 44 10.9 -0.8**
GNI IAmb IAmb 01 44 15.2
comp=Z,165nm,1.6s
GNI Garni 80.34 311 LR LR 02 26 17.6
comp=Z,210nm,20.4s,baz=111,slow=41
GNI Garni 80.34 311 P **P 01 44 11.0 -0.8**
GNI P **P 01 44 11.0 -0.8**
GNI Garni 80.34 311*c i*P **P 01 44 10.9 -0.8**
GNI pmax pmax
comp=Z,131nm,1.6s
GNI Garni 80.34 311 P **P 01 44 10.4 -1.3**
GNI Garni 80.34 311 P **P 01 44 10.1 -1.6**
comp=Z,1µmcomp=Z,67nm,1.6s
SPIA Saint Paul Isl 80.49 31 P **P 01 44 11.6 -0.3**
baz=251
P08K Saint George I 80.68 32 P **P 01 44 12.8 -0.1**
baz=252
GEVA Gevas 81.31 309 IAmb IAmb 01 44 17.9
comp=Z,151nm,1.2s
UNV Unalaska Valle 81.57 35 P **P 01 44 16.6 -1.1**
baz=255
NCK Nalchik 81.80 314 *i* P **P 01 44 18.7 -0.6**
NCK pmax pmax
comp=Z,72nm,1.5s
KIRV Kirov 81.83 330 P **P 01 44 17.8 -1.3**
comp=Z,24nm,0.8s,baz=103,slow=6.3,SNR=13
KIRV LR LR 02 25 50.9
comp=Z,339nm,18.7s,baz=106,slow=40
comp=Z,24nm,0.8s
KIRV Kirov 81.83 330*c i*P **P 01 44 16.6 -2.4**
GAMB Gambell 82.05 25 IAmb IAmb 01 44 22.3
comp=Z,79nm,1.1s
GAMB Gambell 82.05 25 P **P 01 44 20.3 +0.3**
baz=249,SNR=22
FURI Furi 82.19 279 IAMs_20 IAMs_20 02 25 06.7
comp=Z,587nm,18.0s
KBZ Khabaz 82.34 314 P **P 01 44 20.9 -1.1**
comp=Z,16nm,1.1s,baz=93,slow=3.3,SNR=16
comp=Z,16nm,1.1s
KBZ Khabaz 82.34 314*ce*P **P 01 44 20.5 -1.5**
KBZ pmax pmax
comp=Z,51nm,1.4s
KIBK Kibwezi 82.36 268 IAMs_20 IAMs_20 02 20 39.4
comp=Z,437nm,18.0s
KIBK Kibwezi 82.36 268 P **P 01 44 22.4 -0.5**
SNR=7.9
GOF Gofitskoye 82.47 316*ce*P **P 01 44 21.1 -1.6**
SHA1 Shidzhatmaz 82.51 314↑*e*P **P 01 44 20.9 -2.4**
KIV Kislovodsk 82.53 315 P **P 01 44 22.2 -1.0**
KIV Kislovodsk 82.53 315 P **P 01 44 22.4 -0.7**
KIV Kislovodsk 82.53 315 ↓P **P 01 44 22.6 -0.6**
KIV Kislovodsk 82.53 315 *e*P **P 01 44 21.8 -1.4**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 82.53 315 *i* P **P 01 44 21.8 -1.4**
SNR=7.9
MARD Mardin 82.95 308 IAmb IAmb 01 44 26.1
comp=Z,73nm,1.2s
KMBO Kilima Mbogo 83.19 269 P **P 01 44 26.2 -1.2**
KMBO Kilima Mbogo 83.19 269 IAMs_20 IAMs_20 02 18 46.2
comp=Z,413nm,20.0s
KMBO Kilima Mbogo 83.19 269 P **P 01 44 27.2 -0.3**
comp=Z,4.6nm,0.9s,baz=96,slow=4.9,SNR=18
KMBO LR LR 02 18 38.3
comp=Z,361nm,20.9s,baz=91,slow=34
comp=Z,4.6nm,0.9s
KMBO Kilima Mbogo 83.19 269 P **P 01 44 27.3 -0.1**
KMBO Kilima Mbogo 83.19 269 P **P 01 44 26.3 -1.2**
KMBO pmax pmax
comp=Z,50nm,1.7s
KMBO Kilima Mbogo 83.19 269 *i* P **P 01 44 26.5 -0.9**
SNR=12
M11K Mekoryuk 83.45 29 P **P 01 44 27.5 +0.1**
baz=254
KOPT Kop Dagi 83.53 310 IAmb IAmb 01 44 31.0
comp=Z,95nm,1.3s
FALS False Pass 83.57 34 P **P 01 44 29.4 +1.3**
FALS False Pass 83.57 34 P **P 01 44 27.1 -1.1**
baz=258
LABN Labinsk 84.03 315 *e*P **P 01 44 29.5 -1.3**
LABN *e*S **SKSac 01 54 48.5 -6.2**
LABN pmax pmax
comp=Z,87nm,1.4s
TNA Tin City 84.17 23 IAmb IAmb 01 44 33.2
comp=Z,46nm,1.2s
TNA Tin City 84.17 23 P **P 01 44 31.1 +0.1**
baz=252,SNR=11
VSLR Vesyoloye 84.35 314*d i*P **P 01 44 31.5 -1.0**
VSLR pmax pmax
comp=Z,100nm,1.2s
ERBR Yeremizino-Bor 84.35 316 *e*P **P 01 44 30.9 -1.5**
ERBR *e**PP **sP 01 44 39.2 +3.0**
ERBR *e*S **SKSac 01 54 51.2 -5.5**
ERBR pmax pmax
comp=Z,98nm,1.6s
VRH Novokhopyorsk 84.42 322 *e*P **P 01 44 30.5 -2.1**
VRH pmax pmax
comp=Z,203nm,1.6s
K13K Kusilvak Mount 84.57 27 P **P 01 44 33.6 +0.4**
baz=256
SOC Sochi 84.59 314 *e*P P 01 44 30.2 -3.5
SOC *e* 01 47 43.6
SOC *e*PPP PPP 01 49 42.0
SOC *e*S **SKSac 01 54 50.6 -7.7**
SOC *e*SS **SS 02 00 24.3 -8.1**
SOC *e*SSS SSS 02 03 55.7
F14K Arctic Creek 84.79 24 P **P 01 44 34.2 +0.1**
baz=254,SNR=56
M13K Dall Lake 84.83 29 P **P 01 44 34.6 +0.2**
baz=257
ANM Nome 84.93 25 IAmb IAmb 01 44 37.6
comp=Z,73nm,1.2s
ANM Nome 84.93 25 P **P 01 44 35.4 +0.5**
baz=255,SNR=13
SYO Syowa Base 84.97 201↓*e*P **P 01 44 34.2 -0.8**
SYO Syowa Base 84.97 201↑*e*PcP **P 01 44 38.0 +3.0**
SYO Syowa Base 84.97 201↑*e*sP sP 01 44 41.0 +2.2
LODK Lodwar 85.23 274 IAMs_20 IAMs_20 02 22 31.4
comp=Z,469nm,19.0s
LODK Lodwar 85.23 274 P **P 01 44 37.6 0.0**
SNR=10.0
J14K Nanvaranak Lak 85.27 27 P **P 01 44 36.9 +0.4**
baz=257
SDPT Sand Point 85.32 34 P **P 01 44 37.3 +0.3**
SDPT Sand Point 85.32 34 P **P 01 44 37.0 0.0**
baz=260
L14K Kuka Creek 85.35 28 P **P 01 44 37.1 +0.1**
baz=258
F15K North Star Dit 85.52 24 IAmb IAmb 01 44 40.5
comp=Z,64nm,1.1s
F15K North Star Dit 85.52 24 P **P 01 44 37.9 0.0**
baz=255,SNR=34
N14K Kuskokwak Cree 85.54 30 P **P 01 44 37.9 -0.1**
baz=258
M14K Bethel 85.57 29 P **P 01 44 38.0 -0.2**
baz=258,SNR=19
G15K Niukluk 85.59 24 P **P 01 44 38.8 +0.6**
baz=256,SNR=20
O14K Tigyukauivet M 85.62 30 P **P 01 44 39.0 +0.6**
baz=259
CHNA Chernabura Isl 85.73 35 P **P 01 44 39.3 +0.2**
baz=261
VORD Divnogorie 85.90 321 *e*P P 01 44 36.4 -3.6
VORD pmax pmax
comp=Z,60nm,1.0s
C16K Lisburne Hills 85.92 21 P **P 01 44 40.7 +0.9**
baz=254
L15K Ungalak Mounta 85.98 28 P **P 01 44 40.1 -0.1**
baz=258
S14K Fog Glacier 85.99 33 P **P 01 44 41.0 +0.5**
baz=261
VSR Storozhevoye 86.01 321 *e*P P 01 44 36.3 -4.3
VSR pmax pmax
comp=Z,60nm,1.0s
VORR Voronezh 86.05 322 *e*P **P 01 44 38.6 -2.1**
VORR pmax pmax
comp=Z,222nm,1.6s
K15K Wolf Creek Mou 86.09 27 IAmb IAmb 01 45 41.5
comp=Z,46nm,1.3s
K15K Wolf Creek Mou 86.09 27 P **P 01 44 41.1 +0.4**
baz=258
FKH Fakeheh 86.14 304 *e*P **P 01 44 40.8 -1.0**
M15K Kasigluk River 86.17 29 P **P 01 44 40.9 -0.2**
baz=259
H16K Elim 86.26 25 P **P 01 44 41.5 0.0**
baz=258,SNR=35
O15K Ungalikthiuk R 86.33 31 P **P 01 44 41.8 -0.2**
baz=260
LPSR Galich'ya Gora 86.35 323 *e*P P 01 44 38.9 -3.3
LPSR pmax pmax
comp=Z,197nm,1.6s
BEIL Beino 86.35 305 *e*P **P 01 44 41.8 -0.9**
N15K Kwethluk River 86.37 30 IAmb IAmb 01 44 44.9
comp=Z,138nm,1.6s
N15K Kwethluk River 86.37 30 P **P 01 44 42.1 -0.1**
baz=260
ANN Anapa 86.37 315 *e*P **P 01 44 40.0 -2.5**
ANN *e*S **SKSac 01 55 03.2 -6.3**
ANN pmax pmax
comp=Z,206nm,1.4s
G16K Koyuk River 86.38 24 IAmb IAmb 01 44 45.4
comp=Z,61nm,1.2s
G16K Koyuk River 86.38 24 P **P 01 44 42.1 0.0**
baz=258,SNR=32
HWQ Hawqa 86.53 304 *e*P **P 01 44 41.4 -2.3**
ZAHL Zahle 86.54 304 *e*P **P 01 44 43.0 -0.7**
RCY Rachaya 86.56 304 *e*P **P 01 44 43.5 -0.4**
D17K Noatak River 86.61 22 P **P 01 44 43.4 +0.3**
baz=257,SNR=71
GHAJ Ghor Haditha 86.62 301 IAmb IAmb 01 44 58.7
comp=Z,67nm,1.0s
GHAJ IAMs_20 IAMs_20 02 30 18.5
comp=Z,780nm,19.0s
SHBL Chebaa 86.62 303 *e*P **P 01 44 43.4 -0.8**
CHGN Chignik 86.62 33 P **P 01 44 42.9 -0.6**
baz=262
TOKA Tokat 86.63 310 IAmb IAmb 01 44 44.6
comp=Z,110nm,1.3s
J16K Anvik River 86.70 26 P **P 01 44 43.2 -0.5**
baz=259
BHL Bhannes 86.74 304 *e*P **P 01 44 42.2 -2.5**
C17K DeLong Mountai 86.75 21 P **P 01 44 45.2 +1.3**
baz=257
RDOG Red Dog Mine 86.75 21 IAmb IAmb 01 44 46.3
comp=Z,44nm,1.0s
RDOG Red Dog Mine 86.75 21 P **P 01 44 44.5 +0.6**
baz=257,SNR=8.6
I17K Unalakleet 86.77 26 IAmb IAmb 01 44 47.9

comp=Z,46nm,1.3s
I17K Unalakleet 86.77 26 P **P 01 44 44.8 +0.8**
baz=259,SNR=7.9
MMAI Mount Meron Ar 86.88 303 P **P 01 44 45.4 0.0**
comp=Z,14nm,1.0s,baz=83,slow=6.9,SNR=34
comp=Z,14nm,1.0s
L16K Owhat River 86.93 28 IAmb IAmb 01 44 47.5
comp=Z,50nm,1.4s
L16K Owhat River 86.93 28 P **P 01 44 44.8 -0.1**
baz=260,SNR=10
E17K Hotham Inlet 86.94 23 P **P 01 44 45.1 +0.3**
baz=258
F17K Baldwin Pennin 87.04 23 P **P 01 44 45.7 +0.5**
baz=258
M16K Timber Creek 87.06 29 IAmb IAmb 01 44 47.4
comp=Z,50nm,1.5s
M16K Timber Creek 87.06 29 P **P 01 44 45.3 -0.3**
baz=261
N16K Nishlik Lake 87.07 29 P **P 01 44 45.2 -0.4**
baz=261
G17K Kiwalik Mounta 87.09 24 P **P 01 44 45.4 -0.2**
baz=259,SNR=9.9
KLMR Klimovskoe 87.23 331 *e*P P 01 44 41.6 -4.7
KLMR *e* 01 48 04.9
KLMR pmax pmax
comp=Z,211nm,1.6s
P16K Nushagak River 87.24 31 P **P 01 44 45.8 -0.6**
baz=262
R16K Pilot Point 87.26 32 P **P 01 44 45.8 -0.7**
baz=262
O16K Kokwok River B 87.27 30 P **P 01 44 46.0 -0.5**
baz=262
H17K Granite Mounta 87.30 25 IAmb IAmb 01 44 50.3
comp=Z,62nm,1.9s
H17K Granite Mounta 87.30 25 P **P 01 44 46.3 -0.3**
baz=260
J17K VABM Dome 87.39 26 P **P 01 44 47.0 -0.1**
baz=261
B18K Kokolik River 87.44 20 P **P 01 44 47.4 +0.3**
baz=258,SNR=32
E18K Tukpahlearik C 87.48 22 IAmb IAmb 01 44 50.9
comp=Z,32nm,1.1s
E18K Tukpahlearik C 87.48 22 P **P 01 44 47.9 +0.5**
baz=259
C18K Utukok River 87.50 21 IAmb IAmb 01 44 50.6
comp=Z,63nm,1.3s
C18K Utukok River 87.50 21 P **P 01 44 48.3 +0.7**
baz=258
MOS Moscow 87.51 326 *e*P P 01 44 43.6 -4.2
MOS *e* 01 48 14.9
MOS pmax pmax
comp=Z,148nm,1.6s
L17K Donlin 87.55 28 P **P 01 44 48.0 +0.1**
baz=261
K17K Iditarod 87.64 27 IAmb IAmb 01 44 50.4
comp=Z,71nm,1.4s
K17K Iditarod 87.64 27 P **P 01 44 48.0 -0.2**
baz=261,SNR=10
F18K Selawik 87.70 23 P **P 01 44 48.4 0.0**
baz=260,SNR=11
O17K Koliganek Bris 87.80 30 P **P 01 44 48.3 -0.8**
baz=262
M17K Holitna River 87.85 28 P **P 01 44 49.5 +0.2**
baz=262
N17K Nushagak Hills 87.85 29 P **P 01 44 48.8 -0.5**
baz=262
A19K Wainwright 87.86 20 P **P 01 44 49.2 +0.1**
baz=258
Q16K King Salmon 87.89 31 P **P 01 44 49.2 -0.3**
baz=263
G18K Tagagawik 87.98 24 P **P 01 44 49.8 -0.1**
baz=261
H18K Honhosa River 87.98 25 IAmb IAmb 01 44 51.6
comp=Z,54nm,1.8s
H18K Honhosa River 87.98 25 P **P 01 44 49.9 0.0**
baz=261
OBN Obninsk 88.04 325 P **P 01 44 48.1 -2.2**
OBN Obninsk 88.04 325 P **P 01 44 48.3 -2.0**
OBN LR LR 02 29 26.7
comp=Z,53nm,1.1s,baz=138,slow=2.7,SNR=14
comp=Z,484nm,18.9s,baz=119,slow=39
comp=Z,53nm,1.1s
OBN Obninsk 88.04 325 ⇑P **P 01 44 48.3 -2.0**
OBN Obninsk 88.04 325 *d i*P **P 01 44 47.8 -2.5**
OBN *e* 01 48 13.7
OBN pmax pmax
comp=Z,171nm,1.7s
OBN Obninsk 88.04 325 P **P 01 44 47.9 -2.4**
comp=Z,104nm,1.5s
P17K Kvichak River 88.06 31 P **P 01 44 49.7 -0.7**
baz=263
QSPA South Pole Qui 88.06 180 P **P 01 44 49.4 -1.0**
QSPA IAmb IAmb 01 44 55.5
comp=Z,59nm,1.3s
QSPA South Pole Qui 88.06 180 P **P 01 44 49.9 -0.5**
comp=Z,9.4nm,0.5s,baz=228,slow=0.4,SNR=87
QSPA LR LR 02 24 05.9
comp=Z,995nm,19.1s,baz=338,slow=36
comp=Z,9.4nm,0.5s
CHIR Chirikof Islan 88.11 34 P **P 01 44 49.9 -0.8**
baz=264
L18K Granite Mounta 88.31 28 IAmb IAmb 01 44 53.5
comp=Z,55nm,1.4s
L18K Granite Mounta 88.31 28 P **P 01 44 50.7 -0.7**
baz=263,SNR=6.3
J18K Innoko River 88.45 26 IAmb IAmb 01 44 53.7
comp=Z,53nm,1.4s
J18K Innoko River 88.45 26 P **P 01 44 52.0 -0.2**
baz=263
F19K Shaleruckik Mo 88.47 23 P **P 01 44 52.2 +0.1**
baz=262
KIRS Kirsehir-Merke 88.50 309 ⇑P **P 01 44 52.2 -0.8**
N18K Kilae Creek 88.51 29 IAmb IAmb 01 44 54.6
comp=Z,56nm,1.6s
N18K Kilae Creek 88.51 29 P **P 01 44 52.2 -0.3**
baz=264
ACHA Angle Creek He 88.53 32 IAmb IAmb 01 44 55.8
comp=Z,54nm,2.0s
GCSA Galena City Sc 88.55 25 P **P 01 44 52.1 -0.4**
baz=262
D19K Kuna River 88.59 21 IAmb IAmb 01 44 56.1
comp=Z,35nm,1.1s
D19K Kuna River 88.59 21 P **P 01 44 52.0 -0.8**
baz=261
M18K Stony River 88.63 28 P **P 01 44 52.4 -0.7**
baz=264
G19K Purcell Mounta 88.65 24 P **P 01 44 52.0 -1.0**
baz=262
P18K Big Mountain, 88.70 31 P **P 01 44 52.7 -0.8**
baz=264
CSS Mathiatis 88.72 305 P **P 01 44 52.7 -1.4**
comp=Z,780nmcomp=Z,23nm,1.1s
Q18K Katmai Hardscr 88.74 31 P **P 01 44 53.0 -0.8**
baz=264
BR104 Keskin Array S 88.75 310 P **P 01 44 52.6 -1.7**
comp=Z,189nmcomp=Z,21nm,1.3s
BR131 Keskin Array S 88.75 310 IAmb IAmb 01 44 53.7
comp=Z,40nm,1.2s
BR131 Keskin Array S 88.75 310 *c i*P **P 01 44 51.7 -2.6**
BRTR Keskin Array B 88.75 310 P **P 01 44 51.8 -2.5**
BRTR Keskin Array B 88.75 310 P **P 01 44 52.5 -1.8**
comp=Z,14nm,1.1s,baz=108,slow=4.0,SNR=43
BRTR PP **PP 01 48 20.1 -3.1**
comp=Z,3.6nm,1.0s,baz=95,slow=7.6,SNR=4.4
BRTR LR LR 02 31 45.4
comp=Z,290nm,20.2s,baz=108,slow=40
comp=Z,14nm,1.1s
O18K Koktuh Hills 88.76 30 P **P 01 44 52.7 -1.0**
baz=264
E19K Redstone River 88.77 22 P **P 01 44 52.6 -1.0**
baz=262
BR105 Keskin Array S 88.77 310 P **P 01 44 52.8 -1.6**
comp=Z,193nmcomp=Z,18nm,1.1s
BR106 Keskin Array S 88.77 310 P **P 01 44 52.8 -1.6**
comp=Z,157nmcomp=Z,18nm,1.2s
BR106 pP **PcP 01 44 56.4 +0.5**
comp=Z,157nmcomp=Z,18nm,1.2s
H19K Roundabout Mou 88.83 24 IAmb IAmb 01 44 56.0
comp=Z,49nm,1.2s
H19K Roundabout Mou 88.83 24 P **P 01 44 53.6 -0.2**
baz=263,SNR=17
R18K Karluk 88.93 32 P **P 01 44 53.7 -0.7**
baz=265
SII Sitkinak Islan 88.99 33 P **P 01 44 53.0 -1.8**
baz=265
J19K Poorman 89.00 26 IAmb IAmb 01 44 56.6
comp=Z,40nm,1.3s
J19K Poorman 89.00 26 P **P 01 44 52.7 -2.0**
baz=264
B20K Meade River 89.14 20 IAmb IAmb 01 44 58.8
comp=Z,34nm,1.0s
B20K Meade River 89.14 20 P **P 01 44 54.6 -0.7**
baz=262
L19K White Mountain 89.16 28 IAmb IAmb 01 44 57.5
comp=Z,45nm,1.4s
L19K White Mountain 89.16 28 P **P 01 44 54.0 -1.5**
baz=264
D20K Etivluk River 89.17 21 P **P 01 44 54.2 -1.2**
baz=263
N19K Bonanza Creek 89.21 29 IAmb IAmb 01 44 58.6
comp=Z,135nm,1.8s
N19K Bonanza Creek 89.21 29 P **P 01 44 53.8 -2.1**
baz=265
O19K Port Alsworth 89.23 30 IAmb IAmb 01 44 58.0
comp=Z,80nm,1.7s
O19K Port Alsworth 89.23 30 P **P 01 44 54.0 -1.8**
baz=265
E20K Nigu River 89.26 22 P **P 01 44 54.4 -1.5**
baz=263
F20K Avaraart Lake 89.30 23 P **P 01 44 54.5 -1.5**
baz=264
M19K Big River Lodg 89.35 28 P **P 01 44 54.6 -1.8**
baz=265
PPT Papeete 89.39 107 LR LR 02 21 09.9
comp=Z,107nm,20.7s,baz=280,slow=33
ANTO Ankara 89.41 310 P **P 01 44 55.3 -2.0**
ANTO IAmb IAmb 01 44 57.0
comp=Z,62nm,1.6s
ANTO Ankara 89.41 310 P **P 01 44 55.3 -2.0**
ANTO pmax pmax
comp=Z,62nm,1.6s
ANTO Ankara 89.41 310 P **P 01 44 56.1 -1.2**
comp=Z,13nm,1.6s
Q19K Cape Douglas, 89.47 31 P **P 01 44 54.9 -2.2**
baz=266
H20K Anotleneega Mo 89.47 25 P **P 01 44 55.3 -1.6**
baz=264
A21K Barrow 89.50 19 P **P 01 44 55.9 -1.0**
baz=263
OHAK Old Harbor 89.53 33 P **P 01 44 55.6 -1.7**
baz=266
I20K Naaghedeneel 89.58 25 IAmb IAmb 01 44 59.5
comp=Z,81nm,1.4s
I20K Naaghedeneel 89.58 25 P **P 01 44 56.0 -1.4**
baz=265
K20K Telida 89.63 27 IAmb IAmb 01 44 59.8
comp=Z,51nm,1.4s
K20K Telida 89.63 27 P **P 01 44 56.7 -1.0**
baz=265
L20K Farewell, AK 89.64 28 P **P 01 44 56.7 -1.1**
baz=265
J20K Nowinta River 89.66 26 IAmb IAmb 01 44 59.9
comp=Z,53nm,1.4s
J20K Nowinta River 89.66 26 P **P 01 44 56.3 -1.5**
baz=265,SNR=18
MBAR Mbarara 89.72 269 P **P 01 44 58.1 -1.3**
MBAR IAmb IAmb 01 45 00.2
comp=Z,56nm,1.4s
MBAR Mbarara 89.72 269 P **P 01 44 58.4 -1.0**
MBAR P **P 01 44 58.4 -1.0**
MBAR Mbarara 89.72 269 *c i*P **P 01 44 57.8 -1.6**
MBAR pmax pmax
comp=Z,45nm,1.5s
P19K Oil Pt 89.73 30 P **P 01 44 56.2 -2.0**
baz=266
C21K Knifeblade Rid 89.87 21 P **P 01 44 57.4 -1.3**
baz=264
M20K Styx River 89.94 28 P **P 01 44 57.2 -2.1**
baz=266
KDAK Kodiak Island 89.95 32 P **P 01 44 58.0 -1.2**
comp=Z,21nm,1.1s,baz=141,slow=8.2,SNR=4.3
KDAK LR LR 02 20 50.9
comp=Z,271nm,21.6s,baz=93,slow=33
comp=Z,21nm,1.1s
KDAK Kodiak Island 89.95 32 P **P 01 44 57.5 -1.8**
baz=266
B21K Ikpikpuk River 89.98 20 P **P 01 44 57.8 -1.4**
baz=264
A22K Sinclair Lake 89.99 19 P **P 01 44 58.0 -1.1**
baz=264
O20K Slope Mountain 90.07 30 P **P 01 44 57.9 -2.0**
baz=266
Q20K Shuyak Island 90.10 32 P **P 01 44 57.6 -2.3**
baz=266
E21K Killik River 90.10 22 P **P 01 44 58.3 -1.5**
baz=265
G21K Allakaket 90.12 24 P **P 01 44 58.3 -1.6**
baz=266
LVZ Lovozero 90.16 338 P P 01 44 56.7 -3.4
LVZ Lovozero 90.16 338 P **P 01 44 57.5 -2.6**
LVZ Lovozero 90.16 338 P **P 01 44 58.0 -2.1**
comp=Z,93nm,1.7s
F21K Alaska River 90.19 23 P **P 01 44 58.7 -1.5**
baz=266
SPCR Spurr Chakacha 90.34 29 P **P 01 44 59.4 -1.7**
baz=267
H21K Melozitna Rive 90.35 24 IAmb IAmb 01 45 03.0
comp=Z,40nm,1.4s
H21K Melozitna Rive 90.35 24 P **P 01 44 59.3 -1.7**
baz=266
ELIB Princess Elisa 90.44 198 *d*P **P 01 45 00.9 -0.6**
comp=Z,58nm,1.5s
B22K Teshekpuk Lake 90.45 20 P **P 01 44 59.3 -2.1**
baz=266
CHUM Lake Minchumin 90.45 26 P **P 01 45 00.2 -1.2**
baz=267,SNR=7.9
PPLA Purkeypile 90.45 27 IAmb IAmb 01 45 03.0
comp=Z,68nm,1.6s
PPLA Purkeypile 90.45 27 P **P 01 45 00.0 -1.7**
baz=267
CAST Castle Rocks 90.52 27 P **P 01 44 59.6 -2.3**
baz=267
HOM Homer 90.54 30 P P 01 44 58.9 -3.0
baz=267
D22K Ayikyak River 90.60 21 P **P 01 45 00.1 -2.1**
baz=266
APA Apatity 90.61 337 ⇓*i*P P 01 44 54.7 -7.4
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,4μm,19.0s
I21K Tanana 90.66 25 IAmb IAmb 01 45 06.4
comp=Z,41nm,1.6s
I21K Tanana 90.66 25 P **P 01 45 00.3 -2.1**
baz=267
SKT Skwentna 90.71 28 IAmb IAmb 01 45 03.0
comp=Z,44nm,1.6s
SKT Skwentna 90.71 28 P **P 01 45 01.3 -1.5**
baz=267,SNR=6.5
F22K John River 90.71 23 P **P 01 45 01.5 -1.2**
baz=267
E22K Anaktuvuk Pass 90.88 22 IAmb IAmb 01 45 06.0
comp=Z,28nm,1.1s
E22K Anaktuvuk Pass 90.88 22 P **P 01 45 02.2 -1.3**
baz=267
BRLK Bradley Lake 90.93 30 IAmb IAmb 01 45 03.9
comp=Z,78nm,1.4s
H22K Ishtalitna Cre 90.95 24 P **P 01 45 03.4 -0.4**
baz=268
BRSE Bradley Lake S 91.00 30 P **P 01 45 03.2 -0.9**
baz=268
BPAW Bear Paw Mtn. 91.04 26 IAmb IAmb 01 45 05.6
comp=Z,34nm,1.4s
BPAW Bear Paw Mtn. 91.04 26 P **P 01 45 02.7 -1.6**
baz=268,SNR=8.7
KTH Kantishna Hill 91.05 27 IAmb IAmb 01 45 05.4
comp=Z,60nm,1.5s
BORA Eskisehir 91.21 310 IAmb IAmb 01 45 07.2
comp=Z,55nm,1.8s
CUT Chulitna 91.31 28 IAmb IAmb 01 45 08.6
comp=Z,65nm,1.4s
CUT Chulitna 91.31 28 P **P 01 45 04.5 -1.0**
baz=268
D23K Nanushuk River 91.33 21 IAmb IAmb 01 45 07.7
comp=Z,27nm,1.1s
D23K Nanushuk River 91.33 21 P **P 01 45 04.3 -1.2**
baz=268
TRF Thorofare Moun 91.33 27 IAmb IAmb 01 45 06.7
comp=Z,67nm,1.7s
TRF Thorofare Moun 91.33 27 P **P 01 45 03.9 -2.0**
baz=268,SNR=7.5
M22K Willow 91.37 28 IAmb IAmb 01 45 06.0
comp=Z,64nm,1.3s
M22K Willow 91.37 28 P **P 01 45 04.5 -1.3**
baz=269
C23K Itkillik River 91.38 20 IAmb IAmb 01 45 07.5
comp=Z,29nm,1.1s
C23K Itkillik River 91.38 20 P **P 01 45 04.5 -1.2**
baz=268
COLD Coldfoot 91.46 23 P **P 01 45 05.4 -0.7**
baz=269
G23K Bananza Creek 91.52 23 IAmb IAmb 01 45 08.6
comp=Z,33nm,1.2s
G23K Bananza Creek 91.52 23 P **P 01 45 05.6 -0.9**
baz=269
O22K Cooper Landing 91.53 30 P **P 01 45 05.2 -1.3**
baz=269
RC01 Rabbit Creek A 91.54 29 P **P 01 45 04.6 -2.0**
baz=269
SEW Seward 91.66 30 P **P 01 45 05.0 -2.1**
baz=269
PUL Pulkovo 91.69 330 ⇑*e*P **P 01 45 07.6 +0.3**
PUL pmax pmax
comp=Z,57nm,0.4s
H23K Yukon River 91.70 24 P **P 01 45 05.8 -1.5**
baz=269
E23K Chandalar 91.70 22 P **P 01 45 06.7 -0.6**
baz=269
LSZ Lusaka 91.71 255 P **P 01 45 07.3 -1.3**
LSZ IAmb IAmb 01 45 08.9
comp=Z,65nm,1.5s
LSZ Lusaka 91.71 255 LR LR 02 23 24.2
comp=Z,1μm,19.6s,baz=114,slow=34
LSZ Lusaka 91.71 255 P **P 01 45 07.8 -0.7**
LSZ P **P 01 45 07.8 -0.7**
LSZ Lusaka 91.71 255 P **P 01 45 07.3 -1.3**
LSZ pmax pmax
comp=Z,65nm,1.5s
TOLK Toolik Lake Re 91.73 22 P **P 01 45 06.3 -1.1**
baz=269
I23K Minto, Yukon-K 91.77 25 IAmb IAmb 01 45 09.4
comp=Z,68nm,1.4s
I23K Minto, Yukon-K 91.77 25 P **P 01 45 06.6 -1.0**
baz=269,SNR=21
PURM Purcari 91.77 316 P **P 01 45 05.5 -2.5**
comp=Z,50nm,1.3s
PMR Palmer 91.83 29 IAmb IAmb 01 48 29.7
comp=Z,20nm,0.6s
PMR Palmer 91.83 29 P **P 01 45 08.0 +0.1**
PMR Palmer 91.83 29 P **P 01 45 06.3 -1.6**
baz=269
NEA2 Nenana 91.89 26 P **P 01 45 06.9 -1.3**
baz=270
MCK McKinley 91.94 26 IAmb IAmb 01 45 09.3
comp=Z,53nm,1.4s
MCK McKinley 91.94 26 P **P 01 45 07.0 -1.4**
baz=270,SNR=15
RND Reindeer 91.98 27 IAmb IAmb 01 45 09.1
comp=Z,44nm,1.4s
D24K Happy Valley 92.00 21 IAmb IAmb 01 45 10.6
comp=Z,23nm,1.1s
D24K Happy Valley 92.00 21 P **P 01 45 07.9 -0.7**
baz=270
C24K Franklin Bluff 92.04 20 P **P 01 45 08.1 -0.7**
baz=270
E24K Your Creek 92.13 22 P **P 01 45 08.3 -0.9**
baz=270
KNK Knik Glacier 92.16 29 IAmb IAmb 01 45 09.5
comp=Z,50nm,1.3s
KNK Knik Glacier 92.16 29 P **P 01 45 08.7 -0.8**
baz=270,SNR=5.4
PWL Port Wells 92.22 29 P **P 01 45 09.1 -0.7**
baz=270
SML Sawmill 92.22 28 IAmb IAmb 01 45 10.2
comp=Z,28nm,1.1s
SML Sawmill 92.22 28 P **P 01 45 08.4 -1.4**
baz=270
AKASG Malin Array Be 92.24 320 P **P 01 45 07.7 -2.4**
AKASG IAmb IAmb 01 45 08.9
comp=Z,32nm,1.4s
AKASG Malin Array Be 92.24 320 P P 01 45 07.3 -2.7
comp=Z,4.8nm,1.0s,baz=80,slow=4.2,SNR=30
AKASG PP **PP 01 48 45.0 -5.4**
comp=Z,1.3nm,0.7s,baz=78,slow=6.3,SNR=4.9
AKASG LR LR 02 33 36.2
comp=Z,402nm,21.1s,baz=98,slow=40
comp=Z,4.8nm,1.0s
AKASG Malin Array Be 92.24 320 P **P 01 45 07.7 -2.4**
AKASG pmax pmax
comp=Z,32nm,1.5s
AKBB Malin Array Si 92.24 320 IAmb IAmb 01 45 09.4
comp=Z,58nm,1.6s
AKBB Malin Array Si 92.24 320 ⇓*e*P P 01 45 07.4 -2.7
AKBB pmax pmax
comp=Z,37nm,1.6s
AKBB Malin Array Si 92.24 320 P P 01 45 07.3 -2.8
AK03 Malin Array Si 92.24 321 P P 01 45 07.3 -2.8
AK01 Malin Array Si 92.25 320 P P 01 45 07.3 -2.8
KIEV Kiev 92.25 320 P **P 01 45 08.0 -2.1**
KIEV IAmb IAmb 01 45 09.4
comp=Z,52nm,1.6s
KIEV Kiev 92.25 320 ⇑P **P 01 45 07.5 -2.6**
KIEV Kiev 92.25 320 P **P 01 45 08.0 -2.1**
KIEV pmax pmax
comp=Z,52nm,1.7s
KIEV Kiev 92.25 320 *i* P P 01 45 07.2 -2.9
SNR=5.9
KIEV Kiev 92.25 320 P **P 01 45 07.5 -2.6**
comp=Z,107nm,1.6s
AK02 Malin Array Si 92.25 320 P P 01 45 07.4 -2.7
WRH Wood River Hil 92.31 26 IAmb IAmb 01 45 11.6
comp=Z,47nm,1.4s
F24K Squaw Lake 92.36 23 P **P 01 45 09.8 -0.6**
baz=271
H24K Noodor Dome 92.39 24 IAmb IAmb 01 45 13.5
comp=Z,41nm,1.4s
H24K Noodor Dome 92.39 24 P **P 01 45 09.4 -1.1**
baz=271,SNR=15
COLA College 92.41 25 P **P 01 45 09.3 -1.3**
baz=271
CCB Clear Creek Bu 92.43 26 IAmb IAmb 01 45 11.1
comp=Z,38nm,1.4s
M23K Glacier View 92.50 28 P **P 01 45 09.3 -1.8**
baz=271
G24K Hadweenzic Riv 92.53 23 P **P 01 45 10.1 -1.0**
baz=271
POKR Poker Plat Res 92.58 25 P **P 01 45 09.7 -1.6**
baz=271
MANT Manisa 92.67 308 IAmb IAmb 01 45 11.9
comp=Z,52nm,1.3s
P23K Montague Islan 92.69 30 P **P 01 45 10.3 -1.6**
baz=271
SCM Sheep Creek Mo 92.69 28 P **P 01 45 10.1 -1.9**
baz=271
HDA Harding Lake 92.81 26 P **P 01 45 11.0 -1.4**
baz=272,SNR=6.8
SORM Soroca 92.81 318 ⇓P **P 01 45 10.6 -2.2**
SORM Soroca 92.81 318 P **P 01 45 10.5 -2.2**
GLI Glacier Island 92.82 29 P **P 01 45 11.1 -1.5**
baz=271
ILAR Eielson Array 92.83 25 P **P 01 45 09.9 -2.5**
comp=Z,4.8nm,1.2s,baz=282,slow=3.9,SNR=15
ILAR PKKP **PKKPdf 02 02 22.9 -1.3**
comp=Z,0.9nm,0.8s,baz=130,slow=0.9,SNR=6.6
ILAR LR LR 02 24 11.4
comp=Z,126nm,21.8s,baz=260,slow=34
comp=Z,4.8nm,1.2s
ILAR Eielson Array 92.83 25 P **P 01 45 10.0 -2.5**
D25K Kavik River 92.87 21 P **P 01 45 12.8 +0.1**
baz=272
CFR Carcaliu 92.98 315 ⇑P **P 01 45 11.7 -1.9**
CFR Carcaliu 92.98 315 P **P 01 45 11.7 -1.9**
MNK Minsk 93.03 324 *i* P P 01 45 09.7 -4.0
comp=E,12nm,0.9s
MNK *i* P P 01 45 09.7 -4.0
comp=N,19nm,1.0s
MNK *i* P P 01 45 09.7 -4.0
comp=Z,28nm,0.9s,baz=89
MNK *i* PP **PP 01 48 52.5 -4.0**
MNK *i* PPP PPP 01 50 52.6
MNK *i* S **SKSac 01 55 40.6 -7.5**
MNK *i* PS **PS 01 57 30.5 -2.7**
MNK *i* SS **SS 02 02 29.4 -5.2**
MNK *i* LQ LQ 02 23 11.4
MNK *i* LR LR 02 26 57.2
MNK *i* LRM MLR 02 28 16.6
comp=N,257nm,11.9s
MNK *i* LRM MLR 02 28 36.0
comp=E,707nm,20.0s
MNK *i* LRM MLR 02 28 36.0
comp=Z,306nm,11.9s
MNK Minsk 93.03 324 *i* P P 01 45 09.6 -4.0
MNK *i* 01 48 52.4

MNK *i* PPP PPP 01 50 52.6
MNK *i* S **SKSac** **01 55 40.6 -7.5**
MNK *i* 01 56 14.9
MNK *i* PS **PS** **01 57 30.5 -2.7**
MNK *i* SS **SS** **02 02 29.3 -5.2**
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=N,19nm,1.0s
MNK MLR MLR
comp=N,257nm,12.0s
MNK MLR MLR
comp=Z,306nm,12.0s
MNK MLR MLR
comp=E,707nm,20.0s
SCTR Scanteiesti 93.07 315 ⇓P **P** **01 45 12.2 -1.9**
G25K Bearman Lake 93.08 23 P **P** **01 45 13.0 -0.5**
baz=272
LUBAR Lubar, Ukraine 93.19 320 P P 01 45 11.6 -2.9
H25L Birch Creek 93.21 24 P **P** **01 45 13.5 -0.7**
baz=273
F25K Christian Rive 93.22 23 P **P** **01 45 13.8 -0.5**
baz=273
E25K Arctic Village 93.22 22 IAmb IAmb 01 45 16.4
comp=Z,25nm,1.1s
E25K Arctic Village 93.22 22 P **P** **01 45 13.5 -0.8**
baz=273
M24K Tolsona, Glenn 93.23 28 P **P** **01 45 13.5 -1.0**
baz=272,SNR=5.4
K24K Donnelly Dome 93.34 26 P **P** **01 45 14.2 -0.7**
baz=272
C26K Camden Bay 93.35 20 P **P** **01 45 14.3 -0.5**
baz=274
PRP Porcupine Dome 93.37 25 P **P** **01 45 14.0 -1.2**
baz=273
KLU Klutina 93.37 29 P **P** **01 45 14.4 -0.8**
baz=272
FYU Fort Yukon 93.44 24 IAmb IAmb 01 45 17.5
comp=Z,56nm,1.6s
DIV Divide 93.46 29 IAmb IAmb 01 45 18.2
comp=Z,92nm,1.6s
J25K Salcha River, 93.48 26 P **P** **01 45 14.5 -1.1**
baz=273
EYAK Cordova Ski Ar 93.50 30 P **P** **01 45 14.6 -1.0**
baz=272
ARCES ARCESS Array B 93.50 339 P **P** **01 45 14.2 -1.3**
comp=Z,12nm,1.0s,baz=92,slow=5.0,SNR=7.3
comp=Z,12nm,1.0s
PAX Paxson 93.52 27 IAmb IAmb 01 45 18.3
comp=Z,74nm,1.6s
PAX Paxson 93.52 27 P **P** **01 45 14.5 -1.4**
baz=273,SNR=16
VSU Vasula 93.56 328⇓*e*P **P** **01 45 13.4 -2.6**
VSU pmax pmax
comp=Z,90nm,1.3s
LBTB Lobatse 93.63 245 IAmb IAmb 01 45 18.2
comp=Z,43nm,1.4s
BMAR Burnt Mountain 93.64 23 P **P** **01 45 15.0 -1.2**
BOSA Boshof 93.69 241 IAmb IAmb 01 45 21.0
comp=Z,70nm,1.6s
BOSA Boshof 93.69 241 P **P** **01 45 17.4 0.0**
comp=Z,4.6nm,0.8s,baz=100,slow=3.6,SNR=10
BOSA LR LR 02 21 32.4
comp=Z,1μm,21.3s,baz=101,slow=32
comp=Z,4.6nm,0.8s
HARP HAARP 93.69 28 P **P** **01 45 15.3 -1.3**
baz=273
ODBI Odobesti 93.73 316 P **P** **01 45 16.1 -1.0**
FINES FINESS Array B 93.76 331 P **P** **01 45 15.6 -1.2**
comp=Z,4.4nm,0.8s,baz=90,slow=4.9,SNR=7.2
comp=Z,4.4nm,0.8s
RIDG Independent Ri 93.76 26 IAmb IAmb 01 45 18.0
comp=Z,43nm,1.4s
RIDG Independent Ri 93.76 26 P **P** **01 45 15.5 -1.4**
baz=273,SNR=8.3
F26K Sheenjek River 93.78 22 P **P** **01 45 15.8 -1.1**
baz=274
KARP Karpathos 93.79 305 P **P** **01 45 15.8 -1.8**
comp=Z,74nm,1.2s
C27K Jago River 93.79 20 IAmb IAmb 01 45 19.0
comp=Z,29nm,1.1s
C27K Jago River 93.79 20 P **P** **01 45 16.3 -0.6**
baz=275
VRI Vrincioaia 93.96 316 ⇓P **P** **01 45 16.8 -1.4**
VRI Vrincioaia 93.96 316 P **P** **01 45 16.8 -1.4**
BISRR Bisoca 93.98 315 ⇑P **P** **01 45 17.5 -0.8**
BISRR Bisoca 93.98 315 P **P** **01 45 16.9 -1.4**
comp=Z,49nm,1.3s
G26K Porcupine Rive 93.98 23 P **P** **01 45 16.9 -0.8**
baz=274
TESR Tescani 94.00 316 ⇓P **P** **01 45 16.8 -1.5**
N25K Chitina, Valde 94.00 29 IAmb IAmb 01 45 20.1
comp=Z,68nm,1.6s
N25K Chitina, Valde 94.00 29 P **P** **01 45 16.8 -1.3**
baz=273,SNR=5.8
PLOR Plostina 94.01 316 ⇑P **P** **01 45 17.3 -1.2**
PLOR Plostina 94.01 316 P **P** **01 45 17.2 -1.2**
BMRM Bremner River 94.04 29 IAmb IAmb 01 45 19.2
comp=Z,40nm,1.2s
BMRM Bremner River 94.04 29 P **P** **01 45 16.7 -1.5**
baz=273
SCRK Sand Creek 94.12 26 P **P** **01 45 18.1 -0.5**
baz=274,SNR=7.0
KAIM Kayak Island 94.19 30 P **P** **01 45 17.9 -1.0**
baz=273
J26L Joseph Creek 94.27 26 P **P** **01 45 17.7 -1.6**
baz=274,SNR=12
NVL N'lazarevskaya 94.30 198 *e*P **P** **01 45 20.7 +1.5**
NVL pmax pmax
comp=Z,16nm,1.1s
SULR 94.32 314 ⇑P **P** **01 45 19.1 -0.7**
RNPP5 Staryi Chortor 94.34 321 P **P** **01 45 17.6 -2.1**
I26K Coal Creek Min 94.38 25 IAmb IAmb 01 45 21.0
comp=Z,51nm,1.2s
I26K Coal Creek Min 94.38 25 P **P** **01 45 18.4 -1.2**
baz=275
GLB Gilahina Butte 94.39 29 IAmb IAmb 01 45 21.6
comp=Z,61nm,1.5s
MLR Muntele Rosu 94.52 315 IAmb IAmb 01 45 22.4
comp=Z,57nm,1.4s
MLR Muntele Rosu 94.52 315 LR LR 02 34 49.3
comp=Z,417nm,21.8s,baz=63,slow=40
MLR Muntele Rosu 94.52 315 ⇓P **P** **01 45 19.3 -1.6**
MLR Muntele Rosu 94.52 315 P **P** **01 45 19.3 -1.6**
MLR Muntele Rosu 94.52 315 P **P** **01 45 19.5 -1.4**
E27K Coleen River 94.70 22 P **P** **01 45 19.8 -1.2**
baz=277
M26K Nabesna, AK 94.70 28 IAmb IAmb 01 45 23.9
comp=Z,66nm,1.8s
M26K Nabesna, AK 94.70 28 P **P** **01 45 20.4 -0.8**
baz=275
SPITS Spitsbergen Ar 94.72 348 P **P** **01 45 19.7 -1.3**
comp=Z,25nm,1.0s,baz=79,slow=5.2,SNR=5.6
SPITS LR LR 02 35 07.9
comp=Z,332nm,18.2s,baz=63,slow=40
comp=Z,25nm,1.0s
D27M Malcolm River 94.80 21 P **P** **01 45 20.7 -0.8**
baz=277
G27K Doyon Strip 94.83 23 P **P** **01 45 20.9 -0.8**
baz=276
DOPR Dopca 94.89 316 ⇓P **P** **01 45 20.4 -2.1**
BURAR Bucovina Array 94.94 317 ⇓P **P** **01 45 21.9 -0.9**
BURAR Bucovina Array 94.94 317 P **P** **01 45 21.8 -0.9**
H27K Steamboat Moun 94.95 24 P **P** **01 45 21.5 -0.8**
baz=276
K27K Chicken 94.96 26 IAmb IAmb 01 45 24.9
comp=Z,43nm,1.4s
K27K Chicken 94.96 26 P **P** **01 45 20.8 -1.5**
baz=276
I27K Kandik River 94.98 24 P **P** **01 45 21.6 -0.9**
baz=276
L27K Beaver Creek, 95.17 27 IAmb IAmb 01 45 25.1
comp=Z,30nm,1.3s
L27K Beaver Creek, 95.17 27 P **P** **01 45 21.3 -2.1**
baz=276
BCAR Beaver Creek A 95.19 27 P **P** **01 45 22.4 -1.1**
M27K Edge Creek, AK 95.22 28 P **P** **01 45 22.4 -1.3**
baz=276
E28M Babbage River 95.40 21 IAmb IAmb 01 45 25.9
comp=Z,24nm,1.1s
E28M Babbage River 95.40 21 P **P** **01 45 23.1 -1.1**
baz=279,SNR=17
MESA MESA 95.41 30 P **P** **01 45 23.3 -1.4**
baz=276
ARR Arges 95.44 315 ⇓P **P** **01 45 22.9 -2.2**

D28M Stokes Point 95.57 21 P **P** **01 45 24.0 -0.9**
baz=279
IDI Anoyia 95.64 305 LR LR 02 36 57.0
comp=Z,129nm,20.4s,baz=92,slow=41
BVCY Beaver Creek 95.68 28 P **P** **01 45 24.4 -1.3**
baz=277,SNR=6.1
I28M Miner Creek 95.70 24 IAmb IAmb 01 45 29.7
comp=Z,55nm,1.6s
I28M Miner Creek 95.70 24 P **P** **01 45 24.8 -1.0**
baz=278
YUK3 Moose Creek 95.95 28 P **P** **01 45 26.4 -0.8**
baz=277
E29M Blow River 96.03 21 P **P** **01 45 26.5 -0.6**
baz=280,SNR=5.1
BMR Baia Mare 96.09 318 ⇓P **P** **01 45 26.4 -1.5**
BMR Baia Mare 96.09 318 P **P** **01 45 26.3 -1.5**
DAWY Dawson 96.13 26 IAmb IAmb 01 45 29.4
comp=Z,32nm,1.4s
DAWY Dawson 96.13 26 P **P** **01 45 27.3 -0.4**
baz=278,SNR=13
O28M Mount Upton 96.20 29 P **P** **01 45 27.0 -1.5**
baz=277
H29M Whitestone 96.22 24 IAmb IAmb 01 45 29.5
comp=Z,27nm,1.1s
H29M Whitestone 96.22 24 P **P** **01 45 26.9 -1.2**
baz=279,SNR=13
G29M Pine Creek 96.24 23 IAmb IAmb 01 45 29.5
comp=Z,28nm,1.1s
G29M Pine Creek 96.24 23 P **P** **01 45 26.9 -1.2**
baz=280
PINM Pinnacle 96.26 30 P **P** **01 45 27.3 -1.1**
baz=277
YUK8 Steele Glacier 96.34 29 P **P** **01 45 27.9 -1.1**
baz=278
I29M Ogilvie Camp, 96.39 24 IAmb IAmb 01 45 30.2
comp=Z,30nm,1.2s
I29M Ogilvie Camp, 96.39 24 P **P** **01 45 27.7 -1.2**
baz=279,SNR=11
TROLL Troll, Antarti 96.57 196 ⇑P **P** **01 45 29.8 +0.1**
comp=Z,379nm,0.8s
J29N Klondike Camp 96.57 25 IAmb IAmb 01 45 32.0
comp=Z,27nm,1.1s
J29N Klondike Camp 96.57 25 P **P** **01 45 29.0 -0.8**
baz=279,SNR=8.4
PNL Peninsula 96.74 30 P **P** **01 45 29.4 -1.2**
baz=278
M29M Somme Creek 96.79 27 P **P** **01 45 30.3 -0.6**
baz=279
KOLS Kolonicke sedl 96.81 319 *e*PDIFF **P** **01 45 30.9 -0.2**
L29M L29M 96.83 27 IAmb IAmb 01 45 33.6
comp=Z,43nm,1.4s
L29M L29M 96.83 27 P **P** **01 45 30.5 -0.5**
baz=279
EPYK Eagle Plains 96.85 23 IAmb IAmb 01 45 31.4
comp=Z,23nm,1.2s
EPYK Eagle Plains 96.85 23 P **P** **01 45 29.5 -1.4**
baz=281,SNR=8.5
YUK4 Talbot Arm 96.87 28 P **P** **01 45 29.6 -1.7**
baz=279
G30M tAoh Zraii Nji 96.92 23 P **P** **01 45 29.3 -2.0**
baz=282,SNR=8.9
F30M Barrier River 96.96 22 P **P** **01 45 30.0 -1.3**
baz=282,SNR=7.9
K29M Barlow Dome 96.98 26 IAmb IAmb 01 45 34.6
comp=Z,63nm,2.0s
K29M Barlow Dome 96.98 26 P **P** **01 45 30.2 -1.5**
baz=280
HERR Herculane 97.04 315 ⇑P P 01 45 28.8 -3.4
O29M Mount Kennedy 97.06 30 P **P** **01 45 30.3 -1.8**
baz=279
YUK6 Outpost Mounta 97.07 29 P **P** **01 45 30.1 -2.1**
baz=279
SUR Sutherland 97.15 237 LR LR 02 24 03.9
comp=Z,486nm,21.1s,baz=112,slow=32
SURR Surduc 97.18 316 ⇓P **P** **01 45 31.3 -1.5**
I30M Mount Dempster 97.21 24 IAmb IAmb 01 45 34.0
comp=Z,17nm,1.2s
I30M Mount Dempster 97.21 24 P **P** **01 45 31.2 -1.5**
baz=281
J30M Hart River 97.35 25 IAmb IAmb 01 45 35.3
comp=Z,23nm,1.4s
J30M Hart River 97.35 25 P **P** **01 45 32.0 -1.4**
baz=281
SIRR Siria 97.46 316 ⇑P P 01 45 31.4 -2.7
HYT Haines Junctio 97.50 29 P **P** **01 45 33.0 -1.1**
baz=280
M30M Minto, Yukon 97.53 27 IAmb IAmb 01 45 36.6
comp=Z,33nm,1.4s
M30M Minto, Yukon 97.53 27 P **P** **01 45 32.7 -1.4**
baz=280,SNR=8.9
N30M Aishikik Lake 97.59 28 IAmb IAmb 01 45 35.6
comp=Z,24nm,1.4s
N30M Aishikik Lake 97.59 28 P **P** **01 45 33.4 -1.0**
baz=280
INK Inuvik 97.63 21 IAmb IAmb 01 45 35.2
comp=Z,15nm,1.1s
INK Inuvik 97.63 21 P **P** **01 45 33.2 -1.1**
comp=Z,12nm,1.0s,baz=284,slow=6.0,SNR=22
INK LR LR 02 30 12.2
comp=Z,84nm,21.9s,baz=263,slow=36
comp=Z,12nm,1.0s
INK Inuvik 97.63 21 P **P** **01 45 33.2 -1.1**
baz=284,SNR=16
G31M Satah River 97.69 23 IAmb IAmb 01 45 35.4
comp=Z,16nm,1.1s
G31M Satah River 97.69 23 P **P** **01 45 33.5 -1.1**
baz=283,SNR=8.8
F31M Tsiigehtchic 97.76 22 IAmb IAmb 01 45 35.8
comp=Z,21nm,1.1s
F31M Tsiigehtchic 97.76 22 P **P** **01 45 33.9 -1.1**
baz=284,SNR=12
P30M Million Dollar 97.89 30 P **P** **01 45 34.8 -0.9**
baz=280
H31M Peel River 97.91 24 IAmb IAmb 01 45 36.9
comp=Z,19nm,1.2s
H31M Peel River 97.91 24 P **P** **01 45 34.5 -1.2**
baz=283
NOR Nord 98.05 354 *e*P P 01 45 33.4 -2.6
O30N Mendenhall 98.19 29 IAmb IAmb 01 45 40.4
comp=Z,25nm,1.4s
O30N Mendenhall 98.19 29 P **P** **01 45 35.8 -1.3**
baz=281
SNAA Sanae 98.20 195 IAmb IAmb 01 45 38.6
comp=Z,30nm,1.5s
SNAA Sanae 98.20 195 ⇑P **P** **01 45 36.7 -0.3**
comp=Z,111nm,0.7s
SNAA Sanae 98.20 195 P **P** **01 45 36.9 -0.1**
comp=Z,5.4nm,0.8s,baz=183,slow=6.0,SNR=19
SNAA LR LR 02 26 07.4
comp=Z,910nm,21.1s,baz=110,slow=33
comp=Z,5.4nm,0.8s
N31M Braeburn, Yuko 98.20 28 P **P** **01 45 35.8 -1.4**
baz=281
PLBC Pleasant Camp 98.30 30 P **P** **01 45 36.0 -1.6**
baz=280
LANS Liptovska Anna 98.62 319 *e*PP **PP** **01 49 38.7 -1.3**
S31K Pelican 98.64 32 Pdiff **P** **01 45 38.0 -1.0**
baz=280
M31M Drury Creek, Y 98.70 27 IAmb IAmb 01 45 41.2
comp=Z,24nm,1.6s
M31M Drury Creek, Y 98.70 27 Pdiff **P** **01 45 37.7 -1.6**
baz=283
WHY Whitehorse 98.80 29 Pdiff **P** **01 45 38.8 -1.1**
baz=282
A36M Sachs Harbour 99.14 17 Pdiff **Pdif** **01 45 40.4 -0.7**
baz=293
FARO Faro, Yukon 99.17 27 Pdiff **Pdif** **01 45 40.7 -0.7**
baz=284
SIT Sitka 99.29 32 Pdiff **Pdif** **01 45 40.9 -1.1**
baz=281
N32M Quiet Lake 99.55 28 IAmb IAmb 01 45 45.4
comp=Z,28nm,1.2s
N32M Quiet Lake 99.55 28 Pdiff **Pdif** **01 45 42.3 -0.9**
baz=284
P32M Atlin 99.60 30 Pdiff **Pdif** **01 45 42.5 -0.9**
baz=283
S32K Kilisnoo 99.60 32 Pdiff **Pdif** **01 45 42.4 -1.0**
baz=282
MORC Moravsky Berou 99.78 320 *e*PP **PP** **01 49 48.1 -0.7**
VNA2 Neumayer--Watz 99.83 195 ⇑P **Pdif** **01 45 42.4 -1.8**
comp=Z,3.6nm,0.6s,baz=109,slow=1.8
P33M Teslin, Yukon 99.89 29 Pdiff **Pdif** **01 45 43.3 -1.4**
baz=284
HFS Hagfors 99.95 331 P **Pdif** **01 45 43.0 -1.8**
comp=Z,8.4nm,1.0s,baz=82,slow=4.1,SNR=3.7
comp=Z,8.4nm,1.0s
MMPY Sheldon Lake, 100.01 26 IAmb IAmb 01 45 46.3
comp=Z,26nm,1.6s

MMPY Sheldon Lake, 100.01 26 Pdiff **Pdif** **01 45 44.3 -0.9**
baz=285
MODS Modra-Piesok 100.17 319 *e*P **Pdif** **01 45 49.5 +3.3**
MODS *e* 01 49 52.3
MODS Modra-Piesok 100.17 319 *e*PDIFF **Pdif** **01 45 49.5 +3.3**
MODS *e*PP **PP** **01 49 52.3 +0.6**
Q32M Nakina River 100.46 30 Pdiff **Pdif** **01 45 45.9 -1.6**
baz=284
VRAC Vranov 100.47 320 *e*PP **PP** **01 49 53.6 -0.3**
C36M Paulatuk 100.54 19 Pdiff **Pdif** **01 45 46.1 -1.2**
baz=293
KRUC Moravsky 100.64 320 *e*PP **PP** **01 49 54.3 -0.9**
U33K Whale Pass 100.67 33 Pdiff **Pdif** **01 45 47.6 -0.6**
baz=283
CRAG Craig 100.81 34 Pdiff **Pdif** **01 45 47.6 -1.2**
baz=282
NB2 NORSAR Subarra 100.89 332 P **Pdif** **01 45 46.9 -2.3**
comp=Z,6.9nm,1.1s,baz=71,slow=4.3
NB2 NORSAR Subarra 100.89 332 P **Pdif** **01 45 46.9 -2.3**
baz=71,slow=4.3
NOA NORSAR Array B 100.89 332 P **Pdif** **01 45 46.4 -2.8**
comp=Z,4.9nm,1.0s,baz=71,slow=4.5,SNR=4.2
R33M Jennings River 101.00 30 Pdiff **Pdif** **01 45 48.7 -1.1**
baz=285
S34M Telegraph Cree 101.30 31 Pdiff **Pdif** **01 45 49.7 -1.3**
baz=285
TGTN Hyland Airport 101.67 27 Pdiff **Pdif** **01 45 51.4 -1.2**
baz=288
V35K Ketchikan 101.68 34 Pdiff **Pdif** **01 45 52.1 -0.6**
baz=284
DLBC Dease Lake 101.73 30 Pdiff **Pdif** **01 45 52.3 -0.7**
baz=286
BRG Berggiesshubel 101.86 322⇓*e*Pif **Pdif** **01 45 52.2 -1.4**
BRG Amp 01 45 53.9
comp=Z,11nm,1.4s
BRG Berggiesshubel 101.86 322 P **PP** **01 50 10.4 +6.0**
BRG Amp 01 50 11.5
comp=Z,7.4nm,1.1s
WTLY Watson Lake, Y 101.86 29 Pdiff **Pdif** **01 45 53.0 -0.4**
baz=287
T35M Bob Quinn 102.01 32 Pdiff **Pdif** **01 45 53.8 -0.3**
baz=285
MOA Molln 102.24 319 *e*P **PP** **01 50 06.1 -1.4**
comp=Z,6.2nm,1.2s
CLL Collm 102.35 322 *e*PP PKiKP 01 50 08.0 -10
CLL AMS AMS 02 43 00.0
comp=Z,500nm,20.8s
GERES GERESS Array B 102.42 320 P **Pdif** **01 45 54.9 -1.4**
comp=Z,0.1nm,0.3s,baz=98,slow=4.1,SNR=4.4
GERES PP **PP** **01 50 08.0 -0.8**
comp=Z,0.8nm,0.8s,baz=76,slow=7.4,SNR=3.5
CUC Castrocucco 102.43 310 IAMs_20 IAMs_20 02 41 16.3
comp=Z,646nm,22.0s
KHC Kasperske Hory 102.44 320 *e*PP **PP** **01 50 10.5 +1.6**
BIOA Bad Ischl, Aus 102.69 318 *e*P **PP** **01 50 11.2 +0.5**
comp=Z,9.6nm,1.3s
KBA Koelnbreinsper 103.01 318 *e*P **PP** **01 50 11.9 -1.5**
comp=Z,4.8nm,1.1s
LESA Schwarzleotal 103.38 318 *e*P **PP** **01 50 15.9 -0.1**
comp=Z,9.4nm,1.6s
ABTA Abfaltersbach 103.63 318 P **PP** **01 50 18.3 +0.4**
comp=Z,4.5nm,1.4s
WTTA Wattenberg 104.11 318 *e*P **PP** **01 50 23.5 +2.0**
comp=Z,17nm,1.2s
WATA Walderalm 104.13 318 *e*P **PP** **01 50 23.0 +1.3**
comp=Z,13nm,1.3s
SQTA Sankt Quirin 104.40 318 *e*P **PP** **01 50 25.2 +1.5**
comp=Z,7.3nm,1.3s
MOTA Moosalm 104.44 319 *e*P **PP** **01 50 24.4 +0.4**
comp=Z,14nm,1.2s
RETA Reutte 104.64 319 *e*P **PP** **01 50 28.4 +3.1**
comp=Z,14nm,1.3s
FETA Feichten 104.77 318 *e*P **PP** **01 50 28.3 +1.9**
comp=Z,8.4nm,1.2s
DAVA Damuels 105.27 319 *e*P **PP** **01 50 32.7 +2.6**
comp=Z,2.8nm,0.6s
YKA Yellowknife Ar 107.13 23 Pdiff **Pdif** **01 46 16.6 -0.2**
comp=Z,0.9nm,0.9s,baz=297,slow=4.5,SNR=8.2
YKA PKiKP **PKiKP** **01 50 26.3 +0.3**
comp=Z,1.0nm,0.8s,baz=291,slow=2.5,SNR=8.9
YKA PKKPbc **PKKPbc** **02 01 42.9 -2.3**
comp=Z,0.8nm,1.0s,baz=107,slow=2.0,SNR=5.7
BCLA Clavier 107.28 323 *d*PP **PP** **01 50 48.4 +3.8**
BGES Gesves 107.42 323 *d*PP **PP** **01 50 48.6 +3.0**
BMRD Maredsous 107.64 323 *d*PP **PP** **01 50 48.2 +0.9**
DOU Dourbes 107.82 323 *d*PP **PP** **01 50 51.9 +3.4**
KEST Kesra 108.19 307 PP **PP** **01 50 47.3 -4.6**
comp=Z,6.2nm,0.9s,baz=134,slow=5.9,SNR=4.8
YBH Yreka Blue Hor 111.05 46 PKiKP **PKiKP** **01 50 36.3 +2.2**
comp=Z,1.1nm,0.6s,baz=135,slow=14,SNR=4.0
BORG Borgarnes 111.50 343*c i*PKIKP **PKiKP** **01 50 36.2 +2.1**
NEW Newport 112.47 38 PKiKP **PKiKP** **01 50 37.4 +0.9**
comp=Z,2.1nm,0.8s,baz=104,slow=0.7,SNR=4.7
NVAR Mina Array Bea 115.29 48 PKP **PKiKP** **01 50 42.5 0.0**
comp=Z,2.7nm,0.8s,baz=238,slow=2.2,SNR=12
NVAR PKKPbc **PKKPbc** **02 01 18.2 +0.2**
comp=Z,1.1nm,0.9s,baz=140,slow=4.5,SNR=5.2
HLID Hailey 116.13 41 **PKPdf** **01 50 44.6 +0.7**
FFC Flin Flon 117.03 26 PKPdf **PKPdf** **01 50 45.4 +0.4**
FFC Flin Flon 117.03 26 PKIKP **PKPdf** **01 50 45.4 +0.4**
ESDC Sonseca Array 117.19 314 PKP **PKPdf** **01 50 45.0 -0.9**
comp=Z,0.7nm,1.0s,baz=217,slow=31,SNR=4.3
ESDC PP PP 01 51 50.1 -5.8
comp=Z,1.4nm,0.8s,baz=62,slow=6.3,SNR=7.2
TORD Torodi Ar. Bea 118.43 284 **PKPdf** **01 50 47.2 -1.7**
TORD Torodi Ar. Bea 118.43 284 PKP **PKPdf** **01 50 46.7 -2.2**
comp=Z,5.4nm,0.8s,baz=23,slow=4.0,SNR=7.5
HWUT Hardware Ranch 118.86 42 PKPdf **PKPdf** **01 50 48.7 -0.6**
PVRL Vila Real 119.16 317 *e*PKPdf **PKPdf** **01 50 50.5 +0.9**
POLO Lamas de Olo 119.17 317 *e*PKPdf **PKPdf** **01 50 50.1 +0.4**
PGAV Gaviera, Arco 119.23 318 *e*PKPdf **PKPdf** **01 50 49.8 0.0**
PCBR Castelo Branco 119.61 316 *e*PKPdf **PKPdf** **01 50 51.2 +0.8**
PDAR Pinedale Array 119.66 41 PKPdf **PKPdf** **01 50 49.3 -1.5**
PDAR Pinedale Array 119.66 41 PKP **PKPdf** **01 50 50.9 0.0**
comp=Z,4.1nm,1.0s,baz=146,slow=0.5,SNR=19
PDAR PKKPbc **PKKPbc** **02 01 00.5 -2.1**
comp=Z,4.5nm,1.0s,baz=120,slow=5.8,SNR=22
PMRV Marv??o 119.72 315 *e*PKPdf **PKPdf** **01 50 51.3 +0.6**
PBAR Barrancos 119.99 314 *e*PKPdf **PKPdf** **01 50 51.4 +0.2**
PMTG Montargil 120.46 315 *e*PKPdf **PKPdf** **01 50 52.3 +0.2**
EVO Evora 120.54 315 *e*PKPdf **PKPdf** **01 50 53.6 +1.3**
MESJ Messejana 120.97 314 *e*PKPdf **PKPdf** **01 50 54.0 +0.8**
ULM Lac du Bonnet 122.81 27 PKP **PKPdf** **01 50 55.8 -0.5**
comp=Z,1.1nm,1.9s,baz=313,slow=2.7,SNR=18
ISCO Idaho Springs 123.70 42 IAMs_20 IAMs_20 02 53 34.9
comp=Z,497nm,19.0s
DBIC Dimbokro 125.30 277 PKP **PKPdf** **01 51 01.8 -0.3**
comp=Z,6.9nm,0.9s,baz=358,slow=1.8,SNR=5.4
ANMO Albuquerque 125.40 47 PKPdf **PKPdf** **01 51 02.8 +0.8**
ANMO Albuquerque 125.40 47 PKIKP **PKPdf** **01 51 02.8 +0.8**
SCHQ Schefferville 126.89 5 PKPdf **PKPdf** **01 51 02.7 -1.3**
SCHQ Schefferville 126.89 5 PKP **PKPdf** **01 51 04.2 +0.2**
comp=Z,34nm,1.1s,baz=20,slow=3.3,SNR=14
TXAR Lajitas Array 129.96 52 PKPdf **PKPdf** **01 51 10.4 -0.3**
TXAR Lajitas Array 129.96 52 PKhKP PKPpre 01 51 07.4
comp=Z,2.1nm,0.8s,baz=220,slow=1.0,SNR=18
TXAR PKP **PKPdf** **01 51 11.8 +1.1**
comp=Z,2.1nm,0.8s,baz=288,slow=1.9,SNR=16
TXAR SKPbc SKPab 01 54 31.2 -2.3
comp=Z,4.0nm,1.1s,baz=232,slow=1.4,SNR=7.4
TXAR Lajitas Array 129.96 52 PKIKP **PKPdf** **01 51 10.4 -0.3**
OK032 Salt Plains WL 130.22 41 IAMs_20 IAMs_20 02 45 12.2
comp=Z,435nm,19.0s
OK031 S. Brethren Rd 131.61 41 IAMs_20 IAMs_20 02 35 21.2
comp=Z,541nm,21.0s
OK052 Battle Ridge R 131.61 41 IAMs_20 IAMs_20 02 38 13.1
comp=Z,523nm,22.0s
U38A Gravette 132.90 39 PKPdf **PKPdf** **01 51 14.7 -1.3**
CCM Cathedral Cave 133.73 35 PKPdf **PKPdf** **01 51 17.9 +0.4**
CCM Cathedral Cave 133.73 35 PKIKP **PKPdf** **01 51 17.9 +0.4**
WCI Wyandotte Cave 136.30 31 **PKPdf** **01 51 21.8 -0.5**
WCI Wyandotte Cave 136.30 31 PKIKP **PKPdf** **01 51 21.8 -0.5**
PLCA Paso Flores 136.41 168 PKP **PKPdf** **01 51 23.0 +0.5**
comp=Z,7.4nm,1.2s,baz=336,slow=2.3,SNR=6.8
BO04 La Punta 142.82 165 PKPdf **PKPdf** **01 51 31.9 -2.5**
VA06 Catapilco 143.97 163 PKPdf PKPab 01 51 34.0 +0.5
CFA Coronel Fontan 145.68 167 PKPbc **PKPdf** **01 51 39.9 +0.5**
comp=Z,38nm,1.1s,baz=181,slow=3.2,SNR=60
PLTB Pedras Altas 146.06 189 *e*P **PKPdf** **01 51 38.0 -2.0**
TBOT Tacuaremb 146.44 186 *e*P **PKPdf** **01 51 38.4 -2.2**
TEIG Tepich 146.52 55 **PKPdf** **01 51 41.5 +0.5**
DWPF Disney Wildern 146.56 37 **PKPdf** **01 51 40.8 -0.1**
CPSB Cacapava Do Su 147.37 190 *e*P **PKPdf** **01 51 41.8 -0.5**
LCO Las Campanas 147.46 162 **PKPdf** **01 51 43.1 +0.3**
LCO Las Campanas 147.46 162 PKP2 **PKPdf** **01 51 43.1 +0.3**
CNLB Canela 147.88 194 *e*P **PKPdf** **01 51 41.2 -1.9**

TER01	Tubaro-SC	148.15 198	eP		PKPdf	01 51 41.6	-2.0
SOR	Soroa	149.16 46			PKPdf	01 51 47.4	+2.1
SOR	Soroa	149.16 46		PKP2	PKPdf	01 51 47.4	+2.1
MAJ01	Sao Joao Batis	149.17 198	eP		PKPdf	01 51 44.1	-1.2
ITAB	Concordia	150.18 193	eP		PKPdf	01 51 45.4	-1.4
CAM01	Campos-RJ	150.67 216	eP		PKPdf	01 51 45.4	-2.3
DUB01	Friburgo-RJ	150.88 214	eP		PKPdf	01 51 47.0	-1.1
ALF01	Guarapari-ES	151.02 219	eP		PKPdf	01 51 45.5	-2.8
VAS01	Vassouras-RJ	151.30 212	eP		PKPdf	01 51 47.2	-1.5
PARB	Paraibuna	151.50 208	eP		PKPdf	01 51 47.6	-1.5
ABR01	Abrolhos, BA	151.54 225	eP		PKPdf	01 51 47.6	-1.5
RIB01	Linhares ES	151.76 221	eP		PKPdf	01 51 48.2	-1.3
CPUP	Villa Florida	151.87 184	PKP		PKPdf	01 51 48.5	-0.9
	comp=Z,11nm,1.2s,baz=22,slow=0.7,SNR=8.8						
CPUP			PKPbc		sPKPdf	01 51 55.6	+2.3
	comp=Z,16nm,0.8s,baz=166,slow=0.2,SNR=20						
CPUP			PP		PP	01 55 32.9	-1.6
	comp=Z,2.2nm,0.8s,baz=121,slow=4.7,SNR=2.8						
CPUP	Villa Florida	151.87 184	eP		PKPdf	01 51 49.3	-0.1
SPB	Sao Paulo	152.07 204	eP		PKPdf	01 51 49.0	-0.8
VAO	Valinhos	152.40 206			PKPdf	01 51 52.0	+1.5
VAO	Valinhos	152.40 206	eP		PKPdf	01 51 47.9	-2.6
PTGB	Pitanga	152.58 195	eP		PKPdf	01 51 49.0	-1.7
SJMB	Sao Joao De Ma	152.72 221	eP		PKPdf	01 51 49.0	-1.9
SJPY	San Joaquin	153.07 187	eP		PKPdf	01 51 49.3	-2.0
FRTB	Fartura	153.11 201	eP		PKPdf	01 51 50.2	-1.2
GUA01	Guaratinga, BA	153.24 226	eP		PKPdf	01 51 49.6	-2.1
LDASE	Londrina, Braz	153.57 198	eP		PKPdf	01 51 50.3	-1.8
CMC01	Camacan, BA	153.82 228	eP		PKPdf	01 51 50.7	-1.9
NBAN	Anadia - AL	154.15 243	eP		PKPdf	01 51 51.4	-1.7
HDC	Heredia	154.27 71	eP		PKPdf	01 51 52.4	-1.0
NBCA	Caruaru-PE	154.49 246	eP		PKPdf	01 51 51.1	-2.5
DIAM	Diamantina, MG	154.59 217	eP		PKPdf	01 51 51.7	-2.1
AMBA	Amambai (Brazi	154.94 190	eP		PKPdf	01 51 51.9	-2.1
RCBR	Riachuelo	155.19 252		PKPab	PKPab	01 52 19.5	+0.1
RCBR	Riachuelo	155.19 252		PKP2	PKPab	01 52 19.5	+0.1
RCBR	Riachuelo	155.19 252	eP		PKPdf	01 51 52.6	-2.0
PMNB	Patos De Minas	155.96 212	eP		PKPdf	01 51 54.3	-1.3
MURT	Porto Murtinho	156.52 184	eP		PKPdf	01 51 54.8	-1.3
ITRB	Iturama	156.73 202	eP		PKPdf	01 51 55.4	-1.1
RPRD	Ribas do Rio P	157.05 194	eP		PKPdf	01 51 54.5	-2.3
IPMB	Ipameri, GO	157.33 209	eP		PKPdf	01 51 55.7	-1.6
JANB	Januaria	157.41 221	eP		PKPdf	01 51 54.8	-2.6
AQDB	Aquidauana	157.46 189	eP		PKPdf	01 51 55.7	-1.6
BDQN	Bodoquena, MS	157.48 187	eP		PKPdf	01 51 55.4	-2.1
NNA	Nana	157.95 129	PKP		PKPdf	01 51 57.2	-1.0
	comp=Z,3.7nm,0.4s,baz=286,slow=1.4,SNR=4.7						
C2SB	Chapadao do Su	158.44 197	eP		PKPdf	01 51 57.8	-0.8
NBPB	Pedra_Branca-C	158.76 250	eP		PKPdf	01 51 57.5	-1.7
BDFB	Brasilia	159.19 213	PKP		PKPdf	01 51 59.5	-0.2
	comp=Z,10.0nm,0.9s,baz=161,slow=5.1,SNR=12						
BDFB			PKPab		PKPab	01 52 36.7	+0.3
	comp=Z,29nm,1.1s,baz=142,slow=2.6,SNR=14						
SDBA	SAO DESIDERIO	159.69 225	eP		PKPdf	01 51 58.3	-1.9
LPAZ	La Paz	160.04 155	PKP		PKPdf	01 52 01.9	+0.6
	comp=Z,16nm,1.2s,baz=19,slow=0.7,SNR=26						
LPAZ			PKPab		PKPab	01 52 39.9	-0.7
	comp=Z,2.3nm,0.6s,baz=355,slow=1.8,SNR=6.3						
LPAZ	La Paz	160.04 155	eP		PKPdf	01 51 59.4	-1.9
ARAG	Araguaiana, MT	160.93 203	eP		PKPdf	01 51 59.9	-1.6
OTAV	Otavalo	161.01 95	eP		PKPdf	01 52 00.5	-1.8
SALV	Santo Antonio	161.92 192	eP		PKPdf	01 52 01.1	-1.4
SIV	San Ignacio	162.17 175	PKP		PKPdf	01 52 02.4	-0.4
	comp=Z,9.0nm,1.0s,baz=189,slow=1.9,SNR=20						
SIV			PKPab		PKPab	01 52 48.2	-0.9
	comp=Z,7.4nm,0.8s,baz=159,slow=3.5,SNR=8.0						
SIV			PP		PP	01 56 32.5	+1.1
	comp=Z,1.4nm,0.8s,baz=165,slow=3.5,SNR=5.0						
GCPR	Guaynabo City	162.46 21			PKPab	01 52 49.6	-0.8
PTLB	Pontes e Lacer	162.77 181	eP		PKPdf	01 51 58.2	-5.2
CZSB	Cruzeiro do Su	163.75 126	eP		PKPdf	01 52 04.0	-0.4
SNDB	Serra Nova Dou	163.98 211	eP		PKPdf	01 52 03.4	-1.2
ROSC	El Rosal	164.94 78	PKP		PKPdf	01 52 04.8	-1.1
	comp=Z,4.0nm,0.4s,baz=36,slow=2.9,SNR=8.2						
ROSC			PKPab		PKPab	01 53 02.7	+0.4
	comp=Z,9.0nm,0.6s,baz=90,slow=8.3,SNR=8.6						
VILB	Vilhena	165.24 177	eP		PKPdf	01 52 05.2	-0.5
CLDB	Colider	166.79 196	eP		PKPdf	01 52 05.7	-1.2
SDV	Santo Domingo	166.94 57	eP		PKPdf	01 52 05.7	-1.6
PRPB	Parauapebas	167.43 230	eP		PKPdf	01 52 05.7	-1.7
TMAB	Tom-Au,PA,Br	167.81 250	eP		PKPdf	01 52 06.3	-1.4
TBTG	Tabatinga, AM	168.00 120	eP		PKPdf	01 52 05.7	-2.1
BAUV	El Baul	169.00 50			PKPdf	01 52 07.3	-1.2
NPGB	Novo Progresso	170.20 205	eP		PKPdf	01 52 08.1	-1.2
TEFE	Tefe	172.60 136	eP		PKPdf	01 52 09.8	-0.6
ITTB	Itaituba	172.72 211	eP		PKPdf	01 52 08.7	-1.8
MACA	Manacapuru-AM	174.85 167	eP		PKPdf	01 52 09.8	-1.4
BOAV	Boa Vista	178.88 63			PKPdf	01 52 11.1	-0.8
BOAV	Boa Vista	178.88 63	eP		PKPdf	01 52 10.4	-1.6

*TAP **24** 02:05:01.8, 24°.99N×122°.97E, h150km, ML3.2, D*
*JMA **24** 02:05:03.0±0.3, 25°.N±3°.×12°.3E±°, h140km, MV2.3/13, NW OFF ISHIGAKIJIMA IS*
ISC 24 02:05:02.9±2.0, 24°.89N±0°.07×122°.96E±0°.04, h146km±11km, n65, σ0°.972/125, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.43	173	P	Pn	02 05 23.6	+0.2
YOJ				eS	Sn	02 05 38.5	-0.5
YOJ	Yonaguni jima	0.43	173	eP	Pn	02 05 23.6	+0.2
JYNG	Yonagunijimaku	0.43	181	eP	Pn	02 05 23.6	+0.2
EOS2	EOS2	0.81	235	eP	Pn	02 05 25.8	+0.3
EOS2				eS	Sn	02 05 43.9	+1.2
EOS3	EOS3	0.83	224	i P	Pn	02 05 26.2	+0.5
EOS3				i S	Sn	02 05 44.3	+1.3
TWB1	Santiao Chiao	0.89	278	eP	Pn	02 05 26.3	0.0
TWB1				eS	Sn	02 05 44.0	0.0
IRIF	Iriomote-Funau	0.89	128	P	Pn	02 05 26.6	+0.2
IRIF				eS	Sn	02 05 44.2	+0.1
EOS4	EOS4	0.96	217	i P	Pn	02 05 26.6	+0.1
EOS4				i S	Sn	02 05 45.5	+1.0
SXI1	Grass Mountain	1.00	282	eP	Pn	02 05 27.4	0.0
SXI1				eS	Sn	02 05 46.7	+0.7
TIPB	Shuangxi	1.03	275	i P	Pn	02 05 27.5	0.0
TIPB				S	Sn	02 05 46.2	-0.1
ESAO	Su ao	1.06	253	eP	Pn	02 05 27.6	-0.1
ESAO				eS	Sn	02 05 46.4	-0.3
HATJ	Hateruma jima	1.13	137	eS	Sn	02 05 48.3	+0.4
JKRS	Kuro-shima	1.16	124	eP	Pn	02 05 29.3	+0.6
JKRS				eS	Sn	02 05 48.5	+0.3
EWUT	Wuta	1.16	248	i P	Pn	02 05 29.0	+0.3
EWUT				eS	Sn	02 05 46.0	-2.3
TWE	Neicheng	1.18	262	i P	Pn	02 05 28.9	+0.1
TWE				eS	Sn	02 05 49.4	+0.7
ENA	Nanau	1.20	248	i P	Pn	02 05 28.7	-0.4
ENA				i S	Sn	02 05 48.9	0.0
JIJ	Ishigaki jima	1.20	115	P	Pn	02 05 29.1	0.0
JIJ				eS	Sn	02 05 47.9	-1.1
FUSB	Fushanzhiwuyua	1.25	264	i P	Pn	02 05 29.2	-0.4
FUSB				eS	Sn	02 05 49.8	-0.2
JISG	Ishigakijimahi	1.27	103	eP	Pn	02 05 29.6	-0.1
JISG				eS	Sn	02 05 49.4	-0.7
ENTT	Nioudou	1.29	259	i P	Pn	02 05 30.1	+0.1
ENTT				S	Sn	02 05 51.2	+0.6
NWLT	Wulai	1.32	266	i P	Pn	02 05 30.0	-0.3
NWLT				S	Sn	02 05 51.0	-0.3
LATG	Datong	1.35	255	eP	Pn	02 05 30.8	+0.2
LATG				S	Sn	02 05 51.9	+0.1
NACB	Ninganchiao	1.43	240	P	Pn	02 05 30.9	-0.5
NACB				i S	Sn	02 05 52.5	-0.6
YHNB	Yeheng	1.45	262	i P	Pn	02 05 31.6	-0.1
YHNB				eS	Sn	02 05 53.2	-0.5
NSK	Sanguang	1.47	262	i P	Pn	02 05 31.7	-0.2
NSK				S	Sn	02 05 53.2	-0.7
TWD	Chiawan	1.48	237	i P	Pn	02 05 31.2	-0.7
TWD				i S	Sn	02 05 53.2	-0.8
NNSB	Datong	1.50	253	i P	Pn	02 05 32.2	0.0
NNSB				i S	Sn	02 05 54.2	-0.5
NNSH	Datong	1.50	253	P	Pn	02 05 31.3	-1.0
NNSH				S	Sn	02 05 54.4	-0.3
ETLH	Xiulin Townshi	1.50	244	eP	Pn	02 05 31.8	-0.5
ETLH				i S	Sn	02 05 53.8	-0.9
NNS	Nan Shan	1.51	253	i P	Pn	02 05 32.3	0.0
NNS				eS	Sn	02 05 54.3	-0.5
JTJ	Tarama	1.61	98	eS	Sn	02 05 56.3	-0.1
ETM	Tongmen	1.62	236	i P	Pn	02 05 32.9	-0.5
ETM				i S	Sn	02 05 55.6	-1.2
KSHI	Guanxi Townshi	1.62	266	P	Pn	02 05 33.6	+0.2
KSHI				S	Sn	02 05 57.1	+0.3
LXIB	Xiulin Townshi	1.65	239	i P	Pn	02 05 33.1	-0.8
LXIB				i S	Sn	02 05 56.7	-0.9
SHUL	Shoufeng	1.68	230	i P	Pn	02 05 34.0	-0.1
SHUL				i S	Sn	02 05 57.9	+0.1
FUSS	Fushou	1.68	248	i P	Pn	02 05 34.5	+0.2
FUSS				eS	Sn	02 05 58.0	-0.4
NFF	Wufeng Townshi	1.69	262	i P	Pn	02 05 34.0	-0.3
NFF				i S	Sn	02 05 57.1	-1.2
WHF	Hehuan Shan	1.71	245	i P	Pn	02 05 34.6	-0.2
WHF				eS	Sn	02 05 58.7	-0.5
TWT	Tachien	1.74	249	i P	Pn	02 05 35.5	+0.6
TWT				i S	Sn	02 05 59.5	+0.1
TDCB	Techi	1.75	249	i P	Pn	02 05 35.6	+0.5
TDCB				i S	Sn	02 05 59.5	-0.1
LIOB	Emei	1.78	263	i P	Pn	02 05 34.9	-0.3
LIOB				S	Sn	02 05 58.7	-1.3
NSTT	Nanjuang	1.79	262	P	Pn	02 05 35.3	-0.1
NSTT				i S	Sn	02 05 58.8	-1.5
WARBT	Fenglin Townsh	1.84	231	eP	Pn	02 05 35.2	-0.8
WARBT				i S	Sn	02 05 60.0	-1.4
EGFH	Guangfu	1.85	229	i P	Pn	02 05 35.7	-0.3
EGFH				S	Sn	02 06 00.2	-1.2
OWD	Renai	1.87	241	i P	Pn	02 05 36.2	-0.2
OWD				S	Sn	02 06 01.5	-0.5
WUSB	Renai	1.90	242	i P	Pn	02 05 36.9	+0.2
WUSB				eS	Sn	02 06 02.2	-0.4
WHP	Taichung City	1.93	252	i P	Pn	02 05 37.6	+0.6
WHP				i S	Sn	02 06 03.1	-0.1
HGSD	Ruisui	1.97	226	i P	Pn	02 05 37.1	-0.3
HGSD				eS	Sn	02 06 04.6	+0.7
VWDT	VWDT	2.00	236	P	Pn	02 05 38.2	+0.4
VWDT				S	Sn	02 06 04.2	-0.3
EHY	Hungye	2.03	228	i P	Pn	02 05 37.4	-0.8
EHY				eS	Sn	02 06 05.2	+0.1
WCS	Beigang Elemen	2.04	247	i P	Pn	02 05 38.8	+0.6
WCS				S	Sn	02 06 06.2	+1.0
SMLT	Sun Moon Lake	2.12	242	i P	Pn	02 05 39.3	0.0
SMLT				i S	Sn	02 06 08.0	+0.7
SSLB	Suanglung	2.13	239	i P	Pn	02 05 40.0	+0.7
SSLB				i S	Sn	02 06 08.1	+0.8
TYC	Yuchr	2.15	243	i P	Pn	02 05 40.6	+1.1
TYC				i S	Sn	02 06 08.7	+1.0
TWF1	Yuli	2.15	225	i P	Pn	02 05 39.1	-0.5
TWF1				eS	Sn	02 06 05.8	-1.9
WHYT	Xinyi Township	2.25	239	i P	Pn	02 05 41.8	+1.0
WHYT				i S	Sn	02 06 11.7	+1.7
FULB	Fuli	2.27	222	eP	Pn	02 05 41.0	+0.1
FULB				eS	Sn	02 06 10.5	+0.2
WJS	Zhushan	2.29	243	i P	Pn	02 05 42.2	+1.0
WJS				eS	Sn	02 06 12.2	+1.4
YUS	Yu-Shan	2.30	233	i P	Pn	02 05 39.8	-2.0
YUS				eS	Sn	02 06 11.2	-0.5
ALS	Alishan	2.39	236	i P	Pn	02 05 43.6	+0.8
CHN5	Tsauling	2.44	239	i P	Pn	02 05 43.9	+0.7
CHN5				i S	Sn	02 06 15.8	+1.6
ELDTW	Lidau	2.45	227	i P	Pn	02 05 43.0	-0.3
ELDTW				eS	Sn	02 06 13.4	-1.0
CHN4	Tsaushan	2.65	235	i P	Pn	02 05 46.0	+0.4
CHN4				eS	Sn	02 06 19.3	+0.7
WTP	Ta-pu	2.69	233	i P	Pn	02 05 46.7	+0.4
WTP				eS	Sn	02 06 19.7	+0.1
MASBT	Mashibuluo	3.11	224	P	Pn	02 05 51.7	+0.2
MASBT				eS	Sn	02 06 28.6	-0.5

*SOME **24** 02:11:02.9, 39°.83N×70°.50E, h15km*
*ISU **24** 02:11:03, 39°.80N×69°.73E, h6km*
*KRNET **24** 02:11:03.9±0.1, 39°.79N×69°.80E, h26km, mb3.1*
*NNC **24** 02:11:04.5±2.9, 39°.88N×69°.65E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=25.4km s-min=16.1km az=1.0
ISC 24 02:11:05.4±1.1, 39°.76N±0°.03×69°.90E±0°.03, h12km±9km, n38, σ1°.41/71, 38C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.77	67	⇑iP	Pg	02 11 19.6	-0.7
BTK				⇑iS	Sg	02 11 30.6	+0.2
GAR	Garm	0.82	157	⇑iP	Pg	02 11 20.6	-0.7
GAR				⇑iS	Sg	02 11 32.4	+0.3
MINT	Mingtut	1.09	49	P	Pb	02 11 26.2	0.0
MINT				S	Sn	02 11 43.1	+1.5
CHGR	Chuyangaron	1.24	208	⇑iP	Pn	02 11 26.9	-1.8
CHGR				⇑iS	Sb	02 11 43.2	-1.7
CHDK	Chadak	1.38	28	P	Pn	02 11 30.7	+0.1
CHDK				S	Sg	02 11 50.7	+0.9
BXML	Bakhmal	1.44	268	P	Pb	02 11 32.6	+0.2
BXML				S	Sg	02 11 54.2	+2.3
DRK	Karamyk	1.49	100	⇑iP	Pn	02 11 32.7	+0.3
DRK				⇑iS	Sb	02 11 53.6	+1.2
FRG	Fergana	1.57	66	P	Pb	02 11 35.2	+0.7
FRG				S	Sg	02 11 58.7	+2.7
NZBK	Nazarbek	1.58	338	P	Pn	02 11 33.4	0.0
NZBK				S	Sg	02 11 55.8	-0.5
DZI	Dzhizak	1.64	283	P	Pn	02 11 03.0	-31
TGS	TashGRES	1.69	350	P	Pn	02 11 34.1	-0.8
TGS				S	Sb	02 11 56.7	-1.1
CHMG	Chimgan	1.79	3	P	Pn	02 11 36.9	+0.5
CHMG				S	Sb	02 12 01.5	+0.6
TRKS	Terek-Say	2.01	28	⇑iP	Pn	02 11 38.2	-1.2
TRKS				⇑iS	Sn	02 12 03.5	-1.0
OHH	Osh	2.34	70	⇑iP	Pn	02 11 44.1	+0.2
OHH				⇑iS	Sn	02 12 13.5	+0.9
AGL	Agalyk	2.34	265	P	Pn	02 11 44.2	+0.3
AGL				S	Sn	02 12 15.2	+2.5
ARK	Arkit	2.57	37	⇑iP	Pn	02 11 47.2	+0.1
ARK				⇑iS	Sn	02 12 18.5	+0.1
SFK	Sufi-Kurgan	2.78	84	⇑iP	Pn	02 11 50.8	+0.7
SFK				⇑iS	Sn	02 12 24.9	+1.1
ARSB	Arslanbob	2.82	55	⇑eP	Pn	02 11 50.7	+0.1
ARSB				⇑eS	Sn	02 12 25.0	+0.4
SALK	Salom-Alik	3.20	68	⇑iP	Pn	02 11 56.0	+0.2
SALK				⇑iS	Sn	02 12 34.4	+0.4
BRLS	Borolday	3.27	359	eP	Pn	02 11 58.1	+1.5
	7.7nm,0.2s						
BRLS				eS	Sn	02 12 38.1	+2.6
	33nm,0.2s						
NUT	Nurota	3.33	285	P	Pn	02 11 03.0	-54
MNAS	Manas	3.36	35	⇑iP	Pn	02 11 57.9	-0.1
MNAS				⇑iS	Sn	02 12 37.4	-0.5
KK31	Karatay Array	3.38	8	⇓Pn	Pn	02 11 57.9	-0.2
	0.9nm,0.2s,baz=177,slow=10.0,SNR=261						
KK31				⇑Pg	Pb	02 12 04.3	-0.9
	5.0nm,0.2s,baz=192,slow=18,SNR=71						
KK31				⇓Lg	Lg	02 12 47.3	
	21nm,0.5s,baz=193,slow=33,SNR=13						
KKAR	Karatay Array	3.38	8	⇓iP	Pn	02 11 57.3	-0.7
KKAR				⇓iS	Sn	02 12 36.7	-1.4
AML	Almayashu	3.73	49	⇓iP	Pn	02 12 03.4	+0.2
AML				⇓iS	Sn	02 12 46.8	-0.4
MRKS	Merke	3.90	39	eP	Pn	02 12 07.5	+2.2
MRKS				eS	Sn	02 12 53.9	+2.8
ARLS	Aral	3.96	57	⇑iP	Pn	02 12 06.7	+0.5
ARLS				⇑iS	Sn	02 12 52.3	-0.4
EKS2	Erkin-Say	4.12	44	⇑iP	Pn	02 12 08.6	+0.2
EKS2				⇑iS	Sn	02 12 55.8	-0.8
UCH	Uchtor	4.28	53	⇑eP	Pn	02 12 11.3	+0.5
UCH				⇑iS	Sn	02 13 00.3	-0.6
AAK	Ala-Archa	4.50	49	⇓Pn	Pn	02 12 14.9	+1.2
	1.4nm,0.5s						
AAK				⇓Sn	Sn	02 13 11.4	+5.3
	4.4nm,0.8s						
AAK				⇑Lg	Lg	02 13 32.2	
	4.8nm,0.9s						
AAK	Ala-Archa	4.50	49	⇑eP	Pn	02 12 14.1	+0.4
AAK				⇑iS	Sn	02 13 05.0	-1.1
FRU1	Bishkek	4.69	48	⇑iP	Pn	02 12 16.5	+0.3
FRU1				⇑iS	Sn	02 13 09.6	-1.0
KBK	Karagaybulak	4.78	51	⇓iP	Pn	02 12 18.0	+0.5
KBK				⇓iS	Sn	02 13 11.9	-1.1
USP	Ospenovka	4.92	43	⇓iP	Pn	02 12 19.5	+0.2
USP				⇓iS	Sn	02 13 14.5	-1.7
BOOM	Boomskoye usch	5.32	57	⇑iP	Pn	02 12 25.3	+0.5
BOOM				⇑iS	Sn	02 13 24.8	-1.3
TKM2	Tokmak 2	5.33	52	⇓Pn	Pn	02 12 25.5	+0.5
	0.9nm,0.5s						
TKM2				⇓Sn	Sn	02 13 29.4	+3.0
	2.0nm,0.6s						
TKM2				⇓Lg	Lg	02 13 54.4	
	2.5nm,0.8s						
TKM2	Tokmak 2	5.33	52	⇑eP	Pn	02 12 25.5	+0.5
TKM2				⇑iS	Sn	02 13 24.9	-1.5
KST	Kastek	5.62	52	eP	Pb	02 12 38.6	-4.9
	0.7nm,0.1s						
KST				eS	Sb	02 13 46.9	-4.0
	1.1nm,0.1s						

*SJA **24** 02:29:57.9±0.7, 23°.82S×68°.90W, h104km±5km, ML3.6, MW3.7*
*GUC **24** 02:29:58.9±0.6, 23°.84S×68°.91W, h101km±3km, ML3.6*
ISC 24 02:29:58.1±1.5, 23°.82S±0°.03×68°.96W±0°.05, h112km±13km, n26, σ1°.56/43, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.12	40	eP	Pn	02 30 20.5	-0.6
AF01				eS	Sn	02 30 37.0	-1.5
AF01	San Pedro de A	1.12	40	eP	Pn	02 30 20.7	-0.5
AF01				eS	Sn	02 30 37.5	-1.0
AF01				IAML		02 30 37.7	
	comp=Z,2μm,0.1s						
PB06	IPOC Station P	1.25	333	⇑eP	Pn	02 30 22.6	+0.3
PB06				eS	Sn	02 30 40.9	+0.2
PB06				IAML		02 30 41.8	
	comp=N,1μm,0.1s						
PB06	IPOC Station P	1.25	333	eP	Pn	02 30 22.5	+0.1
PB06				eS	Sn	02 30 40.9	+0.2
PB06				IAML		02 30 42.9	
	comp=Z,870nm,0.1s						
GO02	Mina Guanaco	1.45	203	⇑eP	Pn	02 30 25.4	+0.5
GO02				eS	Sn	02 30 45.3	+0.2
GO02				IAML		02 30 48.4	
	comp=E,874nm,0.5s						
GO02	Mina Guanaco	1.45	203	eP	Pn	02 30 25.5	+0.7
GO02				eS	Sn	02 30 45.8	+0.8
PB05	IPOC Station P	1.50	310	⇑eP	Pn	02 30 25.9	+0.7
PB05				eS	Sn	02 30 46.3	+0.6
PB05				IAML		02 30 50.8	
	comp=E,618nm,0.3s						
PB05	IPOC Station P	1.50	310	eP	Pn	02 30 25.8	+0.6
PB05				eS	Sn	02 30 46.8	+1.1
PB05				IAML		02 30 50.5	
	comp=Z,595nm,0.4s						
PB14	IPOC Station P	1.54	239	eP	Pn	02 30 26.6	+0.7
PB14				eS	Sn	02 30 42.7	-4.2
PB14				IAML		02 30 58.1	
	comp=Z,264nm,0.5s						
PB03	IPOC Station P	1.91	337	eP	Pn	02 30 31.0	+0.7
PB03				eS	Sn	02 30 56.0	+1.1
PB03				IAML		02 31 00.8	
	comp=E,512nm,0.3s						
PB03	IPOC Station P	1.91	337	eP	Pn	02 30 31.0	+0.7
PB03				eS	Sn	02 30 55.9	+1.0
PB03				IAML		02 31 00.9	
	comp=Z,577nm,0.2s						
PB09	IPOC Station P	2.04	353	eP	Pn	02 30 33.2	+1.3
PB09				eS	Sn	02 30 58.6	+0.9
PB09				IAML		02 31 05.0	
	comp=E,329nm,0.2s						
PB09	IPOC Station P	2.04	353	eP	Pn	02 30 33.1	+1.2
PB09				eS	Sn	02 31 00.3	+2.6
PB09				IAML		02 31 02.6	
	comp=Z,327nm,0.6s						
SALTA		2.43	100	eP	Pn	02 30 37.3	+0.2
SALTA				eP		02 30 37.4	
SALTA				eS	Sn	02 30 49.8	-17
AC01	Pan de Azucar	2.75	212	eP	Pn	02 30 41.6	+0.7
AC01				IAML		02 31 20.4	
	comp=N,210nm,0.4s						
AC01	Pan de Azucar	2.75	212	eP	Pn	02 30 41.0	+0.1
AC01				eS	Sn	02 31 11.0	-2.8
AC01				IAML		02 31 22.6	
	comp=Z,119nm,0.6s						
PB01	IPOC Station P	2.81	350	eP	Pn	02 30 42.2	+0.3
PB01				eS	Sn	02 31 09.6	-5.9
PB01				IAML		02 31 11.3	
	comp=Z,148nm,0.2s						
AC02	Maricunga	3.00	183	eP	Pn	02 30 45.8	+1.1
AC02	Maricunga	3.00	183	eP	Pn	02 30 46.2	+1.5
AC02				eS	Sn	02 31 19.9	-0.6
TA01	Diego Aracena	3.44	341	eP	Pn	02 30 49.3	-0.7
TA01				eS	Sn	02 31 41.7	+12
TA01				IAML		02 31 42.0	
	comp=Z,75nm,1.1s						
YJA	Yavi	3.57	63	eP	Pn	02 30 53.6	+1.3
HMBC	Humberstone	3.63	346	eP	Pn	02 30 52.3	-0.5

DRO				S	Sg	02 42 49.6	-0.5
	4μm,0.5s						
DRO	**Drossia**	**0.60**	**185**	P	Pg	02 42 42.1	-0.1
DRO				S	Sb	02 42 50.9	0.0
AXAR	**Agios Charalam**	**0.72**	**72**	P	Pg	02 42 43.8	-0.7
AXAR				S	Sb	02 42 55.0	+0.4
	5μm,0.4s						
AXAR	**Agios Charalam**	**0.72**	**72**	P	Pg	02 42 43.8	-0.7
AXAR				S	Sg	02 42 53.8	-0.2
LCHA	**Lechaina**	**0.73**	**214**	P	Pb	02 42 45.0	0.0
GUR	**Goura**	**0.75**	**144**	P	Pg	02 42 44.0	-1.1
GUR	**Goura**	**0.75**	**144**	P	Pg	02 42 44.2	-0.9
GUR				S	Sb	02 42 55.8	+0.3
SOFA	**Sofades**	**0.83**	**17**	P	Pb	02 42 46.2	-0.4
CLEM	**Kyllini,Ilia,G**	**0.83**	**218**	P	Pb	02 42 46.5	-0.2
NYDR	**Nydri-Lefkada**	**0.86**	**281**	P	Pb	02 42 46.3	-1.0
NYDR	**Nydri-Lefkada**	**0.86**	**281**	P	Pb	02 42 46.5	-0.7
ARTB	**Arta**	**0.88**	**314**	P	Pb	02 42 46.5	-0.9
EVGI	**Lefkada island**	**0.89**	**275**	P	Pb	02 42 46.6	-1.0
EVGI	**Lefkada island**	**0.89**	**275**	P	Pb	02 42 46.6	-1.0
TETR	**Tetrakomo, Epi**	**0.89**	**334**	P	Pb	02 42 46.8	-0.9
LKD2	**Lefkada island**	**0.91**	**286**	P	Pb	02 42 47.3	-0.8
LKD2	**Lefkada island**	**0.91**	**286**	P	Pb	02 42 47.4	-0.8
RTZL	**Ratzakli, Kefa**	**0.92**	**240**	P	Pb	02 42 47.6	-0.6
TSLK	**Tsoukalades, L**	**0.93**	**288**	P	Pb	02 42 47.5	-0.8
TSLK	**Tsoukalades, L**	**0.93**	**288**	P	Pb	02 42 47.5	-0.8
SMHA	**Samh**	**0.94**	**252**	P	Pb	02 42 46.7	-1.8
DRAG	**Dragano-Lefkad**	**0.96**	**279**	P	Pb	02 42 47.9	-0.9
DRAG	**Dragano-Lefkad**	**0.96**	**279**	P	Pb	02 42 48.6	-0.8
LKR	**Lokris**	**0.96**	**83**	P	Pb	02 42 47.6	-1.3
LKR	**Lokris**	**0.96**	**83**	P	Pb	02 42 47.6	-1.3
FSK	**Fiskardo**	**0.96**	**265**	P	Pb	02 42 47.8	-1.1
FSK	**Fiskardo**	**0.96**	**265**	P	Pb	02 42 47.9	-1.1
VSK1	**VASILIKIADES**	**0.97**	**262**	P	Pb	02 42 47.9	-1.1
VLS	**Valsamata**	**1.01**	**249**	P	Pb	02 42 48.5	-1.2
VLS	**Valsamata**	**1.01**	**249**	P	Pb	02 42 48.5	-1.2
AMT	**Artemida-Makis**	**1.01**	**183**	P	Pb	02 42 49.6	-0.2
THL	**Klokotos Trika**	**1.03**	**10**	P	Pb	02 42 49.8	-0.4
THL	**Klokotos Trika**	**1.03**	**10**	P	Pb	02 42 49.7	-0.4
PSDA	**Pessada-Kefalo**	**1.04**	**246**	P	Pb	02 42 49.0	-1.2
PSDA	**Pessada-Kefalo**	**1.04**	**246**	P	Pb	02 42 48.9	-1.2
AIDA	**Aidipsos**	**1.04**	**72**	P	Pb	02 42 49.7	-0.5
KYPS	**Kipseli, Zakin**	**1.05**	**226**	P	Pb	02 42 50.4	0.0
ZARO	**Zacharo**	**1.06**	**186**	P	Pb	02 42 50.5	-0.1
LTK	**Loutraki**	**1.07**	**119**	P	Pb	02 42 50.3	-0.4
ORTH	**Orthonies,Zaky**	**1.10**	**231**	P	Pb	02 42 50.6	-0.7
LXR1	**Lixouri, Cepha**	**1.11**	**252**	P	Pb	02 42 50.4	-1.0
LTHK	**Lithakia**	**1.12**	**222**	P	Pb	02 42 50.9	-0.7
LTHK	**Lithakia**	**1.12**	**222**	P	Pb	02 42 51.0	-0.6
DMLN	**Damoulianata-K**	**1.15**	**255**	P	Pb	02 42 50.8	-1.3
DMLN	**Damoulianata-K**	**1.15**	**255**	P	Pb	02 42 51.0	-1.1
KRI1	**kERI**	**1.17**	**221**	P	Pn	02 42 52.2	-0.1
VIL2	**Platees**	**1.21**	**106**	P	Pb	02 42 53.4	+0.2
LRSO	**Larissa Observ**	**1.22**	**23**	P	Pg	02 42 53.8	-0.2
LRSO	**Larissa Observ**	**1.22**	**23**	P	Pn	02 42 52.6	-0.5
VILL	**Villia**	**1.26**	**107**	P	Pn	02 42 53.7	0.0
VLX	**Vlachokerasia**	**1.27**	**158**	P	Pn	02 42 53.7	-0.1
PRGA	**Parga**	**1.31**	**305**	P	Pn	02 42 54.3	0.0
JAN	**Janina**	**1.32**	**327**	P	Pb	02 42 55.4	+0.3
NEO	**Neokhori**	**1.36**	**56**	P	Pn	02 42 55.0	0.0
NEO	**Neokhori**	**1.36**	**56**	P	Pn	02 42 54.9	-0.1
ITM	**Ithomi**	**1.37**	**175**	P	Pn	02 42 55.4	+0.2
ITM	**Ithomi**	**1.37**	**175**	P	Pb	02 42 55.7	-0.2
XOR	**Xorichti**	**1.37**	**53**	P	Pn	02 42 55.5	+0.3
XOR	**Xorichti**	**1.37**	**53**	P	Pn	02 42 55.0	-0.2
KPRO	**Kipourio**	**1.44**	**347**	P	Pb	02 42 57.4	+0.2
KPRO	**Kipourio**	**1.44**	**347**	P	Pn	02 42 56.3	+0.1
MET5	**Makryloggos,Me**	**1.55**	**126**	P	Pn	02 42 57.8	+0.2
MET4	**Agioi Theodoro**	**1.57**	**125**	P	Pn	02 42 57.6	-0.4
KRND	**KRANIDI**	**1.59**	**137**	P	Pb	02 42 59.2	-0.4
ATH	**Athens Observa**	**1.63**	**110**	P	Pb	02 42 59.6	-0.6
LIT	**Litokhoron**	**1.65**	**19**	P	Pn	02 42 59.5	+0.5
LIT	**Litokhoron**	**1.65**	**19**	P	Pn	02 42 58.9	-0.1
ATHU	**Athens Univers**	**1.68**	**110**	P	Pn	02 42 58.9	-0.5
PTL	**Penteli**	**1.71**	**106**	P	Pn	02 43 00.6	+0.7
PTL	**Penteli**	**1.71**	**106**	Pn_2	Pn	02 42 59.6	-0.3
VLY	**Voula,Athens**	**1.73**	**113**	Pn_2	Pn	02 42 60.0	-0.2
DION	**Dionisos Attik**	**1.75**	**105**	P	Pb	02 43 01.6	-0.9
DION	**Dionisos Attik**	**1.75**	**105**	P	Pn	02 42 59.8	-0.7
KZN	**Kozani**	**1.76**	**360**	P	Pb	02 43 02.4	-0.1
KZN	**Kozani**	**1.76**	**360**	P	Pn	02 42 59.3	-1.3
KYMI	**Kymi, Euboea I**	**1.82**	**87**	P	Pn	02 43 00.6	-0.8
VLI	**Veliai**	**2.04**	**153**	P	Pn	02 43 05.2	+0.8
VLI	**Veliai**	**2.04**	**153**	P	Pn	02 43 04.9	+0.5
KARY	**Karystos**	**2.15**	**103**	P	Pn	02 43 05.8	-0.1
PLG	**Polygyros**	**2.23**	**35**	P	Pn	02 43 06.9	-0.2
FNA	**Florina**	**2.26**	**352**	P	Pb	02 43 09.4	-1.6
SOH	**Sokhos**	**2.58**	**28**	P	Pn	02 43 12.4	+0.6
OHR	**Ohrid**	**2.67**	**344**	*e*Pn	Pb	02 43 17.7	-0.4
OHR				*e*Sn	Sb	02 43 53.0	+2.2
DRME	**Dracevica, Mon**	**4.14**	**332**	*e*Pn	Pb	02 43 34.8	+1.5
PDG	**Podgorica**	**4.33**	**334**	*e*Pn	Pn	02 43 37.9	+2.0
HCY	**Herceg Novi**	**4.63**	**328**	*e*Pn	Pn	02 43 40.6	+0.6
SJES	**Sjenica**	**4.91**	**344**	*e*Pn	Pn	02 43 46.6	+2.7
TREB	**Trebinje**	**4.92**	**329**	*e*Pn	Pn	02 43 44.4	+0.5
BRY	**Bratogost**	**5.00**	**332**	*e*Pn	Pn	02 43 46.6	+1.4
STON	**Ston**	**5.32**	**326**	*e*Pn	Pn	02 43 49.9	+0.5
RUDO	**Rudo**	**5.38**	**341**	*e*Pn	Pn	02 43 51.6	+1.2
BBLS	**Lazi&#263i**	**5.61**	**342**	*e*Pn	Pn	02 43 53.7	+0.2
HAPS	**Han Pijesak,BI**	**5.93**	**340**	*e*Pn	Pn	02 43 54.4	+0.5
TEKS	**Tekeris**	**6.23**	**345**	*e*Pn	Pn	02 44 02.7	+0.7
BLY	**Banja Luka**	**7.09**	**332**	*e*Pn	Pn	02 44 14.3	+0.6
A050A	**Klekovaca**	**7.12**	**328**	*e*Pn	Pn	02 44 15.8	+1.6
A051A	**Mrakovica**	**7.42**	**332**	*e*Pn	Pn	02 44 19.0	+0.7
BOJS	**Bojanci**	**8.48**	**327**	*e*Pn	Pn	02 44 33.7	+0.9
CEY	**Cerknica**	**9.02**	**325**	*e*Pn	Pn	02 44 39.9	-0.4
SKDS	**Skadanscina**	**9.07**	**323**	*e*Pn	Pn	02 44 40.3	-0.6
SOKA	**Soboth**	**9.52**	**331**	*e*Pn	Pn	02 44 48.9	+1.7
	0.3nm,0.2s						
OBKA	**Obir**	**9.58**	**328**	*e*Pn	Pn	02 44 49.2	+1.2
	0.4nm,0.3s						
OBKA	**Obir**	**9.58**	**328**	*e*Pn	Pn	02 44 48.5	+0.5
KBA	**Koelnbreinsper**	**10.54**	**327**	*e*Pn	Pn	02 45 02.3	+1.2
	0.4nm,0.3s						
ABTA	**Abfaltersbach**	**10.66**	**323**	*e*Pn	Pn	02 45 02.5	-0.3
	0.3nm,0.2s						
MOA	**Molln**	**10.79**	**332**	*i* Pn	Pn	02 45 06.7	+2.2
	0.5nm,0.3s						
LESA	**Schwarzleotal**	**11.09**	**326**	*e*Pn	Pn	02 45 08.8	+0.2
	0.4nm,0.3s						
WTTA	**Wattenberg**	**11.45**	**323**	*e*Pn	Pn	02 45 13.8	+0.2
	0.7nm,0.3s						
WATA	**Walderalm**	**11.53**	**323**	*e*Pn	Pn	02 45 14.2	-0.5
	0.4nm,0.2s						
SQTA	**Sankt Quirin**	**11.62**	**322**	*e*Pn	Pn	02 45 15.1	-0.8
	0.9nm,0.3s						
MOTA	**Moosalm**	**11.76**	**322**	*e*Pn	Pn	02 45 18.2	+0.3
	1.6nm,0.7s						

*SFS **24** 03:05:19.0, 37.°06N×5.°40W, h1km, ML2.4/4, MLv2.5/4*
*MDD **24** 03:05:19.1±0.5, 37.°04N×5.°36W, h0km, mb_Lg1.6/6, Error ellipse: s-maj=4.0km s-min=3.3km az=142.0*

ISC 24 03:05:18.5±1.2, **37.°05N**±0.°03×**5.°36W**±0.°03, **h3**km±11km, **n12**, σ0°**85**/22, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.15**	**195**	Sg	Sg	03 05 24.3	+0.8
LIJA				Pg	Pg	03 05 21.2	-0.3
ESPR	**Espera**	**0.44**	**246**	Pg	Pg	03 05 26.9	-0.1
ESPR				Sg	Sg	03 05 32.2	-0.5
ESPR				*i* Vmb_Lg		03 05 34.4	
EGOR	**Sierra Gorda,**	**1.00**	**86**	Pg	Pg	03 05 37.9	+0.2
EGOR				Sg	Sg	03 05 52.1	+1.4
EGOR	**Sierra Gorda,**	**1.00**	**86**	Pg	Pg	03 05 35.7	-2.0
EGOR				*i* Vmb_Lg		03 05 45.9	
EGOR				Sg	Sg	03 05 51.7	+1.0
ECAB	**El Cabril**	**1.02**	**357**	Pn	Pg	03 05 38.7	+0.5
ECAB				Sn	Sb	03 05 54.2	+1.4
ECAB	**El Cabril**	**1.02**	**357**	Pg	Pg	03 05 38.6	+0.5
ECAB				Sg	Sb	03 05 53.2	+0.3
ECAB				*i* Vmb_Lg		03 05 53.8	
EMIN	**Mina Concepcio**	**1.27**	**305**	Pg	Pg	03 05 42.0	-0.9
EMIN				Sg	Sb	03 06 00.3	+0.4
EMIN				*i* Vmb_Lg		03 06 01.0	
EADA	**Adamuz**	**1.27**	**29**	Pn	Pg	03 05 42.5	-0.5
EADA				Sn	Sg	03 05 59.2	-0.3
EADA	**Adamuz**	**1.27**	**29**	Pg	Pg	03 05 42.4	-0.5
EADA				Sg	Sg	03 05 58.8	-0.7
EADA				*i* Vmb_Lg		03 06 05.1	
EQTA	**Presa de Quent**	**1.54**	**84**	Sn	Sn	03 06 07.3	-0.3
EQES	**Quesada**	**1.97**	**67**	Pn	Pn	03 05 52.9	0.0
EQES				Sn	Sn	03 06 17.9	-0.3
EBAD	**Badajoz**	**2.15**	**323**	*i* Vmb_Lg		03 06 20.4	
EBAD				Sn	Sn	03 06 22.0	-0.5

*IDC **24** 03:15:26.4±0.9, 12.°73S×45.°49E, h0km, mb3.6/7, mbtmp3.7/9, ML4.6/3, Error ellipse: s-maj=27.6km s-min=22.7km az=102.0*
*NEIC **24** 03:15:26.8±0.7, 12.°70S±0.°08×45.°7E±0.°1, h10km±2km, mb4.2/6, Error ellipse: s-maj=25.1km s-min=4.8km az=57.0*

ISC 24 03:15:26.6±0.6, **12.°84S**±0.°05×**45.°61E**±0.°07, **h10**km, **n32**, σ2°**64**/40, **mb4.0**/10, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.24**	**99**	P	Pn	03 16 32.8	+1.5
SBV				S	Sn	03 17 16.0	-5.0
OPO	**Ambohidratompo**	**5.90**	**165**	Pn	Pn	03 16 56.4	+2.1
	8.4nm,0.3s,baz=338,slow=12,SNR=448						
OPO				Sn	Sn	03 17 57.5	-4.5
	22nm,0.3s,baz=284,slow=19,SNR=30						
OPO	**Ambohidratompo**	**5.90**	**165**	P	Pn	03 16 56.3	+2.1
OPO				S	Sn	03 17 57.7	-4.4
FIRM	**Firavahana**	**5.96**	**168**	P	Pn	03 16 57.2	+2.2
FIRM				S	Sn	03 17 58.9	-4.6
ATG	**Ambohiby**	**6.03**	**175**	P	Pn	03 16 57.7	+1.6
ATG				S	Sn	03 18 00.6	-4.7
ABPO	**Ambohimpanom**	**6.34**	**166**	Pn	Pn	03 17 02.1	+1.8
ABPO				Sn	Sn	03 18 08.0	-4.9
ABPO	**Ambohimpanom**	**6.34**	**166**	P	Pn	03 17 01.9	+1.6
ABPO				S	Sn	03 18 07.7	-5.2
AVY	**Angavokely**	**6.39**	**162**	P	Pn	03 17 02.5	+1.4
DGRM	**Ambatolahisoa**	**6.43**	**173**	P	Pn	03 17 03.6	+2.1
ABM	**Ambohimiarambe**	**7.11**	**167**	P	Pn	03 17 12.8	+1.9
VOI	**Vohitsoka**	**9.09**	**173**	Pn	Pn	03 17 39.1	+1.0
FOMA	**Nahampoana Res**	**12.14**	**174**	Pn	Pn	03 18 21.0	+1.3
RER	**Riviere de l'E**	**12.74**	**132**	Pn	Pn	03 18 28.0	0.0
KIBK	**Kibwezi**	**12.84**	**324**	Pn	Pn	03 18 28.2	-1.2
KMBO	**Kilima Mbogo**	**14.28**	**324**		Pn	03 18 48.0	-1.3
KMBO	**Kilima Mbogo**	**14.28**	**324**	Pn	Pn	03 18 47.6	-1.7
	0.4nm,0.3s,baz=152,slow=14,SNR=9.1						
KMBO				Sn	Sn	03 21 22.9	-5.1
	0.4nm,0.3s,baz=56,slow=24,SNR=2.4						
	1.8nm,0.6s						
LSZ	**Lusaka**	**17.07**	**260**		Pn	03 19 26.3	+0.6
LSZ				IAmb	IAmb	03 19 33.4	
	comp=Z,11nm,0.9s						
LSZ	**Lusaka**	**17.07**	**260**	Pn	Pn	03 19 25.7	0.0
	comp=Z,0.5nm,0.3s,baz=76,slow=9.0,SNR=10						
LSZ				Sn	Sn	03 22 24.2	-12
	comp=Z,0.3nm,0.3s,baz=3.7,slow=12,SNR=4.1						
	comp=Z,3.8nm,0.7s						
POGA	**Pongola**	**19.43**	**220**	P	P	03 19 54.8	+1.5
POGA				IAmb	IAmb	03 19 59.7	
	comp=Z,12nm,0.9s						
LBTB	**Lobatse**	**22.44**	**234**	P	P	03 20 27.0	+1.1
LBTB				IAmb	IAmb	03 20 33.5	
	comp=Z,11nm,0.9s						
BOSA	**Boshof**	**24.61**	**227**	P	P	03 20 48.6	+1.3
BOSA				IAmb	IAmb	03 21 32.7	
	comp=Z,18nm,1.5s						
BOSA	**Boshof**	**24.61**	**227**	P	P	03 20 48.9	+1.5
	comp=Z,3.0nm,0.6s,baz=57,slow=9.9,SNR=16						
	comp=Z,3.0nm,0.6s						
SUR	**Sutherland**	**29.91**	**225**	P	P	03 21 37.2	+2.3
TORD	**Torodi Ar. Bea**	**50.62**	**299**	P	P	03 24 25.6	-0.6
GERES	**GERESS Array B**	**67.59**	**338**	P	P	03 26 23.9	+0.4
	comp=Z,0.4nm,0.8s,baz=120,slow=5.8,SNR=3.4						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**67.85**	**26**	P	P	03 26 26.5	+1.4
	comp=Z,0.1nm,0.3s,baz=221,slow=8.6,SNR=1.9						
	comp=Z,0.1nm,0.3s						
WMQ	**Urumqi**	**68.19**	**32**	*e*P	P	03 26 26.8	-0.5
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
KURBB	**Kurchatov Arra**	**69.43**	**22**	P	P	03 26 36.3	+1.5
	comp=Z,0.2nm,0.8s,baz=213,slow=6.6,SNR=3.2						
	comp=Z,0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**74.42**	**23**	P	P	03 27 05.6	+0.9
	comp=Z,0.3nm,0.3s,baz=235,slow=6.8,SNR=1.5						
	comp=Z,0.3nm,0.3s						
HHC	**Hu-ho-hao-te**	**80.93**	**45**	*e*P	P	03 27 41.8	+0.3
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
ASAR	**Alice Springs**	**83.41**	**113**	P	P	03 27 57.3	+2.4
	comp=Z,0.8nm,0.6s,baz=260,slow=5.1,SNR=13						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**84.54**	**109**	P	P	03 28 02.9	+2.3
	comp=Z,0.5nm,0.7s,baz=262,slow=3.8,SNR=2.4						
	comp=Z,0.5nm,0.7s						

*UCR **24** 03:22:34.5±0.6, 11.°59N×86.°28W, h77km±5km, MW3.8*
*CATAC **24** 03:22:35.6±0.2, 12.°N±2.°×8.°6W±.°, h44km±3km, M4.1/42, MLv4.1/42, Error ellipse: s-maj=5.1km s-min=1.8km az=46.6, confirmed*
*NEIC **24** 03:22:35.9±0.7, 11.°61N±0.°08×86.°29W±0.°08, h74km±10km, ML3.7/14, Error ellipse: s-maj=14.0km s-min=7.1km az=222.0*

ISC 24 03:22:35.9±1.2, **11.°58N**±0.°04×**86.°33W**±0.°04, **h68**km±7km, **n169**, σ0°**89**/197, **11C-20D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.40**	**3**	P	Pn	03 22 40.9	-7.0
SABN	**Sabanita**	**0.41**	**23**	⇓P	Pn	03 22 45.3	-2.5
SABN	**Sabanita**	**0.41**	**23**	P	Pn	03 22 45.4	-2.5
NANN	**Nandasmo**	**0.41**	**29**	⇓P	Pn	03 22 48.3	+0.5
NANN	**Nandasmo**	**0.41**	**29**	S	Sn	03 22 58.1	+1.6
NANN	**Nandasmo**	**0.41**	**29**	S	Sn	03 22 58.4	+1.8
NANN	**Nandasmo**	**0.41**	**29**	P	Pn	03 22 48.3	+0.5
MASN	**Masaya**	**0.44**	**23**	S	Sn	03 22 57.5	+0.4
MASN	**Masaya**	**0.44**	**23**	P	Pn	03 22 48.1	0.0
MASN	**Masaya**	**0.44**	**23**	*e*P	Pn	03 22 47.5	-0.6
MAS3	**Al N del Volca**	**0.47**	**18**	⇓P	Pn	03 22 47.5	-0.8
MAS3				S	Sn	03 22 57.6	+0.2
MAS3	**Al N del Volca**	**0.47**	**18**	P	Pn	03 22 47.6	-0.8
MAS3				S	Sn	03 22 57.8	+0.4
ARIN	**Rivas**	**0.49**	**104**	P	Pn	03 22 47.7	-0.8
ARIN	**Rivas**	**0.49**	**104**	S	Sn	03 22 57.4	-0.4
ARIN	**Rivas**	**0.49**	**104**	P	Pn	03 22 47.8	-0.8
MAFN	**Magfor**	**0.52**	**9**	P	Pn	03 22 44.7	-4.1
UNAN	**Cigeo UNAN**	**0.53**	**6**	⇓P	Pn	03 22 48.5	-0.5
UNAN				S	Sn	03 22 59.0	+0.5
UNAN	**Cigeo UNAN**	**0.53**	**6**	P	Pn	03 22 48.5	-0.5
UNAN				S	Sn	03 22 59.2	+0.7
ENAN	**Enatrel Managu**	**0.54**	**7**	P	Pn	03 22 48.6	-0.3
ENAN	**Enatrel Managu**	**0.54**	**7**	S	Sn	03 22 59.2	+0.7
ENAN	**Enatrel Managu**	**0.54**	**7**	P	Pn	03 22 48.8	-0.2
USIM	**UNAN**	**0.54**	**5**		Pn	03 22 48.6	-0.4
USIM					Sn	03 22 58.8	+0.3
USIM	**UNAN**	**0.54**	**5**	P	Pn	03 22 48.8	-0.2
USIM	**UNAN**	**0.54**	**5**	S	Sn	03 22 59.4	+0.8
USIM	**UNAN**	**0.54**	**5**	P	Pn	03 22 48.8	-0.2
ABCN	**Banco Central**	**0.54**	**2**	P	Pn	03 22 48.8	-0.2
ABCN	**Banco Central**	**0.54**	**2**	S	Sn	03 22 59.3	+0.7
ABCN	**Banco Central**	**0.54**	**2**	S	Sn	03 22 59.5	+0.9
ABCN	**Banco Central**	**0.54**	**2**	P	Pn	03 22 48.8	-0.2
TISN	**Laguna Tiscapa**	**0.56**	**5**	⇓P	Pn	03 22 47.1	-2.2
TISN	**Laguna Tiscapa**	**0.56**	**5**	P	Pn	03 22 47.1	-2.2
R4DEC	**Barrio San Lui**	**0.57**	**7**	P	Pn	03 22 48.7	-0.6
R4DEC	**Barrio San Lui**	**0.57**	**7**	S	Sn	03 22 59.5	+0.4
R4DEC	**Barrio San Lui**	**0.57**	**7**	S	Sn	03 22 59.7	+0.5
R4DEC	**Barrio San Lui**	**0.57**	**7**	P	Pn	03 22 48.8	-0.6
ALLN	**Telcor Managua**	**0.58**	**5**	⇓P	Pn	03 22 48.9	-0.5
ALLN	**Telcor Managua**	**0.58**	**5**	S	Sn	03 22 59.7	+0.5
ALLN	**Telcor Managua**	**0.58**	**5**	P	Pn	03 22 48.8	-0.5
AERN	**Aeropuerto Man**	**0.58**	**15**	P	Pn	03 22 36.1	-13
SAPS	**Ciudad Sandino**	**0.59**	**352**	⇓P	Pn	03 22 49.3	-0.3
SAPS	**Ciudad Sandino**	**0.59**	**352**	S	Sn	03 22 60.0	+0.5
SAPS	**Ciudad Sandino**	**0.59**	**352**	S	Sn	03 23 00.1	+0.5
SAPS	**Ciudad Sandino**	**0.59**	**352**	P	Pn	03 22 49.2	-0.3
APQ2	**Apoyeque**	**0.62**	**360**	⇓P	Pn	03 22 49.1	-0.7
APQ2				S	Sn	03 22 59.9	0.0
APQ2	**Apoyeque**	**0.62**	**360**	P	Pn	03 22 49.2	-0.5
APQ2				S	Sn	03 23 00.3	+0.3
JAPN	**Al SSO del Vol**	**0.64**	**95**	⇓P	Pn	03 22 49.5	-0.5
JAPN				S	Sn	03 23 00.7	+0.4
JAPN	**Al SSO del Vol**	**0.64**	**95**	P	Pn	03 22 49.6	-0.4
JAPN				S	Sn	03 23 01.0	+0.7
APYN	**Apoyeque**	**0.65**	**358**	P	Pn	03 22 49.6	-0.6
APYN				S	Sn	03 23 00.9	+0.1
APYN	**Apoyeque**	**0.65**	**358**	P	Pn	03 22 50.1	-0.1
COPN	**Copaltepe**	**0.65**	**336**	⇑P	Pn	03 22 49.3	-0.9
COPN	**Copaltepe**	**0.65**	**336**	P	Pn	03 22 49.4	-0.9
AMTN	**Mateare**	**0.66**	**351**	P	Pn	03 22 43.2	-7.1
CONN	**Concepcion**	**0.69**	**91**	P	Pn	03 22 44.4	-6.2
SBEN	**San Benito**	**0.77**	**20**	⇓P	Pn	03 22 50.9	-0.6
SBEN	**San Benito**	**0.77**	**20**	S	Sn	03 23 03.5	+0.5
BC84	**Volcan Momotom**	**0.84**	**345**	P	Pn	03 23 04.6	+12
LCRUZ	**La Cruz**	**0.84**	**126**	*e*P	Pn	03 22 52.6	+0.2
LCRUZ				*e*S	Sn	03 23 05.2	+0.6
MOMN	**Momotombo**	**0.85**	**346**	⇓P	Pn	03 22 51.9	-0.7
MOMN				S	Sn	03 23 04.7	-0.2
MOMN	**Momotombo**	**0.85**	**346**	P	Pn	03 22 51.9	-0.7
MOMN				S	Sn	03 23 04.9	0.0
LEVN	**Ruinas Leon Vi**	**0.87**	**341**	⇓P	Pn	03 22 52.3	-0.3
LEVN				S	Sn	03 23 05.0	-0.1
LEVN	**Ruinas Leon Vi**	**0.87**	**341**	P	Pn	03 22 52.4	-0.3
CARN	**Rivas**	**0.88**	**116**	⇓P	Pn	03 22 51.9	-0.9
CARN				S	Sn	03 23 04.8	-0.5
CARN	**Rivas**	**0.88**	**116**	P	Pn	03 22 51.9	-0.9
CARN				S	Sn	03 23 05.2	-0.1
CNGA	**AI SSO del Vol**	**0.98**	**338**	⇑P	Pn	03 22 53.7	-0.5
CNGA				S	Sn	03 23 06.9	-0.8
CNGA	**AI SSO del Vol**	**0.98**	**338**	P	Pn	03 22 53.7	-0.5
CNGA				S	Sn	03 23 07.9	+0.2
CNGN	**Cerro Negro**	**0.99**	**338**		Pn	03 22 54.0	-0.2
CNGN					Sn	03 23 08.0	+0.2
CNGN	**Cerro Negro**	**0.99**	**338**	⇓P	Pn	03 22 54.1	-0.2
CNGN	**Cerro Negro**	**0.99**	**338**	S	Sn	03 23 08.0	+0.2
CNGN	**Cerro Negro**	**0.99**	**338**	S	Sn	03 23 08.3	+0.5
CNGN	**Cerro Negro**	**0.99**	**338**	P	Pn	03 22 54.2	0.0
CNGN	**Cerro Negro**	**0.99**	**338**	*e*P	Pn	03 22 53.8	-0.4
CNGN				*e*S	Sn	03 23 07.6	-0.3
ILCN	**San Idelfonso**	**1.06**	**340**	S	Sn	03 23 07.5	-1.8
ILCN	**San Idelfonso**	**1.06**	**340**	P	Pn	03 22 51.7	-3.4
ILCN				S	Sn	03 23 08.3	-1.1
BOAB	**BOACO BROADBAN**	**.08**	**37**		Pn	03 22 54.5	-0.8
BOAB				IAML		03 23 10.7	
	comp=N,689nm,0.5s						
BOAB	**BOACO BROADBAN**	**.08**	**37**	⇓P	Pn	03 22 54.6	-0.7
BOAB	**BOACO BROADBAN**	**.08**	**37**	S	Sn	03 23 09.8	0.0
BOAB	**BOACO BROADBAN**	**.08**	**37**	P	Pn	03 22 54.7	-0.7
PLRN	**Geotermica Pol**	**1.09**	**337**	⇑P	P

PIRO	Carate, Puerto	4.31 137	S	Sn	03 24 27.5	-0.6
PIRO	Carate, Puerto	4.31 137	P	Pn	03 23 40.5	+1.4
BRU2	Volcan	4.52 127	Pn	Pn	03 23 42.9	+0.9

*TXNET **24** 03:24:13.7, 32°.9N±0°.6×100°.9W±0°.6, h5km, ML2.2/7, Error ellipse: s-maj=1.0km s-min=0.7km az=45.4, final*
*NEIC **24** 03:24:13.7±1.3, 32°.93N±0°.01×100°.91W±0°.01, h5km±2km, Error ellipse: s-maj=1.8km s-min=1.6km az=158.0*
*NEIC **24** 03:24:14.0±1.1, 32°.93N±0°.01×100°.91W±0°.01, h5km±1km, mb_Lg2.2/9, ML2.1/8, ML2.2/6, Error ellipse: s-maj=2.3km s-min=2.0km az=175.0*

ISC 24 03:24:13.6±0.8, 32°.93N±0°.02×100°.92W±0°.02, h6km±4km, n51, σ0°70/79, 9C-1D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN03	Snyder 3	0.02	250		Pg	03 24 14.6	-0.2
SN03	Snyder 3	0.02	250	⇑P	Pg	03 24 14.6	-0.2
SN03				S	Sg	03 24 15.4	-0.3
SN05	Snyder 5	0.06	154		Pg	03 24 15.0	-0.2
SN05				Sg	Sg	03 24 16.0	-0.3
SN05				IAML		03 24 16.2	
	6μm,0.1s						
SN05	Snyder 5	0.06	154	⇑P	Pg	03 24 15.0	-0.2
SN05				S	Sg	03 24 16.0	-0.3
SN02	Snyder 2	0.07	177		Pg	03 24 16.3	+1.0
SN02	Snyder 2	0.07	177	⇑P	Pg	03 24 15.1	-0.2
SN02				S	Pg	03 24 16.3	+1.0
SN01	Snyder 1	0.07	163		Pg	03 24 16.5	+1.1
SN01	Snyder 1	0.07	163	⇑P	Pg	03 24 15.2	-0.1
SN01				S	Pg	03 24 16.5	+1.1
SN07	Snyder 07	0.16	7		Pg	03 24 17.1	+0.2
SN07				IAML		03 24 21.4	
	661nm,0.2s						
SN07				IAML		03 24 22.5	
	658nm,0.2s						
SN07	Snyder 07	0.16	7	⇑P	Pg	03 24 17.1	+0.2
SN07				S	Sg	03 24 19.5	+0.5
SN08	Arah	0.19	219	⇑P	Pg	03 24 17.5	0.0
SN08				S	Sg	03 24 20.3	+0.3
POST	Post	0.51	285		Pg	03 24 23.6	+0.2
POST				Sg	Sg	03 24 30.4	+0.3
POST	Post	0.51	285	⇑P	Pg	03 24 23.6	+0.2
POST				S	Sg	03 24 30.4	+0.3
DKNS	Dickens	0.73	359		Pg	03 24 27.4	-0.2
DKNS				Sg	Sg	03 24 37.4	+0.3
DKNS	Dickens	0.73	359	⇑P	Pg	03 24 27.5	-0.2
DKNS				S	Sg	03 24 37.5	+0.3
APMT	Aspermont	0.77	59		Pg	03 24 28.1	-0.3
APMT				Sg	Sg	03 24 38.3	-0.2
APMT	Aspermont	0.77	59	⇑P	Pg	03 24 28.1	-0.3
APMT				S	Sg	03 24 38.3	-0.2
TMB05	Klondike	0.85	249	⇓P	Pg	03 24 29.5	-0.5
TMB05				S	Sg	03 24 41.1	+0.1
SGCY	Sterling City	1.03	190		Pg	03 24 32.8	-0.5
SGCY	Sterling City	1.03	190	P	Pg	03 24 32.8	-0.5
SGCY				S	Sg	03 24 46.3	-0.4
ABTX	Abilene, Hawle	1.11	106	Pg	Pg	03 24 34.3	-0.7
TMB06	Greenwood	1.21	218	P	Pb	03 24 37.0	+0.1
TMB06				S	Sb	03 24 53.1	+0.2
TMB04	Seminole	1.36	257	P	Pn	03 24 38.4	-0.8
TMB04				S	Sg	03 24 57.1	-0.2
ODSA	Odessa	1.60	240	Pg	Pg	03 24 44.2	-0.1
ODSA					Sg	03 25 04.9	-0.1
ODSA	Odessa	1.60	240	Pg	Pg	03 24 44.2	-0.1
ODSA				S	Sg	03 25 04.9	-0.1
MSTX	Muleshoe	1.87	304		Pb	03 24 47.5	-0.7
MSTX					Sb	03 25 12.5	+0.7
MSTX	Muleshoe	1.87	304	P	Pb	03 24 47.4	-0.7
MSTX				S	Sb	03 25 12.5	+0.7
TMB02	Rankin	1.98	209	P	Pn	03 24 48.6	+1.0
TMB02				S	Sb	03 25 14.8	0.0
OZNA	Ozona	2.01	185		Sb	03 25 15.9	-0.1
OZNA	Ozona	2.01	185	P	Pn	03 24 49.2	+1.1
OZNA				S	Sb	03 25 15.9	-0.1
AMTX	Amarillo	2.05	342		Pb	03 24 50.4	-0.9
AMTX					Sg	03 25 18.6	-0.8
AMTX	Amarillo	2.05	342	P	Pb	03 24 50.4	-0.9
AMTX				S	Sg	03 25 18.6	-0.8
NM01	Eunice	2.17	255	P	Pb	03 24 52.5	-0.8
NM01				S	Sb	03 25 21.5	+0.9
PLPT	Palo Pinto	2.19	92	IAmb_Lg		03 25 25.1	
	comp=Z,10nm,0.8s						
PLPT	Palo Pinto	2.19	92	P	Pb	03 24 53.0	-0.6
PLPT				S	Sb	03 25 22.0	+1.0
WTFS	Witchita Falls	2.21	67		Sb	03 25 21.4	-0.3
WTFS	Witchita Falls	2.21	67	S	Sb	03 25 21.4	-0.3
MNHN	Monahans	2.23	225		Pn	03 24 51.8	+0.7
MNHN	Monahans	2.23	225	S	Sb	03 25 21.2	-1.0
SMWD	Samnorwood	2.24	14	IAmb_Lg		03 25 24.7	
	comp=Z,17nm,0.9s						
SMWD	Samnorwood	2.24	14	S	Sb	03 25 22.7	+0.3
BRDY	Brady	2.31	135		Pn	03 24 53.5	+1.2
BRDY					Sb	03 25 25.0	+0.5
BRDY	Brady	2.31	135	Pn	Pn	03 24 53.2	+1.0
BRDY				Pg	Pb	03 24 54.7	-0.9
BRDY				S	Sb	03 25 25.0	+0.5
TPB06	Permian Basin	2.33	237	S	Sb	03 25 26.0	+0.8
HTMS	Hat Mesa	2.34	259	S	Sb	03 25 25.8	+0.4
CLNB	Carlsbad	2.59	256	P	Pb	03 24 59.8	-0.7
CLNB				S	Sb	03 25 33.2	+0.6
JCT	Junction City	2.62	159	S	Sb	03 25 31.3	-2.2
FW07	Weatherford	2.65	94		Sb	03 25 35.7	+1.6
FW07				IAmb_Lg		03 25 41.4	
	comp=Z,5.0nm,0.8s						
FW07	Weatherford	2.65	94	S	Sb	03 25 35.7	+1.6
TPB16	Coyonosa	2.68	228	S	Sb	03 25 36.3	+1.1
435B	Jarrell	3.55	126	IAmb_Lg		03 26 12.0	
	comp=Z,12nm,1.1s						

*IDC **24** 03:30:45.2±3.0, 19°.06N×145°.67E, h187km±28km, mb3.1/7, mbtmp3.7/8, Error ellipse: s-maj=47.1km s-min=19.2km az=90.0*

ISC 24 03:30:47.4±1.2, 18°.93N±0°.09×145°.7E±0°.4, h214km, n8, σ1°07/9, mb3.1/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.38	189	P	Pn	03 32 06.4	-0.6
	14nm,0.3s,baz=309,slow=22,SNR=1.4						
GUMO				S	S	03 33 09.0	-0.7
	22nm,0.3s,baz=52,slow=22,SNR=4.7						
WRA	Warramunga Arr	40.22	197	P	P	03 38 04.5	+1.2
	1.3nm,0.3s,baz=12,slow=8.6,SNR=12						
	1.3nm,0.3s						
ASAR	Alice Springs	43.88	196	P	P	03 38 34.2	+1.3
	0.4nm,0.6s,baz=7.2,slow=5.9,SNR=6.5						
	0.4nm,0.6s						
MKAR	Makanchi Array	58.33	314	P	P	03 40 20.6	+0.5
	0.1nm,0.4s,baz=90,slow=7.2,SNR=1.5						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	61.17	318	P	P	03 40 39.6	+0.3
	0.2nm,0.6s,baz=90,slow=7.2,SNR=1.7						
	0.2nm,0.6s						
ILAR	Eielson Array	63.42	26	P	P	03 40 54.2	+0.3
	0.3nm,1.0s,baz=260,slow=6.6,SNR=1.9						
	0.3nm,1.0s						
BVAR	Borovoye Array	66.32	320	P	P	03 41 12.8	0.0
	0.5nm,0.4s,baz=93,slow=5.9,SNR=3.5						
	0.5nm,0.4s						
FINES	FINESS Array B	86.69	335	P	P	03 43 05.2	-1.5
	4.4nm,1.0s,baz=67,slow=4.8,SNR=6.0						
	4.4nm,1.0s						

*IDC **24** 03:34:46.8±1.0, 2°.73S×68°.04E, h0km, mb3.7/11, mbtmp3.7/11, Error ellipse: s-maj=32.0km s-min=22.6km az=56.0*

ISC 24 03:34:48.6±1.0, 2°.7S±0°.2×68°.1E±0°.2, h11km, n12, σ0°37/12, mb3.8/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	36.97	54	P	P	03 41 57.9	-0.4
	0.6nm,0.3s,baz=245,slow=9.7,SNR=5.4						
	0.6nm,0.3s						
MKAR	Makanchi Array	50.85	13	P	P	03 43 49.9	+0.5
	0.3nm,0.7s,baz=188,slow=8.7,SNR=2.4						
	0.3nm,0.7s						
BRTR	Keskin Array B	52.72	327	P	P	03 44 03.7	+0.1
	0.7nm,0.8s,baz=150,slow=8.3,SNR=5.6						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	53.87	8	P	P	03 44 11.9	+0.2
	0.7nm,0.9s,baz=203,slow=7.8,SNR=5.3						
	0.7nm,0.9s						
BVAR	Borovoye Array	55.55	2	P	P	03 44 23.8	-0.1
	0.1nm,0.4s,baz=206,slow=9.5,SNR=1.6						
	0.1nm,0.4s						
ZALV	Zalesovo Beam	58.15	12	P	P	03 44 42.2	-0.1
	0.3nm,0.3s,baz=181,slow=8.9,SNR=4.4						
	0.3nm,0.3s						
SONM	Songino Array	60.44	29	P	P	03 44 58.9	+0.4
	1.0nm,0.9s,baz=231,slow=7.1,SNR=8.1						
	1.0nm,0.9s						
WRA	Warramunga Arr	66.81	110	P	P	03 45 40.5	-0.4
	1.7nm,1.1s,baz=287,slow=5.8,SNR=5.1						
	1.7nm,1.1s						
ASAR	Alice Springs	66.83	114	P	P	03 45 41.2	+0.1
	0.7nm,0.8s,baz=289,slow=6.6,SNR=4.3						
	0.7nm,0.8s						
ESDC	Sonseca Array	77.98	311	P	P	03 46 46.8	-0.5
	0.8nm,0.8s,baz=83,slow=6.9,SNR=7.0						
	0.8nm,0.8s						
QSPA	South Pole Qui	87.31	180	P	P	03 47 35.6	+0.2
	0.6nm,0.8s,baz=315,slow=5.7,SNR=1.2						
	0.6nm,0.8s						
TXAR	Lajitas Array	152.37	344	PKPbc	PKiKP	03 54 46.2	+0.3
	0.2nm,0.5s,baz=77,slow=1.4,SNR=2.9						

*GCMT **24** 03:36:14.0±0.2, 2°.86S±0°.02×68°.06E±0°.02, h12km, MW5.0/99, Moment Tensor Solution. s50,c60; s99,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.10±.09; $M_{\theta\theta}$2.02±.08; $M_{\phi\phi}$1.07±.09; $M_{r\theta}$-0.53±.30; $M_{\theta\phi}$-1.64±.07; $M_{r\phi}$1.26±.34; Best double couple: $M_0$3.46000×10^{16} NP1:ϕ_s295.00000°, δ36.00000°, λ-109.00000°. NP2: ϕ_s139.00000°, δ56.00000°, λ-77.00000°. Principal axes: T 3.4680, Plg10.0000°, Azm219.0000°; N -0.0260, Plg11.0000°, Azm311.0000°; P -3.4520, Plg75.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **24** 03:36:20.4±0.5, 2°.72S×68°.06E, h0km, mb4.3/27, mbtmp4.3/27 Error ellipse: s-maj=15.3km s-min=14.8km az=47.0*
*NEIC **24** 03:36:23.0±2.6, 2°.8S±0°.1×68°.07E±0°.10, h10km±1km, mb4.8/47, Error ellipse: s-maj=18.7km s-min=16.1km az=202.0*

ISC 24 03:36:22.4±0.4, 2°.76S±0°.08×68°.00E±0°.06, h11km, n129, σ1°21/125, mb4.6/70, MS4.5/3, 13C-5D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	6.40	136	Pn	Pn	03 37 56.0	-0.7
PALK	Pallekele	16.13	52		P	03 40 10.9	-1.6
HYB	Hyderabad	22.59	27	eP	P	03 41 23.1	-0.1
KIBK	Kibwezi	29.93	270	P	P	03 42 32.4	+1.4
KIBK				IAmb	IAmb	03 42 45.1	
	comp=Z,40nm,1.9s						
KMBO	Kilima Mbogo	30.77	272	P	P	03 42 40.9	+2.3
KMBO	Kilima Mbogo	30.77	272	P	P	03 42 39.0	+0.4
	comp=Z,2.4nm,0.8s,baz=70,slow=7.8,SNR=7.3						
	comp=Z,2.4nm,0.8s						
LODK	Lodwar	33.20	280	P	P	03 43 01.4	+1.7
LODK				IAmb	IAmb	03 43 15.8	
	comp=Z,13nm,1.3s						
KULM	Kulim	33.58	76	P	P	03 43 03.7	+0.7
KULM				IAmb	IAmb	03 43 12.3	
	comp=Z,14nm,1.0s						
RAYN	Ar Rayn	34.10	321	P	P	03 43 08.4	+1.0
NIL	Nilore	36.55	7	P	P	03 43 29.4	+1.1
NIL				IAmb	IAmb	03 43 31.3	
	comp=Z,13nm,0.7s						
CMAR	Chiang Mai Arr	37.05	54	P	P	03 43 33.9	+1.1
CMAR	Chiang Mai Arr	37.05	54	P	P	03 43 31.9	-0.8
	comp=Z,4.6nm,0.9s,baz=245,slow=10,SNR=16						
	comp=Z,4.6nm,0.9s						
KBL	Kabul	37.12	1	P	P	03 43 35.1	+1.7
KBL				IAmb	IAmb	03 43 47.3	
	comp=Z,21nm,1.6s						
CHTO	Chiang Mai	37.24	54	P	P	03 43 35.5	+1.2
MBAR	Mbarara	37.31	273	P	P	03 43 38.0	+2.8
HRA	Herat	37.35	352	P	P	03 43 35.5	+0.2
TNCH	TengChong	40.49	45	P	P	03 44 03.1	+1.3
TNCH				S	S	03 49 45.5	-25
TNCH				pmax	pmax		
	comp=Z,92nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,230nm,3.5s						
TNCH				LR	LR		
	comp=N,610nm,17.5s						
TNCH				LR	LR		
	comp=E,520nm,15.1s						
TNCH				LR	LR		
	comp=Z,480nm,20.1s						
LSZ	Lusaka	41.15	250	P	P	03 44 06.9	-0.3
LSZ				IAmb	IAmb	03 44 14.9	
	comp=Z,11nm,0.8s						
GAR	Garm	41.61	3	P	P	03 44 10.5	-0.2
BTK	Batken	42.69	3	P	P	03 44 20.1	+0.6
BTK				IAmb	IAmb	03 44 21.3	
	comp=Z,52nm,1.8s						
PZH	PanZhiHua	43.69	46	P	P	03 44 29.3	+1.4
PZH				S	S	03 51 00.3	+2.2
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,5.7s						
H04N2	CROZET ISLANDS	45.49	196	T	T	04 34 11.6	
	baz=19,slow=74,SNR=12						
H04N1	CROZET ISLANDS	45.49	196	T	T	04 34 31.1	
	baz=19,slow=74,SNR=10.0						
H04N3	CROZET ISLANDS	45.50	196	T	T	04 34 07.5	
	baz=19,slow=74,SNR=11						
AAK	Ala-Archa	45.57	7	P	P	03 44 43.5	+0.9
KKAR	Karatay Array	45.71	3	P	P	03 44 44.1	+0.6
QIZ	Qiongzhong	46.49	60	P	P	03 44 52.5	+2.4
QIZ				S	S	03 51 39.8	+1.2
QIZ				LR	LR		
	comp=N,380nm,12.2s						
QIZ				LR	LR		
	comp=E,340nm,18.5s						
QIZ				LR	LR		
	comp=Z,730nm,34.3s						
MMAI	Mount Meron Ar	47.07	322	P	P	03 44 53.0	-1.5
MMAI	Mount Meron Ar	47.07	322	P	P	03 44 53.0	-1.5
	comp=Z,3.4nm,0.7s,baz=138,slow=6.7,SNR=7.0						
	comp=Z,3.4nm,0.7s						
BOSA	Boshof	48.11	233	P	P	03 45 02.4	-0.3
	comp=Z,3.3nm,0.8s,baz=59,slow=6.9,SNR=6.0						
	comp=Z,3.3nm,0.8s						
WMQ	Urumqi	49.63	19	eP	P	03 45 15.4	+1.3
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				LR	LR		
	comp=N,2μm,12.5s						
WMQ				LR	LR		
	comp=E,990nm,13.7s						
WMQ				LR	LR		
	comp=Z,2μm,18.7s						
MAKZ	Makanchi	50.88	12	P	P	03 45 21.3	-2.1
MKAR	Makanchi Array	50.93	13	P	P	03 45 22.2	-1.6
MKAR	Makanchi Array	50.93	13	P	P	03 45 22.9	-1.0
	comp=Z,1.8nm,0.8s,baz=202,slow=8.5,SNR=16						
MKAR				PcP	PcP	03 46 39.5	-0.7
	comp=Z,1.6nm,0.8s,baz=190,slow=6.2,SNR=4.1						
	comp=Z,1.8nm,0.8s						
GTA	Gaotai	51.15	32	eP	P	03 45 26.5	+0.8
GTA				sP	pwP	03 45 36.4	+3.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	Khabaz	51.48	337	P	P	03 45 27.8	-0.1
KBZ	Khabaz	51.48	337	P	P	03 45 27.8	-0.1
	comp=Z,7.5nm,1.1s,baz=121,slow=2.1,SNR=5.3						
	comp=Z,7.5nm,1.1s						
ABKAR	Akbulak array	52.28	353	P	P	03 45 33.4	-0.4
ABKAR				IAmb	IAmb	03 45 35.0	
	comp=Z,22nm,1.9s						
BRTR	Keskin Array B	52.74	327	P	P	03 45 37.3	-0.3
	comp=Z,1.7nm,0.9s,baz=148,slow=11,SNR=9.3						
	comp=Z,1.7nm,0.9s						
WIN	Windhoek	53.09	244	P	P	03 45 41.4	+0.8
WIN				IAmb	IAmb	03 45 48.1	
	comp=Z,11nm,0.9s						
XAN	Xi'an	53.13	43	P	P	03 45 40.6	+0.2
XAN				pP	sP	03 45 45.3	+1.4
XAN				S	S	03 53 09.1	-1.9
KURBB	Kurchatov Arra	53.94	8	P	P	03 45 45.2	-0.8
	comp=Z,3.1nm,0.9s,baz=203,slow=7.7,SNR=12						
	comp=Z,3.1nm,0.9s						
KURK	Kurchatov	54.04	8	P	P	03 45 46.0	-0.7
KURK				IAmb	IAmb	03 45 47.6	
	comp=Z,27nm,1.8s						
BVAR	Borovoye Array	55.62	2	P	P	03 45 57.2	-1.0
	comp=Z,2.3nm,0.7s,baz=183,slow=8.3,SNR=11						
	comp=Z,2.3nm,0.7s						
BRVK	Borovoye	55.65	2	P	P	03 45 58.1	-0.3
ZAA0	Zalesovo Array	58.23	12	IAmb	IAmb	03 46 16.9	
	comp=Z,4.4nm,0.8s						
ZALV	Zalesovo Beam	58.23	12	P	P	03 46 15.1	-1.5
ZALV	Zalesovo Beam	58.23	12	P	P	03 46 15.3	-1.3
	comp=Z,3.9nm,0.7s,baz=206,slow=7.2,SNR=14						
	comp=Z,3.9nm,0.7s						
HHC	Hu-ho-hao-te	58.81	38	eP	P	03 46 24.5	+3.4
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,78nm,5.0s						
NJ2	Nanjing	59.32	50	eP	P	03 46 26.0	+1.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
ARTI	Arti	59.48	354	P	P	03 46 25.3	0.0
	comp=Z,3.0nm,0.7s,baz=199,slow=5.1,SNR=4.1						
	comp=Z,3.0nm,0.7s						
MILM	Milestii Mici	60.27	330	⇑P	P	03 46 29.9	-1.0
BISRR	Bisoca	60.44	328	⇑P	P	03 46 30.4	-1.8
SONM	Songino Array	60.52	29	P	P	03 46 32.9	+0.1
SONM	Songino Array	60.52	29	P	P	03 46 32.9	+0.1
	comp=Z,4.9nm,0.9s,baz=220,slow=7.0,SNR=17						
	comp=Z,4.9nm,0.9s						
VRI	Vrincioaia	60.64	328	⇑P	P	03 46 30.5	-3.0
PLOR	Plostina	60.67	328	⇑P	P	03 46 34.2	+0.5
MLR	Muntele Rosu	60.81	327	P	P	03 46 33.7	-1.1
MLR				IAmb	IAmb	03 46 49.0	
	comp=Z,14nm,1.4s						
MLR	Muntele Rosu	60.81	327	⇓P	P	03 46 36.3	+1.5
ULN	Ulaanbaatar	60.86	29	P	P	03 46 35.6	+0.5
ULN				IAmb	IAmb	03 46 52.7	
	comp=Z,12nm,1.4s						
ARR	Arges	61.45	327	⇑P	P	03 46 34.8	-4.3
HERR	Herculane	62.40	325	⇑P	P	03 46 44.0	-1.4
AKASG	Malin Array Be	62.73	333	P	P	03 46 47.1	-0.3
	comp=Z,1.3nm,0.7s,baz=139,slow=5.3,SNR=6.9						
	comp=Z,1.3nm,0.7s						
KIEV	Kiev	62.73	333	⇓P	P	03 46 44.3	-3.2
MDVR	Moldovita	62.74	325	⇑P	P	03 46 47.0	-0.8
BZS	Buzias	63.29	325	⇑P	P	03 46 50.7	-0.6
SIRR	Siria	63.65	326	⇑P	P	03 46 53.5	-0.2
MORH	Mrgy, Hungar	65.34	325	⇓P	P	03 47 03.1	-1.6
TAM	Tamanrasset	65.95	296	P	P	03 47 10.3	+1.0
TAM				IAmb	IAmb	03 47 12.4	
	comp=Z,5.1nm,1.2s						
KEST	Kesra	66.74	311	P	P	03 47 14.2	+0.1
	comp=Z,3.1nm,1.1s,baz=103,slow=14,SNR=2.0						
	comp=Z,3.1nm,1.1s						
WRA	Warramunga Arr	66.84	110	P	P	03 47 14.2	-0.8
WRA	Warramunga Arr	66.84	110	P	P	03 47 14.3	-0.6
	comp=Z,6.5nm,0.8s,baz=282,slow=6.2,SNR=15						
	comp=Z,6.5nm,0.8s						
ASAR	Alice Springs	66.86	114	P	P	03 47 14.5	-0.6
ASAR	Alice Springs	66.86	114	P	P	03 47 14.2	-0.9
	comp=Z,3.9nm,0.8s,baz=281,slow=5.7,SNR=19						
	comp=Z,3.9nm,0.8s						
AS31	Alice Springs	66.86	114	P	P	03 47 14.3	-0.7
WB0	Warramunga Arr	66.87	110	P	P	03 47 14.5	-0.6
WB0				IAmb	IAmb	03 47 20.9	
	comp=Z,12nm,0.9s						
OJC	Ojcow	66.98	329	P	P	03 47 14.1	-1.2
FDMO	Fiordimonte	67.14	319	P	P	03 47 15.7	-0.8
FDMO				IAmb	IAmb	03 47 18.8	
	comp=Z,11nm,1.0s						
CESX	Cesi	67.28	319	P	P	03 47 16.9	-0.4
CESX				IAmb	IAmb	03 47 18.0	
	comp=Z,26nm,1.7s						
RONA	Rosalia, Austr	67.49	325	eP	P	03 47 17.3	-1.3
	comp=Z,2.5nm,1.0s						
TORD	Torodi Ar. Bea	67.66	285	P	P	03 47 20.4	+0.2
TORD				IAmb	IAmb	03 47 33.5	
	comp=Z,12nm,1.9s						
ARSA	Arzberg	67.70	324	eP	P	03 47 19.1	-0.8
	comp=Z,5.0nm,1.2s						
CONA	Conrad Observa	67.86	325	eP	P	03 47 20.0	-1.0
	comp=Z,5.8nm,1.3s						
MORC	Moravsky Berou	67.93	327	eP	P	03 47 20.4	-0.9
KRUC	Moravsky	68.16	326	eP	P	03 47 21.6	-1.1
VRAC	Vranov	68.19	327	eP	P	03 47 22.2	-0.7
KSRS	Korea Array	68.32	48	P	P	03 47 22.6	-1.3
	comp=Z,1.0nm,0.8s,baz=254,slow=3.5,SNR=4.2						
	comp=Z,1.0nm,0.8s						
CASP	Castiglione de	68.50	318	P	P	03 47 24.0	-1.0
CASP				IAmb	IAmb	03 47 25.9	
	comp=Z,6.5nm,0.8s						
MOA	Molln	68.74	324	eP	P	03 47 25.0	-1.4
	comp=Z,2.7nm,0.9s						
SYO	Syowa Base	68.82	191	⇓epP	pP	03 47 32.0	+3.0
KBA	Koelnbreinsper	68.90	323	eP	P	03 47 26.4	-1.2
	comp=Z,5.5nm,1.6s						
BIOA	Bad Ischl, Aus	69.03	324	eP	P	03 47 26.7	-1.5
	comp=Z,1.8nm,0.7s						
ABTA	Abfaltersbach	69.24	323	eP	P	03 47 28.9	-0.7
	comp=Z,4.1nm,0.9s						
LESA	Schwarzleotal	69.47	323	eP	P	03 47 30.0	-1.0
	comp=Z,4.6nm,0.9s						
WTTA	Wattenberg	70.02	323	eP	P	03 47 33.3	-1.2
	comp=Z,2.4nm,0.8s						
WATA	Walderalm	70.08	323	eP	P	03 47 34.2	-0.7
	comp=Z,2.6nm,1.2s						
MOTA	Moosalm	70.37	323	eP	P	03 47 35.4	-1.3
	comp=Z,3.5nm,0.9s						
FETA	Feichten	70.45	322	eP	P	03 47 36.0	-1.2
	comp=Z,2.8nm,1.1s						
FUORN	Ofenpass-Fuorn	70.56	322	IAmb	IAmb	03 47 38.9	
	comp=Z,28nm,1.9s						
RETA	Reutte	70.65	323	eP	P	03 47 37.2	-1.0
	comp=Z,1.7nm,0.7s						
DAVA	Damuels	71.09	322	eP	P	03 47 40.1	-0.9
	comp=Z,16nm,0.8s						
CLL	Collm	71.19	327	eP	P	03 47 41.0	-0.3
SENIN	Lac Senin/Sane	72.30	321	P	P	03 47 48.0	-0.5
HEH	HeiHe	73.17	35	eP	P

QSPA South Pole Qui 87.24 180 P **P 03 49 09.1 +0.2**
comp=Z,2.6nm,0.7s,baz=262,slow=3.1,SNR=11
comp=Z,2.6nm,0.7s
SEY Seymchan 89.88 27 P **P 03 49 20.9 -0.3**
comp=Z,0.7nm,0.6s,baz=355,slow=23,SNR=2.8
comp=Z,0.7nm,0.6s
YKA Yellowknife Ar 120.38 1 PKP **PKPdf 03 55 12.2 -1.5**
comp=Z,0.4nm,0.7s,baz=351,slow=1.8,SNR=6.6
PLCA Paso Flores 122.54 217 PKP **PKiKP 03 55 18.9 +0.1**
comp=Z,1.6nm,0.7s,baz=214,slow=2.5,SNR=4.8
PDAR Pinedale Array 140.11 357 PKP **PKPdf 03 55 50.7 -1.2**
comp=Z,0.6nm,0.8s,baz=58,slow=2.9,SNR=5.6
NVAR Mina Array Bea 144.04 8 PKP PKPbc 03 55 57.6 +0.8
comp=Z,0.6nm,0.8s,baz=270,slow=1.5,SNR=4.0
TXAR Lajitas Array 152.41 344 PKPbc **PKPbc 03 56 19.6 0.0**
comp=Z,1.6nm,1.0s,baz=166,slow=1.6,SNR=9.3

*MOS **24** 03:37:02.4±1.2,2.'62S×68.'09E,h9km,mb5.2/42,MS4.6/4,*
Error ellipse: s-maj=8.9km s-min=6.1km az=100.1
*IDC **24** 03:37:02.5±0.5,2.'71S×68.'09E,h0km,mb4.5/28,*
mbtmp4.5/28,MS4.2/4,Error ellipse: s-maj=16.5km
s-min=14.2km az=32.0
*NEIC **24** 03:37:05.4±2.6,2.'71S±0.'09×68.'14E±0.'09,h10km±1km,*
mb5.2/89,Mww5.1/7,Error ellipse: s-maj=15.4km
s-min=14.2km az=123.0
ISC 24 03:37:05.6±0.6,2.'67S±0.'06×68.'02E±0.'05,h16km±3km,
h16km:pP-P,n328,σ1§36/330,mb5.0/144,MS4.7/27,
18C-18D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.88**	**58**	Pn	**Pn**	**03 38 30.9**	**-1.3**
DGAR	**Diego Garcia**	**6.45**	**137**		**Pn**	**03 38 38.7**	**-1.3**
DGAR	**Diego Garcia**	**6.45**	**137**	P	**Pn**	**03 38 38.7**	**-1.3**
HYB	**Hyderabad**	**22.50**	**27**	*e*P	**P**	**03 42 05.4**	**+0.6**
ABPO	**Ambohimpanom**	**26.04**	**230**	P	**P**	**03 42 39.4**	**+0.9**
ABPO	**Ambohimpanom**	**26.04**	**230**	P	**P**	**03 42 39.4**	**+0.9**
ABPO				pmax	pmax		
	comp=Z,36nm,1.4s						
ATD	**Arta Tunnel**	**28.74**	**300**	LR	LR	03 52 41.2	
	comp=Z,6.6nm,19.7s,baz=118,slow=33						
KIBK	**Kibwezi**	**29.95**	**270**	P	**P**	**03 43 15.4**	**+1.9**
KMBO	**Kilima Mbogo**	**30.79**	**272**	P	**P**	**03 43 22.4**	**+1.3**
KMBO	**Kilima Mbogo**	**30.79**	**272**	P	**P**	**03 43 22.6**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=101,slow=5.8,SNR=4.9						
	comp=Z,1.8nm,0.7s						
KMBO	**Kilima Mbogo**	**30.79**	**272**	P	**P**	**03 43 22.4**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,12nm,1.2s						
RPSI	**Rantau Prapat**	**31.35**	**80**	P	**P**	**03 43 24.7**	**-1.1**
PSI	**Prapat**	**31.37**	**80**	P	**P**	**03 43 24.7**	**-1.4**
PSI				pmax	pmax		
	comp=Z,14nm,1.2s						
LODK	**Lodwar**	**33.20**	**280**	P	**P**	**03 43 44.0**	**+1.9**
SRIT	**Nakonsritamara**	**33.42**	**70**	P	**P**	**03 43 43.5**	**-0.4**
SRIT				IAmb	IAmb	03 43 45.9	
	comp=Z,72nm,1.7s						
SRIT	**Nakonsritamara**	**33.42**	**70**	P	**P**	**03 43 45.0**	**+1.1**
KULM	**Kulim**	**33.54**	**76**	P	**P**	**03 43 45.4**	**+0.4**
KULM				IAmb	IAmb	03 43 52.2	
	comp=Z,49nm,1.2s						
KULM	**Kulim**	**33.54**	**76**	P	**P**	**03 43 46.3**	**+1.3**
RAYN	**Ar Rayn**	**34.04**	**321**	P	**P**	**03 43 49.9**	**+0.6**
RAYN				IAmb	IAmb	03 43 52.1	
	comp=Z,45nm,1.9s						
RAYN	**Ar Rayn**	**34.04**	**321**	P	**P**	**03 43 49.9**	**+0.6**
RAYN				pmax	pmax		
	comp=Z,45nm,1.9s						
SRDT	**SRDT**	**35.16**	**60**	P	**P**	**03 44 01.4**	**+2.4**
MYKOM	**Kota Tinggi**	**36.09**	**83**	P	**P**	**03 44 07.5**	**+0.5**
MYKOM				IAmb	IAmb	03 44 14.3	
	comp=Z,30nm,1.0s						
MYKOM	**Kota Tinggi**	**36.09**	**83**	P	**P**	**03 44 07.8**	**+0.7**
NIL	**Nilore**	**36.46**	**7**	P	**P**	**03 44 11.2**	**+1.2**
NIL				IAmb	IAmb	03 44 13.3	
	comp=Z,41nm,1.2s						
NIL	**Nilore**	**36.46**	**7**	P	**P**	**03 44 11.2**	**+1.2**
NIL				pmax	pmax		
	comp=Z,41nm,1.3s						
CM31	**Chiang Mai Arr**	**36.98**	**54**	P	**P**	**03 44 15.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**36.98**	**54**	P	**P**	**03 44 15.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**36.98**	**54**	P	**P**	**03 44 15.3**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=246,slow=10,SNR=16						
CMAR				PcP	**PcP**	**03 46 35.0**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=229,slow=2.5,SNR=1.8						
	comp=Z,7.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.98**	**54**	*ce*P	**P**	**03 44 16.3**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**37.03**	**1**	P	**P**	**03 44 16.8**	**+1.8**
KBL				IAmb	IAmb	03 44 17.9	
	comp=Z,45nm,1.5s						
KBL	**Kabul**	**37.03**	**1**	P	**P**	**03 44 16.8**	**+1.8**
KBL				pmax	pmax		
	comp=Z,45nm,1.5s						
NAYO	**Nakonayok**	**37.07**	**62**	P	**P**	**03 44 16.9**	**+1.6**
CHTO	**Chiang Mai**	**37.17**	**54**	P	**P**	**03 44 17.2**	**+1.0**
CHTO				IAmb	IAmb	03 44 23.8	
	comp=Z,33nm,1.1s						
CHTO	**Chiang Mai**	**37.17**	**54**	P	**P**	**03 44 17.4**	**+1.2**
CHTO	**Chiang Mai**	**37.17**	**54**	P	**P**	**03 44 17.2**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,33nm,1.1s						
HRA	**Herat**	**37.26**	**352**	P	**P**	**03 44 17.4**	**+0.4**
MBAR	**Mbarara**	**37.32**	**272**	P	**P**	**03 44 19.8**	**+2.1**
MBAR				IAmb	IAmb	03 44 32.2	
	comp=Z,93nm,1.8s						
MBAR	**Mbarara**	**37.32**	**272**	*c i*P	**P**	**03 44 20.3**	**+2.5**
MBAR				pmax	pmax		
	comp=Z,61nm,1.9s						
CRAI	**Chiangrai**	**39.06**	**53**	P	**P**	**03 44 33.3**	**+1.2**
NONG	**Nongkai**	**40.27**	**58**	P	**P**	**03 44 43.5**	**+1.3**
TNCH	**TengChong**	**40.42**	**45**	P	**P**	**03 44 45.4**	**+1.8**
TNCH				S	**S**	**03 50 57.5**	**+5.8**
TNCH				pmax	pmax		
	comp=Z,220nm,2.5s						
TNCH				LR	LR		
	comp=Z,610nm,17.5s						
TNCH				LR	LR		
	comp=Z,520nm,18.1s						
TNCH				LR	LR		
	comp=Z,480nm,18.9s						
LSZ	**Lusaka**	**41.20**	**250**	P	**P**	**03 44 50.7**	**+0.7**
LSZ				IAmb	IAmb	03 44 56.9	
	comp=Z,40nm,1.4s						
LSZ	**Lusaka**	**41.20**	**250**	P	**P**	**03 44 50.7**	**+0.7**
LSZ				pmax	pmax		
	comp=Z,40nm,1.4s						
GAR	**Garm**	**41.52**	**3**	P	**P**	**03 44 53.2**	**+0.8**
SLVN	**Son La**	**42.46**	**54**	P	**P**	**03 45 01.6**	**+1.4**
SLVN	**Son La**	**42.46**	**54**	P	**P**	**03 45 01.7**	**+1.4**
KSM	**Kuching**	**42.48**	**85**	P	**P**	**03 45 00.2**	**-0.2**
KSM	**Kuching**	**42.48**	**85**	P	**P**	**03 45 01.4**	**+1.0**
BTK	**Batken**	**42.60**	**3**	IAmb	IAmb	03 45 03.8	
	comp=Z,54nm,1.4s						
KSH	**Kashi**	**42.62**	**9**	P	**P**	**03 44 58.9**	**-2.4**
KSH				LR	LR		
	comp=Z,1μm,15.8s						
KSH				LR	LR		
	comp=Z,540nm,10.6s						
KSH				LR	LR		
	comp=Z,1μm,16.2s						
PZH	**PanZhiHua**	**43.62**	**46**	P	**P**	**03 45 10.8**	**+1.2**
PZH				S	**S**	**03 51 36.9**	**-2.0**
PZH				pmax	pmax		
	comp=Z,40nm,1.3s						
PZH				pmax	pmax		
	comp=Z,310nm,5.8s						
PZH				LR	LR		
	comp=Z,820nm,19.8s						
PZH				LR	LR		
	comp=Z,710nm,20.0s						
PZH				LR	LR		
	comp=Z,820nm,19.8s						
SBUM	**Sibu**	**44.48**	**84**	P	**P**	**03 45 16.1**	**-0.5**
SBUM	**Sibu**	**44.48**	**84**	P	**P**	**03 45 16.8**	**+0.2**
AAK	**Ala-Archa**	**45.48**	**7**	P	**P**	**03 45 23.8**	**-0.6**
AAK				IAmb	IAmb	03 45 27.4	
	comp=Z,37nm,1.6s						
AAK	**Ala-Archa**	**45.48**	**7**	*de*P	**P**	**03 45 22.6**	**-1.7**
AAK				pmax	pmax		
	comp=Z,26nm,1.6s						
BOOM	**Boomskoye usch**	**45.52**	**8**	P	**P**	**03 45 23.3**	**-1.3**
BOOM				IAmb	IAmb	03 45 26.6	
	comp=Z,25nm,1.4s						
BOOM	**Boomskoye usch**	**45.52**	**8**	P	**P**	**03 45 23.3**	**-1.3**
BOOM				pmax	pmax		
	comp=Z,25nm,1.4s						
KK31	**Karatay Array**	**45.62**	**3**	P	**P**	**03 45 25.0**	**-0.3**
KK31	**Karatay Array**	**45.62**	**3**	P	**P**	**03 45 25.0**	**-0.3**
KK31				pmax	pmax		
	comp=Z,12nm,1.4s						
KKAR	**Karatay Array**	**45.62**	**3**	P	**P**	**03 45 25.6**	**+0.4**
KKAR	**Karatay Array**	**45.62**	**3**	P	**P**	**03 45 25.6**	**+0.4**
KKAR				IAmb	IAmb	03 45 27.1	
	comp=Z,7.2nm,1.4s						
KKAR	**Karatay Array**	**45.62**	**3**	P	**P**	**03 45 25.6**	**+0.4**
GOMU	**GeErMu**	**46.05**	**30**	P	**P**	**03 45 28.3**	**-0.9**
GOMU				pP	sP	03 45 35.1	+0.3
GOMU				sP	pwP	03 45 38.9	+1.2
GOMU				pmax	pmax		
	comp=Z,13nm,0.9s						
GOMU				LR	LR		
	comp=Z,2μm,20.0s						
GOMU				LR	LR		
	comp=Z,1μm,22.0s						
GOMU				LR	LR		
	comp=Z,4μm,21.6s						
QIZ	**Qiongzhong**	**46.43**	**61**	P	**P**	**03 45 33.8**	**+1.8**
QIZ				S	**S**	**03 52 22.3**	**+2.7**
QIZ				LR	LR		
	comp=Z,370nm,16.1s						
QIZ				LR	LR		
	comp=Z,940nm,16.3s						
QIZ				LR	LR		
	comp=Z,1μm,19.1s						
MMAI	**Mount Meron Ar**	**47.02**	**322**	P	**P**	**03 45 36.7**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=117,slow=8.5,SNR=7.3						
	comp=Z,3.8nm,0.9s						
MARD	**Mardin**	**47.15**	**330**	P	**P**	**03 45 38.2**	**+0.8**
MARD				IAmb	IAmb	03 45 39.9	
	comp=Z,43nm,1.7s						
GYA	**Guiyang**	**47.24**	**50**	P	**P**	**03 45 38.8**	**+0.4**
GYA				pmax	pmax		
	comp=Z,22nm,1.3s						
GYA				LR	LR		
	comp=Z,700nm,21.2s						
GNI	**Garni**	**47.66**	**336**	P	**P**	**03 45 43.2**	**+1.8**
GNI	**Garni**	**47.66**	**336**	*de*P	**P**	**03 45 42.3**	**+0.9**
GNI				pmax	pmax		
	comp=Z,51nm,1.5s						
GNI	**Garni**	**47.66**	**336**	P	**P**	**03 45 41.4**	**0.0**
	comp=Z,28nm,1.6s						
CD2	**Chengdu**	**47.68**	**43**	P	**P**	**03 45 41.8**	**+0.1**
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				LR	LR		
	comp=Z,750nm,13.3s						
CD2				LR	LR		
	comp=Z,720nm,18.4s						
GAZ	**Gaziantep**	**48.90**	**327**	P	**P**	**03 45 50.9**	**0.0**
GAZ				IAmb	IAmb	03 45 53.8	
	comp=Z,56nm,1.8s						
WMQ	**Urumqi**	**49.54**	**19**	*e*P	**P**	**03 45 57.5**	**+1.7**
WMQ				pP	sP	03 46 02.0	+0.6
WMQ				pmax	pmax		
	comp=Z,19nm,1.3s						
WMQ				LR	LR		
	comp=Z,2μm,10.1s						
WMQ				LR	LR		
	comp=Z,1μm,13.9s						
WMQ				LR	LR		
	comp=Z,2μm,21.9s						
MAKZ	**Makanchi**	**50.79**	**12**	P	**P**	**03 46 04.2**	**-0.9**
MAKZ	**Makanchi**	**50.79**	**12**	P	**P**	**03 46 04.2**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**50.84**	**13**	*ce*P	**P**	**03 46 05.3**	**-0.2**
MKAR	**Makanchi Array**	**50.84**	**13**	P	**P**	**03 46 04.6**	**-0.9**
MKAR	**Makanchi Array**	**50.84**	**13**	P	**P**	**03 46 05.2**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=190,slow=6.2,SNR=7.3						
MKAR				PcP	**PcP**	**03 47 21.8**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=205,slow=7.8,SNR=3.6						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**50.84**	**13**	*ce*P	**P**	**03 46 04.9**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	**Lanzhou**	**51.03**	**38**	*e*P	**P**	**03 46 07.6**	**+0.3**
LZH				sP	pwP	03 46 16.3	+0.4
LZH				sS	sS	03 53 29.9	-1.2
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				LR	LR		
	comp=Z,800nm,16.8s						
LZH				LR	LR		
	comp=Z,700nm,16.5s						
LZH				LR	LR		
	comp=Z,1μm,16.1s						
GTA	**Gaotai**	**51.06**	**32**	P	**P**	**03 46 07.9**	**+0.4**
GTA				pP	pP	03 46 11.8	+0.3
GTA				S	**S**	**03 53 24.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GTA				LR	LR		
	comp=Z,1μm,22.9s						
GTA				LR	LR		
	comp=Z,880nm,21.4s						
GTA				LR	LR		
	comp=Z,2μm,22.2s						
ENH	**Enshi**	**51.37**	**47**	P	**P**	**03 46 09.2**	**-0.5**
ENH				IAmb	IAmb	03 46 16.0	
	comp=Z,62nm,1.3s						
ENH	**Enshi**	**51.37**	**47**	P	**P**	**03 46 09.6**	**-0.2**
KBZ	**Khabaz**	**51.41**	**337**	P	**P**	**03 46 09.8**	**+0.1**
	comp=Z,8.2nm,1.1s,baz=130,slow=4.0,SNR=4.8						
	comp=Z,8.2nm,1.1s						
KBZ	**Khabaz**	**51.41**	**337**	⇑*e*P	**P**	**03 46 10.6**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,18nm,1.3s						
SHA1	**Shidzhatmaz**	**51.51**	**337**	⇑*i*P	**P**	**03 46 12.9**	**+2.0**
KIV	**Kislovodsk**	**51.68**	**337**	*e*P	**P**	**03 46 12.0**	**+0.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,191nm,17.0s						
KIV	**Kislovodsk**	**51.68**	**337**	P	**P**	**03 46 12.1**	**+0.1**
	comp=Z,9.5nm,1.1s						
TSUM	**Tsumeb**	**51.94**	**248**	P	**P**	**03 46 14.9**	**+0.5**
TSUM				IAmb	IAmb	03 46 22.1	
	comp=Z,28nm,1.2s						
ABKAR	**Akbulak array**	**52.19**	**353**	P	**P**	**03 46 14.6**	**-0.9**
ABKAR	**Akbulak array**	**52.19**	**353**	IAmb	IAmb	03 46 16.7	
	comp=Z,33nm,1.5s						
BR104	**Keskin Array S**	**52.66**	**327**	P	**P**	**03 46 19.4**	**0.0**
	comp=Z,4.9nm,1.3s						
BR131	**Keskin Array S**	**52.68**	**327**	*c i*P	**P**	**03 46 20.0**	**+0.5**
BRTR	**Keskin Array B**	**52.68**	**327**	P	**P**	**03 46 18.3**	**-1.2**
BRTR	**Keskin Array B**	**52.68**	**327**	P	**P**	**03 46 18.6**	**-1.0**
	comp=Z,3.8nm,1.1s,baz=130,slow=5.3,SNR=7.8						
	comp=Z,3.8nm,1.1s						
BRTR	**Keskin Array B**	**52.68**	**327**	*ce*P	**P**	**03 46 19.7**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BR105	**Keskin Array S**	**52.68**	**327**	P	**P**	**03 46 19.6**	**0.0**
	comp=Z,73nmcomp=Z,5.7nm,1.4s						
BR106	**Keskin Array S**	**52.69**	**327**	P	**P**	**03 46 19.0**	**-0.6**
	comp=Z,69nmcomp=Z,5.7nm,1.3s						
TOLI2	**Tolitoli**	**52.88**	**87**	P	**P**	**03 46 19.2**	**-2.1**
TOLI2				IAmb	IAmb	03 46 20.8	
	comp=Z,67nm,1.6s						
TOLI2	**Tolitoli**	**52.88**	**87**	P	**P**	**03 46 19.8**	**-1.5**
CNSH	**ChangSha**	**52.93**	**51**	P	**P**	**03 46 22.3**	**+0.9**
XAN	**Xi'an**	**53.05**	**43**	⇓P	**P**	**03 46 20.9**	**-1.3**
XAN				pP	sP	03 46 27.3	-0.5
XAN				S	**S**	**03 53 47.4**	**-4.4**
XAN				pmax	pmax		
	comp=Z,38nm,1.2s						
XAN				pmax	pmax		
	comp=Z,390nm,6.1s						
XAN				LR	LR		
	comp=Z,930nm,16.5s						
XAN				LR	LR		
	comp=Z,750nm,17.9s						
XAN				LR	LR		
	comp=Z,880nm,22.7s						
ANTO	**Ankara**	**53.24**	**326**	P	**P**	**03 46 24.0**	**+0.4**
	comp=Z,4.2nm,2.0s						
AKTO	**Aktyubinsk**	**53.60**	**352**	LR	LR	04 09 27.7	
	comp=Z,291nm,20.8s,baz=176,slow=36						
KURBB	**Kurchatov Arra**	**53.85**	**8**	P	**P**	**03 46 27.3**	**-0.4**
	comp=Z,16nm,1.2s,baz=201,slow=7.8,SNR=13						
KURBB				PcP	**PcP**	**03 47 32.9**	**-0.4**
	comp=Z,1.6nm,1.1s,baz=194,slow=3.9,SNR=2.1						
	comp=Z,16nm,1.2s						
KARP	**Karpathos**	**53.89**	**319**	P	**P**	**03 46 28.9**	**+0.5**
	comp=Z,61nm,1.5s						
KURK	**Kurchatov**	**53.95**	**8**	P	**P**	**03 46 28.0**	**-0.4**
KURK				IAmb	IAmb	03 46 30.1	
	comp=Z,23nm,1.2s						
KURK	**Kurchatov**	**53.95**	**8**	*d i*P	**P**	**03 46 27.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,27nm,1.3s						
NWAO	**Narrogin (SRO)**	**54.98**	**129**	P	**P**	**03 46 39.3**	**+3.0**
WHN	**Wuhan**	**55.13**	**50**	P	**P**	**03 46 37.6**	**+0.2**
WHN				pmax	pmax		
	comp=Z,76nm,1.0s						
IDI	**Anoyia**	**55.27**	**317**	LR	LR	04 09 33.6	
	comp=Z,180nm,19.0s,baz=88,slow=35						
BVAR	**Borovoye Array**	**55.53**	**2**	P	**P**	**03 46 39.6**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=160,slow=4.7,SNR=10.0						
	comp=Z,3.5nm,1.0s						
BRVK	**Borovoye**	**55.56**	**2**	P	**P**	**03 46 40.2**	**+0.1**
BRVK	**Borovoye**	**55.56**	**2**	⇑*i*P	**P**	**03 46 40.4**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,18nm,1.5s						
LYN	**LuoYang**	**55.77**	**44**	P	**P**	**03 46 44.3**	**+2.3**
LYN				pmax	pmax		
	comp=Z,19nm,0.6s						
TWG	**Pinlang**	**57.58**	**61**	P	**P**	**03 46 56.4**	**+1.3**
TWGBT	**Beinan**	**57.59**	**61**	P	**P**	**03 46 55.6**	**+0.5**
BTO	**Baotou**	**57.65**	**37**	*e*P	**P**	**03 46 58.1**	**+2.8**
BTO				pP	**pwP**	**03 47 02.8**	**-1.1**
BTO				sP	**sP**	**03 47 05.1**	**+4.1**
BTO				S	**S**	**03 54 56.3**	**+3.0**
BTO				pmax	pmax		
	comp=Z,18nm,1.1s						
BTO				pmax	pmax		
	comp=Z,500nm,8.1s						
BTO				LR	LR		
	comp=Z,930nm,15.6s						
BTO				LR	LR		
	comp=Z,870nm,15.7s						
BTO				LR	LR		
	comp=Z,1μm,19.5s						
ZAA0	**Zalesovo Array**	**58.14**	**12**	IAmb	IAmb	03 46 58.7	
	comp=Z,22nm,1.4s						
ZALV	**Zalesovo Beam**	**58.14**	**12**	P	**P**	**03 46 56.6**	**-1.8**
ZALV	**Zalesovo Beam**	**58.14**	**12**	P	**P**	**03 46 57.5**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=224,slow=6.2,SNR=8.7						
	comp=Z,3.4nm,0.8s						
VRH	**Novokhopyorsk**	**58.17**	**341**	*e*P	**P**	**03 46 57.1**	**-1.5**
VRH				pmax	pmax		
	comp=Z,57nm,1.9s						
FITZ	**Fitzroy Crossi**	**58.46**	**110**	P	**P**	**03 47 01.1**	**-0.2**
HHC	**Hu-ho-hao-te**	**58.73**	**38**	*e*P	**P**	**03 47 05.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.9s						
HHC				LR	LR		
	comp=Z,290nm,12.6s						
HHC				LR	LR		
	comp=Z,520nm,14.7s						
HHC				LR	LR		
	comp=Z,920nm,17.1s						
TIRR	**Tirgusor**	**58.75**	**328**	P	**P**	**03 47 03.4**	**+0.6**
	comp=Z,16nm,1.8s						
HNS	**HongShan**	**58.82**	**43**	⇑P	**P**	**03 47 04.0**	**+0.5**
HNS				S	**S**	**03 55 10.9**	**+2.4**
HNS				pmax	pmax		
	comp=Z,16nm,1.8s						
HNS				LR	LR		
	comp=Z,320nm,19.1s						
HNS				LR	LR		
	comp=Z,520nm,20.6s						
HNS				LR	LR		
	comp=Z,560nm,20.7s						
NJ2	**Nanjing**	**59.25**	**50**	*e*P	**P**	**03 47 07.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
CFR	**Carcaliu**	**59.38**	**328**	⇓P	**P**	**03 47 05.7**	**-1.5**
CFR	**Carcaliu**	**59.38**	**328**	⇓P	**P**	**03 47 05.7**	**-1.5**
ARTI	**Arti**	**59.39**	**354**	P	**P**	**03 47 05.6**	**-1.5**
ARTI				IAmb	IAmb	03 47 07.7	
	comp=Z,44nm,1.6s						
ARTI	**Arti**	**59.39**	**354**	P	**P**	**03 47 07.3**	**+0.3**
	comp=Z,6.9nm,1.0s,baz=152,slow=4.1,SNR=4.2						
	comp=Z,6.9nm,1.0s						
ARTI	**Arti**	**59.39**	**354**	*c i*P	**P**	**03 47 06.0**	**-1.0**
ARTI				S	**S**	**03 55 13.6**	**-1.6**
ARTI				pmax	pmax		
	comp=Z,24nm,1.4s						
VORR	**Voronezh**	**59.42**	**340**	*e*P	**P**	**03 47 05.8**	**-1.5**
VORR				pmax	pmax		
	comp=Z,52nm,1.6s						
SVE	**Sverdlovsk**	**59.61**	**355**	*e*P	**P**	**03 47 08.4**	**-0.1**
SVE				pmax	pmax		
	comp=Z,26nm,1.4s						
TIA	**Tai'an**	**59.89**	**45**	P	**P**	**03 47 10.6**	**-0.3**
TIA				pmax	pmax		
	comp=Z,12nm,1.3s						
TIA				pmax	pmax		
	comp=Z,220nm,4.3s						
TIA				LR	LR		
	comp=Z,510nm,15.8s						
TIA				LR	LR		
	comp=Z,520nm,17.2s						
TIA				LR	LR		
	comp=Z,980nm,17.3s						
ISR	**Istrita**	**60.19**	**327**	P	**P**	**03 47 13.4**	**+0.6**
	comp=Z,23nm,1.5s						
MILM	**Milestii Mici**	**60.21**	**330**	*e*P	**P**	**03 47 12.0**	**-0.8**
	comp=Z,170nm,2.1s						
MILM	**Milestii Mici**	**60.21**	**330**	*e*P	**P**	**03 47 12.0**	**-0.8**
MILM				pmax	pmax		
	comp=Z,170nm,2.1s						
LPSR	**Galich'ya Gora**	**60.28**	**340**	*e*P	**P**	**03 47 11.2**	**-2.0**
LPSR				pmax	pmax		
	comp=Z,51nm,1.6s						
BISRR	**Bisoca**	**60.38**	**328**	P	**P**	**03 47 14.5**	**+0.4**
	comp=Z,63nm,1.5s						
SONM	**Songino Array**	**60.44**	**29**	P	**P**	**03 47 15.3**	**+0.7**
SONM				IAmb	IAmb	03 47 17.2	
	comp=Z,50nm,1.4s						
SONM	**Songino Array**	**60.44**	**29**	P	**P**	**03 47 14.9**	**+0.3**
	comp=Z,31nm,1.3s,baz=220,slow=5.4,SNR=15						
	comp=Z,31nm,1.3s						
VRI	**Vrincioaia**	**60.57**	**328**	P	**P**	**03 47 15.6**	**+0.2**
	comp=Z,37nm,1.5s						
PLOR5	**Plostina Array**	**60.59**	**328**	P	**P**	**03 47 15.8**	**+0.2**
	comp=Z,47nm,1.6s						
SSE	**Sheshan**	**60.67**	**52**	P	**P**	**03 47 15.3**	**-1.0**
SSE				S	**S**	**03 55 32.8**	**+0.3**
SSE				pmax	pmax		
	comp=Z,24nm,1.2s						
SSE				LR	LR		
	comp=Z,220nm,18.4s						
SSE				LR	LR		
	comp=Z,220nm,20.8s						
SSE				LR	LR		
	comp=Z,390nm,20.6s						
MLR	**Muntele Rosu**	**60.75**	**327**	P	**P**	**03 47 17.0**	**+0.2**
MLR	**Muntele Rosu**	**60.75**	**327**	P	**P**	**03 47 17.0**	**+0.2**
MLR				pmax	pmax		
	comp=Z,80nm,1.7s						
MLR	**Muntele Rosu**	**60.75**	**327**	P	**P**	**03 47 16

comp=Z,320nm,16.5s
BJI LR LR
comp=Z,200nm,14.9s
BJI LR LR
comp=Z,190nm,15.3s
VOIR 61.20 327 P **P** **03 47 18.9 -0.9**
comp=Z,12nm,1.8s
SORM Soroca 61.27 331 P **P** **03 47 18.7 -1.4**
comp=Z,18nm,2.7s
DOPR Dopca 61.35 327 ⇑P **P** **03 47 20.4 -0.4**
WRKA Warakurna 62.04 117 P **P** **03 47 25.4 -0.5**
BURAR Bucovina Array 62.50 329 P **P** **03 47 28.3 -0.2**
AKASG Malin Array Be 62.66 333 P **P** **03 47 28.1 -1.2**
comp=Z,17nm,1.4s,baz=136,slow=5.3,SNR=9.8
comp=Z,17nm,1.4s
AKASG Malin Array Be 62.66 333 *ce*P **P** **03 47 28.5 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,1.1s
AKBB Malin Array Si 62.66 333⇓ *e*P **P** **03 47 27.6 -1.7**
AKBB pmax pmax
comp=Z,34nm,1.9s
AKBB Malin Array Si 62.66 333 P **P** **03 47 27.8 -1.5**
AKBB pP **pP** **03 47 32.6 -0.8**
KIEV Kiev 62.66 333 P **P** **03 47 27.8 -1.5**
AK20 Malin Array Si 62.78 333 P **P** **03 47 28.8 -1.4**
KIRV Kirov 62.84 349 P **P** **03 47 29.6 -0.7**
comp=Z,4.6nm,0.6s,baz=121,slow=7.0,SNR=4.9
comp=Z,4.6nm,0.6s
KIRV Kirov 62.84 349⇑ *i*P **P** **03 47 29.8 -0.6**
KSV Kosov 63.03 329 P **P** **03 47 30.6 -1.3**
OBN Obninsk 63.15 340 *e*P **P** **03 47 32.6 +0.1**
OBN *e* 03 49 48.1
OBN pmax pmax
comp=Z,66nm,2.8s
OBN MLR MLR
comp=Z,223nm,9.0s
XLT XiLinHaoTe 63.22 37 *e*P **P** **03 47 34.9 +1.5**
XLT pP sP 03 47 40.1 +1.1
XLT S **S** **03 56 12.4 +7.9**
XLT ScS **ScS** **03 57 28.1 +2.1**
XLT pmax pmax
comp=Z,11nm,0.5s
XLT LR LR
comp=Z,410nm,12.8s
XLT LR LR
comp=Z,500nm,17.9s
SWI Sorong 63.23 90 P **P** **03 47 33.2 -0.7**
MOS Moscow 63.31 341 *e*P **P** **03 47 29.6 -4.0**
MOS pmax pmax
comp=Z,73nm,1.5s
MEZ Mezhgor'ye 63.95 329 P **P** **03 47 38.2 +0.2**
BRIU Brid 64.10 328 P **P** **03 47 39.3 +0.4**
BERU Beregovo 64.23 328 P **P** **03 47 40.2 +0.4**
MUKU Mukachevo 64.35 328 P **P** **03 47 40.9 +0.3**
KOLS Kolonicke sedl 64.86 329 *e*P **P** **03 47 44.9 +1.0**
JOW Kunigami 65.03 59 LR LR 04 18 07.3
comp=Z,323nm,18.1s,baz=219,slow=38
TAM Tamanrasset 65.93 296 P **P** **03 47 51.0 -0.6**
TAM Tamanrasset 65.93 296 P **P** **03 47 51.0 -0.6**
TAM pmax pmax
comp=Z,25nm,0.3s
MNK Minsk 65.93 336 *i*P **P** **03 47 48.9 -1.8**
MNK *i* 03 48 23.0
MNK *i* 03 50 13.3
MNK *i*PPP PPP 03 51 46.7
MNK *i*S **S** **03 56 35.6 -1.8**
MNK *i* 03 57 44.6
MNK *i*SS **SS** **04 00 51.0 -1.8**
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,22nm,1.0s
MNK MLR MLR
comp=E,222nm,10.0s
MNK MLR MLR
comp=N,79nm,8.0s
MNK MLR MLR
comp=Z,231nm,9.0s
NIE Niedzica 66.19 328 P **P** **03 47 51.9 -0.6**
MPLH Magyarpolny 66.43 325 P **P** **03 47 53.6 -0.5**
comp=Z,43nm,1.5s
LANS Liptovska Anna 66.47 328 *e*P **P** **03 47 55.2 +0.8**
LANS Liptovska Anna 66.47 328 *e*P **P** **03 47 55.2 +0.8**
KEST Kesra 66.70 311 P **P** **03 47 56.0 -0.1**
comp=Z,5.9nm,1.2s,baz=195,slow=11,SNR=3.7
comp=Z,5.9nm,1.2s
WRA Warramunga Arr 66.85 110 **P** **03 47 56.3 -1.1**
WRA Warramunga Arr 66.85 110 P **P** **03 47 56.2 -1.1**
comp=Z,19nm,1.1s,baz=282,slow=5.9,SNR=14
comp=Z,19nm,1.1s
WRA Warramunga Arr 66.85 110 P **P** **03 47 56.3 -1.1**
WRA pmax pmax
comp=Z,4.0nm,1.2s
WRAB Tennant Creek 66.86 110 P **P** **03 47 56.6 -0.8**
WRAB Tennant Creek 66.86 110 P **P** **03 47 56.6 -0.8**
WRAB pmax pmax
comp=Z,176nm,1.9s
ASAR Alice Springs 66.88 114 P **P** **03 47 56.1 -1.4**
ASAR Alice Springs 66.88 114 P **P** **03 47 55.9 -1.6**
comp=Z,5.3nm,0.9s,baz=280,slow=5.8,SNR=9.4
comp=Z,5.3nm,0.9s
ASAR Alice Springs 66.88 114 P **P** **03 47 56.1 -1.4**
WB0 Warramunga Arr 66.88 110 P **P** **03 47 56.5 -1.1**
AS01 Alice Springs 66.92 114 P **P** **03 47 57.1 -0.7**
KLMR Klimovskoe 67.09 345 *e*P **P** **03 47 54.5 -3.5**
KLMR *e* 03 48 24.9
KLMR pmax pmax
comp=Z,64nm,1.6s
FDMO Fiordimonte 67.09 319 IAmb IAmb 03 47 59.1
comp=Z,16nm,1.1s
CESX Cesi 67.23 319 IAmb IAmb 03 48 06.6
comp=Z,50nm,1.7s
MODS Modra-Piesok 67.24 326 *e*P **P** **03 47 58.3 -1.0**
MODS Modra-Piesok 67.24 326 *e*P **P** **03 47 58.3 -1.0**
RONA Rosalia, Austr 67.43 325 *e*P **P** **03 47 59.8 -0.7**
comp=Z,5.5nm,1.1s
SOKA Soboth 67.64 324 *e*P **P** **03 48 01.4 -0.5**
comp=Z,6.8nm,1.3s
ARSA Arzberg 67.64 324 *e*P **P** **03 48 01.2 -0.7**
comp=Z,5.0nm,1.0s
ARSA Arzberg 67.64 324 IAmb IAmb 03 48 08.5
comp=Z,28nm,1.6s
TORD Torodi Ar. Bea 67.65 285 **P** **03 48 03.1 +0.6**
TORD Torodi Ar. Bea 67.65 285 P **P** **03 48 02.6 +0.1**
comp=Z,2.8nm,0.4s,baz=67,slow=4.8,SNR=1.4
comp=Z,2.8nm,0.4s
CONA Conrad Observa 67.80 325 *e*P **P** **03 48 01.8 -1.1**
comp=Z,10.0nm,1.2s,SNR=4.8
OBKA Obir 67.84 323 *e*P **P** **03 48 03.1 -0.1**
comp=Z,7.5nm,1.2s
MORC Moravsky Berou 67.86 327 *e*P **P** **03 48 01.2 -2.0**
KRUC Moravsky 68.10 326 *e*P **P** **03 48 03.3 -1.4**
VSL Villasalto 68.11 315 IAmb IAmb 03 48 05.9
comp=Z,22nm,1.3s
VRAC Vranov 68.12 327 *e*P **P** **03 48 03.8 -1.0**
KSAR Wonju Array Be 68.22 48 P **P** **03 48 04.2 -1.4**
KSAR Wonju Array Be 68.22 48 P **P** **03 48 04.2 -1.4**
KSRS Korea Array 68.25 48 P **P** **03 48 05.5 -0.4**
comp=Z,2.2nm,0.9s,baz=260,slow=7.5,SNR=6.5
comp=Z,2.2nm,0.9s
HIA Hailar 68.26 34 IAmb IAmb 03 48 07.3
comp=Z,41nm,1.5s
HIA Hailar 68.26 34 P **P** **03 48 06.3 +0.6**
HIA Hailar 68.26 34 *d*iP **P** **03 48 06.0 +0.3**
HIA pmax pmax
comp=Z,23nm,1.2s
CASP Castiglione de 68.44 318 IAmb IAmb 03 48 07.1
comp=Z,19nm,1.2s
MOA Molln 68.68 324 *e*P **P** **03 48 07.4 -1.0**
comp=Z,11nm,1.4s
DPC Dobruska-Polom 68.83 327 P **P** **03 48 07.9 -1.4**
KBA Koelnbreinsper 68.84 323 *e*P **P** **03 48 08.1 -1.4**
comp=Z,5.1nm,1.3s
SYO Syowa Base 68.92 191⇑ *i*pP pP 03 48 14.0 +0.5
BIOA Bad Ischl, Aus 68.97 324 *e*P **P** **03 48 09.2 -1.0**
comp=Z,19nm,1.6s
OOD Oodnadatta 69.04 119 P **P** **03 48 10.4 -0.6**
CN2 Changchun 69.06 41 *e*P **P** **03 48 12.4 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TEOL Teolo 69.06 321 IAmb IAmb 03 48 11.4
comp=Z,43nm,1.5s
JNU Nakatsue 69.07 53 P **P** **03 48 09.3 -1.8**

ABTA Abfaltersbach 69.19 323 *e*P **P** **03 48 10.7 -0.9**
comp=Z,9.1nm,1.1s,SNR=4.8
CTI Castel Tesino 69.39 322 IAmb IAmb 03 48 12.7
comp=Z,18nm,1.4s
LESA Schwarzleotal 69.41 323 *e*P **P** **03 48 11.4 -1.5**
comp=Z,6.7nm,1.1s
KHC Kasperske Hory 69.72 325 *e*P **P** **03 48 13.0 -1.8**
KHC Kasperske Hory 69.72 325⇑ *i*P **P** **03 48 13.6 -1.2**
KHC pmax pmax
comp=Z,103nm,7.9s
WTTA Wattenberg 69.96 323 *e*P **P** **03 48 15.0 -1.4**
comp=Z,13nm,1.4s
WATA Walderalm 70.03 323 *e*P **P** **03 48 15.7 -1.2**
comp=Z,22nm,1.6s
MOTA Moosalm 70.32 323 *e*P **P** **03 48 17.2 -1.4**
comp=Z,10nm,1.1s
FETA Feichten 70.40 322 *e*P **P** **03 48 17.9 -1.3**
comp=Z,12nm,1.3s,SNR=5.1
BRG Berggiesshubel 70.40 327 *e*P **P** **03 48 18.6 -0.2**
BRG Amp 03 48 20.5
comp=Z,8.2nm,1.4s
BRG Berggiesshubel 70.40 327 P P 03 48 24.2 +5.3
BRG Amp 03 48 25.8
comp=Z,4.8nm,1.2s
FUORN Ofenpass-Fuorn 70.50 322 IAmb IAmb 03 48 25.5
comp=Z,52nm,1.6s
RETA Reutte 70.59 323 *e*P **P** **03 48 18.9 -1.3**
comp=Z,14nm,1.6s
TUE Stuetta 71.01 321 IAmb IAmb 03 48 23.3
comp=Z,26nm,1.4s
DAVA Damuels 71.03 322 *e*P **P** **03 48 22.6 -0.5**
comp=Z,20nm,1.3s,SNR=4.9
CLL Collm 71.13 327 IAmb IAmb 03 48 25.1
comp=Z,65nm,2.0s
CLL Collm 71.13 327 *i*P **P** **03 48 23.1 -0.2**
CLL pmax pmax
comp=Z,32nm,1.5s
GRFO Grafenberg 71.34 325 P **P** **03 48 23.7 -0.9**
GRFO Grafenberg 71.34 325 P **P** **03 48 23.7 -0.9**
GRFO pmax pmax
comp=Z,67nm,1.5s
LCRK Leigh Creek 71.60 121 P **P** **03 48 27.6 +1.0**
QIS Mount Isa 71.83 111 P **P** **03 48 27.2 -1.0**
MDJ Mudanjiang 72.11 41 P **P** **03 48 30.3 +0.9**
BFO Black Forest 72.43 323 P **P** **03 48 30.1 -1.1**
BFO IAmb IAmb 03 48 31.8
comp=Z,19nm,1.4s
BFO Black Forest 72.43 323 P **P** **03 48 30.1 -1.1**
BFO pmax pmax
comp=Z,19nm,1.4s
HEH HeiHe 73.08 35 *e*P **P** **03 48 34.3 -0.7**
HEH pmax pmax
comp=Z,9.0nm,1.3s
HEH LR LR
comp=Z,590nm,18.8s
HEH LR LR
comp=Z,790nm,16.7s
HEH LR LR
comp=Z,1μm,17.8s
NRIK Noril'sk 73.09 7 P **P** **03 48 34.8 0.0**
NRIK IAmb IAmb 03 48 35.8
comp=Z,34nm,1.6s
NRIK Noril'sk 73.09 7 P **P** **03 48 34.8 0.0**
comp=Z,0.9nm,0.3s,baz=193,slow=5.9,SNR=5.9
comp=Z,0.9nm,0.3s
NRIK Noril'sk 73.09 7*d* *i*P **P** **03 48 33.1 -1.6**
NRIK pmax pmax
comp=Z,21nm,1.6s
DBIC Dimbokro 73.33 278 P **P** **03 48 37.3 +0.1**
comp=Z,6.2nm,1.0s,baz=72,slow=8.6,SNR=4.6
comp=Z,6.2nm,1.0s
INKA Innaminka 73.48 118 P **P** **03 48 38.1 +0.2**
USRK Ussuriysk Ar. 73.55 42 P **P** **03 48 37.1 -0.8**
comp=Z,1.2nm,0.6s,baz=247,slow=7.4,SNR=6.0
comp=Z,1.2nm,0.6s
SSB Saint Sauveur 73.61 319 IAmb IAmb 03 48 39.3
comp=Z,27nm,1.7s
ZEA Zeya 74.55 32 *e*P **P** **03 48 43.4 -0.2**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ELIB Princess Elisa 74.60 193 *d*P **P** **03 48 44.0 +0.2**
comp=Z,9.9nm,1.2s
STKA Stephens Creek 74.65 122 P **P** **03 48 43.1 -1.5**
comp=Z,3.3nm,0.9s,baz=294,slow=7.4,SNR=3.5
comp=Z,3.3nm,0.9s
STKA Stephens Creek 74.65 122 P **P** **03 48 44.9 +0.2**
BTNL Ternell 74.67 324 *d*P **P** **03 48 44.9 +0.5**
comp=Z,6.2nm,1.4s
MEM Membach 74.75 324 *d*P **P** **03 48 45.2 +0.4**
comp=Z,7.4nm,1.2s
BCLA Clavier 75.09 324 *d*P **P** **03 48 44.6 -2.1**
KLR Kul'dur 75.24 37⇓ *e*P **P** **03 48 45.9 -1.7**
KLR pmax pmax
comp=Z,17nm,1.5s
MJAR Matsushiro Arr 75.81 51 P **P** **03 48 51.3 +0.1**
comp=Z,6.0nm,1.1s,baz=255,slow=5.6,SNR=8.1
comp=Z,6.0nm,1.1s
MTSU Mount Surprise 76.15 108 P **P** **03 48 53.1 -0.5**
QLP Quilpie 76.48 117 P **P** **03 48 55.2 -0.1**
NVL N'lazarevskaya 76.83 196 *e*P **P** **03 49 00.4 +4.1**
NVL pmax pmax
comp=Z,18nm,1.2s
ESDC Sonseca Array 77.94 311 P **P** **03 49 03.5 +0.3**
ESDC Sonseca Array 77.94 311 P **P** **03 49 03.5 +0.3**
comp=Z,6.7nm,1.0s,baz=88,slow=4.5,SNR=14
ESDC LR LR 04 22 39.0
comp=Z,93nm,18.4s,baz=102,slow=35
comp=Z,6.7nm,1.0s
CMSA Cobar Meteorol 78.10 122 P **P** **03 49 04.5 +0.3**
PAB San Pablo 78.20 311 P **P** **03 49 02.3 -2.4**
PAB IAmb IAmb 03 49 06.5
comp=Z,41nm,1.4s
PAB San Pablo 78.20 311 P **P** **03 49 02.3 -2.4**
PAB pmax pmax
comp=Z,41nm,1.5s
TROLL Troll, Antarti 80.05 197 ⇓P **P** **03 49 14.4 +0.2**
comp=Z,431nm,0.9s
PMRV Marv??o 80.47 311 *e*P **P** **03 49 18.6 +1.5**
PMRV *e*PcP **pwP** **03 49 25.0 -0.9**
PBRG Braganca 80.47 313 *e*P **P** **03 49 18.2 +1.2**
PBRG *i* Amb 03 49 21.0
comp=Z,30nm,1.5s
PBRG *e*PcP **pwP** **03 49 24.9 -0.9**
PESTR Estremoz 80.51 310 *e*PcP **PcP** **03 49 25.1 +0.9**
MVO Moncorvo 80.55 312 *e*PcP **PcP** **03 49 25.7 +1.3**
PCBR Castelo Branco 80.62 311 *e*P **P** **03 49 19.1 +1.4**
PCBR *i* Amb 03 49 20.8
comp=Z,38nm,1.5s
PCVE Castro Verde 80.62 309 *e*P **P** **03 49 18.9 +1.0**
PCVE *i* Amb 03 49 20.7
comp=Z,65nm,1.6s
EVO Evora 80.77 310 *e*P **P** **03 49 19.9 +1.2**
EVO *e*PcP **pwP** **03 49 26.8 -0.7**
MTE Manteigas 80.78 311 *e*P **P** **03 49 19.8 +1.1**
MTE *i* Amb 03 49 21.6
comp=Z,35nm,1.8s
MTE *e*PcP **pwP** **03 49 26.7 -0.9**
PMTG Montargil 81.04 310 *e*P **P** **03 49 20.3 +0.3**
PMTG *i* Amb 03 49 23.1
comp=Z,53nm,1.6s
PMTG *e*PcP **pwP** **03 49 27.7 -1.1**
PVRL Vila Real 81.08 312 *e*P **P** **03 49 21.6 +1.3**
PVRL *i* Amb 03 49 33.9
comp=Z,37nm,1.8s
PVIS Viseu 81.10 312 *e*P **P** **03 49 21.8 +1.4**
PTEO Sao Teotonio 81.14 308 *e*P **P** **03 49 24.8 +4.1**
POLO Lamas de Olo 81.16 312 *e*P **P** **03 49 22.4 +1.6**
POLO *i* Amb 03 49 36.6
comp=Z,16nm,1.7s
COI Coimbra 81.39 311 *e*P **P** **03 49 22.0 +0.1**
PCAS Casmilo, Conde 81.43 311 *e*P **P** **03 49 23.5 +1.4**
PCAS *i* Amb 03 49 25.4
comp=Z,53nm,1.6s
SNAA Sanae 81.51 198 P **P** **03 49 22.4 +0.4**
SNAA IAmb IAmb 03 49 34.1
comp=Z,47nm,1.6s
SNAA Sanae 81.51 198 ⇓P **P** **03 49 21.5 -0.5**
comp=Z,164nm,1.0s
SNAA Sanae 81.51 198 P **P** **03 49 23.0 +1.0**
comp=Z,7.6nm,1.0s,baz=40,slow=6.0,SNR=5.6
comp=Z,7.6nm,1.0s
SNAA Sanae 81.51 198 P **P** **03 49 23.0 +1.0**
PSBE So Bento 81.55 310 *e*P **P** **03 49 22.1 -0.7**
YSS Yuzhno-Sakhali 81.58 42 P **P** **03 49 21.7 -1.1**

YSS Yuzhno-Sakhali 81.58 42 P **P** **03 49 22.3 -0.5**
YSS Yuzhno-Sakhali 81.58 42 *e*P **P** **03 49 22.2 -0.5**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=N,400nm,18.0s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS MLR MLR
comp=E,200nm,19.0s
PGAV Gavieira, Arco 81.62 313 *e*P **P** **03 49 25.0 +1.8**
PGAV *i* Amb 03 49 27.5
comp=E,42nm,1.6s
VNA2 Neumayer--Watz 82.73 199 ⇓P **P** **03 49 26.5 -1.8**
comp=Z,6.1nm,0.7s,baz=69,slow=3.9
VNA3 Neumayer Olymp 83.53 199 ⇓P **P** **03 49 30.5 -2.0**
comp=Z,16nm,0.9s
TIXI Tiksi 83.67 16 P **P** **03 49 32.0 -1.1**
TIXI Tiksi 83.67 16 P **P** **03 49 32.2 -0.9**
comp=Z,14nm,1.1s,baz=250,slow=4.1,SNR=13
comp=Z,14nm,1.1s
PMAR Madeira 87.17 303 *e*P **P** **03 49 52.4 +0.7**
QSPA South Pole Qui 87.33 180 P **P** **03 49 51.2 -0.5**
QSPA South Pole Qui 87.33 180 P **P** **03 49 51.0 -0.6**
comp=Z,4.1nm,0.9s,baz=308,slow=0.6,SNR=5.1
comp=Z,4.1nm,0.9s
SEY Seymchan 89.79 27 P **P** **03 50 02.2 -0.9**
comp=Z,2.1nm,0.9s,baz=275,slow=6.9,SNR=4.8
comp=Z,2.1nm,0.9s
SEY Seymchan 89.79 27 *e*P **P** **03 50 00.7 -2.4**
SEY pmax pmax
comp=Z,8.0nm,1.4s
YKA Yellowknife Ar 120.29 1 PKP **PKPdf** **03 55 54.0 -1.8**
comp=Z,0.1nm,0.5s,baz=359,slow=1.9,SNR=4.0
LPAZ La Paz 132.76 245 PKP **PKPdf** **03 56 21.4 -0.3**
comp=Z,2.2nm,1.1s,baz=53,slow=3.3,SNR=5.6
PDAR Pinedale Array 140.02 357 PKP **PKPdf** **03 56 33.1 -0.9**
comp=Z,0.5nm,0.7s,baz=96,slow=1.5,SNR=4.7
NVAR Mina Array Bea 143.95 8 PKP PKPbc 03 56 39.2 +0.3
comp=Z,0.2nm,0.4s,baz=68,slow=4.0,SNR=4.9
R11B Troy Canyon, C 144.34 5 **PKPab** **03 56 39.6 -0.1**
MTPU Mount Pierson 144.80 0 **PKPdf** **03 56 42.4 -0.4**
RTBA Rita Blanca 145.33 347 **PKPbc** **03 56 42.6 -0.6**
MVCO Mesa Verde 145.48 355 **PKPbc** **03 56 43.4 -0.4**
X34A Smith Ranch, M 145.61 339 **PKPab** **03 56 44.6 +0.4**
SMWD Samnorwood 145.94 343 **PKPbc** **03 56 45.2 +0.2**
ANMO Albuquerque 147.48 352 **PKPdf** **03 56 47.5 +0.3**
ANMO Albuquerque 147.48 352 PKP2 **PKPdf** **03 56 47.5 +0.3**
W13A Hualapai Mount 147.69 3 **PKPbc** **03 56 50.2 -0.1**
MNHN Monahans 150.19 344 **PKPbc** **03 56 55.8 -0.8**
TXAR Lajitas Array 152.33 344 PKPbc **PKPbc** **03 57 00.7 -1.0**
comp=Z,6.1nm,1.2s,baz=180,slow=1.0,SNR=8.0
TGUH Tegucigalpa,Un 153.10 296 **PKPbc** **03 57 03.1 -0.6**

GCG ***24*** *03:44:02.3±3.1, 16°.00N×95°.46W, h81km±74km, MD4.4*
MEX ***24*** *03:44:05.5±1.1, 16°.00N×95°.22W, h44km±38km, MD4.1*
ISC 24 03:44:00.4±1.3, 16°.07N±0°.04×95°.23W±0°.02, h16km±10km, n27, σ1.54/53, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.89**	**251**	*e*P	**Pg**		**03 44 19.1**	**+1.4**
HUIG				*i*S	**Sn**		**03 44 31.5**	**+0.5**
HUIG	**Huatulco**	**0.89**	**251**	*e*P	**Pg**		**03 44 19.0**	**+1.3**
HUIG				*i*S	**Sn**		**03 44 31.2**	**+0.2**
HUIG	**Huatulco**	**0.89**	**251**	*e*P			03 44 19.0	
HUIG				*i*S			03 44 31.2	
CMIG	**Matias Romero**	**1.07**	**18**	*i*P	**Pg**		**03 44 21.1**	**0.0**
CMIG				*e*S	**Sn**		**03 44 34.2**	**-1.2**
UXUV	**UXUV**	**1.62**	**40**	*e*P	**Pb**		**03 44 30.5**	**+0.5**
UXUV				*e*S	**Sb**		**03 44 50.7**	**+0.5**
NEUV	**Arroyo Zacate**	**1.73**	**342**	*e*P	**Pb**		**03 44 31.1**	**-0.6**
NEUV				*e*S	**Sb**		**03 44 53.3**	**+0.1**
OXLC	**Oaxaca**	**1.73**	**305**	*e*P	**Pb**		**03 44 32.7**	**+0.8**
OXLC				*e*S	**Sb**		**03 44 54.2**	**+0.7**
OXBJ	**Oaxaca**	**1.74**	**305**	*e*S	**Sb**		**03 44 53.5**	**-0.4**
VHO	**Vista Hermosa**	**1.75**	**305**	*e*P	**Pb**		**03 44 33.1**	**+0.8**
VHO				*e*S	**Sb**		**03 44 54.4**	**+0.2**
PEIG	**Puerto Escondi**	**1.84**	**268**	*e*P	**Pb**		**03 44 33.1**	**-0.7**
PEIG				*e*S	**Sb**		**03 44 56.4**	**-0.3**
PCIG		**1.97**	**100**	*e*P	**Pb**		**03 44 35.4**	**-0.5**
PCIG				*e*S	**Sn**		**03 44 58.9**	**+1.3**
TGIG		**2.14**	**70**	*e*P	**Pb**		**03 44 37.4**	**-1.5**
TGIG				*e*S	**Sn**		**03 45 02.2**	**+0.3**
TGIG		**2.14**	**70**	*i*P	**Pb**		**03 44 39.5**	**+0.5**
TGIG				*i*S	**Sg**		**03 45 08.3**	**-1.1**
TGIG		**2.14**	**70**	*i*P			03 44 39.5	
TGIG				*i*S			03 45 08.3	
YOIG	**Yosondua**	**2.35**	**290**	*e*P	**Pb**		**03 44 41.4**	**-1.3**
YOIG				*e*S	**Sn**		**03 45 05.8**	**-1.7**
TOIG	**Toxpalan**	**2.67**	**319**	*e*P	**Pb**		**03 44 46.8**	**-1.2**
TOIG				*e*S	**Sb**		**03 45 17.6**	**-3.0**
TXIG	**Tlaxiaco**	**2.70**	**296**	*e*P	**Pb**		**03 44 48.2**	**-0.4**
TXIG				*e*S	**Sn**		**03 45 13.3**	**-2.7**
PNIG	**Pinotepa**	**2.80**	**277**	*e*P	**Pn**		**03 44 45.3**	**+0.7**
PNIG				*e*S	**Sn**		**03 45 16.3**	**-1.9**
CCIG	**Comitan**	**2.98**	**85**	*e*P	**Pn**		**03 44 47.8**	**+0.5**
CCIG				*e*S	**Sn**		**03 45 22.5**	**-0.3**
CCIG	**Comitan**	**2.98**	**85**	*i*P	**Pb**		**03 44 50.8**	**-2.5**
CCIG				*i*S	**Sb**		**03 45 27.4**	**-2.1**
CCIG	**Comitan**	**2.98**	**85**	*i*P			03 44 50.8	
CCIG				*i*S			03 45 27.4	
HLIG	**Huajuapan de L**	**3.02**	**306**	*e*P	**Pb**		**03 44 52.4**	**-1.6**
HLIG				*e*S	**Sn**		**03 45 22.6**	**-1.3**
PATR	**El Naranjo**	**3.04**	**108**	*e*P	**Pn**		**03 44 50.8**	**+2.7**
PATR				*e*S	**Sn**		**03 45 25.4**	**+1.0**
PAVE	**Pavencul**	**3.07**	**106**	*e*P	**Pb**		**03 44 52.1**	**-2.7**
PAVE				*e*S	**Sn**		**03 45 25.9**	**+0.8**
TPIG	**Tehuac#an**	**3.10**	**319**	*e*P	**Pn**		**03 44 51.1**	**+2.2**
TPIG				*e*S	**Sn**		**03 45 26.4**	**+0.7**
FTIG	**Fresnillo de T**	**3.33**	**304**	*e*P	**Pn**		**03 44 54.6**	**+2.7**
FTIG				*e*S	**Sn**		**03 45 31.9**	**+0.7**
MGIG	**Malinaltepec**	**3.46**	**290**	*e*P	**Pb**		**03 44 58.9**	**-2.6**
MGIG				*e*S	**Sn**		**03 45 33.1**	**-1.5**
TLIG	**Tlapa**	**3.52**	**295**	*e*P	**Pb**		**03 44 59.2**	**-3.3**
TLIG				*e*S	**Sn**		**03 45 37.2**	**+1.0**
JAUV	**Jalcomulco**	**3.61**	**336**	*e*P	**Pn**		**03 44 56.7**	**+0.9**
JAUV				*e*S	**Sn**		**03 45 40.7**	**+2.6**
STG8	**El Palmar, Qui**	**4.08**	**113**	*i*P			03 45 01.1	
STG0	**El Palmar, Qui**	**4.09**	**113**	*i*P			03 45 01.3	
STG0				*i*S			03 45 44.5	
CXUV	**Coxquihui**	**4.66**	**332**	*e*P	**Pn**		**03 45 10.5**	**+0.3**
CXUV				*e*S	**Sn**		**03 46 05.0**	**+0.9**

IDC ***24*** *04:07:15.6±1.4, 2°.79S×68°.29E, h0km, mb3.8/8, mbtmp3.8/8, MS3.7/4, Error ellipse: s-maj=41.1km s-min=26.2km az=50.0*
ISC 24 04:07:17.2±1.5, 2°.8S±0°.3×68°.3E±0°.2, h10km, n12, σ0.56/10, mb4.0/8, MS3.7/4, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.11**	**80**	LR	LR	LR	04 23 53.9	
	comp=Z,148nm,20.4s,baz=300,slow=32							
BRDH	**Bariadhala**	**34.06**	**41**	LR	LR	LR	04 30 10.5	
	comp=Z,189nm,18.1s,baz=294,slow=40							
CMAR	**Chiang Mai Arr**	**36.83**	**54**	P	**P**		**04 14 25.5**	**-0.3**
	1.4nm,0.3s,baz=250,slow=11,SNR=4.0							
CMAR				LR	LR	LR	04 27 29.3	
	comp=Z,51nm,21.3s,baz=215,slow=33							
	1.4nm,0.3s							
LSZ	**Lusaka**	**41.42**	**250**	LR	LR	LR	04 28 27.3	
	comp=Z,120nm,21.7s,baz=134,slow=31							
MKAR	**Makanchi Array**	**50.89**	**12**	P	**P**		**04 16 18.6**	**+0.2**
	0.3nm,0.7s,baz=187,slow=7.3,SNR=4.5							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**53.92**	**8**	P	**P**		**04 16 40.6**	**-0.2**
	0.6nm,0.9s,baz=208,slow=7.9,SNR=4.4							
KURBB				PcP	**PcP**		**04 17 46.5**	**+0.3**
	0.2nm,0.7s,baz=194,slow=5.0,SNR=2.3							
	0.6nm,0.9s							
ZALV	**Zalesovo Beam**	**58.19**	**11**	P	**P**		**04 17 10.3**	**-1.0**
	0.8nm,0.6s,baz=211,slow=4.3,SNR=4.0							
	0.8nm,0.6s							
SONM	**Songino Array**	**60.40**	**29**	P	**P**		**04 17 27.8**	**+0.8**
	0.5nm,0.4s,baz=214,slow=5.7,SNR=4.8							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**66.55**	**110**	P	**P**		**04 18 07.8**	**-0.2**
	1.2nm,0.8s,baz=283,slow=6.1,SNR=5.3							
	1.2nm,0.8s							
ASAR	**Alice Springs**	**66.58**	**114**	P	**P**		**04 18 08.5**	**+0.3**
	1.0nm,0.9s,baz=284,slow=6.1,SNR=5.7							

1.0nm,0.9s
ESDC Sonseca Array 78.22 311 P **P** **04 19 17.4 0.0**
0.9nm,0.8s,baz=105,slow=4.6,SNR=6.6
0.9nm,0.8s
TXAR Lajitas Array 152.52 345 PKPbc **PKiKP** **04 27 14.9 -0.2**
0.1nm,0.4s,baz=57,slow=3.0,SNR=3.0

*IDC **24** 04:13:00.9±3.2, 16°.78S×174°.19W, h0km, mb3.8/5, mbtmp3.7/5, Error ellipse: s-maj=154.0km s-min=29.8km az=146.0*

ISC 24 04:13:15.7±2.7, 17°.0S±0°.7×174°.2W±0°.5, h124km, n13, σ0s30/7, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy 39.95 331**			T	T	05 03 08.8	
baz=150,slow=76,SNR=615							
H11S3	**WAKE ISLAND Hy 39.97 331**			T	T	05 03 09.7	
baz=150,slow=76,SNR=333							
H11S1	**WAKE ISLAND Hy 39.97 331**			T	T	05 03 10.1	
baz=150,slow=76,SNR=446							
H11N3	**WAKE ISLAND Hy 40.93 332**			T	T	05 04 21.9	
baz=151,slow=76,SNR=217							
H11N1	**WAKE ISLAND Hy 40.94 332**			T	T	05 04 22.2	
baz=151,slow=76,SNR=324							
H11N2	**WAKE ISLAND Hy 40.95 332**			T	T	05 04 23.2	
baz=151,slow=76,SNR=322							
WRA	**Warramunga Arr 48.75 258**			P	**P**	**04 21 48.3 +0.1**	
0.4nm,0.5s,baz=96,slow=7.9,SNR=2.2							
0.4nm,0.5s							
ASAR	**Alice Springs 48.90 253**			P	**P**	**04 21 49.2 -0.2**	
1.8nm,0.8s,baz=85,slow=8.1,SNR=16							
1.8nm,0.8s							
PDAR	**Pinedale Array 83.96 42**			P	**P**	**04 25 32.3 -0.1**	
0.3nm,0.7s,baz=235,slow=5.9,SNR=2.3							
0.3nm,0.7s							
ILAR	**Eielson Array 84.15 11**			P	**P**	**04 25 32.3 -0.2**	
0.4nm,0.7s,baz=219,slow=5.8,SNR=7.7							
0.4nm,0.7s							
SONM	**Songino Array 95.52 318**			P	**P**	**04 26 26.7 0.0**	
0.6nm,1.0s,baz=102,slow=6.1,SNR=2.3							
0.6nm,1.0s							
BRTR	**Keskin Array B 146.87 319**			PKPbc	**PKPab**	**04 32 45.6 0.0**	
0.5nm,0.8s,baz=11,slow=1.5,SNR=2.6							
GERES	**GERESS Array B 147.59 350**			PKPbc	**PKPbc**	**04 32 46.1 +0.6**	
0.4nm,0.8s,baz=9.6,slow=6.5,SNR=2.4							

*IDC **24** 04:16:26.8±2.5, 3°.23N×103°.93W, h0km, mb3.7/8, mbtmp3.7/8, MS2.9/2, Error ellipse: s-maj=103.8km s-min=20.3km az=57.0*

ISC 24 04:16:28.0±2.4, 3°.2N±0°.4×104°.0W±0°.6, h10km, n10, σ0s53/8, mb3.8/8, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero 16.45 32**			LR	LR	04 24 25.1	
comp=Z,14nm,20.0s,baz=210,slow=29							
JTS	**Las Juntas de 20.17 69**			LR	LR	04 26 21.2	
comp=Z,97nm,20.7s,baz=96,slow=30							
TXAR	**Lajitas Array 26.00 1**			P	**P**	**04 22 01.4 0.0**	
0.5nm,0.9s,baz=187,slow=8.7,SNR=4.6							
0.5nm,0.9s							
NVAR	**Mina Array Bea 37.43 341**			P	**P**	**04 23 41.0 -0.8**	
0.2nm,0.3s,baz=150,slow=4.6,SNR=1.7							
0.2nm,0.3s							
PDAR	**Pinedale Array 39.72 354**			P	**P**	**04 24 01.1 +0.2**	
0.8nm,1.0s,baz=134,slow=6.4,SNR=4.6							
0.8nm,1.0s							
LPAZ	**La Paz 40.38 120**			P	**P**	**04 24 06.8 -0.6**	
2.0nm,0.8s,baz=314,slow=6.3,SNR=6.9							
2.0nm,0.8s							
ULM	**Lac du Bonnet 47.39 7**			P	**P**	**04 25 02.3 -0.1**	
0.6nm,0.5s,baz=216,slow=8.7,SNR=1.7							
0.6nm,0.5s							
CPUP	**Villa Florida 53.80 126**			P	**P**	**04 25 51.8 +0.5**	
2.3nm,0.9s,baz=281,slow=3.0,SNR=5.2							
2.3nm,0.9s							
YKA	**Yellowknife Ar 59.69 354**			P	**P**	**04 26 32.7 +0.2**	
0.6nm,0.9s,baz=168,slow=6.4,SNR=7.2							
0.6nm,0.9s							
ILAR	**Eielson Array 68.69 342**			P	**P**	**04 27 31.9 +0.4**	
1.0nm,0.9s,baz=158,slow=5.5,SNR=13							
1.0nm,0.9s							

*MDD **24** 04:20:20.6±0.3, 36°.62N×7°.33W, h34km±1km, mb_Lg3.1/42, Error ellipse: s-maj=2.6km s-min=2.0km az=38.0*
*SFS **24** 04:20:20.6, 36°.62N×7°.30W, h39km, ML3.0/18, ML3.1/19, MLv3.0/19*
*INMG **24** 04:20:21.6±1.4, 36°.66N×7°.32W, h27km±4km, ML2.3, Error ellipse: s-maj=3.0km s-min=1.8km az=38.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cdiz*
*IGIL **24** 04:20:22.0, 36°.63N×7°.30W, h31km, ML2.1*
*CNRM **24** 04:20:27.6, 35°.87N×7°.11W, h30km*

ISC 24 04:20:18.8±1.1, 36°.61N±0°.03×7°.29W±0°.02, h35km, n111, σ1s91/178, 1C-8D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXAYA	**Ayamonte 0.62 351**			Pg	**Pn**	**04 20 32.6 +1.5**	
EXAYA				Sg	**Sn**	**04 20 40.6 +0.9**	
ARNO	**Arenosillo 0.66 42**			Pg	**Pn**	**04 20 33.1 +1.5**	
ARNO				Sg	**Sn**	**04 20 42.0 +1.3**	
PBDV	**Barranco-do-Ve 0.81 321**			⇓*iP*	**Pn**	**04 20 35.1 +1.3**	
PBDV				*eS*	**Sn**	**04 20 45.3 +0.6**	
PBDV				*i* AML	AML	04 20 45.5	
PBDV				*i* AML	AML	04 20 46.2	
PBDV				*i* AML	AML	04 20 46.8	
PVAQ	**Vaqueiros 0.86 336**			⇓*iP*	**Pn**	**04 20 35.8 +1.3**	
PVAQ				*eS*	**Sn**	**04 20 46.5 +0.7**	
PVAQ				*i* AML	AML	04 20 47.0	
PVAQ				*i* AML	AML	04 20 47.2	
PVAQ				*i* AML	AML	04 20 47.5	
PVAQ	**Vaqueiros 0.86 336**			Pg	**Pn**	**04 20 35.8 +1.3**	
PVAQ				Sg	**Sn**	**04 20 46.0 +0.3**	
EGRO	**El Granado 0.93 350**			Pg	**Pn**	**04 20 36.8 +1.3**	
EGRO				Sg	**Sn**	**04 20 48.1 +0.6**	
EGRO	**El Granado 0.93 350**			⇓Pg	**Pn**	**04 20 36.7 +1.3**	
EGRO				Sg	**Sn**	**04 20 48.1 +0.6**	
EGRO				*i* Vmb_Lg		04 20 49.0	
ESPR	**Espera 1.18 77**			Pg	**Pn**	**04 20 40.2 +1.5**	
ESPR				Sg	**Sn**	**04 20 55.0 +1.5**	
ESPR	**Espera 1.18 77**			⇓Pg	**Pn**	**04 20 40.2 +1.5**	
ESPR				Sg	**Sn**	**04 20 54.5 +1.1**	
ESPR				*i* Vmb_Lg		04 20 55.6	
PCVE	**Castro Verde 1.18 330**			*eP*	**Pn**	**04 20 40.2 +1.5**	
PCVE				*eS*	**Sn**	**04 20 54.4 +0.7**	
PCVE				*i* AML	AML	04 20 55.1	
PCVE				*i* AML	AML	04 20 55.3	
PCVE				*i* AML	AML	04 20 55.4	
PCVE	**Castro Verde 1.18 330**			Pg	**Pn**	**04 20 40.3 +1.5**	
PCVE				Sg	**Sn**	**04 20 54.3 +0.6**	
EMIN	**Mina Concepcio 1.25 23**			Pg	**Pn**	**04 20 40.7 +0.9**	
EMIN				Sg	**Sn**	**04 20 54.9 -0.5**	
EMIN	**Mina Concepcio 1.25 23**			Pg	**Pn**	**04 20 40.7 +0.9**	
EMIN				Sn	**Sn**	**04 20 55.0 -0.4**	
EMIN				*i* Vmb_Lg		04 20 57.8	
MORF	**Marmelete 1.29 303**			*eP*	**Pn**	**04 20 41.4 +1.0**	
MORF				*eS*	**Sn**	**04 20 56.2 -0.3**	
MORF				IAML		04 20 57.6	
comp=E,48nm,0.2s							
MORF	**Marmelete 1.29 303**			*eP*	**Pn**	**04 20 41.4 +1.0**	
MORF				*eS*	**Sn**	**04 20 56.9 +0.3**	
MORF				*i* AML	AML	04 20 57.5	
MORF				*i* AML	AML	04 20 57.8	
MORF				*i* AML	AML	04 20 58.2	
PFVI	**Vila Bisbo 1.34 293**			*eP*	**Pn**	**04 20 42.2 +1.2**	
PFVI				*eS*	**Sn**	**04 20 57.8 +0.2**	
PFVI				*i* AML	AML	04 21 01.6	
PFVI				*i* AML	AML	04 21 02.3	
PFVI				*i* AML	AML	04 21 03.2	
PFVI	**Vila Bisbo 1.34 293**			Sn	**Sn**	**04 20 57.8 +0.2**	
PFVI				Pn	**Pn**	**04 20 41.8 +0.8**	
MESJ	**Messejana 1.43 329**			*eP*	**Pn**	**04 20 43.7 +1.5**	
MESJ				*eS*	**Sn**	**04 20 59.3 -0.6**	
MESJ				IAML		04 21 00.4	
comp=N,9.4nm,0.2s							
MESJ	**Messejana 1.43 329**			⇓*iP*	**Pn**	**04 20 43.7 +1.5**	
MESJ				*eS*	**Sn**	**04 21 00.2 +0.3**	
MESJ				*i* AML	AML	04 21 02.3	
MESJ				*i* AML	AML	04 21 02.7	
MESJ				*i* AML	AML	04 21 06.6	
EJIF	**Jimena Fronter 1.47 96**			Pg	**Pn**	**04 20 45.1 +2.3**	
EJIF				Sg	**Sn**	**04 21 04.0 +3.2**	
PTEO	**Sao Teotonio 1.48 309**			⇓*eP*	**Pn**	**04 20 44.5 +1.6**	
PTEO				*eS*	**Sn**	**04 21 01.7 +0.7**	
PTEO				*i* AML	AML	04 21 02.5	
PTEO				*i* AML	AML	04 21 02.7	
PTEO				*i* AML	AML	04 21 03.5	
PBEJ	**Beja 1.48 342**			⇓*iP*	**Pn**	**04 20 44.3 +1.3**	
PBEJ				*eS*	**Sn**	**04 21 01.4 +0.2**	
PBEJ				*i* AML	AML	04 21 01.9	
PBEJ				*i* AML	AML	04 21 02.3	
PBEJ				*i* AML	AML	04 21 04.5	
LIJA	**Lijar 1.54 79**			Pn	**Pn**	**04 20 44.3 +0.5**	
LIJA				Sn	**Sn**	**04 21 01.7 -0.9**	
EXMOR	**Moron de la Fr 1.56 70**			Sn	**Sn**	**04 21 05.1 +2.2**	
PBAR	**Barrancos 1.57 7**			*eP*	**Pn**	**04 20 45.5 +1.4**	
PBAR				*eS*	**Sn**	**04 21 03.3 0.0**	
PBAR				*i* AML	AML	04 21 04.7	
PBAR				*i* AML	AML	04 21 09.2	
PBAR				*i* AML	AML	04 21 09.7	
PBAR	**Barrancos 1.57 7**			Pn	**Pn**	**04 20 45.3 +1.2**	
PBAR				Sn	**Sn**	**04 21 03.3 0.0**	
ECEU	**Ceuta 1.70 114**			Pn	**Pn**	**04 20 48.3 +2.3**	
ECEU				Sn	**Sn**	**04 21 09.2 +2.7**	
SMIR	**Smir Dam 1.80 121**			P	**Pn**	**04 20 49.8 +2.5**	
SMIR	**Smir Dam 1.80 121**			S	**Sn**	**04 21 09.1 +0.2**	
EVO	**Evora 2.00 343**			⇓*eP*	**Pn**	**04 20 51.5 +1.4**	
EVO				*eS*	**Sn**	**04 21 13.3 -0.5**	
EVO				*i* AML	AML	04 21 14.9	
EVO				*i* AML	AML	04 21 15.3	
EVO				*i* AML	AML	04 21 15.4	
EVO	**Evora 2.00 343**			Pn	**Pn**	**04 20 51.7 +1.4**	
EVO				Sn	**Sn**	**04 21 13.4 -0.4**	
ECAB	**El Cabril 2.08 45**			Pn	**Pn**	**04 20 52.0 +0.7**	
ECAB				Sn	**Sn**	**04 21 13.9 -2.0**	
ECAB	**El Cabril 2.08 45**			Pn	**Pn**	**04 20 52.0 +0.7**	
ECAB				Pn	Pn	04 20 52.0 +0.8	
ECAB				Sn	**Sn**	**04 21 14.3 -1.7**	
EXCBR	**El Cabril 2.09 45**			Pn	**Pn**	**04 20 52.5 +1.2**	
EXCBR				Sn	**Sn**	**04 21 14.4 -1.6**	
EBAD	**Badajoz 2.15 6**			Pn	**Pn**	**04 20 53.2 +1.1**	
EBAD				Sn	**Sn**	**04 21 16.7 -0.8**	
EBAD	**Badajoz 2.15 6**			Pn	**Pn**	**04 20 53.1 +1.0**	
EBAD				Sn	**Sn**	**04 21 16.8 -0.8**	
EBAD				*i* Vmb_Lg		04 21 24.6	
PESTR	**Estremoz 2.26 354**			*eP*	**Pn**	**04 20 54.8 +1.1**	
PESTR				*eS*	**Sn**	**04 21 20.6 +0.2**	
PESTR				*i* AML	AML	04 21 31.7	
PESTR				*i* AML	AML	04 21 35.3	
PESTR				*i* AML	AML	04 21 36.8	
PESTR	**Estremoz 2.26 354**			Pn	**Pn**	**04 20 54.6 +0.9**	
PESTR				Sn	**Sn**	**04 21 20.0 -0.3**	
EMAL	**Malaga-Limoner 2.30 85**			Pn	**Pn**	**04 20 56.4 +2.3**	
EMAL				Sn	**Sn**	**04 21 23.0 +1.8**	
PMTG	**Montargil 2.56 343**			*eP*	**Pn**	**04 20 59.1 +1.3**	
PMTG				*eS*	**Sn**	**04 21 27.0 -0.8**	
PMTG				*i* AML	AML	04 21 29.7	
PMTG				*i* AML	AML	04 21 29.8	
PMTG				*i* AML	AML	04 21 30.5	
EGOR	**Sierra Gorda, 2.59 78**			Pn	**Pn**	**04 21 00.3 +1.9**	
EGOR				Sn	**Sn**	**04 21 29.8 +1.1**	
EADA	**Adamuz 2.66 53**			Pn	**Pn**	**04 21 00.3 +1.2**	
EADA				Sn	**Sn**	**04 21 29.0 -1.1**	
EADA	**Adamuz 2.66 53**			Pn	**Pn**	**04 21 00.3 +1.2**	
EADA				Sn	**Sn**	**04 21 29.3 -0.8**	
PMRV	**Marv??o 2.81 358**			*eP*	**Pn**	**04 21 02.4 +1.2**	
PMRV				*eS*	**Sn**	**04 21 33.0 -0.9**	
PMRV				*i* AML	AML	04 21 34.3	
PMRV				*i* AML	AML	04 21 35.3	
PMRV				*i* AML	AML	04 21 35.3	
PMAFR	**Mafra 2.82 327**			*eP*	**Pn**	**04 21 03.2 +1.8**	
PMAFR				*eS*	**Sn**	**04 21 33.9 -0.2**	
PMAFR				*i* AML	AML	04 21 40.4	
PMAFR				*i* AML	AML	04 21 41.9	
PMAFR	**Mafra 2.82 327**			Pn	**Pn**	**04 21 03.1 +1.8**	
PMAFR				Sn	**Sn**	**04 21 35.0 +0.8**	
ELGU	**Los Guajares, 2.95 84**			Pn	**Pn**	**04 21 04.9 +1.7**	
ELGU				Sn	**Sn**	**04 21 37.7 +0.3**	
ELGU	**Los Guajares, 2.95 84**			Pn	**Pn**	**04 21 04.9 +1.7**	
ELGU				Sn	**Sn**	**04 21 38.5 +1.1**	
ELGU				*i* Vmb_Lg		04 21 40.6	
PSBE	**So Bento 3.13 338**			⇓*eP*	**Pn**	**04 21 07.4 +1.8**	
PSBE				*i* AML	AML	04 21 45.7	
EQTA	**Presa de Quent 3.14 78**			Pn	**Pn**	**04 21 08.7 +2.3**	
EQTA				Sn	**Sn**	**04 21 42.7 +0.7**	
EQUE	**Quentar 3.14 78**			Pn	**Pn**	**04 21 08.6 +2.8**	
EQUE				Sn	**Sn**	**04 21 42.4 +0.3**	
ZHG	**ZHG 3.20 170**			P	**Pn**	**04 21 07.6 +0.9**	
ZHG	**ZHG 3.20 170**			S	**Sn**	**04 21 37.4 -6.3**	
PCBR	**Castelo Branco 3.23 357**			*eP*	**Pn**	**04 21 08.1 +1.2**	
PCBR				*eS*	**Sn**	**04 21 42.4 -1.7**	
PCBR				*i* AML	AML	04 21 44.7	
PCBR				*i* AML	AML	04 21 44.7	
PCBR				*i* AML	AML	04 21 44.8	
E0803	**Jimena (Jaen) 3.28 67**			Sn	**Sn**	**04 21 45.3 -0.2**	
AVE	**Averroes 3.31 182**			Pn	**Pn**	**04 21 09.5 +1.4**	
AVE				Sn	**Sn**	**04 21 46.6 +0.4**	
AVE	**Averroes 3.31 182**			P	**Pn**	**04 21 07.2 -0.8**	
AVE	**Averroes 3.31 182**			S	Sn	04 21 38.7 -7.4	
E0802	**Ubeda,Jaen 3.42 64**			Sn	**Sn**	**04 21 48.5 -0.5**	
AKLM	**AKL 3.49 126**			P	**Pn**	**04 21 11.4 +0.8**	
AKLM	**AKL 3.49 126**			S	**Sn**	**04 21 45.3 -5.5**	
IFR	**Ifrane 3.56 150**			Pn	**Pn**	**04 21 11.7 +0.1**	
IFR				Sn	**Sn**	**04 21 48.9 -3.7**	
PSIM	**Granatula de C 3.56 51**			Pn	**Pn**	**04 21 12.7 +1.1**	
PSIM				Sn	**Sn**	**04 21 52.4 0.0**	
PCAS	**Casmilo, Conde 3.56 345**			*eP*	**Pn**	**04 21 13.0 +1.5**	
PCAS				*eS*	**Sn**	**04 21 51.7 -0.7**	
PCAS				*i* AML	AML	04 22 15.9	
PCAS				*i* AML	AML	04 22 16.9	
PCAS				*i* AML	AML	04 22 19.0	
EQES	**Quesada 3.57 69**			Pn	**Pn**	**04 21 12.6 +0.9**	
EQES				Sn	**Sn**	**04 21 53.3 +0.6**	
EPLA	**Plasencia 3.57 15**			Pn	**Pn**	**04 21 13.8 +2.1**	
EPLA				Sn	**Sn**	**04 21 51.3 -1.4**	
EPLA				*i* Vmb_Lg		04 21 53.1	
COI	**Coimbra 3.70 346**			*eS*	**Sn**	**04 21 54.9 -0.8**	
PAB	**San Pablo 3.73 37**			Pn	**Pn**	**04 21 15.2 +1.2**	
PAB				Sn	**Sn**	**04 21 53.2 -3.5**	
PAB				*i* Vmb_Lg		04 21 55.3	
MTE	**Manteigas 3.79 357**			*eP*	**Pn**	**04 21 16.3 +1.6**	
MTE				*eS*	**Sn**	**04 21 56.4 -1.6**	
MTE				*i* AML	AML	04 21 57.1	
MTE				*i* AML	AML	04 21 57.6	
MTE				*i* AML	AML	04 21 59.0	
ESDC	**Sonseca Array 4.02 40**			Pn	**Pn**	**04 21 19.1 +1.2**	
ESDC				Sn	**Sn**	**04 21 59.7 -4.2**	
ENIJ	**Nijar 4.09 83**			Pn	**Pn**	**04 21 20.6 +1.7**	
PVIS	**Viseu 4.12 354**			*eP*	**Pn**	**04 21 21.2 +1.9**	
PVIS				*eS*	**Sn**	**04 22 04.5 -1.8**	
MD31	**MD31 4.28 150**			P	**Pn**	**04 21 21.6 +0.2**	
MD31	**MD31 4.28 150**			S	Sn	04 22 02.8 -7.3	
MDT	**Midelt 4.38 149**			P	**Pn**	**04 21 22.9 -0.1**	
MDT	**Midelt 4.38 149**			S	Sn	04 22 05.1 -7.8	
MVO	**Moncorvo 4.55 2**			*eP*	**Pn**	**04 21 26.4 +1.2**	
MVO				*eS*	**Sn**	**04 22 14.1 -2.7**	
MVO				*i* AML	AML	04 22 15.7	
MVO				*i* AML	AML	04 22 15.9	
MVO				*i* AML	AML	04 22 16.5	
TLOR	**Lorca, Murcia 4.59 75**			Pn	**Pn**	**04 21 26.7 +1.0**	
TLOR	**Lorca, Murcia 4.59 75**			Pn	**Pn**	**04 21 26.4 +0.7**	
EJUZ	**Juzbado, Salam 4.60 13**			Sn	**Sn**	**04 22 16.6 -1.4**	
PVRL	**Vila Real 4.67 356**			*eP*	**Pn**	**04 21 27.9 +1.2**	
PVRL				*eS*	**Sn**	**04 22 16.9 -2.8**	
PVRL				*i* AML	AML	04 22 19.3	
PVRL				*i* AML	AML	04 22 19.6	
PVRL				*i* AML	AML	04 22 19.7	
GUD	**Guadarrama 4.71 30**			Pn	**Pn**	**04 21 29.0 +1.5**	
GUD				Sn	**Sn**	**04 22 19.5 -1.4**	
POLO	**Lamas de Olo 4.77 355**			*eP*	**Pn**	**04 21 29.2 +1.0**	
POLO				*eS*	**Sn**	**04 22 19.6 -2.7**	
POLO				*i* AML	AML	04 22 21.4	
POLO				*i* AML	AML	04 22 22.1	
POLO				*i* AML	AML	04 22 22.3	
UCM	**Universidad Co 4.86 39**			Pn	**Pn**	**04 21 31.3 +1.8**	
UCM				Sn	**Sn**	**04 22 21.8 -2.8**	
EMUR	**La Murta 4.98 74**			Sn	**Sn**	**04 22 25.5 -1.9**	
EMUR				*i* Vmb_Lg		04 22 28.8	
PCAB	**Cabril 5.12 354**			*eS*	**Sn**	**04 22 27.5 -3.4**	
PBRG	**Braganca 5.20 4**			*eP*	**Pn**	**04 21 35.3 +1.2**	
PBRG				*eS*	**Sn**	**04 22 30.1 -2.8**	
PBRG				*i* AML	AML	04 22 31.2	
PBRG				*i* AML	AML	04 22 31.3	
PBRG				*i* AML	AML	04 22 32.5	
ELOB	**Lobios 5.28 354**			Pn	**Pn**	**04 21 36.5 +1.3**	
ELOB				Sn	**Sn**	**04 22 31.4 -3.5**	
ELOB				*i* Vmb_Lg		04 22 35.0	
PGAV	**Gavieira, Arco 5.40 352**			*eP*	**Pn**	**04 21 37.9 +1.1**	
PGAV				*eS*	**Sn**	**04 22 35.0 -2.8**	
PGAV				*i* AML	AML	04 22 35.7	
PGAV				*i* AML	AML	04 22 38.7	
PGAV				*i* AML	AML	04 22 43.3	
EVIV	**Cofrentes, Val 5.55 60**			Sn	**Sn**	**04 22 37.3 -4.1**	
EVIV				*i* Vmb_Lg		04 22 40.7	
EZAM	**Zamans 5.63 349**			Sn	**Sn**	**04 22 40.8 -2.7**	
ATANC	**Embalse El Ata 5.67 37**			Pn	**Pn**	**04 21 42.2 +1.6**	
TIO	**Tiouine 5.67 180**			Pn	**Pn**	**04 21 41.5 +0.8**	
TIO				Sn	**Sn**	**04 22 40.9 -3.8**	
TIO	**Tiouine 5.67 180**			P	**Pn**	**04 21 40.1 -0.6**	
TIO	**Tiouine 5.67 180**			S	Sn	04 22 36.8 -7.9	
OUZM	**OUZ 5.71 175**			P	**Pn**	**04 21 41.2 0.0**	
OUZM	**OUZ 5.71 175**			S	**Sn**	**04 22 39.8 -5.7**	
ECHE	**Chera 5.80 57**			Pn	**Pn**	**04 21 43.0 +0.8**	
ECHE				Sn	**Sn**	**04 22 45.2 -2.4**	
ECHE	**Chera 5.80 57**			Pn	**Pn**	**04 21 43.1 +0.8**	
ECHE				Sn	**Sn**	**04 22 45.1 -2.5**	
ECHE				*i* Vmb_Lg		04 22 56.7	
ETOR	**Torete 5.86 43**			Pn	**Pn**	**04 21 44.6 +1.4**	
ETOR				Sn	**Sn**	**04 22 45.0 -4.2**	
ETOR				*i* Vmb_Lg		04 22 49.0	
TZRR	**Tazzarine 5.99 166**			P	**Pn**	**04 21 43.7 -1.2**	
TZRR	**Tazzarine 5.99 166**			S	Sn	04 22 44.7 -7.6	
TTIG	**Tnine Tigouga, 6.13 189**			P	**Pn**	**04 21 46.3 -0.6**	
TTIG	**Tnine Tigouga, 6.13 189**			S	**Sn**	**04 22 49.2 -6.7**	
E0901	**Celadas (Terue 6.18 49**			Pn	**Pn**	**04 21 49.6 +2.0**	
E0901				Sn	**Sn**	**04 22 57.4 +0.3**	
E0901				*i* Vmb_Lg		04 22 58.4	
EAGO	**Agolada(Pontev 6.21 355**			Sn	**Sn**	**04 22 54.1 -3.6**	
EAGO				*i* Vmb_Lg		04 22 58.6	
EMOS	**Mosqueruela 6.52 53**			Pn	**Pn**	**04 21 54.3 +1.9**	
EMOS				*i* Vmb_Lg		04 23 02.7	
EMOS				Sn	**Sn**	**04 23 02.8 -2.8**	
ELAN	**Lanestosa 7.24 23**			Sn	**Sn**	**04 23 19.0 -4.1**	
ELAN				*i* Vmb_Lg		04 23 23.1	
EARA	**Aranguren 7.56 34**			Pn	**Pn**	**04 22 08.3 +1.9**	
EALK	**Alkurruntz 7.95 32**			Sn	**Sn**	**04 23 35.8 -4.8**	
ECHI	**Chisagues Biel 8.35 41**			Pn	**Pn**	**04 22 18.7 +1.3**	
ECHI				*i* Vmb_Lg		04 23 44.9	

*IDC **24** 04:21:03.9±2.0, 20°.72S×178°.36W, h606km±21km, mb2.9/4, mbtmp3.9/7, Error ellipse: s-maj=33.1km s-min=21.3km az=136.0*

ISC 24 04:21:03.5±1.1, 20°.7S±0°.2×178°.4W±0°.2, h600km, n10, σ0s74/9, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu 4.51 311**			P	**P**	**04 22 33.3 +0.5**	
8.4nm,0.5s,baz=176,slow=13,SNR=9.5							
DZM	**Mont Dzumac 14.21 262**			P	**P**	**04 24 04.4 -0.1**	
3.8nm,0.9s,baz=82,slow=12,SNR=1.4							
URZ	**Urewera 17.90 192**			P	**P**	**04 24 38.1 +0.1**	
2.1nm,0.3s,baz=344,slow=2.4,SNR=11							
ASAR	**Alice Springs 44.13 257**			P	**P**	**04 28 21.0 +0.5**	
1.2nm,0.4s,baz=94,slow=7.7,SNR=17							
1.2nm,0.4s							
WRA	**Warramunga Arr 44.22 262**			P	**P**	**04 28 21.1 -0.1**	
0.7nm,0.3s,baz=97,slow=7.8,SNR=14							
0.7nm,0.3s							
NVAR	**Mina Array Bea 81.43 43**			P	**P**	**04 32 20.0 +0.7**	
0.2nm,0.5s,baz=253,slow=4.5,SNR=2.5							
0.2nm,0.5s							
ILAR	**Eielson Array 88.61 13**			P	**P**	**04 32 52.9 -0.3**	
0.3nm,0.5s,baz=218,slow=4.9,SNR=7.7							
0.3nm,0.5s							
AKASG	**Malin Array Be 143.04 331**			PKP	PKPbc	04 39 27.2 -0.9	
1.1nm,0.4s,baz=46,slow=3.9,SNR=11							
BRTR	**Keskin Array B 146.73 312**			PKPbc	**PKPbc**	**04 39 38.1 -1.5**	
0.4nm,0.6s,baz=108,slow=3.2,SNR=2.1							
GERES	**GERESS Array B 150.32 344**			PKPbc	**PKiKP**	**04 39 48.2 -0.3**	
0.2nm,0.4s,baz=27,slow=3.0,SNR=2.2							

*PRU **24** 04:22:26.3, 49°.81N×18°.47E, h0km*

IPEC 24 04:22:25.0±0.3, 49°.84N×18°.56E, h1km, ML2.0/4, Error ellipse: s-maj=2.1km s-min=1.7km az=70.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne 0.27 270**			*e*PG	Pg	04 22 30.3 +0.2	
OKC				*e*SG	Sg	04 22 33.8 +0.2	
comp=Z,34nm,0.5s							
STEB	**Steborice 0.52 281**			*e*PG	Pg	04 22 34.5 -0.5	
STEB				*e*SG	Sg	04 22 42.2 +0.5	

0.3nm,0.3s
MKAR Makanchi Array 53.25 327 P P 04 39 33.1 +1.2
0.9nm,0.5s,baz=120,slow=8.0,SNR=16
0.9nm,0.5s
KURBB Kurchatov Arra 57.54 329 P P 04 40 02.0 -0.6
0.9nm,0.7s,baz=126,slow=7.0,SNR=7.8
0.9nm,0.7s
BVAR Borovoye Array 63.09 328 P P 04 40 39.2 -1.4
0.3nm,0.4s,baz=114,slow=6.6,SNR=2.1
0.3nm,0.4s

RSNC 24 04:34:50.2±0.0,5°N±1°×7°6W±°,h122km±3km,M3.0,mb4.0, ML2.9,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.28**	**355**	P	Pn	04 35 06.3	-1.2
PLMC				S	Sn	04 35 20.2	-0.3
YOTC	**Yotoco, Valle**	**0.64**	**188**	P	Pn	04 35 08.6	-0.9
YOTC				S	Sn	04 35 23.6	-0.4
GUY2C	**Guyana, Caldas**	**1.07**	**56**	P	Pn	04 35 13.3	-0.4
GUY2C				S	Sn	04 35 30.9	-0.5
PIZC	**Pizarro, Choco**	**1.15**	**287**	P	Pn	04 35 13.8	-0.1
PIZC				S	Sn	04 35 32.0	+0.2
MALC	**Bahia Malaga**	**1.23**	**241**	P	Pn	04 35 15.0	+0.2
MALC				S	Sn	04 35 34.7	+1.3
ORTC	**Ortega, Tolima**	**1.23**	**125**	P	Pn	04 35 14.4	-0.4
ORTC				S	Sn	04 35 32.8	-0.7
CBOC	**Ciudad Bolivar**	**1.26**	**11**	P	Pn	04 35 14.3	-1.0
CBOC				S	Sn	04 35 33.6	-0.7
JAMC	**Jamundi, Valle**	**1.46**	**196**	P	Pn	04 35 17.1	-0.4
JAMC				S	Sn	04 35 37.7	-0.5
PRAC	**Prado**	**1.64**	**123**	P	Pn	04 35 19.4	0.0
PRAC				S	Sn	04 35 41.5	-0.2
NORC	**Norcasia**	**1.67**	**56**	P	Pn	04 35 19.6	-0.2
NORC				S	Sn	04 35 42.1	-0.3
HELC	**Santa Helena**	**1.72**	**25**	P	Pn	04 35 19.9	-0.9
HELC				S	Sn	04 35 42.4	-1.6
ROSC	**El Rosal**	**1.95**	**83**	P	Pn	04 35 25.0	+1.5
ROSC				S	Sn	04 35 52.6	+3.8
SOLC	**Bahia Solano**	**1.96**	**324**	P	Pn	04 35 24.6	+1.3
SOLC				S	Sn	04 35 47.2	-1.4
BETC	**Betania**	**2.09**	**157**	P	Pn	04 35 24.9	-0.1
BETC				S	Sn	04 35 50.5	-1.1
POPC	**Popayan, Colom**	**2.11**	**191**	P	Pn	04 35 24.9	-0.5
POPC				S	Sn	04 35 49.5	-2.7
CVER	**Cruz Verde, Cu**	**2.18**	**92**	P	Pn	04 35 27.9	+1.4
CVER				S	Sn	04 35 53.5	-0.7
URMC	**La Uribe, Meta**	**2.32**	**126**	P	Pn	04 35 27.5	-0.4
URMC				S	Sn	04 35 55.3	-1.5
DBBC	**Dabeiba**	**2.38**	**1**	P	Pn	04 35 28.4	-0.3
DBBC				S	Sn	04 35 58.1	-0.1
GR1C	**Gorgona, Isla**	**2.49**	**230**	P	Pn	04 35 27.9	-2.1
GR1C				S	Sn	04 35 57.0	-3.5
CHIC	**Chingaza**	**2.52**	**90**	P	Pn	04 35 32.2	+1.5
GARC	**Garzon, Huila**	**2.54**	**162**	P	Pn	04 35 30.3	-0.5
GARC				S	Sn	04 36 00.3	-1.7
PTBC	**PUERTO BERRIO,**	**2.62**	**43**	P	Pn	04 35 30.8	-0.8
PTBC				S	Sn	04 36 01.9	-1.6
BBAC	**Balboa, Cauca**	**2.76**	**201**	P	Pn	04 35 33.2	-0.5
BBAC				S	Sn	04 36 06.2	-1.0
PTAC	**Punta Ardita,**	**2.94**	**329**	P	Pn	04 35 34.7	-1.2
PTAC				S	Sn	04 36 07.6	-3.5
FLOC	**Florencia**	**3.08**	**169**	P	Pn	04 35 37.4	-0.2
CRUC	**La Cruz**	**3.11**	**193**	P	Pn	04 35 38.0	-0.4
CRUC				S	Sn	04 36 14.1	-1.4
ZARC	**Zaragoza, Cauc**	**3.18**	**26**	P	Pn	04 35 38.1	-0.8
ZARC				S	Sn	04 36 11.8	-4.7
UREC	**San Jos de Ur**	**3.19**	**13**	P	Pn	04 35 38.2	-1.0
UREC				S	Sn	04 36 15.1	-1.9
APAC	**Apartado, Choc**	**3.27**	**354**	P	Pn	04 35 42.2	+2.0
RUSC	**La Rusia**	**3.41**	**68**	P	Pn	04 35 42.6	+0.2
BRJC	**Barrancabermej**	**3.42**	**47**	P	Pn	04 35 40.1	-2.1
MACC	**Macarena, Meta**	**3.44**	**136**	P	Pn	04 35 41.7	-0.7
MACC				S	Sn	04 36 20.5	-2.3
GCUF	**Volcan Galeras**	**3.54**	**198**	P	Pn	04 35 43.5	-0.7
GCUF				S	Sn	04 36 23.7	-2.2
BARC	**Barichara**	**3.64**	**57**	P	Pn	04 35 45.1	-0.1
GUVC	**San Jose del G**	**4.17**	**119**	P	Pn	04 35 51.1	-1.0
GUVC				S	Sn	04 36 37.8	-2.3
PAMC	**Pamplona, Colo**	**4.45**	**52**	P	Pn	04 35 56.4	+0.1
PAMC				S	Sn	04 36 44.8	-2.8
OCAC	**Ocana**	**4.63**	**39**	P	Pn	04 35 57.7	-0.7
OCAC				S	Sn	04 36 48.4	-3.0
AZU	**Azuero**	**5.08**	**308**	P	Pn	04 36 03.0	-1.3
AZU	26nm,0.6s			S	Sn	04 36 59.4	-2.7
SJCC	**San Jacinto, C**	**5.35**	**11**	P	Pn	04 36 06.6	-1.4
	10nm,2.2s						
BCIP	**Isla Barro Col**	**5.75**	**322**	P	Pn	04 36 12.2	-1.1
	26nm,0.9s						
CRJC	**Cerrejon, Guaj**	**7.18**	**28**	P	Pn	04 36 30.4	-2.4

*IDC **24** 04:37:28.9±0.3, 1°.65N×126°.20E, h0km, mb5.9/44, mbtmp5.9/46, ML5.2/2, MS5.3/56, Error ellipse: s-maj=13.6km s-min=7.5km az=86.0*
*BJI **24** 04:37:32.6, 1°.70N×126°.50E, h30km, mB6.0/67, mb5.8/98, Ms5.8/99, Ms7 5.7/96*
*MOS **24** 04:37:33.1±1.0, 1°.66N×126°.26E, h43km, mb6.4/62, MS5.4/56, Error ellipse: s-maj=6.9km s-min=4.1km az=109.9*
*IPGP **24** 04:37:34.0, 1°.71N×126°.42E, h50km, Mw6.0, Fault plane solution: NP1:φs187.00000°, δ43.00000°, λ78.00000°. NP2:φs24.00000°, δ48.00000°, λ101.00000°.*
*ISC-PP **24** 04:37:35, 1°.66N×126°.40E, h61km±3km, Mwppsm6.5, Moment Tensor Solution. s50 Moment tensor: Scale 10^18^Nm; Mrr0.34±.19; Mθθ-0.30±.17; Mφφ0.77±.19; Mrθ0.04±.23; Mθφ-0.28±.13; Mφr-0.16±.16; Fault plane solution: M0 6.53000×10^18^ NP1:φs219.80000°, δ72.40000°, λ19.20000°. NP2:φs123.70000°, δ71.70000°, λ161.40000°.*
*NEIC **24** 04:37:35.9±2.8, 1°.66N±0°.06×126°.40E±0°.05, h45km±1km, mb6.1/423, Ms_20 5.7/856, Mwb6.1/39, Mww6.1/53 Error ellipse: s-maj=10.3km s-min=7.6km az=19.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr1.57; Mθθ-0.15; Mφφ-1.42; Mrθ0.22; Mθφ-0.27; Mφr0.14; Fault plane solution: M0 1.54000×10^18^ NP1:φs17.71000°, δ48.65000°, λ98.32000°. NP2:φs185.23000°, δ42.03000°, λ80.67000°. Principal axes: T 1.5969, Plg83.0000°, Azm344.0000°; N -0.1132, Plg6.0000°, Azm192.0000°; P -1.4837, Plg3.0000°, Azm102.0000°;*
*NEIC **24** 04:37:35.4, 1°.68N×126°.41E, h40km*
*NEIC **24** 04:37:35.9, 1°.76N×126°.00E, h46km, Moment Tensor Solution. Duration: 5±9 Moment tensor: Scale 10^18^Nm; Mrr1.92; Mθθ-0.14; Mφφ-1.78; Mrθ0.01; Mθφ-0.40; Mφr-0.08; Fault plane solution: M0 1.89000×10^18^ NP1:φs13.70000°, δ43.88000°, λ91.00000°. NP2:φs192.31000°, δ46.12000°, λ89.04000°. Principal axes: T 1.9201, Plg89.0000°, Azm71.0000°; N -0.0510, Plg1.0000°, Azm193.0000°; P -1.8691, Plg1.0000°, Azm283.0000°;*
*NEIC **24** 04:37:35.9, 1°.66N×126°.40E, h46km*
*DJA **24** 04:37:36.5±0.1, 2°N±1°×12°6E±°, h60km±2km, M6.1/133, mb6.0/133, mB6.4/116, MLv6.3/22, Mw(mB)6.2/116, MwMwp6.0/96, Mwp6.0/96*
*GCMT **24** 04:37:38.9±0.1, 1°.77N×126°.36E, h42km, MW6.2/174, Moment Tensor Solution. s174, c387; s169, c620; Duration: 2±9 Moment tensor: Scale 10^18^Nm; Mrr1.93±.01; Mθθ0.09±.01; Mφφ-2.02±.01; Mrθ0.00±.01; Mθφ-0.64±.01; Mφr-0.42±.01; Best double couple: M0 2.10500×10^18^ NP1:φs19.00000°, δ40.00000°, λ96.00000°. NP2:φs192.00000°, δ51.00000°, λ85.00000°. Principal axes: T 1.9760, Plg83.0000°, Azm71.0000°; N 0.2570, Plg4.0000°, Azm195.0000°; P -2.2350, Plg5.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 04:37:35.3±0.2, 1°.68N±0°.02×126°.28E±0°.03, h45km±1km, h45km:pP-P, n2229, o1958/1925, mb6.1/398, MS5.7/544, 138C-40D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.42**	**130**	Pn	**Pn**	**04 37 57.2**	**-1.4**
TNTI	**Ternate**	**1.42**	**130**	P	**Pn**	**04 37 56.9**	**-1.7**
TNTI	**Ternate**	**1.42**	**130**	⇑P	**Pn**	**04 37 57.1**	**-1.5**
TNTI	**Ternate**	**1.42**	**130**	⇑P	**Pn**	**04 37 57.1**	**-1.5**
SGSI	**Sangihe**	**2.13**	**340**	P	**Pn**	**04 38 10.6**	**+2.2**
KMSI	**Cibinong**	**2.54**	**244**	P	**Pn**	**04 38 17.3**	**+3.2**
SANI	**Sanana**	**3.71**	**184**	P	**Pn**	**04 38 27.9**	**-2.3**
SANI	**Sanana**	**3.71**	**184**	P	**Pn**	**04 38 30.8**	**+0.6**
SANI	**Sanana**	**3.71**	**184**	P	**Pn**	**04 38 30.1**	**-0.1**
SANI	**Sanana**	**3.71**	**184**	⇑P	**Pn**	**04 38 30.3**	**+0.1**
LUWI	**Luwuk**	**4.42**	**232**		**Pn**	**04 38 42.5**	**+2.6**
LUWI	**Luwuk**	**4.42**	**232**	P	**Pn**	**04 38 41.6**	**+1.7**
LUWI	**Luwuk**	**4.42**	**232**	P	**Pn**	**04 38 43.7**	**+3.8**
LUWI	**Luwuk**	**4.42**	**232**	P	**Pn**	**04 38 41.7**	**+1.7**
LUWI	**Luwuk**	**4.42**	**232**	⇑P	**Pn**	**04 38 42.6**	**+2.6**
MRSI	**Marisa**	**4.50**	**255**	P	**Pn**	**04 38 43.5**	**+2.6**
NLAI	**Namlea**	**4.96**	**170**	P	**Pn**	**04 38 47.8**	**+0.6**
APSI	**Ampana**	**5.29**	**241**	P	**Pn**	**04 38 56.0**	**+4.1**
DAV	**Davao City (W)**	**5.40**	**353**	Pn	**Pn**	**04 38 56.0**	**+2.7**
DAV	**Davao City (W)**	**5.40**	**353**	Pn	**Pn**	**04 38 55.0**	**+1.7**
DAV	66nm,0.3s,baz=141,slow=1.7,SNR=26			Sn	**Sn**	**04 39 56.0**	**+1.7**
DAV	**Davao City (W)**	**5.40**	**353**	P	**Pn**	**04 38 54.5**	**+1.2**
DAV	**Davao City (W)**	**5.40**	**353**	⇑P	**Pn**	**04 38 55.3**	**+2.0**
DAV	**Davao City (W)**	**5.40**	**353**	P	Pn	04 38 59.0	+5.7
TOLI2	**Tolitoli**	**5.52**	**264**	Pn	**Pn**	**04 38 57.3**	**+2.3**
TOLI2	**Tolitoli**	**5.52**	**264**	P	**Pn**	**04 38 57.0**	**+2.0**
SWI	**Sorong**	**5.59**	**117**	P	**Pn**	**04 38 55.6**	**-0.3**
MSAI	**Masohi**	**5.65**	**152**	P	**Pn**	**04 38 58.7**	**+1.9**
AAI	**Ambon**	**5.67**	**160**	P	**Pn**	**04 38 57.7**	**+0.7**
KDI	**Kendari**	**6.69**	**213**	P	**Pn**	**04 39 13.1**	**+2.1**
PCI	**Palu**	**6.93**	**248**	P	**Pn**	**04 39 17.9**	**+3.5**
BNDI	**Bandanaira**	**7.15**	**150**	P	**Pn**	**04 39 19.8**	**+2.4**
BNDI	**Bandanaira**	**7.15**	**150**	P	**Pn**	**04 39 17.7**	**+0.3**
BNDI	**Bandanaira**	**7.15**	**150**	⇑P	**Pn**	**04 39 18.2**	**+0.9**
FAKI	**Fak Fak**	**7.52**	**127**	Pn	**Pn**	**04 39 22.4**	**-0.1**
FAKI	**Fak Fak**	**7.52**	**127**	P	**Pn**	**04 39 23.1**	**+0.7**
FAKI	**Fak Fak**	**7.52**	**127**	P	**Pn**	**04 39 22.7**	**+0.3**
FAKI	**Fak Fak**	**7.52**	**127**	⇑P	**Pn**	**04 39 22.8**	**+0.4**
TTSI	**Tana Toraja**	**7.98**	**234**	P	**Pn**	**04 39 31.6**	**+2.8**
BBSI	**Bau Bau**	**8.02**	**207**	P	**Pn**	**04 39 31.6**	**+2.2**
KMPI	**Kaimana, Papua**	**9.13**	**126**	P	**Pn**	**04 39 44.5**	**0.0**
SMKI	**Samarinda**	**9.31**	**257**	P	**Pn**	**04 39 49.7**	**+2.7**
KAPI	**Kappang**	**9.31**	**224**	Pn	**Pn**	**04 39 49.6**	**+2.6**
KAPI	23nm,0.3s,baz=44,slow=19,SNR=1.5			Sn	**Sn**	**04 41 30.8**	**+0.4**
KAPI	**Kappang**	**9.31**	**224**	P	**Pn**	**04 39 49.7**	**+2.7**
KAPI				P	**Pn**	**04 39 49.7**	**+2.7**
KAPI	**Kappang**	**9.31**	**224**	P	**Pn**	**04 39 49.6**	**+2.6**
KAPI	**Kappang**	**9.31**	**224**	⇓P	**Pn**	**04 39 49.0**	**+2.0**
KAPI	**Kappang**	**9.31**	**224**	⇑P	**Pn**	**04 39 49.7**	**+2.7**
BKB	**Balikpapan**	**9.82**	**253**	Pn	**Pn**	**04 39 56.7**	**+2.6**
BKB	**Balikpapan**	**9.82**	**253**	P	**Pn**	**04 39 57.9**	**+3.9**
BKB	**Balikpapan**	**9.82**	**253**	P	**Pn**	**04 39 56.6**	**+2.6**
BKB	**Balikpapan**	**9.82**	**253**	⇑P	**Pn**	**04 39 56.8**	**+2.8**
BAKI	**Biak**	**10.24**	**106**	P	**Pn**	**04 40 01.7**	**+2.0**
SRPI	**Serui, Papua**	**10.57**	**109**	P	**Pn**	**04 40 05.1**	**+0.8**
KKM	**Kota Kinabalu**	**10.93**	**294**		**Pn**	**04 40 13.5**	**+4.2**
KKM	**Kota Kinabalu**	**10.93**	**294**	P	**Pn**	**04 40 13.0**	**+3.7**
KKM	**Kota Kinabalu**	**10.93**	**294**	⇑P	**Pn**	**04 40 13.7**	**+4.4**
MMRI	**Maumere**	**11.01**	**201**		**Pn**	**04 40 12.9**	**+2.6**
MMRI	**Maumere**	**11.01**	**201**	P	**Pn**	**04 40 11.9**	**+1.6**
MMRI	**Maumere**	**11.01**	**201**	P	**Pn**	**04 40 12.8**	**+2.6**
SOEI	**Soe**	**11.53**	**190**	Pn	Pn	04 40 22.4	+4.8
SOEI	**Soe**	**11.53**	**190**	P	**Pn**	**04 40 19.3**	**+1.7**
SOEI	**Soe**	**11.53**	**190**	P	**Pn**	**04 40 19.7**	**+2.1**
SOEI	**Soe**	**11.53**	**190**	P	**Pn**	**04 40 21.1**	**+3.5**
SOEI	**Soe**	**11.53**	**190**	⇑P	Pn	04 40 22.7	+5.2
WSI	**Waingapu**	**12.75**	**208**	P	**Pn**	**04 40 37.0**	**+3.0**
SMPI	**Sarmi**	**12.96**	**106**	P	**Pn**	**04 40 38.2**	**+1.3**
WBSI	**Waikabubak, Su**	**13.17**	**211**	P	**Pn**	**04 40 42.9**	**+3.0**
TGY	**Tagaytay City**	**13.42**	**337**	Pn	**Pn**	**04 40 44.0**	**+0.7**
TGY	30nm,0.3s,baz=144,slow=8.7,SNR=12			LR	LR	04 46 18.6	
PLAI	**Plampang**	**13.44**	**219**	P	**Pn**	**04 40 46.2**	**+2.7**
PLAI	**Plampang**	**13.44**	**219**	P	**Pn**	**04 40 45.8**	**+2.3**
SBUM	**Sibu**	**14.07**	**273**		**Pn**	**04 40 55.0**	**+2.9**
SBUM	**Sibu**	**14.07**	**273**	P	**Pn**	**04 40 54.8**	**+2.8**
SBUM	**Sibu**	**14.07**	**273**	⇑P	**Pn**	**04 40 55.0**	**+2.9**
GENI	**Genyem**	**14.52**	**107**	P	**Pn**	**04 40 58.3**	**+0.1**
GENI	**Genyem**	**14.52**	**107**	P	**Pn**	**04 40 58.3**	**+0.1**
GENI	**Genyem**	**14.52**	**107**	⇑P	**Pn**	**04 40 58.7**	**+0.6**
DRS	**Darwin Rock St**	**14.75**	**162**	P	**Pn**	**04 41 00.5**	**-0.7**
STKI	**Sintang**	**14.88**	**264**	P	**P**	**04 41 05.9**	**-1.9**
JAY	**Jayapura**	**15.02**	**106**	Pn	**Pn**	**04 41 03.9**	**-0.8**
JAY	15nm,0.3s,baz=258,slow=5.1,SNR=36			LR	LR	04 46 26.7	
PLAI	**Plampang**	**13.44**	**219**	P	**Pn**	**04 40 46.2**	**+2.7**
PLAI	**Plampang**	**13.44**	**219**	P	**Pn**	**04 40 45.8**	**+2.3**
SBUM	**Sibu**	**14.07**	**273**		**Pn**	**04 40 55.0**	**+2.9**
SBUM	**Sibu**	**14.07**	**273**	P	**Pn**	**04 40 54.8**	**+2.8**
SBUM	**Sibu**	**14.07**	**273**	⇑P	**Pn**	**04 40 55.0**	**+2.9**
GENI	**Genyem**	**14.52**	**107**	P	**Pn**	**04 40 58.3**	**+0.1**
GENI	**Genyem**	**14.52**	**107**	P	**Pn**	**04 40 58.3**	**+0.1**
GENI	**Genyem**	**14.52**	**107**	⇑P	**Pn**	**04 40 58.7**	**+0.6**
DRS	**Darwin Rock St**	**14.75**	**162**	P	**Pn**	**04 41 00.5**	**-0.7**
STKI	**Sintang**	**14.88**	**264**	P	**P**	**04 41 05.9**	**-1.9**
JAY	**Jayapura**	**15.02**	**106**	Pn	**Pn**	**04 41 03.9**	**-0.8**
JAY	15nm,0.3s,baz=258,slow=5.1,SNR=36			LR	LR	04 46 26.7	
JAY	**Jayapura**	**15.02**	**106**	P	**Pn**	**04 41 04.2**	**-0.5**
KMMI	**Kalianget**	**15.04**	**235**	P	**P**	**04 41 08.7**	**-0.8**
MTN	**Manton Dam**	**15.21**	**162**		**Pn**	**04 41 05.0**	**-2.2**
MTN	**Manton Dam**	**15.21**	**162**	P	**Pn**	**04 41 05.6**	**-1.7**
MTN	**Manton Dam**	**15.21**	**162**	P	**Pn**	**04 41 05.8**	**-1.4**
MTN	**Manton Dam**	**15.21**	**162**	⇑P	**Pn**	**04 41 04.0**	**-3.2**
KDU	**Kakadu**	**15.54**	**157**	P	**Pn**	**04 41 09.1**	**-2.4**
KDU	**Kakadu**	**15.54**	**157**	P	**Pn**	**04 41 10.6**	**-0.9**
KDU	**Kakadu**	**15.54**	**157**	⇑P	**Pn**	**04 41 08.1**	**-3.4**
JAGI	**Jajag, Banyuwa**	**15.74**	**230**	P	**P**	**04 41 16.4**	**-1.0**
JAGI	comp=Z,2μm,1.1s			IAmb	IAmb	04 41 23.5	
JAGI	**Jajag, Banyuwa**	**15.74**	**230**	P	**Pn**	**04 41 15.6**	**+1.6**
JAGI	**Jajag, Banyuwa**	**15.74**	**230**	P	**P**	**04 41 16.3**	**-1.0**
JAGI	**Jajag, Banyuwa**	**15.74**	**230**	⇑P	**P**	**04 41 17.2**	**-0.2**
KSM	**Kuching**	**15.96**	**269**	P	**P**	**04 41 19.5**	**-0.3**
KSM	comp=Z,3μm,1.6s			IAmb	IAmb	04 41 26.8	
KSM	**Kuching**	**15.96**	**269**	P	**P**	**04 41 19.4**	**-0.4**
GMJI	**Gumukmas**	**16.17**	**232**	P	**P**	**04 41 22.0**	**-0.1**
GRJI	**Gresik**	**16.20**	**238**	P	**P**	**04 41 22.6**	**+0.2**
TABU	**Tabubil**	**16.45**	**115**	P	**P**	**04 41 24.5**	**-0.8**
TBJI	**Tambak Boyo**	**16.69**	**239**	P	**P**	**04 41 28.3**	**+0.4**
SZP	**Santa**	**16.78**	**340**	P	**P**	**04 41 28.7**	**-0.1**
NGJI	**Ngawi**	**17.30**	**239**	P	**P**	**04 41 36.2**	**+1.6**
MMPI	**Merauke**	**17.30**	**126**	P	**P**	**04 41 34.5**	**-0.2**
KNRA	**Kununurra**	**17.42**	**172**	P	**Pn**	**04 41 34.4**	**-0.8**
KNRA	**Kununurra**	**17.42**	**172**	P	**Pn**	**04 41 33.1**	**-2.1**
PCJI	**Pacitan**	**17.97**	**237**	P	**P**	**04 41 44.2**	**+2.2**
SMRI	**Semarang**	**18.02**	**241**	P	**P**	**04 41 45.5**	**+2.9**
SMRI	**Semarang**	**18.02**	**241**	P	**P**	**04 41 46.2**	**+3.5**
SMRI	**Semarang**	**18.02**	**241**	P	**P**	**04 41 44.8**	**+2.1**
SMRI	**Semarang**	**18.02**	**241**	⇑P	**P**	**04 41 45.4**	**+2.7**
UGM	**Wanagama**	**18.37**	**239**	P	**Pn**	**04 41 49.1**	**+2.2**
UGM	**Wanagama**	**18.37**	**239**	P	**Pn**	**04 41 49.2**	**+2.3**
UGM	**Wanagama**	**18.37**	**239**	P	**Pn**	**04 41 49.6**	**+2.7**
YOGI	**Yogyakarta**	**18.52**	**239**	P	**Pn**	**04 41 50.6**	**+1.9**
TPI	**Tanjungpandan**	**19.13**	**257**	P	**Pn**	**04 41 56.0**	**0.0**
FITZ	**Fitzroy Crossi**	**19.66**	**182**	P	**P**	**04 41 59.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.66**	**182**	P	**P**	**04 41 59.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.66**	**182**	P	**P**	**04 41 59.5**	**-1.0**
FITZ	comp=Z,4.5nm,0.3s,baz=15,slow=7.7,SNR=66			S	**S**	**04 45 40.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.66**	**182**	P	**P**	**04 42 00.5**	**0.0**
JCJI	**Jatiwangi**	**19.72**	**246**	P	**Pn**	**04 42 03.0**	**0.0**
CMJI	**Cimerak**	**20.11**	**242**	P	**P**	**04 42 04.9**	**-0.6**
LEM	**Lembang**	**20.45**	**245**	P	**P**	**04 42 09.5**	**+0.1**
LEM	**Lembang**	**20.45**	**245**	P	**P**	**04 42 09.7**	**+0.4**
PPBI	**Pangkal Pinang**	**20.49**	**259**	P	Pn	04 42 11.4	-0.8
BBJI	**Bungbulang**	**20.68**	**244**	P	**P**	**04 42 11.4**	**-0.4**
CBJI	**Citeko**	**21.00**	**247**	P	**P**	**04 42 15.5**	**+0.4**
CNJI	**Cibinong**	**21.09**	**245**	P	**P**	**04 42 16.9**	**+0.9**
MANU	**Manus Island**	**21.41**	**100**	P	**P**	**04 42 18.1**	**-1.5**
MANU	**Manus Island**	**21.41**	**100**	⇑P	**P**	**04 42 18.1**	**-1.5**
SKJI	**Sukabumi**	**21.49**	**246**	P	**P**	**04 42 21.6**	**+1.2**
SBJI	**Serang**	**21.55**	**249**	P	**P**	**04 42 21.7**	**+0.6**
TWG	**Pinlang**	**21.61**	**347**	IAmb	IAmb	04 42 25.5	
TWG	comp=Z,515nm,0.7s			IAMs_20	IAMs_20	04 51 12.3	
TPRI	**Tanjung Pinang**	**21.76**	**268**	P	**P**	**04 42 25.8**	**+2.6**
GUMO	**Guam**	**21.87**	**56**	P	**P**	**04 42 22.2**	**-2.3**
GUMO	**Guam**	**21.87**	**56**	P	**P**	**04 42 24.3**	**-0.1**
GUMO	**Guam**	**21.87**	**56**	P	**P**	**04 42 23.8**	**-0.7**
GUMO	**Guam**	**21.87**	**56**	P	**P**	**04 42 22.2**	**-2.3**
GUMO	comp=Z,387nm,0.8s			pmax	pmax		
GUMO	comp=Z,8μm,21.0s			MLR	MLR		
GUMO	**Guam**	**21.87**	**56**	⇑P	**P**	**04 42 22.9**	**-1.6**
PMBI	**Palembang**	**21.98**	**258**	P	**P**	**04 42 27.5**	**+1.9**
PMBI	comp=Z,25μm,22.0s			IAMs_20	IAMs_20	04 51 39.4	
PMBI	**Palembang**	**21.98**	**258**	P	**P**	**04 42 28.1**	**+2.4**
PMBI	**Palembang**	**21.98**	**258**	P	**P**	**04 42 28.0**	**+2.4**
YULB	**Yu-li**	**22.12**	**348**	P	**P**	**04 42 22.9**	**-4.2**
YULB	comp=Z,516nm,0.9s			IAmb	IAmb	04 42 36.5	
YULB	comp=Z,21μm,21.0s			IAMs_20	IAMs_20	04 52 23.7	
CGJI	**Cibinong**	**22.14**	**248**	P	**P**	**04 42 26.8**	**-0.5**
BLSI	**Bandar Lampung**	**22.14**	**251**	P	**P**	**04 42 28.4**	**+1.0**
TPUB	**Ta-pu**	**22.18**	**346**	P	**P**	**04 42 25.4**	**-2.3**
TPUB	comp=Z,23μm,21.0s			IAMs_20	IAMs_20	04 51 45.4	
MYKOM	**Kota Tinggi**	**22.41**	**271**	P	**P**	**04 42 31.5**	**+1.2**
MYKOM	comp=Z,2μm,1.7s			IAmb	IAmb	04 42 35.7	
MYKOM	**Kota Tinggi**	**22.41**	**271**	P	**P**	**04 42 32.0**	**+1.7**
MYKOM	**Kota Tinggi**	**22.41**	**271**	⇑P	**P**	**04 42 31.5**	**+1.2**
SSLB	**Suanglung**	**22.57**	**347**	P	**P**	**04 42 29.9**	**-2.1**
SSLB	comp=Z,457nm,0.8s			IAmb	IAmb	04 42 41.6	
SSLB	**Suanglung**	**22.57**	**347**	P	**P**	**04 42 30.7**	**-1.2**
NACB	**Ninganchiao**	**22.82**	**349**	P	**P**	**04 42 34.9**	**+0.5**
COEN	**Coen**	**22.85**	**133**	IAmb	IAmb	04 42 56.7	
YOJ	**Yonaguni jima**	**22.87**	**352**	IAmb	IAmb	04 42 38.1	
YOJ	**Yonaguni jima**	**22.87**	**352**	P	**P**	**04 42 36.0**	**+1.0**
YOJ	**Yonaguni jima**	**22.87**	**352**	⇑P	**P**	**04 42 34.4**	**-0.6**
WRAB	**Tennant Creek**	**22.89**	**160**	*d*P	**P**	**04 42 33.4**	**-1.9**
WRAB	comp=Z,1μm,0.9s			pmax	pmax		
WRAB	comp=Z,14μm,25.0s			MLR	MLR		
KASI	**Kota Agung**	**22.90**	**252**	P	**P**	**04 42 35.2**	**-0.2**
WRA	**Warramunga Arr**	**22.90**	**160**	P	**P**	**04 42 33.3**	**-2.0**
WRA	**Warramunga Arr**	**22.90**	**160**	P	**P**	**04 42 34.2**	**-1.2**
WRA	comp=Z,348nm,0.5s,baz=339,slow=11,SNR=354			PcP	**PcP**	**04 46 25.4**	**+0.4**
WRA	comp=Z,22nm,0.7s,baz=321,slow=2.8,SNR=4.0			S	**S**	**04 46 40.5**	**-1.6**
WRA	comp=Z,117nm,0.9s,baz=339,slow=19,SNR=7.0			ScP	**ScP**	**04 50 03.0**	**+3.7**
WRA	comp=Z,6.7nm,0.8s,baz=322,slow=3.7,SNR=2.6			P3KPbc		05 15 58.7	
MDSI	**Maura Dua**	**22.91**	**254**	P	**P**	**04 42 34.6**	**-1.0**
WB1	**Warramunga Ar.**	**22.92**	**160**	P	**P**	**04 42 34.0**	**-1.6**
WR0	**Warramunga Arr**	**22.98**	**160**	IAmb	IAmb	04 42 48.8	
JMJ	**Miyako jima 2**	**23.02**	**358**	P	**P**	**04 42 37.7**	**+1.2**
LWLI	**Liwa**	**23.17**	**253**	P	**P**	**04 42 37.9**	**-0.4**
YHNB	**Yeheng**	**23.34**	**349**	IAmb	IAmb	04 42 48.4	
YHNB	comp=Z,31μm,22.0s			IAMs_20	IAMs_20	04 52 55.1	
YHNB	**Yeheng**	**23.34**	**349**	P	**P**	**04 42 38.4**	**-1.4**
PMG	**Port Moresby**	**23.54**	**118**	LR	LR	04 54 21.8	
MBWA	**Marble Bar**	**23.58**	**195**	P	**P**	**04 42 41.8**	**-0.3**
MBWA	**Marble Bar**	**23.58**	**195**	P	**P**	**04 42 40.6**	**-1.5**
**MBWA

comp=Z,2μm,4.6s
QZH LR LR
comp=Z,18μm,21.6s
QZH LR LR
comp=Z,10μm,18.2s
QZH LR LR
comp=Z,25μm,25.4s
JMZ Minamidaito 2 24.47 11 P **P 04 42 50.9 +0.8**
JMZ Minamidaito 2 24.47 11 ⇑P **P 04 42 51.7 +1.6**
GZH Guangzhou 24.70 330 P **P 04 42 54.5 +2.2**
GZH pP **pP 04 43 00.9 -3.0**
GZH S **S 04 47 15.9 +4.7**
GZH pmax pmax
comp=Z,460nm,1.0s
GZH pmax pmax
comp=Z,4μm,3.3s
GZH LR LR
comp=Z,14μm,22.2s
GZH LR LR
comp=Z,8μm,20.9s
GZH LR LR
comp=Z,19μm,26.8s
JOW Kunigami 25.08 4 P **P 04 42 56.9 +1.2**
JOW Kunigami 25.08 4 ⇑P **P 04 42 57.4 +1.7**
JOW Kunigami 25.08 4 P **P 04 42 57.4 +1.7**
BKNI Bangkinang 25.27 267 IAmb IAmb 04 43 03.1
comp=Z,836nm,1.1s
BKNI IAMs_20 IAMs_20 04 53 58.6
comp=Z,16μm,21.0s
BKNI Bangkinang 25.27 267 P **P 04 42 56.2 -1.4**
BKNI Bangkinang 25.27 267 P **P 04 43 00.3 +2.7**
BKNI Bangkinang 25.27 267 P **P 04 42 59.4 +1.8**
comp=Z,26μmcomp=Z,17μmcomp=Z,914nm,1.7s
BKNI Bangkinang 25.27 267 ⇑P **P 04 42 58.0 +0.4**
QIS Mount Isa 25.67 150 P **P 04 43 00.5 -0.7**
comp=Z,0.0nmcomp=Z,300nm,1.0s
QIS Mount Isa 25.67 150 P **P 04 43 00.0 -1.2**
KULM Kulim 25.82 279 P **P 04 43 03.1 +0.4**
KULM Kulim 25.82 279 ⇑P **P 04 43 03.0 +0.4**
PPI Padang Panjang 25.96 266 P **P 04 43 04.7 +0.8**
AS31 Alice Springs 26.26 164 P **P 04 43 04.9 -1.6**
comp=Z,0.0nmcomp=Z,125nm,0.7s
ASAR Alice Springs 26.26 164 P **P 04 43 05.6 -0.9**
ASAR Alice Springs 26.26 164 P **P 04 43 05.5 -1.0**
comp=Z,138nm,0.8s,baz=345,slow=7.8,SNR=499
ASAR PcP **PcP 04 46 32.6 +0.3**
comp=Z,22nm,0.5s,baz=346,slow=2.5,SNR=7.1
ASAR S **S 04 47 35.1 -1.0**
comp=Z,54nm,1.0s,baz=347,slow=19,SNR=7.0
ASAR P3KPbc 05 15 46.9
comp=Z,2.8nm,0.9s,baz=160,slow=4.9,SNR=5.9
comp=Z,138nm,0.8s
AS01 Alice Springs 26.28 164 P **P 04 43 06.1 -0.5**
MTSU Mount Surprise 26.52 139 P **P 04 43 07.0 -1.9**
comp=Z,189nm,0.9s
MTSU Mount Surprise 26.52 139 P **P 04 43 07.9 -1.0**
RABL Rabaul 26.52 103 P **P 04 43 07.5 -1.4**
RABL IAMs_20 IAMs_20 04 52 46.8
comp=Z,16μm,22.0s
RABL Rabaul 26.52 103 ⇑P **P 04 43 07.7 -1.3**
PPSI Pulau Pagai 26.63 261 P **P 04 43 10.6 +0.7**
WRKA Warakurna 26.63 176 P **P 04 43 08.8 -1.1**
WRKA Warakurna 26.63 176 P **P 04 43 09.3 -0.5**
WRKA Warakurna 26.63 176 ⇑P **P 04 43 09.8 0.0**
MNSI Mandailing Nat 26.70 268 P **P 04 43 11.2 +0.6**
comp=Z,19μmcomp=Z,10μmcomp=Z,205nm,1.2s
JAM Amami Oshima 26.77 7 P **P 04 43 12.1 +1.1**
GIRL Giralia 26.88 205 P **P 04 43 13.8 +1.9**
GIRL IAmb IAmb 04 43 21.0
comp=Z,690nm,0.8s
GIRL Giralia 26.88 205 P **P 04 43 11.8 -0.2**
comp=Z,926nm,1.0s
GIRL Giralia 26.88 205 P **P 04 43 14.6 +2.6**
GIRL Giralia 26.88 205 ⇑P **P 04 43 12.0 0.0**
SISI Saibi 27.35 264 P **P 04 43 15.7 -0.7**
comp=Z,7μmcomp=Z,388nm,0.9s
RPSI Rantau Prapat 27.35 273 IAmb IAmb 04 43 38.5
comp=Z,563nm,1.3s
PSI Prapat 27.35 273 LR LR 04 55 47.8
comp=Z,12μm,21.7s,baz=88,slow=40
PSI Prapat 27.35 273 P **P 04 43 17.0 +0.4**
SRIT Nakonsritamara 27.42 285 P **P 04 43 18.4 +1.4**
NAYO Nakonayok 27.67 298 P **P 04 43 19.9 +0.7**
TSI Tuntungan 27.74 274 P **P 04 43 21.5 +1.6**
comp=Z,19μmcomp=Z,14μmcomp=Z,403nm,1.6s
NONG Nongkai 27.94 307 P **P 04 43 22.4 +0.8**
PBSI Pulau Batu 28.04 267 P **P 04 43 23.0 +0.4**
comp=Z,18μmcomp=Z,11μmcomp=Z,204nm,1.4s
GULI GuiLin 28.05 328 P **P 04 43 23.6 +1.1**
GULI S **S 04 47 58.8 -5.3**
GULI pmax pmax
comp=Z,110nm,1.2s
GULI pmax pmax
comp=Z,2μm,9.2s
GULI LR LR
comp=Z,12μm,23.3s
GULI LR LR
comp=Z,8μm,20.5s
GULI LR LR
comp=Z,17μm,22.5s
GSI Gunungsitoli 28.69 270 P **P 04 43 28.6 +0.2**
GSI Gunungsitoli 28.69 270 P **P 04 43 28.4 0.0**
comp=Z,18μmcomp=Z,10μmcomp=Z,404nm,1.1s
GSI Gunungsitoli 28.69 270 ⇑P **P 04 43 27.6 -0.8**
TV1H Townsville Har 28.97 137 P **P 04 43 30.8 0.0**
MEEK Meekatharra 29.11 194 P **P 04 43 30.5 -1.4**
comp=Z,254nm,1.2s
MEEK Meekatharra 29.11 194 P **P 04 43 31.7 -0.2**
SLVN Son La 29.27 313 P **P 04 43 34.1 +0.6**
SLVN Son La 29.27 313 P **P 04 43 34.4 +0.9**
CNSH ChangSha 29.28 335 P **P 04 43 33.4 0.0**
CNSH S **S 04 48 21.3 -2.1**
CNSH pmax pmax
comp=Z,82nm,1.1s
CNSH LR LR
comp=Z,7μm,21.2s
CNSH LR LR
comp=Z,5μm,23.9s
CNSH LR LR
comp=Z,15μm,21.6s
LHMI Lhok Sumawe 29.48 278 P **P 04 43 38.5 +3.1**
LHMI Lhok Sumawe 29.48 278 P **P 04 43 36.1 +0.7**
comp=Z,17μmcomp=Z,228nm,1.0s
JCJ Chichijima 29.52 30 P **P 04 43 34.1 -1.5**
JCJ Chichijima 29.52 30 P **P 04 43 34.2 -1.3**
comp=Z,457nm,0.6s,baz=250,slow=3.9,SNR=20
JCJ LR LR 04 54 03.7
comp=Z,5μm,20.3s,baz=227,slow=34
comp=Z,457nm,0.6s
JCJ Chichijima 29.52 30 P **P 04 43 35.8 +0.2**
SRDT SRDT 29.64 297 P **P 04 43 37.9 +1.2**
SSE Sheshan 29.65 351 P **P 04 43 37.5 +0.9**
SSE S **S 04 48 25.0 -4.2**
SSE pmax pmax
comp=Z,73nm,1.1s
SSE pmax pmax
comp=Z,820nm,3.2s
SSE LR LR
comp=Z,3μm,21.4s
SSE LR LR
comp=Z,3μm,16.8s
SNSI Sinabang, Aceh 29.94 272 P **P 04 43 40.7 +1.3**
comp=Z,9μmcomp=Z,264nm,1.1s
MLSI Meulaboh, Aceh 29.94 276 P **P 04 43 39.7 +0.3**
comp=Z,15μmcomp=Z,6μmcomp=Z,223nm,1.0s
OOD Oodnadatta 30.67 163 P **P 04 43 45.1 -0.6**
WHN Wuhan 30.85 340 P **P 04 43 48.1 +0.8**
WHN pP **pP 04 43 55.0 -3.9**
WHN S **S 04 48 47.9 -0.2**
WHN pmax pmax
comp=Z,270nm,1.0s
WHN pmax pmax
comp=Z,3μm,4.4s
WHN LR LR
comp=N,14μm,13.5s
WHN LR LR
comp=E,21μm,14.8s
WHN LR LR
comp=Z,72μm,24.5s
NJ2 Nanjing 31.01 348 ⇑*i*P **P 04 43 49.5 +0.9**
NJ2 pP **pP 04 43 59.3 -1.0**
NJ2 S **S 04 48 45.5 -5.0**
NJ2 pmax pmax
comp=Z,84nm,0.8s
NJ2 pmax pmax
comp=Z,2μm,10.0s
NJ2 LR LR
comp=Z,6μm,21.3s
NJ2 LR LR
comp=Z,8μm,19.9s
NJ2 LR LR
comp=Z,7μm,21.3s
GYA Guiyang 31.02 324 ⇑P **P 04 43 49.8 +0.8**
GYA pP pP 04 43 57.5 -3.1
GYA PP **PP 04 44 56.4 -3.3**
GYA PcP **PcP 04 46 51.0 +6.8**
GYA S **S 04 48 47.6 -3.5**
GYA pmax pmax
comp=Z,250nm,0.9s
GYA LR LR
comp=Z,5μm,16.7s
GYA LR LR
comp=Z,7μm,18.9s
GYA LR LR
comp=Z,11μm,18.2s
BSI Banda Aceh 31.14 278 P **P 04 43 48.8 -1.3**
comp=Z,13μmcomp=Z,3μmcomp=Z,198nm,1.4s
CM31 Chiang Mai Arr 31.57 304 P **P 04 43 53.7 -0.1**
CMAR Chiang Mai Arr 31.57 304 P **P 04 43 54.2 +0.5**
CMAR Chiang Mai Arr 31.57 304 P **P 04 43 53.3 -0.5**
comp=Z,40nm,0.8s,baz=121,slow=7.2,SNR=54
CMAR PcP **PcP 04 46 46.6 +0.9**
comp=Z,27nm,0.9s,baz=162,slow=1.6,SNR=7.9
CMAR ScP **ScP 04 50 29.1 +3.6**
comp=Z,6.3nm,0.9s,baz=145,slow=1.5,SNR=4.6
CMAR LR LR 04 58 04.6
comp=Z,6μm,19.1s,baz=120,slow=39
comp=Z,40nm,0.8s
CMAR Chiang Mai Arr 31.57 304 *ce*P **P 04 43 54.5 +0.7**
CMAR pmax pmax
comp=Z,43nm,0.8s
JNU Nakatsue 31.57 7 IAmb IAmb 04 44 05.3
comp=Z,364nm,1.0s
JNU Nakatsue 31.57 7 P **P 04 43 54.0 +0.4**
comp=Z,209nm,0.9s,baz=183,slow=4.9,SNR=62
JNU LR LR 04 55 36.3
comp=Z,3μm,20.2s,baz=180,slow=34
comp=Z,209nm,0.9s
JNU Nakatsue 31.57 7 P **P 04 43 54.1 +0.4**
JNU Nakatsue 31.57 7 P **P 04 43 53.9 +0.2**
CHTO Chiang Mai 31.74 304 P **P 04 43 55.8 +0.5**
CHTO IAmb IAmb 04 44 33.5
comp=Z,352nm,1.6s
CHTO Chiang Mai 31.74 304 P **P 04 43 55.6 +0.3**
CHTO P **P 04 43 55.6 +0.3**
CHTO Chiang Mai 31.74 304 P **P 04 43 56.0 +0.7**
CHTO Chiang Mai 31.74 304 P **P 04 43 55.8 +0.5**
CHTO pmax pmax
comp=Z,352nm,1.6s
CHTO MLR MLR
comp=Z,7μm,18.0s
CHTO Chiang Mai 31.74 304 P **P 04 43 55.7 +0.5**
CHTO PcP **PcP 04 46 47.9 +1.7**
MORW Morawa 32.11 197 IAmb IAmb 04 44 06.2
comp=Z,252nm,1.1s
MORW Morawa 32.11 197 P **P 04 43 57.2 -1.1**
comp=Z,201nm,1.1s
MORW Morawa 32.11 197 P **P 04 43 58.6 +0.3**
FORT Forrest 32.32 177 P **P 04 43 59.0 -1.2**
comp=Z,0.0nmcomp=Z,951nm,0.6s
FORT Forrest 32.32 177 P **P 04 44 01.0 +0.8**
COCO West Island 32.33 244 P **P 04 44 00.6 +0.1**
COCO West Island 32.33 244 P **P 04 44 00.0 -0.4**
COCO West Island 32.33 244 P **P 04 44 01.5 +1.1**
COCO West Island 32.33 244 P **P 04 44 00.6 +0.1**
COCO pmax pmax
comp=Z,163nm,0.8s
COCO MLR MLR
comp=Z,8μm,22.0s
INKA Innaminka 32.40 156 P **P 04 44 01.3 +0.4**
KMI Kunming 32.54 318 ⇑P **P 04 44 03.9 +1.4**
KMI pP pP 04 44 12.3 -1.9
KMI sP sP 04 44 22.6 +3.2
KMI PP **PP 04 45 18.1 +1.4**
KMI PcP **PcP 04 46 50.5 +2.0**
KMI pmax pmax
comp=Z,170nm,1.3s
KMI pmax pmax
comp=Z,1μm,6.8s
KMI LR LR
comp=Z,12μm,19.3s
KMI LR LR
comp=Z,17μm,23.5s
KMI LR LR
comp=Z,32μm,23.2s
ENH Enshi 32.60 332 P **P 04 44 02.7 +0.1**
ENH Enshi 32.60 332 P **P 04 44 02.5 -0.2**
ENH Enshi 32.60 332 P **P 04 44 02.8 +0.1**
JMN Monobe 32.67 12 P **P 04 44 04.2 +0.9**
JMN Monobe 32.67 12 P **P 04 44 04.3 +1.1**
JTU Tsushima 32.81 5 P **P 04 44 04.6 +0.2**
QLP Quilpie 33.01 150 P **P 04 44 03.3 -3.0**
comp=Z,0.0nmcomp=Z,168nm,1.6s
QLP Quilpie 33.01 150 P **P 04 44 05.6 -0.7**
KMBL Kambalda 33.13 187 P **P 04 44 07.3 +0.1**
comp=Z,377nm,1.1s
KMBL Kambalda 33.13 187 P **P 04 44 08.7 +1.4**
BLDU Ballidu 33.38 195 P **P 04 44 09.3 -0.2**
comp=Z,218nm,1.2s
BLDU Ballidu 33.38 195 P **P 04 44 11.5 +2.0**
JHJ Hachijo jima 2 33.75 21 P **P 04 44 11.9 -0.8**
comp=Z,270nm,0.9s,baz=73,slow=18,SNR=2.9
JHJ LR LR 04 56 47.1
comp=Z,4μm,20.4s,baz=252,slow=34
comp=Z,270nm,0.9s
JHS Saijyo 33.76 10 P **P 04 44 13.6 +0.9**
JAD Aida 33.90 12 P **P 04 44 14.3 +0.4**
LCRK Leigh Creek 33.92 161 P **P 04 44 13.5 -0.6**
KLBR Kellerberrin 34.06 193 P **P 04 44 15.9 +0.5**
PZH PanZhiHua 34.13 318 P **P 04 44 16.5 +0.3**
PZH PcP **PcP 04 46 53.9 +1.1**
PZH S **S 04 49 35.3 -4.2**
PZH PcS **PcS 04 50 36.5 -2.8**
PZH SS **SnSn 04 51 51.5 +1.1**
PZH pmax pmax
comp=Z,180nm,1.0s
PZH pmax pmax
comp=Z,2μm,6.7s
PZH LR LR
comp=Z,12μm,24.0s
PZH LR LR
comp=Z,13μm,23.0s
PZH LR LR
comp=Z,25μm,22.9s
RK1H Rockhampton Ha 34.30 138 P **P 04 44 16.7 -0.8**
TJN Taejon 34.54 2 P **P 04 44 20.4 +1.0**
JSG Sagara 34.66 17 P **P 04 44 22.5 +2.0**
MUN Mundaring 34.81 195 P **P 04 44 21.5 -0.4**
comp=Z,159nm,1.4s
MUN Mundaring 34.81 195 P **P 04 44 23.5 +1.7**
MTKN Mount Kenneth 34.88 196 P **P 04 44 23.0 +0.6**
TATA Tatamba Isabel 34.89 107 P **P 04 44 22.5 -0.3**
INU Inuyama 34.96 15 IAmb IAmb 04 44 36.8
comp=Z,324nm,1.1s
INU Inuyama 34.96 15 P **P 04 44 23.8 +0.7**
INU Inuyama 34.96 15 P **P 04 44 23.6 +0.5**
INU PcP **PcP 04 46 55.2 +0.4**
GD1S Gladstone Soft 35.06 138 P **P 04 44 24.4 +0.3**
SAVO Savo Central 35.10 108 P **P 04 44 24.1 -0.6**
LYN LuoYang 35.15 340 P **P 04 44 23.6 -1.1**
LYN pP pP 04 44 33.6 -2.9
LYN sP sP 04 44 42.4 +0.7
LYN S **S 04 49 52.4 -2.3**
LYN SS **SnSn 04 52 09.8 -5.0**
LYN pmax pmax
comp=Z,140nm,0.7s
LYN pmax pmax
comp=Z,1μm,3.6s
LYN LR LR
comp=Z,7μm,21.3s
LYN LR LR
comp=Z,10μm,21.3s
LYN LR LR
comp=Z,28μm,24.7s
JGF Kuroka 35.29 16 IAmb IAmb 04 44 32.9
comp=Z,649nm,1.7s
JGF Kuroka 35.29 16 P **P 04 44 26.2 +0.2**
JGF Kuroka 35.29 16 P **P 04 44 26.0 0.0**
HNR Honiara 35.31 109 P **P 04 44 24.2 -2.2**
HNR Honiara 35.31 109 LR LR 04 57 52.2
comp=Z,5μm,19.6s,baz=276,slow=35
HNR Honiara 35.31 109 P **P 04 44 24.2 -2.2**
HNR pmax pmax
comp=Z,541nm,1.2s
HNR MLR MLR
comp=Z,5μm,20.0s
TIA Tai'an 35.39 347 P **P 04 44 26.8 0.0**
TIA pP **pP 04 44 34.9 -3.7**
TIA PcP **PcP 04 46 57.3 +1.2**
TIA S **S 04 49 52.9 -5.5**
TIA PcS **PcS 04 50 43.8 +0.6**
TIA pmax pmax
comp=Z,110nm,0.7s
TIA pmax pmax
comp=Z,2μm,5.9s
TIA LR LR
comp=Z,8μm,20.8s
TIA LR LR
comp=Z,4μm,20.1s
TIA LR LR
comp=Z,17μm,25.0s
TNCH TengChong 35.44 313 ⇑*i*P **P 04 44 28.3 +0.7**
TNCH pP pP 04 44 41.8 +2.4
TNCH sP sP 04 44 47.6 +3.0
TNCH S **S 04 49 58.8 -1.0**
TNCH PcS **PcS 04 50 43.1 -1.1**
TNCH pmax pmax
comp=Z,230nm,1.2s
TNCH pmax pmax
comp=Z,1μm,2.8s
TNCH LR LR
comp=Z,3μm,18.3s
TNCH LR LR
comp=Z,5μm,23.8s
TNCH LR LR
comp=Z,12μm,23.4s
NWAO Narrogin (SRO) 35.47 193 P **P 04 44 27.6 +0.1**
NWAO Narrogin (SRO) 35.47 193 LR LR 05 02 58.2
comp=Z,2μm,18.4s,baz=339,slow=43
NWAO Narrogin (SRO) 35.47 193 P **P 04 44 28.6 +1.1**
NWAO Narrogin (SRO) 35.47 193 P **P 04 44 27.6 +0.1**
NWAO pmax pmax
comp=Z,785nm,1.8s
NWAO MLR MLR
comp=Z,6μm,19.0s
NWAO Narrogin (SRO) 35.47 193 P **P 04 44 27.7 +0.3**
BBOO Buckleboo 35.53 166 P **P 04 44 25.7 -2.4**
comp=Z,244nm,1.3s
BBOO Buckleboo 35.53 166 P **P 04 44 27.4 -0.6**
KSAR Wonju Array Be 35.62 2 P **P 04 44 29.7 +1.0**
KSAR Wonju Array Be 35.62 2 P **P 04 44 29.7 +1.0**
INCN Inchon 35.63 0 P **P 04 44 29.9 +1.0**
INCN Inchon 35.63 0 P **P 04 44 30.3 +1.4**
INCN P **P 04 44 30.3 +1.4**
INCN Inchon 35.63 0 P **P 04 44 29.1 +0.2**
INCN Inchon 35.63 0 P **P 04 44 29.9 +1.0**
INCN pmax pmax
comp=Z,118nm,0.9s
INCN MLR MLR
comp=Z,5μm,22.0s
KSRS Korea Array 35.63 2 P **P 04 44 30.0 +1.2**
comp=Z,34nm,0.7s,baz=178,slow=10.0,SNR=64
KSRS PcP **PcP 04 46 58.0 +1.3**
comp=Z,18nm,0.8s,baz=192,slow=3.0,SNR=5.1
KSRS S **S 04 50 07.7 +5.7**
comp=Z,5.4nm,1.2s,baz=185,slow=17,SNR=4.3
KSRS ScP **ScP 04 50 40.7 +1.5**
comp=Z,7.0nm,1.0s,baz=191,slow=3.9,SNR=4.1
comp=Z,34nm,0.7s
KS19 Wonju Array Si 35.68 2 IAmb IAmb 04 44 41.4
comp=Z,274nm,1.0s
ALEG Aligegeo Malai 35.84 107 P **P 04 44 33.1 +2.2**
CD2 Chengdu 36.05 326 ⇑P **P 04 44 32.3 -0.3**
CD2 PP **PP 04 45 55.8 +0.6**
CD2 S **S 04 50 04.9 -3.8**
CD2 sS sS 04 50 28.8 +0.4
CD2 PcS **PcS 04 50 50.9 +5.0**
CD2 pmax pmax
comp=Z,400nm,1.0s
CD2 LR LR
comp=Z,6μm,15.2s
CD2 LR LR
comp=Z,8μm,17.1s
XAN Xi'an 36.05 335 ⇑P **P 04 44 32.0 -0.6**
XAN pP pP 04 44 39.8 -4.5
XAN sP sP 04 44 48.8 -0.7
XAN PP **PP 04 45 58.8 +3.6**
XAN S **S 04 50 11.8 +3.1**
XAN pmax pmax
comp=Z,580nm,1.0s
XAN pmax pmax
comp=Z,2μm,4.0s
XAN LR LR
comp=Z,8μm,14.4s
XAN LR LR
comp=Z,9μm,15.8s
XAN LR LR
comp=Z,12μm,23.4s
XAN Xi'an 36.05 335 P **P 04 44 32.1 -0.4**
EIDS Eidsvold 36.06 140 P **P 04 44 31.2 -1.5**
EIDS IAmb IAmb 04 44 43.1
comp=Z,319nm,1.2s
EIDS IAMs_20 IAMs_20 05 00 45.7
comp=Z,11μm,21.0s
EIDS Eidsvold 36.06 140 P **P 04 44 31.2 -1.5**
comp=Z,0.0nmcomp=Z,229nm,1.6s
EIDS Eidsvold 36.06 140 P **P 04 44 31.3 -1.4**
NGOA Tingoa Renbel 36.07 112 P **P 04 44 33.2 +0.3**
JRY Ryogami san 36.12 17 P **P 04 44 32.1 -1.0**
WHYH Whyalla 36.14 164 P **P 04 44 32.8 -0.4**
STKA Stephens Creek 36.40 158 P **P 04 44 34.9 -0.6**
STKA Stephens Creek 36.40 158 P **P 04 44 33.1 -2.4**
comp=Z,0.0nmcomp=Z,1μm,1.0s
STKA Stephens Creek 36.40 158 P **P 04 44 34.5 -1.0**
comp=Z,95nm,0.6s,baz=330,slow=8.9,SNR=88
STKA LR LR 05 01 04.8
comp=Z,3μm,21.8s,baz=337,slow=39
comp=Z,95nm,0.6s
STKA Stephens Creek 36.40 158 P **P 04 44 34.7 -0.8**
MAJO Matsushiro 36.40 16 P **P 04 44 34.7 -0.8**
MAJO Matsushiro 36.40 16 IAMs_20 IAMs_20 04 58 30.1
comp=Z,10μm,21.0s
MAJO Matsushiro 36.40 16 P **P 04 44 35.3 -0.3**
MAJO Matsushiro 36.40 16 *c i*P **P 04 44 35.2 -0.3**
MAJO MLR MLR
comp=Z,5μm,22.0s
MAJO Matsushiro 36.40 16 P **P 04 44 34.9 -0.6**
MAJO PcP **PcP 04 46 59.5 +0.3**
MAT Matsushiro 36.40 16 P **P 04 44 34.8 -0.7**
MJAR Matsushiro Arr 36.40 16 P **P 04 44 34.5 -1.0**
comp=Z,103nm,0.9s,baz=182,slow=9.0,SNR=88
MJAR PcP **PcP 04 47 00.1 +0.9**
comp=Z,24nm,1.0s,baz=174,slow=2.3,SNR=4.6
MJAR S **S 04 50 19.7 +5.8**
comp=Z,4.9nm,1.1s,baz=209,slow=9.7,SNR=4.0
MJAR LR LR 04 58 52.5
comp=Z,10μm,21.9s,baz=214,slow=35
comp=Z,103nm,0.9s
HTT Hallett 36.90 162 P **P 04 44 40.3 +0.5**
HNS HongShan 37.11 345 ⇑P **P 04 44 41.5 +0.1**
HNS sP **sP 04 45 01.1 +2.7**
HNS S **S 04 50 20.6 -4.0**
HNS SS **SnSn 04 53 02.6 +0.5**
HNS pmax pmax
comp=Z,170nm,1.0s
HNS LR LR
comp=Z,12μm,21.5s
HNS LR LR
comp=Z,5μm,22.3s
HNS LR LR
comp=Z,16μm,23.1s
DL2 Dalian 37.29 354 P **P 04 44 42.3 -0.7**
DL2 S **S 04 50 25.9 -1.4**
DL2 pmax pmax
comp=Z,880nm,0.8s
DL2 pmax pmax
comp=Z,2μm,7.5s
DL2 LR LR
comp=Z,9μm,24.3s
DL2 LR LR
comp=Z,8μm,23.5s
DL2 LR LR
comp=Z,15μm,23.1s
JSD Sado 37.82 16 IAmb IAmb 04 44 56.3
comp=Z,271nm,1.2s

JSD	**Sado**	**37.82 16**	P	**P**	**04 44 47.7 +0.2**
CMSA	**Cobar Meteorol**	**37.83 152**	P	**P**	**04 44 46.6 -1.1**
	comp=Z,133nm,1.4s				
CMSA	**Cobar Meteorol**	**37.83 152**	P	**P**	**04 44 47.1 -0.6**
TIY	**Taiyuan**	**38.05 342**	*e*P	**P**	**04 44 49.9 +0.4**
TIY			PP	**PP**	**04 46 20.9 +3.7**
TIY			S	**S**	**04 50 35.8 -3.3**
TIY			pmax	pmax	
	comp=Z,150nm,0.7s				
TIY			pmax	pmax	
	comp=Z,2μm,9.3s				
TIY			LR	LR	
	comp=Z,9μm,25.5s				
TIY			LR	LR	
	comp=Z,6μm,22.0s				
TIY			LR	LR	
	comp=Z,15μm,24.3s				
TW1H	**Toowoomba 1 Ha**	**38.15 141**	P	**P**	**04 44 49.7 -0.8**
GHSS	**Government Hou**	**38.20 164**	P	**P**	**04 44 51.1 +0.4**
JMM	**Marumori**	**38.41 19**	P	**P**	**04 44 52.9 +0.5**
JMM	**Marumori**	**38.41 19**	P	**P**	**04 44 52.9 +0.5**
AUWSH	**Wavell State H**	**38.73 140**	P	**P**	**04 44 54.7 -0.5**
LKP	**Lekhapani**	**38.73 314**	*e*P	**P**	**04 44 57.9 +2.5**
LKP			IAMs_20	IAMs_20	04 59 13.8
	comp=Z,9μm,22.1s				
JYA	**Atsumi**	**38.74 17**	P	**P**	**04 44 56.4 +1.1**
IMP	**Imphal**	**38.77 309**	*e*P	**P**	**04 44 54.7 -1.1**
IMP			IAmb	IAmb	04 45 03.4
	comp=Z,292nm,1.0s				
IMP			IAMs_20	IAMs_20	05 00 22.4
	comp=Z,11μm,22.2s				
KOHI	**KOHIMA**	**39.12 310**	*e*P	**P**	**04 44 58.1 -0.6**
KOHI			IAmb	IAmb	04 45 06.4
	comp=Z,334nm,0.9s				
KOHI			IAMs_20	IAMs_20	05 00 34.4
	comp=Z,16μm,24.1s				
AZL	**Aizawl**	**39.22 307**	*e*P	**P**	**04 44 59.0 -0.6**
AZL			IAmb	IAmb	04 45 27.1
	comp=Z,420nm,1.2s				
BJT	**Baijiatuau**	**39.25 348**	IAmb	IAmb	04 45 08.7
	comp=Z,299nm,1.0s				
BJT	**Baijiatuau**	**39.25 348**	P	**P**	**04 44 59.7 +0.2**
BJT	**Baijiatuau**	**39.25 348**	P	**P**	**04 44 59.8 +0.4**
BJI	**Beijing**	**39.27 348**	P	**P**	**04 44 59.8 +0.2**
BJI			S	**S**	**04 50 54.3 -2.9**
BJI			pmax	pmax	
	comp=Z,100nm,0.7s				
BJI			pmax	pmax	
	comp=Z,750nm,6.4s				
BJI			LR	LR	
	comp=Z,2μm,24.9s				
BJI			LR	LR	
	comp=Z,2μm,24.9s				
BJI			LR	LR	
	comp=Z,4μm,23.9s				
DIBR	**DIBRUGARH**	**39.49 313**	*e*P	**P**	**04 45 00.4 -1.3**
GC1S	**Gold Coast 1 S**	**39.55 141**	P	**P**	**04 45 01.4 -0.7**
BRDH	**Bariadhala**	**39.57 305**	LR	LR	05 02 34.4
	comp=Z,10μm,21.6s,baz=98,slow=38				
ARMA	**Armidale**	**40.04 145**	P	**P**	**04 45 06.0 -0.3**
ARMA	**Armidale**	**40.04 145**	P	**P**	**04 45 04.9 -1.4**
	comp=Z,0.0nmcomp=Z,314nm,0.9s				
ARMA	**Armidale**	**40.04 145**	P	**P**	**04 45 05.9 -0.3**
SNY	**Shenyang**	**40.04 357**	⇑P	**P**	**04 45 02.8 -3.2**
SNY			S	**S**	**04 51 01.8 -6.9**
SNY			pmax	pmax	
	comp=Z,3μm,7.0s				
SNY			LR	LR	
	comp=Z,7μm,22.1s				
SNY			LR	LR	
	comp=Z,4μm,21.1s				
SNY			LR	LR	
	comp=Z,10μm,23.0s				
LZH	**Lanzhou**	**40.05 331**	⇑P	**P**	**04 45 07.1 +0.7**
LZH			pP	pP	04 45 15.0 -3.3
LZH			sP	sP	04 45 20.3 -3.2
LZH			PP	**PP**	**04 46 40.0 +0.8**
LZH			PcP	**PcP**	**04 47 12.8 +2.1**
LZH			S	**S**	**04 51 02.6 -6.8**
LZH			pmax	pmax	
	comp=Z,440nm,1.3s				
LZH			pmax	pmax	
	comp=Z,2μm,4.7s				
LZH			LR	LR	
	comp=Z,11μm,16.5s				
LZH			LR	LR	
	comp=Z,11μm,16.5s				
LZH			LR	LR	
	comp=Z,19μm,16.8s				
ITAN	**ITANAGAR**	**40.18 312**	*e*P	**P**	**04 45 07.0 -0.4**
ITAN			IAmb	IAmb	04 45 16.1
	comp=Z,405nm,0.8s				
ITAN			IAMs_20	IAMs_20	05 01 09.5
	comp=Z,6μm,23.6s				
ZIRO	**ZIRO**	**40.30 313**	*e*P	**P**	**04 45 07.8 -0.8**
ZIRO			IAMs_20	IAMs_20	05 01 12.2
	comp=Z,8μm,19.5s				
AGT	**Agartala**	**40.45 306**	*e*P	**P**	**04 45 10.3 +0.7**
AGT			IAMs_20	IAMs_20	05 04 06.0
	comp=Z,5μm,19.8s				
ARPS	**Mount Arapiles**	**40.90 161**	P	**P**	**04 45 11.8 -1.3**
	comp=Z,338nm,0.7s				
ARPS	**Mount Arapiles**	**40.90 161**	P	**P**	**04 45 13.1 -0.1**
MSHR	**Mys Shultsa**	**40.95 6***c*	*i*P	**P**	**04 45 14.9 +1.4**
MSHR			MLR	MLR	
	comp=Z,5μm,25.0s				
PSTR	**Posyet**	**40.99 5***c*	*i*P	**P**	**04 45 14.9 +1.1**
JTM	**Tenmabayashi**	**41.17 17**	P	**P**	**04 45 16.2 +0.9**
JTM			IAmb	IAmb	04 45 25.2
	comp=Z,561nm,1.0s				
JTM	**Tenmabayashi**	**41.17 17**	P	**P**	**04 45 16.6 +1.3**
HHC	**Hu-ho-hao-te**	**41.20 343**	⇑*i*P	**P**	**04 45 16.3 +0.6**
HHC			pP	pP	04 45 23.8 -3.9
HHC			S	**S**	**04 51 26.3 0.0**
HHC			pmax	pmax	
	comp=Z,110nm,1.0s				
HHC			pmax	pmax	
	comp=Z,2μm,6.2s				
HHC			LR	LR	
	comp=Z,10μm,26.1s				
HHC			LR	LR	
	comp=Z,3μm,22.7s				
HHC			LR	LR	
	comp=Z,19μm,25.2s				
GUWA	**GUWAHATI**	**41.22 309**	*e*P	**P**	**04 45 15.3 -0.7**
GUWA			IAmb	IAmb	04 45 18.6
	comp=Z,119nm,0.8s				
LUES	**Luesalemba Tem**	**41.30 108**	P	**P**	**04 45 16.2 -0.6**
MGBR	**Mount Gambier**	**41.38 163**	P	**P**	**04 45 17.4 +0.3**
BTO	**Baotou**	**41.45 341**	*e*P	**P**	**04 45 18.5 +0.7**
BTO			pP	**pP**	**04 45 30.9 +1.2**
BTO			sP	**sP**	**04 45 36.3 +1.4**
BTO			PP	**PnPn**	**04 46 59.1 -0.1**
BTO			S	**S**	**04 51 33.0 +3.0**
BTO			SS	**SS**	**04 54 34.3 -1.4**
BTO			pmax	pmax	
	comp=Z,83nm,2.0s				
BTO			pmax	pmax	
	comp=Z,4μm,9.3s				
BTO			LR	LR	
	comp=Z,26μm,24.8s				
BTO			LR	LR	
	comp=Z,17μm,20.0s				
BTO			LR	LR	
	comp=Z,38μm,24.5s				
VLA	**Vladivostok**	**41.56 6***d*	*i*P	**P**	**04 45 20.3 +1.8**
VLA			pmax	pmax	
	comp=Z,261nm,1.5s				
VLA			MLR	MLR	
	comp=Z,3μm,19.0s				
TAWA	**Tawang**	**41.81 311**	*e*P	**P**	**04 45 22.3 +1.0**
TAWA			IAMs_20	IAMs_20	05 02 00.4
	comp=Z,7μm,24.8s				
MGCD	**Mangrove Creek**	**41.87 148**	P	**P**	**04 45 22.1 +0.9**
CN2	**Changchun**	**41.95 359**	⇑P	**P**	**04 45 21.4 -0.2**
CN2			*e*pP	pwP	04 45 35.5 -0.2
CN2			*e*S	**S**	**04 51 37.4 +0.4**
CN2			pmax	pmax	
	comp=Z,20nm,0.7s				
CN2			pmax	pmax	
	comp=Z,2μm,6.0s				
CN2			LR	LR	
	comp=Z,1μm,12.0s				
CN2			LR	LR	
	comp=Z,2μm,12.0s				
CN2			LR	LR	
	comp=Z,2μm,13.0s				
NTLH	**Newcastle Hard**	**41.95 147**	P	**P**	**04 45 22.0 +0.2**
SYDH	**Sydney Hard Ro**	**42.11 149**	P	**P**	**04 45 23.2 +0.1**
RIV	**Riverview**	**42.38 149**	P	**P**	**04 45 25.9 +0.6**
CAN	**Canberra**	**42.51 152**	P	**P**	**04 45 26.6 +0.2**
CAN	**Canberra**	**42.51 152**	P	**P**	**04 45 25.4 -1.0**
	comp=Z,0.0nmcomp=Z,203nm,1.4s				
CAN	**Canberra**	**42.51 152**	P	**P**	**04 45 26.8 +0.4**
CAN	**Canberra**	**42.51 152**	P	**P**	**04 45 26.6 +0.2**
CAN			pmax	pmax	
	comp=Z,145nm,0.9s				
CAN	**Canberra**	**42.51 152**	P	**P**	**04 45 26.8 +0.4**
USA0B	**Ussuriysk Arra**	**42.64 6***c*	*i*P	**P**	**04 45 28.4 +1.1**
USRK	**Ussuriysk Ar.**	**42.64 6**	P	**P**	**04 45 28.1 +0.9**
	comp=Z,154nm,0.9s,baz=190,slow=7.6,SNR=138				
USRK			S	**S**	**04 51 52.6 +5.4**
	comp=Z,12nm,1.1s,baz=198,slow=12,SNR=6.2				
USRK			LR	LR	05 04 09.4
	comp=Z,2μm,20.3s,baz=194,slow=38				
	comp=Z,154nm,0.9s				
CNB	**Canberra Magne**	**42.67 152**	P	**P**	**04 45 28.0 +0.2**
CNB	**Canberra Magne**	**42.67 152**	P	**P**	**04 45 28.4 +0.6**
WOLH	**Wollongong Har**	**42.69 149**	P	**P**	**04 45 28.4 +0.6**
MDJ	**Mudanjiang**	**42.86 3**	IAMs_20	IAMs_20	05 05 15.5
	comp=Z,10μm,22.0s				
MDJ	**Mudanjiang**	**42.86 3**	P	**P**	**04 45 30.3 +1.3**
MDJ			PcS	**PcS**	**04 51 13.1 +1.5**
MDJ			S	**S**	**04 51 52.9 +2.5**
MDJ			pmax	pmax	
	comp=Z,380nm,1.0s				
MDJ			pmax	pmax	
	comp=Z,4μm,5.6s				
MDJ			LR	LR	
	comp=Z,6μm,23.3s				
MDJ			LR	LR	
	comp=Z,2μm,24.5s				
MDJ			LR	LR	
	comp=Z,7μm,22.5s				
MDJ	**Mudanjiang**	**42.86 3**	P	**P**	**04 45 30.0 +0.9**
MDJ	**Mudanjiang**	**42.86 3**	P	**P**	**04 45 29.9 +0.9**
TOO	**Toolangi**	**42.92 157**	P	**P**	**04 45 29.9 +0.2**
TOO	**Toolangi**	**42.92 157**	P	**P**	**04 45 29.5 -0.2**
	comp=Z,0.0nmcomp=Z,43nm,1.3s				
TOO	**Toolangi**	**42.92 157**	P	**P**	**04 45 29.9 +0.2**
TOO			pmax	pmax	
	comp=Z,205nm,1.6s				
MLBS	**Spotswood, Mel**	**42.92 158**	P	**P**	**04 45 30.5 +0.9**
ERM	**Erimo**	**42.93 19**	P	**P**	**04 45 30.5 +0.9**
ERM			IAmb	IAmb	04 45 42.8
	comp=Z,444nm,1.3s				
ERM	**Erimo**	**42.93 19***c*	*i*P	**P**	**04 45 31.0 +1.4**
ERM			pmax	pmax	
	comp=Z,427nm,1.3s				
ERM			MLR	MLR	
	comp=Z,5μm,23.0s				
H11S3	**WAKE ISLAND Hy**	**42.99 64**	T	T	05 32 44.1
	baz=252,slow=75,SNR=451				
XLT	**XiLinHaoTe**	**43.01 349**	⇑*i*P	**P**	**04 45 30.8 +0.4**
XLT			pP	pP	04 45 40.3 -2.1
XLT			sP	sP	04 45 49.9 +2.4
XLT			PcP	**PcP**	**04 47 24.3 +4.2**
XLT			PcS	**PcS**	**04 51 15.3 +2.9**
XLT			S	**S**	**04 51 49.8 -3.0**
XLT			sS	sS	04 52 12.4 -0.4
XLT			SS	**SS**	**04 54 59.5 -6.7**
XLT			pmax	pmax	
	comp=Z,310nm,1.2s				
XLT			LR	LR	
	comp=Z,6μm,21.7s				
XLT			LR	LR	
	comp=Z,8μm,23.0s				
H11S2	**WAKE ISLAND Hy**	**43.01 64**	T	T	05 32 36.2
	baz=252,slow=75,SNR=708				
H11S1	**WAKE ISLAND Hy**	**43.01 64**	T	T	05 32 38.2
	baz=252,slow=75,SNR=422				
GEXS	**Deakin Univers**	**43.03 159**	P	**P**	**04 45 31.8 +1.3**
KOUNC	**Koumac, New Ca**	**43.29 123**	P	**P**	**04 45 32.3 -0.6**
LSA	**Lhasa**	**43.48 313**	IAmb	IAmb	04 45 45.5
	comp=Z,293nm,1.0s				
LSA	**Lhasa**	**43.48 313**	P	**P**	**04 45 36.0 +1.1**
LSA			S	**S**	**04 51 57.9 -2.9**
LSA			pmax	pmax	
	comp=Z,170nm,1.3s				
LSA			LR	LR	
	comp=Z,9μm,39.2s				
LSA			LR	LR	
	comp=Z,3μm,24.5s				
LSA	**Lhasa**	**43.48 313**	P	**P**	**04 45 36.3 +1.4**
LSA			P	**P**	**04 45 36.3 +1.4**
LSA	**Lhasa**	**43.48 313**	P	**P**	**04 45 36.0 +1.1**
LSA	**Lhasa**	**43.48 313**	P	**P**	**04 45 36.0 +1.1**
H11N1	**WAKE ISLAND Hy**	**43.56 63**	P	**P**	**04 45 33.4 -1.5**
	baz=230,slow=12,SNR=10				
H11N1			T	T	05 33 07.6
	baz=239				
H11N2	**WAKE ISLAND Hy**	**43.58 63**	P	**P**	**04 45 34.6 -0.4**
	baz=230,slow=12,SNR=6.4				
H11N2			T	T	05 33 54.6
	baz=239,slow=74				
H11N3	**WAKE ISLAND Hy**	**43.58 63**	P	**P**	**04 45 35.7 +0.6**
	baz=230,slow=12,SNR=16				
H11N3			T	T	05 34 00.4
	baz=239,slow=74				
JPG	**JALPAIGURI**	**43.72 308**	⇑*e*P	**P**	**04 45 37.1 +0.8**
BNX	**BinXian**	**43.89 1**	⇑P	**P**	**04 45 37.3 0.0**
BNX			sP	**sP**	**04 45 56.0 +1.6**
BNX			PP	**PP**	**04 47 20.8 +0.5**
BNX			S	**S**	**04 52 06.6 +1.1**
BNX			pmax	pmax	
	comp=Z,130nm,1.1s				
BNX			pmax	pmax	
	comp=Z,3μm,6.0s				
BNX			LR	LR	
	comp=Z,6μm,25.5s				
BNX			LR	LR	
	comp=Z,3μm,15.2s				
BNX			LR	LR	
	comp=Z,9μm,22.8s				
SANVU	**Saraoutou**	**43.90 114**	P	**P**	**04 45 38.0 +0.2**
TEY	**Ternei**	**44.13 11**	⇑*e*P	**P**	**04 45 39.8 +0.6**
TEY			*e*		04 52 10.4
TEY			pmax	pmax	
	comp=E,10.0nm,0.5s				
TEY			pmax	pmax	
	comp=N,90nm,1.3s				
TEY			pmax	pmax	
	comp=Z,170nm,1.3s				
TEY			pmax	pmax	
	comp=N,200nm,8.1s				
TEY			pmax	pmax	
	comp=Z,300nm,8.3s				
GTK	**Tadong**	**44.17 309**	*e*P	**P**	**04 45 40.1 -0.1**
GTK			IAmb	IAmb	04 45 51.6
	comp=Z,151nm,0.8s				
GTA	**Gaotai**	**44.63 331**	P	**P**	**04 45 44.8 +1.2**
GTA			PcP	**PP**	**04 47 27.8 -0.6**
GTA			PP	**PP**	**04 47 33.8 +5.4**
GTA			ScP	**ScP**	**04 51 17.8 +3.3**
GTA			PcS	**PcS**	**04 51 19.9 +0.5**
GTA			S	**S**	**04 52 14.8 -1.9**
GTA			SS	**ScS**	**04 55 32.0 -5.8**
GTA			ScS	**SS**	**04 55 38.9 +0.6**
GTA			pmax	pmax	
	comp=Z,130nm,0.7s				
GTA			pmax	pmax	
	comp=Z,1μm,6.7s				
GTA			LR	LR	
	comp=Z,6μm,21.8s				
GTA			LR	LR	
	comp=Z,9μm,20.0s				
GTA			LR	LR	
	comp=Z,15μm,22.2s				
ASAJ	**Asahikawa**	**44.67 17**	P	**P**	**04 45 44.0 +0.4**
	comp=Z,202nm,0.9s,baz=230,slow=13,SNR=41				
ASAJ			LR	LR	05 04 03.5
	comp=Z,8μm,21.8s,baz=240,slow=36				
	comp=Z,202nm,0.9s				
ASAJ	**Asahikawa**	**44.67 17**	P	**P**	**04 45 45.0 +1.3**
JKA	**Kamikawa-asahi**	**44.67 17**	IAmb	IAmb	04 45 45.7
	comp=Z,307nm,1.0s				
JKA			IAMs_20	IAMs_20	05 03 51.7
	comp=Z,10μm,22.0s				
GOMU	**GeErMu**	**45.03 323**	P	**P**	**04 45 47.8 +0.7**
GOMU			pP	pP	04 45 51.8 -7.3
GOMU			sP	sP	04 45 55.6 -8.7
GOMU			PcP	**PcP**	**04 47 28.8 +1.3**
GOMU			S	**S**	**04 52 23.8 +0.8**
GOMU			sS	sS	04 52 46.1 +3.0
GOMU			SS	**ScS**	**04 55 32.5 -8.4**
GOMU			pmax	pmax	
	comp=Z,210nm,1.4s				
GOMU			LR	LR	
	comp=N,8μm,19.6s				
GOMU			LR	LR	
	comp=E,10μm,22.0s				
GOMU			LR	LR	
	comp=Z,18μm,21.8s				
KNTI	**KHUNTI**	**45.07 301**	*e*P	**P**	**04 45 47.4 +0.1**
LHI	**Lord Howe Isla**	**45.37 139**	P	**P**	**04 45 48.2 -1.2**
RAGD	**RAYAGADA**	**45.39 296**	*e*P	**P**	**04 45 50.2 +0.5**
RAGD			IAmb	IAmb	04 45 58.7
	comp=Z,172nm,1.0s				
DVP	**Devils Point**	**45.56 117**	P	**P**	**04 45 53.0 +1.9**
YUK	**Yuzh-Kuril'sk**	**45.62 20**	*e*P	**P**	**04 45 50.3 -0.8**
YUK			*i*		04 47 40.1
YUK			*i* S	**S**	**04 52 29.3 -1.3**
YUK			pmax	pmax	
	comp=Z,1μm,1.1s				
YUK			pmax	pmax	
	comp=Z,826nm,1.3s				
YUK			pmax	pmax	
	comp=N,509nm,1.1s				
YUK			pmax	pmax	
	comp=E,443nm,1.2s				
NOUC	**Port Laguerre**	**45.66 123**	P	**P**	**04 45 50.8 -1.1**
PALK	**Pallekele**	**45.75 278**	P	**P**	**04 45 51.8 -0.9**
PALK	**Pallekele**	**45.75 278**	P	**P**	**04 45 52.3 -0.5**
PALK	**Pallekele**	**45.75 278**	P	**P**	**04 45 51.8 -0.9**
PALK			pmax	pmax	
	comp=Z,241nm,1.4s				
PALK			MLR	MLR	
	comp=Z,5μm,22.0s				
DZM	**Mont Dzumac**	**45.76 123**	IAmb	IAmb	04 46 00.9
	comp=Z,370nm,1.5s				
DZM	**Mont Dzumac**	**45.76 123**	LR	LR	05 07 51.9
	comp=Z,3μm,18.8s,baz=324,slow=40				
DZM	**Mont Dzumac**	**45.76 123**	P	**P**	**04 45 52.4 -0.4**
ONTNC	**Ouen Toro**	**45.87 124**	IAmb	IAmb	04 45 54.6
	comp=Z,634nm,2.0s				
ONTNC	**Ouen Toro**	**45.87 124**	P	**P**	**04 45 53.3 -0.2**
MALK	**Mahakanadarawa**	**46.01 280**	P	**P**	**04 45 52.8 -2.0**
YATNC	**Mamie plateau,**	**46.13 123**	P	**P**	**04 45 55.8 +0.2**
OUENC	**Ouen Island, N**	**46.24 124**	P	**P**	**04 45 57.0 +0.6**
TARA	**Tarawa**	**46.63 90**	IAMs_20	IAMs_20	05 03 06.7
	comp=Z,7μm,22.0s				
PINNC	**Pines Island,**	**46.83 123**	IAmb	IAmb	04 46 22.1
	comp=Z,546nm,1.5s				
PINNC	**Pines Island,**	**46.83 123**	P	**P**	**04 46 01.9 +0.9**
MARNC	**Mare, Loyalty**	**46.85 122**	P	**P**	**04 46 01.9 +0.7**
CORO	**Coronation Par**	**46.93 158**	P	**P**	**04 46 01.1 -0.4**
YSS	**Yuzhno-Sakhali**	**47.33 15**	P	**P**	**04 46 04.8 +0.4**
YSS			IAmb	IAmb	04 46 05.8
	comp=Z,260nm,1.1s				
YSS	**Yuzhno-Sakhali**	**47.33 15**	P	**P**	**04 46 05.9 +1.4**
YSS	**Yuzhno-Sakhali**	**47.33 15**α	*i*P	**P**	**04 46 05.3 +0.8**
YSS			*e**SP	**sP**	**04 46 24.7 +3.0**
YSS			*e*		04 47 55.4
YSS			*e*S	**S**	**04 52 55.3 +0.4**
YSS			pmax	pmax	
	comp=Z,2μm,5.8s				
YSS			pmax	pmax	
	comp=Z,170nm,1.2s				
YSS			pmax	pmax	
	comp=Z,3μm,5.5s				
YSS			pmax	pmax	
	comp=N,2μm,4.8s				
YSS			pmax	pmax	
	comp=E,1μm,4.2s				
YSS	**Yuzhno-Sakhali**	**47.33 15**	P	**P**	**04 46 04.8 +0.4**
KUR	**Kuril'sk**	**47.36 21**	*e*P	**P**	**04 46 04.0 -0.8**
KUR			*e**PP	**pP**	**04 46 14.0 -2.8**
KUR			*e*		04 47 55.3
KUR			*e*SSS	SSS	04 57 24.6
KUR			pmax	pmax	
	comp=Z,698nm,1.5s				
KUR			pmax	pmax	
	comp=N,340nm,1.0s				
KUR			MLR	MLR	
	comp=Z,4μm,23.0s				
BLSP	**Bilaspur**	**47.47 299**	*e*P	**P**	**04 46 05.4 -0.7**
BLSP			IAmb	IAmb	04 46 15.2
	comp=Z,185nm,1.1s				
BLSP			IAMs_20	IAMs_20	05 03 43.7
	comp=Z,5μm,20.1s				
KLR	**Kul'dur**	**47.60 5**	P	**P**	**04 46 07.0 +0.4**
	comp=Z,92nm,0.7s,baz=206,slow=5.3,SNR=190				
KLR			S	**S**	**04 53 04.5 +5.6**
	comp=Z,4.5nm,1.0s,baz=229,slow=20,SNR=4.1				
	comp=Z,92nm,0.7s				
KLR	**Kul'dur**	**47.60 5***c*	*i*P	**P**	**04 46 06.9 +0.3**
KLR			pmax	pmax	
	comp=Z,199nm,1.0s				
KLR			MLR	MLR	
	comp=Z,7μm,22.0s				
HIA	**Hailar**	**47.74 354**	P	**P**	**04 46 09.4 +1.7**
MOO	**Moorlands**	**47.81 159**	P	**P**	**04 46 09.0 +0.7**
VAR	**Varanasi**	**47.83 303**	*e*P	**P**	**04 46 07.8 -1.0**
TAU	**Tasmania Unive**	**48.27 159**	P	**P**	**04 46 12.0 +0.2**
TAU	**Tasmania Unive**	**48.27 159**	P	**P**	**04 46 13.2 +1.4**
TAU	**Tasmania Unive**	**48.27 159**	P	**P**	**04 46 12.0 +0.2**
TAU			pmax	pmax	
	comp=Z,103nm,1.1s				
HEH	**HeiHe**	**48.41 1**	*e*P	**P**	**04 46 13.3 +0.5**
HEH			pP	**pP**	**04 46 24.3 -0.6**
HEH			PP	**PP**	**04 48 09.8 +4.0**
HEH			S	**S**	**04 53 07.3 -2.8**
HEH			SS	**SS**	**04 56 38.3 -2.1**
HEH			pmax	pmax	
	comp=Z,350nm,1.2s				
HEH			pmax	pmax	
	comp=Z,4μm,6.9s				
HEH			LR	LR	
	comp=Z,4μm,23.1s				
HEH			LR	LR	
	comp=Z,5μm,23.1s				
HEH			LR	LR	
	comp=Z,11μm,23.3s				
ALBI	**Allahabad**	**48.85 303**	*e*P	**P**	**04 46 15.9 -0.8**
ALBI			IAmb	IAmb	04 46 25.8
	comp=Z,223nm,1.4s				
ALBI			IAMs_20	IAMs_20	05 05 53.9
	comp=Z,11μm,22.1s				
ULN	**Ulaanbaatar**	**48.92 343**	P	**P**	**04 46 17.5 +0.5**
ULN			IAmb	IAmb	04 46 26.3
	comp=Z,270nm,0.9s				
ULN	**Ulaanbaatar**	**48.92 343**	IAMs_20	IAMs_20	05 07 32.4
	comp=Z,7μm,22.0s				
ULN	**Ulaanbaatar**	**48.92 343**	P	**P**	**04 46 17.8 +0.8**
ULN			P	**P**	**04 46 17.8 +0.8**
ULN	**Ulaanbaatar**	**48.92 343**	P	**P**	**04 46 17.5 +0.5**
ULN			pmax	pmax	
	comp=Z,270nm,1.0s				
ULN			MLR	MLR	
	comp=Z,7μm,22.0s				
ULN	**Ulaanbaatar**	**48.92 343**	P	**P**	**04 46 17.8 +0.8**
SONM	**Songino Array**	**49.09 342**	P	**P**	**04 46 18.5 +0.2**
SONM			IAmb	IAmb	04 46 27.4
	comp=Z,268nm,1.2s				
SONM	**Songino Array**	**49.09 342**	P	**P**	**04 46 17.9 -0.4**
	comp=Z,91nm,0.7s,baz=153,slow=8.6,SNR=227				
SONM			PcP	**PcP**	**04 47 42.4 +1.0**
	comp=Z,39nm,0.9s,baz=152,slow=4.0,SNR=2.2				
SONM			ScP	**ScP**	**04 51 38.2 +5.1**
	comp=Z,4.0nm,0.9s,baz=147,slow=2.9,SNR=2.2				
SONM			LR	LR	05 10 16.1
	comp=Z,7μm,21.3s,baz=157,slow=40				
SONM			PKPPKP	**P'P'df**	**05 17 15.9 -2.5**
	comp=Z,0.7nm,0.9s,baz=96,slow=1.5,SNR=3.6				
	comp=Z,91nm,0.7s				
UGL	**Uglegorsk**	**49.13 14**	*e*P	**P**	**04 46 19.6 +1.3**
UGL			*e*S	**S**	**04 53 23.1 +2.8**
UGL			*e*SS	**SS**	**04 56 54.0 +2.0**
UGL			pmax	pmax	
	comp=Z,4μm,2.9s				
UGL			pmax	pmax	
	comp=Z,500nm,1.0s				
UGL			smax	smax	
	comp=E,3μm,8.8s				
UGL			smax	smax	

comp=N,1μm,9.8s
KOD Kodaikanal 49.22 282 *e*P **P 04 46 18.4 -1.6**
KOD IAmb IAmb 04 46 24.1
comp=Z,126nm,0.8s
KOD IAMs_20 IAMs_20 05 06 22.1
comp=Z,12μm,21.1s
HYB Hyderabad 49.41 292 *e*P **P 04 46 20.3 -0.8**
HYB *e*p**P** **04 46 33.8 +0.5**
HYB *e*s**P** **04 46 39.4 +0.9**
HYB IVmB_BB 04 46 39.7
comp=Z,3μm,2.3s
HYB *e*PcP **PcP 04 47 42.3 -0.7**
HYB *e*ScP **ScP 04 51 34.8 -0.1**
HYB *e*S **S 04 53 26.1 +0.8**
HYB *e*ScS **ScS 04 56 07.4 -2.3**
HYB *e*SS **SS 04 56 57.8 +0.1**
HYB IVMs_BB IVMs_BB 05 05 51.5
comp=Z,3μm,27.4s
GRNR Gornyy 49.66 8⇑ *i*P **P 04 46 23.7 +1.3**
GRNR *e*S **S 04 53 33.7 +5.9**
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=N,60nm,1.1s
GRNR pmax pmax
comp=Z,120nm,1.1s
GRNR smax smax
comp=E,7.0nm,1.0s
GRNR MLR MLR
comp=E,1μm,17.0s
GRNR MLR MLR
comp=N,2μm,22.0s
GRNR MLR MLR
comp=Z,2μm,19.0s
NGP Nagpur 49.90 296 *e*P **P 04 46 24.5 -0.2**
NGP IAmb IAmb 04 46 33.3
comp=Z,53nm,0.6s
NGP IAMs_20 IAMs_20 05 05 21.3
comp=Z,8μm,24.8s
BNDA BANDA 50.16 302 *e*P **P 04 46 25.4 -1.2**
LKN LUCKNOW 50.16 304 *e*P **P 04 46 25.1 -1.5**
TYV Tymovskoe 50.93 13 *e*P **P 04 46 33.5 +1.5**
TYV *e*S **S 04 53 46.2 +0.8**
TYV pmax pmax
comp=Z,109nm,1.2s
TYV pmax pmax
comp=Z,3μm,3.3s
TYV smax smax
comp=E,24nm,1.9s
TYV smax smax
comp=N,600nm,4.9s
TYV smax smax
comp=E,3μm,4.9s
CIT Chita 51.29 350 *e*P **P 04 46 36.4 +1.7**
CIT *e* 04 46 44.6
CIT *e* 04 46 57.0
CIT *e* 04 47 50.8
CIT *e* 04 49 34.2
CIT *e* 04 53 58.0
CIT *e* 04 56 24.8
CIT pmax pmax
comp=Z,2μm,1.9s
FRKB FARRUKHABAD 51.48 304 *e*P **P 04 46 35.8 -0.7**
AKL Akola 51.61 295 *e*P **P 04 46 37.1 -0.6**
AKL IAmb IAmb 04 46 47.0
comp=Z,380nm,1.2s
AKL IAMs_20 IAMs_20 05 05 42.3
comp=Z,6μm,21.6s
JHNI Jhansi 51.67 301 *e*P **P 04 46 35.7 -2.3**
JHNI IAmb IAmb 04 46 46.1
comp=Z,1μm,1.9s
JHNI IAMs_20 IAMs_20 05 06 22.0
comp=Z,9μm,24.0s
LGTI Lohaghat 51.72 307 *e*P **P 04 46 37.6 -0.6**
LGTI IAmb IAmb 04 46 46.3
comp=Z,158nm,0.7s
PTH Pithoragarh 51.78 307 *e*P **P 04 46 38.1 -0.8**
ZEA Zeya 51.89 1 *e*P **P 04 46 39.5 +0.4**
ZEA *e**PP **pwP 04 46 52.5 -1.0**
ZEA *e* 04 47 01.6
ZEA *e* 04 47 50.4
ZEA *e* 04 48 44.9
ZEA *e*S **S 04 53 58.5 -0.1**
ZEA *e* 04 56 27.9
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,1μm,0.8s
ZEA pmax pmax
comp=N,700nm,6.9s
ZEA pmax pmax
comp=Z,1μm,6.8s
ZEA smax smax
comp=N,500nm,7.4s
ZEA smax smax
comp=E,1μm,8.0s
ZEA MLR MLR
comp=E,1μm,23.0s
ZEA MLR MLR
comp=N,3μm,20.0s
ZEA MLR MLR
comp=Z,3μm,23.0s
NRDN NARMADA NAGAR 52.02 298 *e*P **P 04 46 43.7 +3.0**
NRDN IAmb IAmb 04 46 53.5
comp=Z,292nm,1.2s
NRDN IAMs_20 IAMs_20 05 06 12.7
comp=Z,7μm,22.7s
MNGI Mangalore 52.14 285 *e*P **P 04 46 40.2 -1.4**
MNGI IAmb IAmb 04 46 45.8
comp=Z,58nm,0.8s
ZAK Zakamensk 52.30 342 *e*P **P 04 46 42.2 -0.2**
ZAK pmax pmax
comp=Z,74nm,1.2s
GUNA GUNA 52.45 300 *e*P **P 04 46 43.0 -0.8**
GUNA IAmb IAmb 04 46 51.6
comp=Z,312nm,1.1s
GUNA IAMs_20 IAMs_20 05 06 43.4
comp=Z,6μm,22.2s
NKL Nikolayevsk 52.67 11 *e*P **P 04 46 42.2 -2.7**
NKL *e*S **S 04 54 07.9 -1.3**
NKL pmax pmax
comp=N,441nm,1.1s
NKL pmax pmax
comp=E,341nm,1.1s
NKL pmax pmax
comp=Z,1μm,1.1s
NKL smax smax
comp=E,329nm,2.6s
NKL smax smax
comp=N,963nm,5.3s
JOSI Joshimath 52.71 308 *e*P **P 04 46 45.7 -0.2**
JOSI IAmb IAmb 04 46 53.9
comp=Z,191nm,1.0s
TKRD Thakurdwara 52.72 306 *e*P **P 04 46 43.6 -2.1**
KAAM Kaadhehdhoo 53.28 269 IAMs_20 IAMs_20 05 08 06.5
comp=Z,6μm,22.0s
KAAM Kaadhehdhoo 53.28 269 P **P 04 46 49.9 -0.3**
KAD Karad 53.47 290 *e*P **P 04 46 49.5 -2.0**
KAD IAmb IAmb 04 47 00.2
comp=Z,111nm,1.0s
IRK Irkutsk 53.64 343 *e*P **P 04 46 52.6 +0.5**
IRK pmax pmax
comp=Z,639nm,2.9s
SONA Sohna 53.84 304 *e*P **P 04 46 52.6 -1.3**
SONA IAmb IAmb 04 47 01.3
comp=Z,291nm,0.9s
LDR Lodi Road 53.85 305 *e*P **P 04 46 52.3 -1.7**
NDI New Delhi 53.88 305 *e*P **P 04 46 52.6 -1.7**
NDI IAmb IAmb 04 47 01.1
comp=Z,159nm,0.6s
AYAN Aya Nagar 53.89 304 *e*P **P 04 46 52.6 -1.7**
AYAN IAmb IAmb 04 47 01.7
comp=Z,419nm,1.4s
NPLP NPLP New Delhi 53.91 305 *e*P **P 04 46 53.2 -1.3**
HNLY HANLEY 54.08 310 *e*P **P 04 46 56.3 0.0**
HNLY IAmb IAmb 04 47 05.1
comp=Z,205nm,1.0s
HNLY IAMs_20 IAMs_20 05 00 56.7
comp=Z,3μm,24.6s
MOY Mondy 54.15 341 *e*P **P 04 46 56.8 +0.8**
MOY pmax pmax
comp=Z,418nm,2.7s
WMQ Urumqi 54.15 326 ⇑P **P 04 46 55.9 -0.2**
WMQ pP pP 04 47 05.3 -3.1
WMQ S **S 04 54 26.6 -3.2**
WMQ *c*S **ScS 04 56 40.0 -1.8**
WMQ pmax pmax
comp=Z,290nm,0.9s
WMQ pmax pmax
comp=Z,710nm,3.8s
WMQ LR LR
comp=Z,10μm,22.1s
WMQ LR LR
comp=Z,9μm,23.9s
WMQ LR LR
comp=Z,13μm,23.3s
KUDL Kundal 54.30 304 *e*P **P 04 46 55.4 -1.9**
KUDL IAmb IAmb 04 47 04.5
comp=Z,221nm,0.9s
DGAR Diego Garcia 54.45 260 P **P 04 46 57.9 -0.7**
DGAR Diego Garcia 54.45 260 IAMs_20 IAMs_20 05 07 45.3
comp=Z,7μm,22.0s
DGAR Diego Garcia 54.45 260 P **P 04 46 57.0 -1.6**
DGAR P **P 04 46 57.0 -1.6**
DGAR P **P 04 46 57.0 -1.6**
DGAR Diego Garcia 54.45 260 P **P 04 46 57.9 -0.7**
DGAR pmax pmax
comp=Z,574nm,1.5s
MSVF Nonsavu 54.50 113 P **P 04 46 59.6 +0.5**
MSVF IAmb IAmb 04 47 12.1
comp=Z,301nm,1.1s
MSVF Nonsavu 54.50 113 LR LR 05 08 52.1
comp=Z,4μm,21.5s,baz=287,slow=34
MSVF Nonsavu 54.50 113 P **P 04 46 59.3 +0.2**
MSVF Nonsavu 54.50 113*c i*P **P 04 46 59.5 +0.5**
MSVF pmax pmax
comp=Z,336nm,1.1s
MSVF MLR MLR
comp=Z,3μm,18.0s
KKR Kurukshetra 54.66 306 *e*P **P 04 46 59.7 -0.3**
SKR Severo-Kuril's 54.97 23|| *e*P **P 04 47 00.4 -1.3**
AJM Ajmer 55.32 301 *e*P **P 04 47 04.2 -0.6**
AJM IAmb IAmb 04 47 13.2
comp=Z,149nm,1.0s
BHK Bhakra 55.52 308 *e*P **P 04 47 06.6 +0.4**
BHK IAmb IAmb 04 47 16.0
comp=Z,353nm,0.8s
THN Thein Dam 56.46 308 *e*P **P 04 47 12.1 -0.7**
THN IAmb IAmb 04 47 21.9
comp=Z,283nm,0.8s
BOD Bodaibo 56.82 352 *e*P **P 04 47 15.6 +0.7**
BOD pmax pmax
comp=Z,1μm,1.8s
BKNR BIKANER 56.94 303 *e*P **P 04 47 14.8 -1.6**
SRGN SRI GANGA NAGA 57.04 305 *e*P **P 04 47 16.3 -0.7**
JMU Jammu 57.20 308 *e*P **P 04 47 19.2 +1.1**
JMU IAmb IAmb 04 47 23.7
comp=Z,227nm,0.5s
FUTU Fugatoga 57.30 108 P **P 04 47 20.0 +1.0**
FUTU IAmb IAmb 04 47 53.4
comp=Z,151nm,1.1s
FUTU Fugatoga 57.30 108 P **P 04 47 20.0 +1.0**
PEA0B Petropavlovsk- 57.49 22 IAmb IAmb 04 47 21.5
comp=Z,138nm,0.8s
PEA0B Petropavlovsk- 57.49 22*c i*P **P 04 47 20.7 +1.0**
PETK Petropavlovsk- 57.49 22 P **P 04 47 19.7 0.0**
PETK Petropavlovsk- 57.49 22 P **P 04 47 19.8 +0.1**
comp=Z,194nm,1.0s,baz=191,slow=6.2,SNR=156
PETK LR LR 05 11 05.9
comp=Z,1μm,20.8s,baz=214,slow=35
comp=Z,194nm,1.0s
PETK Petropavlovsk- 57.49 22 P **P 04 47 19.7 0.0**
PET Petropavlovsk 57.78 22 P **P 04 47 22.2 +0.5**
PET Petropavlovsk 57.78 22 P **P 04 47 22.2 +0.5**
PET Petropavlovsk 57.78 22 *e*P **P 04 47 22.6 +0.9**
PET *e**SP **sP 04 47 44.2 +5.1**
PET *e*S **S 04 55 18.8 +1.2**
PET pmax pmax
comp=Z,220nm,1.3s
PET pmax pmax
comp=Z,800nm,11.3s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 57.78 22 P **P 04 47 21.3 -0.4**
comp=Z,237nm,1.5s
PET Petropavlovsk 57.78 22 P **P 04 47 22.4 +0.7**
WUS Wushi 57.79 319 IAMs_20 IAMs_20 05 12 29.5
comp=Z,7μm,22.0s
WUS Wushi 57.79 319 IAmb IAmb 04 47 32.6
comp=Z,232nm,1.1s
ZSN Zaisan 57.98 328 *e*P **P 04 47 22.9 -0.4**
ZSN *e*S **S 04 55 20.8 +0.3**
ZSN Zaisan 57.98 328 *e*P **P 04 47 23.0 -0.4**
ZSN *e*S **S 04 55 20.9 +0.3**
SHLS Shalkode 58.64 321 *e*P **P 04 47 26.0 -2.1**
SHLS pmax pmax
comp=Z,137nm,0.9s
SHLS Shalkode 58.64 321 *e*P **P 04 47 25.1 -3.0**
comp=Z,137nm,0.9s
JASL Jaisalmer 58.65 301 *e*P **P 04 47 28.0 -0.3**
PDGK Podgornoye 58.71 322 P **P 04 47 28.0 -0.6**
NIL Nilore 58.83 309 P **P 04 47 28.8 -0.8**
NIL IAmb IAmb 04 47 54.6
comp=Z,236nm,1.1s
NIL Nilore 58.83 309 P **P 04 47 28.8 -0.8**
NIL pmax pmax
comp=Z,237nm,1.1s
NIL MLR MLR
comp=Z,3μm,22.0s
NIL Nilore 58.83 309 P **P 04 47 29.6 +0.1**
UZB Uzynbulak 58.91 321 *e*P **P 04 47 29.5 -0.5**
UZB pmax pmax
comp=Z,74nm,0.8s
UZB Uzynbulak 58.91 321 *e*P **P 04 47 29.5 -0.5**
comp=Z,74nm,0.8s
TARG Taragay, Kyrgy 58.98 319 IAmb IAmb 04 47 41.8
comp=Z,153nm,0.9s
MK31 Makanchi Array 58.98 326 IAmb IAmb 04 47 40.5
comp=Z,136nm,0.8s
MK31 Makanchi Array 58.98 326*c i*P **P 04 47 30.3 0.0**
MKAR Makanchi Array 58.98 326 P **P 04 47 30.5 +0.2**
comp=Z,116nm,0.6s,baz=123,slow=8.0,SNR=213
MKAR PcP **PcP 04 48 19.2 +0.2**
comp=Z,63nm,0.7s,baz=129,slow=5.5,SNR=3.7
MKAR ScP **ScP 04 52 19.2 +3.1**
comp=Z,7.9nm,1.0s,baz=131,slow=5.9,SNR=2.7
MKAR S **S 04 55 34.4 +0.9**
comp=Z,4.3nm,1.0s,baz=127,slow=9.7,SNR=3.8
MKAR LR LR 05 15 43.2
comp=Z,9μm,18.8s,baz=105,slow=39
MKAR PKPPKP P'P'df 05 16 54.2 -11
comp=Z,2.3nm,1.0s,baz=281,slow=3.7,SNR=6.6
comp=Z,116nm,0.6s
MAKZ Makanchi 59.16 326 P **P 04 47 31.6 0.0**
MAKZ IAmb IAmb 04 47 41.7
comp=Z,199nm,0.9s
MAKZ Makanchi 59.16 326 P **P 04 47 31.5 -0.1**
MSZ Milford Sound 59.17 146 P **P 04 47 31.6 0.0**
KSH Kashi 59.18 316 P **P 04 47 33.0 +1.0**
KSH PcP **PcP 04 48 22.5 +2.4**
KSH S **S 04 55 39.9 +3.3**
KSH *c*S **ScS 04 57 18.9 +0.3**
KSH pmax pmax
comp=Z,110nm,1.0s
KSH pmax pmax
comp=Z,850nm,5.2s
KSH LR LR
comp=Z,6μm,23.0s
KSH LR LR
comp=Z,4μm,22.3s
KSH LR LR
comp=Z,7μm,24.7s
SATY Saty 59.25 321 *e*P **P 04 47 32.0 -0.4**
SATY *e*S **S 04 55 37.7 +0.3**
SATY pmax pmax
comp=Z,188nm,0.9s
SATY Saty 59.25 321 *e*P **P 04 47 32.1 -0.4**
comp=Z,188nm,0.9s
SATY *e*S **S 04 55 37.7 +0.3**
DCZ Deep Cove 59.26 148 IAmb IAmb 04 48 05.5
comp=Z,192nm,1.2s
DCZ Deep Cove 59.26 148 P **P 04 47 31.8 -0.4**
JCZ Jackson Bay 59.27 145 P **P 04 47 33.0 +0.5**
JCZ Jackson Bay 59.27 145 P **P 04 47 32.4 -0.1**
ZHN Zhinishke 59.29 321 *e*P **P 04 47 32.1 -0.5**
ZHN Zhinishke 59.29 321 *e*P **P 04 47 32.1 -0.5**
PYZ Puysegur Point 59.47 148 IAMs_20 IAMs_20 05 13 37.6
comp=Z,5μm,22.0s
PYZ Puysegur Point 59.47 148 P **P 04 47 33.4 -0.2**
MKAZ Moumakai 59.47 136 P **P 04 47 34.1 +0.3**
FOZ Fox Glacier 59.54 144 IAmb IAmb 04 47 44.3
comp=Z,211nm,1.6s
FOZ Fox Glacier 59.54 144 P **P 04 47 34.9 +0.8**
KDJ Kajisay 59.58 319 IAmb IAmb 04 47 37.6
comp=Z,205nm,1.0s
QRZ Quartz Range 59.63 141 IAmb IAmb 04 47 56.7
comp=Z,137nm,1.0s
QRZ Quartz Range 59.63 141 P **P 04 47 34.5 -0.4**
DSZ Denniston Nort 59.69 142 IAmb IAmb 04 48 23.6
comp=Z,394nm,1.9s
DSZ Denniston Nort 59.69 142 P **P 04 47 37.5 +2.2**
MLZ Mavora Lakes 59.72 147 IAMs_20 IAMs_20 05 13 40.2
comp=Z,5μm,22.0s
MLZ Mavora Lakes 59.72 147 P **P 04 47 34.6 -0.8**
KHEZ Kahui Hut 59.78 138 P **P 04 47 36.4 +0.4**
KHEZ Kahui Hut 59.78 138 P **P 04 47 36.6 +0.5**
WVZ Waitaha Valley 59.80 144 P **P 04 47 36.4 +0.4**
NEZ North Egmont 59.83 138 P **P 04 47 40.0 +3.6**
WKZ Wanaka 59.87 146 IAmb IAmb 04 48 10.6
comp=Z,397nm,1.8s
WKZ Wanaka 59.87 146 P **P 04 47 35.7 -0.8**
PREZ Palmer Road 59.91 138 P **P 04 47 36.6 -0.2**
HIZ Hauiti 59.95 137 IAmb IAmb 04 48 25.0
comp=Z,106nm,0.6s
HIZ Hauiti 59.95 137 P **P 04 47 37.1 0.0**
WHZ Wether Hill Ro 59.96 148 IAmb IAmb 04 47 46.6
comp=Z,179nm,1.5s
WHZ IAMs_20 IAMs_20 05 13 59.6
comp=Z,3μm,18.0s
WHZ Wether Hill Ro 59.96 148 P **P 04 47 36.0 -1.1**
TOZ Tahuroa Road 60.01 136 P **P 04 47 37.8 +0.3**
INZ Inchbonnie 60.02 143 P **P 04 47 37.2 -0.3**
TNSS Tian-Shan 60.17 320 *e*P **P 04 47 38.2 -0.8**
TNSS Tian-Shan 60.17 320 *e*P **P 04 47 38.2 -0.8**
ARXS Arharly 60.20 322 *i*P **P 04 47 38.0 -0.8**
TDK Taldyqorghan 60.25 323 *e*P **P 04 47 38.6 -0.5**
TDK pmax pmax
comp=Z,189nm,0.8s
TDK MLR MLR
comp=Z,3μm,18.0s
TDK Taldyqorghan 60.25 323 *e*P **P 04 47 38.7 -0.4**
comp=Z,189nm,0.8s
TDK LR LR 05 14 10.2
comp=Z,3μm,18.2s
ULHL Ulahol 60.25 319 P **P 04 47 39.8 +0.5**
SNR=34
YAK Yakutsk 60.26 2 P **P 04 47 39.3 +0.6**
YAK Yakutsk 60.26 2 IAMs_20 IAMs_20 05 15 39.8
comp=Z,4μm,22.0s
YAK Yakutsk 60.26 2 P **P 04 47 39.3 +0.6**
comp=Z,504nm,0.9s,baz=168,slow=0.4,SNR=170
YAK S **S 04 55 49.9 +0.6**
comp=Z,13nm,0.4s,baz=128,slow=21,SNR=9.9
comp=Z,504nm,0.9s
YAK Yakutsk 60.26 2*c i*P **P 04 47 39.2 +0.6**
YAK *e**PP **sP 04 47 55.2 -1.0**
YAK *e* 04 48 23.8
YAK *e* 04 49 52.0
YAK *e*S **S 04 55 49.6 +0.3**
YAK *e**SS sS 04 56 18.8 +8.7
YAK *e* 04 57 23.3
YAK *e*SS **SS 04 59 42.7 -4.7**
YAK pmax pmax
comp=Z,579nm,0.9s
YAK pmax pmax
comp=N,220nm,1.1s
YAK pmax pmax
comp=E,68nm,1.4s
YAK pmax pmax
comp=Z,455nm,2.3s
YAK pmax pmax
comp=N,320nm,2.5s
YAK pmax pmax
comp=E,164nm,2.1s
YAK smax smax
comp=N,1μm,3.5s
YAK smax smax
comp=E,1μm,3.3s
YAK MLR MLR
comp=Z,6μm,21.0s
YAK MLR MLR
comp=N,4μm,22.0s
YAK MLR MLR
comp=E,2μm,20.0s
YAK Yakutsk 60.26 2 P **P 04 47 39.3 +0.6**
YAK PcP **PcP 04 48 23.2 -0.5**
LBZ Lake Benmore 60.26 145 P **P 04 47 38.4 -0.8**
LBZ IAmb IAmb 04 47 42.3
comp=Z,146nm,0.7s
LBZ Lake Benmore 60.26 145 P **P 04 47 38.3 -0.8**
AAA Alma-Ata 60.27 320 *e*P **P 04 47 39.0 -0.3**
AAA pmax pmax
comp=Z,141nm,0.7s
AAA Alma-Ata 60.27 320 *e*P **P 04 47 39.1 -0.3**
comp=Z,141nm,0.7s
EAZ Earnscleugh 60.28 146 P **P 04 47 38.1 -1.2**
RPZ Rata Peaks 60.37 144 IAmb IAmb 04 48 26.6
comp=Z,162nm,1.1s
RPZ IAMs_20 IAMs_20 05 16 01.3
comp=Z,4μm,19.0s
RPZ Rata Peaks 60.37 144 LR LR 05 14 15.4
comp=Z,4μm,21.5s,baz=306,slow=36
RPZ Rata Peaks 60.37 144 P **P 04 47 39.5 -0.4**
THZ Tophouse 60.38 141 IAmb IAmb 04 47 43.0
comp=Z,99nm,0.7s
THZ Tophouse 60.38 141 P **P 04 47 38.9 -1.2**
NNZ Nelson 60.38 141 IAMs_20 IAMs_20 05 16 53.7
comp=Z,4μm,20.0s
NNZ Nelson 60.38 141 P **P 04 47 38.3 -1.7**
DUWZ D'Urville Isla 60.51 140 P **P 04 47 41.3 +0.4**
CHKK Chushkaly 60.54 321 *e*P **P 04 47 40.7 -0.4**
CHKK Chushkaly 60.54 321 *e*P **P 04 47 40.7 -0.4**
LTZ Lake Taylor 60.56 143 IAmb IAmb 04 47 51.1
comp=Z,254nm,1.4s
LTZ Lake Taylor 60.56 143 P **P 04 47 41.1 -0.1**
BOOM Boomskoye usch 60.56 319 IAMs_20 IAMs_20 05 14 11.9
comp=Z,7μm,22.0s
APZ The Paps 60.59 148 P **P 04 47 40.6 -0.8**
TWVZ Taurewa 60.62 137 P **P 04 47 44.0 +2.2**
WATZ Wairara 60.65 137 P **P 04 47 42.6 +0.7**
PKVZ Pokaka 60.67 138 P **P 04 47 40.7 -1.4**
OXZ Oxford 60.73 143 P **P 04 47 41.0 -1.4**
WTVZ West Tongariro 60.75 137 P **P 04 47 43.6 +0.8**
KATZ Kakaramea 60.75 137 P **P 04 47 42.9 +0.2**
KRVZ Karewarewa 60.77 137 P **P 04 47 42.9 0.0**
NNVZ North Ngauruho 60.77 137 P **P 04 47 42.8 -0.1**
NGZ Ngauruhoe 60.79 138 P **P 04 47 43.3 +0.3**
MA2 Magadan 60.79 14 P **P 04 47 43.7 +1.3**
MA2 IAMs_20 IAMs_20 05 16 22.2
comp=Z,4μm,22.0s
MA2 Magadan 60.79 14 P **P 04 47 43.9 +1.4**
comp=Z,243nm,0.8s,baz=199,slow=7.0,SNR=117
MA2 LR LR 05 14 38.8
comp=Z,2μm,20.6s,baz=210,slow=37
comp=Z,243nm,0.8s
MA2 Magadan 60.79 14 P **P 04 47 43.4 +1.0**
MA2 Magadan 60.79 14*c i*P **P 04 47 43.6 +1.2**
MA2 pmax pmax
comp=Z,1μm,2.5s
MA2 MLR MLR
comp=Z,4μm,22.0s
MA2 Magadan 60.79 14 P **P 04 47 43.6 +1.2**
FWVZ Far West T-bar 60.79 138 P **P 04 47 44.5 +1.4**
OMRZ Omania 60.79 136 P **P 04 47 40.4 -2.6**
NTVZ North Tongarir 60.80 137 P **P 04 47 43.4 +0.4**
SNVZ South Ngauruho 60.82 138 P **P 04 47 43.1 -0.1**
OTVZ Oturere 60.82 137 P **P 04 47 43.3 0.0**
TMVZ Te Maari 60.83 137 P **P 04 47 43.5 +0.2**
ETVZ East Tongariro 60.84 137 P **P 04 47 43.5 +0.2**
HLRZ Highlands Stat 60.85 136 P **P 04 47 47.5 +4.2**
WNVZ Wahianoa 60.86 138 P **P 04 47 43.3 -0.2**
RITZ Rihia Road 60.86 137 P **P 04 47 44.7 +1.3**
TUVZ Tukino 60.87 138 P **P 04 47 44.9 +1.3**
HRRZ Handcock Road 60.87 136 P **P 04 47 43.9 +0.5**
TUZ Tuapeka 60.91 147 P **P 04 47 42.7 -0.8**
ODZ Otahua Downs 60.92 145 P **P 04 47 42.6 -1.0**
TARZ Mount Tarawera 60.95 136 P **P 04 47 44.4 +0.3**
TCW Tory Channel 60.95 140 P **P 04 47 42.5 -1.4**
KUU Kurty 60.97 321 *e*P **P 04 47 43.6 -0.4**
KUU pmax pmax
comp=Z,165nm,0.8s
KUU MLR MLR
comp=Z,4μm,20.0s
KUU Kurty 60.97 321 *e*P **P 04 47 43.6 -0.4**

comp=Z,165nm,0.8s
KUU LR LR 05 14 42.7
comp=Z,4μm,20.5s
TKM2 Tokmak 2 60.98 319 P **P** **04 47 44.6 +0.3**
SNR=103
TKM2 Tokmak 2 60.98 319 *i* P **P** **04 47 43.8 -0.6**
TKM2 pmax pmax
comp=Z,148nm,0.9s
MOVZ Moawhango 61.00 138 P **P** **04 47 43.6 -0.8**
SYZ Scrubby Hill 61.01 148 P **P** **04 47 44.5 +0.4**
SYZ Scrubby Hill 61.01 148 P **P** **04 47 45.0 +0.9**
GVZ Greta Valley S 61.13 142 IAmb IAmb 04 47 52.2
comp=Z,245nm,1.2s
GVZ Greta Valley S 61.13 142 P **P** **04 47 44.1 -0.9**
KHZ Kahutara 61.13 142 P **P** **04 47 43.5 -1.5**
KHZ Kahutara 61.13 142 P **P** **04 47 44.0 -1.1**
KHZ Kahutara 61.13 142 P **P** **04 47 43.3 -1.8**
MRHZ Matea Rd 61.17 137 P **P** **04 47 44.9 -0.6**
KIW Kapiti Island 61.18 139 P **P** **04 47 44.7 -0.8**
SNZO South Karori 61.28 140 P **P** **04 47 44.3 -1.8**
SNZO IAmb IAmb 04 47 52.4
comp=Z,344nm,1.3s
SNZO South Karori 61.28 140 P **P** **04 47 46.9 +0.8**
KBK Karagaybulak 61.29 319 P **P** **04 47 47.0 +0.6**
SNR=41
MQZ McQueen's Vall 61.31 143 P **P** **04 47 46.2 -0.1**
OGWZ Otaki Gorge 61.33 139 P **P** **04 47 44.9 -1.6**
UCH Uchtor 61.38 318 P **P** **04 47 48.2 +0.9**
SNR=34
URZ Urewera 61.38 136 LR LR 05 12 25.9
comp=Z,3μm,21.2s,baz=32,slow=34
URZ Urewera 61.38 136 P **P** **04 47 47.6 +0.8**
URZ Urewera 61.38 136 P **P** **04 47 45.2 -1.6**
BKZ Black Stump Fm 61.39 137 IAmb IAmb 04 48 03.7
comp=Z,149nm,0.6s
BKZ Black Stump Fm 61.39 137 P **P** **04 47 46.7 -0.2**
BKZ Black Stump Fm 61.39 137 P **P** **04 47 45.6 -1.4**
CAW Cannon Point 61.41 140 P **P** **04 47 45.1 -1.9**
BHW Baring Head 61.44 140 IAms_20 IAms_20 05 17 37.6
comp=Z,4μm,18.0s
BHW Baring Head 61.44 140 P **P** **04 47 45.1 -2.0**
RTZ Ruatahuna 61.46 136 IAms_20 IAms_20 05 12 41.0
comp=Z,4μm,22.0s
RTZ Ruatahuna 61.46 136 P **P** **04 47 46.3 -1.2**
KWHZ Kaweka Forest 61.46 137 P **P** **04 47 46.7 -0.8**
TSZ Takapari Road 61.47 138 P **P** **04 47 46.4 -1.0**
MTHZ Maungataniwha 61.47 137 P **P** **04 47 46.4 -1.1**
MRZ Mangatainoka R 61.52 139 IAmb IAmb 04 48 36.3
comp=Z,340nm,1.7s
MRZ IAms_20 IAms_20 05 18 00.6
comp=Z,4μm,19.0s
MRZ Mangatainoka R 61.52 139 P **P** **04 47 45.9 -1.8**
KRHZ Kereru 61.53 138 P **P** **04 47 46.7 -1.2**
PNHZ Pukenui 61.55 138 P **P** **04 47 46.8 -1.2**
FRU1 Bishkek 61.56 319 IAms_20 IAms_20 05 14 55.6
comp=Z,5μm,22.0s
NMHZ Naumai 61.57 137 P **P** **04 47 47.9 -0.3**
CHMS Chumysh 61.57 319 P **P** **04 47 47.9 -0.2**
SNR=28
AAK Ala-Archa 61.58 319 P **P** **04 47 48.7 +0.4**
AAK Ala-Archa 61.58 319 IAms_20 IAms_20 05 15 28.9
comp=Z,6μm,22.0s
AAK Ala-Archa 61.58 319 P **P** **04 47 48.7 +0.4**
AAK P **P** **04 47 48.7 +0.4**
AAK Ala-Archa 61.58 319 P **P** **04 47 48.8 +0.5**
SNR=50
AAK Ala-Archa 61.58 319 *c i* P **P** **04 47 48.7 +0.4**
AAK pmax pmax
comp=Z,84nm,1.0s
AAK MLR MLR
comp=Z,5μm,19.0s
AAK Ala-Archa 61.58 319 *i* P **P** **04 47 48.9 +0.5**
SNR=50
HOWZ Holdsworth Sta 61.59 139 P **P** **04 47 46.5 -1.7**
HAZ Te Kaha 61.62 135 P **P** **04 47 47.2 -1.2**
MCHZ McNeill Hill 61.66 137 P **P** **04 47 48.2 -0.5**
RAHZ Arahi 61.67 137 P **P** **04 47 48.4 -0.5**
MSWZ Moikau Station 61.69 140 P **P** **04 47 47.0 -1.9**
RAGZ Rawiri 61.70 136 P **P** **04 47 47.1 -2.0**
MWZ Matawai 61.70 136 P **P** **04 47 48.1 -1.0**
MTW Mount Morrison 61.72 140 P **P** **04 47 47.5 -1.6**
PLWZ Palliser 61.77 140 P **P** **04 47 47.7 -1.8**
ARHZ Aropaoanui 61.78 137 P **P** **04 47 48.8 -0.7**
PAWZ Paruwai Farm 61.78 140 P **P** **04 47 48.1 -1.5**
SNGZ Shannon Statio 61.78 136 P **P** **04 47 48.9 -0.7**
SGDS Sogindy 61.86 320 *eP* **P** **04 47 49.8 -0.3**
SGDS Sogindy 61.86 320 *eP* **P** **04 47 49.8 -0.3**
USP Ospenovka 61.86 319 P **P** **04 47 50.2 +0.1**
SNR=113
AML Almayashu 61.88 318 P **P** **04 47 51.3 +0.6**
SNR=158
MXZ Matakaoa Point 61.90 135 IAms_20 IAms_20 05 15 26.7
comp=Z,4μm,22.0s
MXZ Matakaoa Point 61.90 135 P **P** **04 47 49.3 -1.1**
TMWZ Te Maipa 61.94 139 P **P** **04 47 48.6 -2.0**
KAHZ Kahuranaki 61.95 138 P **P** **04 47 49.7 -1.0**
TRWZ Traveller 61.96 140 P **P** **04 47 49.5 -1.2**
BFZ Birch Farm 61.97 139 IAms_20 IAms_20 05 18 16.4
comp=Z,4μm,18.0s
BFZ Birch Farm 61.97 139 P **P** **04 47 50.9 +0.2**
BFZ Birch Farm 61.97 139 P **P** **04 47 48.6 -2.1**
ANWZ Angora Road 62.01 138 P **P** **04 47 49.8 -1.2**
ARSB Arslanbob 62.02 317 IAmb IAmb 04 48 21.6
comp=Z,241nm,1.2s
RIGZ Rimuhau 62.04 136 P **P** **04 47 50.6 -0.7**
PXZ Pawanui 62.05 138 P **P** **04 47 49.9 -1.4**
EKS2 Erkin-Say 62.06 319 P **P** **04 47 52.3 +0.7**
SNR=80
PUZ Puketiti 62.09 135 P **P** **04 47 49.9 -1.8**
DRK Karamyk 62.10 315 IAmb IAmb 04 47 57.3
comp=Z,185nm,0.8s
KNZ Kokohu 62.13 136 P **P** **04 47 50.7 -1.2**
MCQ Macquarie Isla 62.15 159 IAmb IAmb 04 48 03.8
comp=Z,235nm,1.1s
MCQ Macquarie Isla 62.15 159 P **P** **04 47 52.2 +0.5**
ZAA0 Zalesovo Array 62.20 334 IAmb IAmb 04 48 19.1
comp=Z,547nm,2.0s
ZALV Zalesovo Beam 62.20 334 P **P** **04 47 51.5 -0.5**
comp=Z,34nm,0.6s,baz=122,slow=6.6,SNR=62
ZALV LR LR 05 15 30.0
comp=Z,3μm,21.7s,baz=136,slow=37
ZALV PKPPKP **P'P'df** **05 16 55.0 -4.1**
comp=Z,0.4nm,0.3s,baz=305,slow=5.2,SNR=3.6
ZALV PKP2bc 05 17 04.4
comp=Z,8.5nm,1.0s,baz=285,slow=2.9,SNR=9.6
comp=Z,34nm,0.6s
KBU Kabul Universi 62.34 308 P **P** **04 47 50.9 -2.8**
KBL Kabul 62.42 308 P **P** **04 47 53.3 -0.9**
KBL IAmb IAmb 04 47 55.9
comp=Z,194nm,0.8s
KBL Kabul 62.42 308 P **P** **04 47 53.8 -0.3**
SNR=79
KBL P **P** **04 47 53.8 -0.3**
SNR=79
KBL P **P** **04 47 53.8 -0.3**
SNR=79
KBL Kabul 62.42 308 P **P** **04 47 53.3 -0.9**
KBL pmax pmax
comp=Z,194nm,0.9s
BTLS Baital 62.96 321 *eP* **P** **04 47 57.1 -0.2**
BTLS *eS* **S** **04 56 24.9 +0.6**
BTLS Baital 62.96 321 *eP* **P** **04 47 57.1 -0.2**
BTLS *eS* **S** **04 56 24.9 +0.6**
GAR Garm 62.98 314 IAms_20 IAms_20 05 15 00.5
comp=Z,6μm,21.0s
BTK Batken 63.02 315 IAmb IAmb 04 48 06.0
comp=Z,144nm,1.0s
BTK Batken 63.02 315 P **P** **04 47 57.9 0.0**
KURBB Kurchatov Arra 63.22 328 P **P** **04 47 58.9 0.0**
comp=Z,314nm,0.8s,baz=125,slow=6.3,SNR=681
KURBB S **S** **04 56 31.4 +4.2**
comp=Z,3.7nm,0.9s,baz=130,slow=11,SNR=6.8
KURBB PKPPKP **P'P'df** **05 16 53.9 -3.9**
comp=Z,3.8nm,1.0s,baz=289,slow=2.9,SNR=7.1
KURBB PKP2bc 05 17 03.9
comp=Z,6.5nm,1.2s,baz=282,slow=3.6,SNR=6.2
comp=Z,314nm,0.8s
KURBB Kurchatov Arra 63.22 328 P **P** **04 47 58.6 -0.3**
KURK Kurchatov 63.22 328 P **P** **04 47 59.2 +0.2**
KURK Kurchatov 63.22 328 P **P** **04 47 59.4 +0.4**
KURK P **P** **04 47 59.4 +0.4**
KURK Kurchatov 63.22 328 *c i* P **P** **04 47 59.0 +0.1**
KURK pmax pmax
comp=Z,469nm,0.8s
KURK MLR MLR
comp=Z,3μm,17.0s
KURK Kurchatov 63.22 328 P **P** **04 47 59.2 +0.2**
KURK PcP **PcP** **04 48 35.9 -0.1**
AFI Afiamalu 63.29 106 P **P** **04 47 59.7 -0.4**
AFI IAmb IAmb 04 48 14.0
comp=Z,272nm,1.5s
AFI Afiamalu 63.29 106 P **P** **04 48 00.8 +0.7**
AFI Afiamalu 63.29 106 P **P** **04 47 59.7 -0.4**
AFI pmax pmax
comp=Z,272nm,1.5s
DZA Taraz 63.79 318 *eP* **P** **04 48 02.6 -0.3**
DZA Taraz 63.79 318 *eP* **P** **04 48 02.6 -0.3**
SIMJ Simiganj 63.81 313 P **P** **04 48 02.9 -0.4**
SEY Seymchan 64.12 13 P **P** **04 48 06.2 +1.7**
comp=Z,116nm,1.0s,baz=217,slow=5.9,SNR=232
SEY LR LR 05 16 47.7
comp=Z,1μm,20.8s,baz=204,slow=37
comp=Z,116nm,1.0s
SEY Seymchan 64.12 13 *c i* P **P** **04 48 06.3 +1.7**
SEY pmax pmax
comp=Z,342nm,1.3s
SEY MLR MLR
comp=Z,2μm,14.0s
IUG Iuzhnay 64.37 317 *eP* **P** **04 48 06.4 -0.4**
IUG Iuzhnay 64.37 317 *eP* **P** **04 48 06.4 -0.4**
KK31 Karatay Array 64.42 318 *i* P **P** **04 48 06.0 -1.0**
KKAR Karatay Array 64.42 318 P **P** **04 48 06.7 -0.4**
KKAR Karatay Array 64.42 318 P **P** **04 48 06.7 -0.4**
SHEM Shemya Is, Ala 64.45 30 P **P** **04 48 08.0 +1.1**
comp=Z,192nm,1.0s,baz=329,slow=7.4,SNR=4.6
SHEM LR LR 05 12 34.8
comp=Z,2μm,20.2s,baz=259,slow=33
comp=Z,192nm,1.0s
BRLS Borolday 64.85 318 *eP* **P** **04 48 09.5 -0.3**
BRLS Borolday 64.85 318 *eP* **P** **04 48 09.6 -0.3**
OTUK Ortayu 65.48 324 P **P** **04 48 13.5 -0.3**
NIUE Niue 65.92 112 P **P** **04 48 16.1 -1.1**
NIUE Niue 65.92 112 P **P** **04 48 17.4 +0.2**
BRZS Berezniki 66.10 325 *eP* **P** **04 48 17.6 -0.1**
BRZS *eS* **S** **04 57 03.0 +0.2**
BRZS Berezniki 66.10 325 *eP* **P** **04 48 17.7 -0.1**
BRZS *eS* **S** **04 57 03.1 +0.2**
NGCH Negor - Chabah 66.88 297 P **P** **04 48 22.5 -0.7**
JLN Jalan Bani Buh 67.97 293 P **P** **04 48 28.7 -1.5**
SNR=8.2
JLN P **P** **04 48 28.7 -1.5**
SNR=8.2
CTZ Chatham Island 68.07 139 IAms_20 IAms_20 05 17 00.2
comp=Z,4μm,19.0s
WBK Wadi Bani Khal 68.44 294 P **P** **04 48 32.0 -1.2**
SNR=8.0
CASY Casey 68.74 187 P **P** **04 48 34.1 +0.1**
CASY Casey 68.74 187 IAms_20 IAms_20 05 18 03.7
comp=Z,3μm,21.0s
CASY Casey 68.74 187 P **P** **04 48 34.4 +0.3**
CASY PcP **PcP** **04 48 57.2 -1.3**
BVA0 Borovoye Array 68.79 328 *i* P **P** **04 48 34.2 -0.5**
BVAR Borovoye Array 68.79 328 P **P** **04 48 34.9 +0.3**
comp=Z,95nm,0.8s,baz=127,slow=5.6,SNR=84
BVAR PKP2bc 05 16 46.1
comp=Z,1.7nm,0.9s,baz=290,slow=4.4,SNR=4.9
BVAR LR LR 05 19 42.2
comp=Z,4μm,21.8s,baz=122,slow=37
comp=Z,95nm,0.8s
BRVK Borovoye 68.86 328 P **P** **04 48 35.2 0.0**
BRVK IAmb IAmb 04 48 46.1
comp=Z,258nm,1.1s
BRVK Borovoye 68.86 328 P **P** **04 48 35.1 0.0**
BRVK P **P** **04 48 35.1 0.0**
BRVK Borovoye 68.86 328 *c i* P **P** **04 48 34.9 -0.2**
BRVK pmax pmax
comp=Z,289nm,1.3s
BRVK MLR MLR
comp=Z,4μm,22.0s
BRVK Borovoye 68.86 328 P **P** **04 48 35.1 0.0**
BRVK PcP **PcP** **04 48 59.4 +0.1**
ADK Adak 68.91 34 P **P** **04 48 35.8 +0.4**
ADK IAmb IAmb 04 48 59.5
comp=Z,182nm,0.9s
ADK IAms_20 IAms_20 05 14 00.1
comp=Z,5μm,22.0s
ADK Adak 68.91 34 P **P** **04 48 35.8 +0.4**
ADK pmax pmax
comp=Z,182nm,1.0s
MHTO MHTO 69.17 292 P **P** **04 48 36.3 -1.4**
SNR=25
JMDO Jabal Madar 69.20 293 P **P** **04 48 37.0 -0.8**
SNR=10.0
JMDO P **P** **04 48 37.0 -0.8**
SNR=10.0
BIDO Bidbid 69.33 294 P **P** **04 48 37.8 -0.8**
BIDO P **P** **04 48 37.8 -0.8**
SMDO Samad 69.34 294 P **P** **04 48 38.7 -0.1**
SMDO P **P** **04 48 38.7 -0.1**
SMDO P **P** **04 48 38.7 -0.1**
DQM DQM 69.45 291 P **P** **04 48 38.9 -0.6**
SNR=12
TIXI Tiksi 69.89 1 P **P** **04 48 40.6 -0.4**
TIXI IAmb IAmb 04 48 42.3
comp=Z,289nm,1.1s
TIXI Tiksi 69.89 1 IAms_20 IAms_20 05 22 46.9
comp=Z,4μm,22.0s
TIXI Tiksi 69.89 1 P **P** **04 48 40.7 -0.4**
comp=Z,150nm,1.0s,baz=153,slow=6.3,SNR=181
TIXI LR LR 05 17 56.7
comp=Z,4μm,21.9s,baz=200,slow=35
comp=Z,150nm,1.0s
TIXI Tiksi 69.89 1 P **P** **04 48 40.6 -0.4**
TIXI pmax pmax
comp=Z,289nm,1.1s
TIXI MLR MLR
comp=Z,4μm,22.0s
TIXI Tiksi 69.89 1 P **P** **04 48 40.6 -0.4**
TIXI Tiksi 69.89 1 PKP2bc 05 16 44.8
comp=Z,0.7nm,0.3s,baz=53,slow=2.4,SNR=4.3
HOQ Hoqain 70.08 294 P **P** **04 48 43.7 +0.5**
SNR=6.2
BSY Bisya 70.08 293 P **P** **04 48 42.3 -1.0**
SNR=7.8
BSY P **P** **04 48 42.3 -1.0**
SNR=7.8
ATKA Atka Island 70.43 34 IAmb IAmb 04 48 48.7
comp=Z,287nm,0.9s
ARQ Araqi 70.77 294 P **P** **04 48 47.7 +0.3**
SNR=7.8
SOHO SOHO 70.85 295 P **P** **04 48 46.4 -1.5**
SOHO SOHO 70.85 295 *i* P **P** **04 48 46.4 -1.5**
SNR=6.5
MDH Madha 71.20 296 P **P** **04 48 50.3 +0.2**
UOSS Minazif 71.25 296 P **P** **04 48 50.0 -0.3**
UOSS Minazif 71.25 296 P **P** **04 48 48.3 -2.0**
BANOM Banah 71.28 297 P **P** **04 48 49.7 -0.9**
BANOM Banah 71.28 297 P **P** **04 48 49.7 -0.9**
HATD Hatta, Dubai 71.30 296 P **P** **04 48 50.0 -0.7**
HATD P **P** **04 48 50.0 -0.7**
HATD Hatta, Dubai 71.30 296 *i* P **P** **04 48 49.5 -1.1**
SNR=13
ASHO Ashiyiah 71.35 295 P **P** **04 48 49.9 -1.1**
ASHO Ashiyiah 71.35 295 *i* P **P** **04 48 50.1 -0.8**
SNR=9.8
SHME Shamm 71.44 297 P **P** **04 48 50.4 -1.0**
ALNE Al Ain 71.55 295 P **P** **04 48 51.9 -0.2**
SNR=19
ALNE P **P** **04 48 51.9 -0.2**
SNR=19
ALNE Al Ain 71.55 295 *i* P **P** **04 48 51.7 -0.5**
SNR=11
BILL Bilibino 71.64 15 P **P** **04 48 51.7 0.0**
BILL Bilibino 71.64 15 *c i* P **P** **04 48 51.8 0.0**
BILL pmax pmax
comp=Z,143nm,1.5s
BILL MLR MLR
comp=Z,3μm,24.0s
BILL Bilibino 71.64 15 P **P** **04 48 52.1 +0.3**
DMTO DMTO 71.71 288 P **P** **04 48 53.9 +0.7**
NAZ Nazwa, Dubai 71.74 296 P **P** **04 48 53.1 -0.2**
FAQ Al Faqa, Dubai 71.77 295 P **P** **04 48 54.6 +1.1**
FAQ P **P** **04 48 54.6 +1.1**
FAQ Al Faqa, Dubai 71.77 295 P **P** **04 48 53.1 -0.4**
ASUD Al Ashush, Dub 72.00 295 P **P** **04 48 55.7 +0.9**
SNR=5.9
ASUD P **P** **04 48 55.7 +0.9**
SNR=5.9
ASUD Al Ashush, Dub 72.00 295 *i* P **P** **04 48 54.1 -0.8**
SNR=13
AJN Ajban 72.30 295 P **P** **04 48 58.4 +1.7**
SNR=6.5
AJN P **P** **04 48 58.4 +1.7**
SNR=6.5
AJN Ajban 72.30 295 *i* P **P** **04 48 55.7 -1.0**
SNR=9.5
NRIK Noril'sk 72.30 347 IAmb IAmb 04 48 57.4
comp=Z,312nm,0.8s
NRIK Noril'sk 72.30 347 P **P** **04 48 56.6 +0.8**
comp=Z,325nm,1.0s,baz=136,slow=6.0,SNR=209
NRIK S **S** **04 58 16.9 +1.6**
comp=Z,14nm,0.9s,baz=180,slow=20,SNR=14
NRIK PKPPKP **P'P'df** **05 16 40.8 -0.9**
comp=Z,3.8nm,0.6s,baz=115,slow=7.4,SNR=7.6
NRIK LR LR 05 24 42.2
comp=Z,4μm,20.9s,baz=148,slow=39
comp=Z,325nm,1.0s
NRIK Noril'sk 72.30 347 *c i* P **P** **04 48 56.3 +0.6**
NRIK pmax pmax
comp=Z,426nm,0.9s
NRIK MLR MLR
comp=Z,6μm,20.0s
DOK Doka 72.55 289 P **P** **04 48 59.0 +0.7**
SNR=17
WHFO Wadi Hawf 72.84 288 P **P** **04 48 59.9 -0.1**
SNR=11
WHFO P **P** **04 48 59.9 -0.1**
SNR=11
ABTO Aybut 73.26 288 P **P** **04 49 02.9 +0.4**
SNR=11
AB31 Akbulak array 73.45 321 *i* P **P** **04 49 02.7 -0.2**
ABKAR Akbulak array 73.45 321 P **P** **04 49 02.9 0.0**
MZR Muzera 73.52 293 P **P** **04 49 06.2 +2.3**
SNR=7.9
MZR Muzera 73.52 293 *i* P **P** **04 49 03.3 -0.6**
SNR=16
NIKH Nikolski High 73.75 35 IAmb IAmb 04 49 06.8
comp=Z,396nm,1.1s
NIKH Nikolski High 73.75 35 P **P** **04 49 04.8 +0.2**
baz=250
GHWR Ruwais 74.16 294 P **P** **04 49 08.3 +0.7**
GHWR P **P** **04 49 08.3 +0.7**
GHWR P **P** **04 49 09.1 +1.5**
GHWR P **P** **04 49 09.1 +1.5**
JRN Qarnain Island 74.27 295 P **P** **04 49 08.9 +0.6**
SNR=5.9
JRN P **P** **04 49 08.9 +0.6**
SNR=5.9
SPIA Saint Paul Isl 74.48 30 P **P** **04 49 10.2 +1.5**
baz=248
P08K Saint George I 74.63 31 IAms_20 IAms_20 05 17 55.7
comp=Z,3μm,21.0s
P08K Saint George I 74.63 31 P **P** **04 49 11.1 +1.4**
baz=249
AKTO Aktyubinsk 74.98 322 PKPPKP 05 16 37.6
comp=Z,0.9nm,0.6s,baz=216,slow=9.7,SNR=3.6
AKTO LR LR 05 25 45.6
comp=Z,6μm,21.1s,baz=108,slow=39
SLWR Sila 75.24 294 P **P** **04 49 13.4 -0.5**
SLWR P **P** **04 49 13.4 -0.5**
UNV Unalaska Valle 75.36 34 IAmb IAmb 04 49 55.3
comp=Z,289nm,1.1s
UNV Unalaska Valle 75.36 34 P **P** **04 49 14.6 +0.7**
UNV Unalaska Valle 75.36 34 P **P** **04 49 14.6 +0.7**
baz=252,SNR=9.3
SVE Sverdlovsk 75.46 329 *d i* P **P** **04 49 14.8 +0.3**
SVE *eS* **S** **04 58 46.9 -4.4**
SVE pmax pmax
comp=Z,529nm,1.1s
RAR Rarotonga 75.68 112 LR LR 05 21 08.0
comp=Z,871nm,21.4s,baz=282,slow=35
TRNA Turayna 75.73 295 P **P** **04 49 17.5 +0.8**
KIP Kipapa 76.09 68 P **P** **04 49 20.7 +1.9**
KIP IAmb IAmb 04 50 02.1
comp=Z,500nm,1.7s
KIP Kipapa 76.09 68 P **P** **04 49 20.7 +1.9**
KIP pmax pmax
comp=Z,500nm,1.7s
SMRA Abu-Samra 76.09 295 P **P** **04 49 21.0 +2.3**
SNR=5.5
GAMB Gambell 76.44 24 IAmb IAmb 04 49 22.0
comp=Z,182nm,1.0s
GAMB Gambell 76.44 24 P **P** **04 49 21.2 +1.4**
baz=245,SNR=51
ARTI Arti 76.50 328 P **P** **04 49 20.2 -0.2**
ARTI IAms_20 IAms_20 05 28 06.3
comp=Z,4μm,20.0s
ARTI Arti 76.50 328 P **P** **04 49 20.3 -0.2**
comp=Z,116nm,0.7s,baz=114,slow=3.4,SNR=119
ARTI LR LR 05 23 25.3
comp=Z,2μm,21.6s,baz=118,slow=36
comp=Z,116nm,0.7s
ARTI Arti 76.50 328 *c i* P **P** **04 49 20.1 -0.2**
ARTI 04 52 09.2
ARTI S **S** **04 59 05.3 +2.5**
ARTI SS **SS** **05 03 55.7 -2.6**
ARTI pmax pmax
comp=Z,549nm,1.6s
ARTI MLR MLR
comp=Z,4μm,22.0s
SBV Sambava 77.13 256 P **P** **04 49 27.1 +2.3**
SNR=19
FALS False Pass 77.38 34 P **P** **04 49 25.8 +0.4**
baz=254,SNR=6.0
M11K Mekoryuk 77.58 28 IAmb IAmb 04 49 36.9
comp=Z,232nm,1.2s
M11K Mekoryuk 77.58 28 P **P** **04 49 27.9 +1.6**
baz=251
HUH Hualalai 78.03 70 P **P** **04 49 30.5 +0.4**
POHA Pohakuloa 78.32 70 P **P** **04 49 32.5 +0.9**
POHA IAmb IAmb 04 49 39.4
comp=Z,231nm,1.0s
POHA Pohakuloa 78.32 70 P **P** **04 49 31.4 -0.2**
MLH Mauna Loa 78.45 71 IAmb IAmb 04 49 43.5
comp=Z,333nm,0.9s
PUH Pauahi 78.60 71 IAmb IAmb 04 50 07.2
comp=Z,350nm,1.2s
TNA Tin City 78.64 23 P **P** **04 49 33.5 +1.3**
baz=248,SNR=25
STCH Steam Cracks 78.69 71 IAmb IAmb 04 49 59.1
comp=Z,452nm,1.5s
K13K Kusilvak Mount 78.78 27 IAmb IAmb 04 49 35.4
comp=Z,197nm,0.9s
K13K Kusilvak Mount 78.78 27 P **P** **04 49 34.8 +1.8**
baz=252
M13K Dall Lake 78.94 28 IAmb IAmb 04 49 36.4
comp=Z,166nm,0.8s
M13K Dall Lake 78.94 28 P **P** **04 49 35.6 +1.7**
baz=254
SDPT Sand Point 79.14 34 P **P** **04 49 35.4 +0.3**
SDPT Sand Point 79.14 34 P **P** **04 49 35.6 +0.6**
baz=257,SNR=27
LKRN Lenkeran, Azer 79.20 309 P **P** **04 49 36.9 +1.1**
KBD Kabd 79.21 299 P **P** **04 49 35.6 -0.5**
F14K Arctic Creek 79.23 23 P **P** **04 49 37.2 +1.7**
baz=250
ANM Nome 79.31 24 P **P** **04 49 37.4 +1.6**
baz=251,SNR=19
L14K Kuka Creek 79.51 28 P **P** **04 49 39.0 +2.0**
baz=254
J14K Nanvaranak Lak 79.52 26 IAms_20 IAms_20 05 20 57.9
comp=Z,3μm,22.0s
J14K Nanvaranak Lak 79.52 26 P **P** **04 49 38.5 +1.6**
baz=253
CNBA Chernabura Isl 79.52 34 IAms_20 IAms_20 05 22 36.0
comp=Z,4μm,22.0s
CHNA Chernabura Isl 79.52 34 P **P** **04 49 37.8 +0.6**
baz=258,SNR=8.4
N14K Kuskokwak Cree 79.61 29 P **P** **04 49 38.9 +1.3**
baz=255
O14K Tigyukauivet M 79.64 30 IAmb IAmb 04 49 39.7
comp=Z,183nm,1.1s
O14K Tigyukauivet M 79.64 30 P **P** **04 49 38.9 +1.2**
baz=256
M14K Bethel 79.69 28 IAmb IAmb 04 49 46.2
comp=Z,494nm,1.2s
M14K Bethel 79.69 28 P **P** **04 49 39.7 +1.8**
baz=255
S14K Fog Glacier 79.85 33 P **P** **04 49 39.9 +0.8**
baz=258
F15K North Star Dit 79.97 23 P **P** **04 49 41.0 +1.5**
baz=251,SNR=77
G15K Niukluk 79.99 24 P **P** **04 49 40.8 +1.2**
baz=252
L15K Ungalak Mounta 80.15 27 P **P** **04 49 41.6 +1.1**
baz=255

OPO	Ambohidratompo	80.19	251	LR	LR	05 21 10.0		
	comp=Z,495nm,21.9s,baz=270,slow=33							
ABPO	Ambohimpanom	80.20	250	P	P	04 49 42.7	+0.9	
ABPO	Ambohimpanom	80.20	250	IAMs_20	IAMs_20	05 20 20.1		
	comp=Z,4µm,22.0s							
ABPO	Ambohimpanom	80.20	250	P	P	04 49 42.7	+0.9	
M15K	Kasigluk River	80.28	29	P	P	04 49 42.5	+1.3	
	baz=256							
K15K	Wolf Creek Mou	80.29	27	IAmb	IAmb	04 49 52.5		
	comp=Z,342nm,1.1s							
K15K	Wolf Creek Mou	80.29	27	P	P	04 49 43.3	+2.0	
	baz=255							
O15K	Ungalikthiuk R	80.35	30	P	P	04 49 42.8	+1.2	
	baz=257							
N15K	Kwethluk River	80.44	29	IAmb	IAmb	04 49 54.4		
	comp=Z,218nm,1.1s							
N15K	Kwethluk River	80.44	29	P	P	04 49 43.3	+1.3	
	baz=256							
CHGN	Chignik	80.48	33	IAmb	IAmb	04 50 33.6		
	comp=Z,186nm,1.1s							
CHGN	Chignik	80.48	33	P	P	04 49 42.7	+0.4	
	baz=258,SNR=14							
C16K	Lisburne Hills	80.55	21	IAmb	IAmb	04 49 45.2		
	comp=Z,267nm,1.1s							
C16K	Lisburne Hills	80.55	21	P	P	04 49 43.8	+1.3	
	baz=250							
H16K	Elim	80.62	24	P	P	04 49 44.3	+1.4	
	baz=254,SNR=119							
MAK	Makhachkala	80.64	313	*d* P	P	04 49 40.9	-2.6	
MAK				*e**PP	pP	04 49 55.2	-1.2	
MAK				*e**SP	sP	04 50 01.3	0.0	
MAK				*e*		04 52 43.7		
MAK				*e*S	S	04 59 43.4	-4.1	
MAK				*e*SS	SS	05 05 00.7	-0.3	
MAK				pmax	pmax			
	comp=Z,332nm,1.7s							
SEKA	Sheki	80.68	311	P	P	04 49 44.9	+1.1	
MNGR	Mingechevir, A	80.72	311	P	P	04 49 45.9	+2.0	
G16K	Koyuk River	80.78	24	P	P	04 49 45.3	+1.5	
	baz=254							
RAYN	Ar Rayn	80.87	293	P	P	04 49 45.0	-0.2	
RAYN	Ar Rayn	80.87	293	IAMs_20	IAMs_20	05 28 32.6		
	comp=Z,3µm,20.0s							
RAYN	Ar Rayn	80.87	293	P	P	04 49 45.2	0.0	
RAYN	Ar Rayn	80.87	293	P	P	04 49 45.0	-0.2	
RAYN				pmax	pmax			
	comp=Z,111nm,0.9s							
RAYN				MLR	MLR			
	comp=Z,3µm,20.0s							
RAYN	Ar Rayn	80.87	293	*i* P	P	04 49 44.7	-0.5	
	SNR=89							
VOI	Vohitsoka	80.87	248	P	P	04 49 45.4	0.0	
VOI				IAmb	IAmb	04 49 54.9		
	comp=Z,161nm,0.7s							
VOI	Vohitsoka	80.87	248	P	P	04 49 46.2	+0.8	
	SNR=8.7							
J16K	Anvik River	80.96	26	IAmb	IAmb	04 49 48.1		
	comp=Z,224nm,0.8s							
J16K				IAMs_20	IAMs_20	05 21 54.4		
	comp=Z,3µm,22.0s							
J16K	Anvik River	80.96	26	P	P	04 49 46.9	+2.2	
	baz=255							
FOMA	Nahampoana Res	81.01	245	P	P	04 49 46.7	+0.8	
I17K	Unalakleet	81.07	25	IAmb	IAmb	04 49 56.9		
	comp=Z,344nm,1.2s							
I17K	Unalakleet	81.07	25	P	P	04 49 47.5	+2.2	
	baz=255,SNR=106							
L16K	Owhat River	81.09	28	IAmb	IAmb	04 49 47.8		
	comp=Z,160nm,0.8s							
L16K	Owhat River	81.09	28	P	P	04 49 47.2	+1.7	
	baz=257							
N16K	Nishlik Lake	81.15	29	P	P	04 49 47.9	+1.9	
	baz=258,SNR=47							
R16K	Pilot Point	81.17	32	IAMs_20	IAMs_20	05 21 49.6		
	comp=Z,4µm,21.0s							
R16K	Pilot Point	81.17	32	P	P	04 49 46.1	+0.1	
	baz=259							
D17K	Noatak River	81.18	21	P	P	04 49 47.9	+2.1	
	baz=252,SNR=234							
M16K	Timber Creek	81.18	28	IAmb	IAmb	04 49 54.2		
	comp=Z,197nm,1.1s							
M16K	Timber Creek	81.18	28	P	P	04 49 47.7	+1.7	
	baz=257							
P16K	Nushagak River	81.24	30	P	P	04 49 47.6	+1.3	
	baz=258,SNR=15							
GANJ	Ganja	81.28	311	P	P	04 49 47.9	+0.9	
O16K	Kokwok River B	81.30	30	IAmb	IAmb	04 49 54.7		
	comp=Z,232nm,1.1s							
O16K	Kokwok River B	81.30	30	P	P	04 49 48.0	+1.4	
	baz=258,SNR=50							
RDOG	Red Dog Mine	81.35	21	IAmb	IAmb	04 49 58.0		
	comp=Z,353nm,1.2s							
RDOG	Red Dog Mine	81.35	21	P	P	04 49 48.6	+1.8	
	baz=253,SNR=53							
C17K	DeLong Mountai	81.38	21	P	P	04 49 48.7	+1.7	
	baz=252							
VNDA	Vanda	81.46	173	P	P	04 49 47.4	+0.2	
	comp=Z,35nm,0.5s,baz=317,slow=6.6,SNR=170							
VNDA				LR	LR	05 24 13.3		
	comp=Z,2µm,21.9s,baz=334,slow=34							
	comp=Z,35nm,0.5s							
E17K	Hotham Inlet	81.47	22	P	P	04 49 49.4	+2.0	
	baz=254							
G17K	Kiwalik Mounta	81.50	24	P	P	04 49 49.5	+1.8	
	baz=255,SNR=136							
F17K	Baldwin Pennin	81.51	23	IAmb	IAmb	04 49 50.1		
	comp=Z,128nm,0.8s							
F17K	Baldwin Pennin	81.51	23	P	P	04 49 49.5	+2.0	
	baz=254							
J17K	VABM Dome	81.65	26	IAmb	IAmb	04 49 57.2		
	comp=Z,487nm,1.4s							
J17K	VABM Dome	81.65	26	P	P	04 49 50.5	+2.0	
	baz=257							
H17K	Granite Mounta	81.66	24	IAmb	IAmb	04 49 52.1		
	comp=Z,140nm,0.9s							
H17K	Granite Mounta	81.66	24	P	P	04 49 50.5	+2.0	
	baz=256,SNR=144							
MAW	Mawson	81.69	200	P	P	04 49 48.8	+0.3	
	comp=Z,53nm,0.9s,baz=42,slow=3.1,SNR=4.4							
MAW				LR	LR	05 24 14.2		
	comp=Z,1µm,19.5s,baz=48,slow=34							
	comp=Z,53nm,0.9s							
L17K	Donlin	81.73	27	P	P	04 49 51.1	+2.2	
	baz=258							
KIRV	Kirov	81.73	329	P	P	04 49 49.3	+0.4	
	comp=Z,232nm,0.8s,baz=111,slow=3.5,SNR=100							
	comp=Z,232nm,0.8s							
KIRV	Kirov	81.73	329	*c i* P	P	04 49 49.1	+0.2	
NAX	Nakhchivan	81.79	309	P	P	04 49 50.9	+1.1	
O17K	Koliganek Bris	81.83	30	P	P	04 49 50.9	+1.4	
	baz=259,SNR=32							
K17K	Iditarod	81.85	27	P	P	04 49 51.6	+2.1	
	baz=258							
Q16K	King Salmon	81.86	31	P	P	04 49 49.5	0.0	
	baz=260,SNR=5.8							
N17K	Nushagak Hills	81.93	29	IAmb	IAmb	04 49 53.8		
	comp=Z,703nm,2.0s							
N17K	Nushagak Hills	81.93	29	P	P	04 49 52.0	+2.0	
	baz=259							
CHIR	Chirikof Islan	81.93	34	IAmb	IAmb	04 49 52.0		
	comp=Z,189nm,0.8s							
CHIR				IAMs_20	IAMs_20	05 23 37.8		
	comp=Z,3µm,20.0s							
CHIR	Chirikof Islan	81.93	34	P	P	04 49 51.3	+1.3	
	baz=261,SNR=5.7							
M17K	Holitna River	81.98	28	IAmb	IAmb	04 50 25.7		
	comp=Z,552nm,1.6s							
M17K	Holitna River	81.98	28	P	P	04 49 52.3	+2.1	
	baz=259							
E18K	Tukpahlearik C	82.02	22	IAmb	IAmb	04 49 53.0		
	comp=Z,257nm,0.9s							
E18K	Tukpahlearik C	82.02	22	P	P	04 49 52.3	+2.0	
	baz=255,SNR=175							
P17K	Kvichak River	82.06	30	P	P	04 49 51.6	+0.9	
	baz=260,SNR=13							
B18K	Kokolik River	82.12	20	P	P	04 49 53.1	+2.3	
	baz=253							
C18K	Utukok River	82.13	21	IAmb	IAmb	04 49 53.2		
	comp=Z,156nm,0.8s							
C18K	Utukok River	82.13	21	P	P	04 49 52.5	+1.5	
	baz=254							
F18K	Selawik	82.17	23	P	P	04 49 52.5	+1.5	
	baz=256,SNR=95							
H18K	Honhosa River	82.35	24	P	P	04 49 53.6	+1.5	
	baz=257							
SBA	Scott Base	82.38	172	P	P	04 49 53.2	+1.2	
SBA				IAmb	IAmb	04 50 54.4		
	comp=Z,241nm,1.4s							
SBA	Scott Base	82.38	172	P	P	04 49 53.2	+1.2	
SBA				pmax	pmax			
	comp=Z,241nm,1.5s							
G18K	Tagagawik	82.40	24	P	P	04 49 53.9	+1.5	
	baz=257,SNR=139							
GNI	Garni	82.44	310	P	P	04 49 53.5	+0.1	
GNI	Garni	82.44	310	P	P	04 49 53.0	-0.3	
GNI	Garni	82.44	310	*i* P	P	04 49 54.4	+1.1	
GNI				pmax	pmax			
	comp=Z,509nm,1.9s							
GNI	Garni	82.44	310	P	P	04 49 54.2	+0.9	
ACHA	Angle Creek He	82.47	32	IAMs_20	IAMs_20	05 22 41.8		
	comp=Z,3µm,22.0s							
L18K	Granite Mounta	82.48	27	P	P	04 49 54.8	+2.0	
	baz=259							
N18K	Kilae Creek	82.59	29	P	P	04 49 55.2	+1.8	
	baz=260							
A19K	Wainwright	82.59	19	P	P	04 49 55.5	+2.3	
	baz=254							
Q18K	Katmai Hardscr	82.70	31	P	P	04 49 54.1	-0.1	
	baz=261,SNR=40							
P18K	Big Mountain,	82.70	30	P	P	04 49 54.4	+0.3	
	baz=261,SNR=12							
J18K	Innoko River	82.71	26	IAMs_20	IAMs_20	05 23 09.5		
	comp=Z,2µm,22.0s							
J18K	Innoko River	82.71	26	P	P	04 49 55.5	+1.5	
	baz=259							
M18K	Stony River	82.76	28	P	P	04 49 56.2	+1.9	
	baz=260							
O18K	Koktuh Hills	82.79	30	IAMs_20	IAMs_20	05 23 01.3		
	comp=Z,3µm,22.0s							
O18K	Koktuh Hills	82.79	30	P	P	04 49 55.7	+1.2	
	baz=261,SNR=36							
R18K	Karluk	82.83	32	P	P	04 49 55.0	+0.3	
	baz=262							
SII	Sitkinak Islan	82.84	33	IAmb	IAmb	04 49 56.9		
	comp=Z,246nm,0.9s							
SII	Sitkinak Islan	82.84	33	P	P	04 49 56.1	+1.3	
	baz=262,SNR=13							
GCSA	Galena City Sc	82.88	25	P	P	04 49 56.6	+1.8	
	baz=259,SNR=225							
F19K	Shaleruckik Mo	82.95	23	P	P	04 49 56.3	+1.2	
	baz=258							
G19K	Purcell Mounta	83.08	23	P	P	04 49 57.7	+1.9	
	baz=258,SNR=517							
D19K	Kuna River	83.19	21	P	P	04 49 58.2	+1.8	
	baz=257							
H19K	Roundabout Mou	83.21	24	P	P	04 49 58.6	+2.1	
	baz=259,SNR=632							
ATD	Arta Tunnel	83.23	281	IAmb	IAmb	04 50 03.4		
	comp=Z,164nm,1.0s							
ATD	Arta Tunnel	83.23	281	LR	LR	05 27 13.0		
	comp=Z,25nm,19.8s,baz=72,slow=36							
O19K	Port Alsworth	83.28	30	IAmb	IAmb	04 50 08.3		
	comp=Z,405nm,1.5s							
O19K	Port Alsworth	83.28	30	P	P	04 49 57.9	+0.9	
	baz=262,SNR=26							
J19K	Poorman	83.28	26	P	P	04 49 58.8	+1.8	
	baz=260							
E19K	Redstone River	83.29	22	P	P	04 49 59.0	+2.1	
	baz=258							
N19K	Bonanza Creek	83.29	29	P	P	04 49 58.9	+1.7	
	baz=261,SNR=131							
L19K	White Mountain	83.33	28	P	P	04 49 58.8	+1.5	
	baz=261							
OHAK	Old Harbor	83.41	33	IAmb	IAmb	04 50 27.1		
	comp=Z,210nm,1.1s							
OHAK				IAMs_20	IAMs_20	05 22 30.8		
	comp=Z,4µm,22.0s							
OHAK	Old Harbor	83.41	33	P	P	04 49 58.2	+0.5	
OHAK	Old Harbor	83.41	33	P	P	04 49 58.9	+1.2	
	baz=263,SNR=18							
Q19K	Cape Douglas,	83.44	31	IAmb	IAmb	04 50 34.1		
	comp=Z,220nm,1.0s							
Q19K	Cape Douglas,	83.44	31	P	P	04 49 58.0	+0.1	
	baz=262,SNR=14							
M19K	Big River Lodg	83.50	28	IAmb	IAmb	04 50 00.7		
	comp=Z,200nm,0.8s							
M19K	Big River Lodg	83.50	28	P	P	04 50 00.0	+1.9	
	baz=261							
NCK	Nalchik	83.53	313	*c i* P	P	04 49 59.4	+0.7	
NCK				pmax	pmax			
	comp=Z,154nm,0.9s							
NCK				MLR	MLR			
	comp=Z,3µm,23.0s							
KARS	Kars	83.74	311	P	P	04 50 01.6	+1.6	
P19K	Oil Pt	83.75	30	IAmb	IAmb	04 50 10.0		
	comp=Z,289nm,1.4s							
P19K				IAMs_20	IAMs_20	05 25 26.7		
	comp=Z,2µm,22.0s							
P19K	Oil Pt	83.75	30	P	P	04 49 59.6	+0.1	
	baz=262,SNR=6.2							
D20K	Etivluk River	83.77	21	P	P	04 50 01.2	+1.8	
	baz=258							
F20K	Avaraart Lake	83.78	23	IAmb	IAmb	04 50 02.0		
	comp=Z,246nm,0.9s							
F20K	Avaraart Lake	83.78	23	P	P	04 50 01.3	+1.9	
	baz=259,SNR=261							
L20K	Farewell, AK	83.82	27	P	P	04 50 01.4	+1.6	
	baz=262							
E20K	Nigu River	83.83	21	P	P	04 50 01.7	+1.9	
	baz=259							
ILSW	Iliamna Southw	83.83	30	IAmb	IAmb	04 50 09.2		
	comp=Z,196nm,1.2s							
ILSW				IAMs_20	IAMs_20	05 23 20.1		
	comp=Z,2µm,22.0s							
B20K	Meade River	83.84	20	IAMs_20	IAMs_20	05 30 36.3		
	comp=Z,2µm,21.0s							
B20K	Meade River	83.84	20	P	P	04 50 01.5	+1.9	
	baz=258							
H20K	Anotleneega Mo	83.85	24	P	P	04 50 01.4	+1.6	
	baz=260							
KDAK	Kodiak Island	83.86	32	P	P	04 50 00.8	+0.8	
KDAK	Kodiak Island	83.86	32	IAMs_20	IAMs_20	05 22 34.6		
	comp=Z,3µm,22.0s							
KDAK	Kodiak Island	83.86	32	P	P	04 50 01.0	+1.0	
	comp=Z,111nm,0.9s,baz=95,slow=3.0,SNR=63							
KDAK				LR	LR	05 23 19.1		
	comp=Z,2µm,22.0s,baz=96,slow=33							
	comp=Z,111nm,0.9s							
KDAK	Kodiak Island	83.86	32	*c i* P	P	04 50 01.1	+1.2	
KDAK				pmax	pmax			
	comp=Z,570nm,1.5s							
KDAK				MLR	MLR			
	comp=Z,3µm,21.0s							
KDAK	Kodiak Island	83.86	32	P	P	04 50 01.2	+1.2	
	baz=263							
K20K	Telida	83.86	26	P	P	04 50 01.8	+1.8	
	baz=261							
I20K	Naaghedeneel	83.91	25	P	P	04 50 01.9	+1.9	
	baz=261							
J20K	Nowinta River	83.95	26	P	P	04 50 02.2	+1.9	
	baz=261							
GOF	Gofitskoye	84.03	315	*c i* P	P	04 50 01.9	+0.7	
Q20K	Shuyak Island	84.05	31	P	P	04 50 01.8	+0.9	
	baz=263,SNR=8.2							
SYI	Shuyak Island	84.05	31	IAmb	IAmb	04 50 15.2		
	comp=Z,263nm,1.1s							
SYI				IAMs_20	IAMs_20	05 25 12.7		
	comp=Z,3µm,22.0s							
KBZ	Khabaz	84.05	314	P	P	04 50 01.9	+0.6	
	comp=Z,56nm,0.8s,baz=93,slow=4.6,SNR=48							
KBZ				S	S	05 00 28.5	+6.0	
	comp=Z,3.2nm,1.1s,baz=61,slow=19,SNR=6.2							
KBZ				LR	LR	05 31 56.3		
	comp=Z,1µm,21.0s,baz=78,slow=39							
	comp=Z,56nm,0.8s							
M20K	Styx River	84.09	28	P	P	04 50 02.8	+1.5	
	baz=262							
O20K	Slope Mountain	84.11	30	P	P	04 50 01.4	+0.1	
	baz=263							
KIV	Kislovodsk	84.22	314	P	P	04 50 02.9	+0.6	
KIV	Kislovodsk	84.22	314	⇑P	P	04 50 03.1	+0.8	
KIV	Kislovodsk	84.22	314	*e*P	P	04 50 02.6	+0.3	
KIV				*e*		04 53 15.2		
KIV				*e*PPP	PPP	04 55 10.3		
KIV				*e*		05 00 21.5		
KIV				pmax	pmax			
	comp=Z,153nm,1.1s							
KIV				pmax	pmax			
	comp=Z,539nm,3.6s							
KIV				MLR	MLR			
	comp=Z,2µm,20.0s							
KIV	Kislovodsk	84.22	314	*i* P	P	04 50 02.3	0.0	
	SNR=27							
KIV	Kislovodsk	84.22	314	P	P	04 50 02.3	0.0	
	comp=Z,4µmcomp=Z,163nm,1.0s							
SHA1	Shidzhatmaz	84.23	314	*c i* P	P	04 50 03.0	+0.5	
A21K	Barrow	84.29	18	P	P	04 50 03.9	+2.0	
	baz=258							
SPCR	Spurr Chakacha	84.44	29	P	P	04 50 03.4	+0.4	
	baz=263,SNR=46							
GURO	Guroymak-BITLI	84.45	308	IAmb	IAmb	04 50 06.5		
	comp=Z,322nm,1.0s							
GURO				IAMs_20	IAMs_20	05 32 59.1		
	comp=Z,1µm,21.0s							
C21K	Knifeblade Rid	84.50	21	P	P	04 50 04.8	+1.8	
	baz=260							
HOM	Homer	84.55	30	P	P	04 50 03.9	+0.4	
	baz=264,SNR=18							
G21K	Allakaket	84.56	23	IAmb	IAmb	04 50 14.4		
	comp=Z,330nm,1.4s							
G21K	Allakaket	84.56	23	P	P	04 50 05.0	+1.6	
	baz=262							
B21K	Ikpikpuk River	84.64	20	P	P	04 50 05.6	+1.9	
	baz=260							
PPLA	Purkeypile	84.65	27	P	P	04 50 04.8	+0.7	
	baz=263,SNR=14							
F21K	Alatna River	84.68	23	P	P	04 50 05.1	+1.0	
	baz=262,SNR=41							
E21K	Killik River	84.68	21	P	P	04 50 05.5	+1.5	
	baz=261							
CHUM	Lake Minchumin	84.71	26	P	P	04 50 05.5	+1.3	
	baz=263,SNR=52							
H21K	Melozitna Rive	84.73	24	P	P	04 50 05.7	+1.4	
	baz=262							
CAST	Castle Rocks	84.76	27	IAmb	IAmb	04 50 38.7		
	comp=Z,352nm,1.9s							
CAST	Castle Rocks	84.76	27	P	P	04 50 04.9	+0.4	
	baz=263,SNR=33							
A22K	Sinclair Lake	84.76	19	P	P	04 50 06.1	+1.9	
	baz=260							
SKT	Skwentna	84.85	28	IAmb	IAmb	04 50 06.2		
	comp=Z,116nm,0.9s							
SKT	Skwentna	84.85	28	P	P	04 50 04.7	-0.3	
	baz=264,SNR=70							
CAPN	Captain Cook N	84.91	29	P	P	04 50 06.6	+1.4	
	baz=264							
PPT	Papeete	84.92	108	P	P	04 50 08.5	+2.3	
	comp=Z,23nm,0.7s,baz=89,slow=19,SNR=3.7							
PPT				LR	LR	05 25 58.1		
	comp=Z,866nm,20.7s,baz=262,slow=34							
	comp=Z,23nm,0.7s							
I21K	Tanana	85.01	25	IAmb	IAmb	04 50 28.2		
	comp=Z,414nm,1.6s							
I21K	Tanana	85.01	25	P	P	04 50 07.2	+1.5	
	baz=263							
BRSE	Bradley Lake S	85.01	30	P	P	04 50 06.3	+0.5	
	baz=265,SNR=49							
B22K	Teshekpuk Lake	85.16	20	P	P	04 50 07.9	+1.6	
	baz=261							
D22K	Ayikyak River	85.21	21	P	P	04 50 08.1	+1.5	
	baz=262							
F22K	John River	85.22	22	P	P	04 50 08.3	+1.5	
	baz=263							
VRH	Novokhopyorsk	85.28	321	*e*P	P	04 50 04.9	-2.4	
VRH				*e*S	SKSac	05 00 27.6	-1.0	
VRH				pmax	pmax			
	comp=Z,1µm,1.4s							
VRH				pmax	pmax			
	comp=Z,2µm,1.4s							
VRH				smax	smax			
	comp=N,200nm,1.2s							
KTH	Kantishna Hill	85.29	26	IAmb	IAmb	04 50 42.6		
	comp=Z,275nm,1.6s							
BPAW	Bear Paw Mtn.	85.32	26	IAmb	IAmb	04 50 40.5		
	comp=Z,190nm,1.4s							
BPAW				IAMs_20	IAMs_20	05 27 05.2		
	comp=Z,2µm,22.0s							
BPAW	Bear Paw Mtn.	85.32	26	P	P	04 50 07.7	+0.4	
	baz=264,SNR=32							
SLKM	Skilak Lake	85.34	30	IAMs_20	IAMs_20	05 26 44.8		
	comp=Z,2µm,20.0s							
H22K	Ishtalitna Cre	85.34	24	P	P	04 50 08.6	+1.3	
	baz=264							
MARD	Mardin	85.40	307	IAmb	IAmb	04 50 10.0		
	comp=Z,155nm,0.9s							
E22K	Anaktuvuk Pass	85.43	22	IAmb	IAmb	04 50 40.8		
	comp=Z,186nm,1.1s							
E22K	Anaktuvuk Pass	85.43	22	P	P	04 50 09.2	+1.4	
	baz=263,SNR=94							
CUT	Chulitna	85.48	28	P	P	04 50 07.9	-0.2	
	baz=265,SNR=24							
M22K	Willow	85.49	28	P	P	04 50 08.2	0.0	
	baz=265							
TRF	Thorofare Moun	85.56	27	IAmb	IAmb	04 50 43.2		
	comp=Z,428nm,2.0s							
TRF	Thorofare Moun	85.56	27	P	P	04 50 08.6	-0.1	
	baz=265,SNR=21							
O22K	Cooper Landing	85.58	30	P	P	04 50 08.9	+0.3	
	baz=266,SNR=25							
RC01	Rabbit Creek A	85.62	29	IAMs_20	IAMs_20	05 24 22.3		
	comp=Z,3µm,22.0s							
RC01	Rabbit Creek A	85.62	29	P	P	04 50 09.1	+0.2	
	baz=265,SNR=34							
LABN	Labinsk	85.66	314	*e*P	P	04 50 07.1	-2.3	
LABN				*e**PP	pP	04 50 18.7	-3.7	
LABN				*e*PPP	PPP	04 55 20.2		
LABN				*e*S	SKSac	05 00 28.3	-3.0	
LABN				pmax	pmax			
	comp=Z,637nm,1.7s							
LABN				MLR	MLR			
	comp=Z,6µm,23.0s							
SEW	Seward	85.69	30	P	P	04 50 09.4	+0.2	
	baz=266,SNR=12							
ERBR	Yeremizino-Bor	85.86	316	*c i* P	P	04 50 10.7	+0.3	
ERBR				*i* *PP	pP	04 50 19.1	-4.3	
ERBR				*e*S	SKSac	05 00 32.9	+0.3	
ERBR				pmax	pmax			
	comp=Z,869nm,1.4s							
ERBR				MLR	MLR			
	comp=Z,7µm,21.0s							
D23K	Nanushuk River	85.94	21	IAMs_20	IAMs_20	05 31 17.7		
	comp=Z,2µm,22.0s							
D23K	Nanushuk River	85.94	21	P	P	04 50 11.7	+1.5	
	baz=264							
COLD	Coldfoot	85.94	23	IAmb	IAmb	04 50 13.6		
	comp=Z,165nm,1.0s							
COLD	Coldfoot	85.94	23	P	P	04 50 11.8	+1.5	
	baz=264,SNR=80							
PMR	Palmer	85.95	29	IAmb	IAmb	04 50 32.3		
	comp=Z,236nm,1.2s							
PMR	Palmer	85.95	29	P	P	04 50 11.0	+0.6	
PMR	Palmer	85.95	29	P	P	04 50 10.4	0.0	
	baz=266,SNR=49							
G23K	Bananza Creek	85.97	23	IAmb	IAmb	04 50 13.9		
	comp=Z,142nm,0.9s							
G23K	Bananza Creek	85.97	23	P	P	04 50 11.7	+1.2	
	baz=265,SNR=117							
C23K	Itkillik River	86.05	20	IAMs_20	IAMs_20	05 29 36.7		
	comp=Z,2µm,22.0s							
C23K	Itkillik River	86.05	20	P	P	04 50 11.8	+1.1	
	baz=264							
H23K	Yukon River	86.09	24	P	P	04 50 12.3	+1.2	
	baz=265							
I23K	Minto, Yukon-K	86.11	25	P	P	04 50 11.7	+0.5	
	baz=266,SNR=57							
VSLR	Vesyoloye	86.12	313	*c i* P	P	04 50 12.0	+0.3	
VSLR				pmax	pmax			

SML	**Sawmill**	**86.34**	**28**	P	**P**	**04 50 12.7**	**+0.3**
	baz=267,SNR=40						
SOC	**Sochi**	**86.35**	**313**	*e*P	**P**	**04 50 11.5**	**-1.3**
SOC				*e*		04 53 31.5	
SOC				*e*S	**SKSac**	**05 00 34.0**	**-1.7**
SOC				*e*SS	**SS**	**05 06 21.6**	**-4.0**
SOC				*e*SSS	SSS	05 09 54.8	
SOC				pmax	pmax		
	comp=Z,265nm,1.0s						
SOC				MLR	MLR		
	comp=Z,2µm,21.0s						
D24K	**Happy Valley**	**86.62**	**21**	P	**P**	**04 50 14.8**	**+1.2**
	baz=266						
M23K	**Glacier View**	**86.63**	**28**	P	**P**	**04 50 13.9**	**0.0**
	baz=267,SNR=36						
E24K	**Your Creek**	**86.67**	**22**	IAMs_20	IAMs_20	05 33 01.0	
	comp=Z,3µm,22.0s						
E24K	**Your Creek**	**86.67**	**22**	P	**P**	**04 50 14.9**	**+1.0**
	baz=266						
C24K	**Franklin Bluff**	**86.70**	**20**	IAmb	IAmb	04 50 44.4	
	comp=Z,184nm,1.1s						
C24K	**Franklin Bluff**	**86.70**	**20**	P	**P**	**04 50 14.9**	**+1.0**
	baz=266						
P23K	**Montague Islan**	**86.71**	**30**	P	**P**	**04 50 15.0**	**+0.8**
	baz=268,SNR=6.8						
COLA	**College**	**86.73**	**25**	P	**P**	**04 50 13.5**	**-0.7**
COLA	**College**	**86.73**	**25**	P	**P**	**04 50 14.1**	**-0.1**
COLA	**College**	**86.73**	**25**	P	**P**	**04 50 13.2**	**-1.0**
COLA	**College**	**86.73**	**25**	P	**P**	**04 50 13.6**	**-0.7**
	baz=267						
H24K	**Noodor Dome**	**86.77**	**24**	IAmb	IAmb	04 50 37.9	
	comp=Z,126nm,1.2s						
H24K	**Noodor Dome**	**86.77**	**24**	P	**P**	**04 50 15.4**	**+0.9**
	baz=267						
VORD	**Divnogorie**	**86.80**	**321**	*e*P	**P**	**04 50 12.8**	**-2.0**
VORD				pmax	pmax		
	comp=Z,410nm,1.0s						
SCM	**Sheep Creek Mo**	**86.82**	**28**	IAmb	IAmb	04 50 17.2	
	comp=Z,136nm,1.0s						
SCM	**Sheep Creek Mo**	**86.82**	**28**	P	**P**	**04 50 15.4**	**+0.5**
	baz=268,SNR=23						
F24K	**Squaw Lake**	**86.86**	**23**	IAMs_20	IAMs_20	05 26 48.3	
	comp=Z,2µm,22.0s						
F24K	**Squaw Lake**	**86.86**	**23**	P	**P**	**04 50 16.1**	**+1.3**
	baz=267,SNR=90						
VORR	**Voronezh**	**86.87**	**321**	*e*P	**P**	**04 50 13.7**	**-1.4**
VORR				pmax	pmax		
	comp=Z,740nm,1.0s						
VSR	**Storozhevoye**	**86.88**	**321**	*e*P	**P**	**04 50 13.2**	**-2.0**
VSR				*e*S	**SKSac**	**05 00 43.8**	**+5.2**
VSR				pmax	pmax		
	comp=Z,570nm,1.0s						
VSR				pmax	pmax		
	comp=Z,2µm,1.9s						
VSR				smax	smax		
	comp=N,60nm,1.0s						
GLI	**Glacier Island**	**86.90**	**29**	IAmb	IAmb	04 50 23.3	
	comp=Z,78nm,0.7s						
GLI				IAMs_20	IAMs_20	05 27 34.0	
	comp=Z,3µm,22.0s						
GLI	**Glacier Island**	**86.90**	**29**	P	**P**	**04 50 15.4**	**+0.2**
	baz=268,SNR=6.1						
POKR	**Poker Plat Res**	**86.92**	**25**	P	**P**	**04 50 16.3**	**+1.1**
	baz=267,SNR=11						
KLMR	**Klimovskoe**	**86.96**	**331**	*e*P	P	04 50 05.3	-10
KLMR				SS	SS	05 06 36.4	+2.9
KLMR				pmax	pmax		
	comp=Z,503nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,7µm,23.0s						
G24K	**Hadweenzic Riv**	**86.98**	**23**	P	**P**	**04 50 16.5**	**+1.1**
	baz=267,SNR=71						
LPSR	**Galich'ya Gora**	**87.06**	**322**	*e*P	**P**	**04 50 14.6**	**-1.5**
LPSR				*e*S	**SKSac**	**05 00 43.8**	**+4.2**
LPSR				pmax	pmax		
	comp=Z,910nm,1.1s						
LPSR				pmax	pmax		
	comp=Z,2µm,2.4s						
LPSR				smax	smax		
	comp=N,30nm,1.1s						
HDA	**Harding Lake**	**87.10**	**26**	P	**P**	**04 50 15.2**	**-0.8**
	baz=268,SNR=56						
ILAR	**Eielson Array**	**87.14**	**25**	P	**P**	**04 50 14.8**	**-1.4**
ILAR	**Eielson Array**	**87.14**	**25**	P	**P**	**04 50 14.7**	**-1.6**
	comp=N,12nm,0.6s,baz=243,slow=5.0,SNR=146						
ILAR				S	**S**	**05 00 47.3**	**-4.8**
	comp=N,0.5nm,0.8s,baz=272,slow=4.3,SNR=4.0						
ILAR				PKKP	**PKKPdf**	**05 08 02.7**	**-1.2**
	comp=N,0.5nm,0.7s,baz=15,slow=1.6,SNR=3.2						
ILAR				PKKPbc	**PKKPbc**	**05 08 09.2**	**-1.4**
	comp=N,0.8nm,0.6s,baz=59,slow=1.2,SNR=7.0						
ILAR				PKPPKP	**P'P'df**	**05 16 15.1**	**-0.3**
	comp=N,0.5nm,1.0s,baz=14,slow=2.5,SNR=4.6						
ILAR	**Eielson Array**	**87.14**	**25**	P	**P**	**04 50 14.8**	**-1.4**
HIN	**Hinchinbrook I**	**87.17**	**30**	IAmb	IAmb	04 50 35.3	
	comp=Z,86nm,0.8s						
FURI	**Furi**	**87.37**	**279**	IAMs_20	IAMs_20	05 27 16.7	
	comp=Z,3µm,22.0s						
M24K	**Tolsona, Glenn**	**87.38**	**28**	IAmb	IAmb	04 50 58.6	
	comp=Z,114nm,0.9s						
M24K	**Tolsona, Glenn**	**87.38**	**28**	P	**P**	**04 50 18.3**	**+0.8**
	baz=268,SNR=22						
KLU	**Klutina**	**87.48**	**29**	IAMs_20	IAMs_20	05 28 59.5	
	comp=Z,2µm,22.0s						
KLU	**Klutina**	**87.48**	**29**	P	**P**	**04 50 18.6**	**+0.5**
	baz=269,SNR=14						
D25K	**Kavik River**	**87.50**	**21**	P	**P**	**04 50 18.5**	**+0.6**
	baz=268						
G25K	**Bearman Lake**	**87.53**	**23**	P	**P**	**04 50 18.7**	**+0.7**
	baz=268,SNR=40						
DIV	**Divide**	**87.55**	**29**	IAmb	IAmb	04 50 21.2	
	comp=Z,109nm,0.9s						
EYAK	**Cordova Ski Ar**	**87.55**	**30**	P	**P**	**04 50 18.8**	**+0.6**
	baz=269						
K24K	**Donnelly Dome**	**87.59**	**26**	P	**P**	**04 50 18.4**	**-0.1**
	baz=269,SNR=18						
H25L	**Birch Creek**	**87.63**	**24**	P	**P**	**04 50 19.6**	**+1.1**
	baz=269,SNR=37						
PAX	**Paxson**	**87.72**	**27**	P	**P**	**04 50 19.2**	**0.0**
	baz=269,SNR=32						
F25K	**Christian Rive**	**87.72**	**23**	P	**P**	**04 50 20.2**	**+1.2**
	baz=269						
PRP	**Porcupine Dome**	**87.73**	**25**	P	**P**	**04 50 18.5**	**-0.8**
	baz=269,SNR=6.8						
E25K	**Arctic Village**	**87.76**	**22**	IAmb	IAmb	04 50 30.3	
	comp=Z,136nm,1.1s						
E25K				IAMs_20	IAMs_20	05 33 56.9	
	comp=Z,2µm,22.0s						
E25K	**Arctic Village**	**87.76**	**22**	P	**P**	**04 50 20.1**	**+0.9**
	baz=269,SNR=118						
J25K	**Salcha River,**	**87.79**	**26**	P	**P**	**04 50 18.9**	**-0.5**
	baz=269						
HARP	**HAARP**	**87.86**	**28**	P	**P**	**04 50 19.5**	**-0.3**
	baz=269,SNR=14						
MOS	**Moscow**	**87.86**	**326**	*e*P	**P**	**04 50 17.5**	**-2.3**
MOS				*e*		04 50 36.1	
MOS				*e*		04 53 43.7	
MOS				*e*		05 00 46.4	
MOS				*e*S	**S**	**05 00 59.7**	**+0.5**
MOS				*e*PS	PS	05 01 53.4	-14
MOS				pmax	pmax		
	comp=Z,496nm,1.2s						
MOS				pmax	pmax		
	comp=E,268nm,1.2s						
MOS				MLR	MLR		
	comp=E,4µm,22.0s						
MOS				MLR	MLR		
	comp=Z,5µm,22.0s						
FYU	**Fort Yukon**	**87.87**	**24**	IAmb	IAmb	04 50 43.4	
	comp=Z,130nm,1.1s						
ANN	**Anapa**	**88.00**	**315**	*c i*P	**P**	**04 50 20.2**	**-0.6**
ANN				*e**PP	**pP**	**04 50 30.1**	**-3.7**
ANN				*e*		04 53 43.7	
ANN				*e*S	**SKSac**	**05 00 45.3**	**-0.4**
ANN				*e*		05 00 59.5	
ANN				pmax	pmax		
	comp=Z,378nm,0.9s						
ANN				pmax	pmax		
	comp=N,132nm,1.0s						
ANN				pmax	pmax		
	comp=E,60nm,0.8s						
ANN				MLR	MLR		
	comp=N,1µm,11.0s						
ANN				MLR	MLR		
	comp=Z,5µm,21.0s						
RIDG	**Independent Ri**	**88.01**	**26**	IAmb	IAmb	04 50 30.3	
	comp=Z,143nm,1.0s						
RIDG	**Independent Ri**	**88.01**	**26**	P	**P**	**04 50 20.4**	**0.0**
	baz=270,SNR=57						
C26K	**Camden Bay**	**88.02**	**20**	P	**P**	**04 50 21.8**	**+1.5**
	baz=269						
RAGM	**Ragged Mountai**	**88.08**	**30**	IAMs_20	IAMs_20	05 26 14.3	
	comp=Z,3µm,21.0s						
BMRM	**Bremner River**	**88.11**	**29**	P	**P**	**04 50 21.4**	**+0.4**
	baz=270,SNR=12						
N25K	**Chitina, Valde**	**88.12**	**29**	IAMs_20	IAMs_20	05 27 52.3	
	comp=Z,3µm,22.0s						
N25K	**Chitina, Valde**	**88.12**	**29**	P	**P**	**04 50 21.8**	**+0.7**
	baz=270,SNR=20						
BMAR	**Burnt Mountain**	**88.13**	**23**	P	**P**	**04 50 22.2**	**+1.2**
KAIM	**Kayak Island**	**88.21**	**30**	P	**P**	**04 50 22.3**	**+0.9**
	baz=270						
HMT	**Hamilton**	**88.29**	**30**	IAMs_20	IAMs_20	05 26 39.7	
	comp=Z,2µm,21.0s						
F26K	**Sheenjek River**	**88.30**	**22**	IAmb	IAmb	04 50 32.2	
	comp=Z,185nm,1.8s						
F26K	**Sheenjek River**	**88.30**	**22**	P	**P**	**04 50 22.8**	**+1.0**
	baz=270,SNR=48						
KIBK	**Kibwezi**	**88.30**	**268**	IAMs_20	IAMs_20	05 27 05.4	
	comp=Z,3µm,22.0s						
KIBK	**Kibwezi**	**88.30**	**268**	P	**P**	**04 50 22.8**	**-0.2**
KIBK	**Kibwezi**	**88.30**	**268**	P	**P**	**04 50 24.8**	**+1.8**
	SNR=88						
SCRK	**Sand Creek**	**88.39**	**26**	P	**P**	**04 50 22.5**	**+0.1**
	baz=270,SNR=24						
C27K	**Jago River**	**88.44**	**21**	IAmb	IAmb	04 50 24.3	
	comp=Z,109nm,0.7s						
C27K	**Jago River**	**88.44**	**21**	P	**P**	**04 50 23.5**	**+1.1**
	baz=270						
G26K	**Porcupine Rive**	**88.44**	**23**	P	**P**	**04 50 23.6**	**+1.2**
	baz=270,SNR=43						
OBN	**Obninsk**	**88.47**	**325**	LR	LR	05 33 26.6	
	comp=Z,2µm,21.0s,baz=81,slow=38						
OBN	**Obninsk**	**88.47**	**325**	⇓P	**P**	**04 50 22.4**	**-0.3**
OBN	**Obninsk**	**88.47**	**325**	*c i*P	**P**	**04 50 22.0**	**-0.7**
OBN				*i*		04 50 31.0	
OBN				*e*		04 53 52.0	
OBN				*i*S	**S**	**05 01 01.4**	**-3.6**
OBN				*i*SS	**SS**	**05 06 53.4**	**-2.3**
OBN				pmax	pmax		
	comp=Z,321nm,1.3s						
OBN				MLR	MLR		
	comp=Z,10µm,24.0s						
GLB	**Gilahina Butte**	**88.50**	**29**	IAMs_20	IAMs_20	05 28 24.3	
	comp=Z,2µm,22.0s						
MENT	**Mentasta**	**88.52**	**27**	P	**P**	**04 50 23.6**	**+0.7**
BERG	**Berg Lake**	**88.56**	**30**	IAmb	IAmb	04 50 38.8	
	comp=Z,103nm,1.2s						
BERG				IAMs_20	IAMs_20	05 25 56.0	
	comp=Z,2µm,21.0s						
J26L	**Joseph Creek**	**88.57**	**26**	IAmb	IAmb	04 50 24.3	
	comp=Z,55nm,0.7s						
J26L	**Joseph Creek**	**88.57**	**26**	P	**P**	**04 50 23.4**	**+0.2**
	baz=271,SNR=64						
ASF	**Jabal al Asfar**	**88.59**	**302**	LR	LR	05 33 57.2	
	comp=Z,3µm,21.9s,baz=124,slow=38						
VRDI	**Verde Repeater**	**88.67**	**29**	IAmb	IAmb	04 50 36.5	
	comp=Z,97nm,1.3s						
L26K	**Log Cabin Wild**	**88.69**	**27**	P	**P**	**04 50 24.3**	**+0.7**
	baz=271,SNR=21						
I26K	**Coal Creek Min**	**88.73**	**25**	P	**P**	**04 50 23.7**	**0.0**
	baz=271						
KHAM	**Kharkiv**	**88.74**	**320**	P	**P**	**04 50 24.5**	**+0.3**
TOKA	**Tokat**	**88.77**	**310**	IAmb	IAmb	04 50 34.4	
	comp=Z,169nm,1.1s						
BGLC	**Bering Glacier**	**88.78**	**30**	P	**P**	**04 50 24.8**	**+0.7**
	baz=271						
M26K	**Nabesna, AK**	**88.86**	**28**	IAMs_20	IAMs_20	05 28 41.2	
	comp=Z,3µm,21.0s						
M26K	**Nabesna, AK**	**88.86**	**28**	P	**P**	**04 50 25.3**	**+0.8**
	baz=271						
FKH	**Fakeheh**	**88.95**	**304**	*e*P	**P**	**04 50 26.8**	**+1.1**
KMBO	**Kilima Mbogo**	**89.06**	**269**	P	**P**	**04 50 28.1**	**+1.3**
KMBO	**Kilima Mbogo**	**89.06**	**269**	IAMs_20	IAMs_20	05 27 43.4	
	comp=Z,3µm,22.0s						
KMBO	**Kilima Mbogo**	**89.06**	**269**	P	**P**	**04 50 27.4**	**+0.7**
	comp=Z,76nm,1.2s,baz=69,slow=5.6,SNR=78						
KMBO				LR	LR	05 27 55.4	
	comp=Z,2µm,21.3s,baz=84,slow=34						
	comp=Z,76nm,1.2s						
KMBO	**Kilima Mbogo**	**89.06**	**269**	P	**P**	**04 50 28.1**	**+1.3**
KMBO				P	**P**	**04 50 28.1**	**+1.3**
KMBO	**Kilima Mbogo**	**89.06**	**269**	*i* P	**P**	**04 50 28.3**	**+1.6**
	SNR=73						
LVZ	**Lovozero**	**89.07**	**338**	P	**P**	**04 50 24.2**	**-1.2**
LVZ				IAmb	IAmb	04 50 36.5	
	comp=Z,154nm,1.2s						
LVZ	**Lovozero**	**89.07**	**338**	P	**P**	**04 50 24.2**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,154nm,1.2s						
BEIL	**Beino**	**89.13**	**304**	*e*P	**P**	**04 50 27.4**	**+1.0**
K27K	**Chicken**	**89.23**	**26**	IAmb	IAmb	04 50 28.8	
	comp=Z,146nm,1.1s						
K27K	**Chicken**	**89.23**	**26**	P	**P**	**04 50 27.5**	**+1.3**
	baz=272						
E27K	**Coleen River**	**89.25**	**22**	IAmb	IAmb	04 50 36.5	
	comp=Z,130nm,1.2s						
E27K	**Coleen River**	**89.25**	**22**	P	**P**	**04 50 27.0**	**+0.8**
	baz=272						
G27K	**Doyon Strip**	**89.29**	**23**	P	**P**	**04 50 27.4**	**+1.0**
	baz=272,SNR=33						
BNN	**Bunyan**	**89.29**	**309**	IAmb	IAmb	04 50 36.7	
	comp=Z,796nm,1.3s						
BNN				IAMs_20	IAMs_20	05 38 31.2	
	comp=Z,4µm,22.0s						
HWQ	**Hawqa**	**89.34**	**304**	*e*P	**P**	**04 50 28.2**	**+0.7**
I27K	**Kandik River**	**89.36**	**25**	P	**P**	**04 50 27.9**	**+1.1**
	baz=272						
H27K	**Steamboat Moun**	**89.37**	**24**	P	**P**	**04 50 27.8**	**+1.0**
	baz=273						
L27K	**Beaver Creek,**	**89.38**	**27**	IAmb	IAmb	04 50 28.6	
	comp=Z,59nm,0.8s						
L27K				IAMs_20	IAMs_20	05 27 41.8	
	comp=Z,2µm,22.0s						
L27K	**Beaver Creek,**	**89.38**	**27**	P	**P**	**04 50 28.0**	**+1.0**
	baz=272						
M27K	**Edge Creek, AK**	**89.39**	**28**	IAMs_20	IAMs_20	05 29 05.0	
	comp=Z,2µm,22.0s						
M27K	**Edge Creek, AK**	**89.39**	**28**	P	**P**	**04 50 27.6**	**+0.5**
	baz=272						
BCAR	**Beaver Creek A**	**89.40**	**27**	P	**P**	**04 50 27.9**	**+0.9**
ZAHL	**Zahle**	**89.40**	**304**	*e*P	**P**	**04 50 28.8**	**+1.0**
D27M	**Malcolm River**	**89.42**	**21**	P	**P**	**04 50 28.0**	**+0.9**
	baz=273						
MESA	**MESA**	**89.44**	**30**	P	**P**	**04 50 28.3**	**+0.9**
	baz=272						
RCY	**Rachaya**	**89.45**	**303**	*e*P	**P**	**04 50 29.0**	**+1.0**
SHBL	**Chebaa**	**89.53**	**303**	*e*P	**P**	**04 50 29.4**	**+1.0**
YAH	**Yahtse**	**89.54**	**30**	IAMs_20	IAMs_20	05 26 36.7	
	comp=Z,2µm,22.0s						
APA	**Apatity**	**89.56**	**337**	⇓*i*P	**P**	**04 50 25.2**	**-2.4**
APA				pmax	pmax		
	comp=Z,51nm,1.0s						
APA				MLR	MLR		
	comp=Z,8µm,22.0s						
QRWL	**Qaraoun**	**89.58**	**303**	*e*P	**P**	**04 50 29.4**	**+0.9**
BHL	**Bhannes**	**89.59**	**304**	*e*P	**P**	**04 50 29.3**	**+0.6**
DQRL	**Deir Qamar**	**89.67**	**304**	*e*P	**P**	**04 50 29.8**	**+0.8**
GHAJ	**Ghor Haditha**	**89.74**	**301**	IAMs_20	IAMs_20	05 35 55.0	
	comp=Z,3µm,21.0s						
MMAI	**Mount Meron Ar**	**89.83**	**303**	P	**P**	**04 50 30.3**	**+0.5**
	comp=Z,143nm,1.0s,baz=82,slow=6.0,SNR=97						
MMAI				PKKPbc	**PKKPbc**	**05 08 03.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=42,slow=1.4,SNR=2.7						
MMAI				LR	LR	05 35 19.0	
	comp=Z,1µm,21.9s,baz=89,slow=39						
	comp=Z,143nm,1.0s						
BVCY	**Beaver Creek**	**89.86**	**28**	P	**P**	**04 50 30.3**	**+1.1**
	baz=273,SNR=9.4						
E28M	**Babbage River**	**89.98**	**21**	IAmb	IAmb	04 50 31.1	
	comp=Z,81nm,0.9s						
E28M	**Babbage River**	**89.98**	**21**	P	**P**	**04 50 30.5**	**+0.9**
	baz=274,SNR=91						
I28M	**Miner Creek**	**90.07**	**25**	IAmb	IAmb	04 50 31.7	
	comp=Z,78nm,0.8s						
I28M	**Miner Creek**	**90.07**	**25**	P	**P**	**04 50 31.1**	**+0.9**
	baz=274,SNR=82						
YUK3	**Moose Creek**	**90.08**	**28**	P	**P**	**04 50 31.3**	**+0.8**
	baz=274,SNR=11						
D28M	**Stokes Point**	**90.21**	**21**	P	**P**	**04 50 31.5**	**+1.0**
	baz=275						
O28M	**Mount Upton**	**90.28**	**29**	P	**P**	**04 50 32.5**	**+0.9**
	baz=274,SNR=14						
PCA	**Pinnacle**	**90.29**	**30**	IAmb	IAmb	04 50 43.7	
	comp=Z,95nm,1.2s						
PINM	**Pinnacle**	**90.30**	**30**	P	**P**	**04 50 32.3**	**+1.0**
	baz=274						
SIM	**Simferopol'**	**90.36**	**315**	*c i*P	**P**	**04 50 31.5**	**-0.3**
SIM				*e*		04 54 09.0	
SIM				*e*S	**S**	**05 01 20.0**	**-3.1**
SIM				pmax	pmax		
	comp=Z,114nm,0.7s						
SIM				MLR	MLR		
	comp=Z,6µm,27.0s						
SYO	**Syowa Base**	**90.36**	**201**	⇑*i*P	**P**	**04 50 32.0**	**+0.7**
SYO	**Syowa Base**	**90.36**	**201**	⇑*i*PcP	**PcP**	**04 50 34.3**	**+1.9**
SYO	**Syowa Base**	**90.36**	**201**	⇑*i*pP	pP	04 50 45.6	+1.3
DAWY	**Dawson**	**90.41**	**26**	P	**P**	**04 50 32.4**	**+0.7**
	baz=274,SNR=57						
YUK8	**Steele Glacier**	**90.45**	**29**	P	**P**	**04 50 33.5**	**+1.2**
	baz=274,SNR=11						
E29M	**Blow River**	**90.61**	**22**	IAmb	IAmb	04 51 06.9	
	comp=Z,174nm,1.8s						
E29M	**Blow River**	**90.61**	**22**	P	**P**	**04 50 32.8**	**+0.3**
	baz=276,SNR=31						
H29M	**Whitestone**	**90.64**	**24**	IAmb	IAmb	04 50 54.2	
	comp=Z,205nm,1.6s						
H29M	**Whitestone**	**90.64**	**24**	P	**P**	**04 50 33.4**	**+0.7**
	baz=275						
G29M	**Pine Creek**	**90.71**	**23**	IAmb	IAmb	04 50 34.3	
	comp=Z,120nm,1.0s						
G29M	**Pine Creek**	**90.71**	**23**	P	**P**	**04 50 33.7**	**+0.7**
	baz=276						
I29M	**Ogilvie Camp,**	**90.75**	**25**	IAmb	IAmb	04 50 34.4	
	comp=Z,71nm,1.1s						
I29M	**Ogilvie Camp,**	**90.75**	**25**	P	**P**	**04 50 33.7**	**+0.4**
	baz=276,SNR=48						
PNL	**Peninsula**	**90.76**	**30**	P	**P**	**04 50 34.5**	**+1.1**
	baz=274						
JOF	**Joensuu**	**90.78**	**333**	*e*P	**P**	**04 50 32.9**	**-0.5**
KIRS	**Kirsehir-Merke**	**90.78**	**309**	⇑P	**P**	**04 50 33.9**	**-0.2**
VADS	**Vadso**	**90.79**	**340**	IVmB_BB		04 50 30.9	
	comp=Z,4µm,4.2s						
VADS				*e*P	**P**	**04 50 32.7**	**-0.6**
VADS				*e*pP	pP	04 50 45.5	-0.9
LODK	**Lodwar**	**90.81**	**273**	IAmb	IAmb	04 50 58.6	
	comp=Z,83nm,1.3s						
LODK				IAMs_20	IAMs_20	05 28 34.9	
	comp=Z,3µm,22.0s						
LODK	**Lodwar**	**90.81**	**273**	P	**P**	**04 50 35.6**	**+0.9**
	SNR=29						
J29N	**Klondike Camp**	**90.88**	**26**	IAmb	IAmb	04 50 56.1	
	comp=Z,121nm,1.4s						
J29N				IAMs_20	IAMs_20	05 30 01.3	
	comp=Z,2µm,22.0s						
J29N	**Klondike Camp**	**90.88**	**26**	P	**P**	**04 50 35.1**	**+1.2**
	baz=276,SNR=19						
M29M	**Somme Creek**	**90.97**	**28**	IAmb	IAmb	04 50 36.4	
	comp=Z,52nm,0.8s						
M29M	**Somme Creek**	**90.97**	**28**	P	**P**	**04 50 35.8**	**+1.4**
	baz=275,SNR=54						
BR104	**Keskin Array S**	**90.97**	**310**	P	**P**	**04 50 34.4**	**-0.6**
	comp=Z,372nmcomp=Z,50nm,1.0s						
BR131	**Keskin Array S**	**90.97**	**310**	IAmb	IAmb	04 50 43.5	
	comp=Z,79nm,1.1s						
BR131	**Keskin Array S**	**90.97**	**310**	P	**P**	**04 50 34.0**	**-1.1**
BRTR	**Keskin Array B**	**90.97**	**310**	P	**P**	**04 50 34.4**	**-0.7**
BRTR	**Keskin Array B**	**90.97**	**310**	P	**P**	**04 50 34.2**	**-0.8**
	comp=Z,30nm,1.0s,baz=119,slow=4.6,SNR=40						
BRTR				PP	**PP**	**04 54 12.9**	**+1.3**
	comp=Z,12nm,1.2s,baz=104,slow=5.2,SNR=3.6						
BRTR				PKKPbc	**PKKPbc**	**05 07 59.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=229,slow=1.9,SNR=4.6						
BRTR				LR	LR	05 37 48.8	
	comp=Z,682nm,21.9s,baz=92,slow=40						
	comp=Z,30nm,1.0s						
BRTR	**Keskin Array B**	**90.97**	**310**	*ce*P	**P**	**04 50 34.5**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,33nm,1.0s						
YUK4	**Talbot Arm**	**90.98**	**29**	P	**P**	**04 50 35.9**	**+1.2**
	baz=275,SNR=13						
BR106	**Keskin Array S**	**90.98**	**310**	P	**P**	**04 50 34.4**	**-0.7**
	comp=Z,324nmcomp=Z,44nm,1.1s						
BR105	**Keskin Array S**	**90.99**	**310**	P	**P**	**04 50 34.4**	**-0.7**
	comp=Z,407nmcomp=Z,52nm,1.1s						
HOPEN	**Hopen**	**91.00**	**347**	*e*P	**P**	**04 50 34.6**	**+0.4**
HOPEN				IVmBBB		04 50 35.5	
	comp=Z,1µm,1.1s						
HOPEN				*e*SP	SP	05 02 38.1	+2.9
HOPEN				*e*SS	**SS**	**05 07 34.9**	**+3.3**
HOPEN				IVMs_BB	IVMs_BB	05 33 56.5	
	comp=Z,4µm,4.1s						
L29M	**L29M**	**91.05**	**27**	IAMs_20	IAMs_20	05 28 32.2	
	comp=Z,3µm,22.0s						
L29M	**L29M**	**91.05**	**27**	P	**P**	**04 50 36.2**	**+1.5**
	baz=276						
O29M	**Mount Kennedy**	**91.11**	**30**	IAmb	IAmb	04 50 45.8	
	comp=Z,126nm,1.6s						
O29M	**Mount Kennedy**	**91.11**	**30**	P	**P**	**04 50 36.1**	**+0.9**
	baz=275						
YUK6	**Outpost Mounta**	**91.16**	**29**	P	**P**	**04 50 36.4**	**+0.8**
	baz=275,SNR=7.5						
K29M	**Barlow Dome**	**91.25**	**26**	IAMs_20	IAMs_20	05 30 16.3	
	comp=Z,2µm,22.0s						
K29M	**Barlow Dome**	**91.25**	**26**	P	**P**	**04 50 36.7**	**+1.0**
	baz=276,SNR=33						
EPYK	**Eagle Plains**	**91.29**	**24**	IAmb	IAmb	04 51 10.0	
	comp=Z,136nm,1.2s						
EPYK	**Eagle Plains**	**91.29**	**24**	P	**P**	**04 50 36.0**	**+0.2**
	baz=277,SNR=41						
G30M	**tAoh Zraii Nji**	**91.41**	**23**	IAmb	IAmb	04 51 10.1	
	comp=Z,178nm,1.5s						
G30M	**tAoh Zraii Nji**	**91.41**	**23**	P	**P**	**04 50 36.2**	**-0.1**
	baz=277						
CSS	**Mathiatis**	**91.47**	**305**	P	**P**	**04 50 36.9**	**-0.4**
	comp=Z,2µmcomp=Z,174nm,1.0s						
F30M	**Barrier River**	**91.49**	**22**	P	**P**	**04 50 37.0**	**+0.3**
	baz=278						
PUL	**Pulkovo**	**91.57**	**330**	⇑*e*P	**P**	**04 50 37.5**	**+

baz=277,SNR=45
P30M Million Dollar 91.93 30 P P 04 50 40.1 +1.2
baz=277
MAYO Mayo, Yukon 92.00 26 IAmb IAmb 04 50 41.2
comp=Z,123nm,0.9s
MAYO Mayo, Yukon 92.00 26 P P 04 50 40.1 +1.0
baz=278,SNR=20
G31M Satah River 92.18 23 IAmb IAmb 04 51 00.6
comp=Z,155nm,1.2s
G31M IAMs_20 IAMs_20 05 36 55.5
comp=Z,2μm,21.0s
G31M Satah River 92.18 23 P P 04 50 39.8 0.0
baz=279
ARA0 ARCESS Array S 92.20 340 *e*P P 04 50 39.2 -0.7
ARA0 IVmBBB 04 50 39.2
comp=Z,3μm,1.3s
ARA0 IVMs_BB IVMs_BB 05 25 10.5
comp=Z,6μm,6.2s
ARCES ARCESS Array B 92.20 340 P P 04 50 39.3 -0.6
comp=Z,105nm,0.9s,baz=74,slow=5.6,SNR=96
ARCES PKKP PKKPdf 05 07 55.1 0.0
comp=Z,2.5nm,0.5s,baz=250,slow=2.2,SNR=21
ARCES LR LR 05 38 56.1
comp=Z,1μm,20.0s,baz=89,slow=40
comp=Z,105nm,0.9s
INK Inuvik 92.22 21 IAmb IAmb 04 50 40.6
comp=Z,83nm,1.1s
INK Inuvik 92.22 21 P P 04 50 39.9 -0.1
comp=Z,48nm,1.0s,baz=286,slow=5.3,SNR=99
INK LR LR 05 33 30.5
comp=Z,1μm,20.8s,baz=262,slow=36
comp=Z,48nm,1.0s
INK Inuvik 92.22 21 P P 04 50 39.9 -0.1
baz=280
O30N Mendenhall 92.28 29 IAMs_20 IAMs_20 05 31 10.3
comp=Z,2μm,20.0s
O30N Mendenhall 92.28 29 P P 04 50 41.5 +1.0
baz=277,SNR=14
F31M Tsiigehtchic 92.29 22 IAmb IAmb 04 50 40.8
comp=Z,84nm,0.9s
F31M Tsiigehtchic 92.29 22 P P 04 50 40.3 0.0
baz=280
PLBC Pleasant Camp 92.31 30 P P 04 50 41.1 +0.6
baz=277,SNR=7.4
H31M Peel River 92.33 24 P P 04 50 40.8 +0.2
baz=279
N31M Braeburn, Yuko 92.34 28 P P 04 50 42.0 +1.3
baz=278,SNR=30
SPA0 Spitsbergen Ar 92.39 349 *e*P P 04 50 39.8 -0.8
SPA0 IVmBBB 04 50 42.0
comp=Z,2μm,2.1s
SPA0 *e*SKSac **SKSac** 05 01 16.0 +6.0
SPITS Spitsbergen Ar 92.39 349 P P 04 50 40.0 -0.7
comp=Z,50nm,0.8s,baz=93,slow=5.8,SNR=17
SPITS PP PP 04 54 21.3 -0.3
comp=Z,62nm,1.2s,baz=292,slow=11,SNR=4.0
SPITS PKKP PKKPdf 05 07 55.1 +0.2
comp=Z,9.2nm,0.9s,baz=175,slow=31,SNR=2.6
SPITS LR LR 05 39 32.1
comp=Z,1μm,18.1s,baz=42,slow=40
comp=Z,50nm,0.8s
SPITS Spitsbergen Ar 92.39 349 P P 04 50 40.0 -0.7
S31K Pelican 92.57 32 IAMs_20 IAMs_20 05 28 03.0
comp=Z,3μm,21.0s
S31K Pelican 92.57 32 P P 04 50 42.5 +0.8
baz=277
HAMF Hammerfest 92.59 341 *e*P P 04 50 40.9 -0.7
HAMF IVmB_BB 04 51 07.7
comp=Z,4μm,5.5s
R31K City Hall, Gus 92.77 31 P P 04 50 43.6 +0.9
baz=278
SKAG Skagway 92.84 30 IAmb IAmb 04 50 45.4
comp=Z,83nm,1.0s
SKAG IAMs_20 IAMs_20 05 28 24.0
comp=Z,3μm,20.0s
SKAG Skagway 92.84 30 P P 04 50 44.4 +1.4
SKAG Skagway 92.84 30 P P 04 50 44.2 +1.2
baz=278,SNR=25
M31M Drury Creek, Y 92.88 28 IAmb IAmb 04 50 50.5
comp=Z,108nm,1.2s
M31M IAMs_20 IAMs_20 05 31 35.2
comp=Z,2μm,22.0s
M31M Drury Creek, Y 92.88 28 P P 04 50 43.9 +0.7
baz=279,SNR=26
WHY Whitehorse 92.89 29 P P 04 50 44.4 +1.1
baz=278,SNR=39
KBS Kingsbay 92.93 350 *i* P P 04 50 39.9 -3.1
KBS Kingsbay 92.93 350 *i* P P 04 50 42.5 -0.5
HSPB Hornsund (broa 92.97 348 *e*P P 04 50 43.1 -0.1
KTK1 Kautokeino 93.10 339 *e*P P 04 50 43.0 -1.0
KTK1 IVmBBB 04 50 45.2
comp=Z,2μm,3.2s
KTK1 *e*pP **pP** 04 50 56.7 -0.4
SIT Sitka 93.18 33 IAmb IAmb 04 50 47.1
comp=Z,131nm,1.3s
SIT IAMs_20 IAMs_20 05 28 16.0
comp=Z,2μm,19.0s
SIT Sitka 93.18 33 P P 04 50 46.3 +1.7
SIT Sitka 93.18 33 P P 04 50 45.8 +1.2
baz=278
AKASG Malin Array Be 93.18 321 P P 04 50 43.7 -1.1
AKASG IAmb IAmb 04 54 09.3
comp=Z,134nm,1.2s
AKASG Malin Array Be 93.18 321 P P 04 50 43.9 -0.9
comp=Z,12nm,0.6s,baz=72,slow=4.5,SNR=61
AKASG PP PP 04 54 27.9 -0.6
comp=Z,4.1nm,0.8s,baz=60,slow=8.0,SNR=4.3
AKASG PKKP PKKPdf 05 07 52.5 -0.4
comp=Z,1.0nm,0.6s,baz=288,slow=3.0,SNR=4.3
AKASG LR LR 05 36 46.9
comp=Z,4μm,21.7s,baz=83,slow=38
comp=Z,12nm,0.6s
AKASG Malin Array Be 93.18 321 P P 04 50 43.7 -1.1
AKASG pmax pmax
comp=Z,134nm,1.2s
AKBB Malin Array Si 93.18 321 IAmb IAmb 04 51 03.4
comp=Z,146nm,1.4s
AKBB Malin Array Si 93.18 321*c* *i*P P 04 50 43.6 -1.2
AKBB pmax pmax
comp=Z,128nm,1.4s
AKBB MLR MLR
comp=Z,7μm,21.0s
AKBB Malin Array Si 93.18 321 P P 04 50 43.6 -1.2
KIEV Kiev 93.19 321 P P 04 50 43.9 -0.9
KIEV IAmb IAmb 04 51 03.5
comp=Z,143nm,1.4s
KIEV Kiev 93.19 321 ⇓P P 04 50 44.3 -0.5
KIEV Kiev 93.19 321 P P 04 50 43.9 -0.9
KIEV pmax pmax
comp=Z,143nm,1.5s
KIEV Kiev 93.19 321 *i* P P 04 50 44.0 -0.8
SNR=15
PURM Purcari 93.20 317 ⇑P P 04 50 45.0 0.0
BESE Bessie Mountai 93.21 31 IAmb IAmb 04 50 55.4
comp=Z,171nm,1.4s
AK06 Malin Array Si 93.21 321 P P 04 50 44.4 -0.5
FARO Faro, Yukon 93.36 27 P P 04 50 46.3 +0.8
baz=280,SNR=198
BORA Eskisehir 93.41 310 IAmb IAmb 04 50 54.5
comp=Z,142nm,1.3s
FINES FINESS Array B 93.41 332 P P 04 50 44.6 -1.0
comp=Z,20nm,0.7s,baz=91,slow=7.6,SNR=24
FINES PKKP PKKPdf 05 07 53.4 +0.6
comp=Z,4.2nm,1.0s,baz=46,slow=5.5,SNR=3.8
FINES LR LR 05 36 16.2
comp=Z,4μm,21.3s,baz=76,slow=38
comp=Z,20nm,0.7s
FINES FINESS Array B 93.41 332 *i* P P 04 50 44.5 -1.0
FINES pmax pmax
comp=Z,20nm,0.7s
R32K Eaglecrest 93.43 32 IAMs_20 IAMs_20 05 28 18.7
comp=Z,3μm,22.0s
R32K Eaglecrest 93.43 32 P P 04 50 47.0 +1.2
baz=279,SNR=12
S32K Killisnoo 93.52 32 IAmb IAmb 04 50 57.2
comp=Z,154nm,1.8s
S32K IAMs_20 IAMs_20 05 28 38.1
comp=Z,2μm,22.0s
S32K Killisnoo 93.52 32 P P 04 50 47.0 +0.9
baz=278
MNK Minsk 93.52 325 *i* P P 04 50 43.8 -2.5
MNK *i* *PP **pP** 04 50 56.1 -3.3
MNK *i* 04 54 28.5
MNK *i* PPP PPP 04 56 29.1
MNK *i* S **SKSac** 05 01 14.5 -2.5
MNK *i* SS **SS** 05 08 08.4 -0.3
MNK *i* SSS SSS 05 11 49.4

MNK pmax pmax
comp=N,60nm,1.1s
MNK pmax pmax
comp=Z,113nm,0.9s
MNK pmax pmax
comp=E,22nm,1.2s
MNK MLR MLR
comp=Z,6μm,25.0s
MNK MLR MLR
comp=N,5μm,24.0s
MNK MLR MLR
comp=E,3μm,23.0s
ISP Isparta 93.53 308 IAmb IAmb 04 50 54.7
comp=Z,129nm,1.1s
ISP IAMs_20 IAMs_20 05 37 54.0
comp=Z,2μm,21.0s
VSU Vasula 93.57 329⇓ *e*P P 04 50 44.8 -1.6
VSU pmax pmax
comp=Z,70nm,0.7s
VSU MLR MLR
comp=Z,2μm,9.0s
VSU Vasula 93.57 329 *e*P P 04 50 46.5 +0.1
P32M Atlin 93.63 30 IAMs_20 IAMs_20 05 28 52.0
comp=Z,2μm,21.0s
P32M Atlin 93.63 30 P P 04 50 47.7 +1.0
baz=279,SNR=12
N32M Quiet Lake 93.67 29 P P 04 50 47.7 +0.8
baz=280
ARBE Arbavere 93.80 330 *e*P P 04 50 47.0 -0.4
KEF Keuruu 93.84 333 *e*P P 04 50 47.2 -0.3
MILM Milestii Mici 93.89 317 *i* P P 04 50 47.0 -1.1
comp=Z,900nm,3.2s
MILM *e*pP **sP** 04 51 05.0 -1.1
MILM *e*L L 05 30 33.0
MILM LQM 05 35 02.0
comp=Z,3μm,25.0s
MILM LRM MLR 05 37 20.0
comp=Z,4μm,24.0s
MILM Milestii Mici 93.89 317 ⇓P P 04 50 47.5 -0.6
MILM Milestii Mici 93.89 317 *i* P P 04 50 47.0 -1.1
MILM *e**PP **sP** 04 51 05.0 -1.1
MILM pmax pmax
comp=Z,900nm,3.2s
JETT Jettan, Norway 93.94 340 *e*P P 04 50 47.2 -0.8
JETT IVmBBB 04 50 56.4
comp=Z,3μm,1.4s
P33M Teslin, Yukon 93.97 29 IAMs_20 IAMs_20 05 29 19.0
comp=Z,3μm,22.0s
P33M Teslin, Yukon 93.97 29 P P 04 50 49.0 +0.7
baz=280,SNR=26
SORM Soroca 94.05 318 ⇓P P 04 50 48.6 -0.2
SORM Soroca 94.05 318 P P 04 50 48.6 -0.2
IDID Didziasalis 94.06 326 *e*P P 04 50 49.0 +0.4
A36M Sachs Harbour 94.06 17 IAmb IAmb 04 51 18.3
comp=Z,63nm,1.0s
A36M Sachs Harbour 94.06 17 P P 04 50 48.4 0.0
baz=288
TLCR 94.08 315 ⇓P P 04 50 48.7 -0.4
TLCR 94.08 315 P P 04 50 48.6 -0.4
JURR Jurilovca 94.09 315 ⇓P P 04 50 49.3 +0.2
MI28 Mi28,Pidlybu 94.14 321 P P 04 50 48.5 -0.7
LUBAR Lubar, Ukraine 94.21 320 P P 04 50 48.9 -0.7
IIGN Ignalina 94.34 326 *e*P P 04 50 51.4 +1.4
ISK Istanbul-Kandi 94.35 311 P P 04 50 49.6 -0.8
MANR Mangalia 94.40 314 ⇓P P 04 50 50.5 0.0
TPGR Topolog 94.40 315 ⇑P P 04 50 50.8 +0.2
TRO Tromso 94.42 340 *e*P P 04 50 49.0 -1.0
TRO IVmB_BB 04 50 56.0
comp=Z,5μm,5.2s
TRO *e*PP **PP** 04 54 33.0 -4.6
MEF Metsahovi 94.44 331 *e*P P 04 50 49.6 -0.8
TIRR Tirgusor 94.45 315 IAmb IAmb 04 50 59.7
comp=Z,107nm,1.3s
TIRR IAMs_20 IAMs_20 05 33 58.3
comp=Z,2μm,19.0s
TIRR Tirgusor 94.45 315 ⇑P P 04 50 50.3 -0.4
TIRR Tirgusor 94.45 315 P P 04 50 50.3 -0.4
Q32M Nakina River 94.47 31 IAmb IAmb 04 51 13.0
comp=Z,126nm,1.6s
Q32M IAMs_20 IAMs_20 05 29 07.3
comp=Z,3μm,21.0s
Q32M Nakina River 94.47 31 P P 04 50 51.5 +0.7
baz=281
T33K Petersburg 94.50 33 P P 04 50 51.5 +0.9
baz=280
VLDR Vladesti 94.52 316 ⇑P P 04 50 51.5 +0.4
U33K Whale Pass 94.53 34 IAmb IAmb 04 51 22.3
comp=Z,136nm,1.5s
U33K Whale Pass 94.53 34 P P 04 50 51.7 +0.9
baz=280
CFR Carcaliu 94.56 315 ⇑P P 04 50 50.9 -0.3
CFR Carcaliu 94.56 315 P P 04 50 50.9 -0.3
SCTR Scanteiesti 94.60 316 ⇓P P 04 50 52.2 +0.8
CRAG Craig 94.63 34 P P 04 50 52.3 +1.0
baz=280
VAF Ylistaro 94.66 334 *e*P P 04 50 50.9 -0.4
VARL Varlezi 94.67 316 ⇑P P 04 50 52.7 +1.0
TLBR Topalu 94.70 315 ⇑P P 04 50 52.4 +0.5
PSN Preselentsi 94.75 314 P P 04 50 52.4 +0.3
HARR Harsova 94.76 315 ⇓P P 04 50 52.3 +0.1
HARR Harsova 94.76 315 P P 04 50 52.3 +0.1
IZVR Izvoarele 94.77 316 ⇑P P 04 50 52.5 +0.3
POGA Pongola 94.83 243 IAmb IAmb 04 51 06.1
comp=Z,52nm,0.9s
WRAK Wrangell Islan 94.90 33 IAmb IAmb 04 50 54.6
comp=Z,99nm,0.9s
WRAK Wrangell Islan 94.90 33 P P 04 50 53.3 +0.8
baz=280,SNR=17
ICOR Ion Corvin 94.93 314 ⇓P P 04 50 53.7 +0.8
GHRR 94.96 316 ⇑P P 04 50 53.8 +0.8
GHRR 94.96 316 P P 04 50 52.9 -0.1
MANT Manisa 95.01 309 IAmb IAmb 04 51 02.4
comp=Z,119nm,1.2s
R33M Jennings River 95.04 30 IAmb IAmb 04 50 55.2
comp=Z,60nm,1.0s
R33M IAMs_20 IAMs_20 05 28 44.4
comp=Z,3μm,22.0s
R33M Jennings River 95.04 30 P P 04 50 54.1 +0.7
baz=282
COSR Cosmesti PH 95.05 316 ⇓P P 04 50 54.5 +1.0
NOR Nord 95.08 355 *i* P P 04 50 51.8 -1.1
NOR IAmb IAmb 04 50 54.0
comp=Z,220nm,1.6s
NOR Nord 95.08 355 *i* P P 04 50 52.2 -0.7
NOR IAmb IAmb 04 50 54.0
comp=Z,220nm,1.6s
PANC Panciu 95.16 316 ⇑P P 04 50 54.7 +0.7
RNPP9 Sopachiv 95.17 322 P P 04 50 53.3 -0.6
DRBR Darabani 95.20 319 ⇓P P 04 50 53.7 -0.4
RNPP5 Staryi Chortor 95.20 322 P P 04 50 53.4 -0.6
RNPP8 Varash 95.21 322 P P 04 50 53.4 -0.6
ODBI Odobesti 95.24 316 ⇑P P 04 50 54.0 -0.4
KMPD K-Podol'skiy 95.25 319 P P 04 50 53.5 -0.8
KMPD P P 04 50 53.9 -0.4
S34M Telegraph Cree 95.26 32 IAmb IAmb 04 51 04.8
comp=Z,107nm,1.4s
S34M IAMs_20 IAMs_20 05 29 37.4
comp=Z,2μm,22.0s
S34M Telegraph Cree 95.26 32 P P 04 50 55.2 +1.0
baz=282,SNR=18
C36M Paulatuk 95.28 20 IAmb IAmb 04 50 54.6
comp=Z,87nm,0.8s
C36M Paulatuk 95.28 20 P P 04 50 53.8 -0.1
baz=289
PRD Provadia 95.33 313 P P 04 50 55.0 +0.2
GRER 95.35 316 ⇓P P 04 50 55.1 +0.2
NEF NEVSHA 95.41 314 P P 04 50 55.4 +0.2
TESR Tescani 95.42 317 ⇑P P 04 50 55.3 +0.1
VRI Vrincioaia 95.45 316 ⇑P P 04 50 55.7 +0.3
VRI Vrincioaia 95.45 316 P P 04 50 55.7 +0.3
VRI Vrincioaia 95.45 316 P P 04 50 55.3 -0.1
comp=Z,4μmcomp=Z,116nm,1.5s
PLOR5 Plostina Array 95.50 316 P P 04 50 55.5 -0.1
comp=Z,94nm,2.0s
V35K Ketchikan 95.51 34 P P 04 50 55.6 +0.3
baz=281
PLOR Plostina 95.51 316 ⇓P P 04 50 55.8 +0.2
PLOR Plostina 95.51 316 P P 04 50 55.9 +0.2
BISRR Bisoca 95.51 316 ⇑P P 04 50 56.3 +0.7
BISRR Bisoca 95.51 316 P P 04 50 55.4 -0.3
VSVD Vaisvydziai 95.51 327 *e*P P 04 50 56.1 +0.8
RAF Rauma 95.54 332 *e*P P 04 50 54.5 -0.8
MBAR Mbarara 95.55 270 P P 04 50 57.0 +0.3
MBAR Mbarara 95.55 270 P P 04 50 57.1 +0.3
MBAR P P 04 50 57.1 +0.3

MBAR Mbarara 95.55 270 P P 04 50 57.0 +0.3
MBAR pmax pmax
comp=Z,26nm,1.1s
MBAR MLR MLR
comp=Z,1μm,22.0s
PRAR RASCA 95.58 318 ⇑P P 04 50 55.7 -0.2
LEHL Lehliu 95.58 315 ⇓P P 04 50 55.2 -0.8
PABE Paberze 95.58 326 *e*P P 04 50 55.6 -0.1
ELIB Princess Elisa 95.59 198 *d*P P 04 50 56.9 +1.3
comp=Z,37nm,1.0s
ISR Istrita 95.69 315 ⇓P P 04 50 56.2 -0.3
ISR Istrita 95.69 315 P P 04 50 56.2 -0.3
DLBC Dease Lake 95.72 31 IAMs_20 IAMs_20 05 30 06.4
comp=Z,3μm,22.0s
DLBC Dease Lake 95.72 31 P P 04 50 56.1 -0.3
comp=Z,20nm,0.9s,baz=279,slow=5.1,SNR=25
DLBC LR LR 05 30 27.7
comp=Z,2μm,22.0s,baz=291,slow=33
comp=Z,20nm,0.9s
DLBC Dease Lake 95.72 31 P P 04 50 56.9 +0.5
baz=282,SNR=14
NEHR Nehoiu 95.81 316 ⇑P P 04 50 57.6 +0.5
COVR Voineasa-Covas 95.82 316 ⇑P P 04 50 56.8 -0.3
TGTN Hyland Airport 95.86 28 P P 04 50 58.0 +1.1
baz=284,SNR=35
T35M Bob Quinn 95.92 32 IAMs_20 IAMs_20 05 29 40.6
comp=Z,2μm,21.0s
T35M Bob Quinn 95.92 32 P P 04 50 58.4 +1.1
baz=282,SNR=11
RAZG Razgrad 95.93 314 ⇓P P 04 50 57.9 +0.3
SULR 95.95 315 ⇑P P 04 50 58.3 +0.7
WTLY Watson Lake, Y 95.96 29 P P 04 50 58.5 +1.2
baz=284,SNR=70
EDRB Edirne 95.99 312 P P 04 50 57.1 -0.8
MLR Muntele Rosu 96.05 316 IAmb IAmb 04 51 09.2
comp=Z,121nm,1.1s
MLR IAMs_20 IAMs_20 05 43 02.5
comp=Z,3μm,22.0s
MLR Muntele Rosu 96.05 316 LR LR 05 41 36.8
comp=Z,3μm,20.8s,baz=76,slow=40
MLR Muntele Rosu 96.05 316 ⇑P P 04 50 58.1 -0.2
MLR Muntele Rosu 96.05 316 P P 04 50 58.0 -0.2
OZUR 96.07 317 ⇑P P 04 50 58.4 +0.2
BURAR Bucovina Array 96.22 318 P P 04 50 59.1 +0.2
BURAR Bucovina Array 96.22 318 ⇑P P 04 50 59.6 +0.6
BURAR Bucovina Array 96.22 318 P P 04 50 59.5 +0.6
BUR08 Bucovina Ar. S 96.22 318 IAmb IAmb 04 51 20.3
comp=Z,122nm,1.2s
STEI Steigen 96.24 339 *e*P P 04 50 57.4 -0.9
U35K Hyder 96.27 33 IAMs_20 IAMs_20 05 27 36.9
comp=Z,2μm,20.0s
SZH Strazhitsa 96.35 314 P P 04 50 59.7 +0.2
DOPR Dopca 96.36 316 ⇑P P 04 50 59.5 0.0
FAUS Fauske 96.41 339 *e*P P 04 50 58.2 -1.0
FAUS IVmBBB 04 51 00.1
comp=Z,5μm,3.1s
KARP Karpathos 96.45 306 P P 04 50 59.1 -1.0
KARP Karpathos 96.45 306 *e*P P 04 51 01.0 +0.9
EZN Ezine 96.57 310 P P 04 50 59.7 -0.8
ENEZ Enez 96.58 311 P P 04 50 59.4 -1.1
ALN Alexandroupoli 96.64 311 P P 04 50 59.7 -1.1
ALN Alexandroupoli 96.64 311 IAmb IAmb 04 51 09.0
comp=Z,80nm,1.2s
VOIR 96.68 316 ⇓P P 04 51 00.7 -0.3
VOIR 96.68 316 P P 04 51 00.7 -0.3
PRK Paraskevi 96.69 310 P P 04 51 00.6 -0.5
GRNB Grenville Isla 96.75 35 IAmb IAmb 04 51 11.2
comp=Z,108nm,1.8s
EUNU Eureka 96.75 5 IAmb IAmb 04 51 23.9
comp=Z,129nm,1.9s
HUMR Humele 96.87 315 ⇓P P 04 51 01.7 -0.1
ARCR ARCALIA 96.88 318 ⇑P P 04 51 02.8 +1.0
PVL Pavlikeni 96.95 314 P P 04 51 02.2 0.0
ARR Arges 96.98 316 ⇑P P 04 51 02.0 -0.4
RDO Rodhopi 96.98 312 IAmb IAmb 04 51 10.5
comp=Z,69nm,1.1s
MDB Medias 97.03 317 ⇓P Pdif 04 51 03.0 +0.4
MDB Medias 97.03 317 P Pdif 04 51 02.9 +0.3
KDZ Kurdzhali 97.06 312 P P 04 51 02.2 -0.5
MOR8 Moi Rana 97.15 338 *e*P P 04 51 00.5 -2.1
MOR8 IVmBBB 04 51 02.7
comp=Z,6μm,4.0s
SHIU Shidnytsya 97.15 320 P P 04 51 02.6 -0.4
TNR Turnu Rosu 97.18 316 ⇑P Pdif 04 51 03.7 +0.4
TNR Turnu Rosu 97.18 316 P Pdif 04 51 03.7 +0.4
MEZ Mezhgor'ye 97.18 319 P P 04 51 02.9 -0.3
BMR Baia Mare 97.35 318 ⇑P Pdif 04 51 04.7 +0.7
BMR Baia Mare 97.35 318 P Pdif 04 51 04.5 +0.5
CJR Cluj-Napoca 97.46 317 ⇑P Pdif 04 51 05.3 +0.8
CJR Cluj-Napoca 97.46 317 P Pdif 04 51 05.3 +0.7
CBBR Cluj-Babes-Bol 97.48 317 ⇓P Pdif 04 51 05.6 +1.0
KWP Kalwaria Pacla 97.49 320 *e*P Pdif 04 51 05.0 +0.4
RZN Rozhen 97.49 312 P P 04 51 04.8 -0.1
WRGLY Wrigley 97.52 25 IAmb IAmb 04 51 40.2
comp=Z,64nm,1.2s
WRGLY Wrigley 97.52 25 P Pdif 04 51 05.1 +0.8
baz=289
LOT Lotru 97.57 316 ⇑P P 04 51 04.8 -0.3
LEIR Leirfjorden 97.67 338 IVmB_BB 04 50 33.0
comp=Z,10μm,4.4s
LEIR *e*P P 04 51 03.9 -1.0
THAS Thassos island 97.68 311 P P 04 51 02.4 -3.1
KAVA Kavala 97.77 312 P P 04 51 04.3 -1.6
PGB Panagyurishte 97.78 313 P P 04 51 05.2 -0.8
MARR Marisel-Cluj 97.79 317 ⇓P P 04 51 05.8 -0.3
MESR Meseseni 97.81 318 ⇓P Pdif 04 51 06.8 +0.7
R9F13 Warsaw-Wawer 97.91 323 *e*P Pdif 04 51 06.3 0.0
R9F13 *e*S **SKSac** 05 01 41.9 +1.7
KOLS Kolonicke sedl 97.91 320 *e*PDIFF Pdif 04 51 06.5 0.0
MPEP Malo Peshtene 97.95 314 P Pdif 04 51 06.9 +0.1
DRGR 98.04 318 ⇑P Pdif 04 51 07.2 0.0
DRGR 98.04 318 P Pdif 04 51 07.2 0.0
TOAD Toad River Com 98.04 30 P P 04 51 06.7 -0.1
baz=287,SNR=14
DEV Deva 98.08 317 ⇑P P 04 51 06.6 -0.6
DEV Deva 98.08 317 P P 04 51 06.6 -0.6
BBB Bella Bella 98.20 37 LR LR 05 29 25.2
comp=Z,834nm,21.4s,baz=272,slow=32
BEL Belsk 98.21 323 *e*P Pdif 04 51 08.4 +0.7
KOTAN Kotaneelee Air 98.23 28 P Pdif 04 51 08.5 +0.9
baz=288,SNR=11
LSZ Lusaka 98.24 255 P P 04 51 08.5 -0.2
LSZ IAmb IAmb 04 51 30.1
comp=Z,73nm,1.4s
LSZ Lusaka 98.24 255 LR LR 05 31 30.1
comp=Z,3μm,21.8s,baz=98,slow=33
LSZ Lusaka 98.24 255 P Pdif 04 51 09.0 +0.2
LSZ P Pdif 04 51 09.0 +0.2
LSZ Lusaka 98.24 255 P P 04 51 08.5 -0.2
LSZ pmax pmax
comp=Z,73nm,1.5s
GZR Gura Zlata 98.26 316 ⇑P Pdif 04 51 08.4 +0.2
GZR Gura Zlata 98.26 316 P Pdif 04 51 08.3 +0.1
OUR Ouranopolis 98.27 311 P P 04 51 06.4 -1.8
IDI Anoyia 98.32 306 LR LR 05 41 18.7
comp=Z,905nm,21.8s,baz=83,slow=39
PLNA Plana 98.33 313 P P 04 51 08.2 -0.4
SRS Serrai 98.44 312 P P 04 51 06.7 -2.3
VTS Vitosha 98.44 313 P P 04 51 09.1 0.0
STHS Stebnicka Huta 98.47 320 *e*P Pdif 04 51 09.6 +0.7
STHS Stebnicka Huta 98.47 320 *e*PDIFF Pdif 04 51 09.6 +0.7
PAIG Paliouri 98.57 311 P P 04 51 07.8 -1.7
DJES Djerdap 98.58 315 ⇑P Pdif 04 51 09.5 0.0
BORR Bors 98.61 318 ⇑P Pdif 04 51 10.3 +0.8
HERR Herculane 98.61 316 ⇑P Pdif 04 51 09.8 +0.1
SURR Surduc 98.64 317 ⇑P Pdif 04 51 09.8 0.0
KKB Krupnik 98.66 313 P P 04 51 09.5 -0.4
SOH Sokhos 98.67 312 P P 04 51 08.7 -1.3
SIRR Siria 98.86 317 ⇓P Pdif 04 51 10.9 +0.1
KNT Kendrikon 98.95 312 P P 04 51 09.3 -1.9
BZS Buzias 99.02 317 ⇑P Pdif 04 51 10.9 -0.5
BZS Buzias 99.02 317 P Pdif 04 51 10.9 -0.5
NIE Niedzica 99.07 321 *e*P Pdif 04 51 12.3 +0.7
MDVR Moldovita 99.12 316 ⇑P Pdif 04 51 12.3 +0.3
KECS Kecovo 99.16 320 *e*P Pdif 04 51 12.7 +0.7
KECS Kecovo 99.16 320 *e*PDIFF Pdif 04 51 12.6 +0.6
VAY Valandovo 99.16 312 ⇑*i*P Pdif 04 51 11.0 -1.1
OJC Ojcow 99.19 321 *e*P Pdif 04 51 12.3 +0.1
OJC Ojcow 99.19 321 IAmb IAmb 04 51 38.8
comp=Z,54nm,1.0s
GRG Griva 99.35 312 P Pdif 04 51 11.6 -1.5
BOVS Bovan 99.35 315 ⇑P Pdif 04 51 12.6 -0.4
LIT Litokhoron 99.44 311 P Pdif 04 51 11.9 -1.6

NVL N'lazarevskaya 99.47 198 *eP* **Pdif 04 51 01.7 -11**
NVL pmax pmax
comp=Z,10.0nm,1.1s
NVL MLR MLR
comp=Z,2μm,22.0s
HFS Hagfors 99.61 332 P **Pdif 04 51 12.8 -0.9**
comp=Z,18nm,0.9s,baz=100,slow=5.0,SNR=8.8
HFS LR LR 05 40 08.1
comp=Z,5μm,22.0s,baz=68,slow=38
comp=Z,18nm,0.9s
LANS Liptovska Anna 99.66 320 *eP* **Pdif 04 51 15.3 +1.0**
LANS Liptovska Anna 99.66 320 *e*PDIFF **Pdif 04 51 15.3 +1.0**
PSZ Piszkesteto 99.68 319 ⇑P **Pdif 04 51 14.3 -0.2**
PSZ Piszkesteto 99.68 319 P **Pdif 04 51 14.2 -0.2**
PSZ Piszkesteto 99.68 319 *eP* **Pdif 04 51 14.8 +0.4**
RES Resolute Bay 99.90 10 IAMs_20 IAMs_20 05 36 32.6
comp=Z,2μm,21.0s
RES Resolute Bay 99.90 10 LR LR 05 39 12.6
comp=Z,761nm,21.2s,baz=322,slow=37
GKP Gorka Klasztor 99.94 325 *eP* **Pdif 04 51 15.6 +0.3**
GKP Gorka Klasztor 99.94 325 *eP* **Pdif 04 51 15.6 +0.3**
ANX Ano Chora 100.14 310 P **Pdif 04 51 15.1 -1.6**
FRGS Fruska Gora 100.36 316 *eP* **Pdif 04 51 17.0 -0.5**
NC602 NORSAR Array S 100.38 333 *eP* **Pdif 04 51 17.7 +0.6**
ITM Ithomi 100.39 308 P **Pdif 04 51 16.2 -1.6**
NB2 NORSAR Subarra100.41 333 P **Pdif 04 51 15.9 -1.4**
comp=Z,58nm,1.2s,baz=68,slow=4.4
NB2 PKKP **PKKPbc 05 07 33.2 -2.4**
comp=Z,2.6nm,1.1s,baz=232,slow=3.6
NB2 NORSAR Subarra100.41 333 P **Pdif 04 51 15.9 -1.4**
baz=68,slow=4.4
NOA NORSAR Array B 100.41 333 P **Pdif 04 51 16.1 -1.2**
comp=Z,17nm,0.9s,baz=69,slow=4.5,SNR=24
NOA PP **PP 04 55 21.6 -2.1**
comp=Z,2.8nm,0.8s,baz=57,slow=6.6,SNR=3.6
NOA PKKPbc **PKKPbc 05 07 33.8 -1.8**
comp=Z,1.9nm,0.9s,baz=69,slow=2.7,SNR=3.7
BOSA Boshof 100.48 241 P **Pdif 04 51 17.8 -0.7**
comp=Z,5.5nm,1.0s,baz=65,slow=4.6,SNR=4.2
BOSA PP **PP 04 55 23.2 -2.4**
comp=Z,13nm,1.2s,baz=136,slow=8.5,SNR=4.6
BOSA PKKPbc **PKKPbc 05 07 34.4 -0.1**
comp=Z,2.9nm,0.7s,baz=242,slow=0.8,SNR=8.1
OHR Ohrid 100.51 312 ⇓*iP* **Pdif 04 51 17.5 -0.8**
STEB Steborice 100.53 321 *e*PDIFF **Pdif 04 51 18.4 +0.3**
RLS Riolos of Patr 100.59 309 P **Pdif 04 51 17.4 -1.2**
KBN Korca 100.62 312 IAMs_20 IAMs_20 05 42 44.5
comp=Z,3μm,22.0s
MAUC Maruska 100.65 321 *e*PDIFF **Pdif 04 51 19.7 +1.0**
PHP Peshkopia 100.66 313 P **Pdif 04 51 17.4 -1.5**
SJES Sjenica 100.67 314 *eP* **Pdif 04 51 19.3 +0.3**
BSD Bornholm Skovb 100.68 327 *eP* **Pdif 04 51 18.2 -0.4**
BSD Bornholm Skovb 100.68 327 *i P* **Pdif 04 51 16.5 -2.0**
BSD IAmb IAmb 04 51 18.9
comp=Z,29nm,0.9s
BSD Bornholm Skovb 100.68 327 *i P* **Pdif 04 51 17.0 -1.6**
BSD IAmb IAmb 04 51 18.9
comp=Z,28nm,0.8s
TEKS Tekeris 100.69 316 *eP* **Pdif 04 51 17.9 -1.1**
MORC Moravsky Berou 100.72 321 *e*PDIFF **Pdif 04 51 19.0 0.0**
MORC Moravsky Berou 100.72 321 ⇓P **Pdif 04 51 19.7 +0.7**
MORC Moravsky Berou 100.72 321 P **Pdif 04 51 19.7 +0.7**
SRO Srobarova 100.73 319 *eP* **Pdif 04 51 20.1 +1.1**
SRO Srobarova 100.73 319 *e*PDIFF **Pdif 04 51 20.1 +1.1**
JAVC Velka Javorina 100.88 320 *e*PDIFF **Pdif 04 51 21.2 +1.5**
MORH Mrgy, Hungar 100.91 318 ⇑P **Pdif 04 51 20.0 +0.1**
BBLS Lazi&#263i 100.94 315 *eP* **Pdif 04 51 17.2 -2.9**
DOMB Dombas 100.94 335 *eP* **Pdif 04 51 20.8 +1.2**
NEEM North Greenlan 100.95 359 *i P* **Pdif 04 51 19.7 -0.1**
NEEM IAmb IAmb 04 51 23.4
comp=Z,178nm,1.7s
NEEM North Greenlan 100.95 359 *i P* **Pdif 04 51 19.5 -0.3**
NEEM IAmb IAmb 04 51 23.5
comp=Z,138nm,1.6s
RUDO Rudo 101.02 315 *eP* **Pdif 04 51 20.0 -0.4**
NYDR Nydri-Lefkada 101.06 310 P **Pdif 04 51 19.1 -1.6**
OSL Oslo 101.06 332 *eP* **Pdif 04 51 19.8 -0.4**
OSL IVmBBB 04 51 26.0
comp=Z,2μm,3.2s
KRLC Kraliky 101.11 322 *e*PDIFF **Pdif 04 51 21.0 +0.3**
KRLC AMS AMS 05 39 40.0
comp=Z,4μm,22.1s
KRLC Kraliky 101.11 322 *eP* **Pdif 04 51 21.0 +0.3**
KRLC MLR MLR
comp=Z,4μm,22.1s
TIR Tirane 101.15 313 IAMs_20 IAMs_20 05 44 14.5
comp=Z,2μm,20.0s
KSP Ksiaz 101.19 323 *eP* **Pdif 04 51 21.5 +0.5**
HAPS Han Pijesak,Bl 101.20 315 *eP* **Pdif 04 51 20.8 -0.6**
MODS Modra-Piesok 101.26 320 *eP* **Pdif 04 51 22.5 +1.1**
MODS Modra-Piesok 101.26 320 *e*PDIFF **Pdif 04 51 22.5 +1.1**
DPC Dobruska-Polom 101.31 322 *e*PDIFF **Pdif 04 51 22.3 +0.7**
DPC AMS AMS 05 38 50.0
comp=Z,4μm,21.8s
DPC Dobruska-Polom 101.31 322 *eP* **Pdif 04 51 22.3 +0.7**
DPC MLR MLR
comp=Z,4μm,21.8s
OSTC Ostas 101.32 322 *e*PDIFF **Pdif 04 51 22.3 +0.7**
OSTC Ostas 101.32 322 *eP* **Pdif 04 51 22.3 +0.7**
PDG Podgorica 101.36 314 IAMs_20 IAMs_20 05 39 56.8
comp=Z,2μm,20.0s
PDG Podgorica 101.36 314 *eP* **Pdif 04 51 20.5 -1.4**
PDG Podgorica 101.36 314 ⇑P **Pdif 04 51 22.1 +0.2**
CHVC Chvalec 101.41 322 AMS AMS 05 39 00.0
comp=Z,5μm,23.4s
VRAC Vranov 101.44 321 *e*PDIFF **Pdif 04 51 22.6 +0.5**
VRAC *e*PP **PP 04 55 36.5 +4.6**
UPM Unac-Piva 101.44 315 *eP* **Pdif 04 51 22.6 +0.1**
DBG Daneborg 101.47 351 *i P* **Pdif 04 51 21.1 -0.7**
DBG IAmb IAmb 04 51 24.9
comp=Z,27nm,1.1s
DBG Daneborg 101.47 351 *i P* **Pdif 04 51 21.0 -0.7**
DBG IAmb IAmb 04 51 22.6
comp=Z,17nm,0.9s
YKA Yellowknife Ar 101.54 24 P **Pdif 04 51 22.6 +0.3**
comp=Z,6.4nm,0.8s,baz=298,slow=4.9,SNR=60
YKA PP **PP 04 55 32.8 +0.6**
comp=Z,8.9nm,1.1s,baz=298,slow=7.5,SNR=4.7
YKA PKKPbc **PKKPbc 05 07 27.0 -5.3**
comp=Z,0.8nm,0.8s,baz=117,slow=3.8,SNR=4.1
KEK Kerkira 101.55 311 IAMs_20 IAMs_20 05 42 58.1
comp=Z,2μm,22.0s
TROLL Troll, Antarti 101.55 195 ⇑P **Pdif 04 51 24.5 +2.2**
comp=Z,226nm,0.7s
TROLL ⇑x x 05 07 30.1
comp=Z,180nm,0.6s
KRUC Moravsky 101.63 321 *e*PDIFF **Pdif 04 51 23.3 +0.3**
KONO Kongsberg 101.70 332 *eP* **Pdif 04 51 22.3 -0.8**
KONO IVmBBB 04 51 23.9
comp=Z,3μm,7.4s
KONO Kongsberg 101.70 332 P **Pdif 04 51 22.6 -0.4**
AKN Aaknes 101.75 335 *eP* **Pdif 04 51 23.5 +0.2**
AKN IVmBBB 04 51 26.9
comp=Z,9μm,6.4s
BRY Bratogost 101.77 314 *eP* **Pdif 04 51 22.7 -1.2**
SKAR Skarslia 101.85 334 *eP* **Pdif 04 51 25.1 +1.3**
PGC Sidney 102.00 39 IAMs_20 IAMs_20 05 30 18.6
comp=Z,2μm,22.0s
RONA Rosalia, Austr 102.08 320 *e*Pdiff **Pdif 04 51 24.9 -0.2**
comp=Z,6.0nm,1.4s
RONA *e*PKKP **PKKPbc 05 07 30.6 +0.2**
comp=Z,0.9nm,0.6s
RUE Ruedersdorf 102.17 325 *eP* **Pdif 04 51 26.5 +1.3**
BLY Banja Luka 102.27 316 *eP* **Pdif 04 51 25.1 -0.8**
CONA Conrad Observa 102.29 320 *e*Pdiff **Pdif 04 51 25.8 -0.2**
comp=Z,12nm,2.0s,SNR=5.6
CONA *e*PKiKP **PKiKP 04 55 47.0 -0.8**
comp=Z,4.3nm,0.8s
CONA *e*PKKP **PKKPbc 05 07 28.8 -1.0**
comp=Z,3.6nm,1.1s
PVCC Panska Ves 102.33 323 *e*PDIFF **Pdif 04 51 27.2 +1.1**
PVCC AMS AMS 05 39 30.0
comp=Z,4μm,22.2s
PVCC Panska Ves 102.33 323 *eP* **Pdif 04 51 27.2 +1.1**
PVCC MLR MLR
comp=Z,4μm,22.2s
GOPC GO Pecny, Ondr 102.39 322 *e*PDIFF **Pdif 04 51 28.6 +2.2**
GOPC AMS AMS 05 40 50.0
comp=Z,5μm,22.1s
GOPC GO Pecny, Ondr 102.39 322 *eP* **Pdif 04 51 28.6 +2.2**
GOPC MLR MLR
comp=Z,5μm,22.1s
A051A Mrakovica 102.39 317 *eP* **Pdif 04 51 26.4 -0.2**
PRU Pruhonice 102.51 322 *e*PDIFF **Pdif 04 51 27.3 +0.4**
PRU AMS AMS 05 39 10.0
comp=Z,5μm,22.5s
PRU Pruhonice 102.51 322 *eP* **Pdif 04 51 27.3 +0.4**
PRU MLR MLR
comp=Z,5μm,22.5s
E03A Lebam 102.52 42 IAMs_20 IAMs_20 05 31 37.4
comp=Z,2μm,20.0s
PRA Prague 102.56 322 AMS AMS 05 41 40.0
comp=Z,5μm,22.8s
BRG Berggiesshubel 102.60 323 Amp 04 51 48.0
comp=Z,31nm,1.2s
BRG Berggiesshubel 102.60 323 P **PKiKP 04 55 51.3 +3.1**
BRG Amp 04 55 53.2
comp=Z,17nm,1.1s
BRG Berggiesshubel 102.60 323 PS PS 05 04 52.0 +3.5
BRG PKKP PKKPdf 05 07 48.6 +13
BRG Amp 05 07 51.7
comp=Z,3.3nm,1.1s
BRG Berggiesshubel 102.60 323 P **Pdif 04 51 34.0 +6.7**
BRG Berggiesshubel 102.60 323 Amp 04 51 36.4
comp=Z,24nm,0.9s
BRG Berggiesshubel 102.60 323 ⇓*p*Pif 04 51 43.1
BRG Berggiesshubel 102.60 323 ⇓*i*Pif 04 51 27.8
BRG Berggiesshubel 102.60 323 Amp 04 51 28.6
comp=Z,23nm,1.0s
RICC Richard 102.61 323 *e*PDIFF **Pdif 04 51 26.2 -1.1**
RICC AMS AMS 05 38 30.0
comp=Z,4μm,22.8s
ARSA Arzberg 102.71 319 *e*Pdiff **Pdif 04 51 27.9 0.0**
comp=Z,13nm,1.9s,SNR=6.7
ARSA *e*PKKP **PKKPbc 05 07 26.8 -1.7**
comp=Z,2.1nm,1.0s
A050A Klekovaca 102.79 316 *eP* **Pdif 04 51 27.0 -1.4**
ZVC Zvikov 102.90 322 *e*PDIFF **Pdif 04 51 29.3 +0.7**
HSKC Hora Svate Kat 102.99 323 AMS AMS 05 40 20.0
comp=Z,5μm,22.4s
CLL Collm 103.02 324 *i P* **Pdif 04 51 28.7 -0.4**
CLL *e* 04 55 47.0
CLL *eS* 05 03 09.0
CLL pmax pmax
comp=Z,54nm,1.7s
CLL Collm 103.02 324 *i* Pdif **Pdif 04 51 28.7 -0.4**
comp=Z,54nm,1.7s
CLL *ex* x 04 54 12.0
CLL *ex* x 04 54 43.0
CLL *e*PP **PP 04 55 47.0 +3.3**
CLL *es*PP 04 56 07.0
CLL *i x* x 04 56 33.0
comp=Z,54nm,1.6s
CLL *e*PPP PPP 04 57 50.0
CLL *es*PPP 04 58 17.0
CLL *e*Sdif Sdif 05 03 09.0 -3.1
CLL *e*SP **SP 05 04 43.0 -3.7**
CLL *es*PS 05 05 11.0
CLL *e*PPS PPS 05 05 48.0
CLL *e*SS **SS 05 10 24.0 +2.0**
CLL *ex* x 05 11 24.0
CLL *e*PPPrev 05 15 30.0
CLL *ex* x 05 18 30.0
CKRC Cesky Krumlov 103.02 321 *e*PDIFF **Pdif 04 51 29.2 0.0**
CKRC *e*PP **PP 04 55 45.8 +2.0**
CKRC *ex* x 05 05 16.2
CKRC *ex* x 05 12 15.1
CKRC AMS AMS 05 40 40.0
comp=Z,3μm,23.4s
CKRC Cesky Krumlov 103.02 321 *eP* **Pdif 04 51 29.2 0.0**
CKRC *e* 04 55 45.8
CKRC MLR MLR
comp=Z,3μm,23.4s
GCIS Gornji Cirnik 103.03 318 *i* Pdiff **Pdif 04 51 29.9 +0.6**
G03D McMinnville, O 103.08 43 IAMs_20 IAMs_20 05 32 33.5
comp=Z,3μm,20.0s
SNAA Sanae 103.13 195 IAMs_20 IAMs_20 05 35 00.5
comp=Z,3μm,22.0s
SNAA Sanae 103.13 195 ⇑P **Pdif 04 51 32.0 +2.7**
comp=Z,64nm,0.6s
SNAA ⇑x x 05 07 24.7
comp=Z,172nm,1.1s
SNAA Sanae 103.13 195 Pdiff **Pdif 04 51 29.0 -0.3**
comp=Z,2.9nm,0.8s,baz=169,slow=11,SNR=8.2
SNAA PP **PP 04 55 44.7 +0.7**
comp=Z,8.4nm,1.1s,baz=193,slow=5.2,SNR=4.0
SNAA PKKPbc **PKKPbc 05 07 25.0 -3.0**
comp=Z,6.5nm,0.9s,baz=263,slow=6.1,SNR=8.2
CRES Cresnjevec Ost 103.16 318 *i* Pdiff **Pdif 04 51 30.2 +0.3**
BELA Belgrano 2 103.19 184 IAMs_20 IAMs_20 05 37 38.2
comp=Z,3μm,21.0s
SOKA Soboth 103.19 319 *e*Pdiff **Pdif 04 51 30.0 -0.1**
comp=Z,6.0nm,1.1s,SNR=6.1
SOKA *e*PKiKP **PKiKP 04 55 49.5 0.0**
comp=Z,6.5nm,0.8s
SOKA *e*PKKP **PKKPbc 05 07 24.5 -2.6**
comp=Z,0.3nm,0.3s
MOA Molln 103.34 320 *e*Pdiff **Pdif 04 51 30.9 +0.2**
comp=Z,13nm,1.1s,SNR=7.5
MOA *e*PKiKP **PKiKP 04 55 49.4 -0.3**
comp=Z,3.3nm,0.8s
MOA *e*PKKP **PKKPbc 05 07 23.3 -3.3**
comp=Z,4.5nm,1.1s
KHC Kasperske Hory 103.38 321 *e*PDIFF **Pdif 04 51 31.1 +0.3**
KHC *e*PP **PP 04 55 48.8 +2.3**
KHC AMS AMS 05 40 10.0
comp=Z,4μm,23.6s
KHC Kasperske Hory 103.38 321 *eP* **Pdif 04 51 31.1 +0.3**
KHC *e* 04 55 48.8
KHC MLR MLR
comp=Z,4μm,23.6s
BOJS Bojanci 103.38 318 *eP* **Pdif 04 51 30.9 0.0**
GERES GERESS Array B 103.39 321 Pdiff **Pdif 04 51 30.8 -0.1**
comp=Z,4.8nm,0.8s,baz=60,slow=3.2,SNR=16
GERES PP **PP 04 55 47.0 +0.3**
comp=Z,4.7nm,1.1s,baz=72,slow=8.6,SNR=4.3
GERES PKKPbc **PKKPbc 05 07 21.6 -5.0**
comp=Z,1.0nm,0.8s,baz=180,slow=0.9,SNR=4.4
BUCK Buck Mountain 103.55 44 IAMs_20 IAMs_20 05 36 11.0
comp=Z,2μm,21.0s
OBKA Obir 103.56 319 *e*Pdiff **Pdif 04 51 31.1 -0.7**
comp=Z,9.4nm,1.3s
OBKA *e*PKKP **PKKPbc 05 07 20.3 -5.7**
comp=Z,0.7nm,0.4s
OBKA Obir 103.56 319 *eP* **Pdif 04 51 31.0 -0.7**
LON Longmire 103.61 41 IAMs_20 IAMs_20 05 35 10.5
comp=Z,2μm,22.0s
NKC Novy Kostel 103.71 323 AMS AMS 05 40 50.0
comp=Z,5μm,22.5s
LJU Ljubljana 103.71 318 *i* Pdiff **Pdif 04 51 32.6 +0.3**
BIOA Bad Ischl, Aus 103.80 320 *e*Pdiff **Pdif 04 51 32.7 0.0**
comp=Z,10nm,1.4s
BIOA *i* PKKP **PKKPbc 05 07 22.6 -2.7**
comp=Z,2.5nm,0.7s
GBAS Gorenja Brezov 103.80 318 *e*Pdiff **Pdif 04 51 31.8 -1.0**
CEY Cerknica 103.87 318 *eP* **Pdif 04 51 32.9 -0.2**
TIP Timpagrande 103.96 311 IAMs_20 IAMs_20 05 47 49.0
comp=Z,2μm,22.0s
TIP Timpagrande 103.96 311 ⇑P **Pdif 04 51 34.6 +1.0**
KBA Koelnbreinsper 104.18 320 *e*Pdiff **Pdif 04 51 34.0 -0.6**
comp=Z,6.5nm,1.4s
KBA *e*PP **PP 04 55 52.5 -0.2**
comp=Z,4.0nm,0.9s
KBA *e*PKKP **PKKPbc 05 07 22.3 -2.0**
comp=Z,0.8nm,0.6s
LTY Liberty 104.20 40 IAMs_20 IAMs_20 05 31 58.0
comp=Z,2μm,21.0s
SKDS Skadanscina 104.20 318 *eP* **Pdif 04 51 33.9 -0.7**
PRED Cave del Predi 104.23 319 IAMs_20 IAMs_20 05 48 45.1
comp=Z,2μm,18.0s
YBH Yreka Blue Hor 104.42 46 Pdiff **Pdif 04 51 36.2 +0.5**
comp=Z,2.1nm,0.8s,baz=17,slow=4.7,SNR=4.4
YBH PP **PP 04 55 53.8 -0.8**
comp=Z,4.8nm,1.0s,baz=245,slow=1.2,SNR=5.3
CUC Castrocucco 104.46 312 IAMs_20 IAMs_20 05 42 21.2
comp=Z,2μm,22.0s
LESA Schwarzleotal 104.50 320 *e*Pdiff **Pdif 04 51 35.5 -0.4**
comp=Z,7.3nm,0.9s
B08A Colville Reser 104.69 39 IAMs_20 IAMs_20 05 32 37.9
comp=Z,2μm,19.0s
VNA2 Neumayer--Watz 104.74 194 ⇑P **Pdif 04 51 38.3 +2.0**
comp=Z,3.8nm,0.7s,baz=107,slow=3.0
VNA2 ⇑x x 05 07 20.0
comp=Z,5.1nm,0.6s,baz=152,slow=8.2
ABTA Abfaltersbach 104.82 319 *e*Pdiff **Pdif 04 51 36.7 -0.6**
comp=Z,4.5nm,1.0s
ABTA *e*PKKP **PKKPbc 05 07 18.5 -3.7**
comp=Z,1.1nm,0.6s
G06A Carlson Farm, 104.86 42 IAMs_20 IAMs_20 05 31 58.4
comp=Z,2μm,22.0s
WTTA Wattenberg 105.22 320 *e*Pdiff **Pdif 04 51 38.8 -0.4**
comp=Z,49nm,2.1s,SNR=6.7
WTTA *e*PKKP **PKKPbc 05 07 15.7 -5.5**
comp=Z,1.0nm,0.4s
WATA Walderalm 105.23 320 *e*Pdiff **Pdif 04 51 38.7 -0.6**
comp=Z,13nm,1.3s
WATA *e*PKiKP **PKiKP 04 55 53.4 +0.1**
comp=Z,1.8nm,0.5s
SUMG Summit 105.23 355 *i* P **Pdif 04 51 40.0 +1.0**
SUMG IAmb IAmb 04 51 45.9
comp=Z,38nm,1.3s
SUMG Summit 105.23 355 *i* P **Pdif 04 51 43.0 +4.0**
SUMG IAmb IAmb 04 51 46.0
comp=Z,34nm,1.2s
SUMG Summit 105.23 355 *i* P **PKiKP 04 55 54.4 +1.5**
INTR Introdacqua 105.31 314 IAMs_20 IAMs_20 05 44 44.3
comp=Z,2μm,21.0s
D08A Wollman Farm, 105.39 40 IAMs_20 IAMs_20 05 40 07.5
comp=Z,2μm,19.0s
SQTA Sankt Quirin 105.51 320 *e*Pdiff **Pdif 04 51 39.9 -0.5**
comp=Z,9.3nm,1.0s
SQTA *i* PKiKP **PKiKP 04 55 53.9 +0.1**
comp=Z,2.9nm,0.8s
SQTA *e*PKKP **PKKPbc 05 07 19.0 -1.2**
comp=Z,1.2nm,0.4s
MOTA Moosalm 105.53 320 *e*Pdiff **Pdif 04 51 38.9 -1.7**
comp=Z,6.0nm,0.7s
MOTA *e*PKiKP **PKiKP 04 55 55.1 +1.3**
comp=Z,9.7nm,1.0s
MOTA *i* PKKP **PKKPbc 05 07 18.9 -1.3**
comp=Z,2.3nm,0.7s
HATC Hat Creek Radi 105.57 47 IAMs_20 IAMs_20 05 26 23.6
comp=Z,2μm,20.0s
FDMO Fiordimonte 105.59 316 IAMs_20 IAMs_20 05 42 50.5
comp=Z,3μm,22.0s
CTI Castel Tesino 105.62 319 IAMs_20 IAMs_20 05 44 17.7
comp=Z,2μm,21.0s
RETA Reutte 105.70 321 *e*Pdiff **Pdif 04 51 40.2 -1.0**
comp=Z,6.3nm,1.2s
RETA *e*PKiKP **PKiKP 04 55 54.6 +0.6**
comp=Z,8.7nm,0.9s
RETA *e*PKKP **PKKPdf 05 07 28.8 -1.4**
comp=Z,0.3nm,0.2s
FETA Feichten 105.88 320 *e*Pdiff **Pdif 04 51 40.1 -2.1**
comp=Z,13nm,1.6s
FETA *e*PKiKP **PKiKP 04 55 55.4 +0.9**
comp=Z,0.2nm,0.2s
FETA *e*PKKP **PKKPbc 05 07 18.2 -0.9**
comp=Z,1.9nm,0.7s
E09A Wood Farm, Sta 106.08 40 IAMs_20 IAMs_20 05 31 41.7
comp=Z,2μm,21.0s
NEW Newport 106.11 38 IAMs_20 IAMs_20 05 31 59.2
comp=Z,2μm,22.0s
NEW Newport 106.11 38 Pdiff **Pdif 04 51 43.4 +0.4**
comp=Z,4.9nm,0.8s,baz=262,slow=4.3,SNR=12
RAFF Raffo Rosso 106.27 310 IAMs_20 IAMs_20 05 47 12.4
comp=Z,2μm,20.0s
FUORN Ofenpass-Fuorn 106.32 320 IAMs_20 IAMs_20 05 44 37.3
comp=Z,3μm,22.0s
DAVA Damuels 106.33 321 *e*Pdiff **Pdif 04 51 44.1 -0.1**
comp=Z,12nm,1.7s
DAVA *e*PKiKP **PKiKP 04 55 57.5 +2.1**
comp=Z,6.2nm,0.8s
AFDM Forest Hills D 106.45 49 IAMs_20 IAMs_20 05 29 29.1
comp=Z,2μm,22.0s
OSSC Osservatorio P 106.72 317 IAMs_20 IAMs_20 05 47 03.2
comp=Z,2μm,20.0s
J08A Circle Bar Ran 106.92 44 IAMs_20 IAMs_20 05 34 34.1
comp=Z,2μm,20.0s
CMB Columbia Colle 107.15 49 IAMs_20 IAMs_20 05 29 37.4
comp=Z,2μm,20.0s
BMO Blue Mountains 107.21 42 IAMs_20 IAMs_20 05 33 59.6
comp=Z,2μm,18.0s
PAHR Pah Rah Range 107.42 47 IAMs_20 IAMs_20 05 31 48.4
comp=Z,2μm,20.0s
PNTR Pine Nut 107.44 48 IAMs_20 IAMs_20 05 29 46.0
comp=Z,2μm,20.0s
WAKR Walker 107.73 49 IAMs_20 IAMs_20 05 38 14.8
comp=Z,2μm,19.0s
BCLA Clavier 107.86 325 *d*PKiKP **PKiKP 04 55 57.3 -0.6**
TSUM Tsumeb 108.19 250 IAMs_20 IAMs_20 05 38 45.9
comp=Z,3μm,22.0s
RYN Ryan 108.38 48 IAMs_20 IAMs_20 05 31 50.9
comp=Z,2μm,22.0s
NVAR Mina Array Bea 108.60 48 Pdiff **Pdif 04 51 55.1 +0.6**
comp=Z,1.8nm,0.8s,baz=255,slow=6.1,SNR=9.4
NVAR PKiKP **PKiKP 04 56 00.4 +0.5**
comp=Z,2.2nm,0.8s,baz=269,slow=3.4,SNR=5.6
NVAR PKKPbc **PKKPbc 05 07 09.7 -0.8**
comp=Z,0.9nm,0.7s,baz=134,slow=5.5,SNR=5.1
MSO Missoula 108.65 39 IAMs_20 IAMs_20 05 34 14.5
comp=Z,2μm,22.0s
MFID Camas Ranch 108.72 43 IAMs_20 IAMs_20 05 36 06.5
comp=Z,2μm,20.0s
DSP Deep Springs 109.17 49 IAMs_20 IAMs_20 05 41 12.1
comp=Z,2μm,20.0s
ILULI Ilulissat 109.22 359 *i* P **PKiKP 04 56 07.3 +7.5**
BNI Bardonecchia 109.23 319 IAMs_20 IAMs_20 05 52 12.4
comp=Z,2μm,22.0s
Q09A Carvers 109.31 48 IAMs_20 IAMs_20 05 33 00.6
comp=Z,2μm,21.0s
HLID Hailey 109.62 42 IAMs_20 IAMs_20 05 35 00.3
comp=Z,2μm,22.0s
EKA Eskdalemuir Ar 109.81 332 Pdiff **Pdif 04 51 59.7 +0.5**
comp=Z,1.0nm,0.7s,baz=357,slow=26,SNR=2.0
EKA PKiKP **PKiKP 04 56 02.8 +1.4**
comp=Z,2.7nm,0.8s,baz=31,slow=1.9,SNR=4.0
EKA PKKPbc **PKKPbc 05 07 05.1 -1.7**
comp=Z,1.1nm,0.5s,baz=240,slow=3.3,SNR=11
DLMT Dillon 110.10 40 IAMs_20 IAMs_20 05 34 09.0
comp=Z,2μm,22.0s
KEST Kesra 110.57 309 PKiKP **PKiKP 04 56 04.3 +0.8**
comp=Z,4.5nm,1.1s,baz=166,slow=12,SNR=2.0
KEST PP **PP 04 56 39.0 -0.8**
comp=Z,26nm,1.0s,baz=5.6,slow=5.5,SNR=11
KEST PKKPbc **PKKPbc 05 07 03.6 -0.2**
comp=Z,3.2nm,0.6s,baz=352,slow=2.1,SNR=14
BOZ Bozeman (W) 110.62 39 IAMs_20 IAMs_20 05 38 10.7
comp=Z,2μm,22.0s
EGMT Eagleton 110.69 37 IAMs_20 IAMs_20 05 47 20.5
comp=Z,2μm,22.0s
S11A Rachel 110.77 49 IAMs_20 IAMs_20 05 33 35.1
comp=Z,2μm,22.0s
YHL Hebgen Lake 111.22 40 IAMs_20 IAMs_20 05 35 49.7
comp=Z,2μm,22.0s
FFC Flin Flon 111.25 28 IAMs_20 IAMs_20 05 39 13.7
comp=Z,2μm,21.0s
YHB Horse Butte 111.26 40 IAMs_20 IAMs_20 05 35 41.6
comp=Z,2μm,21.0s
SPR3 Spring Creek 3 111.35 47 IAMs_20 IAMs_20 05 38 15.5
comp=Z,2μm,20.0s
HVU Hansel Valley 111.42 44 IAMs_20 IAMs_20 05 40 23.1
comp=Z,2μm,18.0s
YMR Madison River 111.44 40 IAMs_20 IAMs_20 05 35 56.5
comp=Z,2μm,22.0s
YNM Yellowstone No 111.58 40 IAMs_20 IAMs_20 05 39 46.3
comp=Z,2μm,21.0s
YNR Norris Junctio 111.61 40 IAMs_20 IAMs_20 05 39 46.8
comp=Z,2μm,22.0s
CBX Cerro Bola 111.69 54 IAMs_20 IAMs_20 05 27 32.0
comp=Z,1μm,18.0s
H17A Grant Village 111.81 40 IAMs_20 IAMs_20 05 35 46.3
comp=Z,2μm,21.0s
FXWY Fox Creek 111.84 41 IAMs_20 IAMs_20 05 36 29.1
comp=Z,2μm,22.0s
PSUT Pine Spring 111.86 47 IAMs_20 IAMs_20 05 34 44.1
comp=Z,2μm,21.0s
YNE Yellowstone No 111.91 39 IAMs_20 IAMs_20 05 35 05.8
comp=Z,2μm,22.0s
MOOW Moose Ponds 111.98 41 IAMs_20 IAMs_20 05 36 33.8
comp=Z,2μm,22.0s
DUG Dugway, Tooele 112.00 45 IAMs_20 IAMs_20 05 44 54.6
comp=Z,2μm,19.0s
SNOW Snow King Moun 112.09 41 IAMs_20 IAMs_20 05 40 52.9
comp=Z,2μm,22.0s
LOHW Long Hollow 112.13 41 IAMs_20 IAMs_20 05 36 38.5
comp=Z,2μm,21.0s
HWUT Hardware Ranch 112.32 43 IAMs_20 IAMs_20 05 34 22.9
comp=Z,2μm,22.0s
TCUT Toone Canyon 112.62 44 IAMs_20 IAMs_20 05 43 51.0
comp=Z,2μm,22.0s
TCRU Three Creeks R 112.86 47 IAMs_20 IAMs_20 05 34 18.5
comp=Z,2μm,22.0s
MAHO Mahon 112.89 315 IAMs_20 IAMs_20 05 52 52.8
comp=Z,2μm,20.0s
W13A Hualapai Mount 113.03 51 IAMs_20 IAMs_20 05 44 35.0
comp=Z,2μm,19.0s
PDAR Pinedale Array 113.18 42 Pdiff **Pdif 04 52 15.3 +0.4**
comp=Z,0.1nm,0.3s,baz=302,slow=4.5,SNR=3.1

PDAR PKiKP **PKiKP** **04 56 08.8 +0.2**
comp=Z,1.7nm,0.6s,baz=173,slow=3.0,SNR=9.8
PDAR PKKPbc **PKKPbc** **05 06 52.9 -2.7**
comp=Z,1.2nm,0.7s,baz=121,slow=5.3,SNR=6.7
BSUT Blindstream Ca 113.31 44 IAMs_20 IAMs_20 05 39 11.1
comp=Z,1μm,18.0s
PKCU Pink Cliffs 113.39 48 IAMs_20 IAMs_20 05 33 19.7
comp=Z,2μm,20.0s
LAO LASA Array 113.44 37 IAMs_20 IAMs_20 05 38 03.2
comp=Z,1μm,21.0s
Q16A Castle Valley 113.66 46 IAMs_20 IAMs_20 05 41 41.7
comp=Z,2μm,21.0s
DGMT Dagmar 113.68 34 IAMs_20 IAMs_20 05 40 29.4
comp=Z,1μm,20.0s
U15A North Rim 113.78 49 IAMs_20 IAMs_20 05 38 08.0
comp=Z,2μm,22.0s
113A Mohawk Valley, 113.88 53 IAMs_20 IAMs_20 05 41 20.0
comp=Z,2μm,18.0s
ETOS Mallorca 113.97 315 PKP **PKiKP** **04 56 13.2 +3.4**
RDMU Red Mountain 114.12 44 IAMs_20 IAMs_20 05 39 39.6
comp=Z,2μm,21.0s
PIX Pinacate 114.51 54 IAMs_20 IAMs_20 05 43 17.7
comp=Z,2μm,20.0s
WUAZ Wupatki 114.80 49 IAMs_20 IAMs_20 05 45 44.1
comp=Z,1μm,18.0s
O20A White River Ci 115.22 44 IAMs_20 IAMs_20 05 40 01.8
comp=Z,2μm,21.0s
VAL Valentia 115.22 332 PKP **PKiKP** **04 56 11.4 -0.4**
K22A Casper 115.23 41 IAMs_20 IAMs_20 05 38 52.7
comp=Z,2μm,20.0s
EIBI Ibiza 115.31 315 PKP **PKPdf** **04 56 13.0 +0.6**
MVCO Mesa Verde 116.28 47 IAMs_20 IAMs_20 05 40 06.3
comp=Z,2μm,20.0s
TUC Tucson 116.41 53 **PKiKP** **04 56 15.6 +0.8**
TUC Tucson 116.41 53 IAMs_20 IAMs_20 05 36 25.9
comp=Z,2μm,22.0s
TUC Tucson 116.41 53 PKIKP **PKiKP** **04 56 15.6 +0.8**
MDND Maddock 116.56 33 IAMs_20 IAMs_20 05 42 45.6
comp=Z,2μm,22.0s
ECHE Chera 116.68 316 PKP **PKiKP** **04 56 16.6 +1.6**
E28A Huff 116.71 34 IAMs_20 IAMs_20 05 42 24.5
comp=Z,1μm,19.0s
ULM Lac du Bonnet 116.96 29 PKP **PKPdf** **04 56 14.7 -0.5**
comp=Z,18nm,0.9s,baz=315,slow=2.3,SNR=26
ULM PKKPbc **PKKPbc** **05 06 40.9 -1.7**
comp=Z,4.3nm,1.0s,baz=122,slow=0.8,SNR=4.6
NRS Narsarsuaq 117.01 355 **PKiKP** **04 56 15.0 +0.1**
NRS Narsarsuaq 117.01 355 PKIKP **PKiKP** **04 56 15.0 +0.1**
NRS Narsarsuaq 117.01 355 *i P* **PKPdf** **04 56 13.3 -1.6**
ISCO Idaho Springs 117.18 43 IAMs_20 IAMs_20 05 39 46.4
comp=Z,2μm,22.0s
TAM Tamanrasset 117.42 297 IAMs_20 IAMs_20 05 44 27.3
comp=Z,1μm,22.0s
CART Cartagena 117.60 314 IAMs_20 IAMs_20 05 47 36.8
comp=Z,1μm,20.0s
BRIGG Briggsdale 117.67 42 IAMs_20 IAMs_20 05 38 58.6
comp=Z,2μm,21.0s
UCM Universidad Co 117.88 318 PKP **PKiKP** **04 56 17.5 +0.1**
Q24A Divide 117.88 44 IAMs_20 IAMs_20 05 41 53.3
comp=Z,2μm,21.0s
319A Douglas 117.94 53 IAMs_20 IAMs_20 05 45 07.4
comp=Z,2μm,21.0s
SDCO Great Sand Dun 118.20 45 IAMs_20 IAMs_20 05 47 26.8
comp=Z,2μm,22.0s
AGMN Agassiz Nation 118.25 31 IAMs_20 IAMs_20 05 44 06.2
comp=Z,2μm,22.0s
ESDC Sonseca Array 118.67 318 **PKiKP** **04 56 19.4 +0.5**
ESDC Sonseca Array 118.67 318 PKP **PKiKP** **04 56 19.3 +0.3**
comp=Z,0.6nm,0.5s,baz=31,slow=2.2,SNR=10
ESDC PP **PP** **04 57 36.8 +0.1**
comp=Z,5.4nm,1.0s,baz=52,slow=6.0,SNR=5.1
ESDC PKKPbc **PKKPbc** **05 06 35.4 -0.8**
comp=Z,1.1nm,0.8s,baz=257,slow=4.5,SNR=7.3
ANMO Albuquerque 118.73 48 **PKiKP** **04 56 20.1 +0.7**
ANMO Albuquerque 118.73 48 IAMs_20 IAMs_20 05 48 32.0
comp=Z,2μm,19.0s
ANMO Albuquerque 118.73 48 IAMs_20 IAMs_20 05 48 32.1
comp=Z,1μm,19.0s
ANMO Albuquerque 118.73 48 PKIKP **PKiKP** **04 56 20.1 +0.7**
ANMO MLR MLR
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 118.74 49 IAMs_20 IAMs_20 05 44 47.4
comp=Z,2μm,20.0s
Y22D IRIS PASSCAL I 118.74 49 P **PKiKP** **04 56 19.8 +0.4**
baz=294
SUSD Miller 118.94 36 IAMs_20 IAMs_20 05 55 08.8
comp=Z,1μm,22.0s
OGNE Ogallala 118.99 40 IAMs_20 IAMs_20 05 41 16.3
comp=Z,2μm,22.0s
PAB San Pablo 119.00 318 **PKiKP** **04 56 19.8 +0.2**
PAB San Pablo 119.00 318 IAMs_20 IAMs_20 05 57 22.3
comp=Z,2μm,21.0s
PAB San Pablo 119.00 318 PKIKP **PKiKP** **04 56 19.8 +0.2**
PBRG Braganca 119.37 321 *e*PKP **PKiKP** **04 56 20.7 +0.5**
PBRG *e*PP **PP** **04 57 42.7 +1.4**
K30B Basset 119.57 38 IAMs_20 IAMs_20 05 43 07.5
comp=Z,2μm,21.0s
F33A 5 Mile Ranch, 119.59 33 IAMs_20 IAMs_20 05 48 23.9
comp=Z,1μm,22.0s
SLBS Sierra La Lagu 119.86 61 IAMs_20 IAMs_20 05 44 08.9
comp=Z,2μm,20.0s
MVO Moncorvo 119.90 321 *e*PKP **PKiKP** **04 56 22.4 +1.1**
MVO *e*SS SS 05 14 59.2 +52
MVO *e*LR LR 05 42 50.5
MVO *i* AMs_20 05 51 49.2
comp=Z,2μm,24.0s
EPT El Paso 119.98 52 IAMs_20 IAMs_20 05 39 36.4
comp=Z,2μm,22.0s
PGAV Gavieira, Arco 120.23 322 *e*PKP **PKiKP** **04 56 22.7 +0.7**
PGAV *e*SS SS 05 14 17.6 +6.1
PGAV *e*LR LR 05 42 30.8
PGAV *i* AMs_20 05 51 33.3
comp=Z,2μm,24.0s
POLO Lamas de Olo 120.27 321 *e*PKP **PKiKP** **04 56 22.6 +0.5**
POLO *e*PP **PP** **04 57 51.1 +3.6**
PVRL Vila Real 120.28 321 *e*PKP **PKiKP** **04 56 23.0 +1.0**
PVRL *e*PP **PP** **04 57 51.0 +3.5**
MTE Manteigas 120.65 320 IAMs_20 IAMs_20 05 53 50.6
comp=Z,2μm,20.0s
MTE Manteigas 120.65 320 *e*PKP **PKiKP** **04 56 24.1 +1.3**
MTE *e*SS SS 05 14 23.4 +6.6
MTE *e*LR LR 05 43 15.3
MTE *i* AMs_20 05 52 12.7
comp=Z,2μm,22.0s
PVIS Viseu 120.70 321 *e*PKP **PKiKP** **04 56 23.8 +0.9**
ECSD EROS Data Cent 120.72 35 IAMs_20 IAMs_20 05 41 53.8
comp=Z,1μm,19.0s
MNTX Cornudas Mount 120.89 51 IAMs_20 IAMs_20 05 39 44.5
comp=Z,2μm,22.0s
PCBR Castelo Branco 120.91 320 *e*PKP **PKiKP** **04 56 24.2 +0.9**
PCBR *e*PP **PP** **04 57 56.9 +5.1**
LIJA Lijar 121.02 316 PKP **PKPdf** **04 56 19.9 -3.7**
PMRV Marv??o 121.07 319 *e*PKP **PKiKP** **04 56 24.3 +0.7**
PMRV *e*PP **PP** **04 57 49.9 -3.2**
PMRV *e*SS SS 05 15 12.6 +50
PMRV *e*LR LR 05 49 22.4
PMRV *i* AMs_20 05 55 16.3
comp=Z,2μm,22.0s
PCAS Casmilo, Conde 121.45 320 *e*PKP **PKiKP** **04 56 24.9 +0.6**
PBAR Barrancos 121.50 318 *e*PKP **PKiKP** **04 56 25.4 +1.0**
PESTR Estremoz 121.50 319 IAMs_20 IAMs_20 05 58 44.5
comp=Z,2μm,21.0s
PESTR Estremoz 121.50 319 *e*PKP **PKPdf** **04 56 23.2 -1.1**
E38A The Farm, Brul 121.55 30 IAMs_20 IAMs_20 05 53 33.5
comp=Z,2μm,21.0s
MSTX Muleshoe 121.89 48 IAMs_20 IAMs_20 05 44 06.7
comp=Z,1μm,19.0s
L34A Svendsen Farm, 121.93 37 IAMs_20 IAMs_20 05 45 24.0
comp=Z,2μm,22.0s
PSBE So Bento 121.94 320 *e*PKP **PKiKP** **04 56 29.6 +4.3**
EVO Evora 121.96 319 *e*PKP **PKiKP** **04 56 31.7 +6.3**
EVO Evora 121.96 319 PKP **PKPdf** **04 56 18.5 -6.6**
PBEJ Beja 122.13 318 *e*PKP **PKPdf** **04 56 21.0 -4.5**
PVAQ Vaqueiros 122.36 317 IAMs_20 IAMs_20 05 55 29.5
comp=Z,2μm,22.0s
PVAQ Vaqueiros 122.36 317 *e*PKP **PKiKP** **04 56 27.1 +0.9**
PVAQ *e*LR LR 05 48 03.0
PVAQ *i* AMs_20 05 53 04.9
comp=Z,2μm,24.0s
IFR Ifrane 122.43 312 PKP **PKPdf** **04 56 22.7 -3.8**
PCVE Castro Verde 122.46 318 *e*PKP **PKiKP** **04 56 27.6 +1.2**
MESJ Messejana 122.47 318 *e*PKPdf **PKPdf** **04 56 25.6 -0.6**
MESJ *e*PP **PP** **04 58 02.6 +0.1**
MESJ IAMs_20 IAMs_20 05 50 24.0
comp=Z,3μm,29.4s
MESJ Messejana 122.47 318 *e*PKP **PKiKP** **04 56 27.5 +1.2**
HPIG 122.48 56 IAMs_20 IAMs_20 05 48 31.1
comp=Z,2μm,20.0s
PBDV Barranco-do-Ve 122.59 317 *e*PKP **PKPdf** **04 56 24.6 -1.9**
LIS Lisbon 122.61 319 *e*PKP **PKPdf** **04 56 23.0 -3.4**
SCHQ Schefferville 122.65 9 PKP **PKiKP** **04 56 26.3 +0.1**
comp=Z,14nm,0.4s,baz=335,slow=1.8,SNR=52
SCHQ PKKPab **PKKPab** **05 06 19.6 -1.2**
comp=Z,5.5nm,0.8s,baz=178,slow=6.7,SNR=9.5
PTEO Sao Teotonio 122.97 318 *e*PKP PKiKP 04 56 35.2 +7.9
N35A Tabor 123.04 37 IAMs_20 IAMs_20 05 44 08.4
comp=Z,2μm,20.0s
MORF Marmelete 123.05 318 *e*PP **PP** **04 58 06.6 +0.1**
MORF IAMs_20 IAMs_20 05 50 56.3
comp=Z,3μm,24.9s
MORF Marmelete 123.05 318 *e*PKP **PKiKP** **04 56 35.3 +7.7**
TORD Torodi Ar. Bea 123.10 287 **PKiKP** **04 56 28.4 +0.2**
TORD Torodi Ar. Bea 123.10 287 PKP **PKiKP** **04 56 28.2 0.0**
comp=Z,19nm,0.9s,baz=16,slow=4.4,SNR=21
TORD PKKPbc **PKKPbc** **05 06 18.5 -0.3**
comp=Z,8.3nm,0.7s,baz=300,slow=3.9,SNR=7.9
TXAR Lajitas Array 123.20 53 PKP **PKiKP** **04 56 28.2 0.0**
comp=Z,9.7nm,0.8s,baz=228,slow=1.0,SNR=67
TXAR PKKPab **PKKPab** **05 06 18.4 -0.4**
comp=Z,1.9nm,0.8s,baz=134,slow=6.2,SNR=11
KSU1 Kansas State U 123.48 39 IAMs_20 IAMs_20 05 52 00.2
comp=Z,2μm,20.0s
OK038 West end E0370 123.52 43 IAMs_20 IAMs_20 05 49 43.7
comp=Z,2μm,20.0s
OK032 Salt Plains WL 123.71 43 IAMs_20 IAMs_20 05 49 41.6
comp=Z,2μm,22.0s
SCIA State Center 123.81 35 IAMs_20 IAMs_20 05 53 53.7
comp=Z,1μm,20.0s
F42A Maple Grove Fa 123.82 28 IAMs_20 IAMs_20 05 53 10.6
comp=Z,1μm,22.0s
I40A Norwalk 123.91 32 IAMs_20 IAMs_20 05 57 20.1
comp=Z,2μm,22.0s
CROK Carrier 124.03 43 IAMs_20 IAMs_20 05 52 41.9
comp=Z,1μm,21.0s
WMOK Wichita Mounta 124.40 45 IAMs_20 IAMs_20 05 46 59.1
comp=Z,2μm,22.0s
N38A Joes South For 124.51 36 IAMs_20 IAMs_20 05 47 58.3
comp=Z,1μm,21.0s
OK029 Liberty Lake 124.77 43 IAMs_20 IAMs_20 05 45 03.6
comp=Z,2μm,22.0s
JFWS Jewell Farm 124.78 32 IAMs_20 IAMs_20 05 57 30.1
comp=Z,2μm,22.0s
OK048 Pawnee Station 124.78 42 IAMs_20 IAMs_20 05 47 20.8
comp=Z,1μm,22.0s
OK051 E0350 and S346 124.80 42 IAMs_20 IAMs_20 05 45 28.4
comp=Z,1μm,22.0s
L40A Anamosa 124.83 34 IAMs_20 IAMs_20 05 56 13.6
comp=Z,2μm,20.0s
H43A Windswept, Lux 124.94 29 IAMs_20 IAMs_20 05 51 57.2
comp=Z,2μm,22.0s
P38A Dawn 125.07 37 IAMs_20 IAMs_20 05 52 02.2
comp=Z,1μm,20.0s
OK031 S. Brethren Rd 125.10 43 IAMs_20 IAMs_20 05 53 10.4
comp=Z,2μm,20.0s
OK052 Battle Ridge R 125.10 43 IAMs_20 IAMs_20 05 53 11.5
comp=Z,2μm,20.0s
TIO Tiouine 125.22 310 PKP **PKPdf** **04 56 27.1 -4.8**
DEOK Depew 125.39 43 IAMs_20 IAMs_20 06 01 08.1
comp=Z,1μm,18.0s
USHA Ushuaia 125.67 170 PKP **PKiKP** **04 56 32.6 +0.4**
comp=Z,38nm,0.7s,baz=334,slow=0.5,SNR=17
L42A Oliver, Polo 125.72 33 IAMs_20 IAMs_20 05 50 58.0
comp=Z,2μm,21.0s
JCT Junction City 125.73 50 IAMs_20 IAMs_20 05 43 21.5
comp=Z,2μm,22.0s
I45A Fountain 126.00 29 IAMs_20 IAMs_20 05 56 54.3
comp=Z,2μm,20.0s
P40A Paris 126.02 36 IAMs_20 IAMs_20 05 53 12.2
comp=Z,2μm,21.0s
FW07 Weatherford 126.15 47 IAMs_20 IAMs_20 05 46 27.6
comp=Z,1μm,20.0s
GLMI Grayling 126.15 27 IAMs_20 IAMs_20 05 56 53.3
comp=Z,2μm,21.0s
FW06 Azle 126.18 46 IAMs_20 IAMs_20 05 46 32.3
comp=Z,2μm,20.0s
MG03 Isla Dawson 126.20 168 **PKiKP** **04 56 33.9 +0.6**
VLDQ Val d'Or 126.27 20 IAMs_20 IAMs_20 05 50 57.8
comp=Z,2μm,21.0s
S39A Bolivar 126.39 39 IAMs_20 IAMs_20 05 55 01.4
comp=Z,2μm,22.0s
U38A Grawette 126.46 41 IAMs_20 IAMs_20 05 46 18.2
comp=Z,2μm,21.0s
L44A Lake County Fo 126.52 31 IAMs_20 IAMs_20 05 56 27.3
comp=Z,2μm,22.0s
FW14 Alvarado 126.74 47 IAMs_20 IAMs_20 05 54 11.1
comp=Z,1μm,19.0s
WHTX Lake Whitney, 126.75 47 IAMs_20 IAMs_20 05 59 07.5
comp=Z,1μm,20.0s
HHAR Hobbs 126.84 41 IAMs_20 IAMs_20 05 46 57.3
comp=Z,2μm,21.0s
HDIL Hopedale 126.92 34 IAMs_20 IAMs_20 06 00 26.8
comp=Z,2μm,20.0s
M44A Midewin, Midew 127.02 32 IAMs_20 IAMs_20 05 58 12.4
comp=Z,2μm,22.0s
J47A Sunmer 127.28 28 IAMs_20 IAMs_20 05 58 12.1
comp=Z,2μm,22.0s
MGMO Mountain Grove 127.38 39 IAMs_20 IAMs_20 05 43 07.5
comp=Z,2μm,22.0s
P43A Skaggs, Pawnee 127.41 35 IAMs_20 IAMs_20 05 46 00.0
comp=Z,1μm,21.0s
CCM Cathedral Cave 127.44 37 **PKPdf** **04 56 35.6 -0.1**
CCM Cathedral Cave 127.44 37 IAMs_20 IAMs_20 05 45 27.0
comp=Z,1μm,21.0s
CCM Cathedral Cave 127.44 37 PKIKP **PKPdf** **04 56 35.6 -0.1**
SLM Saint Louis 127.67 36 IAMs_20 IAMs_20 05 48 34.9
comp=Z,2μm,22.0s
Z38A Mt. Pleasant 127.86 44 IAMs_20 IAMs_20 05 51 12.5
comp=Z,2μm,21.0s
FVM French Village 127.98 37 IAMs_20 IAMs_20 05 51 48.3
comp=Z,2μm,22.0s
MIAR Mount Ida 128.10 42 IAMs_20 IAMs_20 05 55 05.7
comp=Z,1μm,20.0s
T42A Van Buren 128.19 38 IAMs_20 IAMs_20 05 55 55.9
comp=Z,1μm,21.0s
Q44A Meyer Farm, Va 128.20 35 IAMs_20 IAMs_20 05 45 50.9
comp=Z,2μm,22.0s
FCAR Ozark Folk Cen 128.25 40 IAMs_20 IAMs_20 05 44 30.6
comp=Z,1μm,21.0s
AAM Ann Arbor 128.54 28 IAMs_20 IAMs_20 05 55 59.6
comp=Z,2μm,22.0s
KVTX Kingsville 128.55 52 IAMs_20 IAMs_20 05 49 22.6
comp=Z,1μm,20.0s
N47A Urbana 128.61 31 IAMs_20 IAMs_20 06 00 53.5
comp=Z,2μm,21.0s
X40A Basin Creek Fa 128.63 42 IAMs_20 IAMs_20 06 01 15.7
comp=Z,2μm,20.0s
K50A Casco 128.66 27 IAMs_20 IAMs_20 05 58 11.5
comp=Z,2μm,22.0s
P46A Rosedale 128.72 33 IAMs_20 IAMs_20 06 00 28.5
comp=Z,2μm,22.0s
LCAR Lake Charles 128.76 39 IAMs_20 IAMs_20 05 54 40.9
comp=Z,1μm,21.0s
PBMO Poplar Bluff 128.76 38 IAMs_20 IAMs_20 05 59 02.9
comp=Z,2μm,21.0s
UALR University of 128.78 41 IAMs_20 IAMs_20 05 48 27.8
comp=Z,2μm,22.0s
OLIL Olney 128.84 35 IAMs_20 IAMs_20 06 00 28.7
comp=Z,2μm,22.0s
S44A Carbondale 128.87 36 IAMs_20 IAMs_20 05 46 02.4
comp=Z,2μm,22.0s
SIUC Southern Illin 128.88 36 IAMs_20 IAMs_20 06 00 07.0
comp=Z,2μm,22.0s
CGM3 Cape Girardeau 128.89 37 IAMs_20 IAMs_20 05 54 12.4
comp=Z,1μm,20.0s
NATX Nacogdoches 128.90 46 IAMs_20 IAMs_20 05 48 23.3
comp=Z,2μm,20.0s
O48B Farmland 129.34 31 IAMs_20 IAMs_20 05 54 09.0
comp=Z,2μm,22.0s
HBAR Harrisburg 129.40 39 IAMs_20 IAMs_20 05 53 56.8
comp=Z,1μm,20.0s
PVMO Portageville 129.44 38 IAMs_20 IAMs_20 05 59 20.0
comp=Z,2μm,22.0s
M50A Fremont 129.53 29 IAMs_20 IAMs_20 05 50 10.7
comp=Z,1μm,22.0s
GNAR Gosnell 129.54 39 IAMs_20 IAMs_20 05 51 24.5
comp=Z,2μm,22.0s
PEBM Pemiscott Bayo 129.54 38 IAMs_20 IAMs_20 05 45 26.5
comp=Z,2μm,22.0s
HICK Hickman 129.65 37 IAMs_20 IAMs_20 05 56 33.4
comp=Z,2μm,22.0s
CCAR Cane Creek 129.67 42 IAMs_20 IAMs_20 06 01 56.4
comp=Z,2μm,20.0s
T45A Paducah 129.68 37 IAMs_20 IAMs_20 05 59 29.3
comp=Z,2μm,21.0s
LNXT Lenox 129.77 38 IAMs_20 IAMs_20 05 55 31.8
comp=Z,1μm,20.0s
P48A Milroy 129.79 32 IAMs_20 IAMs_20 05 59 10.7
comp=Z,2μm,22.0s
GLAT Glass 129.79 38 IAMs_20 IAMs_20 06 00 10.2
comp=Z,1μm,20.0s
HALT Halls 129.99 38 IAMs_20 IAMs_20 05 59 22.5
comp=Z,2μm,22.0s
UTMT University of 130.00 37 IAMs_20 IAMs_20 05 56 52.6
comp=Z,2μm,22.0s
PECO Prince Edward 130.04 22 IAMs_20 IAMs_20 05 56 17.9
comp=Z,2μm,22.0s
WCI Wyandotte Cave 130.20 34 IAMs_20 IAMs_20 05 59 07.8
comp=Z,2μm,21.0s
M52A Chesterland 130.21 27 IAMs_20 IAMs_20 05 49 50.6
comp=Z,2μm,21.0s
N51A Ashland 130.22 28 IAMs_20 IAMs_20 05 47 20.1
comp=Z,1μm,21.0s
J55A Hilton 130.29 23 IAMs_20 IAMs_20 06 01 24.3
comp=Z,2μm,22.0s
ACSO Alum Creek Sta 130.46 29 IAMs_20 IAMs_20 05 56 36.4
comp=Z,2μm,22.0s
DBIC Dimbokro 130.52 280 PKP **PKiKP** **04 56 43.4 +0.3**
comp=Z,20nm,0.8s,baz=100,slow=2.5,SNR=13
DBIC SKPbc **SKPbc** **05 00 06.6 +4.3**
comp=Z,50nm,1.1s,baz=126,slow=3.8,SNR=9.0
T47A Sharon Grove 130.61 35 IAMs_20 IAMs_20 05 50 33.7
comp=Z,2μm,22.0s
PMPST Porto Santo, M 130.61 318 *e*PKP **PKiKP** **04 56 42.7 -0.1**
143A Socs Landing, 130.64 43 IAMs_20 IAMs_20 05 49 37.2
comp=Z,2μm,21.0s
WVT Waverly 130.76 37 IAMs_20 IAMs_20 06 01 35.9
comp=Z,2μm,22.0s
R49A Shelbyville 130.77 33 IAMs_20 IAMs_20 06 01 30.9
comp=Z,1μm,22.0s
P51A Williamsport 130.99 30 IAMs_20 IAMs_20 05 46 49.5
comp=Z,2μm,22.0s
O52A Adamsville 131.10 29 IAMs_20 IAMs_20 05 47 22.6
comp=Z,2μm,21.0s
PMAR Madeira 131.22 318 *e*PKP **PKiKP** **04 56 44.4 +0.1**
R50A Paris 131.23 32 IAMs_20 IAMs_20 06 00 59.0
comp=Z,2μm,22.0s
K57A Scipio Center 131.25 22 IAMs_20 IAMs_20 05 51 40.9
comp=Z,2μm,21.0s
P52A Corning 131.34 29 IAMs_20 IAMs_20 06 01 13.6
comp=Z,2μm,22.0s
PMOZ Porto Moniz, M 131.35 318 *e*PKP **PKiKP** **04 56 44.4 0.0**
PMOZ *e*SS SS 05 16 42.9 +12
PMOZ *e*LR LR 05 47 12.2
PMOZ *i* AMs_20 05 55 47.2
comp=Z,1μm,22.0s
PLAL Pickwick Lake 131.38 38 IAMs_20 IAMs_20 06 03 04.2
comp=Z,2μm,20.0s
V48A Smith Brothers 131.63 36 IAMs_20 IAMs_20 06 03 45.8
comp=Z,1μm,22.0s
Q52A Bidwell 131.79 30 IAMs_20 IAMs_20 06 02 36.5
comp=Z,1μm,20.0s
BINY Binghamton 131.91 22 IAMs_20 IAMs_20 05 59 20.3
comp=Z,2μm,22.0s
S51A Beattyville 132.10 32 IAMs_20 IAMs_20 05 59 37.9
comp=Z,2μm,22.0s
146A Union 132.25 41 IAMs_20 IAMs_20 05 56 52.7
comp=Z,2μm,22.0s
X48A Hartselle 132.36 38 IAMs_20 IAMs_20 06 04 21.3
comp=Z,1μm,21.0s
SSPA Standing Stone 132.47 25 **PKPdf** **04 56 45.6 +0.4**
SWET Sewanee 132.52 36 IAMs_20 IAMs_20 06 05 00.3
comp=Z,1μm,21.0s
KSPA Keystone Colle 132.54 22 IAMs_20 IAMs_20 05 52 21.1
comp=Z,2μm,21.0s
346A Big Creek Wild 132.75 43 IAMs_20 IAMs_20 05 50 45.9
comp=Z,1μm,22.0s
W50A Signal Mountai 132.89 36 IAMs_20 IAMs_20 06 02 14.2
comp=Z,2μm,22.0s
TZTN Tazewell 132.93 33 IAMs_20 IAMs_20 06 01 31.0
comp=Z,2μm,22.0s
R55A Marlinton 133.37 29 IAMs_20 IAMs_20 06 07 41.3
comp=Z,2μm,22.0s
ODNJ Ogdensburg 133.39 22 IAMs_20 IAMs_20 06 00 03.6
comp=Z,1μm,22.0s
COYC Coyhaique 133.40 162 IAMs_20 IAMs_20 05 48 45.8
comp=Z,1μm,22.0s
LUPA Lehigh Univers 133.52 23 IAMs_20 IAMs_20 06 02 15.0
comp=Z,1μm,21.0s
W52A Murphy 133.77 35 IAMs_20 IAMs_20 06 02 52.3
comp=Z,2μm,22.0s
U54A Nelsons Funny 133.87 32 IAMs_20 IAMs_20 06 00 37.9
comp=Z,2μm,22.0s
SDMD Soldier's Deli 133.93 25 IAMs_20 IAMs_20 05 59 43.1
comp=Z,1μm,21.0s
N62A Caumsett State 133.93 21 IAMs_20 IAMs_20 05 57 10.0
comp=Z,2μm,21.0s
AY01 Puyuhuapi 134.26 161 IAMs_20 IAMs_20 05 51 54.4
comp=Z,1μm,19.0s
S57A Dark Hollow, R 134.34 28 IAMs_20 IAMs_20 06 02 46.0
comp=Z,1μm,20.0s
Y52A Lilburn 134.56 36 IAMs_20 IAMs_20 06 04 13.4
comp=Z,2μm,21.0s
R58B Mineral 134.67 27 IAMs_20 IAMs_20 06 00 53.8
comp=Z,2μm,21.0s
T57A Hurt 134.80 29 IAMs_20 IAMs_20 05 49 23.3
comp=Z,2μm,22.0s
152A Waverly Hall 135.00 38 IAMs_20 IAMs_20 05 48 24.1
comp=Z,1μm,22.0s
HODGE Hodges 135.34 34 IAMs_20 IAMs_20 05 59 30.8
comp=Z,1μm,21.0s
LL02 Futaleuf 135.61 161 IAMs_20 IAMs_20 05 58 22.4
comp=Z,2μm,19.0s
352A Blakely 135.67 39 IAMs_20 IAMs_20 05 51 39.7
comp=Z,2μm,21.0s
154A Montrose 136.01 37 IAMs_20 IAMs_20 06 04 42.8
comp=Z,2μm,22.0s
Y57A Sumter 136.53 33 IAMs_20 IAMs_20 05 55 17.3
comp=Z,2μm,21.0s
TIGA Tifton 136.54 38 IAMs_20 IAMs_20 06 03 41.9
comp=Z,2μm,22.0s
W59A Clinton 136.65 30 IAMs_20 IAMs_20 06 03 14.4
comp=Z,2μm,22.0s
553A Crawfordville 136.85 40 IAMs_20 IAMs_20 06 05 27.3
comp=Z,1μm,21.0s
Y58A Scranton 137.00 32 IAMs_20 IAMs_20 05 52 13.8
comp=Z,2μm,22.0s
V61A Roper 137.05 28 IAMs_20 IAMs_20 06 01 15.7
comp=Z,2μm,22.0s
CSU Charleston Sou 137.48 33 IAMs_20 IAMs_20 06 05 24.5
comp=Z,2μm,22.0s
257A Skidaway Islan 137.69 35 IAMs_20 IAMs_20 06 08 52.2
comp=Z,1μm,21.0s
456A Hilliard 138.00 38 IAMs_20 IAMs_20 05 55 03.5
comp=Z,2μm,21.0s
PLCA Paso Flores 138.25 161 PKhKP PKPpre 04 56 46.7
comp=Z,9.2nm,1.1s,baz=238,slow=3.4,SNR=16
PLCA PKP **PKPdf** **04 56 56.2 +0.2**
comp=Z,20nm,0.8s,baz=219,slow=3.1,SNR=14
PLCA SKP 05 00 33.1
comp=Z,8.8nm,1.0s,baz=176,slow=1.2,SNR=3.5
PLCA Paso Flores 138.25 161 *e*P **PKPdf** **04 56 56.0 -0.1**
LR03 Panguipulli 138.59 158 IAMs_20 IAMs_20 05 53 58.2
comp=Z,1μm,20.0s
TEIG Tepich 139.74 55 IAMs_20 IAMs_20 05 49 37.2
comp=Z,1μm,21.0s
BBTS Babate 139.76 295 PKhKP PKPpre 04 56 50.6
comp=Z,16nm,0.9s,baz=258,slow=15,SNR=2.1
BBTS PKP **PKPdf** **04 57 00.2 +0.9**
comp=Z,42nm,0.9s,baz=339,slow=2.4,SNR=5.8
DWPF Disney Wildern 140.18 40 IAMs_20 IAMs_20 05 53 19.5
comp=Z,1μm,22.0s
ESQI Esquipulas 141.22 64 IAMs_20 IAMs_20 05 47 50.1
comp=Z,2μm,22.0s
MTO3 Montecristo 141.26 64 IAMs_20 IAMs_20 05 47 29.2
comp=Z,1μm,20.0s
BI02 San Fabin de 141.59 157 IAMs_20 IAMs_20 06 00 55.8
comp=Z,1μm,22.0s
060A Indiantown 141.61 40 IAMs_20 IAMs_20 06 03 28.3
comp=Z,1μm,22.0s
061Z Ochoppi 142.04 42 IAMs_20 IAMs_20 05 56 35.0
comp=Z,1μm,22.0s
SOR Soroa 142.50 48 IAMs_20 IAMs_20 06 10 29.6
comp=Z,2μm,22.0s
SOR Soroa 142.50 48 *e*P PKPdf 04 56 53.6 -11
TRQA Tornquist 143.01 169 PKPbc 04 57 01.2 -0.2
TRQA Tornquist 143.01 169 PKIKP PKPbc 04 57 01.2 -0.3
TGUH Tegucigalpa,Un 143.27 64 IAMs_20 IAMs_20 05 48 53.3
comp=Z,1μm,21.0s
BO01 Tunca 143.64 155 IAMs_20 IAMs_20 06 02 44.0
comp=Z,975nm,21.0s
HERN Volcan Telica 144.20 66 IAMs_20 IAMs_20 05 57 10.2

comp=Z,847nm,20.0s
CNGN Cerro Negro 144.36 66 *eP* **PKPab 04 57 05.3 -0.4**
MT13 San Alfonso 144.53 156 IAMs_20 IAMs_20 06 03 58.6
comp=Z,1μm,22.0s
BBSR BB Station 144.58 16 PKPdf 04 57 07.4 -0.1
MT02 Curacav 144.59 154 IAMs_20 IAMs_20 06 11 52.2
comp=Z,1μm,22.0s
MT05 Renca 144.65 155 IAMs_20 IAMs_20 05 52 32.7
comp=Z,1μm,22.0s
MT03 Universidad Ad 144.66 155 IAMs_20 IAMs_20 06 02 37.9
comp=Z,1μm,22.0s
MT16 CCHEN 144.71 155 IAMs_20 IAMs_20 06 05 14.2
comp=Z,1μm,20.0s
PEL Peldehue 144.88 155 IAMs_20 IAMs_20 05 52 42.1
comp=Z,1μm,20.0s
SACV Santiago Islan 145.91 300 IAMs_20 IAMs_20 06 06 21.2
comp=Z,1μm,21.0s
ALIBA Liberia Airpor 146.07 68 *eP* **PKiKP 04 57 13.7 -1.0**
BAGA Bagaces 146.36 68 *eP* **PKPab 04 57 14.2 +1.0**
COLC Colonia 146.37 68 *eP* **PKPbc 04 57 12.8 +0.4**
HORNC **Hornillas 146.37 68** *eP* **PKPbc 04 57 12.9 +0.4**
CUI Cuipilapa 146.41 68 *eP* **PKPdf 04 57 11.2 0.0**
NYURE **Nandayure 146.54 69** *eP* **PKiKP 04 57 15.2 -0.5**
VERA Finca Concepci 146.61 67 *eP* **PKPbc 04 57 13.1 +0.1**
JTS Las Juntas de 146.72 68 PKPdf 04 57 12.5 +0.8
JTS Las Juntas de 146.72 68 PKP2 **PKPdf 04 57 12.5 +0.8**
CBL1 Cabuya 146.81 70 *eP* **PKPab 04 57 14.6 -0.4**
ARE1 Arenal 1 146.88 68 *eP* **PKPbc 04 57 14.4 +0.6**
CEDE Laguna Cedeo 146.89 68 *eP* **PKPbc 04 57 14.5 +0.6**
SOCE Pocosol 147.00 68 *eP* **PKPbc 04 57 14.5 +0.2**
ZON Zonda 147.11 156 IAMs_20 IAMs_20 06 09 59.7
comp=Z,1μm,20.0s
CFA Coronel Fontan 147.23 157 PKP **PKPdf 04 57 11.6 -0.6**
comp=Z,51nm,0.7s,baz=224,slow=3.1,SNR=91
CFA PKPbc **PKPbc 04 57 14.6 +0.2**
comp=Z,51nm,0.7s,baz=231,slow=3.0,SNR=68
GO04 Tololo Observa 147.35 152 IAMs_20 IAMs_20 05 54 29.5
comp=Z,1μm,21.0s
SANTA **Santa Ana 147.55 69** *eP* **PKiKP 04 57 17.5 -0.5**
HDC Heredia 147.60 68 *eP* **PKPdf 04 57 13.2 -0.1**
ACOS Acosta 147.62 69 *eP* **PKiKP 04 57 17.9 -0.3**
PICV PH. Pirrs 147.64 69 *eP* **PKiKP 04 57 17.9 -0.2**
PISJ San Jernim 147.71 69 *eP* **PKiKP 04 57 17.7 -0.6**
ABE2 San Pablo 147.75 69 *eP* **PKiKP 04 57 18.1 -0.4**
LCR2 La Lucha 2 147.78 69 *eP* **PKiKP 04 57 17.9 -0.7**
VICA Volcano Irazu 147.85 68 *eP* **PKiKP 04 57 18.7 -0.3**
CVTG V. Turrialba, 147.86 68 *eP* **PKPbc 04 57 17.5 +0.9**
RAFA San Farael, Vo 147.89 68 *eP* **PKiKP 04 57 18.7 -0.2**
VTLA Turrialba Volc 147.91 68 *eP* **PKiKP 04 57 18.9 -0.1**
CVTR Volcan Turrial 147.92 68 *eP* **PKiKP 04 57 18.6 -0.5**
CVTV Tajo 147.93 68 *eP* **PKiKP 04 57 18.9 -0.1**
VERB Verbena 148.00 68 *eP* **PKiKP 04 57 18.7 -0.2**
LCO Las Campanas 148.37 151 PKPdf 04 57 15.6 +1.2
LCO Las Campanas 148.37 151 PKP2 **PKPdf 04 57 15.6 +1.2**
PILO Pilon 148.38 46 *eP* **PKPdf 04 57 13.0 -1.3**
LMGC Las Mercedes 148.56 45 *eP* **PKPdf 04 57 13.3 -1.2**
AC05 El Transito 148.72 151 IAMs_20 IAMs_20 05 53 12.7
comp=Z,1μm,18.0s
CHIV Chivirico 149.04 45 IAMs_20 IAMs_20 05 58 42.6
comp=Z,1μm,22.0s
CHIV Chivirico 149.04 45 *eP* **PKPdf 04 57 14.1 -1.3**
PINC Pinares de May 149.13 43 *eP* **PKPdf 04 57 15.7 +0.3**
MTDJ Mount Denham 149.33 49 *eP* **PKPdf 04 57 14.7 -1.3**
MTDJ Mount Denham 149.33 49 ||*iP* **PKPbc 04 57 20.9 +0.5**
MARVS **Santiago de Cu 149.38 44** *eP* **PKPdf 04 57 15.9 0.0**
MCJ Malvern 149.40 49 *iP* **PKPbc 04 57 20.4 -0.1**
RCC Rio Carpintero 149.53 44 *eP* **PKPdf 04 57 16.1 -0.1**
NMDO Nuevo Mundo 149.63 42 IAMs_20 IAMs_20 06 09 28.0
comp=Z,1μm,22.0s
GO03 Copiapo 149.77 150 IAMs_20 IAMs_20 06 05 35.5
comp=Z,1μm,21.0s
AC06 Mina Casimiro 149.90 150 IAMs_20 IAMs_20 05 59 15.1
comp=Z,1μm,22.0s
STH Stony Hill 149.97 48 *eP* **PKPdf 04 57 15.7 -1.2**
STH Stony Hill 149.97 48 *iP* **PKPbc 04 57 21.9 +0.1**
GTBY Guantanamo Bay 149.98 43 IAMs_20 IAMs_20 05 57 52.4
comp=Z,987nm,22.0s
GTBY Guantanamo Bay 149.98 43 *eP* **PKPdf 04 57 16.1 -0.8**
GTBY Guantanamo Bay 149.98 43 ||*iP* **PKPdf 04 57 16.9 0.0**
QMBU Quimbuelo 150.00 43 *eP* **PKPdf 04 57 17.4 +0.5**
HOJ Hope 150.06 48 *iP* **PKPbc 04 57 19.7 -2.3**
PLTB Pedras Altas 150.08 180 *eP* **PKPdf 04 57 17.0 +0.2**
TBOT Tacuaremb 150.08 176 *eP* **PKPdf 04 57 17.4 +0.7**
MASC Masc 150.40 42 *eP* **PKPdf 04 57 17.7 +0.3**
AC02 Maricunga 150.94 151 IAMs_20 IAMs_20 06 04 53.6
comp=Z,1μm,20.0s
CPSB Cacapava Do Su 151.43 181 *eP* **PKPdf 04 57 19.3 +0.5**
GO02 Mina Guanaco 152.08 148 IAMs_20 IAMs_20 06 07 21.0
comp=Z,1μm,21.0s
CNLB Canela 152.38 185 *eP* **PKPdf 04 57 20.3 -0.1**
TER01 Tubaro-SC 152.94 189 *eP* **PKPdf 04 57 21.7 +0.5**
SDDR Presa de Saban 153.17 39 IAMs_20 IAMs_20 06 11 47.7
comp=Z,1μm,21.0s
ITAB Concordia 154.54 183 IAMs_20 IAMs_20 06 12 20.1
comp=Z,1μm,20.0s
ITAB Concordia 154.54 183 *eP* **PKPdf 04 57 23.6 +0.2**
ATAH Atahualpa 154.82 103 PKP **PKPdf 04 57 25.9 +1.2**
comp=Z,17nm,1.0s,baz=292,slow=1.9,SNR=16
ATAH PKPbc **PKiKP 04 57 34.3 +0.9**
comp=Z,52nm,0.8s,baz=204,slow=1.9,SNR=18
NNA Nana 154.90 115 PKP **PKPdf 04 57 24.6 +0.3**
comp=Z,9.1nm,0.5s,baz=307,slow=3.1,SNR=7.7
NNA PKPbc **PKPbc 04 57 32.8 -0.2**
comp=Z,49nm,1.1s,baz=245,slow=5.3,SNR=6.9
PB09 IPOC Station P 154.94 144 IAMs_20 IAMs_20 06 08 10.0
comp=Z,1μm,22.0s
PATCX **Punta Patache 155.12 141** IAMs_20 IAMs_20 05 52 23.1
comp=Z,1μm,20.0s
OTAV Otavalo 155.20 86 *eP* **PKPdf 04 57 24.4 -0.9**
SLOR San Lorenzo - 155.22 88 IAMs_20 IAMs_20 05 53 45.1
comp=Z,862nm,22.0s
CPUP Villa Florida 155.25 172 PKP **PKPdf 04 57 25.0 +0.6**
comp=Z,15nm,1.1s,baz=203,slow=1.0,SNR=16
CPUP Villa Florida 155.25 172 *eP* **PKPdf 04 57 25.2 +0.8**
PCDR Punta Cana, DR 155.29 35 IAMs_20 IAMs_20 06 10 23.4
comp=Z,1μm,21.0s
TA01 Diego Aracena 155.29 141 IAMs_20 IAMs_20 06 00 58.6
comp=Z,1μm,22.0s
PB01 IPOC Station P 155.37 142 IAMs_20 IAMs_20 06 06 42.4
comp=Z,1μm,21.0s
AGPR Aguadilla, PR 156.03 33 IAMs_20 IAMs_20 06 07 06.0
comp=Z,1μm,22.0s
PRSN Puerto Rico Se 156.22 33 IAMs_20 IAMs_20 06 08 45.9
comp=Z,901nm,20.0s
PB08 IPOC Station P 156.25 142 IAMs_20 IAMs_20 05 57 25.9
comp=Z,1μm,22.0s
AOPR Arecibo Observ 156.33 32 *eP* **PKPdf 04 57 27.0 +0.9**
EMPR Esperanza - Ma 156.34 32 IAMs_20 IAMs_20 06 04 40.9
comp=Z,1μm,20.0s
CRPR Cabo Rojo, PR 156.41 33 IAMs_20 IAMs_20 06 08 05.0
comp=Z,1μm,22.0s
UUPR Utuado, UPR, P 156.42 32 IAMs_20 IAMs_20 06 03 53.2
comp=Z,856nm,22.0s
PB12 IPOC Station P 156.59 137 IAMs_20 IAMs_20 05 58 45.2
comp=Z,868nm,20.0s
OBIP Obispado Ponce 156.66 32 PKPdf 04 57 26.2 -0.3
OBIP IAMs_20 IAMs_20 06 03 46.3
comp=Z,961nm,22.0s
SJPY San Joaquin 156.71 175 *eP* **PKPdf 04 57 26.8 +0.4**
CAM01 **Campos-RJ 156.78 210** *eP* **PKPdf 04 57 27.2 +0.6**
SJG San Juan 156.84 31 IAMs_20 IAMs_20 06 19 46.2
comp=Z,1μm,22.0s
SJG San Juan 156.84 31 *eP* **PKPdf 04 57 21.5 -5.2**
DUB01 **Friburgo-RJ 156.91 208** *eP* **PKPdf 04 57 28.0 +1.2**
PDPR Patillas Dam, 156.98 31 IAMs_20 IAMs_20 06 20 16.0
comp=Z,900nm,22.0s
PTGB Pitanga 157.04 184 *eP* **PKPdf 04 57 27.2 +0.2**
SPB Sao Paulo 157.38 195 IAMs_20 IAMs_20 06 18 11.3
comp=Z,1μm,22.0s
SPB Sao Paulo 157.38 195 *eP* **PKPdf 04 57 28.0 +0.7**
VAO Valinhos 157.81 197 IAMs_20 IAMs_20 06 14 16.0
comp=Z,1μm,20.0s
VAO Valinhos 157.81 197 *eP* **PKPdf 04 57 28.4 +0.4**
PB18 Visviri 157.87 137 IAMs_20 IAMs_20 05 57 49.3
comp=Z,1μm,21.0s
FRTB Fartura 158.09 190 *eP* **PKPdf 04 57 29.5 +1.3**
RIB01 **Linhares ES 158.15 216** *eP* **PKPdf 04 57 29.9 +1.6**
LDASE **Londrina, Braz 158.27 186** *eP* **PKPdf 04 57 28.8 +0.3**
SMRT St. Maarten 158.34 25 IAMs_20 IAMs_20 06 04 08.5
comp=Z,1μm,22.0s
ROSC El Rosal 158.43 72 PKP **PKPdf 04 57 29.7 +0.4**
comp=Z,35nm,0.8s,baz=305,slow=3.0,SNR=24
ROSC PKPab **PKPab 04 58 05.3 +1.3**
comp=Z,40nm,0.7s,baz=129,slow=19,SNR=7.3
SABA Saba 158.65 26 IAMs_20 IAMs_20 06 12 01.8
comp=Z,1μm,22.0s
AMBA Amambai (Brazi 158.84 177 *eP* **PKPdf 04 57 29.9 +0.8**
SEUS St. Eustatius 158.88 25 IAMs_20 IAMs_20 06 04 33.8
comp=Z,1μm,22.0s
SJMB Sao Joao De Ma 159.09 215 *eP* **PKPdf 04 57 29.9 +0.4**
ANWB Willy Bob 159.20 22 IAMs_20 IAMs_20 06 06 12.2
comp=Z,1μm,21.0s
ANWB Willy Bob 159.20 22 *eP* **PKPdf 04 57 26.9 -2.7**
LPAZ La Paz 159.70 136 PKP **PKPdf 04 57 32.1 +1.1**
comp=Z,16nm,0.9s,baz=215,slow=2.9,SNR=42
LPAZ PKPab **PKPab 04 58 09.5 -0.1**
comp=Z,13nm,0.7s,baz=168,slow=2.0,SNR=5.6
LPAZ PP **PP 05 01 51.9 +1.4**
comp=Z,16nm,1.3s,baz=182,slow=3.0,SNR=4.4
LPAZ La Paz 159.70 136 *eP* **PKPdf 04 57 30.2 -0.8**
ANBD Bethesda, Anti 159.77 23 *eP* **PKPdf 04 57 27.5 -2.8**
MURT Porto Murtinho 159.78 169 *eP* **PKPdf 04 57 30.2 0.0**
GUA01 Guaratinga, BA 159.82 222 *eP* **PKPdf 04 57 31.0 +0.6**
BB19B Bebedouro 160.08 194 *eP* **PKPdf 04 57 32.1 +1.5**
SDV Santo Domingo 160.15 58 *eP* **PKPdf 04 57 31.0 -0.1**
CZSB Cruzeiro do Su 160.16 108 *eP* **PKPdf 04 57 30.6 -0.2**
CMC01 Camacan, BA 160.47 225 *eP* **PKPdf 04 57 31.3 +0.2**
DIAM Diamantina, MG 160.76 210 *eP* **PKPdf 04 57 31.7 +0.1**
NBAN Anadia - AL 160.92 245 *eP* **PKPdf 04 57 32.1 +0.4**
BDQN Bodoquena, MS 161.11 171 *eP* **PKPdf 04 57 32.1 +0.4**
NBCA Caruaru-PE 161.20 249 *eP* **PKPdf 04 57 32.9 +0.8**
AQDB Aquidauana 161.22 174 *eP* **PKPdf 04 57 32.5 +0.7**
RPRD Ribas do Rio P 161.31 180 *eP* **PKPdf 04 57 32.5 +0.5**
DSLB Salisbury 161.37 24 *eP* **PKPdf 04 57 30.5 -1.6**
RCBR Riachuelo 161.75 256 *eP* **PKPdf 04 57 33.3 +0.6**
ITRB Iturama 161.79 190 *eP* **PKPdf 04 57 33.3 +0.8**
PMNB Patos De Minas 161.79 203 *eP* **PKPdf 04 57 32.1 -0.5**
SVN Savane Anatole 162.01 24 *eP* PKPdf 04 57 23.3 -9.5
BAUV El Baul 162.25 53 *eP* **PKPdf 04 57 27.9 -5.2**
BIM Bigot 162.34 24 *eP* **PKPdf 04 57 27.9 -5.3**
SLBI Saint Lucia, B 162.82 25 *eP* **PKPdf 04 57 30.7 -2.8**
IPMB Ipameri, GO 162.92 198 *eP* **PKPdf 04 57 34.0 +0.4**
C2SB Chapadao do Su 162.99 183 *eP* **PKPdf 04 57 34.0 +0.4**
SVB Belmont 163.37 26 *eP* PKPdf 04 57 21.8 -12
TBTG Tabatinga, AM 163.65 99 *eP* **PKPdf 04 57 34.4 0.0**
JANB Januaria 163.78 214 *eP* **PKPdf 04 57 34.4 -0.1**
PCRV Puerto La Cruz 163.98 42 *eP* **PKPdf 04 57 28.7 -6.0**
GCMP Grenada, Carri 163.98 28 *eP* PKPdf 04 57 21.4 -13
SIV San Ignacio 164.04 153 PKP **PKPdf 04 57 35.4 +0.6**
comp=Z,13nm,0.9s,baz=253,slow=1.4,SNR=30
SIV PKPab **PKPab 04 58 28.6 +0.9**
comp=Z,32nm,0.7s,baz=229,slow=5.0,SNR=14
GRGR Grenville 164.18 30 *eP* PKPdf 04 57 21.4 -13
BDFB Brasilia 165.03 202 PKP **PKPdf 04 57 35.9 +0.2**
comp=Z,15nm,1.0s,baz=42,slow=0.3,SNR=13
BDFB PKPab **PKPab 04 58 32.6 +0.5**
comp=Z,20nm,0.9s,baz=190,slow=6.0,SNR=5.8
BDFB PP **PP 05 02 18.9 +1.6**
comp=Z,7.5nm,0.9s,baz=243,slow=5.0,SNR=3.2
PTLB Pontes e Lacer 165.31 159 *eP* **PKPdf 04 57 35.6 -0.2**
NBPB Pedra_Branca-C 165.38 254 *eP* **PKPdf 04 57 35.6 -0.4**
TOSP Speyside 165.44 28 *eP* PKPdf 04 57 44.8 +8.9
TRN Trinidad (W) 165.57 32 *eP* **PKPdf 04 57 36.2 +0.2**
SALV Santo Antonio 165.74 172 *eP* **PKPdf 04 57 36.4 +0.3**
ARAG Araguaiana, MT 165.94 188 *eP* **PKPdf 04 57 36.8 +0.5**
SDBA SAO DESIDERIO 166.21 219 *eP* **PKPdf 04 57 36.8 +0.1**
VILB Vilhena 167.09 151 *eP* **PKPdf 04 57 37.6 +0.3**
TEFE Tefe 168.95 100 *eP* **PKPdf 04 57 38.0 -0.6**
SNDB Serra Nova Dou 169.49 193 *eP* **PKPdf 04 57 39.1 +0.3**
PDRB Porto dos Gac 169.69 163 *eP* **PKPdf 04 57 38.8 -0.3**
CLRB Colider 170.64 167 *eP* **PKPdf 04 57 39.1 -0.4**
BOAV Boa Vista 172.09 59 *eP* **PKPdf 04 57 40.3 0.0**
MACA Manacapuru-AM 172.89 102 *eP* **PKPdf 04 57 39.9 -0.7**
PRPB Parauapebas 174.07 221 *eP* **PKPdf 04 57 41.1 0.0**
TMAB Tom-Au,PA,Br 174.33 263 *eP* **PKPdf 04 57 41.5 +0.3**
NPGB Novo Progresso 174.43 163 *eP* **PKPdf 04 57 40.7 -0.5**
ITTB Itaituba 176.66 143 *eP* **PKPdf 04 57 41.5 -0.3**

BJI ***24*** *04:38:00.9, 45°.75N×151°.95E, h58km, mb4.7/25*
NEIC ***24*** *04:38:01.2±2.5, 45°.84N±0°.08×151°.96E±0°.10, h35km±2km, mb4.6/127, Error ellipse: s-maj=14.0km s-min=10.9km az=161.0*
JMA ***24*** *04:38:01.2±1.1, 46°N±4°×15°2E±°, h30km, MV5.3/17, KURILE ISLANDS REGION*
SKHL ***24*** *04:38:02.3±0.5, 45°.80N×151°.90E, h68km±5km, mb5.5/10*
MOS ***24*** *04:38:03.1±1.0, 45°.98N×151°.72E, h66km, mb4.9/27, Error ellipse: s-maj=6.7km s-min=5.6km az=96.1*
IDC ***24*** *04:38:06.6±2.1, 46°.20N×151°.51E, h75km±18km, mb4.1/31, mbtmp4.5/39, Error ellipse: s-maj=14.3km s-min=10.8km az=155.0*

ISC 24 04:38:02.3±0.4, **45°.87N**±0°.05×**151°.88E**±0°.05, **h48**km, **n323**, σ1°**39**/302, **mb4.6**/132, **13C-19D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.89**	**259**	*c*	*i*PN	**Pn**	**04 38 46.2**	**+0.4**
KUR					*i* S	**Sn**	**04 39 19.1**	**-0.3**
KUR	comp=Z,2μm,0.4s				pmax	pmax		
KUR	comp=N,376nm,0.3s				pmax	pmax		
KUR	comp=E,316nm,0.2s				pmax	pmax		
KUR	comp=N,2μm,0.3s				smax	smax		
KUR	comp=E,3μm,0.3s				smax	smax		
KUR	**Kuril'sk**	**2.89**	**259**	*i*	P	**Pn**	**04 38 46.3**	**+0.4**
KUR					AMB	AMB	04 38 47.0	
KUR	comp=E,380nm,0.4s				AMB	AMB	04 38 47.0	
KUR	comp=E,320nm,0.4s				AMB	AMB	04 38 47.0	
KUR	comp=E,2μm,0.4s				A	A	04 39 33.2	
KUR	comp=E,4μm,0.4s				A	A	04 39 33.2	
KUR	comp=E,1μm,0.4s				A	A	04 39 34.3	
KUR	comp=E,5μm,1.6s				A	A	04 39 34.3	
KUR	comp=E,3μm,1.3s							
SHO	**Shikotan**	**4.11**	**243**	*d*	*i*PN	**Pn**	**04 39 02.9**	**+0.3**
SHO					*i* S	**Sn**	**04 39 47.3**	**-2.1**
SHO	comp=Z,326nm,0.3s				pmax	pmax		
SHO	comp=N,161nm,0.2s				pmax	pmax		
SHO	comp=E,377nm,0.4s				pmax	pmax		
SHO	comp=E,570nm,0.2s				smax	smax		
SHO	comp=N,1μm,0.4s				smax	smax		
SHO	**Shikotan**	**4.11**	**243**	*i*	P	**Pn**	**04 39 02.9**	**+0.3**
SHO					AMB	AMB	04 39 06.7	
SHO	comp=N,160nm,0.3s				AMB	AMB	04 39 06.7	
SHO	comp=N,380nm,0.3s				AMB	AMB	04 39 06.7	
SHO	comp=N,330nm,0.3s							
SHO					*i* S	**Sn**	**04 39 47.3**	**-2.1**
SHO					A	A	04 39 57.1	
SHO	comp=N,1μm,0.4s				A	A	04 39 57.1	
SHO	comp=N,570nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.65**	**249**	*e*	PN	**Pn**	**04 39 11.2**	**+1.2**
YUK					*i* S	**Sn**	**04 40 02.7**	**0.0**
YUK	comp=N,445nm,0.2s				pmax	pmax		
YUK	comp=Z,1μm,0.2s				pmax	pmax		
YUK	comp=E,289nm,0.1s				pmax	pmax		
YUK	comp=N,2μm,0.5s				smax	smax		
YUK	comp=E,1μm,0.4s				smax	smax		
YUK	**Yuzh-Kuril'sk**	**4.65**	**249**	*e*	P	**Pn**	**04 39 11.2**	**+1.2**
YUK					AMB	AMB	04 39 14.4	
YUK	comp=E,450nm,0.3s				AMB	AMB	04 39 14.4	
YUK	comp=E,290nm,0.3s				AMB	AMB	04 39 14.4	
YUK	comp=E,1μm,0.3s							
YUK					*i* S	**Sn**	**04 40 02.7**	**0.0**
YUK					A	A	04 40 10.1	
YUK	comp=E,2μm,0.5s				A	A	04 40 10.1	
YUK	comp=E,1μm,0.5s							
RUSJ	**Misakicho**	**5.03**	**252**	*e*	PN	**Pn**	**04 39 18.1**	**+2.9**
RUSJ					*e*S	**Sn**	**04 40 15.2**	**+3.3**
NEM2	**Nemuro 2**	**5.05**	**242**		P	**Pn**	**04 39 15.5**	**0.0**
NEM2					*e*S	**Sn**	**04 40 09.5**	**-3.0**
NMR	**Nemuro--Hokkai**	**5.06**	**243**	⇑	*i*PN	**Pn**	**04 39 15.5**	**0.0**
NMR					*i* S	**Sn**	**04 40 11.2**	**-1.4**
NMR	**Nemuro--Hokkai**	**5.06**	**243**		*e*P	**Pn**	**04 39 15.7**	**+0.2**
NMR					*e*S	**Sn**	**04 40 11.3**	**-1.4**
JRA	**Rausu**	**5.18**	**250**		P	**Pn**	**04 39 19.4**	**+2.2**
SKR	**Severo-Kuril's**	**5.58**	**29**	*e*	PN	**Pn**	**04 39 25.1**	**+2.4**
SKR					pmax	pmax		
SKR	comp=Z,178nm,0.5s				MLR	MLR		
SKR	comp=Z,4μm,17.0s							
SKR	**Severo-Kuril's**	**5.58**	**29**	*e*	P	**Pn**	**04 39 25.0**	**+2.4**
SKR					AMB	AMB	04 39 27.0	
SKR	comp=Z,180nm,0.5s							
SKR					*e*S	**Sn**	**04 40 25.7**	**+0.3**
SKR					A	A	04 40 35.2	
SKR	comp=Z,170nm,0.6s				A	A	04 40 35.2	
SKR	comp=Z,280nm,0.6s							
SKR					AMS	AMS	04 41 02.1	
SKR	comp=Z,4μm,17.0s							
JNK	**Nakash**	**5.59**	**248**		P	**Pn**	**04 39 24.5**	**+1.5**
AKK	**Akkeshi**	**5.79**	**243**	*e*	P	**Pn**	**04 39 25.8**	**+0.2**
AKK					AMB	AMB	04 39 27.2	
AKK	comp=Z,260nm,0.4s							
AKK					*e*S	**Sn**	**04 40 29.4**	**-1.3**
JAK	**Akkeshi**	**5.89**	**243**		P	**Pn**	**04 39 27.1**	**+0.1**
JAK					*e*S	**Sn**	**04 40 31.8**	**-1.5**
JTKR	**Abashiri--Toko**	**5.97**	**254**		P	**Pn**	**04 39 30.0**	**+1.9**
JAR	**Ashorobuto**	**6.34**	**249**		P	**Pn**	**04 39 35.1**	**+1.9**
JAR					*e*S	**Sn**	**04 40 44.3**	**+0.1**
YSS	**Yuzhno-Sakhali**	**6.41**	**283**		Pn	**Pn**	**04 39 35.0**	**+1.0**
YSS	**Yuzhno-Sakhali**	**6.41**	**283**	*c*	*i*PN	**Pn**	**04 39 35.6**	**+1.6**
YSS					*e*S	**Sn**	**04 40 45.3**	**-0.4**
YSS					pmax	pmax		
YSS	comp=Z,80nm,0.8s				pmax	pmax		
YSS	comp=Z,200nm,4.6s				pmax	pmax		
YSS	comp=N,200nm,3.4s				pmax	pmax		
YSS	comp=E,100nm,3.2s				smax	smax		
YSS	comp=N,40nm,1.0s				smax	smax		
YSS	comp=E,30μm,1.0s				MLR	MLR		
YSS	comp=Z,400nm,18.0s				MLR	MLR		
YSS	comp=N,300nm,19.0s				MLR	MLR		
YSS	comp=E,300nm,18.0s							
YSS	**Yuzhno-Sakhali**	**6.41**	**283**	*e*	P	**Pn**	**04 39 35.6**	**+1.6**
YSS				*e*	P	**Pn**	**04 39 35.6**	**+1.6**
YSS					AMB	AMB	04 39 37.3	
YSS	comp=E,80nm,0.8s				AMB	AMB	04 39 37.7	
YSS	comp=E,200nm,4.6s				AMB	AMB	04 39 37.7	
YSS	comp=E,200nm,3.3s				AMB	AMB	04 39 37.7	
YSS	comp=E,100nm,3.3s							
YSS					*e*S	**Sn**	**04 40 45.3**	**-0.4**
YSS					A	A	04 40 46.9	
YSS	comp=E,40nm,0.8s				A	A	04 40 46.9	
YSS	comp=E,30nm,0.8s				AMS	AMS	04 41 39.0	
YSS	comp=E,300nm,18.0s				AMS	AMS	04 41 39.0	
YSS	comp=E,300nm,18.0s				AMS	AMS	04 41 39.0	
YSS	comp=E,400nm,18.0s							
JOB	**Onbets**	**6.49**	**246**		P	**Pn**	**04 39 36.0**	**+0.9**
JKK2	**Kamakawa 2**	**6.79**	**256**		P	**Pn**	**04 39 42.0**	**+2.6**
JKA	**Kamikawa-asahi**	**6.81**	**258**		Pn	**Pn**	**04 39 41.7**	**+2.1**
JKA	**Kamikawa-asahi**	**6.81**	**258**	*e*	P	**Pn**	**04 39 42.5**	**+2.9**
ASAJ	**Asahikawa**	**6.81**	**258**		P	**Pn**	**04 39 42.5**	**+2.8**
ASAJ	comp=E,54nm,0.4s,baz=75,slow=17,SNR=82							
ASAJ					S	**Sn**	**04 41 03.2**	**+7.3**
ASAJ	comp=E,18nm,0.5s,baz=86,slow=19,SNR=0.9							
JCH	**Churui**	**6.93**	**245**		P	**Pn**	**04 39 41.5**	**+0.2**
JCH					*e*S	**Sn**	**04 40 55.7**	**-3.1**
JWK2	**Keihoku**	**7.03**	**269**	*e*	P	**Pn**	**04 39 46.5**	**+4.0**
JAB	**Ashibetsu**	**7.28**	**254**	*e*	P	**Pn**	**04 39 49.2**	**+3.1**
ERM	**Erimo**	**7.38**	**242**		Pn	**Pn**	**04 39 48.6**	**+1.1**
ERM	**Erimo**	**7.38**	**242**	*ce*	PN	**Pn**	**04 39 49.4**	**+1.9**
UGL	**Uglegorsk**	**7.38**	**299**	*e*	PN	**Pn**	**04 39 49.8**	**+2.4**
UGL					pmax	pmax		
UGL	comp=Z,200nm,0.4s							
UGL	**Uglegorsk**	**7.38**	**299**	*e*	P	**Pn**	**04 39 49.8**	**+2.4**
UGL					AMB	AMB	04 39 51.0	
UGL	comp=Z,200nm,0.5s							
JNBK	**Urakawa-nobuka**	**7.49**	**245**		P	**Pn**	**04 39 48.7**	**-0.3**
JRBN	**Rebuntou**	**7.60**	**270**	*e*	P	**Pn**	**04 39 53.4**	**+3.1**
TYV	**Tymovskoe**	**7.92**	**312**	*e*	PN	**Pn**	**04 39 55.8**	**+1.1**
TYV					pmax	pmax		
TYV	comp=Z,36nm,0.5s							
TYV	comp=Z,300nm,2.7s				pmax	pmax		
TYV	**Tymovskoe**	**7.92**	**312**	*e*	P	**Pn**	**04 39 55.8**	**+1.1**
TYV					AMB	AMB	04 39 56.1	
TYV	comp=Z,40nm,0.5s							
TYV					AMB	AMB	04 39 59.1	
TYV	comp=Z,300nm,2.7s							
TYV					*e*S	**Sn**	**04 41 23.6**	**+0.8**
TYV					A	A	04 41 24.4	
TYV	comp=Z,20nm,0.5s							
TYV					A	A	04 41 24.4	
TYV	comp=Z,20nm,0.5s							
PEA0B	**Petropavlovsk-**	**8.17**	**25**		Pn	**Pn**	**04 39 56.5**	**-1.7**
PEA0B	**Petropavlovsk-**	**8.17**	**25**	*de*	PN	**Pn**	**04 40 00.6**	**+2.4**
PETK	**Petropavlovsk-**	**8.17**	**25**		Pn	**Pn**	**04 39 56.7**	**-1.4**
PETK	**Petropavlovsk-**	**8.17**	**25**		P	**Pn**	**04 39 59.9**	**+1.7**
PETK	comp=Z,4.6nm,0.5s,baz=171,slow=11,SNR=21							
PETK					S	**Sn**	**04 41 29.9**	**+0.8**
PETK	comp=Z,5.7nm,0.7s,baz=228,slow=13,SNR=1.5							
PET	**Petropavlovsk**	**8.40**	**29**		Pn	**Pn**	**04 40 00.8**	**-0.6**
PET	**Petropavlovsk**	**8.40**	**29**	*e*	P	**Pn**	**04 40 03.0**	**+1.6**
PET					AMB	AMB	04 40 04.2	
PET	comp=Z,10.0nm,0.4s							
PET					*e*S	**Sn**	**04 41 33.4**	**-1.3**
PET					AMS	AMS	04 43 26.4	
PET	comp=Z,200nm,18.0s							
JANG	**Nango**	**9.36**	**238**	*e*	P	**Pn**	**04 40 12.0**	**-2.6**
JTM	**Tenmabayashi**	**9.38**	**241**		Pn	**Pn**	**04 40 13.6**	**-1.2**
OKH	**Okha**	**9.62**	**326**	*e*	P	**Pn**	**04 40 21.9**	**+3.9**
NKL	**Nikolayevsk**	**10.29**	**319**	*e*	P	**Pn**	**04 40 27.9**	**+0.7**
NKL					AMB	AMB	04 40 30.1	
NKL	comp=Z,20nm,0.6s							
GRNR	**Gornyy**	**11.39**	**301**	⇑	*i*PN	**Pn**	**04 40 44.3**	**+2.0**
GRNR					pmax	pmax		
GRNR	comp=Z,10.0nm,0.8s				MLR	MLR		
GRNR	comp=E,350nm,20.0s				MLR	MLR		
GRNR	comp=N,180nm,17.0s				MLR	MLR		
GRNR	comp=Z,310nm,16.0s							
GRNR	**Gornyy**	**11.39**	**301**	*e*	P	**P

MAJO Matsushiro 13.87 233 Pn 04 41 14.3 -1.8
MAJO Matsushiro 13.87 233 *d* P **Pn 04 41 14.4 -1.8**
KLR Kul'dur 14.00 291 P **Pn 04 41 18.1 +0.3**
comp=Z,7.5nm,0.9s,baz=102,slow=14,SNR=14
KLR Kul'dur 14.00 291⇓ *e*P **Pn 04 41 19.7 +1.9**
KLR pmax pmax
comp=Z,13nm,1.4s
KLR Kul'dur 14.00 291 *e*P **Pn 04 41 17.8 0.0**
USA0B Ussuriysk Arra 14.17 270⇓ *e*P **Pn 04 41 21.2 +1.1**
USRK Ussuriysk Ar. 14.17 270 P **Pn 04 41 19.4 -0.7**
comp=Z,6.7nm,0.7s,baz=80,slow=12,SNR=12
EKMR Ekimchan 14.24 307 *e*P **Pn 04 41 21.6 +0.6**
EKMR AMB AMB 04 41 31.5
comp=Z,10.0nm,0.6s
VLA Vladivostok 14.54 266⇑ *e*P **Pn 04 41 23.2 -1.8**
VLA Vladivostok 14.54 266 *e*P **Pn 04 41 23.2 -1.8**
JGF Kuroka 15.03 232 Pn **Pn 04 41 30.6 -1.0**
JGF IAmb IAmb 04 41 39.5
comp=Z,27nm,0.5s
INU Inuyama 15.40 232 Pn 04 41 35.6 -0.7
INU IAmb IAmb 04 41 42.7
comp=Z,25nm,0.7s
PSTR Posyet 15.44 266⇑ *e*P **Pn 04 41 37.5 +0.8**
MDJ Mudanjiang 15.75 273 P **P 04 41 43.3 -0.6**
MDJ Mudanjiang 15.75 273 P **Pn 04 41 41.8 +1.1**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
JHJ Hachijo jima 2 15.77 220 P **P 04 41 46.0 +1.7**
comp=Z,223nm,0.8s,baz=26,slow=12,SNR=2.9
HEH HeiHe 16.91 294 *e*P **P 04 41 56.3 -0.4**
HEH pmax pmax
comp=Z,38nm,0.9s
BNX BinXian 17.06 278 ⇑P **Pn 04 41 57.4 +0.2**
BNX pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 17.10 1 P **Pn 04 41 57.6 +0.1**
comp=Z,6.1nm,0.3s,baz=183,slow=15,SNR=29
SEY Seymchan 17.10 1⇓ *e*P **P 04 41 58.5 -0.3**
SEY pmax pmax
comp=Z,39nm,4.7s
ZEA Zeya 17.68 305 *e*P **Pn 04 42 04.6 -0.2**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA Zeya 17.68 305 *e*P **Pn 04 42 03.4 -1.4**
ZEA AMB AMB 04 42 07.5
comp=Z,10.0nm,0.8s
ZEA AMB AMB 04 42 07.5
comp=Z,20nm,0.8s
JMN Monobe 18.35 235 P **Pn 04 42 13.1 -0.1**
JMN IAmb IAmb 04 42 25.4
comp=Z,52nm,1.3s
KSRS Korea Array 19.73 253 P **Pn 04 42 29.2 -0.4**
comp=Z,12nm,0.5s,baz=57,slow=11,SNR=61
KS19 Wonju Array Si 19.74 253 P **P 04 42 28.4 +0.5**
KSAR Wonju Array Be 19.76 253 P **P 04 42 28.3 +0.2**
KSAR Wonju Array Be 19.76 253 P **P 04 42 28.3 +0.2**
JNU Nakatsue 20.54 239 P **P 04 42 37.2 +0.6**
JNU IAmb IAmb 04 42 57.3
comp=Z,32nm,1.3s
JNU Nakatsue 20.54 239 P Pn 04 42 37.9 -1.4
comp=Z,8.2nm,0.8s,baz=27,slow=2.3,SNR=5.4
comp=Z,8.2nm,0.8s
INCN Inchon 20.58 255 P Pn 04 42 38.7 -1.0
INCN IAmb IAmb 04 42 40.5
comp=Z,27nm,0.8s
INCN Inchon 20.58 255 P Pn 04 42 38.7 -1.0
INCN pmax pmax
comp=Z,27nm,0.8s
INCN Inchon 20.58 255 *e*P Pn 04 42 38.7 -1.0
YAK Yakutsk 20.62 330 P **P 04 42 38.0 +0.7**
YAK Yakutsk 20.62 330 P **P 04 42 35.2 -2.1**
comp=Z,13nm,0.4s,baz=122,slow=13,SNR=29
comp=Z,13nm,0.4s
YAK Yakutsk 20.62 330 *e*P **P 04 42 37.1 -0.2**
YAK *e* 04 42 55.6
YAK *e*S **S 04 46 26.0 +1.1**
YAK *e* 04 46 45.9
YAK *e*SS **SnSn 04 46 49.3 +2.8**
YAK *e* 04 54 01.7
YAK pmax pmax
comp=Z,114nm,0.9s
YAK pmax pmax
comp=E,19nm,0.9s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK smax smax
comp=N,147nm,4.1s
YAK smax smax
comp=E,77nm,4.7s
TJN Taejon 20.70 251 P **P 04 42 38.8 +0.5**
TJN Taejon 20.70 251⇑ *e*P Pn 04 42 39.7 -1.4
BILL Bilibino 23.44 14⇑ *e*P **P 04 43 07.2 +0.3**
BILL pmax pmax
comp=Z,21nm,3.8s
BILL Bilibino 23.44 14 *e*P **P 04 43 07.2 +0.3**
XLT XiLinHaoTe 25.32 279 *e*P **P 04 43 23.5 -0.9**
XLT pP pP 04 43 32.8 -3.7
XLT sP sP 04 43 40.3 -1.8
XLT PP **PnPn 04 44 07.3 +6.5**
XLT pmax pmax
comp=Z,17nm,0.6s
TIXI Tiksi 28.08 345 P **P 04 43 46.5 -2.3**
comp=Z,2.8nm,0.4s,baz=166,slow=6.9,SNR=19
comp=Z,2.8nm,0.4s
TIXI Tiksi 28.08 345⇑ *e*P **P 04 43 46.2 -2.7**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
H11N2 WAKE ISLAND Hy 28.86 150 T T 05 15 26.0
baz=339,slow=76
H11N1 WAKE ISLAND Hy 28.88 150 T T 05 15 27.0
baz=339,slow=76
H11N3 WAKE ISLAND Hy 28.88 150 T T 05 15 27.2
baz=339,slow=76,SNR=8272
NJ2 Nanjing 28.93 253 *e*P **P 04 43 57.1 +0.3**
NJ2 pmax pmax
comp=Z,66nm,0.8s
HHC Hu-ho-hao-te 29.51 275 *e*P **P 04 44 03.4 +1.3**
HHC pmax pmax
comp=Z,19nm,0.8s
H11S1 WAKE ISLAND Hy 29.93 151 T T 05 16 46.9
baz=340,slow=76,SNR=9824
H11S3 WAKE ISLAND Hy 29.93 151 T T 05 17 03.7
baz=340,slow=76,SNR=8322
H11S2 WAKE ISLAND Hy 29.94 151 T T 05 17 04.3
baz=340,slow=76,SNR=6482
SONM Songino Array 30.83 290 P **P 04 44 11.7 -2.0**
comp=Z,0.5nm,0.5s,baz=88,slow=8.7,SNR=5.2
comp=Z,0.5nm,0.5s
F17K Baldwin Pennin 32.10 34 P **P 04 44 24.7 +0.3**
F17K IAmb IAmb 04 44 40.5
comp=Z,6.4nm,1.1s
H19K Roundabout Mou 33.80 36 IAmb IAmb 04 44 55.2
comp=Z,5.9nm,1.0s
B20K Meade River 34.60 28 IAmb IAmb 04 45 12.2
comp=Z,8.2nm,0.9s
KDAK Kodiak Island 35.32 50 P **P 04 44 52.2 -0.3**
KDAK Kodiak Island 35.32 50 P **P 04 44 52.2 -0.3**
KDAK pmax pmax
comp=Z,30nm,1.4s
B21K Ikpikpuk River 35.34 29 P **P 04 44 53.5 +0.9**
B21K IAmb IAmb 04 44 58.2
comp=Z,7.5nm,0.8s
B22K Teshekpuk Lake 35.91 28 IAmb IAmb 04 44 58.5
comp=Z,14nm,1.4s
E22K Anaktuvuk Pass 36.04 32 P **P 04 44 59.4 +0.7**
E22K IAmb IAmb 04 45 12.1
comp=Z,6.8nm,1.2s
C23K Itkillik River 36.75 29 IAmb IAmb 04 45 05.7
comp=Z,5.0nm,0.7s
E23K Chandalar 36.85 32 IAmb IAmb 04 45 07.9
comp=Z,6.7nm,1.2s
TOLK Toolik Lake Re 36.94 31 P **P 04 45 06.6 +0.3**
SML Sawmill 37.19 43 P **P 04 45 08.9 +0.4**
SML IAmb IAmb 04 45 15.8
comp=Z,20nm,1.3s
D24K Happy Valley 37.27 31 IAmb IAmb 04 45 14.4
comp=Z,3.9nm,0.6s
H24K Noodor Dome 37.37 36 P **P 04 45 10.9 +1.0**
HDA Harding Lake 37.74 38 P **P 04 45 12.9 -0.2**
HDA IAmb IAmb 04 45 24.0
comp=Z,17nm,1.5s
ILAR Eielson Array 37.77 38 P **P 04 45 13.1 -0.2**
comp=Z,1.7nm,0.4s
HFS Hagfors 68.98 339 P **P 04 49 00.5 -1.5**
comp=Z,7.3nm,0.4s,baz=55,slow=5.6,SNR=74
comp=Z,7.3nm,0.4s
KIV Kislovodsk 70.80 314 *e*P **P 04 49 13.4 -0.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 70.80 314 *e*P **P 04 49 13.4 -0.3**
KBZ Khabaz 70.85 313 P **P 04 49 13.8 -0.1**
comp=Z,6.2nm,0.7s,baz=97,slow=3.4,SNR=22
comp=Z,6.2nm,0.7s
ASAR Alice Springs 71.11 197 P **P 04 49 18.3 +2.7**
comp=Z,6.2nm,0.9s,baz=16,slow=5.4,SNR=1.1
comp=Z,6.2nm,0.9s
AKASG Malin Array Be 71.80 326 P **P 04 49 18.5 -0.9**
AKASG Malin Array Be 71.80 326 P **P 04 49 17.7 -1.7**
comp=Z,4.0nm,0.3s,baz=38,slow=6.2,SNR=53
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 71.80 326 P **P 04 49 18.5 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,1.4s
AKBB Malin Array Si 71.80 326 P **P 04 49 18.0 -1.5**
AKBB IAmb IAmb 04 49 19.0
comp=Z,7.2nm,0.6s
AKBB Malin Array Si 71.80 326 P **P 04 49 18.0 -1.5**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 71.80 326 P **P 04 49 18.2 -1.2**
KIEV Kiev 71.81 326 P **P 04 49 17.8 -1.7**
KIEV IAmb IAmb 04 49 19.0
comp=Z,6.4nm,0.6s
KIEV Kiev 71.81 326 P **P 04 49 17.8 -1.7**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
AK01 Malin Array Si 71.81 326 P **P 04 49 18.1 -1.4**
ECSD EROS Data Cent 72.11 45 P **P 04 49 21.4 -0.1**
ECSD IAmb IAmb 04 49 23.0
comp=Z,6.8nm,1.1s
RNPP9 Sopachiv 72.50 328 P **P 04 49 22.7 -1.0**
LUBAR Lubar, Ukraine 72.99 326 P **P 04 49 25.4 -1.2**
SCHQ Schefferville 74.44 22 P **P 04 49 35.3 +0.3**
comp=Z,2.2nm,0.4s,baz=336,slow=5.6,SNR=13
comp=Z,2.2nm,0.4s
KPL Plockton 75.46 348 *e*P **P 04 49 39.9 -0.9**
KPL IAmb IAmb 04 49 41.1
comp=Z,11nm,0.7s
OJC Ojcow 75.67 331 IAmb IAmb 04 49 42.3
comp=Z,7.3nm,0.5s
BUR08 Bucovina Ar. S 75.83 326 P **P 04 49 43.1 -0.2**
STHS Stebnicka Huta 75.84 329 *e*P **P 04 49 42.9 -0.3**
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 75.84 329 *e*P **P 04 49 42.9 -0.3**
BURAR Bucovina Array 75.84 326 P **P 04 49 43.1 -0.3**
KOLS Kolonicke sedl 75.87 328 *e*P **P 04 49 43.2 -0.2**
CHVC Chvalec 76.60 333 *e*P **P 04 49 47.3 -0.2**
CHVC Chvalec 76.60 333 *e*P **P 04 49 47.3 -0.2**
STEB Steborice 76.60 332 *e*P **P 04 49 47.5 0.0**
LANS Liptovska Anna 76.69 330 *e*P **P 04 49 48.7 +0.7**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 76.69 330 *e*P **P 04 49 48.7 +0.7**
DPC Dobruska-Polom 76.72 333 *e*P **P 04 49 48.0 -0.2**
DPC Dobruska-Polom 76.72 333 *e*P **P 04 49 48.0 -0.2**
KRLC Kraliky 76.81 332 *e*P **P 04 49 48.3 -0.4**
KRLC Kraliky 76.81 332 *e*P **P 04 49 48.3 -0.4**
MORC Moravsky Berou 76.81 332 IAmb IAmb 04 49 49.4
comp=Z,6.1nm,0.8s
MORC Moravsky Berou 76.81 332 *e*P **P 04 49 48.5 -0.2**
CLL Collm 76.91 335 *i* P **P 04 49 48.4 -0.7**
CLL pmax pmax
comp=Z,11nm,0.5s
CLL Collm 76.91 335 *e*PP PP 04 52 45.0 +3.2
CLL Collm 76.91 335 *i* P **P 04 49 48.4 -0.7**
comp=Z,11nm,0.5s
EKA Eskdalemuir Ar 76.98 346 P **P 04 49 49.1 -0.4**
comp=Z,1.8nm,0.3s,baz=25,slow=5.1,SNR=29
comp=Z,1.8nm,0.3s
BRG Berggiesshubel 77.00 334 P **PKiKP 04 55 31.5 +0.3**
BRG Amp 04 55 37.5
comp=Z,8.6nm,1.1s
ESK Eskdalemuir 77.01 346 *e*P **P 04 49 48.6 -1.0**
ESK IAmb IAmb 04 49 49.5
comp=Z,4.2nm,0.6s
MAUC Maruska 77.07 331 *e*P **P 04 49 50.0 -0.2**
PVCC Panska Ves 77.11 334 *e*P **P 04 49 50.1 -0.2**
PVCC Panska Ves 77.11 334 *e*P **P 04 49 50.1 -0.2**
MLR Muntele Rosu 77.29 324 P **P 04 49 51.2 -0.3**
MLR IAmb IAmb 04 49 52.6
comp=Z,7.7nm,0.6s
MLR Muntele Rosu 77.29 324 P **P 04 49 51.3 -0.3**
MLR pmax pmax
comp=Z,8.0nm,0.6s
HSKC Hora Svate Kat 77.39 334 *e*P **P 04 49 51.7 -0.3**
VRAC Vranov 77.53 332 *e*P **P 04 49 52.7 0.0**
JAVC Velka Javorina 77.56 331 *e*P **P 04 49 53.7 +0.8**
GOPC GO Pecny, Ondr 77.58 333 *e*P **P 04 49 52.7 -0.3**
GOPC GO Pecny, Ondr 77.58 333 *e*P **P 04 49 52.7 -0.3**
PSZ Piszkesteto 77.58 329 IAmb IAmb 04 49 54.0
comp=Z,6.3nm,0.9s
PRU Pruhonice 77.60 333 *e*P **P 04 49 53.0 0.0**
PRU Pruhonice 77.60 333 *e*P **P 04 49 53.0 0.0**
KRUC Moravsky 77.81 332 *e*P **P 04 49 53.6 -0.6**
TREC Trest 77.90 332 *e*P **P 04 49 54.5 -0.3**
TREC Trest 77.90 332 *e*P **P 04 49 54.5 -0.3**
SMOL Smolenice 77.94 331 *e*P **P 04 49 55.6 +0.6**
HPK Haverah Park 78.02 344 *e*P **P 04 49 55.2 -0.1**
HPK IAmb IAmb 04 49 55.9
comp=Z,26nm,0.5s
MODS Modra-Piesok 78.11 331 *e*P **P 04 49 56.6 +0.6**
MODS pmax pmax
comp=Z,20nm,1.0s
MODS Modra-Piesok 78.11 331 *e*P **P 04 49 56.6 +0.6**
ZVC Zvikov 78.19 333 *e*P **P 04 49 56.4 0.0**
SRO Srobarova 78.23 330 *e*P **P 04 49 57.0 +0.4**
SRO pmax pmax
comp=Z,11nm,0.7s
SRO Srobarova 78.23 330 *e*P **P 04 49 57.0 +0.4**
BR131 Keskin Array S 78.44 316 P **P 04 49 58.0 0.0**
BR131 Keskin Array S 78.44 316 P **P 04 49 58.1 0.0**
BR131 pmax pmax
comp=Z,45nm,1.1s
BRTR Keskin Array B 78.44 316 P **P 04 49 57.9 -0.2**
BRTR Keskin Array B 78.44 316 P **P 04 49 57.7 -0.4**
comp=Z,3.8nm,0.8s,baz=89,slow=4.1,SNR=16
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 78.44 316 *i* P **P 04 49 58.2 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
LBWR Ladybower, Pea 78.56 344 *e*P **P 04 49 58.1 -0.3**
LBWR IAmb IAmb 04 49 59.0
comp=Z,16nm,0.6s
KHC Kasperske Hory 78.65 334 *e*P **P 04 49 58.9 -0.1**
KHC Kasperske Hory 78.65 334 *e*P **P 04 49 58.9 -0.1**
TX31 Lajitas Ar. Si 78.67 60 IAmb IAmb 04 50 01.9
comp=Z,6.6nm,1.4s
TXAR Lajitas Array 78.67 60 P **P 04 50 01.0 +1.6**
comp=Z,1.9nm,0.6s,baz=303,slow=4.1,SNR=27
comp=Z,1.9nm,0.6s
CKRC Cesky Krumlov 78.69 333 *e*P **P 04 49 59.0 -0.2**
CKRC Cesky Krumlov 78.69 333 *e*P **P 04 49 59.0 -0.2**
GEC2 GERESS Array S 78.86 333 IAmb IAmb 04 50 00.4
comp=Z,5.4nm,1.0s
GERES GERESS Array B 78.86 333 P **P 04 49 59.8 -0.4**
comp=Z,2.5nm,0.4s,baz=38,slow=5.8,SNR=29
comp=Z,2.5nm,0.4s
GRFO Grafenberg 78.87 335 P **P 04 49 59.9 -0.2**
GRFO Grafenberg 78.87 335 P **P 04 49 59.9 -0.2**
GRFO pmax pmax
comp=Z,13nm,0.7s
CONA Conrad Observa 78.97 332 *i* P **P 04 50 00.9 +0.1**
comp=Z,3.6nm,0.4s
RONA Rosalia, Austr 79.02 331 *i* P **P 04 50 01.3 +0.3**
comp=Z,3.5nm,0.5s
CWF Charnwood Fore 79.11 344 *e*P **P 04 50 00.6 -0.8**
CWF IAmb IAmb 04 50 01.7
comp=Z,4.3nm,0.5s
FOEL Foel Wylfa 79.33 345 *e*P **P 04 50 02.4 -0.1**
FOEL IAmb IAmb 04 50 03.5
comp=Z,14nm,0.9s
BTNL Ternell 79.45 339 *d*P **P 04 50 03.3 0.0**
comp=Z,5.3nm,0.9s
MEM Membach 79.46 339 *d*P **P 04 50 02.5 -0.8**
comp=Z,9.1nm,1.0s
MOA Molln 79.56 333 *i* P **P 04 50 03.7 -0.2**
ILAR Eielson Array 37.77 38 P **P 04 45 13.6 +0.3**
comp=Z,2.9nm,1.2s,baz=260,slow=7.9,SNR=18
ILAR PcP **PcP 04 47 29.5 +0.4**
comp=Z,0.3nm,0.6s,baz=294,slow=3.7,SNR=2.3
comp=Z,2.9nm,1.2s
D25K Kavik River 38.16 30 IAmb IAmb 04 45 17.9
comp=Z,4.4nm,0.6s
GTA Gaotai 38.27 279 *e*P **P 04 45 18.8 +0.8**
GTA pmax pmax
comp=Z,8.0nm,0.7s
L27K Beaver Creek, 40.10 40 P **P 04 45 34.7 +1.9**
E28M Babbage River 40.61 32 IAmb IAmb 04 45 39.2
comp=Z,13nm,1.4s
ZALV Zalesovo Beam 42.44 306 P **P 04 45 49.3 -2.8**
comp=Z,0.5nm,0.5s,baz=56,slow=6.2,SNR=2.3
ZALV PcP **PcP 04 47 44.2 0.0**
comp=Z,1.7nm,0.4s,baz=96,slow=3.0,SNR=11
comp=Z,0.5nm,0.5s
INK Inuvik 42.85 32 P **P 04 45 56.1 +1.0**
INK IAmb IAmb 04 45 56.9
comp=Z,6.0nm,0.7s
INK Inuvik 42.85 32 P **P 04 45 56.2 +1.0**
INK pmax pmax
comp=Z,6.0nm,0.7s
F31M Tsiigehtchic 42.89 33 P **P 04 45 56.5 +1.0**
PZH PanZhiHua 44.05 262 P **P 04 46 06.9 +1.4**
PZH pmax pmax
comp=Z,30nm,1.5s
WMQ Urumqi 44.45 291 *e*P **P 04 46 10.8 +2.3**
A36M Sachs Harbour 45.01 26 IAmb IAmb 04 46 14.7
comp=Z,15nm,0.8s
C36M Paulatuk 46.00 29 P **P 04 46 21.1 +0.7**
MK31 Makanchi Array 46.59 298 P **P 04 46 23.7 -1.7**
MK31 Makanchi Array 46.59 298 *ce*P **P 04 46 24.0 -1.3**
MKAR Makanchi Array 46.59 298 P **P 04 46 23.6 -1.7**
comp=Z,1.8nm,0.6s,baz=73,slow=7.2,SNR=22
comp=Z,1.8nm,0.6s
MKAR Makanchi Array 46.59 298 *i* P **P 04 46 24.2 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 47.14 304 P **P 04 46 27.2 -2.3**
KURK Kurchatov 47.14 304 *de*P **P 04 46 28.0 -1.5**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURBB Kurchatov Arra 47.23 304 P **P 04 46 27.7 -2.5**
comp=Z,2.9nm,0.9s,baz=70,slow=8.4,SNR=11
comp=Z,2.9nm,0.9s
BVAR Borovoye Array 50.76 310 P **P 04 46 54.8 -2.4**
comp=Z,1.7nm,0.6s,baz=54,slow=7.5,SNR=10
BVAR PcP **PcP 04 48 13.7 +0.1**
comp=Z,2.7nm,0.5s,baz=77,slow=4.3,SNR=9.5
comp=Z,1.7nm,0.6s
BRVK Borovoye 50.80 310 P **P 04 46 55.6 -1.9**
BRVK Borovoye 50.80 310⇑ *e*P **P 04 46 56.3 -1.2**
BRVK pmax pmax
comp=Z,22nm,4.4s
YKA Yellowknife Ar 52.13 36 P **P 04 47 08.0 +0.7**
comp=Z,2.4nm,0.7s,baz=297,slow=7.3,SNR=32
YKA PcP **PcP 04 48 19.1 +0.5**
comp=Z,0.8nm,1.0s,baz=309,slow=4.2,SNR=4.2
comp=Z,2.4nm,0.7s
SPITS Spitsbergen Ar 53.32 350 P **P 04 47 14.0 -1.9**
comp=Z,1.3nm,0.4s,baz=55,slow=9.3,SNR=10.0
comp=Z,1.3nm,0.4s
AAK Ala-Archa 53.46 296⇑ *e*P **P 04 47 16.8 -0.8**
AAK pmax pmax
comp=Z,3.0nm,0.9s
ARTI Arti 55.19 317 P **P 04 47 27.9 -1.9**
comp=Z,2.3nm,0.4s,baz=25,slow=5.4,SNR=5.6
ARTI PcP **PcP 04 48 30.2 -0.1**
comp=Z,5.1nm,0.5s,baz=22,slow=2.5,SNR=5.1
comp=Z,2.3nm,0.4s
ARTI Arti 55.19 317 *d i*P **P 04 47 28.6 -1.2**
ARTI 04 48 27.4
ARTI 04 49 31.9
ARTI S **S 04 55 08.9 -0.3**
ARTI SS **SS 04 58 52.8 -0.3**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 55.67 299 IAmb IAmb 04 48 16.5
comp=Z,103nm,1.0s
KKAR Karatay Array 55.67 299 IAmb IAmb 04 48 16.4
comp=Z,66nm,1.0s
ABKAR Akbulak array 58.33 310 P **P 04 47 50.3 -1.8**
ABKAR IAmb IAmb 04 47 52.7
comp=Z,3.6nm,0.7s
ABKAR Akbulak array 58.33 310 P **P 04 47 50.1 -2.0**
ARCES ARCESS Array B 58.40 341 P **P 04 47 51.7 -0.6**
ARCES ARCESS Array B 58.40 341 P **P 04 47 51.1 -1.2**
comp=Z,2.8nm,0.8s,baz=46,slow=6.8,SNR=14
ARCES PcP **PcP 04 48 42.2 -0.4**
comp=Z,1.9nm,0.5s,baz=58,slow=4.0,SNR=6.1
comp=Z,2.8nm,0.8s
L04D Klamath Falls 58.88 60 P **P 04 47 58.2 +1.9**
L04D IAmb IAmb 04 48 14.0
comp=Z,16nm,1.4s
BMO Blue Mountains 60.27 55 P **P 04 48 07.1 +1.3**
BMO Blue Mountains 60.27 55 P **P 04 48 07.1 +1.3**
BMO pmax pmax
comp=Z,4.0nm,1.2s
KLMR Klimovskoe 60.41 329 *e*P **P 04 48 02.3 -4.0**
KLMR pmax pmax
comp=Z,28nm,1.6s
PLID Pearl Lake 60.88 54 P **P 04 48 11.7 +1.7**
PLID IAmb IAmb 04 48 12.7
comp=Z,7.3nm,0.9s
MSO Missoula 60.97 52 P **P 04 48 12.0 +1.4**
MSO IAmb IAmb 04 48 13.3
comp=Z,7.5nm,1.1s
SUMG Summit 61.63 4 P **P 04 48 14.4 -0.5**
SUMG Summit 61.63 4 P **P 04 48 14.4 -0.5**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
PNTR Pine Nut 62.40 61 P **P 04 48 22.2 +1.8**
PNTR IAmb IAmb 04 48 23.8
comp=Z,5.5nm,0.8s
HLID Hailey 62.71 55 IAmb IAmb 04 48 25.9
comp=Z,5.1nm,1.5s
BOZ Bozeman (W) 63.00 52 IAmb IAmb 04 48 26.6
comp=Z,3.4nm,0.7s
NVAR Mina Array Bea 63.60 61 P **P 04 48 30.5 +2.2**
comp=Z,2.8nm,0.7s,baz=288,slow=6.3,SNR=18
comp=Z,2.8nm,0.7s
FINES FINESS Array B 64.47 334 P **P 04 48 31.7 -1.6**
comp=Z,4.9nm,0.6s,baz=59,slow=5.1,SNR=44
FINES PcP **PcP 04 49 06.7 -0.5**
comp=Z,2.0nm,0.4s,baz=66,slow=4.4,SNR=6.0
comp=Z,4.9nm,0.6s
FINES FINESS Array B 64.47 334 *i* P **P 04 48 31.5 -1.8**
FINES pmax pmax
comp=Z,5.0nm,0.6s
DSP Deep Springs 64.47 62 IAmb IAmb 04 48 37.5
comp=Z,5.1nm,1.0s
RLMT Red Lodge 64.58 51 IAmb IAmb 04 48 38.6
comp=Z,4.0nm,0.9s
MOOW Moose Ponds 64.66 53 IAmb IAmb 04 48 38.2
comp=Z,2.6nm,0.7s
TPAW Teton Pass 64.71 53 IAmb IAmb 04 48 38.2
comp=Z,6.8nm,0.8s
HVU Hansel Valley 64.77 55 IAmb IAmb 04 48 39.0
comp=Z,3.3nm,0.8s
HWUT Hardware Ranch 65.57 55 IAmb IAmb 04 48 44.9
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 65.77 57 IAmb IAmb 04 48 45.5
comp=Z,4.1nm,0.8s
TPNV Topopah Spring 65.80 61 IAmb IAmb 04 48 45.8
comp=Z,4.0nm,0.9s
PD31 Pinedale Array 65.95 53 IAmb IAmb 04 48 46.1
comp=Z,3.8nm,0.9s
PDAR Pinedale Array 65.95 53 P **P 04 48 45.2 +1.6**
comp=Z,2.8nm,0.8s,baz=289,slow=1.5,SNR=29
comp=Z,2.8nm,0.8s
BSUT Blindstream Ca 66.73 55 IAmb IAmb 04 48 51.8
comp=Z,3.4nm,1.0s
RDMU Red Mountain 67.39 55 P **P 04 48 54.5 +1.7**
WRA Warramunga Arr 67.41 198 P **P 04 48 54.3 +1.6**
comp=Z,3.5nm,0.8s,baz=23,slow=5.7,SNR=0.8
comp=Z,3.5nm,0.8s
LCMT Little Creek M 67.58 60 IAmb IAmb 04 48 57.3
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 67.74 40 P **P 04 48 54.6 +0.1**
comp=Z,1.9nm,0.5s,baz=303,slow=4.9,SNR=4.8
comp=Z,1.9nm,0.5s
NB2 NORSAR Subarra 68.78 341 P **P 04 48 59.5 -1.4**
comp=Z,2.5nm,0.4s,baz=29,slow=6.5
NOA NORSAR Array B 68.78 341 P **P 04 48 59.6 -1.3**
comp=Z,1.7nm,0.4s,baz=29,slow=6.5,SNR=40

comp=Z,2.6nm,0.7s
BSTI Sart Tilman 79.59 339 *d*P **P 04 50 04.1 0.0**
comp=Z,3.7nm,0.4s
ARSA Arzberg 79.67 331 *i* P **P 04 50 04.1 -0.5**
comp=Z,2.0nm,0.5s
BHOU Houvegnez 79.70 339 *d*P **P 04 50 04.2 -0.4**
comp=Z,4.8nm,0.7s
BCLA Clavier 79.81 339 *d*P **P 04 50 04.9 -0.3**
comp=Z,5.8nm,1.0s
BGES Gesves 79.90 339 *d*P **P 04 50 05.3 -0.4**
comp=Z,4.7nm,0.9s
BIOA Bad Ischl, Aus 79.90 333 *i* P **P 04 50 05.8 0.0**
comp=Z,2.1nm,0.4s
BMRD Maredsous 80.05 339 *d*P **P 04 50 06.0 -0.5**
comp=Z,7.9nm,1.0s
RCHB Rochefort 80.07 339 *d*P **P 04 50 06.0 -0.6**
comp=Z,3.8nm,1.0s
FCAR Ozark Folk Cen 80.27 48 P **P 04 50 08.1 +0.1**
FCAR IAmb IAmb 04 50 08.9
comp=Z,6.3nm,0.8s
SIUC Southern Illin 80.32 45 P **P 04 50 08.6 +0.4**
SIUC IAmb IAmb 04 50 09.7
comp=Z,8.0nm,0.9s
SOKA Soboth 80.33 331 *e*P **P 04 50 07.8 -0.5**
comp=Z,4.4nm,0.6s,SNR=5.5
GROS Grobnik 80.37 331 *i* P **P 04 50 07.7 -0.7**
DRIO Del Rio 80.42 58 IAmb IAmb 04 50 10.9
comp=Z,3.9nm,0.9s
LESA Schwarzleotal 80.44 333 *i* P **P 04 50 08.7 -0.1**
comp=Z,7.2nm,0.6s
PBMO Poplar Bluff 80.45 46 IAmb IAmb 04 50 10.4
comp=Z,5.4nm,0.8s
KBA Koelnbreinsper 80.54 333 *e*P **P 04 50 09.5 +0.1**
comp=Z,8.5nm,0.5s,SNR=8.1
OBKA Obir 80.64 332 *i* P **P 04 50 09.1 -0.8**
comp=Z,3.4nm,0.9s
MYKA Terra Mystica 80.84 332 *i* P **P 04 50 10.1 -0.8**
comp=Z,2.1nm,0.5s
WATA Walderalm 80.86 334 *e*P **P 04 50 11.0 -0.1**
comp=Z,9.9nm,0.5s,SNR=8.6
WTTA Wattenberg 80.91 334 *e*P **P 04 50 11.5 +0.1**
comp=Z,15nm,0.5s,SNR=9.8
BFO Black Forest 80.92 336 P **P 04 50 10.8 -0.5**
BFO IAmb IAmb 04 50 11.8
comp=Z,8.6nm,1.0s
BFO Black Forest 80.92 336 P **P 04 50 10.8 -0.5**
BFO pmax pmax
comp=Z,9.0nm,1.0s
RETA Reutte 80.97 334 *i* P **P 04 50 11.4 -0.2**
comp=Z,5.7nm,0.7s
MOTA Moosalm 81.00 334 *e*P **P 04 50 11.6 -0.2**
comp=Z,7.9nm,0.6s
PRED Cave del Predi 81.03 332 IAmb IAmb 04 50 11.4
comp=Z,5.5nm,0.6s
SQTA Sankt Quirin 81.08 334 *i* P **P 04 50 12.1 -0.1**
comp=Z,7.8nm,0.8s
ABTA Abfaltersbach 81.09 333 *i* P **P 04 50 11.8 -0.5**
comp=Z,6.7nm,1.2s
ECH Echery 81.35 337 IAmb IAmb 04 50 13.8
comp=Z,7.6nm,0.8s
FETA Feichten 81.40 334 *i* P **P 04 50 13.5 -0.5**
comp=Z,2.1nm,0.8s
DAVA Damuels 81.42 335 *i* P **P 04 50 13.8 -0.2**
comp=Z,4.7nm,1.0s
FUORN Ofenpass-Fuorn 81.90 334 IAmb IAmb 04 50 17.8
comp=Z,8.6nm,1.1s
CTI Castel Tesino 81.99 333 IAmb IAmb 04 50 16.5
comp=Z,6.3nm,1.1s
TUE Stuetta 82.31 335 IAmb IAmb 04 50 19.6
comp=Z,7.6nm,0.8s
MMAI Mount Meron Ar 82.75 311 P **P 04 50 21.6 +0.4**
comp=Z,6.5nm,0.6s,baz=44,slow=7.3,SNR=17
comp=Z,6.5nm,0.6s
FNA Florina 83.05 324 IAmb IAmb 04 50 22.5
comp=Z,5.8nm,0.8s
SWET Sewanee 83.91 44 IAmb IAmb 04 50 27.7
comp=Z,4.9nm,0.7s
BNI Bardonecchia 84.38 336 IAmb IAmb 04 50 30.8
comp=Z,3.0nm,0.7s
SSB Saint Sauveur 84.76 338 IAmb IAmb 04 50 32.4
comp=Z,11nm,1.0s
KEST Kesra 92.02 330 P **P 04 51 05.8 -0.3**
comp=Z,1.9nm,0.8s,baz=333,slow=8.0,SNR=3.5
comp=Z,1.9nm,0.8s
ESDC Sonseca Array 92.12 342 P **P 04 51 04.9 -1.6**
comp=Z,0.4nm,0.6s,baz=0.7,slow=4.7,SNR=4.9
comp=Z,0.4nm,0.6s
LPAZ La Paz 135.50 62 PKP **PKiKP 04 57 19.4 -0.1**
comp=Z,0.9nm,0.6s,baz=18,slow=5.7,SNR=4.2
H03N2 Juan Fernandez 139.60 90 T T 07 33 08.2
baz=307,slow=77,SNR=125
H03N1 Juan Fernandez 139.61 90 T T 07 33 10.7
baz=307,slow=77,SNR=213
H03N3 Juan Fernandez 139.61 90 T T 07 33 17.7
baz=307,slow=77,SNR=177
ELIB Princess Elisa 144.64 205 *d*PKPdf **PKPdf 04 57 32.7 +0.4**
PLCA Paso Flores 148.97 96 PKPbc **PKiKP 04 57 46.0 +0.2**
comp=Z,11nm,0.9s,baz=314,slow=3.5,SNR=1.0
SNAA Sanae 151.47 196 PKPbc **PKiKP 04 57 50.4 +0.3**
comp=Z,3.3nm,0.5s,baz=264,slow=3.0,SNR=15

ROM 24 04:47:27.5±0.0, 43°.095N±0°.002×12°.748E±0°.003,
h11km, ML0.5/9, Error ellipse: s-maj=0.2km
s-min=0.2km az=208.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASSB	**Assisi San Ben**	**0.08**	**231**	P	Pg	04 47 30.4	+0.4
ASSB				S	Sg	04 47 32.2	+0.2
ASSB				AML	AML		
	comp=E,487μm,0.3s						
ASSB				AML	AML		
	comp=N,926μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.12**	**319**	P	Pg	04 47 31.2	+0.6
ATCC				S	Sg	04 47 33.6	+0.8
ATCC				AML	AML		
	comp=E,337μm,0.1s						
ATCC				AML	AML		
	comp=N,254μm,0.2s						
FOPC	**Foligno Prot C**	**0.13**	**195**	P	Pg	04 47 31.2	+0.6
CESI	**CESI - Serrava**	**0.15**	**128**	P	Pg	04 47 31.6	+0.6
CESI				S	Sg	04 47 34.1	+0.8
CESI				AML	AML		
	comp=N,18μm,0.3s						
SEF1	**Sefro**	**0.15**	**70**	P	Pg	04 47 31.6	+0.6
MML1	**Montelago di S**	**0.17**	**83**	P	Pg	04 47 31.8	+0.5
MML1				S	Sg	04 47 34.9	+1.0
FOSV	**Fossato di Vic**	**0.20**	**3**	P	Pg	04 47 32.4	+0.5
FOSV				S	Sg	04 47 36.0	+1.2
FOSV				AML	AML		
	comp=N,25μm,0.9s						
FOSV				AML	AML		
	comp=E,26μm,0.6s						
FOSV				AML	AML		
	comp=E,26μm,1.4s						
FOSV				AML	AML		
	comp=N,14μm,0.2s						
FOSV				AML	AML		
	comp=N,25μm,0.9s						
MTCL	**Monte Cavallo**	**0.21**	**119**	P	Pg	04 47 32.7	+0.7
SNTG	**Esanatoglia**	**0.21**	**41**	P	Pg	04 47 32.6	+0.5
SNTG				S	Sg	04 47 36.3	+1.1
MURB	**Monte Urbino**	**0.23**	**316**	P	Pg	04 47 33.1	+0.6
MURB				AML	AML		
	comp=N,72μm,0.2s						
MURB				AML	AML		
	comp=E,78μm,0.1s						
MURB				AML	AML		
	comp=N,72μm,1.8s						
FDMO	**Fiordimonte**	**0.26**	**103**	P	Pg	04 47 33.5	+0.7
FDMO				S	Sg	04 47 37.5	+1.1
FDMO				AML	AML		
	comp=E,12μm,0.2s						
FDMO				AML	AML		
	comp=N,12μm,0.2s						
MOMA	**Monte Martano**	**0.32**	**204**	P	Pg	04 47 34.3	+0.3
MOMA				S	Sb	04 47 39.8	-0.8
MOMA				AML	AML		
	comp=N,10μm,0.1s						
SSFR	**Montelago di S**	**0.34**	**4**	P	Pg	04 47 34.7	+0.3
SSFR				S	Sb	04 47 40.3	-1.0
EL6	**Elcito**	**0.35**	**48**	P	Pg	04 47 35.0	+0.4
EL6				S	Sb	04 47 40.7	-0.8
ATVO	**AVT- Monte Val**	**0.38**	**319**	P	Pg	04 47 35.3	+0.2
FRON	**Frontone**	**0.42**	**358**	P	Pg	04 47 35.9	0.0
PIEI	**Pieia**	**0.47**	**341**	P	Pg	04 47 37.0	+0.2
PIEI				AML	AML		
	comp=E,18μm,1.2s						
PIEI				AML	AML		
	comp=N,14μm,1.6s						
PIEI				AML	AML		
	comp=E,18μm,0.8s						
PIEI				AML	AML		
	comp=N,14μm,0.4s						
NARO	**Abbazia di Nar**	**0.53**	**347**	P	Pg	04 47 38.1	+0.2

*VAO **24** 04:48:12.5±0.8, 22°.74S×69°.40W, h116km, mb4.5*
*SJA **24** 04:48:15.0±0.8, 22°.86S×68°.63W, h98km±7km, ML4.4, MW4.2*
*NEIC **24** 04:48:16.6±2.3, 22°.84S±0°.05×68°.88W±0°.06, h113km±9km, mb4.6/9, Error ellipse: s-maj=8.9km s-min=6.5km az=50.0*
*GUC **24** 04:48:18.5±0.6, 22°.79S×68°.86W, h105km±2km, ML4.4*
*IDC **24** 04:48:18.4±2.9, 22°.77S×68°.57W, h104km±25km, mb4.2/4, mbtmp4.2/8, Error ellipse: s-maj=33.5km s-min=21.9km az=112.0*

ISC 24 04:48:16.7±0.6, 22°.82S±0°.03×68°.75W±0°.04, h112km±5km,
n120, σ2°.09/131, mb4.5/4, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.54**	**104**		**Pn**	**04 48 35.6**	**+1.2**
AF01				Sn	**Sn**	**04 48 49.5**	**+1.8**
AF01	**San Pedro de A**	**0.54**	**104**	*e*P	**Pn**	**04 48 35.9**	**+1.4**
AF01				*e*S	**Sn**	**04 48 49.5**	**+1.8**
AF01	**San Pedro de A**	**0.54**	**104**	*e*P	**Pn**	**04 48 30.8**	**-3.6**
AF01				IAML		04 49 06.6	
	comp=Z,20μm,0.6s						
PB06	**IPOC Station P**	**0.77**	**278**	⇑*i*P	**Pn**	**04 48 35.7**	**-0.4**
PB06				*e*S	**Sn**	**04 48 49.4**	**-1.2**
PB06				IAML		04 48 49.9	
	comp=E,16μm,0.1s						
PB06	**IPOC Station P**	**0.77**	**278**	*e*P	**Pn**	**04 48 35.6**	**-0.5**
PB06				*e*S	**Sn**	**04 48 49.9**	**-0.6**
PB06				IAML		04 48 50.9	
	comp=Z,8μm,0.3s						
PB09	**IPOC Station P**	**1.12**	**336**		**Pn**	**04 48 40.2**	**+0.6**
PB09				Sn	**Sn**	**04 48 56.2**	**-0.4**
PB09	**IPOC Station P**	**1.12**	**336**	⇑*e*P	**Pn**	**04 48 40.1**	**+0.6**
PB09				*e*S	**Sn**	**04 48 56.5**	**-0.1**
PB09				IAML		04 48 58.2	
	comp=N,8μm,0.2s						
PB09	**IPOC Station P**	**1.12**	**336**	*e*P	**Pn**	**04 48 39.5**	**0.0**
PB09				IAML		04 48 58.1	
	comp=Z,6μm,0.5s						
PB05	**IPOC Station P**	**1.34**	**268**	Pn	**Pn**	**04 48 41.4**	**-0.5**
PB05	**IPOC Station P**	**1.34**	**268**	⇑*i*P	**Pn**	**04 48 41.4**	**-0.5**
PB05				*i* S	**Sn**	**04 48 59.3**	**-1.7**
PB05	**IPOC Station P**	**1.34**	**268**	*e*P	**Pn**	**04 48 41.4**	**-0.5**
PB01	**IPOC Station P**	**1.90**	**339**		**Pn**	**04 48 48.9**	**+0.2**
PB01	**IPOC Station P**	**1.90**	**339**	*e*P	**Pn**	**04 48 48.8**	**+0.2**
PB01				*e*S	**Sn**	**04 49 12.2**	**-0.7**
PB01				IAML		04 49 13.6	
	comp=E,8μm,0.3s						
PB01	**IPOC Station P**	**1.90**	**339**	*e*P	**Pn**	**04 48 48.9**	**+0.2**
PB01				*e*S	**Sn**	**04 49 12.9**	**0.0**
PB01				IAML		04 49 13.3	
	comp=Z,3μm,0.4s						
PB14	**IPOC Station P**	**2.35**	**220**	Pn	**Pn**	**04 48 54.4**	**-0.2**
PB14	**IPOC Station P**	**2.35**	**220**	*e*P	**Pn**	**04 48 54.4**	**-0.2**
PB14	**IPOC Station P**	**2.35**	**220**	*e*P	**Pn**	**04 48 54.3**	**-0.2**
PB14				*e*S	**Sn**	**04 49 19.3**	**-4.3**
PB14				IAML		04 49 23.9	
	comp=Z,2μm,0.3s						
PATCX	**Punta Patache**	**2.38**	**327**		**Pn**	**04 48 53.9**	**-0.8**
PATCX	**Punta Patache**	**2.38**	**327**	*e*P	**Pn**	**04 48 54.1**	**-0.7**
PATCX				*e*S	**Sn**	**04 49 29.4**	**+5.5**
PATCX				IAML		04 49 31.6	
	comp=Z,990nm,0.4s						
GO02	**Mina Guanaco**	**2.46**	**198**	Pn	**Pn**	**04 48 56.6**	**+0.7**
GO02	**Mina Guanaco**	**2.46**	**198**	*e*P	**Pn**	**04 48 56.7**	**+0.7**
GO02				IAML		04 49 31.0	
	comp=N,2μm,0.3s						
GO02	**Mina Guanaco**	**2.46**	**198**	*e*P	**Pn**	**04 48 56.8**	**+0.7**
GO02				*e*S	**Sn**	**04 49 27.4**	**+1.4**
TA01	**Diego Aracena**	**2.61**	**329**	Pn	**Pn**	**04 48 56.5**	**-1.1**
TA01	**Diego Aracena**	**2.61**	**329**	⇑*e*P	**Pn**	**04 48 56.6**	**-1.1**
TA01				IAML		04 49 40.1	
	comp=N,909nm,0.2s						
TA01	**Diego Aracena**	**2.61**	**329**	*e*P	**Pn**	**04 48 56.6**	**-1.1**
TA01				*e*S	**Sn**	**04 49 23.4**	**-5.7**
TA01				IAML		04 49 34.9	
	comp=Z,932nm,0.3s						
SALTA		**2.62**	**123**	*e*P	**Pn**	**04 48 56.6**	**-1.6**
SALTA				*e*S	**Sn**	**04 49 25.6**	**-4.4**
PB08	**IPOC Station P**	**2.69**	**352**		**Pn**	**04 48 59.8**	**+0.7**
PB08	**IPOC Station P**	**2.69**	**352**	*e*P	**Pn**	**04 48 59.8**	**+0.7**
PB08	**IPOC Station P**	**2.69**	**352**	*e*P	**Pn**	**04 48 59.2**	**+0.1**
PB08				*e*S	**Sn**	**04 49 27.0**	**-4.7**
HMBC	**Humberstone**	**2.74**	**337**		**Pn**	**04 48 58.6**	**-0.9**
HMBC	**Humberstone**	**2.74**	**337**	*e*P	**Pn**	**04 48 58.6**	**-0.9**
HMBC				*e*S	**Sn**	**04 49 26.4**	**-6.0**
HMBC				IAML		04 49 56.6	
	comp=Z,1μm,0.7s						
TA02	**Huaiquique**	**2.84**	**333**		**Pn**	**04 48 59.7**	**-1.1**
TA02	**Huaiquique**	**2.84**	**333**	*e*P	**Pn**	**04 48 59.6**	**-1.1**
TA02				*e*S	**Sn**	**04 49 28.3**	**-6.3**
TA02				IAML		04 49 54.1	
	comp=Z,781nm,0.6s						
YJA	**Yavi**	**3.06**	**79**	*e*P	**Pn**	**04 49 03.0**	**-1.0**
PB11	**IPOC Station P**	**3.16**	**344**	Pn	**Pn**	**04 49 04.4**	**-0.6**
PB11	**IPOC Station P**	**3.16**	**344**	*e*P	**Pn**	**04 49 04.5**	**-0.6**
PB11	**IPOC Station P**	**3.16**	**344**	*e*P	**Pn**	**04 49 04.3**	**-0.6**
PB11				*e*S	Sn	04 49 33.0	-9.3
PB11				IAML		04 49 35.7	
	comp=Z,711nm,0.4s						
SLA	**San Lorenzo**	**3.52**	**123**	*e*P	**Pn**	**04 49 09.5**	**-0.4**
SLA				*e*S	**Sn**	**04 49 49.2**	**-1.8**
AC01	**Pan de Azucar**	**3.72**	**207**	Pn	**Pn**	**04 49 11.3**	**-1.0**
AC01	**Pan de Azucar**	**3.72**	**207**	*e*P	**Pn**	**04 49 10.6**	**-1.7**
AC01				*e*S	**Sn**	**04 49 52.8**	**-2.6**
AC01				IAML		04 49 53.8	
	comp=Z,382nm,0.3s						
AC02	**Maricunga**	**4.01**	**185**	Pn	**Pn**	**04 49 18.0**	**+1.3**
AC02	**Maricunga**	**4.01**	**185**	*e*P	**Pn**	**04 49 18.1**	**+1.3**
FSA	**Cafayete**	**4.14**	**143**	*e*P	Pn	04 49 05.8	-12
PB12	**IPOC Station P**	**4.44**	**340**		**Pn**	**04 49 20.1**	**-2.0**
AC06	**Mina Casimiro**	**4.75**	**198**		**Pn**	**04 49 24.6**	**-1.6**
GO03	**Copiapo**	**4.94**	**195**		**Pn**	**04 49 27.6**	**-1.2**
GO03	**Copiapo**	**4.94**	**195**	*e*P	**Pn**	**04 49 27.2**	**-1.6**
GO03				*e*S	**Sn**	**04 50 24.1**	**-0.8**
AC04	**Llanos de Chal**	**5.76**	**201**		**Pn**	**04 49 36.6**	**-3.2**
AC05	**El Transito**	**6.15**	**193**		**Pn**	**04 49 43.9**	**-1.3**
LCO	**Las Campanas**	**6.41**	**195**		**Pn**	**04 49 46.2**	**-2.7**
LPAZ	**La Paz**	**6.52**	**5**		**Pn**	**04 49 52.8**	**+2.0**
LPAZ	**La Paz**	**6.52**	**5**	P	**Pn**	**04 49 52.7**	**+1.9**
	comp=Z,3.2nm,0.5s,baz=191,slow=5.8,SNR=21						
LPAZ	**La Paz**	**6.52**	**5**	*e*P	**Pn**	**04 49 46.4**	**-4.4**
CFA	**Coronel Fontan**	**8.76**	**177**	P	Pn	04 50 13.3	-7.3
	comp=Z,1.2nm,0.4s,baz=218,slow=20,SNR=9.7						
CFA				S	**Sn**	**04 51 50.3**	**-7.3**
	comp=Z,5.0nm,0.3s,baz=216,slow=21,SNR=6.2						
SIV	**San Ignacio**	**9.93**	**48**	P	**Pn**	**04 50 34.7**	**-1.7**
	comp=Z,6.5nm,0.4s,baz=240,slow=11,SNR=16						
SIV				S	**Sn**	**04 52 18.2**	**-7.8**
	comp=Z,4.7nm,0.4s,baz=138,slow=23,SNR=8.7						
MURT	**Porto Murtinho**	**10.38**	**86**	*e*P	**Pn**	**04 50 42.3**	**-0.2**
CPUP	**Villa Florida**	**10.96**	**111**		**Pn**	**04 50 50.9**	**+0.6**
CPUP	**Villa Florida**	**10.96**	**111**	P	**Pn**	**04 50 50.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=288,slow=10,SNR=7.6						
BDQN	**Bodoquena, MS**	**11.41**	**80**	*e*P	**Pn**	**04 50 59.0**	**+2.6**
PTLB	**Pontes e Lacer**	**11.67**	**53**		**Pn**	**04 50 59.6**	**-0.2**
PTLB	**Pontes e Lacer**	**11.67**	**53**	*e*P	**Pn**	**04 51 00.7**	**+0.9**
AQDB	**Aquidauana**	**12.36**	**82**		**Pn**	**04 51 12.1**	**+3.2**
AQDB	**Aquidauana**	**12.36**	**82**	*e*P	**Pn**	**04 51 12.2**	**+3.3**
AMBA	**Amambai (Brazi**	**12.69**	**93**	*e*P	**P**	**04 51 18.2**	**-1.8**
VILB	**Vilhena**	**12.74**	**41**	*e*P	**Pn**	**04 51 13.0**	**-0.9**
H03N1	**Juan Fernandez**	**13.86**	**218**	T	T	05 03 49.4	
	baz=43,slow=72,SNR=9.1						
H03N2	**Juan Fernandez**	**13.87**	**218**	T	T	05 03 48.5	
	baz=43,slow=72,SNR=9.4						
H03N3	**Juan Fernandez**	**13.88**	**218**	T	T	05 03 45.4	
	baz=43,slow=72,SNR=21						
BI02	**San Fabin de**	**13.97**	**188**		**Pn**	**04 51 30.1**	**+0.3**
SALV	**Santo Antonio**	**14.11**	**63**	*e*P	**Pn**	**04 51 33.5**	**+1.9**
C2SB	**Chapadao do Su**	**15.41**	**78**	*e*P	**P**	**04 51 51.8**	**+1.5**
CPSB	**Cacapava Do Su**	**15.63**	**122**	*e*P	**P**	**04 51 54.0**	**+1.4**
ITAB	**Concordia**	**15.69**	**110**	P	**Pn**	**04 51 52.5**	**+0.9**
ITAB				IAmb	IAmb	04 51 56.0	
	comp=Z,33nm,0.8s						
ITAB	**Concordia**	**15.69**	**110**	*e*P	**P**	**04 51 55.3**	**+2.0**
PDRB	**Porto dos Gac**	**15.99**	**48**	*e*P	**P**	**04 51 57.7**	**+1.0**
PLTB	**Pedras Altas**	**16.13**	**127**	Pn	**Pn**	**04 51 56.5**	**-0.5**
PLTB	**Pedras Altas**	**16.13**	**127**	*e*P	**P**	**04 51 59.0**	**+0.9**
LDASE	**Londrina, Braz**	**16.23**	**95**	*e*P	**P**	**04 52 01.9**	**+2.4**
CLDB	**Colider**	**17.15**	**48**	*e*P	**Pn**	**04 52 11.0**	**+1.4**
ITRB	**Iturama**	**17.42**	**83**	*e*P	**Pn**	**04 52 14.8**	**+1.9**
ARAG	**Araguaiana, MT**	**17.48**	**69**	*e*P	**Pn**	**04 52 15.4**	**+1.8**
FRTB	**Fartura**	**17.66**	**95**	*e*P	**Pn**	**04 52 17.4**	**+1.6**
PLCA	**Paso Flores**	**17.93**	**184**	P	**Pn**	**04 52 20.4**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=14,slow=11,SNR=14						
MAJ01	**Sao Joao Batis**	**18.44**	**108**	*e*P	**P**	**04 52 24.5**	**+0.8**
TER01	**Tubaro-SC**	**18.57**	**112**	*e*P	**Pn**	**04 52 26.4**	**-0.1**
BB19B	**Bebedouro**	**18.84**	**89**	*e*P	**Pn**	**04 52 29.5**	**-0.4**
TEFE	**Tefe**	**19.61**	**12**	*e*P	**P**	**04 52 32.7**	**-3.6**
SPB	**Sao Paulo**	**19.61**	**96**	IAmb	IAmb	04 52 39.3	
	comp=Z,26nm,0.8s						
SPB	**Sao Paulo**	**19.61**	**96**	*e*P	**Pn**	**04 52 38.4**	**-0.4**
LL01	**San Ignacio de**	**19.74**	**188**	P	**Pn**	**04 52 39.5**	**-0.6**
LL06	**Loncomilla**	**19.77**	**191**	P	**P**	**04 52 36.2**	**-1.6**
LL06				IAmb	IAmb	04 52 40.3	
	comp=Z,32nm,0.9s						
SNDB	**Serra Nova Dou**	**19.82**	**60**	*e*P	**P**	**04 52 38.2**	**-0.5**
IPMB	**Ipameri, GO**	**19.84**	**80**	*e*P	**Pn**	**04 52 41.1**	**-0.5**
VAO	**Valinhos**	**20.07**	**95**	P	**P**	**04 52 41.5**	**+0.1**
VAO	**Valinhos**	**20.07**	**95**	*e*P	**P**	**04 52 42.5**	**+1.1**
NPGB	**Novo Progresso**	**20.30**	**41**	*e*P	**P**	**04 52 43.9**	**0.0**
GO07	**Milladeo Hill,**	**20.65**	**190**	P	**P**	**04 52 47.7**	**+0.3**
BDFB	**Brasilia**	**20.83**	**74**	P	**P**	**04 52 50.2**	**+0.5**
BDFB				IAmb	IAmb	04 52 51.8	
	comp=Z,9.1nm,0.6s						
BDFB	**Brasilia**	**20.83**	**74**	P	**P**	**04 52 50.5**	**+0.9**
	comp=Z,6.4nm,0.4s,baz=259,slow=11,SNR=31						
	comp=Z,6.4nm,0.4s						
MACA	**Manacapuru-AM**	**21.05**	**23**	P	**P**	**04 52 52.3**	**+0.4**
MACA				IAmb	IAmb	04 52 56.6	
	comp=Z,44nm,1.3s						
DIAM	**Diamantina, MG**	**23.90**	**84**	*e*P	**P**	**04 53 21.4**	**+1.0**
JANB	**Januaria**	**24.35**	**76**	*e*P	**P**	**04 53 24.7**	**+0.3**
DUB01	**Friburgo-RJ**	**24.38**	**93**	*e*P	**P**	**04 53 25.1**	**+0.5**
SDBA	**SAO DESIDERIO**	**24.94**	**70**	*e*P	**P**	**04 53 29.9**	**+0.1**
RIB01	**Linhares ES**	**26.67**	**88**	*e*P	**P**	**04 53 46.2**	**+0.8**
GUA01	**Guaratinga, BA**	**27.92**	**82**	*e*P	**P**	**04 53 57.3**	**+0.7**
NBPB	**Pedra_Branca-C**	**32.97**	**63**	*e*P	**P**	**04 54 40.2**	**-1.0**
QSPA	**South Pole Qui**	**67.38**	**180**	P	**P**	**04 59 03.1**	**+3.3**
	comp=Z,3.2nm,0.6s,baz=265,slow=0.9,SNR=12						
	comp=Z,3.2nm,0.6s						
DBIC	**Dimbokro**	**68.97**	**73**	P	**P**	**04 59 12.3**	**+1.9**
	comp=Z,7.9nm,0.9s,baz=247,slow=7.7,SNR=2.1						
	comp=Z,7.9nm,0.9s						
SYO	**Syowa Base**	**75.22**	**159**	⇓*e*P	**P**	**04 59 46.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.66**	**70**	P	**P**	**05 00 03.3**	**+1.9**
	comp=Z,1.8nm,0.3s,baz=260,slow=5.2,SNR=17						
	comp=Z,1.8nm,0.3s						
H11S2	**WAKE ISLAND Hyl**	**28.18**	**276**	T	T	07 27 29.4	
	baz=90,slow=77,SNR=30						
H11S1	**WAKE ISLAND Hyl**	**28.19**	**276**	T	T	07 27 31.0	
	baz=90,slow=77,SNR=16						
H11S3	**WAKE ISLAND Hyl**	**28.19**	**276**	T	T	07 27 00.6	
	baz=90,slow=77,SNR=70						
H11N3	**WAKE ISLAND Hyl**	**28.29**	**278**	T	T	07 27 40.3	
	baz=104,slow=74,SNR=6.5						
H11N2	**WAKE ISLAND Hyl**	**28.31**	**278**	T	T	07 27 43.3	
	baz=104,slow=74,SNR=6.8						
H11N1	**WAKE ISLAND Hyl**	**28.31**	**278**	T	T	07 27 43.4	
	baz=104						
ASAR	**Alice Springs**	**128.81**	**207**	PKP	**PKiKP**	**05 07 14.1**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=128,slow=4.0,SNR=1.7						
WRA	**Warramunga Arr**	**131.89**	**210**	PKP	**PKiKP**	**05 07 19.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=133,slow=1.7,SNR=1.5						
MKAR	**Makanchi Array**	**146.60**	**37**	PKPbc	**PKPbc**	**05 07 45.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=283,slow=2.2,SNR=2.4						
MKAR				pPKPbc	**pPKPdf**	**05 08 14.0**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=311,slow=3.7,SNR=2.1						

ROM 24 04:49:16.9±0.0, 42°.862N±0°.003×13°.201E±0°.004,
h11km, ML0.8/4, Error ellipse: s-maj=0.3km
s-min=0.2km az=229.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05**	**352**	P	Pg	04 49 19.6	+0.2
MC2				S	Sg	04 49 21.3	+0.1
NRCA	**Norcia**	**0.07**	**246**	P	Pg	04 49 19.7	+0.4
NRCA				S	Sg	04 49 21.5	+0.3
NRCA				AML	AML		
	comp=E,663μm,0.1s						
NRCA				AML	AML		
	comp=N,315μm,0.8s						
NRCA				AML	AML		
	comp=N,315μm,1.2s						
MMO1	**Montemonaco**	**0.10**	**68**	P	Pg	04 49 20.0	+0.3
MMO1				S	Sg	04 49 22.0	+0.2
FEMA	**Monte Fema**	**0.15**	**312**	P	Pg	04 49 20.9	+0.4
FEMA				S	Sg	04 49 23.8	+0.8
MTRA	**Matera**	**0.18**	**126**	P	Pg	04 49 22.4	+0.3
MTRA				S	Sg	04 49 24.3	+0.7
MTRA				AML	AML		
	comp=E,41μm,1.1s						
MTRA				AML	AML		
	comp=N,34μm,0.2s						
MTRA				AML	AML		
	comp=E,41μm,0.9s						
FDMO	**Fiordimonte**	**0.19**	**335**	P	Pg	04 49 21.5	+0.4
FDMO				S	Sg	04 49 24.9	+0.9
MTCL	**Monte Cavallo**	**0.20**	**312**	P	Pg	04 49 21.6	+0.4
MTCL				S	Sg	04 49 24.9	+0.7
GUMA	**Gualdo di Mace**	**0.22**	**26**	P	Pb	04 49 22.4	-0.6
GUM

TKM2 ⇓S **Sn** **05 03 57.6 +3.9**
2.3nm,0.7s
MKAR Makanchi Array 12.65 32 P **Pn** **05 03 58.1 +2.5**
0.9nm,0.8s,baz=218,slow=13,SNR=6.7
KURBB Kurchatov Arra 14.79 15 P **P** **05 04 26.8 -1.8**
0.9nm,0.7s,baz=206,slow=11,SNR=6.7
BVAR Borovoye Array 16.60 356 P **P** **05 04 48.1 -0.4**
2.5nm,0.5s,baz=158,slow=11,SNR=11
ZALV Zalesovo Beam 19.47 22 P **P** **05 05 19.1 -0.9**
1.9nm,0.6s,baz=217,slow=9.9,SNR=8.1
AKASG Malin Array Be 33.85 309 P **P** **05 07 35.0 +0.1**
0.4nm,0.6s,baz=111,slow=10,SNR=1.8
0.4nm,0.6s
NJ2 Nanjing 38.33 83 *e*P **P** **05 08 10.3 -3.0**
NJ2 pmax pmax
comp=Z,13nm,0.6s
ARCES ARCESS Array B 41.60 337 P **P** **05 08 40.4 +0.4**
comp=Z,0.8nm,0.4s,baz=116,slow=8.9,SNR=1.4
comp=Z,0.8nm,0.4s
HFS Hagfors 43.79 322 P **P** **05 08 58.0 +0.2**
comp=Z,3.8nm,1.0s,baz=96,slow=13,SNR=1.7
comp=Z,3.8nm,1.0s
TORD Torodi Ar. Bea 66.87 269 P **P** **05 11 47.0 +2.6**
comp=Z,0.9nm,0.3s,baz=51,slow=6.2,SNR=1.9
comp=Z,0.9nm,0.3s
YKA Yellowknife Ar 81.20 3 P **P** **05 13 07.8 +0.7**
comp=Z,0.2nm,0.6s,baz=351,slow=5.5,SNR=2.4
comp=Z,0.2nm,0.6s

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*AFAD **24** 05:05:48.1,38.67N×44.80E, h7km±5km, ML3.0*
*ISK **24** 05:05:48.7,38.67N×44.70E, h5km, ML3.3/12*
*TIF **24** 05:05:48.7,38.66N×44.67E, h2km±2km*
*AZER **24** 05:05:49.7,38.77N×44.71E, h3km, ml3.5*
*TEH **24** 05:05:49.6,38.64N×44.66E, h13km±58km*
*NSSP **24** 05:06:47.0,38.52N×44.78E, h10km, Ms3.8*
ISC 24 05:05:49.7±1.1,38.64N±0.02×44.73E±0.02, h7km±10km, n73, σ1946/116, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.58**	**273**	P	**Pg**	**05 05 59.7**	**-1.1**
OZAP				*i* AML	AML	05 06 10.0	
	comp=E,1μm,0.5s						
OZAP				*i* AML	AML	05 06 15.0	
	comp=N,1μm,0.8s						
MAKU	**Maku**	**0.72**	**357**	Pg	**Pg**	**05 06 02.6**	**-0.9**
IMRD	**Marand**	**0.77**	**84**	Pg	**Pb**	**05 06 05.2**	**-0.2**
ISHB	**Shabestar**	**0.78**	**117**	Pg	**Pg**	**05 06 04.7**	**-0.1**
NAX	**Nakhchivan**	**0.80**	**48**	Pg	**Pb**	**05 06 06.2**	**+0.2**
NAX	**Nakhchivan**	**0.80**	**48**	P	**Pb**	**05 06 06.3**	**+0.2**
NAX				S	**Sn**	**05 06 19.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.97**	**292**	P	**Pg**	**05 06 06.7**	**-1.7**
VMUR				S	**Sb**	**05 06 21.7**	**-0.3**
VMUR				*i* AML	AML	05 06 26.0	
	comp=E,451nm,0.4s						
VMUR				*i* AML	AML	05 06 28.0	
	comp=N,438nm,0.4s						
VMUR	**Van-Muradiye**	**0.97**	**292**	Pg	**Pg**	**05 06 06.6**	**-1.7**
SBZ	**Shahbuz**	**0.99**	**40**	P	**Pb**	**05 06 09.2**	**-0.1**
SBZ				S	**Sn**	**05 06 24.5**	**0.0**
TVAN	**Van**	**1.04**	**264**	P	**Pg**	**05 06 07.7**	**-2.0**
TVAN				S	**Sn**	**05 06 26.2**	**+0.4**
TVAN				*i* AML	AML	05 06 36.0	
	comp=E,483nm,0.8s						
TVAN				*i* AML	AML	05 06 46.0	
	comp=N,399nm,0.7s						
VANB	**Van**	**1.05**	**268**	Pg	**Pg**	**05 06 07.7**	**-2.1**
VANB				Sg	**Sn**	**05 06 24.9**	**-1.0**
HYR	**Heyderabad**	**1.08**	**5**	Pg	**Pg**	**05 06 10.0**	**-0.5**
HYR	**Heyderabad**	**1.08**	**5**	P	**Pg**	**05 06 10.1**	**-0.5**
HYR				S	**Sn**	**05 06 25.6**	**-1.0**
ERCV	**ERCIS-VAN**	**1.15**	**290**	Pn	**Pg**	**05 06 10.9**	**-0.9**
ITBZ	**Tabriz**	**1.19**	**110**	Pg	**Pg**	**05 06 11.7**	**-0.7**
VAYK	**Vayk**	**1.19**	**27**	*i* P	**Pn**	**05 06 12.6**	**-0.2**
VAYK				*i* S	**Sn**	**05 06 29.0**	**-0.2**
DYDN	**Diyadin**	**1.21**	**318**	P	**Pb**	**05 06 12.5**	**-0.6**
DYDN				S	**Sn**	**05 06 29.3**	**-0.7**
DYDN				*i* AML	AML	05 06 34.0	
	comp=N,634nm,0.7s						
DYDN				*i* AML	AML	05 06 40.0	
	comp=E,480nm,0.6s						
DYDN	**Diyadin**	**1.21**	**318**	Pg	**Pb**	**05 06 12.5**	**-0.6**
IGDI	**IGDIR**	**1.33**	**338**	P	**Pg**	**05 06 14.5**	**-0.7**
IGDI				S	**Sn**	**05 06 34.1**	**+1.4**
GEVA	**Gevas**	**1.35**	**257**	P	**Pn**	**05 06 12.9**	**-2.3**
GEVA				S	**Sn**	**05 06 36.0**	**+2.6**
GEVA	**Gevas**	**1.35**	**257**	Pg	**Pn**	**05 06 12.8**	**-2.3**
NRKZ	**NAREK**	**1.36**	**358**	*e*P	**Pn**	**05 06 14.9**	**-0.3**
NRKZ				*e*S	**Sn**	**05 06 36.4**	**+2.9**
IAZR	**Azarshahr**	**1.38**	**134**	Pg	**Pn**	**05 06 16.0**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.40**	**344**	Pn	**Pb**	**05 06 15.6**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.40**	**344**	Pg	**Pg**	**05 06 16.7**	**+0.2**
GNI	**Garni**	**1.51**	**0**	Pn	**Pb**	**05 06 17.4**	**-0.7**
GNI				Sn	**Sg**	**05 06 38.9**	**+0.7**
GNI	**Garni**	**1.51**	**0**	*e*P	**Pb**	**05 06 17.6**	**-0.5**
GNI				*e*S	**Sg**	**05 06 40.3**	**+2.0**
GNI	**Garni**	**1.51**	**0**	Pg	**Pb**	**05 06 17.4**	**-0.7**
EGVZ	**Egvard**	**1.53**	**67**	*e*P	**Pb**	**05 06 18.4**	**-0.1**
EGVZ				*e*S	**Sg**	**05 06 41.2**	**+2.3**
ADCV	**BITLIS_Adilcev**	**1.58**	**277**	P	**Pb**	**05 06 18.6**	**-0.6**
ADCV				S	**Sg**	**05 06 41.3**	**+0.9**
ADCV				*i* AML	AML	05 06 43.0	
	comp=N,372nm,0.6s						
ADCV				*i* AML	AML	05 06 43.0	
	comp=E,323nm,0.7s						
METS	**Metsamor**	**1.59**	**342**	*e*P	**Pg**	**05 06 19.6**	**-0.6**
METS				*e*S	**Sg**	**05 06 44.1**	**+3.3**
VNNZ	**Vanand**	**1.62**	**335**	*e*P	**Pg**	**05 06 20.2**	**-0.5**
VNNZ				*e*S	**Sg**	**05 06 45.4**	**+3.5**
CUKT	**Cukurca**	**1.65**	**213**	Pn	**Pb**	**05 06 20.2**	**-0.2**
CUKT				Sn	**Sg**	**05 06 42.9**	**+0.3**
CUKT	**Cukurca**	**1.65**	**213**	Pg	**Pb**	**05 06 20.8**	**+0.4**
KOTA	**Agri, Merkez-K**	**1.66**	**315**	P	**Pn**	**05 06 19.5**	**+0.2**
KOTA				S	**Sg**	**05 06 44.0**	**+1.0**
KOTA				*i* AML	AML	05 06 55.0	
	comp=N,145nm,0.8s						
KOTA				*i* AML	AML	05 06 55.0	
	comp=E,100nm,0.9s						
KAPZ	**Kaputan**	**1.68**	**359**	*e*P	**Pb**	**05 06 20.6**	**-0.5**
KAPZ				*e*S	**Sg**	**05 06 45.9**	**+2.2**
AYRK	**Ayrk**	**1.69**	**29**	*e*P	**Pg**	**05 06 21.4**	**-0.7**
AYRK				*e*S	**Sg**	**05 06 46.1**	**+2.1**
ARUZ	**Aruch**	**1.71**	**343**	*e*P	**Pg**	**05 06 22.4**	**-0.2**
ARUZ				*e*S	**Sg**	**05 06 48.9**	**+4.0**
MLAZ	**Malazgirt-MUS**	**1.77**	**287**	Pn	**Pb**	**05 06 21.5**	**-1.1**
AMBZ	**Amberd**	**1.79**	**348**	*e*P	**Pb**	**05 06 22.0**	**-0.8**
AMBZ				*e*S	**Sg**	**05 06 48.1**	**+1.0**
IHRS	**Heris**	**1.84**	**99**	Pn	**Pb**	**05 06 24.2**	**+0.3**
PERV	**Siirt/Pervari-**	**1.85**	**249**	P	**Pg**	**05 06 25.2**	**0.0**
PERV				S	**Sg**	**05 06 51.6**	**+2.3**
PERV				*i* AML	AML	05 06 57.0	
	comp=E,414nm,0.5s						
PERV				*i* AML	AML	05 07 02.0	
	comp=N,251nm,0.7s						
GURO	**Guroymak-BITLI**	**2.12**	**268**	Pn	**Pn**	**05 06 26.3**	**+0.7**
EATA	**Eleskirt**	**2.12**	**306**	P	**Pb**	**05 06 28.0**	**-0.7**
EATA				*i* AML	AML	05 07 07.0	
	comp=E,95nm,0.7s						
EATA				*i* AML	AML	05 07 09.0	
	comp=N,98nm,0.7s						
QRD	**Qoradiz**	**2.18**	**67**	Pn	**Pb**	**05 06 29.8**	**+0.4**
QRD				Sn	**Sg**	**05 07 01.6**	**+1.9**
GDB	**GEDABAY**	**2.23**	**21**	Pn	**Pb**	**05 06 29.6**	**-0.7**
GDB				Sn	**Sg**	**05 06 59.4**	**-1.8**
KMOZ	**Kamo**	**2.26**	**345**	*e*P	**Pg**	**05 06 31.6**	**-1.4**
KMOZ				*e*S	**Sg**	**05 07 04.3**	**+1.9**
SRTM	**Siirt_Merkez**	**2.30**	**255**	P	**Pb**	**05 06 30.6**	**-1.0**
SRTM				S	**Sg**	**05 07 04.8**	**+1.2**
SRTM				*i* AML	AML	05 07 09.0	
	comp=E,151nm,0.7s						
SRTM				*i* AML	AML	05 07 14.0	
	comp=N,227nm,0.8s						
LSVT	**Lusahovit**	**2.30**	**9**	*e*P	**Pb**	**05 06 31.8**	**+0.2**
LSVT				*e*S	**Sg**	**05 07 05.5**	**+1.8**
GANJ	**Ganja**	**2.35**	**31**	Pn	**Pb**	**05 06 32.4**	**0.0**
GANJ				Sn	**Sg**	**05 07 03.9**	**-1.4**
AGDM	**Agdam**	**2.36**	**51**	Pn	**Pb**	**05 06 31.6**	**-0.8**
AGDM				Sn	**Sg**	**05 07 04.6**	**-0.8**
KARS	**Kars**	**2.36**	**328**	Pn	**Pn**	**05 06 29.5**	**+0.5**
SRTK	**Saratovka**	**2.44**	**353**	*e*P	**Pg**	**05 06 35.3**	**-1.2**
SRTK				*e*S	**Sg**	**05 07 10.6**	**+2.3**
QZX	**Qazax, Azerbai**	**2.47**	**11**	Pn	**Pb**	**05 06 32.8**	**-1.6**
QZX				Sn	**Sb**	**05 07 05.1**	**+0.2**
GRMI	**Germi**	**2.48**	**85**	Pn	**Pb**	**05 06 33.1**	**-1.6**
BRDA	**Brd**	**2.50**	**49**	Sn	**Sg**	**05 07 08.5**	**-1.4**
MUSM	**Mu-Merkez**	**2.52**	**273**	P	**Pb**	**05 06 34.2**	**-1.1**
MUSM				S	**Sb**	**05 07 07.6**	**+1.0**
MUSM				*i* AML	AML	05 07 16.0	
	comp=E,17nm,0.9s						
MUSM				*i* AML	AML	05 07 23.0	
	comp=N,16nm,0.9s						
KOPR	**Koprukoy-ERZUR**	**2.61**	**302**	Pn	**Pn**	**05 06 33.3**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.66**	**317**	Pn	**Pn**	**05 06 33.9**	**+0.8**
YRD	**Yardimli**	**2.76**	**83**	Pn	**Pb**	**05 06 38.0**	**-1.4**
YRD				Sn	**Sb**	**05 07 15.2**	**+1.7**
SVAN	**Silvan-Diyarba**	**2.82**	**261**	Pn	**Pn**	**05 06 36.4**	**+1.3**
LRK	**Lerik**	**2.83**	**89**	Pn	**Pb**	**05 06 39.9**	**-0.7**
LRK				Sn	**Sb**	**05 07 17.1**	**+1.7**
DGRG	**David-gareji**	**2.85**	**10**	P	**Pg**	**05 06 45.0**	**+0.7**
DGRG				S	**Sg**	**05 07 24.9**	**+3.6**
DGRG	**David-gareji**	**2.85**	**10**	Pn	**Pb**	**05 06 39.6**	**-1.3**
DGRG				Sn	**Sb**	**05 07 14.1**	**-1.9**
GLBA	**Cliilabad**	**2.92**	**77**	Pn	**Pb**	**05 06 40.5**	**-1.6**
GLBA				Sn	**Sb**	**05 07 18.7**	**+0.7**
LKRN	**Lenkeran, Azer**	**3.17**	**87**	Pn	**Pb**	**05 06 44.2**	**-2.1**
LKRN				Sn	**Sb**	**05 07 25.7**	**+0.5**
BNGB	**Bingl**	**3.18**	**278**	Pn	**Pn**	**05 06 41.5**	**+1.3**
ASTR	**Astara**	**3.18**	**90**	Pn	**Pb**	**05 06 44.4**	**-2.1**
ASTR				Sn	**Sb**	**05 07 25.0**	**-0.5**
SEKA	**Sheki**	**3.19**	**36**	Pn	**Pb**	**05 06 44.5**	**-2.2**
SEKA				Sn	**Sb**	**05 07 25.1**	**-0.8**
ZKTA	**Zakatala**	**3.33**	**25**	Pn	**Pb**	**05 06 45.8**	**-3.3**
ZKTA				Sn	**Sb**	**05 07 26.4**	**-3.3**
LGD	**Lagodekhi**	**3.40**	**19**	P	**Pg**	**05 06 53.3**	**-1.4**
ALIG	**Mtskhetisjvari**	**3.56**	**347**	P	**Pg**	**05 06 55.6**	**-2.2**
CHRG	**Chargali**	**3.69**	**2**	P	**Pb**	**05 06 55.8**	**+0.6**

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*NEIC **24** 05:07:38.6±1.1, 7.19N±0.09×126.93E±0.09, h62km±8km, mb4.7/47, Error ellipse: s-maj=13.9km s-min=11.2km az=46.0*
*IDC **24** 05:07:40.0±1.9, 7.13N×126.82E, h90km±17km, mb3.9/14, mbtmp4.2/15, Error ellipse: s-maj=25.2km s-min=16.5km az=92.0*
ISC 24 05:07:37.6±0.4, 7.20N±0.05×126.98E±0.07, h60km, n77, σ1901/76, mb4.6/38, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.39**	**265**	P	**Pn**	**05 08 01.9**	**+1.1**
	2μm,0.5s,baz=74,slow=2.0,SNR=56						
DAV				S	**Sn**	**05 08 19.7**	**+1.3**
	1μm,0.6s,baz=289,slow=19,SNR=4.5						
DAV	**Davao City (W)**	**1.39**	**265**	P	**Pn**	**05 08 02.0**	**+1.1**
TNTI	**Ternate**	**6.39**	**177**	Pn	**Pn**	**05 09 10.0**	**+0.8**
TOLI2	**Tolitoli**	**8.64**	**226**	Pn	**Pn**	**05 09 39.1**	**-0.9**
FAKI	**Fak Fak**	**11.34**	**152**	Pn	**Pn**	**05 10 17.6**	**+0.6**
JOW	**Kunigami**	**19.57**	**3**	P	**P**	**05 12 00.9**	**+0.3**
JOW				IAmb	IAmb	05 12 03.5	
	comp=Z,106nm,1.4s						
JOW	**Kunigami**	**19.57**	**3**	P	**Pn**	**05 12 02.3**	**-0.2**
	comp=Z,28nm,0.8s,baz=170,slow=8.5,SNR=5.0						
MTN	**Manton Dam**	**20.33**	**168**	P	**P**	**05 12 09.3**	**+0.3**
MTN				IAmb	IAmb	05 12 35.5	
	comp=Z,69nm,1.4s						
KNRA	**Kununurra**	**22.79**	**176**	P	**P**	**05 12 34.9**	**-0.6**
KNRA				IAmb	IAmb	05 12 50.3	
	comp=Z,26nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.17**	**183**	P	**P**	**05 12 57.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**25.17**	**183**	P	**P**	**05 12 56.9**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=8.4,slow=10,SNR=3.0						
	comp=Z,4.5nm,0.6s						
JNU	**Nakatsue**	**26.05**	**7**	P	**P**	**05 13 04.9**	**-0.5**
JNU				IAmb	IAmb	05 13 09.8	
	comp=Z,19nm,0.7s						
COEN	**Coen**	**26.46**	**143**	P	**P**	**05 13 08.4**	**-0.9**
JMN	**Monobe**	**27.16**	**13**	P	**P**	**05 13 15.7**	**+0.2**
JMN				IAmb	IAmb	05 13 30.6	
	comp=Z,59nm,1.4s						
MBWA	**Marble Bar**	**29.06**	**194**	P	**P**	**05 13 33.7**	**+1.2**
PSA00	**Pilbara Seismi**	**29.43**	**194**	P	**P**	**05 13 36.4**	**+0.7**
GSI	**Gununguitoli**	**29.89**	**260**	P	**P**	**05 13 40.4**	**+0.5**
KSRS	**Korea Array**	**30.13**	**1**	P	**P**	**05 13 41.5**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=174,slow=9.9,SNR=12						
	comp=Z,3.2nm,0.7s						
MJAR	**Matsushiro Arr**	**30.96**	**18**	P	**P**	**05 13 48.3**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=189,slow=9.4,SNR=5.7						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**31.41**	**168**	PcP	**PcP**	**05 16 45.5**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=349,slow=2.5,SNR=4.1						
ASAR				ScP	**ScP**	**05 20 22.1**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=345,slow=3.1,SNR=6.5						
JMM	**Marumori**	**33.00**	**20**	P	**P**	**05 14 08.0**	**+1.0**
USA0B	**Ussuriysk Arra**	**37.12**	**6**	P	**P**	**05 14 42.8**	**+0.5**
USA0B				IAmb	IAmb	05 14 44.4	
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.12**	**6**	P	**P**	**05 14 42.0**	**-0.4**
	comp=Z,10nm,0.9s,baz=188,slow=7.5,SNR=12						
	comp=Z,10nm,0.9s						
MDJ	**Mudanjiang**	**37.35**	**3**	P	**P**	**05 14 44.8**	**+0.6**
MDJ				IAmb	IAmb	05 15 01.5	
	comp=Z,6.8nm,0.8s						
FORT	**Forrest**	**37.77**	**178**	P	**P**	**05 14 48.0**	**0.0**
H11N1	**WAKE ISLAND Hy**	**40.65**	**68**	T	T	05 59 23.1	
	baz=265,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.66**	**68**	T	T	05 59 22.6	
	baz=265,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.67**	**68**	T	T	05 59 16.0	
	baz=265,slow=74						
BBOO	**Buckleboo**	**40.71**	**168**	P	**P**	**05 15 12.1**	**-0.4**
BBOO				IAmb	IAmb	05 15 31.8	
	comp=Z,23nm,1.4s						
NWAO	**Narrogin (SRO)**	**40.96**	**193**	P	**P**	**05 15 15.0**	**+0.4**
NWAO				IAmb	IAmb	05 15 35.8	
	comp=Z,27nm,1.1s						
STKA	**Stephens Creek**	**41.28**	**161**	P	**P**	**05 15 17.2**	**-0.1**
STKA	**Stephens Creek**	**41.28**	**161**	P	**P**	**05 15 15.2**	**-2.1**
	comp=Z,5.0nm,1.1s,baz=313,slow=11,SNR=3.4						
	comp=Z,5.0nm,1.1s						
YSS	**Yuzhno-Sakhali**	**41.86**	**16**	P	**P**	**05 15 21.8**	**+0.1**
SONM	**Songino Array**	**44.13**	**340**	P	**P**	**05 15 41.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=142,slow=8.9,SNR=2.8						
	comp=Z,0.5nm,0.6s						
ARMA	**Armidale**	**44.25**	**149**	P	**P**	**05 15 41.5**	**0.0**
PEA0B	**Petropavlovsk-**	**52.16**	**23**	P	**P**	**05 16 44.0**	**+2.1**
PETK	**Petropavlovsk-**	**52.16**	**23**	P	**P**	**05 16 43.6**	**+1.7**
PETK	**Petropavlovsk-**	**52.16**	**23**	P	**P**	**05 16 41.9**	**0.0**
	comp=Z,4.1nm,0.6s,baz=188,slow=3.3,SNR=13						
	comp=Z,4.1nm,0.6s						
YAK	**Yakutsk**	**54.76**	**2**	P	**P**	**05 17 01.2**	**+0.3**
YAK	**Yakutsk**	**54.76**	**2**	PKPPKP	**P**	**05 17 01.1**	**+0.3**
	comp=Z,21nm,0.7s,baz=26,slow=2.2,SNR=5.7						
KDJ	**Kajisay**	**55.97**	**317**	P	**P**	**05 17 09.8**	**-0.4**
KDJ				IAmb	IAmb	05 17 23.9	
	comp=Z,18nm,1.3s						
KURK	**Kurchatov**	**58.99**	**326**	P	**P**	**05 17 30.9**	**-0.1**
KURBB	**Kurchatov Arra**	**58.99**	**326**	P	**P**	**05 17 29.1**	**-1.9**
	comp=Z,2.1nm,0.8s,baz=124,slow=6.0,SNR=12						
	comp=Z,2.1nm,0.8s						
KK31	**Karatay Array**	**60.91**	**316**	P	**P**	**05 17 43.2**	**-1.2**
KK31				IAmb	IAmb	05 17 58.8	
	comp=Z,13nm,1.4s						
KKAR	**Karatay Array**	**60.91**	**316**	P	**P**	**05 17 43.4**	**-1.0**
TIXI	**Tiksi**	**64.40**	**1**	P	**P**	**05 18 06.6**	**-0.4**
TIXI				IAmb	IAmb	05 18 07.7	
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**64.40**	**1**	PKPPKP	**P**	**05 18 07.0**	**0.0**
	comp=Z,4.3nm,0.7s,baz=205,slow=3.4,SNR=7.1						
BVAR	**Borovoye Array**	**64.58**	**326**	P	**P**	**05 18 07.2**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=139,slow=3.1,SNR=1.6						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**69.66**	**320**	P	**P**	**05 18 39.7**	**-1.2**
AKTO	**Aktyubinsk**	**71.13**	**321**	P	**P**	**05 18 48.4**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=91,slow=7.1,SNR=5.0						
	comp=Z,1.9nm,0.7s						
ARTI	**Arti**	**72.25**	**327**	P	**P**	**05 18 54.3**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=53,slow=5.1,SNR=3.1						
	comp=Z,1.1nm,0.3s						
C16K	**Lisburne Hills**	**75.18**	**21**	P	**P**	**05 19 14.0**	**+0.7**
J17K	**VABM Dome**	**76.43**	**26**	P	**P**	**05 19 22.3**	**+1.8**
J17K				IAmb	IAmb	05 19 34.8	
	comp=Z,8.9nm,1.1s						
C18K	**Utukok River**	**76.75**	**21**	P	**P**	**05 19 22.8**	**+0.4**
D19K	**Kuna River**	**77.82**	**21**	P	**P**	**05 19 29.3**	**+1.0**
D19K				IAmb	IAmb	05 19 53.6	
	comp=Z,6.6nm,1.2s						
B21K	**Ikpikpuk River**	**79.26**	**20**	P	**P**	**05 19 37.5**	**+1.4**
B22K	**Teshekpuk Lake**	**79.76**	**20**	P	**P**	**05 19 39.9**	**+1.0**
B22K				IAmb	IAmb	05 19 54.8	
	comp=Z,3.8nm,0.7s						
D22K	**Ayikyak River**	**79.84**	**21**	P	**P**	**05 19 40.6**	**+1.2**
BPAW	**Bear Paw Mtn.**	**80.08**	**26**	P	**P**	**05 19 41.5**	**+0.7**
BPAW				IAmb	IAmb	05 19 55.0	
	comp=Z,9.5nm,1.1s						
TRF	**Thorofare Moun**	**80.35**	**27**	P	**P**	**05 19 43.3**	**+0.9**
TRF				IAmb	IAmb	05 20 03.2	
	comp=Z,15nm,1.4s						
C23K	**Itkillik River**	**80.67**	**20**	P	**P**	**05 19 44.4**	**+0.7**
C23K				IAmb	IAmb	05 19 57.4	
	comp=Z,4.5nm,0.7s						
I23K	**Minto, Yukon-K**	**80.85**	**25**	P	**P**	**05 19 46.2**	**+1.4**
SML	**Sawmill**	**81.19**	**29**	P	**P**	**05 19 47.0**	**+0.2**
SML				IAmb	IAmb	05 19 49.4	
	comp=Z,12nm,1.2s						
D24K	**Happy Valley**	**81.25**	**21**	P	**P**	**05 19 47.5**	**+0.7**
ILAR	**Eielson Array**	**81.89**	**26**	P	**P**	**05 19 50.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=252,slow=5.0,SNR=13						
	comp=Z,0.6nm,0.7s						
RIDG	**Independent Ri**	**82.79**	**27**	P	**P**	**05 19 55.6**	**+0.5**
RIDG				IAmb	IAmb	05 20 13.4	
	comp=Z,8.2nm,1.1s						
E28M	**Babbage River**	**84.63**	**22**	P	**P**	**05 20 05.8**	**+1.4**
E28M				IAmb	IAmb	05 20 19.0	
	comp=Z,7.2nm,1.1s						
I28M	**Miner Creek**	**84.79**	**25**	P	**P**	**05 20 07.3**	**+1.9**
I28M				IAmb	IAmb	05 20 20.3	
	comp=Z,11nm,0.8s						
DAWY	**Dawson**	**85.17**	**26**	P	**P**	**05 20 08.4**	**+1.1**
DAWY				IAmb	IAmb	05 20 21.8	
	comp=Z,5.2nm,1.2s						
G30M	**tAoh Zraii Nji**	**86.09**	**23**	P	**P**	**05 20 12.0**	**+0.3**
G30M				IAmb	IAmb	05 20 39.3	
	comp=Z,6.1nm,1.4s						
G31M	**Satah River**	**86.86**	**23**	P	**P**	**05 20 15.9**	**+0.5**
FARO	**Faro, Yukon**	**88.17**	**28**	P	**P**	**05 20 23.7**	**+1.8**
FARO				IAmb	IAmb	05 20 36.8	
	comp=Z,9.1nm,1.4s						
CSS	**Mathiatis**	**88.90**	**305**	P	**P**	**05 20 25.9**	**0.0**
AKASG	**Malin Array Be**	**89.38**	**321**	P	**P**	**05 20 25.7**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=69,slow=4.5,SNR=4.2						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	**96.26**	**24**	P	**P**	**05 20 59.1**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=299,slow=4.8,SNR=5.6						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**119.26**	**51**	PKP	**PKPdf**	**05 26 20.5**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=277,slow=3.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**122.02**	**290**	PKP	**PKPdf**	**05 26 25.4**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=54,slow=2.0,SNR=3.5						

IDC 24 05:16:53.7±2.3, 6.94S×151.16E, h0km, mb3.7/4, mbtmp3.8/5, ML1.4/1, Error ellipse: s-maj=112.0km s-min=29.6km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**238**	Pn	Pn	05 18 06.9	+1.6
	1.1nm,0.3s,baz=54,slow=8.7,SNR=3.8						
PMG				Sn	Sn	05 18 54.0	-6.1
	7.7nm,0.3s,baz=27,slow=11,SNR=9.8						
	4.8nm,0.3s						
WRA	**Warramunga Arr**	**20.82**	**230**	P	P	05 21 36.8	-0.3
	2.2nm,0.7s,baz=56,slow=12,SNR=9.0						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**23.48**	**223**	P	P	05 22 05.3	0.0
	0.6nm,0.7s,baz=56,slow=9.6,SNR=5.9						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.23**	**244**	P	P	05 22 39.0	-0.6
	3.2nm,0.8s,baz=58,slow=14,SNR=2.0						
	3.2nm,0.8s						
ILAR	**Eielson Array**	**84.74**	**22**	P	P	05 29 29.7	+0.2
	0.9nm,1.2s,baz=226,slow=4.8,SNR=2.1						
	0.9nm,1.2s						

NNC 24 05:23:34.3±5.5, 36.82N×71.17E, h0km, mb4.1, mpv3.7, 2C-2D, Error ellipse: s-maj=44.6km s-min=40.8km az=125.0, Afghanistan-Tajikistan border region

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

OLP	Otay Lakes Par	0.64	192		Pg	05 41 38.9	-0.7
OLP					Sg	05 41 47.3	-0.7
TKX	Tecate	0.68	168		Pg	05 41 39.3	-1.1
TKX					Sg	05 41 48.2	-1.1
ELS	Elsinore Mount	0.68	308		Sg	05 41 48.7	-0.8
ELS	Elsinore Mount	0.68	308	Pg	Pg	05 41 39.4	-1.1
ELS				IAML		05 41 49.0	
	comp=E,283nm,0.2s						
ELS				IAML		05 41 49.4	
	comp=N,445nm,0.2s						
BBSC	Beaumont Base	0.71	346		Pg	05 41 40.7	-0.3
BBSC					Sg	05 41 50.2	-0.1
DEVC	Devers	0.72	13		Pg	05 41 40.7	-0.5
DEVC					Sg	05 41 50.0	-0.7
PEC	Perris	0.73	334		Pg	05 41 40.4	-1.1
PEC					Sg	05 41 50.0	-1.1
TJX	Tijuana	0.76	198		Pg	05 41 41.2	-0.7
TJX					Sg	05 41 51.7	-0.1
TJX				IAML		05 41 54.8	
	comp=N,909nm,0.4s						
CRR	Carrizo Plain	0.76	117		Pg	05 41 41.8	-0.2
CRR					Sg	05 41 51.8	-0.2
EW2	E Wide Canyon	0.77	24		Pg	05 41 41.5	-0.6
EW2					Sg	05 41 51.4	-0.9
CTCC	Cactus City	0.78	57		Pg	05 41 42.0	-0.4
CTCC					Sg	05 41 52.3	-0.3
IKP	In-Ko-Pah, Jac	0.81	136		Pg	05 41 42.3	-0.6
IKP					Sg	05 41 52.7	-0.8
ERRC	Elmore Ranch	0.81	98		Pg	05 41 42.9	0.0
ERRC					Sb	05 41 54.3	+0.1
CFT	Crafton Hills	0.85	341		Pg	05 41 42.9	-0.7
SUP	Superstition M	0.85	109		Pg	05 41 42.8	-0.9
RSBC	Riverside Bore	0.87	328		Pg	05 41 42.9	-1.2
RSBC					Sg	05 41 53.9	-1.5
RSBC	Riverside Bore	0.87	328		Pg	05 41 42.6	-1.4
RSBC					Sg	05 41 54.2	-1.2
SWSC	Sam W. Stewart	0.87	109		Pg	05 41 43.1	-1.0
SWSC					Sg	05 41 54.6	-0.8
CTW	Cottonwood Mou	0.88	59		Pg	05 41 43.4	-0.8
CTW					Sg	05 41 54.9	-0.8
BOMB	Bombay Beach	0.89	81		Pg	05 41 43.1	-1.3
BOMB					Sg	05 41 56.0	0.0
BLAC	Blackrock camp	0.90	21		Pg	05 41 43.7	-0.9
BLAC					Sg	05 41 55.4	-0.9
RVR	Riverside	0.91	327		Pg	05 41 43.0	-1.8
RVR					Sg	05 41 55.1	-1.6
SVD	Seven Oaks Dam	0.91	343		Pg	05 41 44.1	-0.8
SVD					Sg	05 41 55.9	-0.8
CRNC	Corona	0.92	315		Pg	05 41 43.5	-1.4
CRNC					Sg	05 41 55.6	-1.3
CBX	Cerro Bola	0.92	174		Pg	05 41 43.8	-1.2
CBX					Sg	05 41 56.4	-0.7
YUH	Yuha Desert	0.93	129		Pg	05 41 44.5	-0.6
YUH					Sg	05 41 56.4	-0.8
YUH	Yuha Desert	0.93	129	Pg	Pg	05 41 44.4	-0.7
YUH				IAML		05 41 57.6	
	comp=E,249nm,0.1s						
YUH				IAML		05 41 57.9	
	comp=N,319nm,0.1s						
COK2	Cook Ranch 2	0.96	113		Pg	05 41 44.8	-0.9
COK2					Sb	05 41 59.0	+0.5
FRK	Frink	0.97	80		Pg	05 41 44.1	-1.8
FRK					Sg	05 41 56.6	-2.0
WESC	Westside Schoo	1.00	118		Sn	05 42 00.4	-0.7
BELC	Belle Mtn. Jos	1.01	40		Pg	05 41 45.7	-1.0
BELC					Sg	05 41 58.7	-1.1
MLSC	Mira Loma	1.01	320		Pg	05 41 45.3	-1.5
MLSC					Sg	05 41 58.4	-1.5
WEMD	Westmorland, C	1.02	101		Sn	05 42 01.7	-0.1
BBRC	Big Bear Solar	1.03	353		Pg	05 41 46.3	-0.9
BBRC					Sg	05 41 59.2	-1.5
TPC	Twentynine Pal	1.06	35		Pb	05 41 46.6	-1.1
CHNC	Chino	1.07	316		Sb	05 42 00.4	-1.4
CCX	Cicese	1.36	176		Pn	05 41 51.4	-0.8
CCX				IAML		05 42 11.8	
	comp=N,182nm,0.5s						
CCX				IAML		05 42 12.1	
	comp=E,194nm,0.4s						
ESJX	Sierra Juarez	1.41	150		Pn	05 41 52.4	-0.6
ESJX				IAML		05 42 12.4	
	comp=N,256nm,0.1s						
ESJX				IAML		05 42 12.5	
	comp=E,338nm,0.1s						
PASC	Pasadena Art C	1.50	309		Pn	05 41 53.9	-0.2
PASC				IAML		05 42 14.7	
	comp=N,93nm,0.6s						
PASC				IAML		05 42 14.8	
	comp=E,99nm,0.4s						
GLA	Glamis	1.65	96		Pn	05 41 54.6	-1.6
BLYC	Blythe	1.95	74		Pn	05 41 58.8	-1.5
VTX	Valle De La Tr	2.02	155		Pn	05 42 00.3	+1.0
VTX				IAML		05 42 32.8	
	comp=N,45nm,0.1s						
VTX				IAML		05 42 33.5	
	comp=E,59nm,0.4s						
ISA	Isabella, Lake	2.80	330		Pn	05 42 10.7	-1.3
GWY	Greenwater Val	2.95	2	Pn	Pn	05 42 13.8	-0.3
GWY				IAML		05 43 02.8	
	comp=E,28nm,0.4s						
GWY				IAML		05 43 04.5	
	comp=N,25nm,0.9s						
V12A	Nelson	2.95	32		Pn	05 42 14.3	+0.1
W13A	Hualapai Mount	3.04	51	Pn	Pn	05 42 14.9	-0.5
W13A				IAML		05 43 05.0	
	comp=N,17nm,1.5s						
Y14A	Wickenburg	3.23	76	Pn	Pn	05 42 17.2	-0.6
WCT	Wildcat Mounta	3.55	2	Pn	Pn	05 42 23.2	+0.8
PRN	Pahroc Range	4.40	18		Pn	05 42 35.1	+1.0
X16A	Lo Mia Camp, P	4.60	74	Pn	Pn	05 42 37.0	+0.2
X16A				IAML		05 44 50.7	
	comp=E,4.7nm,4.9s						
U15A	North Rim	4.88	48	Pn	Pn	05 42 41.3	+0.5

*IDC **24** 05:44:18.3±1.5, 2°.87S×68°.01E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=43.0km s-min=32.4km az=32.0*

ISC 24 05:44:20.1±1.6, 2°.9S±0°.3×68°.0E±0°.3, h11km, n7, σ0§92/7, mb3.8/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	37.10	54	P	P	05 51 31.5	+0.7
	0.5nm,0.3s,baz=221,slow=8.0,SNR=4.3						
	0.5nm,0.3s						
MKAR	Makanchi Array	51.02	13	P	P	05 53 21.3	-0.9
	1.0nm,1.1s,baz=207,slow=7.4,SNR=2.4						
	1.0nm,1.1s						
KURBB	Kurchatov Arra	54.03	8	P	P	05 53 43.6	-0.8
	0.8nm,1.1s,baz=200,slow=7.7,SNR=3.3						
	0.8nm,1.1s						
SONM	Songino Array	60.60	29	P	P	05 54 31.5	+0.4
	0.7nm,0.8s,baz=223,slow=5.9,SNR=2.7						
	0.7nm,0.8s						
ASAR	Alice Springs	66.81	114	P	P	05 55 12.2	-0.2
	0.8nm,0.8s,baz=266,slow=5.8,SNR=6.2						
	0.8nm,0.8s						
ESDC	Sonseca Array	78.05	311	P	P	05 56 20.0	+0.8
	1.2nm,0.9s,baz=99,slow=5.3,SNR=8.1						
	1.2nm,0.9s						
TXAR	Lajitas Array	152.51	344	PKPbc	PKPbc	06 04 16.6	-0.8
	0.1nm,0.6s,baz=14,slow=3.1,SNR=4.9						

*JMA **24** 05:46:17.9±0.2, 37°.0N±0°.5×142°.7E±0°.9, h44km, MV3.3/31, FAR E OFF FUKUSHIMA PREF*
*IDC **24** 05:46:17.1±4.4, 37°.22N×142°.64E, h0km, mb3.5/4, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=99.5km s-min=29.3km az=158.0*

ISC 24 05:46:16.1±1.2, 37°.05N±0°.05×142°.68E±0°.08, h9km, n24, σ1§54/28, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.48	283	P	Pb	05 46 43.3	-0.4
ONAJ	Iwakimizuishiy	1.51	273	eP	Pn	05 46 43.5	+0.2
JMST	Minamisoumatoc	1.58	296	eP	Pb	05 46 44.8	-0.7
JMST				eS	Sb	05 47 04.7	-0.9
JMM	Marumori	1.71	299	P	Pb	05 46 46.9	-0.8
JMM				eS	Sn	05 47 07.9	-0.1
JIO	Ouri	1.76	323	P	Pb	05 46 47.8	-0.7
JIO				eS	Sb	05 47 09.2	-1.4
JOTO	OTAMA OYAMA	1.94	286	P	Pb	05 46 50.7	-0.9
JOTO				eS	Sn	05 47 14.0	+0.3
JMK	Ichinoseki	2.23	329	P	Pb	05 46 54.6	-1.9
JMK				eS	Sb	05 47 21.6	-2.5
JYK	Kaneyama	2.62	316	P	Pn	05 47 00.3	+1.7
JOM	Ohasama	2.66	336	eP	Pb	05 47 00.9	-2.9
JAG	Ashikaga	2.67	258	P	Pn	05 46 59.9	+0.7
JAG				eS	Sn	05 47 31.0	-0.7
BSO1	Boso 1	2.76	211	eP	Pn	05 47 00.0	0.0
BSO1				eS	Sn	05 47 32.0	-1.2
JRY	Ryogami san	3.21	252	P	Pn	05 47 07.4	+0.6
JRY				eS	Sn	05 47 42.8	-2.4
JOD2	Odawara 2	3.41	240	eP	Pn	05 47 09.8	+0.4
JOD2				eS	Sn	05 47 47.2	-2.7
MJAR	Matsushiro Arr	3.62	263	Pn	Pn	05 47 14.2	+1.8
	0.4nm,0.3s,baz=79,slow=14,SNR=18						
MJAR				Sn	Sn	05 47 57.9	+2.6
	0.2nm,0.3s,baz=356,slow=26,SNR=4.1						
	2.6nm,0.4s						
H11N2	WAKE ISLAND Hy	27.29	123	T	T	06 20 32.1	
	baz=313,slow=75						
H11N1	WAKE ISLAND Hy	27.30	123	T	T	06 20 33.8	
	baz=313,slow=75						
H11N3	WAKE ISLAND Hy	27.31	123	T	T	06 20 44.1	
	baz=313,slow=75						
H11S1	WAKE ISLAND Hy	28.02	125	T	T	06 21 31.9	
	baz=316						
H11S3	WAKE ISLAND Hy	28.02	125	T	T	06 21 34.2	
	baz=316						
H11S2	WAKE ISLAND Hy	28.04	125	T	T	06 21 30.2	
	baz=316						
ZALV	Zalesovo Beam	42.66	312	P	P	05 54 13.8	+1.1
	0.7nm,0.5s,baz=87,slow=8.9,SNR=2.8						
	0.7nm,0.5s						
MKAR	Makanchi Array	44.97	302	P	P	05 54 33.0	+1.5
	0.4nm,0.7s,baz=90,slow=8.1,SNR=3.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	46.79	308	P	P	05 54 47.0	+1.2
	0.9nm,0.7s,baz=83,slow=8.2,SNR=8.1						
	0.9nm,0.7s						
ILAR	Eielson Array	48.94	32	P	P	05 55 03.4	+1.2
	0.1nm,0.8s,baz=275,slow=6.6,SNR=1.1						
	0.1nm,0.8s						

*GUC **24** 05:55:58.9±0.7, 24°.22S×67°.36W, h229km±10km, ML3.6*
*IDC **24** 05:56:19.8±16.0, 22°.19S×66°.18W, h310km±103km, mb3.1/2, mbtmp3.7/4, Error ellipse: s-maj=265.4km s-min=33.1km az=16.0*

ISC 24 05:55:58.9±1.0, 24°.21S±0°.08×67°.16W±0°.09, h200km, n14, σ0§99/18, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.56	323	eP	Pn	05 56 34.7	+1.1
AF01				IAML		05 57 03.6	
	comp=E,108nm,0.4s						
GO02	Mina Guanaco	2.41	246	eP	Pn	05 56 42.5	+0.4
GO02				eS	Sn	05 57 15.7	0.0
GO02				IAML		05 57 17.0	
	comp=E,245nm,0.3s						
PB06	IPOC Station P	2.67	304	eP	Pn	05 56 45.8	+0.8
PB06				eS	Sn	05 57 20.2	-0.6
PB06				IAML		05 57 21.5	
	comp=E,224nm,0.3s						
PB09	IPOC Station P	3.07	321	eP	Pn	05 56 50.6	+1.0
PB09				eS	Sn	05 57 29.1	-0.1
PB09				IAML		05 57 32.0	
	comp=N,65nm,0.4s						
PB05	IPOC Station P	3.10	295	eP	Pn	05 56 50.2	+0.3
PB05				eS	Sn	05 57 28.1	-1.6
PB05				IAML		05 57 34.5	
	comp=E,75nm,0.3s						
AC02	Maricunga	3.17	214	eP	Pn	05 56 51.1	+0.2
AC02				IAML		05 57 36.2	
	comp=E,24nm,0.3s						
AC01	Pan de Azucar	3.67	237	eP	Pn	05 56 56.0	-0.6
PB01	IPOC Station P	3.81	325	eP	Pn	05 56 58.2	-0.3
PATCX	Punta Patache	4.36	320	eP	Pn	05 57 05.7	+0.4
LPAZ	La Paz	7.93	353	P	Pn	05 57 51.9	0.0
	comp=E,3.3nm,0.4s,baz=167,slow=11,SNR=31						
BDFB	Brasilia	19.90	68	P	P	06 00 13.2	-2.2
	comp=E,1.8nm,0.8s,baz=258,slow=9.3,SNR=3.6						
TORD	Torodi Ar. Bea	76.78	69	P	P	06 07 29.3	+0.4
	comp=E,0.2nm,0.3s,baz=248,slow=4.7,SNR=2.4						
	comp=E,0.2nm,0.3s						
YKA	Yellowknife Ar	94.27	340	P	P	06 08 56.3	+1.5
	comp=E,0.1nm,0.3s,baz=132,slow=4.0,SNR=6.4						
	comp=E,0.1nm,0.3s						
MKAR	Makanchi Array	146.78	40	PKP	PKiKP	06 15 19.1	-0.7
	comp=E,0.9nm,0.7s,baz=310,slow=3.2,SNR=7.6						

*IDC **24** 06:02:41.7±1.4, 20°.16S×172°.43E, h0km, mb4.0/9, mbtmp4.0/10, ML3.5/1, MS3.8/4, Error ellipse: s-maj=69.8km s-min=19.9km az=153.0*

ISC 24 06:02:47.3±1.0, 20°.1S±0°.3×172°.3E±0°.2, h35km, n31, σ0§69/29, mb4.0/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.82	249	Pn	Pn	06 04 11.5	+0.3
	1.2nm,0.3s,baz=153,slow=20,SNR=15						
DZM				LR	LR	06 06 05.9	
	comp=Z,340nm,21.5s,baz=47,slow=35						
	8.3nm,0.5s						
MSVF	Nonsavu	5.92	68	Pn	Pn	06 04 13.3	+0.7
	0.2nm,0.3s,baz=342,slow=11,SNR=2.4						
MSVF				LR	LR	06 06 10.9	
	comp=Z,631nm,19.2s,baz=210,slow=36						
HNR	Honiara	15.95	310	LR	LR	06 11 56.8	
	comp=Z,180nm,20.5s,baz=40,slow=34						
STKA	Stephens Creek	29.90	241	P	P	06 08 52.0	+0.1
	3.0nm,0.8s,baz=69,slow=14,SNR=3.5						
	3.0nm,0.8s						
WRA	Warramunga Arr	35.62	264	P	P	06 09 42.4	+0.4
	0.4nm,0.7s,baz=99,slow=7.9,SNR=1.5						
	0.4nm,0.7s						
ASAR	Alice Springs	35.74	257	P	P	06 09 43.2	+0.1
	0.8nm,0.7s,baz=88,slow=9.2,SNR=10.0						
	0.8nm,0.7s						
CMAR	Chiang Mai Arr	81.48	293	P	P	06 15 01.2	-0.3
	1.3nm,0.3s,baz=109,slow=5.7,SNR=6.7						
	1.3nm,0.3s						
NVAR	Mina Array Bea	87.22	47	P	P	06 15 30.7	+0.3
	0.8nm,0.8s,baz=252,slow=5.6,SNR=7.1						
	0.8nm,0.8s						
SONM	Songino Array	89.64	322	P	P	06 15 42.3	+0.8
	0.8nm,0.8s,baz=145,slow=5.4,SNR=5.5						
	0.8nm,0.8s						
ILAR	Eielson Array	90.20	16	P	P	06 15 43.2	-0.4
	0.8nm,0.7s,baz=227,slow=4.9,SNR=14						
	0.8nm,0.7s						
NEW	Newport	92.58	39	LR	LR	06 51 15.5	
	comp=Z,354nm,20.8s,baz=101,slow=32						
TXAR	Lajitas Array	94.64	61	P	P	06 16 05.5	+0.3
	0.5nm,0.8s,baz=217,slow=5.0,SNR=7.5						
	0.5nm,0.8s						
PDAR	Pinedale Array	95.08	46	P	P	06 16 05.4	-1.7
	0.3nm,0.7s,baz=283,slow=3.3,SNR=1.9						
	0.3nm,0.7s						
BRTR	Keskin Array B	139.60	308	PKP	PKPdf	06 22 10.0	-1.7
	0.4nm,0.4s,baz=100,slow=3.2,SNR=3.6						
EKA	Eskdalemuir Ar	144.63	356	PKP	PKPab	06 22 17.3	-1.3
	2.1nm,0.7s,baz=347,slow=3.4,SNR=4.6						
RONA	Rosalia, Austr	146.28	330	*i* PKP	PKPab	06 22 25.3	+0.3
	2.0nm,0.7s						
CONA	Conrad Observa	146.31	331	*i* PKP	PKPab	06 22 25.6	+0.4
	1.5nm,0.6s						
GERES	GERESS Array B	146.55	334	PKPbc	PKPab	06 22 25.8	-0.2
	4.0nm,0.8s,baz=41,slow=2.5,SNR=36						
MOA	Molln	147.08	332	*i* PKP	PKPbc	06 22 26.9	+0.4
	0.6nm,0.3s						
OBKA	Obir	147.96	330	*i* PKP	PKPbc	06 22 28.4	-0.6
	0.7nm,0.4s						
KBA	Koelnbreinsper	148.07	332	*i* PKP	PKPbc	06 22 29.1	-0.4
	1.4nm,0.6s						
LESA	Schwarzleotal	148.09	333	*e*PKP	PKPbc	06 22 29.1	-0.2
	2.4nm,0.6s,SNR=4.4						
WATA	Walderalm	148.61	334	*e*PKP	PKPbc	06 22 30.4	-0.4
	1.5nm,0.5s						
WTTA	Wattenberg	148.65	334	*i* PKP	PKPbc	06 22 31.0	0.0
	2.8nm,0.6s						
ABTA	Abfaltersbach	148.69	333	*e*PKP	PKPbc	06 22 30.5	-0.5
	2.0nm,0.7s,SNR=6.0						
MOTA	Moosalm	148.79	335	*i* PKP	PKPbc	06 22 31.4	+0.1
	2.4nm,0.6s						
RETA	Reutte	148.81	335	*i* PKP	PKPbc	06 22 31.5	+0.3
	1.5nm,0.7s						
SQTA	Sankt Quirin	148.85	335	*i* PKP	PKPbc	06 22 31.6	+0.2
	1.9nm,0.5s						
FETA	Feichten	149.21	335	*i* PKP	PKPbc	06 22 32.6	+0.3
	2.8nm,0.6s,SNR=7.2						
DAVA	Damuels	149.32	336	*i* PKP	PKPbc	06 22 33.1	+0.5
	0.6nm,0.3s						
ESDC	Sonseca Array	160.21	351	PKPab	PKPab	06 23 24.7	+1.2
	0.7nm,1.0s,baz=22,slow=4.6,SNR=4.6						

RSNC 24 06:12:12.1±0.0, 5°.N±1°.×7°.4W±°, h151km±2km, M2.7, mb3.9, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	Chingaza	0.65	179	P	Pn	06 12 34.5	-0.4
CHIC				S	Sn	06 12 51.2	-1.1
ROSC	El Rosal	0.72	233	P	Pn	06 12 36.2	+0.8
ROSC				S	Sn	06 12 54.2	+1.2
CVER	Cruz Verde, Cu	0.82	204	P	Pn	06 12 36.5	+0.3
CVER				S	Sn	06 12 54.0	-0.5
RUSC	La Rusia	0.89	47	P	Pn	06 12 36.8	+0.1
RUSC				S	Sn	06 12 55.0	-0.4
NORC	Norcasia	1.16	284	P	Pn	06 12 38.3	-0.1
NORC				S	Sn	06 12 57.8	-0.7
BARC	Barichara	1.42	23	P	Pn	06 12 40.6	-0.6
BARC				S	Sn	06 13 01.7	-1.7
PTBC	PUERTO BERRIO,	1.44	330	P	Pn	06 12 40.1	-1.1
PTBC				S	Sn	06 13 02.5	-0.9
GUY2C	Guyana, Caldas	1.62	268	P	Pn	06 12 43.2	-0.3
GUY2C				S	Sn	06 13 08.1	+0.6
BRJC	Barrancabermej	1.68	360	P	Pn	06 12 43.6	-0.1
BRJC				S	Sn	06 13 07.9	-0.1
NIZA	Niza - Manizal	1.74	263	P	Pn	06 12 45.9	+1.3
NIZA				S	Sn	06 13 09.9	+0.4
PTGC	Puerto Gaitan,	1.93	124	P	Pn	06 12 45.7	-0.8
PTGC				S	Sn	06 13 11.4	-1.5
PRAC	Prado	1.93	216	P	Pn	06 12 46.1	-0.5
PRAC				S	Sn	06 13 12.1	-0.9
HELC	Santa Helena	2.00	297	P	Pn	06 12 47.8	+0.2
HELC				S	Sn	06 13 14.2	-0.7
ORTC	Ortega, Tolima	2.03	228	P	Pn	06 12 47.1	-0.6
ORTC				S	Sn	06 13 13.7	-1.3
URMC	La Uribe, Meta	2.12	198	P	Pn	06 12 48.9	+0.1
URMC				S	Sn	06 13 16.3	-0.7
TAMC	Tame, Arauca	2.25	59	P	Pn	06 12 50.4	+0.1
TAMC				S	Sn	06 13 17.7	-2.1
PAMC	Pamplona, Colo	2.29	27	P	Pn	06 12 51.7	+0.4
PAMC				S	Sn	06 13 21.3	-0.1
CBOC	Ciudad Bolivar	2.33	284	P	Pn	06 12 51.3	-0.1
CBOC				S	Sn	06 13 20.8	-0.9
ZARC	Zaragoza, Cauc	2.46	333	P	Pn	06 12 51.0	-1.9
ZARC				S	Sn	06 13 22.2	-2.1
PLMC	San Jos del P	2.56	262	P	Pn	06 12 54.9	+0.8
YOTC	Yotoco, Valle	2.90	244	P	Pn	06 12 57.4	-1.0
OCAC	Ocana	2.97	8	P	Pn	06 12 59.0	-0.3
OCAC				S	Sn	06 13 35.5	-0.3
DBBC	Dabeiba	3.00	305	P	Pn	06 12 59.4	-0.2
DBBC				S	Sn	06 13 36.0	-0.4
UREC	San Jos de Ur	3.03	324	P	Pn	06 12 57.7	-2.3
UREC				S	Sn	06 13 34.1	-2.9
MACC	Macarena, Meta	3.12	182	P	Pn	06 12 59.4	-1.6
MACC				S	Sn	06 13 34.3	-4.7
GARC	Garzon, Huila	3.54	210	P	Pn	06 13 05.2	-1.4
GARC				S	Sn	06 13 46.9	-2.0
MALC	Bahia Malaga	3.80	251	P	Pn	06 13 09.9	-0.3
FLOC	Florencia	4.14	208	P	Pn	06 13 13.7	-0.6
SJCC	San Jacinto, C	4.80	343	P	Pn	06 13 20.2	-2.8
SJCC				S	Sn	06 14 11.9	-6.5
CRJC	Cerrejon, Guaj	5.77	8	P	Pn	06 13 33.6	-2.2
CRJC				S	Sn	06 14 34.3	-7.0

IDC 24 06:14:21.5±3.1, 33°.26S×177°.89W, h0km, mb3.8/2, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=80.0km s-min=46.0km az=128.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.44	218	Pn	Pn	06 15 55.8	-1.8
	0.6nm,0.3s,baz=297,slow=4.2,SNR=5.8						
URZ				Sn	Sn	06 17 20.1	+8.4
	1.0nm,0.3s,baz=263,slow=22,SNR=9.6						
	1.3nm,0.3s						
ASAR	Alice Springs	43.13	270	P	P	06 22 24.4	+0.4
	0.8nm,0.7s,baz=112,slow=8.1,SNR=8.2						
	0.8nm,0.7s						
WRA	Warramunga Arr	44.37	275	P	P	06 22 33.8	-0.1
	0.7nm,0.4s,baz=115,slow=8.2,SNR=4.1						
	0.7nm,0.4s						
FINES	FINESS Array B	147.84	338	PKPbc	PKPbc	06 34 06.9	-0.8
	3.7nm,1.0s,baz=60,slow=3.4,SNR=5.8						

TRN 24 06:31:31.3, 16°.33N×60°.89W, h37km, MD3.5, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.87	237	eP	Pn	06 31 49.0	+2.0
TBG				eS	Sn	06 32 01.5	+3.0
DSLB	Salisbury	1.03	210	eP	Pn	06 31 50.8	+1.7
DSLB				eS	Sn	06 32 04.7	+2.5
ANBD	Bethesda, Anti	1.10	310	eP	Pn	06 31 51.0	+0.9
ANBD				eS	Sn	06 32 06.0	+1.8
MDN	Morne-Daniel	1.12	206	eP	Pn	06 31 52.1	+1.7
MDN				eS	Sn	06 32 06.7	+2.2
MBFL	Flemmings, Mon	1.34	288	eP	Pn	06 31 55.6	+2.1
MBFL				eS	Sn	06 32 13.0	+3.0
SVN	Savane Anatole	1.50	190	eP	Pn	06 31 57.6	+1.9
SVN				eS	Sn	06 32 17.8	+3.6
ILAM	Ilet Lapin Mar	1.55	180	eP	Pn	06 31 57.9	+1.6
ILAM				eS	Sn	06 32 16.8	+1.8
ANWB	Willy Bob	1.59	327	eP	Pn	06 31 58.4	+1.6
ANWB				eS	Sn	06 32 18.2	+2.1
BIM	Bigot	1.81	186	eP	Pn	06 32 02.1	+2.1
BIM				eS	Sn	06 32 23.1	+1.4
SKI	Saint Kitts	2.04	300	eP	Pn	06 32 05.8	+2.7
SKI				eS	Sn	06 32 29.4	+2.2
SLBI	Saint Lucia, B	2.29	182	eP	Pn	06 32 08.9	+2.4
SLBI				eS	Sn	06 32 35.7	+2.1
S

I46RU	ZALESOVO INFRA	6.62	50	I	I	07 17 45.0
	0.1nm,1.1s,baz=236,slow=316,SNR=7.1					
ZALV	Zalesovo Beam	6.62	50	Pn	Pn	06 40 22.1 +0.5
	0.1nm,0.3s,baz=243,slow=14,SNR=3.9					
	0.6nm,0.5s					

*IDC **24** 06:49:42.3±0.7, 6°.75N×72°.97W, h159km±9km, mb3.2/5, mbtmp3.9/9, Error ellipse: s-maj=26.3km s-min=7.2km az=133.0*
*RSNC **24** 06:49:43.3±0.0, 7°.N±1°×7°.3W±°, h152km±2km, M3.7, mB4.7, mb4.3, ML3.4, Mw(mB)3.9*
ISC 24 06:49:42.3±0.7, **6°.85N**±0°.03×**73°.10W**±0°.04, **h156**km±5km, **n56**, σ1**9**51/97, **mb3.4**/5, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	198	P	Pn	06 50 03.9	+0.1
BARC				S	Sn	06 50 19.3	-1.0
PAMC	Pamplona, Colo	0.63	39	P	Pn	06 50 06.7	+1.1
PAMC				S	Sn	06 50 23.8	+0.4
BRJC	Barrancabermej	0.65	281	P	Pn	06 50 05.6	+0.4
BRJC				S	Sn	06 50 22.6	0.0
RUSC	La Rusia	0.95	179	P	Pn	06 50 07.8	-0.1
RUSC				S	Sn	06 50 26.3	-1.2
TAMC	Tame, Arauca	1.36	108	P	Pn	06 50 12.3	+1.3
TAMC				S	Sn	06 50 33.8	+0.8
PTBC	PUERTO BERRIO,	1.38	257	P	Pn	06 50 10.3	-0.9
PTBC				S	Sn	06 50 31.1	-2.2
OCAC	Ocana	1.40	351	P	Pn	06 50 12.0	+0.5
OCAC				S	Sn	06 50 33.7	-0.2
ZARC	Zaragoza, Cauc	1.86	290	P	Pn	06 50 16.0	-0.2
ZARC				S	Sn	06 50 41.4	-0.9
NORC	Norcasia	2.18	234	P	Pn	06 50 19.5	-0.4
NORC				S	Sn	06 50 47.8	-1.1
CHIC	Chingaza	2.30	196	P	Pn	06 50 21.8	+0.1
CHIC				S	Sn	06 50 51.1	-1.0
ROSC	El Rosal	2.34	211	P	Pn	06 50 23.5	+1.3
	226nm,0.3s,baz=275,slow=3.8,SNR=158					
ROSC				S	Sn	06 50 52.9	0.0
	292nm,0.3s,baz=135,slow=19,SNR=10					
ROSC	El Rosal	2.34	211	P	Pn	06 50 23.4	+1.2
ROSC				S	Sn	06 50 52.2	-0.8
HELC	Santa Helena	2.50	255	P	Pn	06 50 24.4	+0.3
HELC				S	Sn	06 50 55.1	-1.3
CVER	Cruz Verde, Cu	2.51	203	P	Pn	06 50 25.1	+0.8
CVER				S	Sn	06 50 56.4	-0.4
UREC	San Jos de Ur	2.58	290	P	Pn	06 50 23.5	-1.2
UREC				S	Sn	06 50 54.2	-3.2
GUY2C	Guyana, Caldas	2.77	234	P	Pn	06 50 27.7	+0.1
GUY2C				S	Sn	06 51 02.5	0.0
PTGC	Puerto Gaitan,	2.80	160	P	Pn	06 50 27.0	-0.5
PTGC				S	Sn	06 50 59.4	-3.1
RECRC	Villamaria, Ca	2.92	230	P	Pn	06 50 30.7	+1.2
RECRC				S	Sn	06 51 07.3	+1.3
NIZA	Niza - Manizal	2.96	233	P	Pn	06 50 31.5	+1.8
NIZA				S	Sn	06 51 07.7	+1.4
CBOC	Ciudad Bolivar	3.06	251	P	Pn	06 50 31.6	+0.8
CBOC				S	Sn	06 51 07.2	-1.2
DBBC	Dabeiba	3.09	273	P	Pn	06 50 31.2	0.0
DBBC				S	Sn	06 51 06.0	-3.0
SDV	Santo Domingo	3.17	50	P	Pn	06 50 33.2	+1.0
	18nm,0.3s,baz=275,slow=12,SNR=11					
SDV				S	Sn	06 51 10.5	-0.5
	158nm,0.4s,baz=56,slow=22,SNR=37					
SDV	Santo Domingo	3.17	50	P	Pn	06 50 32.9	+0.6
SDV				S	Sn	06 51 09.8	-1.2
ARGC	Ariguani, Magd	3.20	339	P	Pn	06 50 33.7	+1.3
ARGC				S	Sn	06 51 12.5	+1.2
ANIL	Santa Ana	3.28	224	P	Pn	06 50 34.9	+1.1
ANIL				S	Sn	06 51 13.8	+0.2
PRAC	Prado	3.59	210	P	Pn	06 50 37.6	+0.1
PRAC				S	Sn	06 51 18.9	-1.5
APAC	Apartado, Choc	3.61	287	P	Pn	06 50 37.6	0.0
APAC				S	Sn	06 51 20.0	-0.6
ORTC	Ortega, Tolima	3.62	216	P	Pn	06 50 37.9	0.0
ORTC				S	Sn	06 51 20.9	-0.2
SJCC	San Jacinto, C	3.66	326	P	Pn	06 50 37.5	-0.9
SJCC				S	Sn	06 51 18.7	-3.3
PLMC	San Jos del P	3.71	239	P	Pn	06 50 39.2	+0.1
PLMC				S	Sn	06 51 19.2	-4.0
URMC	La Uribe, Meta	3.80	200	P	Pn	06 50 40.4	+0.1
URMC				S	Sn	06 51 24.2	-1.1
CRJC	Cerrejon, Guaj	4.15	3	P	Pn	06 50 44.1	-0.6
CRJC				S	Sn	06 51 31.4	-2.0
GUVC	San Jose del G	4.30	174	P	Pn	06 50 45.9	-0.8
GUVC				S	Sn	06 51 34.0	-3.0
YOTC	Yotoco, Valle	4.31	229	P	Pn	06 50 46.3	-0.6
YOTC				S	Sn	06 51 35.8	-1.4
SMRC	Santa Marta, M	4.43	346	P	Pn	06 50 48.6	+0.3
SMRC				S	Sn	06 51 35.9	-3.9
PIZC	Pizarro, Choco	4.63	246	P	Pn	06 50 51.6	+0.6
PTAC	Punta Ardita,	4.69	274	P	Pn	06 50 50.0	-1.7
MACC	Macarena, Meta	4.74	189	P	Pn	06 50 50.8	-1.6
MACC				S	Sn	06 51 42.3	-4.8
BETC	Betania	4.75	210	P	Pn	06 50 51.5	-1.2
URIC	Uribia, Colomb	4.94	13	P	Pn	06 50 54.2	-0.9
URIC				S	Sn	06 51 51.2	-0.7
JAMC	Jamundi, Valle	5.07	225	P	Pn	06 50 56.3	-0.7
	2μm18nm,0.7s					
MALC	Bahia Malaga	5.07	236	P	Pn	06 50 58.5	+1.7
GARC	Garzon, Huila	5.21	207	P	Pn	06 50 57.8	-1.1
GARC				S	Sn	06 51 54.4	-4.3
POPC	Popayan, Colom	5.57	220	P	Pn	06 51 03.7	0.0
	24nm,0.7s					
POPC				S	Sn	06 52 05.1	-2.2
	24nm,0.7s					
FLOC	Florencia	5.82	206	P	Pn	06 51 06.0	-0.8
	506nm47nm,0.7s					
FLOC				S	Sn	06 52 11.7	-1.2
	506nm47nm,0.7s					
BBAC	Balboa, Cauca	6.33	221	P	Pn	06 51 14.3	+0.5
	410nm18nm,0.6s					
CRUC	La Cruz	6.50	216	P	Pn	06 51 18.5	+2.4
PCRV	Puerto La Cruz	9.00	68	P	Pn	06 51 49.6	+0.6
	11nm,0.9s,baz=27,slow=20,SNR=2.1					
PCRV				S	Sn	06 53 26.4	-2.7
	7.0nm,0.8s,baz=1.5,slow=20,SNR=1.3					
SJG	San Juan	13.08	31	P	Pn	06 52 42.3	-0.1
	3.6nm,0.4s,baz=227,slow=16,SNR=1.8					
TXAR	Lajitas Array	36.46	312	P	P	06 56 33.7	+1.3
	0.5nm,0.6s,baz=117,slow=8.3,SNR=10					
	0.5nm,0.6s					
ULM	Lac du Bonnet	47.27	340	P	P	06 58 00.0	+0.4
	2.1nm,0.7s,baz=162,slow=6.4,SNR=3.5					
	2.1nm,0.7s					
PDAR	Pinedale Array	48.07	324	P	P	06 58 07.0	+0.8
	0.3nm,0.5s,baz=123,slow=9.1,SNR=3.5					
	0.3nm,0.5s					
YKA	Yellowknife Ar	63.24	340	P	P	06 59 54.3	+0.5
	0.8nm,0.6s,baz=138,slow=6.4,SNR=19					
	0.8nm,0.6s					
ILAR	Eielson Array	76.94	335	P	P	07 01 17.7	+0.5
	0.3nm,0.7s,baz=94,slow=3.6,SNR=3.0					
	0.3nm,0.7s					
ASAR	Alice Springs	149.15	234	PKPbc	PKPbc	07 09 12.5	-0.6
	0.9nm,0.6s,baz=120,slow=3.3,SNR=12					
WRA	Warramunga Arr	150.37	241	PKPbc	PKPbc	07 09 15.6	-0.6
	0.7nm,0.4s,baz=110,slow=2.4,SNR=11					

*FUNV **24** 07:00:33.2, 10°.22N×71°.75W, h3km, MW2.9*
*RSNC **24** 07:00:35.9±0.0, 10°.N±2°×7°.2W±°, h1km±4km, M2.2, ML2.1*
ISC 24 07:00:32.8±1.1, **10°.06N**±0°.03×**71°.86W**±0°.03, **h17**km±10km, **n15**, σ0**9**97/29, **Lake Maracaibo**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	Machiques	0.66	269	eP	Pn	07 00 48.3	+0.9
MCQV				eS	Sn	07 00 59.0	+1.6
CRJC	Cerrejon, Guaj	1.38	314	P	Pg	07 00 59.5	0.0
CRJC				S	Sg	07 01 17.6	0.0
CRJC	Cerrejon, Guaj	1.38	314	P	Pg	07 00 59.5	0.0
CRJC				S	Sg	07 01 17.6	0.0
URIC	Uribia, Colomb	1.63	355	P	Pb	07 01 03.3	+0.8
URIC				S	Sg	07 01 25.3	-0.2
URIC	Uribia, Colomb	1.63	355	P	Pb	07 01 03.3	+0.8
URIC				S	Sg	07 01 25.3	-0.2
SDV	Santo Domingo	1.68	134	P	Pg	07 01 05.2	0.0
SDV				S	Sg	07 01 28.1	+0.9
SDV	Santo Domingo	1.68	134	P	Pg	07 01 05.2	0.0
SDV				S	Sg	07 01 28.1	+0.9
SOCV	Socops	2.03	151	eP	Pb	07 01 09.1	-0.1
SOCV				eS	Sb	07 01 34.8	+0.6
CAPV	Capacho	2.23	192	eP	Pb	07 01 13.3	+0.5
CAPV				eS	Sg	07 01 43.2	-1.5
OCAC	Ocana	2.31	219	P	Pb	07 01 15.5	+1.3
OCAC				S	Sg	07 01 46.9	-0.5
OCAC	Ocana	2.31	219	P	Pb	07 01 15.5	+1.3
OCAC				S	Sg	07 01 46.9	-0.5
SJCC	San Jacinto, C	3.27	267	P	Pb	07 01 28.7	-1.8
SJCC				S	Sb	07 02 09.9	-0.2
SJCC	San Jacinto, C	3.27	267	P	Pb	07 01 28.7	-1.8
SJCC				S	Sb	07 02 09.9	-0.2
BAUV	El Baul	3.93	106	eP	Pn	07 01 32.4	0.0
BAUV				eS	Sn	07 02 16.3	-1.8
BENV	Beln	4.20	91	eP	Pn	07 01 35.2	-1.0

*DSN **24** 07:12:16.1±3.1, 29°.33N×55°.10E, h10km, ML3.4/13, Error ellipse: s-maj=37.5km s-min=11.2km az=17.0*
*THR **24** 07:12:25.2±0.0, 28°.64N×54°.95E, h10km±5km, mb4.1*
*OMAN **24** 07:12:25.3±0.8, 28°.57N×55°.02E, h10km, mb4.5/11, ml3.7/15, Error ellipse: s-maj=7.5km s-min=4.7km az=17.0*
*TEH **24** 07:12:26.0, 28°.55N×54°.96E, h20km±42km*
*IDC **24** 07:12:27.3±3.7, 28°.53N×54°.90E, h39km±34km, mb3.7/17, mbtmp3.9/18, ML2.1/1, MS3.9/1, Error ellipse: s-maj=18.2km s-min=16.1km az=45.0*
ISC 24 07:12:24.1±0.5, **28°.60N**±0°.04×**54°.98E**±0°.04, **h10**km, **n136**, σ1**9**92/147, **mb3.9**/27, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	1.07	210	Pg	Pb	07 12 45.7	+0.9
JHRM	Jahrom	1.24	266	Pg	Pg	07 12 48.9	+1.0
BNDS	Bandar-Abbas	1.60	138	Pg	Pn	07 12 54.2	+1.6
BNDS	Bandar-Abbas	1.60	138	ePnA		07 12 54.8	
BNDS				eSg	Sg	07 13 18.2	+2.7
BNDS				IAML		07 13 24.7	
	comp=Z,2.1nm,1.0s						
QIR1	Qir	1.71	266	Pg	Pb	07 12 56.1	+0.4
GHIR	Ghir-Karzin	1.78	260	ePnA		07 12 57.5	
GHIR				IAML		07 13 34.2	
	comp=Z,0.2nm,1.0s						
IBND	Bandar-abas	1.80	129	Pg	Pn	07 12 57.5	+2.3
NGRK	Negar Kerman	1.85	55	Pn	Pn	07 12 58.6	+2.3
LMD1	Lamerd	2.04	232	Pn	Pn	07 13 00.1	+1.6
LMD1	Lamerd	2.04	232	ePn	Pb	07 13 01.3	0.0
LMD1				IAML		07 13 38.9	
	comp=Z,2.8nm,1.0s						
KRBR	Kerman	2.08	48	Pn	Pn	07 13 02.1	+2.8
KRBR	Kerman	2.08	48	ePnA		07 13 02.0	
KRBR				IAML		07 13 37.8	
	comp=Z,2.7nm,1.0s						
KHGB	Koh Gabri	2.20	36	Pn	Pn	07 13 03.9	+3.0
SHI	Shiraz	2.39	296	Pn	Pn	07 13 05.8	+2.3
KHNJ	Kahnooj	2.49	105	Pn	Pn	07 13 06.8	+2.0
CHMN	Cheshme madani	2.56	60	Pn	Pn	07 13 08.8	+2.7
ZRDN	Zarand Kerman	2.72	29	Pn	Pn	07 13 11.4	+3.4
SHME	Shamm	2.75	158	P	Pn	07 13 09.8	+1.6
SHME	Shamm	2.75	158	P	Pn	07 13 07.9	-0.4
KRM1	Kerman Provinc	2.75	46	Pn	Pn	07 13 11.9	+3.4
BANOM	Banah	2.92	156	P	Pn	07 13 11.9	+1.3
BANOM	Banah	2.92	156	i P	Pn	07 13 11.3	+0.7
	SNR=23						
IBAF	Bafgh	3.02	10	Pn	Pn	07 13 15.0	+2.8
KAZ2	Kazeron-Fars-I	3.07	290	Pn	Pn	07 13 14.7	+1.9
AHBU	AHRAM	3.25	275	Pn	Pn	07 13 16.9	+1.8
DSBU	Dashti - Bushe	3.28	267	Pn	Pn	07 13 17.6	+2.0
MASF	Masafi	3.39	162	P	Pn	07 13 19.4	+2.3
	SNR=8.0						
MSFE	Esma-Masafi	3.40	162	i P	Pn	07 13 19.0	+1.8
	SNR=8.0						
MDH	Madha	3.50	160	P	Pn	07 13 20.4	+1.8
MDH	Madha	3.50	160	P	Pn	07 13 19.8	+1.2
NAZ	Nazwa, Dubai	3.65	170	P	Pn	07 13 23.6	+2.9
NAZ	Nazwa, Dubai	3.65	170	P	Pn	07 13 23.2	+2.5
ICHK	Chekchek	3.66	352	Pn	Pn	07 13 24.5	+3.4
YZKH	Yazd	3.79	355	ePnA		07 13 26.3	
YZKH				IAML		07 14 39.1	
	comp=Z,0.2nm,1.0s						
KLNJ	Kolanjah	3.80	310	Pn	Pn	07 13 25.1	+2.1
KLNJ	Kolanjah	3.80	310	ePn	Pn	07 13 25.2	+2.2
KLNJ				IAML		07 14 44.0	
	comp=Z,0.5nm,1.0s						
UOSS	Minazif	3.80	163	P	Pn	07 13 24.4	+1.6
UOSS				S	Sn	07 14 10.1	+2.5
UOSS	Minazif	3.80	163	i P	Pn	07 13 24.4	+1.6
	SNR=5.7						
FAQ	Al Faqa, Dubai	3.88	172	P	Pn	07 13 26.2	+2.3
FAQ	Al Faqa, Dubai	3.88	172	P	Pn	07 13 26.3	+2.4
HATD	Hatta, Dubai	3.90	164	P	Pn	07 13 26.1	+1.9
HATD				S	Sn	07 14 11.2	+1.2
HATD	Hatta, Dubai	3.90	164	P	Pn	07 13 25.9	+1.7
IRAM	Ramesheh	3.91	326	Pn	Pn	07 13 27.2	+2.8
ASUD	Al Ashush, Dub	3.97	175	P	Pn	07 13 28.0	+2.9
ASUD				S	Sn	07 14 13.6	+1.8
ASUD	Al Ashush, Dub	3.97	175	P	Pn	07 13 28.0	+2.9
ASHO	Ashiyiah	4.02	166	P	Pn	07 13 27.7	+1.8
	SNR=33						
ASHO				S	Sn	07 14 13.7	+0.7
ASHO	Ashiyiah	4.02	166	i P	Pn	07 13 27.6	+1.8
	SNR=33						
AJN	Ajban	4.02	180	P	Pn	07 13 28.1	+2.3
AJN	Ajban	4.02	180	P	Pn	07 13 28.1	+2.3
SHMA	Al-Shehemyia	4.50	234	P	Pn	07 13 35.0	+2.6
	SNR=21						
SHMA				S	Sn	07 14 27.8	+3.0
	SNR=14						
ALNE	Al Ain	4.58	171	P	Pn	07 13 35.5	+2.0
	SNR=9.0						
ALNE				S	Sn	07 14 27.1	+0.3
ALNE	Al Ain	4.58	171	i P	Pn	07 13 35.5	+2.0
	SNR=9.1						
NASN	Na'in	4.58	336	ePn	Pn	07 13 36.5	+2.7
NASN				IAML		07 15 03.6	
	comp=Z,0.1nm,1.0s						
IBRJ	Brojen	4.60	317	Pn	Pn	07 13 37.3	+3.2
TPRV	Parvadeh(Tabas	4.65	18	Pn	Pn	07 13 37.7	+3.2
SOHO	SOHO	4.66	162	P	Pn	07 13 35.8	+1.2
SOHO				S	Sn	07 14 30.0	+1.2
SOHO	SOHO	4.66	162	P	Pn	07 13 35.8	+1.2
ANAR	Anarak	4.70	347	Pn	Pn	07 13 38.1	+2.9
BSRN	Basiran	4.91	46	Pn	Pn	07 13 41.0	+2.9
BSRN	Basiran	4.91	46	ePn	Pn	07 13 40.8	+2.7
BSRN				IAML		07 15 13.4	
	comp=Z,0.1nm,1.0s						
MZWR	Madinat Zayed	4.92	192	P	Pn	07 13 39.9	+1.7
MZWR				S	Sn	07 14 37.1	+1.9
TRNA	Turayna	5.12	222	P	Pn	07 13 42.6	+1.8
TRNA				S	Sn	07 14 40.4	+0.4
ZHSF	Zahedan	5.17	77	Pn	Pn	07 13 44.8	+3.0
TKDS	Koohdasht(Taba	5.32	20	Pn	Pn	07 13 47.0	+3.2
SMRA	Abu-Samra	5.34	225	P	Pn	07 13 45.6	+1.7
SMRA				S	Sn	07 14 47.3	+1.7
	SNR=8.6						
TABS	Tabas	5.36	20	ePnA		07 13 47.6	
TABS				IAML		07 15 43.8	
	comp=Z,0.1nm,1.0s						
IPIR	Pirpir	5.38	320	Pn	Pn	07 13 48.3	+3.6
SLWR	Sila	5.39	214	P	Pn	07 13 45.0	+0.4
HOQ	Hoqain	5.42	157	P	Pn	07 13 44.6	-0.5
ARQ	Araqi	5.42	165	P	Pn	07 13 46.2	+1.1
	SNR=6.6						
ARQ				S	Sn	07 14 48.1	+0.5
TNSJ	Nastanj	5.52	14	Pn	Pn	07 13 49.4	+2.9
IKLH	Kolahrood	5.53	329	Pn	Pn	07 13 50.0	+3.2
MZR	Muzera	5.74	194	P	Pn	07 13 50.7	+1.3
MZR				S	Sn	07 14 57.0	+1.7
MZR	Muzera	5.74	194	P	Pn	07 13 50.4	+1.0
CHBR	Chabahar	5.75	120	Pn	Pn	07 13 50.3	+0.8
KRSH	Karshahi	5.88	336	Pn	Pn	07 13 54.7	+3.2
AFRZ	Afriz	5.92	35	Pn	Pn	07 13 55.3	+3.2
BSY	Bisya	6.17	161	P	Pn	07 13 56.6	+1.3
BSY				S	Sn	07 15 06.5	+0.5
SMDO	Samad	6.17	153	P	Pn	07 13 57.3	+1.8
	SNR=16						
SMDO				S	Sn	07 15 08.4	+2.1
ISFB	Sefidab	6.19	338	Pn	Pn	07 13 58.6	+2.9
WSAR	Wadi Sarin	6.27	148	Pn	Pn	07 13 57.6	+0.8
	baz=356,slow=24,SNR=37						
WSAR				Sn	Sn	07 15 05.6	-2.9
	baz=228,slow=24,SNR=3.6						
NGCH	Negor - Chabah	6.37	119	Pn	Pn	07 13 59.4	+1.3
NGCH	Negor - Chabah	6.37	119	P	Pn	07 13 59.2	+1.1
	SNR=5.3						
NGCH				S	Sn	07 15 10.6	-0.4
KBD	Kabd	6.41	277	P	Pn	07 14 00.2	+1.6
KBD				S	Sn	07 15 12.8	+0.8
SRVN	Saravan	6.67	99	Pn	Pn	07 14 04.5	+2.2
SRVN	Saravan	6.67	99	ePn	Pn	07 14 06.2	+3.9
SRVN				IAML		07 14 55.6	
	comp=Z,0.0nm,1.0s						
KHMZ	Khomeyn	6.69	321	ePnA		07 14 05.7	
KHMZ				IAML		07 15 27.9	
	comp=Z,0.1nm,1.0s						
SHRT	Shahrakht	6.78	41	ePn	Pn	07 14 07.3	+3.5
SHRT				IAML		07 16 13.3	
	comp=Z,0.0nm,1.0s						
JMDO	Jabal Madar	6.82	155	P	Pn	07 14 05.6	+1.3
	SNR=6.0						
IVRN	Varamin	6.95	337	Pn	Pn	07 14 08.8	+2.8
WBK	Wadi Bani Khal	6.97	148	P	Pn	07 14 07.0	+0.6
	SNR=9.9						
ASAO	Ashtian	7.28	326	ePn	Pn	07 14 13.3	+2.5
ASAO				eSg	Sn	07 15 35.4	+1.8
ASAO				IAML		07 15 42.9	
	comp=Z,0.1nm,1.0s						
DAMV	Damavand	7.46	341	ePn	Pn	07 14 15.6	+2.4
DAMV				IAML		07 15 26.6	
	comp=Z,0.0nm,1.0s						
JLN	Jalan Bani Buh	7.57	147	P	Pn	07 14 14.5	-0.1
	SNR=8.7						
MHTO	MHTO	8.05	160	P	Pn	07 14 21.4	+0.2
	SNR=10						
DQM	DQM	8.95	164	P	Pn	07 14 32.8	-0.7
RAYN	Ar Rayn	9.91	241	P	Pn	07 14 45.9	-0.8
RAYN	Ar Rayn	9.91	241	i P	Pn	07 14 45.2	-1.4
	SNR=5.2						
DOK	Doka	9.97	185	P	Pn	07 14 47.1	-0.4
WHFO	Wadi Hawf	10.69	186	P	Pn	07 14 56.6	-0.9
DMTO	DMTO	10.84	180	P	Pn	07 14 58.4	-1.0
	SNR=11						
SRSL	SARDASHT	11.07	316	ePnA		07 15 06.3	
SRSL				IAML		07 20 31.4	
	comp=Z,0.0nm,0.5s						
ABTO	Aybut	11.30	188	P	Pn	07 15 05.0	-0.8
MMAI	Mount Meron Ar	17.38	290	P	Pn	07 16 26.7	-0.1
	comp=Z,0.4nm,0.3s,baz=108,slow=8.2,SNR=1.4						
BRTR	Keskin Array B	20.80	308	P	P	07 17 06.5	+0.8
	comp=Z,3.0nm,0.6s,baz=129,slow=13,SNR=19						
	comp=Z,3.0nm,0.6s						
BVAR	Borovoye Array	26.93	21	P	P	07 18 06.0	+0.6
	comp=Z,0.8nm,0.5s,baz=224,slow=8.3,SNR=5.8						
	comp=Z,0.8nm,0.5s						
MKAR	Makanchi Array	28.01	42	P	P	07 18 16.0	+0.7
	comp=Z,0.2nm,0.4s,baz=238,slow=10,SNR=6.5						
	comp=Z,0.2nm,0.4s						
KURBB	Kurchatov Arra	28.29	32	P	P	07 18 17.1	-0.5
	comp=Z,0.3nm,0.4s,baz=232,slow=8.6,SNR=4.2						
	comp=Z,0.3nm,0.4s						
AKASG	Malin Array Be	29.41	326	P	P	07 18 25.6	-1.9
	comp=Z,0.2nm,0.3s,baz=136,slow=8.6,SNR=4.1						
	comp=Z,0.2nm,0.3s						
ZALV	Zalesovo Beam	33.38	32	P	P	07 19 02.1	-0.4
	comp=Z,2.0nm,0.6s,baz=245,slow=11,SNR=8.5						
	comp=Z,2.0nm,0.6s						
RONA	Rosalia, Austr	35.43	313	eP	P	07 19 20.3	-0.1
	comp=Z,0.3nm,0.2s						
CONA	Conrad Observa	35.78	313	i P	P	07 19 23.2	-0.3
	comp=Z,0.2nm,0.2s						
ARSA	Arzberg	35.79	312	i P	P	07 19 23.3	-0.2
	comp=Z,0.3nm,0.3s						
KBA	Koelnbreinsper	37.17	311	eP	P	07 19 35.2	-0.2
	comp=Z,0.6nm,0.3s						
GERES	GERESS Array B	37.43	314	P	P	07 19 36.5	-1.1
	comp=Z,0.6nm,0.5s,baz=109,slow=7.4,SNR=10						
	comp=Z,0.6nm,0.5s						
KHC	Kasperske Hory	37.59	315	eP	P	07 19 37.5	-1.3
ABTA	Abfaltersbach	37.64	311	eP	P	07 19 39.4	0.0
	comp=Z,0.6nm,0.4s						
LESA	Schwarzleotal	37.70	312	i P	P	07 19 39.3	-0.5
	comp=Z,0.9nm,0.3s						
FINES	FINESS Array B	38.04	338	P	P	07 19 41.4	-1.0
	comp=Z,2.3nm,0.7s,baz=139,slow=12,SNR=5.5						
	comp=Z,2.3nm,0.7s						
WTTA	Wattenberg	38.35	311	eP	P	07 19 44.7	-0.7
	comp=Z,1.5nm,0.4s,SNR=4.4						
SQTA	Sankt Quirin	38.62	311	i P	P	07 19 46.7	-0.9
	comp=Z,3.7nm,0.4s,SNR=7.3						
MOTA	Moosalm	38.72	311	i P	P	07 19 47.2	-1.3
	comp=Z,0.5nm,0.2s						
FETA	Feichten	38.90	311	i P	P	07 19 49.3	-0.7
	comp=Z,1.8nm,0.4s						
DAVA	Damuels	39.52	311	i P	P	07 19 54.5	-0.7
	comp=Z,5.1nm,0.3s,SNR=8.9						
HFS	Hagfors	42.01	330	P	P	07 20 14.5	-0.8
	comp=Z,1.9nm,0.6s,baz=129,slow=12,SNR=8.3						
	comp=Z,1.9nm,0.6s						
NB2	NORSAR Subarra	43.52	331	P	P	07 20 26.9	-0.8
	comp=Z,2.9nm,1.1s,baz=117,slow=7.9						
NOA	NORSAR Array B	43.52	331	P	P	07 20 26.4	-1.3
	comp=Z,1.3nm,0.8s,baz=116,slow=7.9,SNR=3.8						
	comp=Z,1.3nm,0.8s						
ARCES	ARCESS Array B	44.35	346	P	P	07 20 34.5	+0.3
	comp=Z,2.7n

1.3nm,0.3s,baz=353,slow=13,SNR=52
MKAR Lg Lg 07 27 19.1
1.4nm,0.3s,baz=358,slow=28,SNR=26
ZSN Zaisan 3.04 133 *e*P **Pg 07 26 45.0 -0.6**
2.6nm,0.3s
ZSN *e*S **Sg 07 27 27.0 +2.1**
13nm,0.5s
I46RU ZALESOVO INFRA 4.84 23 I I 07 53 50.0
0.1nm,1.0s,baz=203,slow=318,SNR=4.9
ZALV Zalesovo Beam 4.84 23 Pn **Pn 07 26 58.7 -2.8**
0.1nm,0.3s,baz=203,slow=14,SNR=3.8
ZALV Pg **Pb 07 27 13.3 +0.2**
0.2nm,0.3s,baz=202,slow=17,SNR=5.2
ZALV Lg Lg 07 28 13.2
0.4nm,0.3s,baz=195,slow=28,SNR=10
0.7nm,0.6s
BRZS Berezniki 5.78 278 *e*P **Pb 07 27 27.1 -1.8**
0.2nm,0.1s
BRZS *e*S **Sb 07 28 38.7 +0.1**
1.0nm,0.2s
BVAR Borovoye Array 7.82 301 Pn **Pn 07 27 42.3 0.0**
0.3nm,0.6s,baz=122,slow=16,SNR=1.9
BVAR Sn **Sn 07 29 07.4 -4.1**
baz=101,slow=23,SNR=7.0
BVAR Lg Lg 07 29 52.8
baz=106,slow=26,SNR=5.1

ASIES ***24*** *07:56:50.3,24°.70N×122°.43E,h109km,ML4.8,Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}6.56; $M_{\theta\theta}$-6.04; $M_{\phi\phi}$-0.51; $M_{r\theta}$-2.05; $M_{\theta\phi}$-3.72; $M_{\phi r}$-6.87; Fault plane solution: $M_0$10.25410×10^{21} NP1: ϕ_s87.44000°,δ33.14000°,λ137.78000°. NP2: ϕ_s214.66000°,δ68.45000°,λ64.19000°. Principal axes: T Plg58.4140°, Azm88.6770°; N Plg23.8820°, Azm224.7390°; P Plg19.4100°, Azm323.7140°;*
IDC ***24*** *07:56:50.4±3.1,24°.79N×122°.49E,h114km±28km, mb3.5/13,mbtmp3.9/15,MS3.5/2 Error ellipse: s-maj=25.4km s-min=13.6km az=66.0*
TAP ***24*** *07:56:50.3,24°.70N×122°.43E,h109km,ML4.8,C*
JMA ***24*** *07:56:50.4±0.1,25°.N±1°×122°.5E±0°.3,h105km±1km, MV3.8/18,NW OFF ISHIGAKIJIMA IS*
ISC 24 07:56:49.8±0.6,24°.68N±0°.03×122°.48E±0°.02,h111km±4km, n194,σ0^{s}89/328,mb3.7/13,82C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34 222**		⇑*i*P	**Pn**	**07 57 06.1**	**+0.5**
EOS2				S	**Sn**	**07 57 17.3**	**-0.2**
EOS3	**EOS3**	**0.41 201**		⇑*i*P	**Pn**	**07 57 06.6**	**+0.6**
EOS3				*i* S	**Sn**	**07 57 19.6**	**+1.4**
JYNG	**Yonagunijimaku**	**0.48 118**		*i* P	**Pn**	**07 57 06.7**	**+0.2**
JYNG				S	**Sn**	**07 57 18.5**	**-0.6**
EGS		**0.53 289**		*e*P	**Pn**	**07 57 07.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.53 114**		P	**Pn**	**07 57 06.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.53 114**		S	**Sn**	**07 57 19.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.53 114**		⇑*i*P	**Pn**	**07 57 07.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.53 114**		P	**Pn**	**07 57 07.0**	**+0.2**
YOJ				S	**Sn**	**07 57 19.1**	**-0.6**
TWB1	**Santiao Chiao**	**0.56 307**		⇑*i*P	**Pn**	**07 57 07.2**	**+0.1**
TWB1				*i* S	**Sn**	**07 57 19.4**	**-0.7**
EOS4	**EOS4**	**0.57 195**		⇑P	**Pn**	**07 57 06.8**	**+0.1**
EOS4				*e*S	**Sn**	**07 57 19.0**	**-0.5**
ESAO	**Su ao**	**0.59 260**		⇑*e*P	**Pn**	**07 57 07.1**	**-0.2**
ESAO				*i* S	**Sn**	**07 57 19.6**	**-0.9**
NTC	**Toucheng**	**0.62 287**		*e*P	**Pn**	**07 57 07.9**	**+0.4**
NTC				*e*S	**Sn**	**07 57 20.6**	**-0.3**
TIPB	**Shuangxi**	**0.67 297**		⇑*i*P	**Pn**	**07 57 08.2**	**+0.2**
TIPB				S	**Sn**	**07 57 20.7**	**-0.9**
ILA	**Ilan**	**0.67 278**		⇑P	**Pn**	**07 57 08.3**	**+0.4**
ILA				*i* S	**Sn**	**07 57 21.4**	**-0.2**
EWUT	**Wuta**	**0.68 250**		⇑*i*P	**Pn**	**07 57 08.3**	**+0.3**
EWUT				*e*S	**Sn**	**07 57 21.5**	**-0.2**
SXI1	**Grass Mountain**	**0.69 307**		⇑*i*P	**Pn**	**07 57 08.4**	**+0.2**
SXI1				S	**Sn**	**07 57 21.5**	**-0.6**
NDS	**Dongshan**	**0.70 267**		P	**Pn**	**07 57 08.5**	**+0.3**
NDS				*i* S	**Sn**	**07 57 21.6**	**-0.4**
ENA	**Nanau**	**0.72 250**		⇑*i*P	**Pn**	**07 57 08.6**	**+0.3**
ENA				*e*S	**Sn**	**07 57 22.0**	**-0.3**
TWE	**Neicheng**	**0.74 274**		⇑*i*P	**Pn**	**07 57 08.9**	**+0.3**
TWE				S	**Sn**	**07 57 22.1**	**-0.5**
NWF	**Wu-fen Shan**	**0.75 302**		⇑*i*P	**Pn**	**07 57 09.0**	**+0.3**
NWF				*i* S	**Sn**	**07 57 22.4**	**-0.5**
WFSB	**Wu-fen Shan**	**0.75 302**		⇑*i*P	**Pn**	**07 57 08.9**	**+0.4**
WFSB				S	**Sn**	**07 57 22.1**	**-0.6**
EAHA	**Aohua**	**0.76 243**		⇑*i*P	**Pn**	**07 57 08.9**	**+0.2**
EAHA				*i* S	**Sn**	**07 57 22.9**	**0.0**
EHP	**Heping Village**	**0.77 242**		*e*P	**Pn**	**07 57 08.9**	**+0.1**
EHP				*e*S	**Sn**	**07 57 23.2**	**+0.1**
TNOU	**National Taiwa**	**0.80 306**		⇑*i*P	**Pn**	**07 57 10.2**	**+1.2**
TNOU				*e*S	**Sn**	**07 57 23.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.82 276**		⇑*i*P	**Pn**	**07 57 09.5**	**+0.2**
FUSB				*e*S	**Sn**	**07 57 22.9**	**-1.1**
ENTT	**Nioudou**	**0.83 268**		⇑*i*P	**Pn**	**07 57 09.9**	**+0.6**
ENTT				*e*S	**Sn**	**07 57 24.6**	**+0.4**
TWA	**Mucha**	**0.87 291**		⇑*i*P	**Pn**	**07 57 10.8**	**+1.1**
TWA				*e*S	**Sn**	**07 57 23.2**	**-1.6**
LATG	**Datong**	**0.88 261**		⇑*i*P	**Pn**	**07 57 10.4**	**+0.5**
LATG				S	**Sn**	**07 57 25.6**	**+0.4**
NWLT	**Wulai**	**0.90 277**		⇑*i*P	**Pn**	**07 57 10.1**	**+0.1**
NWLT				*e*S	**Sn**	**07 57 24.5**	**-0.8**
NHY	**Taipei**	**0.90 294**		*e*P	**Pn**	**07 57 09.9**	**-0.1**
ETL	**Fush Village**	**0.94 237**		P	**Pn**	**07 57 10.3**	**-0.1**
ETL				*e*S	**Sn**	**07 57 25.3**	**-0.6**
NACB	**Ninganchiao**	**0.95 238**		P	**Pn**	**07 57 10.1**	**-0.4**
NACB	**Ninganchiao**	**0.95 238**		⇑*i*P	**Pn**	**07 57 10.2**	**-0.4**
NACB				*e*S	**Sn**	**07 57 25.6**	**-0.5**
TATO	**Taipei**	**0.95 289**		P	**Pn**	**07 57 10.3**	**-0.2**
TATO	**Taipei**	**0.95 289**		P	**Sn**	**07 57 24.7**	**-1.4**
TAP	**Taipei**	**0.96 292**		*i* P	**Pn**	**07 57 10.2**	**-0.4**
TAP				*i* S	**Sn**	**07 57 25.1**	**-1.2**
ZUZH	**Zhuzihu**	**0.98 300**		⇑P	**Pn**	**07 57 11.0**	**+0.1**
ZUZH				*i* S	**Sn**	**07 57 25.6**	**-1.1**
TWY	**Chenhua**	**1.00 307**		⇑*i*P	**Pn**	**07 57 10.6**	**-0.4**
TWY				*i* S	**Sn**	**07 57 26.0**	**-1.0**
TWD	**Chiawan**	**1.00 234**		⇑*i*P	**Pn**	**07 57 10.8**	**-0.2**
TWD				*i* S	**Sn**	**07 57 26.4**	**-0.6**
YHNB	**Yeheng**	**1.01 270**		P	**Pn**	**07 57 11.6**	**+0.4**
YHNB	**Yeheng**	**1.01 270**		S	**Sn**	**07 57 26.9**	**-0.4**
YHNB	**Yeheng**	**1.01 270**		⇑*i*P	**Pn**	**07 57 11.8**	**+0.7**
YHNB				S	**Sn**	**07 57 26.8**	**-0.5**
ANP	**Anpu**	**1.01 300**		⇑P	**Pn**	**07 57 11.2**	**0.0**
ANP				*e*S	**Sn**	**07 57 25.6**	**-1.8**
PCYT	**Pengchaiyu**	**1.02 339**		⇓*i*P	**Pn**	**07 57 12.0**	**+0.8**
PCYT				*e*S	**Sn**	**07 57 28.1**	**+0.7**
NSK	**Sanguang**	**1.02 270**		⇑*i*P	**Pn**	**07 57 11.9**	**+0.6**
NSK				*i* S	**Sn**	**07 57 27.1**	**-0.4**
ETLH	**Xiulin Townshi**	**1.02 243**		⇑*i*P	**Pn**	**07 57 11.4**	**+0.1**
ETLH				*e*S	**Sn**	**07 57 27.7**	**+0.1**
NNSB	**Datong**	**1.03 256**		⇑*i*P	**Pn**	**07 57 11.8**	**+0.4**
NNSB				*e*S	**Sn**	**07 57 27.4**	**-0.4**
NNS	**Nan Shan**	**1.04 257**		⇑*i*P	**Pn**	**07 57 11.9**	**+0.4**
NNS				*i* S	**Sn**	**07 57 27.4**	**-0.6**
NTST	**Danshui**	**1.06 298**		⇑P	**Pn**	**07 57 12.0**	**+0.5**
NTST				*i* S	**Sn**	**07 57 27.6**	**-0.5**
HWA	**Hwalien**	**1.06 229**		⇑*i*P	**Pn**	**07 57 11.8**	**+0.2**
HWA				*i* S	**Sn**	**07 57 28.1**	**-0.1**
ETM	**Tongmen**	**1.15 232**		⇑*i*P	**Pn**	**07 57 12.5**	**0.0**
ETM				*e*S	**Sn**	**07 57 28.7**	**-1.1**
LXIB	**Xiulin Townshi**	**1.17 236**		⇑*i*P	**Pn**	**07 57 12.9**	**-0.1**
LXIB				*i* S	**Sn**	**07 57 29.4**	**-1.1**
IRIF	**Iriomote-Funau**	**1.19 106**		*i* P	**Pn**	**07 57 13.4**	**+0.4**
IRIF				S	**Sn**	**07 57 30.4**	**-0.1**
KSHI	**Guanxi Townshi**	**1.19 275**		⇑*i*P	**Pn**	**07 57 14.0**	**+1.0**
KSHI				*e*S	**Sn**	**07 57 31.1**	**+0.5**
FUSS	**Fushou**	**1.21 250**		⇑*i*P	**Pn**	**07 57 14.0**	**+0.5**
FUSS				*e*S	**Sn**	**07 57 31.6**	**+0.2**
NCUH	**Zhongli**	**1.21 284**		P	**Pn**	**07 57 13.8**	**+0.5**
NCUH				S	**Sn**	**07 57 31.7**	**+0.6**
SHUL	**Shoufeng**	**1.22 224**		⇑*i*P	**Pn**	**07 57 13.5**	**+0.1**
SHUL				*e*S	**Sn**	**07 57 30.5**	**-0.7**
WHF	**Hehuan Shan**	**1.23 245**		⇓*i*P	**Pn**	**07 57 14.3**	**+0.4**
WHF				S	**Sn**	**07 57 31.5**	**-0.6**
NFF	**Wufeng Townshi**	**1.24 268**		⇑*i*P	**Pn**	**07 57 14.3**	**+0.6**
NFF				S	**Sn**	**07 57 31.1**	**-0.7**
TWT	**Tachien**	**1.26 251**		⇑*i*P	**Pn**	**07 57 15.2**	**+1.1**
TWT				*i* S	**Sn**	**07 57 32.7**	**+0.3**
ESL	**Shilin**	**1.28 228**		⇑*i*P	**Pn**	**07 57 13.8**	**-0.3**
ESL				*e*S	**Sn**	**07 57 31.1**	**-1.5**
TEGC	**Jichi Village**	**1.29 222**		P	**Pn**	**07 57 14.4**	**+0.2**
TEGC				*e*S	**Sn**	**07 57 32.5**	**-0.2**
LIOB	**Emei**	**1.33 269**		⇑*i*P	**Pn**	**07 57 15.3**	**+0.6**
LIOB				*e*S	**Sn**	**07 57 33.8**	**+0.2**
NSTT	**Nanjuang**	**1.35 268**		⇑*i*P	**Pn**	**07 57 15.4**	**+0.5**
NSTT				*e*S	**Sn**	**07 57 33.4**	**-0.5**
HATJ	**Hateruma jima**	**1.35 117**		P	**Pn**	**07 57 15.7**	**+0.8**
HATJ				S	**Sn**	**07 57 34.0**	**0.0**
SBCB	**Hsinchu**	**1.36 275**		⇑*i*P	**Pn**	**07 57 15.8**	**+0.8**
SBCB				*e*S	**Sn**	**07 57 33.8**	**-0.4**
HSN	**Hsinchu**	**1.38 276**		⇑*i*P	**Pn**	**07 57 15.5**	**+0.3**
HSN				*i* S	**Sn**	**07 57 33.7**	**-0.8**
WARBT	**Fenglin Townsh**	**1.38 227**		⇑*i*P	**Pn**	**07 57 14.8**	**-0.5**
WARBT				*e*S	**Sn**	**07 57 32.6**	**-2.0**
EGFH	**Guangfu**	**1.39 224**		*e*P	**Pn**	**07 57 15.1**	**-0.2**
EGFH				*e*S	**Sn**	**07 57 32.9**	**-1.8**
OWD	**Renai**	**1.39 239**		⇑*i*P	**Pn**	**07 57 15.9**	**+0.5**
OWD				*e*S	**Sn**	**07 57 34.1**	**-0.8**
WUSB	**Renai**	**1.42 242**		⇑*i*P	**Pn**	**07 57 16.6**	**+0.8**
WUSB				*e*S	**Sn**	**07 57 35.2**	**-0.3**
WHP	**Taichung City**	**1.45 255**		⇑*i*P	**Pn**	**07 57 17.6**	**+1.4**
WHP				*i* S	**Sn**	**07 57 36.7**	**+0.5**
JKRS	**Kuro-shima**	**1.46 107**		P	**Pn**	**07 57 16.9**	**+0.8**
JKRS				S	**Sn**	**07 57 36.4**	**+0.3**
HGSD	**Ruisui**	**1.52 220**		⇑*i*P	**Pn**	**07 57 17.0**	**+0.1**
HGSD				*e*S	**Sn**	**07 57 37.1**	**-0.4**
VWDT	**VWDT**	**1.53 233**		⇑*i*P	**Pn**	**07 57 17.7**	**+0.7**
VWDT				*e*S	**Sn**	**07 57 37.0**	**-0.6**
NMLH	**Miaoli**	**1.54 265**		⇑P	**Pn**	**07 57 17.9**	**+0.8**
NMLH				*i* S	**Sn**	**07 57 37.5**	**-0.5**
JIJ	**Ishigaki jima**	**1.54 101**		*i* P	**Pn**	**07 57 17.5**	**+0.4**
JIJ				S	**Sn**	**07 57 37.3**	**-0.6**
WCS	**Beigang Elemen**	**1.56 247**		P	**Pn**	**07 57 18.9**	**+1.6**
WCS				S	**Sn**	**07 57 39.0**	**+0.7**
EHYH	**Wanrong**	**1.57 222**		*e*P	**Pn**	**07 57 17.2**	**-0.2**
EHYH				*e*S	**Sn**	**07 57 37.1**	**-1.4**
EHY	**Hungye**	**1.57 223**		⇑P	**Pn**	**07 57 17.0**	**-0.5**
EHY				*i* S	**Sn**	**07 57 36.9**	**-1.8**
NSY	**Sanyi**	**1.59 261**		⇑*i*P	**Pn**	**07 57 17.4**	**-0.3**
NSY				*i* S	**Sn**	**07 57 38.4**	**-0.6**
TWQ1	**Liyutan**	**1.59 259**		⇑*i*P	**Pn**	**07 57 18.6**	**+0.9**
TWQ1				*e*S	**Sn**	**07 57 38.3**	**-0.7**
SMLT	**Sun Moon Lake**	**1.64 242**		⇑*i*P	**Pn**	**07 57 18.5**	**0.0**
SMLT				*e*S	**Sn**	**07 57 41.7**	**+1.4**
SSLB	**Suanglung**	**1.65 238**		P	**Pn**	**07 57 19.0**	**+0.6**
SSLB	**Suanglung**	**1.65 238**		P	**Sn**	**07 57 40.9**	**+0.6**
SSLB	**Suanglung**	**1.65 238**		⇑*i*P	**Pn**	**07 57 19.1**	**+0.6**
SSLB				*e*S	**Sn**	**07 57 39.4**	**-0.9**
JISG	**Ishigakijimahi**	**1.67 93**		*i* P	**Pn**	**07 57 19.3**	**+0.7**
JISG				S	**Sn**	**07 57 40.2**	**-0.4**
TYC	**Yuchr**	**1.67 243**		⇑P	**Pn**	**07 57 19.9**	**+1.2**
TYC				*i* S	**Sn**	**07 57 41.5**	**+0.9**
YULB	**Yu-li**	**1.67 221**		P	**Pn**	**07 57 18.3**	**-0.5**
YULB	**Yu-li**	**1.67 221**		P	**Sn**	**07 57 39.3**	**-1.5**
YULB	**Yu-li**	**1.67 221**		⇑P	**Pn**	**07 57 18.2**	**-0.5**
YULB				*i* S	**Sn**	**07 57 39.2**	**-1.6**
EYUL	**Yuli**	**1.70 219**		*e*P	**Pn**	**07 57 19.1**	**+0.1**
EYUL				*e*S	**Sn**	**07 57 40.0**	**-1.2**
TWF1	**Yuli**	**1.71 220**		⇑*i*P	**Pn**	**07 57 18.7**	**-0.4**
TWF1				*e*S	**Sn**	**07 57 39.9**	**-1.6**
WDJ	**Dajia District**	**1.71 259**		⇑P	**Pn**	**07 57 20.1**	**+1.0**
WDJ				*e*S	**Sn**	**07 57 40.9**	**-0.6**
TCU	**Taichung**	**1.73 253**		⇑P	**Pn**	**07 57 20.4**	**+1.0**
TCU				*e*S	**Sn**	**07 57 41.1**	**-0.8**
WHYT	**Xinyi Township**	**1.78 237**		⇑*e*P	**Pn**	**07 57 21.5**	**+1.4**
WHYT				*i* S	**Sn**	**07 57 44.3**	**+1.2**
CHKH	**Chenggong**	**1.78 214**		⇑*i*P	**Pn**	**07 57 19.9**	**-0.1**
CHKH				S	**Sn**	**07 57 41.0**	**-2.1**
WJS	**Zhushan**	**1.81 242**		⇑P	**Pn**	**07 57 21.8**	**+1.4**
WNT	**Mingjian**	**1.82 245**		⇑*i*P	**Pn**	**07 57 21.8**	**+1.3**
WNT				*e*S	**Sn**	**07 57 44.5**	**+0.5**
FULB	**Fuli**	**1.83 217**		⇑P	**Pn**	**07 57 20.8**	**+0.1**
FULB				*i* S	**Sn**	**07 57 44.1**	**-0.1**
WCHH	**Zhanghua**	**1.85 252**		⇑P	**Pn**	**07 57 21.8**	**+0.9**
WCHH				S	**Sn**	**07 57 44.8**	**+0.1**
CHKT	**Chengkung**	**1.87 213**		⇑*i*P	**Pn**	**07 57 20.9**	**-0.3**
CHKT				*e*S	**Sn**	**07 57 43.8**	**-1.3**
EHD	**Haiduan**	**1.92 218**		*e*P	**Pn**	**07 57 20.9**	**-0.9**
EHD				*e*S	**Sn**	**07 57 44.2**	**-1.9**
ALS	**Alishan**	**1.92 233**		⇑P	**Pn**	**07 57 23.4**	**+1.3**
ALS				*e*S	**Sn**	**07 57 47.5**	**+0.8**
ECS	**Chishang**	**1.95 217**		*e*P	**Pn**	**07 57 22.6**	**+0.4**
ECS				*e*S	**Sn**	**07 57 47.3**	**+0.3**
CHN5	**Tsauling**	**1.97 237**		*e*P	**Pn**	**07 57 23.9**	**+1.4**
CHN5				*e*S	**Sn**	**07 57 47.4**	**0.0**
ELDTW	**Lidau**	**2.00 222**		P	**Pn**	**07 57 22.8**	**0.0**
ELDTW				*e*S	**Sn**	**07 57 46.8**	**-1.3**
EDH	**Donghe**	**2.01 213**		⇑P	**Pn**	**07 57 22.9**	**0.0**
EDH				S	**Sn**	**07 57 47.0**	**-1.2**
WGK	**Gukeng**	**2.01 241**		*e*P	**Pn**	**07 57 24.3**	**+1.4**
WGK				S	**Sn**	**07 57 49.4**	**+1.1**
WDL	**Douliou City**	**2.01 242**		*e*P	**Pn**	**07 57 24.4**	**+1.4**
WDL				*e*S	**Sn**	**07 57 50.1**	**+1.8**
JTJ	**Tarama**	**2.02 91**		P	**Pn**	**07 57 24.2**	**+1.2**
JTJ				S	**Sn**	**07 57 48.6**	**+0.1**
WDLH	**Douliu**	**2.03 241**		*e*P	**Pn**	**07 57 24.2**	**+1.1**
WCKO	**Fanlu**	**2.11 235**		⇑*e*P	**Pn**	**07 57 25.9**	**+1.7**
WCKO				*e*S	**Sn**	**07 57 52.1**	**+1.5**
WTK	**Tuku**	**2.15 243**		*e*P	**Pn**	**07 57 26.0**	**+1.3**
WTK				S	**Sn**	**07 57 52.6**	**+1.3**
LONT	**Longtian**	**2.15 215**		*e*P	**Pn**	**07 57 24.2**	**-0.6**
LONT				*e*S	**Sn**	**07 57 50.2**	**-1.3**
STYH	**Taoyuan**	**2.16 227**		*e*P	**Pn**	**07 57 25.2**	**+0.4**
STYH				*i* S	**Sn**	**07 57 51.4**	**-0.3**
WTCT	**Ta-ch'eng**	**2.16 249**		*e*P	**Pn**	**07 57 25.3**	**+0.5**
WTCT				*e*S	**Sn**	**07 57 51.6**	**-0.2**
CHN4	**Tsaushan**	**2.17 233**		⇑*i*P	**Pn**	**07 57 26.4**	**+1.4**
CHN4				*e*S	**Sn**	**07 57 53.3**	**+1.3**
TPUB	**Ta-pu**	**2.18 231**		P	**Pn**	**07 57 26.3**	**+1.2**
TPUB	**Ta-pu**	**2.18 231**		S	**Sn**	**07 57 53.9**	**+1.8**
TPUB	**Ta-pu**	**2.18 231**		⇑P	**Pn**	**07 57 26.4**	**+1.2**
TPUB				*e*S	**Sn**	**07 57 52.7**	**+0.6**
LDUT	**Ludao**	**2.20 205**		*i* P	**Pn**	**07 57 25.3**	**0.0**
LDUT				*e*S	**Sn**	**07 57 50.9**	**-1.7**
CHY	**Chiayi**	**2.21 238**		⇑P	**Pn**	**07 57 26.7**	**+1.2**
CHY				*e*S	**Sn**	**07 57 53.1**	**+0.2**
WTP	**Ta-pu**	**2.22 231**		P	**Pn**	**07 57 27.0**	**+1.3**
WTP				*e*S	**Sn**	**07 57 53.4**	**+0.2**
TWGBT	**Beinan**	**2.25 215**		P	**Pn**	**07 57 25.7**	**-0.3**
TWGBT	**Beinan**	**2.25 215**		S	**Sn**	**07 57 52.6**	**-1.2**
TWGBT	**Beinan**	**2.25 215**		P	**Pn**	**07 57 25.7**	**-0.3**
TWGBT				*e*S	**Sn**	**07 57 53.0**	**-0.8**
TWG	**Pinlang**	**2.25 215**		P	**Pn**	**07 57 25.7**	**-0.4**
TWG				*i* S	**Sn**	**07 57 52.2**	**-1.6**
TTN	**Taitung**	**2.27 213**		*e*P	**Pn**	**07 57 26.9**	**+0.6**
TTN				*e*S	**Sn**	**07 57 53.5**	**-0.6**
TWK	**Hsinying**	**2.30 233**		⇑P	**Pn**	**07 57 27.8**	**+1.1**
TWK				*e*S	**Sn**	**07 57 54.5**	**-0.5**
WSF	**Szhu**	**2.31 244**		*e*P	**Pn**	**07 57 27.4**	**+0.7**
CHN1	**Nanshi**	**2.32 231**		⇑P	**Pn**	**07 57 28.2**	**+1.3**
CHN1				*e*S	**Sn**	**07 57 56.5**	**+1.0**
SNST	**Tainan City**	**2.32 232**		*e*P	**Pn**	**07 57 27.7**	**+0.8**
SNST				*e*S	**Sn**	**07 57 55.3**	**-0.1**
SGST	**Jiashian**	**2.35 228**		⇑*i*P	**Pn**	**07 57 27.9**	**+0.6**
SGST				*e*S	**Sn**	**07 57 56.6**	**+0.5**
WSL	**Shuilin Townsh**	**2.36 241**		⇑*e*P	**Pn**	**07 57 27.9**	**+0.6**
WSL				*e*S	**Sn**	**07 57 57.2**	**+1.0**
ICHU	**Yijhu**	**2.40 237**		⇑P	**Pn**	**07 57 29.0**	**+1.1**
ICHU				*i* S	**Sn**	**07 57 57.3**	**+0.1**
JIRB	**Irabujima**	**2.45 86**		P	**Pn**	**07 57 29.5**	**+0.9**
JIRB				S	**Sn**	**07 57 58.6**	**+0.2**
CHN8	**Yiju**	**2.46 238**		*e*P	**Pn**	**07 57 29.1**	**+0.4**
CHN8				*e*S	**Sn**	**07 57 59.2**	**+0.6**
ECL	**Taimali**	**2.50 214**		*e*P	**Pn**	**07 57 28.8**	**-0.4**
ECL				*e*S	**Sn**	**07 57 57.3**	**-2.1**
CHN3	**Shinhua**	**2.51 231**		*e*P	**Pn**	**07 57 30.7**	**+1.4**
SSHA	**Shanhua**	**2.52 233**		*e*P	**Pn**	**07 57 30.6**	**+1.1**
JIKM	**Ikemajima**	**2.53 84**		*e*P	**Pn**	**07 57 30.9**	**+1.4**
JIKM				S	**Sn**	**07 58 00.5**	**+0.4**
SCST	**Cishan**	**2.55 226**		*e*P	**Pn**	**07 57 31.5**	**+1.7**
SCST				*e*S	**Sn**	**07 58 01.6**	**+1.0**
SHHT	**Tainan City**	**2.55 230**		*e*P	**Pn**	**07 57 32.0**	**+2.1**
SHHT				*e*S	**Sn**	**07 58 01.0**	**+0.3**
JMJ	**Miyako jima 2**	**2.56 86**		P	**Pn**	**07 57 30.0**	**0.0**
JMJ	**Miyako jima 2**	**2.56 86**		S	**Sn**	**07 58 00.2**	**-0.7**
SCLT	**Jiali**	**2.57 235**		*e*P	**Pn**	**07 57 30.1**	**0.0**
SCLT				*i* S	**Sn**	**07 58 02.5**	**+1.3**
TSMG	**Majia**	**2.58 221**		*e*P	**Pn**	**07 57 31.8**	**+1.5**
TSMG				*e*S	**Sn**	**07 58 01.1**	**-0.4**
JMJ2	**Miyako jima3**	**2.59 88**		P	**Pn**	**07 57 32.0**	**+1.6**
JMJ2				S	**Sn**	**07 58 02.6**	**+1.0**
TWM1	**Shoushan**	**2.64 226**		*e*P	**Pn**	**07 57 33.1**	**+2.1**
JOGS	**Gusukube**	**2.66 88**		*e*P	**Pn**	**07 57 32.7**	**+1.4**
JOGS				S	**Sn**	**07 58 03.9**	**+0.6**
MASBT	**Mashibuluo**	**2.66 220**		*e*P	**Pn**	**07 57 32.6**	**+1.3**
MASBT				*e*S	**Sn**	**07 58 03.8**	**+0.5**
TSCK	**Chigu Township**	**2.67 236**		⇑*e*P	**Pn**	**07 57 32.4**	**+1.0**
TSCK				*i* S	**Sn**	**07 58 03.5**	**+0.1**
MATB	**Ma-tsu**	**2.72 303**		*e*P	**Pn**	**07 57 31.9**	**-0.2**
TAWH	**Dawu Township**	**2.75 212**		*e*P	**Pn**	**07 57 32.6**	**+0.2**
TAWH				S	**Sn**	**07 58 03.6**	**-1.7**
LAY	**Lan-yu**	**2.76 198**		P	**Pn**	**07 57 32.3**	**-0.4**
VWUC	**VWUC**	**2.77 277**		⇑P	**Pn**	**07 57 32.7**	**0.0**
LYUB	**Lan-yu**	**2.79 197**		⇓P	**Pn**	**07 57 32.3**	**-0.7**
SCZT	**Fangliau**	**2.86 217**		*e*P	**Pn**	**07 57 35.5**	**+1.6**
SCZT				*e*S	**Sn**	**07 58 07.3**	**-0.7**
PNG	**Penghu**	**2.89 248**		*e*P	**Pn**	**07 57 34.1**	**-0.3**
SLIU	**Shizi**	**2.89 213**		*e*P	**Pn**	**07 57 34.8**	**+0.4**
SLIU				*e*S	**Sn**	**07 58 07.8**	**-0.9**
PHUB	**P'eng-hu**	**2.90 247**		*e*P	**Pn**	**07 57 34.1**	**-0.3**
WDGT	**Dungji**	**2.94 242**		*e*P	**Pn**	**07 57 35.3**	**+0.3**
XPSS	**Dashiqiu**	**3.05 318**		*e*P	**Pn**	**07 57 36.2**	**-0.2**
PTMZ	**Houxiangcun**	**3.08 277**		*e*P	**Pn**	**07 57 36.6**	**-0.1**
TWKBT	**Hengchun**	**3.12 210**		*e*P	**Pn**	**07 57 37.5**	**0.0**
VCHM	**Qimei**	**3.15 243**		*e*P	**Pn**	**07 57 37.1**	**-0.6**
MHZQ	**Yeshan**	**3.43 295**		*e*P	**Pn**	**07 57 40.9**	**-0.6**
KNM	**Kinmen**	**3.69 267**		*e*P	**Pn**	**07 57 46.4**	**+1.4**
KNMB	**Chin-men Tao**	**3.73 268**		*e*P	**Pn**	**07 57 45.3**	**-0.3**
AXDP	**Jialang**	**4.11 274**		*e*P	**Pn**	**07 57 50.8**	**+0.3**
DSXP	**Dongshan**	**4.71 259**		*e*P	**Pn**	**07 57 58.8**	**+0.1**
JOW	**Kunigami**	**5.65 66**		P	**Pn**	**07 58 10.7**	**-0.7**
JOW	103nm,0.2s,baz=120,slow=28,SNR=214			S	**Sn**	**07 59 10.3**	**-4.7**
	9.5nm,0.3s,baz=78,slow=29,SNR=1.1						
JOW	**Kunigami**	**5.65 66**		P	**Pn**	**07 58 10.6**	**-0.7**
JOW	**Kunigami**	**5.65 66**		S	**Sn**	**07 59 13.8**	**-1.2**
JMZ	**Minamidaito 2**	**8.00 80**		P	**Pn**	**07 58 43.4**	**+0.2**
TGY	**Tagaytay City**	**10.62

CATAC **24** *09:30:02.8±0.1, 12°N±2°×8°7W±°, h79km±1km, M5.4/73, mb5.7/11, mB5.7/11, MLv5.6/73, Mw(mB)5.2/11, MwMwp5.0/3, Mwp5.3/3, Error ellipse: s-maj=3.9km s-min=1.2km az=33.1, confirmed*
NEIC **24** *09:30:02.5, 12.09N×86.71W, h89km*
UCR **24** *09:30:02.8±1.3, 12.13N×86.69W, h81km±11km, MW5.5, MB5.3(NEIC)*
GCG **24** *09:30:06.8±2.3, 12.15N×87.13W, h116km±38km, MD5.2, ML4.8, MW4.5*
SNET **24** *09:30:11.0±0.8, 12.59N×87.17W, h45km±364km, ML5.4*
ISC 24 09:30:01.0±0.3, 12.15N±0.03×86.72W±0.03, h110km±2km, h110km:pP-P, n1094, σ1°45/1162, mb4.8/65, 41C-69D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.13**	**75**	P	**Pn**	**09 30 15.7**	**-0.5**
COPN	**Copaltepe**	**0.13**	**75**	P	**Pn**	**09 30 15.5**	**-0.7**
BC86	**Nagarote**	**0.19**	**52**	⇑P	**Pn**	**09 30 15.8**	**-0.6**
BC86	**Nagarote**	**0.19**	**52**	S	**Sn**	**09 30 26.6**	**-1.3**
BC86	**Nagarote**	**0.19**	**52**	S	**Sn**	**09 30 26.7**	**-1.2**
BC86	**Nagarote**	**0.19**	**52**	P	**Pn**	**09 30 15.7**	**-0.7**
LEVN	**Ruinas Leon Vi**	**0.27**	**22**	⇑P	**Pn**	**09 30 16.4**	**-0.2**
LEVN				S	**Sn**	**09 30 27.9**	**-0.5**
LEVN	**Ruinas Leon Vi**	**0.27**	**22**	S	**Sn**	**09 30 29.2**	**+0.8**
LEVN	**Ruinas Leon Vi**	**0.27**	**22**	P	**Pn**	**09 30 16.4**	**-0.2**
AMTN	**Mateare**	**0.30**	**72**	⇑P	**Pn**	**09 30 16.7**	**0.0**
AMTN	**Mateare**	**0.30**	**72**	S	**Sn**	**09 30 28.0**	**-0.5**
AMTN	**Mateare**	**0.30**	**72**	S	**Sn**	**09 30 28.6**	**0.0**
AMTN	**Mateare**	**0.30**	**72**	P	**Pn**	**09 30 16.8**	**0.0**
BC84	**Volcan Momotom**	**0.30**	**35**	⇑P	**Pn**	**09 30 16.6**	**-0.2**
BC84	**Volcan Momotom**	**0.30**	**35**	S	**Sn**	**09 30 28.2**	**-0.4**
BC84	**Volcan Momotom**	**0.30**	**35**	S	**Sn**	**09 30 27.7**	**-0.9**
BC84	**Volcan Momotom**	**0.30**	**35**	P	**Pn**	**09 30 16.6**	**-0.2**
MOMN	**Momotombo**	**0.31**	**34**	⇑P	**Pn**	**09 30 16.6**	**-0.3**
MOMN				S	**Sn**	**09 30 27.7**	**-1.1**
MOMN	**Momotombo**	**0.31**	**34**	P	**Pn**	**09 30 16.6**	**-0.3**
CNGN	**Cerro Negro**	**0.35**	**3**		**Pn**	**09 30 16.4**	**-0.6**
CNGN	**Cerro Negro**	**0.35**	**3**	⇑P	**Pn**	**09 30 16.8**	**-0.3**
CNGN	**Cerro Negro**	**0.35**	**3**	P	**Pn**	**09 30 16.8**	**-0.3**
APYN	**Apoyeque**	**0.37**	**76**	⇓P	**Pn**	**09 30 16.7**	**-0.4**
APYN				S	**Sn**	**09 30 29.0**	**-0.2**
APYN	**Apoyeque**	**0.37**	**76**	P	**Pn**	**09 30 16.8**	**-0.4**
APYN				S	**Sn**	**09 30 29.5**	**+0.3**
APQ2	**Apoyeque**	**0.39**	**82**	⇑P	**Pn**	**09 30 17.0**	**-0.1**
APQ2				S	**Sn**	**09 30 28.6**	**-0.7**
APQ2	**Apoyeque**	**0.39**	**82**	P	**Pn**	**09 30 17.1**	**-0.1**
APQ2				S	**Sn**	**09 30 29.5**	**+0.2**
ABCN	**Banco Central**	**0.40**	**93**	⇓P	**Pn**	**09 30 17.3**	**0.0**
ABCN	**Banco Central**	**0.40**	**93**	S	**Sn**	**09 30 29.3**	**-0.1**
ABCN	**Banco Central**	**0.40**	**93**	P	**Pn**	**09 30 17.3**	**0.0**
ILCN	**San Idelfonso**	**0.43**	**3**	S	**Sn**	**09 30 28.0**	**-1.8**
ILCN	**San Idelfonso**	**0.43**	**3**	P	**Pn**	**09 30 14.4**	**-3.0**
ALLN	**Telcor Managua**	**0.44**	**89**	⇑P	**Pn**	**09 30 17.4**	**0.0**
ALLN	**Telcor Managua**	**0.44**	**89**	S	**Sn**	**09 30 30.0**	**+0.2**
ALLN	**Telcor Managua**	**0.44**	**89**	P	**Pn**	**09 30 17.4**	**0.0**
ALLN	**Telcor Managua**	**0.44**	**89**	S	**Sn**	**09 30 29.6**	**-0.1**
USIM	**UNAN**	**0.44**	**94**		**Pn**	**09 30 17.2**	**-0.3**
USIM	**UNAN**	**0.44**	**94**	⇓P	**Pn**	**09 30 17.5**	**0.0**
USIM	**UNAN**	**0.44**	**94**	S	**Sn**	**09 30 29.6**	**-0.2**
USIM	**UNAN**	**0.44**	**94**	S	**Sn**	**09 30 29.8**	**0.0**
USIM	**UNAN**	**0.44**	**94**	P	**Pn**	**09 30 17.5**	**0.0**
PLRN	**Geotermica Pol**	**0.44**	**354**	⇑P	**Pn**	**09 30 17.2**	**-0.3**
PLRN				S	**Sn**	**09 30 29.7**	**-0.2**
PLRN	**Geotermica Pol**	**0.44**	**354**	P	**Pn**	**09 30 17.2**	**-0.3**
PLRN				S	**Sn**	**09 30 29.6**	**-0.2**
TISN	**Laguna Tiscapa**	**0.44**	**90**	⇑P	**Pn**	**09 30 15.8**	**-1.7**
TISN	**Laguna Tiscapa**	**0.44**	**90**	P	**Pn**	**09 30 15.8**	**-1.7**
CRUN	**El Crucero**	**0.44**	**111**	P	Pn	09 30 10.9	-6.7
UNAN	**Cigeo UNAN**	**0.44**	**94**	⇑P	**Pn**	**09 30 17.4**	**-0.1**
UNAN				S	**Sn**	**09 30 29.6**	**-0.2**
UNAN	**Cigeo UNAN**	**0.44**	**94**	S	**Sn**	**09 30 30.4**	**+0.5**
UNAN	**Cigeo UNAN**	**0.44**	**94**	P	**Pn**	**09 30 17.4**	**-0.1**
ENAN	**Enatrel Managu**	**0.45**	**94**	⇓P	**Pn**	**09 30 17.6**	**+0.1**
ENAN	**Enatrel Managu**	**0.45**	**94**	S	**Sn**	**09 30 30.3**	**+0.4**
ENAN	**Enatrel Managu**	**0.45**	**94**	S	**Sn**	**09 30 29.9**	**-0.1**
ENAN	**Enatrel Managu**	**0.45**	**94**	P	**Pn**	**09 30 17.6**	**+0.1**
R4DEC	**Barrio San Lui**	**0.46**	**90**	P	**Pn**	**09 30 17.5**	**0.0**
R4DEC	**Barrio San Lui**	**0.46**	**90**	S	**Sn**	**09 30 29.7**	**-0.4**
R4DEC	**Barrio San Lui**	**0.46**	**90**	S	**Sn**	**09 30 30.5**	**+0.5**
R4DEC	**Barrio San Lui**	**0.46**	**90**	P	**Pn**	**09 30 17.6**	**0.0**
MGAN	**Managua**	**0.46**	**90**	⇓P	**Pn**	**09 30 17.6**	**0.0**
MGAN	**Managua**	**0.46**	**90**	S	**Sn**	**09 30 30.1**	**+0.1**
MGAN	**Managua**	**0.46**	**90**	S	**Sn**	**09 30 29.9**	**-0.2**
MGAN	**Managua**	**0.46**	**90**	P	**Pn**	**09 30 17.6**	**0.0**
QUEN	**Al S del Volca**	**0.46**	**344**	⇑P	**Pn**	**09 30 17.7**	**+0.1**
QUEN				S	**Sn**	**09 30 30.3**	**+0.1**
QUEN	**Al S del Volca**	**0.46**	**344**	P	**Pn**	**09 30 17.8**	**+0.1**
QUEN				S	**Sn**	**09 30 31.0**	**+0.8**
HERN	**Volcan Telica**	**0.47**	**347**		**Pn**	**09 30 17.8**	**0.0**
HERN	**Volcan Telica**	**0.47**	**347**	⇑P	**Pn**	**09 30 17.6**	**-0.2**
HERN	**Volcan Telica**	**0.47**	**347**	S	**Sn**	**09 30 30.2**	**-0.2**
HERN	**Volcan Telica**	**0.47**	**347**	S	**Sn**	**09 30 31.1**	**+0.7**
HERN	**Volcan Telica**	**0.47**	**347**	P	**Pn**	**09 30 17.6**	**-0.2**
MAFN	**Magfor**	**0.47**	**96**	⇓P	**Pn**	**09 30 17.7**	**+0.1**
MAFN	**Magfor**	**0.47**	**96**	S	**Sn**	**09 30 30.4**	**+0.2**
MAFN	**Magfor**	**0.47**	**96**	S	**Sn**	**09 30 30.0**	**-0.2**
MAFN	**Magfor**	**0.47**	**96**	P	**Pn**	**09 30 17.8**	**+0.1**
AERN	**Aeropuerto Man**	**0.54**	**90**	P	**Pn**	**09 30 17.7**	**-0.3**
AERN	**Aeropuerto Man**	**0.54**	**90**	S	**Sn**	**09 30 31.0**	**0.0**
AERN	**Aeropuerto Man**	**0.54**	**90**	S	**Sn**	**09 30 31.3**	**+0.3**
AERN	**Aeropuerto Man**	**0.54**	**90**	P	**Pn**	**09 30 17.8**	**-0.3**
MAS3	**Al N del Volca**	**0.55**	**103**	⇓P	**Pn**	**09 30 17.9**	**-0.3**
MAS3				S	**Sn**	**09 30 30.8**	**-0.3**
MAS3	**Al N del Volca**	**0.55**	**103**	S	**Sn**	**09 30 31.6**	**+0.5**
MAS3	**Al N del Volca**	**0.55**	**103**	P	**Pn**	**09 30 17.9**	**-0.3**
BC87	**San Francisco**	**0.55**	**49**	⇓P	**Pn**	**09 30 18.4**	**+0.2**
BC87	**San Francisco**	**0.55**	**49**	S	**Sn**	**09 30 31.1**	**-0.1**
BC87	**San Francisco**	**0.55**	**49**	P	**Pn**	**09 30 18.4**	**+0.2**
BC87	**San Francisco**	**0.55**	**49**	S	**Sn**	**09 30 31.7**	**+0.5**
SABN	**Sabanita**	**0.58**	**109**	P	**Pn**	**09 30 18.3**	**-0.1**
SABN	**Sabanita**	**0.58**	**109**	P	**Pn**	**09 30 18.2**	**-0.1**
MASN	**Masaya**	**0.58**	**106**	P	**Pn**	**09 30 18.4**	**-0.1**
MASN				S	**Sn**	**09 30 31.9**	**+0.4**
MASN	**Masaya**	**0.58**	**106**	S	**Sn**	**09 30 32.8**	**+1.2**
MASN	**Masaya**	**0.58**	**106**	P	**Pn**	**09 30 18.5**	**+0.1**
MASN	**Masaya**	**0.58**	**106**	*e*P	**Pn**	**09 30 18.5**	**+0.1**
NANN	**Nandasmo**	**0.62**	**109**	⇓P	**Pn**	**09 30 19.6**	**+0.9**
NANN	**Nandasmo**	**0.62**	**109**	S	**Sn**	**09 30 32.8**	**+0.7**
NANN	**Nandasmo**	**0.62**	**109**	P	**Pn**	**09 30 19.6**	**+0.9**
CRIN	**San Cristobal**	**0.64**	**330**		**Pn**	**09 30 18.6**	**-0.3**
CRIN	**San Cristobal**	**0.64**	**330**	P	**Pn**	**09 30 19.1**	**+0.2**
CRIN	**San Cristobal**	**0.64**	**330**	⇑P	**Pn**	**09 30 19.1**	**+0.2**
CRIN	**San Cristobal**	**0.64**	**330**	S	**Sn**	**09 30 32.7**	**+0.3**
CRIN	**San Cristobal**	**0.64**	**330**	P	**Pn**	**09 30 19.1**	**+0.2**
CRIN	**San Cristobal**	**0.64**	**330**	P	**Pn**	**09 30 19.1**	**+0.2**
SBEN	**San Benito**	**0.67**	**76**	⇓P	**Pn**	**09 30 19.4**	**+0.4**
SBEN	**San Benito**	**0.67**	**76**	S	**Sn**	**09 30 33.2**	**+0.5**
SBEN	**San Benito**	**0.67**	**76**	S	**Sn**	**09 30 34.0**	**+1.3**
SBEN	**San Benito**	**0.67**	**76**	P	**Pn**	**09 30 19.5**	**+0.4**
AESN	**El Sauce Leon**	**0.76**	**13**	⇓P	**Pn**	**09 30 20.3**	**+0.4**
AESN	**El Sauce Leon**	**0.76**	**13**	S	**Sn**	**09 30 33.8**	**-0.3**
AESN	**El Sauce Leon**	**0.76**	**13**	S	**Sn**	**09 30 34.7**	**+0.7**
AESN	**El Sauce Leon**	**0.76**	**13**	P	**Pn**	**09 30 20.3**	**+0.4**
LIMN	**Finca el Limon**	**0.97**	**21**	⇓P	**Pn**	**09 30 23.0**	**+0.9**
LIMN	**Finca el Limon**	**0.97**	**21**	P	**Pn**	**09 30 23.0**	**+0.9**
BOAB	**BOACO BROADBAN**	**.07**	**74**		**Pn**	**09 30 23.3**	**+0.3**
BOAB	**BOACO BROADBAN**	**.07**	**74**	⇓P	**Pn**	**09 30 23.9**	**+1.0**
BOAB	**BOACO BROADBAN**	**.07**	**74**	S	**Sn**	**09 30 39.1**	**-0.4**
BOAB	**BOACO BROADBAN**	**.07**	**74**	P	**Pn**	**09 30 23.7**	**+0.8**
MATN	**Matagalpa**	**1.10**	**45**	⇓P	**Pn**	**09 30 24.4**	**+1.1**
MATN	**Matagalpa**	**1.10**	**45**	P	**Pn**	**09 30 24.3**	**+1.0**
ARIN	**Rivas**	**1.11**	**128**	⇓P	**Pn**	**09 30 23.7**	**+0.4**
ARIN	**Rivas**	**1.11**	**128**	S	**Sn**	**09 30 39.5**	**-0.6**
ARIN	**Rivas**	**1.11**	**128**	P	**Pn**	**09 30 23.8**	**+0.4**
POTN	**Potosi Cosigui**	**1.15**	**318**	⇓P	**Pn**	**09 30 24.2**	**+0.5**
POTN				S	**Sn**	**09 30 41.4**	**+0.5**
POTN	**Potosi Cosigui**	**1.15**	**318**	S	**Sn**	**09 30 41.6**	**+0.7**
POTN	**Potosi Cosigui**	**1.15**	**318**	P	**Pn**	**09 30 24.2**	**+0.5**
CSGN	**Cosiguina Volc**	**1.16**	**315**	⇓P	**Pn**	**09 30 24.4**	**+0.4**
CSGN				S	**Sn**	**09 30 41.7**	**+0.3**
CSGN	**Cosiguina Volc**	**1.16**	**315**	P	**Pn**	**09 30 24.4**	**+0.4**
CSGN	**Cosiguina Volc**	**1.16**	**315**	*e*P	**Pn**	**09 30 24.5**	**+0.5**
CONN	**Concepcion**	**1.22**	**118**	⇓P	**Pn**	**09 30 24.5**	**-0.1**
CONN				S	**Sn**	**09 30 42.5**	**+0.2**
CONN	**Concepcion**	**1.22**	**118**	S	**Sn**	**09 30 44.0**	**+1.6**
CONN	**Concepcion**	**1.22**	**118**	P	**Pn**	**09 30 24.5**	**-0.1**
RCPN	**Sur Rio San Ju**	**1.50**	**24**	⇓P	**Pn**	**09 30 29.7**	**+1.7**
RCPN	**Sur Rio San Ju**	**1.50**	**24**	P	**Pn**	**09 30 29.7**	**+1.7**
LCRUZ	**La Cruz**	**1.50**	**135**	*e*P	**Pn**	**09 30 29.4**	**+1.6**
LCRUZ				*e*S	**Sn**	**09 30 49.4**	**+1.1**
CARN	**Rivas**	**1.51**	**129**	⇓P	**Pn**	**09 30 28.4**	**+0.5**
CARN				S	**Sn**	**09 30 48.9**	**+0.5**
CARN	**Rivas**	**1.51**	**129**	P	**Pn**	**09 30 28.4**	**+0.5**
RCVN	**Varillal2**	**1.52**	**20**	⇑P	**Pn**	**09 30 29.8**	**+1.7**
RCVN	**Varillal2**	**1.52**	**20**	S	**Sn**	**09 30 51.4**	**+2.5**
RCVN	**Varillal2**	**1.52**	**20**	P	**Pn**	**09 30 29.8**	**+1.7**
CNCH	**Conchagua**	**1.56**	**316**	⇓P	**Pn**	**09 30 29.2**	**+0.5**
CNCH				*e*S	**Sn**	**09 30 46.3**	**-3.4**
CNCH	**Conchagua**	**1.56**	**316**	⇓P	**Pn**	**09 30 29.2**	**+0.5**
CNCH	**Conchagua**	**1.56**	**316**	S	**Sn**	**09 30 50.3**	**+0.6**
CNCH	**Conchagua**	**1.56**	**316**	P	**Pn**	**09 30 29.2**	**+0.5**
LCND	**La Caada**	**1.62**	**315**	⇓P	**Pn**	**09 30 29.7**	**+0.4**
LCND				*e*S	**Sn**	**09 30 46.6**	**-4.6**
LCND	**La Caada**	**1.62**	**315**	⇓P	**Pn**	**09 30 29.8**	**+0.4**
LCND	**La Caada**	**1.62**	**315**	S	**Sn**	**09 30 51.4**	**+0.5**
LCND	**La Caada**	**1.62**	**315**	P	**Pn**	**09 30 29.8**	**+0.4**
VORI	**VORI**	**1.89**	**134**	*e*P	**Pn**	**09 30 32.9**	**+0.1**
VRLE	**La Escondida,**	**1.89**	**135**	*e*P	**Pn**	**09 30 33.1**	**+0.4**
GPS3	**Bodega del ICE**	**1.92**	**136**	*e*P	**Pn**	**09 30 35.5**	**+2.5**
ALIBA	**Liberia Airpor**	**1.93**	**143**	*e*P	**Pn**	**09 30 35.1**	**+2.1**
GPS2	**Hotel Rincn d**	**1.93**	**136**	*e*P	**Pn**	**09 30 33.7**	**+0.5**
CNRM	**Centro Naciona**	**1.94**	**313**	*e*P	**Pn**	**09 30 34.0**	**+0.8**
CNRM	**Centro Naciona**	**1.94**	**313**	⇓P	**Pn**	**09 30 34.0**	**+0.8**
CNRM	**Centro Naciona**	**1.94**	**313**	S	**Sn**	**09 30 59.2**	**+1.5**
CNRM	**Centro Naciona**	**1.94**	**313**	P	**Pn**	**09 30 34.2**	**+1.0**
BLLM	**Bellamira**	**1.96**	**311**	⇑*i*P	**Pn**	**09 30 34.4**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.98**	**344**		**Pn**	**09 30 35.1**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.98**	**344**	⇓P	**Pn**	**09 30 35.5**	**+1.7**
TGUH				S	**Sn**	**09 31 00.6**	**+1.8**
TGUH	**Tegucigalpa,Un**	**1.98**	**344**	P	**Pn**	**09 30 35.5**	**+1.7**
LCY	**Lacayo**	**1.99**	**310**	⇓*i*P	**Pn**	**09 30 35.0**	**+1.0**
RANC	**El Ranchito**	**2.00**	**310**	⇑*e*P	**Pn**	**09 30 35.0**	**+1.0**
RANC	**El Ranchito**	**2.00**	**310**	⇑P	**Pn**	**09 30 35.0**	**+1.0**
RANC	**El Ranchito**	**2.00**	**310**	S	**Sn**	**09 31 00.5**	**+1.2**
RANC	**El Ranchito**	**2.00**	**310**	P	**Pn**	**09 30 35.1**	**+1.0**
PACA	**Pacayal**	**2.04**	**310**	*e*P	**Pn**	**09 30 35.6**	**+1.0**
PACA	**Pacayal**	**2.04**	**310**	⇑P	**Pn**	**09 30 35.7**	**+1.0**
PACA	**Pacayal**	**2.04**	**310**	S	**Sn**	**09 31 01.6**	**+1.2**
PACA	**Pacayal**	**2.04**	**310**	P	**Pn**	**09 30 35.7**	**+1.0**
HORNC	**Horníllas**	**2.08**	**133**	*e*P	**Pn**	**09 30 35.8**	**+0.7**
COLC	**Colonia**	**2.09**	**135**	*e*P	**Pn**	**09 30 36.1**	**+0.9**
CUI	**Cuipilapa**	**2.12**	**134**	*e*P	**Pn**	**09 30 36.8**	**+1.1**
BAGA	**Bagaces**	**2.15**	**138**	*e*P	**Pn**	**09 30 37.8**	**+1.9**
ALJI	**Alcalda de J**	**2.15**	**303**	⇓*i*P	**Pn**	**09 30 36.8**	**+0.9**
ALJI	**Alcalda de J**	**2.15**	**303**	⇓P	**Pn**	**09 30 36.9**	**+0.9**
ALJI	**Alcalda de J**	**2.15**	**303**	S	**Sn**	**09 31 02.5**	**-0.2**
ALJI	**Alcalda de J**	**2.15**	**303**	P	**Pn**	**09 30 36.9**	**+0.9**
CAHU	**Cacacuatique**	**2.17**	**318**	⇑*e*P	**Pn**	**09 30 37.5**	**+1.2**
SACU	**Santa Cruz**	**2.18**	**149**	*e*P	**Pn**	**09 30 37.3**	**+1.1**
TECA	**Tecapa**	**2.19**	**308**	*i* P	**Pn**	**09 30 37.5**	**+0.9**
VERA	**Finca Concepci**	**2.22**	**125**	*e*P	**Pn**	**09 30 37.7**	**+0.9**
TENO	**El Achiote**	**2.23**	**130**	*e*P	**Pn**	**09 30 38.0**	**+1.0**
PQSS	**Presa 15 de Se**	**2.32**	**310**	*e*P	**Pn**	**09 30 39.1**	**+1.0**
PQSS	**Presa 15 de Se**	**2.32**	**310**	⇑P	**Pn**	**09 30 39.1**	**+1.0**
PQSS	**Presa 15 de Se**	**2.32**	**310**	P	**Pn**	**09 30 39.2**	**+1.1**
CNAS	**Canas**	**2.33**	**137**	*e*P	**Pn**	**09 30 39.7**	**+1.4**
NICO	**Nicoya**	**2.36**	**148**	*e*P	**Pn**	**09 30 39.5**	**+0.9**
TECO	**Alcaldia de Te**	**2.44**	**305**	⇓*e*P	**Pn**	**09 30 40.3**	**+0.6**
TECO	**Alcaldia de Te**	**2.44**	**305**	⇓P	**Pn**	**09 30 40.5**	**+0.8**
TECO	**Alcaldia de Te**	**2.44**	**305**	S	**Sn**	**09 31 08.9**	**-0.4**
TECO	**Alcaldia de Te**	**2.44**	**305**	P	**Pn**	**09 30 40.6**	**+0.9**
CMARA	**Lajas Hojancha**	**2.47**	**149**	⇓P	**Pn**	**09 30 41.0**	**+0.9**
CMARA	**Lajas Hojancha**	**2.47**	**149**	S	**Sn**	**09 31 08.8**	**-1.3**
CMARA	**Lajas Hojancha**	**2.47**	**149**	P	**Pn**	**09 30 41.3**	**+1.2**
CMARA	**Lajas Hojancha**	**2.47**	**149**	*e*P	**Pn**	**09 30 41.1**	**+1.0**
SCLA	**Alcaldia de Sa**	**2.50**	**309**	⇓P	**Pn**	**09 30 41.5**	**+1.2**
SCLA	**Alcaldia de Sa**	**2.50**	**309**	S	**Sn**	**09 31 13.0**	**+2.3**
SCLA	**Alcaldia de Sa**	**2.50**	**309**	P	**Pn**	**09 30 41.6**	**+1.2**
UESV	**Universidad de**	**2.50**	**307**	P	**Pn**	**09 30 41.8**	**+1.4**
UESV	**Universidad de**	**2.50**	**307**	S	**Sn**	**09 31 12.0**	**+1.2**
UESV	**Universidad de**	**2.50**	**307**	P	**Pn**	**09 30 41.9**	**+1.4**
JTS	**Las Juntas de**	**2.53**	**137**		**Pn**	**09 30 42.2**	**+1.3**
JTS	**Las Juntas de**	**2.53**	**137**	P	**Pn**	**09 30 41.3**	**+0.4**
	3μm,0.8s,baz=310,slow=8.4,SNR=465						
JTS				S	**Sn**	**09 31 11.3**	**-0.2**
	2μm,0.4s,baz=296,slow=19,SNR=12						
JTS	**Las Juntas de**	**2.53**	**137**	*e*P	**Pn**	**09 30 42.0**	**+1.1**
JUNT	**Juntas**	**2.53**	**137**	*e*P	**Pn**	**09 30 42.0**	**+1.2**
INDI	**Punta indio, G**	**2.56**	**152**	P	**Pn**	**09 30 41.9**	**+0.6**
INDI	**Punta indio, G**	**2.56**	**152**	S	**Sn**	**09 31 10.1**	**-2.1**
INDI	**Punta indio, G**	**2.56**	**152**	P	**Pn**	**09 30 41.9**	**+0.6**
COEG	**Centro de Oper**	**2.57**	**305**	⇓*e*P	**Pn**	**09 30 42.2**	**+0.8**
COEG	**Centro de Oper**	**2.57**	**305**	⇓P	**Pn**	**09 30 42.2**	**+0.8**
COEG	**Centro de Oper**	**2.57**	**305**	S	**Sn**	**09 31 12.9**	**+0.6**
COEG	**Centro de Oper**	**2.57**	**305**	P	**Pn**	**09 30 42.5**	**+1.1**
CEDE	**Laguna Cedeo**	**2.58**	**130**	*e*P	**Pn**	**09 30 42.4**	**+0.9**
NYURE	**Nandayure**	**2.58**	**146**	*e*P	**Pn**	**09 30 43.4**	**+2.0**
ARE1	**Arenal 1**	**2.58**	**130**	*e*P	**Pn**	**09 30 41.2**	**-0.3**
MTEVE	**Monteverde**	**2.60**	**134**	*e*P	**Pn**	**09 30 44.3**	**+2.4**
VACR	**Volcan Arenal**	**2.60**	**129**	*e*P	**Pn**	**09 30 43.0**	**+1.2**
FORC	**Fortuna**	**2.61**	**129**	*e*P	**Pn**	**09 30 43.4**	**+1.4**
TUNA	**La Fortuna**	**2.63**	**129**	*e*P	**Pn**	**09 30 43.1**	**+1.0**
PAVA	**Las Pavas**	**2.67**	**306**	⇓*i*P	**Pn**	**09 30 43.6**	**+1.0**
PAVA	**Las Pavas**	**2.67**	**306**	⇓P	**Pn**	**09 30 43.7**	**+1.0**
PAVA	**Las Pavas**	**2.67**	**306**	S	**Sn**	**09 31 15.5**	**+0.7**
PAVA	**Las Pavas**	**2.67**	**306**	P	**Pn**	**09 30 43.7**	**+1.0**
COVE	**Coope Vega, Sa**	**2.68**	**122**	⇓P	**Pn**	**09 30 43.6**	**+0.8**
COVE	**Coope Vega, Sa**	**2.68**	**122**	S	**Sn**	**09 31 15.9**	**+1.0**
COVE	**Coope Vega, Sa**	**2.68**	**122**	P	**Pn**	**09 30 43.6**	**+0.8**
SOCE	**Pocosol**	**2.71**	**130**		**Pn**	**09 30 43.3**	**+0.1**
SOCE	**Pocosol**	**2.71**	**130**	⇓P	**Pn**	**09 30 43.9**	**+0.7**
SOCE	**Pocosol**	**2.71**	**130**	P	**Pn**	**09 30 44.0**	**+0.9**
SOCE	**Pocosol**	**2.71**	**130**	*e*P	**Pn**	**09 30 44.2**	**+1.0**
PANCS	**Alcalda de**	**2.81**	**302**	P	**Pn**	**09 30 46.0**	**+1.5**
PANCS	**Alcalda de**	**2.81**	**302**	S	**Sn**	**09 31 17.0**	**-1.0**
PANCS	**Alcalda de**	**2.81**	**302**	P	**Pn**	**09 30 45.7**	**+1.2**
LOMA	**Loma Larga**	**2.82**	**302**	*e*P	**Pn**	**09 30 45.9**	**+1.1**
LOMA	**Loma Larga**	**2.82**	**302**	⇑P	**Pn**	**09 30 46.1**	**+1.4**
LOMA	**Loma Larga**	**2.82**	**302**	S	**Sn**	**09 31 18.5**	**+0.2**
LOMA	**Loma Larga**	**2.82**	**302**	P	**Pn**	**09 30 46.1**	**+1.4**
UDBS	**Universidad Do**	**2.84**	**304**	P	**Pn**	**09 30 46.8**	**+1.9**
UDBS	**Universidad Do**	**2.84**	**304**	S	**Sn**	**09 31 19.3**	**+0.5**
UDBS	**Universidad Do**	**2.84**	**304**	P	**Pn**	**09 30 47.0**	**+2.1**
IGN	**Direccin Gen**	**2.85**	**303**	P	**Pn**	**09 30 46.8**	**+1.7**
IGN	**Direccin Gen**	**2.85**	**303**	S	**Sn**	**09 31 20.2**	**+1.2**
IGN	**Direccin Gen**	**2.85**	**303**	P	**Pn**	**09 30 46.9**	**+1.8**
LALI	**Alcalda de L**	**2.87**	**298**	⇓*i*P	**Pn**	**09 30 45.7**	**+0.6**
LALI	**Alcalda de L**	**2.87**	**298**	⇓P	**Pn**	**09 30 45.8**	**+0.6**
LALI	**Alcalda de L**	**2.87**	**298**	S	**Sn**	**09 31 17.8**	**-1.5**
LALI	**Alcalda de L**	**2.87**	**298**	P	**Pn**	**09 30 45.9**	**+0.7**
LALI	**Alcalda de L**	**2.87**	**298**	*i* P	**Pn**	**09 30 45.8**	**+0.6**
LALI				*e*S	**Sn**	**09 31 17.8**	**-1.5**
LALI				IAML		09 31 18.7	
	comp=Z,1μm,1.1s						
LALI	**Alcalda de L**	**2.87**	**298**	*i* P		09 30 45.8	
LALI				*e*S		09 31 17.8	
LALI				IAML		09 31 18.7	
	comp=Z,1μm,1.1s						
UTEC	**Universidad Te**	**2.87**	**303**	P	**Pn**	**09 30 47.0**	**+1.6**
UTEC	**Universidad Te**	**2.87**	**303**	S	**Sn**	**09 31 19.4**	**-0.1**
UTEC	**Universidad Te**	**2.87**	**303**	P	**Pn**	**09 30 47.1**	**+1.8**
SEMO	**Seminario San**	**2.89**	**303**	P	**Pn**	**09 30 47.4**	**+1.8**
SEMO	**Seminario San**	**2.89**	**303**	S	**Sn**	**09 31 20.6**	**+0.6**
SEMO	**Seminario San**	**2.89**	**303**	P	**Pn**	**09 30 47.6**	**+1.9**
UEES	**Universidad Ev**	**2.91**	**303**	P	**Pn**	**09 30 47.5**	**+1.6**
UEES	**Universidad Ev**	**2.91**	**303**	S	**Sn**	**09 31 21.6**	**+1.1**
UEES	**Universidad Ev**	**2.91**	**303**	P	**Pn**	**09 30 47.6**	**+1.6**
ITCA	**Escuela Especi**	**2.92**	**302**	*e*P	**Pn**	**09 30 47.3**	**+1.2**
ITCA	**Escuela Especi**	**2.92**	**302**	P	**Pn**	**09 30 47.5**	**+1.5**
ITCA	**Escuela Especi**	**2.92**	**302**	S	**Sn**	**09 31 21.0**	**+0.2**
ITCA	**Escuela Especi**	**2.92**	**302**	P	**Pn**	**09 30 47.7**	**+1.6**
ITAL	**Pital**	**2.93**	**125**	*e*P	**Pn**	**09 30 47.1**	**+1.0**
PIC2	**El Picacho**	**2.94**	**303**	*e*P	**Pn**	**09 30 48.1**	**+1.7**
ARZA	**Esparza**	**2.94**	**137**	*e*P	**Pn**	**09 30 47.3**	**+1.1**
LLGN	**La Laguna**	**2.95**	**313**	*e*P	**Pn**	**09 30 47.2**	**+0.7**
LLGN	**La Laguna**	**2.95**	**313**	P	**Pn**	**09 30 47.7**	**+1.2**
LLGN	**La Laguna**	**2.95**	**313**	P	**Pn**	**09 30 47.8**	**+1.4**
BOQS	**Boqueron**	**2.95**	**303**	*e*P	**Pn**	**09 30 48.4**	**+1.8**
PMON	**Piamonte**	**2.97**	**302**	*e*P	**Pn**	**09 30 47.9**	**+1.2**
PMON	**Piamonte**	**2.97**	**302**	⇑P	**Pn**	**09 30 48.2**	**+1.5**
PMON	**Piamonte**	**

comp=Z,1μm,1.1s
THIG **6.05 298** *eP* 09 31 30.2
THIG IAML 09 32 49.7
comp=Z,1μm,1.1s
CCIG Comitan 6.67 309 Pn 09 31 39.0 +2.3
CCIG Comitan 6.67 309 P **Pn 09 31 39.7 +3.0**
CCIG Comitan 6.67 309 ⇓P **Pn 09 31 39.4 +2.8**
CCIG Comitan 6.67 309 *i* P **Pn 09 31 39.2 +2.6**
CCIG IAML 09 33 27.6
comp=Z,180nm,0.8s
CCIG Comitan 6.67 309 *i* P 09 31 39.2
CCIG IAML 09 33 27.6
comp=Z,180nm,0.8s
BCIP Isla Barro Col 7.38 113 Pn **Pn 09 31 48.2 +2.0**
BCIP Isla Barro Col 7.38 113 P **Pn 09 31 48.2 +2.0**
TGIG 7.72 307 *eP* **Pn 09 31 51.9 +1.1**
TGIG IAML 09 33 49.0
comp=Z,148nm,0.8s
TGIG 7.72 307 *eP* 09 31 51.9
TGIG IAML 09 33 49.0
comp=Z,148nm,0.8s
TEIG Tepich 8.17 350 Pn 09 32 00.5 +3.7
TEIG Tepich 8.17 350 P **Pn 09 32 01.1 +4.3**
comp=Z,0.2nm,0.5s,baz=338,slow=24,SNR=42
TEIG S **Sn 09 33 24.6 -2.9**
comp=Z,0.7nm,0.8s,baz=89,slow=24,SNR=4.1
TEIG Tepich 8.17 350 P Pn 09 32 02.1 +5.3
comp=Z,12μmcomp=Z,6μmcomp=Z,619nm,1.0s
TEIG Tepich 8.17 350 P Pn 09 32 02.1 +5.3
comp=Z,12μmcomp=Z,6μmcomp=Z,619nm,1.0s
CMIG Matias Romero 9.30 303 P **Pn 09 32 12.8 +0.6**
comp=Z,73nm,0.2s,baz=155,slow=9.0,SNR=653
CMIG S **Sn 09 33 53.0 -2.1**
comp=Z,36nm,0.6s,baz=71,slow=15,SNR=1.9
HUIG Huatulco 9.80 293 *eP* **Pn 09 32 18.5 -0.4**
comp=Z,40nm,2.9s
HUIG IAML 09 34 41.0
comp=Z,40nm,2.9s
HUIG Huatulco 9.80 293 *eP* 09 32 18.5
comp=Z,40nm,2.9s
HUIG IAML 09 34 41.0
comp=Z,40nm,2.9s
CAP2 Capurgana 9.84 110 P **Pn 09 32 23.5 +4.0**
CAP2 Capurgana 9.84 110 P **Pn 09 32 22.9 +3.4**
MCJ Malvern 10.45 56 *i* P **Pn 09 32 31.9 +4.2**
MTDJ Mount Denham 10.73 55 **Pn 09 32 34.2 +2.6**
MTDJ Mount Denham 10.73 55 *eP* **Pn 09 32 32.9 +1.3**
MTDJ *eS* Sn 09 35 13.6 +44
APAC Apartado, Choc 10.84 112 P Pn 09 32 38.6 +5.5
APAC Apartado, Choc 10.84 112 P Pn 09 32 38.6 +5.5
SOR Soroa 11.16 18 Pn 09 32 42.4 +5.0
SOR Soroa 11.16 18 P P 09 32 42.4 -4.8
STH Stony Hill 11.24 57 *eP* **Pn 09 32 39.7 +1.3**
STH Stony Hill 11.24 57 *i* P **Pn 09 32 42.0 +3.5**
HOJ Hope 11.25 58 *i* P **P 09 32 43.9 -4.4**
DBBC Dabeiba 11.55 115 P **Pn 09 32 46.3 +3.7**
DBBC Dabeiba 11.55 115 P **Pn 09 32 46.3 +3.7**
SJCC San Jacinto, C 11.55 100 P **Pn 09 32 45.1 +2.5**
comp=Z,4μmcomp=Z,2μmcomp=Z,204nm,1.1s
SJCC San Jacinto, C 11.55 100 P **Pn 09 32 43.8 +1.2**
SJCC San Jacinto, C 11.55 100 P **Pn 09 32 43.1 +0.5**
SJCC S **Sn 09 34 51.1 +1.4**
SJCC San Jacinto, C 11.55 100 P **Pn 09 32 45.1 +2.5**
comp=Z,4μmcomp=Z,2μmcomp=Z,204nm,1.1s
PILO Pilon 11.82 48 *eP* **Pn 09 32 46.9 +0.8**
UREC San Jos de Ur 11.85 111 P **Pn 09 32 48.6 +2.0**
comp=Z,712nmcomp=Z,59nm,0.8s
UREC San Jos de Ur 11.85 111 P **Pn 09 32 48.6 +2.0**
comp=Z,712nmcomp=Z,59nm,0.8s
LMGC Las Mercedes 12.21 49 *eP* **Pn 09 32 51.4 +0.2**
SMRC Santa Marta, M 12.28 93 **Pn 09 32 52.4 +0.2**
ARGC Ariguani, Magd 12.46 99 P **Pn 09 32 58.0 +3.5**
comp=Z,5μmcomp=Z,2μmcomp=Z,96nm,1.5s
ARGC Ariguani, Magd 12.46 99 P **Pn 09 32 58.0 +3.5**
comp=Z,5μmcomp=Z,2μmcomp=Z,96nm,1.5s
CHIV Chivirico 12.59 51 **Pn 09 32 59.8 +3.6**
CHIV Chivirico 12.59 51 *eP* **Pn 09 32 57.0 +0.7**
TLIG Tlapa 12.65 297 **Pn 09 32 58.8 +1.6**
TLIG Tlapa 12.65 297 P **Pn 09 32 59.6 +2.4**
TLIG Tlapa 12.65 297 ⇓P **Pn 09 32 58.5 +1.3**
TLIG Tlapa 12.65 297 S **Sn 09 35 22.8 +6.2**
MARVS Santiago de Cu 13.00 52 *eP* **Pn 09 33 02.5 +0.9**
RCC Rio Carpintero 13.15 52 *eP* **Pn 09 33 04.4 +0.8**
GUY2C Guyana, Caldas 13.16 121 P **P 09 33 08.3 -1.9**
comp=Z,4μmcomp=Z,1μmcomp=Z,118nm,0.7s
GUY2C Guyana, Caldas 13.16 121 P **P 09 33 08.3 -1.9**
comp=Z,4μmcomp=Z,1μmcomp=Z,118nm,0.7s
PAYG Puerto Ayora 13.22 196 **P 09 33 09.2 -1.2**
JAMC Jamundi, Valle 13.33 131 P **Pn 09 33 08.2 +2.0**
comp=Z,711nmcomp=Z,77nm,1.1s
JAMC Jamundi, Valle 13.33 131 P **Pn 09 33 08.2 +2.0**
comp=Z,711nmcomp=Z,77nm,1.1s
PINC Pinares de May 13.37 50 *eP* **Pn 09 33 08.0 +1.6**
GTBY Guantanamo Bay 13.57 54 **Pn 09 33 10.8 +1.8**
GTBY Guantanamo Bay 13.57 54 *eP* **Pn 09 33 10.3 +1.2**
GTBY Guantanamo Bay 13.57 54 *i* P **P 09 33 12.3 -1.9**
OCAC Ocana 13.75 105 P **Pn 09 33 12.8 +1.3**
comp=Z,5μmcomp=Z,2μmcomp=Z,201nm,0.6s
OCAC Ocana 13.75 105 P **Pn 09 33 12.8 +1.3**
comp=Z,5μmcomp=Z,2μmcomp=Z,201nm,0.6s
BBAC Balboa, Cauca 13.76 136 P **P 09 33 15.1 -1.5**
comp=Z,982nmcomp=Z,96nm,1.1s
BBAC Balboa, Cauca 13.76 136 P **P 09 33 15.1 -1.5**
comp=Z,982nmcomp=Z,96nm,1.1s
QMBU Quimbuelo 13.96 53 *eP* **Pn 09 33 14.5 +0.5**
NMDO Nuevo Mundo 14.02 52 **P 09 33 17.9 -1.3**
NMDO Nuevo Mundo 14.02 52 *eP* **Pn 09 33 16.8 +1.9**
MOAC Moa 14.10 52 *eP* **Pn 09 33 17.1 +1.3**
CMBC Cumbal 14.21 141 P **P 09 33 22.6 +0.8**
CMBC Cumbal 14.21 141 P **P 09 33 22.6 +0.8**
ROSC El Rosal 14.24 120 **P 09 33 20.9 -1.3**
ROSC El Rosal 14.24 120 P **P 09 33 22.2 0.0**
comp=Z,125nm,0.8s,baz=254,slow=1.0,SNR=48
ROSC LR LR 09 40 11.7
comp=Z,443nm,20.1s,baz=307,slow=44
ROSC El Rosal 14.24 120 P **P 09 33 24.0 +1.8**
comp=Z,2μmcomp=Z,194nm,1.0s
ROSC El Rosal 14.24 120 P **P 09 33 20.9 -1.3**
ROSC El Rosal 14.24 120 P **P 09 33 24.0 +1.8**
comp=Z,2μmcomp=Z,194nm,1.0s
CRUC La Cruz 14.29 137 P **P 09 33 23.3 +0.7**
CRUC La Cruz 14.29 137 P **P 09 33 23.3 +0.7**
CUSE Cuicocha Este 14.37 144 P **P 09 33 23.6 0.0**
comp=Z,2μmcomp=Z,105nm,0.9s
CUSE Cuicocha Este 14.37 144 P **P 09 33 23.6 0.0**
comp=Z,2μmcomp=Z,105nm,0.9s
OTAV Otavalo 14.40 145 **Pn 09 33 21.9 +1.7**
OTAV Otavalo 14.40 145 P **P 09 33 23.8 -0.1**
comp=Z,856nmcomp=Z,42nm,1.2s
OTAV Otavalo 14.40 145 P **Pn 09 33 21.9 +1.7**
OTAV Otavalo 14.40 145 P **P 09 33 23.8 -0.1**
comp=Z,856nmcomp=Z,42nm,1.2s
PRAC Prado 14.40 125 P **P 09 33 22.8 -0.7**
PRAC Prado 14.40 125 P **P 09 33 22.5 -1.0**
MASC Masc 14.40 55 *eP* **Pn 09 33 20.4 +0.6**
BARC Barichara 14.45 111 P **P 09 33 24.6 +0.3**
BARC Barichara 14.45 111 P **P 09 33 24.6 +0.3**
061Z Ochoppi 14.71 21 **P 09 33 25.9 -0.9**
RUSC La Rusia 14.83 114 **Pn 09 33 26.3 +0.6**
RUSC La Rusia 14.83 114 P **P 09 33 29.2 +0.5**
comp=Z,4μmcomp=Z,1μmcomp=Z,128nm,0.9s
RUSC La Rusia 14.83 114 P **Pn 09 33 26.8 +1.1**
RUSC La Rusia 14.83 114 ⇑P **P 09 33 27.7 -1.1**
RUSC S **Sn 09 36 11.8 +2.0**
RUSC La Rusia 14.83 114 P **P 09 33 29.2 +0.5**
comp=Z,4μmcomp=Z,1μmcomp=Z,128nm,0.9s
CHIC Chingaza 14.85 119 P **P 09 33 31.2 +2.2**
comp=Z,4μmcomp=Z,2μmcomp=Z,102nm,0.9s
CHIC Chingaza 14.85 119 P **P 09 33 31.2 +2.2**
comp=Z,4μmcomp=Z,2μmcomp=Z,102nm,0.9s
SLOR San Lorenzo - 15.18 147 P **P 09 33 34.1 +1.5**
FLOC Florencia 15.18 133 **P 09 33 32.1 -0.1**
PAPH Port-au-Prince 15.28 64 P **P 09 33 34.9 +1.6**
PIAT Ana Tenorio 15.53 147 P **P 09 33 39.6 +3.2**
comp=Z,695nmcomp=Z,49nm,1.5s
PIAT Ana Tenorio 15.53 147 P **P 09 33 39.6 +3.2**
comp=Z,695nmcomp=Z,49nm,1.5s
JRQG Juriquilla Cam 15.67 305 P **P 09 33 38.4 +0.6**
MOIG Morelia 15.79 300 P **P 09 33 40.8 +1.6**
060A Indiantown 15.97 21 P **P 09 33 43.5 +2.7**
SDV Santo Domingo 16.14 100 **P 09 33 43.1 +0.1**
SDV Santo Domingo 16.14 100 P **P 09 33 43.8 +0.8**
comp=Z,41nm,0.8s,baz=291,slow=11,SNR=60
SDV S **Sn 09 36 34.2 -6.9**
comp=Z,3.8nm,0.2s,baz=14,slow=12,SNR=1.5
MACC Macarena, Meta 16.17 127 P **P 09 33 45.6 +2.5**
comp=Z,3μmcomp=Z,1μmcomp=Z,42nm,0.8s
MACC Macarena, Meta 16.17 127 P **P 09 33 45.6 +2.5**
comp=Z,3μmcomp=Z,1μmcomp=Z,42nm,0.8s
COHC Cochancay 16.30 152 P **P 09 33 46.0 +1.4**
COHC Cochancay 16.30 152 P **P 09 33 47.5 +2.9**
comp=Z,793nmcomp=Z,53nm,1.3s
COHC Cochancay 16.30 152 P **P 09 33 47.5 +2.9**
comp=Z,793nmcomp=Z,53nm,1.3s
SDDR Presa de Saban 16.34 64 P **P 09 33 47.4 +2.4**
DWPF Disney Wildern 16.64 17 P **P 09 33 50.3 +2.2**
PTLC Puerto Leguiza 16.78 134 P **P 09 33 55.7 +5.8**
PTLC Puerto Leguiza 16.78 134 P **P 09 33 55.7 +5.8**
BANI BANI 16.96 67 P **P 09 33 53.3 +1.4**
SC01 Santiago de lo 17.00 63 P **P 09 33 55.4 +3.1**
SDD Santo Domingo 17.38 67 P **Pn 09 33 59.9 +3.2**
GRTK Grand Turk 17.57 56 **Pn 09 34 02.5 +3.5**
656A Willston 17.57 12 P **Pn 09 34 00.9 +1.9**
DR12 Loma Pena Alta 17.96 66 **Pn 09 34 05.4 +1.6**
553A Crawfordville 18.08 6 P **Pn 09 34 06.7 +1.7**
451A Vernon 18.40 3 P **Pn 09 34 11.6 +2.7**
ZAIG Zacatecas 18.42 307 **Pn 09 34 11.1 +1.5**
KVTX Kingsville 18.56 327 P **Pn 09 34 12.4 +1.7**
BAUV El Baul 18.64 98 P **P 09 34 10.4 +0.2**
BAUV El Baul 18.64 98 *eP* **P 09 34 09.0 -1.2**
PCDR Punta Cana, DR 18.78 68 P **Pn 09 34 15.7 +2.2**
BRAL Brewton 18.93 359 **Pn 09 34 16.3 +1.1**
456A Hilliard 18.99 13 **Pn 09 34 16.9 +1.0**
352A Blakely 19.31 5 P **Pn 09 34 20.7 +1.0**
346A Big Creek Wild 19.32 353 P **Pn 09 34 21.1 +1.4**
TIGA Tifton 19.42 8 P **Pn 09 34 21.5 +0.6**
441A DeRidder 19.46 343 P **Pn 09 34 21.4 +0.1**
735A Kenedy 19.58 330 P **Pn 09 34 22.2 -0.6**
HKT Hockley 19.63 336 P **Pn 09 34 23.6 +0.2**
HKT Hockley 19.63 336 P **Pn 09 34 23.6 +0.2**
250A Grady 19.74 1 P **Pn 09 34 25.3 +0.6**
CRPR Cabo Rojo, PR 19.80 71 P **Pn 09 34 25.4 -0.1**
PRSN Puerto Rico Se 19.82 70 P **Pn 09 34 25.2 -0.6**
AGPR Aguadilla, PR 19.92 69 P **Pn 09 34 27.3 +0.4**
MLDN Muldoon 20.01 333 P Pn 09 34 27.5 -0.3
HNVL Huntsville, TX 20.21 338 P Pn 09 34 30.9 +0.8
UUPR Utuado, UPR, P 20.22 70 P Pn 09 34 29.5 -0.9
146A Union 20.51 354 P Pn 09 34 32.5 -1.0
152A Waverly Hall 20.51 5 P Pn 09 34 33.1 -0.5
154A Montrose 20.64 9 P Pn 09 34 34.4 -0.7
SJG San Juan 20.71 71 P **P 09 34 34.4 +1.7**
comp=Z,70nm,0.8s,baz=286,slow=5.5,SNR=21
SJG PcP **PcP 09 38 38.3 -0.1**
comp=Z,12nm,0.8s,baz=243,slow=2.3,SNR=4.2
SJG LR LR 09 42 21.8
comp=Z,374nm,21.5s,baz=262,slow=37
IGPR InterUniversit 20.72 71 P Pn 09 34 34.8 -1.4
PDPR Patillas Dam, 20.81 71 P **P 09 34 35.4 +1.6**
NATX Nacogdoches 20.85 341 P Pn 09 34 36.0 -1.6
HNDO Hondo 20.87 328 P **P 09 34 35.1 +0.7**
143A Socs Landing, 20.91 349 P **P 09 34 35.6 +0.9**
Z47A Carrollton 20.99 357 P Pn 09 34 37.6 -1.6
435B Jarrell 21.10 333 P **P 09 34 37.6 +0.9**
Y49A Blount Mountai 21.61 1 P **P 09 34 43.9 +1.6**
CSU Charleston Sou 21.62 15 P **P 09 34 45.0 +2.8**
NHSC New Hope 21.71 15 P **P 09 34 46.1 +2.9**
Z41A Richland Creek 21.74 346 P **P 09 34 44.7 +1.2**
PCRV Puerto La Cruz 21.75 93 P **P 09 34 46.6 +2.7**
comp=Z,119nm,0.7s,baz=232,slow=4.9,SNR=59
PCRV LR LR 09 44 05.4
comp=Z,356nm,20.8s,slow=39
PCRV Puerto La Cruz 21.75 93 *eP* **P 09 34 40.4 -3.6**
Y52A Lilburn 21.75 6 P **P 09 34 46.0 +2.3**
Y45A Yeager Farm, C 21.77 354 P **P 09 34 45.6 +1.7**
FW14 Alvarado 22.34 336 P **P 09 34 51.4 +1.6**
X51A Calhoun 22.38 4 P **P 09 34 52.4 +2.1**
FW13 Cleburne 22.39 336 P **P 09 34 51.7 +1.3**
JSC Jenkinsville 22.59 12 P **P 09 34 54.1 +1.7**
JSC Jenkinsville 22.59 12 P **P 09 34 54.1 +1.7**
Y58A Scranton 22.60 15 P **P 09 34 54.4 +2.0**
FW07 Weatherford 22.84 335 P **P 09 34 56.0 +1.1**
OZNA Ozona 22.95 327 P **P 09 34 57.3 +1.3**
FW06 Azle 22.99 336 P **P 09 34 57.4 +1.1**
HPIG 23.09 312 P **P 09 35 00.6 +3.0**
HPIG 23.09 312 P **P 09 35 00.1 +2.5**
TXAR Lajitas Array 23.26 320 P **P 09 35 01.3 +2.3**
comp=Z,84nm,0.7s,baz=137,slow=9.7,SNR=680
TXAR pP **pP 09 35 23.2 +2.2**
comp=Z,22nm,0.8s,baz=346,slow=4.1,SNR=2.8
TXAR PcP **PcP 09 38 44.6 +1.2**
comp=Z,7.3nm,0.8s,baz=142,slow=3.7,SNR=8.0
TXAR ScP **ScP 09 42 14.1 +2.5**
comp=Z,0.7nm,0.6s,baz=142,slow=4.3,SNR=6.7
TXAR ScS **ScS 09 45 59.5 +1.4**
comp=Z,0.1nm,0.3s,baz=116,slow=5.7,SNR=1.4
comp=Z,84nm,0.7s
CPCT Cooper Cave 23.29 5 P **P 09 35 00.8 +1.8**
X58A Rowland 23.30 16 P **P 09 35 01.4 +2.2**
TKL Tuckaleechee C 23.56 6 LR LR 09 44 40.8
comp=Z,358nm,19.3s,baz=198,slow=38
CLTN Cedars of Leba 23.84 1 P **P 09 35 06.3 +2.2**
WVT Waverly 23.90 358 P **P 09 35 05.9 +1.3**
WVT Waverly 23.90 358 P **P 09 35 05.9 +1.3**
W59A Clinton 24.12 17 P **P 09 35 08.6 +2.0**
GRFF Grenada Fort F 24.43 88 *eP* **P 09 35 11.9 +2.3**
GRW Mount Saint Ca 24.50 87 *eP* **P 09 35 10.1 -0.3**
GRGR Grenville 24.50 87 *eP* **P 09 35 06.7 -3.6**
V58A Windy Hill, Pi 24.53 15 P **P 09 35 12.3 +2.0**
GRSS Sisters 24.54 87 *eP* **P 09 35 10.4 -0.1**
SN07 Snyder 07 24.56 330 P **P 09 35 11.7 +1.1**
TBG Guadaloupe-3 24.60 78 *eP* **P 09 35 10.5 -0.6**
ANBD Bethesda, Anti 24.63 76 *eP* **P 09 35 07.0 -4.4**
ODSA Odessa 24.64 326 P **P 09 35 12.6 +1.1**
CBE Ff, Capester 24.66 78 P **P 09 35 13.6 +1.9**
GCMP Grenada, Carri 24.71 87 *eP* **P 09 35 09.7 -2.5**
U56A King 24.77 12 P **P 09 35 14.9 +2.4**
DSLB Salisbury 24.78 79 *eP* **P 09 35 13.9 +1.1**
MDN Morne-Daniel 24.80 80 *eP* **P 09 35 11.6 -1.4**
PECS Pecos 24.83 323 P **P 09 35 14.8 +1.6**
TRN Trinidad (W) 24.86 91 *eP* **P 09 35 13.5 0.0**
SVB Belmont 24.87 85 *eP* **P 09 35 14.6 +1.0**
SVT Saint Vincent 24.88 85 *eP* **P 09 35 14.4 +0.7**
SVOC Richmond Hill, 24.90 85 *eP* **P 09 35 12.5 -1.4**
SVN Savane Anatole 24.99 81 *eP* **P 09 35 18.1 +3.4**
BIM Bigot 25.06 82 *eP* **P 09 35 15.9 +0.5**
VHRN Van Horn 25.09 321 P **P 09 35 16.6 +1.0**
SLBI Saint Lucia, B 25.14 83 *eP* **P 09 35 10.1 -6.0**
U38A Gravette 25.16 345 P **P 09 35 16.9 +0.9**
DEOK Depew 25.20 341 P **P 09 35 16.8 +0.2**
DEOK IAmb IAmb 09 35 17.9
comp=Z,100nm,0.9s
SLAC Saint Lucia, A 25.22 83 *eP* **P 09 35 17.3 +0.5**
ILAM Ilet Lapin Mar 25.27 81 *eP* **P 09 35 16.1 -1.1**
LPIG La Paz 25.33 301 LR LR 09 45 59.9
comp=Z,194nm,20.6s,baz=112,slow=38
BLA Blacksburg 25.59 12 P **P 09 35 21.8 +1.8**
BLA IAmb IAmb 09 35 24.2
comp=Z,437nm,2.0s
BLA Blacksburg 25.59 12 P **P 09 35 21.8 +1.8**
BLA pmax pmax
comp=Z,437nm,2.0s
NNA Nana 25.90 157 *ceP* **P 09 35 25.3 +2.3**
NNA pmax pmax
comp=Z,76nm,1.3s
MSTX Muleshoe 26.20 329 P **P 09 35 26.9 +1.4**
TEFE Tefe 26.90 124 *eP* **P 09 35 27.3 -4.7**
P48A Milroy 27.23 2 P **P 09 35 35.4 +0.8**
P48A IAmb IAmb 09 35 37.9
comp=Z,178nm,1.5s
P46A Rosedale 27.36 359 P **P 09 35 36.9 +1.0**
BOAV Boa Vista 27.70 108 *eP* **P 09 35 38.9 -0.3**
O49A Covington 28.01 4 P **P 09 35 42.2 +0.6**
O49A IAmb IAmb 09 35 45.2
comp=Z,117nm,1.3s
CRNM Carthage 28.36 323 P **P 09 35 46.5 +1.6**
Y22D IRIS PASSCAL I 28.55 323 P **P 09 35 46.9 +0.2**
baz=135,SNR=14
ANMO Albuquerque 28.91 325 *i* P **P 09 35 50.7 +0.8**
ANMO pmax pmax
comp=Z,18nm,1.0s
MACA Manacapuru-AM 30.02 119 *eP* **P 09 35 56.9 -2.8**
X18A Snowflake 30.70 320 P **P 09 36 08.3 +2.6**
X18A IAmb IAmb 09 36 10.1
comp=Z,65nm,1.2s
JFWS Jewell Farm 30.81 355 P **P 09 36 06.9 +0.6**
JFWS IAmb IAmb 09 36 08.3
comp=Z,113nm,1.4s
JFWS Jewell Farm 30.81 355 P **P 09 36 06.9 +0.6**
JFWS pmax pmax
comp=Z,113nm,1.4s
WUAZ Wupatki 32.23 320 P **P 09 36 20.4 +1.3**
WUAZ IAmb IAmb 09 36 23.5
comp=Z,72nm,0.9s
Y14A Wickenburg 32.32 316 P **P 09 36 20.9 +1.1**
HRV Adam Dziewonsk 33.00 21 P **P 09 36 27.8 +2.3**
SADO Sadowa 33.15 10 P **P 09 36 27.2 +0.4**
SADO Sadowa 33.15 10 P **P 09 36 26.9 +0.1**
comp=Z,47nm,0.9s,baz=212,slow=8.9,SNR=16
SADO LR LR 09 50 47.5
comp=Z,399nm,18.4s,baz=238,slow=38
comp=Z,47nm,0.9s
LPAZ La Paz 33.71 147 P **P 09 36 33.5 +0.8**
comp=Z,6.5nm,0.7s,baz=333,slow=6.9,SNR=30
LPAZ ScP **ScP 09 42 46.3 +1.4**
comp=Z,4.0nm,1.1s,baz=315,slow=5.7,SNR=4.9
LPAZ ScS **ScS 09 46 47.4 +0.1**
comp=Z,0.3nm,0.4s,baz=330,slow=12,SNR=1.8
LPAZ LR LR 09 50 22.2
comp=Z,163nm,21.0s,baz=312,slow=36
comp=Z,6.5nm,0.7s
LPAZ La Paz 33.71 147 *eP* **P 09 36 28.9 -3.7**
LPAZ La Paz 33.71 147 P **P 09 36 33.8 +1.2**
LPAZ ScP **ScP 09 42 46.8 +1.9**
HNH Hanover 33.83 19 P **P 09 36 35.2 +2.5**
HNH IAmb IAmb 09 36 36.5
comp=Z,74nm,1.2s
LONY Lake Ozonia 33.99 16 P **P 09 36 35.5 +1.3**
MDP Montagnes des 34.38 99 LR LR 09 51 56.1
comp=Z,252nm,21.3s,baz=292,slow=39
PFO Pinyon Flats O 34.53 313 LR LR 09 51 39.7
comp=Z,280nm,21.2s,baz=125,slow=37
PFO Pinyon Flats O 34.53 313 *i* P **P 09 36 39.7 +0.6**
PFO pmax pmax
comp=Z,33nm,0.9s
PB16 IPOC Station P 34.72 150 P **P 09 36 42.1 +0.7**
PB16 IAmb IAmb 09 36 46.3
comp=Z,32nm,0.8s
ITTB Itaituba 34.90 116 *eP* **P 09 36 41.0 -1.4**
ELS Elsinore Mount 35.25 312 P **P 09 36 47.0 +1.8**
G62A West of Eustis 35.74 20 P **P 09 36 51.0 +1.8**
TCUT Toone Canyon 36.07 328 P **P 09 36 54.2 +1.8**
VILB Vilhena 36.25 133 *eP* **P 09 36 52.4 -1.4**
TA01 Diego Aracena 36.35 153 P **P 09 36 56.2 +1.6**
TA01 IAmb IAmb 09 36 58.4
comp=Z,79nm,1.4s
PDAR Pinedale Array 36.38 331 P **P 09 36 55.8 +0.8**
comp=Z,9.2nm,0.6s,baz=128,slow=10,SNR=130
PDAR pP **pP 09 37 19.9 +0.2**
comp=Z,17nm,0.8s,baz=107,slow=9.5,SNR=11
PDAR PcP **PcP 09 39 17.9 +0.7**
comp=Z,1.0nm,0.4s,baz=187,slow=2.1,SNR=4.4
PDAR ScP **ScP 09 42 53.9 +0.2**
comp=Z,2.0nm,0.9s,baz=155,slow=3.7,SNR=5.2
PDAR PKiKP **PKiKP 09 46 34.5 -1.5**
comp=Z,0.1nm,0.3s,baz=107,slow=2.5,SNR=4.3
comp=Z,9.2nm,0.6s
NPGB Novo Progresso 36.55 120 *eP* **P 09 36 54.8 -1.6**
HVU Hansel Valley 37.27 327 P **P 09 37 03.6 +1.2**
HVU IAmb IAmb 09 37 33.5
comp=Z,53nm,1.0s
HVU Hansel Valley 37.27 327 P **P 09 37 03.6 +1.2**
HVU pmax pmax
comp=Z,53nm,1.0s
TPAW Teton Pass 37.59 331 P **P 09 37 06.4 +1.2**
SIV San Ignacio 37.76 137 LR LR 09 52 57.1
comp=Z,154nm,19.7s,baz=330,slow=37
ELK Elko 37.93 324 LR LR 09 56 05.7
comp=Z,145nm,18.8s,baz=140,slow=41
PDRB Porto dos Gac 38.00 127 *eP* **P 09 37 05.2 -3.5**
CLDB Colider 38.29 125 *eP* **P 09 37 08.2 -3.0**
NVAR Mina Array Bea 38.40 319 P **P 09 37 14.6 +2.5**
comp=Z,13nm,0.6s,baz=131,slow=7.6,SNR=134
NVAR pP **pP 09 37 39.0 +2.0**
comp=Z,20nm,0.9s,baz=129,slow=7.9,SNR=7.7
NVAR PcP **PcP 09 39 25.4 +2.0**
comp=Z,16nm,0.7s,baz=138,slow=4.3,SNR=20
NVAR ScP **ScP 09 43 02.8 +1.4**
comp=Z,1.3nm,0.8s,baz=124,slow=5.1,SNR=4.3
NVAR LR LR 09 54 57.4
comp=Z,166nm,20.6s,baz=146,slow=39
comp=Z,13nm,0.6s
YHL Hebgen Lake 38.73 332 P **P 09 37 17.0 +2.2**
YHL IAmb IAmb 09 37 46.8
comp=Z,70nm,1.1s
ULM Lac du Bonnet 38.73 351 P **P 09 37 13.4 -0.9**
comp=Z,70nm,0.9s,baz=172,slow=8.4,SNR=65
ULM PcP **PcP 09 39 24.3 +0.5**
comp=Z,8.0nm,0.7s,baz=178,slow=5.0,SNR=4.3
ULM S **S 09 42 56.7 -6.5**
comp=Z,0.8nm,0.5s,baz=85,slow=22,SNR=1.4
ULM LR LR 09 54 02.7
comp=Z,140nm,18.4s,baz=161,slow=37
comp=Z,70nm,0.9s
PRPB Parauapebas 40.96 114 *eP* **P 09 37 31.8 -1.5**
TMAB Tom-Au,PA,Br 40.99 108 *eP* **P 09 37 33.4 -0.2**
SALV Santo Antonio 41.46 131 *eP* **P 09 37 35.9 -1.4**
SNDB Serra Nova Dou 42.55 123 *eP* **P 09 37 43.3 -3.0**
YBH Yreka Blue Hor 43.04 320 LR LR 09 58 19.7
comp=Z,155nm,18.5s,baz=134,slow=39
LCO Las Campanas 43.74 160 P **P 09 37 58.2 +2.3**
LCO pP **pP 09 38 24.1 +2.8**
LCO PcP **PcP 09 39 41.8 +0.8**
BDQN Bodoquena, MS 43.80 137 *eP* **P 09 37 55.0 -1.2**
MURT Porto Murtinho 44.10 139 *eP* **P 09 37 57.0 -1.5**
FFC Flin Flon 44.15 347 P **P 09 37 58.9 +0.4**
ARAG Araguaiana, MT 44.26 128 *eP* **P 09 37 58.0 -2.0**
AQDB Aquidauana 44.52 136 *eP* **P 09 38 00.5 -1.4**
SCHQ Schefferville 45.37 16 P **P 09 38 08.0 -0.2**
comp=Z,50nm,0.9s,baz=215,slow=6.1,SNR=66
SCHQ LR LR 09 57 22.9
comp=Z,479nm,21.2s,baz=212,slow=36
comp=Z,50nm,0.9s
RPRD Ribas do Rio P 45.89 135 *eP* **P 09 38 11.7 -1.0**
AMBA Amambai (Brazi 46.70 138 *eP* **P 09 38 17.0 -2.0**
BDFB Brasilia 47.22 125 P **P 09 38 21.9 -1.4**
comp=Z,20nm,0.8s,baz=283,slow=8.5,SNR=33
BDFB PcP **PcP 09 39 52.7 -0.4**
comp=Z,3.4nm,0.7s,baz=263,slow=3.9,SNR=1.3
BDFB LR LR 10 00 33.2
comp=Z,339nm,19.2s,baz=318,slow=39
comp=Z,20nm,0.8s
SJPY San Joaquin 47.48 141 *eP* **P 09 38 24.1 -1.0**
CPUP Villa Florida 47.75 143 P **P 09 38 26.5 -0.6**
comp=Z,4.4nm,0.8s,baz=331,slow=8.0,SNR=11
CPUP pP **pP 09 38 53.1 +0.3**
comp=Z,7.9nm,0.8s,baz=333,slow=8.3,SNR=7.7
CPUP ScP **ScP 09 43 39.8 +0.8**
comp=Z,3.5nm,1.0s,baz=343,slow=4.9,SNR=4.1
CPUP LR LR 09 59 14.1
comp=Z,136nm,21.3s,baz=324,slow=37
comp=Z,4.4nm,0.8s
CPUP Villa Florida 47.75 143 *eP* **P 09 38 26.4 -0.6**
CPUP Villa Florida 47.75 143 P **P 09 38 26.2 -0.9**
CPUP pP **pP 09 38 52.8 0.0**
CPUP ScP **ScP 09 43 41.0 +2.0**
ITRB Iturama 47.79 131 *eP* **P 09 38 25.7 -1.8**
LDASE Londrina, Braz 49.61 135 *eP* **P 09 38 39.7 -1.8**
PTGB Pitanga 49.86 137 *eP* **P 09 38 41.7 -1.7**
BB19B Bebedouro 49.98 131 *eP* **P 09 38 42.4 -1.9**
PMNB Patos De Minas 50.08 127 *eP* **P 09 38 45.6 +0.4**
BI02 San Fabin de 50.68 164 P **P 09 38 50.9 +1.5**
BI02 IAmb IAmb 09 38 52.9
comp=Z,70nm,1.1s
ITAB Concordia 51.56 140 *eP* **P 09 38 55.2 -0.9**
BBB Bella Bella 51.95 329 LR LR 10 05 12.9
comp=Z,158nm,18.6s,baz=139,slow=41
VAO Valinhos 52.30 132 *eP* **P 09 38 60.0 -1.7**
TBOT Tacuaremb 52.63 147 *eP* **P 09 39 04.3 +0.5**
CPSB Cacapava Do Su 53.06 144 *eP* **P 09 39 06.6 -0.4**
FRB Frobisher Bay 53.10 10 LR LR 10 03 32.1
comp=Z,356nm,18.1s,baz=184,slow=38
RCBR Riachuelo 53.59 107 P **P 09 39 10.2 -1.1**
RCBR pP **pP 09 39 37.0 -0.7**
CNLB Canela 53.82 141 *eP* **P 09 39 12.0 -0.8**
PLTB Pedras Altas 53.97 145 *eP* **P 09 39 13.3 -0.4**
YKA Yellowknife Ar 54.09 344 P **P 09 39 14.1 0.0**
comp=Z,15nm,0.8s,baz=144,slow=7.3,SNR=186
YKA pP **pP 09 39 40.5 0.0**
comp=Z,15nm,1.1s,baz=142,slow=7.7,SNR=4.4
YKA PcP **PcP 09 40 17.8 +0.2**
comp=Z,4.2nm,0.7s,baz=149,slow=4.5,SNR=11
YKA ScP **ScP 09 44 05.4 -0.2**

comp=Z,0.7nm,0.9s,baz=144,slow=5.2,SNR=3.9
YKA LR LR 10 03 59.4
comp=Z,166nm,21.4s,baz=120,slow=38
comp=Z,15nm,0.8s
TER01 Tubaro-SC 54.38 139 *e*P **P 09 39 16.5 -0.2**
PLCA Paso Flores 54.70 165 P **P 09 39 20.2 +1.3**
comp=Z,66nm,0.9s,baz=341,slow=8.4,SNR=102
PLCA pP **pP 09 39 46.8 +1.5**
comp=Z,27nm,1.0s,baz=345,slow=9.7,SNR=5.5
PLCA PcP **PcP 09 40 22.0 +1.6**
comp=Z,23nm,0.8s,baz=345,slow=5.0,SNR=8.9
comp=Z,66nm,0.9s
PLCA Paso Flores 54.70 165 *e*P **P 09 39 20.5 +1.5**
PLCA Paso Flores 54.70 165 P **P 09 39 20.4 +1.5**
PLCA pP **pP 09 39 46.6 +1.3**
PLCA sP **sP 09 39 59.5 +2.0**
PLCA PcP **PcP 09 40 21.9 +1.6**
TOAD Toad River Com 54.81 337 P **P 09 39 19.7 +0.3**
baz=132,SNR=8.2
KOTAN Kotaneelee Air 55.24 338 P **P 09 39 22.4 0.0**
baz=134
RIB01 Linhares ES 55.32 124 *e*P **P 09 39 24.1 +0.5**
V35K Ketchikan 55.43 331 P **P 09 39 24.4 +0.5**
baz=123
T35M Bob Quinn 55.73 333 P **P 09 39 26.8 +0.7**
baz=126
CRAG Craig 56.23 330 P **P 09 39 30.1 +0.5**
baz=122
WRAK Wrangell Islan 56.37 332 P **P 09 39 31.5 +1.0**
baz=123
DLBC Dease Lake 56.49 334 LR LR 10 08 36.3
comp=Z,246nm,18.2s,baz=121,slow=41
DLBC Dease Lake 56.49 334 P **P 09 39 32.2 +0.7**
baz=126,SNR=12
U33K Whale Pass 56.57 331 P **P 09 39 32.3 +0.3**
baz=122
S34M Telegraph Cree 56.66 333 P **P 09 39 33.0 +0.4**
baz=125
WTLY Watson Lake, Y 57.01 336 P **P 09 39 35.1 0.0**
baz=129,SNR=13
WRGLY Wrigley 57.23 341 P **P 09 39 37.2 +0.6**
baz=136
R33M Jennings River 57.45 335 P **P 09 39 38.4 +0.1**
baz=126
Q32M Nakina River 57.75 334 P **P 09 39 40.5 -0.1**
baz=124
S32K Killisnoo 57.96 332 P **P 09 39 42.2 +0.4**
baz=121
SIT Sitka 58.10 331 P **P 09 39 43.7 +1.0**
baz=120
R32K Eaglecrest 58.36 333 P **P 09 39 44.9 +0.4**
baz=122
P33M Teslin, Yukon 58.69 335 P **P 09 39 47.3 +0.4**
baz=124
P32M Atlin 58.72 334 P **P 09 39 46.8 -0.2**
baz=123
COYC Coyhaique 58.95 168 P **P 09 39 50.6 +1.9**
COYC pP **pP 09 40 17.0 +1.6**
S31K Pelican 58.98 332 P **P 09 39 49.2 +0.4**
baz=120
N32M Quiet Lake 59.33 336 P **P 09 39 51.3 0.0**
baz=125
SKAG Skagway 59.34 334 P **P 09 39 51.7 +0.4**
baz=122
WHY Whitehorse 59.79 335 P **P 09 39 55.2 +0.7**
baz=123
PLBC Pleasant Camp 59.79 333 P **P 09 39 55.6 +1.2**
baz=120
SFJD Kangerlussuaq 59.82 16 LR LR 10 05 44.5
comp=Z,354nm,20.9s,baz=218,slow=36
SFJD Kangerlussuaq 59.82 16 *e*P **P 09 39 54.3 -0.1**
FARO Faro, Yukon 60.05 337 P **P 09 39 56.6 +0.4**
baz=125
O30N Mendenhall 60.35 335 P **P 09 39 58.5 +0.2**
baz=122,SNR=6.6
P30M Million Dollar 60.39 334 P **P 09 39 59.3 +0.8**
baz=120
M31M Drury Creek, Y 60.44 337 P **P 09 39 59.1 +0.3**
baz=124
N31M Braeburn, Yuko 60.60 335 P **P 09 40 01.0 +1.0**
baz=122
HYT Haines Junctio 60.98 334 P **P 09 40 03.6 +1.0**
baz=120
N30M Aishikik Lake 61.12 335 P **P 09 40 04.3 +0.8**
baz=121
O29M Mount Kennedy 61.18 333 P **P 09 40 04.4 +0.4**
baz=119
PNL Peninsula 61.25 333 P **P 09 40 04.7 +0.4**
baz=118
YUK6 Outpost Mounta 61.40 334 P **P 09 40 05.8 +0.2**
baz=119
M30M Minto, Yukon 61.58 336 P **P 09 40 06.9 +0.4**
baz=122
YUK4 Talbot Arm 61.72 334 P **P 09 40 08.2 +0.5**
baz=119
MAYO Mayo, Yukon 61.78 337 P **P 09 40 08.4 +0.6**
baz=123
PINM Pinnacle 61.83 333 P **P 09 40 08.4 +0.1**
baz=117
C36M Paulatuk 61.88 346 P **P 09 40 09.5 +1.2**
baz=138
O28M Mount Upton 62.11 333 P **P 09 40 11.0 +0.6**
baz=117
YUK8 Steele Glacier 62.16 334 P **P 09 40 11.6 +0.8**
baz=118
M29M Somme Creek 62.18 336 P **P 09 40 11.0 +0.4**
baz=120
ISOG Isortoq, Green 62.37 20 *e*P **P 09 40 10.3 -1.3**
L29M L29M 62.38 336 P **P 09 40 12.3 +0.4**
baz=120
H31M Peel River 62.48 340 P **P 09 40 13.2 +0.7**
baz=126
J30M Hart River 62.48 338 P **P 09 40 13.2 +0.6**
baz=123
K29M Barlow Dome 62.53 337 P **P 09 40 13.7 +0.7**
baz=121
MESA MESA 62.63 332 P **P 09 40 13.8 +0.1**
baz=115
YUK3 Moose Creek 62.69 334 P **P 09 40 14.5 +0.3**
baz=118
RES Resolute Bay 62.69 358 P **P 09 40 12.8 -0.9**
comp=Z,7.9nm,0.7s,baz=180,slow=11,SNR=34
RES pP **pP 09 40 40.8 +0.1**
comp=Z,13nm,1.0s,baz=178,slow=9.2,SNR=6.9
RES LR LR 10 10 49.8
comp=Z,115nm,18.3s,baz=216,slow=39
comp=Z,7.9nm,0.7s
I30M Mount Dempster 62.85 339 P **P 09 40 15.1 +0.1**
baz=123,SNR=13
J29N Klondike Camp 63.10 338 P **P 09 40 16.8 +0.1**
baz=121
G31M Satah River 63.11 341 P **P 09 40 16.9 +0.3**
baz=126,SNR=20
BVCY Beaver Creek 63.15 335 P **P 09 40 17.2 +0.2**
baz=117,SNR=5.4
F31M Tsiigehtchic 63.25 342 P **P 09 40 18.2 +0.7**
baz=127,SNR=9.6
DAWY Dawson 63.35 337 P **P 09 40 18.4 +0.1**
baz=120,SNR=5.7
M27K Edge Creek, AK 63.55 335 P **P 09 40 19.7 -0.1**
baz=116
EPYK Eagle Plains 63.60 340 P **P 09 40 20.1 +0.2**
baz=123,SNR=11
I29M Ogilvie Camp, 63.61 338 P **P 09 40 19.3 -0.6**
baz=121,SNR=9.5
KAIM Kayak Island 63.65 332 P **P 09 40 20.5 +0.2**
baz=113
INK Inuvik 63.71 342 LR LR 10 09 47.1
comp=Z,148nm,21.0s,baz=214,slow=38
INK Inuvik 63.71 342 P **P 09 40 20.7 +0.3**
baz=127,SNR=16
G30M tAoh Zraii Nji 63.77 341 P **P 09 40 21.0 0.0**
baz=124
L27K Beaver Creek, 63.84 335 P **P 09 40 21.5 0.0**
baz=117
F30M Barrier River 63.99 341 P **P 09 40 22.4 +0.1**
baz=125,SNR=15
M26K Nabesna, AK 64.03 334 P **P 09 40 22.6 -0.2**
baz=115
H29M Whitestone 64.08 339 P **P 09 40 23.2 +0.2**
baz=122,SNR=12
A36M Sachs Harbour 64.11 348 P **P 09 40 22.9 -0.2**
baz=137,SNR=6.9
BMRM Bremner River 64.15 333 P **P 09 40 23.2 -0.3**
baz=113
I28M Miner Creek 64.24 338 P **P 09 40 24.7 +0.5**
baz=120
ICESG Greenland Ices 64.26 17 *i*P **P 09 40 24.5 -0.1**
ICESG *e* 09 40 50.0
G29M Pine Creek 64.33 340 P **P 09 40 25.0 +0.3**
baz=122
K27K Chicken 64.38 336 P **P 09 40 24.9 -0.1**
baz=117
N25K Chitina, Valde 64.39 333 P **P 09 40 24.9 -0.4**
baz=113
L26K Log Cabin Wild 64.45 335 P **P 09 40 25.6 +0.1**
baz=115
EYAK Cordova Ski Ar 64.50 332 P **P 09 40 25.7 -0.1**
baz=112
I27K Kandik River 64.93 338 P **P 09 40 28.6 0.0**
baz=118,SNR=12
KLU Klutina 64.94 333 P **P 09 40 28.5 -0.3**
baz=112
HARP HAARP 64.95 334 P **P 09 40 28.7 0.0**
baz=113
P23K Montague Islan 65.08 331 P **P 09 40 29.5 -0.1**
baz=110
E29M Blow River 65.08 341 P **P 09 40 29.8 +0.3**
baz=123,SNR=9.8
SCRK Sand Creek 65.11 336 P **P 09 40 30.0 +0.1**
baz=115,SNR=7.8
J26L Joseph Creek 65.17 336 P **P 09 40 30.7 +0.5**
baz=116,SNR=19
H27K Steamboat Moun 65.19 339 P **P 09 40 30.9 +0.6**
baz=118
GLI Glacier Island 65.24 332 P **P 09 40 30.9 +0.3**
baz=111
M24K Tolsona, Glenn 65.28 334 P **P 09 40 30.6 -0.3**
baz=112
PAX Paxson 65.31 335 P **P 09 40 31.2 +0.1**
baz=113
RIDG Independent Ri 65.36 335 P **P 09 40 31.7 +0.3**
baz=114,SNR=5.4
I26K Coal Creek Min 65.36 337 P **P 09 40 31.7 +0.4**
baz=116
G27K Doyon Strip 65.52 339 P **P 09 40 32.7 +0.4**
baz=118
SCM Sheep Creek Mo 65.69 333 P **P 09 40 33.3 -0.3**
baz=111
E28M Babbage River 65.71 341 P **P 09 40 33.6 +0.1**
baz=121,SNR=17
K24K Donnelly Dome 65.76 335 P **P 09 40 33.4 -0.6**
baz=113
PWL Port Wells 65.81 332 P **P 09 40 33.6 -0.7**
baz=110
M23K Glacier View 65.85 333 P **P 09 40 34.1 -0.4**
baz=110
D28M Stokes Point 65.85 342 P **P 09 40 34.7 +0.3**
baz=122,SNR=5.9
J25K Salcha River, 65.92 336 P **P 09 40 34.9 -0.2**
baz=114,SNR=12
KNK Knik Glacier 66.05 332 P **P 09 40 35.4 -0.5**
baz=110
SEW Seward 66.09 331 P **P 09 40 35.6 -0.4**
baz=108
SML Sawmill 66.12 333 P **P 09 40 35.9 -0.5**
baz=110
E27K Coleen River 66.16 340 P **P 09 40 36.3 -0.2**
baz=119,SNR=8.0
G26K Porcupine Rive 66.33 339 P **P 09 40 37.1 -0.3**
baz=116,SNR=8.0
O22K Cooper Landing 66.33 331 P **P 09 40 37.5 -0.1**
baz=108
PRP Porcupine Dome 66.35 337 P **P 09 40 37.6 -0.3**
baz=114,SNR=11
PMOZ Porto Moniz, M 66.37 59 *e*P P 09 40 44.1 +5.5
PMOZ *i* Amb 09 41 23.8
comp=Z,127nm,1.3s
PMR Palmer 66.41 332 P **P 09 40 38.0 0.0**
baz=109
HDA Harding Lake 66.47 336 P **P 09 40 38.3 -0.1**
baz=112,SNR=12
D27M Malcolm River 66.48 342 P **P 09 40 38.4 -0.2**
baz=120
RC01 Rabbit Creek A 66.53 332 P **P 09 40 38.4 -0.4**
baz=108
ILAR Eielson Array 66.59 336 P **P 09 40 38.9 -0.3**
comp=Z,4.4nm,0.5s,baz=136,slow=4.6,SNR=123
ILAR LR LR 10 13 30.4
comp=Z,90nm,19.8s,baz=92,slow=39
comp=Z,4.4nm,0.5s
BRSE Bradley Lake S 66.60 330 P **P 09 40 39.3 -0.1**
baz=107
SUMG Summit 66.70 14 *e*P **P 09 40 40.3 0.0**
SUMG *e* 09 41 08.0
H25L Birch Creek 66.77 338 P **P 09 40 39.9 -0.4**
baz=114,SNR=11
F26K Sheenjek River 66.78 340 P **P 09 40 40.2 -0.2**
baz=116,SNR=10
M22K Willow 66.91 332 P **P 09 40 40.7 -0.5**
baz=108
POKR Poker Plat Res 66.93 336 P **P 09 40 40.9 -0.5**
baz=112,SNR=5.7
KDAK Kodiak Island 67.00 328 LR LR 10 12 17.0
comp=Z,151nm,19.4s,baz=305,slow=38
KDAK Kodiak Island 67.00 328 P **P 09 40 41.7 -0.2**
baz=104
COLA College 67.01 336 *i*P **P 09 40 41.2 -0.6**
COLA pmax pmax
comp=Z,25nm,1.8s
COLA College 67.01 336 P **P 09 40 41.6 -0.1**
baz=112
COLA College 67.01 336 P **P 09 40 41.7 -0.1**
COLA pP **pP 09 41 09.0 -0.3**
HOM Homer 67.01 330 P **P 09 40 41.4 -0.6**
baz=106
MCK McKinley 67.04 335 P **P 09 40 42.1 -0.1**
baz=110,SNR=7.0
G25K Bearman Lake 67.08 338 P **P 09 40 42.3 +0.1**
baz=114
CAPN Captain Cook N 67.09 331 P **P 09 40 42.1 -0.3**
baz=107
PMPST Porto Santo, M 67.10 59 *e*P **P 09 40 42.5 -0.6**
PMPST *i* Amb 09 41 17.0
comp=Z,220nm,1.5s
Q20K Shuyak Island 67.11 329 P **P 09 40 42.0 -0.6**
baz=105
CUT Chulitna 67.18 333 P **P 09 40 42.7 -0.3**
baz=108
OHAK Old Harbor 67.23 327 P **P 09 40 44.2 +0.8**
baz=103
F25K Christian Rive 67.26 339 P **P 09 40 44.5 +1.0**
baz=115
H24K Noodor Dome 67.38 337 P **P 09 40 44.6 +0.4**
baz=112,SNR=7.9
NEA2 Nenana 67.39 336 P **P 09 40 43.7 -0.6**
baz=110,SNR=10
E25K Arctic Village 67.45 340 P **P 09 40 45.3 +0.6**
baz=115,SNR=11
C27K Jago River 67.52 341 P **P 09 40 45.1 +0.1**
baz=118
TRF Thorofare Moun 67.52 334 P **P 09 40 45.0 -0.3**
baz=109,SNR=5.8
G24K Hadweenzic Riv 67.55 338 P **P 09 40 45.9 +0.6**
baz=113
SII Sitkinak Islan 67.57 326 P **P 09 40 45.5 -0.1**
baz=102
O20K Slope Mountain 67.60 330 P **P 09 40 45.6 -0.1**
baz=105
SKT Skwentna 67.62 332 P **P 09 40 46.0 +0.2**
baz=107
I23K Minto, Yukon-K 67.70 336 P **P 09 40 46.4 +0.2**
baz=110,SNR=13
SPCR Spurr Chakacha 67.71 332 P **P 09 40 45.8 -0.6**
baz=106
P19K Oil Pt 67.79 330 P **P 09 40 46.7 -0.2**
baz=104
NEEM North Greenlan 67.80 8 *e*P **P 09 40 45.4 -1.7**
NEEM *e* 09 41 13.8
Q19K Cape Douglas, 67.82 329 P **P 09 40 47.3 +0.2**
baz=104
R18K Karluk 67.93 327 P **P 09 40 47.6 -0.1**
baz=102
H23K Yukon River 68.01 337 P **P 09 40 48.1 0.0**
baz=110
F24K Squaw Lake 68.02 339 P **P 09 40 48.3 +0.1**
baz=113,SNR=6.8
BPAW Bear Paw Mtn. 68.02 335 P **P 09 40 47.8 -0.4**
baz=108,SNR=10.0
C26K Camden Bay 68.02 342 P **P 09 40 48.5 +0.4**
baz=116
BBTS Babate 68.08 79 LR LR 10 06 25.6
comp=Z,100nm,21.5s,baz=152,slow=32
PPLA Purkeypile 68.17 333 P **P 09 40 49.0 -0.4**
baz=107
CHIR Chirikof Islan 68.21 325 P **P 09 40 49.3 -0.3**
baz=101
D25K Kavik River 68.23 341 P **P 09 40 49.6 +0.1**
baz=115,SNR=29
EFI East Falkland 68.24 161 *ce*P **P 09 40 51.5 +1.9**
EFI pmax pmax
comp=Z,55nm,1.7s
CAST Castle Rocks 68.28 334 P **P 09 40 49.5 -0.4**
baz=107,SNR=7.8
M20K Styx River 68.32 332 P **P 09 40 49.7 -0.6**
baz=105
E24K Your Creek 68.44 339 P **P 09 40 51.1 +0.2**
baz=112
Q18K Katmai Hardscr 68.45 329 P **P 09 40 50.6 -0.6**
baz=102
O19K Port Alsworth 68.45 330 P **P 09 40 50.8 -0.1**
baz=104
G23K Bananza Creek 68.50 338 P **P 09 40 51.5 +0.3**
baz=110,SNR=9.9
CHUM Lake Minchumin 68.51 334 P **P 09 40 50.6 -0.7**
baz=107
N19K Bonanza Creek 68.68 331 P **P 09 40 51.7 -0.9**
baz=104
BORG Borgarnes 68.68 25 LR LR 10 12 05.4
comp=Z,89nm,18.0s,baz=243,slow=37
P18K Big Mountain, 68.72 329 P **P 09 40 52.1 -0.6**
baz=102
PPT Papeete 68.72 246 LR LR 10 02 42.6
comp=Z,249nm,20.5s,baz=90,slow=28
COLD Coldfoot 68.74 338 P **P 09 40 52.8 +0.1**
baz=110,SNR=18
H22K Ishtalitna Cre 68.75 337 P **P 09 40 52.8 +0.1**
baz=109,SNR=8.1
I21K Tanana 68.76 336 P **P 09 40 52.5 -0.4**
baz=108,SNR=6.4
L20K Farewell, AK 68.81 333 P **P 09 40 52.9 -0.3**
baz=105,SNR=12
O18K Koktuh Hills 68.81 330 P **P 09 40 52.7 -0.6**
baz=103
E23K Chandalar 68.83 339 P **P 09 40 52.7 -0.7**
baz=111
M19K Big River Lodg 68.90 332 P **P 09 40 52.7 -1.1**
baz=104
D24K Happy Valley 68.96 340 P **P 09 40 53.4 -0.6**
baz=112
TOLK Toolik Lake Re 69.02 340 P **P 09 40 54.3 -0.1**
baz=111,SNR=6.8
K20K Telida 69.12 334 P **P 09 40 54.7 -0.5**
baz=105
C24K Franklin Bluff 69.14 341 P **P 09 40 55.3 +0.2**
baz=113
L19K White Mountain 69.18 332 P **P 09 40 55.3 -0.2**
baz=104
H21K Melozitna Rive 69.23 336 P **P 09 40 55.5 -0.2**
baz=107,SNR=5.3
P17K Kvichak River 69.29 329 P **P 09 40 56.3 +0.2**
baz=101
Q16K King Salmon 69.30 328 P **P 09 40 56.4 +0.2**
baz=101
N18K Kilae Creek 69.32 331 P **P 09 40 56.2 -0.2**
baz=102
J20K Nowinta River 69.37 334 P **P 09 40 56.3 -0.3**
baz=105,SNR=7.3
M18K Stony River 69.47 331 P **P 09 40 57.3 +0.1**
baz=103
D23K Nanushuk River 69.52 340 P **P 09 40 58.0 +0.6**
baz=110
F22K John River 69.56 338 P **P 09 40 58.5 +0.8**
baz=108
E22K Anaktuvuk Pass 69.63 339 P **P 09 40 58.0 -0.2**
baz=109,SNR=5.7
I20K Naaghedeneel 69.67 335 P **P 09 40 57.8 -0.6**
baz=105,SNR=9.2
O17K Koliganek Bris 69.73 329 P **P 09 40 58.9 0.0**
baz=101
G21K Allakaket 69.76 337 P **P 09 40 59.3 +0.3**
baz=107
C23K Itkillik River 69.80 341 P **P 09 41 00.2 +1.1**
baz=111,SNR=7.8
CHGN Chignik 69.83 326 P **P 09 40 59.8 +0.3**
baz=98
N17K Nushagak Hills 69.92 330 P **P 09 41 00.4 +0.4**
baz=101
J19K Poorman 69.95 334 P **P 09 41 00.1 -0.1**
baz=104,SNR=6.2
F21K Alatna River 69.95 338 P **P 09 41 00.9 +0.7**
baz=107,SNR=26
H20K Anotleneega Mo 70.02 336 P **P 09 41 01.1 +0.5**
baz=105
L18K Granite Mounta 70.02 332 P **P 09 41 00.7 +0.1**
baz=102
P16K Nushagak River 70.04 329 P **P 09 41 00.9 +0.1**
baz=100
D22K Ayikyak River 70.17 339 P **P 09 41 01.2 -0.2**
baz=108
O16K Kokwok River B 70.19 329 P **P 09 41 00.9 -0.8**
baz=100
M17K Holitna River 70.21 331 P **P 09 41 01.1 -0.6**
baz=101
CHNA Chernabura Isl 70.30 324 P **P 09 41 02.3 -0.1**
baz=97
J18K Innoko River 70.30 333 P **P 09 41 02.2 -0.1**
baz=103
S14K Fog Glacier 70.46 326 P **P 09 41 03.3 -0.2**
baz=98
E21K Killik River 70.49 339 P **P 09 41 03.4 -0.1**
baz=107
GCSA Galena City Sc 70.66 335 P **P 09 41 04.9 +0.5**
baz=103
H19K Roundabout Mou 70.66 336 P **P 09 41 04.5 0.0**
baz=104,SNR=16
N16K Nishlik Lake 70.68 330 P **P 09 41 04.4 -0.3**
baz=100
L17K Donlin 70.75 332 P **P 09 41 05.6 +0.5**
baz=101
F20K Avaraart Lake 70.75 337 P **P 09 41 05.8 +0.9**
baz=105
K17K Iditarod 70.86 332 P **P 09 41 06.1 +0.4**
baz=101
M16K Timber Creek 70.86 331 P **P 09 41 05.5 -0.3**
baz=100
SDPT Sand Point 70.86 325 P **P 09 41 06.3 +0.5**
baz=96
B22K Teshekpuk Lake 70.88 341 P **P 09 41 06.3 +0.6**
baz=108
C21K Knifeblade Rid 70.98 339 P **P 09 41 07.2 +0.9**
baz=106
O15K Ungalikthiuk R 71.00 329 P **P 09 41 06.5 -0.1**
baz=98
B21K Ikpikpuk River 71.05 340 P **P 09 41 07.3 +0.6**
baz=107,SNR=8.7
G19K Purcell Mounta 71.06 336 P **P 09 41 06.9 0.0**
baz=103,SNR=11
L16K Owhat River 71.22 331 P **P 09 41 08.1 +0.2**
baz=100
E20K Nigu River 71.23 338 P **P 09 41 08.2 +0.2**
baz=105
N15K Kwethluk River 71.28 330 P **P 09 41 08.2 -0.1**
baz=98
J17K VABM Dome 71.33 333 P **P 09 41 08.7 +0.2**
baz=100
H18K Honhosa River 71.36 335 P **P 09 41 08.5 -0.2**
baz=102
E19K Redstone River 71.42 337 P **P 09 41 08.7 -0.3**
baz=104
F19K Shaleruckik Mo 71.48 337 P **P 09 41 09.2 -0.2**
baz=103
D20K Etivluk River 71.50 339 P **P 09 41 09.4 -0.1**
baz=104
A22K Sinclair Lake 71.57 341 P **P 09 41 10.5 +0.6**
baz=107
G18K Tagagawik 71.63 336 P **P 09 41 10.8 +0.5**
baz=102,SNR=14
M15K Kasigluk River 71.65 330 P **P 09 41 11.1 +0.6**
baz=98
O14K Tigyukauivet M 71.75 329 P **P 09 41 11.8 +0.7**
baz=97
H17K Granite Mounta 71.97 335 P **P 09 41 12.4 +0.1**
baz=100,SNR=6.2
D19K Kuna River 71.98 338 P **P 09 41 12.7 +0.2**
baz=103
J16K Anvik River 71.99 333 P **P 09 41 12.6 +0.1**
baz=99,SNR=7.7
B20K Meade River 72.01 340 P **P 09 41 12.9 +0.5**
baz=104
N14K Kuskokwak Cree 72.04 329 P **P 09 41 13.7 +0.9**
baz=97
I17K Unalakleet 72.12 333 P **P 09 41 14.3 +1.0**
baz=99

F18K Selawik 72.16 336 P **P** **09 41 13.9 +0.4**
baz=101,SNR=6.4
A21K Barrow 72.17 341 P **P** **09 41 13.1 -0.3**
baz=105
K15K Wolf Creek Mou 72.27 332 P **P** **09 41 14.1 -0.1**
baz=98
M14K Bethel 72.27 330 P **P** **09 41 14.3 +0.2**
baz=97
G17K Kiwalik Mounta 72.37 335 P **P** **09 41 15.1 +0.3**
baz=100,SNR=6.3
FALS False Pass 72.50 324 P **P** **09 41 15.7 0.0**
baz=94
E18K Tukpahlearik C 72.68 337 P **P** **09 41 16.9 +0.4**
baz=100
L14K Kuka Creek 72.69 331 P **P** **09 41 16.9 +0.3**
baz=96
F17K Baldwin Pennin 72.77 336 P **P** **09 41 17.1 +0.1**
baz=99
H16K Elim 72.90 334 P **P** **09 41 18.5 +0.7**
baz=98
M13K Dall Lake 72.92 330 P **P** **09 41 18.3 +0.2**
baz=96
G16K Koyuk River 73.06 335 P **P** **09 41 19.0 +0.2**
baz=98
E17K Hotham Inlet 73.09 337 P **P** **09 41 19.1 +0.1**
baz=99
PSBE So Bento 73.10 52 *e*P **P** **09 41 18.7 -0.9**
PSBE *epP* **pP** **09 41 48.0 +0.6**
C18K Utukok River 73.12 338 P **P** **09 41 19.4 +0.2**
baz=100
PTEO Sao Teotonio 73.23 54 *epP* pP 09 41 49.6 +1.5
MORF Marmelete 73.30 55 *e*P **P** **09 41 21.2 +0.4**
MORF Marmelete 73.30 55 *e*P **P** **09 41 19.9 -1.0**
MORF *epP* **pP** **09 41 50.5 +2.0**
MORF *i* Amb 09 41 51.7
comp=Z,112nm,1.5s
PCAS Casmilo, Conde 73.31 52 *e*P **P** **09 41 21.3 +0.5**
PCAS *epP* **pP** **09 41 49.3 +0.7**
PCAS *i* Amb 09 41 51.1
comp=Z,101nm,1.5s
A19K Wainwright 73.36 340 P **P** **09 41 20.8 +0.3**
baz=101
COI Coimbra 73.37 52 *e*P **P** **09 41 22.0 +0.9**
COI *epP* **pP** **09 41 50.3 +1.4**
COI *i* Amb 09 41 51.4
comp=Z,116nm,1.2s
PGAV Gavieira, Arco 73.42 50 *e*P **P** **09 41 22.0 +0.4**
PGAV *epP* **pP** **09 41 50.8 +1.4**
PGAV *i* Amb 09 41 51.5
comp=Z,49nm,1.5s
B18K Kokolik River 73.46 339 P **P** **09 41 21.9 +0.9**
baz=100
PMTG Montargil 73.56 53 *e*P **P** **09 41 22.6 +0.3**
PMTG *epP* **pP** **09 41 50.8 +0.8**
PMTG *i* Amb 09 41 52.0
comp=Z,39nm,1.4s
MESJ Messejana 73.62 54 *e*P **P** **09 41 22.9 +0.3**
MESJ Messejana 73.62 54 *e*P **P** **09 41 22.9 +0.3**
MESJ *epP* **pP** **09 41 51.5 +1.1**
RDOG Red Dog Mine 73.65 338 P **P** **09 41 22.7 +0.5**
baz=98
D17K Noatak River 73.67 337 P **P** **09 41 22.8 +0.5**
baz=98,SNR=7.9
K13K Kusilvak Mount 73.69 331 P **P** **09 41 22.4 -0.1**
baz=95
G15K Niukluk 73.71 334 P **P** **09 41 23.0 +0.4**
baz=96
PVIS Viseu 73.75 51 *e*P **P** **09 41 23.0 -0.4**
PVIS *epP* **pP** **09 41 51.9 +0.7**
PCVE Castro Verde 73.77 54 *epP* pP 09 41 52.8 +1.5
POLO Lamas de Olo 73.80 50 *e*P **P** **09 41 23.9 +0.1**
POLO *epP* **pP** **09 41 50.6 -1.0**
POLO *i* Amb 09 41 53.7
comp=Z,26nm,1.4s
C17K DeLong Mountai 73.81 338 P **P** **09 41 23.2 0.0**
baz=98
PVRL Vila Real 73.86 50 *e*P **P** **09 41 24.4 +0.3**
PVRL *epP* **pP** **09 41 53.1 +1.3**
PBDV Barranco-do-Ve 73.88 55 *e*P **P** **09 41 27.2 +3.0**
PBDV *i* Amb 09 42 13.7
comp=Z,92nm,1.8s
PBEJ Beja 73.89 54 *e*P **P** **09 41 24.8 +0.6**
PBEJ *epP* **pP** **09 41 52.9 +0.9**
MTE Manteigas 74.03 51 *e*P **P** **09 41 25.2 +0.2**
MTE *epP* **pP** **09 41 54.0 +1.1**
MTE *i* Amb 09 41 54.9
comp=Z,78nm,1.2s
PVAQ Vaqueiros 74.04 54 *e*P **P** **09 41 25.6 +0.5**
PVAQ *epP* **pP** **09 41 53.8 +0.9**
F15K North Star Dit 74.04 335 P **P** **09 41 25.3 +0.7**
baz=96,SNR=9.8
PESTR Estremoz 74.06 53 *e*P **P** **09 41 25.8 +0.6**
PESTR *epP* **pP** **09 41 54.2 +1.2**
PESTR *i* Amb 09 41 54.9
comp=Z,49nm,1.4s
PCBR Castelo Branco 74.10 52 *e*P **P** **09 41 25.5 +0.1**
PCBR *epP* **pP** **09 41 53.1 -0.1**
PCBR *i* Amb 09 41 56.0
comp=Z,62nm,1.6s
PMRV Marv??o 74.19 52 *epP* pP 09 41 54.1 +0.4
ANM Nome 74.24 334 P **P** **09 41 26.1 +0.4**
baz=95
UNV Unalaska Valle 74.27 323 P **P** **09 41 25.4 -0.6**
baz=91
M11K Mekoryuk 74.33 330 P **P** **09 41 25.6 -0.7**
baz=93
MVO Moncorvo 74.38 50 *e*P **P** **09 41 26.8 -0.3**
MVO *epP* **pP** **09 41 55.2 +0.2**
MVO *i* Amb 09 41 57.1
comp=Z,70nm,1.3s
PBAR Barrancos 74.53 54 *e*P **P** **09 41 28.1 +0.2**
PBAR *epP* **pP** **09 41 56.6 +0.9**
PBAR *i* Amb 09 41 58.8
comp=Z,52nm,1.4s
PBRG Braganca 74.57 50 *e*P **P** **09 41 28.3 +0.2**
PBRG *epP* **pP** **09 41 56.0 0.0**
PBRG *i* Amb 09 41 59.1
comp=Z,71nm,1.4s
C16K Lisburne Hills 74.58 338 P **P** **09 41 27.8 +0.2**
baz=96
F14K Arctic Creek 74.72 335 P **P** **09 41 28.7 +0.3**
baz=94,SNR=7.5
JMIC Jan Mayen 74.75 19 LR LR 10 14 43.3
comp=Z,156nm,18.1s,baz=252,slow=36
TNA Tin City 75.39 335 P **P** **09 41 32.5 +0.2**
baz=93
NIKH Nikolski High 75.67 322 P **P** **09 41 33.9 -0.3**
baz=89
P08K Saint George I 76.01 326 P **P** **09 41 35.4 -0.6**
baz=89
SPIA Saint Paul Isl 76.39 326 P **P** **09 41 36.7 -1.4**
baz=89
EKA Eskdalemuir Ar 76.45 36 P **P** **09 41 36.5 -2.1**
comp=Z,9.5nm,0.8s,baz=269,slow=5.8,SNR=10
EKA pP **pP** **09 42 04.6 -2.0**
comp=Z,14nm,0.8s,baz=264,slow=5.6,SNR=12
comp=Z,9.5nm,0.8s
ESDC Sonseca Array 76.81 52 P **P** **09 41 39.7 -1.4**
comp=Z,15nm,0.9s,baz=286,slow=5.7,SNR=62
ESDC pP **pP** **09 42 07.4 -1.6**
comp=Z,27nm,1.0s,baz=284,slow=5.8,SNR=18
ESDC LR LR 10 09 32.1
comp=Z,163nm,21.9s,baz=301,slow=31
comp=Z,15nm,0.9s
MDT Midelt 76.95 59 LR LR 10 11 36.1
comp=Z,174nm,19.5s,baz=292,slow=33
GAMB Gambell 76.98 333 P **P** **09 41 39.9 -1.5**
baz=89
RAR Rarotonga 79.00 245 LR LR 10 08 17.5
comp=Z,106nm,21.3s,baz=94,slow=29
DBIC Dimbokro 80.70 85 P **P** **09 42 00.3 -2.3**
comp=Z,3.3nm,0.7s,baz=319,slow=6.8,SNR=2.7
DBIC LR LR 10 16 56.9
comp=Z,68nm,18.5s,baz=309,slow=35
comp=Z,3.3nm,0.7s
SPITS Spitsbergen Ar 80.86 12 P **P** **09 42 01.2 -1.1**
comp=Z,5.6nm,0.8s,baz=215,slow=2.8,SNR=9.7
SPITS LR LR 10 19 08.0
comp=Z,433nm,19.1s,baz=250,slow=37
comp=Z,5.6nm,0.8s
DOU Dourbes 81.64 41 *d*P **P** **09 42 05.0 -1.9**
DOU *dpP* **pP** **09 42 34.5 -0.7**
BGES Gesves 81.90 40 *d*P **P** **09 42 06.4 -2.0**
BGES *dpP* **pP** **09 42 35.9 -0.7**
RCHB Rochefort 82.03 40 *d*P **P** **09 42 08.5 -0.5**
RCHB *dpP* **pP** **09 42 36.4 -0.9**

BCLA Clavier 82.03 40 *d*P **P** **09 42 08.2 -0.8**
BCLA *dpP* **pP** **09 42 36.7 -0.6**
MEM Membach 82.45 40 *d*P **P** **09 42 10.5 -0.7**
MEM *dpP* **pP** **09 42 38.9 -0.6**
WLF Walferdange 82.70 41 *d*P **P** **09 42 12.4 -0.1**
WLF *dpP* **pP** **09 42 40.8 0.0**
NB2 NORSAR Subarra 83.28 29 P **P** **09 42 15.4 +0.1**
comp=Z,4.9nm,0.9s,baz=281,slow=4.8
NOA NORSAR Array B 83.28 29 P **P** **09 42 13.5 -1.8**
comp=Z,4.7nm,0.9s,baz=284,slow=5.0,SNR=7.3
NOA pP **pP** **09 42 42.6 -1.1**
comp=Z,6.6nm,0.9s,baz=284,slow=5.3,SNR=7.8
NOA LR LR 10 16 54.3
comp=Z,68nm,20.9s,baz=20,slow=34
comp=Z,4.7nm,0.9s
HFS Hagfors 84.69 30 P **P** **09 42 20.7 -1.8**
comp=Z,8.0nm,1.1s,baz=298,slow=3.1,SNR=2.4
HFS LR LR 10 17 28.6
comp=Z,58nm,21.5s,baz=328,slow=34
comp=Z,8.0nm,1.1s
BILL Bilibino 85.06 339 *ce*P **P** **09 42 24.5 +0.4**
BILL pmax pmax
comp=Z,23nm,0.8s
TUE Stuetta 85.43 44 P **P** **09 42 26.0 -0.7**
comp=Z,38nm,1.1s
DAVA Damuels 85.61 43 *e*P **P** **09 42 27.3 -0.2**
comp=Z,14nm,1.0s
DAVOX Davos/Dischmat 85.72 43 LR LR 10 14 12.8
comp=Z,290nm,21.2s,baz=258,slow=31
RETA Reutte 86.14 42 *e*P **P** **09 42 29.0 -1.1**
comp=Z,12nm,1.2s
FETA Feichten 86.23 43 *e*P **P** **09 42 29.3 -1.3**
comp=Z,5.1nm,1.1s
ARCES ARCESS Array B 86.24 19 P **P** **09 42 27.8 -2.2**
comp=Z,3.2nm,0.8s,baz=282,slow=3.8,SNR=6.0
ARCES PKKP **PKKPdf** **10 00 23.9 +1.8**
comp=Z,2.4nm,0.9s,baz=131,slow=2.6,SNR=6.8
ARCES LR LR 10 19 58.1
comp=Z,103nm,18.7s,baz=299,slow=35
comp=Z,3.2nm,0.8s
MOTA Moosalm 86.40 42 *e*P **P** **09 42 30.2 -1.2**
comp=Z,7.3nm,1.2s
SQTA Sankt Quirin 86.50 43 *e*P **P** **09 42 31.4 -0.5**
comp=Z,6.5nm,1.1s
CLL Collm 86.61 38 *i*P **P** **09 42 30.7 -1.4**
CLL *i* *PP **pP** **09 42 59.9 -0.8**
CLL pmax pmax
comp=Z,31nm,1.5s
CLL Collm 86.61 38 P **P** **09 42 30.3 -1.8**
CLL Collm 86.61 38 *i*P **P** **09 42 30.7 -1.4**
comp=Z,31nm,1.5s
CLL *i*pP **pP** **09 43 00.5 -0.2**
CLL *i*sP **sP** **09 43 11.4 -1.0**
CLL *e*S **S** **09 53 01.0 +1.1**
WTTA Wattenberg 86.77 42 *e*P **P** **09 42 32.6 -0.7**
comp=Z,1.5nm,0.8s
BRG Berggiesshubel 87.30 39 *e*P **P** **09 42 35.3 -0.2**
BRG Amp 09 42 36.4
comp=Z,21nm,1.5s
BRG pP **sP** **09 43 12.5 -3.2**
BRG Amp 09 43 15.1
comp=Z,4.2nm,1.0s
LESA Schwarzleotal 87.42 42 *e*P **P** **09 42 35.0 -1.3**
comp=Z,5.4nm,1.3s
ABTA Abfaltersbach 87.48 43 *e*P **P** **09 42 35.6 -1.0**
comp=Z,8.2nm,1.2s
KHC Kasperske Hory 87.55 40 *e*P **P** **09 42 35.7 -1.0**
KHC Kasperske Hory 87.55 40 *ce*P **P** **09 42 34.1 -2.7**
KHC pmax pmax
comp=Z,19nm,1.3s
KHC Kasperske Hory 87.55 40 P **P** **09 42 35.8 -1.0**
comp=Z,9.0nm,1.4s
GERES GERESS Array B 87.70 41 P **P** **09 42 35.5 -2.1**
comp=Z,2.1nm,0.9s,baz=291,slow=3.7,SNR=13
GERES pP **pP** **09 43 04.8 -1.4**
comp=Z,1.0nm,0.7s,baz=285,slow=2.6,SNR=4.0
GERES PKKPbc **PKKPbc** **10 00 25.2 -0.9**
comp=Z,0.2nm,0.4s,baz=86,slow=1.4,SNR=4.2
comp=Z,2.1nm,0.9s
KEST Kesra 87.85 54 PKKPbc PKKPbc 10 00 24.9 -0.4
comp=Z,2.4nm,0.7s,baz=45,slow=1.4,SNR=4.1
KEST LR LR 10 16 03.2
comp=Z,135nm,21.2s,baz=291,slow=32
KBA Koelnbreinsper 87.95 42 *e*P **P** **09 42 37.9 -1.0**
comp=Z,6.5nm,1.4s
BIOA Bad Ischl, Aus 87.97 42 *e*P **P** **09 42 38.3 -0.5**
comp=Z,3.4nm,0.8s
MYKA Terra Mystica 88.27 43 *e*P **P** **09 42 39.0 -1.3**
comp=Z,3.2nm,0.7s
MOA Molln 88.34 41 *e*P **P** **09 42 39.9 -0.7**
comp=Z,2.2nm,0.9s
OBKA Obir 88.90 43 *e*P **P** **09 42 42.9 -0.4**
comp=Z,5.8nm,1.1s
DPC Dobruska-Polom 88.90 39 *e*P **P** **09 42 45.7 +2.5**
DPC Dobruska-Polom 88.90 39 *e*P **P** **09 42 45.7 +2.5**
SOKA Soboth 89.17 42 *e*P **P** **09 42 43.8 -0.7**
comp=Z,1.7nm,0.9s
ARSA Arzberg 89.33 42 *e*P **P** **09 42 44.3 -0.8**
comp=Z,1.2nm,0.8s
KRUC Moravsky 89.34 40 *e*P **P** **09 42 44.8 -0.4**
CONA Conrad Observa 89.34 41 *e*P **P** **09 42 44.6 -0.8**
comp=Z,5.5nm,1.4s
VRAC Vranov 89.39 40 LR LR 10 15 43.3
comp=Z,185nm,21.7s,baz=312,slow=31
VRAC Vranov 89.39 40 *e*P **P** **09 42 45.4 0.0**
RONA Rosalia, Austr 89.69 41 *e*P **P** **09 42 46.4 -0.5**
comp=Z,3.1nm,1.1s
FINES FINESS Array B 89.93 26 P **P** **09 42 46.6 -1.0**
comp=Z,1.6nm,0.7s,baz=271,slow=3.4,SNR=3.9
FINES PKKPbc **PKKPbc** **10 00 20.1 -0.9**
comp=Z,3.3nm,0.9s,baz=46,slow=4.0,SNR=4.8
FINES LR LR 10 23 53.1
comp=Z,114nm,18.2s,baz=276,slow=36
comp=Z,1.6nm,0.7s
LANS Liptovska Anna 91.22 39 *e*P **P** **09 42 55.9 +1.9**
LANS Liptovska Anna 91.22 39 *e*P **P** **09 42 55.9 +1.9**
VAE Valguarnera 91.35 51 LR LR 10 17 00.8
comp=Z,251nm,20.9s,baz=289,slow=31
MORH Mrgy, Hungar 91.69 42 P **P** **09 42 56.0 -0.1**
SEY Seymchan 92.51 337 *ce*P **P** **09 43 00.5 +0.9**
SEY pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 93.02 39 *e*P **P** **09 43 03.5 +1.2**
TIXI Tiksi 93.07 349 *i*P **P** **09 43 01.0 -1.0**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
MNK Minsk 93.88 32 *i*P **P** **09 43 02.7 -3.3**
MNK *i* *PP **pP** **09 43 29.1 -5.7**
MNK *i* 09 46 47.7
MNK *i* PPP PPP 09 48 48.3
MNK *i*S **SKSac** **09 53 27.2 -3.4**
MNK *i*PS **PS** **09 55 28.6 -6.2**
MNK *i*SS **SS** **10 00 21.4 -5.8**
MNK *i*SSS SSS 10 04 02.4
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,18nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=Z,261nm,19.0s
MNK MLR MLR
comp=E,715nm,19.0s
MNK MLR MLR
comp=N,722nm,21.0s
RNPP5 Staryi Chortor 94.23 36 P **P** **09 43 06.4 -1.3**
KSV Kosov 94.97 38 P **P** **09 43 09.5 -1.7**
MA2 Magadan 95.02 334 LR LR 10 31 24.4
comp=N,61nm,18.8s,baz=38,slow=39
MA2 Magadan 95.02 334 *ce*P **P** **09 43 12.5 +1.3**
MA2 pmax pmax
comp=Z,8.0nm,1.7s
MA2 Magadan 95.02 334 P **P** **09 43 11.2 0.0**
PETK Petropavlovsk- 95.04 327 P **P** **09 43 11.4 0.0**
comp=Z,2.7nm,0.8s,baz=64,slow=8.1,SNR=2.5
PETK LR LR 10 27 53.8
comp=Z,58nm,19.3s,baz=48,slow=36
comp=Z,2.7nm,0.8s
AK19 Malin Array Si 96.23 35 P **P** **09 43 14.9 -1.9**
AKASG Malin Array Be 96.36 35 PP **PP** **09 47 09.8 -2.1**
comp=Z,0.7nm,0.7s,baz=295,slow=6.3,SNR=5.0
AKASG PKKPbc **PKKPbc** **10 00 04.0 -0.1**
comp=Z,1.8nm,0.8s,baz=78,slow=2.6,SNR=4.7
AKASG LR LR 10 22 33.5
comp=Z,164nm,20.2s,baz=270,slow=33

MLR Muntele Rosu 96.69 41 LR LR 10 21 23.5
comp=Z,214nm,20.6s,baz=328,slow=32
VNA3 Neumayer Olymp 97.29 161 ⇑P Pdif 09 43 22.0 +0.8
comp=Z,16nm,0.8s
VNA1 Neumayer--Stat 97.58 161 ⇓P Pdif 09 43 23.3 +0.9
comp=Z,13nm,0.9s
OBN Obninsk 97.89 29 LR LR 10 25 16.7
comp=Z,98nm,18.4s,baz=358,slow=34
VNA2 Neumayer--Watz 97.93 161 ⇑P Pdif 09 43 24.8 +0.8
comp=Z,7.6nm,0.8s,baz=299,slow=4.0
MSVF Nonsavu 98.53 254 LR LR 10 17 12.8
comp=Z,54nm,21.5s,baz=97,slow=29
NRIK Noril'sk 98.62 2 LR LR 10 30 09.6
comp=Z,143nm,19.6s,baz=342,slow=37
NRIK Noril'sk 98.62 2 *i*P **P** **09 43 24.6 -2.6**
SNAA Sanae 99.52 161 ⇑P **Pdif** **09 43 31.1 0.0**
comp=Z,85nm,0.7s
SNAA Sanae 99.52 161 P **Pdif** **09 43 30.6 -0.6**
comp=Z,3.9nm,0.7s,baz=254,slow=4.5,SNR=10
comp=Z,3.9nm,0.7s
SNAA Sanae 99.52 161 *ce*P **Pdif** **09 43 32.2 +1.0**
SNAA pmax pmax
comp=Z,28nm,2.5s
TROLL Troll, Antarti 101.23 162 ⇑P **Pdif** **09 43 39.8 +1.0**
comp=Z,594nm,1.0s
QSPA South Pole Qui 102.11 180 P **Pdif** **09 43 43.9 +1.1**
comp=Z,5.2nm,1.0s,baz=161,slow=0.8,SNR=11
QSPA PKiKP **PKiKP** **09 48 04.8 +0.3**
comp=Z,2.1nm,0.9s,baz=338,slow=0.7,SNR=2.8
BRTR Keskin Array B 104.36 43 PKKPbc PKKPbc 09 59 41.2 +0.2
comp=Z,0.8nm,0.7s,baz=120,slow=4.9,SNR=3.9
VNDA Vanda 106.37 192 PKKP 09 59 47.8
comp=Z,0.5nm,0.5s,baz=243,slow=2.3,SNR=1.8
ZALV Zalesovo Beam 113.77 5 PP PP 09 49 12.2 -7.7
comp=Z,2.3nm,0.9s,baz=352,slow=8.7,SNR=4.4
ZALV PKKPbc **PKKPbc** **09 59 08.3 -3.3**
comp=Z,0.6nm,0.3s,baz=160,slow=4.7,SNR=5.8
ZALV PKKPab **PKKPab** **09 59 16.3 -2.8**
comp=Z,1.8nm,0.7s,baz=147,slow=2.9,SNR=6.5
BNX BinXian 114.69 334 PKP **PKiKP** **09 48 28.8 +0.1**
BOSA Boshof 114.92 116 PKP PKPdf 09 48 28.9 -0.8
comp=Z,5.1nm,0.7s,baz=261,slow=2.1,SNR=16
BOSA PKKPbc **PKKPbc** **09 59 07.8 +0.9**
comp=Z,7.3nm,0.7s,baz=110,slow=2.1,SNR=14
MJAR Matsushiro Arr 115.70 321 PKP **PKPdf** **09 48 31.1 +0.2**
comp=Z,2.7nm,0.9s,baz=79,slow=1.9,SNR=5.2
KURK Kurchatov 116.11 10 PKiKP **PKiKP** **09 48 31.0 -0.2**
KURBB Kurchatov Arra 116.18 10 PKP **PKiKP** **09 48 31.0 -0.4**
comp=Z,0.5nm,0.6s,baz=343,slow=2.1,SNR=7.3
KURBB PKKPbc **PKKPbc** **09 59 01.6 -1.6**
comp=Z,0.7nm,0.4s,baz=172,slow=2.7,SNR=8.7
KURBB PKKP **PKKPdf** **09 59 29.1 +1.5**
comp=Z,0.8nm,0.7s,baz=156,slow=2.8,SNR=1.8
MBAR Mbarara 116.94 84 *c* *i*PKiKP **PKPdf** **09 48 31.5 -2.6**
MBAR pmax pmax
comp=Z,8.0nm,1.7s
CN2 Changchun 117.08 334 *e*PKP **PKPdf** **09 48 27.8 -5.5**
ULN Ulaanbaatar 119.01 349 *i*PKiKP **PKPdf** **09 48 35.5 -1.7**
SONM Songino Array 119.16 350 PKP **PKPdf** **09 48 36.6 -0.9**
comp=Z,0.8nm,0.3s,baz=284,slow=1.0,SNR=9.5
SONM PKKPbc **PKKPbc** **09 58 50.8 -1.9**
comp=Z,3.9nm,0.9s,baz=210,slow=4.3,SNR=12
SONM PKKP **PKKPdf** **09 59 20.9 -1.3**
comp=Z,1.6nm,0.9s,baz=193,slow=4.4,SNR=4.0
XLT XiLinHaoTe 120.48 341 *e*PKP **PKPdf** **09 48 40.1 +0.1**
XLT PP **PP** **09 50 09.8 +2.9**
XLT AMB AMB
comp=Z,150nm,6.1s
MK31 Makanchi Array 120.51 9 *c* *i*PKiKP **PKPdf** **09 48 39.3 -0.6**
MKAR Makanchi Array 120.51 9 PKP **PKPdf** **09 48 38.6 -1.3**
comp=Z,0.3nm,0.6s,baz=37,slow=3.0,SNR=4.7
MKAR PP **PP** **09 50 03.8 -3.0**
comp=Z,0.8nm,0.9s,baz=23,slow=7.8,SNR=3.5
MKAR PKKPbc **PKKPbc** **09 58 43.1 -4.5**
comp=Z,0.9nm,1.0s,baz=149,slow=2.6,SNR=5.2
MKAR Makanchi Array 120.51 9 *c* *i*PKiKP **PKPdf** **09 48 37.7 -2.2**
KSRS Korea Array 120.91 328 PKP **PKiKP** **09 48 41.4 +0.4**
comp=Z,9.7nm,0.8s,baz=4.3,slow=1.3,SNR=33
KSRS pPKP **pPKPdf** **09 49 10.4 -0.4**
comp=Z,2.0nm,0.8s,baz=8.5,slow=1.5,SNR=2.0
AAK Ala-Archa 122.83 16 PKKPbc PKKPbc 09 58 38.3 -0.6
comp=Z,2.9nm,0.7s,baz=130,slow=5.5,SNR=9.2
AAK Ala-Archa 122.83 16 *i*PKiKP **PKPdf** **09 48 42.2 -2.5**
WMQ Urumqi 124.07 5 *e*PKP **PKiKP** **09 48 49.3 +2.1**
WMQ LR LR
comp=Z,230nm,24.3s
HHC Hu-ho-hao-te 124.62 343 *e*PKP **PKiKP** **09 48 49.9 +1.5**
HNS HongShan 126.77 339 ⇓PKP **PKiKP** **09 48 52.8 +0.2**
TIA Tai'an 126.90 336 PKP **PKiKP** **09 48 53.4 +0.5**
GTA Gaotai 128.35 354 PKP **PKPdf** **09 48 55.3 0.0**
STKA Stephens Creek 131.54 238 PKP **PKiKP** **09 49 02.9 +0.6**
comp=Z,23nm,0.7s,baz=105,slow=4.1,SNR=34
STKA pPKP **pPKPdf** **09 49 32.5 +1.3**
comp=Z,4.7nm,0.6s,baz=80,slow=5.1,SNR=2.3
XAN Xi'an 131.72 343 ⇓PKP **PKiKP** **09 49 03.3 +0.6**
XAN AMB AMB
comp=Z,340nm,5.1s
ASAR Alice Springs 139.82 248 PKhKP PKPpre 09 49 09.5
comp=Z,5.1nm,0.6s,baz=105,slow=3.1,SNR=31
ASAR PKP **PKiKP** **09 49 18.5 -1.0**
comp=Z,36nm,0.9s,baz=103,slow=2.0,SNR=43
ASAR SKPbc **SKiKP** **09 52 44.8 -0.9**
comp=Z,1.6nm,0.8s,baz=102,slow=2.7,SNR=4.2
WRA Warramunga Arr 139.87 253 PKhKP PKPpre 09 49 10.4
comp=Z,6.2nm,0.7s,baz=88,slow=2.8,SNR=29
WRA PKP **PKiKP** **09 49 18.8 -0.8**
comp=Z,46nm,0.6s,baz=88,slow=2.1,SNR=76
PZH PanZhiHua 140.71 348 PKP **PKiKP** **09 49 20.6 -0.7**
HYB Hyderabad 147.22 27 *e*PKPdf **PKPbc** **09 49 31.8 -0.7**
CHTO Chiang Mai 148.73 350 PKPdf **PKPdf** **09 49 32.2 -0.3**
CHTO Chiang Mai 148.73 350 PKiKP **PKPdf** **09 49 32.2 -0.3**
LUWI Luwuk 148.74 288 **PKPbc** **09 49 37.2 +0.6**
CMAR Chiang Mai Arr 149.08 349 PKP **PKPdf** **09 49 32.9 -0.2**
comp=Z,7.4nm,0.8s,baz=315,slow=2.4,SNR=22
CMAR PKPbc **PKPbc** **09 49 36.9 -0.5**
comp=Z,15nm,1.0s,baz=16,slow=2.8,SNR=15
TOLI2 Tolitoli 149.68 294 **PKPbc** **09 49 39.0 +0.1**

AFAD ***24*** *09:48:57.8, 36.°95N×27.°56E, h7km±6km, ML2.2*
ISK ***24*** *09:48:57.9, 36.°96N×27.°60E, h14km±2km, ML2.5/9*
ISC 24 09:48:58.1±0.9,**36.°96N**±0.°03×**27.°58E**±0.°03,**h16**km±9km,
n17,σ0°61/30,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.23**	**180**	Pg	**Pg**	**09 49 03.2**	**-0.2**
DAT				Sg	**Sg**	**09 49 07.5**	**+0.5**
BODT	**Bodrum**	**0.24**	**295**	Pg	**Pb**	**09 49 03.8**	**-0.3**
BODT				Sg	**Sg**	**09 49 07.9**	**+0.9**
YKAV	**Yalikavak-Bodr**	**0.29**	**304**	Pg	**Pb**	**09 49 04.5**	**-0.5**
YKAV				Sg	**Sb**	**09 49 09.1**	**-0.5**
YAZI	**Mula-Dat§a-**	**0.30**	**200**	P	**Pb**	**09 49 04.7**	**-0.4**
YAZI				S	**Sg**	**09 49 07.8**	**-0.9**
MLSB	**Milas**	**0.37**	**25**	Pg	**Pb**	**09 49 06.4**	**0.0**
MLSB				Sg	**Sb**	**09 49 11.6**	**-0.4**
DDIM	**Aydin, Didim**	**0.56**	**332**	P	**Pb**	**09 49 09.9**	**+0.2**
DDIM				S	**Sg**	**09 49 16.5**	**-0.3**
DDIM				*i* AML	AML	09 49 25.0	
	comp=N,88nm,0.8s						
DDIM				*i* AML	AML	09 49 31.0	
	comp=E,85nm,0.7s						
TURN	**Turunc**	**0.56**	**109**	Pg	**Pg**	**09 49 09.2**	**-0.1**
TURN				Sg	**Sb**	**09 49 17.3**	**-0.2**
TURN	**Turunc**	**0.56**	**109**	P	**Pb**	**09 49 09.6**	**-0.1**
TURN				S	**Sg**	**09 49 16.6**	**-0.2**
TURN				*i* AML	AML	09 49 19.0	
	comp=N,314nm,0.2s						
TURN				*i* AML	AML	09 49 19.0	
	comp=E,243nm,0.2s						
YER	**Yerkesik**	**0.59**	**73**	Pg	**Pg**	**09 49 09.8**	**0.0**
YER				Sg	**Sb**	**09 49 18.1**	**-0.2**
MULA	**Mugla, Merkez-**	**0.66**	**63**	P	**Pb**	**09 49 11.4**	**-0.1**
AYDN	**Tasoluk**	**0.74**	**19**	P	**Pb**	**09 49 12.9**	**+0.2**
AYDN				S	**Sg**	**09 49 22.1**	**-0.3**
AYDN				*i* AML	AML	09 49 26.0	
	comp=E,100nm,0.2s						
AYDN				*i* AML	AML	09 49 28.0	
	comp=N,161nm,0.5s						
GCAM	**G?zelcaml?**	**0.79**	**340**	Pg	**Pb**	**09 49 13.9**	**+0.4**
GCAM				Sg	**Sb**	**09 49 25.5**	**+1.6**
GCAM	**G?zelcaml?**	**0.79**	**340**	P	**Pn**	**09 49 14.6**	**0.0**
ARG	**Arkhangelos**	**0.86**	**149**	Pg	**Pb**	**09 49 14.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**14**	Pg	**Pg**	**09 49 17.6**	**-0.2**
ESEN	**Aydn-Nazilli**	**1.04**	**36**	P	**Pg**	**09 49 17.7**	**-0.5**

ESEN				S	Sg	09 49 30.1	-1.6
ESEN				*i* AML	AML	09 49 35.0	
	comp=E,40nm,0.5s						
SABU	**Mula-Dalaman**	**1.12**	**97**	P	**Pn**	**09 49 20.1**	**+0.9**
SABU				S	**Sb**	**09 49 34.0**	**+0.3**

*ATH **24** 09:52:11.7, 37°.53N×19°.72E, h33km±8km, ML3.5/4, Manual Solution by S.Koutrakis First location: 2019/03/24 09:53:23, This location: 2019/03/27 16:41:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 11 km; Longitude uncertainty: 14 km*
*IDC **24** 09:52:12.2±1.5, 37°.73N×19°.94E, h0km, mb3.9/4, mbtmp3.8/6, ML2.6/1, Error ellipse: s-maj=28.9km s-min=22.9km az=58.0*
*THE **24** 09:52:15.4, 37°.68N×19°.93E, h0km±3km, ML3.1/6, Error ellipse: s-maj=4.3km s-min=1.2km az=246.0*

ISC 24 09:52:12.9±1.8, **37°.70N**±0°.05×**19°.91E**±0°.06, **h3**km±12km, **n36**, σ1°**00**/**48**, **mb3.8**/**4**, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.64**	**76**	P	**Pb**	**09 52 26.7**	**0.0**
ORTH				S	**Sn**	**09 52 39.0**	**-0.6**
DMLN	**Damoulianata-K**	**0.65**	**34**	P	**Pb**	**09 52 27.3**	**+0.3**
DMLN				S	**Sb**	**09 52 37.4**	**+1.0**
	2μm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**34**	P	**Pn**	**09 52 27.8**	**-1.3**
DMLN				S	**Sn**	**09 52 39.3**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.68**	**52**	P	**Pb**	**09 52 27.3**	**0.0**
PSDA	**Pessada-Kefalo**	**0.68**	**52**	P	**Pb**	**09 52 27.4**	**0.0**
PSDA				S	**Sn**	**09 52 40.8**	**+0.4**
KRI1	**kERI**	**0.72**	**93**	P	**Pn**	**09 52 28.9**	**-1.0**
KRI1				S	**Sb**	**09 52 39.0**	**+0.7**
	3μm,0.6s						
VLS	**Valsamata**	**0.72**	**48**	P	**Pb**	**09 52 27.9**	**-0.2**
VLS				S	**Sb**	**09 52 39.8**	**+1.4**
	1μm,0.8s						
VLS	**Valsamata**	**0.72**	**48**	P	**Pb**	**09 52 28.3**	**+0.2**
VLS				S	**Sn**	**09 52 42.3**	**+0.8**
KYPS	**Kipseli, Zakin**	**0.73**	**80**	P	**Pb**	**09 52 28.6**	**+0.3**
LTHK	**Lithakia**	**0.73**	**89**	P	**Pb**	**09 52 28.1**	**-0.2**
LTHK				S	**Sb**	**09 52 39.5**	**+0.8**
	3μm,0.8s						
LTHK	**Lithakia**	**0.73**	**89**	P	**Pn**	**09 52 29.1**	**-1.0**
LTHK				S	**Sb**	**09 52 39.5**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.78**	**61**	P	**Pn**	**09 52 29.9**	**-0.9**
RTZL				S	**Sn**	**09 52 41.5**	**-1.4**
	635nm,0.8s						
SMHA	**Samh**	**0.80**	**46**	P	**Pn**	**09 52 30.5**	**-0.6**
VSK1	**VASILIKIADES**	**0.88**	**36**	P	**Pn**	**09 52 31.8**	**-0.4**
FSK	**Fiskardo**	**0.92**	**34**	P	**Pn**	**09 52 32.7**	**0.0**
FSK				S	**Sn**	**09 52 47.4**	**+1.0**
	938nm,0.8s						
DRAG	**Dragano-Lefkad**	**1.11**	**28**	P	**Pn**	**09 52 36.9**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.19**	**31**	P	**Pn**	**09 52 38.4**	**+2.0**
LKD2	**Lefkada island**	**1.24**	**28**	P	**Pn**	**09 52 39.3**	**+2.2**
TSLK	**Tsoukalades, L**	**1.27**	**27**	P	**Pn**	**09 52 39.8**	**+2.3**
RLS	**Riolos of Patr**	**1.28**	**73**	P	**Pn**	**09 52 39.0**	**+1.3**
DRO	**Drossia**	**1.45**	**79**	P	**Pb**	**09 52 42.5**	**+2.0**
ITM	**Ithomi**	**1.68**	**107**	P	**Pg**	**09 52 45.7**	**+0.5**
KLV	**Kalavryta, Ach**	**1.80**	**78**	P	**Pg**	**09 52 47.0**	**-0.5**
ANX	**Ano Chora**	**1.82**	**60**	P	**Pg**	**09 52 47.6**	**-0.2**
IGT	**Igoumenitsa**	**1.86**	**10**	P	**Pb**	**09 52 47.3**	**-0.3**
GUR	**Goura**	**1.94**	**82**	P	**Pg**	**09 52 49.1**	**-1.0**
KEK	**Kerkira**	**2.02**	**358**	P	**Pb**	**09 52 49.7**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.18**	**52**	P	**Pb**	**09 52 52.7**	**-0.4**
THL	**Klokotos Trika**	**2.49**	**41**	P	**Pb**	**09 52 57.2**	**-1.0**
KPRO	**Kipourio**	**2.52**	**26**	P	**Pb**	**09 52 57.8**	**-1.1**
IDI	**Anoyia**	**4.67**	**119**	Pn	**Pn**	**09 53 25.6**	**+1.1**
	26nm,1.0s,baz=288,slow=16,SNR=2.3						
IDI				Sn	**Sn**	**09 54 19.5**	**+0.3**
	1.1nm,0.3s,baz=292,slow=10,SNR=1.9						
GERES	**GERESS Array B**	**12.02**	**340**	Pn	**Pn**	**09 55 05.7**	**+0.6**
	baz=142,slow=12,SNR=2.1						
	0.2nm,0.4s						
HFS	**Hagfors**	**22.80**	**352**	P	**P**	**09 57 16.4**	**-0.1**
	1.6nm,0.4s,baz=163,slow=10,SNR=6.7						
	1.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**29.36**	**218**	P	**P**	**09 58 17.1**	**-0.1**
	1.3nm,0.4s,baz=28,slow=8.6,SNR=2.2						
	1.3nm,0.4s						
AKTO	**Aktyubinsk**	**29.85**	**52**	P	**P**	**09 58 20.5**	**-0.8**
	0.9nm,0.6s,baz=248,slow=5.4,SNR=2.4						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**45.96**	**58**	P	**P**	**10 00 36.1**	**-1.0**
	0.5nm,0.4s,baz=278,slow=7.4,SNR=11						
	0.5nm,0.4s						

*RSPR **24** 10:01:47.7, 19°.31N×67°.71W, h61km±10km, MD3.3/14*
*SDD **24** 10:01:49.0±1.2, 19°.37N×67°.24W, h31km±69km, MD3.2, ML3.2, MW3.5*
*OSPL **24** 10:01:49.2±0.4, 19°.32N×67°.25W, h14km±5km, ML3.0*
*NEIC **24** 10:01:53.1±1.6, 19°.0N±0°.1×67°.32W±0°.04, h63km±13km, ML3.0/38, Md3.3/14(RSPR), Error ellipse: s-maj=15.8km s-min=5.1km az=190.0*

ISC 24 10:01:53.5±1.4, **19°.05N**±0°.06×**67°.31W**±0°.03, **h29**km±11km, **n77**, σ1°**87**/86, **12C-3D**, **Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.61**	**162**		**Pb**	**10 02 04.4**	**-1.4**
AGPR	**Aguadilla, PR**	**0.61**	**162**		**Sb**	**10 02 14.2**	**+0.1**
AGPR				IAML		10 02 16.7	
	comp=E,420nm,0.6s						
AGPR				IAML		10 02 20.2	
	comp=N,419nm,0.4s						
AGPR	**Aguadilla, PR**	**0.61**	**162**	*e*Pg	**Pb**	**10 02 04.6**	**-1.2**
AGPR				*e*Sg	**Sb**	**10 02 16.2**	**+2.2**
AGPR				IAML		10 02 20.1	
	comp=N,410nm,0.3s						
AGPR	**Aguadilla, PR**	**0.61**	**162**	‖*e*P	**Pb**	**10 02 04.4**	**-1.4**
AGPR	**Aguadilla, PR**	**0.61**	**162**	*e*S	**Sb**	**10 02 17.5**	**+3.4**
AGPR	**Aguadilla, PR**	**0.61**	**162**	*i* P	**Pb**	**10 02 04.3**	**-1.4**
AGPR				IAML		10 02 18.4	
	comp=Z,227nm,0.3s						
IDE	**Isla Desecheo**	**0.68**	**194**		**Pb**	**10 02 05.2**	**-1.8**
IDE					**Sb**	**10 02 16.7**	**+0.6**
IDE	**Isla Desecheo**	**0.68**	**194**	⇑*e*P	**Pb**	**10 02 05.2**	**-1.8**
IDE	**Isla Desecheo**	**0.68**	**194**	*e*S	**Sb**	**10 02 16.7**	**+0.6**
PRSN	**Puerto Rico Se**	**0.84**	**170**		**Pn**	**10 02 08.0**	**-1.5**
PRSN				IAML		10 02 27.5	
	comp=N,966nm,0.3s						
PRSN				IAML		10 02 27.7	
	comp=E,1μm,0.2s						
PRSN	**Puerto Rico Se**	**0.84**	**170**	*e*Pg	**Pn**	**10 02 08.1**	**-1.4**
PRSN				IAML		10 02 27.4	
	comp=N,571nm,0.3s						
AOPR	**Arecibo Observ**	**0.88**	**143**		**Pn**	**10 02 08.4**	**-1.5**
AOPR	**Arecibo Observ**	**0.88**	**143**		**Sb**	**10 02 20.9**	**-0.7**
AOPR				IAML		10 02 30.0	
	comp=N,333nm,0.4s						
AOPR				IAML		10 02 35.7	
	comp=E,615nm,0.4s						
AOPR	**Arecibo Observ**	**0.88**	**143**	*e*Pg	**Pn**	**10 02 08.6**	**-1.3**
AOPR				*e*Sg	**Sb**	**10 02 22.1**	**+0.5**
AOPR				IAML		10 02 29.9	
	comp=N,319nm,0.5s						
AOPR	**Arecibo Observ**	**0.88**	**143**	⇑*e*P	**Pn**	**10 02 08.4**	**-1.5**
AOPR	**Arecibo Observ**	**0.88**	**143**	*e*S	**Sn**	**10 02 26.2**	**+4.5**
LSP	**Las Mesas**	**0.90**	**167**		**Pn**	**10 02 08.6**	**-1.6**
LSP					**Sb**	**10 02 24.5**	**+2.3**
LSP	**Las Mesas**	**0.90**	**167**	⇑*e*P	**Pn**	**10 02 08.6**	**-1.6**
LSP	**Las Mesas**	**0.90**	**167**	*e*S	**Sb**	**10 02 24.5**	**+2.3**
EMPR	**Esperanza - Ma**	**0.93**	**128**		**Pn**	**10 02 08.7**	**-2.0**
EMPR				IAML		10 02 37.6	
	comp=E,300nm,0.4s						
EMPR				IAML		10 02 49.8	
	comp=N,226nm,0.7s						
UUPR	**Utuado, UPR, P**	**0.97**	**145**		**Pn**	**10 02 09.6**	**-1.6**
UUPR	**Utuado, UPR, P**	**0.97**	**145**	IAML		10 02 28.3	
	comp=N,1μm,0.4s						
UUPR				IAML		10 02 35.7	
	comp=E,980nm,0.3s						
UUPR	**Utuado, UPR, P**	**0.97**	**145**	⇑*e*P	**Pn**	**10 02 09.6**	**-1.6**
CRPR	**Cabo Rojo, PR**	**1.06**	**170**		**Pn**	**10 02 10.9**	**-1.5**
CRPR	**Cabo Rojo, PR**	**1.06**	**170**		**Sn**	**10 02 23.8**	**-2.4**
CRPR	**Cabo Rojo, PR**	**1.06**	**170**	*e*Pg	**Pn**	**10 02 11.4**	**-1.0**
CRPR				*e*Sg	**Sn**	**10 02 28.8**	**+2.6**
CRPR				IAML		10 02 32.3	
	comp=N,152nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.06**	**170**	⇑*e*P	**Pn**	**10 02 10.9**	**-1.5**
CRPR	**Cabo Rojo, PR**	**1.06**	**170**	*e*S	**Sn**	**10 02 27.8**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.06**	**170**	*i* P	**Pn**	**10 02 11.2**	**-1.2**
CRPR				*e*S	**Sn**	**10 02 27.9**	**+1.8**
CRPR				IAML		10 02 40.2	
	comp=Z,263nm,0.7s						
MLPR	**Magueyes Islan**	**1.11**	**167**	*e*Pg	**Pn**	**10 02 12.6**	**-0.5**
MLPR				IAML		10 02 38.2	
	comp=N,36nm,0.4s						
MLPR	**Magueyes Islan**	**1.11**	**167**	⇑*e*P	**Pn**	**10 02 11.9**	**-1.2**
MLPR	**Magueyes Islan**	**1.11**	**167**	*e*S	**Sn**	**10 02 29.1**	**+1.8**
PCDR	**Punta Cana, DR**	**1.15**	**242**		**Pn**	**10 02 11.9**	**-1.8**
PCDR	**Punta Cana, DR**	**1.15**	**242**		**Sn**	**10 02 27.1**	**-1.4**
PCDR				IAML		10 02 40.3	
	comp=E,345nm,0.7s						
PCDR	**Punta Cana, DR**	**1.15**	**242**	*e*Pg	**Pn**	**10 02 12.3**	**-1.4**
PCDR				*e*Sg	**Sn**	**10 02 30.1**	**+1.7**
PCDR				IAML		10 02 32.2	
	comp=N,813nm,0.7s						
PCDR	**Punta Cana, DR**	**1.15**	**242**	*i* P	**Pn**	**10 02 12.0**	**-1.8**
PCDR				*e*S	**Sn**	**10 02 28.4**	**-0.1**
PCDR				IAML		10 02 33.5	
	comp=Z,426nm,0.6s						
ECPR	**Experimental S**	**1.15**	**129**	‖*e*P	**Pn**	**10 02 12.6**	**-1.1**
ECPR	**Experimental S**	**1.15**	**129**	*e*S	**Sb**	**10 02 33.5**	**+4.0**
CELP	**Cerrillos**	**1.19**	**145**		**Pn**	**10 02 13.4**	**-0.9**
CELP	**Cerrillos**	**1.19**	**145**		**Sn**	**10 02 27.5**	**-1.9**
CELP				IAML		10 02 41.3	
	comp=E,128nm,0.6s						
CELP				IAML		10 02 42.8	
	comp=N,135nm,0.7s						
CELP	**Cerrillos**	**1.19**	**145**	*e*Pg	**Pn**	**10 02 13.4**	**-0.9**
CELP				IAML		10 02 38.0	
	comp=N,87nm,0.3s						
CELP	**Cerrillos**	**1.19**	**145**	⇑*e*P	**Pn**	**10 02 13.4**	**-0.9**
CELP	**Cerrillos**	**1.19**	**145**	*e*S	**Sb**	**10 02 33.3**	**+2.7**
OBIP	**Obispado Ponce**	**1.20**	**146**		**Pn**	**10 02 13.2**	**-1.2**
OBIP	**Obispado Ponce**	**1.20**	**146**	IAML		10 02 39.0	
	comp=E,140nm,0.8s						
OBIP				IAML		10 02 42.1	
	comp=N,137nm,0.8s						
OBIP	**Obispado Ponce**	**1.20**	**146**	⇑*e*P	**Pn**	**10 02 13.2**	**-1.2**
OBIP	**Obispado Ponce**	**1.20**	**146**	*e*S	**Sn**	**10 02 32.8**	**+3.0**
GCPR	**Guaynabo City**	**1.37**	**122**		**Pn**	**10 02 15.8**	**-0.9**
GCPR	**Guaynabo City**	**1.37**	**122**		**Sn**	**10 02 32.6**	**-1.4**
GCPR	**Guaynabo City**	**1.37**	**122**	‖*e*P	**Pn**	**10 02 15.8**	**-0.9**
GCPR	**Guaynabo City**	**1.37**	**122**	*e*S	**Sb**	**10 02 38.0**	**+2.3**
SJG	**San Juan**	**1.44**	**130**		**Pn**	**10 02 16.5**	**-1.2**
SJG	**San Juan**	**1.44**	**130**	IAML		10 02 47.9	
	comp=N,113nm,0.5s						
SJG	**San Juan**	**1.44**	**130**	⇑*e*P	**Pn**	**10 02 16.5**	**-1.2**
SJG	**San Juan**	**1.44**	**130**	*e*S	**Sb**	**10 02 40.4**	**+2.7**
IGPR	**InterUniversit**	**1.57**	**133**		**Pn**	**10 02 18.9**	**-0.6**
IGPR	**InterUniversit**	**1.57**	**133**		**Sn**	**10 02 35.0**	**-3.8**
IGPR				IAML		10 02 46.5	
	comp=N,134nm,0.3s						
IGPR				IAML		10 02 49.4	
	comp=E,120nm,0.3s						
IGPR	**InterUniversit**	**1.57**	**133**	‖*e*P	**Pn**	**10 02 18.9**	**-0.6**
IGPR	**InterUniversit**	**1.57**	**133**	*e*S	**Sb**	**10 02 43.0**	**+1.7**
PDPR	**Patillas Dam,**	**1.59**	**130**		**Pn**	**10 02 19.0**	**-0.8**
PDPR	**Patillas Dam,**	**1.59**	**130**	⇑*e*P	**Pn**	**10 02 19.4**	**-0.4**
PDPR	**Patillas Dam,**	**1.59**	**130**	*e*S	**Sb**	**10 02 44.1**	**+2.0**
HUMP	**Col San Antoni**	**1.65**	**123**		**Pn**	**10 02 20.3**	**-0.3**
HUMP	**Col San Antoni**	**1.65**	**123**		**Sn**	**10 02 36.4**	**-4.4**
HUMP	**Col San Antoni**	**1.65**	**123**	‖*e*P	**Pn**	**10 02 20.3**	**-0.3**
HUMP	**Col San Antoni**	**1.65**	**123**	*e*S	**Sn**	**10 02 44.6**	**+3.8**
MIDR	**Miches**	**1.65**	**268**	*e*Pg	**Pn**	**10 02 18.2**	**-2.4**
MIDR				IAML		10 02 43.4	
	comp=N,128nm,1.1s						
DR12	**Loma Pena Alta**	**1.98**	**263**	Pn	**Pn**	**10 02 23.2**	**-2.0**
DR12				IAML		10 02 59.3	
	comp=E,91nm,0.6s						
DR12				IAML		10 03 10.9	
	comp=N,81nm,0.8s						
HATOM	**Hato Mayor del**	**1.98**	**263**	*e*Pg	**Pn**	**10 02 24.2**	**-1.0**
HATOM				*e*Sg	**Sn**	**10 02 49.2**	**+0.1**
HATOM				IAML		10 03 03.8	
	comp=N,73nm,0.6s						
NADR	**Nagua**	**2.43**	**278**	*e*Pg	**Pn**	**10 02 29.5**	**-1.8**
NADR				*e*Sg	**Sn**	**10 02 58.7**	**-1.4**
NADR				IAML		10 03 11.4	
	comp=N,306nm,0.3s						
DR08	**Loma La Naviza**	**2.57**	**268**	*e*Pg	**Pn**	**10 02 33.0**	**-0.3**
DR08				IAML		10 03 20.1	
	comp=N,949nm,0.2s						
BANI	**BANI**	**2.97**	**258**	Pn	**Pn**	**10 02 39.1**	**+0.3**
BANI	**BANI**	**2.97**	**258**	*e*Pg	**Pn**	**10 02 39.9**	**+1.1**
BANI				*e*Sg	**Sn**	**10 03 16.3**	**+2.8**
BANI				IAML		10 03 25.2	
	comp=N,168nm,0.5s						
ABDR	**Alto Bandera**	**3.15**	**266**	*e*Pg	**Pn**	**10 02 41.8**	**+0.3**
ABDR				*e*Sg	**Sn**	**10 03 20.5**	**+2.1**
ABDR				IAML		10 03 34.3	
	comp=N,96nm,0.6s						
SC01	**Santiago de lo**	**3.25**	**277**	Pn	**Pn**	**10 02 45.4**	**+2.8**
SDDR	**Presa de Saban**	**3.77**	**270**	Pn	**Pn**	**10 02 49.3**	**-0.5**
SDDR	**Presa de Saban**	**3.77**	**270**	*e*Pg	**Pn**	**10 02 49.7**	**0.0**
SDDR				IAML		10 03 58.8	
	comp=N,71nm,0.6s						

*JMA **24** 10:06:17.1±0.3, 24°.N±1°.×122°.6E±0°.6, h25km±4km, MV2.8/14, NW OFF ISHIGAKIJIMA IS*
*TAP **24** 10:06:17.5, 24°.07N×122°.67E, h30km, ML3.2, D*

ISC 24 10:06:17.3±1.0, **24°.00N**±0°.03×**122°.67E**±0°.02, **h32**km±9km, **n97**, σ1°**08**/148, **1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.34**	**290**	*i* P	**Pb**	**10 06 25.2**	**+0.1**
EOS4				*i* S	**Sn**	**10 06 31.1**	**-0.2**
EOS3	**EOS3**	**0.43**	**312**	*i* P	**Pn**	**10 06 26.7**	**-0.3**
EOS3				*i* S	**Sn**	**10 06 33.9**	**+0.1**
JYNG	**Yonagunijimaku**	**0.51**	**30**	*e*P	**Pb**	**10 06 27.5**	**-0.5**
JYNG				*e*S	**Sb**	**10 06 34.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.55**	**34**	‖*i*P	**Pb**	**10 06 28.2**	**-0.5**
YOJ				*i* S	**Sn**	**10 06 35.8**	**-1.3**
YOJ	**Yonaguni jima**	**0.55**	**34**	P	**Pb**	**10 06 28.2**	**-0.5**
YOJ				*e*S	**Sn**	**10 06 35.8**	**-1.3**
EOS2	**EOS2**	**0.57**	**316**	P	**Pn**	**10 06 29.6**	**+0.5**
EOS2				S	**Sn**	**10 06 38.8**	**+1.4**
EAHA	**Aohua**	**0.91**	**291**	*e*P	**Pn**	**10 06 34.1**	**+0.3**
EAHA				*e*S	**Sb**	**10 06 47.2**	**+0.9**
EWUT	**Wuta**	**0.92**	**299**	P	**Pn**	**10 06 34.2**	**+0.2**
EWUT				S	**Sb**	**10 06 47.5**	**+0.7**
ESAO	**Su ao**	**0.94**	**307**	*e*P	**Pb**	**10 06 35.2**	**+0.1**
ENA	**Nanau**	**0.95**	**297**	*i* P	**Pb**	**10 06 35.0**	**-0.2**
ENA				S	**Sn**	**10 06 46.6**	**-0.2**
ETL	**Fush Village**	**0.97**	**279**	P	**Pb**	**10 06 35.3**	**-0.2**
ETL				*e*S	**Sb**	**10 06 48.5**	**+0.5**
TWD	**Chiawan**	**0.98**	**275**	*e*P	**Pn**	**10 06 33.8**	**-1.0**
TWD				*e*S	**Sn**	**10 06 46.9**	**-0.7**
NACB	**Ninganchiao**	**0.99**	**280**	P	**Pn**	**10 06 34.7**	**-0.3**
NACB				S	**Sn**	**10 06 46.6**	**-1.4**
IRIF	**Iriomote-Funau**	**1.02**	**71**	P	**Pb**	**10 06 36.1**	**-0.4**
SHUL	**Shoufeng**	**1.03**	**258**	*e*P	**Pn**	**10 06 34.9**	**-0.6**
SHUL				*e*S	**Sn**	**10 06 49.6**	**+0.7**
HATJ	**Hateruma jima**	**1.04**	**87**	*e*P	**Pn**	**10 06 36.4**	**+0.8**
HATJ				*e*S	**Sb**	**10 06 51.3**	**+1.2**
NDS	**Dongshan**	**1.07**	**306**	P	**Pb**	**10 06 37.0**	**-0.3**
EGS		**1.07**	**322**	*e*P	**Pn**	**10 06 35.5**	**-0.6**
ETM	**Tongmen**	**1.07**	**268**	P	**Pn**	**10 06 34.8**	**-1.3**
ETM				S	**Sn**	**10 06 49.2**	**-0.7**
ETLH	**Xiulin Townshi**	**1.10**	**281**	P	**Pn**	**10 06 36.8**	**+0.2**
ETLH				*e*S	**Sn**	**10 06 50.9**	**+0.1**
ESL	**Shilin**	**1.15**	**261**	*e*P	**Pn**	**10 06 36.4**	**-0.7**
LXIB	**Xiulin Townshi**	**1.15**	**271**	*e*P	**Pn**	**10 06 37.0**	**-0.2**
TWE	**Neicheng**	**1.16**	**308**	*i* P	**Pb**	**10 06 38.7**	**0.0**
TWE				*i* S	**Sb**	**10 06 53.9**	**+0.4**
LATG	**Datong**	**1.17**	**297**	P	**Pb**	**10 06 38.7**	**-0.3**
LATG				*e*S	**Sb**	**10 06 55.6**	**+1.8**
TWB1	**Santiao Chiao**	**1.18**	**328**	P	**Pb**	**10 06 37.9**	**-1.2**
EGFH	**Guangfu**	**1.18**	**254**	*e*P	**Pn**	**10 06 38.6**	**+1.0**
EGFH				*i* S	**Sn**	**10 06 53.1**	**+0.5**
ENTT	**Nioudou**	**1.19**	**303**	P	**Pb**	**10 06 38.8**	**-0.4**
WARBT	**Fenglin Townsh**	**1.21**	**257**	P	**Pn**	**10 06 37.2**	**-0.7**
WARBT				*e*S	**Sn**	**10 06 51.6**	**-1.6**
TIPB	**Shuangxi**	**1.23**	**322**	*e*P	**Pb**	**10 06 39.2**	**-0.8**
FUSB	**Fushanzhiwuyua**	**1.24**	**308**	P	**Pb**	**10 06 39.8**	**-0.4**
FUSB				*e*S	**Sb**	**10 06 57.7**	**+1.8**
NNSB	**Datong**	**1.25**	**290**	*e*P	**Pn**	**10 06 39.1**	**+0.5**
NNSB				*e*S	**Sb**	**10 06 55.1**	**-1.0**
HGSD	**Ruisui**	**1.25**	**246**	*e*P	**Pn**	**10 06 38.2**	**-0.3**
JKRS	**Kuro-shima**	**1.25**	**79**	*e*P	**Pb**	**10 06 40.1**	**-0.2**
JKRS				*e*S	**Sb**	**10 06 56.6**	**+0.6**
NNS	**Nan Shan**	**1.26**	**290**	P	**Pb**	**10 06 40.1**	**-0.4**
NNS				S	**Sb**	**10 06 55.4**	**-1.0**
WHF	**Hehuan Shan**	**1.29**	**277**	*i* P	**Pn**	**10 06 39.2**	**-0.2**
WHF				S	**Sn**	**10 06 55.9**	**0.0**
SXI1	**Grass Mountain**	**1.30**	**327**	P	**Pn**	**10 06 39.7**	**+0.3**
SXI1				*e*S	**Sb**	**10 06 56.4**	**-1.3**
NWLT	**Wulai**	**1.31**	**306**	*e*P	**Pb**	**10 06 41.3**	**0.0**
NWLT				*e*S	**Sb**	**10 06 58.0**	**+0.2**
FUSS	**Fushou**	**1.32**	**281**	*e*P	**Pn**	**10 06 40.4**	**+0.7**
EHY	**Hungye**	**1.33**	**248**	P	**Pn**	**10 06 38.8**	**-0.8**
EHY				S	**Sn**	**10 06 55.5**	**-0.7**
WFSB	**Wu-fen Shan**	**1.33**	**323**	*e*P	**Pb**	**10 06 40.3**	**-1.4**
WFSB				*e*S	**Sb**	**10 06 57.4**	**-1.1**
YHNB	**Yeheng**	**1.35**	**300**	P	**Pn**	**10 06 40.6**	**+0.6**
YHNB	**Yeheng**	**1.35**	**300**	S	**Sb**	**10 06 59.9**	**+0.8**
YHNB	**Yeheng**	**1.35**	**300**	*e*P	**Pn**	**10 06 40.3**	**+0.3**
OWD	**Renai**	**1.36**	**268**	*e*P	**Pn**	**10 06 40.4**	**+0.2**
OWD				*e*S	**Sn**	**10 06 56.9**	**-0.4**
NSK	**Sanguang**	**1.37**	**300**	P	**Pb**	**10 06 41.7**	**-0.6**
TWA	**Mucha**	**1.39**	**315**	*e*P	**Pb**	**10 06 41.7**	**-0.9**
JIJ	**Ishigaki jima**	**1.39**	**75**	P	**Pn**	**10 06 41.3**	**+0.8**
JIJ				*e*S	**Sb**	**10 06 59.2**	**-0.9**
YULB	**Yu-li**	**1.40**	**244**	P	**Pn**	**10 06 40.1**	**-0.4**
YULB	**Yu-li**	**1.40**	**244**	S	**Sn**	**10 06 57.8**	**-0.1**
YULB	**Yu-li**	**1.40**	**244**	*i* P	**Pn**	**10 06 40.3**	**-0.2**
YULB				*i* S	**Sn**	**10 06 57.8**	**-0.1**
TNOU	**National Taiwa**	**1.40**	**325**	*e*P	**Pb**	**10 06 42.5**	**-0.3**
TWF1	**Yuli**	**1.41**	**243**	P	**Pn**	**10 06 41.0**	**+0.2**
TWF1				S	**Sn**	**10 06 58.8**	**+0.5**
WUSB	**Renai**	**1.42**	**270**	P	**Pn**	**10 06 41.2**	**+0.2**
WUSB				S	**Sn**	**10 06 59.6**	**+1.0**
VWDT	**VWDT**	**1.42**	**260**	P	**Pn**	**10 06 41.4**	**+0.6**
VWDT				S	**Sn**	**10 06 58.6**	**+0.2**
TATO	**Taipei**	**1.45**	**312**	P	**Pn**	**10 06 41.3**	**+0.1**
FULB	**Fuli**	**1.49**	**238**	*e*P	**Pn**	**10 06 40.7**	**-1.1**
CHKT	**Chengkung**	**1.50**	**233**	*e*S	**Sn**	**10 06 58.4**	**-1.9**
ZUZH	**Zhuzihu**	**1.54**	**319**	*e*P	**Pb**	**10 06 44.0**	**-1.2**
ZUZH				*e*S	**Sb**	**10 07 02.3**	**-2.1**
NFF	**Wufeng Townshi**	**1.55**	**294**	*e*P	**Pb**	**10 06 45.0**	**-0.3**
KSHI	**Guanxi Townshi**	**1.56**	**300**	*e*P	**Pb**	**10 06 45.3**	**-0.2**
SSLB	**Suanglung**	**1.58**	**263**	P	**Pn**	**10 06 43.6**	**+0.5**
SSLB	**Suanglung**	**1.58**	**263**	P	**Pn**	**10 06 44.5**	**+1.4**
SSLB				*e*S	**Sn**	**10 07 03.7**	**+1.1**
WHP	**Taichung City**	**1.60**	**280**	*e*P	**Pb**	**10 06 45.6**	**-0.6**
WHP				*e*S	**Sb**	**10 07 05.5**	**-0.5**
WCS	**Beigang Elemen**	**1.61**	**272**	*e*P	**Pn**	**10 06 44.7**	**+1.3**
WCS				*e*S	**Sb**	**10 07 05.7**	**-0.5**
JISG	**Ishigakijimahi**	**1.61**	**68**	*e*P	**Pn**	**10 06 44.0**	**+0.6**
JISG				*e*S	**Sn**	**10 07 04.2**	**+1.1**
SMLT	**Sun Moon Lake**	**1.62**	**266**	*e*P	**Pn**	**10 06 44.3**	**+0.6**
SMLT				*e*S	**Sn**	**10 07 04.7**	**+1.1**
LIOB	**Emei**	**1.64**	**293**	*e*P	**Pb**	**10 06 45.8**	**-1.0**
NSTT	**Nanjuang**	**1.64**	**293**	*e*P	**Pn**	**10 06 45.0**	**+1.1**
TYC	**Yuchr**	**1.66**	**267**	*e

PLCA IAmb IAmb 10 19 29.7
comp=Z,13nm,1.4s
PLCA Paso Flores 33.75 282 P **P 10 19 04.2 +0.5**
comp=Z,1.8nm,0.8s,baz=155,slow=6.1,SNR=5.2
comp=Z,1.8nm,0.8s
LR05 Currie 34.86 281 P **P 10 19 14.6 +1.2**
LR05 IAmb IAmb 10 19 51.1
comp=Z,20nm,1.3s
BI02 San Fabin de 37.21 286 P **P 10 19 33.7 +0.1**
MAW Mawson 37.27 141 LR LR 10 33 06.0
comp=Z,119nm,21.6s,baz=198,slow=33
PB05 IPOC Station P 48.10 298 P **P 10 21 01.3 -0.8**
PB05 IAmb IAmb 10 21 34.6
comp=Z,12nm,1.4s
PB09 IPOC Station P 48.58 300 P **P 10 21 05.5 -0.3**
PB09 IAmb IAmb 10 21 25.3
comp=Z,19nm,1.4s
LPAZ La Paz 52.93 304 P **P 10 21 38.8 -0.4**
LPAZ La Paz 52.93 304 P **P 10 21 39.4 +0.2**
comp=Z,1.4nm,0.4s,baz=143,slow=5.1,SNR=16
comp=Z,1.4nm,0.4s
BOAV Boa Vista 67.15 321 P **P 10 23 15.0 -0.9**
BOAV IAmb IAmb 10 23 15.1
comp=Z,7.8nm,1.2s
TORD Torodi Ar. Bea 74.81 27 P **P 10 24 03.8 +1.5**
comp=Z,1.0nm,0.4s,baz=197,slow=6.6,SNR=3.4
comp=Z,1.0nm,0.4s
PTCN Pitcairn Islan 76.41 244 P **P 10 24 11.4 -0.2**
YKA Yellowknife Ar 138.97 315 PKP **PKPdf 10 31 47.3 +0.3**
comp=Z,0.1nm,0.5s,baz=132,slow=2.7,SNR=2.8
M31M Drury Creek, Y 146.64 307 PKPab 10 32 03.4 -0.1
M30M Minto, Yukon 147.81 306 PKPbc **PKiKP 10 32 06.1 -1.3**
H31M Peel River 148.09 313 PKPbc 10 32 05.5 -0.7
G31M Satah River 148.46 315 PKPdf **PKPdf 10 32 03.9 +0.5**
INK Inuvik 148.64 317 PKPbc **PKPbc 10 32 07.5 0.0**
comp=Z,0.5nm,0.5s,baz=113,slow=3.2,SNR=4.0
ILAR Eielson Array 152.78 307 PKPbc **PKiKP 10 32 18.2 +0.7**
comp=Z,0.3nm,0.6s,baz=90,slow=0.9,SNR=5.4

*TAP **24** 10:16:16.9, 24.′11N×122.′63E, h33km, ML2.6, C*
*JMA **24** 10:16:16.6±0.2, 24.′N±2.′×122.′6E±0.′6, h30km±4km,*
MV2.2/11, NW OFF ISHIGAKIJIMA IS
ISC 24 10:16:16.3±1.1, 24.′02N±0.′04×122.′64E±0.′02, h29km±11km,
n59, σ0.9 83/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.31**	**289**	*i* P	**Pn**	**10 16 24.4**	**-0.2**
EOS4				*e*S	**Sn**	**10 16 30.0**	**0.0**
EOS3	**EOS3**	**0.40**	**313**	*i* P	**Pn**	**10 16 26.0**	**0.0**
JYNG	**Yonagunijimaku**	**0.52**	**33**	P	**Pb**	**10 16 26.9**	**-0.1**
JYNG				S	**Sb**	**10 16 34.0**	**-0.2**
EOS2	**EOS2**	**0.54**	**317**	*e*P	**Pn**	**10 16 28.8**	**+0.8**
YOJ	**Yonaguni jima**	**0.56**	**38**	*e*P	**Pb**	**10 16 27.2**	**-0.5**
YOJ				*e*S	**Sb**	**10 16 35.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.56**	**38**	*e*P	**Pb**	**10 16 27.6**	**-0.1**
YOJ				*e*S	**Sn**	**10 16 35.4**	**-1.3**
EWUT	**Wuta**	**0.89**	**299**	*e*P	**Pb**	**10 16 33.4**	**+0.1**
ESAO	**Su ao**	**0.91**	**308**	*e*P	**Pb**	**10 16 33.8**	**+0.2**
ENA	**Nanau**	**0.91**	**297**	*e*P	**Pb**	**10 16 34.1**	**+0.4**
NACB	**Ninganchiao**	**0.96**	**279**	P	**Pn**	**10 16 33.8**	**-0.2**
NACB				*e*S	**Sb**	**10 16 47.2**	**+0.3**
SHUL	**Shoufeng**	**1.01**	**257**	*e*P	**Pb**	**10 16 35.5**	**+0.2**
SHUL				*e*S	**Sb**	**10 16 49.1**	**+1.0**
ETM	**Tongmen**	**1.05**	**267**	P	**Pn**	**10 16 34.6**	**-0.5**
ETM				*e*S	**Sn**	**10 16 48.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.05**	**72**	P	**Pb**	**10 16 35.7**	**-0.2**
ETLH	**Xiulin Townshi**	**1.07**	**280**	P	**Pn**	**10 16 35.5**	**-0.1**
ETLH				*e*S	**Sb**	**10 16 50.3**	**+0.3**
LXIB	**Xiulin Townshi**	**1.12**	**270**	*e*P	**Pn**	**10 16 35.9**	**-0.3**
LXIB				*e*S	**Sn**	**10 16 50.4**	**-0.3**
ESL	**Shilin**	**1.12**	**260**	*e*P	**Pn**	**10 16 35.6**	**-0.5**
ESL				*e*S	**Sn**	**10 16 50.9**	**+0.4**
TWE	**Neicheng**	**1.13**	**309**	*e*P	**Pb**	**10 16 37.5**	**+0.3**
LATG	**Datong**	**1.14**	**297**	*e*P	**Pb**	**10 16 37.0**	**-0.5**
ENTT	**Nioudou**	**1.16**	**303**	*e*P	**Pb**	**10 16 38.6**	**+0.9**
EGFH	**Guangfu**	**1.16**	**253**	*e*P	**Pb**	**10 16 38.1**	**+0.3**
EGFH				*e*S	**Sn**	**10 16 51.6**	**+0.1**
WARBT	**Fenglin Townsh**	**1.18**	**256**	*e*P	**Pn**	**10 16 36.4**	**-0.6**
WARBT				*e*S	**Sn**	**10 16 51.2**	**-0.9**
TIPB	**Shuangxi**	**1.20**	**322**	*e*P	**Pb**	**10 16 38.4**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.21**	**308**	P	**Pb**	**10 16 38.4**	**-0.3**
HGSD	**Ruisui**	**1.23**	**245**	*e*P	**Pn**	**10 16 36.0**	**-1.6**
WHF	**Hehuan Shan**	**1.26**	**276**	*e*P	**Pn**	**10 16 38.7**	**+0.3**
JKRS	**Kuro-shima**	**1.27**	**80**	*e*P	**Pb**	**10 16 39.2**	**-0.5**
SXI1	**Grass Mountain**	**1.28**	**327**	P	**Pb**	**10 16 39.0**	**-0.7**
SXI1				*e*S	**Sb**	**10 16 55.5**	**-0.4**
NWLT	**Wulai**	**1.28**	**306**	*e*P	**Pb**	**10 16 39.4**	**-0.5**
FUSS	**Fushou**	**1.29**	**280**	P	**Pn**	**10 16 39.4**	**+0.7**
EHY	**Hungye**	**1.31**	**247**	*e*P	**Pn**	**10 16 38.1**	**-0.6**
EHY				*e*S	**Sn**	**10 16 54.9**	**-0.3**
YHNB	**Yeheng**	**1.32**	**300**	P	**Pb**	**10 16 40.0**	**-0.6**
NSK	**Sanguang**	**1.34**	**300**	P	**Pb**	**10 16 40.1**	**-0.8**
OWD	**Renai**	**1.34**	**268**	*e*P	**Pn**	**10 16 39.6**	**+0.4**
OWD				*e*S	**Sn**	**10 16 56.1**	**0.0**
YULB	**Yu-li**	**1.38**	**243**	P	**Pn**	**10 16 39.2**	**-0.4**
YULB				*e*S	**Sn**	**10 16 56.5**	**-0.4**
WUSB	**Renai**	**1.39**	**269**	P	**Pn**	**10 16 40.2**	**+0.3**
VWDT	**VWDT**	**1.39**	**259**	*e*P	**Pn**	**10 16 40.0**	**+0.2**
VWDT				*e*S	**Sn**	**10 16 57.8**	**+0.5**
TWF1	**Yuli**	**1.40**	**242**	*e*P	**Pn**	**10 16 39.9**	**0.0**
TWF1				*e*S	**Sn**	**10 16 57.4**	**+0.1**
JIJ	**Ishigaki jima**	**1.42**	**76**	*e*P	**Pn**	**10 16 40.5**	**+0.3**
JIJ				*e*S	**Sn**	**10 16 58.6**	**+0.7**
NFF	**Wufeng Townshi**	**1.51**	**294**	*e*P	**Pb**	**10 16 43.3**	**-0.6**
SSLB	**Suanglung**	**1.56**	**262**	*e*P	**Pn**	**10 16 43.3**	**+1.2**
SSLB				S	**Sn**	**10 17 02.8**	**+1.4**
WHP	**Taichung City**	**1.57**	**280**	*e*P	**Pb**	**10 16 44.8**	**0.0**
WCS	**Beigang Elemen**	**1.58**	**272**	*e*P	**Pn**	**10 16 43.6**	**+1.2**
WCS				*e*S	**Sb**	**10 17 03.9**	**-0.5**
LIOB	**Emei**	**1.60**	**293**	*e*P	**Pb**	**10 16 44.8**	**-0.6**
NSTT	**Nanjuang**	**1.61**	**293**	*e*P	**Pb**	**10 16 44.5**	**-1.0**
JISG	**Ishigakijimahi**	**1.63**	**69**	*e*P	**Pn**	**10 16 43.4**	**+0.3**
JISG				*e*S	**Sn**	**10 17 03.9**	**+0.8**
WHYT	**Xinyi Township**	**1.66**	**259**	*e*P	**Pn**	**10 16 45.1**	**+1.5**
WHYT				S	**Sn**	**10 17 05.4**	**+1.3**
ELDTW	**Lidau**	**1.70**	**241**	*e*P	**Pn**	**10 16 45.5**	**+1.4**
ELDTW				*e*S	**Sn**	**10 17 04.8**	**-0.2**
ALS	**Alishan**	**1.75**	**254**	*e*P	**Pn**	**10 16 45.9**	**+0.8**
ALS				*e*S	**Sn**	**10 17 07.6**	**+1.0**
WJS	**Zhushan**	**1.76**	**264**	*e*P	**Pb**	**10 16 47.3**	**-0.6**
CHN5	**Tsauling**	**1.84**	**257**	*e*P	**Pn**	**10 16 47.9**	**+1.8**
CHN5				*e*S	**Sb**	**10 17 11.2**	**-0.9**
WCHH	**Zhanghua**	**1.90**	**272**	*e*P	**Pb**	**10 16 48.9**	**-1.4**
STYH	**Taoyuan**	**1.90**	**244**	*e*P	**Pn**	**10 16 47.1**	**+0.2**
TPUB	**Ta-pu**	**1.97**	**249**	*e*P	**Pn**	**10 16 49.9**	**+2.0**
TPUB				*e*S	**Sb**	**10 17 14.6**	**-1.2**
CHN4	**Tsaushan**	**1.99**	**251**	*e*P	**Pb**	**10 16 50.6**	**-1.2**
SGST	**Jiashian**	**2.10**	**244**	*e*P	**Pn**	**10 16 51.6**	**+1.9**
SGST				*e*S	**Sb**	**10 17 18.1**	**-1.4**
CHN1	**Nanshi**	**2.10**	**247**	*e*P	**Pn**	**10 16 50.5**	**+0.8**
TWK	**Hsinying**	**2.11**	**250**	*e*P	**Pn**	**10 16 51.4**	**+1.7**
MASBT	**Mashibuluo**	**2.31**	**233**	*e*P	**Pn**	**10 16 54.6**	**+2.1**
SLIU	**Shizi**	**2.46**	**224**	*e*P	**Pn**	**10 16 55.0**	**+0.4**

*IDC **24** 10:16:43.0±0.9, 2.′82S×67.′90E, h0km, mb4.0/14,*
mbtmp4.0/14, MS3.7/8, Error ellipse: s-maj=25.0km
s-min=20.8km az=45.0
*NEIC **24** 10:16:46.4±2.6, 2.′7S±0.′1×68.′0E±0.′1, h10km±1km,*
mb4.6/23, Error ellipse: s-maj=21.2km s-min=17.1km
az=264.0
ISC 24 10:16:45.2±0.6, 2.73S±0.′09×67.′99E±0.′10, h11km, n55,
σ0.9 91/42, mb4.3/24, MS3.7/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.94**	**57**	Pn	**Pn**	**10 18 10.8**	**-2.3**
DGAR	**Diego Garcia**	**6.43**	**136**	Pn	**Pn**	**10 18 19.8**	**-0.1**
H08S3	**Diego Garcia H**	**6.61**	**138**	T	T	10 25 07.7	
	baz=309,slow=75						
H08S1	**Diego Garcia H**	**6.61**	**138**	T	T	10 25 01.1	
	baz=309,slow=75						
H08S2	**Diego Garcia H**	**6.63**	**138**	T	T	10 25 10.0	
	baz=309,slow=75						
PALK	**Pallekele**	**16.11**	**52**	Pn	**Pn**	**10 20 30.9**	**-0.9**
PSI	**Prapat**	**31.40**	**80**	LR	LR	10 33 59.0	
	comp=Z,120nm,18.5s,baz=210,slow=33						
MYKOM	**Kota Tinggi**	**36.13**	**83**	P	**P**	**10 23 48.7**	**+1.0**
MYKOM				IAmb	IAmb	10 23 50.3	
	comp=Z,11nm,1.0s						
SHL	**Shillong**	**36.43**	**38**	P	**P**	**10 23 50.9**	**+0.5**
SHL				IAmb	IAmb	10 23 52.2	
	comp=Z,8.9nm,0.9s						
NIL	**Nilore**	**36.52**	**7**	P	**P**	**10 23 51.4**	**+0.6**
NIL				IAmb	IAmb	10 23 53.3	
	comp=Z,8.7nm,0.8s						
CM31	**Chiang Mai Arr**	**37.04**	**54**	P	**P**	**10 23 56.5**	**+1.0**
CM31				IAmb	IAmb	10 23 57.8	
	comp=Z,9.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**37.04**	**54**	P	**P**	**10 23 55.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**37.04**	**54**	P	**P**	**10 23 56.9**	**+1.4**
	comp=Z,4.9nm,1.0s,baz=246,slow=10,SNR=27						
CMAR				LR	LR	10 37 54.6	
	comp=Z,38nm,20.8s,baz=195,slow=34						
	comp=Z,4.9nm,1.0s						
KBL	**Kabul**	**37.09**	**1**	P	**P**	**10 23 57.3**	**+1.5**
CHTO	**Chiang Mai**	**37.22**	**54**	P	**P**	**10 23 57.8**	**+0.7**
CHTO				IAmb	IAmb	10 23 59.1	
	comp=Z,14nm,1.1s						
LSA	**Lhasa**	**39.13**	**33**	P	**P**	**10 24 15.1**	**+1.6**
LSZ	**Lusaka**	**41.15**	**250**	LR	LR	10 39 05.6	
	comp=Z,148nm,18.8s,baz=169,slow=33						
GAR	**Garm**	**41.58**	**3**	P	**P**	**10 24 33.3**	**0.0**
DRK	**Karamyk**	**42.15**	**4**	P	**P**	**10 24 38.7**	**+0.6**
DRK				IAmb	IAmb	10 25 08.3	
	comp=Z,6.0nm,0.4s						
H04N2	**CROZET ISLANDS**	**45.52**	**196**	T	T	11 13 53.8	
	baz=19						
H04N1	**CROZET ISLANDS**	**45.52**	**196**	T	T	11 13 55.6	
	baz=19						
H04N3	**CROZET ISLANDS**	**45.53**	**196**	T	T	11 13 58.4	
	baz=19						
AAK	**Ala-Archa**	**45.54**	**7**	P	**P**	**10 25 05.7**	**+0.6**
AAK				IAmb	IAmb	10 25 08.1	
	comp=Z,6.6nm,1.4s						
LBTB	**Lobatse**	**46.44**	**238**	LR	LR	10 40 45.9	
	comp=Z,76nm,19.8s,baz=354,slow=31						
BOSA	**Boshof**	**48.12**	**233**	P	**P**	**10 25 23.8**	**-1.8**
	comp=Z,2.9nm,0.9s,baz=58,slow=9.5,SNR=2.4						
	comp=Z,2.9nm,0.9s						
MAKZ	**Makanchi**	**50.85**	**12**	P	**P**	**10 25 45.4**	**-0.6**
MKAR	**Makanchi Array**	**50.90**	**13**	P	**P**	**10 25 46.3**	**0.0**
MKAR	**Makanchi Array**	**50.90**	**13**	P	**P**	**10 25 45.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=190,slow=6.2,SNR=7.1						
	comp=Z,0.5nm,0.6s						
KBZ	**Khabaz**	**51.45**	**337**	P	**P**	**10 25 50.5**	**0.0**
	comp=Z,2.7nm,0.8s,baz=156,slow=5.8,SNR=4.1						
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**52.25**	**353**	P	**P**	**10 25 57.1**	**+0.8**
BRTR	**Keskin Array B**	**52.71**	**327**	P	**P**	**10 26 00.8**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=165,slow=9.7,SNR=4.0						
	comp=Z,0.9nm,0.9s						
SUR	**Sutherland**	**53.15**	**231**	LR	LR	10 45 32.6	
	comp=Z,100nm,19.2s,baz=69,slow=33						
AKTO	**Aktyubinsk**	**53.65**	**352**	P	**P**	**10 26 06.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=164,slow=6.7,SNR=2.8						
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**53.91**	**8**	P	**P**	**10 26 08.4**	**-0.1**
	comp=Z,1.7nm,0.2s,baz=203,slow=7.8,SNR=6.8						
	comp=Z,1.7nm,0.2s						
KURK	**Kurchatov**	**54.01**	**8**	P	**P**	**10 26 09.0**	**-0.3**
KURK				IAmb	IAmb	10 26 10.7	
	comp=Z,5.6nm,1.1s						
BVAR	**Borovoye Array**	**55.59**	**2**	P	**P**	**10 26 19.7**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=168,slow=7.6,SNR=4.2						
	comp=Z,0.8nm,0.7s						
ZAA0	**Zalesovo Array**	**58.20**	**12**	P	**P**	**10 26 37.6**	**-1.6**
ZALV	**Zalesovo Beam**	**58.20**	**12**	P	**P**	**10 26 38.3**	**-0.9**
ZALV	**Zalesovo Beam**	**58.20**	**12**	P	**P**	**10 26 38.7**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=218,slow=7.0,SNR=6.7						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**60.50**	**29**	P	**P**	**10 26 56.2**	**+0.7**
SONM				IAmb	IAmb	10 26 57.4	
	comp=Z,4.6nm,1.0s						
SONM	**Songino Array**	**60.50**	**29**	P	**P**	**10 26 56.5**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=220,slow=7.2,SNR=17						
	comp=Z,3.1nm,0.9s						
PUK	**Puka**	**62.27**	**321**	P	**P**	**10 27 07.7**	**+0.2**
AKASG	**Malin Array Be**	**62.70**	**333**	P	**P**	**10 27 09.0**	**-1.0**
	comp=Z,0.1nm,0.2s,baz=139,slow=5.3,SNR=2.2						
	comp=Z,0.1nm,0.2s						
WRA	**Warramunga Arr**	**66.85**	**110**	P	**P**	**10 27 37.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=285,slow=5.8,SNR=5.6						
	comp=Z,0.9nm,0.6s						
WRAB	**Tennant Creek**	**66.86**	**110**	P	**P**	**10 27 36.8**	**-1.1**
ASAR	**Alice Springs**	**66.88**	**114**	P	**P**	**10 27 37.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=278,slow=5.8,SNR=6.6						
	comp=Z,0.5nm,0.8s						
KSRS	**Korea Array**	**68.31**	**48**	LR	LR	10 59 31.4	
	comp=Z,22nm,18.2s,baz=25,slow=38						
JNU	**Nakatsue**	**69.13**	**53**	LR	LR	10 56 55.0	
	comp=Z,46nm,20.5s,baz=352,slow=35						
STU	**Stuttgart**	**72.13**	**324**	P	**P**	**10 28 10.6**	**+0.8**
SENIN	**Lac Senin/Sane**	**72.28**	**321**	P	**P**	**10 28 10.4**	**-0.6**
SENIN				IAmb	IAmb	10 28 18.1	
	comp=Z,2.3nm,0.8s						
ESDC	**Sonseca Array**	**77.95**	**311**	P	**P**	**10 28 44.3**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=103,slow=5.8,SNR=4.5						
	comp=Z,1.2nm,1.0s						
TIXI	**Tiksi**	**83.74**	**16**	P	**P**	**10 29 13.6**	**-0.2**
TIXI				IAmb	IAmb	10 29 15.5	
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**87.27**	**180**	LR	LR	11 05 47.2	
	comp=Z,61nm,20.1s,baz=55,slow=34						
PV13	**Radium Mtn., P**	**144.62**	**356**	PKPdf	**PKPdf**	**10 36 22.3**	**-0.5**
TXAR	**Lajitas Array**	**152.38**	**344**	PKPbc	**PKPbc**	**10 36 42.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=74,slow=0.6,SNR=5.4						

*NEIC **24** 10:26:02.8±1.2, 59.′97N±0.′03×151.′88W±0.′04, h73km±7km,*
Error ellipse: s-maj=4.5km s-min=2.9km az=180.0
AEIC 24 10:26:04.0±1.1, 59.′98N±0.′03×151.′90W±0.′05, h67km±6km,
ML2.6, ML2.8/132(NEIC), **Error ellipse: s-maj=4.2km**
s-min=3.5km az=205.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.35**	**158**		Pn	10 26 14.6	-0.6
HOM				Sn	Sn	10 26 23.8	+0.5
O20K	**Slope Mountain**	**0.38**	**286**		Pn	10 26 14.9	-0.7
O20K					Sn	10 26 24.0	0.0
BRLK	**Bradley Lake**	**0.55**	**112**		Pn	10 26 16.2	-1.0
BRLK				Sn	Sn	10 26 25.8	-1.0
CNPM	**China Poot**	**0.56**	**143**		Pn	10 26 16.5	-0.7
CNPM				Sn	Sn	10 26 26.3	-0.6
ILS	**Iliamna Low So**	**0.59**	**269**		Pn	10 26 16.6	-1.0
ILS					Sn	10 26 27.1	-0.4
ILSW	**Iliamna Southw**	**0.62**	**271**		Pn	10 26 16.8	-1.2
ILSW				Sn	Sn	10 26 27.3	-1.0
ILSW				IAML		10 26 28.1	
	comp=N,452nm,0.3s						
ILSW				IAML		10 26 28.2	
	comp=E,426nm,0.7s						
BRSE	**Bradley Lake S**	**0.63**	**112**		Pn	10 26 17.0	-1.0
BRSE					Sn	10 26 27.5	-0.7
RDT	**Redoubt**	**0.65**	**337**		Pn	10 26 16.9	-1.3
RDT					Sn	10 26 27.6	-1.1
RDWB	**Redoubt West**	**0.69**	**318**		Pn	10 26 17.7	-1.1
DFR	**Drift River**	**0.73**	**328**		Sn	10 26 29.4	-0.9
OPT	**Oil Point**	**0.75**	**245**		Pn	10 26 18.6	-0.7
P19K	**Oil Pt**	**0.75**	**245**	Pn	Pn	10 26 18.3	-1.0
RDJH	**Redoubt Jeurge**	**0.76**	**324**		Pn	10 26 18.6	-1.0
RDJH					Sn	10 26 30.5	-0.5
NCT	**North Crescent**	**0.78**	**319**		Pn	10 26 18.7	-1.0
NCT					Sn	10 26 30.7	-0.6
CAPN	**Captain Cook N**	**0.88**	**25**		Pn	10 26 20.7	-0.1
AU22	**Augustine Moun**	**0.96**	**231**		Pn	10 26 21.3	-0.5
AUJK	**Augustine Jueg**	**0.99**	**231**		Pn	10 26 21.9	-0.4
SLKM	**Skilak Lake**	**0.99**	**57**		Pn	10 26 20.6	-1.7
SLKM				IAML		10 26 37.3	
	comp=E,284nm,0.3s						
AUCH	**Augustine Cone**	**1.00**	**232**		Pn	10 26 22.0	-0.4
O22K	**Cooper Landing**	**1.20**	**64**		Pn	10 26 23.9	-0.9
O19K	**Port Alsworth**	**1.23**	**281**	Pn	Pn	10 26 24.1	-1.2
O19K				IAML		10 26 41.2	
	comp=N,184nm,0.4s						
O19K				IAML		10 26 47.3	
	comp=E,266nm,0.5s						
SEW	**Seward**	**1.23**	**83**		Pn	10 26 24.0	-1.3
CKL	**Chakachamna La**	**1.24**	**350**		Pn	10 26 24.8	-0.7
SPBG	**Spurr Blockage**	**1.31**	**350**		Pn	10 26 26.1	-0.3
Q19K	**Cape Douglas,**	**1.38**	**221**	Pn	Pn	10 26 26.6	-0.7
Q19K				IAML		10 26 56.8	
	comp=N,155nm,0.8s						
SYI	**Shuyak Island**	**1.40**	**191**	Pn	Pn	10 26 27.1	-0.4
SYI				IAML		10 26 48.8	
	comp=N,113nm,0.8s						
SYI				IAML		10 26 49.1	
	comp=E,88nm,0.6s						
STLK	**Strandline Lak**	**1.53**	**1**		Pn	10 26 29.0	-0.3
STLK				IAML		10 26 50.5	
	comp=N,55nm,0.7s						
N19K	**Bonanza Creek**	**1.53**	**304**		Pn	10 26 28.1	-1.3
N19K				IAML		10 26 47.9	
	comp=N,67nm,0.5s						
RC01	**Rabbit Creek A**	**1.54**	**43**		Pn	10 26 29.0	-0.5
RC01				IAML		10 26 50.9	
	comp=E,73nm,0.3s						
RC01				IAML		10 26 53.4	
	comp=N,75nm,0.6s						
O18K	**Koktuh Hills**	**1.67**	**267**	Pn	Pn	10 26 29.7	-1.4
P18K	**Big Mountain,**	**1.79**	**252**		Pn	10 26 31.3	-1.4
PWL	**Port Wells**	**1.98**	**62**		Pn	10 26 33.3	-1.9
PWL				IAML		10 27 10.0	
	comp=E,97nm,0.6s						
M22K	**Willow**	**1.98**	**25**		Pn	10 26 34.5	-0.8
M22K				IAML		10 27 05.9	
	comp=E,113nm,0.6s						
M22K				IAML		10 27 07.7	
	comp=N,92nm,0.6s						
M20K	**Styx River**	**2.00**	**343**		Pn	10 26 34.9	-0.7
KAHG	**Katmai Hook Gl**	**2.02**	**224**		Pn	10 26 35.5	-0.3
SKT	**Skwentna**	**2.02**	**5**	Pn	Pn	10 26 34.6	-1.2
SKT				IAML		10 27 04.2	
	comp=E,37nm,0.6s						
KAHC	**Katmai Hardscr**	**2.08**	**231**		Pn	10 26 35.8	-1.0
N18K	**Kilae Creek**	**2.11**	**291**		Pn	10 26 35.2	-1.8
N18K				IAML		10 27 01.4	
	comp=E,32nm,0.7s						
PMR	**Palmer**	**2.11**	**39**		Pn	10 26 35.7	-1.4
PMR				IAML		10 27 08.3	
	comp=E,40nm,0.6s						
KNK	**Knik Glacier**	**2.22**	**48**		Pn	10 26 37.1	-1.5
KNK				IAML		10 27 11.6	
	comp=N,68nm,0.6s						
KNK				IAML		10 27 11.9	
	comp=E,80nm,0.6s						
KDAK	**Kodiak Island**	**2.23**	**189**	Pn	Pn	10 26 36.6	-2.0
KDAK				IAML		10 27 13.3	
	comp=E,33nm,0.6s						
KDAK				IAML		10 27 15.5	
	comp=E,47nm,0.5s						
M19K	**Big River Lodg**	**2.28**	**329**	Pn	Pn	10 26 38.2	-1.2
GHO	**Glory Hole Cre**	**2.31**	**38**		Pn	10 26 38.7	-1.2
GHO				IAML		10 27 14.2	
	comp=E,44nm,0.9s						
GHO				IAML		10 27 15.2	
	comp=N,50nm,0.5s						
P17K	**Kvichak River**	**2.44**	**253**		Pn	10 26 40.7	-0.8
M18K	**Stony River**	**2.45**	**310**		Pn	10 26 40.4	-1.3
ACHA	**Angle Creek He**	**2.50**	**226**	Pn	Pn	10 26 42.0	-0.5
SML	**Sawmill**	**2.53**	**42**	Pn	Pn	10 26 41.2	-1.6
SML				IAML		10 27 24.5	
	comp=N,44nm,0.8s						
SML				IAML		10 27 27.2	
	comp=E,26nm,0.9s						
GLI	**Glacier Island**	**2.55**	**67**	Pn	Pn	10 26 39.7	-3.2
GLI				IAML		10 27 29.0	
	comp=N,40nm,1.2s						
GLI				IAML		10 27 29.6	
	comp=E,56nm,0.8s						
CUT	**Chulitna**	**2.56**	**17**	Pn	Pn	10 26 42.4	-0.7
CUT				IAML		10 27 25.9	
	comp=E,49nm,0.5s						
CUT				IAML		10 27 35.1	
	comp=N,57nm,0.8s						
O17K	**Koliganek Bris**	**2.63**	**268**		Pn	10 26 43.2	-0.8
L19K	**White Mountain**	**2.64**	**328**		Pn	10 26 43.3	-0.9
N17K	**Nushagak Hills**	**2.69**	**284**		Pn	10 26 43.6	-1.3
N17K	**Nushagak Hills**	**2.69**	**284**	IAML		10 27 15.4	
	comp=N,19nm,0.5s						
HIN	**Hinchinbrook I**	**2.73**	**79**		Pn	10 26 43.0	-2.5
HIN	**Hinchinbrook I**	**2.73**	**79**	IAML		10 27 32.0	
	comp=N,50nm,1.1s						
M23K	**Glacier View**	**2.73**	**46**		Pn	10 26 44.2	-1.3
FID	**Port Fidalgo**	**2.80**	**72**	Pn	Pn	10 26 43.3	-3.1
FID				IAML		10 27 15.3	
	comp=N,38nm,1.5s						
FID				IAML		10 27 36.6	
	comp=E,32nm,0.8s						
OHAK	**Old Harbor**	**2.86**	**195**	Pn	Pn	10 26 45.1	-2.0
SCM	**Sheep Cre

HDA				IAML		10 28 12.6	
	comp=E,6.1nm,0.7s						
HDA				IAML		10 28 12.6	
	comp=N,6.5nm,0.7s						
RIDG	**Independent Ri**	**5.04**	**38**		Pn	10 27 16.5	-0.5
RIDG	**Independent Ri**	**5.04**	**38**	IAML		10 28 22.1	
	comp=E,7.7nm,1.4s						
RIDG				IAML		10 28 34.6	
	comp=N,6.2nm,1.3s						
CCB	**Clear Creek Bu**	**5.06**	**20**		Pn	10 27 16.4	-0.8
YAH	**Yahtse**	**5.09**	**81**		Pn	10 27 17.2	-0.6
K15K	**Wolf Creek Mou**	**5.21**	**301**		Pn	10 27 18.7	-0.6
K15K	**Wolf Creek Mou**	**5.21**	**301**	IAML		10 28 56.2	
	comp=N,5.4nm,1.3s						
K15K				IAML		10 30 05.1	
	comp=E,5.3nm,1.4s						
COLA	**College**	**5.26**	**19**		Pn	10 27 19.4	-0.5
COLA	**College**	**5.26**	**19**	IAML		10 28 23.3	
	comp=E,8.9nm,0.5s						
RKAV	**Rock Avalanche**	**5.29**	**82**		Pn	10 27 20.1	-0.4
IL31		**5.34**	**24**		Pn	10 27 20.2	-0.9
M27K	**Edge Creek, AK**	**5.41**	**59**		Pn	10 27 20.8	-1.3
SCRK	**Sand Creek**	**5.48**	**40**		Pn	10 27 21.6	-1.4
J25K	**Salcha River,**	**5.56**	**30**		Pn	10 27 22.9	-1.2
YUK2	**White River**	**5.70**	**67**		Pn	10 27 24.5	-1.5

*IDC **24** 10:52:04.8±6.8, 4°.60N×76°.46W, h126km±71km, mb3.0/1, mbtmp3.6/2, MS2.6/1, Error ellipse: s-maj=84.1km s-min=44.4km az=84.0*
*RSNC **24** 10:52:06.1±0.0, 5°.N±1°×7°.6W±°, h128km±3km, M3.5, mb4.6, ML3.3*
ISC 24 10:52:05.0±0.9, 4°.50N±0°.03×76°.27W±0°.04, h131km±6km, n24, σ1°.12/42, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.41**	**358**	P	**Pn**	**10 52 23.4**	**-0.5**
PLMC				S	**Sn**	**10 52 37.1**	**-1.1**
YOTC	**Yotoco, Valle**	**0.52**	**188**	P	**Pn**	**10 52 24.1**	**-0.4**
YOTC				S	**Sn**	**10 52 38.8**	**-0.5**
CMAN1	**Manizales, Cal**	**0.94**	**52**	P	**Pn**	**10 52 27.7**	**-0.1**
CMAN1				S	**Sn**	**10 52 45.2**	**+0.1**
NIZA	**Niza - Manizal**	**0.97**	**55**	P	**Pn**	**10 52 28.3**	**+0.2**
NIZA				S	**Sn**	**10 52 45.2**	**-0.4**
GUY2C	**Guyana, Caldas**	**1.16**	**51**	P	**Pn**	**10 52 29.9**	**-0.2**
GUY2C				S	**Sn**	**10 52 48.1**	**-0.9**
MALC	**Bahia Malaga**	**1.17**	**246**	P	**Pn**	**10 52 31.0**	**+1.3**
MALC				S	**Sn**	**10 52 50.9**	**+2.5**
PIZC	**Pizarro, Choco**	**1.18**	**293**	P	**Pn**	**10 52 30.8**	**+1.0**
PIZC				S	**Sn**	**10 52 49.6**	**+0.9**
JAMC	**Jamundi, Valle**	**1.34**	**198**	P	**Pn**	**10 52 31.7**	**0.0**
JAMC				S	**Sn**	**10 52 52.6**	**+0.6**
CBOC	**Ciudad Bolivar**	**1.38**	**11**	P	**Pn**	**10 52 31.6**	**-0.5**
CBOC				S	**Sn**	**10 52 53.1**	**+0.3**
PRAC	**Prado**	**1.58**	**119**	P	**Pn**	**10 52 34.6**	**+0.4**
PRAC				S	**Sn**	**10 52 56.7**	**+0.2**
ROSC	**El Rosal**	**1.97**	**80**	P	**Pn**	**10 52 40.7**	**+1.6**
	144nm,0.4s,baz=42,slow=3.9,SNR=70						
ROSC				S	**Sn**	**10 53 08.7**	**+3.5**
	224nm,0.5s,baz=27,slow=22,SNR=69						
POPC	**Popayan, Colom**	**1.99**	**192**	P	**Pn**	**10 52 39.3**	**+0.1**
POPC				S	**Sn**	**10 53 03.8**	**-1.5**
SOLC	**Bahia Solano**	**2.06**	**327**	P	**Pn**	**10 52 40.1**	**+0.3**
SOLC				S	**Sn**	**10 53 05.8**	**-0.7**
CVER	**Cruz Verde, Cu**	**2.19**	**89**	P	**Pn**	**10 52 43.3**	**+1.4**
CVER				S	**Sn**	**10 53 12.1**	**+2.1**
GARC	**Garzon, Huila**	**2.42**	**161**	P	**Pn**	**10 52 44.6**	**0.0**
GARC				S	**Sn**	**10 53 14.2**	**-0.8**
DBBC	**Dabeiba**	**2.50**	**1**	P	**Pn**	**10 52 45.5**	**0.0**
DBBC				S	**Sn**	**10 53 17.2**	**+0.6**
CRUC	**La Cruz**	**2.99**	**193**	P	**Pn**	**10 52 52.5**	**+0.6**
CRUC				S	**Sn**	**10 53 27.8**	**-0.3**
UREC	**San Jos de Ur**	**3.31**	**13**	P	**Pn**	**10 52 55.4**	**-0.5**
UREC				S	**Sn**	**10 53 33.9**	**-1.2**
MACC	**Macarena, Meta**	**3.36**	**134**	P	**Pn**	**10 52 56.3**	**-0.2**
MACC				S	**Sn**	**10 53 34.3**	**-1.9**
GMAL	**Guarumal, Vera**	**5.91**	**304**	P	**Pn**	**10 53 31.5**	**+1.2**
PCRV	**Puerto La Cruz**	**12.84**	**63**	LR	LR	11 01 11.1	
	comp=Z,25nm,18.6s,slow=42						
YKA	**Yellowknife Ar**	**64.40**	**341**	P	**P**	**11 02 26.1**	**-0.7**
	0.3nm,0.6s,baz=137,slow=6.2,SNR=6.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**145.22**	**234**	PKPbc	**PKPbc**	**11 11 27.2**	**-0.7**
	0.8nm,0.4s,baz=108,slow=3.6,SNR=17						
WRA	**Warramunga Arr**	**146.47**	**240**	PKPbc	**PKPdf**	**11 11 30.9**	**+0.6**
	0.6nm,0.8s,baz=108,slow=2.7,SNR=2.4						

NEIC 24 10:54:39.8±0.9, 37°.69N±0°.02×105°.40W±0°.03, h5km±1km, ML2.1/16, Error ellipse: s-maj=4.4km s-min=3.3km az=232.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.10**	**303**	Pg	Pg	10 54 42.2	+0.2
SDCO					Sg	10 54 44.2	+0.7
SDCO				IAML		10 54 44.4	
	837nm,0.2s						
SDCO				IAML		10 54 44.4	
	1μm,0.2s						
T25A	**Trinidad**	**0.96**	**125**	Pg	Pb	10 54 58.8	-0.2
T25A				Sg	Sb	10 55 11.9	-0.3
T25A				IAML		10 55 12.3	
	comp=N,56nm,0.5s						
Q24A	**Divide**	**1.28**	**9**	Pn	Pb	10 55 04.7	0.0
Q24A				Sg	Sb	10 55 21.8	+0.2
ISCO	**Idaho Springs**	**2.11**	**356**	Pn	Pb	10 55 18.0	-0.7
RTBA	**Rita Blanca**	**2.47**	**120**		Pn	10 55 22.5	+1.7
MVCO	**Mesa Verde**	**2.51**	**260**	Pn	Pn	10 55 22.6	+1.2
MVCO				IAML		10 56 34.7	
	comp=N,10nm,3.2s						

*IDC **24** 11:01:56.1±0.7, 0°.71S×121°.99E, h0km, mb4.2/11, mbtmp4.2/12, ML4.2/1, MS3.0/3, Error ellipse: s-maj=29.4km s-min=14.7km az=77.0*
*DJA **24** 11:01:58.8±0.3, 1°.S±3°×12°.2E±°, h10km, M4.5/10, mb5.1/5, MLv4.3/10*
*NEIC **24** 11:01:58.8±1.0, 0°.64S±0°.03×121°.88E±0°.05, h10km±1km, mb4.7/20, Error ellipse: s-maj=8.6km s-min=4.6km az=110.0*
ISC 24 11:01:58.2±0.5, 0°.65S±0°.05×121°.86E±0°.05, h10km, n62, σ1°.30/61, mb4.6/28, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.34**	**219**	P	**Pg**	**11 02 04.0**	**-0.9**
LUWI	**Luwuk**	**0.99**	**113**	Pg	**Pg**	**11 02 17.6**	**+0.3**
LUWI	**Luwuk**	**0.99**	**113**	P	**Pb**	**11 02 17.8**	**+0.4**
MRSI	**Marisa**	**1.12**	**4**	P	**Pb**	**11 02 17.5**	**-2.1**
PCI	**Palu**	**2.04**	**263**	P	**Pn**	**11 02 34.4**	**+1.8**
TOLI2	**Tolitoli**	**2.05**	**328**	Pn	**Pn**	**11 02 33.7**	**+0.9**
TTSI	**Tana Toraja**	**3.14**	**221**	P	**Pn**	**11 02 48.0**	**+0.3**
SPSI	**Sidrap Palu**	**3.90**	**212**	P	**Pn**	**11 02 58.6**	**+0.3**
KAPI	**Kappang**	**4.82**	**206**	Pn	**Pn**	**11 03 10.6**	**-0.3**
KAPI	**Kappang**	**4.82**	**206**	Pn	**Pn**	**11 03 09.9**	**-1.0**
	10nm,0.3s,baz=44,slow=10,SNR=12						
KAPI				Sn	**Sn**	**11 04 06.1**	**-0.8**
	8.7nm,0.3s,baz=199,slow=21,SNR=7.9						
KAPI				LR	LR	11 04 43.2	
	comp=Z,75nm,18.4s,baz=28,slow=35						
	25nm,0.4s						
BBSI	**Bau Bau**	**4.86**	**172**	P	**Pn**	**11 03 13.3**	**+1.9**
BKSI	**Bulukumba**	**4.96**	**200**	P	**Pn**	**11 03 13.3**	**+0.5**
MYLDM	**Lahad Datu**	**6.69**	**330**	Pn	**Pn**	**11 03 38.5**	**+1.9**
KKM	**Kota Kinabalu**	**8.72**	**320**	Pn	**Pn**	**11 04 04.6**	**+0.1**
SBUM	**Sibu**	**10.12**	**280**	Pn	**Pn**	**11 04 24.1**	**+0.5**
FAKI	**Fak Fak**	**10.62**	**102**	Pn	**Pn**	**11 04 28.2**	**-2.4**
TGY	**Tagaytay City**	**14.68**	**356**	LR	LR	11 11 36.6	
	comp=Z,77nm,18.9s,baz=97,slow=39						
LWLI	**Liwa**	**18.30**	**256**	P	P	11 06 25.1	+12
WRA	**Warramunga Arr**	**22.74**	**148**	P	**P**	**11 06 58.4**	**-2.2**
	3.0nm,0.8s,baz=331,slow=10,SNR=10						
	3.0nm,0.8s						
TPUB	**Ta-pu**	**23.83**	**357**	P	**P**	**11 07 12.0**	**+0.3**
YULB	**Yu-li**	**23.90**	**359**	P	**P**	**11 07 10.4**	**-1.9**
YULB				IAmb	IAmb	11 07 14.8	
	comp=Z,16nm,0.9s						
SSLB	**Suanglung**	**24.30**	**358**	P	**P**	**11 07 14.2**	**-1.9**
SSLB				IAmb	IAmb	11 07 20.9	
	comp=Z,28nm,0.8s						
GSI	**Gunungsitoli**	**24.36**	**275**	P	**P**	**11 07 16.2**	**-0.5**
NACB	**Ninganchiao**	**24.67**	**359**	P	**P**	**11 07 19.0**	**-0.4**
NACB				IAmb	IAmb	11 07 25.8	
	comp=Z,17nm,1.0s						
AS31	**Alice Springs**	**25.69**	**154**	P	**P**	**11 07 28.7**	**0.0**
ASAR	**Alice Springs**	**25.69**	**154**	P	**P**	**11 07 27.5**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=345,slow=14,SNR=8.0						
ASAR				PcP	**PcP**	**11 10 59.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=346,slow=2.1,SNR=8.2						
	comp=Z,0.7nm,0.8s						
JOW	**Kunigami**	**28.01**	**12**	LR	LR	11 20 20.5	
	comp=Z,40nm,19.2s,baz=103,slow=39						
CMAR	**Chiang Mai Arr**	**29.46**	**311**	P	**P**	**11 08 03.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=128,slow=6.2,SNR=2.2						
	comp=Z,0.2nm,0.3s						
KMI	**Kunming**	**31.61**	**325**	P	**P**	**11 08 25.3**	**+3.6**
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
NJ2	**Nanjing**	**32.65**	**355**	*eP*	**P**	**11 08 32.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
CD2	**Chengdu**	**35.79**	**333**	P	**P**	**11 08 59.1**	**+1.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
TIA	**Tai'an**	**36.94**	**354**	P	**P**	**11 09 08.0**	**+0.5**
TIA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KSAR	**Wonju Array Be**	**38.31**	**8**	P	**P**	**11 09 16.5**	**-2.5**
MJAR	**Matsushiro Arr**	**40.00**	**21**	P	**P**	**11 09 31.8**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=192,slow=8.9,SNR=11						
	comp=Z,4.9nm,0.9s						
LZH	**Lanzhou**	**40.21**	**337**	*eP*	**P**	**11 09 36.4**	**+1.2**
LZH				sP	sP	11 09 43.3	+3.9
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
JMM	**Marumori**	**42.12**	**23**	P	**P**	**11 09 50.6**	**-0.1**
HHC	**Hu-ho-hao-te**	**42.35**	**348**	*eP*	**P**	**11 09 55.3**	**+2.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,96nm,6.7s						
GTA	**Gaotai**	**44.69**	**336**	P	**P**	**11 10 14.8**	**+3.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ULN	**Ulaanbaatar**	**50.01**	**347**	P	**P**	**11 10 52.9**	**0.0**
ULN				IAmb	IAmb	11 10 54.6	
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**50.13**	**346**	P	**P**	**11 10 54.2**	**+0.4**
SONM	**Songino Array**	**50.13**	**346**	P	**P**	**11 10 54.7**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=165,slow=8.9,SNR=25						
	comp=Z,4.0nm,0.7s						
WMQ	**Urumqi**	**53.76**	**330**	*eP*	**P**	**11 11 23.1**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
MK31	**Makanchi Array**	**58.57**	**329**	P	**P**	**11 11 55.4**	**+0.2**
MK31				IAmb	IAmb	11 11 56.8	
	comp=Z,5.2nm,1.0s						
MKAR	**Makanchi Array**	**58.57**	**329**	P	**P**	**11 11 55.8**	**+0.6**
MKAR	**Makanchi Array**	**58.57**	**329**	P	**P**	**11 11 55.9**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=129,slow=8.3,SNR=41						
	comp=Z,4.6nm,0.8s						
KBL	**Kabul**	**60.49**	**311**	P	**P**	**11 12 08.1**	**-0.9**
AAK	**Ala-Archa**	**60.52**	**321**	P	**P**	**11 12 09.4**	**+0.5**
AAK				IAmb	IAmb	11 12 11.4	
	comp=Z,5.5nm,1.1s						
PETK	**Petropavlovsk-**	**61.33**	**24**	P	**P**	**11 12 14.1**	**+0.1**
PETK	**Petropavlovsk-**	**61.33**	**24**	P	**P**	**11 12 13.9**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=218,slow=3.4,SNR=8.0						
	comp=Z,3.7nm,0.8s						
GAR	**Garm**	**61.48**	**316**	P	**P**	**11 12 15.6**	**+0.1**
GAR				IAmb	IAmb	11 12 16.5	
	comp=Z,5.3nm,0.8s						
ZAA0	**Zalesovo Array**	**62.44**	**336**	P	**P**	**11 12 21.4**	**+0.1**
ZAA0				IAmb	IAmb	11 12 21.7	
	comp=Z,2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**62.44**	**336**	P	**P**	**11 12 21.6**	**+0.2**
ZALV	**Zalesovo Beam**	**62.44**	**336**	P	**P**	**11 12 21.4**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=116,slow=6.8,SNR=10						
	comp=Z,4.9nm,1.0s						
KURBB	**Kurchatov Arra**	**62.96**	**331**	P	**P**	**11 12 25.2**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=136,slow=6.0,SNR=25						
	comp=Z,3.9nm,0.9s						
KURK	**Kurchatov**	**62.97**	**331**	P	**P**	**11 12 25.3**	**+0.2**
KK31	**Karatay Array**	**63.27**	**320**	P	**P**	**11 12 27.6**	**+0.4**
KKAR	**Karatay Array**	**63.27**	**320**	P	**P**	**11 12 27.5**	**+0.3**
BVAR	**Borovoye Array**	**68.45**	**329**	P	**P**	**11 13 00.2**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=233,slow=39,SNR=4.4						
	comp=Z,1.9nm,0.9s						
TIXI	**Tiksi**	**72.32**	**2**	P	**P**	**11 13 22.6**	**-1.1**
TIXI				IAmb	IAmb	11 13 23.4	
	comp=Z,4.4nm,1.1s						
SYO	**Syowa Base**	**86.62**	**201**	*eP*	**P**	**11 14 42.8**	**+1.2**
QSPA	**South Pole Qui**	**89.29**	**180**	P	**P**	**11 14 53.5**	**-1.0**
QSPA	**South Pole Qui**	**89.29**	**180**	P	**P**	**11 14 53.6**	**-0.9**
	comp=Z,2.2nm,1.1s,baz=338,slow=1.4,SNR=5.4						
	comp=Z,2.2nm,1.1s						

AUST 24 11:15:45.6±0.3, 33°.S±3°×13°.7E±°, h10km, mb4.3/2, ML2.0/5, Error ellipse: s-maj=7.2km s-min=4.9km az=23.2, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHYH	**Whyalla**	**0.84**	**59**	P	Pb	11 16 02.7	+0.3
WHYH				S	Sb	11 16 13.4	-0.4
BBOO	**Buckleboo**	**0.85**	**320**	P	Pn	11 16 03.2	-0.5
BBOO				S	Sb	11 16 14.5	+0.4
NAPP	**Napperby**	**1.24**	**77**	P	Pn	11 16 08.7	-0.3
YAPP	**Yappala Statio**	**2.09**	**41**	P	Pn	11 16 20.7	-0.1
SDAN	**Sedan**	**2.42**	**116**	P	Pn	11 16 25.0	-0.3
KELC	**Kelly Hill Cav**	**2.51**	**176**	P	Pn	11 16 27.0	+0.5
LCRK	**Leigh Creek**	**3.27**	**23**	P	Pn	11 16 36.9	-0.1
MULG	**Mulgathing**	**3.90**	**324**	P	Pn	11 16 45.1	-0.4
STKA	**Stephens Creek**	**4.42**	**70**	P	Pn	11 16 53.0	+0.3
ARPS	**Mount Arapiles**	**5.34**	**130**	P	Pn	11 17 05.1	-0.3
	comp=Z,17nm,1.0s,comp=Z,0.0nm						
FORT	**Forrest**	**7.81**	**288**	P	Pn	11 17 38.1	-1.3
	comp=Z,0.2nmcomp=Z,43nm,1.2s						

*NEIC **24** 11:25:26.3±1.3, 19°.1N±0°.1×64°.6W±0°.1, h18km±9km, ML2.6/24, Md3.4/12(RSPR), Error ellipse: s-maj=25.1km s-min=9.2km az=133.0*
*RSPR **24** 11:25:27.3, 19°.33N×64°.61W, h73km±19km, MD3.4/12*
ISC 24 11:25:17.3±2.5, 19°.3N±0°.2×64°.36W±0°.03, h5km±13km, n50, σ0°.79/51, 5C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.82**	**231**		**Pg**	**11 25 53.3**	**+1.1**
HUMP					**Sb**	**11 26 13.7**	**-0.5**
HUMP	**Col San Antoni**	**1.82**	**231**	IAML		11 26 22.2	
	comp=N,46nm,0.2s						
HUMP				IAML		11 26 26.0	
	comp=E,60nm,0.2s						
HUMP	**Col San Antoni**	**1.82**	**231**	*eP*	**Pg**	**11 25 53.3**	**+1.1**
HUMP	**Col San Antoni**	**1.82**	**231**	*eS*	**Sb**	**11 26 13.7**	**-0.5**
GCPR	**Guaynabo City**	**1.91**	**239**		**Sb**	**11 26 16.4**	**-0.3**
GCPR	**Guaynabo City**	**1.91**	**239**		**Pb**	**11 25 53.0**	**+0.4**
GCPR	**Guaynabo City**	**1.91**	**239**	*eS*	**Sb**	**11 26 16.4**	**-0.3**
PDPR	**Patillas Dam,**	**2.02**	**232**		**Pg**	**11 25 55.8**	**-0.3**
PDPR	**Patillas Dam,**	**2.02**	**232**	*eP*	**Pg**	**11 25 56.6**	**+0.5**
PDPR	**Patillas Dam,**	**2.02**	**232**	*eS*	**Sb**	**11 26 19.9**	**-0.2**
SJG	**San Juan**	**2.06**	**236**		**Pg**	**11 25 57.0**	**+0.1**
SJG	**San Juan**	**2.06**	**236**	IAML		11 26 23.9	
	comp=E,34nm,0.3s						
SJG	**San Juan**	**2.06**	**236**	*eP*	**Pg**	**11 25 57.0**	**+0.1**
SJG	**San Juan**	**2.06**	**236**	*eS*	**Sb**	**11 26 20.5**	**-0.8**
IGPR	**InterUniversit**	**2.12**	**232**		**Pg**	**11 25 57.6**	**-0.3**
IGPR					**Sb**	**11 26 22.4**	**-0.5**
IGPR	**InterUniversit**	**2.12**	**232**	IAML		11 26 29.4	
	comp=N,66nm,0.3s						
IGPR				IAML		11 26 30.4	
	comp=E,88nm,0.3s						
IGPR	**InterUniversit**	**2.12**	**232**	*eP*	**Pg**	**11 25 57.6**	**-0.3**
IGPR	**InterUniversit**	**2.12**	**232**	*eS*	**Sb**	**11 26 22.4**	**-0.5**
ECPR	**Experimental S**	**2.13**	**243**	*eP*	**Pb**	**11 25 57.4**	**+0.9**
ECPR	**Experimental S**	**2.13**	**243**	*eS*	**Sn**	**11 26 21.0**	**+0.5**
EMPR	**Esperanza - Ma**	**2.21**	**249**	Pn	**Pb**	**11 25 58.2**	**+0.4**
EMPR				IAML		11 26 32.5	
	comp=N,83nm,1.1s						
CELP	**Cerrillos**	**2.43**	**241**		**Pb**	**11 26 01.9**	**+0.4**
CELP					**Sn**	**11 26 27.9**	**0.0**
CELP	**Cerrillos**	**2.43**	**241**	IAML		11 26 36.9	
	comp=E,22nm,0.6s						
CELP				IAML		11 26 42.5	
	comp=N,27nm,0.5s						
CELP	**Cerrillos**	**2.43**	**241**	*eP*	**Pb**	**11 26 01.9**	**+0.4**
CELP	**Cerrillos**	**2.43**	**241**	*eS*	**Sn**	**11 26 27.9**	**0.0**
AOPR	**Arecibo Observ**	**2.46**	**248**		**Pb**	**11 26 01.9**	**-0.1**
AOPR					**Sn**	**11 26 29.6**	**+1.0**
AOPR	**Arecibo Observ**	**2.46**	**248**	IAML		11 26 44.1	
	comp=N,43nm,0.3s						
AOPR	**Arecibo Observ**	**2.46**	**248**	*eP*	**Pb**	**11 26 01.9**	**-0.1**
AOPR	**Arecibo Observ**	**2.46**	**248**	*eS*	**Sn**	**11 26 29.6**	**+1.0**
UUPR	**Utuado, UPR, P**	**2.47**	**246**		**Sn**	**11 26 29.6**	**+0.8**
UUPR	**Utuado, UPR, P**	**2.47**	**246**		**Pb**	**11 26 01.7**	**-0.4**
UUPR	**Utuado, UPR, P**	**2.47**	**246**	*eP*	**Pb**	**11 26 02.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.47**	**246**	*eS*	**Sn**	**11 26 29.6**	**+0.8**
OBIP	**Obispado Ponce**	**2.47**	**240**		**Pb**	**11 26 01.4**	**-0.8**
OBIP					**Sn**	**11 26 28.7**	**-0.1**
OBIP	**Obispado Ponce**	**2.47**	**240**	IAML		11 26 34.0	
	comp=E,26nm,0.8s						
OBIP	**Obispado Ponce**	**2.47**	**240**	*eP*	**Pb**	**11 26 01.4**	**-0.8**
OBIP	**Obispado Ponce**	**2.47**	**240**	*eS*	**Sn**	**11 26 28.7**	**-0.1**
AGPR	**Aguadilla, PR**	**2.73**	**253**	Pn	**Pb**	**11 26 04.8**	**-1.9**
LSP	**Las Mesas**	**2.81**	**247**		**Pb**	**11 26 07.5**	**-0.6**
LSP					**Sn**	**11 26 38.1**	**+0.7**
LSP	**Las Mesas**	**2.81**	**247**	*eP*	**Pb**	**11 26 07.5**	**-0.6**
LSP	**Las Mesas**	**2.81**	**247**	*eS*	**Sn**	**11 26 38.1**	**+0.7**
MLPR	**Magueyes Islan**	**2.87**	**243**	*eP*	**Pb**	**11 26 08.1**	**-0.9**
MLPR	**Magueyes Islan**	**2.87**	**243**	*eS*	**Sn**	**11 26 39.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.91**	**244**		**Pb**	**11 26 08.8**	**-0.9**
CRPR				IAML		11 26 53.5	
	comp=E,23nm,2.7s						
CRPR	**Cabo Rojo, PR**	**2.91**	**244**		**Sn**	**11 26 40.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.91**	**244**	IAML		11 26 31.7	
	comp=N,22nm,2.1s						
CRPR	**Cabo Rojo, PR**	**2.91**	**244**	*eP*	**Pb**	**11 26 08.8**	**-0.9**
CRPR	**Cabo Rojo, PR**	**2.91**	**244**	*eS*	**Sn**	**11 26 40.3**	**+0.7**
ANWB	**Willy Bob**	**2.92**	**123**	*eP*	**Pg**	**11 26 13.5**	**+0.1**
ANWB				*eS*	**Sb**	**11 26 47.0**	**+0.9**
ANBD	**Bethesda, Anti**	**3.32**	**132**	*eP*	**Pb**	**11 26 17.3**	**+0.5**
ANBD				*eS*	**Sb**	**11 26 54.6**	**-2.9**

*SJA **24** 11:31:11.2±0.6, 18°.66S×70°.06W, h112km±3km, ML3.8, MW3.8*
*GUC **24** 11:31:13.9±0.9, 18°.68S×69°.89W, h90km±4km, ML3.6*
*IDC **24** 11:31:15.5±2.9, 18°.51S×69°.54W, h108km±29km, mb3.4/4, mbtmp3.8/6, Error ellipse: s-maj=32.1km s-min=22.9km az=85.0*
ISC 24 11:31:13.4±0.8, 18°.62S±0°.03×69°.79W±0°.07, h90km±8km, n38, σ1°.47/47, mb3.6/4, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.51**	**271**	*iP*	**Pn**	**11 31 27.5**	**-0.9**
PB12				*iS*	**Sn**	**11 31 38.8**	**-0.7**
PB12				IAML		11 31 40.1	
	comp=E,6μm,0.7s						
PB12	**IPOC Station P**	**0.51**	**271**	*eP*	**Pn**	**11 31 27.5**	**-0.9**
PB12				*eS*	**Sn**	**11 31 40.1**	**+0.6**
PB12				IAML		11 31 40.4	
	comp=Z,2μm,0.1s						
PX02	**IPOC Station P**	**0.51**	**228**	*iP*	**Pn**	**11 31 27.1**	**-1.4**
PX02				*iS*	**Sn**	**11 31 38.3**	**-1.3**
PX02				IAML		11 31 40.0	
	comp=N,5μm,0.4s						
AP01	**Chacalluta**	**0.58**	**296**	*iP*	**Pn**	**11 31 28.3**	**-0.6**
AP01				*iS*	**Sn**	**11 31 39.9**	**-0.4**
AP01	**Chacalluta**	**0.58**	**296**	*eP*	**Pn**	**11 31 28.3**	**-0.6**
AP01				*eS*	**Sn**	**11 31 40.7**	**+0.4**
AP01				IAML		11 31 44.5	
	comp=Z,7μm,0.2s						
PB18	**Visviri**	**1.07**	**16**	*iP*	**Pn**	**11 31 36.0**	**+1.5**
PB18				*iS*	**Sn**	**11 31 51.3**	**+1.0**
PB11	**IPOC Station P**	**1.14**	**173**	*iP*	**Pn**	**11 31 34.8**	**-0.1**
PB11				*iS*	**Sn**	**11 31 51.8**	**+0.7**
PB11				IAML		11 31 54.4	
	comp=N,1μm,0.3s						
PB11	**IPOC Station P**	**1.14**	**173**	*eP*	**Pn**	**11 31 35.1**	**+0.2**
PB11				*eS*	**Sn**	**11 31 52.9**	**+1.8**
PB11				IAML		11 31 56.5	
	comp=Z,918nm,0.2s						
PB08	**IPOC Station P**	**1.63**	**158**	*iP*	**Pn**	**11 31 42.1**	**+0.8**
PB08				*iS*	**Sn**	**11 32 04.2**	**+2.0**
PB08				IAML		11 32 05.1	
	comp=E,1μm,0.4s						
PB08	**IPOC Station P

*NEIC **24** 11:31:59.6±1.6, 40.°43N±0.°04×125.°34W±0.°06, h10km±2km, Error ellipse: s-maj=7.4km s-min=6.1km az=70.0*
*IDC **24** 11:32:00.6±1.6, 40.°67N×125.°05W, h0km, mb3.6/3, mbtmp3.6/11, ML3.5/8, MS3.4/21, Error ellipse: s-maj=16.2km s-min=12.4km az=81.0*
*NEIC **24** 11:32:01.3, 40.°39N×125.°00W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.13; $M_{\theta\theta}$=0.74; $M_{\phi\phi}$=0.87; $M_{r\theta}$=0.57; $M_{\theta\phi}$=-3.98; $M_{\phi r}$=0.55; Fault plane solution: M_0=4.14000×10^{15} NP1:ϕ_s=96.28000°, δ81.47000°, λ=-172.69000°. NP2:ϕ_s=5.19000°, δ82.77000°, λ=-8.59000°. Principal axes: T 4.1291, Plg1.0000°, Azm51.0000°; N 0.0218, Plg79.0000°, Azm145.0000°; P -4.1509, Plg11.0000°, Azm321.0000°;*
*NEIC **24** 11:32:01.3, 40.°39N×125.°14W, h1km*
*NCEDC **24** 11:32:02.0±1.6, 40.°42N±0.°03×125.°14W±0.°06, h7km±6km, Mwr4.4/8, mb4.2/18(NEIC), ML3.6/84(NEIC), Error ellipse: s-maj=6.2km s-min=4.3km az=76.0*

ISC 24 11:32:03.0±0.9, 40.°48N±0.°05×125.°06W±0.°07, h13km, n209, σ1§49/186, mb4.3/13, MS3.3/13, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.55	90		Pn	11 32 15.2	-1.3
PETL	Petrolia	0.58	109		Pb	11 32 14.8	-0.2
KMPM	Mount Pierce	0.72	95	Pg	Pb	11 32 16.9	-0.4
JCC	Jacoby Creek,	0.85	66		Pg	11 32 19.1	-0.4
JCC	Jacoby Creek,	0.85	66	Pg	Pg	11 32 18.6	-0.8
JCC				IAML		11 32 33.3	
	comp=E,2μm,0.8s						
JCC				IAML		11 32 33.5	
	comp=N,1μm,0.5s						
KCRM	Chalk Rock	0.95	93		Pb	11 32 20.8	-0.5
BRIC	Briceland Vine	0.96	112		Pg	11 32 20.4	-1.1
KRPM	Rodgers	1.04	49		Pb	11 32 21.5	-1.3
KRPM	Rodgers	1.04	49	IAML		11 32 46.9	
	comp=N,2μm,0.9s						
KRPM				IAML		11 32 47.0	
	comp=E,1μm,0.8s						
KMRM	Mail Ridge	1.06	103		Pg	11 32 22.7	-0.8
KHMM	Horse Mountain	1.08	68		Pb	11 32 23.1	-0.6
KHMM	Horse Mountain	1.08	68	IAML		11 32 40.2	
	comp=E,2μm,0.9s						
KCPM	Cahto Peak	1.38	124		Pn	11 32 26.5	-1.6
KIPM	Iron Peak	1.38	118		Pn	11 32 26.5	-1.6
KHBM	Hayfork Bally	1.41	82		Pn	11 32 27.5	-1.1
KHBM	Hayfork Bally	1.41	82	IAML		11 32 48.5	
	comp=N,1μm,0.6s						
KHBM				IAML		11 32 49.7	
	comp=E,1μm,0.5s						
KOMM	Orleans Mounta	1.46	56		Pn	11 32 27.7	-1.4
KBNM	Bluenose Ridge	1.54	112		Pn	11 32 29.4	-0.9
GTC	Three Chop Rid	1.58	133		Pn	11 32 28.4	-2.3
SIGP	Signal Peak, C	1.58	28		Pn	11 32 28.4	-2.3
WEAV	Weaverville	1.60	80		Pn	11 32 30.1	-1.0
DCMP	DeCamp, Califo	1.66	127		Pn	11 32 29.3	-2.5
DCMP	DeCamp, Califo	1.66	127	IAML		11 33 19.1	
	comp=N,462nm,0.8s						
LBPM	Beegum Peak	1.67	95		Pn	11 32 30.9	-1.1
O02D	Mt. Diablo Mer	1.76	99		Pn	11 32 32.4	-0.9
O02D	Mt. Diablo Mer	1.76	99	Pn	Pn	11 32 32.4	-0.9
O02D	Mt. Diablo Mer	1.76	99	IAML		11 33 01.5	
	comp=E,386nm,1.1s						
O02D				IAML		11 33 12.4	
	comp=N,661nm,1.1s						
KBO	Bosley Butte	1.84	20		Pn	11 32 32.2	-2.2
KBO	Bosley Butte	1.84	20	IAML		11 32 55.6	
	comp=E,662nm,0.4s						
GWRM	Wonder Ranch	1.86	133		Pn	11 32 31.9	-2.6
N02D	Trinity Center	1.86	74		Pn	11 32 33.6	-1.0
N02D	Trinity Center	1.86	74	IAML		11 33 07.9	
	comp=E,788nm,0.7s						
M02C	Callahan	1.90	61		Pn	11 32 33.8	-1.4
GROM	Round Mountain	1.91	106		Pn	11 32 34.9	-0.4
LBKM	Bonanza King	1.92	71		Pn	11 32 34.7	-0.7
GVV	Valley View	1.96	110		Pn	11 32 34.9	-1.1
L02F	Cave Junction	1.99	34		Pn	11 32 34.7	-1.6
L02F				IAML		11 33 07.0	
	comp=E,293nm,0.7s						
LAMM	Antelope Mount	2.16	58		Pn	11 32 38.2	-0.6
YBH	Yreka Blue Hor	2.17	54		Pn	11 32 38.3	-0.6
YBH	Yreka Blue Hor	2.17	54	Pn	Pn	11 32 37.2	-1.7
	comp=E,6.2nm,0.3s,baz=242,slow=14,SNR=253						
YBH				Lg	Lg	11 33 05.0	
	comp=E,19nm,0.3s,baz=141,slow=23,SNR=6.2						
YBH				LR	LR	11 33 26.0	
	comp=E,428nm,20.9s,baz=142,slow=42						
	comp=E,59nm,0.7s						
GCK	Clark Valley	2.22	114		Pn	11 32 39.1	-0.3
LCSM	College of the	2.23	64		Pn	11 32 39.5	-0.2
LTCM	Tuscan Springs	2.26	96		Pn	11 32 40.4	+0.4
GPMM	Pine Mountain	2.31	134		Pn	11 32 39.1	-1.6
LSHM	Sage Hen Hill	2.32	81		Pn	11 32 40.5	-0.3
LGBM	Gray Butte	2.34	67		Pn	11 32 41.6	+0.3
GHCM	House Creek	2.36	142		Pn	11 32 39.3	-2.1
GRTM	Round Top Moun	2.40	129		Pn	11 32 40.7	-1.3
B040	Montague	2.41	55		Pn	11 32 41.7	-0.4
B040	Montague	2.41	55		Pn	11 32 42.0	0.0
LMPM	Military Pass	2.41	64		Pn	11 32 42.8	+0.4
GDXM	Geysers	2.42	133		Pn	11 32 41.5	-0.8
GGPM	Geyser Peak	2.42	134		Pn	11 32 41.1	-1.2
GFC	Funks Creek	2.42	117		Pn	11 32 42.1	-0.1
GSGM	Seigler Mounta	2.42	131		Pn	11 32 41.8	-0.5
LHEM	Herd Peak	2.44	61		Pn	11 32 42.6	-0.1
K02D	Willamette Mer	2.45	25		Pn	11 32 41.6	-1.1
K02D				IAML		11 33 14.5	
	comp=N,214nm,0.8s						
K02D				IAML		11 33 16.2	
	comp=E,213nm,0.8s						
GBGM	Boggs Mountain	2.48	131		Pn	11 32 42.3	-0.9
LDBM	Digger Butte	2.50	90		Pn	11 32 42.8	-0.6
GAXM	Alexander Vall	2.51	134		Pn	11 32 42.0	-1.4
LBFM	Black Fox Moun	2.55	69		Pn	11 32 44.9	+0.6
MNRC	McLaughlin Min	2.58	128		Pn	11 32 42.9	-1.5
MNRC	McLaughlin Min	2.58	128	IAML		11 34 10.7	
	comp=E,191nm,1.8s						
NMTM	Middletown	2.62	129		Pn	11 32 44.2	-0.8
NHSM	Mount Saint He	2.62	133		Pn	11 32 43.3	-1.8
LMEM	Manzanita Entr	2.66	88		Pn	11 32 45.9	+0.2
LRDM	Redding Peak	2.75	89		Pn	11 32 46.9	+0.1
OSUM	Sutter Buttes	2.75	115		Pn	11 32 45.7	-1.0
HATC	Hat Creek Radi	2.76	82	Pn	Pn	11 32 47.2	+0.2
J01E	Myrtle Point	2.81	17		Pn	11 32 46.3	-1.2
J01E				IAML		11 33 21.1	
	comp=N,197nm,0.9s						
J01E				IAML		11 33 23.3	
	comp=E,278nm,0.8s						
SUTB	Sutter Butte	2.81	115		Pn	11 32 46.3	-1.3
SUTB	Sutter Butte	2.81	115	IAML		11 33 33.0	
	comp=N,258nm,0.6s						
LBCM	Butte Creek Ri	2.84	82		Pn	11 32 48.4	+0.2
MCCM	Marconi Confer	2.88	143		Pn	11 32 46.8	-1.7
MCCM				IAML		11 33 24.1	
	comp=N,164nm,1.1s						
MCCM				IAML		11 33 36.0	
	comp=E,138nm,1.1s						
ORV	Oroville	2.88	108		Pn	11 32 47.6	-1.0
DBO	Dodson Butte	2.97	27		Pn	11 32 49.2	-0.6
BBOR	Butler Butte	2.99	36		Pn	11 32 50.1	-0.2
BBOR				IAML		11 33 29.8	
	comp=N,105nm,1.1s						
BBOR				IAML		11 33 36.7	
	comp=E,126nm,1.0s						
NOLM	Olema	3.00	143		Pn	11 32 48.6	-1.6
PINL	Point Pinole R	3.23	139		Pn	11 32 51.8	-1.5
CPMM	Point Molate	3.26	140		Pn	11 32 52.2	-1.5
K04D	Chiloquin, OR	3.28	48		Pn	11 32 54.4	+0.3
CSPM	San Pablo Ridg	3.30	139		Pn	11 32 52.4	-1.9
JPRM	Presidio of Sa	3.35	142		Pn	11 32 53.9	-1.1
BKS	Berkeley--Byer	3.40	139		Pn	11 32 53.5	-2.2
CTAM	Taylor	3.40	135		Pn	11 32 56.2	+0.5
CVPM	Vollmer Peak	3.40	139		Pn	11 32 54.8	-1.0
I03D	Drain, OR	3.46	21		Pn	11 32 56.4	-0.1
I03D				IAML		11 33 40.3	
	comp=N,74nm,0.7s						
JSBM	San Bruno Moun	3.48	143		Pn	11 32 54.6	-2.2
AFDM	Forest Hills D	3.50	115	Pn	Pn	11 32 57.1	-0.1
CMCM	Mills College	3.50	139		Pn	11 32 55.1	-2.0
J04A	Umpqua Nationa	3.53	38	Pn	Pn	11 32 59.0	+1.3
SAC	San Andreas	3.55	144		Pn	11 32 56.0	-1.7
CMOB	Morgan Territo	3.67	135		Pn	11 32 59.2	-0.3
I02E	Swisshome, OR	3.74	14	Pn	Pn	11 33 00.3	+0.1
I02E				IAML		11 33 48.0	
	comp=E,84nm,0.7s						
I02E				IAML		11 34 08.0	
	comp=N,62nm,4.9s						
JFP	Foothills Park	3.83	143		Pn	11 32 58.6	-3.0
JSJM	St Joseph	3.90	143		Pn	11 33 01.1	-1.5
CSTL	Corral Hollow	3.96	135		Pn	11 33 03.3	-0.1
J05D	Fort Rock, OR	4.00	44	Pn	Pn	11 33 04.6	+0.5
J05D				IAML		11 34 15.7	
	comp=E,53nm,2.5s						
J05D				IAML		11 34 16.4	
	comp=N,62nm,3.2s						
BUCK	Buck Mountain	4.02	22		Pn	11 33 04.2	-0.1
BUCK				IAML		11 33 52.0	
	comp=N,120nm,3.2s						
BUCK				IAML		11 33 53.0	
	comp=E,111nm,1.6s						
COR	Corvallis	4.30	17		Pn	11 33 09.7	+1.6
COR				IAML		11 34 02.0	
	comp=E,76nm,0.9s						
COR				IAML		11 34 04.0	
	comp=E,66nm,1.1s						
HLPM	Lions Peak	4.35	141		Pn	11 33 07.1	-1.7
CMB	Columbia Colle	4.37	122	Pn	Pn	11 33 09.6	+0.5
H04D	Lebanon	4.39	22	Pn	Pn	11 33 09.5	+0.2
H04D				IAML		11 34 10.3	
	comp=E,66nm,0.8s						
H04D				IAML		11 34 14.7	
	comp=N,58nm,1.0s						
GHS	Gilroy Hot Spr	4.40	139		Pn	11 33 07.9	-1.6
PAHR	Pah Rah Range	4.42	98		Pn	11 33 09.7	-0.1
PAHR				IAML		11 34 18.0	
	comp=N,72nm,2.0s						
PAHR				IAML		11 34 20.4	
	comp=E,41nm,1.1s						
PNTR	Pine Nut	4.43	106	Pn	Pn	11 33 11.5	+1.5
PINE	Pine Mountain	4.51	41	Pn	Pn	11 33 12.3	+1.1
PINE				IAML		11 34 19.7	
	comp=N,34nm,2.6s						
PINE				IAML		11 34 23.5	
	comp=E,34nm,3.0s						
HERM	Elkhorn Road	4.51	143		Pn	11 33 09.4	-1.6
SAO	San Andreas Ge	4.66	142	Pn	Pn	11 33 10.5	-2.5
HJSM	John Smith Roa	4.69	140		Pn	11 33 14.8	+1.3
H04A	Detroit Lake	4.71	26		Pn	11 33 13.8	+0.2
I05D	Terrebonne, OR	4.74	34		Pn	11 33 15.0	+0.9
WAKR	Walker	4.78	113		Pn	11 33 15.5	+0.7
BJCM	Johnson Can.	4.87	143		Pn	11 33 13.5	-2.3
G04A	Mulino	5.09	21	Pn	Pn	11 33 18.8	-0.1
WVOR	Wild Horse Val	5.21	66		Pn	11 33 21.0	+0.3
WVOR				IAML		11 34 54.4	
	comp=E,22nm,3.1s						
RYN	Ryan	5.38	108		Pn	11 33 23.9	+0.8
I07A	Izee	5.47	47	Pn	Pn	11 33 26.3	+2.0
LHV	Little Huntoon	5.54	112		Pn	11 33 26.2	+1.1
NVAR	Mina Array Bea	5.61	109	Pn	Pn	11 33 27.4	+1.0
	comp=E,0.5nm,0.3s,baz=289,slow=15,SNR=18						
NVAR				Sn	Sn	11 34 32.3	+1.5
	comp=E,0.5nm,0.3s,baz=300,slow=15,SNR=3.8						
NVAR				LR	LR	11 35 23.0	
	comp=E,290nm,19.6s,baz=199,slow=35						
	comp=E,2.1nm,0.6s						
J08A	Circle Bar Ran	5.69	57		Pn	11 33 27.8	+0.5
G06A	Carlson Farm,	5.76	33		Pn	11 33 29.1	+1.0
G08A	Pilot Rock	6.57	41		Pn	11 33 41.6	+2.2
F07A	Phinny Hill Vi	6.58	33		Pn	11 33 41.2	+1.7
MXC	Moxie City	7.01	28		Pn	11 33 47.0	+1.7
ISA	Isabella, Lake	7.08	131	Pn	Pn	11 33 46.3	0.0
YPT	Yellepit	7.13	37		Pn	11 33 48.6	+1.7
HAWA	Hanford	7.15	32		Pn	11 33 47.9	+0.8
E07A	Sunnyside	7.16	30	Pn	Pn	11 33 48.3	+1.0
BMO	Blue Mountains	7.19	50		Pn	11 33 49.7	+1.9
LNOR	Lincton Mounta	7.32	40		Pn	11 33 51.9	+2.4
E08A	Dider Farm, El	7.42	34		Pn	11 33 52.4	+1.5
WAH2	Wahluke Slope	7.43	31		Pn	11 33 52.8	+1.7
ELK	Elko	7.48	85		Pn	11 33 54.2	+2.3
ELK	Elko	7.48	85	Pn	Pn	11 33 53.0	+1.1
	comp=E,0.1nm,0.3s,baz=275,slow=13,SNR=7.1						
ELK				Sn	Sn	11 35 17.6	+0.9
	comp=E,0.1nm,0.3s,baz=307,slow=16,SNR=0.9						
ELK				Lg	Lg	11 35 51.6	
	comp=E,0.1nm,0.3s,baz=43,slow=19,SNR=2.2						
ELK				LR	LR	11 37 02.0	
	comp=E,217nm,19.6s,baz=264,slow=40						
	comp=E,1.6nm,0.8s						
MFID	Camas Ranch	7.48	64		Pn	11 33 53.8	+2.0
TPNV	Topopah Spring	7.74	114	Pn	Pn	11 33 55.2	-0.2
PLID	Pearl Lake	8.10	52		Pn	11 34 02.8	+2.4
GSC	Goldstone, Bar	8.32	126		Pn	11 34 04.0	+0.7
HLID	Hailey	8.50	65		Pn	11 34 08.2	+2.3
HVU	Hansel Valley	9.36	78		Pn	11 34 20.1	+2.4
NEW	Newport	9.63	33	Pn	Pn	11 34 19.9	-1.4
	comp=E,0.1nm,0.3s,baz=240,slow=20,SNR=5.5						
NEW				LR	LR	11 38 12.1	
	comp=E,222nm,19.6s,baz=228,slow=39						
	comp=E,1.1nm,0.8s						
PFO	Pinyon Flats O	9.70	132	Pn	Pn	11 34 23.4	+1.1
	comp=E,0.2nm,0.3s,baz=321,slow=13,SNR=4.4						
PFO				LR	LR	11 38 07.7	
	comp=E,164nm,20.7s,baz=247,slow=37						
	comp=E,0.8nm,0.3s						
MSO	Missoula	10.25	48		Pn	11 34 32.5	+2.7
HWUT	Hardware Ranch	10.26	79		Pn	11 34 32.3	+2.3
W13A	Hualapai Mount	10.34	118	Pn	Pn	11 34 34.3	+3.1
DLMT	Dillon	10.36	58		Pn	11 34 33.2	+1.9
TCUT	Toone Canyon	10.37	82		Pn	11 34 33.6	+2.0
FXWY	Fox Creek	10.90	69		Pn	11 34 42.0	+3.1
TPAW	Teton Pass	10.93	69		Pn	11 34 41.3	+2.1
SNOW	Snow King Moun	11.06	70		Pn	11 34 43.6	+2.6
YHB	Horse Butte	11.07	63		Pn	11 34 43.7	+2.5
BOZ	Bozeman (W)	11.08	58		Pn	11 34 42.3	+1.2
YHL	Hebgen Lake	11.11	62		Pn	11 34 44.0	+2.2
MOOW	Moose Ponds	11.12	68		Pn	11 34 45.3	+3.4
LOHW	Long Hollow	11.20	69		Pn	11 34 44.8	+1.9
YMR	Madison River	11.20	63		Pn	11 34 45.8	+2.8
YFT	Old Faithful	11.23	65		Pn	11 34 46.3	+2.9
P18A	Preston Nutter	11.39	89		Pn	11 34 50.4	+4.8
H17A	Grant Village	11.39	65		Pn	11 34 49.6	+4.0
YNR	Norris Junctio	11.41	63		Pn	11 34 48.5	+2.7
LKWY	Lake	11.56	65		Pn	11 34 50.7	+2.8
PDAR	Pinedale Array	11.83	74	Pn	Pn	11 34 52.0	+0.5
	comp=E,0.1nm,0.3s,baz=258,slow=7.0,SNR=16						
PDAR				LR	LR	11 39 44.3	
	comp=E,93nm,18.6s,baz=250,slow=39						
	comp=E,0.8nm,0.9s						
YNE	Yellowstone No	11.95	63		Pn	11 34 54.4	+1.2
RLMT	Red Lodge	12.49	63		Pn	11 35 00.6	+0.1
O20A	White River Ci	12.85	86		Pn	11 35 06.6	+1.2
EGMT	Eagleton	13.30	50		Pn	11 35 11.7	+0.3
K22A	Casper	14.05	75		Pn	11 35 22.3	+0.5
S22A	4UR Ranch, Cre	14.41	95		Pn	11 35 30.2	+3.3
ANMO	Albuquerque	15.71	105	Pn	Pn	11 35 44.1	-0.1
	comp=E,0.1nm,0.3s,baz=276,slow=9.2,SNR=4.4						
ANMO				LR	LR	11 42 56.6	
	comp=E,127nm,19.0s,baz=85,slow=42						
	comp=E,0.4nm,0.4s						
OGNE	Ogallala	17.46	81	P	Pn	11 36 06.1	-0.1
OGNE				IAmb	IAmb	11 36 07.2	
	comp=Z,31nm,1.2s						
DLBC	Dease Lake	18.25	352	P	Pn	11 36 13.7	-2.2
	comp=Z,0.4nm,0.3s,baz=163,slow=14,SNR=3.8						
DLBC				LR	LR	11 41 44.1	
	comp=Z,85nm,20.9s,baz=240,slow=32						
	comp=Z,6.6nm,0.9s						
ALPN	Alpine	20.11	113	P	P	11 36 34.9	-1.7
SMWD	Samnorwood	20.30	97	P	P	11 36 38.2	-0.4
SMWD				IAmb	IAmb	11 36 42.1	
	comp=Z,10nm,1.1s						
LPIG	La Paz	20.50	138	LR	LR	11 43 09.7	
	comp=Z,97nm,20.7s,baz=322,slow=32						
TX31	Lajitas Ar. Si	20.72	116	P	P	11 36 43.3	+0.1
TXAR	Lajitas Array	20.72	116	P	P	11 36 43.0	-0.1
TXAR	Lajitas Array	20.72	116	P	Pn	11 36 45.3	-0.2
	comp=Z,1.3nm,1.0s,baz=300,slow=8.3,SNR=11						
	comp=Z,1.3nm,1.0s						
FFC	Flin Flon	20.97	39	P	P	11 36 45.6	+0.1
ECSD	EROS Data Cent	21.31	72	P	P	11 36 49.4	0.0
ECSD				IAmb	IAmb	11 36 54.5	
	comp=Z,11nm,0.9s						
KAN14	Manchester OK	21.40	91	P	P	11 36 50.0	-0.3
L34A	Svendsen Farm,	21.59	77	P	P	11 36 52.8	+0.5
L34A				IAmb	IAmb	11 36 57.3	
	comp=Z,12nm,1.0s						
F33A	5 Mile Ranch,	21.59	66	P	P	11 36 51.0	-1.4
F33A				IAmb	IAmb	11 36 57.1	
	comp=Z,18nm,1.1s						
AGMN	Agassiz Nation	22.18	60	P	P	11 36 59.0	+0.3
OK048	Pawnee Station	22.35	91	P	P	11 36 59.6	-1.0
OK048				IAmb	IAmb	11 37 06.1	
	comp=Z,7.7nm,0.7s						
ULM	Lac du Bonnet	22.58	55	P	P	11 37 02.7	-0.2
ULM	Lac du Bonnet	22.58	55	P	P	11 37 02.1	-0.8
	comp=Z,15nm,1.0s,baz=258,slow=12,SNR=18						
	comp=Z,15nm,1.0s						
DRIO	Del Rio	22.80	111	P	P	11 37 04.4	-0.9
DRIO				IAmb	IAmb	11 37 09.9	
	comp=Z,4.1nm,1.1s						
YKA	Yellowknife Ar	22.93	12	P	P	11 37 05.5	-0.9
	comp=Z,1.0nm,0.9s,baz=203,slow=9.6,SNR=7.3						
	comp=Z,1.0nm,0.9s						
BRDY	Brady	22.95	105	P	P	11 37 06.9	-0.1
TUL3	Leonard	23.39	92	P	P	11 37 10.3	-1.2
TUL3				IAmb	IAmb	11 37 13.2	
	comp=Z,5.3nm,0.8s						
HHAR	Hobbs	24.68	90	P	P	11 37 23.6	+0.1
HHAR				IAmb	IAmb	11 37 25.9	
	comp=Z,9.2nm,0.9s						
KDAK	Kodiak Island	24.71	324	LR	LR	11 44 33.1	
	comp=Z,100nm,19.3s,baz=358,slow=31						
ILAR	Eielson Array	27.41	340	LR	LR	11 46 47.5	
	comp=Z,71nm,21.8s,baz=113,slow=33						
TKL	Tuckaleechee C	32.64	85	LR	LR	11 51 52.7	
	comp=Z,66nm,21.5s,baz=304,slow=36						
SADO	Sadowa	33.71	67	LR	LR	11 54 03.7	
	comp=Z,39nm,19.6s,baz=26,slow=39						
RES	Resolute Bay	37.00	13	P	P	11 39 11.9	+0.2
RES				IAmb	IAmb	11 39 22.7	
	comp=Z,4.9nm,1.4s						
FRB	Frobisher Bay	39.97	35	LR	LR	11 56 36.6	
	comp=Z,117nm,21.4s,baz=332,slow=37						
SCHQ	Schefferville	40.55	49	LR	LR	11 55 33.6	
	comp=Z,88nm,20.7s,baz=279,slow=35						
SJG	San Juan	54.94	96	LR	LR	12 06 01.1	
	comp=Z,26nm,20.6s,baz=308,slow=37						
SDV	Santo Domingo	57.47	108	LR	LR	12 09 43.9	
	comp=Z,20nm,18.9s,baz=273,slow=39						
PCRV	Puerto La Cruz	61.04	102	LR	LR	12 11 43.7	
	comp=Z,21nm,18.4s,slow=39						
MDP	Montagnes des	73.34	98	LR	LR	12 21 19.1	
	comp=Z,31nm,18.4s,baz=309,slow=40						
ZALV	Zalesovo Beam	82.50	343	LR	LR	12 23 18.2	
	comp=Z,87nm,18.3s,baz=338,slow=37						
HHC	Hu-ho-hao-te	84.09	320	eP	P	11 44 33.9	+0.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.8s						
VRAC	Vranov	84.41	24	LR	LR	12 22 41.9	
	comp=Z,95nm,18.6s,baz=1.0,slow=36						
WMQ	Urumqi	91.04	337	eP	P	11 45 11.0	+4.0
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
LZH	Lanzhou	91.54	322	eP	P	11 45 05.0	-4.6
LZH				pP	PcP	11 45 09.9	-0.7
LZH				pmax	pmax		
	comp=Z,13nm,1.2s						
PZH	PanZhiHua	100.42	318	P	Pdif	11 45 48.8	-1.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.9s						

*ANF **24** 11:32:53.7±0.2, 58.°21N×142.°59W, h0km, ML3.6/41, Error ellipse: s-maj=3.5km s-min=1.9km az=4.0*
*NEIC **24** 11:32:54.5±1.6, 58.°21N±0.°06×142.°63W±0.°09, h10km±2km, ML3.3/104, ML3.2(AEIC), Error ellipse: s-maj=9.9km s-min=7.8km az=190.0*
*AEIC **24** 11:33:00.0±1.3, 58.°28N±0.°06×142.°65W±0.°05, h10km±7km, Error ellipse: s-maj=9.7km s-min=2.2km az=199.0*

ISC 24 11:32:53.3±1.1, 58.°16N±0.°05×142.°64W±0.°03, h10km, n318, σ1§59/358, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYK	Cape Yakataga	1.93	2		Pn	11 33 27.2	+1.1
CYK					Sn	11 33 48.2	-2.2
BGLC	Bering Glacier	2.00	351		Pn	11 33 27.9	+0.9
BGLC					Sn	11 33 50.5	-1.6
BGLC	Bering Glacier	2.00	351	P	Pn	11 33 28.1	+1.1
	baz=170						
BGLC				S	Sn	11 33 49.9	-2.1
	baz=170						
KAIM	Kayak Island	2.00	333		Pn	11 33 27.9	+0.8
KAIM				IAML		11 33 54.6	
	comp=E,376nm,0.4s						
KAIM	Kayak Island	2.00	333	P	Pn	11 33 27.9	+0.8
	baz=151						
SUCK	Suckling Hills	2.01	344	Pn	Pn	11 33 26.7	-0.6
SNH	Sunshine Point	2.03	357		Pn	11 33 27.5	-0.1
SNH				IAML		11 33 51.2	
	comp=E,284nm,0.7s						
SNH				IAML		11 34 19.6	
	comp=N,213nm,0.7s						
SNH	Sunshine Point	2.03	357		Sn	11 33 50.4	-2.6
MESA	MESA	2.06	10		Pn	11 33 27.9	-0.1
MESA	MESA	2.06	10	P	Pn	11 33 28.6	+0.5
	baz=191						
MESA				S	Sn	11 33 52.7	-1.2
	baz=191						
YKU2	Y

O28M	**Mount Upton**	**2.91 24**		**Pn**	**11 33 40.5 +0.7**	
O28M	**Mount Upton**	**2.91 24**	P	**Pn**	**11 33 40.5 +0.7**	
	baz=207					
O28M			S	**Sn**	**11 34 12.5 -2.4**	
	baz=207					
BMRM	**Bremner River**	**2.99 341**		**Pn**	**11 33 40.6 -0.1**	
BMRM	**Bremner River**	**2.99 341**	P	**Pn**	**11 33 40.9 +0.1**	
	baz=159					
BMRM			S	**Sn**	**11 34 14.7 -2.0**	
	baz=159					
HIN	**Hinchinbrook I**	**2.99 320**	Pn	**Pn**	**11 33 41.2 +0.5**	
O29M	**Mount Kennedy**	**3.00 42**		**Pn**	**11 33 42.1 +1.1**	
O29M	**Mount Kennedy**	**3.00 42**	P	**Pn**	**11 33 42.6 +1.6**	
	baz=227					
O29M			S	**Sn**	**11 34 14.6 -2.4**	
	baz=227					
P23K	**Montague Islan**	**3.07 309**		**Pn**	**11 33 42.2 +0.4**	
P23K	**Montague Islan**	**3.07 309**	P	**Pn**	**11 33 42.4 +0.5**	
	baz=124					
P23K			S	**Sn**	**11 34 16.3 -2.2**	
	baz=124					
VRDI	**Verde Repeater**	**3.11 353**		**Pn**	**11 33 42.6 +0.1**	
VRDI			IAML		11 34 17.4	
	comp=N,66nm,0.4s					
FID	**Port Fidalgo**	**3.25 325**		**Pn**	**11 33 44.8 +0.4**	
FID	**Port Fidalgo**	**3.25 325**	IAML		11 34 44.0	
	comp=E,58nm,0.4s					
FID			IAML		11 35 00.2	
	comp=N,61nm,1.2s					
YUK7	**Dusty Glacier**	**3.31 42**		**Pn**	**11 33 47.2 +1.8**	
GLB	**Gilahina Butte**	**3.35 350**	Pn	**Pn**	**11 33 45.6 -0.1**	
GLB			IAML		11 34 22.9	
	comp=E,48nm,0.7s					
DIV	**Divide**	**3.38 333**		**Pn**	**11 33 45.1 -0.9**	
S31K	**Pelican**	**3.41 91**	Pn	**Pn**	**11 33 46.0 -0.4**	
S31K	**Pelican**	**3.41 91**	P	**Pn**	**11 33 46.3 -0.2**	
	baz=277					
S31K			S	**Sn**	**11 34 22.7 -4.3**	
	baz=277					
YUK8	**Steele Glacier**	**3.46 24**		**Pn**	**11 33 49.4 +2.0**	
YUK8	**Steele Glacier**	**3.46 24**	P	**Pn**	**11 33 49.5 +2.0**	
	baz=207,SNR=138					
YUK8			S	**Sn**	**11 34 28.0 -0.5**	
	baz=207					
PLBC	**Pleasant Camp**	**3.52 66**		**Pn**	**11 33 48.9 +1.0**	
PLBC	**Pleasant Camp**	**3.52 66**	P	**Pn**	**11 33 49.0 +1.0**	
	baz=252,SNR=13					
PLBC			S	**Sn**	**11 34 26.3 -3.2**	
	baz=252					
P30M	**Million Dollar**	**3.53 54**		**Pn**	**11 33 49.7 +1.5**	
P30M	**Million Dollar**	**3.53 54**	IAML		11 35 03.9	
	comp=N,53nm,1.2s					
P30M	**Million Dollar**	**3.53 54**	P	**Pn**	**11 33 49.6 +1.4**	
	baz=240					
P30M			S	**Sn**	**11 34 29.1 -0.8**	
	baz=240					
YUK6	**Outpost Mounta**	**3.54 36**		**Pn**	**11 33 50.6 +2.1**	
YUK6	**Outpost Mounta**	**3.54 36**	P	**Pn**	**11 33 50.3 +1.8**	
	baz=220,SNR=52					
YUK6			S	**Sn**	**11 34 29.1 -1.4**	
	baz=220					
GLI	**Glacier Island**	**3.55 322**		**Pn**	**11 33 48.3 -0.1**	
GLI	**Glacier Island**	**3.55 322**	IAML		11 34 50.8	
	comp=N,51nm,1.2s					
GLI			IAML		11 35 09.9	
	comp=E,58nm,1.4s					
GLI	**Glacier Island**	**3.55 322**	P	**Pn**	**11 33 48.3 -0.1**	
	baz=138					
GLI			S	**Sn**	**11 34 27.4 -2.9**	
	baz=138					
N25K	**Chitina, Valde**	**3.60 345**		**Pn**	**11 33 48.8 -0.3**	
N25K	**Chitina, Valde**	**3.60 345**	P	**Pn**	**11 33 49.6 +0.5**	
	baz=163					
N25K			S	**Sn**	**11 34 28.7 -2.9**	
	baz=163					
R31K	**City Hall, Gus**	**3.66 83**	P	**Pn**	**11 33 50.5 +0.7**	
	baz=270					
R31K			S	**Sn**	**11 34 30.5 -2.4**	
	baz=270					
KLU	**Klutina**	**3.73 335**		**Pn**	**11 33 51.2 +0.2**	
KLU			IAML		11 34 33.1	
	comp=N,35nm,0.8s					
KLU	**Klutina**	**3.73 335**	P	**Pn**	**11 33 51.7 +0.8**	
	baz=152					
KLU			S	**Sn**	**11 34 31.9 -3.0**	
	baz=152					
HYT	**Haines Junctio**	**3.74 42**		**Pn**	**11 33 52.3 +1.1**	
HYT			IAML		11 34 59.2	
	comp=E,36nm,1.1s					
HYT	**Haines Junctio**	**3.74 42**	P	**Pn**	**11 33 52.7 +1.5**	
	baz=227,SNR=14					
HYT			S	**Sn**	**11 34 33.6 -1.8**	
	baz=227					
YUK2	**White River**	**3.75 13**		**Pn**	**11 33 53.1 +1.8**	
YUK4	**Talbot Arm**	**3.78 31**	P	**Pn**	**11 33 55.7 +3.9**	
	baz=214,SNR=131					
YUK4			S	**Sn**	**11 34 38.5 +2.1**	
	baz=214					
YUK3	**Moose Creek**	**3.79 16**	P	**Pn**	**11 33 53.5 +1.6**	
	baz=198,SNR=45					
YUK3			S	**Sn**	**11 34 36.5 -0.2**	
	baz=198					
YUK5	**Granite Creek**	**3.85 37**		**Pn**	**11 33 54.8 +2.1**	
WACK	**Wrangell Chich**	**3.93 348**		**Pn**	**11 33 54.4 +0.5**	
PWL	**Port Wells**	**3.97 315**	Pn	**Pn**	**11 33 53.9 -0.3**	
PWL			IAML		11 34 42.0	
	comp=N,37nm,0.7s					
PWL			IAML		11 34 50.2	
	comp=E,44nm,0.7s					
PWL	**Port Wells**	**3.97 315**	P	**Pn**	**11 33 54.1 0.0**	
	baz=130					
PWL			S	**Sn**	**11 34 38.8 -1.9**	
	baz=130					
WAZA	**Wrangell Mount**	**4.00 350**		**Pn**	**11 33 55.4 +0.5**	
SEW	**Seward**	**4.01 302**		**Pn**	**11 33 54.6 -0.2**	
SEW	**Seward**	**4.01 302**	P	**Pn**	**11 33 54.8 +0.1**	
	baz=115					
SKAG	**Skagway**	**4.02 68**		**Pn**	**11 33 56.7 +1.8**	
SKAG			IAML		11 34 51.1	
	comp=E,32nm,0.8s					
SKAG	**Skagway**	**4.02 68**	P	**Pn**	**11 33 56.0 +1.1**	
SKAG	**Skagway**	**4.02 68**	P	**Pn**	**11 33 56.7 +1.8**	
	baz=255,SNR=25					
SKAG			S	**Sn**	**11 34 40.6 -1.4**	
	baz=255					
SIT	**Sitka**	**4.09 103**		**Pn**	**11 33 55.7 -0.1**	
SIT	**Sitka**	**4.09 103**	P	**Pn**	**11 33 55.7 -0.1**	
SIT	**Sitka**	**4.09 103**	P	**Pn**	**11 33 55.5 -0.2**	
	baz=290					
SIT			S	**Sn**	**11 34 39.9 -3.7**	
	baz=290					
BESE	**Bessie Mountai**	**4.12 81**	Pn	**Pn**	**11 33 57.4 +1.1**	
M27K	**Edge Creek, AK**	**4.23 5**		**Pn**	**11 33 58.5 +0.7**	
M27K			IAML		11 35 18.6	
	comp=N,32nm,0.8s					
M27K			IAML		11 35 18.7	
	comp=E,24nm,0.9s					
M27K	**Edge Creek, AK**	**4.23 5**	P	**Pn**	**11 33 59.2 +1.3**	
	baz=186					
O30N	**Mendenhall**	**4.25 49**		**Pn**	**11 33 59.2 +1.2**	
O30N			IAML		11 35 14.8	
	comp=N,25nm,0.8s					
O30N			IAML		11 35 17.5	
	comp=E,27nm,0.9s					
O30N	**Mendenhall**	**4.25 49**	P	**Pn**	**11 33 59.2 +1.2**	
	baz=236,SNR=42					
O30N			S	**Sn**	**11 34 44.9 -2.7**	
	baz=236					
M26K	**Nabesna, AK**	**4.26 358**		**Pn**	**11 33 59.1 +0.9**	
M26K	**Nabesna, AK**	**4.26 358**	P	**Pn**	**11 33 59.4 +1.2**	
	baz=177					
M26K			S	**Sn**	**11 34 46.2 -1.8**	
	baz=177					
R32K	**Eaglecrest**	**4.30 85**	P	**Pn**	**11 34 00.2 +1.5**	
	baz=273					
O22K	**Cooper Landing**	**4.31 306**		**Pn**	**11 33 59.3 +0.5**	
O22K	**Cooper Landing**	**4.31 306**	P	**Pn**	**11 33 59.3 +0.5**	
	baz=119					
M24K	**Tolsona, Glenn**	**4.34 337**		**Pn**	**11 34 00.0 +0.8**	
M24K			IAML		11 35 58.5	
	comp=N,40nm,1.3s					
M24K			IAML		11 36 08.4	
	comp=E,38nm,1.4s					
M24K	**Tolsona, Glenn**	**4.34 337**	P	**Pn**	**11 34 00.8 +1.5**	
	baz=154					
M24K			S	**Sn**	**11 34 48.3 -1.6**	
	baz=154					
N30M	**Aishikik Lake**	**4.34 38**	Pn	**Pn**	**11 34 00.2 +1.0**	
N30M	**Aishikik Lake**	**4.34 38**	P	**Pn**	**11 34 00.6 +1.3**	
	baz=223					
N30M			S	**Sn**	**11 34 46.0 -3.9**	
	baz=223					
BVCY	**Beaver Creek**	**4.36 11**	P	**Pn**	**11 34 01.1 +1.5**	
	baz=193,SNR=12					
BVCY			S	**Sn**	**11 34 47.7 -2.7**	
	baz=193					
JIS	**Juneau Island**	**4.37 85**		**Pn**	**11 34 01.2 +1.6**	
JIS	**Juneau Island**	**4.37 85**	P	**Pn**	**11 34 00.6 +1.0**	
S32K	**Killisnoo**	**4.37 96**	Pn	**Pn**	**11 34 00.3 +0.7**	
S32K	**Killisnoo**	**4.37 96**	P	**Pn**	**11 34 00.6 +1.0**	
	baz=284					
S32K			S	**Sn**	**11 34 47.4 -3.2**	
	baz=284					
SCM	**Sheep Creek Mo**	**4.37 329**		**Pn**	**11 34 00.0 +0.2**	
SCM			IAML		11 34 47.9	
	comp=E,38nm,1.1s					
SCM			IAML		11 35 23.5	
	comp=N,29nm,1.0s					
SCM	**Sheep Creek Mo**	**4.37 329**	P	**Pn**	**11 34 00.3 +0.6**	
	baz=145					
SCM			S	**Sn**	**11 34 46.6 -4.2**	
	baz=145					
KNK	**Knik Glacier**	**4.39 320**		**Pn**	**11 34 00.7 +0.7**	
KNK			IAML		11 34 52.2	
	comp=E,48nm,0.5s					
KNK			IAML		11 35 01.4	
	comp=N,46nm,0.6s					
KNK	**Knik Glacier**	**4.39 320**	P	**Pn**	**11 34 01.0 +1.0**	
	baz=135					
KNK			S	**Sn**	**11 34 49.4 -1.8**	
	baz=135					
HARP	**HAARP**	**4.43 345**	P	**Pn**	**11 34 01.8 +1.2**	
	baz=162					
HARP			S	**Sn**	**11 34 51.0 -1.2**	
	baz=162					
M23K	**Glacier View**	**4.45 327**		**Pn**	**11 34 01.2 +0.4**	
M23K	**Glacier View**	**4.45 327**	P	**Pn**	**11 34 00.9 +0.1**	
	baz=142					
M23K			S	**Sn**	**11 34 48.7 -3.9**	
	baz=142					
BRSE	**Bradley Lake S**	**4.48 294**		**Pn**	**11 34 02.2 +1.0**	
BRSE	**Bradley Lake S**	**4.48 294**	P	**Pn**	**11 34 02.5 +1.3**	
	baz=106					
BRSE			S	**Sn**	**11 34 50.3 -3.1**	
	baz=106					
SLKM	**Skilak Lake**	**4.54 304**		**Pn**	**11 34 02.1 +0.1**	
SLKM			IAML		11 34 56.9	
	comp=N,30nm,0.7s					
BRLK	**Bradley Lake**	**4.56 294**		**Pn**	**11 34 02.9 +0.6**	
BRLK			IAML		11 34 54.9	
	comp=N,22nm,0.7s					
BRLK			IAML		11 34 55.1	
	comp=E,23nm,1.4s					
SML	**Sawmill**	**4.64 324**		**Pn**	**11 34 03.9 +0.5**	
SML			IAML		11 35 41.3	
	comp=N,33nm,1.0s					
SML			IAML		11 35 47.8	
	comp=E,27nm,1.1s					
SML	**Sawmill**	**4.64 324**	P	**Pn**	**11 34 04.0 +0.5**	
	baz=139					
SML			S	**Sn**	**11 34 54.2 -3.1**	
	baz=139					
RC01	**Rabbit Creek A**	**4.65 312**	Pn	**Pn**	**11 34 03.4 -0.1**	
RC01			IAML		11 35 02.8	
	comp=E,33nm,0.6s					
RC01			IAML		11 35 05.4	
	comp=N,34nm,0.5s					
RC01	**Rabbit Creek A**	**4.65 312**	P	**Pn**	**11 34 03.6 +0.1**	
	baz=125					
RC01			S	**Sn**	**11 34 54.2 -3.2**	
	baz=125					
CNPM	**China Poot**	**4.67 291**		**Pn**	**11 34 05.2 +1.5**	
CNPM			IAML		11 34 58.5	
	comp=E,26nm,1.5s					
CNPM			IAML		11 35 09.2	
	comp=N,21nm,0.7s					
WHY	**Whitehorse**	**4.69 54**	Pn	**Pn**	**11 34 05.4 +1.2**	
WHY	**Whitehorse**	**4.69 54**	P	**Pn**	**11 34 05.5 +1.2**	
	baz=242,SNR=80					
PMR	**Palmer**	**4.75 319**		**Pn**	**11 34 05.2 +0.4**	
PMR			IAML		11 35 16.1	
	comp=E,18nm,1.1s					
PMR	**Palmer**	**4.75 319**	P	**Pn**	**11 34 05.6 +0.8**	
PMR	**Palmer**	**4.75 319**	P	**Pn**	**11 34 05.8 +1.0**	
	baz=133					
M29M	**Somme Creek**	**4.78 24**		**Pn**	**11 34 06.4 +1.1**	
M29M	**Somme Creek**	**4.78 24**	P	**Pn**	**11 34 07.2 +1.9**	
	baz=208					
GHO	**Glory Hole Cre**	**4.80 322**		**Pn**	**11 34 06.1 +0.4**	
GHO			IAML		11 35 24.3	
	comp=N,30nm,1.2s					
GHO			IAML		11 35 29.6	
	comp=E,32nm,0.8s					
N31M	**Braeburn, Yuko**	**4.81 43**	P	**Pn**	**11 34 06.5 +0.7**	
	baz=230					
P32M	**Atlin**	**4.85 69**	Pn	**Pn**	**11 34 07.4 +1.1**	
P32M			IAML		11 35 34.7	
	comp=N,16nm,1.0s					
P32M	**Atlin**	**4.85 69**	P	**Pn**	**11 34 07.0 +0.7**	
	baz=258,SNR=27					
L26K	**Log Cabin Wild**	**4.90 356**		**Pn**	**11 34 08.3 +1.4**	
L26K			IAML		11 35 07.4	
	comp=N,16nm,0.5s					
L26K	**Log Cabin Wild**	**4.90 356**	P	**Pn**	**11 34 08.7 +1.8**	
	baz=176					
HOM	**Homer**	**4.90 292**		**Pn**	**11 34 09.1 +2.2**	
HOM	**Homer**	**4.90 292**	P	**Pn**	**11 34 09.2 +2.3**	
	baz=103					
L27K	**Beaver Creek,**	**4.94 4**		**Pn**	**11 34 07.7 +0.2**	
PAX	**Paxson**	**5.03 345**		**Pn**	**11 34 10.1 +1.3**	
PAX	**Paxson**	**5.03 345**	P	**Pn**	**11 34 10.6 +1.8**	
	baz=162					
CAPN	**Captain Cook N**	**5.07 305**	Pn	**Pn**	**11 34 10.6 +1.4**	
CAPN	**Captain Cook N**	**5.07 305**	P	**Pn**	**11 34 11.6 +2.4**	
	baz=117					
SYI	**Shuyak Island**	**5.15 279**	Pn	**Pn**	**11 34 12.5 +2.1**	
Q20K	**Shuyak Island**	**5.15 279**	P	**Pn**	**11 34 12.7 +2.3**	
	baz=90					
M22K	**Willow**	**5.21 317**	P	**Pn**	**11 34 13.0 +1.9**	
	baz=130					
M30M	**Minto, Yukon**	**5.30 31**		**Pn**	**11 34 13.5 +1.0**	
M30M			IAML		11 35 53.0	
	comp=E,12nm,0.9s					
M30M	**Minto, Yukon**	**5.30 31**	P	**Pn**	**11 34 14.2 +1.8**	
	baz=216,SNR=26					
KDAK	**Kodiak Island**	**5.30 270**	Pn	**Pn**	**11 34 14.6 +2.2**	
KDAK			IAML		11 35 16.9	
	comp=E,25nm,1.4s					
KDAK			IAML		11 35 17.9	
	comp=E,19nm,0.6s					
KDAK	**Kodiak Island**	**5.30 270**	P	**Pn**	**11 34 15.0 +2.5**	
	baz=81					
L29M	**L29M**	**5.44 22**		**Pn**	**11 34 15.9 +1.5**	
L29M			IAML		11 35 16.2	
	comp=N,16nm,0.5s					
L29M			IAML		11 35 53.0	
	comp=E,18nm,1.1s					
L29M	**L29M**	**5.44 22**	P	**Pn**	**11 34 16.4 +2.0**	
	baz=206					
P33M	**Teslin, Yukon**	**5.46 64**	P	**Pn**	**11 34 15.3 +0.7**	
	baz=253					
O20K	**Slope Mountain**	**5.49 295**	P	**Pn**	**11 34 16.2 +1.1**	
	baz=106					
Q32M	**Nakina River**	**5.49 77**	P	**Pn**	**11 34 17.0 +1.8**	
	baz=267					
DOT	**Dot Lake**	**5.55 353**		**Pn**	**11 34 16.2 +0.3**	
U33K	**Whale Pass**	**5.58 107**		**Pn**	**11 34 16.9 +0.7**	
U33K	**Whale Pass**	**5.58 107**	P	**Pn**	**11 34 17.1 +0.9**	
	baz=296					
ILS	**Iliamna Low So**	**5.67 293**		**Pn**	**11 34 19.1 +1.4**	
P19K	**Oil Pt**	**5.69 290**		**Pn**	**11 34 19.1 +1.4**	
P19K	**Oil Pt**	**5.69 290**	P	**Pn**	**11 34 20.0 +2.2**	
	baz=100					
CUT	**Chulitna**	**5.70 322**		**Pn**	**11 34 20.0 +2.1**	
CUT	**Chulitna**	**5.70 322**	P	**Pn**	**11 34 19.9 +2.1**	
	baz=134					
RIDG	**Independent Ri**	**5.70 350**	P	**Pn**	**11 34 19.7 +1.7**	
	baz=168					
ILSW	**Iliamna Southw**	**5.72 293**		**Pn**	**11 34 19.3 +1.1**	
STLK	**Strandline Lak**	**5.72 310**		**Pn**	**11 34 17.6 -0.6**	
RDWB	**Redoubt West**	**5.72 298**		**Pn**	**11 34 19.7 +1.4**	
SPCR	**Spurr Chakacha**	**5.72 306**	P	**Pn**	**11 34 20.5 +2.2**	
	baz=117					
CKL	**Chakachamna La**	**5.78 306**		**Pn**	**11 34 19.4 +0.3**	
M31M	**Drury Creek, Y**	**5.78 42**		**Pn**	**11 34 20.6 +1.6**	
M31M	**Drury Creek, Y**	**5.78 42**	P	**Pn**	**11 34 20.6 +1.6**	
	baz=230					
OHAK	**Old Harbor**	**5.79 265**		**Pn**	**11 34 21.0 +2.0**	
OHAK	**Old Harbor**	**5.79 265**	P	**Pn**	**11 34 21.4 +2.3**	
OHAK	**Old Harbor**	**5.79 265**	P	**Pn**	**11 34 21.1 +2.0**	
	baz=75					
Q19K	**Cape Douglas,**	**5.81 282**		**Pn**	**11 34 22.6 +3.1**	
Q19K	**Cape Douglas,**	**5.81 282**	P	**Pn**	**11 34 22.1 +2.6**	
	baz=92					
WRAK	**Wrangell Islan**	**5.85 103**	P	**Pn**	**11 34 21.3 +1.4**	
	baz=292					
K24K	**Donnelly Dome**	**5.87 346**	P	**Pn**	**11 34 22.2 +2.0**	
	baz=163					
SKT	**Skwentna**	**5.87 314**		**Pn**	**11 34 21.1 +0.9**	
SKT	**Skwentna**	**5.87 314**	P	**Pn**	**11 34 21.2 +0.9**	
	baz=126					
SCRK	**Sand Creek**	**5.88 354**	Pn	**Pn**	**11 34 21.2 +0.7**	
SCRK	**Sand Creek**	**5.88 354**	P	**Pn**	**11 34 21.4 +0.9**	
	baz=173					
CRAG	**Craig**	**5.88 113**		**Pn**	**11 34 21.0 +0.7**	
CRAG	**Craig**	**5.88 113**	P	**Pn**	**11 34 20.6 +0.2**	
CRAG	**Craig**	**5.88 113**	P	**Pn**	**11 34 21.2 +0.8**	
	baz=302					
K27K	**Chicken**	**5.90 2**	Pn	**Pn**	**11 34 21.0 +0.4**	
K27K	**Chicken**	**5.90 2**	P	**Pn**	**11 34 21.4 +0.8**	
	baz=183					
RND	**Reindeer**	**6.08 333**	Pn	**Pn**	**11 34 23.5 +0.4**	
DAWY	**Dawson**	**6.13 14**	Pn	**Pn**	**11 34 24.6 +0.7**	
DAWY	**Dawson**	**6.13 14**	P	**Pn**	**11 34 25.3 +1.4**	
	baz=196,SNR=37					
FARO	**Faro, Yukon**	**6.17 45**	P	**Pn**	**11 34 26.3 +1.8**	
	baz=233					
R33M	**Jennings River**	**6.20 74**	P	**Pn**	**11 34 26.3 +1.4**	
	baz=264					
K29M	**Barlow Dome**	**6.22 21**		**Pn**	**11 34 27.2 +2.0**	
K29M	**Barlow Dome**	**6.22 21**	P	**Pn**	**11 34 27.3 +2.0**	
	baz=206					
KAHG	**Katmai Hook Gl**	**6.28 278**		**Pn**	**11 34 29.0 +3.1**	
R18K	**Karluk**	**6.33 270**	P	**Pn**	**11 34 29.0 +2.5**	
	baz=79					
O19K	**Port Alsworth**	**6.34 294**		**Pn**	**11 34 29.2 +2.5**	
O19K	**Port Alsworth**	**6.34 294**	P	**Pn**	**11 34 28.8 +2.2**	
	baz=103					
MAYO	**Mayo, Yukon**	**6.37 28**		**Pn**	**11 34 29.1 +1.9**	
MAYO	**Mayo, Yukon**	**6.37 28**	P	**Pn**	**11 34 28.8 +1.6**	
	baz=214					
MCK	**McKinley**	**6.38 334**		**Pn**	**11 34 28.4 +1.2**	
MCK	**McKinley**	**6.38 334**	P	**Pn**	**11 34 29.3 +2.2**	
	baz=148					
J26L	**Joseph Creek**	**6.38 356**		**Pn**	**11 34 27.7 +0.4**	
J26L	**Joseph Creek**	**6.38 356**	P	**Pn**	**11 34 28.7 +1.3**	
	baz=176					
M20K	**Styx River**	**6.45 310**	Pn	**Pn**	**11 34 29.1 +0.9**	
M20K	**Styx River**	**6.45 310**	P	**Pn**	**11 34 29.4 +1.2**	
	baz=120					
SII	**Sitkinak Islan**	**6.45 261**	P	**Pn**	**11 34 30.7 +2.5**	
SII	**Sitkinak Islan**	**6.45 261**	P	**Pn**	**11 34 30.6 +2.4**	
	baz=70					
TRF	**Thorofare Moun**	**6.49 328**	Pn	**Pn**	**11 34 28.9 0.0**	
TRF	**Thorofare Moun**	**6.49 328**	P	**Pn**	**11 34 30.8 +1.9**	
	baz=141					
KAHC	**Katmai Hardscr**	**6.52 280**		**Pn**	**11 34 31.7 +2.5**	
Q18K	**Katmai Hardscr**	**6.52 280**	P	**Pn**	**11 34 31.8 +2.5**	
	baz=88					
N19K	**Bonanza Creek**	**6.59 299**	Pn	**Pn**	**11 34 31.2 +1.0**	
N19K	**Bonanza Creek**	**6.59 299**	P	**Pn**	**11 34 31.5 +1.2**	
	baz=108					
HDA	**Harding Lake**	**6.61 344**	P	**Pn**	**11 34 31.4 +1.1**	
	baz=160					
J25K	**Salcha River,**	**6.61 350**		**Pn**	**11 34 29.1 -1.4**	
J25K	**Salcha River,**	**6.61 350**	P	**Pn**	**11 34 31.5 +1.1**	
	baz=167					
DLBC	**Dease Lake**	**6.66 82**	P	**Pn**	**11 34 32.6 +1.4**	
	baz=274,SNR=5.6					
P18K	**Big Mountain,**	**6.66 286**		**Pn**	**11 34 32.8 +1.7**	
P18K	**Big Mountain,**	**6.66 286**	P	**Pn**	**11 34 32.8 +1.7**	
	baz=95					
J29N	**Klondike Camp**	**6.67 17**		**Pn**	**11 34 31.4 +0.2**	
PPLA	**Purkeypile**	**6.69 319**	P	**Pn**	**11 34 32.9 +1.3**	
	baz=130					
O18K	**Koktuh Hills**	**6.71 290**		**Pn**	**11 34 33.0 +1.2**	
O18K	**Koktuh Hills**	**6.71 290**	P	**Pn**	**11 34 33.3 +1.5**	
	baz=99					
KTH	**Kantishna Hill**	**6.75 327**		**Pn**	**11 34 33.7 +1.3**	
T35M	**Bob Quinn**	**6.77 95**	P	**Pn**	**11 34 34.2 +1.6**	
	baz=286					
ANCK	**Angle Creek**	**6.80 276**		**Pn**	**11 34 36.1 +3.0**	
BWN	**Browne**	**6.87 334**		**Pn**	**11 34 32.9 -1.1**	
IL31		**6.94 345**		**Pn**	**11 34 34.7 -0.1**	
M19K	**Big River Lodg**	**6.98 307**	P	**Pn**	**11 34 36.6 +1.1**	
	baz=117					
CAST	**Castle Rocks**	**7.01 323**		**Pn**	**11 34 36.3 +0.4**	
CAST	**Castle Rocks**	**7.01 323**	P	**Pn**	**11 34 37.1 +1.2**	
	baz=134					
L20K	**Farewell, AK**	**7.06 313**		**Pn**	**11 34 37.6 +1.0**	
L20K	**Farewell, AK**	**7.06 313**	P	**Pn**	**11 34 37.4 +0.9**	
	baz=122					
J30M	**Hart River**	**7.11 23**		**Pn**	**11 34 39.3 +1.9**	
J30M	**Hart River**	**7.11 23**	P	**Pn**	**11 34 38.2 +0.8**	
	baz=208					
NEA2	**Nenana**	**7.15 337**	P	**Pn**	**11 34 39.3 +1.5**	
	baz=151					
I26K	**Coal Creek Min**	**7.18 358**		**Pn**	**11 34 38.8 +0.6**	
I26K	**Coal Creek Min**	**7.18 358**	P	**Pn**	**11 34 38.8 +0.6**	
	baz=178					
COLA	**College**	**7.18 342**	P	**Pn**	**11 34 40.5 +2.3**	
BPAW	**Bear Paw Mtn.**	**7.20 329**	Pn	**Pn**	**11 34 38.2 -0.2**	
BPAW	**Bear Paw Mtn.**	**7.20 329**	P	**Pn**	**11 34 39.0 +0.6**	
	baz=142					
N18K	**Kilae Creek**	**7.21 296**	P	**Pn**	**11 34 40.1 +1.4**	
	baz=104					
U35K	**Hyder**	**7.24 103**	P	**Pn**	**11 34 41.1 +2.0**	
	baz=294					
P17K	**Kvichak River**	**7.27 284**		**Pn**	**11 34 41.9 +2.5**	
P17K	**Kvichak River**	**7.27 284**	P	**Pn**	**11 34 41.0 +1.6**	
	baz=92					
L19K	**White Mountain**	**7.30 309**		**Pn**	**11 34 39.9 0.0**	
L19K	**White Mountain**	**7.30 309**	P	**Pn**	**11 34 41.0 +1.1**	
	baz=118					
POKR	**Poker Plat Res**	**7.34 344**	P	**Pn**	**11 34 41.3 +0.8**	
	baz=160					
Q16K	**King Salmon**	**7.38 280**	P	**Pn**	**11 34 42.9 +2.0**	
	baz=87					
WTLY	**Watson Lake, Y**	**7.39 69**	P	**Pn**	**11 34 41.5 +0.4**	
	baz=261					
CHUM	**Lake Minchumin**	**7.41 325**		**Pn**	**11 34 41.9 +0.5**	
CHUM	**Lake Minchumin**	**7.41 325**	P	**Pn**	**11 34 42.8 +1.4**	
	baz=136					
I28M	**Miner Creek**	**7.43 9**	P	**Pn**	**11 34 41.6 0.0**	
	baz=191					
M18K	**Stony River**	**7.43 302**	P	**Pn**	**11 34 42.5 +0.9**	
	baz=110					
CHIR	**Chirikof Islan**	**7.47 257**	P	**Pn**	**11 34 45.9 +3.8**	
I27K	**Kandik River**	**7.49 3**	P	**Pn**	**11 34 43.2 +0.7**	
	baz=184					
K20K	**Telida**	**7.64 318**		**Pn**	**11 34 45.0 +0.5**	
K20K	**Telida**	**7.64 318**	P	**Pn**	**11 34 45.4 +0.9**	
	baz=127					
O17K	**Koliganek Bris**	**7.64 288**	P	**Pn**	**11 34 46.1

N16K	Nishlik Lake baz=98	8.56	293	P	Pn	11 34 58.9 +1.7
J19K	Poorman baz=127	8.58	318	P	Pn	11 34 59.3 +1.9
J18K	Innoko River baz=121	8.68	314	P	Pn	11 34 58.1 -0.7
EPYK	Eagle Plains baz=201	8.69	16	P	Pn	11 34 59.7 +0.8
G27K	Doyon Strip baz=184	8.70	3	P	Pn	11 34 58.7 -0.3
I20K	Naaghedeneel baz=134	8.73	325	P	Pn	11 34 59.5 +0.1
CHGN	Chignik baz=71	8.75	264	P	Pn	11 35 02.6 +2.8
M16K	Timber Creek baz=102	8.76	296	P	Pn	11 35 01.4 +1.6
L17K	Donlin baz=110	8.76	304	P	Pn	11 35 01.4 +1.5
H22K	Ishtalitna Cre baz=148	8.77	336	P	Pn	11 34 58.9 -1.1
G26K	Porcupine Rive baz=176	8.84	357	P	Pn	11 35 02.5 +1.6
G24K	Hadweenzic Riv baz=163	8.86	347	P	Pn	11 35 02.8 +1.6
H21K	Melozitna Rive baz=143	8.91	332	P	Pn	11 35 02.7 +0.9
K17K	Iditarod baz=113	8.98	307	P	Pn	11 35 04.2 +1.4
O15K	Ungalikthiuk R baz=89	9.01	284	P	Pn	11 35 05.7 +2.4
TOAD	Toad River Com baz=274	9.14	78	P	Pn	11 35 06.6 +1.4
L16K	Owhat River baz=105	9.16	300	P	Pn	11 35 06.0 +0.7
N15K	Kwethluk River baz=95	9.18	290	P	Pn	11 35 07.9 +2.3
G23K	Bananza Creek baz=155	9.23	341	P	Pn	11 35 08.5 +2.2
G30M	tAoh Zraii Nji baz=202	9.33	16	P	Pn	11 35 08.9 +1.2
H20K	Anotleneega Mo baz=136	9.34	327	P	Pn	11 35 09.3 +1.5
S14K	Fog Glacier baz=71	9.36	266	P	Pn	11 35 09.7 +1.5
GCSA	Galena City Sc baz=127	9.47	320	P	Pn	11 35 10.6 +1.1
G31M	Satah River baz=208	9.60	20	P	Pn	11 35 12.6 +1.3
F26K	Sheenjek River baz=175	9.60	357	P	Pn	11 35 12.5 +1.2
F24K	Squaw Lake baz=163	9.69	348	P	Pn	11 35 13.4 +0.7
G21K	Allakaket baz=144	9.77	334	P	Pn	11 35 15.2 +1.5
H19K	Roundabout Mou baz=132	9.84	324	P	Pn	11 35 16.1 +1.5
CHNA	Chernabura Isl baz=63	9.94	258	P	Pn	11 35 17.4 +1.4
F30M	Barrier River baz=202	9.98	15	P	Pn	11 35 15.8 -0.8
E27K	Coleen River baz=183	10.08	2	P	Pn	11 35 17.3 -0.6
E25K	Arctic Village baz=171	10.09	354	P	Pn	11 35 16.8 -1.2
M14K	Bethel baz=96	10.16	293	P	Pn	11 35 21.0 +2.0
H18K	Honhosa River baz=126	10.22	320	P	Pn	11 35 20.9 +1.0
K15K	Wolf Creek Mou baz=105	10.25	302	P	Pn	11 35 22.3 +2.0
E24K	Your Creek baz=162	10.29	348	P	Pn	11 35 21.6 +0.7
F21K	Alatna River baz=146	10.35	336	P	Pn	11 35 23.4 +1.8
I17K	Unalakleet baz=115	10.45	311	P	Pn	11 35 22.8 -0.1
E29M	Blow River baz=194	10.49	10	P	Pn	11 35 24.7 +1.3
E28M	Babbage River baz=189	10.58	6	P	Pn	11 35 26.6 +1.9
H17K	Granite Mounta baz=121	10.65	317	P	Pn	11 35 27.5 +1.9
F20K	Avaraart Lake baz=140	10.73	332	P	Pn	11 35 28.0 +1.1
E19K	Redstone River baz=137	11.43	331	P	Pn	11 35 36.8 +0.4

MEX 24 11:41:39.0±0.3, 16°.99N×94°.80W, h118km±4km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.13	322	*i* P	Pn	11 41 54.4	-0.9
CMIG				*e*S	Sn	11 42 06.0	-1.5
UXUV	UXUV	0.71	62	*e*P	Pn	11 41 57.0	-1.2
UXUV				*e*S	Sn	11 42 10.7	-2.0
NEUV	Arroyo Zacate	1.20	307	*e*P	Pn	11 42 01.6	-1.3
NEUV				*e*S	Sn	11 42 18.9	-2.1
TGIG		1.62	97	*e*P	Pn	11 42 06.6	-1.2
TGIG				*e*S	Sn	11 42 27.7	-2.1
HUIG	Huatulco	1.75	226	*e*P	Pn	11 42 07.4	-1.9
HUIG				*e*S	Sn	11 42 30.8	-1.5
TOIG	Toxpalan	2.42	297	*e*P	Pn	11 42 14.6	-3.3
TOIG				*e*S	Sn	11 42 46.3	-1.4
PEIG	Puerto Escondi	2.46	247	*e*S	Sn	11 42 45.5	-2.8
YOIG	Yosondua	2.63	268	*e*P	Pn	11 42 20.4	-0.3
YOIG				*e*P		11 42 21.3	
YOIG				*e*S	Sn	11 42 50.6	-2.0
YOIG	Yosondua	2.63	268	*e*P	Pn	11 42 20.4	-0.3
TXIG	Tlaxiaco	2.85	276	*e*P	Pn	11 42 25.9	+2.4
TXIG				*e*S	Sn	11 42 55.8	-2.0
HLIG	Huajuapan de L	2.99	287	*e*S	Sn	11 42 50.9	-10
PNIG	Pinotepa	3.24	260	*e*S	Sn	11 43 03.7	-3.0

MEX 24 11:42:06.6±0.3, 16°.20N×98°.09W, h7km±16km, MD3.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.19	350	*e*P	Pg	11 42 10.3	-0.2
PNIG				*e*S	Sg	11 42 13.0	-0.1
YOIG	Yosondua	0.83	39	*e*S	Sg	11 42 32.5	-1.1
TXIG	Tlaxiaco	1.09	17	*e*P	Pg	11 42 24.7	-2.8
TXIG				*e*S	Sg	11 42 38.7	-3.0

*IDC **24** 11:50:42.8±10.0, 7°.51S×128°.75E, h164km±116km, mb3.6/7, mbtmp4.1/9, MS3.6/1, Error ellipse: s-maj=65.4km s-min=44.1km az=29.0*

ISC 24 11:50:39.8±0.9, 7°.8S±0°.2×128°.8E±0°.3, h150km, n10, σ0$60/10, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 8.4nm,1.2s,baz=334,slow=13,SNR=8.7	13.22	156	P	P	11 53 46.7	+0.4
WRA				S	Sn	11 56 08.2	-0.1
	11nm,0.6s,baz=337,slow=21,SNR=13						
ASAR	Alice Springs 6.7nm,0.6s,baz=342,slow=10.0,SNR=96	16.53	163	P	Pn	11 54 29.2	+6.2
ASAR				S	S	11 57 26.2	-0.5
	1.5nm,0.7s,baz=211,slow=21,SNR=4.1						
NWAO	Narrogin (SRO) comp=Z,120nm,18.5s,baz=164,slow=42	27.20	202	LR	LR	12 09 45.7	
CMAR	Chiang Mai Arr 0.8nm,0.3s,baz=100,slow=4.3,SNR=3.2 0.8nm,0.3s	39.33	312	P	P	11 57 55.3	+0.6
SONM	Songino Array 0.3nm,0.5s,baz=168,slow=7.6,SNR=3.9 0.3nm,0.5s	58.82	343	P	P	12 00 21.6	-0.9
PETK	Petropavlovsk- 5.2nm,1.0s,baz=116,slow=3.4,SNR=2.4 5.2nm,1.0s	65.46	19	P	P	12 01 07.1	+0.5
MKAR	Makanchi Array 0.8nm,0.4s,baz=119,slow=8.3,SNR=21 0.8nm,0.4s	68.23	328	P	P	12 01 24.4	+0.1
ZALV	Zalesovo Beam 1.0nm,0.5s,baz=142,slow=4.1,SNR=5.2 1.0nm,0.5s	71.77	334	P	P	12 01 44.9	-0.6
KURBB	Kurchatov Arra 2.1nm,0.7s,baz=130,slow=5.2,SNR=30 2.1nm,0.7s	72.56	329	P	P	12 01 50.2	-0.1
BVAR	Borovoye Array 0.7nm,0.5s,baz=132,slow=8.3,SNR=2.7 0.7nm,0.5s	78.09	328	P	P	12 02 21.6	-0.4

*BUT **24** 11:53:15.6±1.8, 47°.11N±0°.04×113°.13W±0°.03, h16km±8km, Error ellipse: s-maj=5.8km s-min=2.8km az=180.0*

NEIC 24 11:53:15.5±1.0, 47°.04N±0°.04×113°.15W±0°.03, h21km±7km, ML3.2/60, ML3.4/28(BUT), Error ellipse: s-maj=6.1km s-min=2.9km az=175.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSO	Missoula	0.58	249	Pg	Pb	11 53 27.4	+0.3
MSO					Sb	11 53 35.4	+0.4
MSO				IAML		11 53 36.1	
	657nm,0.3s						
BUT	Butte	1.10	158		Pb	11 53 37.1	+1.2
DLMT	Dillon	1.72	167		Pb	11 53 45.6	-0.8
DLMT				IAML		11 54 14.7	
	121nm,0.3s						
BOZ	Bozeman (W)	1.79	143		Pn	11 53 45.8	+0.6
BOZ				IAML		11 54 14.3	
	279nm,0.4s						
BOZ				IAML		11 54 15.7	
	185nm,0.3s						
LDM	Libby Dam	2.04	315		Pn	11 53 49.3	+0.7
MKRVA	Milk River, Al	2.30	23		Pb	11 53 54.5	-1.7
HSPGA	Hill Springs,	2.35	352		Pb	11 53 55.5	-1.6
EGMT	Eagleton	2.50	66	Pn	Pn	11 53 55.0	0.0
YHL	Hebgen Lake	2.58	147	Pn	Pn	11 53 57.9	+1.6
YHL				IAML		11 54 43.4	
	comp=E,148nm,0.8s						
YMC	Maple Creek	2.73	146		Pn	11 54 00.1	+1.9
CMI	Centennial Mou	2.73	156		Pn	11 53 60.0	+1.6
YHH	Holmes Hill	2.76	144		Pn	11 54 00.7	+1.9
PLID	Pearl Lake	2.78	227	Pn	Pn	11 54 00.4	+1.4
PLID				IAML		11 54 47.1	
	comp=E,80nm,0.2s						
PLID				IAML		11 54 48.8	
	comp=E,66nm,0.7s						
YMR	Madison River	2.82	146		Pn	11 54 01.4	+1.9
YMR				IAML		11 54 47.5	
	comp=E,124nm,0.6s						
NEW	Newport	2.95	296	Pn	Pn	11 54 01.5	+0.3
NEW				IAML		11 54 48.6	
	comp=E,69nm,0.6s						
NEW				IAML		11 54 49.2	
	comp=E,74nm,0.3s						
YNE	Yellowstone No	2.98	132	Pn	Pn	11 54 02.7	+0.9
YMP	Mirror Lake Pl	3.11	137		Pn	11 54 05.4	+1.9
LKWY	Lake	3.13	141	Pn	Pn	11 54 05.4	+1.5
LKWY				IAML		11 55 02.8	
	comp=E,34nm,0.6s						
MCID	Moose Creek	3.17	153		Pn	11 54 06.6	+2.3
RLMT	Red Lodge	3.31	124		Pn	11 54 08.3	+2.0
RLMT				IAML		11 55 00.8	
	comp=E,83nm,0.4s						
RLMT				IAML		11 55 05.1	
	comp=E,87nm,0.4s						
E09A	Wood Farm, Sta	3.47	263	Pn	Pn	11 54 08.3	+0.1
E09A				IAML		11 55 11.4	
	comp=N,65nm,0.7s						
E09A				IAML		11 55 15.4	
	comp=E,45nm,0.3s						
HLID	Hailey	3.59	195	Pn	Pn	11 54 11.4	+1.4
BMO	Blue Mountains	3.63	235		Pn	11 54 11.7	+1.2
BMO				IAML		11 55 14.9	
	comp=E,23nm,0.3s						
MOOW	Moose Ponds	3.70	152	Pn	Pn	11 54 14.3	+2.6
FXWY	Fox Creek	3.71	155		Pn	11 54 13.7	+1.9
LNOR	Lincton Mounta	3.74	254		Pn	11 54 13.8	+1.9
LNOR				IAML		11 55 16.6	
	comp=N,20nm,0.5s						
LNOR				IAML		11 55 25.8	
	comp=E,20nm,0.8s						
LOHW	Long Hollow	3.87	151	Pn	Pn	11 54 15.9	+2.0
TPAW	Teton Pass	3.87	156	Pn	Pn	11 54 16.7	+2.6
TPAW				IAML		11 55 26.4	
	comp=E,22nm,0.7s						
D08A	Wollman Farm,	3.95	272	Pn	Pn	11 54 14.6	-0.2
D08A				IAML		11 55 23.0	
	comp=E,32nm,0.5s						
D08A				IAML		11 55 24.4	
	comp=N,44nm,0.6s						
SNOW	Snow King Moun	3.96	154		Pn	11 54 19.4	+4.2
SNOW				IAML		11 55 27.0	
	comp=N,17nm,1.6s						
MFID	Camas Ranch	4.09	209	Pn	Pn	11 54 18.2	+1.3
E08A	Dider Farm, El	4.10	264		Pn	11 54 16.8	-0.1
E08A				IAML		11 55 31.8	
	comp=E,40nm,0.6s						
E08A				IAML		11 55 31.8	
	comp=N,46nm,0.9s						
B08A	Colville Reser	4.38	290	Pn	Pn	11 54 20.4	-0.4
B08A				IAML		11 55 40.1	
	comp=E,30nm,0.5s						
G08A	Pilot Rock	4.40	249		Pn	11 54 22.9	+1.7
G08A				IAML		11 55 52.9	
	comp=E,12nm,4.5s						
HAWA	Hanford	4.44	264	Pn	Pn	11 54 22.1	+0.6
HAWA				IAML		11 55 39.7	
	comp=E,38nm,0.6s						
HAWA				IAML		11 55 48.6	
	comp=E,18nm,1.1s						
AHID	Auburn Hatcher	4.51	160	Pn	Pn	11 54 24.0	+1.2
E07A	Sunnyside	4.63	266	Pn	Pn	11 54 24.8	+0.6
DGMT	Dagmar	6.21	73	Pn	Pn	11 54 47.8	+2.0
PINE	Pine Mountain	6.37	242	Pn	Pn	11 54 51.3	+3.0

*NEIC **24** 11:53:18.9±1.1, 57°.81N±0°.04×156°.35W±0°.08, h143km±5km, Error ellipse: s-maj=6.1km s-min=6.0km az=135.0*

*IDC **24** 11:53:20.2±1.6, 58°.11N×156°.02W, h149km±19km, mb3.0/5, mbtmp3.5/7, MS3.1/1, Error ellipse: s-maj=25.0km s-min=18.9km az=103.0*

*AEIC **24** 11:53:20.7±1.3, 57°.80N±0°.04×156°.34W±0°.08, h131km±4km, ML3.2, ML3.2/90(NEIC), Error ellipse: s-maj=6.1km s-min=5.6km az=121.0*

ISC 24 11:53:18.0±0.7, 57°.83N±0°.04×156°.31W±0°.04, h143km±6km, n138, σ1$40/145, mb3.7/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK1	Peulik 1	0.16	262		Pn	11 53 38.0	+0.8
PLK1					Sn	11 53 51.9	+0.1
PLBL	Peulik Blue Cr	0.30	245		Pn	11 53 38.3	+0.6
PLBL					Sn	11 53 52.3	-0.3
ANCK	Angle Creek	0.57	49		Pn	11 53 40.2	+1.3
ANCK					Sn	11 53 55.2	+0.3
ACHA	Angle Creek He	0.65	53	Pn	Pn	11 53 40.6	+1.2
KELA	Mount Kelaz	0.69	26		Pn	11 53 40.7	+1.1
R16K	Pilot Point	0.73	250	Pn	Pn	11 53 40.2	+0.4
R16K	Pilot Point	0.73	250		Sn	11 53 56.6	+0.2
KVTA	Katmai Vly 10	0.77	44		Pn	11 53 41.6	+1.4
Q16K	King Salmon	0.87	348		Pn	11 53 41.9	+1.0
Q16K					Sn	11 53 58.4	0.0
R18K	Karluk	1.03	104		Pn	11 53 43.2	+1.0
R18K					Sn	11 54 00.9	+0.3
KAHC	Katmai Hardscr	1.07	39		Pn	11 53 44.2	+1.4
KAHC	Katmai Hardscr	1.07	39		Pn	11 53 44.1	+1.3
KAHC					Sn	11 54 01.9	+0.2
KAHG	Katmai Hook Gl	1.15	54		Pn	11 53 45.2	+1.8
P17K	Kvichak River	1.38	357		Pn	11 53 46.9	+1.3
P17K					Sn	11 54 06.7	0.0
P16K	Nushagak River	1.50	324		Pn	11 53 47.8	+0.9
P18K	Big Mountain,	1.67	19		Pn	11 53 49.9	+1.1
P18K				IAML		11 54 13.3	
	comp=N,101nm,1.2s						
P18K				IAML		11 54 13.4	
	comp=E,103nm,1.1s						
P18K	Big Mountain,	1.67	19		Sn	11 54 12.9	+0.4
SII	Sitkinak Islan	1.72	137	Pn	Pn	11 53 50.4	+1.0
SII	Sitkinak Islan	1.72	137		Sn	11 54 13.7	+0.3
SII	Sitkinak Islan	1.72	137	P	Pn	11 53 50.4	+1.0
SII	Sitkinak Islan	1.72	137	S	Sn	11 54 13.9	+0.5
OHAK	Old Harbor	1.74	109	Pn	Pn	11 53 50.5	+1.0
OHAK				IAML		11 54 14.5	
	comp=N,289nm,0.4s						
OHAK				IAML		11 54 14.9	
	comp=E,283nm,0.3s						
OHAK	Old Harbor	1.74	109		Sn	11 54 13.6	-0.1
OHAK	Old Harbor	1.74	109	P	Pn	11 53 50.7	+1.2
OHAK	Old Harbor	1.74	109	S	Sn	11 54 13.6	-0.1
Q19K	Cape Douglas,	1.79	51	Pn	Pn	11 53 51.6	+1.5
Q19K				IAML		11 54 19.1	
	comp=N,238nm,0.7s						
CHGN	Chignik	1.91	218		Pn	11 53 52.1	+0.5
CHGN				IAML		11 54 17.6	
	comp=N,296nm,0.4s						
KDAK	Kodiak Island	1.99	90	Pn	Pn	11 53 53.8	+1.3
KDAK				IAML		11 54 20.6	
	comp=N,213nm,0.3s						
KDAK	Kodiak Island	1.99	90	P	Pn	11 53 54.2	+1.8
	comp=N,49nm,0.3s,baz=298,slow=1.9,SNR=1097						
KDAK				S	Sn	11 54 19.3	+0.3
	comp=N,81nm,0.3s,baz=229,slow=20,SNR=33						
O17K	Koliganek Bris	2.00	348		Pn	11 53 53.5	+1.0
O17K					Sn	11 54 19.2	+0.1
O16K	Kokwok River B	2.00	333	Pn	Pn	11 53 53.1	+0.6
O16K				IAML		11 54 20.3	
	comp=E,68nm,1.2s						
CHIR	Chirikof Islan	2.04	169		Pn	11 53 53.5	+0.3
CHIR	Chirikof Islan	2.04	169	P	Pn	11 53 53.5	+0.3
CHIR	Chirikof Islan	2.04	169	S	Sn	11 54 19.5	-0.6
O18K	Koktuh Hills	2.11	15	Pn	Pn	11 53 54.9	+0.9
O18K				IAML		11 54 23.5	
	comp=N,88nm,0.8s						
O18K				IAML		11 54 23.7	
	comp=E,82nm,1.1s						
SYI	Shuyak Island	2.22	68		Pn	11 53 56.0	+0.9
SYI				IAML		11 54 26.5	
	comp=N,206nm,0.3s						
O15K	Ungalikthiuk R	2.29	308		Pn	11 53 57.0	+0.9
VNFG	Fog Glacier, M	2.35	230		Pn	11 53 58.0	+1.1
VNFG	Fog Glacier, M	2.35	230	IAML		11 54 39.3	
	comp=E,162nm,1.4s						
VNFG				IAML		11 54 58.9	
	comp=N,171nm,1.1s						
P19K	Oil Pt	2.43	40	Pn	Pn	11 53 58.5	+0.7
P19K				IAML		11 54 32.4	
	comp=N,85nm,0.6s						
P19K				IAML		11 54 33.5	
	comp=E,84nm,0.6s						
O19K	Port Alsworth	2.59	23	Pn	Pn	11 54 00.7	+1.0
O19K				IAML		11 54 34.8	
	comp=N,68nm,0.5s						
O19K				IAML		11 54 54.3	
	comp=E,160nm,0.5s						
ILSW	Iliamna Southw	2.72	36		Pn	11 54 03.0	+1.6
ILSW				IAML		11 54 36.9	
	comp=N,54nm,0.9s						
ILS	Iliamna Low So	2.72	37		Pn	11 54 03.5	+2.0
N17K	Nushagak Hills	2.75	351		Pn	11 54 02.7	+1.0
N18K	Kilae Creek	2.87	4	Pn	Pn	11 54 04.3	+1.0
N18K				IAML		11 54 54.7	
	comp=E,42nm,0.8s						
N16K	Nishlik Lake	2.94	336		Pn	11 54 05.2	+1.0
O14K	Tigyukauivet M	2.97	301	Pn	Pn	11 54 05.4	+0.9
O14K				IAML		11 55 10.3	
	comp=N,30nm,0.9s						
N15K	Kwethluk River	3.06	322		Pn	11 54 06.5	+0.8
N15K				IAML		11 55 13.8	
	comp=N,36nm,1.0s						
N19K	Bonanza Creek	3.14	17		Pn	11 54 08.6	+1.8
CNPM	China Poot	3.15	55		Pn	11 54 08.8	+1.9
CNPM				IAML		11 54 49.5	
	comp=N,55nm,1.1s						
CNPM				IAML		11 54 55.3	
	comp=E,39nm,0.5s						
SDPT	Sand Point	3.39	225		Pn	11 54 10.1	+0.1
SDPT	Sand Point	3.39	225	IAML		11 54 56.8	
	comp=N,46nm,1.1s						
SDPT				IAML		11 55 24.8	
	comp=E,34nm,1.2s						
SDPT	Sand Point	3.39	225	P	Pn	11 54 10.3	+0.3
SDPT	Sand Point	3.39	225	S	Sn	11 54 48.6	-1.6
RDT	Redoubt	3.41	34		Pn	11 54 12.1	+1.9
BRLK	Bradley Lake	3.42	53		Pn	11 54 11.1	+0.6
BRLK				IAML		11 54 50.7	
	comp=E,63nm,0.3s						
BRSE	Bradley Lake S	3.48	54		Pn	11 54 12.7	+1.6
M16K	Timber Creek	3.48	338		Pn	11 54 11.8	+0.7
N14K	Kuskokwak Cree	3.50	309		Pn	11 54 12.4	+1.1
CHNA	Chernabura Isl	3.52	213	P	Pn	11 54 11.2	-0.4
CHNA	Chernabura Isl	3.52	213	S	Sn	11 54 50.7	-2.4
CNBA	Chernabura Isl	3.52	213		Pn	11 54 11.0	-0.8
CNBA	Chernabura Isl	3.52	213	IAML		11 54 53.4	
	comp=E,31nm,1.3s						
CNBA				IAML		11 55 01.0	
	comp=N,43nm,0.8s						
M17K	Holitna River	3.63	351		Pn	11 54 13.9	+0.8
M17K				IAML		11 55 26.6	
	comp=E,34nm,0.9s						
M17K				IAML		11 55 33.2	
	comp=N,35nm,0.8s						
M15K	Kasigluk River	3.65	324		Pn	11 54 14.1	+0.8
M18K	Stony River	3.69	4		Pn	11 54 15.6	+1.8
CKL	Chakachamna La	3.94	29		Pn	11 54 19.9	+2.7
M14K	Bethel	4.12	318	Pn	Pn	11 54 20.0	+0.6
M14K				IAML		11 55 41.0	
	comp=N,22nm,1.4s						
M14K				IAML		11 56 27.9	
	comp=E,24nm,1.5s						
SLKM	Skilak Lake	4.13	47		Pn	11 54 21.2	+1.6
SLKM				IAML		11 55 09.6	
	comp=E,36nm,0.6s						
M19K	Big River Lodg	4.20	12		Pn	11 54 22.1	+1.5
M19K				IAML		11 55 38.8	
	comp=E,14nm,1.0s						
L16K	Owhat River	4.21	339	Pn	Pn	11 54 22.0	+1.3
L16K				IAML		11 55 52.3	
	comp=E,13nm,1.3s						
SEW	Seward	4.22	54		Pn	11 54 22.2	+1.5
O22K	Cooper Landing	4.31	49		Pn	11 54 23.6	+1.7
STLK	Strandline Lak	4.33	30		Pn	11 54 24.6	+2.4
M20K	Styx River	4.37	20		Pn	11 54 25.4	+2.5
L18K	Granite Mounta	4.41	358		Pn	11 54 24.5	+1.2
L18K				IAML		11 55 52.1	
	comp=N,16nm,1.2s						
L19K	White Mountain	4.43	9		Pn	11 54 25.1	+1.5
L19K				IAML		11 55 58.6	
	comp=N,12nm,1.0s						
L17K	Donlin	4.44	348		Pn	11 54 24.7	+1.1
RC01	Rabbit Creek A	4.68	43		Pn	11 54 28.4	+1.5
L14K	Kuka Creek	4.79	320	Pn	Pn	11 54 28.7	+0.5
L14K				IAML		11 56 07.0	
	comp=N,17nm,1.5s						
L14K				IAML		11 56 12.0	
	comp=E,12nm,1.5s						
SKT	Skwentna	4.81	28	Pn	Pn	11 54 30.8	+2.2
SKT				IAML		11 55 28.6	
	comp=N,11nm,0.5s						
SKT				IAML		11 55 28.9	
	comp=E,14nm,0.6s						
L20K	Farewell, AK	4.82	14		Pn	11 54 31.2	+2.4
K17K	Iditarod	5.01	349		Pn	11 54 32.5	+1.3
K17K				IAML		11 56 05.3	
	comp=E,11nm,1.5s						
K17K				IAML		11 56 09.2	
	comp=N,9.3nm,0.9s						
PWL	Port Wells	5.09	50		Pn	11 54 33.9	+1.6
ISLZ	Isanotski Laza	5.16	236		Pn	11 54 34.3	+0.9
K15K	Wolf Creek Mou	5.19	332		Pn	11 54 35.4	+1.8
K15K				IAML		11 56 19.1	
	comp=N,5.9nm,1.5s						
PMR	Palmer	5.24	41		Pn	11 54 34.6	+0.4
PMR				IAML		11 55 32.5	
	comp=E,15nm,0.5s						
PMR				IAML		11 55 32.6	
	comp=N,12nm,0.6s						
PMR	Palmer	5.24	41	P	Pn	11 54 35.0	+0.8
KNK	Knik Glacier	5.37	45		Pn	11 54 36.9	+0.9
GHO	Glory Hole Cre	5.43	40		Pn	11 54 37.4	+0.5
PPLA	Purkeypile	5.48	20	Pn	Pn	11 54 39.8	+2.2
CUT	Chulitna	5.49	31		Pn	11 54 39.0	+1.3
GLI	Glacier Island	5.62	53		Pn	11 54 39.8	+0.5
K20K	Telida	5.66	10		Pn	11 54 41.8	+1.9
J18K	Innoko River	5.66	358	Pn	Pn	11 54 41.8	+1.9
SML	Sawmill	5.67	42	Pn	Pn	11 54 40.2	+0.2
HIN	Hinchinbrook I	5.67	59	Pn	Pn	11 54 41.9	+1.9
J17K	VABM Dome	5.75	347	Pn	Pn	11 54 41.0	-0.1
FID	Port Fidalgo	5.83	56	Pn	Pn	11 54 42.7	+0.6
J16K	Anvik River	5.87	341	Pn	Pn	11 54 44.0	+1.4
M23K	Glacier View	5.88	44		Pn	11 54 43.4	+0.6
CAST	Castle Rocks	5.98	19	Pn	Pn	11 54 46.6	+2.4
SCM	Sheep Creek Mo	6.05	45		Pn	11 54 45.4	+0.2
EYA

KTH	Kantishna Hill	6.32	22		Pn	11 54 50.2	+1.4
TRF	Thorofare Moun	6.37	25	Pn	Pn	11 54 50.1	+0.6
KLU	Klutina	6.42	51		Pn	11 54 51.2	+1.1
I17K	Unalakleet	6.45	342	Pn	Pn	11 54 52.3	+2.0
J20K	Nowinta River	6.46	8		Pn	11 54 52.2	+1.6
M24K	Tolsona, Glenn	6.65	46		Pn	11 54 54.9	+1.7
BPAW	Bear Paw Mtn.	6.80	20		Pn	11 54 56.4	+1.2
MCK	McKinley	6.93	28	Pn	Pn	11 54 58.3	+1.4
UNV	Unalaska Valle	6.99	240		Pn	11 54 57.7	0.0
N25K	Chitina, Valde	7.03	52		Pn	11 54 59.9	+1.6
KHIT	Khitrov Hills	7.21	63		Pn	11 55 02.4	+1.7
MAPS	Pakushin South	7.22	241		Pn	11 55 01.4	+0.7
GLB	Gilahina Butte	7.29	55		Pn	11 55 03.6	+1.9
WACK	Wrangell Chich	7.32	50		Pn	11 55 04.5	+2.2
WAX	Waxell Ridge	7.40	64		Pn	11 55 05.1	+1.8
PAX	Paxson	7.44	42		Pn	11 55 05.0	+1.3
I21K	Tanana	7.66	14		Pn	11 55 08.5	+1.9
H19K	Roundabout Mou	7.73	360		Pn	11 55 09.1	+1.6
BALM	Baldy	7.81	60		Pn	11 55 10.7	+1.9
COLA	College	8.15	26	P	Pn	11 55 13.3	+0.2
IL31		8.30	29		Pn	11 55 14.6	-0.6
ILAR	Eielson Array	8.30	29	P	Pn	11 55 14.8	-0.4
	comp=N,4.1nm,0.4s,baz=216,slow=13,SNR=83						
ILAR				S	Sn	11 56 43.2	-4.2
	comp=N,2.3nm,0.7s,baz=219,slow=23,SNR=15						
PNL	Peninsula	8.98	71	P	Pn	11 55 27.6	+3.3
INK	Inuvik	14.61	35	P	Pn	11 56 36.8	-0.7
	comp=N,0.3nm,0.3s,baz=230,slow=11,SNR=4.9						
INK				S	Sn	11 59 15.4	-3.6
	comp=N,2.1nm,1.2s,baz=260,slow=7.9,SNR=2.5						
YKA	Yellowknife Ar	20.98	60	P	P	11 57 48.4	-1.0
	comp=N,0.1nm,0.3s,baz=278,slow=10,SNR=4.1						
	comp=N,0.1nm,0.3s						
PETK	Petropavlovsk-	26.09	280	P	P	11 58 40.4	+2.5
	comp=N,2.6nm,1.0s,baz=70,slow=15,SNR=1.6						
	comp=N,2.6nm,1.0s						
PFO	Pinyon Flats O	36.07	115	LR	LR	12 13 32.5	
	comp=N,27nm,20.2s,baz=340,slow=34						
SPITS	Spitsbergen Ar	44.17	2	P	P	12 01 09.3	-2.4
	comp=N,14nm,1.0s,baz=303,slow=11,SNR=30						
SONM	Songino Array	54.66	305	P	P	12 02 32.2	+0.5
	comp=N,0.9nm,0.7s,baz=50,slow=5.5,SNR=5.2						
	comp=N,0.9nm,0.7s						
KURBB	Kurchatov Arra	62.94	324	P	P	12 03 30.0	+1.4
	comp=N,0.1nm,0.3s,baz=27,slow=6.1,SNR=2.1						
	comp=N,0.1nm,0.3s						
MKAR	Makanchi Array	65.02	320	P	P	12 03 43.6	+1.3
	comp=N,0.2nm,0.5s,baz=46,slow=7.7,SNR=1.9						
	comp=N,0.2nm,0.5s						
QSPA	South Pole Qui	147.62	180	PKPbc	PKPab	12 12 46.3	-0.2
	comp=N,1.6nm,1.0s,baz=227,slow=1.5,SNR=5.7						

NIC **24** *11:54:35.6, 36°.02N×32°.42E, h16km±1km, Ml2.0/7*
GII **24** *11:54:36.0±0.0, 36°.139N±0°.004×33°.067E±0°.001, h10km, Mws2.5, confirmed*
ISK **24** *11:54:36.5, 35°.86N×32°.19E, h66km±1km, ML2.2/10*
AFAD **24** *11:54:42.0, 36°.57N×32°.60E, h7km±1km, ML1.5*
ISC 24 11:54:35.9±1.4**, 35°.92N**±0°.03×**32°.27E**±0°.05**, h86**km±8km**, n37**, σ1°.**28**/56**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.32	6	Pg	Pn	11 54 48.4	-0.5
GAZI				Sg	Sn	11 54 57.1	-1.5
GAZI	Gazipasa	0.32	6	P	Pn	11 54 48.5	-0.5
GAZI				S	Sn	11 54 56.6	-2.0
TEKE	Tekeli-Mersin	0.72	72	Pg	Pn	11 54 52.9	+0.8
TEKE				Sg	Sn	11 55 04.9	+0.6
ALFC	Alefka	0.81	161	P	Pn	11 54 52.4	-0.8
ALFC				S	Sn	11 55 05.7	-0.4
ALFC				AML	AML	11 55 06.7	
	0.5nm,0.2s						
ALFC				AML	AML	11 55 07.8	
	0.4nm,0.1s						
AKDN	Akdeniz- Kıbrı	0.84	138	Pg	Pn	11 54 53.8	+0.3
BERE	Bereket-Mersin	0.88	61	Pg	Pn	11 54 55.3	+1.2
BERE				Sg	Sn	11 55 08.8	+1.2
AKMS	Akamas	0.90	177	P	Pn	11 54 54.0	-0.2
AKMS				S	Sn	11 55 08.7	+0.9
AKMS				AML	AML	11 55 10.0	
	0.2nm,0.3s						
AKMS				AML	AML	11 55 13.8	
	0.2nm,0.2s						
LEF	Lefka	0.94	148	Pg	Pn	11 54 54.2	-0.4
LEF				Sg	Sn	11 55 07.1	-1.5
HDMB	Hadim	1.05	9	Pn	Pn	11 54 57.1	+0.9
HDMB				Sn	Sn	11 55 12.5	+1.2
GULN	MERSIN_Gulnar	1.06	75	P	Pn	11 54 55.4	-0.5
GULN				S	Sn	11 55 10.9	-0.1
KEPZ	Antalya-Kepez	1.12	331	P	Pn	11 54 57.5	+0.8
KEPZ				S	Sn	11 55 11.5	-0.9
NATA	Nata	1.17	168	P	Pn	11 54 58.4	+1.1
NATA				S	Sn	11 55 15.9	+2.6
NATA				AML	AML	11 55 20.2	
	0.3nm,0.4s						
NATA				AML	AML	11 55 26.6	
	0.3nm,0.4s						
IKL	Isikli	1.19	74	Pn	Pn	11 54 59.2	+1.7
IKL				Sn	Sn	11 55 15.2	+1.5
KEBE	Keben-Mersin	1.28	65	Pn	Pn	11 55 00.7	+2.0
CSS	Mathiatis	1.29	138	Pn	Pn	11 54 59.6	+0.8
CSS	Mathiatis	1.29	138	P	Pn	11 54 58.7	-0.1
CSS	Mathiatis	1.29	138	P	Pn	11 54 59.3	+0.5
CSS				S	Sn	11 55 16.3	+0.3
CSS				AML	AML	11 55 18.2	
CSS				AML	AML	11 55 20.9	
	0.1nm,0.5s						
APOL	The Sanctuary	1.34	159	P	Pn	11 54 59.9	+0.5
APOL				S	Sn	11 55 19.3	+2.3
APOL				AML	AML	11 55 23.2	
	0.1nm,0.2s						
APOL				AML	AML	11 55 28.3	
	0.1nm,0.2s						
ASGA	Asgata	1.38	145	P	Pn	11 55 00.6	+0.6
ASGA				S	Sn	11 55 21.1	+3.0
ASGA				AML	AML	11 55 27.1	
	0.1nm,0.3s						
KKBE	Karaman, Kazim	1.40	22	P	Pn	11 55 01.0	+0.7
KKBE				S	Sn	11 55 17.5	-1.2
MVOU	Mavrovouni	1.43	129	P	Pn	11 54 60.0	-0.5
MVOU				S	Sn	11 55 18.2	-0.9
MVOU				AML	AML	11 55 21.8	
	0.1nm,0.3s						
MVOU				AML	AML	11 55 25.2	
	0.1nm,0.3s						
SEYD	Seydisehir-KON	1.52	347	Pn	Pn	11 55 02.5	+0.7
SEDI	Konya, Seydise	1.58	345	P	Pn	11 55 03.3	+0.6
SEDI				S	Sn	11 55 22.3	-0.5
KERG	Konya-Eregli	2.11	44	P	Pn	11 55 09.6	+0.2
KERG				S	Sn	11 55 33.5	-1.6
KERG				*i* AML	AML	11 55 44.0	
	comp=E,7.4nm,0.3s						
MMC7	Mount Meron ar	3.87	137	P	Pn	11 55 32.8	-0.4
MMA0B	Mount Meron ar	3.88	137	P	Pn	11 55 33.1	-0.3
MMA0B	Mount Meron ar	3.88	137	S	Sn	11 56 16.3	-1.6
GEM	Giv'at Ha'Em	3.89	133	P	Pn	11 55 31.7	-1.6
GEM	Giv'at Ha'Em	3.89	133	S	Sn	11 56 14.7	-3.2
NATI	Neve Ativ	3.90	132	P	Pn	11 55 32.1	-1.3
NATI	Neve Ativ	3.90	132	S	Sn	11 56 15.4	-2.7
MMLI	Mount Malkishu	4.34	142	P	Pn	11 55 39.8	+0.2
MMLI	Mount Malkishu	4.34	142	S	Sn	11 56 28.8	-0.3
HMDT	Nahal Hemdat	4.55	143	P	Pn	11 55 43.1	+0.8
HMDT	Nahal Hemdat	4.55	143	S	Sn	11 56 33.8	-0.1
DSI	Dead Sea	5.05	148	P	Pn	11 55 49.6	+0.4
DSI	Dead Sea	5.05	148	S	Sn	11 56 47.0	+0.7

HLW **24** *11:59:55.8, 27°.47N×34°.47E, h19km±4km, Ml3.0*
SGS **24** *11:59:57.9, 27°.57N×34°.62E, h18km, Ml2.4*
ISC 24 11:59:54.1±1.0**, 27°.49N**±0°.04×**34°.54E**±0°.05**, h12km, n22, σ0°.66/25, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		0.84	15	S	Sb	12 00 21.8	-0.1
RSHS				P	Pb	12 00 11.3	+0.7
KRABS	KRABS	0.87	46	P	Pb	12 00 11.9	+0.7
KRABS	KRABS	0.87	46	S	Sb	12 00 22.6	-0.3
MWLHS	Almuwaylih	0.90	73	S	Sb	12 00 23.7	+0.1
MWLHS	Almuwaylih	0.90	73	P	Pn	12 00 12.4	-0.2
HHRG	Al Ghardaqah	0.91	253	P	Pg	12 00 12.2	+0.5
AYUS	`Aynunah	0.95	43	S	Sb	12 00 24.8	-0.1
AYUS	`Aynunah	0.95	43	P	Pb	12 00 13.1	+0.7
BDAS	Al`Bad`	1.06	28	P	Pb	12 00 14.7	+0.3
BDAS	Al`Bad`	1.06	28	S	Sg	12 00 27.4	-0.8
TAYS	Tayyib Ism	1.09	15	S	Sb	12 00 28.4	-0.8
TAYS				P	Pb	12 00 15.0	0.0
HKAT	Jabal Katrina	1.14	335	P	Pb	12 00 15.9	0.0
JLOS		1.50	34	S	Sn	12 00 39.7	-0.8
JLOS		1.50	34	P	Pn	12 00 21.7	+0.7
HAQS	Haql	1.59	12	S	Sn	12 00 40.8	-1.7
HAQS				P	Pn	12 00 22.7	+0.6
JMOS	Jabal al Moall	1.74	16	P	Pn	12 00 25.1	+0.8
JMOS	Jabal al Moall	1.74	16	S	Sn	12 00 46.2	-0.1
HQLS		1.86	14	P	Pn	12 00 26.6	+0.8
NADB	Abo Dabab	2.14	181	P	Pn	12 00 29.4	-0.3
EWJHS	Al Wajh	2.31	125	P	Pn	12 00 32.2	+0.2
HAGS	Hagol	3.12	173	P	Pn	12 00 43.7	+0.5
BRNS	Bernies	3.64	186	P	Pn	12 00 50.3	0.0

IDC **24** *12:27:28.6±0.6, 15°.55N×94°.74W, h0km, mb4.6/23, mbtmp4.6/26, ML4.6/3, MS4.5/59, Error ellipse: s-maj=20.7km s-min=10.8km az=62.0*
MOS **24** *12:27:32.3±1.1, 15°.56N×94°.74W, h34km, mb5.3/10, Error ellipse: s-maj=12.8km s-min=5.8km az=102.8*
MEX **24** *12:27:33.0±0.7, 15°.43N×94°.98W, h22km±21km, MD5.3*
NEIC **24** *12:27:35.0±2.2, 15°.62N±0°.04×94°.77W±0°.03, h32km±2km, mb5.1/187, Mwr5.0/23, Mww5.0/32, Md5.3/218(MEX), Error ellipse: s-maj=6.0km s-min=4.3km az=170.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=2.04; Mθθ=1.11; Mφφ3.15; Mrθ1.19; Mφθ=1.46; Mφr=1.23; Fault plane solution: M0 3.57000×10^16 NP1: φs=194.02000°, δ39.43000°, λ=41.31000°. NP2: φs=318.19000°, δ65.21000°, λ=121.70000°. Principal axes: T 3.9967, Plg14.0000°, Azm71.0000°; N -1.1343, Plg28.0000°, Azm333.0000°; P -2.8624, Plg57.0000°, Azm185.0000°;*
NEIC **24** *12:27:35, 15°.62N×95°.00W, h24km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16Nm; Mrr=0.50; Mθθ=2.38; Mφφ2.88; Mrθ3.39; Mφθ=0.13; Mφr=1.85; Fault plane solution: M0=4.62000×10^16 NP1: φs=215.86000°, δ35.51000°, λ=6.58000°. NP2: φs=311.22000°, δ86.18000°, λ=125.34000°. Principal axes: T 4.1545, Plg32.0000°, Azm70.0000°; N 0.9384, Plg35.0000°, Azm314.0000°; P -5.0928, Plg39.0000°, Azm190.0000°;*
NEIC **24** *12:27:35, 15°.62N×94°.77W, h24km*
GCMT **24** *12:27:36.3±0.2, 15°.69N±0°.02×94°.82W±0°.01, h25km±1km, MW5.2/120, Moment Tensor Solution. s55,c68; s120,c196; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.54±.12; Mθθ=3.21±.10; Mφφ2.68±.09; Mrθ=5.53±.44; Mφθ=0.22±.07; Mφr=3.10±.28; Best double couple: M0=6.95500×10^16 NP1: φs=221.00000°, δ23.00000°, λ=9.00000°. NP2: φs=123.00000°, δ86.00000°, λ=113.00000°. Principal axes: T 6.4570, Plg44.0000°, Azm55.0000°; N 1.0020, Plg23.0000°, Azm301.0000°; P -7.4540, Plg37.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GCG **24** *12:27:36.1±2.8, 15°.47N×94°.70W, h32km±503km, MD5.1*
RSNC **24** *12:27:36.2±1.6, 16°.N±5°.×9°.5W±1°.0, h50km±8km, M4.8, mB5.4, mb5.1, Mw(mB)5.1, MwMwp4.8, Mwp5.2*
CATAC **24** *12:27:36.2±0.4, 16°.N±9°.×9°.5W±°., h44km±12km, M5.3/20, mb5.8/20, mB5.7/20, MLv5.8/20, Mw(mB)5.3/20, MwMwp4.6/5, Mwp4.9/5, Error ellipse: s-maj=21.0km s-min=6.1km az=22.2, confirmed*
NEIC **24** *12:27:36.8, 15°.69N×94°.72W, h48km*
ISC 24 12:27:32.9±0.5**, 15°.47N**±0°.03×**94°.91W**±0°.03**, h32**km±3km**, h32**km**: pP-P, n705**, σ2°.**15**/761**, mb5.0**/134**, MS4.5**/58**, 15C-18D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.19	285	*e*P	Pn	12 27 50.9	-2.5
HUIG				*e*S	Sn	12 28 03.9	-4.6
PANG	Puerto Angel	1.52	278	*e*P	Pn	12 27 55.5	-2.4
PANG				*e*S	Sn	12 28 12.1	-4.5
CMIG	Matias Romero	1.61	1		Pn	12 27 57.8	-1.4
CMIG					Sn	12 28 16.6	-2.3
CMIG	Matias Romero	1.61	1	Pn	Pn	12 27 57.6	-1.6
	1μm,0.3s,baz=174,slow=12						
CMIG				Sn	Sn	12 28 17.2	-1.7
	5μm,0.3s,baz=261,slow=16,SNR=31						
CMIG				LR	LR	12 28 39.7	
	comp=Z,14μm,20.5s,baz=142,slow=46						
CMIG	Matias Romero	1.61	1	*e*P	Pn	12 27 57.8	-1.4
CMIG				*e*S	Sn	12 28 16.6	-2.3
PCIG		1.65	82		Pn	12 27 58.6	-1.1
PCIG		1.65	82	*e*P	Pn	12 27 58.6	-1.1
PCIG				*e*S	Sn	12 28 14.6	-5.1
UXUV	UXUV	1.98	22	*e*P	Pn	12 28 03.9	-0.4
UXUV				*e*S	Sn	12 28 27.3	-0.7
TGIG		2.16	53		Pn	12 28 06.5	-0.3
TGIG					Sn	12 28 33.3	+0.8
TGIG		2.16	53	*e*P	Pn	12 28 06.5	-0.3
TGIG				*e*S	Sn	12 28 33.3	+0.8
TGIG		2.16	53	*i* P	Pn	12 28 06.3	-0.4
TGIG				*e*S	Sn	12 28 33.2	+0.8
TGIG		2.16	53	*i* PA		12 28 06.3	
TGIG				*e*S		12 28 33.2	
TGBT	Tuxtla Gutierr	2.18	53		Pn	12 28 07.2	+0.2
TGBT					Sn	12 28 34.4	+1.4
TGBT	Tuxtla Gutierr	2.18	53	*e*P	Pn	12 28 07.2	+0.2
TGBT				*e*S	Sn	12 28 34.4	+1.4
PEIG	Puerto Escondi	2.22	284	*e*P	Pn	12 28 05.4	-2.1
PEIG				*e*S	Sn	12 28 28.3	-5.7
OXLC	Oaxaca	2.34	313	*e*P	Pn	12 28 09.1	-0.4
OXLC				*e*S	Sn	12 28 36.1	-1.1
OXBJ	Oaxaca	2.36	313		Pn	12 28 09.0	-0.6
OXBJ	Oaxaca	2.36	313	*e*P	Pn	12 28 09.0	-0.6
OXBJ				*e*S	Sn	12 28 36.1	-1.5
OXIG	Oaxaca	2.37	313		Pn	12 28 09.7	-0.1
VHO	Vista Hermosa	2.37	313	*e*P	Pn	12 28 09.7	-0.1
VHO				*e*S	Sn	12 28 35.8	-2.1
NEUV	Arroyo Zacate	2.39	339	*e*P	Pn	12 28 08.9	-1.0
NEUV				*e*S	Sn	12 28 36.7	-1.4
TUIG	Tuzandepetl	2.59	10	*e*P	Pn	12 28 12.4	-0.3
TUIG				*e*S	Sb	12 28 48.8	-1.5
PATR	El Naranjo	2.60	97	*e*P	Pn	12 28 12.0	-1.1
PATR				*e*S	Sn	12 28 41.6	-2.1
THIG		2.61	102		Pn	12 28 13.3	+0.4
THIG					Sn	12 28 41.6	-2.0
THIG		2.61	102	*e*P	Pn	12 28 13.3	+0.4
THIG				*e*S	Sn	12 28 41.6	-2.0
THIG		2.61	102	*e*P	Pn	12 28 12.9	0.0
THIG		2.61	102	*e*P		12 28 12.9	
PAVE	Pavencul	2.65	96	*e*P	Pn	12 28 13.6	-0.1
PAVE				*e*S	Sn	12 28 43.7	-1.2
CCIG	Comitan	2.79	73		Pn	12 28 15.8	+0.2
CCIG	Comitan	2.79	73	*e*P	Pn	12 28 16.2	+0.6
CCIG				*e*S	Sn	12 28 49.2	+1.0
CCIG	Comitan	2.79	73	P	Pn	12 28 16.4	+0.9
CCIG	Comitan	2.79	73	P	Pn	12 28 17.4	+1.9
CCIG	Comitan	2.79	73	*e*P	Pn	12 28 16.2	+0.6
CCIG	Comitan	2.79	73	*e*P		12 28 16.2	
SMCA	Catarina	2.80	102	*e*P	Pn	12 28 14.6	-1.0
SMCA				*e*S	Sn	12 28 46.6	-1.7
SMCA	Catarina	2.80	102	*e*P		12 28 14.6	
SMCA				*e*S		12 28 46.6	
YOIG	Yosondua	2.88	299		Pn	12 28 16.9	0.0
YOIG	Yosondua	2.88	299	*e*P	Pn	12 28 16.9	0.0
YOIG				*e*S	Sn	12 28 48.0	-2.8
PMUV	Sontecomapan	3.07	356	*e*P	Pn	12 28 17.2	-2.1
PMUV				*e*S	Sn	12 28 53.4	-1.6
VHSA	Villahermosa	3.13	37	*e*P	Pn	12 28 20.1	0.0
VHSA				*e*S	Sn	12 28 58.7	+2.2
PNIG	Pinotepa	3.23	287	*e*P	Pn	12 28 20.2	-1.2
PNIG				*e*S	Sn	12 28 52.5	-6.4
RTAL	Retalhuleu	3.25	106	Pn	Pn	12 28 22.1	+0.4
RTAL	Retalhuleu	3.25	106	*e*P	Pn	12 28 21.6	-0.1
RTAL				*e*S	Sn	12 28 58.0	-1.3
RTAL	Retalhuleu	3.25	106	P	Pn	12 28 23.0	+1.3
RTAL	Retalhuleu	3.25	106	P	Pn	12 28 22.4	+0.8
TXIG	Tlaxiaco	3.27	303		Pn	12 28 22.1	-0.2
TXIG	Tlaxiaco	3.27	303	*e*P	Pn	12 28 22.1	-0.2
TXIG				*e*S	Sn	12 28 58.6	-1.6
HUEH	Huehuetenango	3.29	92		Pn	12 28 23.4	+0.9
HUEH	Huehuetenango	3.29	92	*e*P	Pn	12 28 24.3	+1.8
HUEH				*e*S	Sn	12 29 04.0	+3.3
HUEH	Huehuetenango	3.29	92	P	Pn	12 28 25.0	+2.6
HUEH	Huehuetenango	3.29	92	S	Sn	12 29 03.8	+3.1
HUEH	Huehuetenango	3.29	92	P	Pn	12 28 25.1	+2.6
HUEH	Huehuetenango	3.29	92	*e*P	Pn	12 28 24.0	+1.6
HUEH	Huehuetenango	3.29	92	*e*P		12 28 24.0	
TOIG	Toxpalan	3.33	322		Pn	12 28 25.1	+2.1
TOIG					Sn	12 29 02.7	+1.2
TOIG	Toxpalan	3.33	322	*e*P	Pn	12 28 25.1	+2.1
TOIG				*e*S	Sn	12 29 02.7	+1.2
SOKI	Kika Raxquin	3.45	100	*e*P	Pn	12 28 27.2	+2.4
SOKI	Kika Raxquin	3.45	100	*e*P		12 28 27.2	
STG8	El Palmar, Qui	3.58	106	*e*P		12 28 22.4	
STG8				*e*S		12 28 59.3	
STG0	El Palmar, Qui	3.60	106	*e*P		12 28 22.3	
HLIG	Huajuapan de L	3.63	311		Pn	12 28 28.5	+1.3
HLIG	Huajuapan de L	3.63	311	*e*P	Pn	12 28 28.5	+1.3
TPIG	Tehuac#an	3.76	322		Pn	12 28 31.1	+2.2
TPIG					Sn	12 29 13.1	+0.9
TPIG	Tehuac#an	3.76	322	*e*P	Pn	12 28 31.1	+2.2
TPIG				*e*S	Sn	12 29 13.1	+0.9
FTIG	Fresnillo de T	3.93	309		Pn	12 28 32.2	+1.0
FTIG	Fresnillo de T	3.93	309	*e*P	Pn	12 28 32.2	+1.0
FTIG				*e*S	Sn	12 29 14.1	-2.1
MGIG	Malinaltepec	3.98	297		Pn	12 28 32.5	+0.5
MGIG	Malinaltepec	3.98	297	*e*P	Pn	12 28 32.5	+0.5
MGIG				*e*S	Sn	12 29 13.1	-4.6
TLIG	Tlapa	4.08	301		Pn	12 28 34.8	+1.5
TLIG	Tlapa	4.08	301	*e*P	Pn	12 28 34.2	+1.0
TLIG				*e*S	Sn	12 29 16.3	-3.7
TLIG	Tlapa	4.08	301	P	Pn	12 28 34.3	+1.0
HMTT	Tlapaneco	4.20	304		Pn	12 28 36.5	+1.6
HMTT	Tlapaneco	4.20	304	*e*P	Pn	12 28 36.5	+1.6
HMTT				*e*S	Sn	12 29 20.4	-2.5
CRIG	Cruz Grande	4.25	288	*e*P	Pn	12 28 34.6	-0.9
CRIG				*e*S	Sn	12 29 16.4	-7.7
JAUV	Jalcomulco	4.28	335	*e*P	Pn	12 28 34.0	-1.9
JAUV				*e*S	Sn	12 29 22.4	-2.4
AVCB	Coban	4.34	89	*e*P	Pn	12 28 38.7	+1.8
AVCB	Coban	4.34	89	*e*P		12 28 38.7	
LVIG	Laguna Verde	4.47	341	*e*P	Pn	12 28 35.3	-3.2
LVIG				*e*S	Sn	12 29 21.1	-8.3
PHPU	Puebla	4.73	319		Pn	12 28 45.7	+3.4
PHPU					Sn	12 29 35.6	-0.6
PHPU	Puebla	4.73	319	*e*P	Pn	12 28 45.7	+3.4
PHPU				*e*S	Sn	12 29 35.6	-0.6
DAIG	Los Arroyos	4.81	289		Pn	12 28 42.8	-0.4
DAIG	Los Arroyos	4.81	289	*e*P	Pn	12 28 42.8	-0.4
DAIG				*e*S	Sn	12 29 29.5	-8.4
VNTA	La Mica	4.93	288	*e*P	Pn	12 28 42.7	-2.2
VNTA				*e*S	Sn	12 29 31.7	-9.1
PBCV	Popocatepetl	4.94	316	*e*P	Pn	12 28 48.1	+2.8
PBCV				*e*S	Sn	12 29 40.3	-1.2
SCIG	Sabancuy	4.98	45	*e*P	Pn	12 28 45.2	-0.3
SCIG				*e*S	Sn	12 29 37.3	-4.7
SCIG	Sabancuy	4.98	45	*e*P	Pn	12 28 44.4	-1.0
SCIG				*i* S	Sn	12 29 38.9	-3.1
SCIG	Sabancuy	4.98	45	*e*P		12 28 44.4	
SCIG				*i* S		12 29 38.9	
ACP2	Acapulco	4.98	287	*e*P	Pn	12 28 44.1	-1.4
ACP2				*e*S	Sn	12 29 33.2	-8.9
PBXN	Popocatepetl	5.02	315	*e*P	Pn	12 28 49.2	+2.7
PBXN				*e*P	Pn	12 28 49.3	+2.7
PBXN				*e*S	Sn	12 29 41.9	-1.9
PBXN				*e*S	Sn	12 29 43.9	+0.1
PPM	Popocatepetl	5.04	316	*e*P	Pn	12 28 49.3	+2.5
PPM				*e*S	Sn	12 29 45.9	+1.6
PPIG	Popocatepetl	5.04	316		Pn	12 28 49.3	+2.5
PPIG					Sn	12 29 45.9	+1.6
PETF	Flores	5.05	73	Pn	Pn	12 28 47.4	+0.8
PETF	Flores	5.05	73	*e*P	Pn	12 28 47.3	+0.8
PETF				*e*S	Sn	12 29 42.9	-1.0
PETF	Flores	5.05	73	*e*P	Pn	12 28 47.6	+1.0
PETF	Flores	5.05	73	*e*P		12 28 47.6	
SLOZ	Alcaldia de Sa	5.16	105	P	Pn	12 28 50.8	+2.7
SLOZ	Alcaldia de Sa	5.16	105	P	Pn	12 28 53.7	+5.6
LOAL	Lomas de Alarc	5.17	106	P	Pn	12 28 49.8	+1.6
NUBE	Las Nubes	5.20	107	P	Pn	12 28 50.1	+1.4
NUBE	Las Nubes	5.20	107	P	Pn	12 28 50.1	+1.4
NUBE	Las Nubes	5.20	107	*e*P	Pn	12 28 49.7	+0.9
NUBE	Las Nubes	5.20	107	*e*P		12 28 49.7	
YAIG	Yautepec	5.21	311		Pn	12 28 50.4	+1.5
YAIG	Yautepec	5.21	311	*e*P	Pn	12 28 50.4	+1.5
YAIG				*e*S	Sn	12 29 43.9	-4.2
PLIG	Platanillo	5.27	304		Pn	12 28 51.0	+1.4
PLIG	Platanillo	5.27	304	*e*P	Pn	12 28 51.0	+1.4
PLIG				*e*S	Sn	12 29 44.9	-4.5
CXUV	Coxquihui	5.33	332	*e*P	Pn	12 28 50.0	-0.4
CXUV				*e*S	Sn	12 29 47.2	-3.6
CEVE	Cerro Verde	5.37	107	P

DHIG Sn **Sn** 12 30 15.1 +2.5
DEIG Demacu 6.21 321 *e*P **Pn** 12 29 04.4 +1.8
DEIG *e*S **Sn** 12 30 15.1 +2.5
SCLA Alcaldia de Sa 6.24 106 P **Pn** 12 29 05.2 +2.3
SCLA Alcaldia de Sa 6.24 106 P Pn 12 29 08.3 +5.5
PQSS Presa 15 de Se 6.42 106 P **Pn** 12 29 07.6 +2.3
PQSS Presa 15 de Se 6.42 106 P Pn 12 29 10.8 +5.5
ACIG Acambay 6.52 314 **Pn** 12 29 09.3 +2.4
ACIG **Sn** 12 30 24.1 +3.7
ACIG Acambay 6.52 314 *e*P **Pn** 12 29 09.3 +2.4
ACIG *e*S **Sn** 12 30 24.1 +3.7
ZIIG Zihuatanejo 6.64 290 **Pn** 12 29 09.0 +0.7
ZIIG Zihuatanejo 6.64 290⇑ *e*P **Pn** 12 29 09.0 +0.7
ZIIG *e*S Sn 12 30 13.7 -9.2
PACA Pacayal 6.68 106 P **Pn** 12 29 13.4 +4.4
PACA Pacayal 6.68 106 P Pb 12 29 18.9 -10
CTUV Llano Grande 6.81 332 *e*P **Pn** 12 29 10.1 -0.6
CTUV *e*S **Sn** 12 30 28.7 +1.6
UON La Union 7.07 292 *e*S **Sn** 12 30 30.1 -3.4
CNCH Conchagua 7.19 107 P Pn 12 29 25.2 +9.2
CNCH Conchagua 7.19 107 P **Pn** 12 29 19.5 +3.4
MOIG Morelia 7.31 306 Pn **Pn** 12 29 20.8 +3.0
MOIG Morelia 7.31 306 *e*P **Pn** 12 29 20.7 +2.9
MOIG *e*S **Sn** 12 30 40.7 +1.0
MOIG Morelia 7.31 306 P **Pn** 12 29 21.3 +3.5
MYIG Merida 7.34 41 *e*P **Pn** 12 29 15.9 -2.1
MYIG *e*S **Sn** 12 30 34.4 -5.8
JRQG Juriquilla Cam 7.41 315 Pn **Pn** 12 29 22.3 +3.2
JRQG Juriquilla Cam 7.41 315 *e*P **Pn** 12 29 19.0 -0.1
JRQG *e*S **Sn** 12 30 42.4 +0.3
TGUH Tegucigalpa,Un 7.52 100 Pn **Pn** 12 29 22.2 +1.6
TGUH Tegucigalpa,Un 7.52 100⇑ *e*P **Pn** 12 29 23.7 +3.2
TGUH Tegucigalpa,Un 7.52 100 P **Pn** 12 29 23.2 +2.7
URUA Uruapan 7.89 301 **Pn** 12 29 28.3 +2.6
URUA Uruapan 7.89 301 *e*P **Pn** 12 29 28.3 +2.6
URUA *e*S **Sn** 12 30 50.0 -4.0
TEIG Tepich 7.89 52 Pn **Pn** 12 29 23.9 -1.6
TEIG Tepich 7.89 52 Pn **Pn** 12 29 22.5 -3.0
baz=230,slow=24,SNR=198
TEIG Sn **Sn** 12 30 49.5 -4.3
baz=188,slow=24,SNR=5.6
TEIG Tepich 7.89 52 *e*P **Pn** 12 29 23.9 -1.6
TEIG *e*S **Sn** 12 30 47.9 -5.9
RPIG Rio Verde 7.99 324 **Pn** 12 29 29.9 +3.0
RPIG Rio Verde 7.99 324 *e*P **Pn** 12 29 29.9 +3.0
RPIG *e*S **Sn** 12 31 01.0 +4.6
IGIG Irapuato, Guan 8.05 312 **Pn** 12 29 28.8 +0.8
IGIG **Sn** 12 30 58.1 0.0
IGIG Irapuato, Guan 8.05 312 *e*P **Pn** 12 29 28.8 +0.8
IGIG *e*S **Sn** 12 30 58.1 0.0
CRIN San Cristobal 8.11 109 Pn **Pn** 12 29 28.8 +0.2
CRIN San Cristobal 8.11 109 P **Pn** 12 29 29.9 +1.4
CRIN San Cristobal 8.11 109 P **Pn** 12 29 29.4 +0.8
CRIN San Cristobal 8.11 109 P **Pn** 12 29 25.7 -2.9
11μm804nm,0.7s
HERN Volcan Telica 8.34 109 Pn **Pn** 12 29 34.7 +3.0
CNGN Cerro Negro 8.50 109 Pn **Pn** 12 29 36.2 +2.3
CNGN Cerro Negro 8.50 109 P **Pn** 12 29 37.9 +4.0
37μm3μm,0.8s
LIMN Finca el Limon 8.62 105 P **Pn** 12 29 38.9 +3.2
LIMN Finca el Limon 8.62 105 P **Pn** 12 29 38.2 +2.6
MOMN Momotombo 8.68 109 P **Pn** 12 29 41.0 +4.7
MOMN Momotombo 8.68 109 P **Pn** 12 29 40.1 +3.8
COPN Copaltepe 8.71 111 P **Pn** 12 29 39.3 +2.5
COPN Copaltepe 8.71 111 P **Pn** 12 29 38.7 +1.9
UNAN Cigeo UNAN 9.03 111 P **Pn** 12 29 45.6 +4.5
MATN Matagalpa 9.07 105 P Pn 12 29 46.7 +4.9
MATN Matagalpa 9.07 105 P **Pn** 12 29 45.4 +3.6
EZ5V 9.20 297 **Pn** 12 29 47.4 +3.6
EZ5V 9.20 297⇑ *e*P **Pn** 12 29 47.4 +3.6
EZ5V *e*S **Sn** 12 31 19.9 -6.5
MNGA Volcan de Coli 9.21 297 *e*P **Pn** 12 29 47.1 +3.2
MNGA *e*S **Sn** 12 31 28.4 +1.7
INCO Volcan de Coli 9.22 297⇑ *e*P **Pn** 12 29 48.0 +3.8
INCO *e*S **Sn** 12 31 25.0 -2.1
NANN Nandasmo 9.23 111 P **Pn** 12 29 48.4 +4.5
SOMAC Volcano de Col 9.25 297 *e*P **Pn** 12 29 48.1 +3.6
SOMAC *e*S **Sn** 12 31 25.8 -1.8
COMA Comala 9.28 296 *e*S **Sn** 12 31 26.8 -1.2
CDAR Ciudad de Arme 9.36 293⇑ *e*P **Pn** 12 29 47.3 +1.7
CDAR *e*S **Sn** 12 31 25.5 -4.3
CEGR Campo Tres 9.39 296⇑ *e*P **Pn** 12 29 49.4 +3.1
CEGR *e*S **Sn** 12 31 30.7 -0.2
BOAB BOACO BROADBAN 9.46 107 Pn **Pn** 12 29 49.6 +2.5
BOAB BOACO BROADBAN 9.46 107 P **Pn** 12 29 51.1 +4.0
ZAIG Zacatecas 10.25 316 Pn **Pn** 12 30 01.7 +3.6
ZAIG Zacatecas 10.25 316 *e*P **Pn** 12 30 01.9 +3.8
ZAIG *e*S **Sn** 12 31 48.3 -3.9
LNIG Linares 10.31 336⇑ *e*P **Pn** 12 30 01.0 +2.3
LNIG *e*S **Sn** 12 31 50.5 -2.7
CJM Chamela 10.47 294 *e*P **Pn** 12 30 03.1 +2.2
CJM *e*S **Sn** 12 31 55.3 -1.7
ANIG Ahuacatlan 10.69 303 **Pn** 12 30 07.4 +3.4
ANIG **Sn** 12 32 04.0 +1.4
ANIG Ahuacatlan 10.69 303 *e*P **Pn** 12 30 07.4 +3.4
ANIG *e*S **Sn** 12 32 04.0 +1.4
INDI Punta indio, G 10.73 120 P **Pn** 12 30 08.6 +4.1
JTS Las Juntas de 10.98 117 **Pn** 12 30 10.1 +2.1
JTS Las Juntas de 10.98 117 Pn **Pn** 12 30 07.5 -0.5
4.2nm,0.3s,baz=315,slow=16,SNR=10
JTS Sn **Sn** 12 32 11.0 +1.2
baz=264,slow=14
4.1nm,0.4s
JTS Las Juntas de 10.98 117 P **Pn** 12 30 09.8 +1.8
1μm136nm,0.9s
SOCE Pocosol 11.23 116 **Pn** 12 30 13.3 +1.9
SOCE Pocosol 11.23 116 P Pn 12 30 19.4 +8.0
MNIG Monterrey 11.28 334 **Pn** 12 30 14.3 +2.4
MNIG Monterrey 11.28 334 *e*P **Pn** 12 30 14.3 +2.4
MNIG *e*S **Sn** 12 32 09.7 -7.3
HDC Heredia 11.85 116 **Pn** 12 30 22.5 +2.6
LCR2 La Lucha 2 12.07 117 **Pn** 12 30 25.7 +2.7
KVTX Kingsville 12.34 348 **Pn** 12 30 26.2 -0.2
MAIG Mazatlaan 13.30 307 *e*P Pn 12 30 31.5 -8.1
MAIG *e*S **Sn** 12 33 12.3 +5.9
SOR Soroa 13.39 55 **Pn** 12 30 38.9 -2.0
SOR Soroa 13.39 55 *e*P **Pn** 12 30 40.1 -0.8
735A Kenedy 13.59 349 **Pn** 12 30 43.8 +0.3
BRU2 Volcan 13.66 118 **Pn** 12 30 46.9 +2.2
PDIG Papasquiaro 13.69 316 **Pn** 12 30 48.1 +3.1
PDIG **Sn** 12 33 14.0 -2.2
PDIG Papasquiaro 13.69 316 *e*P **Pn** 12 30 48.1 +3.1
PDIG *e*S **Sn** 12 33 14.0 -2.2
MCIG Muzquiz 13.77 335 **Pn** 12 30 47.5 +1.5
MCIG Muzquiz 13.77 335 *e*P **Pn** 12 30 47.5 +1.5
MCIG *e*S **Sn** 12 33 23.6 +5.6
MLDN Muldoon 14.39 352 **Pn** 12 30 54.3 -0.1
HKT Hockley 14.44 357 Pn **Pn** 12 30 55.5 +0.4
HKT Hockley 14.44 357 *i* P **Pn** 12 30 55.0 -0.1
HKT pmax pmax
comp=Z,95nm,1.6s
HNDO Hondo 14.56 345 **Pn** 12 30 57.7 +0.9
SSIG Sanalona 14.77 311 *e*S **Sn** 12 33 39.9 -2.4
DRIO Del Rio 14.85 340 Pn **Pn** 12 31 00.0 -0.7
CBCY The Bluff, Cay 15.05 71 *e*P **Pn** 12 31 02.5 -0.9
HPIG 15.18 320 **Pn** 12 31 07.2 +1.9
HPIG 15.18 320 *e*P **Pn** 12 31 06.5 +1.2
HPIG *e*S **Sn** 12 33 53.5 +0.9
HNVL Huntsville, TX 15.23 358 **Pn** 12 31 05.5 -0.2
HNVL IAmb IAmb 12 31 11.8
comp=Z,207nm,1.2s
441A DeRidder 15.29 6 **Pn** 12 31 05.4 -1.1
GMAL Guarumal, Vera 15.42 118 P **P** 12 31 14.1 +1.5
comp=Z,12μmcomp=Z,43nm,0.9s
435B Jarrell 15.44 351 **Pn** 12 31 08.1 -0.4
BCIG La Boquilla 15.48 323 P **P** 12 31 15.2 +1.9
BCIG La Boquilla 15.48 323 *e*P **P** 12 31 11.3 -2.0
JCT Junction City 15.60 344 Pn **Pn** 12 31 11.5 +0.9
JCT IAmb IAmb 12 31 20.2
comp=Z,97nm,0.9s
JCT Junction City 15.60 344 *e*P **Pn** 12 31 11.2 +0.5
JCT Junction City 15.60 344 P **Pn** 12 31 11.5 +0.9
SAND Sanderson 15.87 337 **Pn** 12 31 15.8 +1.7
SAND IAmb IAmb 12 31 21.8
comp=Z,141nm,1.4s
TXAR Lajitas Array 15.99 331 **P** 12 31 17.4 -1.5
TXAR Lajitas Array 15.99 331 Pn **Pn** 12 31 16.1 +0.4
comp=Z,0.8nm,0.3s,baz=154,slow=11,SNR=128
TXAR LR LR 12 37 34.7
comp=Z,571nm,18.2s,baz=154,slow=38
comp=Z,27nm,1.0s

TX31 Lajitas Ar. Si 15.99 331 **P** 12 31 17.4 -1.5
BRDY Brady 16.18 347 Pn **Pn** 12 31 18.4 +0.3
BRDY IAmb IAmb 12 31 28.0
comp=Z,87nm,0.8s
NATX Nacogdoches 16.22 1 **Pn** 12 31 17.5 -1.0
NATX IAmb IAmb 12 31 23.7
comp=Z,120nm,0.9s
SLBS Sierra La Lagu 16.35 302 P **P** 12 31 24.7 +1.9
SLBS Sierra La Lagu 16.35 302 *e*P **P** 12 31 25.9 +3.0
OZNA Ozona 16.40 341 Pn **Pn** 12 31 21.9 +1.0
237A Washetta, Mont 16.48 357 **Pn** 12 31 21.2 -0.6
237A IAmb IAmb 12 31 27.3
comp=Z,322nm,1.4s
346A Big Creek Wild 16.61 16 **Pn** 12 31 22.1 -1.3
346A IAmb IAmb 12 31 27.8
comp=Z,203nm,1.0s
WHTX Lake Whitney, 16.61 352 **Pn** 12 31 23.8 +0.4
TSIG Topolobambo 16.62 310 *e*P **Pn** 12 31 18.1 -5.5
061Z Ochoppi 16.68 49 **Pn** 12 31 23.6 -0.7
MCJ Malvern 16.68 79 *i* P **Pn** 12 31 22.6 -1.9
LPIG La Paz 16.83 303 Pn **P** 12 31 27.9 -0.2
comp=Z,1.2nm,0.3s,baz=207,slow=0.5,SNR=7.5
LPIG LR LR 12 37 21.0
comp=Z,2μm,18.4s,baz=128,slow=35
comp=Z,6.6nm,0.6s
LPIG La Paz 16.83 303 *e*P **P** 12 31 33.4 +5.2
MTDJ Mount Denham 16.86 78 *i* P **Pn** 12 31 26.6 -0.1
CSIG Choix 16.88 314 P **P** 12 31 29.5 +0.9
CSIG Choix 16.88 314 *e*P **P** 12 31 29.5 +0.9
FW13 Cleburne 16.96 353 P **Pn** 12 31 28.3 +0.4
VBMS Vicksburg 17.15 13 P **Pn** 12 31 30.1 -0.1
VBMS IAmb IAmb 12 31 38.6
comp=Z,148nm,1.2s
BRAL Brewton 17.20 23 P **Pn** 12 31 30.8 -0.1
BRAL IAmb IAmb 12 31 36.1
comp=Z,242nm,1.1s
TREL Terrell 17.22 357 P **Pn** 12 31 30.5 -0.6
TREL IAmb IAmb 12 31 40.8
comp=Z,155nm,0.8s
PILO Pilon 17.25 73 *e*P **Pn** 12 31 30.9 -0.7
451A Vernon 17.26 28 **Pn** 12 31 30.2 -1.4
451A IAmb IAmb 12 31 34.9
comp=Z,239nm,1.1s
SGCY Sterling City 17.33 342 P **P** 12 31 33.2 -0.5
SGCY IAmb IAmb 12 31 39.3
comp=Z,165nm,0.8s
MNHN Monahans 17.35 337 P **P** 12 31 33.6 -0.4
FW07 Weatherford 17.36 352 P **Pn** 12 31 32.9 +0.1
143A Socs Landing, 17.45 10 **Pn** 12 31 33.3 -0.7
143A IAmb IAmb 12 31 42.1
comp=Z,199nm,1.5s
STH Stony Hill 17.52 79⇑ *i*P **P** 12 31 37.3 +1.4
553A Crawfordville 17.53 32 P **Pn** 12 31 33.7 -1.2
553A IAmb IAmb 12 31 39.6
comp=Z,112nm,0.7s
PLPT Palo Pinto 17.54 350 P **Pn** 12 31 35.4 +0.3
PLPT IAmb IAmb 12 31 43.0
comp=Z,223nm,0.9s
FW06 Azle 17.59 353 P **Pn** 12 31 35.6 -0.1
ABTX Abilene, Hawle 17.61 347 P **P** 12 31 36.6 -0.2
LMGC Las Mercedes 17.65 72 *e*P **Pn** 12 31 33.6 -2.9
Z38A Mt. Pleasant 17.71 360 P **Pn** 12 31 36.8 -0.4
DWPF Disney Wildern 17.72 43 P **Pn** 12 31 35.8 -1.5
DWPF IAmb IAmb 12 31 45.4
comp=Z,159nm,1.0s
DWPF Disney Wildern 17.72 43 *e*P **Pn** 12 31 32.3 -5.1
Z41A Richland Creek 17.82 6 P **Pn** 12 31 37.6 -0.8
Z41A IAmb IAmb 12 31 41.7
comp=Z,130nm,0.8s
PECS Pecos 17.82 334 P **P** 12 31 39.9 +0.8
VHRN Van Horn 17.82 331 P **P** 12 31 40.2 +0.9
146A Union 17.90 16 P **P** 12 31 39.8 -0.1
146A IAmb IAmb 12 31 43.9
comp=Z,295nm,1.3s
Z35A Perchaven, San 17.91 354 P **P** 12 31 41.0 +1.0
656A Willston 17.93 37 P **Pn** 12 31 38.4 -1.5
656A IAmb IAmb 12 31 45.4
comp=Z,141nm,1.0s
ODSA Odessa 17.98 339 P **Pn** 12 31 40.6 0.0
SN05 Snyder 5 18.16 344 P **Pn** 12 31 42.6 -0.2
SN05 IAmb IAmb 12 31 53.4
comp=Z,185nm,0.9s
CHIV Chivirico 18.18 73 P **Pn** 12 31 41.7 -1.3
CHIV IAmb IAmb 12 31 45.8
comp=Z,106nm,1.2s
WLAR White Oak Lake 18.21 5 P **P** 12 31 43.5 +0.1
WLAR IAmb IAmb 12 31 53.7
comp=Z,179nm,1.0s
250A Grady 18.23 24 P **P** 12 31 43.3 -0.2
250A IAmb IAmb 12 31 49.1
comp=Z,166nm,1.3s
352A Blakely 18.36 28 P **P** 12 31 44.5 -0.5
352A IAmb IAmb 12 31 47.3
comp=Z,198nm,1.0s
SN07 Snyder 07 18.36 344 P **P** 12 31 44.8 -0.2
SN07 IAmb IAmb 12 31 54.3
comp=Z,359nm,1.8s
APMT Aspermont 18.40 346 P **Pn** 12 31 46.1 +0.5
APMT IAmb IAmb 12 31 48.8
comp=Z,186nm,1.2s
WTFS Witchita Falls 18.50 351 P **Pn** 12 31 47.1 +0.2
POST Post 18.51 342 P **Pn** 12 31 47.2 +0.1
POST IAmb IAmb 12 31 51.1
comp=Z,94nm,0.9s
CCAR Cane Creek 18.59 8 P **Pn** 12 31 48.1 +0.2
CCAR IAmb IAmb 12 31 55.6
comp=Z,182nm,1.3s
CLNB Carlsbad 18.61 336 P **Pn** 12 31 49.1 +0.9
Z47A Carrollton 18.71 18 P **P** 12 31 48.0 -0.8
CLN7 Carlsbad 7 18.71 336 P **Pn** 12 31 50.1 +0.6
MNTX Cornudas Mount 18.77 331 *e*P **Pn** 12 31 50.7 +0.5
PINC Pinares de May 18.85 72 *e*P **Pn** 12 31 53.7 +2.5
LRAL Lakeview Retre 18.91 21 P **P** 12 31 50.6 -0.3
DKNS Dickens 18.92 344 P **Pn** 12 31 51.9 0.0
DKNS IAmb IAmb 12 31 55.2
comp=Z,144nm,0.9s
Y45A Yeager Farm, C 18.95 14 P **P** 12 31 51.4 0.0
TIGA Tifton 18.96 31 P **P** 12 31 51.6 0.0
TIGA IAmb IAmb 12 31 57.1
comp=Z,110nm,1.0s
X40A Basin Creek Fa 19.03 5 P **P** 12 31 52.7 +0.4
MIAR Mount Ida 19.04 3 P **P** 12 31 52.5 +0.2
MIAR IAmb IAmb 12 32 05.6
comp=Z,70nm,0.9s
MIAR Mount Ida 19.04 3 P **P** 12 31 52.5 +0.2
X34A Smith Ranch, M 19.23 353 P **Pn** 12 31 55.2 -0.5
UALR University of 19.36 6 P **P** 12 31 54.8 -1.2
UALR IAmb IAmb 12 32 07.2
comp=Z,65nm,0.9s
EPT El Paso 19.37 329 P **Pn** 12 31 58.2 +0.7
GTBY Guantanamo Bay 19.37 74 *e*P **P** 12 31 53.6 -2.6
APAC Apartado, Choc 19.45 111 P **Pn** 12 31 58.6 +0.2
comp=Z,60nm,1.1s
WMOK Wichita Mounta 19.50 350 P **Pn** 12 31 58.2 -0.7
WMOK IAmb IAmb 12 32 10.2
comp=Z,91nm,1.0s
WMOK Wichita Mounta 19.50 350 P **Pn** 12 31 58.2 -0.7
QMBU Quimbuelo 19.70 73 *e*P **P** 12 31 57.0 -2.8
MSTX Muleshoe 19.74 340 P **Pn** 12 32 01.6 -0.2
FNO Franklin 19.83 354 P **P** 12 32 01.4 +0.3
WHAR Wooly Hollow 19.88 6 P **P** 12 32 00.4 -1.2
WHAR IAmb IAmb 12 32 16.1
comp=Z,123nm,1.5s
OKCSW OKLAHOMA CITY 19.98 354 P **P** 12 32 02.6 -0.1
NZIG Nacozari, Sono 20.02 320 P Pn 12 32 05.1 -0.1
NZIG Nacozari, Sono 20.02 320 *e*P Pn 12 32 05.1 -0.1
PLAL Pickwick Lake 20.38 16 P **P** 12 32 05.1 -1.9
PLAL IAmb IAmb 12 32 22.5
comp=Z,136nm,1.6s
UREC San Jos de Ur 20.46 110 P **P** 12 32 06.5 -1.6
comp=Z,545nmcomp=Z,47nm,0.7s
GR1C Gorgona, Isla 20.62 125 P **P** 12 32 10.5 +0.6
GOGA Godfrey 20.65 28 P Pn 12 32 12.4 0.0
HHAR Hobbs 20.75 2 P **P** 12 32 09.5 -1.5
HHAR IAmb IAmb 12 32 16.2
comp=Z,51nm,0.8s
FPAL Fort Paine 20.75 22 P **P** 12 32 09.9 -1.3
CBOC Ciudad Bolivar 20.86 115 P **P** 12 32 13.5 +0.9
comp=Z,1μmcomp=Z,129nm,1.0s
PLMC San Jos del P 21.10 118 P **P** 12 32 17.6 +2.5
comp=Z,872nmcomp=Z,39nm,0.7s
HELC Santa Helena 21.13 114 P **P** 12 32 18.7 +3.0
comp=Z,714nmcomp=Z,47nm,1.4s
CRNM Carthage 21.28 332 P **P** 12 32 18.4 +1.4

UTMT University of 21.48 13 P **P** 12 32 17.4 -1.4
WVT Waverly 21.53 16 P **P** 12 32 19.5 +0.1
YOTC Yotoco, Valle 21.54 120 P **P** 12 32 21.2 +1.4
comp=Z,437nmcomp=Z,33nm,0.7s
LENM Lemitar 21.56 332 P **P** 12 32 22.1 +2.1
JAMC Jamundi, Valle 21.70 122 P **P** 12 32 23.1 +1.5
comp=Z,602nmcomp=Z,48nm,0.9s
GUY2C Guyana, Caldas 21.73 116 P **P** 12 32 24.4 +2.1
comp=Z,2μmcomp=Z,167nm,0.7s
PTBC PUERTO BERRIO, 21.93 112 P **P** 12 32 23.1 -0.8
comp=Z,481nmcomp=Z,35nm,0.9s
BBAC Balboa, Cauca 21.95 126 P **P** 12 32 26.3 +1.9
comp=Z,689nmcomp=Z,59nm,0.8s
ANMO Albuquerque 22.00 334 P **P** 12 32 25.9 +1.3
ANMO Albuquerque 22.00 334 P **P** 12 32 26.0 +1.4
comp=Z,13nm,0.9s,baz=309,slow=12,SNR=39
comp=Z,13nm,0.9s
ANMO Albuquerque 22.00 334 *e*P **P** 12 32 26.1 +1.4
ANMO Albuquerque 22.00 334 *i* P **P** 12 32 26.2 +1.5
ANMO pmax pmax
comp=Z,16nm,1.0s
NORC Norcasia 22.00 114 P **P** 12 32 25.2 +0.4
comp=Z,920nmcomp=Z,81nm,1.0s
POPC Popayan, Colom 22.09 124 P **P** 12 32 27.3 +1.4
comp=Z,643nmcomp=Z,62nm,1.2s
TUC Tucson 22.13 322 P **P** 12 32 27.7 +1.7
TUC IAmb IAmb 12 32 42.6
comp=Z,86nm,1.4s
TUC Tucson 22.13 322 *e*P **P** 12 32 27.1 +1.1
TUC Tucson 22.13 322 P **P** 12 32 27.7 +1.7
T45A Paducah 22.18 13 P **P** 12 32 24.5 -1.8
OTAV Otavalo 22.21 131 P **P** 12 32 30.7 +3.3
OTAV Otavalo 22.21 131 *e*P **P** 12 32 28.2 +0.8
OTAV Otavalo 22.21 131 P **P** 12 32 28.2 +0.8
comp=Z,29nm,1.3s
GCUF Volcan Galeras 22.38 128 P **P** 12 32 31.3 +2.1
comp=Z,1μmcomp=Z,84nm,1.6s
TKL Tuckaleechee C 22.44 24 P **P** 12 32 28.5 -0.8
TKL Tuckaleechee C 22.44 24 LR LR 12 44 04.5
comp=Z,1μm,18.0s,baz=199,slow=45
TKL Tuckaleechee C 22.44 24 P **P** 12 32 28.5 -0.8
ORTC Ortega, Tolima 22.50 119 P **P** 12 32 33.6 +3.5
comp=Z,2μmcomp=Z,169nm,1.1s
CCM Cathedral Cave 22.73 8 P **P** 12 32 30.9 -1.4
ROSC El Rosal 22.83 115 P **P** 12 32 36.2 +2.3
ROSC El Rosal 22.83 115 P **P** 12 32 36.2 +2.3
comp=Z,85nm,0.7s,baz=232,slow=2.0,SNR=47
ROSC El Rosal 22.83 115 P **P** 12 32 37.2 +3.3
comp=Z,2μmcomp=Z,195nm,1.2s
V53A Saluda 22.85 26 P **P** 12 32 32.5 -1.1
V53A IAmb IAmb 12 32 43.2
comp=Z,64nm,1.0s
PRAC Prado 22.91 119 P **P** 12 32 37.9 +3.5
comp=Z,970nmcomp=Z,64nm,1.4s
BETC Betania 23.01 122 P **P** 12 32 38.5 +3.1
BARC Barichara 23.06 110 P **P** 12 32 40.0 +3.9
KMSC Kings Mountain 23.07 29 P **P** 12 32 36.0 +0.2
T25A Trinidad 23.18 340 P **P** 12 32 38.4 +1.3
PIAT Ana Tenorio 23.20 133 P **P** 12 32 41.2 +3.4
comp=Z,677nmcomp=Z,24nm,0.9s
GARC Garzon, Huila 23.25 123 P **P** 12 32 40.7 +2.6
comp=Z,806nmcomp=Z,55nm,1.2s
CHIC Chingaza 23.44 115 P **P** 12 32 45.3 +5.2
comp=Z,3μmcomp=Z,269nm,1.1s
RUSC La Rusia 23.44 112 P **P** 12 32 41.2 +1.0
RUSC La Rusia 23.44 112 P **P** 12 32 41.5 +1.3
RUSC La Rusia 23.44 112 P **P** 12 32 40.3 +0.1
comp=Z,1μmcomp=Z,110nm,1.2s
FLOC Florencia 23.48 124 P **P** 12 32 42.2 +2.1
FLOC IAmb IAmb 12 33 00.1
comp=Z,130nm,1.3s
FLOC Florencia 23.48 124 P **P** 12 32 41.8 +1.7
comp=Z,755nmcomp=Z,72nm,1.3s
URMC La Uribe, Meta 23.58 119 P **P** 12 32 42.4 +1.2
comp=Z,642nmcomp=Z,43nm,1.1s
COHC Cochancay 23.61 138 P **P** 12 32 42.9 +1.6
comp=Z,1μmcomp=Z,22nm,1.0s
V55A Taylorsville 23.71 29 P **P** 12 32 42.8 +0.7
V55A IAmb IAmb 12 33 00.4
comp=Z,108nm,1.1s
WCI Wyandotte Cave 23.91 17 P **P** 12 32 42.6 -1.4
SDV Santo Domingo 24.60 103 LR LR 12 44 17.7
comp=Z,754nm,19.8s,baz=296,slow=41
SDV Santo Domingo 24.60 103 *e*P **P** 12 32 50.4 -0.3
MACC Macarena, Meta 24.62 120 P **P** 12 32 53.6 +2.8
comp=Z,861nmcomp=Z,90nm,0.7s
PTLC Puerto Leguiza 25.01 126 P **P** 12 32 59.4 +5.2
PTGC Puerto Gaitan, 25.05 114 P **P** 12 32 59.7 +5.2
comp=Z,2μmcomp=Z,146nm,1.4s
Q24A Divide 25.08 341 P **P** 12 32 56.3 +1.3
Q24A IAmb IAmb 12 33 17.6
comp=Z,47nm,1.3s
GLA Glamis 25.14 318 P **P** 12 32 55.4 0.0
GLA IAmb IAmb 12 33 19.4
comp=Z,42nm,0.9s
S54A Dingess, Beckl 25.29 26 P **P** 12 32 57.5 +0.9
S54A IAmb IAmb 12 33 23.5
comp=Z,99nm,1.7s
PV07 Paradox Valley 25.89 335 P **P** 12 33 03.8 +1.5
PV07 IAmb IAmb 12 33 16.0
comp=Z,79nm,1.2s
CBX Cerro Bola 25.93 314 *e*P P 12 33 21.9 +19
ISCO Idaho Springs 25.99 341 P **P** 12 33 03.9 +0.7
ISCO Idaho Springs 25.99 341 P **P** 12 33 05.0 +1.8
PV23 Carpenter Ridg 26.05 334 P **P** 12 33 04.8 +1.0
OGNE Ogallala 26.13 348 P **P** 12 33 04.5 +0.3
SCIA State Center 26.39 3 P **P** 12 33 04.9 -1.6
PFO Pinyon Flats O 26.56 317 LR LR 12 43 48.3
comp=Z,1μm,19.2s,baz=132,slow=37
PFO Pinyon Flats O 26.56 317 *c*eP **P** 12 33 08.4 +0.1
KNB Kanab 26.72 327 P **P** 12 33 11.0 +1.4
KNB IAmb IAmb 12 33 48.3
comp=Z,31nm,1.0s
L42A Oliver, Polo 26.83 9 P **P** 12 33 08.9 -1.5
L42A IAmb IAmb 12 33 45.0
comp=Z,46nm,0.9s
LCMT Little Creek M 26.94 326 P **P** 12 33 12.5 +0.9
BAUV El Baul 27.03 101 P **P** 12 33 11.9 -0.6
BAUV IAmb IAmb 12 33 14.9
comp=Z,41nm,0.8s
O20A White River Ci 27.19 337 P **P** 12 33 14.6 +0.6
O20A IAmb IAmb 12 33 33.2
comp=Z,37nm,1.1s
SRU San Rafael Swe 27.25 333 P **P** 12 33 15.2 +0.7
K30B Basset 27.41 352 P **P** 12 33 15.8 +0.1
SHPR Sheep Range 27.64 323 P **P** 12 33 18.4 +0.4
SJG San Juan 27.65 80 LR LR 12 44 02.1
comp=Z,368nm,21.5s,baz=264,slow=36
TMUT Trail Mountain 27.71 332 P **P** 12 33 19.4 +0.7
N53A Lisbon 28.05 23 P **P** 12 33 21.3 -0.1
N53A IAmb IAmb 12 33 56.3
comp=Z,61nm,1.2s
PSUT Pine Spring 28.39 328 P **P** 12 33 25.6 +0.8
I37A Lemond, Waseca 28.48 2 P **P** 12 33 23.9 -1.3
SPR3 Spring Creek 3 28.99 328 P **P** 12 33 31.1 +0.9
SUSD Miller 29.09 354 P **P** 12 33 29.8 -0.8
SUSD IAmb IAmb 12 34 27.7
comp=Z,50nm,0.9s
R11B Troy Canyon, C 29.18 325 P **P** 12 33 33.0 +1.3
GRAC Grapevine Rang 29.28 321 P **P** 12 33 32.7 +0.2
TCUT Toone Canyon 29.29 334 P **P** 12 33 33.5 +0.8
TCUT IAmb IAmb 12 34 04.8
comp=Z,39nm,1.0s
MZP Montezuma Peak 29.76 322 P **P** 12 33 37.8 +0.9
HWUT Hardware Ranch 29.76 334 P **P** 12 33 36.8 0.0
BGU Big Grassy Mou 29.85 332 P **P** 12 33 38.5 +1.0
DSP Deep Springs 29.89 321 P **P** 12 33 38.9 +1.2
PCRV Puerto La Cruz 29.96 96 LR LR 12 47 04.3
comp=Z,681nm,20.5s,slow=39
PD31 Pinedale Array 29.97 338 P **P** 12 33 39.2 +0.5
PDAR Pinedale Array 29.97 338 P **P** 12 33 39.1 +0.5
comp=Z,2.7nm,1.0s,baz=145,slow=11,SNR=11
PDAR LR LR 12 46 33.1
comp=Z,292nm,20.1s,baz=148,slow=38
comp=Z,2.7nm,1.0s
HVU Hansel Valley 30.42 333 P **P** 12 33 43.6 +1.0
AHID Auburn Hatcher 30.55 336 P **P** 12 33 43.6 -0.1
AHID IAmb IAmb 12 34 26.1
comp=Z,30nm,1.2s
ELK Elko 30.76 329 P **P** 12 33 46.7 +1.0
ELK Elko 30.76 329 LR LR 12 47 47.2
comp=Z,869nm,21.8s,baz=148,slow=40
ELK Elko 30.76 329 P **P** 12 33 46.7 +1.0
NVAR Mina Array Bea 30.78 322 P **P** 12 33 47.9 +2.0
comp=Z,8.1nm,0.9s,baz=137,slow=8.7,SNR=43

NVAR LR LR 12 45 34.6
comp=Z,909nm,21.4s,baz=142,slow=35
comp=Z,8.1nm,0.9s
LHV Little Huntoon 30.78 322 P **P 12 33 48.0 +2.4**
LHV IAmb IAmb 12 34 19.7
comp=Z,23nm,1.0s
SNOW Snow King Moun 31.01 337 P **P 12 33 48.8 +0.9**
SNOW IAmb IAmb 12 34 03.7
comp=Z,41nm,0.9s
RYN Ryan 31.04 323 P **P 12 33 49.7 +1.6**
TPAW Teton Pass 31.11 337 P **P 12 33 49.2 +0.5**
TPAW IAmb IAmb 12 34 16.3
comp=Z,40nm,1.1s
MOOW Moose Ponds 31.25 338 P **P 12 33 50.3 +0.3**
FXWY Fox Creek 31.26 337 P **P 12 33 50.7 +0.6**
E28A Huff 31.39 352 P **P 12 33 51.1 +0.2**
TBTG Tabatinga, AM 31.53 126 *eP* **P 12 33 53.0 +0.6**
CMB Columbia Colle 31.79 320 P **P 12 33 56.8 +2.2**
CMB Columbia Colle 31.79 320 P **P 12 33 56.8 +2.2**
LKWY Lake 31.84 339 P **P 12 33 55.9 +0.7**
LKWY IAmb IAmb 12 34 40.8
comp=Z,19nm,1.2s
LKWY Lake 31.84 339 P **P 12 33 55.9 +0.7**
CZSB Cruzeiro do Su 31.86 135 P **P 12 33 57.4 +2.1**
CZSB IAmb IAmb 12 34 08.0
comp=Z,31nm,1.0s
CZSB Cruzeiro do Su 31.86 135 *eP* **P 12 33 55.1 -0.2**
RLMT Red Lodge 31.95 341 P **P 12 33 56.1 0.0**
RLMT IAmb IAmb 12 34 14.3
comp=Z,52nm,1.6s
PNTR Pine Nut 31.98 322 P **P 12 33 56.7 +0.3**
PNTR IAmb IAmb 12 34 28.3
comp=Z,18nm,0.9s
YNE Yellowstone No 32.09 340 P **P 12 33 57.7 +0.3**
YNE IAmb IAmb 12 34 20.6
comp=Z,15nm,0.9s
SADO Sadowa 32.11 21 LR LR 12 49 20.3
comp=Z,677nm,19.7s,baz=232,slow=41
YMR Madison River 32.13 338 P **P 12 33 58.2 +0.5**
YMR IAmb IAmb 12 34 39.2
comp=Z,20nm,0.9s
NNA Nana 32.62 146 LR LR 12 44 53.1
comp=Z,645nm,21.3s,baz=338,slow=32
PLID Pearl Lake 34.48 333 P **P 12 34 18.4 +0.2**
PLID IAmb IAmb 12 34 26.0
comp=Z,21nm,1.0s
ULM Lac du Bonnet 34.70 359 P **P 12 34 19.1 -0.7**
comp=Z,11nm,0.7s,baz=175,slow=9.7,SNR=21
ULM LR LR 12 52 08.0
comp=Z,388nm,18.9s,baz=154,slow=43
comp=Z,11nm,0.7s
ULM Lac du Bonnet 34.70 359 *i P* **P 12 34 17.9 -1.8**
EGMT Eagleton 34.70 342 P **P 12 34 19.8 -0.1**
EGMT IAmb IAmb 12 34 49.3
comp=Z,30nm,1.1s
BMO Blue Mountains 34.87 332 P **P 12 34 22.1 +0.6**
MSO Missoula 35.06 337 P **P 12 34 23.1 0.0**
MSO IAmb IAmb 12 34 40.4
comp=Z,18nm,1.2s
TEFE Tefe 35.41 120 *eP* **P 12 34 24.9 -1.3**
YBH Yreka Blue Hor 35.49 323 LR LR 12 49 34.8
comp=Z,782nm,18.5s,baz=148,slow=37
PINE Pine Mountain 35.88 327 P **P 12 34 30.9 +0.7**
BOAV Boa Vista 36.29 108 *eP* **P 12 34 34.7 +0.8**
D08A Wollman Farm, 37.29 333 P **P 12 34 42.7 +0.8**
D08A IAmb IAmb 12 34 56.8
comp=Z,46nm,1.9s
HOOD Mount Hood Mea 37.31 328 P **P 12 34 43.5 +1.2**
HOOD IAmb IAmb 12 35 04.3
comp=Z,38nm,1.0s
NEW Newport 37.47 335 P **P 12 34 43.7 +0.2**
NEW Newport 37.47 335 LR LR 12 52 41.9
comp=Z,944nm,18.1s,baz=158,slow=40
NEW Newport 37.47 335 P **P 12 34 44.2 +0.7**
LTY Liberty 38.23 331 P **P 12 34 50.6 +0.7**
MACA Manacapuru-AM 38.60 116 P **P 12 34 52.3 -1.1**
MACA Manacapuru-AM 38.60 116 *eP* **P 12 34 53.7 +0.3**
FFC Flin Flon 39.56 354 P **P 12 35 00.7 -0.2**
FFC Flin Flon 39.56 354 P **P 12 35 00.5 -0.4**
FFC pP **pP 12 35 08.8 -1.4**
A04D Lummi Island 40.23 331 P **P 12 35 07.3 +0.7**
A04D IAmb IAmb 12 35 18.7
comp=Z,51nm,1.1s
LPAZ La Paz 41.16 139 P **P 12 35 15.8 +0.4**
LPAZ La Paz 41.16 139 P **P 12 35 15.7 +0.4**
comp=Z,5.1nm,0.7s,baz=339,slow=5.7,SNR=24
LPAZ LR LR 12 51 49.8
comp=Z,359nm,20.9s,baz=316,slow=36
comp=Z,5.1nm,0.7s
LPAZ La Paz 41.16 139 *eP* **P 12 35 16.6 +1.3**
LPAZ La Paz 41.16 139 P **P 12 35 16.4 +1.1**
MDP Montagnes des 42.76 99 LR LR 12 55 24.1
comp=Z,579nm,20.0s,baz=288,slow=39
FCC Fort Churchill 43.23 1 P **P 12 35 30.2 -0.7**
FCC IAmb IAmb 12 35 34.6
comp=Z,59nm,1.6s
FCC Fort Churchill 43.23 1 P **P 12 35 30.2 -0.7**
ITTB Itaituba 43.51 114 *eP* **P 12 35 32.9 -0.9**
VILB Vilhena 44.46 128 *eP* **P 12 35 41.7 +0.2**
PB09 IPOC Station P 44.78 145 P **P 12 35 45.8 +1.7**
PB09 IAmb IAmb 12 36 04.1
comp=Z,20nm,1.0s
SCHQ Schefferville 44.90 23 P **P 12 35 43.5 -0.9**
comp=Z,4.8nm,0.9s,baz=197,slow=11,SNR=3.8
SCHQ LR LR 12 57 07.5
comp=Z,1μm,18.8s,baz=250,slow=40
comp=Z,4.8nm,0.9s
NPGB Novo Progresso 45.12 117 *eP* **P 12 35 45.7 -1.0**
BBB Bella Bella 45.12 332 LR LR 12 54 02.9
comp=Z,534nm,20.2s,baz=158,slow=35
SIV San Ignacio 45.75 132 LR LR 12 54 07.5
comp=Z,535nm,21.1s,baz=321,slow=35
PDRB Porto dos Gac 46.40 123 *eP* **P 12 35 57.5 +0.7**
PB14 IPOC Station P 46.47 149 P **P 12 35 58.9 +1.3**
PB14 IAmb IAmb 12 36 09.2
comp=Z,21nm,1.2s
CLDB Colider 46.75 122 *eP* **P 12 35 59.1 -0.5**
PTLB Pontes e Lacer 46.82 129 *eP* **P 12 36 00.5 +0.4**
GO02 Mina Guanaco 47.33 148 P **P 12 36 05.5 +1.3**
GO02 IAmb IAmb 12 36 07.2
comp=Z,20nm,0.7s
YKA Yellowknife Ar 48.99 348 P **P 12 36 15.4 -0.8**
YKA Yellowknife Ar 48.99 348 P **P 12 36 16.1 -0.1**
comp=Z,8.1nm,0.8s,baz=157,slow=7.1,SNR=54
YKA LR LR 13 00 46.6
comp=Z,277nm,18.8s,baz=146,slow=41
comp=Z,8.1nm,0.8s
PRPB Paraúapebas 49.57 112 *eP* **P 12 36 21.2 -0.2**
TMAB Tom-Au,PA,Br 49.58 107 *eP* **P 12 36 22.6 +1.1**
SALV Santo Antonio 49.71 127 *eP* **P 12 36 22.6 +0.2**
LCO Las Campanas 50.03 152 P **P 12 36 26.2 +1.3**
LCO Las Campanas 50.03 152 P **P 12 36 26.6 +1.7**
LCO pP **pP 12 36 35.1 +0.8**
AC05 El Transito 50.07 152 P **P 12 36 26.9 +1.8**
AC05 IAmb IAmb 12 36 27.9
comp=Z,15nm,0.7s
DLBC Dease Lake 50.19 337 P **P 12 36 26.9 +1.4**
DLBC IAmb IAmb 12 37 03.3
comp=Z,24nm,1.2s
DLBC Dease Lake 50.19 337 LR LR 12 58 29.3
comp=Z,526nm,18.4s,baz=152,slow=37
SNDB Serra Nova Dou 51.06 120 *eP* **P 12 36 33.3 +0.6**
CO01 Juntas del Tor 51.12 152 P **P 12 36 34.2 +1.1**
CO01 IAmb IAmb 12 36 35.6
comp=Z,66nm,1.9s
R33M Jennings River 51.20 337 P **P 12 36 33.9 +0.6**
R33M IAmb IAmb 12 37 17.7
comp=Z,19nm,1.1s
FRB Frobisher Bay 51.57 15 LR LR 13 01 12.3
comp=Z,406nm,18.5s,baz=234,slow=39
BDQN Bodoquena, MS 51.76 132 *eP* **P 12 36 37.5 -0.3**
AQDB Aquidauana 52.53 132 P **P 12 36 43.3 -0.3**
AQDB Aquidauana 52.53 132 *eP* **P 12 36 43.5 -0.1**
ARAG Araguaiana, MT 52.64 124 *eP* **P 12 36 44.4 0.0**
ZON Zonda 53.09 152 P **P 12 36 49.5 +1.9**
ZON IAmb IAmb 12 36 59.6
comp=Z,44nm,1.6s
RPRD Ribas do Rio P 53.99 130 *eP* **P 12 36 54.7 +0.5**
N31M Braeburn, Yuko 54.38 337 P **P 12 36 57.4 +0.8**
N31M IAmb IAmb 12 37 12.9
comp=Z,23nm,1.1s
LMEL Las Melosas 54.40 155 P **P 12 36 58.3 +1.1**
LMEL IAmb IAmb 12 37 00.2
comp=Z,24nm,0.8s
AMBA Amambai (Brazi 54.61 133 *eP* **P 12 36 58.8 0.0**

SJPY San Joaquin 55.22 136 *eP* **P 12 37 02.9 -0.2**
CPUP Villa Florida 55.33 138 P **P 12 37 03.6 -0.2**
comp=Z,3.1nm,0.6s,baz=331,slow=7.9,SNR=11
CPUP LR LR 13 01 01.9
comp=Z,261nm,19.9s,baz=329,slow=36
comp=Z,3.1nm,0.6s
CPUP Villa Florida 55.33 138 *eP* **P 12 37 03.6 -0.2**
CPUP Villa Florida 55.33 138 P **P 12 37 03.3 -0.5**
CPUP pP **pP 12 37 11.7 -1.8**
M30M Minto, Yukon 55.44 338 P **P 12 37 05.0 +0.8**
M30M IAmb IAmb 12 37 18.3
comp=Z,21nm,1.4s
BDFB Brasília 55.68 122 P **P 12 37 06.5 -0.3**
comp=Z,10nm,0.6s,baz=293,slow=10,SNR=23
comp=Z,10nm,0.6s
ITRB Iturama 56.04 127 *eP* **P 12 37 09.8 +0.6**
BI02 San Fabin de 56.45 157 P **P 12 37 13.1 +1.3**
BI02 IAmb IAmb 12 37 38.0
comp=Z,26nm,1.2s
SDBA SAO DESIDERIO 56.71 116 *eP* **P 12 37 14.2 +0.2**
IPMB Ipameri, GO 56.76 124 *eP* **P 12 37 15.2 +0.8**
G31M Satah River 57.49 343 P **P 12 37 18.6 -0.1**
G31M IAmb IAmb 12 37 32.5
comp=Z,24nm,1.0s
BCAR Beaver Creek A 57.58 337 P **P 12 37 19.6 +0.1**
LDASE Londrina, Braz 57.66 131 *eP* **P 12 37 19.9 -0.7**
PTGB Pitanga 57.81 133 *eP* **P 12 37 21.0 -0.6**
BB19B Bebedouro 58.23 127 *eP* **P 12 37 24.6 0.0**
INK Inuvik 58.26 344 P **P 12 37 23.9 -0.1**
INK IAmb IAmb 12 37 37.7
comp=Z,31nm,1.1s
INK Inuvik 58.26 344 LR LR 13 07 02.0
comp=Z,793nm,18.6s,baz=203,slow=41
JANB Januaria 58.47 119 *eP* **P 12 37 28.5 +2.0**
PMNB Patos De Minas 58.48 124 *eP* **P 12 37 27.6 +1.1**
NBPB Pedra_Branca-C 58.63 107 *eP* **P 12 37 28.9 +1.4**
DOT Dot Lake 58.76 337 P **P 12 37 28.6 +0.9**
FRTB Fartura 58.77 130 *eP* **P 12 37 28.1 -0.3**
SFJD Kangerlussuaq 59.00 19 LR LR 13 05 16.5
comp=Z,261nm,18.9s,baz=217,slow=38
SFJD Kangerlussuaq 59.00 19 *i P* P 12 37 36.2 +6.9
SFJD IAmb IAmb 12 37 37.6
comp=Z,18nm,0.8s
RES Resolute Bay 59.22 0 P **P 12 37 30.1 -0.6**
RES IAmb IAmb 12 37 34.3
comp=Z,11nm,0.8s
RES Resolute Bay 59.22 0 LR LR 13 04 51.3
comp=Z,373nm,19.7s,baz=204,slow=38
ITAB Concordia 59.37 135 *eP* **P 12 37 32.8 +0.4**
GHO Glory Hole Cre 59.83 334 P **P 12 37 36.0 +0.8**
PMR Palmer 59.84 333 P **P 12 37 35.4 +0.3**
PMR IAmb IAmb 12 37 48.6
comp=Z,20nm,1.0s
TBOT Tacuaremb 59.96 142 *eP* **P 12 37 36.8 +0.5**
KDAK Kodiak Island 60.00 328 LR LR 13 01 49.5
comp=Z,315nm,21.6s,baz=334,slow=34
PLCA Paso Flores 60.31 159 P **P 12 37 39.7 +1.0**
comp=Z,10nm,0.7s,baz=328,slow=7.9,SNR=34
PLCA LR LR 12 58 45.1
comp=Z,370nm,18.2s,baz=356,slow=31
comp=Z,10nm,0.7s
PLCA Paso Flores 60.31 159 *eP* **P 12 37 40.4 +1.7**
PLCA Paso Flores 60.31 159 P **P 12 37 39.9 +1.2**
IL31 60.40 337 P **P 12 37 38.9 +0.1**
IL31 IAmb IAmb 12 37 52.6
comp=Z,31nm,1.2s
ILAR Eielson Array 60.40 337 P **P 12 37 39.1 +0.2**
comp=Z,3.9nm,1.0s,baz=136,slow=5.8,SNR=23
ILAR LR LR 13 06 01.5
comp=Z,305nm,18.1s,baz=126,slow=38
comp=Z,3.9nm,1.0s
E27K Coleen River 60.46 342 P **P 12 37 39.2 -0.1**
E27K IAmb IAmb 12 37 53.2
comp=Z,25nm,1.3s
SPB Sao Paulo 60.50 129 *eP* **P 12 37 39.8 -0.4**
VAO Valinhos 60.52 128 *eP* **P 12 37 40.9 +0.4**
RND Reindeer 60.52 335 P **P 12 37 40.7 +0.9**
DIAM Diamantina, MG 60.60 122 *eP* **P 12 37 41.7 +0.5**
CPSB Cacapava Do Su 60.61 139 *eP* **P 12 37 40.9 0.0**
COLA College 60.81 337 *i P* **P 12 37 41.2 -0.5**
COLA pmax pmax
comp=Z,15nm,0.9s
UMMG Uummannaq 60.96 15 *i P* P 12 37 49.9 +7.3
UMMG IAmb IAmb 12 37 53.0
comp=Z,24nm,0.9s
NUUG Nuugaatsiaq 61.28 14 *i P* P 12 37 54.1 +9.4
NUUG IAmb IAmb 12 37 54.6
comp=Z,50nm,0.9s
KTH Kantishna Hill 61.42 335 P **P 12 37 45.5 -0.5**
KTH IAmb IAmb 12 38 04.6
comp=Z,18nm,1.0s
PLTB Pedras Altas 61.44 140 *eP* **P 12 37 46.2 -0.2**
UPNV Upernavik 61.52 12 *i P* P 12 37 55.5 +9.1
UPNV IAmb IAmb 12 37 57.2
comp=Z,23nm,1.0s
RCBR Riachuelo 62.15 105 *eP* **P 12 37 52.6 +1.0**
RCBR Riachuelo 62.15 105 P **P 12 37 52.7 +1.1**
TER01 Tubaro-SC 62.24 135 *eP* **P 12 37 52.4 +0.5**
CMC01 Camacan, BA 62.70 117 *eP* **P 12 37 56.0 +0.8**
NBCA Caruaru-PE 62.91 108 *eP* **P 12 37 58.0 +1.3**
PPT Papeete 63.10 241 LR LR 12 58 30.0
comp=Z,345nm,20.7s,baz=85,slow=29
ICESG Greenland Ices 63.60 19 *i P* **P 12 38 02.3 +1.6**
RIB01 Linhares ES 63.80 121 *eP* **P 12 38 01.7 -0.8**
CAM01 Campos-RJ 64.02 124 *eP* **P 12 38 05.1 +1.3**
C23K Itkillik River 64.09 341 P **P 12 38 04.0 +0.5**
SUMG Summit 65.59 16 P **P 12 38 13.8 0.0**
SUMG Summit 65.59 16 *i P* **P 12 38 16.2 +2.4**
SUMG IAmb IAmb 12 38 18.0
comp=Z,12nm,0.7s
BORG Borgarnes 69.13 26 LR LR 13 09 09.4
comp=Z,382nm,18.9s,baz=266,slow=36
PMOZ Porto Moniz, M 71.59 60 *eLR* LR 13 02 10.8
PMOZ *i* AMs_20 13 04 48.2
comp=Z,219nm,20.0s
NOR Nord 73.08 9 *i P* **P 12 39 00.2 +0.8**
NOR IAmb IAmb 12 39 03.5
comp=Z,10nm,0.8s
RAR Rarotonga 73.33 242 LR LR 13 02 11.3
comp=Z,289nm,19.4s,baz=92,slow=28
USHA Ushuaia 73.55 164 LR LR 13 06 26.5
comp=Z,484nm,19.0s,baz=332,slow=32
JMIC Jan Mayen 74.32 20 LR LR 13 13 24.8
comp=Z,475nm,19.4s,baz=262,slow=37
BBTS Babate 75.24 79 LR LR 13 08 23.3
comp=Z,340nm,19.8s,baz=164,slow=33
PGAV Gavieira, Arco 77.37 50 *eP* **P 12 39 26.1 +1.1**
PGAV *eLR* LR 13 07 08.6
PGAV *i* AMs_20 13 09 50.3
comp=Z,399nm,18.0s
PSBE So Bento 77.38 52 *eP* **P 12 39 26.1 +1.1**
PCAS Casmilo, Conde 77.51 52 *eP* **P 12 39 26.2 +0.5**
PCAS *i* Amb 12 39 38.4
comp=Z,42nm,1.9s
PTEO Sao Teotonio 77.77 54 *eP* **P 12 39 30.3 +3.1**
POLO Lamas de Olo 77.82 50 *eP* **P 12 39 28.9 +1.4**
POLO *i* Amb 12 39 32.5
comp=Z,17nm,1.2s
PVIS Viseu 77.86 51 *eP* **P 12 39 27.4 -0.3**
PMTG Montargil 77.89 53 *eP* **P 12 39 27.6 -0.2**
PMTG *i* Amb 12 39 43.2
comp=Z,35nm,1.6s
PVRL Vila Real 77.89 50 *eP* **P 12 39 29.8 +1.9**
MTE Manteigas 78.17 51 *eP* **P 12 39 29.7 +0.2**
MTE *i* Amb 12 39 40.5
comp=Z,44nm,1.3s
MTE *eLR* LR 13 06 46.9
MTE *i* AMs_20 13 10 03.0
comp=Z,379nm,20.0s
PCVE Castro Verde 78.29 54 *eP* **P 12 39 30.3 +0.2**
PCBR Castelo Branco 78.32 52 *eP* **P 12 39 30.8 +0.6**
PCBR *i* Amb 12 39 34.8
comp=Z,35nm,1.2s
PBEJ Beja 78.35 54 *eP* **P 12 39 31.9 +1.5**
MVO Moncorvo 78.42 50 *eP* **P 12 39 31.0 +0.1**
MVO *i* Amb 12 39 36.0
comp=Z,41nm,1.4s
EKA Eskdalemuir Ar 78.42 36 P **P 12 39 29.8 -0.7**
comp=Z,5.9nm,0.6s,baz=273,slow=4.9,SNR=8.7
comp=Z,5.9nm,0.6s
PBDV Barranco-do-Ve 78.45 54 *eP* **P 12 39 31.8 +0.7**
PBDV *i* Amb 12 39 42.1
comp=Z,64nm,1.5s
PMRV Marv??o 78.46 52 *eP* **P 12 39 30.8 -0.2**
PBRG Braganca 78.52 50 *eP* **P 12 39 31.5 +0.1**

PBRG *i* Amb 12 39 42.6
comp=Z,28nm,1.5s
PVAQ Vaqueiros 78.58 54 *eP* **P 12 39 32.6 +0.8**
PVAQ *eLR* LR 13 06 33.5
PBAR Barrancos 78.97 53 *eP* **P 12 39 34.3 +0.5**
BILL Bilibino 79.05 338 *i P* **P 12 39 32.9 -0.8**
BILL pmax pmax
comp=Z,14nm,1.2s
SPITS Spitsbergen Ar 79.21 11 P **P 12 39 34.5 0.0**
comp=Z,5.7nm,0.8s,baz=336,slow=1.8,SNR=4.1
SPITS LR LR 13 19 18.6
comp=Z,427nm,18.1s,baz=228,slow=39
comp=Z,5.7nm,0.8s
ESDC Sonseca Array 81.01 51 P **P 12 39 44.5 -0.4**
comp=Z,12nm,0.9s,baz=292,slow=5.4,SNR=31
ESDC LR LR 13 11 56.7
comp=Z,380nm,18.6s,baz=308,slow=33
comp=Z,12nm,0.9s
MDT Midelt 82.03 58 LR LR 13 12 22.3
comp=Z,161nm,20.6s,baz=306,slow=33
CLF Chambon-Foret 83.36 42 P **P 12 39 57.0 +0.1**
PMSA Palmer Station 83.38 167 LR LR 13 09 05.3
comp=Z,247nm,18.6s,baz=349,slow=30
UCC Uccle 83.90 39 *dP* **P 12 39 59.7 +0.1**
UCC *dPcP* **PcP 12 40 03.4 -0.2**
NB2 NORSAR Subarra 84.19 28 P **P 12 40 01.9 +0.9**
comp=Z,8.7nm,0.9s,baz=293,slow=5.1
NOA NORSAR Array B 84.19 28 P **P 12 40 00.5 -0.5**
comp=Z,1.6nm,0.7s,baz=293,slow=5.0,SNR=12
NOA LR LR 13 17 17.3
comp=Z,343nm,19.6s,baz=285,slow=36
comp=Z,1.6nm,0.7s
DOU Dourbes 84.25 40 *dPcP* **PcP 12 40 04.9 -0.3**
BMRD Maredsous 84.29 39 *dPcP* **PcP 12 40 06.0 +0.6**
BGES Gesves 84.47 39 *dP* **P 12 40 02.8 +0.2**
comp=Z,17nm,0.8s
BCLA Clavier 84.59 39 *dP* **P 12 40 01.4 -1.7**
comp=Z,13nm,1.1s
BCLA *dPcP* **PcP 12 40 07.2 +0.5**
RCHB Rochefort 84.62 39 *dP* **P 12 40 03.6 +0.3**
comp=Z,11nm,1.3s
BSTI Sart Tilman 84.70 39 *dP* **P 12 40 03.6 -0.1**
BSTI *dPcP* **PcP 12 40 07.2 +0.1**
MEM Membach 84.96 39 *dP* **P 12 40 05.2 +0.2**
comp=Z,9.7nm,0.9s
BHOU Houvegnez 85.03 39 *dP* **P 12 40 05.8 +0.4**
comp=Z,9.2nm,1.2s
BTNL Ternell 85.04 39 *dP* **P 12 40 04.0 -1.5**
WLF Walferdange 85.34 40 *dP* **P 12 40 07.7 +0.7**
comp=Z,14nm,1.1s
ARCES ARCESS Array B 85.62 18 P **P 12 40 08.2 +0.2**
comp=Z,4.2nm,0.9s,baz=308,slow=6.0,SNR=6.5
ARCES LR LR 13 19 36.8
comp=Z,395nm,18.6s,baz=298,slow=37
comp=Z,4.2nm,0.9s
HFS Hagfors 85.67 28 P **P 12 40 09.5 +1.1**
comp=Z,3.1nm,0.9s,baz=217,slow=7.2,SNR=4.0
HFS LR LR 13 17 29.6
comp=Z,363nm,20.5s,baz=284,slow=35
comp=Z,3.1nm,0.9s
SEY Seymchan 86.25 335 *i P* **P 12 40 10.6 -0.6**
SEY pmax pmax
comp=Z,12nm,1.3s
PETK Petropavlovsk- 87.84 325 P **P 12 40 20.1 +0.9**
comp=Z,4.4nm,1.1s,baz=61,slow=12,SNR=2.2
comp=Z,4.4nm,1.1s
TIXI Tiksi 88.23 347 LR LR 13 26 09.5
comp=Z,175nm,18.4s,baz=40,slow=40
TIXI Tiksi 88.23 347 *i P* **P 12 40 20.3 -0.3**
TIXI pmax pmax
comp=Z,11nm,1.5s
DBIC Dimbokro 88.30 84 P **P 12 40 21.4 -0.7**
comp=Z,4.7nm,0.8s,baz=271,slow=8.6,SNR=4.9
DBIC LR LR 13 15 08.8
comp=Z,140nm,20.8s,baz=258,slow=32
comp=Z,4.7nm,0.8s
DAVA Damuels 88.48 41 *eP* **P 12 40 22.0 -0.5**
comp=Z,13nm,1.2s
MA2 Magadan 88.51 332 LR LR 13 23 35.4
comp=Z,82nm,18.0s,baz=64,slow=38
MA2 Magadan 88.51 332 *i P* **P 12 40 22.3 +0.1**
MA2 pmax pmax
comp=Z,14nm,1.1s
MA2 Magadan 88.51 332 P **P 12 40 21.1 -1.1**
DAVOX Davos/Dischmat 88.66 42 LR LR 13 18 26.4
comp=Z,275nm,18.8s,baz=252,slow=35
CLL Collm 88.84 37 *eP* P 12 40 29.0 +5.1
CLL *i* *PP sP 12 40 39.3 +1.6
CLL *eS* **S 12 51 13.0 +3.7**
CLL Collm 88.84 37 *eP* **P 12 40 26.0 +2.1**
CLL *e*pP **pP 12 40 33.0 -1.0**
CLL *i* sP **sP 12 40 39.3 +1.6**
comp=Z,9.0nm,1.2s
CLL *eS* **S 12 51 13.0 +3.7**
CLL *e*sPS 12 52 30.0
CLL *e*SS SS 12 56 48.0 -13
RETA Reutte 88.96 41 *eP* **P 12 40 24.8 +0.1**
comp=Z,6.5nm,1.1s
FUORN Ofenpass-Fuorn 88.97 42 P **P 12 40 23.8 -1.2**
FUORN IAmb IAmb 12 40 41.2
comp=Z,8.6nm,0.8s
FETA Feichten 89.11 41 *eP* **P 12 40 25.4 -0.1**
comp=Z,1.8nm,0.8s
MOTA Moosalm 89.23 41 *ePcP* **PcP 12 40 26.9 -0.5**
comp=Z,5.0nm,1.0s
MSSA Maissana 89.31 44 P **P 12 40 25.5 -0.8**
MSSA IAmb IAmb 12 40 30.6
comp=Z,13nm,1.1s
WATA Walderalm 89.53 41 *ePcP* **P 12 40 27.5 +0.1**
comp=Z,1.8nm,0.9s
BRG Berggiesshubel 89.56 37 *eP* **P 12 40 27.6 +0.3**
BRG Amp 12 40 28.7
comp=Z,11nm,1.5s
BRG Berggiesshubel 89.56 37 P P 12 40 37.7 +10
BRG Amp 12 40 38.3
comp=Z,5.8nm,1.0s
KHC Kasperske Hory 90.06 39 *e*pP pP 12 40 40.5 +0.6
KHC Kasperske Hory 90.06 39 *i P* **P 12 40 28.1 -1.6**
KHC pmax pmax
comp=Z,64nm,3.6s
LESA Schwarzleotal 90.19 40 *ePcP* **P 12 40 30.6 +0.2**
comp=Z,1.8nm,0.7s
GERES GERESS Array B 90.25 39 P **P 12 40 30.8 +0.1**
comp=Z,0.6nm,0.7s,baz=290,slow=4.0,SNR=6.7
GERES LR LR 13 21 05.5
comp=Z,279nm,19.2s,baz=296,slow=36
comp=Z,0.6nm,0.7s
ZCCA Zocca 90.27 44 P **P 12 40 31.4 +0.6**
ABTA Abfaltersbach 90.35 41 *eP* **P 12 40 30.1 -1.1**
comp=Z,6.1nm,1.8s
FINES FINESS Array B 90.35 24 P **P 12 40 32.5 +1.8**
comp=Z,9.9nm,1.2s,baz=225,slow=1.6,SNR=6.0
FINES LR LR 13 19 30.0
comp=Z,162nm,21.5s,baz=286,slow=35
comp=Z,9.9nm,1.2s
CKRC Cesky Krumlov 90.62 39 *e*pP pP 12 40 44.9 +2.4
BIOA Bad Ischl, Aus 90.68 40 *ePcP* **PcP 12 40 33.6 -0.2**
comp=Z,5.9nm,1.4s
KBA Koelnbreinsper 90.74 40 *ePcP* **P 12 40 33.6 +0.5**
comp=Z,5.1nm,1.2s
MOA Molln 91.00 40 *ePcP* **P 12 40 34.1 0.0**
comp=Z,5.3nm,1.3s
MYKA Terra Mystica 91.11 41 *ePcP* **P 12 40 34.7 0.0**
comp=Z,1.1nm,0.5s
DPC Dobruska-Polom 91.16 37 *eP* **P 12 40 35.3 +0.5**
DPC Dobruska-Polom 91.16 37 *eP* **P 12 40 35.3 +0.5**
OBKA Obir 91.73 41 *ePcP* **P 12 40 37.7 +0.1**
comp=Z,1.0nm,0.5s
KRUC Moravsky 91.77 38 *eP* **P 12 40 38.2 +0.6**
VRAC Vranov 91.77 38 LR LR 13 23 36.3
comp=Z,269nm,18.1s,baz=307,slow=37
VRAC Vranov 91.77 38 *eP* **P 12 40 37.9 +0.2**
MSVF Nonsavu 91.88 252 LR LR 13 12 36.5
comp=Z,511nm,20.2s,baz=40,slow=29
CONA Conrad Observa 91.94 39 *ePcP* **P 12 40 38.9 +0.3**
comp=Z,3.8nm,1.4s
SOKA Soboth 91.96 40 *eP* **P 12 40 37.7 -1.0**
comp=Z,1.3nm,0.4s
ARSA Arzberg 92.02 40 *eP* **P 12 40 38.3 -0.6**
comp=Z,2.1nm,0.7s
MORC Moravsky Berou 92.12 37 *eP* **P 12 40 39.6 +0.3**
KEST Kesra 92.24 52 P **P 12 40 41.0 +0.8**
comp=Z,4.5nm,0.7s,baz=260,slow=4.3,SNR=5.8
KEST LR LR 13 18 34.3
comp=Z,123nm,19.4s,baz=1.2,slow=33
comp=Z,4.5nm,0.7s
RONA Rosalia, Austr 92.30 39 *eP* **P 12 40 39.5 -0.7**

comp=Z,3.2nm,0.8s
MODS Modra-Piesok 92.59 38 *e*P **P 12 40 43.0 +1.5**
MODS Modra-Piesok 92.59 38 *e*P **P 12 40 43.0 +1.5**
TORD Torodi Ar. Bea 92.76 76 P **P 12 40 43.2 +0.4**
comp=Z,0.7nm,0.7s,baz=302,slow=5.7,SNR=4.2
comp=Z,0.7nm,0.7s
MNK Minsk 95.12 29 *i* P **P 12 40 48.8 -4.1**
MNK *i* *PP **pP 12 41 03.5 +0.4**
MNK *i* 12 44 37.8
MNK *i* S **SKSac 12 51 19.6 -6.8**
MNK *i* PS **PS 12 53 22.1 -4.1**
MNK *i* SS **SS 12 58 25.1 -5.8**
MNK *i* SSS SSS 13 02 07.7
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=E,26nm,0.8s
MNK MLR MLR
comp=Z,249nm,16.0s
MNK MLR MLR
comp=N,1μm,24.0s
MNK MLR MLR
comp=E,1μm,23.0s
YAK Yakutsk 95.16 341 LR LR 13 28 53.5
comp=E,173nm,20.1s,baz=43,slow=39
YAK Yakutsk 95.16 341 *i* P **P 12 40 52.7 -0.2**
YAK pmax pmax
comp=Z,6.0nm,0.6s
VAE Valguarnera 95.35 49 LR LR 13 20 41.4
comp=Z,558nm,19.4s,baz=336,slow=34
NRIK Noril'sk 95.40 359 LR LR 13 30 09.7
comp=Z,194nm,18.3s,baz=346,slow=40
NRIK Noril'sk 95.40 359 *i* P **P 12 40 51.6 -2.3**
NRIK pmax pmax
comp=Z,8.0nm,1.8s
BERU Beregovo 95.81 37 P **P 12 40 56.8 +0.6**
URZ Urewera 97.86 233 LR LR 13 15 09.7
comp=Z,202nm,21.8s,baz=168,slow=29
AKASG Malin Array Be 98.02 32 LR LR 13 26 53.4
comp=Z,190nm,19.0s,baz=264,slow=36
OBN Obninsk 98.63 26 LR LR 13 25 07.5
comp=Z,251nm,22.0s,baz=350,slow=35
OBN Obninsk 98.63 26⇑ *e*P **P 12 41 06.7 -2.0**
OBN pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu 99.18 38 LR LR 13 27 46.9
comp=Z,150nm,19.8s,baz=301,slow=36
ZEA Zeya 102.20 336 *e*P **Pdif 12 41 37.3 +13**
ZALV Zalesovo Beam 110.87 0 PP **PP 12 46 35.8 -3.7**
comp=Z,1.7nm,0.9s,baz=347,slow=6.1,SNR=6.4
KURK Kurchatov 113.86 4 *i* PKIKP **PKiKP 12 46 08.4 -0.1**
KURBB Kurchatov Arra 113.94 5 PKiKP **PKiKP 12 46 08.4 -0.3**
comp=Z,0.3nm,0.5s,baz=353,slow=1.5,SNR=4.8
KURBB PP **PP 12 47 02.6 +1.1**
comp=Z,0.9nm,0.9s,baz=355,slow=5.8,SNR=4.3
SONM Songino Array 114.17 344 PKP PKPdf 12 46 10.3 +0.9
comp=Z,0.6nm,0.5s,baz=73,slow=4.8,SNR=4.5
SONM PP **PP 12 47 04.3 +0.9**
comp=Z,0.2nm,0.5s,baz=27,slow=1.7,SNR=3.7
SONM PKKPbc **PKKPbc 12 56 49.1 -2.3**
comp=Z,0.5nm,0.8s,baz=206,slow=4.2,SNR=4.3
XLT XiLinHaoTe 114.48 336 *e*PKP **PKiKP 12 46 08.8 -1.3**
XLT AMB AMB
comp=Z,170nm,6.1s
MKAR Makanchi Array 117.98 2 PKP **PKPdf 12 46 15.3 -1.4**
comp=Z,0.4nm,0.6s,baz=14,slow=1.4,SNR=5.8
MKAR PP **PP 12 47 30.6 +0.8**
comp=Z,2.3nm,1.2s,baz=3.8,slow=3.6,SNR=3.8
HHC Hu-ho-hao-te 118.82 337 *e*PKP **PKiKP 12 46 20.4 +1.8**
WMQ Urumqi 120.95 358 *e*PKP **PKPdf 12 46 21.3 -1.2**
WMQ sPKP 12 46 44.1
NJ2 Nanjing 122.73 326 *e*PKP **PKPdf 12 46 26.1 -0.1**
BOSA Boshof 123.52 114 PKP **PKiKP 12 46 28.5 +0.4**
comp=Z,5.3nm,1.1s,baz=318,slow=3.7,SNR=5.9
GTA Gaotai 123.70 346 *e*PKP **PKPdf 12 46 25.4 -2.6**
LSZ Lusaka 125.28 98 PKP **PKPdf 12 46 30.3 -1.2**
comp=Z,0.9nm,0.3s,baz=48,slow=2.3,SNR=3.5
STKA Stephens Creek 126.30 242 PKP **PKPdf 12 46 33.1 +0.2**
comp=Z,3.2nm,0.7s,baz=77,slow=1.1,SNR=8.6
WRA Warramunga Arr 133.00 257 PKP **PKPdf 12 46 45.9 -0.2**
comp=Z,0.9nm,0.5s,baz=85,slow=2.4,SNR=6.8
ASAR Alice Springs 133.47 252 PKP **PKPdf 12 46 47.1 +0.3**
comp=Z,0.6nm,0.7s,baz=165,slow=2.5,SNR=4.5
PZH PanZhiHua 135.25 339 PKP **PKPdf 12 46 49.3 -1.0**
CMAR Chiang Mai Arr 143.63 337 PKhKP PKPpre 12 47 02.4
comp=Z,1.0nm,0.7s,baz=344,slow=4.0,SNR=7.9
CMAR PKP **PKPdf 12 47 07.1 +1.5**
comp=Z,0.8nm,0.5s,baz=338,slow=1.8,SNR=5.1
HYB Hyderabad 146.69 11 *e*PKPbc **PKPdf 12 47 11.5 +0.6**

NEIC ***24*** *12:38:28.6±1.1, 17°.82N±0°.09×145°.7E±0°.2, h196km±8km, mb4.6/47, Error ellipse: s-maj=21.0km s-min=12.8km az=101.0*
IDC ***24*** *12:38:28.3±1.6, 17°.85N×145°.79E, h201km±16km, mb3.6/18, mbtmp4.2/21, Error ellipse: s-maj=16.1km s-min=9.8km az=86.0*
ISC 24 12:38:28.4±0.5, 17°.82N±0°.06×145°.7E±0°.1, h200km, n76, σ0°.73/71, mb4.4/39, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.28**	**191**	P	**Pn**	**12 39 34.4**	**+0.6**
	55nm,0.7s,baz=349,slow=6.4,SNR=6.5						
GUMO				S	**Sn**	**12 40 25.0**	**-0.1**
	68nm,0.3s,baz=275,slow=22,SNR=7.0						
JOW	**Kunigami**	**18.44**	**302**	P	**P**	**12 42 29.4**	**+0.3**
JOW	**Kunigami**	**18.44**	**302**	P	**P**	**12 42 30.2**	**+1.2**
	51nm,0.7s,baz=127,slow=12,SNR=16						
MJAR	**Matsushiro Arr**	**19.80**	**342**	P	**P**	**12 42 43.9**	**+0.3**
	0.9nm,0.5s,baz=284,slow=20,SNR=4.0						
MAJO	**Matsushiro**	**19.80**	**342**	P	**P**	**12 42 43.6**	**0.0**
MAJO				IAmb	IAmb	12 43 04.8	
	comp=Z,16nm,1.2s						
MANU	**Manus Island**	**19.80**	**175**	P	**P**	**12 42 44.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**19.80**	**342**	P	**P**	**12 42 44.3**	**+0.7**
MJB9				IAmb	IAmb	12 43 05.8	
	comp=Z,15nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**19.95**	**85**	T	T	13 03 51.9	
	baz=274,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**19.96**	**85**	T	T	13 03 52.9	
	baz=274,slow=75,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**19.96**	**85**	T	T	13 03 53.3	
	baz=274,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**20.14**	**81**	T	T	13 04 02.3	
	baz=264,slow=75,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**20.15**	**81**	T	T	13 04 03.1	
	baz=264,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**20.16**	**81**	T	T	13 04 03.5	
	baz=264,slow=75,SNR=9.7						
JMM	**Marumori**	**20.44**	**349**	P	**P**	**12 42 49.6**	**-0.7**
JAY	**Jayapura**	**20.80**	**194**	P	**P**	**12 42 54.7**	**+0.3**
	comp=Z,5.6nm,0.5s,baz=237,slow=4.7,SNR=4.2						
	comp=Z,5.6nm,0.5s						
NACB	**Ninganchiao**	**23.37**	**290**	P	**P**	**12 43 19.5**	**+0.3**
NACB				IAmb	IAmb	12 43 38.5	
	comp=Z,32nm,1.3s						
YHNB	**Yeheng**	**23.66**	**291**	P	**P**	**12 43 22.2**	**+0.2**
SSLB	**Suanglung**	**23.88**	**289**	P	**P**	**12 43 23.7**	**-0.2**
SSLB				IAmb	IAmb	12 43 26.3	
	comp=Z,16nm,0.6s						
FAKI	**Fak Fak**	**24.51**	**214**	P	**P**	**12 43 30.2**	**+0.5**
FAKI				IAmb	IAmb	12 43 45.6	
	comp=Z,28nm,1.1s						
KSRS	**Korea Array**	**25.04**	**325**	P	**P**	**12 43 33.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=150,slow=7.9,SNR=4.6						
	comp=Z,0.6nm,0.6s						
JKA	**Kamikawa-asahi**	**26.35**	**355**	P	**P**	**12 43 46.4**	**+0.4**
JKA				IAmb	IAmb	12 44 05.7	
	comp=Z,26nm,1.3s						
LUWI	**Luwuk**	**29.35**	**233**	P	**P**	**12 44 11.7**	**-1.1**
LUWI				IAmb	IAmb	12 44 12.8	
	comp=Z,18nm,1.0s						
COEN	**Coen**	**31.67**	**185**	P	**P**	**12 44 32.8**	**-0.4**
COEN				IAmb	IAmb	12 44 51.3	
	comp=Z,10nm,1.1s						
MTN	**Manton Dam**	**33.69**	**206**	P	**P**	**12 44 50.3**	**-0.4**
PETK	**Petropavlovsk-**	**36.45**	**12**	P	**P**	**12 45 13.8**	**-0.1**
PETK	**Petropavlovsk-**	**36.45**	**12**	P	**P**	**12 45 14.4**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=156,slow=9.4,SNR=16						
	comp=Z,2.3nm,0.7s						
KNRA	**Kununurra**	**37.24**	**208**	P	**P**	**12 45 21.3**	**+0.4**
KNRA				IAmb	IAmb	12 45 22.4	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**39.15**	**197**	P	**P**	**12 45 37.7**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=17,slow=8.2,SNR=31						
	comp=Z,6.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.78**	**210**	P	**P**	**12 45 50.4**	**+0.1**
AS31	**Alice Springs**	**42.81**	**196**	P	**P**	**12 46 06.9**	**+0.1**
ASAR	**Alice Springs**	**42.81**	**196**	P	**P**	**12 46 06.7**	**0.0**
ASAR	**Alice Springs**	**42.81**	**196**	P	**P**	**12 46 07.0**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=13,slow=6.1,SNR=63						
	comp=Z,1.9nm,0.5s						
SONM	**Songino Array**	**43.84**	**322**	P	**P**	**12 46 15.8**	**+1.0**
SONM	**Songino Array**	**43.84**	**322**	P	**P**	**12 46 15.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=136,slow=5.8,SNR=3.9						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.35**	**278**	P	**P**	**12 46 21.1**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=62,slow=6.1,SNR=12						
	comp=Z,0.9nm,0.4s						
ADK	**Adak**	**45.06**	**32**	P	**P**	**12 46 25.2**	**+1.0**
MBWA	**Marble Bar**	**46.35**	**214**	P	**P**	**12 46 34.6**	**-0.1**
ATKA	**Atka Island**	**46.51**	**33**	P	**P**	**12 46 36.3**	**+0.7**
PSA00	**Pilbara Seismi**	**46.63**	**214**	P	**P**	**12 46 36.9**	**0.0**
STKA	**Stephens Creek**	**49.57**	**185**	P	**P**	**12 46 58.9**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=6.3,slow=7.5,SNR=4.0						
	comp=Z,2.1nm,0.6s						
NIKH	**Nikolski High**	**49.73**	**34**	P	**P**	**12 47 00.8**	**+0.7**
BBOO	**Buckleboo**	**51.18**	**190**	P	**P**	**12 47 11.1**	**-0.1**
K15K	**Wolf Creek Mou**	**57.43**	**26**	P	**P**	**12 47 56.3**	**+0.3**
K15K				IAmb	IAmb	12 48 02.1	
	comp=Z,22nm,1.4s						
J16K	**Anvik River**	**58.25**	**25**	P	**P**	**12 48 02.9**	**+1.2**
J16K				IAmb	IAmb	12 48 44.8	
	comp=Z,13nm,1.5s						
ZALV	**Zalesovo Beam**	**58.72**	**323**	P	**P**	**12 48 04.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=123,slow=8.2,SNR=2.6						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.08**	**314**	P	**P**	**12 48 07.2**	**-0.5**
MKAR	**Makanchi Array**	**59.08**	**314**	P	**P**	**12 48 07.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=96,slow=7.1,SNR=9.5						
	comp=Z,0.7nm,0.6s						
H18K	**Honhosa River**	**59.92**	**24**	P	**P**	**12 48 13.1**	**0.0**
H18K				IAmb	IAmb	12 48 28.1	
	comp=Z,14nm,1.4s						
M20K	**Styx River**	**60.95**	**28**	P	**P**	**12 48 21.1**	**+0.8**
M20K				IAmb	IAmb	12 48 55.6	
	comp=Z,12nm,1.4s						
PPLA	**Purkeypile**	**61.67**	**27**	P	**P**	**12 48 25.6**	**+0.5**
PPLA				IAmb	IAmb	12 48 40.6	
	comp=Z,13nm,1.4s						
CAST	**Castle Rocks**	**61.87**	**27**	P	**P**	**12 48 26.1**	**-0.2**
KURBB	**Kurchatov Arra**	**61.98**	**318**	P	**P**	**12 48 26.1**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=94,slow=7.2,SNR=30						
	comp=Z,2.1nm,0.6s						
H21K	**Melozitna Rive**	**62.27**	**24**	P	**P**	**12 48 29.3**	**+0.4**
H21K				IAmb	IAmb	12 48 31.6	
	comp=Z,11nm,1.4s						
RC01	**Rabbit Creek A**	**62.31**	**30**	P	**P**	**12 48 29.1**	**-0.1**
RC01				IAmb	IAmb	12 48 56.9	
	comp=Z,19nm,1.4s						
D22K	**Ayikyak River**	**63.41**	**21**	P	**P**	**12 48 36.6**	**+0.3**
D22K				IAmb	IAmb	12 48 38.1	
	comp=Z,7.4nm,0.7s						
E23K	**Chandalar**	**64.22**	**22**	P	**P**	**12 48 41.7**	**0.0**
E23K				IAmb	IAmb	12 48 43.8	
	comp=Z,8.2nm,1.1s						
C23K	**Itkillik River**	**64.42**	**20**	P	**P**	**12 48 43.2**	**+0.3**
C23K				IAmb	IAmb	12 48 44.5	
	comp=Z,8.8nm,0.8s						
ILAR	**Eielson Array**	**64.43**	**26**	P	**P**	**12 48 42.0**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=250,slow=6.0,SNR=6.6						
	comp=Z,1.0nm,0.4s						
D24K	**Happy Valley**	**64.81**	**21**	P	**P**	**12 48 46.4**	**+1.0**
D24K				IAmb	IAmb	12 48 47.4	
	comp=Z,8.4nm,0.7s						
F25K	**Christian Rive**	**65.55**	**23**	P	**P**	**12 48 50.9**	**+0.6**
D25K	**Kavik River**	**65.70**	**21**	P	**P**	**12 48 51.6**	**+0.4**
D25K				IAmb	IAmb	12 48 52.8	
	comp=Z,5.7nm,0.7s						
BVAR	**Borovoye Array**	**67.16**	**321**	P	**P**	**12 48 59.9**	**-0.8**
	comp=Z,2.7nm,0.5s,baz=96,slow=7.6,SNR=14						
	comp=Z,2.7nm,0.5s						
D27M	**Malcolm River**	**67.57**	**22**	P	**P**	**12 49 03.5**	**+0.5**
E28M	**Babbage River**	**67.99**	**22**	P	**P**	**12 49 06.2**	**+0.6**
G31M	**Satah River**	**69.84**	**24**	P	**P**	**12 49 16.9**	**-0.1**
G31M				IAmb	IAmb	12 49 18.1	
	comp=Z,6.2nm,0.7s						
INK	**Inuvik**	**70.18**	**23**	P	**P**	**12 49 18.6**	**-0.4**
YKA	**Yellowknife Ar**	**78.76**	**28**	P	**P**	**12 50 08.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=290,slow=5.8,SNR=19						
	comp=Z,2.1nm,0.8s						
PINE	**Pine Mountain**	**80.25**	**47**	P	**P**	**12 50 17.8**	**+0.6**
PINE				IAmb	IAmb	12 50 20.1	
	comp=Z,6.9nm,0.9s						
PNTR	**Pine Nut**	**82.51**	**51**	P	**P**	**12 50 30.4**	**+1.1**
ARCES	**ARCESS Array B**	**83.33**	**342**	P	**P**	**12 50 30.9**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=81,slow=7.5,SNR=7.0						
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**83.67**	**52**	P	**P**	**12 50 35.0**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=265,slow=6.0,SNR=18						
	comp=Z,1.9nm,0.7s						
PSUT	**Pine Spring**	**86.94**	**51**	P	**P**	**12 50 51.1**	**-0.3**
DUG	**Dugway, Tooele**	**87.12**	**49**	P	**P**	**12 50 51.6**	**-0.5**
FINES	**FINESS Array B**	**87.69**	**335**	P	**P**	**12 50 52.0**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=53,slow=5.1,SNR=11						
	comp=Z,0.7nm,0.3s						
PDAR	**Pinedale Array**	**88.43**	**45**	P	**P**	**12 50 56.5**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=265,slow=1.8,SNR=5.0						
	comp=Z,0.3nm,0.7s						
PV11	**David Mesa, Pa**	**90.66**	**49**	P	**P**	**12 51 08.4**	**-0.5**
PV11				IAmb	IAmb	12 51 10.3	
	comp=Z,4.4nm,0.6s						

SJA ***24*** *12:41:13.6±0.8, 30°.12S×71°.47W, h56km±4km, ML3.6, MW3.7*
GUC ***24*** *12:41:15.8±0.8, 30°.18S×71°.30W, h65km±3km, ML3.6*
ISC 24 12:41:16.5±1.2, 30°.12S±0°.03×71°.41W±0°.04, h41km±18km, n54, σ1°.58/81, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.53**	**96**	*e*P	**Pn**	**12 41 27.2**	**-0.7**
GO04				*i* S	**Sn**	**12 41 36.2**	**+0.2**
GO04	**Tololo Observa**	**0.53**	**96**	*e*P	**Pn**	**12 41 27.3**	**-0.7**
GO04				*e*S	**Sn**	**12 41 37.2**	**+1.2**
CO06	**Fray Jorge**	**0.59**	**199**⇓	*i*P	**Pn**	**12 41 28.8**	**+0.3**
CO06				*i* S	**Sn**	**12 41 38.7**	**+1.7**
CO06				IAML		12 41 39.6	
	comp=E,3μm,0.1s						
CO03	**El Pedregal**	**0.95**	**139**	*e*P	**Pn**	**12 41 31.9**	**-1.6**
CO03				*i* S	**Sn**	**12 41 44.1**	**-1.9**
CO03				IAML		12 41 44.6	
	comp=E,5μm,0.2s						
CO03	**El Pedregal**	**0.95**	**139**	*e*P	**Pn**	**12 41 32.0**	**-1.5**
CO03				*e*S	**Sn**	**12 41 44.2**	**-1.7**
CO03				IAML		12 41 45.0	
	comp=Z,2μm,0.4s						
CO01	**Juntas del Tor**	**1.15**	**83**⇑	*i*P	**Pn**	**12 41 35.5**	**-0.8**
CO01				*i* S	**Sn**	**12 41 50.1**	**-0.9**
CO01				IAML		12 41 50.5	
	comp=N,3μm,0.2s						
CO01	**Juntas del Tor**	**1.15**	**83**	*e*P	**Pn**	**12 41 35.4**	**-1.0**
CO01				*e*S	**Sn**	**12 41 50.5**	**-0.6**
CO01				IAML		12 41 50.6	
	comp=Z,2μm,0.1s						
LCO	**Las Campanas**	**1.26**	**29**⇑	*i*P	**Pn**	**12 41 37.7**	**-0.3**
LCO				*e*S	**Sn**	**12 41 54.2**	**+0.4**
LCO	**Las Campanas**	**1.26**	**29**	*e*P	**Pn**	**12 41 37.6**	**-0.3**
LCO				*e*S	**Sn**	**12 41 54.7**	**+0.8**
LCO				IAML		12 41 56.1	
	comp=Z,2μm,0.2s						
AC05	**El Transito**	**1.62**	**38**	*e*P	**Pn**	**12 41 42.9**	**+0.2**
AC05				*i* S	**Sn**	**12 42 03.1**	**+0.8**
AC05				IAML		12 42 07.0	
	comp=E,1μm,0.6s						
AC05	**El Transito**	**1.62**	**38**	*e*P	**Pn**	**12 41 42.9**	**+0.2**
AC05				*e*S	**Sn**	**12 42 02.2**	**-0.1**
AC05				IAML		12 42 05.2	
	comp=Z,299nm,0.1s						
AROD	**Rodeo**	**1.68**	**92**	*e*P	**Pn**	**12 41 43.8**	**+0.1**
AROD				*e*S	**Sn**	**12 42 05.0**	**+0.8**
AC04	**Llanos de Chal**	**1.93**	**9**	*i* P	**Pn**	**12 41 46.9**	**0.0**
AC04				IAML		12 42 18.6	
	comp=E,478nm,0.3s						
AC04	**Llanos de Chal**	**1.93**	**9**	*e*S	Sn	12 42 17.0	+7.1
AC04				IAML		12 42 18.2	
	comp=Z,406nm,0.8s						
ACDV	**Cuesta del Vie**	**1.98**	**92**	*e*P	**Pn**	**12 41 48.2**	**+0.5**
ACDV				*e*S	**Sn**	**12 42 13.8**	**+2.4**
ACCO	**Cerro Coronel**	**2.08**	**104**	*e*P	**Pn**	**12 41 51.0**	**+1.8**
ACCO				*e*S	**Sn**	**12 42 19.4**	**+5.4**
DOCA	**Reserva Natura**	**2.17**	**113**	*e*P	**Pn**	**12 41 50.9**	**+0.3**
DOCA				*e*S	**Sn**	**12 42 17.4**	**+0.9**
VA06	**Catapilco**	**2.44**	**178**	*e*P	**Pn**	**12 41 52.8**	**-1.0**
RTLS	**Leoncito**	**2.47**	**133**	*e*P	**Pn**	**12 41 55.2**	**+0.7**
RTLS				*e*S	Sn	12 42 11.8	-12
RTLS				IAML		12 42 12.4	
	comp=Z,250nm,0.2s						
AGUA	**GUANDACOL**	**2.61**	**77**	*e*P	Pn	12 41 58.4	+2.1
AGUA				IAML		12 42 36.9	
	comp=Z,241nm,0.4s						
GO03	**Copiapo**	**2.72**	**23**	*e*P	**Pn**	**12 41 57.0**	**-0.7**
GO03	**Copiapo**	**2.72**	**23**	*e*P	**Pn**	**12 41 57.4**	**-0.3**
GO03				*e*S	**Sn**	**12 42 28.1**	**-1.3**
VA03	**San Esteban**	**2.74**	**165**	*e*P	**Pn**	**12 41 57.8**	**-0.2**
VA03	**San Esteban**	**2.74**	**165**	*e*P	**Pn**	**12 41 57.8**	**-0.2**
VA03				*e*S	Sn	12 42 16.2	-14
VA03				IAML		12 42 42.9	
	comp=Z,198nm,0.5s						
ZON	**Zonda**	**2.75**	**122**	*e*P	**Pn**	**12 41 58.2**	**+0.1**
RTLL	**Cerro Villicun**	**2.80**	**116**	*e*P	**Pn**	**12 41 59.2**	**+0.4**
RTLL				*e*S	Sn	12 42 14.9	-17
SJA	**San Juan**	**2.83**	**121**	*e*S	Sn	12 42 43.0	+11
ROCH	**El Roble**	**2.87**	**173**	*e*P	**Pn**	**12 41 58.8**	**-1.1**
ROCH				*e*S	**Sn**	**12 42 32.5**	**-0.8**
ROC1	**El Roble**	**2.87**	**173**	*e*P	**Pn**	**12 41 58.8**	**-1.2**
ROC1				*e*S	Sn	12 42 39.4	+6.0
AC06	**Mina Casimiro**	**2.90**	**19**	*e*P	**Pn**	**12 41 59.7**	**-0.6**
VA01	**Torpederas**	**2.90**	**184**	*e*P	**Pn**	**12 41 58.3**	**-1.9**
VA01				*e*S	Sn	12 42 41.8	+7.9
VA01				IAML		12 42 44.6	
	comp=Z,73nm,0.5s						
PEL	**Peldehue**	**3.08**	**169**	*e*P	**Pn**	**12 42 02.0**	**-0.6**
PEL				*e*S	**Sn**	**12 42 36.4**	**-2.0**
CFA	**Coronel Fontan**	**3.10**	**119**	*e*P	**Pn**	**12 42 02.8**	**-0.2**
CFA				*e*S	**Sn**	**12 42 38.6**	**-0.3**
CFA				IAML		12 43 06.3	
	comp=Z,509nm,0.6s						
VCA	**Vinchina**	**3.12**	**65**	*e*P	Pn	12 42 05.6	+2.3
VCA				*e*S	**Sn**	**12 42 38.4**	**-1.0**
VCA				IAML		12 42 43.3	
	comp=Z,385nm,0.3s						
MT02	**Curacav**	**3.14**	**176**	*e*P	**Pn**	**12 42 01.9**	**-1.5**
MT02				*e*S	**Sn**	**12 42 45.5**	**+5.8**
MT02				IAML		12 42 52.7	
	comp=Z,109nm,0.4s						
ASAL	**Salagasta**	**3.31**	**139**	*e*P	**Pn**	**12 42 07.0**	**+1.2**
ASAL				*e*S	Sn	12 43 02.2	+18
MT05	**Renca**	**3.31**	**170**	*e*P	**Pn**	**12 42 05.6**	**-0.4**
MT05				*e*S	Sn	12 42 55.1	+11
MT05				IAML		12 42 57.0	
	comp=Z,123nm,0.2s						
ARCO	**CERRO ARCO**	**3.44**	**143**	*e*P	Pn	12 42 11.1	+3.4
ARCO				*e*S	**Sn**	**12 42 50.1**	**+2.7**
ARCO				IAML		12 43 01.5	
	comp=Z,68nm,0.4s						
MT03	**Universidad Ad**	**3.45**	**167**	*e*P	**Pn**	**12 42 07.7**	**-0.2**
MT03				*e*S	**Sn**	**12 42 48.6**	**+1.0**
MT03				IAML		12 42 59.9	
	comp=Z,124nm,0.2s						
MT04	**Ro Olivares**	**3.45**	**162**	*e*P	**Pn**	**12 42 08.9**	**+0.9**
MT04				*e*S	Sn	12 42 57.6	+10
MT04				IAML		12 43 02.8	
	comp=Z,89nm,0.5s						
AVFE	**Valle Fertil**	**3.46**	**100**	*e*P	**Pn**	**12 42 07.7**	**-0.2**
AVFE				*e*S	**Sn**	**12 42 49.1**	**+1.4**
AVFE				IAML		12 42 51.5	
	comp=Z,63nm,0.5s						
MT08	**Bocatoma Ro**	**3.52**	**161**	*e*P	**Pn**	**12 42 07.0**	**-1.9**
MT08				*e*S	**Sn**	**12 42 49.9**	**+0.4**
MT08				IAML		12 43 03.0	
	comp=Z,76nm,0.6s						
MT01	**Popeta**	**3.74**	**178**	*e*P	**Pn**	**12 42 10.1**	**-1.6**
MT01				IAML		12 43 06.9	
	comp=Z,110nm,0.7s						
MT13	**San Alfonso**	**3.74**	**165**	*e*P	**Pn**	**12 42 12.5**	**+0.7**
MT13				*e*S	Sn	12 43 05.1	+10
MT13				IAML		12 43 07.7	
	comp=Z,88nm,0.4s						
AC02	**Maricunga**	**3.84**	**32**	*e*P	**Pn**	**12 42 13.6**	**0.0**
AC02				*e*S	**Sn**	**12 42 56.6**	**-1.0**
AC02				IAML		12 43 08.6	
	comp=Z,71nm,0.4s						
LMEL	**Las Melosas**	**3.86**	**165**	*e*P	**Pn**	**12 42 15.1**	**+1.7**
LMEL				*e*S	**Sn**	**12 42 57.3**	**-0.4**
ACLC	**CERRO LA CRUZ**	**3.94**	**81**	*e*P	**Pn**	**12 42 14.6**	**0.0**
ACLC				*e*S	**Sn**	**12 43 00.8**	**+1.2**
ACLC				IAML		12 43 09.1	
	comp=Z,54nm,0.7s						
AC01	**Pan de Azucar**	**4.02**	**10**	*e*P	**Pn**	**12 42 13.6**	**-2.0**
AC01				*e*S	Sn	12 43 16.9	+16
AC01				IAML		12 43 22.9	
	comp=Z,61nm,0.7s						
ACHE	**Chepes**	**4.22**	**105**	*e*P	**Pn**	**12 42 17.2**	**-1.3**
ACHE				*e*S	**Sn**	**12 43 06.0**	**-0.6**
APLL	**PUNTA DE LOS L**	**4.23**	**95**	*e*P	**Pn**	**12 42 18.0**	**-0.5**
APLL				*e*S	**Sn**	**12 43 05.5**	**-1.2**
BO01	**Tunca**	**4.27**	**176**	*e*P	**Pn**	**12 42 17.3**	**-1.7**
BO01				IAML		12 43 24.2	
	comp=Z,32nm,0.5s						
BO02	**Sierra Bellavi**	**4.69**	**174**	*e*P	**Pn**	**12 42 24.2**	**-0.6**
BO02				IAML		12 43 35.2	
	comp=Z,53nm,0.4s						
CYA	**Choya**	**5.17**	**73**

RPZ	**Rata Peaks**	**1.30**	**259**	P	**Pn**	**13 28 34.0**	**-0.9**
ODZ	**Otahua Downs**	**2.21**	**224**	P	**Pn**	**13 28 45.8**	**-1.5**
SNZO	**South Karori**	**2.58**	**33**	P	**Pn**	**13 28 53.0**	**+0.5**
QRZ	**Quartz Range**	**2.67**	**355**	P	**Pn**	**13 28 53.5**	**-0.1**
JCZ	**Jackson Bay**	**2.98**	**257**	P	**Pn**	**13 29 00.0**	**+2.0**
BFZ	**Birch Farm**	**3.79**	**43**	P	**Pn**	**13 29 08.2**	**-0.9**
SYZ	**Scrubby Hill**	**4.01**	**219**	P	**Pn**	**13 29 10.8**	**-1.3**
KHEZ	**Kahui Hut**	**4.29**	**12**	P	**Pn**	**13 29 17.1**	**+1.2**
BKZ	**Black Stump Fm**	**5.13**	**34**	P	**Pn**	**13 29 27.1**	**-0.4**
HIZ	**Hauiti**	**5.20**	**18**	P	**Pn**	**13 29 28.8**	**+0.3**
URZ	**Urewera**	**6.15**	**33**	P	**Pn**	**13 29 40.2**	**-1.3**

*NEIC **24** 13:31:47.7±1.8, 21°.5N±0°.1×143°.0E±0°.2, h288km±9km, mb4.1/10, Error ellipse: s-maj=26.7km s-min=17.0km az=87.0*
*IDC **24** 13:31:50.0±5.5, 21°.59N×143°.15E, h310km±54km, mb3.1/11, mbtmp3.8/12, Error ellipse: s-maj=28.9km s-min=14.7km az=82.0*
ISC 24 13:31:49.6±0.7, 21°.59N±0°.09×143°.0E±0°.1, h311km, n29, σ1§11/29, mb3.8/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.53**	**353**	Pn	**Pn**	**13 33 10.4**	**-3.3**
JOW	**Kunigami**	**14.39**	**294**	P	**P**	**13 34 59.5**	**0.0**
MJAR	**Matsushiro Arr**	**15.47**	**345**	P	**Pn**	**13 35 13.1**	**0.0**
	0.7nm,0.5s,baz=134,slow=8.7,SNR=4.7						
KSRS	**Korea Array**	**20.49**	**324**	P	**P**	**13 36 06.0**	**+1.3**
	0.9nm,0.8s,baz=13,slow=18,SNR=2.1						
	0.9nm,0.8s						
KKM	**Kota Kinabalu**	**30.15**	**243**	P	**P**	**13 37 30.4**	**-1.4**
KKM				IAmb	IAmb	13 37 59.0	
	comp=Z,18nm,1.0s						
WRA	**Warramunga Arr**	**42.13**	**192**	P	**P**	**13 39 12.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=19,slow=8.2,SNR=6.0						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**45.84**	**192**	P	**P**	**13 39 41.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=17,slow=13,SNR=4.9						
	comp=Z,0.3nm,0.7s						
STKA	**Stephens Creek**	**53.17**	**181**	P	**P**	**13 40 35.7**	**-0.7**
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**13 40 46.9**	**0.0**
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**13 40 48.5**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=93,slow=8.2,SNR=2.7						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.47**	**317**	P	**P**	**13 41 07.8**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=7.6,SNR=11						
	comp=Z,0.6nm,0.5s						
BPAW	**Bear Paw Mtn.**	**60.36**	**28**	P	**P**	**13 41 26.9**	**+0.7**
BPAW				IAmb	IAmb	13 42 10.1	
	comp=Z,4.9nm,1.4s						
B21K	**Ikpikpuk River**	**60.42**	**21**	P	**P**	**13 41 27.9**	**+1.5**
D22K	**Ayikyak River**	**60.86**	**22**	P	**P**	**13 41 31.0**	**+1.5**
D22K				IAmb	IAmb	13 42 11.0	
	comp=Z,5.3nm,1.5s						
B22K	**Teshekpuk Lake**	**61.04**	**20**	P	**P**	**13 41 31.2**	**+0.6**
B22K				IAmb	IAmb	13 41 48.9	
	comp=Z,5.1nm,1.4s						
C23K	**Itkillik River**	**61.82**	**21**	P	**P**	**13 41 37.0**	**+1.1**
C23K				IAmb	IAmb	13 42 04.5	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**62.23**	**27**	P	**P**	**13 41 37.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=275,slow=4.9,SNR=5.6						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**62.63**	**320**	P	**P**	**13 41 42.8**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=100,slow=8.0,SNR=9.6						
	comp=Z,1.3nm,0.5s						
BRVK	**Borovoye**	**62.69**	**320**	P	**P**	**13 41 41.7**	**-0.1**
G31M	**Satah River**	**67.52**	**25**	P	**P**	**13 42 12.9**	**+0.5**
G31M				IAmb	IAmb	13 42 13.9	
	comp=Z,4.4nm,1.2s						
ABKAR	**Akbulak array**	**69.49**	**316**	P	**P**	**13 42 26.0**	**+1.0**
YKA	**Yellowknife Ar**	**76.64**	**28**	P	**P**	**13 43 06.1**	**-0.2**
YKA	**Yellowknife Ar**	**76.64**	**28**	P	**P**	**13 43 06.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=292,slow=5.7,SNR=5.6						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**78.97**	**341**	P	**P**	**13 43 19.7**	**+0.8**
ARCES	**ARCESS Array B**	**78.97**	**341**	P	**P**	**13 43 20.1**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=63,slow=8.3,SNR=7.8						
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**13 43 41.2**	**+0.1**
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**13 43 40.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=69,slow=6.3,SNR=9.6						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	**88.75**	**337**	P	**P**	**13 44 07.9**	**-0.3**
	comp=Z,4.4nm,1.1s,baz=46,slow=4.2,SNR=2.0						
	comp=Z,4.4nm,1.1s						
PLCA	**Paso Flores**	**145.83**	**132**	PKPbc	**PKPab**	**13 50 53.7**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=210,slow=3.8,SNR=4.7						

*SJA **24** 13:34:22.9±0.7, 21°.90S×68°.66W, h125km±4km, ML3.7, MW3.7*
*NEIC **24** 13:34:24.0±1.3, 21°.94S±0°.05×68°.65W±0°.09, h112km±6km, mb4.3/5, Error ellipse: s-maj=11.5km s-min=7.1km az=79.0*
*GUC **24** 13:34:25.0±0.8, 21°.91S×68°.67W, h109km±5km, ML3.6*
ISC 24 13:34:24.0±0.8, 21°.86S±0°.03×68°.70W±0°.05, h117km±7km, n53, σ1§54/77, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.51**	**277**		**Pn**	**13 34 42.1**	**+0.1**
PB09	**IPOC Station P**	**0.51**	**277**	*eP*	**Pn**	**13 34 42.1**	**+0.1**
PB09				*i* S	**Sn**	**13 34 54.1**	**-1.3**
PB09	**IPOC Station P**	**0.51**	**277**	*eP*	**Pn**	**13 34 42.2**	**+0.3**
PB09				*eS*	**Sn**	**13 34 57.0**	**+1.5**
PB09				IAML		13 34 58.3	
	comp=Z,1μm,0.8s						
PB03	**IPOC Station P**	**0.99**	**259**	⇑*iP*	**Pn**	**13 34 46.2**	**+0.2**
PB03				*i* S	**Sn**	**13 35 02.8**	**+0.2**
PB03				IAML		13 35 04.8	
	comp=E,1μm,0.6s						
PB03	**IPOC Station P**	**0.99**	**259**	*eP*	**Pn**	**13 34 46.3**	**+0.3**
PB03				*eS*	**Sn**	**13 35 03.8**	**+1.3**
PB03				IAML		13 35 04.2	
	comp=Z,824nm,0.3s						
PB01	**IPOC Station P**	**1.10**	**318**		**Pn**	**13 34 47.2**	**+0.3**
PB01	**IPOC Station P**	**1.10**	**318**	⇑*iP*	**Pn**	**13 34 47.3**	**+0.4**
PB01				*i* S	**Sn**	**13 35 04.6**	**+0.4**
PB01				IAML		13 35 07.7	
	comp=E,995nm,0.6s						
PB01	**IPOC Station P**	**1.10**	**318**	*eP*	**Pn**	**13 34 47.4**	**+0.4**
PB01				*eS*	**Sn**	**13 35 07.2**	**+2.9**
PB01				IAML		13 35 09.7	
	comp=Z,524nm,0.2s						
PB06	**IPOC Station P**	**1.17**	**224**	⇑*iP*	**Pn**	**13 34 48.0**	**+0.3**
PB06				*i* S	**Sn**	**13 35 05.1**	**-0.5**
PB06				IAML		13 35 06.9	
	comp=E,2μm,0.6s						
PB06	**IPOC Station P**	**1.17**	**224**	*eP*	**Pn**	**13 34 47.8**	**+0.1**
PB06				*eS*	**Sn**	**13 35 06.5**	**+0.9**
PB06				IAML		13 35 08.0	
	comp=Z,597nm,0.2s						
AF01	**San Pedro de A**	**1.19**	**156**		**Pn**	**13 34 47.4**	**-0.8**
AF01	**San Pedro de A**	**1.19**	**156**	*eP*	**Pn**	**13 34 47.5**	**-0.6**
AF01				*eS*	**Sn**	**13 35 06.3**	**0.0**
PB05	**IPOC Station P**	**1.71**	**234**		**Pn**	**13 34 53.8**	**-0.1**
PB05	**IPOC Station P**	**1.71**	**234**	*eP*	**Pn**	**13 34 54.0**	**+0.2**
PB05				*i* S	**Sn**	**13 35 16.1**	**-0.5**
PB05				IAML		13 35 23.2	
	comp=E,711nm,0.7s						
PB05	**IPOC Station P**	**1.71**	**234**	*eP*	**Pn**	**13 34 54.1**	**+0.2**
PB05				*eS*	**Sn**	**13 35 17.7**	**+1.1**
PB05				IAML		13 35 22.3	
	comp=Z,356nm,0.8s						
PATCX	**Punta Patache**	**1.71**	**307**		**Pn**	**13 34 54.7**	**+0.9**
PATCX	**Punta Patache**	**1.71**	**307**	⇑*iP*	**Pn**	**13 34 54.8**	**+0.9**
PATCX				*i* S	**Sn**	**13 35 18.4**	**+1.9**
PATCX	**Punta Patache**	**1.71**	**307**	*eP*	**Pn**	**13 34 54.7**	**+0.9**
PATCX				*eS*	**Sn**	**13 35 19.5**	**+2.9**
PATCX				IAML		13 35 21.6	
	comp=Z,744nm,1.0s						
PB08	**IPOC Station P**	**1.77**	**346**		**Pn**	**13 34 56.6**	**+1.7**
PB08	**IPOC Station P**	**1.77**	**346**	⇑*iP*	**Pn**	**13 34 56.7**	**+1.8**
PB08				*i* S	**Sn**	**13 35 20.4**	**+2.1**
PB08				IAML		13 35 22.2	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**1.77**	**346**	*eP*	**Pn**	**13 34 56.0**	**+1.1**
PB08				*eS*	**Sn**	**13 35 21.4**	**+3.0**
PB08				IAML		13 35 22.3	
	comp=Z,647nm,0.5s						
TA01	**Diego Aracena**	**1.89**	**313**		**Pn**	**13 34 56.9**	**+0.9**
TA01	**Diego Aracena**	**1.89**	**313**	*eP*	**Pn**	**13 34 56.7**	**+0.6**
TA01				*eS*	**Sn**	**13 35 21.8**	**+1.3**
TA01	**Diego Aracena**	**1.89**	**313**	*eP*	**Pn**	**13 34 56.8**	**+0.8**
TA01				*eS*	**Sn**	**13 35 22.5**	**+2.1**
TA01				IAML		13 35 24.5	
	comp=Z,716nm,0.6s						
HMBC	**Humberstone**	**1.93**	**325**		**Pn**	**13 34 56.7**	**+0.1**
HMBC	**Humberstone**	**1.93**	**325**	⇓*iP*	**Pn**	**13 34 57.1**	**+0.5**
HMBC	**Humberstone**	**1.93**	**325**	*eP*	**Pn**	**13 34 57.2**	**+0.5**
HMBC				*eS*	**Sn**	**13 35 17.7**	**-3.8**
HMBC				*eS*		13 35 23.1	
HMBC				IAML		13 35 23.8	
	comp=Z,1μm,0.4s						
TA02	**Huaiquique**	**2.07**	**320**	*eP*	**Pn**	**13 35 00.3**	**+2.0**
TA02				*eS*	**Sn**	**13 35 25.7**	**+1.2**
TA02				IAML		13 35 33.9	
	comp=Z,460nm,0.1s						
PB11	**IPOC Station P**	**2.27**	**337**		**Pn**	**13 35 01.4**	**+0.4**
PB11	**IPOC Station P**	**2.27**	**337**	⇑*eP*	**Pn**	**13 35 01.4**	**+0.4**
PB11				*i* S	**Sn**	**13 35 30.6**	**+1.3**
PB11	**IPOC Station P**	**2.27**	**337**	*eP*	**Pn**	**13 35 01.7**	**+0.6**
PB11				*eS*	**Sn**	**13 35 25.7**	**-3.7**
PB11				*eS*		13 35 31.3	
PB11				IAML		13 35 36.4	
	comp=Z,577nm,0.4s						
YJA	**Yavi**	**2.97**	**97**	*eP*	**Pn**	**13 35 11.1**	**+0.8**
PB14	**IPOC Station P**	**3.17**	**209**		**Pn**	**13 35 11.9**	**-0.9**
PB14	**IPOC Station P**	**3.17**	**209**	*eP*	**Pn**	**13 35 16.5**	**+3.7**
PB14	**IPOC Station P**	**3.17**	**209**	*eP*	**Pn**	**13 35 13.1**	**+0.3**
PB14				*eS*	**Sn**	**13 35 51.2**	**+0.9**
PB14				IAML		13 36 01.6	
	comp=Z,253nm,0.5s						
GO02	**Mina Guanaco**	**3.38**	**194**		**Pn**	**13 35 14.5**	**-1.1**
GO02	**Mina Guanaco**	**3.38**	**194**	*eP*	**Pn**	**13 35 15.3**	**-0.3**
GO02				*eS*	Sn	13 35 41.7	-14
GO02				IAML		13 36 25.1	
	comp=Z,138nm,0.5s						
PB12	**IPOC Station P**	**3.58**	**334**		**Pn**	**13 35 16.9**	**-1.1**
PB12	**IPOC Station P**	**3.58**	**334**	*eP*	**Pn**	**13 35 17.1**	**-0.9**
PB12	**IPOC Station P**	**3.58**	**334**	*eP*	**Pn**	**13 35 17.0**	**-0.9**
AZAP	**Zapla**	**4.09**	**126**	*eP*	**Pn**	**13 35 25.0**	**0.0**
AC01	**Pan de Azucar**	**4.61**	**202**	Pn	**Pn**	**13 35 29.9**	**-1.7**
FSA	**Cafayete**	**4.91**	**150**	*eP*	**Pn**	**13 35 36.0**	**+0.1**
FSA				*eS*	**Sn**	**13 36 34.5**	**+2.8**
AC02	**Maricunga**	**4.97**	**184**		**Pn**	**13 35 35.6**	**-1.4**
AC02	**Maricunga**	**4.97**	**184**	*eP*	**Pn**	**13 35 36.4**	**-0.5**
AC02				*eS*	**Sn**	**13 36 38.8**	**+5.2**
AC02				IAML		13 37 06.8	
	comp=Z,26nm,0.4s						
LPAZ	**La Paz**	**5.57**	**6**		**Pn**	**13 35 46.2**	**+0.9**
CO01	**Juntas del Tor**	**8.18**	**189**	Pn	**Pn**	**13 36 17.9**	**-2.3**
CO03	**El Pedregal**	**9.12**	**191**	Pn	**Pn**	**13 36 30.9**	**-1.8**
ITAB	**Concordia**	**15.99**	**113**	Pn	**Pn**	**13 38 01.1**	**-1.3**
ITAB				IAmb	IAmb	13 38 03.4	
	comp=Z,9.0nm,0.6s						
PLTB	**Pedras Altas**	**16.68**	**129**		**Pn**	**13 38 08.9**	**-1.9**
PLTB				IAmb	IAmb	13 38 34.9	
	comp=Z,21nm,1.3s						
TRQA	**Tornquist**	**17.15**	**162**		**P**	**13 38 15.8**	**-0.4**
TRQA				IAmb	IAmb	13 38 45.0	
	comp=Z,34nm,1.4s						
PLCA	**Paso Flores**	**18.88**	**184**	Pn	**Pn**	**13 38 36.6**	**-0.5**
SNAA	**Sanae**	**61.87**	**161**	P	**P**	**13 44 31.3**	**+0.7**

*NEIC **24** 13:43:42.5±0.4, 19°.759N±0°.008×155°.56W±0°.01, h18km±3km, Error ellipse: s-maj=2.0km s-min=1.2km az=98.0*
HVO 24 13:43:42.8±0.6, 19°.757N±0°.008×155°.56W±0°.01, h17km±3km, ML3.0/43, ML3.1/44(NEIC), Error ellipse: s-maj=2.0km s-min=1.1km az=95.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.03**	**88**		Pg	13 43 46.0	-0.2
POHA					Sg	13 43 48.5	0.0
POHA	**Pohakuloa**	**0.03**	**88**	IAML		13 43 48.6	
	15μm,0.2s						
POHA				IAML		13 43 48.7	
	12μm,0.1s						
HMH	**Humu'ula Sheep**	**0.17**	**154**		Pg	13 43 47.5	0.0
HMH					Sb	13 43 51.0	+0.1
HMH	**Humu'ula Sheep**	**0.17**	**154**	IAML		13 43 51.1	
	comp=N,3μm,0.1s						
HMH				IAML		13 43 51.2	
	comp=E,5μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.22**	**183**		Pg	13 43 48.5	+0.1
MLOA	**Mauna Loa Obse**	**0.22**	**183**		Sb	13 43 52.6	+0.1
MLOA	**Mauna Loa Obse**	**0.22**	**183**	IAML		13 43 51.4	
	comp=E,27nm,3.4s						
MLOA				IAML		13 43 52.0	
	comp=N,25nm,3.7s						
ALEP	**Alea Permanent**	**0.23**	**200**		Pg	13 43 48.4	0.0
ALEP					Sb	13 43 52.5	-0.2
HUH	**Hualalai**	**0.27**	**255**		Pg	13 43 49.0	0.0
HUH					Sg	13 43 53.1	0.0
HUH	**Hualalai**	**0.27**	**255**	IAML		13 43 59.4	
	comp=N,4μm,0.2s						
MWH	**Mokuaweoweo**	**0.27**	**187**		Pg	13 43 48.8	-0.4
MWH					Sg	13 43 53.3	-0.2
MWH	**Mokuaweoweo**	**0.27**	**187**	IAML		13 43 53.6	
	comp=E,3μm,0.2s						
MWH				IAML		13 43 60.0	
	comp=N,3μm,0.5s						
HPAH	**Hawaii Prepara**	**0.30**	**335**		Pg	13 43 48.8	-0.6
HPAH					Sg	13 43 53.2	-0.7
HPAH	**Hawaii Prepara**	**0.30**	**335**	IAML		13 43 53.3	
	comp=N,10μm,0.3s						
HPAH				IAML		13 43 53.3	
	comp=E,15μm,0.1s						
MLH	**Mauna Loa**	**0.31**	**148**		Pg	13 43 49.2	-0.4
MLH					Sg	13 43 54.1	-0.1
MLH	**Mauna Loa**	**0.31**	**148**	IAML		13 43 54.2	
	comp=E,4μm,0.1s						
MLH				IAML		13 43 54.3	
	comp=N,12μm,0.2s						
RSD	**Rainshed**	**0.40**	**137**		Pg	13 43 49.3	-1.8
RSD	**Rainshed**	**0.40**	**137**		Sg	13 43 56.0	-0.6
UWE	**Uwekahuna**	**0.42**	**143**		Pg	13 43 50.6	-0.9
UWE					Sg	13 43 56.4	-0.9
UWE	**Uwekahuna**	**0.42**	**143**	IAML		13 44 03.5	
	comp=N,3μm,0.9s						
UWB	**Uwekahuna Bluf**	**0.42**	**141**		Pg	13 43 50.5	-1.1
UWB					Sg	13 43 55.9	-1.6
OBL	**Observatory Le**	**0.43**	**142**		Pg	13 43 50.6	-1.0
OBL					Sg	13 43 56.8	-0.8
WRMHI	**West Rim**	**0.43**	**145**		Pg	13 43 50.6	-1.1
WRMHI					Sg	13 43 56.3	-1.2
SBLHI	**Steaming Bluff**	**0.43**	**140**		Pg	13 43 50.5	-1.1
SBLHI					Sg	13 43 56.1	-1.5
HATHI	**Halema'uma'u T**	**0.44**	**139**		Pg	13 43 50.6	-1.2
HATHI					Sg	13 43 56.3	-1.5
HATHI	**Halema'uma'u T**	**0.44**	**139**	IAML		13 43 57.1	
	comp=N,1μm,0.2s						
HATHI				IAML		13 44 06.6	
	comp=E,1μm,0.7s						
SDHHI	**Sand Hill**	**0.44**	**145**		Pg	13 43 50.8	-1.1
SDHHI					Sg	13 43 56.2	-1.8
BYL	**Byron's Ledge**	**0.45**	**140**		Pg	13 43 50.7	-1.2
BYL					Sg	13 43 56.4	-1.7
BYL	**Byron's Ledge**	**0.45**	**140**	IAML		13 43 56.8	
	comp=N,653nm,0.3s						
BYL				IAML		13 44 03.0	
	comp=E,964nm,0.6s						
RIM	**Rim**	**0.45**	**143**		Pg	13 43 50.9	-1.1
RIM					Sg	13 43 57.1	-1.1
KKO	**Keanakako'i**	**0.45**	**142**		Pg	13 43 50.9	-1.2
KKO					Sg	13 43 57.1	-1.2
PUH	**Pauahi**	**0.50**	**139**		Pg	13 43 51.4	-1.6
PUH					Sg	13 43 57.9	-1.8
KHU	**Kahuku**	**0.51**	**186**		Pg	13 43 51.6	-1.5
KHU					Sg	13 43 58.1	-1.9
KHU	**Kahuku**	**0.51**	**186**	IAML		13 43 58.8	
	comp=N,947nm,0.3s						
KHU				IAML		13 43 59.0	
	comp=E,794nm,0.3s						
HLP	**Hilina Pali**	**0.52**	**152**		Pg	13 43 52.0	-1.3
HLP					Sg	13 43 58.5	-1.7
HLP	**Hilina Pali**	**0.52**	**152**	IAML		13 44 02.1	
	comp=E,1μm,0.8s						
HLP				IAML		13 44 12.1	
	comp=N,1μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.53**	**135**		Pg	13 43 52.0	-1.5
MHA	**Mahukona**	**0.54**	**323**		Pg	13 43 52.2	-1.3
MHA					Sg	13 43 59.3	-1.5
HTC	**Hot Caves**	**0.54**	**163**		Pg	13 43 52.2	-1.4
STCH	**Steam Cracks**	**0.55**	**132**		Pg	13 43 52.2	-1.7
STCH					Sg	13 43 59.0	-2.3
STCH	**Steam Cracks**	**0.55**	**132**	IAML		13 43 59.3	
	comp=E,2μm,0.1s						
STCH				IAML		13 44 01.6	
	comp=N,1μm,0.2s						
NPOC	**North of Pu'u**	**0.56**	**130**		Pg	13 43 52.3	-1.7
NPOC					Sg	13 43 59.2	-2.3
JCUZ	**Jacuzzi**	**0.57**	**130**		Pg	13 43 52.5	-1.7
JCUZ					Sg	13 43 59.4	-2.5
JOKA	**Jonika Flow**	**0.62**	**121**		Pg	13 43 53.0	-2.0
JOKA	**Jonika Flow**	**0.62**	**121**	IAML		13 44 09.7	
	comp=E,958nm,0.3s						
JOKA				IAML		13 44 11.7	
	comp=N,1μm,0.4s						
HPO	**Honuapo**	**0.66**	**179**		Pg	13 43 53.8	-2.1

*TIR **24** 13:53:32.1, 40°.88N×19°.72E, h17km±1km, Md2.7/4, Ml2.5/9*
*ATH **24** 13:53:33.3, 40°.91N×19°.64E, h15km±5km, ML2.4/8, Manual Solution by G.Panopoulou First location: 2019/03/24 13:54:51, This location: 2019/03/24 17:15:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*
*SKO **24** 13:53:37.5, 41°.20N×19°.98E, h20km, ML2.2*
ISC 24 13:53:33.0±1.1, 40°.90N±0°.02×19°.70E±0°.03, h19km±3km, n46, σ0§77/63, 4C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.46**	**200**	⇓*ePg*	**Pg**	**13 53 41.1**	**-1.3**
VLO				Sg	**Sg**	**13 53 48.2**	**-0.5**
VLO				AML	AML	13 53 52.4	
	3.9nm,0.4s						
VLO				AMd		13 54 23.9	
TIR	**Tirane**	**0.46**	**16**	⇓*iPg*	**Pb**	**13 53 42.9**	**+0.2**
TIR				Sg	**Sb**	**13 53 49.7**	**+0.5**
TIR				AML	AML	13 53 55.5	
	0.8nm,0.4s						
TIR	**Tirane**	**0.46**	**16**	P	**Pb**	**13 53 42.7**	**0.0**
TIR				S	**Sb**	**13 53 49.2**	**0.0**
OHR	**Ohrid**	**0.86**	**75**	*ePg*	**Pb**	**13 53 49.3**	**-0.1**
OHR				*i* Sg	**Sb**	**13 53 59.6**	**-0.9**
OHR				*e*Lg	Lg	13 54 05.4	
	comp=N,81nm,0.6s						
OHR				*e*Lg	Lg	13 54 09.3	
	comp=E,153nm,0.7s						
KBN	**Korca**	**0.87**	**108**	⇓*ePg*	**Pb**	**13 53 48.3**	**-1.3**
KBN				Sg	**Sb**	**13 54 00.7**	**-0.2**
KBN				AML	AML	13 54 06.5	
	comp=E,0.9nm,0.4s						
KBN				AMd		13 54 28.5	
PHP	**Peshkopia**	**0.96**	**35**	⇑*ePg*	**Pb**	**13 53 50.2**	**-1.0**
PHP				Sg	**Sn**	**13 54 04.6**	**-0.2**
PHP				AML	AML	13 54 11.4	
	comp=E,0.2nm,0.4s						
PHP				AMd		13 54 57.1	
LSK	**Leskovik**	**1.02**	**137**	⇑*ePn*	**Pb**	**13 53 51.5**	**-0.6**
LSK				Sn	**Sb**	**13 54 05.8**	**+0.6**
LSK				AML	AML	13 54 11.3	
	comp=E,0.5nm,0.5s						
SRN	**Sarande**	**1.05**	**167**	⇑*iPg*	**Pb**	**13 53 52.6**	**0.0**
SRN				Sg	**Sg**	**13 54 07.3**	**+0.2**
SRN				AML	AML	13 54 07.9	
	comp=E,0.2nm,0.4s						
SRN				AMd		13 54 43.3	
ULC	**Ulcinj**	**1.11**	**342**	P	**Pn**	**13 53 54.2**	**+0.5**
ULC	**Ulcinj**	**1.11**	**342**	*i* Pg	**Pb**	**13 53 54.1**	**+0.3**
NEST	**Nestorio**	**1.14**	**115**	P	**Pg**	**13 53 54.8**	**-0.3**
PUK	**Puka**	**1.15**	**7**	⇓*iPn*	**Pg**	**13 53 55.1**	**-0.2**
PUK				Sn	**Sg**	**13 54 10.9**	**+0.5**
PUK				AML	AML	13 54 17.0	
	comp=E,0.6nm,0.4s						
KEK	**Kerkira**	**1.19**	**176**	P	**Pb**	**13 53 55.9**	**+0.9**
KEK				S	**Sg**	**13 54 12.5**	**+0.9**
SCTE	**Santa Cesarea**	**1.25**	**229**	P	**Pn**	**13 53 55.4**	**-0.2**
SCTE				S	**Sb**	**13 54 11.4**	**-0.4**
FNA	**Florina**	**1.28**	**95**	*ePg*	**Pb**	**13 53 56.5**	**-0.1**
FNA				*e*Sg	**Sg**	**13 54 15.9**	**+1.5**
FNA	**Florina**	**1.28**	**95**	P	**Pn**	**13 53 55.9**	**-0.1**
FNA				S	**Sg**	**13 54 15.1**	**+0.6**
PENT	**Pentalofos**	**1.30**	**122**	P	**Pg**	**13 53 58.3**	**+0.1**
DRME	**Dracevica, Mon**	**1.34**	**343**	P	**Pb**	**13 53 57.8**	**+0.2**
MESG	**Mesagne**	**1.44**	**258**	P	**Pn**	**13 53 59.4**	**+1.3**
IGT	**Igoumenitsa**	**1.45**	**160**	P	**Pb**	**13 53 59.8**	**+0.3**
BCI	**Bajram Curri**	**1.49**	**11**	⇑*ePn*	**Pb**	**13 54 00.5**	**+0.3**
BCI				Sn	**Sg**	**13 54 21.4**	**+0.2**
BCI				AML	AML	13 54 25.7	
	comp=E,0.5nm,0.6s						
BUM	**Brajici-Budva**	**1.52**	**337**	P	**Pb**	**13 54 01.0**	**+0.3**
KPRO	**Kipourio**	**1.58**	**126**	P	**Pb**	**13 54 01.9**	**+0.1**
KPRO				S	**Sg**	**13 54 23.6**	**-0.6**
KZN	**Kozani**	**1.69**	**110**	P	**Pn**	**13 54 02.7**	**+1.1**
CEME	**Cevo**	**1.75**	**341**	P	**Pn

CJM *eS* Sn 14 00 24.2 -11
LPIG La Paz 4.44 351 Pn 13 59 45.4 -3.1
LPIG Sn 14 00 30.0 -10
LPIG La Paz 4.44 351 Pn **Pn 13 59 46.2 -2.3**
9.9nm,0.3s,baz=200,slow=4.1,SNR=19
LPIG Sn **Sn 14 00 39.1 -1.2**
12nm,0.3s,baz=314,slow=1.5,SNR=1.5
68nm,0.6s
LPIG La Paz 4.44 351 *eP* **Pn 13 59 45.4 -3.1**
LPIG *eS* Sn 14 00 30.0 -10
MAIG Mazatlaan 4.53 39 Pn 13 59 44.8 -4.9
MAIG Mazatlaan 4.53 39 *eP* Pn 13 59 44.8 -4.9
ANIG Ahuacatlan 4.90 73 Pn 13 59 51.6 -3.4
ANIG Sn 14 00 42.5 -9.4
ANIG Ahuacatlan 4.90 73 *eP* **Pn 13 59 51.6 -3.4**
ANIG *eS* Sn 14 00 42.5 -9.4
CDAR Ciudad de Arme 5.28 97 *eP* **Pn 13 59 56.3 -3.7**
CEGR Campo Tres 5.37 92 *eP* **Pn 13 59 58.8 -2.7**
CEGR *eS* Sn 14 00 51.8 -12
SOMAC Volcano de Col 5.58 91 *eP* **Pn 14 00 02.5 -2.1**
SOMAC *eS* Sn 14 00 59.0 -10
MNGA Volcan de Coli 5.59 91 *eP* **Pn 14 00 01.8 -2.8**
INCO Volcan de Coli 5.60 91 *eP* **Pn 14 00 03.3 -1.6**
EZ5V 5.61 91 Pn 14 00 04.1 -0.7
EZ5V 5.61 91 *eP* **Pn 14 00 03.0 -1.8**
EZ5V *eS* **Sn 14 01 07.2 -2.3**
TSIG Topolobambo 5.89 4 Pn 14 00 06.1 -2.4
TSIG Topolobambo 5.89 4 *eP* **Pn 14 00 06.1 -2.4**
PDIG Papasquiaro 6.56 35 Pn 14 00 15.8 -2.0
PDIG **Sn 14 01 30.3 -2.5**
PDIG Papasquiaro 6.56 35 *eP* **Pn 14 00 15.8 -2.0**
PDIG *eS* **Sn 14 01 30.3 -2.5**
CSIG Choix 7.18 8 Pn 14 00 26.6 +0.4
CSIG **Sn 14 01 51.4 +3.5**
CSIG Choix 7.18 8 *eP* **Pn 14 00 26.6 +0.4**
CSIG *eS* **Sn 14 01 51.4 +3.5**
ZAIG Zacatecas 7.19 64 Pn **Pn 14 00 24.5 -2.1**
SRIG Santa Rosalia 7.98 342 Pn **Pn 14 00 36.1 -1.0**
BCIG La Boquilla 8.68 25 Pn 14 00 45.1 -1.8
BCIG La Boquilla 8.68 25 *eP* **Pn 14 00 45.1 -1.8**
ARIG Puente Sto Nin 8.82 98 Pn 14 00 47.3 -1.4
ARIG Puente Sto Nin 8.82 98 *eP* **Pn 14 00 47.3 -1.4**
CAIG El Cayaco 9.20 105 Pn 14 00 53.9 0.0
CAIG El Cayaco 9.20 105 *eP* **Pn 14 00 53.9 0.0**
PLIG Platanillo 9.59 96 Pn 14 00 59.6 +0.3
PLIG Platanillo 9.59 96 *eP* **Pn 14 00 59.6 +0.3**
DAIG Los Arroyos 9.77 104 Pn 14 01 00.1 -1.6
DAIG Los Arroyos 9.77 104 *eP* **Pn 14 01 00.1 -1.6**
TLIG Tlapa 10.62 100 Pn 14 01 15.1 +1.5
TX31 Lajitas Ar. Si 10.98 28 Pn 14 01 18.1 -0.3
TXAR Lajitas Array 10.98 28 Pn **Pn 14 01 18.1 -0.3**
TXAR Lajitas Array 10.98 28 Pn **Pn 14 01 17.6 -0.8**
0.1nm,0.3s,baz=198,slow=12,SNR=37
7.5nm,0.9s
319A Douglas 11.63 1 Pn **Pn 14 01 27.6 +0.3**
VHRN Van Horn 11.79 20 Pn 14 01 30.4 +1.0
SAND Sanderson 12.23 32 Pn 14 01 33.9 -1.6
SFX San Felipe 12.27 338 Pn **Pn 14 01 36.7 +0.8**
PIX Pinacate 12.33 344 Pn **Pn 14 01 37.1 +0.5**
TUC Tucson 12.61 355 Pn 14 01 40.5 -0.2
TUC Tucson 12.61 355 *eP* **Pn 14 01 42.3 +1.7**
DRIO Del Rio 12.63 38 Pn 14 01 40.3 -0.6
VTX Valle De La Tr 12.93 335 Pn 14 01 45.7 +0.7
OZNA Ozona 13.52 33 Pn **Pn 14 01 52.2 -0.8**
HNDO Hondo 13.52 42 Pn 14 01 53.3 +0.3
CMIG Matias Romero 14.16 98 Pn **Pn 14 02 01.9 +0.1**
0.2nm,0.3s,baz=321,slow=5.9,SNR=4.5
CMIG LR LR 14 07 03.9
comp=Z,197nm,18.6s,baz=288,slow=36
1.8nm,0.6s
BNM Barren Site 14.63 10 Pn **Pn 14 02 08.0 -0.4**
BLYC Blythe 14.68 343 Pn **Pn 14 02 09.0 +0.1**
BRDY Brady 14.95 37 Pn **Pn 14 02 11.8 -0.7**
POST Post 15.13 27 IAmb IAmb 14 02 22.2
comp=Z,14nm,1.1s
PFO Pinyon Flats O 15.17 337 Pn **Pn 14 02 16.4 +0.9**
comp=Z,0.1nm,0.3s,baz=160,slow=11,SNR=9.0
PFO LR LR 14 07 11.8
comp=Z,633nm,21.8s,baz=154,slow=34
comp=Z,1.8nm,0.7s
ANMO Albuquerque 15.44 10 P 14 02 23.9 +0.2
ANMO Albuquerque 15.44 10 Pn **Pn 14 02 19.2 +0.1**
comp=Z,0.1nm,0.3s,baz=336,slow=14,SNR=8.9
ANMO LR LR 14 07 02.3
comp=Z,159nm,18.8s,baz=354,slow=33
comp=Z,0.3nm,0.3s
MSTX Muleshoe 15.44 22 IAmb IAmb 14 02 32.0
comp=Z,12nm,1.0s
435B Jarrell 15.44 42 P 14 02 24.1 +0.5
435B IAmb IAmb 14 02 26.0
comp=Z,29nm,1.1s
ELS Elsinore Mount 15.57 335 IAmb IAmb 14 02 29.6
comp=Z,14nm,1.1s
W13A Hualapai Mount 15.82 347 IAmb IAmb 14 02 33.2
comp=Z,23nm,1.4s
WUAZ Wupatki 15.84 355 IAmb IAmb 14 02 32.5
comp=Z,17nm,1.0s
DKNS Dickens 15.89 27 IAmb IAmb 14 02 31.5
comp=Z,16nm,1.0s
HKT Hockley 16.08 48 P 14 02 31.9 +1.2
WHTX Lake Whitney, 16.36 39 IAmb IAmb 14 02 36.1
comp=Z,36nm,1.2s
PLPT Palo Pinto 16.48 35 IAmb IAmb 14 02 37.8
comp=Z,46nm,1.4s
FW13 Cleburne 16.64 38 IAmb IAmb 14 02 35.5
comp=Z,27nm,1.3s
V12A Nelson 16.64 345 IAmb IAmb 14 02 42.0
comp=Z,21nm,1.2s
FW07 Weatherford 16.69 37 IAmb IAmb 14 02 40.0
comp=Z,34nm,1.1s
GSC Goldstone, Bar 16.82 339 IAmb IAmb 14 02 43.4
comp=Z,30nm,1.3s
WTFS Witchita Falls 17.14 33 IAmb IAmb 14 02 49.6
comp=Z,34nm,1.2s
BCW Bitter Crk WRg 17.52 332 IAmb IAmb 14 02 52.6
comp=Z,26nm,1.1s
X34A Smith Ranch, M 18.12 33 IAmb IAmb 14 03 20.2
comp=Z,18nm,1.1s
TPNV Topopah Spring 18.16 343 IAmb IAmb 14 02 58.4
comp=Z,32nm,1.2s
PV13 Radium Mtn., P 18.41 2 IAmb IAmb 14 03 02.1
comp=Z,24nm,1.4s
PV11 David Mesa, Pa 18.55 2 IAmb IAmb 14 03 04.5
comp=Z,23nm,1.3s
PV10 Paradox Valley 18.62 1 IAmb IAmb 14 03 07.2
comp=Z,24nm,1.0s
S11A Rachel 18.68 344 IAmb IAmb 14 03 14.0
comp=Z,30nm,1.3s
PV23 Carpenter Ridg 18.70 1 IAmb IAmb 14 03 07.0
comp=Z,32nm,1.3s
DSP Deep Springs 19.08 339 IAmb IAmb 14 03 10.7
comp=Z,18nm,1.2s
PSUT Pine Spring 19.14 350 IAmb IAmb 14 03 11.3
comp=Z,35nm,1.4s
Q16A Castle Valley 19.21 356 IAmb IAmb 14 03 46.4
comp=Z,18nm,1.3s
SPR3 Spring Creek 3 19.68 349 IAmb IAmb 14 03 16.2
comp=Z,27nm,1.5s
P18A Preston Nutter 19.87 358 IAmb IAmb 14 03 20.0
comp=Z,28nm,1.4s
QUOK Quay 19.92 32 IAmb IAmb 14 03 17.6
comp=Z,17nm,1.1s
OK048 Pawnee Station 20.00 31 IAmb IAmb 14 03 39.6
comp=Z,14nm,1.0s
MTO3 Montecristo 20.00 102 P Pn 14 03 16.4 +0.5
LHV Little Huntoon 20.06 339 IAmb IAmb 14 03 19.4
comp=Z,21nm,1.0s
OK051 E0350 and S346 20.12 31 IAmb IAmb 14 03 22.7
comp=Z,13nm,1.0s
Z41A Richland Creek 20.14 45 IAmb IAmb 14 03 16.1
comp=Z,21nm,0.9s
NVAR Mina Array Bea 20.16 340 P Pn 14 03 17.1 -0.5
comp=Z,3.9nm,0.8s,baz=163,slow=11,SNR=18
NVAR LR LR 14 10 30.8
comp=Z,262nm,19.0s,baz=154,slow=35
comp=Z,3.9nm,0.8s
MPU Maple Canyon 20.33 355 IAmb IAmb 14 03 24.9
comp=Z,17nm,1.1s
MIAR Mount Ida 20.47 40 P **P 14 03 17.9 -1.1**
T35A Sooner Cattle 20.60 31 IAmb IAmb 14 03 22.1
comp=Z,16nm,1.0s
WAKR Walker 20.61 337 IAmb IAmb 14 03 25.5
comp=Z,18nm,1.0s
DUG Dugway, Tooele 20.62 353 IAmb IAmb 14 03 36.0
comp=Z,19nm,1.1s

PNTR Pine Nut 21.19 338 P 14 03 29.5 +2.6
U38A Gravette 21.33 35 P **P 14 03 28.1 -0.2**
U38A IAmb IAmb 14 03 29.4
comp=Z,9.4nm,0.9s
HHAR Hobbs 21.47 36 IAmb IAmb 14 03 37.9
comp=Z,12nm,1.1s
ELK Elko 21.54 348 P **P 14 03 31.1 +0.4**
comp=Z,4.2nm,1.0s,baz=188,slow=8.8,SNR=8.9
comp=Z,4.2nm,1.0s
PAHR Pah Rah Range 21.67 339 IAmb IAmb 14 03 36.5
comp=Z,10nm,1.0s
WHAR Wooly Hollow 21.76 41 P **P 14 03 31.3 -1.5**
HWUT Hardware Ranch 21.91 356 IAmb IAmb 14 03 43.3
comp=Z,11nm,1.0s
OGNE Ogallala 22.13 15 P **P 14 03 35.7 -1.2**
OGNE IAmb IAmb 14 03 42.5
comp=Z,9.7nm,0.8s
HVU Hansel Valley 22.18 354 IAmb IAmb 14 03 46.2
comp=Z,12nm,1.1s
LCAR Lake Charles 22.96 41 IAmb IAmb 14 03 47.8
comp=Z,13nm,1.1s
PDAR Pinedale Array 23.00 360 P **P 14 03 46.0 -0.3**
PDAR Pinedale Array 23.00 360 P **P 14 03 46.3 0.0**
comp=Z,1.1nm,0.8s,baz=178,slow=11,SNR=9.7
PDAR LR LR 14 12 17.5
comp=Z,118nm,18.6s,baz=160,slow=36
comp=Z,1.1nm,0.8s
MGMO Mountain Grove 23.03 37 IAmb IAmb 14 03 54.5
comp=Z,6.5nm,0.9s
T42A Van Buren 23.63 39 IAmb IAmb 14 03 54.0
comp=Z,12nm,1.1s
SNOW Snow King Moun 23.72 358 IAmb IAmb 14 04 00.7
comp=Z,12nm,1.4s
TPAW Teton Pass 23.75 357 IAmb IAmb 14 04 00.9
comp=Z,9.9nm,1.1s
R40A Maddies Statio 23.84 35 IAmb IAmb 14 03 57.2
comp=Z,7.7nm,1.0s
LOHW Long Hollow 23.86 358 IAmb IAmb 14 04 01.6
comp=Z,12nm,1.5s
PBMO Poplar Bluff 23.87 41 IAmb IAmb 14 03 56.2
comp=Z,17nm,1.4s
FXWY Fox Creek 23.90 357 IAmb IAmb 14 04 02.0
comp=Z,8.5nm,1.2s
WVOR Wild Horse Val 23.94 343 IAmb IAmb 14 04 00.0
comp=Z,16nm,1.2s
LRAL Lakeview Retre 24.11 52 IAmb IAmb 14 04 01.1
comp=Z,7.7nm,1.0s
HLID Hailey 24.14 351 IAmb IAmb 14 04 02.1
comp=Z,8.0nm,1.4s
P38A Dawn 24.18 31 P **P 14 03 56.9 -0.7**
P38A IAmb IAmb 14 03 58.9
comp=Z,9.1nm,1.0s
MFID Camas Ranch 24.23 349 IAmb IAmb 14 04 02.4
comp=Z,18nm,1.5s
YBH Yreka Blue Hor 24.65 336 LR LR 14 13 00.8
comp=Z,223nm,18.8s,baz=158,slow=35
J08A Circle Bar Ran 24.76 344 IAmb IAmb 14 04 08.2
comp=Z,12nm,1.2s
X48A Hartselle 24.77 49 IAmb IAmb 14 04 05.5
comp=Z,14nm,1.3s
LKWY Lake 24.81 359 IAmb IAmb 14 04 48.3
comp=Z,6.1nm,1.2s
YMR Madison River 24.93 358 IAmb IAmb 14 04 15.2
comp=Z,12nm,1.2s
YHB Horse Butte 25.02 357 IAmb IAmb 14 04 10.6
comp=Z,9.6nm,1.0s
YHL Hebgen Lake 25.12 357 IAmb IAmb 14 04 10.7
comp=Z,9.8nm,1.5s
WVT Waverly 25.13 45 P **P 14 04 06.5 +0.2**
WVT IAmb IAmb 14 04 07.9
comp=Z,6.2nm,0.9s
SIUC Southern Illin 25.21 40 IAmb IAmb 14 04 08.2
comp=Z,11nm,1.1s
YNE Yellowstone No 25.24 359 IAmb IAmb 14 04 15.7
comp=Z,8.1nm,1.2s
RLMT Red Lodge 25.36 0 IAmb IAmb 14 04 34.0
comp=Z,8.8nm,1.4s
J05D Fort Rock, OR 25.49 340 P **P 14 04 09.8 +0.1**
J05D IAmb IAmb 14 04 15.7
comp=Z,6.9nm,0.8s
V48A Smith Brothers 25.60 47 IAmb IAmb 14 04 16.0
comp=Z,8.3nm,1.1s
PINE Pine Mountain 25.85 341 P **P 14 04 12.7 -0.3**
PINE IAmb IAmb 14 04 20.8
comp=Z,9.0nm,0.9s
PLID Pearl Lake 25.88 349 IAmb IAmb 14 04 15.8
comp=Z,5.9nm,1.1s
BOZ Bozeman (W) 25.89 357 IAmb IAmb 14 04 19.3
comp=Z,7.0nm,1.2s
SWET Sewanee 25.95 49 IAmb IAmb 14 04 15.3
comp=Z,11nm,0.9s
T50A Nancy 27.63 46 IAmb IAmb 14 04 31.4
comp=Z,7.8nm,1.0s
TKL Tuckaleechee C 27.70 50 IAmb IAmb 14 04 30.9
comp=Z,11nm,1.1s
TKL Tuckaleechee C 27.70 50 LR LR 14 17 40.8
comp=Z,107nm,18.1s,baz=244,slow=41
NEW Newport 29.15 350 LR LR 14 16 45.5
comp=Z,85nm,19.8s,baz=177,slow=37
ULM Lac du Bonnet 32.37 16 P **P 14 05 10.4 -0.2**
comp=Z,3.3nm,0.9s,baz=218,slow=9.7,SNR=3.4
ULM LR LR 14 17 30.8
comp=Z,152nm,18.4s,baz=174,slow=35
comp=Z,3.3nm,0.9s
SADO Sadowa 35.51 38 LR LR 14 19 23.7
comp=Z,145nm,21.8s,baz=252,slow=35
BBB Bella Bella 35.52 340 LR LR 14 19 22.8
comp=Z,170nm,20.2s,baz=167,slow=35
OTAV Otavalo 36.08 119 P **P 14 05 45.8 +2.0**
SDV Santo Domingo 39.12 100 P 14 06 10.0 +0.8
SDV Santo Domingo 39.12 100 LR LR 14 21 55.4
comp=Z,62nm,21.5s,baz=266,slow=36
FCC Fort Churchill 40.61 12 P **P 14 06 20.5 -0.3**
FCC IAmb IAmb 14 06 22.6
comp=Z,4.8nm,0.8s
DLBC Dease Lake 41.48 344 LR LR 14 24 46.5
comp=Z,287nm,18.1s,baz=166,slow=38
BAUV El Baul 41.51 99 P **P 14 06 28.8 0.0**
YKA Yellowknife Ar 42.90 357 P **P 14 06 38.9 -0.7**
comp=Z,0.9nm,0.8s,baz=175,slow=7.8,SNR=15
YKA PcP **PcP 14 08 31.2 +1.0**
comp=Z,0.3nm,0.7s,baz=174,slow=3.2,SNR=4.1
YKA LR LR 14 26 05.2
comp=Z,108nm,20.0s,baz=242,slow=38
comp=Z,0.9nm,0.8s
PCRV Puerto La Cruz 44.30 96 LR LR 14 26 02.5
comp=Z,44nm,18.8s,slow=37
CZSB Cruzeiro do Su 45.37 123 P **P 14 07 02.0 +2.0**
L29M L29M 47.58 343 P **P 14 07 17.6 +0.8**
KDAK Kodiak Island 49.32 331 LR LR 14 26 26.9
comp=Z,81nm,18.6s,baz=301,slow=34
G31M Satah River 49.81 348 P **P 14 07 34.2 +0.4**
I28M Miner Creek 49.91 344 IAmb IAmb 14 07 42.6
comp=Z,3.6nm,0.9s
INK Inuvik 50.87 349 P **P 14 07 41.6 -0.2**
ILAR Eielson Array 51.41 341 P **P 14 07 45.4 -0.5**
comp=Z,0.9nm,0.6s,baz=146,slow=7.3,SNR=15
ILAR LR LR 14 31 01.5
comp=Z,36nm,18.5s,baz=204,slow=38
comp=Z,0.9nm,0.6s
NEA2 Nenana 51.99 340 IAmb IAmb 14 07 57.3
comp=Z,7.9nm,1.3s
E27K Coleen River 52.47 346 IAmb IAmb 14 07 59.3
comp=Z,4.6nm,0.9s
F26K Sheenjek River 52.72 344 IAmb IAmb 14 07 59.2
comp=Z,3.0nm,0.8s
F25K Christian Rive 53.04 344 IAmb IAmb 14 08 30.6
comp=Z,3.3nm,1.1s
PPT Papeete 54.01 229 LR LR 14 24 38.6
comp=Z,108nm,20.0s,baz=95,slow=29
LPAZ La Paz 54.18 128 P **P 14 08 08.6 +0.8**
LPAZ La Paz 54.18 128 P **P 14 08 08.8 +1.0**
comp=Z,5.7nm,0.8s,baz=315,slow=5.3,SNR=22
LPAZ LR LR 14 28 09.7
comp=Z,123nm,20.4s,baz=305,slow=33
comp=Z,5.7nm,0.8s
E23K Chandalar 54.45 343 IAmb IAmb 14 08 12.2
comp=Z,4.2nm,0.8s
TOLK Toolik Lake Re 54.83 343 IAmb IAmb 14 08 14.7
comp=Z,4.0nm,0.8s
RES Resolute Bay 55.58 5 LR LR 14 33 56.3
comp=Z,74nm,19.2s,baz=22,slow=38
MDP Montagnes des 57.18 97 LR LR 14 33 17.0
comp=Z,53nm,19.8s,baz=317,slow=36
D19K Kuna River 57.23 341 IAmb IAmb 14 08 32.0
comp=Z,4.6nm,0.9s
SFJD Kangerlussuaq 60.05 23 LR LR 14 33 39.0
comp=Z,114nm,18.7s,baz=257,slow=35

H03N2 Juan Fernandez 60.38 151 T T 15 14 29.8
baz=329,slow=77,SNR=74
H03N1 Juan Fernandez 60.39 151 T T 15 14 39.0
baz=329,slow=77,SNR=113
H03N3 Juan Fernandez 60.40 151 T T 15 14 38.4
baz=329,slow=77,SNR=119
PTLB Pontes e Lacer 60.64 121 P **P 14 08 52.6 0.0**
RAR Rarotonga 63.77 233 LR LR 14 29 16.4
comp=Z,131nm,21.1s,baz=80,slow=29
CPUP Villa Florida 68.27 130 P **P 14 09 42.3 -0.1**
comp=Z,3.7nm,0.8s,baz=305,slow=8.5,SNR=8.4
CPUP LR LR 14 38 52.8
comp=Z,54nm,18.5s,baz=228,slow=35
comp=Z,3.7nm,0.8s
BDFB Brasilia 69.94 116 P **P 14 09 53.2 0.0**
comp=Z,5.1nm,0.8s,baz=290,slow=9.2,SNR=6.8
comp=Z,5.1nm,0.8s
PLCA Paso Flores 70.20 149 LR LR 14 33 35.7
comp=Z,118nm,18.7s,baz=316,slow=30
SEY Seymchan 76.27 332 P **P 14 10 30.2 +0.5**
comp=Z,1.6nm,0.8s,baz=91,slow=6.9,SNR=9.4
comp=Z,1.6nm,0.8s
MA2 Magadan 78.01 329 P **P 14 10 38.9 -0.6**
comp=Z,1.5nm,0.7s,baz=96,slow=9.8,SNR=4.7
comp=Z,1.5nm,0.7s
MSVF Nonsavu 80.21 247 LR LR 14 38 31.7
comp=Z,102nm,18.9s,baz=138,slow=30
ARCES ARCESS Array B 85.46 14 P **P 14 11 17.2 -1.5**
comp=Z,3.6nm,0.9s,baz=316,slow=3.8,SNR=5.3
comp=Z,3.6nm,0.9s
ESDC Sonseca Array 88.99 48 LR LR 14 50 30.8
comp=Z,56nm,18.8s,baz=312,slow=35
URZ Urewera 89.66 229 LR LR 14 44 03.1
comp=Z,80nm,20.3s,baz=97,slow=30
MDT Midelt 91.37 54 LR LR 14 48 02.6
comp=Z,46nm,21.5s,baz=18,slow=32
HNR Honiara 93.60 261 LR LR 14 44 56.0
comp=Z,55nm,21.0s,baz=13,slow=30
USRK Ussuriysk Ar. 95.18 321 P **P 14 12 05.0 +0.1**
comp=Z,1.8nm,0.7s,baz=71,slow=11,SNR=2.3
comp=Z,1.8nm,0.7s
ASAR Alice Springs 121.32 254 PKP **PKPdf 14 17 35.0 -0.3**
comp=Z,0.4nm,0.7s,baz=61,slow=1.5,SNR=7.1
CMAR Chiang Mai Arr 132.89 322 PKP **PKPdf 14 17 56.2 -1.2**
comp=Z,0.2nm,0.4s,baz=69,slow=8.9,SNR=1.4

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*IDC **24** 14:02:00.6±2.2, 43.°09N×29.°48W, h0km, mb3.6/7, mbtmp3.5/8, ML3.5/1, MS3.3/1, Error ellipse: s-maj=70.9km s-min=24.1km az=2.0*

ISC 24 14:02:01.7±1.9, 43.°0N±0.°4×29.°5W±0.°1, h10km, n9, σ0.59/8, mb3.7/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.40**	**91**	P	**Pn**	**14 06 29.3**	**+0.2**
	baz=291,slow=10,SNR=4.2						
	0.7nm,0.8s						
SJG	**San Juan**	**39.71**	**243**	LR	LR	14 23 59.6	
	comp=Z,39nm,19.1s,baz=178,slow=33						
YKA	**Yellowknife Ar**	**50.89**	**323**	P	**P**	**14 11 03.0**	**+0.5**
	0.5nm,0.8s,baz=72,slow=7.4,SNR=5.2						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**56.45**	**299**	P	**P**	**14 11 43.5**	**-0.4**
	0.8nm,1.1s,baz=52,slow=6.9,SNR=2.9						
	0.8nm,1.1s						
TXAR	**Lajitas Array**	**59.64**	**283**	P	**P**	**14 12 06.2**	**0.0**
	0.6nm,0.9s,baz=46,slow=5.6,SNR=4.9						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**62.01**	**334**	P	**P**	**14 12 21.8**	**+0.1**
	0.3nm,0.8s,baz=55,slow=6.4,SNR=5.1						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**62.22**	**42**	P	**P**	**14 12 22.4**	**-0.9**
	0.3nm,0.6s,baz=330,slow=8.3,SNR=1.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**67.68**	**41**	P	**P**	**14 12 59.2**	**+0.5**
	0.4nm,0.2s,baz=311,slow=6.7,SNR=1.1						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**72.11**	**42**	P	**P**	**14 13 26.6**	**+0.5**
	0.5nm,0.8s,baz=310,slow=5.4,SNR=4.5						
	0.5nm,0.8s						

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*BJI **24** 14:32:47.7, 48.°53N×155.°88E, h10km, mB5.0/18, mb4.8/61, Ms4.5/38, Ms7 4.3/38*
*IDC **24** 14:32:50.7±0.5, 48.°61N×155.°44E, h0km, mb4.5/30, mbtmp4.6/36, ML5.2/4, MS3.9/48, Error ellipse: s-maj=12.9km s-min=11.3km az=143.0*
*KRSC **24** 14:32:51.1±2.0, 48.°29N×155.°99E, h60km±34km, Ml5.1*
*SKHL **24** 14:32:53.0±0.1, 48.°30N×155.°90E, h39km±5km, mb5.3/10, mbv5.3/4, ms4.4/6, msh5.2/3*
*MOS **24** 14:32:54.1±1.2, 48.°48N×155.°66E, h37km, mb5.1/38, MS4.1/9, Error ellipse: s-maj=6.7km s-min=3.1km az=83.6*
*NEIC **24** 14:32:56.7±1.5, 48.°6N±0.°1×155.°3E±0.°1, h36km±6km, mb4.8/155, Error ellipse: s-maj=17.9km s-min=9.4km az=145.0*

ISC 24 14:32:56.3±0.6, 48.°44N±0.°05×155.°64E±0.°04, h43km±4km, n598, σ1.33/535, mb4.8/182, MS4.1/59, 44C-39D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.27**	**8**	PN	**Pn**	**14 33 30.2**	**-1.0**
SKR				S	**Sn**	**14 33 58.2**	**+0.3**
SKR	**Severo-Kuril's**	**2.27**	**8**	*eP*	**Pn**	**14 33 30.2**	**-1.0**
SKR				*eS*	**Sn**	**14 33 58.4**	**+0.5**
SKR	**Severo-Kuril's**	**2.27**	**8**	*eP*	**Pn**	**14 33 30.3**	**-1.0**
SKR				AMB	AMB	14 33 30.5	
	240nm,0.4s						
SKR				*eS*	**Sn**	**14 33 58.3**	**+0.3**
SKR				A	A	14 34 08.7	
	3μm,0.6s						
SKR				A	A	14 34 08.7	
	3μm,0.6s						
SKR				AMS	AMS	14 34 31.6	
	7μm,14.0s						
PAU	**Pauzhetka**	**3.13**	**14**	PN	**Pn**	**14 33 42.2**	**-0.7**
PAU				S	**Sn**	**14 34 19.1**	**+0.1**
PAU	**Pauzhetka**	**3.13**	**14**	*eP*	**Pn**	**14 33 42.3**	**-0.7**
PAU	**Pauzhetka**	**3.13**	**14**	*eP*	**Pn**	**14 33 42.3**	**-0.7**
PAU				AMB	AMB	14 33 44.8	
	290nm,0.4s						
PAU				*eS*	**Sn**	**14 34 19.2**	**+0.2**
PAU				A	A	14 34 31.5	
	1μm,0.5s						
PAU				A	A	14 34 31.5	
	1μm,0.5s						
KDTR	**Khodutka, Kamc**	**3.72**	**24**	PN	**Pn**	**14 33 49.2**	**-1.9**
KDTR				S	**Sn**	**14 34 32.0**	**-1.7**
KDTR	**Khodutka, Kamc**	**3.72**	**24**	*eP*	**Pn**	**14 33 49.3**	**-1.9**
KDTR				*eS*	**Sn**	**14 34 32.0**	**-1.7**
RUS	**Russkaya**	**4.40**	**24**	PN	**Pn**	**14 33 58.6**	**-1.9**
RUS	**Russkaya**	**4.40**	**24**	*eP*	**Pn**	**14 33 58.7**	**-1.9**
RUS				*eS*	**Sn**	**14 34 47.2**	**-3.2**
GRL	**Gorelyy**	**4.40**	**20**	PN	**Pn**	**14 34 00.0**	**-0.6**
GRL	**Gorelyy**	**4.40**	**20**	*eP*	**Pn**	**14 34 00.0**	**-0.6**
APC	**Apacha**	**4.60**	**12**	PN	**Pn**	**14 34 03.8**	**+0.7**
APC	**Apacha**	**4.60**	**12**	*eP*	**Pn**	**14 34 03.8**	**+0.7**
KRMR	**Karymshinskiy**	**4.68**	**19**	PN	**Pn**	**14 34 03.9**	**-0.3**
KRMR	**Karymshinskiy**	**4.68**	**19**	*eP*	**Pn**	**14 34 03.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**4.86**	**15**	Pn	**Pn**	**14 34 06.7**	**0.0**
PEA0B	**Petropavlovsk-**	**4.86**	**15**	*ce*PN	**Pn**	**14 34 06.1**	**-0.6**
PETK	**Petropavlovsk-**	**4.86**	**15**	Pn	**Pn**	**14 34 05.8**	**-0.9**
PETK	**Petropavlovsk-**	**4.86**	**15**	Pn	**Pn**	**14 34 04.3**	**-2.4**
	27nm,0.3s,baz=176,slow=12,SNR=471						
PETK	**Petropavlovsk-**	**4.86**	**15**	PN	**Pn**	**14 34 05.8**	**-0.9**
PET	**Petropavlovsk**	**4.98**	**22**		**Pn**	**14 34 07.2**	**-1.1**
PET	**Petropavlovsk**	**4.98**	**22**	*e*PN	**Pn**	**14 34 07.3**	**-1.0**
PET				*eS*	**Sn**	**14 35 04.0**	**-0.5**
PET				pmax	pmax		
	comp=Z,99nm,0.5s						
PET				smax	smax		
	comp=N,529nm,0.6s						
PET				smax	smax		
	comp=E,528nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**4.98**	**22**	*eP*	**Pn**	**14 34 07.2**	**-1.1**
PET				*eS*	**Sn**	**14 35 03.7**	**-0.9**
PET	**Petropavlovsk**	**4.98**	**22**	*eP*	**Pn**	**14 34 08.3**	**0.0**
PET				AMB	AMB	14 34 10.8	
	comp=Z,30nm,0.4s						
PET				*eS*	**Sn**	**14 35 04.0**	**-0.5**
PET				A	A	14 35 21.0	
	comp=Z,530nm,0.6s						

PET A A 14 35 21.0
comp=Z,530nm,0.6s
PET AMS AMS 14 36 16.0
comp=Z,2μm,18.0s
PET Petropavlovsk 4.98 22 P Pn 14 34 07.0 -1.3
INSR Institute 5.00 21 PN Pn 14 34 08.1 -0.6
DALK Dalny 5.01 22 PN Pn 14 34 07.6 -1.2
DALK Dalny 5.01 22 *e*P Pn 14 34 07.6 -1.2
DALK *e*S **Sn 14 35 04.6 -0.7**
UGLR Uglovaya 5.19 22 PN Pn 14 34 10.8 -0.5
UGLR Uglovaya 5.19 22 *e*P Pn 14 34 10.9 -0.5
AVH Avacha 5.22 21 PN Pn 14 34 11.8 +0.1
AVH Avacha 5.22 21 *e*P Pn 14 34 11.9 +0.1
AVH Avacha 5.22 21 *e*P Pn 14 34 11.8 +0.1
KOK Koryaka 5.22 20 PN Pn 14 34 12.1 +0.3
KOK Koryaka 5.22 20 *e*P Pn 14 34 12.2 +0.3
KOK Koryaka 5.22 20 *e*P Pn 14 34 12.1 +0.3
KRER Koryakskii 5.26 21 PN Pn 14 34 12.5 +0.1
KRER Koryakskii 5.26 21 *e*P Pn 14 34 12.5 +0.1
SDLR Sedlovina 5.27 22 PN Pn 14 34 11.3 -1.1
SDLR Sedlovina 5.27 22 *e*P Pn 14 34 11.3 -1.1
KRX Arik 5.28 20 PN Pn 14 34 12.6 -0.1
KRX S **Sn 14 35 14.1 +1.8**
KRX Arik 5.28 20 *e*P Pn 14 34 12.6 -0.1
KRX *e*S **Sn 14 35 14.1 +1.8**
NLC Nalytchevo 5.29 25 PN Pn 14 34 10.1 -2.6
SPN Mys Shipunski 5.43 29 PN Pn 14 34 13.3 -1.3
SPN Mys Shipunski 5.43 29 *e*P Pn 14 34 13.3 -1.3
GNL Ganaly 5.46 15 PN Pn 14 34 15.6 +0.5
GNL Ganaly 5.46 15 *e*P Pn 14 34 15.4 +0.3
KUR Kuril'sk 6.22 242 *c i*PN **Pn 14 34 25.7 +0.3**
KUR S **Sn 14 35 39.2 +4.1**
KUR pmax pmax
comp=Z,1μm,2.7s
KUR pmax pmax
comp=Z,451nm,0.5s
KUR pmax pmax
comp=N,199nm,0.3s
KUR pmax pmax
comp=E,137nm,0.3s
KUR smax smax
comp=N,2μm,2.0s
KUR smax smax
comp=E,3μm,2.0s
KUR smax smax
comp=N,306nm,0.9s
KUR smax smax
comp=E,196nm,0.9s
KUR Kuril'sk 6.22 242 *e*P **Pn 14 34 25.9 +0.5**
KUR Kuril'sk 6.22 242 *i* P **Pn 14 34 25.7 +0.3**
KUR AMB AMB 14 34 28.1
comp=E,1μm,2.7s
KUR AMB AMB 14 34 33.1
comp=E,450nm,0.5s
KUR AMB AMB 14 34 33.1
comp=E,200nm,0.3s
KUR AMB AMB 14 34 33.1
comp=E,140nm,0.3s
KUR *e*S **Sn 14 35 33.5 -1.6**
KUR A A 14 35 53.8
comp=E,2μm,2.0s
KUR A A 14 35 53.8
comp=E,3μm,2.0s
KUR A A 14 35 57.2
comp=E,310nm,0.8s
KUR A A 14 35 57.2
comp=E,200nm,0.8s
TUMD Tumrok D 7.39 22 PN Pn 14 34 40.3 -1.2
TUMD Tumrok D 7.39 22 *e*P Pn 14 34 40.3 -1.2
SHO Shikotan 7.63 236 *e*PN Pn 14 34 41.7 -3.1
SHO pmax pmax
comp=Z,114nm,1.1s
SHO pmax pmax
comp=Z,115nm,0.3s
SHO pmax pmax
comp=N,50nm,0.2s
SHO pmax pmax
comp=E,62nm,0.3s
SHO Shikotan 7.63 236 *e*P Pn 14 34 41.7 -3.1
SHO AMB AMB 14 34 49.7
comp=E,200nm,1.1s
SHO AMB AMB 14 34 55.2
comp=E,50nm,0.2s
SHO *e*S Sn 14 36 03.5 -6.3
ESO Esso 7.73 13 PN Pn 14 34 46.3 +0.1
ESO Esso 7.73 13 *e*P Pn 14 34 46.3 +0.1
KMNR Kamenistaya 7.86 19 PN Pn 14 34 50.8 +2.9
KMNR Kamenistaya 7.86 19 *e*P Pn 14 34 50.8 +2.9
KPT Kopyto 8.05 19 PN Pn 14 34 51.0 +0.5
KPT Kopyto 8.05 19 *e*P Pn 14 34 51.1 +0.5
KIRR Kirishev 8.06 19 PN Pn 14 34 50.8 0.0
KIRR Kirishev 8.06 19 *e*P Pn 14 34 50.9 0.0
KOZ Kozyrevsk 8.06 17 PN Pn 14 34 51.5 +0.9
KOZ Kozyrevsk 8.06 17 *e*P Pn 14 34 51.6 +0.9
YUK Yuzh-Kuril'sk 8.08 241 *i* PN **Pn 14 34 50.0 -0.9**
YUK Yuzh-Kuril'sk 8.08 241 *e*P Pn 14 34 50.4 -0.5
YUK Yuzh-Kuril'sk 8.08 241 *e*P Pn 14 34 50.4 -0.5
YUK AMB AMB 14 34 53.8
comp=E,130nm,0.4s
YUK AMB AMB 14 34 53.8
comp=E,140nm,0.4s
YUK AMB AMB 14 34 53.8
comp=E,340nm,0.4s
YUK AMB AMB 14 35 04.2
comp=E,400nm,1.1s
YUK *i* S **Sn 14 36 18.2 -2.6**
BZWR Bezymyannyi-We 8.11 20 PN Pn 14 34 51.9 +0.5
BZWR Bezymyannyi-We 8.11 20 *e*P Pn 14 34 52.0 +0.5
BZGR Bezymyannyi-Gr 8.13 21 PN Pn 14 34 52.1 +0.4
BZGR Bezymyannyi-Gr 8.13 21 *e*P Pn 14 34 52.2 +0.4
RUSJ Misakicho 8.40 243 *e*PN **Pn 14 34 58.5 +3.2**
NMR Nemuro--Hokkai 8.56 237 ⇓ *i*PN Pn 14 34 54.2 -3.4
NMR Nemuro--Hokkai 8.56 237 *i* P Pn 14 34 54.4 -3.2
NMR AMB AMB 14 34 58.3
comp=E,60nm,0.3s
TYV Tymovskoe 8.77 291 *e*PN **Pn 14 35 04.0 +3.7**
TYV *e*S **Sn 14 36 43.6 +5.9**
TYV pmax pmax
comp=Z,34nm,0.5s
TYV pmax pmax
comp=Z,200nm,3.6s
TYV smax smax
comp=E,7.0nm,0.8s
TYV smax smax
comp=N,200nm,4.3s
TYV smax smax
comp=E,200nm,4.3s
TYV MLR MLR
comp=Z,2μm,15.0s
TYV MLR MLR
comp=N,2μm,14.0s
TYV Tymovskoe 8.77 291 *e*P **Pn 14 35 02.3 +2.0**
TYV AMB AMB 14 35 04.4
comp=N,40nm,0.4s
TYV AMB AMB 14 35 07.6
comp=N,200nm,3.6s
TYV *e*S **Sn 14 36 38.6 +0.9**
TYV A A 14 36 44.2
comp=N,10.0nm,0.4s
TYV A A 14 36 44.2
comp=N,10.0nm,0.4s
TYV A A 14 36 50.5
comp=N,200nm,4.3s
TYV A A 14 36 50.5
comp=N,200nm,4.3s
TYV AMS AMS 14 38 57.0
comp=N,2μm,14.0s
TYV AMS AMS 14 38 57.0
comp=N,2μm,14.0s
YSS Yuzhno-Sakhali 8.82 265 Pn Pn 14 34 59.2 -1.8
YSS Yuzhno-Sakhali 8.82 265 *e*PN **Pn 14 35 02.6 +1.6**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS pmax pmax
comp=Z,200nm,3.8s
YSS MLR MLR
comp=Z,800nm,18.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=E,600nm,15.0s
YSS Yuzhno-Sakhali 8.82 265 *e*P **Pn 14 35 02.6 +1.6**
YSS AMB AMB 14 35 08.1
comp=E,70nm,0.8s
YSS AMB AMB 14 35 13.6
comp=E,200nm,3.8s
YSS *e*S **Sn 14 36 38.5 -0.4**
YSS A A 14 36 43.5
comp=E,30nm,0.7s
YSS A A 14 36 43.5
comp=E,20nm,0.7s
YSS AMS AMS 14 37 57.4
comp=E,800nm,18.0s
YSS AMS AMS 14 37 57.4
comp=E,300nm,15.0s
YSS AMS AMS 14 37 57.4
comp=E,600nm,15.0s
KBTR Krutoberegovo 8.94 27 PN Pn 14 35 00.3 -2.3
KBTR Krutoberegovo 8.94 27 *e*P Pn 14 35 00.4 -2.3
UGL Uglegorsk 8.99 279 *e*PN **Pn 14 35 06.7 +3.3**
UGL pmax pmax
comp=Z,100nm,0.9s
UGL MLR MLR
comp=E,1μm,14.0s
UGL MLR MLR
comp=Z,1μm,14.0s
UGL MLR MLR
comp=N,600nm,13.0s
UGL Uglegorsk 8.99 279 *e*P **Pn 14 35 05.9 +2.5**
UGL AMB AMB 14 35 08.0
comp=N,100nm,0.9s
UGL *e*S **Sn 14 36 44.6 +1.4**
UGL A A 14 37 20.0
comp=N,1μm,17.0s
UGL A A 14 37 20.0
comp=N,1μm,17.0s
UGL AMS AMS 14 41 05.0
comp=N,600nm,14.0s
UGL AMS AMS 14 41 05.0
comp=N,1μm,14.0s
UGL AMS AMS 14 41 05.0
comp=N,1μm,14.0s
BKI Bering 9.31 39 PN Pn 14 35 00.0 -7.8
OKH Okha 9.50 307 *e*P **Pn 14 35 12.5 +2.2**
OKH AMB AMB 14 35 13.0
comp=N,60nm,0.4s
OKH AMS AMS 14 39 37.5
comp=N,800nm,16.0s
OKH AMS AMS 14 39 37.5
comp=N,1μm,16.0s
OKH AMS AMS 14 39 37.5
comp=N,800nm,16.0s
ASAJ Asahikawa 10.01 249 Pn **Pn 14 35 18.4 +1.1**
comp=N,5.7nm,0.3s,baz=87,slow=16,SNR=50
ASAJ LR LR 14 39 02.5
comp=N,1μm,18.2s,baz=80,slow=37
NKL Nikolayevsk 10.57 302 *e*P **Pn 14 35 27.1 +2.1**
NKL AMB AMB 14 35 29.6
comp=N,10.0nm,0.7s
NKL AMB AMB 14 35 41.8
comp=N,200nm,4.5s
NKL AMS AMS 14 41 43.8
comp=N,2μm,18.0s
NKL AMS AMS 14 41 43.8
comp=N,1μm,18.0s
JEM Erimo 10.89 238 P Pn 14 35 27.9 -1.4
ERM Erimo 10.89 238 Pn Pn 14 35 28.0 -1.3
ERM Erimo 10.89 238 P Pn 14 35 27.6 -1.7
ERM Erimo 10.89 238 *i* PN Pn 14 35 27.8 -1.5
MA2 Magadan 11.52 348 Pn **Pn 14 35 35.3 -2.6**
MA2 Magadan 11.52 348 Pn **Pn 14 35 37.1 -0.8**
comp=N,1.9nm,0.3s,baz=170,slow=12,SNR=24
comp=N,7.4nm,0.5s
MA2 Magadan 11.52 348 *ce*PN **Pn 14 35 37.3 -0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.6s
MA2 Magadan 11.52 348 P **Pn 14 35 37.1 -0.8**
comp=Z,19nm,0.7s
SHEM Shemya Is, Ala 12.49 63 Pn **Pn 14 35 49.5 -1.7**
comp=Z,6.7nm,0.3s,baz=339,slow=2.4,SNR=4.6
SHEM LR LR 14 40 50.3
comp=Z,251nm,19.9s,baz=180,slow=38
comp=Z,75nm,0.6s
SMY Shemya 12.49 63 Pn **Pn 14 35 49.3 -1.8**
SMY Shemya 12.49 63 PN **Pn 14 35 49.3 -1.8**
GRNR Gornyy 12.68 288 ⇓ *i*PN **Pn 14 35 57.7 +3.9**
GRNR pmax pmax
comp=Z,4.0nm,1.1s
GRNR MLR MLR
comp=E,590nm,15.0s
GRNR MLR MLR
comp=Z,770nm,15.0s
GRNR MLR MLR
comp=N,440nm,18.0s
GRNR Gornyy 12.68 288 *i* P **Pn 14 35 54.7 +0.9**
GRNR AMB AMB 14 35 59.0
comp=N,10.0nm,0.8s
GRNR AMS AMS 14 41 08.3
comp=N,600nm,15.0s
GRNR AMS AMS 14 41 08.3
comp=N,800nm,15.0s
JTM Tenmabayashi 12.88 239 Pn 14 35 50.9 -5.6
JTM Tenmabayashi 12.88 239 P Pn 14 35 52.2 -4.4
TEY Ternei 13.49 263 *e*P **Pn 14 36 04.8 0.0**
TEY AMB AMB 14 36 18.5
comp=N,10.0nm,0.6s
KHBR Khabarovsk 13.66 278 *e*P **Pn 14 36 07.1 0.0**
SEY Seymchan 14.64 354 Pn **Pn 14 36 18.9 -1.5**
comp=N,4.9nm,0.7s,baz=162,slow=9.0,SNR=19
SEY Seymchan 14.64 354 *ce*P **Pn 14 36 20.0 -0.3**
SEY pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 14.64 354 *e*P **Pn 14 36 20.0 -0.3**
SEY AMB AMB 14 36 21.0
comp=Z,10.0nm,1.0s
EKMR Ekimchan 15.06 296 *e*P **Pn 14 36 26.1 +0.1**
EKMR AMB AMB 14 36 38.1
comp=Z,30nm,0.5s
EKMR AMS AMS 14 43 23.1
comp=Z,500nm,15.0s
EKMR AMS AMS 14 43 23.1
comp=Z,500nm,15.0s
EKMR AMS AMS 14 43 23.1
comp=Z,800nm,15.0s
JMM Marumori 15.10 231 P **Pn 14 36 23.1 -3.5**
KLR Kul'dur 15.74 282 Pn **Pn 14 36 35.4 +0.7**
comp=Z,0.8nm,0.3s,baz=83,slow=12,SNR=28
KLR LR LR 14 42 55.6
comp=Z,628nm,19.3s,baz=90,slow=39
KLR Kul'dur 15.74 282 *ce*P **Pn 14 36 35.6 +0.9**
KLR pmax pmax
comp=Z,18nm,1.0s
KLR Kul'dur 15.74 282 *e*P **Pn 14 36 33.5 -1.2**
JSD Sado 16.34 237 P **Pn 14 36 40.3 -2.2**
USA0B Ussuriysk Arra 16.85 264 *i* P **Pn 14 36 49.8 +0.9**
USRK Ussuriysk Ar. 16.85 264 Pn **Pn 14 36 47.3 -1.6**
comp=Z,1.4nm,0.3s,baz=66,slow=13,SNR=17
USRK LR LR 14 42 27.3
comp=Z,182nm,21.2s,baz=69,slow=34
comp=Z,4.9nm,0.5s
MJB9 Matsu-Tunnel 17.46 234 P Pn 14 36 52.6 -3.8
MAJO Matsushiro 17.46 234 P Pn 14 36 51.8 -4.6
MAJO Matsushiro 17.46 234 P **Pn 14 36 56.8 +0.4**
MAJO Matsushiro 17.46 234 *i* P **Pn 14 36 55.3 -1.1**
MJAR Matsushiro Arr 17.46 234 P **Pn 14 36 53.0 -3.4**
comp=Z,9.2nm,0.8s,baz=29,slow=12,SNR=22
MDJ Mudanjiang 18.29 268 P **P 14 37 05.5 -0.8**
MDJ S **Sn 14 40 29.8 +0.1**
MDJ pmax pmax
comp=Z,26nm,1.1s
MDJ LR LR
comp=Z,380nm,12.5s
MDJ LR LR
comp=Z,490nm,11.0s
HEH HeiHe 18.44 286 *e*P **P 14 37 08.8 +0.9**
HEH pP **Pn 14 37 11.3 +3.0**
HEH pmax pmax
comp=Z,28nm,0.9s
HEH LR LR
comp=Z,750nm,14.7s
HEH LR LR
comp=Z,310nm,15.1s
HEH LR LR
comp=Z,1μm,14.4s
ZEA Zeya 18.53 297 *e*P **P 14 37 10.2 +1.3**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA Zeya 18.53 297 *e*P **P 14 37 11.2 +2.3**
ZEA AMB AMB 14 37 11.6
comp=Z,10.0nm,0.8s
ZEA AMB AMB 14 37 11.6
comp=Z,10.0nm,0.8s
ZEA AMB AMB 14 37 11.6
comp=Z,10.0nm,0.8s
ZEA AMS AMS 14 45 38.0
comp=Z,200nm,15.0s
ZEA AMS AMS 14 45 38.0
comp=Z,500nm,15.0s
ZEA AMS AMS 14 45 38.0
comp=Z,600nm,15.0s
JGF Kuroka 18.62 233 P **P 14 37 08.5 -1.5**
JGF Kuroka 18.62 233 P **P 14 37 11.0 +1.0**
INU Inuyama 18.99 233 P **P 14 37 12.2 -1.8**
INU Inuyama 18.99 233 P **P 14 37 17.7 +3.7**
BNX BinXian 19.37 273 ⇓ P **P 14 37 19.8 +1.7**
BNX pmax pmax
comp=Z,15nm,1.0s
JHJ Hachijo jima 2 19.39 224 LR LR 14 47 26.8
comp=Z,49nm,18.9s,baz=112,slow=45
YAK Yakutsk 19.92 323 P **P 14 37 21.5 -2.5**
YAK IAmb IAmb 14 37 36.9
comp=Z,49nm,0.7s
YAK Yakutsk 19.92 323 P **P 14 37 22.5 -1.4**
comp=Z,10nm,0.3s,baz=118,slow=6.5,SNR=14
YAK LR LR 14 45 30.4
comp=Z,342nm,18.1s,baz=121,slow=39
comp=Z,32nm,0.4s
YAK Yakutsk 19.92 323 *e*P **P 14 37 22.7 -1.2**
YAK *e*S **S 14 41 06.0 +0.6**
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,22nm,1.3s
YAK smax smax
comp=N,131nm,4.1s
YAK smax smax
comp=E,94nm,4.1s
YAK MLR MLR
comp=Z,582nm,17.0s
YAK MLR MLR
comp=E,328nm,17.0s
YAK MLR MLR
comp=N,435nm,17.0s
BILL Bilibino 20.38 12 P **P 14 37 27.4 -1.5**
BILL Bilibino 20.38 12 *ce*P **P 14 37 28.4 -0.5**
BILL pmax pmax
comp=Z,26nm,1.3s
CN2 Changchun 21.36 269 *e*P **P 14 37 36.9 -2.7**
CN2 *es*P pP 14 37 43.0 -7.1
CN2 *e*S S 14 41 27.3 -6.9
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,300nm,13.0s
JMN Monobe 21.91 236 P **P 14 37 49.0 +3.3**
KSRS Korea Array 22.94 252 P **P 14 37 55.9 -0.7**
comp=Z,15nm,0.7s,baz=49,slow=10.0,SNR=49
KSRS LR LR 14 46 25.3
comp=Z,389nm,18.2s,baz=55,slow=36
comp=Z,15nm,0.7s
KS19 Wonju Array Si 22.95 252 P **P 14 37 56.8 +0.2**
KSAR Wonju Array Be 22.97 252 P **P 14 37 56.5 -0.3**
KSAR Wonju Array Be 22.97 252 P **P 14 37 56.6 -0.3**
KSAR Wonju Array Be 22.97 252 *e*P **P 14 37 56.6 -0.3**
JCJ Chichijima 23.74 211 LR LR 14 45 41.4
comp=Z,96nm,21.7s,baz=347,slow=32
TJN Taejon 23.96 250 P **P 14 38 07.5 +1.2**
TJN Taejon 23.96 250 P **P 14 38 07.5 +1.2**
TJN pmax pmax
comp=Z,373nm,1.6s
JNU Nakatsue 24.05 240 P **P 14 38 09.4 +2.1**
DL2 Dalian 26.19 261 P **P 14 38 24.3 -2.3**
DL2 *e*S **S 14 42 50.3 -5.2**
DL2 pmax pmax
comp=Z,44nm,1.0s
DL2 pmax pmax
comp=Z,410nm,5.6s
DL2 LR LR
comp=Z,390nm,16.4s
DL2 LR LR
comp=Z,390nm,17.3s
DL2 LR LR
comp=Z,420nm,14.9s
TIXI Tiksi 26.37 341 P **P 14 38 25.5 -2.4**
TIXI IAmb IAmb 14 38 26.9
comp=Z,20nm,0.8s
TIXI Tiksi 26.37 341 *e*P **P 14 38 26.0 -1.9**
TIXI pmax pmax
comp=Z,21nm,0.9s
XLT XiLinHaoTe 27.55 276 ⇑ *i*P **P 14 38 37.4 -1.5**
XLT pP pP 14 38 42.3 -7.8
XLT PP **PnPn 14 39 21.0 -4.2**
XLT pmax pmax
comp=Z,43nm,0.6s
XLT LR LR
comp=Z,30nm,13.6s
XLT LR LR
comp=Z,260nm,17.0s
XLT LR LR
comp=Z,540nm,14.9s
H11N2 WAKE ISLAND Hy 30.05 158 T T 15 11 19.9
baz=342,slow=75,SNR=142
H11N1 WAKE ISLAND Hy 30.06 158 T T 15 10 57.0
baz=342,slow=75,SNR=459
H11N3 WAKE ISLAND Hy 30.07 158 T T 15 10 57.8
baz=342,slow=75,SNR=95
H19K Roundabout Mou 30.22 38 P **P 14 39 03.1 +0.9**
TIA Tai'an 30.66 261 P **P 14 39 06.4 -0.1**
TIA pmax pmax
comp=Z,10.0nm,0.8s
H11S1 WAKE ISLAND Hy 31.18 159 T T 15 12 18.1
baz=344,slow=76,SNR=1407
H11S3 WAKE ISLAND Hy 31.19 159 T T 15 12 19.0
baz=344,slow=76,SNR=2734
H11S2 WAKE ISLAND Hy 31.20 159 T T 15 12 20.1
baz=344,slow=76,SNR=1500
HNS HongShan 31.58 265 ⇓ P **P 14 39 14.9 +0.3**
HNS pmax pmax
comp=Z,14nm,0.8s
HNS LR LR
comp=Z,310nm,14.7s
HNS LR LR
comp=Z,300nm,13.7s
HNS LR LR
comp=Z,370nm,15.1s
HHC Hu-ho-hao-te 31.89 273 *e*P **P 14 39 16.9 -0.5**
HHC S **S 14 44 23.6 -1.7**
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=Z,260nm,12.5s
HHC LR LR
comp=Z,290nm,14.1s
HHC LR LR
comp=Z,370nm,13.6s
ULN Ulaanbaatar 31.98 288 P **P 14 39 17.1 -1.2**
ULN Ulaanbaatar 31.98 288 *i* P **P 14 39 17.0 -1.2**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 31.98 288 P **P 14 39 17.0 -1.2**
D22K Ayikyak River 32.34 32 IAmb IAmb 14 39 35.2
comp=Z,23nm,1.6s
SONM Songino Array 32.41 288 P **P 14 39 20.3 -1.7**
comp=Z,1.6nm,0.4s,baz=75,slow=8.1,SNR=15
SONM PcP **PcP 14 42 08.7 +0.3**
comp=Z,0.9nm,0.7s,baz=93,slow=2.6,SNR=3.8
SONM LR LR 14 53 37.5

comp=Z,495nm,19.9s,baz=73,slow=39
comp=Z,1.6nm,0.4s
E22K Anaktuvuk Pass 32.50 34 P **P** **14 39 23.3 +0.9**
E22K IAmb IAmb 14 39 24.4
comp=Z,9.9nm,0.8s
PMR Palmer 33.20 46 IAmb IAmb 14 39 47.0
comp=Z,17nm,1.2s
NEA2 Nenana 33.22 40 IAmb IAmb 14 39 45.1
comp=Z,7.3nm,0.7s
C23K Itkillik River 33.25 31 IAmb IAmb 14 39 42.8
comp=Z,36nm,1.5s
MCK McKinley 33.26 42 P **P** **14 39 29.1 +0.1**
MCK IAmb IAmb 14 39 45.4
comp=Z,16nm,1.2s
MCK McKinley 33.26 42 P **P** **14 39 29.1 +0.1**
MCK pmax pmax
comp=Z,16nm,1.2s
RND Reindeer 33.29 43 P **P** **14 39 29.2 -0.1**
RND IAmb IAmb 14 39 42.2
comp=Z,11nm,1.0s
RND Reindeer 33.29 43 P **P** **14 39 29.3 -0.1**
RND pmax pmax
comp=Z,11nm,1.0s
WRH Wood River Hil 33.64 41 P **P** **14 39 32.7 +0.4**
WRH IAmb IAmb 14 39 48.5
comp=Z,15nm,1.2s
COLA College 33.75 40 P **P** **14 39 34.2 +1.1**
COLA IAmb IAmb 14 39 46.9
comp=Z,16nm,0.9s
COLA College 33.75 40 *i* P **P** **14 39 32.7 -0.5**
COLA pmax pmax
comp=Z,17nm,1.0s
COLA College 33.75 40 P **P** **14 39 34.3 +1.1**
POKR Poker Plat Res 33.93 39 IAmb IAmb 14 39 48.9
comp=Z,9.3nm,0.8s
G24K Hadweenzic Riv 33.99 37 IAmb IAmb 14 39 53.9
comp=Z,14nm,0.8s
ILAR Eielson Array 34.16 40 P **P** **14 39 36.3 -0.5**
comp=Z,1.1nm,0.7s,baz=247,slow=7.8,SNR=14
ILAR PcP **PcP** **14 42 12.7 -0.1**
comp=Z,0.4nm,0.9s,baz=288,slow=3.5,SNR=2.3
comp=Z,1.1nm,0.7s
BMAR Burnt Mountain 35.16 35 P **P** **14 39 47.1 +1.6**
DOT Dot Lake 35.43 42 IAmb IAmb 14 40 07.1
comp=Z,24nm,1.8s
WHN Wuhan 36.01 256 P **P** **14 39 53.1 +0.1**
WHN pmax pmax
comp=Z,46nm,0.5s
G27K Doyon Strip 36.30 36 IAmb IAmb 14 40 15.7
comp=Z,17nm,1.7s
XAN Xi'an 37.36 265 P **P** **14 40 05.3 +0.7**
NRIK Noril'sk 38.22 328 P **P** **14 40 09.4 -1.9**
comp=Z,1.7nm,0.4s,baz=78,slow=8.0,SNR=4.3
NRIK LR LR 14 56 30.3
comp=Z,131nm,18.7s,baz=34,slow=37
comp=Z,1.7nm,0.4s
NRIK Noril'sk 38.22 328 *ceP* **P** **14 40 10.0 -1.4**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
G30M tAoh Zraii Nji 38.43 36 IAmb IAmb 14 40 27.4
comp=Z,26nm,1.6s
INK Inuvik 39.30 34 LR LR 14 58 41.2
comp=Z,107nm,19.9s,baz=252,slow=40
F31M Tsiigehtchic 39.33 35 IAmb IAmb 14 40 35.0
comp=Z,26nm,1.8s
ENH Enshi 39.35 260 P **P** **14 40 21.2 -0.1**
LZH Lanzhou 39.55 272 *eP* **P** **14 40 23.6 +0.5**
LZH sP pP 14 40 36.9 +2.3
LZH pmax pmax
comp=Z,26nm,1.2s
LZH LR LR
comp=Z,260nm,14.1s
LZH LR LR
comp=Z,320nm,13.4s
LZH LR LR
comp=Z,210nm,16.5s
GTA Gaotai 40.40 279 P **P** **14 40 29.8 -0.3**
GTA sP pP 14 40 42.6 +1.0
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=Z,270nm,16.0s
GTA LR LR
comp=Z,310nm,16.0s
GTA LR LR
comp=Z,410nm,16.4s
CD2 Chengdu 42.72 265 P **P** **14 40 49.3 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,230nm,12.1s
CD2 LR LR
comp=Z,190nm,14.0s
ZALV Zalesovo Beam 43.02 305 P **P** **14 40 49.2 -1.9**
comp=Z,1.3nm,0.4s,baz=66,slow=6.6,SNR=9.4
ZALV PcP **PcP** **14 42 41.1 +0.4**
comp=Z,2.1nm,0.6s,baz=66,slow=3.2,SNR=7.1
ZALV LR LR 15 00 21.8
comp=Z,242nm,18.5s,baz=50,slow=39
comp=Z,1.3nm,0.4s
GOMU GeErMu 45.47 278 P **P** **14 41 10.6 -0.8**
GOMU pP pP 14 41 17.5 -5.7
GOMU pmax pmax
comp=Z,20nm,1.1s
GOMU LR LR
comp=Z,490nm,13.5s
GOMU LR LR
comp=Z,460nm,12.0s
GOMU LR LR
comp=Z,590nm,12.4s
WMQ Urumqi 45.91 291 *eP* **P** **14 41 16.1 +1.6**
WMQ LR LR
comp=Z,630nm,9.1s
WMQ LR LR
comp=Z,170nm,19.5s
BBB Bella Bella 46.74 55 LR LR 15 02 31.8
comp=Z,77nm,18.1s,baz=296,slow=38
PZH PanZhiHua 46.94 262 P **P** **14 41 22.8 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.3s
QIZ Qiongzhong 47.07 248 P **P** **14 41 23.1 -0.6**
QIZ S **S** **14 48 13.5 +0.8**
QIZ LR LR
comp=Z,400nm,10.0s
QIZ LR LR
comp=Z,320nm,10.2s
QIZ LR LR
comp=Z,350nm,14.2s
EUNU Eureka 47.13 12 P **P** **14 41 24.2 +0.7**
KMI Kunming 47.22 260 P **P** **14 41 26.3 +1.2**
KMI pmax pmax
comp=Z,22nm,0.7s
KMI LR LR
comp=Z,170nm,10.1s
KMI LR LR
comp=Z,200nm,12.9s
MK31 Makanchi Array 47.69 297 *i* P **P** **14 41 26.7 -1.6**
MKAR Makanchi Array 47.69 297 P **P** **14 41 27.1 -1.2**
comp=Z,10nm,0.5s,baz=68,slow=8.3,SNR=162
MKAR LR LR 15 02 55.1
comp=Z,346nm,19.2s,baz=26,slow=38
comp=Z,10nm,0.5s
KURK Kurchatov 47.86 303 P **P** **14 41 27.8 -1.6**
KURK IAmb IAmb 14 41 30.7
comp=Z,11nm,0.7s
KURK Kurchatov 47.86 303 *ceP* **P** **14 41 28.6 -0.8**
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 47.86 303 P **P** **14 41 28.0 -1.4**
MAKZ Makanchi 47.87 297 P **P** **14 41 28.3 -1.4**
MAKZ IAmb IAmb 14 41 30.5
comp=Z,12nm,0.9s
MAKZ Makanchi 47.87 297 P **P** **14 41 28.8 -0.8**
MAKZ Makanchi 47.87 297 P **P** **14 41 28.2 -1.4**
ALE Alert 47.89 6 P **P** **14 41 29.7 +0.4**
ALE pP **sP** **14 41 43.7 -1.4**
KURBB Kurchatov Arra 47.95 303 P **P** **14 41 28.8 -1.4**
comp=Z,6.5nm,0.5s,baz=67,slow=8.2,SNR=64
KURBB PcP **PcP** **14 42 57.0 -0.9**
comp=Z,1.9nm,0.8s,baz=68,slow=3.3,SNR=4.5
KURBB LR LR 15 02 47.6
comp=Z,288nm,18.3s,baz=182,slow=38
comp=Z,6.5nm,0.5s
YKA Yellowknife Ar 48.55 38 P **P** **14 41 35.6 +1.0**
comp=Z,1.8nm,0.8s,baz=298,slow=7.8,SNR=21

YKA PcP **PcP** **14 43 00.3 +0.6**
comp=Z,0.6nm,0.9s,baz=305,slow=3.7,SNR=4.3
comp=Z,1.8nm,0.8s
RES Resolute Bay 48.68 19 IAmb IAmb 14 41 37.8
comp=Z,6.8nm,0.8s
RES Resolute Bay 48.68 19 LR LR 15 04 48.4
comp=Z,103nm,18.6s,baz=352,slow=40
SLVN Son La 49.13 255 P **P** **14 41 39.9 +0.3**
SLVN IAmb IAmb 14 41 44.1
comp=Z,9.6nm,0.8s
TNCH TengChong 50.07 263 *eP* **P** **14 41 47.3 +0.4**
TNCH pmax pmax
comp=Z,45nm,1.0s
KBS Kingsbay 51.08 352 *i* P **P** **14 41 58.0 +4.3**
BVAR Borovoye Array 51.11 309 P **P** **14 41 52.9 -1.3**
comp=Z,3.9nm,0.4s,baz=56,slow=7.7,SNR=62
BVAR PcP **PcP** **14 43 09.2 -0.2**
comp=Z,1.2nm,0.5s,baz=67,slow=3.7,SNR=4.6
BVAR LR LR 15 05 07.0
comp=Z,306nm,18.8s,baz=40,slow=38
comp=Z,3.9nm,0.4s
BRVK Borovoye 51.14 309 P **P** **14 41 52.9 -1.6**
BRVK Borovoye 51.14 309 *ceP* **P** **14 41 54.9 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 51.14 309 P **P** **14 41 53.1 -1.4**
SPITS Spitsbergen Ar 51.25 350 P **P** **14 41 52.7 -2.2**
comp=Z,7.8nm,0.8s,baz=61,slow=8.7,SNR=7.4
comp=Z,7.8nm,0.8s
TARG Taragay, Kyrgy 53.15 294 IAmb IAmb 14 42 11.4
comp=Z,5.3nm,0.5s
NEEM North Greenlan 53.29 7 *i* P **P** **14 42 09.6 -0.9**
NEEM IAmb IAmb 14 42 11.5
comp=Z,24nm,0.8s
KDJ Kajisay 53.29 295 IAmb IAmb 14 42 11.7
comp=Z,15nm,1.0s
SVE Sverdlovsk 53.75 317 *eP* **P** **14 42 13.1 -0.6**
SVE pmax pmax
comp=Z,9.0nm,0.7s
TKM2 Tokmak 2 53.78 296 P **P** **14 42 14.4 0.0**
SNR=8.2
ULHL Ulahol 53.79 295 P **P** **14 42 15.0 +0.5**
SNR=5.5
BOOM Boomskoye usch 53.83 296 IAmb IAmb 14 42 15.6
comp=Z,13nm,0.6s
CHTO Chiang Mai 54.16 258 P **P** **14 42 18.1 +0.9**
CHTO Chiang Mai 54.16 258 P **P** **14 42 18.1 +0.9**
CHTO pmax pmax
comp=Z,21nm,0.6s
CHTO Chiang Mai 54.16 258 P **P** **14 42 18.1 +0.9**
CHTO pP **pP** **14 42 32.3 +3.6**
USP Ospenovka 54.24 297 P **P** **14 42 17.6 0.0**
SNR=22
CHMS Chumysh 54.24 297 P **P** **14 42 17.2 -0.3**
SNR=5.4
KBK Karagaybulak 54.33 296 P **P** **14 42 18.5 +0.1**
SNR=6.4
CM31 Chiang Mai Arr 54.42 257 IAmb IAmb 14 42 20.9
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 54.42 257 P **P** **14 42 19.9 +0.9**
CMAR Chiang Mai Arr 54.42 257 P **P** **14 42 20.2 +1.2**
comp=Z,8.4nm,0.7s,baz=33,slow=7.2,SNR=48
CMAR LR LR 15 06 24.8
comp=Z,153nm,20.2s,baz=45,slow=37
comp=Z,8.4nm,0.7s
CMAR Chiang Mai Arr 54.42 257 *i* P **P** **14 42 20.3 +1.2**
CMAR pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 54.61 297 P **P** **14 42 19.7 -0.7**
AAK IAmb IAmb 14 42 21.3
comp=Z,8.2nm,0.8s
AAK Ala-Archa 54.61 297 LR LR 15 06 53.2
comp=Z,213nm,19.8s,baz=18,slow=38
AAK Ala-Archa 54.61 297 P **P** **14 42 20.4 0.0**
SNR=9.6
AAK Ala-Archa 54.61 297 *ceP* **P** **14 42 20.3 -0.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 54.61 297 *eP* **P** **14 42 20.3 -0.1**
AAK Ala-Archa 54.61 297 P **P** **14 42 20.2 -0.1**
EKS2 Erkin-Say 55.02 297 P **P** **14 42 23.4 +0.1**
SNR=11
ARTI Arti 55.02 318 P **P** **14 42 21.5 -1.5**
ARTI IAmb IAmb 14 42 24.0
comp=Z,10nm,0.7s
ARTI Arti 55.02 318 LR LR 15 10 00.9
comp=Z,172nm,19.4s,baz=352,slow=41
ARTI Arti 55.02 318 *c i* P **P** **14 42 22.5 -0.4**
ARTI 14 43 18.8
ARTI S **S** **14 50 03.7 +2.0**
ARTI SS **SS** **14 53 45.2 +0.1**
ARTI pmax pmax
comp=Z,9.0nm,0.7s
ARTI Arti 55.02 318 P **P** **14 42 21.6 -1.3**
PINE Pine Mountain 55.27 61 P **P** **14 42 27.1 +1.9**
PINE IAmb IAmb 14 43 04.4
comp=Z,31nm,1.9s
KULLO Kullorsuaq 55.31 10 *i* P **P** **14 42 23.5 -1.2**
KULLO IAmb IAmb 14 42 26.0
comp=Z,17nm,1.1s
AML Almayashu 55.39 297 P **P** **14 42 26.7 +0.4**
SNR=5.7
J05D Fort Rock, OR 55.40 62 P **P** **14 42 28.1 +2.0**
YBH Yreka Blue Hor 55.45 64 LR LR 15 02 05.4
comp=Z,64nm,21.5s,baz=306,slow=32
KSH Kashi 55.58 293 P **P** **14 42 31.3 +3.9**
KSH pmax pmax
comp=Z,6.0nm,0.9s
BRDH Bariadhala 56.24 267 LR LR 15 08 25.9
comp=Z,85nm,19.1s,baz=79,slow=38
APA Apatity 56.45 337 ‖ *i P* **P** **14 42 29.8 -3.2**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
KKAR Karatay Array 56.67 299 P **P** **14 42 33.8 -1.2**
KKAR Karatay Array 56.67 299 IAmb IAmb 14 42 35.0
comp=Z,2.2nm,0.8s
KKAR Karatay Array 56.67 299 P **P** **14 42 33.8 -1.2**
ARCES ARCESS Array B 56.81 341 P **P** **14 42 34.0 -1.6**
comp=Z,1.3nm,0.3s,baz=37,slow=8.0,SNR=38
ARCES LR LR 15 12 09.1
comp=Z,298nm,18.1s,baz=36,slow=42
comp=Z,1.3nm,0.3s
ARCES ARCESS Array B 56.81 341 P **P** **14 42 34.0 -1.6**
AAI Ambon 57.17 213 P **P** **14 42 40.2 +1.5**
comp=Z,17nm,1.0s
APSI Ampana 57.29 222 P **P** **14 42 40.4 +0.8**
comp=Z,23nm,1.5s
PLID Pearl Lake 57.32 57 IAmb IAmb 14 42 42.4
comp=Z,5.6nm,0.8s
KIRV Kirov 57.45 323 LR LR 15 08 06.9
comp=Z,137nm,19.1s,baz=10,slow=37
KIRV Kirov 57.45 323 *i* P **P** **14 42 39.4 -0.8**
HNR Honiara 57.74 175 LR LR 15 05 18.4
comp=Z,80nm,20.3s,baz=353,slow=34
DRK Karamyk 58.15 295 IAmb IAmb 14 42 47.0
comp=Z,19nm,1.2s
BTK Batken 58.37 296 IAmb IAmb 14 42 48.1
comp=Z,12nm,0.8s
ABKAR Akbulak array 58.65 310 P **P** **14 42 47.5 -1.2**
ABKAR Akbulak array 58.65 310 IAmb IAmb 14 42 49.7
comp=Z,5.7nm,0.6s
AKTO Aktyubinsk 58.86 312 LR LR 15 12 46.8
comp=Z,174nm,18.1s,baz=101,slow=41
SUMG Summit 58.88 5 P **P** **14 42 51.2 +0.7**
SUMG Summit 58.88 5 P **P** **14 42 51.2 +0.7**
SUMG pmax pmax
comp=Z,26nm,1.0s
SUMG Summit 58.88 5 *i* P **P** **14 42 51.0 +0.5**
SUMG IAmb IAmb 14 42 52.6
comp=Z,20nm,0.9s
FCC Fort Churchill 58.91 35 P **P** **14 42 50.9 +0.5**
FCC IAmb IAmb 14 43 46.4
comp=Z,20nm,1.9s
FCC Fort Churchill 58.91 35 P **P** **14 42 50.9 +0.5**
FCC pmax pmax
comp=Z,20nm,1.9s
HLID Hailey 59.16 58 P **P** **14 42 53.6 +1.0**
HLID IAmb IAmb 14 43 13.0
comp=Z,9.3nm,1.6s
BOZ Bozeman (W) 59.41 55 IAmb IAmb 14 43 04.5
comp=Z,12nm,1.6s
KLMR Klimovskoe 59.54 329 *eP* P 14 42 49.3 -5.4
KLMR pmax pmax
comp=Z,20nm,1.2s

NVAR Mina Array Bea 60.15 65 P **P** **14 43 00.5 +0.9**
comp=Z,1.5nm,0.7s,baz=302,slow=6.7,SNR=7.9
NVAR LR LR 15 09 01.2
comp=Z,41nm,18.1s,baz=16,slow=36
comp=Z,1.5nm,0.7s
SIMJ Simiganj 60.34 296 P **P** **14 42 60.0 -0.8**
SIMJ Simiganj 60.34 296 P **P** **14 43 00.5 -0.3**
YMR Madison River 60.36 55 IAmb IAmb 14 43 16.3
comp=Z,9.9nm,1.3s
NIL Nilore 60.98 289 P **P** **14 43 04.7 -0.4**
NIL Nilore 60.98 289 P **P** **14 43 04.7 -0.4**
NIL pmax pmax
comp=Z,24nm,1.1s
SPR3 Spring Creek 3 62.14 62 IAmb IAmb 14 43 36.6
comp=Z,11nm,1.8s
ICESG Greenland Ices 62.25 6 *i* P **P** **14 43 13.3 -0.1**
ICESG IAmb IAmb 14 43 14.9
comp=Z,10nm,0.7s
PDAR Pinedale Array 62.38 56 P **P** **14 43 15.3 +0.7**
PDAR Pinedale Array 62.38 56 P **P** **14 43 15.8 +1.2**
comp=Z,1.9nm,0.8s,baz=297,slow=2.3,SNR=18
comp=Z,1.9nm,0.8s
FRB Frobisher Bay 62.88 20 LR LR 15 12 01.1
comp=Z,96nm,20.7s,baz=310,slow=37
KBL Kabul 63.02 292 P P 14 43 16.0 -2.9
KBL IAmb IAmb 14 43 18.9
comp=Z,14nm,1.3s
KBL Kabul 63.02 292 P P 14 43 16.0 -2.9
KBL pmax pmax
comp=Z,14nm,1.3s
SFJD Kangerlussuaq 63.18 11 LR LR 15 13 53.7
comp=Z,101nm,18.0s,baz=353,slow=39
FINES FINESS Array B 63.23 335 P **P** **14 43 18.3 -1.3**
comp=Z,4.4nm,0.6s,baz=31,slow=7.4,SNR=37
comp=Z,4.4nm,0.6s
FINES FINESS Array B 63.23 335 *i* P **P** **14 43 19.2 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.6s
LCMT Little Creek M 64.11 63 IAmb IAmb 14 43 49.2
comp=Z,12nm,1.7s
ULM Lac du Bonnet 64.13 43 P **P** **14 43 26.0 +0.3**
comp=Z,1.3nm,0.5s,baz=299,slow=9.5,SNR=3.1
comp=Z,1.3nm,0.5s
ULM Lac du Bonnet 64.13 43 *i* P **P** **14 43 24.9 -0.8**
PFO Pinyon Flats O 64.45 68 LR LR 15 11 29.4
comp=Z,34nm,18.4s,baz=308,slow=36
OBN Obninsk 64.87 326 ‖ *eP* **P** **14 43 31.4 +1.0**
OBN *e* 14 45 53.2
OBN *eS* S 14 52 29.7 +22
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,236nm,15.0s
PV10 Paradox Valley 65.63 59 IAmb IAmb 14 43 52.2
comp=Z,8.8nm,0.9s
PV11 David Mesa, Pa 65.78 59 IAmb IAmb 14 43 51.6
comp=Z,9.8nm,1.1s
VRH Novokhopyorsk 65.79 321 *eP* **P** **14 43 34.7 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 65.88 323 *eP* **P** **14 43 35.8 -1.2**
LPSR pmax pmax
comp=Z,14nm,0.9s
PV13 Radium Mtn., P 65.90 59 IAmb IAmb 14 43 53.1
comp=Z,9.3nm,1.2s
PSI Prapat 66.34 246 P **P** **14 43 41.3 +0.6**
comp=Z,3.8nm,0.4s,baz=35,slow=2.8,SNR=4.2
comp=Z,3.8nm,0.4s
RPSI Rantau Prapat 66.42 246 P **P** **14 43 41.3 +0.2**
ISCO Idaho Springs 66.57 56 IAmb IAmb 14 43 57.4
comp=Z,11nm,1.6s
VSR Storozhevoye 66.84 322 *eP* **P** **14 43 41.6 -1.6**
VSR pmax pmax
comp=Z,6.0nm,1.0s
VORD Divnogorie 66.98 322 *eP* **P** **14 43 41.8 -2.3**
VORD pmax pmax
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra 67.16 342 P **P** **14 43 44.6 -0.6**
comp=Z,2.1nm,0.7s,baz=26,slow=6.5
NOA NORSAR Array B 67.16 342 P **P** **14 43 44.9 -0.3**
comp=Z,1.8nm,0.6s,baz=27,slow=6.5,SNR=15
NOA LR LR 15 17 27.2
comp=Z,156nm,18.7s,baz=20,slow=40
comp=Z,1.8nm,0.6s
HFS Hagfors 67.45 340 P **P** **14 43 46.5 -0.5**
comp=Z,3.0nm,0.3s,baz=38,slow=2.6,SNR=35
HFS LR LR 15 15 07.3
comp=Z,150nm,18.1s,baz=0.5,slow=38
comp=Z,3.0nm,0.3s
MNK Minsk 68.40 330 *i* P **P** **14 43 51.8 -1.2**
MNK *i* 14 44 10.6
MNK *i* 14 46 23.1
MNK *i* PPP PPP 14 48 02.5
MNK *i* S **S** **14 52 52.2 +1.4**
MNK *i* 14 53 48.8
MNK *i* SS **SS** **14 57 17.5 +3.7**
MNK pmax pmax
comp=E,12nm,0.6s
MNK pmax pmax
comp=Z,26nm,0.8s
MNK pmax pmax
comp=N,20nm,0.7s
MNK MLR MLR
comp=E,826nm,20.0s
MNK MLR MLR
comp=N,538nm,21.0s
MNK MLR MLR
comp=Z,156nm,15.0s
ECSD EROS Data Cent 68.48 48 P **P** **14 43 54.5 +0.8**
ECSD IAmb IAmb 14 44 12.0
comp=Z,25nm,1.8s
MSVF Nonsavu 68.84 157 LR LR 15 09 03.6
comp=Z,78nm,19.4s,baz=82,slow=32
MAK Makhachkala 69.24 312 *eP* **P** **14 43 56.9 -1.5**
MAK *e*PPP PPP 14 48 07.6
MAK *eS* **S** **14 53 00.6 -0.6**
MAK *e*SS **SS** **14 57 23.1 -4.3**
MAK pmax pmax
comp=Z,170nm,1.1s
MAK MLR MLR
comp=Z,252nm,18.0s
ANMO Albuquerque 69.50 60 *i* P **P** **14 44 00.2 -0.3**
ANMO pmax pmax
comp=Z,5.0nm,3.6s
I37A Lemond, Waseca 69.84 46 IAmb IAmb 14 44 04.0
comp=Z,13nm,0.8s
WRA Warramunga Arr 70.68 201 P **P** **14 44 07.1 -0.3**
comp=Z,2.7nm,0.8s,baz=16,slow=6.4,SNR=7.6
comp=Z,2.7nm,0.8s
KIV Kislovodsk 70.82 315 *eP* **P** **14 44 09.7 +1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,116nm,17.0s
DZM Mont Dzumac 70.85 169 LR LR 15 11 10.3
comp=Z,71nm,20.9s,baz=31,slow=32
KBZ Khabaz 70.90 315 P **P** **14 44 09.3 +0.8**
comp=Z,5.1nm,0.6s,baz=98,slow=3.7,SNR=22
KBZ LR LR 15 21 28.7
comp=Z,88nm,18.5s,baz=14,slow=41
comp=Z,5.1nm,0.6s
KBZ Khabaz 70.90 315 *i* P **P** **14 44 08.7 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
SHA1 Shidzhatmaz 71.00 315 *i* P **P** **14 44 10.5 +1.0**
AKASG Malin Array Be 71.07 327 P **P** **14 44 09.0 -0.5**
AKASG IAmb IAmb 14 44 10.2
comp=Z,16nm,1.6s
AKASG Malin Array Be 71.07 327 P **P** **14 44 08.6 -0.9**
comp=Z,7.0nm,0.5s,baz=34,slow=6.3,SNR=51
AKASG LR LR 15 16 56.9
comp=Z,71nm,18.3s,baz=46,slow=37
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 71.07 327 *i* P **P** **14 44 08.8 -0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 71.07 327 *i* P **P** **14 44 07.0 -2.5**
AKBB pmax pmax
comp=Z,19nm,0.7s
AKBB Malin Array Si 71.07 327 P **P** **14 44 08.7 -0.8**
AK04 Malin Array Si 71.08 327 P **P** **14 44 08.8 -0.7**
KIEV Kiev 71.08 327 P **P** **14 44 08.7 -0.9**
KIEV Kiev 71.08 327 ⇑P **P** **14 44 09.3 -0.3**
KIEV Kiev 71.08 327 P **P** **14 44 09.2 -0.3**
KIEV Kiev 71.08 327 P **P** **14 44 08.9 -0.6**
MI28 Mi28,Pidlybu 71.43 328 P **P** **14 44 10.6 -1.1**

RNPP9 **Sopachiv** 71.64 330 P P 14 44 12.8 -0.1
RNPP8 **Varash** 71.72 329 P P 14 44 13.5 +0.1
RNPP5 **Staryi Chortor** 71.80 329 P P 14 44 13.6 -0.3
LUBAR **Lubar, Ukraine** 72.25 328 P P 14 44 15.9 -0.7
LUBAR pP pP 14 44 29.3 +0.9
GKP **Gorka Klasztor** 72.70 335 *e*P P 14 44 19.4 +0.2
GNI **Garni** 72.72 311 LR LR 15 18 42.8
comp=Z,108nm,20.7s,baz=9.5,slow=38
BEL **Belsk** 72.92 333 *e*P P 14 44 21.9 +1.4
P38A **Dawn** 73.08 49 IAmb IAmb 14 45 04.5
comp=Z,19nm,1.6s
VHRN **Van Horn** 73.35 62 IAmb IAmb 14 44 38.4
comp=Z,15nm,1.7s
NDNU **Novodnistrovsk** 73.50 327 P P 14 44 23.5 -0.5
SORM **Soroca** 73.52 326 ⇑P P 14 44 23.9 -0.2
SORM **Soroca** 73.52 326 P P 14 44 23.9 -0.2
SORM **Soroca** 73.52 326 P P 14 44 24.0 -0.2
comp=Z,23nm,0.9s
KMPD **K-Podol'skiy** 73.85 328 P P 14 44 26.2 +0.1
KWP **Kalwaria Pacla** 74.22 330 *e*P P 14 44 29.4 +1.1
KWP **Kalwaria Pacla** 74.22 330 P P 14 44 29.3 +1.1
comp=Z,73nm,1.1s
MNHN **Monahans** 74.25 61 IAmb IAmb 14 44 30.4
comp=Z,5.0nm,0.6s
APMT **Aspermont** 74.29 57 IAmb IAmb 14 44 30.7
comp=Z,6.5nm,0.7s
MILM **Milestii Mici** 74.36 325 *e*P P 14 44 28.0 -1.1
comp=Z,30nm,0.6s
ASAR **Alice Springs** 74.37 201 P P 14 44 30.4 +1.1
comp=Z,2.6nm,0.8s,baz=15,slow=5.5,SNR=32
comp=Z,2.6nm,0.8s
STNU **Starunia** 74.41 329 P P 14 44 29.9 +0.5
KSV **Kosov** 74.55 328 P P 14 44 29.7 -0.5
OJC **Ojcow** 74.64 332 *e*P P 14 44 31.4 +0.8
OJC **Ojcow** 74.64 332 P P 14 44 31.1 +0.4
comp=Z,25nm,1.1s
STHS **Stebnicka Huta** 74.89 331 *e*P P 14 44 32.9 +0.8
STHS pmax pmax
comp=Z,14nm,0.8s
STHS **Stebnicka Huta** 74.89 331 *e*P P 14 44 32.9 +0.8
KOPT **Kop Dagi** 74.90 314 IAmb IAmb 14 44 36.6
comp=Z,11nm,0.7s
MEZ **Mezhgor'ye** 74.92 329 P P 14 44 32.6 +0.3
KOLS **Kolonicke sedl** 74.97 330 *e*P P 14 44 33.6 +1.0
BUR08 **Bucovina Ar. S** 75.08 328 IAmb IAmb 14 44 34.5
comp=Z,11nm,0.9s
EKA **Eskdalemuir Ar** 75.08 348 P P 14 44 33.8 +0.7
comp=Z,4.6nm,0.4s,baz=16,slow=4.9,SNR=39
comp=Z,4.6nm,0.4s
BURAR **Bucovina Array** 75.09 328 P P 14 44 33.7 +0.3
BURAR **Bucovina Array** 75.09 328 ⇑P P 14 44 34.1 +0.6
BURAR **Bucovina Array** 75.09 328 P P 14 44 33.8 +0.3
KSP **Ksiaz** 75.13 335 *e*P P 14 44 34.1 +0.6
TXAR **Lajitas Array** 75.19 63 P P 14 44 35.2 +0.9
comp=Z,4.0nm,0.7s,baz=299,slow=4.2,SNR=46
comp=Z,4.0nm,0.7s
NIE **Niedzica** 75.19 332 *e*P P 14 44 34.6 +0.7
HOLU **Holmets** 75.29 330 P P 14 44 35.4 +1.0
GURO **Guroymak-BITLI** 75.29 312 IAmb IAmb 14 44 38.0
comp=Z,12nm,1.0s
BIZ **Bicaz** 75.35 327 ⇓P P 14 44 35.1 +0.3
KORU **Korolevo** 75.35 329 P P 14 44 36.0 +1.2
OSTC **Ostas** 75.41 335 *e*P P 14 44 36.1 +1.0
OSTC **Ostas** 75.41 335 *e*P P 14 44 36.1 +1.0
BERU **Beregovo** 75.45 330 P P 14 44 35.9 +0.6
TRSU **Trosnyk** 75.47 329 P P 14 44 37.0 +1.6
STEB **Steborice** 75.51 333 *e*P P 14 44 36.8 +1.1
UPC **Upice** 75.51 335 *e*P P 14 44 36.6 +0.9
UPC **Upice** 75.51 335 *e*P P 14 44 36.6 +0.9
TESR **Tescani** 75.51 326 ⇓P P 14 44 36.4 +0.7
TESR **Tescani** 75.51 326 P P 14 44 35.9 +0.1
comp=Z,41nm,0.8s
VLDR **Vladesti** 75.54 325 ⇑P P 14 44 37.0 +1.1
DPC **Dobruska-Polom** 75.56 334 *e*P P 14 44 37.3 +1.3
DPC **Dobruska-Polom** 75.56 334 *e*P P 14 44 37.3 +1.3
DPC **Dobruska-Polom** 75.56 334 P P 14 44 37.3 +1.3
comp=Z,14nm,1.1s
CLL **Collm** 75.61 337 ⇑*i*P P 14 44 36.5 +0.3
CLL *i* 14 44 50.0
CLL pmax pmax
comp=Z,29nm,1.1s
CLL **Collm** 75.61 337 P P 14 44 36.6 +0.3
comp=Z,26nm,1.0s
CLL **Collm** 75.61 337 ⇑*i*P P 14 44 36.5 +0.3
comp=Z,29nm,1.1s
CLL *i* pP PcP 14 44 50.0 +1.1
CLL *i* PP PP 14 47 27.7 +2.4
GHRR 75.61 326 P P 14 44 37.3 +1.0
BMR **Baia Mare** 75.65 329 ⇑P P 14 44 38.0 +1.5
BMR **Baia Mare** 75.65 329 P P 14 44 37.9 +1.5
KRLC **Kraliky** 75.67 334 *e*P P 14 44 37.7 +1.0
KRLC **Kraliky** 75.67 334 *e*P P 14 44 37.7 +1.0
LANS **Liptovska Anna** 75.68 332 *e*P P 14 44 38.4 +1.7
LANS pmax pmax
comp=Z,12nm,0.9s
LANS **Liptovska Anna** 75.68 332 *e*P P 14 44 38.4 +1.7
SCTR **Scanteiesti** 75.71 325 ⇓P P 14 44 37.7 +0.8
MORC **Moravsky Berou** 75.72 333 *e*P P 14 44 37.7 +0.8
MORC **Moravsky Berou** 75.72 333 P P 14 44 37.8 +0.8
BRG **Berggiesshubel** 75.75 336 *i*P P 14 44 37.8 +0.8
BRG Amp 14 44 39.2
comp=Z,12nm,1.1s
ONER **Baraj Valea Uz** 75.76 326 ⇓P P 14 44 38.5 +1.3
TLCR 75.81 324 ⇓P P 14 44 38.3 +0.9
TLCR 75.81 324 P P 14 44 38.3 +0.9
ARCR **ARCALIA** 75.85 328 ⇑P P 14 44 38.4 +0.7
PANC **Panciu** 75.87 326 ⇑P P 14 44 39.2 +1.5
NEGRR **Negrea** 75.87 325 ⇓P P 14 44 39.2 +1.4
IZVR **Izvoarele** 75.91 325 ⇓P P 14 44 39.4 +1.4
SCHL **Schela** 75.92 325 ⇓P P 14 44 39.3 +1.3
SCHLR **Schela** 75.95 325 ⇑P P 14 44 39.2 +1.0
ODBI **Odobesti** 75.99 326 ⇓P P 14 44 39.6 +1.1
MAUC **Maruska** 76.00 333 *e*P P 14 44 39.8 +1.3
VRI **Vrincioaia** 76.03 326 ⇑P P 14 44 40.2 +1.4
VRI **Vrincioaia** 76.03 326 P P 14 44 40.1 +1.4
PLOR **Plostina** 76.07 326 ⇑P P 14 44 40.2 +1.1
PLOR **Plostina** 76.07 326 P P 14 44 40.1 +1.1
PLOR5 **Plostina Array** 76.07 326 P P 14 44 39.6 +0.6
comp=Z,14nm,1.5s
CFR **Carcaliu** 76.08 325 ⇑P P 14 44 40.0 +1.0
CFR **Carcaliu** 76.08 325 P P 14 44 39.9 +1.0
TPGR **Topolog** 76.23 324 ⇑P P 14 44 40.7 +0.7
COVR **Voineasa-Covas** 76.24 326 ⇑P P 14 44 41.6 +1.7
BISRR **Bisoca** 76.31 326 ⇑P P 14 44 41.7 +1.3
GOPC **GO Pecny, Ondr** 76.39 335 *e*P P 14 44 41.7 +1.0
GOPC **GO Pecny, Ondr** 76.39 335 *e*P P 14 44 41.7 +1.0
PRU **Pruhonice** 76.39 335 *e*P P 14 44 41.8 +1.1
PRU **Pruhonice** 76.39 335 *e*P P 14 44 41.8 +1.1
CBBR **Cluj-Babes-Bol** 76.41 328 ⇑P P 14 44 42.4 +1.6
VRAC **Vranov** 76.42 334 LR LR 15 23 19.1
comp=Z,168nm,18.1s,baz=15,slow=40
VRAC **Vranov** 76.42 334 *e*P P 14 44 41.9 +1.0
VRAC **Vranov** 76.42 334 ⇓P P 14 44 42.2 +1.3
VRAC **Vranov** 76.42 334 P P 14 44 42.1 +1.3
DOPR **Dopca** 76.44 327 ⇑P P 14 44 42.5 +1.4
CJR **Cluj-Napoca** 76.44 328 ⇑P P 14 44 42.8 +1.7
CJR **Cluj-Napoca** 76.44 328 P P 14 44 42.8 +1.7
JAVC **Velka Javorina** 76.50 333 *e*P P 14 44 43.1 +1.7
HARR **Harsova** 76.56 325 ⇑P P 14 44 43.0 +1.3
HARR **Harsova** 76.56 325 P P 14 44 43.0 +1.3
TIRR **Tirgusor** 76.57 324 ⇑P P 14 44 43.2 +1.4
TIRR **Tirgusor** 76.57 324 P P 14 44 43.2 +1.4
PSZ **Piszkesteto** 76.63 331 IAmb IAmb 14 44 43.8
comp=Z,12nm,1.1s
PSZ **Piszkesteto** 76.63 331 ⇑P P 14 44 43.3 +1.1
PSZ **Piszkesteto** 76.63 331 P P 14 44 43.3 +1.1
MARR **Marisel-Cluj** 76.64 329 ⇑P P 14 44 43.4 +1.1
MLR **Muntele Rosu** 76.64 326 LR LR 15 20 17.1
comp=Z,126nm,18.3s,baz=38,slow=37
MLR **Muntele Rosu** 76.64 326 ⇓P P 14 44 44.1 +1.7
MLR **Muntele Rosu** 76.64 326 P P 14 44 43.1 +0.8
MLR **Muntele Rosu** 76.64 326 P P 14 44 44.0 +1.7
comp=Z,32nm,1.0s
FCAR **Ozark Folk Cen** 76.66 51 IAmb IAmb 14 45 09.9
comp=Z,16nm,1.6s
DRGR 76.68 329 ⇓P P 14 44 43.3 +0.8
DRGR 76.68 329 P P 14 44 42.9 +0.4
KRUC **Moravsky** 76.69 334 *e*P P 14 44 43.3 +0.9
ISR **Istrita** 76.73 326 ⇑P P 14 44 44.4 +1.6
ISR **Istrita** 76.73 326 P P 14 44 44.4 +1.6
NKC **Novy Kostel** 76.73 337 *e*P P 14 44 43.4 +0.7
NKC **Novy Kostel** 76.73 337 *e*P P 14 44 43.4 +0.7
SMOL **Smolenice** 76.88 333 *e*P P 14 44 45.0 +1.5
SMOL pmax pmax
comp=Z,9.0nm,1.1s
ZVC **Zvikov** 76.98 335 *e*P P 14 44 45.3 +1.2
VOIR 77.01 327 ⇓P P 14 44 45.9 +1.5
VOIR 77.01 327 P P 14 44 45.2 +0.8
MODS **Modra-Piesok** 77.05 333 *e*P P 14 44 46.2 +1.7
MODS pmax pmax
comp=Z,126nm,1.9s
MODS **Modra-Piesok** 77.05 333 *e*P P 14 44 46.2 +1.7
ICOR **Ion Corvin** 77.10 324 ⇑P P 14 44 46.7 +1.9
ARR **Arges** 77.22 327 ⇓P P 14 44 47.6 +2.0
SRO **Srobarova** 77.23 332 *e*P P 14 44 47.2 +1.8
SRO pmax pmax
comp=Z,16nm,0.9s
SRO **Srobarova** 77.23 332 *e*P P 14 44 47.2 +1.8
DEV **Deva** 77.40 328 ⇑P P 14 44 47.8 +1.3
DEV **Deva** 77.40 328 P P 14 44 47.7 +1.3
KHC **Kasperske Hory** 77.43 336 *e*P P 14 44 47.9 +1.3
KHC **Kasperske Hory** 77.43 336 *i*P P 14 44 45.6 -1.0
KHC pmax pmax
comp=Z,59nm,1.0s
KHC **Kasperske Hory** 77.43 336 P P 14 44 48.1 +1.5
comp=Z,29nm,1.0s
LOT **Lotru** 77.47 328 ⇑P P 14 44 48.5 +1.5
SIRR **Siria** 77.49 329 ⇓P P 14 44 48.1 +1.1
CKRC **Cesky Krumlov** 77.51 335 *e*P P 14 44 48.0 +0.9
CKRC **Cesky Krumlov** 77.51 335 *e*P P 14 44 48.0 +0.9
GRFO **Grafenberg** 77.55 337 P P 14 44 48.6 +1.4
GRFO **Grafenberg** 77.55 337 P P 14 44 48.6 +1.4
GRFO pmax pmax
comp=Z,27nm,1.0s
UOSS **Minazif** 77.65 294 P P 14 44 47.8 -0.4
GEC2 **GERESS Array S** 77.66 335 IAmb IAmb 14 44 49.7
comp=Z,10.0nm,0.9s
GERES **GERESS Array B** 77.66 335 P P 14 44 47.8 -0.2
GERES **GERESS Array B** 77.66 335 P P 14 44 48.6 +0.7
comp=Z,4.5nm,0.6s,baz=29,slow=5.1,SNR=31
comp=Z,4.5nm,0.6s
GERES **GERESS Array B** 77.66 335 P P 14 44 47.8 -0.2
SURR **Surduc** 77.78 329 ⇓P P 14 44 49.6 +1.0
BEBN **Eben Emael** 77.84 341 *d*P P 14 44 49.1 +0.4
comp=Z,23nm,0.9s
GZR **Gura Zlata** 77.87 328 ⇓P P 14 44 49.9 +0.8
GZR **Gura Zlata** 77.87 328 P P 14 44 49.9 +0.8
CONA **Conrad Observa** 77.87 334 *i*P P 14 44 50.5 +1.4
comp=Z,4.6nm,0.6s,SNR=9.8
BTNL **Ternell** 77.94 341 *d*P P 14 44 50.4 +1.0
comp=Z,11nm,1.0s
MEM **Membach** 77.94 341 *d*P P 14 44 50.4 +1.1
comp=Z,18nm,1.1s
RONA **Rosalia, Austr** 77.94 333 *i*P P 14 44 51.1 +1.6
comp=Z,6.0nm,0.6s,SNR=12
BSTI **Sart Tilman** 78.06 341 *d*P P 14 44 51.6 +1.5
COPA **Copaceanca** 78.07 326 ⇑P P 14 44 50.9 +0.7
BZS **Buzias** 78.08 329 ⇓P P 14 44 51.0 +0.8
BZS **Buzias** 78.08 329 P P 14 44 50.4 +0.2
UCC **Uccle** 78.11 342 *d*P P 14 44 51.9 +1.6
BHOU **Houvegnez** 78.18 341 *d*P P 14 44 52.1 +1.4
comp=Z,8.5nm,1.1s
BCLA **Clavier** 78.27 341 *d*P P 14 44 52.4 +1.2
comp=Z,8.3nm,1.1s
BRTR **Keskin Array B** 78.30 318 P P 14 44 51.9 +0.1
BRTR **Keskin Array B** 78.30 318 P P 14 44 52.3 +0.5
comp=Z,16nm,1.0s,baz=65,slow=3.3,SNR=55
comp=Z,16nm,1.0s
BR104 **Keskin Array S** 78.31 318 P P 14 44 52.4 +0.6
comp=Z,142nmcomp=Z,23nm,1.0s
BR105 **Keskin Array S** 78.32 318 P P 14 44 52.8 +1.0
comp=Z,149nmcomp=Z,24nm,1.0s
BGES **Gesves** 78.35 341 *d*P P 14 44 52.7 +1.1
comp=Z,7.0nm,1.1s
MOA **Molln** 78.40 335 *i*P P 14 44 53.2 +1.2
comp=Z,3.8nm,0.6s,SNR=5.2
HERR **Herculane** 78.44 328 ⇑P P 14 44 52.9 +0.7
BMRD **Maredsous** 78.50 341 *d*P P 14 44 54.2 +1.7
comp=Z,12nm,1.2s
RCHB **Rochefort** 78.54 341 *d*P P 14 44 53.7 +1.1
comp=Z,7.5nm,1.0s
MORH **Mrgy, Hungar** 78.54 331 ⇓P P 14 44 53.4 +0.7
ANTO **Ankara** 78.56 319 P P 14 44 53.6 +0.5
ANTO **Ankara** 78.56 319 ⇓P P 14 44 55.0 +1.9
ANTO **Ankara** 78.56 319 P P 14 44 53.6 +0.5
ANTO pmax pmax
comp=Z,20nm,0.7s
ARSA **Arzberg** 78.58 334 *i*P P 14 44 54.4 +1.4
comp=Z,1.8nm,0.4s,SNR=6.4
ARSA **Arzberg** 78.58 334 IAmb IAmb 14 44 55.4
comp=Z,20nm,1.3s
KIRS **Kirsehir-Merke** 78.66 318 ⇓P P 14 44 55.0 +1.3
BIOA **Bad Ischl, Aus** 78.73 335 *e*P P 14 44 55.0 +1.2
comp=Z,1.6nm,0.2s,SNR=7.1
MDVR **Moldovita** 78.77 328 ⇑P P 14 44 54.9 +0.8
WLF **Walferdange** 78.80 340 *d*P P 14 44 55.0 +0.9
FRGS **Fruska Gora** 79.09 330 *e*P P 14 44 56.2 +0.4
LESA **Schwarzleotal** 79.24 335 *e*P P 14 44 57.8 +1.1
comp=Z,5.8nm,0.5s,SNR=11
SOKA **Soboth** 79.24 334 *e*P P 14 44 57.8 +1.1
comp=Z,3.5nm,0.3s,SNR=10
PERS **Pernice** 79.25 334 *i*P P 14 44 57.8 +1.1
GROS **Grobnik** 79.30 333 *i*P P 14 44 57.6 +0.6
KBA **Koelnreinsper** 79.37 335 *i*P P 14 44 59.2 +1.7
comp=Z,18nm,0.5s,SNR=35
S51A **Beattyville** 79.44 44 IAmb IAmb 14 45 07.7
comp=Z,24nm,1.6s
BFO **Black Forest** 79.54 338 P P 14 44 58.7 +0.5
BFO IAmb IAmb 14 45 00.1
comp=Z,9.5nm,1.0s
BFO **Black Forest** 79.54 338 P P 14 44 58.7 +0.5
BFO pmax pmax
comp=Z,9.0nm,1.0s
OBKA **Obir** 79.54 334 *i*P P 14 44 59.3 +0.9
comp=Z,4.4nm,0.5s
OBKA **Obir** 79.54 334 *e*P P 14 44 58.8 +0.5
WATA **Walderalm** 79.62 336 *i*P P 14 45 00.1 +1.2
comp=Z,5.6nm,0.4s,SNR=17
WTTA **Wattenberg** 79.67 336 *i*P P 14 45 00.5 +1.4
comp=Z,22nm,0.9s,SNR=21
MYKA **Terra Mystica** 79.69 334 *i*P P 14 45 00.3 +1.2
comp=Z,4.6nm,0.4s
RETA **Reutte** 79.70 337 *i*P P 14 45 00.4 +1.3
comp=Z,5.9nm,0.9s
TEKS **Tekeris** 79.72 330 *e*P P 14 44 58.0 -1.3
MOTA **Moosalm** 79.74 336 *i*P P 14 45 00.6 +1.1
comp=Z,12nm,0.9s
BOVS **Bovan** 79.77 328 ⇑P P 14 45 00.3 +0.7
LEGS **Legarje** 79.81 333 *i*P P 14 45 00.1 +0.4
SQTA **Sankt Quirin** 79.83 336 *e*P P 14 45 01.5 +1.6
comp=Z,6.4nm,0.8s,SNR=15
PRED **Cave del Predi** 79.88 334 IAmb IAmb 14 45 01.4
comp=Z,11nm,0.6s
ABTA **Abfaltersbach** 79.90 335 *i*P P 14 45 01.1 +0.8
comp=Z,8.1nm,0.9s,SNR=6.6
ECH **Echery** 79.92 339 IAmb IAmb 14 45 03.4
comp=Z,11nm,1.1s
DAVA **Damuels** 80.11 337 *i*P P 14 45 02.8 +1.3
comp=Z,14nm,1.1s
FETA **Feichten** 80.14 336 *i*P P 14 45 03.1 +1.4
comp=Z,6.8nm,0.9s,SNR=9.3
A051A **Mrakovica** 80.16 332 *e*P P 14 45 01.0 -0.7
BOJS **Bojanci** 80.23 333 *e*P P 14 45 02.3 +0.3
CEY **Cerknica** 80.27 334 *e*P P 14 45 01.8 -0.4
BLY **Banja Luka** 80.31 331 *e*P P 14 45 03.9 +1.5
HAPS **Han Pijesak,Bl** 80.33 330 *e*P P 14 45 03.0 +0.3
BBLS **Lazi&#263i** 80.37 330 *e*P P 14 45 03.5 +0.7
SKDS **Skadanscina** 80.57 334 *e*P P 14 45 03.2 -0.6
RUDO **Rudo** 80.60 329 *e*P P 14 45 04.0 0.0
FUORN **Ofenpass-Fuorn** 80.63 337 IAmb IAmb 14 45 07.7
comp=Z,21nm,1.4s
SJES **Sjenica** 80.71 329 *e*P P 14 45 04.9 +0.2
A050A **Klekovaca** 80.76 332 *e*P P 14 45 03.7 -1.2
CTI **Castel Tesino** 80.78 335 IAmb IAmb 14 45 06.2
comp=Z,8.5nm,0.9s
STKA **Stephens Creek** 80.93 192 LR LR 15 19 01.2
comp=Z,28nm,21.8s,baz=51,slow=34
TKL **Tuckaleechee C** 80.97 45 LR LR 15 23 04.3
comp=Z,45nm,19.1s,baz=342,slow=37
TUE **Stuetta** 81.01 337 IAmb IAmb 14 45 09.4
comp=Z,14nm,0.9s
TUE **Stuetta** 81.01 337 P P 14 45 07.6 +1.2
UPM **Unac-Piva** 81.12 330 *e*P P 14 45 06.4 -0.6
BRY **Bratogost** 81.51 330 *e*P P 14 45 09.3 +0.2
PDG **Podgorica** 81.69 329 ⇑P P 14 45 10.7 +1.0
TREB **Trebinje** 81.74 330 *e*P P 14 45 10.3 +0.2
PPT **Papeete** 81.81 128 LR LR 15 13 13.4
comp=Z,57nm,21.3s,baz=306,slow=30
PUK **Puka** 81.81 328 IAmb IAmb 14 45 13.6
comp=Z,7.0nm,0.7s
STON **Ston** 81.82 330 *e*P P 14 45 09.9 -0.5
DRME **Dracevica, Mon** 81.93 329 *e*P P 14 45 11.5 +0.4
HCY **Herceg Novi** 81.93 329 *e*P P 14 45 08.5 -2.6
FNA **Florina** 82.39 327 IAmb IAmb 14 45 14.7
comp=Z,7.2nm,0.9s
MMAI **Mount Meron Ar** 82.94 313 P P 14 45 17.8 +1.2
comp=Z,12nm,0.5s,baz=40,slow=6.6,SNR=21
comp=Z,12nm,0.5s
MSSA **Maissana** 82.96 336 IAmb IAmb 14 45 20.4
comp=Z,14nm,1.1s
BNI **Bardonecchia** 83.00 338 IAmb IAmb 14 45 32.9
comp=Z,8.5nm,1.1s
FDMO **Fiordimonte** 83.13 333 IAmb IAmb 14 45 37.6
comp=Z,14nm,1.0s
OSSC **Osservatorio P** 83.22 335 IAmb IAmb 14 45 22.3
comp=Z,9.9nm,1.1s
SSB **Saint Sauveur** 83.30 340 IAmb IAmb 14 45 22.6
comp=Z,11nm,1.0s
INTR **Introdacqua** 83.81 332 IAmb IAmb 14 45 24.4
comp=Z,7.6nm,1.0s
RAYN **Ar Rayn** 85.08 300 P P 14 45 27.8 +0.1
RAYN IAmb IAmb 14 45 28.8
comp=Z,6.4nm,0.7s
RAYN **Ar Rayn** 85.08 300 P P 14 45 27.8 +0.1
RAYN pmax pmax
comp=Z,6.0nm,0.7s
EIL **Elat** 85.89 311 LR LR 15 31 39.9
comp=Z,69nm,18.2s,baz=66,slow=41
URZ **Urewera** 88.41 163 LR LR 15 18 04.1
comp=Z,44nm,21.0s,baz=130,slow=31
CMIG **Matias Romero** 89.69 64 LR LR 15 23 18.4
comp=Z,15nm,21.7s,baz=355,slow=34
ESDC **Sonseca Array** 90.42 344 P P 14 45 52.8 -0.2
ESDC **Sonseca Array** 90.42 344 P P 14 45 53.1 +0.1
comp=Z,1.9nm,0.9s,baz=20,slow=3.7,SNR=11
ESDC LR LR 15 32 02.6
comp=Z,168nm,19.0s,baz=331,slow=39
comp=Z,1.9nm,0.9s
KEST **Kesra** 90.97 333 IAmb IAmb 14 45 58.7
comp=Z,6.1nm,0.8s
KEST **Kesra** 90.97 333 P P 14 45 56.0 +0.4
comp=Z,4.6nm,0.7s,baz=118,slow=2.2,SNR=11
KEST LR LR 15 32 07.3
comp=Z,166nm,18.4s,baz=337,slow=39
comp=Z,4.6nm,0.7s
MDT **Midelt** 97.20 343 LR LR 15 36 09.0
comp=Z,82nm,18.0s,baz=24,slow=39
H03N2 **Juan Fernandez** 137.05 90 T T 17 25 31.0
baz=310,slow=77,SNR=21
H03N1 **Juan Fernandez** 137.07 90 T T 17 25 35.4
baz=310,slow=77,SNR=24
H03N3 **Juan Fernandez** 137.07 90 T T 17 25 26.4
baz=310,slow=77,SNR=21
QSPA **South Pole Qui** 138.17 180 PKP PKPdf 14 52 16.3 +1.1
comp=Z,1.5nm,0.7s,baz=227,slow=1.5,SNR=10
CPUP **Villa Florida** 146.15 61 PKPbc PKPdf 14 52 31.6 +1.1
comp=Z,2.4nm,0.7s,baz=338,slow=5.4,SNR=6.5
PLCA **Paso Flores** 146.64 94 PKPbc PKPbc 14 52 33.4 +0.6
comp=Z,3.2nm,0.8s,baz=310,slow=7.9,SNR=7.9
ELIB **Princess Elisa** 148.05 206 *d*PKPdf PKPbc 14 52 36.2 +0.4

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*JMA **24** 14:47:35.0±0.1,24°.7N±0°.7×122°.3E±0°.3,h32km±3km,*
MV2.6/11,TAIWAN REGION
*TAP **24** 14:47:34.6,24°.73N×122°.27E,h13km,ML3.0,C*
ISC 24 14:47:33.9±1.1,24°.69N±0°.02×122°.35E±0°.02,h8km±9km,
n94,σ0°80/156,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.29	201	⇑*i*P	Pb	14 47 41.7	+0.3
EOS2				*i* S	Sb	14 47 47.3	+1.0
EGS		0.41	292	*i* P	Pg	14 47 41.7	-0.1
EOS3	EOS3	0.41	184	*i* P	Pb	14 47 43.8	+0.6
EOS3				*i* S	Sb	14 47 51.0	+1.4
TWB1	Santiao Chiao	0.45	314	*i* P	Pg	14 47 42.7	0.0
TWB1				*i* S	Sg	14 47 48.0	-0.7
ESAO	Su ao	0.47	256	*i* P	Pg	14 47 43.4	+0.4
ESAO				*i* S	Sg	14 47 49.4	+0.1
TIPB	Shuangxi	0.55	300	*i* P	Pg	14 47 44.7	+0.1
TIPB				*e*S	Sg	14 47 49.1	-2.6
EOS4	EOS4	0.57	183	*e*P	Pn	14 47 46.9	-1.1
EOS4				S	Sn	14 47 55.7	-1.7
EWUT	Wuta	0.57	245	P	Pg	14 47 45.5	+0.6
EWUT				*e*S	Sg	14 47 53.4	+0.9
NDS	Dongshan	0.58	264	P	Pg	14 47 45.1	0.0
NDS				S	Sg	14 47 52.6	0.0
SXI1	Grass Mountain	0.59	313	P	Pg	14 47 45.5	+0.2
JYNG	Yonagunijimaku	0.59	114	*i* P	Pb	14 47 46.9	+0.4
JYNG				*e*S	Sb	14 47 55.6	+0.5
ENA	Nanau	0.61	245	P	Pg	14 47 46.1	+0.4
ENA				S	Sg	14 47 54.1	+0.4
TWE	Neicheng	0.62	273	*i* P	Pg	14 47 45.5	-0.3
TWE				S	Sb	14 47 55.1	-0.8
NWF	Wu-fen Shan	0.64	306	P	Pb	14 47 47.5	+0.2
NWF				*e*S	Sb	14 47 55.8	-0.7
WFSB	Wu-fen Shan	0.64	306	P	Pb	14 47 47.6	+0.3
WFSB				S	Sb	14 47 56.1	-0.2
YOJ	Yonaguni jima	0.65	111	P	Pb	14 47 47.8	+0.4
YOJ	Yonaguni jima	0.65	111	P	Pb	14 47 47.8	+0.4
YOJ				*e*S	Sb	14 47 56.7	+0.1
EAHA	Aohua	0.66	237	P	Pb	14 47 47.1	-0.6
EAHA				S	Sg	14 47 55.9	+0.6
TNOU	National Taiwa	0.69	311	*e*P	Pb	14 47 48.8	+0.6
TNOU				*e*S	Sb	14 47 58.2	+0.3
FUSB	Fushanzhiwuyua	0.69	276	P	Pg	14 47 47.1	-0.1
FUSB				*e*S	Sg	14 47 55.9	-0.5
ENTT	Nioudou	0.71	266	*e*P	Pg	14 47 47.7	+0.1
ENTT				*e*S	Sg	14 47 56.6	-0.3
TWA	Mucha	0.75	292	*e*P	Pb	14 47 49.7	+0.5
TWA				*e*S	Sb	14 47 59.8	+0.1
LATG	Datong	0.77	258	P	Pg	14 47 48.7	+0.1
LATG				*e*S	Sg	14 47 58.9	+0.3
NWLT	Wulai	0.77	276	P	Pg	14 47 48.7	-0.1
NWLT				*e*S	Sg	14 47 58.0	-0.9
ETL	Fush Village	0.85	231	*e*P	Pg	14 47 50.1	-0.1
NACB	Ninganchiao	0.86	233	*e*P	Pg	14 47 50.5	0.0
NACB				*e*S	Sg	14 48 01.6	0.0
ZUZH	Zhuzihu	0.86	303	*e*P	Pg	14 47 51.0	+0.5
ZUZH				*e*S	Sg	14 48 02.5	+0.7
YHNB	Yeheng	0.89	269	P	Pg	14 47 50.4	-0.5
YHNB				*e*S	Sg	14 48 01.8	-0.6
TWY	Chenhua	0.89	311	*e*P	Pg	14 47 51.4	+0.4
TWY				S	Sg	14 48 02.4	-0.2
ANP	Anpu	0.90	303	*e*P	Pg	14 47 51.5	+0.4
NSK	Sanguang	0.90	269	P	Pg	14 47 51.1	-0.1
NSK				S	Sg	14 48 02.3	-0.6
NNSB	Datong	0.92	253	*e*P	Pg	14 47 51.1	-0.4
NNSB				*e*S	Sg	14 48 03.8	+0.3
TWD	Chiawan	0.92	228	*e*P	Pg	14 47 51.6	+0.1
NNS	Nan Shan	0.92	254	*e*P	Pg	14 47 51.9	+0.3
NNS				S	Sg	14 48 03.6	-0.1
ETLH	Xiulin Townshi	0.93	239	*e*P	Pb	14 47 52.1	-0.2
ETLH				*e*S	Sb	14 48 04.6	-0.2
NTST	Danshui	0.94	300	*e*P	Pb	14 47 52.4	0.0
PCYT	Pengchaiyu	0.96	345	*e*P	Pb	14 47 53.0	+0.2
ETM	Tongmen	1.07	227	*e*P	Pn	14 47 55.5	+0.3
KSHI	Guanxi Townshi	1.07	275	*e*P	Pn	14 47 55.0	-0.2
LXIB	Xiulin Townshi	1.08	232	*e*P	Pg	14 47 54.7	0.0
LXIB				*e*S	Sn	14 48 10.7	-0.1
NCUH	Zhongli	1.09	285	*e*P	Pn	14 47 55.5	0.0
FUSS	Fushou	1.10	246	P	Pb	14 47 55.3	0.0
FUSS				S	Sg	14 48 09.0	-0.3
NFF	Wufeng Townshi	1.12	267	*e*P	Pn	14 47 55.8	-0.2
NFF				*e*S	Sn	14 48 10.9	-0.7
WHF	Hehuan Shan	1.13	241	P	Pb	14 47 56.0	+0.1
WHF				*e*S	Sg	14 48 10.2	0.0
SHUL	Shoufeng	1.15	219	*e*P	Pn	14 47 57.4	+1.1
TWT	Tachien	1.16	248	P	Pn	14 47 56.8	+0.3
TWT				*e*S	Sb	14 48 11.4	-0.1
TDCB	Techi	1.17	248	*e*P	Pn	14 47 56.7	0.0
TDCB				*e*S	Sg	14 48 11.5	0.0
ESL	Shilin	1.21	224	*e*P	Pg	14 47 57.9	+0.8
LIOB	Emei	1.21	268	*e*P	Pg	14 47 58.4	+1.2
LIOB				*e*S	Sn	14 48 14.4	+0.6
NSTT	Nanjuang	1.23	267	*e*P	Pg	14 47 58.7	+1.2
NSTT				*e*S	Sn	14 48 13.8	-0.3
SBCB	Hsinchu	1.24	275	*e*P	Pg	14 47 58.8	+1.1
SBCB				*e*S	Sn	14 48 16.5	+2.0
OWD	Renai	1.30	236	P	Pg	14 47 59.0	+0.2
OWD				S	Sg	14 48 15.5	-0.2

IRIF	Iriomote-Funau	1.31 106	eS	Sb	14 48 15.3	-0.4
WARBT	Fenglin Townsh	1.31 222	eP	Pn	14 47 58.4	-0.1
EGFH	Guangfu	1.32 220	eP	Pg	14 47 60.0	+0.7
WUSB	Renai	1.32 238	P	Pg	14 47 59.5	+0.3
WUSB			eS	Sg	14 48 17.1	+0.6
WHP	Taichung City	1.34 252	P	Pg	14 48 00.1	+0.4
WHP			eS	Sb	14 48 16.1	-0.7
NMLH	Miaoli	1.43 264	eP	Pg	14 48 02.7	+1.5
NMLH			eS	Sg	14 48 21.9	+2.2
VWDT	VWDT	1.45 230	eP	Pg	14 48 02.1	+0.5
VWDT			eS	Sg	14 48 21.9	+1.5
WCS	Beigang Elemen	1.46 244	eP	Pg	14 48 02.5	+0.7
HGSD	Ruisui	1.47 215	eP	Pb	14 48 01.1	-0.3
TWQ1	Liyutan	1.48 257	eP	Pg	14 48 03.4	+1.2
TWQ1			eS	Sg	14 48 23.8	+2.5
EHY	Hungye	1.51 219	eP	Pn	14 48 01.3	0.0
SMLT	Sun Moon Lake	1.55 239	eP	Pb	14 48 02.9	0.0
SSLB	Suanglung	1.56 235	eP	Pg	14 48 03.4	-0.4
SSLB			eS	Sg	14 48 25.3	+1.2
TYC	Yuchr	1.57 240	eP	Pg	14 48 04.5	+0.5
TYC			eS	Sg	14 48 25.5	+1.1
JKRS	Kuro-shima	1.58 106	eP	Pn	14 48 01.8	-0.4
JKRS			S	Sn	14 48 22.6	-0.3
YULB	Yu-li	1.61 217	eP	Pb	14 48 03.5	-0.5
EYUL	Yuli	1.64 215	eP	Pn	14 48 03.3	+0.3
TWF1	Yuli	1.65 216	eP	Pn	14 48 03.2	+0.1
JIJ	Ishigaki jima	1.67 101	eP	Pn	14 48 03.2	-0.2
JIJ			eS	Sn	14 48 23.7	-1.3
WHYT	Xinyi Township	1.69 234	P	Pg	14 48 06.0	-0.3
WHYT			eS	Sg	14 48 28.2	0.0
WJS	Zhushan	1.71 240	eP	Pg	14 48 07.4	+0.6
WJS			eS	Sg	14 48 31.2	+2.2
WNT	Mingjian	1.72 242	eP	Pg	14 48 06.7	-0.2
WNT			eS	Sg	14 48 32.1	+2.8
YUS	Yu-Shan	1.75 227	eP	Pn	14 48 03.9	-1.1
FULB	Fuli	1.77 213	eP	Pn	14 48 04.8	-0.1
JISG	Ishigakijimahi	1.79 93	eP	Pn	14 48 05.9	+0.8
ALS	Alishan	1.84 230	eP	Pb	14 48 08.3	+0.4
CHN5	Tsauling	1.88 235	P	Pg	14 48 09.4	-0.4
CHN5			eS	Sg	14 48 35.2	+1.0
ELDTW	Lidau	1.93 219	eP	Pn	14 48 07.8	+0.7
WCKO	Fanlu	2.02 232	P	Pb	14 48 11.4	+0.4
WCKO			eS	Sg	14 48 39.0	0.0
WTK	Tuku	2.05 241	eP	Pb	14 48 10.8	-0.6
WTK			eS	Sg	14 48 40.2	+0.4
CHN4	Tsaushan	2.09 231	eP	Pg	14 48 12.9	-1.0
CHN4			eS	Sg	14 48 42.3	+1.3
STYH	Taoyuan	2.09 224	eP	Pn	14 48 10.5	+1.2
STYH			eS	Sb	14 48 37.5	-0.7
TPUB	Ta-pu	2.10 229	P	Pb	14 48 11.7	-0.5
TPUB			eS	Sg	14 48 41.3	0.0
WTP	Ta-pu	2.14 228	eP	Pb	14 48 13.5	+0.5
TWK	Hsinying	2.22 231	P	Pb	14 48 13.9	-0.3
TWK			eS	Sg	14 48 45.4	+0.2
CHN1	Nanshi	2.24 228	eP	Pb	14 48 14.6	-0.1
CHN1			eS	Sg	14 48 46.2	+0.2
WSL	Shuilin Townsh	2.26 239	eP	Pb	14 48 15.4	+0.4
WSL			eS	Sg	14 48 45.5	-1.0
SGST	Jiashian	2.28 226	eP	Pb	14 48 14.6	-0.6
SGST			eS	Sg	14 48 46.6	-0.5
MASBT	Mashibuluo	2.60 218	eP	Pb	14 48 19.6	-1.1
EAST	Anshuo	2.68 211	eP	Pn	14 48 15.5	-1.9
SCZT	Fangliau	2.80 215	eP	Pb	14 48 21.9	-2.3
SCZT			eS	Sb	14 48 57.1	-1.6
SLIU	Shizi	2.85 210	eP	Pn	14 48 20.8	+1.1

*JMA **24** 15:04:38.6±0.1, 36°.0N±0°.3×139°.9E±0°.3, h43km, MV3.1/33, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .
ISC 24 15:04:38.0±1.4, **36°.07N**±0°.07×**139°.96E**±0°.06, **h60**km, **n8**, σ1§**28**/12, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.25	51	P	Pn	15 04 47.0	-0.6
JYT				S	Sn	15 04 52.9	-1.8
JAG	Ashikaga	0.54	311	P	Pn	15 04 50.2	-0.2
JAG				S	Sn	15 04 58.2	-1.2
JRY	Ryogami san	0.86	267	P	Pn	15 04 53.9	-0.3
JRY				S	Sn	15 05 04.8	-1.4
JKT	Katashina	0.90	321	P	Pn	15 04 54.9	+0.1
JKT				S	Sn	15 05 07.3	+0.2
MAJO	Matsushiro	1.49	289	P	Pn	15 05 03.6	+1.1
JMM	Marumori	1.91	20	P	Pn	15 05 09.5	+1.3
JSD	Sado	2.38	326	P	Pn	15 05 16.2	+1.6
JHJ2	Mitsune	2.96	182	P	Pn	15 05 24.0	+1.5

*IDC **24** 15:17:12.3±0.9, 31°.04N×110°.12E, h0km, mb4.0/7, mbtmp3.9/8, ML3.3/1, MS3.5/2, Error ellipse: s-maj=55.3km s-min=18.6km az=56.0*
*NEIC **24** 15:17:14.1±1.4, 30°.93N±0°.08×110°.2E±0°.1, h15km±5km, mb4.1/8, Error ellipse: s-maj=17.9km s-min=5.5km az=128.0*
ISC 24 15:17:13.7±0.6, **30°.93N**±0°.06×**110°.24E**±0°.07, **h10**km, **n30**, σ1§**51**/29, **mb4.1**/10, **Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	Enshi	0.92	225		Pg	15 17 31.2	-0.2
CNSH	ChangSha	3.61	139	Pg	Pn	15 18 10.8	+1.2
CNSH				Sg	Sn	15 18 54.0	+1.7
CNSH				smax	smax		
	comp=N,110nm,0.8s						
CNSH				smax	smax		
	comp=E,130nm,0.8s						
CD2	Chengdu	5.57	271	P	Pn	15 18 36.4	-0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	Lanzhou	7.41	316	ePg	Pg	15 19 38.3	+2.7
LZH				Sg	Sb	15 21 00.1	+9.2
LZH				smax	smax		
	comp=N,140nm,1.3s						
LZH				smax	smax		
	comp=E,86nm,1.3s						
PZH	PanZhiHua	8.66	241	P	Pn	15 19 22.4	+3.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
HKPS	Hong Kong Po S	9.30	157	Pn	Pn	15 19 26.3	-1.5
CHTO	Chiang Mai	15.81	223	P	P	15 21 00.3	0.0
KSRS	Korea Array	16.31	61	Pn	Pn	15 20 59.5	+0.7
	comp=Z,0.1nm,0.3s,baz=246,slow=11,SNR=5.2						
	comp=Z,0.3nm,0.6s						
CM31	Chiang Mai Arr	16.09	222	P	P	15 21 04.7	+1.2
CM31				IAmb	IAmb	15 21 06.9	
	comp=Z,9.7nm,0.8s						
CMAR	Chiang Mai Arr	16.09	222	P	P	15 21 05.1	+1.6
CMAR	Chiang Mai Arr	16.09	222	Pn	P	15 21 04.7	+1.2
	comp=Z,0.3nm,0.3s,baz=38,slow=11,SNR=67						
MKAR	Makanchi Array	26.72	314	P	P	15 22 50.9	-2.3
MKAR	Makanchi Array	26.72	314	P	P	15 22 52.7	-0.5
	comp=Z,1.9nm,0.6s,baz=114,slow=10,SNR=20						
	comp=Z,1.9nm,0.6s						
ZAA0	Zalesovo Array	29.39	329	P	P	15 23 15.6	-1.3
ZAA0				IAmb	IAmb	15 23 16.9	
	comp=Z,2.2nm,0.6s						
ZALV	Zalesovo Beam	29.39	329	P	P	15 23 16.0	-0.9
ZALV	Zalesovo Beam	29.39	329	P	P	15 23 16.3	-0.6
	comp=Z,3.0nm,0.7s,baz=126,slow=8.3,SNR=14						
	comp=Z,3.0nm,0.7s						
KBL	Kabul	34.67	287	P	P	15 24 01.8	-1.9
GUMO	Guam	36.20	111	LR	LR	15 38 52.1	
	comp=Z,40nm,21.7s,baz=64,slow=36						
BVAR	Borovoye Array	36.28	319	P	P	15 24 15.4	-1.7
	comp=Z,1.8nm,0.6s,baz=108,slow=8.8,SNR=19						
	comp=Z,1.8nm,0.6s						
BRVK	Borovoye	36.35	319	P	P	15 24 16.1	-1.6
BRVK				IAmb	IAmb	15 24 19.8	
	comp=Z,2.8nm,1.1s						
ABKAR	Akbulak array	41.75	311	P	P	15 25 01.4	-1.5
WRA	Warramunga Arr	55.63	152	P	P	15 26 51.2	+1.3
	comp=Z,0.4nm,0.7s,baz=342,slow=7.5,SNR=2.3						
	comp=Z,0.4nm,0.7s						
ASAR	Alice Springs	58.84	155	P	P	15 27 13.9	+1.4
	comp=Z,0.5nm,0.7s,baz=336,slow=6.3,SNR=7.8						
	comp=Z,0.5nm,0.7s						
ARCES	ARCESS Array B	59.57	336	P	P	15 27 16.1	-1.0
	comp=Z,1.8nm,0.8s,baz=81,slow=8.0,SNR=8.6						
	comp=Z,1.8nm,0.8s						

B20K	Meade River	62.17	23	P	P	15 27 34.9	+0.2
BMAR	Burnt Mountain	67.36	24	P	P	15 28 09.3	+0.6
NOA	NORSAR Array B	67.59	329	P	P	15 28 09.1	-1.2
	comp=Z,0.9nm,0.7s,baz=68,slow=6.3,SNR=2.4						
	comp=Z,0.9nm,0.7s						
JMIC	Jan Mayen	69.65	342	LR	LR	16 03 19.2	
	comp=Z,54nm,19.4s,baz=64,slow=40						
F31M	Tsiigehtchic	70.95	22	P	P	15 28 31.5	+0.6
F31M				IAmb	IAmb	15 28 52.9	
	comp=Z,4.4nm,1.4s						
LPAZ	La Paz	165.35	354	PKP	PKPdf	15 37 18.2	-1.6
	comp=Z,1.5nm,0.3s,baz=278,slow=2.2,SNR=12						

*TAP **24** 15:26:55.2, 21°.27N×119°.90E, h57km±1km, ML3.5, D*
ISC 24 15:26:55.0±1.8, **21°.14N**±0°.08×**119°.89E**±0°.04, **h53**km±30km, **n112**, σ1§**09**/205, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNW	Nanwan	1.14	44	eP	Pn	15 27 15.1	+0.4
HEN	Hengchun	1.17	43	i P	Pn	15 27 15.3	+0.2
HEN				eS	Sn	15 27 30.8	+0.8
TWK1	Hengchun	1.17	47	eP	Pn	15 27 15.2	+0.2
TWK1				S	Sn	15 27 29.8	-0.2
TWKBT	Hengchun	1.17	47	P	Pn	15 27 15.2	+0.2
TWKBT				i S	Sn	15 27 29.9	-0.2
TSEB	Hengchuen, Pin	1.21	51	eP	Pn	15 27 15.7	+0.2
TSEB				eS	Sn	15 27 30.5	-0.4
TWP	Hsiaoliuchiu	1.28	20	P	Pn	15 27 16.8	+0.3
WLCH	Liuqiu	1.29	21	P	Pn	15 27 16.9	+0.3
WLCH				eS	Sn	15 27 34.5	+1.7
SLIU	Shizi	1.36	38	eP	Pn	15 27 17.9	+0.2
SLIU				S	Sn	15 27 34.4	-0.4
SCZT	Fangliau	1.40	29	P	Pn	15 27 18.3	+0.1
SCZT				S	Sn	15 27 35.4	-0.2
SSPT	Xinbi	1.48	25	P	Pn	15 27 19.4	+0.2
SSPT				eS	Sn	15 27 36.7	-0.7
TAWH	Dawu Township	1.51	38	eP	Pn	15 27 19.4	-0.3
TAWH				eS	Sn	15 27 38.5	+0.2
TAW	Tawu	1.53	38	i P	Pn	15 27 20.1	+0.2
TAW				eS	Sn	15 27 39.6	+0.8
WSSB	Gushan	1.53	13	eP	Pn	15 27 20.1	+0.1
WSSB				eS	Sn	15 27 39.5	+0.7
MASBT	Mashibuluo	1.62	25	P	Pn	15 27 21.3	+0.1
MASBT				i S	Sn	15 27 39.8	-1.1
SGLT	Jiouru	1.67	19	eP	Pn	15 27 23.6	+1.7
TSMG	Majia	1.71	24	P	Pn	15 27 21.8	-0.6
TSMG				eS	Sn	15 27 42.0	-1.1
SSD	Sandimen	1.74	23	eP	Pn	15 27 22.7	-0.1
SSD				eS	Sn	15 27 42.3	-1.6
TWM1	Shoushan	1.75	16	P	Pn	15 27 23.2	+0.3
TWM1				S	Sn	15 27 43.0	-1.1
ECL	Taimali	1.75	34	i P	Pn	15 27 23.1	+0.1
ECL				eS	Sn	15 27 42.9	-1.3
LAY	Lan-yu	1.79	60	eP	Pn	15 27 22.6	-0.9
LAY				eS	Sn	15 27 43.2	-1.9
LYUB	Lan-yu	1.80	61	eP	Pn	15 27 22.1	-1.4
SCST	Cishan	1.82	18	eP	Pn	15 27 25.0	+1.1
TAI	Tainan	1.87	9	eP	Pn	15 27 24.4	-0.1
TAI				eS	Sn	15 27 45.8	-1.2
SHHT	Tainan City	1.92	13	eS	Sn	15 27 49.4	+1.1
CHN3	Shinhua	1.98	13	eP	Pn	15 27 25.3	-0.7
CHN3				eS	Sn	15 27 51.0	+1.3
TWG	Pinlang	2.00	33	P	Pn	15 27 26.8	+0.4
TWG				S	Sn	15 27 49.5	-0.7
TWGBT	Beinan	2.00	33	P	Pn	15 27 26.5	+0.1
TWGBT	Beinan	2.00	33	eP	Pn	15 27 26.6	+0.2
TWGBT				S	Sn	15 27 49.6	-0.7
TSCK	Chigu Township	2.00	5	eP	Pn	15 27 28.4	+1.9
TSCK				eS	Sn	15 27 49.6	-0.7
SSHA	Shanhua	2.02	11	eP	Pn	15 27 27.0	+0.4
SSHA				eS	Sn	15 27 51.2	+0.5
SGST	Jiashian	2.04	18	eP	Pn	15 27 27.0	+0.1
SGST				eS	Sn	15 27 50.2	-1.0
SCLT	Jiali	2.04	8	eS	Sn	15 27 50.8	-0.4
LONT	Longtian	2.10	33	eP	Pn	15 27 28.1	+0.3
LONT				S	Sn	15 27 51.5	-1.2
VCHM	Qimei	2.10	348	eP	Pn	15 27 28.7	+1.0
VCHM				S	Sn	15 27 51.9	-0.8
LDUT	Ludao	2.12	44	eP	Pn	15 27 27.5	-0.4
LDUT				i S	Sn	15 27 52.0	-1.1
CHN1	Nanshi	2.12	16	P	Pn	15 27 28.2	+0.2
CHN1				eS	Sn	15 27 52.5	-0.7
WDGT	Dungji	2.12	354	P	Pn	15 27 28.2	+0.2
WDGT				eS	Sn	15 27 50.9	-2.2
SNST	Tainan City	2.14	15	eS	Sn	15 27 53.1	-0.7
STYT	Tauyuan	2.17	22	eP	Pn	15 27 28.6	-0.1
STYT				S	Sn	15 27 52.7	-1.8
STYH	Taoyuan	2.18	22	P	Pn	15 27 28.5	-0.3
STYH				eS	Sn	15 27 52.8	-1.8
TWK	Hsinying	2.19	15	eP	Pn	15 27 29.2	+0.2
TWK				S	Sn	15 27 54.7	-0.2
WTP	Ta-pu	2.20	18	eP	Pn	15 27 29.4	+0.2
WTP				eS	Sn	15 27 55.3	0.0
EDH	Donghe	2.25	36	eP	Pn	15 27 30.2	+0.5
EDH				eS	Sn	15 27 56.4	+0.1
TPUB	Ta-pu	2.26	18	P	Pn	15 27 29.8	-0.1
TPUB	Ta-pu	2.26	18	eP	Pn	15 27 30.0	+0.1
TPUB				eS	Sn	15 27 55.8	-0.8
ELDTW	Lidau	2.29	27	eP	Pn	15 27 29.1	-1.3
ELDTW				eS	Sn	15 27 55.6	-1.9
CHN4	Tsaushan	2.29	16	P	Pn	15 27 30.1	-0.3
CHN4				S	Sn	15 27 56.6	-0.8
PHUB	P'eng-hu	2.38	353	eP	Pn	15 27 32.8	+1.3
PHUB				eS	Sn	15 27 56.8	-2.7
WCKO	Fanlu	2.38	16	eP	Pn	15 27 31.5	-0.1
WCKO				S	Sn	15 27 59.0	-0.6
CHKT	Chengkung	2.38	35	eP	Pn	15 27 32.1	+0.5
CHKT				eS	Sn	15 27 58.3	-1.3
CHKT	Chengkung	2.38	35	eS	Pn	15 27 32.4	+0.8
WSL	Shuilin Townsh	2.39	8	eP	Pn	15 27 31.6	-0.1
WSL				S	Sn	15 27 59.0	-0.8
CHY	Chiayi	2.40	12	eP	Pn	15 27 31.5	-0.3
CHY				eS	Sn	15 27 58.8	-1.2
FULB	Fuli	2.43	32	eP	Pn	15 27 33.0	+0.7
FULB				eS	Sn	15 28 02.6	+1.9
PNG	Penghu	2.43	353	eP	Pn	15 27 34.3	+2.1
PNG				eS	Sn	15 27 59.9	-1.0
CHKH	Chenggong	2.47	34	eP	Pn	15 27 33.0	+0.2
CHKH				eS	Sn	15 28 01.5	-0.3
WSF	Szhu	2.50	7	eP	Pn	15 27 33.8	+0.5
WSF				eS	Sn	15 28 02.6	0.0
ALS	Alishan	2.51	20	eP	Pn	15 27 34.6	+1.1
ALS				eS	Sn	15 28 03.8	+0.7
YUS	Yu-Shan	2.54	23	eP	Pn	15 27 33.0	-1.2
YUS				eS	Sn	15 28 00.4	-3.7
CHN5	Tsauling	2.55	17	eP	Pn	15 27 34.9	+0.9
CHN5				S	Sn	15 28 03.2	-0.7
TWF1	Yuli	2.56	30	P	Pn	15 27 35.5	+1.4
TWF1				S	Sn	15 28 03.4	-0.6
EYUL	Yuli	2.56	31	P	Pn	15 27 34.6	+0.5
EYUL				eS	Sn	15 28 02.0	-2.1
WTK	Tuku	2.58	10	eP	Pn	15 27 35.0	+0.7
WTK				eS	Sn	15 28 03.1	-1.3
YULB	Yu-li	2.59	30	P	Pn	15 27 35.7	+1.2
YULB	Yu-li	2.59	30	eP	Pn	15 27 35.9	+1.3
YULB				S	Sn	15 28 04.3	-0.5
WDLH	Douliu	2.61	13	eP	Pn	15 27 34.2	-0.4
WDLH				eS	Sn	15 28 04.4	-0.7
WGK	Gukeng	2.61	14	P	Pn	15 27 34.9	+0.2
WGK				eS	Sn	15 28 05.6	+0.4
WHYT	Xinyi Township	2.69	19	P	Pn	15 27 35.7	-0.2
WHYT				eS	Sn	15 28 05.3	-2.0
EHY	Hungye	2.70	29	eP	Pn	15 27 35.5	-0.5
EHY				S	Sn	15 28 07.6	+0.1
HGSD	Ruisui	2.74	31	eP	Pn	15 27 36.2	-0.3
HGSD				eS	Sn	15 28 08.3	-0.1
RLNB	Erlin	2.77	9	P	Pn	15 27 37.0	+0.1
RLNB				S	Sn	15 28 09.2	+0.1
WJS	Zhushan	2.78	16	eP	Pn	15 27 37.1	+0.1
WJS				eS	Sn	15 28 07.1	-2.3
SSLB	Suanglung	2.81	20	P	Pn	15 27 39.2	+1.7
SSLB	Suanglung	2.81	20	eP	Pn	15 27 37.8	+0.2
SSLB				eS	Sn	15 28 08.9	-1.3
WNT	Mingjian	2.82	15	eP	Pn	15 27 38.1	+0.5
WNT				eS	Sn	15 28 09.1	-1.3
VWDT	VWDT	2.85	24	eP	Pn	15 27 39.4	+1.4
VWDT				eS	Sn	15 28 11.2	+0.2
SMLT	Sun Moon Lake	2.88	19	eP	Pn	15 27 38.3	-0.3
SMLT				eS	Sn	15 28 10.8	-1.3
TYC	Yuchr	2.89	18	eP	Pn	15 27 39.7	+1.1
TYC				eS	Sn	15 28 11.6	-0.5
WARBT	Fenglin Townsh	2.92	28	eP	Pn	15 27 40.1	+1.2
WARBT				eS	Sn	15 28 12.1	-0.7
VDOS	Pratas Island	2.98	262	eP	Pn	15 27 41.0	+1.2
OWD	Renai	3.04	23	eP	Pn	15 27 41.9	+1.1
OWD				S	Sn	15 28 14.9	-1.1
WCS	Beigang Elemen	3.05	18	eP	Pn	15 27 41.4	+0.7
WCS				eS	Sn	15 28 15.7	-0.3
WUSB	Renai	3.06	22	eP	Pn	15 27 42.1	+1.1
WUSB				i S	Sn	15 28 15.2	-1.1
ETM	Tongmen	3.18	28	eP	Pn	15 27 43.8	+1.3
ETM				eS	Sn	15 28 16.0	-3.2
LXIB	Xiulin Townshi	3.19	26	eP	Pn	15 27 44.5	+1.6
LXIB				eS	Sn	15 28 19.7	-0.1
WHP	Taichung City	3.27	17	eP	Pn	15 27 45.4	+1.6
WHP				eS	Sn	15 28 21.9	+0.3
TDCB	Techi	3.31	21	eP	Pn	15 27 46.0	+1.5
TDCB				eS	Sn	15 28 22.3	-0.4
TWT	Tachien	3.32	21	eP	Pn	15 27 46.0	+1.5
TWT				eS	Sn	15 28 22.7	-0.2
FUSS	Fushou	3.34	22	eP	Pn	15 27 45.6	+0.7
FUSS				eS	Sn	15 28 22.9	-0.5
ETLH	Xiulin Townshi	3.39	25	eP	Pn	15 27 47.2	+1.8
ETLH				eS	Sn	15 28 24.8	+0.3
NACB	Ninganchiao	3.41	27	P	Pn	15 27 47.7	+2.1
NACB	Ninganchiao	3.41	27	eP	Pn	15 27 47.2	+1.5
ZPLA	Ao Xicun	3.41	325	eP	Pn	15 27 45.8	+0.2
ZPLA				eS	Sn	15 28 23.6	-1.2
DSXP	Dongshan	3.42	319	eP	Pn	15 27 46.6	+0.8
DSXP				eS	Sn	15 28 23.7	-1.5
KNM	Kinmen	3.52	338	eP	Pn	15 27 47.7	+0.5
KNM				eS	Sn	15 28 27.6	0.0
NNSB	Datong	3.55	23	eP	Pn	15 27 48.7	+1.0
NNSB				eS	Sn	15 28 28.1	-0.4
NNS	Nan Shan	3.56	22	eP	Pn	15 27 49.5	+1.6
NNS				eS	Sn	15 28 29.5	+0.8
KNMB	Chin-men Tao	3.58	338	eP	Pn	15 27 47.7	-0.3
KNMB				eS	Sn	15 28 27.4	-1.7
NSTT	Nanjuang	3.62	16	eP	Pn	15 27 48.6	+0.1
NSTT				eS	Sn	15 28 30.1	0.0
LIOB	Emei	3.64	16	eP	Pn	15 27 49.1	+0.2
LIOB				eS	Sn	15 28 30.1	-0.4
NFF	Wufeng Townshi	3.66	18	eP	Pn	15 27 48.6	-0.5
NFF				eS	Sn	15 28 30.2	-0.8
LATG	Datong	3.70	24	eP	Pn	15 27 51.4	+1.6
LATG				eS	Sn	15 28 33.2	+1.0
NSK	Sanguang	3.77	21	eP	Pn	15 27 52.4	+1.7
NSK				eS	Sn	15 28 35.0	+1.2
YHNB	Yeheng	3.77	21	P	Pn	15 27 53.5	+2.8
YHNB	Yeheng	3.77	21	eP	Pn	15 27 52.6	+1.9
YHNB				eS	Sn	15 28 34.5	+0.6
KSHI	Guanxi Townshi	3.81	18	eP	Pn	15 27 52.2	+1.1
KSHI				eS	Sn	15 28 34.5	-0.2
VWUC	VWUC	3.85	354	eP	Pn	15 27 51.8	0.0
VWUC				eS	Sn	15 28 33.5	-2.2
NWLT	Wulai	3.91	22	eP	Pn	15 27 55.7	+3.1
NWLT				S	Sn	15 28 36.8	-0.5
FUSB	Fushanzhiwuyua	3.93	23	eP	Pn	15 27 54.4	+1.6
FUSB				eS	Sn	15 28 36.8	-0.9
PTMZ	Houxiangcun	3.94	350	eS	Sn	15 28 35.9	-2.1
AXDP	Jialang	4.14	335	eP	Pn	15 27 56.6	+0.9
AXDP				eS	Sn	15 28 42.3	-0.4
TIPB	Shuangxi	4.21	25	eP	Pn	15 27 58.2	+1.5

TAP 24 15:27:18.6, 23°.18N×121°.10E, h2km±1km, ML0.8, 2C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.07	280	eP	Pg	15 27 20.6	+0.5
EHD	Haiduan	0.10	105	eP	Pg	15 27 21.2	+0.6
FULB	Fuli	0.18	83	⇓P	Pg	15 27 23.1	+1.0
FULB				S	Sg	15 27 26.1	+1.6
TWF1	Yuli	0.25	46	⇑P	Pg	15 27 24.3	+0.8
TWF1				eS	Sg	15 27 28.1	+1.3
CHKT	Chengkung	0.26	107	P	Pb	15 27 25.5	-0.5
EYUL	Yuli	0.27	50	⇑P	Pg	15 27 24.5	+0.8
EYUL				eS	Sg	15 27 28.2	+1.1
CHKH	Chenggong	0.28	87	eP	Pg	15 27 22.6	-1.3
CHKH				eS	Sg	15 27 25.0	-2.4
EDH	Donghe	0.28	137	P	Pb	15 27 25.5	-0.8
YULB	Yu-li	0.28	40	⇓eP	Pg	15 27 24.7	+0.7
YULB				i S	Sg	15 27 28.8	+1.1

IDC 24 15:39:27.2±2.3, **4°.62N**×**126°.49E**, **h0**km, **mb3.5**/4, **mbtmp3.5**/4, **Error ellipse: s-maj=221.9km s-min=24.1km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.60	163	P	P	15 44 58.4	0.0
	0.4nm,0.5s,baz=342,slow=9.1,SNR=2.5						
	0.4nm,0.5s						
ASAR	Alice Springs	29.03	166	P	P	15 45 29.2	0.0
	0.2nm,0.7s,baz=346,slow=8.2,SNR=4.3						
	0.2nm,0.7s						
MKAR	Makanchi Array	56.69	325	P	P	15 49 12.5	-0.1
	0.3nm,0.4s,baz=119,slow=7.5,SNR=6.1						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	60.86	327	P	P	15

baz=72,slow=75,SNR=21
H08S1 Diego Carcia H 28.62 252 T T 16 36 57.5
baz=72,slow=75,SNR=18
KNRA Kununurra 33.20 122 P **P** **16 09 43.6 +0.3**
WB0 Warramunga Arr 39.84 123 P **P** **16 10 40.4 +1.0**
WB0 IAmb IAmb 16 11 07.0
comp=Z,22nm,1.5s
WRA Warramunga Arr 39.88 124 P **P** **16 10 40.0 +0.3**
comp=Z,1.9nm,0.3s,baz=304,slow=9.1,SNR=30
WRA PcP **PcP** **16 12 42.4 +0.9**
comp=Z,0.3nm,0.4s,baz=308,slow=3.1,SNR=5.8
comp=Z,1.9nm,0.3s
WB2 Warramunga Arr 39.89 124 P **P** **16 10 40.5 +0.7**
WB2 IAmb IAmb 16 10 41.3
comp=Z,26nm,1.5s
WR0 Warramunga Arr 40.05 124 P **P** **16 10 42.4 +1.2**
WR0 IAmb IAmb 16 11 09.7
comp=Z,15nm,1.4s
AS31 Alice Springs 41.37 129 P **P** **16 10 52.4 +0.5**
ASAR Alice Springs 41.37 129 P **P** **16 10 52.5 +0.5**
ASAR Alice Springs 41.37 129 P **P** **16 10 51.8 -0.1**
comp=Z,0.2nm,0.3s,baz=296,slow=7.3,SNR=13
ASAR PcP **PcP** **16 12 47.2 +0.9**
comp=Z,0.4nm,0.7s,baz=312,slow=3.0,SNR=2.2
ASAR ScP **ScP** **16 16 16.9 -0.5**
comp=Z,0.2nm,0.9s,baz=353,slow=20,SNR=5.3
comp=Z,0.2nm,0.3s
SONM Songino Array 46.79 6 P **P** **16 11 35.7 +1.0**
comp=Z,0.6nm,0.4s,baz=192,slow=11,SNR=5.8
SONM PcP **PcP** **16 13 05.2 +0.7**
comp=Z,0.3nm,0.3s,baz=198,slow=4.1,SNR=2.9
comp=Z,0.6nm,0.4s
MK31 Makanchi Array 47.90 344 P **P** **16 11 44.0 +0.9**
MKAR Makanchi Array 47.90 344 P **P** **16 11 43.8 +0.7**
MKAR Makanchi Array 47.90 344 P **P** **16 11 44.2 +1.1**
comp=Z,0.9nm,0.3s,baz=156,slow=8.3,SNR=63
comp=Z,0.9nm,0.3s
MAKZ Makanchi 48.00 344 P **P** **16 11 44.5 +0.7**
STKA Stephens Creek 51.48 134 P **P** **16 12 10.7 +0.4**
STKA Stephens Creek 51.48 134 P **P** **16 12 10.5 +0.2**
comp=Z,0.8nm,0.4s,baz=315,slow=17,SNR=1.0
comp=Z,0.8nm,0.4s
KURBB Kurchatov Arra 52.43 343 P **P** **16 12 17.8 +0.8**
comp=Z,0.4nm,0.3s,baz=154,slow=7.0,SNR=12
comp=Z,0.4nm,0.3s
ZAA0 Zalesovo Array 53.99 349 P **P** **16 12 28.9 +0.6**
ZAA0 IAmb IAmb 16 12 30.8
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 53.99 349 P **P** **16 12 28.9 +0.6**
comp=Z,0.8nm,0.3s,baz=160,slow=4.7,SNR=9.1
comp=Z,0.8nm,0.3s
BVAR Borovoye Array 57.12 339 P **P** **16 12 51.1 +0.5**
comp=Z,0.6nm,0.3s,baz=134,slow=9.1,SNR=7.3
comp=Z,0.6nm,0.3s
BRVK Borovoye 57.18 339 P **P** **16 12 51.2 +0.2**
BRVK IAmb IAmb 16 13 16.5
comp=Z,3.4nm,1.5s
ABKAR Akbulak array 58.74 331 P **P** **16 13 02.0 +0.1**
H04N2 CROZET ISLANDS 63.25 215 T T 17 21 09.0
baz=55,slow=74
H04N1 CROZET ISLANDS 63.26 215 T T 17 20 28.4
baz=55,slow=74
H04N3 CROZET ISLANDS 63.27 215 T T 17 20 27.7
baz=55,slow=74
ARTI Arti 64.24 336 P **P** **16 13 38.5 -0.1**
ARTI IAmb IAmb 16 13 39.2
comp=Z,2.1nm,0.9s
NRIK Noril'sk 68.50 355 P **P** **16 14 05.2 -0.2**
NRIK IAmb IAmb 16 14 30.2
comp=Z,2.3nm,1.0s
FINES FINESS Array B 81.18 332 P **P** **16 15 18.6 +0.4**
comp=Z,0.6nm,0.4s,baz=110,slow=6.4,SNR=7.2
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 83.40 340 P **P** **16 15 30.1 +0.5**
comp=Z,4.1nm,0.9s,baz=23,slow=4.0,SNR=5.7
comp=Z,4.1nm,0.9s
VNDA Vanda 85.33 169 P **P** **16 15 36.1 -3.0**
comp=Z,0.5nm,0.5s,baz=106,slow=7.4,SNR=5.0
comp=Z,0.5nm,0.5s

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*IDC **24** 16:16:07.5±0.9,38°.09N×0°.45W,h0km,mb3.8/9, mbtmp3.7/15,ML3.7/6,Error ellipse: s-maj=19.3km s-min=14.3km az=16.0*
*SFS **24** 16:16:07.8,38°.15N×0°.42W,h0km,ML4.3/16,ML4.1/16, MLv4.1/16*
*CRAAG **24** 16:16:08.0,38°.12N×0°.50W,Ml4.0,Espagne*
*NEIC **24** 16:16:08.6±2.3,38°.07N±0°.06×0°.53W±0°.08,h10km±2km, mb_Lg3.3/8,Error ellipse: s-maj=13.8km s-min=5.9km az=133.0*
*MDD **24** 16:16:08.8±0.2,38°.07N×0°.49W,h0km,mb_Lg3.9/93, Error ellipse: s-maj=1.7km s-min=1.0km az=139.0*
*IGIL **24** 16:16:09.0,38°.03N×0°.47W,h8km*
*INMG **24** 16:16:09.5±1.4,38°.02N×0°.45W,h14km±2km,ML3.6,Error ellipse: s-maj=3.2km s-min=1.5km az=129.0, #DIST_RANGE: REGIONAL #IPMA_REGION: S Alicante (ESP)*
*LDG **24** 16:16:09.4±0.1,38°.04N×0°.46W,h2km,Ml3.9/25,Error ellipse: s-maj=2.6km s-min=1.2km az=146.0*
*STR **24** 16:16:12.0±1.0,38°N±7°×°±°,h0km,MLv4.1/11,Error ellipse: s-maj=0.0km s-min=0.0km az=79.9,preliminary*
*CNRM **24** 16:16:18.8,37°.45N×1°.19W,h8km,ML3.3*
ISC 24 16:16:09.1±0.9,38°.09N±0°.02×0°.46W±0°.02,h16km±6km, n227,σ2°.09/363,mb3.8/10,10C-2D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRV	**Los Montesinos**	**0.24**	**254**	Pg	**Pg**	**16 16 13.6**	**-1.0**
ETRV				Sg	**Sg**	**16 16 17.4**	**-0.8**
ETRV				*i* Vmb_Lg		16 16 18.3	
EXTPC	**Torre Pacheco**	**0.52**	**229**	Pg	**Pg**	**16 16 18.2**	**-1.2**
EXTPC				Sg	**Sg**	**16 16 25.8**	**-0.6**
AFON	**Font Roja**	**0.58**	**354**	⇓Pg	**Pg**	**16 16 20.8**	**+0.2**
AFON				Sg	**Sb**	**16 16 29.9**	**+0.8**
AFON				*i* Vmb_Lg		16 16 33.9	
EBEN2	**Beniarda presa**	**0.63**	**20**	⇓Pg	**Pg**	**16 16 21.5**	**+0.1**
EBEN2				Sg	**Sb**	**16 16 31.5**	**+1.2**
EBEN2				*i* Vmb_Lg		16 16 33.9	
CART	**Cartagena**	**0.66**	**221**	Pg	**Pg**	**16 16 20.1**	**-1.8**
CART				Sg	**Sg**	**16 16 29.2**	**-1.4**
CART	**Cartagena**	**0.66**	**221**	Sg	**Sg**	**16 16 29.9**	**-0.7**
CART				Pg	**Pg**	**16 16 20.7**	**-1.3**
CART	**Cartagena**	**0.66**	**221**	P	**Pg**	**16 16 21.2**	**-0.8**
CART	**Cartagena**	**0.66**	**221**	S	**Sg**	**16 16 26.4**	**-4.3**
EMUR	**La Murta**	**0.66**	**249**	Sg	**Sb**	**16 16 32.8**	**+1.5**
EMUR				Pg	**Pg**	**16 16 21.0**	**-1.1**
EMUR	**La Murta**	**0.66**	**249**	Pg	**Pg**	**16 16 21.5**	**-0.6**
EMUR				Sg	**Sg**	**16 16 30.2**	**-0.6**
EMUR				*i* Vmb_Lg		16 16 35.3	
EXMAZ	**Mazarron**	**0.83**	**234**	Pg	**Pg**	**16 16 24.1**	**-1.1**
EXMAZ				Sg	**Sg**	**16 16 35.2**	**-0.9**
EXBUL	**Bullas, Murcia**	**0.95**	**268**	Pg	**Pg**	**16 16 26.8**	**-0.7**
EXBUL				Sg	**Sg**	**16 16 39.3**	**-0.6**
EZAR	**Zarzadilla de**	**0.99**	**258**	⇑Pg	**Pg**	**16 16 27.1**	**-1.3**
EZAR				Sg	**Sg**	**16 16 40.4**	**-1.0**
EZAR				*i* Vmb_Lg		16 16 46.2	
TLOR	**Lorca, Murcia**	**1.06**	**246**	Sg	**Sb**	**16 16 44.1**	**+1.3**
TLOR				Pg	**Pg**	**16 16 28.6**	**-1.1**
TLOR	**Lorca, Murcia**	**1.06**	**246**	Pg	**Pg**	**16 16 28.6**	**-1.1**
TLOR				Sg	**Sg**	**16 16 42.1**	**-1.4**
TLOR	**Lorca, Murcia**	**1.06**	**246**	Pg	**Pg**	**16 16 28.5**	**-1.1**
TLOR				Sg	**Sg**	**16 16 42.3**	**-1.2**
ELOR	**Lorca, Murcia**	**1.11**	**247**	Pg	**Pg**	**16 16 29.1**	**-1.4**
ELOR				Sg	**Sg**	**16 16 43.7**	**-1.4**
ELOR				*i* Vmb_Lg		16 16 49.2	
EVIV	**Cofrentes, Val**	**1.28**	**337**	⇑Pg	**Pg**	**16 16 32.4**	**-1.5**
EVIV				Sg	**Sg**	**16 16 50.6**	**-0.1**
EVIV				*i* Vmb_Lg		16 16 54.1	
ECHE	**Chera**	**1.55**	**345**	Sg	**Sn**	**16 16 56.5**	**+0.5**
ECHE				Pg	**Pn**	**16 16 36.1**	**-0.1**
ECHE	**Chera**	**1.55**	**345**	⇑Pn	**Pn**	**16 16 36.3**	**+0.1**
ECHE				Pg	**Pg**	**16 16 39.6**	**+0.7**
ECHE				Sn	**Sn**	**16 16 56.5**	**+0.5**
ECHE				*i* Vmb_Lg		16 17 11.4	
EIBI	**Ibiza**	**1.70**	**56**	Sg	**Sn**	**16 16 58.3**	**-1.2**
EIBI				Pg	**Pn**	**16 16 37.8**	**-0.4**
EIBI	**Ibiza**	**1.70**	**56**	⇑Pn	**Pn**	**16 16 37.6**	**-0.5**
EIBI				Sn	**Sn**	**16 16 58.9**	**-0.7**
EIBI				*i* Vmb_Lg		16 17 00.5	
ENIJ	**Nijar**	**1.78**	**232**	Pn	**Pn**	**16 16 38.0**	**-1.2**
ENIJ	**Nijar**	**1.78**	**232**	Pn	**Pn**	**16 16 38.0**	**-1.2**
ENIJ				Sn	**Sn**	**16 16 59.8**	**-1.7**
ENIJ				*i* Vmb_Lg		16 17 10.2	
ECOL	**Islas Columbre**	**2.02**	**26**	⇑Pn	**Pn**	**16 16 41.9**	**-0.6**
ECOL				Pg	**Pb**	**16 16 45.5**	**+0.1**
ECOL				Sn	**Sn**	**16 17 06.1**	**-1.3**
EQES	**Quesada**	**2.08**	**263**	Pn	**Pn**	**16 16 43.8**	**+0.4**
EQES				Sn	**Sn**	**16 17 10.3**	**+1.2**
EQES				*i* Vmb_Lg		16 17 11.8	
EBER	**Berja**	**2.27**	**239**	Pn	**Pn**	**16 16 45.6**	**-0.5**
EBER	**Berja**	**2.27**	**239**	Pn	**Pn**	**16 16 45.6**	**-0.5**
EBER				Sn	**Sn**	**16 17 14.0**	**+0.3**
EMOS	**Mosqueruela**	**2.27**	**360**	Pn	**Pn**	**16 16 46.6**	**+0.4**
EMOS				Pg	**Pb**	**16 16 50.8**	**+0.9**
EMOS				Sn	**Sn**	**16 17 14.5**	**+0.5**
EMOS				*i* Vmb_Lg		16 17 43.7	
E0802	**Ubeda,Jaen**	**2.30**	**269**	Pn	**Pn**	**16 16 46.4**	**-0.1**
E0802				Pg	**Pb**	**16 16 50.2**	**-0.1**
E0802				Sn	**Sn**	**16 17 13.8**	**-0.6**
E0802				Sg	**Sb**	**16 17 19.8**	**+1.3**
USTO	**Oran**	**2.35**	**182**	P	**Pb**	**16 16 51.0**	**-0.1**
E0901	**Celadas (Terue**	**2.44**	**348**	Pn	**Pn**	**16 16 49.0**	**+0.6**
E0901				Pg	**Pb**	**16 16 54.2**	**+1.5**
E0901				Sn	**Sn**	**16 17 18.3**	**+0.2**
E0901				Sg	**Sb**	**16 17 25.7**	**+3.0**
E0901				*i* Vmb_Lg		16 17 37.0	
EQUE	**Quentar**	**2.52**	**250**	Pn	**Pn**	**16 16 50.4**	**+0.9**
EQUE				Sn	**Sn**	**16 17 20.3**	**+0.3**
EQUE				*i* Vmb_Lg		16 17 26.0	
EQTA	**Presa de Quent**	**2.52**	**251**	Pn	**Pn**	**16 16 50.5**	**+0.9**
EQTA				Sn	**Sn**	**16 17 21.5**	**+1.5**
PSIM	**Granatula de C**	**2.69**	**287**	⇑Pn	**Pn**	**16 16 51.3**	**-0.4**
PSIM				Pg	**Pb**	**16 16 58.7**	**+1.8**
PSIM				Sn	**Sn**	**16 17 22.8**	**-1.2**
PSIM				Sg	**Sb**	**16 17 31.5**	**+1.9**
ODJA	**Bouhanifia**	**2.76**	**175**	P	**Pn**	**16 16 55.0**	**+2.2**
ELGU	**Los Guajares,**	**2.79**	**245**	Pn	**Pn**	**16 16 53.8**	**+0.6**
ELGU	**Los Guajares,**	**2.79**	**245**	Pn	**Pn**	**16 16 54.1**	**+0.9**
ELGU				Sn	**Sn**	**16 17 25.7**	**-0.9**
ELGU				*i* Vmb_Lg		16 17 34.6	
ETOR	**Torete**	**2.99**	**336**	Pn	**Pn**	**16 16 57.5**	**+1.5**
ETOR				Pg	**Pg**	**16 17 05.9**	**-0.6**
ETOR				Sn	**Sn**	**16 17 33.2**	**+1.5**
ETOR				Sg	**Sg**	**16 17 44.0**	**-1.3**
ETOR				*i* Vmb_Lg		16 17 48.5	
EGOR	**Sierra Gorda,**	**3.06**	**253**	Sn	**Sn**	**16 17 34.7**	**+1.5**
EGOR				Pn	**Pn**	**16 16 57.8**	**+0.9**
EGOR	**Sierra Gorda,**	**3.06**	**253**	Pn	**Pn**	**16 16 57.8**	**+0.9**
EGOR				Sg	**Sn**	**16 17 38.7**	**+5.4**
EGOR				*i* Vmb_Lg		16 17 46.2	
ETOS	**Mallorca**	**3.06**	**56**	Sn	**Sn**	**16 17 31.4**	**-1.8**
ETOS				Pn	**Pn**	**16 16 57.2**	**+0.4**
ETOS	**Mallorca**	**3.06**	**56**	Pn	**Pn**	**16 16 56.9**	**+0.1**
ETOS				Sn	**Sn**	**16 17 31.2**	**-1.9**
ETOS				*i* Vmb_Lg		16 17 32.7	
UCM	**Universidad Co**	**3.10**	**317**	Pn	**Pn**	**16 16 57.4**	**0.0**
ESBB	**Sonseca Array**	**3.16**	**301**		**Pn**	**16 16 57.4**	**-0.8**
ESBB				IAmb_Lg		16 17 53.3	
comp=Z,89nm,0.8s							
ESDC	**Sonseca Array**	**3.16**	**301**	Pn	**Pn**	**16 16 57.1**	**-1.1**
ESDC	**Sonseca Array**	**3.16**	**301**	⇑Pn	**Pn**	**16 16 57.9**	**-0.4**
ESDC				Pg	**Pb**	**16 17 07.7**	**+2.8**
ESDC				Sg	**Sb**	**16 17 46.1**	**+2.9**
ESDC				*i* Vmb_Lg		16 17 52.9	
ESDC	**Sonseca Array**	**3.16**	**301**	Pn	**Pn**	**16 16 57.9**	**-0.4**
comp=Z,6.0nm,0.3s,baz=119,slow=13,SNR=286							
ESDC				Pg	**Pb**	**16 17 04.5**	**-0.4**
comp=Z,12nm,0.3s,baz=118,slow=14,SNR=20							
ESDC				Lg	Lg	16 17 48.8	
comp=Z,28nm,0.3s,baz=123,slow=29,SNR=8.8							
comp=Z,22nm,0.4s							
EADA	**Adamuz**	**3.25**	**273**	Pn	**Pn**	**16 16 58.3**	**-1.1**
EADA				Pg	**Pb**	**16 17 07.7**	**+1.3**
EADA				Sn	**Sn**	**16 17 36.6**	**-1.1**
EADA				Sg	**Sb**	**16 17 50.3**	**+4.7**
EADA				*i* Vmb_Lg		16 17 54.1	
PAB	**San Pablo**	**3.37**	**297**	⇑Pn	**Pn**	**16 17 00.8**	**-0.4**
PAB				Pg	**Pb**	**16 17 08.6**	**+0.1**
PAB				Sn	**Sn**	**16 17 41.2**	**+0.4**
PAB				Sg	**Sb**	**16 17 52.1**	**+2.9**
PAB				*i* Vmb_Lg		16 18 01.2	
EMAL	**Malaga-Limoner**	**3.42**	**248**	Pn	**Pn**	**16 17 03.2**	**+1.4**
EPOB	**Poblet**	**3.47**	**20**	⇑Pn	**Pn**	**16 17 02.7**	**+0.1**
EPOB				Sn	**Sn**	**16 17 40.6**	**-2.8**
EPOB				*i* Vmb_Lg		16 17 58.5	
GOG	**Mont Gurugu**	**3.51**	**216**	P	**Pn**	**16 17 02.2**	**-0.9**
GOG	**Mont Gurugu**	**3.51**	**216**	S	Sn	16 17 35.3	-9.1
TAF	**Taforalt**	**3.62**	**206**	P	**Pn**	**16 17 04.3**	**-0.4**
TAF	**Taforalt**	**3.62**	**206**	S	Sn	16 17 39.2	-8.0
ESAC	**San Caprasio**	**3.63**	**360**	Pn	**Pn**	**16 17 05.8**	**+1.0**
ESAC				Pg	**Pb**	**16 17 11.5**	**-1.4**
ESAC				Sg	**Sb**	**16 18 00.7**	**+3.9**
ESAC				*i* Vmb_Lg		16 18 12.0	
GUD	**Guadarrama**	**3.83**	**313**	Pn	**Pn**	**16 17 07.7**	**+0.1**
GUD				Pg	**Pb**	**16 17 16.8**	**+0.4**
GUD				Sn	**Sn**	**16 17 53.4**	**+1.0**
GUD				Sg	**Sg**	**16 18 09.5**	**-2.7**
GUD				*i* Vmb_Lg		16 18 15.7	
ECAB	**El Cabril**	**3.91**	**271**	⇑Pn	**Pn**	**16 17 07.3**	**-1.2**
ECAB				Pg	**Pb**	**16 17 18.2**	**+0.5**
ECAB				Sn	**Sn**	**16 17 52.0**	**-2.1**
ECAB				Sg	**Sb**	**16 18 07.5**	**+2.7**
ECAB				*i* Vmb_Lg		16 18 24.2	
PALE	**Palemas**	**4.00**	**225**	P	**Pn**	**16 17 08.7**	**-1.1**
PALE	**Palemas**	**4.00**	**225**	S	Sn	16 17 47.3	-9.0
MAHO	**Mahon**	**4.10**	**62**	Pn	**Pn**	**16 17 10.7**	**-0.5**
JBK	**JBK**	**4.11**	**205**	P	**Pn**	**16 17 11.3**	**-0.1**
JBK	**JBK**	**4.11**	**205**	S	**Sn**	**16 17 53.7**	**-5.7**
EMIR	**Miracle**	**4.12**	**21**	Pn	**Pn**	**16 17 12.2**	**+0.8**
EMIR				Sn	**Sn**	**16 17 58.9**	**-0.3**
EMIR				*i* Vmb_Lg		16 18 03.0	
ESPR	**Espera**	**4.46**	**256**	Pn	**Pn**	**16 17 17.8**	**+1.8**
ESPR				Sn	**Sn**	**16 18 08.7**	**+1.1**
ESPR	**Espera**	**4.46**	**256**	Pn	**Pn**	**16 17 16.2**	**+0.1**
ESPR				Sn	**Sn**	**16 18 07.4**	**-0.2**
ESPR				*i* Vmb_Lg		16 18 33.6	
AKLM	**AKL**	**4.50**	**219**	P	**Pn**	**16 17 16.4**	**-0.3**
AKLM	**AKL**	**4.50**	**219**	S	Sn	16 17 59.5	-9.3
ECHI	**Chisagues Biel**	**4.60**	**6**	Pn	**Pn**	**16 17 19.0**	**+0.8**
ECHI				Pg	**Pb**	**16 17 30.2**	**+0.7**
ECHI				Sn	**Sn**	**16 18 10.2**	**-1.1**
ECHI				*i* Vmb_Lg		16 19 03.6	
ECHI	**Chisagues Biel**	**4.60**	**6**	Pn	**Pn**	**16 17 19.6**	**+1.4**
ECHI	**Chisagues Biel**	**4.60**	**6**	Sn	**Sn**	**16 18 08.7**	**-2.6**
CANF	**Canfranc**	**4.67**	**360**	Pn	**Pn**	**16 17 21.1**	**+2.1**
CANF				Sn	**Sn**	**16 18 11.9**	**-1.2**
PAND	**Andorre**	**4.69**	**18**	Pn	**Pn**	**16 17 20.3**	**+0.9**
PAND				Sn	**Sn**	**16 18 11.0**	**-2.6**
CEST	**Esterri de Car**	**4.69**	**16**	Pn	**Pn**	**16 17 19.9**	**+0.5**
VALC	**Valcebollere**	**4.70**	**23**	Pn	**Pn**	**16 17 20.3**	**+0.8**
VALC				Sn	**Sn**	**16 18 10.8**	**-2.9**
EARA	**Aranguren**	**4.76**	**350**	Pn	**Pn**	**16 17 20.7**	**+0.5**
EARA				*i* Vmb_Lg		16 19 25.9	
VIEF	**Viey**	**4.81**	**4**	Pn	**Pn**	**16 17 21.5**	**+0.6**
VIEF				Sn	**Sn**	**16 18 13.9**	**-2.4**
ETSF	**Etsaut**	**4.81**	**359**	*e*Pn	**Pn**	**16 17 22.8**	**+1.9**
ETSF				*e*Sn	**Sn**	**16 18 14.3**	**-2.0**
comp=Z,44nm,0.5s							
SALF	**Salau**	**4.83**	**15**	Pn	**Pn**	**16 17 22.3**	**+1.0**
SALF				Sn	**Sn**	**16 18 15.0**	**-2.0**
EORO	**Oroz-Betelu**	**4.84**	**353**	Pn	**Pn**	**16 17 23.5**	**+2.1**
EORO				Sn	**Sn**	**16 18 17.2**	**0.0**
EORO				Sg	**Sg**	**16 18 42.5**	**-2.1**
EORO				*i* Vmb_Lg		16 18 53.5	
MELF	**Melles**	**4.87**	**11**	Pn	**Pn**	**16 17 22.7**	**+0.9**
EMIN	**Mina Concepcio**	**4.92**	**268**	Pn	**Pn**	**16 17 21.1**	**-1.2**
EMIN				Sn	**Sn**	**16 18 17.4**	**-1.6**
EMIN	**Mina Concepcio**	**4.92**	**268**	Pn	**Pn**	**16 17 22.0**	**-0.4**
EMIN				Sn	**Sn**	**16 18 15.3**	**-3.7**
EMIN				Sg	**Sb**	**16 18 36.0**	**+2.2**
EMIN				*i* Vmb_Lg		16 19 07.2	
IRAF	**Chalets d'Irat**	**4.96**	**355**	Pn	**Pn**	**16 17 25.0**	**+1.9**
LABF	**Labassere**	**4.97**	**5**	Pn	**Pn**	**16 17 24.4**	**+1.3**
EPF	**Esparros**	**4.98**	**7**	*e*Pn	**Pn**	**16 17 24.3**	**+1.1**
EPF				*e*Sn	**Sn**	**16 18 18.0**	**-2.4**
comp=Z,72nm,0.6s							
REYF	**Montagne du Re**	**4.98**	**1**	Pn	**Pn**	**16 17 24.3**	**+1.0**
REYF				Sn	**Sn**	**16 18 19.4**	**-1.1**
ATE	**Arette**	**5.00**	**358**	Pn	**Pn**	**16 17 25.1**	**+1.6**
MLS	**Moulis**	**5.01**	**13**	Pn	**Pn**	**16 17 24.7**	**+1.1**
PYLO	**Lourdes**	**5.02**	**3**	Pn	**Pn**	**16 17 24.2**	**+0.5**
CARF	**Carcanieres**	**5.02**	**22**	Pn	**Pn**	**16 17 24.7**	**+0.8**
FILF	**Fillols**	**5.03**	**26**	Pn	**Pn**	**16 17 23.7**	**-0.2**
SJPF	**Ste Jean**	**5.05**	**354**	*e*Pn	**Pn**	**16 17 25.6**	**+1.4**
SJPF				*e*Sn	**Sn**	**16 18 20.1**	**-2.2**
comp=Z,22nm,0.4s							
EJON	**La Jonquera**	**5.05**	**29**	Pn	**Pn**	**16 17 23.9**	**-0.3**
EJON				Pg	**Pb**	**16 17 37.2**	**0.0**
EJON				Sn	**Sn**	**16 18 22.3**	**0.0**
EJON				*i* Vmb_Lg		16 19 20.1	
SJAF	**Saint Jean de**	**5.08**	**29**	Pn	**Pn**	**16 17 25.0**	**+0.3**
ORDF	**Ordiarp**	**5.13**	**356**	Pn	**Pn**	**16 17 26.8**	**+1.5**
PBAR	**Barrancos**	**5.18**	**273**	*e*Pn	**Pn**	**16 17 25.4**	**-0.7**
PBAR				*e*Sn	**Sn**	**16 18 23.6**	**-1.9**
PBAR				*e*Sg	**Sg**	**16 18 50.8**	**-4.7**
PBAR				*i* AML	AML	16 18 59.5	
PBAR				*i* AML	AML	16 19 04.1	
PBAR				*i* AML	AML	16 19 12.1	
PBAR	**Barrancos**	**5.18**	**273**	Pn	**Pn**	**16 17 24.6**	**-1.4**
PBAR				Sn	**Sn**	**16 18 22.0**	**-3.5**
EBAD	**Badajoz**	**5.19**	**279**	Sn	**Sn**	**16 18 22.8**	**-2.8**
EBAD				Pn	**Pn**	**16 17 24.3**	**-1.8**
EBAD	**Badajoz**	**5.19**	**279**	Pn	**Pn**	**16 17 24.4**	**-1.6**
EBAD				Pg	**Pb**	**16 17 40.3**	**+0.9**
EBAD				Sn	**Sn**	**16 18 23.7**	**-1.9**
EBAD				Sg	**Sg**	**16 18 50.1**	**-5.5**
EBAD				*i* Vmb_Lg		16 19 01.6	
EALK	**Alkurruntz**	**5.19**	**352**	Pn	**Pn**	**16 17 27.4**	**+1.2**
EALK				Sn	**Sn**	**16 18 26.6**	**+0.9**
EALK				*i* Vmb_Lg		16 19 18.0	
EALK	**Alkurruntz**	**5.19**	**352**	Pn	**Pn**	**16 17 28.3**	**+2.2**
EALK	**Alkurruntz**	**5.19**	**352**	Sn	**Sn**	**16 18 25.4**	**-0.4**
FNEB	**Nbias**	**5.20**	**21**	Pn	**Pn**	**16 17 27.4**	**+1.2**
OSSF	**Osses**	**5.20**	**354**	Pn	**Pn**	**16 17 27.8**	**+1.6**
DUNF	**Dun**	**5.23**	**19**	Pn	**Pn**	**16 17 27.8**	**+1.2**
PMRV	**Marv??o**	**5.58**	**286**	*e*Pn	**Pn**	**16 17 32.1**	**+0.6**
PMRV				*e*Sg	**Sg**	**16 19 05.4**	**-2.8**
PMRV				*i* AML	AML	16 19 11.3	
PMRV				*i* AML	AML	16 19 15.7	
PMRV				*i* AML	AML	16 19 17.6	
EGRO	**El Granado**	**5.59**	**266**	Pn	**Pn**	**16 17 30.1**	**-1.5**
EGRO				Sn	**Sn**	**16 18 31.9**	**-3.4**
EGRO	**El Granado**	**5.59**	**266**	Pn	**Pn**	**16 17 29.9**	**-1.7**
EGRO				Sn	**Sn**	**16 18 31.1**	**-4.3**
EGRO				*i* Vmb_Lg		16 19 17.5	
TERF	**Tercis-les-Bai**	**5.61**	**355**	Pn	**Pn**	**16 17 33.8**	**+2.0**
ELAN	**Lanestosa**	**5.61**	**337**	Pn	**Pn**	**16 17 32.6**	**+0.7**
ELAN				Sn	**Sn**	**16 18 34.9**	**-1.2**
ELAN				*i* Vmb_Lg		16 19 22.2	
MTLF	**Montolieu**	**5.63**	**20**	*e*Pn	**Pn**	**16 17 31.9**	**-0.2**
MTLF				*e*Sn	**Sn**	**16 18 33.8**	**-2.7**
comp=Z,22nm,0.4s							
MTLF	**Montolieu**	**5.63**	**20**	Pn	**Pn**	**16 17 32.9**	**+0.7**
PESTR	**Estremoz**	**5.65**	**280**	Pn	**Pn**	**16 17 30.6**	**-1.8**
PESTR				IAmb_Lg		16 19 17.9	
comp=Z,60nm,0.8s							
PESTR	**Estremoz**	**5.65**	**280**	*e*Pn	**Pn**	**16 17 32.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**16 18 35.0**	**-1.9**
PESTR				*e*Sg	**Sg**	**16 19 03.9**	**-6.4**
PESTR				*i* AML	AML	16 19 16.4	
PESTR				*i* AML	AML	16 19 25.6	
PESTR				*i* AML	AML	16 19 31.0	
CRAS	**Crastes**	**5.70**	**9**	Pn	**Pn**	**16 17 34.6**	**+1.6**
PCBR	**Castelo Branco**	**5.74**	**290**	*e*Pn	**Pn**	**16 17 34.0**	**+0.4**
PCBR				*e*Sn	**Sn**	**16 18 38.3**	**-0.9**
PCBR				*e*Sg	**Sb**	**16 19 06.1**	**+8.8**
PCBR				*i* AML	AML	16 19 26.5	
PCBR				*i* AML	AML	16 19 26.6	
PCBR				*i* AML	AML	16 19 31.4	
PVAQ	**Vaqueiros**	**5.79**	**265**	Pn	**Pn**	**16 17 32.3**	**-2.0**
PVAQ	**Vaqueiros**	**5.79**	**265**	*e*Pn	**Pn**	**16 17 32.9**	**-1.4**
PVAQ				*e*Sn	**Sn**	**16 18 36.8**	**-3.6**
PVAQ				*i* AML	AML	16 18 39.2	
PVAQ				*i* AML	AML	16 18 40.4	
PVAQ				*i* AML	AML	16 18 41.7	
PBEJ	**Beja**	**5.84**	**272**	*e*Sn	**Sn**	**16 18 39.4**	**-2.3**
PBEJ				*i* AML	AML	16 19 25.8	
PBEJ				*i* AML	AML	16 19 29.2	
PBEJ				*i* AML	AML	16 19 33.8	
MVO	**Moncorvo**	**5.93**	**303**	*e*Pn	**Pn**	**16 17 35.9**	**-0.4**
MVO				*e*Sn	**Sn**	**16 18 43.2**	**-0.7**
MVO				*e*Sg	**Sg**	**16 19 17.9**	**-1.3**
MVO				*i* AML	AML	16 19 24.5	
MVO				*i* AML	AML	16 19 26.9	
MVO				*i* AML

PCAS				*i* AML	AML	16 20 06.8	
PTEO	**Sao Teotonio**	**6.56**	**268**	*e*Sn	**Sn**	**16 18 56.5**	**-2.9**
PTEO				*i* AML	AML	16 19 47.1	
PTEO				*i* AML	AML	16 19 47.9	
PTEO				*i* AML	AML	16 19 54.6	
PSBE	**So Bento**	**6.66**	**285**	*i* AML	AML	16 19 52.4	
PFVI	**Vila Bisbo**	**6.71**	**264**	Pn	**Pn**	**16 17 47.2**	**+0.3**
PFVI	**Vila Bisbo**	**6.71**	**264**	*e*Pn	**Pn**	**16 17 47.2**	**+0.3**
LASF	**Ste Croix**	**6.81**	**27**	*e*Pn	**Pn**	**16 17 48.5**	**+0.1**
LASF				*e*Sn	**Sn**	**16 19 02.2**	**-3.5**
comp=Z,17nm,0.9s							
PCAB	**Cabril**	**6.85**	**304**	*e*Pn	**Pn**	**16 17 50.0**	**+1.1**
PCAB				*e*Sg	**Sg**	**16 19 46.8**	**-2.0**
PCAB				*i* AML	AML	16 19 50.1	
PCAB				*i* AML	AML	16 19 57.0	
PCAB				*i* AML	AML	16 20 01.5	
LFF	**La Frestale**	**6.91**	**7**	*e*Pn	**Pn**	**16 17 49.8**	**+0.2**
LFF				*e*Sn	**Sn**	**16 19 04.2**	**-3.7**
comp=Z,18nm,0.4s							
ELOB	**Lobios**	**6.95**	**305**	Pn	**Pn**	**16 17 49.7**	**-0.7**
ELOB				Sg	**Sg**	**16 19 47.3**	**-4.7**
ELOB				*i* Vmb_Lg		16 20 03.9	
PMAFR	**Mafra**	**6.97**	**280**	*e*Pn	**Pn**	**16 17 50.8**	**+0.3**
PMAFR				*e*Sn	**Sn**	**16 19 07.0**	**-2.5**
PMAFR				*e*Sg	**Sg**	**16 19 50.8**	**-1.9**
PMAFR				*i* AML	AML	16 20 01.1	
PMAFR				*i* AML	AML	16 20 02.9	
PMAFR				*i* AML	AML	16 20 08.7	
LEUC	**Leucamp**	**7.04**	**18**	Pn	**Pn**	**16 17 51.7**	**+0.1**
CAF	**Calviac**	**7.09**	**15**	*e*Pn	**Pn**	**16 17 51.7**	**-0.5**
CAF				*e*Sn	**Sn**	**16 19 08.7**	**-3.8**
comp=Z,16nm,0.6s							
PGAV	**Gavieira, Arco**	**7.13**	**305**	*e*Pn	**Pn**	**16 17 53.1**	**+0.3**
PGAV				*e*Sg	**Sg**	**16 19 54.7**	**-3.2**
PGAV				*i* AML	AML	16 20 05.0	
PGAV				*i* AML	AML	16 20 08.2	
PGAV				*i* AML	AML	16 20 12.9	
EPON	**Pontenova**	**7.29**	**318**	Pn	**Pn**	**16 17 54.6**	**-0.3**
EPON				Sn	**Sn**	**16 19 12.2**	**-5.2**
EPON				Sg	**Sg**	**16 19 57.2**	**-5.7**
EPON				*i* Vmb_Lg		16 20 15.7	
RJF	**Les Rejaudoux**	**7.36**	**11**	*e*Pn	**Pn**	**16 17 56.0**	**+0.1**
RJF				*e*Sn	**Sn**	**16 19 15.2**	**-3.9**
comp=Z,26nm,0.8s							
SMRF	**Simiane la Rot**	**7.44**	**36**	*e*Pn	**Pn**	**16 17 56.8**	**-0.3**
SMRF				*e*Sn	**Sn**	**16 19 16.3**	**-4.9**
comp=Z,3.1nm,0.4s							
LMR	**La Mourre**	**7.45**	**43**	*e*Pn	**Pn**	**16 17 57.0**	**-0.1**
LMR				*e*Sn	**Sn**	**16 19 16.9**	**-4.3**
comp=Z,13nm,0.5s							
EAGO	**Agolada(Pontev**	**7.48**	**311**	Pn	**Pn**	**16 17 57.4**	**-0.2**
EAGO				Sg	**Sg**	**16 20 03.7**	**-5.4**
EAGO				*i* Vmb_Lg		16 20 26.8	
FRNF	**Fournols**	**7.64**	**16**	Pn	**Pn**	**16 18 00.5**	**+0.8**
LBL	**Lubilhac**	**7.66**	**20**	Pn	**Pn**	**16 18 00.3**	**+0.2**
VIVF	**Saint-Julien-l**	**7.78**	**28**	*e*Pn	**Pn**	**16 18 01.5**	**-0.2**
VIVF				*e*Sn	**Sn**	**16 19 25.3**	**-4.2**
comp=Z,2.8nm,0.4s							
VSL	**Villasalto**	**7.81**	**77**	Pn	**Pn**	**16 18 01.6**	**-0.6**
VERF	**Verneugheol**	**7.96**	**15**	Pn	**Pn**	**16 18 04.7**	**+0.4**
CHIF	**Chize**	**8.04**	**0**	Pn	**Pn**	**16 18 06.6**	**+1.4**
COLF	**Collangettes**	**8.05**	**21**	Pn	**Pn**	**16 18 05.4**	**+0.1**
EMAZ	**Mazaricos**	**8.10**	**310**	Pn	**Pn**	**16 18 05.9**	**-0.2**
EMAZ				Sg		16 20 27.8	
EMAZ				*i* Vmb_Lg		16 20 42.2	
SSB	**Saint Sauveur**	**8.10**	**26**	Pn	**Pn**	**16 18 06.4**	**+0.3**
SSB	**Saint Sauveur**	**8.10**	**26**	Pn	**Pn**	**16 18 05.9**	**-0.2**
KEST	**Kesra**	**8.20**	**104**	Pn	**Pn**	**16 18 09.3**	**+1.8**
KEST	**Kesra**	**8.20**	**104**	Pn	**Pn**	**16 18 08.3**	**+0.8**
comp=Z,1.6nm,0.3s,baz=186,slow=4.4,SNR=26							
KEST				Sn	**Sn**	**16 19 37.6**	**-2.3**
comp=Z,0.6nm,0.3s,baz=195,slow=2.7,SNR=1.8							
comp=Z,4.1nm,0.4s							
SBF	**Sospel**	**8.30**	**43**	*e*Pn	**Pn**	**16 18 08.2**	**-0.7**
SBF				*e*Sn	**Sn**	**16 19 37.6**	**-4.8**
comp=Z,16nm,0.7s							
ORIF	**Oris-en-Rattie**	**8.32**	**33**	*e*Pn	**Pn**	**16 18 08.9**	**-0.2**
AGO	**Saint Agoulin**	**8.39**	**17**	Pn	**Pn**	**16 18 10.4**	**+0.3**
TCF	**Toulx Ste Croi**	**8.43**	**13**	*e*Pn	**Pn**	**16 18 10.0**	**-0.6**
PLDF	**La Plantade**	**8.44**	**20**	Pn	**Pn**	**16 18 11.2**	**+0.5**
PGF	**Pioggiola**	**8.49**	**55**	*e*Pn	**Pn**	**16 18 11.9**	**+0.4**
PGF				*e*Sn	**Sn**	**16 19 41.5**	**-5.5**
comp=Z,4.9nm,0.4s							
MFF	**Saint Martin d**	**8.51**	**1**	*e*Sn	**Sn**	**16 19 42.5**	**-4.9**
comp=Z,28nm,1.0s							
MBDF	**Montbardon**	**8.57**	**37**	*e*Pn	**Pn**	**16 18 12.4**	**-0.3**
BNI	**Bardonecchia**	**8.78**	**35**	Pn	**Pn**	**16 18 16.0**	**+0.5**
BGF	**Bois d'Agland**	**8.81**	**15**	*e*Pn	**Pn**	**16 18 15.2**	**-0.6**
BGF				*e*Sn	**Sn**	**16 19 49.4**	**-5.3**
comp=Z,17nm,0.6s							
OUZM	**OUZ**	**8.84**	**218**	P	**Pn**	**16 18 17.5**	**+1.1**
OUZM	**OUZ**	**8.84**	**218**	S	**Sn**	**16 19 50.0**	**-5.8**
SMF	**Signal de Mont**	**9.12**	**19**	*e*Pn	**Pn**	**16 18 20.3**	**+0.2**
AVF	**Avril sur Loir**	**9.14**	**17**	*e*Pn	**Pn**	**16 18 19.7**	**-0.6**
LPL	**La Plagne**	**9.16**	**34**	*e*Pn	**Pn**	**16 18 22.2**	**+1.4**
SSF	**Saint Saulge**	**9.43**	**17**	*e*Pn	**Pn**	**16 18 23.6**	**-0.7**
HYF	**Humbligny**	**9.46**	**13**	*e*Pn	**Pn**	**16 18 24.0**	**-0.6**
HYF				*e*Sn	**Sn**	**16 20 04.8**	**-5.7**
comp=Z,43nm,0.3s							
LOR	**Lormes**	**9.71**	**18**	*e*Pn	**Pn**	**16 18 27.8**	**-0.3**
MSSA	**Maissana**	**9.76**	**47**	Pn	**Pn**	**16 18 29.3**	**+0.5**
CABF	**La Chapelle**	**9.80**	**28**	*e*Pn	**Pn**	**16 18 30.3**	**+0.9**
CASP	**Castiglione de**	**9.83**	**58**	Pn	**Pn**	**16 18 31.0**	**+1.3**
QUIF	**Quistinic**	**10.02**	**349**	*e*Pn	**Pn**	**16 18 32.7**	**+0.4**
QUIF				*e*Sn	**Sn**	**16 20 18.7**	**-5.7**
comp=Z,3.2nm,0.4s							
SENIN	**Lac Senin/Sane**	**10.07**	**32**	Pn	**Pn**	**16 18 35.4**	**+2.2**
SGMF	**Saint Gilles**	**10.28**	**352**	*e*Pn	**Pn**	**16 18 36.3**	**+0.5**
SGMF				*e*Sn	**Sn**	**16 20 25.4**	**-5.2**
comp=Z,126nm,1.7s							
GRR	**Gorron**	**10.30**	**359**	*e*Pn	**Pn**	**16 18 35.8**	**-0.4**
GRR				*e*Sn	Sn	16 20 24.6	-6.6
comp=Z,2.4nm,0.2s							
OSSC	**Osservatorio P**	**10.40**	**55**	Pn	**Pn**	**16 18 38.0**	**+0.4**
ROSF	**Rostrenen**	**10.45**	**350**	*e*Pn	**Pn**	**16 18 37.8**	**-0.4**
ROSF				*e*Sn	Sn	16 20 27.8	-7.0
comp=Z,46nm,1.1s							
LDF	**La Druitiere**	**10.51**	**1**	*e*Pn	**Pn**	**16 18 38.7**	**-0.3**
ZCCA	**Zocca**	**10.64**	**50**	Pn	**Pn**	**16 18 45.3**	**+4.4**
FLN	**La Foliniere**	**10.67**	**360**	*e*Pn	**Pn**	**16 18 41.1**	**-0.1**
TUE	**Stuetta**	**11.08**	**38**	Pn	**Pn**	**16 18 48.6**	**+1.5**
HINF	**Hinteralfeld**	**11.10**	**26**	*e*Pn	**Pn**	**16 18 46.1**	**-1.0**
NRCA	**Norcia**	**11.38**	**61**	Pn	**Pn**	**16 18 52.4**	**+1.4**
FDMO	**Fiordimonte**	**11.43**	**60**	Pn	**Pn**	**16 18 54.0**	**+2.4**
CAMP	**Campotosto**	**11.48**	**63**	Pn	**Pn**	**16 18 54.9**	**+2.4**
DAVOX	**Davos/Dischmat**	**11.56**	**38**	Pn	**Pn**	**16 18 55.2**	**+1.6**
comp=Z,0.2nm,0.3s,baz=201,slow=16,SNR=4.2							
DAVOX				Sn	**Sn**	**16 21 02.8**	**+0.4**
comp=Z,0.1nm,0.3s,baz=342,slow=22,SNR=1.4							
comp=Z,0.9nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**11.64**	**39**	Pn	**Pn**	**16 18 58.2**	**+3.5**
BAIF	**Baives**	**12.43**	**14**	*e*Pn	**Pn**	**16 19 04.6**	**-0.6**
GERES	**GERESS Array B**	**14.85**	**39**	Pn	**Pn**	**16 19 38.9**	**+0.4**
baz=230,slow=12,SNR=4.7							
comp=Z,0.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**17.35**	**355**	P	**Pn**	**16 20 10.8**	**+0.4**
baz=174,slow=14							
comp=Z,1.3nm,0.6s							
KOLS	**Kolonicke sedl**	**19.66**	**49**	*e*P	**Pn**	**16 20 40.3**	**+1.7**
HFS	**Hagfors**	**23.83**	**18**	P	**P**	**16 21 22.0**	**+0.8**
comp=Z,3.0nm,0.8s,baz=195,slow=11,SNR=5.8							
comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**24.12**	**14**	P	**P**	**16 21 24.8**	**+0.8**
comp=Z,1.1nm,0.9s,baz=207,slow=8.8,SNR=3.5							
comp=Z,1.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**24.91**	**175**	P	**P**	**16 21 32.4**	**+1.0**
comp=Z,1.4nm,0.3s,baz=357,slow=8.5,SNR=2.0							
comp=Z,1.4nm,0.3s							
KVAR	**Kislovodsk Arr**	**32.80**	**66**	P	**P**	**16 22 41.5**	**-0.1**
comp=Z,2.9nm,0.6s,baz=270,slow=11,SNR=2.1							
comp=Z,2.9nm,0.6s							
KURBB	**Kurchatov Arra**	**55.28**	**50**	P	**P**	**16 25 42.4**	**+0.8**
comp=Z,0.6nm,0.8s,baz=291,slow=7.9,SNR=5.0							
KURBB				PcP	**PcP**	**16 26 43.8**	**+1.6**
comp=Z,0.5nm,0.8s,baz=276,slow=4.5,SNR=4.2							
comp=Z,0.6nm,0.8s							
KSH	**Kashi**	**57.83**	**63**	P	**P**	**16 26 01.8**	**+1.8**
KSH				pmax	pmax		
comp=Z,5.0nm,1.1s							
MKAR	**Makanchi Array**	**59.02**	**53**	P	**P**	**16 26 07.7**	**-0.4**
comp=Z,0.4nm,0.6s,baz=294,slow=6.1,SNR=5.0							
MKAR				PcP	**PcP**	**16 26 58.2**	**+1.2**
comp=Z,0.6nm,0.7s,baz=298,slow=3.1,SNR=4.5							
comp=Z,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**66.78**	**333**	P	**P**	**16 27 00.1**	**+0.7**
comp=Z,0.5nm,0.8s,baz=59,slow=6.0,SNR=6.5							
comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**74.14**	**346**	P	**P**	**16 27 46.5**	**+2.2**
comp=Z,0.2nm,0.7s,baz=6.1,slow=5.8,SNR=3.4							
comp=Z,0.2nm,0.7s							
PDAR	**Pinedale Array**	**76.97**	**314**	P	**P**	**16 28 02.4**	**+1.2**
comp=Z,1.2nm,0.9s,baz=65,slow=7.6,SNR=8.0							
comp=Z,1.2nm,0.9s							

*IDC **24** 16:17:02.9±1.3, 37.°48N×29.°58E, h0km, mb3.7/5, mbtmp3.8/13, ML3.9/6, MS3.4/5, Error ellipse: s-maj=20.7km s-min=15.7km az=31.0*
*ISK **24** 16:17:02.2, 37.°47N×29.°42E, h7km, ML3.8/21*
*AFAD **24** 16:17:02.6, 37.°45N×29.°39E, h7km±2km, MW3.9*
ISC 24 16:17:03.0±0.9, **37.°47N**±0.°02×**29.°42E**±0.°02, **h8**km±6km, **n86**, σ1§**10**/108, **mb3.6**/5, **MS3.5**/3, **10C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APMY	**Acipayam-Deniz**	**0.09**	**274**	Pg	**Pg**	**16 17 05.4**	**+0.1**
APMY				Sg	**Sg**	**16 17 07.5**	**+0.6**
GOLH	**Golhisar**	**0.26**	**153**	P	**Pg**	**16 17 07.5**	**-0.6**
GOLH				S	**Sg**	**16 17 11.9**	**+0.3**
GOLH				*i* AML	AML	16 17 13.0	
comp=E,7μm,0.2s							
INCE	**Denizli-Bozkur**	**0.27**	**27**	P	**Pg**	**16 17 08.1**	**-0.3**
INCE				*i* AML	AML	16 17 14.0	
comp=N,3μm,0.3s							
INCE				S	**Sb**	**16 17 14.0**	**-1.1**
INCE				*i* AML	AML	16 17 15.0	
comp=E,2μm,0.3s							
DNIZ	**Denizli-Tavas-**	**0.34**	**298**	P	**Pg**	**16 17 09.8**	**+0.1**
DNIZ				S	**Sg**	**16 17 14.9**	**+0.6**
DNIZ				*i* AML	AML	16 17 17.0	
comp=N,2μm,0.2s							
CAEL	**Denizli, Camel**	**0.35**	**193**	P	**Pg**	**16 17 09.1**	**-0.8**
CAEL				S	**Sg**	**16 17 15.2**	**+0.6**
CAEL				*i* AML	AML	16 17 18.0	
comp=E,8μm,0.4s							
DNZT	**Denizli-Tavas-**	**0.36**	**239**	P	**Pg**	**16 17 09.6**	**-0.5**
DNZT				P	**Pb**	**16 17 09.8**	**-2.1**
DNZT				S	**Sg**	**16 17 15.2**	**+0.2**
DNZT				S	**Sg**	**16 17 15.2**	**+0.2**
DNZT				*i* AML	AML	16 17 16.0	
comp=N,4μm,0.7s							
DNZT				*i* AML	AML	16 17 16.0	
comp=N,4μm,0.7s							
DNZT				*i* AML	AML	16 17 17.0	
comp=E,2μm,0.5s							
DNZT				*i* AML	AML	16 17 21.0	
comp=E,3μm,0.8s							
TAVA	**DENIZLI_Tavas**	**0.40**	**270**	P	**Pg**	**16 17 10.8**	**-0.1**
TAVA				S	**Sg**	**16 17 16.2**	**0.0**
TAVA				*i* AML	AML	16 17 17.0	
comp=N,5μm,0.8s							
TAVA				*i* AML	AML	16 17 19.0	
comp=E,4μm,0.7s							
CAME	**Cameli-Denizli**	**0.53**	**190**	Pg	**Pg**	**16 17 11.9**	**-1.4**
CAME				Sg	**Sg**	**16 17 20.3**	**+0.1**
BRDR	**BURDUR-Merkez**	**0.56**	**66**	P	**Pg**	**16 17 12.6**	**-1.2**
KNIK	**Mula-Seydike**	**0.63**	**169**	P	**Pg**	**16 17 14.6**	**-0.6**
BASM	**Basmaki-Afyon**	**0.68**	**48**	Pg	**Pg**	**16 17 15.2**	**-0.9**
BASM				Sg	**Sg**	**16 17 25.2**	**+0.3**
SABU	**Mula-Dalaman**	**0.73**	**209**	P	**Pg**	**16 17 15.4**	**-1.7**
ELL	**Elmali**	**0.82**	**151**	Pg	**Pg**	**16 17 18.8**	**+0.1**
FETY	**Fethiye**	**0.87**	**198**	Pg	**Pg**	**16 17 19.5**	**-0.2**
KORT	**Korkueli**	**0.88**	**122**	Pg	**Pg**	**16 17 19.6**	**-0.3**
KORT				Sg	**Sb**	**16 17 32.3**	**-0.2**
KORT	**Korkueli**	**0.88**	**122**	P	**Pb**	**16 17 20.2**	**-0.4**
PASA	**Karahalli, USA**	**0.88**	**4**	P	**Pb**	**16 17 20.0**	**-0.7**
DALY	**Dalyan (Mula)**	**0.89**	**224**	Pg	**Pg**	**16 17 20.0**	**-0.1**
DALY				Sg	**Sb**	**16 17 32.7**	**0.0**
MULA	**Mugla, Merkez-**	**0.90**	**257**	P	**Pg**	**16 17 19.8**	**-0.5**
ESEN	**Aydn-Nazilli**	**0.91**	**292**	P	**Pg**	**16 17 20.4**	**-0.2**
ESEN				S	**Sg**	**16 17 32.2**	**-0.2**
ESEN				*i* AML	AML	16 17 35.0	
comp=N,2μm,0.3s							
ESEN				*i* AML	AML	16 17 36.0	
comp=E,2μm,0.4s							
BUCA	**Burdur, Bucak-**	**0.92**	**98**	P	**Pb**	**16 17 20.6**	**-0.7**
BCK	**Bucak**	**0.93**	**90**	Pg	**Pg**	**16 17 20.1**	**-0.8**
ISP	**Isparta**	**0.95**	**68**	Pg	**Pg**	**16 17 20.3**	**-0.9**
YER	**Yerkesik**	**0.96**	**259**	Pg	**Pg**	**16 17 20.9**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.02**	**299**	Pg	**Pg**	**16 17 22.2**	**-0.5**
KIRA	**zmir-Kiraz**	**1.09**	**312**	P	**Pg**	**16 17 23.3**	**-0.6**
KIRA				S	**Sg**	**16 17 37.8**	**-0.2**
KIRA				*i* AML	AML	16 17 41.0	
comp=N,2μm,0.6s							
KIRA				*i* AML	AML	16 17 42.0	
comp=E,2μm,0.4s							
ANTB	**Antalya**	**1.14**	**119**	Pn	**Pb**	**16 17 24.7**	**-0.2**
TURN	**Turunc**	**1.16**	**234**	Pn	**Pg**	**16 17 24.7**	**-0.7**
TURN	**Turunc**	**1.16**	**234**	P	**Pg**	**16 17 24.7**	**-0.7**
KULA	**Kula-Manisa**	**1.21**	**330**	Pn	**Pg**	**16 17 25.5**	**-0.7**
KULA				Sn	**Sn**	**16 17 42.5**	**-0.4**
MANT	**Manisa**	**1.23**	**327**	P	**Pn**	**16 17 26.9**	**+0.1**
AKAS	**Kas**	**1.24**	**173**	Pn	**Pg**	**16 17 26.3**	**-0.5**
AKAS	**Kas**	**1.24**	**173**	P	**Pn**	**16 17 28.6**	**+1.8**
AYDN	**Tasoluk**	**1.24**	**280**	P	**Pb**	**16 17 26.1**	**-0.7**
AYDN				S	**Sn**	**16 17 43.6**	**-0.1**
AYDN				*i* AML	AML	16 17 48.0	
comp=E,1μm,0.4s							
DEMR	**Demre-Antalya**	**1.29**	**162**	Pn	**Pg**	**16 17 27.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**292**	Pn	**Pn**	**16 17 26.9**	**-0.8**
MLSB	**Milas**	**1.32**	**263**	Pn	**Pn**	**16 17 27.5**	**-0.3**
ODEM	**Odemis-Izmir**	**1.34**	**308**	Pn	**Pn**	**16 17 27.8**	**-0.3**
IZMR	**zmir-demi**	**1.34**	**300**	P	**Pn**	**16 17 27.5**	**-0.6**
IZMR				P	**Pn**	**16 17 27.5**	**-0.6**
IZMR				S	**Sn**	**16 17 45.8**	**-0.3**
IZMR				S	**Sn**	**16 17 45.8**	**-0.3**
IZMR				*i* AML	AML	16 17 49.0	
comp=N,767nm,0.5s							
IZMR				*i* AML	AML	16 17 53.0	
comp=N,1μm,0.5s							
SHUT	**Suhut-Afyon**	**1.41**	**39**	Pn	**Pn**	**16 17 28.5**	**-0.6**
SHAP	**Saphane-Kutahy**	**1.56**	**354**	Pn	**Pn**	**16 17 31.2**	**0.0**
ARG	**Arkhangelos**	**1.62**	**220**	Pn	**Pn**	**16 17 32.1**	**+0.2**
GDZ	**Gediz**	**1.62**	**2**	P	**Pb**	**16 17 32.5**	**-0.8**
DAT	**Datca**	**1.65**	**244**	Pn	**Pn**	**16 17 32.2**	**-0.2**
YVAC	**Isparta, Yalva**	**1.65**	**60**	P	**Pb**	**16 17 33.6**	**-0.2**
DEMI	**Demirci**	**1.67**	**341**	P	**Pb**	**16 17 33.3**	**-0.7**
KEPZ	**Antalya-Kepez**	**1.83**	**107**	P	**Pg**	**16 17 38.1**	**-0.1**
BAND	**Balkesir-Ban**	**3.06**	**341**	⇑P	**Pn**	**16 17 50.3**	**-1.5**
ANTO	**Ankara**	**3.57**	**47**	⇓P	**Pn**	**16 17 56.2**	**-2.6**
KIRS	**Kirsehir-Merke**	**3.91**	**63**	⇓P	**Pn**	**16 18 01.6**	**-1.9**
BRTR	**Keskin Array B**	**4.00**	**54**	Pn	**Pn**	**16 18 05.9**	**+1.1**
2.0nm,0.3s,baz=241,slow=17,SNR=74							
BRTR				Sn	**Sn**	**16 18 52.9**	**+0.8**
0.6nm,0.3s,baz=230,slow=22,SNR=4.5							
10nm,0.6s							
CAVK	**Edirne/Enez-Ca**	**4.10**	**323**	⇓P	**Pn**	**16 18 04.4**	**-1.5**
IDI	**Anoyia**	**4.25**	**241**	Pn	**Pn**	**16 18 09.8**	**+1.6**
21nm,0.5s,baz=59,slow=13,SNR=12							
IDI				Sn	**Sn**	**16 19 00.0**	**+2.0**
5.1nm,0.3s,baz=308,slow=18,SNR=7.3							
KDZ	**Kurdzhali**	**5.22**	**324**	*e*P	**Pn**	**16 18 22.3**	**+0.9**
RZN	**Rozhen**	**5.56**	**321**	*e*P	**Pn**	**16 18 28.0**	**+1.8**
PLD	**Plovdiv**	**5.90**	**324**	*e*P	**Pn**	**16 18 32.4**	**+1.7**
MMB	**Musomishta**	**5.99**	**315**	*e*P	**Pn**	**16 18 33.3**	**+1.3**
PVL	**Pavlikeni**	**6.51**	**331**	*e*P	**Pn**	**16 18 40.5**	**+1.3**
KKB	**Krupnik**	**6.53**	**314**	*e*P	**Pn**	**16 18 40.8**	**+1.4**
MMAI	**Mount Meron Ar**	**6.61**	**130**	Pn	**Pn**	**16 18 40.6**	**+0.1**
3.3nm,0.3s,baz=320,slow=10,SNR=12							
MMAI				Sn	**Sn**	**16 19 53.2**	**-2.9**
0.3nm,0.3s,baz=308,slow=26,SNR=2.0							
MMAI				LR	LR	16 21 50.8	
comp=Z,97nm,18.8s,baz=293,slow=44							
10nm,0.6s							
CFR	**Carcaliu**	**7.77**	**353**	⇓P	**Pn**	**16 18 54.7**	**-1.6**
ASF	**Jabal al Asfar**	**8.10**	**128**	Pn	**Pn**	**16 19 03.2**	**+2.1**
0.8nm,0.3s,baz=285,slow=16,SNR=2.8							
ASF				Sn	Sn	16 20 44.4	+11
0.2nm,0.3s,baz=312,slow=21,SNR=1.2							
MLR	**Muntele Rosu**	**8.43**	**343**	Pn	**Pn**	**16 19 08.4**	**+2.8**
0.5nm,0.3s,baz=157,slow=7.7,SNR=3.6							
MLR				Sn	**Sn**	**16 20 42.3**	**+1.3**
0.3nm,0.3s,baz=5.2,slow=17,SNR=1.3							
MLR				LR	LR	16 22 47.2	
comp=Z,136nm,18.9s,baz=47,slow=41							
2.6nm,0.6s							
MLR	**Muntele Rosu**	**8.43**	**343**	⇑P	**Pn**	**16 19 04.5**	**-1.1**
BOVS	**Bovan**	**8.51**	**319**	⇑P	**Pn**	**16 19 05.4**	**-1.2**
VOIR		**8.61**	**339**	⇓P	**Pn**	**16 19 06.8**	**-1.2**
PLOR	**Plostina**	**8.63**	**347**	⇓P	**Pn**	**16 19 07.9**	**-0.4**
VRI	**Vrincioaia**	**8.63**	**347**	⇑P	**Pn**	**16 19 07.3**	**-0.9**
COVR	**Voineasa-Covas**	**8.71**	**345**	⇑P	**Pn**	**16 19 08.5**	**-0.9**
DOPR	**Dopca**	**9.01**	**342**	⇑P	**Pn**	**16 19 12.2**	**-1.3**
EIL	**Elat**	**9.04**	**148**	Pn	**Pn**	**16 19 13.8**	**-0.1**
0.7nm,0.3s,baz=255,slow=3.0,SNR=5.0							
EIL				Sn	Sn	16 20 45.5	-10
baz=120,slow=19							
1.7nm,0.3s							
HERR	**Herculane**	**9.09**	**327**	⇑P	**Pn**	**16 19 14.1**	**-0.4**
MDVR	**Moldovita**	**9.34**	**324**	⇑P	**Pn**	**16 19 16.6**	**-1.4**
GZR	**Gura Zlata**	**9.36**	**330**	⇑P	**Pn**	**16 19 17.3**	**-0.9**
BZS	**Buzias**	**10.02**	**327**	⇓P	**Pn**	**16 19 26.0**	**-1.2**
SORM	**Soroca**	**10.69**	**356**	⇑P	**Pn**	**16 19 34.6**	**-1.8**
KVAR	**Kislovodsk Arr**	**11.97**	**53**	Pn	**Pn**	**16 19 56.6**	**+2.5**
baz=103,slow=12							
1.1nm,0.2s							
VRAC	**Vranov**	**15.04**	**326**	Pn	**P**	**16 20 38.5**	**-2.8**
0.3nm,0.3s,baz=298,slow=20,SNR=1.9							
0.9nm,0.5s							
GERES	**GERESS Array B**	**16.11**	**320**	Pn	**P**	**16 20 54.4**	**+1.1**
1.2nm,1.0s,baz=130,slow=12,SNR=9.3							
FINES	**FINESS Array B**	**24.09**	**356**	P	**P**	**16 22 18.9**	**+0.2**
3.2nm,0.9s,baz=181,slow=9.9,SNR=5.3							
3.2nm,0.9s							
AKTO	**Aktyubinsk**	**24.16**	**48**	LR	LR	16 34 57.0	
comp=Z,135nm,18.6s,baz=68,slow=45							
HFS	**Hagfors**	**24.81**	**341**	P	**P**	**16 22 27.0**	**+1.7**
3.5nm,0.9s,baz=143,slow=15,SNR=2.4							
3.5nm,0.9s							
NOA	**NORSAR Array B**	**26.23**	**340**	P	**P**	**16 22 40.1**	**+1.8**
1.2nm,0.8s,baz=144,slow=9.9,SNR=2.1							
NOA				LR	LR	16 35 35.6	
comp=Z,55nm,18.3s,baz=235,slow=42							
1.2nm,0.8s							
KURBB	**Kurchatov Arra**	**36.99**	**53**	P	**P**	**16 24 12.9**	**0.0**
0.3nm,0.5s,baz=275,slow=8.9,SNR=6.8							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**39.64**	**59**	P	**P**	**16 24 35.3**	**+0.1**
0.5nm,0.7s,baz=292,slow=6.4,SNR=3.6							
0.5nm,0.7s							
TIXI	**Tiksi**	**57.78**	**22**	LR	LR	16 56 50.4	
comp=Z,76nm,18.2s,baz=20,slow=41							

*NSSP **24** 16:18:22.2, 38.°87N×43.°73E, h10km, Ms3.1*
*TEH **24** 16:18:24.0, 38.°99N×43.°80E, h10km±80km*
*AFAD **24** 16:18:24.5, 38.°98N×43.°73E, h3km±1km, ML2.9*
*ISK **24** 16:18:24.6, 38.°99N×43.°74E, h8km, ML3.0/12*
**ISC 24 16:18:25

CNGN Cerro Negro 0.16 58 P **Pn 16 20 07.4 -0.6**
QUEN Al S del Volca 0.18 355 P **Pn 16 20 07.3 -0.8**
QUEN Al S del Volca 0.18 355 P **Pn 16 20 07.5 -0.5**
PLRN Geotermica Pol 0.18 21 P **Pn 16 20 06.8 -1.2**
PLRN S **Sn 16 20 25.3 +1.1**
PLRN Geotermica Pol 0.18 21 P **Pn 16 20 07.0 -1.0**
HERN Volcan Telica 0.19 1 **Pn 16 20 07.3 -0.8**
HERN Volcan Telica 0.19 1 P **Pn 16 20 07.4 -0.7**
HERN Volcan Telica 0.19 1 P **Pn 16 20 07.6 -0.5**
ILCN San Idelfonso 0.21 39 P **Pn 16 20 04.2 -3.9**
LEVN Ruinas Leon Vi 0.21 93 S **Sn 16 20 30.8 +6.8**
LEVN Ruinas Leon Vi 0.21 93 P **Pn 16 20 07.2 -0.8**
LEVN Ruinas Leon Vi 0.21 93 P **Pn 16 20 07.5 -0.5**
MOMN Momotombo 0.29 91 P **Pn 16 20 07.4 -0.9**
MOMN S **Sn 16 20 24.9 +0.3**
MOMN Momotombo 0.29 91 P **Pn 16 20 07.7 -0.6**
BC84 Volcan Momotom 0.29 94 P **Pn 16 20 07.3 -0.9**
BC84 Volcan Momotom 0.29 94 P **Pn 16 20 07.6 -0.6**
BC86 Nagarote 0.30 119 P **Pn 16 20 07.7 -0.6**
BC86 Nagarote 0.30 119 S **Sn 16 20 23.7 -0.8**
BC86 Nagarote 0.30 119 P **Pn 16 20 08.0 -0.2**
COPN Copaltepe 0.33 134 P **Pn 16 20 06.8 -1.5**
COPN Copaltepe 0.33 134 P **Pn 16 20 07.2 -1.2**
CRIN San Cristobal 0.35 324 **Pn 16 20 08.0 -0.5**
CRIN San Cristobal 0.35 324 P **Pn 16 20 08.1 -0.4**
CRIN San Cristobal 0.35 324 P **Pn 16 20 08.3 -0.2**
AMTN Mateare 0.43 114 P **Pn 16 20 08.2 -0.5**
AMTN Mateare 0.43 114 P **Pn 16 20 08.4 -0.3**
SAPS Ciudad Sandino 0.49 120 P **Pn 16 20 08.4 -0.6**
SAPS Ciudad Sandino 0.49 120 P **Pn 16 20 08.6 -0.4**
APYN Apoyeque 0.51 111 P **Pn 16 20 08.7 -0.3**
APYN Apoyeque 0.51 111 P **Pn 16 20 08.9 -0.1**
APQ2 Apoyeque 0.54 113 P **Pn 16 20 08.6 -0.6**
APQ2 Apoyeque 0.54 113 P **Pn 16 20 08.8 -0.4**
ABCN Banco Central 0.59 119 P **Pn 16 20 08.9 -0.6**
ABCN Banco Central 0.59 119 S **Sn 16 20 26.9 +0.2**
ABCN Banco Central 0.59 119 P **Pn 16 20 09.2 -0.3**
TISN Laguna Tiscapa 0.62 116 P **Pn 16 20 07.5 -2.1**
TISN Laguna Tiscapa 0.62 116 P **Pn 16 20 07.7 -1.9**
USIM UNAN 0.62 118 Pn **Pn 16 20 09.2 -0.4**
USIM UNAN 0.62 118 P **Pn 16 20 09.2 -0.4**
USIM UNAN 0.62 118 P **Pn 16 20 09.4 -0.3**
UNAN Cigeo UNAN 0.63 119 P **Pn 16 20 09.2 -0.5**
UNAN S **Sn 16 20 26.6 -0.5**
UNAN Cigeo UNAN 0.63 119 P **Pn 16 20 09.4 -0.3**
R4DEC Barrio San Lui 0.63 115 P **Pn 16 20 09.2 -0.5**
R4DEC Barrio San Lui 0.63 115 S **Sn 16 20 26.5 -0.6**
R4DEC Barrio San Lui 0.63 115 P **Pn 16 20 09.4 -0.3**
ENAN Enatrel Managu 0.64 118 P Pn 16 20 03.4 -6.3
MAS3 Al N del Volca 0.75 121 S **Sn 16 20 29.2 +0.7**
MAS3 Al N del Volca 0.75 121 P **Pn 16 20 09.8 -0.7**
MAS3 S **Sn 16 20 28.3 -0.2**
MAS3 Al N del Volca 0.75 121 P **Pn 16 20 09.9 -0.6**
SBEN San Benito 0.77 98 P Pn 16 20 04.6 -5.9
LIMN Finca el Limon 0.79 35 P **Pn 16 20 10.6 -0.2**
LIMN Finca el Limon 0.79 35 P **Pn 16 20 10.8 -0.1**
NANN Nandasmo 0.84 124 P **Pn 16 20 11.5 +0.4**
NANN Nandasmo 0.84 124 S **Sn 16 20 31.6 +2.0**
NANN Nandasmo 0.84 124 P **Pn 16 20 11.7 +0.5**
POTN Potosi Cosigui 0.88 312 P **Pn 16 20 11.3 0.0**
POTN S **Sn 16 20 29.8 -0.3**
POTN Potosi Cosigui 0.88 312 P **Pn 16 20 11.4 +0.1**
CSGN Cosiguina Volc 0.90 308 S **Sn 16 20 31.9 +1.3**
CSGN Cosiguina Volc 0.90 308 P **Pn 16 20 11.4 -0.2**
CSGN S **Sn 16 20 31.1 +0.5**
CSGN Cosiguina Volc 0.90 308 P **Pn 16 20 11.5 -0.1**
MATN Matagalpa 1.03 60 P **Pn 16 20 12.4 -0.2**
MATN Matagalpa 1.03 60 S **Sn 16 20 32.2 -0.2**
MATN Matagalpa 1.03 60 P **Pn 16 20 12.6 -0.1**
BOAB BOACO BROADBAN 1.14 88 Pn **Pn 16 20 13.3 -0.2**
BOAB BOACO BROADBAN 1.14 88 P **Pn 16 20 13.3 -0.2**
BOAB BOACO BROADBAN 1.14 88 S **Sn 16 20 33.1 -0.8**
BOAB BOACO BROADBAN 1.14 88 P **Pn 16 20 13.4 -0.1**
CNCH Conchagua 1.30 311 *e*P **Pn 16 20 15.1 0.0**
CNCH Conchagua 1.30 311 S **Sn 16 20 40.5 +3.7**
CNCH Conchagua 1.30 311 P **Pn 16 20 15.0 -0.1**
CNCH Conchagua 1.30 311 P **Pn 16 20 15.1 0.0**
RCVN Varillal2 1.32 28 P **Pn 16 20 15.4 +0.1**
RCVN Varillal2 1.32 28 P **Pn 16 20 15.6 +0.3**
RCPN Sur Rio San Ju 1.32 33 P **Pn 16 20 15.4 +0.1**
RCPN Sur Rio San Ju 1.32 33 P **Pn 16 20 15.6 +0.2**
LCND La Caada 1.36 311 *e*P **Pn 16 20 15.5 0.0**
LCND *e*S **Sn 16 20 37.2 -0.4**
LCND IAML 16 20 45.4
comp=Z,1μm,0.3s
LCND La Caada 1.36 311 P **Pn 16 20 15.5 0.0**
LCND La Caada 1.36 311 P **Pn 16 20 15.7 +0.1**
CONN Concepcion 1.46 125 P **Pn 16 20 15.8 -0.8**
CONN S **Sn 16 20 39.2 -0.1**
CONN Concepcion 1.46 125 P **Pn 16 20 15.9 -0.6**
TGUH Tegucigalpa,Un 1.69 345 Pn **Pn 16 20 19.7 +0.6**
TGUH Tegucigalpa,Un 1.69 345 P **Pn 16 20 19.9 +0.8**
BLLM Bellamira 1.71 307 *e*P **Pn 16 20 19.6 +0.4**
LCY Lacayo 1.74 305 *e*P **Pn 16 20 20.0 +0.4**
RANC El Ranchito 1.74 306 P **Pn 16 20 20.3 +0.6**
LCRUZ La Cruz 1.78 138 *e*P **Pn 16 20 20.7 +0.8**
LCRUZ *e*S **Sn 16 20 44.7 -0.7**
PACA Pacayal 1.79 306 *e*P **Pn 16 20 20.9 +0.7**
PACA Pacayal 1.79 306 P **Pn 16 20 21.0 +0.8**
PQSS Presa 15 de Se 2.07 306 P **Pn 16 20 23.8 +0.6**
ELI1 Hacienda Flor 2.16 144 *e*P **Pn 16 20 25.2 +0.9**
ALIBA Liberia Airpor 2.21 145 *e*P **Pn 16 20 25.8 +2.0**
SCLA Alcaldia de Sa 2.25 305 P **Pn 16 20 26.3 +0.9**
COEG Centro de Oper 2.33 301 *e*P **Pn 16 20 27.1 +0.8**
COEG *e*S **Sn 16 20 56.4 -0.3**
COEG IAML 16 21 02.2
comp=Z,798nm,0.2s
COLC Colonia 2.36 137 *e*P **Pn 16 20 26.9 +0.1**
CUI Cuipilapa 2.39 137 *e*P **Pn 16 20 27.8 +0.7**
PAVA Las Pavas 2.42 302 *e*P **Pn 16 20 28.1 +0.6**
LFRS El Faro 2.48 299 *e*P **Pn 16 20 28.7 +0.5**
PLVR Palo Verde 2.52 145 *e*P **Pn 16 20 29.5 +0.7**
LOMA Loma Larga 2.58 299 *e*P **Pn 16 20 30.2 +0.7**
NICO Nicoya 2.64 149 *e*P **Pn 16 20 30.8 +0.6**
BOQS Boqueron 2.72 299 *e*P **Pn 16 20 33.2 +2.0**
PMON Piamonte 2.74 298 P **Pn 16 20 32.3 +1.0**
CMARA Lajas Hojancha 2.75 150 *e*P **Pn 16 20 32.1 +0.6**
JTS Las Juntas de 2.81 139 P **Pn 16 20 32.3 +0.2**
comp=Z,63nm,0.3s,baz=110,slow=23,SNR=59
JTS S **Sn 16 21 04.8 -2.4**
comp=Z,37nm,0.3s,baz=248,slow=7.4,SNR=5.4
JTS Las Juntas de 2.81 139 *e*P **Pn 16 20 32.3 +0.2**
JAYA Jayaque - finc 2.83 296 *e*P **Pn 16 20 33.1 +0.6**
JAYA *e*S **Sn 16 21 06.9 -1.0**
ARE1 Arenal 1 2.84 133 *e*P **Pn 16 20 33.0 +0.4**
SOCE Pocosol 2.97 133 **Pn 16 20 33.6 -0.5**
SOCE Pocosol 2.97 133 P **Pn 16 20 35.1 +0.9**
CEVE Cerro Verde 3.06 298 *e*P **Pn 16 20 36.6 +1.1**
CEVE *e*S **Sn 16 21 14.8 +1.7**
MTO3 Montecristo 3.15 309 **Pn 16 20 37.3 +0.7**
NUBE Las Nubes 3.23 298 *e*P **Pn 16 20 38.4 +0.9**
NUBE *e*S **Sn 16 21 16.4 -0.4**
NUBE Las Nubes 3.23 298 P **Pn 16 20 38.3 +0.7**
ESQI Esquipulas 3.24 311 **Pn 16 20 38.9 +1.2**
ABE2 San Pablo 3.83 134 *e*P **Pn 16 20 47.0 +1.5**
LCR2 La Lucha 2 3.84 133 Pn **Pn 16 20 46.8 +1.2**
LCR2 La Lucha 2 3.84 133 *e*P **Pn 16 20 47.0 +1.5**
PIRO Carate, Puerto 5.27 139 P **Pn 16 21 05.4 +1.5**
TEIG Tepich 7.89 350 Pn **Pn 16 21 39.8 +1.0**
CMIG Matias Romero 9.07 302 S **Sn 16 23 26.6 -8.6**
comp=Z,1.9nm,0.4s,baz=330,slow=17,SNR=4.1
SDV Santo Domingo 16.30 101 P **P 16 23 28.6 +1.2**
comp=Z,1.5nm,0.3s,baz=280,slow=7.1,SNR=4.1
656A Willston 17.34 13 P **Pn 16 23 40.0 +0.6**
656A IAmb IAmb 16 23 41.1
comp=Z,24nm,0.9s
553A Crawfordville 17.83 7 Pn **Pn 16 23 46.7 +1.5**
553A IAmb IAmb 16 24 29.9
comp=Z,30nm,0.9s
DR12 Loma Pena Alta 17.96 67 P **Pn 16 23 46.5 -0.5**
DR12 IAmb IAmb 16 24 12.6
comp=Z,24nm,1.2s
BAUV El Baul 18.79 99 P **P 16 23 54.2 -0.2**
BAUV IAmb IAmb 16 23 56.3
comp=Z,31nm,1.4s
352A Blakely 19.06 5 P **Pn 16 23 59.1 -0.5**
TIGA Tifton 19.17 8 P **P 16 23 59.2 +0.9**
152A Waverly Hall 20.25 5 P **P 16 24 11.6 +1.6**
152A IAmb IAmb 16 24 14.8
comp=Z,29nm,1.3s

OBIP Obispado Ponce 20.30 72 P **P 16 24 11.4 +0.8**
OBIP IAmb IAmb 16 24 43.2
comp=Z,32nm,1.4s
LRAL Lakeview Retre 20.53 360 **P 16 24 14.7 +1.8**
LRAL IAmb IAmb 16 24 17.4
comp=Z,15nm,1.2s
GOGA Godfrey 21.13 8 P **P 16 24 20.5 +1.2**
GOGA IAmb IAmb 16 24 22.8
comp=Z,18nm,0.8s
DRIO Del Rio 21.23 325 P **P 16 24 21.7 +1.2**
Y49A Blount Mountai 21.35 1 P **P 16 24 22.9 +1.2**
Y49A IAmb IAmb 16 24 23.6
comp=Z,14nm,0.6s
Y52A Lilburn 21.50 6 P **P 16 24 24.6 +1.2**
WHTX Lake Whitney, 21.80 335 P **P 16 24 27.3 +0.9**
WHTX IAmb IAmb 16 24 28.3
comp=Z,11nm,0.6s
BRDY Brady 21.88 331 P **P 16 24 27.2 -0.1**
PCRV Puerto La Cruz 21.88 94 P **P 16 24 26.7 -0.9**
comp=Z,15nm,0.8s,baz=241,slow=4.0,SNR=7.5
comp=Z,15nm,0.8s
FPAL Fort Paine 22.05 3 P **P 16 24 29.9 +0.8**
HODGE Hodges 22.11 10 P **P 16 24 30.7 +1.1**
HODGE IAmb IAmb 16 24 31.9
comp=Z,14nm,1.1s
X51A Calhoun 22.13 4 P **P 16 24 31.2 +1.5**
X51A IAmb IAmb 16 24 32.8
comp=Z,13nm,1.1s
FW07 Weatherford 22.55 335 IAmb IAmb 16 24 35.1
comp=Z,21nm,0.8s
SWET Sewanee 22.72 2 P **P 16 24 36.5 +1.1**
SWET IAmb IAmb 16 24 37.1
comp=Z,8.8nm,0.4s
BG3 Lake Jocassee 22.76 8 IAmb IAmb 16 24 38.1
comp=Z,19nm,0.7s
PAULI Pauline 22.77 11 IAmb IAmb 16 24 38.1
comp=Z,15nm,0.9s
PLPT Palo Pinto 22.87 334 P **P 16 24 36.8 0.0**
PLPT IAmb IAmb 16 24 38.8
comp=Z,14nm,0.8s
MIAR Mount Ida 22.87 346 P **P 16 24 36.9 +0.1**
BIRD Birdtown, Kers 22.88 14 IAmb IAmb 16 24 39.2
comp=Z,18nm,0.8s
TXAR Lajitas Array 22.99 320 P **P 16 24 38.7 +0.6**
TXAR Lajitas Array 22.99 320 P **P 16 24 39.0 +0.9**
comp=Z,4.0nm,0.6s,baz=142,slow=10,SNR=43
comp=Z,4.0nm,0.6s
TX31 Lajitas Ar. Si 22.99 320 P **P 16 24 39.1 +1.0**
CPCT Cooper Cave 23.03 5 P **P 16 24 39.1 +0.9**
ABTX Abilene, Hawle 23.29 332 IAmb IAmb 16 24 42.0
comp=Z,8.2nm,0.5s
V53A Saluda 23.44 8 IAmb IAmb 16 24 45.5
comp=Z,20nm,1.3s
W57A Gilead 23.47 14 IAmb IAmb 16 24 43.9
comp=Z,10.0nm,0.7s
CLTN Cedars of Leba 23.58 1 IAmb IAmb 16 24 46.0
comp=Z,11nm,0.6s
ALPN Alpine 23.70 322 P **P 16 24 45.3 +0.8**
APMT Aspermont 24.10 332 P **P 16 24 49.4 +1.3**
APMT IAmb IAmb 16 24 50.4
comp=Z,10nm,0.7s
TZTN Tazewell 24.21 6 IAmb IAmb 16 24 52.9
comp=Z,11nm,0.8s
U54A Nelsons Funny 24.42 10 IAmb IAmb 16 24 55.1
comp=Z,14nm,0.6s
POST Post 24.55 329 IAmb IAmb 16 24 54.1
comp=Z,7.6nm,0.6s
OK031 S. Brethren Rd 25.12 341 IAmb IAmb 16 24 57.5
comp=Z,15nm,0.7s
S51A Beattyville 25.29 6 IAmb IAmb 16 25 00.2
comp=Z,6.0nm,0.6s
SMWD Samnrood 25.65 334 IAmb IAmb 16 25 05.8
comp=Z,13nm,0.8s
MSTX Muleshoe 25.91 329 IAmb IAmb 16 25 07.8
comp=Z,8.2nm,1.0s
Q56A Snyder Ridge, 27.38 13 IAmb IAmb 16 25 20.3
comp=Z,7.5nm,0.7s
X16A Lo Mia Camp, P 31.30 319 P **P 16 25 53.9 +1.4**
PV11 David Mesa, Pa 32.40 327 IAmb IAmb 16 26 04.0
comp=Z,6.8nm,0.6s
PV10 Paradox Valley 32.55 326 IAmb IAmb 16 26 10.3
comp=Z,8.2nm,0.9s
SRU San Rafael Swe 33.88 326 IAmb IAmb 16 26 16.5
comp=Z,3.0nm,0.5s
F33A 5 Mile Ranch, 34.27 348 IAmb IAmb 16 26 17.2
comp=Z,6.9nm,0.6s
PDAR Pinedale Array 36.09 331 P **P 16 26 34.0 +0.2**
comp=Z,0.5nm,0.6s,baz=134,slow=9.7,SNR=8.1
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 38.13 318 P **P 16 26 51.5 +0.5**
comp=Z,0.5nm,0.6s,baz=93,slow=5.6,SNR=2.7
comp=Z,0.5nm,0.6s
YHB Horse Butte 38.37 332 IAmb IAmb 16 27 28.7
comp=Z,7.5nm,1.1s
ULM Lac du Bonnet 38.45 351 P **P 16 26 51.4 -1.9**
comp=Z,3.0nm,0.5s,baz=164,slow=9.7,SNR=9.4
comp=Z,3.0nm,0.5s
SCHQ Schefferville 45.14 16 P **P 16 27 45.8 -1.8**
comp=Z,1.4nm,0.4s,baz=224,slow=4.8,SNR=5.5
comp=Z,1.4nm,0.4s
YKA Yellowknife Ar 53.80 344 P **P 16 28 52.1 -0.9**
comp=Z,0.5nm,0.7s,baz=147,slow=7.1,SNR=7.7
comp=Z,0.5nm,0.7s
PLCA Paso Flores 54.99 165 P **P 16 29 02.8 +0.9**
comp=Z,1.8nm,0.7s,baz=334,slow=8.7,SNR=13
comp=Z,1.8nm,0.7s
ILAR Eielson Array 66.30 336 P **P 16 30 16.9 -1.2**
comp=Z,0.1nm,0.4s,baz=120,slow=6.0,SNR=5.1
comp=Z,0.1nm,0.4s
ESDC Sonseca Array 76.74 52 P **P 16 31 18.9 -2.3**
comp=Z,0.5nm,0.7s,baz=272,slow=5.0,SNR=4.8
comp=Z,0.5nm,0.7s
ELIB Princess Elisa 107.94 162 *d*PKiKP **PKiKP 16 37 57.7 +2.4**
STKA Stephens Creek 131.59 238 PKP **PKiKP 16 38 42.2 -0.3**
comp=Z,4.4nm,1.0s,baz=126,slow=5.4,SNR=4.3
ASAR Alice Springs 139.81 248 PKhKP PKPpre 16 38 48.7
comp=Z,0.7nm,0.8s,baz=111,slow=3.8,SNR=12
ASAR PKP **PKPdf 16 38 57.7 +0.6**
comp=Z,1.4nm,0.7s,baz=100,slow=1.6,SNR=16
WRA Warramunga Arr 139.84 254 PKhKP PKPpre 16 38 49.5
comp=Z,1.6nm,0.7s,baz=91,slow=3.2,SNR=4.9
WRA PKP **PKPdf 16 38 57.8 +0.6**
comp=Z,2.8nm,0.6s,baz=91,slow=2.2,SNR=30
PZH PanZhiHua 140.43 348 PKP **PKPdf 16 38 58.8 +0.5**

IDC ***24*** *16:21:13.8±0.6,3.01S×38.25E,h0km,mb4.2/25, mbtmp4.2/28,ML4.6/2,MS3.9/34,Error ellipse: s-maj=17.6km s-min=11.5km az=71.0*
NEIC ***24*** *16:21:15.5±1.0,3.07S±0.04×38.16E±0.08,h10km±1km, mb4.7/31,Error ellipse: s-maj=13.3km s-min=6.0km az=266.0*
GCMT ***24*** *16:21:18.5±0.3,3.14S±0.02×38.30E±0.02,h24km±2km, MW4.8/87,Moment Tensor Solution. s18,c18; s87,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.08±.13; Mθθ0.43±.09; Mφφ-0.35±.12; Mrθ0.29±.12; Mθφ-1.74±.08; Mφr0.17±.14; Best double couple: M0 1.81700×10^16 NP1:φs173.00000°,δ80.00000°,λ-5.00000°. NP2: φs264.00000°,δ85.00000°,λ-170.00000°. Principal axes: T 1.8290, Plg4.0000°, Azm38.0000°; N -0.0250, Plg79.0000°, Azm289.0000°; P -1.8040, Plg10.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 16:21:15.5±0.4,3.06S±0.05×38.15E±0.08,h10km,n132,
σ1.27/111,mb4.6/58,MS4.0/32,1C-5D,Kenya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIBK	**Kibwezi**	**0.72**	**352**		**Pg**	**16 21 28.9**	**-0.6**
KIBK				Sg	**Sg**	**16 21 38.8**	**-0.2**
KMBO	**Kilima Mbogo**	**2.12**	**335**		**Pn**	**16 21 52.1**	**+0.9**
KMBO	**Kilima Mbogo**	**2.12**	**335**	Pg	**Pn**	**16 21 52.4**	**+1.1**
	943nm,0.3s,baz=145,slow=16,SNR=1849						
KMBO				Lg	Lg	16 22 20.4	
	8μm,0.3s,baz=237,slow=23,SNR=60						
I32KE	**NAIROBI INFRAS**	**2.24**	**324**	Pg	**Pn**	**16 21 53.9**	**+1.0**
	baz=124,slow=31						
LODK	**Lodwar**	**7.02**	**337**	Pn	**Pn**	**16 22 58.5**	**0.0**
MBAR	**Mbarara**	**7.80**	**288**	Pn	**Pn**	**16 23 09.4**	**+0.1**
ATD	**Arta Tunnel**	**15.23**	**18**		**Pn**	**16 24 49.2**	**-1.7**
ATD				IAmb	IAmb	16 25 01.7	
	comp=Z,48nm,1.0s						
ATD	**Arta Tunnel**	**15.23**	**18**	Pn	**Pn**	**16 24 49.3**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=210,slow=3.3,SNR=7.3						
ATD				Sn	**Sn**	**16 27 42.9**	**+3.2**
	baz=292,slow=21,SNR=2.1						
ATD				Lg	Lg	16 29 07.5	
	comp=Z,0.1nm,0.3s,baz=31,slow=20,SNR=4.7						
LSZ	**Lusaka**	**15.61**	**218**	Pn	**Pn**	**16 24 54.4**	**-1.5**
LSZ	**Lusaka**	**15.61**	**218**	Pn	**Pn**	**16 24 54.8**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=43,slow=11,SNR=22						
LSZ				Sn	**Sn**	**16 27 50.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=123,slow=22,SNR=1.5						
LSZ				Lg	Lg	16 29 19.3	
	comp=Z,3.8nm,0.3s,baz=124,slow=21,SNR=14						
LSZ				LR	LR	16 31 28.0	
	comp=Z,107nm,19.2s,baz=56,slow=39						
	comp=Z,14nm,0.7s						
OPO	**Ambohidratompo**	**17.77**	**151**	P	**Pn**	**16 25 23.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=333,slow=12,SNR=6.1						
OPO				S	Sn	16 28 26.4	-15
	comp=Z,1.6nm,0.4s,baz=215,slow=21,SNR=1.4						
OPO				LR	LR	16 32 07.3	
	comp=Z,234nm,18.3s,baz=170,slow=37						
	comp=Z,7.2nm,0.7s						
ABPO	**Ambohimpanom**	**18.18**	**151**	P	**Pn**	**16 25 27.6**	**-0.7**
LBTB	**Lobatse**	**24.95**	**208**	P	**P**	**16 26 39.1**	**-0.2**
LBTB				IAmb	IAmb	16 27 06.2	
	comp=Z,14nm,0.9s						
TSUM	**Tsumeb**	**25.72**	**230**	LR	LR	16 37 18.9	
	comp=Z,329nm,19.3s,baz=48,slow=37						
BOSA	**Boshof**	**28.22**	**205**	P	**P**	**16 27 08.6**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=24,slow=8.9,SNR=7.0						
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**39.61**	**295**	P	**P**	**16 28 44.4**	**-3.2**
TORD	**Torodi Ar. Bea**	**39.61**	**295**	P	**P**	**16 28 49.0**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=110,slow=8.3,SNR=4.2						
	comp=Z,1.3nm,0.4s						
BR104	**Keskin Array S**	**42.76**	**355**	P	**P**	**16 29 14.9**	**+1.6**
	comp=Z,4.5nm,0.9s						
BR105	**Keskin Array S**	**42.77**	**355**	P	**P**	**16 29 14.9**	**+1.5**
	comp=Z,4.1nm,0.8s						
BRTR	**Keskin Array B**	**42.78**	**355**	P	**P**	**16 29 12.8**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=178,slow=11,SNR=9.2						
	comp=Z,2.4nm,1.0s						
BR131	**Keskin Array S**	**42.78**	**355**	P	**P**	**16 29 13.2**	**-0.2**
BR106	**Keskin Array S**	**42.79**	**355**	P	**P**	**16 29 15.3**	**+1.8**
	comp=Z,4.0nm,1.1s						
KOPT	**Kop Dagi**	**42.92**	**3**	P	**P**	**16 29 14.2**	**-0.6**
GNI	**Garni**	**43.42**	**7**	LR	LR	16 46 46.3	
	comp=Z,144nm,20.1s,baz=198,slow=35						
HRA	**Herat**	**43.61**	**29**	P	**P**	**16 29 19.4**	**-1.0**
HRA				IAmb	IAmb	16 29 20.9	
	comp=Z,14nm,0.9s						
DBIC	**Dimbokro**	**44.01**	**283**	LR	LR	16 47 01.6	
	comp=Z,140nm,20.7s,baz=98,slow=35						
VAE	**Valguarnera**	**45.97**	**334**	LR	LR	16 49 01.5	
	comp=Z,283nm,18.6s,baz=120,slow=36						
KBZ	**Khabaz**	**46.77**	**5**	P	**P**	**16 29 45.3**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=130,slow=11,SNR=5.1						
	comp=Z,2.7nm,0.9s						
KIV	**Kislovodsk**	**46.98**	**4**	P	**P**	**16 29 47.4**	**+0.6**
	comp=Z,7.0nm,0.9s						
KEST	**Kesra**	**47.07**	**328**	P	**P**	**16 29 48.1**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=240,slow=7.3,SNR=3.5						
KEST				LR	LR	16 51 46.4	
	comp=Z,298nm,18.3s,baz=304,slow=39						
	comp=Z,2.2nm,1.0s						
TIR	**Tirane**	**47.24**	**341**	P	**P**	**16 29 47.0**	**-1.8**
	comp=Z,22nm,1.5s						
MLR	**Muntele Rosu**	**49.55**	**349**	P	**P**	**16 30 05.2**	**-1.5**
	comp=Z,3.5nm,1.6s						
SIMJ	**Simiganj**	**50.35**	**31**	P	**P**	**16 30 12.3**	**-0.6**
SIMJ				IAmb	IAmb	16 30 13.8	
	comp=Z,15nm,1.0s						
CHGR	**Chuyangaron**	**50.42**	**32**	P	**P**	**16 30 13.0**	**-0.4**
SORM	**Soroca**	**51.70**	**352**	P	**P**	**16 30 23.0**	**+0.3**
	comp=Z,17nm,1.1s						
BTK	**Batken**	**52.32**	**32**	IAmb	IAmb	16 30 29.1	
	comp=Z,9.2nm,1.1s						
KMPD	**K-Podol'skiy**	**52.41**	**350**	P	**P**	**16 30 28.2**	**+0.2**
DRK	**Karamyk**	**52.43**	**33**	P	**P**	**16 30 28.2**	**-0.5**
DRK				IAmb	IAmb	16 30 30.5	
	comp=Z,20nm,1.1s						
BERU	**Beregovo**	**52.85**	**347**	P	**P**	**16 30 31.0**	**-0.2**
KHAM	**Kharkiv**	**52.88**	**358**	P	**P**	**16 30 32.6**	**+1.1**
AK07	**Malin Array Si**	**53.95**	**353**	P	**P**	**16 30 39.4**	**+0.1**
AK10	**Malin Array Si**	**53.99**	**353**	P	**P**	**16 30 40.1**	**+0.5**
AK09	**Malin Array Si**	**54.01**	**353**	P	**P**	**16 30 39.9**	**+0.2**
AK14	**Malin Array Si**	**54.04**	**353**	P	**P**	**16 30 40.3**	**+0.3**
AK12	**Malin Array Si**	**54.05**	**353**	P	**P**	**16 30 40.1**	**+0.1**
AK02	**Malin Array Si**	**54.06**	**353**	P	**P**	**16 30 40.4**	**+0.3**
RONA	**Rosalia, Austr**	**54.06**	**342**	*i* P	**P**	**16 30 41.2**	**+0.9**
	comp=Z,0.2nm,0.2s						
AK16	**Malin Array Si**	**54.08**	**353**	P	**P**	**16 30 39.9**	**-0.4**
AK11	**Malin Array Si**	**54.08**	**353**	P	**P**	**16 30 40.1**	**-0.2**
AK01	**Malin Array Si**	**54.09**	**353**	P	**P**	**16 30 39.6**	**-0.7**
AKASG	**Malin Array Be**	**54.10**	**353**	P	**P**	**16 30 40.7**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=174,slow=6.2,SNR=12						
AKASG				LR	LR	16 54 13.1	
	comp=Z,117nm,18.5s,baz=175,slow=37						
	comp=Z,2.0nm,0.7s						
AK17	**Malin Array Si**	**54.10**	**353**	P	**P**	**16 30 40.7**	**+0.3**
AK20	**Malin Array Si**	**54.17**	**353**	P	**P**	**16 30 40.7**	**-0.2**
ARSB	**Arslanbob**	**54.38**	**32**	IAmb	IAmb	16 30 43.1	
	comp=Z,5.6nm,0.9s						
CONA	**Conrad Observa**	**54.40**	**342**	*e*P	**P**	**16 30 43.8**	**+1.1**
	comp=Z,0.2nm,0.3s						
KK31	**Karatay Array**	**54.43**	**29**	IAmb	IAmb	16 30 44.1	
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**54.43**	**29**	P	**P**	**16 30 42.3**	**-0.7**
KKAR	**Karatay Array**	**54.43**	**29**	IAmb	IAmb	16 30 44.1	
	comp=Z,3.8nm,0.8s						
LANS	**Liptovska Anna**	**54.47**	**345**	*e*P	**P**	**16 30 45.5**	**+2.3**
LANS				*e*		16 30 51.7	
KSH	**Kashi**	**54.79**	**35**	P	**P**	**16 30 41.8**	**-4.0**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RNPP5	**Staryi Chortor**	**55.09**	**351**	P	**P**	**16 30 48.3**	**+0.7**
AML	**Almayashu**	**55.32**	**32**	P	**P**	**16 30 49.9**	**-0.1**
	SNR=10						
FETA	**Feichten**	**55.41**	**337**	*e*P	**P**	**16 30 51.0**	**+0.8**
	comp=Z,0.7nm,0.4s						
VRAC	**Vranov**	**55.41**	**343**	LR	LR	16 55 22.7	
	comp=Z,86nm,18.6s,baz=342,slow=37						
ABKAR	**Akbulak array**	**55.43**	**17**	P	**P**	**16 30 48.8**	**-1.3**
ABKAR	**Akbulak array**	**55.43**	**17**	IAmb	IAmb	16 30 49.5	
	comp=Z,3.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**55.54**	**337**	P	**P**	**16 30 49.5**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=11,slow=12,SNR=3.7						
DAVOX				LR	LR	16 56 29.4	
	comp=Z,138nm,18.0s,baz=92,slow=38						
	comp=Z,0.9nm,0.6s						
GERES	**GERESS Array B**	**55.90**	**341**	P	**P**	**16 30 52.9**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=148,slow=6.6,SNR=8.8						
	comp=Z,1.2nm,0.9s						
AKTO	**Aktyubinsk**	**55.

BRVK	**Borovoye**	**62.09**	**21**	P	**P**	**16 31 34.9**	**-1.4**
BRVK				IAmb	IAmb	16 31 36.4	
	comp=Z,5.0nm,1.1s						
BVAR	**Borovoye Array**	**62.10**	**21**	P	**P**	**16 31 35.5**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=204,slow=3.3,SNR=13						
	comp=Z,3.4nm,0.9s						
KIRV	**Kirov**	**62.11**	**7**	LR	LR	17 03 38.0	
	comp=Z,115nm,18.8s,baz=195,slow=41						
MAKZ	**Makanchi**	**62.85**	**32**	P	**P**	**16 31 40.6**	**-1.1**
MK31	**Makanchi Array**	**63.01**	**32**	IAmb	IAmb	16 31 42.7	
	comp=Z,7.4nm,0.8s						
MKAR	**Makanchi Array**	**63.01**	**32**	P	**P**	**16 31 41.4**	**-1.3**
MKAR	**Makanchi Array**	**63.01**	**32**	P	**P**	**16 31 41.7**	**-1.0**
	comp=Z,7.5nm,0.8s,baz=229,slow=6.6,SNR=70						
MKAR				LR	LR	17 00 21.8	
	comp=Z,106nm,18.1s,baz=260,slow=37						
	comp=Z,7.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.52**	**68**	P	**P**	**16 31 45.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**63.52**	**68**	P	**P**	**16 31 45.9**	**-0.7**
	comp=Z,5.1nm,0.8s,baz=257,slow=7.9,SNR=47						
CMAR				LR	LR	16 57 51.3	
	comp=Z,13nm,19.4s,baz=270,slow=35						
	comp=Z,5.1nm,0.8s						
CHTO	**Chiang Mai**	**63.60**	**67**	P	**P**	**16 31 46.0**	**-1.2**
CHTO				IAmb	IAmb	16 31 47.0	
	comp=Z,4.7nm,0.9s						
KURBB	**Kurchatov Arra**	**63.66**	**27**	P	**P**	**16 31 46.1**	**-0.7**
	comp=Z,6.3nm,1.0s,baz=229,slow=7.4,SNR=34						
	comp=Z,6.3nm,1.0s						
KURK	**Kurchatov**	**63.77**	**27**	P	**P**	**16 31 46.6**	**-0.9**
WMQ	**Urumqi**	**64.38**	**38**	*eP*	**P**	**16 31 51.9**	**0.0**
WMQ				pmax	pmax		
	comp=Z,21nm,1.1s						
FINES	**FINESS Array B**	**65.00**	**354**	P	**P**	**16 31 54.7**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=144,slow=6.8,SNR=5.0						
	comp=Z,3.4nm,0.8s						
GOMU	**GeErMu**	**65.62**	**48**	P	**P**	**16 32 00.8**	**+0.3**
GOMU				pP	sP	16 32 05.0	-0.3
GOMU				sP	pP	16 32 07.5	+3.5
GOMU				PcP	**PcP**	**16 32 35.5**	**+3.5**
GOMU				pmax	pmax		
	comp=Z,35nm,0.8s						
SYO	**Syowa Base**	**65.85**	**179**	‖*eP*	**P**	**16 32 02.0**	**+1.2**
SYO	**Syowa Base**	**65.85**	**179**	‖*e*PcP	**PcP**	**16 32 30.0**	**-1.7**
HFS	**Hagfors**	**65.86**	**347**	P	**P**	**16 32 01.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=134,slow=10,SNR=6.2						
HFS				LR	LR	17 02 27.7	
	comp=Z,60nm,18.2s,baz=1.5,slow=38						
	comp=Z,1.8nm,0.6s						
NOA	**NORSAR Array B**	**67.24**	**346**	P	**P**	**16 32 09.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=150,slow=5.9,SNR=2.7						
NOA				LR	LR	17 03 56.0	
	comp=Z,52nm,18.3s,baz=35,slow=38						
	comp=Z,0.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**67.35**	**336**	P	**P**	**16 32 10.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=137,slow=8.5,SNR=1.6						
	comp=Z,1.1nm,0.6s						
PZH	**PanZhiHua**	**68.01**	**60**	P	**P**	**16 32 16.9**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,6.8s						
ZAA0	**Zalesovo Array**	**68.76**	**27**	IAmb	IAmb	16 32 19.1	
	comp=Z,5.8nm,0.9s						
ZALV	**Zalesovo Beam**	**68.76**	**27**	P	**P**	**16 32 17.4**	**-2.1**
ZALV	**Zalesovo Beam**	**68.76**	**27**	P	**P**	**16 32 18.2**	**-1.3**
	comp=Z,4.7nm,0.9s,baz=241,slow=4.9,SNR=17						
ZALV				PP	**PP**	**16 34 49.8**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=247,slow=7.6,SNR=4.3						
	comp=Z,4.7nm,0.9s						
GTA	**Gaotai**	**70.51**	**46**	P	**P**	**16 32 30.1**	**-0.7**
GTA				pP	pP	16 32 33.4	-0.9
GTA				sP	sP	16 32 36.5	+0.9
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARCES	**ARCESS Array B**	**72.96**	**355**	P	**P**	**16 32 43.2**	**-1.6**
	comp=Z,9.0nm,1.1s,baz=177,slow=8.7,SNR=3.5						
	comp=Z,9.0nm,1.1s						
SNAA	**Sanae**	**73.21**	**193**	P	**P**	**16 32 47.1**	**+0.7**
	comp=Z,1.6nm,1.0s,baz=236,slow=18,SNR=1.5						
	comp=Z,1.6nm,1.0s						
XAN	**Xi'an**	**75.90**	**54**	P	**P**	**16 33 06.5**	**+3.8**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**77.87**	**40**	P	**P**	**16 33 13.6**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=244,slow=4.9,SNR=11						
SONM				PP	**PP**	**16 36 07.2**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=258,slow=6.9,SNR=3.7						
SONM				LR	LR	17 11 50.8	
	comp=Z,71nm,19.6s,baz=303,slow=39						
	comp=Z,1.7nm,0.9s						
HHC	**Hu-ho-hao-te**	**79.53**	**48**	*eP*	**P**	**16 33 23.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
NRIK	**Noril'sk**	**79.57**	**16**	P	**P**	**16 33 22.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=162,slow=11,SNR=3.7						
NRIK				LR	LR	17 13 05.1	
	comp=Z,157nm,18.2s,baz=260,slow=39						
	comp=Z,1.4nm,0.7s						
HNS	**HongShan**	**81.21**	**52**	‖*eP*	**P**	**16 33 33.0**	**+1.1**
HNS				pmax	pmax		
	comp=Z,11nm,1.2s						
KAPI	**Kappang**	**81.38**	**95**	LR	LR	17 03 28.4	
	comp=Z,43nm,21.7s,baz=252,slow=31						
XLT	**XiLinHaoTe**	**83.44**	**45**	*eP*	**P**	**16 33 44.1**	**+0.6**
XLT				sP	sP	16 33 52.0	+3.7
XLT				PP	**PP**	**16 36 59.0**	**+3.4**
XLT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NJ2	**Nanjing**	**83.74**	**57**	*eP*	**P**	**16 33 47.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**86.67**	**108**	LR	LR	17 14 33.9	
	comp=Z,51nm,18.1s,baz=184,slow=37						
QSPA	**South Pole Qui**	**86.98**	**180**	P	**P**	**16 34 01.7**	**+0.9**
	comp=Z,4.3nm,1.0s,baz=254,slow=4.2,SNR=4.6						
QSPA				LR	LR	17 09 59.6	
	comp=Z,92nm,20.0s,baz=257,slow=34						
	comp=Z,4.3nm,1.0s						
TIXI	**Tiksi**	**93.11**	**18**	LR	LR	17 22 30.0	
	comp=Z,116nm,18.4s,baz=333,slow=40						
YAK	**Yakutsk**	**93.40**	**28**	LR	LR	17 20 44.4	
	comp=Z,93nm,18.1s,baz=278,slow=38						
VNDA	**Vanda**	**93.94**	**170**	LR	LR	17 12 48.1	
	comp=Z,78nm,20.4s,baz=234,slow=33						
ASAR	**Alice Springs**	**94.05**	**114**	P	**P**	**16 34 34.5**	**-0.3**
	comp=Z,1.0nm,1.1s,baz=256,slow=6.3,SNR=1.5						
ASAR				LR	LR	17 13 58.5	
	comp=Z,75nm,18.1s,baz=232,slow=34						
	comp=Z,1.0nm,1.1s						
KLR	**Kul'dur**	**94.65**	**41**	LR	LR	17 21 14.8	
	comp=Z,51nm,18.2s,baz=319,slow=38						
WRA	**Warramunga Arr**	**94.78**	**110**	P	**P**	**16 34 37.4**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=267,slow=2.6,SNR=2.7						
	comp=Z,0.6nm,0.8s						
SIV	**San Ignacio**	**98.01**	**253**	LR	LR	17 14 40.8	
	comp=Z,56nm,20.6s,baz=110,slow=33						
STKA	**Stephens Creek**	**99.77**	**123**	LR	LR	17 14 04.4	
	comp=Z,70nm,18.0s,baz=207,slow=32						
MJAR	**Matsushiro Arr**	**99.90**	**54**	LR	LR	17 23 43.4	
	comp=Z,44nm,18.0s,baz=332,slow=38						

IDC 24 17:07:39.5±8.8, 4°.28S×146°.39E, h0km, mb3.0/2, mbtmp3.0/3, ML2.9/1, Error ellipse: s-maj=288.0km s-min=36.7km az=99.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**216**	P	P	17 12 08.7	+0.2
	baz=44,slow=9.4,SNR=1.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**22.73**	**211**	P	P	17 12 43.3	-0.1
	0.2nm,0.8s,baz=39,slow=9.6,SNR=5.5						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**75.79**	**320**	P	P	17 19 27.5	0.0
	0.1nm,0.5s,baz=107,slow=7.2,SNR=1.7						
	0.1nm,0.5s						

*NEIC **24** 17:30:30.7±1.9, 18°.65S±0°.06×69°.41W±0°.09, h135km±8km, mb4.3/9, Error ellipse: s-maj=12.5km s-min=7.9km az=103.0*
*SJA **24** 17:30:30.2±0.6, 18°.68S×69°.36W, h131km±5km, ML4.0, MW4.0*
*GUC **24** 17:30:32.0±0.6, 18°.67S×69°.33W, h122km±2km, ML4.1*
*VAO **24** 17:30:32.7±0.5, 18°.51S×69°.14W, h138km, mb4.2*

*IDC **24** 17:30:32.2±0.8, 18°.64S×69°.06W, h131km±6km, mb3.8/11, mbtmp4.2/14, Error ellipse: s-maj=15.0km s-min=10.9km az=110.0*

ISC 24 17:30:30.3±0.5, 18°.67S±0°.03×69°.24W±0°.05, h122km±5km, n123, σ1s75/138, mb4.0/13, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.42**	**322**		**Pn**	**17 30 48.5**	**-0.3**
PX02	**IPOC Station P**	**0.96**	**252**	*eP*	**Pn**	**17 30 51.5**	**-0.7**
PX02				*i* S	**Sn**	**17 31 06.8**	**-2.0**
PX02				IAML		17 31 08.5	
	comp=N,3μm,0.3s						
PB12	**IPOC Station P**	**1.04**	**273**		**Pn**	**17 30 51.9**	**-1.1**
PB12	**IPOC Station P**	**1.04**	**273**	↑*i*P	**Pn**	**17 30 52.9**	**-0.1**
PB12				*i* S	**Sn**	**17 31 09.2**	**-0.9**
PB12				IAML		17 31 10.2	
	comp=N,5μm,0.3s						
AP01	**Chacalluta**	**1.09**	**286**		**Pn**	**17 30 53.3**	**-0.1**
AP01	**Chacalluta**	**1.09**	**286**	↑*i*P	**Pn**	**17 30 53.6**	**+0.2**
AP01				*i* S	**Sn**	**17 31 10.4**	**-0.5**
AP01	**Chacalluta**	**1.09**	**286**	*eP*	**Pn**	**17 30 53.5**	**+0.1**
AP01				*e*S	**Sn**	**17 31 11.0**	**+0.1**
AP01				IAML		17 31 13.7	
	comp=Z,7μm,0.2s						
PB18	**Visviri**	**1.10**	**348**		**Pn**	**17 30 55.6**	**+1.4**
PB18	**Visviri**	**1.10**	**348**	↓*i*P	**Pn**	**17 30 55.8**	**+1.7**
PB11	**IPOC Station P**	**1.15**	**200**		**Pn**	**17 30 55.3**	**+1.0**
PB11	**IPOC Station P**	**1.15**	**200**	↑*i*P	**Pn**	**17 30 55.2**	**+1.0**
PB11				*i* S	**Sn**	**17 31 13.2**	**+0.8**
PB11				IAML		17 31 14.4	
	comp=E,8μm,0.4s						
PB11	**IPOC Station P**	**1.15**	**200**	*eP*	**Pn**	**17 30 55.2**	**+1.0**
PB11				*e*S	**Sn**	**17 31 13.6**	**+1.2**
PB11				IAML		17 31 14.2	
	comp=Z,3μm,0.7s						
PB08	**IPOC Station P**	**1.46**	**177**		**Pn**	**17 30 59.9**	**+2.0**
HMBC	**Humberstone**	**1.71**	**201**		**Pn**	**17 31 01.2**	**+0.8**
HMBC	**Humberstone**	**1.71**	**201**	*eP*	**Pn**	**17 31 01.3**	**+0.8**
HMBC				*i* S	**Sn**	**17 31 23.9**	**+0.4**
HMBC				IAML		17 31 26.5	
	comp=N,2μm,0.4s						
HMBC	**Humberstone**	**1.71**	**201**	*eP*	**Pn**	**17 31 01.3**	**+0.8**
HMBC				*e*S	**Sn**	**17 31 24.3**	**+0.8**
HMBC				IAML		17 31 31.0	
	comp=Z,2μm,0.3s						
TA02	**Huaiquique**	**1.80**	**208**	*eP*	**Pn**	**17 31 02.5**	**+1.1**
TA02				*e*S	**Sn**	**17 31 25.9**	**+0.7**
TA02				IAML		17 31 30.5	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**2.08**	**205**		**Pn**	**17 31 05.4**	**+0.5**
TA01	**Diego Aracena**	**2.08**	**205**	*eP*	**Pn**	**17 31 05.4**	**+0.5**
TA01				*i* S	**Sn**	**17 31 29.6**	**-1.8**
TA01				IAML		17 31 37.9	
	comp=E,1μm,0.3s						
TA01	**Diego Aracena**	**2.08**	**205**	*eP*	**Pn**	**17 31 05.3**	**+0.5**
TA01				*e*S	Sn	17 31 15.1	-16
TA01				IAML		17 31 38.2	
	comp=Z,386nm,0.3s						
PATCX	**Punta Patache**	**2.31**	**202**		**Pn**	**17 31 08.5**	**+0.7**
PATCX	**Punta Patache**	**2.31**	**202**	*eP*	**Pn**	**17 31 08.3**	**+0.6**
PATCX				*i* S	**Sn**	**17 31 34.1**	**-2.4**
PATCX	**Punta Patache**	**2.31**	**202**	*eP*	**Pn**	**17 31 08.5**	**+0.7**
PATCX				*e*S	**Sn**	**17 31 29.2**	**-7.3**
PATCX				IAML		17 31 36.1	
	comp=Z,690nm,0.7s						
PB01	**IPOC Station P**	**2.37**	**186**		**Pn**	**17 31 09.8**	**+1.2**
PB01	**IPOC Station P**	**2.37**	**186**	↓*i*P	**Pn**	**17 31 09.7**	**+1.1**
PB01				*i* S	**Sn**	**17 31 36.7**	**-1.4**
PB01				IAML		17 31 39.8	
	comp=N,744nm,0.1s						
PB01	**IPOC Station P**	**2.37**	**186**	*eP*	**Pn**	**17 31 10.0**	**+1.4**
PB01				*e*S	**Sn**	**17 31 38.8**	**+0.8**
PB01				IAML		17 31 41.0	
	comp=Z,484nm,0.2s						
LPAZ	**La Paz**	**2.60**	**24**	P	**Pn**	**17 31 14.0**	**+2.0**
	comp=Z,96nm,0.3s,baz=182,slow=3.4,SNR=675						
LPAZ				S	**Sn**	**17 31 45.6**	**+1.7**
	comp=Z,58nm,0.6s,baz=356,slow=24,SNR=8.1						
LPAZ	**La Paz**	**2.60**	**24**	*eP*	**Pn**	**17 31 14.1**	**+2.0**
LPAZ				*e*S	**Sn**	**17 31 42.1**	**-1.8**
LPAZ	**La Paz**	**2.60**	**24**	*eP*	**Pn**	**17 31 13.7**	**+1.7**
PB09	**IPOC Station P**	**3.11**	**180**		**Pn**	**17 31 20.0**	**+1.8**
PB09	**IPOC Station P**	**3.11**	**180**	*eP*	**Pn**	**17 31 19.9**	**+1.7**
PB09				*i* S	**Sn**	**17 31 49.6**	**-5.6**
PB09				IAML		17 32 29.7	
	comp=E,263nm,0.6s						
PB09	**IPOC Station P**	**3.11**	**180**	*eP*	**Pn**	**17 31 20.0**	**+1.8**
PB09				*e*S	Sn	17 31 44.5	-11
PB09				IAML		17 32 26.6	
	comp=Z,292nm,0.7s						
PB03	**IPOC Station P**	**3.39**	**188**	*eP*	**Pn**	**17 31 22.8**	**+0.8**
PB03				*i* S	Sn	17 31 52.7	-9.2
PB03				IAML		17 32 28.2	
	comp=E,301nm,0.6s						
PB03	**IPOC Station P**	**3.39**	**188**	*eP*	**Pn**	**17 31 22.9**	**+0.9**
PB03				*e*S	**Sn**	**17 32 01.1**	**-0.8**
PB03				IAML		17 32 24.0	
	comp=Z,309nm,0.4s						
PB06	**IPOC Station P**	**4.03**	**184**	*eP*	**Pn**	**17 31 31.3**	**+0.9**
PB06				*e*S	Sn	17 32 30.5	+14
PB06				IAML		17 32 41.4	
	comp=Z,140nm,1.2s						
PB05	**IPOC Station P**	**4.26**	**192**	Pn	**Pn**	**17 31 33.4**	**0.0**
PB05	**IPOC Station P**	**4.26**	**192**	*eP*	**Pn**	**17 31 33.4**	**0.0**
PB05				*e*S	**Sn**	**17 32 21.5**	**-0.9**
PB05				IAML		17 32 23.1	
	comp=Z,108nm,0.3s						
YJA	**Yavi**	**4.93**	**136**	*eP*	**Pn**	**17 31 46.5**	**+3.8**
YJA				*e*S	Sn	17 32 53.5	+14
PB14	**IPOC Station P**	**6.02**	**190**	Pn	**Pn**	**17 31 55.7**	**-1.6**
GO02	**Mina Guanaco**	**6.47**	**183**	Pn	**Pn**	**17 32 02.4**	**-0.9**
AC01	**Pan de Azucar**	**7.54**	**189**		**Pn**	**17 32 14.2**	**-3.4**
AC02	**Maricunga**	**8.12**	**179**	Pn	**Pn**	**17 32 25.0**	**-0.9**
SIV	**San Ignacio**	**8.24**	**72**	P	**Pn**	**17 32 25.7**	**-1.4**
	comp=Z,18nm,0.4s,baz=271,slow=9.1,SNR=107						
SIV				S	**Sn**	**17 33 55.5**	**-3.1**
	comp=Z,3.6nm,0.6s,baz=148,slow=23,SNR=1.5						
AC06	**Mina Casimiro**	**8.71**	**187**		**Pn**	**17 32 29.7**	**-3.5**
GO03	**Copiapo**	**8.93**	**186**	Pn	**Pn**	**17 32 33.0**	**-3.3**
NNA	**Nana**	**9.90**	**311**	P	**Pn**	**17 32 51.8**	**+2.4**
	comp=Z,5.1nm,0.3s,baz=117,slow=9.3,SNR=5.1						
NNA				S	**Sn**	**17 34 32.5**	**-6.3**
	comp=Z,4.8nm,0.3s,baz=242,slow=14,SNR=2.4						
PTLB	**Pontes e Lacer**	**10.18**	**73**	Pn	**Pn**	**17 32 52.3**	**-0.8**
LCO	**Las Campanas**	**10.38**	**187**	Pn	**Pn**	**17 32 51.8**	**-4.3**
VILB	**Vilhena**	**10.39**	**58**	Pn	**Pn**	**17 32 54.7**	**-1.3**
VILB	**Vilhena**	**10.39**	**58**	*eP*	**Pn**	**17 32 54.7**	**-1.3**
CO01	**Juntas del Tor**	**11.28**	**184**	Pn	**Pn**	**17 33 05.9**	**-2.2**
GO04	**Tololo Observa**	**11.54**	**187**	Pn	**Pn**	**17 33 07.3**	**-4.2**
BDQN	**Bodoquena, MS**	**11.90**	**101**	*eP*	**Pn**	**17 33 15.8**	**-0.3**
AQDB	**Aquidauana**	**12.88**	**100**	*eP*	**Pn**	**17 33 31.3**	**+2.3**
CFA	**Coronel Fontan**	**12.91**	**176**	P	**Pn**	**17 33 27.6**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=3.4,slow=11,SNR=13						
SALV	**Santo Antonio**	**13.22**	**80**	*eP*	**Pn**	**17 33 34.2**	**+0.8**
PDRB	**Porto dos Gac**	**13.96**	**62**	*eP*	**Pn**	**17 33 42.1**	**-0.8**
AMBA	**Amambai (Brazi**	**13.98**	**110**	*eP*	**Pn**	**17 33 44.3**	**+1.3**
MT02	**Curacav**	**14.63**	**186**	Pn	**Pn**	**17 33 50.3**	**-0.9**
MT08	**Bocatoma Ro**	**14.73**	**183**	P	**P**	**17 33 55.8**	**+0.2**
RPRD	**Ribas do Rio P**	**14.75**	**100**	*eP*	**P**	**17 33 54.8**	**-1.0**
MT03	**Universidad Ad**	**14.80**	**184**	P	**P**	**17 33 59.9**	**+3.6**
MT09	**Talagante**	**15.12**	**186**		**Pn**	**17 33 55.9**	**-1.8**
MT09				IAmb	IAmb	17 34 03.3	
	comp=Z,26nm,0.8s						
CLDB	**Colider**	**15.13**	**61**	*eP*	**Pn**	**17 33 57.8**	**+0.1**
MT01	**Popeta**	**15.24**	**186**	P	**P**	**17 33 59.7**	**-1.3**
TEFE	**Tefe**	**15.73**	**17**	*eP*	**Pn**	**17 34 03.7**	**-1.4**
ARAG	**Araguaiana, MT**	**16.91**	**83**	*eP*	**Pn**	**17 34 20.6**	**+0.9**
H03N1	**Juan Fernandez**	**17.07**	**209**	T	T	17 52 17.9	
	baz=29,slow=72,SNR=18						
H03N2	**Juan Fernandez**	**17.08**	**209**	T	T	17 52 20.7	
	baz=29,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**17.09**	**209**	T	T	17 52 16.7	
	baz=29,slow=72,SNR=12						
MACA	**Manacapuru-AM**	**17.54**	**30**	*eP*	**P**	**17 34 25.8**	**-0.8**
LDASE	**Londrina, Braz**	**17.55**	**109**	*eP*	**Pn**	**17 34 28.7**	**+1.3**
NPGB	**Novo Progresso**	**17.78**	**51**	*eP*	**P**	**17 34 29.0**	**-0.2**
ITRB	**Iturama**	**17.86**	**96**	*eP*	**Pn**	**17 34 31.2**	**+0.1**
ITAB	**Concordia**	**17.89**	**122**	P	**P**	**17 34 30.4**	**0.0**
ITAB				IAmb	IAmb	17 34 36.5	
	comp=Z,9.1nm,1.0s						
ITAB	**Concordia**	**17.89**	**122**	*eP*	**Pn**	**17 34 32.2**	**+0.8**
BI02	**San Fabin de**	**18.01**	**185**	P	**P**	**17 34 30.1**	**-1.6**
CPSB	**Cacapava Do Su**	**18.49**	**132**	*eP*	**Pn**	**17 34 39.1**	**+0.6**
SNDB	**Serra Nova Dou**	**18.53**	**72**	*eP*	**Pn**	**17 34 38.0**	**-1.1**
FRTB	**Fartura**	**18.94**	**108**	*eP*	**P**	**17 34 42.4**	**+0.5**
ITTB	**Itaituba**	**19.40**	**45**	*eP*	**P**	**17 34 45.9**	**-1.0**
BB19B	**Bebedouro**	**19.62**	**100**	*eP*	**P**	**17 34 49.7**	**+0.4**
CNLB	**Canela**	**19.83**	**126**	*eP*	**Pn**	**17 34 52.9**	**-1.4**
IPMB	**Ipameri, GO**	**19.97**	**91**	*eP*	**P**	**17 34 52.9**	**-0.3**
TRQA	**Tornquist**	**20.33**	**163**	P	**P**	**17 34 57.0**	**+0.2**
BDFB	**Brasilia**	**20.50**	**85**	P	**P**	**17 34 58.0**	**-0.9**
	comp=Z,11nm,0.5s,baz=263,slow=10.0,SNR=25						
	comp=Z,11nm,0.5s						
MAJ01	**Sao Joao Batis**	**20.52**	**119**	*eP*	**P**	**17 34 58.9**	**0.0**
VAO	**Valinhos**	**21.25**	**106**	P	**P**	**17 35 04.2**	**-2.6**
VAO				IAmb	IAmb	17 35 17.8	
	comp=Z,8.9nm,1.2s						
VAO	**Valinhos**	**21.25**	**106**	*eP*	**P**	**17 35 05.9**	**-1.0**
PMNB	**Patos De Minas**	**21.61**	**93**	*eP*	**P**	**17 35 10.0**	**-0.7**
PLCA	**Paso Flores**	**22.02**	**183**	P	**P**	**17 35 16.1**	**+1.3**
	comp=Z,4.1nm,0.9s,baz=357,slow=11,SNR=10						
	comp=Z,4.1nm,0.9s						
PLCA	**Paso Flores**	**22.02**	**183**	*eP*	**P**	**17 35 17.9**	**+3.1**
MAL2	**Monte Alegre,**	**22.17**	**43**	P	**P**	**17 35 14.1**	**-2.4**
MAL2				IAmb	IAmb	17 35 14.9	
	comp=Z,18nm,0.9s						
BOAV	**Boa Vista**	**22.62**	**23**	P	**P**	**17 35 19.0**	**-2.1**
BOAV	**Boa Vista**	**22.62**	**23**	*eP*	**P**	**17 35 20.3**	**-0.8**
PRPB	**Parauapebas**	**22.64**	**59**	*eP*	**P**	**17 35 20.1**	**-1.1**
JANB	**Januaria**	**24.11**	**85**	*eP*	**P**	**17 35 35.0**	**+0.1**
SDBA	**SAO DESIDERIO**	**24.24**	**79**	*eP*	**P**	**17 35 36.2**	**+0.1**
DIAM	**Diamantina, MG**	**24.24**	**93**	*eP*	**P**	**17 35 36.0**	**-0.2**
RUSC	**La Rusia**	**24.70**	**351**	P	**P**	**17 35 39.6**	**-1.1**
RUSC				IAmb	IAmb	17 35 43.6	
	comp=Z,9.7nm,1.1s						
NBPB	**Pedra_Branca-C**	**31.72**	**69**	*eP*	**P**	**17 36 43.3**	**+0.5**
NBAN	**Anadia - AL**	**33.14**	**79**	*eP*	**P**	**17 36 55.2**	**+0.1**
TXAR	**Lajitas Array**	**58.15**	**324**	P	**P**	**17 40 12.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=137,slow=3.3,SNR=1.3						
	comp=Z,0.3nm,0.5s						
SNAA	**Sanae**	**65.04**	**161**	P	**P**	**17 40 58.3**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=2.2,slow=22,SNR=1.7						
	comp=Z,1.2nm,0.8s						
DBIC	**Dimbokro**	**68.26**	**75**	P	**P**	**17 41 18.1**	**-0.3**
	comp=Z,8.0nm,0.6s,baz=236,slow=5.6,SNR=11						
	comp=Z,8.0nm,0.6s						
QSPA	**South Pole Qui**	**71.50**	**180**	P	**P**	**17 41 39.8**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=322,slow=1.8,SNR=15						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**71.52**	**330**	P	**P**	**17 41 38.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=115,slow=4.4,SNR=2.8						
	comp=Z,0.2nm,0.5s						
ULM	**Lac du Bonnet**	**72.54**	**342**	P	**P**	**17 41 43.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=142,slow=5.5,SNR=5.5						
	comp=Z,2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.72**	**71**	P	**P**	**17 42 07.9**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=256,slow=5.1,SNR=18						
	comp=Z,2.3nm,0.3s						
ESDC	**Sonseca Array**	**84.05**	**45**	P	**P**	**17 42 48.7**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=248,slow=5.7,SNR=12						
	comp=Z,2.1nm,0.9s						
YKA	**Yellowknife Ar**	**88.43**	**341**	P	**P**	**17 43 09.2**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=140,slow=4.6,SNR=22						
YKA				pP	**pP**	**17 43 42.4**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=139,slow=4.6,SNR=8.2						
	comp=Z,3.6nm,1.0s						
H11S2	**WAKE ISLAND Hyl**	**27.17**	**279**	T	T	20 08 41.8	
	baz=100,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**27.18**	**281**	T	T	20 09 09.0	
	baz=101,slow=74,SNR=8.3						
H11S1	**WAKE ISLAND Hyl**	**27.18**	**279**	T	T	20 08 50.3	
	baz=100,slow=75,SNR=12						
**H

CCIG Comitan 1.28 29 *eP* **Pn 17 41 39.9 +0.6**
CCIG *i* S **Sn 17 41 58.2 +0.7**
CCIG IAML 17 41 59.9
comp=Z,853nm,0.5s
CCIG Comitan 1.28 29 *eP* 17 41 39.9
CCIG *i* S 17 41 58.2
CCIG IAML 17 41 59.9
comp=Z,853nm,0.5s
STG8 El Palmar, Qui 1.56 117 *eP* 17 41 38.1
STG8 *i* S 17 41 56.7
STG0 El Palmar, Qui 1.58 117 *eP* 17 41 38.6
STG0 *eS* 17 41 57.7
TGBT Tuxtla Gutierr 1.63 350 Pn 17 41 42.3 -1.1
TGBT **Sn 17 42 03.2 -1.6**
TGBT Tuxtla Gutierr 1.63 350 *eP* **Pn 17 41 42.3 -1.1**
TGBT *eS* **Sn 17 42 03.2 -1.6**
TGIG 1.64 349 Pn 17 41 43.5 -0.1
TGIG **Sn 17 42 03.7 -1.4**
TGIG 1.64 349 *eP* **Pn 17 41 43.5 -0.1**
TGIG *eS* **Sn 17 42 03.7 -1.4**
TGIG 1.64 349 *eP* **Pn 17 41 43.3 -0.3**
comp=Z,614nm,0.4s
TGIG *eS* **Sn 17 42 03.5 -1.6**
TGIG IAML 17 42 07.8
comp=Z,614nm,0.4s
TGIG 1.64 349 *eP* 17 41 43.3
comp=Z,614nm,0.4s
TGIG *eS* 17 42 03.5
TGIG IAML 17 42 07.8
comp=Z,614nm,0.4s
UXUV UXUV 2.51 329 *eP* **Pn 17 41 55.7 +1.0**
UXUV *eS* **Sn 17 42 20.9 -4.0**
CMIG Matias Romero 2.78 314 Pn 17 41 59.0 +0.7
CMIG **Sn 17 42 27.4 -4.0**
CMIG Matias Romero 2.78 314 P **Pn 17 41 59.2 +0.9**
comp=Z,24nm,0.3s,baz=131,slow=11,SNR=58
CMIG S **Sn 17 42 27.5 -3.9**
comp=Z,80nm,0.3s,baz=86,slow=16,SNR=7.7
CMIG Matias Romero 2.78 314 *eP* **Pn 17 41 59.0 +0.7**
CMIG *eS* **Sn 17 42 27.4 -4.0**
VHSA Villahermosa 2.81 357 *eS* **Sn 17 42 33.9 +1.9**
TUIG Tuzandepetl 3.26 331 *eS* **Sn 17 42 35.7 -7.0**
HUIG Huatulco 3.26 281 Pn 17 42 04.1 -0.6
HUIG **Sn 17 42 37.6 -5.2**
HUIG Huatulco 3.26 281 *eP* **Pn 17 42 04.1 -0.6**
HUIG *eS* **Sn 17 42 37.6 -5.2**
HUIG Huatulco 3.26 281 *eP* **Pn 17 42 03.9 -0.7**
HUIG *i* S **Sn 17 42 38.0 -4.8**
HUIG IAML 17 42 47.6
comp=Z,38nm,0.3s
HUIG Huatulco 3.26 281 *eP* 17 42 03.9
HUIG *i* S 17 42 38.0
HUIG IAML 17 42 47.6
comp=Z,38nm,0.3s
PETF Flores 3.30 58 Pn 17 42 05.1 -0.1
PETF Flores 3.30 58 *eP* **Pn 17 42 05.2 -0.1**
PETF *eS* **Sn 17 42 41.2 -2.6**
PETF Flores 3.30 58 *eP* **Pn 17 42 05.3 +0.1**
PETF *i* S **Sn 17 42 41.7 -2.1**
PETF Flores 3.30 58 *eP* 17 42 05.3
PETF *i* S 17 42 41.7
ESQI Esquipulas 3.38 100 Pn 17 42 04.2 -2.2
MTO3 Montecristo 3.40 102 Pn 17 42 06.4 -0.3
MTO3 Montecristo 3.40 102 *eP* **Pn 17 42 07.4 +0.7**
MTO3 IAML 17 43 19.3
comp=Z,25nm,0.6s
MTO3 Montecristo 3.40 102 *eP* 17 42 07.4
MTO3 IAML 17 43 19.3
comp=Z,25nm,0.6s
NEUV Arroyo Zacate 3.85 312 *eP* **Pn 17 42 13.6 +1.0**
NEUV *eS* Sn 17 42 47.1 -10
PMUV Sontecomapan 4.04 327 *eP* **Pn 17 42 14.5 -0.7**
PMUV *eS* **Sn 17 42 57.4 -4.2**
SCIG Sabancuy 4.08 22 *eP* 17 42 15.0
SCIG IAML 17 43 04.5
comp=Z,203nm,0.4s
SCIG Sabancuy 4.08 22 *eP* **Pn 17 42 14.9 -0.7**
SCIG *eS* **Sn 17 42 57.6 -4.9**
SCIG Sabancuy 4.08 22 *eP* **Pn 17 42 15.0 -0.7**
SCIG IAML 17 43 04.5
comp=Z,203nm,0.4s
VHO Vista Hermosa 4.24 297 *eS* **Sn 17 42 59.1 -7.6**
PEIG Puerto Escondi 4.29 282 Pn 17 42 18.2 -0.2
PEIG **Sn 17 43 00.6 -6.8**
PEIG Puerto Escondi 4.29 282 *eP* **Pn 17 42 18.2 -0.2**
PEIG *eS* **Sn 17 43 00.6 -6.8**
YOIG Yosondua 4.88 291 Pn 17 42 28.3 +1.6
YOIG **Sn 17 43 20.1 -2.1**
YOIG Yosondua 4.88 291 *eP* **Pn 17 42 28.3 +1.6**
YOIG *eS* **Sn 17 43 20.1 -2.1**
TOIG Toxpalan 5.03 306 Pn 17 42 31.1 +2.5
TOIG **Sn 17 43 25.3 -0.4**
TOIG Toxpalan 5.03 306 *eP* **Pn 17 42 31.1 +2.5**
TOIG *eS* **Sn 17 43 25.3 -0.4**
TXIG Tlaxiaco 5.22 294 Pn 17 42 35.4 +4.1
TXIG **Sn 17 43 32.8 +2.4**
TXIG Tlaxiaco 5.22 294 *eP* Pn 17 42 35.4 +4.1
TXIG *eS* **Sn 17 43 32.8 +2.4**
PNIG Pinotepa 5.29 284 Pn 17 42 32.5 +0.5
PNIG Sn 17 43 41.1 +9.4
PNIG Pinotepa 5.29 284 *eP* **Pn 17 42 32.5 +0.5**
PNIG *eS* Sn 17 43 41.1 +9.4
TGUH Tegucigalpa,Un 5.45 101 Pn **Pn 17 42 32.0 -2.3**
TPIG Tehuac#an 5.45 307 Pn 17 42 36.7 +2.3
TPIG **Sn 17 43 36.4 +0.5**
TPIG Tehuac#an 5.45 307 *eP* **Pn 17 42 36.7 +2.3**
TPIG *eS* **Sn 17 43 36.4 +0.5**
HLIG Huajuapan de L 5.50 300 Pn 17 42 38.7 +3.7
HLIG **Sn 17 43 42.8 +5.7**
HLIG Huajuapan de L 5.50 300 *eP* **Pn 17 42 38.7 +3.7**
HLIG *eS* **Sn 17 43 42.8 +5.7**
JAUV Jalcomulco 5.67 318 *eP* **Pn 17 42 36.5 -0.8**
JAUV *eS* **Sn 17 43 36.5 -4.7**
LVIG Laguna Verde 5.71 323 *eS* **Sn 17 43 36.9 -5.0**
POHV Veracruz 5.79 313 Pn 17 42 41.8 +2.4
POHV Veracruz 5.79 313 *eP* **Pn 17 42 41.8 +2.4**
FTIG Fresnillo de T 5.81 299 Pn 17 42 43.1 +4.0
FTIG **Sn 17 43 46.5 +1.9**
FTIG Fresnillo de T 5.81 299 *eP* Pn 17 42 43.1 +4.0
FTIG *eS* **Sn 17 43 46.5 +1.9**
MGIG Malinaltepec 5.98 291 Pn 17 42 44.1 +2.5
MGIG **Sn 17 43 44.0 -4.9**
MGIG Malinaltepec 5.98 291 *eP* **Pn 17 42 44.1 +2.5**
MGIG *eS* **Sn 17 43 44.0 -4.9**
TLIG Tlapa 6.04 294 *eP* **Pn 17 42 45.0 +2.7**
TLIG *eS* **Sn 17 43 52.6 +2.4**
CRIG Cruz Grande 6.30 285 Pn 17 42 45.9 +0.2
CRIG **Sn 17 43 48.9 -7.4**
CRIG Cruz Grande 6.30 285 *eP* **Pn 17 42 45.9 +0.2**
CRIG *eS* **Sn 17 43 48.9 -7.4**
TEIG Tepich 6.62 40 Pn 17 42 48.3 -1.8
TEIG Tepich 6.62 40 P **Pn 17 42 48.9 -1.2**
comp=Z,0.1nm,0.6s,baz=44,slow=24,SNR=44
TEIG S **Sn 17 43 59.8 -4.3**
comp=Z,0.2nm,0.5s,baz=218,slow=24,SNR=11
TEIG Tepich 6.62 40 *eP* **Pn 17 42 48.2 -1.8**
TEIG *eS* **Sn 17 43 58.3 -5.7**
CXUV Coxquihui 6.77 318 *eP* **Pn 17 42 52.3 +0.2**
CXUV *eS* **Sn 17 44 05.8 -1.9**
PPM Popocatepetl 6.80 306 *eP* Pn 17 42 57.1 +4.1
PPM *eS* **Sn 17 44 03.9 -5.4**
PPIG Popocatepetl 6.80 306 Pn 17 42 57.1 +4.1
PPIG **Sn 17 44 03.9 -5.4**
YAIG Yautepec 7.04 302 Pn 17 42 59.6 +3.6
YAIG Yautepec 7.04 302 *eP* **Pn 17 42 59.6 +3.6**
PLIG Platanillo 7.19 297 Pn 17 42 55.1 -2.8
PLIG Platanillo 7.19 297 *eP* **Pn 17 42 55.1 -2.8**
CAIG El Cayaco 7.43 286 Pn 17 43 02.3 +1.2
CAIG El Cayaco 7.43 286 *eP* **Pn 17 43 02.3 +1.2**
ARIG Puente Sto Nin 7.88 294 Pn 17 43 10.2 +3.0
ARIG Puente Sto Nin 7.88 294 *eP* **Pn 17 43 10.2 +3.0**
JTS Las Juntas de 9.05 121 P **Pn 17 43 25.1 +2.0**
comp=Z,2.8nm,0.4s,baz=279,slow=19,SNR=3.8
SOR Soroa 11.96 49 Pn **Pn 17 44 01.1 -1.3**
TXAR Lajitas Array 17.31 326 P **Pn 17 45 10.3 -0.3**
comp=Z,0.2nm,0.5s,baz=138,slow=8.0,SNR=7.5
143A Socs Landing, 17.51 4 P **P 17 45 10.8 -1.7**
143A IAmb IAmb 17 45 14.2
comp=Z,54nm,0.5s
Y49A Blount Mountai 19.48 16 P **P 17 45 32.5 -1.6**
AMTX Amarillo 21.20 339 P **P 17 45 53.1 +0.5**
AMTX IAmb IAmb 17 45 55.3
comp=Z,9.0nm,1.4s
GLAT Glass 21.25 8 P **P 17 45 50.1 -3.0**
TKL Tuckaleechee C 21.95 20 P **P 17 46 01.3 +0.8**
comp=Z,1.5nm,0.5s,baz=190,slow=12,SNR=2.4
comp=Z,1.5nm,0.5s
NVAR Mina Array Bea 32.29 321 P **P 17 47 36.7 +2.1**
comp=Z,0.9nm,0.6s,baz=131,slow=8.1,SNR=6.9
comp=Z,0.9nm,0.6s
ILAR Eielson Array 61.48 337 P **P 17 51 22.3 +1.7**
comp=Z,0.4nm,0.8s,baz=122,slow=7.2,SNR=5.7
comp=Z,0.4nm,0.8s
CMAR Chiang Mai Arr 144.65 341 PKP **PKPdf 18 00 40.9 +0.3**
comp=Z,0.6nm,0.7s,baz=340,slow=3.7,SNR=5.9

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*NEIC **24** 17:57:19.5±0.5, 36°.444N±0°.008×96°.89W±0°.01, h5km±1km, mb_Lg2.6/57, ML2.5/17, ML2.9/54, Error ellipse: s-maj=2.7km s-min=1.6km az=322.0*

NEIC 24 17:57:19.5±0.5, 36°.442N±0°.010×96°.88W±0°.01, h5km±2km, Error ellipse: s-maj=1.8km s-min=0.8km az=143.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.06**	**243**	Pg	Pg	17 57 21.3	+0.3
OK048				Sg	Sg	17 57 22.6	+0.6
OK051	**E0350 and S346**	**0.07**	**29**		Pg	17 57 21.5	+0.3
OK051				Sg	Sg	17 57 22.9	+0.6
QUOK	**Quay**	**0.30**	**153**		Pg	17 57 25.9	+0.5
QUOK				IAML		17 57 31.9	
comp=N,2μm,0.3s							
BLOK	**Blackwell**	**0.42**	**320**		Pg	17 57 28.0	+0.4
BLOK				IAML		17 57 35.4	
comp=N,2μm,0.3s							
BLOK				IAML		17 57 39.0	
comp=E,964nm,0.2s							
OK052	**Battle Ridge R**	**0.45**	**172**		Pg	17 57 28.7	+0.5
OK052					Sg	17 57 34.9	+0.7
OK052				IAML		17 57 38.2	
comp=E,1μm,0.5s							
OK031	**S. Brethren Rd**	**0.49**	**176**		Pg	17 57 29.4	+0.5
OK031					Sg	17 57 36.2	+0.9
T35A	**Sooner Cattle**	**0.56**	**32**		Pg	17 57 30.5	+0.3
DEOK	**Depew**	**0.67**	**153**		Pg	17 57 32.8	+0.4
DEOK				IAML		17 57 45.2	
comp=E,606nm,0.5s							
DEOK				IAML		17 57 45.2	
comp=N,458nm,0.4s							
KAN13	**South Haven SW**	**0.74**	**320**		Pg	17 57 32.7	-1.2
KAN13				IAML		17 57 44.4	
comp=E,645nm,0.3s							
GC02	**Grant County #**	**0.89**	**298**		Pg	17 57 36.6	0.0
GC02					Sg	17 57 48.5	+0.4
CROK	**Carrier**	**0.89**	**274**		Pg	17 57 36.7	+0.1
CROK					Sb	17 57 49.0	-0.7
CROK				IAML		17 57 57.0	
comp=N,375nm,0.2s							
CROK				IAML		17 58 02.0	
comp=E,284nm,0.3s							
KAN09	**Caldwell North**	**0.91**	**320**	Pg	Pg	17 57 37.1	0.0
KAN17	**Caldwell West**	**0.93**	**310**		Pg	17 57 37.4	0.0
KAN17				IAML		17 57 51.4	
comp=E,303nm,0.2s							
KAN17				IAML		17 57 51.7	
comp=N,462nm,0.4s							
KAN01	**Argonia South**	**1.00**	**315**	Pg	Pg	17 57 38.4	-0.4
KAN01				IAML		17 57 55.3	
comp=N,274nm,0.3s							
KAN01				IAML		17 57 55.6	
comp=E,304nm,0.6s							
TUL3	**Leonard**	**1.03**	**121**	Pg	Pg	17 57 39.1	-0.1
TUL3				IAmb_Lg		17 57 52.9	
comp=Z,39nm,0.8s							
TUL3				IAML		17 57 59.4	
comp=Z,406nm,0.3s							
TUL3				IAML		17 58 00.1	
comp=Z,327nm,0.2s							
OK032	**Salt Plains WL**	**1.13**	**289**		Pg	17 57 40.5	-0.7
OKCSW	**OKLAHOMA CITY**	**1.13**	**204**		Pg	17 57 40.5	-0.7
FNO	**Franklin**	**1.26**	**200**	IAML		17 58 06.9	
comp=E,183nm,0.2s							
W35A	**Tecumseh**	**1.29**	**180**	Pg	Pn	17 57 43.1	-1.1
W35A				IAML		17 58 05.0	
comp=N,261nm,0.3s							
W35A				IAML		17 58 05.1	
comp=E,212nm,0.2s							
X34A	**Smith Ranch, M**	**2.00**	**203**		Pb	17 57 55.5	-0.8
U38A	**Gravette**	**2.01**	**89**	Pn	Pn	17 57 55.3	+1.2
HHAR	**Hobbs**	**2.38**	**93**		Pn	17 58 00.1	+0.9
HHAR					Pb	17 58 00.6	-2.2
HHAR				IAmb_Lg		17 58 35.7	
comp=Z,27nm,0.7s							
KSU1	**Kansas State U**	**2.66**	**5**		Pb	17 58 06.0	-1.7
KSU1					Pn	17 58 06.3	+3.2
KSU1				IAmb_Lg		17 58 45.0	
comp=Z,15nm,1.1s							
CBKS	**Cedar Bluff**	**3.28**	**317**	IAmb_Lg		17 59 08.3	
comp=Z,14nm,0.8s							
MIAR	**Mount Ida**	**3.29**	**124**	IAmb_Lg		17 59 07.0	
comp=Z,12nm,1.1s							
MGMO	**Mountain Grove**	**3.77**	**78**	Pn	Pn	17 58 19.5	+1.2
X40A	**Basin Creek Fa**	**3.83**	**119**	IAmb_Lg		17 59 28.4	
comp=Z,13nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.89**	**97**	IAmb_Lg		17 59 23.2	
comp=Z,18nm,1.1s							
WHAR	**Wooly Hollow**	**3.90**	**106**	IAmb_Lg		17 59 29.0	
comp=Z,11nm,0.7s							
UALR	**University of**	**4.05**	**113**	IAmb_Lg		17 59 29.2	
comp=Z,14nm,0.7s							
R40A	**Maddies Statio**	**4.11**	**62**	IAmb_Lg		17 59 33.3	
comp=Z,16nm,0.8s							
P38A	**Dawn**	**4.13**	**39**	IAmb_Lg		17 59 30.6	
comp=Z,14nm,0.7s							
AMTX	**Amarillo**	**4.21**	**250**	IAmb_Lg		17 59 42.8	
comp=Z,11nm,0.7s							
T42A	**Van Buren**	**4.69**	**81**	IAmb_Lg		17 59 59.2	
comp=Z,9.7nm,0.9s							
SN07	**Snyder 07**	**4.70**	**226**	IAmb_Lg		17 59 53.1	
comp=Z,8.8nm,0.9s							
RTBA	**Rita Blanca**	**4.72**	**272**	IAmb_Lg		17 59 57.1	
comp=Z,10nm,1.1s							
SN05	**Snyder 5**	**4.85**	**224**	IAmb_Lg		17 59 55.2	
comp=Z,12nm,0.8s							
POST	**Post**	**5.08**	**230**	IAmb_Lg		18 00 13.0	
comp=Z,6.6nm,0.9s							
N38A	**Joes South For**	**5.20**	**32**	IAmb_Lg		18 00 15.3	
comp=Z,17nm,0.8s							
PBMO	**Poplar Bluff**	**5.20**	**84**	IAmb_Lg		18 00 18.8	
comp=Z,11nm,0.8s							
FVM	**French Village**	**5.38**	**71**	IAmb_Lg		18 00 22.7	
comp=Z,6.6nm,0.7s							
BRDY	**Brady**	**5.44**	**200**	IAmb_Lg		18 00 14.4	
comp=Z,8.8nm,1.1s							
OGNE	**Ogallala**	**6.04**	**320**	IAmb_Lg		18 00 36.7	
comp=Z,11nm,0.8s							
T25A	**Trinidad**	**6.08**	**279**	IAmb_Lg		18 00 33.3	
comp=Z,10nm,1.1s							
SCIA	**State Center**	**6.15**	**26**	IAmb_Lg		18 00 41.1	
comp=Z,14nm,0.8s							
JCT	**Junction City**	**6.43**	**203**	IAmb_Lg		18 00 56.5	
comp=Z,6.8nm,0.8s							
OZNA	**Ozona**	**6.54**	**214**	IAmb_Lg		18 00 57.4	
comp=Z,5.4nm,0.9s							
K30B	**Basset**	**6.57**	**342**	IAmb_Lg		18 01 02.9	
comp=Z,12nm,0.8s							
JFWS	**Jewell Farm**	**8.24**	**36**	IAmb_Lg		18 01 45.3	
comp=Z,6.9nm,0.7s							

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*NEIC **24** 18:04:04.5±2.6, 19°.7S±0°.1×177°.9W±0°.1, h561km±12km, mb4.5/20, Error ellipse: s-maj=20.6km s-min=18.6km az=72.0*
*NOU **24** 18:04:07.4, 20°.03S×177°.97W, h575km, mb4.4/14, Fiji Islands Region*
*IDC **24** 18:04:07.3±1.3, 19°.74S×177°.94W, h585km±12km, mb3.3/10, mbtmp4.2/12, Error ellipse: s-maj=20.0km s-min=13.7km az=149.0*

ISC 24 18:04:05.0±0.5, 19.85S±0°.07×177.77W±0°.08, h569km, n97, σ1.43/100, mb4.2/18, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.49**	**297**	P	**P**	**18 05 33.5**	**+1.4**
26nm,0.5s,baz=169,slow=5.4,SNR=34							
MSVF				S	**S**	**18 06 44.8**	**+1.9**
13nm,1.0s,baz=153,slow=17,SNR=2.0							
MSVF	**Nonsavu**	**4.49**	**297**	P	**P**	**18 05 33.7**	**+1.6**
FUTU	**Fugatoga**	**5.52**	**356**	P	**P**	**18 05 45.1**	**+4.6**
NIUE	**Niue**	**7.44**	**85**	P	**P**	**18 05 56.7**	**-1.2**
AFI	**Afiamalu**	**8.23**	**45**	P	**P**	**18 06 02.9**	**-2.9**
AFI	**Afiamalu**	**8.23**	**45**	P	P	18 05 56.1	-10
GLKZ	**Green Lake**	**9.38**	**181**	P	**P**	**18 06 15.8**	**-1.0**
GLKZ				S	**S**	**18 08 06.0**	**+1.0**
PINNC	**Pines Island,**	**14.06**	**256**	P	**P**	**18 07 01.8**	**-3.0**
DZM	**Mont Dzumac**	**14.91**	**259**	P	**P**	**18 07 15.0**	**+1.6**
4.1nm,0.5s,baz=140,slow=22,SNR=6.7							
OUZ	**Omahuta**	**17.11**	**205**	P	**P**	**18 07 36.7**	**+3.0**
WCZ	**Waipu Caves**	**17.47**	**202**	P	**P**	**18 07 39.6**	**+2.6**
MXZ	**Matakaoa Point**	**17.98**	**190**	P	**P**	**18 07 42.5**	**+0.9**
WIAZ	**Waiheke Island**	**17.99**	**199**	P	**P**	**18 07 44.5**	**+2.7**
MBAZ	**Motutapu North**	**18.04**	**199**	P	**P**	**18 07 45.0**	**+2.8**
WMGZ	**Waiomatatini S**	**18.21**	**190**	P	**P**	**18 07 43.9**	**+0.2**
HAZ	**Te Kaha**	**18.26**	**191**	P	**P**	**18 07 44.4**	**+0.2**
WTAZ	**Waiatarua**	**18.30**	**200**	P	**P**	**18 07 47.5**	**+2.9**
PKGZ	**Pakihiroa**	**18.32**	**191**	P	**P**	**18 07 45.4**	**+0.7**
AWAZ	**Awhitu Peninsu**	**18.39**	**200**	P	**P**	**18 07 48.2**	**+2.8**
RUGZ	**Raukumara Rang**	**18.48**	**191**	P	**P**	**18 07 46.5**	**+0.1**
PUZ	**Puketiti**	**18.49**	**190**	P	**P**	**18 07 46.8**	**+0.4**
TWGZ	**Tauwhareparae**	**18.64**	**191**	P	**P**	**18 07 48.9**	**+1.2**
KMRZ	**Kaimai**	**18.75**	**196**	P	**P**	**18 07 50.7**	**+2.0**
TOZ	**Tahuroa Road**	**18.76**	**197**	P	**P**	**18 07 51.8**	**+3.0**
MWZ	**Matawai**	**18.87**	**192**	P	**P**	**18 07 49.7**	**-0.1**
URZ	**Urewera**	**18.88**	**193**	P	**P**	**18 07 48.4**	**-1.4**
11nm,0.3s,baz=23,slow=2.7,SNR=32							
URZ	**Urewera**	**18.88**	**193**	P	**P**	**18 07 49.5**	**-0.3**
URZ	**Urewera**	**18.88**	**193**	P	**P**	**18 07 49.6**	**-0.3**
CNGZ	**Carnagh Statio**	**18.90**	**190**	P	**P**	**18 07 50.3**	**+0.3**
RTZ	**Ruatahuna**	**19.25**	**193**	P	**P**	**18 07 53.0**	**-0.3**
RTZ				IAmb	IAmb	18 07 55.2	
comp=Z,9.0nm,0.7s							
TLZ	**Tolley Road**	**19.31**	**196**	P	**P**	**18 07 56.6**	**+2.7**
SNGZ	**Shannon Statio**	**19.34**	**192**	P	**P**	**18 07 54.1**	**0.0**
MTHZ	**Maungataniwha**	**19.51**	**193**	P	**P**	**18 07 57.0**	**+1.4**
RAHZ	**Arahi**	**19.52**	**192**	P	**P**	**18 07 56.2**	**+0.5**
HIZ	**Hauiti**	**19.67**	**197**	P	**P**	**18 07 57.5**	**+0.5**
RITZ	**Rihia Road**	**19.84**	**195**	P	**P**	**18 07 59.5**	**+0.8**
BKZ	**Black Stump Fm**	**19.88**	**193**	P	**P**	**18 07 58.0**	**-1.1**
BKZ				IAmb	IAmb	18 08 06.5	
comp=Z,7.0nm,0.7s							
BKZ	**Black Stump Fm**	**19.88**	**193**	P	**P**	**18 07 58.1**	**-0.9**
BKZ	**Black Stump Fm**	**19.88**	**193**	P	**P**	**18 07 57.9**	**-1.1**
TMVZ	**Te Maari**	**20.01**	**195**	P	**P**	**18 08 00.7**	**+0.5**
ETVZ	**East Tongariro**	**20.03**	**195**	P	**P**	**18 08 00.5**	**0.0**
OTVZ	**Oturere**	**20.07**	**195**	P	**P**	**18 08 01.1**	**+0.3**
COVZ	**Chateau Observ**	**20.13**	**195**	P	**P**	**18 08 00.0**	**-1.3**
TUVZ	**Tukino**	**20.17**	**195**	P	**P**	**18 08 01.8**	**+0.1**
WNVZ	**Wahianoa**	**20.24**	**195**	P	**P**	**18 08 03.3**	**+1.0**
VRZ	**Vera Road**	**20.27**	**197**	P	**P**	**18 08 04.4**	**+1.9**
KRHZ	**Kereru**	**20.36**	**193**	P	**P**	**18 08 03.5**	**+0.1**
TSZ	**Takapari Road**	**20.85**	**194**	P	**P**	**18 08 08.1**	**+0.4**
ANWZ	**Angora Road**	**21.13**	**192**	P	**P**	**18 08 09.9**	**-0.2**
BFZ	**Birch Farm**	**21.39**	**193**	P	**P**	**18 08 12.2**	**-0.3**
BFZ	**Birch Farm**	**21.39**	**193**	P	**P**	**18 08 12.2**	**-0.3**
MRZ	**Mangatainoka R**	**21.51**	**194**	P	**P**	**18 08 13.2**	**-0.4**
QRZ	**Quartz Range**	**22.50**	**200**	P	**P**	**18 08 23.3**	**+0.9**
THZ	**Tophouse**	**23.24**	**198**	P	**P**	**18 08 28.0**	**-1.0**
THZ				IAmb	IAmb	18 08 40.8	
comp=Z,7.6nm,0.8s							
KHZ	**Kahutara**	**23.67**	**196**	P	**P**	**18 08 32.7**	**-0.1**
TATA	**Tatamba Isabel**	**24.52**	**295**	P	**P**	**18 08 40.9**	**+0.2**
WHZ	**Wether Hill Ro**	**28.52**	**201**	P	**P**	**18 09 17.0**	**+1.6**
EIDS	**Eidsvold**	**29.24**	**253**	P	**P**	**18 09 20.9**	**-1.1**
EIDS	**Eidsvold**	**29.24**	**253**	P	**P**	**18 09 20.5**	**-1.4**
TV1H	**Townsville Har**	**33.36**	**265**	P	**P**	**18 09 57.8**	**+0.6**
PMG	**Port Moresby**	**35.42**	**282**	P	**P**	**18 10 11.7**	**-2.7**
PMG				IAmb	IAmb	18 10 16.0	
comp=Z,14nm,0.8s							
QLP	**Quilpie**	**35.46**	**252**	P	**P**	**18 10 15.4**	**+0.7**
MTSU	**Mount Surprise**	**35.85**	**266**	P	**P**	**18 10 18.6**	**+0.7**
COEN	**Coen**	**37.77**	**273**	P	**P**	**18 10 34.3**	**+0.6**
COEN				IAmb	IAmb	18 10 35.3	
comp=Z,12nm,0.9s							
STKA	**Stephens Creek**	**38.27**	**243**	P	**P**	**18 10 37.0**	**-0.5**
STKA	**Stephens Creek**	**38.27**	**243**	P	**P**	**18 10 37.7**	**+0.1**
comp=Z,2.4nm,0.8s,baz=337,slow=11,SNR=3.2							
comp=Z,2.4nm,0.8s							
BBOO	**Buckleboo**	**43.03**	**243**	P	**P**	**18 11 14.6**	**-0.8**
BBOO				IAmb	IAmb	18 11 28.6	
comp=Z,20nm,1.1s							
WR8	**Warramunga Arr**	**44.76**	**261**	P	**P**	**18 11 27.4**	**-1.5**
AS31	**Alice Springs**	**44.88**	**256**	P	**P**	**18 11 30.4**	**+0.5**
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**18 11 29.9**	**0.0**
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**18 11 30.4**	**+0.5**
comp=Z,8.1nm,0.7s,baz=86,slow=8.0,SNR=147							
ASAR				PcP	**PcP**	**18 12 59.6**	**+0.4**
comp=Z,0.6nm,0.4s,baz=105,slow=4.0,SNR=4.8							
ASAR				S	**S**	**18 17 25.6**	**-1.4**
comp=Z,0.9nm,0.6s,baz=91,slow=16,SNR=9.4							
comp=Z,8.1nm,0.7s							
WB0	**Warramunga Arr**	**44.89**	**262**	P	**P**	**18 11 30.0**	**+0.1**
WRA	**Warramunga Arr**	**44.91**	**261**	P	**P**	**18 11 29.7**	**-0.4**
comp=Z,2.4nm,0.3s,baz=98,slow=7.8,SNR=51							
WRA				PcP	**PcP**	**18 12 59.0**	**-0.2**
comp=Z,0.6nm,0.7s,baz=104,slow=2.3,SNR=1.7							
comp=Z,2.4nm,0.3s							
VNDA	**Vanda**	**58.58**	**185**	P	**P**	**18 13 09.3**	**+2.1**
MORW	**Morawa**	**60.28**	**247**	P	**P**	**18 13 18.8**	**-0.7**
GIRL	**Giralia**	**62.94**	**254**	P	**P**	**18 13 37.3**	**+0.4**
KKM	**Kota Kinabalu**	**69.81**	**284**	P	**P**	**18 14 19.9**	**+0.3**
KKM				IAmb	IAmb	18 14 21.1	
comp=Z,17nm,0.9s							
MJAR	**Matsushiro Arr**	**69.82**	**323**	P	**P**	**18 14 19.1**	**0.0**
comp=Z,2.8nm,0.6s,baz=161,slow=5.9,SNR=16							
comp=Z,2.8nm,0.6s							
MAJO	**Matsushiro**	**69.82**	**323**	P	**P**	**18 14 17.1**	**-2.0**
MAJO				IAmb	IAmb	18 14 19.8	
comp=Z,5.8nm,0.7s							
MJB9	**Matsu-Tunnel**	**69.82**	**323**	P	**P**	**18 14 18.1**	**-1.0**
MJB9				IAmb	IAmb	18 14 20.8	
comp=Z,5.6nm,0.7s							
UGM	**Wanagama**	**70.20**	**269**	P	**P**	**18 14 19.2**	**-2.6**
UGM				IAmb	IAmb	18 14 24.2	
comp=Z,19nm,0.8s							
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**18 14 23.0**	**+1.9**
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**18 14 23.0**	**+1.9**
comp=Z,2.0nm,0.7s,baz=356,slow=0.9,SNR=13							
comp=Z,2.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**78.55**	**326**	P	**P**	**18 15 08.3**	**+0.2**
comp=Z,3.1nm,0.8s,baz=116,slow=3.4,SNR=4.3							
comp=Z,3.1nm,0.8s							
NVAR	**Mina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.81**	**300**	⇓Pn	**Pb**	**18 14 19.6**	**-1.2**
	1.3nm,0.3s						
PDGK				⇑Lg	Lg	18 15 10.8	
	8.2nm,0.4s						
UZB	**Uzynbulak**	**4.05**	**295**	*e*P	**Pn**	**18 14 14.1**	**-1.5**
	4.3nm,0.2s						
UZB				*e*S	**Sb**	**18 15 13.5**	**-0.5**
	9.9nm,0.4s						
DJR	**Jarkent**	**4.19**	**313**	*e*P	**Pn**	**18 14 16.1**	**-1.3**
	0.4nm,0.1s						
DJR				*e*S	**Sb**	**18 15 16.8**	**-1.1**
	4.4nm,0.3s						
SATY	**Saty**	**4.44**	**292**	*e*P	**Pg**	**18 14 37.9**	**-0.6**
	1.2nm,0.3s						
SATY				*e*S	Sg	18 15 54.5	+18
	6.6nm,0.4s						
ZHN	**Zhinishke**	**4.46**	**293**	*e*P	**Pn**	**18 14 23.6**	**+2.4**
	1.9nm,0.1s						
ZHN				*e*S	**Sb**	**18 15 29.8**	**+4.1**
	9.2nm,0.2s						
MK31	**Makanchi Array**	**5.41**	**347**	⇓Pn	**Pn**	**18 14 32.9**	**-1.2**
	0.1nm,0.3s,baz=151,slow=13,SNR=11						
MK31				⇑Pg	**Pb**	**18 14 50.9**	**+2.9**
	0.9nm,0.4s,baz=164,slow=16,SNR=6.8						
MK31				⇑Lg	Lg	18 15 49.1	
	1.5nm,0.4s,baz=164,slow=25,SNR=8.8						
MAKZ	**Makanchi**	**5.48**	**345**	⇑Pg	**Pb**	**18 14 48.7**	**-0.4**
	1.5nm,0.5s						
MAKZ				⇑Lg	Lg	18 15 52.0	
	2.4nm,0.6s						

SFS ***24*** *18:36:13.5, 36.°87N×4.°00W, h73km, ML2.7/13, ML2.7/13, MLv2.7/13*
MDD ***24*** *18:36:13.9±0.4, 36.°84N×4.°00W, h64km±4km, Mb3.2/24, Error ellipse: s-maj=3.6km s-min=2.0km az=160.0*
CNRM ***24*** *18:36:14.4, 36.°57N×4.°11W, h25km*
INMG ***24*** *18:36:14.5±1.2, 36.°86N×4.°10W, h53km±5km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.1km az=179.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Malaga (ESP)*
IGIL ***24*** *18:36:14.3, 36.°84N×4.°00W, h64km, ML2.3*

ISC 24 18:36:11.4±1.2, 36.°80N±0.°02×4.°00W±0.°02, h78km±6km, n89, σ1°61/150, 17C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.30**	**78**	Sg	**Sn**	**18 36 31.5**	**-1.0**
ELGU				Pg	**Pn**	**18 36 24.1**	**+0.5**
ELGU	**Los Guajares,**	**0.30**	**78**	P	**Pn**	**18 36 24.0**	**+0.5**
ELGU				S	**Sn**	**18 36 31.5**	**-1.0**
EGOR	**Sierra Gorda,**	**0.32**	**344**	Pg	**Pn**	**18 36 23.9**	**+0.2**
EGOR	**Sierra Gorda,**	**0.32**	**344**	⇑P	**Pn**	**18 36 24.1**	**+0.3**
EGOR				S	**Sn**	**18 36 31.3**	**-1.6**
EMAL	**Malaga-Limoner**	**0.35**	**263**	Pg	**Pn**	**18 36 24.6**	**+0.9**
EMAL				Sg	**Sn**	**18 36 32.3**	**-0.6**
EXCAB	**Granada**	**0.49**	**41**	P	**Pn**	**18 36 25.7**	**+0.7**
EQTA	**Presa de Quent**	**0.60**	**48**	Sg	**Sn**	**18 36 36.7**	**-0.1**
EQTA				Pg	**Pn**	**18 36 26.8**	**+0.8**
EQUE	**Quentar**	**0.60**	**48**	P	**Pn**	**18 36 26.9**	**+0.9**
EQUE				S	**Sn**	**18 36 35.8**	**-1.0**
EBER	**Berja**	**0.89**	**84**	Pn	**Pn**	**18 36 30.2**	**+1.0**
EBER	**Berja**	**0.89**	**84**	S	**Sn**	**18 36 41.3**	**-1.3**
E0803	**Jimena (Jaen)**	**1.11**	**22**	P	**Pn**	**18 36 32.7**	**+0.9**
E0803				S	**Sn**	**18 36 46.9**	**-0.1**
LIJA	**Lijar**	**1.13**	**276**	Pn	**Pn**	**18 36 32.7**	**+0.7**
LIJA				Sn	**Sn**	**18 36 47.9**	**+0.4**
EQES	**Quesada**	**1.24**	**36**	P	**Pn**	**18 36 34.7**	**+1.3**
EQES				⇑*i*Vmb_V		18 36 42.6	
	456nm,SNR=5.7						
EQES				S	**Sn**	**18 36 50.6**	**+0.7**
E0802	**Ubeda,Jaen**	**1.32**	**22**	S	**Sn**	**18 36 51.4**	**-0.1**
EADA	**Adamuz**	**1.44**	**341**	Sn	**Sn**	**18 36 53.1**	**-1.2**
EADA				Pn	**Pn**	**18 36 36.5**	**+0.7**
EADA	**Adamuz**	**1.44**	**341**	P	**Pn**	**18 36 36.9**	**+1.0**
EADA				⇑*i*Vmb_V		18 36 37.4	
	725nm,SNR=11						
EADA				S	**Sn**	**18 36 53.2**	**-1.1**
ENIJ	**Nijar**	**1.45**	**83**	Pn	**Pn**	**18 36 37.4**	**+1.4**
ENIJ				Sn	**Sn**	**18 36 54.2**	**-0.3**
ENIJ	**Nijar**	**1.45**	**83**	P	**Pn**	**18 36 37.7**	**+1.8**
ENIJ				⇑*i*Vmb_V		18 36 38.9	
	267nm,SNR=1.7						
ENIJ				S	**Sn**	**18 36 53.8**	**-0.6**
ESPR	**Espera**	**1.49**	**273**	Pn	**Pn**	**18 36 38.4**	**+1.9**
ESPR				Sn	**Sn**	**18 36 57.1**	**+1.7**
ESPR	**Espera**	**1.49**	**273**	P	**Pn**	**18 36 39.0**	**+2.5**
ESPR				⇑*i*Vmb_V		18 36 44.0	
	195nm,SNR=1.6						
ESPR				S	**Sn**	**18 36 56.9**	**+1.5**
SMIR	**Smir Dam**	**1.58**	**225**	P	**Pn**	**18 36 38.0**	**+0.3**
SMIR	**Smir Dam**	**1.58**	**225**	S	**Sn**	**18 36 56.3**	**-1.2**
PALE	**Palemas**	**1.58**	**178**	P	**Pn**	**18 36 37.5**	**-0.2**
PALE	**Palemas**	**1.58**	**178**	S	**Sn**	**18 36 54.5**	**-3.1**
EXCBR	**El Cabril**	**1.70**	**319**	P	**Pn**	**18 36 40.2**	**+1.0**
EXCBR				S	**Sn**	**18 36 59.8**	**-0.5**
ECAB	**El Cabril**	**1.70**	**319**	Sn	**Sn**	**18 36 59.5**	**-0.9**
ECAB				Pn	**Pn**	**18 36 39.8**	**+0.6**
ECAB	**El Cabril**	**1.70**	**319**	P	**Pn**	**18 36 39.9**	**+0.6**
ECAB				⇑*i*Vmb_V		18 36 40.4	
	182nm,SNR=2.7						
ECAB				S	**Sn**	**18 36 58.8**	**-1.6**
GOG	**Mont Gurugu**	**1.77**	**152**	P	**Pn**	**18 36 41.4**	**+1.1**
GOG	**Mont Gurugu**	**1.77**	**152**	S	**Sn**	**18 37 02.1**	**-0.2**
PSIM	**Granatula de C**	**2.02**	**5**	P	**Pn**	**18 36 44.2**	**+0.6**
PSIM				S	**Sn**	**18 37 06.3**	**-1.8**
AKLM	**AKL**	**2.29**	**177**	P	**Pn**	**18 36 45.9**	**-1.3**
AKLM	**AKL**	**2.29**	**177**	S	**Sn**	**18 37 10.6**	**-3.9**
EMIN	**Mina Concepcio**	**2.34**	**295**	Sn	**Sn**	**18 37 15.2**	**-0.4**
EMIN				Pn	**Pn**	**18 36 48.2**	**+0.5**
EMIN	**Mina Concepcio**	**2.34**	**295**	P	**Pn**	**18 36 48.5**	**+0.8**
EMIN				⇑*i*Vmb_V		18 36 50.3	
	278nm,SNR=3.8						
EMIN				S	**Sn**	**18 37 14.9**	**-0.7**
TAF	**Taforalt**	**2.37**	**147**	P	**Pn**	**18 36 49.6**	**+1.4**
TAF	**Taforalt**	**2.37**	**147**	S	**Sn**	**18 37 18.2**	**+1.8**
EMUR	**La Murta**	**2.43**	**64**	Pn	**Pn**	**18 36 50.6**	**+1.6**
EMUR	**La Murta**	**2.43**	**64**	P	**Pn**	**18 36 50.0**	**+1.1**
EMUR				⇑*i*Vmb_V		18 36 56.0	
	115nm,SNR=1.4						
JBK	**JBK**	**2.73**	**154**	P	**Pn**	**18 36 54.6**	**+1.4**
JBK	**JBK**	**2.73**	**154**	S	**Sn**	**18 37 25.0**	**-0.2**
PAB	**San Pablo**	**2.75**	**354**	P	**Pn**	**18 36 54.5**	**+1.1**
PAB				⇑*i*Vmb_V		18 36 55.8	
	167nm,SNR=2.5						
PAB				S	**Sn**	**18 37 23.5**	**-2.2**
PBAR	**Barrancos**	**2.78**	**300**	*e*P	**Pn**	**18 36 55.1**	**+1.4**
PBAR				*e*S	**Sn**	**18 37 24.6**	**-1.6**
PBAR				*i* AML	AML	18 37 26.4	
PBAR				*i* AML	AML	18 37 27.0	
PBAR				*i* AML	AML	18 37 27.3	
PBAR	**Barrancos**	**2.78**	**300**	Sn	**Sn**	**18 37 24.7**	**-1.5**
PBAR				Pn	**Pn**	**18 36 54.4**	**+0.7**
ESDC	**Sonseca Array**	**2.87**	**1**	P	**Pn**	**18 36 56.8**	**+1.9**
ESDC				⇑*i*Vmb_V		18 36 57.4	
	152nm,SNR=2.7						
ESDC				S	**Sn**	**18 37 26.0**	**-2.4**
EGRO	**El Granado**	**2.88**	**286**	Sn	**Sn**	**18 37 27.0**	**-1.6**
EGRO				Pn	**Pn**	**18 36 55.8**	**+0.8**
EGRO	**El Granado**	**2.88**	**286**	P	**Pn**	**18 36 56.1**	**+1.1**
EGRO				⇑*i*Vmb_V		18 37 02.1	
	225nm,SNR=1.7						
EGRO				S	**Sn**	**18 37 27.2**	**-1.3**
PVAQ	**Vaqueiros**	**3.03**	**283**	*e*P	**Pn**	**18 36 58.1**	**+1.0**
PVAQ				*i* AML	AML	18 37 33.2	
PVAQ	**Vaqueiros**	**3.03**	**283**	Sn	**Sn**	**18 37 31.3**	**-1.0**
PVAQ				Pn	**Pn**	**18 36 57.9**	**+0.9**
EBAD	**Badajoz**	**3.08**	**310**	Sn	**Sn**	**18 37 32.0**	**-1.5**
EBAD				Pn	**Pn**	**18 36 58.5**	**+0.7**
EBAD	**Badajoz**	**3.08**	**310**	P	**Pn**	**18 36 58.9**	**+1.1**
EBAD				S	**Sn**	**18 37 32.1**	**-1.5**
PBDV	**Barranco-do-Ve**	**3.18**	**279**	*e*P	**Pn**	**18 37 00.6**	**+1.5**
PBDV				*e*S	**Sn**	**18 37 34.4**	**-1.5**
PBDV				*i* AML	AML	18 37 34.9	
PBDV				*i* AML	AML	18 37 36.3	
PBDV				*i* AML	AML	18 37 37.9	
PBEJ	**Beja**	**3.31**	**293**	*e*P	**Pn**	**18 37 02.6**	**+1.7**
PBEJ				*e*S	**Sn**	**18 37 37.7**	**-1.5**
PBEJ				*i* AML	AML	18 37 38.9	
PBEJ				*i* AML	AML	18 37 39.4	
PBEJ				*i* AML	AML	18 37 39.9	
PCVE	**Castro Verde**	**3.33**	**286**	*e*P	**Pn**	**18 37 02.9**	**+1.8**
PCVE				*e*S	**Sn**	**18 37 38.7**	**-0.9**
PCVE				*i* AML	AML	18 37 39.0	
PCVE				*i* AML	AML	18 37 39.5	
PCVE				*i* AML	AML	18 37 40.4	
PCVE	**Castro Verde**	**3.33**	**286**	Sn	**Sn**	**18 37 38.0**	**-1.6**
PCVE				Pn	**Pn**	**18 37 02.5**	**+1.4**
EVIV	**Cofrentes, Val**	**3.35**	**42**	⇑*i*Vmb_V		18 37 01.5	
	129nm,SNR=1.3						
EVIV				P	**Pn**	**18 37 02.5**	**+1.1**
EVIV				S	**Sn**	**18 37 37.7**	**-2.4**
PESTR	**Estremoz**	**3.51**	**307**	*e*P	**Pn**	**18 37 05.1**	**+1.5**
PESTR				*e*S	**Sn**	**18 37 42.5**	**-1.5**
PESTR				*i* AML	AML	18 37 44.0	
PESTR				*i* AML	AML	18 37 45.0	
PESTR				*i* AML	AML	18 37 46.0	
MESJ	**Messejana**	**3.52**	**288**	*e*P	**Pn**	**18 37 05.2**	**+1.4**
MESJ				*e*S	**Sn**	**18 37 42.0**	**-2.3**
MESJ				IAML		18 37 43.6	
	comp=N,3.1nm,0.2s						
MESJ	**Messejana**	**3.52**	**288**	*e*P	**Pn**	**18 37 05.5**	**+1.8**
MESJ				*e*S	**Sn**	**18 37 43.3**	**-0.9**
MESJ				*i* AML	AML	18 37 45.5	
MESJ				*i* AML	AML	18 37 47.3	
EVO	**Evora**	**3.62**	**300**	*e*P	**Pn**	**18 37 06.9**	**+1.8**
EVO				*e*S	**Sn**	**18 37 45.1**	**-1.6**
EVO				*i* AML	AML	18 37 45.5	
EVO				*i* AML	AML	18 37 47.0	
EVO				*i* AML	AML	18 37 47.6	
EPLA	**Plasencia**	**3.64**	**334**	P	**Pn**	**18 37 07.7**	**+2.2**
EPLA				⇑*i*Vmb_V		18 37 07.7	
	comp=N,217nm,SNR=3.1						
EPLA				S	**Sn**	**18 37 46.5**	**-0.8**
ECHE	**Chera**	**3.67**	**40**	Sn	**Sn**	**18 37 44.3**	**-3.5**
ECHE				Pn	**Pn**	**18 37 06.7**	**+1.0**
ECHE	**Chera**	**3.67**	**40**	P	**Pn**	**18 37 06.9**	**+1.2**
ECHE				⇑*i*Vmb_V		18 37 07.1	
	comp=N,115nm,SNR=1.9						
ECHE				S	**Sn**	**18 37 47.0**	**-0.8**
PMRV	**Marv??o**	**3.75**	**315**	*e*P	**Pn**	**18 37 08.7**	**+1.9**
PMRV				*e*S	**Sn**	**18 37 48.5**	**-1.2**
PMRV				*i* AML	AML	18 37 49.0	
PMRV				*i* AML	AML	18 37 49.9	
PMRV				*i* AML	AML	18 37 50.2	
MORF	**Marmelete**	**3.76**	**279**	*e*P	**Pn**	**18 37 08.4**	**+1.5**
MORF				*e*S	**Sn**	**18 37 47.7**	**-2.3**
MORF				IAML		18 37 51.9	
	comp=N,17nm,0.3s						
MORF	**Marmelete**	**3.76**	**279**	*e*P	**Pn**	**18 37 08.8**	**+1.9**
MORF				*e*S	**Sn**	**18 37 48.7**	**-1.4**
MORF				*i* AML	AML	18 37 51.3	
MORF				*i* AML	AML	18 37 52.6	
MORF				*i* AML	AML	18 37 52.9	
GUD	**Guadarrama**	**3.84**	**358**	P	**Pn**	**18 37 10.2**	**+2.1**
GUD				⇑*i*Vmb_V		18 37 17.0	
	comp=N,63nm,SNR=1.4						
GUD				S	**Sn**	**18 37 50.7**	**-1.4**
PTEO	**Sao Teotonio**	**3.85**	**283**	*e*P	**Pn**	**18 37 09.9**	**+1.8**
PTEO				*e*S	**Sn**	**18 37 51.2**	**-1.0**
PTEO				*i* AML	AML	18 37 52.3	
PTEO				*i* AML	AML	18 37 53.1	
PTEO				*i* AML	AML	18 37 53.3	
PFVI	**Vila Bisbo**	**3.88**	**276**	*e*P	**Pn**	**18 37 09.8**	**+1.2**
PFVI				*e*S	**Sn**	**18 37 50.3**	**-2.7**
PFVI				*i* AML	AML	18 37 55.2	
PFVI				*i* AML	AML	18 37 55.9	
MD31	**MD31**	**3.98**	**189**	P	**Pn**	**18 37 11.0**	**+1.0**
MD31	**MD31**	**3.98**	**189**	S	**Sn**	**18 37 55.1**	**-0.4**
MDT	**Midelt**	**4.01**	**187**	P	**Pn**	**18 37 11.2**	**+0.7**
MDT	**Midelt**	**4.01**	**187**	S	**Sn**	**18 37 56.0**	**-0.4**
PMTG	**Montargil**	**4.04**	**305**	*e*P	**Pn**	**18 37 12.2**	**+1.5**
PMTG				*e*S	**Sn**	**18 37 55.1**	**-1.6**
PMTG				*i* AML	AML	18 37 57.0	
PMTG				*i* AML	AML	18 37 57.1	
PMTG				*i* AML	AML	18 37 58.7	
PCBR	**Castelo Branco**	**4.08**	**319**	*e*P	**Pn**	**18 37 13.6**	**+2.2**
PCBR				*e*S	**Sn**	**18 37 57.0**	**-0.9**
PCBR				*i* AML	AML	18 37 57.6	
PCBR				*i* AML	AML	18 37 57.7	
PCBR				*i* AML	AML	18 37 57.8	
ETOR	**Torete**	**4.29**	**20**	P	**Pn**	**18 37 15.8**	**+1.5**
ETOR				⇑*i*Vmb_V		18 37 16.6	
	comp=N,130nm,SNR=2.0						
ETOR				S	**Sn**	**18 38 01.1**	**-1.9**
EMOS	**Mosqueruela**	**4.50**	**37**	P	**Pn**	**18 37 19.3**	**+2.1**
EMOS				⇑*i*Vmb_V		18 37 22.0	
	comp=N,91nm,SNR=1.7						
EMOS				S	**Sn**	**18 38 04.9**	**-3.5**
EJUZ	**Juzbado, Salam**	**4.52**	**342**	P	**Pn**	**18 37 19.8**	**+2.4**
EJUZ				S	**Sn**	**18 38 05.5**	**-3.3**
MTE	**Manteigas**	**4.54**	**323**	*e*P	**Pn**	**18 37 19.7**	**+2.1**
PSBE	**So Bento**	**4.65**	**307**	*e*P	**Pn**	**18 37 21.3**	**+2.1**
PMAFR	**Mafra**	**4.70**	**299**	*e*P	**Pn**	**18 37 21.5**	**+1.7**
PCAS	**Casmilo, Conde**	**4.80**	**314**	*e*P	**Pn**	**18 37 23.0**	**+1.9**
PCAS				*e*S	**Sn**	**18 38 13.7**	**-1.7**
PCAS				*i* AML	AML	18 38 14.7	
PCAS				*i* AML	AML	18 38 15.6	
PCAS				*i* AML	AML	18 38 15.9	
MVO	**Moncorvo**	**4.95**	**332**	*e*P	**Pn**	**18 37 25.4**	**+2.2**
MVO				*e*S	**Sn**	**18 38 16.3**	**-3.0**
MVO				*i* AML	AML	18 38 20.2	
MVO				*i* AML	AML	18 38 20.4	
MVO				*i* AML	AML	18 38 21.5	
PVIS	**Viseu**	**4.95**	**323**	*e*P	**Pn**	**18 37 25.3**	**+2.0**
PVIS				*e*S	**Sn**	**18 38 18.3**	**-0.9**
PVRL	**Vila Real**	**5.32**	**328**	*e*P	**Pn**	**18 37 30.2**	**+1.9**
PVRL				*e*S	**Sn**	**18 38 26.1**	**-2.2**
PVRL				*i* AML	AML	18 38 28.1	
PVRL				*i* AML	AML	18 38 29.0	
PVRL				*i* AML	AML	18 38 30.5	
PBRG	**Braganca**	**5.43**	**338**	*e*P	**Pn**	**18 37 32.1**	**+2.3**
POLO	**Lamas de Olo**	**5.43**	**328**	*e*P	**Pn**	**18 37 31.6**	**+1.8**
POLO				*e*S	**Sn**	**18 38 29.5**	**-1.6**
POLO				*i* AML	AML	18 38 30.5	
POLO				*i* AML	AML	18 38 32.0	
POLO				*i* AML	AML	18 38 33.0	
PCAB	**Cabril**	**5.81**	**329**	*e*P	**Pn**	**18 37 36.5**	**+1.6**
PCAB				*e*S	**Sn**	**18 38 37.0**	**-3.2**
PCAB				*i* AML	AML	18 38 40.5	
PCAB				*i* AML	AML	18 38 41.1	
PCAB				*i* AML	AML	18 38 42.8	
ELOB	**Lobios**	**5.96**	**329**	P	**Pn**	**18 37 38.7**	**+1.8**
ELOB				S	**Sn**	**18 38 41.3**	**-2.5**
PGAV	**Gavieira, Arco**	**6.12**	**329**	*e*P	**Pn**	**18 37 41.3**	**+2.0**
PGAV				*e*S	**Sn**	**18 38 45.0**	**-2.9**
PGAV				*i* AML	AML	18 38 48.7	
PGAV				*i* AML	AML	18 38 49.3	

IDC ***24*** *19:00:37.2±4.0, 47.°73N×153.°40E, h152km±40km, mb3.3/6, mbtmp3.7/7, Error ellipse: s-maj=94.3km s-min=24.6km az=124.0*

ISC 24 19:00:36.9±3.5, 47.°7N±0.°4×153.°4E±0.°4, h150km, n13, σ0°60/8, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.07**	**25**	P	**Pn**	**19 02 03.9**	**-0.5**
	1.4nm,0.8s,baz=205,slow=13,SNR=1.5						
PETK				S	**Sn**	**19 03 13.8**	**+0.9**
	1.3nm,0.8s,baz=263,slow=37,SNR=0.7						
KSRS	**Korea Array**	**21.29**	**251**	P	**P**	**19 05 12.1**	**+0.6**
	2.9nm,1.1s,baz=48,slow=11,SNR=4.0						
	2.9nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**29.98**	**154**	T	T	19 38 26.0	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**29.99**	**154**	T	T	19 39 02.4	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**30.00**	**154**	T	T	19 39 12.1	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**31.08**	**155**	T	T	19 40 24.5	
	baz=343,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.09**	**155**	T	T	19 40 17.9	
	baz=343,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.10**	**155**	T	T	19 40 17.3	
	baz=343,slow=76						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**19 08 50.0**	**-0.3**
	0.6nm,0.7s,baz=62,slow=8.1,SNR=6.9						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**47.10**	**303**	P	**P**	**19 08 53.1**	**-0.3**
	0.5nm,0.5s,baz=70,slow=8.8,SNR=7.0						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**19 09 18.6**	**0.0**
	0.7nm,0.4s,baz=57,slow=7.1,SNR=8.8						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**52.79**	**256**	P	**P**	**19 09 36.9**	**+0.2**
	0.3nm,0.3s,baz=41,slow=7.5,SNR=4.3						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**63.27**	**335**	P	**P**	**19 10 48.7**	**-0.2**
	3.4nm,1.0s,baz=43,slow=8.6,SNR=5.7						
	3.4nm,1.0s						

IDC 24 19:09:19.2±1.6, 50.°29N×114.°39W, h0km, mb2.7/1, mbtmp3.0/3, ML3.0/1, Error ellipse: s-maj=49.2km s-min=13.9km az=76.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.71**	**222**	I	I	19 23 55.2	
	0.1nm,0.8s,baz=41,slow=325,SNR=6.3						
PDAR	**Pinedale Array**	**8.23**	**154**	Pn	Pn	19 11 21.4	+1.4
	0.2nm,0.5s,baz=348,slow=15,SNR=1.5						
YKA	**Yellowknife Ar**	**12.23**	**360**	Pn	Pn	19 12 10.1	-4.4
	0.1nm,0.3s,baz=187,slow=13,SNR=7.8						
YKA				Sn	Sn	19 14 22.3	-9.1
	0.1nm,0.3s,baz=172,slow=23,SNR=4.4						
YKA				Lg	Lg	19 15 40.7	
	baz=177,slow=27,SNR=4.1						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**22.33**	**323**	P	P	19 14 18.1	-0.1
	0.2nm,0.7s,baz=104,slow=9.4,SNR=4.7						
	0.2nm,0.7s						

CATAC 24 19:11:14.1±0.5, 12.°N±4.°×8.°7W±.°, h76km±4km, M3.8/29, MLv3.8/29, Error ellipse: s-maj=9.0km s-min=3.6km az=34.8, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.22**	**50**	P	Pn	19 11 26.7	+1.1
BC86	**Nagarote**	**0.30**	**41**	P	Pn	19 11 27.7	+1.7
BC86	**Nagarote**	**0.30**	**41**	P	Pn	19 11 27.7	+1.7
SAPS	**Ciudad Sandino**	**0.38**	**69**	S	Sn	19 11 39.7	+4.0
SAPS	**Ciudad Sandino**	**0.38**	**69**	P	Pn	19 11 28.2	+1.6
LEVN	**Ruinas Leon Vi**	**0.39**	**22**	P	Pn	19 11 27.8	+1.1
LEVN	**Ruinas Leon Vi**	**0.39**	**22**	P	Pn	19 11 27.9	+1.2
MOMN	**Momotombo**	**0.43**	**31**	P	Pn	19 11 27.9	+0.8
MOMN	**Momotombo**	**0.43**	**31**	P	Pn	19 11 28.0	+1.0
APYN	**Apoyeque**	**0.45**	**64**	P	Pn	19 11 28.1	+0.9
APYN	**Apoyeque**	**0.45**	**64**	P	Pn	19 11 28.2	+1.0
ABCN	**Banco Central**	**0.46**	**79**	P	Pn	19 11 28.5	+1.4
ABCN	**Banco Central**	**0.46**	**79**	P	Pn	19 11 28.6	+1.5
APQ2	**Apoyeque**	**0.46**	**69**	P	Pn	19 11 28.2	+1.0
APQ2	**Apoyeque**	**0.46**	**69**	P	Pn	19 11 28.3	+1.1
CNGN	**Cerro Negro**	**0.47**	**8**	P	Pn	19 11 28.2	+0.9
CNGN	**Cerro Negro**	**0.47**	**8**	S	Sn	19 11 40.5	+3.4
CNGN	**Cerro Negro**	**0.47**	**8**	P	Pn	19 11 28.2	+0.9
USIM	**UNAN**	**0.49**	**80**	P	Pn	19 11 28.6	+1.2
USIM	**UNAN**	**0.49**	**80**	P	Pn	19 11 28.4	+0.9
UNAN	**Cigeo UNAN**	**0.49**	**81**	P	Pn	19 11 28.9	+1.4
UNAN	**Cigeo UNAN**	**0.49**	**81**	P	Pn	19 11 28.9	+1.4
ALLN	**Telcor Managua**	**0.50**	**76**	P	Pn	19 11 28.8	+1.4
ALLN	**Telcor Managua**	**0.50**	**76**	P	Pn	19 11 28.8	+1.4
TISN	**Laguna Tiscapa**	**0.50**	**78**	P	Pn	19 11 27.3	-0.3
TISN	**Laguna Tiscapa**	**0.50**	**78**	P	Pn	19 11 27.3	-0.3
ENAN	**Enatrel Managu**	**0.50**	**81**	P	Pn	19 11 28.9	+1.4
ENAN	**Enatrel Managu**	**0.50**	**81**	P	Pn	19 11 28.9	+1.4
R4DEC	**Barrio San Lui**	**0.52**	**77**	P	Pn	19 11 29.0	+1.3
R4DEC	**Barrio San Lui**	**0.52**	**77**	S	Sn	19 11 41.7	+4.0
R4DEC	**Barrio San Lui**	**0.52**	**77**	P	Pn	19 11 29.0	+1.3
ILCN	**San Idelfonso**	**0.54**	**7**	P	Pn	19 11 25.3	-2.7
PLRN	**Geotermica Pol**	**0.55**	**360**	P	Pn	19 11 28.7	+0.8
PLRN				S	Sn	19 11 40.4	+2.2
PLRN	**Geotermica Pol**	**0.55**	**360**	P	Pn	19 11 28.8	+0.8
QUEN	**Al S del Volca**	**0.56**	**351**	P	Pn	19 11 29.0	+0.8
QUEN	**Al S del Volca**	**0.56**	**351**	P	Pn	19 11 29.0	+0.8
HERN	**Volcan Telica**	**0.57**	**354**	P	Pn	19 11 29.8	+1.5
HERN	**Volcan Telica**	**0.57**	**354**	S	Sn	19 11 41.7	+2.9
HERN	**Volcan Telica**	**0.57**	**354**	P	Pn	19 11 29.0	+0.7
MAS3	**Al N del Volca**	**0.58**	**91**	P	Pn	19 11 29.3	+1.1
MAS3				S	Sn	19 11 42.1	+3.3
MAS3	**Al N del Volca**	**0.58**	**91**	P	Pn	19 11 29.4	+1.1
SABN	**Sabanita**	**0.60**	**97**	P	Pn	19 11 29.7	+1.2
SABN	**Sabanita**	**0.60**	**97**	P	Pn	19 11 29.7	+1.2
NANN	**Nandasmo**	**0.64**	**99**	P	Pn	19 11 30.8	+2.0
NANN	**Nandasmo**

MATN	**Matagalpa**	**1.09**	**48**	S	**Sn**	**19 29 18.7**	**+0.1**
MATN	**Matagalpa**	**1.09**	**48**	P	**Pn**	**19 29 01.7**	**-1.5**
CSGN	**Cosiguina Volc**	**1.09**	**315**	P	**Pn**	**19 29 02.6**	**-0.6**
CSGN				S	**Sn**	**19 29 19.5**	**+0.8**
CSGN	**Cosiguina Volc**	**1.09**	**315**	P	**Pn**	**19 29 02.6**	**-0.6**
BOAB	**BOACO BROADBAN**	**.10**	**77**	P	**Pn**	**19 29 02.2**	**-0.9**
BOAB	**BOACO BROADBAN**	**.10**	**77**	S	**Sn**	**19 29 18.6**	**0.0**
BOAB	**BOACO BROADBAN**	**.10**	**77**	P	**Pn**	**19 29 02.3**	**-0.9**
RCPN	**Sur Rio San Ju**	**1.47**	**26**	P	**Pn**	**19 29 07.9**	**+0.1**
RCPN	**Sur Rio San Ju**	**1.47**	**26**	P	**Pn**	**19 29 08.0**	**+0.1**
RCVN	**Varillal2**	**1.48**	**22**	P	**Pn**	**19 29 08.1**	**+0.1**
RCVN	**Varillal2**	**1.48**	**22**	S	**Sn**	**19 29 28.6**	**+1.3**
RCVN	**Varillal2**	**1.48**	**22**	P	**Pn**	**19 29 08.2**	**+0.1**
CNCH	**Conchagua**	**1.49**	**316**	*e*P	**Pn**	**19 29 07.6**	**-0.6**
PACA	**Pacayal**	**1.98**	**310**	*e*P	**Pn**	**19 29 12.5**	**-2.0**
PACA				*e*S	**Sn**	**19 29 39.3**	**+0.5**
PACA				IAML		19 29 41.6	
	comp=Z,670nm,0.4s						
PACA	**Pacayal**	**1.98**	**310**	P	**Pn**	**19 29 14.4**	**-0.1**
PACA	**Pacayal**	**1.98**	**310**	S	**Sn**	**19 29 40.4**	**+1.6**
PACA	**Pacayal**	**1.98**	**310**	P	**Pn**	**19 29 14.4**	**-0.1**
TECA	**Tecapa**	**2.13**	**307**	*e*S	**Sn**	**19 29 41.9**	**-0.6**
PIC2	**El Picacho**	**2.88**	**302**	*e*P	Pn	19 29 20.4	-6.2

DJA 24 19:35:22.1±0.4, **1°N**±3°×**12°2E**±°, **h82**km±5km, **M3.8**/12, **mb4.1**/4, **MLv3.6**/12, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.46**	**129**	P	Pn	19 35 37.0	+1.3
MRSI				S	Sn	19 35 48.0	+2.2
APSI	**Ampana**	**1.67**	**178**	P	Pn	19 35 51.2	+1.4
LUWI	**Luwuk**	**2.16**	**146**	P	Pn	19 35 57.7	+1.5
LUWI				S	Sn	19 36 23.6	+1.4
KMSI	**Cibinong**	**2.41**	**95**	P	Pn	19 36 00.3	+0.8
PCI	**Palu**	**2.41**	**226**	P	Pn	19 35 59.3	-0.3
PCI				S	Sn	19 36 28.7	+0.4
TTSI	**Tana Toraja**	**4.18**	**205**	P	Pn	19 36 22.8	-0.7
TTSI				S	Sn	19 37 11.2	0.0
SPSI	**Sidrap Palu**	**5.04**	**201**	P	Pn	19 36 35.8	+0.6
	0.1nm12nm,0.5s						
BKSI	**Bulukumba**	**6.22**	**194**	P	Pn	19 36 51.4	0.0
	10nm,1.1s						

*IDC **24** 19:38:52.5±1.5, 3°53S×128°43E, h0km, mb3.6/4, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=86.2km s-min=21.6km az=67.0*
*DJA **24** 19:38:55.8±0.2, 4°S±2°×12°9E±°, h10km, M4.3/19, mB5.4/1, mb4.5/11, MLv4.2/19, Mw(mB)4.8/1*
ISC 24 19:38:54.8±0.7, **3°52S**±0°06×**128°64E**±0°04, **h10**km, **n20**, σ1§**38**/24, **mb3.8**/3, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.34**	**59**	P	**Pg**	**19 39 01.9**	**+0.3**
MSAI				S	**Sg**	**19 39 07.2**	**+1.0**
AAI	**Ambon**	**0.47**	**250**	P	**Pg**	**19 39 05.2**	**+1.2**
AAI				S	**Sg**	**19 39 11.9**	**+1.7**
NLAI	**Namlea**	**1.56**	**280**	P	**Pn**	**19 39 23.1**	**+0.5**
BNDI	**Bandanaira**	**1.61**	**128**	P	**Pn**	**19 39 23.3**	**0.0**
SANI	**Sanana**	**3.02**	**299**	P	**Pn**	**19 39 43.5**	**+0.7**
FAKI	**Fak Fak**	**3.66**	**81**	P	**Pn**	**19 39 53.1**	**+1.6**
SWI	**Sorong**	**3.72**	**45**	P	**Pn**	**19 39 53.7**	**+1.3**
SWI				S	**Sn**	**19 40 38.0**	**+1.6**
TNTI	**Ternate**	**4.45**	**343**	P	**Pn**	**19 40 02.7**	**+0.2**
KMPI	**Kaimana, Papua**	**5.06**	**92**	P	**Pn**	**19 40 12.3**	**+1.5**
KMSI	**Cibinong**	**6.18**	**311**	P	**Pn**	**19 40 27.3**	**+1.0**
LUWI	**Luwuk**	**6.36**	**293**	P	**Pn**	**19 40 29.6**	**+0.9**
	0.2nm65nm,0.8s						
APSI	**Ampana**	**7.45**	**290**	P	**Pn**	**19 40 45.9**	**+2.2**
	52nm,0.7s						
MRSI	**Marisa**	**7.78**	**301**	P	**Pn**	**19 40 49.6**	**+1.3**
	0.1nm17nm,1.0s						
BAKI	**Biak**	**7.82**	**73**	P	**Pn**	**19 40 50.2**	**+1.5**
	0.1nm26nm,1.0s						
FITZ	**Fitzroy Crossi**	**14.78**	**191**	Pn	**Pn**	**19 42 22.2**	**-1.9**
	0.1nm,0.3s,baz=326,slow=7.3,SNR=2.2						
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**17.24**	**162**	P	**Pn**	**19 42 55.3**	**-0.7**
	0.3nm,0.3s,baz=339,slow=13,SNR=6.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**20.66**	**166**	P	**P**	**19 43 35.2**	**+0.2**
	8.3nm,0.8s,baz=346,slow=11,SNR=25						
ASAR				PcP	**PcP**	**19 47 44.0**	**-1.4**
	0.3nm,0.4s,baz=349,slow=1.8,SNR=4.1						
	8.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.51**	**308**	P	**P**	**19 45 58.4**	**-2.3**
	0.1nm,0.4s,baz=121,slow=8.5,SNR=5.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**64.59**	**327**	P	**P**	**19 49 31.4**	**-1.1**
	0.4nm,0.6s,baz=110,slow=7.2,SNR=6.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**68.86**	**328**	P	**P**	**19 49 58.3**	**-1.3**
	0.4nm,0.6s,baz=140,slow=6.0,SNR=5.4						
	0.4nm,0.6s						

IDC 24 19:44:13.9±7.1, **24°48S**×**115°16W**, **h0**km, **mb3.7**/2, **mbtmp3.7**/2, **Error ellipse: s-maj=739.3km s-min=90.8km az=106.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**32.80**	**114**	T	T	20 26 19.9	
	baz=280,slow=75,SNR=19						
H03N3	**Juan Fernandez**	**32.81**	**114**	T	T	20 26 21.1	
	baz=280,slow=75,SNR=20						
H03N1	**Juan Fernandez**	**32.82**	**114**	T	T	20 26 21.0	
	baz=280,slow=75,SNR=29						
PDAR	**Pinedale Array**	**67.11**	**4**	P	P	19 55 09.6	+0.1
	0.4nm,0.7s,baz=185,slow=8.6,SNR=3.4						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**86.67**	**0**	P	P	19 56 59.0	0.0
	0.7nm,0.9s,baz=174,slow=5.4,SNR=7.0						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**151.19**	**353**	PKPbc	PKPbc	20 04 08.8	-0.2
	0.6nm,0.7s,baz=338,slow=3.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**151.83**	**341**	PKPbc	PKPbc	20 04 09.8	-0.7
	0.4nm,0.3s,baz=48,slow=1.4,SNR=1.9						
MKAR	**Makanchi Array**	**153.72**	**332**	PKPbc	PKiKP	20 04 15.1	+0.1
	0.2nm,0.8s,baz=40,slow=2.5,SNR=1.8						

*IDC **24** 19:45:28.3±1.5, 34°68N×96°50E, h0km, mb3.3/4, mbtmp3.4/7, ML3.1/3, MS3.0/3, Error ellipse: s-maj=44.2km s-min=23.1km az=60.0*
ISC 24 19:45:32.7±0.9, **34°73N**±0°10×**96°5E**±0°1, **h35**km, **n9**, σ1§**45**/8, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.74**	**223**	P	**Pn**	**19 47 10.5**	**+0.9**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SONM	**Songino Array**	**15.05**	**27**	Pn	**Pn**	**19 49 02.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=14,SNR=8.6						
SONM				LR	LR	19 55 12.7	
	comp=Z,71nm,18.3s,baz=284,slow=39						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**16.11**	**323**	Pn	**Pn**	**19 49 14.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=5.1						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**16.36**	**172**	Pn	**Pn**	**19 49 17.4**	**-2.3**
	baz=348,slow=10,SNR=7.7						
CMAR				LR	LR	19 56 01.9	
	comp=Z,26nm,19.1s,baz=345,slow=39						
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**18.85**	**301**	LR	LR	19 58 06.7	
	comp=Z,66nm,18.7s,baz=9.5,slow=40						
KURBB	**Kurchatov Arra**	**20.56**	**326**	P	**P**	**19 50 08.6**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=140,slow=11,SNR=7.1						
	comp=Z,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**20.89**	**340**	P	**P**	**19 50 12.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=155,slow=11,SNR=4.4						
	comp=Z,0.2nm,0.4s						
KSRS	**Korea Array**	**25.50**	**75**	P	**P**	**19 50 57.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=294,slow=9.2,SNR=1.5						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**68.08**	**143**	P	**P**	**19 56 30.0**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=321,slow=7.0,SNR=4.2						
	comp=Z,0.6nm,1.0s						

*IDC **24** 19:49:42.6±1.3, 35°14N×22°73E, h0km, mb3.8/8, mbtmp3.7/12, ML3.2/4, Error ellipse: s-maj=26.3km s-min=22.3km az=16.0*
*THE **24** 19:49:49.1, 35°08N×22°75E, h10km±1km, ML3.2/4, Error ellipse: s-maj=2.1km s-min=1.0km az=26.0*
*ATH **24** 19:49:50.7, 35°14N×22°81E, h33km±7km, ML3.3/9, Manual Solution by G.Panopoulou First location: 2019/03/24 19:50:54, This location: 2019/03/24 20:41:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 5 km*
ISC 24 19:49:46.7±1.6, **35°06N**±0°06×**22°66E**±0°05, **h26**km±11km, **n80**, σ2§**19**/88, **mb3.8**/8, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.96**	**33**	P	**Pn**	**19 50 05.8**	**+1.3**
ANKY				S	**Sn**	**19 50 19.8**	**+2.5**
	2μm,0.7s						
ANKY	**Antikythira Is**	**0.96**	**33**	P	**Pn**	**19 50 05.5**	**+1.0**
ANKY				S	**Sb**	**19 50 17.0**	**+0.1**
IMMV	**Iera Moni Meta**	**1.15**	**70**	P	**Pb**	**19 50 08.8**	**+0.9**
IMMV				S	**Sn**	**19 50 24.8**	**+2.7**
	1μm,0.8s						
IMMV	**Iera Moni Meta**	**1.15**	**70**	P	**Pb**	**19 50 08.8**	**+0.9**
IMMV				S	**Sb**	**19 50 20.5**	**-1.9**
GVD	**Gavdhos**	**1.19**	**100**	P	**Pb**	**19 50 09.6**	**+1.0**
GVD				S	**Sn**	**19 50 26.2**	**+3.1**
	908nm,0.3s						
GVD	**Gavdhos**	**1.19**	**100**	P	**Pb**	**19 50 09.5**	**+1.0**
GVD				S	**Sb**	**19 50 22.4**	**-1.2**
CHNB	**Souda**	**1.23**	**69**	P	**Pb**	**19 50 10.4**	**+1.3**
PRNS	**Prines Rethymn**	**1.54**	**78**	P	**Pb**	**19 50 13.6**	**-0.9**
VLI	**Veliai**	**1.67**	**8**	P	**Pb**	**19 50 18.0**	**+1.3**
VLI				S	**Sb**	**19 50 38.4**	**+1.2**
	528nm,0.8s						
VLI	**Veliai**	**1.67**	**8**	P	**Pb**	**19 50 17.6**	**+1.0**
TMBK	**Timbaki Herakl**	**1.73**	**89**	P	**Pb**	**19 50 17.1**	**-0.6**
IDI	**Anoyia**	**1.84**	**82**	Pn	**Pb**	**19 50 18.4**	**-1.2**
	16nm,0.3s,baz=248,slow=7.4,SNR=171						
IDI				Sn	**Sn**	**19 50 39.2**	**0.0**
	9.3nm,0.3s,baz=261,slow=17,SNR=5.7						
IDI	**Anoyia**	**1.84**	**82**	P	**Pb**	**19 50 18.5**	**-1.2**
IACM	**Heraklion**	**1.99**	**82**	P	**Pb**	**19 50 20.9**	**-1.2**
MHLO	**Agia Marina, M**	**2.15**	**41**	P	**Pb**	**19 50 23.1**	**-1.9**
ITM	**Ithomi**	**2.19**	**344**	P	**Pb**	**19 50 25.1**	**-0.6**
ITM	**Ithomi**	**2.19**	**344**	P	**Pb**	**19 50 25.1**	**-0.6**
VLX	**Vlachokerasia**	**2.31**	**354**	P	**Pb**	**19 50 27.9**	**+0.1**
KRND	**KRANIDI**	**2.35**	**10**	P	**Pb**	**19 50 26.8**	**-1.4**
KRND	**KRANIDI**	**2.35**	**10**	P	**Pb**	**19 50 26.9**	**-1.4**
AMT	**Artemida-Makis**	**2.58**	**343**	P	**Pb**	**19 50 30.3**	**-1.9**
MET5	**Makryloggos,Me**	**2.61**	**12**	P	**Pn**	**19 50 29.5**	**+2.2**
MET4	**Agioi Theodoro**	**2.62**	**13**	P	**Pn**	**19 50 30.1**	**+2.8**
GUR	**Goura**	**2.88**	**355**	P	**Pb**	**19 50 34.6**	**-2.8**
ZKR	**Zakros**	**2.92**	**88**	P	**Pn**	**19 50 34.0**	**+2.6**
VLY	**Voula,Athens**	**2.93**	**18**	P	**Pn**	**19 50 34.0**	**+2.4**
LTK	**Loutraki**	**2.96**	**5**	P	**Pn**	**19 50 34.7**	**+2.6**
DRO	**Drossia**	**2.98**	**345**	P	**Pn**	**19 50 35.9**	**+3.6**
DRO	**Drossia**	**2.98**	**345**	P	**Pn**	**19 50 35.9**	**+3.6**
KLV	**Kalavryta, Ach**	**3.00**	**352**	P	**Pn**	**19 50 36.2**	**+3.5**
KLV	**Kalavryta, Ach**	**3.00**	**352**	P	**Pb**	**19 50 36.3**	**-3.2**
ATHU	**Athens Univers**	**3.04**	**17**	P	**Pn**	**19 50 34.2**	**+1.2**
PTL	**Penteli**	**3.13**	**18**	P	**Pn**	**19 50 36.3**	**+1.9**
RLS	**Riolos of Patr**	**3.14**	**343**	P	**Pn**	**19 50 38.1**	**+3.6**
DION	**Dionisos Attik**	**3.18**	**18**	P	**Pn**	**19 50 37.1**	**+2.1**
VIL2	**Platees**	**3.18**	**9**	P	**Pn**	**19 50 36.2**	**+1.1**
YRMI	**Loutra Irminis**	**3.21**	**341**	P	**Pn**	**19 50 38.6**	**+3.2**
KARY	**Karystos**	**3.29**	**25**	P	**Pn**	**19 50 38.1**	**+1.6**
AXS	**Araxos**	**3.29**	**342**	P	**Pn**	**19 50 40.1**	**+3.5**
KALE	**Kalithea**	**3.35**	**353**	P	**Pn**	**19 50 39.8**	**+2.4**
SERG	**Sergoula**	**3.38**	**352**	P	**Pn**	**19 50 40.8**	**+3.0**
EFP	**Efpalio**	**3.41**	**350**	P	**Pn**	**19 50 41.7**	**+3.5**
PSDA	**Pessada-Kefalo**	**3.47**	**332**	P	**Pn**	**19 50 41.3**	**+2.3**
VLS	**Valsamata**	**3.52**	**332**	P	**Pn**	**19 50 41.5**	**+1.7**
ANX	**Ano Chora**	**3.57**	**351**	P	**Pn**	**19 50 44.4**	**+3.9**
ANX	**Ano Chora**	**3.57**	**351**	P	**Pn**	**19 50 43.9**	**+3.4**
LKR	**Lokris**	**3.59**	**4**	P	**Pn**	**19 50 42.8**	**+2.1**
PVO	**Paravola**	**3.66**	**346**	P	**Pn**	**19 50 45.4**	**+3.8**
DMLN	**Damoulianata-K**	**3.66**	**331**	P	**Pn**	**19 50 43.7**	**+2.0**
AXAR	**Agios Charalam**	**3.69**	**360**	P	**Pn**	**19 50 45.1**	**+2.9**
KYMI	**Kymi, Euboea I**	**3.74**	**18**	P	**Pn**	**19 50 44.9**	**+2.1**
FSK	**Fiskardo**	**3.78**	**334**	P	**Pn**	**19 50 45.6**	**+2.3**
EVGI	**Lefkada island**	**3.90**	**336**	P	**Pn**	**19 50 47.6**	**+2.7**
EVR	**Evrytania**	**3.91**	**350**	P	**Pn**	**19 50 49.1**	**+4.0**
NYDR	**Nydri-Lefkada**	**3.97**	**337**	P	**Pn**	**19 50 48.5**	**+2.7**
LKD2	**Lefkada island**	**4.05**	**337**	P	**Pn**	**19 50 49.5**	**+2.5**
TSLK	**Tsoukalades, L**	**4.08**	**337**	P	**Pn**	**19 50 50.1**	**+2.6**
XOR	**Xorichti**	**4.32**	**5**	P	**Pn**	**19 50 53.0**	**+2.4**
TETR	**Tetrakomo, Epi**	**4.41**	**346**	P	**Pn**	**19 50 55.1**	**+3.0**
THL	**Klokotos Trika**	**4.52**	**354**	P	**Pn**	**19 50 55.5**	**+2.0**
ARG	**Arkhangelos**	**4.60**	**74**	P	**Pn**	**19 50 55.4**	**+0.9**
IGT	**Igoumenitsa**	**4.83**	**338**	P	**Pn**	**19 51 00.5**	**+2.7**
PRK	**Paraskevi**	**5.07**	**34**	P	**Pn**	**19 51 02.0**	**+1.0**
KEK	**Kerkira**	**5.17**	**335**	P	**Pn**	**19 51 04.8**	**+2.4**
PENT	**Pentalofos**	**5.26**	**347**	P	**Pn**	**19 51 06.9**	**+3.1**
NEST	**Nestorio**	**5.49**	**347**	P	**Pn**	**19 51 09.7**	**+2.8**
HORT	**Hortiatis**	**5.54**	**3**	P	**Pn**	**19 51 08.7**	**+1.2**
BRTR	**Keskin Array B**	**9.89**	**59**	Pn	**Pn**	**19 52 07.2**	**-0.1**
	0.1nm,0.3s,baz=232,slow=14,SNR=3.6						
	0.6nm,0.8s						
MMAI	**Mount Meron Ar**	**10.77**	**97**	Pn	**Pn**	**19 52 19.0**	**-0.3**
	0.9nm,0.3s,baz=290,slow=12,SNR=4.8						
	0.5nm,0.2s						
EIL	**Elat**	**11.70**	**114**	Pn	**Pn**	**19 52 30.5**	**-1.5**
	0.7nm,0.3s,baz=296,slow=5.7,SNR=8.9						
	2.9nm,0.5s						
GERES	**GERESS Array B**	**15.28**	**337**	Pn	**Pn**	**19 53 19.5**	**-1.2**
	baz=150,slow=14,SNR=2.1						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**16.34**	**15**	Pn	**Pn**	**19 53 34.6**	**+0.4**
	0.5nm,0.3s,baz=215,slow=10,SNR=4.0						
HFS	**Hagfors**	**25.75**	**350**	P	**P**	**19 55 14.5**	**-0.5**
	0.8nm,0.4s,baz=165,slow=12,SNR=6.8						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**26.49**	**4**	P	**P**	**19 55 21.2**	**-0.3**
	3.3nm,1.0s,baz=193,slow=7.8,SNR=3.7						
	3.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**28.90**	**226**	P	**P**	**19 55 44.3**	**+0.7**
	1.2nm,0.4s,baz=25,slow=9.7,SNR=3.1						
	1.2nm,0.4s						
ARCES	**ARCESS Array B**	**34.56**	**2**	P	**P**	**19 56 31.8**	**-1.1**
	2.1nm,0.9s,baz=181,slow=7.9,SNR=3.7						
	2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**42.77**	**51**	P	**P**	**19 57 40.9**	**-1.0**
	0.8nm,0.4s,baz=273,slow=8.6,SNR=15						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**45.53**	**56**	P	**P**	**19 58 02.9**	**-1.2**
	0.4nm,0.3s,baz=273,slow=8.2,SNR=23						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**46.55**	**46**	P	**P**	**19 58 10.5**	**-1.5**
	0.3nm,0.4s,baz=270,slow=9.8,SNR=2.3						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**76.89**	**341**	P	**P**	**20 01 35.6**	**-0.6**
	0.1nm,0.5s,baz=28,slow=5.3,SNR=2.3						
	0.1nm,0.5s						

*TIF **24** 20:37:55.7, 44°33N×43°68E, h21km±4km*
*NORS **24** 20:37:57.3, 44°34N×43°45E, h11km, MPVA4.4*
*MOS **24** 20:37:58.3, 44°35N×43°48E, h32km, MPVA4.5*
ISC 24 20:37:57.9±0.9, **44°39N**±0°03×**43°48E**±0°02, **h31**km±9km, **n98**, σ1§**45**/171, **3C-7D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYA1	**Pyatigorsk**	**0.43**	**221**	*e*Pg	**Pb**	**20 38 07.5**	**+0.2**
PYA1				*e*Sg	**Sb**	**20 38 14.2**	**+0.5**
PYA1	**Pyatigorsk**	**0.43**	**221**	‖*e*PG	**Pb**	**20 38 07.5**	**+0.2**
PYA1				*e*S	**Sb**	**20 38 14.2**	**+0.5**
ALER	**Alexandrovskoy**	**0.55**	**313**	*i* Pg	**Pn**	**20 38 10.3**	**+0.6**
ALER				*e*Sg	**Sn**	**20 38 18.8**	**+1.0**
ALER	**Alexandrovskoy**	**0.55**	**313**	‖*i* PG	**Pn**	**20 38 10.2**	**+0.5**
ALER				*e*S	**Sn**	**20 38 18.8**	**+1.0**
KBTC	**Kuba-Taba**	**0.57**	**185**	*i* Pg	**Pb**	**20 38 09.8**	**+0.2**
KBTC				*e*Sg	**Sb**	**20 38 17.9**	**+0.4**
KBTC	**Kuba-Taba**	**0.57**	**185**	*i* PG	**Pb**	**20 38 09.8**	**+0.2**
KBTC				*e*S	**Sb**	**20 38 17.9**	**+0.4**
BEYR	**Belyy Ugol+**	**0.61**	**232**	*e*Pg	**Pb**	**20 38 10.1**	**0.0**
BEYR				*e*Sg	**Sb**	**20 38 18.9**	**+0.4**
BEYR	**Belyy Ugol+**	**0.61**	**232**	‖*e*PG	**Pb**	**20 38 10.1**	**0.0**
BEYR				*e*S	**Sb**	**20 38 18.9**	**+0.4**
KIV0	**Kislovodsk Arr**	**0.71**	**233**	*e*Pg	**Pb**	**20 38 11.6**	**-0.3**
KIV0				*e*Sg	**Sb**	**20 38 21.5**	**0.0**
KIV	**Kislovodsk**	**0.72**	**233**	*e*Pg	**Pb**	**20 38 11.7**	**-0.3**
KIV				*e*Sg	**Sb**	**20 38 21.7**	**+0.1**
KIV	**Kislovodsk**	**0.72**	**233**	*e*PG	**Pb**	**20 38 11.7**	**-0.3**
KIV				*e*S	**Sb**	**20 38 21.7**	**+0.1**
GOF	**Gofitskoye**	**0.74**	**335**	*i* Pg	**Pn**	**20 38 13.5**	**+1.2**
GOF				*e*Sg	**Sn**	**20 38 25.1**	**+2.7**
GOF	**Gofitskoye**	**0.74**	**335**	*d i* PG	**Pn**	**20 38 13.4**	**+1.2**
GOF				*e*S	**Sn**	**20 38 25.8**	**+3.4**
KBZ	**Khabaz**	**0.78**	**213**	‖*e*PG	**Pb**	**20 38 12.5**	**-0.5**
KBZ				*e*S	**Sb**	**20 38 23.0**	**-0.2**
PRTR	**Priterechnaya**	**0.86**	**138**	*e*Pg	**Pn**	**20 38 14.2**	**+0.4**
PRTR				*e*Sg	**Sn**	**20 38 25.8**	**+0.6**
PRTR	**Priterechnaya**	**0.86**	**138**	*e*PG	**Pn**	**20 38 14.2**	**+0.4**
PRTR				*e*S	**Sn**	**20 39 25.4**	**+0.2**
SHA1	**Shidzhatmaz**	**0.88**	**223**	*e*Pg	**Pb**	**20 38 14.2**	**-0.7**
SHA1				*e*Sg	**Sb**	**20 38 26.0**	**-0.3**
SHA1	**Shidzhatmaz**	**0.88**	**223**	*e*PG	**Pb**	**20 38 14.1**	**-0.7**
SHA1				*e*S	**Sb**	**20 38 26.0**	**-0.3**
NCK	**Nalchik**	**0.90**	**175**	*e*Pg	**Pb**	**20 38 14.4**	**-0.5**
NCK				*e*Sg	**Sn**	**20 38 26.8**	**+0.6**
NCK	**Nalchik**	**0.90**	**175**	*e*PG	**Pb**	**20 38 14.4**	**-0.5**
NCK				*e*S	**Sn**	**20 38 26.8**	**+0.6**
STDR	**Stavd-Durt**	**1.10**	**157**	*e*Pg	**Pn**	**20 38 17.5**	**+0.4**
STDR				*e*Sg	**Sn**	**20 38 31.9**	**+0.6**
STDR	**Stavd-Durt**	**1.10**	**157**	*e*PG	**Pn**	**20 38 17.6**	**+0.4**
STDR				*e*S	**Sn**	**20 38 33.3**	**+2.0**
NVNR	**Nevinnomyssk**	**1.11**	**282**	*e*Pg	**Pn**	**20 38 17.3**	**0.0**
NVNR				*e*Sg	**Sb**	**20 38 33.0**	**+0.4**
NVNR	**Nevinnomyssk**	**1.11**	**282**	*e*PG	**Pn**	**20 38 17.3**	**0.0**
NVNR				*e*S	**Sb**	**20 38 33.0**	**+0.4**
TRKR	**Terskaya**	**1.12**	**126**	*e*Pg	**Pb**	**20 38 18.1**	**-0.5**
TRKR				*e*Sg	**Sn**	**20 38 33.5**	**+1.8**
TRKR	**Terskaya**	**1.12**	**126**	*e*PG	**Pb**	**20 38 18.2**	**-0.4**
TRKR				*e*S	**Sn**	**20 38 33.7**	**+2.0**
LSNR	**Lesken**	**1.14**	**167**	*e*Pg	**Pn**	**20 38 17.8**	**+0.1**
LSNR				*e*Sg	**Sn**	**20 38 33.9**	**+1.7**
LSNR	**Lesken**	**1.14**	**167**	*e*PG	**Pn**	**20 38 18.1**	**+0.4**
LSNR				*e*S	**Sn**	**20 38 33.9**	**+1.7**
NEUR	**Neytrino**	**1.26**	**207**	*e*Pg	Pn	20 38 11.4	-8.0
NEUR				*e*Sg	Sn	20 38 27.7	-7.7
NEUR	**Neytrino**	**1.26**	**207**	‖*e*PG	Pn	20 38 11.4	-8.1
BTKR	**Batakoyurt**	**1.27**	**143**	*e*Pg	**Pb**	**20 38 21.2**	**0.0**
BTKR				*e*Sg	**Sn**	**20 38 37.6**	**+2.1**
BTKR	**Batakoyurt**	**1.27**	**143**	*e*PG	**Pb**	**20 38 21.6**	**+0.4**
BTKR				*e*S	**Sn**	**20 38 39.2**	**+3.7**
ARNR	**Ardon**	**1.34**	**154**	*e*Pg	**Pn**	**20 38 20.9**	**+0.4**
ARNR				*e*Sg	**Sb**	**20 38 38.6**	**-0.5**
ARNR	**Ardon**	**1.34**	**154**	*e*PG	**Pb**	**20 38 22.8**	**+0.5**
ARNR				*e*S	**Sb**	**20 38 41.0**	**+1.9**
KORR	**Kora**	**1.37**	**162**	*e*Pg	**Pb**	**20 38 22.6**	**-0.3**
KORR				*e*Sg	**Sb**	**20 38 40.2**	**+0.2**
KORR	**Kora**	**1.37**	**162**	*e*PG	**Pb**	**20 38 22.6**	**-0.3**
KORR				*e*S	**Sb**	**20 38 40.2**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.49**	**177**	*e*Pg	**Pn**	**20 38 21.8**	**-0.9**
DIGR				*e*Sg	**Sn**	**20 38 41.2**	**0.0**
DIGR	**Digorskoe uzhe**	**1.49**	**177**	*e*PG	**Pn**	**20

ALU Sm 20 40 44.0
comp=N,18nm,0.5s
TARU Tarkhankut 7.84 281 *e*S **Sn 20 41 15.8 -1.5**
TARU Sm 20 41 23.2
comp=N,7.0nm,0.6s
AKTO Aktyubinsk 11.55 53 ⇓Pn **Pn 20 40 37.3 -3.2**
comp=N,0.7nm,0.8s
AKTO ⇑Sn Sn 20 42 37.9 -10
comp=N,1.3nm,0.8s
AKTO Aktyubinsk 11.55 53 P **Pn 20 40 37.3 -3.2**
AB31 Akbulak array 12.28 61 ⇑Pn **Pn 20 40 47.1 -3.3**
comp=N,0.3nm,0.5s,baz=251,slow=11
AB31 ⇓Sn Sn 20 42 55.5 -11
comp=N,1.0nm,0.7s,baz=258,slow=21
AB31 Akbulak array 12.28 61 P **Pn 20 40 47.1 -3.3**

*IDC **24** 20:52:04.4±4.6, 47°.01N×152°.81E, h72km±29km, mb3.3/6, mbtmp3.6/8, Error ellipse: s-maj=94.5km s-min=27.5km az=150.0*
ISC 24 20:52:03.2±3.1, 47°.0N±0°.4×152°.8E±0°.3, h56km, n17, σ0 95/8, mb3.8/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.86**	**25**	P	**Pn**	**20 53 42.2**	**+1.3**
	0.8nm,0.5s,baz=209,slow=13,SNR=4.2						
ASAJ	**Asahikawa**	**7.74**	**252**	P	**Pn**	**20 53 54.0**	**+0.9**
	3.5nm,0.7s,baz=303,slow=25,SNR=1.1						
H11N2	**WAKE ISLAND Hy**	**29.55**	**152**	T	T	21 29 17.3	
	baz=341						
H11N1	**WAKE ISLAND Hy**	**29.56**	**152**	T	T	21 29 21.7	
	baz=341						
H11N3	**WAKE ISLAND Hy**	**29.57**	**152**	T	T	21 29 24.3	
	baz=341						
H11S1	**WAKE ISLAND Hy**	**30.64**	**153**	T	T	21 30 41.5	
	baz=341,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**30.64**	**153**	T	T	21 30 48.9	
	baz=341,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.66**	**153**	T	T	21 30 44.3	
	baz=341,slow=76,SNR=8.4						
MKAR	**Makanchi Array**	**46.64**	**297**	P	**P**	**21 00 25.5**	**-0.2**
	0.2nm,0.7s,baz=77,slow=9.0,SNR=1.4						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**50.83**	**37**	P	**P**	**21 00 57.1**	**-0.4**
	0.2nm,0.7s,baz=292,slow=8.2,SNR=3.7						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**63.71**	**335**	P	**P**	**21 02 27.8**	**-0.5**
	1.1nm,0.6s,baz=35,slow=5.1,SNR=4.8						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**67.91**	**341**	P	**P**	**21 02 55.5**	**+0.1**
	0.8nm,0.7s,baz=29,slow=6.5,SNR=2.2						
	0.8nm,0.7s						
HFS	**Hagfors**	**68.14**	**339**	P	**P**	**21 02 56.0**	**-0.8**
	0.9nm,0.5s,baz=35,slow=5.3,SNR=6.8						
	0.9nm,0.5s						
AKASG	**Malin Array Be**	**71.21**	**326**	P	**P**	**21 03 14.9**	**-0.9**
	0.5nm,0.4s,baz=36,slow=5.7,SNR=4.7						
	0.5nm,0.4s						
H03N2	**Juan Fernandez**	**138.95**	**90**	T	T	23 46 33.5	
	baz=308						
H03N1	**Juan Fernandez**	**138.97**	**90**	T	T	23 46 30.3	
	baz=308						
H03N3	**Juan Fernandez**	**138.97**	**90**	T	T	23 46 22.9	
	baz=308						

*IDC **24** 20:55:21.4±1.0, 12°.88N×143°.09E, h157km±9km, mb4.1/26, mbtmp4.5/27, Error ellipse: s-maj=13.7km s-min=8.9km az=79.0*
*NEIC **24** 20:55:22.4±1.6, 12°.86N±0°.07×143°.1E±0°.1, h164km±6km, mb4.4/51, Error ellipse: s-maj=17.4km s-min=10.7km az=87.0*
ISC 24 20:55:20.6±0.4, 12°.85N±0°.06×143°.00E±0°.07, h150km, n88, σ0 83/88, mb4.4/49, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.96**	**68**		**Pn**	**20 55 56.8**	**+1.6**
GUMO	**Guam**	**1.96**	**68**	P	**Pn**	**20 55 56.6**	**+1.4**
	204nm,0.3s,baz=232,slow=2.6,SNR=33						
GUMO				S	**Sn**	**20 56 21.7**	**-0.1**
	538nm,0.3s,baz=10,slow=23,SNR=25						
JMZ	**Minamidaito 2**	**17.01**	**321**	P	**P**	**20 59 09.4**	**+0.4**
FAKI	**Fak Fak**	**18.96**	**215**	P	**Pn**	**20 59 35.6**	**+2.8**
FAKI				IAmb	IAmb	20 59 36.4	
	comp=Z,26nm,0.9s						
JOW	**Kunigami**	**19.60**	**317**	P	**P**	**20 59 39.5**	**+2.2**
JOW	**Kunigami**	**19.60**	**317**	P	**P**	**20 59 39.1**	**+1.8**
	comp=Z,30nm,0.5s,baz=136,slow=12,SNR=18						
JMN	**Monobe**	**22.38**	**340**	P	**P**	**21 00 07.4**	**+0.8**
JMN				IAmb	IAmb	21 00 22.8	
	comp=Z,16nm,1.1s						
JNU	**Nakatsue**	**23.02**	**333**	P	**P**	**21 00 12.9**	**+0.4**
JNU				IAmb	IAmb	21 00 15.2	
	comp=Z,20nm,0.8s						
JNU	**Nakatsue**	**23.02**	**333**	P	**P**	**21 00 12.9**	**+0.4**
	comp=Z,13nm,0.7s,baz=143,slow=3.3,SNR=7.6						
	comp=Z,13nm,0.7s						
JGF	**Kuroka**	**23.22**	**348**	P	**P**	**21 00 13.3**	**-1.0**
MJAR	**Matsushiro Arr**	**23.98**	**350**	P	**P**	**21 00 20.7**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=186,slow=11,SNR=8.7						
	comp=Z,1.6nm,0.5s						
MAJO	**Matsushiro**	**23.98**	**350**	P	**P**	**21 00 20.5**	**-0.7**
MAJO				IAmb	IAmb	21 00 21.1	
	comp=Z,8.8nm,0.8s						
COEN	**Coen**	**26.64**	**180**	P	**P**	**21 00 44.8**	**-0.6**
COEN				IAmb	IAmb	21 00 49.8	
	comp=Z,7.4nm,1.1s						
KSRS	**Korea Array**	**27.96**	**334**	P	**P**	**21 00 56.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=140,slow=9.6,SNR=4.5						
	comp=Z,1.6nm,0.7s						
USA0B	**Ussuriysk Arra**	**32.64**	**345**	P	**P**	**21 01 39.2**	**+1.1**
USA0B				IAmb	IAmb	21 01 40.0	
	comp=Z,7.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.64**	**345**	P	**P**	**21 01 38.8**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=172,slow=8.5,SNR=10.0						
	comp=Z,5.3nm,0.7s						
WRAB	**Tennant Creek**	**33.67**	**195**	P	**P**	**21 01 47.6**	**+0.2**
WRA	**Warramunga Arr**	**33.69**	**195**	P	**P**	**21 01 47.6**	**+0.1**
	comp=Z,8.9nm,0.6s,baz=339,slow=10,SNR=55						
WRA				PcP	**PcP**	**21 04 23.8**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=22,slow=3.8,SNR=6.2						
	comp=Z,8.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**35.20**	**209**	P	**P**	**21 02 01.0**	**+0.5**
ENH	**Enshi**	**35.48**	**305**	P	**P**	**21 02 03.1**	**+0.2**
ENH				IAmb	IAmb	21 02 04.3	
	comp=Z,9.4nm,0.7s						
AS31	**Alice Springs**	**37.37**	**194**	P	**P**	**21 02 17.7**	**-1.2**
ASAR	**Alice Springs**	**37.37**	**194**	P	**P**	**21 02 18.1**	**-0.8**
ASAR	**Alice Springs**	**37.37**	**194**	P	**P**	**21 02 19.2**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=20,slow=12,SNR=56						
ASAR				PcP	**PcP**	**21 04 34.6**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=29,slow=2.8,SNR=7.7						
	comp=Z,2.1nm,0.4s						
KLR	**Kul'dur**	**37.44**	**348**	P	**P**	**21 02 19.9**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=145,slow=6.7,SNR=14						
	comp=Z,4.1nm,0.7s						
EIDS	**Eidsvold**	**38.80**	**168**	P	**P**	**21 02 30.1**	**-0.7**
MBWA	**Marble Bar**	**40.81**	**214**	P	**P**	**21 02 47.2**	**-0.2**
MBWA				IAmb	IAmb	21 03 04.4	
	comp=Z,14nm,1.1s						
CRAI	**Chiangrai**	**41.43**	**286**	P	**P**	**21 02 52.6**	**-0.1**
DZM	**Mont Dzumac**	**41.63**	**146**	P	**P**	**21 02 55.4**	**+1.0**
DZM				IAmb	IAmb	21 02 56.7	
	comp=Z,15nm,1.0s						
PETK	**Petropavlovsk-**	**41.83**	**13**	P	**P**	**21 02 55.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=224,slow=6.7,SNR=1.5						
	comp=Z,0.9nm,0.6s						
KULM	**Kulim**	**42.44**	**264**	P	**P**	**21 03 00.8**	**-0.2**
KULM				IAmb	IAmb	21 03 02.8	
	comp=Z,7.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.71**	**283**	P	**P**	**21 03 04.0**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=86,slow=6.2,SNR=24						
CMAR				PcP	**PcP**	**21 04 52.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=110,slow=1.6,SNR=4.9						
	comp=Z,3.3nm,0.8s						
STKA	**Stephens Creek**	**44.49**	**182**	P	**P**	**21 03 16.3**	**-0.8**
STKA	**Stephens Creek**	**44.49**	**182**	P	**P**	**21 03 16.7**	**-0.4**
	comp=Z,9.1nm,0.6s,baz=359,slow=7.7,SNR=23						
	comp=Z,9.1nm,0.6s						
BBOO	**Buckleboo**	**45.89**	**188**	P	**P**	**21 03 27.5**	**-0.5**
BBOO				IAmb	IAmb	21 03 36.2	
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**46.31**	**326**	P	**P**	**21 03 31.6**	**+0.2**
SONM	**Songino Array**	**46.31**	**326**	P	**P**	**21 03 32.2**	**+0.8**
	comp=Z,3.4nm,0.5s,baz=146,slow=7.2,SNR=39						
SONM				PcP	**PcP**	**21 05 03.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=120,slow=2.0,SNR=2.7						
	comp=Z,3.4nm,0.5s						
GSI	**Gunungsitoli**	**46.43**	**259**	P	**P**	**21 03 31.7**	**-1.0**
GSI				IAmb	IAmb	21 03 43.7	
	comp=Z,16nm,0.9s						
MA2	**Magadan**	**46.99**	**5**	P	**P**	**21 03 36.0**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=136,slow=22,SNR=3.4						
	comp=Z,3.9nm,0.6s						
CAN	**Canberra**	**48.24**	**173**	P	**P**	**21 03 45.3**	**-1.0**
CAN				IAmb	IAmb	21 03 58.8	
	comp=Z,11nm,1.1s						
MORW	**Morawa**	**49.15**	**212**	P	**P**	**21 03 53.0**	**-0.3**
SHL	**Shillong**	**49.62**	**293**	P	**P**	**21 03 57.6**	**+0.3**
SHL				IAmb	IAmb	21 03 58.0	
	comp=Z,7.2nm,0.6s						
YAK	**Yakutsk**	**50.03**	**352**	P	**P**	**21 03 59.1**	**-0.4**
YAK	**Yakutsk**	**50.03**	**352**	P	**P**	**21 03 59.4**	**-0.1**
	comp=Z,13nm,0.5s,baz=294,slow=1.7,SNR=9.4						
	comp=Z,13nm,0.5s						
TOO	**Toolangi**	**50.21**	**177**	P	**P**	**21 04 01.6**	**+0.4**
TOO				IAmb	IAmb	21 04 03.0	
	comp=Z,4.1nm,0.6s						
SEY	**Seymchan**	**50.45**	**6**	P	**P**	**21 04 03.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=180,slow=6.6,SNR=14						
	comp=Z,2.1nm,0.7s						
TIXI	**Tiksi**	**59.39**	**355**	P	**P**	**21 05 05.7**	**-1.0**
MK31	**Makanchi Array**	**60.77**	**317**	P	**P**	**21 05 17.2**	**+0.6**
MK31				IAmb	IAmb	21 05 17.7	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**60.77**	**317**	P	**P**	**21 05 17.1**	**+0.5**
MKAR	**Makanchi Array**	**60.77**	**317**	P	**P**	**21 05 17.2**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=92,slow=8.9,SNR=45						
	comp=Z,3.4nm,0.6s						
MAKZ	**Makanchi**	**60.98**	**317**	P	**P**	**21 05 18.3**	**+0.3**
MAKZ				IAmb	IAmb	21 05 19.6	
	comp=Z,6.2nm,0.8s						
ZAA0	**Zalesovo Array**	**61.17**	**325**	P	**P**	**21 05 19.0**	**-0.2**
ZALV	**Zalesovo Beam**	**61.17**	**325**	P	**P**	**21 05 19.1**	**-0.1**
	comp=Z,8.4nm,0.4s,baz=109,slow=7.5,SNR=42						
	comp=Z,8.4nm,0.4s						
KURK	**Kurchatov**	**63.98**	**320**	P	**P**	**21 05 38.1**	**+0.3**
KURBB	**Kurchatov Arra**	**64.02**	**320**	P	**P**	**21 05 38.3**	**+0.2**
	comp=Z,17nm,0.7s,baz=105,slow=6.7,SNR=158						
	comp=Z,17nm,0.7s						
NRIK	**Noril'sk**	**66.24**	**341**	P	**P**	**21 05 51.9**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=107,slow=7.9,SNR=8.6						
	comp=Z,4.4nm,0.7s						
ARSB	**Arslanbob**	**66.65**	**310**	IAmb	IAmb	21 05 56.4	
	comp=Z,3.4nm,0.6s						
BTK	**Batken**	**68.24**	**308**	IAmb	IAmb	21 06 06.0	
	comp=Z,2.7nm,0.5s						
KK31	**Karatay Array**	**68.57**	**311**	IAmb	IAmb	21 06 08.4	
	comp=Z,3.7nm,0.8s						
KKAR	**Karatay Array**	**68.57**	**311**	P	**P**	**21 06 07.9**	**+0.6**
KKAR	**Karatay Array**	**68.57**	**311**	IAmb	IAmb	21 06 08.4	
	comp=Z,3.9nm,0.8s						
GAR	**Garm**	**68.61**	**307**	P	**P**	**21 06 07.7**	**-0.1**
E22K	**Anaktuvuk Pass**	**69.01**	**21**	P	**P**	**21 06 09.7**	**+0.2**
BVAR	**Borovoye Array**	**69.38**	**322**	P	**P**	**21 06 12.2**	**+0.2**
	comp=Z,13nm,0.5s,baz=103,slow=7.4,SNR=97						
	comp=Z,13nm,0.5s						
BRVK	**Borovoye**	**69.45**	**322**	P	**P**	**21 06 12.8**	**+0.3**
SIMJ	**Simiganj**	**69.63**	**307**	P	**P**	**21 06 13.4**	**-0.6**
SIMJ				IAmb	IAmb	21 06 14.7	
	comp=Z,3.7nm,0.6s						
E23K	**Chandalar**	**69.77**	**22**	P	**P**	**21 06 14.1**	**-0.2**
ILAR	**Eielson Array**	**70.01**	**25**	P	**P**	**21 06 14.3**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=252,slow=5.8,SNR=18						
	comp=Z,1.1nm,0.6s						
D24K	**Happy Valley**	**70.36**	**21**	P	**P**	**21 06 18.6**	**+0.9**
D24K				IAmb	IAmb	21 06 19.0	
	comp=Z,3.9nm,0.6s						
RIDG	**Independent Ri**	**70.67**	**27**	P	**P**	**21 06 19.4**	**-0.4**
F25K	**Christian Rive**	**71.11**	**23**	P	**P**	**21 06 23.1**	**+0.7**
BMAR	**Burnt Mountain**	**71.48**	**23**	P	**P**	**21 06 25.1**	**+0.5**
ABKAR	**Akbulak array**	**75.87**	**318**	P	**P**	**21 06 49.9**	**-0.5**
ABKAR	**Akbulak array**	**75.87**	**318**	IAmb	IAmb	21 06 50.8	
	comp=Z,3.7nm,0.7s						
ARTI	**Arti**	**76.43**	**325**	P	**P**	**21 06 52.9**	**-0.6**
ARTI				IAmb	IAmb	21 06 53.4	
	comp=Z,7.3nm,0.4s						
ARTI	**Arti**	**76.43**	**325**	P	**P**	**21 06 52.9**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=55,slow=1.9,SNR=7.1						
	comp=Z,2.6nm,0.5s						
AKTO	**Aktyubinsk**	**77.03**	**319**	P	**P**	**21 06 54.5**	**-2.5**
	comp=Z,1.3nm,0.6s,baz=106,slow=5.8,SNR=5.5						
YKA	**Yellowknife Ar**	**84.34**	**27**	P	**P**	**21 07 34.6**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=287,slow=5.4,SNR=11						
	comp=Z,0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.47**	**350**	P	**P**	**21 07 36.1**	**+0.1**
	comp=Z,16nm,1.2s,baz=54,slow=7.6,SNR=1.7						
	comp=Z,16nm,1.2s						
ARCES	**ARCESS Array B**	**87.22**	**342**	P	**P**	**21 07 48.8**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=80,slow=7.0,SNR=12						
	comp=Z,4.4nm,1.0s						
NVAR	**Mina Array Bea**	**88.79**	**51**	P	**P**	**21 07 58.3**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=280,slow=5.8,SNR=6.3						
	comp=Z,1.5nm,0.8s						
FINES	**FINESS Array B**	**91.05**	**335**	P	**P**	**21 08 05.9**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=57,slow=5.2,SNR=14						
	comp=Z,0.8nm,0.3s						
BOSA	**Boshof**	**120.30**	**244**	PKP	**PKPdf**	**21 13 54.3**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=305,slow=9.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**133.75**	**303**	PKP	**PKPdf**	**21 14 20.2**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=55,slow=3.8,SNR=2.7						
PLCA	**Paso Flores**	**139.58**	**140**	PKP	**PKPdf**	**21 14 31.1**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=286,slow=3.5,SNR=4.0						
CFA	**Coronel Fontan**	**145.77**	**128**	PKPbc	**PKPdf**	**21 14 42.9**	**+1.0**
	comp=Z,4.2nm,0.7s,baz=210,slow=3.3,SNR=10.0						
LPAZ	**La Paz**	**149.69**	**100**	PKPbc	**PKPbc**	**21 14 55.1**	**+0.8**
	comp=Z,7.3nm,0.7s,baz=318,slow=2.8,SNR=27						
SIV	**San Ignacio**	**156.48**	**101**	PKP	**PKPdf**	**21 14 57.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=229,slow=9.3,SNR=2.1						
CPUP	**Villa Florida**	**156.67**	**128**	PKPab	**PKPab**	**21 15 28.4**	**0.0**
	comp=Z,0.8nm,0.4s,baz=272,slow=3.4,SNR=4.4						

*BJI **24** 21:17:39.2, 52°.10N×178°.29E, h95km, mB5.0/17, mb5.1/64*
*GCMT **24** 21:17:40.5±0.4, 51°.99N±0°.04×178°.64E±0°.04, h94km±3km, MW4.8/90, Moment Tensor Solution. s24,c25; s90,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.38±.08; Mθθ0.19±.13; Mφφ1.19±.10; Mrθ-0.52±.07; Mrφ-1.15±.09; Mθφ-0.27±.06; Best double couple: M=1.81400×10^16 NP1:φs352.00000°, δ50.00000°, λ-53.00000°. NP2: φs122.00000°, δ52.00000°, λ-126.00000°. Principal axes: T 1.9440, Plg1.0000°, Azm237.0000°; N -0.2640, Plg27.0000°, Azm146.0000°; P -1.6830, Plg63.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **24** 21:17:40.8±2.8, 51°.9N±0°.1×178°.48E±0°.05, h79km±4km Error ellipse: s-maj=15.1km s-min=3.5km az=192.0*
*NEIC **24** 21:17:41.5±1.4, 52°.0N±0°.1×178°.48E±0°.08, h98km±5km, mb4.6/243, ML4.5/6, ML4.4(AEIC), Error ellipse: s-maj=15.9km s-min=7.0km az=184.0*
*IDC **24** 21:17:41.4±0.4, 51°.94N×178°.48E, h103km±2km, mb4.2/31, mbtmp4.5/36, MS3.4/24, Error ellipse: s-maj=10.7km s-min=6.7km az=2.0*
*MOS **24** 21:17:41.3±1.1, 51°.95N×178°.47E, h114km, mb4.9/41, Error ellipse: s-maj=9.4km s-min=5.5km az=112.2*
ISC 24 21:17:41.2±0.3, 51°.85N±0°.05×178°.52E±0°.03, h103km±2km, h102km; pP-P, n736, σ1 9 33/711, mb4.7/194, 39C-24D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.63**	**91**		**Pn**	**21 18 09.3**	**+0.1**
GANE	**Gareloi Northe**	**1.68**	**90**		**Pn**	**21 18 09.8**	**+0.1**
GALAA	**Gareloi Lava P**	**1.68**	**92**		**Pn**	**21 18 10.2**	**+0.4**
TANO	**Tanaga North**	**2.08**	**87**		**Pn**	**21 18 15.0**	**+0.2**
TANO					**Sn**	**21 18 40.3**	**-0.4**
TASE	**Tanaga Southea**	**2.14**	**89**		**Pn**	**21 18 15.8**	**+0.2**
TAFP	**Tanaga Falls P**	**2.17**	**87**		**Pn**	**21 18 16.1**	**+0.1**
TAFP					**Sn**	**21 18 42.6**	**0.0**
KICM	**Kanaga Island**	**2.66**	**87**		**Pn**	**21 18 22.7**	**+0.4**
KIWB	**Kanaga Island**	**2.69**	**88**		**Pn**	**21 18 22.5**	**-0.2**
KIRH	**Kanaga Island**	**2.72**	**87**		**Pn**	**21 18 23.2**	**0.0**
KIRH					**Sn**	**21 18 55.8**	**+0.3**
SHEM	**Shemya Is, Ala**	**2.85**	**290**	P	**Pn**	**21 18 23.7**	**-1.2**
	216nm,0.2s,baz=85,slow=3.4,SNR=48						
SHEM				S	**Sn**	**21 18 57.2**	**-1.5**
	329nm,0.3s,baz=267,slow=23,SNR=15						
SHEM				LR	LR	21 19 16.2	
	comp=Z,667nm,21.7s,baz=348,slow=34						
SMY	**Shemya**	**2.85**	**290**	Pn	**Pn**	**21 18 23.8**	**-1.2**
SMY				Sn	**Sn**	**21 18 56.9**	**-1.8**
SMY				IAML		21 19 14.3	
	comp=E,2μm,1.1s						
SMY				IAML		21 19 20.2	
	comp=N,1μm,1.2s						
SMY	**Shemya**	**2.85**	**290**	P	**Pn**	**21 18 23.8**	**-1.2**
ADK	**Adak**	**2.97**	**87**	Pn	**Pn**	**21 18 26.2**	**-0.4**
ADK				IAML		21 19 24.9	
	comp=N,1μm,0.9s						
ADK	**Adak**	**2.97**	**87**	P	**Pn**	**21 18 26.2**	**-0.4**
ADAG	**Mount Adagdak**	**3.02**	**86**		**Pn**	**21 18 27.1**	**-0.2**
GSCK	**Great Sitkin C**	**3.30**	**85**		**Pn**	**21 18 30.6**	**-0.2**
GSCK					**Sn**	**21 19 07.7**	**-1.6**
GSTR	**Great Sitkin T**	**3.36**	**84**	Pn	**Pn**	**21 18 32.1**	**+0.4**
ATKA	**Atka Island**	**4.51**	**83**	Pn	**Pn**	**21 18 46.7**	**-0.5**
ATKA				IAML		21 20 05.8	
	comp=N,421nm,1.5s						
ATKA	**Atka Island**	**4.51**	**83**	P	**Pn**	**21 18 47.8**	**+0.6**
NIKH	**Nikolski High**	**7.80**	**77**	Pn	**Pn**	**21 19 31.3**	**-0.5**
NIKH	**Nikolski High**	**7.80**	**77**	P	**Pn**	**21 19 33.1**	**+1.3**
NIKH	**Nikolski High**	**7.80**	**77**	P	**Pn**	**21 19 30.0**	**-1.9**
	baz=266						
OKWR	**Okmok West Rim**	**8.23**	**74**		**Pn**	**21 19 40.1**	**+2.4**
OKTU	**Okmok Mt. Tuli**	**8.32**	**74**		**Pn**	**21 19 40.2**	**+1.2**
OKFG	**Magazine Ridge**	**8.40**	**74**		**Pn**	**21 19 42.3**	**+2.4**
SPIA	**Saint Paul Isl**	**8.43**	**46**	Pn	**Pn**	**21 19 42.3**	**+2.0**
SPIA	**Saint Paul Isl**	**8.43**	**46**	P	**Pn**	**21 19 38.7**	**-1.7**
	baz=236,SNR=6.7						
P08K	**Saint George I**	**8.45**	**51**		**Pn**	**21 19 43.1**	**+2.5**
P08K	**Saint George I**	**8.45**	**51**	P	**Pn**	**21 19 39.3**	**-1.3**
	baz=241						
MAPS	**Pakushin South**	**9.02**	**72**		**Pn**	**21 19 49.8**	**+1.5**
MGOD	**Makushin Gods**	**9.06**	**72**		**Pn**	**21 19 50.2**	**+1.2**
UNV	**Unalaska Valle**	**9.28**	**72**	Pn	**Pn**	**21 19 52.0**	**+0.1**
UNV	**Unalaska Valle**	**9.28**	**72**	P	**Pn**	**21 19 51.1**	**-0.8**
	baz=264						
LVA	**Lava Point**	**9.60**	**70**	Pn	**Pn**	**21 19 56.4**	**+0.2**
M11K	**Mekoryuk**	**12.05**	**39**		**Pn**	**21 20 30.1**	**+1.0**
M11K	**Mekoryuk**	**12.05**	**39**	P	**Pn**	**21 20 27.6**	**-1.5**
	baz=232						
PEA0B	**Petropavlovsk-**	**12.75**	**284**	Pn	**Pn**	**21 20 38.6**	**+0.2**
PEA0B	**Petropavlovsk-**	**12.75**	**284**	*ce*P	**Pn**	**21 20 39.3**	**+0.8**
PETK	**Petropavlovsk-**	**12.75**	**284**	Pn	**Pn**	**21 20 40.0**	**+1.5**
PETK	**Petropavlovsk-**	**12.75**	**284**	P	**Pn**	**21 20 38.4**	**-0.1**
	comp=N,9.4nm,0.9s,baz=91,slow=33,SNR=42						
PETK				S	**Sn**	**21 22 50.5**	**-8.1**
	comp=N,2.7nm,0.5s,baz=143,slow=32,SNR=6.0						
PETK				LR	LR	21 25 32.0	
	comp=N,42nm,20.2s,baz=88,slow=37						
PETK	**Petropavlovsk-**	**12.75**	**284**	P	**Pn**	**21 20 40.0**	**+1.5**
SDPT	**Sand Point**	**12.95**	**66**	P	**Pn**	**21 20 41.7**	**+0.7**
SDPT	**Sand Point**	**12.95**	**66**	P	**Pn**	**21 20 39.8**	**-1.2**
	baz=263,SNR=9.8						
GAMB	**Gambell**	**13.02**	**20**	P	**Pn**	**21 20 40.1**	**-1.8**
	baz=208						
M13K	**Dall Lake**	**13.22**	**42**	P	**Pn**	**21 20 43.4**	**-1.1**
	baz=238						
CHNA	**Chernabura Isl**	**13.40**	**69**	P	**Pn**	**21 20 45.9**	**-1.1**
O14K	**Tigyukauivet M**	**13.59**	**49**	P	**Pn**	**21 20 47.4**	**-2.0**
	baz=246						
S14K	**Fog Glacier**	**13.60**	**62**	P	**Pn**	**21 20 48.2**	**-1.4**
	baz=260						
K13K	**Kusilvak Mount**	**13.61**	**36**	P	**Pn**	**21 20 47.3**	**-2.3**
	baz=230,SNR=6.2						
N14K	**Kuskokwak Cree**	**13.69**	**46**	P	**Pn**	**21 20 48.8**	**-1.9**
	baz=243,SNR=7.4						
M14K	**Bethel**	**13.98**	**43**	Pn	**Pn**	**21 20 53.9**	**-0.5**
L14K	**Kuka Creek**	**14.00**	**40**	Pn	**Pn**	**21 20 55.0**	**+0.3**
L14K	**Kuka Creek**	**14.00**	**40**	P	**Pn**	**21 20 52.1**	**-2.5**
	baz=236,SNR=8.0						
CHGN	**Chignik**	**14.23**	**63**	Pn	**Pn**	**21 20 57.4**	**-0.2**
CHGN	**Chignik**	**14.23**	**63**	P	**Pn**	**21 20 55.3**	**-2.3**
	baz=262						
O15K	**Ungalikthiuk R**	**14.25**	**51**	P	**Pn**	**21 20 55.7**	**-2.1**
	baz=249						
M15K	**Kasigluk River**	**14.49**	**44**	P	**Pn**	**21 20 57.8**	**-3.2**
	baz=242						
N15K	**Kwethluk River**	**14.52**	**47**	P	**Pn**	**21 20 58.3**	**-3

comp=Z,27nm,1.0s
OHAK Old Harbor 17.15 61 P Pn 21 21 33.8 -0.2
OHAK Old Harbor 17.15 61 P Pn 21 21 31.5 -2.5
baz=264
H17K Granite Mounta 17.18 32 P Pn 21 21 30.7 -3.7
baz=231
O19K Port Alsworth 17.22 50 IAmb IAmb 21 21 39.4
comp=Z,53nm,0.9s
O19K Port Alsworth 17.22 50 P Pn 21 21 31.9 -3.0
baz=253,SNR=6.6
Q19K Cape Douglas, 17.23 55 P P 21 21 32.2 -2.9
baz=258
BILL Biiibino 17.30 344 Pn 21 21 36.3 +0.5
BILL Biiibino 17.30 344 *ce*P **Pn 21 21 37.7 +1.9**
BILL pmax pmax
comp=Z,106nm,1.3s
G17K Kiwalik Mounta 17.32 30 P P 21 21 32.9 -3.1
baz=228,SNR=7.5
N19K Bonanza Creek 17.33 48 P P 21 21 33.0 -3.3
baz=251
MA2 Magadan 17.34 307 P P 21 21 36.1 -0.1
MA2 Magadan 17.34 307 P **P 21 21 36.1 -0.1**
comp=Z,1.9nm,0.3s,baz=93,slow=11,SNR=10
MA2 Magadan 17.34 307 *ce*P **Pn 21 21 37.6 +1.2**
MA2 pmax pmax
comp=Z,7.0nm,0.8s
J18K Innoko River 17.49 39 P P 21 21 36.3 -1.5
baz=240
KDAK Kodiak Island 17.59 59 P P 21 21 37.7 -1.3
KDAK IAmb IAmb 21 21 40.3
comp=Z,34nm,0.8s
KDAK Kodiak Island 17.59 59 P P 21 21 37.2 -1.8
comp=Z,31nm,0.7s,baz=83,slow=1.5,SNR=76
KDAK LR LR 21 27 59.0
comp=Z,125nm,21.7s,baz=98,slow=35
KDAK Kodiak Island 17.59 59 P P 21 21 37.7 -1.3
KDAK pmax pmax
comp=Z,34nm,0.8s
KDAK Kodiak Island 17.59 59 P P 21 21 37.5 -1.4
baz=263
P19K Oil Pt 17.60 53 P P 21 21 37.8 -1.4
baz=256
L19K White Mountain 17.67 44 P P 21 21 38.3 -1.6
baz=247
ILSW Iliamna Southw 17.73 52 IAmb IAmb 21 21 45.6
comp=Z,47nm,1.0s
M19K Big River Lodg 17.76 45 P P 21 21 38.4 -2.4
baz=248
SEY Seymchan 17.78 319 P P 21 21 41.1 0.0
comp=Z,2.2nm,0.7s,baz=124,slow=12,SNR=11
SEY PcP **PcP 21 26 12.6 -0.3**
comp=Z,2.2nm,0.8s,baz=127,slow=3.6,SNR=6.5
SEY ScP **ScP 21 29 37.5 -0.9**
comp=Z,3.0nm,0.8s,baz=134,slow=2.9,SNR=11
SEY Seymchan 17.78 319 *ce*P **Pn 21 21 42.3 +0.6**
SEY pmax pmax
comp=Z,6.0nm,1.3s
F17K Baldwin Pennin 17.80 27 IAmb IAmb 21 21 50.7
comp=Z,17nm,0.7s
F17K Baldwin Pennin 17.80 27 P P 21 21 39.3 -1.8
baz=225
Q20K Shuyak Island 17.81 56 P P 21 21 39.9 -1.6
baz=261
H18K Honhosa River 17.83 33 P P 21 21 39.2 -2.4
baz=233
O20K Slope Mountain 18.00 52 P P 21 21 42.5 -1.2
baz=256
GCSA Galena City Sc 18.11 35 P P 21 21 43.5 -1.1
baz=236,SNR=6.7
J19K Poorman 18.18 38 P P 21 21 44.7 -0.7
baz=240
G18K Tagagawik 18.20 31 P P 21 21 44.7 -1.0
baz=231
L20K Farewell, AK 18.20 44 P P 21 21 45.2 -0.5
baz=247
C16K Lisburne Hills 18.23 19 IAmb IAmb 21 21 53.6
comp=Z,17nm,0.7s
C16K Lisburne Hills 18.23 19 P P 21 21 45.7 -0.2
baz=214,SNR=6.2
D17K Noatak River 18.26 23 P P 21 21 46.4 +0.1
baz=219,SNR=14
M20K Styx River 18.31 46 P P 21 21 46.4 -0.5
baz=250
F18K Selawik 18.36 28 P P 21 21 46.6 -0.8
baz=227,SNR=7.8
HOM Homer 18.39 53 P P 21 21 45.8 -1.9
baz=258
K20K Telida 18.49 41 P P 21 21 46.1 -2.8
baz=244
SPCR Spurr Chakacha 18.51 48 P P 21 21 48.2 -0.9
baz=253,SNR=9.5
CNPM China Poot 18.57 54 IAmb IAmb 21 21 51.4
comp=Z,32nm,0.8s
RDOG Red Dog Mine 18.58 22 P 21 21 50.1 +0.3
RDOG IAmb IAmb 21 21 57.9
comp=Z,31nm,0.7s
RDOG Red Dog Mine 18.58 22 P P 21 21 49.2 -0.6
baz=218,SNR=5.6
E18K Tukpahlearik C 18.68 25 P P 21 21 49.8 -1.0
baz=224
H19K Roundabout Mou 18.70 33 P P 21 21 50.6 -0.5
baz=235
STLK Strandline Lak 18.77 48 IAmb IAmb 21 21 57.1
comp=Z,27nm,0.8s
BRLK Bradley Lake 18.79 53 IAmb IAmb 21 22 10.7
comp=Z,69nm,1.2s
J20K Nowinta River 18.83 39 IAmb IAmb 21 22 24.8
comp=Z,28nm,1.3s
J20K Nowinta River 18.83 39 P P 21 21 52.5 0.0
baz=242
BRSE Bradley Lake S 18.85 53 P P 21 21 52.2 -0.7
baz=259
C17K DeLong Mountai 18.86 21 P P 21 21 53.0 +0.2
baz=217
G19K Purcell Mounta 18.86 31 IAmb IAmb 21 22 02.4
comp=Z,23nm,0.8s
G19K Purcell Mounta 18.86 31 P P 21 21 52.9 0.0
baz=233,SNR=13
CAPN Captain Cook N 18.88 50 P P 21 21 52.3 -0.8
baz=256
I20K Naaghedeneel 19.01 37 P P 21 21 53.4 -1.0
baz=240
SKT Skwentna 19.05 46 IAmb IAmb 21 22 02.2
comp=Z,54nm,1.0s
SKT Skwentna 19.05 46 P P 21 21 54.6 -0.4
baz=252,SNR=28
F19K Shaleruckik Mo 19.08 29 P P 21 21 54.7 -0.5
baz=230
PPLA Purkeypile 19.08 43 IAmb IAmb 21 22 03.1
comp=Z,32nm,1.0s
PPLA Purkeypile 19.08 43 P P 21 21 55.4 0.0
baz=248,SNR=6.8
H20K Anotleneega Mo 19.23 35 P P 21 21 57.4 +0.5
baz=238,SNR=17
CAST Castle Rocks 19.33 42 IAmb IAmb 21 22 26.6
comp=Z,36nm,1.4s
CAST Castle Rocks 19.33 42 P P 21 21 57.6 -0.4
baz=247,SNR=10
CHUM Lake Minchumin 19.42 40 P P 21 21 59.8 +0.8
baz=246,SNR=21
C18K Utukok River 19.45 22 IAmb IAmb 21 22 05.4
comp=Z,25nm,0.8s
C18K Utukok River 19.45 22 P P 21 21 59.7 +0.4
baz=220
O22K Cooper Landing 19.50 51 P P 21 22 00.2 +0.3
baz=258,SNR=6.4
SEW Seward 19.56 53 IAmb IAmb 21 22 07.1
comp=Z,42nm,0.9s
SEW Seward 19.56 53 P P 21 22 00.5 0.0
baz=260
M22K Willow 19.63 47 P P 21 22 00.6 -0.5
baz=254
RC01 Rabbit Creek A 19.63 50 IAmb IAmb 21 22 06.1
comp=Z,39nm,1.0s
RC01 Rabbit Creek A 19.63 50 P P 21 22 01.2 0.0
baz=256
E19K Redstone River 19.65 28 P P 21 22 01.5 +0.1
baz=229
CUT Chulitna 19.75 46 P P 21 22 02.7 +0.2
CUT Chulitna 19.75 46 P P 21 22 02.8 +0.3
baz=252
F20K Avaraart Lake 19.84 30 P P 21 22 02.3 -1.2
baz=233,SNR=17
KTH Kantishna Hill 19.86 42 IAmb IAmb 21 22 32.1
comp=Z,41nm,1.1s
B18K Kokolik River 19.87 21 P P 21 22 02.7 -1.1
baz=218
PMR Palmer 20.04 48 P Pn 21 22 09.7 +1.4
PMR Palmer 20.04 48 P P 21 22 06.0 +0.3
baz=256
BPAW Bear Paw Mtn. 20.05 41 P P 21 22 04.8 -1.0
baz=247,SNR=7.5
H21K Melozitna Rive 20.05 35 P P 21 22 06.3 +0.5
H21K Melozitna Rive 20.05 35 P P 21 22 05.5 -0.3
baz=240,SNR=22
TRF Thorofare Moun 20.09 43 IAmb IAmb 21 22 34.8
comp=Z,43nm,1.0s
TRF Thorofare Moun 20.09 43 P P 21 22 06.4 0.0
baz=250,SNR=8.4
D19K Kuna River 20.11 25 P P 21 22 06.7 +0.3
baz=226
I21K Tanana 20.12 37 P P 21 22 05.2 -1.4
baz=243
GHO Glory Hole Cre 20.18 48 IAmb IAmb 21 22 09.6
comp=Z,20nm,0.9s
PWL Port Wells 20.25 51 IAmb IAmb 21 22 08.6
comp=Z,50nm,0.9s
PWL Port Wells 20.25 51 P P 21 22 07.5 -0.4
baz=259
G21K Allakaket 20.25 33 P P 21 22 07.0 -1.0
baz=237
KNK Knik Glacier 20.31 49 P P 21 22 08.2 -0.4
baz=257,SNR=5.5
SML Sawmill 20.46 48 IAmb IAmb 21 22 13.1
comp=Z,26nm,0.8s
SML Sawmill 20.46 48 P P 21 22 10.1 -0.1
baz=256,SNR=7.9
E20K Nigu River 20.47 27 P P 21 22 09.1 -1.3
baz=229
P23K Montague Islan 20.56 53 P P 21 22 11.7 +0.5
baz=262
F21K Alatna River 20.65 31 P P 21 22 10.9 -1.3
baz=236,SNR=28
D20K Etivluk River 20.66 26 P P 21 22 11.8 -0.5
baz=228
H22K Ishtalitna Cre 20.68 36 P P 21 22 13.6 +1.1
baz=242,SNR=6.6
A19K Wainwright 20.69 20 P P 21 22 12.9 +0.4
baz=218
M23K Glacier View 20.74 48 P P 21 22 12.7 -0.5
baz=257,SNR=6.7
MCK McKinley 20.75 42 P P 21 22 13.9 +0.5
MCK McKinley 20.75 42 P P 21 22 13.9 +0.5
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 20.75 42 P P 21 22 12.7 -0.7
baz=250
GLI Glacier Island 20.85 51 P P 21 22 13.4 -1.0
baz=260,SNR=6.3
SCM Sheep Creek Mo 20.93 48 IAmb IAmb 21 22 40.2
comp=Z,33nm,0.8s
SCM Sheep Creek Mo 20.93 48 P P 21 22 14.7 -0.6
baz=257,SNR=6.8
NEA2 Nenana 21.01 40 P P 21 22 17.1 +1.0
NEA2 IAmb IAmb 21 22 42.9
comp=Z,47nm,0.8s
NEA2 **PcP 21 26 23.1 +4.4**
NEA2 Nenana 21.01 40 P P 21 22 15.8 -0.3
baz=248
I23K Minto, Yukon-K 21.11 39 P P 21 22 16.7 -0.3
baz=246
E21K Killik River 21.23 28 P P 21 22 17.1 -1.3
baz=232
F22K John River 21.23 31 P P 21 22 17.1 -1.3
baz=237,SNR=5.7
H23K Yukon River 21.32 37 P P 21 22 18.8 -0.6
baz=245
B20K Meade River 21.42 23 P P 21 22 19.4 -1.0
baz=224
C21K Knifeblade Rid 21.45 26 P P 21 22 19.4 -1.4
baz=230
EYAK Cordova Ski Ar 21.45 52 IAmb IAmb 21 22 23.8
comp=Z,36nm,0.9s
EYAK Cordova Ski Ar 21.45 52 P P 21 22 22.1 +1.3
EYAK Cordova Ski Ar 21.45 52 P P 21 22 20.5 -0.2
baz=262
KLU Klutina 21.52 50 IAmb IAmb 21 22 24.9
comp=Z,21nm,0.9s
KLU Klutina 21.52 50 P P 21 22 20.9 -0.7
baz=260,SNR=7.2
M24K Tolsona, Glenn 21.52 48 IAmb IAmb 21 23 04.9
comp=Z,50nm,1.0s
M24K Tolsona, Glenn 21.52 48 P P 21 22 21.0 -0.6
baz=258
DIV Divide 21.53 51 IAmb IAmb 21 22 27.1
comp=Z,20nm,0.8s
G23K Bananza Creek 21.55 34 P P 21 22 20.8 -1.1
baz=242,SNR=14
COLA College 21.60 40 P P 21 22 23.4 +1.1
COLA IAmb IAmb 21 22 49.1
comp=Z,24nm,1.0s
COLA College 21.60 40 *i* P **P 21 22 24.1 +1.8**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 21.60 40 P P 21 22 22.2 0.0
baz=249
E22K Anaktuvuk Pass 21.70 30 P P 21 22 24.4 +1.0
E22K Anaktuvuk Pass 21.70 30 P P 21 22 22.7 -0.7
baz=236,SNR=14
COLD Coldfoot 21.74 33 P P 21 22 25.2 +1.3
COLD Coldfoot 21.74 33 P P 21 22 23.3 -0.6
baz=241
B21K Ikpikpuk River 21.80 25 P P 21 22 24.1 -0.3
baz=229
HDA Harding Lake 21.80 42 P P 21 22 24.0 -0.5
baz=251
POKR Poker Plat Res 21.85 40 P P 21 22 24.1 -1.0
baz=249
D22K Ayikyak River 21.87 28 P P 21 22 25.6 +0.4
baz=234,SNR=18
ILAR Eielson Array 21.95 41 P P 21 22 27.1 +1.1
ILAR Eielson Array 21.95 41 P P 21 22 25.4 -0.7
comp=Z,3.0nm,1.0s,baz=237,slow=9.4,SNR=19
ILAR PcP **PcP 21 26 19.9 -0.6**
comp=Z,0.6nm,0.6s,baz=286,slow=3.7,SNR=5.7
ILAR ScP **ScP 21 29 47.2 -0.9**
comp=Z,1.2nm,0.7s,baz=278,slow=3.4,SNR=12
comp=Z,3.0nm,1.0s
H24K Noodor Dome 21.95 38 IAmb IAmb 21 22 52.8
comp=Z,28nm,0.9s
H24K Noodor Dome 21.95 38 P P 21 22 24.7 -1.5
baz=247
PAX Paxson 22.03 46 IAmb IAmb 21 22 54.6
comp=Z,51nm,1.4s
PAX Paxson 22.03 46 P P 21 22 27.5 +0.5
baz=257,SNR=8.1
KAIM Kayak Island 22.04 54 P P 21 22 25.9 -1.1
baz=265
HARP HAARP 22.05 47 P P 21 22 26.8 -0.3
baz=258
BMRM Bremner River 22.06 51 IAmb IAmb 21 22 53.0
comp=Z,43nm,1.0s
BMRM Bremner River 22.06 51 P P 21 22 26.6 -0.8
baz=262
K24K Donnelly Dome 22.11 43 P P 21 22 27.0 -0.8
baz=254
N25K Chitina, Valde 22.16 50 IAmb IAmb 21 22 55.9
comp=Z,23nm,0.9s
N25K Chitina, Valde 22.16 50 P P 21 22 28.7 +0.3
baz=261,SNR=5.7
TYV Tymovskoe 22.28 282 *e*P **P 21 22 31.0 +1.4**
TYV pmax pmax
comp=Z,20nm,0.9s
TYV pmax pmax
comp=Z,300nm,4.6s
E23K Chandalar 22.35 31 IAmb IAmb 21 22 34.7
comp=Z,17nm,0.7s
E23K Chandalar 22.35 31 P P 21 22 30.4 0.0
baz=240,SNR=32
G24K Hadweenzic Riv 22.45 36 P P 21 22 32.2 +0.9
baz=245
RIDG Independent Ri 22.50 44 P P 21 22 31.4 -0.4
baz=256
D23K Nanushuk River 22.51 29 P P 21 22 31.4 -0.4
baz=236
GLB Gilahina Butte 22.51 50 IAmb IAmb 21 22 35.3
comp=Z,21nm,0.9s
J25K Salcha River, 22.52 42 P P 21 22 31.8 -0.3
baz=253
B22K Teshekpuk Lake 22.58 24 P P 21 22 32.1 -0.4
baz=230
A22K Sinclair Lake 22.65 22 P P 21 22 31.5 -1.6
baz=226
VRDI Verde Repeater 22.65 51 IAmb IAmb 21 22 36.5
comp=Z,26nm,0.8s
F24K Squaw Lake 22.67 34 P P 21 22 31.9 -1.7
baz=243
TOLK Toolik Lake Re 22.67 30 IAmb IAmb 21 22 36.7
comp=Z,19nm,0.7s
TOLK Toolik Lake Re 22.67 30 P P 21 22 31.6 -2.0
baz=238,SNR=22
E24K Your Creek 22.73 32 P P 21 22 33.2 -1.0
baz=241
PRP Porcupine Dome 22.74 39 P P 21 22 34.7 +0.3
PRP Porcupine Dome 22.74 39 P P 21 22 32.3 -2.1
baz=251
MENT Mentasta 22.81 46 IAmb IAmb 21 23 06.0
comp=Z,18nm,0.8s
MENT Mentasta 22.81 46 P P 21 22 35.6 +0.6
DOT Dot Lake 22.81 44 P P 21 22 35.1 +0.1
DOT **PcP 21 26 23.2 +0.9**
H25L Birch Creek 22.89 37 P P 21 22 33.7 -2.0
baz=248
SCRK Sand Creek 22.92 44 P P 21 22 34.8 -1.4
baz=256
G25K Bearman Lake 22.98 36 P P 21 22 35.7 -0.8
baz=247
L26K Log Cabin Wild 22.99 46 IAmb IAmb 21 23 21.3
comp=Z,25nm,0.9s
L26K Log Cabin Wild 22.99 46 P P 21 22 37.1 +0.3
baz=259,SNR=9.0
C23K Itkillik River 23.03 27 P P 21 22 37.3 +0.4
baz=235
M26K Nabesna, AK 23.04 48 P P 21 22 37.5 +0.3
baz=261
ISLE Juniper Island 23.13 52 IAmb IAmb 21 23 17.4
comp=Z,34nm,1.0s
D24K Happy Valley 23.17 29 P P 21 22 38.9 +0.6
baz=238
FYU Fort Yukon 23.22 37 IAmb IAmb 21 23 18.9
comp=Z,23nm,1.0s
J26L Joseph Creek 23.23 42 IAmb IAmb 21 23 01.6
comp=Z,19nm,0.9s
J26L Joseph Creek 23.23 42 P P 21 22 37.7 -1.3
baz=255,SNR=14
MESA MESA 23.29 54 IAmb IAmb 21 22 41.3
comp=Z,33nm,0.8s
MESA MESA 23.29 54 P P 21 22 39.8 0.0
baz=267
YAH Yahtse 23.41 53 IAmb IAmb 21 22 42.5
comp=Z,24nm,0.8s
F25K Christian Rive 23.48 34 P P 21 22 41.4 +0.2
F25K Christian Rive 23.48 34 P P 21 22 41.5 +0.2
baz=246
C24K Franklin Bluff 23.51 28 P P 21 22 42.0 +0.6
baz=238
M27K Edge Creek, AK 23.55 48 P P 21 22 42.5 +0.5
baz=262
I26K Coal Creek Min 23.62 41 P P 21 22 42.5 0.0
baz=254
YSS Yuzhno-Sakhali 23.62 272 P P 21 22 42.4 -0.2
YSS IAmb IAmb 21 22 45.2
comp=Z,22nm,0.7s
YSS Yuzhno-Sakhali 23.62 272 *e*P **P 21 22 43.7 +1.1**
YSS *e*S **S 21 26 50.1 +0.9**
YSS pmax pmax
comp=Z,30nm,0.7s
YSS smax smax
comp=E,400nm,3.9s
L27K Beaver Creek, 23.68 46 P P 21 22 44.0 +0.9
baz=260
BCAR Beaver Creek A 23.70 46 P P 21 22 44.2 +0.9
E25K Arctic Village 23.73 33 IAmb IAmb 21 23 10.9
comp=Z,34nm,1.4s
E25K Arctic Village 23.73 33 P P 21 22 42.4 -1.0
baz=245,SNR=8.0
K27K Chicken 23.75 44 P P 21 22 42.8 -0.9
baz=258
G26K Porcupine Rive 23.90 36 P P 21 22 44.9 -0.1
baz=250
D25K Kavik River 24.01 30 IAmb IAmb 21 22 48.0
comp=Z,24nm,0.8s
D25K Kavik River 24.01 30 P P 21 22 45.7 -0.3
baz=241,SNR=30
BVCY Beaver Creek 24.02 48 P P 21 22 46.9 +0.8
baz=263,SNR=6.4
F26K Sheenjek River 24.04 35 P P 21 22 46.4 +0.1
baz=248,SNR=16
PCA Pinnacle 24.14 54 IAmb IAmb 21 22 49.1
comp=Z,36nm,0.8s
PINM Pinnacle 24.14 54 P P 21 22 47.7 +0.4
baz=269,SNR=5.8
YUK3 Moose Creek 24.14 50 P P 21 22 46.8 -0.7
baz=265,SNR=24
O28M Mount Upton 24.20 52 P P 21 22 46.8 -1.2
baz=267
I27K Kandik River 24.32 40 P P 21 22 48.9 0.0
baz=255
YUK8 Steele Glacier 24.43 51 P P 21 22 49.4 -0.7
baz=266,SNR=27
BCPM Bancas Point 24.45 54 IAmb IAmb 21 22 51.8
comp=Z,28nm,0.8s
H27K Steamboat Moun 24.53 39 P P 21 22 49.9 -0.8
baz=254
PNL Peninsula 24.57 55 P P 21 22 50.9 -0.2
PNL Peninsula 24.57 55 P P 21 22 50.4 -0.7
baz=270
G27K Doyon Strip 24.65 37 P P 21 22 50.9 -0.8
baz=252
C26K Camden Bay 24.75 29 P P 21 22 51.8 -0.8
baz=242
DAWY Dawson 24.92 44 P P 21 22 54.8 +0.5
DAWY IAmb IAmb 21 23 20.5
comp=Z,32nm,0.9s
DAWY Dawson 24.92 44 P P 21 22 55.2 +0.9
baz=261,SNR=16
I28M Miner Creek 24.96 41 IAmb IAmb 21 23 20.8
comp=Z,18nm,0.9s
I28M Miner Creek 24.96 41 P P 21 22 53.4 -1.3
baz=257,SNR=19
YUK4 Talbot Arm 24.98 51 P P 21 22 56.2 +1.2
baz=267,SNR=43
O29M Mount Kennedy 24.98 53 P P 21 22 53.7 -1.3
baz=270
C27K Jago River 24.99 31 IAmb IAmb 21 22 58.7
comp=Z,17nm,0.9s
C27K Jago River 24.99 31 P P 21 22 54.2 -0.6
baz=244
JKA Kamikawa-asahi 25.05 266 P P 21 22 56.3 +0.7
JKA IAmb IAmb 21 22 57.5
comp=Z,36nm,0.9s
YUK6 Outpost Mounta 25.10 52 P P 21 22 56.6 +0.4
baz=269,SNR=7.2
E27K Coleen River 25.12 34 P P 21 22 56.9 +0.9
E27K ScP **ScP 21 29 55.1 -1.6**
E27K Coleen River 25.12 34 P P 21 22 56.1 +0.1
baz=250
M29M Somme Creek 25.14 48 IAmb IAmb 21 23 01.6
comp=Z,14nm,0.7s
M29M Somme Creek 25.14 48 P P 21 22 56.1 -0.3
baz=265,SNR=14
L29M L29M 25.35 47 P P 21 22 59.4 +1.2
baz=264,SNR=5.6
J29N Klondike Camp 25.49 44 P P 21 23 00.4 +0.9
baz=261
HYT Haines Junctio 25.52 52 IAmb IAmb 21 23 04.7
comp=Z,25nm,0.8s
HYT Haines Junctio 25.52 52 P P 21 23 01.0 +1.2
baz=270,SNR=15
I29M Ogilvie Camp, 25.61 42 IAmb IAmb 21 23 28.7
comp=Z,19nm,1.0s
I29M Ogilvie Camp, 25.61 42 P P 21 23 00.5 0.0
baz=259
K29M Barlow Dome 25.71 45 P P 21 23 02.8 +1.3
baz=263
D27M Malcolm River 25.72 32 P P 21 23 01.5 +0.1
baz=248,SNR=12
N30M Aishkilk Lake 25.73 51 P P 21 23 01.6 -0.1
baz=269
H29M Whitestone 25.76 40 P P 21 23 02.2 +0.4
baz=257
P30M Million Dollar 25.79 54 P P 21 23 02.8 +0.6
baz=272
M30M Minto, Yukon 25.92 48 IAmb IAmb 21 23 08.7
comp=Z,14nm,0.8s
M30M Minto, Yukon 25.92 48 P P 21 23 04.5 +1.2
baz=267,SNR=16
E28M Babbage River 25.98 34 P P 21 23 04.8 +1.0
baz=251
G29M Pine Creek 26.06 38 P P 21 23 05.3 +0.8
baz=256
PLBC Pleasant Camp 26.11 55 P P 21 23 04.4 -0.7
baz=273
O30N Mendenhall 26.21 52 P P 21 23 06.1 +0.2

O30N IAmb IAmb 21 23 45.7
comp=Z,11nm,0.8s
O30N Mendenhall 26.21 52 P P 21 23 06.6 +0.6
baz=271
J30M Hart River 26.32 44 P P 21 23 07.5 +0.5
baz=263
N31M Braeburn, Yuko 26.36 51 IAmb IAmb 21 23 34.2
comp=Z,21nm,0.9s
N31M Braeburn, Yuko 26.36 51 P P 21 23 06.4 -0.9
baz=270
I30M Mount Dempster 26.39 42 P P 21 23 08.1 +0.4
baz=262
EPYK Eagle Plains 26.45 40 IAmb IAmb 21 23 34.0
comp=Z,15nm,1.1s
EPYK Eagle Plains 26.45 40 P P 21 23 08.7 +0.7
baz=259,SNR=5.5
D28M Stokes Point 26.49 33 P P 21 23 09.1 +0.8
baz=251
E29M Blow River 26.49 35 P P 21 23 08.5 +0.1
baz=254
SKAG Skagway 26.64 55 P P 21 23 07.6 -2.2
SKAG Skagway 26.64 55 P P 21 23 10.0 +0.2
baz=274
G30M tAoh Zraii Nji 26.76 38 P P 21 23 11.0 +0.1
baz=258
WHY Whitehorse 26.80 53 P P 21 23 12.2 +0.8
baz=272
SIT Sitka 26.91 61 P P 21 23 13.6 +1.4
baz=279
M31M Drury Creek, Y 27.02 49 P P 21 23 14.1 +0.9
M31M Drury Creek, Y 27.02 49 P P 21 23 14.1 +0.9
baz=270,SNR=7.1
F30M Barrier River 27.06 37 P P 21 23 14.9 +1.4
baz=258
R32K Eaglecrest 27.18 58 P P 21 23 15.2 +0.6
baz=277
S32K Killisnoo 27.25 60 P P 21 23 16.2 +0.9
baz=279
H31M Peel River 27.31 41 P P 21 23 15.2 -0.6
baz=262
P32M Atlin 27.45 55 P P 21 23 17.5 +0.3
baz=275
G31M Satah River 27.51 39 P P 21 23 18.1 +0.7
G31M PcP **PcP 21 26 32.7 0.0**
G31M Satah River 27.51 39 P P 21 23 18.4 +1.0
baz=260
FARO Faro, Yukon 27.51 49 P P 21 23 18.1 +0.4
baz=270
N32M Quiet Lake 27.66 51 P P 21 23 19.4 +0.3
baz=273
F31M Tsiigehtchic 27.80 38 P P 21 23 20.9 +0.8
F31M Tsiigehtchic 27.80 38 P P 21 23 20.0 0.0
baz=260
YAK Yakutsk 27.85 311 *e*P **P 21 23 19.3 -1.2**
YAK *e**PP **pP 21 23 41.1 -1.6**
YAK *e* 21 24 13.7
YAK *e* 21 26 33.8
YAK *e*S **S 21 27 55.1 -0.8**
YAK *e**SS **sS 21 28 37.3 +1.9**
YAK *e* 21 34 01.2
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,151nm,4.8s
YAK pmax pmax
comp=N,49nm,5.0s
YAK pmax pmax
comp=E,129nm,5.2s
YAK smax smax
comp=E,141nm,5.8s
YAK smax smax
comp=N,115nm,5.7s
P33M Teslin, Yukon 27.85 53 P P 21 23 21.8 +1.1
baz=275
INK Inuvik 28.04 36 LR LR 21 36 10.2
comp=N,42nm,18.3s,baz=222,slow=40
INK Inuvik 28.04 36 P P 21 23 22.9 +0.7
baz=259
Q32M Nakina River 28.26 56 P P 21 23 25.3 +0.8
baz=278
U33K Whale Pass 28.28 62 P P 21 23 25.8 +1.4
baz=282
CRAG Craig 28.42 63 P P 21 23 27.2 +1.5
baz=283
MMPY Sheldon Lake, 28.48 48 P P 21 23 27.6 +1.3
MMPY Sheldon Lake, 28.48 48 P P 21 23 27.8 +1.5
baz=272
WRAK Wrangell Islan 28.64 61 P P 21 23 29.1 +1.5
baz=282
R33M Jennings River 28.87 55 P P 21 23 31.0 +1.2
R33M Jennings River 28.87 55 P P 21 23 31.0 +1.2
baz=278
S34M Telegraph Cree 29.01 58 P P 21 23 32.1 +1.3
baz=280
V35K Ketchikan 29.29 63 P P 21 23 33.7 +0.4
baz=284
TIXI Tiksi 29.40 331 P **P 21 23 33.2 -1.0**
TIXI PcP **PcP 21 26 36.9 -0.5**
TIXI ScP **ScP 21 30 07.9 -1.6**
TIXI Tiksi 29.40 331 *i* P **P 21 23 33.2 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
KLR Kul'dur 29.44 284 LR LR 21 34 44.0
comp=Z,56nm,21.9s,baz=64,slow=35
KLR Kul'dur 29.44 284 *ce*P **P 21 23 35.0 +0.2**
KLR pmax pmax
comp=Z,24nm,0.6s
DLBC Dease Lake 29.49 57 P P 21 23 36.1 +0.8
baz=280
T35M Bob Quinn 29.66 60 P P 21 23 36.5 -0.2
baz=282
TGTN Hyland Airport 29.95 50 P P 21 23 38.9 -0.4
baz=276
U35K Hyder 30.02 62 P P 21 23 40.5 +0.7
baz=284
ZEA Zeya 30.51 294 *e*P **P 21 23 43.5 -0.7**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.8s
A36M Sachs Harbour 31.49 30 P **P 21 23 54.0 +1.4**
A36M ScP **ScP 21 30 15.3 -1.0**
A36M Sachs Harbour 31.49 30 P P 21 23 53.2 +0.5
baz=261,SNR=15
C36M Paulatuk 31.58 35 IAmb IAmb 21 23 56.0
comp=Z,13nm,1.4s
C36M Paulatuk 31.58 35 P P 21 23 53.6 +0.1
baz=266
USRK Ussuriysk Ar. 31.58 275 P P 21 23 53.8 +0.1
comp=Z,5.0nm,0.8s,baz=64,slow=9.8,SNR=5.0
USRK PcP **PcP 21 26 44.0 +0.4**
comp=Z,4.2nm,0.7s,baz=1.4,slow=6.7,SNR=6.0
USRK LR LR 21 35 29.2
comp=Z,42nm,20.6s,baz=30,slow=34
comp=Z,5.0nm,0.8s
HEH HeiHe 31.63 288 *e*P **P 21 23 53.0 -1.1**
HEH PcP **PcP 21 26 43.6 0.0**
HEH pmax pmax
comp=Z,25nm,0.7s
TOAD Toad River Com 31.87 55 P P 21 23 56.5 +0.3
baz=283
WRGLY Wrigley 32.00 46 P P 21 23 57.9 +0.8
baz=277
KOTAN Kotaneelee Air 32.20 52 P P 21 23 59.6 +0.6
baz=281
MJAR Matsushiro Arr 32.23 258 P **P 21 24 00.2 +0.7**
comp=Z,4.3nm,0.7s,baz=53,slow=7.0,SNR=13
comp=Z,4.3nm,0.7s
MJB9 Matsu-Tunnel 32.23 258 IAmb IAmb 21 24 02.4
comp=Z,15nm,0.9s
MAJO Matsushiro 32.23 258 P P 21 24 00.0 +0.5
MAJO IAmb IAmb 21 24 01.4
comp=Z,15nm,0.9s
MAJO Matsushiro 32.23 258 P P 21 24 00.0 +0.5
MAJO pmax pmax
comp=Z,15nm,0.9s
H11N2 WAKE ISLAND Hy 33.32 200 T T 21 59 31.1
baz=11,slow=76,SNR=65
H11N3 WAKE ISLAND Hy 33.33 200 T T 21 59 31.9
baz=11,slow=76,SNR=67
H11N1 WAKE ISLAND Hy 33.34 200 T T 21 59 32.6
baz=11,slow=76,SNR=61
BNX BinXian 33.63 280 ⇊P **P 21 24 10.5 -1.1**
BNX pmax pmax
comp=Z,30nm,0.7s
H11S1 WAKE ISLAND Hy 34.55 200 T T 22 01 04.2
baz=11,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 34.57 200 T T 22 01 11.7
baz=11,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 34.57 200 T T 22 01 09.7
baz=11,slow=76,SNR=30
YKA Yellowknife Ar 36.12 46 P **P 21 24 33.0 +0.3**
comp=Z,1.4nm,0.7s,baz=286,slow=8.6,SNR=12
YKA PP **PP 21 25 56.8 +0.2**
comp=Z,0.7nm,0.9s,baz=281,slow=9.3,SNR=3.9
YKA PcP **PcP 21 26 55.8 -0.4**
comp=Z,0.8nm,0.8s,baz=293,slow=3.3,SNR=4.5
YKA ScP **ScP 21 30 31.1 -1.7**
comp=Z,1.2nm,0.9s,baz=278,slow=3.8,SNR=9.4
comp=Z,1.4nm,0.7s
HIA Hailar 36.55 290 *i* P **P 21 24 34.8 -1.9**
HIA pmax pmax
comp=Z,28nm,1.6s
KSRS Korea Array 37.97 268 P **P 21 24 50.0 +1.3**
comp=Z,5.2nm,0.9s,baz=54,slow=9.1,SNR=10
KSRS pP **pP 21 25 13.7 +1.8**
comp=Z,0.8nm,0.4s,baz=43,slow=8.8,SNR=1.2
KSRS PcP **PcP 21 27 02.5 +0.3**
comp=Z,2.1nm,0.8s,baz=54,slow=3.3,SNR=6.1
KSRS LR LR 21 41 42.1
comp=Z,16nm,18.6s,baz=45,slow=38
comp=Z,5.2nm,0.9s
H04D Lebanon 38.89 77 P **P 21 24 57.5 +1.2**
B08A Colville Reser 38.95 70 P **P 21 24 57.0 +0.1**
JNU Nakatsue 38.99 260 LR LR 21 44 52.4
comp=Z,27nm,18.1s,baz=26,slow=42
H04A Detroit Lake 39.14 76 P **P 21 24 59.3 +0.9**
H04A IAmb IAmb 21 25 25.6
comp=Z,12nm,0.7s
RES Resolute Bay 40.01 24 P **P 21 25 06.1 +0.9**
RES IAmb IAmb 21 25 07.1
comp=Z,22nm,1.4s
RES Resolute Bay 40.01 24 P **P 21 25 06.1 +0.9**
RES pmax pmax
comp=Z,22nm,1.5s
NEW Newport 40.28 69 P **P 21 25 07.7 -0.1**
NEW Newport 40.28 69 P **P 21 25 07.7 -0.1**
NEW pmax pmax
comp=Z,4.0nm,0.8s
EUNU Eureka 40.28 16 P **P 21 25 07.9 +0.4**
EUNU IAmb IAmb 21 25 10.3
comp=Z,14nm,1.1s
PINE Pine Mountain 40.37 77 P **P 21 25 10.1 +1.2**
PINE IAmb IAmb 21 25 30.4
comp=Z,12nm,1.4s
PINE PcP **PcP 21 27 11.5 +1.4**
YBH Yreka Blue Hor 40.46 81 P **P 21 25 11.9 +2.4**
YBH IAmb IAmb 21 25 12.6
comp=Z,7.9nm,0.8s
YBH Yreka Blue Hor 40.46 81 P **P 21 25 11.9 +2.4**
YBH pmax pmax
comp=Z,8.0nm,0.9s
XLT XiLinHaoTe 41.46 285 ⇊*i* P **P 21 25 17.9 +0.3**
XLT sP sP 21 25 51.6 -1.5
XLT PcP **PcP 21 27 19.3 +5.9**
XLT pmax pmax
comp=Z,36nm,0.8s
HATC Hat Creek Radi 41.76 81 P **P 21 25 21.4 +1.2**
BMO Blue Mountains 41.97 73 P **P 21 25 22.0 +0.2**
BMO Blue Mountains 41.97 73 P **P 21 25 22.0 +0.2**
BMO pmax pmax
comp=Z,3.0nm,0.6s
WVOR Wild Horse Val 42.53 77 P **P 21 25 27.4 +1.0**
WVOR IAmb IAmb 21 25 53.1
comp=Z,4.8nm,0.7s
WVOR Wild Horse Val 42.53 77 P **P 21 25 27.4 +1.0**
WVOR pmax pmax
comp=Z,5.0nm,0.7s
MSO Missoula 42.87 69 P **P 21 25 28.6 -0.4**
NRIK Noril'sk 43.15 329 P **P 21 25 30.9 +0.1**
NRIK IAmb IAmb 21 25 33.5
comp=Z,9.9nm,0.8s
NRIK Noril'sk 43.15 329 P **P 21 25 30.1 -0.8**
comp=Z,9.7nm,0.8s,baz=72,slow=8.5,SNR=14
comp=Z,9.7nm,0.8s
NRIK Noril'sk 43.15 329 *ce*P **P 21 25 30.2 -0.7**
NRIK pmax pmax
comp=Z,13nm,0.9s
BJI Beijing 43.64 280 P **P 21 25 35.6 +0.4**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,83nm,6.0s
PAHR Pah Rah Range 43.69 81 P **P 21 25 36.1 +0.2**
PAHR IAmb IAmb 21 25 37.6
comp=Z,5.2nm,0.8s
PNTR Pine Nut 43.94 82 P **P 21 25 38.8 +0.9**
WAKR Walker 44.40 82 IAmb IAmb 21 26 08.5
comp=Z,8.5nm,0.6s
HLID Hailey 44.41 73 P **P 21 25 42.0 +0.5**
HLID ScP **ScP 21 31 06.1 +0.2**
ULN Ulaanbaatar 44.55 294 P **P 21 25 42.7 +0.1**
ULN IAmb IAmb 21 25 43.8
comp=Z,15nm,0.8s
ULN Ulaanbaatar 44.55 294 *i* P **P 21 25 42.7 +0.1**
ULN pmax pmax
comp=Z,16nm,0.8s
BOZ Bozeman (W) 44.88 69 IAmb IAmb 21 25 45.3
comp=Z,4.5nm,0.7s
RYN Ryan 44.88 81 IAmb IAmb 21 26 11.6
comp=Z,6.2nm,0.7s
SONM Songino Array 44.94 295 P **P 21 25 45.8 +0.2**
SONM IAmb IAmb 21 25 47.1
comp=Z,12nm,0.7s
SONM Songino Array 44.94 295 P **P 21 25 46.1 +0.5**
comp=Z,11nm,0.7s,baz=63,slow=8.3,SNR=86
SONM pP **pP 21 26 10.3 +0.8**
comp=Z,1.3nm,0.6s,baz=78,slow=12,SNR=2.2
SONM PcP **PcP 21 27 25.3 +0.1**
comp=Z,4.0nm,0.7s,baz=66,slow=2.6,SNR=9.0
SONM ScP **ScP 21 31 07.4 -0.5**
comp=Z,0.9nm,0.8s,baz=31,slow=9.0,SNR=5.4
SONM LR LR 21 44 25.6
comp=Z,64nm,21.6s,baz=47,slow=36
comp=Z,11nm,0.7s
JOW Kunigami 45.04 256 LR LR 21 46 44.1
comp=Z,44nm,18.3s,baz=324,slow=39
LHV Little Huntoon 45.13 82 IAmb IAmb 21 26 14.1
comp=Z,15nm,1.3s
NVAR Mina Array Bea 45.14 81 P **P 21 25 48.1 +0.6**
comp=Z,4.3nm,0.6s,baz=296,slow=7.5,SNR=23
NVAR pP **pP 21 26 12.1 +0.6**
comp=Z,5.0nm,0.6s,baz=297,slow=7.2,SNR=11
NVAR PcP **PcP 21 27 26.9 +0.7**
comp=Z,3.2nm,0.8s,baz=283,slow=2.8,SNR=5.5
NVAR ScP **ScP 21 31 08.7 -0.3**
comp=Z,2.1nm,0.9s,baz=289,slow=5.1,SNR=7.3
comp=Z,4.3nm,0.6s
ZAK Zakamensk 45.27 299 *e*P **P 21 25 47.2 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
TIA Tai'an 45.45 275 P **P 21 25 50.3 +0.6**
TIA pmax pmax
comp=Z,32nm,0.8s
YHL Hebgen Lake 45.57 70 IAmb IAmb 21 25 52.3
comp=Z,9.4nm,1.4s
ELK Elko 45.59 77 P **P 21 25 51.8 +0.8**
ELK Elko 45.59 77 P **P 21 25 51.8 +0.8**
ELK pmax pmax
comp=Z,5.0nm,0.9s
YHB Horse Butte 45.62 70 IAmb IAmb 21 25 51.9
comp=Z,5.1nm,0.7s
HHC Hu-ho-hao-te 45.95 284 ⇓*i* P **P 21 25 55.1 +1.4**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.9s
DSP Deep Springs 46.01 82 IAmb IAmb 21 26 20.9
comp=Z,5.5nm,0.7s
HNS HongShan 46.18 278 ⇑P **P 21 25 56.8 +1.5**
HNS pmax pmax
comp=Z,25nm,1.0s
HVU Hansel Valley 46.44 74 IAmb IAmb 21 26 24.5
comp=Z,4.7nm,0.7s
GMN Gold Mountain 46.49 82 IAmb IAmb 21 26 24.8
comp=Z,5.3nm,0.6s
NOR Nord 46.54 3 *i* P **P 21 25 57.2 -0.5**
NOR IAmb IAmb 21 25 58.7
comp=Z,2.9nm,0.7s
R11B Troy Canyon, C 46.86 80 IAmb IAmb 21 26 27.4
comp=Z,6.3nm,0.9s
BTO Baotou 47.03 285 *e*P **P 21 26 03.3 +1.2**
BTO pP **pP 21 26 26.5 +0.2**
BTO sP **sP 21 26 38.0 +0.2**
BTO PP **PP 21 27 54.8 +1.4**
BTO pmax pmax
comp=Z,91nm,0.9s
BTO pmax pmax
comp=Z,180nm,9.8s
NJ2 Nanjing 47.13 269 *e*P **P 21 26 04.4 +1.5**
NJ2 pmax pmax
comp=Z,160nm,0.6s
SPR3 Spring Creek 3 47.21 78 P **P 21 26 05.0 +1.2**
SPR3 pP **pP 21 26 27.8 -0.1**
SPR3 IAmb IAmb 21 26 30.6
comp=Z,5.3nm,0.6s
NEEM North Greenlan 47.36 13 *i* P **P 21 26 04.4 0.0**
NEEM IAmb IAmb 21 26 05.5
comp=Z,74nm,0.7s
DUG Dugway, Tooele 47.38 76 IAmb IAmb 21 26 31.7
comp=Z,10nm,1.2s
GWY Greenwater Val 47.57 83 IAmb IAmb 21 26 33.8
comp=Z,5.7nm,0.7s
PDAR Pinedale Array 47.75 71 P **P 21 26 07.1 -0.7**
PDAR pP **pP 21 26 31.4 -0.6**
PDAR Pinedale Array 47.75 71 P **P 21 26 07.4 -0.4**
comp=Z,2.9nm,0.8s,baz=303,slow=3.4,SNR=31
PDAR pP **pP 21 26 32.0 +0.1**
comp=Z,2.1nm,0.6s,baz=315,slow=3.1,SNR=6.4
PDAR ScP **ScP 21 31 17.9 -2.0**
comp=Z,0.4nm,0.7s,baz=346,slow=3.1,SNR=3.8
comp=Z,2.9nm,0.8s
PRN Pahroc Range 47.78 80 IAmb IAmb 21 26 35.0
comp=Z,18nm,1.1s
PSUT Pine Spring 47.79 78 IAmb IAmb 21 26 35.1
comp=Z,6.3nm,0.7s
KULLO Kullorsuaq 48.52 17 *i* P **P 21 26 12.8 -0.2**
KULLO IAmb IAmb 21 26 14.1
comp=Z,38nm,0.8s
TMUT Trail Mountain 48.91 76 IAmb IAmb 21 26 43.6
comp=Z,5.8nm,0.8s
RDMU Red Mountain 49.09 73 IAmb IAmb 21 26 45.7
comp=Z,8.6nm,1.0s
KBS Kingsbay 49.24 357 *i* P **P 21 26 20.4 +2.0**
PFO Pinyon Flats O 49.40 85 LR LR 21 43 56.9
comp=Z,26nm,20.2s,baz=64,slow=32
LYN LuoYang 49.41 277 P **P 21 26 20.5 +0.2**
LYN pmax pmax
comp=Z,44nm,0.8s
SRU San Rafael Swe 49.44 75 IAmb IAmb 21 26 48.2
comp=Z,7.4nm,1.1s
SPITS Spitsbergen Ar 49.78 355 P **P 21 26 22.0 -0.5**
comp=Z,5.6nm,0.3s,baz=28,slow=6.0,SNR=104
SPITS pP **pwP 21 26 48.0 +1.4**
comp=Z,8.3nm,0.8s,baz=30,slow=6.7,SNR=1.5
SPITS PcP **PcP 21 27 40.9 -0.8**
comp=Z,6.1nm,0.8s,baz=42,slow=4.5,SNR=1.5
comp=Z,5.6nm,0.3s
W13A Hualapai Mount 50.00 82 IAmb IAmb 21 26 51.0
comp=Z,4.0nm,0.8s
UPNV Upernavik 50.06 18 *i* P **P 21 26 24.5 -0.2**
UPNV IAmb IAmb 21 26 25.7
comp=Z,40nm,0.8s
WHN Wuhan 50.97 271 P **P 21 26 32.5 +0.4**
WHN pmax pmax
comp=Z,42nm,0.6s
PV13 Radium Mtn., P 51.07 75 P **P 21 26 33.4 +0.3**
PV13 pP **pP 21 26 56.7 -0.8**
WUAZ Wupatki 51.26 80 P **P 21 26 35.3 +0.9**
WUAZ pP **pP 21 26 59.9 +1.0**
WUAZ ScP **ScP 21 31 33.8 -1.1**
NUUG Nuugaatsiaq 51.61 19 *i* P **P 21 26 36.0 -0.2**
NUUG IAmb IAmb 21 26 37.0
comp=Z,19nm,0.9s
XAN Xi'an 51.93 279 ⇊P **P 21 26 39.3 0.0**
XAN pmax pmax
comp=Z,19nm,0.9s
X16A Lo Mia Camp, P 51.95 81 IAmb IAmb 21 27 06.4
comp=Z,4.3nm,0.8s
ZAA0 Zalesovo Array 52.48 312 P **P 21 26 42.6 -0.4**
ZAA0 PcP **PcP 21 27 52.4 +0.2**
ZALV Zalesovo Beam 52.48 312 P **P 21 26 42.1 -0.9**
ZALV PcP **PcP 21 27 52.3 +0.1**
ZALV Zalesovo Beam 52.48 312 P **P 21 26 42.4 -0.6**
comp=Z,1.0nm,0.4s,baz=46,slow=4.3,SNR=7.6
ZALV PcP **PcP 21 27 52.5 +0.4**
comp=Z,9.1nm,0.8s,baz=32,slow=3.7,SNR=17
ZALV LR LR 21 48 43.7
comp=Z,66nm,18.7s,baz=26,slow=36
comp=Z,1.0nm,0.4s
X18A Snowflake 52.78 80 IAmb IAmb 21 27 12.5
comp=Z,5.5nm,0.8s
SUMG Summit 53.23 13 P **P 21 26 49.1 +0.3**
SUMG Summit 53.23 13 P **P 21 26 49.1 +0.3**
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 53.23 13 *i* P **P 21 26 48.5 -0.3**
SUMG IAmb IAmb 21 26 49.5
comp=Z,24nm,0.9s
DBG Daneborg 53.50 6 *i* P **P 21 26 49.0 -1.2**
DBG IAmb IAmb 21 26 50.7
comp=Z,10nm,1.0s
LZH Lanzhou 53.65 284 *e*P **P 21 26 53.0 +0.9**
LZH pmax pmax
comp=Z,33nm,1.3s
GTA Gaotai 53.84 290 P **P 21 26 53.8 +0.4**
GTA pP pP 21 27 17.3 -0.8
GTA sP sP 21 27 29.3 -0.2
GTA pmax pmax
comp=Z,50nm,0.8s
SFJD Kangerlussuaq 55.82 21 *i* P **P 21 27 06.3 -0.8**
SFJD IAmb IAmb 21 27 07.5
comp=Z,20nm,1.1s
ICESG Greenland Ices 56.15 15 *i* P **P 21 27 08.8 -1.1**
ICESG IAmb IAmb 21 27 10.5
comp=Z,27nm,0.8s
ZSN Zaisan 56.69 306 *e*P **P 21 27 13.5 -0.1**
ZSN pmax pmax
comp=Z,6.0nm,0.6s
ZSN Zaisan 56.69 306 *e*P **P 21 27 13.5 -0.1**
comp=Z,6.4nm,0.6s
SCO Scoresbysund 57.08 8 *i* P **P 21 26 10.0 0.0**
SCO IAmb IAmb 21 27 17.6
comp=Z,17nm,1.1s
CD2 Chengdu 57.24 280 P **P 21 27 17.9 +0.1**
CD2 pmax pmax
comp=Z,20nm,0.9s
ARCES ARCESS Array B 57.33 349 P **P 21 27 17.2 -0.5**
comp=Z,3.6nm,0.6s,baz=26,slow=7.7,SNR=17
ARCES pP **pP 21 27 43.2 +1.0**
comp=Z,6.6nm,1.0s,baz=22,slow=5.7,SNR=2.1
comp=Z,3.6nm,0.6s
KURK Kurchatov 57.47 312 P **P 21 27 18.9 -0.1**
KURK Kurchatov 57.47 312 *ce*P **P 21 27 18.9 -0.1**
KURK pmax pmax
comp=Z,40nm,1.3s
KURBB Kurchatov Arra 57.58 312 P **P 21 27 19.6 -0.1**
comp=Z,16nm,0.6s,baz=42,slow=6.8,SNR=176
KURBB pP **pP 21 27 44.9 +0.6**
comp=Z,3.1nm,0.7s,baz=43,slow=6.5,SNR=2.5
KURBB PcP **PcP 21 28 12.0 +0.1**
comp=Z,6.2nm,0.8s,baz=48,slow=3.8,SNR=7.6
KURBB PKP2ab 21 57 33.1
comp=Z,0.6nm,0.5s,baz=255,slow=6.2,SNR=4.6
comp=Z,16nm,0.6s
WMQ Urumqi 57.67 301 *e*P **P 21 27 21.6 +1.0**
WMQ pmax pmax
comp=Z,22nm,0.7s
VHRN Van Horn 58.39 79 P **P 21 27 26.9 +1.1**
VHRN pP **pP 21 27 50.3 -0.6**
VHRN IAmb IAmb 21 27 52.6
comp=Z,4.8nm,0.8s
MK31 Makanchi Array 58.42 307 *ce*P **P 21 27 25.1 -0.6**
MKAR Makanchi Array 58.42 307 P **P 21 27 24.9 -0.8**
MKAR Makanchi Array 58.42 307 P **P 21 27 25.0 -0.8**
comp=Z,10nm,0.6s,baz=50,slow=7.0,SNR=138
MKAR LR LR 21 52 24.6
comp=Z,85nm,18.3s,baz=339,slow=36
MKAR PKPPKP **P'P'df 21 57 04.7 -1.0**
comp=Z,0.8nm,1.1s,baz=270,slow=1.4,SNR=3.5
comp=Z,10nm,0.6s
MAKZ Makanchi 58.57 307 P **P 21 27 26.7 -0.1**
MAKZ Makanchi 58.57 307 P **P 21 27 26.7 -0.1**

MAKZ pmax pmax
comp=Z,14nm,0.7s
GYA Guiyang 58.62 274 P **P 21 27 26.8 -0.7**
GYA pmax pmax
comp=Z,14nm,1.0s
DKNS Dickens 58.82 74 IAmb IAmb 21 27 54.2
comp=Z,5.1nm,1.1s
GOMU GeErMu 58.92 290 P **P 21 27 29.8 0.0**
GOMU pmax pmax
comp=Z,29nm,0.8s
BVAR Borovoye Array 59.44 318 P **P 21 27 32.9 +0.2**
comp=Z,16nm,0.4s,baz=51,slow=7.1,SNR=101
BVAR pP **pP 21 27 57.6 +0.3**
comp=Z,4.2nm,0.6s,baz=48,slow=8.8,SNR=2.7
BVAR PcP **PcP 21 28 19.5 +0.2**
comp=Z,11nm,0.6s,baz=47,slow=4.1,SNR=11
BVAR LR LR 21 54 08.1
comp=Z,48nm,18.7s,baz=13,slow=37
comp=Z,16nm,0.4s
ISOG Isortoq, Green 59.45 17 *i* P **P 21 27 31.4 -1.0**
ISOG IAmb IAmb 21 27 32.5
comp=Z,31nm,0.8s
BRVK Borovoye 59.45 318 P **P 21 27 33.1 +0.4**
BRVK PcP **PcP 21 28 19.7 +0.4**
BRVK Borovoye 59.45 318 *ce*P **P 21 27 33.2 +0.4**
BRVK pmax pmax
comp=Z,14nm,0.6s
P40A Paris 59.87 63 P **P 21 27 34.8 -1.0**
P40A pP **pP 21 27 59.8 -1.1**
P40A IAmb IAmb 21 28 02.6
comp=Z,6.1nm,0.7s
LPIG La Paz 59.90 89 LR LR 21 49 46.1
comp=Z,34nm,18.0s,baz=44,slow=32
SGCY Sterling City 59.93 76 P **P 21 27 36.8 +0.4**
SGCY pP **pP 21 28 00.8 -0.6**
TX31 Lajitas Ar. Si 60.22 80 P **P 21 27 39.0 +0.5**
TX31 IAmb IAmb 21 28 05.0
comp=Z,4.8nm,0.8s
TXAR Lajitas Array 60.22 80 P **P 21 27 39.1 +0.7**
comp=Z,1.9nm,0.7s,baz=298,slow=4.8,SNR=22
TXAR pP **pP 21 28 03.5 -0.1**
comp=Z,3.6nm,0.8s,baz=301,slow=4.5,SNR=10
TXAR ScP **ScP 21 32 13.4 -0.9**
comp=Z,0.4nm,0.7s,baz=268,slow=3.5,SNR=5.7
comp=Z,1.9nm,0.7s
SVE Sverdlovsk 60.28 326 *e*P **P 21 27 39.4 +1.1**
SVE pmax pmax
comp=Z,33nm,1.2s
SCHQ Schefferville 60.65 37 P **P 21 27 40.6 -0.3**
comp=Z,9.3nm,0.9s,baz=4.2,slow=8.2,SNR=8.3
comp=Z,9.3nm,0.9s
BRZS Berezniki 60.68 315 *e*P **P 21 27 40.8 -0.3**
BRZS Berezniki 60.68 315 *e*P **P 21 27 40.9 -0.3**
ARTI Arti 61.40 327 P **P 21 27 46.4 +0.5**
ARTI Arti 61.40 327 LR LR 21 55 32.9
comp=Z,41nm,19.1s,baz=3.5,slow=37
ARTI Arti 61.40 327 *d i*P **P 21 27 46.5 +0.5**
ARTI 21 28 25.3
ARTI S **S 21 36 00.3 +2.0**
ARTI SS **SS 21 40 05.5 +5.8**
ARTI pmax pmax
comp=Z,47nm,0.8s
TDK Taldyqorghan 61.61 307 *e*P **P 21 27 47.5 0.0**
TDK pmax pmax
comp=Z,6.0nm,0.7s
TDK Taldyqorghan 61.61 307 *e*P **P 21 27 47.5 0.0**
comp=Z,6.5nm,0.7s
PZH PanZhiHua 61.62 277 P **P 21 27 48.0 0.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.1s
FW14 Alvarado 61.93 73 P **P 21 27 50.5 +0.6**
FCAR Ozark Folk Cen 62.39 66 P **P 21 27 51.5 -1.3**
KIRV Kirov 62.40 333 *ce*P **P 21 27 53.9 +1.4**
UZB Uzynbulak 62.64 306 *e*P **P 21 27 54.4 -0.2**
UZB Uzynbulak 62.64 306 *e*P **P 21 27 54.5 -0.2**
BORG Borgarnes 62.73 9 LR LR 21 55 52.1
comp=Z,67nm,18.3s,baz=1.6,slow=37
SADO Sadowa 62.86 51 LR LR 21 55 23.6
comp=Z,69nm,18.6s,baz=85,slow=36
JAY Jayapura 62.91 223 P **P 21 27 56.5 0.0**
comp=Z,8.1nm,0.9s,baz=190,slow=22,SNR=1.2
comp=Z,8.1nm,0.9s
ZHN Zhinishke 62.92 306 *e*P **P 21 27 56.3 -0.1**
ZHN pmax pmax
comp=Z,9.0nm,0.8s
ZHN Zhinishke 62.92 306 *e*P **P 21 27 56.4 0.0**
comp=Z,8.8nm,0.8s
KLMR Klimovskoe 62.95 339 *e*P **P 21 27 51.8 -4.3**
KLMR pmax pmax
comp=Z,25nm,1.8s
SATY Saty 63.01 306 *e*P **P 21 27 56.9 -0.2**
SATY pmax pmax
comp=Z,12nm,1.0s
SATY Saty 63.01 306 *e*P **P 21 27 56.9 -0.2**
comp=Z,12nm,1.0s
AAA Alma-Ata 63.65 307 *e*P **P 21 28 00.9 -0.2**
AAA pmax pmax
comp=Z,11nm,0.9s
AAA Alma-Ata 63.65 307 *e*P **P 21 28 01.0 -0.2**
comp=Z,11nm,0.9s
BTLS Baital 63.69 310 *e*P **P 21 28 01.2 -0.1**
BTLS Baital 63.69 310 *e*P **P 21 28 01.2 -0.1**
TNSS Tian-Shan 63.76 307 *e*P **P 21 28 01.7 -0.6**
TNSS Tian-Shan 63.76 307 *e*P **P 21 28 01.7 -0.6**
SLVN Son La 64.08 272 IAmb IAmb 21 28 06.0
comp=Z,10.0nm,1.0s
TKM2 Tokmak 2 64.51 308 P **P 21 28 07.4 +0.4**
SNR=13
SGDS Sogindy 64.59 308 *e*P **P 21 28 07.1 -0.2**
SGDS Sogindy 64.59 308 *e*P **P 21 28 07.2 -0.2**
USP Ospenovka 64.79 308 P **P 21 28 09.2 +0.6**
SNR=25
CHMS Chumysh 64.87 308 P **P 21 28 09.7 +0.6**
SNR=6.9
FINES FINESS Array B 64.94 346 P **P 21 28 08.3 -0.9**
comp=Z,1.6nm,0.3s,baz=16,slow=6.9,SNR=27
comp=Z,1.6nm,0.3s
KBK Karagaybulak 65.03 308 P **P 21 28 10.8 +0.5**
SNR=13
AAK Ala-Archa 65.26 308 P **P 21 28 12.1 +0.3**
AAK Ala-Archa 65.26 308 P **P 21 28 12.4 +0.6**
SNR=18
AAK Ala-Archa 65.26 308 *ce*P **P 21 28 12.5 +0.7**
AAK pmax pmax
comp=Z,32nm,1.7s
L56A Greenwood 65.59 52 P **P 21 28 13.7 -0.1**
EKS2 Erkin-Say 65.60 308 P **P 21 28 14.7 +0.8**
SNR=15
LSA Lhasa 65.71 288 P **P 21 28 16.3 +1.1**
LSA pmax pmax
comp=Z,21nm,0.9s
SWI Sorong 65.84 234 P **P 21 28 16.0 +0.4**
comp=Z,47nm,1.0s
AML Almayashu 66.04 308 P **P 21 28 18.1 +1.0**
SNR=15
ABKAR Akbulak array 66.54 321 P **P 21 28 20.2 +0.6**
ABKAR PcP **PcP 21 28 48.2 -0.1**
ABKAR Akbulak array 66.54 321 IAmb IAmb 21 28 21.4
comp=Z,26nm,1.2s
DZA Taraz 66.60 310 *e*P **P 21 28 20.0 -0.1**
DZA Taraz 66.60 310 *e*P **P 21 28 20.1 -0.1**
KKAR Karatay Array 66.82 311 P **P 21 28 21.6 0.0**
KKAR Karatay Array 66.82 311 P **P 21 28 21.6 0.0**
KSH Kashi 66.87 305 P **P 21 28 26.0 +3.9**
KSH pmax pmax
comp=Z,22nm,0.8s
NB2 NORSAR Subarra 67.00 353 P **P 21 28 21.8 -0.7**
comp=Z,5.3nm,0.8s,baz=7.9,slow=6.5
NOA NORSAR Array B 67.00 353 P **P 21 28 22.0 -0.5**
comp=Z,3.2nm,0.8s,baz=6.2,slow=11,SNR=10
comp=Z,3.2nm,0.8s
BRLS Borolday 67.19 311 *e*P **P 21 28 25.5 +1.6**
BRLS Borolday 67.19 311 *e*P **P 21 28 25.6 +1.6**
TKL Tuckaleechee C 67.20 61 LR LR 21 58 56.2
comp=Z,69nm,18.4s,baz=353,slow=37
HFS Hagfors 67.70 352 P **P 21 28 25.6 -1.2**
comp=Z,1.2nm,0.3s,baz=326,slow=2.7,SNR=15
comp=Z,1.2nm,0.3s
IUG Iuzhnay 67.78 310 *e*P **P 21 28 27.6 -0.2**
IUG pmax pmax
comp=Z,13nm,0.8s
IUG Iuzhnay 67.78 310 *e*P **P 21 28 27.7 -0.2**
comp=Z,13nm,0.8s
CHM Chimkent 67.85 311 *e*P **P 21 28 27.9 -0.2**
CHM pmax pmax
comp=Z,9.0nm,0.9s
CHM Chimkent 67.85 311 *e*P **P 21 28 28.0 -0.2**
comp=Z,8.6nm,0.9s
OBN Obninsk 68.82 338 ⇑ *i*P **P 21 28 33.5 -0.3**
OBN *e**PP **pP 21 28 59.1 -0.2**
OBN *e* 21 31 09.6
OBN pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 69.04 274 P **P 21 28 36.0 +0.2**
CHTO IAmb IAmb 21 28 36.8
comp=Z,7.2nm,0.8s
CHTO Chiang Mai 69.04 274 P **P 21 28 36.0 +0.2**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 69.31 274 P **P 21 28 37.4 -0.1**
CMAR Chiang Mai Arr 69.31 274 P **P 21 28 37.6 +0.2**
comp=Z,5.3nm,0.7s,baz=25,slow=7.2,SNR=33
CMAR pP **PcP 21 29 01.4 +1.0**
comp=Z,1.8nm,0.6s,baz=21,slow=5.2,SNR=2.2
CMAR LR LR 22 00 30.8
comp=Z,12nm,20.0s,baz=140,slow=37
comp=Z,5.3nm,0.7s
MRSI Marisa 69.63 243 P **P 21 28 39.2 -0.2**
comp=Z,36nm,1.1s
LPSR Galich'ya Gora 70.52 335 *e*P **P 21 28 44.7 +0.4**
LPSR pmax pmax
comp=Z,17nm,0.9s
SIMJ Simiganj 70.99 309 P **P 21 28 48.1 +0.5**
VRH Novokhopyorsk 71.02 333 *e*P **P 21 28 47.1 -0.3**
VRH pmax pmax
comp=Z,32nm,0.6s
MNK Minsk 71.23 342 *i*P **P 21 28 47.5 -1.0**
comp=E,14nm,1.3s
MNK *i*P **P 21 28 47.5 -1.0**
comp=N,16nm,1.1s
MNK *i*P **P 21 28 47.5 -1.0**
comp=Z,13nm,0.8s,baz=19
MNK *i*pP **pP 21 29 12.9 -1.2**
MNK *i*PP **PP 21 31 27.1 +0.1**
MNK *i*PPP PPP 21 33 11.0
MNK *i*S **S 21 37 58.6 +1.5**
MNK *i*sS **ScS 21 38 42.8 -0.5**
MNK *i*SS **SS 21 42 36.3 +4.7**
MNK *i*SSS SSS 21 45 56.2
MNK *i*LQ LQ 21 55 28.9
MNK *i*LR LR 22 00 46.4
MNK *i*LRM MLR 22 02 36.3
comp=Z,173nm,18.6s
MNK *i*LRM MLR 22 02 48.7
comp=N,110nm,13.0s
MNK *i*LRM MLR 22 03 40.4
comp=E,81nm,15.0s
MNK Minsk 71.23 342 *i*P **P 21 28 47.5 -1.1**
MNK *i**PP **pP 21 29 12.9 -1.3**
MNK *i* 21 31 27.0
MNK *i*PPP PPP 21 33 11.0
MNK *i*S **S 21 37 58.6 +1.4**
MNK *i**SS **ScS 21 38 42.7 -0.5**
MNK *i*SS **SS 21 42 36.2 +4.6**
MNK pmax pmax
comp=E,14nm,1.3s
MNK pmax pmax
comp=N,16nm,1.1s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK MLR MLR
comp=Z,173nm,19.0s
MNK MLR MLR
comp=N,110nm,13.0s
MNK MLR MLR
comp=E,81nm,15.0s
VSR Storozhevoye 71.71 334 *e*P **P 21 28 49.4 -2.1**
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD Divnogorie 71.90 334 *e*P **P 21 28 51.2 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 72.76 303 P **P 21 28 58.6 +0.4**
NIL Nilore 72.76 303 P **P 21 28 58.6 +0.4**
NIL pmax pmax
comp=Z,38nm,1.1s
EKA Eskdalemuir Ar 73.18 1 P **P 21 28 59.6 -0.6**
comp=Z,3.7nm,0.9s,baz=3.4,slow=6.7,SNR=4.6
EKA pP **pP 21 29 26.1 +0.3**
comp=Z,1.7nm,0.7s,baz=358,slow=6.1,SNR=2.2
comp=Z,3.7nm,0.9s
SBUM Sibu 73.59 252 P **P 21 29 03.6 +0.4**
TTSI Tana Toraja 73.72 243 P **P 21 29 04.0 +0.1**
comp=Z,21nm,0.9s
KBL Kabul 74.22 306 P **P 21 29 06.3 -0.6**
KBL Kabul 74.22 306 P **P 21 29 06.3 -0.6**
KBL pmax pmax
comp=Z,28nm,0.8s
AKASG Malin Array Be 74.56 340 P **P 21 29 07.3 -1.0**
comp=Z,3.2nm,0.4s,baz=23,slow=6.3,SNR=13
AKASG pP **pP 21 29 34.1 0.0**
comp=Z,4.1nm,0.8s,baz=24,slow=6.1,SNR=3.8
comp=Z,3.2nm,0.4s
AKASG Malin Array Be 74.56 340 *i*P **P 21 29 09.8 +1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 74.56 340 *i*P **P 21 29 06.9 -1.4**
AKBB pmax pmax
comp=Z,48nm,3.3s
KIEV Kiev 74.57 340 P **P 21 29 07.9 -0.5**
KIEV IAmb IAmb 21 29 08.6
comp=Z,9.9nm,1.1s
KIEV Kiev 74.57 340 ⇑P **P 21 29 07.9 -0.5**
KIEV Kiev 74.57 340 ⇑P **P 21 29 07.9 -0.5**
GOF Gofitskoye 76.12 329 *ce*P **P 21 29 18.5 +1.1**
CLL Collm 76.49 351 *e*Px Px 21 29 25.0
SORM Soroca 77.18 340 ⇑P **P 21 29 22.6 -0.6**
SORM Soroca 77.18 340 ⇑P **P 21 29 22.6 -0.6**
KIV Kislovodsk 77.22 329 P **P 21 29 23.3 -0.4**
KIV Kislovodsk 77.22 329 ⇑P **P 21 29 24.4 +0.7**
KIV Kislovodsk 77.22 329 *e*P **P 21 29 24.4 +0.7**
KIV pmax pmax
comp=Z,14nm,1.0s
NCK Nalchik 77.34 328 *i*P **P 21 29 24.2 -0.1**
NCK pmax pmax
comp=Z,24nm,0.8s
KBZ Khabaz 77.36 329 P **P 21 29 24.8 +0.4**
comp=Z,9.0nm,0.8s,baz=89,slow=4.5,SNR=20
comp=Z,9.0nm,0.8s
KBZ Khabaz 77.36 329 *ce*P **P 21 29 24.7 +0.4**
KBZ pmax pmax
comp=Z,12nm,0.9s
SHA1 Shidzhatmaz 77.42 329 *i*P **P 21 29 25.5 +0.5**
KOLS Kolonicke sedl 77.57 344 *e*P **P 21 29 27.7 +2.2**
LANS Liptovska Anna 77.80 346 *e*P **P 21 29 27.8 +1.0**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 77.80 346 *e*P **P 21 29 27.8 +1.0**
MILM Milestii Mici 78.23 339 ⇓P **P 21 29 27.0 -2.1**
MILM Milestii Mici 78.23 339 ⇓P **P 21 29 27.0 -2.1**
BUR08 Bucovina Ar. S 78.28 342 IAmb IAmb 21 29 32.5
comp=Z,6.5nm,0.8s
BURAR Bucovina Array 78.31 342 P **P 21 29 29.9 +0.2**
BURAR Bucovina Array 78.31 342 ⇑P **P 21 29 29.9 +0.2**
BURAR Bucovina Array 78.31 342 ⇑P **P 21 29 29.9 +0.2**
BIZ Bicaz 78.78 341 ⇓P **P 21 29 33.2 +1.1**
GERES GERESS Array B 78.85 350 P **P 21 29 31.9 -0.7**
comp=Z,0.4nm,0.6s,baz=30,slow=6.3,SNR=4.8
GERES pP **pP 21 29 58.5 -0.1**
comp=Z,0.2nm,0.5s,baz=12,slow=4.6,SNR=1.7
comp=Z,0.4nm,0.6s
VLDR Vladesti 79.41 339 ⇓P **P 21 29 35.8 +0.2**
CONA Conrad Observa 79.50 348 *i*P **P 21 29 35.1 -1.1**
comp=Z,0.9nm,0.6s
DRGR 79.56 343 ⇑P **P 21 29 36.9 +0.4**
DRGR 79.56 343 ⇑P **P 21 29 36.9 +0.4**
MARR Marisel-Cluj 79.60 343 ⇑P **P 21 29 36.1 -0.6**
VRI Vrincioaia 79.68 340 ⇓P **P 21 29 34.1 -3.0**
VRI Vrincioaia 79.68 340 ⇓P **P 21 29 34.1 -3.0**
ODBI Odobesti 79.71 340 ⇓P **P 21 29 38.0 +0.8**
PLOR Plostina 79.71 340 ⇓P **P 21 29 37.5 +0.2**
PLOR Plostina 79.71 340 ⇓P **P 21 29 37.5 +0.2**
COVR Voineasa-Covas 79.81 341 ⇓P **P 21 29 39.2 +1.4**
DOPR Dopca 79.86 341 ⇑P **P 21 29 38.6 +0.6**
TLCR 79.87 339 ⇓P **P 21 29 38.7 +0.6**
TLCR 79.87 339 ⇓P **P 21 29 38.7 +0.6**
GNI Garni 79.93 326 *i*P **P 21 29 38.1 -0.6**
GNI pmax pmax
comp=Z,21nm,1.3s
NEHR Nehoiu 80.19 341 ⇑P **P 21 29 43.3 +3.4**
MLR Muntele Rosu 80.20 341 ⇑P **P 21 29 40.5 +0.5**
MLR Muntele Rosu 80.20 341 ⇑P **P 21 29 40.5 +0.5**
TPGR Topolog 80.28 339 ⇓P **P 21 29 41.0 +0.7**
VOIR 80.43 341 ⇑P **P 21 29 41.9 +0.7**
VOIR 80.43 341 ⇑P **P 21 29 41.9 +0.7**
HARR Harsova 80.54 339 ⇑P **P 21 29 43.0 +1.3**
HARR Harsova 80.54 339 ⇑P **P 21 29 43.0 +1.3**
WATA Walderalm 80.56 351 *e*P **P 21 29 41.2 -0.8**
comp=Z,1.5nm,0.7s
ARR Arges 80.58 342 ⇑P **P 21 29 42.1 +0.1**
WTTA Wattenberg 80.63 351 *i*P **P 21 29 42.1 -0.3**
comp=Z,2.5nm,0.7s
KBA Koelnbreinsper 80.63 350 *i*P **P 21 29 42.4 0.0**
comp=Z,2.3nm,0.3s
SURR Surduc 80.67 343 ⇑P **P 21 29 42.6 +0.2**
SQTA Sankt Quirin 80.71 351 *e*P **P 21 29 41.9 -0.8**
comp=Z,0.3nm,0.3s
SOKA Soboth 80.83 349 *e*P **P 21 29 43.2 -0.1**
comp=Z,1.6nm,0.5s
BZS Buzias 80.89 344 ⇓P **P 21 29 42.9 -0.6**
BZS Buzias 80.89 344 ⇓P **P 21 29 42.9 -0.6**
GZR Gura Zlata 80.90 343 ⇑P **P 21 29 43.8 +0.1**
GZR Gura Zlata 80.90 343 ⇑P **P 21 29 43.8 +0.1**
ABTA Abfaltersbach 81.05 350 *i*P **P 21 29 43.7 -0.8**
comp=Z,1.9nm,0.7s
OBKA Obir 81.06 349 *e*P **P 21 29 44.4 -0.2**
comp=Z,1.6nm,0.6s
WRAB Tennant Creek 81.21 222 *i*P P 21 29 40.3 -5.1
WRAB pmax pmax
comp=Z,27nm,2.0s
WRA Warramunga Arr 81.22 222 P **P 21 29 45.5 0.0**
comp=Z,5.6nm,0.6s,baz=46,slow=6.8,SNR=26
WRA pP **pP 21 30 11.3 -0.4**
comp=Z,2.4nm,0.7s,baz=26,slow=5.5,SNR=4.3
comp=Z,5.6nm,0.6s
PRED Cave del Predi 81.24 350 IAmb IAmb 21 29 47.3
comp=Z,5.0nm,0.7s
PSI Prapat 81.38 264 LR LR 22 10 49.2
comp=Z,20nm,18.1s,baz=347,slow=39
HERR Herculane 81.47 343 ⇑P **P 21 29 46.4 -0.2**
KOPT Kop Dagi 81.47 329 IAmb IAmb 21 29 49.9
comp=Z,17nm,1.4s
MDVR Moldovita 81.69 344 ⇓P **P 21 29 47.5 -0.4**
BOVS Bovan 82.80 343 ⇓P **P 21 29 53.1 -0.4**
BNI Bardonecchia 83.22 354 IAmb IAmb 21 29 59.0
comp=Z,5.5nm,0.9s
FITZ Fitzroy Crossi 83.46 230 P **P 21 29 58.2 +1.0**
FITZ IAmb IAmb 21 29 58.7
comp=Z,4.2nm,0.8s
BRTR Keskin Array B 83.80 333 P **P 21 29 59.5 +0.6**
comp=Z,2.1nm,0.6s,baz=42,slow=2.2,SNR=17
BRTR pP **pP 21 30 25.8 +0.3**
comp=Z,0.6nm,0.6s,baz=41,slow=3.2,SNR=2.3
comp=Z,2.1nm,0.6s
KIRS Kirsehir-Merke 84.27 333 ⇓P **P 21 29 59.5 -1.8**
OSSC Osservatorio P 84.37 351 IAmb IAmb 21 30 01.8
comp=Z,6.6nm,0.9s
PDG Podgorica 84.39 345 ⇑P **P 21 30 01.2 -0.5**
RDO Rodhopi 84.44 340 IAmb IAmb 21 30 04.5
comp=Z,7.4nm,0.8s
BORA Eskisehir 84.50 336 IAmb IAmb 21 30 03.1
comp=Z,4.7nm,0.8s
ASAR Alice Springs 84.73 220 P **P 21 30 04.0 +0.4**
comp=Z,5.1nm,0.7s,baz=21,slow=5.7,SNR=39
ASAR pP **pP 21 30 29.9 -0.2**
comp=Z,2.1nm,1.0s,baz=39,slow=3.2,SNR=3.9
comp=Z,5.1nm,0.7s
ASAR Alice Springs 84.73 220 P **P 21 30 04.0 +0.4**
ASAR *PP **pP 21 30 30.0 -0.2**
GAZ Gaziantep 85.11 330 IAmb IAmb 21 30 08.3
comp=Z,9.9nm,0.9s
CESX Cesi 85.13 350 IAmb IAmb 21 30 06.3
comp=Z,5.1nm,0.8s
ESDC Sonseca Array 88.83 2 P **P 21 30 21.9 -1.6**
comp=Z,0.9nm,0.8s,baz=347,slow=4.8,SNR=5.1
comp=Z,0.9nm,0.8s
STKA Stephens Creek 89.45 211 P **P 21 30 27.2 +1.2**
STKA Stephens Creek 89.45 211 P **P 21 30 26.9 +0.8**
comp=Z,10nm,0.7s,baz=346,slow=7.4,SNR=13
STKA pP **pP 21 30 53.2 +0.5**
comp=Z,3.0nm,0.7s,baz=356,slow=4.6,SNR=1.9
comp=Z,10nm,0.7s
STKA Stephens Creek 89.45 211 P **P 21 30 27.3 +1.2**
STKA pmax pmax
comp=Z,65nm,0.9s
SJG San Juan 90.58 59 LR LR 22 13 14.6
comp=Z,13nm,19.3s,baz=174,slow=37
EIL Elat 92.75 329 LR LR 22 16 08.2
comp=Z,10nm,18.2s,baz=46,slow=38
RAYN Ar Rayn 94.42 318 P **P 21 30 49.0 -0.6**
RAYN Ar Rayn 94.42 318 P **P 21 30 49.0 -0.6**
RAYN pmax pmax
comp=Z,7.0nm,1.0s
PCRV Puerto La Cruz 97.94 62 LR LR 22 14 45.7
comp=Z,33nm,20.3s,slow=35
TORD Torodi Ar. Bea 115.22 357 PKiKP **PKiKP 21 36 09.4 -1.1**
comp=Z,0.7nm,0.3s,baz=351,slow=2.4,SNR=2.1
KMBO Kilima Mbogo 119.94 314 PKPdf **PKPdf 21 36 19.5 -0.6**
KMBO Kilima Mbogo 119.94 314 PKP **PKPdf 21 36 20.1 +0.1**
comp=Z,0.9nm,0.6s,baz=43,slow=5.8,SNR=7.2
SIV San Ignacio 121.11 76 PKP **PKPdf 21 36 21.1 -0.8**
comp=Z,0.4nm,0.3s,baz=278,slow=1.8,SNR=7.9
DBIC Dimbokro 121.64 4 PKP **PKPdf 21 36 22.0 -1.0**
comp=Z,2.6nm,0.5s,baz=329,slow=2.4,SNR=10
H03N2 Juan Fernandez 122.88 104 T T 23 52 01.1
baz=314,slow=76
H03N1 Juan Fernandez 122.89 104 T T 23 51 34.5
baz=314,slow=76
H03N3 Juan Fernandez 122.90 104 T T 23 51 27.5
baz=314
BDFB Brasilia 128.41 63 PKP **PKPdf 21 36 35.1 -0.8**
comp=Z,1.7nm,0.8s,baz=223,slow=7.4,SNR=3.8
CPUP Villa Florida 131.19 81 PKP **PKPdf 21 36 41.2 +0.5**
comp=Z,0.5nm,0.4s,baz=317,slow=7.0,SNR=4.0
CPUP SKPbc **SKPbc 21 39 55.3 -0.7**
comp=Z,2.7nm,0.7s,baz=293,slow=3.7,SNR=6.9
PLCA Paso Flores 132.71 105 PKP **PKPdf 21 36 42.3 -1.0**
comp=Z,1.1nm,0.6s,baz=241,slow=4.6,SNR=5.0
PLCA SKPbc **SKPbc 21 40 00.1 -1.0**
comp=Z,2.1nm,1.0s,baz=0.2,slow=3.3,SNR=5.0
QSPA South Pole Qui 141.60 180 PKhKP PKPpre 21 36 54.1
comp=Z,4.9nm,1.0s,baz=136,slow=0.9,SNR=8.7
TSUM Tsumeb 144.14 328 PKPdf PKPbc 21 37 03.4 +0.1
LPHEP Lephephe 144.65 313 *i*P **PKPdf 21 37 05.5 -0.1**
GRTLG Ghanzi 144.83 321 *i*P **PKPdf 21 37 06.3 +0.2**
KDWAN Kaudwane 145.20 315 *i*P **PKPdf 21 37 06.9 +0.3**
KGCAE Kacgae 145.78 319 *i*P **PKPab 21 37 09.1 +0.3**
LBTB Lobatse 146.19 312 PKPdf **PKPdf 21 37 08.1 -0.2**
LBTB Lobatse 146.19 312 PKP2 **PKPdf 21 37 08.1 -0.2**
SKOMA Sekoma 146.51 315 *i*P **PKPab 21 37 11.1 -0.4**
KOOLE Kule 146.70 322 *i*P **PKPab 21 37 12.0 -0.4**
MAKGR Makgori 147.25 312 *i*P **PKPbc 21 37 13.1 +0.6**
LKGWB Lokgwabe 147.31 319 *i*P **PKPbc 21 37 13.1 +0.4**
BOSA Boshof 149.40 309 PKPdf **PKPdf 21 37 13.3 -0.1**
BOSA Boshof 149.40 309 PKPbc **PKPbc 21 37 17.9 -0.1**
comp=Z,3.8nm,0.3s,baz=36,slow=2.0,SNR=27
BOSA pPKPbc **pPKPbc 21 37 45.7 -0.2**
comp=Z,4.4nm,0.8s,baz=27,slow=2.9,SNR=2.6
BOSA Boshof 149.40 309 PKHKP PKPpre 21 37 13.4
BELA Belgrano 2 151.22 166 PKPdf **PKPbc 21 37 18.5 -2.2**
ELIB Princess Elisa 157.04 200 *d*PKPdf **PKPdf 21 37 25.8 +2.7**

NEIC ***24*** *21:19:05.7±1.5, 5°.94N±0°.08×126°.95E±0°.07, h70km±8km, mb4.4/19, Error ellipse: s-maj=14.1km s-min=6.7km az=214.0*

IDC ***24*** *21:19:06.5±4.1, 6°.03N×127°.00E, h72km±37km, mb3.5/7, mbtmp3.8/7, MS2.7/1, Error ellipse: s-maj=66.3km s-min=15.8km az=65.0*

ISC 24 21:19:06.7±0.6, 5°.93N±0°.07×126°.88E±0°.10, h83km, n33, σ0°99/34, mb4.2/17, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.72**	**311**	P	**Pn**	**21 19 34.0**	**-1.0**
	451nm,0.5s,baz=119,slow=2.1,SNR=21						
DAV				S	**Sn**	**21 19 56.7**	**+0.2**
	394nm,0.4s,baz=60,slow=22,SNR=17						
DAV				LR	LR	21 20 27.9	
	comp=Z,100nm,21.9s,baz=211,slow=46						
TNTI	**Ternate**	**5.14**	**175**	Pn	**Pn**	**21 20 20.9**	**-0.5**
TOLI2	**Tolitoli**	**7.74**	**232**		**Pn**	**21 20 55.1**	**-1.7**
SBUM	**Sibu**	**15.02**	**257**	P	**P**	**21 22 38.9**	**+0.9**
MTN	**Manton Dam**	**19.12**	**167**	P	**P**	**21 23 22.0**	**-1.3**

MTN				IAmb	IAmb	21 23 22.6		
	comp=Z,25nm,1.0s							
MANU	**Manus Island**	**21.94**	**111**	P	**P**	**21 23 53.0**	**-0.7**	
MANU				IAmb	IAmb	21 24 36.7		
	comp=Z,41nm,1.4s							
JCJ	**Chichijima**	**25.60**	**33**	P	**P**	**21 24 26.8**	**-1.6**	
WRA	**Warramunga Arr**	**26.74**	**164**	P	**P**	**21 24 39.8**	**+1.1**	
	comp=Z,0.4nm,0.4s,baz=348,slow=8.9,SNR=14							
	comp=Z,0.4nm,0.4s							
JHJ	**Hachijo jima 2**	**29.60**	**22**	LR	LR	21 35 56.0		
	comp=Z,15nm,20.3s,baz=71,slow=34							
ASAR	**Alice Springs**	**30.20**	**167**	P	**P**	**21 25 11.1**	**+1.6**	
	comp=Z,0.2nm,0.5s,baz=343,slow=8.7,SNR=8.4							
ASAR				PcP	**PcP**	**21 28 10.1**	**+1.3**	
	comp=Z,0.2nm,0.5s,baz=332,slow=2.1,SNR=2.0							
	comp=Z,0.2nm,0.5s							
KAAM	**Kaadhehdhoo**	**54.04**	**266**	P	**P**	**21 28 23.8**	**+0.6**	
MKAR	**Makanchi Array**	**55.86**	**324**	P	**P**	**21 28 35.9**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=111,slow=7.1,SNR=0.9							
	comp=Z,0.9nm,0.7s							
TARG	**Taragay, Kyrgy**	**56.23**	**317**	P	**P**	**21 28 39.4**	**+0.3**	
TARG				IAmb	IAmb	21 28 41.9		
	comp=Z,4.4nm,0.7s							
ZALV	**Zalesovo Beam**	**58.72**	**332**	P	**P**	**21 28 55.8**	**+0.1**	
ZALV	**Zalesovo Beam**	**58.72**	**332**	P	**P**	**21 28 55.9**	**+0.3**	
	comp=Z,0.6nm,0.5s,baz=131,slow=5.9,SNR=1.3							
	comp=Z,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**59.99**	**327**	P	**P**	**21 29 04.7**	**+0.2**	
	comp=Z,0.8nm,0.6s,baz=128,slow=4.0,SNR=2.5							
	comp=Z,0.8nm,0.6s							
CHGR	**Chuyangaron**	**61.33**	**311**	P	**P**	**21 29 12.7**	**-1.4**	
KK31	**Karatay Array**	**61.75**	**316**	P	**P**	**21 29 16.5**	**-0.2**	
KK31				IAmb	IAmb	21 29 19.6		
	comp=Z,1.8nm,0.8s							
KKAR	**Karatay Array**	**61.75**	**316**	P	**P**	**21 29 17.0**	**+0.3**	
AB31	**Akbulak array**	**70.56**	**320**	P	**P**	**21 30 13.2**	**+0.3**	
ABKAR	**Akbulak array**	**70.56**	**320**	P	**P**	**21 30 13.0**	**+0.1**	
ABKAR	**Akbulak array**	**70.56**	**320**	P	**P**	**21 30 13.0**	**+0.1**	
ABKAR				IAmb	IAmb	21 30 13.5		
	comp=Z,1.7nm,0.7s							
CASY	**Casey**	**73.00**	**187**	P	**P**	**21 30 26.2**	**-0.9**	
ARTI	**Arti**	**73.26**	**327**	P	**P**	**21 30 28.6**	**-0.3**	
ARTI				IAmb	IAmb	21 30 30.1		
	comp=Z,6.7nm,1.2s							
J17K	**VABM Dome**	**77.60**	**26**	P	**P**	**21 30 51.8**	**-1.8**	
J17K				IAmb	IAmb	21 30 54.6		
	comp=Z,7.6nm,1.1s							
C18K	**Utukok River**	**77.97**	**21**	P	**P**	**21 30 56.7**	**+1.0**	
C18K				IAmb	IAmb	21 31 23.4		
	comp=Z,3.4nm,1.4s							
ACHA	**Angle Creek He**	**78.56**	**32**	P	**P**	**21 30 58.7**	**-0.5**	
ACHA				IAmb	IAmb	21 31 03.6		
	comp=Z,13nm,1.4s							
B20K	**Meade River**	**79.67**	**20**	P	**P**	**21 31 04.2**	**-0.7**	
B21K	**Ikpikpuk River**	**80.47**	**20**	P	**P**	**21 31 10.5**	**+1.3**	
B21K				IAmb	IAmb	21 31 23.2		
	comp=Z,3.5nm,1.1s							
B22K	**Teshekpuk Lake**	**80.98**	**20**	P	**P**	**21 31 13.2**	**+1.3**	
B22K				IAmb	IAmb	21 31 31.2		
	comp=Z,4.1nm,1.3s							
C23K	**Itkillik River**	**81.88**	**20**	P	**P**	**21 31 16.9**	**+0.2**	
C23K				IAmb	IAmb	21 31 47.8		
	comp=Z,4.3nm,1.3s							
ILAR	**Eielson Array**	**83.07**	**26**	P	**P**	**21 31 23.7**	**+0.7**	
	comp=Z,0.3nm,0.6s,baz=252,slow=4.9,SNR=4.3							
	comp=Z,0.3nm,0.6s							
FINES	**FINESS Array B**	**89.98**	**332**	P	**P**	**21 31 58.3**	**+1.6**	
	comp=Z,2.0nm,0.8s,baz=78,slow=5.9,SNR=3.3							
	comp=Z,2.0nm,0.8s							

*IDC **24** 21:51:25.9±2.4, 0°.95S×129°.60E, h0km, mb3.5/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=153.0km s-min=26.9km az=70.0*
*DJA **24** 21:51:29.0±0.3, 1°.5±2°×12°.9E±°, h10km, M3.6/11, MLv3.6/11*
ISC 24 21:51:29.1±1.1, 0°.96S±0°.09×129°.26E±0°.06, h20km, n10, σ0°93/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.00**	**87**	P	**Pb**	**21 52 03.5**	**-1.3**
SWI				S	**Sb**	**21 52 30.4**	**+1.0**
MSAI	**Masohi**	**2.39**	**188**	P	**Pn**	**21 52 07.7**	**+0.5**
MSAI				S	**Sn**	**21 52 36.6**	**+0.6**
AAI	**Ambon**	**2.91**	**201**	P	**Pn**	**21 52 14.3**	**0.0**
NLAI	**Namlea**	**3.13**	**224**	P	**Pn**	**21 52 17.2**	**-0.1**
SANI	**Sanana**	**3.44**	**252**	P	**Pn**	**21 52 21.2**	**-0.4**
FAKI	**Fak Fak**	**3.57**	**123**	P	**Pn**	**21 52 23.5**	**+0.2**
BNDI	**Bandanaira**	**3.60**	**170**	P	**Pn**	**21 52 23.9**	**+0.1**
BNDI				S	**Sn**	**21 53 06.1**	**+0.4**
WRA	**Warramunga Arr**	**19.51**	**166**	P	**P**	**21 55 54.5**	**-0.8**
	0.2nm,0.3s,baz=347,slow=11,SNR=9.1						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**23.02**	**169**	P	**P**	**21 56 31.6**	**-1.4**
	0.9nm,0.4s,baz=353,slow=9.4,SNR=14						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**62.83**	**326**	P	**P**	**22 01 54.9**	**+1.4**
	0.2nm,0.4s,baz=123,slow=8.3,SNR=4.5						
	0.2nm,0.4s						

*IDC **24** 22:01:50.9±55.0, 0°.56S×99°.54E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1077.0km s-min=157.3km az=172.0*
*DJA **24** 22:02:10.1±0.3, 0°N±2°×9°2E±°, h93km±5km, M4.1/15, mB4.5/1, mb4.4/5, MLv4.0/15, Mw(mB)3.6/1*
ISC 24 22:02:10.0±1.0, 0°.40N±0°.06×99°.44E±0°.08, h100km, n18, σ0°71/17, mb3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.42**	**19**	P	**Pn**	**22 02 24.9**	**-0.3**
MNSI				S	**Sn**	**22 02 36.9**	**+0.3**
PBSI	**Pulau Batu**	**1.25**	**249**	P	**Pn**	**22 02 34.1**	**+0.9**
PPI	**Padang Panjang**	**1.28**	**132**	P	**Pn**	**22 02 34.7**	**+1.2**
SISI	**Saibi**	**1.75**	**192**	P	**Pn**	**22 02 38.6**	**-0.8**
SISI				S	**Sn**	**22 03 02.3**	**+0.6**
GSI	**Gunungsitoli**	**2.07**	**296**	P	**Pn**	**22 02 43.7**	**+0.2**
PPSI	**Pulau Pagai**	**3.19**	**170**	P	**Pn**	**22 02 57.2**	**-1.1**
SNSI	**Sinabang, Aceh**	**3.70**	**303**	P	**Pn**	**22 03 05.5**	**+0.3**
MLSI	**Meulaboh, Aceh**	**4.90**	**322**	P	**Pn**	**22 03 21.6**	**+0.2**
LHMI	**Lhok Sumawe**	**5.41**	**333**	P	**Pn**	**22 03 29.0**	**+0.7**
	0.3nm77nm,1.1s						
MNAI	**Manna**	**5.89**	**143**	P	**Pn**	**22 03 34.0**	**-0.8**
BSI	**Banda Aceh**	**6.54**	**321**	P	**Pn**	**22 03 42.7**	**-1.0**
	0.1nm472nm21nm,0.8s						
MDSI	**Maura Dua**	**6.78**	**136**	P	**Pn**	**22 03 46.8**	**0.0**
H08S2	**Diego Garcia H**	**28.04**	**253**	T	T	22 35 46.7	
	baz=73,slow=75,SNR=8.9						
H08S3	**Diego Garcia H**	**28.04**	**253**	T	T	22 35 50.3	
	baz=73,slow=75,SNR=10						
H08S1	**Diego Carcia H**	**28.05**	**253**	T	T	22 35 50.7	
	baz=73,slow=75,SNR=10						
SONM	**Songino Array**	**47.63**	**6**	P	**P**	**22 10 36.0**	**-0.1**
	0.9nm,0.5s,baz=196,slow=9.1,SNR=6.2						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**48.59**	**344**	P	**P**	**22 10 43.4**	**0.0**
	0.9nm,0.5s,baz=157,slow=8.7,SNR=15						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**54.73**	**349**	P	**P**	**22 11 28.6**	**-0.3**
	1.7nm,0.4s,baz=171,slow=6.7,SNR=9.5						
	1.7nm,0.4s						

TRN 24 22:11:08.7, 14°.33N×59°.44W, h27km, MD3.9, Far North-east of Barbados., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.19**	**186**	*eP*	Pb	22 11 31.0	+0.3
BBGH				eS	Sb	22 11 46.5	+0.9
ILAM	**Ilet Lapin Mar**	**1.46**	**288**	*eP*	Pb	22 11 35.3	+0.1
ILAM				eS	Sb	22 11 53.3	0.0
SLAC	**Saint Lucia, A**	**1.48**	**253**	*eP*	Pn	22 11 34.0	+0.5
SLAC				eS	Sb	22 11 53.1	-0.8
SLBI	**Saint Lucia, B**	**1.52**	**259**	*eP*	Pb	22 11 35.2	-1.1
SLBI				eS	Sb	22 11 54.3	-0.8
BIM	**Bigot**	**1.59**	**277**	*eP*	Pb	22 11 36.8	-0.7
BIM				eS	Sb	22 11 56.6	-0.6
SVN	**Savane Anatole**	**1.75**	**287**	*eP*	Pn	22 11 38.1	+0.7
SSV	**Crater Summit**	**1.97**	**240**	*eP*	Pb	22 11 42.3	-1.7
SSV				eS	Sn	22 12 05.3	+0.9
SVV	**Soufriere Volc**	**2.00**	**240**	*eP*	Pn	22 11 42.0	+1.3
SVV				eS	Sb	22 12 07.1	-1.8
SVB	**Belmont**	**2.05**	**239**	*eP*	Pn	22 11 42.6	+1.1
SVB				eS	Sn	22 12 07.6	+1.4
SVT	**Saint Vincent**	**2.10**	**237**	*eP*	Pn	22 11 42.5	+0.4
SVT				eS	Sn	22 12 08.2	+0.9
MDN	**Morne-Daniel**	**2.13**	**298**	*eS*	Sb	22 12 10.4	-2.2
DSLB	**Salisbury**	**2.21**	**300**	*e*	Pn	22 11 45.1	+1.5
DSLB	**Salisbury**	**2.21**	**300**	*eP*	Pn	22 11 45.1	+1.4
DSLB				eS	Sn	22 12 11.6	+1.5
TBG	**Guadaloupe-3**	**2.61**	**306**	*eP*	Pn	22 11 50.3	+1.1
TBG				eS	Sn	22 12 21.3	+1.2
GCMP	**Grenada, Carri**	**2.67**	**227**	*eP*	Pn	22 11 51.8	+1.9
GCMP				eS	Sn	22 12 22.5	+1.2
GRGR	**Grenville**	**3.07**	**225**	*eP*	Pn	22 11 57.9	+2.4
GRGR				eS	Sn	22 12 33.4	+2.0
GRFF	**Grenada Fort F**	**3.19**	**225**	*eP*	Pn	22 11 58.2	+1.1
GRFF				eS	Sn	22 12 35.0	+0.8
ANBD	**Bethesda, Anti**	**3.51**	**321**	*eP*	Pn	22 12 02.7	+1.2
ANBD				eS	Sn	22 12 43.2	+1.1
TRN	**Trinidad (W)**	**4.13**	**208**	*eP*	Pn	22 12 12.5	+2.4

*IDC **24** 22:11:39.0±1.3, 1°.28S×123°.48E, h0km, mb3.7/4, mbtmp3.8/5, ML4.5/1, MS3.8/2, Error ellipse: s-maj=47.8km s-min=21.8km az=69.0*
*NEIC **24** 22:11:40.3±1.7, 1°.39S±0°.06×123°.51E±0°.06, h10km±1km, mb4.4/7, Error ellipse: s-maj=12.1km s-min=7.6km az=38.0*
*DJA **24** 22:11:42.8±0.2, 2°S±2°×12°3E±°, h10km, M4.6/22, mB5.2/4, mb4.9/6, MLv4.4/22, Mw(mB)4.6/4*
ISC 24 22:11:40.2±0.6, 1°.45S±0°.05×123°.43E±0°.05, h10km, n39, σ1°56/42, mb3.9/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.78**	**302**	Pn	**Pb**	**22 11 57.2**	**+1.4**
LUWI					**Sb**	**22 12 08.0**	**+1.6**
LUWI	**Luwuk**	**0.78**	**302**	P	**Pb**	**22 11 57.2**	**+1.4**
APSI	**Ampana**	**1.86**	**287**	P	**Pb**	**22 12 15.0**	**+0.6**
APSI				S	**Sb**	**22 12 39.3**	**+1.6**
KMSI	**Cibinong**	**2.08**	**15**	P	**Pg**	**22 12 20.6**	**+0.3**
KMSI				S	**Sg**	**22 12 49.0**	**+1.6**
MRSI	**Marisa**	**2.43**	**322**	P	**Pb**	**22 12 23.5**	**-0.5**
MRSI				S	**Sb**	**22 12 55.6**	**+1.6**
KDI	**Kendari**	**2.62**	**198**	P	**Pn**	**22 12 23.3**	**+0.7**
SANI	**Sanana**	**2.62**	**103**	P	**Pn**	**22 12 23.4**	**+0.7**
PCI	**Palu**	**3.63**	**279**	P	**Pn**	**22 12 38.8**	**+2.2**
TOLI2	**Tolitoli**	**3.67**	**314**		**Pn**	**22 12 38.5**	**+1.4**
TTSI	**Tana Toraja**	**3.94**	**246**	P	**Pn**	**22 12 42.2**	**+1.3**
NLAI	**Namlea**	**4.07**	**116**	P	**Pn**	**22 12 45.0**	**+2.4**
BBSI	**Bau Bau**	**4.10**	**192**	P	**Pn**	**22 12 44.1**	**+1.0**
SPSI	**Sidrap Palu**	**4.43**	**236**	P	**Pn**	**22 12 48.8**	**+1.2**
BKSI	**Bulukumba**	**5.07**	**221**	P	**Pn**	**22 12 57.7**	**+1.3**
KAPI	**Kappang**	**5.10**	**226**	Pn	**Pn**	**22 12 58.5**	**+1.7**
	18nm,0.3s,baz=77,slow=5.5,SNR=18						
KAPI				Sn	**Sn**	**22 13 52.8**	**-3.0**
	baz=30,slow=19						
	46nm,0.4s						
BSSI	**Bau Bau, Buton**	**5.51**	**212**	P	**Pn**	**22 13 03.6**	**+1.2**
	0.7nm2µm169nm,0.6s						
MSAI	**Masohi**	**5.80**	**109**	P	**Pn**	**22 13 10.2**	**+3.7**
	6µm66nm,0.6s						
BKB	**Balikpapan**	**6.54**	**272**	Pn	**Pn**	**22 13 16.9**	**+0.4**
BKB	**Balikpapan**	**6.54**	**272**	P	**Pn**	**22 13 17.4**	**+0.9**
SOEI	**Soe**	**8.29**	**174**	Pn	**Pn**	**22 13 42.9**	**+2.1**
SOEI	**Soe**	**8.29**	**174**	P	**Pn**	**22 13 42.1**	**+1.3**
FAKI	**Fak Fak**	**8.93**	**100**	Pn	**Pn**	**22 13 50.2**	**+0.7**
MBWA	**Marble Bar**	**19.92**	**190**	P	**P**	**22 16 13.1**	**+0.8**
MBWA				IAmb	IAmb	22 16 21.9	
	comp=Z,71nm,1.3s						
PSA00	**Pilbara Seismi**	**20.30**	**190**	P	**P**	**22 16 14.7**	**-1.8**
WRA	**Warramunga Arr**	**21.25**	**151**	P	**P**	**22 16 29.2**	**+2.4**
	comp=Z,5.0nm,0.8s,baz=330,slow=11,SNR=19						
	comp=Z,5.0nm,0.8s						
ASAR	**Alice Springs**	**24.30**	**156**	P	**P**	**22 16 57.4**	**-0.8**
ASAR	**Alice Springs**	**24.30**	**156**	P	**P**	**22 16 59.2**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=333,slow=7.9,SNR=21						
	comp=Z,1.9nm,0.6s						
KLR	**Kul'dur**	**50.99**	**7**	LR	LR	22 45 07.2	
	comp=Z,50nm,18.2s,baz=1.5,slow=40						
SONM	**Songino Array**	**51.29**	**345**	P	**P**	**22 20 42.5**	**-2.1**
SONM	**Songino Array**	**51.29**	**345**	P	**P**	**22 20 43.8**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=161,slow=9.2,SNR=3.6						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**60.07**	**329**	P	**P**	**22 21 47.2**	**-0.4**
MK31				IAmb	IAmb	22 22 22.9	
	comp=Z,1.3nm,1.4s						
MKAR	**Makanchi Array**	**60.07**	**329**	P	**P**	**22 21 46.2**	**-1.4**
MKAR	**Makanchi Array**	**60.07**	**329**	P	**P**	**22 21 47.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=118,slow=8.0,SNR=4.7						
	comp=Z,0.3nm,0.5s						
MAKZ	**Makanchi**	**60.24**	**328**	P	**P**	**22 21 48.7**	**-0.1**
MAKZ				IAmb	IAmb	22 22 28.3	
	comp=Z,1.8nm,1.4s						
PEA0B	**Petropavlovsk-**	**61.44**	**23**	P	**P**	**22 21 54.4**	**-2.5**
CASY	**Casey**	**65.34**	**186**	P	**P**	**22 22 22.9**	**+0.6**
CASY				IAmb	IAmb	22 23 00.9	
	comp=Z,25nm,1.4s						
SEY	**Seymchan**	**67.80**	**14**	LR	LR	22 52 19.8	
	comp=Z,149nm,20.7s,baz=150,slow=36						
ABKAR	**Akbulak array**	**74.14**	**322**	P	**P**	**22 23 15.9**	**-1.0**
F20K	**Avaraart Lake**	**87.75**	**23**	P	**P**	**22 24 28.3**	**-0.8**
F20K				IAmb	IAmb	22 24 35.3	
	comp=Z,2.7nm,1.4s						

*ISN **24** 22:12:37.3±1.2, 34°.17N×45°.62E, h9km±6km, ML3.0*
*TEH **24** 22:12:38.7, 34°.15N×45°.66E, h6km*
ISC 24 22:12:38.2±1.1, 34°.17N±0°.03×45°.63E±0°.04, h10km±11km, n13, σ1°03/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.24**	**103**	Pg	**Pg**	**22 12 42.9**	**-0.3**
GLG1				Sg	**Sg**	**22 12 47.0**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.34**	**355**	Pg	**Pb**	**22 12 45.8**	**-0.6**
IGHG	**Ghaleghazi**	**0.80**	**78**	Pg	**Pb**	**22 12 54.7**	**+0.3**
IBDR	**Badra**	**1.08**	**166**	*e*Pg	**Pb**	**22 12 59.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**22 13 13.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.18**	**84**	Pg	**Pb**	**22 13 01.9**	**+0.9**
BHD	**Baghdad**	**1.37**	**230**	*e*Pn	**Pb**	**22 13 04.0**	**0.0**
BHD				*e*Sn	**Sg**	**22 13 24.0**	**+1.6**
IKRK	**Kirkuk**	**1.62**	**320**	*e*Pn	**Pb**	**22 13 08.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**22 13 30.0**	**-0.4**
IKRK				AML	AML	22 13 38.7	
	comp=N,190nm,0.7s						
IKRK				AML	AML	22 13 39.0	
	comp=E,220nm,0.7s						
SNQR	**Sonqor, Kerman**	**1.79**	**67**	Pg	**Pg**	**22 13 12.5**	**-0.1**
IKFM	**Kafar-mosalman**	**1.96**	**109**	Pn	**Pg**	**22 13 14.9**	**-0.8**
SDS1	**Sardasht. Az.**	**1.98**	**357**	Pn	**Pg**	**22 13 16.1**	**-0.2**
IDOB	**Doab**	**2.15**	**99**	Pn	**Pb**	**22 13 16.8**	**-0.7**
RAFI	**Al-Rafai**	**2.47**	**170**	*e*Pn	**Pn**	**22 13 19.0**	**+0.4**
RAFI				*e*Sn	**Sb**	**22 13 51.0**	**-2.3**
BDRS	**Dareh Seyedi**	**2.71**	**94**	Pn	**Pn**	**22 13 24.1**	**+1.9**

*IDC **24** 22:26:06.4±2.2, 17°.47S×178°.88W, h546km±19km, mb3.0/6, mbtmp3.9/8, Error ellipse: s-maj=89.1km s-min=19.4km az=149.0*
ISC 24 22:26:05.7±1.5, 17°.5S±0°.6×178°.8W±0°.3, h539km, n9, σ0°73/9, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.99**	**264**	P	**P**	**22 27 21.0**	**+1.1**
	4.5nm,0.5s,baz=45,slow=6.9,SNR=5.8						
DZM	**Mont Dzumac**	**14.60**	**249**	P	**P**	**22 29 11.7**	**+0.3**
	3.8nm,0.5s,baz=51,slow=13,SNR=2.0						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**22 32 41.0**	**-0.9**
	1.4nm,0.5s,baz=107,slow=8.5,SNR=4.1						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**22 33 28.0**	**-0.3**
	0.4nm,0.3s,baz=90,slow=6.7,SNR=9.9						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**22 33 29.8**	**-0.1**
	8.5nm,0.5s,baz=88,slow=8.2,SNR=114						
	8.5nm,0.5s						
ILAR	**Eielson Array**	**85.54**	**13**	P	**P**	**22 37 45.8**	**-0.6**
	0.2nm,0.4s,baz=229,slow=5.7,SNR=5.0						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**22 37 50.6**	**+0.6**
	0.3nm,0.7s,baz=213,slow=6.1,SNR=4.5						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**87.30**	**44**	P	**P**	**22 37 55.5**	**0.0**
	0.2nm,0.5s,baz=234,slow=3.4,SNR=4.2						
	0.2nm,0.5s						
GERES	**GERESS Array B**	**147.07**	**345**	PKPbc	**PKPbc**	**22 44 47.9**	**-0.3**
	0.6nm,0.5s,baz=20,slow=4.3,SNR=6.0						

DJA 24 22:30:11.6±0.7, 1°N±3°×12°7E±°, h17km±7km, M4.2/12, mB5.6/1, mb4.7/2, MLv3.9/12, Mw(mB)5.1/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**126**	P	Pb	22 30 25.3	+0.7
TNTI				S	Sb	22 30 34.3	+0.9
SGSI	**Sangihe**	**2.83**	**332**	P	Pn	22 30 56.4	+0.3
KMSI	**Cibinong**	**2.92**	**259**	P	Pn	22 30 58.5	+1.2
KMSI				S	Sn	22 31 33.4	+1.4
SANI	**Sanana**	**3.30**	**195**	P	Pn	22 31 01.5	-1.0
NLAI	**Namlea**	**4.38**	**177**	P	Pn	22 31 17.3	-0.1
KDI	**Kendari**	**6.61**	**220**	P	Pn	22 31 48.2	+0.2

*JMA **24** 22:30:52.7±0.2, 24°N±1°×122°.6E±0°.8, h28km, MV2.4/12, NW OFF ISHIGAKIJIMA IS*
*TAP **24** 22:30:52.4, 24°.02N×122°.66E, h30km, ML2.9, D*
ISC 24 22:30:52.2±1.0, 23°.95N±0°.03×122°.65E±0°.02, h29km±10km, n83, σ0°91/125, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.35**	**299**	P	**Pb**	**22 31 00.2**	**+0.2**
EOS4				S	**Sn**	**22 31 05.9**	**-1.0**
EOS3	**EOS3**	**0.45**	**318**	*i* P	**Pn**	**22 31 01.9**	**-0.8**
JYNG	**Yonagunijimaku**	**0.57**	**28**	P	**Pb**	**22 31 03.0**	**-0.8**
JYNG				S	**Sb**	**22 31 10.1**	**-1.4**
EOS2	**EOS2**	**0.60**	**321**	P	**Pn**	**22 31 04.6**	**-0.1**
EOS2				S	**Sn**	**22 31 13.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.61**	**33**	P	**Pb**	**22 31 03.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.61**	**33**	⇑*i* P	**Pb**	**22 31 03.8**	**-0.6**
YOJ				S	**Sb**	**22 31 11.9**	**-0.7**
YOJ	**Yonaguni jima**	**0.61**	**33**	P	**Pb**	**22 31 04.1**	**-0.3**
YOJ				S	**Sb**	**22 31 11.5**	**-1.2**
EAHA	**Aohua**	**0.92**	**295**	*e*P	**Pb**	**22 31 10.6**	**+1.0**
EAHA				*e*S	**Sn**	**22 31 23.6**	**+2.2**
EWUT	**Wuta**	**0.94**	**302**	P	**Pb**	**22 31 10.2**	**+0.2**
EWUT				S	**Sn**	**22 31 23.6**	**+1.6**
ENA	**Nanau**	**0.96**	**300**	P	**Pn**	**22 31 09.6**	**-0.1**
ENA				S	**Sb**	**22 31 23.0**	**+0.4**
ESAO	**Su ao**	**0.97**	**310**	P	**Pb**	**22 31 10.2**	**-0.2**
ESAO				S	**Sb**	**22 31 23.1**	**+0.3**
TWD	**Chiawan**	**0.97**	**278**	P	**Pn**	**22 31 09.6**	**-0.4**
TWD				S	**Sn**	**22 31 21.9**	**-0.9**
NACB	**Ninganchiao**	**0.99**	**283**	P	**Pn**	**22 31 09.9**	**-0.3**
NACB	**Ninganchiao**	**0.99**	**283**	P	**Pn**	**22 31 09.2**	**-1.0**
NACB				*e*S	**Sn**	**22 31 22.6**	**-0.7**
SHUL	**Shoufeng**	**1.01**	**261**	*e*P	**Pn**	**22 31 09.7**	**-0.8**
SHUL				*e*S	**Sn**	**22 31 23.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.06**	**68**	P	**Pb**	**22 31 11.7**	**-0.2**
IRIF				*e*S	**Sb**	**22 31 26.4**	**+1.0**
HATJ	**Hateruma jima**	**1.06**	**84**	*e*S	**Sb**	**22 31 26.7**	**+1.3**
ETM	**Tongmen**	**1.06**	**271**	P	**Pn**	**22 31 10.2**	**-1.0**
ETM				S	**Sn**	**22 31 24.6**	**-0.3**
NDS	**Dongshan**	**1.09**	**309**	*e*P	**Pb**	**22 31 12.4**	**-0.1**
ETLH	**Xiulin Townshi**	**1.10**	**284**	P	**Pn**	**22 31 11.3**	**-0.4**
ETLH				*e*S	**Sb**	**22 31 27.2**	**+0.5**
EGS		**1.11**	**324**	*e*P	**Pb**	**22 31 12.6**	**-0.1**
EGS				*e*S	**Sb**	**22 31 27.2**	**+0.4**
ESL	**Shilin**	**1.12**	**263**	P	**Pn**	**22 31 10.7**	**-1.4**
ESL				S	**Sn**	**22 31 25.1**	**-1.5**
LXIB	**Xiulin Townshi**	**1.14**	**274**	P	**Pn**	**22 31 12.1**	**-0.2**
LXIB				S	**Sn**	**22 31 26.8**	**-0.2**
EGFH	**Guangfu**	**1.16**	**256**	*e*P	**Pn**	**22 31 12.4**	**0.0**
EGFH				*e*S	**Sn**	**22 31 27.2**	**-0.1**
LATG	**Datong**	**1.18**	**300**	P	**Pb**	**22 31 14.0**	**-0.1**
LATG				*e*S	**Sb**	**22 31 30.4**	**+1.3**
WARBT	**Fenglin Townsh**	**1.18**	**259**	P	**Pn**	**22 31 12.8**	**0.0**
WARBT				S	**Sn**	**22 31 27.1**	**-0.8**
TWE	**Neicheng**	**1.18**	**311**	P	**Pb**	**22 31 13.6**	**-0.4**
TWE

ISC 24 22:35:30.2±1.0, 37°47'N±0'.02×35°.88E±0'.02, h18km±4km, n50, σ0°59/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.05**	**285**	Pg	**Pg**	**22 35 34.3**	**+0.8**
AKO	**Adana**	**0.35**	**269**	P	**Pb**	**22 35 38.2**	**+0.3**
AKO				S	**Sg**	**22 35 43.0**	**+0.4**
AKO				*i* AML	AML	22 35 44.0	
	comp=N,3μm,0.3s						
AKO				*i* AML	AML	22 35 44.0	
	comp=E,3μm,0.4s						
ANDN	**Andirin**	**0.38**	**73**	P	**Pb**	**22 35 38.8**	**+0.3**
CEYT	**Ceyhan**	**0.47**	**193**	Pg	**Pg**	**22 35 38.9**	**-0.8**
SAIM	**ADANA**	**0.53**	**17**	P	**Pg**	**22 35 39.9**	**-1.1**
KAMA	**Osmaniye**	**0.69**	**114**	P	**Pb**	**22 35 43.3**	**-0.3**
KARA	**Karaisali**	**0.69**	**253**	Pg	**Pb**	**22 35 43.1**	**-0.6**
KARA				Sg	**Sb**	**22 35 53.1**	**+0.2**
CMRD	**Camardi-Nigde**	**0.74**	**286**	Pg	**Pb**	**22 35 44.2**	**-0.4**
CMRD				Sg	**Sg**	**22 35 54.7**	**+0.2**
KMRS	**Kahramanmaras**	**0.81**	**87**	Pg	**Pb**	**22 35 45.8**	**+0.1**
KHMR	**Kahramanmara**	**0.82**	**98**	P	**Pg**	**22 35 46.5**	**+0.2**
KHMR				P	**Pn**	**22 35 46.7**	**-0.2**
KHMR				S	**Sn**	**22 35 58.3**	**-0.4**
KHMR				*i* AML	AML	22 36 00.0	
	comp=N,629nm,0.9s						
KHMR				*i* AML	AML	22 36 00.0	
	comp=N,638nm,0.9s						
HASA	**Hatay-Hassa-Ha**	**0.86**	**146**	P	**Pb**	**22 35 47.0**	**+0.4**
HASA				S	**Sb**	**22 35 58.5**	**+0.6**
HASA				*i* AML	AML	22 36 00.0	
	comp=E,1μm,0.7s						
HASA				*i* AML	AML	22 36 02.0	
	comp=N,1μm,0.5s						
KAHM	**Kahramanmaras,**	**0.88**	**87**	P	**Pg**	**22 35 47.6**	**+0.2**
KAHM				S	**Sb**	**22 35 58.5**	**+0.2**
KAHM				*i* AML	AML	22 36 02.0	
	comp=N,611nm,0.6s						
KAHM				*i* AML	AML	22 36 04.0	
	comp=E,464nm,0.6s						
GULE	**Gulek**	**0.90**	**259**	P	**Pb**	**22 35 47.2**	**-0.1**
GULE				S	**Sb**	**22 35 59.6**	**+0.5**
GULE				*i* AML	AML	22 36 06.0	
	comp=N,1μm,0.5s						
DED	**Mersin**	**1.00**	**240**	P	**Pb**	**22 35 48.3**	**-0.8**
DED				S	**Sb**	**22 36 01.1**	**-0.8**
DED				*i* AML	AML	22 36 04.0	
	comp=N,255nm,0.3s						
DED				*i* AML	AML	22 36 05.0	
	comp=E,379nm,0.3s						
KHMN	**Narli-Kahraman**	**1.02**	**94**	Pg	**Pg**	**22 35 50.4**	**+0.5**
NIDE	**Nigde/Merkez-G**	**1.03**	**301**	P	**Pb**	**22 35 49.6**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.03**	**24**	Pg	**Pg**	**22 35 51.2**	**+1.0**
GAZ	**Gaziantep**	**1.10**	**105**	Pn	**Pg**	**22 35 51.5**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.12**	**167**	Pn	**Pn**	**22 35 51.1**	**+0.2**
ASUZ	**Hatay-Arsuz**	**1.18**	**184**	P	**Pn**	**22 35 51.2**	**-0.5**
KUZU	**Kuzuini**	**1.18**	**126**	P	**Pb**	**22 35 52.3**	**+0.2**
KUZU				S	**Sb**	**22 36 06.5**	**-0.5**
KUZU				*i* AML	AML	22 36 09.0	
	comp=N,2μm,0.8s						
KUZU				*i* AML	AML	22 36 10.0	
	comp=E,1μm,0.4s						
NIG	**Nigde**	**1.20**	**303**	Pn	**Pb**	**22 35 52.6**	**+0.1**
MERS	**Mersin**	**1.24**	**242**	Pn	**Pn**	**22 35 52.9**	**+0.2**
ELBS	**KAHRAMANMARAS**	**1.31**	**49**	P	**Pg**	**22 35 55.3**	**-0.1**
ELBS				S	**Sb**	**22 36 10.9**	**+0.2**
ELBS				*i* AML	AML	22 36 16.0	
	comp=N,603nm,0.6s						
RHAN	**Hatay/Reyhanl**	**1.34**	**154**	P	**Pn**	**22 35 53.7**	**-0.3**
GZT	**Gaziantep**	**1.34**	**94**	P	**Pb**	**22 35 55.6**	**+0.7**
BNN	**Bunyan**	**1.38**	**359**	Pn	**Pb**	**22 35 55.1**	**-0.5**
KERG	**Konya-Eregli**	**1.40**	**268**	P	**Pn**	**22 35 55.2**	**+0.2**
GUNE	**Kayseri**	**1.45**	**352**	P	**Pb**	**22 35 56.7**	**+0.1**
AKCA	**Adyaman/G¶l**	**1.47**	**77**	P	**Pn**	**22 35 56.5**	**+0.6**
AKCA				S	**Sg**	**22 36 16.8**	**-0.9**
AKCA				*i* AML	AML	22 36 22.0	
	comp=E,485nm,0.5s						
BSIR	**Belisirma, Guz**	**1.49**	**303**	P	**Pb**	**22 35 56.9**	**-0.5**
BSIR				S	**Sg**	**22 36 17.8**	**-0.7**
BSIR				*i* AML	AML	22 36 29.0	
	comp=E,416nm,0.9s						
AVNS	**Nevsehir-Avano**	**1.57**	**329**	P	**Pn**	**22 35 56.9**	**-0.3**
GULA	**Gulagac**	**1.57**	**304**	Pn	**Pb**	**22 35 58.2**	**-0.6**
CUGUR	**Gurin_SVAS**	**1.66**	**41**	P	**Pb**	**22 36 00.3**	**-0.1**
CUGUR				S	**Sb**	**22 36 20.9**	**-0.2**
CUGUR				*i* AML	AML	22 36 27.0	
	comp=N,784nm,0.8s						
DARE	**Darende-Malaty**	**1.68**	**48**	Pn	**Pb**	**22 36 00.0**	**-0.6**
KIZK	**Mersin**	**1.71**	**235**	Pn	**Pn**	**22 35 59.4**	**+0.4**
YESY	**Yesilyurt**	**1.73**	**281**	Pn	**Pn**	**22 36 00.2**	**+0.7**
SLFK	**Silifke-Mersin**	**1.89**	**236**	Pn	**Pn**	**22 36 02.1**	**+0.6**
SILI	**Silifke-Mersin**	**1.92**	**236**	Pn	**Pn**	**22 36 02.5**	**+0.6**
MCUR	**KIREHR**	**2.00**	**328**	P	**Pb**	**22 36 04.8**	**-1.2**
SULT	**Sultanhani-AKS**	**2.01**	**292**	Pn	**Pn**	**22 36 04.3**	**+1.0**
KEBE	**Keben-Mersin**	**2.02**	**240**	Pn	**Pn**	**22 36 04.1**	**+0.8**
AKSY	**AKSARAY - Alti**	**2.05**	**306**	P	**Pn**	**22 36 04.5**	**+0.7**
AKSY				S	**Sb**	**22 36 32.6**	**+0.5**
AKSY				*i* AML	AML	22 36 42.0	
	comp=N,137nm,1.3s						
KRMN	**Karaman**	**2.11**	**263**	Pn	**Pn**	**22 36 05.3**	**+0.6**
IKL	**Isikli**	**2.15**	**236**	Pn	**Pn**	**22 36 05.9**	**+0.8**
TISA	**Tisan-Mersin**	**2.20**	**234**	Pn	**Pn**	**22 36 06.5**	**+0.7**
YESI	**Yesilovacik-Me**	**2.20**	**235**	Pn	**Pn**	**22 36 06.8**	**+1.0**
AKKU	**Akkuyu-Mersin**	**2.28**	**236**	Pn	**Pn**	**22 36 07.7**	**+0.7**
AKK1	**Akkuyu-Mersin**	**2.30**	**236**	Pn	**Pn**	**22 36 07.9**	**+0.7**
BERE	**Bereket-Mersin**	**2.41**	**243**	Pn	**Pn**	**22 36 09.7**	**+0.9**

*IDC **24** 23:01:39.4±1.1, 6°.71S×128°.92E, h0km, mb4.3/4, mbtmp4.4/8, ML4.5/3, Error ellipse: s-maj=43.6km s-min=21.6km az=63.0*
*NEIC **24** 23:01:54.1±1.6, 6°.98S±0°.05×129°.21E±0°.08, h160km±16km, mb4.5/7, Error ellipse: s-maj=11.3km s-min=7.7km az=93.0*

ISC 24 23:01:53.7±0.6, 7°.13S±0°.05×129°.24E±0°.05, h156km, n47, σ2°08/52, mb3.7/5, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.21**	**113**		**Pn**	**23 02 33.5**	**+1.8**
SAUI				Sn	**Sn**	**23 03 02.9**	**+1.8**
SAUI	**Saumlaki**	**2.21**	**113**	S	**Sn**	**23 02 58.8**	**-2.2**
FAKI	**Fak Fak**	**5.15**	**36**	Pn	**Pn**	**23 03 08.6**	**-0.6**
FAKI				Sn	**Sn**	**23 04 04.4**	**-3.8**
FAKI	**Fak Fak**	**5.15**	**36**	P	**Pn**	**23 03 08.3**	**-0.9**
DRS	**Darwin Rock St**	**5.52**	**163**	P	**Pn**	**23 03 14.6**	**+0.5**
DRS	**Darwin Rock St**	**5.52**	**163**	S	**Sn**	**23 04 14.9**	**-2.1**
SOEI	**Soe**	**5.56**	**242**		**Pn**	**23 03 15.8**	**+0.9**
SOEI				Sn	**Sn**	**23 04 17.7**	**-0.6**
SOEI	**Soe**	**5.56**	**242**	P	**Pn**	**23 03 16.3**	**+1.4**
SOEI	**Soe**	**5.56**	**242**	S	**Sn**	**23 04 16.9**	**-1.4**
MTN	**Manton Dam**	**5.98**	**162**		**Pn**	**23 03 20.8**	**+0.5**
MTN				Sn	**Sn**	**23 04 23.9**	**-4.1**
MTN	**Manton Dam**	**5.98**	**162**	P	**Pn**	**23 03 20.4**	**+0.2**
MTN	**Manton Dam**	**5.98**	**162**	S	**Sn**	**23 04 24.5**	**-3.5**
KDU	**Kakadu**	**6.38**	**150**	P	**Pn**	**23 03 25.1**	**-0.4**
KNRA	**Kununurra**	**8.51**	**183**		**Pn**	**23 03 52.8**	**-1.1**
LUWI	**Luwuk**	**8.84**	**313**	Pn	**Pn**	**23 03 56.6**	**-1.7**
LUWI	**Luwuk**	**8.84**	**313**	P	**Pn**	**23 04 00.2**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.45**	**197**	Pn	**Pn**	**23 04 29.7**	**-3.0**
FITZ	**Fitzroy Crossi**	**11.45**	**197**	Pn	**Pn**	**23 04 30.6**	**-2.1**
	0.9nm,0.3s,baz=11,slow=7.4,SNR=20						
FITZ				Sn	Sn	23 06 28.2	-11
	4.2nm,0.3s,baz=80,slow=17,SNR=11						
	3.1nm,0.4s						
TOLI2	**Tolitoli**	**11.76**	**314**	P	**Pn**	**23 04 38.9**	**+2.2**
BKB	**Balikpapan**	**13.61**	**295**	Pn	**Pn**	**23 05 00.9**	**+0.2**
WRAB	**Tennant Creek**	**13.66**	**159**		**Pn**	**23 04 59.4**	**-1.8**
WRA	**Warramunga Arr**	**13.67**	**159**	Pn	**Pn**	**23 04 59.6**	**-1.6**
	4.0nm,0.3s,baz=333,slow=13,SNR=109						
WRA				Sn	Sn	23 07 22.6	-10
	2.6nm,0.3s,baz=354,slow=34,SNR=5.3						
	13nm,0.5s						
WR0	**Warramunga Arr**	**13.75**	**159**	Pn	**Pn**	**23 05 00.9**	**-1.4**
COEN	**Coen**	**15.29**	**117**	P	**P**	**23 05 22.4**	**-0.5**
COEN				IAmb	IAmb	23 05 26.4	
	comp=Z,11nm,0.7s						
MBWA	**Marble Bar**	**16.70**	**212**	P	**P**	**23 05 37.4**	**-1.0**
MBWA				IAmb	IAmb	23 05 43.2	
	comp=Z,104nm,1.5s						
QIS	**Mount Isa**	**16.71**	**144**	P	**Pn**	**23 05 40.1**	**+1.3**
PSA00	**Pilbara Seismi**	**16.98**	**211**		**Pn**	**23 05 43.3**	**+1.2**
PSA00				IAmb	IAmb	23 06 24.0	
	comp=Z,60nm,1.2s						
PSA00	**Pilbara Seismi**	**16.98**	**211**	P	**Pn**	**23 05 42.2**	**0.0**
PSA00				IAmb	IAmb	23 06 19.0	
	comp=Z,25nm,1.5s						
PSA00	**Pilbara Seismi**	**16.98**	**211**	P	**Pn**	**23 05 43.5**	**+1.3**
AS31	**Alice Springs**	**17.04**	**165**	P	**Pn**	**23 05 43.6**	**+0.7**
ASAR	**Alice Springs**	**17.04**	**165**		**Pn**	**23 05 43.9**	**+1.0**
ASAR	**Alice Springs**	**17.04**	**165**	P	**Pn**	**23 05 43.6**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=344,slow=9.8,SNR=46						
ASAR				S	**S**	**23 08 44.9**	**-7.1**
	comp=Z,0.5nm,0.3s,baz=198,slow=24,SNR=4.1						
	comp=Z,4.4nm,0.6s						
AS01	**Alice Springs**	**17.05**	**165**	P	**Pn**	**23 05 44.1**	**+1.1**
WRKA	**Warakurna**	**17.83**	**183**	P	**Pn**	**23 05 53.6**	**+1.3**
PMG	**Port Moresby**	**17.88**	**98**	P	**Pn**	**23 05 55.5**	**+2.6**
	comp=Z,12nm,0.4s,baz=274,slow=13,SNR=6.4						
MTSU	**Mount Surprise**	**18.32**	**128**	P	**Pn**	**23 05 59.2**	**+1.1**
GIRL	**Giralia**	**21.14**	**222**	P	**P**	**23 06 29.5**	**+3.0**
OOD	**Oodnadatta**	**21.44**	**164**	P	**P**	**23 06 32.5**	**+2.8**
MEEK	**Meekatharra**	**21.88**	**206**	P	**P**	**23 06 35.8**	**+1.5**
LCRK	**Leigh Creek**	**24.68**	**161**	P	**P**	**23 07 03.3**	**+3.0**
CMAR	**Chiang Mai Arr**	**39.24**	**311**	P	**P**	**23 09 05.0**	**-2.2**
	comp=Z,2.2nm,0.3s,baz=130,slow=9.0,SNR=6.3						
	comp=Z,2.2nm,0.3s						
AIS	**Amsterdam Isla**	**55.75**	**229**	P	**P**	**23 11 14.1**	**-0.2**
SONM	**Songino Array**	**58.33**	**342**	P	**P**	**23 11 31.4**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=165,slow=6.0,SNR=2.0						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**23 12 37.5**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=115,slow=8.0,SNR=14						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**23 12 57.6**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=146,slow=4.7,SNR=3.5						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**72.23**	**329**	P	**P**	**23 13 03.6**	**+2.0**
	comp=Z,2.4nm,0.2s,baz=134,slow=5.3,SNR=6.3						
	comp=Z,2.4nm,0.2s						
SYO	**Syowa Base**	**83.27**	**201⇓**	*e*PcP	**PcP**	**23 14 06.2**	**-0.4**

*NNC **24** 23:13:20.9±3.7, 36°.60N×70°.71E, h102km±83km, mb3.5, mpv4.0, Error ellipse: s-maj=27.9km s-min=26.8km az=145.0*
*IDC **24** 23:13:22.8±8.5, 36°.56N×71°.24E, h126km±57km, mb3.4/6, mbtmp3.8/11, MS3.7/2, Error ellipse: s-maj=68.6km s-min=29.9km az=5.0*

ISC 24 23:13:22.0±1.9, 36°.7N±0°.1×70°.8E±0°.1, h100km, n28, σ1°44/31, mb4.0/6, 9C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.91**	**22**	P	**Pn**	**23 14 47.1**	**-0.2**
SNR=46							
EKS2	**Erkin-Say**	**6.42**	**20**	P	**Pn**	**23 14 54.8**	**+0.7**
SNR=38							
KK31	**Karatay Array**	**6.42**	**358**	⇑P	**Pn**	**23 14 55.3**	**+1.3**
4.7nm,0.2s,baz=176,slow=12,SNR=87							
KK31				⇑S	**Sn**	**23 16 08.4**	**+2.5**
4.3nm,0.3s,baz=182,slow=16,SNR=9.4							
AAK	**Ala-Archa**	**6.62**	**25**	P	**Pn**	**23 14 57.0**	**+0.2**
6.4nm,0.3s,baz=74,slow=0.8,SNR=33							
AAK				S	**Sn**	**23 16 10.5**	**-0.3**
2.8nm,0.3s,baz=303,slow=23,SNR=10							
AAK	**Ala-Archa**	**6.62**	**25**	P	**Pn**	**23 14 57.1**	**+0.4**
SNR=12							
AAK	**Ala-Archa**	**6.62**	**25**	P	**Pn**	**23 14 56.5**	**-0.3**
4.8nm,0.6s							
AAK				S	**Sn**	**23 16 12.2**	**+1.4**
12nm,1.1s							
KBK	**Karagaybulak**	**6.79**	**27**	P	**Pn**	**23 14 59.7**	**+0.5**
SNR=6.6							
CHMS	**Chumysh**	**7.03**	**25**	P	**Pn**	**23 15 02.5**	**+0.3**
SNR=7.3							
CHMS	**Chumysh**	**7.03**	**25**	⇑P	**Pn**	**23 15 01.3**	**-0.9**
1.9nm,0.2s							
CHMS				⇑S	**Sn**	**23 16 21.0**	**+0.5**
10nm,0.8s							
USP	**Ospenovka**	**7.18**	**22**	P	**Pn**	**23 15 04.5**	**+0.1**
SNR=26							
TKM2	**Tokmak 2**	**7.27**	**29**	P	**Pn**	**23 15 05.1**	**-0.5**
SNR=12							
TKM2	**Tokmak 2**	**7.27**	**29**	⇓P	**Pn**	**23 15 04.3**	**-1.3**
4.8nm,0.5s							
TKM2				⇑S	**Sn**	**23 16 28.8**	**+2.1**
4.9nm,0.8s							
MKAR	**Makanchi Array**	**13.27**	**37**	P	**Pn**	**23 16 23.5**	**-2.9**
0.4nm,0.8s,baz=223,slow=8.3,SNR=4.0							
AB31	**Akbulak array**	**14.84**	**331**	⇑P	**Pn**	**23 16 46.4**	**-0.1**
0.8nm,0.3s							
AB31				⇑S	**Sn**	**23 19 26.9**	**-3.2**
2.0nm,0.6s							
KURBB	**Kurchatov Arra**	**15.02**	**19**	P	**Pn**	**23 16 50.0**	**+1.1**
1.0nm,0.3s,baz=208,slow=10,SNR=4.9							
BVAR	**Borovoye Array**	**16.35**	**359**	P	**Pn**	**23 17 06.7**	**+1.2**
0.4nm,0.3s,baz=164,slow=10,SNR=6.8							
AKTO	**Aktyubinsk**	**16.53**	**330**	P	**Pn**	**23 17 08.0**	**+0.3**
2.3nm,0.3s,baz=156,slow=15,SNR=10							
AKTO	**Aktyubinsk**	**16.53**	**330**	⇑P	**Pn**	**23 17 09.8**	**+2.1**
3.5nm,0.8s							
AKTO				⇑S	**Sn**	**23 20 07.8**	**-3.2**
0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**23 17 43.1**	**-1.6**
2.3nm,0.4s,baz=217,slow=10,SNR=13							
SONM	**Songino Array**	**28.40**	**56**	P	P	23 19 03.3	-3.7
0.3nm,0.6s,baz=257,slow=8.3,SNR=2.6							
0.3nm,0.6s							
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**23 20 24.0**	**+0.6**
2.5nm,0.9s,baz=106,slow=8.8,SNR=2.2							
2.5nm,0.9s							
ARCES	**ARCESS Array B**	**40.91**	**338**	P	**P**	**23 20 54.8**	**+0.7**
2.7nm,0.9s,baz=108,slow=7.5,SNR=5.0							
2.7nm,0.9s							
HFS	**Hagfors**	**42.81**	**322**	P	**P**	**23 21 10.5**	**+1.0**
1.3nm,0.6s,baz=113,slow=11,SNR=1.8							
1.3nm,0.6s							
NB2	**NORSAR Subarra**	**44.12**	**323**	P	**P**	**23 21 20.2**	**0.0**
comp=Z,3.4nm,1.0s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**23 21 20.1**	**0.0**
comp=Z,1.2nm,0.8s,baz=97,slow=7.8,SNR=3.7							
comp=Z,1.2nm,0.8s							
JOW	**Kunigami**	**49.25**	**84**	LR	LR	23 45 43.6	
comp=Z,112nm,18.0s,baz=210,slow=40							
JCJ	**Chichijima**	**60.15**	**77**	LR	LR	23 53 00.7	
comp=Z,35nm,19.1s,baz=105,slow=40							
YKA	**Yellowknife Ar**	**81.08**	**3**	P	P	23 25 23.4	-2.3
comp=Z,0.2nm,0.5s,baz=347,slow=5.6,SNR=5.3							
comp=Z,0.2nm,0.5s							

*NEIC **24** 23:31:32.3±0.8, 58°.10N±0°.02×154°.64W±0°.03, h7km±11km, Error ellipse: s-maj=3.6km s-min=2.6km az=195.0*

AEIC 24 23:31:32.3±1.0, 58°.11N±0°.03×154°.68W±0°.04, h10km±7km, ML2.3, ML2.6/62(NEIC), Error ellipse: s-maj=4.8km s-min=3.1km az=162.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCE	**Katmai Mt Cerb**	**0.30**	**298**		Pg	23 31 39.1	+0.7
KCG	**Knife Ck. Glac**	**0.31**	**312**		Pg	23 31 38.8	+0.3
KCG					Sg	23 31 42.0	-0.5
ACHA	**Angle Creek He**	**0.36**	**287**		Pg	23 31 39.7	+0.3
ACHA				Sg	Sg	23 31 43.7	-0.6
KAHG	**Katmai Hook Gl**	**0.40**	**10**		Pg	23 31 40.4	+0.3
KAHG					Sg	23 31 45.9	+0.5
KVTA	**Katmai Vly 10**	**0.43**	**311**		Pg	23 31 41.0	+0.3
ANCK	**Angle Creek**	**0.44**	**283**		Pg	23 31 41.5	+0.5
ANCK					Sg	23 31 47.6	+0.8
R18K	**Karluk**	**0.55**	**167**		Pg	23 31 42.8	-0.2
R18K				IAML		23 31 52.6	
	comp=N,515nm,0.4s						
KAHC	**Katmai Hardscr**	**0.57**	**342**		Pg	23 31 43.5	+0.1
KAHC	**Katmai Hardscr**	**0.57**	**342**		Pg	23 31 43.5	+0.1
KAHC	**Katmai Hardscr**	**0.57**	**342**		Sg	23 31 51.1	+0.1
KELA	**Mount Kelaz**	**0.66**	**301**		Pb	23 31 45.5	-0.4
Q19K	**Cape Douglas,**	**0.99**	**33**		Pg	23 31 50.8	-0.5
Q19K				Sg	Sg	23 32 03.7	-0.4
Q19K				IAML		23 32 07.4	
	comp=N,177nm,0.6s						
PLK1	**Peulik 1**	**1.07**	**254**		Pb	23 31 52.9	0.0
OHAK	**Old Harbor**	**1.16**	**139**		Pb	23 31 54.1	-0.2
OHAK				IAML		23 32 14.4	
	comp=N,82nm,0.5s						
KDAK	**Kodiak Island**	**1.16**	**105**		Pb	23 31 53.9	-0.5
KDAK				IAML		23 32 09.7	
	comp=N,123nm,0.5s						
Q16K	**King Salmon**	**1.19**	**300**		Pb	23 31 54.4	-0.5
PLBL	**Peulik Blue Cr**	**1.21**	**251**		Pg	23 31 55.6	0.0
SYI	**Shuyak Island**	**1.31**	**66**		Pn	23 31 55.0	-1.5
SYI	**Shuyak Island**	**1.31**	**66**		Sb	23 32 12.3	-1.4
P18K	**Big Mountain,**	**1.32**	**348**		Pn	23 31 56.6	-0.3
P18K	**Big Mountain,**	**1.32**	**348**		Sb	23 32 12.8	-1.4
P17K	**Kvichak River**	**1.43**	**321**		Pn	23 31 58.5	+0.2
SII	**Sitkinak Islan**	**1.57**	**170**		Pg	23 32 02.1	-0.4
SII				IAML		23 32 28.2	
	comp=N,95nm,1.1s						
P19K	**Oil Pt**	**1.72**	**25**	Pn	Pb	23 32 03.6	-0.5
P19K				IAML		23 32 29.1	
	comp=E,62nm,0.5s						
P19K				IAML		23 32 29.1	
	comp=N,62nm,0.6s						
O18K	**Koktuh Hills**	**1.78**	**351**		Pn	23 32 03.2	+0.1
O18K				IAML		23 32 28.3	
	comp=E,53nm,0.4s						
P16K	**Nushagak River**	**1.97**	**300**		Pn	23 32 06.0	+0.3
ILSW	**Iliamna Southw**	**2.04**	**22**	Pn	Pn	23 32 07.2	+0.3
O17K	**Koliganek Bris**	**2.09**	**324**		Pn	23 32 08.2	+0.9
HOM	**Homer**	**2.22**	**44**	Pn	Pn	23 32 09.7	+0.6
O20K	**Slope Mountain**	**2.25**	**27**		Pn	23 32 09.8	+0.2
CNPM	**China Poot**	**2.29**	**50**	Pn	Pn	23 32 11.4	+1.3
CNPM				IAML		23 32 47.2	
	comp=E,24nm,1.3s						
O16K	**Kokwok River B**	**2.32**	**312**		Pn	23 32 10.8	+0.4
O16K				IAML		23 32 44.5	
	comp=E,22nm,1.3s						
O16K				IAML		23 32 45.4	
	comp=N,28nm,0.6s						
CHIR	**Chirikof Islan**	**2.35**	**193**	Pn	Pn	23 32 11.9	+1.1
CHIR				IAML		23 32 53.0	
	comp=E,33nm,1.4s						
CHIR				IAML		23 33 01.2	
	comp=N,31nm,0.6s						
BRLK	**Bradley Lake**	**2.58**	**48**	Pn	Pn	23 32 14.0	0.0
BRLK				IAML		23 32 39.9	
	comp=E,37nm,0.6s						
N18K	**Kilae Creek**	**2.66**	**347**	Pn	Pn	23 32 16.7	+1.5
N18K				IAML		23 32 54.6	
	comp=E,24nm,0.7s						
N18K				IAML		23 32 57.1	
	comp=N,19nm,0.9s						
N19K	**Bonanza Creek**	**2.72**	**2**	Pn	Pn	23 32 15.8	-0.3
N19K				IAML		23 32 57.7	
	comp=N,20nm,1.1s						
N19K				IAML		23 33 07.4	
	comp=E,16nm,1.1s						
CHGN	**Chignik**	**2.72**	**230**	Pn	Pn	23 32 16.4	+0.4
CHGN				IAML		23 32 45.9	
	comp=E,25nm,1.1s						
CHGN				IAML		23 33 15.5	
	comp=N,19nm,1.4s						
N17K	**Nushagak Hills**	**2.75**	**333**		Pn	23 32 17.1	+0.7
N17K				IAML		23 33 01.6	
	comp=N,16nm,1.4s						
SLKM	**Skilak Lake**	**3.32**	**42**	Pn	Pn	23 32 24.7	+0.4
SLKM				IAML		23 33 22.9	
	comp=E,13nm,1.3s						
SLKM				IAML		23 33 46.3	
	comp=N,12nm,1.5s						
N15K	**Kwethluk River**	**3.47**	**309**		Pn	23 32 26.8	+0.4
N15K				IAML		23 33 47.2	
	comp=E,16nm,1.1s						
M17K	**Holitna River**	**3.59**	**338**		Pn	23 32 28.4	+0.5
M17K				IAML		23 33 31.0	
	comp=E,17nm,0.7s						
O14K	**Tigyukauivet M**	**3.63**	**291**	Pn	Pn	23 32 28.8	+0.3
O14K				IAML		23 33 35.6	
	comp=E,16nm,1.5s						
M16K	**Timber Creek**	**3.65**	**325**	Pn	Pn	23 32 29.0	+0.3
M16K				IAML		23 33 30.2	
	comp=E,9.3nm,1.0s						
M16K				IAML		23 34 53.7	
	comp=N,9.4nm,1.4s						
M19K	**Big River Lodg**	**3.81**	**2**	Pn	Pn	23 32 31.7	+0.7
M19K				IAML		23 33 36.9	
	comp=E,6.5nm,1.2s						
M19K				IAML		23 33 38.4	
	comp=N,6.1nm,1.5s						
M20K	**Styx River**	**3.87**	**11**	Pn	Pn	23 32 32.4	+0.6
L19K	**White Mountain**	**4.09**	**359**	Pn	Pn	23 32 35.7	+0.8
L19K				IAML		23 33 42.3	
	comp=E,11nm,1.2s						
L19K				IAML		23 33 52.3	
	comp=N,9.4nm,1.4s						
PWL	**Port Wells**	**4.25**	**47**	Pn	Pn	23 32 35.6	-1.4
SML	**Sawmill**	**4.89**	**38**	Pn	Pn	23 32 45.5

ATD Arta Tunnel 34.07 316 LR LR 00 16 34.2
comp=Z,5.0nm,20.6s,baz=114,slow=33
H04N2 CROZET ISLANDS 34.47 198 T T 00 41 24.6
baz=28,slow=75
H04N1 CROZET ISLANDS 34.47 198 T T 00 41 22.9
baz=28,slow=75
H04N3 CROZET ISLANDS 34.48 198 T T 00 41 17.9
baz=28,slow=75
PSI Prapat 36.52 66 LR LR 00 17 05.3
comp=Z,172nm,19.6s,baz=230,slow=31
LSZ Lusaka 36.66 263 LR LR 00 18 16.0
comp=Z,153nm,19.4s,baz=104,slow=33
LBTB Lobatse 39.63 247 LR LR 00 20 23.9
comp=Z,210nm,18.0s,baz=74,slow=34
BOSA Boshof 40.59 242 P **P 00 05 41.9 -2.3**
2.7nm,0.9s,baz=65,slow=8.4,SNR=3.8
BOSA LR LR 00 19 47.8
comp=Z,118nm,20.1s,baz=58,slow=32
2.7nm,0.9s
LEM Lembang 41.42 85 LR LR 00 19 41.3
comp=Z,72nm,18.0s,baz=288,slow=31
BRDH Bariadhala 44.04 35 LR LR 00 22 59.9
comp=Z,138nm,20.6s,baz=190,slow=34
SUR Sutherland 45.18 238 LR LR 00 23 37.5
comp=Z,102nm,20.3s,baz=80,slow=34
CMAR Chiang Mai Arr 45.56 46 P **P 00 06 25.7 +1.4**
0.6nm,0.4s,baz=230,slow=9.4,SNR=4.7
CMAR LR LR 00 22 54.0
comp=Z,73nm,21.7s,baz=235,slow=33
0.6nm,0.4s
TSUM Tsumeb 46.68 257 LR LR 00 25 23.9
comp=Z,154nm,18.0s,baz=336,slow=35
H01W3 Cape Leeuwin H 48.07 125 T T 00 58 20.2
baz=283,slow=75
H01W2 Cape Leeuwin H 48.07 125 T T 00 58 20.2
baz=283,slow=75
H01W1 Cape Leeuwin H 48.09 125 T T 00 58 21.4
baz=283,slow=75
NWAO Narrogin (SRO) 50.20 121 LR LR 00 23 04.2
comp=Z,69nm,21.0s,baz=28,slow=30
EIL Elat 52.58 326 LR LR 00 26 16.9
comp=Z,73nm,21.1s,baz=113,slow=32
KAPI Kappang 53.59 86 LR LR 00 27 33.0
comp=Z,44nm,20.0s,baz=224,slow=33
MMAI Mount Meron Ar 54.96 328 LR LR 00 29 10.7
comp=Z,69nm,18.2s,baz=154,slow=34
AAK Ala-Archa 56.65 7 LR LR 00 28 44.2
comp=Z,70nm,21.6s,baz=196,slow=32
GNI Garni 57.17 341 LR LR 00 30 47.3
comp=Z,52nm,18.2s,baz=94,slow=34
FITZ Fitzroy Crossi 57.26 103 LR LR 00 28 20.2
comp=Z,102nm,21.6s,baz=288,slow=32
SYO Syowa Base 57.73 191↓*eP* **P 00 07 57.6 +3.1**
KBZ Khabaz 60.99 341 P **P 00 08 18.8 +1.4**
1.9nm,0.8s,baz=166,slow=12,SNR=3.8
KBZ LR LR 00 34 21.1
comp=Z,66nm,18.1s,baz=148,slow=36
1.9nm,0.8s
BRTR Keskin Array B 61.17 332 P **P 00 08 20.4 +1.6**
3.1nm,0.9s,baz=162,slow=8.7,SNR=12
3.1nm,0.9s
GTA Gaotai 61.55 29 *eP* **P 00 08 22.0 +0.6**
GTA pP pwP 00 08 29.8 0.0
GTA sP sP 00 08 33.3 +6.8
GTA pmax pmax
comp=Z,4.0nm,1.4s
MKAR Makanchi Array 62.01 13 P **P 00 08 23.3 -0.9**
comp=Z,2.6nm,1.1s,baz=213,slow=8.5,SNR=9.3
MKAR PcP **PcP 00 09 04.8 +0.2**
comp=Z,1.5nm,0.9s,baz=181,slow=2.5,SNR=4.2
comp=Z,2.6nm,1.1s
ASAR Alice Springs 64.52 110 P **P 00 08 41.9 +0.4**
comp=Z,5.2nm,0.8s,baz=271,slow=6.2,SNR=32
ASAR PcP **PcP 00 09 15.1 -0.5**
comp=Z,1.7nm,0.8s,baz=276,slow=4.9,SNR=4.1
ASAR LR LR 00 34 21.4
comp=Z,111nm,18.2s,baz=184,slow=34
comp=Z,5.2nm,0.8s
KURBB Kurchatov Arra 65.03 9 P **P 00 08 43.5 -0.5**
comp=Z,1.8nm,1.0s,baz=207,slow=7.0,SNR=8.6
comp=Z,1.8nm,1.0s
WRA Warramunga Arr 65.27 106 P **P 00 08 46.3 -0.1**
comp=Z,9.6nm,1.0s
comp=Z,9.6nm,1.0s
BVAR Borovoye Array 66.61 3 P **P 00 08 53.1 -1.1**
comp=Z,1.4nm,0.7s,baz=170,slow=9.0,SNR=10
comp=Z,1.4nm,0.7s
FNA Florina 68.23 325 P **P 00 09 05.0 +0.2**
FNA IAmb IAmb 00 09 10.7
comp=Z,5.7nm,0.8s
KBN Korca 68.45 324 P **P 00 09 07.3 +1.1**
KBN IAmb IAmb 00 09 13.3
comp=Z,6.6nm,0.9s
TORD Torodi Ar. Bea 69.13 290 P **P 00 09 10.3 -0.6**
comp=Z,0.8nm,0.9s,baz=112,slow=6.4,SNR=3.5
comp=Z,0.8nm,0.9s
MLR Muntele Rosu 69.22 331 P **P 00 09 11.9 +0.9**
MLR IAmb IAmb 00 09 14.1
comp=Z,8.1nm,1.2s
MLR Muntele Rosu 69.22 331 LR LR 00 37 23.3
comp=Z,74nm,19.5s,baz=26,slow=34
ZAA0 Zalesovo Array 69.32 12 P **P 00 09 11.0 -0.2**
ZAA0 IAmb IAmb 00 09 21.2
comp=Z,4.2nm,1.1s
ZALV Zalesovo Beam 69.32 12 P **P 00 09 10.5 -0.7**
ZALV Zalesovo Beam 69.32 12 P **P 00 09 10.2 -1.0**
comp=Z,0.7nm,0.5s,baz=191,slow=3.9,SNR=5.6
comp=Z,0.7nm,0.5s
TIR Tirane 69.45 325 P **P 00 09 13.7 +1.3**
TAM Tamanrasset 69.50 301 P **P 00 09 15.0 +1.8**
CEL Celeste 69.86 320 P **P 00 09 16.1 +1.1**
CEL IAmb IAmb 00 09 41.8
comp=Z,12nm,1.1s
PUK Puka 69.90 325 P **P 00 09 16.7 +1.5**
ARTI Arti 70.17 355 P **P 00 09 17.4 +1.0**
ARTI IAmb IAmb 00 09 23.2
comp=Z,8.0nm,1.1s
SNAA Sanae 70.43 198 P **P 00 09 16.0 -2.1**
comp=Z,2.3nm,0.9s,baz=18,slow=9.6,SNR=1.7
comp=Z,2.3nm,0.9s
PDG Podgorica 70.51 325 P **P 00 09 19.7 +0.9**
PDG IAmb IAmb 00 09 21.4
comp=Z,8.0nm,0.9s
STKA Stephens Creek 70.70 119 LR LR 00 35 55.0
comp=Z,118nm,19.5s,baz=206,slow=32
CUC Castrocucco 70.96 321 P **P 00 09 22.1 +0.4**
CUC IAmb IAmb 00 09 33.8
comp=Z,3.1nm,0.9s
SONM Songino Array 71.07 27 P **P 00 09 22.9 +0.6**
SONM Songino Array 71.07 27 P **P 00 09 22.4 +0.1**
comp=Z,1.4nm,0.8s,baz=218,slow=6.8,SNR=8.7
comp=Z,1.4nm,0.8s
BURAR Bucovina Array 71.13 332 P **P 00 09 24.2 +1.6**
ULN Ulaanbaatar 71.39 28 P **P 00 09 24.2 -0.1**
AKASG Malin Array Be 71.81 336 P **P 00 09 26.7 +0.2**
comp=Z,2.1nm,0.7s,baz=144,slow=5.3,SNR=12
comp=Z,2.1nm,0.7s
AKBB Malin Array Si 71.81 336 P **P 00 09 26.3 -0.2**
KIEV Kiev 71.81 336 P **P 00 09 27.1 +0.7**
KIEV IAmb IAmb 00 09 32.5
comp=Z,8.4nm,0.8s
KEST Kesra 72.75 315 P **P 00 09 34.4 +1.8**
KEST IAmb IAmb 00 09 36.2
comp=Z,5.3nm,1.1s
KEST Kesra 72.75 315 P **P 00 09 33.2 +0.6**
comp=Z,2.3nm,0.8s,baz=72,slow=9.6,SNR=4.3
comp=Z,2.3nm,0.8s
DBIC Dimbokro 73.24 281 LR LR 00 42 18.8
comp=Z,36nm,18.4s,baz=168,slow=36
INTR Introdacqua 73.33 322 P **P 00 09 36.5 +0.6**
INTR IAmb IAmb 00 09 38.6
comp=Z,14nm,1.3s
TOO Toolangi 73.44 125 P **P 00 09 36.0 -0.7**
TOO IAmb IAmb 00 09 40.6
comp=Z,16nm,1.4s
PSZ Piszkesteto 73.87 330 P **P 00 09 39.5 +0.6**
CAMP Campotosto 73.94 322 P **P 00 09 39.9 +0.4**
NRCA Norcia 74.29 322 P **P 00 09 42.5 +1.0**
NRCA IAmb IAmb 00 09 43.8
comp=Z,16nm,1.3s
GUMA Gualdo di Mace 74.30 323 P **P 00 09 42.5 +1.0**
GUMA IAmb IAmb 00 09 55.0
comp=Z,9.3nm,0.9s
TAU Tasmania Unive 74.41 131 P **P 00 09 43.4 +1.2**
FDMO Fiordimonte 74.43 323 P **P 00 09 43.0 +0.8**
FDMO IAmb IAmb 00 09 48.4
comp=Z,11nm,1.4s
CESX Cesi 74.48 322 P **P 00 09 42.7 +0.2**

JMZ Minamidaito 2 74.61 58 P **P 00 09 44.5 +0.9**
RONA Rosalia, Austr 75.53 328 *eP* **P 00 09 49.5 +1.0**
comp=Z,5.0nm,0.9s
SOKA Soboth 75.55 326 *i* P **P 00 09 51.1 +2.4**
comp=Z,6.9nm,1.2s
CASP Castiglione de 75.62 321 P **P 00 09 48.8 -0.3**
ARSA Arzberg 75.65 327 *i* P **P 00 09 50.4 +1.2**
comp=Z,6.2nm,0.8s
ARSA Arzberg 75.65 327 P **P 00 09 50.0 +0.8**
ARSA IAmb IAmb 00 09 56.2
comp=Z,8.1nm,0.8s
OBKA Obir 75.71 326 *i* P **P 00 09 52.2 +2.6**
comp=Z,7.7nm,1.4s
SABO M.te Sabotino 75.90 325 P **P 00 09 52.2 +1.6**
SABO IAmb IAmb 00 10 00.4
comp=Z,4.9nm,1.1s
CONA Conrad Observa 75.91 328 *eP* **P 00 09 51.4 +0.7**
comp=Z,9.6nm,1.1s
PRED Cave del Predi 76.20 326 P **P 00 09 54.1 +1.7**
MORC Moravsky Berou 76.27 330 P **P 00 09 53.7 +1.1**
MORC IAmb IAmb 00 09 59.3
comp=Z,3.7nm,0.9s
MORC Moravsky Berou 76.27 330 *eP* **P 00 09 51.5 -1.2**
QSPA South Pole Qui 76.32 180 P **P 00 09 51.7 -1.1**
comp=Z,4.2nm,1.0s,baz=273,slow=5.6,SNR=4.7
QSPA LR LR 00 40 06.4
comp=Z,67nm,18.4s,baz=126,slow=33
comp=Z,4.2nm,1.0s
KRUC Moravsky 76.36 329 *eP* **P 00 09 52.2 -1.0**
VRAC Vranov 76.43 329 LR LR 00 43 11.7
comp=Z,56nm,18.5s,baz=10.0,slow=35
VRAC Vranov 76.43 329 *eP* **P 00 09 52.5 -1.0**
TEOL Teolo 76.62 324 P **P 00 09 55.6 +0.8**
MOA Molln 76.69 327 *eP* **P 00 09 56.1 +1.0**
comp=Z,9.9nm,0.9s
KBA Koelnbreinsper 76.71 326 *i* P **P 00 09 55.8 +0.4**
comp=Z,6.6nm,1.7s
BIOA Bad Ischl, Aus 76.93 327 *i* P **P 00 09 57.9 +1.4**
comp=Z,4.2nm,1.0s
ABTA Abfaltersbach 76.97 325 *i* P **P 00 09 57.5 +0.8**
comp=Z,16nm,1.7s
KSRS Korea Array 77.20 46 P **P 00 09 57.7 -0.4**
comp=Z,3.8nm,1.0s,baz=240,slow=4.8,SNR=5.6
KSRS LR LR 00 45 00.8
comp=Z,22nm,18.5s,baz=250,slow=36
comp=Z,3.8nm,1.0s
DPC Dobruska-Polom 77.24 330 *eP* **P 00 10 00.4 +2.3**
LESA Schwarzleotal 77.28 326 *i* P **P 00 09 59.7 +1.2**
comp=Z,6.6nm,0.9s
JNU Nakatsue 77.39 51 LR LR 00 43 28.0
comp=Z,38nm,19.4s,baz=202,slow=35
OSTC Ostas 77.42 330 *eP* **P 00 10 01.7 +2.6**
GERES GERESS Array B 77.60 328 P **P 00 10 00.1 -0.2**
comp=Z,1.1nm,0.8s,baz=123,slow=4.9,SNR=8.3
comp=Z,1.1nm,0.8s
ZVC Zvikov 77.72 328 *eP* **P 00 10 01.8 +1.0**
WTTA Wattenberg 77.76 325 *i* P **P 00 10 01.8 +0.5**
comp=Z,7.4nm,1.0s
WATA Walderalm 77.83 326 *i* P **P 00 10 00.4 -1.2**
comp=Z,9.2nm,1.4s
SQTA Sankt Quirin 77.97 325 *i* P **P 00 10 02.5 +0.1**
comp=Z,9.2nm,1.7s
MOTA Moosalm 78.10 325 *i* P **P 00 10 04.2 +1.1**
comp=Z,12nm,1.8s
FETA Feichten 78.12 325 *i* P **P 00 10 02.4 -0.9**
comp=Z,3.0nm,0.9s
RETA Reutte 78.37 325 *eP* **P 00 10 05.0 +0.5**
comp=Z,5.5nm,1.4s
TUE Stuetta 78.59 324 P **P 00 10 06.5 +0.6**
TUE IAmb IAmb 00 10 19.2
comp=Z,10nm,1.4s
DAVA Damuels 78.75 325 *eP* **P 00 10 06.2 -0.5**
comp=Z,5.8nm,1.1s
CLL Collm 79.47 329 P **P 00 10 11.9 +1.5**
CLL IAmb IAmb 00 10 21.3
comp=Z,9.3nm,1.3s
EIDS Eidsvold 79.81 114 P **P 00 10 13.3 +0.4**
EIDS IAmb IAmb 00 10 34.0
comp=Z,6.5nm,1.1s
USRK Ussuriysk Ar. 83.06 41 P **P 00 10 28.1 -1.5**
comp=Z,2.1nm,0.8s,baz=150,slow=41,SNR=3.3
comp=Z,2.1nm,0.8s
ESDC Sonseca Array 83.91 313 P **P 00 10 33.8 -0.4**
comp=Z,3.2nm,0.9s,baz=110,slow=4.1,SNR=14
comp=Z,3.2nm,0.9s
NRIK Noril'sk 84.27 8 LR LR 00 49 05.7
comp=Z,89nm,18.3s,baz=344,slow=36
MJAR Matsushiro Arr 84.28 50 P **P 00 10 35.9 -0.2**
comp=Z,3.1nm,0.9s,baz=238,slow=5.8,SNR=5.0
comp=Z,3.1nm,0.9s
HFS Hagfors 84.70 337 P **P 00 10 37.0 -0.6**
comp=Z,2.4nm,0.7s,baz=165,slow=6.2,SNR=3.5
comp=Z,2.4nm,0.7s
ARCES ARCESS Array B 87.80 347 P **P 00 10 51.0 -1.7**
comp=Z,4.7nm,1.0s,baz=111,slow=4.0,SNR=4.7
comp=Z,4.7nm,1.0s
ASAJ Asahikawa 90.06 44 LR LR 00 51 03.8
comp=Z,34nm,19.3s,baz=284,slow=35
YAK Yakutsk 90.28 25 LR LR 00 51 44.7
comp=Z,81nm,18.8s,baz=326,slow=36
YKA Yellowknife Ar 131.33 0 PKP **PKPdf 00 17 13.9 -2.0**
comp=Z,0.2nm,0.6s,baz=343,slow=2.7,SNR=4.3
NEW Newport 145.50 4 PKPab 00 17 42.7 +0.2
ECSD EROS Data Cent 146.63 337 PKPbc 00 17 45.2 -0.7
MSO Missoula 147.03 360 PKPbc 00 17 46.8 -0.3
PLID Pearl Lake 148.72 3 PKPbc 00 17 51.4 -0.4
PDAR Pinedale Array 150.85 353 PKPbc **PKPbc 00 17 56.6 -0.5**
comp=Z,1.9nm,0.7s,baz=77,slow=2.3,SNR=10
TXAR Lajitas Array 161.81 330 PKPab **PKPab 00 18 50.4 -0.9**
comp=Z,0.8nm,0.7s,baz=89,slow=4.2,SNR=6.9

SKHL ***25*** *00:23:09.4±0.2, 48°.30N×155°.80E, h29km±4km, mb4.9/7*
MOS ***25*** *00:23:09.2±1.4, 48°.41N×155°.69E, h26km, mb4.5/10, Error ellipse: s-maj=9.8km s-min=4.0km az=79.3*
KRSC ***25*** *00:23:10.9±1.6, 48°.46N×156°.81E, h31km±32km, Ml4.3*
NEIC ***25*** *00:23:14.4±2.0, 48°.5N±0°.1×155°.6E±0°.2, h48km±8km, mb4.4/24, Error ellipse: s-maj=22.7km s-min=11.6km az=137.0*
IDC ***25*** *00:23:14.5±2.0, 48°.58N×155°.48E, h49km±16km, mb3.7/23, mbtmp3.9/30, ML3.8/8, MS3.4/12, Error ellipse: s-maj=20.7km s-min=12.3km az=142.0*
ISC 25 00:23:12.1±0.6, 48°.40N±0°.07×155°.70E±0°.07, h36km, n193, σ1§46/190, mb4.3/49, MS3.7/6, 20C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.31**	**7**	**i**P	**Pn**	**00 23 48.8**	**+1.3**
SKR				*eS*	**Sn**	**00 24 12.9**	**-1.7**
SKR				pmax	pmax		
	comp=Z,133nm,0.8s						
SKR				smax	smax		
	comp=E,751nm,0.7s						
SKR				smax	smax		
	comp=N,622nm,0.5s						
SKR	**Severo-Kuril's**	**2.31**	**7**	*i* P	**Pn**	**00 23 47.3**	**-0.2**
SKR				AMB	AMB	00 23 49.1	
	comp=N,130nm,0.8s						
SKR				*eS*	**Sn**	**00 24 15.9**	**+1.3**
SKR				A	A	00 24 26.3	
	comp=N,620nm,0.5s						
SKR				A	A	00 24 26.3	
	comp=N,750nm,0.5s						
PAU	**Pauzhetka**	**3.16**	**13**	PN	**Pn**	**00 23 59.0**	**-0.2**
PAU				S	**Sn**	**00 24 35.7**	**+0.1**
PAU	**Pauzhetka**	**3.16**	**13**	*eP*	**Pn**	**00 23 59.1**	**-0.2**
PAU				*eS*	**Sn**	**00 24 35.7**	**+0.1**
PAU	**Pauzhetka**	**3.16**	**13**	*eP*	**Pn**	**00 23 59.2**	**0.0**
PAU				AMB	AMB	00 24 03.2	
	comp=N,50nm,0.2s						
PAU				*eS*	**Sn**	**00 24 36.4**	**+0.8**
PAU				A	A	00 24 39.1	
	comp=N,410nm,0.2s						
PAU				A	A	00 24 39.1	
	comp=N,210nm,0.2s						
KDTR	**Khodutka, Kamc**	**3.74**	**23**	PN	**Pn**	**00 24 06.6**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.74**	**23**	*eP*	**Pn**	**00 24 06.6**	**-0.6**
KDTR				*eS*	**Sn**	**00 24 47.2**	**-2.8**
RUS	**Russkaya**	**4.42**	**23**	PN	**Pn**	**00 24 15.5**	**-1.1**
RUS	**Russkaya**	**4.42**	**23**	*eP*	**Pn**	**00 24 15.6**	**-1.1**
RUS				*eS*	**Sn**	**00 25 03.3**	**-3.4**
RUS	**Russkaya**	**4.42**	**23**	*eP*	**Pn**	**00 24 15.5**	**-1.1**
GRL	**Gorelyy**	**4.43**	**19**	PN	**Pn**	**00 24 17.1**	**+0.4**
GRL	**Gorelyy**	**4.43**	**19**	*eP*	**Pn**	**00 24 17.2**	**+0.4**
APC	**Apacha**	**4.63**	**11**	PN	**Pn**	**00 24 22.3**	**+2.9**

APC Apacha 4.63 11 *eP* **Pn 00 24 22.3 +2.9**
KRMR Karymshinskiy 4.70 18 PN **Pn 00 24 20.8 +0.4**
KRMR Karymshinskiy 4.70 18 *eP* **Pn 00 24 20.8 +0.4**
PEA0B Petropavlovsk- 4.89 14 Pn 00 24 23.8 +0.9
PEA0B Petropavlovsk- 4.89 14 *i* PN **Pn 00 24 18.4 -4.6**
PETK Petropavlovsk- 4.89 14 Pn 00 24 23.4 +0.5
PETK Petropavlovsk- 4.89 14 P **Pn 00 24 22.9 -0.1**
comp=N,2.2nm,0.3s,baz=180,slow=11,SNR=14
PETK S **Sn 00 25 18.2 -0.1**
comp=N,6.5nm,0.6s,baz=175,slow=17,SNR=1.4
PETK LR LR 00 26 33.1
comp=N,293nm,18.6s,baz=188,slow=42
comp=N,4.6nm,0.5s
PET Petropavlovsk 5.00 21 Pn **Pn 00 24 24.7 +0.2**
PET Petropavlovsk 5.00 21 *e*PN **Pn 00 24 26.7 +2.2**
PET Petropavlovsk 5.00 21 *eP* **Pn 00 24 24.4 -0.1**
PET *eS* **Sn 00 25 19.0 -1.9**
PET Petropavlovsk 5.00 21 *eP* **Pn 00 24 26.0 +1.5**
PET *eS* **Sn 00 25 21.2 +0.3**
PET A A 00 25 37.7
comp=N,130nm,0.6s
PET A A 00 25 37.7
comp=N,110nm,0.6s
DALK Dalny 5.03 22 PN **Pn 00 24 23.9 -1.0**
DALK Dalny 5.03 22 *eP* **Pn 00 24 23.9 -1.0**
DALK *eS* **Sn 00 25 18.8 -2.9**
UGLR Uglovaya 5.21 21 PN **Pn 00 24 27.5 0.0**
UGLR Uglovaya 5.21 21 *eP* **Pn 00 24 27.6 0.0**
AVH Avacha 5.24 20 PN **Pn 00 24 28.9 +1.0**
AVH Avacha 5.24 20 *eP* **Pn 00 24 29.0 +1.0**
AVH Avacha 5.24 20 *eP* **Pn 00 24 28.9 +1.0**
KOK Koryaka 5.24 20 PN **Pn 00 24 28.9 +1.0**
KOK Koryaka 5.24 20 *eP* **Pn 00 24 29.0 +1.0**
KOK Koryaka 5.24 20 *eP* **Pn 00 24 28.9 +1.0**
KRER Koryakskii 5.28 20 PN **Pn 00 24 29.2 +0.7**
KRER Koryakskii 5.28 20 *eP* **Pn 00 24 29.2 +0.7**
SDLR Sedlovina 5.29 21 PN **Pn 00 24 27.9 -0.6**
SDLR Sedlovina 5.29 21 *eP* **Pn 00 24 28.0 -0.6**
KRX Arik 5.31 19 PN **Pn 00 24 29.1 +0.2**
KRX Arik 5.31 19 *eP* **Pn 00 24 29.1 +0.2**
SPN Mys Shipunski 5.45 29 PN **Pn 00 24 30.2 -0.5**
SPN Mys Shipunski 5.45 29 *eP* **Pn 00 24 30.2 -0.5**
SPN *eS* **Sn 00 25 29.0 -3.1**
SPN Mys Shipunski 5.45 29 *eP* **Pn 00 24 30.2 -0.5**
GNL Ganaly 5.49 14 PN **Pn 00 24 33.0 +1.7**
GNL Ganaly 5.49 14 *eP* **Pn 00 24 33.1 +1.7**
KUR Kuril'sk 6.24 242 *e*PN **Pn 00 24 45.5 +4.0**
KUR pmax pmax
comp=Z,97nm,0.6s
KUR Kuril'sk 6.24 242 *eP* **Pn 00 24 41.0 -0.5**
KUR AMB AMB 00 24 46.0
comp=Z,20nm,0.5s
KUR AMB AMB 00 24 46.0
comp=Z,20nm,0.5s
KUR AMB AMB 00 24 46.0
comp=Z,40nm,0.5s
KUR *eS* **Sn 00 25 49.7 -1.8**
KUR A A 00 26 13.0
comp=Z,130nm,0.6s
KUR A A 00 26 13.0
comp=Z,70nm,0.6s
MKZ Mys Kozlova 7.22 29 PN **Pn 00 24 53.9 -1.1**
MKZ Mys Kozlova 7.22 29 *eP* **Pn 00 24 53.9 -1.1**
TUMD Tumrok D 7.41 21 PN **Pn 00 24 56.2 -1.4**
TUMD Tumrok D 7.41 21 *eP* **Pn 00 24 56.3 -1.4**
SHO Shikotan 7.64 237 *e*PN **Pn 00 24 58.8 -2.0**
SHO pmax pmax
comp=Z,15nm,0.5s
SHO pmax pmax
comp=N,8.0nm,0.4s
SHO pmax pmax
comp=E,7.0nm,0.3s
SHO Shikotan 7.64 237 *eP* **Pn 00 24 58.8 -2.0**
SHO AMB AMB 00 25 05.0
comp=E,10.0nm,0.4s
SHO AMB AMB 00 25 05.0
comp=E,10.0nm,0.4s
SHO AMB AMB 00 25 05.0
comp=E,20nm,0.4s
SHO *i* S **Sn 00 26 20.7 -5.4**
KMNR Kamenistaya 7.88 19 PN **Pn 00 25 04.2 +0.1**
KMNR Kamenistaya 7.88 19 *eP* **Pn 00 25 04.3 +0.1**
YUK Yuzh-Kuril'sk 8.10 241 *eP* **Pn 00 25 06.9 -0.1**
YUK AMB AMB 00 25 09.7
comp=E,80nm,0.4s
NMR Nemuro--Hokkai 8.58 238 *eP* **Pn 00 25 11.5 -2.1**
YSS Yuzhno-Sakhali 8.86 265 *e*PN **Pn 00 25 20.0 +2.6**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=E,200nm,13.0s
YSS Yuzhno-Sakhali 8.86 265 *eP* **Pn 00 25 18.1 +0.7**
YSS AMB AMB 00 25 22.9
comp=E,30nm,0.2s
YSS *eS* **Sn 00 26 53.9 -2.0**
YSS AMS AMS 00 28 22.6
comp=E,300nm,17.0s
JKA Kamikawa-asahi 10.03 250 Pn **Pn 00 25 35.6 +2.0**
ASAJ Asahikawa 10.03 250 P **Pn 00 25 36.1 +2.6**
comp=E,0.9nm,0.3s,baz=84,slow=17,SNR=6.3
ASAJ LR LR 00 29 10.8
comp=E,165nm,19.3s,baz=102,slow=36
comp=E,11nm,0.8s
ERM Erimo 10.90 239 Pn **Pn 00 25 46.4 +0.9**
ERM Erimo 10.90 239 PN **Pn 00 25 46.4 +0.9**
MA2 Magadan 11.57 347 P **Pn 00 25 54.9 +0.4**
comp=E,0.5nm,0.3s,baz=132,slow=23,SNR=1.4
MA2 LR LR 00 30 36.6
comp=E,94nm,20.3s,baz=144,slow=39
comp=E,2.2nm,0.3s
SHEM Shemya Is, Ala 12.47 63 P **Pn 00 26 09.8 +3.0**
comp=E,4.2nm,0.3s,baz=280,slow=9.5,SNR=2.2
SHEM LR LR 00 31 36.1
comp=E,45nm,18.1s,baz=38,slow=40
SEY Seymchan 14.69 354 P **Pn 00 26 36.5 -0.4**
baz=166,slow=13,SNR=4.2
comp=E,0.5nm,0.3s
SEY Seymchan 14.69 354 *eP* **Pn 00 26 39.1 +2.1**
SEY pmax pmax
comp=Z,4.0nm,1.5s
KLR Kul'dur 15.79 282 P **Pn 00 26 52.6 +1.1**
comp=Z,0.3nm,0.3s,baz=80,slow=8.5,SNR=9.0
KLR LR LR 00 33 22.2
comp=Z,115nm,18.6s,baz=82,slow=39
comp=Z,2.4nm,0.6s
KLR Kul'dur 15.79 282 *eP* **Pn 00 26 53.2 +1.7**
KLR pmax pmax
comp=Z,4.0nm,1.3s
KLR Kul'dur 15.79 282 *eP* **Pn 00 26 51.2 -0.3**
JSD Sado 16.36 237 Pn **Pn 00 26 58.0 -0.8**
JSD IAmb IAmb 00 27 29.7
comp=Z,32nm,1.1s
USRK Ussuriysk Ar. 16.89 264 P **Pn 00 27 05.1 -0.4**
comp=Z,0.3nm,0.3s,baz=45,slow=14,SNR=3.2
comp=Z,2.7nm,0.7s
MJAR Matsushiro Arr 17.47 234 P **Pn 00 27 12.5 -0.3**
baz=29,slow=12,SNR=2.2
comp=Z,0.7nm,0.4s
HEH HeiHe 18.49 286 *eP* **Pn 00 27 25.6 +0.4**
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH LR LR
comp=N,140nm,14.6s
HEH LR LR
comp=E,190nm,14.8s
HEH LR LR
comp=Z,290nm,14.5s
YAK Yakutsk 19.98 323 LR LR 00 35 50.0
comp=Z,56nm,19.6s,baz=76,slow=38
KSRS Korea Array 22.97 252 P **P 00 28 14.9 +1.7**
comp=Z,2.5nm,0.8s,baz=48,slow=11,SNR=5.0
comp=Z,2.5nm,0.8s
TNA Tin City 25.68 35 P **P 00 28 38.7 +0.5**
TNA IAmb IAmb 00 29 20.6
comp=Z,12nm,1.0s
TIXI Tiksi 26.43 341 P **P 00 28 42.6 -2.3**
TIXI Tiksi 26.43 341 *eP* **P 00 28 42.9 -2.0**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
H11N2 WAKE ISLAND Hy 29.99 159 T T 01 01 46.9
baz=342,slow=74
H11N1 WAKE ISLAND Hy 30.01 159 T T 01 01 10.1
baz=342

H11N3 WAKE ISLAND Hy 30.01 159 T T 01 01 48.7
baz=342,slow=74
H11S1 WAKE ISLAND Hy 31.12 159 T T 01 02 35.3
baz=345,slow=76,SNR=98
H11S3 WAKE ISLAND Hy 31.13 160 T T 01 02 43.4
baz=345,slow=76,SNR=106
H11S2 WAKE ISLAND Hy 31.14 159 T T 01 02 39.7
baz=345,slow=76,SNR=93
KDAK Kodiak Island 31.71 53 LR LR 00 42 34.9
comp=Z,32nm,21.9s,baz=95,slow=37
HHC Hu-ho-hao-te 31.94 273 *e*P **P** **00 29 34.3 -0.1**
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.8s
SONM Songino Array 32.47 288 P **P** **00 29 37.4 -1.6**
comp=Z,0.2nm,0.4s,baz=70,slow=6.6,SNR=2.0
comp=Z,0.2nm,0.4s
D25K Kavik River 34.65 32 P **P** **00 29 58.7 +1.1**
D25K IAmb IAmb 00 30 36.0
comp=Z,4.9nm,0.7s
E25K Arctic Village 34.83 34 P **P** **00 30 00.5 +1.4**
BMAR Burnt Mountain 35.17 35 P **P** **00 30 03.9 +1.8**
N25K Chitina, Valde 35.36 45 P **P** **00 30 03.4 -0.4**
C27K Jago River 35.62 32 P **P** **00 30 06.2 +0.4**
C27K IAmb IAmb 00 30 27.4
comp=Z,4.4nm,1.1s
WAX Waxell Ridge 36.35 47 P **P** **00 30 11.4 -0.9**
BCAR Beaver Creek A 36.50 43 P **P** **00 30 14.1 +0.6**
BESE Bessie Mountai 40.74 49 P **P** **00 30 49.5 +0.3**
WMQ Urumqi 45.97 291 *e*P **P** **00 31 33.8 +2.3**
WMQ sP sP 00 31 48.6 +2.4
WMQ PcP **PcP** **00 33 07.8 +0.1**
WMQ pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 46.98 262 P **P** **00 31 41.3 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.7s
MK31 Makanchi Array 47.75 297 P **P** **00 31 44.5 -0.8**
MK31 IAmb IAmb 00 31 45.2
comp=Z,2.4nm,0.7s
MK31 Makanchi Array 47.75 297 P **P** **00 31 44.5 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 47.75 297 P **P** **00 31 44.7 -0.6**
MKAR Makanchi Array 47.75 297 P **P** **00 31 44.2 -1.1**
comp=Z,2.5nm,0.7s,baz=66,slow=7.6,SNR=28
MKAR LR LR 00 53 21.4
comp=Z,76nm,18.6s,baz=32,slow=38
comp=Z,2.5nm,0.7s
KURK Kurchatov 47.92 303 P **P** **00 31 45.9 -0.6**
KURK IAmb IAmb 00 31 47.3
comp=Z,2.0nm,0.6s
KURK Kurchatov 47.92 303 P **P** **00 31 46.0 -0.5**
KURK Kurchatov 47.92 303 *e*P **P** **00 31 46.0 -0.5**
MAKZ Makanchi 47.92 297 P **P** **00 31 45.5 -1.1**
MAKZ IAmb IAmb 00 31 46.7
comp=Z,6.4nm,1.5s
MAKZ Makanchi 47.92 297 P **P** **00 31 45.6 -1.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.5s
KURBB Kurchatov Arra 48.01 303 P **P** **00 31 46.0 -1.2**
comp=Z,1.3nm,0.6s,baz=66,slow=8.0,SNR=12
comp=Z,1.3nm,0.6s
YKA Yellowknife Ar 48.55 38 P **P** **00 31 50.9 -0.3**
comp=Z,0.1nm,0.5s,baz=297,slow=7.9,SNR=2.9
comp=Z,0.1nm,0.5s
BVAR Borovoye Array 51.17 309 P **P** **00 32 09.4 -1.9**
comp=Z,0.7nm,0.5s,baz=50,slow=8.0,SNR=4.2
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 54.45 257 P **P** **00 32 35.6 -0.3**
comp=Z,2.3nm,0.3s,baz=35,slow=6.9,SNR=8.8
comp=Z,2.3nm,0.3s
AAK Ala-Archa 54.67 297 P **P** **00 32 37.0 -0.4**
comp=Z,1.2nm,0.8s,baz=126,slow=8.7,SNR=4.3
AAK LR LR 00 57 30.1
comp=Z,47nm,18.1s,baz=28,slow=38
comp=Z,1.2nm,0.8s
ARTI Arti 55.08 318 P **P** **00 32 39.5 -0.5**
comp=Z,1.9nm,0.5s,baz=69,slow=7.4,SNR=4.8
comp=Z,1.9nm,0.5s
O02D Mt. Diablo Mer 56.33 66 P **P** **00 32 46.2 -3.0**
O02D IAmb IAmb 00 33 16.3
comp=Z,7.8nm,1.2s
ARCES ARCESS Array B 56.87 341 P **P** **00 32 51.8 -0.7**
comp=Z,4.1nm,1.0s,baz=26,slow=8.0,SNR=1.4
ARCES LR LR 01 00 30.0
comp=Z,97nm,18.0s,baz=350,slow=40
comp=Z,4.1nm,1.0s
PLID Pearl Lake 57.30 57 P **P** **00 32 57.2 +0.9**
ABKAR Abkulak array 58.71 310 P **P** **00 33 04.7 -1.1**
ABKAR Abkulak array 58.71 310 P **P** **00 33 04.6 -1.1**
PNTR Pine Nut 58.93 65 P **P** **00 33 09.2 +1.5**
PNTR IAmb IAmb 00 33 38.6
comp=Z,3.9nm,1.1s
PDAR Pinedale Array 62.37 56 P **P** **00 33 32.6 +1.4**
comp=Z,0.3nm,0.8s,baz=292,slow=6.4,SNR=2.6
comp=Z,0.3nm,0.8s
SFJD Kangerlussuaq 63.21 11 LR LR 01 02 59.7
comp=Z,44nm,18.1s,baz=80,slow=38
FINES FINESS Array B 63.28 336 P **P** **00 33 34.9 -1.7**
comp=Z,1.8nm,0.8s,baz=48,slow=2.8,SNR=3.6
comp=Z,1.8nm,0.8s
FINES FINESS Array B 63.28 336 *e*P **P** **00 33 38.3 +1.7**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 67.22 342 P **P** **00 34 01.5 -0.6**
comp=Z,0.6nm,0.7s,baz=24,slow=6.4,SNR=1.8
comp=Z,0.6nm,0.7s
HFS Hagfors 67.51 341 P **P** **00 34 03.4 -0.5**
comp=Z,2.4nm,0.9s,baz=46,slow=8.5,SNR=2.1
comp=Z,2.4nm,0.9s
KBZ Khabaz 70.96 315 P **P** **00 34 26.6 +1.0**
comp=Z,0.7nm,0.5s,baz=133,slow=6.1,SNR=5.8
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 71.13 327 P **P** **00 34 25.5 -1.0**
comp=Z,1.4nm,0.5s,baz=33,slow=6.3,SNR=7.7
comp=Z,1.4nm,0.5s
AKASG Malin Array Be 71.13 327 *e*P **P** **00 34 25.7 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 74.35 201 P **P** **00 34 47.6 +1.8**
comp=Z,0.3nm,0.5s,baz=13,slow=6.1,SNR=2.0
comp=Z,0.3nm,0.5s
KOLS Kolonicke sedl 75.03 330 *e*P **P** **00 34 50.4 +0.8**
KOLS Kolonicke sedl 75.03 330 *e*P **P** **00 34 50.4 +0.8**
EKA Eskdalemuir Ar 75.13 348 P **P** **00 34 50.6 +0.6**
comp=Z,1.0nm,0.6s,baz=24,slow=6.5,SNR=1.5
comp=Z,1.0nm,0.6s
BUR08 Bucovina Ar. S 75.14 328 P **P** **00 34 50.6 +0.3**
BURAR Bucovina Array 75.15 328 P **P** **00 34 50.6 +0.2**
TX31 Lajitas Ar. Si 75.17 63 P **P** **00 34 52.4 +1.6**
TXAR Lajitas Array 75.17 63 P **P** **00 34 52.2 +1.3**
comp=Z,0.6nm,0.5s,baz=306,slow=4.7,SNR=12
comp=Z,0.6nm,0.5s
TESR Tescani 75.57 326 ⇓P P 00 34 45.4 -7.3
VLDR Vladesti 75.60 325 ⇑P **P** **00 34 53.3 +0.5**
CLL Collm 75.67 337 *i* P **P** **00 34 53.5 +0.3**
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 75.67 337 *i* P **P** **00 34 53.5 +0.3**
comp=Z,10.0nm,1.3s
LANS Liptovska Anna 75.74 332 *e*P **P** **00 34 55.5 +1.8**
LANS Liptovska Anna 75.74 332 *e*P **P** **00 34 55.5 +1.8**
MORC Moravsky Berou 75.78 334 P **P** **00 34 54.5 +0.6**
MORC IAmb IAmb 00 34 56.1
comp=Z,4.4nm,1.0s
MORC Moravsky Berou 75.78 334 ⇑P **P** **00 34 50.4 -3.5**
MORC Moravsky Berou 75.78 334 P **P** **00 34 54.5 +0.6**
MORC pmax pmax
comp=Z,4.0nm,1.0s
VRI Vrincioaia 76.09 326 ⇑P **P** **00 34 53.4 -2.3**
VRI Vrincioaia 76.09 326 ⇑P **P** **00 34 53.4 -2.3**
PLOR Plostina 76.13 326 ⇓P **P** **00 34 53.9 -2.1**
PLOR Plostina 76.13 326 ⇓P **P** **00 34 53.9 -2.1**
TPGR Topolog 76.30 324 ⇑P P 00 35 06.1 +9.2
COVR Voineasa-Covas 76.30 326 ⇑P **P** **00 34 54.0 -3.0**
VRAC Vranov 76.47 334 ⇓P **P** **00 34 59.6 +1.7**
VRAC Vranov 76.47 334 ⇓P **P** **00 34 59.6 +1.7**
CJR Cluj-Napoca 76.50 328 ⇑P P 00 34 48.9 -9.2
CJR Cluj-Napoca 76.50 328 ⇑P P 00 34 48.9 -9.2
PSZ Piszkesteto 76.69 331 ⇑P P 00 34 51.2 -8.0
PSZ Piszkesteto 76.69 331 ⇑P P 00 34 51.2 -8.0
MLR Muntele Rosu 76.70 326 P **P** **00 35 00.3 +1.0**
MLR IAmb IAmb 00 35 21.3
comp=Z,4.8nm,1.1s
MLR Muntele Rosu 76.70 326 ⇑P **P** **00 34 59.4 +0.1**
MLR Muntele Rosu 76.70 326 P **P** **00 35 00.3 +1.0**
MLR pmax pmax
comp=Z,5.0nm,1.1s
MARD Mardin 76.93 312 P **P** **00 35 00.7 -0.1**
VOIR 77.07 327 ⇑P **P** **00 35 01.0 -0.4**
VOIR 77.07 327 ⇑P **P** **00 35 01.0 -0.4**
ARR Arges 77.28 327 ⇑P **P** **00 35 02.8 +0.3**
KHC Kasperske Hory 77.49 336 *e*P **P** **00 35 04.0 +0.4**
KHC Kasperske Hory 77.49 336 *e*P **P** **00 35 04.0 +0.4**
UOSS Minazif 77.71 294 P **P** **00 35 04.4 -0.8**
GERES GERESS Array B 77.72 335 P **P** **00 35 05.2 +0.3**
comp=Z,0.5nm,0.5s,baz=22,slow=4.8,SNR=4.8
comp=Z,0.5nm,0.5s
SURR Surduc 77.84 329 ⇑P **P** **00 35 03.8 -1.7**
CONA Conrad Observa 77.93 334 *i* P **P** **00 35 08.0 +1.9**
comp=Z,4.0nm,1.1s
GZR Gura Zlata 77.93 328 ⇑P **P** **00 35 06.8 +0.7**
GZR Gura Zlata 77.93 328 ⇑P **P** **00 35 06.8 +0.7**
BZS Buzias 78.14 329 ⇑P **P** **00 35 07.7 +0.5**
BZS Buzias 78.14 329 ⇑P **P** **00 35 07.7 +0.5**
BRTR Keskin Array B 78.36 318 P **P** **00 35 09.6 +0.8**
BRTR Keskin Array B 78.36 318 P **P** **00 35 09.4 +0.7**
comp=Z,2.5nm,0.9s,baz=48,slow=3.6,SNR=13
comp=Z,2.5nm,0.9s
BRTR Keskin Array B 78.36 318 *e*P **P** **00 35 09.4 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BIOA Bad Ischl, Aus 78.78 335 *e*P **P** **00 35 12.8 +2.0**
comp=Z,2.0nm,0.8s
LESA Schwarzleotal 79.30 335 *i* P **P** **00 35 15.1 +1.4**
comp=Z,3.8nm,0.9s
SOKA Soboth 79.30 334 *i* P **P** **00 35 14.2 +0.6**
comp=Z,3.1nm,1.0s
KBA Koelnbreinsper 79.42 335 *e*P **P** **00 35 16.6 +2.1**
comp=Z,6.6nm,0.8s
WATA Walderalm 79.68 336 *i* P **P** **00 35 16.8 +1.0**
comp=Z,6.8nm,1.2s
WTTA Wattenberg 79.73 336 *i* P **P** **00 35 16.4 +0.2**
comp=Z,6.3nm,1.0s
MOTA Moosalm 79.80 336 *i* P **P** **00 35 18.2 +1.7**
comp=Z,6.0nm,1.1s
SQTA Sankt Quirin 79.88 336 *i* P **P** **00 35 18.7 +1.8**
comp=Z,4.4nm,1.1s
ABTA Abfaltersbach 79.96 335 *i* P **P** **00 35 18.7 +1.4**
comp=Z,3.8nm,1.3s
FETA Feichten 80.19 337 *i* P **P** **00 35 20.5 +1.9**
comp=Z,3.8nm,1.3s
DAVOX Davos/Dischmat 80.64 337 LR LR 01 16 01.7
comp=Z,45nm,18.8s,baz=12,slow=39
MMAI Mount Meron Ar 83.00 313 P **P** **00 35 35.0 +1.4**
comp=Z,2.9nm,0.6s,baz=46,slow=7.3,SNR=7.3
comp=Z,2.9nm,0.6s
ESDC Sonseca Array 90.47 344 P **P** **00 36 08.9 -1.1**
comp=Z,0.5nm,0.9s,baz=12,slow=3.1,SNR=2.5
comp=Z,0.5nm,0.9s
H03N2 Juan Fernandez 137.01 90 T T 03 15 29.9
baz=304
H03N1 Juan Fernandez 137.02 90 T T 03 15 36.0
baz=304
H03N3 Juan Fernandez 137.02 90 T T 03 15 44.5
baz=304

TAP 25 00:30:11.2, 23°.15N×121°.32E, h28km, ML1.8, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FULB	**Fuli**	**0.06**	**335**	P	Pb	00 30 16.6	+0.5
FULB				*e*S	Sb	00 30 20.5	+1.2
CHKT	**Chengkung**	**0.06**	**138**	*i* P	Pb	00 30 16.4	+0.5
CHKT				*e*S	Sb	00 30 19.9	+0.7
CHKH	**Chenggong**	**0.08**	**56**	⇑P	Pb	00 30 15.9	-0.1
CHKH				*e*S	Sb	00 30 18.8	-0.6
ECS	**Chishang**	**0.11**	**242**	P	Pb	00 30 16.2	-0.1
ECS				*e*S	Sb	00 30 21.9	+2.2
EHD	**Haiduan**	**0.11**	**272**	P	Pb	00 30 16.5	+0.2
EHD				S	Sb	00 30 20.4	+0.7
EDH	**Donghe**	**0.17**	**185**	P	Pb	00 30 17.1	+0.3
EDH				*e*S	Sb	00 30 22.3	+1.6
EYUL	**Yuli**	**0.20**	**360**	*e*P	Pn	00 30 18.1	-0.3
EYUL				*e*S	Sb	00 30 22.9	+1.6
TWF1	**Yuli**	**0.21**	**354**	P	Pb	00 30 17.4	+0.2
TWF1				*e*S	Sb	00 30 22.2	+0.8
YULB	**Yu-li**	**0.25**	**355**	*e*P	Pb	00 30 17.6	-0.1
YULB				*e*S	Sb	00 30 22.6	+0.4
YULB	**Yu-li**	**0.25**	**355**	P	Pb	00 30 17.6	-0.2
ELDTW	**Lidau**	**0.28**	**279**	P	Pb	00 30 18.4	+0.1
ELDTW				*i* S	Sb	00 30 24.0	+0.9
LONT	**Longtian**	**0.30**	**217**	*e*P	Pn	00 30 19.9	+0.2
LONT				*e*S	Sn	00 30 25.6	+0.5
HGSD	**Ruisui**	**0.36**	**15**	*e*P	Pn	00 30 20.5	0.0
HGSD				*e*S	Sn	00 30 28.1	+1.4
EHY	**Hungye**	**0.36**	**0**	*e*P	Pb	00 30 19.0	-0.3
EHY				S	Sn	00 30 26.0	-0.8
TTN	**Taitung**	**0.42**	**202**	S	Sn	00 30 27.5	-0.7
STYH	**Taoyuan**	**0.50**	**273**	*i* P	Pn	00 30 22.0	-0.5
STYH				*e*S	Sn	00 30 29.4	-0.8
STYT	**Tauyuan**	**0.52**	**272**	*i* P	Pb	00 30 22.2	+0.3
STYT				*i* S	Sn	00 30 30.2	-0.5
WARBT	**Fenglin Townsh**	**0.57**	**6**	P	Pn	00 30 23.3	-0.2
WARBT				S	Sn	00 30 32.1	0.0
VWDT	**VWDT**	**0.63**	**345**	P	Pn	00 30 24.1	-0.1
VWDT				*e*S	Sn	00 30 32.8	-0.6
CHN4	**Tsaushan**	**0.70**	**287**	*e*P	Pn	00 30 27.1	+1.9
CHN4				*e*S	Sn	00 30 35.9	+0.8

CATAC ***25*** *00:48:34.0±0.9, 14°.N±6°.×9°.2W±°, h30km±7km, M3.7/7, MLv3.7/7, Error ellipse: s-maj=14.9km s-min=6.3km az=34.8, confirmed*
GCG ***25*** *00:48:33.2±1.7, 13°.99N×91°.70W, h21km±17km, MD4.1, MW3.1*
ISC 25 00:48:33.6±2.4, 13°.9N±0°.1×91°.8W±0°.1, h35km, n22, σ0s85/25, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.60**	**6**	P	**Pn**	**00 48 45.4**	**-0.3**
RTAL	**Retalhuleu**	**0.60**	**6**	P	**Pn**	**00 48 45.4**	**-0.3**
RTAL				S	**Sn**	**00 48 54.6**	**+0.4**
STG0	**El Palmar, Qui**	**0.64**	**39**	*e*P		00 48 47.2	
STG8	**El Palmar, Qui**	**0.66**	**38**	*e*P		00 48 47.7	
STG8				*i* S		00 48 59.7	
SOKI	**Kika Raxquin**	**0.95**	**21**	*e*P	**Pn**	**00 48 50.0**	**-0.9**
SOKI				*e*S	**Sn**	**00 49 02.8**	**-0.7**
SOKI	**Kika Raxquin**	**0.95**	**21**	*e*P		00 48 50.0	
SOKI				*e*S		00 49 02.8	
SMCA	**Catarina**	**0.97**	**342**	*e*P	**Pn**	**00 48 49.7**	**-1.1**
SMCA				*i* S	**Sn**	**00 49 02.8**	**-0.6**
SMCA	**Catarina**	**0.97**	**342**	*e*P		00 48 49.7	
SMCA				*i* S		00 49 02.8	
GCG4	**OSOP**	**1.36**	**61**	*e*S	**Sn**	**00 49 14.8**	**+1.6**
GCG4	**OSOP**	**1.36**	**61**	*e*S		00 49 14.8	
LOAL	**Lomas de Alarc**	**1.93**	**88**	P	**Pn**	**00 49 05.1**	**+1.2**
LOAL	**Lomas de Alarc**	**1.93**	**88**	P	**Pn**	**00 49 04.2**	**+0.2**
LOAL	**Lomas de Alarc**	**1.93**	**88**	S	**Sn**	**00 49 26.7**	**-0.3**
NUBE	**Las Nubes**	**1.93**	**90**	P	**Pn**	**00 49 03.5**	**-0.5**
NUBE	**Las Nubes**	**1.93**	**90**	P	**Pn**	**00 49 03.5**	**-0.5**
NUBE	**Las Nubes**	**1.93**	**90**	S	**Sn**	**00 49 25.9**	**-1.3**
NUBE	**Las Nubes**	**1.93**	**90**	*e*P	**Pn**	**00 49 03.4**	**-0.5**
NUBE	**Las Nubes**	**1.93**	**90**	*e*P		00 49 03.4	
JAYA	**Jayaque - finc**	**2.27**	**97**	P	**Pn**	**00 49 08.9**	**+0.2**
JAYA	**Jayaque - finc**	**2.27**	**97**	P	**Pn**	**00 49 09.0**	**+0.2**
JAYA	**Jayaque - finc**	**2.27**	**97**	S	**Sn**	**00 49 34.5**	**-0.9**
CCIG	**Comitan**	**2.37**	**351**	P	**Pn**	**00 49 11.7**	**+1.6**
CCIG	**Comitan**	**2.37**	**351**	*e*P	**Pn**	**00 49 11.4**	**+1.2**
CCIG	**Comitan**	**2.37**	**351**	*e*P		00 49 11.4	
MTO3	**Montecristo**	**2.38**	**78**	P	**Pn**	**00 49 10.2**	**-0.1**
MTO3	**Montecristo**	**2.38**	**78**	P	**Pn**	**00 49 09.9**	**-0.4**
PMON	**Piamonte**	**2.39**	**95**	P	**Pn**	**00 49 11.0**	**+0.6**
PMON	**Piamonte**	**2.39**	**95**	P	**Pn**	**00 49 11.0**	**+0.6**
PMON	**Piamonte**	**2.39**	**95**	S	**Sn**	**00 49 39.0**	**+0.5**

ASRS ***25*** *01:04:05.0±1.2, 54°.25N×87°.10E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 25 01:04:09.9±3.0, 54°.17N×86°.86E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=27.9km s-min=16.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**260**	I	I	01 12 50.0	
baz=77,slow=333,SNR=5.8							
ZALV	**Zalesovo Beam**	**1.22**	**260**	Pg	Pg	01 04 32.3	-0.9
1.3nm,0.3s,baz=75,slow=14,SNR=20							
ZALV				Lg	Lg	01 04 49.2	
0.6nm,0.3s,baz=78,slow=28,SNR=5.4							
KURBB	**Kurchatov Arra**	**6.21**	**239**	Pn	Pn	01 05 43.2	+0.5
0.1nm,0.3s,baz=53,slow=13,SNR=16							
0.8nm,0.4s							
MKAR	**Makanchi Array**	**7.94**	**203**	Pn	Pn	01 06 07.3	+0.8
baz=27,slow=14,SNR=1.9							
MKAR				Lg	Lg	01 08 19.7	
baz=24,slow=29,SNR=1.8							
0.1nm,0.3s							
BVAR	**Borovoye Array**	**9.86**	**270**	Pn	Pn	01 06 32.7	0.0
baz=73,slow=15,SNR=2.3							
0.3nm,0.5s							

IDC ***25*** *01:07:07.5±1.2, 17°.77S×178°.32W, h516km±12km, mb3.4/10, mbtmp4.3/11, Error ellipse: s-maj=20.9km s-min=13.8km az=129.0*
ISC 25 01:07:06.1±0.7, 17°.8S±0°.2×178°.1W±0°.1, h500km, n25, σ1s51/28, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.64**	**271**	P	**P**	**01 08 22.8**	**+1.0**
275nm,0.8s,baz=102,slow=12,SNR=129							
MSVF				S	**S**	**01 09 26.0**	**+2.5**
8.5nm,0.7s,baz=92,slow=18,SNR=0.6							
URZ	**Urewera**	**20.79**	**191**	P	**P**	**01 11 10.8**	**-1.0**
8.4nm,0.7s,baz=5.2,slow=2.2,SNR=8.9							
8.4nm,0.7s							
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**01 13 48.0**	**-0.3**
5.1nm,0.7s,baz=90,slow=9.1,SNR=8.5							
5.1nm,0.7s							
WRA	**Warramunga Arr**	**44.91**	**259**	P	**P**	**01 14 33.5**	**-2.5**
1.2nm,0.7s,baz=96,slow=8.3,SNR=9.1							
WRA				PcP	**PcP**	**01 16 06.1**	**-1.0**
0.5nm,0.6s,baz=97,slow=3.3,SNR=1.3							
1.2nm,0.7s							
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**01 14 35.7**	**-1.5**
13nm,0.5s,baz=93,slow=7.6,SNR=176							
ASAR				PcP	**PcP**	**01 16 06.7**	**-0.9**
0.6nm,0.5s,baz=94,slow=3.9,SNR=2.8							
13nm,0.5s							
QSPA	**South Pole Qui**	**72.24**	**180**	P	**P**	**01 17 41.1**	**+1.1**
1.8nm,0.6s,baz=58,slow=0.6,SNR=18							
1.8nm,0.6s							
NVAR	**Mina Array Bea**	**79.17**	**44**	P	**P**	**01 18 19.4**	**+0.4**
2.3nm,0.8s,baz=239,slow=7.4,SNR=22							
2.3nm,0.8s							
TXAR	**Lajitas Array**	**85.72**	**58**	P	**P**	**01 18 53.4**	**+1.2**
1.5nm,0.8s,baz=241,slow=4.9,SNR=20							
1.5nm,0.8s							
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**01 18 49.7**	**-1.6**
0.6nm,0.4s,baz=211,slow=5.0,SNR=14							
0.6nm,0.4s							
PDAR	**Pinedale Array**	**87.10**	**43**	P	**P**	**01 18 58.4**	**-0.3**
0.7nm,0.6s,baz=240,slow=5.7,SNR=8.7							
0.7nm,0.6s							
YKA	**Yellowknife Ar**	**94.14**	**25**	P	**P**	**01 19 29.2**	**-1.1**
0.4nm,0.7s,baz=239,slow=4.7,SNR=7.2							
0.4nm,0.7s							
BRTR	**Keskin Array B**	**144.91**	**315**	PKP	**PKPdf**	**01 25 45.7**	**-0.6**
0.6nm,0.6s,baz=124,slow=4.1,SNR=4.8							
MMAI	**Mount Meron Ar**	**146.31**	**303**	PKPbc	**PKPdf**	**01 25 50.8**	**+2.0**
7.9nm,1.0s,baz=97,slow=4.6,SNR=7.9							
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	**PKPdf**	**01 25 53.3**	**+2.8**
0.9nm,0.6s,baz=20,slow=3.3,SNR=8.7							
CONA	**Conrad Observa**	**147.86**	**342**	*i* PKP	**PKPbc**	**01 25 54.6**	**-0.1**
2.2nm,0.6s							
RONA	**Rosalia, Austr**	**147.93**	**342**	*i* PKP	**PKPbc**	**01 25 54.6**	**-0.1**
1.8nm,0.6s							
LESA	**Schwarzleotal**	**149.16**	**346**	*e*PKP	**PKPbc**	**01 25 57.3**	**-0.6**
1.4nm,0.4s							
SOKA	**Soboth**	**149.23**	**342**	*i* PKP	**PKPbc**	**01 25 57.0**	**-1.1**
1.1nm,0.7s							
KBA	**Koelnbreinsper**	**149.32**	**345**	*i* PKP	**PKPdf**	**01 25 57.1**	**+3.6**
1.4nm,0.4s							
WATA	**Walderalm**	**149.49**	**347**	*i* PKP	**PKPbc**	**01 25 58.0**	**-0.8**
1.4nm,0.5s							
RETA	**Reutte**	**149.52**	**348**	*i* PKP	**PKPbc**	**01 25 58.1**	**-0.7**
1.9nm,0.9s							
WTTA	**Wattenberg**	**149.55**	**347**	*i* PKP	**PKPbc**	**01 25 58.4**	**-0.5**
4.4nm,0.6s							
MYKA	**Terra Mystica**	**149.66**	**344**	*e*PKP	**PKPbc**	**01 25 57.8**	**-1.3**
1.5nm,0.4s							
SQTA	**Sankt Quirin**	**149.68**	**347**	*i* PKP	**PKPbc**	**01 25 58.6**	**-0.6**
1.6nm,0.6s							
ABTA	**Abfaltersbach**	**149.84**	**345**	*i* PKP	**PKPbc**	**01 25 58.4**	**-1.1**
2.7nm,0.6s							

IDC ***25*** *01:08:23.2±0.8, 27°.75N×128°.32E, h78km±16km, mb3.4/9, mbtmp3.7/12, MS2.7/3, Error ellipse: s-maj=28.7km s-min=16.8km az=119.0*
NIED ***25*** *01:08:23.1, 27°.85N×128°.51E, h63km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.88; $M_{\theta\theta}$3.08; $M_{\phi\phi}$-1.20; $M_{r\theta}$-4.36; $M_{\phi\theta}$-5.16; $M_{\phi r}$1.16; Fault plane solution: $M_0$6.98000×10^{14} NP1: ϕ_s351.00000°, δ49.00000°, λ-8.00000°. NP2:ϕ_s86.00000°, δ84.00000°, λ-139.00000°.*
JMA ***25*** *01:08:23.1±0.1, 27°.9N±0°.9×12°.9E±°, h63km±2km, MD3.6/22, MV3.8/22, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
ISC 25 01:08:22.7±0.8, 27°.85N±0°.06×128°.49E±0°.08, h68km±9km, n35, σ1s07/40, mb3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.41**	**98**	P	**Pn**	**01 08 34.3**	**-0.3**
JTK				*e*S	**Sn**	**01 08 42.5**	**-0.7**
JTK	**Tokunoshima**	**0.41**	**98**	A	A	01 08 34.3	
comp=N,8.0nm,0.5s,comp=E,13nm,0.9s							
JOKE	**Okinoerabujima**	**0.49**	**172**	*i* P	**Pn**	**01 08 35.4**	**+0.1**
JOKE				*e*S	**Sn**	**01 08 44.2**	**-0.3**
JOKE	**Okinoerabujima**	**0.49**	**172**	A	A	01 08 35.4	
comp=N,10.0nm,0.2s,comp=E,9.0nm,0.3s							
JAMN	**Amaminishikomi**	**0.72**	**57**	*i* P	**Pn**	**01 08 37.6**	**-0.1**
JAMN				*e*S	**Sn**	**01 08 48.2**	**-0.6**
JYRO	**Yoronjima**	**0.82**	**182**	*i* P	**Pn**	**01 08 39.0**	**+0.1**
JYRO				*e*S	**Sn**	**01 08 50.4**	**-0.5**
JIH	**Iheya**	**0.93**	**210**	P	**Pn**	**01 08 40.8**	**+0.6**
JIH				*e*S	**Sn**	**01 08 53.2**	**-0.1**
JOW	**Kunigami**	**1.03**	**191**	P	**Pn**	**01 08 41.8**	**+0.2**
comp=E,430nm,0.3s,baz=20,slow=7.6,SNR=103							
JOW				S	**Sn**	**01 08 55.0**	**-0.4**
comp=E,1μm,0.3s,baz=287,slow=19,SNR=19							
JOW	**Kunigami**	**1.03**	**191**	*e*P	**Pn**	**01 08 41.9**	**+0.4**
JOW				*e*S	**Sn**	**01 08 55.3**	**-0.1**
JAM	**Amami Oshima**	**1.13**	**60**	P	**Pn**	**01 08 42.8**	**0.0**
JNTH	**Nagotoyohara**	**1.39**	**198**	*e*P	**Pn**	**01 08 46.5**	**+0.4**
JNTH				*e*S	**Sn**	**01 09 03.6**	**-0.1**
JZK	**Kikaishima**	**1.39**	**70**	*e*P	**Pn**	**01 08 47.7**	**+1.5**
JTAJ	**Takarajima**	**1.45**	**26**	P	**Pn**	**01 08 47.3**	**+0.5**
JTAJ				*e*S	**Sn**	**01

baz=290,slow=74,SNR=3.6
H11N1 WAKE ISLAND Hy 35.95 95 T T 01 53 06.1
baz=290,slow=74,SNR=3.7
H11N3 WAKE ISLAND Hy 35.96 94 T T 01 53 06.7
baz=290,slow=74,SNR=4.0
MKAR Makanchi Array 40.65 310 P **P** **01 15 53.9 -2.3**
comp=E,0.3nm,0.7s,baz=90,slow=8.6,SNR=3.7
comp=E,0.3nm,0.7s
ZALV Zalesovo Beam 41.12 322 P **P** **01 15 58.8 -1.0**
comp=E,0.5nm,0.4s,baz=109,slow=9.3,SNR=3.0
comp=E,0.5nm,0.4s
KURBB Kurchatov Arra 43.86 315 P **P** **01 16 21.2 -0.9**
comp=E,0.6nm,0.5s,baz=101,slow=8.8,SNR=9.6
comp=E,0.6nm,0.5s
BVAR Borovoye Array 49.23 317 P **P** **01 17 03.5 -0.7**
comp=E,1.0nm,0.5s,baz=91,slow=10.0,SNR=5.4
comp=E,1.0nm,0.5s
ILAR Eielson Array 62.91 29 P **P** **01 18 41.4 -0.2**
comp=E,0.2nm,0.6s,baz=282,slow=6.7,SNR=4.8
comp=E,0.2nm,0.6s
BRTR Keskin Array B 76.23 308 P **P** **01 20 04.5 +0.3**
comp=E,0.4nm,0.6s,baz=58,slow=5.4,SNR=2.8
comp=E,0.4nm,0.6s
YKA Yellowknife Ar 76.97 25 P **P** **01 20 07.9 +0.2**
comp=E,0.9nm,1.0s,baz=302,slow=6.0,SNR=7.0
comp=E,0.9nm,1.0s
NOA NORSAR Array B 77.97 334 P **P** **01 20 13.0 -0.4**
comp=E,0.5nm,0.8s,baz=51,slow=7.2,SNR=1.3
comp=E,0.5nm,0.8s

JMA 25 01:09:41.5±0.1, 32°.9N±0°.1×130°.9E±0°.1, h14km, MV0.5/13, NW KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.26**	**3**	P	Pg	01 09 47.1	+0.1
27nm,0.8s,baz=200,slow=9.3,SNR=15							
JNU	**Nakatsue**	**0.26**	**3**	*eP*	Pg	01 09 47.1	+0.1
JTA	**Tamana**	**0.30**	**290**	*eP*	Pg	01 09 47.6	0.0
JTA				*eS*	Sg	01 09 52.1	+0.3
JIU3	**Izumi3**	**0.31**	**188**	*eS*	Sg	01 09 52.4	+0.2

*IDC **25** 01:12:53.2±0.7, 9°.22S×123°.50E, h0km, mb4.3/13, mbtmp4.4/15, ML4.7/2, MS3.0/3, Error ellipse: s-maj=36.3km s-min=16.0km az=70.0*
*NEIC **25** 01:13:02.9±2.1, 9°.56S±0°.09×123°.40E±0°.05, h83km±6km, mb4.5/24, Error ellipse: s-maj=14.4km s-min=4.5km az=207.0*
*DJA **25** 01:13:04.6±0.5, 10°.S±4°.×12°.3E±°, h55km±14km, M4.5/16, mB5.0/6, mb4.6/7, MLv4.6/16, Mw(mB)4.3/6*
ISC 25 01:13:02.9±0.4, 9°.52S±0°.04×123°.40E±0°.04, h75km, n109, σ2°.98/107, mb4.6/29, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.74**	**159**	P	**Pn**	**01 13 20.7**	**+2.1**
SOEI	**Soe**	**0.89**	**106**	Pn	**Pn**	**01 13 21.8**	**+1.3**
SOEI				Sn	**Sn**	**01 13 34.8**	**+1.3**
SOEI	**Soe**	**0.89**	**106**	P	**Pn**	**01 13 20.0**	**-0.5**
SOEI	**Soe**	**0.89**	**106**	P	**Pn**	**01 13 21.1**	**+0.6**
MMRI	**Maumere**	**1.44**	**307**	Pn	**Pn**	**01 13 28.6**	**+1.4**
MMRI				Sn	**Sn**	**01 13 47.2**	**+1.5**
MMRI	**Maumere**	**1.44**	**307**	P	**Pn**	**01 13 28.9**	**+1.6**
MMRI	**Maumere**	**1.44**	**307**	S	**Sn**	**01 13 48.8**	**+3.2**
MMRI	**Maumere**	**1.44**	**307**	P	**Pn**	**01 13 28.4**	**+1.1**
MMRI				S	**Sn**	**01 13 47.1**	**+1.5**
BASI	**Baing, Sumba**	**2.86**	**256**	P	**Pn**	**01 13 48.7**	**+2.4**
BASI				S	**Sn**	**01 14 22.4**	**+2.6**
WSI	**Waingapu**	**3.06**	**267**	P	**Pn**	**01 13 51.0**	**+2.0**
WSI				S	**Sn**	**01 14 27.2**	**+2.7**
WBSI	**Waikabubak, Su**	**3.95**	**268**	P	**Pn**	**01 14 02.4**	**+1.2**
BBSI	**Bau Bau**	**4.08**	**348**	P	**Pn**	**01 14 05.8**	**+2.8**
BSSI	**Bau Bau, Buton**	**4.42**	**319**	P	**Pn**	**01 14 10.0**	**+2.5**
BKSI	**Bulukumba**	**5.28**	**322**	P	**Pn**	**01 14 21.3**	**+2.0**
0.4nm1μm124nm,0.9s							
PLAI	**Plampang**	**5.59**	**277**	P	**Pn**	**01 14 25.2**	**+1.7**
PLAI	**Plampang**	**5.59**	**277**	P	**Pn**	**01 14 25.1**	**+1.6**
2μm88nm,0.8s							
KAPI	**Kappang**	**5.75**	**321**	Pn	**Pn**	**01 14 28.4**	**+2.6**
KAPI	**Kappang**	**5.75**	**321**	Pn	**Pn**	**01 14 29.0**	**+3.2**
3.8nm,0.3s,baz=133,slow=10,SNR=15							
KAPI				LR	LR	01 16 52.9	
comp=Z,109nm,18.8s,baz=160,slow=43							
TWSI	**Taliwang, Sumb**	**6.48**	**276**	P	**Pn**	**01 14 37.2**	**+1.5**
SPSI	**Sidrap Palu**	**6.59**	**327**	P	**Pn**	**01 14 40.2**	**+3.1**
0.1nm20nm,0.7s							
TTSI	**Tana Toraja**	**7.34**	**331**	P	**Pn**	**01 14 51.3**	**+3.8**
0.1nm1μm39nm,0.9s							
DRS	**Darwin Rock St**	**7.92**	**112**	P	**Pn**	**01 14 54.9**	**-0.4**
KNRA	**Kununurra**	**8.06**	**140**	Pn	**Pn**	**01 14 55.0**	**-2.3**
MTN	**Manton Dam**	**8.28**	**114**	Pn	**Pn**	**01 14 58.3**	**-2.0**
MTN	**Manton Dam**	**8.28**	**114**	P	**Pn**	**01 14 59.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**8.81**	**166**	Pn	**Pn**	**01 15 05.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**8.81**	**166**	Pn	**Pn**	**01 15 06.1**	**-1.4**
10nm,0.3s,baz=0.7,slow=9.7,SNR=151							
FITZ				Sn	**Sn**	**01 16 37.3**	**-7.9**
15nm,0.3s,baz=294,slow=20,SNR=14							
31nm,0.3s							
FITZ	**Fitzroy Crossi**	**8.81**	**166**	P	**Pn**	**01 15 06.1**	**-1.4**
KDU	**Kakadu**	**9.45**	**110**	P	**Pn**	**01 15 15.2**	**-1.1**
FAKI	**Fak Fak**	**10.97**	**54**	Pn	**Pn**	**01 15 35.4**	**-1.6**
UGM	**Wanagama**	**12.82**	**276**	Pn	**Pn**	**01 15 59.8**	**-2.6**
UGM	**Wanagama**	**12.82**	**276**	P	**Pn**	**01 16 05.5**	**+3.2**
WB0	**Warramunga Arr**	**14.72**	**135**	Pn	Pn	01 16 22.2	-5.0
WRA	**Warramunga Arr**	**14.80**	**136**	Pn	**Pn**	**01 16 23.9**	**-4.4**
WRA	**Warramunga Arr**	**14.80**	**136**	Pn	Pn	01 16 23.1	-5.3
1.0nm,0.3s,baz=309,slow=14,SNR=11							
WRA				Sn	Sn	01 18 57.5	-14
4.2nm,0.3s,baz=307,slow=20,SNR=14							
WRAB	**Tennant Creek**	**14.81**	**136**	Pn	Pn	01 16 23.2	-5.1
WB2	**Warramunga Arr**	**14.81**	**136**	Pn	**Pn**	**01 16 24.0**	**-4.4**
WR0	**Warramunga Arr**	**14.96**	**135**	Pn	**Pn**	**01 16 26.0**	**-4.2**
BBJI	**Bungbulang**	**15.71**	**276**	P	**P**	**01 16 42.6**	**+0.1**
WRKA	**Warakurna**	**16.13**	**164**	P	**Pn**	**01 16 45.3**	**+0.2**
SBUM	**Sibu**	**16.29**	**316**		**P**	**01 16 48.5**	**-0.4**
AS31	**Alice Springs**	**17.29**	**146**		**Pn**	**01 16 57.9**	**-1.6**
ASAR	**Alice Springs**	**17.29**	**146**	P	**Pn**	**01 16 58.8**	**-0.7**
1.0nm,0.3s,baz=325,slow=13,SNR=35							
ASAR				S	Sn	01 19 59.1	-12
9.9nm,0.7s,baz=322,slow=25,SNR=14							
12nm,0.9s							
AS01	**Alice Springs**	**17.31**	**146**	P	**P**	**01 17 00.5**	**+0.3**
MEEK	**Meekatharra**	**17.62**	**194**	P	**Pn**	**01 17 05.2**	**+1.6**
QIS	**Mount Isa**	**19.10**	**127**	P	**Pn**	**01 17 21.7**	**+0.3**
COEN	**Coen**	**19.86**	**105**		**P**	**01 17 28.6**	**+0.4**
COEN				IAmb	IAmb	01 17 30.1	
comp=Z,34nm,1.3s							
COEN	**Coen**	**19.86**	**105**	P	**P**	**01 17 29.3**	**+1.2**
MORW	**Morawa**	**20.64**	**199**	P	**P**	**01 17 34.8**	**-1.6**
MORW				IAmb	IAmb	01 17 46.3	
comp=Z,45nm,1.5s							
MNAI	**Manna**	**20.92**	**283**	P	**P**	**01 17 37.2**	**-2.4**
OOD	**Oodnadatta**	**21.56**	**149**	P	**P**	**01 17 48.1**	**+1.8**
FORT	**Forrest**	**21.60**	**169**	P	**P**	**01 17 49.2**	**+2.5**
FORT				IAmb	IAmb	01 18 30.9	
comp=Z,40nm,1.1s							
FORT	**Forrest**	**21.60**	**169**	P	**P**	**01 17 48.8**	**+2.1**
INKA	**Innaminka**	**24.42**	**140**	P	**P**	**01 18 17.2**	**+2.7**
TV1H	**Townsville Har**	**24.62**	**116**	P	**P**	**01 18 19.6**	**+3.2**
BBOO	**Buckleboo**	**25.97**	**155**	P	**P**	**01 18 28.2**	**-0.4**
QLP	**Quilpie**	**26.02**	**133**	P	**P**	**01 18 31.5**	**+2.4**
WHYH	**Whyalla**	**26.81**	**153**	P	**P**	**01 18 39.3**	**+3.1**
STKA	**Stephens Creek**	**27.93**	**145**	P	**P**	**01 18 47.2**	**+1.1**
STKA	**Stephens Creek**	**27.93**	**145**	P	**P**	**01 18 47.3**	**+1.1**
comp=Z,2.3nm,0.5s,baz=319,slow=16,SNR=5.4							
comp=Z,2.3nm,0.5s							
CMSA	**Cobar Meteorol**	**30.14**	**140**	P	**P**	**01 19 08.0**	**+2.2**
ARPS	**Mount Arapiles**	**31.87**	**151**	P	**P**	**01 19 23.5**	**+2.6**
CMAR	**Chiang Mai Arr**	**36.81**	**319**	P	**P**	**01 20 03.2**	**-0.6**
comp=Z,1.0nm,0.3s,baz=134,slow=8.7,SNR=9.0							
CMAR				LR	LR	01 36 18.4	
comp=Z,9.9nm,18.3s,baz=140,slow=38							
comp=Z,1.0nm,0.3s							
ALEG	**Aligegeo Malai**	**36.82**	**92**	P	**P**	**01 20 06.9**	**+2.8**
KOUNC	**Koumac, New Ca**	**40.88**	**110**	P	**P**	**01 20 40.5**	**+2.6**
PZH	**PanZhiHua**	**41.52**	**330**	P	**P**	**01 20 42.6**	**-0.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,120nm,5.7s							
NJ2	**Nanjing**	**41.56**	**354**	*eP*	**P**	**01 20 44.1**	**+0.9**
NJ2				pmax	pmax		
comp=Z,15nm,0.5s							
XAN	**Xi'an**	**45.44**	**343**	P	P	01 21 01.3	-13
XAN				pmax	pmax		
comp=Z,9.0nm,0.8s							
MJAR	**Matsushiro Arr**	**47.88**	**16**	P	**P**	**01 21 29.9**	**-3.7**
comp=Z,1.2nm,0.5s,baz=185,slow=10,SNR=2.7							
comp=Z,1.2nm,0.5s							
HHC	**Hu-ho-hao-te**	**51.29**	**349**	*eP*	**P**	**01 22 02.4**	**+2.9**
HHC				pmax	pmax		
comp=Z,18nm,0.6s							
HHC				pmax	pmax		
comp=Z,150nm,5.3s							
GTA	**Gaotai**	**53.38**	**337**	*eP*	**P**	**01 22 15.8**	**+0.8**
GTA				pmax	pmax		
comp=Z,6.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**54.03**	**8**	P	**P**	**01 22 17.0**	**-2.5**
comp=Z,1.5nm,0.6s,baz=196,slow=7.1,SNR=2.5							
comp=Z,1.5nm,0.6s							
BKZ	**Black Stump Fm**	**55.68**	**131**	P	**P**	**01 22 32.8**	**+1.1**
BKZ				IAmb	IAmb	01 22 53.6	
comp=Z,13nm,1.3s							
URZ	**Urewera**	**55.89**	**130**	LR	LR	01 46 25.7	
comp=Z,34nm,20.6s,baz=334,slow=36							
SONM	**Songino Array**	**59.06**	**347**	P	**P**	**01 22 54.1**	**-1.2**
SONM				IAmb	IAmb	01 22 55.0	
comp=Z,2.1nm,0.7s							
SONM	**Songino Array**	**59.06**	**347**	P	**P**	**01 22 54.1**	**-1.2**
comp=Z,2.3nm,0.6s,baz=167,slow=7.9,SNR=19							
comp=Z,2.3nm,0.6s							
HEH	**HeiHe**	**59.62**	**3**	*eP*	**P**	**01 22 58.1**	**-0.8**
HEH				pmax	pmax		
comp=Z,7.0nm,0.9s							
WMQ	**Urumqi**	**62.19**	**331**	*eP*	**P**	**01 23 17.5**	**+0.9**
WMQ				pmax	pmax		
comp=Z,12nm,0.6s							
NIL	**Nilore**	**64.10**	**315**	P	**P**	**01 23 27.9**	**-1.6**
NIL				IAmb	IAmb	01 23 30.1	
comp=Z,5.2nm,0.6s							
KSH	**Kashi**	**65.66**	**321**	P	**P**	**01 23 39.1**	**-0.4**
KSH				pmax	pmax		
comp=Z,9.0nm,0.6s							
MK31	**Makanchi Array**	**66.96**	**331**	P	**P**	**01 23 46.5**	**-1.1**
MK31				IAmb	IAmb	01 23 48.5	
comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**66.96**	**331**	P	**P**	**01 23 46.2**	**-1.3**
MKAR	**Makanchi Array**	**66.96**	**331**	P	**P**	**01 23 46.6**	**-1.0**
comp=Z,3.9nm,0.5s,baz=135,slow=7.2,SNR=65							
comp=Z,3.9nm,0.5s							
MAKZ	**Makanchi**	**67.12**	**330**	P	**P**	**01 23 48.1**	**-0.5**
BOOM	**Boomskoye usch**	**67.49**	**324**	P	**P**	**01 23 49.5**	**-1.7**
KBL	**Kabul**	**67.55**	**313**	P	**P**	**01 23 50.1**	**-1.7**
ARSB	**Arslanbob**	**68.57**	**321**	P	**P**	**01 23 58.1**	**+0.2**
ARSB				IAmb	IAmb	01 24 00.0	
comp=Z,6.0nm,0.8s							
PETK	**Petropavlovsk-**	**68.89**	**21**	P	**P**	**01 23 59.0**	**-0.5**
PETK	**Petropavlovsk-**	**68.89**	**21**	P	**P**	**01 23 59.2**	**-0.3**
comp=Z,1.6nm,0.7s,baz=226,slow=7.3,SNR=2.1							
comp=Z,1.6nm,0.7s							
H04N2	**CROZET ISLANDS**	**70.45**	**224**	T	T	02 42 11.8	
baz=84,slow=74							
H04N3	**CROZET ISLANDS**	**70.47**	**224**	T	T	02 42 09.9	
baz=84							
H04N1	**CROZET ISLANDS**	**70.47**	**224**	T	T	02 42 08.2	
baz=84,slow=74							
KKAR	**Karatay Array**	**71.09**	**322**	P	**P**	**01 24 10.9**	**-2.4**
KKAR				IAmb	IAmb	01 24 35.6	
comp=Z,3.1nm,0.7s							
ZAA0	**Zalesovo Array**	**71.13**	**337**	P	**P**	**01 24 12.1**	**-1.1**
ZALV	**Zalesovo Beam**	**71.13**	**337**	P	**P**	**01 24 11.0**	**-2.2**
comp=Z,7.4nm,0.5s,baz=141,slow=5.3,SNR=32							
comp=Z,7.4nm,0.5s							
KURBB	**Kurchatov Arra**	**71.41**	**332**	P	**P**	**01 24 13.5**	**-1.5**
comp=Z,2.5nm,0.5s,baz=139,slow=5.5,SNR=50							
comp=Z,2.5nm,0.5s							
KURK	**Kurchatov**	**71.44**	**332**	P	**P**	**01 24 12.7**	**-2.4**
KURK				IAmb	IAmb	01 24 15.8	
comp=Z,8.4nm,0.9s							
BVAR	**Borovoye Array**	**76.84**	**330**	P	**P**	**01 24 45.5**	**-1.1**
comp=Z,0.4nm,0.3s,baz=120,slow=7.9,SNR=5.6							
comp=Z,0.4nm,0.3s							
BRVK	**Borovoye**	**76.91**	**330**	P	**P**	**01 24 46.0**	**-1.0**
KIWB	**Kanaga Island**	**79.51**	**33**	P	**P**	**01 25 00.2**	**-1.1**
ADK	**Adak**	**79.77**	**33**	P	**P**	**01 25 02.9**	**+0.1**
QSPA	**South Pole Qui**	**80.48**	**180**	P	**P**	**01 25 07.4**	**+0.8**
QSPA				IAmb	IAmb	01 25 20.8	
comp=Z,14nm,1.5s							
QSPA	**South Pole Qui**	**80.48**	**180**	P	**P**	**01 25 08.1**	**+1.6**
comp=Z,0.5nm,0.5s,baz=307,slow=5.1,SNR=1.8							
comp=Z,0.5nm,0.5s							
ABKAR	**Akbulak array**	**80.52**	**324**	P	**P**	**01 25 06.8**	**0.0**
TIXI	**Tiksi**	**81.07**	**2**	P	**P**	**01 25 07.5**	**-1.8**
comp=Z,2.7nm,0.3s,baz=187,slow=3.6,SNR=4.2							
comp=Z,2.7nm,0.3s							
RAYN	**Ar Rayn**	**82.83**	**295**	P	**P**	**01 25 19.3**	**-0.4**
RAYN				IAmb	IAmb	01 25 20.4	
comp=Z,4.1nm,0.8s							
KMBO	**Kilima Mbogo**	**86.01**	**270**	P	**P**	**01 25 37.7**	**+1.5**
comp=Z,0.4nm,0.4s,baz=72,slow=19,SNR=3.7							
comp=Z,0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**122.82**	**280**	PKP	**PKiKP**	**01 31 51.8**	**+0.3**
comp=Z,1.0nm,0.6s,baz=63,slow=1.5,SNR=7.9							
LPAZ	**La Paz**	**151.94**	**156**	PKPbc	**PKiKP**	**01 32 52.6**	**+1.1**
comp=Z,0.6nm,0.6s,baz=226,slow=1.9,SNR=2.3							

KRSC 25 01:17:55.4±1.9, 49°.71N×157°.08E, h48km±31km, MI3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.15**	**328**	*eP*	Pn	01 18 14.8	-0.3
SKR				*eS*	Sn	01 18 28.9	-0.8
PAU	**Pauzhetka**	**1.77**	**355**	*eP*	Pn	01 18 25.6	+2.1
PAU				*eS*	Sn	01 18 47.3	+2.5
KDTR	**Khodutka, Kamc**	**2.20**	**16**	*eP*	Pn	01 18 32.5	+3.2
KDTR				*eS*	Sn	01 18 59.5	+4.3
RUS	**Russkaya**	**2.87**	**18**	*eP*	Pn	01 18 41.8	+3.2
RUS				*eS*	Sn	01 19 15.3	+3.3
GRL	**Gorelyy**	**2.91**	**12**	*eP*	Pn	01 18 43.2	+3.9
GRL				*eS*	Sn	01 19 17.5	+4.4
KRMR	**Karymshinskiy**	**3.19**	**12**	*eS*	Sn	01 19 24.0	+4.2
DALK	**Dalny**	**3.49**	**17**	*eP*	Pn	01 18 50.6	+3.5
DALK				*eS*	Sn	01 19 31.8	+4.7
UGLR	**Uglovaya**	**3.67**	**17**	*eP*	Pn	01 18 53.3	+3.6
AVH	**Avacha**	**3.71**	**16**	*eP*	Pn	01 18 54.9	+4.7
KOK	**Koryaka**	**3.72**	**15**	*eP*	Pn	01 18 55.0	+4.7
SDLR	**Sedlovina**	**3.75**	**17**	*eP*	Pn	01 18 54.2	+3.5
KRX	**Arik**	**3.78**	**14**	*eP*	Pn	01 18 55.9	+4.6
SPN	**Mys Shipunski**	**3.86**	**27**	*eS*	Sn	01 19 40.2	+4.0
GNL	**Ganaly**	**4.03**	**7**	*eP*	Pn	01 18 58.6	+4.0
MKZ	**Mys Kozlova**	**5.63**	**29**	*eP*	Pn	01 19 19.2	+2.7

*IDC **25** 02:08:41.5±2.9, 39°.30N×143°.18E, h0km, mb3.4/3, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=71.1km s-min=33.3km az=71.0*
*JMA **25** 02:08:47.9±0.1, 39°.2N±0°.3×142°.6E±0°.6, h28km±1km, MV3.5/39, E OFF IWATE PREF*
ISC 25 02:08:46.8±1.7, 39°.19N±0°.04×142°.59E±0°.08, h19km±3km, n21, σ0°.97/24, mb3.5/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.71**	**303**	⇓P	**Pg**	**02 09 00.7**	**0.0**
MIYJ				⇓S	**Sg**	**02 09 09.6**	**-0.6**
OFUJ	**Ofunato**	**0.72**	**261**	P	**Pg**	**02 09 01.2**	**+0.2**
OFUJ				*eS*	**Sg**	**02 09 10.3**	**-0.3**
JTH	**Tanohata**	**0.93**	**323**	P	**Pb**	**02 09 04.5**	**+0.2**
JTH				*eS*	**Sg**	**02 09 16.7**	**-0.6**
JKMT	**Kesennumamotoy**	**0.95**	**247**	P	**Pb**	**02 09 04.6**	**+0.1**
JKMT				S	**Sg**	**02 09 16.6**	**-1.2**
JOM	**Ohasama**	**1.04**	**286**	⇓P	**Pb**	**02 09 06.2**	**+0.1**
JOM				⇓S	**Sb**	**02 09 19.4**	**-0.1**
JMK	**Ichinoseki**	**1.09**	**258**	P	**Pb**	**02 09 07.0**	**0.0**
JMK				S	**Sb**	**02 09 20.7**	**-0.1**
JIO	**Ouri**	**1.22**	**233**	*eP*	**Pn**	**02 09 08.3**	**-0.4**
JIO				S	**Sb**	**02 09 22.9**	**-1.6**
JKZ	**Kuzumaki**	**1.25**	**309**	P	**Pn**	**02 09 09.7**	**+0.4**
JKZ				S	**Sb**	**02 09 25.5**	**0.0**
JANG	**Nango**	**1.44**	**325**	P	**Pn**	**02 09 12.0**	**+0.2**
JANG				*eS*	**Sn**	**02 09 29.8**	**-0.4**
JRG	**Rokugo**	**1.53**	**278**	*eP*	**Pn**	**02 09 14.4**	**+1.4**
JOU	**Okura**	**1.72**	**242**	*eP*	**Pn**	**02 09 16.6**	**+0.9**
MJAR	**Matsushiro Arr**	**4.36**	**234**	Pn	**Pn**	**02 09 55.0**	**+3.1**
0.2nm,0.3s,baz=48,slow=10,SNR=7.8							
2.3nm,0.5s							
H11N2 WAKE ISLAND Hy 28.56 126 T T 02 45 06.1
baz=318,slow=75,SNR=41
H11N1 WAKE ISLAND Hy 28.57 126 T T 02 45 07.8
baz=318,slow=75,SNR=54
H11N3 WAKE ISLAND Hy 28.57 126 T T 02 45 18.1
baz=318,slow=75,SNR=46
H11S1 WAKE ISLAND Hy 29.35 128 T T 02 46 14.3
baz=319,slow=76,SNR=4.1
H11S3 WAKE ISLAND Hy 29.35 128 T T 02 46 09.2
baz=319,slow=76,SNR=4.0
H11S2 WAKE ISLAND Hy 29.37 128 T T 02 46 13.3
baz=319,slow=76,SNR=3.7
MKAR Makanchi Array 43.79 300 P **P** **02 16 51.2 +0.1**
0.2nm,0.8s,baz=78,slow=7.5,SNR=2.0
0.2nm,0.8s
KURBB Kurchatov Arra 45.43 306 P **P** **02 17 04.5 +0.4**
0.3nm,0.5s,baz=82,slow=8.3,SNR=4.7
0.3nm,0.5s
WRA Warramunga Arr 59.33 189 P **P** **02 18 46.5 -1.0**
0.3nm,0.4s,baz=6.7,slow=6.8,SNR=5.4
0.3nm,0.4s

*ASIES **25** 02:43:21.8, 23°.52N×121°.71E, h16km, ML4.1, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.94; $M_{\theta\theta}$3.33; $M_{\phi\phi}$-4.27; $M_{r\theta}$2.47; $M_{\theta\phi}$-1.32; $M_{\phi r}$2.15; Fault plane solution: $M_0$5.24991×10^{21} NP1: ϕ_s145.62000°, δ49.47000°, λ7.83000°. NP2:ϕ_s50.51000°, δ84.06000°, λ139.21000°. Principal axes: T Plg32.1900°, Azm359.7520°; N Plg48.8490°, Azm223.6720°; P Plg22.7240°, Azm105.0370°;*
*TAP **25** 02:43:21.8, 23°.52N×121°.71E, h16km, ML4.1, C*
*NIED **25** 02:43:21.6, 23°.50N×121°.70E, h31km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.59; $M_{\theta\theta}$8.44; $M_{\phi\phi}$-5.85; $M_{r\theta}$-0.04; $M_{\theta\phi}$1.47; $M_{\phi r}$0.57; Fault plane solution: $M_0$7.34000×10^{14} NP1: ϕ_s129.00000°, δ83.00000°, λ-7.00000°. NP2:ϕ_s220.00000°, δ83.00000°, λ-173.00000°.*
*JMA **25** 02:43:21.6±0.1, 23°.5N±0°.4×12°.2E±°, h31km±2km, MV3.6/16, TAIWAN REGION*
*IDC **25** 02:43:21.4±1.3, 23°.80N×121°.62E, h0km, mb3.5/9, mbtmp3.5/10, ML3.7/1, MS2.6/2, Error ellipse: s-maj=38.4km s-min=26.8km az=59.0*
ISC 25 02:43:21.1±0.9, 23°.50N±0°.01×121°.75E±0°.02, h14km±6km, n161, σ0°.66/264, mb3.3/9, 17C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.28**	**318**	*i P*	**Pb**	**02 43 27.7**	**-0.3**
TEGC				S	**Sb**	**02 43 32.4**	**-0.2**
HGSD	**Ruisui**	**0.30**	**269**	⇓*i* P	**Pg**	**02 43 27.8**	**+0.4**
HGSD				*i* S	**Sb**	**02 43 31.9**	**-1.1**
SHUL	**Shoufeng**	**0.33**	**329**	⇑P	**Pb**	**02 43 28.9**	**0.0**
SHUL				S	**Sb**	**02 43 34.2**	**+0.1**
EGFH	**Guangfu**	**0.34**	**300**	*i P*	**Pb**	**02 43 28.5**	**-0.5**
EGFH				*eS*	**Sb**	**02 43 33.9**	**-0.4**
EHYH	**Wanrong**	**0.37**	**269**	*i P*	**Pb**	**02 43 29.3**	**-0.1**
EHYH				*eS*	**Sb**	**02 43 34.8**	**-0.2**
EHY	**Hungye**	**0.39**	**271**	⇓*i* P	**Pb**	**02 43 29.4**	**-0.4**
EHY				*eS*	**Sb**	**02 43 35.2**	**-0.5**
TEYL	**Yanliau Villag**	**0.39**	**340**	*eP*	**Pg**	**02 43 28.6**	**-0.5**
TEYL				S	**Sb**	**02 43 35.8**	**+0.1**
WARBT	**Fenglin Townsh**	**0.40**	**303**	⇓*i* P	**Pg**	**02 43 29.2**	**+0.1**
WARBT				S	**Sg**	**02 43 34.5**	**0.0**
EYUL	**Yuli**	**0.42**	**249**	P	**Pb**	**02 43 30.7**	**+0.4**
EYUL				*eS*	**Sb**	**02 43 37.2**	**+0.6**
ESL	**Shilin**	**0.43**	**317**	⇓*i* P	**Pg**	**02 43 29.6**	**0.0**
ESL				*eS*	**Sg**	**02 43 35.1**	**-0.4**
YULB	**Yu-li**	**0.43**	**256**	⇓*i* P	**Pb**	**02 43 30.2**	**-0.3**
YULB				*eS*	**Sb**	**02 43 36.1**	**-0.7**
TWF1	**Yuli**	**0.44**	**251**	P	**Pb**	**02 43 30.5**	**-0.1**
TWF1				*eS*	**Sb**	**02 43 36.8**	**-0.3**
CHKH	**Chenggong**	**0.45**	**227**	*eP*	**Pb**	**02 43 31.0**	**+0.2**
CHKH				*i* S	**Sb**	**02 43 37.8**	**+0.6**
HWA	**Hwalien**	**0.49**	**345**	*eP*	**Pb**	**02 43 31.8**	**+0.2**
HWA				*eS*	**Sb**	**02 43 38.9**	**+0.3**
FULB	**Fuli**	**0.51**	**234**	*i P*	**Pg**	**02 43 31.8**	**+0.5**
FULB				*eS*	**Sb**	**02 43 39.8**	**+0.6**
ETM	**Tongmen**	**0.52**	**333**	P	**Pg**	**02 43 31.6**	**+0.2**
ETM				*eS*	**Sb**	**02 43 38.7**	**-0.7**
CHKT	**Chengkung**	**0.53**	**221**	⇑*i* P	**Pg**	**02 43 31.9**	**+0.3**
CHKT				*eS*	**Sg**	**02 43 39.2**	**+0.5**
TWD	**Chiawan**	**0.59**	**347**

LATG	Datong	1.05 349	⇑	iP	Pb	02 43 40.5	-0.7
LATG				S	Sb	02 43 54.3	-0.6
WCKO	Fanlu	1.05 267		eP	Pg	02 43 42.0	+0.5
WCKO				S	Sn	02 43 56.4	+0.5
WHP	Taichung City	1.07 317	⇑	P	Pb	02 43 41.3	-0.1
WHP				eS	Sb	02 43 54.5	-0.8
CHN4	Tsaushan	1.07 262		i P	Pg	02 43 42.1	+0.3
CHN4				eS	Sn	02 43 56.5	+0.1
WTP	Ta-pu	1.07 257	⇓	iP	Pg	02 43 41.8	0.0
WTP				eS	Sn	02 43 56.1	-0.4
ESAO	Su ao	1.07 5	⇑	P	Pb	02 43 41.0	-0.5
ESAO				eS	Sb	02 43 55.7	+0.2
WGK	Gukeng	1.10 280		eP	Pg	02 43 42.3	-0.1
WGK				eS	Sn	02 43 57.5	+0.3
WDLH	Douliu	1.12 280		i P	Pg	02 43 43.0	+0.1
WDLH				S	Sg	02 43 58.2	+0.6
NDS	Dongshan	1.13 359		eP	Pb	02 43 42.0	-0.4
NDS				eS	Sn	02 43 57.2	-0.6
ENTT	Nioudou	1.15 352	⇑	iP	Pb	02 43 42.1	-0.7
ENTT				eS	Sn	02 43 57.7	-0.6
SGST	Jiashian	1.15 249		P	Pb	02 43 42.0	-0.7
SGST				eS	Sg	02 43 58.1	-0.2
ECL	Taimali	1.16 219		eP	Pn	02 43 40.8	-2.1
CHN1	Nanshi	1.16 255		P	Pg	02 43 43.7	+0.1
CHN1				S	Sg	02 44 00.1	+1.3
TCU	Taichung	1.17 304		eP	Pg	02 43 44.0	+0.2
TCU				eS	Sg	02 44 00.0	+0.9
TWK	Hsinying	1.18 259		eP	Pg	02 43 44.0	+0.1
TWK				S	Sg	02 43 59.9	+0.6
SNST	Tainan City	1.18 257		eP	Pb	02 43 43.6	+0.2
SNST				eS	Sg	02 44 00.3	+0.9
YHNB	Yeheng	1.21 344	⇑	iP	Pn	02 43 43.4	-0.4
YHNB				S	Sb	02 43 58.8	-0.7
CHY	Chiayi	1.22 270		P	Pg	02 43 44.5	-0.1
CHY				i S	Sg	02 44 01.1	+0.6
TWE	Neicheng	1.22 357		eP	Pn	02 43 43.4	-0.3
NSK	Sanguang	1.22 343	⇑	iP	Pn	02 43 43.5	-0.3
NSK				i S	Sb	02 43 58.9	-0.9
TWQ1	Liyutan	1.23 314		eP	Pg	02 43 44.8	0.0
TWQ1				eS	Sg	02 44 00.7	-0.1
WCHH	Zhanghua	1.23 298		eP	Pg	02 43 45.0	+0.1
WCHH				i S	Sg	02 44 01.4	+0.4
WTK	Tuku	1.26 279		eP	Pg	02 43 45.0	-0.5
WTK				i S	Sg	02 44 02.7	+0.8
FUSB	Fushanzhiwuyua	1.26 353		eP	Pn	02 43 44.1	-0.4
FUSB				eS	Sb	02 44 00.7	-0.3
NFF	Wufeng Townshi	1.27 333		i P	Pb	02 43 44.7	-0.1
NFF				S	Sn	02 44 01.0	-0.3
NSY	Sanyi	1.28 316		eP	Pn	02 43 44.3	-0.3
NSY				eS	Sg	02 44 01.8	-0.8
TSMG	Majia	1.29 232		eP	Pn	02 43 44.1	-0.6
NWLT	Wulai	1.29 350		eP	Pn	02 43 44.7	-0.1
NWLT				eS	Sn	02 44 01.9	0.0
SCST	Cishan	1.30 242		P	Pg	02 43 46.6	+0.4
SCST				S	Sg	02 44 05.5	+2.2
NSTT	Nanjuang	1.32 329		P	Pg	02 43 46.1	-0.4
NSTT				S	Sn	02 44 02.1	-0.4
WDJ	Dajia District	1.32 310		P	Pg	02 43 46.7	+0.1
WDJ				i S	Sg	02 44 05.1	+1.3
LIOB	Emei	1.32 330		eP	Pg	02 43 46.2	-0.4
LIOB				eS	Sg	02 44 02.8	-1.0
EGS		1.35 7		eP	Pb	02 43 46.1	-0.1
MASBT	Mashibuluo	1.35 230		eP	Pn	02 43 45.0	-0.6
NMLH	Miaoli	1.35 320		eP	Pg	02 43 46.7	-0.5
NMLH				i S	Sg	02 44 04.5	-0.3
SHHT	Tainan City	1.37 250		eP	Pg	02 43 48.2	+0.7
SHHT				eS	Sg	02 44 08.0	+2.6
KSHI	Guanxi Townshi	1.38 338		P	Pg	02 43 47.2	-0.5
KSHI				i S	Sg	02 44 05.7	+0.2
TAW	Tawu	1.38 215		eP	Pn	02 43 44.6	-1.3
TWM1	Shoushan	1.39 241		eP	Pg	02 43 48.6	+0.6
TWM1				eS	Sg	02 44 07.0	+0.9
WSL	Shuilin Townsh	1.40 271		eP	Pb	02 43 46.6	-0.4
WSL				S	Sg	02 44 06.1	0.0
TAWH	Dawu Township	1.40 215		eP	Pn	02 43 45.0	-1.2
CHN8	Yiju	1.42 264		eP	Pg	02 43 48.1	-0.4
CHN8				eS	Sg	02 44 06.8	-0.1
JYNG	Yonagunijimaku	1.45 49		eP	Pn	02 43 47.0	+0.2
JYNG				eS	Sn	02 44 05.2	-0.5
SBCB	Hsinchu	1.46 332		eP	Pg	02 43 49.2	-0.1
LAY	Lan-yu	1.47 187		eP	Pn	02 43 45.1	-2.1
TIPB	Shuangxi	1.47 3		eP	Pb	02 43 48.0	-0.3
TIPB				eS	Sb	02 44 07.0	+0.2
HSN	Hsinchu	1.48 331		eP	Pg	02 43 49.5	-0.2
HSN				eS	Sg	02 44 09.1	+0.2
TWA	Mucha	1.48 354		eP	Pb	02 43 48.9	-1.4
TWA				eS	Sb	02 44 07.5	+0.4
LYUB	Lan-yu	1.50 186		eP	Pn	02 43 44.9	-2.6
YOJ	Yonaguni jima	1.50 50		P	Pn	02 43 47.9	+0.3
YOJ				eS	Sn	02 44 07.6	+0.6
YOJ	Yonaguni jima	1.50 50		eP	Pn	02 43 48.0	+0.3
YOJ				eS	Sn	02 44 07.3	+0.4
TWB1	Santiao Chiao	1.52 8		eP	Pn	02 43 48.2	+0.3
TWB1				eS	Sn	02 44 07.6	+0.2
SCZT	Fangliau	1.53 223		eP	Pn	02 43 47.7	-0.3
SCZT				eS	Sn	02 44 07.1	-0.6
SLIU	Shizi	1.55 215		eP	Pn	02 43 47.1	-1.2
NCUH	Zhongli	1.55 341		eP	Pb	02 43 49.7	+0.1
NWF	Wu-fen Shan	1.56 1		P	Pb	02 43 49.5	-0.4
NWF				eS	Sb	02 44 09.6	0.0
WFSB	Wu-fen Shan	1.56 1		eP	Pb	02 43 49.6	-0.3
WFSB				S	Sb	02 44 09.8	+0.2
TSCK	Chigu Township	1.57 257		eP	Pb	02 43 50.2	+0.3
TSCK				S	Sg	02 44 11.6	0.0
SXI1	Grass Mountain	1.59 4		eP	Pn	02 43 49.7	+0.7
SXI1				eS	Sb	02 44 11.2	+0.8
WSSB	Gushan	1.61 238		eP	Pb	02 43 51.4	+0.7
TNOU	National Taiwa	1.64 1		eP	Pb	02 43 50.9	-0.4
YM01	YM01	1.65 354		eP	Pn	02 43 50.2	+0.5
ZUZH	Zhuzihu	1.67 354		P	Pn	02 43 50.1	+0.1
ZUZH				i S	Sn	02 44 10.8	-0.4
NTST	Danshui	1.68 351		eP	Pn	02 43 50.6	+0.5
ANP	Anpu	1.69 353		eP	Pn	02 43 50.3	-0.1
TSEB	Hengchuen, Pin	1.77 206		eP	Pn	02 43 51.1	-0.3
TSEB				eS	Sn	02 44 13.2	-0.5
TWY	Chenhua	1.77 356		eP	Pn	02 43 51.1	-0.2
TWKBT	Hengchun	1.77 209		eP	Pn	02 43 50.5	-0.9
TWK1	Hengchun	1.78 210		eP	Pn	02 43 51.7	+0.3
TWK1				i S	Sn	02 44 12.9	-0.8
WDGT	Dungji	1.93 263		eP	Pn	02 43 54.1	+0.5
WDGT				eS	Sn	02 44 17.3	-0.4
HATJ	Hateruma jima	1.96 73		eP	Pn	02 43 53.6	-0.4
HATJ				eS	Sn	02 44 17.6	-0.8
IRIF	Iriomote-Funau	2.00 65		eP	Pn	02 43 55.0	+0.6
IRIF				eS	Sn	02 44 19.7	+0.5
PHUB	P'eng-hu	2.00 271		eP	Pn	02 43 54.6	+0.1
PHUB				S	Sn	02 44 19.5	+0.3
PNG	Penghu	2.01 272		eP	Pn	02 43 55.3	+0.6
PNG				eS	Sn	02 44 19.8	+0.2
PCYT	Pengchaiyu	2.14 8		eP	Pn	02 43 56.9	+0.5
VCHM	Qimei	2.15 263		eP	Pn	02 43 56.8	+0.3
JKRS	Kuro-shima	2.20 70		eS	Sn	02 44 24.1	0.0
JIJ	Ishigaki jima	2.35 68		eP	Pn	02 43 59.3	0.0
JIJ				eS	Sn	02 44 27.8	-0.2
VWUC	VWUC	2.57 306		eP	Pn	02 44 02.4	+0.1
JISG	Ishigakijimahi	2.58 65		P	Pn	02 44 02.4	-0.1
JISG				eS	Sn	02 44 32.1	-1.6
PTMZ	Houxiangcun	2.85 303		eP	Pn	02 44 06.1	0.0
JTJ	Tarama	2.93 67		eS	Sn	02 44 41.0	-1.3
MATB	Ma-tsu	3.11 329		eP	Pn	02 44 08.8	-0.9
KNM	Kinmen	3.17 287		eP	Pn	02 44 11.3	+0.8
KNMB	Chin-men Tao	3.22 288		eP	Pn	02 44 11.1	-0.1
JMJ2	Miyako jima3	3.50 69		eS	Sn	02 44 56.1	-0.1
MHZQ	Yeshan	3.58 317		eP	Pn	02 44 15.0	-1.2
XPSS	Dashiqiu	3.70 338		eP	Pn	02 44 16.7	-1.1
AXDP	Jialang	3.72 293		eP	Pn	02 44 18.0	-0.1
KSRS	Korea Array	14.89 19		Pn	Pn	02 46 51.3	+0.2
KSRS	0.3nm,0.3s,baz=198,slow=12,SNR=6.6			LR	LR	02 52 14.4	
MJAR	comp=Z,11nm,18.6s,baz=190,slow=36 0.4nm,0.3s Matsushiro Arr	19.25 44		LR	LR	02 56 02.2	
SONM	comp=Z,31nm,18.2s,baz=202,slow=40 Songino Array	27.20 337		P	P	02 49 03.7	-0.8
MKAR	0.3nm,0.5s,baz=157,slow=9.7,SNR=2.8 0.3nm,0.5s Makanchi Array	39.19 316		P	P	02 50 49.4	+0.8
PETK	0.3nm,0.7s,baz=108,slow=9.5,SNR=4.9 0.3nm,0.7s Petropavlovsk-	40.15 33		P	P	02 50 58.2	+1.7
	7.4nm,1.1s,baz=233,slow=7.8,SNR=3.0 7.4nm,1.1s						
ZALV	Zalesovo Beam	41.10 327		P	P	02 51 04.7	+0.3
	0.2nm,0.3s,baz=128,slow=11,SNR=1.5 0.2nm,0.3s						
H11N1	WAKE ISLAND Hy 42.01	86		T	T	03 36 19.6	
	baz=283,slow=75,SNR=18						
H11N2	WAKE ISLAND Hy 42.02	86		T	T	03 36 13.2	
	baz=283,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy 42.03	86		T	T	03 36 15.4	
	baz=283,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy 42.12	88		T	T	03 36 23.7	
	baz=284,slow=75,SNR=27						
H11S1	WAKE ISLAND Hy 42.13	88		T	T	03 36 24.1	
	baz=284,slow=75,SNR=20						
H11S2	WAKE ISLAND Hy 42.14	88		T	T	03 36 28.3	
	baz=284,slow=75,SNR=17						
KURBB	Kurchatov Arra	42.96 320		P	P	02 51 19.3	-0.4
	0.1nm,0.4s,baz=108,slow=9.4,SNR=2.2 0.1nm,0.4s						
WRA	Warramunga Arr	44.89 163		P	P	02 51 41.0	+5.6
	0.2nm,0.6s,baz=342,slow=7.9,SNR=1.1 0.2nm,0.6s						
BVAR	Borovoye Array	48.53 321		P	P	02 52 04.4	+0.8
	0.4nm,0.5s,baz=110,slow=12,SNR=2.0 0.4nm,0.5s						
YKA	Yellowknife Ar	83.40 23		P	P	02 55 48.0	+0.3
	0.2nm,0.6s,baz=295,slow=8.3,SNR=5.0 0.2nm,0.6s						
GERES	GERESS Array B	83.70 321		P	P	02 55 49.1	-0.5
	0.2nm,0.3s,baz=56,slow=7.8,SNR=1.9 0.2nm,0.3s						

GCG ***25*** *02:47:59.5±2.9, 15°.98N×95°.19W, h0km±101km, MD4.5*
MEX ***25*** *02:48:02.5±1.4, 16°.00N×95°.21W, h10km±10km, MD4.2*

ISC 25 02:47:56.3±1.6, 15°.96N±0°.04×95°.18W±0°.02, h0km±12km, n43, σ2°.40/79, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.92	258	eP	Pn	02 48 16.8	+0.4
HUIG				eS	Sb	02 48 28.6	+0.9
HUIG	Huatulco	0.92	258	i P	Pn	02 48 16.8	+0.4
HUIG				eS	Sb	02 48 29.6	+1.9
HUIG	Huatulco	0.92	258	i P		02 48 16.8	
HUIG				eS		02 48 29.6	
CMIG	Matias Romero	1.16	14	eP	Pg	02 48 18.7	+0.2
CMIG				i S	Sg	02 48 31.5	-2.0
PANG	Puerto Angel	1.28	257	eP	Pn	02 48 22.4	+1.0
PANG				eS	Sb	02 48 39.5	+1.3
UXUV	UXUV	1.67	36	eP	Pb	02 48 28.1	+0.1
UXUV				eS	Sn	02 48 49.0	+0.1
OXLC	Oaxaca	1.83	307	eP	Pn	02 48 30.1	+1.0
OXLC				eS	Sn	02 48 50.8	-2.3
NEUV	Arroyo Zacate	1.84	341	eP	Pn	02 48 28.8	-0.4
NEUV				eS	Sn	02 48 51.5	-1.7
OXBJ	Oaxaca	1.85	307	eP	Pn	02 48 30.1	+0.7
OXBJ				eS	Sn	02 48 51.5	-2.1
VHO	Vista Hermosa	1.86	307	eP	Pb	02 48 31.4	+0.2
VHO				eS	Sn	02 48 51.9	-1.9
PEIG	Puerto Escondi	1.90	271	eP	Pb	02 48 32.3	+0.5
PEIG				eS	Sn	02 48 53.3	-1.2
PCIG		1.90	97	eP	Pb	02 48 32.5	+0.6
PCIG				eS	Sn	02 48 54.7	0.0
TGIG		2.13	67	eP	Pb	02 48 37.1	+1.2
TGIG				eS	Sn	02 49 01.3	+0.9
TGIG		2.13	67	eP	Pb	02 48 36.6	+0.8
TGIG				i S	Sg	02 49 06.0	+1.1
TGIG		2.13	67	eP		02 48 36.6	
TGIG				i S		02 49 06.0	
YOIG	Yosondua	2.44	292	eP	Pb	02 48 40.3	-0.9
YOIG				eS	Sn	02 49 07.7	-0.6
TOIG	Toxpalan	2.79	320	eP	Pn	02 48 44.9	+2.6
TOIG				eS	Sn	02 49 18.9	+2.3
TXIG	Tlaxiaco	2.79	298	eP	Pb	02 48 46.4	-0.9
TXIG				eS	Sn	02 49 19.1	+2.0
PNIG	Pinotepa	2.87	279	eP	Pn	02 48 43.8	+0.5
PNIG				i S	Sn	02 49 16.1	-2.3
CCIG	Comitan	2.94	83	eP	Pb	02 48 48.6	-1.1
CCIG				eS	Sb	02 49 24.5	-1.8
CCIG	Comitan	2.94	83	eP	Pb	02 48 48.0	-1.7
CCIG	Comitan	2.94	83	eP		02 48 48.0	
PATR	El Naranjo	2.96	106	eP	Pb	02 48 48.4	-1.6
PATR				eS	Sn	02 49 20.9	-0.2
PAVE	Pavencul	2.99	104	eP	Pb	02 48 49.6	-0.9
PAVE				eS	Sn	02 49 21.7	-0.2
HLIG	Huajuapan de L	3.13	307	eP	Pb	02 48 52.8	0.0
HLIG				eS	Sb	02 49 29.9	-1.7
TPIG	Tehuac#an	3.21	320	eP	Pb	02 48 54.7	+0.3
TPIG				eS	Sb	02 49 31.1	-3.0
FTIG	Fresnillo de T	3.43	305	eP	Pb	02 48 58.8	+0.8
FTIG				eS	Sb	02 49 38.1	-2.1
MGIG	Malinaltepec	3.55	291	eP	Pb	02 49 01.8	+1.8
MGIG				eS	Sn	02 49 38.0	+2.5
TLIG	Tlapa	3.62	297	eP	Pb	02 49 03.4	+2.2
TLIG				eS	Sn	02 49 39.0	+1.9
POHV	Veracruz	3.68	327	eP	Pn	02 48 55.6	+0.6
POHV				eS	Sn	02 49 41.2	+1.8
JAUV	Jalcomulco	3.72	336	eP	Pn	02 48 53.7	-1.4
JAUV				eS	Sn	02 49 42.0	+2.3
JAUV				i S	Sb	02 49 45.3	-3.4
CRIG	Cruz Grande	3.87	282	eP	Pn	02 48 58.4	+1.3
CRIG				i S	Sn	02 49 39.1	-4.1
LVIG	Laguna Verde	3.92	343	eP	Pn	02 49 02.1	+4.4
LVIG				i S	Sn	02 49 41.4	-3.1
STG0	El Palmar, Qui	4.01	112	eP		02 48 58.6	
STG0				i S		02 49 42.0	
DAIG	Los Arroyos	4.42	284	eP	Pn	02 49 09.3	+4.7
DAIG				i S	Sn	02 49 53.5	-3.2
PPM	Popocatepetl	4.51	314	eP	Pn	02 49 10.6	+4.3
PPM				eS	Sn	02 50 04.7	+4.9
YAIG	Yautepec	4.70	308	eP	Pn	02 49 13.7	+5.1
YAIG				eS	Sn	02 50 02.5	-1.5
CXUV	Coxquihui	4.78	332	eP	Pn	02 49 09.7	+0.1
CXUV				i S	Sn	02 50 08.3	+2.7
PLIG	Platanillo	4.79	301	eP	Pb	02 49 16.7	-4.5
PLIG				eS	Sn	02 50 06.1	0.0
MPVM	San Francisco	4.87	312	eP	Pb	02 49 19.8	-2.8
MPVM				eS	Sn	02 50 12.1	+3.8
CAIG	El Cayaco	5.00	283	eP	Pn	02 49 13.9	+1.3
CAIG				eS	Sn	02 50 03.8	-7.3
MZVM		5.02	310	eP	Pb	02 49 20.1	-5.0
MZVM				eS	Sn	02 50 15.2	+3.5
MAVM	Malinalco, Edo	5.08	306	e	Pn	02 49 12.8	-1.1
MAVM				e		02 50 11.0	
AOVM	Tlapan	5.14	310	e	Pn	02 49 15.2	+0.3
AOVM				e		02 50 32.5	
ARIG	Puente Sto Nin	5.45	296	eP	Pn	02 49 23.6	+4.7
ARIG				eS	Sn	02 50 15.6	-6.8
DEIG	Demacu	5.66	320	eP	Pn	02 49 28.8	+6.8
DEIG				i S	Sn	02 50 28.8	+0.9
CTUV	Llano Grande	6.25	332	eS	Sn	02 50 45.1	+3.1

IDC ***25*** *02:52:57.2±0.6, 9°.97N×124°.44E, h0km, mb4.0/18, mbtmp4.0/18, MS3.6/20, Error ellipse: s-maj=28.4km s-min=14.2km az=71.0*
NEIC ***25*** *02:53:02.3±1.4, 9°.86N±0°.08×123°.92E±0°.08, h10km±1km, mb4.6/33, Error ellipse: s-maj=15.1km s-min=11.4km az=50.0*

ISC 25 02:53:04.7±0.4, 9°.84N±0°.05×123°.93E±0°.07, h35km, n88, σ1§48/78, mb4.4/42, MS3.6/19, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.20	149	Pn	Pn	02 53 53.0	+0.5
DAV	Davao City (W)	3.20	149	Pn	Pn	02 53 53.4	+0.9
	38nm,0.3s,baz=342,slow=6.4,SNR=1.3						
DAV				Sn	Sn	02 54 29.2	-0.2
	120nm,0.3s,baz=307,slow=20,SNR=7.4						
DAV				LR	LR	02 55 16.5	
	comp=Z,1μm,21.7s,baz=340,slow=45						
TGY	Tagaytay City	5.15	326	Pn	Pn	02 54 26.2	+6.8
	66nm,0.3s,baz=162,slow=19,SNR=3.2						
TGY				LR	LR	02 56 42.4	
	comp=Z,281nm,18.9s,baz=123,slow=42						
MYLDM	Lahad Datu	7.10	230	Pn	Pn	02 54 46.6	+0.5
KKM	Kota Kinabalu	8.53	244	Pn	Pn	02 55 06.9	+1.2
TOLI2	Tolitoli	9.22	200	Pn	Pn	02 55 16.3	+1.0
I39PW	PALAU INFRASON	10.74	101	I	I	04 00 50.0	
	baz=282,slow=312,SNR=0.9						
TPUB	Ta-pu	13.75	347	Pn	Pn	02 56 17.2	0.0
SBUM	Sibu	13.76	238	Pn	Pn	02 56 16.8	-0.6
SSLB	Suanglung	14.16	349	P	P	02 56 30.2	+0.4
KAPI	Kappang	15.34	196	Pn	P	02 56 44.5	+1.5
	0.7nm,0.3s,baz=46,slow=12,SNR=4.0						
KAPI				LR	LR	03 03 57.6	
	comp=Z,131nm,18.5s,baz=1.5,slow=42						
QIZ	Qiongzhong	16.41	305	P	Pn	02 56 51.6	-0.8
QIZ				S	Sn	02 59 53.4	-0.1
QIZ				pmax	pmax		
	comp=Z,44nm,2.0s						
QIZ				LR	LR		
	comp=N,410nm,11.1s						
QIZ				LR	LR		
	comp=E,450nm,10.3s						
QIZ				LR	LR		
	comp=Z,290nm,13.2s						
UBPT	Khong Chiam	18.81	289	P	Pn	02 57 23.4	+1.3
JAGI	Jajag, Banyuwa	20.64	208	P	P	02 57 41.5	+0.1
JAY	Jayapura	20.73	125	LR	LR	03 05 18.3	
	comp=Z,64nm,20.0s,baz=153,slow=36						
MYKOM	Kota Tinggi	21.51	249	P	P	02 57 50.4	-0.3
MYKOM				IAmb	IAmb	02 57 55.1	
	comp=Z,18nm,0.7s						
NJ2	Nanjing	22.59	349	eP	P	02 58 03.3	+1.1
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KULM	Kulim	23.51	261	P	P	02 58 11.4	-0.4
KULM				IAmb	IAmb	02 58 13.5	
	comp=Z,14nm,0.8s						
BKNI	Bangkinang	24.66	249	P	P	02 58 21.1	-1.3
CRAI	Chiangrai	24.95	297	P	P	02 58 25.4	+0.4
CM31	Chiang Mai Arr	25.67	292	P	P	02 58 32.5	+1.0
CM31				IAmb	IAmb	02 58 35.0	
	comp=Z,12nm,1.2s						
CMAR	Chiang Mai Arr	25.67	292	P	P	02 58 32.0	+0.4
CMAR	Chiang Mai Arr	25.67	292	P	P	02 58 32.8	+1.3
	comp=Z,1.2nm,0.3s,baz=112,slow=9.5,SNR=15						
CMAR				LR	LR	03 08 46.6	
	comp=Z,70nm,18.2s,baz=115,slow=36 comp=Z,1.2nm,0.3s						
PSI	Prapat	25.81	256	LR	LR	03 11 35.2	
	comp=Z,88nm,18.0s,baz=99,slow=42						
RPSI	Rantau Prapat	25.84	256	P	P	02 58 32.4	-0.7
PZH	PanZhiHua	26.74	311	P	P	02 58 43.8	+2.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
JHJ	Hachijo jima 2	27.39	30	LR	LR	03 09 49.2	
	comp=Z,78nm,18.2s,baz=34,slow=37						
GSI	Gunungsitoli	27.55	254	P	P	02 58 47.6	-0.9
KSRS	Korea Array	27.73	7	LR	LR	03 10 19.6	
	comp=Z,57nm,19.5s,baz=185,slow=38						
FITZ	Fitzroy Crossi	27.82	177	P	P	02 58 50.1	-0.6
COEN	Coen	30.39	141	P	P	02 59 15.4	+1.7
COEN				IAmb	IAmb	02 59 35.9	
	comp=Z,7.5nm,1.1s						
WRA	Warramunga Arr	31.32	161	P	P	02 59 18.4	-3.5
	comp=Z,0.8nm,1.0s,baz=336,slow=8.7,SNR=1.6						
WRA				PcP	PcP	03 02 13.4	-2.2
	comp=Z,0.8nm,0.7s,baz=347,slow=3.0,SNR=3.4 comp=Z,0.8nm,1.0s						
WB2	Warramunga Arr	31.33	161	P	P	02 59 22.3	+0.4
WB2				IAmb	IAmb	02 59 31.8	
	comp=Z,13nm,1.5s						
LZH	Lanzhou	31.87	328	eP	P	02 59 31.9	+5.2
LZH				sP	sP	02 59 39.5	-1.6
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				LR	LR		
	comp=N,250nm,12.7s						
LZH				LR	LR		
	comp=E,260nm,13.1s						
LZH				LR	LR		
	comp=Z,140nm,12.7s						
HHC	Hu-ho-hao-te	32.77	343	eP	P	02 59 36.3	+1.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
BRDH	Bariadhala	33.43	296	LR	LR	03 13 43.2	
	comp=Z,81nm,19.6s,baz=135,slow=37						
SHL	Shillong	34.17	301	P	P	02 59 47.1	0.0
SHL				IAmb	IAmb	03 00 10.0	
	comp=Z,6.3nm,0.6s						
AS31	Alice Springs	34.70	164	P	P	02 59 52.1	+0.7
ASAR	Alice Springs	34.70	164	P	P	02 59 50.9	-0.6
ASAR	Alice Springs	34.70	164	P	P	02 59 48.8	-2.6
	comp=Z,1.9nm,0.8s,baz=344,slow=8.6,SNR=23						
ASAR				PcP	PcP	03 02 22.7	-2.3
	comp=Z,0.6nm,0.6s,baz=352,slow=3.6,SNR=4.4 comp=Z,1.9nm,0.8s						
USRK	Ussuriysk Ar.	34.94	10	P		02 59 48.7	-4.4
	comp=Z,1.0nm,0.8s,baz=210,slow=10.0,SNR=7.7 comp=Z,1.0nm,0.8s						
MDJ	Mudanjiang	34.99	7	P	P	02 59 57.9	+4.3
MDJ				pmax	pmax		
	comp=Z,18nm,0.9s						
BNX	BinXian	35.89	4	⇓P	P	03 00 02.3	+0.9
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA	Gaotai	36.47	328	eP	P	03 00 09.1	+2.5
GTA				pP	pP	03 00 14.8	-1.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				LR	LR		
	comp=N,170nm,17.8s						
GTA				LR	LR		
	comp=E,100nm,16.7s						
GTA				LR	LR		
	comp=Z,150nm,18.5s						
MORW	Morawa	39.43	191	P	P	03 00 32.8	+1.4
MORW				IAmb	IAmb	03 01 03.0	
	comp=Z,27

comp=Z,3.3nm,0.7s
GAR Garm 55.81 311 P **P 03 02 39.4 +0.6**
GAR IAmb IAmb 03 02 46.4
comp=E,8.1nm,1.0s
KK31 Karatay Array 56.92 315 P **P 03 02 46.6 +0.1**
KKAR Karatay Array 56.92 315 P **P 03 02 46.6 +0.1**
BVAR Borovoye Array 60.72 326 P **P 03 03 11.0 -1.6**
comp=Z,0.9nm,0.8s,baz=105,slow=8.4,SNR=4.8
BVAR LR LR 03 30 14.1
comp=Z,90nm,18.0s,baz=330,slow=37
comp=Z,0.9nm,0.8s
BRVK Borovoye 60.79 326 P **P 03 03 13.5 +0.4**
BRVK IAmb IAmb 03 03 33.6
comp=Z,4.9nm,0.9s
TIXI Tiksi 61.83 2 P **P 03 03 21.4 +1.6**
TIXI IAmb IAmb 03 03 27.4
comp=Z,3.1nm,0.9s
NRIK Noril'sk 63.87 346 P **P 03 03 31.5 -1.9**
comp=Z,8.7nm,0.8s,baz=134,slow=6.9,SNR=15
NRIK LR LR 03 35 24.8
comp=Z,62nm,18.6s,baz=150,slow=40
comp=Z,8.7nm,0.8s
ABKAR Akbulak array 65.70 320 P **P 03 03 45.7 -0.1**
ARTI Arti 68.41 327 LR LR 03 34 08.7
comp=Z,65nm,18.9s,baz=54,slow=36
RTZ Ruatahuna 68.99 138 P **P 03 04 07.8 +1.1**
KIRV Kirov 73.59 328 LR LR 03 37 48.8
comp=Z,94nm,18.1s,baz=61,slow=36
E19K Redstone River 76.69 23 P **P 03 04 54.3 +2.4**
E19K IAmb IAmb 03 05 01.1
comp=Z,4.2nm,1.1s
B20K Meade River 77.02 20 P **P 03 04 54.9 +1.2**
B20K IAmb IAmb 03 05 20.0
comp=Z,5.3nm,1.0s
GURO Guroymak-BITLI 77.63 307 P **P 03 04 57.8 -0.1**
GURO IAmb IAmb 03 05 03.1
comp=Z,5.9nm,0.9s
ILAR Eielson Array 80.82 26 P **P 03 05 11.9 -2.8**
comp=Z,0.1nm,0.7s,baz=256,slow=5.5,SNR=2.5
comp=Z,0.1nm,0.7s
ARCES ARCESS Array B 83.79 340 P **P 03 05 27.8 -2.2**
comp=Z,9.2nm,1.2s,baz=99,slow=6.7,SNR=2.3
comp=Z,9.2nm,1.2s
BRTR Keskin Array B 84.02 309 P **P 03 05 31.3 -0.8**
comp=Z,0.7nm,0.9s,baz=92,slow=4.3,SNR=4.5
comp=Z,0.7nm,0.9s
AKASG Malin Array Be 85.43 321 P **P 03 05 38.2 -0.5**
comp=Z,0.7nm,0.7s,baz=72,slow=3.0,SNR=1.5
comp=Z,0.7nm,0.7s
A36M Sachs Harbour 86.99 17 P **P 03 05 46.9 +0.9**
MLR Muntele Rosu 88.60 316 LR LR 03 48 44.0
comp=Z,52nm,18.4s,baz=29,slow=38
VRAC Vranov 93.66 321 LR LR 03 52 37.1
comp=Z,84nm,18.2s,baz=353,slow=38
YKA Yellowknife Ar 95.07 23 P P 03 06 18.8 -5.0
comp=Z,0.1nm,0.4s,baz=301,slow=4.7,SNR=2.3
comp=Z,0.1nm,0.4s
TORD Torodi Ar. Bea 118.28 291 PKPdf **PKPdf 03 11 48.1 -1.2**
PLCA Paso Flores 146.67 160 PKPdf **PKPdf 03 12 40.3 -1.3**
PLCA Paso Flores 146.67 160 PKPbc **PKPdf 03 12 40.0 -1.6**
comp=Z,4.4nm,1.0s,baz=250,slow=5.8,SNR=5.9

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*IDC **25** 02:56:21.9±1.2, 54°.89N×164°.60E, h0km, mb3.5/6, mbtmp3.5/7, ML2.7/1, MS3.3/2, Error ellipse: s-maj=45.0km s-min=19.2km az=159.0*
*KRSC **25** 02:56:22.6±1.1, 54°.79N×164°.69E, h59km±24km, Ml3.7*
ISC 25 02:56:22.3±1.7, 54°.85N±0°.05×164°.52E±0°.06, h4km±12km, n43, σ1§57/49, mb3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.91**	**67**	*eP*	**Pg**	**02 56 40.3**	**+0.7**
BKI				*eS*	**Sg**	**02 56 51.2**	**-0.2**
MKZ	**Mys Kozlova**	**1.65**	**261**	*eP*	**Pn**	**02 56 52.5**	**+0.6**
MKZ				*eS*	**Sn**	**02 57 12.5**	**-0.9**
KBTR	**Krutoberegovo**	**1.67**	**325**	*eP*	**Pn**	**02 56 51.5**	**-0.7**
KBG	**Krutoberegovo**	**1.74**	**325**	*eP*	**Pn**	**02 56 53.2**	**0.0**
TUMD	**Tumrok D**	**2.40**	**280**	*eP*	**Pn**	**02 57 03.6**	**+1.4**
TUMD				*eS*	**Sn**	**02 57 32.3**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**2.44**	**298**	*eP*	**Pn**	**02 57 04.9**	**+2.0**
SMKR	**Semkarok**	**2.44**	**316**	*eP*	**Pn**	**02 57 04.7**	**+1.7**
SMKR				*eS*	**Sn**	**02 57 34.2**	**+0.8**
CIRR	**Tsirk**	**2.49**	**302**	*eP*	**Pn**	**02 57 05.6**	**+1.9**
BZWR	**Bezymyannyi-We**	**2.55**	**298**	*eP*	**Pb**	**02 57 06.8**	**-1.9**
KMNR	**Kamenistaya**	**2.61**	**292**	*eP*	**Pn**	**02 57 07.3**	**+2.0**
KIRR	**Kirishev**	**2.62**	**297**	*eP*	**Pb**	**02 57 08.0**	**-1.9**
KLY	**Klyuchi**	**2.64**	**305**	*eP*	**Pn**	**02 57 06.1**	**+0.6**
KLY				*eS*	**Sn**	**02 57 37.2**	**-0.7**
KPT	**Kopyto**	**2.69**	**296**	*eP*	**Pb**	**02 57 09.2**	**-1.7**
KOZ	**Kozyrevsk**	**2.91**	**296**	*eP*	**Pb**	**02 57 12.9**	**-1.7**
SRDR	**Sredinnyy**	**3.10**	**300**	*eP*	**Pn**	**02 57 14.1**	**+2.2**
SPN	**Mys Shipunski**	**3.18**	**238**	*eP*	**Pn**	**02 57 13.1**	**0.0**
SPN				*eS*	**Sn**	**02 57 49.2**	**-2.1**
NLC	**Nalytchevo**	**3.49**	**243**	*eP*	**Pn**	**02 57 18.4**	**+1.3**
NLC				*eS*	**Sn**	**02 57 57.0**	**-1.8**
ESO	**Esso**	**3.49**	**290**	*eP*	**Pn**	**02 57 18.9**	**+1.7**
SDLR	**Sedlovina**	**3.67**	**247**	*eP*	**Pn**	**02 57 21.7**	**+1.8**
KRER	**Koryakskii**	**3.73**	**248**	*eP*	**Pn**	**02 57 23.0**	**+2.1**
UGLR	**Uglovaya**	**3.74**	**246**	*eP*	**Pn**	**02 57 22.4**	**+1.7**
AVH	**Avacha**	**3.76**	**247**	*eP*	**Pn**	**02 57 23.4**	**+2.4**
KRX	**Arik**	**3.76**	**249**	*eP*	**Pn**	**02 57 22.8**	**+1.6**
KOK	**Koryaka**	**3.80**	**248**	*eP*	**Pn**	**02 57 23.8**	**+2.2**
DALK	**Dalny**	**3.86**	**244**	*eP*	**Pn**	**02 57 23.4**	**+1.0**
GNL	**Ganaly**	**4.03**	**256**	*eP*	**Pn**	**02 57 26.8**	**+2.1**
KRMR	**Karymshinskiy**	**4.29**	**244**	*eP*	**Pn**	**02 57 30.0**	**+1.8**
KRMR				*eS*	**Sn**	**02 58 17.7**	**-1.0**
RUS	**Russkaya**	**4.32**	**238**	*eP*	**Pn**	**02 57 29.4**	**+0.8**
PETK	**Petropavlovsk-**	**4.39**	**249**	Pn	**Pn**	**02 57 31.1**	**+1.5**
	2.0nm,0.3s,baz=66,slow=17,SNR=27						
PETK				Sn	**Sn**	**02 58 22.1**	**+1.0**
	1.1nm,0.3s,baz=56,slow=46,SNR=3.0						
	2.9nm,0.3s						
GRL	**Gorelyy**	**4.47**	**242**	*eP*	**Pn**	**02 57 31.9**	**+1.1**
OSSR	**Ossora**	**4.48**	**350**	*eP*	**Pn**	**02 57 33.0**	**+2.1**
OSSR				*eS*	**Sn**	**02 58 21.1**	**-2.2**
APC	**Apacha**	**4.76**	**249**	*eP*	**Pn**	**02 57 38.0**	**+3.3**
KDTR	**Khodutka, Kamc**	**4.92**	**234**	*eP*	**Pn**	**02 57 36.6**	**-0.2**
ILAR	**Eielson Array**	**25.71**	**48**	P	**P**	**03 01 52.2**	**-0.9**
	1.4nm,0.9s,baz=272,slow=9.2,SNR=17						
ILAR				LR	LR	03 12 45.8	
	comp=Z,26nm,18.9s,baz=70,slow=38						
	1.4nm,0.9s						
H11N2	**WAKE ISLAND Hy 35.11**	**176**		T	T	03 41 47.2	
	baz=359,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy 35.12**	**176**		T	T	03 41 45.2	
	baz=359,slow=76,SNR=7.2						
H11N1	**WAKE ISLAND Hy 35.13**	**176**		T	T	03 41 47.0	
	baz=359,slow=76,SNR=9.8						
YKA	**Yellowknife Ar**	**40.08**	**45**	P	**P**	**03 03 58.0**	**-0.2**
	0.2nm,0.5s,baz=297,slow=8.6,SNR=4.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**49.10**	**303**	P	**P**	**03 05 10.7**	**+0.3**
	0.2nm,0.4s,baz=54,slow=7.8,SNR=3.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**49.72**	**297**	P	**P**	**03 05 15.9**	**+0.7**
	0.3nm,0.7s,baz=48,slow=5.2,SNR=2.3						
	0.3nm,0.7s						
AKTO	**Aktyubinsk**	**58.52**	**314**	LR	LR	03 36 44.1	
	comp=Z,51nm,18.6s,baz=81,slow=41						
TXAR	**Lajitas Array**	**67.56**	**71**	P	**P**	**03 07 20.1**	**+0.3**
	0.5nm,0.6s,baz=319,slow=6.9,SNR=9.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**82.49**	**208**	P	**P**	**03 08 46.3**	**+0.5**
	0.3nm,0.8s,baz=13,slow=7.9,SNR=1.8						
	0.3nm,0.8s						

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*DJA **25** 03:32:49.8±0.3, 7°.5S×13°.0E±°, h141km±9km, M4.7/12, mB5.2/4, mb4.6/8, MLv4.7/12, Mw(mB)4.6/4*
*IDC **25** 03:32:50.4±12.0, 7°.25S×129°.52E, h152km±126km, mb3.6/6, mbtmp4.1/8, ML3.9/2, Error ellipse: s-maj=97.0km s-min=46.1km az=51.0*
ISC 25 03:32:48.9±0.7, 7°.15S±0°.06×129°.73E±0°.08, h139km, n31, σ1§80/31, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**118**	P	**Pn**	**03 33 22.5**	**+1.9**
SAUI	**Saumlaki**	**1.76**	**118**	P	**Pn**	**03 33 22.0**	**+1.4**
BNDI	**Bandanaira**	**2.61**	**4**	P	**Pn**	**03 33 31.5**	**+0.5**
BNDI	**Bandanaira**	**2.61**	**4**	P	**Pn**	**03 33 30.7**	**-0.3**
AAI	**Ambon**	**3.76**	**336**	P	**Pn**	**03 33 46.6**	**+0.8**
AAI				S	**Sn**	**03 34 29.8**	**-0.1**
MSAI	**Masohi**	**3.86**	**348**	P	**Pn**	**03 33 48.0**	**+0.9**
NLAI	**Namlea**	**4.68**	**326**	P	**Pn**	**03 33 58.8**	**+0.8**
FAKI	**Fak Fak**	**4.89**	**31**	P	**Pn**	**03 33 57.8**	**-3.0**
KMPI	**Kaimana, Papua**	**5.26**	**49**	P	**Pn**	**03 34 05.1**	**-0.5**
	24μm127nm,0.5s						
DRS	**Darwin Rock St**	**5.38**	**168**	P	**Pn**	**03 34 09.7**	**+2.5**
MTN	**Manton Dam**	**5.83**	**166**	P	**Pn**	**03 34 15.6**	**+2.4**
SOEI	**Soe**	**5.99**	**244**	P	**Pn**	**03 34 18.0**	**+2.4**
SOEI	**Soe**	**5.99**	**244**	P	**Pn**	**03 34 17.4**	**+1.8**
	0.8nm83nm,0.8s						
KDU	**Kakadu**	**6.13**	**154**	P	**Pn**	**03 34 18.1**	**+0.8**
SWI	**Sorong**	**6.43**	**14**	P	**Pn**	**03 34 18.3**	**-3.0**
	0.7nm11μm56nm,0.5s						
TNTI	**Ternate**	**8.21**	**343**	P	**Pn**	**03 34 45.1**	**-0.2**
	57nm,1.0s						
BAKI	**Biak**	**8.68**	**47**	P	**Pn**	**03 34 51.1**	**-0.5**
TABU	**Tabubil**	**11.58**	**81**	P	**Pn**	**03 35 31.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.59**	**200**	P	**Pn**	**03 35 28.9**	**-1.4**
	1.6nm,0.3s,baz=26,slow=12,SNR=26						
FITZ				S	**Sn**	**03 37 33.8**	**-4.4**
	23nm,0.8s,baz=28,slow=18,SNR=6.1						
	5.1nm,0.4s						
WRA	**Warramunga Arr**	**13.48**	**161**	S	Sn	03 38 11.5	-12
	baz=335,slow=22						
ASAR	**Alice Springs**	**16.91**	**167**	P	**Pn**	**03 36 38.7**	**+1.3**
	0.1nm,0.3s,baz=346,slow=9.7,SNR=4.1						
ASAR				S	S	03 39 32.2	-14
	1.5nm,0.5s,baz=354,slow=28,SNR=4.1						
	5.0nm,0.6s						
AS01	**Alice Springs**	**16.92**	**167**	P	**Pn**	**03 36 41.2**	**+3.7**
WRKA	**Warakurna**	**17.84**	**184**	P	**Pn**	**03 36 50.3**	**+1.7**
SBUM	**Sibu**	**19.91**	**298**	P	**Pn**	**03 37 12.9**	**0.0**
BKNI	**Bangkinang**	**29.57**	**283**	P	P	03 38 53.6	+13
CMAR	**Chiang Mai Arr**	**39.62**	**310**	P	**P**	**03 40 07.2**	**0.0**
	1.1nm,0.3s,baz=145,slow=8.6,SNR=4.7						
	1.1nm,0.3s						
SONM	**Songino Array**	**58.50**	**342**	P	**P**	**03 42 30.4**	**-0.2**
	0.5nm,0.6s,baz=140,slow=8.0,SNR=4.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**03 43 35.1**	**+0.7**
	1.4nm,0.6s,baz=125,slow=8.2,SNR=17						
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**03 43 53.9**	**-1.0**
	0.7nm,0.5s,baz=137,slow=6.4,SNR=4.8						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.50**	**329**	P	**P**	**03 43 59.9**	**-0.4**
	0.9nm,0.6s,baz=132,slow=4.9,SNR=12						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**78.05**	**328**	P	**P**	**03 44 31.5**	**-0.5**
	1.2nm,0.9s,baz=134,slow=6.2,SNR=5.6						
	1.2nm,0.9s						

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*TEH **25** 04:06:26.4, 37°.24N×55°.74E, h7km±21km*
ISC 25 04:06:26.1±0.8, 37°.29N±0°.05×55°.75E±0°.03, h10km, n31, σ2§83/33, 1C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.27**	**264**	Pg	**Pb**	**04 06 33.1**	**+0.1**
IMND				Sg	**Sb**	**04 06 37.6**	**-0.1**
MRVT	**Maraveh tapeh**	**0.46**	**36**	Pg	**Pb**	**04 06 37.5**	**+1.0**
IGLO	**Ghaloghah**	**1.72**	**244**	Pg	**Pg**	**04 06 58.8**	**-0.4**
SBZV	**Sabzevar**	**1.74**	**120**	Pg	**Pg**	**04 06 59.3**	**-0.3**
ISFR	**Sfrayin**	**1.82**	**97**	Pn	**Pg**	**04 07 01.5**	**+0.5**
IKIA	**Kiasar**	**1.97**	**238**	Pn	**Pg**	**04 07 03.3**	**-0.7**
IEMG	**Emamgholi**	**2.32**	**86**	Pn	**Pb**	**04 07 08.5**	**+0.3**
IANJ	**Anjilo**	**2.34**	**220**	Pn	**Pb**	**04 07 08.4**	**-0.1**
IAKL	**Akhelmad**	**2.51**	**105**	Pn	**Pb**	**04 07 10.4**	**-0.9**
IALA	**Alasht**	**2.65**	**244**	Pn	**Pb**	**04 07 12.4**	**-1.4**
TAPT	**Tabas- Tapeh t**	**2.66**	**154**	Pn	**Pb**	**04 07 12.1**	**-1.7**
IPAY	**Payeh**	**2.74**	**107**	Pn	**Pb**	**04 07 13.7**	**-1.5**
IPRN	**Peran**	**2.93**	**250**	Pn	**Pb**	**04 07 15.7**	**-2.7**
ILAS	**Lasjerd**	**2.94**	**231**	Pn	**Pb**	**04 07 16.5**	**-2.3**
IKRD	**Kardeh**	**3.06**	**98**	Pn	**Pb**	**04 07 18.8**	**-2.0**
TBHD	**Torbat heydari**	**3.38**	**122**	Pn	**Pb**	**04 07 23.6**	**-2.6**
TNSJ	**Nastanj**	**3.39**	**168**	Pn	**Pb**	**04 07 21.9**	**+2.8**
IDMV	**Damavand**	**3.44**	**241**	Pn	**Pn**	**04 07 23.2**	**+3.2**
MZPU	**Pul - Mazandar**	**3.45**	**257**	Pn	**Pn**	**04 07 23.6**	**+3.5**
TKDS	**Koohdasht(Taba**	**3.83**	**163**	Pn	**Pn**	**04 07 28.4**	**+3.1**
IVRN	**Varamin**	**3.97**	**236**	Pn	**Pn**	**04 07 31.5**	**+4.4**
ISFB	**Sefidab**	**4.08**	**225**	Pn	**Pn**	**04 07 31.8**	**+3.1**
TPRV	**Parvadeh(Tabas**	**4.32**	**169**	Pn	**Pn**	**04 07 35.0**	**+3.1**
ANAR	**Anarak**	**4.41**	**203**	Pn	**Pn**	**04 07 36.0**	**+2.8**
KRSH	**Karshahi**	**4.43**	**223**	Pn	**Pn**	**04 07 36.9**	**+3.4**
IGZV	**Ghazvin**	**4.52**	**260**	Pn	**Pn**	**04 07 37.9**	**+3.0**
AFRZ	**Afriz**	**4.69**	**144**	Pn	**Pn**	**04 07 40.4**	**+3.4**
SHRT	**Shahrakht**	**5.19**	**133**	Pn	**Pn**	**04 07 46.7**	**+2.8**
QABG	**Abgarm-Qazvin**	**5.21**	**254**	Pn	**Pn**	**04 07 48.6**	**+4.4**
AB31	**Akbulak array**	**12.35**	**13**	P	**Pn**	**04 09 22.8**	**+1.0**
	0.5nm,0.6s,baz=195,slow=13,SNR=8.0						
AB31				⇓S	**Sn**	**04 11 33.2**	**-6.2**
	0.2nm,0.3s,baz=195,slow=23,SNR=6.8						
AKTO	**Aktyubinsk**	**13.25**	**6**	⇑S	**Sn**	**04 11 56.7**	**-4.8**
	2.5nm,1.2s						

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*IDC **25** 04:10:08.4±3.3, 48°.72N×154°.94E, h83km±31km, mb3.2/6, mbtmp3.6/8, MS3.1/3, Error ellipse: s-maj=42.5km s-min=19.1km az=137.0*
*KRSC **25** 04:10:09.5±1.7, 48°.94N×156°.92E, h6km±28km, Ml4.2*
ISC 25 04:10:09.7±0.9, 48°.9N±0°.1×155°.0E±0°.2, h100km, n33, σ1§61/24, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.94**	**22**	*eP*	**Pn**	**04 10 40.1**	**-1.3**
SKR				*eS*	**Sn**	**04 11 05.6**	**+0.1**
PAU	**Pauzhetka**	**2.83**	**24**	*eP*	**Pn**	**04 10 52.9**	**-0.2**
PAU				*eS*	**Sn**	**04 11 25.2**	**-1.3**
KDTR	**Khodutka, Kamc**	**3.52**	**33**	*eP*	**Pn**	**04 11 00.4**	**-2.0**
GRL	**Gorelyy**	**4.15**	**27**	*eP*	**Pn**	**04 11 10.4**	**-0.6**
RUS	**Russkaya**	**4.19**	**31**	*eP*	**Pn**	**04 11 09.6**	**-1.8**
KRMR	**Karymshinskiy**	**4.42**	**26**	*eP*	**Pn**	**04 11 14.2**	**-0.1**
PETK	**Petropavlovsk-**	**4.55**	**21**	P	**Pn**	**04 11 16.9**	**+0.6**
	3.6nm,0.5s,baz=200,slow=14,SNR=16						
DALK	**Dalny**	**4.78**	**28**	*eP*	**Pn**	**04 11 18.7**	**-0.5**
DALK				*eS*	**Sn**	**04 12 08.9**	**-4.4**
UGLR	**Uglovaya**	**4.95**	**28**	*eP*	**Pn**	**04 11 21.9**	**+0.1**
KOK	**Koryaka**	**4.97**	**26**	*eP*	**Pn**	**04 11 22.9**	**+1.0**
AVH	**Avacha**	**4.97**	**27**	*eP*	**Pn**	**04 11 22.8**	**+0.8**
SDLR	**Sedlovina**	**5.03**	**28**	*eP*	**Pn**	**04 11 22.2**	**-0.6**
KRX	**Arik**	**5.03**	**26**	*eP*	**Pn**	**04 11 23.2**	**+0.4**
GNL	**Ganaly**	**5.15**	**20**	*eP*	**Pn**	**04 11 27.3**	**+2.8**
ASAJ	**Asahikawa**	**9.79**	**245**	P	**Pn**	**04 12 25.5**	**-1.9**
	20nm,0.9s,baz=54,slow=19,SNR=6.8						
KLR	**Kul'dur**	**15.24**	**280**	LR	LR	04 20 33.2	
	comp=Z,36nm,18.6s,baz=94,slow=41						
JNU	**Nakatsue**	**23.93**	**238**	LR	LR	04 23 53.6	
	comp=Z,34nm,18.6s,baz=30,slow=35						
H11N2	**WAKE ISLAND Hy 30.63**	**158**		T	T	04 48 13.7	
	baz=344,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy 30.64**	**158**		T	T	04 48 07.1	
	baz=344,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy 30.64**	**158**		T	T	04 48 42.1	
	baz=344,slow=76						
H11S1	**WAKE ISLAND Hy 31.75**	**159**		T	T	04 49 32.9	
	baz=344,slow=76						
H11S3	**WAKE ISLAND Hy 31.76**	**159**		T	T	04 49 37.5	
	baz=344,slow=76						
H11S2	**WAKE ISLAND Hy 31.77**	**159**		T	T	04 49 35.2	
	baz=344,slow=76						
ZALV	**Zalesovo Beam**	**42.42**	**304**	LR	LR	04 35 59.3	
	comp=Z,53nm,18.6s,baz=310,slow=36						
MKAR	**Makanchi Array**	**47.10**	**296**	P	**P**	**04 18 32.0**	**+0.7**
	0.1nm,0.5s,baz=69,slow=9.1,SNR=3.9						
	0.1nm,0.5s						
YKA	**Yellowknife Ar**	**48.45**	**38**	P	**P**	**04 18 43.0**	**+1.5**
	0.3nm,0.7s,baz=298,slow=7.8,SNR=4.4						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**62.47**	**56**	P	**P**	**04 20 23.1**	**+0.5**
	0.5nm,0.9s,baz=301,slow=4.6,SNR=3.7						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**70.96**	**201**	P	**P**	**04 21 15.2**	**-1.0**
	0.8nm,0.8s,baz=10,slow=6.0,SNR=3.1						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**74.65**	**200**	P	**P**	**04 21 37.7**	**-0.3**
	0.3nm,0.6s,baz=13,slow=5.3,SNR=2.0						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**75.35**	**62**	P	**P**	**04 21 44.6**	**+2.3**
	0.7nm,0.7s,baz=323,slow=6.1,SNR=8.1						
	0.7nm,0.7s						
H03N2	**Juan Fernandez**	**137.47**	**89**	T	T	07 02 22.9	
	baz=310,slow=77,SNR=8.5						
H03N1	**Juan Fernandez**	**137.49**	**89**	T	T	07 02 26.5	
	baz=310,slow=77,SNR=11						
H03N3	**Juan Fernandez**	**137.49**	**89**	T	T	07 02 24.3	
	baz=310,slow=77,SNR=8.9						

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*IDC **25** 04:11:42.5±1.3, 1°.90N×126°.43E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=142.5km s-min=19.3km az=68.0*
ISC 25 04:11:43.1±1.8, 2°.2N±0°.6×127°.7E±°, h10km, n6, σ1§60/6, mb3.7/6, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**163**	P	**P**	**04 16 48.0**	**-1.1**
	2.7nm,0.6s,baz=338,slow=10,SNR=16						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**26.52**	**166**	P	**P**	**04 17 22.6**	**+1.5**
	1.0nm,0.7s,baz=343,slow=8.1,SNR=7.5						
	1.0nm,0.7s						
SONM	**Songino Array**	**48.91**	**341**	P	**P**	**04 20 30.0**	**+0.5**
	0.2nm,0.5s,baz=158,slow=9.0,SNR=2.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.14**	**325**	P	**P**	**04 21 44.5**	**+0.4**
	0.3nm,0.6s,baz=130,slow=7.8,SNR=4.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**63.33**	**328**	P	**P**	**04 22 12.4**	**0.0**
	0.4nm,0.6s,baz=128,slow=5.9,SNR=6.0						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**68.91**	**327**	P	**P**	**04 22 46.3**	**-1.9**
	0.4nm,0.5s,baz=101,slow=7.6,SNR=2.4						
	0.4nm,0.5s						

TXNET 25 04:34:23.4, 31°.6N±0°.6×104°.3W±0°.6, h5km±2km, ML1.7/7, 1C, Error ellipse: s-maj=1.0km s-min=0.8km az=62.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**31**	⇑P	Pg	04 34 30.2	-0.1
TPB11				S	Sg	04 34 34.9	0.0
PECS	**Pecos**	**0.42**	**128**	P	Pg	04 34 31.8	+0.3
PECS				S	Sg	04 34 37.3	+0.3
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	04 34 33.0	+0.3
TPB12				S	Sg	04 34 39.6	+0.5
TPB07	**Mentone**	**0.50**	**96**	S	Sg	04 34 40.0	+0.5
TPB10	**Southeast of T**	**0.55**	**129**	S	Sg	04 34 41.8	+0.8
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	04 34 35.0	+0.5
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	04 34 46.8	+0.7
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	04 34 38.2	-0.4
TPB01				S	Sg	04 34 48.5	-0.5
TPB03	**Saragosa**	**0.83**	**131**	S	Sg	04 34 50.6	+0.4
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	04 34 42.3	+0.3
MNTX				S	Sb	04 34 55.1	-0.6
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	04 34 43.6	0.0
VHRN				S	Sb	04 34 58.0	-0.3
TPB05	**Hovey Rd**	**1.06**	**132**	S	Sg	04 34 57.6	0.0
MNHN	**Monahans**	**1.30**	**103**	S	Sg	04 35 04.0	-1.4
ALPN	**Alpine**	**1.36**	**157**	P	Pn	04 34 47.9	-1.3
ALPN				S	Sg	04 35 05.5	-1.6
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	04 34 50.4	+0.2
ODSA	**Odessa**	**1.53**	**71**	P	Pn	04 34 50.6	-0.8
ODSA				S	Sn	04 35 10.3	-1.4
TMB04	**Seminole**	**1.79**	**56**	P	Pn	04 34 55.5	+0.4
TMB04				S	Sn	04 35 18.9	+0.6
TMB02	**Rankin**	**1.94**	**102**	P	Pn	04 34 57.9	+0.9
TMB02				S	Sb	04 35 23.2	-0.6
TMB05	**Klondike**	**2.26**	**63**	S	Sb	04 35 31.9	-1.1
TX31	**Lajitas Ar. Si**	**2.34**	**167**	Pg	Pb	04 35 05.9	-0.3

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*BKK **25** 04:56:39.9±1.1, 22°.N±7°.×9°.4E±°, h20km±10km, M4.1/10, mB4.5/7, mb4.5/8, Mjma3.5/10, ML4.5/6, MLv4.3/9, Mw(mB)3.7/7*
*NEIC **25** 04:56:41.5±0.7, 22°.13N±0°.08×94°.17E±0°.07, h86km±7km, mb4.3/9, Error ellipse: s-maj=13.2km s-min=7.2km az=218.0*
*IDC **25** 04:56:42.4±1.4, 21°.95N×93°.99E, h92km±15km, mb3.5/7, mbtmp3.9/9, Error ellipse: s-maj=27.3km s-min=10.1km az=40.0*
*NDI **25** 04:56:45.8±2.8, 22°.33N×94°.08E, h80km, ML3.8, MW3.7, mb4.3(NEIC)*
ISC 25 04:56:42.5±0.7, 22°.17N±0°.06×94°.09E±0°.06, h100km, n46, σ2§44/54, mb4.1/12, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**2.03**	**321

comp=E,0.2nm,0.3s
KURBB **Kurchatov Arra** 30.91 341 P **P** 05 02 51.2 +1.7
comp=E,0.4nm,0.7s,baz=147,slow=8.9,SNR=3.7
comp=E,0.4nm,0.7s
KURK **Kurchatov** 30.96 341 P **P** 05 02 50.6 +0.6
ZALV **Zalesovo Beam** 32.50 350 P **P** 05 03 06.6 +3.1
comp=E,0.4nm,0.3s,baz=165,slow=6.0,SNR=5.0
comp=E,0.4nm,0.3s
ABKAR **Akbulak array** 38.18 323 P **P** 05 03 52.8 +0.6
ABKAR IAmb IAmb 05 03 59.7
comp=Z,1.4nm,0.8s
KNRA **Kununurra** 50.68 135 P **P** 05 05 31.2 -0.8
WB0 **Warramunga Arr** 57.34 134 P **P** 05 06 20.1 -0.4
WB0 IAmb IAmb 05 06 24.9
comp=Z,12nm,1.3s
WRA **Warramunga Arr** 57.43 134 P **P** 05 06 20.8 -0.4
comp=Z,1.3nm,0.6s,baz=315,slow=7.3,SNR=11
comp=Z,1.3nm,0.6s
WB2 **Warramunga Arr** 57.43 134 P **P** 05 06 20.5 -0.7
ASAR **Alice Springs** 59.80 137 P **P** 05 06 37.2 -0.3
ASAR **Alice Springs** 59.80 137 P **P** 05 06 37.5 0.0
comp=Z,0.9nm,0.6s,baz=318,slow=6.6,SNR=12
comp=Z,0.9nm,0.6s
ARCES **ARCESS Array B** 61.95 338 P **P** 05 06 53.6 +2.2
comp=Z,2.8nm,0.9s,baz=116,slow=5.4,SNR=4.3
comp=Z,2.8nm,0.9s
B22K **Teshekpuk Lake** 76.52 19 P **P** 05 08 21.9 +0.6
B22K IAmb IAmb 05 08 48.5
comp=Z,6.0nm,1.4s
A36M **Sachs Harbour** 82.33 11 P **P** 05 08 53.4 +0.7
A36M IAmb IAmb 05 09 15.1
comp=Z,2.6nm,0.7s
G31M **Satah River** 84.14 17 P **P** 05 09 01.3 -0.8
G31M IAmb IAmb 05 09 22.3
comp=Z,5.3nm,1.4s
TXAR **Lajitas Array** 126.01 19 PKP **PKiKP** 05 15 35.0 +0.9
comp=Z,0.1nm,0.5s,baz=6.7,slow=3.9,SNR=4.3
CPUP **Villa Florida** 153.64 255 PKPbc **PKiKP** 05 16 30.9 +0.6
comp=Z,1.4nm,0.8s,baz=139,slow=1.8,SNR=3.1

*NEIC **25** 04:58:53.3±1.6, 35°.114N±0°.010×97°.57W±0°.02, h6km±3km, Error ellipse: s-maj=2.0km s-min=1.2km az=124.0*
NEIC 25 04:58:53.0±1.6, 35°.118N±0°.010×97°.58W±0°.01, h5km±1km, mb_Lg2.8/75, ML2.6/37, ML2.8/44, Error ellipse: s-maj=2.6km s-min=1.8km az=329.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.20**	**47**		**Pg**	04 58 57.6	+0.7
FNO				Sg	Sg	04 59 00.4	+0.7
FNO				IAML		04 59 04.6	
comp=E,3μm,0.6s							
OKCSW	**OKLAHOMA CITY**	**0.31**	**22**	Pg	Pg	04 58 59.6	+0.6
OKCSW				Sg	Sg	04 59 03.0	-0.1
OKCSW				IAML		04 59 08.1	
comp=E,1μm,0.8s							
OK004	**Okla Sci Mus**	**0.41**	**12**		**Pg**	04 59 01.7	+0.7
OK004					Sb	04 59 08.1	-1.4
BCOK	**Bluff Creek, N**	**0.54**	**358**		**Pg**	04 59 03.9	+0.6
BCOK					Sb	04 59 11.9	-1.1
X34A	**Smith Ranch, M**	**0.56**	**202**	Pg	Pg	04 59 04.2	+0.6
X34A				Sg	Sb	04 59 12.5	-0.9
X34A				IAML		04 59 13.7	
comp=N,379nm,0.6s							
ADOK	**Arcadia Dam**	**0.56**	**18**	Pg	Pg	04 59 04.3	+0.6
W35A	**Tecumseh**	**0.58**	**86**	Pg	Pg	04 59 04.2	0.0
W35A				Sg	Sg	04 59 12.1	+0.4
W35A				IAML		04 59 16.1	
comp=E,326nm,0.4s							
OK029	**Liberty Lake**	**0.69**	**9**	Pg	Pg	04 59 06.3	+0.1
OK029				Sg	Sg	04 59 15.8	+0.8
OK029				IAML		04 59 16.6	
comp=E,284nm,0.4s							
OK029				IAML		04 59 27.1	
comp=E,265nm,0.2s							
OK031	**S. Brethren Rd**	**1.03**	**36**	Pg	Pg	04 59 12.2	-0.6
OK031				Sg	Sg	04 59 26.4	+0.3
CSTR	**Hydr, Custer**	**1.05**	**300**	Pg	Pg	04 59 13.1	0.0
CSTR					Sb	04 59 27.8	+0.2
WMOK	**Wichita Mounta**	**1.06**	**249**	Pg	Pg	04 59 12.1	-1.1
WMOK				Sg	Sg	04 59 27.3	+0.3
OK052	**Battle Ridge R**	**1.08**	**36**	Pg	Pg	04 59 13.2	-0.4
OK052				Sg	Sg	04 59 27.6	-0.1
DEOK	**Depew**	**1.14**	**50**	Pg	Pg	04 59 14.2	-0.7
DEOK				Sg	Sg	04 59 29.6	-0.1
DEOK				IAML		04 59 34.8	
comp=E,374nm,0.3s							
DEOK				IAML		04 59 35.8	
comp=N,416nm,0.2s							
QUOK	**Quay**	**1.27**	**34**	Pg	Pg	04 59 16.3	-1.0
QUOK				Sg	Sg	04 59 33.6	-0.1
OK048	**Pawnee Station**	**1.40**	**22**		Pn	04 59 18.6	-0.5
OK048					Sn	04 59 38.3	+0.3
CROK	**Carrier**	**1.42**	**347**		Pn	04 59 19.3	-0.2
OK051	**E0350 and S346**	**1.51**	**23**		Pn	04 59 20.6	-0.2
WTFS	**Witchita Falls**	**1.53**	**209**		Pn	04 59 20.8	-0.2
OK038	**West end E0370**	**1.65**	**326**		Pn	04 59 23.1	+0.4
TUL3	**Leonard**	**1.66**	**61**		Pn	04 59 22.7	-0.1
BLOK	**Blackwell**	**1.67**	**10**		Pn	04 59 22.9	0.0
GC02	**Grant County #**	**1.74**	**353**	Pn	Pn	04 59 24.2	+0.2
OK032	**Salt Plains WL**	**1.76**	**343**	Pn	Pn	04 59 24.2	+0.1
OK032				IAmb_Lg		04 59 52.0	
comp=Z,52nm,0.9s							
Z35A	**Perchaven, San**	**1.80**	**171**	Pn	Pn	04 59 24.7	-0.1
KAN14	**Manchester OK**	**1.86**	**351**	Pn	Pn	04 59 25.9	+0.3
KAN13	**South Haven SW**	**1.89**	**3**	Pn	Pn	04 59 25.4	-0.5
KAN17	**Caldwell West**	**1.93**	**356**	Pn	Pn	04 59 26.4	-0.1
KAN17				IAmb_Lg		04 59 59.0	
comp=Z,29nm,0.7s							
T35A	**Sooner Cattle**	**1.99**	**25**	Pn	Pn	04 59 27.2	-0.2
KAN05	**Bluff City Nor**	**2.00**	**353**	Pn	Pn	04 59 26.5	-0.9
KAN09	**Caldwell North**	**2.01**	**359**	Pn	Pn	04 59 27.2	-0.5
KAN01	**Argonia South**	**2.04**	**356**	Pn	Pn	04 59 27.5	-0.4
KAN01				IAmb_Lg		05 00 00.4	
comp=Z,60nm,0.8s							
KAN08	**Anthony NE Sta**	**2.13**	**352**	Pn	Pn	04 59 28.9	-0.3
FW06	**Azle**	**2.14**	**179**	Pn	Pn	04 59 29.0	-0.4
SMWD	**Samnorwood**	**2.18**	**270**	Pn	Pn	04 59 29.9	-0.1
SMWD				IAmb_Lg		05 00 05.3	
comp=Z,65nm,0.9s							
PLPT	**Palo Pinto**	**2.38**	**195**	Pn	Pn	04 59 32.2	-0.4
FW07	**Weatherford**	**2.42**	**184**	Pn	Pn	04 59 32.7	-0.4
FW07				IAmb_Lg		05 00 10.0	
comp=Z,31nm,0.8s							
TREL	**Terrell**	**2.69**	**152**	Pn	Pn	04 59 36.2	-0.6
TREL				IAmb_Lg		05 00 21.8	
comp=Z,30nm,1.1s							
APMT	**Aspermont**	**2.76**	**230**	Pn	Pn	04 59 38.3	+0.4
FW13	**Cleburne**	**2.76**	**177**	Pn	Pn	04 59 37.6	-0.4
Z38A	**Mt. Pleasant**	**2.84**	**130**	Pn	Pn	04 59 39.7	+0.8
Z38A				IAmb_Lg		05 00 27.3	
comp=Z,29nm,0.8s							
U38A	**Gravette**	**2.91**	**62**	Pn	Pn	04 59 39.5	-0.5
ABTX	**Abilene, Hawle**	**3.02**	**215**	Pn	Pn	04 59 41.1	-0.4
DKNS	**Dickens**	**3.12**	**243**	Pn	Pn	04 59 43.8	+0.9
DKNS				IAmb_Lg		05 00 40.4	
comp=Z,20nm,0.8s							
WHTX	**Lake Whitney,**	**3.12**	**178**	Pn	Pn	04 59 43.1	+0.2
HHAR	**Hobbs**	**3.18**	**68**	Pn	Pn	04 59 44.1	+0.4
MIAR	**Mount Ida**	**3.34**	**99**	Pn	Pn	04 59 46.5	+0.6
MIAR				IAmb_Lg		05 00 46.9	
comp=Z,21nm,0.8s							
SN07	**Snyder 07**	**3.41**	**235**	IAmb_Lg		05 00 44.7	
comp=Z,22nm,0.9s							
237A	**Washetta, Mont**	**3.44**	**154**	Pn	Pn	04 59 46.6	-0.7
237A				IAmb_Lg		05 00 50.9	
comp=Z,21nm,0.7s							
SN05	**Snyder 5**	**3.54**	**232**	IAmb_Lg		05 00 49.3	
comp=Z,22nm,0.9s							
POST	**Post**	**3.84**	**239**	Pn	Pn	04 59 53.5	+0.7
POST				IAmb_Lg		05 01 00.2	
comp=Z,24nm,1.0s							
X40A	**Basin Creek Fa**	**3.96**	**98**	Pn	Pn	04 59 52.5	-1.9
X40A				IAmb_Lg		05 01 02.0	
comp=Z,24nm,1.0s							
WLAR	**White Oak Lake**	**3.96**	**110**	IAmb_Lg		05 01 08.0	
comp=Z,23nm,0.9s							
BRDY	**Brady**	**4.00**	**198**	Pn	Pn	04 59 54.8	-0.2
BRDY				IAmb_Lg		05 01 02.5	
comp=Z,19nm,0.8s							
KSU1	**Kansas State U**	**4.05**	**11**	Pn	Pn	04 59 55.3	-0.4
KSU1				IAmb_Lg		05 01 09.7	
comp=Z,39nm,1.1s							

CBKS	**Cedar Bluff**	**4.07**	**336**	Pn	Pn	04 59 55.7	-0.3
CBKS				IAmb_Lg		05 01 07.7	
comp=Z,22nm,0.7s							
UALR	**University of**	**4.32**	**93**	Pn	Pn	04 59 58.9	-0.3
UALR				IAmb_Lg		05 01 11.9	
comp=Z,26nm,0.9s							
435B	**Jarrell**	**4.32**	**180**	Pn	Pn	04 59 59.4	0.0
435B				IAmb_Lg		05 01 18.3	
comp=Z,17nm,0.8s							
WHAR	**Wooly Hollow**	**4.34**	**86**	Pn	Pn	04 59 59.9	+0.3
WHAR				IAmb_Lg		05 01 15.2	
comp=Z,26nm,0.9s							
SGCY	**Sterling City**	**4.36**	**224**	Pn	Pn	04 59 59.2	-0.7
SGCY				IAmb_Lg		05 01 19.6	
comp=Z,17nm,0.8s							
Z41A	**Richland Creek**	**4.37**	**114**	IAmb_Lg		05 01 23.6	
comp=Z,23nm,0.9s							
RTBA	**Rita Blanca**	**4.39**	**289**	Pn	Pn	05 00 01.0	+0.5
MSTX	**Muleshoe**	**4.43**	**257**	Pn	Pn	05 00 01.5	+0.5
MGMO	**Mountain Grove**	**4.75**	**63**	Pn	Pn	05 00 05.6	+0.2
JCT	**Junction City**	**4.99**	**203**	IAmb_Lg		05 01 42.4	
comp=Z,25nm,0.8s							
OZNA	**Ozona**	**5.14**	**216**	Pn	Pn	05 00 10.1	-0.6
OZNA				IAmb_Lg		05 01 47.4	
comp=Z,13nm,0.8s							
R40A	**Maddies Statio**	**5.31**	**52**	Pn	Pn	05 00 12.6	-0.4
R40A				IAmb_Lg		05 01 50.9	
comp=Z,26nm,1.1s							
LCAR	**Lake Charles**	**5.32**	**78**	Pn	Pn	05 00 13.1	0.0
LCAR				IAmb_Lg		05 01 47.4	
comp=Z,11nm,0.8s							
P38A	**Dawn**	**5.53**	**34**	Pn	Pn	05 00 15.3	-0.7
P38A				IAmb_Lg		05 01 55.2	
comp=Z,19nm,0.7s							
T42A	**Van Buren**	**5.59**	**68**	Pn	Pn	05 00 17.3	+0.5
T42A				IAmb_Lg		05 01 59.6	
comp=Z,12nm,0.8s							
MNHN	**Monahans**	**5.75**	**230**	IAmb_Lg		05 02 02.2	
comp=Z,14nm,1.1s							
HNDO	**Hondo**	**5.76**	**195**	Pn	Pn	05 00 17.9	-1.1
CCM	**Cathedral Cave**	**5.88**	**58**	Pn	Pn	05 00 17.8	-2.9
T25A	**Trinidad**	**5.88**	**292**	IAmb_Lg		05 02 10.6	
comp=Z,16nm,0.8s							
N35A	**Tabor**	**5.93**	**14**	Pn	Pn	05 00 20.5	-1.0
PBMO	**Poplar Bluff**	**6.03**	**72**	IAmb_Lg		05 02 05.2	
comp=Z,24nm,0.8s							
DRIO	**Del Rio**	**6.23**	**205**	Pn	Pn	05 00 25.7	0.0
BGNE	**Belgrade**	**6.30**	**356**	Pn	Pn	05 00 25.4	-1.1
SAND	**Sanderson**	**6.42**	**218**	Pn	Pn	05 00 27.5	-0.8
SAND				IAmb_Lg		05 02 27.1	
comp=Z,7.8nm,0.9s							
FVM	**French Village**	**6.43**	**62**	IAmb_Lg		05 02 30.9	
comp=Z,13nm,0.8s							
CGM3	**Cape Girardeau**	**6.76**	**69**	IAmb_Lg		05 02 31.3	
comp=Z,8.4nm,0.8s							
OGNE	**Ogallala**	**6.79**	**330**	Pn	Pn	05 00 34.2	+0.8
SDCO	**Great Sand Dun**	**6.90**	**295**	Pn	Pn	05 00 32.9	-2.2
ALPN	**Alpine**	**6.96**	**229**	Pn	Pn	05 00 35.2	-0.5
Q24A	**Divide**	**7.17**	**305**	IAmb_Lg		05 02 43.9	
comp=Z,12nm,0.8s							
VHRN	**Van Horn**	**7.57**	**237**	IAmb_Lg		05 03 02.1	
comp=Z,9.3nm,1.1s							
ECSD	**EROS Data Cent**	**8.64**	**5**	Pn	Pn	05 00 57.4	-1.2

*PDG **25** 05:20:06.6±0.0, 43°.08N×18°.09E, h12km, MD2.5/1, ML2.4/13, Error ellipse: s-maj=0.1km s-min=0.0km az=90.0*
*BEO **25** 05:20:06.9±0.3, 43°.06N×18°.07E, h8km±3km, ML1.8/10*
*RHSSO **25** 05:20:07.5±0.3, 43°.02N×18°.12E, h4km±3km, ML2.2/7*
ISC 25 05:20:06.7±1.0, 43°.07N±0°.02×18°.10E±0°.02, h5km±9km, n42, σ0$87/74, 8C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.35**	**236**	⇑iPg	**Pg**	**05 20 13.5**	**-0.1**
STON				eSg	**Sg**	**05 20 19.0**	**+0.8**
STON	**Ston**	**0.35**	**236**	iPg	**Pg**	**05 20 13.4**	**-0.1**
STON				Sg	**Sg**	**05 20 19.1**	**+0.9**
STON	**Ston**	**0.35**	**236**	ePg	**Pg**	**05 20 13.4**	**-0.1**
STON				eSg	**Sg**	**05 20 19.0**	**+0.8**
BRY	**Bratogost**	**0.36**	**117**	⇑iPg	**Pg**	**05 20 13.7**	**-0.1**
BRY				iSg	**Sg**	**05 20 19.7**	**+1.1**
TREB	**Trebinje**	**0.40**	**152**	⇓iPg	**Pg**	**05 20 13.9**	**-0.5**
TREB				eSg	**Sg**	**05 20 20.0**	**+0.4**
TREB	**Trebinje**	**0.40**	**152**	ePg	**Pg**	**05 20 13.9**	**-0.5**
TREB				eSg	**Sg**	**05 20 19.9**	**+0.4**
DBRK	**Dubrovnik**	**0.40**	**175**	ePg	**Pg**	**05 20 14.1**	**-0.4**
UPM	**Unac-Piva**	**0.60**	**77**	ePg	**Pg**	**05 20 18.0**	**-0.4**
UPM				iSg	**Sg**	**05 20 27.6**	**+1.4**
HCY	**Herceg Novi**	**0.69**	**155**	⇑iPg	**Pg**	**05 20 19.0**	**-0.9**
HCY				iSg	**Sb**	**05 20 30.1**	**-0.8**
NKME	**Niksic**	**0.70**	**116**	ePg	**Pg**	**05 20 19.7**	**-0.4**
NKME				iSg	**Sb**	**05 20 30.9**	**-0.4**
CEME	**Cevo**	**0.80**	**131**	ePg	**Pg**	**05 20 21.6**	**-0.4**
CEME				iSg	**Sb**	**05 20 34.4**	**+0.2**
MAKA	**Makarska**	**0.82**	**286**	ePg	**Pg**	**05 20 21.6**	**-0.8**
LSTV	**Lastovo**	**0.94**	**252**	ePg	**Pg**	**05 20 23.3**	**-1.4**
BUM	**Brajici-Budva**	**0.97**	**142**	ePg	**Pg**	**05 20 24.6**	**-0.6**
BUM				iSg	**Sn**	**05 20 40.1**	**-1.0**
PLE	**Pljevlja**	**0.98**	**74**	⇑iPg	**Pg**	**05 20 24.8**	**-0.7**
PLE				iSg	**Sb**	**05 20 40.3**	**+0.8**
KOME	**Kolasin**	**1.06**	**101**	⇓iPg	**Pg**	**05 20 26.4**	**-0.7**
KOME				iSg	**Sn**	**05 20 43.2**	**-0.3**
PDG	**Podgorica**	**1.06**	**127**	ePg	**Pg**	**05 20 26.6**	**-0.6**
PDG				eSg	**Sb**	**05 20 42.2**	**+0.4**
PDG	**Podgorica**	**1.06**	**127**	ePg	**Pg**	**05 20 26.5**	**-0.6**
PDG				iSg	**Sn**	**05 20 43.4**	**0.0**
RUDO	**Rudo**	**1.08**	**59**	ePg	**Pg**	**05 20 26.2**	**-1.2**
RUDO				eSg	**Sg**	**05 20 41.6**	**+0.3**
RUDO	**Rudo**	**1.08**	**59**	ePg	**Pg**	**05 20 26.4**	**-1.0**
RUDO				eSg	**Sg**	**05 20 41.3**	**0.0**
HAPS	**Han Pijesak,Bl**	**1.19**	**31**	⇑iPg	**Pg**	**05 20 29.7**	**+0.2**
HAPS				eSg	**Sn**	**05 20 46.9**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.19**	**31**	ePg	**Pg**	**05 20 29.3**	**-0.2**
HAPS				eSg	**Sg**	**05 20 45.2**	**+0.2**
DRME	**Dracevica, Mon**	**1.19**	**137**	⇑iPg	**Pb**	**05 20 28.8**	**-1.0**
DRME				iSg	**Sn**	**05 20 47.7**	**+1.1**
HVAR	**Hvar**	**1.21**	**276**	ePg	**Pb**	**05 20 28.5**	**-1.6**
HVAR				Sg	**Sb**	**05 20 46.2**	**+0.1**
BBLS	**Lazi&#263i**	**1.24**	**50**	ePg	**Pn**	**05 20 29.9**	**-0.9**
BBLS				eSg	**Sg**	**05 20 47.4**	**+0.8**
IVA	**Berane**	**1.33**	**98**	ePg	**Pn**	**05 20 31.3**	**-0.7**
IVA				iSg	**Sn**	**05 20 52.3**	**+2.1**
SJES	**Sjenica**	**1.38**	**81**	ePg	**Pn**	**05 20 32.3**	**-0.5**
SJES				eSg	**Sg**	**05 20 52.3**	**+1.1**
ULC	**Ulcinj**	**1.39**	**142**	ePg	**Pn**	**05 20 32.5**	**-0.3**
ULC				iSg	**Sg**	**05 20 54.1**	**+2.7**
PVY	**Plav**	**1.45**	**109**	ePg	**Pn**	**05 20 33.7**	**0.0**
PVY				iSg	**Sg**	**05 20 55.4**	**+2.2**
KIJV	**Kijevo**	**1.55**	**308**	ePn	**Pb**	**05 20 35.3**	**-0.5**
DIVS	**Divibare**	**1.72**	**53**	ePn	**Pn**	**05 20 36.5**	**-0.8**
BLY	**Banja Luka**	**1.80**	**339**	ePn	**Pn**	**05 20 39.2**	**+0.7**
BLY				eSn	**Sg**	**05 21 04.5**	**-0.2**
TEKS	**Tekeris**	**1.81**	**34**	ePn	**Pn**	**05 20 37.8**	**-0.7**
A050A	**Klekovaca**	**1.81**	**322**	⇑iPn	**Pb**	**05 20 40.5**	**+0.1**
A050A				eSn	**Sg**	**05 21 04.7**	**-0.2**
MORI	**Morici**	**1.92**	**295**	ePn	**Pb**	**05 20 41.3**	**-0.8**
TRUS	**Trudelj**	**2.03**	**55**	ePn	**Pb**	**05 20 42.4**	**+0.8**
GRUS	**Gruza**	**2.07**	**66**	ePn	**Pn**	**05 20 41.8**	**-0.3**
A051A	**Mrakovica**	**2.12**	**337**	⇑iPn	**Pn**	**05 20 43.8**	**+0.9**
A051A				eSn	**Sb**	**05 21 11.6**	**-0.8**
SELS	**Selova**	**2.21**	**85**	ePn	**Pn**	**05 20 44.6**	**+0.5**
SELS				eSn	**Sn**	**05 21 11.5**	**-0.4**
BOJS	**Bojanci**	**3.18**	**321**	ePn	**Pn**	**05 20 58.5**	**+1.1**
BOJS				eSn	**Sn**	**05 21 37.1**	**+1.5**
CEY	**Cerknica**	**3.75**	**317**	eSn	**Sn**	**05 21 50.5**	**+0.8**
SKDS	**Skadanscina**	**3.84**	**312**	ePn	**Pn**	**05 21 07.7**	**+1.3**
SKDS				eSn	**Sn**	**05 21 52.5**	**+0.6**

*GCG **25** 05:39:26.4±1.7, 14°.15N×91°.27W, h67km±11km, MD4.0, MW3.3*
*CATAC **25** 05:39:26.4±0.7, 14°N±7°×9°1W±°, h36km±16km, M3.5/8, MLv3.5/8, Error ellipse: s-maj=17.5km s-min=8.1km az=38.1, confirmed*
*SNET **25** 05:39:27.7±1.1, 14°.16N×91°.22W, h35km±13km, ML3.3*
ISC 25 05:39:25.3±2.0, 14°.1N±0°.1×91°.25W±0°.06, h15km±11km, n38, σ0$71/44, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.33**	**345**	ePg		05 39 40.7	
STG0				iS		05 39 51.7	
STG8	**El Palmar, Qui**	**0.36**	**345**	ePg		05 39 41.3	
STG8				eS		05 39 52.0	
RTAL	**Retalhuleu**	**0.60**	**315**	ePg	**Pn**	**05 39 39.4**	**+0.1**
RTAL				eS	**Sn**	**05 39 48.6**	**-0.3**
RTAL	**Retalhuleu**	**0.60**	**315**	P	**Pn**	**05 39 39.6**	**+0.2**
RTAL				S	**Sn**	**05 39 50.1**	**+1.3**
RTAL	**Retalhuleu**	**0.60**	**315**	P	**Pn**	**05 39 39.8**	**+0.4**
SOKI	**Kika Raxquin**	**0.73**	**348**	ePg	**Pn**	**05 39 42.4**	**+0.9**
SOKI	**Kika Raxquin**	**0.73**	**348**	ePg		05 39 42.4	
ESSJ	**San Jos, E**	**0.91**	**126**	ePg		05 39 38.5	
ESSJ				eS		05 39 49.4	
SMCA	**Catarina**	**1.09**	**313**	ePg	**Pb**	**05 39 45.5**	**-0.4**
SMCA				iS	**Sn**	**05 40 00.2**	**-0.8**
SMCA	**Catarina**	**1.09**	**313**	ePg		05 39 45.5	
SMCA				iS		05 40 00.2	
HUEH	**Huehuetenango**	**1.23**	**349**	ePg	**Pg**	**05 39 49.4**	**+0.3**
HUEH				eS	**Sn**	**05 40 04.4**	**-0.4**
HUEH	**Huehuetenango**	**1.23**	**349**	ePg	**Pg**	**05 39 49.5**	**+0.3**
HUEH	**Huehuetenango**	**1.23**	**349**	ePg		05 39 49.5	
THIG		**1.27**	**309**	iP	**Pn**	**05 39 48.2**	**-0.3**
THIG		**1.27**	**309**	iP		05 39 48.2	
SLOZ	**Alcaldia de Sa**	**1.43**	**93**	ePg	**Pn**	**05 39 51.2**	**+0.4**
SLOZ				eS	**Sb**	**05 40 09.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.43**	**93**	S	**Sg**	**05 40 10.4**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.43**	**93**	P	**Pb**	**05 39 51.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.43**	**93**	S	**Sg**	**05 40 11.3**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.43**	**93**	P	**Pb**	**05 39 51.7**	**-0.1**
NUBE	**Las Nubes**	**1.44**	**98**	ePg	**Pn**	**05 39 51.0**	**-0.1**
NUBE				eS	**Sn**	**05 40 08.5**	**-1.3**
NUBE	**Las Nubes**	**1.44**	**98**	S	**Sn**	**05 40 09.3**	**-0.6**
NUBE	**Las Nubes**	**1.44**	**98**	P	**Pn**	**05 39 51.4**	**+0.3**
NUBE	**Las Nubes**	**1.44**	**98**	S	**Sn**	**05 40 09.9**	**0.0**
NUBE	**Las Nubes**	**1.44**	**98**	P	**Pn**	**05 39 51.2**	**+0.1**
NUBE	**Las Nubes**	**1.44**	**98**	ePg	**Pn**	**05 39 51.2**	**+0.1**
NUBE				iS	**Sn**	**05 40 09.1**	**-0.7**
NUBE	**Las Nubes**	**1.44**	**98**	ePg		05 39 51.2	
NUBE				iS		05 40 09.1	
SBLS	**San Blas**	**1.60**	**99**	ePg	**Pn**	**05 39 53.5**	**+0.2**
CEVE	**Cerro Verde**	**1.60**	**100**	ePg	**Pn**	**05 39 54.0**	**+0.6**
CEVE				IAML		05 40 18.3	
comp=Z,699nm,0.3s							
JAYA	**Jayaque - finc**	**1.81**	**104**	ePg	**Pn**	**05 39 55.9**	**-0.2**
JAYA				IAML		05 40 20.8	
comp=Z,401nm,0.2s							
JAYA	**Jayaque - finc**	**1.81**	**104**	S	**Sn**	**05 40 17.9**	**-0.9**
JAYA	**Jayaque - finc**	**1.81**	**104**	P	**Pn**	**05 39 56.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.81**	**104**	S	**Sn**	**05 40 18.9**	**0.0**
JAYA	**Jayaque - finc**	**1.81**	**104**	P	**Pn**	**05 39 56.2**	**+0.1**
MTO3	**Montecristo**	**1.86**	**81**	P	**Pn**	**05 39 56.7**	**-0.1**
PMON	**Piamonte**	**1.92**	**101**	ePg	**Pn**	**05 39 58.3**	**+0.7**
PMON	**Piamonte**	**1.92**	**101**	P	**Pn**	**05 39 58.7**	**+1.1**
PMON	**Piamonte**	**1.92**	**101**	S	**Sn**	**05 40 22.3**	**+0.6**
PMON	**Piamonte**	**1.92**	**101**	P	**Pn**	**05 39 58.6**	**+1.0**
LOMA	**Loma Larga**	**2.07**	**102**	ePg	**Pn**	**05 40 00.5**	**+0.8**
COEG	**Centro de Oper**	**2.35**	**101**	ePg	**Pn**	**05 40 03.6**	**+0.1**
COEG				IAML		05 40 44.4	
comp=Z,110nm,0.4s							
COEG	**Centro de Oper**	**2.35**	**101**	P	**Pn**	**05 40 04.0**	**+0.4**
COEG	**Centro de Oper**	**2.35**	**101**	P	**Pn**	**05 40 05.1**	**+1.6**
LCND	**La Caada**	**3.36**	**103**	IAML		05 41 10.1	
comp=Z,54nm,0.3s							
CNCH	**Conchagua**	**3.42**	**103**	P	**Pn**	**05 40 18.5**	**+0.2**
CNCH	**Conchagua**	**3.42**	**103**	P	**Pn**	**05 40 20.4**	**+2.1**

*IDC **25** 05:45:47.5±5.2, 7°.39S×128°.23E, h110km±47km, mb3.4/5, mbtmp4.0/8, Error ellipse: s-maj=68.0km s-min=23.4km az=67.0*
ISC 25 05:45:46.9±1.0, 7°.55S±0°.09×128°.1E±0°.2, h100km, n10, σ2$03/12, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.77**	**193**	P	**Pn**	**05 48 20.1**	**+2.0**
6.6nm,0.5s,baz=20,slow=11,SNR=36							
FITZ				S	**Sn**	**05 50 14.7**	**-1.9**
7.1nm,0.3s,baz=269,slow=18,SNR=6.3							
WRA	**Warramunga Arr**	**13.71**	**155**	P	**Pn**	**05 48 58.4**	**+1.2**
3.3nm,0.8s,baz=327,slow=14,SNR=18							
WRA				S	Sn	05 51 21.9	-6.3
9.4nm,0.8s,baz=328,slow=22,SNR=11							
ASAR	**Alice Spring

GGPT	Toaza - Volcan	2.12	79	⇑P	Pn	05 55 33.6	-1.6
TAMH	Tambohuasha Ch	2.14	116	⇓P	Pn	05 55 34.6	-0.8
JUA2	San Juan 2	2.14	79	⇓P	Pn	05 55 34.2	-1.3
PINO	Pino	2.15	78	⇓P	Pn	05 55 33.8	-1.9
TERV	Terraza Guagua	2.15	78	P	Pn	05 55 33.9	-1.8
GGPC	Guagua Pichinc	2.15	78	P	Pn	05 55 34.4	-1.4
YANA	Yana	2.19	77	P	Pn	05 55 35.1	-1.2
CAMI	Rancho Maria	2.20	92	⇑P	Pn	05 55 36.1	-0.3
SLOR	San Lorenzo -	2.21	93	⇓P	Pn	05 55 36.1	-0.4
BRRN	Barrancas-Volc	2.24	94	⇓P	Pn	05 55 36.1	-0.7
IGUA	Igualata	2.24	113	⇓P	Pn	05 55 36.6	-0.4
BMOR	Cotopaxi Volca	2.25	93	⇓P	Pn	05 55 36.5	-0.6
BREF	Cotopaxi Volca	2.27	91	⇓P	Pn	05 55 37.4	0.0
FENY	Casa Vinicio C	2.27	78	P	Pn	05 55 37.5	+0.3
PITA	Cotopaxi Volc	2.27	89	P	Pn	05 55 37.1	-0.3
TING	Casa Alexandra	2.28	82	P	Pn	05 55 37.5	+0.2
PULU	Pululahua	2.29	74	P	Pn	05 55 36.7	-0.9
BVC2	Cotopaxi Volca	2.29	91	⇓P	Pn	05 55 37.6	-0.2
VC1	Cotopaxi 1	2.30	91	P	Pn	05 55 37.8	0.0
BTAM	Cotopaxi Volca	2.31	92	⇓P	Pn	05 55 37.7	-0.2
VCES	Cotopaxi	2.32	95	P	Pn	05 55 38.3	+0.3
TAMB	Tambo	2.34	92	P	Pn	05 55 38.0	-0.3
COHC	Cochancay	2.34	142	P	Pn	05 55 37.8	-0.1
PIS1	Pisayambo	2.36	101	P	Pn	05 55 39.1	+0.5
BBIL	Ulba Tungurahu	2.37	111	P	Pn	05 55 39.3	+0.7
JUI6	Juive	2.38	110	P	Pn	05 55 39.8	+1.1
POND	Pondoa	2.39	110	⇓P	Pn	05 55 39.7	+0.8
ISPG	Isla Puna-Puer	2.40	167	P	Pb	05 55 43.0	+0.5
OTAV	Otavalo	2.41	69	P	Pn	05 55 38.1	-1.1
OTAV				S	Sn	05 56 08.0	-1.2
OTAV	Otavalo	2.41	69	⇑P	Pn	05 55 38.1	-1.1
OTAV	Otavalo	2.41	69	P	Pn	05 55 38.1	-1.1
OTAV				S	Sn	05 56 08.0	-1.2
ARRY	Arrayan	2.42	112	P	Pn	05 55 39.4	+0.2
BULB	Ulba Tungurahu	2.44	110	P	Pn	05 55 39.9	+0.4
ANTG	Antisana-Guama	2.45	87	P	Pn	05 55 40.2	+0.3
PIAT	Ana Tenorio	2.47	99	P	Pn	05 55 40.7	+0.7
PIAT				S	Sn	05 56 11.3	+0.5
PIAT	Ana Tenorio	2.47	99	P	Pn	05 55 41.5	+1.4
PIAT	Ana Tenorio	2.47	99	P	Pn	05 55 40.7	+0.7
PIAT				S	Sn	05 56 11.3	+0.5
CUSE	Cuicocha Este	2.48	68	P	Pn	05 55 39.2	-1.0
CUSE				S	Sn	05 56 11.0	0.0
CUSE	Cuicocha Este	2.48	68	P	Pn	05 55 39.2	-1.0
CUSE	Cuicocha Este	2.48	68	P	Pn	05 55 39.2	-1.0
CUSE				S	Sn	05 56 11.0	0.0
ANTM	Antisana-La Mi	2.48	88	P	Pn	05 55 40.9	+0.6
CUSW	Cuicocha Oeste	2.52	69	P	Pn	05 55 41.5	+0.8
ANTS	Antisana-Sarah	2.54	87	⇑P	Pn	05 55 41.7	+0.6
COTA	Cotacachi	2.55	68	P	Pn	05 55 40.8	-0.4
ANTI	Antisana	2.55	86	P	Pn	05 55 41.4	+0.1
SNLR	San Lorenzo-Es	2.65	44	P	Pb	05 55 45.1	-1.7
IMBA	Imbabura, San	2.66	71	⇑P	Pn	05 55 43.5	+0.8
URCU	Urcuqui	2.66	67	⇑P	Pn	05 55 42.3	-0.4
LITE1	Lita	2.73	59	P	Pn	05 55 40.8	-2.6
AIB2	Ibarra (Univer	2.77	70	P	Pn	05 55 45.6	+1.6
ANGU	Angureal	2.78	76	⇓P	Pn	05 55 45.6	+1.2
CAYA	Cayambe	2.80	76	P	Pn	05 55 46.2	+1.6
YAHU	Yahuarcocha	2.81	70	P	Pn	05 55 45.7	+1.0
ARDO	Archidona, Ten	2.93	97	P	Pn	05 55 48.1	+2.1
ARNL	Arenillas	2.98	168	P	Pn	05 55 47.2	+0.5
CHMA	Chilma	3.02	61	P	Pn	05 55 45.6	-1.9
ECEN	Cerro Negro	3.08	62	P	Pn	05 55 48.1	-0.5
CHL1	Volc¡n Chiles	3.09	63	⇑P	Pn	05 55 48.2	-0.5
CHL2	Volc¡n Chiles	3.12	63	P	Pn	05 55 49.1	+0.1
REVS	Reventador Sur	3.13	81	P	Pn	05 55 52.2	+3.2
TUMC	Tumaco	3.13	39	P	Pn	05 55 47.8	-0.9
TUMC				S	Sb	05 56 35.2	+1.9
TUMC	Tumaco	3.13	39	P	Pn	05 55 47.6	-1.1
TUMC	Tumaco	3.13	39	P	Pn	05 55 47.8	-0.9
TUMC				S	Sb	05 56 35.2	+1.9
CMBC	Cumbal	3.27	62	P	Pn	05 55 52.8	+1.8
CMBC				S	Sb	05 56 34.8	-3.0
CMBC	Cumbal	3.27	62	P	Pn	05 55 49.5	-1.5
CMBC	Cumbal	3.27	62	P	Pn	05 55 52.8	+1.8
CMBC				S	Sb	05 56 34.8	-3.0
CASC	Dorado de Casc	3.45	78	P	Pn	05 55 56.7	+3.5
GCUF	Volcan Galeras	3.83	61	P	Pn	05 55 59.8	+1.1
GCUF	Volcan Galeras	3.83	61	P	Pn	05 55 59.8	+1.1
GONZ	Gonzanam	3.83	160	P	Pn	05 56 01.0	+2.3
CRUC	La Cruz	4.33	60	P	Pn	05 56 07.7	+2.1
CRUC	La Cruz	4.33	60	P	Pn	05 56 07.7	+2.1
BBAC	Balboa, Cauca	4.34	53	P	Pn	05 56 04.0	-1.5
BBAC				S	Sn	05 56 58.7	+2.1
BBAC	Balboa, Cauca	4.34	53	P	Pn	05 56 04.0	-1.5
BBAC	Balboa, Cauca	4.34	53	P	Pn	05 56 04.0	-1.5
BBAC				S	Sn	05 56 58.7	+2.1
GR1C	Gorgona, Isla	4.40	35	P	Pn	05 56 06.0	-0.2
GR1C	Gorgona, Isla	4.40	35	P	Pn	05 56 06.0	-0.2
POPC	Popayan, Colom	5.10	52	P	Pn	05 56 14.9	-1.2
	377nm32nm,0.9s						
POPC				S	Sn	05 57 19.8	+4.3
	377nm32nm,0.9s						
POPC	Popayan, Colom	5.10	52	P	Pn	05 56 14.9	-1.2
	377nm32nm,0.9s						
POPC				S	Sn	05 57 19.8	+4.3
	377nm32nm,0.9s						
FLOC	Florencia	5.50	67	P	Pn	05 56 28.2	+6.8
JAMC	Jamundi, Valle	5.54	47	P	Pn	05 56 19.3	-2.8
	484nm25nm,0.4s						
JAMC	Jamundi, Valle	5.54	47	P	Pn	05 56 19.3	-2.8
	484nm25nm,0.4s						
MALC	Bahia Malaga	5.70	36	P	Pn	05 56 25.7	+1.6
MALC	Bahia Malaga	5.70	36	P	Pn	05 56 25.7	+1.6
GARC	Garzon, Huila	5.91	62	P	Pn	05 56 29.7	+2.5
	503nm25nm,0.6s						
GARC	Garzon, Huila	5.91	62	P	Pn	05 56 29.7	+2.5
	503nm25nm,0.6s						
PTLC	Puerto Leguiza	5.96	83	P	Pn	05 56 27.3	-0.4
YOTC	Yotoco, Valle	6.31	44	P	Pn	05 56 29.8	-2.8
	8.2nm,0.6s						
YOTC	Yotoco, Valle	6.31	44	P	Pn	05 56 29.8	-2.8
	8.2nm,0.6s						
PLMC	San Jos del P	7.04	39	P	Pn	05 56 43.5	+0.9
	25µm432nm14nm,0.4s						
PLMC	San Jos del P	7.04	39	P	Pn	05 56 43.5	+0.9
	25µm432nm14nm,0.4s						
ORTC	Ortega, Tolima	7.07	50	P	Pn	05 56 44.9	+2.0
	442nm48nm,1.1s						
ORTC	Ortega, Tolima	7.07	50	P	Pn	05 56 44.9	+2.0
	442nm48nm,1.1s						
PRAC	Prado	7.23	53	P	Pn	05 56 47.6	+2.4
	19nm,0.7s						
PRAC	Prado	7.23	53	P	Pn	05 56 47.6	+2.4
	19nm,0.7s						
URMC	La Uribe, Meta	7.40	59	P	Pn	05 56 48.4	+0.9
	27nm,0.8s						
URMC	La Uribe, Meta	7.40	59	P	Pn	05 56 48.4	+0.9
	27nm,0.8s						
GUY2C	Guyana, Caldas	7.88	43	P	Pn	05 57 02.3	+7.8
GUY2C	Guyana, Caldas	7.88	43	P	Pn	05 57 02.3	+7.8
CBOC	Ciudad Bolivar	7.96	36	P	Pn	05 56 56.9	+1.6
CBOC	Ciudad Bolivar	7.96	36	P	Pn	05 56 56.9	+1.6

NEIC ***25*** *05:58:27.2±1.4, 61°.37N±0°.02×150°.00W±0°.05, h46km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=138.0*

AEIC 25 05:58:27.8±1.0, 61°.34N±0°.02×150°.01W±0°.05, h38km±3km, ML3.3, ML3.4/196(NEIC), **Error ellipse: s-maj=3.8km s-min=3.2km az=120.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.22**	**207**		Pn	05 58 35.4	-1.0
FIS					Sn	05 58 42.8	-1.4
FIS				IAML		05 58 43.3	
	comp=E,6µm,0.3s						
RC01	**Rabbit Creek A**	**0.28**	**151**		Pn	05 58 35.1	-0.9
RC01					Sn	05 58 41.7	-1.3
RC01				IAML		05 58 46.5	
	comp=N,2µm,0.3s						
M22K	**Willow**	**0.42**	**353**		Pn	05 58 35.8	-1.4
M22K					Sn	05 58 43.9	-0.2
M22K				IAML		05 58 44.5	
	comp=E,3µm,0.3s						
M22K				IAML		05 58 48.3	
	comp=N,2µm,0.4s						
PMR	**Palmer**	**0.50**	**58**		Pn	05 58 37.1	-1.2
PMR				Sn	Sn	05 58 45.1	-0.6
PMR				IAML		05 58 45.6	
	comp=E,3µm,0.4s						
GHO	**Glory Hole Cre**	**0.68**	**50**		Pn	05 58 39.7	-1.3
GHO					Sn	05 58 49.7	-0.8
KNK	**Knik Glacier**	**0.75**	**83**		Pn	05 58 41.1	-0.8
KNK					Sn	05 58 52.5	+0.4
KNK				IAML		05 58 55.1	
	comp=N,2µm,0.4s						
KNK				IAML		05 58 55.8	
	comp=E,2µm,0.2s						
CAPN	**Captain Cook N**	**0.80**	**225**		Pn	05 58 42.9	+0.4
CAPN				IAML		05 58 57.6	
	comp=N,2µm,0.6s						
SLKM	**Skilak Lake**	**0.84**	**187**		Pn	05 58 41.9	-1.2
SLKM					Sn	05 58 55.2	+1.0
SLKM				IAML		05 58 56.2	
	comp=N,2µm,0.2s						
O22K	**Cooper Landing**	**0.87**	**171**		Pn	05 58 42.8	-0.6
O22K					Sn	05 58 54.7	-0.2
STLK	**Strandline Lak**	**0.89**	**281**		Pn	05 58 42.9	-1.0
STLK					Sn	05 58 55.2	-0.4
SML	**Sawmill**	**0.93**	**59**		Pn	05 58 43.2	-1.2
SML					Sn	05 58 55.9	-0.7
SML				IAML		05 58 59.0	
	comp=E,1µm,0.8s						
SML				IAML		05 58 59.6	
	comp=N,1µm,0.2s						
PWL	**Port Wells**	**0.95**	**120**	Pn	Pn	05 58 44.2	-0.3
SKT	**Skwentna**	**0.97**	**312**		Pn	05 58 43.6	-1.3
SKT				IAML		05 58 57.0	
	comp=E,2µm,0.5s						
SPCR	**Spurr Chakacha**	**1.07**	**264**		Pn	05 58 45.2	-1.1
CUT	**Chulitna**	**1.08**	**354**		Pn	05 58 45.2	-1.1
SPBG	**Spurr Blockage**	**1.14**	**267**		Pn	05 58 46.4	-0.8
SEW	**Seward**	**1.27**	**167**		Pn	05 58 47.7	-1.2
SCM	**Sheep Creek Mo**	**1.38**	**68**		Pn	05 58 50.2	-0.3
GLI	**Glacier Island**	**1.49**	**107**		Pn	05 58 51.3	-0.7
GLI				IAML		05 59 12.4	
	comp=N,888nm,0.5s						
RDJH	**Redoubt Jeurge**	**1.55**	**242**		Pn	05 58 52.3	-0.6
M20K	**Styx River**	**1.59**	**292**		Pn	05 58 52.9	-0.5
M20K				IAML		05 59 15.9	
	comp=N,349nm,0.8s						
NCT	**North Crescent**	**1.62**	**243**		Pn	05 58 53.3	-0.6
BRLK	**Bradley Lake**	**1.64**	**196**		Pn	05 58 53.5	-0.5
BRLK				IAML		05 59 17.4	
	comp=E,408nm,0.5s						
BRLK				IAML		05 59 19.9	
	comp=N,260nm,0.2s						
FID	**Port Fidalgo**	**1.82**	**107**	Pn	Pn	05 58 55.2	-1.3
FID				IAML		05 59 25.5	
	comp=E,474nm,0.4s						
P23K	**Montague Islan**	**1.86**	**135**		Pn	05 58 55.5	-1.6
HOM	**Homer**	**1.87**	**206**		Pn	05 58 57.1	0.0
PPLA	**Purkeypile**	**1.87**	**328**		Pn	05 58 56.9	-0.4
CNPM	**China Poot**	**1.92**	**199**		Pn	05 58 57.1	-0.7
CNPM				IAML		05 59 25.4	
	comp=N,302nm,0.5s						
CNPM				IAML		05 59 27.2	
	comp=E,404nm,0.5s						
HIN	**Hinchinbrook I**	**1.96**	**117**		Pn	05 58 57.9	-0.6
KLU	**Klutina**	**1.97**	**84**		Pn	05 58 58.0	-0.7
KLU				IAML		05 59 29.1	
	comp=N,333nm,0.4s						
KLU				IAML		05 59 31.7	
	comp=E,231nm,0.4s						
M24K	**Tolsona, Glenn**	**1.98**	**65**	Pn	Pn	05 58 59.3	+0.4
M24K				IAML		05 59 31.5	
	comp=E,500nm,0.8s						
M24K				IAML		05 59 33.0	
	comp=N,408nm,1.3s						
ILS	**Iliamna Low So**	**2.04**	**229**		Pn	05 58 59.7	0.0
ILSW	**Iliamna Southw**	**2.05**	**230**		Pn	05 58 59.6	-0.2
ILSW				IAML		05 59 30.7	
	comp=E,210nm,0.7s						
DIV	**Divide**	**2.06**	**94**		Pn	05 58 59.4	-0.5
TRF	**Thorofare Moun**	**2.13**	**357**		Pn	05 59 00.3	-0.6
TRF				IAML		05 59 38.5	
	comp=E,219nm,0.6s						
TRF				IAML		05 59 41.7	
	comp=N,190nm,0.8s						
RND	**Reindeer**	**2.15**	**14**		Pn	05 59 01.2	+0.1
M19K	**Big River Lodg**	**2.17**	**287**		Pn	05 59 00.9	-0.4
EYAK	**Cordova Ski Ar**	**2.23**	**109**	Pn	Pn	05 59 01.3	-0.7
N19K	**Bonanza Creek**	**2.23**	**258**		Pn	05 59 02.0	-0.3
KTH	**Kantishna Hill**	**2.27**	**350**	Pn	Pn	05 59 02.9	+0.2
KTH				IAML		05 59 32.8	
	comp=E,193nm,0.5s						
KTH				IAML		05 59 33.1	
	comp=N,213nm,0.5s						
CAST	**Castle Rocks**	**2.30**	**336**		Pn	05 59 02.9	-0.3
P19K	**Oil Pt**	**2.32**	**225**	Pn	Pn	05 59 03.9	+0.4
O19K	**Port Alsworth**	**2.40**	**243**		Pn	05 59 04.1	-0.4
O19K				IAML		05 59 39.7	
	comp=E,330nm,0.5s						
L19K	**White Mountain**	**2.45**	**292**	Pn	Pn	05 59 05.0	-0.2
MCK	**McKinley**	**2.46**	**11**		Pn	05 59 05.8	+0.6
HARP	**HAARP**	**2.54**	**63**		Pn	05 59 06.7	+0.3
N25K	**Chitina, Valde**	**2.61**	**82**	Pn	Pn	05 59 07.9	+0.4
N25K				IAML		05 59 46.8	
	comp=N,184nm,0.6s						
N25K				IAML		05 59 50.0	
	comp=E,111nm,0.5s						
BMRM	**Bremner River**	**2.65**	**96**	Pn	Pn	05 59 07.5	-0.4
PAX	**Paxson**	**2.69**	**50**		Pn	05 59 08.8	+0.2
K20K	**Telida**	**2.77**	**319**		Pn	05 59 09.0	-0.6
RAGM	**Ragged Mountai**	**2.78**	**108**	Pn	Pn	05 59 09.4	-0.4
WACK	**Wrangell Chich**	**2.79**	**74**		Pn	05 59 10.1	0.0
BPAW	**Bear Paw Mtn.**	**2.81**	**351**	Pn	Pn	05 59 09.3	-0.9
BWN	**Browne**	**2.86**	**5**		Pn	05 59 10.7	0.0
N18K	**Kilae Creek**	**2.94**	**260**	Pn	Pn	05 59 11.3	-0.6
O18K	**Koktuh Hills**	**2.96**	**242**	Pn	Pn	05 59 11.5	-0.7
SYI	**Shuyak Island**	**2.98**	**205**	Pn	Pn	05 59 12.1	-0.4
SYI				IAML		05 59 56.6	
	comp=E,111nm,0.4s						
SYI				IAML		06 00 42.0	
	comp=N,81nm,0.7s						
GLB	**Gilahina Butte**	**2.99**	**85**	Pn	Pn	05 59 12.9	+0.3
GLB				IAML		05 59 59.0	
	comp=E,106nm,0.8s						
GLB				IAML		06 00 01.3	
	comp=N,104nm,0.5s						
HMT	**Hamilton**	**2.99**	**107**	Pn	Pn	05 59 13.7	+1.1
Q19K	**Cape Douglas,**	**3.02**	**219**		Pn	05 59 13.0	-0.1
KAIM	**Kayak Island**	**3.10**	**115**	Pn	Pn	05 59 14.9	+0.9
KAIM				IAML		06 00 10.9	
	comp=N,175nm,3.3s						
K24K	**Donnelly Dome**	**3.16**	**37**		Pn	05 59 15.3	+0.4
VRDI	**Verde Repeater**	**3.17**	**89**		Pn	05 59 16.1	+0.9
VRDI				IAML		06 00 09.1	
	comp=N,91nm,1.4s						
BERG	**Berg Lake**	**3.23**	**104**	Pn	Pn	05 59 16.2	+0.4
BERG				IAML		06 00 05.7	
	comp=N,164nm,0.4s						
P18K	**Big Mountain,**	**3.24**	**235**	Pn	Pn	05 59 15.9	-0.2
WRH	**Wood River Hil**	**3.27**	**15**	Pn	Pn	05 59 16.5	+0.2
L18K	**Granite Mounta**	**3.29**	**289**		Pn	05 59 16.2	-0.5
NEA2	**Nenana**	**3.30**	**7**		Pn	05 59 17.0	+0.2
SUCK	**Suckling Hills**	**3.32**	**110**	Pn	Pn	05 59 17.4	+0.3
SUCK				IAML		06 00 13.6	
	comp=E,131nm,2.0s						
MENT	**Mentasta**	**3.36**	**59**	Pn	Pn	05 59 18.4	+0.6
HDA	**Harding Lake**	**3.39**	**23**		Pn	05 59 18.3	+0.3
HDA				IAML		06 00 05.0	
	comp=E,70nm,0.4s						
HDA				IAML		06 00 16.5	
	comp=N,111nm,0.9s						
RIDG	**Independent Ri**	**3.40**	**43**	Pn	Pn	05 59 19.0	+0.8
RIDG				IAML		06 00 09.0	
	comp=N,144nm,0.6s						
J20K	**Nowinta River**	**3.43**	**328**		Pn	05 59 17.8	-0.8
J20K				IAML		05 59 58.5	
	comp=N,99nm,0.4s						
J20K				IAML		05 59 58.6	
	comp=E,95nm,0.4s						
CCB	**Clear Creek Bu**	**3.47**	**16**	Pn	Pn	05 59 19.3	+0.1
CCB				IAML		06 00 17.2	
	comp=E,51nm,0.7s						
M26K	**Nabesna, AK**	**3.49**	**69**	Pn	Pn	05 59 19.5	0.0
M26K				IAML		06 00 18.2	
	comp=N,61nm,0.6s						
M26K				IAML		06 00 21.5	
	comp=E,53nm,0.5s						
L26K	**Log Cabin Wild**	**3.56**	**59**		Pn	05 59 20.6	+0.3
L26K				IAML		06 00 20.9	
	comp=N,100nm,0.6s						
L26K				IAML		06 00 21.3	
	comp=E,118nm,0.6s						
M17K	**Holitna River**	**3.57**	**274**	Pn	Pn	05 59 20.1	-0.5
M17K				IAML		06 00 20.9	
	comp=N,107nm,0.8s						
M17K				IAML		06 00 30.0	
	comp=E,94nm,1.4s						
N17K	**Nushagak Hills**	**3.59**	**260**		Pn	05 59 20.4	-0.5
N17K				IAML		06 00 02.4	
	comp=E,71nm,0.4s						
DOT	**Dot Lake**	**3.61**	**47**	Pn	Pn	05 59 20.9	-0.2
WAX	**Waxell Ridge**	**3.61**	**101**	Pn	Pn	05 59 20.4	-0.8
WAX				IAML		06 00 20.0	
	comp=E,104nm,0.6s						
COLA	**College**	**3.69**	**15**		Pn	05 59 22.6	+0.5
SNH	**Sunshine Point**	**3.71**	**105**	Pn	Pn	05 59 21.4	-1.1
SNH				IAML		06 00 15.3	
	comp=E,98nm,2.4s						
SNH				IAML		06 01 01.7	
	comp=N,96nm,1.9s						
J19K	**Poorman**	**3.71**	**318**		Pn	05 59 21.9	-0.6
J19K				IAML		06 00 35.5	
	comp=E,42nm,1.1s						
IL31		**3.73**	**21**	Pn	Pn	05 59 23.5	+0.8
ILAR	**Eielson Array**	**3.73**	**21**		Pn	05 59 23.6	+0.8
KIAG	**Kiagna River**	**3.74**	**93**		Pn	05 59 22.2	-0.8
J18K	**Innoko River**	**3.78**	**307**		Pn	05 59 22.9	-0.6
J18K				IAML		06 00 06.4	
	comp=N,39nm,0.8s						
KDAK	**Kodiak Island**	**3.80**	**201**	Pn	Pn	05 59 21.8	-1.9
KDAK				IAML		06 00 25.5	
	comp=N,48nm,1.3s						
KDAK				IAML		06 00 40.5	
	comp=N,56nm,4.2s						
ISLE	**Juniper Island**	**3.81**	**98**	Pn	Pn	05 59 23.5	-0.5
ISLE				IAML		06 00 40.6	
	comp=E,58nm,1.0s						
ISLE				IAML		06 00 46.4	
	comp=N,87nm,1.9s						
O17K	**Koliganek Bris**	**3.83**	**249**		Pn	05 59 23.4	-0.7
I23K	**Minto, Yukon-K**	**3.84**	**4**		Pn	05 59 23.9	-0.3
SCRK	**Sand Creek**	**3.84**	**44**	Pn	Pn	05 59 24.5	+0.1
SCRK				IAML		06 00 26.1	
	comp=N,48nm,0.7s						
SCRK				IAML		06 00 26.7	
	comp=E,59nm,0.7s						
P17K	**Kvichak River**	**3.85**	**239**		Pn	05 59 23.8	-0.6
J25K	**Salcha River,**	**3.91**	**31**		Pn	05 59 26.1	+0.9
J25K				IAML		06 00 19.2	
	comp=E,70nm,0.4s						
J25K				IAML		06 00 21.2	
	comp=N,43nm,0.7s						
I21K	**Tanana**	**3.96**	**348**		Pn	05 59 26.0	+0.1
POKR	**Poker Plat Res**	**3.97**	**16**	Pn	Pn	05 59 26.4	+0.4
POKR				IAML		06 00 36.5	
	comp=N,34nm,0.7s						
M27K	**Edge Creek, AK**	**3.99**	**72**	Pn	Pn	05 59 27.0	+0.5
I20K	**Naaghedeneel**	**4.02**	**332**		Pn	05 59 26.9	+0.1
MESA	**MESA**	**4.12**	**103**	Pn	Pn	05 59 27.8	-0.5
MESA				IAML		06 00 38.0	
	comp=E,65nm,1.4s						
MESA				IAML		06 00 44.7	
	comp=N,67nm,0.6s						
K17K	**Iditarod**	**4.14**	**293**	Pn	Pn	05 59 28.0	-0.4
K17K				IAML		06 00 41.2	
	comp=N,56nm,1.6s						
K17K				IAML		06 00 47.5	
	comp=E,53nm,0.8s						
YAH	**Yahtse**	**4.16**	**100**	Pn	Pn	05 59 28.9	0.0
YAH				IAML		06 00 40.8	
	comp=N,48nm,0.9s						
YAH				IAML		06 00 45.7	
	comp=E,46nm,3.4s						
L27K	**Beaver Creek,**	**4.21**	**62**	Pn	Pn	05 59 29.7	+0.4
BCAR	**Beaver Creek A**	**4.23**	**62**	Pn	Pn	05 59 30.0	+0.4
J26L	**Joseph Creek**	**4.33**	**40**	Pn	Pn	05 59 31.6	+0.5
J26L				IAML		06 00 27.4	
	comp=N,66nm,0.6s						
J26L				IAML		06 00 28.2	
	comp=E,49nm,0.6s						
M16K	**Timber Creek**	**4.34**	**270**		Pn	05 59 30.7	-0.4
M16K				IAML		06 01 00.5	
	comp=E,28nm,2.2s						
M16K				IAML		06 01 26.8	
	comp=N,27nm,3.2s						
O16K	**Kokwok River B**	**4.37**	**250**	Pn	Pn	05 59 31.4	-0.1
O16K				IAML		06 00 40.2	
	comp=N,35nm,1.3s						
O16K				IAML		06 01 08.9	
	comp=E,25nm,2.8s						
H23K	**Yukon River**	**4.51**	**2**		Pn	05 59 34.0	+0.5
H21K	**Melozitna Rive**	**4.51**	**345**		Pn	05 59 33.1	-0.4
L16K	**Owhat River**	**4.55**	**279**	Pn	Pn	05 59 33.3	-0.7
L16K				IAML		06 00 57.1	
	comp=E,29nm,2.1s						
L16K				IAML		06 01 02.2	
	comp=N,26nm,3.9s						
K27K	**Chicken**	**4.55**	**50**	Pn	Pn	05 59 34.9	+0.9
K27K				IAML		06 00 48.6	
	comp=N,30nm,1.1s						
H24K	**Noodor Dome**	**4.62**	**11**		Pn	05 59 36.2	+1.2
H24K				IAML		06 01 04.0	
	comp=N,20nm,1.1s						
J17K	**VABM Dome**	**4.70**	**300**		Pn	05 59 35.1	-1.0
J17K				IAML		06 01 09.5	
	comp=E,20nm,1.1s						
J17K				IAML		06 01 40.9	
	comp=N,20nm,4.0s						
PCA	**Pinnacle**	**4.95**	**100**	Pn	Pn	05 59 39.0	-0.6
I26K	**Coal Creek

LWLI	Liwa	1.61	84	P	Pn	06 05 37.0	-1.5
MDSI	Maura Dua	1.86	68	P	Pn	06 05 40.8	-1.0
MDSI				S	Sn	06 06 04.7	+0.6
BLSI	Bandar Lampung	2.79	94	P	Pn	06 05 53.8	-0.8
PMBI	Palembang	3.23	46	Pn	Pn	06 06 00.1	-0.5
PPSI	Pulau Pagai	3.42	315	P	Pn	06 06 03.2	-0.1
CGJI	Cibinong	3.52	114	P	Pn	06 06 03.6	-1.1
SISI	Saibi	5.09	319	P	Pn	06 06 25.9	-0.4
	0.6nm2µm125nm,0.7s						
CNJI	Cibinong	5.11	115	P	Pn	06 06 25.1	-1.4
	1µm45nm,0.8s						
PPI	Padang Panjang	5.13	336	P	Pn	06 06 26.9	+0.2
	0.8nm2µm79nm,0.6s						
LEM	Lembang	5.39	108	P	Pn	06 06 33.3	+2.8
	9.7nm,0.3s,baz=255,slow=2.9,SNR=7.1						
LEM				S	Sn	06 07 35.7	+4.2
	41nm,0.6s,baz=334,slow=24,SNR=1.5						
LEM				LR	LR	06 09 08.7	
	comp=Z,351nm,18.3s,baz=206,slow=44						
	38nm,0.5s						
LEM	Lembang	5.39	108	P	Pn	06 06 31.9	+1.4
	0.3nm62nm,1.0s						
CMJI	Cimerak	6.50	114	P	Pn	06 06 43.3	-2.2
	0.5nm63nm,0.5s						
PBSI	Pulau Batu	6.58	321	P	Pn	06 06 47.3	+0.6
	90nm,0.6s						
MNSI	Mandailing Nat	6.60	334	P	Pn	06 06 47.2	+0.3
MYKOM	Kota Tinggi	7.07	11	Pn	Pn	06 06 52.0	-1.4
GSI	Gunungsitoli	8.08	323	Pn	Pn	06 07 05.5	-1.8
UGM	Wanagama	8.46	109	Pn	Pn	06 07 12.3	-0.3
RPSI	Rantau Prapat	8.59	336		Pn	06 07 12.9	-1.3
PSI	Prapat	8.68	336	P	Pn	06 07 12.9	-2.8
	0.7nm,0.3s,baz=194,slow=21,SNR=2.2						
PSI				LR	LR	06 11 06.7	
	comp=Z,252nm,18.8s,baz=115,slow=42						
	2.6nm,0.4s						
COCO	West Island	8.90	218	Pn	Pn	06 07 16.8	-1.7
PCJI	Pacitan	9.17	109	P	Pn	06 07 20.9	-1.3
	36nm,0.9s						
JAGI	Jajag, Banyuwa	12.07	106	Pn	Pn	06 08 00.9	-1.0
KAPI	Kappang	17.23	90	P	P	06 09 11.6	+0.4
	1.2nm,0.3s,baz=245,slow=21,SNR=1.9						
KAPI				LR	LR	06 15 49.6	
	comp=Z,123nm,19.4s,baz=259,slow=37						
	3.2nm,0.4s						
MYLDM	Lahad Datu	19.05	58	P	P	06 09 31.6	+0.4
TOLI2	Tolitoli	19.35	72	P	P	06 09 34.9	+0.4
TOLI2				IAmb	IAmb	06 09 47.7	
	comp=Z,21nm,0.6s						
MRSI	Marisa	20.26	74	P	P	06 09 43.9	-0.5
	comp=Z,47nm,0.6s						
UBPT	Khong Chiam	20.55	8	P	P	06 09 47.2	-0.3
UBPT				IAmb	IAmb	06 09 47.2	
	comp=Z,26nm,0.9s						
MBWA	Marble Bar	23.09	135	P	P	06 10 14.5	-0.1
CMAR	Chiang Mai Arr	23.75	352	P	P	06 10 20.4	-0.5
CMAR	Chiang Mai Arr	23.75	352	P	P	06 10 19.6	-1.2
	comp=Z,6.9nm,0.4s,baz=171,slow=9.5,SNR=27						
CMAR				LR	LR	06 20 08.7	
	comp=Z,71nm,18.9s,baz=170,slow=38						
	comp=Z,6.9nm,0.4s						
CHTO	Chiang Mai	24.10	352	P	P	06 10 23.6	-0.5
CRAI	Chiangrai	25.34	355	P	P	06 10 35.5	+0.1
CRAI				IAmb	IAmb	06 10 36.6	
	comp=Z,12nm,0.6s						
TNTI	Ternate	25.58	77	P	P	06 10 38.6	+0.9
TNTI				IAmb	IAmb	06 10 56.7	
	comp=Z,43nm,1.2s						
DAV	Davao City (W)	26.10	62	LR	LR	06 21 43.4	
	comp=Z,68nm,18.4s,baz=332,slow=38						
SLVN	Son La	26.39	3	P	P	06 10 45.0	-0.1
BRDH	Bariadhala	29.64	340	LR	LR	06 26 09.3	
	comp=Z,73nm,19.6s,baz=126,slow=42						
H08S2	Diego Garcia H	29.86	264	T	T	06 42 15.4	
	baz=87,slow=75,SNR=64						
H08S3	Diego Garcia H	29.87	264	T	T	06 42 16.6	
	baz=87,slow=75,SNR=95						
H08S1	Diego Carcia H	29.88	264	T	T	06 42 16.8	
	baz=87,slow=75,SNR=49						
NWAO	Narrogin (SRO)	30.85	155	LR	LR	06 22 10.9	
	comp=Z,114nm,21.9s,baz=268,slow=33						
H01W3	Cape Leeuwin H	31.47	161	T	T	06 45 07.9	
	baz=340,slow=76,SNR=18						
H01W2	Cape Leeuwin H	31.48	161	T	T	06 44 59.1	
	baz=340,slow=76,SNR=17						
H01W1	Cape Leeuwin H	31.48	161	T	T	06 45 09.1	
	baz=340,slow=76,SNR=14						
PZH	PanZhiHua	31.51	359	P	P	06 11 33.8	+3.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
SHL	Shillong	32.25	342	P	P	06 11 36.7	-0.4
WB0	Warramunga Arr	34.30	118	P	P	06 11 54.7	-0.2
WRA	Warramunga Arr	34.31	118	P	P	06 11 54.5	-0.6
WRA	Warramunga Arr	34.31	118	P	P	06 11 54.1	-0.9
	comp=Z,1.1nm,0.5s,baz=290,slow=8.9,SNR=9.8						
WRA				PcP	PcP	06 14 30.3	-0.4
	comp=Z,0.6nm,0.7s,baz=296,slow=3.7,SNR=2.1						
	comp=Z,1.1nm,0.5s						
WRAB	Tennant Creek	34.32	118	P	P	06 11 55.2	+0.1
WRAB				IAmb	IAmb	06 12 12.5	
	comp=Z,15nm,0.8s						
WB2	Warramunga Arr	34.32	118	P	P	06 11 54.0	-1.1
WB2				IAmb	IAmb	06 12 41.0	
	comp=Z,25nm,1.6s						
WR8	Warramunga Arr	34.46	118	P	P	06 11 56.0	-0.3
WR8				IAmb	IAmb	06 12 36.7	
	comp=Z,22nm,1.6s						
WR0	Warramunga Arr	34.49	118	P	P	06 11 54.9	-1.7
WR0				IAmb	IAmb	06 12 09.5	
	comp=Z,14nm,1.2s						
AS31	Alice Springs	35.43	124	P	P	06 12 04.0	-0.7
AS31				IAmb	IAmb	06 12 14.2	
	comp=Z,3.7nm,0.3s						
ASAR	Alice Springs	35.43	124	P	P	06 12 04.8	+0.1
ASAR	Alice Springs	35.43	124	P	P	06 12 04.5	-0.2
	comp=Z,1.2nm,0.5s,baz=295,slow=7.5,SNR=22						
ASAR				PcP	PcP	06 14 34.2	+0.3
	comp=Z,0.4nm,0.5s,baz=299,slow=2.4,SNR=3.2						
	comp=Z,1.2nm,0.5s						
ENH	Enshi	35.90	10	P	P	06 12 08.1	-0.4
ENH				IAmb	IAmb	06 12 09.6	
	comp=Z,11nm,0.6s						
LSA	Lhasa	36.34	343	P	P	06 12 12.5	-0.4
LSA				IAmb	IAmb	06 12 14.2	
	comp=Z,13nm,1.0s						
XAN	Xi'an	39.49	8	⇓P	P	06 12 37.1	-1.8
XAN				pP	pP	06 12 39.3	-11
XAN				sP	pwP	06 12 43.0	-10
XAN				pmax	pmax		
	comp=Z,19nm,0.5s						
XAN				pmax	pmax		
	comp=Z,220nm,5.8s						
NJ2	Nanjing	40.19	22	eP	P	06 12 48.0	+3.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LYN	LuoYang	40.64	13	P	P	06 12 48.5	+0.2
LYN				pmax	pmax		
	comp=Z,26nm,0.5s						
LYN				LR	LR		
	comp=N,330nm,13.9s						
LYN				LR	LR		
	comp=E,230nm,12.4s						
LYN				LR	LR		
	comp=Z,340nm,18.2s						
COEN	Coen	41.03	105	P	P	06 12 51.0	-0.9
COEN				IAmb	IAmb	06 13 22.4	
	comp=Z,35nm,1.9s						
LZH	Lanzhou	41.08	2	eP	P	06 12 52.4	+0.3
LZH				pP	pP	06 12 56.8	-6.9
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
GTA	Gaotai	44.44	357	P	P	06 13 20.8	+1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	Stephens Creek	45.22	131	P	P	06 13 26.3	+0.7
STKA	Stephens Creek	45.22	131	P	P	06 13 26.1	+0.5
	comp=Z,7.2nm,0.6s,baz=304,slow=8.7,SNR=12						
	comp=Z,7.2nm,0.6s						
HHC	Hu-ho-hao-te	46.57	10	eP	P	06 13 37.3	+1.2
HHC				pmax	pmax		
	comp=Z,29nm,0.5s						
HHC				pmax	pmax		
	comp=Z,65nm,4.4s						
BJI	Beijing	46.74	14	P	P	06 13 37.8	+0.5
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,59nm,5.2s						
NIL	Nilore	47.49	326	P	P	06 13 43.1	-0.2
NIL				IAmb	IAmb	06 13 44.1	
	comp=Z,9.8nm,0.8s						
KSRS	Korea Array	48.61	27	P	P	06 13 51.5	-0.3
	comp=Z,2.2nm,0.6s,baz=236,slow=7.3,SNR=7.8						
	comp=Z,2.2nm,0.6s						
WUS	Wushi	50.82	337	P	P	06 14 09.5	+0.6
WUS				IAmb	IAmb	06 14 22.2	
	comp=Z,10nm,0.7s						
TARG	Taragay, Kyrgy	51.83	337	P	P	06 14 16.8	+0.2
CAN	Canberra	52.28	131	P	P	06 14 20.3	+0.5
KDJ	Kajisay	52.41	336	P	P	06 14 21.6	+0.8
KDJ				IAmb	IAmb	06 14 34.9	
	comp=Z,15nm,0.8s						
DRK	Karamyk	52.68	330	P	P	06 14 23.5	+0.6
SONM	Songino Array	52.91	3	P	P	06 14 25.0	+0.8
SONM				IAmb	IAmb	06 14 25.8	
	comp=Z,12nm,0.7s						
SONM	Songino Array	52.91	3	P	P	06 14 24.7	+0.5
	comp=Z,11nm,0.6s,baz=186,slow=9.3,SNR=80						
SONM				PcP	PcP	06 15 32.4	-0.4
	comp=Z,1.0nm,0.4s,baz=184,slow=4.4,SNR=6.1						
	comp=Z,11nm,0.6s						
ULN	Ulaanbaatar	52.98	4	P	P	06 14 24.2	-0.5
GAR	Garm	53.07	329	P	P	06 14 24.6	-0.9
GAR				IAmb	IAmb	06 14 38.2	
	comp=Z,11nm,1.2s						
BOOM	Boomskoye usch	53.22	336	P	P	06 14 26.9	+0.2
BOOM				IAmb	IAmb	06 14 40.4	
	comp=Z,6.4nm,0.9s						
MJAR	Matsushiro Arr	53.30	36	P	P	06 14 25.0	-2.2
	comp=Z,2.1nm,0.6s,baz=208,slow=6.8,SNR=4.3						
MJAR				LR	LR	06 37 34.0	
	comp=Z,17nm,18.2s,baz=87,slow=36						
	comp=Z,2.1nm,0.6s						
CHGR	Chuyangaron	53.42	328	P	P	06 14 28.7	+0.6
SIMJ	Simigang	53.50	328	P	P	06 14 28.9	+0.1
ARSB	Arslanbob	53.56	333	P	P	06 14 29.6	+0.5
BTK	Batken	53.61	330	P	P	06 14 30.1	+0.6
AAK	Ala-Archa	53.94	335	P	P	06 14 32.5	+0.5
MK31	Makanchi Array	54.75	343	P	P	06 14 37.3	-0.3
MK31				IAmb	IAmb	06 14 38.2	
	comp=Z,6.2nm,0.8s						
MKAR	Makanchi Array	54.75	343	P	P	06 14 37.4	-0.2
	comp=Z,6.6nm,0.4s,baz=152,slow=8.8,SNR=83						
	comp=Z,6.6nm,0.4s						
MAKZ	Makanchi	54.85	343	P	P	06 14 38.0	-0.3
USA0B	Ussuriysk Arra	55.88	25	P	P	06 14 45.0	-0.7
USA0B				IAmb	IAmb	06 16 30.6	
	comp=Z,18nm,1.4s						
USRK	Ussuriysk Ar.	55.88	25	P	P	06 14 44.9	-0.8
	comp=Z,4.0nm,0.5s,baz=218,slow=5.7,SNR=12						
	comp=Z,4.0nm,0.5s						
KK31	Karatay Array	56.09	332	P	P	06 14 47.0	-0.3
KKAR	Karatay Array	56.09	332	P	P	06 14 47.4	+0.1
HEH	HeiHe	59.28	18	eP	P	06 15 08.8	-0.7
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURBB	Kurchatov Arra	59.29	343	P	P	06 15 09.3	-0.3
	comp=Z,2.8nm,0.7s,baz=185,slow=5.8,SNR=26						
	comp=Z,2.8nm,0.7s						
KURK	Kurchatov	59.34	343	P	P	06 15 09.7	-0.2
KURK				IAmb	IAmb	06 15 23.3	
	comp=Z,6.0nm,0.9s						
H04N2	CROZET ISLANDS	59.77	218	T	T	07 19 40.0	
	baz=62,slow=74,SNR=164						
H04N1	CROZET ISLANDS	59.78	218	T	T	07 19 40.4	
	baz=62,slow=74,SNR=214						
H04N3	CROZET ISLANDS	59.79	218	T	T	07 19 38.6	
	baz=62,slow=74,SNR=35						
KLR	Kul'dur	59.90	22	P	P	06 15 13.0	-0.8
	comp=Z,3.4nm,0.6s,baz=223,slow=8.8,SNR=5.7						
	comp=Z,3.4nm,0.6s						
H04S1	CROZET ISLANDS	60.01	218	T	T	07 20 02.2	
	baz=63,slow=75,SNR=8.5						
H04S3	CROZET ISLANDS	60.02	218	T	T	07 19 56.2	
	baz=63,slow=75,SNR=16						
H04S2	CROZET ISLANDS	60.03	218	T	T	07 19 55.0	
	baz=63,slow=75,SNR=11						
ZAA0	Zalesovo Array	60.75	348	P	P	06 15 19.5	0.0
ZALV	Zalesovo Beam	60.75	348	P	P	06 15 18.9	-0.6
	comp=Z,13nm,0.4s,baz=159,slow=5.6,SNR=57						
	comp=Z,13nm,0.4s						
ASAJ	Asahikawa	60.92	32	P	P	06 15 20.4	-0.5
	comp=Z,5.8nm,0.7s,baz=207,slow=11,SNR=2.0						
	comp=Z,5.8nm,0.7s						
BVAR	Borovoye Array	64.00	339	P	P	06 15 40.8	-0.6
	comp=Z,4.3nm,0.3s,baz=145,slow=8.2,SNR=36						
	comp=Z,4.3nm,0.3s						
BRVK	Borovoye	64.07	339	P	P	06 15 41.1	-0.6
BRVK				IAmb	IAmb	06 15 42.7	
	comp=Z,5.2nm,0.6s						
ABKAR	Akbulak array	65.59	331	P	P	06 15 51.5	-0.2
MAW	Mawson	67.85	195	LR	LR	06 37 57.1	
	comp=Z,86nm,21.9s,baz=34,slow=29						
ARTI	Arti	71.13	336	P	P	06 16 26.5	+0.3
ARTI				IAmb	IAmb	06 16 26.9	
	comp=Z,10nm,0.6s						
KBZ	Khabaz	72.30	319	P	P	06 16 34.1	+0.7
	comp=Z,2.8nm,0.8s,baz=86,slow=8.6,SNR=5.9						
	comp=Z,2.8nm,0.8s						
LSZ	Lusaka	73.49	256	LR	LR	06 44 41.3	
	comp=Z,36nm,21.9s,baz=155,slow=32						
NRIK	Noril'sk	75.07	355	P	P	06 16 48.9	-0.3
	comp=Z,1.9nm,0.3s,baz=138,slow=6.0,SNR=4.4						
	comp=Z,1.9nm,0.3s						
SYO	Syowa Base	75.67	199	⇓eP	P	06 16 55.1	+2.4
LBTB	Lobatse	75.92	246	LR	LR	06 43 46.1	
	comp=Z,56nm,21.4s,baz=76,slow=30						
SEY	Seymchan	77.68	21	P	P	06 17 03.5	-0.6
	comp=Z,4.7nm,0.7s,baz=239,slow=7.8,SNR=17						
	comp=Z,4.7nm,0.7s						
FUTU	Fugatoga	78.51	103	P	P	06 17 10.2	+0.5
VNDA	Vanda	78.58	169	P	P	06 17 08.9	-0.1
VNDA				IAmb	IAmb	06 18 14.5	
	comp=Z,28nm,1.7s						
TIXI	Tiksi	78.62	8	P	P	06 17 07.8	-1.4
TIXI				IAmb	IAmb	06 17 08.2	
	comp=Z,5.7nm,0.6s						
TIXI	Tiksi	78.62	8	P	P	06 17 07.3	-1.8
	comp=Z,4.1nm,0.3s,baz=220,slow=2.7,SNR=23						
	comp=Z,4.1nm,0.3s						
KOLS	Kolonicke sedl	87.45	319	eP	P	06 17 57.6	+2.3
FINES	FINESS Array B	88.05	332	P	P	06 17 58.5	+0.6
	comp=Z,2.6nm,0.6s,baz=100,slow=6.1,SNR=11						
	comp=Z,2.6nm,0.6s						
LANS	Liptovska Anna	89.30	319	eP	P	06 18 06.5	+2.3
ARCES	ARCESS Array B	90.28	340	P	P	06 18 08.8	+0.5
	comp=Z,8.3nm,1.2s,baz=93,slow=2.4,SNR=3.7						
	comp=Z,8.3nm,1.2s						
CEL	Celeste	90.47	308	P	P	06 18 09.6	-0.3
MODS	Modra-Piesok	90.63	318	eP	P	06 18 12.5	+2.1
CUC	Castrocucco	90.72	310	P	P	06 18 11.2	+0.2
GERES	GERESS Array B	93.04	319	P	P	06 18 22.4	+0.8
	comp=Z,0.3nm,0.4s,baz=116,slow=6.7,SNR=2.5						
	comp=Z,0.3nm,0.4s						
CLL	Collm	93.66	321	eP	P	06 18 26.0	+1.7
YKA	Yellowknife Ar	116.65	18	PKP	PKPdf	06 23 48.9	-2.6
	comp=Z,0.1nm,0.6s,baz=360,slow=2.1,SNR=2.1						
SCHQ	Schefferville	129.75	352	PKP	PKPdf	06 24 16.8	-0.1
	comp=Z,1.4nm,0.7s,baz=333,slow=2.3,SNR=1.2						
NVAR	Mina Array Bea	130.40	42	PKP	PKiKP	06 24 20.4	+0.6
	comp=Z,0.3nm,0.6s,baz=303,slow=4.5,SNR=2.4						
ULM	Lac du Bonnet	132.52	16	PKP	PKPdf	06 24 22.4	+0.1
	comp=Z,0.9nm,0.6s,baz=22,slow=4.7,SNR=1.9						
PDAR	Pinedale Array	133.05	32	PKP	PKPdf	06 24 24.1	+0.2
	comp=Z,0.2nm,0.5s,baz=91,slow=2.4,SNR=4.0						
DKNS	Dickens	144.29	35		PKPbc	06 24 43.0	+0.3
OK029	Liberty Lake	144.45	28		PKPbc	06 24 43.0	-0.1
WMOK	Wichita Mounta	144.64	31		PKPab	06 24 43.2	-0.3
ACSO	Alum Creek Sta	144.77	7		PKPab	06 24 43.5	-0.3
FNO	Franklin	144.91	29		PKPbc	06 24 44.5	0.0
O53A	New Philadelph	144.94	5		PKPab	06 24 44.1	-0.4
CCM	Cathedral Cave	144.98	19	PKPbc	PKPab	06 24 44.2	-0.4
APMT	Aspermont	145.00	34	PKPbc	PKPab	06 24 44.8	-0.2
O52A	Adamsville	145.01	6	PKPbc	PKPab	06 24 43.9	-0.8
TUL3	Leonard	145.12	26	PKPbc	PKPbc	06 24 44.9	-0.3
OLIL	Olney	145.26	15	PKPbc	PKPbc	06 24 45.1	-0.5
SGCY	Sterling City	145.44	37	PKPdf	PKPbc	06 24 46.3	-0.1
MGMO	Mountain Grove	145.45	21	PKPdf	PKPbc	06 24 45.7	-0.6
TX31	Lajitas Ar. Si	145.55	43	PKPdf	PKPab	06 24 47.1	-0.1
TXAR	Lajitas Array	145.55	43	PKPbc	PKPab	06 24 47.3	+0.1
	comp=Z,6.3nm,0.7s,baz=248,slow=1.3,SNR=67						
WTFS	Witchita Falls	145.56	32	PKPdf	PKPdf	06 24 46.0	-0.6
ABTX	Abilene, Hawle	145.78	34	PKPdf	PKPdf	06 24 46.5	-0.4
WCI	Wyandotte Cave	146.16	12	PKPdf	PKPdf	06 24 47.4	0.0
R49A	Shelbyville	146.32	11	PKPdf	PKPdf	06 24 47.9	+0.2
PBMO	Poplar Bluff	146.41	19	PKPdf	PKPdf	06 24 48.2	+0.3
BRDY	Brady	147.14	35	PKPbc	PKPbc	06 24 51.3	-0.1
JCT	Junction City	147.26	37	PKPbc	PKPbc	06 24 51.7	-0.2
DRIO	Del Rio	147.49	39	PKPbc	PKPbc	06 24 52.4	-0.1
U49A	Red Boiling Sp	147.92	13	PKPbc	PKPbc	06 24 53.6	+0.3
TKL	Tuckaleechee C	149.14	10	PKPbc	PKPbc	06 24 56.0	-0.6
	comp=Z,3.2nm,0.5s,baz=172,slow=7.1,SNR=7.5						
CPCT	Cooper Cave	149.20	11	PKPbc	PKPbc	06 24 56.6	-0.2
V53A	Saluda	149.28	8	PKPbc	PKPbc	06 24 56.8	-0.2
W52A	Murphy	149.66	10	PKPbc	PKPbc	06 24 57.6	-0.3
Y49A	Blount Mountai	150.31	15	PKPbc	PKPbc	06 24 59.0	-0.5

CATAC ***25*** *06:12:29.3±1.0, 11°N±3°×8°7W±°, h19km±9km, M4.0/30, MLv4.0/30, Error ellipse: s-maj=6.5km s-min=4.6km az=51.5, confirmed*
IDC ***25*** *06:12:29.2±1.3, 11°.71N×85°.92W, h0km, mb3.4/4, mbtmp3.4/5, ML3.7/1, MS3.1/2, Error ellipse: s-maj=92.0km s-min=17.8km az=54.0*
UCR ***25*** *06:12:30.3±0.8, 10°.89N×86°.70W, h22km±6km, MW4.3*
SNET ***25*** *06:12:34.6±0.7, 11°.81N×86°.59W, h178km±99km, ML3.7*
ISC 25 06:12:28.6±0.8, 10°.87N±0°.04×86.78W±0°.04, h10km, n112, σ1§21/116, mb3.2/4, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	La Cruz	1.14	79	eP	Pg	06 12 50.6	0.0
ELI1	Hacienda Flor	1.22	100	eP	Pg	06 12 51.8	-0.3
SABN	Sabanita	1.24	29	P	Pn	06 12 50.8	-1.2
SABN	Sabanita	1.24	29	P	Pn	06 12 52.4	+0.4
ALIBA	Liberia Airpor	1.24	103	eP	Pg	06 12 52.7	+0.3
NANN	Nandasmo	1.24	31	P	Pn	06 12 52.9	+0.8
NANN	Nandasmo	1.24	31	P	Pn	06 12 52.8	+0.8
MASN	Masaya	1.27	29	P	Pg	06 12 54.3	+1.3
MASN	Masaya	1.27	29	P	Pn	06 12 52.4	-0.1
CARN	Rivas	1.27	75	P	Pn	06 12 52.0	-0.4
CARN	Rivas	1.27	75	P	Pn	06 12 52.2	-0.3
MAS3	Al N del Volca	1.29	27	P	Pn	06 12 52.3	-0.5
MAS3	Al N del Volca	1.29	27	P	Pn	06 12 52.2	-0.6
MAS3				S	Sb	06 13 10.0	+0.3
COPN	Copaltepe	1.31	8	P	Pn	06 12 52.5	-0.6
COPN	Copaltepe	1.31	8	P	Pn	06 12 52.3	-0.8
CONN	Concepcion	1.32	58	P	Pn	06 12 45.3	-7.9
UNAN	Cigeo UNAN	1.33	22	P	Pn	06 12 53.2	-0.1
UNAN	Cigeo UNAN	1.33	22	P	Pn	06 12 53.0	-0.3
UNAN				S	Sb	06 13 12.6	+1.8
ERIA	Liberia	1.33	100	eP	Pn	06 12 53.1	-0.2
TISN	Laguna Tiscapa	1.36	21	P	Pn	06 12 51.0	-2.7
TISN	Laguna Tiscapa	1.36	21	P	Pn	06 12 50.7	-3.0
R4DEC	Barrio San Lui	1.37	22	P	Pn	06 12 53.8	0.0
R4DEC	Barrio San Lui	1.37	22	P	Pn	06 12 53.7	-0.2
R4DEC	Barrio San Lui	1.37	22	S	Sn	06 13 12.5	+0.4
GPS3	Bodega del ICE	1.39	95	eP	Pg	06 12 56.6	+1.3
APQ2	Apoyeque	1.39	18	P	Pn	06 12 54.0	-0.1
APQ2	Apoyeque	1.39	18	P	Pn	06 12 53.8	-0.3
APQ2				S	Sn	06 13 12.1	-0.5
GPS2	Hotel Rincn d	1.40	95	eP	Pn	06 12 53.7	-0.6
APYN	Apoyeque	1.42	17	P	Pg	06 13 02.6	+6.7
BAGA	Bagaces	1.53	103	eP	Pb	06 12 56.6	-0.4
LEVN	Ruinas Leon Vi	1.53	6	P	Pn	06 12 56.2	+0.1
LEVN	Ruinas Leon Vi	1.53	6	P	Pn	06 12 56.1	+0.1
MOMN	Momotombo	1.55	9	P	Pn	06 12 56.8	+0.5
MOMN	Momotombo	1.55	9	P	Pn	06 12 56.4	+0.1
COLC	Colonia	1.56	97	eP	Pn	06 12 55.9	-0.6
CMARA	Lajas Hojancha	1.57	122	P	Pg	06 13 00.4	+1.5
CMARA	Lajas Hojancha	1.57	122	P	Pn	06 12 56.1	-0.6
HORNC	Hornillas	1.58	96	eP	Pn	06 12 56.2	-0.5
CUI	Cuipilapa	1.60	97	eP	Pn	06 12 56.5	-0.5
INDI	Punta indio, G	1.60	128	P	Pn	06 12 55.7	-1.3
INDI	Punta indio, G	1.60	128	P	Pn	06 12 55.8	-1.1
CNGN	Cerro Negro	1.62	3	P	Pn	06 12 57.4	0.0
CNGN	Cerro Negro	1.62	3	P	Pn	06 12 57.4	0.0
CNGN	Cerro Negro	1.62	3	eP	Pn	06 12 57.3	0.0
TEL3	Telica 3	1.69	358	P	Pn	06 12 59.5	+1.2
TEL3	Telica 3	1.69	358	P	Pn	06 12 59.5	+1.2
PLRN	Geotermica Pol	1.71	0	P	Pn	06 12 58.2	-0.2
PLRN	Geotermica Pol	1.71	0	P	Pn	06 12 58.2	-0.2
CRIN	San Cristobal	1.84	352	P	Pn	06 13 00.9	+0.5
CRIN	San Cristobal	1.84	352	P	Pn	06 13 00.9	+0.5
CRIN	San Cristobal	1.84	352	eP	Pn	06 13 00.7	+0.3
VERA	Finca Concepci	1.87

comp=Z,1.2nm,0.7s
TKL **Tuckaleechee C** 24.83 6 LR LR 06 27 38.3
comp=Z,29nm,18.4s,baz=359,slow=38
PDAR **Pinedale Array** 37.47 332 P P **06 19 41.4 -1.3**
comp=Z,0.2nm,0.6s,baz=138,slow=9.3,SNR=4.4
comp=Z,0.2nm,0.6s
NVAR **Mina Array Bea** 39.33 320 P P **06 20 01.2 +2.9**
comp=Z,0.4nm,0.7s,baz=102,slow=9.2,SNR=3.9
comp=Z,0.4nm,0.7s
SCHQ **Schefferville** 46.60 16 LR LR 06 40 47.7
comp=Z,32nm,18.1s,baz=284,slow=37
YKA **Yellowknife Ar** 55.30 345 P P **06 21 59.8 -2.3**
comp=Z,0.3nm,0.9s,baz=149,slow=6.6,SNR=4.0
comp=Z,0.3nm,0.9s

*IDC **25** 06:15:27.4±0.8, 37°.40N×29°.49E, h0km, mb4.1/10, mbtmp4.1/17, ML3.0/5, MS3.5/24, Error ellipse: s-maj=17.4km s-min=13.8km az=171.0*
*ISK **25** 06:15:27.9, 37°.40N×29°.42E, h6km, ML4.1/46*
*AFAD **25** 06:15:27.9, 37°.38N×29°.41E, h7km±3km, MW4.1*
*ATH **25** 06:15:28.6±0.2, 37°.41N×29°.45E, h5km, ML4.0/6, Manual Solution by S.Liakopoulos First location: 2019/03/25 06:17:08, This location: 2020/10/04 00:16:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **25** 06:15:29.8, 37°.43N×29°.53E, h7km±3km, ML4.0/4, Error ellipse: s-maj=3.7km s-min=1.0km az=61.0*
*GII **25** 06:15:29.1±0.0, 37°.334N±0°.002×29°.604E±0°.001, h5km, Mws4.0, confirmed*
ISC 25 06:15:28.5±0.9, **37°.40N**±0°.02×**29°.46E**±0°.02, **h7**km±6km, **n176**, σ0°.99/191, **mb4.0**/10, **MS3.5**/17, **10C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.14**	**301**	Pg	**Pg**	**06 15 30.7**	**-0.8**
APMY				Sg	**Sg**	**06 15 33.3**	**-0.4**
GOLH	**Golhisar**	**0.18**	**153**	P	**Pg**	**06 15 32.0**	**-0.1**
GOLH				S	**Sg**	**06 15 35.6**	**+1.0**
CAEL	**Denizli, Camel**	**0.29**	**202**	P	**Pg**	**06 15 33.4**	**-0.9**
CAEL				S	**Sg**	**06 15 39.1**	**+0.9**
INCE	**Denizli-Bozkur**	**0.33**	**17**	P	**Pg**	**06 15 33.7**	**-1.2**
INCE				S	**Sg**	**06 15 40.0**	**+0.8**
DNZT	**Denizli-Tavas-**	**0.36**	**251**	P	**Pg**	**06 15 34.6**	**-1.0**
DNZT				S	**Sg**	**06 15 40.5**	**+0.1**
DNIZ	**Denizli-Tavas-**	**0.40**	**305**	P	**Pg**	**06 15 35.5**	**-0.9**
DNIZ				S	**Sg**	**06 15 41.8**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.44**	**279**	P	**Pg**	**06 15 35.9**	**-1.1**
TAVA				S	**Sg**	**06 15 42.5**	**-0.3**
CAME	**Cameli-Denizli**	**0.47**	**195**	Pg	**Pg**	**06 15 36.5**	**-1.1**
CAME				Sg	**Sg**	**06 15 44.6**	**+0.9**
KNIK	**Mula-Seydike**	**0.56**	**170**	P	**Pg**	**06 15 38.4**	**-0.8**
KNIK				S	**Sg**	**06 15 47.3**	**+0.8**
BRDR	**BURDUR-Merkez**	**0.57**	**58**	P	**Pg**	**06 15 39.0**	**-0.4**
BRDR				S	**Sb**	**06 15 48.5**	**-0.5**
SABU	**Mula-Dalaman**	**0.69**	**214**	P	**Pg**	**06 15 40.5**	**-1.3**
SABU				S	**Sg**	**06 15 50.8**	**0.0**
BASM	**Basmaki-Afyon**	**0.70**	**42**	Pg	**Pg**	**06 15 41.7**	**-0.3**
BASM				Sg	**Sb**	**06 15 52.5**	**-0.5**
ELL	**Elmali**	**0.74**	**151**	Pg	**Pg**	**06 15 42.4**	**-0.3**
ELL				Sg	**Sb**	**06 15 54.2**	**+0.1**
ELL	**Elmali**	**0.74**	**151**	P	**Pg**	**06 15 41.5**	**-1.2**
ELL				S	**Sb**	**06 15 53.7**	**-0.5**
KORT	**Korkueli**	**0.81**	**119**	Pg	**Pb**	**06 15 44.6**	**-0.4**
KORT				Sg	**Sb**	**06 15 56.9**	**+0.7**
KORT	**Korkueli**	**0.81**	**119**	P	**Pb**	**06 15 44.6**	**-0.4**
KORT				S	**Sb**	**06 15 57.0**	**+0.7**
FETY	**Fethiye**	**0.82**	**202**	Pg	**Pg**	**06 15 43.5**	**-0.6**
FETY				Sg	**Sb**	**06 15 55.8**	**-0.4**
FETY	**Fethiye**	**0.82**	**202**	P	**Pg**	**06 15 42.8**	**-1.3**
FETY				S	**Sb**	**06 15 56.2**	**0.0**
DALY	**Dalyan (Mula)**	**0.86**	**228**	Pg	**Pg**	**06 15 44.5**	**-0.6**
BUCA	**Burdur, Bucak-**	**0.88**	**94**	P	**Pg**	**06 15 44.3**	**-1.1**
BUCA				S	**Sb**	**06 15 58.3**	**+0.2**
BCK	**Bucak**	**0.90**	**86**	Pg	**Pg**	**06 15 45.6**	**-0.2**
KHL	**Karahalli**	**0.93**	**3**	Pg	**Pg**	**06 15 46.0**	**-0.3**
KHL				Sg	**Sb**	**06 15 59.4**	**-0.1**
ISP	**Isparta**	**0.95**	**63**	Pg	**Pb**	**06 15 46.9**	**-0.4**
ISP				Sg	**Sn**	**06 16 01.2**	**-0.9**
ISP	**Isparta**	**0.95**	**63**	P	**Pg**	**06 15 45.8**	**-0.8**
ISP	**Isparta**	**0.95**	**63**	P	**Pg**	**06 15 45.6**	**-1.1**
ISP				S	**Sb**	**06 16 00.8**	**+0.7**
YER	**Yerkesik**	**0.97**	**255**	Pg	**Pg**	**06 15 46.4**	**-0.7**
YER				Sg	**Sg**	**06 16 00.1**	**+0.3**
ANTB	**Antalya**	**1.08**	**117**	Pn	**Pn**	**06 15 49.7**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.08**	**302**	Pg	**Pg**	**06 15 48.5**	**-0.8**
TURN	**Turunc**	**1.15**	**238**	Pn	**Pg**	**06 15 49.9**	**-0.6**
AKAS	**Kas**	**1.17**	**174**	Pn	**Pg**	**06 15 50.9**	**0.0**
DEMR	**Demre-Antalya**	**1.21**	**163**	Pn	**Pb**	**06 15 51.8**	**+0.1**
KSL	**Kastellorizon**	**1.25**	**175**	P	**Pn**	**06 15 52.1**	**-0.2**
KSL				S	**Sn**	**06 16 10.2**	**+0.8**
	6μm,1.1s						
KSL	**Kastellorizon**	**1.25**	**175**	P	**Pn**	**06 15 51.9**	**-0.4**
KSL				S	**Sn**	**06 16 10.1**	**+0.8**
KULA	**Kula-Manisa**	**1.28**	**331**	Pn	**Pn**	**06 15 52.5**	**-0.4**
MLSB	**Milas**	**1.34**	**266**	Pn	**Pn**	**06 15 53.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**294**	Pn	**Pn**	**06 15 53.7**	**-0.3**
RODB	**Rodos**	**1.37**	**227**	P	**Pb**	**06 15 54.6**	**+0.2**
RODB				S	**Sb**	**06 16 12.0**	**-0.1**
ODEM	**Odemis-Izmir**	**1.40**	**309**	Pn	**Pn**	**06 15 54.2**	**-0.3**
SHUT	**Suhut-Afyon**	**1.44**	**36**	Pn	**Pn**	**06 15 55.2**	**+0.1**
ARG	**Arkhangelos**	**1.59**	**223**	Pn	**Pn**	**06 15 57.2**	**+0.2**
ARG	**Arkhangelos**	**1.59**	**223**	P	**Pn**	**06 15 57.3**	**+0.2**
ARG				S	**Sb**	**06 16 19.1**	**+0.6**
	5μm,1.3s						
ARG	**Arkhangelos**	**1.59**	**223**	P	**Pn**	**06 15 57.0**	**0.0**
ARG				S	**Sb**	**06 16 19.0**	**+0.6**
SHAP	**Saphane-Kutahy**	**1.64**	**354**	Pn	**Pn**	**06 15 57.9**	**+0.2**
DAT	**Datca**	**1.64**	**247**	Pn	**Pn**	**06 15 57.5**	**-0.4**
GEDZ	**Gediz**	**1.65**	**359**	Pn	**Pn**	**06 15 57.9**	**0.0**
SIMA	**Simav-Kutahya**	**1.73**	**348**	Pn	**Pn**	**06 15 58.7**	**-0.3**
SMAA	**Simav-Kutahya**	**1.74**	**348**	Pn	**Pn**	**06 15 59.4**	**+0.2**
BODT	**Bodrum**	**1.75**	**260**	Pn	**Pn**	**06 15 59.3**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.76**	**262**	Pn	**Pn**	**06 15 59.4**	**+0.1**
GOMA	**Golmarmara-Man**	**1.79**	**318**	Pn	**Pn**	**06 15 59.8**	**+0.1**
GCAM	**G?zelcaml?**	**1.79**	**280**	Pn	**Pn**	**06 16 00.4**	**+0.6**
GORD	**Gordes-Manisa**	**1.82**	**327**	Pn	**Pn**	**06 16 00.4**	**+0.2**
SEYD	**Seydisehir-KON**	**1.90**	**89**	Pn	**Pn**	**06 16 02.2**	**+0.9**
AKS	**Akhisar**	**1.97**	**319**	Pn	**Pn**	**06 16 02.5**	**+0.3**
KLNA	**Kalymnos**	**2.03**	**258**	P	**Pn**	**06 16 03.8**	**+0.7**
TVSB	**Tavsanli**	**2.05**	**0**	Pn	**Pn**	**06 16 03.1**	**-0.4**
KOSK	**Kos Island**	**2.08**	**253**	P	**Pn**	**06 16 03.6**	**-0.2**
GMLD	**Gumuldur**	**2.13**	**289**	Pn	**Pn**	**06 16 05.0**	**+0.6**
BLCB	**Balcova**	**2.15**	**298**	Pn	**Pn**	**06 16 04.8**	**+0.1**
KRL1	**Karlovasi Samo**	**2.22**	**281**	P	**Pn**	**06 16 05.8**	**+0.2**
SOMA	**Soma-Manisa**	**2.32**	**320**	Pn	**Pn**	**06 16 07.4**	**+0.3**
CIFT	**Cifteler, Eski**	**2.33**	**32**	Pn	**Pn**	**06 16 07.3**	**0.0**
KONT	**Konya--Tatoy**	**2.37**	**76**	Pn	**Pn**	**06 16 08.8**	**+1.0**
KIZT	**Kizilcal**	**2.42**	**51**	Pn	**Pn**	**06 16 08.0**	**-0.5**
LADK	**Ladik-KONYA**	**2.44**	**70**	Pn	**Pn**	**06 16 09.8**	**+1.0**
HDMB	**Hadim**	**2.46**	**99**	Pn	**Pn**	**06 16 10.2**	**+1.1**
SVRH	**Sivrihisar-ESK**	**2.61**	**38**	Pn	**Pn**	**06 16 12.1**	**+0.9**
DKL	**Dikili**	**2.61**	**311**	Pn	**Pn**	**06 16 11.6**	**+0.5**
DKL	**Dikili**	**2.61**	**311**	P	**Pn**	**06 16 11.5**	**+0.4**
KARP	**Karpathos**	**2.61**	**226**	Pn	**Pn**	**06 16 11.6**	**+0.5**
KARP	**Karpathos**	**2.61**	**226**	P	**Pn**	**06 16 12.1**	**+1.0**
KARP				S	**Sn**	**06 16 44.4**	**+1.3**
	2μm,0.7s						
KARP	**Karpathos**	**2.61**	**226**	P	**Pn**	**06 16 12.1**	**+1.0**
SUSR	**Susurluk-Balik**	**2.78**	**338**	Pn	**Pn**	**06 16 14.1**	**+0.7**
PRK	**Paraskevi**	**3.11**	**307**	P	**Pn**	**06 16 18.0**	**+0.1**
PRK	**Paraskevi**	**3.11**	**307**	P	**Pn**	**06 16 18.0**	**+0.1**
BAND	**Balkesir-Ban**	**3.14**	**341**	⇑P	**Pn**	**06 16 18.3**	**0.0**
AKMS	**Akamas**	**3.32**	**135**	P	**Pn**	**06 16 22.3**	**+1.4**
SIGR	**SIGRI**	**3.36**	**304**	P	**Pn**	**06 16 22.5**	**+1.1**
SIGR				S	**Sn**	**06 17 02.1**	**+0.6**
	255nm,1.7s						
SIGR	**SIGRI**	**3.36**	**304**	P	**Pn**	**06 16 21.5**	**+0.1**
EZN	**Ezine**	**3.45**	**316**	P	**Pn**	**06 16 22.3**	**-0.3**
ZKR	**Zakros**	**3.47**	**230**	P	**Pn**	**06 16 24.1**	**+1.2**
ZKR	**Zakros**	**3.47**	**230**	P	**Pn**	**06 16 23.3**	**+0.4**
ANTO	**Ankara**	**3.59**	**46**	⇓P	**Pn**	**06 16 26.1**	**+1.4**
NATA	**Nata**	**3.63**	**135**	P	**Pn**	**06 16 26.0**	**+0.9**
ISK	**Istanbul-Kandi**	**3.68**	**355**	P	**Pn**	**06 16 24.7**	**-1.0**
KIRS	**Kirsehir-Merke**	**3.91**	**62**	⇓P	**Pn**	**06 16 30.3**	**+1.2**
CSS	**Mathiatis**	**3.96**	**127**	P	**Pn**	**06 16 29.2**	**-0.4**
CSS	**Mathiatis**	**3.96**	**127**	P	**Pn**	**06 16 30.4**	**+0.7**
BRTR	**Keskin Array B**	**4.02**	**53**	Pn	**Pn**	**06 16 31.6**	**+1.0**
	2.6nm,0.3s,baz=235,slow=14,SNR=63						
BRTR				Sn	**Sn**	**06 17 18.4**	**+0.4**
	1.9nm,0.3s,baz=227,slow=24,SNR=12						
BRTR				LR	LR	06 18 28.4	
	comp=Z,985nm,20.0s,baz=284,slow=45 28nm,0.8s						
ASGA	**Asgata**	**4.03**	**129**	P	**Pn**	**06 16 31.2**	**+0.7**
KARY	**Karystos**	**4.03**	**281**	P	**Pn**	**06 16 31.6**	**+1.0**
MVOU	**Mavrovouni**	**4.13**	**124**	P	**Pn**	**06 16 33.2**	**+1.3**
CAVK	**Edirne/Enez-Ca**	**4.17**	**323**	⇑P	**Pn**	**06 16 33.3**	**+0.9**
IDI	**Anoyia**	**4.25**	**242**	Pn	**Pn**	**06 16 35.7**	**+2.1**
	6.8nm,0.3s,baz=62,slow=15,SNR=21						
IDI				Sn	**Sn**	**06 17 24.1**	**+0.6**
	18nm,0.3s,baz=126,slow=22,SNR=8.1						
IDI				LR	LR	06 18 41.1	
	comp=Z,732nm,18.9s,baz=92,slow=45 49nm,0.5s						
HNTI	**Hanita**	**6.36**	**131**	P	**Pn**	**06 17 02.1**	**-0.5**
HNTI	**Hanita**	**6.36**	**131**	S	**Sn**	**06 18 14.3**	**-1.0**
MMC7	**Mount Meron ar**	**6.53**	**130**	P	**Pn**	**06 17 04.7**	**-0.3**
MMA0B	**Mount Meron ar**	**6.54**	**130**	P	**Pn**	**06 17 04.7**	**-0.4**
MMA0B	**Mount Meron ar**	**6.54**	**130**	S	**Sn**	**06 18 18.3**	**-1.7**
MMAI	**Mount Meron Ar**	**6.54**	**130**	Pn	**Pn**	**06 17 05.9**	**+0.7**
	14nm,0.5s,baz=308,slow=12,SNR=23						
MMAI				Sn	**Sn**	**06 18 19.3**	**-0.8**
	17nm,0.3s,baz=321,slow=29,SNR=11						
GEM	**Giv'at Ha'Em**	**6.57**	**128**	P	**Pn**	**06 17 05.1**	**-0.4**
GEM	**Giv'at Ha'Em**	**6.57**	**128**	S	**Sn**	**06 18 19.1**	**-1.5**
OFRI	**`Ofer**	**6.58**	**135**	P	**Pn**	**06 17 05.3**	**-0.3**
OFRI	**`Ofer**	**6.58**	**135**	S	**Sn**	**06 18 19.1**	**-1.7**
NATI	**Neve Ativ**	**6.58**	**127**	P	**Pn**	**06 17 05.7**	**+0.1**
NATI	**Neve Ativ**	**6.58**	**127**	S	**Sn**	**06 18 19.8**	**-1.2**
MMLI	**Mount Malkishu**	**6.96**	**134**	P	**Pn**	**06 17 10.3**	**-0.6**
MMLI	**Mount Malkishu**	**6.96**	**134**	S	**Sn**	**06 18 28.9**	**-1.4**
TIRR	**Tirgusor**	**7.10**	**354**	⇑P	**Pn**	**06 17 13.3**	**+0.6**
SALP	**Salfit**	**7.11**	**137**	P	**Pn**	**06 17 12.6**	**-0.3**
SALP	**Salfit**	**7.11**	**137**	S	**Sn**	**06 18 32.3**	**-1.6**
HMDT	**Nahal Hemdat**	**7.16**	**134**	P	**Pn**	**06 17 13.2**	**-0.3**
HMDT	**Nahal Hemdat**	**7.16**	**134**	S	**Sn**	**06 18 33.5**	**-1.5**
DSI	**Dead Sea**	**7.59**	**138**	P	**Pn**	**06 17 18.9**	**-0.6**
DSI	**Dead Sea**	**7.59**	**138**	S	**Sn**	**06 18 43.7**	**-2.1**
YTIR	**Yattir**	**7.62**	**141**	P	**Pn**	**06 17 19.7**	**-0.3**
YTIR	**Yattir**	**7.62**	**141**	S	**Sn**	**06 18 45.4**	**-1.2**
MSBI	**Mazada**	**7.79**	**139**	P	**Pn**	**06 17 21.2**	**-0.9**
MSBI	**Mazada**	**7.79**	**139**	S	**Sn**	**06 18 49.2**	**-1.3**
TLCR		**7.80**	**357**	⇓P	**Pn**	**06 17 22.9**	**+0.6**
ASF	**Jabal al Asfar**	**8.04**	**128**	Pn	**Pn**	**06 17 28.2**	**+2.5**
	2.4nm,0.3s,baz=308,slow=3.4,SNR=7.2						
ASF				Sn	**Sn**	**06 18 58.5**	**+1.7**
	1.2nm,0.3s,baz=11,slow=15,SNR=2.4						
ASF				LR	LR	06 21 50.0	
	comp=Z,109nm,20.1s,baz=0.3,slow=48						
SCTR	**Scanteiesti**	**8.34**	**353**	⇑P	**Pn**	**06 17 30.9**	**+1.2**
PRNI	**Paran**	**8.40**	**145**	P	**Pn**	**06 17 30.3**	**-0.3**
PRNI	**Paran**	**8.40**	**145**	S	**Sn**	**06 19 04.6**	**-1.2**
KRMI	**Paran Flat**	**8.48**	**147**	P	**Pn**	**06 17 31.2**	**-0.6**
KRMI	**Paran Flat**	**8.48**	**147**	S	**Sn**	**06 19 06.7**	**-1.0**
MLR	**Muntele Rosu**	**8.51**	**343**	Pn	**Pn**	**06 17 33.8**	**+1.6**
	0.5nm,0.3s,baz=53,slow=2.4,SNR=5.9 3.9nm,0.7s						
MLR	**Muntele Rosu**	**8.51**	**343**	⇑P	**Pn**	**06 17 33.4**	**+1.3**
HRFI	**Mount Harif**	**8.69**	**146**	P	**Pn**	**06 17 34.2**	**-0.4**
HRFI	**Mount Harif**	**8.69**	**146**	S	**Sn**	**06 19 11.1**	**-1.7**
VOIR		**8.69**	**339**	⇑P	**Pn**	**06 17 34.8**	**+0.2**
PLOR	**Plostina**	**8.71**	**347**	⇓P	**Pn**	**06 17 36.4**	**+1.7**
VRI	**Vrincioaia**	**8.71**	**347**	⇑P	**Pn**	**06 17 36.5**	**+1.7**
COVR	**Voineasa-Covas**	**8.79**	**345**	⇑P	**Pn**	**06 17 37.8**	**+1.9**
MBRI	**Mt Berech**	**8.84**	**147**	P	**Pn**	**06 17 36.0**	**-0.8**
MBRI	**Mt Berech**	**8.84**	**147**	S	**Sn**	**06 19 15.2**	**-1.4**
EIL	**Elat**	**8.96**	**148**	Pn	**Pn**	**06 17 37.9**	**-0.4**
	18nm,0.6s,baz=190,slow=5.7,SNR=8.2						
EIL				Sn	**Sn**	**06 19 14.1**	**-5.5**
	2.0nm,0.3s,baz=339,slow=12,SNR=5.0						
EIL				LR	LR	06 22 09.3	
	comp=Z,89nm,20.4s,baz=62,slow=45						
EIL	**Elat**	**8.96**	**148**	P	**Pn**	**06 17 38.1**	**-0.3**
EIL	**Elat**	**8.96**	**148**	S	**Sn**	**06 19 18.4**	**-1.2**
DOPR	**Dopca**	**9.09**	**342**	⇑P	**Pn**	**06 17 39.9**	**-0.1**
HERR	**Herculane**	**9.17**	**327**	⇑P	**Pn**	**06 17 40.4**	**-0.7**
VAE	**Valguarnera**	**11.96**	**275**	Pn	Pn	06 18 26.9	+7.5
	1.3nm,0.3s,baz=136,slow=11,SNR=3.2						
KBZ	**Khabaz**	**12.01**	**54**	LR	LR	06 23 28.2	
	comp=Z,131nm,21.1s,baz=224,slow=40						
GNI	**Garni**	**12.24**	**72**	LR	LR	06 23 50.2	
	comp=Z,414nm,18.5s,baz=274,slow=41						
LANS	**Liptovska Anna**	**13.80**	**331**	*e*P	**P**	**06 18 57.5**	**+4.4**
MODS	**Modra-Piesok**	**14.12**	**325**	*e*P	**P**	**06 18 58.3**	**+1.7**
GERES	**GERESS Array B**	**16.19**	**320**	Pn	**P**	**06 19 19.5**	**-0.1**
	baz=126,slow=12,SNR=10 1.0nm,0.7s						
KEST	**Kesra**	**16.25**	**270**	Pn	**Pn**	**06 19 17.9**	**+0.8**
	baz=119,slow=9.0,SNR=4.1 4.0nm,1.1s						
KHC	**Kasperske Hory**	**16.43**	**321**	*e*P	**P**	**06 19 22.0**	**-0.3**
DAVOX	**Davos/Dischmat**	**17.25**	**309**	LR	LR	06 27 13.7	
	comp=Z,136nm,19.0s,baz=98,slow=41						
CLL	**Collm**	**18.16**	**325**	*es*P	sP	06 19 44.0	-0.5
FINES	**FINESS Array B**	**24.16**	**356**	P	**P**	**06 20 44.3**	**-0.7**
	2.8nm,0.7s,baz=153,slow=13,SNR=6.0						
FINES				LR	LR	06 30 39.5	
	comp=Z,147nm,18.1s,baz=325,slow=38 2.8nm,0.7s						
AKTO	**Aktyubinsk**	**24.18**	**48**	LR	LR	06 33 18.3	
	comp=Z,119nm,18.1s,baz=180,slow=44						
KIRV	**Kirov**	**24.87**	**25**	LR	LR	06 30 25.0	
	comp=Z,59nm,19.2s,baz=212,slow=36						
HFS	**Hagfors**	**24.88**	**341**	LR	LR	06 30 57.3	
	comp=Z,146nm,18.6s,baz=147,slow=37						
ESDC	**Sonseca Array**	**26.16**	**285**	P	**P**	**06 21 04.1**	**+0.7**
	1.5nm,0.8s,baz=85,slow=11,SNR=4.7 1.5nm,0.8s						
NOA	**NORSAR Array B**	**26.31**	**340**	LR	LR	06 33 20.7	
	comp=Z,81nm,18.5s,baz=285,slow=41						
ARCES	**ARCESS Array B**	**32.27**	**357**	LR	LR	06 36 05.7	
	comp=Z,88nm,18.2s,baz=146,slow=38						
BVAR	**Borovoye Array**	**32.28**	**48**	LR	LR	06 36 53.1	
	comp=Z,144nm,19.5s,baz=255,slow=40						
AAK	**Ala-Archa**	**34.57**	**67**	LR	LR	06 39 54.0	
	comp=Z,60nm,18.9s,baz=294,slow=42						
KURBB	**Kurchatov Arra**	**37.01**	**53**	P	**P**	**06 22 39.1**	**+0.6**
	1.8nm,0.6s,baz=275,slow=8.7,SNR=12 1.8nm,0.6s						
MKAR	**Makanchi Array**	**39.65**	**59**	P	**P**	**06 23 00.7**	**-0.1**
	1.3nm,0.8s,baz=282,slow=6.3,SNR=10 1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**40.94**	**48**	P	**P**	**06 23 11.5**	**+0.1**
	0.5nm,0.5s,baz=279,slow=10,SNR=1.9 0.5nm,0.5s						
DBIC	**Dimbokro**	**43.68**	**234**	P	**P**	**06 23 33.0**	**-1.1**
	3.1nm,0.8s,baz=61,slow=6.1,SNR=2.1						
DBIC				LR	LR	06 46 01.6	
	comp=Z,44nm,18.4s,baz=346,slow=42 3.1nm,0.8s						
NRIK	**Noril'sk**	**44.38**	**26**	LR	LR	06 44 26.4	
	comp=Z,56nm,18.4s,baz=296,slow=39						
BBTS	**Babate**	**46.56**	**253**	LR	LR	06 45 45.1	
	comp=Z,56nm,18.9s,baz=312,slow=39						
TSUM	**Tsumeb**	**57.40**	**193**	LR	LR	06 51 33.8	
	comp=Z,72nm,19.5s,baz=330,slow=38						
TIXI	**Tiksi**	**57.83**	**22**	P	**P**	**06 25 19.3**	**-0.8**
	4.1nm,0.3s,baz=305,slow=2.4,SNR=4.7 4.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**62.92**	**87**	P	**P**	**06 25 56.0**	**+0.3**
	1.2nm,0.3s,baz=307,slow=4.4,SNR=4.2 1.2nm,0.3s						
KSRS	**Korea Array**	**74.16**	**55**	LR	LR	07 01 53.3	
	comp=Z,33nm,21.4s,baz=310,slow=38						
YKA	**Yellowknife Ar**	**76.34**	**344**	P	**P**	**06 27 18.0**	**+0.3**
	1.9nm,1.1s,baz=25,slow=5.6,SNR=15 1.9nm,1.1s						
JNU	**Nakatsue**	**78.67**	**57**	LR	LR	07 07 02.2	
	comp=Z,28nm,19.5s,baz=267,slow=39						
ASAJ	**Asahikawa**	**78.81**	**42**	LR	LR	07 08 29.6	
	comp=Z,32nm,19.2s,baz=340,slow=40						
PETK	**Petropavlovsk-**	**79.32**	**29**	LR	LR	07 07 01.4	
	comp=Z,42nm,18.2s,baz=343,slow=39						
BDFB	**Brasília**	**89.75**	**250**	LR	LR	07 09 26.1	
	comp=Z,37nm,18.8s,baz=123,slow=36						
PDAR	**Pinedale Array**	**91.92**	**331**	P	**P**	**06 28 36.5**	**-1.4**
	0.4nm,0.8s,baz=30,slow=4.3,SNR=4.1 0.4nm,0.8s						

DJA 25 06:19:24.2±0.4, **10°S**±6°×**11°9E**±°, **h10**km, **M3.9**/8, **mb4.2**/1, **MLv3.8**/8, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.32**	**85**	P	Pg	06 19 30.9	+0.3
WSI	**Waingapu**	**1.21**	**90**	P	Pn	06 19 45.6	-1.6
WSI				S	Sb	06 20 02.5	-0.4
PLAI	**Plampang**	**1.53**	**303**	P	Pn	06 19 50.6	-1.0
BASI	**Baing, Sumba**	**1.58**	**110**	P	Pn	06 19 52.9	+0.6
BASI				S	Sb	06 20 13.8	+0.1
EDFI	**Ende, Flores**	**2.74**	**71**	P	Pn	06 20 07.5	-0.9
BSSI	**Bau Bau, Buton**	**3.78**	**22**	P	Pn	06 20 22.2	-0.3
BKSI	**Bulukumba**	**4.44**	**14**	P	Pn	06 20 32.3	+0.6
JAGI	**Jajag, Banyuwa**	**5.00**	**283**	P	Pn	06 20 39.0	-0.4

*IDC **25** 06:21:06.4±1.1, 37°.67N×20°.71E, h0km, mb3.8/12, mbtmp3.8/18, ML2.5/4, MS3.3/2, Error ellipse: s-maj=21.2km s-min=14.4km az=3.0*
*THE **25** 06:21:07.8, 37°.62N×20°.65E, h0km±2km, ML3.8/14, Error ellipse: s-maj=3.3km s-min=0.7km az=222.0*
*ATH **25** 06:21:07.3, 37°.64N×20°.63E, h12km±1km, ML3.9/18, Manual Solution by S.Liakopoulos First location: 2019/03/25 06:22:00, This location: 2020/10/04 00:32:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **25** 06:21:09.0±2.0, 37°.42N×20°.39E, h55km±3km, ML3.6/14*
*PDG **25** 06:21:09.0±0.2, 37°.68N×20°.70E, h11km, ML3.9/12, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
ISC 25 06:21:08.2±0.8, **37°.69N**±0°.02×**20°.69E**±0°.02, **h13**km±5km, **n131**, σ1°57/197, **mb3.8**/12, **4C-4D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.11**	**103**	P	**Pg**	**06 21 11.0**	**-0.2**
KRI1				S	**Sg**	**06 21 12.8**	**-0.6**
	254μm,0.5s						
LTHK	**Lithakia**	**0.12**	**79**	P	**Pg**	**06 21 11.3**	**-0.1**
LTHK				S	**Sg**	**06 21 13.2**	**-0.5**
	303μm,0.3s						
LTHK	**Lithakia**	**0.12**	**79**	P	**Pg**	**06 21 11.4**	**-0.1**
ORTH	**Orthonies,Zaky**	**0.17**	**3**	P	**Pb**	**06 21 13.1**	**0.0**
ORTH				S	**Sb**	**06 21 16.3**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.17**	**40**	P	**Pb**	**06 21 13.2**	**0.0**
KYPS				S	**Sb**	**06 21 16.8**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.40**	**10**	P	**Pb**	**06 21 16.8**	**-0.2**
RTZL				S	**Sb**	**06 21 23.6**	**+0.6**
	18μm,0.2s						
CLEM	**Kyllini,Ilia,G**	**0.41**	**60**	P	**Pb**	**06 21 17.1**	**-0.2**
CLEM				S	**Sb**	**06 21 22.7**	**-0.7**
PSDA	**Pessada-Kefalo**	**0.43**	**349**	P	**Pb**	**06 21 17.6**	**-0.1**
PSDA				S	**Sb**	**06 21 24.9**	**+0.7**
	13μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.43**	**349**	P	**Pb**	**06 21 17.6**	**-0.1**
PSDA				S	**Sg**	**06 21 23.1**	**+0.5**
VLS	**Valsamata**	**0.50**	**351**	P	**Pg**	**06 21 18.4**	**+0.5**
VLS				S	**Sb**	**06 21 26.6**	**+0.6**
	11μm,0.2s						
**VLS

PDG	Podgorica	4.86	347	ePn	Pn	06 22 22.7	+1.7
PDG				i Sn	Sn	06 23 16.3	-0.9
PVY	Plav	4.93	354	ePn	Pn	06 22 23.8	+1.7
PVY				i Sn	Sn	06 23 18.1	-1.0
VAE	Valguarnera	4.99	270	Pn	Pn	06 22 23.6	+0.8
	4.4nm,0.3s,baz=36,slow=8.7,SNR=2.7						
VAE				Sn	Sn	06 23 23.2	+2.9
	1.3nm,0.3s,baz=2.0,slow=16,SNR=1.8						
	10nm,0.3s						
BOSS	Bosilegrad	5.00	15	ePn	Pn	06 22 24.6	+1.7
CEME	Cevo	5.04	345	⇓iPn	Pn	06 22 25.1	+1.6
CEME				i Sn	Sn	06 23 20.5	-1.1
HCY	Herceg Novi	5.04	341	ePn	Pn	06 22 25.0	+1.5
HCY				i Sn	Sn	06 23 20.4	-1.2
BARS	Barje	5.20	9	ePn	Pn	06 22 26.9	+1.3
BARS				eSn	Sn	06 23 24.6	-0.8
IVA	Berane	5.21	354	ePn	Pn	06 22 27.7	+1.8
IVA				i Sn	Sn	06 23 24.8	-1.2
KOME	Kolasin	5.24	351	ePn	Pn	06 22 27.8	+1.6
KOME				i Sn	Sn	06 23 25.2	-1.3
NKME	Niksic	5.25	346	ePn	Pn	06 22 28.0	+1.7
NKME				i Sn	Sn	06 23 25.3	-1.4
VTS	Vitosha	5.30	21	ePn	Pn	06 22 29.1	+1.9
TREB	Trebinje	5.33	341	ePn	Pn	06 22 27.1	-0.4
TREB	Trebinje	5.33	341	ePn	Pn	06 22 26.9	-0.6
TREB				eSn	Sn	06 23 26.2	-2.6
BRY	Bratogost	5.46	343	ePn	Pn	06 22 31.0	+1.6
BRY				i Sn	Sn	06 23 30.5	-1.6
SELS	Selova	5.54	3	ePn	Pn	06 22 31.3	+1.0
SELS				eSn	Sn	06 23 33.0	-0.8
SJES	Sjenica	5.59	355	ePn	Pn	06 22 32.3	+1.1
SJES				eSn	Sn	06 23 32.7	-2.7
STON	Ston	5.66	337	ePn	Pn	06 22 31.9	0.0
STON	Ston	5.66	337	ePn	Pn	06 22 31.7	-0.2
STON				eSn	Sn	06 23 32.2	-4.5
UPM	Unac-Piva	5.67	347	ePn	Pn	06 22 33.9	+1.5
UPM				i Sn	Sn	06 23 35.6	-1.9
ZAPS	Zavoj	5.78	14	ePn	Pn	06 22 35.0	+1.4
GOCS	Kraljevo Serbi	5.87	1	eSn	Sn	06 23 40.6	-1.6
RUDO	Rudo	6.01	351	ePn	Pn	06 22 41.3	+4.5
GRUS	Gruza	6.20	0	eSn	Sn	06 23 48.3	-1.7
ZAGS	Zajecar	6.23	10	ePn	Pn	06 22 41.9	+2.1
BBLS	Lazi&#263i	6.25	351	ePn	Pn	06 22 40.9	+0.8
BBLS				eSn	Sn	06 23 47.9	-3.5
DIVS	Divibare	6.43	356	ePn	Pn	06 22 43.6	+1.0
DIVS				eSn	Sn	06 23 53.1	-2.7
HAPS	Han Pijesak,Bl	6.53	349	ePn	Pn	06 22 44.1	+0.1
TRUS	Trudelj	6.53	358	eSn	Sn	06 23 55.7	-2.6
TEKS	Tekeris	6.91	353	ePn	Pn	06 22 49.4	+0.2
TEKS				eSn	Sn	06 24 03.7	-4.0
A050A	Klekovaca	7.48	337	ePn	Pn	06 22 58.5	+1.5
BLY	Banja Luka	7.53	341	ePn	Pn	06 22 59.0	+1.3
A051A	Mrakovica	7.85	340	ePn	Pn	06 23 03.6	+1.5
ARR	Arges	8.22	20	⇑iPn	Pn	06 23 09.7	+2.5
VOIR		8.40	22	⇓iPn	Pn	06 23 12.5	+2.8
MLR	Muntele Rosu	8.73	25	Pn	Pn	06 23 17.4	+3.1
	6.1nm,0.7s,baz=150,slow=9.5,SNR=8.7						
MLR	Muntele Rosu	8.73	25	⇓iPn	Pn	06 23 18.9	+4.6
BOJS	Bojanci	8.80	334	ePn	Pn	06 23 16.6	+1.5
PLOR	Plostina	9.29	27	⇓iPn	Pn	06 23 26.1	+4.2
SKDS	Skadanscina	9.30	330	ePn	Pn	06 23 20.9	-1.1
CEY	Cerknica	9.30	332	ePn	Pn	06 23 20.9	-1.1
KEST	Kesra	9.31	261	Pn	Pn	06 23 22.5	+0.3
	0.2nm,0.3s,baz=101,slow=7.7,SNR=4.4						
	2.1nm,0.6s						
VRI	Vrincioaia	9.33	27	⇑iPn	Pn	06 23 25.9	+3.5
SOKA	Soboth	9.91	337	ePn	Pn	06 23 32.1	+1.8
	2.5nm,0.5s						
SOKA				i Sn	Sn	06 25 14.6	-6.9
	2.2nm,0.5s						
OBKA	Obir	9.92	335	eSn	Sn	06 25 20.6	-1.1
	9.6nm,0.7s						
ABTA	Abfaltersbach	10.89	329	eSn	Sn	06 25 42.3	-3.2
	3.9nm,0.5s						
LESA	Schwarzleotal	11.38	331	i Pn	Pn	06 23 52.9	+2.5
	1.1nm,0.3s						
LESA				i Sn	Sn	06 25 53.7	-3.6
	1.4nm,0.3s						
WTTA	Wattenberg	11.66	328	eSn	Sn	06 26 00.9	-3.7
	5.7nm,0.5s						
FETA	Feichten	11.87	325	i Pn	Pn	06 23 58.7	+1.4
	0.1nm,0.1s						
FETA				eSn	Sn	06 26 07.3	-2.4
	2.6nm,0.6s						
GERES	GERESS Array B	12.25	338	Pn	Pn	06 24 03.8	+1.4
	baz=150,slow=14,SNR=2.8						
	0.3nm,0.3s						
DAVA	Damuels	12.46	324	i Sn	Sn	06 26 21.8	-2.3
	2.7nm,0.4s						
EIL	Elat	14.31	120	LR	LR	06 31 50.0	
	comp=Z,48nm,18.8s,baz=71,slow=45						
AKASG	Malin Array Be	14.37	22	Pn	P	06 24 36.0	-2.1
	3.6nm,0.3s,baz=211,slow=9.0,SNR=9.8						
ESDC	Sonseca Array	19.33	284	P	Pn	06 25 34.2	-0.1
	1.7nm,1.0s,baz=88,slow=9.3,SNR=5.7						
MDT	Midelt	21.19	264	P	P	06 25 54.0	+0.4
	2.1nm,0.8s,baz=101,slow=15,SNR=3.7						
	2.1nm,0.8s						
HFS	Hagfors	22.91	351	P	P	06 26 11.5	0.0
	1.9nm,0.5s,baz=159,slow=13,SNR=11						
	1.9nm,0.5s						
EKA	Eskdalemuir Ar	23.90	325	P	P	06 26 21.7	+0.2
	0.5nm,0.4s,baz=128,slow=8.6,SNR=4.5						
	0.5nm,0.4s						
FINES	FINESS Array B	24.02	6	P	P	06 26 22.1	-0.4
	1.2nm,0.5s,baz=169,slow=11,SNR=10						
	1.2nm,0.5s						
NOA	NORSAR Array B	24.12	349	P	P	06 26 23.2	-0.3
	0.3nm,0.5s,baz=162,slow=11,SNR=2.0						
	0.3nm,0.5s						
ARCES	ARCESS Array B	32.02	3	P	P	06 27 33.9	0.0
	2.4nm,0.8s,baz=187,slow=9.0,SNR=6.1						
	2.4nm,0.8s						
BVAR	Borovoye Array	37.34	49	P	P	06 28 20.3	+0.3
	1.5nm,0.6s,baz=271,slow=8.3,SNR=6.8						
	1.5nm,0.6s						
KURBB	Kurchatov Arra	42.42	53	P	P	06 29 01.8	-0.5
	1.3nm,0.7s,baz=279,slow=8.8,SNR=12						
	1.3nm,0.7s						
MKAR	Makanchi Array	45.45	58	P	P	06 29 26.6	-0.2
	0.6nm,0.3s,baz=279,slow=6.7,SNR=3.8						
	0.6nm,0.3s						
ZALV	Zalesovo Beam	45.92	48	P	P	06 29 30.2	-0.1
	2.2nm,0.5s,baz=274,slow=8.6,SNR=9.3						
	2.2nm,0.5s						
CMAR	Chiang Mai Arr	69.83	82	P	P	06 32 18.2	-0.6
	0.7nm,0.3s,baz=303,slow=5.7,SNR=1.3						
	0.7nm,0.3s						
YKA	Yellowknife Ar	73.89	340	P	P	06 32 43.4	+1.0
	0.1nm,0.6s,baz=46,slow=7.2,SNR=3.8						
	0.1nm,0.6s						
DLBC	Dease Lake	81.15	345	LR	LR	07 11 32.1	
	comp=Z,36nm,18.3s,baz=221,slow=37						

IDC ***25*** *06:34:42.8±3.7, 53°.48N×87°.77E, h0km, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=36.1km s-min=18.3km az=55.0*

ASRS 25 06:34:43.0±2.0, 53°.41N×87°.42E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.64	290	I	I	06 46 20.0	
	baz=105,slow=331,SNR=3.4						
ZALV	Zalesovo Beam	1.64	290	Pg	Pg	06 35 14.5	+0.1
	0.6nm,0.3s,baz=105,slow=17,SNR=7.0						
ZALV				Lg	Lg	06 35 41.3	
	0.7nm,0.3s,baz=107,slow=29,SNR=4.1						
KURBB	Kurchatov Arra	6.16	247	Pn	Pn	06 36 18.4	+3.2
	baz=62,slow=14,SNR=4.7						
	0.2nm,0.5s						
MKAR	Makanchi Array	7.40	208	Pn	Pn	06 36 35.8	+3.6
	0.1nm,0.3s,baz=30,slow=15,SNR=2.1						
	0.1nm,0.4s						

IDC ***25*** *06:35:29.9±3.4, 50°.21N×176°.81W, h0km, mb3.5/6, mbtmp3.5/7, ML2.6/1, Error ellipse: s-maj=86.3km s-min=26.5km az=178.0*

NEIC ***25*** *06:35:32.9±2.3, 50°.46N±0°.06×176°.8W±0°.1, h10km±2km, mb3.8/50, Error ellipse: s-maj=16.3km s-min=5.3km az=126.0*

ISC 25 06:35:34.0±1.2, 50°.4N±0°.1×176°.81W±0°.08, h25km, n80, σ1§18/75, mb3.9/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	1.54	3		Pn	06 35 58.2	-1.6
ADK				Sn	Sn	06 36 17.9	-1.0
ATKA	Atka Island	2.48	40	Pn	Pn	06 36 10.9	-1.7
SMY	Shemya	6.16	296	Pn	Pn	06 37 03.5	+0.4
UNV	Unalaska Valle	7.25	57	Pn	Pn	06 37 18.3	+0.2
SDPT	Sand Point	11.06	57	Pn	Pn	06 38 08.9	-1.4
CNBA	Chernabura Isl	11.38	60	Pn	Pn	06 38 12.9	-1.8
CHGN	Chignik	12.49	54	Pn	Pn	06 38 29.4	-0.4
O16K	Kokwok River B	14.13	42	Pn	Pn	06 38 50.4	-1.9
K15K	Wolf Creek Mou	14.61	29	Pn	Pn	06 38 58.0	-0.8
KDAK	Kodiak Island	15.98	53	Pn	Pn	06 39 13.3	-3.6
KDAK	Kodiak Island	15.98	53	Pn	Pn	06 39 12.3	-4.5
	0.2nm,0.3s,baz=327,slow=3.3,SNR=12						
KDAK				Sn	Sn	06 42 17.2	+4.1
	0.2nm,0.3s,baz=244,slow=23,SNR=7.9						
PETK	Petropavlovsk-	16.01	290	Pn	Pn	06 39 18.1	+0.9
	0.1nm,0.3s,baz=86,slow=20,SNR=1.1						
	0.9nm,0.6s						
J17K	VABM Dome	16.19	29		P	06 39 22.7	+0.3
L18K	Granite Mounta	16.22	35	Pn	Pn	06 39 20.6	+0.7
L18K				IAmb	IAmb	06 39 31.0	
	comp=Z,12nm,1.4s						
N19K	Bonanza Creek	16.31	42	Pn	Pn	06 39 21.1	0.0
N19K				IAmb	IAmb	06 39 32.3	
	comp=Z,9.4nm,1.4s						
L19K	White Mountain	16.89	37		P	06 39 29.2	-1.0
L19K				IAmb	IAmb	06 39 45.0	
	comp=Z,14nm,1.5s						
M19K	Big River Lodg	16.92	38		Pn	06 39 29.2	+0.5
J18K	Innoko River	17.01	32		Pn	06 39 30.3	+0.5
CNPM	China Poot	17.22	48	Pn	Pn	06 39 31.8	-0.8
BRLK	Bradley Lake	17.47	47	Pn	Pn	06 39 35.0	-0.7
STLK	Strandline Lak	17.77	42		Pn	06 39 38.6	-0.8
SLKM	Skilak Lake	18.06	46		Pn	06 39 42.1	-0.8
SKT	Skwentna	18.12	40	P	P	06 39 44.1	+0.2
SKT				IAmb	IAmb	06 40 11.9	
	comp=Z,11nm,1.5s						
G18K	Tagagawik	18.18	24		P	06 39 45.0	+0.6
RC01	Rabbit Creek A	18.50	44	P	Pn	06 39 48.1	-0.2
CAST	Castle Rocks	18.64	36	P	Pn	06 39 51.0	+1.0
C16K	Lisburne Hills	18.84	13	P	Pn	06 39 52.3	0.0
C16K				IAmb	IAmb	06 40 09.9	
	comp=Z,7.8nm,1.4s						
F19K	Shaleruckik Mo	19.13	23	P	Pn	06 39 55.6	-0.2
F19K				IAmb	IAmb	06 40 09.0	
	comp=Z,6.7nm,1.4s						
GHO	Glory Hole Cre	19.14	43	P	P	06 39 55.0	-0.1
KTH	Kantishna Hill	19.15	37	P	Pn	06 39 55.9	-0.3
TRF	Thorofare Moun	19.34	37	P	Pn	06 39 58.0	-0.5
BPAW	Bear Paw Mtn.	19.42	35	P	Pn	06 39 59.5	+0.1
BPAW				IAmb	IAmb	06 40 13.2	
	comp=Z,5.5nm,1.2s						
E19K	Redstone River	19.75	22	P	P	06 40 01.6	0.0
SCM	Sheep Creek Mo	19.86	43	P	P	06 40 02.9	-0.1
RND	Reindeer	19.89	38	P	Pn	06 40 04.3	-0.6
RND				IAmb	IAmb	06 40 06.3	
	comp=Z,5.7nm,1.4s						
D19K	Kuna River	20.36	20	P	P	06 40 08.2	-0.1
D19K				IAmb	IAmb	06 40 11.1	
	comp=Z,3.6nm,0.9s						
F21K	Alatna River	20.56	26	P	P	06 40 09.7	-0.7
I23K	Minto, Yukon-K	20.58	34	P	P	06 40 10.8	+0.2
CCB	Clear Creek Bu	20.89	36	P	P	06 40 12.9	-1.1
CCB				IAmb	IAmb	06 40 51.1	
	comp=Z,5.4nm,1.5s						
PAX	Paxson	21.09	41	P	P	06 40 15.6	-0.6
PAX				IAmb	IAmb	06 40 48.5	
	comp=Z,8.7nm,1.5s						
HDA	Harding Lake	21.10	37	P	P	06 40 17.3	+1.0
HDA				IAmb	IAmb	06 40 37.0	
	comp=Z,8.0nm,1.4s						
ILAR	Eielson Array	21.30	36	P	P	06 40 19.5	+1.1
ILAR	Eielson Array	21.30	36	P	P	06 40 19.0	+0.6
	comp=Z,0.2nm,0.4s,baz=227,slow=11,SNR=11						
	comp=Z,0.2nm,0.4s						
WAX	Waxell Ridge	21.52	49	P	P	06 40 18.2	-2.7
RIDG	Independent Ri	21.65	40	P	P	06 40 21.2	-1.0
RIDG				IAmb	IAmb	06 40 21.2	
	comp=Z,6.9nm,1.3s						
J25K	Salcha River,	21.80	37	P	P	06 40 23.7	-0.2
J25K				IAmb	IAmb	06 40 29.1	
	comp=Z,4.3nm,1.3s						
DOT	Dot Lake	21.93	40	P	P	06 40 26.1	+0.9
MMO1				S	Sg	06 22 33.7	+0.8
LNSS	Leonessa	0.21	191	P	Pg	06 22 30.8	+0.5
LNSS				S	Sg	06 22 34.4	+0.9
LNSS				AML	AML		
	comp=N,88μm,0.8s						
LNSS				AML	AML		
	comp=N,88μm,0.8s						
LNSS				AML	AML		
	comp=E,100μm,0.2s						
LNSS				AML	AML		
	comp=N,88μm,1.2s						
FDMO	Fiordimonte	0.23	358	⇑P	Pg	06 22 30.9	+0.4
FDMO				S	Sg	06 22 34.8	+1.0
FDMO				AML	AML		
	comp=E,48μm,0.2s						
FDMO				AML	AML		
	comp=N,40μm,1.0s						
FDMO				AML	AML		
	comp=N,40μm,1.0s						
FDMO				AML	AML		
	comp=E,47μm,0.2s						
CESI	CESI - Serrava	0.24	324	⇑P	Pg	06 22 31.2	+0.4
CESI				AML	AML		
	comp=E,60μm,0.1s						
CESI				AML	AML		
	comp=N,68μm,0.3s						
SMA1	SAN MARTINO	0.25	136	⇓P	Pg	06 22 31.6	+0.6
SMA1				AML	AML		
	comp=E,64μm,1.0s						
SMA1				AML	AML		
	comp=N,59μm,0.3s						
SMA1				AML	AML		
	comp=E,64μm,1.0s						
RM33	Pellescritta (	0.32	164	S	Sg	06 22 32.5	-3.9
RM33				AML	AML		
	comp=N,43μm,1.5s						
RM33				AML	AML		
	comp=N,43μm,0.5s						
RM33				AML	AML		
	comp=E,46μm,0.5s						
TERO	Teramo	0.42	117	P	Pg	06 22 33.8	-0.2
TERO				AML	AML		
	comp=N,31μm,0.1s						
TERO				AML	AML		
	comp=E,30μm,0.5s						
DOT				IAmb	IAmb	06 41 01.7	
	comp=Z,5.7nm,1.2s						
B21K	Ikpikpuk River	22.03	21	P	P	06 40 25.7	-0.5
B21K				IAmb	IAmb	06 40 41.8	
	comp=Z,3.9nm,0.8s						
G24K	Hadweenzic Riv	22.08	31	P	P	06 40 26.5	-0.3
G24K				IAmb	IAmb	06 40 58.1	
	comp=Z,5.4nm,1.4s						
SCRK	Sand Creek	22.09	39	P	P	06 40 27.2	+0.2
SCRK				IAmb	IAmb	06 40 39.6	
	comp=Z,4.0nm,1.0s						
F24K	Squaw Lake	22.42	29	P	P	06 40 30.7	+0.3
F24K				IAmb	IAmb	06 41 12.2	
	comp=Z,6.9nm,1.5s						
J26L	Joseph Creek	22.47	38	P	P	06 40 31.1	+0.1
D23K	Nanushuk River	22.52	25	P	P	06 40 31.4	-0.1
E24K	Your Creek	22.57	28	P	P	06 40 31.9	-0.1
TOLK	Toolik Lake Re	22.61	26	P	P	06 40 31.4	-1.1
TOLK				IAmb	IAmb	06 40 55.8	
	comp=Z,6.6nm,1.4s						
BCAR	Beaver Creek A	22.70	43	P	P	06 40 32.5	-1.1
B22K	Teshekpuk Lake	22.85	20	P	P	06 40 33.3	-1.5
B22K				IAmb	IAmb	06 40 57.6	
	comp=Z,4.3nm,1.1s						
K27K	Chicken	22.89	40	P	P	06 40 34.0	-1.4
K27K				IAmb	IAmb	06 41 13.8	
	comp=Z,6.0nm,1.4s						
I26K	Coal Creek Min	22.95	37	P	P	06 40 34.9	-1.1
C23K	Itkillik River	23.14	23	P	P	06 40 37.3	-0.6
C23K				IAmb	IAmb	06 40 39.1	
	comp=Z,2.4nm,0.8s						
BMAR	Burnt Mountain	23.43	31	P	P	06 40 41.3	+0.5
E25K	Arctic Village	23.48	29	P	P	06 40 41.4	+0.1
E25K				IAmb	IAmb	06 40 44.6	
	comp=Z,3.7nm,1.4s						
C24K	Franklin Bluff	23.55	24	P	P	06 40 42.0	+0.1
C24K				IAmb	IAmb	06 40 43.0	
	comp=Z,3.7nm,1.1s						
I28M	Miner Creek	24.25	38	P	P	06 40 48.0	-0.7
I28M				IAmb	IAmb	06 40 50.2	
	comp=Z,2.7nm,1.4s						
I30M	Mount Dempster	25.60	39	P	P	06 41 01.9	+0.9
H11N2	WAKE ISLAND Hy	33.18	209	T	T	07 17 00.7	
	baz=17						
H11N3	WAKE ISLAND Hy	33.19	209	T	T	07 17 02.9	
	baz=17						
H11N1	WAKE ISLAND Hy	33.20	209	T	T	07 17 03.4	
	baz=17						
H11S1	WAKE ISLAND Hy	34.39	208	T	T	07 18 36.5	
	baz=19,slow=76,SNR=3.5						
H11S2	WAKE ISLAND Hy	34.41	208	T	T	07 18 32.7	
	baz=19,slow=76,SNR=5.8						
H11S3	WAKE ISLAND Hy	34.41	209	T	T	07 18 31.5	
	baz=19,slow=76,SNR=4.8						
YKA	Yellowknife Ar	35.04	46	P	P	06 42 24.7	+0.5
	comp=Z,0.5nm,0.9s,baz=274,slow=8.6,SNR=5.5						
	comp=Z,0.5nm,0.9s						
PDAR	Pinedale Array	45.42	72	P	P	06 43 50.9	+0.2
	comp=Z,0.3nm,0.6s,baz=277,slow=4.8,SNR=4.3						
	comp=Z,0.3nm,0.6s						
FRB	Frobisher Bay	53.24	32	P	P	06 44 50.2	+0.5
	comp=Z,1.0nm,0.3s,baz=312,slow=12,SNR=1.8						
	comp=Z,1.0nm,0.3s						
KURBB	Kurchatov Arra	60.75	315	P	P	06 45 43.2	+0.1
	comp=Z,0.3nm,0.6s,baz=44,slow=6.6,SNR=2.6						
	comp=Z,0.3nm,0.6s						
MKAR	Makanchi Array	61.66	310	P	P	06 45 49.5	+0.1
BVAR	Borovoye Array	62.49	321	P	P	06 45 55.4	+0.5
	comp=Z,0.6nm,0.5s,baz=40,slow=8.0,SNR=4.7						
	comp=Z,0.6nm,0.5s						
AKTO	Aktyubinsk	69.25	326	P	P	06 46 52.9	+15
	comp=Z,1.1nm,0.6s,baz=32,slow=8.2,SNR=3.7						
ABKAR	Akbulak array	69.52	324	P	P	06 46 39.8	-0.2
KKAR	Karatay Array	70.01	314	P	P	06 46 43.1	-0.2

GCG ***25*** *06:47:30.1±3.0, 15°.07N×94°.67W, h26km±101km, MD4.5*

MEX ***25*** *06:47:32.8±0.6, 15°.16N×94°.61W, h21km±29km, MD4.2*

ISC 25 06:47:31.7±0.7, 15°.24N±0°.05×94°.60W±0°.02, h51km±35km, n31, σ2§20/50, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.41	71	i P	Pn	06 47 54.5	-0.4
PCIG				i S	Sn	06 48 11.6	-0.8
HUIG	Huatulco	1.55	290	eP	Pn	06 47 56.5	-0.4
HUIG				eS	Sn	06 48 14.2	-1.7
HUIG	Huatulco	1.55	290	eP	Pn	06 47 56.1	-0.7
HUIG				eS	Sn	06 48 13.2	-2.7
HUIG	Huatulco	1.55	290	eP		06 47 56.1	
HUIG				eS		06 48 13.2	
CMIG	Matias Romero	1.86	351	i P	Pn	06 48 01.6	+0.4
CMIG				i S	Sn	06 48 23.6	+0.1
TGIG		2.08	43	eP	Pn	06 48 05.4	+1.1
TGIG				eS	Sn	06 48 27.6	-1.5
TGIG		2.08	43	eP	Pn	06 48 05.4	+1.1
TGIG				i S	Sn	06 48 30.3	+1.2
TGIG		2.08	43	eP		06 48 05.4	
TGIG				i S		06 48 30.3	
TGBT	Tuxtla Gutierr	2.10	43	i P	Pn	06 48 06.4	+1.9
TGBT				i S	Sn	06 48 31.7	+2.2
UXUV	UXUV	2.11	12	eP	Pn	06 48 06.0	+1.5
UXUV				i S	Sn	06 48 31.1	+1.5
THIG		2.28	98	i P	Pn	06 48 07.0	+0.1
THIG				eS	Sn	06 48 32.4	-1.3
PATR	El Naranjo	2.29	93	eP	Pn	06 48 06.6	-0.6
PATR				eS	Sn	06 48 32.2	-2.0
PAVE	Pavencul	2.34	91	i P	Pn	06 48 08.1	+0.2
PAVE				i S	Sn	06 48 35.1	-0.4
PEIG	Puerto Escondi	2.57	287	eP	Pn	06 48 10.8	-0.1
PEIG				eS	Sn	06 48 36.8	-4.1
CCIG	Comitan	2.58	66	eP	Pn	06 48 12.6	+1.3
CCIG				i S	Sn	06 48 42.0	+0.5
CCIG	Comitan	2.58	66	eP	Pn	06 48 12.9	+1.6
CCIG				i S	Sn	06 48 45.7	+4.1
CCIG	Comitan	2.58	66	eP		06 48 12.9	
CCIG				i S		06 48 45.7	
NEUV	Arroyo Zacate	2.71	335	eP	Pn	06 48 13.5	+0.7
NEUV				eS	Sn	06 48 41.8	-2.8
VHO	Vista Hermosa	2.74	312	eP	Pn	06 48 14.8	+1.3
VHO				eS	Sn	06 48 45.9	+0.4
HUEH	Huehuetenango	2.99	88	eP	Pn	06 48 18.8	+2.0
HUEH				i S	Sn	06 48 50.8	-0.8
STG0	El Palmar, Qui	3.25	104	eP		06 48 16.3	
YOIG	Yosondua	3.26	300	eP	Pn	06 48 23.1	+2.6
YOIG				eS	Sn	06 48 56.7	-1.6
PMUV	Sontecomapan	3.32	351	eP	Pn	06 48 21.1	-0.2
PMUV				i S	Sn	06 48 56.5	-3.1
PNIG	Pinotepa	3.59	289	eP	Pn	06 48 25.8	+0.9
PNIG				eS	Sn	06 49 02.2	-3.8
TXIG	Tlaxiaco	3.64	304	eP	Pn	06 48 28.8	+2.9
TXIG				eS	Sn	06 49 08.4	+0.6
TOIG	Toxpalan	3.69	321	eP	Pn	06 48 30.6	+4.2
TOIG				eS	Sn	06 49 10.7	+1.9
HLIG	Huajuapan de L	4.01	310	eP	Pn	06 48 32.5	+1.7
HLIG				eS	Sn	06 49 15.9	-0.8
FTIG	Fresnillo de T	4.30	309	eP	Pn	06 48 38.3	+3.5
FTIG				eS	Sn	06 49 20.7	-3.1
TLIG	Tlapa	4.45	302	eP	Pn	06 48 39.4	+2.6
TLIG				eS	Sn	06 49 26.4	-1.1
JAUV	Jalcomulco	4.61	333	eP	Pn	06 48 37.9	-1.0
JAUV				i S	Sn	06 49 29.1	-2.2
PETF	Flores	4.84	69	eP	Pn	06 48 43.0	+0.9
PETF				i S	Sn	06 49 31.8	-5.1
PETF	Flores	4.84	69	eP	Pn	06 48 43.7	+1.6
PETF	Flores	4.84	69	eP		06 48 43.7	
SCIG	Sabancuy	4.94	41	eP	Pn	06 48 43.3	-0.1
SCIG				eS	S

comp=Z,63nm,18.5s,baz=205,slow=40
3.0nm,0.7s
PSI Prapat 10.01 157 LR LR 06 55 50.8
comp=Z,20nm,18.6s,baz=286,slow=41
AAK Ala-Archa 35.27 333 LR LR 07 12 14.8
comp=Z,67nm,18.3s,baz=120,slow=40
MKAR Makanchi Array 36.22 345 P **P 06 56 03.2 -0.6**
0.3nm,0.7s,baz=146,slow=10,SNR=3.6
0.3nm,0.7s
SONM Songino Array 36.88 13 P **P 06 56 09.6 0.0**
0.3nm,0.8s,baz=193,slow=4.4,SNR=1.5
0.3nm,0.8s
KURBB Kurchatov Arra 40.72 344 P **P 06 56 41.6 0.0**
0.5nm,0.9s,baz=159,slow=7.5,SNR=5.2
0.5nm,0.9s
BVAR Borovoye Array 45.34 339 P **P 06 57 19.5 +0.6**
0.4nm,0.6s,baz=90,slow=5.8,SNR=2.2
0.4nm,0.6s
WRA Warramunga Arr 50.11 129 P **P 06 57 56.2 -0.3**
0.8nm,0.9s,baz=308,slow=8.2,SNR=13
0.8nm,0.9s
ASAR Alice Springs 52.04 133 P **P 06 58 11.2 +0.2**
0.5nm,0.9s,baz=314,slow=6.9,SNR=11
0.5nm,0.9s
ARTI Arti 52.45 335 LR LR 07 26 19.9
comp=Z,72nm,18.7s,baz=140,slow=43

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*NEIC **25** 07:06:01.8±0.6,37°.07N±0°.01×97°.98W±0°.01,h7km±3km, Error ellipse: s-maj=1.7km s-min=1.5km az=142.0*
NEIC 25 07:06:01.5±0.5,37°.068N±0°.006×97°.98W±0°.01,h5km±1km, mb_Lg2.5/27,ML2.6/11,ML2.8/44,Error ellipse: s-maj=2.1km s-min=1.8km az=161.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.10**	**65**	Pg	Pg	07 06 04.2	+0.6
KAN05				Sg	Sg	07 06 05.8	+0.9
KAN05				IAML		07 06 06.6	
	comp=E,7μm,0.2s						
KAN10	**Anthony SW Sta**	**0.11**	**302**		Pg	07 06 06.2	+2.4
KAN14	**Manchester OK**	**0.11**	**172**	Pg	Pg	07 06 04.5	+0.7
KAN14				Sg	Sg	07 06 06.0	+0.7
KAN08	**Anthony NE Sta**	**0.16**	**3**		Pg	07 06 05.3	+0.6
KAN08					Sg	07 06 07.7	+0.8
KAN08				IAML		07 06 07.8	
	comp=E,3μm,0.1s						
KAN17	**Caldwell West**	**0.17**	**98**		Pg	07 06 05.6	+0.6
KAN17					Sg	07 06 08.4	+1.0
KAN17				IAML		07 06 08.4	
	comp=E,2μm,0.2s						
KAN01	**Argonia South**	**0.20**	**64**		Pg	07 06 06.0	+0.5
KAN01					Sg	07 06 08.9	+0.8
KAN01				IAML		07 06 10.1	
	comp=E,3μm,0.1s						
KAN12	**Harper NE Stat**	**0.23**	**357**		Pg	07 06 06.6	+0.5
KAN12					Sg	07 06 09.9	+0.8
KAN12				IAML		07 06 10.1	
	comp=E,2μm,0.3s						
GC02	**Grant County #**	**0.24**	**156**		Pg	07 06 06.8	+0.6
GC02					Sg	07 06 10.3	+1.0
KAN09	**Caldwell North**	**0.30**	**77**		Pg	07 06 07.8	+0.5
KAN09					Sg	07 06 12.0	+0.7
KAN09				IAML		07 06 16.7	
	comp=N,2μm,0.3s						
OK032	**Salt Plains WL**	**0.32**	**215**		Pg	07 06 08.4	+0.6
OK032					Sg	07 06 13.1	+1.1
OK032				IAML		07 06 13.2	
	comp=N,1μm,0.3s						
KAN13	**South Haven SW**	**0.41**	**98**		Pg	07 06 09.8	+0.4
CROK	**Carrier**	**0.56**	**180**		Pg	07 06 12.7	+0.4
CROK				IAML		07 06 25.9	
	comp=E,537nm,0.3s						
BLOK	**Blackwell**	**0.69**	**116**		Pg	07 06 14.9	+0.2
BLOK				Sg	Sg	07 06 24.2	+0.6
BLOK				IAML		07 06 24.8	
	comp=N,660nm,0.2s						
BLOK				IAML		07 06 37.0	
	comp=E,465nm,0.2s						
OK038	**West end E0370**	**0.85**	**226**	Pg	Pg	07 06 17.9	+0.1
NOKA	**Waynoka**	**0.88**	**241**		Pg	07 06 18.5	+0.2
NOKA				IAML		07 06 38.1	
	comp=N,311nm,0.2s						
NOKA				IAML		07 06 38.4	
	comp=E,385nm,0.2s						
OK048	**Pawnee Station**	**1.06**	**128**		Pg	07 06 21.6	-0.2
OK048				IAML		07 06 35.9	
	comp=E,231nm,0.4s						
OK048				IAML		07 06 41.2	
	comp=E,217nm,0.3s						
OK051	**E0350 and S346**	**1.08**	**121**		Pg	07 06 21.9	-0.3
T35A	**Sooner Cattle**	**1.19**	**97**	Pg	Pg	07 06 23.9	-0.4
T35A				IAML		07 06 45.9	
	comp=E,180nm,0.2s						
T35A				IAML		07 06 47.7	
	comp=E,186nm,0.2s						
OK029	**Liberty Lake**	**1.34**	**161**		Pn	07 06 26.6	-0.3
OK029				IAML		07 06 45.8	
	comp=E,227nm,0.3s						
OK029				IAML		07 06 47.8	
	comp=E,139nm,0.2s						
QUOK	**Quay**	**1.36**	**131**		Pn	07 06 27.0	-0.2
OK052	**Battle Ridge R**	**1.43**	**138**		Pn	07 06 28.0	-0.1
OK031	**S. Brethren Rd**	**1.44**	**140**		Pn	07 06 28.1	-0.2
ADOK	**Arcadia Dam**	**1.50**	**161**		Pn	07 06 28.2	-0.8
ELIS	**Ellis County**	**1.53**	**230**		Pn	07 06 29.5	-0.1
CSTR	**Hydro, Custer**	**1.53**	**202**		Pb	07 06 30.0	-0.3
DEOK	**Depew**	**1.71**	**135**		Pn	07 06 31.9	-0.1
OKCSW	**OKLAHOMA CITY**	**1.72**	**165**		Pb	07 06 33.5	0.0
FNO	**Franklin**	**1.87**	**165**		Pb	07 06 35.2	-0.9
TUL3	**Leonard**	**2.11**	**123**		Pn	07 06 38.4	+0.9
W35A	**Tecumseh**	**2.11**	**155**		Pn	07 06 38.7	+1.2
CBKS	**Cedar Bluff**	**2.23**	**322**	Pn	Pn	07 06 39.8	+0.6
KSU1	**Kansas State U**	**2.30**	**28**	Pn	Pn	07 06 41.0	+0.9
KSU1				IAmb_Lg		07 07 16.8	
	comp=Z,18nm,0.8s						
WMOK	**Wichita Mounta**	**2.41**	**196**	Pn	Pn	07 06 41.8	+0.1
X34A	**Smith Ranch, M**	**2.46**	**177**		Pn	07 06 42.5	+0.1
SMWD	**Samnorwood**	**2.68**	**224**	Pn	Pn	07 06 46.8	+1.4
SMWD				IAmb_Lg		07 07 26.7	
	comp=Z,9.9nm,0.8s						
U38A	**Gravette**	**2.96**	**101**	Pn	Pn	07 06 49.7	+0.6
HHAR	**Hobbs**	**3.34**	**102**		Pn	07 06 55.2	+0.7
AMTX	**Amarillo**	**3.71**	**235**	IAmb_Lg		07 08 03.9	
	comp=Z,9.6nm,0.7s						
Z35A	**Perchaven, San**	**3.78**	**171**	Pn	Pn	07 07 01.0	+0.6
RTBA	**Rita Blanca**	**3.87**	**262**	Pn	Pn	07 07 02.6	+0.8
RTBA				IAmb_Lg		07 08 08.6	
	comp=Z,6.8nm,0.9s						
N35A	**Tabor**	**4.20**	**25**	Pn	Pn	07 07 05.6	-0.7
N35A				IAmb_Lg		07 08 23.8	
	comp=Z,25nm,0.8s						
P38A	**Dawn**	**4.33**	**53**	IAmb_Lg		07 08 24.9	
	comp=Z,15nm,1.1s						
BGNE	**Belgrade**	**4.34**	**358**	Pn	Pn	07 07 07.8	-0.3
MIAR	**Mount Ida**	**4.38**	**124**	Pn	Pn	07 07 09.5	+0.8
MGMO	**Mountain Grove**	**4.57**	**87**	IAmb_Lg		07 08 28.7	
	comp=Z,6.4nm,0.9s						
R40A	**Maddies Statio**	**4.69**	**73**	IAmb_Lg		07 08 40.8	
	comp=Z,6.6nm,0.7s						
OGNE	**Ogallala**	**4.99**	**322**	IAmb_Lg		07 08 40.8	
	comp=Z,15nm,0.8s						
L34A	**Svendsen Farm,**	**5.05**	**14**	IAmb_Lg		07 08 47.3	
	comp=Z,13nm,0.7s						
SCIA	**State Center**	**6.08**	**36**	IAmb_Lg		07 09 18.9	
	comp=Z,14nm,1.1s						
CGM3	**Cape Girardeau**	**6.65**	**86**	IAmb_Lg		07 09 36.6	
	comp=Z,7.2nm,1.1s						
MNTX	**Cornudas Mount**	**8.13**	**231**	IAmb_Lg		07 10 27.4	
	comp=Z,4.4nm,0.7s						
K22A	**Casper**	**8.61**	**313**	IAmb_Lg		07 10 54.7	
	comp=Z,4.3nm,0.8s						

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*IDC **25** 07:06:26.4±12.0,21°.64N×143°.19E,h231km±119km, mb3.2/9,mbtmp3.8/9,Error ellipse: s-maj=34.9km s-min=17.1km az=75.0*
ISC 25 07:06:34.3±0.9,21°.7N±0°.1×143°.0E±0°.2,h311km,n11, σ1°18/11,mb3.2/9,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.43**	**352**	S	**S**	**07 09 02.0**	**-2.0**
	71nm,0.7s,baz=133,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**42.24**	**192**	P	**P**	**07 13 56.8**	**-1.1**
	1.1nm,0.8s,baz=14,slow=8.9,SNR=10						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**45.95**	**192**	P	**P**	**07 14 26.2**	**-1.0**
	0.2nm,0.5s,baz=17,slow=12,SNR=4.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.42**	**317**	P	**P**	**07 15 51.9**	**+0.9**
	0.5nm,0.5s,baz=93,slow=7.6,SNR=7.7						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**07 16 21.7**	**-0.8**
	0.3nm,0.8s,baz=261,slow=5.7,SNR=2.7						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**62.57**	**319**	P	**P**	**07 16 27.1**	**+1.3**
	1.0nm,0.3s,baz=98,slow=7.9,SNR=9.2						
	1.0nm,0.3s						
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**07 17 50.8**	**+0.5**
	0.4nm,0.7s,baz=290,slow=6.0,SNR=6.6						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**78.88**	**341**	P	**P**	**07 18 04.1**	**+1.0**
	3.0nm,0.8s,baz=76,slow=8.5,SNR=1.4						
	3.0nm,0.8s						
FINES	**FINESS Array B**	**83.12**	**334**	P	**P**	**07 18 25.3**	**-0.1**
	1.5nm,0.7s,baz=57,slow=5.1,SNR=3.6						
	1.5nm,0.7s						
NVAR	**Mina Array Bea**	**83.27**	**51**	P	**P**	**07 18 27.8**	**+0.8**
	0.2nm,0.6s,baz=288,slow=5.5,SNR=2.3						
	0.2nm,0.6s						
PLCA	**Paso Flores**	**145.87**	**132**	PKPbc	**PKPbc**	**07 25 37.5**	**-0.1**
	0.8nm,0.5s,baz=257,slow=4.3,SNR=6.9						

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*ASRS **25** 07:10:14.0±1.6,53°.60N×87°.92E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 25 07:10:14.9±3.8,53°.68N×87°.98E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=36.9km s-min=19.9km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**279**	I	I	07 23 10.0	
	baz=97,slow=337,SNR=12						
ZALV	**Zalesovo Beam**	**1.89**	**279**	Pg	Pn	07 10 49.1	+0.6
	0.7nm,0.3s,baz=98,slow=15,SNR=4.4						
ZALV				Lg	Lg	07 11 14.7	
	0.1nm,0.3s,baz=96,slow=28,SNR=1.2						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn	07 11 53.6	+0.8
	baz=63,slow=14,SNR=4.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.80**	**210**	Pn	Pn	07 12 10.5	+0.9
	baz=30,slow=16,SNR=1.9						
	0.1nm,0.4s						

IDC 25 07:38:37.0±2.0,51°.11N×81°.81E,h0km,mbtmp1.7/3, ML1.4/3,3C-1D,Error ellipse: s-maj=20.7km s-min=16.4km az=29.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.06**	**260**	⇑Pg	Pn	07 39 12.0	-0.8
	2.8nm,1.2s						
KURK				⇓Lg	Lg	07 39 42.1	
	3.1nm,0.7s						
KURBB	**Kurchatov Arra**	**2.13**	**258**	Pn	Pn	07 39 13.4	-0.4
	0.1nm,0.3s,baz=72,slow=18,SNR=5.5						
KURBB				Lg	Lg	07 39 45.4	
	0.2nm,0.3s,baz=72,slow=35,SNR=7.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**2.13**	**258**	⇑Pg	Pn	07 39 14.0	+0.2
	2.0nm,1.1s,baz=74,slow=16						
KURBB				⇑Lg	Lg	07 39 44.8	
	4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**3.39**	**32**	Pn	Pn	07 39 32.0	+1.0
	0.2nm,0.3s,baz=210,slow=15,SNR=2.0						
	0.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**3.39**	**32**	I	I	07 57 00.0	
	0.1nm,0.7s,baz=212,slow=328,SNR=4.7						
MKAR	**Makanchi Array**	**4.33**	**176**	Pn	Pn	07 39 45.2	+1.2
	baz=358,slow=11,SNR=1.4						
MKAR				Lg	Lg	07 40 52.9	
	0.1nm,0.3s,baz=8.4,slow=31,SNR=5.9						
	0.1nm,0.5s						

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*ASRS **25** 07:39:59.0±1.2,53°.49N×87°.47E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 25 07:40:01.4±3.3,53°.57N×87°.61E,h0km,mbtmp2.7/2, ML2.3/2,Error ellipse: s-maj=26.8km s-min=18.1km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**284**	I	I	07 51 36.6	
	baz=104,slow=333,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.70**	**284**	Pg	Pn	07 40 32.5	+0.2
	1.0nm,0.3s,baz=106,slow=14,SNR=8.8						
ZALV				Lg	Lg	07 40 53.9	
	0.4nm,0.3s,baz=102,slow=27,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	07 41 36.1	+0.3
	0.1nm,0.3s,baz=63,slow=14,SNR=3.0						
KURBB				Sn	Sn	07 42 49.0	+0.3
	0.1nm,0.3s,baz=53,slow=20,SNR=4.3						
KURBB				Lg	Lg	07 43 23.7	
	0.1nm,0.3s,baz=63,slow=33,SNR=4.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.59**	**209**	Pn	Pn	07 41 54.4	+1.1
	0.1nm,0.3s,baz=31,slow=14,SNR=1.7						
	0.1nm,0.3s						

WEL 25 07:44:52.8±1.2,35°S±10°×18°0E±1°8,h12km,M3.4/7, ML3.6/12,MLv3.4/7,Error ellipse: s-maj=25.7km s-min=8.6km az=114.1,confirmed,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.00**	**204**	P	Pn	07 45 40.4	+0.2
WMGZ				S	Sn	07 46 19.0	+2.9
PKGZ	**Pakihiroa**	**3.17**	**208**	P	Pn	07 45 42.8	+0.4
PKGZ				S	Sn	07 46 20.4	+0.2
HAZ	**Te Kaha**	**3.19**	**212**	P	Pn	07 45 42.2	-0.6
HAZ				S	Sn	07 46 23.7	+2.9
PUZ	**Puketiti**	**3.28**	**204**	P	Pn	07 45 43.4	-0.7
PUZ				S	Sn	07 46 23.5	+0.4
RUGZ	**Raukumara Rang**	**3.41**	**212**	P	Pn	07 45 46.5	+0.5
RUGZ				S	Sn	07 46 28.5	+2.1
TWGZ	**Tauwhareparae**	**3.48**	**206**	P	Pn	07 45 46.6	-0.2
TWGZ				S	Sn	07 46 29.9	+2.0
CNGZ	**Carnagh Statio**	**3.68**	**202**	P	Pn	07 45 49.6	+0.1
TKGZ	**Te Karaka**	**3.76**	**206**	P	Pn	07 45 49.8	-0.7
TKGZ				S	Sn	07 46 34.0	-0.7
MWZ	**Matawai**	**3.79**	**210**	P	Pn	07 45 51.2	+0.1
MWZ				S	Sn	07 46 35.3	-0.2
URZ	**Urewera**	**3.91**	**215**	P	Pn	07 45 52.3	-0.3
URZ				S	Sn	07 46 36.8	-1.7
RIGZ	**Rimuhau**	**4.02**	**205**	P	Pn	07 45 53.9	-0.4
RIGZ				S	Sn	07 46 42.6	+1.2
SNGZ	**Shannon Statio**	**4.25**	**209**	P	Pn	07 45 57.5	+0.2
SNGZ				S	Sn	07 46 46.8	0.0
MKAZ	**Moumakai**	**4.37**	**241**	P	Pn	07 45 59.7	+0.7
BKZ	**Black Stump Fm**	**4.93**	**213**	P	Pn	07 46 06.6	-0.1

IDC 25 07:53:47.6±5.1,17°.09S×178°.74W,h565km±23km, mb3.1/4,mbtmp4.0/5,Error ellipse: s-maj=127.4km s-min=39.0km az=27.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.13**	**258**	P	P	07 55 04.7	0.0
	19nm,0.7s,baz=54,slow=8.2,SNR=9.5						
STKA	**Stephens Creek**	**38.75**	**240**	P	P	08 00 24.1	-0.1
	1.5nm,0.5s,baz=88,slow=9.8,SNR=8.1						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.47**	**259**	P	P	08 01 09.1	-0.4
	0.3nm,0.2s,baz=96,slow=7.8,SNR=11						
	0.3nm,0.2s						
ASAR	**Alice Springs**	**44.71**	**253**	P	P	08 01 11.4	0.0
	3.5nm,0.5s,baz=88,slow=8.1,SNR=54						
	3.5nm,0.5s						
QSPA	**South Pole Qui**	**72.96**	**180**	P	P	08 04 20.0	0.0
	2.5nm,1.1s,baz=30,slow=2.6,SNR=2.7						
	2.5nm,1.1s						

IDC 25 07:57:51.3±2.4,54°.61N×83°.80E,h0km,mbtmp2.4/2, ML2.1/2,Error ellipse: s-maj=18.2km s-min=11.1km az=167.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**137**	I	I	08 03 26.2	
	0.1nm,1.0s,baz=316,slow=324,SNR=6.2						
ZALV	**Zalesovo Beam**	**0.89**	**137**	Pg	Pg	07 58 07.3	-1.1
	2.0nm,0.3s,baz=322,slow=19,SNR=11						
ZALV				Lg	Lg	07 58 21.9	
	5.5nm,0.3s,baz=318,slow=30,SNR=22						
ZALV				Rg	Rg	07 58 27.1	
	9.6nm,0.3s,baz=323,slow=31,SNR=11						
KURBB	**Kurchatov Arra**	**5.12**	**221**	Pn	Pn	07 59 09.4	+0.3
	baz=41,slow=13,SNR=2.2						
KURBB				Lg	Lg	08 00 33.2	
	0.1nm,0.3s,baz=43,slow=30,SNR=5.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.88**	**188**	Pn	Pn	07 59 47.4	+0.3
	baz=11,slow=12,SNR=2.2						
MKAR				Lg	Lg	08 02 02.2	
	0.1nm,0.3s,baz=6.3,slow=28,SNR=8.5						
	0.1nm,0.4s						

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*GCG **25** 08:12:39.7±0.7,15°.57N×91°.40W,h0km±12km,MD4.1*
MEX 25 08:12:34.4±0.6,13°.44N×92°.39W,h10km,MD4.0,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.27**	**32**	*e*P	Pn	08 12 54.6	-3.7
RTAL				*e*S	Sb	08 13 10.2	-4.8
STG0	**El Palmar, Qui**	**1.41**	**46**	*e*P		08 12 57.3	
THIG		**1.47**	**5**	*e*P	Pn	08 12 57.7	-3.2
THIG				*i* S	Sn	08 13 14.4	-5.8
THIG		**1.47**	**5**	*i* P	Pn	08 13 00.6	-0.4
THIG				*i* S	Sn	08 13 17.6	-2.7
THIG		**1.47**	**5**	*i* P		08 13 00.6	
THIG				*i* S		08 13 17.6	
PATR	**El Naranjo**	**1.68**	**5**	*e*P	Pn	08 13 00.3	-3.8
PATR				*i* S	Sn	08 13 21.6	-4.1
PAVE	**Pavencul**	**1.76**	**7**	*e*P	Pn	08 13 01.3	-3.9
PAVE				*e*S	Sn	08 13 22.1	-5.7
HUEH	**Huehuetenango**	**2.06**	**25**	*i* P	Pn	08 13 09.6	+0.3
HUEH				*i* S	Sn	08 13 25.6	-10
PCIG		**2.40**	**340**	*e*P	Pn	08 13 14.4	+0.7
PCIG				*i* S	Sn	08 13 39.2	-3.9
CCIG	**Comitan**	**2.84**	**5**	*e*P	Pn	08 13 11.9	-8.1
CCIG				*e*S	Sn	08 13 53.3	-1.1
TGIG		**3.40**	**348**	*e*P	Pn	08 13 29.9	+2.4
TGIG				*e*S	Sn	08 14 04.5	-3.5
UXUV	**UXUV**	**4.22**	**337**	*e*P	Pn	08 13 39.0	+0.3
UXUV				*i* S	Sn	08 14 27.5	-0.6
PETF	**Flores**	**4.23**	**35**	*e*P	Pn	08 13 42.9	+3.9
CMIG	**Matias Romero**	**4.36**	**327**	*e*P	Pn	08 13 41.1	+0.3
CMIG				*e*S	Sn	08 14 31.2	-0.4
PEIG	**Puerto Escondi**	**5.26**	**300**	*e*P	Pn	08 13 58.0	+4.8
PEIG				*e*S	Sn	08 14 52.1	-1.9
NEUV	**Arroyo Zacate**	**5.38**	**323**	*e*P	Pn	08 13 59.1	+4.4
NEUV				*e*S	Sn	08 14 54.6	-2.1

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*RSNC **25** 08:15:24.8±5.8,2°S±10°×8°0W±1°0,h30km,M5.2,mb4.0, mB5.7,Mw(mB)3.6*
IGQ 25 08:15:24.2±0.2,2°S±2°×8°0W±°,h25km±1km,MLv3.4/39, 12C-8D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUAY	**Guayaquil**	**0.18**	**48**	P	Pn	08 15 30.6	-0.7
AGUAY				S	Sb	08 15 36.6	+3.2
GYE3	**Ecuador-Guayaq**	**0.19**	**84**	P	Pn	08 15 31.1	-0.4
GYE3				S	Sb	08 15 37.4	+3.8
MILO	**Milagro-Astudi**	**0.54**	**101**	⇑P	Pb	08 15 34.8	-0.3
MILO				S	Sn	08 15 44.3	-0.3
ISPG	**Isla Puna-Puer**	**0.79**	**186**	P	Pn	08 15 41.2	+1.3
COHC	**Cochancay**	**0.88**	**109**	⇑P	Pb	08 15 39.3	-1.6
COHC				S	Sb	08 15 51.4	-0.8
SALI	**Salinas**	**0.91**	**269**	P	Pb	08 15 40.2	-1.2
SALI				S	Sb	08 15 53.1	+0.1
PPLP	**Puerto Lpez**	**0.93**	**312**	P	Pn	08 15 39.8	-2.0
JSCH	**Cashca Tororas**	**1.20**	**68**	⇑P	Pn	08 15 43.0	-2.7
JSCH				S	Sn	08 15 57.4	-3.9
AQUE	**Quevedo**	**1.27**	**28**	P	Pn	08 15 43.6	-2.7
ISPT	**Isla de la Pla**	**1.34**	**313**	P	Pn	08 15 45.2	-2.2
ARNL	**Arenillas**	**1.36**	**179**	⇑P	Pn	08 15 47.4	-0.3
ARNL				S	Sn	08 16 04.7	-0.3
AMNT	**Manta-Manabi**	**1.39**	**332**	P	Pn	08 15 46.8	-1.2
AMNT				S	Sn	08 16 06.2	+0.6
CHSH	**Refugio Sur-Vo**	**1.39**	**61**	P	Pn	08 15 46.6	-2.0
CHSH				S	Sn	08 16 04.7	-1.7
TAMH	**Tambohuasha Ch**	**1.45**	**64**	⇑P	Pn	08 15 47.3	-1.9
TAMH				S	Sn	08 16 04.6	-3.0
PORT	**Chimborazo Vol**	**1.49**	**62**	⇑P	Pn	08 15 48.2	-1.8
IGUA	**Igualata**	**1.60**	**65**	⇑P	Pn	08 15 50.0	-1.4
BBIL	**Ulba Tungurahu**	**1.75**	**66**	P	Pn	08 15 52.8	-0.5
ARRY	**Arrayan**	**1.76**	**68**	⇓P	Pn	08 15 52.2	-1.3
JUI6	**Juive**	**1.78**	**65**	P	Pn	08 15 53.1	-0.6
POND	**Pondoa**	**1.79**	**65**	⇓P	Pn	08 15 53.2	-0.8
CAB1	**Cabo Pasado-Ma**	**1.81**	**349**	P	Pn	08 15 53.3	-0.5
FLF1	**Flavio Alfaro-**	**1.82**	**8**	P	Pn	08 15 54.2	+0.1
BULB	**Ulba Tungurahu**	**1.83**	**66**	P	Pn	08 15 53.6	-0.8
BOSC	**San Juan Bosco**	**1.86**	**121**	P	Pb	08 15 57.3	-0.4
ILLI	**Illinizas Sur**	**1.99**	**43**	⇓P	Pn	08 15 55.3	-1.4
PIS1	**Pisayambo**	**2.03**	**57**	P	Pn	08 15 57.5	+0.2
PAST	**Pastocalle**	**2.06**	**44**	P	Pn	08 15 57.6	-0.1
BRRN	**Barrancas-Volc**	**2.12**	**49**	⇑P	Pn	08 15 58.7	+0.2
SLOR	**San Lorenzo -**	**2.14**	**48**	⇑P	Pn	08 15 58.7	-0.1
PIAT	**Ana Tenorio**	**2.17**	**57**	P	Pn	08 15 59.9	+0.9
BMOR	**Cotopaxi Volca**	**2.17**	**49**	⇑P	Pn	08 15 59.1	-0.1
CAMI	**Rancho Maria**	**2.17**	**47**	P	Pn	08 15 59.6	+0.4
VCES	**Cotopaxi**	**2.17**	**51**	⇓P	Pn	08 15 59.5	+0.2
BREF	**Cotopaxi Volca**	**2.22**	**48**	⇑P	Pn	08 16 00.4	+0.3
BTAM	**Cotopaxi Volca**	**2.25**	**49**	⇓P	Pn	08 16 00.6	+0.2
BVC2	**Cotopaxi Volca**	**2.25**	**48**	⇑P	Pn	08 16 00.6	+0.2
TAMB	**Tambo**	**2.26**	**49**	P	Pn	08 16 00.8	+0.3
VC1	**Cotopaxi 1**	**2.27**	**48**	P	Pn	08 16 01.0	+0.4
PITA	**Cotopaxi Volc**	**2.30**

mbtmp3.8/16, ML2.5/2, MS3.3/13, Error ellipse: s-maj=23.2km s-min=15.0km az=38.0
KOLA ***25*** *08:17:57.5, 79°.69N×5°.60E, h0km, ML3.0, Error ellipse: s-maj=54.5km s-min=20.9km az=30.0, Greenland sea, Knipovich ridge, north*
FCIAR ***25*** *08:18:00.0, 79°.52N×5°.31E, h10km, station OMEGA has station magnitude of 4.30 station ZFI2 has station magnitude of 4.30*
ISC 25 08:17:55.7±2.8, 79°.30N±0°.06×3°.41E±0°.04, h8km±18km, n91, σ2°73/98, mb3.8/16, MS3.4/11, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.66**	**99**	Pn		**Pn**	**08 18 24.1**	**-0.9**
KBS				Sn		**Sn**	**08 18 43.3**	**-3.2**
KBS	**Kingsbay**	**1.66**	**99**	Pn		**Pn**	**08 18 24.1**	**-0.9**
KBS	**Kingsbay**	**1.66**	**99**	Pn		**Pn**	**08 18 24.1**	**-0.9**
KBS				Sn		**Sn**	**08 18 43.3**	**-3.2**
KBS	**Kingsbay**	**1.66**	**99**	P		**Pn**	**08 18 23.0**	**-2.1**
KBS				S		**Sn**	**08 18 43.0**	**-3.6**
KBS	**Kingsbay**	**1.66**	**99**	*i* P		**Pn**	**08 18 24.2**	**-0.8**
KBS				*i* S		**Sn**	**08 18 43.3**	**-3.2**
BRBB	**Barentsburg B**	**2.45**	**114**	*e*P		**Pn**	**08 18 36.7**	**+0.9**
BRBB				*e*S		**Sn**	**08 19 05.6**	**-0.2**
BRBB	**Barentsburg B**	**2.45**	**114**	Pn		**Pb**	**08 18 37.5**	**-2.3**
BRBB				Sn		**Sn**	**08 19 05.1**	**-0.7**
BRBB	**Barentsburg B**	**2.45**	**114**	P		**Pn**	**08 18 36.5**	**+0.7**
BRBB				S		**Sn**	**08 19 05.6**	**-0.2**
BRBA	**Barentsburg A**	**2.47**	**115**	*e*P		**Pb**	**08 18 37.7**	**-2.5**
BRBA				*e*S		**Sn**	**08 19 06.2**	**-0.1**
BRBA				IAML			08 19 09.6	
	comp=Z,123nm,0.3s							
BRBA	**Barentsburg A**	**2.47**	**115**	Pn		**Pb**	**08 18 37.6**	**-2.5**
BRBA				Sn		**Sn**	**08 19 06.2**	**-0.1**
SPA0	**Spitsbergen Ar**	**2.78**	**107**	Pn		**Pn**	**08 18 40.8**	**+0.5**
	baz=318,slow=11							
SPA0				Sn		**Sn**	**08 19 11.5**	**-2.5**
	baz=322,slow=16							
SPA0				IAML			08 19 24.8	
	comp=Z,98nm,0.6s							
SPA0	**Spitsbergen Ar**	**2.78**	**107**	Pn		**Pn**	**08 18 40.8**	**+0.5**
	baz=318,slow=11							
SPA0				Sn		**Sn**	**08 19 11.5**	**-2.5**
	baz=322,slow=16							
SPA0	**Spitsbergen Ar**	**2.78**	**107**	*e*P		**Pn**	**08 18 40.2**	**-0.2**
SPA0				*e*S		**Sn**	**08 19 11.4**	**-2.7**
SPITS	**Spitsbergen Ar**	**2.78**	**107**			**Sn**	**08 19 11.9**	**-2.1**
SPITS	**Spitsbergen Ar**	**2.78**	**107**	Pn		**Pn**	**08 18 40.9**	**+0.5**
	comp=Z,199nm,0.3s,baz=317,slow=8.4,SNR=4715							
SPITS				Sn		**Sn**	**08 19 11.9**	**-2.1**
	baz=323,slow=19							
SPITS	**Spitsbergen Ar**	**2.78**	**107**	P		**Pn**	**08 18 40.4**	**0.0**
SPITS				S		**Sn**	**08 19 11.9**	**-2.1**
SPB2	**Spitsbergen Ar**	**2.78**	**107**			**Pn**	**08 18 40.9**	**+0.4**
HSPB	**Hornsund (broa**	**3.40**	**127**	*e*P		**Pn**	**08 18 50.2**	**+1.4**
HSPB				*e*S		**Sn**	**08 19 28.0**	**-1.2**
HSPB				IAML			08 19 33.1	
	comp=Z,62nm,0.3s							
HSPB	**Hornsund (broa**	**3.40**	**127**	Pn		**Pn**	**08 18 50.2**	**+1.4**
HSPB				Sn		**Sn**	**08 19 28.7**	**-0.5**
HSPB	**Hornsund (broa**	**3.40**	**127**	P		**Pn**	**08 18 50.2**	**+1.4**
HSPB				S		**Sn**	**08 19 27.8**	**-1.5**
NOR	**Nord**	**4.04**	**314**	*i* P		**Pn**	**08 18 54.1**	**-3.6**
NOR				*i* S		**Sn**	**08 19 37.4**	**-7.8**
NOR				IAML			08 19 47.6	
	comp=Z,3.7nm,0.2s							
NOR	**Nord**	**4.04**	**314**	Pn		**Pn**	**08 18 53.9**	**-3.9**
NOR				Sn		Sn	08 19 37.2	-7.9
NOR	**Nord**	**4.04**	**314**	*i* P		**Pn**	**08 18 54.1**	**-3.6**
NOR				*i* S		**Sn**	**08 19 37.4**	**-7.8**
NOR				IAML			08 19 47.6	
	comp=Z,3.7nm,0.2s							
HOPEN	**Hopen**	**5.30**	**111**	*e*P		**Pn**	**08 19 14.9**	**0.0**
HOPEN				*e*S		**Sn**	**08 20 11.3**	**-4.8**
HOPEN				IAML			08 20 16.2	
	comp=Z,34nm,0.3s							
HOPEN	**Hopen**	**5.30**	**111**	Pn		**Pn**	**08 19 15.1**	**+0.1**
HOPEN				Sn		**Sn**	**08 20 12.2**	**-3.9**
HOPEN	**Hopen**	**5.30**	**111**	*e*P		**Pn**	**08 19 13.8**	**-1.1**
HOPEN				*e*S		**Sn**	**08 20 10.1**	**-6.0**
BJO1	**Bjornoya**	**5.95**	**136**	*e*P		Pn	08 19 28.2	+4.3
BJO1				*e*S		**Sn**	**08 20 34.1**	**+2.0**
BJO1				IAML			08 20 40.5	
	comp=Z,30nm,0.1s							
DBG	**Daneborg**	**7.30**	**239**	*i* P		**Pn**	**08 19 43.7**	**+1.3**
DBG				*i* S		**Sn**	**08 21 00.4**	**-4.9**
DBG				IAML			08 21 06.9	
	comp=Z,10nm,0.3s							
DBG	**Daneborg**	**7.30**	**239**	Pn		**Pn**	**08 19 43.6**	**+1.2**
DBG				Sn		**Sn**	**08 21 00.5**	**-4.8**
DBG	**Daneborg**	**7.30**	**239**	*i* P		**Pn**	**08 19 43.7**	**+1.3**
DBG				*i* S		**Sn**	**08 21 00.4**	**-4.9**
DBG				IAML			08 21 06.9	
	comp=Z,10nm,0.3s							
ZFI2	**Zemlya Franca-**	**7.64**	**58**	*e*P		Pn	08 19 43.2	-3.7
ZFI2				*e*S		Sn	08 21 00.6	-13
	comp=Z,77nm,0.5s							
OMEGA	**Omega**	**7.66**	**58**	*e*P		Pn	08 19 43.2	-4.0
OMEGA				*e*S		Sn	08 21 00.6	-13
	comp=Z,77nm,0.6s							
JNW	**Jan Mayen West**	**8.82**	**206**	*e*P		Pn	08 20 07.0	+3.8
JNW				*e*S		**Sn**	**08 21 40.6**	**-1.9**
JNW				IAML			08 21 48.7	
	comp=Z,20nm,0.3s							
JNE	**Jan Mayen East**	**8.85**	**206**	*e*P		Pn	08 20 07.8	+4.2
JMIC	**Jan Mayen**	**8.87**	**206**	*e*P		Pn	08 20 06.7	+2.8
JMI	**Jan Mayen**	**8.94**	**206**	*e*P		Pn	08 20 08.1	+3.3
NEEM	**North Greenlan**	**10.78**	**288**	*i* P		Pn	08 20 25.1	-5.2
NEEM				*i* S		Sn	08 22 18.5	-13
NEEM				IAML			08 22 21.4	
	comp=Z,4.4nm,0.3s							
NEEM	**North Greenlan**	**10.78**	**288**	*i* P		Pn	08 20 25.1	-5.2
NEEM				*i* S		Sn	08 22 18.5	-13
NEEM				IAML			08 22 21.4	
	comp=Z,4.4nm,0.3s							
SCO	**Scoresbysund**	**10.89**	**230**	Pn		**Pn**	**08 20 28.2**	**-3.2**
KIF	**Kilpisjarvi**	**11.29**	**147**	Pn		Pn	08 20 40.7	+3.7
KIF	**Kilpisjarvi**	**11.29**	**147**	Pn		Pn	08 20 40.7	+3.7
VADS	**Vadso**	**11.30**	**130**	Pn		**Pn**	**08 20 39.0**	**+1.9**
VADS				Sn		**Sn**	**08 22 39.4**	**-4.0**
VADS	**Vadso**	**11.30**	**130**	Pn		**Pn**	**08 20 39.0**	**+1.9**
VADS				Sn		**Sn**	**08 22 39.4**	**-4.0**
VADS	**Vadso**	**11.30**	**130**	P		**Pn**	**08 20 39.2**	**+2.0**
KEV	**Kevo**	**11.32**	**135**	Pn		**Pn**	**08 20 40.0**	**+2.7**
KEV	**Kevo**	**11.32**	**135**	Pn		**Pn**	**08 20 40.0**	**+2.7**
ARA0	**ARCESS Array S**	**11.33**	**138**	Pn		Pn	08 20 40.9	+3.4
	baz=350,slow=12							
ARA0				Sn		**Sn**	**08 22 41.7**	**-2.3**
	baz=349,slow=22							
ARA0	**ARCESS Array S**	**11.33**	**138**	Pn		Pn	08 20 40.9	+3.4
	baz=350,slow=12							
ARA0				Sn		**Sn**	**08 22 41.7**	**-2.3**
	baz=349,slow=22							
ARCES	**ARCESS Array B**	**11.33**	**138**	Pn		**Pn**	**08 20 40.0**	**+2.4**
	comp=Z,4.6nm,0.5s,baz=345,slow=10,SNR=19							
ARCES				Sn		**Sn**	**08 22 39.6**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=1.6,slow=13,SNR=1.8							
ARCES				LR		LR	08 24 46.8	
	comp=Z,78nm,20.8s,baz=335,slow=36							
ARCES	**ARCESS Array B**	**11.33**	**138**	S		**Sn**	**08 22 39.7**	**-4.4**
ARCES	**ARCESS Array B**	**11.33**	**138**	P		Pn	08 20 41.5	+4.0
SUMG	**Summit**	**11.86**	**258**	*i* P		**Pn**	**08 20 44.9**	**-0.2**
SUMG	**Summit**	**11.86**	**258**			**Pn**	**08 20 44.1**	**-1.0**
SUMG	**Summit**	**11.86**	**258**	*i* P		**Pn**	**08 20 44.9**	**-0.2**
PRVG	**Vayda Guba**	**12.06**	**127**	S		**Sn**	**08 22 56.4**	**-5.5**
PRVG	**Vayda Guba**	**12.06**	**127**	P		**Pn**	**08 20 49.6**	**+2.1**
HEF	**Hetta**	**12.18**	**143**	Pn		Pn	08 20 53.7	+4.6
HEF	**Hetta**	**12.18**	**143**	Pn		Pn	08 20 53.7	+4.6
UPNV	**Upernavik**	**14.98**	**277**	*i* P		Pn	08 21 21.2	-6.1
UPNV				*i* S		Sn	08 23 55.2	-18
UPNV	**Upernavik**	**14.98**	**277**	*i* P		Pn	08 21 21.2	-6.1
UPNV				*i* S		Sn	08 23 55.2	-18
KVDA	**Kovda**	**14.98**	**131**	P		**Pn**	**08 21 28.6**	**+1.3**
SFJD	**Kangerlussuaq**	**18.83**	**260**	P		**P**	**08 22 13.7**	**-1.7**
SFJD	**Kangerlussuaq**	**18.83**	**260**	P		**P**	**08 22 13.4**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=9.2,slow=10,SNR=5.8							
SFJD				LR		LR	08 28 58.8	
	comp=Z,110nm,18.5s,baz=74,slow=35							
FINES	**FINESS Array B**	**19.20**	**146**	P		**Pn**	**08 22 23.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=351,slow=13,SNR=1.5							
	comp=Z,3.5nm,1.0s							
HFS	**Hagfors**	**19.52**	**164**	P		**Pn**	**08 22 28.5**	**+4.3**
	baz=329,slow=10,SNR=1.4							
	comp=Z,3.8nm,1.0s							
RES	**Resolute Bay**	**19.97**	**310**	P		**P**	**08 22 25.7**	**-2.0**
RES	**Resolute Bay**	**19.97**	**310**	P		**P**	**08 22 25.2**	**-2.6**
	comp=Z,0.8nm,0.5s,baz=40,slow=13,SNR=9.5							
NRIK	**Noril'sk**	**22.30**	**68**	P		**P**	**08 22 54.2**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=345,slow=6.2,SNR=7.9							
NRIK				LR		LR	08 33 13.9	
	comp=Z,28nm,18.4s,baz=340,slow=41							
	comp=Z,4.3nm,0.7s							
KIRV	**Kirov**	**25.20**	**118**	LR		LR	08 34 24.0	
	comp=Z,82nm,19.3s,baz=341,slow=39							
A36M	**Sachs Harbour**	**26.19**	**327**			**P**	**08 23 30.9**	**+0.9**
A36M				IAmb		IAmb	08 23 42.9	
	comp=Z,6.3nm,1.1s							
CLL	**Collm**	**28.31**	**167**	*e*P		**P**	**08 23 47.0**	**-2.2**
ARTI	**Arti**	**28.82**	**109**	P		**P**	**08 23 56.9**	**+3.1**
	comp=Z,3.0nm,0.6s,baz=347,slow=6.6,SNR=5.1							
ARTI				LR		LR	08 37 11.2	
	comp=Z,84nm,18.2s,baz=168,slow=40							
	comp=Z,3.0nm,0.6s							
C24K	**Franklin Bluff**	**30.33**	**341**	P		**P**	**08 24 08.2**	**+1.3**
C24K				IAmb		IAmb	08 24 17.1	
	comp=Z,7.5nm,1.1s							
GERES	**GERESS Array B**	**30.80**	**167**	P		P	08 24 16.4	+4.9
	comp=Z,0.2nm,0.3s,baz=352,slow=14,SNR=2.3							
	comp=Z,0.2nm,0.3s							
YKA	**Yellowknife Ar**	**33.97**	**313**	P		**P**	**08 24 41.0**	**+2.1**
	comp=Z,0.1nm,0.7s,baz=23,slow=8.6,SNR=2.4							
YKA				LR		LR	08 39 10.8	
	comp=Z,44nm,19.8s,baz=290,slow=38							
	comp=Z,0.1nm,0.7s							
BVAR	**Borovoye Array**	**34.20**	**99**	P		**P**	**08 24 43.4**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=354,slow=13,SNR=4.0							
BVAR				LR		LR	08 40 42.1	
	comp=Z,63nm,18.2s,baz=339,slow=40							
	comp=Z,0.8nm,0.6s							
AKTO	**Aktyubinsk**	**34.47**	**113**	P		**P**	**08 24 46.8**	**+3.5**
	comp=Z,0.5nm,0.5s,baz=342,slow=7.9,SNR=4.4							
	comp=Z,0.5nm,0.5s							
ILAR	**Eielson Array**	**35.11**	**338**	P		**P**	**08 24 48.9**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=7.4,slow=8.4,SNR=2.0							
	comp=Z,0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**38.01**	**92**	P		**P**	**08 25 14.9**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=340,slow=8.1,SNR=5.7							
	comp=Z,0.3nm,0.4s							
O30N	**Mendenhall**	**38.17**	**329**	P		**P**	**08 25 16.2**	**+1.2**
O30N				IAmb		IAmb	08 25 36.0	
	comp=Z,4.6nm,1.1s							
MK31	**Makanchi Array**	**42.39**	**90**	P		**P**	**08 25 49.0**	**-1.0**
MK31				IAmb		IAmb	08 26 02.4	
	comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**42.39**	**90**	P		**P**	**08 25 49.8**	**-0.3**
MKAR	**Makanchi Array**	**42.39**	**90**	P		**P**	**08 25 51.6**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=357,slow=7.3,SNR=4.1							
MKAR				LR		LR	08 45 20.6	
	comp=Z,32nm,18.1s,baz=316,slow=39							
	comp=Z,0.5nm,0.7s							
ULM	**Lac du Bonnet**	**42.79**	**291**	LR		LR	08 44 42.7	
	comp=Z,41nm,18.7s,baz=128,slow=38							
AAK	**Ala-Archa**	**44.95**	**99**	LR		LR	08 47 12.8	
	comp=Z,60nm,19.7s,baz=325,slow=39							
BBB	**Bella Bella**	**45.75**	**320**	LR		LR	08 44 18.9	
	comp=Z,13nm,21.7s,baz=28,slow=35							
NEW	**Newport**	**48.13**	**309**	LR		LR	08 47 54.0	
	comp=Z,78nm,18.6s,baz=22,slow=37							
ANMO	**Albuquerque**	**59.47**	**296**	LR		LR	08 52 16.6	
	comp=Z,32nm,18.0s,baz=195,slow=35							
TXAR	**Lajitas Array**	**64.48**	**292**	P		**P**	**08 28 34.1**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=34,slow=9.2,SNR=2.1							
	comp=Z,0.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**66.17**	**182**	P		**P**	**08 28 46.1**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=11,slow=6.0,SNR=3.6							
	comp=Z,0.8nm,0.3s							
CMAR	**Chiang Mai Arr**	**73.02**	**81**	P		**P**	**08 29 26.9**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=342,slow=6.8,SNR=5.2							
	comp=Z,0.9nm,0.3s							

ASRS ***25*** *08:22:34.0±1.9, 53°.76N×90°.99E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 25 08:22:38.4±3.9, 53°.47N×91°.08E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=35.8km s-min=33.0km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.75**	**280**	I		I	08 48 30.0	
	baz=89,slow=335,SNR=1.6							
ZALV	**Zalesovo Beam**	**3.75**	**280**	Pn		Pn	08 23 37.9	+0.4
	0.6nm,0.3s,baz=96,slow=15,SNR=8.8							
ZALV				Lg		Lg	08 24 31.9	
	1.2nm,0.3s,baz=96,slow=27,SNR=11							
	1.1nm,0.5s							
KURBB	**Kurchatov Arra**	**8.24**	**255**	Pn		Pn	08 24 39.7	+0.6
	0.1nm,0.3s,baz=65,slow=16,SNR=3.2							
KURBB				Sn		Sn	08 26 10.2	-2.7
	baz=70,slow=28,SNR=4.7							
KURBB				Lg		Lg	08 26 57.9	
	0.1nm,0.3s,baz=70,slow=34,SNR=1.8							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**8.74**	**224**	Pn		Pn	08 24 46.3	+0.3
	0.1nm,0.3s,baz=38,slow=15,SNR=4.0							
MKAR				Lg		Lg	08 27 18.7	
	baz=42,slow=34,SNR=1.2							
	0.2nm,0.6s							
SONM	**Songino Array**	**11.23**	**114**	Lg		Lg	08 28 37.6	
	0.1nm,0.3s,baz=305,slow=28,SNR=5.5							

IDC ***25*** *08:24:03.6±1.0, 47°.92N×27°.63W, h0km, mb3.8/15, mbtmp3.8/16, ML4.4/1, MS3.5/9, Error ellipse: s-maj=29.6km s-min=16.2km az=3.0*
NEIC ***25*** *08:24:04.5±1.0, 47°.7N±0°.1×27°.4W±0°.2, h10km±1km, mb4.5/88, Error ellipse: s-maj=24.8km s-min=20.9km az=184.0*
ISC 25 08:24:04.8±0.6, 47°.8N±0°.1×27°.54W±0°.08, h10km, n118, σ0°.85/109, mb4.4/57, MS3.4/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**18.66**	**347**	P		**P**	**08 28 21.8**	**-0.7**
ANGG				IAmb		IAmb	08 28 55.9	
	comp=Z,56nm,1.2s							
ESBB	**Sonseca Array**	**18.82**	**107**	P		**P**	**08 28 21.4**	**-3.2**
ESDC	**Sonseca Array**	**18.82**	**107**	P		**Pn**	**08 28 27.3**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=291,slow=12,SNR=6.6							
ESDC				LR		LR	08 34 08.7	
	comp=Z,92nm,19.2s,baz=323,slow=32							
	comp=Z,0.6nm,0.4s							
DAVOX	**Davos/Dischmat**	**25.24**	**78**	LR		LR	08 38 16.2	
	comp=Z,87nm,18.3s,baz=260,slow=34							
NOA	**NORSAR Array B**	**25.71**	**45**	P		**P**	**08 29 35.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=255,slow=13,SNR=1.4							
	comp=Z,0.4nm,0.5s							
CLL	**Collm**	**26.30**	**67**	*i* P		**P**	**08 29 40.9**	**+0.7**
VRAC	**Vranov**	**28.94**	**70**	LR		LR	08 40 53.2	
	comp=Z,85nm,18.6s,baz=299,slow=35							
KEST	**Kesra**	**29.75**	**100**	LR		LR	08 40 24.6	
	comp=Z,78nm,20.9s,baz=349,slow=33							
ARCES	**ARCESS Array B**	**33.50**	**31**	P		**P**	**08 30 43.0**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=272,slow=7.2,SNR=4.4							
	comp=Z,2.8nm,0.7s							
AKASG	**Malin Array Be**	**36.39**	**64**	P		**P**	**08 31 09.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=290,slow=8.7,SNR=2.1							
AKASG				LR		LR	08 46 24.0	
	comp=Z,80nm,18.6s,baz=286,slow=37							
	comp=Z,0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**42.26**	**135**	P		**P**	**08 31 59.1**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=327,slow=7.0,SNR=1.9							
	comp=Z,1.0nm,0.4s							
ULM	**Lac du Bonnet**	**43.45**	**300**	P		**P**	**08 32 07.2**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=62,slow=4.2,SNR=3.4							
	comp=Z,1.3nm,0.6s							
CCM	**Cathedral Cave**	**46.44**	**282**	P		**P**	**08 32 32.6**	**+0.9**
CCM				IAmb		IAmb	08 33 09.7	
	comp=Z,8.6nm,1.4s							
ECSD	**EROS Data Cent**	**46.90**	**292**	P		**P**	**08 32 36.9**	**+1.7**
T42A	**Van Buren**	**46.91**	**281**	P		**P**	**08 32 35.5**	**+0.2**
T42A				IAmb		IAmb	08 32 59.4	
	comp=Z,5.2nm,1.3s							
A36M	**Sachs Harbour**	**47.65**	**335**	P		**P**	**08 32 41.1**	**+0.6**
MDP	**Montagnes des**	**47.67**	**215**	LR		LR	08 47 13.6	
	comp=Z,42nm,22.0s,baz=48,slow=29							
KBZ	**Khabaz**	**47.75**	**67**	LR		LR	08 52 51.2	
	comp=Z,39nm,18.5s,baz=184,slow=36							
YKA	**Yellowknife Ar**	**47.93**	**321**	P		**P**	**08 32 41.4**	**-1.4**
	comp=Z,0.7nm,1.1s,baz=74,slow=7.9,SNR=5.1							
	comp=Z,0.7nm,1.1s							
WHAR	**Wooly Hollow**	**48.70**	**280**	P		**P**	**08 32 49.3**	**+0.1**
WHAR				IAmb		IAmb	08 32 59.3	
	comp=Z,6.2nm,1.2s							
INK	**Inuvik**	**51.94**	**333**	P		**P**	**08 33 13.2**	**0.0**
INK				IAmb		IAmb	08 33 30.9	
	comp=Z,6.2nm,1.4s							
F31M	**Tsiigehtchic**	**52.51**	**332**	P		**P**	**08 33 17.7**	**+0.3**
ELIS	**Ellis County**	**52.94**	**285**	P		**P**	**08 33 21.6**	**+0.4**
G31M	**Satah River**	**52.98**	**332**	P		**P**	**08 33 20.8**	**-0.2**
G31M				IAmb		IAmb	08 33 27.7	
	comp=Z,10.0nm,1.2s							
AKTO	**Aktyubinsk**	**53.05**	**53**	P		**P**	**08 33 21.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=280,slow=6.9,SNR=4.9							
	comp=Z,1.2nm,0.6s							
E29M	**Blow River**	**53.20**	**334**	P		**P**	**08 33 22.8**	**+0.2**
SMRC	**Santa Marta, M**	**53.42**	**243**	P		**P**	**08 33 23.8**	**-1.0**
D27M	**Malcolm River**	**53.53**	**336**	P		**P**	**08 33 25.2**	**+0.1**
E28M	**Babbage River**	**53.54**	**335**	P		**P**	**08 33 25.4**	**+0.3**
E28M				IAmb		IAmb	08 33 32.1	
	comp=Z,5.2nm,1.2s							
G30M	**tAoh Zraii Nji**	**53.56**	**332**	P		**P**	**08 33 25.9**	**+0.6**
G30M				IAmb		IAmb	08 33 29.8	
	comp=Z,7.2nm,1.5s							
RLMT	**Red Lodge**	**53.83**	**300**	P		**P**	**08 33 28.6**	**+0.8**
C27K	**Jago River**	**54.02**	**337**	P		**P**	**08 33 28.9**	**+0.3**
G29M	**Pine Creek**	**54.16**	**333**	P		**P**	**08 33 29.9**	**+0.2**
G29M				IAmb		IAmb	08 33 30.5	
	comp=Z,3.4nm,0.9s							
YNE	**Yellowstone No**	**54.33**	**300**	P		**P**	**08 33 32.1**	**+0.6**
YNE				IAmb		IAmb	08 33 32.5	
	comp=Z,2.7nm,0.7s							
YMP	**Mirror Lake Pl**	**54.57**	**300**	P		**P**	**08 33 33.9**	**+0.5**
YMP				IAmb		IAmb	08 33 35.9	
	comp=Z,3.3nm,0.7s							
I30M	**Mount Dempster**	**54.70**	**331**	P		**P**	**08 33 34.2**	**+0.4**
I30M				IAmb		IAmb	08 33 40.9	
	comp=Z,7.3nm,1.4s							
H29M	**Whitestone**	**54.71**	**332**	P		**P**	**08 33 33.8**	**+0.1**
H29M				IAmb		IAmb	08 33 41.3	
	comp=Z,3.5nm,1.0s							
AB31	**Akbulak array**	**54.74**	**53**	P		**P**	**08 33 33.5**	**-0.6**
ABKAR	**Akbulak array**	**54.74**	**53**	P		**P**	**08 33 33.5**	**-0.6**
D25K	**Kavik River**	**54.92**	**338**	P		**P**	**08 33 35.5**	**+0.4**
BOZ	**Bozeman (W)**	**54.93**	**301**	P		**P**	**08 33 35.5**	**-0.3**
J30M	**Hart River**	**55.09**	**330**	P		**P**	**08 33 37.2**	**+0.7**
C24K	**Franklin Bluff**	**55.22**	**339**	P		**P**	**08 33 36.6**	**-0.6**
G27K	**Doyon Strip**	**55.32**	**334**	P		**P**	**08 33 38.4**	**+0.2**
PDAR	**Pinedale Array**	**55.35**	**298**	P		**P**	**08 33 38.9**	**-0.1**
PDAR	**Pinedale Array**	**55.35**	**298**	P		**P**	**08 33 38.2**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=59,slow=7.3,SNR=11							
	comp=Z,0.7nm,0.6s							
E25K	**Arctic Village**	**55.54**	**336**	P		**P**	**08 33 39.8**	**+0.2**
C23K	**Itkillik River**	**55.59**	**339**	P		**P**	**08 33 41.5**	**+1.5**
C23K				IAmb		IAmb	08 33 55.6	
	comp=Z,6.0nm,1.4s							
D24K	**Happy Valley**	**55.66**	**338**	P		**P**	**08 33 41.5**	**+1.0**
D24K				IAmb		IAmb	08 33 41.6	
	comp=Z,3.4nm,0.8s							
SNOW	**Snow King Moun**	**55.66**	**299**	P		**P**	**08 33 41.8**	**+0.7**
I28M	**Miner Creek**	**55.70**	**332**	P		**P**	**08 33 41.1**	**+0.2**
I28M				IAmb		IAmb	08 33 50.1	
	comp=Z,9.0nm,1.4s							
FXWY	**Fox Creek**	**55.72**	**299**	P		**P**	**08 33 41.6**	**0.0**
BMAR	**Burnt Mountain**	**55.75**	**335**	P		**P**	**08 33 40.8**	**-0.4**
B22K	**Teshekpuk Lake**	**55.87**	**341**	P		**P**	**08 33 42.8**	**+0.9**
F25K	**Christian Rive**	**55.93**	**336**	P		**P**	**08 33 42.5**	**0.0**
D23K	**Nanushuk River**	**56.25**	**339**	P		**P**	**08 33 45.7**	**+1.0**
D23K				I

```
     comp=Z,3.2nm,0.9s
TX31 Lajitas Ar. Si      59.93 282  P     P     08 34 11.6 +0.4
TXAR Lajitas Array       59.93 282  P     P     08 34 11.6 +0.4
     comp=Z,0.8nm,0.7s,baz=68,slow=6.7,SNR=9.4
     comp=Z,0.8nm,0.7s
MESA MESA                59.98 328  P     P     08 34 11.4 +0.3
C16K Lisburne Hills      60.04 343  P     P     08 34 11.4 +0.2
PMR  Palmer              61.34 332  P     P     08 34 20.6 +0.5
J19K Poorman             61.35 337  P     P     08 34 20.9 +0.7
J19K                                IAmb  IAmb  08 34 22.4
     comp=Z,2.4nm,0.9s
K20K Telida              61.43 336  P     P     08 34 21.7 +0.9
SKT  Skwentna            61.78 334  P     P     08 34 23.6 +0.5
G16K Koyuk River         61.86 340  P     P     08 34 25.0 +1.4
J18K Innoko River        62.07 337  P     P     08 34 25.9 +0.9
J18K                                IAmb  IAmb  08 34 26.2
     comp=Z,3.0nm,0.9s
STLK Strandline Lak      62.24 333  P     P     08 34 26.2 -0.1
STLK                                IAmb  IAmb  08 34 33.5
     comp=Z,7.2nm,1.4s
L18K Granite Mounta      63.07 336  P     P     08 34 32.8 +1.0
KURBB Kurchatov Arra     63.23  43  P     P     08 34 32.9 -0.1
     comp=Z,1.1nm,0.9s,baz=318,slow=7.2,SNR=6.5
     comp=Z,1.1nm,0.9s
K02D Willamette Mer      63.52 305  P     P     08 34 35.5 +0.3
ZALV Zalesovo Beam       63.64  38  P     P     08 34 36.0 +0.3
     comp=Z,0.3nm,0.4s,baz=328,slow=11,SNR=1.5
     comp=Z,0.3nm,0.4s
M17K Holitna River       63.95 336  P     P     08 34 38.4 +0.9
PFO  Pinyon Flats O      65.33 293  LR    LR    09 02 01.2
     comp=Z,70nm,18.7s,baz=312,slow=35
MKAR Makanchi Array      67.70  44  P     P     08 35 01.6 -0.5
     comp=Z,0.6nm,0.8s,baz=335,slow=5.4,SNR=5.2
     comp=Z,0.6nm,0.8s
SONM Songino Array       76.67  30  P     P     08 35 56.7 +0.9
     comp=Z,0.5nm,0.6s,baz=298,slow=3.9,SNR=3.6
     comp=Z,0.5nm,0.6s
TRQA Tornquist           90.82 207  P     P     08 37 07.6 -0.3
ASAR Alice Springs      151.75  38  PKPbc PKPbc 08 43 59.1 -0.5
     comp=Z,0.6nm,0.6s,baz=341,slow=1.9,SNR=10
```

*IDC **25** 08:28:50.2±1.4, 48°.01N×27°.72W, h0km, mb3.7/10, mbtmp3.6/11, ML4.2/1, MS3.6/4, Error ellipse: s-maj=45.9km s-min=18.9km az=1.0*

ISC 25 08:28:51.7±1.2, 48°.0N±0°.3×27°.7W±0°.1, h10km, n22, σ0°61/13, mb3.7/10, MS3.7/4, Northern Mid-Atlantic Ridge

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
ESDC Sonseca Array      19.00 107  P     Pn   08 33 14.7 +0.6
     0.2nm,0.3s,baz=325,slow=5.4,SNR=5.1
     0.4nm,0.3s
MDT  Midelt             23.11 123  LR    LR   08 41 04.0
     comp=Z,57nm,18.3s,baz=290,slow=32
ARCES ARCESS Array B    33.38  31  P     P    08 35 29.8  0.0
     7.0nm,1.0s,baz=242,slow=9.8,SNR=3.1
     7.0nm,1.0s
AKASG Malin Array Be    36.41  64  P     P    08 35 56.2 +0.1
     0.2nm,0.3s,baz=294,slow=9.0,SNR=1.5
     0.2nm,0.3s
ULM  Lac du Bonnet      43.23 300  P     P    08 36 53.3 +0.5
     1.0nm,0.5s,baz=102,slow=14,SNR=2.4
     1.0nm,0.5s
KIRV Kirov              44.80  46  LR    LR   08 56 41.9
     comp=Z,69nm,19.2s,baz=298,slow=37
KVAR Kislovodsk Arr     47.54  67  LR    LR   08 57 15.4
     comp=Z,97nm,21.9s,baz=96,slow=36
YKA  Yellowknife Ar     47.68 321  P     P    08 37 27.9  0.0
     0.3nm,1.0s,baz=65,slow=6.2,SNR=3.2
     0.3nm,1.0s
PDAR Pinedale Array     55.14 297  P     P    08 38 24.0 -0.4
     0.5nm,0.6s,baz=65,slow=6.4,SNR=6.5
     0.5nm,0.6s
H10N2 ASCENSION HYDR    56.81 164  T     T    09 39 29.7
     baz=349
H10N3 ASCENSION HYDR    56.82 164  T     T    09 39 29.5
     baz=349
H10N1 ASCENSION HYDR    56.83 164  T     T    09 39 31.1
     baz=349
BVAR Borovoye Array     57.77  45  P     P    08 38 42.4 -0.2
     1.2nm,0.7s,baz=319,slow=6.1,SNR=4.7
     1.2nm,0.7s
H10S3 ASCENSION HYDR    57.88 165  T     T    09 40 49.8
     baz=349,slow=74,SNR=13
H10S2 ASCENSION HYDR    57.89 165  T     T    09 40 51.7
     baz=231,slow=74,SNR=12
ILAR Eielson Array      58.04 334  P     P    08 38 44.9 +0.5
     0.4nm,0.7s,baz=42,slow=5.6,SNR=5.6
     0.4nm,0.7s
TXAR Lajitas Array      59.76 281  P     P    08 38 57.2 +0.2
     0.5nm,0.7s,baz=57,slow=7.7,SNR=6.3
     0.5nm,0.7s
KURBB Kurchatov Arra    63.16  43  P     P    08 39 19.2 -0.2
     0.3nm,0.5s,baz=317,slow=6.3,SNR=4.2
     0.3nm,0.5s
MKAR Makanchi Array     67.63  44  P     P    08 39 48.9 +0.3
     0.2nm,0.6s,baz=328,slow=5.1,SNR=2.2
     0.2nm,0.6s
SHEM Shemya Is, Ala     77.93 347  LR    LR   09 12 52.7
     comp=Z,80nm,21.6s,baz=264,slow=34
WRA  Warramunga Arr     148.46  34  PKPbc PKPbc 08 48 37.5 -1.2
     1.4nm,1.3s,baz=343,slow=2.8,SNR=1.5
ASAR Alice Springs      151.65  37  PKPbc PKPbc 08 48 45.3 -1.1
     0.3nm,0.6s,baz=338,slow=2.1,SNR=5.9
```

AFAD 25 08:31:45.8, 37°.64N×29°.44E, h7km±6km, ML1.0, Turkey

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
DNIZ Denizli-Tavas-     0.32 268  P     Pg   08 31 51.9 -0.2
DNIZ                              S     Sb   08 32 02.5 +3.2
DNIZ                              i AML AML  08 32 04.0
     comp=E,46nm,0.3s
DNIZ                              i AML AML  08 32 05.0
     comp=N,21nm,0.1s
GOLH Golhisar           0.41 167  P     Pg   08 31 54.4 +0.5
GOLH                              S     Sb   08 32 00.9 -1.1
GOLH                              i AML AML  08 32 01.0
     comp=E,20nm,0.5s
GOLH                              i AML AML  08 32 06.0
     comp=N,17nm,1.3s
TAVA DENIZLI_Tavas      0.46 248  P     Pn   08 31 57.6 -1.2
TAVA                              S     Sb   08 32 03.4 +0.2
TAVA                              i AML AML  08 32 06.0
     comp=N,12nm,0.8s
TAVA                              i AML AML  08 32 18.0
     comp=E,12nm,2.4s
DNZT Denizli-Tavas-     0.49 223  P     Pg   08 31 55.2 -0.1
DNZT                              i AML AML  08 32 02.0
     comp=E,9.4nm,1.0s
DNZT                              S     Sg   08 32 02.5 +0.9
CAEL Denizli, Camel     0.53 191  P     Pg   08 31 47.0 -8.9
CAEL                              S     Sb   08 32 04.2 -1.1
```

ISK 25 08:32:14.4, 39°.60N×29°.32E, h13km, ML1.8/13, Turkey

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
TVSB Tavsanli           0.19 143  Pg    Pg   08 32 19.2 +0.5
ORLT Orhaneli           0.55 324  Pg    Pb   08 32 25.8 -0.2
YLV  Yalova             0.96   3  Pg    Pn   08 32 33.7 -0.1
YLV                               Sg    Sn   08 32 47.2 -0.2
KCTX Karacabey (Bur     0.99 312  Pg    Pn   08 32 33.9 -0.2
KCTX                              Sg    Sn   08 32 48.5 +0.5
SUSR Susurluk-Balik     1.01 291  Pg    Pn   08 32 34.3 -0.1
ARMT Armutlu            1.02 340  Pg    Pn   08 32 34.4 -0.1
GORD Gordes-Manisa      1.12 232  Pn    Pg   08 32 36.5 +0.5
KULA Kula-Manisa        1.20 205  Pn    Pg   08 32 37.5  0.0
GULT Gulveren           1.24  48  Pn    Pb   08 32 37.9 +0.1
GULT                              Sn    Sg   08 32 55.4 +1.0
HRT  Hereke             1.25  12  Pn    Pb   08 32 37.9  0.0
HRT                               Sn    Sg   08 32 55.2 +0.5
CIFT Cifteler, Eski     1.37 100  Pn    Pb   08 32 39.9 -0.1
ODEM Odemis-Izmir       1.64 217  Pn    Pn   08 32 43.7 +0.7
SVRH Sivrihisar-ESK     1.71  94  Pn    Pn   08 32 44.8 +0.7
```

*ASRS **25** 08:43:54.0±1.7, 53°.63N×87°.89E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 08:43:57.9±3.2, 53°.57N×87°.81E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.5km s-min=17.5km az=53.0, Southwestern Siberia

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
I46RU ZALESOVO INFRA    1.81 283  I     I    08 56 50.0
     baz=98,slow=337,SNR=3.7
ZALV Zalesovo Beam      1.81 283  Pg    Pn   08 44 31.0 +0.7
     1.0nm,0.3s,baz=99,slow=19,SNR=14
ZALV                              Lg    Lg   08 44 55.2
     1.1nm,0.3s,baz=105,slow=27,SNR=7.2
KURBB Kurchatov Arra    6.43 246  Pn    Pn   08 45 34.1 +0.4
     0.1nm,0.3s,baz=62,slow=14,SNR=7.2
KURBB                             Sn    Sn   08 46 46.9 -0.9
     baz=63,slow=38,SNR=1.8
     0.4nm,0.3s
MKAR Makanchi Array     7.65 210  Pn    Pn   08 45 51.9 +1.4
     0.1nm,0.3s,baz=29,slow=15,SNR=4.0
     0.1nm,0.3s
```

NOU 25 08:49:11.1, 14°.72S×167°.63E, h139km, MLv4.2/12, Vanuatu Islands, Vanuatu Islands

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
DVP  Devils Point       3.04 170  P     Pn   08 49 58.8 +0.3
LUES Luesalemba Tem     4.37 337  P     Pn   08 50 14.4 -1.6
KOUNC Koumac, New Ca    6.62 208  P     Pn   08 50 45.3 -0.7
YATNC Mamie plateau,    7.33 185  P     Pn   08 50 54.0 -1.6
DZM  Mont Dzumac        7.40 189  P     Pn   08 50 56.0 -0.5
OUENC Ouen Island, N    7.69 185  P     Pn   08 51 01.3 +0.9
SAVO Savo Central       9.44 305  P     Pn   08 51 25.3 +1.4
TATA Tatamba Isabel     9.92 309  P     Pn   08 51 30.7 +0.4
```

*ATH **25** 08:57:35.5, 36°.62N×26°.95E, h12km±5km, ML2.7/3, Manual Solution by S.Liakopoulos First location: 2019/03/25 08:59:10, This location: 2019/03/25 10:10:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 7 km*
*THE **25** 08:57:37.2, 36°.63N×26°.97E, h16km±6km, ML2.5/2, Error ellipse: s-maj=8.1km s-min=0.7km az=339.0*
*AFAD **25** 08:57:43.4, 36°.96N×27°.62E, h9km±6km, ML1.8*

ISC 25 08:57:34.6±2.0, 36°.73N±0°.07×27°.03E±0°.06, h19km±12km, n13, σ1°21/18, Dodecanese Islands

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
YAZI Mula-Dat§a-        0.34  98  P     Sn   08 57 50.5 -0.6
YAZI                              i AML AML  08 58 02.0
     comp=E,74nm,0.4s
YAZI                              i AML AML  08 58 04.0
     comp=N,41nm,1.1s
TURN Turunc             0.98  87  P     Pb   08 57 53.7 +0.8
TURN                              i AML AML  08 58 11.0
     comp=N,55nm,0.3s
TURN                              i AML AML  08 58 11.0
     comp=E,69nm,0.3s
ARG  Arkhangelos        1.02 120  P     Pb   08 57 55.3 +1.6
ARG                               S     Sn   08 58 09.5 +1.8
     222nm,0.3s
ARG  Arkhangelos        1.02 120  P     Pb   08 57 55.3 +1.6
ARG                               S     Sg   08 58 08.8 +1.0
KARP Karpathos          1.19 175  P     Pg   08 57 56.4 -1.1
KARP                              S     Sn   08 58 11.2 -0.7
     245nm,0.1s
KARP Karpathos          1.19 175  P     Pb   08 57 56.2 -0.3
KARP                              S     Sn   08 58 11.1 -0.7
SABU Mula-Dalaman       1.56  86  P     Pn   08 58 00.3 -1.1
SABU                              i AML AML  08 58 25.0
     comp=N,91nm,0.3s
SABU                              i AML AML  08 58 26.0
     comp=E,72nm,0.6s
TAVA DENIZLI_Tavas      1.68  63  P     Pn   08 58 03.5 +0.5
TAVA                              S     Sn   08 58 22.3 -1.7
TAVA                              i AML AML  08 58 26.0
     comp=E,18nm,0.5s
TAVA                              i AML AML  08 58 27.0
     comp=N,14nm,0.2s
ZKR  Zakros             1.74 202  P     Pn   08 58 03.9 +0.1
ZKR  Zakros             1.74 202  P     Pn   08 58 03.3 -0.5
CAEL Denizli, Camel     1.88  77  P     Pn   08 58 04.3 -1.5
CAEL                              S     Sn   08 58 28.9 -0.2
CAEL                              i AML AML  08 58 34.0
     comp=N,73nm,0.8s
CAEL                              i AML AML  08 58 35.0
     comp=E,53nm,0.3s
IDI  Anoyia             2.25 231  P     Pn   08 58 11.1 +0.2
IMMV Iera Moni Meta     2.77 244  P     Pn   08 58 19.1 +1.1
```

*ASRS **25** 09:04:29.0±1.5, 53°.78N×88°.21E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:04:31.3±3.5, 53°.86N×88°.20E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=29.3km s-min=18.2km az=56.0, Southwestern Siberia

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
I46RU ZALESOVO INFRA    2.00 274  I     I    09 18 13.6
     0.1nm,0.9s,baz=91,slow=338,SNR=11
ZALV Zalesovo Beam      2.00 274  Pg    Pn   09 05 06.9 +0.6
     1.0nm,0.3s,baz=89,slow=16,SNR=24
ZALV                              Lg    Lg   09 05 35.2
     2.4nm,0.3s,baz=93,slow=28,SNR=15
KURBB Kurchatov Arra    6.77 245  Pn    Pn   09 06 12.3 +0.6
     0.1nm,0.3s,baz=62,slow=14,SNR=3.7
KURBB                             Lg    Lg   09 08 05.5
     baz=65,slow=33,SNR=5.4
     0.5nm,0.3s
MKAR Makanchi Array     8.02 210  Pn    Pn   09 06 30.3 +1.3
     0.1nm,0.3s,baz=26,slow=11,SNR=1.9
MKAR                              Sn    Sn   09 08 00.1 -0.4
     0.1nm,0.3s,baz=32,slow=26,SNR=1.9
     0.1nm,0.4s
```

AFAD 25 09:12:41.0, 37°.49N×29°.39E, h7km±4km, ML1.2, Turkey

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
INCE Denizli-Bozkur     0.27  34  P     Pg   09 12 45.9 -0.4
INCE                              i AML AML  09 12 50.0
     comp=N,60nm,0.3s
INCE                              S     Sg   09 12 50.8 +1.0
INCE                              i AML AML  09 12 51.0
     comp=E,46nm,0.6s
GOLH Golhisar           0.29 151  P     Pg   09 12 46.5 -0.2
GOLH                              i AML AML  09 12 52.0
     comp=N,34nm,0.2s
GOLH                              i AML AML  09 12 52.0
     comp=E,61nm,0.5s
GOLH                              S     Sb   09 12 52.4 -1.3
DNIZ Denizli-Tavas-     0.31 296  P     Pg   09 12 47.3 +0.2
DNIZ                              S     Sb   09 12 53.0 -1.2
DNIZ                              i AML AML  09 12 54.0
     comp=N,54nm,0.2s
DNIZ                              i AML AML  09 12 54.0
     comp=E,104nm,0.2s
DNZT Denizli-Tavas-     0.36 234  P     Pg   09 12 46.8 -1.2
DNZT                              S     Sb   09 12 54.2 -1.4
DNZT                              i AML AML  09 12 56.0
     comp=E,7.7nm,0.6s
DNZT                              i AML AML  09 13 01.0
     comp=N,19nm,1.6s
TAVA DENIZLI_Tavas      0.38 266  P     Pg   09 12 48.7 +0.3
TAVA                              i AML AML  09 12 54.0
     comp=E,11nm,0.8s
TAVA                              S     Sg   09 12 54.6 +1.3
TAVA                              i AML AML  09 12 56.0
     comp=N,8.2nm,0.2s
SABU Mula-Dalaman       0.74 207  P     Pb   09 12 56.1 -0.2
SABU                              S     Sb   09 13 06.3 -0.3
SABU                              i AML AML  09 13 12.0
     comp=E,17nm,3.1s
SABU                              i AML AML  09 13 16.0
     comp=N,17nm,1.3s
```

ISK 25 09:13:26.9, 37°.17N×28°.16E, h0km, ML2.1/11, Suspected Mining explosion., Turkey

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
YER  Yerkesik           0.11 110  Pg    Pg   09 13 29.9 +1.0
YER                               Sg    Sg   09 13 32.0 +1.7
MLSB Milas              0.33 292  Pg    Pg   09 13 33.8 +0.6
MLSB                              Sg    Sg   09 13 39.0 +1.6
TURN Turunc             0.40 170  Pg    Pg   09 13 35.3 +0.7
TURN                              Sg    Sg   09 13 41.4 +1.6
DALY Dalyan (Mula)      0.53 132  Pg    Pg   09 13 37.8 +0.7
DALY                              Sg    Sb   09 13 45.8 -1.5
DAT  Datca              0.64 227  Pg    Pg   09 13 39.8 +0.6
BODT Bodrum             0.69 261  Pg    Pg   09 13 40.6 +0.6
NAZL Nazilli-Aydin      0.80   8  Pg    Pg   09 13 42.8 +0.6
AYDB Zeytinkoy-Aydi     0.80 345  Pg    Pg   09 13 42.8 +0.5
GCAM G?zelcami?         0.91 306  Pg    Pb   09 13 44.9 -0.6
APMY Acipayam-Deniz     0.96  72  Pg    Pg   09 13 45.6 +0.3
ODEM Odemis-Izmir       1.10 357  Pn    Pg   09 13 48.4 +0.3
```

*ASRS **25** 09:19:39.0±1.1, 53°.60N×87°.88E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:19:40.4±3.7, 53°.63N×87°.76E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=34.2km s-min=18.0km az=55.0, Southwestern Siberia

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
I46RU ZALESOVO INFRA    1.77 281  I     I    09 32 17.1
     0.1nm,0.8s,baz=98,slow=338,SNR=5.1
ZALV Zalesovo Beam      1.77 281  Pg    Pb   09 20 13.1 -0.6
     0.9nm,0.3s,baz=102,slow=15,SNR=10
ZALV                              Lg    Lg   09 20 36.0
     1.0nm,0.3s,baz=105,slow=28,SNR=2.6
KURBB Kurchatov Arra    6.43 246  Pn    Pn   09 21 16.6 +0.4
     baz=63,slow=14,SNR=3.5
     0.3nm,0.3s
MKAR Makanchi Array     7.69 209  Pn    Pn   09 21 34.9 +1.3
     0.1nm,0.3s,baz=30,slow=14,SNR=3.6
MKAR                              Lg    Lg   09 23 43.8
     baz=25,slow=31,SNR=3.0
     0.2nm,0.3s
```

*ASRS **25** 09:21:20.0±0.8, 54°.15N×87°.16E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 25 09:21:21.9±3.5, 54°.22N×87°.27E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=30.9km s-min=19.4km az=60.0, Southwestern Siberia

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
I46RU ZALESOVO INFRA    1.47 260  I     I    09 30 59.4
     baz=81,slow=332,SNR=3.6
ZALV Zalesovo Beam      1.47 260  Pg    Pn   09 21 48.0 -1.7
     1.2nm,0.3s,baz=77,slow=19,SNR=4.7
ZALV                              Lg    Lg   09 22 08.1
     0.6nm,0.3s,baz=77,slow=26,SNR=1.5
KURBB Kurchatov Arra    6.44 240  Pn    Pn   09 22 58.9 +0.9
     baz=55,slow=13,SNR=3.9
     0.5nm,0.5s
MKAR Makanchi Array     8.08 205  Pn    Pn   09 23 21.5 +1.0
     0.1nm,0.3s,baz=24,slow=11,SNR=1.8
MKAR                              Lg    Lg   09 25 41.5
     baz=25,slow=32,SNR=2.1
     0.1nm,0.3s
```

NNC 25 09:40:24.9±7.1, 37°.89N×71°.87E, h0km, mb3.6, mpv3.2, 3C-1D, Error ellipse: s-maj=55.8km s-min=44.2km az=170.0, Afghanistan-Tajikistan border region

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
AAK  Ala-Archa          5.15  22  ⇑P    Pn   09 41 43.8 +0.3
     2.9nm,0.5s
AAK                               ⇓S    Sn   09 42 44.1 +0.3
     5.6nm,0.8s
KK31 Karatay Array      5.32 349  P     Pn   09 41 46.9 +1.3
     0.4nm,0.2s,baz=165,slow=10,SNR=19
KK31                              ⇑S    Sn   09 42 49.3 +1.8
     18nm,0.6s,baz=172,slow=18,SNR=18
AB31 Akbulak array     14.26 327  P     Pn   09 43 44.0 -4.0
     0.4nm,0.3s,baz=169,slow=9.4,SNR=22
AB31                              ⇑S    Sn   09 46 16.6 -10
     1.3nm,0.7s,baz=147,slow=24,SNR=5.7
```

*IDC **25** 09:43:24.9±2.1, 2°.20S×125°.71E, h0km, mb3.8/3, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=358.3km s-min=21.8km az=64.0*
*DJA **25** 09:43:28.3±0.5, 2°.5±3°×12°.6E±°, h17km±5km, M4.3/19, mB5.4/3, mb4.4/8, MLv4.2/19, Mw(mB)4.9/3*

ISC 25 09:43:29.8±1.0, 2°.01S±0°.09×125°.81E±0°.08, h35km, n20, σ1°21/20, mb3.9/3, Ceram Sea

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
SANI Sanana             0.18 102  P     Pn   09 43 34.3 -2.2
NLAI Namlea             1.77 133  P     Pn   09 43 57.3 -0.7
AAI  Ambon              2.90 125  P     Pn   09 44 14.8 +1.2
LUWI Luwuk              3.19 288  P     Pn   09 44 16.3 -1.2
MSAI Masohi             3.38 113  P     Pn   09 44 20.2  0.0
KDI  Kendari            3.73 239  P     Pn   09 44 23.5 -1.4
APSI Ampana             4.30 285  P     Pn   09 44 33.5 +0.7
MRSI Marisa             4.59 303  P     Pn   09 44 36.7 -0.1
BNDI Bandanaira         4.79 121  P     Pn   09 44 39.9 +0.4
SWI  Sorong             5.56  78  P     Pn   09 44 50.1 -0.1
     0.1nm15nm,0.6s
SPSI Sidrap Palu        6.34 252  P     Pn   09 45 00.2 -0.6
     0.2nm2μm9.5nm,0.5s
FAKI Fak Fak            6.49  98  P     Pn   09 45 03.3 +0.3
     0.1nm34nm,1.3s
BKSI Bulukumba          6.56 240  P     Pn   09 45 05.9 +2.0
     0.1nm32nm,0.7s
BSSI Bau Bau, Buton     6.71 232  P     Pn   09 45 06.3 +0.4
     0.2nm41nm,1.0s
EDFI Ende, Flores       7.85 211  P     Pn   09 45 22.7 +1.0
     0.1nm18nm,0.6s
WSI  Waingapu           9.38 216  P     Pn   09 45 42.8 +0.3
WRA  Warramunga Arr    19.67 156  P     P    09 47 54.5 -1.6
     0.5nm,0.3s,baz=331,slow=12,SNR=38
     3.4nm,0.6s
ASAR Alice Springs     22.91 161  P     P    09 48 29.1 -1.8
     2.3nm,0.7s,baz=345,slow=12,SNR=33
     2.3nm,0.7s
MKAR Makanchi Array    61.80 328  P     P    09 53 46.6 +1.4
     0.5nm,0.5s,baz=137,slow=7.5,SNR=7.9
     0.5nm,0.5s
KURBB Kurchatov Arra   66.11 329  P     P    09 54 14.4 +0.9
     0.9nm,0.8s,baz=132,slow=7.1,SNR=6.4
     0.9nm,0.8s
```

JMA 25 10:09:03.3±0.0, 35°.9N±0°.1×137°.7E±0°.1, h8km, MV0.3/19, WESTERN NAGANO PREF, Eastern Honshu

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
JGN  Niukaw             0.41 315  P     Pg   10 09 11.5 +0.1
```

*IDC **25** 10:09:55.0±0.8, 37°.12N×141°.33E, h0km, mb3.5/10, mbtmp3.5/14, ML3.3/4, MS2.5/2, Error ellipse: s-maj=20.8km s-min=16.4km az=134.0*
*JMA **25** 10:10:01.2±0.1, 36°.9N±0°.3×141°.2E±0°.7, h54km, MD3.7/38, MV3.9/38, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **25** 10:10:01.2, 36°.91N×141°.19E, h54km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.33; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-1.74; $M_{r\theta}$0.31; $M_{\theta r}$-0.65; $M_{\phi r}$-3.46; Fault plane solution: $M_0$3.86000×10^{14} NP1:ϕ_s42.00000°, δ16.00000°, λ135.00000°. NP2:ϕ_s176.00000°, δ79.00000°, λ78.00000°.*

ISC 25 10:09:59.1±1.4, 36°.93N±0°.04×141°.40E±0°.06, h30km±10km, n50, σ1°38/46, mb3.5/10, Near east coast of eastern Honshu

```
Code Station Name        Δ°   AZ°  Phase ID  Time     Res
                                  Op    ISC  h m s    ISC
ONAJ Iwakimizuishiy     0.51 290  i P   Pn   10 10 11.2 +0.8
ONAJ                              S     Sn   10 10 18.4 +0.2
ONAJ Iwakimizuishiy     0.51 290  A     A    10 10 11.2
     comp=N,5.0nm,0.3s,comp=E,7.0nm,0.3s
JFK  Kawauchi           0.61 317  i P   Pn   10 10 12.8 +1.0
```

JFK				S	Sn	10 10 21.2	+0.6
JFK	**Kawauchi**	**0.61**	**317**	A	A	10 10 12.8	
comp=N,8.0nm,0.3s,comp=E,8.0nm,0.2s							
JFFD	**Fukushimafurud**	**0.69**	**284**	P	Pn	10 10 13.1	+0.2
JFFD				S	Sb	10 10 21.4	-0.5
JHO	**Hitachi**	**0.74**	**245**	*i* P	Pb	10 10 13.5	0.0
JHO				S	Sb	10 10 22.3	-0.9
JHO	**Hitachi**	**0.74**	**245**	A	A	10 10 13.5	
comp=N,4.0nm,0.2s,comp=E,5.0nm,0.9s							
JMM	**Marumori**	**1.05**	**333**	P	Pb	10 10 19.0	+0.2
JMM	**Marumori**	**1.05**	**333**	S	Sb	10 10 32.5	+0.2
JMM	**Marumori**	**1.05**	**333**	*i* P	Pb	10 10 18.9	+0.2
JMM				S	Sb	10 10 32.2	-0.1
JOTO	**OTAMA OYAMA**	**1.06**	**307**	*i* P	Pb	10 10 19.0	+0.2
JOTO				S	Sn	10 10 31.7	0.0
JOTO	**OTAMA OYAMA**	**1.06**	**307**	A	A	10 10 19.0	
comp=N,14nm,0.4s,comp=E,15nm,0.3s							
JSB	**Shiboa**	**1.19**	**272**	A	A	10 10 19.5	
comp=N,3.0nm,4.2s,comp=E,5.0nm,1.5s							
JYT	**Yasato**	**1.19**	**235**	A	A	10 10 19.9	
comp=N,8.0nm,0.3s,comp=E,10.0nm,0.3s							
JFY	**Yanaizu**	**1.44**	**290**	P	Pn	10 10 23.2	+0.1
JIO	**Ouri**	**1.53**	**359**	*i* P	Pb	10 10 26.2	-0.6
JOU	**Okura**	**1.55**	**338**	P	Pb	10 10 26.3	-0.9
JAG	**Ashikaga**	**1.64**	**253**	*i* P	Pn	10 10 25.7	-0.2
JYS	**Shiratake**	**1.67**	**321**	*i* P	Pn	10 10 27.6	+1.3
MJAR	**Matsushiro Arr**	**2.59**	**262**	Pn	Pn	10 10 39.5	+0.5
comp=E,2.3nm,0.3s,baz=86,slow=15,SNR=60							
MJAR				Sn	Sn	10 11 11.1	+1.6
comp=E,5.2nm,0.3s,baz=130,slow=20,SNR=5.6							
MJAR				LR	LR	10 11 47.7	
comp=E,90nm,20.2s,baz=44,slow=44							
comp=E,13nm,0.5s							
MAJO	**Matsushiro**	**2.59**	**262**	P	Pn	10 10 40.2	+1.2
MAJO	**Matsushiro**	**2.59**	**262**	S	Sn	10 11 11.3	+1.8
JSD	**Sado**	**2.73**	**295**	P	Pn	10 10 40.8	-0.1
JGF	**Kuroka**	**3.52**	**249**	P	Pn	10 10 53.4	+1.6
JGF	**Kuroka**	**3.52**	**249**	S	Sn	10 11 34.3	+1.8
JTM	**Tenmabayashi**	**3.86**	**356**	P	Pn	10 10 59.5	+3.0
INU	**Inuyama**	**3.88**	**247**	P	Pn	10 10 58.7	+2.0
JHJ2	**Mitsune**	**4.02**	**199**	P	Pn	10 11 00.2	+1.6
JHJ	**Hachijo jima 2**	**4.02**	**200**	Pn	Pn	10 11 00.0	+1.3
comp=E,19nm,0.3s,baz=322,slow=18,SNR=16							
JHJ				Sn	Sn	10 11 43.0	-1.8
comp=E,18nm,0.3s,baz=68,slow=21,SNR=6.4							
comp=E,37nm,0.3s							
ERM	**Erimo**	**5.26**	**14**	P	Pn	10 11 17.0	+1.3
ASAJ	**Asahikawa**	**7.24**	**7**	Pn	Pn	10 11 40.9	-2.0
comp=E,1.2nm,0.3s,baz=207,slow=14,SNR=12							
ASAJ				Sn	Sn	10 13 02.4	-1.6
comp=E,0.4nm,0.3s,baz=195,slow=9.2,SNR=1.7							
comp=E,2.9nm,0.4s							
USRK	**Ussuriysk Ar.**	**10.19**	**318**	Pn	Pn	10 12 27.1	+3.7
comp=E,0.1nm,0.3s,baz=102,slow=12,SNR=5.7							
KSRS	**Korea Array**	**10.77**	**277**	Pn	Pn	10 12 29.6	-1.5
baz=88,slow=14,SNR=1.5							
comp=E,0.5nm,0.5s							
JOW	**Kunigami**	**15.00**	**232**	LR	LR	10 18 34.6	
comp=E,23nm,21.5s,baz=32,slow=34							
SONM	**Songino Array**	**27.84**	**304**	P	P	10 15 44.9	-1.0
comp=E,0.8nm,0.6s,baz=102,slow=9.5,SNR=4.6							
comp=E,0.8nm,0.6s							
H11N2	**WAKE ISLAND Hy 28.10**	**121**		T	T	10 45 28.9	
baz=314,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy 28.11**	**121**		T	T	10 45 26.8	
baz=314,slow=75,SNR=50							
H11N3	**WAKE ISLAND Hy 28.12**	**121**		T	T	10 45 28.3	
baz=314,slow=75,SNR=41							
H11S1	**WAKE ISLAND Hy 28.81**	**123**		T	T	10 46 48.1	
baz=315,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy 28.81**	**123**		T	T	10 46 41.1	
baz=315,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy 28.83**	**123**		T	T	10 46 41.9	
baz=315,slow=76,SNR=29							
MKAR	**Makanchi Array**	**44.17**	**302**	P	P	10 18 03.5	-1.6
comp=E,0.4nm,0.6s,baz=81,slow=8.0,SNR=5.0							
comp=E,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	P	10 18 17.7	-2.2
comp=E,0.9nm,0.6s,baz=85,slow=8.4,SNR=8.5							
comp=E,0.9nm,0.6s							
ILAR	**Eielson Array**	**49.59**	**32**	P	P	10 18 46.4	-0.8
comp=E,0.5nm,0.9s,baz=279,slow=6.2,SNR=3.7							
comp=E,0.5nm,0.9s							
WRA	**Warramunga Arr**	**56.95**	**188**	P	P	10 19 42.8	+1.2
comp=E,0.3nm,0.7s,baz=2.0,slow=7.3,SNR=4.8							
comp=E,0.3nm,0.7s							
ASAR	**Alice Springs**	**60.68**	**188**	P	P	10 20 09.5	+1.9
comp=E,0.2nm,0.8s,baz=8.6,slow=7.9,SNR=1.7							
comp=E,0.2nm,0.8s							
YKA	**Yellowknife Ar**	**63.91**	**30**	P	P	10 20 28.6	-0.1
comp=E,0.1nm,0.7s,baz=302,slow=7.4,SNR=2.0							
comp=E,0.1nm,0.7s							
NVAR	**Mina Array Bea**	**75.06**	**53**	P	P	10 21 39.3	+1.0
comp=E,0.3nm,0.5s,baz=294,slow=4.8,SNR=2.2							
comp=E,0.3nm,0.5s							
PDAR	**Pinedale Array**	**77.75**	**45**	P	P	10 21 53.5	0.0
comp=E,0.3nm,0.7s,baz=274,slow=3.7,SNR=3.7							
comp=E,0.3nm,0.7s							
TXAR	**Lajitas Array**	**90.20**	**52**	P	P	10 22 56.9	-0.1
comp=E,0.2nm,0.6s,baz=311,slow=4.0,SNR=2.7							
comp=E,0.2nm,0.6s							

IDC 25 10:16:25.8±2.1, 0°.39N×126°.35E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=182.3km s-min=26.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.67**	**159**	P	P	10 21 17.7	-0.6
0.5nm,0.5s,baz=338,slow=9.6,SNR=6.5							
0.5nm,0.5s							
ASAR	**Alice Springs**	**25.01**	**163**	P	P	10 21 52.1	+0.5
0.3nm,0.4s,baz=346,slow=8.8,SNR=7.9							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**60.09**	**327**	P	P	10 26 34.9	-0.1
0.2nm,0.4s,baz=117,slow=8.0,SNR=5.1							
0.2nm,0.4s							

IDC 25 10:36:35.8±2.1, 3°.07S×139°.95E, h0km, mb3.0/2, mbtmp3.4/4, ML2.6/2, Error ellipse: s-maj=58.2km s-min=31.4km az=74.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.54**	**132**	Pn	Pn	10 38 54.3	-0.3
0.5nm,0.3s,baz=292,slow=11,SNR=4.6							
16nm,0.8s							
WRA	**Warramunga Arr**	**17.64**	**198**	P	Pn	10 40 43.0	-0.3
0.1nm,0.3s,baz=14,slow=12,SNR=4.7							
0.3nm,0.4s							
ASAR	**Alice Springs**	**21.30**	**195**	P	P	10 41 24.5	+0.2
0.1nm,0.3s,baz=17,slow=11,SNR=7.1							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**70.83**	**322**	P	P	10 47 54.5	0.0
0.1nm,0.4s,baz=106,slow=7.9,SNR=2.1							
0.1nm,0.4s							

ISC 25 10:48:32.2±1.4, 48°.80N±0°.05×18°.04E±0°.04, h9km±14km, n5, σ0§52/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.25**	**283**	*e*PG	**Pg**	**10 48 37.1**	**-0.2**
JAVC				*e*SG	**Sg**	**10 48 41.5**	**+0.8**
MODS	**Modra-Piesok**	**0.67**	**230**	*e*PG	**Pg**	**10 48 44.4**	**-0.6**
MODS				*e*SG	**Sb**	**10 48 55.6**	**+0.4**
LANS	**Liptovska Anna**	**1.00**	**69**	*e*PG	**Pg**	**10 48 51.2**	**-0.2**
LANS				*e*SG	**Sb**	**10 49 05.3**	**+0.3**
MORC	**Moravsky Berou**	**1.03**	**342**	*e*PG	**Pg**	**10 48 51.5**	**-0.4**
MORC				*e*SG	**Sg**	**10 49 05.2**	**-0.1**
VRAC	**Vranov**	**1.08**	**299**	*e*PG	**Pg**	**10 48 52.5**	**-0.4**
VRAC				*e*SG	**Sb**	**10 49 07.3**	**+0.1**

SJA ***25*** *10:52:38.3±0.8, 21°.31S×70°.06W, h80km, ML4.9, MW4.7*
MOS ***25*** *10:52:39.2±1.4, 21°.26S×69°.98W, h78km, mb5.5/12, Error ellipse: s-maj=14.0km s-min=7.1km az=109.6*
RSNC ***25*** *10:52:40.1±2.9, 21°.S±.10°×7°.0W±1°.0, h72km±10km, M4.8, mB5.4, mb5.2, ML3.9, Mw(mB)5.2*
GUC ***25*** *10:52:40.9±0.8, 21°.34S×70°.14W, h66km±7km, ML4.9*
NEIC ***25*** *10:52:40.5±1.9, 21°.31S±0°.04×70°.00W±0°.07, h72km±4km, mb5.3/449, Mww5.0/16, Error ellipse: s-maj=10.1km s-min=5.3km az=94.0*
NEIC ***25*** *10:52:40.4, 21°.34S×70°.00W, h70km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr=0.88; Mθθ=1.58; Mφφ=2.47; Mrθ=0.88; Mrφ=1.45; Mθφ=2.75; Fault plane solution: Mo=3.46000×10¹⁶ NP1: φs=200.31000°, δ=16.77000°, λ=-86.86000°. NP2: φs=17.02000°, δ=73.25000°, λ=-90.95000°. Principal axes: T 4.4847, Plg=28.0000°, Azm=108.0000°; N -2.0501, Plg=1.0000°, Azm=17.0000°; P -2.4346, Plg=62.0000°, Azm=286.0000°;*
VAO ***25*** *10:52:40.6±0.3, 21°.28S×69°.83W, h72km, mb5.2*
BJI ***25*** *10:52:40.0, 21°.40S×70°.00W, h73km, mB5.5/5, Ms5.2/1, Ms7 4.8/2*
NEIC ***25*** *10:52:40.4, 21°.34S×69°.99W, h68km*
IDC ***25*** *10:52:40.4±0.4, 21°.25S×69°.91W, h75km±3km, mb4.5/21, mbtmp4.8/25, MS3.7/20, Error ellipse: s-maj=15.8km s-min=9.8km az=62.0*
GCMT ***25*** *10:52:43.5±0.2, 21°.26S±0°.02×69°.99W±0°.02, h66km±3km, MW5.0/100, Moment Tensor Solution. s43,c50; s100,c133; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.40±.15; Mθθ=1.07±.14; Mφφ=2.47±.17; Mrθ=0.71±.07; Mθφ=0.95±.11; Mφr=3.20±.10; Best double couple: Mo=3.87100×10¹⁶ NP1: φs=199.00000°, δ=16.00000°, λ=-83.00000°. NP2: φs=12.00000°, δ=74.00000°, λ=-92.00000°. Principal axes: T 4.5240, Plg=29.0000°, Azm=104.0000°; N -1.3080, Plg=2.0000°, Azm=13.0000°; P -3.2170, Plg=61.0000°, Azm=279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 10:52:39.7±0.3, 21°.36S±0°.03×70°.06W±0°.04, h75km±2km, h75km: pP-P, n571, σ1§52/441, mb5.2/252, 16C-17D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.55**	**351**		**Pn**	**10 52 53.8**	**+0.2**
PATCX	**Punta Patache**	**0.55**	**351**	⇑*i*P	**Pn**	**10 52 53.5**	**0.0**
PATCX				*i* S	**Sn**	**10 53 03.1**	**-0.5**
PATCX	**Punta Patache**	**0.55**	**351**	*e*P	**Pn**	**10 52 53.4**	**-0.1**
PATCX				IAML		10 53 05.6	
comp=Z,43μm,0.5s							
PB01	**IPOC Station P**	**0.62**	**60**	Pn	**Pn**	**10 52 54.8**	**+0.5**
PB01	**IPOC Station P**	**0.62**	**60**	⇓*i*P	**Pn**	**10 52 54.8**	**+0.5**
PB01				*i* S	**Sn**	**10 53 05.3**	**+0.3**
PB01				IAML		10 53 05.8	
comp=N,86μm,0.2s							
PB01	**IPOC Station P**	**0.62**	**60**	*e*P	**Pn**	**10 52 54.5**	**+0.2**
PB01				IAML		10 53 08.2	
comp=Z,31μm,0.2s							
TA01	**Diego Aracena**	**0.80**	**352**	Pn	**Pn**	**10 52 55.6**	**-0.5**
TA01	**Diego Aracena**	**0.80**	**352**	⇑*i*P	**Pn**	**10 52 55.8**	**-0.3**
TA01				*i* S	**Sn**	**10 53 07.3**	**-0.9**
TA01				IAML		10 53 08.5	
comp=E,58μm,0.3s							
TA01	**Diego Aracena**	**0.80**	**352**	*e*P	**Pn**	**10 52 55.4**	**-0.7**
TA01				IAML		10 53 10.1	
comp=Z,24μm,0.7s							
PB09	**IPOC Station P**	**0.88**	**120**		**Pn**	**10 52 58.7**	**+1.5**
PX03	**IPOC Station P**	**1.03**	**23**	*i* P	**Pn**	**10 52 58.3**	**-0.8**
PX03				*i* S	**Sn**	**10 53 11.6**	**-1.8**
PX03				IAML		10 53 13.3	
comp=N,73μm,0.3s							
TA02	**Huaiquique**	**1.09**	**357**		**Pn**	**10 52 59.3**	**-0.3**
TA02	**Huaiquique**	**1.09**	**357**	⇑*i*P	**Pn**	**10 52 59.2**	**-0.4**
TA02				*i* S	**Sn**	**10 53 13.1**	**-1.3**
TA02	**Huaiquique**	**1.09**	**357**	*e*P	**Pn**	**10 52 59.2**	**-0.3**
TA02				*e*S	**Sn**	**10 53 16.4**	**+2.0**
TA02				IAML		10 53 18.3	
comp=Z,31μm,0.1s							
HMBC	**Humberstone**	**1.09**	**9**		**Pn**	**10 52 59.3**	**-0.4**
HMBC	**Humberstone**	**1.09**	**9**	⇑*i*P	**Pn**	**10 52 59.4**	**-0.4**
HMBC				*i* S	**Sn**	**10 53 13.3**	**-1.4**
HMBC				IAML		10 53 16.1	
comp=N,53μm,0.7s							
HMBC	**Humberstone**	**1.09**	**9**	*e*P	**Pn**	**10 52 59.1**	**-0.7**
HMBC				IAML		10 53 20.9	
comp=Z,24μm,0.4s							
PB06	**IPOC Station P**	**1.41**	**161**	⇑*i*P	**Pn**	**10 53 04.8**	**+0.8**
PB06				*i* S	**Sn**	**10 53 22.0**	**-0.1**
PB06				IAML		10 53 25.0	
comp=N,17μm,0.5s							
PB06	**IPOC Station P**	**1.41**	**161**	*e*P	**Pn**	**10 53 04.7**	**+0.8**
PB06				*e*S	**Sn**	**10 53 22.1**	**0.0**
PB06				IAML		10 53 24.1	
comp=Z,10μm,0.6s							
PB08	**IPOC Station P**	**1.48**	**35**		**Pn**	**10 53 04.8**	**-0.2**
PB08	**IPOC Station P**	**1.48**	**35**	⇓*i*P	**Pn**	**10 53 05.2**	**+0.3**
PB08				*i* S	**Sn**	**10 53 24.2**	**+0.2**
PB08				IAML		10 53 27.4	
comp=E,20μm,0.2s							
PB08	**IPOC Station P**	**1.48**	**35**	*e*P	**Pn**	**10 53 04.6**	**-0.4**
PB08				*e*S	**Sn**	**10 53 24.0**	**0.0**
PB08				IAML		10 53 26.2	
comp=Z,6μm,0.3s							
PB05	**IPOC Station P**	**1.49**	**185**		**Pn**	**10 53 05.6**	**+0.7**
PB05	**IPOC Station P**	**1.49**	**185**	⇑*i*P	**Pn**	**10 53 05.6**	**+0.7**
PB05	**IPOC Station P**	**1.49**	**185**	*e*P	**Pn**	**10 53 05.5**	**+0.7**
PB11	**IPOC Station P**	**1.64**	**14**		**Pn**	**10 53 06.5**	**-0.4**
PB11	**IPOC Station P**	**1.64**	**14**	⇑*i*P	**Pn**	**10 53 06.2**	**-0.6**
PB11				*i* S	**Sn**	**10 53 25.5**	**-1.8**
PB11				IAML		10 53 32.1	
comp=N,18μm,0.3s							
PB11	**IPOC Station P**	**1.64**	**14**	*e*P	**Pn**	**10 53 05.5**	**-1.3**
PB11				*e*S	**Sn**	**10 53 26.6**	**-0.7**
PB11				IAML		10 53 30.3	
comp=Z,8μm,0.2s							
AF01	**San Pedro de A**	**2.36**	**133**		**Pn**	**10 53 19.5**	**+3.0**
AF01	**San Pedro de A**	**2.36**	**133**	*e*P	**Pn**	**10 53 19.6**	**+3.0**
AF01				*e*S	**Sn**	**10 53 48.7**	**+4.0**
AF01				IAML		10 54 12.8	
comp=Z,15μm,1.2s							
PX02	**IPOC Station P**	**2.39**	**357**	*i* P	**Pn**	**10 53 15.0**	**-1.8**
PX02				*i* S	**Sn**	**10 53 40.9**	**-4.3**
PX02				IAML		10 53 44.4	
comp=N,6μm,0.4s							
PB12	**IPOC Station P**	**2.75**	**355**		**Pn**	**10 53 20.8**	**-0.8**
PB12	**IPOC Station P**	**2.75**	**355**	*e*P	**Pn**	**10 53 20.9**	**-0.8**
PB12				*e*S	**Sn**	**10 53 51.0**	**-2.9**
PB12				IAML		10 53 52.7	
comp=Z,8μm,0.6s							
AP01	**Chacalluta**	**2.99**	**355**		**Pn**	**10 53 24.0**	**-0.8**
AP01	**Chacalluta**	**2.99**	**355**	*e*P	**Pn**	**10 53 24.6**	**-0.3**
AP01				*e*S	Sn	10 53 45.8	-14
AP01				IAML		10 54 05.7	
comp=Z,6μm,0.7s							
PB16	**IPOC Station P**	**3.06**	**10**		**Pn**	**10 53 26.4**	**+0.1**
PB16	**IPOC Station P**	**3.06**	**10**	*e*P	**Pn**	**10 53 26.3**	**0.0**
PB16	**IPOC Station P**	**3.06**	**10**	*e*P	**Pn**	**10 53 25.5**	**-0.8**
PB16				IAML		10 54 17.4	
comp=Z,2μm,1.1s							
PB14	**IPOC Station P**	**3.26**	**185**		**Pn**	**10 53 28.3**	**-0.6**
PB14	**IPOC Station P**	**3.26**	**185**	*e*P	**Pn**	**10 53 28.3**	**-0.6**
PB14				*e*S	**Sn**	**10 54 04.8**	**-2.0**
PB14				IAML		10 54 28.1	
comp=Z,1μm,1.1s							
PB18	**Visviri**	**3.79**	**8**		**Pn**	**10 53 38.5**	**+2.2**
PB18	**Visviri**	**3.79**	**8**	*e*P	**Pn**	**10 53 38.9**	**+2.6**
GO02	**Mina Guanaco**	**3.81**	**174**		**Pn**	**10 53 36.8**	**+0.5**
GO02	**Mina Guanaco**	**3.81**	**174**	*e*P	**Pn**	**10 53 36.8**	**+0.5**
GO02				*e*S	Sn	10 54 02.3	-18
YJA	**Yavi**	**4.30**	**102**	*e*P	**Pn**	**10 53 46.3**	**+3.1**
AC01	**Pan de Azucar**	**4.79**	**186**		**Pn**	**10 53 47.9**	**-1.5**
AC01	**Pan de Azucar**	**4.79**	**186**	*e*P	**Pn**	**10 53 47.9**	**-1.5**
AC01				*e*S	**Sn**	**10 54 40.5**	**-3.1**
AC01				IAML		10 55 23.9	
comp=Z,614nm,1.0s							
LPAZ	**La Paz**	**5.37**	**20**		**Pn**	**10 53 59.5**	**+1.6**
LPAZ	**La Paz**	**5.37**	**20**	P	**Pn**	**10 54 00.2**	**+2.4**
comp=Z,24nm,0.3s,baz=224,slow=2.8,SNR=148							
LPAZ				S	**Sn**	**10 55 01.4**	**+2.7**
comp=Z,85nm,0.7s,baz=215,slow=24,SNR=1.4							
LPAZ				LR	LR	10 56 48.9	
comp=Z,262nm,18.6s,baz=206,slow=48							
LPAZ	**La Paz**	**5.37**	**20**	P	**Pn**	**10 53 59.5**	**+1.6**
LPAZ	**La Paz**	**5.37**	**20**	*e*P	**Pn**	**10 53 56.0**	**-1.9**
AC02	**Maricunga**	**5.52**	**171**		**Pn**	**10 54 00.4**	**+0.7**
AC02	**Maricunga**	**5.52**	**171**	*e*P	Pn	10 54 27.5	+28
AC06	**Mina Casimiro**	**5.97**	**182**		**Pn**	**10 54 03.9**	**-1.7**
GO03	**Copiapo**	**6.21**	**181**		**Pn**	**10 54 07.2**	**-1.6**
GO03	**Copiapo**	**6.21**	**181**	*e*P	Pn	10 54 37.5	+29
AC04	**Llanos de Chal**	**6.88**	**187**	Pn	Pn	10 54 14.5	-3.3
AC05	**El Transito**	**7.45**	**181**		**Pn**	**10 54 24.1**	**-1.7**
VCA	**Vinchina**	**7.53**	**167**	*e*P	**Pn**	**10 54 27.5**	**+0.5**
VCA				*e*S	**Sn**	**10 55 49.6**	**-1.3**
LCO	**Las Campanas**	**7.64**	**184**		**Pn**	**10 54 25.6**	**-2.9**
LCO	**Las Campanas**	**7.64**	**184**	P	**Pn**	**10 54 25.6**	**-2.9**
CYA	**Choya**	**8.04**	**152**	*e*P	**Pn**	**10 54 33.6**	**-0.2**
AGUA	**GUANDACOL**	**8.21**	**170**	*e*P	**Pn**	**10 54 35.9**	**-0.4**
ACLC	**CERRO LA CRUZ**	**8.51**	**161**	*e*P	**Pn**	**10 54 39.4**	**-0.9**
ACLC				*e*S	**Sn**	**10 56 11.3**	**-3.5**
AROD	**Rodeo**	**8.79**	**177**	*e*P	**Pn**	**10 54 43.6**	**-0.6**
ACDV	**Cuesta del Vie**	**8.81**	**175**	*e*P	**Pn**	**10 54 43.6**	**-0.9**
ACCO	**Cerro Coronel**	**9.23**	**175**	*e*P	**Pn**	**10 54 50.3**	**-0.1**
APLL	**PUNTA DE LOS L**	**9.54**	**161**	*e*P	**Pn**	**10 54 51.0**	**-3.4**
AVFE	**Valle Fertil**	**9.55**	**166**	*e*P	**Pn**	**10 54 53.7**	**-0.8**
RTLL	**Cerro Villicun**	**10.03**	**172**	*e*P	**Pn**	**10 54 58.5**	**-2.5**
SIV	**San Ignacio**	**10.05**	**59**	P	**Pn**	**10 54 58.7**	**-2.7**
comp=Z,25nm,0.7s,baz=244,slow=10,SNR=116							
ACHE	**Chepes**	**10.22**	**163**	*e*P	Pn	10 54 57.2	-6.5
CFA	**Coronel Fontan**	**10.33**	**171**	S	Sn	10 56 50.7	-8.5
comp=Z,9.3nm,0.8s,baz=96,slow=22,SNR=1.8							
RTLS	**Leoncito**	**10.42**	**176**	*e*P	**Pn**	**10 55 04.5**	**-2.0**
AUSP	**Uspallata**	**10.84**	**177**	*e*P	**Pn**	**10 55 10.7**	**-1.5**
ASAL	**Salagasta**	**11.24**	**175**	*e*P	**Pn**	**10 55 14.2**	**-3.3**
NNA	**Nana**	**11.36**	**324**		**Pn**	**10 55 18.2**	**-1.0**
NNA	**Nana**	**11.36**	**324**	P	**Pn**	**10 55 18.7**	**-0.5**
comp=Z,16nm,0.6s,baz=140,slow=17,SNR=7.8							
NNA				S	**Sn**	**10 57 16.1**	**-8.3**
comp=Z,70nm,0.6s,baz=264,slow=18,SNR=6.3							
NNA	**Nana**	**11.36**	**324**	P	**Pn**	**10 55 19.5**	**+0.3**
comp=Z,43nm,0.7s							
ARCO	**CERRO ARCO**	**11.48**	**175**	*e*P	Pn	10 54 58.8	-22
MURT	**Porto Murtinho**	**11.60**	**94**	*e*P	**Pn**	**10 55 19.4**	**-2.9**
ROC1	**El Roble**	**11.60**	**184**	*e*P	**Pn**	**10 55 25.8**	**+3.3**
PEL	**Peldehue**	**11.75**	**183**	*e*P	**Pn**	**10 55 24.8**	**+0.4**
PTLB	**Pontes e Lacer**	**11.92**	**62**	Pn	**Pn**	**10 55 24.1**	**-2.6**
PTLB	**Pontes e Lacer**	**11.92**	**62**	*e*P	**Pn**	**10 55 24.1**	**-2.6**
BDQN	**Bodoquena, MS**	**12.48**	**88**	*e*P	**Pn**	**10 55 31.1**	**-3.2**
VILB	**Vilhena**	**12.59**	**50**	Pn	**Pn**	**10 55 35.0**	**-1.0**
VILB	**Vilhena**	**12.59**	**50**	*e*P	**Pn**	**10 55 33.9**	**-2.1**
CPUP	**Villa Florida**	**12.66**	**115**		**Pn**	**10 55 34.9**	**-1.9**
CPUP	**Villa Florida**	**12.66**	**115**	P	**Pn**	**10 55 35.6**	**-1.1**
comp=Z,7.0nm,0.9s,baz=289,slow=12,SNR=10							
BO01	**Tunca**	**13.01**	**184**		**Pn**	**10 55 43.2**	**+1.7**
SJPY	**San Joaquin**	**13.34**	**108**	*e*P	**Pn**	**10 55 44.1**	**-1.8**
BO02	**Sierra Bellavi**	**13.40**	**183**		**Pn**	**10 55 48.1**	**+1.4**
AQDB	**Aquidauana**	**13.45**	**89**		**Pn**	**10 55 46.3**	**-1.1**
AQDB	**Aquidauana**	**13.45**	**89**	*e*P	**Pn**	**10 55 45.5**	**-1.9**
CZSB	**Cruzeiro do Su**	**13.79**	**349**	P	Pn	10 55 43.5	-8.4
AMBA	**Amambai (Brazi**	**14.05**	**99**	*e*P	**Pn**	**10 55 54.2**	**-1.1**
H03N1	**Juan Fernandez**	**14.36**	**211**	P	**Pn**	**10 55 59.3**	**+0.3**
baz=108,slow=14,SNR=62							
H03N1				T	T	11 11 18.9	
baz=34,slow=72,SNR=139							
H03N2	**Juan Fernandez**	**14.37**	**211**	P	**Pn**	**10 55 59.5**	**+0.4**
baz=108,slow=14,SNR=34							
H03N2				T	T	11 11 14.2	
baz=34,slow=72,SNR=228							
H03N3	**Juan Fernandez**	**14.38**	**211**	P	**Pn**	**10 55 59.2**	**0.0**
baz=108,slow=14,SNR=46							
H03N3				T	T	11 11 17.8	
baz=34,slow=72,SNR=98							
SALV	**Santo Antonio**	**14.66**	**71**	*e*P	**Pn**	**10 56 01.1**	**-2.2**
H03S3	**Juan Fernandez**	**14.68**	**210**	P	**Pn**	**10 56 03.9**	**+0.9**
SNR=12							
H03S1	**Juan Fernandez**	**14.69**	**210**	P	**Pn**	**10 56 03.0**	**-0.2**
SNR=12							
H03S2	**Juan Fernandez**	**14.69**	**210**	P	**Pn**	**10 56 04.0**	**+0.7**
SNR=12							
RPRD	**Ribas do Rio P**	**15.31**	**90**	*e*P	**Pn**	**10 56 11.5**	**-0.2**
PDRB	**Porto dos Gac**	**16.03**	**55**	*e*P	**Pn**	**10 56 18.5**	**-2.2**
TBOT	**Tacuaremb**	**16.28**	**132**	*e*P	**Pn**	**10 56 22.4**	**-1.3**
C2SB	**Chapadao do Su**	**16.39**	**84**	*e*P	**Pn**	**10 56 24.7**	**-0.4**
PTGB

PRPB Paraupebas 24.74 55 eP P 10 57 52.9 -1.5
URMC La Uribe, Meta 24.82 350 P P 10 57 54.3 -0.8
comp=Z,825nmcomp=Z,94nm,0.9s
DIAM Diamantina, MG 25.00 88 eP P 10 57 56.3 -0.6
JANB Januaria 25.23 80 eP P 10 57 58.0 -0.9
JAMC Jamundi, Valle 25.27 344 P P 10 58 00.8 +1.4
comp=Z,594nmcomp=Z,40nm,1.3s
PRAC Prado 25.36 349 P P 10 58 00.9 +0.9
comp=Z,1µmcomp=Z,109nm,1.0s
BOAV Boa Vista 25.39 23 P P 10 58 00.3 0.0
BOAV IAmb IAmb 10 58 29.1
comp=Z,73nm,1.0s
BOAV Boa Vista 25.39 23 eP P 10 57 60.0 -0.3
PTGC Puerto Gaitan, 25.48 355 P P 10 57 59.3 -1.8
comp=Z,3µmcomp=Z,316nm,1.0s
SDBA SAO DESIDERIO 25.64 74 eP P 10 58 01.4 -1.2
DUB01 Friburgo-RJ 25.72 97 eP P 10 58 02.5 -0.8
YOTC Yotoco, Valle 25.93 346 P P 10 58 04.9 -0.4
comp=Z,371nmcomp=Z,23nm,0.9s
CHIC Chingaza 26.08 352 P P 10 58 06.7 -0.2
comp=Z,538nmcomp=Z,45nm,1.1s
BOG Bogota 26.12 351 P P 10 58 08.0 +0.8
MALC Bahia Malaga 26.21 343 P P 10 58 13.3 +5.7
ANIL Santa Ana 26.22 348 P P 10 58 12.4 +4.3
ROSC El Rosal 26.37 350 P P 10 58 10.7 +1.2
comp=Z,14nm,0.5s,baz=53,slow=16,SNR=5.9
ROSC LR LR 11 09 22.2
comp=Z,312nm,18.9s,baz=210,slow=38
comp=Z,14nm,0.5s
ROSC El Rosal 26.37 350 P P 10 58 11.7 +2.2
comp=Z,844nmcomp=Z,57nm,0.6s
CAM01 Campos-RJ 26.40 96 eP P 10 58 07.6 -1.8
PLMC San Jos del P 26.81 346 P P 10 58 13.9 +0.8
comp=Z,639nmcomp=Z,62nm,1.3s
CMAN1 Manizales, Cal 26.81 348 P P 10 58 12.0 -1.4
GUY2C Guyana, Caldas 26.93 348 P P 10 58 15.1 +0.5
comp=Z,582nmcomp=Z,65nm,0.8s
NORC Norcasia 27.17 349 P P 10 58 15.6 -0.7
comp=Z,54nm,0.8s
SJMB Sao Joao De Ma 27.24 90 eP P 10 58 16.0 -0.9
RUSC La Rusia 27.25 353 P P 10 58 17.5 0.0
RUSC La Rusia 27.25 353 P P 10 58 17.3 -0.2
comp=Z,2µmcomp=Z,226nm,0.8s
ALF01 Guarapari-ES 27.39 94 eP P 10 58 18.0 -0.2
TAMC Tame, Arauca 27.68 356 P P 10 58 20.3 -0.5
comp=Z,2µmcomp=Z,178nm,0.9s
CBOC Ciudad Bolivar 27.68 347 P P 10 58 20.7 -0.3
comp=Z,516nmcomp=Z,34nm,1.0s
RIB01 Linhares ES 27.88 91 eP P 10 58 21.7 -0.9
HELC Santa Helena 27.90 348 P P 10 58 19.7 -3.5
PTBC PUERTO BERRIO, 28.06 351 P P 10 58 21.5 -2.7
PAMC Pamplona, Colo 28.64 355 P P 10 58 29.2 -0.7
DBBC Dabeiba 28.84 347 P P 10 58 35.7 +4.4
GUA01 Guaratinga, BA 28.98 86 eP P 10 58 31.8 -0.6
ZARC Zaragoza, Cauc 29.06 350 P P 10 58 31.3 -1.8
comp=Z,517nmcomp=Z,58nm,0.8s
CMC01 Camacan, BA 29.56 84 eP P 10 58 36.9 -0.7
APAC Apartado, Choc 29.77 347 P P 10 58 40.1 +0.7
SDV Santo Domingo 30.06 359 P P 10 58 40.0 -2.2
SDV Santo Domingo 30.06 359 LR LR 11 12 17.9
comp=Z,130nm,19.6s,baz=208,slow=39
SDV Santo Domingo 30.06 359 eP P 10 58 40.8 -1.4
SDV Santo Domingo 30.06 359 P P 10 58 40.4 -1.8
comp=Z,27nm,0.9s
BAUV El Baul 30.18 4 P P 10 58 41.2 -1.9
GMAL Guarumal, Vera 30.95 338 P P 10 58 51.9 +2.1
SJCC San Jacinto, C 31.47 350 P P 10 58 50.9 -3.5
PCRV Puerto La Cruz 31.79 10 LR LR 11 13 34.3
comp=Z,166nm,18.4s,slow=40
BRU2 Volcan 32.43 336 IAmb IAmb 10 59 06.1
comp=Z,42nm,1.2s
NBPB Pedra_Branca-C 33.45 66 eP P 10 59 11.3 -0.6
PICV PH. Pirrs 33.78 334 eP P 10 59 17.0 +2.3
ABE2 San Pablo 33.79 335 eP P 10 59 17.0 +2.0
CVTV Tajo 33.95 335 eP P 10 59 19.4 +3.0
VICA Volcano Irazu 33.97 335 eP P 10 59 18.4 +1.7
NBAN Anadia - AL 34.49 76 eP P 10 59 20.0 -0.8
SOCE Pocosol 34.64 334 eP P 10 59 24.7 +2.7
JTS Las Juntas de 34.69 334 P P 10 59 23.9 +1.4
JTS Las Juntas de 34.69 334 P P 10 59 23.9 +1.4
JTS pmax pmax
comp=Z,13nm,0.8s
JTS Las Juntas de 34.69 334 P P 10 59 24.5 +2.0
COLC Colonia 35.13 334 eP P 10 59 28.1 +1.8
NBCA Caruaru-PE 35.32 73 eP P 10 59 26.5 -1.5
RCBR Riachuelo 36.50 70 P P 10 59 37.5 -0.6
RCBR Riachuelo 36.50 70 P P 10 59 37.5 -0.6
RCBR pmax pmax
comp=Z,73nm,0.8s
RCBR Riachuelo 36.50 70 eP P 10 59 38.0 0.0
RCBR Riachuelo 36.50 70 P P 10 59 37.8 -0.2
BOAB BOACO BROADBAN 36.93 334 IAmb IAmb 10 59 46.9
comp=Z,64nm,1.2s
IGPR InterUniversit 39.28 6 IAmb IAmb 10 59 59.7
comp=Z,40nm,0.7s
OBIP Obispado Ponce 39.31 5 IAmb IAmb 11 00 19.8
comp=Z,36nm,0.8s
SJG San Juan 39.42 6 P P 10 59 59.7 -2.8
SJG IAmb IAmb 11 00 00.7
comp=Z,43nm,0.8s
SJG San Juan 39.42 6 P P 10 59 59.7 -2.8
SJG pmax pmax
comp=Z,43nm,0.8s
SJG San Juan 39.42 6 P P 10 59 59.6 -2.8
MTO3 Montecristo 40.27 330 P P 11 00 10.9 +1.1
MTO3 IAmb IAmb 11 00 12.2
comp=Z,48nm,1.1s
ESQI Esquipulas 40.41 330 P P 11 00 12.1 +1.3
ESQI IAmb IAmb 11 00 13.5
comp=Z,60nm,1.0s
HOPE Hope Point 41.52 151 P P 11 00 21.6 +2.2
HOPE pP pP 11 00 40.2 +2.1
PETF Flores 42.71 331 IAmb IAmb 11 00 31.7
comp=Z,38nm,1.0s
TEIG Tepich 45.01 335 P P 11 00 47.5 -0.4
TEIG IAmb IAmb 11 00 48.5
comp=Z,33nm,0.8s
TEIG Tepich 45.01 335 P P 11 00 47.8 -0.1
TEIG pP pP 11 01 06.6 +0.3
CMIG Matias Romero 45.30 326 P P 11 00 51.0 +0.7
comp=Z,12nm,0.9s,baz=136,slow=5.9,SNR=14
CMIG LR LR 11 16 35.2
comp=Z,50nm,21.3s,baz=149,slow=32
comp=Z,12nm,0.9s
TLIG Tlapa 47.72 322 IAmb IAmb 11 01 12.2
comp=Z,25nm,1.0s
DWPF Disney Wildern 50.40 347 P P 11 01 29.1 -0.3
DWPF pP pP 11 01 47.8 -0.6
DWPF sP sP 11 01 57.2 +0.1
TIGA Tifton 54.08 346 IAmb IAmb 11 01 57.1
comp=Z,26nm,0.9s
ZAIG Zacatecas 54.11 322 P P 11 01 59.1 +1.6
ZAIG pP pP 11 02 18.8 +2.3
250A Grady 55.26 343 IAmb IAmb 11 02 05.4
comp=Z,42nm,1.0s
152A Waverly Hall 55.52 345 IAmb IAmb 11 02 07.1
comp=Z,21nm,0.9s
Y60A Bolivia 55.60 352 P P 11 02 08.0 +0.3
Y60A pP 11 02 27.5 +0.7
X58A Rowland 56.30 351 IAmb IAmb 11 02 13.5
comp=Z,28nm,0.7s
JSC Jenkinsville 56.35 349 IAmb IAmb 11 02 13.6
comp=Z,16nm,0.8s
BIRD Birdtown, Kers 56.57 350 IAmb IAmb 11 02 15.3
comp=Z,31nm,0.8s
HKT Hockley 56.73 333 P P 11 02 16.3 +0.6
HKT IAmb IAmb 11 02 16.9
comp=Z,20nm,0.9s
HKT Hockley 56.73 333 P P 11 02 16.3 +0.6
HKT pmax pmax
comp=Z,19nm,1.0s
HKT Hockley 56.73 333 P P 11 02 16.1 +0.5
HKT sP sP 11 02 43.5 +0.3
Z47A Carrollton 56.91 342 IAmb IAmb 11 02 16.9
comp=Z,19nm,0.9s
PAULI Pauline 56.98 348 IAmb IAmb 11 02 17.6
comp=Z,16nm,0.7s
W57A Gilead 56.99 350 P P 11 02 17.0 -0.6
W57A IAmb IAmb 11 02 18.2
comp=Z,18nm,0.9s
BG3 Lake Jocassee 57.36 347 IAmb IAmb 11 02 20.7
comp=Z,14nm,0.8s
X51A Calhoun 57.37 346 IAmb IAmb 11 02 20.4
comp=Z,26nm,0.9s
V58A Windy Hill, Pi 57.49 351 IAmb IAmb 11 02 21.8
comp=Z,22nm,0.9s
W52A Murphy 57.67 347 IAmb IAmb 11 02 22.7
comp=Z,20nm,0.9s
X48A Hartselle 57.81 343 IAmb IAmb 11 02 23.3
comp=Z,28nm,0.8s
V55A Taylorsville 57.87 349 IAmb IAmb 11 02 24.7
comp=Z,26nm,0.8s
V53A Saluda 57.99 348 IAmb IAmb 11 02 24.9
comp=Z,15nm,0.7s
W50A Signal Mountai 58.08 345 IAmb IAmb 11 02 25.4
comp=Z,26nm,0.9s
CPCT Cooper Cave 58.14 346 IAmb IAmb 11 02 25.8
comp=Z,30nm,1.1s
TKL Tuckaleechee C 58.18 347 IAmb IAmb 11 02 25.9
comp=Z,24nm,0.8s
TKL Tuckaleechee C 58.18 347 P P 11 02 25.0 -0.9
comp=Z,24nm,0.8s,baz=166,slow=8.8,SNR=30
TKL LR LR 11 28 14.0
comp=Z,32nm,19.0s,baz=170,slow=37
comp=Z,24nm,0.8s
435B Jarrell 58.20 332 IAmb IAmb 11 02 27.2
comp=Z,29nm,0.8s
U56A King 58.22 350 IAmb IAmb 11 02 27.4
comp=Z,21nm,0.7s
DRIO Del Rio 58.45 329 IAmb IAmb 11 02 29.4
comp=Z,24nm,0.8s
T59A Double "B" Far 58.45 353 P P 11 02 28.0 +0.3
T59A pP 11 02 47.1 +0.1
PLAL Pickwick Lake 58.59 343 IAmb IAmb 11 02 28.2
comp=Z,26nm,1.1s
T57A Hurt 58.69 351 IAmb IAmb 11 02 30.5
comp=Z,40nm,1.2s
JCT Junction City 58.94 330 P P 11 02 31.5 +0.1
JCT IAmb IAmb 11 02 32.4
comp=Z,33nm,1.0s
JCT Junction City 58.94 330 P P 11 02 31.5 +0.1
JCT pmax pmax
comp=Z,33nm,1.0s
BLA Blacksburg 59.07 350 IAmb IAmb 11 02 32.8
comp=Z,16nm,0.7s
HPIG 59.11 323 IAmb IAmb 11 02 34.3
comp=Z,15nm,0.7s
CLTN Cedars of Leba 59.18 345 IAmb IAmb 11 02 32.9
comp=Z,18nm,0.8s
BRDY Brady 59.25 331 IAmb IAmb 11 02 34.1
comp=Z,20nm,0.7s
SLBS Sierra La Lagu 59.27 317 P P 11 02 35.5 +1.8
SLBS Sierra La Lagu 59.27 317 P P 11 02 35.4 +1.6
SLBS pP pP 11 02 54.8 +1.8
S57A Dark Hollow, R 59.40 352 IAmb IAmb 11 02 35.6
comp=Z,34nm,0.9s
U49A Red Boiling Sp 59.45 345 IAmb IAmb 11 02 34.0
comp=Z,18nm,0.6s
R58B Mineral 59.47 353 IAmb IAmb 11 02 36.1
comp=Z,29nm,0.9s
WVT Waverly 59.60 343 P P 11 02 34.5 -1.2
WVT Waverly 59.60 343 P P 11 02 34.5 -1.2
WVT pmax pmax
comp=Z,31nm,0.8s
WVT Waverly 59.60 343 P P 11 02 33.8 -1.9
WVT pP pP 11 02 53.8 -1.1
WVT sP sP 11 03 01.5 -2.1
SAND Sanderson 59.62 328 IAmb IAmb 11 02 37.6
comp=Z,34nm,1.0s
UALR University of 59.71 339 IAmb IAmb 11 02 37.0
comp=Z,25nm,0.9s
T50A Nancy 59.72 346 IAmb IAmb 11 02 36.3
comp=Z,14nm,0.7s
LPIG La Paz 59.79 317 P P 11 02 38.6 +1.4
comp=Z,26nm,0.9s,baz=191,slow=1.5,SNR=5.7
LPIG LR LR 11 24 01.2
comp=Z,50nm,19.7s,baz=137,slow=31
comp=Z,26nm,0.9s
TXAR Lajitas Array 59.91 326 P P 11 02 38.6 +0.5
TXAR Lajitas Array 59.91 326 P P 11 02 38.4 +0.3
comp=Z,7.1nm,0.8s,baz=148,slow=8.5,SNR=79
TXAR PcP PcP 11 03 24.6 +0.9
comp=Z,1.5nm,0.6s,baz=149,slow=5.1,SNR=4.0
comp=Z,7.1nm,0.8s
OZNA Ozona 59.93 329 IAmb IAmb 11 02 39.1
comp=Z,51nm,1.3s
WHAR Wooly Hollow 60.16 339 IAmb IAmb 11 02 40.0
comp=Z,24nm,0.9s
PLPT Palo Pinto 60.26 333 IAmb IAmb 11 02 41.3
comp=Z,24nm,0.9s
LCAR Lake Charles 60.51 340 IAmb IAmb 11 02 41.9
comp=Z,24nm,0.7s
VNA3 Neumayer Olymp 60.55 161 ⇓P P 11 02 43.4 +1.6
comp=Z,3.2nm,0.7s
VNA3 ⇓pP pP 11 03 02.7 +1.0
VNA3 ⇓PcP PcP 11 03 22.9 -2.8
VNA3 ⇓PP PP 11 04 51.1 -4.7
VNA3 ⇑ScP ScP 11 07 07.7 -13
ALPN Alpine 60.73 327 IAmb IAmb 11 02 44.5
comp=Z,13nm,0.8s
VNA1 Neumayer--Stat 60.77 160 ⇑pP pP 11 03 03.3 +0.2
R50A Paris 60.82 347 IAmb IAmb 11 02 43.5
comp=Z,13nm,0.8s
P57A Homestead Farm 60.98 353 IAmb IAmb 11 02 46.9
comp=Z,24nm,0.8s
SSFO Shawnee State 61.00 348 IAmb IAmb 11 02 44.8
comp=Z,11nm,0.7s
R49A Shelbyville 61.01 346 IAmb IAmb 11 02 45.0
comp=Z,18nm,1.0s
Q52A Bidwell 61.09 349 IAmb IAmb 11 02 46.0
comp=Z,20nm,0.8s
VNA2 Neumayer--Watz 61.14 161 ⇓P P 11 02 47.4 +1.6
comp=Z,1.7nm,0.6s,baz=327,slow=9.1
VNA2 ⇓pP pP 11 03 06.0 +0.4
baz=302,slow=8.5
VNA2 ⇓PcP PcP 11 03 26.5 -1.5
baz=330,slow=12
VNA2 ⇑PP PP 11 04 57.5 -3.5
baz=64,slow=33
VNA2 ⇓ScP ScP 11 07 10.8 -12
baz=332,slow=8.1
WTFS Witchita Falls 61.14 333 P P 11 02 46.4 +0.1
WUPA West Chester U 61.19 355 IAmb IAmb 11 02 47.5
comp=Z,10nm,0.7s
CGM3 Cape Girardeau 61.20 342 IAmb IAmb 11 02 46.7
comp=Z,37nm,1.0s
WCI Wyandotte Cave 61.20 345 P P 11 02 45.6 -1.0
WCI Wyandotte Cave 61.20 345 P P 11 02 45.6 -1.0
WCI pmax pmax
comp=Z,33nm,0.7s
MVL Millersville 61.32 354 IAmb IAmb 11 02 48.6
comp=Z,27nm,0.8s
Q51A Peebles 61.35 348 IAmb IAmb 11 02 47.6
comp=Z,28nm,1.1s
T42A Van Buren 61.37 341 IAmb IAmb 11 02 47.5
comp=Z,15nm,0.8s
P53A Whipple 61.45 350 IAmb IAmb 11 02 48.9
comp=Z,25nm,0.8s
X34A Smith Ranch, M 61.60 334 pP 11 03 11.3 +2.6
PECS Pecos 61.65 327 IAmb IAmb 11 02 51.3
comp=Z,21nm,0.6s
W35A Tecumseh 61.70 335 P P 11 02 49.6 -0.4
W35A pP 11 03 08.9 -0.5
P51A Williamsport 61.73 349 IAmb IAmb 11 02 49.5
comp=Z,21nm,0.7s
LUPA Lehigh Univers 61.84 355 IAmb IAmb 11 02 51.5
comp=Z,16nm,0.8s
U38A Gravette 61.92 338 IAmb IAmb 11 02 51.9
comp=Z,16nm,0.8s
O54A Avella 61.98 351 IAmb IAmb 11 02 52.1
comp=Z,14nm,0.7s
FNO Franklin 62.00 335 IAmb IAmb 11 02 52.4
comp=Z,24nm,0.9s
SSPA Standing Stone 62.11 353 P P 11 02 52.8 +0.1
SSPA Standing Stone 62.11 353 P P 11 02 52.7 +0.1
WMOK Wichita Mounta 62.11 333 P P 11 02 51.8 -1.0
OLIL Olney 62.13 344 IAmb IAmb 11 02 52.2
comp=Z,30nm,0.8s
DKNS Dickens 62.13 331 IAmb IAmb 11 02 53.7
comp=Z,24nm,0.9s
O52A Adamsville 62.14 350 IAmb IAmb 11 02 52.6
comp=Z,21nm,0.6s
P48A Milroy 62.19 347 IAmb IAmb 11 02 52.0
comp=Z,22nm,0.6s
CCM Cathedral Cave 62.37 341 P P 11 02 53.7 -0.7
CCM IAmb IAmb 11 02 54.6
comp=Z,37nm,0.9s
CCM Cathedral Cave 62.37 341 P P 11 02 53.7 -0.7
CCM pmax pmax
comp=Z,37nm,1.0s
CCM Cathedral Cave 62.37 341 P P 11 02 53.3 -1.1
CCM sP sP 11 03 21.2 -0.9
QUOK Quay 62.53 336 P P 11 02 55.4 -0.2
QUOK pP 11 03 14.4 -0.5
O49A Covington 62.66 348 IAmb IAmb 11 02 56.1
comp=Z,37nm,1.0s
SNAA Sanae 62.76 161 P P 11 02 58.2 +1.4
SNAA pP pP 11 03 17.4 +0.7
SNAA Sanae 62.76 161 ⇓P P 11 02 58.0 +1.2
comp=Z,60nm,0.7s
SNAA ⇑pP pP 11 03 17.3 +0.7
SNAA ⇑sP sP 11 03 25.5 +0.3
SNAA ⇑PcP PcP 11 03 32.3 -2.4
SNAA Sanae 62.76 161 P P 11 02 57.8 +1.0
comp=Z,3.4nm,0.8s,baz=271,slow=8.6,SNR=7.7
SNAA pP pP 11 03 17.4 +0.7
comp=Z,9.1nm,0.8s,baz=304,slow=6.5,SNR=9.0
comp=Z,3.4nm,0.8s
SNAA Sanae 62.76 161 P P 11 02 58.2 +1.4
SNAA *PP pP 11 03 17.4 +0.7
SNAA pmax pmax
comp=Z,16nm,0.9s
KSPA Keystone Colle 62.82 355 IAmb IAmb 11 02 58.6
comp=Z,21nm,0.7s
O48B Farmland 62.89 347 IAmb IAmb 11 02 57.5
comp=Z,50nm,1.1s
T35A Sooner Cattle 63.11 336 IAmb IAmb 11 03 00.8
comp=Z,42nm,1.1s
EPT El Paso 63.33 326 IAmb IAmb 11 03 02.3
comp=Z,25nm,0.8s
BINY Binghamton 63.48 355 IAmb IAmb 11 03 02.7
comp=Z,23nm,0.8s
ELIS Ellis County 63.51 334 IAmb IAmb 11 03 03.2
comp=Z,38nm,1.0s
L61B Northampton 63.54 358 IAmb IAmb 11 03 03.1
comp=Z,24nm,0.8s
L56A Greenwood 63.56 354 IAmb IAmb 11 03 02.8
comp=Z,18nm,0.8s
HRV Adam Dziewonsk 63.56 359 P P 11 03 02.9 +0.7
HRV IAmb IAmb 11 03 03.6
comp=Z,30nm,0.7s
HRV Adam Dziewonsk 63.56 359 P P 11 03 02.9 +0.7
HRV pmax pmax
comp=Z,30nm,0.7s
HRV Adam Dziewonsk 63.56 359 P P 11 03 02.6 +0.4
HRV pP pP 11 03 22.4 +0.5
HRV sP sP 11 03 30.8 +0.4
KAN13 South Haven SW 63.56 336 IAmb IAmb 11 03 03.2
comp=Z,52nm,0.9s
BBTS Babate 63.56 60 LR LR 11 28 48.5
comp=Z,117nm,21.6s,baz=139,slow=34
OK038 West end E0370 63.59 334 IAmb IAmb 11 03 03.2
comp=Z,38nm,1.0s
OK032 Salt Plains WL 63.66 335 IAmb IAmb 11 03 03.2
comp=Z,22nm,0.7s
KAN17 Caldwell West 63.70 335 IAmb IAmb 11 03 03.6
comp=Z,25nm,0.7s
KAN14 Manchester OK 63.70 335 IAmb IAmb 11 03 03.8
comp=Z,73nm,1.5s
KAN09 Caldwell North 63.72 336 IAmb IAmb 11 03 04.3
comp=Z,51nm,0.9s
HSIG 63.74 320 IAmb IAmb 11 03 06.3
comp=Z,67nm,1.6s
KAN01 Argonia South 63.79 336 IAmb IAmb 11 03 04.8
comp=Z,42nm,0.9s
TRY Troy 63.86 357 IAmb IAmb 11 03 05.8
comp=Z,42nm,0.8s
P40A Paris 63.97 341 IAmb IAmb 11 03 05.1
comp=Z,40nm,0.7s
J61A Chester 64.43 358 IAmb IAmb 11 04 43.9
comp=Z,87nm,1.9s
TROLL Troll, Antarti 64.48 161 ⇓P P 11 03 09.7 +1.5
comp=Z,74nm,0.5s
TROLL ⇓pP pP 11 03 28.8 +0.8
TROLL ⇑PcP PcP 11 03 41.8 0.0
TROLL ⇓PP PP 11 05 26.4 -4.1
P38A Dawn 64.51 340 IAmb IAmb 11 03 08.8
comp=Z,30nm,0.9s
319A Douglas 64.53 323 IAmb IAmb 11 03 11.5
comp=Z,47nm,0.8s
J59A Piesco 64.63 356 P P 11 03 09.6 +0.3
J59A IAmb IAmb 11 03 10.7
comp=Z,34nm,1.1s
J59A pP pP 11 03 30.7 +1.6
N41A Harden Midland 64.71 343 IAmb IAmb 11 03 09.5
comp=Z,37nm,0.7s
KSU1 Kansas State U 65.08 337 IAmb IAmb 11 03 12.5
comp=Z,31nm,1.0s
DUN6 Lazy B Ranch 65.32 324 IAmb IAmb 11 03 16.7
comp=Z,63nm,1.1s
Y22D IRIS PASSCAL I 65.35 327 IAmb IAmb 11 03 16.9
comp=Z,31nm,0.7s
N38A Joes South For 65.48 341 IAmb IAmb 11 03 15.0
comp=Z,48nm,0.9s
J47A Sunmer 65.70 348 IAmb IAmb 11 03 15.9
comp=Z,46nm,0.9s
ANMO Albuquerque 65.80 328 P P 11 03 17.8 +0.5
ANMO Albuquerque 65.80 328 P P 11 03 18.3 +1.0
comp=Z,12nm,0.8s,baz=300,slow=6.8,SNR=66
comp=Z,12nm,0.8s
FRNY Flat Rock 65.95 357 P P 11 03 18.0 +0.3
FRNY pP 11 03 37.1 -0.5
CBKS Cedar Bluff 66.01 335 P P 11 03 18.5 +0.2
L40A Anamosa 66.07 343 IAmb IAmb 11 03 18.6
comp=Z,41nm,1.0s
TUC Tucson 66.07 323 P P 11 03 20.0 +1.1
TUC Tucson 66.07 323 P P 11 03 20.0 +1.1
TUC pmax pmax
comp=Z,26nm,1.3s
G62A West of Eustis 66.26 360 IAmb IAmb 11 03 21.5
comp=Z,40nm,0.8s
G62A pP 11 03 41.4 +1.8
N35A Tabor 66.32 339 IAmb IAmb 11 03 20.4
comp=Z,46nm,0.8s
SADO Sadowa 66.33 353 LR LR 11 35 20.2
comp=Z,32nm,18.8s,baz=52,slow=39
SCIA State Center 66.50 341 IAmb IAmb 11 03 21.6
comp=Z,48nm,0.9s
T25A Trinidad 66.59 331 IAmb IAmb 11 03 24.2
comp=Z,86nm,1.9s
JFWS Jewell Farm 66.61 344 IAmb IAmb 11 03 22.1
comp=Z,33nm,0.7s
MNTQ Montreal, Queb 66.62 357 IAmb IAmb 11 03 23.2
comp=Z,33nm,0.9s
TRQ Mont Tremblant 67.39 357 P P 11 03 27.0 +0.1
TRQ pP pP 11 03 47.1 +0.3
SFX San Felipe 67.54 319 IAmb IAmb 11 03 30.8
comp=Z,26nm,0.8s
SDCO Great Sand Dun 67.59 330 IAmb IAmb 11 03 30.7
comp=Z,57nm,1.3s
I40A Norwalk 67.62 344 IAmb IAmb 11 03 28.3
comp=Z,24nm,0.9s
E62A Clayton Lake 67.66 0 P P 11 03 29.3 +0.7
D62A Allapoint, All 68.13 1 IAmb IAmb 11 03 32.8
comp=Z,26nm,0.8s
VTX Valle De La Tr 68.36 319 IAmb IAmb 11 03 36.4
comp=Z,35nm,1.2s
BATG Bathurst New B 68.41 3 P P 11 03 33.8 +0.5
BATG IAmb IAmb 11 03 34.6
comp=Z,25nm,0.9s
Q24A Divide 68.42 331 IAmb IAmb 11 03 35.8
comp=Z,31nm,0.8s
I37A Lemond, Waseca 68.48 342 IAmb IAmb 11 03 34.1
comp=Z,44nm,1.0s
MVCO Mesa Verde 68.60 328 IAmb IAmb 11 03 37.2
comp=Z,36nm,0.8s
OGNE Ogallala 68.74 335 IAmb IAmb 11 03 37.0
comp=Z,35nm,0.8s
WUAZ Wupatki 68.79 325 IAmb IAmb 11 03 39.1
comp=Z,48nm,1.0s
QSPA South Pole Qui 68.83 180 P P 11 03 38.0 +2.1
QSPA South Pole Qui 68.83 180 P P 11 03 37.7 +1.8
comp=Z,5.3nm,0.9s,baz=275,slow=0.4,SNR=31
QSPA pP pP 11 03 56.9 +1.0
comp=Z,14nm,0.9s,baz=138,slow=2.2,SNR=11
comp=Z,5.3nm,0.9s
QSPA South Pole Qui 68.83 180 P P 11 03 37.7 +1.8
QSPA pP pP 11 03 57.6 +1.6
QSPA sP sP 11 04 05.6 +1.2
ESJX Sierra Juarez 68.88 319 IAmb IAmb 11 03 39.9
comp=Z,35nm,1.4s
GLA Glamis 68.95 321 IAmb IAmb 11 03 39.9
comp=Z,92nm,1.9s
ECSD EROS Data Cent 69.21 340 IAmb IAmb 11 03 39.0
comp=Z,29nm,1.2s
BLYC Blythe 69.27 321 IAmb IAmb 11 03 41.8
comp=Z,22nm,0.8s
BLYC PcP 11 04 02.7 +0.6
ISCO Idaho Springs 69.31 331 P P 11 03 40.0 +0.6

YUH	**Yuha Desert**	**69.32 320**	P	**P**	**11 03 40.0 +0.8**	
BRIGG	**Briggsdale**	**69.38 333**	IAmb	IAmb	11 03 41.9	
	comp=Z,60nm,1.0s					
VLDQ	**Val d'Or**	**69.47 355**	IAmb	IAmb	11 03 40.9	
	comp=Z,36nm,1.4s					
VLDQ				pP	11 03 60.0	+0.4
PV15	**Paradox Valley**	**69.48 329**	IAmb	IAmb	11 03 43.1	
	comp=Z,50nm,0.9s					
PV13	**Radium Mtn., P**	**69.50 328**	IAmb	IAmb	11 03 42.8	
	comp=Z,34nm,1.0s					
CBX	**Cerro Bola**	**69.53 319**	IAmb	IAmb	11 03 43.8	
	comp=Z,35nm,1.0s					
PV11	**David Mesa, Pa**	**69.64 328**	IAmb	IAmb	11 03 44.3	
	comp=Z,32nm,1.3s					
TKX	**Tecate**	**69.68 319**	IAmb	IAmb	11 03 44.4	
	comp=Z,41nm,1.1s					
DBIC	**Dimbokro**	**69.73 74**	P	**P**	**11 03 41.9 -0.3**	
	comp=Z,9.7nm,0.9s,baz=228,slow=4.0,SNR=5.0					
DBIC			LR	LR	11 32 49.0	
	comp=Z,84nm,20.6s,baz=193,slow=35					
	comp=Z,9.7nm,0.9s					
DBIC	**Dimbokro**	**69.73 74**	P	**P**	**11 03 41.9 -0.3**	
DBIC			pP	**pP**	**11 04 01.2 -1.0**	
DBIC			sP	**sP**	**11 04 09.4 -1.1**	
PV23	**Carpenter Ridg**	**69.82 328**	IAmb	IAmb	11 03 44.7	
	comp=Z,30nm,1.0s					
U15A	**North Rim**	**69.97 325**	IAmb	IAmb	11 03 46.7	
	comp=Z,33nm,1.0s					
PFO	**Pinyon Flats O**	**70.31 320**	P	**P**	**11 03 46.4 +0.9**	
PFO			IAmb	IAmb	11 03 48.4	
	comp=Z,32nm,1.2s					
PFO	**Pinyon Flats O**	**70.31 320**	P	**P**	**11 03 46.6 +1.1**	
	comp=Z,15nm,1.0s,baz=127,slow=4.7,SNR=14					
PFO			LR	LR	11 30 40.0	
	comp=Z,44nm,20.1s,baz=114,slow=32					
	comp=Z,15nm,1.0s					
PFO	**Pinyon Flats O**	**70.31 320**	P	**P**	**11 03 47.0 +1.6**	
PFO			pP	**PcP**	**11 04 06.9 +0.2**	
ICQ	**Pointe Anglais**	**70.61 2**	P	**P**	**11 03 47.1 +0.4**	
ICQ			IAmb	IAmb	11 03 47.7	
	comp=Z,51nm,0.8s					
SUSD	**Miller**	**70.62 338**	IAmb	IAmb	11 03 47.5	
	comp=Z,27nm,0.8s					
O20A	**White River Ci**	**70.78 330**	IAmb	IAmb	11 03 50.5	
	comp=Z,40nm,0.9s					
V12A	**Nelson**	**70.87 323**	IAmb	IAmb	11 03 51.5	
	comp=Z,31nm,1.0s					
ELS	**Elsinore Mount**	**70.92 320**	IAmb	IAmb	11 03 52.0	
	comp=Z,31nm,1.1s					
ELIB	**Princess Elisa**	**70.92 161**	*d*P	**P**	**11 03 49.8 +1.1**	
	comp=Z,7.7nm,1.2s					
SRU	**San Rafael Swe**	**71.08 328**	IAmb	IAmb	11 03 52.2	
	comp=Z,43nm,0.7s					
Q16A	**Castle Valley**	**71.26 327**	IAmb	IAmb	11 03 54.0	
	comp=Z,24nm,0.8s					
P18A	**Preston Nutter**	**71.34 328**	IAmb	IAmb	11 03 54.3	
	comp=Z,42nm,0.8s					
TCRU	**Three Creeks R**	**71.68 326**	IAmb	IAmb	11 03 56.6	
	comp=Z,23nm,0.8s					
GSC	**Goldstone, Bar**	**71.69 321**	IAmb	IAmb	11 03 56.8	
	comp=Z,74nm,1.7s					
PRN	**Pahroc Range**	**72.19 324**	IAmb	IAmb	11 04 00.0	
	comp=Z,28nm,1.1s					
GWY	**Greenwater Val**	**72.23 322**	IAmb	IAmb	11 03 59.6	
	comp=Z,29nm,0.8s					
BSUT	**Blindstream Ca**	**72.29 329**	IAmb	IAmb	11 04 00.1	
	comp=Z,32nm,0.7s					
CCAC	**Calif City Air**	**72.30 320**	IAmb	IAmb	11 04 00.1	
	comp=Z,36nm,0.8s					
MPU	**Maple Canyon**	**72.32 328**	IAmb	IAmb	11 04 00.0	
	comp=Z,29nm,1.0s					
PSUT	**Pine Spring**	**72.36 325**	IAmb	IAmb	11 04 00.7	
	comp=Z,25nm,0.8s					
TPNV	**Topopah Spring**	**72.53 323**	IAmb	IAmb	11 04 02.1	
	comp=Z,33nm,1.0s					
TPNV	**Topopah Spring**	**72.53 323**	P	**P**	**11 04 00.9 +2.1**	
WCT	**Wildcat Mounta**	**72.63 322**	IAmb	IAmb	11 04 02.6	
	comp=Z,37nm,1.0s					
S11A	**Rachel**	**72.74 324**	IAmb	IAmb	11 04 03.0	
	comp=Z,26nm,1.0s					
ISA	**Isabella, Lake**	**72.92 320**	IAmb	IAmb	11 04 04.0	
	comp=Z,27nm,0.8s					
BCW	**Bitter Crk WRg**	**73.00 319**	IAmb	IAmb	11 04 04.6	
	comp=Z,33nm,1.1s					
DUG	**Dugway, Tooele**	**73.05 327**	IAmb	IAmb	11 04 04.5	
	comp=Z,25nm,0.9s					
DUG	**Dugway, Tooele**	**73.05 327**	P	**P**	**11 04 03.0 +1.2**	
TCUT	**Toone Canyon**	**73.05 329**	IAmb	IAmb	11 04 04.1	
	comp=Z,20nm,0.8s					
PDAR	**Pinedale Array**	**73.46 331**	P	**P**	**11 04 04.5 +0.3**	
	comp=Z,3.9nm,0.6s,baz=138,slow=7.0,SNR=54					
	comp=Z,3.9nm,0.6s					
HWUT	**Hardware Ranch**	**73.50 329**	IAmb	IAmb	11 04 07.6	
	comp=Z,30nm,0.8s					
AHID	**Auburn Hatcher**	**74.17 330**	IAmb	IAmb	11 04 10.2	
	comp=Z,44nm,0.8s					
HVU	**Hansel Valley**	**74.22 328**	IAmb	IAmb	11 04 10.6	
	comp=Z,24nm,1.0s					
PPT	**Papeete**	**74.31 257**	LR	LR	11 29 52.4	
	comp=Z,71nm,18.9s,baz=90,slow=30					
SNOW	**Snow King Moun**	**74.55 330**	IAmb	IAmb	11 04 12.7	
	comp=Z,26nm,0.8s					
TPAW	**Teton Pass**	**74.66 330**	IAmb	IAmb	11 04 12.4	
	comp=Z,23nm,0.8s					
PMPB	**Monarch Peak**	**74.69 320**	P	**P**	**11 04 13.1 +1.7**	
PMPB			IAmb	IAmb	11 04 14.5	
	comp=Z,28nm,1.1s					
ELK	**Elko**	**74.70 326**	P	**P**	**11 04 12.4 +0.8**	
LHV	**Little Huntoon**	**74.72 322**	IAmb	IAmb	11 04 14.5	
	comp=Z,21nm,0.9s					
NVAR	**Mina Array Bea**	**74.73 323**	P	**P**	**11 04 13.2 +1.5**	
	comp=Z,9.4nm,0.8s,baz=152,slow=6.5,SNR=54					
NVAR			pP	**pP**	**11 04 32.6 +1.0**	
	comp=Z,1.9nm,0.7s,baz=115,slow=5.1,SNR=3.4					
NVAR			LR	LR	11 34 14.1	
	comp=Z,47nm,18.7s,baz=166,slow=33					
	comp=Z,9.4nm,0.8s					
ULM	**Lac du Bonnet**	**74.87 343**		pP	11 04 32.0	0.0
ULM	**Lac du Bonnet**	**74.87 343**	P	**P**	**11 04 11.1 -0.9**	
	comp=Z,11nm,0.7s,baz=152,slow=6.1,SNR=29					
ULM			pP	**pP**	**11 04 32.4 +0.3**	
	comp=Z,3.0nm,0.6s,baz=125,slow=9.6,SNR=2.9					
ULM			LR	LR	11 39 41.6	
	comp=Z,27nm,18.2s,baz=79,slow=38					
	comp=Z,11nm,0.7s					
RLMT	**Red Lodge**	**75.19 332**	IAmb	IAmb	11 04 16.4	
	comp=Z,26nm,0.8s					
LAO	**LASA Array**	**75.20 335**	P	**P**	**11 04 14.6 +0.5**	
LAO			IAmb	IAmb	11 04 15.9	
	comp=Z,43nm,1.1s					
LAO			pP	**pP**	**11 04 34.5 +0.5**	
LKWY	**Lake**	**75.25 331**	IAmb	IAmb	11 04 17.9	
	comp=Z,28nm,0.9s					
LKWY	**Lake**	**75.25 331**	P	**P**	**11 04 16.9 +2.2**	
WAKR	**Walker**	**75.42 322**	IAmb	IAmb	11 04 18.9	
	comp=Z,40nm,1.5s					
YMR	**Madison River**	**75.58 331**	IAmb	IAmb	11 04 19.5	
	comp=Z,34nm,0.9s					
YHB	**Horse Butte**	**75.75 331**	IAmb	IAmb	11 04 20.2	
	comp=Z,28nm,0.8s					
YHL	**Hebgen Lake**	**75.82 331**	IAmb	IAmb	11 04 20.9	
	comp=Z,58nm,1.5s					
PNTR	**Pine Nut**	**75.92 322**	IAmb	IAmb	11 04 21.5	
	comp=Z,21nm,0.8s					
DGMT	**Dagmar**	**75.93 337**	P	**P**	**11 04 19.1 +0.9**	
DGMT			IAmb	IAmb	11 04 20.1	
	comp=Z,46nm,0.9s					
DGMT				**pP**	**11 04 38.4 +0.2**	
SCHQ	**Schefferville**	**75.93 2**	P	**P**	**11 04 18.1 +0.1**	
	comp=Z,7.8nm,0.8s,baz=197,slow=4.6,SNR=9.0					
	comp=Z,7.8nm,0.8s					
PAHR	**Pah Rah Range**	**76.22 323**	IAmb	IAmb	11 04 23.0	
	comp=Z,35nm,0.9s					
HLID	**Hailey**	**76.36 328**	IAmb	IAmb	11 04 23.7	
	comp=Z,23nm,0.9s					
VNDA	**Vanda**	**76.80 190**	P	**P**	**11 04 24.6 +1.8**	
	comp=Z,2.9nm,0.8s,baz=4.6,slow=2.9,SNR=3.5					
	comp=Z,2.9nm,0.8s					
DLMT	**Dillon**	**76.86 331**	IAmb	IAmb	11 04 26.1	
	comp=Z,43nm,1.4s					
MFID	**Camas Ranch**	**76.95 328**	IAmb	IAmb	11 04 26.9	
	comp=Z,31nm,1.2s					
SYO	**Syowa Base**	**77.01 160‖**	*e*P	**P**	**11 04 21.2 -2.8**	
SYO	**Syowa Base**	**77.01 160‖**	*e*PcP	**PcP**	**11 04 33.4 -1.3**	
SYO	**Syowa Base**	**77.01 160‖**	*e*pP	pP	11 04 41.2 -3.3	
ORV	**Oroville**	**77.32 322**	IAmb	IAmb	11 04 28.9	
	comp=Z,32nm,1.1s					
EGMT	**Eagleton**	**77.70 334**	IAmb	IAmb	11 04 29.7	
	comp=Z,25nm,1.0s					
PLID	**Pearl Lake**	**78.25 329**	IAmb	IAmb	11 04 33.6	
	comp=Z,27nm,0.9s					
TORD	**Torodi Ar. Bea**	**78.32 71**	P	**P**	**11 04 32.2 0.0**	
	comp=Z,10.0nm,0.7s,baz=273,slow=5.6,SNR=10					
	comp=Z,10.0nm,0.7s					
K04D	**Chiloquin, OR**	**79.51 324**	IAmb	IAmb	11 04 40.5	
	comp=Z,35nm,0.8s					
SUR	**Sutherland**	**79.57 121**	LR	LR	11 37 12.8	
	comp=Z,52nm,20.3s,baz=207,slow=34					
PINE	**Pine Mountain**	**79.85 325**	IAmb	IAmb	11 04 43.0	
	comp=Z,30nm,0.9s					
FFC	**Flin Flon**	**80.56 342**	P	**P**	**11 04 43.6 0.0**	
FFC	**Flin Flon**	**80.56 342**	P	**P**	**11 04 43.6 0.0**	
FFC			pmax	pmax		
	comp=Z,16nm,1.2s					
F07A	**Phinny Hill Vi**	**80.77 327**	IAmb	IAmb	11 04 47.6	
	comp=Z,63nm,1.6s					
HAWA	**Hanford**	**80.92 328**	P	**P**	**11 04 46.6 +0.9**	
HAWA			IAmb	IAmb	11 04 48.0	
	comp=Z,32nm,0.8s					
HAWA				**pP**	**11 05 06.5 +0.6**	
NEW	**Newport**	**81.09 330**	P	**P**	**11 04 46.6 0.0**	
	comp=Z,3.4nm,0.8s,baz=168,slow=3.7,SNR=8.3					
NEW			LR	LR	11 42 30.2	
	comp=Z,33nm,18.4s,baz=138,slow=37					
	comp=Z,3.4nm,0.8s					
TSUM	**Tsumeb**	**81.11 107**	P	**P**	**11 04 47.3 -0.2**	
BUCK	**Buck Mountain**	**81.22 325**	IAmb	IAmb	11 04 49.4	
	comp=Z,47nm,1.0s					
HOOD	**Mount Hood Mea**	**81.26 326**	IAmb	IAmb	11 04 53.1	
	comp=Z,32nm,0.9s					
C09A	**Chrisman Ranch**	**81.30 329**	IAmb	IAmb	11 04 49.8	
	comp=Z,37nm,0.8s					
G04A	**Mulino**	**81.62 326**	IAmb	IAmb	11 04 51.4	
	comp=Z,44nm,0.9s					
COR	**Corvallis**	**81.65 325**	P	**P**	**11 04 51.3 +1.8**	
COR			IAmb	IAmb	11 04 52.2	
	comp=Z,69nm,1.1s					
COR	**Corvallis**	**81.65 325**	P	**P**	**11 04 51.3 +1.8**	
COR			pmax	pmax		
	comp=Z,69nm,1.1s					
LTY	**Liberty**	**82.08 328**	IAmb	IAmb	11 04 53.8	
	comp=Z,52nm,1.6s					
FCC	**Fort Churchill**	**82.26 348**	IAmb	IAmb	11 04 53.4	
	comp=Z,18nm,0.8s					
D05A	**Enumclaw**	**82.69 327**	IAmb	IAmb	11 04 56.6	
	comp=Z,26nm,1.0s					
A04D	**Lummi Island**	**84.08 328**	IAmb	IAmb	11 05 03.8	
	comp=Z,29nm,1.3s					
PGC	**Sidney**	**84.40 328**	IAmb	IAmb	11 05 05.5	
	comp=Z,64nm,1.7s					
BOSA	**Boshof**	**84.46 118**	P	**P**	**11 05 04.5 -0.3**	
	comp=Z,7.0nm,0.9s,baz=282,slow=7.8,SNR=5.3					
BOSA			pP	**pP**	**11 05 25.2 -0.1**	
	comp=Z,14nm,1.1s,baz=256,slow=4.5,SNR=5.5					
	comp=Z,7.0nm,0.9s					
TAM	**Tamanrasset**	**85.72 64**	P	**P**	**11 05 12.4 +1.3**	
ESDC	**Sonseca Array**	**86.49 45**	P	**P**	**11 05 14.6 +0.2**	
ESDC			pP	**pP**	**11 05 35.8 +0.7**	
ESDC	**Sonseca Array**	**86.49 45**	P	**P**	**11 05 14.4 0.0**	
	comp=Z,1.5nm,0.8s,baz=249,slow=5.0,SNR=7.2					
ESDC			pP	**pP**	**11 05 34.3 -0.8**	
	comp=Z,2.4nm,1.1s,baz=245,slow=5.9,SNR=3.3					
	comp=Z,1.5nm,0.8s					
BBB	**Bella Bella**	**88.95 328**	LR	LR	11 49 44.4	
	comp=Z,29nm,18.3s,baz=159,slow=38					
YKA	**Yellowknife Ar**	**90.70 341**	P	**P**	**11 05 33.1 -0.6**	
YKA	**Yellowknife Ar**	**90.70 341**	P	**P**	**11 05 33.6 0.0**	
	comp=Z,7.0nm,0.8s,baz=107,slow=33,SNR=10					
YKA			pP	**pP**	**11 05 54.0 -0.2**	
	comp=Z,4.0nm,0.8s,baz=140,slow=4.6,SNR=9.2					
	comp=Z,7.0nm,0.8s					
URZ	**Urewera**	**93.52 227**	LR	LR	11 40 37.8	
	comp=Z,54nm,18.5s,baz=270,slow=31					
DAVOX	**Davos/Dischmat**	**98.70 43**	LR	LR	11 49 58.0	
	comp=Z,115nm,19.5s,baz=314,slow=35					
CLL	**Collm**	**102.20 40**	*e*P	**Pdif**	**11 06 23.0 -3.1**	
KBZ	**Khabaz**	**120.87 51**	PKP	**PKPdf**	**11 11 23.9 +0.6**	
	comp=Z,2.3nm,0.8s,baz=203,slow=3.4,SNR=6.2					
KBZ			pPKP	**pPKPdf**	**11 11 45.0 0.0**	
	comp=Z,2.5nm,0.9s,baz=110,slow=0.9,SNR=3.2					
H11S2	**WAKE ISLAND Hyt**	**26.80 278**	T	T	13 31 08.0	
	baz=103,slow=75,SNR=399					
H11S1	**WAKE ISLAND Hyt**	**26.80 278**	T	T	13 31 07.9	
	baz=103,slow=75,SNR=404					
H11S3	**WAKE ISLAND Hyt**	**26.81 278**	T	T	13 31 07.2	
	baz=103,slow=75,SNR=285					
H11N3	**WAKE ISLAND Hyt**	**26.88 279**	T	T	13 31 13.7	
	baz=103,slow=75,SNR=269					
H11N2	**WAKE ISLAND Hyt**	**26.89 279**	T	T	13 31 03.1	
	baz=103,slow=75,SNR=152					
H11N1	**WAKE ISLAND Hyt**	**26.89 279**	T	T	13 31 19.5	
	baz=103,slow=75,SNR=149					
TIXI	**Tiksi**	**128.52 352**	PKPdf	**PKPdf**	**11 11 36.5 -0.7**	
TIXI	**Tiksi**	**128.52 352**	PKIKP	**PKPdf**	**11 11 36.5 -0.7**	
ASAR	**Alice Springs**	**129.53 209**		**PKPdf**	**11 11 40.4 -0.4**	
ASAR	**Alice Springs**	**129.53 209**	PKP	**PKPdf**	**11 11 41.0 +0.3**	
	comp=Z,4.4nm,0.9s,baz=135,slow=1.9,SNR=28					
ASAR			pPKP	**pPKPdf**	**11 12 02.0 0.0**	
	comp=Z,3.3nm,1.1s,baz=133,slow=2.2,SNR=3.9					
AS31	**Alice Springs**	**129.53 209**	PKPdf	**PKPdf**	**11 11 41.1 +0.4**	
SEY	**Seymchan**	**129.54 336**	*e*PKIKP	**PKPdf**	**11 11 39.2 -0.2**	
SEY			pmax	pmax		
	comp=Z,8.0nm,0.9s					
NRIK	**Noril'sk**	**130.12 10**	PKP	**PKPdf**	**11 11 41.0 +0.7**	
	comp=Z,1.0nm,0.3s,baz=56,slow=5.1,SNR=3.7					
ABKAR	**Akbulak array**	**131.77 42**	PKPdf	**PKPdf**	**11 11 45.2 +1.1**	
ABKAR	**Akbulak array**	**131.77 42**	PKPdf	**PKPdf**	**11 11 45.2 +1.1**	
WRA	**Warramunga Arr**	**132.52 212**		**PKPdf**	**11 11 47.1 +0.7**	
WRA	**Warramunga Arr**	**132.52 212**	PKP	**PKPdf**	**11 11 46.4 -0.1**	
	comp=Z,4.1nm,0.8s,baz=157,slow=1.7,SNR=33					
WRA			pPKP	**pPKPdf**	**11 12 08.6 +0.9**	
	comp=Z,1.3nm,0.6s,baz=151,slow=1.7,SNR=4.4					
WRA	**Warramunga Arr**	**132.52 212**	PKIKP	**PKPdf**	**11 11 47.1 +0.7**	
BVAR	**Borovoye Array**	**136.28 34**	PKP	**PKPdf**	**11 11 53.4 +1.0**	
	comp=Z,3.2nm,0.8s,baz=336,slow=3.3,SNR=8.2					
KURK	**Kurchatov**	**141.79 32**	PKIKP	**PKPdf**	**11 12 03.0 +0.5**	
KURBB	**Kurchatov Arra**	**141.81 32**	PKP	**PKPdf**	**11 12 03.0 +0.4**	
	comp=Z,1.6nm,0.5s,baz=293,slow=2.7,SNR=4.6					
ZALV	**Zalesovo Beam**	**142.28 24**	PKhKP	PKPpre	11 11 58.5	
	comp=Z,8.2nm,0.7s,baz=291,slow=3.6,SNR=8.1					
ZALV			PKP	**PKPdf**	**11 12 03.8 +0.5**	
	comp=Z,8.1nm,0.7s,baz=279,slow=2.3,SNR=23					
YSS	**Yuzhno-Sakhali**	**143.17 322**	*e*PKIKP	PKPab	11 12 01.6 +0.8	
YSS			pmax	pmax		
	comp=Z,10.0nm,1.1s					
BOD	**Bodaibo**	**143.47 356**	*e*PKIKP	PKPab	11 12 01.4 -0.2	
BOD			pmax	pmax		
	comp=Z,12nm,1.1s					
AAK	**Ala-Archa**	**143.59 46**	PKPdf	PKPbc	11 12 04.9 +1.2	
AAK	**Ala-Archa**	**143.59 46**	PKIKP	PKPbc	11 12 04.9 +1.1	
JKA	**Kamikawa-asahi**	**144.73 318**	PKPdf	**PKPab**	**11 12 07.9 +1.0**	
ASAJ	**Asahikawa**	**144.73 318**	PKIKP	**PKPab**	**11 12 07.9 +1.0**	
ZEA	**Zeya**	**145.08 342**	*e*PKIKP	**PKPbc**	**11 12 08.3 +0.5**	
ZEA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KSH	**Kashi**	**145.84 50**	PKPbc	**PKPab**	**11 12 12.0 +0.6**	
KSH			pPKP	pPKPab	11 12 33.0 +0.5	
MKAR	**Makanchi Array**	**146.14 35**		**PKPdf**	**11 12 10.9 +0.7**	
MKAR	**Makanchi Array**	**146.14 35**	PKPbc	**PKPdf**	**11 12 11.1 +0.7**	
	comp=Z,16nm,0.7s,baz=316,slow=3.4,SNR=124					
MKAR			pPKPbc	pPKPbc	11 12 32.6 -0.1	
	comp=Z,6.5nm,0.7s,baz=337,slow=2.8,SNR=6.2					
KLR	**Kul'dur**	**147.22 333**	*i* PKIKP	**PKPdf**	**11 12 11.2 -0.8**	
KLR			pmax	pmax		
	comp=Z,19nm,1.5s					
HEH	**HeiHe**	**148.04 339**	*e*PKPbc	**PKPbc**	**11 12 16.3 -0.2**	
MOY	**Mondy**	**148.96 11**	*e*PKP2	**PKPbc**	**11 12 19.4 +0.4**	
MOY			pmax	pmax		
	comp=Z,38nm,1.6s					
CIT	**Chita**	**149.27 356**	*e*PKP2	**PKPbc**	**11 12 20.4 +0.7**	
CIT			pmax	pmax		
	comp=Z,56nm,1.4s					
HYB	**Hyderabad**	**150.16 92**	*e*PKPbc	**PKPbc**	**11 12 22.4 -0.5**	
ZAK	**Zakamensk**	**150.57 9**	*e*PKIKP	**PKPbc**	**11 12 22.9 0.0**	
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.2s					
USRK	**Ussuriysk Ar.**	**150.81 326**	PKPbc	**PKPbc**	**11 12 24.4 +0.8**	
	comp=Z,12nm,0.9s,baz=359,slow=1.8,SNR=17					
WMQ	**Urumqi**	**150.97 34**	*e*PKPbc	**PKPdf**	**11 12 18.5 +0.2**	
MJAR	**Matsushiro Arr**	**151.14 308**	PKPbc	**PKPbc**	**11 12 25.2 +0.5**	
	comp=Z,11nm,0.8s,baz=86,slow=1.5,SNR=20					
BNX	**BinXian**	**151.79 334**	⇑PKPbc	**PKPdf**	**11 12 18.5 -0.8**	
SONM	**Songino Array**	**153.43 5**	PKP	**PKPdf**	**11 12 22.8 +0.9**	
	comp=Z,2.3nm,0.9s,baz=309,slow=0.8,SNR=12					
SONM			PKPbc	**PKPbc**	**11 12 30.0 +0.4**	
	comp=Z,3.7nm,0.8s,baz=312,slow=1.3,SNR=14					
XLT	**XiLinHaoTe**	**156.95 349**	*e*PKP	**PKPab**	**11 12 57.3 +0.3**	
XLT			LR	LR		
	comp=N,44nm,19.0s					
XLT			LR	LR		
	comp=E,230nm,16.5s					
XLT			LR	LR		
	comp=Z,250nm,14.6s					
KSRS	**Korea Array**	**157.64 320**	PKPab	**PKPab**	**11 13 01.1 +0.9**	
	comp=Z,3.3nm,0.7s,baz=52,slow=4.6,SNR=8.3					
GTA	**Gaotai**	**160.03 23**	*e*PKP	**PKPdf**	**11 12 31.8 +1.2**	
GTA			sPKP		11 12 54.8	
GTA			PKPab	**PKPab**	**11 13 10.0 -0.5**	
HHC	**Hu-ho-hao-te**	**160.52 356**	*e*PKP	**PKPdf**	**11 12 27.8 -3.3**	
NJ2	**Nanjing**	**166.71 325**	*e*PKP	**PKPdf**	**11 12 37.0 0.0**	
XAN	**Xi'an**	**167.34 4**	PKP	**PKPdf**	**11 12 37.3 -0.2**	
CMAR	**Chiang Mai Arr**	**169.26 104**	PKP	**PKPdf**	**11 12 38.5 -0.6**	
	comp=Z,0.5nm,0.4s,baz=352,slow=0.7,SNR=4.6					
CMAR			PKPab	**PKPab**	**11 13 51.7 -0.1**	
	comp=Z,0.4nm,0.4s,baz=278,slow=33,SNR=1.5					
PZH	**PanZhiHua**	**170.93 54**	PKP	**PKPdf**	**11 12 38.5 -1.5**	

IDC ***25*** *11:25:24.8±0.5, 30°.96N×70°.09E, h0km, mb4.6/36, mbtmp4.6/38, ML2.1/1, MS4.1/24, Error ellipse: s-maj=11.0km s-min=10.2km az=171.0*

MOS ***25*** *11:25:25.5±1.1, 31°.11N×70°.12E, h12km, mb5.0/39, MS4.2/7, Error ellipse: s-maj=6.3km s-min=3.1km az=85.5*

NEIC ***25*** *11:25:26.2±1.8, 30°.96N±0°.07×70°.04E±0°.08, h10km±1km, mb4.8/103, Error ellipse: s-maj=12.3km s-min=10.1km az=317.0*

NDI ***25*** *11:25:26.1±3.4, 30°.99N×69°.70E, h80km, mb4.8, ML4.5, mb4.8(NEIC)*

GCMT ***25*** *11:25:27.2±0.4, 30°.87N±0°.02×70°.16E±0°.02, h20km±1km, MW4.7/87, Moment Tensor Solution. s7,c7; s87,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.09; $M_{\theta\theta}$0.45±.08; $M_{\phi\phi}$-0.61±.08; $M_{r\theta}$-0.16±.15; $M_{\theta\phi}$-1.49±.07; $M_{\phi r}$0.29±.14; Best double couple: $M_0$1.61900×10^{16} NP1:ϕ_s260.00000°, δ78.00000°, λ175.00000°. NP2: ϕ_s351.00000°, δ85.00000°, λ12.00000°. Principal axes: T 1.5600, Plg12.0000°, Azm216.0000°; N 0.1170, Plg77.0000°, Azm14.0000°; P -1.6770, Plg5.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***25*** *11:25:27.4, 31°.21N×70°.24E, h10km, mB5.0/25, mb4.7/56, Ms4.5/49, Ms7 4.2/47*

NNC ***25*** *11:25:31.9±2.8, 31°.73N×69°.69E, h0km, mb5.0, Error ellipse: s-maj=32.5km s-min=18.6km az=43.0*

ISC 25 11:25:27.5±0.6, 30°.94N±0°.03×70°.05E±0°.03, h20km±2km, h20km:pP-P, n413, σ§10/404, mb4.8/160, MS4.3/53, 18C-16D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.69**	**347**	Pn	**Pn**	**11 26 22.9**	**-0.8**
KBL	**Kabul**	**3.69**	**347**	P	**Pn**	**11 26 22.9**	**-0.8**
NIL	**Nilore**	**3.83**	**44**	Pn	**Pn**	**11 26 25.4**	**0.0**
NIL	**Nilore**	**3.83**	**44**	P	**Pn**	**11 26 25.4**	**0.0**
BKNR	**BIKANER**	**4.04**	**135**	*e*S	**Sn**	**11 27 16.1**	**+1.0**
BKNR				IAML		11 27 24.8	
	comp=E,1μm,0.7s						
JASL	**Jaisalmer**	**4.07**	**169**	*e*P	**Pn**	**11 26 29.4**	**+0.8**
JASL				*e*S	**Sn**	**11 27 13.2**	**-2.4**
JASL				IAML		11 27 22.4	
	comp=N,688nm,0.5s						
JMU	**Jammu**	**4.49**	**65**	*e*P	**Pn**	**11 26 35.0**	**+0.7**
THN	**Thein Dam**	**5.05**	**71**	*e*P	**Pn**	**11 26 43.4**	**+1.3**
THN				*e*S	**Sn**	**11 27 40.1**	**+0.2**
THN				IAML		11 27 48.0	
	comp=E,624nm,0.5s						
THN				IAML		11 27 48.1	
	comp=N,609nm,0.6s						
BHK	**Bhakra**	**5.47**	**83**	*e*P	**Pn**	**11 26 48.6**	**+0.7**
BHK				*e*S	**Sn**	**11 27 49.3**	**-1.1**
BHK				IAML		11 28 01.5	
	comp=E,442nm,0.5s						
BHK				IAML		11 28 02.3	
	comp=N,592nm,0.5s						
RTK	**Rohtak**	**5.83**	**107**	*e*P	**Pn**	**11 26 52.8**	**-0.1**
RTK				*e*S	**Sn**	**11 27 56.5**	**-2.7**
AJM	**Ajmer**	**6.00**	**137**	*e*P	**Pn**	**11 26 54.4**	**-0.8**
SMLA	**Simla**	**6.11**	**86**	*e*S	**Sn**	**11 28 05.5**	**-0.5**
KUDL	**Kundal**	**6.26**	**115**	*e*P	**Pn**	**11 26 58.1**	**-0.5**
KUDL				*e*S	**Sn**	**11 28 06.5**	**-3.2**
KUDL		

TRKS	**Terek-Say**	**10.61**	**4**	P	**Pn**	**11 27 57.5**	**-1.0**
ARSB	**Arslanbob**	**10.63**	**12**		**Pn**	**11 27 58.1**	**-0.7**
ARSB	**Arslanbob**	**10.63**	**12**	P	**Pn**	**11 27 58.1**	**-0.7**
ARK	**Arkit**	**10.95**	**8**	P	**Pn**	**11 28 02.0**	**-1.1**
IUG	**Iuzhnay**	**11.19**	**360**	*e*P	**Pn**	**11 28 05.5**	**-0.9**
IUG				*e*S	**Sn**	**11 30 10.2**	**-0.7**
IUG	**Iuzhnay**	**11.19**	**360**	*e*P	**Pn**	**11 28 05.5**	**-0.9**
IUG				*e*S	**Sn**	**11 30 10.3**	**-0.7**
CHM	**Chimkent**	**11.37**	**358**	*e*P	**Pn**	**11 28 08.0**	**-0.7**
CHM	**Chimkent**	**11.37**	**358**	*e*P	**Pn**	**11 28 08.1**	**-0.7**
AML	**Almayashu**	**11.55**	**14**	P	**Pn**	**11 28 10.8**	**-0.8**
SNR=24							
ALBI	**Allahabad**	**11.79**	**116**	*e*P	**Pn**	**11 28 12.6**	**-2.0**
ALBI				*e*S	Sn	11 30 16.1	-10
ALBI				IAML		11 30 24.3	
comp=N,180nm,0.6s							
ALBI				IAML		11 30 27.6	
comp=E,112nm,0.6s							
UCH	**Uchtor**	**11.82**	**16**	P	**Pn**	**11 28 15.0**	**-0.3**
SNR=12							
AKL	**Akola**	**11.96**	**147**	*e*P	**Pn**	**11 28 17.0**	**+0.1**
DZA	**Taraz**	**11.98**	**5**	*e*P	**Pn**	**11 28 16.1**	**-1.0**
DZA	**Taraz**	**11.98**	**5**	*e*P	**Pn**	**11 28 16.2**	**-1.0**
BRLS	**Borolday**	**12.07**	**359**	*e*P	**Pn**	**11 28 14.2**	**-4.2**
BRLS				*e*S	**Sn**	**11 30 25.9**	**-6.5**
BRLS	**Borolday**	**12.07**	**359**	*e*P	**Pn**	**11 28 14.3**	**-4.2**
BRLS				*e*S	**Sn**	**11 30 26.0**	**-6.5**
EKS2	**Erkin-Say**	**12.08**	**13**	P	**Pn**	**11 28 18.5**	**0.0**
SNR=30							
KK31	**Karatay Array**	**12.15**	**2**	Pn	**Pn**	**11 28 17.3**	**-2.2**
KK31	**Karatay Array**	**12.15**	**2**	⇓P	**Pn**	**11 28 17.1**	**-2.3**
comp=E,68nm,1.1s,baz=192,slow=16,SNR=186							
KK31				⇓S	Sn	11 30 25.9	-8.5
comp=E,23nm,0.7s,baz=189,slow=22,SNR=3.7							
KK31	**Karatay Array**	**12.15**	**2**	P	**Pn**	**11 28 17.3**	**-2.2**
KKAR	**Karatay Array**	**12.15**	**2**		**Pn**	**11 28 17.4**	**-2.0**
KKAR	**Karatay Array**	**12.15**	**2**		**Pn**	**11 28 17.3**	**-2.2**
KKAR	**Karatay Array**	**12.15**	**2**	P	**Pn**	**11 28 17.4**	**-2.0**
AAK	**Ala-Archa**	**12.21**	**16**	Pn	**Pn**	**11 28 19.5**	**-0.8**
comp=E,30nm,0.5s,baz=202,slow=12,SNR=49							
AAK				Sn	**Sn**	**11 30 33.5**	**-2.5**
comp=E,0.4nm,0.3s,baz=0.8,slow=20,SNR=1.9							
AAK				LR	LR	11 33 37.2	
comp=E,2μm,18.4s,baz=202,slow=40							
AAK	**Ala-Archa**	**12.21**	**16**	P	**Pn**	**11 28 19.7**	**-0.6**
SNR=50							
AAK	**Ala-Archa**	**12.21**	**16**	P	**Pn**	**11 28 19.0**	**-1.4**
comp=E,80nm,0.8s							
AAK				S	**Sn**	**11 30 32.7**	**-3.2**
comp=E,90nm,1.4s							
AAK	**Ala-Archa**	**12.21**	**16**	*d i*P	**Pn**	**11 28 19.3**	**-1.1**
AAK				pmax	pmax		
comp=Z,95nm,1.0s							
ULHL	**Ulahol**	**12.33**	**22**	P	**Pn**	**11 28 21.0**	**-1.1**
SNR=8.3							
KBK	**Karagaybulak**	**12.34**	**17**	P	**Pn**	**11 28 23.8**	**+1.7**
SNR=20							
TARG	**Taragay, Kyrgy**	**12.45**	**28**	Pn	**Pn**	**11 28 22.7**	**-1.1**
TARG	**Taragay, Kyrgy**	**12.45**	**28**	P	**Pn**	**11 28 22.7**	**-1.1**
KDJ	**Kajisay**	**12.55**	**25**	Pn	**Pn**	**11 28 23.8**	**-1.3**
KDJ	**Kajisay**	**12.55**	**25**	P	**Pn**	**11 28 23.8**	**-1.3**
CHMS	**Chumysh**	**12.61**	**16**	P	**Pn**	**11 28 24.6**	**-1.1**
SNR=33							
CHMS	**Chumysh**	**12.61**	**16**	⇓P	**Pn**	**11 28 24.5**	**-1.3**
comp=Z,108nm,1.1s							
CHMS				⇑S	**Sn**	**11 30 38.3**	**-7.3**
comp=Z,38nm,1.1s							
CHMS	**Chumysh**	**12.61**	**16**	P	**Pn**	**11 28 24.5**	**-1.3**
CHMS				S	**Sn**	**11 30 38.3**	**-7.3**
NGP	**Nagpur**	**12.66**	**138**	*e*P	**Pn**	**11 28 24.4**	**-2.1**
WSAR	**Wadi Sarin**	**12.73**	**236**	Pn	**Pn**	**11 28 27.0**	**-0.5**
baz=87,slow=24,SNR=6.2							
WSAR				Sn	**Sn**	**11 30 42.9**	**-5.8**
baz=347,slow=24,SNR=4.5							
TKM2	**Tokmak 2**	**12.75**	**19**	P	**Pn**	**11 28 27.6**	**-0.2**
SNR=23							
TKM2	**Tokmak 2**	**12.75**	**19**	⇓P	**Pn**	**11 28 26.9**	**-0.9**
comp=Z,49nm,1.1s							
TKM2	**Tokmak 2**	**12.75**	**19**	P	**Pn**	**11 28 26.9**	**-0.9**
USP	**Ospenovka**	**12.81**	**15**	P	**Pn**	**11 28 27.3**	**-1.1**
SNR=21							
SGDS	**Sogindy**	**13.01**	**15**	*e*P	**Pn**	**11 28 30.0**	**-1.2**
SGDS	**Sogindy**	**13.01**	**15**	*e*P	**Pn**	**11 28 30.1**	**-1.2**
TNSS	**Tian-Shan**	**13.27**	**23**	*e*P	**Pn**	**11 28 33.4**	**-1.7**
TNSS	**Tian-Shan**	**13.27**	**23**	*e*P	**Pn**	**11 28 33.5**	**-1.7**
AAA	**Alma-Ata**	**13.41**	**22**	*e*P	**Pn**	**11 28 35.6**	**-1.1**
AAA	**Alma-Ata**	**13.41**	**22**	*e*P	**Pn**	**11 28 35.6**	**-1.1**
SATY	**Saty**	**13.81**	**26**	*e*P	**Pn**	**11 28 40.9**	**-1.3**
SATY	**Saty**	**13.81**	**26**	*e*P	**Pn**	**11 28 40.9**	**-1.3**
BLSP	**Bilaspur**	**13.91**	**126**	*e*P	**Pn**	**11 28 42.7**	**-0.9**
CHKK	**Chushkaly**	**14.02**	**21**	*e*P	**Pn**	**11 28 43.1**	**-1.8**
CHKK	**Chushkaly**	**14.02**	**21**	*e*P	**Pn**	**11 28 43.1**	**-1.8**
UZB	**Uzynbulak**	**14.12**	**28**	*e*P	**Pn**	**11 28 45.4**	**-1.1**
UZB	**Uzynbulak**	**14.12**	**28**	*e*P	**Pn**	**11 28 45.4**	**-1.1**
BTLS	**Baital**	**14.43**	**11**	*e*P	**Pn**	**11 28 48.8**	**-1.7**
BTLS	**Baital**	**14.43**	**11**	*e*P	**Pn**	**11 28 48.8**	**-1.7**
PDGK	**Podgornoye**	**14.47**	**29**	⇓P	**Pn**	**11 28 48.7**	**-2.5**
comp=Z,82nm,1.1s							
PDGK	**Podgornoye**	**14.47**	**29**	P	**Pn**	**11 28 48.7**	**-2.5**
ARXS	**Arharly**	**14.61**	**23**	*e*P	**Pn**	**11 28 49.6**	**-3.5**
JHSG	**JHARSUGUGA**	**15.31**	**123**	*e*P	**Pn**	**11 28 59.0**	**-3.5**
TDK	**Taldyqorghan**	**15.50**	**23**	*e*P	**Pn**	**11 29 04.0**	**-0.8**
TDK	**Taldyqorghan**	**15.50**	**23**	*e*P	**Pn**	**11 29 04.1**	**-0.8**
HYB	**Hyderabad**	**15.52**	**148**	*e*P	**Pn**	**11 29 04.7**	**-0.7**
HYB				*e*S	**Sn**	**11 31 57.1**	**+0.3**
BOK	**Bokaro**	**15.75**	**113**	IAML		11 32 00.6	
comp=N,149nm,0.8s							
BOK				IAML		11 32 01.5	
comp=E,249nm,1.0s							
GTK	**Tadong**	**16.60**	**98**	*e*P	**Pn**	**11 29 15.3**	**-4.0**
GTK				IAmb	IAmb	11 29 31.7	
comp=Z,77nm,0.9s							
RAGD	**RAYAGADA**	**16.80**	**131**	*e*P	**Pn**	**11 29 18.1**	**-3.5**
OTUK	**Ortayu**	**17.38**	**5**	⇓P	**Pn**	**11 29 25.1**	**-3.6**
comp=Z,19nm,1.1s							
OTUK	**Ortayu**	**17.38**	**5**	P	**Pn**	**11 29 25.1**	**-3.6**
LSA	**Lhasa**	**18.26**	**88**	P	**Pn**	**11 29 39.8**	**-0.4**
LSA				S	**Sn**	**11 33 05.8**	**+2.1**
LSA				LR	LR		
comp=Z,2μm,20.3s							
LSA				LR	LR		
comp=Z,690nm,12.4s							
MAKZ	**Makanchi**	**18.33**	**27**	P	**P**	**11 29 38.0**	**-2.4**
MAKZ				IAmb	IAmb	11 29 41.6	
comp=Z,77nm,1.0s							
MAKZ	**Makanchi**	**18.33**	**27**	⇑P	**P**	**11 29 38.3**	**-2.2**
comp=Z,74nm,1.0s							
MAKZ	**Makanchi**	**18.33**	**27**	P	**P**	**11 29 38.1**	**-2.4**
MAKZ				pmax	pmax		
comp=Z,77nm,1.0s							
MK31	**Makanchi Array**	**18.44**	**27**	P	**P**	**11 29 39.8**	**-2.0**
comp=Z,50nm,0.9s,baz=209,slow=11,SNR=277							
MK31	**Makanchi Array**	**18.44**	**27**	*e*P	**P**	**11 29 39.7**	**-2.0**
MKAR	**Makanchi Array**	**18.44**	**27**	P	**P**	**11 29 39.9**	**-1.9**
MKAR	**Makanchi Array**	**18.44**	**27**	P	**P**	**11 29 40.8**	**-1.0**
comp=Z,30nm,0.8s,baz=212,slow=11,SNR=106							
MKAR				S	**Sn**	**11 33 06.6**	**-0.7**
comp=Z,1.8nm,0.9s,baz=214,slow=23,SNR=2.1							
MKAR				LR	LR	11 37 43.6	
comp=Z,1μm,18.6s,baz=214,slow=40							
MKAR	**Makanchi Array**	**18.44**	**27**	*c e*P	**P**	**11 29 40.0**	**-1.7**
MKAR				pmax	pmax		
comp=Z,30nm,0.9s							
WMQ	**Urumqi**	**18.98**	**42**	*e*P	**Pn**	**11 29 49.3**	**+0.9**
WMQ				PP	**PnPn**	**11 30 07.0**	**+6.1**
WMQ				S	Sn	11 33 10.3	-10
WMQ				pmax	pmax		
comp=Z,75nm,1.3s							
WMQ				pmax	pmax		
comp=Z,220nm,3.6s							
WMQ				LR	LR		
comp=Z,1μm,15.1s							
WMQ				LR	LR		
comp=Z,1μm,16.3s							
WMQ				LR	LR		
comp=Z,1μm,18.9s							
BRZS	**Berezniki**	**19.13**	**5**	*e*P	**P**	**11 29 48.6**	**-0.6**
BRZS	**Berezniki**	**19.13**	**5**	*e*P	**P**	**11 29 48.7**	**-0.6**
TAWA	**Tawang**	**19.32**	**94**	*e*P	**P**	**11 29 50.2**	**-1.6**
TAWA				IAmb	IAmb	11 29 56.5	
comp=Z,75nm,0.8s							
TAWA				*e*S	**Sn**	**11 33 24.5**	**-4.7**
GUWA	**GUWAHATI**	**19.57**	**99**	*e*P	**P**	**11 29 52.5**	**-1.8**
GUWA				IAmb	IAmb	11 30 04.4	
comp=Z,27nm,1.4s							
AB31	**Akbulak array**	**19.83**	**340**	⇓P	**P**	**11 29 56.5**	**-0.4**
comp=Z,11nm,0.7s,baz=152,slow=9.7,SNR=128							
AB31				⇑S	**S**	**11 33 30.5**	**-8.8**
comp=Z,6.7nm,1.0s,baz=286,slow=74,SNR=5.0							
AB31	**Akbulak array**	**19.83**	**340**	P	**P**	**11 29 56.5**	**-0.4**
AB31				S	**S**	**11 33 30.5**	**-8.8**
ABKAR	**Akbulak array**	**19.83**	**340**	P	**P**	**11 29 56.6**	**-0.3**
ZSN	**Zaisan**	**20.04**	**30**	*e*P	**P**	**11 29 59.2**	**+0.1**
ZSN	**Zaisan**	**20.04**	**30**	*e*P	**P**	**11 29 59.3**	**+0.1**
KURBB	**Kurchatov Arra**	**20.66**	**15**	P	**P**	**11 30 05.3**	**-0.6**
comp=Z,24nm,0.9s,baz=208,slow=10,SNR=63							
KURBB				LR	LR	11 38 57.6	
comp=Z,1μm,18.3s,baz=178,slow=39							
comp=Z,24nm,0.9s							
KURBB	**Kurchatov Arra**	**20.66**	**15**	⇓P	**P**	**11 30 04.5**	**-1.4**
comp=Z,32nm,0.9s							
KURBB	**Kurchatov Arra**	**20.66**	**15**	P	**P**	**11 30 04.5**	**-1.4**
KURK	**Kurchatov**	**20.77**	**15**	P	**P**	**11 30 05.4**	**-1.6**
KURK				IAmb	IAmb	11 30 08.5	
comp=Z,33nm,0.9s							
KURK	**Kurchatov**	**20.77**	**15**	*d i*P	**P**	**11 30 06.1**	**-0.9**
KURK				pmax	pmax		
comp=Z,51nm,1.3s							
BRDH	**Bariadhala**	**20.93**	**108**	P	**P**	**11 30 08.8**	**-0.2**
comp=Z,145nm,0.3s,baz=267,slow=20,SNR=5.3							
BRDH				LR	LR	11 40 02.3	
comp=Z,850nm,18.8s,baz=302,slow=42							
ZIRO	**ZIRO**	**21.03**	**93**	*e*P	**P**	**11 30 08.7**	**-1.6**
ZIRO				IAmb	IAmb	11 30 19.7	
comp=Z,43nm,1.0s							
ZIRO				⇑*e*S	**S**	**11 33 58.5**	**-5.3**
GOMU	**GeErMu**	**21.27**	**69**	P	**P**	**11 30 15.5**	**+2.5**
GOMU				pP	sP	11 30 21.5	-0.2
GOMU				sP	pP	11 30 28.3	+10
GOMU				S	S	11 33 54.3	-14
GOMU				sS	Sn	11 34 08.8	-7.3
GOMU				pmax	pmax		
comp=Z,23nm,1.0s							
GOMU				LR	LR		
comp=Z,1μm,11.6s							
GOMU				LR	LR		
comp=Z,510nm,12.4s							
GOMU				LR	LR		
comp=Z,770nm,11.3s							
AKTO	**Aktyubinsk**	**21.46**	**339**	P	**P**	**11 30 14.6**	**+0.1**
comp=Z,29nm,0.8s,baz=175,slow=7.2,SNR=17							
comp=Z,29nm,0.8s							
AKTO	**Aktyubinsk**	**21.46**	**339**	⇓P	**P**	**11 30 14.3**	**-0.2**
comp=Z,22nm,0.9s							
AKTO				⇑S	**S**	**11 34 02.6**	**-9.0**
comp=Z,8.0nm,1.1s							
MAK	**Makhachkala**	**21.58**	**310**	*e*P	**P**	**11 30 11.3**	**-4.5**
MAK				*e*S	**S**	**11 34 09.4**	**-4.6**
MAK				pmax	pmax		
comp=Z,75nm,0.5s							
MAK				MLR	MLR		
comp=Z,366nm,13.0s							
KOHI	**KOHIMA**	**21.79**	**98**	*e*P	**P**	**11 30 16.6**	**-1.8**
KOHI				IAmb	IAmb	11 30 27.6	
comp=Z,43nm,1.1s							
KOHI				*e*S	**S**	**11 34 15.6**	**-3.0**
IMP	**Imphal**	**21.96**	**100**	IAmb	IAmb	11 30 29.4	
comp=Z,45nm,1.1s							
IMP				*e*S	**S**	**11 34 18.1**	**-3.7**
BVA0	**Borovoye Array**	**22.07**	**1**	P	**P**	**11 30 20.5**	**-0.6**
comp=Z,49nm,1.1s,baz=169,slow=10,SNR=176							
BVA0	**Borovoye Array**	**22.07**	**1**	P	**P**	**11 30 20.5**	**-0.6**
BVAR	**Borovoye Array**	**22.07**	**1**	P	**P**	**11 30 20.7**	**0.4**
comp=Z,42nm,0.9s,baz=169,slow=11,SNR=108							
BVAR				LR	LR	11 40 00.9	
comp=Z,784nm,19.5s,baz=206,slow=40							
comp=Z,42nm,0.9s							
BRVK	**Borovoye**	**22.11**	**0**	P	**P**	**11 30 20.9**	**-0.6**
BRVK	**Borovoye**	**22.11**	**0**	⇑P	**P**	**11 30 20.4**	**-1.0**
comp=Z,65nm,1.0s							
BRVK	**Borovoye**	**22.11**	**0**	*d i*P	**P**	**11 30 20.7**	**-0.7**
BRVK				pmax	pmax		
comp=Z,72nm,1.0s							
GNI	**Garni**	**22.49**	**301**	P	**P**	**11 30 27.7**	**+1.8**
GNI	**Garni**	**22.49**	**301**	P	**P**	**11 30 26.1**	**+0.2**
comp=Z,69nm,0.9s,baz=112,slow=0.7,SNR=17							
comp=Z,69nm,0.9s							
GNI	**Garni**	**22.49**	**301**	*e*P	**P**	**11 30 28.0**	**+2.1**
RAYN	**Ar Rayn**	**23.02**	**257**	P	**P**	**11 30 32.4**	**+1.0**
RAYN	**Ar Rayn**	**23.02**	**257**	P	**P**	**11 30 32.4**	**+1.0**
RAYN				pmax	pmax		
comp=Z,28nm,1.5s							
MTEO	**Meteo**	**23.46**	**307**	P	**P**	**11 30 37.8**	**+1.7**
MTEO	**Meteo**	**23.46**	**307**	*e*P	**P**	**11 30 37.8**	**+1.7**
KARS	**Kars**	**23.85**	**301**	P	**P**	**11 30 42.8**	**+3.2**
KBZ	**Khabaz**	**24.96**	**308**	P	**P**	**11 30 50.2**	**+0.7**
comp=Z,6.4nm,0.8s,baz=131,slow=7.3,SNR=12							
comp=Z,6.4nm,0.8s							
SHA1	**Shidzhatmaz**	**25.13**	**308**	*d i*P	**P**	**11 30 53.2**	**+1.9**
KIV	**Kislovodsk**	**25.19**	**309**	P	**P**	**11 30 52.6**	**+0.9**
KIV	**Kislovodsk**	**25.19**	**309**	*e*P	**P**	**11 30 52.9**	**+1.2**
KIV				pmax	pmax		
comp=Z,13nm,1.0s							
KIV				MLR	MLR		
comp=Z,222nm,15.0s							
ZAA0	**Zalesovo Array**	**25.35**	**21**	P	**P**	**11 30 51.8**	**-1.2**
ZAA0				IAmb	IAmb	11 31 04.9	
comp=Z,32nm,0.9s							
ZALV	**Zalesovo Beam**	**25.35**	**21**	P	**P**	**11 30 52.2**	**-0.8**
ZALV	**Zalesovo Beam**	**25.35**	**21**	P	**P**	**11 30 52.5**	**-0.4**
comp=Z,16nm,0.9s,baz=214,slow=9.1,SNR=29							
ZALV				LR	LR	11 41 50.6	
comp=Z,523nm,20.6s,baz=226,slow=39							
comp=Z,16nm,0.9s							
PALK	**Pallekele**	**25.57**	**155**	P	**P**	**11 30 58.1**	**+2.8**
PALK				IAmb	IAmb	11 30 59.8	
comp=Z,20nm,1.0s							
PALK	**Pallekele**	**25.57**	**155**	P	**P**	**11 30 58.1**	**+2.8**
PALK				pmax	pmax		
comp=Z,20nm,1.0s							
GTA	**Gaotai**	**25.67**	**63**	*e*P	**P**	**11 30 57.5**	**+1.3**
GTA				pP	sP	11 31 06.0	+0.7
GTA				sP	pP	11 31 09.5	+6.9
GTA				SS	**SnSn**	**11 36 16.8**	**-1.6**
GTA				pmax	pmax		
comp=Z,15nm,1.2s							
GTA				LR	LR		
comp=Z,810nm,19.6s							
GTA				LR	LR		
comp=Z,180nm,17.5s							
TNCH	**TengChong**	**25.78**	**96**	*e*P	**P**	**11 30 58.3**	**+0.9**
TNCH				S	**S**	**11 35 24.8**	**-1.0**
TNCH				pmax	pmax		
comp=Z,130nm,3.1s							
TNCH				LR	LR		
comp=Z,420nm,9.2s							
TNCH				LR	LR		
comp=Z,470nm,12.6s							
TNCH				LR	LR		
comp=Z,410nm,12.7s							
SVE	**Sverdlovsk**	**26.71**	**348**	*e*P	**P**	**11 31 06.3**	**+1.1**
SVE				pmax	pmax		
comp=Z,19nm,1.0s							
ARTI	**Arti**	**26.73**	**346**	P	**P**	**11 31 05.9**	**+0.5**
ARTI				IAmb	IAmb	11 31 08.1	
comp=Z,32nm,1.1s							
ARTI	**Arti**	**26.73**	**346**	P	**P**	**11 31 06.4**	**+0.9**
comp=Z,23nm,1.0s,baz=174,slow=4.3,SNR=14							
comp=Z,23nm,1.0s							
ARTI	**Arti**	**26.73**	**346**	*c i*P	**P**	**11 31 06.8**	**+1.4**
ARTI						11 31 46.7	
ARTI				S	**S**	**11 35 45.1**	**+5.2**
ARTI				SS	**SnSn**	**11 36 49.0**	**+5.1**
ARTI				pmax	pmax		
comp=Z,32nm,1.1s							
VSLR	**Vesyoloye**	**26.83**	**306**	*i* P	**P**	**11 31 06.8**	**+0.3**
PZH	**PanZhiHua**	**28.09**	**91**	P	**P**	**11 31 20.8**	**+2.7**
PZH				S	**S**	**11 36 02.8**	**+0.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,100nm,5.5s							
PZH				LR	LR		
comp=Z,410nm,15.3s							
PZH				LR	LR		
comp=Z,300nm,15.7s							
PZH				LR	LR		
comp=Z,330nm,16.0s							
CHTO	**Chiang Mai**	**28.77**	**108**	P	**P**	**11 31 23.0**	**-1.0**
CHTO	**Chiang Mai**	**28.77**	**108**	P	**P**	**11 31 23.0**	**-1.0**
CHTO				pmax	pmax		
comp=Z,6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**28.95**	**109**	P	**P**	**11 31 24.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**28.95**	**109**	P	**P**	**11 31 26.3**	**+0.7**
comp=Z,0.7nm,0.3s,baz=296,slow=9.2,SNR=14							
CMAR				LR	LR	11 46 07.1	
comp=Z,196nm,18.6s,baz=295,slow=43							
comp=Z,0.7nm,0.3s							
VRH	**Novokhopyorsk**	**29.14**	**322**	*e*P	**P**	**11 31 26.2**	**-0.8**
VRH				pmax	pmax		
comp=Z,20nm,0.8s							
MMAI	**Mount Meron Ar**	**29.39**	**283**	LR	LR	11 45 23.7	
comp=Z,480nm,18.4s,baz=13,slow=41							
GHAJ	**Ghor Haditha**	**29.46**	**280**	P	P	11 31 25.3	-4.7
VORD	**Divnogorie**	**30.32**	**320**	*e*P	**P**	**11 31 36.6**	**-0.9**
VORD				pmax	pmax		
comp=Z,9.0nm,1.0s							
VSR	**Storozhevoye**	**30.52**	**321**	*e*P	**P**	**11 31 38.2**	**-1.0**
VSR				pmax	pmax		
comp=Z,20nm,1.2s							
MOY	**Mondy**	**30.77**	**39**	*e*P	**P**	**11 31 44.0**	**+2.4**
MOY				pmax	pmax		
comp=Z,20nm,1.8s							
BR131	**Keskin Array S**	**30.80**	**297**	*i* P	**P**	**11 31 42.8**	**+0.7**
KIRV	**Kirov**	**31.03**	**339**	P	**P**	**11 31 44.9**	**+1.3**
comp=Z,14nm,0.7s,baz=144,slow=18,SNR=6.7							
comp=Z,14nm,0.7s							
LPSR	**Galich'ya Gora**	**31.35**	**323**	*e*P	**P**	**11 31 45.9**	**-0.6**
LPSR				pmax	pmax		
comp=Z,30nm,0.8s							
ZAK	**Zakamensk**	**31.45**	**42**	*e*P	**P**	**11 31 48.2**	**+0.6**
ZAK				pmax	pmax		
comp=Z,11nm,1.3s							
GYA	**Guiyang**	**32.33**	**89**	P	**P**	**11 31 58.3**	**+2.7**
GYA				pmax	pmax		
comp=Z,16nm,0.7s							
GYA				LR	LR		
comp=Z,390nm,14.7s							
SONM	**Songino Array**	**32.40**	**48**	P	**P**	**11 31 56.6**	**+0.6**
SONM				IAmb	IAmb	11 31 59.6	
comp=Z,16nm,1.1s							
SONM	**Songino Array**	**32.40**	**48**	P	**P**	**11 31 57.5**	**+1.5**
comp=Z,10nm,1.0s,baz=250,slow=8.8,SNR=48							
SONM				LR	LR	11 46 43.5	
comp=Z,365nm,20.9s,baz=278,slow=40							
comp=Z,10nm,1.0s							
SONM	**Songino Array**	**32.40**	**48**	P	**P**	**11 31 56.6**	**+0.6**
SONM				pmax	pmax		
comp=Z,16nm,1.1s							
XAN	**Xi'an**	**32.80**	**74**	⇑P	**P**	**11 32 02.3**	**+2.7**
XAN				pmax	pmax		
comp=Z,14nm,1.0s							
XAN				pmax	pmax		
comp=Z,140nm,5.1s							
XAN				LR	LR		
comp=Z,2μm,17.2s							
XAN				LR	LR		
comp=Z,780nm,18.2s							
XAN				LR	LR		
comp=Z,610nm,17.9s							
IRK	**Irkutsk**	**32.83**	**40**	*e*P	**P**	**11 32 01.1**	**+1.5**
IRK				pmax	pmax		
comp=Z,39nm,1.1s							
BTO	**Baotou**	**33.59**	**62**	*e*P	**P**	**11 32 07.5**	**+1.1**
BTO				pP	**pP**	**11 32 12.0**	**-0.9**
BTO				sP	**sP**	**11 32 14.5**	**-1.1**
BTO				S	**S**	**11 37 29.0**	**+1.0**
BTO				sS	**sS**	**11 37 40.8**	**+2.2**
BTO				SS	**SnSn**	**11 39 31.0**	**-0.3**
BTO				pmax	pmax		
comp=Z,58nm,1.0s							
BTO				pmax	pmax		
comp=Z,210nm,5.4s							
BTO				LR	LR		
comp=Z,840nm,12.0s							
BTO				LR	LR		
comp=Z,650nm,14.8s							
BTO				LR	LR		
comp=Z,800nm,18.1s							
MOS	**Moscow**	**33.69**	**327**	*e*P	**P**	**11 32 06.2**	**-0.8**
MOS				*e*		11 33 22.9	
MOS				*e*		11 33 38.2	
MOS				pmax	pmax		
comp=Z,52nm,0.7s							
OBN	**Obninsk**	**33.86**	**325**	P	**P**	**11 32 09.3**	**+0.9**
comp=Z,20nm,0.5s,baz=305,slow=16,SNR=4.6							
comp=Z,20nm,0.5s							
OBN	**Obninsk**	**33.86**	**325**	*c i*P	**P**	**11 32 09.2**	**+0.8**
OBN				*e*		11 32 14.2	
OBN				pmax	pmax		
comp=Z,30nm,1.0s							
OBN				MLR	MLR		
comp=Z,406nm,19.0s							
OBN	**Obninsk**	**33.86**	**325**	P	**P**	**11 32 09.0**	**+0.6**
comp=Z,36nm,1.9s							
HHC	**Hu-ho-hao-te**	**34.77**	**62**	*e*P	**P**	**11 32 16.3**	**-0.4**
HHC				pmax	pmax		
comp=Z,14nm,0.6s							
HHC				pmax	pmax		
comp=Z,96nm,4.2s							
HHC				LR	LR		
comp=Z,290nm,14.5s							
HHC				LR	LR		
comp=Z,190nm,15.3s							
HHC				LR	LR		
comp=Z,290nm,15.3s							
AK09	**Malin Array Si**	**36.01**	**315**	P	**P**	**11 32 26.7**	**-0.4**
AK10	**Malin Array Si**	**36.03**	**315**	P	**P**	**11 32 26.9**	**-0.4**
AK08	**Malin Array Si**	**36.04**	**315**	P	**P**	**11 32 27.0**	**-0.3**
AK07	**Malin Array Si**	**36.04**	**315**	P	**P**	**11 32 27.1**	**-0.3**
AK06	**Malin Array Si**	**36.06**	**315**	P	**P**	**

MNK *i* SSS SSS 11 42 17.2
MNK *i* LQ LQ 11 45 46.6
MNK *i* LR LR 11 48 12.5
MNK *i* LRM MLR 11 50 10.1
comp=N,321nm,16.2s
MNK *i* LRM MLR 11 50 11.6
comp=Z,186nm,15.3s
MNK *i* LRM MLR 11 50 27.8
comp=E,442nm,15.0s
MNK Minsk 38.10 321 *i* P **P 11 32 43.7 -1.1**
MNK *i* 11 34 10.8
MNK *i* S **S 11 38 37.3 +0.8**
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=N,321nm,16.0s
MNK MLR MLR
comp=Z,186nm,15.0s
MNK MLR MLR
comp=E,442nm,15.0s
RNPP5 Staryi Chortor 38.25 315 P **P 11 32 46.2 +0.1**
BJI Beijing 38.28 63 P **P 11 32 50.0 +3.5**
BJI pmax pmax
comp=E,4.0nm,0.7s
BJI pmax pmax
comp=E,40nm,5.0s
BJI LR LR
comp=E,140nm,22.0s
BJI LR LR
comp=E,170nm,14.9s
BJI LR LR
comp=E,180nm,14.2s
RNPP9 Sopachiv 38.30 315 P **P 11 32 46.4 -0.1**
RNPP8 Varash 38.30 315 P **P 11 32 46.4 -0.1**
XLT XiLinHaoTe 38.30 57 *e*P **P 11 32 48.5 +1.7**
XLT pP pP 11 32 52.5 -0.8
XLT ScS ScS 11 42 53.0 -4.2
XLT pmax pmax
comp=E,23nm,1.0s
XLT LR LR
comp=E,25nm,14.4s
XLT LR LR
comp=E,230nm,11.2s
XLT LR LR
comp=E,290nm,12.6s
NACGM Naroch 38.84 321 *e*P **P 11 32 51.6 +0.6**
comp=Z,1µm,0.8s,baz=110
PSI Prapat 39.07 130 LR LR 11 49 48.4
comp=Z,282nm,20.2s,baz=338,slow=37
TIA Tai'an 39.27 69 P **P 11 32 59.5 +4.6**
TIA S **S 11 39 01.5 +6.9**
TIA LR LR
comp=Z,660nm,15.2s
TIA LR LR
comp=Z,310nm,14.7s
TIA LR LR
comp=Z,350nm,10.8s
BRIU Brid 39.49 310 P **P 11 32 56.4 -0.1**
NRIK Noril'sk 39.73 10 P **P 11 32 59.0 +0.7**
comp=Z,13nm,0.7s,baz=203,slow=4.8,SNR=17
comp=Z,13nm,0.7s
NRIK Noril'sk 39.73 10 P **P 11 32 59.0 +0.7**
KWP Kalwaria Pacla 39.90 312 *e*P **P 11 33 01.2 +1.3**
KWP Kalwaria Pacla 39.90 312 P **P 11 33 00.9 +1.0**
comp=Z,47nm,1.1s
HOLU Holmets 39.93 310 P **P 11 33 00.1 -0.1**
VSU Vasula 40.20 326 *i* P **P 11 33 04.2 +1.9**
VSU pmax pmax
comp=Z,11nm,1.0s
NJ2 Nanjing 41.34 75 *e*P **P 11 33 12.3 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NIE Niedzica 41.42 311 *e*P **P 11 33 13.9 +1.4**
NIE Niedzica 41.42 311 P **P 11 33 14.4 +1.9**
comp=Z,11nm,1.1s
FINES FINESS Array B 41.78 330 P **P 11 33 15.7 +0.4**
comp=Z,5.3nm,0.8s,baz=108,slow=6.2,SNR=10
comp=Z,5.3nm,0.8s
LANS Liptovska Anna 41.92 311 *e*P **P 11 33 18.5 +1.8**
LANS *e* 11 33 26.8
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 41.92 311 *e*P **P 11 33 18.5 +1.8**
LANS *e* 11 33 26.8
APA Apatity 42.53 340 ⇓*i* P **P 11 33 21.6 +0.3**
APA pmax pmax
comp=Z,15nm,0.8s
APA MLR MLR
comp=Z,1µm,15.0s
OKC Ostrava-Krasne 42.86 311 AMS AMS 11 42 00.0
comp=Z,800nm,7.4s
JAVC Velka Javorina 43.07 310 *e*P **P 11 33 27.3 +1.2**
MORC Moravsky Berou 43.24 311 *e*P **P 11 33 28.0 +0.6**
MODS Modra-Piesok 43.30 309 *e*P **P 11 33 29.8 +2.0**
MODS Modra-Piesok 43.30 309 *e*P **P 11 33 29.8 +2.0**
KRLC Kraliky 43.76 312 AMS AMS 11 41 20.0
comp=Z,800nm,7.4s
VRAC Vranov 43.81 311 P **P 11 33 31.9 0.0**
comp=Z,3.0nm,0.5s,baz=22,slow=5.4,SNR=1.9
comp=Z,3.0nm,0.5s
RONA Rosalia, Austr 43.92 308 *e*P **P 11 33 33.5 +0.6**
comp=Z,18nm,1.4s
DPC Dobruska-Polom 44.08 312 *e*S **P 11 33 35.7 +1.6**
DPC AMS AMS 11 41 00.0
comp=Z,400nm,18.3s
DPC Dobruska-Polom 44.08 312 P **P 11 33 34.5 +0.4**
comp=Z,7.6nm,1.4s
OSTC Ostas 44.16 312 AMS AMS 11 41 10.0
comp=Z,800nm,6.3s
CONA Conrad Observa 44.22 309 *e*P **P 11 33 36.1 +0.8**
comp=Z,15nm,1.3s
CHVC Chvalec 44.27 312 *e*S **P 11 33 36.4 +0.8**
CHVC AMS AMS 11 41 20.0
comp=Z,500nm,19.5s
UPC Upice 44.29 312 AMS AMS 11 41 20.0
comp=Z,500nm,10.1s
ARSA Arzberg 44.43 308 *e*P **P 11 33 37.2 +0.3**
comp=Z,5.5nm,0.9s
TREC Trest 44.54 310 AMS AMS 11 43 10.0
comp=Z,600nm,13.1s
KMBO Kilima Mbogo 44.59 230 P **P 11 33 39.4 +0.5**
comp=Z,1.2nm,0.3s,baz=38,slow=9.7,SNR=3.8
comp=Z,1.2nm,0.3s
BOJS Bojanci 44.60 305 *i* P **P 11 33 39.0 +0.7**
SOKA Soboth 44.75 307 *e*P **P 11 33 40.0 +0.4**
comp=Z,6.9nm,1.0s
GOPC GO Pecny, Ondr 45.03 311 AMS AMS 11 43 20.0
comp=Z,700nm,20.6s
OBKA Obir 45.09 307 *e*P **P 11 33 43.2 +0.9**
comp=Z,7.3nm,0.9s
CEY Cerknica 45.18 305 *i* P **P 11 33 43.7 +0.7**
PRU Pruhonice 45.19 311 AMS AMS 11 43 20.0
comp=Z,800nm,22.6s
PVCC Panska Ves 45.21 312 AMS AMS 11 44 00.0
comp=Z,500nm,13.4s
PRA Prague 45.27 312 AMS AMS 11 43 30.0
comp=Z,700nm,21.5s
CKRC Cesky Krumlov 45.29 310 *e*S **P 11 33 45.0 +1.2**
CKRC AMS AMS 11 43 40.0
comp=Z,700nm,13.0s
MOA Molln 45.29 308 *e*P **P 11 33 44.0 +0.2**
comp=Z,12nm,1.0s
ZVC Zvikov 45.39 311 AMS AMS 11 44 00.0
comp=Z,800nm,6.8s
BRG Berggiesshubel 45.63 313 *e*P **P 11 33 47.4 +1.0**
BRG Amp 11 33 49.2
comp=Z,8.1nm,0.9s
GERES GERESS Array B 45.69 310 P **P 11 33 46.7 -0.4**
GERES GERESS Array B 45.69 310 P **P 11 33 47.3 +0.3**
comp=Z,5.5nm,0.9s,baz=97,slow=6.9,SNR=22
comp=Z,5.5nm,0.9s
BIOA Bad Ischl, Aus 45.71 308 *e*P **P 11 33 47.5 +0.4**
comp=Z,5.5nm,1.1s
MYKA Terra Mystica 45.71 307 *e*P **P 11 33 47.1 -0.2**
comp=Z,2.8nm,0.6s
PRED Cave del Predi 45.77 306 IAmb IAmb 11 33 49.7
comp=Z,11nm,0.8s
KHC Kasperske Hory 45.78 310 *e*S **P 11 33 47.9 +0.2**
KHC AMS AMS 11 45 50.0
comp=Z,800nm,8.0s
KHC Kasperske Hory 45.78 310 ⇑*i* P **P 11 33 47.9 +0.2**
KHC pmax pmax
comp=Z,14nm,1.1s
KHC Kasperske Hory 45.78 310 P **P 11 33 47.4 -0.3**
comp=Z,17nm,1.4s
KBA Koelnbreinsper 45.91 307 *e*P **P 11 33 49.1 +0.2**
comp=Z,3.4nm,0.7s
HSKC Hora Svate Kat 45.94 312 AMS AMS 11 44 00.0
comp=Z,800nm,9.4s
ARCES ARCESS Array B 46.03 340 P **P 11 33 50.5 +1.1**
comp=Z,14nm,0.9s,baz=124,slow=6.5,SNR=12
comp=Z,14nm,0.9s
CLL Collm 46.25 313 *e*P **P 11 33 52.0 +0.8**
CLL Collm 46.25 313 *e*P **P 11 33 52.0 +0.8**
LESA Schwarzleotal 46.36 308 *e*P **P 11 33 51.6 -0.8**
comp=Z,6.6nm,1.0s,SNR=5.4
BNX BinXian 46.39 55 ⇓⇓P **P 11 33 51.5 -0.9**
BNX pmax pmax
comp=Z,13nm,1.0s
HEH HeiHe 46.39 48 *e*P **P 11 33 54.0 +1.6**
HEH pmax pmax
comp=Z,6.0nm,1.1s
HEH LR LR
comp=Z,290nm,12.1s
HEH LR LR
comp=Z,330nm,14.3s
HEH LR LR
comp=Z,580nm,14.1s
ABTA Abfaltersbach 46.49 307 *e*P **P 11 33 53.3 -0.1**
comp=Z,2.6nm,0.6s
ZEA Zeya 46.52 43 *e*P **P 11 33 55.6 +2.2**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
NKC Novy Kostel 46.55 312 AMS AMS 11 45 10.0
comp=Z,600nm,17.9s
HFS Hagfors 47.07 325 P **P 11 33 57.6 +0.1**
comp=Z,9.5nm,0.9s,baz=131,slow=6.7,SNR=13
comp=Z,9.5nm,0.9s
WTTA Wattenberg 47.08 308 *e*P **P 11 33 57.8 -0.3**
comp=Z,3.5nm,0.5s
CTI Castel Tesino 47.11 306 P **P 11 33 58.1 -0.1**
CTI Castel Tesino 47.11 306 P **P 11 33 58.1 -0.1**
CTI pmax pmax
comp=Z,60nm,1.4s
WATA Walderalm 47.11 308 *e*P **P 11 33 57.8 -0.5**
comp=Z,4.1nm,0.6s
SQTA Sankt Quirin 47.37 308 *e*P **P 11 33 59.9 -0.4**
comp=Z,3.2nm,0.6s
TJN Taejon 47.42 67 *i* P **P 11 34 01.8 +1.1**
MOTA Moosalm 47.44 308 *e*P **P 11 34 00.3 -0.5**
comp=Z,11nm,1.0s
KSAR Wonju Array Be 47.64 66 P **P 11 34 01.1 -1.2**
KSAR Wonju Array Be 47.64 66 P **P 11 34 01.1 -1.2**
RETA Reutte 47.66 308 *e*P **P 11 34 01.3 -1.2**
comp=Z,8.0nm,1.1s
KSRS Korea Array 47.67 66 P **P 11 34 02.9 +0.4**
comp=Z,7.2nm,0.9s,baz=269,slow=6.8,SNR=20
KSRS LR LR 11 56 40.0
comp=Z,114nm,19.1s,baz=270,slow=39
comp=Z,7.2nm,0.9s
FETA Feichten 47.70 307 *e*P **P 11 34 02.2 -0.7**
comp=Z,7.2nm,1.0s,SNR=5.6
FUORN Ofenpass-Fuorn 48.04 307 IAmb IAmb 11 34 29.2
comp=Z,15nm,1.2s
DAVA Damuels 48.27 308 *e*P **P 11 34 06.6 -0.7**
comp=Z,13nm,1.0s
NB2 NORSAR Subarra 48.45 326 P **P 11 34 07.2 -1.1**
comp=Z,2.2nm,0.6s,baz=104,slow=7.9
NOA NORSAR Array B 48.45 326 P **P 11 34 07.8 -0.5**
comp=Z,2.4nm,0.7s,baz=104,slow=7.8,SNR=9.1
comp=Z,2.4nm,0.7s
TUE Stuetta 48.68 307 P **P 11 34 11.3 +0.8**
TUE Stuetta 48.68 307 P **P 11 34 10.2 -0.3**
comp=Z,46nm,1.3s
MBAR Mbarara 48.74 237 *i* P **P 11 34 13.9 +2.6**
MBAR pmax pmax
comp=Z,5.0nm,1.4s
YAK Yakutsk 49.01 33 LR LR 11 57 00.3
comp=Z,211nm,18.6s,baz=264,slow=39
YAK Yakutsk 49.01 33 *e*P **P 11 34 14.1 +1.6**
YAK *e**PP **pP 11 34 18.1 -0.9**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK MLR MLR
comp=Z,352nm,14.0s
YAK MLR MLR
comp=N,189nm,15.0s
YAK MLR MLR
comp=E,201nm,12.0s
PSTR Posyet 49.08 58 *i* P **P 11 34 14.3 +1.0**
KLR Kul'dur 49.20 50 LR LR 11 57 44.0
comp=E,232nm,18.5s,baz=302,slow=39
KLR Kul'dur 49.20 50 *c e*P **P 11 34 15.1 +0.9**
KLR pmax pmax
comp=Z,11nm,1.4s
USRK Ussuriysk Ar. 49.75 56 P **P 11 34 18.5 +0.1**
comp=Z,3.5nm,0.9s,baz=318,slow=7.7,SNR=5.2
comp=Z,3.5nm,0.9s
KEST Kesra 50.25 293 P **P 11 34 22.9 +0.4**
comp=Z,3.6nm,0.7s,baz=88,slow=6.9,SNR=5.8
comp=Z,3.6nm,0.7s
JOW Kunigami 50.65 79 LR LR 11 58 32.3
comp=Z,298nm,20.9s,baz=197,slow=39
BNI Bardonecchia 50.67 305 P **P 11 34 25.6 0.0**
BNI Bardonecchia 50.67 305 P **P 11 34 25.7 0.0**
BNI pmax pmax
comp=Z,20nm,1.0s
TIXI Tiksi 51.23 20 P **P 11 34 28.1 -1.1**
TIXI IAmb IAmb 11 34 31.0
comp=Z,15nm,0.9s
TIXI Tiksi 51.23 20 P **P 11 34 29.2 0.0**
comp=Z,11nm,0.9s,baz=283,slow=4.8,SNR=27
TIXI LR LR 11 55 45.9
comp=Z,86nm,18.1s,baz=292,slow=36
comp=Z,11nm,0.9s
TIXI Tiksi 51.23 20 ⇑*i* P **P 11 34 29.3 0.0**
TIXI pmax pmax
comp=Z,17nm,1.0s
BMRD Maredsous 51.47 312 *d*P **P 11 34 32.4 +1.0**
LEM Lembang 51.98 130 LR LR 11 58 11.2
comp=Z,260nm,18.7s,baz=331,slow=38
SSB Saint Sauveur 52.14 306 IAmb IAmb 11 34 39.0
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 52.74 348 P **P 11 34 41.5 +1.0**
comp=Z,8.6nm,0.7s,baz=112,slow=13,SNR=13
comp=Z,8.6nm,0.7s
KBS Kingsbay 53.87 348 *i* P **P 11 34 53.0 +4.3**
EKA Eskdalemuir Ar 55.83 319 P **P 11 35 03.0 -0.2**
comp=Z,1.3nm,0.6s,baz=88,slow=7.8,SNR=6.0
comp=Z,1.3nm,0.6s
MJAR Matsushiro Arr 55.89 65 P **P 11 35 05.4 +1.3**
comp=Z,3.1nm,0.9s,baz=289,slow=12,SNR=6.3
comp=Z,3.1nm,0.9s
TYV Tymovskoe 56.05 47 *e*P **P 11 35 05.9 +1.1**
TYV pmax pmax
comp=Z,8.0nm,1.3s
TYV pmax pmax
comp=Z,200nm,4.9s
YSS Yuzhno-Sakhali 56.79 51 P **P 11 35 09.7 -0.5**
YSS Yuzhno-Sakhali 56.79 51 *e*P **P 11 35 10.5 +0.3**
YSS *e**SP **sP 11 35 15.6 -4.0**
YSS *e*S **S 11 42 58.3 -3.9**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=E,200nm,14.0s
DAV Davao City (W) 56.96 103 LR LR 12 02 22.2
comp=E,114nm,19.5s,baz=350,slow=39
NOR Nord 59.12 350 *i* P **P 11 35 26.3 +0.2**
NOR IAmb IAmb 11 35 28.1
comp=Z,5.5nm,0.8s
KAPI Kappang 59.38 118 LR LR 12 05 08.4
comp=Z,43nm,18.3s,baz=286,slow=40
ESDC Sonseca Array 59.48 301 P **P 11 35 29.1 -0.2**
ESDC Sonseca Array 59.48 301 P **P 11 35 28.8 -0.4**
comp=Z,4.0nm,1.0s,baz=63,slow=7.3,SNR=17
comp=Z,4.0nm,1.0s
SEY Seymchan 59.51 32 ⇑*i* P **P 11 35 30.0 +1.0**
SEY pmax pmax
comp=Z,8.0nm,1.0s
DBG Daneborg 60.59 342 *i* P **P 11 35 37.5 +1.3**
DBG IAmb IAmb 11 35 41.0
comp=Z,5.7nm,1.0s
BILL Bilibino 63.96 25 *c i* P **P 11 35 59.4 +0.5**
BILL pmax pmax
comp=Z,7.0nm,1.5s
PEA0B Petropavlovsk- 64.57 42 ⇑*i* P **P 11 36 06.5 +3.4**
PETK Petropavlovsk- 64.57 42 P **P 11 36 03.1 -0.1**
comp=Z,6.2nm,1.0s,baz=196,slow=9.1,SNR=3.6
PETK LR LR 12 06 59.1
comp=Z,399nm,19.6s,baz=290,slow=39
comp=Z,6.2nm,1.0s
TORD Torodi Ar. Bea 64.89 271 P **P 11 36 05.7 -0.1**
TORD Torodi Ar. Bea 64.89 271 P **P 11 36 05.9 +0.1**
comp=Z,4.1nm,0.6s,baz=15,slow=6.2,SNR=2.6
comp=Z,4.1nm,0.6s
SUMG Summit 66.07 342 P **P 11 36 14.3 +1.2**
SUMG Summit 66.07 342 P **P 11 36 14.3 +1.2**
SUMG pmax pmax
comp=Z,20nm,1.2s
SUMG Summit 66.07 342 *i* P **P 11 36 13.0 0.0**
SUMG IAmb IAmb 11 36 16.0
comp=Z,29nm,1.4s
NEEM North Greenlan 66.30 348 *i* P **P 11 36 14.4 +0.1**
NEEM IAmb IAmb 11 36 16.3
comp=Z,12nm,0.8s
ANGG Ammassalik, Gr 69.09 335 *i* P P 11 36 23.4 -8.2
ANGG IAmb IAmb 11 36 34.1
comp=Z,40nm,1.0s
KULLO Kullorsuaq 69.29 347 *i* P **P 11 36 33.0 +0.3**
KULLO IAmb IAmb 11 36 35.7
comp=Z,16nm,1.0s
UPNV Upernavik 70.29 345 *i* P **P 11 36 38.9 -0.1**
UPNV IAmb IAmb 11 36 43.4
comp=Z,33nm,1.2s
SFJD Kangerlussuaq 72.66 339 LR LR 12 10 34.9
comp=Z,132nm,19.1s,baz=82,slow=37
C16K Lisburne Hills 72.96 19 IAmb IAmb 11 36 56.2
comp=Z,8.3nm,0.9s
BOSA Boshof 73.00 220 P **P 11 36 56.3 +0.3**
comp=Z,6.6nm,0.9s,baz=57,slow=8.7,SNR=8.4
comp=Z,6.6nm,0.9s
B20K Meade River 73.76 15 IAmb IAmb 11 37 02.0
comp=Z,7.7nm,1.1s
C18K Utukok River 73.80 17 IAmb IAmb 11 37 43.9
comp=Z,10.0nm,1.3s
B22K Teshekpuk Lake 74.32 14 IAmb IAmb 11 37 04.7
comp=Z,7.4nm,1.0s
D19K Kuna River 74.68 17 IAmb IAmb 11 37 06.2
comp=Z,8.1nm,0.8s
E18K Tukpahlearik C 74.84 18 IAmb IAmb 11 37 08.1
comp=Z,11nm,1.1s
F15K North Star Dit 74.91 20 IAmb IAmb 11 37 09.0
comp=Z,9.4nm,1.1s
C23K Itkillik River 75.30 14 IAmb IAmb 11 37 10.8
comp=Z,13nm,1.0s
F17K Baldwin Pennin 75.38 19 IAmb IAmb 11 37 11.5
comp=Z,14nm,1.1s
D22K Ayikyak River 75.64 15 IAmb IAmb 11 37 14.9
comp=Z,13nm,1.4s
E21K Killik River 75.70 15 IAmb IAmb 11 37 12.2
comp=Z,7.4nm,0.9s
C24K Franklin Bluff 75.77 13 IAmb IAmb 11 37 13.4
comp=Z,12nm,1.4s
D23K Nanushuk River 76.00 14 IAmb IAmb 11 37 14.5
comp=Z,7.8nm,1.1s
F20K Avaraart Lake 76.38 17 IAmb IAmb 11 39 24.4
comp=Z,13nm,1.8s
E22K Anaktuvuk Pass 76.43 15 P **P 11 37 15.2 -0.1**
TOLK Toolik Lake Re 76.50 14 IAmb IAmb 11 37 17.9
comp=Z,8.8nm,1.1s
D25K Kavik River 76.55 13 IAmb IAmb 11 37 18.5
comp=Z,8.9nm,1.1s
C27K Jago River 76.76 12 IAmb IAmb 11 37 21.3
comp=Z,6.9nm,1.1s
F21K Alatna River 76.78 16 IAmb IAmb 11 37 43.1
comp=Z,19nm,1.9s
H19K Roundabout Mou 77.37 18 IAmb IAmb 11 37 21.9
comp=Z,6.7nm,1.1s
NWAO Narrogin (SRO) 77.62 141 LR LR 12 10 07.0
comp=Z,138nm,18.1s,baz=300,slow=35
H21K Melozitna Rive 78.20 17 IAmb IAmb 11 37 27.4
comp=Z,13nm,1.2s
BMAR Burnt Mountain 78.52 13 P **P 11 37 28.0 +1.0**
J19K Poorman 78.79 19 IAmb IAmb 11 37 30.8
comp=Z,8.7nm,1.1s
E29M Blow River 78.82 10 IAmb IAmb 11 38 09.6
comp=Z,11nm,1.6s
J18K Innoko River 78.89 19 IAmb IAmb 11 37 32.5
comp=Z,7.8nm,1.1s
H24K Noodor Dome 79.21 15 IAmb IAmb 11 37 33.3
comp=Z,18nm,1.6s
C36M Paulatuk 79.48 5 IAmb IAmb 11 37 33.8
comp=Z,11nm,1.0s
INK Inuvik 79.51 9 P **P 11 37 32.4 +0.1**
INK IAmb IAmb 11 37 34.1
comp=Z,14nm,1.4s
INK Inuvik 79.51 9 P **P 11 37 32.4 +0.1**
INK pmax pmax
comp=Z,14nm,1.4s
K20K Telida 79.72 19 IAmb IAmb 11 37 35.8
comp=Z,11nm,1.1s
WRA Warramunga Arr 79.79 121 P **P 11 37 34.7 +0.1**
WRA Warramunga Arr 79.79 121 P **P 11 37 34.5 -0.1**
comp=Z,4.0nm,0.8s,baz=335,slow=13,SNR=6.8
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 79.79 121 P **P 11 37 34.7 +0.1**
WRA pmax pmax
comp=Z,1.0nm,1.7s
WB2 Warramunga Arr 79.80 121 IAmb IAmb 11 37 39.3
comp=Z,7.7nm,0.9s
NEA2 Nenana 79.98 16 IAmb IAmb 11 37 36.1
comp=Z,10nm,0.8s
F31M Tsiigehtchic 80.30 9 IAmb IAmb 11 37 39.0
comp=Z,24nm,1.5s
ILAR Eielson Array 80.34 15 PP **PP 11 40 39.3 +0.3**
comp=Z,2.1nm,1.2s,baz=315,slow=8.3,SNR=6.0
G30M tAoh Zraii Nji 80.37 10 IAmb IAmb 11 37 41.7
comp=Z,11nm,1.1s
H29M Whitestone 80.73 11 IAmb IAmb 11 39 03.0
comp=Z,13nm,1.6s
H31M Peel River 81.75 10 P **P 11 37 44.8 +0.3**
H31M IAmb IAmb 11 39 22.2
comp=Z,24nm,1.6s
AS31 Alice Springs 81.78 124 P **P 11 37 44.9 -0.3**
ASAR Alice Springs 81.78 124 P **P 11 37 45.3 +0.1**
ASAR Alice Springs 81.78 124 P **P 11 37 45.0 -0.2**
comp=Z,2.6nm,0.5s,baz=307,slow=5.4,SNR=78
ASAR LR LR 12 15 14.6
comp=Z,80nm,21.9s,baz=302,slow=37
comp=Z,2.6nm,0.5s
ASAR Alice Springs 81.78 124 P **P 11 37 45.3 +0.1**
DAWY Dawson 82.51 13 P **P 11 37 48.6 +0.1**
DAWY IAmb IAmb 11 37 50.6
comp=Z,9.8nm,1.3s
J30M Hart River 82.58 11 IAmb IAmb 11 37 50.6
comp=Z,10nm,1.2s
K29M Barlow Dome 83.05 12 IAmb IAmb 11 37 53.2
comp=Z,6.0nm,1.1s
L29M L29M 83.62 12 IAmb IAmb 11 37 56.2
comp=Z,8.4nm,1.1s
HYT Haines Junctio 85.83 13 IAmb IAmb 11 38 08.1
comp=Z,6.5nm,1.1s
MTSU Mount Surprise 86.37 113 P **P 11 38 09.6 +0.9**
YKA Yellowknife Ar 86.82 2 P **P 11 38 10.2 0.0**
YKA Yellowknife Ar 86.82 2 P **P 11 38 10.8 +0.6**
comp=Z,6.2nm,1.0s,baz=348,slow=4.8,SNR=62
comp=Z,6.2nm,1.0s
YKA Yellowknife Ar 86.82 2 P **P 11 38 10.2 0.0**
SCHQ Schefferville 86.89 337 LR LR 12 17 50.8
comp=Z,122nm,19.6s,baz=286,slow=36
FCC Fort Churchill 89.67 352 P **P 11 38 23.6 -0.1**
FCC IAmb IAmb 11 38 25.8
comp=Z,7.3nm,1.1s
FCC Fort Churchill 89.67 352 P **P 11 38 23.6 -0.1**
FCC pmax pmax
comp=Z,7.0nm,1.1s
STKA Stephens Creek 92.14 126 P **P 11 38 36.1 +0.5**
comp=Z,0.7nm,0.5s,baz=29,slow=13,SNR=0.9
comp=Z,0.7nm,0.5s
FFC Flin Flon 94.41 355 P **P 11 38 46.7 +0.9**
FFC IAmb IAmb 11 38 47.5
comp=Z,7.4nm,1.1s
FFC Flin Flon 94.41 355 P **P 11 38 46.7 +0.9**
FFC pmax pmax
comp=Z,7.0nm,1.1s
HNR Honiara 94.69 98 LR LR 12 23 34.3
comp=Z,22nm,18.2s,baz=256,slow=37

AFAD **25** *11:29:23.6, 38°.77N×38°.17E, h11km±3km, MW4.5*
ISK **25** *11:29:23.6, 38°.75N×38°.16E, h5km, ML4.7/38*
IDC **25** *11:29:24.8±0.5, 38°.73N×38°.06E, h0km, mb4.3/23, mbtmp4.3/35, ML4.3/8, MS3.9/30, Error ellipse: s-maj=10.2km s-min=8.2km az=154.0*
MOS **25** *11:29:25.2±1.2, 38°.79N×38°.05E, h16km, mb4.7/11, Error ellipse: s-maj=6.6km s-min=4.2km az=104.1*
MED_RC **25** *11:29:25.0±0.5, 38°.71N×38°.19E, h10km, MW4.7/27, Moment Tensor Solution. Mantle waves: s27,c34; Duration: 1ꝛ1 Moment tensor: Scale 10^16Nm; Mrr-0.60±.06; Mθθ-1.04±.08; Mφφ1.63±.05; Mrθ0.46±.28; Mrφ0.47±.06; Mθφ0.10±.38; Best double couple: M0 1.54000×10^16 NP1:φs328.00000°, δ66.00000°, λ-161.00000°. NP2:φs230.00000°, δ73.00000°, λ-25.00000°. Principal axes: T 1.7200, Plg4.0000°, Azm280.0000°; N -0.3600, Plg60.0000°, Azm18.0000°; P -1.3700, Plg30.0000°, Azm188.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MCSM **25** *11:29:25.6±1.6, 39°.N±3°.×3°.8E±°, h14km±12km, mb4.6, mB5.0, MLv4.8, Mw(mB)4.3*
NEIC **25** *11:29:26.3±1.7, 38°.69N±0°.05×38°.07E±0°.06, h10km±1km, mb4.6/37, Error ellipse: s-maj=8.3km s-min=7.6km az=191.0*
GCMT **25** *11:29:27.3±0.4, 38°.76N±0°.03×38°.09E±0°.02, h21km±1km, MW4.9/101, Moment Tensor Solution. s19,c20; s101,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.33±.23; Mθθ-1.27±.16; Mφφ2.60±.15; Mrθ0.96±.31; Mrφ1.96±.11; Mθφ-0.07±.21; Best double couple: M0 3.07300×10^16 NP1:φs343.00000°, δ64.00000°, λ-157.00000°. NP2:φs242.00000°, δ70.00000°, λ-28.00000°. Principal axes: T 3.4390, Plg4.0000°, Azm293.0000°; N -0.7330, Plg56.0000°, Azm29.0000°; P -2.7060, Plg34.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GII **25** *11:29:42.7±0.0, 37°.874N±0°.006×37°.314E±0°.002, h10km, Mws4.6, confirmed*

ISC 25 11:29:25.4±0.7, **38°.75N**±0°.02×**38°.12E**±0°.02, **h3**km±4km, **n326**, σ1**s49**/348, **mb4.5**/44, **MS4.0**/24, **24C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.48**	**199**	P	**Pg**	**11 29 33.9**	**-0.8**
AKCD				S	**Sb**	**11 29 42.2**	**-1.9**
MAYA	**Malatya/Merkez**	**0.48**	**151**	P	**Pg**	**11 29 33.7**	**-1.1**
MAYA				S	**Sg**	**11 29 40.3**	**-0.8**
DARE	**Darende-Malaty**	**0.53**	**251**	Pg	**Pg**	**11 29 34.3**	**-1.3**
DARE				Sg	**Sg**	**11 29 42.8**	**+0.3**
KEMA	**Kemaliye**	**0.59**	**29**	P	**Pg**	**11 29 34.6**	**-2.2**
KEMA				S	**Sg**	**11 29 42.9**	**-1.7**
CUGUR	**Gurin_SVAS**	**0.67**	**268**	P	**Pg**	**11 29 36.6**	**-1.6**
CUGUR				S	**Sb**	**11 29 47.7**	**-1.7**
ELZG	**Elazig**	**0.72**	**110**	P	**Pg**	**11 29 37.1**	**-2.1**
CUKAN	**kangal_SIVAS**	**0.76**	**318**	P	**Pg**	**11 29 38.1**	**-2.0**
CUKAN				S	**Sg**	**11 29 49.4**	**-0.6**
ELBS	**KAHRAMANMARAS**	**0.88**	**242**	P	**Pg**	**11 29 42.3**	**-0.1**
ELBS				S	**Sb**	**11 29 53.8**	**-1.9**
AZEY	**Adyaman-Merk**	**0.94**	**174**	P	**Pg**	**11 29 42.5**	**-1.0**
AZEY				S	**Sb**	**11 29 55.7**	**-1.6**
NARI	**Adyaman-Kaht**	**1.00**	**150**	P	**Pg**	**11 29 44.0**	**-0.6**
NARI				S	**Sn**	**11 29 60.0**	**-1.0**
PTK	**Pertek**	**1.00**	**81**	Pg	**Pg**	11 29 41.7	-3.0
PTK				Sg	**Sg**	**11 29 56.4**	**-1.3**
AKCA	**Adyaman/G¶l**	**1.01**	**200**	P	**Pg**	**11 29 43.9**	**-1.0**
AKCA				S	**Sn**	**11 30 00.2**	**-1.1**
TNCL	**Tunceli-Merkez**	**1.17**	**71**	P	Pn	11 29 44.4	-4.3
TNCL				S	**Sb**	**11 30 00.2**	**-3.6**
CUZAR	**Zara_SIVAS**	**1.17**	**347**	P	**Pb**	**11 29 46.5**	**-1.9**
CUZAR				S	**Sb**	**11 30 02.5**	**-1.4**
CUAYA	**Sivas-Altinyay**	**1.19**	**296**	P	**Pb**	**11 29 45.8**	**-2.9**
CUAYA				S	**Sn**	**11 30 05.3**	**-0.5**
ATAB	**Bozova**	**1.28**	**174**	P	**Pn**	**11 29 48.9**	**-1.4**
ATAB				S	**Sn**	**11 30 06.6**	**-1.4**
HANM	**anlurfa/Hi**	**1.31**	**153**	P	**Pn**	**11 29 49.3**	**-1.3**
HANM				S	**Sb**	**11 30 06.8**	**-1.1**
KOVA	**Elazig, Kovanc**	**1.32**	**91**	P	**Pn**	**11 29 47.3**	**-3.5**
KOVA				S	**Sb**	**11 30 08.2**	**-0.1**
SCER	**sogukcermik**	**1.35**	**326**	P	**Pn**	**11 29 48.5**	**-2.8**
SCER				S	**Sb**	**11 30 08.0**	**-1.2**
SARI	**SarD1z-Kayseri**	**1.38**	**256**	Pn	**Pn**	**11 29 49.4**	**-2.3**
SARI				Sn	**Sg**	**11 30 10.0**	**+0.3**
URFA	**Urfa**	**1.42**	**157**	Pn	**Pn**	**11 29 50.8**	**-1.3**
SVSK	**Karacayir**	**1.46**	**324**	Pn	**Pn**	**11 29 50.6**	**-2.0**
SVSK				Sn	**Sn**	**11 30 11.7**	**-0.4**
GZT	**Gaziantep**	**1.46**	**198**	P	**Pn**	**11 29 52.1**	**-0.7**
GZT				S	**Sg**	**11 30 13.5**	**+1.2**
SUSE	**Susehri**	**1.46**	**2**	P	**Pn**	**11 29 51.3**	**-1.5**
SUSE				S	**Sn**	**11 30 11.2**	**-1.3**
KAHM	**Kahramanmaras,**	**1.52**	**216**	P	**Pb**	**11 29 53.3**	**-1.0**
KAHM				S	**Sg**	**11 30 13.5**	**-0.8**
EUZM	**Uzumlu**	**1.55**	**51**	P	**Pn**	**11 29 52.4**	**-1.6**
EUZM				S	**Sn**	**11 30 13.5**	**-1.2**
KHMN	**Narli-Kahraman**	**1.55**	**210**	Pn	**Pn**	**11 29 52.8**	**-1.2**
KMRS	**Kahramanmaras**	**1.57**	**218**	Pn	**Pn**	**11 29 53.1**	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**1.61**	**295**	P	**Pn**	**11 29 52.8**	**-2.0**
CUSAR				S	**Sg**	**11 30 17.4**	**+0.3**
KELT	**Kelkit**	**1.65**	**32**	P	**Pn**	**11 29 53.9**	**-1.6**
KELT				S	**Sn**	**11 30 16.4**	**-0.8**
ALUC	**Giresun/Alucra**	**1.67**	**17**	P	**Pn**	**11 29 55.0**	**-0.7**
ALUC				S	**Sn**	**11 30 17.8**	**+0.1**
KHMR	**Kahramanmara**	**1.70**	**215**	P	**Pg**	**11 29 57.3**	**-0.7**
KHMR				P	**Pg**	**11 29 57.4**	**-0.7**
KHMR				S	**Sg**	**11 30 20.3**	**+0.3**
KHMR				S	**Sb**	**11 30 20.5**	**+1.5**
SANL	**SANLIURFA_Merk**	**1.72**	**156**	P	**Pn**	**11 29 55.1**	**-1.1**
GAZ	**Gaziantep**	**1.73**	**205**	Pn	**Pn**	**11 29 55.3**	**-1.1**
GAZ	**Gaziantep**	**1.73**	**205**		**Pn**	**11 29 56.1**	**-0.3**
NZIP	**Nizip/Gaziante**	**1.74**	**192**	P	**Pn**	**11 29 55.7**	**-0.9**
RSDY	**Resadiye-TOKAT**	**1.76**	**340**	Pn	**Pn**	**11 29 55.8**	**-1.0**
DIYA	**Diyarbakir**	**1.77**	**117**	P	**Pn**	**11 29 55.5**	**-1.6**
SAIM	**ADANA**	**1.78**	**245**	P	**Pn**	**11 29 56.8**	**-0.4**
SAIM				S	**Sg**	**11 30 20.9**	**-1.7**
BNN	**Bunyan**	**1.78**	**274**	Pn	**Pn**	**11 29 56.4**	**-0.8**
BNN	**Bunyan**	**1.78**	**274**	Pn	**Pn**	**11 29 56.8**	**-0.4**
HANI	**Diyarbakir_Han**	**1.82**	**100**	P	**Pn**	**11 29 55.8**	**-1.8**
ANDN	**Andirin**	**1.82**	**231**	P	**Pb**	**11 29 57.9**	**-1.6**
ANDN				S	**Sg**	**11 30 24.0**	**0.0**
SURC	**SANLIURFA_SURC**	**1.91**	**168**	P	**Pn**	**11 29 57.6**	**-1.2**
KAMA	**Osmaniye**	**1.94**	**217**	P	**Pn**	**11 29 58.5**	**-0.8**
GUNE	**Kayseri**	**1.96**	**275**	P	**Pn**	**11 29 59.2**	**-0.4**
TOKT	**Tokat**	**1.99**	**323**	Pn	**Pn**	**11 29 58.9**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.01**	**69**	Pn	**Pn**	**11 29 58.9**	**-1.4**
BNGB	**Bingl**	**2.01**	**82**	Pn	**Pn**	**11 29 58.5**	**-1.8**
TOKA	**Tokat**	**2.02**	**322**		**Pn**	**11 30 00.1**	**-0.4**
TOKA	**Tokat**	**2.02**	**322**	P	**Pn**	**11 29 59.6**	**-0.8**
TOKA				S	**Sb**	**11 30 28.2**	**-0.2**
HACI	**Hacifakili, Ak**	**2.09**	**298**	P	**Pn**	**11 30 00.6**	**-0.7**
KUZU	**Kuzuini**	**2.14**	**203**	P	**Pn**	**11 30 01.2**	**-0.9**
KOZT	**Kozan**	**2.21**	**236**	Pn	**Pn**	**11 30 02.2**	**-0.8**
ESPY	**Espiye-Giresun**	**2.21**	**12**	Pn	**Pn**	**11 30 01.9**	**-1.1**
KOPT	**Kop Dagi**	**2.23**	**55**		**Pn**	**11 30 04.1**	**+0.5**
KOPT	**Kop Dagi**	**2.23**	**55**	P	**Pn**	**11 30 03.4**	**-0.1**
BAYB	**BAYBURT**	**2.24**	**47**	P	**Pn**	**11 30 04.8**	**+1.3**
MAZI	**Mazidag**	**2.24**	**124**	Pn	**Pn**	**11 30 01.7**	**-1.8**
ORDU	**Ordu-Boztepe**	**2.25**	**355**	P	**Pn**	**11 30 02.8**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**2.27**	**43**	Pn	**Pn**	**11 30 02.8**	**-1.1**
SLHN	**Bingol, Solhan**	**2.27**	**84**	P	**Pn**	**11 30 03.4**	**-0.6**
KARO	**Karliova-Bingo**	**2.35**	**75**	Pn	**Pn**	**11 30 03.6**	**-1.4**
ECAT	**Cat-ERZURUM**	**2.38**	**68**	P	**Pn**	**11 30 06.8**	**+1.4**
HASA	**Hatay-Hassa-Ha**	**2.38**	**214**	P	**Pb**	**11 30 08.2**	**-0.6**
SIRC	**Yozgat**	**2.39**	**285**	P	**Pn**	**11 30 04.5**	**-1.1**
CKRK	**Yozgat, Cekere**	**2.42**	**304**	P	**Pn**	**11 30 05.2**	**-0.8**
AKO	**Adana**	**2.47**	**239**	P	**Pn**	**11 30 07.4**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.49**	**103**	Pn	**Pn**	**11 30 05.3**	**-1.5**
MARD	**Mardin**	**2.54**	**124**	Pn	**Pn**	**11 30 06.7**	**-0.9**
CEYT	**Ceyhan**	**2.56**	**228**	Pn	**Pn**	**11 30 07.1**	**-0.6**
AVNS	**Nevsehir-Avano**	**2.56**	**272**	P	**Pn**	**11 30 07.1**	**-0.8**
KTUT	**Trabzon**	**2.57**	**29**	Pn	**Pn**	**11 30 06.5**	**-1.4**
KTUT	**Trabzon**	**2.57**	**29**	⇓P	**Pn**	**11 30 06.3**	**-1.5**
KTUT				⇓S	**Sn**	**11 30 36.6**	**-3.0**
KOZK	**Kozakli-Nevseh**	**2.58**	**281**	Pn	**Pn**	**11 30 07.4**	**-0.7**
VRTB	**Varto-Mus**	**2.63**	**80**	Pn	**Pn**	**11 30 08.0**	**-0.9**
CMRD	**Camardi-Nigde**	**2.69**	**247**	Pn	**Pn**	**11 30 09.4**	**-0.3**
EDAM	**Erzurum-Paland**	**2.70**	**64**	Pn	**Pn**	**11 30 08.4**	**-1.5**
KIZO	**Buyukkizoglu-L**	**2.73**	**323**	Pn	**Pn**	**11 30 09.9**	**-0.3**
YARM	**Yarimca-Ladik(**	**2.80**	**322**	Pn	**Pn**	**11 30 10.8**	**-0.3**
KVT	**Kavak**	**2.82**	**326**	Pn	**Pn**	**11 30 10.8**	**-0.6**
TAHT	**Tahtakopru-Hat**	**2.83**	**214**	Pn	**Pn**	**11 30 10.9**	**-0.5**
NIG	**Nigde**	**2.83**	**258**	Pn	**Pn**	**11 30 11.2**	**-0.5**
KARA	**Karaisali**	**2.84**	**239**	Pn	**Pn**	**11 30 11.0**	**-0.7**
CORM	**Corum**	**3.06**	**299**	Pn	**Pn**	**11 30 14.5**	**-0.2**
GURO	**Guroymak-BITLI**	**3.07**	**92**	Pn	**Pn**	**11 30 14.3**	**-0.6**
GURO	**Guroymak-BITLI**	**3.07**	**92**		**Pn**	**11 30 15.3**	**+0.4**
GULA	**Gulagac**	**3.07**	**264**	Pn	**Pn**	**11 30 14.6**	**-0.3**
CHOM	**Cayeli-Rize**	**3.10**	**40**	Pn	**Pn**	**11 30 14.4**	**-0.8**
KIRS	**Kirsehir-Merke**	**3.30**	**278**	⇑P	**Pn**	**11 30 18.0**	**0.0**
MERS	**Mersin**	**3.41**	**238**	Pn	**Pn**	**11 30 19.5**	**-0.1**
KAMT	**Kaman**	**3.49**	**282**	Pn	**Pn**	**11 30 20.3**	**-0.3**
SERE	**Serefilikochisa**	**3.56**	**275**	Pn	**Pn**	**11 30 21.7**	**0.0**
YESY	**Yesilyurt**	**3.58**	**256**	Pn	**Pn**	**11 30 21.9**	**0.0**
BR104	**Keskin Array S**	**3.61**	**287**	Pn	**Pn**	**11 30 22.0**	**-0.3**
BR131	**Keskin Array S**	**3.62**	**287**	Pn	**Pn**	**11 30 21.8**	**-0.6**
BR131	**Keskin Array S**	**3.62**	**287**	Pn	**Pn**	**11 30 22.1**	**-0.3**
BR131	**Keskin Array S**	**3.62**	**287**	*c iP*	**Pn**	**11 30 22.4**	**0.0**
BRTR	**Keskin Array B**	**3.62**	**287**	Pn	**Pn**	**11 30 22.4**	**0.0**
	10nm,0.3s,baz=110,slow=11,SNR=263						
BRTR				Lg	Lg	11 31 19.0	
	18nm,0.3s,baz=120,slow=27,SNR=7.2						
BRTR				LR	LR	11 32 10.3	
	comp=Z,3μm,20.2s,baz=116,slow=46						
	93nm,0.8s						
BRTR	**Keskin Array B**	**3.62**	**287**	*i* P	**Pn**	**11 30 21.8**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,97nm,0.8s						
BR105	**Keskin Array S**	**3.63**	**287**	Pn	**Pn**	**11 30 22.4**	**-0.2**
BR106	**Keskin Array S**	**3.63**	**287**	Pn	**Pn**	**11 30 22.4**	**-0.3**
DIKM	**Dikmen**	**3.63**	**324**	Pn	**Pn**	**11 30 22.3**	**-0.2**
DIKM	**Dikmen**	**3.63**	**324**	⇑P	**Pn**	**11 30 22.5**	**-0.1**
SULT	**Sultanhani-AKS**	**3.66**	**263**	Pn	**Pn**	**11 30 23.2**	**+0.3**
KIZK	**Mersin**	**3.89**	**236**	Pn	**Pn**	**11 30 26.0**	**0.0**
GEVA	**Gevas**	**3.90**	**95**		**Pn**	**11 30 28.1**	**+1.7**
BATM	**Batumi**	**3.95**	**43**	P	**Pb**	**11 30 35.2**	**-0.5**
BATM	**Batumi**	**3.95**	**43**	*eP*	**Pb**	**11 30 35.1**	**-0.5**
AFSR	**Afar-Bala (An**	**3.99**	**282**	Pn	**Pn**	**11 30 27.7**	**+0.2**
KULU	**Kulu**	**4.00**	**276**	Pn	**Pn**	**11 30 27.9**	**+0.2**
ILGA	**Ilgaz**	**4.09**	**306**	Pn	**Pn**	**11 30 29.1**	**0.0**
SILI	**Silifke-Mersin**	**4.10**	**236**	Pn	**Pn**	**11 30 29.2**	**+0.3**
CHBY	**Cihanbeyli**	**4.10**	**269**	Pn	**Pn**	**11 30 29.1**	**+0.1**
ANTO	**Ankara**	**4.28**	**287**		**Pn**	**11 30 31.8**	**+0.3**
ANTO	**Ankara**	**4.28**	**287**	⇑P	**Pn**	**11 30 31.8**	**+0.3**
ANTO	**Ankara**	**4.28**	**287**	P	**Pn**	**11 30 31.8**	**+0.3**
ANTO	**Ankara**	**4.28**	**287**	Pn	**Pn**	**11 30 31.4**	**-0.1**
BEIL	**Beino**	**4.48**	**201**	*eP*	**Pn**	**11 30 34.0**	**-0.2**
BZK	**Bozkurt**	**4.49**	**317**		**Pn**	**11 30 34.6**	**+0.3**
BZK	**Bozkurt**	**4.49**	**317**	⇑P	**Pn**	**11 30 34.1**	**-0.2**
BZK	**Bozkurt**	**4.49**	**317**	Pn	**Pn**	**11 30 34.4**	**+0.1**
FKH	**Fakeheh**	**4.70**	**198**	*eP*	**Pn**	**11 30 36.9**	**-0.4**
HWQ	**Hawqa**	**4.79**	**202**	*eP*	**Pn**	**11 30 38.0**	**-0.6**
VSLR	**Vesyoloye**	**4.92**	**16**	⇑*iP*	**Pn**	**11 30 39.3**	**-1.0**
SOC	**Sochi**	**4.98**	**13**	*eP*	**Pn**	**11 30 40.9**	**-0.1**
SOC				*e*		11 31 41.5	
SOC				pmax	pmax		
	comp=Z,21nm,0.5s						
SOC				MLR	MLR		
	comp=Z,715nm,12.0s						
CIDE	**Kastamonu/Cide**	**5.04**	**310**	⇓P	**Pn**	**11 30 41.9**	**+0.1**
BHL	**Bhannes**	**5.23**	**203**	*eP*	**Pn**	**11 30 45.7**	**+1.2**
GRNI	**Garni**	**5.31**	**73**	Lg	Lg	11 32 16.5	
	baz=216,slow=16						
GNI				LR	LR	11 32 32.5	
	comp=Z,502nm,19.3s,baz=269,slow=35						
GNI	**Garni**	**5.31**	**73**	*eP*	**Pn**	**11 30 44.1**	**-1.6**
TRLG	**Trialeti**	**5.36**	**57**	P	**Pb**	**11 31 00.7**	**+0.8**
ALIG	**Mtskhetisjvari**	**5.39**	**50**	P	Pn	11 30 53.6	+6.9
ALIG				S	**Sb**	**11 32 08.8**	**+3.6**
ALIG	**Mtskhetisjvari**	**5.39**	**50**	*eP*	Pn	11 30 53.5	+6.8
CSS	**Mathiatis**	**5.39**	**227**	Pn	**Pn**	**11 30 44.2**	**-2.5**
CSS	**Mathiatis**	**5.39**	**227**	Pn	**Pn**	**11 30 45.4**	**-1.3**
	comp=Z,0.5nmcomp=Z,91nm,0.6s						
CSS	**Mathiatis**	**5.39**	**227**	P	**Pn**	**11 30 49.0**	**+2.3**
DQRL	**Deir Qamar**	**5.44**	**203**	*eP*	**Pn**	**11 30 48.0**	**+0.6**
QRWL	**Qaraoun**	**5.55**	**202**	*eP*	**Pn**	**11 30 51.9**	**+2.9**
RCY	**Rachaya**	**5.56**	**200**	*eP*	**Pn**	**11 30 49.8**	**+0.7**
GARIG	**Gari**	**5.60**	**45**	P	Pn	11 30 55.6	+6.0
GARIG				S	**Sb**	**11 32 12.7**	**+1.4**
MDUB	**Mudurnu**	**5.62**	**290**	Pn	**Pn**	**11 30 50.1**	**+0.2**
SHBL	**Chebaa**	**5.72**	**200**	*eP*	**Pn**	**11 30 52.1**	**+0.7**
NATI	**Neve Ativ**	**5.81**	**200**	P	**Pn**	**11 30 54.9**	**+2.5**
GEM	**Giv'at Ha'Em**	**5.88**	**201**	P	**Pn**	**11 30 54.9**	**+1.5**
GEM	**Giv'at Ha'Em**	**5.88**	**201**	S	**Sn**	**11 31 53.6**	**-7.6**
ISP	**Isparta**	**6.05**	**264**	*eP*	**Pn**	**11 30 55.7**	**-0.1**
KSHT	**Keshet**	**6.05**	**199**	P	**Pn**	**11 30 58.3**	**+2.5**
BORA	**Eskisehir**	**6.05**	**283**	Pn	**Pn**	**11 30 55.7**	**-0.2**
ANN	**Anapa**	**6.07**	**355**	*eP*	Pb	11 31 06.9	-4.8
ANN				pmax	pmax		
	comp=Z,32nm,0.7s						
ANN				MLR	MLR		
	comp=Z,537nm,9.0s						
MMA0B	**Mount Meron ar**	**6.13**	**202**	P	**Pn**	**11 30 57.7**	**+0.7**
MMA0B	**Mount Meron ar**	**6.13**	**202**	S	Sn	11 31 58.5	-9.1
MMAI	**Mount Meron Ar**	**6.13**	**202**	Pn	**Pn**	**11 30 55.9**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=46,slow=14,SNR=7.3						
MMAI				Lg	Lg	11 32 39.2	
	comp=Z,14nm,0.3s,baz=22,slow=25,SNR=4.0						
MMAI				LR	LR	11 33 24.6	
	comp=Z,777nm,19.9s,baz=2.5,slow=39						
	comp=Z,2.6nm,0.4s						
HNTI	**Hanita**	**6.14**	**204**	P	**Pn**	**11 30 59.0**	**+2.1**
KBZ	**Khabaz**	**6.14**	**34**	LR	LR	11 33 23.9	
	comp=Z,2μm,20.3s,baz=220,slow=39						
KBZ	**Khabaz**	**6.14**	**34**	*eP*	**Pn**	**11 30 56.6**	**-0.3**
LABN	**Labinsk**	**6.20**	**17**	*eP*	**Pn**	**11 31 01.0**	**+3.2**
LABN				*eS*	**Sn**	**11 32 16.4**	**+7.3**
LABN				pmax	pmax		
	comp=Z,37nm,0.5s						
LABN				MLR	MLR		
	comp=Z,1μm,11.0s						
KIV	**Kislovodsk**	**6.23**	**32**	*eP*	**Pn**	**11 30 57.0**	**-1.3**
KIV				pmax	pmax		
	comp=Z,42nm,1.1s						
KIV				MLR	MLR		
	comp=Z,438nm,10.0s						
KVAR	**Kislovodsk Arr**	**6.24**	**32**	Pn	**Pn**	**11 31 00.6**	**+2.2**
	comp=Z,4.7nm,0.4s						
KVAR				Sn	**Sn**	**11 32 12.2**	**+2.1**
SUDU	**Sudak**	**6.56**	**340**	*eP*	**Pn**	**11 31 03.2**	**+0.5**
SUDU				*eS*	**Sn**	**11 32 19.5**	**+1.5**
SUDU	**Sudak**	**6.56**	**340**	⇑*eP*	**Pn**	**11 31 03.2**	**+0.5**
SUDU				Pm		11 31 04.3	
	comp=Z,15nm,0.4s						
SUDU				*eS*	**Sn**	**11 32 19.5**	**+1.5**
SUDU				Sm		11 32 25.2	
	comp=N,15nm,0.6s						
SUDU				Sm		11 32 25.2	
	comp=E,9.0nm,0.4s						
OFRI	**`Ofer**	**6.62**	**204**	P	**Pn**	**11 31 06.7**	**+3.0**
ASF	**Jabal al Asfar**	**6.64**	**189**	Pn	**Pn**	**11 31 03.4**	**-0.5**
	comp=E,2.7nm,0.3s,baz=40,slow=4.9,SNR=8.9						
ASF				Lg	Lg	11 32 52.4	
	comp=E,5.2nm,0.3s,baz=37,slow=8.5,SNR=3.7						
ASF				LR	LR	11 33 55.3	
	comp=E,1μm,20.1s,baz=34,slow=41						
	comp=E,10nm,0.4s						
MMLI	**Mount Malkishu**	**6.67**	**200**	P	**Pn**	**11 31 06.6**	**+2.3**
SEV	**Sevastopol'**	**6.68**	**331**	*eP*	**Pn**	**11 31 04.7**	**+0.3**
SEV				*eS*	**Sn**	**11 32 22.0**	**+1.1**
SEV	**Sevastopol'**	**6.68**	**331**	*eP*	**Pn**	**11 31 04.7**	**+0.3**
SEV				Pm		11 31 06.5	
	comp=Z,4.0nm,0.3s						
SEV				*eS*	**Sn**	**11 32 22.0**	**+1.1**
SEV				Sm		11 32 25.4	
	comp=N,5.0nm,0.4s						
SEV				Sm		11 32 25.4	
	comp=E,5.0nm,0.3s						
HMDT	**Nahal Hemdat**	**6.82**	**199**	P	**Pn**	**11 31 09.6**	**+3.3**
SIM	**Simferopol'**	**6.88**	**336**	P	**Pn**	**11 31 11.4**	**+4.3**
SIM				S	**Sn**	**11 32 31.0**	**+5.2**
SIM				pmax	pmax		
	comp=Z,26nm,0.8s						
SIM				smax	smax		
	comp=N,9.0nm,0.3s						
SIM				MLR	MLR		
	comp=Z,220nm,18.0s						
YLV	**Yalova**	**6.99**	**288**	Pn	**Pn**	**11 31 08.2**	**-0.5**
	comp=Z,0.4nmcomp=Z,813nmcomp=Z,36nm,0.8s						
SALP	**Salfit**	**7.08**	**201**	P	**Pn**	**11 31 13.4**	**+3.5**
ERBR	**Yeremizino-Bor**	**7.18**	**13**	*eP*	**Pn**	**11 31 11.4**	**+0.2**
ERBR				*eS*	**Sn**	**11 32 35.0**	**+1.8**
ERBR				pmax	pmax		
	comp=Z,39nm,1.1s						
ERBR				MLR	MLR		
	comp=Z,422nm,7.0s						
KLYT	**Kilyos**	**7.41**	**293**	Pn	**Pn**	**11 31 14.5**	**+0.2**
	comp=Z,0.3nmcomp=Z,916nmcomp=Z,56nm,0.5s						
MANT	**Manisa**	**7.49**	**271**		**Pn**	**11 31 15.7**	**-0.1**
MSBI	**Mazada**	**7.76**	**198**	P	**Pn**	**11 31 22.3**	**+3.2**
CTYL	**Yalikoy Yolu**	**8.01**	**293**	Pn	**Pn**	**11 31 22.8**	**+0.2**
	comp=Z,58nm,1.1s						
MAK	**Makhachkala**	**8.26**	**56**	*eP*	Pn	11 31 21.6	-4.4
MAK				*eS*	**Sn**	**11 32 54.1**	**-5.7**
MAK				pmax	pmax		
	comp=Z,137nm,1.0s						
MAK				MLR	MLR		
	comp=Z,1μm,9.0s						
KRMI	**Paran Flat**	**9.05**	**199**	P	**Pn**	**11 31 39.8**	**+2.8**
EZN	**Ezine**	**9.21**	**280**	Pn	**Pn**	**11 31 39.4**	**+0.3**
	comp=Z,33nm,1.2s						
TIRR	**Tirgusor**	**9.24**	**311**	⇑P	**Pn**	**11 31 38.3**	**-1.2**
TIRR	**Tirgusor**	**9.24**	**311**	P	**Pn**	**11 31 38.2**	**-1.2**
TIRR	**Tirgusor**	**9.24**	**311**	Pn	**Pn**	**11 31 37.7**	**-1.7**
	comp=Z,22nm,0.9s						
EIL	**Elat**	**9.43**	**197**	Pn	**Pn**	**11 31 41.1**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=42,slow=18,SNR=0.8						
EIL				Lg	Lg	11 34 23.0	
	comp=Z,0.3nm,0.3s,baz=2.6,slow=9.2,SNR=2.0						
EIL	**Elat**	**9.43**	**197**	P	Pn	11 31 47.1	+5.0
TPGR	**Topolog**	**9.47**	**313**	⇑P	**Pn**	**11 31 41.3**	**-1.3**
CFR	**Carcaliu**	**9.82**	**314**	⇑P	**Pn**	**11 31 46.5**	**-1.0**
CFR	**Carcaliu**	**9.82**	**314**	P	**Pn**	**11 31 46.4**	**-1.0**
SPBR	**Spulber**	**10.95**	**313**	⇑P	**Pn**	**11 32 02.9**	**+0.1**
VRI	**Vrincioaia**	**11.03**	**314**	⇑P	**Pn**	**11 32 04.2**	**+0.2**
VRI	**Vrincioaia**	**11.03**	**314**	P	**Pn**	**11 32 04.2**	**+0.2**
PLOR	**Plostina**	**11.06**	**314**	⇑P	**Pn**	**11 32 05.1**	**+0.6**
PLOR	**Plostina**	**11.06**	**314**	P	**Pn**	**11 32 05.1**	**+0.6**
IDI	**Anoyia**	**11.13**	**256**	Pn	**Pn**	**11 32 04.5**	**-0.9**
	comp=Z,22nm,1.0s,baz=171,slow=20,SNR=2.0						
MLR	**Muntele Rosu**	**11.27**	**311**	Pn	**Pn**	**11 32 07.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=257,slow=7.4,SNR=5.3						
	comp=Z,5.0nm,0.7s						
MLR	**Muntele Rosu**	**11.27**	**311**	⇑P	**Pn**	**11 32 07.2**	**-0.2**
MLR	**Muntele Rosu**	**11.27**	**311**	Pn	**Pn**	**11 32 06.3**	**-1.1**
	comp=Z,12nm,0.9s						
TESR	**Tescani**	**11.46**	**316**	⇑P	**Pn**	**11 32 09.0**	**-0.9**
TESR	**Tescani**	**11.46**	**316**	Pn	**Pn**	**11 32 08.8**	**-1.1**
	comp=Z,24nm,1.1s						

comp=Z,19nm,1.1s
GERES **GERESS Array B 20.23 308** P **P 11 34 00.9 -0.7**
comp=Z,4.3nm,0.8s,baz=111,slow=9.2,SNR=8.7
comp=Z,4.3nm,0.8s
KHC **Kasperske Hory 20.41 309** *e*P **P 11 34 03.1 -0.4**
KHC pmax pmax
comp=Z,40nm,1.1s
KHC **Kasperske Hory 20.41 309** P **P 11 34 02.4 -1.0**
comp=Z,17nm,1.4s
KHC **Kasperske Hory 20.41 309** x **P 11 34 02.5 -1.0**
TEOL **Teolo 20.67 297** P **P 11 34 05.0 -1.2**
TEOL IAmb IAmb 11 34 11.3
comp=Z,38nm,1.0s
BRG **Berggiesshubel 20.90 313** P Pn 11 34 11.3 +0.2
BRG Amp 11 34 13.8
comp=Z,11nm,1.0s
KIRV **Kirov 21.15 17** P **P 11 34 10.6 -0.7**
comp=Z,12nm,0.6s,baz=120,slow=1.0,SNR=7.6
KIRV LR LR 11 43 25.5
comp=Z,191nm,18.8s,baz=192,slow=40
comp=Z,12nm,0.6s
KIRV **Kirov 21.15 17** *e*P **P 11 34 10.4 -0.9**
CLL **Collm 21.62 314** P **P 11 34 15.8 -0.6**
CLL IAmb IAmb 11 34 25.2
comp=Z,46nm,1.4s
CLL **Collm 21.62 314** *e*P **P 11 34 15.0 -1.4**
CLL *i* 11 34 20.3
CLL *e*S Sn 11 38 22.0 -2.7
CLL pmax pmax
comp=Z,50nm,1.9s
CLL **Collm 21.62 314** P **P 11 34 15.4 -1.0**
comp=Z,24nm,1.6s
CLL **Collm 21.62 314** *e*P **P 11 34 15.0 -1.4**
comp=Z,50nm,1.9s
CLL *i* sp 11 34 20.3
comp=Z,64nm,1.8s
CLL *i* x x 11 34 24.1
comp=Z,53nm,1.6s
CLL *i* x x 11 34 30.0
CLL *e*PPP PPP 11 34 44.0
CLL *e*S Sn 11 38 22.0 -2.7
KLMR **Klimovskoe 22.15 2** *e*P **P 11 34 19.2 -2.8**
KLMR *e* 11 34 42.2
KLMR pmax pmax
comp=Z,51nm,1.4s
ARTI **Arti 22.18 31** P **P 11 34 20.8 -1.6**
ARTI IAmb IAmb 11 34 26.5
comp=Z,32nm,0.9s
ARTI **Arti 22.18 31** P **P 11 34 21.6 -0.8**
comp=Z,28nm,0.9s,baz=228,slow=5.9,SNR=6.7
comp=Z,28nm,0.9s
ARTI **Arti 22.18 31** *c i*P **P 11 34 22.2 -0.2**
ARTI 11 34 41.9
ARTI S **S 11 38 28.5 +1.5**
ARTI SS **SnSn 11 38 53.4 0.0**
ARTI pmax pmax
comp=Z,30nm,0.9s
KEST **Kesra 23.07 271** P **P 11 34 33.3 +1.2**
comp=Z,29nm,1.0s,baz=337,slow=0.2,SNR=11
comp=Z,29nm,1.0s
WSAR **Wadi Sarin 23.33 126** P **P 11 34 35.5 +0.7**
baz=203,slow=24,SNR=4.9
WSAR LR LR 11 44 44.5
comp=Z,5.6nm,19.2s,baz=332,slow=39
FINES **FINESS Array B 23.92 346** P **P 11 34 39.8 -0.4**
comp=Z,3.4nm,0.6s,baz=152,slow=13,SNR=6.5
comp=Z,3.4nm,0.6s
BNI **Bardonecchia 24.14 295** IAmb IAmb 11 35 04.2
comp=Z,20nm,0.9s
ECH **Echery 24.24 303** IAmb IAmb 11 34 49.2
comp=Z,18nm,1.1s
KK31 **Karatay Array 24.77 69** P **P 11 34 49.0 +0.8**
KK31 **Karatay Array 24.77 69** P **P 11 34 49.0 +0.8**
KK31 pmax pmax
comp=Z,26nm,1.2s
KKAR **Karatay Array 24.77 69** P **P 11 34 49.3 +1.0**
KKAR **Karatay Array 24.77 69** P **P 11 34 49.3 +1.0**
KKAR pmax pmax
comp=Z,28nm,1.2s
BRVK **Borovoye 26.29 46** *i* P **P 11 35 00.2 -1.7**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR **Borovoye Array 26.34 47** P **P 11 35 02.5 +0.1**
comp=Z,1.3nm,0.6s,baz=242,slow=7.2,SNR=5.0
comp=Z,1.3nm,0.6s
HFS **Hagfors 26.36 332** P **P 11 35 03.6 +1.1**
comp=Z,7.9nm,0.6s,baz=134,slow=11,SNR=8.6
HFS LR LR 11 47 47.6
comp=Z,377nm,18.4s,baz=110,slow=42
comp=Z,7.9nm,0.6s
AAK **Ala-Archa 27.71 70** LR LR 11 46 35.2
comp=Z,463nm,21.8s,baz=281,slow=37
NOA **NORSAR Array B 27.88 332** P **P 11 35 16.3 +0.1**
comp=Z,2.1nm,1.0s,baz=134,slow=8.8,SNR=2.2
NOA LR LR 11 49 02.2
comp=Z,224nm,20.4s,baz=110,slow=42
comp=Z,2.1nm,1.0s
KURBB **Kurchatov Arra 30.71 54** P **P 11 35 41.5 +0.2**
comp=Z,3.2nm,0.8s,baz=271,slow=9.0,SNR=10
KURBB PcP **PcP 11 38 38.6 -0.3**
comp=Z,0.2nm,0.6s,baz=266,slow=2.9,SNR=2.0
KURBB LR LR 11 49 30.2
comp=Z,311nm,21.2s,baz=202,slow=39
comp=Z,3.2nm,0.8s
KURK **Kurchatov 30.77 54** *i* P **P 11 35 43.9 +2.0**
KURK pmax pmax
comp=Z,14nm,1.9s
ARCES **ARCESS Array B 31.58 352** P **P 11 35 49.0 +0.2**
comp=Z,6.0nm,1.0s,baz=144,slow=7.9,SNR=2.5
ARCES LR LR 11 50 06.0
comp=Z,320nm,18.6s,baz=136,slow=39
comp=Z,6.0nm,1.0s
ESDC **Sonseca Array 32.41 285** P **P 11 35 55.4 -1.1**
comp=Z,3.0nm,0.9s,baz=77,slow=8.4,SNR=5.0
ESDC LR LR 11 50 34.2
comp=Z,122nm,19.1s,baz=69,slow=39
comp=Z,3.0nm,0.9s
MKAR **Makanchi Array 33.04 61** P **P 11 36 02.4 +0.5**
comp=Z,3.1nm,0.9s,baz=272,slow=5.5,SNR=6.5
MKAR PcP **PcP 11 38 45.9 +0.5**
comp=Z,0.4nm,0.6s,baz=262,slow=2.9,SNR=2.0
MKAR LR LR 11 51 12.4
comp=Z,303nm,18.2s,baz=260,slow=40
comp=Z,3.1nm,0.9s
MDT **Midelt 34.93 274** LR LR 11 51 55.5
comp=Z,94nm,19.0s,baz=77,slow=39
ZALV **Zalesovo Beam 34.94 49** P **P 11 36 18.5 +0.3**
comp=Z,1.2nm,0.5s,baz=100,slow=31,SNR=2.2
comp=Z,1.2nm,0.5s
JMIC **Jan Mayen 40.10 338** LR LR 11 55 51.7
comp=Z,138nm,18.4s,baz=147,slow=40
NRIK **Noril'sk 40.25 25** P **P 11 37 04.0 +1.0**
NRIK IAmb IAmb 11 37 08.3
comp=Z,26nm,1.3s
NRIK **Noril'sk 40.25 25** P **P 11 37 03.4 +0.4**
comp=Z,9.6nm,0.9s,baz=253,slow=4.7,SNR=7.2
comp=Z,9.6nm,0.9s
NRIK **Noril'sk 40.25 25** *e*P **P 11 37 04.3 +1.3**
SPITS **Spitsbergen Ar 40.56 353** P **P 11 37 05.5 -0.1**
comp=Z,9.0nm,0.9s,baz=153,slow=8.9,SNR=1.7
SPITS LR LR 11 57 40.1
comp=Z,173nm,18.3s,baz=122,slow=42
comp=Z,9.0nm,0.9s
SONM **Songino Array 49.03 56** P **P 11 38 13.4 -0.1**
comp=Z,0.3nm,0.6s,baz=288,slow=6.8,SNR=2.2
SONM PcP **PcP 11 39 37.1 -0.3**
comp=Z,0.8nm,0.8s,baz=291,slow=3.2,SNR=4.0
SONM LR LR 12 00 50.7
comp=Z,343nm,21.5s,baz=291,slow=38
DBIC **Dimbokro 50.19 242** P **P 11 38 20.9 -1.7**
comp=Z,3.3nm,0.6s,baz=24,slow=4.2,SNR=5.3
comp=Z,3.3nm,0.6s
BBTS **Babate 53.52 259** LR LR 12 05 01.9
comp=Z,188nm,18.9s,baz=304,slow=40
CMAR **Chiang Mai Arr 56.08 93** P **P 11 39 06.0 0.0**
comp=Z,1.1nm,0.3s,baz=302,slow=9.0,SNR=8.9
CMAR LR LR 12 07 18.2
comp=Z,54nm,19.1s,baz=280,slow=40
comp=Z,1.1nm,0.3s
CMAR **Chiang Mai Arr 56.08 93** P **P 11 39 06.0 0.0**
HEH **HeiHe 61.04 47** *e*P **P 11 39 40.8 +0.7**
HEH pmax pmax
comp=Z,5.0nm,1.0s
KLR **Kul'dur 64.00 47** *e*P **P 11 40 00.3 +0.3**
KLR pmax pmax
comp=Z,4.0nm,1.3s
PSI **Prapat 65.72 107** LR LR 12 13 34.3
comp=Z,53nm,19.1s,baz=338,slow=40
SEY **Seymchan 65.96 27** *e*P **P 11 40 14.2 +1.7**
SEY pmax pmax
comp=Z,8.0nm,1.4s
SCHQ **Schefferville 66.94 323** P **P 11 40 17.8 -1.1**
comp=Z,1.8nm,0.6s,baz=23,slow=4.5,SNR=5.3
comp=Z,1.8nm,0.6s
KSRS **Korea Array 67.69 59** P **P 11 40 23.9 0.0**
comp=Z,2.7nm,0.8s,baz=306,slow=2.8,SNR=4.6
KSRS LR LR 12 13 20.9
comp=Z,151nm,18.1s,baz=295,slow=39
comp=Z,2.7nm,0.8s
BOSA **Boshof 68.08 192** P **P 11 40 26.1 -0.3**
comp=Z,2.2nm,0.8s,baz=1.7,slow=6.6,SNR=3.7
comp=Z,2.2nm,0.8s
A36M **Sachs Harbour 68.94 355** P **P 11 40 31.6 +0.5**
B20K **Meade River 70.98 6** P **P 11 40 44.6 +0.9**
YSS **Yuzhno-Sakhali 71.41 44** *e*P **P 11 40 49.6 +2.9**
YSS *e*S **S 11 50 08.6 +3.1**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,300nm,12.0s
C23K **Itkillik River 71.54 3** P **P 11 40 47.2 +0.1**
C18K **Utukok River 71.95 7** IAmb IAmb 11 40 53.7
comp=Z,4.6nm,0.8s
ASAJ **Asahikawa 73.04 47** LR LR 12 18 19.5
comp=Z,146nm,18.1s,baz=312,slow=40
E27K **Coleen River 73.39 360** IAmb IAmb 11 41 06.6
comp=Z,4.6nm,1.0s
E25K **Arctic Village 73.42 1** IAmb IAmb 11 41 04.0
comp=Z,5.8nm,1.1s
E19K **Redstone River 73.48 6** IAmb IAmb 11 41 02.6
comp=Z,5.3nm,0.9s
F31M **Tsiigehtchic 73.95 357** P **P 11 41 01.2 -0.3**
F21K **Alatna River 73.98 5** IAmb IAmb 11 41 05.5
comp=Z,5.8nm,1.1s
COLD **Coldfoot 74.16 3** P **P 11 41 03.1 +0.3**
COLD IAmb IAmb 11 41 07.7
comp=Z,10nm,1.4s
G31M **Satah River 74.49 357** P **P 11 41 04.0 -0.6**
G21K **Allakaket 74.68 5** IAmb IAmb 11 41 10.4
comp=Z,10nm,1.4s
G27K **Doyon Strip 74.77 360** IAmb IAmb 11 41 11.2
comp=Z,9.8nm,1.4s
I30M **Mount Dempster 76.27 358** IAmb IAmb 11 41 21.9
comp=Z,10nm,1.4s
YKA **Yellowknife Ar 76.74 347** P **P 11 41 17.8 +0.2**
comp=Z,2.3nm,0.9s,baz=14,slow=5.2,SNR=10
comp=Z,2.3nm,0.9s
CAST **Castle Rocks 77.85 5** P **P 11 41 24.4 +0.5**
ULM **Lac du Bonnet 82.57 332** P **P 11 41 50.3 +0.8**
comp=Z,2.5nm,0.7s,baz=70,slow=3.9,SNR=5.5
comp=Z,2.5nm,0.7s
JCJ **Chichijima 83.51 60** LR LR 12 22 08.8
comp=Z,77nm,19.7s,baz=222,slow=38
TKL **Tuckaleechee C 88.55 316** LR LR 12 21 15.6
comp=Z,86nm,22.0s,baz=38,slow=35
PDAR **Pinedale Array 93.72 337** P **P 11 42 44.3 +0.6**
comp=Z,0.5nm,0.9s,baz=60,slow=3.6,SNR=4.5
PDAR LR LR 12 25 05.8
comp=Z,90nm,20.9s,baz=3.5,slow=36
comp=Z,0.5nm,0.9s
BDFB **Brasilia 96.68 255** LR LR 12 28 06.4
comp=Z,75nm,18.8s,baz=80,slow=36
SDV **Santo Domingo 98.79 289** LR LR 12 24 43.4
comp=Z,35nm,19.6s,baz=265,slow=34

*IDC **25** 11:42:47.7±8.6, 36°.27N×140°.89E, h91km±57km, mb3.4/7, mbtmp3.7/8, ML2.4/1, Error ellipse: s-maj=115.0km s-min=20.7km az=69.0*
*JMA **25** 11:42:49.6±0.1, 36°.3N±0°.4×140°.6E±0°.6, h93km, MD3.3/40, MV3.4/40, NORTHERN IBARAKI PREF*
JMA Felt I J1 at NORTHERN IBARAKI PREF .
ISC 25 11:42:49.2±0.8, 36°.25N±0°.04×140°.61E±0°.06, h97km±6km, n30, σ0°58/34, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.09**	**348**	*i* P		**Pn**		**11 43 02.7**	**0.0**
JHYU				S		**Sn**		**11 43 12.5**	**-0.4**
JHYU	**Hitachinakayam**	**0.09**	**348**	A		A		11 43 02.7	
comp=N,8.0nm,0.9s,comp=E,9.0nm,0.3s									
JIHU	**Itakohorinouch**	**0.29**	**194**	*i* P		**Pn**		**11 43 04.0**	**+0.6**
JIHU				S		**Sn**		**11 43 15.2**	**+1.3**
JYT	**Yasato**	**0.34**	**267**	*i* P		**Pn**		**11 43 03.4**	**-0.2**
JYT				*e*S		**Sn**		**11 43 13.7**	**-0.7**
JYT	**Yasato**	**0.34**	**267**	A		A		11 43 03.4	
comp=N,8.0nm,0.4s,comp=E,9.0nm,0.3s									
JHO	**Hitachi**	**0.36**	**355**	*i* P		**Pn**		**11 43 03.7**	**-0.1**
JHO				S		**Sn**		**11 43 14.3**	**-0.4**
JAG	**Ashikaga**	**0.95**	**281**	*i* P		**Pn**		**11 43 09.0**	**+0.1**
JAG				S		**Sn**		**11 43 23.5**	**-0.2**
JFK	**Kawauchi**	**1.14**	**11**	*i* P		**Pn**		**11 43 10.8**	**-0.2**
JFK				S		**Sn**		**11 43 26.7**	**-0.7**
JKT	**Katashina**	**1.21**	**296**	P		**Pn**		**11 43 12.3**	**+0.4**
JKT				*e*S		**Sn**		**11 43 29.8**	**+0.7**
JOTO	**OTAMA OYAMA**	**1.33**	**350**	*i* P		**Pn**		**11 43 13.6**	**+0.4**
JOTO				S		**Sn**		**11 43 32.2**	**+0.8**
JFY	**Yanaizu**	**1.37**	**328**	*i* P		**Pn**		**11 43 13.9**	**+0.2**
JRY	**Ryogami san**	**1.40**	**261**	*i* P		**Pn**		**11 43 14.2**	**0.0**
JRY				*e*S		**Sn**		**11 43 32.2**	**-0.8**
BSO3	**Boso 3**	**1.45**	**183**	P		**Pn**		**11 43 14.5**	**+0.1**
BSO3				S		**Sn**		**11 43 34.4**	**+1.0**
JUON	**Uonuma**	**1.57**	**308**	P		**Pn**		**11 43 16.7**	**+0.5**
JOD2	**Odawara 2**	**1.58**	**232**	*e*P		**Pn**		**11 43 16.0**	**-0.4**
JOD2				S		**Sn**		**11 43 36.2**	**-0.7**
BSO1	**Boso 1**	**1.62**	**169**	P		**Pn**		**11 43 16.3**	**0.0**
BSO1				*e*S		**Sn**		**11 43 37.6**	**+0.7**
MJAR	**Matsushiro Arr**	**1.96**	**279**	P		**Pn**		**11 43 21.9**	**+0.8**
comp=E,1.3nm,0.3s,baz=97,slow=14,SNR=81									
comp=E,7.3nm,0.3s									
SONM	**Songino Array**	**27.70**	**305**	P		**P**		**11 48 28.9**	**+0.6**
comp=E,0.2nm,0.4s,baz=90,slow=7.2,SNR=1.8									
comp=E,0.2nm,0.4s									
H11N2	**WAKE ISLAND Hy**	**28.32**	**118**	T		T		12 18 52.2	
baz=312,slow=75,SNR=9.1									
H11N1	**WAKE ISLAND Hy**	**28.33**	**118**	T		T		12 18 52.6	
baz=312,slow=75,SNR=8.2									
H11N3	**WAKE ISLAND Hy**	**28.34**	**118**	T		T		12 18 53.4	
baz=312,slow=75,SNR=7.9									
H11S1	**WAKE ISLAND Hy**	**29.00**	**121**	T		T		12 19 41.1	
baz=314,slow=75,SNR=6.9									
H11S3	**WAKE ISLAND Hy**	**29.00**	**121**	T		T		12 19 39.5	
baz=314,slow=75,SNR=7.9									
H11S2	**WAKE ISLAND Hy**	**29.01**	**121**	T		T		12 19 43.2	
baz=314,slow=75,SNR=10									
ZALV	**Zalesovo Beam**	**41.97**	**313**	P		**P**		**11 50 30.7**	**+0.3**
comp=E,0.7nm,0.6s,baz=93,slow=10,SNR=2.7									
comp=E,0.7nm,0.6s									
MKAR	**Makanchi Array**	**43.99**	**303**	P		**P**		**11 50 47.1**	**+0.2**
comp=E,0.6nm,0.6s,baz=92,slow=9.1,SNR=5.4									
comp=E,0.6nm,0.6s									
KURBB	**Kurchatov Arra**	**45.98**	**308**	P		**P**		**11 51 02.6**	**+0.1**
comp=E,1.4nm,0.6s,baz=80,slow=7.3,SNR=13									
comp=E,1.4nm,0.6s									
WRA	**Warramunga Arr**	**56.20**	**187**	P		**P**		**11 52 18.4**	**-0.7**
comp=E,0.4nm,0.6s,baz=2.3,slow=7.6,SNR=6.0									
comp=E,0.4nm,0.6s									
ASAR	**Alice Springs**	**59.93**	**187**	P		**P**		**11 52 44.8**	**-0.4**
comp=E,0.4nm,0.8s,baz=9.2,slow=7.2,SNR=3.0									
comp=E,0.4nm,0.8s									
FINES	**FINESS Array B**	**69.21**	**332**	P		**P**		**11 53 44.7**	**-0.4**
comp=E,1.6nm,0.8s,baz=54,slow=6.3,SNR=4.5									
comp=E,1.6nm,0.8s									

*ISK **25** 11:48:58.6, 37°.51N×29°.43E, h5km, ML3.5/30*
*AFAD **25** 11:48:58.6, 37°.49N×29°.39E, h7km±2km, ML3.1*
ISC 25 11:48:59.1±0.9, 37°.51N±0°.02×29°.41E±0°.02, h9km±6km, n53, σ0°80/86, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.09**	**248**	Pg		**Pg**		**11 49 01.4**	**-0.2**
APMY				Sg		**Sg**		**11 49 03.7**	**+0.3**
INCE	**Denizli-Bozkur**	**0.24**	**33**	P		**Pg**		**11 49 04.0**	**0.0**
INCE				*i* AML		AML		11 49 08.0	
comp=N,1μm,0.4s									
INCE				S		**Sg**		**11 49 08.3**	**+0.8**
INCE				*i* AML		AML		11 49 09.0	
comp=E,9μm,0.6s									
GOLH	**Golhisar**	**0.29**	**156**	P		**Pg**		**11 49 04.5**	**-0.5**
GOLH				S		**Sg**		**11 49 09.4**	**+0.3**
GOLH				*i* AML		AML		11 49 11.0	
comp=N,4μm,0.9s									
GOLH				*i* AML		AML		11 49 13.0	
comp=E,4μm,0.8s									
DNIZ	**Denizli-Tavas-**	**0.32**	**292**	P		**Pg**		**11 49 05.4**	**-0.1**
DNIZ				S		**Sg**		**11 49 10.7**	**+1.0**
DNIZ				*i* AML		AML		11 49 11.0	
comp=N,9μm,0.2s									
DNIZ				*i* AML		AML		11 49 11.0	
comp=E,1μm,0.2s									
DNZT	**Denizli-Tavas-**	**0.38**	**233**	P		**Pg**		**11 49 06.3**	**-0.4**
DNZT				P		**Pg**		**11 49 06.3**	**-0.4**
DNZT				S		**Sg**		**11 49 11.7**	**0.0**
DNZT				S		**Sb**		**11 49 11.8**	**-2.3**
DNZT				*i* AML		AML		11 49 12.0	
comp=E,4μm,0.4s									
DNZT				*i* AML		AML		11 49 12.0	
comp=E,2μm,0.3s									
DNZT				*i* AML		AML		11 49 12.0	
comp=N,3μm,0.3s									
DNZT				*i* AML		AML		11 49 12.0	
comp=N,1μm,0.2s									
CAEL	**Denizli, Camel**	**0.39**	**191**	P		**Pg**		**11 49 05.9**	**-0.9**
CAEL				S		**Sg**		**11 49 11.8**	**-0.2**
CAEL				*i* AML		AML		11 49 17.0	
comp=N,9μm,1.1s									
CAEL				*i* AML		AML		11 49 18.0	
comp=E,9μm,0.5s									
TAVA	**DENIZLI_Tavas**	**0.40**	**264**	P		**Pg**		**11 49 06.9**	**-0.1**
TAVA				S		**Sg**		**11 49 12.8**	**+0.6**
TAVA				*i* AML		AML		11 49 13.0	
comp=N,3μm,0.5s									
TAVA				*i* AML		AML		11 49 13.0	
comp=E,2μm,0.2s									
BRDR	**BURDUR-Merkez**	**0.55**	**70**	P		**Pg**		**11 49 09.3**	**-0.5**
BRDR				S		**Sb**		**11 49 17.8**	**-1.2**
BRDR				*i* AML		AML		11 49 21.0	
comp=E,1μm,0.3s									
BRDR				*i* AML		AML		11 49 21.0	
comp=N,1μm,0.3s									
CAME	**Cameli-Denizli**	**0.57**	**189**	Pg		**Pg**		**11 49 09.1**	**-1.1**
CAME				Sg		**Sb**		**11 49 18.5**	**-1.0**
BASM	**Basmaki-Afyon**	**0.65**	**51**	Pg		**Pg**		**11 49 11.2**	**-0.6**
KNIK	**Mula-Seydike**	**0.67**	**169**	P		**Pg**		**11 49 10.8**	**-1.3**
KNIK				S		**Sg**		**11 49 20.7**	**-0.3**
KNIK				*i* AML		AML		11 49 22.0	
comp=E,444nm,0.4s									
KNIK				*i* AML		AML		11 49 24.0	
comp=N,381nm,0.7s									
SABU	**Mula-Dalaman**	**0.77**	**207**	P		**Pg**		**11 49 13.2**	**-0.7**
SABU				S		**Sb**		**11 49 23.9**	**-1.2**
SABU				*i* AML		AML		11 49 26.0	
comp=N,2μm,0.3s									
SABU				*i* AML		AML		11 49 27.0	
comp=E,2μm,0.5s									
PASA	**Karahalli, USA**	**0.84**	**4**	P		**Pg**		**11 49 13.7**	**-1.7**
PASA				S		**Sb**		**11 49 28.3**	**+0.9**
PASA				*i* AML		AML		11 49 31.0	
comp=E,459nm,0.4s									
PASA				*i* AML		AML		11 49 33.0	
comp=N,287nm,0.7s									
ELL	**Elmali**	**0.86**	**152**	Pg		**Pg**		**11 49 14.9**	**-0.7**
ESEN	**Aydn-Nazilli**	**0.89**	**289**	P		**Pg**		**11 49 15.9**	**-0.4**
ESEN				S		**Sg**		**11 49 26.9**	**-0.9**
ESEN				*i* AML		AML		11 49 30.0	
comp=N,1μm,0.9s									
ESEN				*i* AML		AML		11 49 31.0	
comp=E,608nm,1.3s									
MULA	**Mugla, Merkez-**	**0.90**	**254**	P		**Pn**		**11 49 17.4**	**-0.6**
MULA				S		**Sb**		**11 49 28.9**	**-0.2**
MULA				*i* AML		AML		11 49 32.0	
comp=E,1μm,0.6s									
MULA				*i* AML		AML		11 49 33.0	
comp=N,906nm,0.5s									
KORT	**Korkueli**	**0.91**	**124**	Pg		**Pg**		**11 49 16.2**	**-0.3**
KORT				Sg		**Sb**		**11 49 29.4**	**+0.2**
KORT	**Korkueli**	**0.91**	**124**	P		**Pb**		**11 49 16.6**	**-0.4**
KORT				S		**Sb**		**11 49 29.5**	**+0.3**
KORT				*i* AML		AML		11 49 32.0	
comp=N,823nm,0.6s									
KORT				*i* AML		AML		11 49 35.0	
comp=E,865nm,0.4s									
FETY	**Fethiye**	**0.91**	**197**	Pg		**Pg**		**11 49 16.1**	**-0.5**
FETY				Sg		**Sb**		**11 49 29.6**	**+0.4**
FETY	**Fethiye**	**0.91**	**197**	P		**Pb**		**11 49 16.7**	**-0.3**
FETY				S		**Sb**		**11 49 29.1**	**-0.1**
DALY	**Dalyan (Mula)**	**0.92**	**221**	Pg		**Pb**		**11 49 16.9**	**-0.2**
DALY				Sg		**Sb**		**11 49 29.9**	**+0.6**
BUCA	**Burdur, Bucak-**	**0.93**	**101**	P		**Pg**		**11 49 16.6**	**-0.4**
BUCA				S		**Sn**		**11 49 31.2**	**-0.7**
BUCA				*i* AML		AML		11 49 33.0	
comp=N,376nm,0.4s									
ISP	**Isparta**	**0.94**	**70**	Pg		**Pg**		**11 49 16.7**	**-0.5**
BCK	**Bucak**	**0.94**	**92**	Pg		**Pg**		**11 49 16.8**	**-0.4**
KZIL	**AFYON_Kizioren**	**0.95**	**37**	P		**Pg**		**11 49 17.2**	**-0.2**
KZIL				S		**Sn**		**11 49 32.6**	**+0.2**
KZIL				*i* AML		AML		11 49 35.0	
comp=E,613nm,0.6s									
KZIL				*i* AML		AML		11 49 37.0	
comp=N,634nm,0.7s									
YER	**Yerkesik**	**0.97**	**248**	Pg		**Pb**		**11 49 17.8**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.00**	**298**	Pg		**Pb**		**11 49 18.3**	**-0.2**
KIRA	**zmir-Kiraz**	**1.05**	**311**	P		**Pg**		**11 49 18.2**	**-1.2**
KIRA				S		**Sb**		**11 49 33.8**	**+0.3**
KIRA				*i* AML		AML		11 49 37.0	
comp=N,285nm,0.6s									
KIRA				*i* AML		AML		11 49 41.0	
comp=E,385nm,1.4s									
IZZE	**Mula-Seydike**	**1.08**	**188**	P		**Pg**		**11 49 19.1**	**-0.7**
IZZE				S		**Sn**		**11 49 38.1**	**+2.7**
IZZE				*i* AML		AML		11 49 40.0	
comp=N,4μm,0.4s									
IZZE				*i* AML		AML		11 49 40.0	
comp=E,3μm,0.4s									
ANTB	**Antalya**	**1.16**	**121**	Pn		**Pb**		**11 49 21.0**	**-0.3**
KULA	**Kula-Manisa**	**1.17**	**330**	Pn		**Pg**		**11 49 21.3**	**-0.2**
TURN	**Turunc**	**1.18**	**232**	Pn		**Pn**		**11 49 21.8**	**+0.1**
TURN	**Turunc**	**1.18**	**232**	P		**Pn**		**11 49 22.5**	**+0.7**
TURN				S		**Sn**		**11 49 39.7**	**+1.8**
TURN				*i* AML		AML		11 49 41.0	
comp=E,1μm,0.3s									
TURN				*i* AML		AML		11 49 42.0	
comp=N,713nm,0.3s									
MANT	**Manisa**	**1.19**	**326**	P		**Pg**		**11 49 20.4**	**-1.6**
MANT				S		**Sg**		**11 49 36.8**	**-0.7**
MANT				*i* AML		AML		11 49 42.0	
comp=N,168nm,0.7s									
MANT				*i* AML		AML		11 49 46.0	
comp=E,227nm,0.9s									
AYDN	**Tasoluk**	**1.23**	**278**	P		**Pn**		**11 49 22.9**	**+0.5**
AYDN				S		**Sg**		**11 49 38.1**	**-0.5**
AYDN				*i* AML		AML		11 49 44.0	
comp=N,623nm,1.2s									
AYDN				*i* AML		AML		11 49 47.0	
comp=E,665nm,0.7s									
BNAZ	**Uak-Banaz**	**1.23**	**17**	P		**Pg**		**11 49 22.3**	**-0.4**
BNAZ				S		**Sn**		**11 49 40.6**	**+1.3**
BNAZ				*i* AML		AML		11 49 44.0	
comp=E,832nm,0.4s									
BNAZ				*i* AML		AML		11 49 46.0	
comp=N,516nm,0.4s									
USAK	**Uak-Merkez**	**1.24**	**346**	P		**Pg**		**11 49 22.2**	**-0.8**
USAK				S		**Sg**		**11 49 37.6**	**-1.6**
USAK				*i* AML		AML		11 49 44.0	
comp=E,112nm,0.7s									
USAK				*i* AML		AML		11 49 47.0	
comp=N,123nm,0.8s									
AKAS	**Kas**	**1.28**	**173**	Pn		**Pn**		**11 49 23.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**291**	Pn		**Pb**		**11 49 23.6**	**+0.2**
ODEM	**Odemis-Izmir**	**1.31**	**306**	Pn		**Pg**		**11 49 23.9**	**-0.3**
IZMR	**zmir-demi**	**1.31**	**299**	P		**Pn**		**11 49 23.4**	**-0.1**
IZMR				P		**Pn**		**11 49 23.5**	**-0.1**
IZMR				S		**Sn**		**11 49 41.6**	**+0.4**
IZMR				S		**Sg**		**11 49 42.9**	**+1.5**
IZMR				*i* AML		AML		11 49 45.0	
comp=N,350nm,0.8s									
IZMR				*i* AML		AML		11 49 45.0	
comp=E,577nm,1.2s									
IZMR				*i* AML		AML		11 49 45.0	
comp=E,567nm,1.1s									
IZMR				*i* AML		AML		11 49 45.0	
comp=N,388nm,0.8s									
MLSB	**Milas**	**1.32**	**261**	Pn		**Pg**		**11 49 24.3**	**-0.1**
SHUT

ARG	Arkhangelos	1.65 219	Pn	Pb	11 49 29.2	-0.4
DAT	Datca	1.66 243	Pn	Pb	11 49 29.8	0.0
GORD	Gordes-Manisa	1.70 326	Pn	Pn	11 49 29.4	+0.4
BODT	Bodrum	1.73 256	Pn	Pb	11 49 30.6	-0.4
GCAM	G?zelcaml?	1.74 277	Pn	Pb	11 49 30.9	-0.2
YKAV	Yalikavak-Bodr	1.74 258	Pn	Pn	11 49 30.1	+0.7
SEYD	Seydisehir-KON	1.94 92	Pn	Pn	11 49 33.1	+0.9
TVSB	Tavsanli	1.94 1	Pn	Pn	11 49 32.8	+0.5
BLCB	Balcova	2.07 296	Pn	Pb	11 49 35.6	-1.1

*GCG **25** 12:01:30.6±2.8, 17°.73N×95°.05W, h31km, MD4.8*
*NEIC **25** 12:01:32.5±2.0, 17°.29N±0°.07×94°.97W±0°.05, h144km±12km, mb4.3/39, Md4.4/68(MEX), Error ellipse: s-maj=10.9km s-min=7.1km az=191.0*
*IDC **25** 12:01:32.3±1.5, 17°.49N×94°.75W, h120km±23km, mb3.2/5, mbtmp3.7/6, Error ellipse: s-maj=59.5km s-min=17.5km az=166.0*
*MEX **25** 12:01:33.7±1.0, 17°.45N×94°.90W, h132km±7km, MD4.4*
ISC 25 12:01:32.3±0.7, **17°.42N**±0°.03×**94°.93W**±0°.02, **h134**km±5km, **n98**, σ1°.**23**/149, **mb3.6**/4, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.33	172		Pn	12 01 51.3	+0.2
CMIG					Sn	12 02 04.9	-0.3
CMIG	Matias Romero	0.33	172	P	Pn	12 01 51.0	-0.1
	1μm,0.3s,baz=356,slow=3.9,SNR=5724						
CMIG				S	Sn	12 02 04.6	-0.6
	1μm,0.2s,baz=89,slow=23,SNR=25						
CMIG	Matias Romero	0.33	172	*i* P	Pn	12 01 51.3	+0.2
CMIG				*e*S	Sn	12 02 04.9	-0.3
UXUV	UXUV	0.76	97	*i* P	Pn	12 01 53.9	+0.4
UXUV				*e*S	Sn	12 02 08.8	-0.8
TUIG	Tuzandepetl	0.78	38	*e*P	Pn	12 01 53.9	+0.2
TUIG				*e*S	Sn	12 02 07.8	-2.2
NEUV	Arroyo Zacate	0.88	290	*i* P	Pn	12 01 54.4	-0.1
NEUV				*e*S	Sn	12 02 10.6	-0.7
PMUV	Sontecomapan	1.14	351	*e*P	Pn	12 01 56.4	-0.5
PMUV				*e*S	Sn	12 02 14.1	-1.6
OXLC	Oaxaca	1.73	259	*e*P	Pn	12 02 03.3	-0.2
OXLC				*i* S	Sn	12 02 27.5	+0.3
OXBJ	Oaxaca	1.75	259		Pn	12 02 03.4	-0.3
OXBJ					Sn	12 02 27.7	+0.1
OXBJ	Oaxaca	1.75	259	*i* P	Pn	12 02 03.4	-0.3
OXBJ				*e*S	Sn	12 02 27.7	+0.1
OXIG	Oaxaca	1.75	259		Pn	12 02 04.2	+0.5
OXIG					Sn	12 02 28.1	+0.4
VHO	Vista Hermosa	1.75	259	*e*P	Pn	12 02 04.2	+0.5
VHO				*e*S	Sn	12 02 28.1	+0.4
TGIG		1.84	110		Pn	12 02 05.0	+0.3
TGIG					Sn	12 02 28.5	-1.0
TGIG		1.84	110	*e*P	Pn	12 02 05.0	+0.3
TGIG				*e*S	Sn	12 02 28.5	-1.0
TGIG		1.84	110	*i* P	Pn	12 02 05.1	+0.4
TGIG				*i* S	Sn	12 02 28.5	-1.0
TGIG		1.84	110	*i* P		12 02 05.1	
TGIG				*i* S		12 02 28.5	
TGBT	Tuxtla Gutierr	1.88	110		Pn	12 02 05.4	+0.5
TGBT					Sn	12 02 29.1	-0.9
TGBT	Tuxtla Gutierr	1.88	110	*e*P	Pn	12 02 05.4	+0.5
TGBT				*e*S	Sn	12 02 29.1	-0.9
VHSA	Villahermosa	1.98	73	*e*P	Pn	12 02 05.2	-1.0
VHSA				*e*S	Sn	12 02 31.6	-0.7
HUIG	Huatulco	1.99	215		Pn	12 02 04.7	-1.6
HUIG					Sn	12 02 31.2	-1.2
HUIG	Huatulco	1.99	215	*e*P	Pn	12 02 04.7	-1.6
HUIG				*e*S	Sn	12 02 31.2	-1.2
HUIG	Huatulco	1.99	215	*i* P	Pn	12 02 04.7	-1.6
HUIG				*i* S	Sn	12 02 31.8	-0.7
HUIG	Huatulco	1.99	215	*i* P	Pn	12 02 04.7	
HUIG				*i* S		12 02 31.8	
TOIG	Toxpalan	2.14	289		Pn	12 02 08.9	+0.6
TOIG					Sn	12 02 35.2	-0.7
TOIG	Toxpalan	2.14	289	*e*P	Pn	12 02 08.9	+0.6
TOIG				*e*S	Sn	12 02 35.2	-0.7
PANG	Puerto Angel	2.28	221		Pn	12 02 08.3	-1.6
PANG					Sn	12 02 37.9	-0.9
PANG	Puerto Angel	2.28	221	*e*P	Pn	12 02 08.3	-1.6
PANG				*e*S	Sn	12 02 37.9	-0.9
PCIG		2.37	136		Pn	12 02 11.4	+0.4
PCIG					Sn	12 02 40.1	-0.6
PCIG		2.37	136	*e*P	Pn	12 02 11.4	+0.4
PCIG				*e*S	Sn	12 02 40.1	-0.6
TPIG	Tehuac#an	2.52	294		Pn	12 02 13.8	+0.8
TPIG					Sn	12 02 44.2	-0.2
TPIG	Tehuac#an	2.52	294	*e*P	Pn	12 02 13.8	+0.8
TPIG				*e*S	Sn	12 02 44.2	-0.2
PEIG	Puerto Escondi	2.55	237		Pn	12 02 11.3	-2.0
PEIG					Sn	12 02 44.0	-0.9
PEIG	Puerto Escondi	2.55	237	*e*P	Pn	12 02 11.3	-2.0
PEIG				*e*S	Sn	12 02 44.0	-0.9
YOIG	Yosondua	2.56	258		Pn	12 02 13.2	-0.5
YOIG					Sn	12 02 44.4	-1.1
YOIG	Yosondua	2.56	258	*e*P	Pn	12 02 13.2	-0.5
YOIG				*e*S	Sn	12 02 44.4	-1.1
JAUV	Jalcomulco	2.63	318	*e*P	Pn	12 02 13.1	-1.2
JAUV				*e*S	Sn	12 02 44.7	-2.0
LVIG	Laguna Verde	2.69	329	*e*P	Pn	12 02 13.3	-1.8
LVIG				*e*S	Sn	12 02 45.1	-3.0
TXIG	Tlaxiaco	2.71	267		Pn	12 02 15.7	+0.1
TXIG					Sn	12 02 47.9	-1.1
TXIG	Tlaxiaco	2.71	267	*e*P	Pn	12 02 15.7	+0.1
TXIG				*e*S	Sn	12 02 47.9	-1.1
HLIG	Huajuapan de L	2.77	279		Pn	12 02 16.5	+0.3
HLIG					Sn	12 02 48.5	-1.7
HLIG	Huajuapan de L	2.77	279	*e*P	Pn	12 02 16.5	+0.3
HLIG				*e*S	Sn	12 02 48.5	-1.7
POHV	Veracruz	2.77	307		Pn	12 02 17.0	+0.4
POHV					Sn	12 02 49.1	-1.5
POHV	Veracruz	2.77	307	*e*P	Pn	12 02 17.0	+0.4
POHV				*e*S	Sn	12 02 49.1	-1.5
CCIG	Comitan	2.91	112		Pn	12 02 18.5	+0.5
CCIG	Comitan	2.91	112	*e*P	Pn	12 02 18.5	+0.5
CCIG				*e*S	Sn	12 02 52.6	-0.7
CCIG	Comitan	2.91	112	*i* P	Pn	12 02 18.5	+0.5
CCIG				*i* S	Sn	12 02 52.7	-0.5
CCIG	Comitan	2.91	112	*i* P		12 02 18.5	
CCIG				*i* S		12 02 52.7	
FTIG	Fresnillo de T	3.09	280		Pn	12 02 21.0	+0.7
FTIG					Sn	12 02 56.1	-1.3
FTIG	Fresnillo de T	3.09	280	*e*P	Pn	12 02 21.0	+0.7
FTIG				*e*S	Sn	12 02 56.1	-1.3
PNIG	Pinotepa	3.22	252		Pn	12 02 19.9	-2.0
PNIG					Sn	12 02 57.0	-3.4
PNIG	Pinotepa	3.22	252	*e*P	Pn	12 02 19.9	-2.0
PNIG				*e*S	Sn	12 02 57.0	-3.4
PAVE	Pavencul	3.45	129	*e*P	Pn	12 02 25.4	+0.3
PAVE				*e*S	Sn	12 03 04.4	-1.6
PATR	El Naranjo	3.46	131	*e*P	Pn	12 02 25.8	+0.5
PATR				*e*S	Sn	12 03 05.1	-1.0
TLIG	Tlapa	3.47	273		Pn	12 02 25.5	+0.2
TLIG	Tlapa	3.47	273	*e*P	Pn	12 02 25.5	+0.2
TLIG				*e*S	Sn	12 03 04.0	-2.2
MGIG	Malinaltepec	3.54	268		Pn	12 02 25.8	-0.4
MGIG					Sn	12 03 05.5	-2.5
MGIG	Malinaltepec	3.54	268	*e*P	Pn	12 02 25.8	-0.4
MGIG				*e*S	Sn	12 03 05.5	-2.5
THIG		3.58	134		Pn	12 02 25.2	-1.4
THIG					Sn	12 03 07.3	-1.3
THIG		3.58	134	*e*P	Pn	12 02 25.2	-1.4
THIG				*e*S	Sn	12 03 07.3	-1.3
CXUV	Coxquihui	3.72	318	*e*P	Pn	12 02 28.3	-0.2
CXUV				*e*S	Sn	12 03 10.6	-1.4
HUEH	Huehuetenango	3.90	122	Pn	Pn	12 02 30.9	-0.2
HUEH	Huehuetenango	3.90	122	*e*P	Pn	12 02 30.4	-0.6
HUEH				*e*S	Sn	12 03 13.6	-3.0
PETF	Flores	4.87	95	Pn	Pn	12 02 45.4	+1.7
PETF	Flores	4.87	95	*e*P	Pn	12 02 42.6	-1.1
PETF				*e*S	Sn	12 03 37.2	-2.1
MTO3	Montecristo	6.14	118		Pn	12 03 01.5	+0.4
TEIG	Tepich	6.89	65		Pn	12 03 09.3	-1.6
TEIG	Tepich	6.89	65	P	Pn	12 03 09.2	-1.7
	0.2nm,0.4s,baz=72,slow=20,SNR=3.5						
TEIG				S	Sn	12 04 24.1	-4.0
	0.4nm,0.6s,baz=64,slow=24,SNR=7.4						
BRDY	Brady	14.29	346	Pn	Pn	12 04 48.2	-0.4
TXAR	Lajitas Array	14.31	328	Pn	Pn	12 04 49.5	+0.6
TXAR	Lajitas Array	14.31	328	P	P	12 04 51.0	-1.1
	0.8nm,0.5s,baz=141,slow=11,SNR=17						
TX31	Lajitas Ar. Si	14.31	328	P	P	12 04 51.5	-0.6
OZNA	Ozona	14.58	338	P	P	12 04 54.3	-0.7
MNHN	Monahans	15.58	334	P	P	12 05 06.9	+0.8
MNHN				IAmb	IAmb	12 05 10.9	
	comp=Z,15nm,0.8s						
PLPT	Palo Pinto	15.63	349	P	Pn	12 05 05.8	+0.5
PLPT				IAmb	IAmb	12 05 09.0	
	comp=Z,9.5nm,0.5s						
ABTX	Abilene, Hawle	15.73	345	P	Pn	12 05 06.8	+0.4
ABTX				IAmb	IAmb	12 05 10.3	
	comp=Z,7.7nm,0.6s						
ODSA	Odessa	16.18	336	P	P	12 05 13.8	+1.1
ODSA				IAmb	IAmb	12 05 16.1	
	comp=Z,16nm,1.0s						
APMT	Aspermont	16.51	345	P	P	12 05 17.1	+0.7
POST	Post	16.67	340	P	P	12 05 19.1	+1.0
POST				IAmb	IAmb	12 05 19.4	
	comp=Z,7.5nm,0.7s						
DKNS	Dickens	17.05	343	P	Pn	12 05 23.4	+0.6
DKNS				IAmb	IAmb	12 05 24.6	
	comp=Z,7.2nm,0.7s						
MIAR	Mount Ida	17.10	4	P	Pn	12 05 23.2	0.0
MIAR				IAmb	IAmb	12 05 24.7	
	comp=Z,14nm,1.1s						
W35A	Tecumseh	17.75	355	P	Pn	12 05 31.3	+0.3
W35A				IAmb	IAmb	12 05 31.5	
	comp=Z,12nm,0.5s						
MSTX	Muleshoe	17.92	338	IAmb	IAmb	12 05 35.1	
	comp=Z,8.4nm,0.7s						
SMWD	Samnorwood	18.24	346	P	Pn	12 05 36.8	-0.1
SMWD				IAmb	IAmb	12 05 38.8	
	comp=Z,9.7nm,0.5s						
DEOK	Depew	18.41	356	IAmb	IAmb	12 05 38.2	
	comp=Z,18nm,0.9s						
QUOK	Quay	18.75	356	IAmb	IAmb	12 05 41.6	
	comp=Z,18nm,0.6s						
HHAR	Hobbs	18.81	2	P	P	12 05 41.9	+0.3
LCAR	Lake Charles	18.88	9	P	P	12 05 42.3	+0.1
OK051	E0350 and S346	19.09	355	IAmb	IAmb	12 05 45.3	
	comp=Z,14nm,0.7s						
T35A	Sooner Cattle	19.47	356	IAmb	IAmb	12 05 49.3	
	comp=Z,22nm,1.1s						
MGMO	Mountain Grove	19.80	6	IAmb	IAmb	12 05 57.4	
	comp=Z,6.9nm,0.9s						
T42A	Van Buren	19.83	9	IAmb	IAmb	12 05 53.1	
	comp=Z,8.8nm,0.8s						
ANMO	Albuquerque	20.26	332	P	P	12 05 59.2	+1.8
ANMO	Albuquerque	20.26	332	P	P	12 05 58.4	+1.0
	comp=Z,1.2nm,0.5s,baz=297,slow=11,SNR=7.4						
	comp=Z,1.2nm,0.5s						
BG3	Lake Jocassee	20.52	29	P	P	12 05 59.6	-0.4
BG3				IAmb	IAmb	12 05 59.9	
	comp=Z,7.3nm,0.6s						
TKL	Tuckaleechee C	20.70	26	P	P	12 06 00.9	-1.0
	comp=Z,1.5nm,0.4s,baz=207,slow=6.8,SNR=3.6						
	comp=Z,1.5nm,0.4s						
R40A	Maddies Statio	20.93	6	P	P	12 06 05.9	+1.6
P40A	Paris	22.18	6	P	P	12 06 17.2	-0.2
P40A				IAmb	IAmb	12 06 17.7	
	comp=Z,10nm,1.2s						
SDCO	Great Sand Dun	22.28	337	P	P	12 06 20.0	+1.1
PDAR	Pinedale Array	28.17	337	P	P	12 07 14.1	+1.8
	comp=Z,0.2nm,0.5s,baz=178,slow=9.3,SNR=2.0						
	comp=Z,0.2nm,0.5s						
NVAR	Mina Array Bea	29.25	320	P	P	12 07 24.9	+2.9
	comp=Z,0.8nm,0.6s,baz=125,slow=9.6,SNR=7.9						
	comp=Z,0.8nm,0.6s						
YKA	Yellowknife Ar	47.09	348	P	P	12 09 50.0	-0.3
	comp=Z,0.7nm,0.6s,baz=155,slow=7.0,SNR=18						
	comp=Z,0.7nm,0.6s						

*TAP **25** 12:01:52.6, 24°.82N×122°.90E, h143km±1km, ML2.9, D*
*JMA **25** 12:01:52.9±0.3, 25°.N±4°.×12°.3E±°., h139km, MV2.4/11, NW OFF ISHIGAKIJIMA IS*
ISC 25 12:01:53.0±1.9, **24°.82N**±0°.08×**122°.91E**±0°.03, **h137**km±12km, **n59**, σ0°.**61**/90, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.37	165	*e*P	Pn	12 02 12.5	+0.3
EOS2	EOS2	0.73	237	P	Pn	12 02 14.6	+0.5
EOS2				*e*S	Sn	12 02 31.0	+0.8
EOS3	EOS3	0.76	225	*e*P	Pn	12 02 15.2	+0.9
EOS4	EOS4	0.88	218	*e*P	Pn	12 02 15.2	+0.1
EOS4				S	Sn	12 02 32.7	+0.9
IRIF	Iriomote-Funau	0.89	123	*e*P	Pn	12 02 15.8	+0.2
IRIF				S	Sn	12 02 32.6	0.0
TIPB	Shuangxi	0.99	279	*e*P	Pn	12 02 16.7	+0.2
TIPB				S	Sn	12 02 33.9	-0.5
EWUT	Wuta	1.09	250	*e*P	Pn	12 02 17.4	0.0
EWUT				S	Sn	12 02 35.8	-0.1
HATJ	Hateruma jima	1.12	133	*e*S	Sn	12 02 36.5	+0.2
ENA	Nanau	1.13	250	*e*P	Pn	12 02 17.8	+0.1
TWE	Neicheng	1.13	265	P	Pn	12 02 17.9	+0.2
JKRS	Kuro-shima	1.16	120	P	Pn	12 02 18.7	+0.7
JKRS				S	Sn	12 02 37.1	+0.2
FUSB	Fushanzhiwuyua	1.20	267	*e*P	Pn	12 02 18.4	-0.1
JIJ	Ishigaki jima	1.21	112	P	Pn	12 02 18.5	0.0
JIJ				S	Sn	12 02 36.9	-1.1
ENTT	Nioudou	1.23	262	*e*P	Pn	12 02 19.1	+0.3
ENTT				*e*S	Sn	12 02 38.6	+0.2
NWLT	Wulai	1.28	268	*e*P	Pn	12 02 19.1	-0.1
NWLT				*e*S	Sn	12 02 38.6	-0.6
LATG	Datong	1.29	258	*e*P	Pn	12 02 19.7	+0.2
LATG				*e*S	Sn	12 02 39.6	0.0
JISG	Ishigakijimahi	1.30	100	P	Pn	12 02 19.3	0.0
JISG				S	Sn	12 02 38.6	-0.8
NACB	Ninganchiao	1.36	242	*e*P	Pn	12 02 19.5	-0.6
NACB				*e*S	Sn	12 02 39.3	-1.3
TWD	Chiawan	1.41	239	*e*P	Pn	12 02 20.1	-0.4
NSK	Sanguang	1.42	264	*e*P	Pn	12 02 20.8	+0.1
NSK				*e*S	Sn	12 02 41.2	-0.6
ETLH	Xiulin Townshi	1.44	245	*e*P	Pn	12 02 20.6	-0.4
ETLH				*e*S	Sn	12 02 41.3	-1.0
NNSB	Datong	1.44	255	*i* P	Pn	12 02 21.1	+0.1
NNSB				*i* S	Sn	12 02 42.1	-0.3
NNS	Nan Shan	1.45	255	*e*P	Pn	12 02 21.2	+0.1
NNS				*e*S	Sn	12 02 42.2	-0.4
ETM	Tongmen	1.55	237	*e*P	Pn	12 02 21.8	-0.3
KSHI	Guanxi Townshi	1.58	269	*e*S	Sn	12 02 45.0	+0.2
LXIB	Xiulin Townshi	1.58	240	*e*P	Pn	12 02 22.1	-0.5
SHUL	Shoufeng	1.60	230	*e*P	Pn	12 02 22.9	+0.3
FUSS	Fushou	1.62	250	P	Pn	12 02 23.5	+0.4
FUSS				*e*S	Sn	12 02 45.3	-0.8
JTJ	Tarama	1.64	96	P	Pn	12 02 23.5	+0.4
JTJ				*e*S	Sn	12 02 45.8	-0.3
NFF	Wufeng Townshi	1.64	264	*e*P	Pn	12 02 23.5	+0.3
NFF				*e*S	Sn	12 02 45.1	-1.2
TWT	Tachien	1.68	251	P	Pn	12 02 24.4	+0.7
TWT				S	Sn	12 02 47.3	+0.2
ESL	Shilin	1.68	234	*e*P	Pn	12 02 23.0	-0.6
ESL				*e*S	Sn	12 02 45.7	-1.2
LIOB	Emei	1.73	265	*e*P	Pn	12 02 24.3	+0.2
LIOB				*e*S	Sn	12 02 47.0	-1.0
NSTT	Nanjuang	1.75	264	*e*S	Sn	12 02 47.4	-0.9
WARBT	Fenglin Townsh	1.77	232	P	Pn	12 02 23.9	-0.7
EGFH	Guangfu	1.77	230	*e*P	Pn	12 02 24.3	-0.3
OWD	Renai	1.80	242	P	Pn	12 02 25.2	+0.1
OWD				S	Sn	12 02 48.7	-0.9
WUSB	Renai	1.83	244	*i* P	Pn	12 02 25.8	+0.4
WUSB				*e*S	Sn	12 02 50.0	-0.3
WHP	Taichung City	1.87	254	*e*P	Pn	12 02 26.4	+0.6
WHP				*e*S	Sn	12 02 50.7	-0.3
HGSD	Ruisui	1.90	226	*e*P	Pn	12 02 26.1	0.0
HGSD				*e*S	Sn	12 02 51.0	-0.4
VWDT	VWDT	1.93	237	*e*P	Pn	12 02 26.9	+0.4
EHY	Hungye	1.95	228	*e*P	Pn	12 02 26.1	-0.7
WCS	Beigang Elemen	1.97	248	*e*P	Pn	12 02 27.8	+0.8
YULB	Yu-li	2.05	226	*e*P	Pn	12 02 27.4	-0.6
JIRB	Irabujima	2.06	89	*e*P	Pn	12 02 28.1	+0.2
SMLT	Sun Moon Lake	2.06	243	*e*P	Pn	12 02 28.5	+0.4
SMLT				*e*S	Sn	12 02 56.0	+1.0
SSLB	Suanglung	2.06	240	*e*P	Pn	12 02 29.0	+0.9
SSLB				*e*S	Sn	12 02 54.8	-0.2
TWF1	Yuli	2.08	226	*e*P	Pn	12 02 28.1	-0.2
TYC	Yuchr	2.08	244	*e*P	Pn	12 02 29.0	+0.7
WHYT	Xinyi Township	2.19	240	P	Pn	12 02 30.7	+1.1
WHYT				*e*S	Sn	12 02 59.1	+1.4
FULB	Fuli	2.19	223	*e*P	Pn	12 02 29.9	+0.2
WCHH	Zhanghua	2.27	251	*e*P	Pn	12 02 30.9	+0.4
ALS	Alishan	2.32	236	*e*P	Pn	12 02 32.3	+0.8
EDH	Donghe	2.35	219	P	Pn	12 02 31.4	-0.3
EDH				S	Sn	12 03 00.5	-0.9
ELDTW	Lidau	2.37	227	*e*P	Pn	12 02 31.9	-0.1
CHN5	Tsauling	2.37	240	*e*P	Pn	12 02 32.3	+0.3
LDUT	Ludao	2.51	212	*e*P	Pn	12 02 33.5	-0.1
STYH	Taoyuan	2.55	230	*e*P	Pn	12 02 34.3	+0.2
STYH				*e*S	Sn	12 03 06.1	+0.4
TPUB	Ta-pu	2.58	234	*e*P	Pn	12 02 36.2	+1.7

BEO 25 12:05:39.4±0.9, **44°.01N**×**18°.94E**, **h0**km±4km, **ML1.5**/4, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAPS	Han Pijesak,Bl	0.08	8	*e*Pg	Pg	12 05 40.4	-0.6
HAPS				*e*Sg	Sg	12 05 42.4	+0.3
BBLS	Lazi&#263i	0.37	112	*e*Pg	Pg	12 05 46.3	-0.1
BBLS				*e*Sg	Sg	12 05 51.4	+0.2
RUDO	Rudo	0.50	141	*e*Pg	Pg	12 05 48.3	-0.6
RUDO				*e*Sg	Sg	12 05 55.0	-0.4
DIVS	Divibare	0.77	83	*e*Pg	Pg	12 05 53.5	-0.6
DIVS				*e*Sg	Sg	12 06 03.3	-0.8

RHSSO 25 12:06:28.9±0.6, **44°.68N**×**17°.07E**, **h4**km±2km, **ML1.1**/3, **3C**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.11	50⇑	*i*Pg	Pg	12 06 30.8	-0.3
BLY				*e*Sg	Sg	12 06 33.2	+0.6
A051A	Mrakovica	0.35	341⇑	*i*Pg	Pg	12 06 35.6	-0.1
A051A				*e*Sg	Sg	12 06 40.7	+0.4
A050A	Klekovaca	0.43	243⇑	*i*Pg	Pg	12 06 36.9	-0.3
A050A				*e*Sg	Sg	12 06 43.1	+0.3
KIJV	Kijevo	0.82	215	*e*Pg	Pg	12 06 44.1	-0.6
KIJV				Sg	Sg	12 06 55.9	+0.5
ZIRJ	Zirje	1.45	225	*e*Pg	Pg	12 06 56.6	0.0
VIRC	Vir	1.49	256	*e*Pn	Pb	12 06 57.1	0.0
BOJS	Bojanci	1.53	303	*e*Pn	Pn	12 06 56.5	-0.5
BOJS				*e*Sn	Sb	12 07 17.5	0.0

*ISK **25** 12:06:37.9, 38°.77N×38°.17E, h6km, ML2.3/9*
*AFAD **25** 12:06:38.9, 38°.79N×38°.17E, h7km±2km, ML2.5*
ISC 25 12:06:38.8±1.1, **38°.78N**±0°.03×**38°.17E**±0°.03, **h11**km±9km, **n14**, σ0°.**51**/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	Malatya_Hekimh	0.19	300	P	Pg	12 06 42.8	-0.2
HEKM				*i* AML	AML	12 06 46.0	
	comp=N,2μm,0.5s						
HEKM				*i* AML	AML	12 06 46.0	
	comp=E,3μm,0.3s						
HEKM				S	Sg	12 06 46.5	+0.5
AKCD	Akcadag	0.52	202	P	Pg	12 06 48.5	-0.5
AKCD				S	Sb	12 06 57.8	0.0
AKCD				*i* AML	AML	12 06 59.0	
	comp=N,561nm,0.2s						
AKCD				*i* AML	AML	12 07 00.0	
	comp=E,400nm,0.4s						
KEMA	Kemaliye	0.55	27	P	Pg	12 06 49.5	0.0
KEMA				S	Sb	12 06 57.6	-0.8
KEMA				*i* AML	AML	12 06 58.0	
	comp=E,188nm,0.3s						
KEMA				*i* AML	AML	12 06 59.0	
	comp=N,150nm,0.3s						
DARE	Darende-Malaty	0.58	249	Pg	Pg	12 06 49.3	-0.7
DARE				Sg	Sg	12 06 57.9	+0.2
CUGUR	Gurin_SVAS	0.70	265	P	Pb	12 06 53.1	-0.1
CUGUR				S	Sb	12 07 03.3	+0.3
CUGUR				*i* AML	AML	12 07 04.0	
	comp=N,206nm,0.2s						
CUGUR				*i* AML	AML	12 07 05.0	
	comp=E,198nm,0.3s						
CUKAN	kangal_SIVAS	0.76	314	P	Pg	12 06 53.0	-0.6
CUKAN				S	Sb	12 07 04.2	-0.5
PTK	Pertek	0.96	83	Pg	Pg	12 06 56.7	-0.6
PTK				Sg	Sb	12 07 10.8	+0.4
SARI	SarD1z-Kayseri	1.42	255	Pn	Pn	12 07 04.9	+0.1
URFA	Urfa	1.44	159	Pn	Pn	12 07 04.9	0.0
SVSK	Karacayir	1.45	322	Pn	Pg	12 07 06.2	-0.5
SVSK				Sn	Sg	12 07 25.7	+0.2
KMRS	Kahramanmaras	1.62	219	Pn	Pn	12 07 07.8	+0.4
YEDI	Yedisu-Bingol	1.96	70	Pn	Pn	12 07 12.6	+0.4
BNGB	Bingl	1.97	83	Pn	Pn	12 07 12.7	+0.4
KOZT	Kozan	2.26	236	Pn	Pn	12 07 17.0	+0.9

*JMA **25** 12:18:55.1±0.1, 42°.6N±0°.3×145°.3E±0°.7, h48km±1km, MV2.5/29, OFF NEMURO PENINSULA*
*SKHL **25** 12:18:57.2±0.2, 42°.70N×145°.20E, h34km±2km, mb3.9/4*
ISC 25 12:18:54.5±3.1, **42°.6N**±0°.2×**145°.29E**±0°.07, **h26**km±13km, **n10**, σ0°.**56**/18, **Hokk

PRK	**Paraskevi**	**0.45 338**	P	**Pg**	**12 28 35.7**	**+0.1**
PRK			S	**Sg**	**12 28 42.1**	**+0.3**
CESE	**eme**	**0.52 197**	Pg	**Pg**	**12 28 36.4**	**-0.5**
BLCB	**Balcova**	**0.62 135**	Pg	**Pb**	**12 28 38.8**	**-0.3**
SIGR	**SIGRI**	**0.62 308**	Pg	**Pb**	**12 28 38.9**	**-0.2**
SIGR	**SIGRI**	**0.62 308**	P	**Pb**	**12 28 39.0**	**-0.2**
SIGR			S	**Sb**	**12 28 47.5**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.68 336**	Pg	**Pb**	**12 28 40.1**	**0.0**
GMLD	**Gumuldur**	**0.82 156**	Pg	**Pg**	**12 28 42.3**	**-0.3**
SOMA	**Soma-Manisa**	**0.88 68**	Pg	**Pn**	**12 28 43.9**	**-0.4**
EZNE	**Ezine-Canakkal**	**0.93 354**	Pg	**Pn**	**12 28 44.9**	**-0.1**
EZN	**Ezine**	**1.00 353**	Pg	**Pn**	**12 28 46.0**	**0.0**
AKS	**Akhisar**	**1.04 87**	Pg	**Pg**	**12 28 46.9**	**+0.3**
BOZC	**Bozcaada**	**1.06 342**	Pg	**Pg**	**12 28 47.1**	**-0.1**
YENI	**Yenice-Canakka**	**1.25 28**	Pn	**Pb**	**12 28 49.7**	**-0.1**
CANM	**Can-anakkale**	**1.26 20**	Pn	**Pb**	**12 28 50.1**	**+0.1**
COMU	**Canakkale**	**1.27 359**	Pn	**Pg**	**12 28 50.5**	**-0.5**
GCAM	**G?zelcaml?**	**1.27 152**	Pn	**Pb**	**12 28 50.3**	**+0.1**
GORD	**Gordes-Manisa**	**1.32 86**	Pn	**Pb**	**12 28 50.8**	**-0.2**
ODEM	**Odemis-Izmir**	**1.36 113**	Pn	**Pb**	**12 28 51.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.41 128**	Pn	**Pn**	**12 28 52.0**	**+0.2**
GADA	**Gvkgeada**	**1.43 342**	Pn	**Pb**	**12 28 52.5**	**-0.4**
LIA	**Limnos Island**	**1.47 317**	P	**Pn**	**12 28 52.8**	**+0.4**
LIA			S	**Sn**	**12 29 11.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.53 37**	Pn	**Pb**	**12 28 53.9**	**-0.7**
LPK	**Lapseki**	**1.56 8**	Pn	**Pb**	**12 28 54.3**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.57 360**	Pn	**Pn**	**12 28 54.3**	**+0.5**
SUSR	**Susurluk-Balik**	**1.68 47**	Pn	**Pn**	**12 28 55.7**	**+0.4**
KRBG	**Karabiga-Canak**	**1.68 22**	Pn	**Pn**	**12 28 55.8**	**+0.5**
SMTH	**Samothraki Isl**	**1.80 336**	P	**Pn**	**12 28 57.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.84 1**	Pn	**Pn**	**12 28 57.8**	**+0.3**
EDC	**Edincik**	**1.85 35**	Pn	**Pn**	**12 28 58.2**	**+0.5**
BODT	**Bodrum**	**1.88 160**	Pn	**Pn**	**12 28 58.6**	**+0.5**
ENEZ	**Enez**	**1.92 352**	Pn	**Pn**	**12 28 59.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.93 16**	Pn	**Pn**	**12 28 59.5**	**+0.7**
SIMA	**Simav-Kutahya**	**1.96 82**	Pn	**Pn**	**12 28 59.5**	**+0.2**
MRMT	**Marmara Adasi**	**1.97 25**	Pn	**Pn**	**12 28 59.9**	**+0.6**
KCTX	**Karacabey (Bur**	**2.04 45**	Pn	**Pn**	**12 29 00.6**	**+0.4**
ALN	**Alexandroupoli**	**2.09 351**	Pn	**Pn**	**12 29 02.0**	**+1.0**
THAS	**Thassos island**	**2.24 323**	P	**Pn**	**12 29 03.1**	**+0.1**
TVSB	**Tavsanli**	**2.39 74**	Pn	**Pn**	**12 29 06.0**	**+0.8**
KOKK	**Kokkinochori,**	**2.76 317**	P	**Pn**	**12 29 10.5**	**+0.3**

IDC 25 12:29:26.0±3.3, 30°.67S×178°.21W, h0km, mb3.7/4, mbtmp3.7/5, ML2.8/1, Error ellipse: s-maj=64.1km s-min=35.8km az=61.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.50**	**206**	Pn	Pn	12 31 29.4	-1.0
	0.1nm,0.3s,baz=265,slow=22,SNR=1.5						
URZ				Sn	Sn	12 33 09.8	+2.8
	0.5nm,0.3s,baz=298,slow=22,SNR=8.7 3.4nm,0.8s						
STKA	**Stephens Creek**	**34.24**	**257**	P	P	12 36 13.1	-0.6
	2.9nm,1.0s,baz=83,slow=11,SNR=1.5 2.9nm,1.0s						
ASAR	**Alice Springs**	**42.91**	**267**	P	P	12 37 26.7	0.0
	0.5nm,1.0s,baz=106,slow=7.3,SNR=6.0 0.5nm,1.0s						
WRA	**Warramunga Arr**	**43.93**	**273**	P	P	12 37 35.0	+0.1
	0.4nm,0.4s,baz=110,slow=8.0,SNR=4.9 0.4nm,0.4s						
QSPA	**South Pole Qui**	**59.44**	**180**	P	P	12 39 30.5	+0.1
	1.0nm,1.1s,baz=22,slow=5.4,SNR=1.2 1.0nm,1.1s						

*NDI **25** 12:41:23.6, 24°.33N×93°.38E, h14km, mb4.6, ML4.4, mb4.6(NEIC)*
*IDC **25** 12:41:23.9±0.5, 24°.21N×93°.62E, h56km±4km, mb3.9/21, mbtmp4.1/23, MS3.5/19, Error ellipse: s-maj=10.3km s-min=7.6km az=119.0*
*NEIC **25** 12:41:25.4±1.7, 24°.32N±0°.06×93°.51E±0°.06, h57km±5km, mb4.6/41, Error ellipse: s-maj=9.2km s-min=7.4km az=200.0*
*BJI **25** 12:41:25.5, 24°.54N×93°.56E, h66km, mB4.7/16, mb4.5/46, ML4.1/3, Ms4.0/22, Ms7 3.6/22*
ISC 25 12:41:23.7±0.5, 24°.25N±0°.04×93°.41E±0°.04, h57km±4km, h57km:pP-P, n110, σ2°.37/117, mb4.5/47, MS3.6/22, 1C-4D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.75**	**40**	*e*P	**Pn**	**12 41 38.6**	**+0.1**
IMP				*e*S	**Sn**	**12 41 49.6**	**+0.3**
IMP				*ex*	x	12 41 54.6	
IMP				IAML		12 41 56.2	
	4μm,0.4s						
KOHI	**KOHIMA**	**1.59**	**23**	*e*P	**Pn**	**12 41 49.9**	**+0.2**
KOHI				*e*S	**Sn**	**12 42 14.0**	**+4.7**
KOHI				IAML		12 42 16.3	
	comp=E,13μm,0.7s						
KOHI				IAML		12 42 18.9	
	comp=E,7μm,0.5s						
SHL	**Shillong**	**1.91**	**314**	Pn	**Pn**	**12 41 54.5**	**+0.4**
SHL	**Shillong**	**1.91**	**314**	*e*P	**Pn**	**12 41 54.6**	**+0.6**
SHL				*e*S	**Sn**	**12 42 18.0**	**+1.0**
SHL				IAML		12 42 23.5	
	comp=N,3μm,0.2s						
AGT	**Agartala**	**2.01**	**260**	*e*P	**Pn**	**12 41 58.7**	**+3.5**
AGT				*e*S	**Sn**	**12 42 24.5**	**+5.2**
AGT				IAML		12 42 33.1	
	comp=E,3μm,0.5s						
AGT				IAML		12 42 35.7	
	comp=E,10μm,0.5s						
BRDH	**Bariadhala**	**2.26**	**226**	P	**Pn**	**12 41 59.7**	**+1.1**
	comp=E,134nm,0.3s,baz=58,slow=12,SNR=7.6						
BRDH				S	**Sn**	**12 42 29.6**	**+4.2**
	comp=E,853nm,0.4s,baz=250,slow=24,SNR=19						
GUWA	**GUWAHATI**	**2.48**	**321**	*e*S	**Sn**	**12 42 27.9**	**-2.9**
GUWA				*e*S		12 42 29.7	
ZIRO	**ZIRO**	**3.28**	**7**	*e*P	**Pn**	**12 42 12.2**	**-0.6**
ZIRO				*e*S	**Sn**	**12 42 49.2**	**-1.5**
ZIRO				IAML		12 43 10.2	
	comp=E,4μm,0.4s						
ZIRO				IAML		12 43 14.5	
	comp=E,4μm,0.4s						
TAWA	**Tawang**	**3.61**	**338**	*e*S	**Sn**	**12 42 58.1**	**-0.8**
TAWA				IAML		12 43 01.7	
	comp=N,1μm,0.2s						
TAWA				IAML		12 43 02.8	
	comp=E,1μm,0.2s						
TNCH	**TengChong**	**4.71**	**80**	*e*P	**Pn**	**12 42 34.0**	**+1.6**
TNCH				sP		12 42 49.8	
TNCH				S	**Sn**	**12 43 27.0**	**+1.2**
TNCH				smax	smax		
	comp=E,330nm,1.5s						
TNCH				smax	smax		
	comp=E,270nm,1.4s						
TNCH				LR	LR		
	comp=E,3μm,4.1s						
TNCH				LR	LR		
	comp=E,1μm,2.6s						
TNCH				LR	LR		
	comp=E,540nm,10.5s						
GTK	**Tadong**	**5.30**	**306**	*e*P	**Pn**	**12 42 42.2**	**+1.8**
GTK				*e*S	**Sn**	**12 43 40.3**	**-0.1**
GTK				IAML		12 43 43.4	
	comp=E,1μm,0.2s						
GTK				IAML		12 43 50.1	
	comp=E,1μm,0.2s						
LSA	**Lhasa**	**5.79**	**340**	P	**Pn**	**12 42 50.0**	**+2.6**
LSA				S	**Sn**	**12 43 49.8**	**-2.9**
LSA				smax	smax		
	comp=E,140nm,1.1s						
BOK	**Bokaro**	**6.90**	**268**	*e*P	**Pn**	**12 43 03.2**	**+1.0**
BOK				*e*S	**Sn**	**12 44 15.4**	**-3.9**
BOK				*e*S		12 44 18.1	
BOK				IAML		12 44 22.5	
	comp=E,79nm,0.2s						
CHTO	**Chiang Mai**	**7.47**	**135**		**Pn**	**12 43 10.7**	**+0.7**
CRAI	**Chiangrai**	**7.59**	**120**		**Pn**	**12 43 11.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.73**	**137**	P	**Pn**	**12 43 13.4**	**-0.2**
	comp=E,3.5nm,0.8s,baz=314,slow=14,SNR=22						
PZH	**PanZhiHua**	**7.86**	**72**	P	**Pn**	**12 43 18.3**	**+2.9**
PZH				sP		12 43 35.0	
PZH				S	**Sn**	**12 44 46.5**	**+3.4**
PZH				LR	LR		
	comp=E,360nm,11.2s						
PZH				LR	LR		
	comp=E,290nm,10.0s						
PZH				LR	LR		
	comp=E,270nm,10.8s						
KMI	**Kunming**	**8.53**	**82**	P	**Pn**	**12 43 26.5**	**+1.8**
KMI				S	**Sn**	**12 45 01.8**	**+2.2**
KMI				pmax	pmax		
	comp=E,13nm,0.8s						
KMI				LR	LR		
	comp=E,720nm,7.6s						
KMI				LR	LR		
	comp=E,260nm,6.9s						
KMI				LR	LR		
	comp=E,290nm,11.4s						
JHSG	**JHARSUGUGA**	**9.22**	**256**	*e*S	**Sn**	**12 45 12.9**	**-3.4**
RAGD	**RAYAGADA**	**10.51**	**244**	*e*S	**Sn**	**12 45 42.8**	**-5.0**
DGPR	**DIGLIPUR**	**11.03**	**182**	*e*P	**Pn**	**12 43 57.8**	**-0.9**
DGPR				*e*S	**Sn**	**12 45 56.8**	**-3.7**
CD2	**Chengdu**	**11.32**	**52**	P	**Pn**	**12 44 03.0**	**+0.3**
CD2				pmax	pmax		
	comp=E,10.0nm,0.4s						
CD2				LR	LR		
	comp=E,480nm,10.2s						
CD2				LR	LR		
	comp=E,160nm,8.3s						
GOMU	**GeErMu**	**11.97**	**5**	P	**Pn**	**12 44 10.3**	**-1.5**
GOMU				LR	LR		
	comp=E,340nm,11.7s						
GOMU				LR	LR		
	comp=E,280nm,11.3s						
GOMU				LR	LR		
	comp=E,420nm,9.6s						
BHPL	**Bhopal**	**14.68**	**269**	*e*P	**Pn**	**12 44 46.3**	**-1.9**
BHPL				IAmb	IAmb	12 44 48.6	
	comp=Z,31nm,0.9s						
BHPL				*e*S	Sn	12 47 19.4	-10
LZH	**Lanzhou**	**14.83**	**35**	*e*P	**Pn**	**12 44 48.0**	**-2.2**
LZH				pmax	pmax		
	comp=Z,62nm,1.3s						
LZH				LR	LR		
	comp=Z,300nm,12.4s						
LZH				LR	LR		
	comp=Z,330nm,13.7s						
LZH				LR	LR		
	comp=Z,270nm,13.7s						
SMLA	**Simla**	**15.93**	**299**	*e*P	**Pn**	**12 45 05.2**	**+1.0**
SMLA				IAmb	IAmb	12 45 21.4	
	comp=Z,19nm,0.8s						
SMLA				*e*S	Sn	12 47 50.0	-10
GTA	**Gaotai**	**16.05**	**18**	*e*P	**Pn**	**12 45 02.5**	**-3.3**
GTA				pP	pP	12 45 16.8	-4.1
GTA				sP	sP	12 45 22.5	-5.8
GTA				LR	LR		
	comp=Z,98nm,16.0s						
GTA				LR	LR		
	comp=Z,240nm,17.1s						
GTA				LR	LR		
	comp=Z,110nm,15.6s						
QIZ	**Qiongzhong**	**16.13**	**106**	P	**Pn**	**12 45 06.8**	**0.0**
QIZ				S	**Sn**	**12 48 04.8**	**0.0**
QIZ				LR	LR		
	comp=Z,340nm,11.0s						
QIZ				LR	LR		
	comp=Z,270nm,9.6s						
QIZ				LR	LR		
	comp=Z,180nm,11.7s						
XAN	**Xi'an**	**16.67**	**51**	⇓P	**Pn**	**12 45 09.3**	**-4.2**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
DHRM	**DHARAMSHALA**	**17.04**	**302**	*e*P	**Pn**	**12 45 18.4**	**+0.1**
DHRM				*e*S	Sn	12 48 17.0	-10
THN	**Thein Dam**	**17.57**	**302**	*e*P	**P**	**12 45 27.5**	**+2.6**
NIL	**Nilore**	**19.95**	**303**	P	**P**	**12 45 52.7**	**+1.6**
WMQ	**Urumqi**	**20.08**	**348**	*e*P	**P**	**12 45 53.5**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WUS	**Wushi**	**20.64**	**328**	P	**P**	**12 45 59.8**	**+1.2**
KSH	**Kashi**	**21.18**	**320**	P	**P**	**12 46 06.5**	**+2.1**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BTO	**Baotou**	**21.44**	**37**	⇓*i*P	**P**	**12 46 06.3**	**-0.9**
BTO				pP	**sP**	**12 46 23.3**	**-4.2**
BTO				sP	pP	12 46 32.5	+12
BTO				PP	**PnPn**	**12 46 33.8**	**+4.4**
BTO				S	**S**	**12 49 53.8**	**-8.2**
BTO				sS	**sS**	**12 50 22.0**	**-0.9**
BTO				pmax	pmax		
	comp=Z,450nm,6.6s						
BTO				LR	LR		
	comp=Z,500nm,14.7s						
BTO				LR	LR		
	comp=Z,340nm,16.7s						
BTO				LR	LR		
	comp=Z,460nm,18.6s						
TARG	**Taragay, Kyrgy**	**21.74**	**327**	P	**P**	**12 46 13.1**	**+2.4**
TARG				IAmb	IAmb	12 46 34.3	
	comp=Z,27nm,1.1s						
PSI	**Prapat**	**21.98**	**165**	LR	LR	12 56 05.1	
	comp=Z,92nm,20.5s,baz=338,slow=40						
KDJ	**Kajisay**	**22.35**	**327**	P	**P**	**12 46 18.3**	**+1.3**
KDJ				IAmb	IAmb	12 46 35.3	
	comp=Z,31nm,1.0s						
HNS	**HongShan**	**22.43**	**49**	⇑P	**P**	**12 46 17.8**	**+0.1**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC	**Hu-ho-hao-te**	**22.46**	**38**	*e*P	**P**	**12 46 16.5**	**-1.7**
HHC				pP	pP	12 46 32.0	+0.9
HHC				S	**S**	**12 50 14.8**	**-6.2**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.1s						
HHC				LR	LR		
	comp=Z,250nm,12.2s						
HHC				LR	LR		
	comp=Z,180nm,11.6s						
HHC				LR	LR		
	comp=Z,290nm,11.1s						
BOOM	**Boomskoye usch**	**23.24**	**326**	P	**P**	**12 46 28.4**	**+2.2**
BOOM				IAmb	IAmb	12 46 47.9	
	comp=Z,28nm,1.2s						
TIA	**Tai'an**	**23.63**	**54**	P	**P**	**12 46 28.3**	**-1.4**
TIA				pmax	pmax		
	comp=Z,11nm,0.9s						
TIA				pmax	pmax		
	comp=Z,130nm,4.0s						
NJ2	**Nanjing**	**23.70**	**65**	*e*P	**P**	**12 46 30.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
DRK	**Karamyk**	**23.73**	**315**	P	**P**	**12 46 33.0**	**+2.1**
AAK	**Ala-Archa**	**24.10**	**324**	P	**P**	**12 46 36.6**	**+2.5**
	comp=Z,1.8nm,0.7s,baz=96,slow=12,SNR=4.8						
AAK				S	**S**	**12 50 39.5**	**-8.4**
	comp=Z,0.5nm,0.3s,baz=127,slow=18,SNR=2.1						
AAK				LR	LR	12 58 06.8	
	comp=Z,85nm,19.8s,baz=122,slow=41 comp=Z,1.8nm,0.7s						
MK31	**Makanchi Array**	**24.20**	**341**	P	**P**	**12 46 35.5**	**+0.7**
MKAR	**Makanchi Array**	**24.20**	**341**	P	**P**	**12 46 36.3**	**+1.5**
MKAR	**Makanchi Array**	**24.20**	**341**	P	**P**	**12 46 35.9**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=152,slow=11,SNR=33						
MKAR				pP	**pP**	**12 46 50.6**	**+1.6**
	comp=Z,6.0nm,0.8s,baz=154,slow=10,SNR=9.7						
MKAR				LR	LR	12 56 43.4	
	comp=Z,63nm,19.3s,baz=148,slow=38 comp=Z,3.5nm,0.7s						
MAKZ	**Makanchi**	**24.30**	**341**	P	**P**	**12 46 37.1**	**+1.4**
GAR	**Garm**	**24.46**	**312**	P	**P**	**12 46 36.9**	**-0.5**
BTK	**Batken**	**24.68**	**315**	IAmb	IAmb	12 47 12.4	
	comp=Z,23nm,0.9s						
SIMJ	**Simiganj**	**25.19**	**311**	P	**P**	**12 46 45.8**	**+1.8**
SONM	**Songino Array**	**25.70**	**20**	P	**P**	**12 46 49.4**	**+0.9**
SONM				IAmb	IAmb	12 46 51.9	
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**25.70**	**20**	P	**P**	**12 46 49.7**	**+1.2**
	comp=Z,10nm,0.8s,baz=199,slow=9.6,SNR=35						
SONM				pP	**pP**	**12 47 03.8**	**+0.9**
	comp=Z,10.0nm,1.1s,baz=202,slow=10,SNR=6.4 comp=Z,10nm,0.8s						
XLT	**XiLinHaoTe**	**26.99**	**38**	*e*P	**P**	**12 47 00.5**	**+0.3**
XLT				pP	sP	12 47 18.8	-2.8
XLT				PP	**PnPn**	**12 47 52.3**	**+7.2**
XLT				sS	sS	12 52 01.0	+3.0
XLT				pmax	pmax		
	comp=Z,12nm,1.2s						
XLT				pmax	pmax		
	comp=Z,140nm,5.2s						
XLT				LR	LR		
	comp=Z,170nm,7.5s						
XLT				LR	LR		
	comp=Z,150nm,17.9s						
KURBB	**Kurchatov Arra**	**28.74**	**340**	P	**P**	**12 47 16.7**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=150,slow=8.7,SNR=11						
KURBB				pP	**pP**	**12 47 32.2**	**+2.3**
	comp=Z,2.1nm,1.0s,baz=155,slow=8.8,SNR=5.7 comp=Z,2.0nm,0.9s						
ZAA0	**Zalesovo Array**	**30.35**	**350**	P	**P**	**12 47 31.2**	**+1.5**
ZALV	**Zalesovo Beam**	**30.35**	**350**	P	**P**	**12 47 30.5**	**+0.7**
ZALV	**Zalesovo Beam**	**30.35**	**350**	P	**P**	**12 47 31.6**	**+1.8**
	comp=Z,4.9nm,0.7s,baz=168,slow=8.1,SNR=24						
ZALV				pP	**pP**	**12 47 46.0**	**+1.8**
	comp=Z,2.7nm,0.7s,baz=166,slow=8.7,SNR=3.6						
ZALV				LR	LR	13 02 24.3	
	comp=Z,23nm,18.1s,baz=223,slow=41 comp=Z,4.9nm,0.7s						
KSRS	**Korea Array**	**32.23**	**58**	LR	LR	13 01 36.4	
	comp=Z,36nm,19.6s,baz=290,slow=38						
BVAR	**Borovoye Array**	**33.60**	**335**	P	**P**	**12 47 59.7**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=134,slow=13,SNR=6.4						
BVAR				pP	**pP**	**12 48 13.4**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=134,slow=10,SNR=6.2 comp=Z,1.0nm,0.7s						
JNU	**Nakatsue**	**33.89**	**66**	LR	LR	13 02 50.1	
	comp=Z,67nm,20.1s,baz=254,slow=38						
BNX	**BinXian**	**34.76**	**43**	⇓P	**P**	**12 48 07.8**	**-0.6**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DAV	**Davao City (W)**	**35.23**	**114**	LR	LR	13 02 41.5	
	comp=Z,43nm,21.3s,baz=280,slow=36						
HEH	**HeiHe**	**36.97**	**37**	⇓P	**P**	**12 48 28.0**	**+0.7**
HEH				pmax	pmax		
	comp=Z,42nm,0.9s						
USRK	**Ussuriysk Ar.**	**37.15**	**48**	P	**P**	**12 48 28.2**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=239,slow=7.8,SNR=4.9 comp=Z,3.5nm,0.8s						
AKTO	**Aktyubinsk**	**37.83**	**323**	LR	LR	13 07 48.1	
	comp=Z,90nm,18.3s,baz=221,slow=42						
KAPI	**Kappang**	**38.79**	**135**	LR	LR	13 09 00.3	
	comp=Z,23nm,18.1s,baz=290,slow=43						
KLR	**Kul'dur**	**38.94**	**40**	LR	LR	13 06 35.4	
	comp=Z,84nm,18.0s,baz=228,slow=39						
ARTI	**Arti**	**40.96**	**331**	P	**P**	**12 49 01.8**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=105,slow=12,SNR=2.8 comp=Z,2.6nm,0.7s						
ASAJ	**Asahikawa**	**44.51**	**51**	LR	LR	13 10 18.0	
	comp=Z,28nm,18.1s,baz=120,slow=39						
YSS	**Yuzhno-Sakhali**	**45.17**	**47**	P	**P**	**12 49 34.5**	**-0.3**
NRIK	**Noril'sk**	**45.24**	**357**	P	**P**	**12 49 35.5**	**+0.6**
NRIK				IAmb	IAmb	12 49 37.1	
	comp=Z,6.7nm,0.9s						
NRIK	**Noril'sk**	**45.24**	**357**	P	**P**	**12 49 35.2**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=161,slow=6.5,SNR=5.4						
NRIK				LR	LR	13 10 33.9	
	comp=Z,56nm,19.3s,baz=186,slow=39 comp=Z,3.9nm,0.7s						
KBZ	**Khabaz**	**45.40**	**308**	LR	LR	13 10 47.6	
	comp=Z,76nm,18.7s,baz=130,slow=39						
TIXI	**Tiksi**	**51.47**	**14**	P	**P**	**12 50 22.6**	**-0.3**
TIXI				IAmb	IAmb	12 51 01.9	
	comp=Z,11nm,1.4s						
MA2	**Magadan**	**52.97**	**32**	LR	LR	13 15 05.5	
	comp=Z,56nm,19.3s,baz=266,slow=38						
AK10	**Malin Array Si**	**55.37**	**316**	P	**P**	**12 50 52.5**	**+0.7**
AK10				pP	**pP**	**12 51 07.7**	**+0.6**
AKASG	**Malin Array Be**	**55.39**	**316**	P	**P**	**12 50 52.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=81,slow=6.7,SNR=2.0						
AKASG				pP	**pP**	**12 51 07.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=82,slow=6.5,SNR=5.0 comp=Z,0.3nm,0.3s						
NDNU	**Novodnistrovsk**	**56.53**	**313**	P	**P**	**12 51 01.6**	**+1.5**
FINES	**FINESS Array B**	**58.18**	**329**	P	**P**	**12 51 12.3**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=109,slow=7.3,SNR=1.4 comp=Z,1.8nm,0.9s						
WRA	**Warramunga Arr**	**59.31**	**134**	P	**P**	**12 51 19.2**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=324,slow=7.3,SNR=26						
WRA				pP	**pP**	**12 51 33.8**	**-2.0**
	comp=Z,3.3nm,0.5s,baz=323,slow=7.5,SNR=8.6 comp=Z,3.6nm,0.7s						
ARCES	**ARCESS Array B**	**59.79**	**338**	P	**P**	**12 51 23.7**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=113,slow=6.6,SNR=2.1 comp=Z,3.1nm,0.8s						
ASAR	**Alice Springs**	**61.74**	**137**	P	**P**	**12 51 36.0**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=318,slow=6.9,SNR=36						
ASAR				pP	**pP**	**12 51 50.6**	**-1.7**
	comp=Z,3.0nm,0.6s,baz=319,slow=6.7,SNR=11 comp=Z,3.7nm,0.8s						
HFS	**Hagfors**	**64.20**	**327**	P	**P**	**12 51 53.4**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=134,slow=6.4,SNR=4.3						
HFS				LR	LR	13 22 41.5	
	comp=Z,164nm,18.9s,baz=358,slow=38 comp=Z,2.3nm,0.7s						
NOA	**NORSAR Array B**	**65.35**	**328**	P	**P**	**12 52 00.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=44,slow=18,SNR=1.1 comp=Z,0.8nm,0.8s						
GERES	**GERESS Array B**	**65.52**	**314**	P	**P**	**12 52 02.2**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=70,slow=12,SNR=3.9						
GERES				pP	**pP**	**12 52 17.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=54,slow=7.1,SNR=4.1						
GERES				LR	LR	13 23 07.0	
	comp=Z,158nm,19.2s,baz=357,slow=38 comp=Z,0.5nm,0.4s						
STKA	**Stephens Creek**	**72.36**	**138**	P	**P**	**12 52 42.8**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=302,slow=3.6,SNR=4.1 comp=Z,4.4nm,0.9s						
E18K	**Tukpahlearik C**	**73.76**	**23**	IAmb	IAmb	12 52 54.3	
	comp=Z,14nm,1.5s						
F17K	**Baldwin Pennin**	**73.92**	**24**	P	**P**	**12 52 53.8**	**+1.5**
F17K				IAmb	IAmb	12 52 54.7	
	comp=Z,11nm,1.1s						
EKA	**Eskdalemuir Ar**	**74.01**	**324**	P	**P**	**12 52 54.5**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=65,slow=5.7,SNR=2.3						
EKA				pP	**PcP**	**12 53 09.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=81,slow=5.5,SNR=1.7 comp=Z,1.6nm,0.8s						
F19K	**Shaleruckik Mo**	**75.01**	**23**	IAmb	IAmb	12 53 00.3	
	comp=Z,9.3nm,1.2s						
E21K	**Killik River**	**75.53**	**21**	IAmb	IAmb	12 53 03.8	
	comp=Z,6.7nm,0.8s						
D22K	**Ayikyak River**	**75.72**	**20**	IAmb	IAmb	12 53 05.5	
	comp=Z,7.7nm,1.0s						
C23K	**Itkillik River**	**75.85**	**19**	P	**P**	**12 53 05.2**	**+1.8**
H19K	**Roundabout Mou**	**76.09**	**24**	IAmb	IAmb	12 53 06.8	
	comp=Z,9.0nm,1.3s						
F21K	**Alatna River**	**76.30**	**22**	IAmb	IAmb	12 53 28.4	
	comp=Z,6.

MWLHS	Almuwaylih	0.90	72	P		Pg	12 46 06.2 +0.5
HHRG	Al Ghardaqah	0.91	254	P		Pg	12 46 06.2 +0.3
HHRG				S		Sg	12 46 17.7 0.0
AYUS	`Aynunah	0.96	41	P		Pg	12 46 07.2 +0.4
BDAS	Al ʼBadʼ	1.07	27	P		Pb	12 46 08.9 0.0
TAYS	Tayyib Ism	1.11	15	P		Pb	12 46 09.1 -0.5
HKAT	Jabal Katrina	1.16	335	P		Pb	12 46 10.6 +0.2
DESA	DESA	1.43	88	P		Pn	12 46 14.7 +0.5
JLOS		1.51	33	P		Pn	12 46 15.7 +0.4
HAQS	Haql	1.61	12	P		Pn	12 46 16.8 +0.2
HRDS	Abu Rudays	1.66	318	P		Pn	12 46 17.1 -0.2
JMOS	Jabal al Moall	1.76	16	P		Pn	12 46 19.2 +0.5
NADB	Abo Dabab	2.12	181	P		Pn	12 46 23.3 -0.3
EWJHS	Al Wajh	2.29	124	P		Pn	12 46 26.1 +0.2

NOU ***25*** *12:49:47.2, 23°.41S×179°.44W, h565km, mb4.5/25, South of Fiji Islands*
IDC ***25*** *12:49:48.2±1.1, 23°.52S×179°.91W, h519km±10km, mb3.8/18, mbtmp4.6/20, Error ellipse: s-maj=14.8km s-min=12.1km az=106.0*
NEIC ***25*** *12:49:48.3±1.7, 23°.7S±0°.1×179°.9W±0°.1, h516km±8km, mb4.5/118, Error ellipse: s-maj=18.2km s-min=16.0km az=156.0*

ISC 25 12:49:48.8±0.3, 23°.72S±0°.05×179°.86W±0°.06, h532km, n188, σ1ş70/158, mb4.5/77, 3C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	5.79	163	P	P	12 51 25.2	+0.7
GLKZ				S	S	12 52 40.7	-2.2
MSVF	Nonsavu	6.27	341	P	P	12 51 27.7	-1.5
MSVF	Nonsavu	6.27	341	P	P	12 51 27.3	-2.0
	21nm,0.5s,baz=230,slow=15,SNR=20						
MSVF				S	S	12 52 40.4	-11
	11nm,0.8s,baz=137,slow=14,SNR=1.0						
MSVF	Nonsavu	6.27	341	P	P	12 51 27.8	-1.5
MSVF	Nonsavu	6.27	341	S	S	12 52 50.0	-1.3
NIUE	Niue	10.34	65	P	P	12 52 09.0	-1.1
NIUE	Niue	10.34	65	P	P	12 52 14.6	+4.5
NIUE				S	S	12 54 08.7	+2.4
MARNC	Mare, Loyalty	11.41	279	P	P	12 52 23.4	+2.2
MARNC	Mare, Loyalty	11.41	279	S	S	12 54 32.1	+5.5
PINNC	Pines Island,	11.73	273	P	P	12 52 24.9	+0.4
PINNC	Pines Island,	11.73	273	P	P	12 52 26.7	+2.2
PINNC	Pines Island,	11.73	273	S	S	12 54 39.4	+6.7
DVP	Devils Point	12.67	296	P	P	12 52 35.4	+1.0
DZM	Mont Dzumac	12.73	275	P	P	12 52 34.5	-0.7
	6.8nm,0.6s,baz=67,slow=22,SNR=7.1						
DZM	Mont Dzumac	12.73	275	P	P	12 52 36.9	+1.8
OUZ	Omahuta	12.80	205	P	P	12 52 38.2	+2.7
OUZ	Omahuta	12.80	205	P	P	12 52 37.8	+2.4
MXZ	Matakaoa Point	13.89	186	P	P	12 52 46.4	-0.4
MXZ	Matakaoa Point	13.89	186	P	P	12 52 49.0	+2.2
MXZ	Matakaoa Point	13.89	186	P	P	12 52 48.5	+1.7
MXZ				S	S	12 55 12.6	-0.9
MKAZ	Moumakai	14.01	197	P	P	12 52 49.1	+1.0
WMGZ	Waiomatatini S	14.13	186	P	P	12 52 50.3	+0.9
WMGZ				S	S	12 55 16.1	-2.1
HAZ	Te Kaha	14.14	188	P	P	12 52 48.4	-1.0
PKGZ	Pakihiroa	14.21	187	P	P	12 52 52.4	+2.2
TGRZ	Tauranga	14.36	192	P	P	12 52 52.9	+1.2
RUGZ	Raukumara Rang	14.36	188	P	P	12 52 53.5	+1.7
PUZ	Puketiti	14.40	186	P	P	12 52 53.4	+1.2
TOZ	Tahuroa Road	14.52	195	P	P	12 52 52.0	-1.4
TOZ	Tahuroa Road	14.52	195	P	P	12 52 56.0	+2.6
TWGZ	Tauwhareparae	14.53	187	P	P	12 52 53.6	0.0
KARZ	Kaharoa	14.64	192	P	P	12 52 58.2	+3.5
URZ	Urewera	14.73	189	P	P	12 52 52.7	-2.8
	30nm,0.5s,baz=357,slow=2.7,SNR=34						
URZ				S	S	12 55 24.2	-5.3
	67nm,0.7s,baz=138,slow=24,SNR=22						
URZ	Urewera	14.73	189	P	P	12 52 56.8	+1.3
URZ	Urewera	14.73	189	P	P	12 52 53.6	-1.9
MWZ	Matawai	14.74	188	P	P	12 52 55.5	-0.2
CNGZ	Carnagh Statio	14.81	186	P	P	12 52 53.8	-2.6
RRRZ	Republican Roa	14.90	191	P	P	12 52 58.1	+0.7
MUGZ	Murupara	14.99	190	P	P	12 52 58.4	+0.1
PRRZ	Plateau Road	15.08	191	P	P	12 53 00.6	+1.4
TLZ	Tolley Road	15.09	194	P	P	12 52 60.0	+0.6
RTZ	Ruatahuna	15.10	190	P	P	12 52 57.8	-1.7
RTZ				IAmb	IAmb	12 53 01.0	
	comp=Z,17nm,0.8s						
SNGZ	Shannon Statio	15.21	188	P	P	12 53 00.8	+0.2
MTHZ	Maungataniwha	15.35	190	P	P	12 53 01.5	-0.6
RAHZ	Arahi	15.37	189	P	P	12 53 01.0	-1.3
MRHZ	Matea Rd	15.40	191	P	P	12 53 02.7	+0.1
WATZ	Wairara	15.41	193	P	P	12 53 05.3	+2.6
HIZ	Hauiti	15.42	196	P	P	12 53 04.6	+1.8
HIZ	Hauiti	15.42	196	P	P	12 53 03.7	+0.9
BKZ	Black Stump Fm	15.71	191	P	P	12 53 03.0	-2.8
BKZ	Black Stump Fm	15.71	191	P	P	12 53 06.3	+0.5
BKZ	Black Stump Fm	15.71	191	P	P	12 53 02.9	-2.8
ETVZ	East Tongariro	15.83	193	P	P	12 53 07.0	-0.1
NNVZ	North Ngauruho	15.84	193	P	P	12 53 08.1	+0.8
NGZ	Ngauruhoe	15.89	193	P	P	12 53 07.7	0.0
MCHZ	McNeill Hill	15.95	190	P	P	12 53 07.2	-0.9
BFZ	Birch Farm	17.23	190	P	P	12 53 19.9	-0.4
MRZ	Mangatainoka R	17.32	192	P	P	12 53 18.8	-2.5
TCW	Tory Channel	18.12	194	P	P	12 53 29.1	+0.6
SNZO	South Karori	18.12	193	P	P	12 53 28.3	-0.2
QRZ	Quartz Range	18.22	199	P	P	12 53 30.5	+1.2
QRZ	Quartz Range	18.22	199	P	P	12 53 30.6	+1.2
TUWZ	Tuamarina	18.41	195	P	P	12 53 31.7	+0.6
LUES	Luesalemba Tem	18.77	311	P	P	12 53 32.2	-2.6
THZ	Tophouse	18.98	197	P	P	12 53 36.6	+0.2
KHZ	Kahutara	19.44	195	P	P	12 53 40.6	+0.2
LTZ	Lake Taylor	20.10	197	P	P	12 53 45.7	-0.9
INZ	Inchbonnie	20.28	199	P	P	12 53 48.3	+0.2
OXZ	Oxford	20.67	197	P	P	12 53 51.1	-0.6
RPZ	Rata Peaks	21.30	198	P	P	12 53 58.8	+1.5
	comp=Z,13nm,0.5s,baz=357,slow=3.4,SNR=5.4						
	comp=Z,13nm,0.5s						
RPZ	Rata Peaks	21.30	198	P	P	12 53 57.3	-0.1
TATA	Tatamba Isabel	24.73	305	P	P	12 54 26.5	-1.8
ARMA	Armidale	26.21	249	P	P	12 54 42.8	+1.4
ARMA				IAmb	IAmb	12 54 48.3	
	comp=Z,28nm,1.5s						
ARMA	Armidale	26.21	249	P	P	12 54 41.7	+0.4
EIDS	Eidsvold	26.46	260	P	P	12 54 44.4	+0.8
EIDS	Eidsvold	26.46	260	P	P	12 54 44.1	+0.6
CAN	Canberra	29.34	240	P	P	12 55 08.4	-0.2
TV1H	Townsville Har	31.30	272	P	P	12 55 25.2	-0.4
STKA	Stephens Creek	34.91	248	P	P	12 55 55.7	-0.3
STKA	Stephens Creek	34.91	248	P	P	12 55 56.7	+0.7
	comp=Z,3.6nm,0.4s,baz=98,slow=11,SNR=10						
	comp=Z,3.6nm,0.4s						
COEN	Coen	36.21	279	P	P	12 56 04.5	-2.5
COEN				IAmb	IAmb	12 56 08.7	
	comp=Z,14nm,1.0s						
AS31	Alice Springs	42.19	260	P	P	12 56 55.2	0.0
ASAR	Alice Springs	42.19	260	P	P	12 56 54.8	-0.4
ASAR	Alice Springs	42.19	260	P	P	12 56 55.0	-0.2
	comp=Z,18nm,0.7s,baz=96,slow=7.2,SNR=242						
ASAR				ScP	ScP	13 01 40.3	+3.2
	comp=Z,7.4nm,0.8s,baz=111,slow=4.1,SNR=31						
ASAR				S	S	13 02 35.5	-1.5
	comp=Z,0.6nm,0.5s,baz=91,slow=16,SNR=5.6						
	comp=Z,18nm,0.7s						
WR0	Warramunga Arr	42.36	266	P	P	12 56 55.8	-0.8
WR0				IAmb	IAmb	12 56 56.4	
	comp=Z,16nm,0.9s						
WRAB	Tennant Creek	42.54	266	P	P	12 56 56.8	-1.2
WRA	Warramunga Arr	42.55	266	P	P	12 56 56.5	-1.5
WRA	Warramunga Arr	42.55	266	P	P	12 56 57.2	-0.8
	comp=Z,25nm,0.5s,baz=90,slow=5.9,SNR=197						
WRA				ScP	ScP	13 01 42.1	+3.5
	comp=Z,5.3nm,0.9s,baz=101,slow=4.1,SNR=13						
WRA				S	S	13 02 38.4	-3.8
	comp=Z,2.6nm,0.7s,baz=99,slow=14,SNR=7.1						
	comp=Z,25nm,0.5s						
FORT	Forrest	46.49	249	P	P	12 57 28.1	-0.2
MTN	Manton Dam	47.57	274	P	P	12 57 35.7	-0.9
MTN				IAmb	IAmb	12 57 36.0	
	comp=Z,16nm,0.7s						
PSA00	Pilbara Seismi	55.32	259	P	P	12 58 31.7	-0.8
QSPA	South Pole Qui	66.36	180	P	P	12 59 46.1	+1.5
QSPA				IAmb	IAmb	12 59 47.6	
	comp=Z,9.9nm,0.8s						
QSPA	South Pole Qui	66.36	180	P	P	12 59 46.7	+2.1
	comp=Z,8.0nm,0.7s,baz=355,slow=0.6,SNR=54						
	comp=Z,8.0nm,0.7s						
MJAR	Matsushiro Arr	71.82	325	P	P	13 00 16.6	-1.1
	comp=Z,4.7nm,0.9s,baz=157,slow=6.2,SNR=8.9						
	comp=Z,4.7nm,0.9s						
ASAJ	Asahikawa	75.76	333	P	P	13 00 38.6	-1.2
	comp=Z,6.0nm,0.8s,baz=87,slow=5.9,SNR=5.7						
	comp=Z,6.0nm,0.8s						
BELA	Belgrano 2	76.60	173	P	P	13 00 45.0	+0.9
KSRS	Korea Array	78.19	320	P	P	13 00 52.6	-0.6
	comp=Z,1.4nm,0.7s,baz=127,slow=6.0,SNR=6.3						
	comp=Z,1.4nm,0.7s						
PETK	Petropavlovsk-	78.95	346	P	P	13 00 55.9	-1.0
	comp=Z,3.9nm,0.8s,baz=108,slow=8.8,SNR=8.9						
	comp=Z,3.9nm,0.8s						
NJ2	Nanjing	80.64	311	*e*P	P	13 01 08.5	+2.2
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	Ussuriysk Ar.	80.68	327	P	P	13 01 07.0	+0.8
	comp=Z,3.4nm,0.8s,baz=84,slow=7.5,SNR=4.3						
	comp=Z,3.4nm,0.8s						
BCW	Bitter Crk WRg	81.76	46	IAmb	IAmb	13 01 14.5	
	comp=Z,14nm,0.8s						
ESJX	Sierra Juarez	82.44	50	IAmb	IAmb	13 01 19.1	
	comp=Z,18nm,1.3s						
ISA	Isabella, Lake	82.80	46	IAmb	IAmb	13 01 19.4	
	comp=Z,9.9nm,0.8s						
YUH	Yuha Desert	82.82	50	IAmb	IAmb	13 01 19.7	
	comp=Z,13nm,1.1s						
CMB	Columbia Colle	82.98	43	IAmb	IAmb	13 01 19.9	
	comp=Z,9.3nm,0.8s						
AFDM	Forest Hills D	83.17	42	IAmb	IAmb	13 01 20.8	
	comp=Z,10nm,1.1s						
ELIB	Princess Elisa	83.26	187	*d*P	P	13 01 20.2	+1.0
GSC	Goldstone, Bar	83.71	47	IAmb	IAmb	13 01 23.8	
	comp=Z,8.1nm,0.9s						
GLA	Glamis	83.81	50	IAmb	IAmb	13 01 25.1	
	comp=Z,18nm,0.9s						
WAKR	Wakker	83.86	43	IAmb	IAmb	13 01 24.9	
	comp=Z,10nm,1.0s						
PNTR	Pine Nut	84.11	43	IAmb	IAmb	13 01 26.4	
	comp=Z,15nm,0.9s						
DSP	Deep Springs	84.13	45	IAmb	IAmb	13 01 26.6	
	comp=Z,14nm,1.3s						
TIA	Tai'an	84.20	314	P	P	13 01 25.0	+0.8
TIA				pmax	pmax		
	comp=Z,13nm,0.9s						
LHV	Little Huntoon	84.30	44	IAmb	IAmb	13 01 26.9	
	comp=Z,10nm,1.1s						
BLYC	Blythe	84.41	50	IAmb	IAmb	13 01 27.7	
	comp=Z,8.6nm,0.9s						
HSIG		84.50	55	IAmb	IAmb	13 01 28.0	
	comp=Z,17nm,1.0s						
TROLL	Troll, Antarti	84.52	181	⇑P	P	13 01 25.9	+0.5
	comp=Z,424nm,0.5s						
NVAR	Mina Array Bea	84.53	44	P	P	13 01 26.3	+0.2
	comp=Z,3.0nm,0.8s,baz=220,slow=7.6,SNR=18						
	comp=Z,3.0nm,0.8s						
SNAA	Sanae	84.85	179	⇑P	P	13 01 27.1	+0.1
	comp=Z,42nm,0.4s						
SNAA	Sanae	84.85	179	P	P	13 01 27.2	+0.2
	comp=Z,2.1nm,0.6s,baz=198,slow=9.0,SNR=23						
	comp=Z,2.1nm,0.6s						
VNA3	Neumayer Olymp	85.05	177	⇑P	P	13 01 28.3	+0.4
	comp=Z,0.6nm,0.2s						
VNA2	Neumayer--Watz	85.47	178	⇓P	P	13 01 30.2	+0.3
	comp=Z,5.2nm,0.6s,baz=155,slow=6.6						
W13A	Hualapai Mount	85.58	49	IAmb	IAmb	13 01 33.4	
	comp=Z,7.8nm,1.2s						
J05D	Fort Rock, OR	85.69	39	IAmb	IAmb	13 01 33.7	
	comp=Z,10nm,0.9s						
PRN	Pahroc Range	86.06	46	IAmb	IAmb	13 01 35.7	
	comp=Z,7.1nm,0.9s						
LL02	Futatsuf	86.25	136	P	P	13 01 35.9	+1.8
TUC	Tucson	86.31	52	P	P	13 01 36.2	+1.6
TUC				IAmb	IAmb	13 01 37.5	
	comp=Z,13nm,0.9s						
WVOR	Wild Horse Val	86.69	41	IAmb	IAmb	13 01 38.2	
	comp=Z,9.3nm,1.1s						
I07A	Izee	87.17	39	IAmb	IAmb	13 01 41.0	
	comp=Z,11nm,1.0s						
KNB	Kanab	87.34	48	IAmb	IAmb	13 01 41.8	
	comp=Z,6.9nm,1.0s						
U15A	North Rim	87.39	48	IAmb	IAmb	13 01 42.3	
	comp=Z,12nm,0.9s						
GNW	Green Mountain	87.51	35	P	P	13 01 41.0	+1.3
GNW				IAmb	IAmb	13 01 41.8	
	comp=Z,6.3nm,0.9s						
PKCU	Pink Cliffs	87.91	47	IAmb	IAmb	13 01 45.2	
	comp=Z,9.7nm,0.8s						
G08A	Pilot Rock	88.20	38	IAmb	IAmb	13 01 45.2	
	comp=Z,10nm,1.0s						
PLCA	Paso Flores	88.30	134	P	P	13 01 45.6	+1.7
	comp=Z,3.9nm,1.1s,baz=271,slow=6.2,SNR=3.5						
	comp=Z,3.9nm,1.1s						
MTPU	Mount Pierson	88.31	47	IAmb	IAmb	13 01 46.5	
	comp=Z,7.2nm,0.9s						
E07A	Sunnyside	88.47	37	IAmb	IAmb	13 01 46.4	
	comp=Z,10nm,0.9s						
HAWA	Hanford	88.55	37	IAmb	IAmb	13 01 46.6	
	comp=Z,9.1nm,0.9s						
XAN	Xi'an	88.73	308	P	P	13 01 47.3	+1.4
XAN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
E08A	Dider Farm, El	88.87	37	IAmb	IAmb	13 01 48.0	
	comp=Z,9.3nm,1.1s						
MFID	Camas Ranch	88.94	41	IAmb	IAmb	13 01 48.5	
	comp=Z,9.3nm,0.9s						
D08A	Wollman Farm,	89.28	37	IAmb	IAmb	13 01 50.0	
	comp=Z,7.5nm,1.0s						
Q16A	Castle Valley	89.45	47	IAmb	IAmb	13 01 52.5	
	comp=Z,6.8nm,0.9s						
CMAR	Chiang Mai Arr	89.58	290	P	P	13 01 50.6	+0.5
CMAR	Chiang Mai Arr	89.58	290	P	P	13 01 51.9	+1.7
	comp=Z,2.3nm,0.9s,baz=142,slow=3.3,SNR=14						
	comp=Z,2.3nm,0.9s						
MPU	Maple Canyon	89.72	45	IAmb	IAmb	13 01 52.5	
	comp=Z,5.4nm,0.7s						
PLID	Pearl Lake	89.78	39	P	P	13 01 50.8	0.0
PLID				IAmb	IAmb	13 01 52.2	
	comp=Z,5.2nm,1.3s						
B08A	Colville Reser	89.84	35	P	P	13 01 50.4	-0.3
HLID	Hailey	89.87	41	IAmb	IAmb	13 01 53.2	
	comp=Z,5.4nm,0.9s						
VHRN	Van Horn	89.88	56	IAmb	IAmb	13 01 53.8	
	comp=Z,5.5nm,0.9s						
HVU	Hansel Valley	89.92	44	IAmb	IAmb	13 01 53.1	
	comp=Z,7.4nm,0.8s						
TX31	Lajitas Ar. Si	90.22	58	IAmb	IAmb	13 01 55.5	
	comp=Z,7.1nm,0.8s						
TXAR	Lajitas Array	90.23	58	P	P	13 01 54.1	+1.1
TXAR	Lajitas Array	90.23	58	P	P	13 01 54.5	+1.5
	comp=Z,4.5nm,0.7s,baz=212,slow=6.5,SNR=48						
	comp=Z,4.5nm,0.7s						
HHC	Hu-ho-hao-te	90.38	315	*e*P	P	13 01 55.5	+2.0
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,4.7s						
P18A	Preston Nutter	90.43	46	IAmb	IAmb	13 01 55.7	
	comp=Z,4.7nm,0.9s						
HWUT	Hardware Ranch	90.59	44	IAmb	IAmb	13 01 55.8	
	comp=Z,4.3nm,0.7s						
PV23	Carpenter Ridg	90.67	48	IAmb	IAmb	13 01 56.9	
	comp=Z,7.2nm,0.8s						
PZH	PanZhiHua	90.71	299	P	P	13 01 56.5	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
ALPN	Alpine	90.72	57	IAmb	IAmb	13 01 57.3	
	comp=Z,6.0nm,0.9s						
ANMO	Albuquerque	90.74	52	P	P	13 01 55.5	0.0
ANMO				IAmb	IAmb	13 01 57.8	
	comp=Z,9.5nm,1.4s						
AHID	Auburn Hatcher	91.49	43	IAmb	IAmb	13 02 01.1	
	comp=Z,6.6nm,0.8s						
SAND	Sanderson	91.70	58	IAmb	IAmb	13 02 01.2	
	comp=Z,5.9nm,0.9s						
S22A	4UR Ranch, Cre	91.82	49	P	P	13 02 01.0	+0.6
S22A				IAmb	IAmb	13 02 02.4	
	comp=Z,5.8nm,1.0s						
ILAR	Eielson Array	91.82	13	P	P	13 01 58.5	-0.9
	comp=Z,0.5nm,0.8s,baz=223,slow=5.9,SNR=6.8						
	comp=Z,0.5nm,0.8s						
PDAR	Pinedale Array	92.47	44	P	P	13 02 03.4	+0.1
	comp=Z,1.9nm,0.7s,baz=215,slow=4.0,SNR=20						
	comp=Z,1.9nm,0.7s						
SDCO	Great Sand Dun	92.75	50	IAmb	IAmb	13 02 06.0	
	comp=Z,2.7nm,0.8s						
ISCO	Idaho Springs	93.63	48	IAmb	IAmb	13 02 09.8	
	comp=Z,3.9nm,1.1s						
SONM	Songino Array	97.05	319	P	P	13 02 22.8	-0.9
	comp=Z,0.4nm,0.3s,baz=140,slow=7.0,SNR=2.9						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	111.89	321	PKiKP	PKiKP	13 07 20.8	-2.1
	comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=2.0						
MKAR	Makanchi Array	112.12	313	PKiKP	PKiKP	13 07 23.1	-0.7
	comp=Z,0.4nm,0.6s,baz=151,slow=0.7,SNR=7.3						
MKAR				SKP		13 10 09.4	
	comp=Z,0.7nm,0.7s,baz=101,slow=2.9,SNR=4.4						
MKAR				PKKPbc	PKKPbc	13 18 17.5	+0.1
	comp=Z,0.3nm,0.6s,baz=321,slow=1.7,SNR=3.8						
KURBB	Kurchatov Arra	115.20	316	PKP	PKPdf	13 07 28.8	-0.7
	comp=Z,0.5nm,0.5s,baz=87,slow=2.1,SNR=6.7						
KURBB				PP	PP	13 08 35.4	-4.6
	comp=Z,0.1nm,0.3s,baz=97,slow=6.6,SNR=4.2						
KURBB				SKP		13 10 14.7	
	comp=Z,0.3nm,0.6s,baz=88,slow=1.8,SNR=4.7						
KURBB				PKKPbc	PKKPbc	13 18 04.4	-2.8
	comp=Z,0.4nm,0.7s,baz=287,slow=3.6,SNR=4.1						
BVAR	Borovoye Array	120.39	319	PKP	PKPdf	13 07 38.8	-0.6
	comp=Z,1.3nm,0.5s,baz=68,slow=2.0,SNR=9.3						
ARTI	Arti	126.92	324	PKP	PKPdf	13 07 51.1	-0.7
	comp=Z,2.3nm,0.5s,baz=180,slow=3.0,SNR=2.1						
ARCES	ARCESS Array B	131.73	348	PKP	PKPdf	13 07 58.1	-2.4
	comp=Z,1.0nm,0.5s,baz=8.5,slow=2.5,SNR=7.6						
ARCES				SKPbc	SKPbc	13 10 37.1	+0.4
	comp=Z,4.1nm,0.9s,baz=30,slow=7.6,SNR=4.2						
FINES	FINESS Array B	138.31	342	PKhKP	PKPpre	13 08 05.6	
	comp=Z,1.4nm,0.8s,baz=48,slow=2.1,SNR=1.5						
FINES				SKP		13 10 57.6	
	comp=Z,6.0nm,0.8s,baz=48,slow=2.8,SNR=9.2						
NB2	NORSAR Subarra	141.92	351	PKP	PKPpre	13 08 15.1	
	comp=Z,1.4nm,0.9s,baz=16,slow=3.2						
NB2				pPKP	SKPbc	13 11 07.9	+1.0
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	141.92	351	PKhKP	PKPpre	13 08 14.5	
	comp=Z,1.4nm,0.7s,baz=16,slow=4.3,SNR=4.4						
NOA				SKPbc	SKPbc	13 11 07.1	+0.2
	comp=Z,1.0nm,0.7s,baz=14,slow=4.1,SNR=4.5						
HFS	Hagfors	142.39	349	PKhKP	PKPpre	13 08 16.3	
	comp=Z,5.0nm,0.4s,baz=66,slow=3.7,SNR=29						
HFS				SKPbc	SKPbc	13 11 08.2	+0.2
	comp=Z,1.7nm,0.7s,baz=191,slow=3.0,SNR=3.9						
AKASG	Malin Array Be	144.89	327	PKP	PKPdf	13 08 24.9	-0.2
	comp=Z,2.6nm,0.5s,baz=46,slow=4.3,SNR=19						
AKASG				SKPbc	SKiKP	13 11 15.0	+0.3
	comp=Z,3.4nm,0.7s,baz=46,slow=2.7,SNR=14						
AKBB	Malin Array Si	144.89	327	PKPdf	PKPdf	13 08 24.3	-0.7
KIEV	Kiev	144.90	327	PKPdf	PKPdf	13 08 24.4	-0.6
BRTR	Keskin Array B	147.57	307	PKPbc	PKPbc	13 08 33.4	-0.2
	comp=Z,2.4nm,0.6s,baz=82,slow=4.4,SNR=8.1						
MMAI	Mount Meron Ar	147.74	295	PKPbc	PKiKP	13 08 35.2	-0.4
	comp=Z,5.7nm,0.5s,baz=69,slow=5.4,SNR=7.5						
EKA	Eskdalemuir Ar	148.33	4	PKPbc	PKPbc	13 08 34.5	-0.3
	comp=Z,1.0nm,0.3s,baz=347,slow=2.8,SNR=10						
CLL	Collm	150.72	343		PKPbc	13 08 40.3	-0.3
GERES	GERESS Array B	152.73	340	PKPbc	PKPbc	13 08 44.1	-1.2
	comp=Z,0.9nm,0.6s,baz=32,slow=5.2,SNR=2.9						
BMRD	Maredsous	153.22	353	*d*PKPdf	PKPdf	13 08 39.4	+1.2
TORD	Torodi Ar. Bea	169.38	188	PKPab	PKPab	13 10 12.4	+0.2
	comp=Z,3.0nm,0.4s,baz=154,slow=3.8,SNR=1.4						

KRNET ***25*** *12:53:10.9±0.1, 43°.08N×73°.36E, h27km, mb3.0*
NNC ***25*** *12:53:12.1±0.4, 43°.06N×73°.48E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=3.7km s-min=2.3km az=178.0*
SOME ***25*** *12:53:12.0, 43°.02N×73°.43E, h15km*
KNET ***25*** *12:53:12.2±0.6, 43°.03N×73°.47E, h26km±7km, ml2.3, Error ellipse: s-maj=4.2km s-min=1.6km az=121.0*

ISC 25 12:53:10.2±1.0, 43°.12N±0°.02×73°.36E±0°.02, h12km±9km, n53, σ1ş24/96, 44C-18D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	0.39	195	P	Pb	12 53 19.2	+0.1
	46nm,0.1s						
MRKS				S	Sg	12 53 24.0	+0.8
	1μm,0.2s						
MRKS	Merke	0.39	195	*e*P	Pb	12 53 19.2	+0.1
	46nm,0.1s						
MRKS				*e*S	Sg	12 53 24.0	+0.8
	1μm,0.2s						
EKS2	Erkin-Say	0.55	146	⇑P	Pb	12 53 21.9	0.0

KST	**Kastek**	**1.91**	**91**	P	**Pb**	**12 53 45.2**	**+0.2**
	16nm,0.3s						
KST				S	**Sb**	**12 54 08.7**	**-0.1**
	32nm,0.6s						
KST	**Kastek**	**1.91**	**91**	*e*P	**Pb**	**12 53 45.2**	**+0.2**
	16nm,0.3s						
KST				*e*S	**Sb**	**12 54 08.7**	**-0.1**
	38nm,0.3s						
BTLS	**Baital**	**1.98**	**14**	P	**Pg**	**12 53 50.3**	**+2.0**
	4.9nm,0.2s						
BTLS				S	**Sg**	**12 54 15.2**	**+1.2**
	60nm,0.2s						
BTLS	**Baital**	**1.98**	**14**	*e*P	**Pg**	**12 53 48.0**	**-0.3**
	1.4nm,0.1s						
BTLS				*e*S	**Sg**	**12 54 13.1**	**-0.9**
	60nm,0.2s						
BOOM	**Boomskoye usch**	**2.00**	**107**	⇑*i*P	**Pn**	**12 53 45.1**	**+1.1**
BOOM				⇑*i*S	**Sn**	**12 54 09.8**	**+0.8**
KK31	**Karatay Array**	**2.09**	**271**	⇓Pn	**Pg**	**12 53 49.9**	**-0.3**
	6.8nm,0.4s,baz=86,slow=16,SNR=49						
KK31				⇑Sn	**Sg**	**12 54 17.0**	**-0.3**
	6.0nm,0.3s,baz=91,slow=30,SNR=13						
KK31				⇑Lg	Lg	12 54 24.0	
	8.9nm,0.4s,baz=84,slow=26,SNR=6.3						
KKAR	**Karatay Array**	**2.09**	**271**	⇑*e*P	**Pb**	**12 53 46.4**	**-1.6**
KKAR				⇑*i*S	**Sb**	**12 54 12.0**	**-1.9**
MTBS	**Maitube**	**2.24**	**89**	Pg	**Pb**	**12 53 51.3**	**+0.6**
	6.5nm,0.3s						
MTBS				Lg	Lg	12 54 19.4	
	27nm,0.3s						
MTBS	**Maitube**	**2.24**	**89**	*e*P	**Pb**	**12 53 51.4**	**+0.6**
	4.4nm,0.2s						
MTBS				*e*S	**Sb**	**12 54 19.4**	**+0.9**
	27nm,0.3s						
TRKS	**Terek-Say**	**2.29**	**227**	⇓*i*P	**Pb**	**12 53 49.3**	**-2.2**
TRKS				⇓*i*S	**Sn**	**12 54 16.9**	**+0.8**
ULHL	**Ulahol**	**2.29**	**111**	⇑*i*P	**Pn**	**12 53 49.2**	**+1.1**
ULHL				⇑*i*S	**Sn**	**12 54 16.9**	**+0.6**
KTBS	**Karatobe**	**2.49**	**75**	Pg	**Pg**	**12 53 56.6**	**-1.3**
	3.6nm,0.2s						
KTBS				Lg	Lg	12 54 28.0	
	29nm,0.4s						
BRLS	**Borolday**	**2.59**	**269**	*e*P	Pg	12 54 03.8	+4.0
	1.1nm,0.2s						
BRLS				*e*S	**Sg**	**12 54 40.2**	**+6.9**
	5.1nm,0.3s						
TNSS	**Tian-Shan**	**2.63**	**91**	Pg	**Pg**	**12 53 59.1**	**-1.5**
	2.9nm,0.2s						
TNSS				Lg	Lg	12 54 32.5	
	5.3nm,0.4s						
TNSS	**Tian-Shan**	**2.63**	**91**	*e*P	**Pg**	**12 53 59.1**	**-1.5**
	2.9nm,0.2s						
TNSS				*e*S	**Sb**	**12 54 32.5**	**+2.7**
	9.3nm,0.2s						
CHKK	**Chushkaly**	**2.74**	**73**	Pg	**Pg**	**12 54 01.2**	**-1.5**
	2.1nm,0.3s						
CHKK				Lg	Lg	12 54 35.8	
	27nm,0.2s						
CHKK	**Chushkaly**	**2.74**	**73**	*e*P	**Pg**	**12 54 01.2**	**-1.5**
	1.0nm,0.1s						
CHKK				*e*S	**Sg**	**12 54 35.8**	**-2.4**
	27nm,0.2s						
KOTS	**Kotyrbulak**	**2.74**	**86**	Pg	**Pg**	**12 54 02.3**	**-0.5**
	3.3nm,0.1s						
KOTS				Lg	Lg	12 54 37.7	
	16nm,0.2s						
KOTS	**Kotyrbulak**	**2.74**	**86**	*e*P	**Pg**	**12 54 02.3**	**-0.5**
	2.9nm,0.1s						
KOTS				*e*S	**Sg**	**12 54 37.9**	**-0.5**
	16nm,0.2s						
KDJ	**Kajisay**	**2.98**	**108**	⇑*e*P	**Pn**	**12 53 58.9**	**+1.4**
KDJ				⇑*i*S	**Sn**	**12 54 33.8**	**+0.5**
KURS	**Kuram**	**3.53**	**82**	*e*P	**Pn**	**12 54 01.2**	**-3.7**
	1.0nm,0.1s						
KURS				*e*S	Sn	12 54 35.8	-11
	27nm,0.2s						
SATY	**Saty**	**3.69**	**89**	*e*P	**Pb**	**12 54 14.0**	**-1.5**
	7.2nm,0.4s						
SATY				*e*S	**Sb**	**12 54 57.8**	**-2.5**
	10nm,0.2s						
BLB	**Baldybastay**	**3.84**	**73**	Lg	Lg	12 55 09.2	
	12nm,0.4s						
PDGK	**Podgornoye**	**4.48**	**85**	⇑Pg	**Pb**	**12 54 31.0**	**+2.1**
	3.1nm,1.1s						
PDGK				⇑Lg	Lg	12 55 29.4	
	3.1nm,0.6s						

*IDC **25** 13:00:49.4±1.8,37.°51N×20.°52E,h0km,mb3.6/10, mbtmp3.6/13,ML4.0/2,Error ellipse: s-maj=34.5km s-min=21.6km az=20.0*
*NEIC **25** 13:00:51.2±1.6,37.°34N±0.°05×20.°55E±0.°07,h10km±1km, mb4.0/4,Error ellipse: s-maj=9.3km s-min=8.6km az=229.0*
*ATH **25** 13:00:52.0,37.°41N×20.°50E,h6km±1km,ML3.7/42, Manual Solution by G.Panopoulou First location: 2019/03/25 13:01:48, This location: 2020/10/03 14:04:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **25** 13:00:53.1,37.°45N×20.°53E,h0km±2km,ML3.8/9,Error ellipse: s-maj=3.1km s-min=0.9km az=213.0*
*BEO **25** 13:00:55.2±0.8,37.°73N×21.°40E,h0km,ML3.3/5*
ISC 25 13:00:50.9±1.3,**37.°38N**±0.°04×**20.°48E**±0.°03,**h12**km±7km, **n154**,σ1°**35**/192,**mb3.7**/13,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.39**	**44**	P	**Pb**	**13 00 59.4**	**-0.4**
KRI1				S	**Sg**	**13 01 03.9**	**0.0**
	38μm,0.4s						
KRI1	**kERI**	**0.39**	**44**	P	**Pb**	**13 00 59.4**	**-0.4**
KRI1				S	**Sg**	**13 01 03.8**	**0.0**
LTHK	**Lithakia**	**0.43**	**41**	P	**Pb**	**13 01 00.1**	**-0.4**
LTHK				S	**Sg**	**13 01 04.6**	**-0.6**
	36μm,0.5s						
LTHK	**Lithakia**	**0.43**	**41**	P	**Pb**	**13 01 00.2**	**-0.4**
LTHK				S	**Sg**	**13 01 04.6**	**-0.6**
ORTH	**Orthonies,Zaky**	**0.50**	**20**	P	**Pb**	**13 01 01.7**	**0.0**
ORTH				S	**Sg**	**13 01 06.8**	**-0.5**
KYPS	**Kipseli, Zakin**	**0.51**	**32**	P	**Pb**	**13 01 02.0**	**+0.1**
KYPS				S	**Sb**	**13 01 08.0**	**-1.4**
CLEM	**Kyllini,Ilia,G**	**0.73**	**46**	P	**Pg**	**13 01 05.3**	**+0.3**
CLEM				S	**Sb**	**13 01 14.7**	**-0.7**
RTZL	**Ratzakli, Kefa**	**0.73**	**19**	P	**Pb**	**13 01 05.5**	**-0.1**
RTZL				S	**Sb**	**13 01 14.6**	**-1.0**
PSDA	**Pessada-Kefalo**	**0.73**	**7**	P	**Pg**	**13 01 05.5**	**+0.4**
PSDA				S	**Sb**	**13 01 15.7**	**0.0**
PSDA	**Pessada-Kefalo**	**0.73**	**7**	P	**Pb**	**13 01 05.9**	**+0.2**
PSDA				S	**Sb**	**13 01 15.2**	**-0.5**
ARG2	**Argostoli**	**0.79**	**1**	P	**Pb**	**13 01 07.2**	**+0.5**
ARG2				S	**Sg**	**13 01 16.6**	**-0.1**
VLS	**Valsamata**	**0.80**	**6**	P	**Pg**	**13 01 06.5**	**+0.1**
VLS				S	**Sb**	**13 01 18.0**	**+0.4**
	5μm,0.7s						
VLS	**Valsamata**	**0.80**	**6**	P	**Pg**	**13 01 06.4**	**+0.1**
VLS				S	**Sg**	**13 01 16.1**	**-0.7**
LCHA	**Lechaina**	**0.83**	**48**	P	**Pg**	**13 01 07.2**	**+0.2**
DMLN	**Damoulianata-K**	**0.86**	**354**	P	**Pb**	**13 01 08.1**	**+0.3**
DMLN				S	**Sb**	**13 01 19.1**	**-0.2**
	12μm,0.7s						
DMLN	**Damoulianata-K**	**0.86**	**354**	P	**Pb**	**13 01 08.2**	**+0.3**
DMLN				S	**Sb**	**13 01 19.4**	**+0.2**
SMHA	**Samh**	**0.88**	**9**	P	**Pb**	**13 01 08.3**	**+0.2**
ZARO	**Zacharo**	**0.94**	**83**	P	**Pb**	**13 01 10.8**	**+1.6**
AMT	**Artemida-Makis**	**0.99**	**81**	P	**Pg**	**13 01 10.4**	**+0.4**
AMT				S	**Sb**	**13 01 24.0**	**+0.9**
YRMI	**Loutra Irminis**	**1.00**	**44**	P	**Pg**	**13 01 09.9**	**-0.2**
YRMI				S	**Sb**	**13 01 23.2**	**0.0**
VSK1	**VASILIKIADES**	**1.03**	**4**	P	**Pg**	**13 01 10.9**	**+0.2**
VSK1				S	**Sb**	**13 01 25.8**	**+1.7**
	6μm,0.5s						
RLS	**Riolos of Patr**	**1.03**	**49**	P	**Pg**	**13 01 10.3**	**-0.5**
RLS				S	**Sb**	**13 01 24.2**	**-0.1**
	4μm,0.9s						
RLS	**Riolos of Patr**	**1.03**	**49**	P	**Pg**	**13 01 10.4**	**-0.5**
RLS				S	**Sb**	**13 01 24.2**	**-0.1**
FSK	**Fiskardo**	**1.08**	**4**	P	**Pg**	**13 01 11.8**	**+0.2**
FSK				S	**Sb**	**13 01 25.9**	**+0.4**
	4μm,0.6s						
FSK	**Fiskardo**	**1.08**	**4**	P	**Pg**	**13 01 11.6**	**0.0**
FSK				S	**Sb**	**13 01 26.2**	**+0.7**
AXS	**Araxos**	**1.08**	**41**	P	**Pb**	**13 01 12.0**	**+0.4**
AXS				S	**Sb**	**13 01 25.9**	**+0.2**
DRO	**Drossia**	**1.13**	**59**	P	**Pg**	**13 01 12.5**	**-0.2**
DRO	**Drossia**	**1.13**	**59**	P	**Pg**	**13 01 12.6**	**0.0**
DRO				S	**Sb**	**13 01 28.1**	**+0.9**
ITM	**Ithomi**	**1.17**	**100**	P	**Pg**	**13 01 14.1**	**+0.6**
ITM	**Ithomi**	**1.17**	**100**		**Pg**	**13 01 13.8**	**+0.4**
ITM	**Ithomi**	**1.17**	**100**	P	**Pg**	**13 01 14.1**	**+0.6**
EVGI	**Lefkada island**	**1.24**	**6**	P	**Pg**	**13 01 14.5**	**-0.3**
EVGI	**Lefkada island**	**1.24**	**6**	P	**Pg**	**13 01 14.5**	**-0.3**
EVGI				S	**Sb**	**13 01 31.0**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.30**	**3**	P	**Pg**	**13 01 15.6**	**-0.3**
DRAG				S	**Sn**	**13 01 34.5**	**+2.2**
	1μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.30**	**3**	P	**Pn**	**13 01 16.6**	**+1.7**
DRAG				S	**Sb**	**13 01 33.1**	**+1.1**
PATG	**Patra B**	**1.31**	**49**	P	**Pn**	**13 01 16.7**	**+1.7**
NYDR	**Nydri-Lefkada**	**1.34**	**7**	P	**Pg**	**13 01 15.9**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.34**	**7**	P	**Pg**	**13 01 16.3**	**-0.4**
NYDR				S	**Sn**	**13 01 35.0**	**+1.7**
PATC	**Patra C**	**1.35**	**49**	P	**Pn**	**13 01 17.3**	**+1.8**
UPR	**University Cam**	**1.37**	**49**	P	**Pn**	**13 01 18.7**	**+2.8**
UPR	**University Cam**	**1.37**	**49**	P	**Pn**	**13 01 18.1**	**+2.2**
UPR				S	**Sn**	**13 01 35.2**	**+1.2**
LKD2	**Lefkada island**	**1.41**	**6**	P	**Pb**	**13 01 18.8**	**+1.6**
LKD2	**Lefkada island**	**1.41**	**6**	P	**Pg**	**13 01 17.5**	**-0.5**
LKD2				S	**Sn**	**13 01 36.5**	**+1.4**
KLV1	**Kalavrita**	**1.45**	**63**	P	**Pg**	**13 01 18.4**	**-0.3**
TSLK	**Tsoukalades, L**	**1.45**	**6**	P	**Pn**	**13 01 18.5**	**+1.5**
TSLK				S	**Sn**	**13 01 39.3**	**+3.4**
	3μm,0.5s						
TSLK	**Tsoukalades, L**	**1.45**	**6**	P	**Pb**	**13 01 18.9**	**+1.1**
TSLK				S	**Sb**	**13 01 37.0**	**+0.7**
KLV	**Kalavryta, Ach**	**1.48**	**63**	P	**Pg**	**13 01 19.1**	**-0.3**
KLV	**Kalavryta, Ach**	**1.48**	**63**	P	**Pb**	**13 01 19.3**	**+0.8**
PAVO	**Paravola**	**1.48**	**34**	P	**Pn**	**13 01 18.7**	**+1.2**
PVO				S	**Sn**	**13 01 37.9**	**+1.1**
VLX	**Vlachokerasia**	**1.52**	**90**	P	**Pn**	**13 01 19.2**	**+1.2**
EFP	**Efpalio**	**1.54**	**47**	P	**Pn**	**13 01 19.0**	**+0.8**
EFP	**Efpalio**	**1.54**	**47**	P	**Pb**	**13 01 20.1**	**+0.7**
ALIK	**Aliki, Aigiali**	**1.56**	**55**	P	**Pg**	**13 01 21.2**	**+0.3**
GUR	**Goura**	**1.58**	**69**	P	**Pn**	**13 01 20.4**	**+1.5**
GUR	**Goura**	**1.58**	**69**	P	**Pn**	**13 01 20.2**	**+1.3**
SERG	**Sergoula**	**1.62**	**50**	P	**Pn**	**13 01 20.7**	**+1.4**
KALE	**Kalithea**	**1.66**	**52**	P	**Pn**	**13 01 21.4**	**+1.5**
ANX	**Ano Chora**	**1.66**	**43**	P	**Pn**	**13 01 21.5**	**+1.5**
ANX				S	**Sg**	**13 01 43.6**	**-0.7**
EVR	**Evrytania**	**1.86**	**34**	P	**Pb**	**13 01 25.1**	**+0.2**
EVR				S	**Sn**	**13 01 47.4**	**+1.2**
DLFA	**Delphi**	**1.93**	**55**	P	**Pn**	**13 01 25.2**	**+1.5**
DLFA				S	**Sn**	**13 01 49.2**	**+1.2**
TETR	**Tetrakomo, Epi**	**2.06**	**17**	P	**Pn**	**13 01 27.8**	**+2.4**
LTK	**Loutraki**	**2.08**	**71**	P	**Pn**	**13 01 26.9**	**+1.3**
VLI	**Veliai**	**2.08**	**108**	P	**Pn**	**13 01 28.4**	**+2.8**
VLI	**Veliai**	**2.08**	**108**	P	**Pn**	**13 01 28.3**	**+2.6**
MAKR	**Makrakomi, Fth**	**2.08**	**38**	P	**Pn**	**13 01 28.2**	**+2.4**
KRND	**KRANIDI**	**2.13**	**89**	P	**Pb**	**13 01 30.1**	**+0.7**
KRND	**KRANIDI**	**2.13**	**89**	P	**Pn**	**13 01 28.1**	**+1.8**
IGT	**Igoumenitsa**	**2.15**	**357**	P	**Pn**	**13 01 28.9**	**+2.3**
IGT	**Igoumenitsa**	**2.15**	**357**	*e*Pn	**Pn**	**13 01 29.3**	**+2.7**
IGT				*e*Sg	**Sg**	**13 01 59.7**	**-0.3**
IGT	**Igoumenitsa**	**2.15**	**357**	P	**Pn**	**13 01 29.0**	**+2.3**
AXAR	**Ágios Charalam**	**2.21**	**51**	P	**Pn**	**13 01 29.3**	**+1.8**
JAN	**Janina**	**2.29**	**7**	P	**Pn**	**13 01 30.7**	**+2.1**
MET5	**Makryloggos,Me**	**2.30**	**83**	P	**Pn**	**13 01 31.4**	**+2.6**
MET4	**Ágioi Theodoro**	**2.34**	**83**	P	**Pn**	**13 01 30.1**	**+1.0**
LKR	**Lokris**	**2.36**	**57**	P	**Pn**	**13 01 30.8**	**+1.3**
VIL2	**Platees**	**2.36**	**69**	P	**Pn**	**13 01 30.6**	**+1.0**
KEK	**Kerkira**	**2.39**	**347**	P	**Pb**	**13 01 33.3**	**-0.5**
KEK	**Kerkira**	**2.39**	**347**	Pn	**Pn**	**13 01 30.8**	**+0.9**
KEK	**Kerkira**	**2.39**	**347**	P	**Pn**	**13 01 31.8**	**+1.9**
THL	**Klokotos Trika**	**2.49**	**29**	P	**Pn**	**13 01 33.4**	**+2.1**
THL	**Klokotos Trika**	**2.49**	**29**	P	**Pn**	**13 01 33.2**	**+1.9**
SRN	**Sarande**	**2.52**	**352**	P	**Pn**	**13 01 33.8**	**+2.1**
KPRO	**Kipourio**	**2.66**	**15**	P	**Pn**	**13 01 35.3**	**+1.6**
VLY	**Voula,Athens**	**2.67**	**79**	P	**Pn**	**13 01 34.5**	**+0.6**
ATHU	**Athens Univers**	**2.69**	**76**	P	**Pn**	**13 01 34.8**	**+0.7**
ANKY	**Antikythira Is**	**2.73**	**123**	P	**Pn**	**13 01 37.3**	**+2.7**
LSK	**Leskovik**	**2.76**	**2**	P	**Pn**	**13 01 38.0**	**+2.8**
PTL	**Penteli**	**2.77**	**75**	P	**Pn**	**13 01 35.7**	**+0.6**
DION	**Dionisos Attik**	**2.83**	**75**	P	**Pn**	**13 01 36.8**	**+0.8**
PENT	**Pentalofos**	**2.85**	**10**	P	**Pn**	**13 01 38.4**	**+2.0**
NEO	**Neokhori**	**2.89**	**48**	P	**Pn**	**13 01 37.6**	**+0.8**
NEO	**Neokhori**	**2.89**	**48**	P	**Pn**	**13 01 37.7**	**+0.9**
XOR	**Xorichti**	**2.91**	**46**	P	**Pn**	**13 01 38.1**	**+1.0**
XOR	**Xorichti**	**2.91**	**46**	P	**Pn**	**13 01 38.1**	**+1.0**
NEST	**Nestorio**	**3.06**	**8**	P	**Pn**	**13 01 41.3**	**+2.1**
KZN	**Kozani**	**3.09**	**19**	P	**Pn**	**13 01 41.7**	**+2.1**
SCTE	**Santa Cesarea**	**3.11**	**330**	Pn	**Pn**	**13 01 41.1**	**+1.3**
SCTE	**Santa Cesarea**	**3.11**	**330**	P	**Pn**	**13 01 41.3**	**+1.4**
KYMI	**Kymi, Euboea I**	**3.12**	**65**	P	**Pn**	**13 01 40.8**	**+0.8**
LIT	**Litokhoron**	**3.14**	**29**	P	**Pn**	**13 01 42.9**	**+2.7**
LIT	**Litokhoron**	**3.14**	**29**	Pn	**Pn**	**13 01 40.4**	**+0.2**
LIT	**Litokhoron**	**3.14**	**29**	P	**Pn**	**13 01 41.4**	**+1.1**
KARY	**Karystos**	**3.21**	**77**	P	**Pn**	**13 01 41.8**	**+0.6**
KBN	**Korca**	**3.24**	**4**	Pn	**Pn**	**13 01 43.7**	**+2.0**
TIP	**Timpagrande**	**3.43**	**303**		**Pn**	**13 01 45.7**	**+1.3**
TIP	**Timpagrande**	**3.43**	**303**	P	**Pn**	**13 01 45.5**	**+1.1**
FNA	**Florina**	**3.47**	**11**	P	**Pn**	**13 01 46.5**	**+1.7**
FNA	**Florina**	**3.47**	**11**	Pn	**Pn**	**13 01 46.1**	**+1.3**
FNA	**Florina**	**3.47**	**11**	*e*Pn	**Pn**	**13 01 46.5**	**+1.7**
FNA	**Florina**	**3.47**	**11**	P	**Pn**	**13 01 46.4**	**+1.7**
OHR	**Ohrid**	**3.73**	**4**	*i* Pn	**Pb**	**13 01 54.9**	**-1.9**
CEL	**Celeste**	**3.73**	**285**	Pn	**Pn**	**13 01 50.8**	**+2.3**
CEL	**Celeste**	**3.73**	**285**	P	**Pn**	**13 01 50.3**	**+1.8**
THE	**Thessaloniki**	**3.78**	**30**	P	**Pn**	**13 01 50.4**	**+1.4**
HORT	**Hortiatis**	**3.80**	**32**	P	**Pn**	**13 01 50.3**	**+0.8**
SOH	**Sokhos**	**4.10**	**32**	P	**Pn**	**13 01 55.0**	**+1.5**
IDI	**Anoyia**	**4.13**	**119**	Pn	**Pn**	**13 01 56.2**	**+2.3**
	5.5nm,0.4s,baz=104,slow=23,SNR=11						
IDI				Sn	**Sn**	**13 02 40.1**	**-2.1**
	2.2nm,0.3s,baz=40,slow=24,SNR=5.5						
IDI	**Anoyia**	**4.13**	**119**	P	**Pn**	**13 01 56.6**	**+2.7**
KNT	**Kendrikon**	**4.21**	**26**	P	**Pn**	**13 01 55.9**	**+0.8**
VAY	**Valandovo**	**4.25**	**22**	*i* Pn	**Pn**	**13 02 00.9**	**+5.4**
SRS	**Serrai**	**4.44**	**32**	*e*Pn	**Pn**	**13 01 55.3**	**-2.9**
SRS				*e*Sg	**Sn**	**13 02 53.7**	**+3.8**
PUK	**Puka**	**4.67**	**355**		**Pn**	**13 02 01.8**	**+0.4**
RAFF	**Raffo Rosso**	**4.88**	**270**	Pn	**Pn**	**13 02 05.8**	**+1.6**
BOSS	**Bosilegrad**	**5.33**	**16**	*e*Pn	**Pn**	**13 02 09.9**	**-0.5**
RDO	**Rodhopi**	**5.43**	**45**	Pn	**Pn**	**13 02 11.9**	**+0.2**
BARS	**Barje**	**5.52**	**10**	*e*Pn	**Pn**	**13 02 12.5**	**-0.5**
VTS	**Vitosha**	**5.64**	**21**	*e*Pn	**Pn**	**13 02 12.4**	**-2.3**
SGRT	**San Giovanni R**	**5.69**	**322**	Pn	**Pn**	**13 02 16.8**	**+1.4**
SELS	**Selova**	**5.85**	**5**	*e*Pn	**Pn**	**13 02 17.9**	**+0.4**
STON	**Ston**	**5.88**	**340**	*e*Pn	**Pn**	**13 02 20.0**	**+2.1**
SJES	**Sjenica**	**5.88**	**356**	*e*Pn	**Pn**	**13 02 19.5**	**+1.4**
BOVS	**Bovan**	**6.31**	**8**	*e*Pn	**Pn**	**13 02 23.6**	**-0.2**
GRUS	**Gruza**	**6.50**	**2**	*e*Pn	**Pn**	**13 02 26.6**	**+0.2**
NRCA	**Norcia**	**7.84**	**316**	Pn	**Pn**	**13 02 46.3**	**+1.5**
MLR	**Muntele Rosu**	**9.08**	**25**	Pn	**Pn**	**13 03 02.5**	**+0.6**
MLR	**Muntele Rosu**	**9.08**	**25**	Pn	**Pn**	**13 03 03.0**	**+1.1**
	0.4nm,0.3s,baz=177,slow=9.2,SNR=5.4						
	0.9nm,0.4s						
AKASG	**Malin Array Be**	**14.71**	**22**	Pn	**Pn**	**13 04 20.8**	**+2.0**
	0.7nm,0.3s,baz=211,slow=9.2,SNR=4.0						
NACGM	**Naroch**	**18.05**	**12**	*e*P	**Pn**	**13 05 00.9**	**-0.5**
	comp=Z,683nm,0.8s,baz=196						
ESDC	**Sonseca Array**	**19.25**	**284**	P	**P**	**13 05 15.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=95,slow=9.4,SNR=2.4						
	comp=Z,0.6nm,0.9s						
HFS	**Hagfors**	**23.18**	**351**	P	**P**	**13 05 55.8**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=160,slow=13,SNR=4.9						
	comp=Z,1.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.06**	**326**	P	**P**	**13 06 05.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=113,slow=8.6,SNR=3.5						
	comp=Z,1.5nm,0.8s						
FINES	**FINESS Array B**	**24.34**	**7**	P	**P**	**13 06 07.3**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=181,slow=11,SNR=5.1						
	comp=Z,1.6nm,0.8s						
NOA	**NORSAR Array B**	**24.39**	**349**	P	**P**	**13 06 07.9**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=172,slow=9.7,SNR=1.1						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**32.33**	**3**	P	**P**	**13 07 18.9**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=197,slow=12,SNR=1.7						
	comp=Z,2.4nm,0.9s						
BRVK	**Borovoye**	**37.60**	**49**	P	**P**	**13 08 04.6**	**-0.6**
BVAR	**Borovoye Array**	**37.66**	**49**	P	**P**	**13 08 05.0**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=261,slow=9.6,SNR=2.3						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**42.73**	**53**	P	**P**	**13 08 46.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=278,slow=8.7,SNR=3.4						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**45.75**	**58**	P	**P**	**13 09 11.2**	**-0.9**
MK31				IAmb	IAmb	13 09 13.5	
	comp=Z,2.4nm,1.5s						
MKAR	**Makanchi Array**	**45.75**	**58**	P	**P**	**13 09 10.8**	**-1.3**
MKAR	**Makanchi Array**	**45.75**	**58**	P	**P**	**13 09 10.7**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=268,slow=7.5,SNR=8.1						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**46.25**	**48**	P	**P**	**13 09 14.6**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=275,slow=9.7,SNR=3.6						
	comp=Z,0.6nm,0.4s						
EUNU	**Eureka**	**56.28**	**348**	P	**P**	**13 10 31.5**	**+0.6**
EUNU				IAmb	IAmb	13 11 10.0	
	comp=Z,2.5nm,1.2s						
HHC	**Hu-ho-hao-te**	**67.51**	**55**	*e*P	**P**	**13 11 46.0**	**-1.1**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,95nm,4.7s						
YKA	**Yellowknife Ar**	**74.12**	**340**	P	**P**	**13 12 26.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=39,slow=5.4,SNR=5.0						
	comp=Z,0.3nm,0.7s						

*NEIC **25** 13:42:37.2±1.2,61.°32N±0.°01×150.°09W±0.°06,h48km±5km, Error ellipse: s-maj=4.1km s-min=1.2km az=107.0*
AEIC 25 13:42:37.8±1.3,**61.°31N**±0.°03×**150.°11W**±0.°06,**h44**km±7km, **ML2.1**,**ML2.4**/76(NEIC),**Error ellipse: s-maj=3.9km s-min=3.7km az=113.0**,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.18**	**198**		Pn	13 42 45.5	+0.2
RC01	**Rabbit Creek A**	**0.29**	**141**		Pn	13 42 45.4	-0.9
RC01	**Rabbit Creek A**	**0.29**	**141**		Sn	13 42 52.3	+0.1
M22K	**Willow**	**0.44**	**359**		Pn	13 42 46.6	-1.3
M22K					Sn	13 42 54.7	-0.4
M22K	**Willow**	**0.44**	**359**	IAML		13 42 55.6	
	comp=E,208nm,0.5s						
M22K				IAML		13 42 55.8	
	comp=N,286nm,0.5s						
PMR	**Palmer**	**0.55**	**59**		Pn	13 42 47.5	-1.8
PMR				IAML		13 42 57.1	
	comp=E,141nm,0.4s						
PMR				IAML		13 42 57.2	
	comp=N,268nm,0.5s						
PMR	**Palmer**	**0.55**	**59**		Sn	13 42 56.9	-0.5
GHO	**Glory Hole Cre**	**0.73**	**50**		Pn	13 42 50.5	-1.2
GHO				IAML		13 43 02.6	
	comp=N,146nm,0.2s						
GHO				IAML		13 43 02.8	
	comp=E,174nm,0.7s						
GHO	**Glory Hole Cre**	**0.73**	**50**		Sn	13 43 01.6	-0.3
CAPN	**Captain Cook N**	**0.75**	**223**		Pn	13 42 52.6	+0.7
CAPN	**Captain Cook N**	**0.75**	**223**	IAML		13 43 06.2	
	comp=E,214nm,0.3s						
KNK	**Knik Glacier**	**0.80**	**82**		Pn	13 42 51.9	-0.8
KNK				IAML		13 43 06.2	
	comp=E,100nm,0.2s						
KNK				IAML		13 43 06.3	
	comp=N,144nm,0.3s						
SLKM	**Skilak Lake**	**0.81**	**184**		Pn	13 42 51.5	-1.3
SLKM				IAML		13 43 05.1	
	comp=N,140nm,0.2s						
SLKM	**Skilak Lake**	**0.81**	**184**		Sn	13 43 03.6	-0.1
STLK	**Strandline Lak**	**0.85**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.23**	**311**	P	**Pg**	**13 53 05.8**	**-0.4**
HEKM				S	**Sg**	**13 53 09.5**	**+0.3**
HEKM				*i* AML	AML	13 53 13.0	
	comp=E,3μm,0.5s						
MAYA	**Malatya/Merkez**	**0.45**	**155**	P	**Pg**	**13 53 10.6**	**+0.3**
MAYA				S	**Sg**	**13 53 17.3**	**+1.2**
MAYA				*i* AML	AML	13 53 18.0	
	comp=N,8μm,0.4s						
AKCD	**Akcadag**	**0.48**	**205**	P	**Pg**	**13 53 10.9**	**0.0**
AKCD				S	**Sb**	**13 53 18.8**	**-1.9**
AKCD				*i* AML	AML	13 53 21.0	
	comp=N,2μm,0.3s						
DARE	**Darende-Malaty**	**0.57**	**254**	Pg	**Pg**	**13 53 12.1**	**-0.6**
DARE				Sg	**Sg**	**13 53 20.8**	**+0.7**
KEMA	**Kemaliye**	**0.59**	**24**	P	**Pg**	**13 53 12.2**	**-0.9**
KEMA				S	**Sg**	**13 53 20.8**	**0.0**
KEMA				*i* AML	AML	13 53 27.0	
	comp=E,2μm,0.3s						
ELZG	**Elazig**	**0.67**	**110**	P	**Pg**	**13 53 14.5**	**-0.1**
ELZG				S	**Sg**	**13 53 23.9**	**+0.6**
ELZG				*i* AML	AML	13 53 27.0	
	comp=N,7μm,0.4s						
CUGUR	**Gurin_SVAS**	**0.71**	**270**	P	**Pg**	**13 53 14.2**	**-1.3**
CUGUR				S	**Sg**	**13 53 24.5**	**-0.2**
CUGUR				*i* AML	AML	13 53 27.0	
	comp=E,6μm,0.4s						
CUKAN	**kangal_SIVAS**	**0.81**	**317**	P	**Pg**	**13 53 15.7**	**-1.6**
CUKAN				S	**Sg**	**13 53 26.5**	**-1.3**
CUKAN				*i* AML	AML	13 53 36.0	
	comp=E,839nm,0.5s						
ELBS	**KAHRAMANMARAS**	**0.92**	**244**	P	**Pg**	**13 53 19.0**	**-0.4**
ELBS				S	**Sg**	**13 53 30.9**	**-0.3**
ELBS				*i* AML	AML	13 53 35.0	
	comp=N,6μm,0.4s						
AZEY	**Adyaman-Merk**	**0.92**	**177**	P	**Pb**	**13 53 20.2**	**-0.3**
AZEY				S	**Sg**	**13 53 30.9**	**-0.4**
AZEY				*i* AML	AML	13 53 38.0	
	comp=E,1μm,0.5s						
NARI	**Adyaman-Kaht**	**0.96**	**151**	P	**Pg**	**13 53 20.5**	**+0.3**
NARI				S	**Sb**	**13 53 33.7**	**-0.8**
NARI				*i* AML	AML	13 53 40.0	
	comp=E,890nm,0.6s						
PTK	**Pertek**	**0.96**	**80**	Pg	**Pg**	**13 53 20.3**	**+0.1**
PTK				Sg	**Sb**	**13 53 34.8**	**+0.2**
AKCA	**Adyaman/G¶l**	**1.01**	**203**	P	**Pg**	**13 53 21.2**	**+0.1**
AKCA				S	**Sg**	**13 53 34.5**	**+0.2**
AKCA				*i* AML	AML	13 53 42.0	
	comp=N,2μm,0.6s						
TNCL	**Tunceli-Merkez**	**1.13**	**70**	P	**Pg**	**13 53 20.9**	**-2.5**
TNCL				S	**Sg**	**13 53 38.5**	**+0.5**
TNCL				*i* AML	AML	13 53 44.0	
	comp=N,2μm,0.5s						
CUZAR	**Zara_SIVAS**	**1.20**	**345**	P	**Pn**	**13 53 24.2**	**-1.7**
CUZAR				S	**Sb**	**13 53 41.8**	**+0.2**
CUZAR				*i* AML	AML	13 53 46.0	
	comp=N,565nm,0.5s						
CUAYA	**Sivas-Altinyay**	**1.24**	**296**	P	**Pn**	**13 53 24.1**	**-2.4**
CUAYA				S	**Sb**	**13 53 42.3**	**-0.4**
CUAYA				*i* AML	AML	13 53 46.0	
	comp=N,2μm,1.0s						
ATAB	**Bozova**	**1.26**	**176**	P	**Pg**	**13 53 26.5**	**+0.6**
ATAB				S	**Sn**	**13 53 43.0**	**-1.3**
ATAB				*i* AML	AML	13 53 47.0	
	comp=N,663nm,0.5s						
HANM	**anlurfa/Hi**	**1.27**	**154**	P	**Pn**	**13 53 26.1**	**-0.7**
HANM				S	**Sn**	**13 53 43.9**	**-0.6**
HANM				*i* AML	AML	13 53 47.0	
	comp=E,428nm,0.5s						
KOVA	**Elazig, Kovanc**	**1.27**	**91**	P	**Pn**	**13 53 25.7**	**-1.1**
KOVA				S	**Sn**	**13 53 43.8**	**-0.9**
KOVA				*i* AML	AML	13 53 55.0	
	comp=E,461nm,1.1s						
URFA	**Urfa**	**1.38**	**158**	Pn	**Pg**	**13 53 28.9**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.42**	**257**	Pn	**Pn**	**13 53 28.8**	**-0.1**
SARI				Sn	**Sg**	**13 53 48.9**	**+1.5**
GZT	**Gaziantep**	**1.46**	**200**	P	**Pb**	**13 53 29.4**	**-0.4**
GZT				S	**Sg**	**13 53 49.0**	**+0.5**
GZT				*i* AML	AML	13 53 55.0	
	comp=E,1μm,0.5s						
SUSE	**Susehri**	**1.48**	**1**	P	**Pn**	**13 53 29.5**	**-0.2**
SUSE				S	**Sb**	**13 53 50.2**	**+0.6**
SUSE				*i* AML	AML	13 53 57.0	
	comp=E,579nm,1.1s						
SVSK	**Karacayir**	**1.50**	**323**	Pn	**Pn**	**13 53 29.6**	**-0.3**
SVSK				Sn	**Sb**	**13 53 50.4**	**+0.4**
EUZM	**Uzumlu**	**1.53**	**50**	P	**Pn**	**13 53 30.9**	**+0.5**
EUZM				S	**Sn**	**13 53 50.7**	**-0.3**
EUZM				*i* AML	AML	13 53 58.0	
	comp=N,500nm,0.7s						
KAHM	**Kahramanmaras,**	**1.54**	**218**	P	**Pb**	**13 53 31.0**	**-0.1**
KAHM				S	**Sg**	**13 53 51.7**	**+0.6**
KAHM				*i* AML	AML	13 53 55.0	
	comp=N,875nm,0.5s						
KHMN	**Narli-Kahraman**	**1.56**	**212**	Pn	**Pb**	**13 53 31.5**	**0.0**
KHMN				Sn	**Sg**	**13 53 53.3**	**+1.4**
KMRS	**Kahramanmaras**	**1.59**	**220**	Pn	**Pb**	**13 53 31.5**	**-0.4**
KMRS				Sn	**Sg**	**13 53 53.5**	**+0.8**
KELT	**Kelkit**	**1.64**	**30**	P	**Pn**	**13 53 31.6**	**-0.4**
KELT				S	**Sn**	**13 53 52.2**	**-1.8**
KELT				*i* AML	AML	13 54 00.0	
	comp=E,353nm,1.0s						
ALUC	**Giresun/Alucra**	**1.68**	**16**	P	**Pn**	**13 53 33.0**	**+0.6**
ALUC				S	**Sb**	**13 53 55.7**	**+0.5**
ALUC				*i* AML	AML	13 54 07.0	
	comp=E,678nm,0.7s						
SANL	**SANLIURFA_Merk**	**1.68**	**157**	P	**Pb**	**13 53 32.9**	**-0.6**
SANL				S	**Sn**	**13 53 52.6**	**-2.0**
SANL				*i* AML	AML	13 53 59.0	
	comp=N,453nm,1.0s						
DIYA	**Diyarbakir**	**1.72**	**117**	P	**Pn**	**13 53 33.3**	**+0.3**
DIYA				S	**Sb**	**13 53 55.2**	**-1.3**
DIYA				*i* AML	AML	13 54 03.0	
	comp=E,616nm,0.7s						
NZIP	**Nizip/Gaziante**	**1.73**	**194**	P	**Pg**	**13 53 35.0**	**+0.1**
NZIP				S	**Sg**	**13 53 58.0**	**+0.6**
NZIP				*i* AML	AML	13 54 09.0	
	comp=E,448nm,0.4s						
GAZ	**Gaziantep**	**1.73**	**207**	Pn	**Pb**	**13 53 33.8**	**-0.7**
GAZ				Sn	**Sg**	**13 53 57.4**	**-0.1**
HANI	**Diyarbakir_Han**	**1.77**	**100**	P	**Pn**	**13 53 33.8**	**+0.2**
HANI				S	**Sg**	**13 53 59.3**	**+0.8**
HANI				*i* AML	AML	13 54 07.0	
	comp=N,174nm,1.0s						
RSDY	**Resadiye-TOKAT**	**1.79**	**339**	Pn	**Pn**	**13 53 33.9**	**0.0**
RSDY				Sn	**Sn**	**13 53 57.7**	**+0.3**
BNN	**Bunyan**	**1.83**	**275**	Pn	**Pn**	**13 53 34.3**	**-0.2**
BNN				Sn	**Sn**	**13 53 58.7**	**+0.2**
BNGB	**Bingl**	**1.97**	**82**	Pn	**Pn**	**13 53 36.9**	**+0.5**
BNGB				Sn	**Sb**	**13 54 03.6**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.97**	**68**	Pn	**Pn**	**13 53 37.4**	**+0.9**
YEDI				Sn	**Sb**	**13 54 03.2**	**-0.5**
TOKT	**Tokat**	**2.03**	**322**	Pn	**Pn**	**13 53 37.2**	**-0.1**
TOKT				Sn	**Sn**	**13 54 03.6**	**+0.3**
MAZI	**Mazidag**	**2.19**	**125**	Pn	**Pn**	**13 53 40.4**	**+0.9**
BAYB	**BAYBURT**	**2.22**	**46**	P	**Pb**	**13 53 41.8**	**-1.0**
BAYB				S	**Sg**	**13 54 14.7**	**+1.7**
BAYB				*i* AML	AML	13 54 25.0	
	comp=N,204nm,0.9s						
ESPY	**Espiye-Giresun**	**2.23**	**11**	Pn	**Pn**	**13 53 40.0**	**+0.1**
SLHN	**Bingol, Solhan**	**2.23**	**83**	P	**Pb**	**13 53 42.2**	**-0.8**
SLHN				S	**Sg**	**13 54 15.5**	**+2.0**
SLHN				*i* AML	AML	13 54 28.0	
	comp=N,203nm,1.2s						
KOZT	**Kozan**	**2.24**	**237**	Pn	**Pn**	**13 53 40.7**	**+0.7**
KOZT				Sn	**Sb**	**13 54 09.6**	**-1.7**
ECAT	**Cat-ERZURUM**	**2.34**	**67**	P	**Pn**	**13 53 42.6**	**+1.0**
ECAT				S	**Sb**	**13 54 13.7**	**-0.7**
ECAT				*i* AML	AML	13 54 24.0	
	comp=N,184nm,0.7s						
YOZ	**Yozgat**	**2.40**	**293**	Pn	**Pn**	**13 53 42.4**	**0.0**
SVAN	**Silvan-Diyarba**	**2.44**	**103**	P	**Pb**	**13 53 44.8**	**-1.6**
SVAN				S	**Sb**	**13 54 17.0**	**-0.1**
SVAN				*i* AML	AML	13 54 38.0	
	comp=N,66nm,0.8s						
MARD	**Mardin**	**2.49**	**124**	P	**Pn**	**13 53 45.1**	**+1.5**
MARD				S	**Sg**	**13 54 20.9**	**-0.9**
MARD				*i* AML	AML	13 54 24.0	
	comp=N,457nm,0.5s						
EMRE	**Erzurum,Aziziy**	**2.52**	**58**	P	**Pb**	**13 53 48.8**	**+0.7**
EMRE				S	**Sg**	**13 54 30.1**	**+7.2**
EMRE				*i* AML	AML	13 54 44.0	
	comp=E,220nm,0.9s						
CEYT	**Ceyhan**	**2.58**	**229**	Pn	**Pn**	**13 53 45.4**	**+0.7**
MUSM	**Mu-Merkez**	**2.60**	**89**	P	**Pb**	**13 53 47.6**	**-1.8**
MUSM				S	**Sg**	**13 54 25.2**	**-0.3**
MUSM				*i* AML	AML	13 54 35.0	
	comp=E,30nm,0.7s						
KOZK	**Kozakli-Nevseh**	**2.63**	**282**	Pn	**Pn**	**13 53 45.8**	**+0.3**
CMRD	**Camardi-Nigde**	**2.73**	**248**	Pn	**Pn**	**13 53 47.6**	**+0.7**
TAHT	**Tahtakopru-Hat**	**2.83**	**215**	Pn	**Pn**	**13 53 49.5**	**+1.3**
MIDY	**Mardin/Midyat-**	**2.86**	**116**	P	**Pn**	**13 53 49.6**	**+1.0**
MIDY				S	**Sg**	**13 54 32.1**	**-1.5**
MIDY				*i* AML	AML	13 54 43.0	
	comp=N,272nm,0.6s						
KARA	**Karaisali**	**2.87**	**240**	Pn	**Pn**	**13 53 49.7**	**+0.9**
SRTM	**Siirt_Merkez**	**3.03**	**103**	P	**Pn**	**13 53 53.5**	**+2.5**
SRTM				S	**Sg**	**13 54 37.1**	**-2.0**
SRTM				*i* AML	AML	13 54 51.0	
	comp=N,156nm,0.6s						
GULA	**Gulagac**	**3.12**	**264**	Pn	**Pn**	**13 53 52.9**	**+0.7**
SIRN	**Sırnak**	**3.56**	**109**	P	**Pn**	**13 53 56.8**	**-1.4**
SIRN				S	**Sg**	**13 54 54.3**	**-1.7**
SIRN				*i* AML	AML	13 55 14.0	
	comp=N,264nm,1.0s						
BRTR	**Keskin Array B**	**3.67**	**287**	Pn	**Pn**	**13 54 00.1**	**+0.3**
	1.0nm,0.3s,baz=101,slow=13,SNR=14						
BRTR				Pg	**Pb**	**13 54 09.0**	**+1.5**
	2.2nm,0.3s,baz=113,slow=16,SNR=14						
BRTR				Lg	Lg	13 54 55.7	
	1.3nm,0.3s,baz=120,slow=27,SNR=7.9						
BRTR				LR	LR	13 55 46.5	
	comp=Z,122nm,21.2s,baz=128,slow=46						
	4.9nm,0.7s						
GNI	**Garni**	**5.27**	**72**	LR	LR	13 56 58.5	
	comp=Z,63nm,21.2s,baz=252,slow=44						
MMAI	**Mount Meron Ar**	**6.13**	**202**	Pn	Pn	13 54 39.2	+5.5
	0.4nm,0.3s,baz=22,slow=16,SNR=1.8						
ASF	**Jabal al Asfar**	**6.63**	**189**	Lg	Lg	13 56 40.1	
	0.7nm,0.3s,baz=171,slow=21,SNR=3.6						
GERES	**GERESS Array B**	**20.28**	**308**	P	**P**	**13 57 39.1**	**+0.3**
	0.3nm,0.2s,baz=127,slow=9.2,SNR=5.1						
	0.3nm,0.2s						
FINES	**FINESS Array B**	**23.95**	**346**	P	**P**	**13 58 17.3**	**+0.1**
	3.3nm,1.0s,baz=148,slow=9.2,SNR=2.7						
	3.3nm,1.0s						
MKAR	**Makanchi Array**	**33.01**	**61**	P	**P**	**13 59 39.6**	**+1.2**
	0.4nm,0.8s,baz=253,slow=8.4,SNR=1.6						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**76.77**	**347**	P	**P**	**14 04 54.5**	**0.0**
	0.5nm,0.8s,baz=25,slow=5.8,SNR=6.4						
	0.5nm,0.8s						

IGQ ***25*** *14:03:25.4±0.6,3˚S±3˚×7˚6W±˚, h102km±17km, MLv4.3/43*
IDC ***25*** *14:03:25.3±1.9,2˚14S×76˚52W, h136km±18km, mb3.8/11, mbtmp4.3/17, MS3.1/2, Error ellipse: s-maj=25.7km s-min=13.2km az=98.0*
NEIC ***25*** *14:03:27.8±1.5,2˚31S±0˚06×76˚55W±0˚08, h142km±7km, mb4.4/28, Error ellipse: s-maj=11.7km s-min=8.2km az=82.0*
RSNC ***25*** *14:03:27.4±0.3,2˚S±3˚×7˚7W±˚, h142km±18km, M4.0, mB5.0, mb4.5, ML3.4, Mw(mB)4.4*
VAO ***25*** *14:03:29.5±0.4, 1˚90S×76˚24W, h142km, mb4.5*
ISC 25 14:03:26.7±0.7,2˚32S±0˚04×76˚53W±0˚05, h138km±7km, n249,σ1§59/260, mb4.3/15, 19C-36D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.71**	**299**	⇑P	**Pn**	**14 03 57.3**	**-0.5**
PUYO				S	**Sn**	**14 04 20.8**	**-0.8**
ATEN	**Tena**	**1.83**	**315**	⇓P	**Pn**	**14 03 58.5**	**-0.7**
ARDO	**Archidona, Ten**	**1.83**	**316**	⇓P	**Pn**	**14 03 58.8**	**-0.4**
ARDO				S	**Sn**	**14 04 22.5**	**-1.5**
SANGA	**Volcan Sangay**	**1.86**	**278**	⇑P	**Pn**	**14 03 58.9**	**-1.0**
BULB	**Ulba Tungurahu**	**2.08**	**295**	⇑P	**Pn**	**14 04 01.5**	**-0.9**
ARRY	**Arrayan**	**2.09**	**293**	⇑P	**Pn**	**14 04 01.7**	**-0.9**
ARRY				S	**Sn**	**14 04 29.1**	**-0.9**
POND	**Pondoa**	**2.12**	**295**	⇑P	**Pn**	**14 04 02.2**	**-0.7**
POND				S	**Sn**	**14 04 29.0**	**-1.7**
BOSC	**San Juan Bosco**	**2.13**	**247**	⇑P	**Pn**	**14 04 00.3**	**-2.6**
BOSC				S	**Sn**	**14 04 26.7**	**-3.9**
JUI6	**Juive**	**2.13**	**295**	⇓P	**Pn**	**14 04 02.2**	**-0.9**
BBIL	**Ulba Tungurahu**	**2.14**	**294**	⇑P	**Pn**	**14 04 02.5**	**-0.6**
BBIL				S	**Sn**	**14 04 30.9**	**-0.2**
BIL2	**Estacion Bilba**	**2.15**	**293**	P	**Pn**	**14 04 04.8**	**+1.5**
PIAT	**Ana Tenorio**	**2.17**	**307**	P	**Pn**	**14 04 02.9**	**-0.7**
PIAT				S	**Sn**	**14 04 30.0**	**-1.9**
PIAT	**Ana Tenorio**	**2.17**	**307**	⇓P	**Pn**	**14 04 03.2**	**-0.4**
PIAT				S	**Sn**	**14 04 31.2**	**-0.7**
PIAT	**Ana Tenorio**	**2.17**	**307**	P	**Pn**	**14 04 02.9**	**-0.7**
PIAT				S	**Sn**	**14 04 30.0**	**-1.9**
PIS1	**Pisayambo**	**2.24**	**304**	⇑P	**Pn**	**14 04 04.3**	**-0.3**
IGUA	**Igualata**	**2.27**	**291**	⇑P	**Pn**	**14 04 04.6**	**-0.3**
AZOG	**Ecuador-Azogue**	**2.36**	**259**	P	**Pn**	**14 04 04.5**	**-1.3**
TAMH	**Tambohuasha Ch**	**2.38**	**289**	⇑P	**Pn**	**14 04 06.2**	**0.0**
PORT	**Chimborazo Vol**	**2.40**	**291**	⇑P	**Pn**	**14 04 06.6**	**+0.1**
PORT				S	**Sn**	**14 04 37.9**	**+0.8**
VCES	**Cotopaxi**	**2.40**	**309**	⇓P	**Pn**	**14 04 06.8**	**+0.3**
VCES				S	**Sn**	**14 04 36.7**	**-0.4**
ANTS	**Antisana-Sarah**	**2.44**	**318**	⇓P	**Pn**	**14 04 07.2**	**0.0**
TAMB	**Tambo**	**2.45**	**311**	⇓P	**Pn**	**14 04 07.6**	**+0.4**
ANTM	**Antisana-La Mi**	**2.45**	**316**	⇓P	**Pn**	**14 04 07.2**	**0.0**
ANTM				S	**Sn**	**14 04 39.1**	**+0.9**
REVS	**Reventador Sur**	**2.46**	**334**	⇓P	**Pn**	**14 04 06.7**	**-0.2**
ANTI	**Antisana**	**2.47**	**319**	⇓P	**Pn**	**14 04 07.5**	**0.0**
BRRN	**Barrancas-Volc**	**2.47**	**308**	⇓P	**Pn**	**14 04 08.0**	**+0.6**
CHSH	**Refugio Sur-Vo**	**2.48**	**289**	⇑P	**Pn**	**14 04 07.1**	**-0.5**
BTAM	**Cotopaxi Volca**	**2.48**	**311**	⇓P	**Pn**	**14 04 08.2**	**+0.6**
AV03	**Acelerografo,**	**2.48**	**341**	P	**Pn**	**14 04 07.0**	**-0.1**
REVN	**San Rafael**	**2.48**	**334**	⇓P	**Pn**	**14 04 07.1**	**-0.3**
BMOR	**Cotopaxi Volca**	**2.49**	**309**	⇓P	**Pn**	**14 04 08.4**	**+0.7**
BMOR				S	**Sn**	**14 04 40.5**	**+1.3**
ANTG	**Antisana-Guama**	**2.50**	**316**	⇓P	**Pn**	**14 04 08.0**	**+0.2**
ANTG				S	**Sn**	**14 04 38.3**	**-1.0**
ACUE	**Ecuador-Cuenca**	**2.50**	**256**	P	**Pn**	**14 04 06.3**	**-1.2**
BVC2	**Cotopaxi Volca**	**2.50**	**311**	⇓P	**Pn**	**14 04 08.7**	**+0.8**
VC1	**Cotopaxi 1**	**2.51**	**312**	⇓P	**Pn**	**14 04 08.7**	**+0.8**
BREF	**Cotopaxi Volca**	**2.52**	**311**	⇓P	**Pn**	**14 04 09.0**	**+0.9**
JSCH	**Cashca Tororas**	**2.52**	**284**	P	**Pn**	**14 04 07.4**	**-0.5**
JSCH				S	**Sn**	**14 04 41.4**	**+2.0**
SLOR	**San Lorenzo -**	**2.52**	**309**		**Pn**	**14 04 08.7**	**+0.6**
SLOR	**San Lorenzo -**	**2.52**	**309**	⇓P	**Pn**	**14 04 08.9**	**+0.9**
BNAS	**Cotopaxi Volca**	**2.55**	**310**	P	**Pn**	**14 04 10.1**	**+1.7**
CAMI	**Rancho Maria**	**2.56**	**309**	⇓P	**Pn**	**14 04 09.9**	**+1.4**
CASC	**Dorado de Casc**	**2.57**	**342**	⇓P	**Pn**	**14 04 08.3**	**0.0**
SUCR	**Mariscal Sucre**	**2.58**	**310**	⇑P	**Pn**	**14 04 10.2**	**+1.5**
PITA	**Cotopaxi Volc**	**2.59**	**313**	⇓P	**Pn**	**14 04 09.7**	**+0.9**
ILLI	**Illinizas Sur**	**2.72**	**306**	P	**Pn**	**14 04 10.8**	**+0.3**
COHC	**Cochancay**	**2.73**	**267**		**Pn**	**14 04 08.3**	**-1.8**
COHC	**Cochancay**	**2.73**	**267**	P	**Pn**	**14 04 08.5**	**-1.6**
COHC				S	**Sn**	**14 04 41.6**	**-2.0**
COHC	**Cochancay**	**2.73**	**267**	P	**Pn**	**14 04 08.5**	**-1.6**
COHC	**Cochancay**	**2.73**	**267**	P	**Pn**	**14 04 08.5**	**-1.6**
COHC				S	**Sn**	**14 04 41.6**	**-2.0**
ANGU	**Angureal**	**2.78**	**328**	⇓P	**Pn**	**14 04 12.0**	**+0.7**
CAYA	**Cayambe**	**2.79**	**328**	⇓P	**Pn**	**14 04 12.2**	**+0.7**
JUA2	**San Juan 2**	**2.95**	**315**	P	**Pn**	**14 04 14.0**	**+0.6**
GGPT	**Toaza - Volcan**	**2.95**	**315**	P	**Pn**	**14 04 14.0**	**+0.6**
GGPC	**Guagua Pichinc**	**2.97**	**316**	P	**Pn**	**14 04 14.5**	**+0.7**
TERV	**Terraza Guagua**	**2.98**	**316**	⇓P	**Pn**	**14 04 14.4**	**+0.5**
HPAL	**Hacienda Las P**	**2.98**	**314**	P	**Pn**	**14 04 16.0**	**+2.3**
AZAM	**Ecuador-Zamora**	**2.98**	**234**	⇑P	**Pn**	**14 04 10.7**	**-2.8**
PINO	**Pino**	**2.99**	**316**	⇓P	**Pn**	**14 04 15.0**	**+0.9**
YANA	**Yana**	**2.99**	**317**	P	**Pn**	**14 04 14.9**	**+0.9**
PTLC	**Puerto Leguiza**	**3.02**	**35**	P	**Pn**	**14 04 11.6**	**-2.3**
PTLC				S	Sn	**14 04 41.7**	**-8.6**
PTLC	**Puerto Leguiza**	**3.02**	**35**	⇑P	**Pn**	**14 04 11.7**	**-2.3**
PTLC	**Puerto Leguiza**	**3.02**	**35**	P	**Pn**	**14 04 11.6**	**-2.3**
PTLC				S	Sn	**14 04 41.7**	**-8.6**
MILO	**Milagro-Astudi**	**3.03**	**271**	P	**Pn**	**14 04 11.6**	**-2.3**
PULU	**Pululahua**	**3.05**	**320**	P	**Pn**	**14 04 15.1**	**+0.4**
IMBA	**Imbabura, San**	**3.07**	**327**	⇓P	**Pn**	**14 04 16.8**	**+1.8**
YAHU	**Yahuarcocha**	**3.08**	**330**	⇓P	**Pn**	**14 04 16.5**	**+1.4**
ALJ1	**Ecuador-Loja-U**	**3.14**	**238**	P	**Pn**	**14 04 13.7**	**-2.0**
OTAV	**Otavalo**	**3.19**	**323**	Pn	**Pn**	**14 04 17.0**	**+0.5**
OTAV	**Otavalo**	**3.19**	**323**	P	**Pn**	**14 04 16.9**	**+0.5**
OTAV	**Otavalo**	**3.19**	**323**	⇓P	**Pn**	**14 04 16.9**	**+0.5**
OTAV	**Otavalo**	**3.19**	**323**	*eP*	**Pn**	**14 04 17.4**	**+0.9**
OTAV	**Otavalo**	**3.19**	**323**	P	**Pn**	**14 04 16.9**	**+0.5**
URCU	**Urcuqui**	**3.24**	**328**	⇓P	**Pn**	**14 04 18.6**	**+1.5**
CHL2	**Volc¡n Chiles**	**3.40**	**336**	⇓P	**Pn**	**14 04 20.8**	**+1.5**
PAC1	**Pacto, Paraso**	**3.42**	**319**	P	**Pn**	**14 04 19.4**	**+0.2**
PAC1	**Pacto, Paraso**	**3.42**	**319**	P	**Pn**	**14 04 19.8**	**+0.5**
PAC1	**Pacto, Paraso**	**3.42**	**319**	P	**Pn**	**14 04 19.4**	**+0.2**
AGUAY	**Guayaquil**	**3.43**	**274**	P	**Pn**	**14 04 15.9**	**-3.3**
GONZ	**Gonzanam**	**3.44**	**236**	P	**Pn**	**14 04 17.4**	**-2.3**
ECEN	**Cerro Negro**	**3.44**	**335**	⇓P	**Pn**	**14 04 21.6**	**+1.8**
CMBC	**Cumbal**	**3.49**	**338**	P	**Pn**	**14 04 22.5**	**+2.1**
CMBC	**Cumbal**	**3.49**	**338**	⇓P	**Pn**	**14 04 22.7**	**+2.4**
CMBC	**Cumbal**	**3.49**	**338**	P	**Pn**	**14 04 22.5**	**+2.1**
LITE1	**Lita**	**3.59**	**329**	⇑P	**Pn**	**14 04 24.0**	**+2.5**
GCUF	**Volcan Galeras**	**3.62**	**347**	P	**Pn**	**14 04 23.2**	**+1.1**
GCUF	**Volcan Galeras**	**3.62**	**347**	P	**Pn**	**14 04 23.2**	**+1.1**
ZUMB	**Zumba**	**3.63**	**226**	⇑P	**Pn**	**14 04 19.5**	**-2.5**
ISPG	**Isla Puna-Puer**	**3.69**	**260**	P	**Pn**	**14 04 19.2**	**-3.5**
ARNL	**Arenillas**	**3.74**	**251**	P	Pn	14 04 18.2	-5.0
FLF1	**Flavio Alfaro-**	**3.84**	**300**	P	**Pn**	**14 04 23.9**	**-0.8**
FLF1	**Flavio Alfaro-**	**3.84**	**300**	⇑P	**Pn**	**14 04 23.9**	**-0.8**
FLF1	**Flavio Alfaro-**	**3.84**	**300**	P	**Pn**	**14 04 23.9**	**-0.8**
LAMO	**ALAMOR**	**3.87**	**244**	P	Pn	14 04 21.0	-4.1
CRUC	**La Cruz**	**3.88**	**354**	P	**Pn**	**14 04 26.1**	**+0.6**
CRUC	**La Cruz**	**3.88**	**354**	P	**Pn**	**14 04 26.1**	**+0.6**
FLOC	**Florencia**	**3.97**	**13**	Pn	**Pn**	**14 04 26.4**	**+0.1**
FLOC	**Florencia**	**3.97**	**13**	P	**Pn**	**14 04 26.1**	**-0.3**
FLOC	**Florencia**	**3.97**	**13**	⇓P	**Pn**	**14 04 26.5**	**+0.1**
FLOC	**Florencia**	**3.97**	**13**	P	**Pn**	**14 04 26.1**	**-0.3**
PPLP	**Puerto Lpez**	**4.32**	**280**	P	**Pn**	**14 04 27.3**	**-3.6**
PPLP	**Puerto Lpez**	**4.32**	**280**	P	Pn	14 04 26.8	-4.1
PPLP	**Puerto Lpez**	**4.32**	**280**	P	**Pn**	**14 04 27.3**	**-3.6**
CAB1	**Cabo Pasado-Ma**	**4.35**	**296**	P	**Pn**	**14 04 30.3**	**-1.0**
BBAC	**Balboa, Cauca**	**4.37**	**351**	P	**Pn**	**14 04 32.5**	**+0.7**
BBAC	**Balboa, Cauca**	**4.37**	**351**	⇓P	**Pn**	**14 04 32.9**	**+1.1**
BBAC	**Balboa, Cauca**	**4.37**	**351**	P	**Pn**	**14 04 32.5**	**+0.7**
SALI	**Salinas**	**4.46**	**272**	P	**Pn**	**14 04 29.4**	**-3.4**
GARC	**Garzon, Huila**	**4.59**	**13**	P	**Pn**	**14 04 33.5**	**-1.3**
GARC	**Garzon, Huila**	**4.59**	**13**	P	**Pn**	**14 04 33.5**	**-1.3**
ISPT	**Isla de la Pla**	**4.66**	**283**	P	**Pn**	**14 04 32.6**	**-2.8**
POPC	**Popayan, Colom**	**4.83**	**358**	P	**Pn**	**14 04 38.7**	**+0.8**
POPC	**Popayan, Colom**	**4.83**	**358**	P	**Pn**	**14 04 38.7**	**+0.8**
BETC	**Betania**	**5.08**	**12**	P	**Pn**	**14 04 43.5**	**+2.4**
BETC	**Betania**	**5.08**	**12**	P	**Pn**	**14 04 43.5**	**+2.4**
ATAH	**Atahualpa**	**5.13**	**201**	P	**Pn**	**14 04 42.1**	**0.0**
	125nm,0.7s,baz=22,slow=7.8,SNR=73						
ATAH				S	**Sn**	**14 05 38.4**	**-2.4**
	325nm,0.8s,baz=221,slow=18,SNR=20						
MACC	**Macarena, Meta**	**5.18**	**31**	P	**Pn**	**14 04 42.5**	**+0.1**
	1μm68nm,0.5s						
MACC	**Macarena, Meta**	**5.18**	**

PCRV	Puerto La Cruz	17.15	43	P	P	14 07 15.4	-2.3
	comp=Z,2.1nm,0.3s,baz=334,slow=23,SNR=1.7						
PB16	IPOC Station P	17.34	157		Pn	14 07 22.0	+1.0
PB11	IPOC Station P	18.59	159	P	P	14 07 35.0	+1.4
PB11				IAmb	IAmb	14 07 39.0	
	comp=Z,13nm,0.7s						
HMBC	Humberstone	18.99	161	P	P	14 07 38.5	+0.6
HMBC				IAmb	IAmb	14 07 43.9	
	comp=Z,12nm,0.6s						
PB08	IPOC Station P	19.12	158	P	P	14 07 40.0	+0.4
TA01	Diego Aracena	19.16	162	P	P	14 07 40.4	+0.8
VILB	Vilhena	19.31	124	P	P	14 07 42.0	+0.7
VILB				IAmb	IAmb	14 07 43.1	
	comp=Z,12nm,0.6s						
VILB	Vilhena	19.31	124	eP	P	14 07 42.9	+1.6
PB01	IPOC Station P	19.84	160	P	P	14 07 48.3	+1.3
PB01				IAmb	IAmb	14 07 53.0	
	comp=Z,13nm,0.7s						
SIV	San Ignacio	20.40	133	P	P	14 07 53.4	+0.3
	comp=Z,1.8nm,0.4s,baz=305,slow=11,SNR=11						
	comp=Z,1.8nm,0.4s						
MTDJ	Mount Denham	20.44	357	P	P	14 07 54.9	+1.4
PB09	IPOC Station P	20.62	160	P	P	14 07 57.2	+1.8
PB09				IAmb	IAmb	14 08 02.8	
	comp=Z,13nm,0.8s						
ITTB	Itaituba	20.86	96	eP	P	14 07 57.0	-0.9
PB05	IPOC Station P	21.31	164	P	P	14 08 03.8	+0.9
PTLB	Pontes e Lacer	21.54	128	eP	P	14 08 08.0	+2.7
NPGB	Novo Progresso	21.61	103	eP	P	14 08 06.1	+0.1
PDRB	Porto dos Gac	21.69	116	eP	P	14 08 08.5	+1.6
CRPR	Cabo Rojo, PR	22.23	24	P	P	14 08 12.3	0.0
CLDB	Colider	22.26	113	eP	P	14 08 13.6	+0.9
SALV	Santo Antonio	24.56	125	eP	P	14 08 37.9	+3.9
BDQN	Bodoquena, MS	26.40	134	eP	P	14 08 54.6	+4.0
MURT	Porto Murtinho	26.61	138	eP	P	14 08 56.5	+4.0
SNDB	Serra Nova Dou	26.78	112	eP	P	14 08 54.4	+0.3
PRPB	Parauapebas	26.91	99	eP	P	14 08 55.0	-0.2
AMBA	Amambai (Brazi	29.26	136	eP	P	14 09 19.5	+3.5
CPUP	Villa Florida	30.17	144	P	P	14 09 23.2	-0.7
	comp=Z,2.1nm,0.8s,baz=310,slow=7.9,SNR=3.6						
	comp=Z,2.1nm,0.8s						
BDFB	Brasilia	31.06	117	P	P	14 09 31.5	-0.5
	comp=Z,2.5nm,0.4s,baz=254,slow=7.1,SNR=5.3						
	comp=Z,2.5nm,0.4s						
MT09	Talagante	31.72	171	P	P	14 09 38.6	+0.9
BB19B	Bebedouro	33.03	126	eP	P	14 09 53.1	+3.9
VAO	Valinhos	35.27	128	eP	P	14 10 11.6	+3.0
DIAM	Diamantina, MG	35.90	118	eP	P	14 10 17.2	+3.1
PARB	Paraibuna	36.50	127	eP	P	14 10 21.3	+2.3
NBPB	Pedra_Branca-C	36.99	96	eP	P	14 10 23.1	-0.1
PLCA	Paso Flores	38.62	173	P	P	14 10 37.3	+0.6
PLCA				IAmb	IAmb	14 10 38.4	
	comp=Z,8.3nm,0.9s						
PLCA	Paso Flores	38.62	173	P	P	14 10 37.2	+0.6
	comp=Z,5.9nm,0.8s,baz=346,slow=10,SNR=13						
	comp=Z,5.9nm,0.8s						
CAM01	Campos-RJ	39.05	123	eP	P	14 10 42.5	+2.1
RIB01	Linhares ES	39.16	118	eP	P	14 10 41.7	+0.4
ALF01	Guarapari-ES	39.36	120	eP	P	14 10 45.2	+2.2
NBAN	Anadia - AL	40.66	102	eP	P	14 10 53.5	-0.3
RCBR	Riachuelo	40.66	96	P	P	14 10 54.0	+0.1
LL02	Futaleuf	40.91	175	P	P	14 10 55.9	+0.5
LL02				IAmb	IAmb	14 10 56.6	
	comp=Z,7.3nm,0.9s						
ANMO	Albuquerque	46.49	326	P	P	14 11 40.5	0.0
ANMO	Albuquerque	46.49	326	LR	LR	14 32 45.4	
	comp=Z,68nm,21.0s,baz=79,slow=38						
ESJX	Sierra Juarez	50.61	316	P	P	14 12 12.3	+0.3
ESJX				IAmb	IAmb	14 12 14.3	
	comp=Z,8.0nm,1.3s						
PNTR	Pine Nut	57.13	321	P	P	14 13 00.2	+1.0
PNTR				IAmb	IAmb	14 13 01.1	
	comp=Z,3.8nm,0.7s						
YKA	Yellowknife Ar	70.76	342	P	P	14 14 25.8	-1.8
	comp=Z,0.2nm,0.7s,baz=149,slow=5.4,SNR=4.4						
	comp=Z,0.2nm,0.7s						
DBIC	Dimbokro	72.09	82	P	P	14 14 36.0	-0.7
DBIC	Dimbokro	72.09	82	P	P	14 14 35.4	-1.2
	comp=Z,31nm,1.2s,baz=270,slow=4.2,SNR=13						
	comp=Z,31nm,1.2s						
PAB	San Pablo	77.82	49	P	P	14 15 08.8	-0.4
PAB				IAmb	IAmb	14 15 16.6	
	comp=Z,10nm,1.4s						
ESDC	Sonseca Array	78.14	49	P	P	14 15 08.8	-2.2
	comp=Z,0.7nm,0.6s,baz=263,slow=5.4,SNR=7.2						
	comp=Z,0.7nm,0.6s						
SUMG	Summit	78.54	11	P	P	14 15 12.1	-0.8
SUMG				IAmb	IAmb	14 15 50.9	
	comp=Z,11nm,1.3s						
BELA	Belgrano 2	78.67	172	P	P	14 15 13.3	+0.3
TORD	Torodi Ar. Bea	79.07	76	P	P	14 15 15.0	-1.4
	comp=Z,2.2nm,0.3s,baz=285,slow=6.1,SNR=4.0						
	comp=Z,2.2nm,0.3s						
G31M	Satah River	80.02	340	P	P	14 15 20.5	0.0
BCAR	Beaver Creek A	81.10	335	P	P	14 15 26.8	+0.4
EKA	Eskdalemuir Ar	82.51	34	P	P	14 15 31.0	-2.9
	comp=Z,0.5nm,0.5s,baz=246,slow=5.3,SNR=2.0						
	comp=Z,0.5nm,0.5s						
SNAA	Sanae	82.71	162	P	P	14 15 34.9	+0.2
SNAA				IAmb	IAmb	14 15 53.3	
	comp=Z,8.2nm,1.3s						
SNAA	Sanae	82.71	162	P	P	14 15 33.4	-1.3
	comp=Z,0.9nm,0.6s,baz=260,slow=8.8,SNR=7.4						
	comp=Z,0.9nm,0.6s						
BMAR	Burnt Mountain	83.85	339	P	P	14 15 40.7	+0.1
TROLL	Troll, Antarti	84.42	162	⇑P	P	14 15 44.0	+0.5
	comp=Z,207nm,0.7s						
QSPA	South Pole Qui	87.75	180	P	P	14 16 00.2	+0.3
	comp=Z,4.3nm,0.7s,baz=152,slow=2.8,SNR=25						
	comp=Z,4.3nm,0.7s						
ELIB	Princess Elisa	90.87	162	dP	P	14 16 13.8	-0.7
ASAR	Alice Springs	140.71	227	PKhKP	PKPpre	14 22 32.0	
	comp=Z,0.5nm,0.7s,baz=127,slow=3.6,SNR=6.9						
WRA	Warramunga Arr	142.49	232	PKhKP	PKPpre	14 22 39.2	
	comp=Z,0.7nm,0.6s,baz=121,slow=2.4,SNR=8.8						

*IDC **25** 14:30:27.6±1.1, 4°.53N×94°.78E, h0km, mb3.9/11, mbtmp3.9/12, ML3.5/1, MS2.9/1, Error ellipse: s-maj=56.2km s-min=15.9km az=51.0*
*NEIC **25** 14:30:32.4±1.1, 4°.49N±0°.08×94°.85E±0°.04, h35km±2km, mb4.6/15, Error ellipse: s-maj=15.2km s-min=3.5km az=206.0*
*DJA **25** 14:30:33.8±0.7, 5°N±3°×9°5E±°, h22km±4km, M4.0/8, mb4.0/1, MLv4.0/8*
ISC 25 14:30:34.1±0.6, 4°.60N±0°.05×94°.92E±0°.07, h48km, n53, σ0°.94/54, mb4.4/20, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.97	23	P	Pn	14 30 51.0	-0.4
BSI				S	Sn	14 31 03.4	-0.6
MLSI	Meulaboh, Aceh	1.52	103	P	Pn	14 30 58.6	-0.2
MLSI				S	Sn	14 31 17.8	+0.3
LHMI	Lhok Sumawe	2.12	73	Pn	Pn	14 31 07.1	+0.1
LHMI	Lhok Sumawe	2.12	73	P	Pn	14 31 07.1	+0.1
LHMI				S	Sn	14 31 31.8	-0.4
SNSI	Sinabang, Aceh	2.59	147	P	Pn	14 31 13.5	-0.1
SNSI				S	Sn	14 31 44.5	+0.6
GSI	Gunungsitoli	4.22	141	Pn	Pn	14 31 33.2	-2.6
GSI	Gunungsitoli	4.22	141	P	Pn	14 31 36.1	+0.2
PSI	Prapat	4.38	114	Pn	Pn	14 31 39.0	+0.8
	2.1nm,0.3s,baz=340,slow=11,SNR=4.9						
PSI				Sn	Sn	14 32 27.7	-0.4
	1.4nm,0.3s,baz=60,slow=7.1,SNR=5.2						
	6.4nm,0.3s						
RPSI	Rantau Prapat	4.42	115	Pn	Pn	14 31 36.4	-2.3
KULM	Kulim	5.75	83	Pn	Pn	14 31 56.2	-0.7
MNSI	Mandailing Nat	6.00	129	P	Pn	14 32 02.3	+2.0
SRIT	Nakonsritamara	6.12	49	Pn	Pn	14 32 01.5	-0.5
CMAR	Chiang Mai Arr	14.32	16	Pn	Pn	14 33 56.7	+2.5
	0.3nm,0.3s,baz=210,slow=11,SNR=24						
CMAR				LR	LR	14 39 11.2	
	comp=Z,47nm,21.1s,baz=195,slow=36						
CHTO	Chiang Mai	14.66	15	P	P	14 34 03.2	-0.8
SHL	Shillong	21.05	352	P	P	14 35 13.0	-1.4
SHL				IAmb	IAmb	14 35 25.2	
	comp=Z,12nm,0.4s						
KKM	Kota Kinabalu	21.25	85	P	P	14 35 16.2	-0.4
KKM				IAmb	IAmb	14 35 47.1	
	comp=Z,53nm,1.2s						
H08S2	Diego Garcia H	25.47	242	T	T	15 03 07.5	
	baz=61,slow=76,SNR=14						
H08S3	Diego Garcia H	25.47	242	T	T	15 03 04.0	
	baz=61,slow=76,SNR=13						
H08S1	Diego Garcia H	25.48	242	T	T	15 03 11.9	
	baz=61,slow=76,SNR=50						
HNS	HongShan	37.33	26	⇑P	P	14 37 42.3	+0.4
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
KDJ	Kajisay	40.58	340	P	P	14 38 09.2	0.0
KDJ				IAmb	IAmb	14 38 11.9	
	comp=Z,7.0nm,0.8s						
SIMJ	Simiganj	41.27	329	P	P	14 38 12.8	-2.2
SIMJ				IAmb	IAmb	14 38 13.1	
	comp=Z,8.0nm,0.3s						
BOOM	Boomskoye usch	41.34	339	P	P	14 38 16.5	+1.0
BTK	Batken	41.46	332	P	P	14 38 15.3	-1.1
MK31	Makanchi Array	43.43	347	P	P	14 38 31.9	-0.3
MKAR	Makanchi Array	43.43	347	P	P	14 38 31.7	-0.5
MKAR	Makanchi Array	43.43	347	P	P	14 38 32.2	0.0
	comp=Z,0.7nm,0.4s,baz=164,slow=7.7,SNR=23						
	comp=Z,0.7nm,0.4s						
MAKZ	Makanchi	43.51	347	P	P	14 38 32.6	-0.3
KKAR	Karatay Array	44.02	334	P	P	14 38 38.3	+1.3
SONM	Songino Array	44.19	11	P	P	14 38 38.9	+0.4
	comp=Z,0.2nm,0.4s,baz=203,slow=8.9,SNR=1.7						
	comp=Z,0.2nm,0.4s						
WB0	Warramunga Arr	45.74	123	P	P	14 38 51.2	+0.2
WB0				IAmb	IAmb	14 39 14.8	
	comp=Z,10nm,1.2s						
WRA	Warramunga Arr	45.78	124	P	P	14 38 51.7	+0.3
	comp=Z,4.6nm,1.0s,baz=302,slow=9.0,SNR=17						
	comp=Z,4.6nm,1.0s						
WB2	Warramunga Arr	45.79	124	P	P	14 38 51.5	+0.1
WB2				IAmb	IAmb	14 39 27.9	
	comp=Z,12nm,1.4s						
ASAR	Alice Springs	47.27	128	P	P	14 39 03.4	+0.4
ASAR	Alice Springs	47.27	128	P	P	14 39 03.2	+0.3
	comp=Z,0.7nm,0.7s,baz=299,slow=7.8,SNR=14						
ASAR				PcP	PcP	14 40 34.0	+0.4
	comp=Z,0.3nm,0.7s,baz=286,slow=3.6,SNR=1.9						
	comp=Z,0.7nm,0.7s						
KURBB	Kurchatov Arra	47.89	346	P	P	14 39 08.1	+0.8
	comp=Z,1.1nm,0.8s,baz=170,slow=6.7,SNR=16						
KURBB				PcP	PcP	14 40 36.3	+1.0
	comp=Z,0.1nm,0.5s,baz=163,slow=2.7,SNR=4.4						
	comp=Z,1.1nm,0.8s						
KURK	Kurchatov	47.95	346	P	P	14 39 07.9	+0.1
KURK				IAmb	IAmb	14 39 31.4	
	comp=Z,5.0nm,1.5s						
ZALV	Zalesovo Beam	49.88	352	P	P	14 39 22.5	-0.1
ZALV	Zalesovo Beam	49.88	352	P	P	14 39 22.3	-0.2
	comp=Z,1.0nm,0.5s,baz=187,slow=7.6,SNR=5.3						
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	52.32	342	P	P	14 39 41.4	+0.5
	comp=Z,3.7nm,0.7s,baz=134,slow=8.5,SNR=20						
	comp=Z,3.7nm,0.7s						
BRVK	Borovoye	52.38	341	P	P	14 39 41.4	+0.1
BRVK				IAmb	IAmb	14 39 42.6	
	comp=Z,3.3nm,0.8s						
BBOO	Buckleboo	53.90	137	P	P	14 39 51.2	-1.7
H04N2	CROZET ISLANDS	63.35	212	T	T	15 50 11.6	
	baz=52,slow=75,SNR=63						
H04N1	CROZET ISLANDS	63.37	212	T	T	15 50 33.3	
	baz=52,slow=75,SNR=8.2						
H04N3	CROZET ISLANDS	63.37	212	T	T	15 50 13.6	
	baz=52,slow=75,SNR=69						
AKASG	Malin Array Be	71.19	322	P	P	14 41 48.1	+0.1
	comp=Z,0.3nm,0.4s,baz=87,slow=5.0,SNR=5.2						
	comp=Z,0.3nm,0.4s						
BURAR	Bucovina Array	72.98	318	P	P	14 41 58.7	-0.2
LVZ	Lovozero	74.88	340	P	P	14 42 08.9	-0.6
FINES	FINESS Array B	75.95	332	P	P	14 42 16.0	+0.4
FINES	FINESS Array B	75.95	332	P	P	14 42 16.1	+0.5
	comp=Z,2.3nm,0.8s,baz=98,slow=5.9,SNR=7.0						
	comp=Z,2.3nm,0.8s						
ARCES	ARCESS Array B	78.59	340	P	P	14 42 30.7	+0.3
ARCES				IAmb	IAmb	14 42 38.0	
	comp=Z,12nm,1.2s						
ARCES	ARCESS Array B	78.59	340	P	P	14 42 30.9	+0.5
	comp=Z,0.9nm,0.5s,baz=88,slow=6.4,SNR=7.5						
	comp=Z,0.9nm,0.5s						
GERES	GERESS Array B	80.77	319	P	P	14 42 43.5	+0.8
	comp=Z,0.8nm,0.6s,baz=113,slow=2.2,SNR=4.2						
	comp=Z,0.8nm,0.6s						

IDC 25 14:34:17.3±267.0, 55°.05N×41°.59E, h0km, Error ellipse: s-maj=116.4km s-min=60.9km az=131.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	2.98	306	I	I	14 53 20.0	
	baz=123,slow=331,SNR=2.3						
I31KZ	AKTYUBINSK INF	10.99	108	I	I	15 40 10.0	
	baz=302,slow=325,SNR=1.0						
I46RU	ZALESOVO INFRA	24.84	75	I	I	17 05 40.0	
	baz=292,slow=332,SNR=1.6						

*ISK **25** 14:35:32.7, 37°.50N×29°.42E, h6km, ML3.6/28*
*GII **25** 14:35:32.8±0.0, 37°.458N±0°.003×29°.406E±0°.001, h5km, Mws3.6, confirmed*
*IDC **25** 14:35:33.2±1.3, 37°.56N×29°.51E, h0km, mb3.6/3, mbtmp3.8/10, ML3.6/5, MS3.0/4, Error ellipse: s-maj=21.9km s-min=17.0km az=47.0*
*NEIC **25** 14:35:34.4±2.0, 37°.52N±0°.03×29°.48E±0°.06, h10km±1km, mb4.4/4, Error ellipse: s-maj=8.1km s-min=5.6km az=256.0*
*AFAD **25** 14:35:34.0, 37°.45N×29°.40E, h11km±1km, MW3.7*
*THE **25** 14:35:38.0, 37°.46N×29°.03E, h5km±10km, ML3.5/2, Error ellipse: s-maj=11.0km s-min=1.9km az=29.0*
ISC 25 14:35:33.9±0.8, 37°.49N±0°.02×29°.41E±0°.02, h10km±5km, n152, σ1°.21/186, mb3.7/4, MS3.2/3, 5C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.08	260	Pg	Pg	14 35 35.9	-0.5
APMY				Sg	Sg	14 35 38.2	0.0
INCE	Denizli-Bozkur	0.26	31	P	Pg	14 35 39.0	-0.3
INCE				S	Sg	14 35 43.9	+1.1
INCE				i AML	AML	14 35 44.0	
	comp=E,1μm,0.4s						
DNIZ	Denizli-Tavas-	0.32	296	P	Pg	14 35 40.2	-0.3
DNIZ				S	Sg	14 35 45.9	+1.1
CAEL	Denizli, Camel	0.37	191	P	Pg	14 35 40.6	-0.7
CAEL				S	Sg	14 35 45.9	-0.2
TAVA	DENIZLI_Tavas	0.39	267	P	Pg	14 35 41.5	-0.3
TAVA				S	Sg	14 35 47.5	+0.6
CAME	Cameli-Denizli	0.55	189	Pg	Pg	14 35 43.4	-1.2
CAME				Sg	Sg	14 35 52.1	+0.3
BRDR	BURDUR-Merkez	0.56	68	P	Pg	14 35 44.3	-0.6
BRDR				S	Sb	14 35 53.5	-0.5
KNIK	Mula-Seydike	0.65	168	P	Pg	14 35 45.1	-1.5
KNIK				S	Sg	14 35 54.8	-0.3
BASM	Basmaki-Afyon	0.67	50	Pg	Pg	14 35 45.4	-1.5
ELL	Elmali	0.84	151	Pg	Pg	14 35 48.6	-1.5
ELL	Elmali	0.84	151		Pg	14 35 48.3	-1.8
FETY	Fethiye	0.89	197	Pg	Pg	14 35 49.9	-1.1
FETY				Sg	Sg	14 36 03.4	+0.8
MULA	Mugla, Merkez-	0.90	255	P	Pg	14 35 50.8	-0.4
ESEN	Aydn-Nazilli	0.90	291	P	Pg	14 35 50.7	-0.5
ESEN				S	Sg	14 36 02.2	-0.7
KORT	Korkueli	0.90	122	Pg	Pg	14 35 50.5	-0.7
DALY	Dalyan (Mula)	0.90	222	Pg	Pg	14 35 50.5	-0.7
DALY				Sg	Sg	14 36 03.9	+1.0
BCK	Bucak	0.94	91	Pg	Pg	14 35 51.1	-1.0
ISP	Isparta	0.95	69	Pg	Pg	14 35 50.9	-1.3
ISP	Isparta	0.95	69	Pg	Pg	14 35 50.5	-1.6
ISP	Isparta	0.95	69	P	Pg	14 35 51.1	-1.1
YER	Yerkesik	0.96	249	Pg	Pg	14 35 51.8	-0.6
KZIL	AFYON_Kizioren	0.96	37	P	Pg	14 35 51.7	-0.8
KZIL				S	Sn	14 36 07.0	-0.6
NAZL	Nazilli-Aydin	1.00	299	Pg	Pg	14 35 52.7	-0.6
NAZL				Sg	Sg	14 36 06.7	+0.4
KIRA	zmir-Kiraz	1.07	312	P	Pg	14 35 53.6	-0.9
KIRA				S	Sg	14 36 08.8	+0.5
ANTB	Antalya	1.16	120	Pn	Pg	14 35 55.3	-0.8
TURN	Turunc	1.17	233	Pn	Pg	14 35 55.4	-1.0
KULA	Kula-Manisa	1.18	330	Pn	Pg	14 35 55.5	-1.2
MANT	Manisa	1.21	327		Pg	14 35 55.8	-1.3
MANT	Manisa	1.21	327	P	Pg	14 35 56.0	-1.1
MANT				S	Sg	14 36 12.1	-0.8
BNAZ	Uak-Banaz	1.25	17	P	Pg	14 35 57.0	-1.0
BNAZ				S	Sn	14 36 17.5	+2.9
AKAS	Kas	1.26	173	Pn	Pg	14 35 57.9	-0.3
AKAS	Kas	1.26	173		Pg	14 35 57.2	-0.9
USAK	Uak-Merkez	1.26	346	P	Pg	14 35 57.2	-1.0
USAK				S	Sg	14 36 14.6	-0.1
AYDB	Zeytinkoy-Aydi	1.29	291	Pn	Pn	14 35 57.7	-0.4
DEMR	Demre-Antalya	1.31	162	Pn	Pn	14 35 58.4	+0.1
MLSB	Milas	1.31	262	Pn	Pn	14 35 58.2	-0.2
MLSB				Sn	Sn	14 36 17.2	+1.3
ODEM	Odemis-Izmir	1.32	307	Pn	Pn	14 35 58.1	-0.4
IZMR	zmir-demi	1.32	300	P	Pn	14 35 58.2	-0.3
IZMR				S	Sn	14 36 17.2	+1.1
KSL	Kastellorizon	1.34	174	P	Pg	14 36 00.8	+1.1
KSL				S	Sn	14 36 22.0	+5.4
	2μm,0.5s						
AKUM	Antalya-Kumluc	1.38	147	P	Pb	14 36 00.1	+0.2
AKUM				S	Sn	14 36 23.1	+5.5
SHUT	Suhut-Afyon	1.40	40	Pn	Pn	14 35 59.4	-0.2
SHAP	Saphane-Kutahy	1.54	355	Pn	Pn	14 36 01.3	-0.3
GEDZ	Gediz	1.56	0	Pn	Pn	14 36 01.5	-0.3
SIMA	Simav-Kutahya	1.63	348	Pn	Pn	14 36 02.6	-0.2
ARG	Arkhangelos	1.63	219	Pn	Pn	14 36 02.8	+0.1
ARG	Arkhangelos	1.63	219		Pn	14 36 03.6	+0.9
DAT	Datca	1.65	243	Pn	Pn	14 36 03.2	+0.2
GOMA	Golmarmara-Man	1.69	317	Pn	Pn	14 36 03.3	-0.3
GORD	Gordes-Manisa	1.72	326	Pn	Pn	14 36 03.9	-0.1
BODT	Bodrum	1.72	256	Pn	Pn	14 36 04.4	+0.4
KURO	Afyon-Bolvadin	1.73	44	P	Pn	14 36 04.9	+0.7
KURO				S	Sg	14 36 31.6	+1.9
GCAM	G?zelcaml?	1.74	278	Pn	Pn	14 36 04.3	+0.1
YAZI	Mula-Dat§a-	1.76	243	P	Pn	14 36 04.5	+0.1
KEPZ	Antalya-Kepez	1.85	108	P	Pn	14 36 06.7	+0.9
KEPZ				S	Sg	14 36 34.3	+0.9
SEDI	Konya, Seydise	1.87	90	P	Pn	14 36 07.2	+1.1
SEDI				S	Sg	14 36 36.6	+2.6
EMET	Ktahya-Emet	1.89	358	P	Pn	14 36 07.0	+0.6
EMET				S	Sg	14 36 35.1	+0.5
BYAT	Afyon-Bayat	1.92	40	P	Pn	14 36 07.2	+0.4
BYAT				S	Sg	14 36 36.6	+1.0
UCKU	Afyonkarahisar	1.96	54	P	Pn	14 36 08.6	+1.2
ANDZ	Kutahya, Merke	2.06	11	P	Pn	14 36 08.3	-0.4
ANDZ				S	Sg	14 36 40.8	+0.7
DGB	zmir	2.08	287	P	Pn	14 36 08.2	-0.6
DGB				S	Sg	14 36 41.6	+0.9
STEP	BALIKESIR_Sava	2.31	325	P	Pn	14 36 12.0	-0.1
STEP				S	Sb	14 36 44.5	+0.3
DOMA	Ktahya-Doman	2.31	6	P	Pn	14 36 12.8	+0.6
SGAZ	Eskisehir, Sey	2.33	28	P	Pn	14 36 09.0	-3.4
ZEDA	zmir-Bergama	2.36	310	P	Pn	14 36 12.0	-0.7
ZEDA				S	Sg	14 36 48.3	-1.3
KONT	Konya--Tatoy	2.39	78	P	Pn	14 36 14.6	+1.4
KONT				S	Sg	14 36 50.1	-0.5
BKES	Balkesir-Mer	2.52	333	P	Pn	14 36 15.0	0.0
BORA	Eskisehir	2.53	19		Pn	14 36 13.5	-1.6
KARP	Karpathos	2.65	224	P	Pn	14 36 17.9	+1.2
KARP				S	Sn	14 36 46.1	-2.8
	452nm,0.5s						
KARP	Karpathos	2.65	224		Pn	14 36 17.6	+0.9
PRK	Paraskevi	3.03	306	P	Pn	14 36 22.4	+0.5
BAND	Balkesir-Ban	3.04	341	⇑P	Pn	14 36 22.8	+0.7
APE	Apeiranthos	3.12	264	P	Pn	14 36 22.6	-0.7
APE	Apeiranthos	3.12	264	S	Sn	14 37 00.4	-0.1
SIGR	SIGRI	3.28	303	P	Pn	14 36 25.9	+0.5
EZN	Ezine	3.36	315	P	Pn	14 36 27.1	+0.7
ANTO	Ankara	3.56	47	Pn	Pn	14 36 28.5	-0.8
KIRS	Kirsehir-Merke	3.91	64	⇓P	Pn	14 36 35.6	+1.5
BR131	Keskin Array S	4.00	55	Pn	Pn	14 36 36.5	+1.1
BRTR	Keskin Array B	4.00	55	Pn	Pn	14 36 36.4	+1.1
BRTR	Keskin Array B	4.00	55	Pn	Pn	14 36 36.7	+1.3
	3.4nm,0.3s,baz=236,slow=17,SNR=55						
BRTR				Sn	Sn	14 37 22.1	-0.3
	0.6nm,0.3s,baz=225,slow=21,SNR=3.7						
	6.4nm,0.4s						
CSS	Mathiatis	4.05	127		Pn	14 36 36.7	+0.7
CSS	Mathiatis	4.05	127	P	Pn	14 36 37.6	+1.6
CSS	Mathiatis	4.05	127	S	Sn	14 37 23.4	-0.1
CAVK	Edirne/Enez-Ca	4.07	323	⇑P	Pn	14 36 37.6	+1.4
LIA	Limnos Island	4.09	307	P	Pn	14 36 37.2	+0.7
SMTH	Samothraki Isl	4.24	316	P	Pn	14 36 39.0	+0.4
IDI	Anoyia	4.25	240	Pn	Pn	14 36 40.8	+1.9
IDI	Anoyia	4.25	240	Pn	Pn	14 36 41.3	+2.4
	7.8nm,0.3s,baz=58,slow=18,SNR=14						
IDI				Sn	Sn	14 37 27.1	-1.5
	2.4nm,0.3s,baz=18,slow=19,SNR=1.6						
ALN	Alexandroupoli	4.29	324	P	Pn	14 36 39.5	+0.2
ALN	Alexandroupoli	4.

comp=Z,42nm,18.4s,baz=270,slow=38
KURBB **Kurchatov Arra** 36.99 53 P P 14 42 43.8 +0.5
comp=Z,0.3nm,0.4s,baz=274,slow=9.0,SNR=5.0
comp=Z,0.3nm,0.4s
KMBO **Kilima Mbogo** 39.10 168 LR LR 15 04 12.2
comp=Z,34nm,19.1s,baz=64,slow=44
MK31 **Makanchi Array** 39.64 59 P P 14 43 05.0 -0.7
MKAR **Makanchi Array** 39.64 59 P P 14 43 04.8 -0.9
MKAR **Makanchi Array** 39.64 59 P P 14 43 05.4 -0.4
comp=Z,0.3nm,0.5s,baz=281,slow=6.6,SNR=5.7
comp=Z,0.3nm,0.5s
C18K **Utukok River** 73.89 4 P P 14 47 09.6 +0.9
C18K IAmb IAmb 14 47 09.9
comp=Z,7.8nm,1.5s
KSAR **Wonju Array Be** 74.13 55 P P 14 47 10.6 +0.1
BMAR **Burnt Mountain** 75.31 358 P P 14 47 17.5 +0.6

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*IDC **25** 14:50:47.5±0.8, 1°.36S×120°.37E, h0km, mb3.8/8, mbtmp3.8/10, ML3.7/2, MS3.2/1, Error ellipse: s-maj=54.3km s-min=14.8km az=68.0*
*NEIC **25** 14:50:48.9±1.5, 1°.47S±0°.06×120°.10E±0°.06, h10km±1km, mb4.2/9, Error ellipse: s-maj=11.6km s-min=9.7km az=318.0*
*DJA **25** 14:50:49.7±0.2, 1°.S±1°×12°.0E±°, h10km, M4.5/18, mB4.9/1, mb4.7/5, MLv4.4/18, Mw(mB)4.2/1*
ISC 25 14:50:48.7±1.7, 1°.43S±0°.04×120°.12E±0°.05, h9km±12km, n38, σ1°.28/44, mb4.0/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.59**	**332**	P	**Pg**	**14 51 00.4**	**+0.2**
PCI				S	**Sb**	**14 51 10.5**	**+0.8**
APSI	**Ampana**	**1.61**	**71**	P	**Pb**	**14 51 18.6**	**-0.1**
TTSI	**Tana Toraja**	**1.63**	**191**	P	**Pn**	**14 51 16.4**	**-1.2**
TTSI				S	**Sb**	**14 51 39.7**	**0.0**
SPSI	**Sidrap Palu**	**2.54**	**188**	P	**Pn**	**14 51 30.7**	**+0.6**
SPSI				S	**Sn**	**14 52 02.8**	**+1.6**
TOLI2	**Tolitoli**	**2.61**	**15**	Pn	**Pn**	**14 51 32.0**	**+1.0**
MRSI	**Marisa**	**2.63**	**44**	P	**Pn**	**14 51 32.6**	**+1.3**
MRSI				S	**Sn**	**14 52 05.1**	**+1.8**
LUWI	**Luwuk**	**2.68**	**82**	Pn	**Pn**	**14 51 32.3**	**+0.3**
LUWI	**Luwuk**	**2.68**	**82**	P	**Pn**	**14 51 33.2**	**+1.2**
LUWI				S	**Sn**	**14 52 06.4**	**+1.8**
BKB	**Balikpapan**	**3.23**	**273**	Pn	**Pn**	**14 51 39.5**	**0.0**
BKB	**Balikpapan**	**3.23**	**273**	P	**Pn**	**14 51 40.5**	**+1.0**
KAPI	**Kappang**	**3.58**	**186**	Pn	**Pn**	**14 51 44.5**	**+0.1**
KAPI	**Kappang**	**3.58**	**186**	Pn	**Pn**	**14 51 46.1**	**+1.7**
	9.0nm,0.3s,baz=332,slow=5.6,SNR=7.6						
KAPI				Sn	**Sn**	**14 52 30.7**	**+3.8**
	5.6nm,0.3s,baz=310,slow=21,SNR=4.0						
	26nm,0.4s						
BKSI	**Bulukumba**	**3.87**	**180**	P	**Pn**	**14 51 50.6**	**+2.3**
KMSI	**Cibinong**	**4.34**	**63**	P	**Pn**	**14 51 56.4**	**+1.5**
BSSI	**Bau Bau, Buton**	**4.70**	**175**	P	**Pn**	**14 52 01.2**	**+1.4**
BBSI	**Bau Bau**	**4.72**	**149**	P	**Pn**	**14 51 59.7**	**-0.3**
SANI	**Sanana**	**5.90**	**96**	P	**Pn**	**14 52 16.0**	**-0.3**
KKM	**Kota Kinabalu**	**8.38**	**332**	Pn	**Pn**	**14 52 50.5**	**-0.1**
XMIS	**Christmas Isla**	**16.95**	**237**		**P**	**14 54 48.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.43**	**162**	P	**P**	**14 54 53.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**17.43**	**162**	P	**Pn**	**14 54 51.9**	**-0.3**
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.5						
FITZ				LR	LR	15 01 27.7	
	comp=Z,72nm,18.6s,baz=340,slow=37						
	2.1nm,0.7s						
WB0	**Warramunga Arr**	**22.96**	**143**	P	**P**	**14 55 52.5**	**-1.1**
WB0				IAmb	IAmb	14 55 57.8	
	comp=Z,5.8nm,1.0s						
WRA	**Warramunga Arr**	**23.07**	**144**	P	**P**	**14 55 53.8**	**-0.9**
WRA	**Warramunga Arr**	**23.07**	**144**	P	**P**	**14 55 53.6**	**-1.1**
	comp=Z,5.1nm,0.8s,baz=324,slow=9.9,SNR=16						
	comp=Z,5.1nm,0.8s						
WB2	**Warramunga Arr**	**23.07**	**144**	P	**P**	**14 55 53.5**	**-1.3**
WB2				IAmb	IAmb	14 55 58.1	
	comp=Z,7.0nm,0.8s						
ASAR	**Alice Springs**	**25.83**	**150**	P	**P**	**14 56 21.0**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=340,slow=9.8,SNR=4.3						
	comp=Z,1.7nm,0.8s						
STKA	**Stephens Creek**	**36.44**	**148**	P	**P**	**14 57 53.4**	**-0.6**
STKA	**Stephens Creek**	**36.44**	**148**	P	**P**	**14 57 53.3**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=324,slow=9.4,SNR=5.8						
	comp=Z,2.6nm,0.7s						
KSAR	**Wonju Array Be**	**39.34**	**10**	P	**P**	**14 58 16.2**	**-2.1**
TOO	**Toolangi**	**42.88**	**150**	P	**P**	**14 58 45.6**	**-2.0**
TOO				IAmb	IAmb	14 59 11.2	
	comp=Z,20nm,1.4s						
SONM	**Songino Array**	**50.51**	**348**	P	**P**	**14 59 47.8**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=161,slow=5.7,SNR=2.2						
	comp=Z,0.2nm,0.4s						
TARG	**Taragay, Kyrgy**	**57.53**	**323**	P	**P**	**15 00 37.4**	**-1.7**
TARG				IAmb	IAmb	15 01 21.5	
	comp=Z,2.4nm,0.7s						
MK31	**Makanchi Array**	**58.36**	**330**	P	**P**	**15 00 43.9**	**-0.5**
MK31				IAmb	IAmb	15 00 55.0	
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**58.36**	**330**	P	**P**	**15 00 42.8**	**-1.6**
MKAR	**Makanchi Array**	**58.36**	**330**	P	**P**	**15 00 45.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=126,slow=7.8,SNR=6.0						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**62.47**	**337**	P	**P**	**15 01 12.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=158,slow=4.7,SNR=1.7						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**62.80**	**332**	P	**P**	**15 01 15.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=133,slow=6.4,SNR=5.8						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**68.25**	**330**	P	**P**	**15 01 49.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=134,slow=4.2,SNR=2.7						
	comp=Z,0.3nm,0.5s						

IDC 25 14:51:49.1±2.2, 6°.20S×128°.33E, h0km, mb3.2/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=119.7km s-min=32.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.86**	**157**	Pn	Pn	14 55 21.5	+0.9
	0.2nm,0.3s,baz=336,slow=13,SNR=5.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.18**	**163**	P	Pn	14 56 02.4	-0.7
	0.5nm,0.3s,baz=338,slow=9.9,SNR=60						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**66.66**	**327**	P	P	15 02 41.9	+0.1
	0.1nm,0.5s,baz=111,slow=7.9,SNR=1.9						
	0.1nm,0.5s						

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*JMA **25** 14:56:33.1±0.2, 23°.6N±0°.9×122°.8E±0°.6, h53km, MV2.1/11, NEAR ISHIGAKIJIMA ISLAND*
*TAP **25** 14:56:33.5, 23°.62N×122°.86E, h42km, ML2.7, D*
ISC 25 14:56:30.2±1.2, 23°.51N±0°.03×122°.88E±0°.02, h20km±5km, n92, σ0°.87/181, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.80**	**320**	*eP*	**Pn**	**14 56 47.0**	**+1.0**
EOS4				S	**Sn**	**14 56 56.7**	**-0.4**
EOS3	**EOS3**	**0.93**	**327**	*i P*	**Pg**	**14 56 49.5**	**+1.1**
EOS3				*eS*	**Sn**	**14 57 01.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.96**	**7**	*eP*	**Pg**	**14 56 49.2**	**+0.3**
YOJ				*eS*	**Sn**	**14 57 02.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.96**	**7**	P	**Pg**	**14 56 50.0**	**+1.1**
YOJ				*eS*	**Sn**	**14 57 01.4**	**-0.3**
HATJ	**Hateruma jima**	**1.01**	**57**	*eP*	**Pg**	**14 56 51.3**	**+1.4**
HATJ				*eS*	**Sn**	**14 57 04.2**	**+1.3**
EOS2	**EOS2**	**1.08**	**327**	*eP*	**Pg**	**14 56 52.0**	**+0.8**
EOS2				*i S*	**Sg**	**14 57 05.3**	**-0.1**
IRIF	**Iriomote-Funau**	**1.14**	**43**	*eP*	**Pg**	**14 56 53.1**	**+0.8**
IRIF				*eS*	**Sg**	**14 57 06.9**	**-0.3**
SHUL	**Shoufeng**	**1.24**	**283**	*eP*	**Pg**	**14 56 53.6**	**-0.5**
SHUL				*i S*	**Sb**	**14 57 08.6**	**+0.2**
TEGC	**Jichi Village**	**1.24**	**280**	*eP*	**Pg**	**14 56 53.9**	**-0.3**
JKRS	**Kuro-shima**	**1.27**	**55**	*eP*	**Pg**	**14 56 55.3**	**+0.5**
ETL	**Fush Village**	**1.32**	**300**	*eP*	**Pb**	**14 56 54.5**	**+0.2**
ETL				*eS*	**Sn**	**14 57 10.0**	**-0.6**
HGSD	**Ruisui**	**1.33**	**270**	*i P*	**Pb**	**14 56 54.6**	**+0.1**
HGSD				*eS*	**Sn**	**14 57 10.0**	**-0.9**
EGFH	**Guangfu**	**1.34**	**277**	*eP*	**Pn**	**14 56 53.1**	**-0.7**
EGFH				*eS*	**Sn**	**14 57 10.3**	**-0.7**
ETM	**Tongmen**	**1.35**	**290**	*i P*	**Pb**	**14 56 54.4**	**-0.4**
ETM				*eS*	**Sn**	**14 57 08.5**	**-2.8**
NACB	**Ninganchiao**	**1.35**	**300**	*i P*	**Pb**	**14 56 54.4**	**-0.4**
NACB				*eS*	**Sn**	**14 57 09.6**	**-1.6**
ESL	**Shilin**	**1.36**	**283**	*i P*	**Pb**	**14 56 54.5**	**-0.5**
ESL				S	**Sn**	**14 57 10.3**	**-1.2**
EWUT	**Wuta**	**1.37**	**313**	*eP*	**Pb**	**14 56 55.3**	**+0.1**
EWUT				S	**Sn**	**14 57 11.1**	**-0.8**
WARBT	**Fenglin Townsh**	**1.38**	**279**	*i P*	**Pb**	**14 56 55.1**	**-0.3**
WARBT				*eS*	**Sn**	**14 57 11.2**	**-0.9**
ENA	**Nanau**	**1.39**	**312**	*i P*	**Pb**	**14 56 55.6**	**+0.2**
ENA				*i S*	**Sn**	**14 57 11.7**	**-0.5**
CHKH	**Chenggong**	**1.40**	**257**	*eP*	**Pb**	**14 56 55.0**	**-0.6**
CHKH				S	**Sn**	**14 57 11.8**	**-0.6**
EHY	**Hungye**	**1.43**	**270**	*i P*	**Pb**	**14 56 56.2**	**+0.1**
EHY				S	**Sn**	**14 57 12.9**	**-0.3**
LXIB	**Xiulin Townshi**	**1.43**	**291**	*i P*	**Pb**	**14 56 56.1**	**-0.2**
LXIB				S	**Sn**	**14 57 12.8**	**-0.8**
EYUL	**Yuli**	**1.44**	**264**	*i P*	**Pb**	**14 56 56.5**	**+0.2**
EYUL				*eS*	**Sn**	**14 57 12.9**	**-0.6**
JIJ	**Ishigaki jima**	**1.44**	**53**	*eP*	**Pg**	**14 56 57.3**	**-0.8**
JIJ				*eS*	**Sg**	**14 57 14.6**	**-2.3**
CHKT	**Chengkung**	**1.45**	**254**	*eP*	**Pg**	**14 56 57.7**	**-0.4**
CHKT				*i S*	**Sn**	**14 57 12.7**	**-1.0**
YULB	**Yu-li**	**1.45**	**266**	*i P*	**Pb**	**14 56 56.8**	**+0.2**
YULB				*i S*	**Sn**	**14 57 14.3**	**+0.5**
ETLH	**Xiulin Townshi**	**1.45**	**299**	*eP*	**Pb**	**14 56 56.2**	**-0.5**
ETLH				S	**Sn**	**14 57 12.7**	**-1.3**
TWF1	**Yuli**	**1.46**	**264**	*i P*	**Pb**	**14 56 56.8**	**+0.1**
TWF1				S	**Sb**	**14 57 14.9**	**+0.1**
FULB	**Fuli**	**1.48**	**258**	*i P*	**Pb**	**14 56 57.1**	**0.0**
FULB				*i S*	**Sn**	**14 57 14.6**	**-0.1**
LDUT	**Ludao**	**1.54**	**238**	*i P*	**Pb**	**14 56 58.2**	**+0.2**
LDUT				*eS*	**Sn**	**14 57 15.6**	**-0.3**
EDH	**Donghe**	**1.54**	**250**	*i P*	**Pb**	**14 56 58.0**	**0.0**
EDH				*i S*	**Sn**	**14 57 15.5**	**-0.5**
EHD	**Haiduan**	**1.57**	**257**	P	**Pb**	**14 56 58.1**	**-0.5**
EHD				*eS*	**Sn**	**14 57 17.0**	**+0.1**
ECS	**Chishang**	**1.58**	**255**	*eP*	**Pb**	**14 56 59.1**	**+0.4**
ECS				*eS*	**Sb**	**14 57 19.2**	**+0.9**
LATG	**Datong**	**1.60**	**310**	*i P*	**Pb**	**14 56 58.9**	**-0.3**
LATG				S	**Sn**	**14 57 17.9**	**+0.2**
WHF	**Hehuan Shan**	**1.61**	**294**	*i P*	**Pb**	**14 56 58.9**	**-0.6**
WHF				S	**Sn**	**14 57 16.7**	**-1.5**
OWD	**Renai**	**1.62**	**286**	*i P*	**Pb**	**14 56 59.0**	**-0.5**
OWD				*eS*	**Sn**	**14 57 17.4**	**-0.8**
TWE	**Neicheng**	**1.64**	**318**	*i P*	**Pb**	**14 56 59.4**	**-0.3**
TWE				S	**Sn**	**14 57 18.2**	**-0.2**
ENTT	**Nioudou**	**1.65**	**314**	*i P*	**Pb**	**14 56 59.5**	**-0.4**
ENTT				S	**Sn**	**14 57 18.3**	**-0.3**
NNSB	**Datong**	**1.65**	**304**	*i P*	**Pb**	**14 56 59.5**	**-0.4**
NNSB				S	**Sn**	**14 57 17.8**	**-1.0**
NNS	**Nan Shan**	**1.66**	**304**	*i P*	**Pb**	**14 56 59.5**	**-0.7**
NNS				*i S*	**Sn**	**14 57 18.6**	**-0.6**
FUSS	**Fushou**	**1.67**	**297**	*i P*	**Pb**	**14 56 59.9**	**-0.5**
FUSS				S	**Sn**	**14 57 19.3**	**-0.1**
WUSB	**Renai**	**1.68**	**287**	*i P*	**Pb**	**14 57 00.1**	**-0.5**
WUSB				*eS*	**Sn**	**14 57 19.3**	**-0.4**
JISG	**Ishigakijimahi**	**1.70**	**50**	*eP*	**Pb**	**14 57 00.4**	**-0.3**
JISG				*eS*	**Sb**	**14 57 19.9**	**-1.8**
LONT	**Longtian**	**1.71**	**250**	P	**Pb**	**14 57 01.1**	**+0.1**
LONT				*i S*	**Sn**	**14 57 21.1**	**+0.8**
FUSB	**Fushanzhiwuyua**	**1.72**	**317**	*i P*	**Pb**	**14 57 00.8**	**-0.3**
FUSB				S	**Sn**	**14 57 20.4**	**0.0**
TWT	**Tachien**	**1.73**	**296**	*i P*	**Pb**	**14 57 01.0**	**-0.3**
TWT				S	**Sn**	**14 57 21.1**	**+0.3**
ELDTW	**Lidau**	**1.74**	**260**	*i P*	**Pb**	**14 57 00.7**	**-0.8**
ELDTW				S	**Sn**	**14 57 21.6**	**+0.5**
TIPB	**Shuangxi**	**1.75**	**327**	*i P*	**Pb**	**14 57 00.8**	**-0.8**
TIPB				*eS*	**Sn**	**14 57 21.3**	**+0.2**
YUS	**Yu-Shan**	**1.77**	**270**	*eP*	**Pn**	**14 56 59.5**	**-0.6**
YUS				*eS*	**Sn**	**14 57 20.4**	**-1.9**
NWLT	**Wulai**	**1.78**	**316**	P	**Pb**	**14 57 01.8**	**-0.4**
NWLT				*i S*	**Sn**	**14 57 21.6**	**-0.4**
SSLB	**Suanglung**	**1.78**	**279**	*i P*	**Pb**	**14 57 01.6**	**-0.7**
SSLB				*eS*	**Sn**	**14 57 21.8**	**-0.3**
TWGBT	**Beinan**	**1.79**	**248**	*i P*	**Pb**	**14 57 02.0**	**-0.3**
TWGBT				*eS*	**Sn**	**14 57 22.5**	**+0.3**
TWG	**Pinlang**	**1.79**	**248**	*eP*	**Pb**	**14 57 02.3**	**-0.1**
TWG				*eS*	**Sn**	**14 57 22.9**	**+0.6**
YHNB	**Yeheng**	**1.79**	**311**	*i P*	**Pb**	**14 57 01.7**	**-0.7**
YHNB				S	**Sn**	**14 57 21.4**	**-1.0**
NSK	**Sanguang**	**1.81**	**310**	*i P*	**Pb**	**14 57 01.9**	**-0.8**
NSK				S	**Sn**	**14 57 21.2**	**-1.6**
SXI1	**Grass Mountain**	**1.83**	**330**	*eP*	**Pn**	**14 57 01.0**	**+0.4**
SXI1				*eS*	**Sn**	**14 57 23.4**	**+0.2**
SMLT	**Sun Moon Lake**	**1.85**	**282**	*i P*	**Pb**	**14 57 02.0**	**-1.4**
SMLT				*eS*	**Sn**	**14 57 24.3**	**+0.5**
WHYT	**Xinyi Township**	**1.86**	**276**	*i P*	**Pb**	**14 57 03.6**	**-0.1**
WHYT				*eS*	**Sb**	**14 57 26.1**	**-0.5**
WCS	**Beigang Elemen**	**1.88**	**287**	*i P*	**Pb**	**14 57 03.0**	**-0.8**
WCS				*eS*	**Sn**	**14 57 24.2**	**-0.2**
TYC	**Yuchr**	**1.89**	**283**	*i P*	**Pb**	**14 57 03.7**	**-0.4**
TYC				*eS*	**Sn**	**14 57 24.9**	**+0.2**
ALS	**Alishan**	**1.90**	**271**	*i P*	**Pb**	**14 57 04.5**	**+0.1**
ALS				*eS*	**Sb**	**14 57 27.3**	**-0.5**
LAY	**Lan-yu**	**1.90**	**220**	P	**Pb**	**14 57 03.8**	**-0.5**
LAY				*eS*	**Sn**	**14 57 24.9**	**-0.2**
LYUB	**Lan-yu**	**1.91**	**219**	P	**Pb**	**14 57 03.6**	**-0.8**
LYUB				*eS*	**Sn**	**14 57 25.0**	**-0.2**
WHP	**Taichung City**	**1.93**	**294**	*i P*	**Pb**	**14 57 04.8**	**0.0**
WHP				*eS*	**Sn**	**14 57 27.2**	**+1.5**
STYH	**Taoyuan**	**1.96**	**261**	*eP*	**Pb**	**14 57 04.6**	**-0.6**
STYH				*eS*	**Sn**	**14 57 26.3**	**0.0**
NFF	**Wufeng Townshi**	**1.96**	**305**	*eP*	**Pb**	**14 57 05.2**	**0.0**
NFF				S	**Sn**	**14 57 26.7**	**+0.2**
ECL	**Taimali**	**1.99**	**243**	*i P*	**Pb**	**14 57 04.7**	**-1.0**
ECL				*eS*	**Sn**	**14 57 27.1**	**+0.1**
WJS	**Zhushan**	**1.99**	**280**	*i P*	**Pb**	**14 57 06.2**	**+0.4**
WJS				*eS*	**Sb**	**14 57 31.5**	**+1.2**
KSHI	**Guanxi Townshi**	**2.00**	**310**	*i P*	**Pb**	**14 57 05.8**	**-0.1**
KSHI				*eS*	**Sn**	**14 57 28.3**	**+0.8**
CHN5	**Tsauling**	**2.02**	**273**	*i P*	**Pb**	**14 57 06.7**	**+0.4**
CHN5				*eS*	**Sb**	**14 57 31.1**	**0.0**
YM01	**YM01**	**2.02**	**324**	*eP*	**Pb**	**14 57 05.4**	**-0.9**
YM01				*eS*	**Sn**	**14 57 28.7**	**+0.8**
LIOB	**Emei**	**2.04**	**304**	P	**Pb**	**14 57 06.7**	**0.0**
LIOB				*eS*	**Sn**	**14 57 30.1**	**+1.6**
NSTT	**Nanjuang**	**2.05**	**304**	*eP*	**Pn**	**14 57 04.1**	**+0.6**
NSTT				*eS*	**Sn**	**14 57 30.1**	**+1.6**
ZUZH	**Zhuzihu**	**2.05**	**324**	*i P*	**Pb**	**14 57 05.4**	**-1.4**
ZUZH				S	**Sn**	**14 57 28.6**	**0.0**
TPUB	**Ta-pu**	**2.07**	**265**	*i P*	**Pb**	**14 57 07.5**	**+0.3**
TPUB				*i S*	**Sb**	**14 57 31.5**	**-1.1**
WCKO	**Fanlu**	**2.09**	**269**	*eP*	**Pb**	**14 57 08.1**	**+0.7**
WCKO				*eS*	**Sb**	**14 57 33.1**	**+0.2**
WTP	**Ta-pu**	**2.09**	**263**	*i P*	**Pb**	**14 57 08.0**	**+0.5**
WTP				*eS*	**Sb**	**14 57 34.1**	**+0.9**
TWQ1	**Liyutan**	**2.10**	**294**	*eP*	**Pb**	**14 57 06.3**	**-1.3**
TWQ1				*eS*	**Sb**	**14 57 32.3**	**-0.9**
CHN4	**Tsaushan**	**2.10**	**266**	*i P*	**Pb**	**14 57 07.9**	**+0.3**
CHN4				*eS*	**Sb**	**14 57 34.2**	**+0.9**
SGST	**Jiashian**	**2.15**	**259**	*eP*	**Pb**	**14 57 06.7**	**-1.7**
SGST				S	**Sb**	**14 57 34.3**	**-0.4**
WDLH	**Douliu**	**2.15**	**275**	P	**Pb**	**14 57 08.7**	**+0.2**
WDLH				*eS*	**Sb**	**14 57 34.0**	**-0.7**
TAWH	**Dawu Township**	**2.17**	**238**	*i P*	**Pb**	**14 57 07.7**	**-1.1**
TAWH				*eS*	**Sn**	**14 57 31.9**	**+0.4**
CHN1	**Nanshi**	**2.18**	**262**	*i P*	**Pb**	**14 57 09.3**	**+0.3**
CHN1				*eS*	**Sb**	**14 57 36.5**	**+0.8**
TSMG	**Majia**	**2.20**	**249**	P	**Pb**	**14 57 07.9**	**-1.5**
TSMG				*eS*	**Sn**	**14 57 32.7**	**+0.3**
SNST	**Tainan City**	**2.20**	**263**	*eP*	**Pb**	**14 57 08.7**	**-0.7**
SNST				S	**Sb**	**14 57 36.4**	**+0.1**
TWK	**Hsinying**	**2.21**	**264**	*i P*	**Pb**	**14 57 09.8**	**+0.4**
TWK				*eS*	**Sb**	**14 57 37.2**	**+0.7**
MASBT	**Mashibuluo**	**2.25**	**247**	*i P*	**Pb**	**14 57 09.1**	**-1.1**
SLIU	**Shizi**	**2.31**	**237**	*i P*	**Pb**	**14 57 09.7**	**-1.4**
SLIU				*eS*	**Sn**	**14 57 36.1**	**+1.2**
SCZT	**Fangliau**	**2.37**	**242**	*i P*	**Pb**	**14 57 10.5**	**-1.7**
SCZT				*eS*	**Sn**	**14 57 38.6**	**+2.3**
WSL	**Shuilin Townsh**	**2.43**	**271**	P	**Pb**	**14 57 12.3**	**-1.0**
WSL				*eS*	**Sb**	**14 57 41.7**	**-1.1**
PHUB	**P'eng-hu**	**3.03**	**271**	P	**Pn**	**14 57 20.1**	**+3.0**
PHUB				*eS*	**Sn**	**14 57 55.6**	**+2.8**
VWUC	**VWUC**	**3.46**	**296**	*eP*	**Pn**	**14 57 24.7**	**+1.7**
VWUC				*eS*	**Sn**	**14 58 01.8**	**-1.5**

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*IDC **25** 14:57:47.9±0.6, 9°.11N×126°.12E, h0km, mb4.1/17, mbtmp4.1/17, Error ellipse: s-maj=33.7km s-min=13.1km az=72.0*
*NEIC **25** 14:57:57.4±1.5, 9°.18N±0°.09×126°.07E±0°.09, h66km±8km, mb4.4/33, Error ellipse: s-maj=17.9km s-min=3.5km az=47.0*
ISC 25 14:57:56.7±0.5, 9°.14N±0°.07×126°.1E±0°.1, h66km, n65, σ0°.82/59, mb4.3/33, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**13.47**	**153**	Pn	**Pn**	**15 01 05.3**	**+0.4**
TPUB	**Ta-pu**	**15.02**	**340**	Pn	**Pn**	**15 01 24.8**	**-0.4**
SBUM	**Sibu**	**15.30**	**245**		**P**	**15 01 31.0**	**-1.4**
MTN	**Manton Dam**	**22.41**	**167**	P	**P**	**15 02 52.0**	**+2.0**
MTN				IAmb	IAmb	15 03 26.6	
	comp=Z,23nm,1.1s						
KNRA	**Kununurra**	**24.80**	**174**	P	**P**	**15 03 12.4**	**-0.3**
JMN	**Monobe**	**25.50**	**15**	P	**P**	**15 03 17.9**	**-1.1**
JMN				IAmb	IAmb	15 03 51.0	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.07**	**181**	P	**P**	**15 03 32.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.07**	**181**	P	**P**	**15 03 32.1**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=9.5,slow=12,SNR=2.1						
	comp=Z,2.3nm,0.9s						
CRAI	**Chiangrai**	**27.15**	**297**	P	**P**	**15 03 33.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.89**	**292**	P	**P**	**15 03 42.3**	**+1.5**
PMG	**Port Moresby**	**27.93**	**131**	P	**P**	**15 03 41.4**	**+0.4**
	comp=Z,17nm,1.0s,baz=302,slow=9.2,SNR=4.5						
	comp=Z,17nm,1.0s						
WRA	**Warramunga Arr**	**30.02**	**164**	P	**P**	**15 03 58.0**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=343,slow=8.3,SNR=4.7						
	comp=Z,0.5nm,0.6s						
AS31	**Alice Springs**	**33.49**	**167**	P	**P**	**15 04 29.1**	**-0.9**
ASAR	**Alice Springs**	**33.49**	**167**	P	**P**	**15 04 29.4**	**-0.6**
ASAR	**Alice Springs**	**33.49**	**167**	P	**P**	**15 04 28.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=348,slow=7.4,SNR=15						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.30**	**7**	P	**P**	**15 04 45.5**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=194,slow=7.1,SNR=4.4						
	comp=Z,3.4nm,0.9s						
JKA	**Kamikawa-asahi**	**37.69**	**20**	P	**P**	**15 05 06.1**	**+0.4**
MORW	**Morawa**	**39.20**	**194**	P	**P**	**15 05 20.0**	**+1.4**
FORT	**Forrest**	**39.74**	**177**	P	**P**	**15 05 23.2**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**40.43**	**72**	T	T	15 48 28.7	
	baz=262,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**40.45**	**72**	T	T	15 48 27.8	
	baz=262,slow=75,SNR=56						
H11S2	**WAKE ISLAND Hy**	**40.45**	**72**	T	T	15 48 24.9	
	baz=262,slow=75,SNR=66						
H11N1	**WAKE ISLAND Hy**	**40.80**	**70**	T	T	15 49 03.8	
	baz=266,slow=74,SNR=30						
H11N2	**WAKE ISLAND Hy**	**40.81**	**70**	T	T	15 49 04.3	
	baz=266,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hy**	**40.82**	**70**	T	T	15 49 05.2	
	baz=266,slow=74,SNR=38						
SONM	**Songino Array**	**42.01**	**340**	P	**P**	**15 05 43.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=156,slow=9.3,SNR=2.2						
	comp=Z,0.3nm,0.5s						
NWAO	**Narrogin (SRO)**	**42.67**	**191**	P	**P**	**15 05 48.1**	**+1.1**
BBOO	**Buckleboo**	**42.79**	**168**	P	**P**	**15 05 48.3**	**+0.3**
STKA	**Stephens Creek**	**43.40**	**161**	P	**P**	**15 05 51.1**	**-1.8**
	comp=Z,3.5nm,0.8s,baz=338,slow=5.4,SNR=3.9						
	comp=Z,3.5nm,0.8s						
PEA0B	**Petropavlovsk-**	**50.74**	**24**	P	**P**	**15 06 50.1**	**+0.3**
PETK	**Petropavlovsk-**	**50.74**	**24**	P	**P**	**15 06 50.3**	**+0.

comp=N,346nm,0.9s
TRF IAML 15 01 00.9
comp=E,473nm,0.6s
KTH Kantishna Hill 0.79 353 Pn 15 00 47.8 +0.3
KTH IAML 15 01 01.3
comp=E,346nm,0.8s
KTH IAML 15 01 02.0
comp=N,295nm,1.0s
KTH Kantishna Hill 0.79 353 Sn 15 01 00.7 +0.4
SKT Skwentna 0.88 206 Pn 15 00 48.3 -0.1
SKT IAML 15 01 02.5
comp=N,372nm,0.4s
SKT IAML 15 01 02.7
comp=E,582nm,0.7s
SKT Skwentna 0.88 206 Sn 15 01 02.0 +0.1
CAST Castle Rocks 0.90 317 Pn 15 00 48.5 -0.1
CAST Castle Rocks 0.90 317 Sn 15 01 02.2 -0.1
RND Reindeer 1.06 52 Pn Pn 15 00 50.2 -0.2
RND IAML 15 01 06.3
comp=N,286nm,0.8s
RND IAML 15 01 06.6
comp=E,180nm,0.8s
RND Reindeer 1.06 52 Sn 15 01 05.7 +0.2
M22K Willow 1.06 165 Pn 15 00 50.5 +0.1
M22K Sn 15 01 06.9 +1.5
MCK McKinley 1.25 39 Pn 15 00 52.8 0.0
GHO Glory Hole Cre 1.31 139 Pn 15 00 53.9 +0.4
GHO IAML 15 01 15.9
comp=E,394nm,0.5s
CHUM Lake Minchumin 1.33 328 Pn 15 00 54.0 +0.4
CHUM Sn 15 01 11.6 +0.3
BPAW Bear Paw Mtn. 1.34 355 Pn 15 00 53.6 -0.2
BPAW IAML 15 01 11.3
comp=N,187nm,0.6s
BPAW IAML 15 01 11.6
comp=E,221nm,0.7s
STLK Strandline Lak 1.38 203 Pn 15 00 54.5 0.0
STLK IAML 15 01 14.9
comp=N,286nm,0.4s
STLK IAML 15 01 16.6
comp=E,224nm,0.4s
PMR Palmer 1.40 147 Pn Pn 15 00 54.3 -0.2
PMR IAML 15 01 16.9
comp=E,265nm,0.3s
PMR IAML 15 01 17.6
comp=N,191nm,0.5s
PMR Palmer 1.40 147 Sn 15 01 14.0 +1.2
M20K Styx River 1.44 233 Pn 15 00 55.1 -0.1
M20K Styx River 1.44 233 IAML 15 01 15.6
comp=E,213nm,0.4s
M20K IAML 15 01 16.0
comp=N,249nm,0.6s
SML Sawmill 1.48 130 Pn 15 00 55.4 -0.2
L20K Farewell, AK 1.49 260 Pn 15 00 55.5 -0.3
L20K Sn 15 01 15.0 -0.1
BWN Browne 1.51 21 Pn 15 00 56.0 0.0
BWN IAML 15 01 16.6
comp=E,177nm,0.8s
BWN IAML 15 01 21.9
comp=N,229nm,0.7s
K20K Telida 1.64 292 Sn 15 01 17.6 -0.7
K20K Telida 1.64 292 Pn 15 00 57.5 -0.1
K20K IAML 15 01 19.6
comp=E,84nm,0.7s
FIS Fire Island 1.65 172 Pn 15 00 58.0 +0.2
M23K Glacier View 1.71 124 Pn 15 00 59.0 +0.5
SPBG Spurr Blockage 1.71 208 Pn 15 00 59.3 +0.7
SPBG Sn 15 01 21.6 +1.5
KNK Knik Glacier 1.73 141 Pn 15 00 58.5 -0.3
KNK IAML 15 01 30.0
comp=N,169nm,0.5s
RC01 Rabbit Creek A 1.75 164 Pn Pn 15 00 58.8 -0.3
RC01 IAML 15 01 27.3
comp=N,190nm,0.4s
RC01 IAML 15 01 27.5
comp=E,198nm,0.3s
SCM Sheep Creek Mo 1.84 119 Pn 15 00 59.8 -0.5
SCM IAML 15 01 28.9
comp=N,241nm,0.8s
M19K Big River Lodg 1.93 245 Pn 15 01 00.8 -0.5
M19K IAML 15 01 29.3
comp=N,65nm,0.5s
NEA2 Nenana 1.97 21 Pn 15 01 01.5 -0.4
NEA2 IAML 15 01 25.3
comp=E,101nm,1.0s
NEA2 IAML 15 01 25.7
comp=N,130nm,0.9s
L19K White Mountain 2.01 255 Pn 15 01 02.2 -0.3
L19K IAML 15 01 28.0
comp=E,69nm,0.5s
WRH Wood River Hil 2.07 33 Pn 15 01 02.8 -0.4
WRH IAML 15 01 27.0
comp=E,60nm,0.4s
WRH IAML 15 01 28.8
comp=N,63nm,0.6s
M24K Tolsona, Glenn 2.21 106 Pn 15 01 05.3 +0.1
PWL Port Wells 2.23 149 Pn 15 01 04.8 -0.5
PWL IAML 15 01 44.5
comp=N,161nm,0.4s
SLKM Skilak Lake 2.29 174 Pn 15 01 05.8 -0.4
SLKM IAML 15 01 41.2
comp=N,93nm,0.6s
HDA Harding Lake 2.35 44 Pn 15 01 06.7 -0.3
HDA IAML 15 01 34.0
comp=N,149nm,0.4s
RDT Redoubt 2.35 201 Pn 15 01 07.8 +0.7
PAX Paxson 2.41 83 Pn 15 01 08.6 +0.8
K24K Donnelly Dome 2.46 63 Pn 15 01 08.8 +0.4
COLA College 2.46 30 Pn 15 01 08.2 -0.2
COLA IAML 15 01 40.7
comp=N,100nm,0.4s
COLA IAML 15 01 43.2
comp=N,106nm,0.6s
I21K Tanana 2.48 348 Pn 15 01 08.9 +0.2
RDWB Redoubt West 2.51 205 Pn 15 01 09.6 +0.4
J19K Poorman 2.53 301 Pn 15 01 09.3 0.0
GLI Glacier Island 2.56 136 Pn 15 01 09.2 -0.6
KLU Klutina 2.59 118 Pn 15 01 09.2 -1.0
ILAR Eielson Array 2.63 39 Pn 15 01 10.3 -0.3
I20K Naaghedeneel 2.63 322 Pn 15 01 10.7 0.0
I20K IAML 15 01 42.6
comp=N,86nm,0.9s
N19K Bonanza Creek 2.66 224 Pn 15 01 11.3 +0.1
N19K IAML 15 02 00.9
comp=E,39nm,0.7s
SEW Seward 2.75 167 Pn 15 01 12.5 +0.3
J18K Innoko River 2.81 287 Pn 15 01 13.4 +0.3
RIDG Independent Ri 2.82 67 Pn 15 01 13.5 +0.2
RIDG IAML 15 01 52.4
comp=N,66nm,0.6s
BRLK Bradley Lake 3.02 182 Pn 15 01 16.1 +0.1
BRLK IAML 15 01 59.3
comp=E,72nm,0.5s
BRLK IAML 15 02 03.3
comp=N,89nm,0.6s
H21K Melozitna Rive 3.04 343 IAML 15 01 50.2
comp=E,26nm,1.0s
N25K Chitina, Valde 3.10 110 IAML 15 02 03.9
comp=E,81nm,0.6s
H23K Yukon River 3.11 9 IAML 15 01 53.3
comp=E,29nm,0.7s
O19K Port Alsworth 3.11 215 Pn 15 01 17.5 +0.3
O19K IAML 15 01 50.4
comp=E,66nm,0.5s
O19K IAML 15 02 13.8
comp=N,66nm,0.5s
HIN Hinchinbrook I 3.12 138 Pn 15 01 16.6 -0.7
MENT Mentasta 3.21 84 Pn 15 01 18.3 -0.2
MENT IAML 15 02 14.7
comp=N,74nm,0.4s
N18K Kilae Creek 3.24 232 Pn 15 01 18.8 -0.1
N18K IAML 15 01 55.9
comp=E,20nm,0.9s
EYAK Cordova Ski Ar 3.25 131 Pn 15 01 17.9 -1.1
SCRK Sand Creek 3.26 65 Pn 15 01 18.8 -0.5
SCRK IAML 15 02 00.8
comp=E,37nm,0.8s
SCRK IAML 15 02 03.0
comp=N,37nm,0.4s
CNPM China Poot 3.27 185 Pn 15 01 19.5 +0.2
GCSA Galena City Sc 3.38 309 Pn 15 01 21.2 +0.5
M17K Holitna River 3.45 249 Pn 15 01 21.2 -0.5
M17K IAML 15 02 29.3
comp=E,27nm,0.8s
M17K IAML 15 02 36.5
comp=N,25nm,0.8s
K17K Iditarod 3.49 272 Pn 15 01 22.3 0.0
K17K IAML 15 02 14.5
comp=N,19nm,1.1s
K17K IAML 15 02 21.2
comp=E,24nm,1.0s
GLB Gilahina Butte 3.51 109 IAML 15 02 15.5
comp=N,49nm,0.5s
PRP Porcupine Dome 3.57 37 IAML 15 02 03.9
comp=N,20nm,0.5s
PRP IAML 15 02 10.6
comp=E,20nm,0.6s
M26K Nabesna, AK 3.59 93 IAML 15 02 21.6
comp=E,53nm,0.4s
M26K IAML 15 02 23.6
comp=N,55nm,0.6s
J26L Joseph Creek 3.63 58 IAML 15 02 10.3
comp=E,39nm,0.6s
J26L IAML 15 02 13.7
comp=N,43nm,0.5s
O18K Koktuh Hills 3.64 219 IAML 15 02 21.5
comp=E,15nm,1.0s
H19K Roundabout Mou 3.74 320 Pn 15 01 25.7 +0.1
VRDI Verde Repeater 3.76 111 IAML 15 02 20.5
comp=E,51nm,0.7s
G21K Allakaket 3.94 343 Pn 15 01 28.4 0.0
L27K Beaver Creek, 4.07 82 IAML 15 02 37.4
comp=N,14nm,0.6s
BCAR Beaver Creek A 4.09 82 Pn 15 01 29.8 -0.7
M27K Edge Creek, AK 4.11 92 IAML 15 02 38.1
comp=E,23nm,1.0s
M27K IAML 15 02 39.5
comp=N,20nm,1.1s
Q19K Cape Douglas, 4.12 202 Pn 15 01 31.0 +0.2
SYI Shuyak Island 4.26 192 Pn 15 01 33.0 +0.3
SYI Shuyak Island 4.26 192 IAML 15 02 30.1
comp=E,33nm,1.0s
G25K Bearman Lake 4.47 24 Pn 15 01 35.6 +0.1
FYU Fort Yukon 4.47 29 IAML 15 02 58.4
comp=E,9.7nm,1.2s
F21K Alatna River 4.62 346 Pn 15 01 38.0 +0.4
KAHC Katmai Hardscr 4.64 209 Pn 15 01 38.8 +0.7
G18K Tagagawik 4.66 316 Pn 15 01 38.6 +0.5
G18K IAML 15 02 29.9
comp=N,9.2nm,0.8s
G18K IAML 15 02 32.2
comp=E,12nm,0.7s
ANCK Angle Creek 5.16 209 Pn 15 01 45.6 +0.5
DAWY Dawson 5.25 71 Pn 15 01 46.2 +0.1

*HLW **25** 16:15:34.7, 27.°70N×33.°96E, h13km±2km, Md2.1, Ml2.7*
*SGS **25** 16:15:36.3, 27.°71N×34.°28E, h9km, Ml1.4*
ISC 25 16:15:34.1±1.0, 27.°71N±0.°05×34.°13E±0.°05, h17km, n12, σ0.°74/16, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	**Tor 1**	**0.33**	**332**	P	**Pg**	**16 15 41.3**	**+0.2**
TR1				S	**Sg**	**16 15 46.0**	**0.0**
HHRG	**Al Ghardaqah**	**0.70**	**226**	P	**Pn**	**16 15 49.0**	**-0.2**
HHRG				S	**Sn**	**16 15 59.2**	**-0.5**
HKAT	**Jabal Katrina**	**0.82**	**352**	P	**Pb**	**16 15 49.8**	**-0.2**
RSHS		**0.83**	**45**	S	**Sb**	**16 16 03.1**	**+2.1**
RSHS				P	**Pb**	**16 15 50.2**	**+0.1**
TAYS	**Tayyib Ism**	**1.06**	**38**	S	**Sb**	**16 16 08.0**	**+0.3**
TAYS	**Tayyib Ism**	**1.06**	**38**	P	**Pb**	**16 15 53.8**	**-0.3**
KRABS	**KRABS**	**1.07**	**68**	S	**Sb**	**16 16 06.7**	**-1.1**
KRABS				P	**Pb**	**16 15 53.8**	**-0.4**
AYUS	**`Aynunah**	**1.11**	**64**	P	**Pn**	**16 15 54.5**	**-0.5**
MWLHS	**Almuwaylih**	**1.23**	**88**	P	**Pn**	**16 15 56.2**	**-0.3**
HRDS	**Abu Rudays**	**1.24**	**324**	P	**Pn**	**16 15 56.3**	**-0.3**
JLOS		**1.58**	**49**	P	**Pn**	**16 16 01.6**	**+0.1**
NADB	**Abo Dabab**	**2.38**	**172**	P	**Pn**	**16 16 13.2**	**+0.7**

*NEIC **25** 16:28:27.7±1.2, 56.°28N±0.°05×156.°28W±0.°06, h65km±14km, Error ellipse: s-maj=7.9km s-min=4.9km az=183.0*
*AEIC **25** 16:28:28.5±0.8, 56.°28N±0.°01×156.°25W±0.°06, h63km±6km, ML3.2, ML3.2/46(NEIC), Error ellipse: s-maj=5.1km s-min=1.7km az=99.0*
*IDC **25** 16:28:28.3±3.0, 56.°11N×155.°46W, h0km, mb3.2/4, mbtmp3.2/6, ML3.1/2, Error ellipse: s-maj=50.5km s-min=20.4km az=103.0*
ISC 25 16:28:29.9±1.1, 56.°43N±0.°05×156.°15W±0.°04, h42km±15km, n77, σ1.9/39/79, mb3.4/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.68**	**154**		**Pn**	**16 28 40.9**	**-2.2**
CHIR					IAML	16 28 53.2	
comp=E,1μm,0.4s							
CHIR	**Chirikof Islan**	**0.68**	**154**		**Sn**	**16 28 52.2**	**-0.3**
CHIR	**Chirikof Islan**	**0.68**	**154**	P	**Pn**	**16 28 41.7**	**-1.4**
CHIR	**Chirikof Islan**	**0.68**	**154**	S	**Sn**	**16 28 52.8**	**+0.3**
SII	**Sitkinak Islan**	**1.10**	**82**		**Pn**	**16 28 48.1**	**-0.7**
SII	**Sitkinak Islan**	**1.10**	**82**		**Sn**	**16 29 03.5**	**+0.8**
SII	**Sitkinak Islan**	**1.10**	**82**	P	**Pn**	**16 28 48.7**	**-0.1**
CHGN	**Chignik**	**1.27**	**265**		**Pn**	**16 28 48.1**	**-2.9**
CHGN					IAML	16 29 04.7	
comp=N,573nm,0.5s							
CHGN					IAML	16 29 05.5	
comp=E,614nm,0.1s							
CHGN	**Chignik**	**1.27**	**265**		**Sn**	**16 29 03.2**	**-3.6**
PLBL	**Peulik Blue Cr**	**1.32**	**344**		**Pn**	**16 28 52.3**	**+0.4**
PLBL					**Sn**	**16 29 10.1**	**+1.8**
R16K	**Pilot Point**	**1.38**	**326**	Pn	**Pn**	**16 28 52.1**	**-0.5**
R16K	**Pilot Point**	**1.38**	**326**		**Sn**	**16 29 10.8**	**+1.2**
PLK1	**Peulik 1**	**1.40**	**350**		**Pn**	**16 28 53.1**	**+0.3**
PLK1					**Sn**	**16 29 12.9**	**+2.8**
R18K	**Karluk**	**1.47**	**39**		**Pn**	**16 28 54.3**	**+0.4**
R18K					**Sn**	**16 29 13.4**	**+1.5**
OHAK	**Old Harbor**	**1.76**	**62**		**Pn**	**16 28 57.3**	**-0.6**
ANCK	**Angle Creek**	**1.81**	**11**		**Pn**	**16 28 58.9**	**+0.3**
ANCK					**Sn**	**16 29 23.7**	**+3.4**
ACHA	**Angle Creek He**	**1.84**	**14**		**Pn**	**16 28 59.4**	**+0.3**
KELA	**Mount Kelaz**	**2.03**	**6**		**Pn**	**16 29 01.6**	**0.0**
KAHG	**Katmai Hook Gl**	**2.24**	**22**		**Pn**	**16 29 05.0**	**+0.4**
KAHC	**Katmai Hardscr**	**2.31**	**15**		**Pn**	**16 29 05.9**	**+0.4**
KDAK	**Kodiak Island**	**2.37**	**54**		**Pn**	**16 29 05.6**	**-0.6**
KDAK					IAML	16 29 58.0	
comp=E,80nm,1.1s							
KDAK					IAML	16 29 58.9	
comp=E,100nm,0.8s							
KDAK	**Kodiak Island**	**2.37**	**54**	Pn	**Pn**	**16 29 05.7**	**-0.5**
comp=E,5.8nm,0.3s,baz=44,slow=2.3,SNR=208							
KDAK				Sn	**Sn**	**16 29 33.4**	**-0.6**
comp=E,7.7nm,0.3s,baz=50,slow=4.5,SNR=8.7							
KDAK				Lg	Lg	16 29 41.8	
comp=E,7.1nm,0.3s,baz=148,slow=5.7,SNR=3.8							
comp=E,14nm,0.3s							
SDPT	**Sand Point**	**2.67**	**248**	P	**Pn**	**16 29 10.3**	**0.0**
P16K	**Nushagak River**	**2.79**	**340**		**Pn**	**16 29 12.0**	**+0.1**
Q19K	**Cape Douglas,**	**2.84**	**27**		**Pn**	**16 29 13.1**	**+0.3**
SYI	**Shuyak Island**	**2.98**	**41**	Pn	**Pn**	**16 29 14.6**	**0.0**
SYI					IAML	16 30 06.2	
comp=E,47nm,0.8s							
SYI					IAML	16 30 08.9	
comp=N,61nm,0.8s							
P18K	**Big Mountain,**	**3.01**	**9**	Pn	**Pn**	**16 29 14.7**	**-0.3**
O16K	**Kokwok River B**	**3.34**	**343**		**Pn**	**16 29 19.2**	**-0.2**
O16K	**Kokwok River B**	**3.34**	**343**		IAML	16 30 13.9	
comp=E,32nm,1.1s							
O15K	**Ungalikthiuk R**	**3.38**	**326**		**Pn**	**16 29 19.4**	**-0.7**
O17K	**Koliganek Bris**	**3.39**	**352**		**Pn**	**16 29 19.9**	**-0.3**
HAG	**Hague Volcano**	**3.43**	**253**		**Pn**	**16 29 18.2**	**-2.6**
O18K	**Koktuh Hills**	**3.47**	**8**	Pn	**Pn**	**16 29 21.2**	**-0.1**
O18K					IAML	16 30 28.1	
comp=N,29nm,0.9s							
ILSW	**Iliamna Southw**	**3.90**	**23**	Pn	**Pn**	**16 29 26.2**	**-1.1**
ILSW					IAML	16 30 23.1	
comp=E,21nm,0.8s							
O14K	**Tigyukauivet M**	**3.93**	**318**	Pn	**Pn**	**16 29 27.0**	**-0.6**
O14K					IAML	16 30 38.7	
comp=N,21nm,0.9s							
O14K					IAML	16 30 40.3	
comp=E,23nm,1.0s							
CNPM	**China Poot**	**4.06**	**38**	Pn	**Pn**	**16 29 29.4**	**-0.1**
CNPM					IAML	16 30 32.7	
comp=N,36nm,1.1s							
CNPM					IAML	16 30 35.1	
comp=E,22nm,1.2s							
N18K	**Kilae Creek**	**4.26**	**2**		**Pn**	**16 29 32.2**	**-0.1**
N18K	**Kilae Creek**	**4.26**	**2**		IAML	16 30 49.0	
comp=N,16nm,1.2s							
N16K	**Nishlik Lake**	**4.28**	**342**		**Pn**	**16 29 32.3**	**-0.2**
N15K	**Kwethluk River**	**4.29**	**333**	Pn	**Pn**	**16 29 32.4**	**-0.1**
N15K					IAML	16 30 39.5	
comp=E,36nm,0.8s							
N15K					IAML	16 30 50.1	
comp=N,28nm,0.8s							
N19K	**Bonanza Creek**	**4.48**	**11**		**Pn**	**16 29 35.7**	**+0.4**
N19K	**Bonanza Creek**	**4.48**	**11**		IAML	16 31 08.9	
comp=N,18nm,1.1s							
N14K	**Kuskokwak Cree**	**4.57**	**322**		**Pn**	**16 29 35.9**	**-0.4**
RDT	**Redoubt**	**4.60**	**24**		**Pn**	**16 29 37.6**	**+0.7**
M16K	**Timber Creek**	**4.83**	**344**		**Pn**	**16 29 40.1**	**+0.1**
M16K					IAML	16 31 14.1	
comp=E,11nm,1.1s							
M16K					IAML	16 31 17.7	
comp=N,16nm,1.1s							
M15K	**Kasigluk River**	**4.89**	**333**		**Pn**	**16 29 40.7**	**-0.1**
M17K	**Holitna River**	**5.03**	**353**		**Pn**	**16 29 42.5**	**-0.2**
M18K	**Stony River**	**5.08**	**2**		**Pn**	**16 29 43.6**	**+0.2**
SLKM	**Skilak Lake**	**5.14**	**35**	Pn	**Pn**	**16 29 43.5**	**-0.7**
SLKM					IAML	16 30 45.1	
comp=E,18nm,0.9s							
SLKM					IAML	16 30 58.9	
comp=N,16nm,1.0s							
M14K	**Bethel**	**5.29**	**327**		**Pn**	**16 29 45.1**	**-1.1**
M14K					IAML	16 30 50.4	
comp=N,15nm,1.1s							
M14K					IAML	16 31 31.8	
comp=E,16nm,1.1s							
M13K	**Dall Lake**	**5.50**	**320**		**Pn**	**16 29 49.1**	**0.0**
STLK	**Strandline Lak**	**5.55**	**22**	Pn	**Pn**	**16 29 50.4**	**+0.4**
M19K	**Big River Lodg**	**5.56**	**9**		**Pn**	**16 29 50.2**	**+0.2**
L16K	**Owhat River**	**5.57**	**343**	Pn	**Pn**	**16 29 49.8**	**-0.3**
L19K	**White Mountain**	**5.81**	**6**		**Pn**	**16 29 53.9**	**+0.5**
L18K	**Granite Mounta**	**5.81**	**358**		**Pn**	**16 29 53.3**	**-0.2**
L15K	**Ungalak Mounta**	**5.94**	**335**		**Pn**	**16 29 54.7**	**-0.5**
L14K	**Kuka Creek**	**5.97**	**328**		**Pn**	**16 29 55.5**	**-0.1**
PMR	**Palmer**	**6.32**	**32**	P	**Pn**	**16 29 59.3**	**-1.0**
K17K	**Iditarod**	**6.40**	**351**		**Pn**	**16 30 01.3**	**-0.2**
HIN	**Hinchinbrook I**	**6.44**	**48**		**Pn**	**16 30 00.8**	**-1.3**
K15K	**Wolf Creek Mou**	**6.49**	**337**		**Pn**	**16 30 03.0**	**+0.2**
FID	**Port Fidalgo**	**6.65**	**45**		**Pn**	**16 30 03.0**	**-2.0**
EYAK	**Cordova Ski Ar**	**6.84**	**49**	P	**Pn**	**16 30 07.3**	**-0.1**
K13K	**Kusilvak Mount**	**7.03**	**325**		**Pn**	**16 30 09.7**	**-0.4**
SCM	**Sheep Creek Mo**	**7.06**	**36**		**Pn**	**16 30 09.8**	**-0.8**
J17K	**VABM Dome**	**7.14**	**349**		**Pn**	**16 30 10.9**	**-0.8**
J16K	**Anvik River**	**7.23**	**344**		**Pn**	**16 30 12.2**	**-0.7**
GOAT	**Goat Mountain**	**7.29**	**50**		**Pn**	**16 30 12.5**	**-1.2**
NIKH	**Nikolski High**	**8.13**	**250**	P	Pn	16 30 27.0	+1.8
PNL	**Peninsula**	**9.45**	**63**	P	**Pn**	**16 30 42.1**	**-1.2**
ILAR	**Eielson Array**	**9.52**	**25**	Pn	**Pn**	**16 30 42.3**	**-1.8**
comp=E,0.2nm,0.3s,baz=210,slow=13,SNR=11							
ILAR				Sn	**Sn**	**16 32 22.5**	**-7.0**
comp=E,0.1nm,0.3s,baz=208,slow=18,SNR=1.5							
comp=E,0.3nm,0.5s							
INK Inuvik	**15.73**	**32**	Pn	**Pn**	**16 32 06.4**	**-1.8**
comp=E,0.1nm,0.3s,baz=238,slow=18,SNR=7.2							
YKA Yellowknife Ar	**21.65**	**57**	P	**P**	**16 33 18.6**	**+2.4**
comp=E,0.2nm,0.6s,baz=273,slow=12,SNR=4.7							
comp=E,0.2nm,0.6s							
NVAR Mina Array Bea	**30.77**	**110**	P	**P**	**16 34 41.9**	**+0.6**
comp=E,0.5nm,0.6s,baz=322,slow=9.3,SNR=2.3							
comp=E,0.5nm,0.6s							
PDAR Pinedale Array	**32.47**	**95**	P	**P**	**16 34 56.6**	**+0.3**
comp=E,0.3nm,0.5s,baz=319,slow=3.9,SNR=5.3							
comp=E,0.3nm,0.5s							
TXAR Lajitas Array	**45.52**	**104**	P	**P**	**16 36 45.2**	**0.0**
comp=E,0.2nm,0.4s,baz=337,slow=7.0,SNR=2.2							
comp=E,0.2nm,0.4s							

*JMA **25** 16:32:20.4±0.2, 31.°N±2.°×13.°9E±.°, h445km, MV3.4/31, NEAR TORISHIMA IS*
*IDC **25** 16:32:20.2±0.8, 30.°60N×138.°76E, h391km±14km, mb3.2/13, mbtmp3.9/17, Error ellipse: s-maj=40.6km s-min=10.2km az=71.0*
ISC 25 16:32:20.6±0.6, 30.°68N±0.°06×139.°1E±0.°1, h400km, n29, σ1.9/57/39, mb3.5/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.88**	**19**	P	**Pn**	**16 33 18.8**	**+3.1**
JHJ	**Hachijo jima 2**	**2.51**	**14**	P	**Pn**	**16 33 21.5**	**+1.6**
JHJ				S	**S**	**16 34 08.3**	**+0.5**
43nm,0.3s,baz=333,slow=23,SNR=17							
52nm,0.3s,baz=112,slow=23,SNR=6.6							
JHJ2	**Mitsune**	**2.51**	**15**	*e*P	**Pn**	**16 33 23.1**	**+3.2**
JMYK	**Miyake Tsubota**	**3.40**	**7**	*e*S	**S**	**16 34 23.2**	**+2.3**
JIE	**Ise**	**4.19**	**332**	*e*P	**Pn**	**16 33 36.3**	**+1.9**
BSO1	**Boso 1**	**4.28**	**22**	*e*P	**Pn**	**16 33 36.5**	**+1.9**
BSO1				*e*S	**S**	**16 34 36.0**	**+1.1**
CBIJ	**Chichi jima**	**4.51**	**142**	P	**Pn**	**16 33 39.6**	**+2.0**
CBIJ				*e*S	**S**	**16 34 40.9**	**+0.7**
JCJ	**Chichijima**	**4.51**	**142**	P	**Pn**	**16 33 38.4**	**+0.7**
77nm,0.9s,baz=278,slow=21,SNR=3.7							
JCJ				S	**S**	**16 34 39.0**	**-1.3**
80nm,0.4s,baz=280,slow=23,SNR=15							
JOD2	**Odawara 2**	**4.57**	**0**	P	**Pn**	**16 33 40.1**	**+2.0**
JRY	**Ryogami san**	**5.32**	**359**	P	**Pn**	**16 33 47.1**	**+1.3**
JYT	**Yasato**	**5.61**	**10**	P	**Pn**	**16 33 48.5**	**-0.4**
JYT				*e*S	**S**	**16 34 58.2**	**-2.6**
JAG	**Ashikaga**	**5.74**	**3**	P	**Pn**	**16 33 50.2**	**0.0**
JAG				*e*S	**S**	**16 35 00.9**	**-2.4**
MJAR	**Matsushiro Arr**	**5.89**	**353**	P	**Pn**	**16 33 52.6**	**+0.8**
1.9nm,0.4s,baz=259,slow=7.8,SNR=15							
JHO	**Hitachi**	**6.05**	**12**	P	**Pn**	**16 33 53.9**	**+0.4**
JHO				S	**S**	**16 35 06.2**	**-3.2**
JMK	**Ichinoseki**	**8.44**	**12**	P	**P**	**16 34 22.6**	**+2.0**
JMK				*e*S	**S**	**16 35 56.5**	**-2.2**
ASAJ	**Asahikawa**	**13.70**	**11**	P	**Pn**	**16 35 21.2**	**0.0**
1.7nm,0.5s,baz=134,slow=33,SNR=1.8							
SONM	**Songino Array**	**30.24**	**314**	P	**P**	**16 37 55.6**	**-0.8**
0.6nm,0.4s,baz=124,slow=8.5,SNR=8.6							
0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**44.99**	**317**	P	**P**	**16 39 57.3**	**-0.5**
0.6nm,0.4s,baz=86,slow=8.3,SNR=4.2							
0.6nm,0.4s							
MKAR	**Makanchi Array**	**46.10**	**307**	P	**P**	**16 40 05.5**	**-1.1**
0.7nm,0.6s,baz=82,slow=11,SNR=14							
MKAR				PcP	**PcP**	**16 41 35.1**	**0.0**
0.2nm,0.5s,baz=101,slow=2.9,SNR=3.1							
0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**48.59**	**312**	P	**P**	**16 40 24.3**	**-1.1**
0.8nm,0.3s,baz=91,slow=7.7,SNR=6.6							
0.8nm,0.3s							
WRA	**Warramunga Arr**	**50.54**	**186**	P	**P**	**16 40 40.6**	**+0.4**
0.5nm,0.5s,baz=1.2,slow=7.9,SNR=5.0							
0.5nm,0.5s							
BVAR	**Borovoye Array**	**53.56**	**316**	P	**P**	**16 41 01.1**	**-0.7**
1.2nm,0.6s,baz=91,slow=7.4,SNR=9.4							
BVAR				PcP	**PcP**	**16 42 02.9**	**+0.4**
0.6nm,0.4s,baz=80,slow=3.2,SNR=4.6							
1.2nm,0.6s							
ASAR	**Alice Springs**	**54.26**	**186**	P	**P**	**16 41 07.6**	**+0.4**
0.2nm,0.7s,baz=354,slow=4.6,SNR=5.5							
0.2nm,0.7s							
ARTI	**Arti**	**60.02**	**321**	P	**P**	**16 41 45.9**	**-0.6**
2.0nm,0.7s,baz=100,slow=5.3,SNR=2.0							
2.0nm,0.7s							
ARCES	**ARCESS Array B**	**69.25**	**340**	P	**P**	**16 42 46.7**	**+1.5**
5.8nm,1.0s,baz=59,slow=5.4,SNR=2.0							
5.8nm,1.0s							
FINES	**FINESS Array B**	**73.52**	**333**	P	**P**	**16 43 10.7**	**+0.1**
0.6nm,0.5s,baz=46,slow=5.5,SNR=5.0							
0.6nm,0.5s							
KBZ	**Khabaz**	**73.57**	**311**	P	**P**	**16 43 11.4**	**+0.2**
0.7nm,0.5s,baz=146,slow=15,SNR=2.6							
0.7nm,0.5s							
AKASG	**Malin Array Be**	**78.11**	**322**	P	**P**	**16 43 35.9**	**-0.5**
0.5nm,0.3s,baz=62,slow=0.8,SNR=4.5							
0.5nm,0.3s							
HFS	**Hagfors**	**79.04**	**335**	P	**P**	**16 43 40.9**	**-0.4**
2.7nm,0.9s,baz=304,slow=2.7,SNR=4.3							
2.7nm,0.9s							

*NEIC **25** 16:32:57.0±1.4, 39.°50S±0.°06×72.°5W±0.°1, h96km±7km, mb4.1/3, Error ellipse: s-maj=12.1km s-min=9.3km az=96.0*
*SJA **25** 16:32:56.9±0.9, 39.°51S×72.°42W, h93km±4km, ML3.7, MW3.8*

*GUC **25** 16:32:59.0±0.7, 39°54S×72°40W, h88km±2km, ML4.0*
ISC 25 16:32:56.8±0.9, 39°49S±0'.03×72°41W±0'.04, h97km±6km, n52, σ1§17/73, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR03	**Panguipulli**	**0.14**	**162**		**Pn**	**16 33 11.0**	**+0.5**
LR03				Sn	**Sn**	**16 33 20.2**	**-0.6**
LR03	**Panguipulli**	**0.14**	**162**	*eP*	**Pn**	**16 33 11.0**	**+0.5**
LR03				*i* S	**Sn**	**16 33 20.4**	**-0.4**
LR03				IAML		16 33 21.3	
	comp=N,19μm,0.5s						
LR03	**Panguipulli**	**0.14**	**162**	*eP*	**Pn**	**16 33 11.2**	**+0.7**
LR03				*eS*	**Sn**	**16 33 20.4**	**-0.4**
LR03				IAML		16 33 25.0	
	comp=Z,4μm,0.3s						
LC01	**Cunco**	**0.72**	**35**	*eP*	**Pn**	**16 33 15.4**	**+1.2**
LC01				*i* S	**Sn**	**16 33 28.6**	**+1.4**
LC01				IAML		16 33 29.4	
	comp=E,7μm,0.2s						
LR02	**Universidad Au**	**0.72**	**244**	*eP*	**Pn**	**16 33 15.2**	**+1.1**
LR02				*i* S	**Sn**	**16 33 27.6**	**+0.5**
LR02				IAML		16 33 30.3	
	comp=N,12μm,0.2s						
GO06	**Curarrehue**	**0.73**	**97**	⇓*eP*	**Pn**	**16 33 15.3**	**+1.0**
GO06				*i* S	**Sn**	**16 33 28.0**	**+0.5**
LR05	**Currie**	**0.80**	**157**		**Pn**	**16 33 15.5**	**+0.6**
LR05				Sn	**Sn**	**16 33 28.3**	**-0.2**
LR05	**Currie**	**0.80**	**157**	*eP*	**Pn**	**16 33 15.6**	**+0.8**
LR05				*i* S	**Sn**	**16 33 28.6**	**+0.2**
LR05				IAML		16 33 30.8	
	comp=E,6μm,0.3s						
LR05	**Currie**	**0.80**	**157**	*eP*	**Pn**	**16 33 15.7**	**+0.8**
LR05				*eS*	**Sn**	**16 33 29.1**	**+0.6**
LR05				IAML		16 33 31.2	
	comp=Z,854nm,0.5s						
LR04	**Corral**	**0.88**	**244**		**Pn**	**16 33 16.3**	**+0.7**
LR04	**Corral**	**0.88**	**244**	*eP*	**Pn**	**16 33 16.4**	**+0.7**
LR04				*i* S	**Sn**	**16 33 29.6**	**-0.2**
LR04				IAML		16 33 31.3	
	comp=N,8μm,0.2s						
LR04	**Corral**	**0.88**	**244**	*eP*	**Pn**	**16 33 16.4**	**+0.7**
LR04				IAML		16 33 31.3	
	comp=Z,5μm,0.2s						
LC02	**Puerto Saavedr**	**1.03**	**312**	*eP*	**Pn**	**16 33 19.8**	**+2.4**
LC02				*i* S	**Sn**	**16 33 34.5**	**+1.6**
LC02				IAML		16 33 36.4	
	comp=E,14μm,0.4s						
LL04	**Puerto Octay**	**1.41**	**180**		**Pn**	**16 33 22.3**	**+0.4**
LL04	**Puerto Octay**	**1.41**	**180**	*eP*	**Pn**	**16 33 22.5**	**+0.6**
LL04				*i* S	**Sn**	**16 33 40.8**	**0.0**
LL04				IAML		16 33 41.9	
	comp=N,2μm,0.2s						
LL04	**Puerto Octay**	**1.41**	**180**	*eP*	**Pn**	**16 33 22.5**	**+0.6**
LL04				*eS*	**Sn**	**16 33 41.6**	**+0.8**
LL04				IAML		16 33 48.9	
	comp=Z,385nm,0.1s						
BI04	**Isla Mocha**	**1.58**	**313**	*eP*	**Pn**	**16 33 26.2**	**+2.3**
LL03	**Petrohue**	**1.64**	**180**		**Pn**	**16 33 25.4**	**+0.7**
LL03	**Petrohue**	**1.64**	**180**	*eP*	**Pn**	**16 33 25.6**	**+0.9**
LL03				*i* S	**Sn**	**16 33 45.9**	**0.0**
LL03	**Petrohue**	**1.64**	**180**	*eP*	**Pn**	**16 33 25.6**	**+0.9**
LL03				*eS*	**Sn**	**16 33 48.5**	**+2.7**
LL03				IAML		16 34 01.0	
	comp=Z,400nm,0.3s						
PLCA	**Paso Flores**	**1.89**	**132**	Pn	**Pn**	**16 33 28.7**	**+0.9**
PLCA	**Paso Flores**	**1.89**	**132**	*eP*	**Pn**	**16 33 28.8**	**+0.9**
PLCA				*eS*	**Sn**	**16 33 51.9**	**+0.4**
CANA	**Caviahue**	**1.92**	**34**	*eP*	**Pn**	**16 33 30.3**	**+1.9**
CANA				*eS*	**Sn**	**16 33 52.5**	**+0.1**
LL05	**Los Muermos**	**2.08**	**203**		**Pn**	**16 33 29.7**	**-0.5**
LL05	**Los Muermos**	**2.08**	**203**	*eP*	**Pn**	**16 33 29.9**	**-0.4**
LL05				*i* S	**Sn**	**16 33 53.7**	**-2.1**
LL05				IAML		16 33 56.0	
	comp=E,933nm,0.2s						
BI05	**Punta Hualpn**	**2.81**	**347**	Pn	**Pn**	**16 33 41.0**	**+1.0**
BI05	**Punta Hualpn**	**2.81**	**347**	*eP*	**Pn**	**16 33 41.3**	**+1.4**
BI05				*i* S	**Sn**	**16 34 12.1**	**-1.1**
BI05	**Punta Hualpn**	**2.81**	**347**	*eP*	**Pn**	**16 33 40.9**	**+1.0**
BI05				IAML		16 34 16.4	
	comp=Z,244nm,0.1s						
LL01	**San Ignacio de**	**2.88**	**180**		**Pn**	**16 33 41.6**	**+0.7**
LL01	**San Ignacio de**	**2.88**	**180**	*eP*	**Pn**	**16 33 42.2**	**+1.3**
LL01				*eS*	**Sn**	**16 34 19.0**	**+4.2**
BI02	**San Fabin de**	**2.96**	**18**		**Pn**	**16 33 44.4**	**+2.3**
BI02	**San Fabin de**	**2.96**	**18**	*eP*	**Pn**	**16 33 44.0**	**+1.9**
GO07	**Milladeo Hill,**	**3.74**	**194**		**Pn**	**16 33 52.0**	**-0.4**
GO07	**Milladeo Hill,**	**3.74**	**194**	*eP*	**Pn**	**16 33 51.5**	**-0.9**
ML02	**Panimavida**	**3.81**	**12**		**Pn**	**16 33 55.0**	**+1.6**
BO01	**Tunca**	**5.20**	**12**	Pn	**Pn**	**16 34 12.9**	**+0.8**
BO01	**Tunca**	**5.20**	**12**	*eP*	**Pn**	**16 34 13.1**	**+0.8**
BO01				*eS*	**Sn**	**16 35 10.7**	**-0.2**
BO01				IAML		16 35 14.1	
	comp=Z,33nm,0.3s						
BO04	**La Punta**	**5.68**	**15**	Pn	**Pn**	**16 34 19.5**	**+0.7**
MT01	**Popeta**	**5.70**	**10**		**Pn**	**16 34 19.1**	**+0.1**
MT09	**Talagante**	**5.82**	**12**		**Pn**	**16 34 20.7**	**-0.1**
LMEL	**Las Melosas**	**5.91**	**18**		**Pn**	**16 34 22.9**	**+0.9**
MT13	**San Alfonso**	**5.99**	**17**		**Pn**	**16 34 23.8**	**+0.7**
MT05	**Renca**	**6.24**	**13**	Pn	**Pn**	**16 34 26.4**	**0.0**
MT02	**Curacav**	**6.31**	**10**		**Pn**	**16 34 26.9**	**-0.4**
MT08	**Bocatoma Ro**	**6.34**	**18**		**Pn**	**16 34 28.1**	**+0.3**
TRQA	**Tornquist**	**8.27**	**83**	Pn	**Pn**	**16 34 55.2**	**+1.2**
ZON	**Zonda**	**8.49**	**22**	Pn	**Pn**	**16 34 57.0**	**-0.1**
CO03	**El Pedregal**	**8.75**	**10**	Pn	**Pn**	**16 34 59.5**	**-1.1**
AC05	**El Transito**	**10.78**	**10**		**Pn**	**16 35 26.4**	**-1.9**
PB05	**IPOC Station P**	**16.70**	**7**		**Pn**	**16 36 44.5**	**-0.4**
PB05				IAmb	IAmb	16 36 51.6	
	comp=Z,15nm,1.4s						
LPAZ	**La Paz**	**23.42**	**10**	P	**P**	**16 37 57.7**	**-0.3**
LPAZ				IAmb	IAmb	16 38 18.4	
	comp=Z,3.0nm,1.2s						
ROSC	**El Rosal**	**44.15**	**357**	P	**P**	**16 40 55.1**	**-1.1**
ROSC				IAmb	IAmb	16 41 00.2	
	comp=Z,18nm,1.4s						

*IDC **25** 17:12:31.3±1.0, 31°.18N×142°.38E, h0km, mb3.4/8, mbtmp3.5/12, ML3.2/4, Error ellipse: s-maj=30.3km s-min=17.0km az=75.0*
*JMA **25** 17:12:33.7±0.3, 31°N±1°×14°2E±°, h53km, MV3.9/9, NEAR TORISHIMA IS*
ISC 25 17:12:35.9±0.8, 31°.15N±0'.05×142°.3E±0'.1, h37km, n19, σ2§01/23, mb3.5/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.88**	**313**	*eS*	**Sn**	**17 13 50.5**	**-2.1**
JHJ	**Hachijo jima 2**	**2.91**	**313**	Pn	**Pn**	**17 13 18.2**	**-1.4**
	5.1nm,0.3s,baz=84,slow=23,SNR=5.6						
JHJ				Sn	**Sn**	**17 13 50.4**	**-2.9**
	22nm,0.3s,baz=259,slow=23,SNR=8.0						
	22nm,0.4s						
BSO1	**Boso 1**	**3.67**	**342**	*eP*	**Pn**	**17 13 29.0**	**-0.5**
BSO1				*eS*	**Sn**	**17 14 09.8**	**-1.4**
JMYK	**Miyake Tsubota**	**3.72**	**322**	*eS*	**Sn**	**17 14 11.5**	**-1.8**
CBIJ	**Chichi jima**	**4.04**	**182**	*eP*	**Pn**	**17 13 35.3**	**+0.1**
JCJ	**Chichijima**	**4.04**	**182**	Pn	**Pn**	**17 13 34.6**	**-0.6**
	4.8nm,0.3s,baz=283,slow=23,SNR=1.6						
JCJ				Sn	**Sn**	**17 14 16.6**	**-4.7**
	12nm,0.3s,baz=90,slow=24,SNR=4.8						
	21nm,0.4s						
JOD2	**Odawara 2**	**4.91**	**327**	*eS*	**Sn**	**17 14 38.6**	**-4.1**
JRY	**Ryogami san**	**5.62**	**330**	*eS*	**Sn**	**17 14 59.1**	**-1.1**
JTNC	**Tanabenakahech**	**6.26**	**297**	*eP*	**Pn**	**17 14 06.7**	**+1.1**
MJAR	**Matsushiro Arr**	**6.37**	**329**	Pn	**Pn**	**17 14 08.0**	**+0.9**
	0.1nm,0.3s,baz=156,slow=12,SNR=4.9						
MJAR				Sn	**Sn**	**17 15 17.9**	**-0.6**
	0.3nm,0.3s,baz=232,slow=28,SNR=8.2						
	1.6nm,0.5s						
ASAJ	**Asahikawa**	**12.94**	**1**	Pn	**Pn**	**17 15 35.0**	**-2.2**
	0.3nm,0.3s,baz=196,slow=30,SNR=6.4						
	1.0nm,0.3s						
SONM	**Songino Array**	**31.99**	**312**	P	**P**	**17 18 58.7**	**+0.2**
	0.7nm,0.8s,baz=113,slow=7.4,SNR=3.6						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**46.56**	**317**	P	**P**	**17 21 02.4**	**+2.6**
	0.8nm,0.7s,baz=94,slow=7.7,SNR=2.4						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**48.06**	**307**	P	**P**	**17 21 13.0**	**+1.4**
	0.3nm,0.4s,baz=83,slow=9.2,SNR=8.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**50.35**	**312**	P	**P**	**17 21 29.0**	**+0.1**
	0.2nm,0.5s,baz=94,slow=8.7,SNR=3.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**51.38**	**190**	P	**P**	**17 21 37.6**	**+0.7**
	0.4nm,0.6s,baz=7.7,slow=7.6,SNR=8.0						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**54.13**	**30**	P	**P**	**17 21 57.0**	**+0.2**
	0.3nm,0.6s,baz=271,slow=7.2,SNR=5.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**55.10**	**189**	P	**P**	**17 22 05.5**	**+1.2**
	0.2nm,0.7s,baz=1.7,slow=5.8,SNR=4.5						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**81.27**	**45**	P	**P**	**17 24 49.8**	**+1.3**
	0.2nm,0.5s,baz=296,slow=4.5,SNR=2.4						
	0.2nm,0.5s						

*UCR **25** 17:15:25.1±1.1, 7°.39N×82°.35W, h6km±7km, MW3.8*
*UPA **25** 17:15:26.1±1.3, 7°.41N×82°.36W, h13km±8km, MW4.2*
ISC 25 17:15:23.5±1.7, 7°.39N±0'.07×82°.35W±0'.03, h11km±10km, n35, σ1§05/57, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA3	**Las Lomas, Chi**	**1.04**	**358**	*eP*	**Pn**	**17 15 44.8**	**+0.7**
GUAL3	**Gualaca, Chiri**	**1.14**	**3**	*eP*	**Pg**	**17 15 46.0**	**+0.5**
GMAL	**Guarumal, Vera**	**1.17**	**71**	*eP*	**Pn**	**17 15 45.6**	**-0.2**
GMAL				*eS*	**Sn**	**17 16 02.5**	**+0.7**
GMAL	**Guarumal, Vera**	**1.17**	**71**	*eP*	**Pn**	**17 15 45.6**	**-0.2**
GMAL				*eS*	**Sg**	**17 16 00.7**	**-0.5**
MESA3	**La Mesa, Verag**	**1.38**	**57**	*eP*	**Pb**	**17 15 49.3**	**-0.1**
LNBQ3	**Los Naranjos,**	**1.40**	**356**	*eP*	**Pg**	**17 15 50.3**	**-0.1**
PIRO	**Carate, Puerto**	**1.41**	**316**	*eP*	**Pb**	**17 15 49.7**	**-0.1**
PIRO				*eS*	**Sg**	**17 16 08.5**	**-0.3**
PIRO	**Carate, Puerto**	**1.41**	**316**	⇓*eP*	**Pn**	**17 15 49.3**	**+0.2**
PIRO				*eS*	**Sn**	**17 16 06.7**	**-0.9**
BRU2	**Volcan**	**1.44**	**346**	*eP*	**Pg**	**17 15 51.5**	**+0.3**
BRU2				*eS*	**Sg**	**17 16 10.2**	**+0.3**
BRU2	**Volcan**	**1.44**	**346**	*eP*	**Pg**	**17 15 51.5**	**+0.3**
BRU2				*eS*	**Sb**	**17 16 08.7**	**-0.1**
BC3P	**Paso Ancho**	**1.44**	**350**	*eP*	**Pg**	**17 15 51.2**	**0.0**
BC3P				*eS*	**Sg**	**17 16 09.8**	**-0.2**
CACAO	**El Cacao, Vera**	**1.48**	**91**	*eP*	**Pb**	**17 15 51.3**	**+0.3**
CACAO				*eS*	**Sb**	**17 16 09.6**	**-0.2**
PTJ1	**Puerto Jimnez**	**1.48**	**321**	*eP*	**Pb**	**17 15 51.3**	**+0.2**
PTJ1				*eS*	**Sb**	**17 16 09.7**	**-0.2**
PTJ1	**Puerto Jimnez**	**1.48**	**321**	*eP*	**Pb**	**17 15 51.3**	**+0.2**
PTJ1				*eS*	**Sb**	**17 16 09.7**	**-0.2**
EDAD	**Golfito**	**1.50**	**327**	*eP*	**Pn**	**17 15 50.4**	**0.0**
EDAD				*eS*	**Sn**	**17 16 08.9**	**-1.1**
JIME	**Puerto Jimenez**	**1.50**	**320**	*eP*	**Pb**	**17 15 51.3**	**-0.1**
JIME				*eS*	**Sn**	**17 16 09.8**	**-0.1**
CHGR2	**Aguacate**	**1.56**	**8**	*eP*	**Pb**	**17 15 51.7**	**-0.6**
CHGR2				*eS*	**Sb**	**17 16 11.3**	**-0.8**
CALO3	**Calobre, Verag**	**1.76**	**58**	*eP*	**Pb**	**17 15 56.1**	**+0.3**
EDP2	**Potrero Grande**	**1.81**	**333**	*eP*	**Pg**	**17 15 58.3**	**0.0**
EDP2				*eS*	**Sb**	**17 16 19.6**	**0.0**
FIMO	**Fila Mora**	**1.88**	**328**	*eP*	**Pb**	**17 15 57.6**	**-0.4**
FIMO				*eS*	**Sb**	**17 16 20.9**	**-0.6**
CHIT3	**Chitre**	**2.00**	**73**	*eP*	**Pb**	**17 15 58.9**	**-1.0**
CHIT3				*eS*	**Sb**	**17 16 24.0**	**-0.8**
DRK0	**Durika**	**2.06**	**335**	*eP*	**Pn**	**17 15 58.2**	**-0.2**
DRK0	**Durika**	**2.06**	**335**	*eP*	**Pn**	**17 15 58.1**	**-0.2**
DRK0				*eS*	**Sn**	**17 16 22.5**	**-1.7**
AZU	**Azuero**	**2.10**	**79**	*eP*	**Pb**	**17 16 00.5**	**-1.0**
AZU				*eS*	**Sb**	**17 16 27.0**	**-0.7**
AZU	**Azuero**	**2.10**	**79**	*eP*	**Pn**	**17 15 59.9**	**+1.3**
AZU				*eS*	**Sb**	**17 16 26.2**	**-1.4**
ACHO3	**Achotines, Los**	**2.16**	**89**	⇑*eP*	**Pb**	**17 16 01.2**	**-1.4**
PCRI3	**Pocri, Los San**	**2.23**	**83**	*eP*	**Pb**	**17 16 02.9**	**-0.9**
BRIBI	**Bribri**	**2.28**	**347**	*eP*	**Pn**	**17 16 02.0**	**+0.9**
BRIBI				*eS*	**Sn**	**17 16 30.2**	**+1.0**
PEDA3	**Pedasi**	**2.31**	**86**	*eP*	**Pn**	**17 16 03.2**	**+1.7**
PICV	**PH. Pirrs**	**2.88**	**321**	*eP*	**Pn**	**17 16 11.1**	**+1.7**
PICV				*eS*	**Sn**	**17 16 45.2**	**+1.1**
ZANG	**Zanguenga, Cho**	**2.91**	**57**	*eP*	**Pn**	**17 16 11.9**	**+2.0**
CVTR	**Volcan Turrial**	**2.96**	**332**	*eS*	**Sn**	**17 16 43.6**	**-3.1**
BCIP	**Isla Barro Col**	**3.05**	**54**	*eP*	**Pn**	**17 16 14.3**	**+2.6**
BCIP				*eS*	**Sn**	**17 16 50.0**	**+1.6**
BCIP	**Isla Barro Col**	**3.05**	**54**	*eP*	**Pn**	**17 16 11.0**	**-0.7**
CVTG	**V. Turrialba,**	**3.08**	**333**	*eP*	**Pn**	**17 16 14.8**	**+2.6**

IDC 25 17:25:29.0±2.6, 5°.63S×150°.55E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=195.0km s-min=30.2km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.24**	**226**	P	P	17 30 17.8	+0.9
	0.8nm,0.7s,baz=49,slow=9.3,SNR=4.5						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**24.05**	**220**	P	P	17 30 45.6	-0.6
	0.4nm,0.8s,baz=53,slow=9.6,SNR=8.4						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**83.77**	**22**	P	P	17 37 59.7	-0.2
	0.3nm,0.7s,baz=256,slow=5.7,SNR=4.3						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.40**	**286**	PKPbc	PKPbc	17 45 18.2	-0.5
	1.7nm,0.6s,baz=96,slow=1.4,SNR=1.6						

*TAP **25** 17:33:11.4, 24°.52N×122°.71E, h12km, ML3.2, C*
*JMA **25** 17:33:11.8±0.1, 25°N±2°×122°.7E±0°.6, h16km±1km, MV2.4/13, NW OFF ISHIGAKIJIMA IS*
ISC 25 17:33:11.6±0.8, 24°.51N±0'.02×122°.73E±0'.02, h17km±6km, n90, σ0§67/146, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.20**	**106**	P	**Pg**	**17 33 16.5**	**-0.1**
JYNG				*eS*	**Sg**	**17 33 20.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.26**	**100**	P	**Pg**	**17 33 17.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.26**	**100**	S	**Sb**	**17 33 21.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.26**	**100**	⇓P	**Pg**	**17 33 17.4**	**0.0**
YOJ				S	**Sb**	**17 33 21.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.26**	**100**	P	**Pg**	**17 33 17.5**	**0.0**
YOJ				*eS*	**Sg**	**17 33 21.5**	**+0.1**
EOS3	**EOS3**	**0.43**	**240**	P	**Pg**	**17 33 20.6**	**+0.2**
EOS3				*eS*	**Sb**	**17 33 26.8**	**-0.1**
EOS2	**EOS2**	**0.46**	**259**	⇓P	**Pb**	**17 33 21.3**	**+0.1**
EOS2				*eS*	**Sb**	**17 33 28.7**	**+1.1**
EOS4	**EOS4**	**0.54**	**224**	*eP*	**Pb**	**17 33 22.5**	**+0.2**
EOS4				*eS*	**Sg**	**17 33 29.3**	**0.0**
EGS		**0.80**	**295**	P	**Pb**	**17 33 27.4**	**+0.4**
EGS				*eS*	**Sb**	**17 33 38.5**	**+1.0**
ESAO	**Su ao**	**0.81**	**275**	*eP*	**Pg**	**17 33 27.0**	**-0.4**
ESAO				*eS*	**Sg**	**17 33 36.8**	**-1.3**
TWB1	**Santiao Chiao**	**0.84**	**307**	*eP*	**Pg**	**17 33 27.6**	**-0.4**
TWB1				*eS*	**Sg**	**17 33 38.2**	**-0.8**
EWUT	**Wuta**	**0.87**	**266**	*eP*	**Pg**	**17 33 27.9**	**-0.6**
EWUT				*eS*	**Sg**	**17 33 38.9**	**-1.1**
ENA	**Nanau**	**0.90**	**265**	P	**Pb**	**17 33 28.5**	**-0.3**
ENA				S	**Sg**	**17 33 39.9**	**-1.2**
EAHA	**Aohua**	**0.92**	**259**	P	**Pb**	**17 33 29.2**	**+0.1**
EAHA				S	**Sb**	**17 33 41.2**	**+0.3**
ILA	**Ilan**	**0.93**	**286**	S	**Sg**	**17 33 42.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.93**	**100**	P	**Pb**	**17 33 29.1**	**-0.1**
IRIF				*eS*	**Sg**	**17 33 42.6**	**+0.6**
NDS	**Dongshan**	**0.93**	**278**	P	**Pg**	**17 33 29.5**	**-0.2**
NDS				S	**Sb**	**17 33 41.1**	**-0.2**
TIPB	**Shuangxi**	**0.94**	**300**	P	**Pb**	**17 33 29.6**	**+0.1**
TIPB				S	**Sb**	**17 33 41.6**	**0.0**
SXI1	**Grass Mountain**	**0.97**	**307**	*eP*	**Pb**	**17 33 29.8**	**-0.2**
SXI1				*eS*	**Sb**	**17 33 42.5**	**0.0**
TWE	**Neicheng**	**0.99**	**283**	P	**Pb**	**17 33 30.3**	**0.0**
TWE				*eS*	**Sb**	**17 33 42.8**	**-0.2**
NWF	**Wu-fen Shan**	**1.03**	**303**	*eP*	**Pb**	**17 33 30.8**	**-0.2**
NWF				*eS*	**Sb**	**17 33 43.7**	**-0.5**
WFSB	**Wu-fen Shan**	**1.03**	**303**	*eP*	**Pb**	**17 33 30.9**	**-0.1**
WFSB				*eS*	**Sb**	**17 33 43.7**	**-0.4**
ETL	**Fush Village**	**1.07**	**251**	*eP*	**Pn**	**17 33 32.0**	**+0.3**
ENTT	**Nioudou**	**1.07**	**277**	*eP*	**Pb**	**17 33 31.9**	**+0.3**
ENTT				*eS*	**Sb**	**17 33 45.1**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.07**	**284**	*eP*	**Pb**	**17 33 31.9**	**+0.2**
FUSB				*eS*	**Sb**	**17 33 45.5**	**+0.1**
TNOU	**National Taiwa**	**1.08**	**307**	*eP*	**Pb**	**17 33 32.0**	**+0.2**
TNOU				*eS*	**Sb**	**17 33 45.6**	**0.0**
HATJ	**Hateruma jima**	**1.08**	**114**	*eP*	**Pb**	**17 33 31.9**	**+0.1**
HATJ				*eS*	**Sg**	**17 33 46.8**	**+0.1**
NACB	**Ninganchiao**	**1.09**	**252**	⇓P	**Pb**	**17 33 31.9**	**0.0**
NACB				*eS*	**Sb**	**17 33 46.1**	**+0.3**
LATG	**Datong**	**1.09**	**272**	⇓P	**Pb**	**17 33 32.1**	**0.0**
LATG				*eS*	**Sb**	**17 33 46.1**	**0.0**
TWD	**Chiawan**	**1.12**	**248**	*eP*	**Pg**	**17 33 33.2**	**-0.1**
TWA	**Mucha**	**1.14**	**295**	*eP*	**Pg**	**17 33 33.9**	**+0.2**
TWA				*eS*	**Sn**	**17 33 48.5**	**+0.5**
NWLT	**Wulai**	**1.15**	**284**	*eP*	**Pb**	**17 33 33.1**	**+0.2**
NWLT				*eS*	**Sb**	**17 33 47.5**	**-0.1**
ETLH	**Xiulin Townshi**	**1.18**	**256**	*eP*	**Pn**	**17 33 33.5**	**+0.2**
JKRS	**Kuro-shima**	**1.20**	**103**	*eP*	**Pn**	**17 33 33.5**	**0.0**
TATO	**Taipei**	**1.22**	**293**	P	**Pb**	**17 33 34.5**	**+0.3**
TATO	**Taipei**	**1.22**	**293**	S	**Sn**	**17 33 50.2**	**+0.3**
NNSB	**Datong**	**1.23**	**267**	*eP*	**Pb**	**17 33 34.6**	**+0.2**
NNSB				*eS*	**Sb**	**17 33 49.3**	**-0.7**
YM01	**YM01**	**1.23**	**301**	*eP*	**Pn**	**17 33 34.1**	**+0.1**
YM01				*eS*	**Sb**	**17 33 49.4**	**-0.6**
TAP	**Taipei**	**1.23**	**296**	*eP*	**Pb**	**17 33 34.8**	**+0.4**
TAP				*eS*	**Sb**	**17 33 50.2**	**+0.2**
NNS	**Nan Shan**	**1.24**	**267**	*eP*	**Pb**	**17 33 34.8**	**+0.2**
NNS				*eS*	**Sb**	**17 33 50.6**	**+0.4**
YHNB	**Yeheng**	**1.24**	**278**	P	**Pb**	**17 33 35.1**	**+0.5**
YHNB	**Yeheng**	**1.24**	**278**	*eP*	**Pb**	**17 33 35.0**	**+0.4**
YHNB				*eS*	**Sb**	**17 33 49.3**	**-1.1**
ETM	**Tongmen**	**1.25**	**245**	*eP*	**Pb**	**17 33 34.9**	**+0.2**
ETM				*eS*	**Sg**	**17 33 52.4**	**+0.3**
ZUZH	**Zhuzihu**	**1.26**	**301**	*eP*	**Pn**	**17 33 34.1**	**-0.3**
ZUZH				*eS*	**Sb**	**17 33 49.4**	**-1.4**
NSK	**Sanguang**	**1.26**	**278**	*eP*	**Pb**	**17 33 35.1**	**+0.3**
NSK				*eS*	**Sb**	**17 33 50.3**	**-0.6**
TWY	**Chenhua**	**1.28**	**307**	*eP*	**Pg**	**17 33 36.0**	**-0.3**
TWY				*eS*	**Sb**	**17 33 50.9**	**-0.5**
ANP	**Anpu**	**1.29**	**302**	*eP*	**Pg**	**17 33 37.0**	**+0.5**
LXIB	**Xiulin Townshi**	**1.29**	**248**	*eP*	**Pb**	**17 33 36.0**	**+0.4**
LXIB				*eS*	**Sn**	**17 33 52.9**	**+1.0**
JIJ	**Ishigaki jima**	**1.30**	**96**	*eP*	**Pn**	**17 33 34.1**	**-0.8**
NTST	**Danshui**	**1.33**	**300**	*eP*	**Pg**	**17 33 37.5**	**+0.2**
NTST				*eS*	**Sn**	**17 33 53.6**	**+0.9**
ESL	**Shilin**	**1.37**	**240**	*eP*	**Pg**	**17 33 37.6**	**-0.4**
FUSS	**Fushou**	**1.38**	**260**	*eP*	**Pb**	**17 33 37.5**	**+0.5**
WHF	**Hehuan Shan**	**1.38**	**255**	*eP*	**Pb**	**17 33 37.6**	**+0.4**
KSHI	**Guanxi Townshi**	**1.44**	**281**	*eP*	**Pb**	**17 33 38.6**	**+0.7**
KSHI				*eS*	**Sg**	**17 33 58.5**	**+0.4**
TWT	**Tachien**	**1.44**	**260**	*eP*	**Pg**	**17 33 38.9**	**-0.4**
JISG	**Ishigakijimahi**	**1.44**	**87**	*eP*	**Pn**	**17 33 36.3**	**-0.6**
EGFH	**Guangfu**	**1.45**	**235**	*eS*	**Sn**	**17 33 55.4**	**-0.3**
WARBT	**Fenglin Townsh**	**1.46**	**238**	*eP*	**Pn**	**17 33 37.1**	**0.0**
WARBT				*eS*	**Sn**	**17 33 56.4**	**+0.6**
NFF	**Wufeng Townshi**	**1.47**	**275**	*eP*	**Pb**	**17 33 38.7**	**+0.2**
NFF				*eS*	**Sb**	**17 33 57.9**	**+0.9**
NCUH	**Zhongli**	**1.48**	**288**	*eS*	**Sn**	**17 33 56.8**	**+0.6**
OWD	**Renai**	**1.52**	**249**	*eP*	**Pn**	**17 33 38.7**	**+0.6**
WUSB	**Renai**	**1.56**	**251**	*eP*	**Pb**	**17 33 40.2**	**+0.2**
WUSB				*eS*	**Sb**	**17 34 00.6**	**+1.1**
HGSD	**Ruisui**	**1.56**	**230**	*eP*	**Pb**	**17 33 40.5**	**+0.5**
LIOB	**Emei**	**1.56**	**275**	*eP*	**Pb**	**17 33 40.9**

H04S1 CROZET ISLANDS 60.84 219 T T 18 58 48.3
baz=66
H04S3 CROZET ISLANDS 60.86 219 T T 18 58 48.1
baz=66
H04S2 CROZET ISLANDS 60.86 219 T T 18 58 49.4
baz=66
ZALV Zalesovo Beam 62.17 347 P **P** **17 52 56.3 -0.6**
0.3nm,0.3s,baz=169,slow=4.7,SNR=2.3
0.3nm,0.3s
QSPA South Pole Qui 83.89 180 P **P** **17 55 06.5 +1.1**
1.1nm,1.0s,baz=91,slow=18,SNR=1.6
1.1nm,1.0s
FINES FINESS Array B 90.01 332 P **P** **17 55 34.0 -0.9**
1.3nm,0.8s,baz=120,slow=5.0,SNR=1.3
1.3nm,0.8s
TXAR Lajitas Array 144.46 46 PKP **PKiKP** **18 02 13.2 -3.1**
0.5nm,0.5s,baz=264,slow=1.7,SNR=6.7

*WEL **25** 17:55:02.8±0.7, 32°S±4°×17°7W±1°1, h12km, mB5.0/8, ML5.8/7, MLv5.5/7, Mw(mB)4.3/8, Error ellipse: s-maj=14.6km s-min=4.0km az=104.9, confirmed*
*IDC **25** 17:55:04.8±0.6, 31°55S×177°72W, h0km, mb4.5/9, mbtmp4.4/9, MS3.8/26, Error ellipse: s-maj=23.9km s-min=18.9km az=10.0*
*MOS **25** 17:55:07.4±1.7, 31°76S×178°11W, h10km, mb4.8/10, Error ellipse: s-maj=22.3km s-min=17.1km az=26.5*
*NEIC **25** 17:55:08.3±1.4, 32°0S±0°1×177°9W±0°2, h10km±1km, mb4.8/16, Error ellipse: s-maj=33.1km s-min=9.1km az=62.0*
*NOU **25** 17:55:11.9, 32°62S×176°99W, h46km, mb4.6/10, South of Kermadec Islands*

ISC 25 17:55:04.9±0.6, 31°82S±0°06×177°52W±0°09, h10km, n165, σ2§29/161, mb4.8/26, MS3.9/25, 14C-4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.57**	**352**	P		**Pn**		**17 55 42.6**	**-4.0**
GLKZ				S		**Sn**		**17 56 12.7**	**-5.2**
MXZ	**Matakaoa Point**	**6.68**	**210**	Pn		**Pn**		**17 56 41.1**	**-2.0**
MXZ	**Matakaoa Point**	**6.68**	**210**	P		**Pn**		**17 56 41.5**	**-1.6**
WMGZ	**Waiomatatini S**	**6.86**	**208**	P		**Pn**		**17 56 44.7**	**-0.8**
WMGZ				S		**Sn**		**17 58 04.8**	**+1.1**
PKGZ	**Pakihiroa**	**7.04**	**210**	P		**Pn**		**17 56 46.5**	**-1.5**
PKGZ				S		**Sn**		**17 58 08.1**	**0.0**
HAZ	**Te Kaha**	**7.07**	**212**	P		**Pn**		**17 56 47.5**	**-0.9**
HAZ				S		**Sn**		**17 58 09.8**	**+0.9**
PUZ	**Puketiti**	**7.14**	**208**	P		**Pn**		**17 56 47.6**	**-1.8**
PUZ				S		**Sn**		**17 58 10.3**	**-0.3**
RUGZ	**Raukumara Rang**	**7.29**	**211**	P		**Pn**		**17 56 50.8**	**-0.9**
RUGZ				S		**Sn**		**17 58 15.5**	**+1.0**
TWGZ	**Tauwhareparae**	**7.34**	**209**	P		**Pn**		**17 56 50.4**	**-1.8**
TWGZ				S		**Sn**		**17 58 17.3**	**+1.7**
CNGZ	**Carnagh Statio**	**7.52**	**207**	P		**Pn**		**17 56 52.9**	**-1.7**
CNGZ				S		**Sn**		**17 58 22.1**	**+2.3**
URZ	**Urewera**	**7.79**	**213**	Pn		**Pn**		**17 56 56.3**	**-2.0**
	2.4nm,0.3s,baz=340,slow=4.2,SNR=22								
URZ				Sn		**Sn**		**17 58 25.2**	**-1.3**
	9.4nm,0.3s,baz=243,slow=9.0,SNR=9.0								
URZ				LR		LR		18 00 25.4	
	comp=Z,1μm,18.0s,baz=116,slow=40								
URZ	**Urewera**	**7.79**	**213**	P		**Pn**		**17 56 56.7**	**-1.6**
URZ	**Urewera**	**7.79**	**213**	P		**Pn**		**17 56 56.4**	**-2.0**
URZ				S		**Sn**		**17 58 24.9**	**-1.7**
RIGZ	**Rimuhau**	**7.88**	**208**	P		**Pn**		**17 56 57.8**	**-1.8**
RIGZ				S		**Sn**		**17 58 28.0**	**-0.9**
WCZ	**Waipu Caves**	**7.92**	**237**	P		Pn		17 57 05.8	+5.8
MKAZ	**Moumakai**	**8.02**	**227**	P		Pn		17 57 05.6	+4.1
PRGZ	**Paritu Road**	**8.02**	**207**	P		**Pn**		**17 56 58.7**	**-2.9**
PRGZ				S		**Sn**		**17 58 30.5**	**-1.9**
SNGZ	**Shannon Statio**	**8.12**	**210**	P		**Pn**		**17 57 00.9**	**-1.9**
SNGZ				S		**Sn**		**17 58 33.9**	**-0.8**
MUGZ	**Murupara**	**8.12**	**214**	P		**Pn**		**17 57 00.8**	**-2.1**
MUGZ				S		**Sn**		**17 58 32.5**	**-2.4**
RTZ	**Ruatahuna**	**8.14**	**212**	Pn		**Pn**		**17 57 01.4**	**-1.8**
OUZ	**Omahuta**	**8.16**	**243**	P		Pn		17 57 08.8	+5.4
OUZ	**Omahuta**	**8.16**	**243**	P		**Pn**		**17 57 06.8**	**+3.5**
MHGZ	**Mahia Peninsul**	**8.21**	**206**	P		**Pn**		**17 57 01.7**	**-2.4**
MHGZ				S		**Sn**		**17 58 36.5**	**-0.5**
TOZ	**Tahuroa Road**	**8.23**	**222**	Pn		**Pn**		**17 57 03.0**	**-1.4**
RAHZ	**Arahi**	**8.34**	**210**	P		**Pn**		**17 57 04.9**	**-1.0**
RAHZ				P		**Sn**		**17 58 41.1**	**+0.9**
MTHZ	**Maungataniwha**	**8.39**	**212**	P		**Pn**		**17 57 05.2**	**-1.5**
MTHZ				P		**Sn**		**17 58 42.1**	**+0.6**
WHHZ	**Waihua**	**8.41**	**209**	P		**Pn**		**17 57 07.6**	**+0.8**
WHHZ				P		**Sn**		**17 58 44.3**	**+2.4**
NMHZ	**Naumai**	**8.61**	**211**	P		**Pn**		**17 57 08.0**	**-1.7**
NMHZ				P		**Sn**		**17 58 47.4**	**+0.5**
ARHZ	**Aropaoanui**	**8.67**	**209**	S		**Sn**		**17 58 47.9**	**-0.3**
BKZ	**Black Stump Fm**	**8.81**	**212**	Pn		**Pn**		**17 57 11.8**	**-0.6**
BKZ	**Black Stump Fm**	**8.81**	**212**	P		**Pn**		**17 57 11.4**	**-0.9**
BKZ	**Black Stump Fm**	**8.81**	**212**	P		**Pn**		**17 57 09.2**	**-3.1**
BKZ				P		**Sn**		**17 58 52.1**	**+0.4**
MCHZ	**McNeill Hill**	**8.95**	**210**	P		**Pn**		**17 57 11.8**	**-2.4**
MCHZ				P		**Sn**		**17 58 54.4**	**-0.7**
CKHZ	**Cape Kidnapper**	**8.97**	**208**	P		**Pn**		**17 57 10.1**	**-4.4**
CKHZ				P		**Sn**		**17 58 51.5**	**-4.1**
KWHZ	**Kaweka Forest**	**9.05**	**211**	P		**Pn**		**17 57 15.8**	**+0.1**
KWHZ				P		**Sn**		**17 58 56.2**	**-1.4**
TMVZ	**Te Maari**	**9.14**	**215**	P		**Pn**		**17 57 16.7**	**-0.2**
TMVZ				P		**Sn**		**17 59 01.0**	**+1.0**
ETVZ	**East Tongariro**	**9.15**	**215**	P		**Pn**		**17 57 16.7**	**-0.4**
ETVZ				S		**Sn**		**17 58 57.6**	**-2.7**
KAHZ	**Kahuranaki**	**9.17**	**208**	P		**Pn**		**17 57 12.9**	**-4.4**
KAHZ				P		**Sn**		**17 58 53.6**	**-6.9**
NNVZ	**North Ngauruho**	**9.20**	**216**	P		**Sn**		**17 59 02.4**	**+1.0**
NGZ	**Ngauruhoe**	**9.24**	**215**	S		**Sn**		**17 59 00.7**	**-1.7**
KRHZ	**Kereru**	**9.25**	**211**	P		**Pn**		**17 57 15.8**	**-2.6**
KRHZ				P		**Sn**		**17 58 56.8**	**-5.8**
MOVZ	**Moawhango**	**9.34**	**214**	P		**Sn**		**17 59 01.5**	**-3.3**
PXZ	**Pawanui**	**9.38**	**207**	P		**Pn**		**17 57 18.8**	**-1.3**
PXZ				P		**Sn**		**17 59 03.0**	**-2.5**
PNHZ	**Pukenui**	**9.55**	**210**	P		**Pn**		**17 57 18.7**	**-3.8**
PNHZ				P		**Sn**		**17 59 07.4**	**-2.5**
WPHZ	**Waipukurau**	**9.57**	**209**	S		**Sn**		**17 59 05.6**	**-4.8**
PRHZ	**Porangahau**	**9.67**	**208**	P		**Pn**		**17 57 20.4**	**-3.6**
PRHZ				P		**Sn**		**17 59 08.0**	**-4.7**
TSZ	**Takapari Road**	**9.77**	**211**	P		**Sn**		**17 59 10.7**	**-4.6**
DVHZ	**Dannevirke**	**9.88**	**209**	P		**Sn**		**17 59 13.6**	**-4.5**
ANWZ	**Angora Road**	**9.89**	**208**	P		**Sn**		**17 59 12.3**	**-6.0**
POWZ	**Post Office Ro**	**10.13**	**210**	P		**Sn**		**17 59 20.6**	**-3.5**
BFZ	**Birch Farm**	**10.18**	**208**	P		**Pn**		**17 57 29.4**	**-1.6**
BFZ	**Birch Farm**	**10.18**	**208**	P		Pn		17 57 25.0	-6.0
BFZ				P		**Sn**		**17 59 20.5**	**-4.7**
PRWZ	**Pori Road**	**10.18**	**209**	P		**Sn**		**17 59 18.7**	**-6.7**
MRZ	**Mangatainoka R**	**10.43**	**210**	P		**Pn**		**17 57 30.5**	**-4.0**
CTZ	**Chatham Island**	**11.92**	**177**	P		Pn		17 57 47.9	-7.0
CTZ	**Chatham Island**	**11.92**	**177**	P		**Pn**		**17 57 55.1**	**+0.2**
QRZ	**Quartz Range**	**12.04**	**219**	P		**Pn**		**17 57 57.0**	**+0.4**
KHZ	**Kahutara**	**12.75**	**211**	P		**Pn**		**17 58 03.9**	**-2.3**
RPZ	**Rata Peaks**	**14.91**	**214**	Pn		**Pn**		**17 58 34.8**	**-0.9**
	2.6nm,0.3s,baz=39,slow=23,SNR=2.8								
ODZ	**Otahua Downs**	**16.11**	**212**	Pn		**Pn**		**17 58 48.0**	**-3.5**
ODZ				IAmb		IAmb		17 58 52.5	
	comp=Z,40nm,1.6s								
ODZ	**Otahua Downs**	**16.11**	**212**	P		**Pn**		**17 58 49.6**	**-1.9**
DZM	**Mont Dzumac**	**17.26**	**300**			**P**		**17 59 07.9**	**+0.2**
DZM	**Mont Dzumac**	**17.26**	**300**	Pn		**P**		**17 59 09.2**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=114,slow=15,SNR=5.1								
DZM				LR		LR		18 04 21.6	
	comp=Z,509nm,19.4s,baz=138,slow=33								
SYZ	**Scrubby Hill**	**17.94**	**211**	P		**Pn**		**17 59 12.4**	**-1.9**
RAR	**Rarotonga**	**19.05**	**61**	LR		LR		18 05 55.0	
	comp=Z,230nm,19.4s,baz=254,slow=34								
EIDS	**Eidsvold**	**28.24**	**275**	P		**P**		**18 00 58.6**	**+0.3**
EIDS				IAmb		IAmb		18 01 02.7	
	comp=Z,25nm,1.3s								
PPT	**Papeete**	**28.98**	**67**	LR		LR		18 10 52.4	
	comp=Z,221nm,18.5s,baz=251,slow=33								
HNR	**Honiara**	**30.54**	**312**	LR		LR		18 11 09.7	
	comp=Z,100nm,19.8s,baz=192,slow=32								
STKA	**Stephens Creek**	**34.58**	**259**	P		**P**		**18 01 55.5**	**+1.4**
STKA	**Stephens Creek**	**34.58**	**259**	P		**P**		**18 01 55.4**	**+1.4**
	comp=Z,7.0nm,0.5s,baz=98,slow=11,SNR=21								
STKA				LR		LR		18 15 36.4	
	comp=Z,286nm,18.4s,baz=84,slow=36								
	comp=Z,7.0nm,0.5s								
BBOO	**Buckleboo**	**39.00**	**256**	P		**P**		**18 02 31.3**	**-0.3**
COEN	**Coen**	**40.07**	**287**	P		**P**		**18 02 41.2**	**+0.5**
COEN				IAmb		IAmb		18 02 56.9	
	comp=Z,23nm,1.4s								
AS31	**Alice Springs**	**43.46**	**268**	P		**P**		**18 03 08.1**	**-0.3**
ASAR	**Alice Springs**	**43.46**	**268**	P		**P**		**18 03 07.7**	**-0.8**
ASAR	**Alice Springs**	**43.46**	**268**	P		**P**		**18 03 08.2**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=108,slow=7.0,SNR=107								
ASAR				PcP		**PcP**		**18 04 57.1**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=107,slow=4.0,SNR=1.2								
ASAR				ScP		**ScP**		**18 08 50.1**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=105,slow=3.4,SNR=3.5								
ASAR				LR		LR		18 21 25.1	
	comp=Z,112nm,18.6s,baz=138,slow=36								
	comp=Z,6.2nm,0.8s								
WR0	**Warramunga Arr**	**44.40**	**273**	P		**P**		**18 03 15.9**	**-0.1**
WR0				IAmb		IAmb		18 03 18.8	
	comp=Z,18nm,1.1s								
WB2	**Warramunga Arr**	**44.56**	**273**			**P**		**18 03 16.9**	**-0.4**
WB2				IAmb		IAmb		18 03 44.0	
	comp=Z,30nm,1.1s								
WRAB	**Tennant Creek**	**44.57**	**273**			**P**		**18 03 17.2**	**-0.1**
WRAB	**Tennant Creek**	**44.57**	**273**	⇑*i*P		**P**		**18 03 17.6**	**+0.2**
WRAB				pmax		pmax			
	comp=Z,15nm,0.6s								
WRA	**Warramunga Arr**	**44.58**	**273**	P		**P**		**18 03 17.2**	**-0.2**
	comp=Z,17nm,0.6s,baz=114,slow=7.6,SNR=78								
WRA				PcP		**PP**		**18 05 00.4**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=120,slow=2.9,SNR=1.5								
WRA				S		**S**		**18 09 54.0**	**+0.6**
	comp=Z,1.1nm,1.2s,baz=111,slow=12,SNR=1.8								
WRA				LR		LR		18 19 57.8	
	comp=Z,173nm,22.0s,baz=326,slow=34								
	comp=Z,17nm,0.6s								
WB0	**Warramunga Arr**	**44.60**	**274**			**P**		**18 03 18.0**	**+0.4**
FORT	**Forrest**	**46.10**	**256**	P		**P**		**18 03 29.2**	**-0.1**
VNDA	**Vanda**	**46.73**	**186**	LR		LR		18 22 18.7	
	comp=Z,80nm,18.4s,baz=20,slow=35								
FITZ	**Fitzroy Crossi**	**52.78**	**271**	LR		LR		18 25 37.5	
	comp=Z,195nm,19.7s,baz=120,slow=35								
FAKI	**Fak Fak**	**55.22**	**291**	P		**P**		**18 04 38.3**	**0.0**
PSA00	**Pilbara Seismi**	**56.22**	**264**	P		**P**		**18 04 44.1**	**-1.4**
GUMO	**Guam**	**57.77**	**315**	LR		LR		18 28 57.7	
	comp=Z,51nm,18.8s,baz=114,slow=35								
QSPA	**South Pole Qui**	**58.30**	**180**	P		P		18 05 03.7	+4.0
	comp=Z,6.1nm,1.0s,baz=43,slow=0.5,SNR=12								
QSPA				LR		LR		18 25 36.6	
	comp=Z,100nm,21.7s,baz=66,slow=31								
	comp=Z,6.1nm,1.0s								
KAPI	**Kappang**	**64.27**	**281**	LR		LR		18 33 47.8	
	comp=Z,79nm,18.6s,baz=120,slow=36								
KAPI	**Kappang**	**64.27**	**281**	*e*P		**P**		**18 05 41.3**	**+0.6**
KAPI				pmax		pmax			
	comp=Z,8.0nm,1.2s								
LEM	**Lembang**	**73.58**	**272**	LR		LR		18 41 26.0	
	comp=Z,87nm,18.0s,baz=169,slow=38								
SYO	**Syowa Base**	**75.83**	**193**	⇑*e*sP		sP		18 06 58.8	+6.4
TROLL	**Troll, Antarti**	**76.46**	**180**	⇑P		P		18 06 57.4	+2.8
TROLL				⇓PcP		**PcP**		**18 07 08.3**	**+2.0**
SNAA	**Sanae**	**76.73**	**178**	P		**P**		**18 06 58.1**	**+2.0**
SNAA	**Sanae**	**76.73**	**178**	⇑P		**P**		**18 06 57.7**	**+1.7**
	comp=Z,22nm,0.4s								
SNAA	**Sanae**	**76.73**	**178**	P		**P**		**18 06 58.0**	**+2.0**
	comp=Z,2.5nm,0.9s,baz=201,slow=8.7,SNR=12								
	comp=Z,2.5nm,0.9s								
SNAA	**Sanae**	**76.73**	**178**	*e*P		P		18 07 00.8	+4.8
SNAA				pmax		pmax			
	comp=Z,7.0nm,1.4s								
VNA3	**Neumayer Olymp**	**76.87**	**176**	⇑P		**P**		**18 06 58.3**	**+1.6**
	comp=Z,9.9nm,0.7s								
VNA3				⇓PcP		**PcP**		**18 07 10.0**	**+2.1**
VNA2	**Neumayer--Watz**	**77.31**	**177**	⇑P		**P**		**18 07 01.2**	**+2.0**
	comp=Z,7.6nm,0.8s,baz=157,slow=6.3								
VNA2				⇓PcP		**pwP**		**18 07 12.6**	**+3.6**
	baz=156,slow=6.6								
VNA1	**Neumayer--Stat**	**77.53**	**176**	⇑P		**P**		**18 07 00.5**	**+0.1**
	comp=Z,6.7nm,1.2s								
H03N3	**Juan Fernandez**	**79.54**	**123**	T		T		19 34 57.0	
	baz=234								
H03N2	**Juan Fernandez**	**79.55**	**123**	T		T		19 35 01.0	
	baz=234								
H03N1	**Juan Fernandez**	**79.56**	**123**	T		T		19 35 03.7	
	baz=234								
JNU	**Nakatsue**	**80.88**	**318**	LR		LR		18 37 36.5	
	comp=Z,39nm,21.0s,baz=46,slow=32								
PLCA	**Paso Flores**	**81.25**	**133**	P		P		18 07 25.4	+4.1
	comp=Z,1.4nm,0.8s,baz=220,slow=8.8,SNR=3.1								
	comp=Z,1.4nm,0.8s								
ASAJ	**Asahikawa**	**83.88**	**332**	LR		LR		18 37 53.2	
	comp=Z,39nm,20.6s,baz=152,slow=31								
LPIG	**La Paz**	**84.94**	**58**	LR		LR		18 37 34.6	
	comp=Z,108nm,19.4s,baz=257,slow=30								
KSRS	**Korea Array**	**85.69**	**319**	LR		LR		18 42 12.8	
	comp=Z,7.9nm,20.5s,baz=75,slow=33								
PSI	**Prapat**	**85.99**	**276**	LR		LR		18 48 10.4	
	comp=Z,74nm,18.9s,baz=78,slow=37								
YSS	**Yuzhno-Sakhali**	**86.20**	**334**	*e*P		**P**		**18 07 47.4**	**+1.3**
YSS				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GSI	**Gunungsitoli**	**86.35**	**274**	P		**P**		**18 07 48.6**	**+0.9**
GSI				IAmb		IAmb		18 07 49.6	
	comp=Z,9.1nm,0.6s								
PEA0B	**Petropavlovsk-**	**87.28**	**345**	*e*P		P		18 07 56.7	+5.4
PETK	**Petropavlovsk-**	**87.28**	**345**	P		**P**		**18 07 51.3**	**0.0**
	comp=Z,7.9nm,0.9s,baz=154,slow=5.5,SNR=4.2								
	comp=Z,7.9nm,0.9s								
NJ2	**Nanjing**	**87.47**	**310**	*e*P		P		18 07 57.0	+4.2
NJ2				pmax		pmax			
	comp=Z,3.0nm,0.5s								
USA0B	**Ussuriysk Arra**	**88.56**	**326**	⇑*i*P		P		18 08 00.7	+3.1
YBH	**Yreka Blue Hor**	**88.89**	**38**	LR		LR		18 42 28.6	
	comp=Z,66nm,18.8s,baz=216,slow=32								
NVAR	**Mina Array Bea**	**89.00**	**42**	P		P		18 08 03.0	+2.8
	comp=Z,1.0nm,0.8s,baz=217,slow=12,SNR=5.3								
	comp=Z,1.0nm,0.8s								
TUC	**Tucson**	**89.67**	**51**	P		P		18 08 07.4	+4.1
CN2	**Changchun**	**91.51**	**323**	P		**P**		**18 08 12.5**	**+1.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
KDAK	**Kodiak Island**	**91.69**	**13**	*i*P		P		18 08 19.4	+7.5
KDAK				pmax		pmax			
	comp=Z,25nm,2.2s								
ELK	**Elko**	**92.31**	**42**	P		P		18 08 20.1	+4.6
KLR	**Kul'dur**	**92.46**	**329**	LR		LR		18 45 10.9	
	comp=Z,60nm,20.2s,baz=148,slow=33								
KLR	**Kul'dur**	**92.46**	**329**	*e*P		**P**		**18 08 15.3**	**-0.4**
KLR				pmax		pmax			
	comp=Z,3.0nm,1.4s								
CMIG	**Matias Romero**	**92.80**	**72**	LR		LR		18 43 13.2	
	comp=Z,42nm,18.6s,baz=177,slow=31								
TXAR	**Lajitas Array**	**92.81**	**57**	LR		LR		18 42 42.0	
	comp=Z,44nm,19.8s,baz=242,slow=31								
CMAR	**Chiang Mai Arr**	**94.25**	**289**	P		**P**		**18 08 26.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=112,slow=4.8,SNR=1.4								
CMAR				LR		LR		18 51 13.1	
	comp=Z,9.8nm,21.9s,baz=135,slow=36								
	comp=Z,0.1nm,0.3s								
PZH	**PanZhiHua**	**96.32**	**297**	P		P		18 08 38.8	+4.6
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
LPAZ	**La Paz**	**97.19**	**114**	LR		LR		18 45 07.4	
	comp=Z,36nm,18.7s,baz=225,slow=31								
HHC	**Hu-ho-hao-te**	**97.51**	**314**	*e*P		Pdif		18 08 44.0	+4.8
HHC				pmax		pmax			
	comp=Z,20nm,0.8s								
HHC				pmax		pmax			
	comp=Z,79nm,5.7s								
ILAR	**Eielson Array**	**99.21**	**13**	LR		LR		18 49 37.4	
	comp=Z,45nm,18.2s,baz=248,slow=33								
MK31	**Makanchi Array**	**118.99**	**309**	⇑*i*PKIKP		**PKiKP**		**18 13 56.4**	**+2.8**
MKAR	**Makanchi Array**	**118.99**	**309**	PKP		**PKiKP**		**18 13 53.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=100,slow=0.8,SNR=6.7								
NRIK	**Noril'sk**	**121.09**	**336**	⇑*i*PKIKP		**PKiKP**		**18 14 01.9**	**+4.9**
NRIK				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KURK	**Kurchatov**	**122.32**	**313**	⇑*i*PKIKP		**PKiKP**		**18 14 02.4**	**+2.5**
KURK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KURBB	**Kurchatov Arra**	**122.35**	**313**	PKP		**PKiKP**		**18 13 59.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=99,slow=2.0,SNR=8.6								
AAK	**Ala-Archa**	**123.23**	**303**	⇑*i*PKIKP		**PKiKP**		**18 14 04.8**	**+2.5**
AAK				pmax		pmax			
	comp=Z,1.0nm,1.0s								
BVAR	**Borovoye Array**	**127.70**	**315**	PKP		**PKiKP**		**18 14 10.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=164,slow=1.7,SNR=6.3								
BRVK	**Borovoye**	**127.76**	**315**	⇑*i*PKIKP		**PKiKP**		**18 14 13.4**	**+2.7**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
VRH	**Novokhopyorsk**	**145.35**	**316**	*e*PKHKP		PKPpre		18 14 42.0	
VRH				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MOS	**Moscow**	**145.73**	**325**	*e*PKIKP		**PKiKP**		**18 14 45.2**	**-1.9**
MOS				pmax		pmax			
	comp=Z,71nm,1.2s								
GOF	**Gofitskoye**	**145.94**	**305**	*c*PKIKP		**PKiKP**		**18 14 45.8**	**-2.2**
KBZ	**Khabaz**	**146.23**	**302**	PKPbc		**PKiKP**		**18 14 46.6**	**-1.9**
	comp=Z,8.8nm,1.0s,baz=173,slow=0.3,SNR=17								
KIV	**Kislovodsk**	**146.35**	**303**	*i* PKP2		**PKiKP**		**18 14 51.5**	**+2.5**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,71nm,25.0s								
KIV	**Kislovodsk**	**146.35**	**303**	PKP		**PKiKP**		**18 14 47.7**	**-1.3**
GEVA	**Gevas**	**146.36**	**293**	PKPdf		**PKiKP**		**18 14 46.6**	**-2.7**
LPSR	**Galich'ya Gora**	**146.45**	**319**	*e*PKIKP		**PKPab**		**18 14 45.4**	**-1.3**
LPSR				pmax		pmax			
	comp=Z,30nm,1.0s								
OBN	**Obninsk**	**146.56**	**324**	PKPdf		**PKPab**		**18 14 45.4**	**-1.6**
OBN	**Obninsk**	**146.56**	**324**	⇓*i* PKP2		**PKiKP**		**18 14 52.4**	**+3.5**
OBN				pmax		pmax			
	comp=Z,30nm,1.6s								
OBN				MLR		MLR			
	comp=Z,94nm,12.0s								
FIA1	**FINESS Array S**	**146.61**	**340**	PKPdf		**PKiKP**		**18 14 46.3**	**-2.5**
FINES	**FINESS Array B**	**146.61**	**340**	PKPbc		**PKPab**		**18 14 45.7**	**-1.4**
	comp=Z,7.0nm,0.7s,baz=34,slow=3.5,SNR=30								
VORR	**Voronezh**	**146.66**	**317**	*e*PKIKP		**PKPbc**		**18 14 45.0**	**-1.4**
VORR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
VSR	**Storozhevoye**	**146.85**	**317**	*e*PKIKP		**PKiKP**		**18 14 47.7**	**-1.9**
VSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
VORD	**Divnogorie**	**146.87**	**316**	*e*PKIKP		**PKiKP**		**18 14 47.7**	**-1.9**
VORD				pmax		pmax			
	comp=Z,9.0nm,0.9s								
GURO	**Guroymak-BITLI**	**147.17**	**293**			**PKPab**		**18 14 48.1**	**-2.1**
ERBR	**Yeremizino-Bar**	**147.60**	**306**	*i* PKP2		**PKPab**		**18 14 53.3**	**+1.8**
ERBR				pmax		pmax			
	comp=Z,29nm,1.0s								
MARD	**Mardin**	**148.14**	**291**			**PKPbc**		**18 14 48.8**	**-2.4**
KOPT	**Kop Dagi**	**148.33**	**296**			**PKPbc**		**18 14 50.6**	**-1.2**
ANN	**Anapa**	**149.90**	**306**	*e*PKHKP		PKPpre		18 14 53.0	
ANN				pmax		pmax			
	comp=Z,55nm,1.1s								
NB2	**NORSAR Subarra**	**150.21**	**351**	PKP		**PKiKP**		**18 14 56.0**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=20,slow=4.4								
NOA	**NORSAR Array B**	**150.21**	**351**	PKPbc		**PKiKP**		**18 14 55.7**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=13,slow=4.1,SNR=4.2								
HFS	**Hagfors**	**150.71**	**349**	PKPbc		**PKiKP**		**18 14 56.2**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=101,slow=1.5,SNR=3.7								
MMAI	**Mount Meron Ar**	**152.24**	**281**	PKPbc		**PKiKP**		**18 15 03.0**	**+1.6**
	comp=Z,4.6nm,0.5s,baz=78,slow=7.8,SNR=17								
AKASG	**Malin

comp=N,3.0nm,0.4s,comp=E,3.0nm,0.5s
JSB Shiboa 0.53 218 A A 18 30 36.1
comp=N,16nm,3.0s,comp=E,11nm,1.2s
JYAR Yonezawaarcadi 0.54 345 A A 18 30 37.0
comp=N,34nm,1.6s,comp=E,47nm,1.2s
JMST Minamisoumatoc 0.56 53 A A 18 30 37.1
comp=N,29nm,0.5s,comp=E,41nm,0.6s
JMM Marumori 0.60 38 Pn **Pn 18 30 37.6 +1.2**
JMM Sn **Sn 18 30 50.0 +1.2**
JMM Marumori 0.60 38 P **Pn 18 30 37.9 +1.4**
JMM Marumori 0.60 38 S **Sn 18 30 50.3 +1.5**
JMM Marumori 0.60 38⇓*i*P **Pn 18 30 37.6 +1.2**
JMM ⇓S **Sn 18 30 50.3 +1.5**
JMM Marumori 0.60 38 A A 18 30 37.6
comp=N,11nm,0.5s,comp=E,30nm,1.3s
JHO Hitachi 0.80 166 A A 18 30 38.4
comp=N,27nm,0.5s,comp=E,26nm,0.4s
JYS Shiratake 0.86 346 *i*P **Pn 18 30 40.3 +1.4**
JYS *e*S **Sn 18 30 54.7 +1.7**
JYS Shiratake 0.86 346 A A 18 30 40.3
comp=N,16nm,2.1s,comp=E,15nm,1.5s
JNS Sasagawa 0.91 298 *i*P **Pn 18 30 39.7 +0.3**
JNS S **Sn 18 30 53.8 -0.1**
JOU Okura 1.01 15⇓*i*P **Pn 18 30 42.1 +1.6**
JOU ⇓*e*S **Sn 18 30 58.1 +2.2**
JOU Okura 1.01 15 A A 18 30 42.1
comp=N,10.0nm,0.7s,comp=E,16nm,2.5s
JUON Uonuma 1.03 260 *i*P **Pn 18 30 40.9 +0.3**
JUON S **Sn 18 30 56.1 -0.1**
JUON Uonuma 1.03 260 A A 18 30 40.9
comp=N,7.0nm,1.1s,comp=E,6.0nm,8.4s
JKT Katashina 1.06 235⇓*i*P **Pn 18 30 41.6 +0.5**
JHYU Hitachinakayam 1.07 169 A A 18 30 41.2
comp=N,11nm,0.4s,comp=E,24nm,0.7s
JYT Yasato 1.16 185 A A 18 30 42.2
comp=N,12nm,0.3s,comp=E,26nm,0.4s
JAG Ashikaga 1.19 216⇓*i*P **Pn 18 30 42.8 +0.3**
JAG Ashikaga 1.19 216 A A 18 30 42.8
comp=N,8.0nm,1.4s,comp=E,7.0nm,1.7s
JIZZ Izumozaki 1.29 277 A A 18 30 44.4
comp=N,12nm,3.4s,comp=E,18nm,1.6s
JOFO Osakifurukawao 1.30 21 A A 18 30 45.2
comp=N,20nm,0.7s,comp=E,28nm,1.0s
JYA Atsumi 1.30 338 A A 18 30 45.1
comp=N,11nm,2.0s,comp=E,4.0nm,2.1s
JAW Awa shima 1.37 322 P **Pn 18 30 45.3 +0.8**
JAW S **Sn 18 31 04.6 +1.5**
JYK Kaneyama 1.53 1⇓*i*P **Pn 18 30 48.3 +1.8**
JYK ⇓S **Sn 18 31 08.6 +2.0**
JYK Kaneyama 1.53 1 A A 18 30 48.3
comp=N,3.0nm,5.6s,comp=E,4.0nm,3.1s
JMK Ichinoseki 1.71 24⇓*i*P **Pn 18 30 50.5 +1.6**
JMK ⇓S **Sn 18 31 12.2 +1.5**
JJN Nakama 1.75 261 A A 18 30 49.9
comp=N,5.0nm,1.0s,comp=E,8.0nm,1.0s
JSD Sado 1.76 292 Pn **Pn 18 30 49.4 0.0**
JSD Sado 1.76 292 P **Pn 18 30 49.2 -0.2**
JSD Sado 1.76 292 *i*P **Pn 18 30 49.5 0.0**
JSD S **Sn 18 31 11.5 -0.4**
JRY Ryogami san 1.79 220⇓*i*P **Pn 18 30 49.9 +0.1**
JRY ⇓*e*S **Sn 18 31 11.5 -1.0**
MJAR Matsushiro Arr 1.90 244 P **Pn 18 30 51.4 +0.2**
comp=E,153nm,0.6s,baz=49,slow=10,SNR=319
MJAR S **Sn 18 31 14.1 -0.9**
comp=E,104nm,0.7s,baz=82,slow=18,SNR=5.4
MAJO Matsushiro 1.90 244 **Pn 18 30 51.6 +0.5**
MAJO Matsushiro 1.90 244 P **Pn 18 30 51.7 +0.5**
MAJO Matsushiro 1.90 244*d i*P **Pn 18 30 51.6 +0.5**
MJB9 Matsu-Tunnel 1.90 244 Pn **Pn 18 30 52.5 +1.3**
OFUJ Ofunato 1.99 32 A A 18 30 54.2
comp=N,4.0nm,2.1s,comp=E,3.0nm,1.1s
JNY Yasuok 2.84 225 A A 18 31 04.0
comp=N,2.0nm,2.9s,comp=E,3.0nm,2.0s
JGF Kuroka 2.98 234 Pn **Pn 18 31 06.4 +0.9**
JGF Kuroka 2.98 234 P **Pn 18 31 06.5 +1.0**
JSG Sagara 3.22 213 **Pn 18 31 10.0 +1.4**
JSG Sagara 3.22 213 P **Pn 18 31 10.1 +1.5**
INU Inuyama 3.36 234 Pn **Pn 18 31 11.2 +0.7**
INU Inuyama 3.36 234 P **Pn 18 31 11.2 +0.7**
JTM Tenmabayashi 3.44 9 P **Pn 18 31 13.1 +1.5**
JHJ Hachijo jima 2 4.28 186 P **Pn 18 31 21.7 -1.3**
comp=E,77nm,0.3s,baz=89,slow=23,SNR=27
JHJ S **Sn 18 32 08.2 -3.7**
comp=E,104nm,0.3s,baz=66,slow=23,SNR=8.3
JHJ2 Mitsune 4.29 186 P **Pn 18 31 21.5 -1.5**
ERM Erimo 5.11 24 Pn **Pn 18 31 33.4 -0.6**
ERM Erimo 5.11 24 P **Pn 18 31 34.3 +0.2**
ERM Erimo 5.11 24 *e*P **Pn 18 31 33.6 -0.5**
JEM Erimo 5.11 24 P **Pn 18 31 34.3 +0.2**
JMN Monobe 6.40 237 Pn **Pn 18 31 51.3 -0.4**
JMN Monobe 6.40 237 P **Pn 18 31 51.6 -0.1**
ASAJ Asahikawa 6.94 14 P **Pn 18 31 57.8 -1.2**
comp=E,6.9nm,0.3s,baz=212,slow=12,SNR=48
ASAJ S **Sn 18 33 13.4 -2.8**
comp=E,12nm,0.5s,baz=81,slow=31,SNR=5.9
ASAJ Asahikawa 6.94 14 P **Pn 18 31 57.3 -1.6**
JKA Kamikawa-asahi 6.94 14 Pn **Pn 18 31 57.3 -1.6**
NMR Nemuro--Hokkai 7.26 33 *e*P **Pn 18 32 00.3 -2.9**
NMR *e*S **Sn 18 33 16.6 -7.4**
RUSJ Misakicho 7.68 28 *e*P **Pn 18 32 07.3 -1.6**
RUSJ *e*S **Sn 18 33 30.3 -3.9**
YUK Yuzh-Kuril'sk 7.86 31 *e*P **Pn 18 32 09.0 -2.4**
YUK *e*S **Sn 18 33 31.6 -7.0**
YUK pmax pmax
comp=Z,78nm,0.2s
YUK pmax pmax
comp=N,12nm,0.1s
YUK pmax pmax
comp=E,3.0nm,0.2s
TEY Ternei 8.14 341 *e*P Pn 18 32 07.0 -8.2
VLA Vladivostok 8.62 314 *e*P **Pn 18 32 24.7 +2.9**
JNU Nakatsue 8.82 244 Pn **Pn 18 32 24.4 -0.2**
JNU Nakatsue 8.82 244 P **Pn 18 32 24.3 -0.4**
comp=E,17nm,0.8s,baz=176,slow=22,SNR=10
JNU Nakatsue 8.82 244 P **Pn 18 32 25.3 +0.7**
USA0B Ussuriysk Arra 9.29 320 Pn **Pn 18 32 30.1 -0.7**
USA0B Ussuriysk Arra 9.29 320⇑*i*P **Pn 18 32 34.0 +3.2**
USRK Ussuriysk Ar. 9.29 320 P **Pn 18 32 31.3 +0.5**
comp=E,9.3nm,0.7s,baz=136,slow=13,SNR=12
KUR Kuril'sk 9.67 33 *e*P **Pn 18 32 34.8 -1.2**
KUR *e*S **Sn 18 34 15.1 -7.6**
YSS Yuzhno-Sakhali 9.73 10 Pn **Pn 18 32 36.5 -0.3**
YSS Yuzhno-Sakhali 9.73 10 *e*P **Pn 18 32 37.1 +0.3**
YSS *e*S **Sn 18 34 20.5 -3.6**
YSS pmax pmax
comp=Z,10.0nm,1.1s
KSRS Korea Array 9.87 274 P **Pn 18 32 40.4 +1.6**
comp=Z,14nm,0.8s,baz=89,slow=14,SNR=37
JCJ Chichijima 10.38 171 P Pn 18 32 40.1 -5.7
comp=Z,35nm,0.7s,baz=291,slow=22,SNR=5.1
JCJ S Sn 18 34 26.4 -14
comp=Z,52nm,0.7s,baz=247,slow=23,SNR=2.0
JCJ Chichijima 10.38 171 P **Pn 18 32 45.2 -0.7**
TJN Taejon 10.44 268 *e*P **Pn 18 32 48.1 +1.6**
MDJ Mudanjiang 10.85 315 P **Pn 18 32 55.5 +3.3**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
KLR Kul'dur 13.37 335 P **Pn 18 33 25.4 -0.1**
comp=Z,1.0nm,0.6s,baz=136,slow=14,SNR=6.3
TYV Tymovskoe 13.57 6 *e*P **P 18 33 34.8 +1.1**
TYV pmax pmax
comp=Z,9.0nm,0.8s
TYV pmax pmax
comp=Z,200nm,5.7s
DL2 Dalian 14.79 282 P **Pn 18 33 43.8 -0.2**
DL2 S **Sn 18 36 29.5 +2.4**
DL2 PcS **PcS 18 42 27.8 +4.5**
DL2 *e*ScS **ScS 18 45 48.3 -2.5**
DL2 pmax pmax
comp=Z,23nm,0.9s
NJ2 Nanjing 18.43 260 *e*P **Pn 18 34 29.0 +0.3**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
TIA Tai'an 18.61 273 P **P 18 34 28.5 -1.1**
TIA pmax pmax
comp=Z,7.0nm,0.8s
ZEA Zeya 18.69 335 *e*P **Pn 18 34 31.1 -0.6**
BJI Beijing 19.02 285 P **P 18 34 34.3 +0.4**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,59nm,5.5s
XLT XiLinHaoTe 19.48 297 *e*P **P 18 34 37.0 -2.0**
XLT pmax pmax

comp=Z,19nm,1.1s
PEA0B Petropavlovsk- 19.83 32 P **P 18 34 43.5 +0.9**
PEA0B IAmb IAmb 18 34 46.1
comp=Z,33nm,1.1s
PEA0B Petropavlovsk- 19.83 32 P **P 18 34 43.5 +0.9**
PEA0B pmax pmax
comp=Z,33nm,1.2s
PETK Petropavlovsk- 19.83 32 P **Pn 18 34 44.5 -0.6**
comp=Z,3.6nm,0.5s,baz=216,slow=7.0,SNR=16
HNS HongShan 20.34 278⇑P **P 18 34 46.0 -2.3**
HNS pmax pmax
comp=Z,39nm,1.1s
NACB Ninganchiao 20.75 236 P **P 18 34 49.9 -2.8**
NACB Ninganchiao 20.75 236 P **P 18 34 51.8 -0.9**
YULB Yu-li 21.48 235 P **P 18 35 00.0 -0.7**
TWGBT Beinan 22.03 234 P **P 18 35 07.6 +1.1**
HHC Hu-ho-hao-te 22.54 288 *e*P **P 18 35 11.0 -0.7**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,63nm,5.0s
LYN LuoYang 22.69 271 *e*P **P 18 35 13.0 -0.2**
LYN pmax pmax
comp=Z,23nm,0.6s
MA2 Magadan 23.20 14 P **P 18 35 17.0 -0.9**
MA2 Magadan 23.20 14⇑*i*P **P 18 35 18.1 +0.2**
MA2 pmax pmax
comp=Z,18nm,1.9s
BTO Baotou 23.72 287 *e*P **P 18 35 23.5 +0.6**
BTO pmax pmax
comp=Z,14nm,1.3s
BTO pmax pmax
comp=Z,150nm,5.3s
YAK Yakutsk 25.54 348 P **P 18 35 38.7 -0.4**
YAK Yakutsk 25.54 348 *e*P **P 18 35 37.8 -1.3**
YAK *e**PP **pP 18 35 54.8 -6.3**
YAK *e* 18 36 17.2
YAK *e*S **S 18 39 57.7 -1.4**
YAK *e**SS **sS 18 40 35.9 -1.7**
YAK pmax pmax
comp=Z,3.0nm,1.0s
YAK pmax pmax
comp=Z,118nm,3.2s
YAK smax smax
comp=N,17nm,2.2s
YAK smax smax
comp=E,23nm,2.2s
XAN Xi'an 25.66 272⇑P **P 18 35 40.5 0.0**
XAN pP pP 18 35 58.8 -3.8
XAN pmax pmax
comp=E,14nm,0.5s
ULN Ulaanbaatar 26.44 304 P **P 18 35 47.3 -0.2**
ULN Ulaanbaatar 26.44 304 *e*P **P 18 35 47.0 -0.5**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ENH Enshi 26.50 264 P **P 18 35 45.8 -2.4**
ENH IAmb IAmb 18 35 48.5
comp=Z,15nm,0.6s
SEY Seymchan 26.62 12 *e*P **P 18 35 51.1 +2.3**
SEY pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 26.87 304 P **P 18 35 50.5 -0.9**
comp=Z,4.8nm,0.5s,baz=111,slow=9.1,SNR=48
SONM PcP **PcP 18 39 11.7 +0.5**
comp=Z,0.4nm,0.5s,baz=135,slow=1.2,SNR=5.5
comp=Z,4.8nm,0.5s
SHEM Shemya Is, Ala 28.04 46 LR LR 18 48 06.7
comp=Z,95nm,21.1s,baz=118,slow=38
H11N2 WAKE ISLAND Hy 29.07 120 T T 19 06 38.8
baz=315,slow=75,SNR=79
H11N1 WAKE ISLAND Hy 29.08 120 T T 19 06 45.4
baz=315,slow=75,SNR=88
H11N3 WAKE ISLAND Hy 29.09 120 T T 19 06 44.6
baz=315,slow=75,SNR=57
LZH Lanzhou 29.16 279 *e*P **P 18 36 14.5 +2.6**
LZH pmax pmax
comp=Z,23nm,1.2s
H11S1 WAKE ISLAND Hy 29.78 122 T T 19 07 20.4
baz=315,slow=76,SNR=87
H11S3 WAKE ISLAND Hy 29.78 122 T T 19 07 17.4
baz=315,slow=76,SNR=65
H11S2 WAKE ISLAND Hy 29.80 122 T T 19 07 21.3
baz=315,slow=76,SNR=57
GTA Gaotai 31.63 286 *e*P **P 18 36 33.5 -0.2**
GTA pmax pmax
comp=Z,2.0nm,0.9s
BILL Bilibino 33.94 17 *i*P **P 18 36 53.6 +0.4**
BILL pmax pmax
comp=Z,3.0nm,1.5s
PZH PanZhiHua 34.28 263 P **P 18 36 56.0 -0.8**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,6.3s
TIXI Tiksi 34.84 354 P **P 18 37 00.7 -0.3**
TIXI Tiksi 34.84 354⇓*i*P **P 18 37 00.7 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
SPIA Saint Paul Isl 37.88 42 P **P 18 37 27.8 +0.8**
UBPT Khong Chiam 37.90 244 P **P 18 37 27.7 +0.1**
UBPT IAmb IAmb 18 37 28.2
comp=Z,17nm,1.2s
CRAI Chiangrai 38.63 255 P **P 18 37 33.8 0.0**
CRAI IAmb IAmb 18 37 35.1
comp=Z,4.3nm,0.6s
LOEI Loei 39.56 251 P **P 18 37 40.3 -1.2**
JAY Jayapura 39.70 179 P **P 18 37 41.1 -1.5**
comp=Z,4.9nm,0.8s,baz=70,slow=19,SNR=1.0
comp=Z,4.9nm,0.8s
CHTO Chiang Mai 40.55 254 P **P 18 37 48.8 -0.9**
CHTO Chiang Mai 40.55 254 P **P 18 37 48.8 -0.9**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 40.75 254 P **P 18 37 51.0 -0.4**
comp=Z,1.0nm,0.6s,baz=44,slow=8.3,SNR=9.6
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 40.75 254 P **P 18 37 51.0 -0.4**
ZAA0 Zalesovo Array 41.03 312 P **P 18 37 53.0 -0.2**
ZALV Zalesovo Beam 41.03 312 P **P 18 37 52.1 -1.1**
ZALV Zalesovo Beam 41.03 312 P **P 18 37 52.9 -0.3**
comp=Z,2.2nm,0.5s,baz=94,slow=8.6,SNR=10
ZALV PcP **PcP 18 39 50.9 -0.3**
comp=Z,1.2nm,0.6s,baz=110,slow=3.0,SNR=4.5
ZALV ScP **ScP 18 43 30.5 -1.3**
comp=Z,1.5nm,0.8s,baz=90,slow=4.6,SNR=6.1
comp=Z,2.2nm,0.5s
C16K Lisburne Hills 42.77 26 P **P 18 38 08.5 +1.4**
C16K IAmb IAmb 18 38 09.3
comp=Z,5.1nm,0.7s
MK31 Makanchi Array 43.20 302 P **P 18 38 10.5 -0.4**
MK31 Makanchi Array 43.20 302⇓*i*P **P 18 38 11.3 +0.4**
MK31 *i* *PP **pP 18 38 34.0 -0.3**
MKAR Makanchi Array 43.20 302 P **P 18 38 10.4 -0.5**
MKAR Makanchi Array 43.20 302 P **P 18 38 10.5 -0.4**
comp=Z,2.6nm,0.6s,baz=86,slow=9.5,SNR=43
MKAR ScP **ScP 18 43 39.6 -1.1**
comp=Z,0.6nm,1.0s,baz=76,slow=6.1,SNR=2.8
comp=Z,2.6nm,0.6s
MAKZ Makanchi 43.41 302 P **P 18 38 12.3 -0.3**
MAKZ Makanchi 43.41 302 P **P 18 38 12.3 -0.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
E18K Tukpahlearik C 44.29 28 P **P 18 38 21.7 +2.3**
E18K IAmb IAmb 18 38 22.7
comp=Z,9.0nm,0.8s
C18K Utukok River 44.35 27 P **P 18 38 21.4 +1.5**
KURK Kurchatov 45.03 308 P **P 18 38 25.0 -0.5**
KURK IAmb IAmb 18 38 25.9
comp=Z,10nm,0.8s
KURK Kurchatov 45.03 308⇓*i*P **P 18 38 24.9 -0.6**
KURK *i* *PP **pP 18 38 49.0 +0.1**
KURK pmax pmax
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 45.10 308 P **P 18 38 25.6 -0.4**
comp=Z,6.8nm,0.8s,baz=83,slow=8.4,SNR=76
comp=Z,6.8nm,0.8s
J19K Poorman 45.87 34 P **P 18 38 33.2 +1.3**
J19K IAmb IAmb 18 38 34.6
comp=Z,8.3nm,1.1s
B20K Meade River 46.04 25 P **P 18 38 35.0 +1.8**
WUS Wushi 46.60 295 P **P 18 38 38.4 +0.3**
WUS IAmb IAmb 18 38 39.6
comp=Z,11nm,0.8s
Q19K Cape Douglas, 46.78 41 P **P 18 38 40.1 +1.0**
B21K Ikpikpuk River 46.84 26 P **P 18 38 41.8 +2.3**
B21K IAmb IAmb 18 38 42.5

comp=Z,12nm,0.8s
OHAK Old Harbor 47.09 43 P **P 18 38 42.6 +1.2**
OHAK Old Harbor 47.09 43 P **P 18 38 42.6 +1.2**
B22K Teshekpuk Lake 47.35 25 P P 18 38 37.5 -5.8
B22K IAmb IAmb 18 38 45.6
comp=Z,5.9nm,0.6s
TARG Taragay, Kyrgy 47.47 296 P **P 18 38 46.0 +0.8**
TARG IAmb IAmb 18 38 46.8
comp=Z,8.8nm,0.8s
TARG Taragay, Kyrgy 47.47 296 P **P 18 38 46.0 +0.8**
TARG pmax pmax
comp=Z,9.0nm,0.8s
E22K Anaktuvuk Pass 47.70 28 P **P 18 38 48.0 +1.8**
E22K IAmb IAmb 18 38 49.1
comp=Z,8.2nm,0.7s
KDJ Kajisay 47.80 296 P **P 18 38 48.0 +0.5**
KDJ Kajisay 47.80 296 P **P 18 38 48.0 +0.5**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
C23K Itkillik River 48.25 26 P **P 18 38 52.2 +1.8**
C23K IAmb IAmb 18 38 53.4
comp=Z,13nm,1.1s
KULM Kulim 48.25 238 P **P 18 38 51.4 +0.3**
KULM IAmb IAmb 18 39 35.2
comp=Z,16nm,1.5s
SLKM Skilak Lake 48.41 38 P **P 18 38 52.8 +1.0**
SLKM IAmb IAmb 18 38 53.5
comp=Z,10nm,1.2s
BOOM Boomskoye usch 48.58 297 P **P 18 38 54.1 +0.6**
BOOM Boomskoye usch 48.58 297 P **P 18 38 54.1 +0.6**
BOOM pmax pmax
comp=Z,4.0nm,0.9s
GHO Glory Hole Cre 48.95 37 P **P 18 38 57.3 +1.4**
GHO IAmb IAmb 18 38 59.1
comp=Z,13nm,1.2s
COLA College 49.24 32 *e*P **P 18 38 57.3 -0.6**
COLA pmax pmax
comp=Z,2.0nm,0.8s
KSH Kashi 49.47 293 P **P 18 39 04.5 +4.2**
AAK Ala-Archa 49.56 298 P **P 18 39 01.2 +0.2**
AAK Ala-Archa 49.56 298⇓*i*P **P 18 39 00.8 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.7s
IL31 49.66 32 P **P 18 39 02.4 +1.3**
ILAR Eielson Array 49.66 32 P **P 18 39 02.3 +1.1**
comp=Z,2.4nm,0.8s,baz=273,slow=6.6,SNR=26
comp=Z,2.4nm,0.8s
BVAR Borovoye Array 49.69 312 P **P 18 39 01.7 +0.1**
comp=Z,0.8nm,0.3s,baz=86,slow=7.2,SNR=7.8
BVAR PcP **PcP 18 40 21.5 +0.2**
comp=Z,0.9nm,0.6s,baz=111,slow=3.2,SNR=2.6
comp=Z,0.8nm,0.3s
SCM Sheep Creek Mo 49.70 36 P **P 18 39 03.0 +1.4**
SCM IAmb IAmb 18 39 03.7
comp=Z,9.6nm,0.9s
SCM Sheep Creek Mo 49.70 36 P **P 18 39 03.0 +1.4**
SCM pmax pmax
comp=Z,10.0nm,0.9s
D25K Kavik River 49.72 26 P **P 18 39 02.5 +0.9**
D25K IAmb IAmb 18 39 04.2
comp=Z,6.0nm,0.8s
BRVK Borovoye 49.75 312⇓*i*P **P 18 39 01.9 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
F25K Christian Rive 50.02 29 P **P 18 39 06.5 +2.6**
F25K IAmb IAmb 18 39 07.9
comp=Z,3.9nm,0.8s
HIN Hinchinbrook I 50.26 38 P **P 18 39 07.3 +1.6**
KLU Klutina 50.40 37 P **P 18 39 08.4 +1.5**
KLU IAmb IAmb 18 39 09.4
comp=Z,6.3nm,0.8s
SCRK Sand Creek 50.99 33 P **P 18 39 12.3 +0.9**
SCRK IAmb IAmb 18 39 14.4
comp=Z,8.4nm,1.2s
N25K Chitina, Valde 51.01 36 P **P 18 39 13.3 +1.8**
N25K IAmb IAmb 18 39 34.1
comp=Z,6.7nm,1.2s
ARSB Arslanbob 51.04 297 P **P 18 39 12.7 +0.6**
ARSB IAmb IAmb 18 39 13.7
comp=Z,6.1nm,0.8s
ARSB Arslanbob 51.04 297 P **P 18 39 12.7 +0.6**
ARSB pmax pmax
comp=Z,6.0nm,0.8s
BMRM Bremner River 51.10 37 P **P 18 39 14.2 +2.0**
COEN Coen 51.14 176 P **P 18 39 13.4 +0.6**
COEN IAmb IAmb 18 39 14.4
comp=Z,5.9nm,1.1s
L26K Log Cabin Wild 51.39 35 P **P 18 39 16.0 +1.8**
L26K IAmb IAmb 18 39 17.4
comp=Z,6.4nm,0.7s
VRDI Verde Repeater 51.62 37 P **P 18 39 17.8 +1.6**
VRDI IAmb IAmb 18 39 18.3
comp=Z,6.0nm,0.9s
BERG Berg Lake 51.63 38 P **P 18 39 18.6 +2.5**
WAX Waxell Ridge 52.04 38 P **P 18 39 21.0 +1.9**
KK31 Karatay Array 52.20 300 P **P 18 39 20.3 -0.2**
KK31 IAmb IAmb 18 39 23.7
comp=Z,8.2nm,1.4s
KK31 Karatay Array 52.20 300 P **P 18 39 20.3 -0.2**
KK31 pmax pmax
comp=Z,8.0nm,1.4s
KKAR Karatay Array 52.20 300 P **P 18 39 20.0 -0.5**
KKAR Karatay Array 52.20 300 P **P 18 39 20.0 -0.5**
ISLE Juniper Island 52.26 37 P **P 18 39 22.5 +1.6**
I28M Miner Creek 52.51 31 P **P 18 39 24.8 +2.2**
I28M IAmb IAmb 18 39 25.6
comp=Z,6.2nm,0.9s
E29M Blow River 52.86 27 P **P 18 39 27.8 +2.8**
E29M IAmb IAmb 18 39 28.9
comp=Z,6.8nm,1.1s
GSI Gunungsitoli 53.24 238 P **P 18 39 28.7 +0.2**
GSI Gunungsitoli 53.24 238 P **P 18 39 29.7 +1.2**
NIL Nilore 53.68 288 P **P 18 39 31.6 0.0**
NIL IAmb IAmb 18 39 32.9
comp=Z,8.3nm,0.8s
NIL Nilore 53.68 288 P **P 18 39 31.6 0.0**
NIL pmax pmax
comp=Z,8.0nm,0.8s
L29M L29M 53.72 34 P **P 18 39 34.6 +3.2**
L29M IAmb IAmb 18 39 35.2
comp=Z,8.2nm,0.8s
GAR Garm 53.76 295 P **P 18 39 31.9 -0.3**
GAR IAmb IAmb 18 39 33.0
comp=Z,6.9nm,0.8s
K29M Barlow Dome 53.83 33 P **P 18 39 34.2 +1.9**
K29M IAmb IAmb 18 39 35.6
comp=Z,5.6nm,0.9s
KNRA Kununurra 53.89 194 P **P 18 39 33.5 +0.4**
I30M Mount Dempster 54.02 31 P **P 18 39 35.8 +2.1**
INK Inuvik 54.47 27 P **P 18 39 38.0 +1.4**
INK IAmb IAmb 18 39 39.0
comp=Z,6.8nm,0.8s
INK Inuvik 54.47 27 P **P 18 39 38.1 +1.4**
INK pmax pmax
comp=Z,7.0nm,0.9s
G31M Satah River 54.49 29 P **P 18 39 38.1 +1.3**
G31M IAmb IAmb 18 39 38.8
comp=Z,5.6nm,0.8s
F31M Tsiigehtchic 54.58 28 P **P 18 39 38.7 +1.3**
F31M IAmb IAmb 18 39 45.7
comp=Z,6.4nm,1.4s
H31M Peel River 54.72 30 P **P 18 39 40.7 +2.1**
CHGR Chuyangaron 54.73 295 P **P 18 39 39.2 +0.1**
CHGR Chuyangaron 54.73 295 P **P 18 39 39.3 +0.1**
CHGR pmax pmax
comp=Z,22nm,0.8s
SIMJ Simiganj 54.84 295 P **P 18 39 40.0 -0.1**
SIMJ IAmb IAmb 18 39 41.4
comp=Z,8.1nm,0.8s
ARTI Arti 55.63 318 P **P 18 39 44.7 -0.5**
ARTI IAmb IAmb 18 39 46.8
comp=Z,4.8nm,0.8s
ARTI Arti 55.63 318*d i*P **P 18 39 45.1 -0.1**
ARTI 18 41 52.9
ARTI S **S 18 47 22.3 -1.0**
ARTI SS **SS 18 51 04.4 -4.8**
ARTI pmax pmax
comp=Z,5.0nm,0.7s
WHY Whitehorse 55.82 36 P **P 18 39 48.3 +1.6**
WHY IAmb IAmb 18 39 49.9
comp=Z,6.9nm,0.7s
FARO Faro, Yukon 56.07 34 P **P 18 39 50.5 +2.1**
P32M Atlin 56.69 37 P **P 18 39 55.1 +2.2**
P32M IAmb IAmb 18 39 58.2
comp=Z,9.3nm,1.4s

MMPY	**Sheldon Lake,**	**56.88**	**33**	P	**P**	**18 39 56.6**	**+2.5**
MMPY				IAmb	IAmb	18 39 57.3	
	comp=Z,3.6nm,0.6s						
ABKAR	**Akbulak array**	**57.05**	**310**	P	**P**	**18 39 55.2**	**-0.2**
WB0	**Warramunga Arr**	**57.12**	**187**	P	**P**	**18 39 55.7**	**-0.5**
WB0				IAmb	IAmb	18 39 56.3	
	comp=Z,6.1nm,0.9s						
WRAB	**Tennant Creek**	**57.29**	**187**	*eP*	**P**	**18 39 53.0**	**-4.4**
WRAB				pmax	pmax		
	comp=Z,50nm,5.7s						
WB2	**Warramunga Arr**	**57.30**	**187**	P	**P**	**18 39 56.7**	**-0.8**
WB2				IAmb	IAmb	18 39 57.7	
	comp=Z,6.1nm,0.9s						
WRA	**Warramunga Arr**	**57.30**	**187**	P	**P**	**18 39 57.0**	**-0.4**
WRA	**Warramunga Arr**	**57.30**	**187**	P	**P**	**18 39 56.5**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=3.2,slow=7.3,SNR=24						
WRA				PcP	**PcP**	**18 40 51.3**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=7.7,slow=3.9,SNR=4.8						
	comp=Z,3.2nm,0.6s						
WRA	**Warramunga Arr**	**57.30**	**187**	*cePP*	**P**	**18 39 54.0**	**-3.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
C36M	**Paulatuk**	**57.47**	**25**	P	**P**	**18 39 59.1**	**+1.1**
C36M				IAmb	IAmb	18 40 00.1	
	comp=Z,8.1nm,0.8s						
XMIS	**Christmas Isla**	**57.66**	**221**	P	**P**	**18 40 01.0**	**+0.9**
MOBC	**Moresby Island**	**59.88**	**44**	P	**P**	**18 40 16.5**	**+1.4**
EUNU	**Eureka**	**59.97**	**8**	P	**P**	**18 40 15.7**	**+0.4**
EUNU				IAmb	IAmb	18 40 16.7	
	comp=Z,3.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**60.01**	**349**	P	**P**	**18 40 15.6**	**0.0**
	comp=Z,12nm,1.1s,baz=325,slow=2.3,SNR=1.5						
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**61.03**	**187**	P	**P**	**18 40 23.9**	**+0.8**
ASAR	**Alice Springs**	**61.03**	**187**	P	**P**	**18 40 23.6**	**+0.5**
ASAR	**Alice Springs**	**61.03**	**187**	P	**P**	**18 40 23.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=9.6,slow=5.2,SNR=15						
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**61.03**	**187**	P	**P**	**18 40 23.6**	**+0.5**
RES	**Resolute Bay**	**62.47**	**14**	P	**P**	**18 40 32.6**	**+0.4**
RES	**Resolute Bay**	**62.47**	**14**	P	**P**	**18 40 32.6**	**+0.4**
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRKA	**Warakurna**	**63.12**	**192**	P	**P**	**18 40 37.0**	**-0.1**
EIDS	**Eidsvold**	**63.24**	**169**	P	**P**	**18 40 38.2**	**+0.4**
EIDS				IAmb	IAmb	18 40 38.9	
	comp=Z,13nm,1.5s						
ARCES	**ARCESS Array B**	**63.36**	**339**	P	**P**	**18 40 37.8**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=48,slow=7.3,SNR=9.4						
	comp=Z,4.6nm,0.9s						
YKA	**Yellowknife Ar**	**63.94**	**30**	P	**P**	**18 40 42.4**	**+0.4**
YKA	**Yellowknife Ar**	**63.94**	**30**	P	**P**	**18 40 42.9**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=304,slow=6.9,SNR=25						
	comp=Z,1.5nm,0.8s						
OOD	**Oodnadatta**	**64.98**	**185**	P	**P**	**18 40 50.1**	**+0.9**
OBN	**Obninsk**	**67.29**	**323⇑**	*eP*	**P**	**18 41 03.9**	**+0.2**
OBN						18 41 26.0	
OBN				*PP	**PcP**	**18 41 30.1**	**-0.7**
OBN				*SP	**sP**	**18 41 42.0**	**+2.1**
OBN				*S*	**S**	**18 49 55.0**	**+4.3**
OBN				*e*		18 50 22.9	
OBN				*e*		18 50 46.2	
OBN				SS	**SS**	**18 54 12.0**	**+0.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,108nm,12.0s						
LCRK	**Leigh Creek**	**67.51**	**182**	P	**P**	**18 41 06.1**	**+0.8**
AFI	**Afiamalu**	**68.03**	**129**	P	**P**	**18 41 09.5**	**+0.6**
FIA1	**FINESS Array S**	**68.09**	**332**	P	**P**	**18 41 08.7**	**+0.1**
FINES	**FINESS Array B**	**68.09**	**332**	P	**P**	**18 41 08.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=45,slow=5.9,SNR=9.5						
	comp=Z,1.5nm,0.6s						
FORT	**Forrest**	**68.78**	**191**	P	**P**	**18 41 13.8**	**+0.7**
KBZ	**Khabaz**	**70.01**	**310**	P	**P**	**18 41 20.9**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=35,slow=5.9,SNR=4.4						
	comp=Z,1.2nm,0.8s						
KIV	**Kislovodsk**	**70.02**	**310**	*eP*	**P**	**18 41 19.9**	**-1.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SUMG	**Summit**	**70.33**	**360**	P	**P**	**18 41 24.0**	**+1.2**
SUMG	**Summit**	**70.33**	**360**	P	**P**	**18 41 24.0**	**+1.2**
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BMO	**Blue Mountains**	**72.32**	**47**	P	**P**	**18 41 36.3**	**+1.4**
BMO	**Blue Mountains**	**72.32**	**47**	P	**P**	**18 41 36.3**	**+1.4**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NC405	**NORSAR Array S**	**73.31**	**337**	P	**P**	**18 41 40.6**	**+0.2**
HFS	**Hagfors**	**73.41**	**335**	P	**P**	**18 41 40.9**	**0.0**
	comp=Z,1.3nm,0.6s,baz=39,slow=5.7,SNR=5.0						
	comp=Z,1.3nm,0.6s						
NC204	**NORSAR Array S**	**73.48**	**337**	P	**P**	**18 41 41.6**	**+0.2**
AKASG	**Malin Array Be**	**73.48**	**322**	P	**P**	**18 41 41.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=49,slow=6.6,SNR=4.1						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**73.48**	**322**	*i* P	**P**	**18 41 43.0**	**+1.5**
AKBB	**Malin Array Si**	**73.48**	**322**	*i* P	**P**	**18 41 41.7**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NB201	**NORSAR Array S**	**73.49**	**337**	P	**P**	**18 41 41.2**	**-0.2**
NB2	**NORSAR Subarra**	**73.52**	**337**	P	**P**	**18 41 40.7**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**73.52**	**337**	P	**P**	**18 41 40.7**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=42,slow=5.9,SNR=4.1						
	comp=Z,1.1nm,0.8s						
FFC	**Flin Flon**	**73.87**	**32**	P	**P**	**18 41 44.5**	**+0.9**
FFC	**Flin Flon**	**73.87**	**32**	P	**P**	**18 41 44.6**	**+0.9**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FCC	**Fort Churchill**	**74.07**	**26**	P	**P**	**18 41 45.3**	**+0.6**
FCC				IAmb	IAmb	18 41 45.8	
	comp=Z,5.4nm,0.6s						
FCC	**Fort Churchill**	**74.07**	**26**	P	**P**	**18 41 45.3**	**+0.6**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
EGMT	**Eagleton**	**74.57**	**41**	P	**P**	**18 41 49.0**	**+1.0**
EGMT				IAmb	IAmb	18 41 50.3	
	comp=Z,10.0nm,0.8s						
NVAR	**Mina Array Bea**	**75.47**	**53**	P	**P**	**18 41 54.8**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=301,slow=5.5,SNR=7.2						
	comp=Z,2.1nm,0.6s						
ELK	**Elko**	**75.98**	**49**	P	**P**	**18 41 58.3**	**+1.9**
ELK	**Elko**	**75.98**	**49**	P	**P**	**18 41 58.3**	**+1.9**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DSP	**Deep Springs**	**76.31**	**53**	P	**P**	**18 42 00.2**	**+2.2**
R11B	**Troy Canyon, C**	**77.22**	**51**	P	**P**	**18 42 04.9**	**+1.5**
PDAR	**Pinedale Array**	**78.03**	**45**	P	**P**	**18 42 08.9**	**+1.0**
PDAR	**Pinedale Array**	**78.03**	**45**	P	**P**	**18 42 09.1**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=285,slow=1.9,SNR=13						
	comp=Z,0.9nm,0.6s						
ULM	**Lac du Bonnet**	**79.68**	**33**	P	**P**	**18 42 16.3**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=325,slow=7.7,SNR=4.6						
	comp=Z,1.7nm,0.4s						
CLL	**Collm**	**80.36**	**330**	*eP*	**P**	**18 42 20.0**	**0.0**
CLL	**Collm**	**80.36**	**330**	*eP*	**P**	**18 42 20.0**	**0.0**
PV23	**Carpenter Ridg**	**81.15**	**48**	P	**P**	**18 42 26.3**	**+1.4**
PV23				IAmb	IAmb	18 42 27.0	
	comp=Z,6.0nm,0.7s						
PV10	**Paradox Valley**	**81.19**	**48**	P	**P**	**18 42 26.9**	**+1.8**
PV13	**Radium Mtn., P**	**81.46**	**48**	P	**P**	**18 42 27.8**	**+1.3**
KHC	**Kasperske Hory**	**81.78**	**328**	*eP*	**P**	**18 42 25.6**	**-2.1**
KHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GERES	**GERESS Array B**	**81.95**	**328**	P	**P**	**18 42 28.8**	**+0.1**
GERES	**GERESS Array B**	**81.95**	**328**	P	**P**	**18 42 28.1**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=47,slow=6.4,SNR=5.6						
	comp=Z,0.6nm,0.4s						
GERES	**GERESS Array B**	**81.95**	**328**	P	**P**	**18 42 28.8**	**+0.1**
EKA	**Eskdalemuir Ar**	**82.51**	**340**	P	**P**	**18 42 31.7**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=38,slow=6.3,SNR=1.0						
	comp=Z,0.2nm,0.4s						
S22A	**4UR Ranch, Cre**	**82.91**	**47**	P	**P**	**18 42 36.0**	**+1.9**
T25A	**Trinidad**	**84.73**	**47**	P	**P**	**18 42 44.6**	**+1.2**
H43A	**Windswept, Lux**	**87.64**	**32**	P	**P**	**18 42 57.2**	**+0.1**
TX31	**Lajitas Ar. Si**	**90.59**	**52**	P	**P**	**18 43 11.4**	**-0.1**
TX31				IAmb	IAmb	18 43 12.8	
	comp=Z,6.1nm,1.5s						
TXAR	**Lajitas Array**	**90.59**	**52**	P	**P**	**18 43 12.8**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=303,slow=2.6,SNR=13						
	comp=Z,1.3nm,0.6s						
LPAZ	**La Paz**	**147.25**	**58**	PKPbc	**PKPbc**	**18 49 52.5**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=269,slow=1.8,SNR=13						
H03N2	**Juan Fernandez**	**147.92**	**95**	T	T	21 35 09.4	
	baz=291,slow=76,SNR=7.1						
H03N3	**Juan Fernandez**	**147.93**	**95**	T	T	21 35 12.5	
	baz=291,slow=56,SNR=7.2						
H03N1	**Juan Fernandez**	**147.94**	**95**	T	T	21 35 13.9	
	baz=291,slow=56,SNR=9.2						

JMA 25 18:30:21.2±0.2, 36°.5N±0°.4×137°.9E±0°.6, h10km±2km, NORTHERN NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.18**	**124**	*i* P	Pg	18 30 25.1	-0.1
MAT	**Matsushiro**	**0.24**	**82**	P	Pg	18 30 25.9	-0.2

JMA 25 18:30:43.4±0.1, 34°.9N±0°.1×139°.0E±0°.2, h9km, MV0.4/20, CENTRAL IZU PENINSULA, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHTM	**Izuhatsuma**	**0.05**	**50**	P	Pg	18 30 45.4	+0.1
JHTM				*eS*	Sg	18 30 47.2	+0.5
KTJ3	**Kamata3**	**0.09**	**86**	P	Pg	18 30 45.7	0.0
KTJ3				*i* S	Sg	18 30 47.8	+0.4
AJI	**Ajiro2**	**0.16**	**42**	*eP*	Pg	18 30 46.9	+0.1
JIZS	**Izushimoda**	**0.22**	**199**	*eS*	Sg	18 30 51.2	+0.3
JOD2	**Odawara 2**	**0.35**	**17**	P	Pg	18 30 50.6	+0.2

*IDC **25** 18:38:01.3±1.0, 31°.52S×177°.66W, h0km, mb4.3/5, mbtmp4.3/5, MS3.0/2, Error ellipse: s-maj=31.5km s-min=31.3km az=77.0*
*NEIC **25** 18:38:04.3±2.1, 31°.9S±0°.1×177°.9W±0°.2, h10km±1km, mb4.7/12, Error ellipse: s-maj=29.0km s-min=20.4km az=113.0*

ISC 25 18:38:03.2±0.8, 31°.75S±0°.09×177°.9W±0°.2, h10km, n41, σ1§06/41, mb4.6/11, 2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.58**	**207**	Pn	**Pn**	**18 39 38.9**	**-1.1**
URZ	**Urewera**	**7.67**	**211**	Pn	**Pn**	**18 39 52.9**	**-2.0**
	0.6nm,0.3s,baz=352,slow=4.9,SNR=8.4						
URZ				Sn	**Sn**	**18 41 22.1**	**+0.2**
	3.2nm,0.3s,baz=247,slow=16,SNR=13						
RTZ	**Ruatahuna**	**8.02**	**210**	Pn	**Pn**	**18 39 59.5**	**-0.4**
BKZ	**Black Stump Fm**	**8.69**	**210**	Pn	**Pn**	**18 40 08.8**	**-0.2**
MRZ	**Mangatainoka R**	**10.33**	**209**	Pn	**Pn**	**18 40 28.7**	**-2.7**
PPT	**Papeete**	**29.25**	**68**	LR	LR	18 56 14.6	
	comp=Z,14nm,18.5s,baz=28,slow=38						
STKA	**Stephens Creek**	**34.28**	**259**	P	**P**	**18 44 48.9**	**-0.7**
STKA	**Stephens Creek**	**34.28**	**259**	P	**P**	**18 44 52.2**	**+2.6**
	5.1nm,0.8s,baz=111,slow=12,SNR=9.4						
	5.1nm,0.8s						
BBOO	**Buckleboo**	**38.70**	**256**	P	**P**	**18 45 27.8**	**+0.4**
AS31	**Alice Springs**	**43.14**	**268**	P	**P**	**18 46 04.4**	**+0.3**
ASAR	**Alice Springs**	**43.14**	**268**	P	**P**	**18 46 04.5**	**+0.4**
ASAR	**Alice Springs**	**43.14**	**268**	P	**P**	**18 46 05.0**	**+0.9**
	2.9nm,0.8s,baz=108,slow=7.5,SNR=25						
ASAR				PcP	**PcP**	**18 47 52.6**	**-1.2**
	0.3nm,0.5s,baz=125,slow=3.8,SNR=1.4						
	2.9nm,0.8s						
WR8	**Warramunga Arr**	**44.11**	**274**	P	**P**	**18 46 12.3**	**+0.4**
WR8				IAmb	IAmb	18 46 34.3	
	comp=Z,8.9nm,0.9s						
WB2	**Warramunga Arr**	**44.24**	**273**	P	**P**	**18 46 13.3**	**+0.4**
WB2				IAmb	IAmb	18 46 35.7	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**44.25**	**273**	P	**P**	**18 46 14.2**	**+1.1**
	comp=Z,3.9nm,0.5s,baz=114,slow=7.7,SNR=40						
WRA				PcP	**PP**	**18 47 56.6**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=119,slow=3.5,SNR=2.5						
	comp=Z,3.9nm,0.5s						
WB0	**Warramunga Arr**	**44.28**	**274**	P	**P**	**18 46 14.3**	**+1.0**
WB0				IAmb	IAmb	18 46 40.4	
	comp=Z,9.4nm,0.8s						
VNDA	**Vanda**	**46.76**	**186**	P	**P**	**18 46 32.8**	**+0.6**
MTN	**Manton Dam**	**50.29**	**280**	P	**P**	**18 47 00.8**	**+0.6**
KNRA	**Kununurra**	**50.90**	**275**	P	**P**	**18 47 03.0**	**-1.8**
KNRA				IAmb	IAmb	18 47 20.3	
	comp=Z,11nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.45**	**271**	P	**P**	**18 47 15.2**	**-1.2**
QSPA	**South Pole Qui**	**58.36**	**180**	P	**P**	**18 47 59.5**	**+1.1**
QSPA	**South Pole Qui**	**58.36**	**180**	P	**P**	**18 48 00.1**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=27,slow=1.3,SNR=12						
	comp=Z,2.6nm,0.8s						
SYO	**Syowa Base**	**75.82**	**193**↓	*eP*	**P**	**18 49 50.0**	**+1.0**
SYO	**Syowa Base**	**75.82**	**193**↓	*ep*P	pP	18 49 53.0	+2.4
JHJ	**Hachijo jima 2**	**75.89**	**324**	P	**P**	**18 49 49.8**	**0.0**
	comp=Z,92nm,0.9s,baz=86,slow=20,SNR=2.2						
SNAA	**Sanae**	**76.80**	**178**	P	**P**	**18 49 54.4**	**-0.4**
SNAA				IAmb	IAmb	18 50 06.8	
	comp=Z,8.1nm,1.3s						
KLR	**Kul'dur**	**92.24**	**330**	P	**P**	**18 51 12.7**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=164,slow=3.1,SNR=3.9						
	comp=Z,0.7nm,0.5s						
TXAR	**Lajitas Array**	**93.05**	**57**	LR	LR	19 27 02.5	
	comp=Z,11nm,19.5s,baz=209,slow=32						
MKAR	**Makanchi Array**	**118.70**	**309**	PKP	**PKPdf**	**18 56 51.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=107,slow=2.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**122.08**	**313**	PKP	**PKPdf**	**18 56 56.8**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=105,slow=1.7,SNR=4.4						
KBZ	**Khabaz**	**145.92**	**302**	PKPbc	**PKPdf**	**18 57 42.3**	**+0.3**
	comp=Z,3.4nm,1.0s,baz=103,slow=6.8,SNR=7.4						
KIV	**Kislovodsk**	**146.04**	**303**	PKPdf	**PKPdf**	**18 57 41.1**	**-1.3**
OBN	**Obninsk**	**146.32**	**324**	PKPdf	**PKPdf**	**18 57 41.5**	**-0.9**
FINES	**FINESS Array B**	**146.44**	**339**	PKPdf	**PKPdf**	**18 57 42.2**	**-0.2**
FINES	**FINESS Array B**	**146.44**	**339**	PKPbc	**PKPdf**	**18 57 42.9**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=45,slow=3.0,SNR=9.4						
GURO	**Guroymak-BITLI**	**146.85**	**293**	PKPdf	**PKPdf**	**18 57 44.9**	**+0.9**
KOPT	**Kop Dagi**	**148.01**	**296**	PKPdf	**PKPdf**	**18 57 47.2**	**+1.0**
HFS	**Hagfors**	**150.58**	**348**	PKPbc	**PKPbc**	**18 57 53.4**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=18,slow=5.0,SNR=2.0						
MMAI	**Mount Meron Ar**	**151.91**	**282**	PKPbc	**PKPbc**	**18 57 58.6**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=75,slow=6.3,SNR=5.1						
AKASG	**Malin Array Be**	**152.42**	**321**	PKPbc	**PKPbc**	**18 57 58.9**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=56,slow=0.9,SNR=1.8						
BRTR	**Keskin Array B**	**153.29**	**296**	PKPbc	**PKPbc**	**18 58 01.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=104,slow=3.9,SNR=2.5						

*TRN **25** 18:45:39.9, 10°.64N×62°.64W, h115km, MD3.3, Paria peninsula.*
*FUNV **25** 18:45:41.9, 10°.55N×62°.67W, h18km, MW3.8*

ISC 25 18:45:37.6±1.8, 10°.56N±0°.08×62°.61W±0°.06, h136km±18km, n13, σ1§67/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMG	**Mucurapo Girls**	**1.06**	**84**	*eP*	**Pn**	**18 46 02.6**	**+1.1**
PSMG				*eS*	**Sn**	**18 46 18.8**	**-1.0**
TRN	**Trinidad (W)**	**1.19**	**86**	*eP*	**Pn**	**18 46 04.6**	**+1.8**
TRN				*eS*	**Sn**	**18 46 21.1**	**-0.8**
GRFF	**Grenada Fort F**	**1.71**	**30**	*eP*	**Pn**	**18 46 08.7**	**+0.3**
GRFF				*eS*	**Sn**	**18 46 29.5**	**-2.5**
GRGR	**Grenville**	**1.82**	**31**	*eP*	**Pn**	**18 46 10.7**	**+1.0**
GRGR				*eS*	**Sn**	**18 46 32.9**	**-1.4**
GRSS	**Sisters**	**1.98**	**29**	*eP*	**Pn**	**18 46 12.7**	**+1.1**
GRSS				*eS*	**Sn**	**18 46 36.3**	**-1.4**
PCRV	**Puerto La Cruz**	**2.03**	**259**	*eP*	**Pn**	**18 46 14.0**	**+1.7**
PCRV				*eS*	**Sn**	**18 46 37.1**	**-1.7**
PCRV	**Puerto La Cruz**	**2.03**	**259**	*eP*	**Pn**	**18 46 14.3**	**+2.1**
PCRV				*eS*	**Sn**	**18 46 38.0**	**-0.9**
TOSP	**Speyside**	**2.16**	**70**	*eP*	**Pn**	**18 46 14.9**	**+1.1**
TOSP				*eS*	**Sn**	**18 46 41.5**	**-0.1**
GCMP	**Grenada, Carri**	**2.23**	**31**	*eP*	**Pn**	**18 46 15.5**	**+0.8**
GCMP				*eS*	**Sn**	**18 46 42.2**	**-1.0**
CACV	**CAICARA DEL OR**	**4.89**	**233**	*eP*	**Pn**	**18 46 47.6**	**-1.7**
CACV				*eS*	Sn	18 47 35.9	-9.3
BENV	**Beln**	**4.95**	**264**	*eP*	**Pn**	**18 46 52.6**	**+2.5**
BENV				*eS*	**Sn**	**18 47 46.1**	**-0.5**
BAUV	**El Baul**	**5.59**	**254**	*eP*	**Pn**	**18 47 01.2**	**+2.5**
BAUV				*eS*	**Sn**	**18 47 59.9**	**-2.0**
BAUV	**El Baul**	**5.59**	**254**	*eP*	**Pn**	**18 46 60.0**	**+1.3**
BAUV				*eS*	**Sn**	**18 47 59.7**	**-2.2**

*NOU **25** 18:47:30.8, 16°.16S×167°.54E, h8km, MLv4.5/17, Vanuatu Islands*
*IDC **25** 18:47:34.1±9.1, 16°.30S×167°.81E, h76km±82km, mb3.3/2, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=66.0km s-min=53.7km az=169.0*

ISC 25 18:47:32.6±1.3, 16°.18S±0°.09×167°.6E±0°.1, h39km, n16, σ1§44/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.64**	**160**	P	**Pn**	**18 48 00.0**	**+1.1**
MARNC	**Mare, Loyalty**	**5.29**	**176**	P	**Pn**	**18 48 49.4**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.36**	**215**	P	**Pn**	**18 48 51.6**	**+1.5**
LUES	**Luesalemba Tem**	**5.72**	**343**	P	**Pn**	**18 48 56.7**	**+1.6**
YATNC	**Mamie plateau,**	**5.88**	**186**	P	**Pn**	**18 48 57.5**	**+0.2**
DZM	**Mont Dzumac**	**5.96**	**190**	P	**Pn**	**18 48 59.2**	**+0.8**
	9.6nm,0.3s,baz=26,slow=17,SNR=187						
DZM				S	**Sn**	**18 50 05.0**	**-0.4**
	15nm,0.4s,baz=143,slow=22,SNR=5.6						
	18nm,0.3s						
DZM	**Mont Dzumac**	**5.96**	**190**	P	**Pn**	**18 48 59.4**	**+1.0**
ONTNC	**Ouen Toro**	**6.19**	**190**	P	**Pn**	**18 49 02.7**	**+1.3**
OUENC	**Ouen Island, N**	**6.25**	**186**	P	**Pn**	**18 49 03.7**	**+1.5**
PINNC	**Pines Island,**	**6.40**	**181**	P	**Pn**	**18 49 06.0**	**+1.7**
NGOA	**Tingoa Renbel**	**8.64**	**301**	P	**Pn**	**18 49 34.2**	**-0.9**
SAVO	**Savo Central**	**10.32**	**312**	P	**Pn**	**18 49 59.7**	**+1.6**
TATA	**Tatamba Isabel**	**10.86**	**315**	P	**Pn**	**18 50 06.5**	**+1.0**
WRA	**Warramunga Arr**	**31.81**	**258**	P	**P**	**18 53 52.8**	**-1.0**
	0.2nm,0.6s,baz=87,slow=8.4,SNR=1.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**32.48**	**251**	P	**P**	**18 53 59.2**	**-0.4**
	1.8nm,0.8s,baz=83,slow=9.0,SNR=13						
	1.8nm,0.8s						
ARCES	**ARCESS Array B**	**121.73**	**345**	PKP	**PKPdf**	**19 06 18.8**	**-2.9**
	3.7nm,0.8s,baz=51,slow=1.9,SNR=2.5						

DJA 25 18:50:25.0±0.3, 9°S±4°×118°E±°, h117km±6km, M3.9/13, mb4.3/1, MLv3.7/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.60**	**254**	P	Pn	18 50 44.5	+1.2
PLAI				S	Sn	18 50 59.0	+1.9
WBSI	**Waikabubak, Su**	**1.41**	**134**	P	Pn	18 50 51.7	+0.5
WBSI				S	Sn	18 51 12.1	+0.9
WSI	**Waingapu**	**2.16**	**118**	P	Pn	18 51 00.2	-0.1
WSI				S	Sn	18 51 28.1	+0.7
BASI	**Baing, Sumba**	**2.68**	**125**	P	Pn	18 51 06.9	-0.1
BASI				S	Sn	18 51 39.6	+0.2
DNP	**Denpasar**	**3.11**	**269**	P	Pn	18 51 12.3	-0.4
DNP				S	Sn	18 51 50.5	+1.0
SRBI	**Singaraja**	**3.17**	**280**	P	Pn	18 51 14.3	+0.9
BSSI	**Bau Bau, Buton**	**3.27**	**40**	P	Pn	18 51 14.6	-0.3
EDFI	**Ende, Flores**	**3.29**	**92**	P	Pn	18 51 15.6	+0.4
BKSI	**Bulukumba**	**3.75**	**28**	P	Pn	18 51 21.1	-0.1
MMRI	**Maumere**	**3.83**	**90**	P	Pn	18 51 22.5	+0.2
JAGI	**Jajag, Banyuwa**	**4.17**	**272**	P	Pn	18 51 25.4	-1.3
GMJI	**Gumukmas**	**4.88**	**274**	P	Pn	18 51 36.3	0.0

*NEIC **25** 18:57:54.0±2.7, 43°.66N±0°.04×105°.23W±0°.08, h0km±1km, ML3.2/72, Error ellipse: s-maj=9.9km s-min=7.6km az=84.0*
*IDC **25** 18:57:56.8±1.8, 43°.65N×105°.44W, h0km, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=45.3km s-min=10.6km az=150.0*

ISC 25 18:57:52.4±0.9, 43°.61N±0°.04×105°.56W±0°.04, h0km, n46, σ1§97/43, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
K22A	**Casper**	**1.19**	**217**			**18 58 19.8**	**+3.3**
BW06	**Boulder Array**	**3.04**	**255**	Pn	**Pg**	**18 58 48.7**	**-2.0**
PD31	**Pinedale Array**	**3.04**	**255**	Pn	**Pg**	**18 58 49.4**	**-1.3**
PDAR	**Pinedale Array**	**3.04**	**255**	Pn	**Pg**	**18 58 49.8**	**-0.9**
PDAR	**Pinedale Array**	**3.04**	**255**	Pn	**Pg**	**18 58 50.1**	**-0.6**
	2.1nm,0.3s,baz=68,slow=16,SNR=22						
PDAR				Lg	Lg	18 59 34.6	
	6.5n

PV22	Blue Mesa, Par	5.62 207		Pg	18 59 36.8	-3.4
PV15	Paradox Valley	5.71 204		Pb	18 59 32.9	-0.1
PV23	Carpenter Ridg	5.77 208		Pb	18 59 33.9	-0.2
MPU	Maple Canyon	5.79 234	Pn	Pb	18 59 32.8	-1.5
PV03	Paradox Valley	5.90 206	Pn	Pb	18 59 36.1	-0.1
PV02	Paradox Valley	5.91 205		Pg	18 59 42.8	-2.8
T25A	Trinidad	6.52 172		Pb	18 59 48.4	+1.6
I10CA	LAC DU BONNET	9.27 41	I	I	19 54 40.0	
	comp=E,0.1nm,1.1s,baz=220,slow=325,SNR=5.5					
ULM	Lac du Bonnet	9.38 42	Pn	Pn	19 00 09.8	+1.1
	comp=E,0.5nm,0.3s,baz=231,slow=13,SNR=2.7					
ULM			Lg	Lg	19 02 42.8	
	comp=E,0.3nm,0.3s,baz=306,slow=19,SNR=2.4					
	comp=E,1.1nm,0.3s					
NVAR	Mina Array Bea	10.93 246	Pn	Pn	19 00 40.4	+10
	comp=E,0.2nm,0.3s,baz=48,slow=9.8,SNR=2.0					
	comp=E,0.2nm,0.3s					

NNC 25 19:06:57.4±3.9, 38°36N×70°36E, h0km, mb3.8, mpv3.4, 3C-2D, Error ellipse: s-maj=32.1km s-min=24.5km az=60.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	3.79	356	Pg	Pb	19 08 06.2	+0.9
	14nm,0.2s						
IUG				Lg	Lg	19 08 53.6	
	57nm,0.4s						
BRLS	Borolday	4.68	355	Pg	Pb	19 08 18.2	-2.1
	3.4nm,0.4s						
BRLS				Lg	Lg	19 09 13.8	
	16nm,0.4s						
KK31	Karatay Array	4.74	1	Pn	Pn	19 08 08.7	-1.4
	0.6nm,0.3s,baz=193,slow=15,SNR=15						
KK31				⇓Pg	Pg	19 08 25.7	-2.6
	1.7nm,0.4s,baz=184,slow=15,SNR=3.9						
KK31				⇑Sn	Sn	19 09 09.3	+3.5
	2.5nm,0.5s						
KK31				⇓Lg	Lg	19 09 28.1	
	10nm,0.6s,baz=189,slow=30,SNR=7.2						
MRKS	Merke	4.89	26	Pg	Pb	19 08 26.5	+2.5
MRKS				Lg	Lg	19 09 28.2	
TKM2	Tokmak 2	6.05	39	⇑Pn	Pn	19 08 27.4	-0.9
	2.0nm,0.8s						
TKM2				⇑Lg	Lg	19 10 10.3	
	6.2nm,1.2s						
DGS	Degeres	6.37	38	Pg	Pg	19 08 55.9	-3.6
	1.6nm,0.6s						
DGS				Lg	Lg	19 10 19.1	
	2.5nm,0.5s						
BTLS	Baital	7.22	21	Pg	Pg	19 09 10.2	-5.5
	1.1nm,0.4s						
BTLS				Lg	Lg	19 10 43.6	
	4.5nm,1.6s						

*IDC **25** 19:09:33.7±4.7, 23°27S×179°28E, h528km±49km, mb3.2/8, mbtmp4.1/9, Error ellipse: s-maj=31.1km s-min=23.4km az=41.0*
*NEIC **25** 19:09:35.5±0.8, 23°5S±0°1×179°3E±0°2, h555km±11km, mb4.4/19, Error ellipse: s-maj=26.2km s-min=11.7km az=64.0*

ISC 25 19:09:35.1±0.7, 23°4S±0°1×179°3E±0°1, h548km, n42, σ0§62/39, mb4.0/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.76	348	P	P	19 11 12.2	+0.5
PINNC	Pines Island,	10.94	272	P	P	19 12 03.7	+1.1
URZ	Urewera	14.92	187	P	P	19 12 43.2	-0.3
	8.0nm,0.6s,baz=289,slow=3.2,SNR=5.5						
RTZ	Ruatahuna	15.29	187	P	P	19 12 46.9	-0.6
RTZ				IAmb	IAmb	19 12 51.5	
	comp=Z,18nm,1.2s						
MRZ	Mangatainoka R	17.48	189	P	P	19 13 07.6	-0.5
MRZ				IAmb	IAmb	19 13 25.8	
	comp=Z,21nm,1.2s						
NNZ	Nelson	18.44	194	P	P	19 13 16.9	0.0
EIDS	Eidsvold	25.75	260	P	P	19 14 21.7	-0.9
EIDS				IAmb	IAmb	19 14 39.5	
	comp=Z,10nm,1.4s						
PMG	Port Moresby	33.72	289	P	P	19 15 31.7	+0.2
PMG				IAmb	IAmb	19 16 14.2	
	comp=Z,14nm,0.9s						
STKA	Stephens Creek	34.30	247	P	P	19 15 36.4	+0.2
	comp=Z,3.3nm,1.0s,baz=96,slow=9.2,SNR=2.0						
	comp=Z,3.3nm,1.0s						
COEN	Coen	35.39	279	P	P	19 15 45.7	+0.2
COEN				IAmb	IAmb	19 15 59.6	
	comp=Z,15nm,1.4s						
AS31	Alice Springs	41.47	260	P	P	19 16 34.8	+0.1
ASAR	Alice Springs	41.47	260	P	P	19 16 34.0	-0.8
ASAR	Alice Springs	41.47	260	P	P	19 16 34.8	+0.1
	comp=Z,3.1nm,0.8s,baz=92,slow=7.3,SNR=47						
ASAR				PcP	PcP	19 18 19.2	-0.2
	comp=Z,0.4nm,0.7s,baz=86,slow=3.7,SNR=2.8						
	comp=Z,3.1nm,0.8s						
WR8	Warramunga Arr	41.64	266	P	P	19 16 35.4	-0.6
WR8				IAmb	IAmb	19 16 50.1	
	comp=Z,6.9nm,1.3s						
WB0	Warramunga Arr	41.78	266	P	P	19 16 36.6	-0.6
WB0				IAmb	IAmb	19 16 37.3	
	comp=Z,5.6nm,0.7s						
WRAB	Tennant Creek	41.78	266	P	P	19 16 35.8	-1.4
WRAB				IAmb	IAmb	19 16 52.7	
	comp=Z,8.6nm,1.1s						
WRA	Warramunga Arr	41.79	266	P	P	19 16 36.5	-0.7
WRA	Warramunga Arr	41.79	266	P	P	19 16 36.7	-0.5
	comp=Z,3.7nm,0.7s,baz=96,slow=8.3,SNR=81						
WRA				PcP	PcP	19 18 20.3	-0.2
	comp=Z,0.2nm,0.5s,baz=99,slow=7.3,SNR=1.5						
	comp=Z,3.7nm,0.7s						
FORT	Forrest	45.87	249	P	P	19 17 08.5	-0.2
FORT				IAmb	IAmb	19 17 32.2	
	comp=Z,26nm,1.1s						
MTN	Manton Dam	46.77	274	P	P	19 17 15.2	-0.4
KNRA	Kununurra	48.04	270	P	P	19 17 24.8	-0.4
FITZ	Fitzroy Crossi	50.22	265	P	P	19 17 41.7	+0.4
MBWA	Marble Bar	54.81	260	P	P	19 18 13.4	-0.7
MBWA				IAmb	IAmb	19 18 53.1	
	comp=Z,34nm,1.4s						
SBA	Scott Base	54.83	183	P	P	19 18 13.3	+0.1
QSPA	South Pole Qui	66.67	180	P	P	19 19 31.3	-0.2
QSPA	South Pole Qui	66.67	180	P	P	19 19 33.4	+1.9
	comp=Z,1.8nm,1.0s,baz=137,slow=20,SNR=2.7						
	comp=Z,1.8nm,1.0s						
PETK	Petropavlovsk-	78.47	347	P	P	19 20 38.7	-0.6
	comp=Z,4.2nm,0.9s,baz=162,slow=5.7,SNR=2.4						
	comp=Z,4.2nm,0.9s						
SNAA	Sanae	85.17	179	P	P	19 21 13.1	-0.2
SNAA				IAmb	IAmb	19 21 35.4	
	comp=Z,6.2nm,1.2s						
SNAA	Sanae	85.17	179	P	P	19 21 13.2	-0.2
	comp=Z,1.5nm,0.9s,baz=332,slow=5.8,SNR=2.4						
	comp=Z,1.5nm,0.9s						
CMAR	Chiang Mai Arr	88.74	291	P	P	19 21 31.1	0.0
	comp=Z,0.4nm,0.9s,baz=125,slow=5.8,SNR=2.7						
	comp=Z,0.4nm,0.9s						
TXAR	Lajitas Array	90.73	58	P	P	19 21 40.3	+0.2
	comp=Z,0.2nm,0.4s,baz=284,slow=6.7,SNR=2.2						
	comp=Z,0.2nm,0.4s						
MKAR	Makanchi Array	111.34	313	PKiKP	PKiKP	19 27 06.5	-0.4
	comp=Z,0.2nm,0.7s,baz=114,slow=1.3,SNR=2.5						
BVAR	Borovoye Array	119.64	319	PKP	PKPdf	19 27 22.4	-0.2
	comp=Z,0.5nm,0.4s,baz=127,slow=1.9,SNR=6.0						
HFS	Hagfors	141.94	348	PKhKP	PKPpre	19 27 59.9	
	comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=8.8						
AKASG	Malin Array Be	144.21	327		PKPbc	19 28 06.4	-1.8
AKASG	Malin Array Be	144.21	327	PKP	PKPbc	19 28 07.2	-0.9
	comp=Z,1.3nm,0.4s,baz=47,slow=4.2,SNR=13						
AKBB	Malin Array Si	144.21	327	PKPbc	PKPbc	19 28 06.6	-1.5
KIEV	Kiev	144.22	327		PKPbc	19 28 06.9	-1.3
MMAI	Mount Meron Ar	146.90	295	PKPbc	PKiKP	19 28 17.9	-0.7
	comp=Z,0.7nm,0.3s,baz=76,slow=3.5,SNR=4.0						
EKA	Eskdalemuir Ar	148.06	3	PKPbc	PKPbc	19 28 19.0	+0.2
	comp=Z,0.5nm,0.4s,baz=355,slow=3.3,SNR=5.5						
GERES	GERESS Array B	152.17	339	PKPbc	PKPbc	19 28 28.8	0.0
	comp=Z,0.2nm,0.4s,baz=29,slow=3.0,SNR=3.7						
TORD	Torodi Ar. Bea	169.54	193	PKPab	PKPab	19 29 58.2	+0.6
	comp=Z,1.2nm,0.3s,baz=152,slow=6.5,SNR=1.5						

IDC 25 19:14:35.0±8.2, 30°81S×179°25W, h172km±64km, mb3.1/3, mbtmp3.7/4, Error ellipse: s-maj=69.9km s-min=28.6km az=43.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.02	201	P	Pn	19 16 28.5	0.0
	4.4nm,0.7s,baz=244,slow=14,SNR=1.9						
URZ				S	Sn	19 17 49.7	-8.5
	4.2nm,0.3s,baz=0.7,slow=22,SNR=2.6						
ASAR	Alice Springs	42.01	268	P	P	19 22 09.4	-0.2
	0.2nm,0.4s,baz=107,slow=7.2,SNR=7.8						
	0.2nm,0.4s						
WRA	Warramunga Arr	43.04	273	P	P	19 22 17.9	-0.1
	0.3nm,0.3s,baz=111,slow=8.0,SNR=6.8						
	0.3nm,0.3s						
QSPA	South Pole Qui	59.30	180	P	P	19 24 18.4	0.0
	2.0nm,1.1s,baz=80,slow=6.1,SNR=5.7						
	2.0nm,1.1s						
FINES	FINESS Array B	145.15	339	PKPbc	PKPbc	19 33 50.3	-0.8
	2.6nm,0.9s,baz=11,slow=1.4,SNR=5.7						

*IDC **25** 19:31:37.4±2.2, 1°63N×126°07E, h0km, mb3.3/4, mbtmp3.3/4, MS3.4/1, Error ellipse: s-maj=246.8km s-min=23.1km az=66.0*
*DJA **25** 19:31:42.8±0.9, 2°N±3°×12°6E±°, h15km±7km, M3.6/6, MLv3.6/6*

ISC 25 19:31:44.4±1.0, 1°64N±0°07×126°41E±0°07, h50km, n8, σ1§61/10, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28	132	P	Pn	19 32 05.4	-0.6
TNTI				S	Sn	19 32 24.5	+2.4
SGSI	Sangihe	2.22	336	P	Pn	19 32 19.7	+0.9
SGSI				S	Sn	19 32 45.5	+0.5
KMSI	Cibinong	2.65	247	P	Pn	19 32 23.7	-1.0
KMSI				S	Sn	19 32 58.4	+2.7
WRA	Warramunga Arr	22.82	160	P	P	19 36 43.4	+0.1
	0.8nm,0.5s,baz=338,slow=10,SNR=10						
	0.8nm,0.5s						
ASAR	Alice Springs	26.19	164	P	P	19 37 14.4	-0.2
	0.3nm,0.8s,baz=346,slow=11,SNR=6.3						
	0.3nm,0.8s						
HNR	Honiara	35.17	109	LR	LR	19 51 56.9	
	comp=Z,66nm,21.0s,baz=197,slow=34						
MKAR	Makanchi Array	59.09	326	P	P	19 41 38.4	-1.3
	0.1nm,0.4s,baz=112,slow=8.1,SNR=2.2						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	63.33	328	P	P	19 42 07.3	-1.0
	0.2nm,0.5s,baz=139,slow=7.2,SNR=0.7						
	0.2nm,0.5s						

*NAO **25** 19:43:05.0±2.1, 71°70N×2°16W, ML3.2*
*BER **25** 19:43:09.0±2.8, 71°67N×2°25W, h10km, mb(Pn)4.2, ML3.2(NAO), Confirmed Earthquake*
*IDC **25** 19:43:09.3±4.4, 71°59N×1°02W, h0km, mb3.1/1, mbtmp3.7/6, ML2.9/5, MS2.8/2, Error ellipse: s-maj=65.8km s-min=27.1km az=90.0*

ISC 25 19:43:06.4±1.2, 71°66N±0°10×1°89W±0°09, h10km, n47, σ1§80/50, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	2.24	255	LR	LR	19 44 44.1	
	comp=Z,226nm,18.5s,baz=252,slow=38						
DBG	Daneborg	5.98	305	eP	Pn	19 44 31.8	-3.0
DBG				eS	Sn	19 45 34.2	-9.0
DBG	Daneborg	5.98	305	Pn	Pn	19 44 31.6	-3.2
DBG				Sn	Sn	19 45 34.2	-9.0
LOF	Lofoten	6.38	116	eP	Pn	19 44 42.4	+2.1
LOF				eS	Sn	19 45 48.8	-4.2
LOF				IAML		19 45 49.7	
	comp=Z,6.7nm,0.7s						
LOF	Lofoten	6.38	116	Pn	Pn	19 44 41.8	+1.5
LOF				Sn	Sn	19 45 49.6	-3.4
STEI	Steigen	7.00	114	eP	Pn	19 44 50.1	+1.4
STEI				eS	Sn	19 46 05.4	-2.8
HSPB	Hornsund (broa	7.10	33	eP	Pn	19 44 50.6	+0.5
HSPB	Hornsund (broa	7.10	33	Pn	Pn	19 44 50.4	+0.3
TRO	Tromso	7.19	96	eP	Pn	19 44 51.2	-0.1
TRO	Tromso	7.19	96	Pn	Pn	19 44 50.9	-0.5
VAGH	Vaagaholmen	7.31	125	eP	Pn	19 44 54.3	+1.3
VAGH				IAML		19 46 20.9	
	comp=Z,3.7nm,1.0s						
FAUS	Fauske	7.38	117	eP	Pn	19 44 55.3	+1.3
FAUS				eS	Sn	19 46 12.5	-5.0
FAUS				IAML		19 46 16.8	
	comp=Z,3.4nm,0.7s						
FAUS	Fauske	7.38	117	Pn	Pn	19 44 55.3	+1.3
KONS	Konsvik	7.45	127	eP	Pn	19 44 56.1	+1.3
KONS				eS	Sn	19 46 14.3	-4.9
KONS				IAML		19 46 20.1	
	comp=Z,3.5nm,1.0s						
KONS	Konsvik	7.45	127	Pn	Pn	19 44 55.7	+0.9
KONS				Sn	Sn	19 46 15.4	-3.8
STOK	Stokkvaagen	7.55	128	eP	Pn	19 44 57.2	+1.0
STOK				eS	Sn	19 46 15.4	-6.4
STOK				IAML		19 46 22.2	
	comp=Z,4.6nm,0.7s						
STOK	Stokkvaagen	7.55	128	Pn	Pn	19 44 57.6	+1.3
STOK				Sn	Sn	19 46 16.4	-5.3
BRBB	Barentsburg B	7.67	26	eP	Pn	19 44 59.3	+1.5
JETT	Jettan, Norway	7.69	95	eP	Pn	19 44 59.0	+0.7
JETT				eS	Sn	19 46 19.8	-5.6
JETT				IAML		19 46 22.6	
	comp=Z,3.2nm,0.5s						
JETT	Jettan, Norway	7.69	95	Pn	Pn	19 44 58.6	+0.4
LEIR	Leirfjorden	7.75	129	eP	Pn	19 45 00.1	+1.1
LEIR				eS	Sn	19 46 20.4	-6.3
LEIR				IAML		19 46 22.5	
	comp=Z,3.0nm,0.8s						
SPA0	Spitsbergen Ar	8.03	28	Pn	Pn	19 45 04.5	+1.6
	baz=215,slow=12						
SPA0	Spitsbergen Ar	8.03	28	Pn	Pn	19 45 04.5	+1.6
	baz=215,slow=12						
SPITS	Spitsbergen Ar	8.03	28	Pn	Pn	19 45 04.4	+1.5
	baz=224,slow=12						
	comp=Z,0.8nm,0.2s						
MOR8	Moi Rana	8.04	125	eP	Pn	19 45 05.5	+2.5
MOR8				eS	Sn	19 46 28.7	-5.1
MOR8				IAML		19 46 32.8	
	comp=Z,3.0nm,0.3s						
KIF	Kilpisjarvi	8.08	98	eP	Pn	19 45 04.2	+0.7
KIF				eS	Sn	19 46 28.9	-5.7
KIF	Kilpisjarvi	8.08	98	Pn	Pn	19 45 04.1	+0.7
KIF				Sn	Sn	19 46 31.6	-3.1
NSS	Namsos	8.81	137	eP	Pn	19 45 15.6	+2.1
NSS				eS	Sn	19 46 44.6	-8.1
NSS				IAML		19 46 50.5	
	comp=Z,3.8nm,1.1s						
KTK1	Kautokeino	8.84	95	eP	Pn	19 45 14.9	+1.0
HEF	Hetta	9.28	98	eP	Pn	19 45 20.6	+0.6
HEF	Hetta	9.28	98	Pn	Pn	19 45 20.3	+0.3
ARA0	ARCESS Array S	9.31	90	Pn	Pn	19 45 21.0	+0.6
	baz=289,slow=12						
ARA0	ARCESS Array S	9.31	90	Pn	Pn	19 45 21.0	+0.6
	baz=289,slow=12						
ARCES	ARCESS Array B	9.31	90	Pn	Pn	19 45 21.1	+0.6
	comp=Z,0.1nm,0.3s,baz=292,slow=12,SNR=25						
	comp=Z,2.5nm,0.7s						
KEV	Kevo	9.69	87	eP	Pn	19 45 25.4	-0.2
AKN	Aaknes	10.13	156	Pn	Pn	19 45 34.4	+2.8
AKN	Aaknes	10.13	156	Pn	Pn	19 45 34.4	+2.8
NOR	Nord	10.49	348	eP	Pn	19 45 37.2	+0.7
NOR	Nord	10.49	348	Pn	Pn	19 45 37.0	+0.6
NOA	NORSAR Array B	11.85	147	Pn	Pn	19 45 58.2	+3.0
	baz=336,slow=13,SNR=2.6						
NOA				LR	LR	19 49 45.7	
	comp=Z,45nm,20.0s,baz=340,slow=34						
	comp=Z,0.7nm,0.7s						
HFS	Hagfors	13.14	144	Pn	Pn	19 46 14.8	+2.1
	baz=342,slow=12						
HFS	Hagfors	13.14	144	Pn	Pn	19 46 14.8	+2.1
	baz=342,slow=12						
HFS	Hagfors	13.14	144	Pn	Pn	19 46 14.7	+1.9
	comp=Z,0.6nm,0.3s,baz=339,slow=12,SNR=19						
	comp=Z,5.5nm,0.7s						
FIA0	FINESS Array S	14.93	119	P	Pn	19 46 38.1	+0.9
	baz=331,slow=16						
FIA0	FINESS Array S	14.93	119	P	Pn	19 46 38.1	+0.9
	baz=331,slow=16						
FINES	FINESS Array B	14.93	119	Pn	Pn	19 46 37.1	-0.1
	comp=Z,0.1nm,0.3s,baz=326,slow=12,SNR=6.7						
	comp=Z,4.8nm,1.0s						
AKASG	Malin Array Be	25.26	130	P	P	19 48 34.4	+2.3
	comp=Z,0.1nm,0.3s,baz=339,slow=9.9,SNR=2.0						
	comp=Z,0.1nm,0.3s						

*BJI **25** 20:04:42.4, 22°99N×98°40E, h16km, mB4.5/6, mb4.2/13, ML4.1/6, Ms3.7/5, Ms7 3.6/6*
*IDC **25** 20:04:45.5±1.0, 23°38N×98°67E, h0km, mb3.5/6, mbtmp3.5/7, ML3.7/1, MS3.5/2, Error ellipse: s-maj=39.6km s-min=15.6km az=73.0*
*NEIC **25** 20:04:47.0±1.2, 23°40N±0°05×98°46E±0°09, h16km±5km, mb4.6/5, Error ellipse: s-maj=12.5km s-min=6.5km az=68.0*
*BKK **25** 20:04:59.0±2.7, 22°N±21°×9°9E±1°0, h10km, M4.3/18, mB4.7/2, mb4.3/4, Mjma4.0/18, ML4.5/12, MLv4.4/17, Mw(mB)3.9/2*

ISC 25 20:04:46.5±0.6, 23°38N±0°05×98°46E±0°05, h10km, n50, σ1§49/56, mb3.6/9, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	TengChong	1.64	2	ePn	Pn	20 05 15.5	-0.1
TNCH				Pg	Pb	20 05 16.8	-0.2
TNCH				Sg	Sg	20 05 39.8	+0.4
TNCH				smax	smax		
	comp=N,4μm,0.5s						
TNCH				smax	smax		
	comp=E,5μm,0.4s						
CRAI	Chiangrai	3.60	150	Pn	Pn	20 05 41.7	-0.8
CRAI	Chiangrai	3.60	150	P	Pn	20 05 41.6	-0.8
PAYA	Payao	4.21	162	P	Pn	20 05 50.5	-0.3
KMI	Kunming	4.27	65	Pn	Pn	20 05 52.5	+0.7
KMI				Sn	Sn	20 06 44.3	+2.4
KMI				smax	smax		
	comp=N,350nm,1.3s						
KMI				smax	smax		
	comp=E,230nm,1.1s						
PZH	PanZhiHua	4.31	43	Pn	Pn	20 05 53.5	+1.3
PZH				Pg	Pb	20 06 05.8	+3.4
PZH				Sg	Sg	20 07 03.0	-1.8
PZH				smax	smax		
	comp=N,230nm,0.8s						
PZH				smax	smax		
	comp=E,280nm,0.8s						
PZH				LR	LR		
	comp=N,370nm,5.8s						
PZH				LR	LR		
	comp=E,560nm,6.0s						
PZH				LR	LR		
	comp=Z,440nm,7.6s						
IMP	Imphal	4.37	290	eP	Pn	20 05 55.3	+2.3
IMP				eS	Sn	20 06 43.3	-0.8
IMP				IAML		20 07 13.3	
	comp=N,455nm,1.1s						
IMP				IAML		20 07 19.1	
	comp=E,363nm,1.0s						
CHTO	Chiang Mai	4.56	174	Pn	Pn	20 05 55.4	-0.2
KOHI	KOHIMA	4.60	301	eP	Pn	20 05 59.3	+3.0
KOHI				eS	Sn	20 06 52.9	+3.1
KOHI				IAML		20 07 19.4	
	comp=N,468nm,0.8s						
CM31	Chiang Mai Arr	4.92	175		Pn	20 06 01.1	+0.5
CMAR	Chiang Mai Arr	4.92	175	Pn	Pn	20 06 00.5	0.0
CMAR	Chiang Mai Arr	4.92	175	Pn	Pn	20 06 01.5	+1.0
	comp=N,0.7nm,0.3s,baz=350,slow=12,SNR=18						
CMAR				Lg	Lg	20 07 21.6	
	comp=N,8.6nm,0.3s,baz=353,slow=31,SNR=7.1						
	comp=N,1.5nm,0.4s						
CM09	Chiang Mai Arr	4.94	174	P	Pn	20 06 01.3	+0.5
CM02	Chiang Mai Arr	4.94	175	P	Pn	20 06 01.3	+0.5
CM13	Chiang Mai Arr	4.95	175	P	Pn	20 06 00.9	-0.1
CM01	Chiang Mai Arr	4.96	175	P	Pn	20 06 01.8	+0.8
CM05	Chiang Mai Arr	4.97	175	P	Pn	20 06 01.3	0.0
CM04	Chiang Mai Arr	4.98	174	P	Pn	20 06 01.6	+0.3
MHMT	Maesarieng	5.20	186	P	Pn	20 06 04.3	-0.1
SLVN	Son La	5.43	111	Pn	Pn	20 06 06.9	-0.7
SHL	Shillong	6.38	291	Pn	Pn	20 06 19.9	-0.8
SHL	Shillong	6.38	291	eP	Pn	20 06 20.2	-0.5
PHIT	Phitsanulok	6.43	163	P	Pn	20 06 21.9	+0.7
NONG	Nongkai	6.87	139	P	Pn	20 06 27.4	+0.1
	comp=N,31nm,1.2s						
TAWA	Tawang	7.29	307	eP	Pn	20 06 33.4	+0.1
TAWA				eS	Sn	20 07 53.3	-3.0
TAWA				IAML		20 07 58.5	
	comp=E,359nm,0.7s						
TAWA				IAML		20 07 58.9	
	comp=N,464nm,0.3s						
PANO	Nakornpanom	8.47	136	P	Pn	20 06 51.1	+1.8
	comp=N,0.1nmcomp=N,0.1nmcomp=N,244nmcomp=N,7.6nm,0.4s						
LSA	Lhasa	9.08	315	Pn	Pn	20 06 56.2	-1.9
GTK	Tadong	9.74	296	ex	x	20 07 01.9	
UBPT	Khong Chiam	10.42	139	Pn	Pn	20 07 16.4	+0.3
UBPT	Khong Chiam	10.42	139	P	Pn	20 07 16.4	+0.3
XAN	Xi'an	14.03	38	P	Pn	20 08 05.5	+0.2
XAN				pmax	pmax		
	comp=N,7.0nm,0.4s						
BTO	Baotou	19.74	27	eP	Pn	20 09 18.5	+0.5
BTO				pmax	pmax		
	comp=N,14nm,0.9s						
BTO				pmax	pmax		
	comp=N,260nm,5.5s						
NJ2	Nanjing	19.99	60	eP	Pn	20 09 21.3	+0.4
NJ2				pmax	pmax		
	comp=N,3.0nm,0.5s						
HHC	Hu-ho-hao-te	20.61	29	eP	P	20 09 27.3	+1.3
HHC				pmax	pmax		
	comp=N,14nm,0.7s						
HHC				pmax	pmax		
	comp=N,81nm,5.6s						
WMQ	Urumqi	22.23	339	eP	P	20 09 41.5	-1.9
WMQ				pmax	pmax		
	comp=N,26nm,0.7s						
KSH	Kashi	24.93	315	P	P	20 10 13.8	+3.7
SONM	Songino Array	25.21	13	P	P	20 10 13.0	+0.5
	comp=N,0.6nm,0.6s,baz=195,slow=11,SNR=5.8						
SONM				LR	LR	20 21 59.2	
	comp=N,30nm,19.7s,baz=222,slow=41						
	comp=N,0.6nm,0.6s						
MK31	Makanchi Array	26.74	335	P	P	20 10 25.3	-0.9
MKAR	Makanchi Array	26.74	335	P	P	20 10 25.3	-0.9
MKAR	Makanchi Array	26.74	335	P	P	20 10 27.2	+1.0
	comp=N,0.4nm,0.7s,baz=145,slow=8.8,SNR=5.4						
	comp=N,0.4nm,0.7s						
KURBB	Kurchatov Arra	31.31	335	P	P	20 11 07.7	+1.0
	comp=N,0.2nm,0.6s,baz=138,slow=9.9,SNR=2.1						
	comp=N,0.2nm,0.6s						
HEH	HeiHe	35.05	33	eP	P	20 11 35.5	-3.9
BVAR	Borovoye Array	36.47	331	P	P	20 11 53.2	+1.7
	comp=N,0.7nm,0.7s,baz=134,slow=12,

ZKTA				S	Sb	20 28 49.5	-0.2
XNZR	**Khunzakh**	**0.80**	**56**	*e*Pg	Pb	20 28 39.2	-0.3
	14nm,0.2s						
XNZR				*e*Sg	Sb	20 28 50.9	+0.1
	33nm,0.2s						
DVE	**Vedeno**	**0.89**	**15**	*e*Pg	Pg	20 28 39.6	-0.2
	23nm,0.2s						
DVE				*e*Sg	Sg	20 28 52.1	+0.7
	299nm,0.5s						
GNBR	**Gunib**	**0.90**	**71**	*e*Pg	Pb	20 28 40.8	-0.5
	38nm,0.2s						
GNBR				*e*Sg	Sb	20 28 53.9	+0.2
	116nm,0.5s						
UNCR	**Uncukul**	**0.95**	**49**	*e*Pg	Pg	20 28 41.4	+0.3
	19nm,0.7s						
UNCR				*e*Sg	Sb	20 28 54.8	-0.4
	66nm,0.8s						
KMKR	**Kumukh**	**0.96**	**88**	*e*Pg	Pg	20 28 41.7	+0.5
	30nm,0.1s						
KMKR				*e*Sg	Sb	20 28 55.6	+0.1
	155nm,0.5s						
ARKR	**Arakani**	**1.01**	**60**	*e*Pg	Pb	20 28 42.8	-0.3
	20nm,0.2s						
ARKR				*e*Sg	Sn	20 28 57.0	-1.9
	44nm,0.6s						
KRNR	**Karanay**	**1.09**	**48**	*e*Pg	Pg	20 28 43.6	-0.2
	10.0nm,0.2s						
KRNR				*e*Sg	Sb	20 28 58.6	-0.6
	48nm,0.3s						
QZX	**Qazax, Azerbai**	**1.09**	**198**	P	Pg	20 28 42.4	-1.4
QZX				S	Sg	20 28 57.9	0.0
GROC	**Groznyy**	**1.10**	**359**	*e*Pg	Pg	20 28 44.5	+0.5
GROC				*e*Sg	Sb	20 29 00.1	+0.6
DLMR	**Dylym**	**1.14**	**32**	*e*Pg	Pg	20 28 44.9	+0.1
	22nm,1.0s						
DLMR				*e*Sg	Sb	20 29 00.6	-0.1
	147nm,0.6s						
KMGR	**Komgaron**	**1.19**	**324**	*e*Pg	Pg	20 28 45.5	-0.1
KMGR				*e*Sg	Sg	20 29 01.7	+0.8
DBC	**Dubki**	**1.19**	**39**	*i* Pg	Pg	20 28 45.3	-0.4
	20nm,0.3s						
DBC				*e*Sg	Sb	20 29 01.9	-0.1
	131nm,0.4s						
BUJR	**Buynaksk**	**1.20**	**52**	*e*Pg	Pn	20 28 46.5	-0.2
	20nm,0.4s						
BUJR				*e*Sg	Sn	20 29 03.1	-0.4
	112nm,0.3s						
LACR	**Lac**	**1.34**	**303**	*e*Sg	Sb	20 29 02.0	-4.3
URKR	**Urkarakh**	**1.36**	**87**	*e*Pg	Pn	20 28 47.8	-1.1
	7.0nm,0.7s						
URKR				*e*Sg	Sn	20 29 06.7	-0.8
	13nm,0.4s						
SEKA	**Sheki**	**1.37**	**130**	Pn	Pn	20 28 49.0	0.0
SEKA				Sn	Sn	20 29 09.1	+1.4
GDB	**GEDABAY**	**1.38**	**182**	P	Pn	20 28 47.0	-2.2
GDB				S	Sb	20 29 05.7	-1.9
SGKR	**Sergokala**	**1.42**	**75**	*e*Pg	Pn	20 28 48.5	-1.1
	33nm,0.2s						
SGKR				*e*Sg	Sg	20 29 08.2	-0.2
	82nm,0.1s						
GANJ	**Ganja**	**1.50**	**165**	Pn	Pn	20 28 49.5	-1.3
GANJ				Sn	Sn	20 29 10.4	-0.6
AKT	**Akhty**	**1.56**	**113**	*e*Pg	Pn	20 28 51.6	-0.1
	13nm,0.2s						
AKT				*e*Sg	Sg	20 29 12.9	-0.1
	59nm,0.4s						
ARNR	**Ardon**	**1.56**	**314**	*e*Pg	Pn	20 28 51.6	-0.1
ARNR				*e*Sg	Sb	20 29 13.8	+1.1
KORR	**Kora**	**1.62**	**308**	*e*Pg	Pn	20 28 52.1	-0.4
KORR				*e*Sg	Sn	20 29 14.5	+0.5
MNGR	**Mingechevir, A**	**1.64**	**144**	Pn	Pn	20 28 53.1	+0.5
MNGR				Sn	Sg	20 29 16.4	+1.0
KSMR	**Kasumkent**	**1.80**	**105**	*e*Pg	Pn	20 28 55.6	+0.6
	12nm,0.4s						
KSMR				*e*Sg	Sg	20 29 19.8	-0.9
	75nm,0.4s						
STDR	**Stavd-Durt**	**1.81**	**315**	*e*Pg	Pn	20 28 55.5	+0.5
STDR				*e*Sg	Sb	20 29 20.7	+0.9
DIGR	**Digorskoe uzhe**	**1.83**	**297**	*e*Pg	Pn	20 28 54.9	-0.7
DIGR				*e*Sg	Sn	20 29 19.3	-0.1
DRN	**Derbent**	**1.88**	**91**	*e*Pg	Pb	20 28 57.0	-0.8
	15nm,0.4s						
DRN				*e*Sg	Sg	20 29 22.2	-0.9
	22nm,0.3s						
LSNR	**Lesken**	**1.88**	**309**	*e*Pg	Pn	20 28 56.8	+0.8
LSNR				*e*Sg	Sb	20 29 22.2	+0.3
QBL	**Gabala**	**1.91**	**127**	Pn	Pb	20 28 57.6	-0.8
QBL				Sn	Sg	20 29 24.6	+0.4
QSAR	**Qusar**	**1.92**	**107**	Pn	Pb	20 28 58.9	+0.3
QSAR				Sn	Sg	20 29 25.2	+0.6
XNQ	**Khinaliq**	**1.98**	**117**	Pn	Pb	20 28 59.1	-0.5
XNQ				Sn	Sg	20 29 26.6	+0.3
GNI	**Garni**	**2.11**	**203**	*e*Pg	Pn	20 28 58.8	-0.6
GNI				*e*Sg	Sb	20 29 28.7	+0.1
AGDM	**Agdam**	**2.22**	**153**	Pn	Pn	20 29 01.2	+0.5
AGDM				Sn	Sb	20 29 31.9	+0.3
ZRD	**Zardab**	**2.30**	**142**	Pn	Pn	20 29 01.7	-0.1
ZRD				Sn	Sb	20 29 32.8	-1.2
KBTC	**Kuba-Taba**	**2.46**	**315**	*e*Pn	Pb	20 29 07.2	-0.6
KBTC				*e*Sn	Sb	20 29 39.2	+0.6
PQL	**Pirkuli**	**2.47**	**121**	Pn	Pb	20 29 07.0	-1.0
PQL				Sn	Sb	20 29 38.2	-0.6
HYR	**Heyderabad**	**2.49**	**197**	Pn	Pn	20 29 05.4	+1.0
HYR				Sn	Sn	20 29 36.4	+1.1
SIZA	**Siyzn**	**2.53**	**113**	Pn	Pn	20 29 06.6	+1.6
SIZA				Sn	Sb	20 29 40.4	-0.2
KBZ	**Khabaz**	**2.69**	**308**	*e*Pn	Pn	20 29 08.9	+1.8
KBZ				*e*Sn	Sn	20 29 39.2	-1.0
SBZ	**Shahbuz**	**2.71**	**184**	Pg	Pn	20 29 09.1	+1.6
SBZ				Sg	Sn	20 29 41.7	+0.9
SHA1	**Shidzhatmaz**	**2.84**	**306**	*e*Pn	Pn	20 29 11.0	+1.6
SHA1				*e*Sn	Sn	20 29 44.0	-0.2
KIV	**Kislovodsk**	**2.95**	**310**	*e*Pn	Pn	20 29 10.6	-0.2
KIV				*e*Sn	Sn	20 29 47.1	+0.3
YRD	**Yardimli**	**3.68**	**149**	P	Pn	20 29 20.5	-0.4
YRD				S	Sn	20 30 07.4	+2.5
LRK	**Lerik**	**3.96**	**150**	P	Pn	20 29 25.0	+0.3
LRK				S	Sn	20 30 14.4	+2.7

*IDC **25** 20:38:48.1±2.5,56°.32N×148°.56W,h0km,mb3.7/2,*
mbtmp3.5/7,ML3.3/5,MS2.9/1,Error ellipse: s-maj=39.0km
s-min=25.6km az=175.0
*NEIC **25** 20:38:50.0±0.8,56°.54N±0°.09×148°.7W±0°.1,h10km±2km,*
ML3.5/66,ML3.3(AEIC),Error ellipse: s-maj=16.3km
s-min=10.3km az=156.0
*AEIC **25** 20:38:54.8±1.0,56°.6N±0°.1×148°.7W±0°.1,h6km±9km,Error*
ellipse: s-maj=16.7km s-min=9.1km az=147.0
ISC 25 20:38:50.3±1.1,**56°.58N**±0°.08×**148°.70W**±0°.05,**h10**km,**n99,**
σ1§19/85,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.43**	**301**		**Pn**	**20 39 30.3**	**+0.3**
KDAK	**Kodiak Island**	**2.43**	**301**		**Sn**	**20 39 57.8**	**-1.9**
KDAK	**Kodiak Island**	**2.43**	**301**	Pn	**Pn**	**20 39 30.3**	**+0.3**
	4.3nm,0.3s,baz=311,slow=2.1,SNR=111						
KDAK				Sn	**Sn**	**20 39 57.0**	**-2.7**
	4.5nm,0.3s,baz=291,slow=20,SNR=5.3						
	9.1nm,0.3s						
OHAK	**Old Harbor**	**2.59**	**286**		**Sn**	**20 40 01.8**	**-1.9**
OHAK	**Old Harbor**	**2.59**	**286**	Pn	**Pn**	**20 39 31.9**	**-0.3**
OHAK	**Old Harbor**	**2.59**	**286**	P	**Pn**	**20 39 31.9**	**-0.3**
OHAK	**Old Harbor**	**2.59**	**286**	S	**Sn**	**20 40 02.2**	**-1.6**
SYI	**Shuyak Island**	**2.84**	**317**		**Sn**	**20 40 09.2**	**-0.7**
SYI	**Shuyak Island**	**2.84**	**317**	Pn	**Pn**	**20 39 36.5**	**+0.9**
SII	**Sitkinak Islan**	**3.03**	**272**		**Sn**	**20 40 12.0**	**-2.6**
SII	**Sitkinak Islan**	**3.03**	**272**	Pn	**Pn**	**20 39 38.9**	**+0.6**
SII				IAML		20 40 11.0	
	comp=N,166nm,2.3s						
SII				IAML		20 40 31.2	
	comp=E,129nm,3.4s						
SII	**Sitkinak Islan**	**3.03**	**272**	P	**Pn**	**20 39 39.5**	**+1.2**
SII	**Sitkinak Islan**	**3.03**	**272**	S	**Sn**	**20 40 12.4**	**-2.2**
CNPM	**China Poot**	**3.24**	**337**	Pn	**Pn**	**20 39 41.6**	**+0.4**
CNPM	**China Poot**	**3.24**	**337**		**Sn**	**20 40 18.9**	**-1.0**
R18K	**Karluk**	**3.29**	**290**		**Pn**	**20 39 42.2**	**+0.4**
R18K					**Sn**	**20 40 19.6**	**-1.3**
R18K	**Karluk**	**3.29**	**290**	IAML		20 40 28.6	
	comp=N,163nm,0.5s						
BRSE	**Bradley Lake S**	**3.35**	**342**		**Pn**	**20 39 42.8**	**+0.2**
BRSE					**Sn**	**20 40 20.6**	**-1.8**
BRLK	**Bradley Lake**	**3.39**	**341**		**Pn**	**20 39 43.3**	**0.0**
HOM	**Homer**	**3.46**	**334**		**Pn**	**20 39 45.1**	**+1.0**
Q19K	**Cape Douglas,**	**3.54**	**314**		**Pn**	**20 39 46.4**	**+1.1**
Q19K	**Cape Douglas,**	**3.54**	**314**	IAML		20 40 36.9	
	comp=N,159nm,0.8s						
SEW	**Seward**	**3.55**	**354**		**Pn**	**20 39 45.2**	**-0.2**
AU22	**Augustine Moun**	**3.73**	**320**		**Pn**	**20 39 49.0**	**+1.1**
AUCH	**Augustine Cone**	**3.76**	**320**		**Pn**	**20 39 49.9**	**+1.6**
CHIR	**Chirikof Islan**	**3.94**	**262**	P	**Pn**	**20 39 51.4**	**+0.7**
O22K	**Cooper Landing**	**3.95**	**353**		**Pn**	**20 39 50.8**	**0.0**
KAHC	**Katmai Hardscr**	**3.97**	**304**		**Pn**	**20 39 52.5**	**+1.2**
HIN	**Hinchinbrook I**	**4.00**	**16**		**Pn**	**20 39 51.7**	**+0.2**
HIN				IAML		20 40 40.0	
	comp=E,78nm,2.2s						
HIN				IAML		20 40 45.6	
	comp=N,88nm,1.2s						
SLKM	**Skilak Lake**	**4.02**	**349**		**Pn**	**20 39 52.0**	**+0.2**
SLKM				IAML		20 40 38.5	
	comp=N,70nm,0.3s						
SLKM				IAML		20 40 41.5	
	comp=E,70nm,0.3s						
KAIM	**Kayak Island**	**4.04**	**32**		**Pn**	**20 39 52.5**	**+0.3**
ILS	**Iliamna Low So**	**4.09**	**328**		**Pn**	**20 39 53.2**	**+0.3**
ILSW	**Iliamna Southw**	**4.14**	**327**	Pn	**Pn**	**20 39 53.1**	**-0.4**
ILSW				IAML		20 40 46.9	
	comp=E,45nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.27**	**20**		**Pn**	**20 39 55.6**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.27**	**20**	P	**Pn**	**20 39 55.6**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.27**	**20**	S	**Sn**	**20 40 44.7**	**-0.3**
PWL	**Port Wells**	**4.29**	**2**		**Pn**	**20 39 55.8**	**+0.2**
PWL				IAML		20 40 52.2	
	comp=N,44nm,0.6s						
PWL				IAML		20 41 29.6	
	comp=E,36nm,2.1s						
SUCK	**Suckling Hills**	**4.36**	**35**		**Pn**	**20 39 57.0**	**+0.6**
SUCK				IAML		20 40 54.6	
	comp=N,80nm,0.7s						
SUCK				IAML		20 40 57.0	
	comp=E,73nm,3.5s						
RAGM	**Ragged Mountai**	**4.36**	**27**		**Pn**	**20 39 57.0**	**+0.4**
RDSO	**Redoubt South**	**4.42**	**333**		**Pn**	**20 39 57.2**	**-0.3**
HMT	**Hamilton**	**4.43**	**30**		**Pn**	**20 39 58.1**	**+0.6**
RDWB	**Redoubt West**	**4.48**	**333**		**Pn**	**20 39 58.3**	**+0.1**
RC01	**Rabbit Creek A**	**4.55**	**354**		**Pn**	**20 39 59.6**	**+0.5**
RC01				IAML		20 40 53.2	
	comp=N,41nm,0.4s						
RC01				IAML		20 41 01.2	
	comp=E,32nm,1.2s						
BERG	**Berg Lake**	**4.63**	**32**	IAML		20 40 55.5	
	comp=N,75nm,0.3s						
BERG				IAML		20 41 01.4	
	comp=E,72nm,0.7s						
SNH	**Sunshine Point**	**4.75**	**38**		**Pn**	**20 40 02.1**	**+0.3**
DIV	**Divide**	**4.81**	**17**		**Pn**	**20 40 03.1**	**+0.4**
KNK	**Knik Glacier**	**4.85**	**1**		**Pn**	**20 40 03.8**	**+0.6**
KNK	**Knik Glacier**	**4.85**	**1**	IAML		20 41 09.3	
	comp=E,22nm,0.7s						
BMRM	**Bremner River**	**4.89**	**24**		**Pn**	**20 40 04.2**	**+0.4**
WAX	**Waxell Ridge**	**4.94**	**36**		**Pn**	**20 40 04.7**	**+0.1**
MESA	**MESA**	**5.06**	**42**		**Pn**	**20 40 06.6**	**+0.3**
MESA	**MESA**	**5.06**	**42**	IAML		20 40 53.6	
	comp=N,35nm,1.2s						
MESA				IAML		20 41 16.1	
	comp=E,33nm,3.4s						
KLU	**Klutina**	**5.13**	**15**	IAML		20 41 08.1	
	comp=N,19nm,0.8s						
KLU				IAML		20 41 13.6	
	comp=E,20nm,0.7s						
STLK	**Strandline Lak**	**5.19**	**343**	IAML		20 41 10.2	
	comp=N,23nm,0.6s						
STLK				IAML		20 41 12.0	
	comp=E,18nm,0.5s						
GHO	**Glory Hole Cre**	**5.21**	**359**		**Pn**	**20 40 09.1**	**+0.9**
GHO	**Glory Hole Cre**	**5.21**	**359**	IAML		20 41 11.7	
	comp=N,38nm,0.8s						
GHO				IAML		20 41 14.2	
	comp=E,36nm,0.7s						
ISLE	**Juniper Island**	**5.23**	**37**	IAML		20 41 18.9	
	comp=E,21nm,1.0s						
ISLE				IAML		20 41 49.6	
	comp=N,26nm,1.5s						
SML	**Sawmill**	**5.24**	**2**		**Pn**	**20 40 09.3**	**+0.6**
SML	**Sawmill**	**5.24**	**2**	IAML		20 41 08.2	
	comp=N,28nm,4.4s						
SML				IAML		20 42 14.9	
	comp=E,23nm,4.4s						
YAH	**Yahtse**	**5.26**	**41**		**Pn**	**20 40 09.3**	**+0.2**
YAH	**Yahtse**	**5.26**	**41**	IAML		20 41 26.3	
	comp=N,25nm,3.3s						
YAH				IAML		20 42 55.5	
	comp=E,26nm,0.2s						
CHX	**Chaix Hills**	**5.30**	**46**		**Pn**	**20 40 10.3**	**+0.8**
SCM	**Sheep Creek Mo**	**5.31**	**7**		**Pn**	**20 40 10.3**	**+0.6**
SCM	**Sheep Creek Mo**	**5.31**	**7**	IAML		20 41 10.8	
	comp=E,27nm,2.0s						
SCM				IAML		20 41 19.9	
	comp=N,35nm,1.7s						
SAMH	**Samovar Hills**	**5.48**	**46**		**Pn**	**20 40 12.7**	**+0.8**
PCA	**Pinnacle**	**5.67**	**48**		**Pn**	**20 40 14.9**	**+0.3**
M24K	**Tolsona, Glenn**	**5.69**	**12**		**Pn**	**20 40 15.8**	**+1.0**
PNL	**Peninsula**	**5.82**	**54**	P	**Pn**	**20 40 17.0**	**+0.5**
WACK	**Wrangell Chich**	**5.86**	**21**		**Pn**	**20 40 18.0**	**+0.7**
HARP	**HAARP**	**6.11**	**16**		**Pn**	**20 40 21.3**	**+0.9**
M18K	**Stony River**	**6.14**	**326**		**Pn**	**20 40 21.2**	**+0.3**
YUK2	**White River**	**6.59**	**34**		**Pn**	**20 40 28.1**	**+0.8**
YUK8	**Steele Glacier**	**6.60**	**41**		**Pn**	**20 40 28.5**	**+1.1**
PAX	**Paxson**	**6.61**	**13**		**Pn**	**20 40 28.3**	**+0.8**
YUK3	**Moose Creek**	**6.71**	**36**		**Pn**	**20 40 29.9**	**+1.0**
RND	**Reindeer**	**6.85**	**359**		**Pn**	**20 40 31.6**	**+0.9**
KTH	**Kantishna Hill**	**7.08**	**352**		**Pn**	**20 40 34.8**	**+1.0**
MCK	**McKinley**	**7.17**	**359**		**Pn**	**20 40 36.0**	**+0.9**
RIDG	**Independent Ri**	**7.43**	**13**		**Pn**	**20 40 39.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**7.63**	**352**		**Pn**	**20 40 41.9**	**+0.6**
SKAG	**Skagway**	**7.66**	**62**	P	**Pn**	**20 40 43.9**	**+2.1**
JIS	**Juneau Island**	**7.91**	**72**	P	**Pn**	**20 40 45.8**	**+0.6**
CCB	**Clear Creek Bu**	**8.10**	**3**		**Pn**	**20 40 48.4**	**+0.6**
IL31		**8.26**	**5**		**Pn**	**20 40 50.7**	**+0.8**
ILAR	**Eielson Array**	**8.26**	**5**	Pn	**Pn**	**20 40 50.5**	**+0.4**
	comp=N,0.3nm,0.3s,baz=188,slow=14,SNR=14						
ILAR				Sn	**Sn**	**20 42 20.7**	**-2.6**
	comp=N,0.2nm,0.3s,baz=189,slow=22,SNR=7.8						
	comp=N,0.6nm,0.3s						
P32M	**Atlin**	**8.49**	**63**		**Pn**	**20 40 54.0**	**+0.8**
K29M	**Barlow Dome**	**9.15**	**33**		**Pn**	**20 41 03.0**	**+0.7**
DLBC	**Dease Lake**	**10.21**	**72**	Pn	**Pn**	**20 41 14.7**	**-2.1**
	comp=N,0.3nm,0.3s,baz=270,slow=10,SNR=2.6						
DLBC				Sn	**Sn**	**20 43 06.1**	**-5.2**
	comp=N,0.2nm,0.3s,baz=33,slow=24,SNR=1.6						
	comp=N,0.9nm,0.3s						
BBB	**Bella Bella**	**12.77**	**102**	LR	LR	20 45 39.8	
	comp=N,62nm,21.5s,baz=247,slow=33						
INK	**Inuvik**	**13.64**	**24**	Pn	**Pn**	**20 42 05.4**	**+2.0**
	baz=217,slow=8.8,SNR=2.1						
	comp=N,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**18.11**	**57**	P	**P**	**20 43 02.9**	**+1.1**
	comp=N,0.1nm,0.3s,baz=270,slow=11,SNR=7.4						
	comp=N,0.9nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**49.31**	**240**	T	T	21 41 15.9	
	baz=30						
H11N3	**WAKE ISLAND Hy**	**49.32**	**240**	T	T	21 41 20.4	
	baz=30						
H11N1	**WAKE ISLAND Hy**	**49.33**	**240**	T	T	21 41 10.2	
	baz=30						
H11S1	**WAKE ISLAND Hy**	**50.45**	**240**	T	T	21 42 45.3	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**50.47**	**240**	T	T	21 42 50.0	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**50.47**	**240**	T	T	21 42 48.1	
	baz=29						
SONM	**Songino Array**	**58.69**	**310**	P	**P**	**20 48 48.3**	**+0.6**
	comp=N,0.2nm,0.5s,baz=47,slow=6.3,SNR=2.0						
	comp=N,0.2nm,0.5s						
FINES	**FINESS Array B**	**62.24**	**3**	P	**P**	**20 49 13.1**	**+1.6**
	comp=N,2.6nm,0.9s,baz=13,slow=8.6,SNR=3.7						
	comp=N,2.6nm,0.9s						

KRSC 25 20:45:48.6±1.2,**52°.17N**×**158°.09E,h133**km±10km,**MI3.7,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.36**	**181**	*i* P	Pn	20 46 08.4	+1.0
KDTR				*e*S	Sn	20 46 21.8	+0.3
RUS	**Russkaya**	**0.37**	**45**	*e*P	Pn	20 46 08.6	+1.2
RUS				*e*S	Sn	20 46 22.2	+0.7
GRL	**Gorelyy**	**0.38**	**358**	*e*P	Pn	20 46 08.5	+0.9
KRMR	**Karymshinskiy**	**0.66**	**2**	*i* P	Pn	20 46 09.8	+0.8
KRMR				*e*S	Sn	20 46 24.7	+0.3
PET	**Petropavlovsk**	**0.92**	**22**	*e*P	Pn	20 46 12.3	+1.3
PET				*e*S	Sn	20 46 28.6	+0.5
APC	**Apacha**	**0.94**	**323**	*i* P	Pn	20 46 11.4	+0.2
INSR	**Institute**	**0.95**	**19**	*e*S	Sn	20 46 29.5	+0.9
DALK	**Dalny**	**0.95**	**25**	*e*P	Pn	20 46 12.7	+1.4
DALK				*e*S	Sn	20 46 29.4	+0.8
PAU	**Pauzhetka**	**1.06**	**229**	*e*P	Pn	20 46 13.4	+1.1
UGLR	**Uglovaya**	**1.13**	**23**	*e*P	Pn	20 46 15.3	+2.2
UGLR				*e*S	Sn	20 46 34.2	+2.4
AVH	**Avacha**	**1.16**	**20**	*e*P	Pn	20 46 15.6	+2.2
KOK	**Koryaka**	**1.17**	**16**	*e*P	Pn	20 46 15.5	+2.0
KRER	**Koryakskii**	**1.20**	**19**	*e*P	Pn	20 46 16.2	+2.2
SDLR	**Sedlovina**	**1.21**	**23**	*e*P	Pn	20 46 15.5	+1.6
KRX	**Arik**	**1.24**	**16**	*e*P	Pn	20 46 15.7	+1.4
NLC	**Nalytchevo**	**1.26**	**37**	*e*P	Pn	20 46 15.2	+1.0
NLC				*e*S	Sn	20 46 34.1	+0.3
SPN	**Mys Shipunski**	**1.50**	**51**	*e*P	Pn	20 46 18.9	+2.1
GNL	**Ganaly**	**1.53**	**357**	*e*P	Pn	20 46 17.9	+0.6
SKR	**Severo-Kuril's**	**1.94**	**220**	*e*S	Sn	20 46 48.6	+1.1
MKZ	**Mys Kozlova**	**3.23**	**41**	*e*P	Pn	20 46 39.9	+1.6
TUMD	**Tumrok D**	**3.33**	**23**	*e*P	Pn	20 46 41.9	+2.3
KBTR	**Krutoberegovo**	**4.90**	**33**	*e*P	Pn	20 47 02.2	+1.8
BKI	**Bering**	**5.58**	**54**	*e*P	Pn	20 47 11.3	+2.0
BKI				*e*S	Sn	20 48 09.6	-2.8

*NEIC **25** 22:04:22.3±1.1,61°.30N±0°.03×151°.17W±0°.05,h72km±5km,*
Error ellipse: s-maj=4.1km s-min=3.6km az=179.0
AEIC 25 22:04:23.4±1.1,**61°.27N**±0°.03×**151°.18W**±0°.06,**h66**km±5km,
ML3.0,ML3.2/142(NEIC),**Error ellipse: s-maj=4.4km**
s-min=3.7km az=206.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.39**	**306**		Pn	22 04 34.1	-0.7
STLK					Sn	22 04 42.8	-0.5
FIS	**Fire Island**	**0.48**	**105**	Pn	Pn	22 04 35.8	+0.2
FIS				IAML		22 04 49.7	
	comp=N,2μm,0.6s						
SPCR	**Spurr Chakacha**	**0.50**	**262**		Pn	22 04 35.2	-0.7
SPCR					Sn	22 04 44.5	-0.6
CAPN	**Captain Cook N**	**0.51**	**179**	Pn	Pn	22 04 36.6	+0.8
CAPN				IAML		22 04 58.6	
	comp=E,2μm,0.6s						
SPBG	**Spurr Blockage**	**0.57**	**269**		Pn	22 04 35.9	-0.7
SPBG					Sn	22 04 46.1	-0.3
M22K	**Willow**	**0.70**	**46**	Pn	Pn	22 04 37.4	-0.6
M22K				Sn	Sn	22 04 49.0	+0.3
RC01	**Rabbit Creek A**	**0.72**	**104**	Pn	Pn	22 04 37.5	-0.8
RC01				Sn	Sn	22 04 49.9	+0.7
SKT	**Skwentna**	**0.73**	**347**	Pn	Pn	22 04 37.2	-1.1
SKT				IAML		22 04 49.0	
	comp=E,478nm,0.3s						
SKT				IAML		22 04 49.2	
	comp=N,646nm,0.4s						
SKT	**Skwentna**	**0.73**	**347**		Sn	22 04 48.6	-0.8
SLKM	**Skilak Lake**	**0.90**	**148**	Pn	Pn	22 04 39.5	-0.9
SLKM					Sn	22 04 53.0	0.0
SLKM				IAML		22 04 54.4	
	comp=N,1μm,0.2s						
SLKM				IAML		22 04 55.1	
	comp=E,927nm,0.3s						
RDT	**Redoubt**	**0.92**	**221**		Pn	22 04 39.8	-1.0
DFR	**Drift River**	**1.00**	**228**		Pn	22 04 41.1	-0.7
PMR	**Palmer**	**1.04**	**71**	Pn	Pn	22 04 41.1	-0.9
PMR				IAML		22 04 56.7	
	comp=E,625nm,0.4s						
PMR				IAML		22 04 56.7	
	comp=N,644nm,0.4s						
PMR	**Palmer**	**1.04**	**71**		Sn	22 04 56.0	0.0
RDJH	**Redoubt Jeurge**	**1.05**	**230**		Pn	22 04 41.7	-0.7
O22K	**Cooper Landing**	**1.07**	**137**		Sn	22 04 57.3	+0.7
O22K	**Cooper Landing**	**1.07**	**137**	Pn	Pn	22 04 41.6	-0.8
NCT	**North Crescent**	**1.11**	**231**		Pn	22 04 42.6	-0.6
M20K	**Styx River**	**1.12**	**304**	Pn	Pn	22 04 42.3	-0.9
M20K	**Styx River**	**1.12**	**304**		Sn	22 04 57.7	-0.3
RDSO	**Redoubt South**	**1.12**	**224**		Pn	22 04 42.8	-0.6
RDWB	**Redoubt West**	**1.13**	**227**		Pn	22 04 42.8	-0.6
GHO	**Glory Hole Cre**	**1.19**	**64**		Pn	22 04 43.6	-0.6
GHO				IAML		22 05 02.4	
	comp=E,610nm,0.7s						
GHO				IAML		22 05 04.0	
	comp=N,452nm,0.7s						
CUT	**Chulitna**	**1.22**	**20**	Pn	Pn	22 04 43.7	-0.7
CUT	**Chulitna**	**1.22**	**20**		Sn	22

HIN IAML 22 05 45.9
comp=N,125nm,0.7s
M24K Tolsona, Glenn 2.53 68 Pn Pn 22 05 01.7 -0.4
M24K IAML 22 05 42.5
comp=E,180nm,0.7s
M24K IAML 22 05 43.9
comp=N,166nm,0.7s
KLU Klutina 2.54 83 Pn Pn 22 05 00.3 -2.0
KLU IAML 22 05 42.4
comp=E,120nm,0.4s
KLU IAML 22 05 44.9
comp=N,114nm,0.5s
DIV Divide 2.62 91 Pn Pn 22 05 01.4 -2.0
Q19K Cape Douglas, 2.66 209 Pn Pn 22 05 03.5 -0.3
MCK McKinley 2.68 22 Pn Pn 22 05 04.2 0.0
SYI Shuyak Island 2.74 193 Pn Pn 22 05 04.2 -0.7
SYI IAML 22 05 42.8
comp=E,115nm,0.5s
SYI IAML 22 05 46.3
comp=N,134nm,0.4s
P18K Big Mountain, 2.76 229 Pn Pn 22 05 03.8 -1.4
BPAW Bear Paw Mtn. 2.84 2 Pn Pn 22 05 05.3 -1.0
BPAW IAML 22 05 44.7
comp=E,52nm,0.4s
HARP HAARP 3.07 66 Pn 22 05 08.7 -0.8
PAX Paxson 3.18 55 Pn Pn 22 05 10.6 -0.3
N25K Chitina, Valde 3.18 81 Pn Pn 22 05 10.5 -0.5
N25K IAML 22 05 58.6
comp=N,59nm,0.6s
N25K IAML 22 06 01.8
comp=E,43nm,0.5s
BMRM Bremner River 3.21 93 Pn Pn 22 05 09.5 -1.8
KAHC Katmai Hardscr 3.26 218 Pn 22 05 11.1 -1.0
KAHG Katmai Hook Gl 3.26 213 Pn 22 05 11.6 -0.6
RAGM Ragged Mountai 3.31 103 Pn Pn 22 05 09.9 -2.8
WACK Wrangell Chich 3.35 75 Pn 22 05 12.5 -0.9
J19K Poorman 3.42 325 Pn Pn 22 05 13.6 -0.6
NEA2 Nenana 3.47 15 Pn Pn 22 05 14.0 -0.9
WRH Wood River Hil 3.51 22 Pn Pn 22 05 15.5 +0.1
WRH IAML 22 06 15.9
comp=N,26nm,0.5s
WRH IAML 22 06 20.1
comp=E,29nm,0.6s
HMT Hamilton 3.52 102 Pn Pn 22 05 12.7 -2.9
GLB Gilahina Butte 3.55 84 Pn Pn 22 05 15.3 -0.8
GLB IAML 22 06 09.1
comp=E,32nm,0.5s
GLB IAML 22 06 17.2
comp=N,39nm,0.7s
KDAK Kodiak Island 3.57 192 Pn Pn 22 05 14.9 -1.4
KDAK IAML 22 06 06.2
comp=N,54nm,1.3s
KDAK IAML 22 06 10.9
comp=N,57nm,0.9s
K17K Iditarod 3.66 296 Pn Pn 22 05 16.7 -0.7
HDA Harding Lake 3.70 30 Pn Pn 22 05 16.9 -1.0
HDA IAML 22 06 08.2
comp=E,57nm,0.4s
HDA IAML 22 06 21.7
comp=N,73nm,0.7s
ACHA Angle Creek He 3.72 216 Pn Pn 22 05 18.0 -0.4
CCB Clear Creek Bu 3.72 23 Pn Pn 22 05 17.2 -1.1
CCB IAML 22 06 17.3
comp=E,27nm,0.9s
VRDI Verde Repeater 3.73 87 Pn Pn 22 05 16.8 -1.8
VRDI IAML 22 06 15.5
comp=N,25nm,0.9s
VRDI IAML 22 06 21.9
comp=E,24nm,1.1s
ANCK Angle Creek 3.78 217 Pn 22 05 18.7 -0.4
O16K Kokwok River B 3.82 247 Pn Pn 22 05 18.8 -0.8
O16K IAML 22 06 31.1
comp=N,24nm,1.1s
RIDG Independent Ri 3.84 47 Pn Pn 22 05 20.4 +0.5
MENT Mentasta 3.88 61 Pn Pn 22 05 19.1 -1.4
MENT IAML 22 06 21.9
comp=N,68nm,0.5s
I21K Tanana 3.94 355 Pn Pn 22 05 19.8 -1.4
I23K Minto, Yukon-K 3.98 11 Pn Pn 22 05 21.6 -0.2
I23K IAML 22 06 47.0
comp=N,24nm,0.8s
IL31 4.02 27 Pn Pn 22 05 21.9 -0.4
ILAR Eielson Array 4.02 27 Pn Pn 22 05 21.6 -0.7
L26K Log Cabin Wild 4.07 61 Pn Pn 22 05 22.7 -0.4
L26K IAML 22 06 30.2
comp=N,35nm,0.3s
L26K IAML 22 06 42.6
comp=E,44nm,0.5s
DOT Dot Lake 4.08 51 Pn Pn 22 05 22.2 -0.9
WAX Waxell Ridge 4.16 98 Pn Pn 22 05 22.3 -2.0
OHAK Old Harbor 4.20 196 Pn Pn 22 05 21.6 -3.2
OHAK IAML 22 06 11.6
comp=N,23nm,1.4s
OHAK IAML 22 06 29.7
comp=E,25nm,1.3s
POKR Poker Plat Res 4.22 22 Pn Pn 22 05 23.7 -1.4
POKR IAML 22 06 38.2
comp=E,16nm,0.9s
POKR IAML 22 06 38.3
comp=N,16nm,0.9s
SCRK Sand Creek 4.29 48 Pn Pn 22 05 25.2 -1.0
SCRK IAML 22 06 26.3
comp=N,32nm,0.5s
SCRK IAML 22 06 27.7
comp=E,32nm,0.5s
KIAG Kiagna River 4.30 91 Pn 22 05 25.5 -0.8
H21K Melozitna Rive 4.46 351 Pn Pn 22 05 27.5 -0.9
M27K Edge Creek, AK 4.54 72 Pn Pn 22 05 29.8 +0.1
L27K Beaver Creek, 4.74 64 Pn Pn 22 05 31.4 -0.8
BCAR Beaver Creek A 4.76 64 Pn Pn 22 05 31.5 -1.0
H19K Roundabout Mou 4.88 333 Pn Pn 22 05 32.9 -1.3
PRP Porcupine Dome 4.96 28 Pn Pn 22 05 35.8 +0.4
PRP IAML 22 06 42.4
comp=E,13nm,0.8s
PRP IAML 22 06 43.3
comp=N,18nm,0.9s
M14K Bethel 5.27 269 Pn Pn 22 05 38.7 -0.7
H17K Granite Mounta 5.41 317 Pn Pn 22 05 40.3 -1.0
G18K Tagagawik 5.71 328 Pn Pn 22 05 44.8 -0.7
FYU Fort Yukon 5.92 24 Pn Pn 22 05 48.1 -0.3
F21K Alatna River 6.06 351 Pn 22 05 49.8 -0.4
DAWY Dawson 6.11 58 Pn Pn 22 05 50.1 -0.9
M29M Somme Creek 6.13 73 Pn Pn 22 05 50.2 -1.1
CHGN Chignik 6.24 220 Pn Pn 22 05 52.9 +0.2
L29M L29M 6.38 68 Pn Pn 22 05 53.2 -1.4
F24K Squaw Lake 6.43 11 Pn Pn 22 05 55.4 0.0
HYT Haines Junctio 6.66 88 Pn Pn 22 05 57.3 -1.2
N30M Aishikik Lake 6.78 82 Pn Pn 22 05 57.6 -2.5
BMAR Burnt Mountain 6.81 22 Pn Pn 22 06 00.2 -0.3
F26K Sheenjek River 7.12 22 Pn Pn 22 06 03.1 -1.6
E25K Arctic Village 7.28 17 Pn Pn 22 06 05.8 -1.2
TOLK Toolik Lake Re 7.43 5 Pn Pn 22 06 10.2 +1.2
WHY Whitehorse 7.95 87 Pn Pn 22 06 14.3 -1.9

*IDC **25** 22:56:10.1±1.1, 13°.29N×50°.56E, h0km, mb3.8/11, mbtmp3.7/12, ML2.7/1, MS3.3/3, Error ellipse: s-maj=30.5km s-min=22.7km az=171.0*
ISC 25 22:56:13.4±1.0, 13°.3N±0°.2×50°.5E±0°.1, h21km, n15, σ0°48/12, mb3.9/11, MS3.2/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.72**	**258**	Pn	**Pn**	**22 58 05.0**	**+0.2**
	0.1nm,0.3s,baz=48,slow=15,SNR=8.3 0.4nm,0.3s						
GNI	**Garni**	**27.23**	**350**	LR	LR	23 14 20.3	
	comp=Z,38nm,20.9s,baz=247,slow=40						
LSZ	**Lusaka**	**35.99**	**219**	LR	LR	23 16 12.0	
	comp=Z,41nm,18.5s,baz=175,slow=33						
BVAR	**Borovoye Array**	**42.67**	**18**	P	**P**	**23 04 08.4**	**-0.1**
	0.3nm,0.6s,baz=180,slow=8.6,SNR=2.4 0.3nm,0.6s						
MKAR	**Makanchi Array**	**42.70**	**32**	P	**P**	**23 04 09.0**	**0.0**
	0.3nm,0.6s,baz=220,slow=7.4,SNR=4.2 0.3nm,0.6s						
ARTI	**Arti**	**43.42**	**6**	LR	LR	23 25 17.1	
	comp=Z,57nm,18.8s,baz=203,slow=40						
KURBB	**Kurchatov Arra**	**43.63**	**26**	P	**P**	**23 04 16.0**	**-0.3**
	0.4nm,0.8s,baz=225,slow=7.9,SNR=4.7 0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.73**	**77**	P	**P**	**23 04 41.0**	**-0.4**
	1.9nm,0.3s,baz=273,slow=7.2,SNR=1.5 1.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.49**	**276**	P	**P**	**23 04 47.4**	**0.0**
	0.9nm,0.3s,baz=76,slow=8.2,SNR=2.1 0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**48.71**	**26**	P	**P**	**23 04 56.0**	**-0.3**
	0.7nm,0.6s,baz=218,slow=7.0,SNR=4.1 0.7nm,0.6s						
HFS	**Hagfors**	**54.00**	**338**	P	**P**	**23 05 35.8**	**0.0**
	1.8nm,0.7s,baz=142,slow=7.3,SNR=1.9 1.8nm,0.7s						
SONM	**Songino Array**	**57.51**	**41**	P	**P**	**23 06 02.6**	**+1.2**
	0.3nm,0.6s,baz=262,slow=7.0,SNR=1.8 0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**58.88**	**327**	P	**P**	**23 06 10.2**	**-0.5**
	0.7nm,0.7s,baz=112,slow=6.6,SNR=3.7 0.7nm,0.7s						
WRA	**Warramunga Arr**	**88.77**	**111**	P	**P**	**23 09 06.1**	**-0.2**
	0.7nm,0.8s,baz=299,slow=3.8,SNR=4.8 0.7nm,0.8s						
ASAR	**Alice Springs**	**89.31**	**114**	P	**P**	**23 09 08.8**	**0.0**
	0.6nm,0.8s,baz=302,slow=4.4,SNR=4.9 0.6nm,0.8s						

*NEIC **25** 23:23:16.5±2.3, 31°.8S±0°.1×177°.4W±0°.2, h10km±2km, mb4.8/14, Error ellipse: s-maj=25.3km s-min=18.2km az=124.0*
*IDC **25** 23:23:16.0±1.0, 31°.46S×177°.57W, h0km, mb4.3/5, mbtmp4.3/5, MS3.4/2, Error ellipse: s-maj=36.3km s-min=28.7km az=41.0*
ISC 25 23:23:16.8±0.7, 31°.67S±0°.06×177°.6W±0°.1, h10km, n49, σ1°91/57, mb4.7/15, 4C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.41**	**353**	P	**Pn**	**23 23 54.3**	**-2.0**
GLKZ				S	**Sn**	**23 24 23.3**	**-2.6**
MXZ	**Matakaoa Point**	**6.79**	**209**	Pn	**Pn**	**23 24 52.9**	**-3.5**
MXZ	**Matakaoa Point**	**6.79**	**209**	P	**Pn**	**23 24 53.4**	**-3.0**
MXZ				S	**Sn**	**23 26 12.0**	**-1.8**
WMGZ	**Waiomatatini S**	**6.96**	**207**	S	**Sn**	**23 26 15.9**	**-2.2**
PKGZ	**Pakihiroa**	**7.14**	**209**	P	**Pn**	**23 24 58.3**	**-3.1**
PKGZ				S	**Sn**	**23 26 20.8**	**-1.7**
HAZ	**Te Kaha**	**7.17**	**211**	P	**Pn**	**23 24 59.6**	**-2.1**
HAZ				S	**Sn**	**23 26 24.1**	**+0.8**
PUZ	**Puketiti**	**7.25**	**207**	P	**Pn**	**23 25 00.0**	**-2.8**
PUZ				S	**Sn**	**23 26 23.3**	**-1.8**
RUGZ	**Raukumara Rang**	**7.39**	**210**	P	**Pn**	**23 25 03.1**	**-1.8**
RUGZ				S	**Sn**	**23 26 28.1**	**-0.8**
TWGZ	**Tauwhareparae**	**7.45**	**208**	S	**Sn**	**23 26 28.2**	**-1.9**
CNGZ	**Carnagh Statio**	**7.62**	**206**	P	**Pn**	**23 25 04.9**	**-3.0**
URZ	**Urewera**	**7.89**	**212**	Pn	**Pn**	**23 25 08.9**	**-2.7**
	0.9nm,0.3s,baz=338,slow=3.5,SNR=9.1						
URZ				Sn	**Sn**	**23 26 37.4**	**-3.5**
	5.9nm,0.3s,baz=312,slow=22,SNR=14						
URZ	**Urewera**	**7.89**	**212**	P	**Pn**	**23 25 09.3**	**-2.3**
URZ				S	**Sn**	**23 26 37.1**	**-3.8**
OUZ	**Omahuta**	**8.18**	**242**	P	Pn	23 25 22.0	+6.5
RTZ	**Ruatahuna**	**8.24**	**211**	Pn	**Pn**	**23 25 13.0**	**-3.4**
TUWZ	**Tuamarina**	**11.88**	**213**	Pn	**Pn**	**23 26 06.2**	**0.0**
THZ	**Tophouse**	**12.63**	**214**	Pn	**Pn**	**23 26 16.3**	**-0.2**
DZM	**Mont Dzumac**	**17.14**	**300**	Pn	**Pn**	**23 27 14.7**	**-1.9**
DZM	**Mont Dzumac**	**17.14**	**300**	P	**P**	**23 27 20.7**	**+2.4**
	5.9nm,0.8s,baz=80,slow=18,SNR=2.2						
WHZ	**Wether Hill Ro**	**18.10**	**214**		**P**	**23 27 28.8**	**+0.2**
ARMA	**Armidale**	**26.36**	**265**	P	**P**	**23 28 54.7**	**+1.4**
ARMA				IAmb	IAmb	23 29 03.4	
	comp=Z,37nm,1.9s						
EIDS	**Eidsvold**	**28.17**	**275**	P	**P**	**23 29 11.2**	**+1.7**
EIDS				IAmb	IAmb	23 29 12.1	
	comp=Z,19nm,1.6s						
TOO	**Toolangi**	**30.81**	**249**	P	**P**	**23 29 35.5**	**+2.6**
TOO				IAmb	IAmb	23 29 54.5	
	comp=Z,32nm,1.6s						
STKA	**Stephens Creek**	**34.56**	**259**	P	**P**	**23 30 07.7**	**+2.0**
STKA	**Stephens Creek**	**34.56**	**259**	P	**P**	**23 30 07.8**	**+2.1**
	comp=Z,2.6nm,0.5s,baz=103,slow=13,SNR=6.4 comp=Z,2.6nm,0.5s						
MGBR	**Mount Gambier**	**34.71**	**248**	P	**P**	**23 30 09.0**	**+2.1**
XMAS	**Kiritimati**	**38.60**	**33**	P	**P**	**23 30 38.4**	**-1.8**
BBOO	**Buckleboo**	**38.98**	**256**	P	**P**	**23 30 43.7**	**+0.3**
BBOO				IAmb	IAmb	23 31 07.7	
	comp=Z,96nm,1.8s						
COEN	**Coen**	**39.97**	**287**	P	**P**	**23 30 52.1**	**+0.4**
COEN				IAmb	IAmb	23 32 22.2	
	comp=Z,26nm,1.8s						
ASAR	**Alice Springs**	**43.41**	**268**	P	**P**	**23 31 20.4**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=107,slow=7.4,SNR=23						
ASAR				PcP	**PcP**	**23 33 08.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=96,slow=3.6,SNR=2.4						
ASAR				LR	LR	23 47 45.2	
	comp=Z,24nm,19.2s,baz=158,slow=34 comp=Z,2.9nm,0.8s						
WR0	**Warramunga Arr**	**44.33**	**273**	P	**P**	**23 31 27.3**	**0.0**
WR0				IAmb	IAmb	23 31 45.3	
	comp=Z,27nm,1.5s						
WB2	**Warramunga Arr**	**44.50**	**273**	P	**P**	**23 31 29.2**	**+0.5**
WB2				IAmb	IAmb	23 31 47.0	
	comp=Z,8.4nm,0.7s						
WRA	**Warramunga Arr**	**44.51**	**273**	P	**P**	**23 31 28.3**	**-0.5**
WRA	**Warramunga Arr**	**44.51**	**273**	P	**P**	**23 31 28.8**	**0.0**
	comp=Z,7.2nm,0.8s,baz=114,slow=7.7,SNR=18						
WRA				PcP	**PcP**	**23 33 12.1**	**0.0**
	comp=Z,0.9nm,0.9s,baz=117,slow=3.4,SNR=1.5 comp=Z,7.2nm,0.8s						
WB0	**Warramunga Arr**	**44.54**	**273**	P	**P**	**23 31 29.3**	**+0.3**
WB0				IAmb	IAmb	23 31 46.4	
	comp=Z,8.9nm,0.7s						
FORT	**Forrest**	**46.08**	**256**	P	**P**	**23 31 41.0**	**-0.1**
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P**	**23 33 15.3**	**+2.6**
	comp=Z,2.0nm,0.8s,baz=60,slow=1.1,SNR=12 comp=Z,2.0nm,0.8s						
SYO	**Syowa Base**	**75.97**	**193**	‖eP	**PcP**	**23 35 14.6**	**-1.2**
TROLL	**Troll, Antarti**	**76.61**	**180**	⇑P	**P**	**23 35 09.6**	**+2.2**
	comp=Z,163nm,0.9s						
SNAA	**Sanae**	**76.89**	**178**	⇑P	**P**	**23 35 10.0**	**+1.2**
	comp=Z,37nm,0.7s						
SNAA	**Sanae**	**76.89**	**178**	P	**P**	**23 35 10.0**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=181,slow=11,SNR=3.4 comp=Z,2.2nm,0.9s						
VNA3	**Neumayer Olymp**	**77.02**	**176**	⇑P	**P**	**23 35 10.5**	**+0.9**
	comp=Z,7.9nm,0.7s						
VNA2	**Neumayer--Watz**	**77.46**	**177**	⇑P	**P**	**23 35 12.7**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=175,slow=4.8						
CPUP	**Villa Florida**	**98.92**	**128**	LR	LR	00 13 52.3	
	comp=Z,37nm,21.5s,baz=218,slow=31						
KURBB	**Kurchatov Arra**	**122.21**	**313**	PKP	**PKPdf**	**23 42 11.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=116,slow=1.7,SNR=1.2						
BVAR	**Borovoye Array**	**127.55**	**315**	PKP	**PKiKP**	**23 42 22.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=84,slow=4.5,SNR=2.7						
KBZ	**Khabaz**	**146.10**	**302**	PKPbc	**PKPbc**	**23 42 57.5**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=177,slow=5.0,SNR=8.1						
FINES	**FINESS Array B**	**146.45**	**340**	PKPbc	**PKPbc**	**23 42 57.5**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=59,slow=3.4,SNR=14						
MMAI	**Mount Meron Ar**	**152.15**	**282**	PKPbc	**PKiKP**	**23 43 15.1**	**+1.9**
	comp=Z,2.1nm,0.5s,baz=77,slow=7.3,SNR=9.2						
AKASG	**Malin Array Be**	**152.51**	**322**	PKPbc	**PKPbc**	**23 43 11.9**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=17,slow=1.3,SNR=4.3						

*IDC **25** 23:25:19.6±0.8, 33°.01S×178°.99W, h0km, mb4.3/6, mbtmp4.3/6, MS3.4/4, Error ellipse: s-maj=33.8km s-min=23.1km az=59.0*
*WEL **25** 23:25:20.9±0.7, 33°.5±5°.5×17°.8W±1°.2, h12km, mB5.5/18, ML5.3/20, MLv5.2/20, Mw(mB)5.0/18, Error ellipse: s-maj=16.3km s-min=3.1km az=109.5, confirmed*
ISC 25 23:25:21.0±0.6, 33°.41S±0°.06×178°.67W±0°.10, h10km, n110, σ2°23/127, mb4.2/8, MS3.5/4, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.18**	**9**	P	**Pn**	**23 26 23.8**	**-1.0**
GLKZ				S	**Sn**	**23 27 10.6**	**-3.1**
RIZ	**Raoul Island**	**4.20**	**9**	P	**Pn**	**23 26 25.6**	**+0.6**
RIZ				S	**Sn**	**23 27 12.2**	**-1.9**
WMGZ	**Waiomatatini S**	**5.00**	**208**	P	**Pn**	**23 26 38.1**	**+2.0**
WMGZ				S	**Sn**	**23 27 34.9**	**+0.9**
PKGZ	**Pakihiroa**	**5.18**	**210**	P	**Pn**	**23 26 39.6**	**+1.1**
PKGZ				S	**Sn**	**23 27 38.2**	**-0.2**
HAZ	**Te Kaha**	**5.22**	**213**	P	**Pn**	**23 26 40.4**	**+1.4**
HAZ				S	**Sn**	**23 27 39.5**	**+0.3**
PUZ	**Puketiti**	**5.28**	**207**	P	**Pn**	**23 26 40.4**	**+0.4**
PUZ				S	**Sn**	**23 27 40.8**	**-0.2**
WIZ	**White Island**	**5.32**	**218**	P	**Pn**	**23 26 41.0**	**+0.6**
WIZ				S	**Sn**	**23 27 41.1**	**-0.7**
RUGZ	**Raukumara Rang**	**5.43**	**212**	P	**Pn**	**23 26 42.6**	**+0.5**
TWGZ	**Tauwhareparae**	**5.49**	**209**	P	**Pn**	**23 26 43.3**	**+0.5**
TWGZ				S	**Sn**	**23 27 46.4**	**+0.5**
GRZ	**Great Barrier**	**5.60**	**238**	P	**Pn**	**23 26 46.4**	**+2.0**
CNGZ	**Carnagh Statio**	**5.67**	**206**	P	**Pn**	**23 26 46.1**	**+0.9**
CNGZ				S	**Sn**	**23 27 52.1**	**+1.8**
MYRZ	**Mayor Island**	**5.68**	**226**	P	**Pn**	**23 26 47.5**	**+2.1**
WHRZ	**Whale Island**	**5.68**	**217**	P	**Pn**	**23 26 48.9**	**+3.5**
TKGZ	**Te Karaka**	**5.76**	**208**	P	**Pn**	**23 26 47.8**	**+1.3**
TKGZ				S	**Sn**	**23 27 51.0**	**-1.8**
MWZ	**Matawai**	**5.81**	**211**	P	**Pn**	**23 26 48.4**	**+1.2**
MWZ				S	**Sn**	**23 27 53.5**	**-0.4**
OPRZ	**Ohinepanea**	**5.89**	**220**	P	**Pn**	**23 26 51.4**	**+3.1**
URZ	**Urewera**	**5.93**	**214**	Pn	**Pn**	**23 26 48.0**	**-0.9**
	37nm,0.3s,baz=94,slow=15,SNR=13						
URZ				Sn	**Sn**	**23 27 53.5**	**-3.4**
	29nm,0.3s,baz=72,slow=19,SNR=10.0						
RAGZ	**Rawiri**	**5.99**	**211**	P	**Pn**	**23 26 52.4**	**+2.7**
RAGZ				S	**Sn**	**23 27 58.1**	**-0.3**
RIGZ	**Rimuhau**	**6.03**	**208**	P	**Pn**	**23 26 51.2**	**+1.0**
RIGZ				S	**Sn**	**23 27 58.6**	**-0.7**
WIAZ	**Waiheke Island**	**6.10**	**235**	P	**Pn**	**23 26 55.7**	**+4.5**
PRGZ	**Paritu Road**	**6.17**	**206**	P	**Pn**	**23 26 52.0**	**-0.2**
PRGZ				S	**Sn**	**23 27 59.8**	**-3.0**
KARZ	**Kaharoa**	**6.19**	**221**	P	**Pn**	**23 26 54.5**	**+2.0**
TARZ	**Mount Tarawera**	**6.21**	**218**	P	**Pn**	**23 26 53.3**	**+0.4**
TARZ				S	**Sn**	**23 28 05.7**	**+1.7**
ABAZ	**Army Bay**	**6.21**	**237**	P	Pn	23 26 58.0	+5.3
MBAZ	**Motutapu North**	**6.25**	**236**	P	**Pn**	**23 26 55.0**	**+1.7**
MKAZ	**Moumakai**	**6.25**	**232**	P	**Pn**	**23 26 56.6**	**+3.3**
SNGZ	**Shannon Statio**	**6.26**	**210**	P	**Pn**	**23 26 54.0**	**+0.5**
SNGZ				S	**Sn**	**23 28 03.2**	**-1.9**
MUGZ	**Murupara**	**6.27**	**215**	P	**Pn**	**23 26 52.6**	**-0.9**
MUGZ				S	**Sn**	**23 28 03.5**	**-1.7**
RTZ	**Ruatahuna**	**6.28**	**213**	P	**Pn**	**23 26 53.7**	**0.0**
RTZ				S	**Sn**	**23 28 03.7**	**-1.9**
RRRZ	**Republican Roa**	**6.29**	**217**	P	**Pn**	**23 26 53.2**	**-0.6**
WCZ	**Waipu Caves**	**6.29**	**244**	P	**Pn**	**23 26 55.7**	**+1.9**
KNZ	**Kokohu**	**6.34**	**207**	P	**Pn**	**23 26 53.5**	**-0.9**
KNZ				S	**Sn**	**23 28 03.8**	**-3.0**
MHGZ	**Mahia Peninsul**	**6.37**	**205**	P	**Pn**	**23 26 54.8**	**-0.1**
MHGZ				S	**Sn**	**23 28 06.9**	**-0.7**
TOZ	**Tahuroa Road**	**6.42**	**226**	P	**Pn**	**23 26 57.8**	**+2.3**
ALRZ	**Allen Road**	**6.54**	**217**	P	**Pn**	**23 26 57.6**	**+0.3**
ALRZ				S	**Sn**	**23 28 10.1**	**-1.9**
OUZ	**Omahuta**	**6.65**	**252**	P	**Pn**	**23 26 59.8**	**+1.0**
OUZ				S	Sn	23 28 07.2	-7.5
TLZ	**Tolley Road**	**6.80**	**222**	P	**Pn**	**23 27 03.1**	**+2.3**
BKZ	**Black Stump Fm**	**6.95**	**213**	P	**Pn**	**23 27 02.8**	**-0.1**
BKZ				S	**Sn**	**23 28 18.3**	**-3.8**
CKHZ	**Cape Kidnapper**	**7.12**	**208**	P	**Pn**	**23 27 03.6**	**-1.5**
CKHZ				S	**Sn**	**23 28 21.7**	**-4.4**
TMVZ	**Te Maari**	**7.29**	**217**	P	**Pn**	**23 27 07.6**	**0.0**
TMVZ				S	**Sn**	**23 28 27.0**	**-3.5**
KRVZ	**Karewarewa**	**7.30**	**217**	P	**Pn**	**23 27 08.6**	**+0.7**
KRVZ				S	**Sn**	**23 28 28.6**	**-2.2**
HIZ	**Hauiti**	**7.32**	**224**	P	**Pn**	**23 27 10.6**	**+2.7**
OTVZ	**Oturere**	**7.34**	**217**	P	**Pn**	**23 27 08.4**	**0.0**
NNVZ	**North Ngauruho**	**7.34**	**217**	P	**Pn**	**23 27 09.2**	**+0.8**
WTVZ	**West Tongariro**	**7.35**	**218**	P	**Pn**	**23 27 08.5**	**+0.1**
SNVZ	**South Ngauruho**	**7.37**	**217**	P	**Pn**	**23 27 09.7**	**+0.9**
NGZ	**Ngauruhoe**	**7.38**	**217**	P	**Pn**	**23 27 08.9**	**-0.1**
TWVZ	**Taurewa**	**7.39**	**218**	P	**Pn**	**23 27 10.0**	**+1.0**
KRHZ	**Kereru**	**7.39**	**211**	P	**Pn**	**23 27 07.9**	**-1.1**
KRHZ				S	**Sn**	**23 28 28.1**	**-4.9**
COVZ	**Chateau Observ**	**7.43**	**217**	P	**Pn**	**23 27 10.4**	**+0.8**
FWVZ	**Far West T-bar**	**7.47**	**217**	P	**Pn**	**23 27 10.4**	**+0.1**
FWVZ				S	**Sn**	**23 28 30.4**	**-4.7**
WHVZ	**Whangaehu Hut**	**7.47**	**217**	P	**Pn**	**23 27 11.5**	**+1.2**
WHVZ				S	**Sn**	**23 28 31.4**	**-3.8**
MAVZ	**Matarangi**	**7.48**	**217**	P	**Pn**	**23 27 10.4**	**+0.1**
MOVZ	**Moawhango**	**7.49**	**215**	P	**Pn**	**23 27 09.6**	**-0.8**
MOVZ				S	**Sn**	**23 28 29.3**	**-6.0**
WNVZ	**Wahianoa**	**7.50**	**216**	P	**Pn**	**23 27 10.7**	**+0.1**
WNVZ				S	**Sn**	**23 28 33.1**	**-2.8**
TRVZ	**Turoa**	**7.51**	**217**	P	**Pn**	**23 27 11.8**	**+1.1**
PXZ	**Pawanui**	**7.52**	**207**	P	**Pn**	**23 27 09.8**	**-0.9**
PXZ				S	**Sn**	**23 28 30.9**	**-5.1**
PNHZ	**Pukenui**	**7.69**	**211**	P	**Pn**	**23 27 10.9**	**-2.2**
PRHZ	**Porangahau**	**7.81**	**207**	P	**Pn**	**23 27 14.0**	**-0.7**
TSZ	**Takapari Road**	**7.92**	**211**	P	**Pn**	**23 27 15.0**	**-1.2**
BFZ	**Birch Farm**	**8.32**	**208**	P	**Pn**	**23 27 18.4**	**-3.2**
MRZ	**Mangatainoka R**	**8.58**	**211**	P	**Pn**	**23 27 22.1**	**-3.1**
HOWZ	**Holdsworth Sta**	**8.80**	**210**	P	**Pn**	**23 27 26.5**	**-1.8**
TMWZ	**Te Maipa**	**8.82**	**208**	P	**Pn**	**23 27 26.6**	**-1.9**
OGWZ	**Otaki Gorge**	**8.88**	**212**	P	**Pn**	**23 27 26.1**	**-3.2**
MTW	**Mount Morrison**	**9.02**	**209**	P	**Pn**	**23 27 27.9**	**-3.4**
KIW	**Kapiti Island**	**9.03**	**213**	P	**Pn**	**23 27 28.1**	**-3.3**
TRWZ	**Traveller**	**9.15**	**208**	P	**Pn**	**23 27 28.7**	**-4.4**
PAWZ	**Paruwai Farm**	**9.24**	**209**	P	**Pn**	**23 27 32.9**	**-1.4**
MSWZ	**Moikau Station**	**9.34**	**209**	P	**Pn**	**23 27 31.8**	**-3.9**
DUWZ	**D'Urville Isla**	**9.46**	**217**	P	**Pn**	**23 27 33.7**	**-3.5**
PLWZ	**Palliser**	**9.47**	**209**	P	**Pn**	**23 27 34.7**	**-2.7**
TCW	**Tory Channel**	**9.60**	**214**	P	Pn	23 27 34.9	-4.3
TUWZ	**Tuamarina**	**9.93**	**214**	P	Pn	23 27 39.3	-4.4
NNZ	**Nelson**	**10.04**	**217**	P	**Pn**	**23 27 41.7**	**-3.5**
BSWZ	**Blackbirch Sta**	**10.19**	**213**	P	**Pn**	**23 27 43.3**	**-3.9**
THZ	**Tophouse**	**10.69**	**216**	P	**Pn**	**23 27 50.2**	**-3.9**
KHZ	**Kahutara**	**10.89**	**212**	P	Pn	23 27 52.1	-4.8
OXZ	**Oxford**	**12.29**	**214**	P	Pn	23 28 11.3	-4.7
PPT	**Papeete**	**30.49**	**66**	LR	LR	23 41 58.1	
	comp=Z,30nm,18.9s,baz=210,slow=33						
ASAR	**Alice Springs**	**42.48**	**271**	P	**P**	**23 33 14.8**	**-1.8**
	4.7nm,0.7s,baz=111,slow=7.5,SNR=14 4.7nm,0.7s						
WRA	**

comp=Z,1.1nm,0.6s,baz=18,slow=2.6
NOA NORSAR Array B 151.62 350 PKPbc **PKPbc 23 45 13.9 -0.9**
comp=Z,1.0nm,0.5s,baz=15,slow=4.1,SNR=6.5
HFS Hagfors 152.05 347 PKPbc **PKPbc 23 45 14.6 -1.1**
comp=Z,1.0nm,0.4s,baz=70,slow=1.7,SNR=7.1
AKASG Malin Array Be 153.26 319 PKPbc **PKPbc 23 45 17.3 -1.4**
comp=Z,0.4nm,0.4s,baz=64,slow=2.1,SNR=1.5

UCR 25 23:48:08.7±1.0, 9°29N×84°48W, h0km±2km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.27**	**32**	*eS*	Sb	23 49 20.8	-0.9
LLNJ	**Naranjito**	**0.41**	**63**	*eP*	Pb	23 48 18.4	-0.5
PICV	**PH. Pirrs**	**0.44**	**39**	*eP*	Pb	23 48 18.6	-0.7
PISJ	**San Jermim**	**0.49**	**46**	*eP*	Pb	23 48 19.6	-0.7
PISJ				*eS*	Sb	23 48 26.7	-1.4
ABE2	**San Pablo**	**0.59**	**45**	*eP*	Pb	23 48 21.1	-1.0
ACOS	**Acosta**	**0.59**	**31**	*eP*	Pg	23 48 21.0	+0.9
TRB2	**Turrubares**	**0.62**	**3**	*eP*	Pg	23 48 21.4	+0.7
SANTA	**Santa Ana**	**0.70**	**24**	*eP*	Pg	23 48 22.7	+0.5
ARZA	**Esparza**	**0.72**	**345**	*eS*	Sb	23 48 35.6	+0.8
AMPA	**Desamparados**	**0.73**	**34**	*eP*	Pg	23 48 23.1	+0.4
BELE	**Belen**	**0.74**	**23**	*eP*	Pg	23 48 23.2	+0.3
TCS1	**Tacares**	**0.77**	**13**	*eP*	Pb	23 48 24.3	-0.8
VBV1	**V. Barva**	**0.90**	**24**	*eP*	Pg	23 48 26.4	+0.4
VICA	**Volcano Irazu**	**0.93**	**42**	*eP*	Pg	23 48 26.9	+0.3
RAFA	**San Farael, Vo**	**0.94**	**44**	*eP*	Pg	23 48 27.0	+0.3
VTLA	**Turrialba Volc**	**0.99**	**44**	*eP*	Pg	23 48 28.0	+0.3
CVTQ	**Turrialba Volc**	**1.00**	**44**	*eP*	Pg	23 48 28.2	+0.3
CVTV	**Tajo**	**1.01**	**45**	*eP*	Pg	23 48 28.5	+0.4
VERB	**Verbena**	**1.01**	**50**	*eP*	Pg	23 48 28.4	+0.3
VTCV	**VTCV, Calle Va**	**1.01**	**47**	*eP*	Pg	23 48 28.3	+0.2
VTR0	**Volcan Turrial**	**1.01**	**44**	*eP*	Pg	23 48 28.7	+0.5
CVTR	**Volcan Turrial**	**1.02**	**44**	*eP*	Pg	23 48 28.5	+0.3
SOCE	**Pocosol**	**1.10**	**353**	*eP*	Pb	23 48 30.6	0.0
CVTG	**V. Turrialba,**	**1.10**	**39**	*eP*	Pg	23 48 29.9	+0.1
JTS	**Las Juntas de**	**1.10**	**335**	*eP*	Pg	23 48 30.0	+0.1
JTS				*eS*	Sg	23 48 44.3	+0.1
ARE1	**Arenal 1**	**1.19**	**348**	*eP*	Pb	23 48 32.4	+0.2
ARE1				*eS*	Sn	23 48 49.8	+0.1
VARE2	**V. Arenal**	**1.19**	**348**	*eP*	Pn	23 48 32.5	-0.2
VARE2				*eS*	Sn	23 48 49.8	+0.1
VACR	**Volcan Arenal**	**1.20**	**350**	*eP*	Pb	23 48 32.4	+0.1
RVLA	**Villa Bonita**	**1.20**	**47**	*eP*	Pg	23 48 31.7	0.0
DRK0	**Durika**	**1.22**	**91**	*eP*	Pg	23 48 30.5	-1.6
CUI	**Cuipilapa**	**1.52**	**334**	*eP*	Pn	23 48 37.2	0.0
COLC	**Colonia**	**1.54**	**332**	*eP*	Pn	23 48 37.6	0.0
VMAR	**Armenia, Volca**	**1.64**	**338**	*eP*	Pb	23 48 39.4	-0.5

UCR 25 23:49:01.3±1.2, 9°32N×84°44W, h17km±5km, MW3.5, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.23**	**27**	⇓*iP*	Pb	23 49 06.9	-0.1
RITA				*eS*	Sb	23 49 11.4	+0.7
LLNJ	**Naranjito**	**0.37**	**65**	*eP*	Pg	23 49 09.1	+0.1
LLNJ				*eS*	Sb	23 49 15.0	+0.3
PICV	**PH. Pirrs**	**0.39**	**38**	*eP*	Pg	23 49 09.2	-0.2
PISJ	**San Jermim**	**0.44**	**45**	*eP*	Pg	23 49 10.1	-0.2
PISJ				*eS*	Sg	23 49 16.5	+0.1
ABE2	**San Pablo**	**0.54**	**44**	*eP*	Pg	23 49 11.7	-0.5
ABE2				*eS*	Sg	23 49 19.1	-0.4
ACOS	**Acosta**	**0.55**	**29**	*eP*	Pg	23 49 11.6	-0.7
ACOS				*eS*	Sg	23 49 19.0	-0.6
TRB2	**Turrubares**	**0.59**	**359**	*eP*	Pg	23 49 12.1	-1.1
SANTA	**Santa Ana**	**0.66**	**22**	⇑*iP*	Pg	23 49 13.3	-1.0
SANTA				*eS*	Sg	23 49 21.4	-1.8
AMPA	**Desamparados**	**0.68**	**33**	*eP*	Pg	23 49 13.7	-1.1
BELE	**Belen**	**0.70**	**20**	⇓*eP*	Pb	23 49 13.9	-1.2
BELE				*eS*	Sg	23 49 23.4	-1.0
SJS3	**Mercedes San J**	**0.72**	**31**	*eP*	Pb	23 49 14.6	-0.9
LUPE	**Guadalupe**	**0.73**	**31**	*eP*	Pb	23 49 12.5	-3.2
HDC	**Heredia**	**0.75**	**25**	*eP*	Pb	23 49 15.0	-1.0
HDC				*eS*	Sg	23 49 26.1	0.0
REPA	**Paraso**	**0.76**	**48**	*eP*	Pb	23 49 15.2	-0.9
VBV1	**V. Barva**	**0.86**	**23**	⇓*iP*	Pb	23 49 17.1	-0.8
VBV1				*eS*	Sb	23 49 28.3	-0.9
VICA	**Volcano Irazu**	**0.88**	**41**	*eP*	Pb	23 49 17.5	-0.9
RAFA	**San Farael, Vo**	**0.89**	**44**	*eP*	Pb	23 49 17.7	-0.8
CVTQ	**Turrialba Volc**	**0.95**	**44**	*eP*	Pb	23 49 18.7	-0.8
VERB	**Verbena**	**0.96**	**49**	*eP*	Pb	23 49 18.9	-0.7
VERB				*eS*	Sg	23 49 32.4	-0.3
CVTV	**Tajo**	**0.96**	**45**	⇓*eP*	Pb	23 49 19.1	-0.6
CVTV				*eS*	Sn	23 49 35.2	+1.5
VTCV	**VTCV, Calle Va**	**0.96**	**47**	*eP*	Pb	23 49 18.5	-1.1
VTCV				*eS*	Sn	23 49 34.4	+0.8
VTR0	**Volcan Turrial**	**0.96**	**44**	*eP*	Pg	23 49 20.1	0.0
CVTR	**Volcan Turrial**	**0.97**	**44**	*eP*	Pg	23 49 20.1	-0.1
CVTG	**V. Turrialba,**	**1.05**	**38**	*eP*	Pb	23 49 20.0	-1.1
NYURE	**Nandayure**	**1.05**	**310**	*eP*	Pg	23 49 22.5	+0.8
SOCE	**Pocosol**	**1.07**	**350**	*eP*	Pn	23 49 21.6	0.0
JUNT	**Juntas**	**1.09**	**332**	*eP*	Pb	23 49 20.8	-0.9
JTS	**Las Juntas de**	**1.09**	**332**	*eP*	Pb	23 49 20.7	-1.1
JTS				*eS*	Sb	23 49 34.8	-1.0
RVLA	**Villa Bonita**	**1.15**	**47**	*eP*	Pn	23 49 22.1	-0.4
RVLA				*eS*	Sg	23 49 40.0	+1.4
FORC	**Fortuna**	**1.17**	**349**	*eP*	Pb	23 49 23.0	0.0
FORC				*eS*	Sg	23 49 39.2	+0.1
ARE1	**Arenal 1**	**1.17**	**346**	⇑*iP*	Pg	23 49 23.7	-0.3
VARE2	**V. Arenal**	**1.17**	**346**	*eP*	Pb	23 49 23.4	+0.3
VARE2				*eP*	Pg	23 49 23.6	-0.4
VARE2				*eS*	Sg	23 49 40.2	+0.9
VACR	**Volcan Arenal**	**1.17**	**348**	*eP*	Pb	23 49 23.5	+0.4
DRK0	**Durika**	**1.18**	**93**	*eP*	Pn	23 49 21.3	-1.8
DRK0				*eS*	Sb	23 49 37.1	-1.2
CEDE	**Laguna Cedeo**	**1.19**	**347**	*eP*	Pb	23 49 23.6	+0.1
CEDE				*eS*	Sg	23 49 40.8	+0.8
NICO	**Nicoya**	**1.29**	**309**	*eP*	Pn	23 49 22.7	-1.8
PIRO	**Carate, Puerto**	**1.42**	**130**	*eP*	Pg	23 49 29.4	+0.8
CUI	**Cuipilapa**	**1.51**	**332**	*eP*	Pn	23 49 27.8	+0.1
CUI				*eS*	Sn	23 49 47.2	+0.2
COLC	**Colonia**	**1.54**	**331**	*eP*	Pn	23 49 27.6	-0.3
HORNC	**Hornillas**	**1.57**	**332**	*eP*	Pn	23 49 28.7	+0.3
VMAR	**Armenia, Volca**	**1.63**	**336**	*eP*	Pn	23 49 29.8	+0.5

NORS ***26*** *00:10:18.9, 41.°58N×43.°99E, h2km, MPVA3.1*
AFAD ***26*** *00:10:19.6, 41.°28N×43.°65E, h6km±1km, ML1.8*
ISC 26 00:10:14.8±1.4, 41°27N±0.°05×43°89E±0.°04, h6km±11km, n14, σ0°97/26, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.91**	**286**	P	**Pg**	**00 10 32.6**	**+0.4**
EPOS				S	**Sg**	**00 10 41.9**	**-2.1**
DIGO	**Kars**	**0.94**	**205**	P	**Pn**	**00 10 36.1**	**+1.3**
DIGO				S	**Sn**	**00 10 48.3**	**-0.4**
DIGO				*i* AML	AML	00 10 54.0
	comp=N,30nm,0.5s					
DIGO				*i* AML	AML	00 11 00.0
	comp=E,23nm,0.4s					
AHAN	**Ardahan-Merkez**	**0.96**	**264**	P	**Pb**	**00 10 34.6**	**+0.6**
AHAN				S	**Sg**	**00 10 45.4**	**-0.3**
BOZK	**Kars-Merkez-Bo**	**0.97**	**226**	P	**Pn**	**00 10 36.1**	**+0.9**
BOZK				S	**Sn**	**00 10 48.3**	**-1.0**
BOZK				*i* AML	AML	00 11 08.0
	comp=N,37nm,1.5s					
GOLE	**Ardahan-G¶le**	**1.07**	**247**	P	**Pn**	**00 10 37.1**	**+0.5**
GOLE				*i* AML	AML	00 10 52.0
	comp=N,31nm,0.3s					
GOLE				*i* AML	AML	00 10 52.0
	comp=E,37nm,0.1s					
DAGI	**Agillar**	**1.50**	**263**	P	**Pg**	**00 10 44.0**	**+0.4**
DAGI				S	**Sn**	**00 11 00.1**	**-2.3**
LACR	**Lac**	**1.59**	**11**	*ePg*	**Pb**	**00 10 45.1**	**+0.4**
LACR				*eSg*	**Sb**	**00 11 05.6**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.65**	**352**	*ePg*	**Pg**	**00 10 47.3**	**+0.8**
DIGR				*eSg*	**Sb**	**00 11 07.3**	**+0.4**
DDEM	**Demirkent**	**1.66**	**258**	P	**Pg**	**00 10 46.7**	**+0.1**
DDEM				S	**Sn**	**00 11 05.2**	**-1.1**
DBAD	**Bademkaya**	**1.68**	**262**	P	**Pg**	**00 10 47.1**	**+0.1**
DBAD				S	**Sn**	**00 11 06.3**	**-0.4**
DBAD				*i* AML	AML	00 11 08.0
	comp=N,13nm,0.7s					
DBAD				*i* AML	AML	00 11 09.0
	comp=E,15nm,0.4s					
DBOC	**Borcka**	**1.68**	**273**	P	**Pb**	**00 10 45.9**	**-0.2**
DBOC				*i* AML	AML	00 11 07.0
	comp=E,15nm,0.6s					
KORR	**Kora**	**1.82**	**4**	*ePg*	**Pg**	**00 10 50.4**	**+0.6**
KORR				*eSg*	**Sg**	**00 11 13.3**	**-0.1**
BTLR	**Botlikh**	**2.23**	**50**	*ePg*	**Pg**	**00 10 57.0**	**-0.5**
BTLR				*eSg*	**Sg**	**00 11 26.7**	**+0.2**
DVE	**Vedeno**	**2.37**	**44**	*ePg*	**Pg**	**00 10 59.5**	**-0.8**
DVE				*eSg*	**Sg**	**00 11 29.4**	**-1.6**

HEL 26 00:18:47.5±0.3, 67°87N×20°24E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.16**	**10**	*eP*	Pg	00 19 09.4	-0.3
KIF				*eS*	Sg	00 19 24.7	0.0
HEF	**Hetta**	**1.39**	**65**	*eP*	Pg	00 19 12.2	-2.0
HEF				*eS*	Sg	00 19 29.9	-2.2
PAJU	**Pajala**	**1.40**	**126**	*eP*	Pg	00 19 11.7	-2.5
PAJU				*eS*	Sg	00 19 31.0	-1.2
ERTU	**Ertsjaerv**	**1.52**	**149**	*eP*	Pn	00 19 14.5	-1.5
ERTU				*eS*	Sg	00 19 34.7	-1.6
ERTU				MSG		00 19 37.5
	comp=Z,1.9nm,0.1s					
KLF	**Kolari**	**1.57**	**112**	*eP*	Pn	00 19 15.0	-1.5
KLF				*eS*	Sn	00 19 35.8	-1.7
KLF				MSG		00 19 38.8
	comp=Z,0.8nm,0.1s					
KTK1	**Kautokeino**	**1.60**	**43**	*eP*	Pn	00 19 15.8	-1.2
KTK1				*eS*	Sn	00 19 36.7	-1.6
KALU	**Kalix**	**2.36**	**147**	*eP*	Pn	00 19 26.9	-0.5
KALU				*eS*	Sn	00 19 57.4	+0.3
KALU				MSG		00 20 03.9
	comp=Z,0.8nm,0.1s					
TOF	**Tornio**	**2.41**	**136**	*eP*	Pn	00 19 28.1	0.0
TOF				*eS*	Sn	00 19 58.8	+0.5
TOF				MSG		00 20 05.0
	comp=Z,1.4nm,0.2s					

UPP 26 00:19:05.1±0.2, 67°83N×20°26E, h0km, ML2.5, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**13**	P	Pg	00 19 07.8	+0.3
KUA				S	Sg	00 19 09.5	+0.3
RATU	**Laukkuluspa**	**0.25**	**269**	P	Pg	00 19 10.1	+0.2
KOVU	**Salmi**	**0.40**	**355**	P	Pg	00 19 12.7	0.0
PAJU	**Pajala**	**1.37**	**125**	P	Pg	00 19 30.2	-1.0

ISK ***26*** *00:27:02.9, 38.°99N×25.°92E, h9km, ML2.4/19*
ATH ***26*** *00:27:03.6, 39.°01N×25.°94E, h11km±4km, ML2.1/5, Manual Solution by A.Moschou First location: 2019/03/26 00:28:17, This location: 2019/03/26 10:13:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
AFAD ***26*** *00:27:04.6, 39.°06N×26.°03E, h7km±3km, ML2.4*
ISC 26 00:27:03.6±1.0, 39°01N±0.°02×25°95E±0.°03, h12km±7km, n44, σ0°47/64, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.22**	**339**	Pg	**Pg**	**00 27 08.1**	**-0.1**
SIGR				Sg	**Sg**	**00 27 11.6**	**+0.2**
SIGR	**SIGRI**	**0.22**	**339**	P	**Pg**	**00 27 08.2**	**-0.1**
SIGR				S	**Sg**	**00 27 11.8**	**+0.3**
PRK	**Paraskevi**	**0.34**	**46**	P	**Pg**	**00 27 10.3**	**-0.2**
PRK				S	**Sg**	**00 27 15.3**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.47**	**17**	Pg	**Pg**	**00 27 12.5**	**-0.4**
GPNR				Sg	**Sb**	**00 27 20.2**	**-0.6**
EAG2	**Marmaro, Chios**	**0.48**	**165**	P	**Pg**	**00 27 13.2**	**+0.2**
EAG2				S	**Sg**	**00 27 19.8**	**+0.5**
KARB	**zmir-Karabur**	**0.50**	**134**	P	**Pg**	**00 27 13.0**	**-0.3**
KARB				S	**Sg**	**00 27 19.4**	**-0.5**
KOCA	**Canakkale, Ayv**	**0.51**	**16**	P	**Pg**	**00 27 13.6**	**-0.1**
KOCA				S	**Sg**	**00 27 20.6**	**+0.1**
AYVA	**Ayvalik**	**0.65**	**62**	P	**Pg**	**00 27 16.0**	**-0.1**
AYVA				S	**Sg**	**00 27 23.9**	**-0.8**
CAND	**Candarli**	**0.66**	**94**	Pg	**Pg**	**00 27 16.8**	**+0.3**
CESE	**eme**	**0.73**	**158**	Pg	**Pg**	**00 27 17.3**	**-0.4**
DKL	**Dikili**	**0.74**	**85**	Pg	**Pg**	**00 27 18.1**	**+0.1**
DKL	**Dikili**	**0.74**	**85**	P	**Pg**	**00 27 18.1**	**+0.1**
DKL				S	**Sb**	**00 27 28.6**	**-0.1**
IZMD	**zmir-Dikili-**	**0.76**	**91**	P	**Pg**	**00 27 18.6**	**+0.3**
IZMD				S	**Sg**	**00 27 28.4**	**+0.1**
EZNE	**Ezine-Canakkal**	**0.81**	**23**	Pg	**Pg**	**00 27 19.6**	**+0.3**
BOZC	**Bozcaada**	**0.84**	**5**	Pg	**Pg**	**00 27 19.9**	**+0.1**
BOZC	**Bozcaada**	**0.84**	**5**	P	**Pg**	**00 27 19.5**	**-0.3**
BOZC				S	**Sg**	**00 27 30.5**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.86**	**32**	P	**Pg**	**00 27 20.1**	**-0.2**
BAYC				S	**Sg**	**00 27 31.6**	**0.0**
EZN	**Ezine**	**0.87**	**19**	Pg	**Pb**	**00 27 20.6**	**0.0**
ZEDA	**zmir-Bergama**	**0.88**	**92**	P	**Pg**	**00 27 20.7**	**+0.2**
ZEDA				S	**Sg**	**00 27 31.6**	**-0.4**
BUHA	**Balikesir, Bur**	**1.00**	**60**	P	**Pg**	**00 27 21.8**	**-1.2**
BUHA				S	**Sg**	**00 27 34.5**	**-1.5**
BUHA				*i* AML	AML	00 27 38.0
	comp=E,88nm,0.3s					
ECEA	**Canakkale, Ece**	**1.05**	**9**	P	**Pg**	**00 27 23.2**	**-0.7**
ECEA				S	**Sb**	**00 27 37.7**	**+0.2**
ECEA				*i* AML	AML	00 27 40.0
	comp=N,168nm,0.6s					
ECEA				*i* AML	AML	00 27 40.0
	comp=E,181nm,0.4s					
BLCB	**Balcova**	**1.05**	**126**	Pg	**Pg**	**00 27 23.8**	**-0.1**
YAYO	**Edremit-Balk**	**1.06**	**55**	Pn	**Pb**	**00 27 24.3**	**+0.4**
LIA	**Limnos Island**	**1.07**	**326**	P	**Pg**	**00 27 24.0**	**-0.3**
LIA				S	**Sb**	**00 27 38.6**	**+0.5**
CNKL	**anakkale-Mer**	**1.11**	**17**	P	**Pg**	**00 27 24.9**	**-0.1**
CNKL				S	**Sg**	**00 27 38.7**	**-0.7**
CNKL				*i* AML	AML	00 27 41.0
	comp=N,87nm,0.3s					
CNKL				*i* AML	AML	00 27 41.0
	comp=E,80nm,0.4s					
GOAD	**anakkale-G¶**	**1.15**	**358**	P	**Pb**	**00 27 25.2**	**-0.3**
GOAD				S	**Sg**	**00 27 40.4**	**-0.5**
GOAD				*i* AML	AML	00 27 42.0
	comp=N,78nm,0.5s					
COMU	**Canakkale**	**1.16**	**20**	Pn	**Pb**	**00 27 25.9**	**+0.2**
GADA	**Gvkgeada**	**1.18**	**358**	Pn	**Pb**	**00 27 26.0**	**0.0**
SOMA	**Soma-Manisa**	**1.24**	**83**	Pn	**Pn**	**00 27 26.8**	**0.0**
CANM	**Can-anakkale**	**1.31**	**40**	Pn	**Pb**	**00 27 28.4**	**+0.1**
YENI	**Yenice-Canakka**	**1.36**	**47**	Pn	**Pn**	**00 27 29.1**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.42**	**74**	P	**Pn**	**00 27 29.2**	**-0.1**
STEP				S	**Sn**	**00 27 47.3**	**-0.7**
STEP				*i* AML	AML	00 27 56.0
	comp=N,61nm,0.4s					
GELI	**Tayfur-Gelibol**	**1.45**	**16**	Pn	**Pn**	**00 27 30.2**	**+0.6**
BALY	**Balya**	**1.48**	**60**	P	**Pg**	**00 27 32.7**	**+0.6**
BALY				S	**Sn**	**00 27 50.1**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.50**	**256**	P	**Pn**	**00 27 30.0**	**-0.4**
SMTH	**Samothraki Isl**	**1.50**	**348**	P	**Pn**	**00 27 30.9**	**+0.6**
LPK	**Lapseki**	**1.50**	**24**	Pn	**Pn**	**00 27 30.9**	**+0.5**
GAVK	**Edirne/Enez-Ca**	**1.69**	**6**	P	**Pb**	**00 27 34.7**	**0.0**
BKES	**Balkesir-Mer**	**1.69**	**64**	P	**Pn**	**00 27 33.8**	**+0.7**
ERIK	**Erikli-Kesan**	**1.72**	**14**	Pn	**Pn**	**00 27 34.0**	**+0.7**
ENEZ	**Enez**	**1.73**	**5**	Pn	**Pn**	**00 27 34.2**	**+0.6**
SART	**Tekirdag**	**1.93**	**29**	P	**Pb**	**00 27 38.3**	**-0.5**
EDC	**Edincik**	**1.99**	**47**	Pn	**Pn**	**00 27 37.8**	**+0.7**
MRMT	**Marmara Adasi**	**2.04**	**38**	Pn	**Pn**	**00 27 38.6**	**+0.8**

SOF ***26*** *00:27:53.7, 41.°95N±0.°01×23.°27E±0.°01, h17km±1km, MD2.8/10*
SKO ***26*** *00:27:54.8, 41.°92N×23.°23E, h15km, ML2.5*
BEO ***26*** *00:27:55.2±0.2, 41.°96N×23.°22E, h12km±2km, ML2.5/14*
THE ***26*** *00:27:57.0, 41.°84N×23.°27E, h12km±1km, ML2.4/9, Error ellipse: s-maj=1.5km s-min=1.0km az=172.0*
ISC 26 00:27:54.6±0.8, 41°95N±0.°01×23°25E±0.°02, h11km±6km, n86, σ1°25/134, 32C-19D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.14**	**221**	S	**Sg**	**00 28 00.4**	**+0.2**
KKB				⇑P	**Pg**	**00 27 58.1**	**+0.2**
KKB	**Krupnik**	**0.14**	**221**	⇑*iPg*	**Pg**	**00 27 58.2**	**+0.2**
KKB				*i* Sg	**Sg**	**00 28 00.6**	**+0.4**
MMB	**Musomishta**	**0.55**	**136**	⇑P	**Pg**	**00 28 04.6**	**-0.7**
MMB	**Musomishta**	**0.55**	**136**	*i* Pg	**Pg**	**00 28 04.8**	**-0.5**
MMB				*i* Sg	**Sg**	**00 28 12.4**	**-0.1**
PLNA	**Plana**	**0.55**	**14**	P	**Pg**	**00 28 04.9**	**-0.4**
VTS	**Vitosha**	**0.67**	**359**	⇑P	**Pg**	**00 28 06.8**	**-0.9**
VTS	**Vitosha**	**0.67**	**359**	*ePg*	**Pg**	**00 28 06.8**	**-0.9**
VTS				*eSg*	**Sg**	**00 28 15.9**	**-0.7**
SOF	**Sofia**	**0.74**	**7**	P	**Pg**	**00 28 08.4**	**-0.5**
SOF				S	**Sb**	**00 28 19.0**	**-0.6**
BOSS	**Bosilegrad**	**0.79**	**314**	*ePg*	**Pg**	**00 28 09.4**	**-0.5**
BOSS				*eSg*	**Sg**	**00 28 20.5**	**+0.2**
VAY	**Valandovo**	**0.80**	**219**	⇑*iPg*	**Pb**	**00 28 10.4**	**-0.2**
VAY				*i* Sg	**Sb**	**00 28 21.7**	**+0.3**
VAY				*eLg*	Lg	00 28 21.8
	comp=E,143nm,0.3s					
VAY				*eLg*	Lg	00 28 22.8
	comp=N,101nm,0.3s					
VAY	**Valandovo**	**0.80**	**219**	*ePg*	**Pb**	**00 28 10.5**	**-0.1**
VAY				*eSg*	**Sb**	**00 28 21.4**	**0.0**
KNT	**Kendrikon**	**0.82**	**199**	P	**Pg**	**00 28 10.3**	**-0.3**
KNT				S	**Sb**	**00 28 21.7**	**-0.3**
	comp=N,458nm,0.2s					
KNT	**Kendrikon**	**0.82**	**199**	⇑*iPg*	**Pg**	**00 28 10.3**	**-0.3**
KNT				*i* Sg	**Sg**	**00 28 21.1**	**-0.2**
SRS	**Serrai**	**0.87**	**163**	P	**Pg**	**00 28 10.8**	**-0.5**
SRS				S	**Sb**	**00 28 23.1**	**-0.1**
	comp=N,295nm,0.2s					
SRS	**Serrai**	**0.87**	**163**	*i* Pg	**Pg**	**00 28 10.9**	**-0.4**
SRS				*i* Sg	**Sb**	**00 28 23.6**	**+0.3**
SRS	**Serrai**	**0.87**	**163**	*ePg*	**Pg**	**00 28 10.9**	**-0.4**
SRS				*eSg*	**Sb**	**00 28 23.1**	**-0.1**
PGB	**Panagyurishte**	**0.89**	**50**	⇑P	**Pg**	**00 28 10.7**	**-1.1**
TRAN	**Tran**	**0.99**	**334**	P	**Pg**	**00 28 13.0**	**-0.8**
SOH	**Sokhos**	**1.12**	**176**	P	**Pb**	**00 28 15.6**	**-0.5**
SOH				S	**Sn**	**00 28 31.4**	**-0.4**
	comp=N,408nm,0.6s					
PLD	**Plovdiv**	**1.14**	**79**	P	**Pb**	**00 28 15.1**	**-1.1**
PLD	**Plovdiv**	**1.14**	**79**	*i* Pg	**Pn**	**00 28 16.5**	**+0.1**
PLD				*i* Sg	**Sn**	**00 28 31.6**	**-0.3**
PLD	**Plovdiv**	**1.14**	**79**	*ePg*	**Pn**	**00 28 16.3**	**-0.1**
PLD				*eSg*	**Sg**	**00 28 30.9**	**-0.3**
RZN	**Rozhen**	**1.14**	**102**	P	**Pb**	**00 28 15.2**	**-1.3**
GRG	**Griva**	**1.18**	**213**	P	**Pb**	**00 28 16.9**	**0.0**
GRG				S	**Sg**	**00 28 32.6**	**+0.1**
	comp=N,122nm,0.7s					
GRG	**Griva**	**1.18**	**213**	⇓*iPg*	**Pn**	**00 28 17.1**	**+0.1**
GRG				*i* Sg	**Sn**	**00 28 32.9**	**-0.1**
KOKK	**Kokkinochori,**	**1.26**	**153**	P	**Pn**	**00 28 17.8**	**-0.3**
KOKK				S	**Sb**	**00 28 34.5**	**-0.1**
	comp=N,102nm,0.3s					
THE	**Thessaloniki**	**1.33**	**189**	P	**Pb**	**00 28 19.4**	**-0.1**
THE				S	**Sb**	**00 28 36.5**	**0.0**
	comp=N,152nm,0.5s					
THE	**Thessaloniki**	**1.33**	**189**	*i* Pg	**Pb**	**00 28 19.5**	**-0.1**
THE				*i* Sg	**Sg**	**00 28 37.7**	**+0.4**
KAVA	**Kavala**	**1.34**	**134**	P	**Pb**	**00 28 19.6**	**-0.1**
KAVA				S	**Sn**	**00 28 37.1**	**+0.1**
	comp=N,575nm,0.6s					
HORT	**Hortiatis**	**1.35**	**185**	P	**Pb**	**00 28 19.9**	**0.0**
BARS	**Barje**	**1.37**	**310**	*i* Pg	**Pb**	**00 28 20.2**	**-0.1**
BARS				*i* Sg	**Sg**	**00 28 38.5**	**-0.3**
BARS	**Barje**	**1.37**	**310**	*ePg*	**Pn**	**00 28 20.0**	**+0.3**
BARS				*eSg*	**Sn**	**00 28 37.7**	**-0.2**
ZAPS	**Zavoj**	**1.40**	**341**	*ePg*	**Pb**	**00 28 20.8**	**0.0**
ZAPS				*eSg*	**Sg**	**00 28 39.8**	**0.0**
MPEP	**Malo Peshtene**	**1.46**	**14**	P	**Pb**	**00 28 21.8**	**+0.1**
MPEP				S	**Sg**	**00 28 41.8**	**+0.3**
PLG	**Polygyros**	**1.58**	**174**	P	**Pb**	**00 28 23.1**	**-0.7**
PLG				S	**Sn**	**00 28 41.8**	**-1.1**
	comp=N,65nm,0.5s					
KDZ	**Kurdzhali**	**1.60**	**101**	P	**Pn**	**00 28 22.8**	**+0.1**
OUR	**Ouranopolis**	**1.70**	**161**	P	**Pn**	**00 28 24.7**	**+0.5**
BLKB	**Belogradchik**

PPT	Papeete	22.66	86	LR	LR	00 51 09.2	
	comp=Z,94nm,18.5s,baz=186,slow=33						
ASAR	Alice Springs	48.73	256	P	P	00 47 25.9	-1.5
	1.3nm,0.7s,baz=82,slow=8.3,SNR=10.0						
ASAR				PcP	PcP	00 48 51.8	-0.6
	0.8nm,0.8s,baz=96,slow=3.6,SNR=4.2						
	1.3nm,0.7s						
WRA	Warramunga Arr	48.90	261	P	P	00 47 26.5	-2.2
	3.2nm,1.0s,baz=103,slow=8.1,SNR=8.2						
WRA				PcP	PcP	00 48 51.2	-1.8
	1.3nm,1.1s,baz=93,slow=3.3,SNR=2.8						
	3.2nm,1.0s						
QSPA	South Pole Qui	69.46	180	P	P	00 49 50.9	+0.4
	1.5nm,1.1s,baz=314,slow=22,SNR=1.7						
	1.5nm,1.1s						
MJAR	Matsushiro Arr	72.96	321	P	P	00 50 09.9	-2.1
	2.0nm,0.6s,baz=132,slow=4.6,SNR=5.3						
	2.0nm,0.6s						
NVAR	Mina Array Bea	78.17	41	P	P	00 50 43.0	+0.9
	0.8nm,0.8s,baz=229,slow=9.1,SNR=5.0						
	0.8nm,0.8s						
TXAR	Lajitas Array	83.48	56	P	P	00 51 12.2	+1.7
	0.5nm,0.9s,baz=239,slow=4.8,SNR=3.5						
	0.5nm,0.9s						
KLR	Kul'dur	84.91	327	LR	LR	01 21 33.1	
	comp=Z,18nm,20.8s,baz=304,slow=30						
PDAR	Pinedale Array	86.11	41	P	P	00 51 24.3	+0.7
	0.7nm,1.0s,baz=238,slow=5.8,SNR=3.9						
	0.7nm,1.0s						
ILAR	Eielson Array	87.52	11	P	P	00 51 29.4	-0.3
	0.4nm,0.8s,baz=195,slow=5.9,SNR=3.2						
	0.4nm,0.8s						
CMAR	Chiang Mai Arr	94.28	288	P	P	00 52 04.1	+1.8
	0.9nm,0.3s,baz=101,slow=6.8,SNR=7.9						
YKA	Yellowknife Ar	94.83	23	P	P	00 52 04.6	+0.8
	0.2nm,0.7s,baz=237,slow=4.2,SNR=3.2						
	0.2nm,0.7s						
BVAR	Borovoye Array	121.96	320	PKP	PKiKP	00 57 36.9	+0.2
	0.4nm,0.6s,baz=100,slow=3.3,SNR=2.7						
AKASG	Malin Array Be	145.10	335	PKP	PKPbc	00 58 18.7	-0.4
	2.3nm,0.9s,baz=63,slow=2.1,SNR=9.0						

WEL 26 00:46:13.0±0.5, 42°S±3°×17°4E±°, h5km, M3.6/8, ML3.8/8, MLv3.6/8, Error ellipse: s-maj=6.2km s-min=2.4km az=114.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	Kaikoura	0.25	207	P	Pg	00 46 18.0	+0.1
KIKS				S	Sg	00 46 22.8	+1.7
KEKS	Kekerengu Vall	0.27	24	P	Pg	00 46 18.4	+0.1
KEKS				S	Sg	00 46 23.3	+1.5
KHZ	Kahutara	0.30	226	P	Pg	00 46 18.8	-0.1
KHZ				S	Sg	00 46 23.8	+0.9
WDFS	Ward Fire Stat	0.44	31	P	Pg	00 46 21.8	+0.3
WDFS				S	Sb	00 46 31.0	+1.0
BSWZ	Blackbirch Sta	0.49	4	P	Pg	00 46 22.4	0.0
BSWZ				S	Sb	00 46 30.3	-1.2
CMWZ	Cape Campbell	0.54	32	P	Pg	00 46 24.0	+0.7
CMWZ				S	Sb	00 46 34.4	+1.6
SEDS	Seddon Fire St	0.56	19	P	Pg	00 46 24.3	+0.5
SEDS				S	Sb	00 46 34.1	+0.6
WVFS	Wairau Valley	0.68	328	P	Pb	00 46 26.8	-0.6
WTMC	Te Mara Farm W	0.71	234	P	Pg	00 46 26.9	+0.2
CECS	Cheviot Emerge	0.74	214	P	Pb	00 46 28.1	-0.2
CECS				S	Sb	00 46 40.0	+1.3
BWRS	Waikakaho Road	0.76	4	P	Pg	00 46 27.6	0.0
TUWZ	Tuamarina	0.78	6	P	Pg	00 46 27.9	0.0
TUWZ				S	Sb	00 46 40.2	+0.4
THZ	Tophouse	0.82	302	P	Pg	00 46 28.6	-0.1
THZ				S	Sb	00 46 40.5	-0.6
GVZ	Greta Valley S	0.96	217	P	Pg	00 46 31.2	-0.3
GVZ				S	Sb	00 46 46.0	+0.7
NNZ	Nelson	1.04	341	P	Pg	00 46 32.3	-0.6
NNZ				S	Sg	00 46 46.9	+0.4
TCW	Tory Channel	1.05	19	P	Pg	00 46 32.3	-0.7
BHW	Baring Head	1.11	45	P	Pg	00 46 32.9	-1.4
MRNZ	Matariki Terra	1.14	315	P	Pg	00 46 34.5	-0.2
WEL	Wellington	1.15	38	P	Pg	00 46 33.9	-1.2
PLWZ	Palliser	1.24	60	P	Pg	00 46 34.0	-2.6
LTZ	Lake Taylor	1.29	243	P	Pn	00 46 36.3	-1.4
AMCZ	Amberley	1.31	221	P	Pn	00 46 36.1	-1.8
MSWZ	Moikau Station	1.32	54	P	Pn	00 46 35.1	-3.0
TKNZ	Takaka Hill	1.34	330	P	Pn	00 46 37.8	-0.5
DUWZ	D'Urville Isla	1.40	3	P	Pn	00 46 38.2	-1.1
CAW	Cannon Point	1.43	41	P	Pn	00 46 37.4	-2.2
PAWZ	Paruwai Farm	1.45	56	P	Pn	00 46 36.7	-3.2
KIW	Kapiti Island	1.57	31	P	Pn	00 46 39.7	-1.7
DSZ	Denniston Nort	1.58	286	P	Pn	00 46 42.0	+0.3
TRWZ	Traveller	1.60	61	P	Pn	00 46 38.6	-3.4
OKCZ	Okains Bay	1.62	200	P	Pn	00 46 39.0	-3.3
MTW	Mount Morrison	1.63	51	P	Pn	00 46 39.2	-3.2
QRZ	Quartz Range	1.69	324	P	Pn	00 46 43.6	+0.5
OGWZ	Otaki Gorge	1.71	36	P	Pn	00 46 41.3	-2.1
MQZ	McQueen's Vall	1.73	210	P	Pn	00 46 40.5	-3.3
OXZ	Oxford	1.73	229	P	Pn	00 46 41.1	-2.7
AKCZ	Akaroa Harbour	1.80	202	P	Pn	00 46 42.0	-2.7
HOWZ	Holdsworth Sta	1.81	45	P	Pn	00 46 42.1	-2.8
TMWZ	Te Maipa	1.89	55	P	Pn	00 46 42.7	-3.3
RACZ	Rakaia	1.97	219	P	Pn	00 46 44.2	-2.7
MRZ	Mangatainoka R	2.02	41	P	Pn	00 46 45.0	-2.8
MHCZ	Mount Hutt	2.13	231	P	Pn	00 46 46.6	-2.7
WACZ	Wakanui South	2.27	219	P	Pn	00 46 48.5	-2.6
PRWZ	Pori Road	2.30	45	P	Pg	00 46 56.3	-0.8
POWZ	Post Office Ro	2.32	40	P	Pb	00 46 55.2	-0.1
BFZ	Birch Farm	2.37	51	P	Pn	00 46 48.8	-3.6
RPZ	Rata Peaks	2.54	233	P	Pn	00 46 52.5	-2.3
ARCZ	Arundel	2.61	227	P	Pn	00 46 53.4	-2.4
TSZ	Takapari Road	2.68	38	P	Pn	00 46 58.3	+1.5
LREZ	Lake Rotokare	2.77	9	P	Pb	00 47 01.7	-1.3
KHEZ	Kahui Hut	2.91	3	P	Pb	00 47 05.0	-0.4
NBEZ	Newall Road No	2.93	1	P	Pb	00 47 03.1	-2.6
TMZ	Timaru	3.00	222	P	Pn	00 46 58.6	-2.6
MOVZ	Moawhango	3.15	28	P	Pb	00 47 08.3	-1.1
VRZ	Vera Road	3.15	13	P	Pn	00 47 03.6	+0.3
WNVZ	Wahianoa	3.17	26	P	Pn	00 47 03.5	-0.2
WHVZ	Whangaehu Hut	3.21	25	P	Pn	00 47 05.1	+0.9
MAVZ	Matarangi	3.21	25	P	Pn	00 47 07.2	+2.8
FWVZ	Far West T-bar	3.22	24	P	Pn	00 47 06.0	+1.5
NGZ	Ngauruhoe	3.31	25	P	Pb	00 47 09.8	-2.4
SNVZ	South Ngauruho	3.31	25	P	Pn	00 47 05.5	-0.1
OTVZ	Oturere	3.34	25	P	Pn	00 47 04.7	-1.3
NNVZ	North Ngauruho	3.35	24	P	Pn	00 47 06.8	+0.6
WTVZ	West Tongariro	3.36	24	P	Pn	00 47 07.7	+1.4
ETVZ	East Tongariro	3.38	26	P	Pn	00 47 07.0	+0.5
KRVZ	Karewarewa	3.40	24	P	Pb	00 47 12.3	-1.4
TMVZ	Te Maari	3.40	25	P	Pn	00 47 06.7	0.0
NTVZ	North Tongarir	3.40	25	P	Pn	00 47 06.5	-0.3
BKZ	Black Stump Fm	3.65	35	P	Pn	00 47 13.1	+3.0
ODZ	Otahua Downs	3.66	218	P	Pn	00 47 07.3	-3.0
HIZ	Hauiti	3.77	12	P	Pn	00 47 13.0	+1.3
MKAZ	Moumakai	5.19	12	P	Pn	00 47 31.4	+0.1
CTZ	Chatham Island	7.17	106	P	Pn	00 47 53.7	-4.7

*NEIC **26** 00:51:56.9±3.0, 24°.83S±0°.05×68°.02W±0°.09, h158km±9km, mb4.3/10, Error ellipse: s-maj=12.2km s-min=7.1km az=106.0*
*IDC **26** 00:51:56.7±2.0, 24°.85S×67°.77W, h111km±18km, mb4.0/4, mbtmp4.2/9, Error ellipse: s-maj=29.5km s-min=14.3km az=102.0*
*SJA **26** 00:51:57.1±0.6, 24°.86S×68°.00W, h150km±5km, ML4.1, MW4.0*
*GUC **26** 00:51:58.4±0.6, 24°.81S×68°.20W, h173km±6km, ML4.3*
*VAO **26** 00:52:01.4±0.4, 24°.83S×67°.81W, h166km, mb4.0*

ISC 26 00:51:57.5±0.6, 24°.83S±0°.03×68°.05W±0°.04, h154km±7km, n127, σ1°.42/160, mb4.2/5, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	1.43	256	Pn	Pn	00 52 27.9	+1.0
GO02				Sn	Sn	00 52 50.9	+1.4
GO02	Mina Guanaco	1.43	256	↑iP	Pn	00 52 28.4	+1.5
GO02				eS	Sn	00 52 50.7	+1.2
GO02				IAML		00 52 51.8	
	comp=E,3μm,0.4s						
GO02	Mina Guanaco	1.43	256	eP	Pn	00 52 28.4	+1.4
GO02				eS	Sn	00 52 51.4	+1.8
AF01	San Pedro de A	1.87	356	Pn	Pn	00 52 32.7	+1.0
AF01				Sn	Sn	00 52 56.3	-1.8
AF01	San Pedro de A	1.87	356	eP	Pn	00 52 33.1	+1.3
AF01	San Pedro de A	1.87	356	eP	Pn	00 52 33.2	+1.4
AF01				eS	Sn	00 52 59.1	+1.1
AF01				IAML		00 53 01.0	
	comp=Z,655nm,0.5s						
PB14	IPOC Station P	2.15	275		Pn	00 52 35.9	+1.0
PB14				Sn	Sn	00 53 04.1	+0.5
PB14	IPOC Station P	2.15	275	eP	Pn	00 52 36.2	+1.3
PB14				eS	Sn	00 53 04.4	+0.8
PB14				IAML		00 53 05.6	
	comp=Z,550nm,0.2s						
AC02	Maricunga	2.22	206	Pn	Pn	00 52 37.1	+1.2
AC02				Sn	Sn	00 53 06.4	+0.9
AC02	Maricunga	2.22	206	eP	Pn	00 52 37.4	+1.5
AC02				eS	Sn	00 53 07.1	+1.6
AC02				IAML		00 53 13.3	
	comp=E,551nm,0.3s						
AC02	Maricunga	2.22	206	eP	Pn	00 52 37.5	+1.5
AC02				eS	Sn	00 53 07.3	+1.8
FSA	Cafayete	2.27	125	eP	Pn	00 52 36.2	+0.1
SLA	San Lorenzo	2.32	88	eP	Pn	00 52 37.2	+0.4
PB06	IPOC Station P	2.53	326	eP	Pn	00 52 40.5	+1.1
PB06				eS	Sn	00 53 12.1	+0.4
PB06				IAML		00 53 13.6	
	comp=N,1μm,0.3s						
PB06	IPOC Station P	2.53	326	eP	Pn	00 52 40.9	+1.5
PB06				eS	Sn	00 53 12.7	+1.1
PB06				IAML		00 53 19.0	
	comp=Z,600nm,0.3s						
AC01	Pan de Azucar	2.65	240	Pn	Pn	00 52 41.1	+0.5
AC01				Sn	Sn	00 53 13.1	-0.9
AC01	Pan de Azucar	2.65	240	↑eP	Pn	00 52 41.2	+0.5
AC01				eS	Sn	00 53 13.7	-0.3
AC01				IAML		00 53 14.6	
	comp=E,470nm,0.3s						
AC01	Pan de Azucar	2.65	240	eP	Pn	00 52 41.4	+0.8
AC01				eS	Sn	00 53 14.8	+0.8
AC01				IAML		00 53 20.1	
	comp=Z,288nm,0.1s						
PB05	IPOC Station P	2.78	315	Pn	Pn	00 52 43.4	+0.9
PB05				Sn	Sn	00 53 16.9	-0.2
PB05	IPOC Station P	2.78	315	eS	Sn	00 53 17.0	-0.2
PB05				IAML		00 53 19.3	
	comp=E,1μm,0.3s						
PB05	IPOC Station P	2.78	315	eP	Pn	00 52 44.0	+1.5
PB05				eS	Sn	00 53 18.1	+0.9
PB05				IAML		00 53 19.2	
	comp=Z,606nm,0.5s						
PB03	IPOC Station P	3.18	330	eP	Pn	00 52 48.7	+1.3
PB03				eS	Sn	00 53 26.2	+0.1
PB03				IAML		00 53 28.0	
	comp=E,808nm,0.3s						
PB03	IPOC Station P	3.18	330	eP	Pn	00 52 48.8	+1.3
PB03				eS	Sn	00 53 26.7	+0.6
PB03				IAML		00 53 29.3	
	comp=Z,488nm,0.4s						
PB09	IPOC Station P	3.21	340	Pn	Pn	00 52 49.6	+1.7
PB09				Sn	Sn	00 53 27.7	+0.8
PB09	IPOC Station P	3.21	340	eP	Pn	00 52 49.6	+1.7
PB09				eS	Sn	00 53 27.5	+0.5
PB09				IAML		00 53 32.6	
	comp=N,329nm,0.4s						
PB09	IPOC Station P	3.21	340	eP	Pn	00 52 49.8	+1.9
PB09				eS	Sn	00 53 23.9	-3.0
PB09				IAML		00 53 36.8	
	comp=Z,349nm,0.7s						
AC06	Mina Casimiro	3.26	219	Pn	Pn	00 52 47.9	-0.4
AC06	Mina Casimiro	3.26	219	eP	Pn	00 52 48.7	+0.4
AC06				eS	Sn	00 53 27.7	0.0
AC06				IAML		00 53 30.0	
	comp=E,408nm,0.3s						
GO03	Copiapo	3.38	215		Pn	00 52 50.1	+0.2
GO03				Sn	Sn	00 53 28.8	-1.8
GO03	Copiapo	3.38	215	eP	Pn	00 52 50.4	+0.5
GO03				eS	Sn	00 53 30.3	-0.2
YJA	Yavi	3.52	42	eP	Pn	00 52 54.2	+2.1
YJA				eS	Sn	00 53 37.9	+3.4
VCA	Vinchina	3.89	182	eP	Pn	00 52 57.8	+1.2
VCA				eS	Sn	00 53 28.7	-14
VCA				IAML		00 53 29.1	
	comp=Z,126nm,0.7s						
PB01	IPOC Station P	3.99	340		Pn	00 52 57.5	-0.4
PB01	IPOC Station P	3.99	340	eP	Pn	00 52 58.5	+0.6
PB01	IPOC Station P	3.99	340	eP	Pn	00 52 58.5	+0.6
PB01				eS	Sn	00 53 45.2	+0.4
PB01				IAML		00 53 52.5	
	comp=Z,184nm,0.5s						
CYA	Choya	4.12	151	eP	Pn	00 52 59.3	-0.2
CYA				eS	Sn	00 53 47.8	0.0
AC04	Llanos de Chal	4.31	218	Pn	Pn	00 53 01.1	-0.9
AC04	Llanos de Chal	4.31	218	eP	Pn	00 53 01.4	-0.5
AC04				eS	Sn	00 53 52.1	0.0
AC04				IAML		00 53 53.2	
	comp=Z,321nm,0.3s						
PATCX	Punta Patache	4.44	334		Pn	00 53 02.9	-0.8
PATCX	Punta Patache	4.44	334	eP	Pn	00 53 03.0	-0.8
PATCX				eS	Sn	00 53 38.7	-17
PATCX				IAML		00 53 57.4	
	comp=Z,123nm,0.5s						
AC05	El Transito	4.46	206	Pn	Pn	00 53 03.2	-0.7
AC05	El Transito	4.46	206	eP	Pn	00 53 04.1	+0.2
AC05				eS	Sn	00 53 54.2	-1.5
AC05				IAML		00 53 58.2	
	comp=Z,246nm,0.4s						
AGUA	GUANDACOL	4.66	185	eP	Pn	00 53 06.9	+0.4
AGUA				IAML		00 54 05.7	
	comp=Z,118nm,0.5s						
TA01	Diego Aracena	4.68	335	Pn	Pn	00 53 06.1	-0.7
TA01	Diego Aracena	4.68	335	eS	Sn	00 54 00.6	-0.2
TA01				IAML		00 54 15.5	
	comp=Z,127nm,0.6s						
ACLC	CERRO LA CRUZ	4.68	168	eP	Pn	00 53 07.1	+0.1
PB08	IPOC Station P	4.78	347		Pn	00 53 07.9	-0.6
PB08	IPOC Station P	4.78	347	eP	Pn	00 53 00.7	-7.8
PB08				IAML		00 54 38.2	
	comp=Z,59nm,1.0s						
LCO	Las Campanas	4.79	209		Pn	00 53 07.5	-1.0
LCO	Las Campanas	4.79	209	eP	Pn	00 53 07.9	-0.5
LCO				eS	Sn	00 54 02.3	-1.4
LCO				IAML		00 54 07.9	
	comp=Z,364nm,0.3s						
HMBC	Humberstone	4.84	339	Pn	Pn	00 53 07.6	-1.5
HMBC	Humberstone	4.84	339	eP	Pn	00 53 08.4	-0.6
HMBC				eS	Sn	00 54 05.2	+0.5
HMBC				IAML		00 54 12.2	
	comp=Z,154nm,0.5s						
TA02	Huaiquique	4.93	337		Pn	00 53 08.2	-1.8
PB11	IPOC Station P	5.26	343	Pn	Pn	00 53 14.0	-0.6
PB11	IPOC Station P	5.26	343	eP	Pn	00 53 14.0	-0.6
PB11				eS	Sn	00 54 15.7	+0.9
PB11				IAML		00 54 15.9	
	comp=Z,83nm,0.6s						
CO01	Juntas del Tor	5.44	199		Pn	00 53 16.5	-0.5
CO03	El Pedregal	6.42	201	Pn	Pn	00 53 28.3	-1.6
PB12	IPOC Station P	6.54	341		Pn	00 53 30.3	-1.3
PB16	IPOC Station P	6.60	348		Pn	00 53 32.5	-0.4
CO06	Fray Jorge	6.63	208	Pn	Pn	00 53 30.5	-2.1
ZON	Zonda	6.71	185		Pn	00 53 33.0	-0.8
CFA	Coronel Fontan	6.75	181	P	Pn	00 53 33.6	-0.6
	comp=Z,13nm,0.3s,baz=358,slow=14,SNR=92						
CFA				S	Sn	00 54 45.1	-5.1
	comp=Z,8.8nm,0.3s,baz=296,slow=8.6,SNR=11						
PB18	Visviri	7.33	349		Pn	00 53 41.6	-0.9
VA03	San Esteban	8.20	195	Pn	Pn	00 53 52.7	-1.0
LPAZ	La Paz	8.50	360	P	Pn	00 53 58.4	+0.1
	comp=Z,4.6nm,0.3s,baz=178,slow=4.6,SNR=33						
LPAZ				S	Sn	00 55 32.0	-1.1
	comp=Z,2.3nm,0.8s,baz=359,slow=19,SNR=1.5						
MT08	Bocatoma Ro	8.75	191		Pn	00 54 00.5	-0.7
MT05	Renca	8.85	195	Pn	Pn	00 54 00.8	-1.4
MT03	Universidad Ad	8.89	193	Pn	Pn	00 54 00.9	-2.0
MT13	San Alfonso	9.09	192	Pn	Pn	00 54 05.3	-0.2
LMEL	Las Melosas	9.18	191	Pn	Pn	00 54 06.1	-0.6
MT09	Talagante	9.27	195	Pn	Pn	00 54 05.2	-2.8
BO04	La Punta	9.39	193	Pn	Pn	00 54 07.1	-2.3
MT01	Popeta	9.42	196	Pn	Pn	00 54 06.9	-2.9
CPUP	Villa Florida	9.80	101	Pn	Pn	00 54 11.7	-3.1
CPUP	Villa Florida	9.80	101	P	Pn	00 54 11.4	-3.4
	comp=Z,1.2nm,0.7s,baz=277,slow=12,SNR=3.1						
CPUP	Villa Florida	9.80	101	eP	Pn	00 54 14.8	+0.1
BO01	Tunca	9.89	195	Pn	Pn	00 54 13.7	-2.2
SJPY	San Joaquin	10.85	93	eP	Pn	00 54 28.5	-0.2
SIV	San Ignacio	10.96	38	P	Pn	00 54 28.8	-1.5
	comp=Z,2.4nm,0.4s,baz=256,slow=7.4,SNR=19						
SIV				S	Sn	00 56 26.3	-5.3
	comp=Z,0.8nm,0.6s,baz=145,slow=21,SNR=1.5						
ML02	Panimavida	11.28	194	Pn	Pn	00 54 31.0	-3.2
BI02	San Fabin de	12.11	192		Pn	00 54 43.4	-1.8
VILB	Vilhena	13.95	34	P	Pn	00 55 08.8	0.0
VILB	Vilhena	13.95	34	eP	P	00 55 10.5	-1.5
TRQA	Tornquist	14.16	160	Pn	Pn	00 55 10.0	-1.3
PLTB	Pedras Altas	14.47	122	Pn	Pn	00 55 12.9	-2.3
ITAB	Concordia	14.51	103	P	P	00 55 17.8	-0.3
ITAB	Concordia	14.51	103	eP	P	00 55 18.1	0.0
SALV	Santo Antonio	14.59	55	eP	Pn	00 55 17.2	+0.3
LDASE	Londrina, Braz	15.53	88	eP	P	00 55 29.8	+0.3
LR05	Currie	15.71	191	P	P	00 55 31.4	+0.1
LR05				IAmb	IAmb	00 55 40.3	
	comp=Z,12nm,1.1s						
PLCA	Paso Flores	15.99	187		P	00 55 34.6	+0.1
PLCA	Paso Flores	15.99	187	P	P	00 55 35.4	+0.9
	comp=Z,2.8nm,1.0s,baz=340,slow=11,SNR=6.1						
PLCA	Paso Flores	15.99	187	eP	P	00 55 36.4	+1.9
LL04	Puerto Octay	16.44	192	P	Pn	00 55 39.8	+0.4
PDRB	Porto dos Gac	16.97	41	eP	Pn	00 55 46.9	+0.9
TER01	Tubaro-SC	17.31	106	eP	Pn	00 55 50.7	+0.8
ARAG	Araguaiana, MT	17.72	62	eP	Pn	00 55 55.2	+0.3
LL01	San Ignacio de	17.87	191		Pn	00 55 57.0	+0.5
LL01				IAmb	IAmb	00 55 59.7	
	comp=Z,12nm,1.1s						
CLDB	Colider	18.11	42	eP	Pn	00 56 00.1	+0.5
GO07	Milladeo Hill,	18.81	193	Pn	Pn	00 56 08.2	+0.7
VAO	Valinhos	19.36	89	P	P	00 56 11.3	-0.3
VAO	Valinhos	19.36	89	eP	P	00 56 11.7	+0.2
IPMB	Ipameri, GO	19.68	74	eP	P	00 56 15.2	+0.2
AY01	Puyuhuapi	19.90	190	P	Pn	00 56 18.5	-1.7
AY01				IAmb	IAmb	00 56 20.4	
	comp=Z,14nm,0.8s						
SNDB	Serra Nova Dou	20.38	54	eP	P	00 56 22.1	-0.2
TBTG	Tabatinga, AM	20.60	355	eP	Pn	00 56 29.8	+0.8
BDFB	Brasilia	20.89	68	P	P	00 56 26.8	-1.2
BDFB				IAmb	IAmb	00 56 28.5	
	comp=Z,12nm,0.7s						
BDFB	Brasilia	20.89	68	P	P	00 56 27.9	-0.1
	comp=Z,12nm,0.7s,baz=244,slow=9.5,SNR=16						
	comp=Z,12nm,0.7s						
PMNB	Patos De Minas	21.03	77	eP	P	00 56 29.0	-0.4
ITTB	Itaituba	23.55	32	eP	P	00 56 55.4	+1.3
DIAM	Diamantina, MG	23.57	79	eP	P	00 56 55.4	+1.0
DUB01	Friburgo-RJ	23.71	89	eP	P	00 56 56.0	+0.4
JANB	Januaria	24.31	71	eP	P	00 57 01.8	+0.7
SDBA	SAO DESIDERIO	25.13	65	eP	P	00 57 09.3	+0.7
PRPB	Parauapebas	25.49	46	eP	P	00 57 12.0	+0.2
OTAV	Otavalo	26.88	336	eP	P	00 57 26.8	+2.1
MG05	Puerto Natales	27.02	186	P	P	00 57 23.4	-1.7
MG05				IAmb	IAmb	00 57 38.8	
	comp=Z,6.2nm,0.9s						
RCBR	Riachuelo	36.15	64	P	P	00 58 44.9	-0.4
RCBR				IAmb	IAmb	00 58 58.9	
	comp=Z,7.0nm,1.1s						
RPN	Rapa Nui	37.06	257	P	P	00 58 50.1	-2.8
SNAA	Sanae	58.89	160	P	P	01 01 42.3	+2.3
	comp=Z,2.0nm,0.7s,baz=297,slow=9.8,SNR=7.8						
	comp=Z,2.0nm,0.7s						
QSPA	South Pole Qui	65.38	180	P	P	01 02 27.0	+3.7
	comp=Z,1.8nm,0.6s,baz=177,slow=1.1,SNR=22						
	comp=Z,1.8nm,0.6s						
TORD	Torodi Ar. Bea	77.76	69	P	P	01 03 41.0	+2.9
	comp=Z,1.2nm,0.3s,baz=232,slow=4.9,SNR=1.8						
	comp=Z,1.2nm,0.3s						
MODS	Modra-Piesok	105.18	44	ePDIFF	Pdif	01 05 47.2	-0.8
WRA	Warramunga Arr	130.45	208	PKP	PKiKP	01 10 54.7	+3.2
	comp=Z,0.2nm,0.3s,baz=156,slow=2.5,SNR=4.8						
KURBB	Kurchatov Arra	143.61	36	PKP	PKiKP	01 11 15.9	-1.4
	comp=Z,0.2nm,0.7s,baz=284,slow=2.9,SNR=2.6						
ZALV	Zalesovo Beam	144.57	28	PKP	PKiKP	01 11 18.9	-0.3
	comp=Z,1.6nm,0.5s,baz=315,slow=1.1,SNR=8.8						
MKAR	Makanchi Array	147.77	40	PKPbc	PKPab	01 11 28.2	+1.3
	comp=Z,1.5nm,0.7s,baz=311,slow=2.9,SNR=16						

*DNK **26** 00:53:20.7±3.4, 81°.73N×4°.19W, h36km±88km, ML1.6*

FCIAR 26 00:53:21.0, 81°.69N×2°.03W, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.60, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	2.14	275	eP	Pn	00 53 50.8	-5.8
NOR				eS	Sn	00 54 07.7	-15
NOR				IAML		00 54 15.8

GZT				S	Sg	01 06	46.4	0.0
KAHM	**Kahramanmaras,**	**1.59**	**218**	P	Pn	01 06	26.2	-0.4
KAHM				S	Sn	01 06	47.1	-0.5
ALUC	**Giresun/Alucra**	**1.62**	**15**	P	Pg	01 06	28.8	-0.2
ALUC				S	Sg	01 06	50.8	+0.9
KMRS	**Kahramanmaras**	**1.64**	**220**	Pn	Pb	01 06	28.3	-0.3
KMRS				Sn	Sb	01 06	49.9	+0.3
RSDY	**Resadiye-TOKAT**	**1.76**	**337**	Pn	Pb	01 06	30.9	+0.3
RSDY				Sn	Sg	01 06	54.5	+0.1
KHMR	**Kahramanmara**	**1.77**	**216**	P	Pb	01 06	29.6	-1.1
KHMR				S	Sb	01 06	52.1	-1.0
GAZ	**Gaziantep**	**1.79**	**207**	Pn	Pb	01 06	30.5	-0.6
GAZ				Sn	Sb	01 06	53.7	-0.2
BNN	**Bunyan**	**1.86**	**273**	Pn	Pb	01 06	31.4	-0.9
BNN				Sn	Sb	01 06	55.3	-0.6
SURC	**SANLIURFA_SURC**	**1.92**	**171**	P	Pb	01 06	32.1	-1.2
YEDI	**Yedisu-Bingol**	**1.92**	**69**	Pn	Pg	01 06	34.1	-0.6
BNGB	**Bingl**	**1.93**	**83**	Pn	Pg	01 06	34.2	-0.6
TOKT	**Tokat**	**2.02**	**320**	Pn	Pb	01 06	34.0	-1.0
TOKT				Sn	Sb	01 07	00.1	-0.2
GUNE	**Kayseri**	**2.03**	**274**	P	Pb	01 06	34.0	-1.3
GUNE				S	Sg	01 07	02.8	-0.4
TOKA	**Tokat**	**2.05**	**319**	P	Pb	01 06	34.1	-1.4
TOKA				S	Sb	01 07	00.3	-1.1
HACI	**Hacifakili, Ak**	**2.15**	**296**	P	Pn	01 06	35.4	+1.1
HACI				S	Sn	01 07	01.4	+0.1
BAYB	**BAYBURT**	**2.16**	**46**	P	Pg	01 06	38.1	-1.1
BAYB				S	Sg	01 07	09.1	+1.8
ESPY	**Espiye-Giresun**	**2.17**	**10**	Pn	Pb	01 06	37.3	-0.3
BAYT	**Aydıntepe-Bayb**	**2.19**	**42**	Pn	Pb	01 06	37.9	-0.1
MAZI	**Mazidag**	**2.19**	**126**	Pn	Pb	01 06	37.5	-0.5
SLHN	**Bingol, Solhan**	**2.19**	**84**	P	Pg	01 06	39.0	-0.9
KARO	**Karliova-Bingo**	**2.26**	**76**	Pn	Pb	01 06	38.9	-0.3
KOZT	**Kozan**	**2.29**	**236**	Pn	Pb	01 06	37.7	-1.9
SVAN	**Silvan-Diyarba**	**2.42**	**104**	Pn	Pb	01 06	41.1	-0.7
YOZ	**Yozgat**	**2.42**	**292**	Pn	Pn	01 06	39.7	+1.6
KTUT	**Trabzon**	**2.51**	**28**	Pn	Pb	01 06	42.3	-1.0
VRTB	**Varto-Mus**	**2.55**	**80**	Pn	Pb	01 06	43.1	-1.0
VRTB	**Varto-Mus**	**2.55**	**80**	P	Pb	01 06	43.7	-0.4
BTMN	**Batman**	**2.55**	**109**	P	Pb	01 06	44.5	+0.3
MUSM	**Mu-Merkez**	**2.57**	**90**	P	Pb	01 06	44.0	-0.4
KOZK	**Kozakli-Nevseh**	**2.65**	**280**	Pn	Pn	01 06	43.1	+1.8
CMRD	**Camardi-Nigde**	**2.78**	**247**	Pn	Pn	01 06	44.8	+1.7
KVT	**Kavak**	**2.85**	**325**	Pn	Pb	01 06	46.3	-2.8
TAHT	**Tahtakopru-Hat**	**2.89**	**215**	Pn	Pn	01 06	46.7	+2.2
KARA	**Karaisali**	**2.93**	**240**	Pn	Pn	01 06	47.2	+2.2
GURO	**Guroymak-BITLI**	**2.99**	**93**	Pn	Pb	01 06	50.3	-1.3
CHOM	**Cayeli-Rize**	**3.03**	**39**	Pn	Pb	01 06	50.6	-1.6
KOPR	**Koprukoy-ERZUR**	**3.06**	**66**	Pn	Pb	01 06	51.1	-1.8
CORM	**Corum**	**3.11**	**298**	Pn	Pn	01 06	49.9	+2.2
KAMT	**Kaman**	**3.56**	**281**	Pn	Pn	01 06	55.9	+2.1
SENK	**Senkaya-Erzuru**	**3.65**	**59**	Pn	Pb	01 06	59.5	-3.4
DIKM	**Dikmen**	**3.66**	**323**	Pn	Pn	01 06	57.9	+2.9

*ISN **26** 01:06:05.6±1.0, 36°.34N×45°.52E, h25km±12km, ML3.4*
*TEH **26** 01:06:05.0, 36°.18N×45°.35E, h5km*

ISC 26 01:06:05.9±0.9, 36°.18N±0°.03×45°.37E±0°.05, h10km, n21, σ2s20/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDS1	**Sardasht. Az.**	**0.10**	**107**	Pg	Pg	01 06 07.8	-0.8
MAHB	**Mahabad**	**0.65**	**25**	Pg	Pb	01 06 18.2	-1.2
IKRK	**Kirkuk**	**1.14**	**228**	*e*Pg	Pn	01 06 30.0	+2.0
IKRK				*e*Sg	Sn	01 06 47.0	+3.3
IKRK				AML	AML	01 06 49.3	
	comp=E,617nm,0.5s						
IKRK				AML	AML	01 06 51.5	
	comp=N,696nm,0.4s						
IAZR	**Azarshahr**	**1.58**	**18**	Pg	Pg	01 06 34.9	-1.2
KGS1	**Ghasr-e-Shirin**	**1.68**	**174**	Pg	Pg	01 06 37.3	-0.8
IGHG	**Ghaleghazi**	**2.09**	**152**	Pn	Pb	01 06 42.7	-1.3
GLG1	**Gilan-e-Gharb**	**2.11**	**168**	Pn	Pb	01 06 43.1	-1.1
ITBZ	**Tabriz**	**2.14**	**17**	Pn	Pb	01 06 44.1	-0.8
SNQR	**Sonqor, Kerman**	**2.26**	**125**	Pn	Pb	01 06 45.9	-1.2
KCHF	**Cheshme Sefid,**	**2.34**	**144**	Pn	Pb	01 06 46.6	-1.6
ISRB	**Sarab**	**2.47**	**47**	Pn	Pb	01 06 48.8	-1.6
IHRS	**Heris**	**2.52**	**31**	Pn	Pb	01 06 49.7	-1.7
IMRD	**Marand**	**2.54**	**6**	Pn	Pb	01 06 49.8	-2.0
HGHA	**Hamedan- Ghaye**	**2.92**	**103**	Pn	Pb	01 06 54.7	-3.4
BHD	**Baghdad**	**3.01**	**196**	*e*Pn	Pb	01 06 56.0	-3.6
BHD				*e*Sn	Sb	01 07 34.0	-2.5
IBDR	**Badra**	**3.09**	**171**	*e*Pn	Pn	01 06 57.0	+2.2
IBDR				*e*Sn	Sn	01 07 34.0	+2.2
MAKU	**Maku**	**3.22**	**350**	Pn	Pn	01 06 58.4	+1.7
IDOB	**Doab**	**3.32**	**135**	Pn	Pn	01 07 00.2	+2.1
IKFM	**Kafar-mosalman**	**3.34**	**142**	Pn	Pn	01 07 00.3	+2.2
HAGD	**Aghdareh**	**3.36**	**113**	Pn	Pn	01 07 01.4	+2.7
QABG	**Abgarm-Qazvin**	**3.45**	**97**	Pn	Pn	01 07 02.1	+2.2

*TEH **26** 01:22:23.7, 38°.79N×49°.07E, h9km*
*AZER **26** 01:22:28.1, 38°.78N×48°.77E, h39km, ml2.5*

ISC 26 01:22:29.4±1.2, 38°.72N±0°.03×48°.83E±0°.04, h41km±7km, n38, σ1s35/63, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKRN	**Lenkeran, Azer**	**0.04**	**256**	P	Pn	01 22 35.5	-0.4
LKRN				S	Sn	01 22 41.0	+0.5
ASTR	**Astara**	**0.16**	**192**	P	Pn	01 22 36.2	-0.3
ASTR				S	Sn	01 22 42.4	+0.9
GAS1	**Astara - Iran**	**0.33**	**179**	Pg	Pn	01 22 37.5	-0.6
LRK	**Lerik**	**0.39**	**259**	P	Pn	01 22 38.6	-0.4
LRK				S	Sn	01 22 46.4	+0.7
YRD	**Yardimli**	**0.50**	**293**	P	Pn	01 22 39.4	-1.0
YRD				S	Sn	01 22 47.8	-0.4
GLBA	**Clilabad**	**0.62**	**327**	P	Pn	01 22 40.6	-1.2
GLBA				S	Sn	01 22 50.5	-0.2
SAAT	**Saatly**	**1.18**	**345**	P	Pn	01 22 49.0	-0.4
SAAT				S	Sn	01 23 05.5	+1.2
ALIB	**&Aumlli-Bayram**	**1.24**	**6**	P	Pn	01 22 50.6	+0.3
ALIB				S	Sn	01 23 07.5	+1.7
ISRB	**Sarab**	**1.28**	**226**	Pg	Pn	01 22 51.2	+0.2
ISRB				Sg	Sn	01 23 09.6	+2.5
QRD	**Qoradiz**	**1.39**	**303**	Pn	Pn	01 22 51.5	-0.8
QRD				Sn	Sn	01 23 09.8	+0.3
BLQ	**Beylaqan**	**1.41**	**316**	Pn	Pn	01 22 51.8	-0.8
BLQ				Sn	Sn	01 23 09.9	0.0
IHRS	**Heris**	**1.46**	**255**	Pg	Pn	01 22 54.0	+0.5
KDMR	**Kurdemir**	**1.73**	**343**	Pn	Pn	01 22 56.2	-0.7
KDMR				Sn	Sn	01 23 17.7	0.0
ZRD	**Zardab**	**1.79**	**331**	Pn	Pn	01 22 57.3	-0.5
ZRD				Sn	Sn	01 23 19.9	+0.5
GBS	**Qobustan**	**1.81**	**3**	Sn	Sn	01 23 21.7	+1.7
GOBA	**Gobu**	**1.82**	**22**	Pn	Pn	01 22 59.1	+0.9
GOBA				Sn	Sn	01 23 25.4	+5.5
LHJ2	**Lahijan - Gila**	**1.83**	**148**	Pn	Pn	01 22 56.4	-1.9
AGDM	**Agdam**	**1.93**	**317**	Pn	Pn	01 22 58.6	-1.0
AGDM				Sn	Sn	01 23 23.2	+0.5
BRDA	**Brd**	**2.00**	**321**	Pn	Pn	01 23 00.9	+0.2
BRDA				Sn	Sn	01 23 24.3	-0.2
PQL	**Pirkuli**	**2.07**	**355**	Pn	Pn	01 23 03.6	+1.8
PQL				Sn	Sn	01 23 25.6	-1.0
IML	**Ismayilli**	**2.13**	**347**	Pn	Pn	01 23 01.6	-0.9
IML				Sn	Sn	01 23 26.0	-1.7
ATGJ	**Altiaghaj**	**2.14**	**2**	Pn	Pn	01 23 08.6	+5.9
ATGJ				Sn	Sn	01 23 28.4	+0.3
JIR1	**Jirandeh**	**2.15**	**159**	Pn	Pn	01 23 01.6	-1.3
QBL	**Gabala**	**2.35**	**341**	Pn	Pn	01 23 04.6	-0.9
QBL				Sn	Sn	01 23 31.8	-1.4
SIZA	**Siyzn**	**2.35**	**1**	Pn	Pn	01 23 10.8	+5.2
SIZA				Sn	Sn	01 23 33.4	+0.1
IMRD	**Marand**	**2.45**	**271**	Pn	Pn	01 23 08.3	+1.4
MNGR	**Mingechevir, A**	**2.45**	**327**	Sn	Sn	01 23 39.2	+3.6
XNQ	**Khinaliq**	**2.50**	**348**	Pn	Pn	01 23 07.8	-0.1
XNQ				Sn	Sn	01 23 35.7	-1.5
IGZV	**Ghazvin**	**2.58**	**154**	Pn	Pn	01 23 08.0	-0.8
SBZ	**Shahbuz**	**2.64**	**286**	Pn	Pn	01 23 10.3	+0.7
SBZ				Sn	Sn	01 23 42.3	+1.9
GANJ	**Ganja**	**2.73**	**316**	Pn	Pn	01 23 09.6	-1.1
GANJ				Sn	Sn	01 23 40.8	-1.7
SEKA	**Sheki**	**2.79**	**334**	Pn	Pn	01 23 10.3	-1.2
SEKA				Sn	Sn	01 23 41.6	-2.3
QABG	**Abgarm-Qazvin**	**3.07**	**169**	Pn	Pn	01 23 14.7	-0.9
GDB	**GEDABAY**	**3.10**	**311**	Pn	Pn	01 23 16.0	0.0
GDB				Sn	Sn	01 23 51.3	-0.6
ZKTA	**Zakatala**	**3.37**	**331**	Pn	Pn	01 23 19.1	-0.4
ZKTA				Sn	Sn	01 23 57.9	-0.4
IPRN	**Peran**	**3.73**	**131**	Pn	Pn	01 23 23.3	-1.3
DGRG	**David-gareji**	**3.81**	**317**	Pn	Pn	01 23 25.8	+0.3
DGRG				Sn	Sn	01 24 09.2	+0.1
IALA	**Alasht**	**4.12**	**129**	Pn	Pn	01 23 29.1	-1.0

*ISK **26** 01:28:21.5, 37°.41N×29°.45E, h4km, ML3.3/29*
*AFAD **26** 01:28:21.5, 37°.39N×29°.41E, h12km±1km, ML3.3*
*GII **26** 01:28:22.2±0.0, 37°.401N±0°.003×29°.429E±0°.001, h20km, Mws3.5, confirmed*

ISC 26 01:28:21.7±0.8, 37°.41N±0°.02×29°.42E±0°.01, h13km±5km, n109, σ0s68/140, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APMY	**Acipayam-Deniz**	**0.11**	**301**	Pg	Pg	01 28 24.9	0.0
APMY				Sg	Sg	01 28 27.6	+0.4
GOLH	**Golhisar**	**0.21**	**148**	P	Pg	01 28 26.2	-0.1
GOLH				S	Sg	01 28 29.5	0.0
GOLH				*i* AML	AML	01 28 30.0	
	comp=N,9μm,0.2s						
CAEL	**Denizli, Camel**	**0.30**	**196**	P	Pg	01 28 27.4	-0.6
CAEL				S	Sg	01 28 31.9	-0.3
CAEL				*i* AML	AML	01 28 38.0	
	comp=N,8μm,0.5s						
CAEL				*i* AML	AML	01 28 40.0	
	comp=E,7μm,0.5s						
INCE	**Denizli-Bozkur**	**0.32**	**22**	P	Pg	01 28 28.4	+0.1
INCE				S	Sb	01 28 33.8	-0.7
INCE				*i* AML	AML	01 28 35.0	
	comp=N,4μm,0.4s						
INCE				*i* AML	AML	01 28 35.0	
	comp=E,4μm,0.2s						
DNZT	**Denizli-Tavas-**	**0.34**	**247**	P	Pg	01 28 28.6	-0.1
DNZT				S	Sg	01 28 33.5	+0.1
DNZT				*i* AML	AML	01 28 35.0	
	comp=N,4μm,0.5s						
DNZT				*i* AML	AML	01 28 35.0	
	comp=E,3μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.37**	**305**	P	Pg	01 28 29.7	+0.5
TAVA	**DENIZLI_Tavas**	**0.41**	**278**	P	Pg	01 28 30.2	+0.4
TAVA				S	Sg	01 28 35.0	-0.4
TAVA				*i* AML	AML	01 28 37.0	
	comp=N,2μm,0.6s						
CAME	**Cameli-Denizli**	**0.48**	**192**	Pg	Pg	01 28 30.9	-0.2
CAME				Sg	Sb	01 28 38.3	-0.7
KNIK	**Mula-Seydike**	**0.58**	**168**	P	Pg	01 28 32.0	-1.0
KNIK				S	Sg	01 28 40.2	-0.5
BRDR	**BURDUR-Merkez**	**0.58**	**61**	P	Pg	01 28 32.8	-0.2
BRDR				S	Sg	01 28 41.1	+0.3
BRDR				*i* AML	AML	01 28 50.0	
	comp=N,1μm,0.6s						
SABU	**Mula-Dalaman**	**0.69**	**212**	P	Pg	01 28 34.2	-0.9
SABU				S	Sg	01 28 43.6	-0.6
BASM	**Basmaki-Afyon**	**0.71**	**44**	Pg	Pg	01 28 35.2	-0.3
ELL	**Elmali**	**0.77**	**150**	Pg	Pg	01 28 36.1	-0.5
FETY	**Fethiye**	**0.82**	**199**	Pg	Pb	01 28 37.9	+0.1
FETY				Sg	Sn	01 28 50.2	-0.8
FETY	**Fethiye**	**0.82**	**199**	P	Pn	01 28 38.4	-0.5
KORT	**Korkueli**	**0.85**	**119**	Pg	Pb	01 28 38.2	-0.1
KORT				Sg	Sb	01 28 50.4	+0.8
KORT	**Korkueli**	**0.85**	**119**	P	Pg	01 28 37.0	-1.0
KORT				S	Sn	01 28 50.6	-1.2
DALY	**Dalyan (Mula)**	**0.86**	**226**	Pg	Pn	01 28 38.8	-0.6
MULA	**Mugla, Merkez-**	**0.89**	**260**	P	Pg	01 28 38.9	-0.1
MULA				S	Sg	01 28 50.5	-0.2
MULA				*i* AML	AML	01 28 57.0	
	comp=E,766nm,0.6s						
BUCA	**Burdur, Bucak-**	**0.91**	**95**	P	Pg	01 28 38.6	-0.6
BCK	**Bucak**	**0.93**	**87**	Pg	Pb	01 28 39.6	-0.1
PASA	**Karahalli, USA**	**0.94**	**3**	P	Pg	01 28 38.8	-1.0
PASA				S	Sg	01 28 52.3	+0.3
ESEN	**Aydn-Nazilli**	**0.94**	**295**	P	Pg	01 28 39.8	0.0
ESEN				S	Sg	01 28 49.9	-2.1
YER	**Yerkesik**	**0.95**	**253**	Pg	Pn	01 28 40.5	-0.2
ISP	**Isparta**	**0.96**	**65**	Pg	Pb	01 28 40.3	0.0
ISP				Sg	Sn	01 28 53.9	-0.7
IZZE	**Mula-Seydike**	**0.99**	**189**	P	Pb	01 28 40.7	+0.1
IZZE				S	Sb	01 28 53.6	+0.1
IZZE				*i* AML	AML	01 29 02.0	
	comp=E,1μm,0.5s						
NAZL	**Nazilli-Aydin**	**1.05**	**302**	Pg	Pn	01 28 42.4	+0.3
ANTB	**Antalya**	**1.11**	**117**	Pn	Pn	01 28 43.4	+0.6
KIRA	**zmir-Kiraz**	**1.13**	**314**	P	Pg	01 28 43.4	0.0
KIRA				S	Sb	01 28 57.8	+0.1
TURN	**Turunc**	**1.14**	**236**	Pn	Pg	01 28 44.4	+0.8
TURN	**Turunc**	**1.14**	**236**	P	Pg	01 28 43.4	-0.1
TURN				S	Sn	01 29 00.2	+1.6
TURN				*i* AML	AML	01 29 06.0	
	comp=N,704nm,0.5s						
AKAS	**Kas**	**1.19**	**173**	Pn	Pg	01 28 44.7	+0.2
AKAS	**Kas**	**1.19**	**173**	P	Pg	01 28 45.2	+0.7
AKAS				*i* AML	AML	01 29 08.0	
	comp=E,552nm,0.5s						
AKAS				*i* AML	AML	01 29 11.0	
	comp=N,777nm,0.4s						
AFYN	**Afyon-Dinar-K**	**1.21**	**45**	P	Pb	01 28 44.5	+0.1
KEMT	**Kemer-ANTALYA**	**1.22**	**131**	Pn	Pg	01 28 44.7	-0.3
DEMR	**Demre-Antalya**	**1.24**	**162**	Pn	Pg	01 28 46.1	+0.6
AYDN	**Tasoluk**	**1.25**	**282**	P	Pg	01 28 45.8	0.0
AYDN				S	Sb	01 29 01.4	+0.2
AYDN				*i* AML	AML	01 29 05.0	
	comp=N,463nm,0.7s						
KULA	**Kula-Manisa**	**1.25**	**332**	Pn	Pg	01 28 46.1	+0.3
BNAZ	**Uak-Banaz**	**1.31**	**16**	P	Pn	01 28 46.1	+0.3
BNAZ				S	Sg	01 29 04.7	+0.6
BNAZ				*i* AML	AML	01 29 11.0	
	comp=N,907nm,0.5s						
AKUM	**Antalya-Kumluc**	**1.31**	**146**	P	Pg	01 28 47.7	+0.8
AKUM				S	Sg	01 29 07.8	+3.7
MLSB	**Milas**	**1.32**	**265**	Pn	Pg	01 28 47.6	+0.6
AYDB	**Zeytinkoy-Aydi**	**1.33**	**294**	Pn	Pg	01 28 47.4	+0.2
USAK	**Uak-Merkez**	**1.34**	**346**	P	Pb	01 28 46.7	+0.1
USAK				S	Sb	01 29 03.4	-0.3
IZMR	**zmir-demi**	**1.37**	**302**	P	Pg	01 28 48.1	+0.1
IZMR				P	Pg	01 28 48.1	+0.1
IZMR				S	Sb	01 29 05.0	+0.5
ODEM	**Odemis-Izmir**	**1.37**	**309**	Pn	Pg	01 28 48.0	0.0
SHUT	**Suhut-Afyon**	**1.45**	**38**	Pn	Pg	01 28 49.1	-0.4
AFYO	**Afyonkarahisar**	**1.54**	**26**	P	Pb	01 28 50.2	+0.2
AFYO				S	Sg	01 29 11.7	+0.6
AFYO				*i* AML	AML	01 29 23.0	
	comp=E,407nm,0.8s						
AFYO				*i* AML	AML	01 29 26.0	
	comp=N,396nm,0.9s						
ARG	**Arkhangelos**	**1.58**	**221**	Pn	Pg	01 28 51.5	-0.6
SHAP	**Saphane-Kutahy**	**1.61**	**354**	Pn	Pb	01 28 52.0	+0.6
BDRM	**Kayabasi**	**1.62**	**258**	P	Pb	01 28 51.8	+0.5
DAT	**Datca**	**1.63**	**246**	Pn	Pb	01 28 52.1	+0.5
GEDZ	**Gediz**	**1.63**	**360**	Pn	Pb	01 28 51.9	+0.3
GDZ	**Gediz**	**1.67**	**2**	P	Pb	01 28 51.8	-0.6
YVAC	**Isparta, Yalva**	**1.67**	**59**	P	Pb	01 28 51.6	-0.8
YVAC				S	Sg	01 29 16.1	+0.5
SIMA	**Simav-Kutahya**	**1.70**	**348**	Pn	Pb	01 28 53.0	+0.1
DEMI	**Demirci**	**1.72**	**341**	P	Pb	01 28 52.6	-0.5
BODT	**Bodrum**	**1.72**	**259**	Pn	Pb	01 28 53.2	+0.1
YKAV	**Yalikavak-Bodr**	**1.73**	**261**	Pn	Pb	01 28 53.5	+0.2
DDIM	**Aydin, Didim**	**1.74**	**272**	P	Pb	01 28 53.0	-0.4
DDIM				S	Sb	01 29 15.9	+0.9
DDIM				*i* AML	AML	01 29 27.0	
	comp=E,306nm,0.8s						
DDIM				*i* AML	AML	01 29 33.0	
	comp=N,370nm,1.1s						
YAZI	**Mula-Dat§a-**	**1.74**	**246**	P	Pb	01 28 53.4	0.0
YAZI				S	Sb	01 29 15.1	+0.1
GCAM	**G?zelcaml?**	**1.76**	**280**	Pn	Pb	01 28 53.7	-0.1
GCAM	**G?zelcaml?**	**1.76**	**280**	S	Sg	01 29 18.1	-0.3
KURO	**Afyon-Bolvadin**	**1.78**	**42**	S	Sn	01 29 15.3	+0.6
GORD	**Gordes-Manisa**	**1.79**	**327**	Pn	Pb	01 28 53.7	-0.6
SEDI	**Konya, Seydise**	**1.86**	**88**	P	Pb	01 28 55.8	+0.3
DOGA	**KONYA_Doganhis**	**1.91**	**68**	P	Pb	01 28 55.9	-0.5
SEYD	**Seydisehir-KON**	**1.92**	**89**	Pn	Pb	01 28 55.8	-0.8
AKHS	**Akhisar**	**1.94**	**320**	P	Pn	01 28 55.4	+1.1
EMET	**Ktahya-Emet**	**1.96**	**358**	P	Pn	01 28 55.7	+1.0
BYAT	**Afyon-Bayat**	**1.96**	**38**	P	Pb	01 28 56.6	-0.7
UCKU	**Afyonkarahisar**	**2.00**	**52**	P	Pn	01 28 56.5	+1.3
TVSB	**Tavsanli**	**2.03**	**1**	Pn	Pb	01 28 57.5	-1.0
DGB	**zmir**	**2.11**	**288**	P	Pb	01 28 59.2	-0.5
BLCB	**Balcova**	**2.12**	**298**	Pn	Pb	01 28 58.8	-1.1
ANDZ	**Kutahya, Merke**	**2.13**	**10**	P	Pn	01 28 58.1	+1.1
ANDZ				S	Sn	01 29 23.7	+0.4
SOMA	**Soma-Manisa**	**2.29**	**320**	Pn	Pn	01 29 00.8	+1.7
KONT	**Konya--Tatoy**	**2.39**	**76**	P	Pb	01 29 03.5	-1.0
MMA0B	**Mount Meron ar**	**6.57**	**130**	P	Pn	01 29 57.7	-0.3
MMA0B	**Mount Meron ar**	**6.57**	**130**	S	Sn	01 31 12.7	-0.1
GEM	**Giv'at Ha'Em**	**6.60**	**128**	P	Pn	01 29 57.7	-0.7
GEM	**Giv'at Ha'Em**	**6.60**	**128**	S	Sn	01 31 12.7	-0.8
NATI	**Neve Ativ**	**6.62**	**127**	P	Pn	01 29 59.1	+0.6
NATI	**Neve Ativ**	**6.62**	**127**	S	Sn	01 31 13.6	-0.2
KSHT	**Keshet**	**6.85**	**128**	P	Pn	01 30 01.5	-0.4
KSHT	**Keshet**	**6.85**	**128**	S	Sn	01 31 19.1	-0.5
MMLI	**Mount Malkishu**	**6.99**	**133**	P	Pn	01 30 03.4	-0.4
MMLI	**Mount Malkishu**	**6.99**	**133**	S	Sn	01 31 23.0	-0.1
HMDT	**Nahal Hemdat**	**7.19**	**134**	P	Pn	01 30 06.7	+0.3
HMDT	**Nahal Hemdat**	**7.19**	**134**	S	Sn	01 31 27.8	-0.1
DSI	**Dead Sea**	**7.62**	**138**	P	Pn	01 30 12.4	0.0
DSI	**Dead Sea**	**7.62**	**138**	S	Sn	01 31 38.1	-0.6
YTIR	**Yattir**	**7.65**	**140**	P	Pn	01 30 13.4	+0.5
YTIR	**Yattir**	**7.65**	**140**	S	Sn	01 31 38.6	-0.9
KZIT	**Kziot**	**7.69**	**146**	P	Pn	01 30 12.6	-0.7
KZIT	**Kziot**	**7.69**	**146**	S	Sn	01 31 39.2	-1.0
MSBI	**Mazada**	**7.81**	**139**	P	Pn	01 30 15.3	+0.3
MSBI	**Mazada**	**7.81**	**139**	S	Sn	01 31 43.4	+0.1
GHAJ	**Ghor Haditha**	**7.93**	**138**	P	Pn	01 30 16.9	+0.3
GHAJ	**Ghor Haditha**	**7.93**	**138**	S	Sn	01 31 45.5	-0.6
PRNI	**Paran**	**8.43**	**145**	P	Pn	01 30 23.9	+0.3
PRNI	**Paran**	**8.43**	**145**	S	Sn	01 31 58.0	-0.6
KRMI	**Paran Flat**	**8.51**	**147**	P	Pn	01 30 24.4	-0.2
KRMI	**Paran Flat**	**8.51**	**147**	S	Sn	01 32 00.4	-0.1
HRFI	**Mount Harif**	**8.71**	**146**	P	Pn	01 30 27.8	+0.4
HRFI	**Mount Harif**	**8.71**	**146**	S	Sn	01 32 05.5	-0.1
MBRI	**Mt Berech**	**8.87**	**147**	P	Pn	01 30 29.9	+0.3
MBRI	**Mt Berech**	**8.87**	**147**	S	Sn	01 32 08.5	-0.9
EIL	**Elat**	**8.99**	**148**	P	Pn	01 30 31.0	-0.2
EIL	**Elat**	**8.99**	**148**	S	Sn	01 32 11.4	-1.0

*IDC **26** 01:39:42.9±2.3, 48°.77N×152°.32E, h188km±22km, mb2.7/3, mbtmp3.6/7, Error ellipse: s-maj=45.5km s-min=18.8km az=157.0*

ISC 26 01:39:43.5±1.5, 48°.8N±0°.2×152°.3E±0°.2, h200km, n7, σ0s83/7, mb2.7/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.52**	**36**	P	Pn	01 41 03.5	-0.9
	7.6nm,0.6s,baz=217,slow=12,SNR=11						
ASAJ	**Asahikawa**	**8.16**	**239**	P	Pn	01 41 38.3	-0.5
	33nm,0.7s,baz=74,slow=11,SNR=18						
KLR	**Kul'dur**	**13.50**	**280**	P	Pn	01 42 47.4	+0.4
	0.7nm,0.7s,baz=172,slow=9.3,SNR=1.8						
USRK	**Ussuriysk Ar.**	**14.71**	**260**	P	P	01 43 02.5	-0.5
	2.3nm,0.5s,baz=68,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**45.56**	**295**	P	P	01 47 43.6	+0.5
	0.2nm,0.7s,baz=57,slow=8.8,SNR=3.7						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**45.

DRK	**Karamyk**	**2.10**	**219**	⇓*e*P	**Pb**	**02 04 52.9**	**-0.2**
DRK				⇓*e*S	**Sb**	**02 05 19.3**	**+0.3**
USP	**Ospenovka**	**2.27**	**18**	⇓P	**Pb**	**02 04 57.5**	**+1.6**
USP	7.6nm,0.2s,SNR=12			⇑S	**Sg**	**02 05 27.4**	**-0.8**
USP	**Ospenovka**	**2.27**	**18**	⇓*e*P	**Pb**	**02 04 54.6**	**-1.2**
USP	54nm,0.3s			⇓*e*S	**Sb**	**02 05 22.3**	**-1.3**
BOOM	**Boomskoye usch**	**2.27**	**52**	⇓*e*P	**Pb**	**02 04 55.7**	**-0.3**
BOOM				⇓*e*S	**Sb**	**02 05 24.0**	**+0.1**
BTK	**Batken**	**2.31**	**244**	⇓*e*P	**Pb**	**02 04 55.2**	**-1.4**
BTK				⇓*e*S	**Sb**	**02 05 23.1**	**-1.8**
ULHL	**Ulahol**	**2.33**	**60**	⇑P	**Pg**	**02 04 59.5**	**-0.5**
ULHL	6.8nm,0.2s,SNR=15			⇓S	**Sg**	**02 05 31.6**	**+1.3**
ULHL	**Ulahol**	**2.33**	**60**	⇑*e*P	**Pb**	**02 04 56.7**	**-0.3**
ULHL	10.0nm,0.2s			⇑*e*S	**Sb**	**02 05 25.8**	**+0.2**
TKM2	**Tokmak 2**	**2.38**	**40**	⇑P	**Pg**	**02 04 59.6**	**-1.3**
TKM2	22nm,0.3s,SNR=38			⇑S	**Sg**	**02 05 31.7**	**0.0**
TKM2	**Tokmak 2**	**2.38**	**40**	⇑Pn	**Pb**	**02 04 59.2**	**+1.4**
TKM2	10nm,0.4s			⇑Lg	Lg	02 05 32.2	
TKM2	**Tokmak 2**	**2.38**	**40**	⇑*e*P	**Pb**	**02 04 56.8**	**-1.0**
TKM2	18nm,0.5s			⇑*e*S	**Sb**	**02 05 26.1**	**-0.8**
DZA	**Taraz**	**2.41**	**318**	Pg	**Pb**	**02 04 58.4**	**+0.2**
DZA	85nm,0.1s			Lg	Lg	02 05 27.5	
DZA	**Taraz**	**2.41**	**318**	*e*P	**Pb**	**02 04 58.4**	**+0.2**
DZA	236nm,0.2s			*e*S	**Sb**	**02 05 27.5**	**-0.1**
SGDS	**Sogindy**	**2.47**	**19**	Pg	**Pg**	**02 05 02.0**	**-0.7**
SGDS	85nm,0.1s			Lg	Lg	02 05 33.6	
KST	**Kastek**	**2.65**	**43**	Pg	**Pg**	**02 05 06.4**	**+0.3**
KST	4.3nm,0.2s			Lg	Lg	02 05 41.5	
KST	**Kastek**	**2.65**	**43**	*e*P	**Pg**	**02 05 06.4**	**+0.3**
KST	11nm,0.3s			*e*S	**Sg**	**02 05 41.5**	**+1.0**
DGS	**Degeres**	**2.70**	**38**	Pg	**Pg**	**02 05 07.1**	**-0.1**
DGS	20nm,0.6s			Lg	Lg	02 05 42.5	
IUG	**Iuzhnay**	**2.81**	**293**	Pg	**Pb**	**02 05 05.9**	**+0.8**
IUG	39nm,0.6s			Lg	Lg	02 05 40.4	
KDJ	**Kajisay**	**2.93**	**69**	⇑*e*P	**Pb**	**02 05 05.3**	**-1.8**
KDJ	46nm,0.2s			⇑*e*S	**Sb**	**02 05 40.6**	**-2.1**
MTBS	**Maitube**	**2.96**	**46**	Pg	**Pg**	**02 05 12.0**	**+0.1**
MTBS	6.9nm,0.3s			Lg	Lg	02 05 51.0	
MTBS	**Maitube**	**2.96**	**46**	*e*P	**Pg**	**02 05 12.0**	**+0.1**
MTBS	12nm,0.4s			*e*S	**Sg**	**02 05 51.0**	**+0.7**
KK31	**Karatay Array**	**2.99**	**313**	⇑Pg	**Pb**	**02 05 08.7**	**+0.6**
KK31	2.8nm,0.2s,baz=123,slow=12,SNR=101			⇑Lg	Lg	02 05 46.5	
KRBS	**Karabastau**	**3.03**	**31**	Pg	**Pg**	**02 05 12.4**	**-1.0**
KRBS	5.5nm,0.2s,baz=130,slow=29,SNR=8.4			Lg	Lg	02 05 51.7	
TNSS	**Tian-Shan**	**3.19**	**52**	Pg	**Pg**	**02 05 16.9**	**+0.4**
TNSS	19nm,0.6s			Lg	Lg	02 05 59.6	
TNSS	**Tian-Shan**	**3.19**	**52**	*e*P	**Pg**	**02 05 16.9**	**+0.4**
TNSS	7.8nm,0.3s			*e*S	**Sg**	**02 05 59.6**	**+1.7**
BRLS	**Borolday**	**3.34**	**306**	Pg	**Pb**	**02 05 14.9**	**+0.8**
BRLS	7.6nm,0.4s			Lg	Lg	02 05 55.8	
BRLS	**Borolday**	**3.34**	**306**	*e*P	**Pb**	**02 05 14.9**	**+0.8**
BRLS	30nm,0.4s			*e*S	**Sb**	**02 05 55.8**	**+1.4**
KOTS	**Kotyrbulak**	**3.41**	**50**	Pg	**Pg**	**02 05 20.5**	**-0.1**
KOTS	7.6nm,0.4s			Lg	Lg	02 06 05.5	
KOTS	**Kotyrbulak**	**3.41**	**50**	*e*P	**Pg**	**02 05 20.5**	**-0.1**
KOTS	12nm,0.6s			*e*S	**Sg**	**02 06 05.5**	**+0.8**
KTBS	**Karatobe**	**3.49**	**41**	Pg	**Pg**	**02 05 21.3**	**-0.9**
KTBS	41nm,0.6s			Lg	Lg	02 06 06.8	
CHKK	**Chushkaly**	**3.75**	**42**	Pg	**Pg**	**02 05 26.3**	**-0.8**
CHKK	10nm,0.5s			Lg	Lg	02 06 15.4	
CHKK	**Chushkaly**	**3.75**	**42**	*e*P	**Pg**	**02 05 26.3**	**-0.8**
CHKK	3.1nm,0.2s			*e*S	**Sg**	**02 06 15.4**	**-0.2**
BTLS	**Baital**	**3.94**	**5**	Pg	**Pg**	**02 05 28.0**	**-2.7**
BTLS	16nm,0.3s			Lg	Lg	02 06 18.5	
BTLS	**Baital**	**3.94**	**5**	*e*P	**Pg**	**02 05 28.0**	**-2.7**
BTLS	2.6nm,0.3s			*e*S	**Sg**	**02 06 18.5**	**-3.2**
SATY	**Saty**	**4.12**	**60**	*e*P	Pg	02 05 39.0	+4.8
SATY	16nm,0.7s			*e*S	Sg	02 06 37.2	+10
KURS	**Kuram**	**4.18**	**54**	Pg	**Pg**	**02 05 35.2**	**-0.2**
KURS	7.8nm,0.4s			Lg	Lg	02 06 31.0	
KURS	**Kuram**	**4.18**	**54**	*e*P	**Pb**	**02 05 26.3**	**-2.2**
KURS	2.7nm,0.5s			*e*S	**Sb**	**02 06 15.4**	**-3.4**
ARXS	**Arharly**	**4.43**	**44**	Pg	**Pg**	**02 05 39.0**	**-1.1**
ARXS	3.1nm,0.2s			Lg	Lg	02 06 37.2	
UZB	**Uzynbulak**	**4.57**	**62**	Pg	**Pg**	**02 05 42.3**	**-0.5**
UZB	6.1nm,0.4s			Lg	Lg	02 06 43.2	
UZB	**Uzynbulak**	**4.57**	**62**	*e*P	**Pg**	**02 05 42.3**	**-0.5**
UZB	4.3nm,0.3s			*e*S	**Sg**	**02 06 43.2**	**+1.3**
BLB	**Baldybastay**	**4.72**	**49**	Pg	**Pg**	**02 05 44.9**	**-0.7**
BLB	5.0nm,0.3s			Lg	Lg	02 06 47.6	
PDGK	**Podgornoye**	**4.96**	**62**	⇑Pg	**Pg**	**02 05 50.0**	**-0.1**
PDGK	6.0nm,0.6s			⇑Lg	Lg	02 06 56.5	
OTUK	**Ortayu**	**7.17**	**354**	⇑Lg	Lg	02 07 59.1	
	2.9nm,0.9s						
	7.1nm,1.0s						
	12nm,0.8s						

*DJA **26** 02:20:32.0±0.6, 8°S±4°×12°0E±°, h172km±9km, M3.8/10, mb3.6/1, MLv3.9/10*
*IDC **26** 02:20:33.3±2.0, 8°17S×119°99E, h200km±17km, mb3.5/6, mbtmp4.0/9, MS2.8/2, Error ellipse: s-maj=58.2km s-min=8.6km az=55.0*
ISC 26 02:20:30.8±0.8, 8°31S±0°06×119°84E±0°06, h172km, n18, σ1§53/22, mb4.0/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.40**	**198**	P	**Pn**	**02 21 02.5**	**+1.4**
WSI	**Waingapu**	**1.42**	**162**	P	**Pn**	**02 21 03.1**	**+1.7**
WSI				S	**Sn**	**02 21 26.6**	**+1.5**
BASI	**Baing, Sumba**	**2.03**	**159**	P	**Pn**	**02 21 08.8**	**+1.1**
BASI				S	**Sn**	**02 21 37.2**	**+0.9**
PLAI	**Plampang**	**2.10**	**256**	P	**Pn**	**02 21 10.6**	**+2.1**
PLAI				S	**Sn**	**02 21 38.0**	**+0.3**
BSSI	**Bau Bau, Buton**	**2.25**	**17**	P	**Pn**	**02 21 11.2**	**+1.1**
MMRI	**Maumere**	**2.39**	**98**	P	**Pn**	**02 21 13.8**	**+2.0**
KAPI	**Kappang**	**3.28**	**358**	P	**Pn**	**02 21 24.3**	**+1.8**
KAPI	32nm,0.4s,baz=180,slow=10,SNR=22			LR	LR	02 22 38.5	
SRBI	**Singaraja**	**4.59**	**272**	P	**Pn**	**02 21 39.0**	**-0.2**
SOEI	**Soe**	**4.60**	**109**	P	**Pn**	**02 21 40.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.25**	**150**	P	**Pn**	**02 23 07.7**	**+0.9**
FITZ	comp=Z,32nm,21.9s,baz=216,slow=40 4.4nm,0.8s,baz=327,slow=12,SNR=13			S	**Sn**	**02 25 08.6**	**-3.0**
WRA	**Warramunga Arr**	**18.19**	**131**	P	**Pn**	**02 24 31.4**	**-1.2**
WRA	comp=Z,6.4nm,0.6s,baz=172,slow=21,SNR=11 0.4nm,0.3s,baz=303,slow=12,SNR=11			S	**S**	**02 27 48.9**	**-1.1**
ASAR	**Alice Springs**	**20.36**	**140**	P	Pn	02 24 55.6	-2.9
ASAR	comp=Z,0.9nm,0.9s,baz=305,slow=19,SNR=6.8 2.4nm,0.6s,baz=310,slow=8.7,SNR=22			S	**S**	**02 28 32.2**	**-0.9**
MSVF	**Nonsavu**	**57.29**	**106**	LR	LR	02 55 15.8	
MKAR	**Makanchi Array**	**64.23**	**332**	P	**P**	**02 30 46.7**	**-0.7**
ZALV	**Zalesovo Beam**	**68.70**	**339**	P	**P**	**02 31 13.8**	**-1.7**
KURBB	**Kurchatov Arra**	**68.73**	**333**	P	**P**	**02 31 14.7**	**-1.1**

*DJA **26** 02:27:29.1±0.4, 6°S±3°×12°9E±°, h317km±6km, M4.6/14, mB5.0/4, mb4.5/5, MLv4.7/14, Mw(mB)4.4/4*
*NEIC **26** 02:27:30.1±1.1, 5°79S±0°09×128°79E±0°10, h297km±10km, mb4.5/18, Error ellipse: s-maj=15.0km s-min=11.6km az=123.0*
*IDC **26** 02:27:34.2±4.2, 6°15S×128°76E, h320km±45km, mb3.3/2, mbtmp4.4/5, Error ellipse: s-maj=56.3km s-min=16.0km az=71.0*
ISC 26 02:27:30.1±0.5, 5°86S±0°05×128°82E±0°07, h300km, n65, σ1§14/71, mb4.5/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.72**	**39**	P	**Pn**	**02 28 16.6**	**+1.9**
BNDI	**Bandanaira**	**1.72**	**39**	P	**Pn**	**02 28 15.9**	**+1.2**
BNDI				S	**S**	**02 28 52.3**	**+2.0**
AAI	**Ambon**	**2.25**	**344**	P	**Pn**	**02 28 19.9**	**+1.0**
MSAI	**Masohi**	**2.50**	**3**	P	**Pn**	**02 28 20.7**	**-0.5**
MSAI				S	**S**	**02 28 58.4**	**-3.5**
NLAI	**Namlea**	**3.12**	**327**	P	**Pn**	**02 28 28.9**	**+1.9**
NLAI				S	**S**	**02 29 15.0**	**+2.5**
SAUI	**Saumlaki**	**3.24**	**131**	Pn	**Pn**	**02 28 28.3**	**0.0**
SAUI	**Saumlaki**	**3.24**	**131**	P	**Pn**	**02 28 27.1**	**-1.2**
FAKI	**Fak Fak**	**4.50**	**50**		**Pn**	**02 28 42.1**	**+0.1**
FAKI	**Fak Fak**	**4.50**	**50**	P	**Pn**	**02 28 41.7**	**-0.2**
FAKI	**Fak Fak**	**4.50**	**50**	P	**Pn**	**02 28 41.9**	**0.0**
SANI	**Sanana**	**4.72**	**323**	P	**Pn**	**02 28 44.3**	**-0.2**
SANI	**Sanana**	**4.72**	**323**	P	**Pn**	**02 28 44.2**	**-0.2**
SWI	**Sorong**	**5.53**	**26**	P	**Pn**	**02 28 52.3**	**-1.6**
SOEI	**Soe**	**5.94**	**229**		**Pn**	**02 29 00.1**	**+1.3**
SOEI	**Soe**	**5.94**	**229**	P	**Pn**	**02 28 59.9**	**+1.1**
SOEI	**Soe**	**5.94**	**229**	P	**Pn**	**02 28 59.4**	**+0.6**
RKPI	**Ransiki, Papua**	**6.88**	**51**	P	**Pn**	**02 29 09.4**	**-0.6**
MTN	**Manton Dam**	**7.30**	**162**		**Pn**	**02 29 16.1**	**+0.9**
KNRA	**Kununurra**	**9.75**	**180**	Pn	**Pn**	**02 29 46.0**	**+0.8**
TOLI2	**Tolitoli**	**10.60**	**311**	P	**Pn**	**02 29 56.2**	**+0.6**
PLAI	**Plampang**	**11.34**	**254**	P	**Pn**	**02 30 03.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.55**	**194**	P	**Pn**	**02 30 18.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.55**	**194**	P	**Pn**	**02 30 18.7**	**-0.6**
FITZ	5.1nm,0.3s,baz=7.2,slow=12,SNR=29 3.2nm,0.4s,baz=91,slow=15,SNR=4.0			S	**S**	**02 32 36.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**12.55**	**194**	P	**Pn**	**02 30 19.6**	**+0.3**
DAV	**Davao City (W)**	**13.25**	**346**		**Pn**	**02 30 26.7**	**-1.0**
JAGI	**Jajag, Banyuwa**	**14.78**	**259**	P	**P**	**02 30 44.9**	**0.0**
WB0	**Warramunga Arr**	**14.85**	**159**	P	**P**	**02 30 46.1**	**+0.5**
WRAB	**Tennant Creek**	**14.99**	**159**	P	**P**	**02 30 47.8**	**+0.8**
WRAB	comp=Z,15nm,0.6s			IAmb	IAmb	02 30 50.3	
WRA	**Warramunga Arr**	**14.99**	**160**	P	**P**	**02 30 46.3**	**-0.8**
WRA	**Warramunga Arr**	**14.99**	**160**	P	**P**	**02 30 47.6**	**+0.5**
WRA	comp=Z,12nm,0.5s,baz=341,slow=12,SNR=57 comp=Z,4.5nm,0.7s,baz=338,slow=19,SNR=11			S	**S**	**02 33 28.6**	**-2.1**
WB2	**Warramunga Arr**	**14.99**	**159**	P	**P**	**02 30 47.7**	**+0.6**
WB2	comp=Z,16nm,0.8s			IAmb	IAmb	02 30 49.7	
WR8	**Warramunga Arr**	**15.06**	**159**	P	**P**	**02 30 48.4**	**+0.5**
WR8	comp=Z,18nm,0.5s			IAmb	IAmb	02 30 48.9	
COEN	**Coen**	**16.26**	**121**	P	**P**	**02 31 02.0**	**+1.0**
COEN	**Coen**	**16.26**	**121**	P	**P**	**02 31 01.9**	**+0.8**
MBWA	**Marble Bar**	**17.57**	**209**	P	**P**	**02 31 14.8**	**-0.4**
MBWA	comp=Z,55nm,1.5s			IAmb	IAmb	02 31 23.4	
MBWA	**Marble Bar**	**17.57**	**209**	P	**P**	**02 31 15.0**	**-0.2**
PSA00	**Pilbara Seismi**	**17.87**	**208**	P	**P**	**02 31 18.3**	**-0.2**
PSA00	comp=Z,16nm,1.1s			IAmb	IAmb	02 31 36.5	
PSA00	**Pilbara Seismi**	**17.87**	**208**	P	**P**	**02 31 18.1**	**-0.3**
QIS	**Mount Isa**	**17.98**	**145**	P	**P**	**02 31 20.0**	**+0.4**
AS31	**Alice Springs**	**18.37**	**165**		**P**	**02 31 24.6**	**+0.8**
ASAR	**Alice Springs**	**18.37**	**165**	P	**P**	**02 31 24.4**	**+0.6**
ASAR	comp=Z,6.3nm,0.3s,baz=344,slow=12,SNR=59 comp=Z,11nm,0.8s,baz=343,slow=18,SNR=40			S	**S**	**02 34 35.5**	**-2.3**
AS01	**Alice Springs**	**18.38**	**165**	P	**P**	**02 31 24.8**	**+0.9**
WRKA	**Warakurna**	**19.07**	**181**	P	**P**	**02 31 32.1**	**+0.8**
BBJI	**Bungbulang**	**21.08**	**264**	P	**P**	**02 31 51.1**	**-0.9**
GIRL	**Giralia**	**21.83**	**219**	P	**P**	**02 31 59.2**	**+0.6**
GIRL	**Giralia**	**21.83**	**219**	P	**P**	**02 31 59.2**	**+0.6**
OOD	**Oodnadatta**	**22.77**	**164**	P	**P**	**02 32 07.2**	**+0.1**
MEEK	**Meekatharra**	**22.84**	**204**	P	**P**	**02 32 06.8**	**-1.0**
FORT	**Forrest**	**24.80**	**182**	P	**P**	**02 32 26.2**	**+0.7**
FORT	comp=Z,26nm,1.2s			IAmb	IAmb	02 32 41.8	
LCRK	**Leigh Creek**	**26.01**	**161**	P	**P**	**02 32 36.1**	**-0.2**
BBOO	**Buckleboo**	**27.65**	**167**	P	**P**	**02 32 50.7**	**-0.1**
BBOO	comp=Z,26nm,1.2s			IAmb	IAmb	02 33 09.0	
BBOO	**Buckleboo**	**27.65**	**167**	P	**P**	**02 32 50.8**	**0.0**
STKA	**Stephens Creek**	**28.51**	**157**	P	**P**	**02 32 58.5**	**0.0**
STKA	**Stephens Creek**	**28.51**	**157**	P	**P**	**02 32 58.6**	**+0.2**
STKA	comp=Z,2.3nm,0.3s,baz=345,slow=9.1,SNR=6.9 comp=Z,2.3nm,0.3s **Stephens Creek**	**28.51**	**157**	P	**P**	**02 32 58.5**	**0.0**
HTT	**Hallett**	**29.00**	**162**	P	**P**	**02 33 03.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**29.01**	**200**	P	**P**	**02 33 04.0**	**+1.1**
NWAO	comp=Z,28nm,1.4s			IAmb	IAmb	02 33 10.4	
CMSA	**Cobar Meteorol**	**30.04**	**150**	P	**P**	**02 33 12.6**	**+0.7**
ARMA	**Armidale**	**32.51**	**141**	P	**P**	**02 33 34.7**	**+1.1**
ARMA	comp=Z,14nm,1.4s			IAmb	IAmb	02 33 50.4	
CAN	**Canberra**	**34.72**	**150**	P	**P**	**02 33 53.3**	**+0.9**
CAN	comp=Z,12nm,0.7s			IAmb	IAmb	02 33 54.4	
MK31	**Makanchi Array**	**66.64**	**327**	P	**P**	**02 37 48.2**	**-0.7**
MKAR	**Makanchi Array**	**66.64**	**327**	P	**P**	**02 37 52.5**	**+3.7**
	comp=Z,0.3nm,0.5s,baz=112,slow=6.4,SNR=2.8 comp=Z,0.3nm,0.5s						
MAKZ	**Makanchi**	**66.81**	**327**	P	**P**	**02 37 49.3**	**-0.7**
QSPA	**South Pole Qui**	**84.11**	**180**	P	**P**	**02 39 26.1**	**-1.4**
O14K	**Tigyukauivet M**	**84.93**	**29**	P	**P**	**02 39 31.8**	**+0.4**

*IDC **26** 02:38:58.1±0.9, 1°72S×120°48E, h0km, mb3.9/9, mbtmp3.9/10, ML4.0/1, MS2.9/2, Error ellipse: s-maj=36.4km s-min=15.3km az=67.0*
*NEIC **26** 02:39:00.1±1.9, 1°80S±0°02×120°64E±0°06, h10km±1km, mb4.5/18, Error ellipse: s-maj=10.2km s-min=2.9km az=99.0*
*DJA **26** 02:39:01.2±0.2, 2°S±2°×12°1E±°, h10km, M4.7/13, mb5.3/2, MLv4.4/13*
ISC 26 02:38:59.4±0.5, 1°82S±0°03×120°61E±0°04, h10km, n57, σ1§45/60, mb4.4/22, 1C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.19**	**320**	P	**Pb**	**02 39 21.3**	**-0.8**
PCI				S	**Sn**	**02 39 39.4**	**+1.0**
APSI	**Ampana**	**1.38**	**49**	P	**Pg**	**02 39 27.5**	**+1.6**
TTSI	**Tana Toraja**	**1.45**	**213**	P	**Pn**	**02 39 24.9**	**-0.8**
SPSI	**Sidrap Palu**	**2.29**	**201**	P	**Pn**	**02 39 38.7**	**+1.4**
SPSI				S	**Sb**	**02 40 08.9**	**-0.3**
LUWI	**Luwuk**	**2.30**	**70**	Pn	**Pn**	**02 39 38.0**	**+0.6**
LUWI	**Luwuk**	**2.30**	**70**	P	**Pb**	**02 39 39.8**	**-1.2**
LUWI				Pg	**Pg**	**02 39 46.1**	**+2.6**
MRSI	**Marisa**	**2.64**	**30**	P	**Pb**	**02 39 45.0**	**-1.8**
MRSI				S	**Sb**	**02 40 17.0**	**-2.4**
TOLI2	**Tolitoli**	**2.92**	**3**	Pn	**Pn**	**02 39 46.4**	**+0.5**
KAPI	**Kappang**	**3.29**	**195**		**Pn**	**02 39 52.2**	**+1.2**
KAPI	**Kappang**	**3.29**	**195**	Pn	**Pn**	**02 39 52.7**	**+1.7**
KAPI	14nm,0.3s,baz=349,slow=6.6,SNR=38			Sn	**Sn**	**02 40 33.1**	**+3.0**
KAPI	16nm,0.3s,baz=13,slow=19,SNR=7.7 comp=Z,173nm,18.9s,baz=6.5,slow=38			LR	LR	02 41 05.7	
SMKI	**Samarinda**	**3.66**	**292**	P	**Pn**	**02 39 57.6**	**+1.5**
BKB	**Balikpapan**	**3.75**	**278**	Pn	**Pn**	**02 39 59.7**	**+2.4**
BKB	**Balikpapan**	**3.75**	**278**	P	**Pn**	**02 39 58.9**	**+1.5**
KMSI	**Cibinong**	**4.13**	**55**	P	**Pn**	**02 40 06.0**	**+3.5**
BBSI	**Bau Bau**	**4.14**	**152**	P	**Pb**	**02 40 10.3**	**-2.1**
BSSI	**Bau Bau, Buton**	**4.30**	**182**	P	**Pn**	**02 40 06.4**	**+1.5**
MYLDM	**Lahad Datu**	**7.26**	**343**	Pn	**Pn**	**02 40 46.9**	**+1.2**
FAKI	**Fak Fak**	**11.68**	**96**		**Pn**	**02 41 46.8**	**+0.4**
TNG	**Tangerang**	**14.58**	**252**	P	Pn	02 42 15.6	-10
TNG				P	Pn	02 42 15.6	-10
RPSI	**Rantau Prapat**	**22.14**	**282**	P	**P**	**02 43 53.3**	**-2.1**
PSI	**Prapat**	**22.16**	**282**	P	**P**	**02 43 53.3**	**-2.5**
	1.5nm,0.4s,baz=103,slow=11,SNR=2.8 1.5nm,0.4s						
WRA	**Warramunga Arr**	**22.47**	**144**	P	**P**	**02 44 00.4**	**+1.4**
	1.9nm,1.0s,baz=318,slow=11,SNR=6.9 1.9nm,1.0s						
WB2	**Warramunga Arr**	**22.47**	**144**	P	**P**	**02 43 58.1**	**-1.0**
WR8	**Warramunga Arr**	**22.57**	**144**	P	**P**	**02 44 00.9**	**+0.8**
ASAR	**Alice Springs**	**25.25**	**150**	P	**P**	**02 44 27.5**	**+1.6**
	0.2nm,0.4s,baz=326,slow=8.6,SNR=17 0.2nm,0.4s						
COEN	**Coen**	**25.36**	**120**	P	**P**	**02 44 25.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**29.33**	**314**	P	**P**	**02 45 01.8**	**-0.9**
	3.5nm,0.6s,baz=119,slow=9.6,SNR=21						
CMAR	comp=Z,20nm,18.3s,baz=185,slow=38 3.5nm,0.6s			LR	LR	02 57 41.7	
KMI	**Kunming**	**31.89**	**328**	P	**P**	**02 45 28.0**	**+2.6**
KMI	comp=Z,11nm,0.9s			pmax	pmax		
PZH	**PanZhiHua**	**33.53**	**328**	P	**P**	**02 45 41.5**	**+1.9**
PZH	comp=Z,10.0nm,0.6s			pmax	pmax		
PZH	comp=Z,110nm,5.1s			pmax	pmax		
JMN	**Monobe**	**37.50**	**18**	P	**P**	**02 46 13.4**	**-0.2**
JMN	comp=Z,13nm,1.1s			IAmb	IAmb	02 46 18.8	
HHC	**Hu-ho-hao-te**	**43.26**	**350**	*e*P	**P**	**02 46 59.8**	**-1.4**
HHC	comp=Z,5.0nm,0.5s			pmax	pmax		
HHC	comp=Z,66nm,6.1s			pmax	pmax		
GTA	**Gaotai**	**45.25**	**337**	*e*P	**P**	**02 47 19.3**	**+2.0**
GTA	comp=Z,3.0nm,1.0s			pmax	pmax		
ULN	**Ulaanbaatar**	**50.88**	**348**	P	**P**	**02 48 00.9**	**+0.2**
ULN	comp=Z,5.8nm,0.7s			IAmb	IAmb	02 48 02.5	
SONM	**Songino Array**	**50.99**	**348**	P	**P**	**02 48 01.9**	**+0.4**
SONM	comp=Z,3.1nm,0.8s			IAmb	IAmb	02 48 03.7	
SONM	**Songino Array**	**50.99**	**348**	P	**P**	**02 48 01.0**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=164,slow=8.7,SNR=24 comp=Z,3.6nm,0.7s						
HEH	**HeiHe**	**52.20**	**6**	*e*P	**P**	**02 48 10.3**	**0.0**
HEH	comp=Z,7.0nm,0.6s			pmax	pmax		
MK31	**Makanchi Array**	**58.94**	**330**	P	**P**	**02 48 59.1**	**+0.1**
MKAR	**Makanchi Array**	**58.94**	**330**	P	**P**	**02 48 59.2**	**+0.2**
MKAR	**Makanchi Array**	**58.94**	**330**	P	**P**	**02 48 59.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=130,slow=7.8,SNR=18 comp=Z,1.5nm,0.7s						
BOOM	**Boomskoye usch**	**59.70**	**323**	P	**P**	**02 49 04.3**	**-0.1**
BOOM	comp=Z,3.3nm,1.0s			IAmb	IAmb	02 49 09.3	
AAK	**Ala-Archa**	**60.66**	**322**	P	**P**	**02 49 11.1**	**+0.1**
AAK	comp=Z,2.0nm,0.7s			IAmb	IAmb	02 49 12.1	
ARSB	**Arslanbob**	**60.88**	**320**	P	**P**	**02 49 12.0**	**-0.6**
ARSB	comp=Z,3.4nm,0.7s			IAmb	IAmb	02 49 13.3	
TKNZ	**Takaka Hill**	**61.16**	**137**	P	**P**	**02 49 14.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**62.07**	**137**	P	**P**	**02 49 20.6**	**+0.1**
TCW	**Tory Channel**	**62.13**	**137**	P	**P**	**02 49 19.9**	**-1.0**
ZALV	**Zalesovo Beam**	**63.01**	**337**	P	**P**	**02 49 25.3**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=142,slow=7.5,SNR=6.4 comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**63.37**	**331**	P	**P**	**02 49 28.1**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=138,slow=6.5,SNR=12 comp=Z,1.1nm,0.8s						
KURK	**Kurchatov**	**63.39**	**332**	P	**P**	**02 49 28.6**	**-0.4**
KURK	comp=Z,3.8nm,1.0s			IAmb	IAmb	02 49 34.8	
PAF	**Port-aux-Franc**	**63.86**	**214**	P	**P**	**02 49 32.0**	**-0.2**
BVAR	**Borovoye Array**	**68.83**	**330**	P	**P**	**02 50 02.7**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=128,slow=6.6,SNR=3.6 comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**72.72**	**323**	P	**P**	**02 50 26.5**	**-1.2**
TIXI	**Tiksi**	**73.54**	**3**	P	**P**	**02 50 31.3**	**-0.7**
GAMB	**Gambell**	**81.93**	**25**	P	**P**	**02 51 16.8**	**-2.2**
SYO	**Syowa Base**	**85.09**	**201**	⇑*es*P	sP	02 51 42.2	+2.2
C16K	**Lisburne Hills**	**85.81**	**21**	P	**P**	**02 51 39.8**	**+1.0**
C16K	comp=Z,3.7nm,0.9s			IAmb	IAmb	02 51 41.1	
M16K	**Timber Creek**	**86.94**	**29**	P	**P**	**02 51 43.5**	**-1.0**
M16K	comp=Z,9.0nm,1.1s			IAmb	IAmb	02 51 47.4	
POGA	**Pongola**	**88.20**	**243**	P	**P**	**02 51 50.5**	**-0.8**

*NNC **26** 02:50:28.0±3.7, 37°52N×71°95E, h240km±43km, mb2.5, mpv3.7, Error ellipse: s-maj=41.0km s-min=23.3km az=15.0*
ISC 26 02:50:24.0±3.4, 37°2N±0°2×72°0E±0°1, h200km, n12, σ1§38/14, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.09**	**14**	P	**Pn**	**02 51 41.3**	**+1.3**
	SNR=34						
UCH	**Uchtor**	**5.38**	**20**	P	**Sn**	**02 52 46.2**	**-0.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**5.62**	**14**	P	**Pn**	**02 51 48.5**	**+2.1**
	SNR=6.0						
AAK	**Ala-Archa**	**5.76**	**19**	P	**Pn**	**02 51 49.8**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**5.76**	**19**	⇑P	**Pn**	**02 51 49.6**

0.4nm,0.6s,baz=133,slow=12,SNR=9.0
BVA0 Borovoye Array 15.86 356 ⇓P Pn 02 53 55.8 -0.6
0.9nm,0.6s,baz=159,slow=40,SNR=3.7

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*IDC **26** 03:07:49.7±2.2, 18°.33S×177°.71W, h636km±25km, mb3.1/5, mbtmp4.0/6, Error ellipse: s-maj=29.9km s-min=24.9km az=58.0*
*NEIC **26** 03:07:51.5±0.9, 18°.2S±0°.1×177°.8W±0°.1, h640km±9km, mb4.4/16, Error ellipse: s-maj=26.3km s-min=10.4km az=133.0*
ISC 26 03:07:52.0±0.7, 18°.3S±0°.1×178°.0W±0°.2, h650km, n25, σ0°93/25, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.84**	**278**	P	**P**	**03 09 19.0**	**-1.3**
MSVF	**Nonsavu**	**3.84**	**278**	P	**P**	**03 09 19.2**	**-1.1**
7.5nm,0.7s,baz=299,slow=19,SNR=5.0							
URZ	**Urewera**	**20.34**	**191**	P	**P**	**03 11 43.6**	**-2.8**
2.3nm,0.3s,baz=37,slow=5.1,SNR=1.7							
2.3nm,0.3s							
BFZ	**Birch Farm**	**22.85**	**191**	P	**P**	**03 12 09.8**	**+1.1**
COEN	**Coen**	**37.54**	**271**	P	**P**	**03 14 14.9**	**+0.8**
COEN				IAmb	IAmb	03 14 15.7	
comp=Z,5.2nm,0.7s							
WR8	**Warramunga Arr**	**44.83**	**260**	P	**P**	**03 15 11.5**	**+0.3**
WR8				IAmb	IAmb	03 15 54.7	
comp=Z,12nm,1.5s							
WB0	**Warramunga Arr**	**44.95**	**260**	P	**P**	**03 15 12.2**	**+0.1**
WB0				IAmb	IAmb	03 15 15.7	
comp=Z,16nm,1.5s							
WRA	**Warramunga Arr**	**44.98**	**260**	P	**P**	**03 15 12.2**	**-0.1**
WRA	**Warramunga Arr**	**44.98**	**260**	P	**P**	**03 15 12.4**	**+0.1**
comp=Z,1.4nm,0.4s,baz=97,slow=7.4,SNR=20							
comp=Z,1.4nm,0.4s							
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**03 15 13.0**	**-0.1**
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**03 15 13.6**	**+0.4**
comp=Z,1.7nm,0.5s,baz=90,slow=7.9,SNR=25							
comp=Z,1.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.38**	**261**	P	**P**	**03 16 14.5**	**+0.8**
VNDA	**Vanda**	**60.08**	**185**	P	**P**	**03 16 59.3**	**+1.1**
QSPA	**South Pole Qui**	**71.75**	**180**	P	**P**	**03 18 11.1**	**+0.6**
QSPA	**South Pole Qui**	**71.75**	**180**	P	**P**	**03 18 10.0**	**-0.5**
comp=Z,1.2nm,0.6s,baz=358,slow=0.7,SNR=11							
comp=Z,1.2nm,0.6s							
H04D	**Lebanon**	**80.25**	**37**	P	**P**	**03 18 56.9**	**-0.2**
H04D				IAmb	IAmb	03 19 20.5	
comp=Z,37nm,1.4s							
J05D	**Fort Rock, OR**	**80.37**	**38**	P	**P**	**03 18 58.1**	**+0.2**
K15K	**Wolf Creek Mou**	**81.38**	**8**	P	**P**	**03 19 02.9**	**+0.4**
K15K				IAmb	IAmb	03 19 07.5	
comp=Z,27nm,1.4s							
MOBC	**Moresby Island**	**81.47**	**26**	P	**P**	**03 19 03.4**	**+0.2**
GAMB	**Gambell**	**81.96**	**3**	P	**P**	**03 19 05.8**	**+0.5**
L18K	**Granite Mounta**	**82.01**	**10**	P	**P**	**03 19 05.8**	**+0.1**
L18K				IAmb	IAmb	03 19 48.1	
comp=Z,14nm,1.5s							
KAIM	**Kayak Island**	**82.59**	**16**	P	**P**	**03 19 08.2**	**-0.4**
J20K	**Nowinta River**	**84.26**	**10**	P	**P**	**03 19 16.4**	**-0.3**
J20K				IAmb	IAmb	03 19 22.6	
comp=Z,7.8nm,1.5s							
F17K	**Baldwin Pennin**	**85.42**	**7**	P	**P**	**03 19 22.7**	**+0.4**
F17K				IAmb	IAmb	03 19 34.2	
comp=Z,24nm,1.5s							
ILAR	**Eielson Array**	**86.18**	**13**	P	**P**	**03 19 24.2**	**-1.7**
comp=Z,0.2nm,0.4s,baz=213,slow=5.5,SNR=6.6							
comp=Z,0.2nm,0.4s							

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*SSNC **26** 03:17:53.4±3.5, 22°.21N×71°.31W, h15km±101km, MD3.7, ML2.6*
*OSPL **26** 03:17:54.5±2.7, 19°.69N×70°.93W, h0km±19km, ML2.2*
*SDD **26** 03:17:55.1±1.8, 19°.69N×70°.88W, h19km±17km, MD2.6, ML2.5, MW2.9*
ISC 26 03:17:52.4±1.3, 19°.74N±0°.04×70°.92W±0°.03, h7km±10km, n22, σ0°87/40, 16C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.36**	**149**	⇑*e*Pg	**Pb**	**03 18 01.5**	**+0.3**
SC01				⇑*e*Sg	**Sg**	**03 18 05.3**	**+1.1**
SC01				IAML		03 18 09.4	
comp=N,404nm,0.3s							
SC01	**Santiago de lo**	**0.36**	**149**	*i* P	**Pb**	**03 18 00.6**	**-0.6**
SC01				*e*S	**Sg**	**03 18 04.4**	**+0.2**
SC01				IAML		03 18 09.1	
comp=Z,341nm,0.2s							
MCDR	**Montecristi**	**0.71**	**282**	⇑*e*Pg	**Pn**	**03 18 09.6**	**+0.8**
MCDR				IAML		03 18 25.1	
comp=N,243nm,0.3s							
REDR	**Restauracion**	**0.72**	**218**	⇑*e*Pg	**Pn**	**03 18 10.2**	**+1.1**
REDR				⇑*e*Sg	**Sn**	**03 18 22.2**	**+1.8**
REDR				IAML		03 18 23.2	
comp=N,436nm,0.2s							
LODA1	**ITESIL, Dajabo**	**0.76**	**255**	*i* P	**Pg**	**03 18 07.2**	**+0.1**
LODA1				*e*S	**Sg**	**03 18 18.0**	**+1.1**
SDDR	**Presa de Saban**	**0.83**	**205**	⇑*e*Pg	**Pg**	**03 18 08.6**	**+0.2**
SDDR				⇑*e*Sg	**Sg**	**03 18 19.2**	**+0.1**
SDDR				IAML		03 18 20.8	
comp=N,154nm,0.3s							
SDDR	**Presa de Saban**	**0.83**	**205**	*i* P	**Pg**	**03 18 08.5**	**+0.2**
SDDR				*e*S	**Sg**	**03 18 17.1**	**-2.0**
SDDR				IAML		03 18 20.7	
comp=Z,92nm,0.5s							
ABDR	**Alto Bandera**	**0.96**	**163**	⇑*e*Pg	**Pg**	**03 18 10.6**	**-0.4**
ABDR				⇑*e*Sg	**Sg**	**03 18 22.6**	**-0.9**
ABDR				IAML		03 18 26.4	
comp=N,73nm,0.6s							
NADR	**Nagua**	**1.08**	**111**	⇑*e*Pg	**Pg**	**03 18 12.9**	**-0.2**
NADR				IAML		03 18 31.2	
comp=N,263nm,0.5s							
LONE3	**El Aguacate, B**	**1.24**	**204**	*i* P	**Pg**	**03 18 16.1**	**-0.1**
LONE3				*e*S	**Sg**	**03 18 31.7**	**-0.6**
LONE3				IAML		03 18 34.0	
comp=Z,34nm,1.0s							
BANI	**BANI**	**1.44**	**158**	⇓*e*Pg	**Pn**	**03 18 18.6**	**-0.5**
BANI				⇑*e*Sg	**Sn**	**03 18 38.8**	**+0.4**
BANI				IAML		03 18 39.4	
comp=N,89nm,0.5s							
PODR	**Polo**	**1.60**	**192**	⇑*e*Pg	**Pn**	**03 18 22.0**	**+0.7**
PODR				⇑*e*Sg	**Sn**	**03 18 42.2**	**-0.2**
PODR				IAML		03 18 47.9	
comp=N,47nm,0.8s							
PODR	**Polo**	**1.60**	**192**	*i* P	**Pb**	**03 18 22.2**	**-0.2**
PODR				*e*S	**Sg**	**03 18 44.0**	**+0.1**
HATOM	**Hato Mayor del**	**1.74**	**123**	⇑*e*Pg	**Pn**	**03 18 23.3**	**+0.2**
HATOM				⇑*e*Sg	**Sn**	**03 18 45.8**	**+0.3**
HATOM				IAML		03 18 48.8	
comp=N,37nm,0.8s							
GRTK	**Grand Turk**	**1.77**	**354**	*i* P	**Pn**	**03 18 24.3**	**+0.8**
GRTK				*e*S	**Sb**	**03 18 47.9**	**+0.1**
GRTK				IAML		03 18 52.7	
comp=Z,33nm,0.8s							
MIDR	**Miches**	**1.92**	**113**	⇓*e*Pg	**Pb**	**03 18 27.3**	**-0.5**
MIDR				⇑*e*Sg	**Sn**	**03 18 50.8**	**+0.8**
MIDR				IAML		03 19 15.5	
comp=N,27nm,1.9s							
LOBH	**Bahia de las A**	**1.99**	**200**	*i* P	**Pb**	**03 18 28.6**	**-0.3**
LOBH				IAML		03 19 02.4	
comp=Z,48nm,4.4s							
MASC	**Masc**	**3.14**	**278**	*e*P	**Pn**	**03 18 42.9**	**+0.5**
MASC				*e*S	**Sn**	**03 19 20.7**	**+0.5**
MASC				IAML		03 19 34.0	
comp=N,4.1nm,0.2s							
MASC				IAML		03 19 34.3	
comp=E,7.7nm,0.2s							
QMBU	**Quimbuelo**	**3.69**	**278**	*e*P	**Pn**	**03 18 50.3**	**+0.4**
QMBU				*e*S	**Sn**	**03 19 32.7**	**-1.0**
QMBU				IAML		03 19 48.2	
comp=N,9.3nm,0.3s							
QMBU				IAML		03 19 48.8	
comp=E,9.7nm,0.2s							
GTBY	**Guantanamo Bay**	**3.95**	**273**	*e*P	**Pn**	**03 18 54.8**	**+1.4**
RCC	**Rio Carpintero**	**4.50**	**274**	*e*P	**Pn**	**03 19 01.0**	**0.0**
RCC				*e*S	**Sn**	**03 19 52.6**	**-1.1**
PINC	**Pinares de May**	**4.63**	**280**	*e*P	**Pn**	**03 19 02.6**	**-0.3**
PINC				*e*S	**Sn**	**03 19 54.4**	**-2.6**

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*SDD **26** 03:20:01.3±2.3, 18°.47N×69°.60W, h107km±13km, MD2.6, ML2.9, MW3.1*
*OSPL **26** 03:20:02.8±1.7, 18°.40N×69°.64W, h98km±10km, ML2.4*

ISC 26 03:20:02.3±1.8, 18°.46N±0°.06×69°.65W±0°.05, h88km±12km, n19, σ1°20/37, 20C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**0.25**	**269**	*i* P	**Pn**	**03 20 15.1**	**-0.1**
SDD				*e*S	**Sn**	**03 20 26.4**	**+1.6**
HATOM	**Hato Mayor del**	**0.41**	**39**	⇑*e*Pg	**Pn**	**03 20 15.0**	**-1.3**
HATOM				⇑*e*Sg	**Sn**	**03 20 26.2**	**-0.4**
HATOM				IAML		03 20 26.8	
comp=N,205nm,0.3s							
BANI	**BANI**	**0.67**	**264**	⇑*e*Pg	**Pn**	**03 20 19.4**	**+0.9**
BANI				⇑*e*Sg	**Sn**	**03 20 32.5**	**+1.9**
BANI				IAML		03 20 36.5	
comp=N,391nm,0.2s							
MIDR	**Miches**	**0.77**	**48**	⇑*e*Pg	**Pn**	**03 20 18.9**	**-0.5**
MIDR				⇑*e*Sg	**Sn**	**03 20 31.5**	**-0.7**
MIDR				IAML		03 20 36.7	
comp=N,92nm,0.1s							
NADR	**Nagua**	**0.91**	**348**	⇑*e*Pg	**Pn**	**03 20 20.3**	**-0.6**
NADR				⇑*e*Sg	**Sn**	**03 20 34.8**	**+0.1**
NADR				IAML		03 20 39.0	
comp=N,491nm,0.3s							
SMDR	**Samana, DR**	**0.94**	**28**	⇑*e*Pg	**Pn**	**03 20 21.1**	**0.0**
SMDR				⇑*e*Sg	**Sn**	**03 20 36.0**	**+0.8**
SMDR				IAML		03 20 40.0	
comp=N,250nm,0.3s							
ABDR	**Alto Bandera**	**0.99**	**291**	⇑*e*Pg	**Pn**	**03 20 21.7**	**-0.4**
ABDR				⇓*e*Sg	**Sn**	**03 20 36.5**	**-0.4**
ABDR				IAML		03 20 41.5	
comp=N,117nm,0.2s							
SFDR	**San Fco. de Ma**	**0.99**	**326**	⇑*e*Pg	**Pn**	**03 20 20.1**	**-1.7**
SFDR				⇑*e*Sg	**Sn**	**03 20 35.5**	**-0.9**
SFDR				IAML		03 20 38.5	
comp=N,392nm,0.4s							
PCDR	**Punta Cana, DR**	**1.21**	**87**	*i* P	**Pn**	**03 20 25.4**	**+1.0**
PCDR				IAML		03 20 43.5	
comp=Z,150nm,1.2s							
SC01	**Santiago de lo**	**1.40**	**314**	⇑*e*Pg	**Pn**	**03 20 26.0**	**-0.7**
SC01				⇓*e*Sg	**Sn**	**03 20 45.4**	**+0.3**
SC01				IAML		03 20 46.7	
comp=N,169nm,0.2s							
SC01	**Santiago de lo**	**1.40**	**314**	*i* P	**Pn**	**03 20 26.5**	**-0.3**
SC01				*e*S	**Sn**	**03 20 45.7**	**+0.5**
SC01				IAML		03 20 49.5	
comp=Z,59nm,0.4s							
PODR	**Polo**	**1.57**	**259**	⇑*e*Pg	**Pn**	**03 20 28.5**	**-0.6**
PODR				⇑*e*Sg	**Sn**	**03 20 49.3**	**-0.1**
PODR				IAML		03 20 52.8	
comp=N,32nm,0.2s							
PODR	**Polo**	**1.57**	**259**	*i* P	**Pn**	**03 20 28.9**	**-0.2**
PODR				*e*S	**Sn**	**03 20 48.7**	**-0.7**
SDDR	**Presa de Saban**	**1.63**	**289**	⇑*e*Pg	**Pn**	**03 20 29.7**	**0.0**
SDDR				⇑*e*Sg	**Sn**	**03 20 50.4**	**-0.1**
SDDR				IAML		03 20 55.0	
comp=N,68nm,0.7s							
SDDR	**Presa de Saban**	**1.63**	**289**	*i* P	**Pn**	**03 20 30.1**	**+0.3**
SDDR				*e*S	**Sn**	**03 20 50.1**	**-0.5**
SDDR				IAML		03 20 57.8	
comp=Z,34nm,0.4s							
LONE3	**El Aguacate, B**	**1.72**	**275**	*i* P	**Pn**	**03 20 30.0**	**-0.9**
LONE3				*e*S	**Sn**	**03 20 52.4**	**-0.2**
LONE3				IAML		03 20 54.8	
comp=Z,14nm,0.8s							
LOVI	**El Cajuil, Ovi**	**1.76**	**248**	*i* P	**Pn**	**03 20 30.7**	**-0.6**
LOVI				*e*S	**Sn**	**03 20 51.4**	**-1.9**
LOVI				IAML		03 20 55.1	
comp=Z,49nm,0.3s							
REDR	**Restauracion**	**1.79**	**293**	⇑*e*Pg	**Pn**	**03 20 34.0**	**+2.3**
REDR				⇑*e*Sg	**Sn**	**03 20 58.5**	**+4.4**
REDR				IAML		03 21 03.6	
comp=N,52nm,0.2s							
LOBH	**Bahia de las A**	**1.98**	**253**	*i* P	**Pn**	**03 20 34.0**	**-0.2**
LOBH				*e*S	**Sn**	**03 20 57.6**	**-0.9**
LOBH				IAML		03 21 01.5	
comp=Z,27nm,1.7s							

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*MOS **26** 03:23:39.7±0.8, 55°.70N×161°.10E, h129km, mb3.8/15, Error ellipse: s-maj=10.1km s-min=4.3km az=79.3*
*KRSC **26** 03:23:39.2±0.6, 55°.67N×161°.23E, h127km±7km, Ml4.3*
*NEIC **26** 03:23:41.8±1.0, 55°.6N±0°.1×161°.0E±0°.2, h132km±11km, mb4.2/99, Error ellipse: s-maj=18.4km s-min=11.7km az=147.0*
*IDC **26** 03:23:41.5±0.7, 55°.70N×160°.89E, h128km±6km, mb3.5/21, mbtmp3.9/25, Error ellipse: s-maj=13.0km s-min=8.5km az=136.0*
ISC 26 03:23:41.1±0.5, 55°.67N±0°.03×161°.15E±0°.03, h124km±4km, n243, σ1°03/272, mb4.1/79, 6C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.37**	**316**	PN	**Pn**	**03 23 58.5**	**-0.4**
BZGR				S	**Sn**	**03 24 12.4**	**0.0**
BZGR	**Bezymyannyi-Gr**	**0.37**	**316**	*i* P	**Pn**	**03 23 58.5**	**-0.4**
BZGR				*e*S	**Sn**	**03 24 12.4**	**0.0**
ZLN	**Zelenaya**	**0.40**	**330**	PN	**Pn**	**03 23 59.1**	**+0.1**
ZLN	**Zelenaya**	**0.40**	**330**	*e*P	**Pn**	**03 23 59.2**	**+0.1**
BZWR	**Bezymyannyi-We**	**0.47**	**309**	PN	**Pn**	**03 23 59.1**	**-0.4**
BZWR	**Bezymyannyi-We**	**0.47**	**309**	*e*P	**Pn**	**03 23 59.1**	**-0.4**
LGNR	**Loginova**	**0.49**	**328**	PN	**Pn**	**03 23 59.5**	**-0.2**
LGNR	**Loginova**	**0.49**	**328**	*e*P	**Pn**	**03 23 59.6**	**-0.2**
CIRR	**Tsirk**	**0.50**	**333**	PN	**Pn**	**03 23 59.5**	**-0.1**
CIRR	**Tsirk**	**0.50**	**333**	*e*P	**Pn**	**03 23 59.6**	**-0.1**
KMNR	**Kamenistaya**	**0.53**	**280**	PN	**Pn**	**03 23 59.5**	**-0.2**
KMNR				S	**Sn**	**03 24 13.9**	**+0.1**
KMNR	**Kamenistaya**	**0.53**	**280**	*i* P	**Pn**	**03 23 59.5**	**-0.2**
KMNR				*e*S	**Sn**	**03 24 13.9**	**+0.1**
KIRR	**Kirishev**	**0.54**	**302**	PN	**Pn**	**03 23 59.4**	**-0.5**
KIRR				S	**Sn**	**03 24 13.3**	**-0.7**
KIRR	**Kirishev**	**0.54**	**302**	*e*P	**Pn**	**03 23 59.4**	**-0.5**
KIRR				*e*S	**Sn**	**03 24 13.4**	**-0.7**
KPT	**Kopyto**	**0.60**	**300**	PN	**Pn**	**03 23 59.8**	**-0.4**
KPT	**Kopyto**	**0.60**	**300**	*e*P	**Pn**	**03 23 59.8**	**-0.4**
TUMD	**Tumrok D**	**0.64**	**223**	PN	**Pn**	**03 23 59.8**	**-0.6**
TUMD				S	**Sn**	**03 24 14.1**	**-0.8**
TUMD	**Tumrok D**	**0.64**	**223**	*e*P	**Pn**	**03 23 59.8**	**-0.6**
TUMD				*e*S	**Sn**	**03 24 14.2**	**-0.8**
KRSR	**Krestovskiy**	**0.64**	**329**	PN	**Pn**	**03 24 00.0**	**-0.5**
KRSR				S	**Sn**	**03 24 14.4**	**-0.8**
KRSR	**Krestovskiy**	**0.64**	**329**	*i* P	**Pn**	**03 24 00.0**	**-0.5**
KRSR				*e*S	**Sn**	**03 24 14.4**	**-0.8**
KLY	**Klyuchi**	**0.70**	**337**	PN	**Pn**	**03 24 00.0**	**-0.7**
KLY	**Klyuchi**	**0.70**	**337**	*e*P	**Pn**	**03 24 00.1**	**-0.7**
KOZ	**Kozyrevsk**	**0.82**	**299**	PN	**Pn**	**03 24 01.5**	**-0.3**
KOZ	**Kozyrevsk**	**0.82**	**299**	*e*P	**Pn**	**03 24 01.5**	**-0.3**
SMKR	**Semkarok**	**0.93**	**11**	PN	**Pn**	**03 24 02.6**	**-0.2**
SMKR	**Semkarok**	**0.93**	**11**	*e*P	**Pn**	**03 24 02.7**	**-0.2**
SRDR	**Sredinnyy**	**1.03**	**309**	PN	**Pn**	**03 24 03.3**	**-0.5**
SRDR	**Sredinnyy**	**1.03**	**309**	*e*P	**Pn**	**03 24 03.4**	**-0.5**
KBG	**Krutoberegovo**	**1.05**	**56**	PN	**Pn**	**03 24 03.6**	**-0.2**
KBG				S	**Sn**	**03 24 21.8**	**+0.7**
KBG	**Krutoberegovo**	**1.05**	**56**	*e*P	**Pn**	**03 24 03.7**	**-0.2**
KBG				*e*S	**Sn**	**03 24 21.9**	**+0.7**
KBTR	**Krutoberegovo**	**1.08**	**59**	PN	**Pn**	**03 24 03.8**	**-0.4**
KBTR	**Krutoberegovo**	**1.08**	**59**	*e*P	**Pn**	**03 24 03.8**	**-0.4**
MKZ	**Mys Kozlova**	**1.17**	**163**	PN	**Pn**	**03 24 04.2**	**-0.8**
MKZ				S	**Sn**	**03 24 22.8**	**-0.4**
MKZ	**Mys Kozlova**	**1.17**	**163**	*i* P	**Pn**	**03 24 04.3**	**-0.8**
MKZ				*e*S	**Sn**	**03 24 22.8**	**-0.4**
ESO	**Esso**	**1.41**	**281**	PN	**Pn**	**03 24 07.3**	**-0.4**
ESO				S	**Sn**	**03 24 28.1**	**+0.1**
ESO	**Esso**	**1.41**	**281**	*e*P	**Pn**	**03 24 07.4**	**-0.4**
ESO				*e*S	**Sn**	**03 24 28.1**	**+0.1**
KII	**Karymskiy**	**1.91**	**212**	PN	**Pn**	**03 24 13.9**	**+0.2**
KII	**Karymskiy**	**1.91**	**212**	*e*P	**Pn**	**03 24 13.9**	**+0.2**
SPN	**Mys Shipunski**	**2.66**	**195**	PN	**Pn**	**03 24 21.5**	**-1.6**
SPN	**Mys Shipunski**	**2.66**	**195**	*e*P	**Pn**	**03 24 21.5**	**-1.6**
GNL	**Ganaly**	**2.72**	**225**	PN	**Pn**	**03 24 24.3**	**+0.4**
GNL	**Ganaly**	**2.72**	**225**	*e*P	**Pn**	**03 24 24.3**	**+0.4**
NLC	**Nalytchevo**	**2.72**	**204**	PN	**Pn**	**03 24 23.6**	**-0.1**
NLC	**Nalytchevo**	**2.72**	**204**	*e*P	**Pn**	**03 24 23.7**	**-0.1**
KRX	**Arik**	**2.74**	**213**	PN	**Pn**	**03 24 25.1**	**+0.9**
KRX	**Arik**	**2.74**	**213**	*e*P	**Pn**	**03 24 25.1**	**+0.9**
SDLR	**Sedlovina**	**2.74**	**210**	PN	**Pn**	**03 24 24.7**	**+0.5**
SDLR	**Sedlovina**	**2.74**	**210**	*e*P	**Pn**	**03 24 24.7**	**+0.5**
KRER	**Koryakskii**	**2.76**	**212**	PN	**Pn**	**03 24 25.5**	**+1.1**
KRER	**Koryakskii**	**2.76**	**212**	*e*P	**Pn**	**03 24 25.6**	**+1.1**
BKI	**Bering**	**2.79**	**98**	PN	**Pn**	**03 24 24.2**	**-0.4**
BKI				S	**Sn**	**03 24 55.9**	**-2.2**
BKI	**Bering**	**2.79**	**98**	*e*P	**Pn**	**03 24 24.2**	**-0.4**
BKI				*e*S	**Sn**	**03 24 56.0**	**-2.2**
AVH	**Avacha**	**2.79**	**211**	PN	**Pn**	**03 24 25.7**	**+0.9**
AVH	**Avacha**	**2.79**	**211**	*e*P	**Pn**	**03 24 25.8**	**+0.9**
KOK	**Koryaka**	**2.80**	**213**	PN	**Pn**	**03 24 25.6**	**+0.7**
KOK	**Koryaka**	**2.80**	**213**	*e*P	**Pn**	**03 24 25.7**	**+0.7**
UGLR	**Uglovaya**	**2.82**	**210**	PN	**Pn**	**03 24 25.8**	**+0.7**
UGLR	**Uglovaya**	**2.82**	**210**	*e*P	**Pn**	**03 24 25.9**	**+0.7**
DALK	**Dalny**	**3.00**	**209**	PN	**Pn**	**03 24 27.5**	**+0.2**
DALK				S	**Sn**	**03 25 05.0**	**+2.0**
DALK	**Dalny**	**3.00**	**209**	*e*P	**Pn**	**03 24 27.5**	**+0.2**
DALK				*e*S	**Sn**	**03 25 05.1**	**+2.0**
INSR	**Institute**	**3.01**	**211**	*e*S	**Sn**	**03 25 04.8**	**+1.5**
PET	**Petropavlovsk**	**3.03**	**210**		**Pn**	**03 24 27.6**	**-0.2**
PET	**Petropavlovsk**	**3.03**	**210**	*e*PN	**Pn**	**03 24 28.2**	**+0.4**
PET				*e*S	**Sn**	**03 25 06.2**	**+2.4**
PET				pmax	pmax		
comp=Z,221nm,0.7s							
PET				smax	smax		
comp=E,340nm,0.5s							
PET				smax	smax		
comp=N,463nm,0.6s							
PET	**Petropavlovsk**	**3.03**	**210**	*e*P	**Pn**	**03 24 28.2**	**+0.4**
PET				*e*S	**Sn**	**03 25 05.7**	**+1.9**
PEA0B	**Petropavlovsk-**	**3.27**	**220**		**Pn**	**03 24 30.7**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.27**	**220**	*c i* PN	**Pn**	**03 24 31.2**	**+0.3**
PETK	**Petropavlovsk-**	**3.27**	**220**	*c* P	**Pn**	**03 24 30.5**	**-0.4**
comp=N,38nm,0.5s,baz=58,slow=16,SNR=49							
PETK				S	**Sn**	**03 25 10.5**	**+1.0**
comp=N,18nm,0.4s,baz=84,slow=20,SNR=1.8							
KRMR	**Karymshinskiy**	**3.35**	**213**	PN	**Pn**	**03 24 32.2**	**+0.2**
KRMR	**Karymshinskiy**	**3.35**	**213**	*e*P	**Pn**	**03 24 32.2**	**+0.2**
PALN	**Palana**	**3.49**	**350**	PN	**Pn**	**03 24 33.6**	**-0.1**
PALN	**Palana**	**3.49**	**350**	*e*P	**Pn**	**03 24 33.6**	**-0.1**
RUS	**Russkaya**	**3.60**	**207**	PN	**Pn**	**03 24 34.7**	**-0.5**
RUS	**Russkaya**	**3.60**	**207**	*e*P	**Pn**	**03 24 34.8**	**-0.5**
APC	**Apacha**	**3.61**	**222**	PN	**Pn**	**03 24 36.2**	**+0.8**
APC	**Apacha**	**3.61**	**222**	*e*P	**Pn**	**03 24 36.3**	**+0.8**
GRL	**Gorelyy**	**3.61**	**211**	PN	**Pn**	**03 24 36.7**	**+1.1**
GRL	**Gorelyy**	**3.61**	**211**	*e*P	**Pn**	**03 24 36.7**	**+1.1**
OSSR	**Ossora**	**3.73**	**15**	PN	**Pn**	**03 24 37.0**	**+0.1**
OSSR				S	**Sn**	**03 25 20.2**	**-0.1**
OSSR	**Ossora**	**3.73**	**15**	*e*P	**Pn**	**03 24 37.1**	**+0.1**
OSSR				*e*S	**Sn**	**03 25 20.2**	**-0.1**
KDTR	**Khodutka, Kamc**	**4.28**	**207**	PN	**Pn**	**03 24 43.2**	**-1.1**
KDTR	**Khodutka, Kamc**	**4.28**	**207**	*e*P	**Pn**	**03 24 43.2**	**-1.1**
PAU	**Pauzhetka**	**4.94**	**213**	PN	**Pn**	**03 24 53.5**	**+0.3**
PAU	**Pauzhetka**	**4.94**	**213**	*e*P	**Pn**	**03 24 53.6**	**+0.3**
MA2	**Magadan**	**6.81**	**309**	P	**Pn**	**03 25 16.6**	**-1.7**
comp=N,2.6nm,0.3s,baz=148,slow=6.6,SNR=4.4							
MA2	**Magadan**	**6.81**	**309**	*d i* PN	**Pn**	**03 25 19.8**	**+1.5**
MA2				pmax	pmax		
comp=Z,10.0nm,1.7s							
SEY	**Seymchan**	**8.54**	**332**	P	**Pn**	**03 25 39.9**	**-1.7**
comp=Z,0.8nm,0.5s,baz=138,slow=11,SNR=4.8							
SEY	**Seymchan**	**8.54**	**332**	*e*PN	**Pn**	**03 25 43.2**	**+1.6**
TYV	**Tymovskoe**	**12.06**	**254**	*e*PN	**Pn**	**03 26 31.3**	**+2.6**
TYV				pmax	pmax		
comp=Z,10.0nm,1.1s							
TYV				pmax	pmax		
comp=Z,200nm,4.1s							
BILL	**Bilibino**	**12.64**	**9**	Pn	**Pn**	**03 26 37.6**	**+1.5**
BILL	**Bilibino**	**12.64**	**9**	*e*PN	**Pn**	**03 26 38.6**	**+2.5**
BILL				pmax	pmax		
comp=Z,13nm,1.0s							
GSTR	**Great Sitkin T**	**13.89**	**95**	P	**P**	**03 26 56.8**	**+0.3**
YSS	**Yuzhno-Sakhali**	**14.40**	**240**	*e*P	**P**	**03 27 01.8**	**-0.4**
YSS				*e*S	**Sn**	**03 29 36.3**	**-1.6**
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
YSS				smax	smax		
comp=N,20nm,0.7s							
ATKA	**Atka Island**	**14.90**	**93**	Pn	**Pn**	**03 27 03.5**	**-1.6**
JKA	**Kamikawa-asahi**	**16.57**	**233**	P	**Pn**	**03 27 24.7**	**-1.2**
ASAJ	**Asahikawa**	**16.57**	**233**	P	**Pn**	**03 27 25.7**	**-0.2**
comp=N,22nm,0.6s,baz=64,slow=10,SNR=29							
TNA	**Tin City**	**17.91**	**44**	Pn	**Pn**	**03 27

B21K Ikpikpuk River 23.93 37 P **P 03 28 44.0 +0.9**
F21K Alatna River 23.94 43 P **P 03 28 43.6 +0.4**
M20K Styx River 24.06 56 P **P 03 28 45.8 +1.3**
M20K IAmb IAmb 03 29 11.3
comp=Z,18nm,1.5s
H21K Melozitna Rive 24.09 47 P **P 03 28 44.6 0.0**
Q19K Cape Douglas, 24.27 64 P **P 03 28 48.1 +1.8**
ILSW Iliamna Southw 24.32 61 P **P 03 28 48.6 +1.7**
PPLA Purkeypile 24.41 54 P **P 03 28 46.7 -1.0**
PPLA IAmb IAmb 03 29 04.8
comp=Z,12nm,1.1s
D22K Ayikyak River 24.46 39 P **P 03 28 48.6 +0.7**
D22K IAmb IAmb 03 28 49.3
comp=Z,5.1nm,0.7s
B22K Teshekpuk Lake 24.50 36 P **P 03 28 48.6 +0.5**
B22K IAmb IAmb 03 28 50.5
comp=Z,6.3nm,0.8s
E22K Anaktuvuk Pass 24.68 41 P **P 03 28 50.5 +0.5**
E22K IAmb IAmb 03 28 51.2
comp=Z,4.8nm,0.8s
MJB9 Matsu-Tunnel 24.68 229 P **P 03 28 49.2 -1.0**
MJB9 IAmb IAmb 03 28 55.0
comp=Z,5.6nm,0.8s
MAJO Matsushiro 24.68 229 P **P 03 28 48.8 -1.4**
MAJO IAmb IAmb 03 28 54.1
comp=Z,5.6nm,0.8s
MAJO Matsushiro 24.68 229 *i* P **P 03 28 49.4 -0.8**
MAJO pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 24.68 229 P **P 03 28 47.4 -2.8**
comp=Z,1.4nm,0.4s,baz=42,slow=8.2,SNR=5.0
comp=Z,1.4nm,0.4s
KDAK Kodiak Island 25.09 66 P **P 03 28 54.7 +1.0**
KDAK Kodiak Island 25.09 66 P **P 03 28 54.7 +1.0**
KDAK pmax pmax
comp=Z,44nm,1.5s
D23K Nanushuk River 25.19 39 P **P 03 28 55.1 +0.6**
C23K Itkillik River 25.34 37 P **P 03 28 57.1 +1.2**
C23K IAmb IAmb 03 28 57.7
comp=Z,6.8nm,0.8s
CNPM China Poot 25.36 62 P **P 03 28 56.5 +0.4**
E23K Chandalar 25.49 41 P **P 03 28 57.9 +0.6**
E23K IAmb IAmb 03 29 26.6
comp=Z,7.5nm,1.1s
TOLK Toolik Lake Re 25.55 40 P **P 03 28 58.4 +0.5**
TOLK IAmb IAmb 03 29 28.9
comp=Z,6.7nm,1.3s
E24K Your Creek 25.91 41 P **P 03 29 01.8 +0.7**
E24K IAmb IAmb 03 29 02.5
comp=Z,4.6nm,0.7s
F24K Squaw Lake 26.12 43 P **P 03 29 03.5 +0.5**
CCB Clear Creek Bu 26.22 49 P **P 03 29 04.5 +0.6**
G24K Hadweenzic Riv 26.27 45 P **P 03 29 05.1 +0.8**
G24K IAmb IAmb 03 29 06.0
comp=Z,4.2nm,0.8s
ILAR Eielson Array 26.60 49 P **P 03 29 06.6 -0.7**
comp=Z,0.6nm,0.4s,baz=260,slow=7.2,SNR=11
ILAR pP **pP 03 29 35.2 +1.4**
comp=Z,1.0nm,1.0s,baz=266,slow=8.4,SNR=3.2
comp=Z,0.6nm,0.4s
D25K Kavik River 26.76 39 P **P 03 29 09.2 +0.5**
D25K IAmb IAmb 03 29 10.1
comp=Z,5.3nm,0.9s
F25K Christian Rive 26.98 43 P **P 03 29 11.6 +0.9**
E25K Arctic Village 27.01 41 P **P 03 29 11.7 +0.8**
FYU Fort Yukon 27.17 45 P **P 03 29 12.8 +0.6**
FYU IAmb IAmb 03 29 44.3
comp=Z,9.1nm,1.3s
BMAR Burnt Mountain 27.39 43 P **P 03 29 15.0 +0.6**
F26K Sheenjek River 27.55 42 P **P 03 29 16.1 +0.4**
C27K Jago River 27.71 38 P **P 03 29 18.1 +0.9**
C27K IAmb IAmb 03 29 18.8
comp=Z,4.1nm,0.9s
G27K Doyon Strip 28.57 44 P **P 03 29 25.3 +0.5**
KSRS Korea Array 28.82 245 P **P 03 29 24.7 -2.6**
comp=Z,1.2nm,0.5s,baz=31,slow=9.8,SNR=2.8
KSRS pP **pP 03 29 52.8 -1.5**
comp=Z,0.4nm,0.3s,baz=46,slow=6.1,SNR=1.5
comp=Z,1.2nm,0.5s
M27K Edge Creek, AK 29.20 53 P **P 03 29 32.1 +1.6**
M27K IAmb IAmb 03 29 33.0
comp=Z,4.4nm,1.0s
E28M Babbage River 29.23 40 P **P 03 29 30.9 +0.3**
I28M Miner Creek 29.44 47 P **P 03 29 33.4 +0.8**
E29M Blow River 29.85 41 P **P 03 29 36.9 +0.9**
E29M IAmb IAmb 03 29 39.3
comp=Z,5.3nm,1.4s
H29M Whitestone 29.95 45 P **P 03 29 38.2 +1.2**
H29M IAmb IAmb 03 30 12.0
comp=Z,6.4nm,1.4s
G29M Pine Creek 29.98 44 P **P 03 29 38.7 +1.4**
G29M IAmb IAmb 03 29 43.1
comp=Z,3.8nm,1.0s
G30M tAoh Zraii Nji 30.67 43 P **P 03 29 44.0 +0.6**
L29M L29M 30.69 51 P **P 03 29 44.9 +1.3**
L29M IAmb IAmb 03 29 46.2
comp=Z,6.0nm,1.4s
M29M Somme Creek 30.72 52 P **P 03 29 45.1 +1.2**
M29M IAmb IAmb 03 29 46.7
comp=Z,7.6nm,1.3s
I30M Mount Dempster 30.95 47 P **P 03 29 46.2 +0.3**
J30M Hart River 31.11 48 P **P 03 29 47.4 +0.1**
G31M Satah River 31.44 43 P **P 03 29 50.2 +0.2**
G31M IAmb IAmb 03 29 50.8
comp=Z,3.5nm,1.1s
INK Inuvik 31.47 40 P **P 03 29 51.0 +0.7**
INK Inuvik 31.47 40 P **P 03 29 51.0 +0.7**
INK pmax pmax
comp=Z,2.0nm,0.9s
F31M Tsiigehtchic 31.54 42 P **P 03 29 51.4 +0.5**
F31M IAmb IAmb 03 30 02.0
comp=Z,7.2nm,1.3s
HYT Haines Junctio 31.63 55 P **P 03 29 52.9 +1.0**
HYT IAmb IAmb 03 29 54.4
comp=Z,3.4nm,0.8s
O30N Mendenhall 32.30 55 P **P 03 29 59.2 +1.5**
O30N IAmb IAmb 03 30 00.1
comp=Z,2.6nm,0.8s
M31M Drury Creek, Y 32.60 52 P **P 03 30 02.6 +2.3**
M31M IAmb IAmb 03 30 03.1
comp=Z,2.5nm,0.8s
WHY Whitehorse 32.90 55 P **P 03 30 04.7 +1.7**
FARO Faro, Yukon 33.06 51 P **P 03 30 05.5 +1.1**
FARO IAmb IAmb 03 30 35.6
comp=Z,5.0nm,1.4s
A36M Sachs Harbour 33.60 33 P **P 03 30 09.6 +0.7**
A36M IAmb IAmb 03 30 11.0
comp=Z,2.8nm,0.8s
ULN Ulaanbaatar 33.60 280 *i* P **P 03 30 08.5 -0.8**
ULN pmax pmax
comp=Z,1.0nm,0.5s
BESE Bessie Mountai 33.69 58 P **P 03 30 11.1 +1.3**
MMPY Sheldon Lake, 33.84 50 P **P 03 30 12.5 +1.4**
MMPY IAmb IAmb 03 30 51.9
comp=Z,5.6nm,1.5s
SONM Songino Array 33.98 280 P **P 03 30 11.2 -1.4**
comp=Z,0.7nm,0.4s,baz=48,slow=9.2,SNR=4.0
comp=Z,0.7nm,0.4s
P33M Teslin, Yukon 34.02 55 P **P 03 30 14.1 +1.4**
P33M IAmb IAmb 03 30 14.6
comp=Z,8.2nm,1.5s
NRIK Noril'sk 34.19 323 *i* P **P 03 30 15.5 +1.5**
C36M Paulatuk 34.59 37 P **P 03 30 18.0 +0.6**
C36M IAmb IAmb 03 30 18.6
comp=Z,4.9nm,1.0s
Q32M Nakina River 34.77 56 P **P 03 30 21.3 +2.0**
R33M Jennings River 35.20 55 P **P 03 30 25.0 +2.1**
R33M IAmb IAmb 03 30 30.2
comp=Z,5.4nm,1.4s
HHC Hu-ho-hao-te 35.36 266 *e*P **P 03 30 23.5 -1.0**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,99nm,4.6s
WTLY Watson Lake, Y 35.90 53 P **P 03 30 30.3 +1.5**
WTLY IAmb IAmb 03 30 31.0
comp=Z,2.8nm,0.8s
DLBC Dease Lake 36.05 56 P **P 03 30 32.8 +2.7**
DLBC IAmb IAmb 03 30 33.6
comp=Z,3.2nm,0.8s
EUNU Eureka 39.29 15 P **P 03 30 57.9 +0.8**
EUNU IAmb IAmb 03 31 02.9
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 40.87 45 P **P 03 31 10.8 +0.7**
comp=Z,0.9nm,0.7s,baz=302,slow=8.3,SNR=13
YKA pP **pP 03 31 39.2 +1.2**
comp=Z,0.7nm,0.8s,baz=300,slow=8.3,SNR=4.5
comp=Z,0.9nm,0.7s
SPITS Spitsbergen Ar 44.69 350 P **P 03 31 41.3 +0.4**
comp=Z,5.0nm,0.5s,baz=56,slow=6.1,SNR=39
comp=Z,5.0nm,0.5s
SPB2 Spitsbergen Ar 44.69 350 P **P 03 31 41.2 +0.4**
KURK Kurchatov 46.93 300 P **P 03 31 57.5 -1.2**
KURK Kurchatov 46.93 300 *i* P **P 03 31 57.0 -1.7**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 47.03 300 P **P 03 31 57.9 -1.6**
comp=Z,1.0nm,0.5s,baz=55,slow=7.7,SNR=8.8
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 47.63 294 P **P 03 32 03.7 -0.5**
MK31 Makanchi Array 47.63 294 ⇑*i*P **P 03 32 03.4 -0.8**
MKAR Makanchi Array 47.63 294 P **P 03 32 02.5 -1.7**
MKAR Makanchi Array 47.63 294 P **P 03 32 03.1 -1.2**
comp=Z,0.4nm,0.3s,baz=51,slow=6.8,SNR=9.4
comp=Z,0.4nm,0.3s
MAKZ Makanchi 47.78 294 P **P 03 32 03.9 -1.5**
MAKZ Makanchi 47.78 294 P **P 03 32 03.9 -1.5**
MAKZ pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 49.30 307 P **P 03 32 15.7 -1.1**
comp=Z,1.0nm,0.4s,baz=68,slow=7.2,SNR=6.3
comp=Z,1.0nm,0.4s
BRVK Borovoye 49.32 307 ⇑*i*P **P 03 32 16.5 -0.6**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 51.03 342 P **P 03 32 29.3 -0.4**
comp=Z,4.4nm,1.0s,baz=30,slow=7.0,SNR=1.6
comp=Z,4.4nm,1.0s
ARTI Arti 52.03 317 ⇓*i*P **P 03 32 36.4 -0.9**
ARTI pmax pmax
comp=Z,6.0nm,1.5s
NVAR Mina Array Bea 54.33 72 P **P 03 32 56.2 +1.6**
comp=Z,0.4nm,0.5s,baz=316,slow=6.1,SNR=3.7
comp=Z,0.4nm,0.5s
AAK Ala-Archa 54.51 295 ⇑*i*P **P 03 32 54.6 -1.3**
AAK pmax pmax
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 55.76 63 P **P 03 33 06.2 +1.3**
comp=Z,0.2nm,0.5s,baz=360,slow=2.6,SNR=4.5
comp=Z,0.2nm,0.5s
FINES FINESS Array B 58.00 336 P **P 03 33 19.7 -0.3**
comp=Z,1.0nm,0.5s,baz=27,slow=8.5,SNR=11
comp=Z,1.0nm,0.5s
OBN Obninsk 60.68 327 *e*P **P 03 33 37.5 -1.0**
OBN pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 61.23 344 P **P 03 33 42.0 -0.3**
comp=Z,0.1nm,0.3s,baz=22,slow=6.5,SNR=1.6
comp=Z,0.1nm,0.3s
NOA NORSAR Array B 61.23 344 P **P 03 33 42.0 -0.3**
KBZ Khabaz 68.09 317 P **P 03 34 26.6 -0.3**
comp=Z,0.3nm,0.4s,baz=344,slow=23,SNR=1.6
comp=Z,0.3nm,0.4s
TXAR Lajitas Array 69.08 69 P **P 03 34 34.9 +1.3**
comp=Z,0.4nm,0.7s,baz=278,slow=5.0,SNR=6.3
TXAR pP **pP 03 35 05.8 +1.8**
comp=Z,0.5nm,0.7s,baz=285,slow=4.9,SNR=3.5
comp=Z,0.4nm,0.7s
STHS Stebnicka Huta 70.06 333 *e*P **P 03 34 37.6 -1.5**
STHS pmax pmax
comp=Z,6.0nm,1.3s
STHS Stebnicka Huta 70.06 333 *e*P **P 03 34 37.6 -1.5**
STHS *e*PP **PP 03 37 15.9 +0.9**
MODS Modra-Piesok 72.00 336 *e*P **P 03 34 49.6 -1.2**
MODS pmax pmax
comp=Z,3.0nm,0.6s
MODS Modra-Piesok 72.00 336 *e*P **P 03 34 49.6 -1.2**
MODS *e*PP **PP 03 37 30.2 -1.3**
WRA Warramunga Arr 78.68 206 P **P 03 35 29.2 0.0**
comp=Z,0.7nm,0.6s,baz=16,slow=5.6,SNR=5.7
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 78.68 206 *i* P **P 03 35 30.6 +1.4**
WRA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 82.36 205 P **P 03 35 49.0 +0.2**
comp=Z,0.5nm,0.6s,baz=14,slow=5.2,SNR=6.1
comp=Z,0.5nm,0.6s
ASAR Alice Springs 82.36 205 P **P 03 35 49.0 +0.2**
ESDC Sonseca Array 84.18 349 P **P 03 35 57.5 -0.7**
comp=Z,0.6nm,0.9s,baz=9.4,slow=4.5,SNR=2.2
comp=Z,0.6nm,0.9s
QSPA South Pole Qui 145.42 180 PKPbc **PKPdf 03 43 02.3 -0.4**
comp=Z,2.7nm,1.0s,baz=352,slow=0.5,SNR=12
TROLL Troll, Antarti 161.30 201 ⇓P PKPdf 03 43 36.6 +11
comp=Z,5.5nm,0.3s
SNAA Sanae 162.56 197 PKP **PKPdf 03 43 24.2 -2.2**
comp=Z,1.0nm,0.4s,baz=249,slow=18,SNR=13

*SOME **26** 03:28:22.0, 40°.83N×74°.90E, h15km*
*KRNET **26** 03:28:22.5±0.1, 40°.94N×74°.86E, h30km, mb3.1*
*NNC **26** 03:28:23.2±1.1, 40°.88N×74°.91E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.9km s-min=5.1km az=167.0*
*KNET **26** 03:28:24.2±1.0, 41°.03N×74°.81E, h8km±8km, ml2.5, Error ellipse: s-maj=8.9km s-min=4.3km az=178.0*
ISC 26 03:28:21.3±1.2, 40°.91N±0°.03×74°.91E±0°.02, h9km±9km, n59, σ1§07/98, 48C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.83**	**269**	⇑*e*P			**Pg**	**03 28 36.8**	**-0.5**
SALK				⇑*e*S			**Sg**	**03 28 48.2**	**+0.1**
ARLS	**Aral**	**1.05**	**335**	⇑*e*P			**Pb**	**03 28 41.2**	**-0.6**
ARLS				⇑*e*S			**Sb**	**03 28 54.7**	**-1.0**
UCH	**Uchtor**	**1.35**	**347**	⇓*e*P			**Pn**	**03 28 46.7**	**-0.1**
UCH				⇓*e*S			**Sb**	**03 29 04.2**	**-0.5**
SFK	**Sufi-Kurgan**	**1.40**	**231**	⇑*e*P			**Pg**	**03 28 47.9**	**-0.2**
SFK				⇑*i*S			**Sg**	**03 29 06.5**	**+0.2**
ARSB	**Arslanbob**	**1.52**	**287**	⇑*e*P			**Pb**	**03 28 49.2**	**-0.5**
ARSB				⇑*e*S			**Sn**	**03 29 08.5**	**-0.2**
AML	**Almayashu**	**1.53**	**324**	⇑P			**Pg**	**03 28 50.6**	**-0.1**
	14nm,0.3s,SNR=32								
AML				⇑S			**Sg**	**03 29 10.4**	**-0.1**
	31nm,0.3s								
AML	**Almayashu**	**1.53**	**324**	⇑*e*P			**Pb**	**03 28 49.5**	**-0.5**
AML				⇑*e*S			**Sn**	**03 29 09.0**	**-0.3**
OHH	**Osh**	**1.66**	**257**	⇑*e*P			**Pb**	**03 28 51.6**	**-0.5**
OHH				⇑*e*S			**Sb**	**03 29 12.7**	**-0.5**
ULHL	**Ulahol**	**1.67**	**36**	⇓P			**Pg**	**03 28 54.0**	**+0.6**
	9.9nm,0.2s,SNR=18								
ULHL				⇑S			**Sg**	**03 29 16.8**	**+1.8**
	30nm,0.2s								
ULHL	**Ulahol**	**1.67**	**36**	⇑*e*P			**Pb**	**03 28 52.1**	**-0.3**
ULHL				⇑*e*S			**Sb**	**03 29 13.6**	**0.0**
KBK	**Karagaybulak**	**1.75**	**1**	⇓P			**Pg**	**03 28 55.4**	**+0.6**
	7.7nm,0.1s,SNR=6.5								
KBK				⇑S			**Sg**	**03 29 18.8**	**+1.2**
	66nm,0.3s								
KBK	**Karagaybulak**	**1.75**	**1**	⇑*e*P			**Pb**	**03 28 52.8**	**-0.9**
KBK				⇑*e*S			**Sn**	**03 29 14.7**	**+0.2**
AAK	**Ala-Archa**	**1.76**	**350**	⇓P			**Pg**	**03 28 55.5**	**+0.4**
	9.4nm,0.2s,SNR=14								
AAK				⇓S			**Sg**	**03 29 18.7**	**+0.8**
	30nm,0.4s								
AAK	**Ala-Archa**	**1.76**	**350**	⇓Pn			**Pg**	**03 28 55.3**	**+0.3**
	7.5nm,0.6s								
AAK				⇑Sn			**Sg**	**03 29 21.2**	**+3.3**
	37nm,0.7s								
AAK	**Ala-Archa**	**1.76**	**350**	⇓*e*P			**Pb**	**03 28 52.9**	**-0.9**
AAK				⇓*e*S			**Sn**	**03 29 14.9**	**+0.2**
BOOM	**Boomskoye usch**	**1.76**	**26**	⇓*e*P			**Pb**	**03 28 53.2**	**-0.7**
BOOM				⇓*e*S			**Sb**	**03 29 15.6**	**-0.5**
FRU1	**Bishkek**	**1.92**	**354**	⇑*e*P			**Pb**	**03 28 55.3**	**-1.1**
FRU1				⇑*e*S			**Sn**	**03 29 19.0**	**+0.6**
EKS2	**Erkin-Say**	**1.95**	**335**	⇑*e*P			**Pn**	**03 28 55.4**	**+0.7**
EKS2				⇑*e*S			**Sn**	**03 29 19.2**	**-0.1**
TKM2	**Tokmak 2**	**2.08**	**14**	⇑P			**Pg**	**03 29 01.4**	**+0.3**
	19nm,0.2s,SNR=20								
TKM2				⇓S			**Sg**	**03 29 29.4**	**+1.3**
	45nm,0.2s								
TKM2	**Tokmak 2**	**2.08**	**14**	⇑Pn			**Pg**	**03 29 01.2**	**0.0**
	4.8nm,0.2s								
TKM2				⇑Lg			Lg	03 29 30.9	
	46nm,0.7s								
TKM2	**Tokmak 2**	**2.08**	**14**	⇑*e*P			**Pn**	**03 28 57.6**	**+1.1**
TKM2				⇑*e*S			**Sn**	**03 29 22.9**	**+0.3**
CHMS	**Chumysh**	**2.10**	**357**	⇓Pn			**Pg**	**03 29 01.1**	**-0.4**
	9.3nm,0.5s								
CHMS				⇓Lg			Lg	03 29 31.1	
	35nm,0.6s								
KDJ	**Kajisay**	**2.10**	**54**	⇓*e*P			**Pb**	**03 28 58.3**	**-1.3**
KDJ				⇓*e*S			**Sb**	**03 29 24.4**	**-1.4**
MRKS	**Merke**	**2.23**	**326**	Pg			**Pg**	**03 29 04.0**	**0.0**
	31nm,0.5s								
MRKS				Lg			Lg	03 29 34.2	
	59nm,0.4s								
MRKS	**Merke**	**2.23**	**326**	*e*P			**Pg**	**03 29 04.0**	**0.0**
	31nm,0.5s								
MRKS				*e*S			**Sg**	**03 29 34.2**	**+1.2**
	60nm,0.5s								
KST	**Kastek**	**2.27**	**20**	Pg			**Pg**	**03 29 04.6**	**-0.3**
	8.8nm,0.3s								
KST				Lg			Lg	03 29 35.0	
	58nm,0.4s								
KST	**Kastek**	**2.27**	**20**	*e*P			**Pg**	**03 29 04.6**	**-0.3**
	8.8nm,0.3s								
KST				*e*S			**Sg**	**03 29 35.0**	**+0.6**
	58nm,0.4s								
USP	**Ospenovka**	**2.38**	**353**	⇓P			**Pb**	**03 29 05.4**	**+1.1**
	11nm,0.2s,SNR=27								
USP				⇑S			**Sg**	**03 29 36.5**	**-1.3**
	16nm,0.3s								
USP	**Ospenovka**	**2.38**	**353**	⇑*e*P			**Pn**	**03 29 01.4**	**+0.9**
USP				⇑*e*S			**Sn**	**03 29 29.6**	**-0.2**
ARK	**Arkit**	**2.39**	**293**	⇑*e*P			**Pn**	**03 29 01.6**	**+0.8**
ARK				⇑*e*S			**Sn**	**03 29 30.0**	**-0.2**
MNAS	**Manas**	**2.40**	**312**	⇑*e*P			**Pn**	**03 29 01.6**	**+0.7**
MNAS				⇑*e*S			**Sn**	**03 29 30.0**	**-0.4**
DGS	**Degeres**	**2.42**	**15**	Pg			**Pg**	**03 29 07.7**	**0.0**
	24nm,0.6s								
DGS				Lg			Lg	03 29 40.3	
	36nm,0.4s								
MTBS	**Maitube**	**2.49**	**26**	Pg			**Pg**	**03 29 08.7**	**-0.4**
	11nm,0.4s								
MTBS				Lg			Lg	03 29 42.3	
	39nm,0.5s								
MTBS	**Maitube**	**2.49**	**26**	*e*P			**Pg**	**03 29 08.7**	**-0.4**
	11nm,0.4s								
MTBS				*e*S			**Sg**	**03 29 42.3**	**+0.9**
	39nm,0.5s								
SGDS	**Sogindy**	**2.55**	**355**	Pg			**Pg**	**03 29 09.5**	**-0.8**
	15nm,0.6s								
SGDS				Lg			Lg	03 29 43.6	
	48nm,0.6s								
TNSS	**Tian-Shan**	**2.62**	**35**	Pg			**Pg**	**03 29 11.3**	**-0.2**
	11nm,0.5s								
TNSS				Lg			Lg	03 29 46.6	
	11nm,0.8s								
TNSS	**Tian-Shan**	**2.62**	**35**	*e*P			**Pg**	**03 29 11.3**	**-0.2**
	11nm,0.5s								
TNSS				*e*S			**Sg**	**03 29 46.6**	**+1.3**
	11nm,0.8s								
DRK	**Karamyk**	**2.78**	**240**	⇑*e*P			**Pn**	**03 29 07.4**	**+1.2**
DRK				⇑*e*S			**Sn**	**03 29 41.9**	**+1.9**
ANVS	**Anan'yevo**	**2.79**	**47**	⇑*e*P			**Pn**	**03 29 07.8**	**+1.6**
ANVS				⇑*e*S			**Sn**	**03 29 40.7**	**+0.7**
KOTS	**Kotyrbulak**	**2.84**	**34**	Pg			**Pg**	**03 29 15.2**	**-0.6**
	12nm,0.5s								
KOTS				Lg			Lg	03 29 53.3	
	70nm,0.9s								
KOTS	**Kotyrbulak**	**2.84**	**34**	*e*P			**Pg**	**03 29 15.2**	**-0.6**
	12nm,0.5s								
KOTS				*e*S			**Sg**	**03 29 53.3**	**+0.6**
	70nm,0.9s								
KRBS	**Karabastau**	**2.84**	**11**	Pg			**Pg**	**03 29 15.0**	**-0.9**
	8.9nm,0.3s								
KRBS				Lg			Lg	03 29 52.8	
	44nm,0.5s								
TRKS	**Terek-Say**	**2.91**	**284**	⇑*e*P			**Pn**	**03 29 08.3**	**+0.3**
TRKS				⇑*e*S			**Sn**	**03 29 41.6**	**-1.6**
KTBS	**Karatobe**	**3.10**	**25**	Pg			**Pg**	**03 29 19.3**	**-1.3**
	7.7nm,0.4s								
KTBS				Lg			Lg	03 30 00.7	
	48nm,0.7s								
BTK	**Batken**	**3.23**	**256**	⇑*e*P			**Pn**	**03 29 13.6**	**+1.3**
BTK				⇑*e*S			**Sn**	**03 29 50.6**	**-0.4**
CHKK	**Chushkaly**	**3.32**	**27**	Pg			**Pg**	**03 29 23.7**	**-1.3**
	2.8nm,0.2s								
CHKK				Lg			Lg	03 30 08.1	
	21nm,0.2s								
CHKK	**Chushkaly**	**3.32**	**27**	*e*P			**Pg**	**03 29 23.7**	**-1.3**
	2.8nm,0.2s								
CHKK				*e*S			**Sg**	**03 30 08.1**	**0.0**
	21nm,0.2s								
KURS	**Kuram**	**3.54**	**42**	*e*P			**Pb**	**03 29 23.7**	**-0.4**
	2.8nm,0.2s								
KURS				*e*S			**Sb**	**03 30 08.1**	**+0.9**
	21nm,0.2s								
UZB	**Uzynbulak**	**3.79**	**52**	Pg			**Pg**	**03 29 31.8**	**-2.2**
	5.1nm,0.2s								
UZB				Lg			Lg	03 30 22.0	
	11nm,0.5s								
UZB	**Uzynbulak**	**3.79**	**52**	*e*P			**Pg**	**03 29 31.8**	**-2.2**
	5.1nm,0.2s								
UZB				*e*S			**Sg**	**03 30 22.0**	**-1.2**
	11nm,0.5s								
IUG	**Iuzhnay**	**3.87**	**290**	Pg			**Pb**	**03 29 32.5**	**+2.7**
	28nm,0.5s								
IUG				Lg			Lg	03 30 23.1	
	22nm,0.4s								
ARXS	**Arharly**	**3.94**	**32**	Pg			**Pg**	**03 29 35.0**	**-1.9**
	4.3nm,0.7s								
ARXS				Lg			Lg	03 30 27.1	
	12nm,0.5s								
KK31	**Karatay Array**	**3.95**	**305**	⇑Pg			**Pb**	**03 29 32.4**	**+1.4**
	2.9nm,0.6s,baz=131,slow=16,SNR=16								
KK31				⇑Lg			Lg	03 30 28.5	
	3.3nm,0.4s,baz=120,slow=26,SNR=5.7								
BLB	**Baldybastay**	**4.14**	**38**	Pg			**Pg**	**03 29 38.7**	**-1.9**
	22nm,0.5s								
BLB				Lg			Lg	03 30 33.6	
	16nm,0.5s								
PDGK	**Podgornoye**	**4.18**	**53**	⇑Pg			**Pg**	**03 29 41.3**	**-0.1**
	4.4nm,0.7s								
PDGK				⇓Lg			Lg	03 30 37.6	
	12nm,0.7s								
BTLS	**Baital**	**4.18**	**352**	Pg			**Pg**	**03 29 39.8**	**-1.6**
	1.5nm,0.4s								
BTLS				Lg			Lg	03 30 35.6	
	9.2nm,0.7s								
BTLS	**Baital**	**4.18**	**352**	*e*P			**Pg**	**03 29 39.8**	**-1.6**
	1.5nm,0.4s								
BTLS				*e*S			**Sg**	**03 30 35.6**	**0.0**
	9.2nm,0.7s								
BRLS	**Borolday**	**4.34**	**301**	Pg			**Pg**	**03 29 42.0**	**-2.4**
	2.6nm,0.5s								
BRLS				Lg			Lg	03 30 39.4	
	6.5nm,0.6s								
BRLS	**Borolday**	**4.34**	**301**	*e*P			**Pg**	**03 29 42.0**	**-2.4**
	2.6nm,0.5s								
BRLS				*e*S			**Sg**	**03 30 39.4**	**-1.2**
	6.5nm,0.6s								

*WEL **26** 03:58:33.5±0.9, 32°S±6°×17°8W±2°1, h12km, M4.9/11, mB5.0/6, ML5.2/11, MLv5.4/11, Mw(mB)4.3/6, Error ellipse: s-maj=28.4km s-min=3.1km az=105.4, confirmed*
*IDC **26** 03:58:34.4±0.6, 31°.79S×177°.82W, h0km, mb4.4/9, mbtmp4.4/10, ML3.8/1, MS3.7/15, Error ellipse: s-maj=22.5km s-min=21.9km az=107.0*
*NEIC **26** 03:58:35.9±1.7, 31°.92S±0°.08×177°.7W±0°.1, h10km±1km, mb4.9/23, Error ellipse: s-maj=19.4km s-min=13.8km az=83.0*
ISC 26 03:58:37.5±0.5, 31°.77S±0°.05×177°.79W±0°.09, h24km, n102, σ1§70/106, mb4.8/22, MS3.8/13, 6D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.50**	**357**	P			**Pn**	**03 59 13.0**	**-3.7**
GLKZ				S			**Sn**	**03 59 42.2**	**-4.2**
RIZ	**Raoul Island**	**2.52**	**357**	P			**Pn**	**03 59 14.2**	**-2.8**
RIZ				S			**Sn**	**03 59 44.1**	**-2.8**
MXZ	**Matakaoa Point**	**6.61**	**208**	Pn			**Pn**	**04 00 11.4**	**-1.7**
MXZ							**Sn**	**04 01 26.5**	**-1.3**
MXZ	**Matakaoa Point**	**6.61**	**208**	P			**Pn**	**04 00 11.1**	**-2.1**
MXZ				S			**Sn**	**04 01 27.3**	**-0.5**
WMGZ	**Waiomatatini S**	**6.79**	**206**	P			**Pn**	**04 00 13.7**	**-1.9**
WMGZ				S			**Sn**	**04 01 32.1**	**-0.2**
PKGZ	**Pakihiroa**	**6.96**	**208**	P			**Pn**	**04 00 15.8**	**-2.2**
PKGZ				S			**Sn**	**04 01 36.7**	**+0.1**
HAZ	**Te Kaha**	**7.00**	**210**	P			**Pn**	**04 00 16.6**	**-1.8**
HAZ				S			**Sn**	**04 01 38.7**	**+

PUZ			S		Sn	04 01 39.2	-0.1
RUGZ	**Raukumara Rang**	**7.21 210**	P		**Pn**	**04 00 19.4**	**-2.2**
RUGZ			S		**Sn**	**04 01 41.7**	**-1.1**
TWGZ	**Tauwhareparae**	**7.27 207**	P		**Pn**	**04 00 20.3**	**-2.0**
TWGZ			S		**Sn**	**04 01 43.6**	**-0.6**
CNGZ	**Carnagh Statio**	**7.46 205**	P		**Pn**	**04 00 20.8**	**-3.9**
CNGZ			S		**Sn**	**04 01 50.4**	**+1.8**
TKGZ	**Te Karaka**	**7.55 207**	S		**Sn**	**04 01 49.4**	**-1.5**
MWZ	**Matawai**	**7.59 209**	P		**Pn**	**04 00 23.7**	**-2.9**
MWZ			S		**Sn**	**04 01 50.8**	**-1.1**
URZ	**Urewera**	**7.71 211**	Pn		**Pn**	**04 00 25.8**	**-2.4**
1.4nm,0.3s,baz=353,slow=3.5,SNR=6.6							
URZ			Sn		**Sn**	**04 01 53.1**	**-1.6**
3.8nm,0.3s,baz=109,slow=11,SNR=4.1							
6.8nm,0.4s							
URZ	**Urewera**	**7.71 211**	P		**Pn**	**04 00 26.6**	**-1.6**
URZ			S		**Sn**	**04 01 53.4**	**-1.3**
WCZ	**Waipu Caves**	**7.75 235**	P		Pn	04 00 35.5	+6.7
RAGZ	**Rawiri**	**7.77 209**	S		**Sn**	**04 01 56.5**	**0.0**
RIGZ	**Rimuhau**	**7.82 206**	S		**Sn**	**04 01 55.8**	**-1.7**
PRGZ	**Paritu Road**	**7.96 205**	P		**Pn**	**04 00 29.5**	**-2.3**
OUZ	**Omahuta**	**7.97 242**	P		Pn	04 00 37.8	+5.9
MUGZ	**Murupara**	**8.04 212**	S		**Sn**	**04 02 00.2**	**-2.7**
SNGZ	**Shannon Statio**	**8.05 208**	S		**Sn**	**04 02 03.0**	**-0.2**
RTZ	**Ruatahuna**	**8.06 211**			**Pn**	**04 00 31.7**	**-1.4**
MHGZ	**Mahia Peninsul**	**8.16 204**	P		**Pn**	**04 00 29.8**	**-4.6**
MHGZ			S		**Sn**	**04 02 04.1**	**-1.7**
MTHZ	**Maungataniwha**	**8.32 210**	P		**Pn**	**04 00 34.6**	**-2.0**
MTHZ			S		**Sn**	**04 02 09.1**	**-0.7**
BKZ	**Black Stump Fm**	**8.73 211**	Pn		**Pn**	**04 00 39.6**	**-2.6**
BKZ	**Black Stump Fm**	**8.73 211**	P		**Pn**	**04 00 42.2**	**-0.1**
BKZ			S		**Sn**	**04 02 16.8**	**-3.1**
NGZ	**Ngauruhoe**	**9.14 214**	S		**Sn**	**04 02 30.9**	**+0.7**
BFZ	**Birch Farm**	**10.11 207**	Pn		**Pn**	**04 00 58.8**	**-2.4**
MRZ	**Mangatainoka R**	**10.36 209**	Pn		**Pn**	**04 01 02.1**	**-2.5**
CTZ	**Chatham Island**	**11.98 176**	P		**Pn**	**04 01 24.6**	**-2.1**
CTZ			S		Sn	04 03 24.8	-15
THZ	**Tophouse**	**12.45 214**	Pn		**Pn**	**04 01 32.1**	**-1.0**
GVZ	**Greta Valley S**	**13.34 210**	Pn		**Pn**	**04 01 44.6**	**-0.7**
OXZ	**Oxford**	**14.06 212**	Pn		**Pn**	**04 01 52.3**	**-2.9**
MQZ	**McQueen's Vall**	**14.10 210**	Pn		**Pn**	**04 01 54.4**	**-1.3**
MSVF	**Nonsavu**	**14.47 344**	LR		LR	04 06 02.2
comp=Z,334nm,18.6s,baz=201,slow=31							
ODZ	**Otahua Downs**	**16.03 211**	Pn		**Pn**	**04 02 19.1**	**-2.2**
DZM	**Mont Dzumac**	**17.04 301**	P		**P**	**04 02 38.4**	**+2.3**
DZM	**Mont Dzumac**	**17.04 301**	P		**P**	**04 02 37.1**	**+1.1**
11nm,1.0s,baz=101,slow=13,SNR=3.2							
RAR	**Rarotonga**	**19.22 61**	LR		LR	04 09 25.9
comp=Z,155nm,19.4s,baz=255,slow=34							
EIDS	**Eidsvold**	**28.01 275**	P		**P**	**04 04 28.2**	**+1.4**
EIDS			IAmb		IAmb	04 04 34.3
comp=Z,21nm,1.6s							
PPT	**Papeete**	**29.17 68**	LR		LR	04 15 43.1
comp=Z,154nm,18.4s,baz=252,slow=35							
STKA	**Stephens Creek**	**34.37 259**	P		**P**	**04 05 24.9**	**+2.2**
STKA	**Stephens Creek**	**34.37 259**	P		**P**	**04 05 24.1**	**+1.5**
comp=Z,4.6nm,0.6s,baz=102,slow=12,SNR=9.9							
STKA			LR		LR	04 19 22.8
comp=Z,257nm,18.5s,baz=44,slow=36							
comp=Z,4.6nm,0.6s							
BBOO	**Buckleboo**	**38.79 256**	P		**P**	**04 06 00.1**	**-0.3**
BBOO			IAmb		IAmb	04 06 18.5
comp=Z,62nm,1.6s							
COEN	**Coen**	**39.84 287**	P		**P**	**04 06 08.4**	**-0.9**
AS31	**Alice Springs**	**43.23 268**	P		**P**	**04 06 37.3**	**+0.2**
ASAR	**Alice Springs**	**43.23 268**	P		**P**	**04 06 37.1**	**0.0**
ASAR	**Alice Springs**	**43.23 268**	P		**P**	**04 06 37.2**	**+0.2**
comp=Z,3.1nm,0.4s,baz=106,slow=7.1,SNR=42							
comp=Z,3.1nm,0.4s							
WR8	**Warramunga Arr**	**44.20 274**	P		**P**	**04 06 45.2**	**+0.3**
WR8			IAmb		IAmb	04 06 49.8
comp=Z,21nm,1.2s							
WB2	**Warramunga Arr**	**44.33 273**	P		**P**	**04 06 46.1**	**+0.2**
WB2			IAmb		IAmb	04 07 00.5
comp=Z,64nm,1.9s							
WRA	**Warramunga Arr**	**44.34 273**	P		**P**	**04 06 46.6**	**+0.6**
WRA	**Warramunga Arr**	**44.34 273**	P		**P**	**04 06 46.4**	**+0.3**
comp=Z,3.8nm,0.3s,baz=112,slow=7.8,SNR=50							
WRA			LR		LR	04 24 07.0
comp=Z,108nm,18.4s,baz=107,slow=35							
comp=Z,3.8nm,0.3s							
WB0	**Warramunga Arr**	**44.37 274**	P		**P**	**04 06 46.5**	**+0.3**
WB0			IAmb		IAmb	04 07 05.8
comp=Z,13nm,0.7s							
FORT	**Forrest**	**45.88 256**	P		**P**	**04 06 57.9**	**-0.2**
FORT			IAmb		IAmb	04 07 17.2
comp=Z,18nm,0.9s							
KNRA	**Kununurra**	**51.00 275**	P		**P**	**04 07 38.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**52.55 271**	P		**P**	**04 07 49.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.55 271**	LR		LR	04 29 16.1
comp=Z,160nm,19.0s,baz=136,slow=35							
CASY	**Casey**	**54.02 208**	P		**P**	**04 07 59.7**	**+0.4**
FAKI	**Fak Fak**	**54.99 291**	P		**P**	**04 08 07.3**	**+0.1**
FAKI			IAmb		IAmb	04 08 25.5
comp=Z,24nm,1.1s							
PSA00	**Pilbara Seismi**	**55.99 264**	P		**P**	**04 08 13.8**	**-0.6**
MBWA	**Marble Bar**	**56.26 265**	P		**P**	**04 08 15.6**	**-0.6**
QSPA	**South Pole Qui**	**58.34 180**	P		**P**	**04 08 30.7**	**+0.2**
QSPA			IAmb		IAmb	04 08 50.4
comp=Z,11nm,0.8s							
QSPA	**South Pole Qui**	**58.34 180**	P		**P**	**04 08 31.8**	**+1.3**
comp=Z,4.3nm,0.9s,baz=45,slow=1.4,SNR=12							
comp=Z,4.3nm,0.9s							
KAPI	**Kappang**	**64.03 281**	LR		LR	04 37 35.9
comp=Z,52nm,18.4s,baz=99,slow=37							
MAW	**Mawson**	**71.09 201**	P		**P**	**04 09 53.3**	**0.0**
MAW			IAmb		IAmb	04 10 03.4
comp=Z,13nm,1.2s							
SYO	**Syowa Base**	**75.83 193**	⇓*e*pP		**P**	**04 10 21.6**	**+0.4**
TROLL	**Troll, Antarti**	**76.51 180**	⇓P		**P**	**04 10 23.8**	**-1.4**
SNAA	**Sanae**	**76.78 178**	P		**P**	**04 10 26.5**	**-0.2**
SNAA			IAmb		IAmb	04 10 30.7
comp=Z,10nm,1.1s							
SNAA	**Sanae**	**76.78 178**	⇓P		**P**	**04 10 26.7**	**0.0**
comp=Z,101nm,0.9s							
SNAA	**Sanae**	**76.78 178**	P		**P**	**04 10 26.4**	**-0.3**
comp=Z,5.2nm,1.0s,baz=172,slow=12,SNR=6.0							
comp=Z,5.2nm,1.0s							
VNA3	**Neumayer Olymp**	**76.93 176**	⇓P		**P**	**04 10 27.5**	**0.0**
comp=Z,16nm,0.8s							
VNA2	**Neumayer--Watz**	**77.37 177**	⇓P		**P**	**04 10 30.3**	**+0.5**
comp=Z,8.8nm,0.7s,baz=179,slow=5.2							
VNA1	**Neumayer--Stat**	**77.59 176**	⇓P		**P**	**04 10 31.8**	**+0.7**
comp=Z,8.4nm,0.7s							
JNU	**Nakatsue**	**80.70 318**	LR		LR	04 42 13.9
comp=Z,19nm,20.6s,baz=102,slow=32							
PLCA	**Paso Flores**	**81.44 133**	P		**P**	**04 10 50.6**	**-2.1**
PLCA			IAmb		IAmb	04 10 57.5
comp=Z,9.0nm,1.4s							
PLCA	**Paso Flores**	**81.44 133**	P		**P**	**04 10 54.6**	**+1.8**
comp=Z,3.7nm,1.1s,baz=281,slow=3.8,SNR=2.8							
comp=Z,3.7nm,1.1s							
LPIG	**La Paz**	**85.11 58**	LR		LR	04 45 09.3
comp=Z,60nm,18.2s,baz=252,slow=33							
KSRS	**Korea Array**	**85.50 320**	LR		LR	04 48 58.9
comp=Z,8.4nm,18.1s,baz=20,slow=35							
PSI	**Prapat**	**85.75 276**	LR		LR	04 53 18.9
comp=Z,76nm,18.0s,baz=126,slow=38							
PETK	**Petropavlovsk-**	**87.18 345**	P		**P**	**04 11 23.6**	**+2.4**
comp=Z,6.6nm,1.0s,baz=159,slow=8.9,SNR=4.1							
comp=Z,6.6nm,1.0s							
YBH	**Yreka Blue Hor**	**89.00 38**	LR		LR	04 46 09.7
comp=Z,36nm,19.3s,baz=223,slow=32							
NVAR	**Mina Array Bea**	**89.12 43**	P		**P**	**04 11 32.1**	**+1.0**
comp=Z,0.8nm,0.8s,baz=223,slow=7.6,SNR=4.0							
comp=Z,0.8nm,0.8s							
X16A	**Lo Mia Camp, P**	**90.71 49**	P		**P**	**04 11 39.8**	**+1.2**
X16A			IAmb		IAmb	04 11 51.7
comp=Z,2.7nm,1.1s							
U15A	**North Rim**	**91.43 47**	P		**P**	**04 11 42.9**	**+0.9**
U15A			IAmb		IAmb	04 11 46.8
comp=Z,4.9nm,1.3s							
TXAR	**Lajitas Array**	**92.97 57**	P		**P**	**04 11 50.6**	**+1.6**
comp=Z,0.3nm,0.8s,baz=234,slow=4.8,SNR=2.5							
TXAR			LR		LR	04 51 13.5
comp=Z,25nm,18.5s,baz=260,slow=34							
comp=Z,0.3nm,0.8s							
CMIG	**Matias Romero**	**93.01 72**	LR		LR	04 46 34.8
comp=Z,40nm,19.0s,baz=166,slow=31							
ANMO	**Albuquerque**	**94.29 51**	LR		LR	04 47 20.0
comp=Z,38nm,19.1s,baz=150,slow=31							
MKAR	**Makanchi Array**	**118.78 309**	PKP		**PKiKP**	**04 17 23.6**	**+0.2**
comp=Z,0.1nm,0.3s,baz=101,slow=1.5,SNR=3.6							
KURBB	**Kurchatov Arra**	**122.16 313**	PKP		**PKiKP**	**04 17 28.7**	**-1.2**
comp=Z,0.7nm,0.7s,baz=114,slow=2.0,SNR=5.1							
BVAR	**Borovoye Array**	**127.50 315**	PKP		**PKiKP**	**04 17 39.6**	**-0.9**
comp=Z,0.4nm,0.3s,baz=104,slow=1.7,SNR=2.5							
GNI	**Garni**	**144.85 296**	PKP		**PKiKP**	**04 18 13.2**	**-3.2**
KBZ	**Khabaz**	**146.01 302**	PKPbc		**PKPab**	**04 18 15.2**	**-0.4**
comp=Z,6.8nm,1.0s,baz=92,slow=3.3,SNR=12							
OBN	**Obninsk**	**146.39 324**	PKPbc		**PKPab**	**04 18 15.6**	**-1.1**
comp=Z,13nm,0.3s,baz=138,slow=18,SNR=3.6							
FINES	**FINESS Array B**	**146.49 339**	PKPbc		**PKPab**	**04 18 15.8**	**-1.1**
comp=Z,4.7nm,0.7s,baz=52,slow=4.0,SNR=14							
HFS	**Hagfors**	**150.62 348**	PKPbc		**PKiKP**	**04 18 27.4**	**0.0**
comp=Z,2.4nm,0.7s,baz=349,slow=2.9,SNR=5.2							
MMAI	**Mount Meron Ar**	**152.01 281**	PKPbc		**PKiKP**	**04 18 32.4**	**+1.1**
comp=Z,2.3nm,0.5s,baz=107,slow=2.8,SNR=4.6							
AKASG	**Malin Array Be**	**152.49 321**	PKPbc		**PKiKP**	**04 18 32.1**	**+0.5**
comp=Z,0.4nm,0.4s,baz=69,slow=1.5,SNR=6.5							
BRTR	**Keskin Array B**	**153.39 296**	PKPbc		**PKiKP**	**04 18 34.1**	**+0.1**
comp=Z,1.1nm,0.6s,baz=94,slow=2.6,SNR=4.2							
LUBAR	**Lubar, Ukraine**	**153.70 321**	PKP		**PKPdf**	**04 18 28.3**	**+2.1**
GERES	**GERESS Array B**	**160.86 336**	PKPab		**PKPab**	**04 19 17.6**	**-0.3**
comp=Z,0.5nm,0.8s,baz=24,slow=5.2,SNR=2.6							
TORD	**Torodi Ar. Bea**	**161.46 178**	PKP		**PKPdf**	**04 18 37.7**	**+0.8**
comp=Z,0.9nm,0.4s,baz=159,slow=1.7,SNR=2.9							
TORD			PKPab		**PKPab**	**04 19 21.8**	**+0.8**
comp=Z,0.9nm,0.3s,baz=173,slow=3.4,SNR=2.6							

NNC 26 03:59:10.4±4.6, 38°.34N×69°.83E, h10km±17km, mb3.7, mpv3.3, 6C-3D, Error ellipse: s-maj=32.3km s-min=16.3km az=22.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.79**	**6**	⇑Pn	Pn	04 00 24.1	+1.5
1.4nm,0.5s,baz=0.0,slow=0.1,SNR=15							
KK31				⇓Pg	Pb	04 00 37.9	+3.5
2.0nm,0.4s,baz=188,slow=15,SNR=5.0							
KK31				⇑Lg	Lg	04 01 41.7	
18nm,0.9s,baz=184,slow=31,SNR=5.6							
AAK	**Ala-Archa**	**5.57**	**38**	⇓Pn	Pn	04 00 33.2	-0.4
1.1nm,0.3s							
AAK				⇑Pg	Pb	04 00 51.2	+3.3
7.3nm,1.1s							
AAK				⇑Lg	Lg	04 02 07.6	
13nm,0.9s							
TKM2	**Tokmak 2**	**6.34**	**42**	⇑Pn	Pn	04 00 43.5	-0.6
2.7nm,0.7s							
TKM2				⇓Lg	Lg	04 02 33.9	
5.9nm,0.8s							
AB31	**Akbulak array**	**13.03**	**330**	⇑Pn	Pn	04 02 14.5	-0.9
0.3nm,0.4s,baz=166,slow=11,SNR=5.2							
AB31				Sn	Sn	04 04 39.9	-0.5
1.0nm,0.7s,baz=143,slow=20,SNR=5.4							

*VIE **26** 04:20:42.4±0.3, 50°.25N×18°.70E, h0km, mb2.5/2, ml2.4/2, Error ellipse: s-maj=3.6km s-min=1.9km az=162.0, Suspected Mining induced.*
*IPEC **26** 04:20:43.1±0.2, 50°.21N×18°.68E, h1km, ML2.3/4, Error ellipse: s-maj=1.8km s-min=1.0km az=174.0*
*PRU **26** 04:20:46.1, 50°.21N×18°.47E, h0km*
ISC 26 04:20:42.6±0.9, 50°.21N±0°.04×18°.67E±0°.02, h0km, n26, σ0°.79/47, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.50**	**222**	*e*PG	**Pg**	**04 20 53.3**	**+1.0**
OKC				*e*SG	**Sb**	**04 21 00.8**	**-1.4**
comp=Z,76nm,0.4s							
STEB	**Steborice**	**0.64**	**245**	*e*PG	**Pb**	**04 20 55.9**	**-0.8**
STEB				*e*SG	**Sg**	**04 21 03.5**	**+0.3**
comp=Z,100nm,0.5s							
OJC	**Ojcow**	**0.72**	**89**	*e*Pg	**Pg**	**04 20 56.2**	**-0.3**
OJC				*e*Sg	**Sg**	**04 21 06.2**	**+0.3**
MORC	**Moravsky Berou**	**0.85**	**240**	*e*Pg	**Pg**	**04 20 59.3**	**+0.4**
baz=59							
MORC				*e*Sg	**Sg**	**04 21 09.7**	**-0.1**
58nm,0.4s,baz=59							
MAUC	**Maruska**	**1.01**	**213**	*e*PG	**Pb**	**04 21 02.8**	**-0.2**
LANS	**Liptovska Anna**	**1.18**	**154**	*e*PG	**Pg**	**04 21 05.3**	**0.0**
LANS				*e*SG	**Sb**	**04 21 22.2**	**+0.4**
LANS				*e*LG	Lg	04 21 27.7	
KRLC	**Kraliky**	**1.22**	**264**	*e*PG	**Pg**	**04 21 05.3**	**-0.7**
KRLC				*e*SG	**Sg**	**04 21 21.3**	**-0.6**
comp=Z,30nm,0.3s							
NIE	**Niedzica**	**1.32**	**126**	*e*Pg	**Pg**	**04 21 07.9**	**0.0**
NIE				*e*Sg	**Sn**	**04 21 26.3**	**-0.4**
JAVC	**Velka Javorina**	**1.50**	**206**	*e*Pg	**Pn**	**04 21 10.7**	**-0.2**
baz=26							
DPC	**Dobruska-Polom**	**1.51**	**276**	*e*PG	**Pn**	**04 21 10.9**	**-0.1**
DPC				*e*SG	**Sg**	**04 21 31.2**	**0.0**
comp=Z,31nm,0.4s							
OSTC	**Ostas**	**1.61**	**283**	*e*PG	**Pb**	**04 21 12.9**	**-0.3**
OSTC				*e*SG	**Sn**	**04 21 33.5**	**-0.3**
comp=Z,15nm,0.4s							
VRAC	**Vranov**	**1.62**	**237**	*e*Pn	**Pn**	**04 21 12.6**	**+0.1**
baz=56							
VRAC				*e*Sg	**Sn**	**04 21 33.9**	**-0.2**
29nm,0.3s,baz=56							
KSP	**Ksiaz**	**1.64**	**294**	*e*Pg	**Pn**	**04 21 12.7**	**-0.1**
KSP				*e*Sg	**Sn**	**04 21 34.0**	**-0.6**
UPC	**Upice**	**1.73**	**281**	*e*PG	**Pg**	**04 21 15.5**	**-0.2**
UPC				*e*SG	**Sn**	**04 21 36.5**	**-0.2**
comp=Z,13nm,0.4s							
KRUC	**Moravsky**	**1.87**	**233**	*e*Pn	**Pn**	**04 21 16.1**	**+0.2**
baz=51							
KRUC				*e*Sg	**Sb**	**04 21 41.8**	**+0.2**
18nm,0.4s,baz=51							
KRUC	**Moravsky**	**1.87**	**233**	*e*PN	**Pn**	**04 21 16.2**	**+0.3**
KRUC				*e*SG	**Sb**	**04 21 41.9**	**+0.3**
MODS	**Modra-Piesok**	**2.05**	**207**	*e*PG	**Pg**	**04 21 22.9**	**+1.0**
KECS	**Kecovo**	**2.10**	**145**	*e*PG	**Pg**	**04 21 23.5**	**+0.7**
KECS				*e*SG	**Sg**	**04 21 50.7**	**+0.7**
TREC	**Trest**	**2.26**	**247**	*e*SG	**Sb**	**04 21 52.9**	**+0.1**
PRU	**Pruhonice**	**2.67**	**267**	*e*SG	**Sb**	**04 22 05.3**	**+0.8**
comp=Z,6.5nm,0.3s							
CONA	**Conrad Observa**	**2.94**	**220**	*i* Pn	**Pn**	**04 21 30.9**	**+0.2**
0.5nm,0.2s							
CONA				*e*Sn	**Sn**	**04 22 07.1**	**+0.4**
2.1nm,0.3s							
BRG	**Berggiesshubel**	**3.09**	**284**	Pg	**Pg**	**04 21 43.4**	**+1.6**
BRG				Sg	**Sg**	**04 22 22.1**	**+0.3**
BRG				Amp		04 22 28.0	
comp=Z,5.9nm,0.4s							
CKRC	**Cesky Krumlov**	**3.16**	**246**	*e*SG	**Sg**	**04 22 22.0**	**-2.2**
comp=Z,6.9nm,0.4s							
KHC	**Kasperske Hory**	**3.48**	**254**	*e*PN	**Pn**	**04 21 37.5**	**-0.5**
KHC				*e*PG	**Pb**	**04 21 45.2**	**+0.1**
KHC				*e*SG	**Sg**	**04 22 32.2**	**-2.1**
comp=Z,8.6nm,0.4s							
MOA	**Molin**	**3.74**	**232**	*i* Pn	**Pn**	**04 21 41.6**	**0.0**
comp=Z,0.5nm,0.4s							
MOA				*e*Sg	**Sg**	**04 22 43.0**	**+0.3**
comp=Z,3.0nm,0.3s							
CLL	**Collm**	**3.76**	**289**	*e*Pg	**Pg**	**04 21 57.0**	**+2.3**
CLL				*e*Sg	**Sg**	**04 22 43.0**	**-0.4**

*IDC **26** 04:30:20.1±1.4, 6°.92N×77°.19W, h0km, mb3.4/3, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=87.1km s-min=24.0km az=54.0*
*RSNC **26** 04:30:29.0±0.0, 8°.N±1°.×7°.5W±°, h20km±2km, M3.4, mb4.3, mB5.5, ML3.2, Mw(mB)5.0*
ISC 26 04:30:24.4±1.2, 7°.70N±0°.02×75°.05W±0°.02, h5km±9km, n54, σ2°.02/93, mb3.6/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARC	**Zaragoza, Cauc**	**0.28**	**137**	P	**Pn**	**04 30 34.5**	**-0.8**
ZARC				S	**Sb**	**04 30 39.4**	**+2.4**
UREC	**San Jos de Ur**	**0.48**	**276**	P	**Pb**	**04 30 37.2**	**+1.8**
UREC				S	**Sb**	**04 30 45.0**	**+2.2**
PTBC	**PUERTO BERRIO,**	**1.29**	**153**	P	**Pg**	**04 30 48.9**	**-0.4**
PTBC				S	**Sg**	**04 31 04.8**	**-1.3**
DBBC	**Dabeiba**	**1.33**	**240**	P	**Pg**	**04 30 50.0**	**0.0**
DBBC				S	**Sg**	**04 31 07.8**	**+0.4**
BRJC	**Barrancabermej**	**1.48**	**119**	P	**Pb**	**04 30 52.8**	**+0.3**
BRJC				S	**Sg**	**04 31 12.2**	**+0.1**
APAC	**Apartado, Choc**	**1.53**	**278**	P	**Pg**	**04 30 54.2**	**+0.4**
APAC				S	**Sg**	**04 31 15.0**	**+1.4**
HELC	**Santa Helena**	**1.57**	**198**	P	**Pn**	**04 30 53.8**	**+0.4**
HELC				S	**Sg**	**04 31 12.7**	**-2.3**
LCBC	**Los crdobas,**	**1.74**	**312**	P	**Pg**	**04 30 58.0**	**+0.2**
LCBC				S	**Sb**	**04 31 19.7**	**+0.6**
OCAC	**Ocana**	**1.80**	**72**	P	**Pn**	**04 30 57.2**	**+0.9**
OCAC				S	**Sn**	**04 31 19.5**	**-0.1**
CBOC	**Ciudad Bolivar**	**2.06**	**208**	P	**Pn**	**04 31 01.0**	**+1.1**
CBOC				S	**Sn**	**04 31 27.5**	**+1.4**
NORC	**Norcasia**	**2.13**	**175**	P	**Pn**	**04 31 01.6**	**+0.8**
NORC				S	**Sn**	**04 31 27.7**	**0.0**
SJCC	**San Jacinto, C**	**2.19**	**357**	P	**Pn**	**04 31 02.9**	**+1.3**
SJCC				S	**Sn**	**04 31 31.1**	**+1.9**
ARGC	**Ariguani, Magd**	**2.29**	**20**	P	**Pb**	**04 31 06.0**	**-0.3**
ARGC				S	**Sg**	**04 31 38.3**	**+0.3**
PAMC	**Pamplona, Colo**	**2.36**	**99**	P	**Pn**	**04 31 06.2**	**+1.9**
PAMC				S	**Sb**	**04 31 36.5**	**-0.9**
CAPC	**Capurgana**	**2.46**	**292**	P	**Pn**	**04 31 06.9**	**+1.6**
CAPC				S	**Sn**	**04 31 33.6**	**-2.2**
GUY2C	**Guyana, Caldas**	**2.48**	**187**	P	**Pn**	**04 31 07.6**	**+1.6**
RUSC	**La Rusia**	**2.65**	**132**	P	**Pn**	**04 31 09.7**	**+1.3**
RUSC				S	**Sn**	**04 31 42.6**	**+1.4**
NIZA	**Niza - Manizal**	**2.66**	**189**	P	**Pb**	**04 31 12.9**	**+0.2**
RECRC	**Villamaria, Ca**	**2.74**	**186**	P	**Pb**	**04 31 13.8**	**-0.4**
RECRC				S	**Sb**	**04 31 48.7**	**+0.4**
SOLC	**Bahia Solano**	**2.76**	**238**	P	**Pn**	**04 31 11.6**	**+2.2**
SOLC				S	**Sn**	**04 31 45.1**	**+1.9**
PTAC	**Punta Ardita,**	**2.79**	**259**	P	**Pn**	**04 31 09.7**	**-0.1**
PTAC				S	**Sn**	**04 31 42.0**	**-1.9**
ROSC	**El Rosal**	**2.93**	**166**	Pn	**Pn**	**04 31 15.2**	**+3.1**
16nm,0.3s,baz=299,slow=8.0,SNR=32							
ROSC				Sn	**Sb**	**04 31 52.4**	**-1.4**
99nm,0.3s,baz=350,slow=23,SNR=14							
40nm,0.3s							
ROSC	**El Rosal**	**2.93**	**166**	P	**Pn**	**04 31 15.2**	**+3.1**
ROSC				S	**Sn**	**04 31 48.4**	**+0.5**
PLMC	**San Jos del P**	**3.03**	**204**	P	**Pn**	**04 31 14.8**	**+1.6**
PLMC				S	**Sn**	**04 31 51.6**	**+1.6**
ANIL	**Santa Ana**	**3.21**	**186**	P	**Pb**	**04 31 22.1**	**0.0**
ANIL				S	**Sb**	**04 32 03.7**	**+2.1**
CVER	**Cruz Verde, Cu**	**3.30**	**163**	P	**Pn**	**04 31 18.6**	**+1.3**
CVER				S	**Sn**	**04 32 01.3**	**+4.1**
CHIC	**Chingaza**	**3.32**	**157**	P	**Pn**	**04 31 18.7**	**+1.2**
CHIC				S	**Sn**	**04 32 01.2**	**+3.7**
TAMC	**Tame, Arauca**	**3.47**	**111**	P	**Pn**	**04 31 21.4**	**+2.2**
TAMC				S	**Sn**	**04 32 04.6**	**+3.8**
SMRC	**Santa Marta, M**	**3.54**	**13**	P	**Pb**	**04 31 24.5**	**-3.1**
SMRC				S	**Sb**	**04 32 08.3**	**-2.6**
ORTC	**Ortega, Tolima**	**3.77**	**183**	P	**Pn**	**04 31 26.7**	**+3.4**
ORTC				S	**Sb**	**04 32 17.3**	**-0.3**
YOTC	**Yotoco, Valle**	**3.91**	**199**	P	**Pn**	**04 31 26.8**	**+1.5**
CRJC	**Cerrejon, Guaj**	**3.93**	**33**	P	**Pn**	**04 31 28.7**	**+3.0**
CRJC				S	**Sn**	**04 32 15.7**	**+3.4**
PRAC	**Prado**	**3.96**	**178**	P	**Pb**	**04 31 31.3**	**-3.6**
PRAC				S	**Sb**	**04 32 19.8**	**-3.4**
URMC	**La Uribe, Meta**	**4.47**	**171**	P	**Pn**	**04 31 35.2**	**+2.1**
URMC				S	**Sn**	**04 32 30.9**	**+5.3**
PTGC	**Puerto Gaitan,**	**4.53**	**140**	P	**Pn**	**04 31 34.2**	**+0.5**
PTGC				S	**Sn**	**04 32 28.4**	**+1.6**
SDV	**Santo Domingo**	**4.53**	**75**	P	**Pn**	**04 31 35.9**	**+2.0**
SDV				S	**Sn**	**04 32 27.5**	**+0.4**
BCIP	**Isla Barro Col**	**4.96**	**287**	P	**Pn**	**04 31 39.4**	**-0.2**
BCIP				S	**Sn**	**04 32 35.4**	**-2.0**
URIC	**Uribia, Colomb**	**4.99**	**37**	P	**Pn**	**04 31 41.7**	**+1.6**
29nm,1.0s							
URIC				S	**Sn**	**04 32 40.9**	**+2.6**
29nm,1.0s							
AZU	**Azuero**	**5.18**	**271**	P	**Pn**	**04 31 45.5**	**+2.8**
25nm,1.5s							
AZU				S	**Sn**	**04 32 39.3

baz=23,slow=24,SNR=1.6
MKAR Lg Lg 05 03 21.6
baz=22,slow=28,SNR=3.5
0.2nm,0.5s

*IDC **26** 05:17:01.4±1.7, 46.°45N×153.°08E, h0km, mb3.8/8, mbtmp3.8/10, ML3.1/2, MS2.9/5, Error ellipse: s-maj=53.5km s-min=21.3km az=174.0*
*SKHL **26** 05:17:07.8±0.6, 45.°40N×153.°30E, h30km±4km, mb4.5/4*
ISC 26 05:17:05.3±1.1, 46.°2N±0.°2×153.°2E±0.°1, h31km, n25, σ1§91/19, mb3.9/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**257**	*i* P	**Pn**	**05 18 05.9**	**+3.6**
KUR				AMB	AMB	05 18 07.3	
	110nm,0.5s						
KUR				*e*S	**Sn**	**05 18 48.9**	**+2.5**
KUR				A	A	05 19 00.0	
	40nm,0.5s						
KUR				A	A	05 19 00.0	
	80nm,0.5s						
SKR	**Severo-Kuril's**	**4.86**	**23**	*e*P	**Pb**	**05 18 30.8**	**+1.2**
SKR				AMB	AMB	05 18 33.5	
	10.0nm,0.3s						
SHO	**Shikotan**	**5.08**	**244**	*e*P	**Pn**	**05 18 19.3**	**+0.1**
SHO				AMB	AMB	05 18 25.5	
	20nm,0.3s						
SHO				*e*S	**Sn**	**05 19 13.3**	**-3.5**
SHO				A	A	05 19 28.1	
	20nm,0.2s						
SHO				A	A	05 19 28.1	
	20nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.62**	**250**	*e*P	**Pn**	**05 18 28.9**	**+2.2**
YUK				AMB	AMB	05 18 34.0	
	40nm,0.5s						
YUK				*e*S	**Sn**	**05 19 29.7**	**-0.4**
YUK				A	A	05 19 33.3	
	70nm,0.3s						
YUK				A	A	05 19 33.3	
	40nm,0.3s						
NMR	**Nemuro--Hokkai**	**6.02**	**244**	*e*P	**Pn**	**05 18 33.4**	**+1.2**
NMR				*e*S	**Sn**	**05 19 37.9**	**-2.1**
PETK	**Petropavlovsk-**	**7.47**	**21**	Pn	**Pn**	**05 18 49.8**	**-2.3**
	0.4nm,0.3s,baz=187,slow=13,SNR=2.8						
	2.5nm,0.6s						
ASAJ	**Asahikawa**	**7.77**	**258**	Pn	**Pn**	**05 18 54.7**	**-1.4**
	0.5nm,0.3s,baz=76,slow=7.4,SNR=3.8						
ASAJ				LR	LR	05 21 52.4	
	comp=Z,87nm,19.7s,baz=122,slow=38						
	9.8nm,1.0s						
MA2	**Magadan**	**13.44**	**355**	LR	LR	05 25 31.8	
	comp=Z,35nm,18.9s,baz=64,slow=39						
KLR	**Kul'dur**	**14.71**	**289**	LR	LR	05 26 31.6	
	comp=Z,49nm,19.1s,baz=332,slow=39						
KSRS	**Korea Array**	**20.69**	**254**	LR	LR	05 28 30.2	
	comp=Z,25nm,21.1s,baz=25,slow=33						
H11N2	**WAKE ISLAND Hy**	**28.75**	**152**	T	T	05 54 34.8	
	baz=340,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**28.76**	**152**	T	T	05 54 41.6	
	baz=340,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**28.77**	**152**	T	T	05 54 50.2	
	baz=340,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**29.83**	**153**	T	T	05 56 15.2	
	baz=341,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**29.84**	**154**	T	T	05 55 58.4	
	baz=341,slow=76,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**29.85**	**153**	T	T	05 55 59.4	
	baz=341,slow=76,SNR=4.4						
DAV	**Davao City (W)**	**45.69**	**220**	LR	LR	05 45 23.9	
	comp=Z,40nm,20.1s,baz=336,slow=37						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**05 25 34.9**	**-0.2**
	1.2nm,0.9s,baz=65,slow=8.6,SNR=8.0						
	1.2nm,0.9s						
YKA	**Yellowknife Ar**	**51.31**	**36**	P	**P**	**05 26 05.6**	**-0.4**
	0.4nm,0.8s,baz=295,slow=7.3,SNR=5.9						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**62.64**	**62**	P	**P**	**05 27 28.3**	**+1.4**
	0.4nm,0.6s,baz=284,slow=8.6,SNR=3.8						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**65.02**	**54**	P	**P**	**05 27 41.0**	**-1.5**
	0.5nm,0.9s,baz=318,slow=2.1,SNR=4.0						
	0.5nm,0.9s						
NOA	**NORSAR Array B**	**68.72**	**341**	P	**P**	**05 28 05.0**	**-0.5**
	0.8nm,0.7s,baz=30,slow=6.2,SNR=3.4						
	0.8nm,0.7s						
KBZ	**Khabaz**	**71.24**	**314**	P	**P**	**05 28 21.3**	**+0.1**
	1.2nm,0.7s,baz=56,slow=3.6,SNR=5.0						
	1.2nm,0.7s						
AKASG	**Malin Array Be**	**71.99**	**326**	P	**P**	**05 28 25.4**	**-0.3**
	0.9nm,0.5s,baz=35,slow=6.2,SNR=7.1						
	0.9nm,0.5s						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**05 29 00.8**	**+1.6**
	1.1nm,0.6s,baz=304,slow=3.8,SNR=10						
	1.1nm,0.6s						

NEIC 26 05:44:40.3±1.0, 31.°14N±0.°01×103.°48W±0.°01, h5km, mb_Lg2.4/29, ML2.5/29, Error ellipse: s-maj=1.8km s-min=1.7km az=185.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.27**	**354**		Pg	05 44 46.2	+0.6
PCOS					Sg	05 44 50.6	+1.5
PECS	**Pecos**	**0.40**	**304**		Pg	05 44 48.1	-0.1
PECS				Sg	Sg	05 44 54.5	+1.0
PECS				IAML		05 44 56.6	
	526nm,0.5s						
PECS				IAML		05 44 59.2	
	654nm,0.4s						
MNHN	**Monahans**	**0.64**	**72**		Pg	05 44 52.3	-0.4
MNHN				Sg	Sg	05 45 01.9	+0.8
MNHN				IAML		05 45 07.6	
	289nm,0.3s						
MNHN				IAML		05 45 12.8	
	229nm,0.9s						
ALPN	**Alpine**	**0.78**	**190**	Pg	Pg	05 44 55.1	-0.2
ALPN				Sg	Sg	05 45 04.8	-0.7
ALPN				IAML		05 45 06.8	
	126nm,0.5s						
CLNB	**Carlsbad**	**1.17**	**343**	Pg	Pb	05 45 03.2	+0.1
ODSA	**Odessa**	**1.25**	**39**		Pg	05 45 03.0	-1.4
ODSA				Sg	Sb	05 45 21.0	-0.1
ODSA				IAML		05 45 25.9	
	108nm,0.4s						
ODSA				IAML		05 45 26.7	
	65nm,0.4s						
CLN7	**Carlsbad 7**	**1.30**	**347**		Pg	05 45 04.9	-0.3
GDL2	**Guadalupe Moun**	**1.30**	**325**		Pg	05 45 04.9	-0.4
VHRN	**Van Horn**	**1.34**	**255**	Pg	Pn	05 45 05.3	-0.6
VHRN					Sb	05 45 23.9	+0.2
VHRN				IAML		05 45 28.6	
	103nm,0.4s						
VHRN				IAML		05 45 28.8	
	92nm,0.3s						
SAND	**Sanderson**	**1.66**	**135**	Pg	Pb	05 45 11.1	-0.4
SAND					Sg	05 45 33.9	+0.1
MNTX	**Cornudas Mount**	**1.72**	**289**		Pn	05 45 11.4	+0.4
MNTX					Sb	05 45 34.5	0.0
MNTX				IAML		05 45 39.1	
	46nm,0.8s						
TX31	**Lajitas Ar. Si**	**1.81**	**185**		Pb	05 45 13.4	-0.7
TX31					Sb	05 45 37.8	+0.7
TXAR	**Lajitas Array**	**1.81**	**185**		Pb	05 45 13.4	-0.6
CPRX	**Cap Rock**	**1.91**	**350**	Pn	Pb	05 45 15.0	-0.8
OZNA	**Ozona**	**2.03**	**96**		Pb	05 45 16.6	-1.1
OZNA					Sg	05 45 44.6	-0.9
OZNA				IAmb_Lg		05 45 44.9	
	comp=Z,13nm,0.8s						
SGCY	**Sterling City**	**2.15**	**68**		Pn	05 45 17.8	+0.9
SGCY					Sn	05 45 45.0	+1.0
POST	**Post**	**2.55**	**41**		Pn	05 45 23.4	+1.0
POST				IAmb_Lg		05 46 00.4	
	comp=Z,10.0nm,0.7s						
SN05	**Snyder 5**	**2.80**	**51**	IAmb_Lg		05 46 07.4	
	comp=Z,15nm,0.8s						
MSTX	**Muleshoe**	**2.88**	**12**	Pn	Pn	05 45 27.8	+0.7
SN07	**Snyder 07**	**2.93**	**48**		Pn	05 45 28.7	+1.1
SN07				IAmb_Lg		05 46 21.2	
	comp=Z,15nm,0.8s						
DRIO	**Del Rio**	**3.01**	**124**		Pb	05 45 32.6	-1.8
DRIO				IAmb_Lg		05 46 17.7	
	comp=Z,14nm,0.9s						
JCT	**Junction City**	**3.23**	**101**		Pn	05 45 33.2	+1.5
DKNS	**Dickens**	**3.31**	**40**	IAmb_Lg		05 46 29.6	
	comp=Z,13nm,0.8s						
ABTX	**Abilene, Hawle**	**3.58**	**65**	IAmb_Lg		05 46 38.6	
	comp=Z,14nm,0.8s						
APMT	**Aspermont**	**3.58**	**52**		Pn	05 45 37.6	+1.0
BRDY	**Brady**	**3.84**	**87**		Pn	05 45 41.4	+1.3
BRDY				IAmb_Lg		05 46 45.7	
	comp=Z,12nm,1.0s						
ANMO	**Albuquerque**	**4.54**	**327**	IAmb_Lg		05 47 10.7	
	comp=Z,5.5nm,1.0s						
ANMO	**Albuquerque**	**4.54**	**327**	IAmb_Lg		05 47 10.8	
	comp=Z,5.4nm,1.0s						
PLPT	**Palo Pinto**	**4.69**	**68**	IAmb_Lg		05 47 19.7	
	comp=Z,6.4nm,0.8s						
WHTX	**Lake Whitney,**	**5.21**	**79**	IAmb_Lg		05 47 31.4	
	comp=Z,8.6nm,1.0s						

IDC 26 05:52:20.1±3.2, 31.°89S×178.°02W, h0km, mb4.1/2, mbtmp4.0/3, ML3.0/1, Error ellipse: s-maj=71.8km s-min=37.3km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.51**	**211**	Pn	Pn	05 54 09.6	-1.2
	0.2nm,0.3s,baz=217,slow=13,SNR=3.2						
URZ				Sn	Sn	05 55 37.8	+1.1
	4.5nm,0.3s,baz=15,slow=20,SNR=15						
	5.8nm,0.8s						
ASAR	**Alice Springs**	**43.04**	**269**	P	P	06 00 21.9	+0.1
	1.0nm,0.5s,baz=108,slow=7.3,SNR=15						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	P	06 00 30.7	-0.2
	0.9nm,0.3s,baz=112,slow=7.9,SNR=16						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**146.53**	**339**	PKPbc	PKPdf	06 12 01.9	+0.7
	2.2nm,0.8s,baz=33,slow=4.1,SNR=4.6						

*IDC **26** 06:00:43.5±0.7, 32.°11S×177.°80W, h0km, mb4.3/11, mbtmp4.3/13, ML3.8/2, MS4.0/23, Error ellipse: s-maj=22.9km s-min=19.8km az=112.0*
*NEIC **26** 06:00:44.8±1.5, 31.°95S±0.°05×177.°8W±0.°2, h10km±1km, mb4.9/21, Error ellipse: s-maj=23.9km s-min=7.2km az=103.0*
*GCMT **26** 06:00:47.8±0.3, 31.°63S±0.°04×177.°34W±0.°02, h24km±1km, MW5.0/71, Moment Tensor Solution. s23,c27; s71,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.26±.25; $M_{\theta\theta}$0.07±.16; $M_{\phi\phi}$-3.33±.17; $M_{r\theta}$0.27±.26; $M_{\phi\phi}$0.02±.11; $M_{\phi r}$0.71±.19; Best double couple: $M_0$3.38100×10^{16} NP1:ϕ_s175.00000°, δ39.00000°, λ83.00000°. NP2: ϕ_s4.00000°, δ51.00000°, λ96.00000°. Principal axes: T 3.3570, Plg82.0000°, Azm308.0000°; N 0.0440, Plg5.0000°, Azm181.0000°; P -3.4050, Plg6.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 06:00:45.7±0.5, 32.°00S±0.°08×177.°71W±0.°10, h18km, n75, σ1§40/56, mb4.6/21, MS4.0/20, 5C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.45**	**209**	Pn	**Pn**	**06 02 21.5**	**+1.9**
URZ	**Urewera**	**7.55**	**213**	Pn	**Pn**	**06 02 32.3**	**-2.6**
	1.4nm,0.3s,baz=342,slow=3.1,SNR=9.9						
URZ				Sn	**Sn**	**06 03 59.6**	**-0.3**
	9.3nm,0.3s,baz=70,slow=2.1,SNR=9.8						
	2.3nm,0.4s						
RTZ	**Ruatahuna**	**7.90**	**212**	Pn	**Pn**	**06 02 41.7**	**+2.0**
BKZ	**Black Stump Fm**	**8.57**	**212**	Pn	**Pn**	**06 02 51.1**	**+2.3**
BFZ	**Birch Farm**	**9.94**	**208**	Pn	**Pn**	**06 03 09.1**	**+1.5**
MSVF	**Nonsavu**	**14.72**	**344**	LR	LR	06 08 20.4	
	comp=Z,854nm,18.8s,baz=179,slow=31						
DZM	**Mont Dzumac**	**17.22**	**301**	P	**P**	**06 04 47.0**	**+0.1**
DZM				IAmb	IAmb	06 05 05.5	
	comp=Z,87nm,1.4s						
DZM	**Mont Dzumac**	**17.22**	**301**	P	**P**	**06 04 46.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=158,slow=17,SNR=4.8						
DZM				LR	LR	06 09 36.9	
	comp=Z,873nm,20.3s,baz=147,slow=31						
	comp=Z,9.3nm,1.2s						
RAR	**Rarotonga**	**19.27**	**60**	P	**P**	**06 05 05.7**	**-3.7**
	comp=Z,17nm,0.8s,baz=196,slow=9.0,SNR=4.4						
RAR				LR	LR	06 11 33.5	
	comp=Z,362nm,19.1s,baz=262,slow=34						
EIDS	**Eidsvold**	**28.10**	**276**	P	**P**	**06 06 35.6**	**-1.0**
PPT	**Papeete**	**29.19**	**67**	LR	LR	06 16 30.7	
	comp=Z,336nm,18.5s,baz=250,slow=32						
STKA	**Stephens Creek**	**34.39**	**259**	P	**P**	**06 07 32.2**	**+0.3**
STKA	**Stephens Creek**	**34.39**	**259**	P	**P**	**06 07 31.9**	**0.0**
	comp=Z,1.5nm,0.4s,baz=85,slow=9.9,SNR=3.7						
STKA				LR	LR	06 21 22.5	
	comp=Z,477nm,18.1s,baz=63,slow=36						
	comp=Z,1.5nm,0.4s						
BBOO	**Buckleboo**	**38.80**	**256**	P	**P**	**06 08 08.7**	**-0.8**
COEN	**Coen**	**39.97**	**288**	P	**P**	**06 08 18.2**	**-1.2**
AS31	**Alice Springs**	**43.30**	**268**	P	**P**	**06 08 45.3**	**-1.3**
ASAR	**Alice Springs**	**43.30**	**268**	P	**P**	**06 08 45.7**	**-0.9**
ASAR	**Alice Springs**	**43.30**	**268**	P	**P**	**06 08 45.4**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=107,slow=7.1,SNR=28						
	comp=Z,1.6nm,0.4s						
WR8	**Warramunga Arr**	**44.29**	**274**	P	**P**	**06 08 53.7**	**-0.9**
WR8				IAmb	IAmb	06 09 14.3	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**44.42**	**274**	P	**P**	**06 08 54.3**	**-1.4**
WB2				IAmb	IAmb	06 09 15.4	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**44.43**	**274**	P	**P**	**06 08 54.5**	**-1.2**
	comp=Z,4.2nm,0.5s,baz=112,slow=8.0,SNR=35						
	comp=Z,4.2nm,0.5s						
WB0	**Warramunga Arr**	**44.46**	**274**	P	**P**	**06 08 54.6**	**-1.4**
WB0				IAmb	IAmb	06 09 15.6	
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**45.90**	**257**	P	**P**	**06 09 05.9**	**-1.4**
JAY	**Jayapura**	**48.87**	**298**	LR	LR	06 28 43.2	
	comp=Z,84nm,18.9s,baz=184,slow=34						
KNRA	**Kununurra**	**51.09**	**275**	P	**P**	**06 09 46.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.62**	**271**	P	**P**	**06 09 57.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**52.62**	**271**	LR	LR	06 31 14.8	
	comp=Z,276nm,19.7s,baz=120,slow=35						
NWAO	**Narrogin (SRO)**	**54.08**	**250**	LR	LR	06 29 54.3	
	comp=Z,119nm,20.8s,baz=118,slow=32						
GUMO	**Guam**	**57.80**	**316**	LR	LR	06 34 35.8	
	comp=Z,75nm,18.9s,baz=123,slow=35						
QSPA	**South Pole Qui**	**58.11**	**180**	P	**P**	**06 10 39.8**	**+1.9**
QSPA	**South Pole Qui**	**58.11**	**180**	P	**P**	**06 10 39.2**	**+1.2**
	comp=Z,3.3nm,1.0s,baz=334,slow=0.3,SNR=7.6						
	comp=Z,3.3nm,1.0s						
KAPI	**Kappang**	**64.15**	**281**	LR	LR	06 39 34.0	
	comp=Z,94nm,18.4s,baz=128,slow=36						
BELA	**Belgrano 2**	**68.17**	**172**	P	**P**	**06 11 44.4**	**+0.1**
BELA				IAmb	IAmb	06 12 09.5	
	comp=Z,5.9nm,1.1s						
SYO	**Syowa Base**	**75.62**	**193** ‖ *e*P		**P**	**06 12 27.2**	**-1.8**
SYO	**Syowa Base**	**75.62**	**193** ‖ *es*P		sP	06 12 34.2	-0.3
TROLL	**Troll, Antarti**	**76.28**	**180** ‖P		**P**	**06 12 29.8**	**-3.2**
	comp=Z,123nm,1.6s						
SNAA	**Sanae**	**76.55**	**178**	P	**P**	**06 12 34.9**	**+0.4**
SNAA				IAmb	IAmb	06 12 46.9	
	comp=Z,15nm,1.3s						
SNAA	**Sanae**	**76.55**	**178** ‖P		**P**	**06 12 33.3**	**-1.2**
	comp=Z,28nm,0.7s						
SNAA	**Sanae**	**76.55**	**178**	P	**P**	**06 12 34.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=143,slow=8.6,SNR=2.5						
	comp=Z,1.2nm,0.6s						
VNA3	**Neumayer Olymp**	**76.69**	**176** ‖P		**P**	**06 12 35.1**	**-0.1**
	comp=Z,7.5nm,0.8s						
VNA2	**Neumayer--Watz**	**77.13**	**177** ‖P		**P**	**06 12 37.3**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=183,slow=5.1						
MJAR	**Matsushiro Art**	**79.70**	**325**	P	**P**	**06 12 53.8**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=147,slow=5.4,SNR=4.7						
MJAR				LR	LR	06 41 15.0	
	comp=Z,37nm,20.5s,baz=93,slow=30						
	comp=Z,0.5nm,0.3s						
JNU	**Nakatsue**	**80.92**	**318**	LR	LR	06 43 37.4	
	comp=Z,58nm,21.9s,baz=97,slow=32						
PLCA	**Paso Flores**	**81.24**	**133**	LR	LR	06 45 54.0	
	comp=Z,54nm,18.2s,baz=204,slow=33						
LPIG	**La Paz**	**85.17**	**58**	LR	LR	06 46 50.2	
	comp=Z,150nm,18.2s,baz=258,slow=32						
KSRS	**Korea Array**	**85.73**	**320**	P	**P**	**06 13 25.1**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=141,slow=8.1,SNR=4.6						
KSRS				LR	LR	06 51 25.6	
	comp=Z,15nm,18.1s,baz=45,slow=36						
	comp=Z,0.5nm,0.3s						
PSI	**Prapat**	**85.85**	**276**	LR	LR	06 53 37.4	
	comp=Z,98nm,19.1s,baz=74,slow=37						
PFO	**Pinyon Flats O**	**87.11**	**47**	LR	LR	06 45 41.3	
	comp=Z,112nm,19.2s,baz=242,slow=31						
PETK	**Petropavlovsk-**	**87.42**	**345**	P	**P**	**06 13 33.4**	**+1.9**
	comp=Z,3.0nm,1.0s,baz=189,slow=8.8,SNR=5.2						
	comp=Z,3.0nm,1.0s						
NVAR	**Mina Array Bea**	**89.24**	**43**	P	**P**	**06 13 40.3**	**-0.4**
NVAR	**Mina Array Bea**	**89.24**	**43**	P	**P**	**06 13 40.2**	**-0.6**
	comp=Z,3.2nm,1.1s,baz=217,slow=6.8,SNR=10.0						
NVAR				LR	LR	06 50 06.9	
	comp=Z,126nm,18.2s,baz=190,slow=33						
	comp=Z,3.2nm,1.1s						
TUC	**Tucson**	**89.91**	**51**	P	**P**	**06 13 44.0**	**+0.1**
TUC				IAmb	IAmb	06 13 47.5	
	comp=Z,9.8nm,1.4s						
PRN	**Pahroc Range**	**90.47**	**45**	IAmb	IAmb	06 13 49.4	
	comp=Z,9.0nm,1.1s						
X16A	**Lo Mia Camp, P**	**90.80**	**49**	IAmb	IAmb	06 13 50.9	
	comp=Z,7.4nm,1.3s						
U15A	**North Rim**	**91.53**	**47**	P	**P**	**06 13 52.8**	**+1.3**
WUAZ	**Wupatki**	**91.53**	**48**	P	**P**	**06 13 52.4**	**+0.9**
WUAZ				IAmb	IAmb	06 13 54.8	
	comp=Z,3.9nm,1.0s						
ELK	**Elko**	**92.55**	**42**	LR	LR	06 52 46.6	
	comp=Z,129nm,18.2s,baz=44,slow=34						
CMIG	**Matias Romero**	**93.01**	**72**	LR	LR	06 48 43.0	
	comp=Z,62nm,18.1s,baz=191,slow=31						
TXAR	**Lajitas Array**	**93.04**	**57**	P	**P**	**06 13 59.2**	**+0.8**
	comp=Z,1.2nm,1.2s,baz=204,slow=5.5,SNR=5.2						
	comp=Z,1.2nm,1.2s						
CMAR	**Chiang Mai Arr**	**94.16**	**289**	P	**P**	**06 14 04.0**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=136,slow=3.1,SNR=5.2						
	comp=Z,1.3nm,0.3s						
LPAZ	**La Paz**	**97.26**	**114**	LR	LR	06 50 43.6	
	comp=Z,41nm,19.2s,baz=220,slow=31						
JTS	**Las Juntas de**	**97.69**	**83**	LR	LR	06 50 31.0	
	comp=Z,95nm,19.0s,baz=98,slow=31						
CPUP	**Villa Florida**	**98.80**	**128**	LR	LR	06 53 29.9	
	comp=Z,34nm,18.1s,baz=210,slow=32						
MKAR	**Makanchi Array**	**118.99**	**309**	PKP	**PKiKP**	**06 19 33.6**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=146,slow=2.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**122.36**	**313**	PKP	**PKiKP**	**06 19 39.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=111,slow=2.1,SNR=5.0						
KBZ	**Khabaz**	**146.19**	**302**	PKPbc	**PKPbc**	**06 20 24.4**	**-0.4**
	comp=Z,6.3nm,1.1s,baz=67,slow=3.6,SNR=7.7						
OBN	**Obninsk**	**146.62**	**324**	PKPbc	**PKPbc**	**06 20 25.0**	**-0.5**
	comp=Z,14nm,0.4s,baz=240,slow=6.6,SNR=3.9						
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	**PKPab**	**06 20 26.8**	**-0.1**
	comp=Z,6.3nm,0.6s,baz=358,slow=5.7,SNR=4.4						
MMAI	**Mount Meron Ar**	**152.12**	**281**	PKPbc	**PKiKP**	**06 20 41.6**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=46,slow=4.2,SNR=4.0						
AKASG	**Malin Array Be**	**152.71**	**321**	PKPbc	**PKiKP**	**06 20 41.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=56,slow=1.8,SNR=5.0						
BRTR	**Keskin Array B**	**153.55**	**296**	PKPbc	**PKiKP**	**06 20 45.9**	**+2.5**
	comp=Z,1.6nm,0.9s,baz=65,slow=8.3,SNR=3.9						
DBIC	**Dimbokro**	**153.93**	**164**	PKPab	**PKPab**	**06 20 56.3**	**-1.4**
	comp=Z,6.1nm,1.1s,baz=188,slow=3.8,SNR=3.1						
VRAC	**Vranov**	**159.65**	**332**	PKPab	**PKPab**	**06 21 21.9**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=289,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**161.10**	**336**	PKPab	**PKPab**	**06 21 28.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=2.6,slow=5.9,SNR=3.5						
DAVOX	**Davos/Dischmat**	**164.13**	**341**	PKPab	**PKPab**	**06 21 43.8**	**+2.5**
	comp=Z,2.1nm,0.7s,baz=331,slow=8.8,SNR=3.9						

IDC 26 06:07:56.4±3.2, 31.°83S×178.°76W, h0km, mb3.8/2, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=70.3km s-min=37.3km az=108.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.25**	**207**	Pn	Pn	06 09 43.2	-0.5
	0.2nm,0.3s,baz=32,slow=15,SNR=1.6						
URZ				Sn	Sn	06 11 08.6	+1.9
	3.3nm,0.3s,baz=239,slow=20,SNR=13						
	7.5nm,0.9s						
ASAR	**Alice Springs**	**42.40**	**269**	P	P	06 15 52.6	-0.3
	0.9nm,0.6s,baz=108,slow=7.1,SNR=10						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**43.52**	**274**	P	P	06 16 02.0	0.0
	0.9nm,0.5s,baz=114,slow=7.8,SNR=8.1						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**146.25**	**339**	PKPbc	PKPdf	06 27 37.3	+0.4
	1.1nm,0.6s,baz=36,slow=5.2,SNR=3.9						

*SNET **26** 06:14:30.6±1.3, 12.°04N×87.°66W, h20km±442km, ML3.1*
*UCR **26** 06:14:30.8±1.9, 12.°06N×87.°64W, h0km±13km, MW4.0*
*CATAC **26** 06:14:30.7±0.4, 12.°8N±2.°×8.°8W±.°, h9km±2km, M3.5/30, MLv3.5/30, Error ellipse: s-maj=4.5km s-min=1.7km az=26.0, confirmed*
ISC 26 06:14:29.2±1.4, 12.°02N±0.°04×87.°79W±0.°03, h3km±10km, n128, σ0§80/140, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.98**	**13**	P	**Pb**	**06 14 49.1**	**+0.4**
CSGN				S	**Sb**	**06 15 02.2**	**+0.1**
CSGN	**Cosiguina Volc**	**0.98**	**13**	P	**Pb**	**06 14 49.2**	**+0.4**
CSGN	**Cosiguina Volc**	**0.98**	**13** ‖ *e*P		**Pb**	**06 14 48.9**	**+0.1**
CRIN	**San Cristobal**	**0.99**	**47**	S	**Sb**	**06 15 03.4**	**+0.9**
CRIN	**San Cristobal**	**0.99**	**47**	P	**Pn**	**06 14 49.8**	**-0.

ALJI	**Alcalda de J**	**1.51**	**330**	P	**Pn**	**06 14 57.1**	**0.0**
MGAN	**Managua**	**1.51**	**85**	S	**Sb**	**06 15 17.4**	**0.0**
MGAN	**Managua**	**1.51**	**85**	P	**Pn**	**06 14 57.0**	**-0.1**
MGAN	**Managua**	**1.51**	**85**	P	**Pn**	**06 14 53.3**	**-3.8**
MGAN	**Managua**	**1.51**	**85**	*e*P	**Pn**	**06 14 56.5**	**-0.6**
MAFN	**Magfor**	**1.51**	**87**	S	**Sg**	**06 15 17.9**	**0.0**
PACA	**Pacayal**	**1.53**	**340**	*e*P	**Pn**	**06 14 56.9**	**-0.7**
PACA	**Pacayal**	**1.53**	**340**	P	**Pn**	**06 14 57.3**	**-0.3**
PACA	**Pacayal**	**1.53**	**340**	P	Pn	06 14 51.5	-6.1
MAS3	**Al N del Volca**	**1.57**	**90**	P	**Pn**	**06 14 58.1**	**+0.1**
MAS3				S	**Sn**	**06 15 19.0**	**0.0**
MAS3	**Al N del Volca**	**1.57**	**90**	P	**Pn**	**06 14 58.2**	**+0.1**
AERN	**Aeropuerto Man**	**1.59**	**85**	S	**Sb**	**06 15 19.7**	**+0.1**
TECA	**Tecapa**	**1.62**	**335**	*e*P	**Pn**	**06 14 58.6**	**-0.2**
TECA				*e*P	**Pb**	**06 14 59.1**	**-0.8**
TECA				IAML		06 15 26.3	
	comp=Z,133nnm,0.4s						
NANN	**Nandasmo**	**1.63**	**93**	S	**Sg**	**06 15 21.5**	**-0.1**
NANN	**Nandasmo**	**1.63**	**93**	P	**Pb**	**06 14 59.6**	**-0.3**
NANN	**Nandasmo**	**1.63**	**93**	P	**Pg**	**06 15 01.0**	**+0.5**
LIMN	**Finca el Limon**	**1.73**	**53**	P	**Pn**	**06 14 59.8**	**-0.5**
LIMN	**Finca el Limon**	**1.73**	**53**	P	**Pn**	**06 14 59.8**	**-0.5**
NADN	**Granada**	**1.74**	**99**	*e*P	**Pn**	**06 14 59.7**	**-0.5**
PQSS	**Presa 15 de Se**	**1.77**	**335**	*e*P	**Pn**	**06 15 01.1**	**+0.5**
PQSS	**Presa 15 de Se**	**1.77**	**335**	P	**Pn**	**06 15 01.0**	**+0.4**
PQSS	**Presa 15 de Se**	**1.77**	**335**	S	**Sn**	**06 15 22.9**	**-0.8**
PQSS	**Presa 15 de Se**	**1.77**	**335**	P	**Pn**	**06 15 01.2**	**+0.5**
TECO	**Alcaldia de Te**	**1.79**	**327**	S	**Sn**	**06 15 23.5**	**-0.9**
UESV	**Universidad de**	**1.88**	**329**	P	**Pn**	**06 15 02.9**	**+0.6**
UESV	**Universidad de**	**1.88**	**329**	S	**Sn**	**06 15 25.9**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.91**	**331**	*e*P	**Pn**	**06 15 03.0**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.91**	**331**	P	**Pn**	**06 15 03.2**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.91**	**331**	S	**Sn**	**06 15 27.1**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.91**	**331**	P	**Pn**	**06 15 03.0**	**+0.4**
COEG	**Centro de Oper**	**1.92**	**326**	*e*P	**Pn**	**06 15 03.5**	**+0.7**
COEG				IAML		06 15 35.7	
	comp=Z,158nnm,0.5s						
COEG	**Centro de Oper**	**1.92**	**326**	S	**Sn**	**06 15 26.7**	**-0.7**
COEG	**Centro de Oper**	**1.92**	**326**	P	**Pn**	**06 15 03.1**	**+0.4**
COEG	**Centro de Oper**	**1.92**	**326**	P	**Pb**	**06 15 04.1**	**-0.8**
PAVA	**Las Pavas**	**2.02**	**326**	S	**Sn**	**06 15 30.1**	**-0.1**
PAVA	**Las Pavas**	**2.02**	**326**	P	**Pn**	**06 15 04.8**	**+0.5**
MATN	**Matagalpa**	**2.03**	**63**	S	**Sb**	**06 15 31.5**	**-1.0**
MATN	**Matagalpa**	**2.03**	**63**	P	**Pn**	**06 15 04.1**	**-0.2**
MATN	**Matagalpa**	**2.03**	**63**	P	**Pn**	**06 15 04.0**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.09**	**14**	P	**Pn**	**06 15 05.5**	**+0.4**
TGUH				S	**Sn**	**06 15 31.3**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.09**	**14**	P	**Pn**	**06 15 05.4**	**+0.2**
LOMA	**Loma Larga**	**2.11**	**320**	S	**Sn**	**06 15 31.9**	**-0.4**
LOMA	**Loma Larga**	**2.11**	**320**	P	**Pn**	**06 15 05.8**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.12**	**78**	P	**Pn**	**06 15 06.6**	**+1.2**
BOAB	**BOACO BROADBAN**	**2.12**	**78**	S	**Sb**	**06 15 34.1**	**-0.7**
BOAB	**BOACO BROADBAN**	**2.12**	**78**	P	**Pn**	**06 15 06.3**	**+0.8**
JAPN	**AI SSO del Vol**	**2.12**	**103**	P	**Pb**	**06 15 07.5**	**-0.7**
UDBS	**Universidad Do**	**2.15**	**322**	S	**Sn**	**06 15 33.7**	**+0.4**
RCVN	**Varillal2**	**2.20**	**45**	S	**Sn**	**06 15 34.6**	**+0.1**
RCVN	**Varillal2**	**2.20**	**45**	P	**Pn**	**06 15 06.9**	**+0.2**
RCVN	**Varillal2**	**2.20**	**45**	P	**Pn**	**06 15 06.9**	**+0.2**
UEES	**Universidad Ev**	**2.20**	**320**	S	**Sn**	**06 15 34.9**	**+0.3**
RCPN	**Sur Rio San Ju**	**2.23**	**48**	S	**Sn**	**06 15 36.3**	**+1.1**
RCPN	**Sur Rio San Ju**	**2.23**	**48**	P	**Pn**	**06 15 07.4**	**+0.3**
PMON	**Piamonte**	**2.25**	**319**	S	**Sn**	**06 15 35.3**	**-0.4**
PMON	**Piamonte**	**2.25**	**319**	P	**Pn**	**06 15 08.2**	**+0.8**
JAYA	**Jayaque - finc**	**2.30**	**315**	S	**Sn**	**06 15 37.0**	**0.0**
JAYA	**Jayaque - finc**	**2.30**	**315**	P	**Pn**	**06 15 08.5**	**+0.5**
LCRUZ	**La Cruz**	**2.31**	**114**	*e*P	**Pn**	**06 15 09.7**	**+1.5**
CARN	**Rivas**	**2.37**	**110**	S	**Sb**	**06 15 41.3**	**-0.8**
LLGN	**La Laguna**	**2.41**	**332**	S	**Sn**	**06 15 40.4**	**+0.7**
NUBE	**Las Nubes**	**2.70**	**314**	P	**Pn**	**06 15 14.4**	**+0.8**
NUBE	**Las Nubes**	**2.70**	**314**	P	**Pn**	**06 15 14.5**	**+0.8**
COLC	**Colonia**	**2.87**	**118**	*e*P	**Pb**	**06 15 20.0**	**-1.1**
VMAR	**Armenia, Volca**	**2.88**	**114**	*e*P	**Pb**	**06 15 19.1**	**-2.2**
NICO	**Nicoya**	**2.96**	**129**	*e*P	**Pn**	**06 15 17.4**	**+0.2**
NYURE	**Nandayure**	**3.20**	**129**	*e*P	**Pn**	**06 15 21.5**	**+1.2**
ARE1	**Arenal 1**	**3.38**	**117**	*e*P	**Pb**	**06 15 27.6**	**-2.2**
VARE2	**V. Arenal**	**3.38**	**117**	*e*P	**Pb**	**06 15 27.9**	**-2.0**
PICV	**PH. Pirrs**	**4.25**	**124**	*e*P	**Pn**	**06 15 36.9**	**+1.9**
PISJ	**San Jernim**	**4.31**	**123**	*e*P	**Pn**	**06 15 37.8**	**+2.0**
ABE2	**San Pablo**	**4.33**	**122**	*e*P	**Pn**	**06 15 39.2**	**+3.0**
VICA	**Volcano Irazu**	**4.37**	**117**	*e*P	Pn	06 15 41.8	+5.0
DRK0	**Durika**	**5.24**	**121**	*e*P	**Pn**	**06 15 49.6**	**+1.0**
EDP2	**Potrero Grande**	**5.43**	**123**	*e*P	**Pn**	**06 15 52.2**	**+1.2**

NAO ***26*** *06:16:21.8±1.5, 60°.25N×14°.24E, h2km±8km, ML3.0*
UPP ***26*** *06:16:23.2±0.2, 60°.14N×14°.23E, h8km±2km, ML3.2, Confirmed Earthquake*
IDC ***26*** *06:16:23.0±0.7, 60°.39N×13°.88E, h0km, mbtmp3.8/3, ML3.6/3, Error ellipse: s-maj=7.7km s-min=4.6km az=108.0*
DNK ***26*** *06:16:23.2±2.2, 60°.16N×14°.18E, h12km±8km, ML3.1, Confirmed Earthquake*
HEL ***26*** *06:16:24.2, 60°.22N×14°.25E, h10km, ML3.0, ML3.2(UPP), Confirmed Earthquake*
BER ***26*** *06:16:26.2±4.4, 60°.09N×14°.17E, h15km±7km, ML2.7, ML3.2(UPP), Confirmed Earthquake*

ISC 26 06:16:22.8±0.8, 60°.16N±0°.02×14°.21E±0°.01, h16km±6km, n194, σ1$89/332, 16C-20D, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HFS	**Hagfors**	**0.26**	**265**		Pg	**Pg**	**06 16 28.4**	**0.0**
	baz=88,slow=18							
HFS					Sg	**Sg**	**06 16 32.1**	**-0.2**
	baz=90,slow=37							
HFS	**Hagfors**	**0.26**	**265**		Pg	**Pg**	**06 16 28.4**	**0.0**
	baz=88,slow=18							
HFS					Lg	Lg	06 16 32.1	
	baz=90,slow=37							
HFS	**Hagfors**	**0.26**	**265**		Pg	**Pg**	**06 16 28.1**	**-0.3**
	252nm,0.3s,baz=87,slow=18,SNR=2033							
HFS					Lg	Lg	06 16 31.7	
	485nm,0.3s,baz=89,slow=33,SNR=152							
HFS	**Hagfors**	**0.26**	**265**	*i* P		**Pg**	**06 16 28.4**	**0.0**
HFS				*i* S		**Sg**	**06 16 32.1**	**-0.2**
UDD	**Uddeholm**	**0.31**	**258**	⇑P		**Pg**	**06 16 29.2**	**-0.1**
UDD				S		**Sg**	**06 16 33.5**	**-0.2**
UDD	**Uddeholm**	**0.31**	**258**	⇑P		**Pg**	**06 16 29.2**	**-0.1**
UDD				S		**Sg**	**06 16 33.5**	**-0.2**
UDD	**Uddeholm**	**0.31**	**258**	⇑P		**Pg**	**06 16 29.2**	**-0.1**
UDD				S		**Sg**	**06 16 33.5**	**-0.2**
UDD	**Uddeholm**	**0.31**	**258**	⇑*i*P		**Pg**	**06 16 29.2**	**-0.1**
UDD				*i* S		**Sg**	**06 16 33.5**	**-0.2**
NRAU	**Nora**	**0.72**	**144**	⇓P		**Pg**	**06 16 36.3**	**-0.6**
NRAU				S		**Sg**	**06 16 45.5**	**-0.9**
NRAU	**Nora**	**0.72**	**144**	⇓P		**Pg**	**06 16 36.3**	**-0.6**
NRAU				S		**Sg**	**06 16 45.5**	**-0.9**
NRAU	**Nora**	**0.72**	**144**	⇓P		**Pg**	**06 16 36.3**	**-0.6**
NRAU				S		**Sg**	**06 16 45.5**	**-0.9**
NRAU	**Nora**	**0.72**	**144**	⇓*i*P		**Pg**	**06 16 36.3**	**-0.6**
NRAU				*i* S		**Sg**	**06 16 45.5**	**-0.9**
ASKU	**Askersund**	**1.30**	**166**	⇓P		**Pn**	**06 16 46.8**	**+0.4**
ASKU				S		**Sn**	**06 17 03.7**	**+0.3**
ASKU	**Askersund**	**1.30**	**166**	⇓P		**Pn**	**06 16 46.8**	**+0.4**
ASKU				S		**Sn**	**06 17 03.7**	**+0.3**
ASKU	**Askersund**	**1.30**	**166**	⇓P		**Pn**	**06 16 46.8**	**+0.4**
ASKU				S		**Sn**	**06 17 03.7**	**+0.3**
ASKU	**Askersund**	**1.30**	**166**	⇓*e*P		**Pn**	**06 16 46.8**	**+0.4**
ASKU				*e*S		**Sn**	**06 17 03.7**	**+0.3**
ESKU	**Eskilstuna**	**1.45**	**129**	⇓P		**Pb**	**06 16 49.1**	**-0.2**
ESKU				S		**Sn**	**06 17 07.2**	**+0.3**
ESKU	**Eskilstuna**	**1.45**	**129**	⇓P		**Pb**	**06 16 49.1**	**-0.2**
ESKU				S		**Sn**	**06 17 07.2**	**+0.3**
ESKU	**Eskilstuna**	**1.45**	**129**	⇓P		**Pb**	**06 16 49.1**	**-0.2**
ESKU				S		**Sn**	**06 17 07.2**	**+0.3**
ESKU	**Eskilstuna**	**1.45**	**129**	⇓*e*P		**Pb**	**06 16 49.1**	**-0.2**
ESKU				*e*S		**Sn**	**06 17 07.2**	**+0.3**
NRA0	**NORESS Array S**	**1.45**	**295**	Pn		**Pb**	**06 16 49.2**	**-0.2**
	baz=105,slow=18							
NRA0				Sg		**Sb**	**06 17 08.0**	**+0.5**
	baz=110,slow=37							
NRA0	**NORESS Array S**	**1.45**	**295**	Pn		**Pb**	**06 16 49.2**	**-0.2**
	baz=105,slow=18							
NRA0				Lg		Lg	06 17 08.0	
	baz=110,slow=37							
NRA0	**NORESS Array S**	**1.45**	**295**	*e*PN		**Pb**	**06 16 49.2**	**-0.2**
NRA0				*e*SG		**Sb**	**06 17 08.0**	**+0.5**
BACU	**Backbrunna**	**1.49**	**101**	⇓P		**Pb**	**06 16 49.7**	**-0.4**
BACU				S		**Sn**	**06 17 08.3**	**+0.4**
BACU	**Backbrunna**	**1.49**	**101**	⇓P		**Pb**	**06 16 49.7**	**-0.4**
BACU				S		**Sn**	**06 17 08.3**	**+0.4**
BACU	**Backbrunna**	**1.49**	**101**	⇓*e*P		**Pb**	**06 16 49.7**	**-0.4**
BACU				*e*S		**Sn**	**06 17 08.3**	**+0.4**
NC6	**NORSAR Subarra**	**1.49**	**295**	Pn		**Pb**	**06 16 49.9**	**-0.2**
NC6				Sg		**Sb**	**06 17 09.4**	**+0.7**
NC6	**NORSAR Subarra**	**1.49**	**295**	Pn		**Pb**	**06 16 49.9**	**-0.2**
NC6				Lg		Lg	06 17 09.4	
NC6	**NORSAR Subarra**	**1.49**	**295**	*e*PN		**Pb**	**06 16 49.9**	**-0.2**
NC6				*e*SN		**Sb**	**06 17 09.4**	**+0.7**
NC4	**NORSAR Subarra**	**1.54**	**308**	Pn		**Pb**	**06 16 50.8**	**-0.1**
NC4				Sg		**Sb**	**06 17 10.8**	**+0.6**
NC4	**NORSAR Subarra**	**1.54**	**308**	Pn		**Pb**	**06 16 50.8**	**-0.1**
NC4				Lg		Lg	06 17 10.8	
NC4	**NORSAR Subarra**	**1.54**	**308**	*e*PN		**Pb**	**06 16 50.8**	**-0.1**
NC4				*e*SN		**Sb**	**06 17 10.8**	**+0.6**
IGGU	**Iggoen**	**1.70**	**64**	⇑P		**Pb**	**06 16 53.1**	**-0.5**
IGGU				S		**Sb**	**06 17 14.7**	**0.0**
IGGU	**Iggoen**	**1.70**	**64**	⇑P		**Pb**	**06 16 53.1**	**-0.5**
IGGU				S		**Sb**	**06 17 14.7**	**0.0**
IGGU	**Iggoen**	**1.70**	**64**	⇑P		**Pb**	**06 16 53.1**	**-0.5**
IGGU				S		**Sb**	**06 17 14.7**	**0.0**
IGGU	**Iggoen**	**1.70**	**64**	⇑*e*P		**Pb**	**06 16 53.1**	**-0.5**
IGGU				*e*S		**Sb**	**06 17 14.7**	**0.0**
NB2	**NORSAR Subarra**	**1.72**	**302**	Pn		**Pb**	**06 16 53.9**	**-0.2**
	baz=124,slow=16							
NB2				Sg		**Sb**	**06 17 16.6**	**+1.1**
	baz=119,slow=37							
NB2	**NORSAR Subarra**	**1.72**	**302**	Pn		**Pb**	**06 16 53.9**	**-0.2**
	baz=124,slow=16							
NB2				Lg		Lg	06 17 16.6	
	baz=119,slow=37							
NB2	**NORSAR Subarra**	**1.72**	**302**	*e*PN		**Pb**	**06 16 53.9**	**-0.2**
NB2				*e*SG		**Sb**	**06 17 16.6**	**+1.1**
NOA	**NORSAR Array B**	**1.72**	**302**	Pn		**Pn**	**06 16 48.9**	**-3.3**
	1.6nm,0.3s,baz=254,slow=15,SNR=225							
NOA				Lg		Lg	06 17 09.5	
	2.6nm,0.3s,baz=63,slow=21,SNR=3.6							
UPP	**Uppsala**	**1.74**	**98**	P		**Pb**	**06 16 54.0**	**-0.4**
UPP	**Uppsala**	**1.74**	**98**	P		**Pb**	**06 16 54.0**	**-0.4**
UPP	**Uppsala**	**1.74**	**98**	P		**Pb**	**06 16 54.0**	**-0.4**
UPP	**Uppsala**	**1.74**	**98**	*e*P		**Pb**	**06 16 54.0**	**-0.4**
OSL	**Oslo**	**1.76**	**264**	*e*P		**Pb**	**06 16 54.4**	**-0.3**
OSL				*e*S		**Sb**	**06 17 18.0**	**+1.4**
OSL				IAML			06 17 20.3	
	comp=Z,232nm,0.4s							
OSL	**Oslo**	**1.76**	**264**	*e*P		**Pb**	**06 16 54.4**	**-0.3**
OSL				*e*S		**Sb**	**06 17 18.0**	**+1.4**
OSL				IAML			06 17 20.3	
	comp=Z,232nm,0.4s							
NC3	**NORSAR Subarra**	**1.77**	**310**	Pn		**Pb**	**06 16 54.6**	**-0.2**
NC3				Sg		**Sb**	**06 17 18.2**	**+1.4**
NC3	**NORSAR Subarra**	**1.77**	**310**	Pn		**Pb**	**06 16 54.6**	**-0.2**
NC3				Lg		Lg	06 17 18.2	
NC3	**NORSAR Subarra**	**1.77**	**310**	*e*PB		**Pb**	**06 16 54.6**	**-0.2**
NC3				*e*SG		**Sb**	**06 17 18.2**	**+1.4**
NAO01	**NORSAR Array S**	**1.78**	**294**	*e*P		**Pb**	**06 16 54.3**	**-0.9**
NAO01				*e*SG		**Sb**	**06 17 18.5**	**+1.3**
NAO	**NORSAR Subarra**	**1.80**	**293**	Pn		**Pb**	**06 16 54.6**	**-0.8**
NAO				Sg		**Sb**	**06 17 18.8**	**+1.0**
NAO	**NORSAR Subarra**	**1.80**	**293**	Pn		**Pb**	**06 16 54.6**	**-0.8**
NAO				Lg		Lg	06 17 18.8	
FLYU	**Flymyra**	**1.84**	**89**	P		**Pb**	**06 16 55.5**	**-0.5**
FLYU				S		**Sb**	**06 17 18.9**	**+0.1**
FLYU	**Flymyra**	**1.84**	**89**	P		**Pb**	**06 16 55.5**	**-0.5**
FLYU				S		**Sb**	**06 17 18.9**	**+0.1**
FLYU	**Flymyra**	**1.84**	**89**	P		**Pb**	**06 16 55.5**	**-0.5**
FLYU				S		**Sb**	**06 17 18.9**	**+0.1**
FLYU	**Flymyra**	**1.84**	**89**	*e*P		**Pb**	**06 16 55.5**	**-0.5**
FLYU				*e*S		**Sb**	**06 17 18.9**	**+0.1**
NBO	**NORSAR Subarra**	**1.91**	**299**	Pn		**Pn**	**06 16 56.0**	**+1.3**
NBO				Sg		**Sg**	**06 17 22.5**	**-1.6**
NBO	**NORSAR Subarra**	**1.91**	**299**	Pn		**Pn**	**06 16 56.0**	**+1.3**
NBO				Lg		Lg	06 17 22.5	
NBO	**NORSAR Subarra**	**1.91**	**299**	*e*P		**Pn**	**06 16 56.0**	**+1.3**
NBO				*e*SG		**Sg**	**06 17 22.5**	**-1.6**
NBO00	**NORSAR Array S**	**1.91**	**299**	*e*P		**Pn**	**06 16 56.0**	**+1.3**
NBO00				*e*S		**Sb**	**06 17 22.4**	**+1.5**
NBO00				IAML			06 17 25.1	
	comp=Z,156nm,0.4s							
STRU	**Stroemstad**	**1.91**	**235**	⇑P		**Pn**	**06 16 55.5**	**+0.9**
STRU				S		**Sb**	**06 17 21.8**	**+1.1**
STRU	**Stroemstad**	**1.91**	**235**	⇑P		**Pn**	**06 16 55.5**	**+0.9**
STRU				S		**Sb**	**06 17 21.8**	**+1.1**
STRU	**Stroemstad**	**1.91**	**235**	*i* P		**Pn**	**06 16 54.7**	**0.0**
STRU				⇑P		**Pn**	**06 16 55.5**	**+0.9**
STRU				S		**Sb**	**06 17 21.8**	**+1.1**
STRU	**Stroemstad**	**1.91**	**235**	⇑*e*P		**Pn**	**06 16 55.5**	**+0.9**
STRU				*e*S		**Sb**	**06 17 21.8**	**+1.1**
FORU	**Forsmark**	**1.99**	**82**	P		**Pb**	**06 16 57.8**	**-0.8**
FORU	**Forsmark**	**1.99**	**82**	P		**Pb**	**06 16 57.8**	**-0.8**
FORU	**Forsmark**	**1.99**	**82**	P		**Pb**	**06 16 57.8**	**-0.8**
FORU	**Forsmark**	**1.99**	**82**	*e*P		**Pb**	**06 16 57.8**	**-0.8**
VANU	**Vaenersborg**	**2.00**	**214**	⇑P		**Pn**	**06 16 57.0**	**+1.2**
VANU	**Vaenersborg**	**2.00**	**214**	⇑P		**Pn**	**06 16 57.0**	**+1.2**
VANU	**Vaenersborg**	**2.00**	**214**	⇑P		**Pn**	**06 16 57.0**	**+1.2**
VANU	**Vaenersborg**	**2.00**	**214**	⇑*e*P		**Pn**	**06 16 57.0**	**+1.2**
NC2	**NORSAR Subarra**	**2.01**	**306**	Pn		**Pb**	**06 16 57.9**	**-1.1**
NC2				Sg		**Sb**	**06 17 24.7**	**+1.0**
NC2	**NORSAR Subarra**	**2.01**	**306**	Pn		**Pb**	**06 16 57.9**	**-1.1**
NC2				Lg		Lg	06 17 24.7	
NC2	**NORSAR Subarra**	**2.01**	**306**	*e*PB		**Pb**	**06 16 57.9**	**-1.1**
NC2				*e*SG		**Sb**	**06 17 24.7**	**+1.0**
LNKU	**Linkoeping**	**2.05**	**160**	⇓P		**Pb**	**06 16 58.9**	**-0.7**
LNKU	**Linkoeping**	**2.05**	**160**	⇓P		**Pb**	**06 16 58.9**	**-0.7**
LNKU	**Linkoeping**	**2.05**	**160**	⇓P		**Pb**	**06 16 58.9**	**-0.7**
LNKU	**Linkoeping**	**2.05**	**160**	⇓*e*P		**Pb**	**06 16 58.9**	**-0.7**
ARNU	**Arnoeviken**	**2.18**	**44**	*e*P		**Pb**	**06 17 00.7**	**-1.3**
ARNU				*e*SB		**Sb**	**06 17 27.9**	**-0.8**
ARNU				*e*SG		**Sn**	**06 17 28.7**	**+3.6**
ARNU				MSG			06 17 32.8	
	comp=Z,74nm,0.2s							
ARNU	**Arnoeviken**	**2.18**	**44**	*e*P		**Pb**	**06 17 00.7**	**-1.3**
ARNU				*e*S		**Sb**	**06 17 27.9**	**-0.8**
ARNU				*e*SB		**Sn**	**06 17 28.7**	**+3.6**
ARNU				MSG			06 17 32.8	
	comp=Z,74nm,0.2s							
NRTU	**Norrtaelje**	**2.28**	**100**	*e*P		**Pb**	**06 17 01.8**	**-1.7**
NRTU				MSG			06 17 33.4	
	comp=Z,108nm,0.1s							
NRTU	**Norrtaelje**	**2.28**	**100**	*e*P		**Pb**	**06 17 01.8**	**-1.7**
NRTU				*e*SB		**Sb**	**06 17 31.6**	**+0.2**
NRTU				MSG			06 17 33.4	
	comp=Z,108nm,0.1s							
KON	**Kongsberg**	**2.38**	**260**	Pn		**Pn**	**06 17 01.1**	**0.0**
KON				Pg		**Pb**	**06 17 05.2**	**0.0**
KON				Lg		Lg	06 17 36.6	
KONO	**Kongsberg**	**2.38**	**260**	*e*P		**Pn**	**06 17 01.1**	**0.0**
KONO				*e*Pg		**Pb**	**06 17 05.0**	**-0.2**
KONO				*e*Sg		**Sb**	**06 17 36.4**	**+2.0**
KONO				IAML			06 17 39.6	
	comp=Z,100nm,0.3s							
KONO	**Kongsberg**	**2.38**	**260**	*e*P		**Pn**	**06 17 01.1**	**0.0**
KONO				*e*PG		**Pb**	**06 17 05.0**	**-0.2**
KONO				*e*SG		**Sb**	**06 17 36.4**	**+2.0**
KONO				IAML			06 17 39.6	
	comp=Z,100nm,0.3s							
TJOU	**Tjoern**	**2.51**	**213**	*i* P		**Pn**	**06 17 03.0**	**+0.1**
BORU	**Boraas**	**2.64**	**197**	*e*P		**Pn**	**06 17 06.0**	**+1.4**
SKAR	**Skarslia**	**2.98**	**283**	*e*P		**Pn**	**06 17 10.9**	**+1.4**
SKAR				*e*Pg		**Pb**	**06 17 16.1**	**+0.6**
SKAR				*e*S		**Sn**	**06 17 46.3**	**+1.6**
SKAR				*e*Sg		**Sb**	**06 17 55.0**	**+3.4**
SKAR				IAML			06 17 56.8	
	comp=Z,114nm,0.5s							
ONAU	**Onsala**	**3.01**	**204**	*e*P		**Pn**	**06 17 10.8**	**+1.0**
DOMB	**Dombas**	**3.13**	**309**	*e*P		**Pn**	**06 17 12.9**	**+1.3**
DOMB				*e*S		**Sn**	**06 17 49.9**	**+1.3**
DOMB				*e*			06 17 57.2	
DOMB				IAML			06 18 00.5	
	comp=Z,83nm,0.3s							
DOMB	**Dombas**	**3.13**	**309**	*e*P		**Pn**	**06 17 12.9**	**+1.3**
DOMB				*e*S		**Sn**	**06 17 49.9**	**+1.3**
DOMB				*e*SB		**Sb**	**06 17 57.2**	**+1.1**
DOMB				IAML			06 18 00.5	
	comp=Z,83nm,0.3s							
GOTU	**Gotland**	**3.35**	**136**	*e*P		**Pn**	**06 17 17.6**	**+3.1**
GOTU				*e*SB		**Sb**	**06 18 03.8**	**+1.5**
GOTU				MSG			06 18 08.7	
	comp=Z,46nm,0.2s							
GOTU	**Gotland**	**3.35**	**136**	*e*P		**Pn**	**06 17 17.6**	**+3.1**
GOTU				*e*SB		**Sb**	**06 18 03.8**	**+1.5**
GOTU				MSG			06 18 08.7	
	comp=Z,46nm,0.2s							
HOMB	**Homborsund**	**3.49**	**240**	*e*P		**Pn**	**06 17 16.4**	**0.0**
HOMB				*e*Pg		**Pb**	**06 17 23.9**	**-0.2**
HOMB				*e*S		**Sn**	**06 17 55.3**	**-2.0**
HOMB				*e*Sg		**Sb**	**06 18 09.1**	**+2.8**
HOMB				IAML			06 18 14.9	
	comp=Z,32nm,0.2s							
HOMB	**Homborsund**	**3.49**	**240**	Pn		**Pn**	**06 17 16.3**	**0.0**
HOMB				Sn		**Sn**	**06 17 55.4**	**-1.9**
HOMB	**Homborsund**	**3.49**	**240**	*i* P		**Pn**	**06 17 16.0**	**-0.4**
HOMB	**Homborsund**	**3.49**	**240**	*e*P		**Pn**	**06 17 16.4**	**0.0**
HOMB				*e*PG		**Pb**	**06 17 23.9**	**-0.2**
HOMB				*e*S		**Sn**	**06 17 55.3**	**-2.0**
HOMB				*e*SG		**Sb**	**06 18 09.1**	**+2.8**
HOMB				IAML			06 18 14.9	
	comp=Z,32nm,0.2s							
DEL	**Delary**	**3.70**	**183**	*e*P		**Pn**	**06 17 23.1**	**+3.8**
DEL				*i*			06 17 29.5	
DEL				*i* S		**Sb**	**06 18 15.6**	**+3.2**
DEL				IAML			06 18 21.1	
	comp=Z,21nm,0.4s							
ODD1	**Odda**	**3.81**	**270**	*e*P		**Pn**	**06 17 21.7**	**+0.8**
ODD1				*e*S		**Sn**	**06 18 04.2**	**-1.2**
ODD1				IAML			06 18 24.9	
	comp=Z,55nm,0.5s							
ODD1	**Odda**	**3.81**	**270**	Pn		**Pn**	**06 17 21.9**	**+1.0**
ODD1				Sn		**Sn**	**06 18 04.6**	**-0.7**
ODD1	**Odda**	**3.81**	**270**	*e*P		**Pn**	**06 17 21.7**	**+0.8**
ODD1				*e*S		**Sn**	**06 18 04.2**	**-1.2**
ODD1				IAML			06 18 24.9	
	comp=Z,55nm,0.5s							
RAF	**Rauma**	**3.83**	**74**	*e*P		**Pn**	**06 17 22.6**	**+1.6**
RAF				*e*S		**Sn**	**06 18 06.8**	**+1.3**
RAF				*e*SG		**Sb**	**06 18 19.9**	**+4.0**
RAF				MSG			06 18 22.9	
	comp=Z,44nm,0.2s							
RAF	**Rauma**	**3.83**	**74**	*e*P		**Pn**	**06 17 22.9**	**+1.9**
RAF	**Rauma**	**3.83**	**74**	*e*P		**Pn**	**06 17 22.6**	**+1.6**
RAF				*e*S		**Sn**	**06 18 06.8**	**+1.3**
RAF				*e*SB		**Sb**	**06 18 19.9**	**+4.0**
RAF				MSG			06 18 22.9	
	comp=Z,44nm,0.2s							
BLEU	**Blekinge**	**3.96**

VAF	**Ylistaro**	4.97	51	*e*P		**Pn**	**06 17 39.8 +3.1**
VAF				*e*PB		**Pb**	**06 17 49.2 -0.1**
VAF				*e*SG		**Sb**	**06 18 54.5 +5.7**
VAF				MSG			06 18 57.2
	comp=Z,20nm,0.3s						
VAF	**Ylistaro**	**4.97**	**51**	*e*P		**Pn**	**06 17 39.9 +3.2**
VAF	**Ylistaro**	**4.97**	**51**	*e*P		**Pn**	**06 17 39.8 +3.1**
VAF				*e*PB		**Pb**	**06 17 49.2 -0.1**
VAF				*e*SB		**Sb**	**06 18 54.5 +5.7**
VAF				MSG			06 18 57.2
	comp=Z,20nm,0.3s						
BSD	**Bornholm Skovb**	**5.07**	**175**	*i* P		**Pn**	**06 17 38.0 -0.1**
BSD				IAML			06 19 07.0
	comp=Z,24nm,0.4s						
MEF	**Metsahovi**	**5.08**	**85**	*e*P		**Pn**	**06 17 41.9 +3.6**
MEF	**Metsahovi**	**5.08**	**85**	*e*P		**Pn**	**06 17 40.8 +2.5**
MEF				*e*S		**Sn**	**06 18 35.9 -0.7**
MEF				*e*SB		**Sb**	**06 18 56.3 +4.2**
MEF				MSG			06 19 03.1
	comp=Z,42nm,0.3s						
MTSE	**Matsula**	**5.11**	**102**	*e*P		**Pn**	**06 17 40.9 +2.2**
MTSE	**Matsula**	**5.11**	**102**	*e*S		**Sn**	**06 18 37.2 0.0**
NUR	**Nurmijarvi**	**5.20**	**82**	MSG			06 19 02.6
	comp=Z,29nm,0.3s						
HEL1	**Helsinki**	**5.33**	**85**	MSG			06 19 15.5
	comp=Z,20nm,0.3s						
KEF	**Keuruu**	**5.54**	**64**	*e*P		**Pn**	**06 17 47.7 +3.1**
KEF	**Keuruu**	**5.54**	**64**	MSG			06 19 14.0
	comp=Z,14nm,0.2s						
PVF	**Pernaja**	**5.80**	**81**	MSG			06 19 21.4
	comp=Z,24nm,0.3s						
FIA0	**FINESS Array S**	**5.95**	**72**	Pn		**Pn**	**06 17 52.2 +2.0**
	baz=262,slow=14						
FIA0				Sn		**Sn**	**06 18 57.6 -0.3**
	baz=274,slow=22						
FIA0				Sg		**Sg**	**06 19 26.7 -6.9**
	baz=259,slow=37						
FIA0	**FINESS Array S**	**5.95**	**72**	Pn		**Pn**	**06 17 52.2 +2.0**
	baz=262,slow=14						
FIA0				Sn		**Sn**	**06 18 57.6 -0.3**
	baz=274,slow=22						
FIA0				Lg		Lg	06 19 26.7
	baz=259,slow=37						
FIA0	**FINESS Array S**	**5.95**	**72**	*e*P		**Pn**	**06 17 52.0 +1.9**
FIA0				*e*S		**Sn**	**06 18 57.3 -0.6**
FINES	**FINESS Array B**	**5.95**	**72**	Pn		**Pn**	**06 17 52.0 +1.9**
	comp=Z,6.1nm,0.3s,baz=263,slow=12,SNR=89						
FINES				Sn		**Sn**	**06 18 59.4 +1.5**
	comp=Z,2.7nm,0.3s,baz=263,slow=18,SNR=8.2						
FINES				Lg		Lg	06 19 26.5
	comp=Z,4.8nm,0.3s,baz=265,slow=22,SNR=4.2						
	comp=Z,16nm,0.3s						
ARBE	**Arbavere**	**5.99**	**92**	*e*P		**Pn**	**06 17 53.1 +2.4**
LEIR	**Leirfjorden**	**6.00**	**356**	*e*P		**Pn**	**06 17 53.1 +2.3**
LEIR				*e*S		**Sn**	**06 18 59.1 0.0**
LEIR				IAML			06 19 04.7
	comp=Z,8.1nm,0.2s						
MOR8	**Moi Rana**	**6.04**	**1**	*e*P		**Pn**	**06 17 55.3 +3.9**
MOR8				*e*S		**Sn**	**06 19 04.4 +4.2**
MOR8				IAML			06 19 10.6
	comp=Z,7.2nm,0.4s						
MOR8	**Moi Rana**	**6.04**	**1**	*e*P		**Pn**	**06 17 55.3 +3.9**
MOR8				*e*S		**Sn**	**06 19 04.4 +4.2**
MOR8				IAML			06 19 10.6
	comp=Z,7.2nm,0.4s						
KAF	**Kangasniemi**	**6.18**	**66**	MSG			06 19 42.7
	comp=Z,13nm,0.3s						
STOK	**Stokkvaagen**	**6.22**	**356**	*e*P		**Pn**	**06 17 58.0 +4.1**
STOK				*e*S		**Sn**	**06 19 06.3 +1.7**
STOK				IAML			06 19 15.9
	comp=Z,5.8nm,0.3s						
STOK	**Stokkvaagen**	**6.22**	**356**	*e*P		**Pn**	**06 17 58.0 +4.1**
STOK				*e*S		**Sn**	**06 19 06.3 +1.7**
STOK				IAML			06 19 15.9
	comp=Z,5.8nm,0.3s						
SUF	**Sumiainen**	**6.28**	**61**	MSG			06 19 38.0
	comp=Z,12nm,0.3s						
OBF0	**Syolatti, Pyha**	**6.38**	**43**	MSG			06 19 47.7
	comp=Z,22nm,0.3s						
KONS	**Konsvik**	**6.39**	**356**	*e*P		**Pn**	**06 17 58.6 +2.4**
KONS				*e*S		**Sn**	**06 19 09.7 +1.1**
KONS				IAML			06 19 41.3
	comp=Z,5.4nm,0.3s						
KONS	**Konsvik**	**6.39**	**356**	*e*P		**Pn**	**06 17 58.6 +2.4**
KONS				*e*S		**Sn**	**06 19 09.7 +1.1**
KONS				IAML			06 19 41.3
	comp=Z,5.4nm,0.3s						
OUF	**Merijarvi**	**6.47**	**45**	MSG			06 19 47.1
	comp=Z,13nm,0.3s						
VAGH	**Vaagaholmen**	**6.61**	**357**	*e*P		**Pn**	**06 18 01.5 +2.3**
VAGH				*e*S		**Sn**	**06 19 14.4 +0.2**
VAGH				IAML			06 19 16.2
	comp=Z,3.3nm,0.8s						
VSU	**Vasula**	**6.63**	**99**	*e*P		**Pn**	**06 18 01.2 +1.7**
VJF	**Virojoki**	**6.63**	**81**	MSG			06 19 49.9
	comp=Z,29nm,0.3s						
FAUS	**Fauske**	**7.27**	**3**	*e*P		**Pn**	**06 18 09.9 +1.7**
FAUS				*e*S		**Sn**	**06 19 30.3 0.0**
FAUS				IAML			06 19 37.3
	comp=Z,6.8nm,0.3s						
FAUS	**Fauske**	**7.27**	**3**	*e*P		**Pn**	**06 18 09.9 +1.7**
FAUS				*e*S		**Sn**	**06 19 30.3 0.0**
FAUS				IAML			06 19 37.3
	comp=Z,6.8nm,0.3s						
ISAL	**Salakas**	**7.84**	**121**	*e*P		**Pn**	**06 18 19.6 +3.5**
LOF	**Lofoten**	**8.01**	**358**	*e*P		**Pn**	**06 18 18.5 +0.1**
LOF				*e*S		**Sn**	**06 19 43.4 -5.1**
LOF				IAML			06 19 52.6
	comp=Z,3.9nm,0.4s						
LOF	**Lofoten**	**8.01**	**358**	*e*P		**Pn**	**06 18 18.5 +0.1**
LOF				*e*S		**Sn**	**06 19 43.4 -5.1**
LOF				IAML			06 19 52.6
	comp=Z,3.9nm,0.4s						
IIGN	**Ignalina**	**8.02**	**122**	*e*P		**Pn**	**06 18 22.0 +3.3**
IDID	**Didziasalis**	**8.27**	**120**	*e*P		**Pn**	**06 18 25.4 +3.4**
NACGM	**Naroch**	**8.56**	**122**	*e*P		**Pn**	**06 18 28.7 +2.7**
	baz=315						
JOF	**Joensuu**	**8.62**	**64**	*e*P		**Pn**	**06 18 28.1 +1.4**
HEF	**Hetta**	**9.23**	**22**	*e*P		**Pn**	**06 18 37.1 +2.0**
HEF	**Hetta**	**9.23**	**22**	*e*P		**Pn**	**06 18 37.1 +2.0**
KIF	**Kilpisjarvi**	**9.32**	**15**	*e*P		**Pn**	**06 18 38.5 +2.3**
KIF	**Kilpisjarvi**	**9.32**	**15**	*e*P		**Pn**	**06 18 38.5 +2.3**
KTK1	**Kautokeino**	**9.69**	**20**	*e*P		**Pn**	**06 18 41.6 +0.3**
KTK1	**Kautokeino**	**9.69**	**20**	*e*P		**Pn**	**06 18 41.6 +0.3**
JETT	**Jettan, Norway**	**9.79**	**13**	Pn		**Pn**	**06 18 43.2 +0.4**
JETT	**Jettan, Norway**	**9.79**	**13**	Pn		**Pn**	**06 18 43.2 +0.4**
JETT	**Jettan, Norway**	**9.79**	**13**	*e*P		**Pn**	**06 18 43.2 +0.4**
EKA	**Eskdalemuir Ar**	**10.45**	**250**	Pn		**Pn**	**06 18 50.9 -1.0**
	baz=34,slow=30						
EKA				Sn		**Sn**	**06 20 44.0 -4.6**
	baz=53,slow=24						
	comp=Z,0.2nm,0.3s						
ARA0	**ARCESS Array S**	**10.54**	**22**	Pn		**Pn**	**06 18 52.3 -0.8**
	baz=206,slow=16						
ARA0	**ARCESS Array S**	**10.54**	**22**	Pn		**Pn**	**06 18 52.3 -0.8**
	baz=206,slow=16						
ARA0	**ARCESS Array S**	**10.54**	**22**	*e*P		**Pn**	**06 18 52.3 -0.8**
ARCES	**ARCESS Array B**	**10.54**	**22**	Pn		**Pn**	**06 18 51.5 -1.6**
	comp=Z,0.3nm,0.3s,baz=209,slow=14,SNR=21						
ARCES				Sn		**Sn**	**06 20 44.5 -6.2**
	comp=Z,0.9nm,0.3s,baz=213,slow=22,SNR=11						
	comp=Z,5.8nm,1.0s						

IDC ***26*** *06:51:30.4±0.5, 84°.99N×98°.01E, h0km, mb4.0/26, mbtmp4.0/28, ML3.6/2, MS3.7/58, Error ellipse: s-maj=15.9km s-min=10.3km az=126.0*

MOS ***26*** *06:51:31.2±1.3, 85°.11N×96°.44E, h12km, mb4.5/22, Error ellipse: s-maj=69.1km s-min=6.3km az=89.1*

NEIC ***26*** *06:51:32.2±2.4, 85°.13N±0°.05×9°7E±°, h10km±1km, mb4.6/85, Error ellipse: s-maj=17.6km s-min=8.9km az=97.0*

FCIAR ***26*** *06:51:34.0, 85°.22N×94°.30E, h10km, station SVZ has station magnitude of 4.10 station OMEGA has station magnitude of 3.80 station ZFI2 has station magnitude of 3.70*

ISC 26 06:51:32.4±0.4, 85°.12N±0°.05×96°.02E±0°.05, h10km, n210, σ1$91/146, **mb4.5**/87, **MS3.7**/60, **7C-2D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**5.93**	**170**	*e*P	**Pn**	**06 53 00.3**	**+0.2**
SVZ				*e*S	**Sn**	**06 54 04.9**	**-2.9**
	74nm,0.2s						
ZFI2	**Zemlya Franca-**	**7.01**	**260**	*e*P	**Pn**	**06 53 12.4**	**-2.6**
ZFI2				*e*S	**Sn**	**06 54 27.0**	**-7.6**
	24nm,1.2s						
OMEGA	**Omega**	**7.03**	**259**	*e*P	**Pn**	**06 53 12.4**	**-2.8**
OMEGA				*e*S	Sn	06 54 26.9	-8.0
	26nm,2.1s						
NOR	**Nord**	**11.29**	**316**	P	**Pn**	**06 54 16.1**	**+2.6**
KBS	**Kingsbay**	**11.70**	**288**	Pn	**Pn**	**06 54 19.1**	**+0.1**
KBS	**Kingsbay**	**11.70**	**288**	P	**Pn**	**06 54 19.1**	**+0.1**
SPA0	**Spitsbergen Ar**	**12.02**	**283**	*e*P	**Pn**	**06 54 19.8**	**-3.6**
SPA0				*e*S	Sn	06 56 24.3	-13
SPITS	**Spitsbergen Ar**	**12.02**	**283**	Pn	**Pn**	**06 54 20.5**	**-2.9**
	baz=44,slow=13						
SPB2	**Spitsbergen Ar**	**12.02**	**283**	Pn	**Pn**	**06 54 20.4**	**-3.0**
HOPEN	**Hopen**	**12.83**	**272**	*e*P	**Pn**	**06 54 31.7**	**-2.8**
HOPEN				*e*S	Sn	06 56 44.8	-12
TIXI	**Tiksi**	**14.58**	**137**	LR	LR	07 00 16.0
	comp=Z,82nm,18.7s,baz=36,slow=37					
TIXI	**Tiksi**	**14.58**	**137**	*i* P	**Pn**	**06 54 58.5**	**+0.2**
TIXI				pmax	pmax	
	comp=Z,13nm,1.5s					
EUNU	**Eureka**	**14.92**	**2**	Pn	**Pn**	**06 55 00.4**	**-2.6**
NRIK	**Noril'sk**	**15.95**	**191**	Pn	**Pn**	**06 55 14.8**	**-1.6**
NRIK	**Noril'sk**	**15.95**	**191**	Pn	**Pn**	**06 55 12.7**	**-3.7**
	comp=Z,0.5nm,0.3s,baz=7.6,slow=10.0,SNR=6.9					
NRIK				LR	LR	07 01 56.8
	comp=Z,640nm,18.5s,baz=9.0,slow=40					
	comp=Z,3.2nm,0.5s					
NRIK	**Noril'sk**	**15.95**	**191**	*i* P	**P**	**06 55 18.3**	**-1.7**
NRIK				pmax	pmax	
	comp=Z,14nm,0.8s					
KEV	**Kevo**	**19.14**	**262**	P	**P**	**06 55 55.7**	**+0.5**
KEV				IAmb	IAmb	06 56 14.0
	comp=Z,28nm,1.0s					
KEV	**Kevo**	**19.14**	**262**	P	**P**	**06 55 55.7**	**+0.5**
KEV				pmax	pmax	
	comp=Z,28nm,1.0s					
ARCES	**ARCESS Array B**	**19.49**	**264**	P	**P**	**06 55 58.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=23,slow=10,SNR=6.0					
ARCES				LR	LR	07 03 17.0
	comp=Z,123nm,21.4s,baz=346,slow=36					
	comp=Z,4.3nm,0.9s					
ARCES	**ARCESS Array B**	**19.49**	**264**	*e*P	**Pn**	**06 56 02.6**	**+2.3**
ARCES				pmax	pmax	
	comp=Z,6.0nm,0.9s					
KULLO	**Kullorsuaq**	**20.02**	**339**	P	Pn	06 56 06.7	+0.1
RES	**Resolute Bay**	**20.25**	**8**	P	**P**	**06 56 07.7**	**+0.4**
RES	**Resolute Bay**	**20.25**	**8**	P	**P**	**06 56 06.8**	**-0.5**
	comp=Z,2.9nm,1.1s,baz=5.7,slow=13,SNR=9.1					
RES				LR	LR	07 04 19.6
	comp=Z,237nm,18.5s,baz=7.5,slow=38					
	comp=Z,2.9nm,1.1s					
RES	**Resolute Bay**	**20.25**	**8**	P	**P**	**06 56 07.7**	**+0.4**
RES				pmax	pmax	
	comp=Z,5.0nm,0.9s					
LVZ	**Lovozero**	**20.32**	**253**	P	**P**	**06 56 08.5**	**+0.4**
LVZ				IAmb	IAmb	06 56 43.6
	comp=Z,40nm,1.2s					
LVZ	**Lovozero**	**20.32**	**253**	P	**P**	**06 56 08.5**	**+0.4**
LVZ				pmax	pmax	
	comp=Z,40nm,1.2s					
LVZ	**Lovozero**	**20.32**	**253**	P	**P**	**06 56 07.9**	**-0.3**
	comp=Z,31nm,1.7s					
APA	**Apatity**	**20.75**	**254**	⇓*i* P	Pn	06 56 14.9	-0.2
APA				pmax	pmax	
	comp=Z,11nm,1.1s					
APA				MLR	MLR	
	comp=Z,1μm,12.0s					
JMIC	**Jan Mayen**	**20.89**	**297**	P	**P**	**06 56 15.1**	**+0.8**
	comp=Z,61nm,0.5s,baz=141,slow=9.8,SNR=3.0					
BILL	**Bilibino**	**20.93**	**98**	*i* P	**P**	**06 56 14.4**	**-0.3**
BILL				pmax	pmax	
	comp=Z,11nm,1.1s					
SUMG	**Summit**	**21.26**	**324**	P	**P**	**06 56 19.7**	**+1.1**
SUMG	**Summit**	**21.26**	**324**	P	**P**	**06 56 19.7**	**+1.1**
SUMG				pmax	pmax	
	comp=Z,21nm,1.3s					
B22K	**Teshekpuk Lake**	**21.97**	**58**		**P**	**06 56 26.1**	**+0.2**
B20K	**Meade River**	**22.02**	**61**	P	**P**	**06 56 26.6**	**+0.2**
B20K				IAmb	IAmb	06 56 56.8
	comp=Z,22nm,1.1s					
A36M	**Sachs Harbour**	**22.05**	**33**	P	**P**	**06 56 24.8**	**-1.9**
A36M				IAmb	IAmb	06 56 44.9
	comp=Z,36nm,1.0s					
B21K	**Ikpikpuk River**	**22.59**	**59**	P	**P**	**06 56 32.7**	**+0.2**
B21K				IAmb	IAmb	06 56 47.6
	comp=Z,30nm,1.1s					
C23K	**Itkillik River**	**22.67**	**56**	P	**P**	**06 56 33.5**	**+0.1**
MSF	**Maaselka**	**22.74**	**258**	P	**P**	**06 56 35.4**	**+1.3**
C18K	**Utukok River**	**23.05**	**66**		**P**	**06 56 36.1**	**-1.3**
C18K				IAmb	IAmb	06 56 52.4
	comp=Z,16nm,1.1s					
C16K	**Lisburne Hills**	**23.09**	**70**	IAmb	IAmb	06 56 54.5
	comp=Z,22nm,1.3s					
C27K	**Jago River**	**23.35**	**50**	IAmb	IAmb	06 56 59.2
	comp=Z,27nm,1.2s					
D24K	**Happy Valley**	**23.47**	**54**	IAmb	IAmb	06 56 57.0
	comp=Z,18nm,1.1s					
D25K	**Kavik River**	**23.47**	**52**	IAmb	IAmb	06 57 09.7
	comp=Z,28nm,1.4s					
D27M	**Malcolm River**	**23.90**	**48**	IAmb	IAmb	06 57 03.8
	comp=Z,14nm,1.1s					
YAK	**Yakutsk**	**24.18**	**140**	LR	LR	07 06 45.1
	comp=Z,110nm,19.8s,baz=344,slow=38					
E23K	**Chandalar**	**24.49**	**56**	IAmb	IAmb	06 57 16.2
	comp=Z,14nm,1.1s					
E19K	**Redstone River**	**24.53**	**63**	IAmb	IAmb	06 57 17.0
	comp=Z,26nm,1.4s					
E25K	**Arctic Village**	**24.71**	**52**	P	**P**	**06 56 53.0**	**-0.2**
C36M	**Paulatuk**	**24.73**	**33**	P	**P**	**06 56 52.6**	**-0.6**
SEY	**Seymchan**	**24.82**	**115**	*ce*P	**P**	**06 56 56.0**	**+1.9**
SEY				pmax	pmax	
	comp=Z,17nm,1.4s					
E27K	**Coleen River**	**24.91**	**49**	IAmb	IAmb	06 57 13.4
	comp=Z,18nm,1.4s					
F20K	**Avaraart Lake**	**25.04**	**62**	IAmb	IAmb	06 57 06.2
	comp=Z,18nm,1.1s					
F19K	**Shaleruckik Mo**	**25.10**	**64**	IAmb	IAmb	06 57 06.4
	comp=Z,13nm,1.2s					
F24K	**Squaw Lake**	**25.15**	**54**	IAmb	IAmb	06 57 30.6
	comp=Z,14nm,1.2s					
COLD	**Coldfoot**	**25.27**	**57**	P	**P**	**06 56 57.4**	**-0.8**
INK	**Inuvik**	**25.28**	**41**	P	**P**	**06 56 57.4**	**-0.8**
INK	**Inuvik**	**25.28**	**41**	P	**P**	**06 56 57.4**	**-0.8**
INK				pmax	pmax	
	comp=Z,44nm,1.4s					
F15K	**North Star Dit**	**25.67**	**70**	IAmb	IAmb	06 57 24.8
	comp=Z,15nm,1.1s					
G23K	**Bananza Creek**	**25.80**	**57**	IAmb	IAmb	06 57 13.6
	comp=Z,19nm,1.2s					
G24K	**Hadweenzic Riv**	**25.98**	**54**	IAmb	IAmb	06 57 15.9
	comp=Z,9.6nm,1.0s					
F31M	**Tsiigehtchic**	**26.12**	**42**	P	**P**	**06 57 05.2**	**-0.7**
G27K	**Doyon Strip**	**26.27**	**49**	IAmb	IAmb	06 57 19.2
	comp=Z,17nm,1.2s					
FYU	**Fort Yukon**	**26.27**	**52**	P	**P**	**06 57 08.0**	**+0.7**
FYU				IAmb	IAmb	06 57 26.6
	comp=Z,22nm,1.2s					
G29M	**Pine Creek**	**26.40**	**46**	IAmb	IAmb	06 57 25.3
	comp=Z,29nm,1.5s					
G30M	**tAoh Zraii Nji**	**26.44**	**44**	IAmb	IAmb	06 57 27.5
	comp=Z,15nm,1.1s					
G31M	**Satah River**	**26.61**	**43**	P	**P**	**06 57 09.5**	**-0.8**
G31M				IAmb	IAmb	06 57 39.3
	comp=Z,21nm,1.4s					
H23K	**Yukon River**	**26.70**	**57**	IAmb	IAmb	06 57 23.6
	comp=Z,21nm,1.4s					
H24K	**Noodor Dome**	**26.81**	**55**	IAmb	IAmb	06 57 37.1
	comp=Z,27nm,1.5s					
KLMR	**Klimovskoe**	**26.89**	**245**	*e*P	**P**	**06 57 11.5**	**-1.3**
KLMR				pmax	pmax	
	comp=Z,27nm,1.5s					
H29M	**Whitestone**	**27.06**	**46**	IAmb	IAmb	06 57 27.0
	comp=Z,23nm,1.4s					
SFJD	**Kangerlussuaq**	**27.37**	**332**	LR	LR	07 07 28.8
	comp=Z,134nm,18.8s,baz=344,slow=35					
FINES	**FINESS Array B**	**27.39**	**259**	P	**P**	**06 57 18.4**	**+1.0**
FINES	**FINESS Array B**	**27.39**	**259**	P	**P**	**06 57 19.0**	**+1.7**
	comp=Z,2.6nm,0.9s,baz=1.0,slow=17,SNR=3.6					
	comp=Z,2.6nm,0.9s					
H31M	**Peel River**	**27.72**	**43**	P	**P**	**06 57 20.8**	**+0.5**
H31M				IAmb	IAmb	06 58 04.0
	comp=Z,21nm,1.4s					
COLA	**College**	**27.77**	**55**	*i* P	**P**	**06 57 21.3**	**+0.6**
COLA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
ILAR	**Eielson Array**	**27.94**	**55**	P	**P**	**06 57 22.6**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=348,slow=7.6,SNR=8.8					
ILAR				LR	LR	07 08 24.6
	comp=Z,87nm,18.1s,baz=318,slow=36					
	comp=Z,1.2nm,1.0s					
MA2	**Magadan**	**28.02**	**118**	LR	LR	07 07 56.0
	comp=Z,78nm,18.2s,baz=49,slow=35					
MA2	**Magadan**	**28.02**	**118**	*ce*P	**P**	**06 57 23.0**	**0.0**
MA2				pmax	pmax	
	comp=Z,2.0nm,0.4s					
MA2	**Magadan**	**28.02**	**118**	P	**P**	**06 57 22.7**	**-0.3**
	comp=Z,11nm,1.5s					
KIRV	**Kirov**	**28.41**	**233**	LR	LR	07 10 18.3
	comp=Z,166nm,20.0s,baz=5.9,slow=40					
NOA	**NORSAR Array B**	**29.06**	**274**	LR	LR	07 09 00.8
	comp=Z,46nm,20.4s,baz=5.0,slow=36					
HFS	**Hagfors**	**29.74**	**271**	LR	LR	07 09 07.6
	comp=Z,64nm,20.8s,baz=349,slow=35					
BCAR	**Beaver Creek A**	**29.98**	**50**	P	**P**	**06 57 41.0**	**+0.6**
ARTI	**Arti**	**30.03**	**223**	P	**P**	**06 57 39.3**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=301,slow=2.0,SNR=3.2					
ARTI				LR	LR	07 11 23.8
	comp=Z,344nm,18.7s,baz=30,slow=40					
	comp=Z,1.6nm,0.6s					
ARTI	**Arti**	**30.03**	**223**	*c i* P	**P**	**06 57 44.5**	**+3.6**
ARTI						06 58 38.1
ARTI				S	**S**	**07 02 47.5**	**+9.0**
ARTI				SS	**ScP**	**07 04 20.4**	**-3.6**
ARTI				pmax	pmax	
	comp=Z,5.0nm,0.9s					
SKT	**Skwentna**	**30.37**	**60**	P	**P**	**06 57 43.3**	**-0.6**
SKT				IAmb	IAmb	06 58 01.1
	comp=Z,10.0nm,1.3s					
FRB	**Frobisher Bay**	**31.17**	**347**	LR	LR	07 08 32.1
	comp=Z,105nm,22.0s,baz=314,slow=33					
ZALV	**Zalesovo Beam**	**31.43**	**193**	P	**P**	**06 57 50.2**	**-3.1**
	comp=Z,0.5nm,0.5s,baz=2.6,slow=8.9,SNR=1.8					
ZALV				LR	LR	07 11 40.1
	comp=Z,225nm,18.8s,baz=31,slow=39					
	comp=Z,0.5nm,0.5s					
YKA	**Yellowknife Ar**	**31.98**	**27**	P	**P**	**06 57 57.1**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=354,slow=8.2,SNR=23					
YKA				LR	LR	07 11 09.6
	comp=Z,219nm,18.3s,baz=346,slow=37					
	comp=Z,1.3nm,0.9s					
MOS	**Moscow**	**32.11**	**245**	*e*P	**P**	**06 57 59.0**	**-0.2**
BRVK	**Borovoye**	**32.76**	**209**		**P**	**06 58 04.7**	**-0.2**
BRVK				IAmb	IAmb	06 58 21.4
	comp=Z,8.7nm,1.0s					
BRVK	**Borovoye**	**32.76**	**209**	*i* P	**P**	**06 58 04.9**	**0.0**
BRVK				pmax	pmax	
	comp=Z,6.0nm,1.3s					
BVAR	**Borovoye Array**	**32.79**	**209**	P	**P**	**06 58 04.7**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=12,slow=8.0,SNR=11					
BVAR				LR	LR	07 13 50.6
	comp=Z,130nm,18.4s,baz=29,slow=41					
	comp=Z,3.5nm,0.9s					
OBN	**Obninsk**	**32.81**	**246**	LR	LR	07 15 48.0
	comp=Z,81nm,19.6s,baz=356,slow=44					
OBN	**Obninsk**	**32.81**	**246**	*i* P	**P**	**06 58 06.0**	**+0.7**
OBN				*i*		06 59 12.3
OBN				*i*		07 00 50.3
OBN				pmax	pmax	
	comp=Z,8.0nm,1.0s					
OBN				MLR	MLR	
	comp=Z,89nm,18.0s					
OBN	**Obninsk**	**32.81**	**246**	P	**P**	**06 58 04.8**	**-0.5**
	comp=Z,18nm,0.5s					
P33M	**Teslin, Yukon**	**33.37**	**43**	IAmb	IAmb	06 58 28.2
	comp=Z,11nm,1.2s					
KDAK	**Kodiak Island**	**34.45**	**62**	LR	LR	07 12 56.5
	comp=Z,135nm,18.6s,baz=175,slow=37					
KURK	**Kurchatov**	**34.81**	**199**	*ce*P	**P**	**06 58 22.9**	**+0.1**
KURK				pmax	pmax	
	comp=Z,2.0nm,0.9s					
KURBB	**Kurchatov Arra**	**34.91**	**200**	P	**P**	**06 58 21.8**	**-1.8**
	comp=Z,0.7nm,0.2s,baz=17,slow=7.9,SNR=4.7					
KURBB				LR	LR	07 14 46.6
	comp=Z,225nm,19.0s,baz=284,slow=40					
	comp=Z,0.7nm,0.2s					
LPSR	**Galich'ya Gora**	**35.12**	**243**	*e*P	**P**	**06 58 24.8**	**-0.6**
LPSR				pmax	pmax	
	comp=Z,20nm,0.9s					
DLBC	**Dease Lake**	**35.30**	**41**	P	**P**	**06 58 28.2**	**+1.2**
DLBC	**Dease Lake**	**35.30**	**41**	P	**P**	**06 58 26.1**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=348,slow=7.7,SNR=5.4					
DLBC				LR	LR	07 13 14.6
	comp=Z,100nm,21.0s,baz=314,slow=37					
	comp=Z,4.2nm,0.9s					
S34M	**Telegraph Cree**	**35.76**	**42**	IAmb	IAmb	06 58 46.1
	comp=Z,14nm,1.2s					
EKA	**Eskdalemuir Ar**	**35.92**	**286**	P	**P**	**06 58 33.4**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=5.0,slow=5.7,SNR=3.4					
	comp=Z,1.5nm,0.8s					
AKTO	**Aktyubinsk**	**35.99**	**222**	P	**P**	**06 58 32.9**	**0.0**
	comp=Z,1.8nm,0.9s,baz=56,slow=2.6,SNR=5.8					
AKTO				LR	LR	07 14 30.5
	comp=Z,243nm,21.7s,baz=172,slow=38					
	comp=Z,1.8nm,0.9s					
VRH	**Novokhopyorsk**	**36.30**	**240**	*e*P	**P**	**06 58 34.3**	**-1.2**
VRH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
VSR	**Storozhevoye**	**36.48**	**242**	*e*P	P	06 58 32.4	-4.7
VSR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
SHEM	**Shemya Is, Ala**	**36.71**	**95**	LR	LR	07 15 02.8
	comp=

comp=Z,6.0nm,1.0s
GERES GERESS Array B 40.93 268 P **P 06 59 15.9 +1.4**
comp=Z,1.7nm,0.9s,baz=30,slow=11,SNR=6.1
comp=Z,1.7nm,0.9s
MODS Modra-Piesok 41.09 264 *e*P **P 06 59 18.9 +3.1**
MODS pmax pmax
comp=Z,17nm,1.2s
MODS Modra-Piesok 41.09 264 *e*P **P 06 59 18.9 +3.1**
MODS *e*PP **PP 07 00 44.6 -5.6**
WMQ Urumqi 41.52 189 *e*P **P 06 59 22.8 +3.4**
WMQ LR LR
comp=Z,210nm,23.9s
BBB Bella Bella 41.65 40 LR LR 07 17 02.8
comp=Z,113nm,20.8s,baz=16,slow=37
USRK Ussuriysk Ar. 42.09 141 P **P 06 59 22.5 -1.5**
comp=Z,1.3nm,0.7s,baz=38,slow=9.6,SNR=5.0
comp=Z,1.3nm,0.7s
KKAR Karatay Array 42.70 208 P **P 06 59 29.0 +0.1**
ASAJ Asahikawa 42.82 130 LR LR 07 16 59.8
comp=Z,65nm,20.5s,baz=139,slow=36
AAK Ala-Archa 43.01 203 **P** **P 06 59 33.4 +1.7**
AAK Ala-Archa 43.01 203 P **P 06 59 32.3 +0.6**
AAK LR LR 07 20 22.2
comp=Z,507nm,18.8s,baz=8.5,slow=40
comp=Z,1.3nm,0.5s
AAK Ala-Archa 43.01 203 *ce*P **P 06 59 32.5 +0.8**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 43.11 202 P **P 06 59 34.1 +1.6**
MLR Muntele Rosu 43.22 255 LR LR 07 19 07.1
comp=Z,69nm,20.3s,baz=42,slow=38
DAVOX Davos/Dischmat 43.30 271 LR LR 07 18 30.0
comp=Z,54nm,19.0s,baz=51,slow=37
KDJ Kajisay 43.44 200 **P** **06 59 34.8 -0.3**
KDJ IAmb IAmb 06 59 44.1
comp=Z,5.8nm,0.7s
KDJ Kajisay 43.44 200 P **P 06 59 34.8 -0.3**
KDJ pmax pmax
comp=Z,6.0nm,0.7s
KIV Kislovodsk 43.44 237 *e*P **P 06 59 35.9 +0.8**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,69nm,16.0s
KBZ Khabaz 43.65 237 P **P 06 59 37.9 +1.3**
comp=Z,2.4nm,0.8s,baz=354,slow=4.1,SNR=5.4
KBZ LR LR 07 19 55.7
comp=Z,113nm,21.5s,baz=360,slow=39
comp=Z,2.4nm,0.8s
KBZ Khabaz 43.65 237 *e*P **P 06 59 38.6 +2.0**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
ARK Arkit 43.94 206 P **P 06 59 40.8 +1.7**
TRKS Terek-Say 44.24 207 P **P 06 59 43.2 +1.6**
HHC Hu-ho-hao-te 44.62 163 *e*P **P 06 59 47.5 +2.9**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,71nm,4.2s
HHC LR LR
comp=N,170nm,15.1s
HHC LR LR
comp=E,94nm,14.3s
HHC LR LR
comp=Z,170nm,18.5s
ULM Lac du Bonnet 44.76 11 LR LR 07 18 11.2
comp=Z,161nm,18.8s,baz=331,slow=36
BJT Baijiatuau 45.58 158 P **P 06 59 53.5 +1.4**
GTA Gaotai 45.88 176 *e*P **P 06 59 54.5 -0.1**
GTA sP pwP 07 00 02.3 +0.6
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA LR LR
comp=N,120nm,15.3s
GTA LR LR
comp=E,130nm,16.7s
GTA LR LR
comp=Z,180nm,18.5s
NEW Newport 46.10 30 P **P 06 59 57.1 +0.9**
comp=Z,4.7nm,1.1s,baz=327,slow=7.1,SNR=5.6
NEW LR LR 07 19 55.5
comp=Z,163nm,18.1s,baz=4.0,slow=37
comp=Z,4.7nm,1.1s
GNI Garni 47.08 235 LR LR 07 22 18.3
comp=Z,72nm,22.0s,baz=36,slow=39
MSO Missoula 47.67 28 P **P 07 00 08.2 -0.3**
MSO IAmb IAmb 07 00 26.7
comp=Z,5.1nm,0.8s
HNS HongShan 48.15 160 ⇓P **P 07 00 13.8 +1.7**
HNS pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 48.33 246 P **P 07 00 14.3 +0.6**
BRTR Keskin Array B 48.33 246 P **P 07 00 14.7 +1.0**
comp=Z,1.6nm,0.8s,baz=25,slow=6.1,SNR=5.3
BRTR LR LR 07 27 04.3
comp=Z,48nm,19.4s,baz=16,slow=44
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 48.33 246 *e*P **P 07 00 15.3 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 48.61 146 LR LR 07 22 40.6
comp=Z,37nm,18.3s,baz=355,slow=39
BOZ Bozeman (W) 48.99 26 IAmb IAmb 07 00 38.6
comp=Z,5.3nm,1.1s
G08A Pilot Rock 48.99 32 IAmb IAmb 07 00 37.5
comp=Z,7.4nm,1.1s
TIA Tai'an 49.41 157 P **P 07 00 21.8 -0.1**
TIA pmax pmax
comp=Z,10.0nm,1.1s
MJAR Matsushiro Arr 50.08 135 LR LR 07 22 47.0
comp=Z,37nm,19.2s,baz=14,slow=38
SADO Sadowa 50.32 356 LR LR 07 22 01.7
comp=Z,118nm,18.0s,baz=58,slow=36
ESDC Sonseca Array 51.53 284 P **P 07 00 38.7 +0.8**
comp=Z,1.1nm,0.8s,baz=356,slow=12,SNR=4.9
comp=Z,1.1nm,0.8s
PDAR Pinedale Array 51.89 24 P **P 07 00 40.0 -0.8**
comp=Z,0.4nm,0.8s,baz=16,slow=2.2,SNR=3.8
PDAR LR LR 07 23 24.3
comp=Z,82nm,19.0s,baz=352,slow=37
comp=Z,0.4nm,0.8s
NIL Nilore 52.02 204 P **P 07 00 42.7 +1.1**
YBH Yreka Blue Hor 52.36 36 LR LR 07 24 36.6
comp=Z,104nm,19.8s,baz=1.5,slow=38
HWUT Hardware Ranch 52.97 26 IAmb IAmb 07 00 58.6
comp=Z,7.2nm,1.1s
JNU Nakatsue 53.07 143 LR LR 07 23 36.4
comp=Z,17nm,20.2s,baz=15,slow=36
KEST Kesra 54.32 270 P **P 07 00 58.4 -0.1**
KEST Kesra 54.32 270 P **P 07 00 59.9 +1.3**
comp=Z,11nm,1.0s,baz=58,slow=2.8,SNR=5.4
comp=Z,11nm,1.0s
MMAI Mount Meron Ar 54.86 244 LR LR 07 32 00.7
comp=Z,35nm,18.1s,baz=56,slow=44
SPR3 Spring Creek 3 55.47 29 IAmb IAmb 07 01 27.3
comp=Z,8.6nm,1.1s
ASF Jabal al Asfar 55.58 242 LR LR 07 29 41.3
comp=Z,73nm,18.3s,baz=125,slow=41
NVAR Mina Array Bea 55.86 32 P **P 07 01 09.6 -0.3**
comp=Z,0.9nm,0.8s,baz=12,slow=5.2,SNR=6.0
NVAR LR LR 07 26 15.9
comp=Z,100nm,19.3s,baz=13,slow=37
comp=Z,0.9nm,0.8s
TCRU Three Creeks R 55.93 27 IAmb IAmb 07 01 22.9
comp=Z,4.3nm,0.8s
R11B Troy Canyon, C 56.06 30 P **P 07 01 09.5 -1.7**
LCMT Little Creek M 57.49 28 IAmb IAmb 07 01 40.1
comp=Z,12nm,1.4s
EIL Elat 58.22 244 LR LR 07 31 44.2
comp=Z,101nm,18.3s,baz=64,slow=41
PZH PanZhiHua 58.76 174 P **P 07 01 32.8 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.5s
TKL Tuckaleechee C 59.44 360 LR LR 07 26 36.1
comp=Z,171nm,19.7s,baz=354,slow=35
ANMO Albuquerque 59.79 21 LR LR 07 27 17.8
comp=Z,141nm,21.8s,baz=160,slow=36
PFO Pinyon Flats O 60.75 31 LR LR 07 29 12.6
comp=Z,91nm,19.4s,baz=334,slow=37
BRDH Bariadhala 62.56 185 LR LR 07 31 29.3
comp=Z,66nm,19.8s,baz=118,slow=38
TXAR Lajitas Array 65.47 19 P **P 07 02 14.2 -1.1**
comp=Z,0.7nm,0.7s,baz=6.6,slow=3.9,SNR=5.8
TXAR LR LR 07 30 49.0
comp=Z,72nm,21.6s,baz=340,slow=36
comp=Z,0.7nm,0.7s
CMAR Chiang Mai Arr 66.75 177 P **P 07 02 20.6 -2.9**
comp=Z,0.9nm,0.3s,baz=350,slow=7.5,SNR=9.5
CMAR LR LR 07 33 49.4
comp=Z,49nm,18.2s,baz=200,slow=38
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 66.75 177 *e*P **P 07 02 21.6 -1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
LPIG La Paz 70.46 25 LR LR 07 35 05.1
comp=Z,64nm,19.1s,baz=334,slow=37
SJG San Juan 76.68 343 LR LR 07 38 18.5
comp=Z,36nm,18.6s,baz=196,slow=36
TORD Torodi Ar. Bea 77.36 275 P **P 07 03 27.0 0.0**
CMIG Matias Romero 77.84 11 LR LR 07 40 57.5
comp=Z,42nm,19.4s,baz=1.0,slow=38
JTS Las Juntas de 84.69 1 LR LR 07 41 56.6
comp=Z,52nm,20.0s,baz=48,slow=36
MDP Montagnes des 89.13 329 LR LR 07 38 53.4
comp=Z,26nm,19.9s,baz=188,slow=32
ROSC El Rosal 90.03 350 LR LR 07 47 29.6
comp=Z,36nm,18.1s,baz=47,slow=37

IDC 26 06:59:18.8±3.0, 31°.92S×177°.61W, h0km, mb3.9/2, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=70.6km s-min=36.7km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.66**	**213**	Pn	Pn	07 01 11.2	-0.3
URZ	0.3nm,0.3s,baz=24,slow=20,SNR=1.5						
				Sn	Sn	07 02 39.2	+0.1
	1.5nm,0.3s,baz=40,slow=22,SNR=6.1						
	3.1nm,0.6s						
ASAR	**Alice Springs**	**43.38**	**268**	P	P	07 07 23.1	-0.2
	0.5nm,0.5s,baz=106,slow=7.5,SNR=12						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.51**	**273**	P	P	07 07 32.3	0.0
	1.2nm,0.4s,baz=113,slow=7.7,SNR=15						
	1.2nm,0.4s						
FINES	**FINESS Array B**	**146.69**	**339**	PKPbc	PKPdf	07 19 00.9	+0.8
	0.8nm,0.4s,baz=55,slow=4.2,SNR=7.9						

WEL 26 07:06:50.0±0.6, 33°S±4°×17°9W±°, h12km, M4.1/7, mB4.8/4, ML4.4/12, MLv4.1/7, Mw(mB)4.0/4, Error ellipse: s-maj=12.5km s-min=4.0km az=110.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.25**	**12**	P	Pn	07 07 53.8	-0.8
GLKZ				S	Sn	07 08 42.3	-1.9
MXZ	**Matakaoa Point**	**4.68**	**208**	P	Pn	07 08 01.3	+0.8
MXZ				S	Sn	07 08 57.3	+2.5
WMGZ	**Waiomatatini S**	**4.87**	**205**	P	Pn	07 08 04.5	+1.4
WMGZ				S	Sn	07 09 02.8	+3.4
PKGZ	**Pakihiroa**	**5.04**	**208**	P	Pn	07 08 06.9	+1.5
PKGZ				S	Sn	07 09 04.2	+0.7
HAZ	**Te Kaha**	**5.06**	**211**	P	Pn	07 08 06.3	+0.6
HAZ				S	Sn	07 09 07.5	+3.4
PUZ	**Puketiti**	**5.15**	**205**	P	Pn	07 08 08.0	+1.0
PUZ				S	Sn	07 09 06.2	-0.2
RUGZ	**Raukumara Rang**	**5.28**	**210**	P	Pn	07 08 10.2	+1.3
RUGZ				S	Sn	07 09 11.3	+1.6
TWGZ	**Tauwhareparae**	**5.34**	**207**	P	Pn	07 08 09.1	-0.5
TWGZ				S	Sn	07 09 12.6	+1.4
CNGZ	**Carnagh Statio**	**5.54**	**204**	P	Pn	07 08 12.7	+0.5
CNGZ				S	Sn	07 09 17.5	+1.7
TKGZ	**Te Karaka**	**5.62**	**206**	P	Pn	07 08 12.9	-0.5
TKGZ				S	Sn	07 09 18.0	0.0
MWZ	**Matawai**	**5.66**	**209**	P	Pn	07 08 13.4	-0.6
MWZ				S	Sn	07 09 18.4	-0.5
URZ	**Urewera**	**5.78**	**212**	P	Pn	07 08 16.4	+0.9
URZ				S	Sn	07 09 19.4	-2.3
RIGZ	**Rimuhau**	**5.89**	**206**	P	Pn	07 08 17.8	+0.6
RIGZ				S	Sn	07 09 23.3	-1.3
SNGZ	**Shannon Statio**	**6.12**	**208**	P	Pn	07 08 22.1	+1.9
KNZ	**Kokohu**	**6.20**	**205**	P	Pn	07 08 21.6	+0.2
OUZ	**Omahuta**	**6.41**	**252**	P	Pn	07 08 26.9	+2.6
OUZ				S	Sn	07 09 38.0	+0.7
ARHZ	**Aropaoanui**	**6.67**	**208**	P	Pn	07 08 29.6	+1.9
ARHZ				S	Sn	07 09 41.9	-1.8
TMVZ	**Te Maari**	**7.12**	**216**	P	Pn	07 08 34.4	+0.3
PXZ	**Pawanui**	**7.39**	**206**	P	Pn	07 08 37.6	0.0
PXZ				S	Sn	07 09 57.8	-3.6

IDC 26 07:11:54.8±2.2, 47°.69N×91°.88E, h0km, mbtmp3.4/4, ML3.0/4, Error ellipse: s-maj=27.7km s-min=19.6km az=172.0
ASRS 26 07:12:03.0±0.4, 48°N±2°×9°2E±°, h5km, MLh4.2/15, Error ellipse: s-maj=4.7km s-min=2.8km az=175.8, confirmed
ISC 26 07:11:60.0±1.6, 47°.96N±0°.08×91°.84E±0°.04, h10km, n26, σ2§01/47, 3C-3D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**3.14**	**314**	Pn	**Pn**	**07 12 51.7**	**+2.1**
CUR				Pg	**Pb**	**07 12 56.9**	**+1.0**
CUR				Sg	**Sg**	**07 13 40.3**	**-0.6**
TEL	**Teeli**	**3.25**	**341**	Pg	**Pg**	**07 13 02.9**	**+0.8**
TEL				Sg	**Sg**	**07 13 47.6**	**+3.4**
DGZ	**Jazzator, Alta**	**3.39**	**303**	Pn	**Pn**	**07 12 54.7**	**+1.5**
DGZ				Pg	**Pb**	**07 13 03.0**	**+2.8**
DGZ				Sg	**Sg**	**07 13 46.4**	**-2.5**
AKAR	**Aktash**	**3.64**	**312**	Pn	**Pn**	**07 12 58.9**	**+2.4**
AKAR				Pg	**Pg**	**07 13 08.6**	**-1.1**
AKAR				Sg	**Sg**	**07 13 56.0**	**-0.8**
ULGR	**Ulagan, Altay**	**3.68**	**318**	Pn	**Pb**	**07 13 01.7**	**-3.4**
ULGR				Sg	**Sg**	**07 13 58.8**	**+0.6**
CHBI	**Chibit, Altay**	**3.70**	**311**	Pn	**Pn**	**07 12 59.4**	**+2.2**
CHBI				Pg	**Pg**	**07 13 08.9**	**-1.9**
CHBI				Sg	**Sg**	**07 13 58.1**	**-0.5**
KZLR	**Kyzyl**	**4.12**	**23**	Pg	**Pb**	**07 13 13.0**	**+0.6**
KZLR				Sg	**Sg**	**07 14 11.0**	**-1.1**
KNGR	**Kungurtug, Tuv**	**4.56**	**52**	Pg	**Pb**	**07 13 23.7**	**+3.5**
KNGR				Sg	**Sg**	**07 14 25.7**	**-0.8**
YALR	**Yailyu, Altay**	**4.69**	**326**	Pn	**Pn**	**07 13 13.0**	**+2.2**
YALR				Pg	**Pg**	**07 13 28.8**	**-1.0**
YALR				Sg	**Sg**	**07 14 31.6**	**+1.0**
ARDR	**Aradan**	**4.74**	**12**	Pn	**Pn**	**07 13 15.0**	**+3.5**
ARDR				Sg	**Sg**	**07 14 28.6**	**-3.5**
ARTR	**Artybash**	**4.84**	**324**	Pn	**Pn**	**07 13 16.0**	**+3.1**
ARTR				Pg	**Pg**	**07 13 30.8**	**-1.9**
ARTR				Sg	**Sg**	**07 14 36.3**	**+1.0**
DJO	**Djoy, Khakassi**	**4.85**	**356**	Sg	**Sg**	**07 14 34.6**	**-0.8**
CERR	**Cheremushki**	**4.91**	**357**	Pn	**Pn**	**07 13 13.6**	**-0.2**
CERR				Pg	**Pg**	**07 13 31.7**	**-2.3**
CERR				Sg	**Sg**	**07 14 37.0**	**-0.5**
ELDR	**Elanda**	**4.96**	**313**	Pn	**Pn**	**07 13 17.1**	**+2.6**
ELDR				Pg	**Pg**	**07 13 32.6**	**-2.4**
ELDR				Sg	**Sg**	**07 14 38.5**	**-0.7**
TDJR	**Todzha**	**5.22**	**30**	Pn	Pn	07 13 23.4	+5.3
TDJR				Pg	**Pg**	**07 13 38.0**	**-1.9**
TDJR				Sg	**Sg**	**07 14 45.6**	**-1.9**
VEH	**Verkhnyaya Baz**	**5.39**	**350**	Pn	**Pn**	**07 13 21.8**	**+1.3**
VEH				Pg	**Pg**	**07 13 41.1**	**-2.0**
VEH				Sg	**Sg**	**07 14 53.3**	**+0.4**
TASR	**Tashtagol**	**5.43**	**334**	Sg	**Sg**	**07 14 56.4**	**+2.1**
UKR	**Ust'-Kan**	**5.49**	**306**	Pg	**Pg**	**07 13 41.8**	**-3.3**
UKR				Sg	**Sg**	**07 14 54.1**	**-2.0**
GALT	**Gorno-Altaysk,**	**5.52**	**319**	Sg	**Sg**	**07 14 56.6**	**-0.5**
MK31	**Makanchi Array**	**6.59**	**263**	⇑Pn	Pn	07 13 34.1	-2.8
	0.3nm,0.2s,baz=125,slow=11,SNR=11						
MK31				⇓Pg	**Pb**	**07 13 55.7**	**+1.1**
	3.3nm,0.5s,baz=84,slow=17,SNR=15						
MK31				⇓Lg	Lg	07 15 19.1	
	6.8nm,0.5s,baz=80,slow=32,SNR=5.8						
MKAR	**Makanchi Array**	**6.59**	**263**	Pn	Pn	07 13 34.4	-2.5
	0.4nm,0.3s,baz=82,slow=16,SNR=14						
MKAR				Lg	Lg	07 15 20.1	
	2.5nm,0.3s,baz=80,slow=34,SNR=3.8						
	0.5nm,0.3s						
MAKZ	**Makanchi**	**6.79**	**264**	⇑Pn	Pn	07 13 36.0	-3.7
	2.0nm,0.7s						
MAKZ				⇓Pg	Pb	07 13 56.6	-1.6
	3.9nm,0.8s						
MAKZ				⇑Lg	Lg	07 15 26.1	
	11nm,0.6s						
ZALV	**Zalesovo Beam**	**7.46**	**326**	**Pn**	**Pn**	**07 13 49.0**	**+0.3**
	0.3nm,0.3s,baz=149,slow=17,SNR=4.1						
ZALV				Pg	Pg	07 14 16.7	-5.9
	0.4nm,0.3s,baz=169,slow=16,SNR=4.3						
ZALV				Lg	Lg	07 15 57.1	
	1.0nm,0.3s,baz=139,slow=25,SNR=3.8						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**9.10**	**292**	Pn	**Pn**	**07 14 09.3**	**-1.9**
	0.1nm,0.3s,baz=103,slow=14,SNR=5.0						
KURBB				Lg	Lg	07 16 46.0	
	0.3nm,0.3s,baz=102,slow=30,SNR=7.0						
	0.8nm,0.4s						
SONM	**Songino Array**	**9.78**	**85**	Pg	Pn	07 14 52.0	+31
	0.2nm,0.3s,baz=283,slow=15,SNR=2.4						
SONM				Lg	Lg	07 17 03.1	
	0.6nm,0.3s,baz=268,slow=25,SNR=7.4						
AAK	**Ala-Archa**	**13.31**	**253**	Pn	Pn	07 15 05.7	-3.3
	0.2nm,0.3s,baz=66,slow=10.0,SNR=5.1						
AAK				Lg	Lg	07 18 57.6	
	0.2nm,0.3s,baz=158,slow=19,SNR=1.9						
	1.4nm,0.5s						

BER 26 07:24:37.4±3.0, 80°.79N×2°.55W, h10km, mb(Pn)2.8, ML1.1(DNK), Confirmed Earthquake
DNK 26 07:24:38.8±2.9, 80°.83N×2°.32W, h50km±95km, ML1.1
ISC 26 07:24:34.3±1.3, 80°.8N±0°.2×2°.41W±0°.09, h10km, n11, σ2§37/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.34**	**297**	*e*	Pn	07 25 10.4	-2.2
NOR	baz=89,slow=18						
NOR				*i* P	Pb	07 25 14.0	-2.4
NOR				*i* S	**Sn**	**07 25 40.1**	**-1.2**
NOR				IAML		07 25 42.0	
	comp=Z,1.6nm,0.2s						
NOR	**Nord**	**2.34**	**297**	*e*	Pn	07 25 10.4	-2.2
NOR	baz=89,slow=18						
NOR				*i* P	Pb	07 25 14.0	-2.4
NOR				*i* S	**Sn**	**07 25 40.1**	**-1.2**
NOR				IAML		07 25 42.0	
	comp=Z,1.6nm,0.2s						
KBS	**Kingsbay**	**3.15**	**119**	*i* P	**Pn**	**07 25 25.8**	**+2.0**
KBS				*i* S	**Sn**	**07 25 59.1**	**-2.2**
KBS	**Kingsbay**	**3.15**	**119**	*i* P	**Pn**	**07 25 25.8**	**+2.0**
KBS				*i* S	**Sn**	**07 25 59.1**	**-2.2**
BRBA	**Barentsburg A**	**4.10**	**123**	*e*P	**Pn**	**07 25 37.7**	**+1.0**
SPA0	**Spitsbergen Ar**	**4.30**	**118**	*e*P	**Pn**	**07 25 42.1**	**+2.5**
SPA0				*e*S	**Sn**	**07 26 28.0**	**-1.8**
SPA0				IAML		07 26 38.4	
	comp=Z,2.2nm,0.7s						
HSPB	**Hornsund (broa**	**5.12**	**129**	*e*P	**Pn**	**07 25 54.3**	**+3.5**
HOPEN	**Hopen**	**6.82**	**114**	*e*S	**Sn**	**07 27 27.4**	**-4.2**
HOPEN				IAML		07 27 28.4	
	comp=Z,2.5nm,0.8s						
DBG	**Daneborg**	**7.51**	**220**	*e*P	**Pn**	**07 26 24.2**	**+0.6**
DBG				*i* S	Sn	07 27 40.5	-8.1
DBG				IAML		07 27 49.2	
	comp=Z,0.7nm,0.4s						
DBG	**Daneborg**	**7.51**	**220**	*e*P	**Pn**	**07 26 24.2**	**+0.6**
DBG				*i* S	Sn	07 27 40.5	-8.1
DBG				IAML		07 27 49.2	
	comp=Z,0.7nm,0.4s						
NEEM	**North Greenlan**	**9.49**	**275**	*e*P	**Pn**	**07 26 50.6**	**-0.4**

IDC 26 07:32:12.3±3.3, 51°.27N×179°.45W, h0km, mb3.3/5, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=80.4km s-min=28.1km az=179.0
AEIC 26 07:32:15.9±2.0, 51°.06N±0°.06×179°.4W±0°.1, h13km±7km, Error ellipse: s-maj=13.9km s-min=7.5km az=116.0
NEIC 26 07:32:15.0±0.7, 50°.97N±0°.06×179°.5W±0°.1, h28km±10km, ML3.2(AEIC), Error ellipse: s-maj=12.8km s-min=1.8km az=131.0
ISC 26 07:32:16.7±1.3, 51°.0N±0°.1×179°.38W±0°.10, h43km, n23, σ1§14/20, mb3.4/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**0.82**	**23**		**Sn**	**07 32 43.8**	**+0.9**
GAEA	**Gareloi East**	**0.86**	**27**		**Pn**	**07 32 32.1**	**-0.3**
GAEA					**Sn**	**07 32 43.7**	**0.0**
GANE	**Gareloi Northe**	**0.88**	**25**		**Pn**	**07 32 32.3**	**-0.4**
TASE	**Tanaga Southea**	**1.17**	**46**		**Pn**	**07 32 36.8**	**+0.2**
TAFP	**Tanaga Falls P**	**1.24**	**44**		**Pn**	**07 32 37.8**	**+0.2**
TAFP					**Sn**	**07 32 55.2**	**+2.1**
KIWB	**Kanaga Island**	**1.62**	**58**		**Pn**	**07 32 42.4**	**-0.4**
ADK	**Adak**	**1.89**	**62**	Pn	**Pn**	**07 32 46.0**	**-0.5**
ADK				Sn	**Sn**	**07 33 09.4**	**+0.2**
GSCK	**Great Sitkin C**	**2.24**	**63**		**Pn**	**07 32 52.0**	**+0.7**
GSTR	**Great Sitkin T**	**2.33**	**61**	Pn	**Pn**	**07 32 52.4**	**-0.2**
ATKA	**Atka Island**	**3.44**	**68**		**Pn**	**07 33 07.5**	**-0.2**
KDAK	**Kodiak Island**	**16.92**	**56**	Pn	**Pn**	**07 36 06.7**	**-3.4**
	0.2nm,0.3s,baz=272,slow=1.2,SNR=9.4						
	4.7nm,0.9s						
ILAR	**Eielson Array**	**21.75**	**38**	P	**P**	**07 37 03.4**	**-0.8**
	0.1nm,0.5s,baz=250,slow=10,SNR=4.9						
	0.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.06**	**204**	T	T	08 14 14.9	
	baz=18						
H11N3	**WAKE ISLAND Hy**	**33.07**	**204**	T	T	08 14 15.1	
	baz=18						
H11N1	**WAKE ISLAND Hy**	**33.08**	**204**	T	T	08 14 17.9	
	baz=18						
H11S1	**WAKE ISLAND Hy**	**34.28**	**204**	T	T	08 15 48.0	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**34.29**	**204**	T	T	08 15 47.2	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**34.29**	**204**	T	T	08 15 48.6	
	baz=18						
YKA	**Yellowknife Ar**	**35.74**	**46**	P	**P**	**07 39 10.9**	**0.0**
	0.2nm,0.6s,baz=280,slow=8.8,SNR=5.6						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**46.77**	**72**	P	**P**	**07 40 43.6**	**+1.7**
	0.2nm,0.6s,baz=295,slow=5.6,SNR=3.8						
	0.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**50.70**	**356**	P	**P**	**07 41 11.3**	**0.0**
	3.0nm,0.8s,baz=46,slow=4.8,SNR=5.5						
MKAR	**Makanchi Array**	**59.97**	**308**	P	**P**	**07 42 18.1**	**-0.3**
	0.2nm,0.5s,baz=41,slow=8.6,SNR=2.4						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**75.77**	**342**	P	**P**	**07 43 58.4**	**+0.8**
	0.8nm,0.4s,baz=23,slow=6.6,SNR=4.7						
	0.8nm,0.4s						

WEL 26 07:33:10.1±1.0, 32°S±5°×17°8W±1°7, h12km, M4.7/12, mB5.0/6, ML4.9/13, MLv5.0/12, Mw(mB)4.3/6, Error ellipse: s-maj=23.0km s-min=3.4km az=103.3, confirmed
IDC 26 07:33:11.6±0.8, 31°.90S×178°.04W, h0km, mb4.3/6, mbtmp4.3/7, ML5.0/1, MS3.5/3, Error ellipse: s-maj=30.0km s-min=26.0km az=53.0
NEIC 26 07:33:18.2±1.0, 32°.19S±0°.08×178°.8W±0°.2, h10km±2km, mb4.6/14, Error ellipse: s-maj=27.1km s-min=4.9km az=120.0
ISC 26 07:33:13.9±0.8, 32°.09S±0°.06×178°.0W±0°.1, h24km, n63, σ1§45/75, mb4.4/15, MS3.7/3, 3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.82**	**1**	P	**Pn**	**07 33 56.7**	**-0.8**
GLKZ				S	**Sn**	**07 34 30.1**	**-0.5**
RIZ	**Raoul Island**	**2.84**	**1**	P	**Pn**	**07 33 55.4**	**-2.2**
RIZ				S	**Sn**	**07 34 29.1**	**-2.0**
MXZ	**Matakaoa Point**	**6.25**	**208**	Pn	**Pn**	**07 34 44.8**	**+0.2**
MXZ	**Matakaoa Point**	**6.25**	**208**	P	**Pn**	**07 34 43.4**	**-1.2**
MXZ				S	**Sn**	**07 35 55.4**	**+0.1**
WMGZ	**Waiomatatini S**	**6.43**	**206**	P	**Pn**	**07 34 47.2**	**+0.1**
WMGZ				S	**Sn**	**07 35 59.5**	**-0.2**
PKGZ	**Pakihiroa**	**6.60**	**208**	P	**Pn**	**07 34 49.8**	**+0.3**
PKGZ				S	**Sn**	**07 36 03.4**	**-0.6**
HAZ	**Te Kaha**	**6.63**	**210**	P	**Pn**	**07 34 50.5**	**+0.6**
PUZ	**Puketiti**	**6.71**	**206**	P	**Pn**	**07 34 49.6**	**-1.3**
PUZ				S	**Sn**	**07 36 06.7**	**0.0**
RUGZ	**Raukumara Rang**	**6.85**	**210**	P	**Pn**	**07 34 53.3**	**+0.3**
TWGZ	**Tauwhareparae**	**6.91**	**207**	P	**Pn**	**07 34 53.6**	**-0.1**
TWGZ				S	**Sn**	**07 36 11.8**	**+0.2**
CNGZ	**Carnagh Statio**	**7.10**	**205**	P	**Pn**	**07 34 54.8**	**-1.4**
CNGZ				S	**Sn**	**07 36 17.7**	**+1.7**
TKGZ	**Te Karaka**	**7.19**	**207**	P	**Pn**	**07 34 56.7**	**-0.8**
TKGZ

URZ Urewera 7.35 212 Pn **Pn 07 34 58.1 -1.5**
1.2nm,0.3s,baz=359,slow=4.5,SNR=16
URZ Sn **Sn 07 36 21.0 -1.2**
12nm,0.3s,baz=252,slow=13,SNR=7.8
URZ Urewera 7.35 212 P **Pn 07 34 58.2 -1.5**
URZ S **Sn 07 36 19.3 -2.9**
WCZ Waipu Caves 7.43 237 P Pn 07 35 07.5 +6.7
RIGZ Rimuhau 7.46 207 P **Pn 07 35 00.4 -0.7**
RIGZ S **Sn 07 36 22.8 -2.2**
MKAZ Moumakai 7.54 227 P **Pn 07 35 03.3 +0.9**
MKAZ S **Sn 07 36 27.5 +0.4**
PRGZ Paritu Road 7.60 205 P **Pn 07 35 00.3 -2.9**
PRGZ S **Sn 07 36 25.1 -3.5**
MUGZ Murupara 7.68 212 S **Sn 07 36 30.1 -0.3**
OUZ Omahuta 7.68 244 P Pn 07 35 10.1 +5.9
SNGZ Shannon Statio 7.69 208 P **Pn 07 35 04.0 -0.3**
SNGZ S **Sn 07 36 28.9 -1.8**
TOZ Tahuroa Road 7.76 222 Pn **Pn 07 35 03.3 -2.0**
KNZ Kokohu 7.77 206 P **Pn 07 35 02.3 -3.0**
KNZ S **Sn 07 36 31.5 -1.0**
MHGZ Mahia Peninsul 7.80 204 P **Pn 07 35 02.2 -3.6**
MHGZ S **Sn 07 36 32.7 -0.7**
WAZ Wanganui 9.53 215 S **Sn 07 37 12.2 -3.8**
MSVF Nonsavu 14.74 345 Pn **Pn 07 36 40.1 -0.8**
0.3nm,0.3s,baz=157,slow=23,SNR=2.5
12nm,0.9s
PPT Papeete 29.45 67 LR LR 07 49 23.9
comp=Z,54nm,19.7s,baz=248,slow=33
STKA Stephens Creek 34.14 259 P **P 07 39 56.4 -0.7**
STKA IAmb IAmb 07 40 19.9
comp=Z,8.0nm,0.8s
STKA Stephens Creek 34.14 259 P **P 07 39 58.9 +1.8**
comp=Z,1.1nm,0.4s,baz=90,slow=11,SNR=5.3
STKA LR LR 07 52 17.9
comp=Z,151nm,19.8s,baz=37,slow=34
comp=Z,1.1nm,0.4s
BBOO Buckleboo 38.55 256 P **P 07 40 34.1 -0.6**
BBOO IAmb IAmb 07 40 52.4
comp=Z,7.9nm,1.0s
PMG Port Moresby 39.36 297 P **P 07 40 42.2 +0.6**
comp=Z,4.0nm,0.3s,baz=180,slow=8.1,SNR=3.2
comp=Z,4.0nm,0.3s
COEN Coen 39.77 288 P **P 07 40 45.2 +0.2**
AS31 Alice Springs 43.05 269 P **P 07 41 13.2 +1.2**
ASAR Alice Springs 43.05 269 P **P 07 41 13.0 +1.0**
ASAR Alice Springs 43.05 269 P **P 07 41 12.8 +0.7**
comp=Z,2.4nm,0.5s,baz=106,slow=7.5,SNR=46
comp=Z,2.4nm,0.5s
WR8 Warramunga Arr 44.05 274 P **P 07 41 20.8 +0.7**
WR8 IAmb IAmb 07 41 22.1
comp=Z,11nm,1.1s
WB2 Warramunga Arr 44.18 274 P **P 07 41 21.6 +0.5**
WB2 IAmb IAmb 07 41 28.9
comp=Z,7.3nm,0.5s
WRAB Tennant Creek 44.19 274 P **P 07 41 21.4 +0.3**
WRAB IAmb IAmb 07 41 28.6
comp=Z,6.6nm,0.7s
WRA Warramunga Arr 44.19 274 P **P 07 41 21.5 +0.3**
comp=Z,4.2nm,0.5s,baz=114,slow=7.9,SNR=10
comp=Z,4.2nm,0.5s
WB0 Warramunga Arr 44.23 274 P **P 07 41 21.8 +0.3**
WB0 IAmb IAmb 07 41 41.7
comp=Z,8.3nm,0.6s
FORT Forrest 45.65 257 P **P 07 41 32.2 -0.4**
MTN Manton Dam 50.27 280 P **P 07 42 07.9 -0.7**
KNRA Kununurra 50.86 276 P **P 07 42 13.1 +0.1**
KNRA IAmb IAmb 07 42 29.2
comp=Z,1.9nm,0.6s
FITZ Fitzroy Crossi 52.38 271 P **P 07 42 24.6 +0.3**
QSPA South Pole Qui 58.03 180 P P 07 43 09.6 +5.0
QSPA South Pole Qui 58.03 180 P **P 07 43 08.2 +3.6**
comp=Z,1.3nm,0.7s,baz=297,slow=1.8,SNR=8.1
comp=Z,1.3nm,0.7s
BELA Belgrano 2 68.11 172 P P 07 44 17.8 +6.5
BELA IAmb IAmb 07 44 22.2
comp=Z,3.7nm,1.1s
SNAA Sanae 76.47 178 ⇓P **P 07 45 00.2 -1.1**
comp=Z,21nm,1.0s
SNAA Sanae 76.47 178 P **P 07 45 03.3 +2.0**
comp=Z,2.0nm,1.1s,baz=356,slow=8.1,SNR=2.0
comp=Z,2.0nm,1.1s
VNA3 Neumayer Olymp 76.62 176 ⇓P **P 07 45 00.2 -1.9**
comp=Z,3.1nm,0.8s
VNA2 Neumayer--Watz 77.06 177 ⇓P **P 07 45 02.7 -1.8**
comp=Z,1.2nm,0.6s,baz=157,slow=4.3
PDAR Pinedale Array 97.35 44 LR LR 08 24 44.1
comp=Z,23nm,19.0s,baz=285,slow=32
MKAR Makanchi Array 118.86 309 PKP **PKiKP 07 52 00.7 +0.7**
comp=Z,0.3nm,0.7s,baz=147,slow=1.0,SNR=3.6
KURBB Kurchatov Arra 122.25 313 PKP **PKiKP 07 52 06.8 +0.4**
comp=Z,0.7nm,0.5s,baz=108,slow=2.0,SNR=7.6
BVAR Borovoye Array 127.61 315 PKP **PKiKP 07 52 18.0 +0.9**
comp=Z,0.8nm,0.5s,baz=90,slow=1.4,SNR=6.5
KBZ Khabaz 146.03 302 PKPbc **PKPab 07 52 52.9 +0.8**
comp=Z,3.3nm,0.9s,baz=130,slow=0.4,SNR=7.2
FINES FINESS Array B 146.73 339 PKPbc **PKPab 07 52 54.1 -0.1**
comp=Z,6.7nm,0.5s,baz=73,slow=4.2,SNR=30
NB2 NORSAR Subarra150.42 351 PKP **PKiKP 07 53 04.1 +0.7**
comp=Z,1.2nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B150.42 351 PKPbc **PKiKP 07 53 03.7 +0.3**
comp=Z,1.7nm,0.8s,baz=24,slow=4.2,SNR=4.9
HFS Hagfors 150.90 348 PKPbc **PKiKP 07 53 04.6 +0.3**
comp=Z,1.8nm,0.5s,baz=90,slow=2.9,SNR=7.5
AKASG Malin Array Be 152.63 321 PKPbc **PKiKP 07 53 08.3 +0.1**
comp=Z,0.9nm,0.5s,baz=58,slow=2.9,SNR=6.7
BRTR Keskin Array B 153.37 296 PKPbc **PKiKP 07 53 10.9 +0.6**
comp=Z,1.5nm,0.8s,baz=51,slow=4.0,SNR=4.9

*WEL **26** 07:34:51.9±1.1,32°S±4°×17°8W±1°5,h12km,M5.1/4,*
mB5.0/5,MLv5.1/4,Error ellipse: s-maj=20.7km
s-min=3.1km az=104.1,confirmed
*IDC **26** 07:34:53.9±0.8,32°05S×177°95W,h0km,mb4.2/5,*
mbtmp4.2/5,MS4.1/1,Error ellipse: s-maj=34.1km
s-min=29.7km az=177.0
*NEIC **26** 07:34:56.3±0.8,32°14S±0°07×178°1W±0°1,h10km±2km,*
mb4.6/16,Error ellipse: s-maj=23.5km s-min=7.3km
az=62.0

ISC 26 07:34:57.3±0.6,32°13S±0°05×178°0W±0°1,h24km,n73,
σ1§84/77,mb4.4/14,5D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.86**	**0**	P	**Pn**	**07 35 39.3**	**-2.0**
GLKZ				S	**Sn**	**07 36 13.0**	**-1.9**
RIZ	**Raoul Island**	**2.87**	**0**	P	**Pn**	**07 35 39.9**	**-1.7**
RIZ				S	**Sn**	**07 36 14.7**	**-0.7**
MXZ	**Matakaoa Point**	**6.24**	**209**	Pn	**Pn**	**07 36 26.1**	**-1.6**
WMGZ	**Waiomatatini S**	**6.42**	**207**	P	**Pn**	**07 36 30.3**	**+0.1**
WMGZ				S	**Sn**	**07 37 40.8**	**-1.8**
PKGZ	**Pakihiroa**	**6.59**	**209**	P	**Pn**	**07 36 31.0**	**-1.6**
PKGZ				S	**Sn**	**07 37 48.6**	**+1.7**
HAZ	**Te Kaha**	**6.62**	**211**	P	**Pn**	**07 36 33.3**	**+0.3**
TWGZ	**Tauwhareparae**	**6.89**	**208**	S	**Sn**	**07 37 54.2**	**-0.4**
CNGZ	**Carnagh Statio**	**7.08**	**205**	P	**Pn**	**07 36 37.2**	**-2.1**
CNGZ				S	**Sn**	**07 37 56.8**	**-2.2**
TKGZ	**Te Karaka**	**7.17**	**207**	S	**Sn**	**07 38 00.1**	**-1.3**
URZ	**Urewera**	**7.33**	**212**	Sn	**Sn**	**07 38 03.7**	**-1.5**
5.9nm,0.3s,baz=83,slow=24,SNR=4.3							
WIAZ	**Waiheke Island**	**7.37**	**229**	S	**Sn**	**07 38 12.5**	**+6.3**
RIGZ	**Rimuhau**	**7.44**	**207**	S	**Sn**	**07 38 05.9**	**-2.0**
WCZ	**Waipu Caves**	**7.44**	**237**	P	Pn	07 36 50.5	+6.2
MKAZ	**Moumakai**	**7.54**	**227**	S	**Sn**	**07 38 09.9**	**-0.6**
PRGZ	**Paritu Road**	**7.58**	**205**	S	**Sn**	**07 38 08.9**	**-2.6**
MUGZ	**Murupara**	**7.67**	**213**	S	**Sn**	**07 38 12.1**	**-1.3**
SNGZ	**Shannon Statio**	**7.67**	**209**	P	**Pn**	**07 36 47.6**	**+0.1**
SNGZ				S	**Sn**	**07 38 12.7**	**-0.9**
RTZ	**Ruatahuna**	**7.68**	**211**	Pn	**Pn**	**07 36 47.3**	**-0.4**
OUZ	**Omahuta**	**7.70**	**244**	P	Pn	07 36 52.9	+5.1
KNZ	**Kokohu**	**7.75**	**206**	S	**Sn**	**07 38 14.1**	**-1.4**
MHGZ	**Mahia Peninsul**	**7.78**	**205**	S	**Sn**	**07 38 13.8**	**-2.5**
MTHZ	**Maungataniwha**	**7.94**	**211**	S	**Sn**	**07 38 20.8**	**+0.5**
MCHZ	**McNeill Hill**	**8.50**	**209**	S	**Sn**	**07 38 32.4**	**-1.5**
KWHZ	**Kaweka Forest**	**8.60**	**211**	S	**Sn**	**07 38 34.9**	**-1.6**
KAHZ	**Kahuranaki**	**8.72**	**207**	S	**Sn**	**07 38 37.1**	**-2.4**
KRHZ	**Kereru**	**8.80**	**210**	S	**Sn**	**07 38 36.6**	**-4.8**
PXZ	**Pawanui**	**8.93**	**207**	S	**Sn**	**07 38 41.1**	**-3.5**
PNHZ	**Pukenui**	**9.10**	**210**	S	**Sn**	**07 38 43.2**	**-5.6**
ANWZ	**Angora Road**	**9.45**	**207**	S	**Sn**	**07 38 52.9**	**-4.4**
WAZ	**Wanganui**	**9.52**	**215**	P	Pn	07 37 04.9	-8.0
WAZ				S	**Sn**	**07 38 56.5**	**-2.6**
BFZ	**Birch Farm**	**9.73**	**207**	Pn	**Pn**	**07 37 15.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**11.59**	**212**	Pn	**Pn**	**07 37 40.9**	**-0.2**
EIDS	**Eidsvold**	**27.91**	**276**	P	**P**	**07 40 44.8**	**-0.8**
STKA	**Stephens Creek**	**34.17**	**259**	P	**P**	**07 41 41.1**	**+0.4**
STKA	**Stephens Creek**	**34.17**	**259**	P	**P**	**07 41 41.0**	**+0.3**
6.9nm,1.1s,baz=113,slow=7.7,SNR=3.6							
6.9nm,1.1s							
BBOO	**Buckleboo**	**38.57**	**256**	P	**P**	**07 42 18.2**	**-0.1**
BBOO				IAmb	IAmb	07 42 25.3	
comp=Z,35nm,1.4s							
RABL	**Rabaul**	**39.46**	**309**	P	**P**	**07 42 25.3**	**-0.6**
COEN	**Coen**	**39.82**	**288**	P	**P**	**07 42 29.5**	**+0.6**
COEN				IAmb	IAmb	07 42 32.0	
comp=Z,6.8nm,1.0s							
AS31	**Alice Springs**	**43.09**	**269**	P	**P**	**07 42 55.8**	**+0.1**
ASAR	**Alice Springs**	**43.09**	**269**	P	**P**	**07 42 54.5**	**-1.2**
ASAR	**Alice Springs**	**43.09**	**269**	P	**P**	**07 42 55.8**	**+0.1**
comp=Z,2.8nm,0.7s,baz=102,slow=8.1,SNR=8.9							
ASAR				PcP	**PcP**	**07 44 46.7**	**+1.3**
comp=Z,0.5nm,0.8s,baz=97,slow=4.1,SNR=1.6							
comp=Z,2.8nm,0.7s							
WR8	**Warramunga Arr**	**44.09**	**274**	P	**P**	**07 43 03.8**	**+0.1**
WR8				IAmb	IAmb	07 43 04.9	
comp=Z,8.7nm,1.1s							
WB2	**Warramunga Arr**	**44.22**	**274**	P	**P**	**07 43 04.5**	**-0.4**
WB2				IAmb	IAmb	07 43 21.9	
comp=Z,6.9nm,0.6s							
WRA	**Warramunga Arr**	**44.23**	**274**	P	**P**	**07 43 04.1**	**-0.8**
WRA	**Warramunga Arr**	**44.23**	**274**	P	**P**	**07 43 04.7**	**-0.2**
comp=Z,2.6nm,0.3s,baz=113,slow=7.9,SNR=14							
comp=Z,2.6nm,0.3s							
WB0	**Warramunga Arr**	**44.27**	**274**	P	**P**	**07 43 04.7**	**-0.5**
WB0				IAmb	IAmb	07 43 24.3	
comp=Z,6.6nm,0.6s							
FORT	**Forrest**	**45.67**	**257**	P	**P**	**07 43 15.6**	**-0.6**
VNDA	**Vanda**	**46.39**	**186**	P	**P**	**07 43 21.7**	**+0.6**
MTN	**Manton Dam**	**50.32**	**280**	P	**P**	**07 43 51.6**	**-0.7**
KNRA	**Kununurra**	**50.90**	**276**	P	**P**	**07 43 56.4**	**-0.3**
KNRA				IAmb	IAmb	07 44 08.2	
comp=Z,9.9nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.42**	**271**	P	**P**	**07 44 07.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.42**	**271**	LR	LR	08 04 46.7	
comp=Z,161nm,18.6s,baz=58,slow=34							
QSPA	**South Pole Qui**	**57.99**	**180**	P	**P**	**07 44 49.0**	**+1.3**
QSPA				IAmb	IAmb	07 45 03.0	
comp=Z,8.5nm,0.8s							
QSPA	**South Pole Qui**	**57.99**	**180**	P	**P**	**07 44 48.3**	**+0.6**
comp=Z,1.0nm,1.0s,baz=342,slow=9.6,SNR=0.9							
comp=Z,1.0nm,1.0s							
BELA	**Belgrano 2**	**68.07**	**172**	P	**P**	**07 45 55.8**	**+1.5**
BELA				IAmb	IAmb	07 46 02.2	
comp=Z,3.4nm,1.2s							
SYO	**Syowa Base**	**75.45**	**193**	⇓*e*P	**P**	**07 46 38.4**	**-0.3**
TROLL	**Troll, Antarti**	**76.15**	**180**	⇓P	**P**	**07 46 45.6**	**+2.7**
comp=Z,49nm,0.6s							
SNAA	**Sanae**	**76.43**	**178**	⇓P	**P**	**07 46 48.1**	**+3.7**
comp=Z,20nm,0.6s							
SNAA	**Sanae**	**76.43**	**178**	P	**P**	**07 46 46.0**	**+1.5**
comp=Z,1.6nm,1.0s,baz=218,slow=12,SNR=1.8							
comp=Z,1.6nm,1.0s							
VNA3	**Neumayer Olymp**	**76.58**	**176**	⇓P	**P**	**07 46 47.4**	**+2.2**
comp=Z,2.2nm,0.6s							
VNA2	**Neumayer--Watz**	**77.02**	**177**	⇓P	**P**	**07 46 49.9**	**+2.3**
comp=Z,1.3nm,0.6s,baz=184,slow=4.9							
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	**PKPdf**	**07 53 42.9**	**-0.5**
comp=Z,0.4nm,0.7s,baz=103,slow=3.1,SNR=3.8							
KURBB	**Kurchatov Arra**	**122.30**	**313**	PKP	**PKPdf**	**07 53 49.9**	**+0.1**
comp=Z,0.6nm,0.5s,baz=111,slow=2.0,SNR=3.1							
SCHQ	**Schefferville**	**127.48**	**43**	PKP	**PKPdf**	**07 53 58.8**	**-0.8**
comp=Z,1.9nm,0.8s,baz=227,slow=18,SNR=2.2							
BVAR	**Borovoye Array**	**127.66**	**315**	PKP	**PKPdf**	**07 54 00.6**	**+0.7**
comp=Z,0.9nm,0.4s,baz=135,slow=2.5,SNR=5.1							
KBZ	**Khabaz**	**146.09**	**302**	PKPbc	**PKPab**	**07 54 35.8**	**+0.1**
comp=Z,3.3nm,0.9s,baz=121,slow=5.9,SNR=4.7							
FINES	**FINESS Array B**	**146.78**	**339**	PKPbc	**PKPbc**	**07 54 36.7**	**+0.3**
comp=Z,5.8nm,0.5s,baz=62,slow=4.7,SNR=18							
NB2	**NORSAR Subarra150.46**	**351**		PKP	**PKPbc**	**07 54 46.7**	**+0.6**
comp=Z,0.9nm,0.5s,baz=14,slow=2.6							
NOA	**NORSAR Array B150.46**	**351**		PKPbc	**PKPbc**	**07 54 46.5**	**+0.4**
comp=Z,1.0nm,0.5s,baz=16,slow=2.5,SNR=4.9							
HFS	**Hagfors**	**150.94**	**348**	PKPbc	**PKPbc**	**07 54 47.5**	**+0.3**
comp=Z,1.4nm,0.3s,baz=98,slow=4.5,SNR=9.5							
MMAI	**Mount Meron Ar**	**151.94**	**281**	PKPbc	**PKiKP**	**07 54 52.3**	**+1.4**
comp=Z,4.2nm,0.5s,baz=104,slow=5.2,SNR=2.2							
AKASG	**Malin Array Be**	**152.68**	**321**	PKPbc	**PKPbc**	**07 54 51.2**	**-0.3**
comp=Z,0.3nm,0.3s,baz=54,slow=2.9,SNR=4.2							
BRTR	**Keskin Array B**	**153.42**	**295**	PKPbc	**PKPbc**	**07 54 52.9**	**-0.8**
comp=Z,1.2nm,0.6s,baz=131,slow=5.1,SNR=4.2							

*NEIC **26** 07:54:55.9±1.0,2°62S±0°08×128°57E±0°07,h10km±1km,*
mb4.6/27,Error ellipse: s-maj=13.8km s-min=10.2km
az=213.0
*DJA **26** 07:54:58.2±0.7,3°S±2°×12°9E±°,h22km±6km,M4.7/24,*
mb4.8/24,mB5.1/6,MLv4.7/14,Mw(mB)4.5/6
*IDC **26** 07:55:01.4±2.7,2°71S×128°61E,h56km±24km,mb3.8/20,*
mbtmp4.2/23,ML4.1/3,MS3.6/16,Error ellipse:
s-maj=23.1km s-min=9.3km az=75.0

ISC 26 07:54:59.3±0.4,2°64S±0°04×128°47E±0°04,h35km,n123,
σ1§29/112,mb4.3/38,MS3.6/15,2D,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.83**	**147**	P	**Pn**	**07 55 14.4**	**-0.2**
MSAI				S	**Sn**	**07 55 27.4**	**+1.7**
AAI	**Ambon**	**1.08**	**195**	P	**Pn**	**07 55 17.4**	**-0.5**
NLAI	**Namlea**	**1.50**	**247**	P	**Pn**	**07 55 23.8**	**+0.1**
BNDI	**Bandanaira**	**2.35**	**143**	P	**Pn**	**07 55 37.5**	**+2.0**
BNDI	**Bandanaira**	**2.35**	**143**	P	**Pn**	**07 55 36.5**	**+1.0**
SANI	**Sanana**	**2.55**	**283**	P	**Pn**	**07 55 36.6**	**-1.7**
SANI	**Sanana**	**2.55**	**283**	S	**Sn**	**07 56 07.1**	**-1.0**
SANI	**Sanana**	**2.55**	**283**	P	**Pn**	**07 55 35.5**	**-2.8**
SANI				S	**Sn**	**07 56 05.9**	**-2.2**
SWI	**Sorong**	**3.30**	**58**	P	**Pn**	**07 55 48.2**	**-0.3**
SWI				S	**Sn**	**07 56 26.3**	**-0.2**
TNTI	**Ternate**	**3.57**	**342**		**Pn**	**07 55 51.0**	**-1.3**
TNTI	**Ternate**	**3.57**	**342**	P	Pn	07 55 59.2	+7.0
FAKI	**Fak Fak**	**3.78**	**94**	Pn	**Pn**	**07 55 53.1**	**-2.0**
FAKI	**Fak Fak**	**3.78**	**94**	P	**Pn**	**07 55 54.6**	**-0.6**
FAKI	**Fak Fak**	**3.78**	**94**	S	**Sn**	**07 56 39.5**	**+1.0**
FAKI	**Fak Fak**	**3.78**	**94**	P	**Pn**	**07 55 54.5**	**-0.6**
KMSI	**Cibinong**	**5.51**	**305**	P	**Pn**	**07 56 19.7**	**+0.7**
LUWI	**Luwuk**	**5.92**	**285**		**Pn**	**07 56 24.7**	**+0.1**
LUWI	**Luwuk**	**5.92**	**285**	P	**Pn**	**07 56 25.3**	**+0.8**
0.7nm2μm156nm,1.0s							
APSI	**Ampana**	**7.04**	**284**	P	**Pn**	**07 56 40.6**	**+0.7**
MRSI	**Marisa**	**7.23**	**295**	P	**Pn**	**07 56 42.5**	**-0.1**
BAKI	**Biak**	**7.76**	**79**	P	**Pn**	**07 56 50.0**	**+0.1**
0.4nm88nm,0.9s							
SOEI	**Soe**	**8.21**	**210**	P	Pn	07 57 12.0	+16
TOLI2	**Tolitoli**	**8.55**	**296**	Pn	**Pn**	**07 57 00.2**	**-0.5**
TOLI2					**Sn**	**07 58 36.0**	**+0.1**
TOLI2	**Tolitoli**	**8.55**	**296**	P	**Pn**	**07 57 00.3**	**-0.4**
TOLI2	**Tolitoli**	**8.55**	**296**	S	**Sn**	**07 58 36.3**	**+0.3**
TTSI	**Tana Toraja**	**8.65**	**267**	P	**Pn**	**07 57 03.4**	**+1.2**
30nm,0.6s							
BSSI	**Bau Bau, Buton**	**8.69**	**246**	P	**Pn**	**07 57 04.0**	**+1.4**
51nm,0.9s							
BKSI	**Bulukumba**	**8.75**	**252**	P	**Pn**	**07 57 04.8**	**+1.4**
SPSI	**Sidrap Palu**	**8.79**	**261**	P	**Pn**	**07 57 05.9**	**+1.9**
74nm,0.6s							
PCI	**Palu**	**8.80**	**281**	P	**Pn**	**07 57 05.3**	**+1.1**
129nm,0.9s							
KAPI	**Kappang**	**9.02**	**255**	Pn	**Pn**	**07 57 07.2**	**+0.1**
KAPI	**Kappang**	**9.02**	**255**	P	**Pn**	**07 57 10.6**	**+3.5**
1.4nm,0.3s,baz=87,slow=8.5,SNR=9.6							
KAPI				LR	LR	08 00 46.0	
comp=Z,188nm,18.4s,baz=75,slow=38							
28nm,0.9s							
EDFI	**Ende, Flores**	**9.07**	**228**	P	**Pn**	**07 57 09.3**	**+1.3**
22nm,0.8s							
DRS	**Darwin Rock St**	**10.02**	**166**	P	**Pn**	**07 57 23.8**	**+2.9**
MTN	**Manton Dam**	**10.47**	**166**	Pn	**Pn**	**07 57 25.6**	**-1.5**
MTN	**Manton Dam**	**10.47**	**166**	P	**Pn**	**07 57 28.3**	**+1.2**
KDU	**Kakadu**	**10.74**	**159**	P	**Pn**	**07 57 31.7**	**+1.0**
JAY	**Jayapura**	**12.22**	**90**	P	**Pn**	**07 57 52.0**	**+1.0**
0.7nm,0.3s,baz=266,slow=6.0,SNR=2.2							
6.1nm,0.5s							
MYLDM	**Lahad Datu**	**12.63**	**308**	Pn	**Pn**	**07 57 55.8**	**-0.9**
KNRA	**Kununurra**	**12.96**	**179**	Pn	**Pn**	**07 58 00.3**	**-0.8**
KMMI	**Kalianget**	**15.10**	**253**	P	**Pn**	**07 58 32.5**	**+2.3**
59nm,1.4s							
FITZ	**Fitzroy Crossi**	**15.61**	**190**		**P**	**07 58 40.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**15.61**	**190**	P	**P**	**07 58 39.3**	**-1.4**
0.9nm,0.3s,baz=22,slow=9.7,SNR=30							
7.3nm,0.6s							
WB0	**Warramunga Arr**	**17.98**	**162**		**Pn**	**07 59 04.5**	**-2.1**
WRAB	**Tennant Creek**	**18.12**	**162**		**Pn**	**07 59 06.2**	**-2.2**
WRA	**Warramunga Arr**	**18.12**	**162**	P	**Pn**	**07 59 06.0**	**-2.4**
WRA	**Warramunga Arr**	**18.12**	**162**	P	**Pn**	**07 59 05.7**	**-2.8**
1.7nm,0.3s,baz=336,slow=13,SNR=36							
WRA				S	**Sn**	**08 02 30.3**	**+0.4**
2.6nm,0.7s,baz=337,slow=20,SNR=5.9							
WB2	**Warramunga Arr**	**18.13**	**162**	Pn	**Pn**	**07 59 05.6**	**-2.9**
COEN	**Coen**	**18.37**	**129**		**P**	**07 59 08.7**	**-2.6**
KSM	**Kuching**	**18.61**	**282**		**P**	**07 59 13.6**	**-0.4**
KSM				IAmb	IAmb	07 59 25.1	
comp=Z,64nm,1.3s							
MBWA	**Marble Bar**	**20.28**	**204**	P	**P**	**07 59 31.9**	**-0.3**
MBWA				IAmb	IAmb	07 59 55.9	
comp=Z,20nm,1.2s							
PSA00	**Pilbara Seismi**	**20.61**	**203**	P	**P**	**07 59 35.9**	**+0.2**
PSA00				IAmb	IAmb	07 59 57.3	
comp=Z,41nm,1.4s							
AS31	**Alice Springs**	**21.55**	**166**	P	**P**	**07 59 45.0**	**-0.8**
ASAR	**Alice Springs**	**21.55**	**166**	P	**P**	**07 59 45.0**	**-0.8**
ASAR	**Alice Springs**	**21.55**	**166**	P	**P**	**07 59 44.8**	**-1.1**
comp=Z,17nm,0.5s,baz=348,slow=12,SNR=297							
ASAR				S	**S**	**08 03 39.8**	**-3.2**
comp=Z,11nm,0.9s,baz=351,slow=22,SNR=19							
ASAR				PcP	**PcP**	**08 03 48.3**	**+0.7**
comp=Z,2.5nm,0.7s,baz=12,slow=1.7,SNR=10							
ASAR				LR	LR	08 08 19.0	
comp=Z,228nm,18.8s,baz=314,slow=37							
comp=Z,17nm,0.5s							
GUMO	**Guam**	**22.90**	**45**	LR	LR	08 08 05.0	
comp=Z,85nm,21.4s,baz=199,slow=34							
KASI	**Kota Agung**	**24.09**	**262**	P	P	08 00 23.7	+12
MDSI	**Maura Dua**	**24.32**	**265**	P	**P**	**08 00 15.9**	**+1.9**
comp=Z,36nm,1.3s							
FORT	**Forrest**	**27.99**	**181**	P	**P**	**08 00 46.0**	**-1.0**
PPI	**Padang Panjang**	**28.15**	**274**	P	**P**	**08 00 49.8**	**+1.2**
comp=Z,35nm,0.9s							
JOW	**Kunigami**	**29.30**	**360**	LR	LR	08 10 20.9	
comp=Z,250nm,20.8s,baz=124,slow=31							
RPSI	**Rantau Prapat**	**30.01**	**280**	P	**P**	**08 01 05.8**	**+0.7**
RPSI				IAmb	IAmb	08 01 13.4	
comp=Z,13nm,1.0s							
GSI	**Gunungsitoli**	**31.14**	**277**	P	**P**	**08 01 13.8**	**-1.3**
STKA	**Stephens Creek**	**31.60**	**158**	P	**P**	**08 01 17.8**	**-1.2**
comp=Z,0.7nm,0.4s,baz=345,slow=7.9,SNR=4.5							
comp=Z,0.7nm,0.4s							
HNR	**Honiara**	**32.00**	**104**	LR	LR	08 15 19.5	
comp=Z,98nm,19.9s,baz=291,slow=38							
CMAR	**Chiang Mai Arr**	**35.84**	**307**	P	**P**	**08 01 58.5**	**+2.4**
comp=Z,0.9nm,0.3s,baz=101,slow=7.9,SNR=4.4							
CMAR				LR	LR	08 19 37.4	
comp=Z,45nm,19.7s,baz=115,slow=41							
comp=Z,0.9nm,0.3s							
PZH	**PanZhiHua**	**38.81**	**320**	P	**P**	**08 02 24.0**	**+2.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,100nm,4.1s							
KSRS	**Korea Array**	**39.90**	**359**	P	**P**	**08 02 29.1**	**-0.8**
comp=Z,0.9nm,0.7s,baz=189,slow=9.4,SNR=2.2							
comp=Z,0.9nm,0.7s							
MJAR	**Matsushiro Arr**	**40.02**	**12**	P	**P**	**08 02 30.0**	**-1.0**
comp=Z,0.6nm,0.5s,baz=173,slow=10,SNR=2.3							
comp=Z,0.6nm,0.5s							
BRDH	**Bariadhala**	**43.87**	**307**	LR	LR	08 25 07.5	
comp=Z,59nm,18.7s,baz=126,slow=41							
LZH	**Lanzhou**	**44.87**	**331**	*e*P	P	08 03 18.5	+7.8
LZH				pP	pwP	08 03 22.5	-0.5
LZH				pmax	pmax		
comp=Z,30nm,1.3s							
HHC	**Hu-ho-hao-te**	**45.96**	**342**	*e*P	**P**	**08 03 21.0**	**+1.9**
HHC				pmax	pmax		
comp=Z,11nm,0.5s							
HHC				pmax	pmax		
comp=Z,130nm,5.0s							
USRK	**Ussuriysk Ar.**	**46.74**	**3**	P	**P**	**08 03 25.6**	**+0.6**
comp=Z,1.6nm,0.6s,baz=160,slow=6.8,SNR=2.5							
comp=Z,1.6nm,0.6s							
ASAJ	**Asahikawa**	**48.24**	**14**	LR	LR	08 22 13.3	
comp=Z,68nm,21.1s,baz=150,slow=34							
GTA	**Gaotai**	**49.45**	**331**	*e*P	**P**	**08 03 47.8**	**+1.5**

comp=Z,7.0nm,1.1s
KDAK Kodiak Island 86.33 32 LR LR 08 40 14.2
comp=Z,43nm,20.7s,baz=112,slow=31
D19K Kuna River 86.41 21 P **P** **08 07 36.8 -1.1**
SYO Syowa Base 87.15 201‖ *e*P **P** **08 07 43.2 +1.8**
SYO Syowa Base 87.15 201‖ *es*P P 08 07 47.8 +6.4
QSPA South Pole Qui 87.31 180 P **P** **08 07 41.1 -1.3**
comp=Z,1.4nm,0.8s,baz=271,slow=2.1,SNR=5.1
comp=Z,1.4nm,0.8s
KBZ Khabaz 88.61 314 P **P** **08 07 49.3 +0.4**
comp=Z,1.6nm,0.9s,baz=173,slow=8.1,SNR=3.9
comp=Z,1.6nm,0.9s
GURO Guroymak-BITLI 88.84 308 P **P** **08 07 48.8 -1.5**
ILAR Eielson Array 90.08 25 P **P** **08 07 55.1 -0.3**
comp=Z,0.7nm,0.8s,baz=247,slow=5.4,SNR=8.2
comp=Z,0.7nm,0.8s
I28M Miner Creek 93.05 25 P **P** **08 08 09.4 +0.2**
MMAI Mount Meron Ar 94.00 303 LR LR 08 58 50.9
comp=Z,26nm,19.0s,baz=133,slow=41
EIL Elat 94.36 299 LR LR 08 58 39.9
comp=Z,16nm,18.4s,baz=249,slow=40
SPITS Spitsbergen Ar 97.03 349 LR LR 08 57 43.7
comp=Z,23nm,19.2s,baz=338,slow=39
MODS Modra-Piesok 105.96 320 *e*PDIFF **Pdif** **08 09 08.0 +0.5**
PLCA Paso Flores 133.46 160 PKP **PKiKP** **08 14 13.3 -0.4**
comp=Z,1.2nm,0.8s,baz=322,slow=7.9,SNR=3.5
CPUP Villa Florida 150.66 169 PKPbc **PKiKP** **08 14 49.2 0.0**
comp=Z,10nm,0.9s,baz=210,slow=1.4,SNR=16
LPAZ La Paz 155.04 139 PKPbc 08 14 58.3
comp=Z,0.4nm,0.4s,baz=37,slow=1.4,SNR=2.8

AFAD 26 07:58:18.4, 38°.94N×26°.12E, h7km±2km, ML1.8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.36**	**141**	P	Pg	07 58 26.0	+0.5
KARB				S	Sg	07 58 31.1	+0.8
KARB				*i* AML	AML	07 58 33.0	
	comp=N,81nm,0.3s						
KARB				*i* AML	AML	07 58 33.0	
	comp=E,76nm,0.2s						
KOCA	**Canakkale, Ayv**	**0.56**	**2**	P	Pg	07 58 29.2	0.0
KOCA				S	Sb	07 58 39.3	+0.5
KOCA				*i* AML	AML	07 58 43.0	
	comp=N,49nm,0.2s						
KOCA				*i* AML	AML	07 58 43.0	
	comp=E,68nm,0.3s						
AYVA	**Ayvalik**	**0.57**	**51**	P	Pg	07 58 29.7	+0.2
AYVA				S	Sg	07 58 37.5	+0.5
AYVA				*i* AML	AML	07 58 38.0	
	comp=E,40nm,0.6s						
AYVA				*i* AML	AML	07 58 39.0	
	comp=N,85nm,0.3s						
IZMD	**zmir-Dikili-**	**0.63**	**86**	P	Pg	07 58 30.7	+0.1
IZMD				S	Sb	07 58 40.1	-0.8
URLA	**Izmir**	**0.69**	**147**	P	Pg	07 58 32.0	+0.2
URLA				S	Sb	07 58 42.7	+0.1
URLA				*i* AML	AML	07 58 44.0	
	comp=E,39nm,0.5s						
URLA				*i* AML	AML	07 58 45.0	
	comp=N,60nm,0.4s						
ZEDA	**zmir-Bergama**	**0.75**	**88**	P	Pb	07 58 34.1	+0.4
ZEDA				S	Sb	07 58 43.8	-0.4
ZEYE	**Izmir, Urla-Ze**	**0.77**	**157**	P	Pg	07 58 33.3	+0.2
ZEYE				S	Sb	07 58 45.8	+1.2
ZEYE				*i* AML	AML	07 58 47.0	
	comp=E,34nm,0.5s						
ZEYE				*i* AML	AML	07 58 48.0	
	comp=N,31nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.86**	**23**	P	Pb	07 58 35.9	+0.2
BAYC				S	Sb	07 58 47.7	+0.2
BUHA	**Balikesir, Bur**	**0.93**	**53**	P	Pg	07 58 36.3	+0.1
BUHA				S	Sb	07 58 48.9	-0.5
BUHA				*i* AML	AML	07 58 52.0	
	comp=E,42nm,0.3s						
DGB	**zmir**	**1.07**	**146**	P	Pn	07 58 39.9	+0.1
DGB				S	Sn	07 58 54.7	-0.2
ECEA	**Canakkale, Ece**	**1.10**	**2**	P	Pb	07 58 39.7	-0.1
ECEA				S	Sn	07 58 55.2	-0.5
ECEA				*i* AML	AML	07 58 56.0	
	comp=N,63nm,0.5s						
ECEA				*i* AML	AML	07 58 59.0	
	comp=E,44nm,0.3s						
CNKL	**anakkale-Mer**	**1.14**	**10**	P	Pg	07 58 39.8	-0.5
CNKL				S	Sn	07 58 56.3	-0.3
CNKL				*i* AML	AML	07 58 58.0	
	comp=N,40nm,0.9s						
CNKL				*i* AML	AML	07 58 58.0	
	comp=E,45nm,0.4s						
GOAD	**anakkale-G¶**	**1.23**	**353**	P	Pb	07 58 41.9	0.0
GOAD				S	Sn	07 58 59.1	+0.2
GOAD				*i* AML	AML	07 59 00.0	
	comp=N,46nm,0.3s						
GOAD				*i* AML	AML	07 59 00.0	
	comp=E,45nm,0.5s						

IDC 26 08:04:13.3±9.4, 3°.35S×29°.38E, h0km, mb3.8/3, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=274.7km s-min=26.9km az=177.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.17**	**74**	Pn	Pn	08 06 13.8	+0.2
	0.4nm,0.3s,baz=259,slow=18,SNR=2.0						
KMBO				Sn	Sn	08 07 42.5	-4.3
	0.7nm,0.3s,baz=253,slow=19,SNR=3.6						
KMBO				Lg	Lg	08 08 33.8	
	3.0nm,0.3s,baz=148,slow=23,SNR=6.9						
	1.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**32.00**	**301**	P	P	08 10 41.9	+0.2
	0.9nm,0.3s,baz=105,slow=7.2,SNR=1.3						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**68.20**	**36**	P	P	08 15 15.1	-0.7
	0.4nm,0.6s,baz=242,slow=5.5,SNR=5.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**68.21**	**31**	P	P	08 15 16.1	+0.5
	0.8nm,0.8s,baz=238,slow=6.6,SNR=5.8						
	0.8nm,0.8s						

IDC 26 08:15:56.8±420.0, 49°.13N×50°.88E, h0km, Error ellipse: s-maj=170.2km s-min=104.2km az=63.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.81**	**72**	I	I	08 45 30.0	
	0.2nm,0.6s,baz=258,slow=313,SNR=1.3						
I43RU	**DUBNA INFRASONI**	**1.20**	**318**	I	I	09 23 20.0	
	baz=128,slow=329,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**21.51**	**64**	I	I	10 25 55.0	
	baz=271,slow=329						

*IDC **26** 08:18:37.4±1.0, 43°.07N×29°.43W, h0km, mb3.6/7, mbtmp3.6/7, MS3.3/3, Error ellipse: s-maj=32.3km s-min=26.6km az=51.0*

ISC 26 08:18:38.9±0.9, 43°.1N±0°.2×29°.4W±0°.2, h10km, n10, σ1§13/7, mb3.6/7, MS3.4/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**22.01**	**109**	LR	LR	08 30 33.5	
	comp=Z,55nm,18.0s,baz=354,slow=32						
SADO	**Sadowa**	**35.41**	**290**	LR	LR	08 39 51.3	
	comp=Z,55nm,18.1s,baz=360,slow=36						
TORD	**Torodi Ar. Bea**	**40.10**	**129**	P	**P**	**08 26 13.9**	**-0.9**
	0.7nm,0.3s,baz=324,slow=8.9,SNR=1.5						
	0.7nm,0.3s						
ULM	**Lac du Bonnet**	**44.80**	**303**	LR	LR	08 42 34.9	
	comp=Z,45nm,21.3s,baz=21,slow=32						
YKA	**Yellowknife Ar**	**50.86**	**323**	P	**P**	**08 27 39.5**	**+0.1**
	0.3nm,0.7s,baz=68,slow=7.4,SNR=6.3						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**59.65**	**283**	P	**P**	**08 28 42.0**	**-1.4**
	0.4nm,0.8s,baz=83,slow=5.2,SNR=4.0						
	0.4nm,0.8s						
BDFB	**Brasilia**	**60.87**	**201**	P	**P**	**08 28 53.0**	**+1.3**
	1.1nm,0.4s,baz=11,slow=10,SNR=3.3						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**61.97**	**334**	P	**P**	**08 28 59.2**	**+0.6**
	0.3nm,0.6s,baz=41,slow=7.2,SNR=5.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**67.62**	**41**	P	**P**	**08 29 36.2**	**+0.6**
	0.6nm,0.9s,baz=309,slow=7.9,SNR=2.3						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**72.05**	**42**	P	**P**	**08 30 02.9**	**-0.2**
	0.2nm,0.6s,baz=320,slow=6.6,SNR=2.4						
	0.2nm,0.6s						

IDC 26 08:30:14.0±459.0, 48°.04N×49°.80E, h0km, Error ellipse: s-maj=150.4km s-min=110.1km az=40.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.89**	**63**	I	I	09 06 20.0	
	0.1nm,0.6s,baz=249,slow=328,SNR=2.0						
I43RU	**DUBNA INFRASONI**	**1.59**	**323**	I	I	09 38 10.0	
	baz=132,slow=327,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**22.65**	**62**	I	I	10 47 50.0	
	baz=270,slow=329,SNR=1.3						

*CATAC **26** 08:44:39.5±0.7, 13°N±3°×9°0W±°, h4km±4km, M3.7/34, MLv3.7/34, Error ellipse: s-maj=6.7km s-min=3.6km az=27.2, confirmed*
*SNET **26** 08:44:42.4±0.9, 12°.83N×90°.22W, h24km±6km, ML3.6*
*GCG **26** 08:44:45.0±1.6, 13°.04N×90°.26W, h50km±17km, MD4.3*

ISC 26 08:44:40.1±1.9, 12°.80N±0°.05×90°.34W±0°.04, h13km±10km, n165, σ0§55/173, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.20**	**55**	*e*P	**Pn**	**08 45 01.9**	**-0.6**
LALI				*es*S	**Sb**	**08 45 17.5**	**-0.7**
LALI	**Alcalda de L**	**1.20**	**55**	S	**Sn**	**08 45 19.0**	**+0.2**
LALI	**Alcalda de L**	**1.20**	**55**	P	**Pn**	**08 45 02.0**	**-0.6**
LALI	**Alcalda de L**	**1.20**	**55**	S	**Sb**	**08 45 18.2**	**+0.1**
LALI	**Alcalda de L**	**1.20**	**55**	P	**Pn**	**08 45 02.1**	**-0.5**
LALI	**Alcalda de L**	**1.20**	**55**	*i* P	**Pn**	**08 45 01.9**	**-0.6**
LALI				*es*S	**Sb**	**08 45 16.6**	**-1.5**
LALI	**Alcalda de L**	**1.20**	**55**	*e*P	**Pn**	**08 45 01.9**	**-0.6**
LALI				*i* S	**Sb**	**08 45 18.0**	**-0.2**
LALI	**Alcalda de L**	**1.20**	**55**	*i* P		08 45 01.9	
LALI				*es*S		08 45 16.6	
LALI	**Alcalda de L**	**1.20**	**55**	*e*P		08 45 01.9	
LALI				*i* S		08 45 18.0	
JAYA	**Jayaque - finc**	**1.21**	**45**‖	*e*P	**Pn**	**08 45 02.5**	**-0.3**
JAYA				IAML		08 45 22.1	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.21**	**45**	S	**Sn**	**08 45 19.0**	**-0.2**
JAYA	**Jayaque - finc**	**1.21**	**45**	P	**Pn**	**08 45 02.7**	**-0.2**
JAYA	**Jayaque - finc**	**1.21**	**45**	P	**Pn**	**08 45 02.6**	**-0.3**
JAYA	**Jayaque - finc**	**1.21**	**45**	*i* P	**Pn**	**08 45 02.4**	**-0.4**
JAYA				*i* S	**Sb**	**08 45 17.0**	**-1.6**
JAYA	**Jayaque - finc**	**1.21**	**45**	*e*P	**Pn**	**08 45 02.5**	**-0.3**
JAYA				*i* S	**Sb**	**08 45 18.6**	**0.0**
JAYA	**Jayaque - finc**	**1.21**	**45**	*i* P		08 45 02.4	
JAYA				*i* S		08 45 17.0	
JAYA	**Jayaque - finc**	**1.21**	**45**	*e*P		08 45 02.5	
JAYA				*i* S		08 45 18.6	
NUBE	**Las Nubes**	**1.22**	**26**	*e*P	**Pn**	**08 45 03.0**	**0.0**
NUBE				*es*S	**Sb**	**08 45 18.0**	**-0.8**
NUBE	**Las Nubes**	**1.22**	**26**	P	**Pb**	**08 45 03.3**	**+0.2**
NUBE	**Las Nubes**	**1.22**	**26**	S	**Sn**	**08 45 19.5**	**+0.1**
NUBE	**Las Nubes**	**1.22**	**26**	P	**Pn**	**08 45 02.8**	**-0.2**
NUBE	**Las Nubes**	**1.22**	**26**	*e*P	**Pn**	**08 45 02.7**	**-0.2**
NUBE				*es*S	**Sb**	**08 45 17.0**	**-1.8**
NUBE	**Las Nubes**	**1.22**	**26**	*e*P	**Pn**	**08 45 02.8**	**-0.2**
NUBE	**Las Nubes**	**1.22**	**26**	*e*P		08 45 02.7	
NUBE				*es*S		08 45 17.0	
NUBE	**Las Nubes**	**1.22**	**26**	*e*P		08 45 02.8	
CEVE	**Cerro Verde**	**1.23**	**34**	*e*P	**Pn**	**08 45 03.3**	**+0.1**
CEVE				IAML		08 45 21.1	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.23**	**34**	S	**Sg**	**08 45 20.4**	**+0.4**
CEVE	**Cerro Verde**	**1.23**	**34**	P	**Pb**	**08 45 03.4**	**0.0**
CEVE	**Cerro Verde**	**1.23**	**34**	S	**Sb**	**08 45 19.4**	**+0.1**
CEVE	**Cerro Verde**	**1.23**	**34**	P	**Pn**	**08 45 03.3**	**+0.1**
SBLS	**San Blas**	**1.24**	**34**	*e*P	**Pn**	**08 45 03.3**	**-0.1**
LOAL	**Lomas de Alarc**	**1.31**	**24**	*e*P	**Pb**	**08 45 04.9**	**+0.4**
LOAL	**Lomas de Alarc**	**1.31**	**24**	P	**Pb**	**08 45 05.1**	**+0.6**
LOAL	**Lomas de Alarc**	**1.31**	**24**	S	**Sg**	**08 45 22.5**	**+0.2**
LOAL	**Lomas de Alarc**	**1.31**	**24**	S	**Sn**	**08 45 21.6**	**+0.1**
LOAL	**Lomas de Alarc**	**1.31**	**24**	P	**Pb**	**08 45 04.9**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.33**	**24**	*e*P	**Pn**	**08 45 04.7**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.33**	**24**	P	**Pg**	**08 45 05.5**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.33**	**24**	S	**Sg**	**08 45 23.4**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.33**	**24**	S	**Sn**	**08 45 21.9**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.33**	**24**	P	**Pb**	**08 45 04.9**	**0.0**
PMON	**Piamonte**	**1.34**	**48**	*e*P	**Pn**	**08 45 04.3**	**-0.4**
PMON	**Piamonte**	**1.34**	**48**	P	**Pn**	**08 45 04.4**	**-0.2**
PMON	**Piamonte**	**1.34**	**48**	S	**Sb**	**08 45 23.0**	**+0.6**
PMON	**Piamonte**	**1.34**	**48**	P	**Pn**	**08 45 04.4**	**-0.2**
ITCA	**Escuela Especi**	**1.35**	**50**	*e*P	**Pn**	**08 45 04.2**	**-0.4**
ITCA	**Escuela Especi**	**1.35**	**50**	S	**Sb**	**08 45 23.1**	**+0.7**
ITCA	**Escuela Especi**	**1.35**	**50**	P	**Pn**	**08 45 04.3**	**-0.4**
ITCA	**Escuela Especi**	**1.35**	**50**	P	**Pn**	**08 45 04.3**	**-0.4**
CEDA	**San Andres**	**1.35**	**43**	*e*P	**Pn**	**08 45 04.9**	**+0.2**
CEDA				IAML		08 45 36.0	
	comp=Z,670nm,0.3s						
CEDA	**San Andres**	**1.35**	**43**	P	**Pn**	**08 45 04.8**	**+0.1**
PANCS	**Alcalda de**	**1.38**	**54**	*e*P	**Pn**	**08 45 04.6**	**-0.6**
PANCS	**Alcalda de**	**1.38**	**54**	S	**Sn**	**08 45 23.4**	**0.0**
PANCS	**Alcalda de**	**1.38**	**54**	S	**Sn**	**08 45 21.7**	**-1.7**
PANCS	**Alcalda de**	**1.38**	**54**	P	**Pn**	**08 45 04.6**	**-0.6**
BOQS	**Boqueron**	**1.39**	**48**	*e*P	**Pn**	**08 45 05.2**	**-0.1**
UNIC	**Universidad Ca**	**1.40**	**33**	*e*P	**Pn**	**08 45 05.5**	**+0.2**
UNIC	**Universidad Ca**	**1.40**	**33**	P	**Pn**	**08 45 05.6**	**+0.2**
UNIC	**Universidad Ca**	**1.40**	**33**	S	**Sb**	**08 45 24.4**	**+0.4**
UNIC	**Universidad Ca**	**1.40**	**33**	S	**Sn**	**08 45 23.8**	**0.0**
UNIC	**Universidad Ca**	**1.40**	**33**	P	**Pn**	**08 45 05.7**	**+0.3**
UEES	**Universidad Ev**	**1.40**	**50**	*e*P	**Pn**	**08 45 04.9**	**-0.6**
UEES	**Universidad Ev**	**1.40**	**50**	P	**Pn**	**08 45 05.1**	**-0.4**
UEES	**Universidad Ev**	**1.40**	**50**	S	**Sg**	**08 45 24.9**	**-0.5**
UEES	**Universidad Ev**	**1.40**	**50**	P	**Pn**	**08 45 05.1**	**-0.4**
SEMO	**Seminario San**	**1.41**	**50**	P	**Pn**	**08 45 05.2**	**-0.3**
SEMO	**Seminario San**	**1.41**	**50**	S	**Sb**	**08 45 24.4**	**+0.3**
LOMA	**Loma Larga**	**1.41**	**53**	*e*P	**Pn**	**08 45 05.1**	**-0.5**
LOMA				IAML		08 45 25.9	
	comp=Z,1μm,0.3s						
LOMA	**Loma Larga**	**1.41**	**53**	S	**Sn**	**08 45 24.0**	**-0.1**
LOMA	**Loma Larga**	**1.41**	**53**	P	**Pn**	**08 45 05.3**	**-0.3**
LOMA	**Loma Larga**	**1.41**	**53**	P	**Pn**	**08 45 05.3**	**-0.3**
UTEC	**Universidad Te**	**1.42**	**51**	S	**Sb**	**08 45 25.1**	**+0.5**
UTEC	**Universidad Te**	**1.42**	**51**	P	**Pn**	**08 45 05.3**	**-0.3**
UTEC	**Universidad Te**	**1.42**	**51**	P	**Pn**	**08 45 05.4**	**-0.3**
QUEZ	**Alcaldia de Qu**	**1.46**	**45**	*e*P	**Pn**	**08 45 06.3**	**+0.2**
UDBS	**Universidad Do**	**1.47**	**52**	P	**Pn**	**08 45 06.0**	**-0.3**
UDBS	**Universidad Do**	**1.47**	**52**	S	**Sn**	**08 45 25.5**	**+0.1**
LFRS	**El Faro**	**1.49**	**57**	*e*P	**Pn**	**08 45 06.2**	**-0.4**
LFU	**La Fuente**	**1.52**	**52**	*e*P	**Pn**	**08 45 07.0**	**0.0**
COEG	**Centro de Oper**	**1.63**	**60**‖	*e*P	**Pn**	**08 45 08.3**	**-0.3**
COEG				IAML		08 45 09.4	
	comp=Z,1μm,0.3s						
COEG	**Centro de Oper**	**1.63**	**60**	P	**Pn**	**08 45 08.4**	**-0.3**
COEG	**Centro de Oper**	**1.63**	**60**	S	**Sn**	**08 45 29.7**	**+0.2**
COEG	**Centro de Oper**	**1.63**	**60**	P	**Pn**	**08 45 08.3**	**-0.3**
PAVA	**Las Pavas**	**1.64**	**56**	*e*P	**Pn**	**08 45 08.9**	**+0.3**
PAVA	**Las Pavas**	**1.64**	**56**	P	**Pn**	**08 45 09.0**	**+0.4**
PAVA	**Las Pavas**	**1.64**	**56**	S	**Sb**	**08 45 30.3**	**-0.5**
PAVA	**Las Pavas**	**1.64**	**56**	P	**Pn**	**08 45 08.9**	**+0.3**
SNVI	**San Vicente**	**1.67**	**61**	*e*P	**Pn**	**08 45 08.8**	**-0.3**
TECO	**Alcaldia de Te**	**1.68**	**64**	P	**Pn**	**08 45 08.8**	**-0.4**
TECO	**Alcaldia de Te**	**1.68**	**64**	S	**Sb**	**08 45 31.4**	**-0.6**
TECO	**Alcaldia de Te**	**1.68**	**64**	P	**Pn**	**08 45 08.9**	**-0.3**
UESV	**Universidad de**	**1.72**	**61**	*e*P	**Pn**	**08 45 09.4**	**-0.3**
UESV	**Universidad de**	**1.72**	**61**	P	**Pn**	**08 45 09.6**	**-0.2**
UESV	**Universidad de**	**1.72**	**61**	S	**Sn**	**08 45 32.0**	**+0.4**
UESV	**Universidad de**	**1.72**	**61**	P	**Pn**	**08 45 09.6**	**-0.2**
ALJI	**Alcalda de J**	**1.80**	**73**	*e*P	**Pn**	**08 45 10.0**	**-0.8**
ALJI	**Alcalda de J**	**1.80**	**73**	P	**Pn**	**08 45 10.1**	**-0.8**
ALJI	**Alcalda de J**	**1.80**	**73**	S	**Sb**	**08 45 34.8**	**-0.5**
ALJI	**Alcalda de J**	**1.80**	**73**	P	**Pn**	**08 45 10.0**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.80**	**60**	*e*P	**Pn**	**08 45 10.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.80**	**60**	P	**Pn**	**08 45 11.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.80**	**60**	S	**Sb**	**08 45 35.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.80**	**60**	P	**Pn**	**08 45 11.1**	**+0.2**
MTO3	**Montecristo**	**1.85**	**31**	*e*P	**Pn**	**08 45 12.3**	**+0.6**
MTO3	**Montecristo**	**1.85**	**31**	P	**Pn**	**08 45 12.3**	**+0.6**
MTO3	**Montecristo**	**1.85**	**31**	S	**Sb**	**08 45 36.9**	**-0.2**
MTO3	**Montecristo**	**1.85**	**31**	P	**Pn**	**08 45 12.4**	**+0.6**
MTO3	**Montecristo**	**1.85**	**31**	*e*P	**Pn**	**08 45 12.2**	**+0.6**
MTO3	**Montecristo**	**1.85**	**31**	*e*P	**Pn**	**08 45 12.2**	**+0.6**
MTO3	**Montecristo**	**1.85**	**31**	*e*P		08 45 12.2	
MTO3	**Montecristo**	**1.85**	**31**	*e*P		08 45 12.2	
STG8	**El Palmar, Qui**	**1.91**	**329**	*es*S		08 45 44.4	
PQSS	**Presa 15 de Se**	**1.91**	**65**	*e*P	**Pn**	**08 45 12.1**	**-0.2**
PQSS	**Presa 15 de Se**	**1.91**	**65**	P	**Pn**	**08 45 12.3**	**0.0**
PQSS	**Presa 15 de Se**	**1.91**	**65**	S	**Sb**	**08 45 39.1**	**+0.4**
PQSS	**Presa 15 de Se**	**1.91**	**65**	P	**Pn**	**08 45 12.3**	**0.0**
LLGN	**La Laguna**	**1.91**	**45**	P	**Pn**	**08 45 12.8**	**+0.3**
LLGN	**La Laguna**	**1.91**	**45**	S	**Sb**	**08 45 38.5**	**-0.2**
LLGN	**La Laguna**	**1.91**	**45**	P	**Pn**	**08 45 12.8**	**+0.3**
TECA	**Tecapa**	**1.92**	**69**	*e*P	**Pn**	**08 45 12.0**	**-0.6**
ESQI	**Esquipulas**	**2.00**	**29**	P	**Pn**	**08 45 14.5**	**+0.9**
ESQI	**Esquipulas**	**2.00**	**29**	S	**Sb**	**08 45 41.4**	**+0.2**
ESQI	**Esquipulas**	**2.00**	**29**	P	**Pn**	**08 45 14.3**	**+0.6**
PACA	**Pacayal**	**2.07**	**71**	S	**Sn**	**08 45 41.0**	**+0.6**
PACA	**Pacayal**	**2.07**	**71**	P	Pn	08 45 09.2	-5.5
LCY	**Lacayo**	**2.08**	**73**	*e*P	**Pn**	**08 45 14.7**	**-0.1**
RANC	**El Ranchito**	**2.09**	**72**	*e*P	**Pn**	**08 45 15.0**	**0.0**
RANC	**El Ranchito**	**2.09**	**72**	P	**Pn**	**08 45 15.0**	**0.0**
RANC	**El Ranchito**	**2.09**	**72**	S	**Sn**	**08 45 42.1**	**+1.2**
RANC	**El Ranchito**	**2.09**	**72**	P	**Pn**	**08 45 15.0**	**0.0**
BLLM	**Bellamira**	**2.14**	**72**	*e*P	**Pn**	**08 45 15.8**	**+0.2**
CNRM	**Centro Naciona**	**2.21**	**72**	P	**Pn**	**08 45 16.9**	**+0.4**
SOKI	**Kika Raxquin**	**2.26**	**333**	*es*S	**Sn**	**08 45 44.3**	**-1.2**
SOKI	**Kika Raxquin**	**2.26**	**333**	*es*S		08 45 44.3	
CAHU	**Cacacuatique**	**2.28**	**65**	*e*P	**Pn**	**08 45 17.7**	**0.0**
LCND	**La Caada**	**2.44**	**78**	*e*P	**Pn**	**08 45 19.4**	**-0.2**
LCND	**La Caada**	**2.44**	**78**	P	**Pn**	**08 45 19.5**	**-0.1**
LCND	**La Caada**	**2.44**	**78**	P	**Pn**	**08 45 19.3**	**-0.3**
CNCH	**Conchagua**	**2.48**	**79**	*e*P	**Pn**	**08 45 19.8**	**-0.5**
CNCH	**Conchagua**	**2.48**	**79**	P	**Pn**	**08 45 20.0**	**-0.4**
CNCH	**Conchagua**	**2.48**	**79**	S	**Sn**	**08 45 50.3**	**-0.3**
CNCH	**Conchagua**	**2.48**	**79**	P	**Pn**	**08 45 19.9**	**-0.4**
CSGN	**Cosiguina Volc**	**2.71**	**86**	P	**Pn**	**08 45 23.1**	**-0.4**
CSGN				S	**Sn**	**08 45 57.6**	**+1.4**
CSGN	**Cosiguina Volc**	**2.71**	**86**	P	**Pn**	**08 45 23.0**	**-0.4**
HUEH	**Huehuetenango**	**2.75**	**336**	S	**Sb**	**08 46 02.0**	**-0.9**
HUEH	**Huehuetenango**	**2.75**	**336**	P	**Pn**	**08 45 24.8**	**+0.7**
POTN	**Potosi Cosigui**	**2.77**	**86**	P	**Pn**	**08 45 23.4**	**-0.7**
POTN				S	**Sn**	**08 45 58.4**	**+1.0**
POTN	**Potosi Cosigui**	**2.77**	**86**	P	**Pn**	**08 45 23.4**	**-0.7**
THIG		**2.81**	**318**	*es*S	**Sn**	**08 45 58.1**	**-0.3**
THIG		**2.81**	**318**	*es*S		08 45 58.1	
CRIN	**San Cristobal**	**3.21**	**91**	P	**Pn**	**08 45 30.4**	**+0.2**
CRIN	**San Cristobal**	**3.21**	**91**	S	**Sn**	**08 46 09.2**	**+0.8**
CRIN	**San Cristobal**	**3.21**	**91**	P	**Pn**	**08 45 30.4**	**+0.2**
TGUH	**Tegucigalpa,Un**	**3.23**	**67**	P	**Pn**	**08 45 30.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.23**	**67**	P	**Pn**	**08 45 30.8**	**+0.1**
PLRN	**Geotermica Pol**	**3.49**	**93**	P	**Pn**	**08 45 32.9**	**-1.2**
PLRN	**Geotermica Pol**	**3.49**	**93**	P	**Pn**	**08 45 32.9**	**-1.2**
ILCN	**San Idelfonso**	**3.56**	**93**	P	**Pn**	**08 45 33.9**	**-1.1**
CNGN	**Cerro Negro**	**3.56**	**94**	P	**Pn**	**08 45 35.2**	**+0.1**
COPN	**Copaltepe**	**3.71**	**99**	P	**Pn**	**08 45 36.9**	**-0.2**
COPN	**Copaltepe**	**3.71**	**99**	P	**Pn**	**08 45 36.3**	**-0.8**
LIMN	**Finca el Limon**	**3.88**	**86**	P	**Pn**	**08 45 39.2**	**-0.3**
LIMN	**Finca el Limon**	**3.88**	**86**	P	**Pn**	**08 45 39.0**	**-0.5**
TISN	**Laguna Tiscapa**	**4.03**	**99**	P	**Pn**	**08 45 40.1**	**-1.4**
TISN	**Laguna Tiscapa**	**4.03**	**99**	P	**Pn**	**08 45 40.1**	**-1.4**
RCVN	**Varillal2**	**4.11**	**79**	P	**Pn**	**08 45 42.6**	**-0.2**
RCVN	**Varillal2**	**4.11**	**79**	P	**Pn**	**08 45 42.6**	**-0.2**
RCPN	**Sur Rio San Ju**	**4.20**	**80**	P	**Pn**	**08 45 43.8**	**-0.1**
RCPN

ISC 26 09:17:01.4±1.6, 13°.71N±0°.06×90°.82W±0°.04, h14km±10km, n123, σ0°80/139, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.34**	**116**	*i* P		09 17 12.9	
ESSJ				*i* S		09 17 22.1	
STG8	**El Palmar, Qui**	**0.90**	**325**	*eP*		09 17 24.8	
STG8				*i* S		09 17 40.6	
GCG4	**OSOP**	**0.91**	**18**	*eP*	**Pb**	**09 17 19.1**	**0.0**
GCG4				*eS*	**Sn**	**09 17 33.1**	**0.0**
GCG4	**OSOP**	**0.91**	**18**	*eP*		09 17 19.1	
GCG4				*eS*		09 17 33.1	
NUBE	**Las Nubes**	**1.02**	**79**	*eP*	**Pb**	**09 17 21.0**	**-0.1**
NUBE				*eS*	**Sb**	**09 17 34.6**	**+0.1**
NUBE	**Las Nubes**	**1.02**	**79**	S	**Sg**	**09 17 35.0**	**+0.4**
NUBE	**Las Nubes**	**1.02**	**79**	P	**Pb**	**09 17 21.1**	**+0.1**
NUBE	**Las Nubes**	**1.02**	**79**	P	**Pb**	**09 17 20.9**	**-0.1**
NUBE	**Las Nubes**	**1.02**	**79**	*i* P	**Pb**	**09 17 21.0**	**-0.1**
NUBE				*eS*	**Sb**	**09 17 34.5**	**+0.1**
NUBE	**Las Nubes**	**1.02**	**79**	*i* P		09 17 21.0	
NUBE				*eS*		09 17 34.5	
LOAL	**Lomas de Alarc**	**1.05**	**74**	*eP*	**Pg**	**09 17 21.7**	**+0.1**
LOAL				*eS*	**Sn**	**09 17 36.3**	**0.0**
LOAL	**Lomas de Alarc**	**1.05**	**74**	P	**Pg**	**09 17 21.7**	**+0.1**
LOAL	**Lomas de Alarc**	**1.05**	**74**	P	**Pg**	**09 17 21.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.05**	**73**	S	**Sn**	**09 17 36.3**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.05**	**73**	P	**Pg**	**09 17 21.7**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.05**	**73**	S	**Sn**	**09 17 36.4**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.05**	**73**	P	**Pb**	**09 17 21.5**	**+0.1**
CEVE	**Cerro Verde**	**1.16**	**84**	*eP*	**Pb**	**09 17 23.4**	**-0.1**
CEVE				*eS*	**Sn**	**09 17 39.4**	**0.0**
CEVE				IAML		09 17 40.4	
	comp=Z,13μm,0.3s						
CEVE	**Cerro Verde**	**1.16**	**84**	P	**Pb**	**09 17 23.6**	**+0.1**
CEVE	**Cerro Verde**	**1.16**	**84**	P	**Pb**	**09 17 23.3**	**-0.2**
RTAL	**Retalhuleu**	**1.18**	**314**	P	**Pn**	**09 17 23.3**	**-0.2**
SOKI	**Kika Raxquin**	**1.24**	**333**	*eP*	**Pn**	**09 17 24.7**	**-0.1**
SOKI				*i* S	**Sn**	**09 17 41.5**	**-0.1**
SOKI	**Kika Raxquin**	**1.24**	**333**	*eP*		09 17 24.7	
SOKI				*i* S		09 17 41.5	
UNIC	**Universidad Ca**	**1.26**	**78**	P	**Pn**	**09 17 24.1**	**-0.6**
UNIC	**Universidad Ca**	**1.26**	**78**	S	**Sn**	**09 17 41.5**	**0.0**
UNIC	**Universidad Ca**	**1.26**	**78**	P	**Pn**	**09 17 23.5**	**-1.2**
JAYA	**Jayaque - finc**	**1.33**	**92**	*eP*	**Pn**	**09 17 25.0**	**-0.8**
JAYA				*eS*	**Sb**	**09 17 41.4**	**-1.9**
JAYA				IAML		09 17 42.8	
	comp=Z,4μm,0.2s						
JAYA	**Jayaque - finc**	**1.33**	**92**	S	**Sb**	**09 17 42.7**	**-0.6**
JAYA	**Jayaque - finc**	**1.33**	**92**	P	**Pn**	**09 17 24.9**	**-0.8**
JAYA	**Jayaque - finc**	**1.33**	**92**	*eP*	**Pn**	**09 17 24.9**	**-0.9**
JAYA				*i* S	**Sb**	**09 17 41.5**	**-1.8**
JAYA	**Jayaque - finc**	**1.33**	**92**	*eP*		09 17 24.9	
JAYA				*i* S		09 17 41.5	
CEDA	**San Andres**	**1.38**	**86**	*eP*	**Pn**	**09 17 26.2**	**-0.2**
CEDA				*eS*	**Sn**	**09 17 43.9**	**-0.7**
CEDA	**San Andres**	**1.38**	**86**	P	**Pn**	**09 17 26.3**	**-0.1**
CEDA	**San Andres**	**1.38**	**86**	S	**Sb**	**09 17 45.0**	**+0.3**
PMON	**Piamonte**	**1.46**	**90**	S	**Sn**	**09 17 45.6**	**-0.9**
PMON	**Piamonte**	**1.46**	**90**	P	**Pn**	**09 17 27.3**	**-0.2**
PMON	**Piamonte**	**1.46**	**90**	P	**Pn**	**09 17 27.3**	**-0.2**
PMON	**Piamonte**	**1.46**	**90**	S	**Sn**	**09 17 46.7**	**+0.1**
LALI	**Alcalda de L**	**1.47**	**98**	*eP*	**Pn**	**09 17 27.0**	**-0.5**
LALI	**Alcalda de L**	**1.47**	**98**	S	**Sn**	**09 17 45.8**	**-0.8**
LALI	**Alcalda de L**	**1.47**	**98**	P	**Pn**	**09 17 27.1**	**-0.5**
LALI	**Alcalda de L**	**1.47**	**98**	S	**Sb**	**09 17 47.3**	**+0.2**
LALI	**Alcalda de L**	**1.47**	**98**	P	**Pn**	**09 17 27.9**	**+0.4**
LALI	**Alcalda de L**	**1.47**	**98**	*eP*	**Pn**	**09 17 26.8**	**-0.7**
LALI				*eS*	**Sn**	**09 17 45.5**	**-1.1**
LALI	**Alcalda de L**	**1.47**	**98**	*eP*		09 17 26.8	
LALI				*eS*		09 17 45.5	
BOQS	**Boqueron**	**1.49**	**89**	*eP*	**Pn**	**09 17 28.1**	**0.0**
ITCA	**Escuela Especi**	**1.50**	**91**	S	**Sn**	**09 17 46.5**	**-0.9**
ITCA	**Escuela Especi**	**1.50**	**91**	P	**Pn**	**09 17 27.5**	**-0.5**
ITCA	**Escuela Especi**	**1.50**	**91**	S	**Sb**	**09 17 47.7**	**-0.3**
ITCA	**Escuela Especi**	**1.50**	**91**	P	**Pn**	**09 17 28.1**	**+0.1**
UEES	**Universidad Ev**	**1.53**	**90**	P	**Pn**	**09 17 28.8**	**+0.3**
UEES	**Universidad Ev**	**1.53**	**90**	S	**Sb**	**09 17 49.2**	**+0.1**
UEES	**Universidad Ev**	**1.53**	**90**	P	**Pn**	**09 17 28.1**	**-0.4**
SEMO	**Seminario San**	**1.55**	**90**	S	**Sn**	**09 17 47.8**	**-0.9**
SEMO	**Seminario San**	**1.55**	**90**	P	**Pn**	**09 17 28.6**	**0.0**
SEMO	**Seminario San**	**1.55**	**90**	P	**Pn**	**09 17 28.5**	**-0.1**
SEMO	**Seminario San**	**1.55**	**90**	S	**Sb**	**09 17 50.0**	**+0.5**
MTO3	**Montecristo**	**1.57**	**64**	S	**Pn**	**09 17 30.4**	**+1.3**
MTO3	**Montecristo**	**1.57**	**64**	S	**Sg**	**09 17 51.6**	**-0.4**
MTO3	**Montecristo**	**1.57**	**64**	P	**Pn**	**09 17 28.2**	**-0.9**
MTO3	**Montecristo**	**1.57**	**64**	*eP*	**Pn**	**09 17 28.0**	**-1.1**
MTO3	**Montecristo**	**1.57**	**64**	*eP*		09 17 28.0	
UTEC	**Universidad Te**	**1.57**	**90**	P	**Pn**	**09 17 29.2**	**+0.2**
UTEC	**Universidad Te**	**1.57**	**90**	S	**Sb**	**09 17 50.8**	**+0.7**
PANCS	**Alcalda de**	**1.59**	**93**	P	**Pn**	**09 17 29.6**	**+0.3**
PANCS	**Alcalda de**	**1.59**	**93**	S	**Sn**	**09 17 49.8**	**0.0**
PANCS	**Alcalda de**	**1.59**	**93**	P	**Pn**	**09 17 29.0**	**-0.3**
LOMA	**Loma Larga**	**1.60**	**92**	*eP*	**Pn**	**09 17 29.0**	**-0.5**
LOMA				*eS*	**Sn**	**09 17 49.2**	**-0.8**
LOMA				IAML		09 17 50.6	
	comp=Z,3μm,0.3s						
LOMA	**Loma Larga**	**1.60**	**92**	P	**Pn**	**09 17 29.9**	**+0.5**
LOMA	**Loma Larga**	**1.60**	**92**	S	**Sb**	**09 17 50.9**	**-0.2**
LOMA	**Loma Larga**	**1.60**	**92**	P	**Pn**	**09 17 29.0**	**-0.5**
UDBS	**Universidad Do**	**1.61**	**90**	S	**Sb**	**09 17 51.1**	**-0.3**
UDBS	**Universidad Do**	**1.61**	**90**	P	**Pn**	**09 17 30.3**	**+0.7**
UDBS	**Universidad Do**	**1.61**	**90**	P	**Pn**	**09 17 30.3**	**+0.7**
ESQI	**Esquipulas**	**1.66**	**59**	*eP*	**Pn**	**09 17 29.7**	**-0.6**
ESQI	**Esquipulas**	**1.66**	**59**	S	**Sb**	**09 17 53.7**	**+1.0**
ESQI	**Esquipulas**	**1.66**	**59**	P	**Pn**	**09 17 29.7**	**-0.6**
SMCA	**Catarina**	**1.67**	**313**	*eP*	**Pn**	**09 17 29.8**	**-0.5**
SMCA	**Catarina**	**1.67**	**313**	*eP**		09 17 29.8	
HUEH	**Huehuetenango**	**1.73**	**337**	P	**Pn**	**09 17 32.2**	**+0.9**
HUEH	**Huehuetenango**	**1.73**	**337**	P	**Pb**	**09 17 33.5**	**+0.3**
HUEH	**Huehuetenango**	**1.73**	**337**	S	**Sg**	**09 17 57.0**	**-0.2**
HUEH	**Huehuetenango**	**1.73**	**337**	*eP*	**Pn**	**09 17 31.6**	**+0.3**
HUEH				*eS*	**Sb**	**09 17 56.3**	**+1.4**
HUEH	**Huehuetenango**	**1.73**	**337**	*eP*		09 17 31.6	
HUEH				*eS*		09 17 56.3	
PAVA	**Las Pavas**	**1.83**	**90**	S	**Sb**	**09 17 57.6**	**+0.1**
PAVA	**Las Pavas**	**1.83**	**90**	P	**Pn**	**09 17 32.5**	**-0.1**
PAVA	**Las Pavas**	**1.83**	**90**	P	**Pn**	**09 17 32.1**	**-0.5**
THIG		**1.84**	**310**	*eP*	**Pn**	**09 17 32.7**	**+0.1**
THIG				*eS*	**Sn**	**09 17 54.3**	**-1.4**
THIG		**1.84**	**310**	*eP*		09 17 32.7	
THIG				*eS*		09 17 54.3	
LLGN	**La Laguna**	**1.87**	**76**	P	**Pn**	**09 17 32.1**	**-1.1**
LLGN	**La Laguna**	**1.87**	**76**	S	**Sb**	**09 17 59.5**	**+0.7**
COEG	**Centro de Oper**	**1.88**	**93**	P	**Pn**	**09 17 33.3**	**0.0**
COEG	**Centro de Oper**	**1.88**	**93**	S	**Sb**	**09 17 58.9**	**-0.2**
COEG	**Centro de Oper**	**1.88**	**93**	P	**Pn**	**09 17 33.8**	**+0.5**
UESV	**Universidad de**	**1.97**	**92**	P	**Pn**	**09 17 33.5**	**-1.0**
UESV	**Universidad de**	**1.97**	**92**	P	**Pn**	**09 17 34.4**	**-0.1**
UESV	**Universidad de**	**1.97**	**92**	S	**Sb**	**09 18 01.5**	**-0.2**
TECO	**Alcaldia de Te**	**1.99**	**95**	P	**Pn**	**09 17 35.0**	**+0.4**
TECO	**Alcaldia de Te**	**1.99**	**95**	S	**Sb**	**09 18 00.8**	**-1.2**
TECO	**Alcaldia de Te**	**1.99**	**95**	P	**Pn**	**09 17 34.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.03**	**90**	P	**Pn**	**09 17 34.9**	**-0.4**
SCLA	**Alcaldia de Sa**	**2.03**	**90**	P	**Pn**	**09 17 35.0**	**-0.3**
SCLA	**Alcaldia de Sa**	**2.03**	**90**	S	**Sb**	**09 18 03.0**	**-0.3**
PQSS	**Presa 15 de Se**	**2.19**	**92**	P	**Pn**	**09 17 37.2**	**-0.3**
PQSS	**Presa 15 de Se**	**2.19**	**92**	S	**Sn**	**09 18 06.2**	**+1.7**
PQSS	**Presa 15 de Se**	**2.19**	**92**	P	**Pn**	**09 17 38.1**	**+0.6**
ALJI	**Alcalda de J**	**2.22**	**100**	*eP*	**Pn**	**09 17 37.9**	**0.0**
ALJI				*eS*	**Sn**	**09 18 04.3**	**-0.8**
ALJI	**Alcalda de J**	**2.22**	**100**	S	**Sb**	**09 18 06.9**	**-1.7**
PACA	**Pacayal**	**2.44**	**95**	P	Pn	09 17 35.6	-5.3
PACA	**Pacayal**	**2.44**	**95**	P	**Pn**	**09 17 42.0**	**+1.0**
RANC	**El Ranchito**	**2.47**	**96**	S	**Sn**	**09 18 12.9**	**+1.3**
RANC	**El Ranchito**	**2.47**	**96**	P	**Pn**	**09 17 41.9**	**+0.5**
CNRM	**Centro Naciona**	**2.58**	**95**	S	**Sb**	**09 18 17.1**	**-2.1**
CCIG	**Comitan**	**2.86**	**334**	S	**Sb**	**09 18 25.4**	**-1.8**
CCIG	**Comitan**	**2.86**	**334**	*eP*	**Pn**	**09 17 47.4**	**+0.6**
CCIG	**Comitan**	**2.86**	**334**	*eP**		09 17 47.4	
LCND	**La Caada**	**2.87**	**98**	P	**Pn**	**09 17 46.8**	**-0.1**
LCND	**La Caada**	**2.87**	**98**	P	**Pn**	**09 17 46.8**	**-0.1**
LCND	**La Caada**	**2.87**	**98**	S	**Sn**	**09 18 23.2**	**+1.9**
CNCH	**Conchagua**	**2.93**	**98**	P	**Pn**	**09 17 47.5**	**-0.3**
CNCH	**Conchagua**	**2.93**	**98**	P	**Pn**	**09 17 47.6**	**-0.3**
CSGN	**Cosiguina Volc**	**3.25**	**103**	P	**Pn**	**09 17 52.5**	**+0.3**
CSGN				S	**Sn**	**09 18 31.9**	**+1.1**
POTN	**Potosi Cosigui**	**3.30**	**102**	P	**Pn**	**09 17 53.8**	**+1.2**
POTN	**Potosi Cosigui**	**3.30**	**102**	P	**Pn**	**09 17 53.9**	**+1.2**
POTN				S	**Sn**	**09 18 32.8**	**+1.0**
PETF	**Flores**	**3.31**	**16**	*i* P	**Pn**	**09 17 53.1**	**+0.2**
PETF	**Flores**	**3.31**	**16**	*i* P		09 17 53.1	
TGUH	**Tegucigalpa,Un**	**3.46**	**84**	P	**Pn**	**09 17 54.0**	**-1.0**
TGUH	**Tegucigalpa,Un**	**3.46**	**84**	P	**Pn**	**09 17 55.6**	**+0.6**
TGUH				S	**Sn**	**09 18 38.3**	**+2.3**
PLRN	**Geotermica Pol**	**4.10**	**105**	P	**Pn**	**09 18 06.0**	**+2.3**
LIMN	**Finca el Limon**	**4.38**	**98**	P	**Pn**	**09 18 07.7**	**0.0**
COPN	**Copaltepe**	**4.39**	**110**	P	**Pn**	**09 18 07.8**	**0.0**
RCVN	**Varillal2**	**4.50**	**91**	P	**Pn**	**09 18 08.8**	**-0.5**
TISN	**Laguna Tiscapa**	**4.70**	**109**	P	**Pn**	**09 18 11.2**	**-0.7**
UNAN	**Cigeo UNAN**	**4.71**	**109**	P	**Pn**	**09 18 15.0**	**+2.9**
CRUN	**El Crucero**	**4.73**	**111**	P	**Pn**	**09 18 13.4**	**+0.9**
BOAB	**BOACO BROADBAN**	**6.17**	**103**	P	**Pn**	**09 18 18.1**	**-0.4**

*HEL **26** 09:20:53.1±0.3, 60°.96N×29°.06E, h0km, ML1.7, Suspected explosion*
*IDC **26** 09:20:54.8±2.9, 60°.87N×28°.88E, h0km, mbtmp3.4/1, ML2.4/1, Error ellipse: s-maj=25.9km s-min=14.5km az=177.0*

ISC 26 09:20:52.5±1.2, 60°.94N±0°.05×29°.07E±0°.05, h0km, n20, σ1§22/29, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.49**	**353**	PG	**Pg**	**09 21 01.9**	**0.0**
RUF				SG	**Sg**	**09 21 07.5**	**-0.7**
RUF				MSG		09 21 08.7	
	comp=Z,7.3nm,0.2s						
VJF	**Virojoki**	**0.85**	**242**	PG	**Pg**	**09 21 08.6**	**-0.1**
	baz=57						
VJF				SG	**Sg**	**09 21 18.4**	**-1.2**
VJF				MSG		09 21 19.6	
	comp=Z,8.4nm,0.2s						
FIA0	**FINESS Array S**	**1.54**	**291**	PG	**Pn**	**09 21 20.2**	**-0.9**
FIA0				MSG		09 21 39.0	
	comp=Z,7.5nm,0.2s						
FIA0				SN	**Sg**	**09 21 40.9**	**-0.8**
FINES	**FINESS Array B**	**1.54**	**291**	Pg	**Pn**	**09 21 20.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=109,slow=16,SNR=9.9						
FINES				Lg	Lg	09 21 41.1	
	comp=Z,1.1nm,0.3s,baz=108,slow=29,SNR=18						
FINES				Rg	Rg	09 21 47.4	
	comp=Z,16nm,0.9s,baz=107,slow=28,SNR=11						
PVF	**Pernaja**	**1.62**	**257**	PG	**Pn**	**09 21 22.0**	**-0.3**
PVF				MSG		09 21 41.8	
	comp=Z,7.7nm,0.2s						
PVF				SN	**Sg**	**09 21 43.9**	**-0.7**
KAF	**Kangasniemi**	**1.77**	**313**	PG	**Pb**	**09 21 25.4**	**-0.4**
KAF				MSG		09 21 45.5	
	comp=Z,5.5nm,0.2s						
KAF				SN	**Sb**	**09 21 47.8**	**-0.8**
ARBE	**Arbavere**	**2.16**	**227**	PG	**Pb**	**09 21 32.1**	**-0.2**
NUR	**Nurmijarvi**	**2.21**	**261**	PG	**Pn**	**09 21 31.1**	**+0.6**
NUR				MSG		09 21 58.7	
	comp=Z,2.8nm,0.2s						
JOF	**Joensuu**	**2.25**	**27**	*eP*	**Pb**	**09 21 33.2**	**-0.8**
JOF	**Joensuu**	**2.25**	**27**	PG	**Pb**	**09 21 33.0**	**-1.0**
JOF				SG	**Sb**	**09 22 01.8**	**-0.5**
SUF	**Sumiainen**	**2.26**	**323**	PG	**Pb**	**09 21 33.5**	**-0.6**
SUF				MSG		09 21 59.7	
	comp=Z,2.3nm,0.2s						
SUF				SG	**Sb**	**09 22 02.8**	**+0.2**
KEF	**Keuruu**	**2.36**	**303**	*eP*	**Pb**	**09 21 34.1**	**-1.6**
KEF	**Keuruu**	**2.36**	**303**	PG	**Pb**	**09 21 34.9**	**-0.9**
KEF				MSG		09 22 02.5	
	comp=Z,1.9nm,0.2s						
KEF				SG	**Sb**	**09 22 05.1**	**-0.3**
MEF	**Metsahovi**	**2.42**	**255**	*eP*	**Pn**	**09 21 34.0**	**+0.8**
MEF	**Metsahovi**	**2.42**	**255**	PG	**Pb**	**09 21 36.0**	**-0.7**
MEF				MSG		09 22 04.6	
	comp=Z,3.0nm,0.2s						
MEF				SG	**Sb**	**09 22 05.6**	**-1.5**
NIF	**Nilsia**	**2.53**	**347**	PG	**Pb**	**09 21 37.0**	**-1.7**
	baz=163						
NIF				SG	**Sb**	**09 22 10.2**	**-0.2**
RAF	**Rauma**	**3.56**	**275**	SB	**Sn**	**09 22 35.2**	**+3.6**
VAF	**Ylistaro**	**3.68**	**308**	*eP*	**Pn**	**09 21 52.6**	**+2.0**
I43RU	**DUBNA INFRASON**	**5.98**	**131**	I	I	09 57 40.0	
	baz=322,slow=323,SNR=2.9						
ARCES	**ARCESS Array B**	**8.76**	**352**	Pn	**Pn**	**09 23 02.0**	**+1.9**
	baz=172,slow=14,SNR=1.2						
	comp=Z,1.7nm,0.9s						

*DJA **26** 09:26:37.1±0.3, 8°S±4°×11°7E±°, h10km, M3.9/12, MLv3.9/12*
*IDC **26** 09:26:37.2±1.3, 8°.11S×117°.33E, h0km, mb3.5/5, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=38.9km s-min=20.1km az=56.0*

ISC 26 09:26:37.5±0.8, 7°.76S±0°.05×117°.39E±0°.04, h10km, n19, σ1§90/20, mb3.8/4, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.09**	**207**	P	**Pb**	**09 26 57.2**	**-1.3**
PLAI	**Plampang**	**1.13**	**160**	P	**Pb**	**09 26 58.3**	**-0.9**
SRBI	**Singaraja**	**2.18**	**261**	P	**Pn**	**09 27 14.3**	**+0.5**
SRBI				S	**Sn**	**09 27 40.3**	**-0.6**
WBSI	**Waikabubak, Su**	**2.72**	**133**	P	**Pn**	**09 27 21.9**	**+0.5**
ABJI	**Asem Bagus**	**3.12**	**269**	P	**Pn**	**09 27 25.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**3.28**	**257**	P	**Pn**	**09 27 28.9**	**-0.1**
KMMI	**Kalianget**	**3.46**	**282**	P	**Pn**	**09 27 30.5**	**-1.1**
BSSI	**Bau Bau, Buton**	**3.48**	**63**	P	**Pn**	**09 27 31.2**	**-0.5**
KAPI	**Kappang**	**3.60**	**41**	Pn	**Pb**	**09 27 37.9**	**-3.4**
	21nm,0.3s,baz=215,slow=4.3,SNR=15						
KAPI				Sn	**Sb**	**09 28 28.1**	**+3.0**
	14nm,0.3s,baz=23,slow=20,SNR=10						
	66nm,0.2s						
BKSI	**Bulukumba**	**3.64**	**48**	P	**Pn**	**09 27 33.9**	**-0.1**
GMJI	**Gumukmas**	**3.94**	**262**	P	**Pn**	**09 27 37.1**	**-1.0**
EDFI	**Ende, Flores**	**4.37**	**103**	P	**Pn**	**09 27 43.9**	**-0.2**
SPSI	**Sidrap Palu**	**4.45**	**32**	P	Pn	09 27 37.0	-8.2
FITZ	**Fitzroy Crossi**	**13.04**	**143**	Pn	**Pn**	**09 29 41.7**	**-1.4**
	0.2nm,0.3s,baz=315,slow=8.6,SNR=1.1						
FITZ				Sn	Sn	09 31 58.6	-10
	0.1nm,0.3s,baz=176,slow=19,SNR=1.6						
	4.7nm,1.1s						
WRA	**Warramunga Arr**	**20.41**	**128**	P	**P**	**09 31 14.0**	**-1.0**
	0.7nm,0.7s,baz=302,slow=12,SNR=5.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**22.39**	**137**	P	**P**	**09 31 35.1**	**-1.1**
	1.2nm,0.9s,baz=314,slow=11,SNR=12						
	1.2nm,0.9s						
MKAR	**Makanchi Array**	**62.64**	**334**	P	**P**	**09 37 06.2**	**+3.9**
	0.7nm,0.7s,baz=143,slow=8.3,SNR=7.0						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**67.16**	**334**	P	**P**	**09 37 34.8**	**+3.3**
	0.4nm,0.7s,baz=142,slow=5.2,SNR=5.5						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**67.33**	**340**	P	**P**	**09 37 34.4**	**+1.8**
	0.6nm,0.5s,baz=157,slow=9.4,SNR=2.2						
	0.6nm,0.5s						

*SKHL **26** 09:27:20.2±0.2, 42°.80N×146°.20E, h20km±4km, mb4.3/5*
*JMA **26** 09:27:20.3±0.3, 42°.8N±0°.8×14°6E±°, h33km±3km, MV3.2/33, OFF NEMURO PENINSULA*

ISC 26 09:27:20.9±2.5, 42°.8N±0°.1×146°.16E±0°.06, h23km±16km, n13, σ0§61/24, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.64**	**332**	P	**Pb**	**09 27 33.3**	**0.0**
NEM2				*eS*	**Sb**	**09 27 42.4**	**+0.6**
NMR	**Nemuro--Hokkai**	**0.64**	**331**	*i* P	**Pb**	**09 27 33.3**	**-0.2**
NMR				AMB	AMB	09 27 33.7	
	460nm,0.4s						
NMR				*eS*	**Sb**	**09 27 42.9**	**+0.8**
NMR				A	A	09 27 43.5	
	550nm,0.3s						
NMR				A	A	09 27 43.5	
	930nm,0.3s						
JKHN	**Kushirohamanak**	**0.78**	**291**	P	**Pb**	**09 27 35.7**	**-0.1**
JKHN				*eS*	**Sn**	**09 27 47.6**	**+0.1**
AKK	**Akkeshi**	**0.99**	**283**	*i* P	**Pn**	**09 27 38.6**	**-0.7**
AKK				*i* S	**Sn**	**09 27 52.5**	**-0.1**
JAK	**Akkeshi**	**1.09**	**281**	P	**Pn**	**09 27 40.1**	**-0.6**
JAK				*eS*	**Sn**	**09 27 55.1**	**+0.1**
SHO	**Shikotan**	**1.17**	**25**	*eP*	**Pn**	**09 27 40.8**	**-1.1**
SHO				AMB	AMB	09 27 43.5	
	60nm,0.2s						
SHO				*eS*	**Sb**	**09 27 57.0**	**-0.2**
SHO				A	A	09 28 00.4	
	260nm,0.3s						
SHO				A	A	09 28 00.4	
	390nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.25**	**350**	*i* P	**Pn**	**09 27 42.6**	**-0.3**
YUK				AMB	AMB	09 27 43.9	
	90nm,0.2s						
YUK				*eS*	**Sb**	**09 27 59.5**	**+0.1**
YUK				A	A	09 28 01.6	
	460nm,0.7s						
YUK				A	A	09 28 01.6	
	650nm,0.7s						
JNK	**Nakash**	**1.31**	**307**	*eP*	**Pn**	**09 27 43.3**	**-0.5**
JNK				*eS*	**Sn**	**09 28 00.0**	**-0.5**
JRA	**Rausu**	**1.36**	**327**	*eP*	**Pn**	**09 27 44.3**	**-0.1**
JAR	**Ashorobuto**	**1.82**	**286**	*eP*	**Pn**	**09 27 50.6**	**-0.2**
JAR				*eS*	**Sn**	**09 28 13.6**	**+0.6**
JTKR	**Abashiri--Toko**	**2.01**	**306**	*eP*	**Pn**	**09 27 54.3**	**+0.9**
JTKR				*eS*	**Sb**	**09 28 20.3**	**-1.0**
JCH	**Churui**	**2.07**	**266**	*eP*	**Pn**	**09 27 55.0**	**+0.8**
KUR	**Kuril'sk**	**2.72**	**26**	*eP*	**Pn**	**09 28 03.7**	**+0.5**
KUR				AMB	AMB	09 28 04.7	
	30nm,0.2s						
KUR				*eS*	**Sn**	**09 28 36.0**	**+0.6**
KUR				A	A	09 28 49.5	
	60nm,0.3s						
KUR				A	A	09 28 49.5	
	30nm,0.3s						

*IDC **26** 09:48:00.8±0.8, 3°.21S×130°.67E, h0km, mb3.9/9, mbtmp3.9/12, ML3.9/3, MS3.3/6, Error ellipse: s-maj=37.3km s-min=17.5km az=77.0*
*NEIC **26** 09:48:03.7±1.2, 3°.18S±0°.10×130°.68E±0°.07, h10km±1km, mb4.5/24, Error ellipse: s-maj=17.2km s-min=10.2km az=333.0*
*DJA **26** 09:48:04.2±0.3, 3°S±4°×13°1E±°, h10km, M4.4/12, mB5.8/1, mb5.0/2, MLv4.2/12, Mw(mB)5.4/1*

ISC 26 09:48:04.8±0.5, 3°24S±0°.05×130°.69E±0°.04, h24km, n78, σ1§66/77, mb4.3/17, MS3.3/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.49**	**212**	P	**Pb**	**09 48 32.8**	**+0.9**
BNDI	**Bandanaira**	**1.49**	**212**	P	**Pb**	**09 48 33.5**	**+1.6**
FAKI	**Fak Fak**	**1.59**	**78**		**Pn**	**09 48 31.3**	**-0.2**
FAKI				Sn	**Sb**	**09 48 52.9**	**-0.3**
FAKI	**Fak Fak**	**1.59**	**78**	P	**Pn**	**09 48 31.3**	**-0.2**
FAKI	**Fak Fak**	**1.59**	**78**	S	**Sb**	**09 48 53.5**	**+0.3**
FAKI	**Fak Fak**	**1.59**	**78**	P	**Pn**	**09 48 31.2**	**-0.2**
FAKI				S	**Sn**	**09 48 52.3**	**+1.1**
MSAI	**Masohi**	**1.76**	**267**	P	**Pb**	**09 48 36.6**	**+0.2**
SWI	**Sorong**	**2.43**	**14**	P	**Pn**	**09 48 40.5**	**-2.5**
AAI	**Ambon**	**2.53**	**260**	P	**Pn**	**09 48 46.8**	**+2.4**
KMPI	**Kaimana, Papua**	**3.04**	**98**	P	**Pn**	**09 48 52.1**	**+0.7**
NLAI	**Namlea**	**3.58**	**270**	P	**Pn**	**09 49 01.1**	**+2.2**
RKPI	**Ransiki, Papua**	**3.88**	**64**	P	**Pn**	**09 49 02.1**	**-0.9**
SANI	**Sanana**	**4.84**	**284**	P	**Pn**	**09 49 16.3**	**+0.1**
SANI	**Sanana**	**4.84**	**284**	P	**Pn**	**09 49 15.9**	**-0.3**
BAKI	**Biak**	**5.78**	**70**	P	**Pn**	**09 49 28.9**	**-0.3**
	8μm738nm,0.7s						
SOEI	**Soe**	**9.09**	**224**

QSPA				IAmb	IAmb	10 01 11.3	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**86.71**	**180**	P	**P**	**10 00 46.7**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=350,slow=6.1,SNR=13						
	comp=Z,1.0nm,0.6s						
PPLA	**Purkeypile**	**87.02**	**27**	P	**P**	**10 00 48.5**	**+0.3**
SLKM	**Skilak Lake**	**87.44**	**29**	P	**P**	**10 00 49.8**	**-0.3**
PMR	**Palmer**	**88.16**	**28**	P	**P**	**10 00 53.5**	**+0.1**
RND	**Reindeer**	**88.61**	**26**	P	**P**	**10 00 56.1**	**+0.5**
RND				IAmb	IAmb	10 01 07.2	
	comp=Z,3.4nm,1.3s						
CCB	**Clear Creek Bu**	**89.27**	**25**	P	**P**	**10 00 59.2**	**+0.6**
CCB				IAmb	IAmb	10 01 03.4	
	comp=Z,4.5nm,1.5s						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**10 01 00.8**	**+0.2**
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**10 00 59.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=266,slow=3.6,SNR=5.1						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**90.94**	**23**	P	**P**	**10 01 06.9**	**+0.4**
BCAR	**Beaver Creek A**	**91.74**	**27**	P	**P**	**10 01 11.3**	**+1.0**
DLBC	**Dease Lake**	**97.61**	**32**	LR	LR	10 38 09.7	
	comp=Z,25nm,20.8s,baz=283,slow=31						

DJA 26 09:59:56.3±0.3, 2°N±3°×9°9E±°, h10km, M3.3/8, MLv3.3/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.81**	**169**	P	Pg	10 00 11.9	-0.1
MNSI				S	Sn	10 00 28.4	+2.4
GSI	**Gunungsitoli**	**1.88**	**261**	P	Pn	10 00 28.0	-0.5
GSI				S	Sn	10 00 53.0	+0.7
PBSI	**Pulau Batu**	**2.01**	**215**	P	Pn	10 00 30.6	+0.3
BKNI	**Bangkinang**	**2.05**	**128**	P	Pn	10 00 30.7	-0.1
SISI	**Saibi**	**2.93**	**187**	P	Pn	10 00 42.7	-0.2

*SOME **26** 10:00:07.6, 41°.05N×83°.57E, h5km*
*NNC **26** 10:00:10.8±0.9, 41°.08N×83°.44E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=7.5km s-min=5.0km az=173.0*

ISC 26 10:00:08.5±2.7, 41°.1N±0°.1×83°.49E±0°.08, h10km, n28, σ2s62/36, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.64**	**306**	Pg	**Pb**	**10 01 11.1**	**-1.9**
	4.7nm,0.3s						
SHLS				Lg	Lg	10 01 57.2	
	101nm,0.5s						
SHLS	**Shalkode**	**3.64**	**306**	*e*P	**Pb**	**10 01 11.1**	**-1.9**
	1.6nm,0.1s						
SHLS				*e*S	**Sb**	**10 01 57.2**	**0.0**
	101nm,0.5s						
PDGK	**Podgornoye**	**3.72**	**308**	⇓Pg	**Pg**	**10 01 18.0**	**-1.8**
	5.2nm,0.8s						
PDGK				⇑Lg	Lg	10 02 09.8	
	19nm,0.5s						
UZB	**Uzynbulak**	**3.91**	**303**	Pg	**Pb**	**10 01 20.3**	**+2.7**
	3.0nm,0.2s						
UZB				Lg	Lg	10 02 12.8	
	16nm,0.4s						
UZB	**Uzynbulak**	**3.91**	**303**	*e*P	**Pb**	**10 01 20.3**	**+2.7**
	3.0nm,0.2s						
UZB				*e*S	**Sg**	**10 02 12.8**	**-1.2**
	18nm,0.3s						
DJR	**Jarkent**	**4.24**	**321**	Pg	**Pg**	**10 01 27.7**	**-2.0**
	5.7nm,0.4s						
DJR				Lg	Lg	10 02 25.5	
	16nm,0.6s						
DJR	**Jarkent**	**4.24**	**321**	*e*P	**Pg**	**10 01 27.7**	**-2.0**
	5.7nm,0.4s						
DJR				*e*S	**Sg**	**10 02 25.5**	**+1.0**
	16nm,0.6s						
SATY	**Saty**	**4.26**	**299**	Pg	**Pg**	**10 01 27.7**	**-2.6**
	2.9nm,0.2s						
SATY				Lg	Lg	10 02 25.3	
	29nm,0.3s						
KNOS	**Konyrlen**	**4.56**	**317**	Pg	**Pg**	**10 01 33.4**	**-2.4**
	3.7nm,0.2s						
KNOS				Lg	Lg	10 02 35.6	
	23nm,0.4s						
KURS	**Kuram**	**4.62**	**303**	Pg	**Pg**	**10 01 33.7**	**-3.2**
	2.6nm,0.4s						
KURS				Lg	Lg	10 02 36.0	
	5.3nm,0.6s						
BLB	**Baldybastay**	**4.77**	**311**	Pg	**Pg**	**10 01 36.8**	**-3.0**
	8.0nm,0.5s						
BLB				Lg	Lg	10 02 41.1	
	11nm,0.6s						
KOTS	**Kotyrbulak**	**5.20**	**296**	Pg	**Pg**	**10 01 45.7**	**-2.5**
	4.2nm,0.2s						
KOTS				Lg	Lg	10 02 56.6	
	16nm,0.6s						
KOTS	**Kotyrbulak**	**5.20**	**296**	*e*P	**Pg**	**10 01 45.7**	**-2.5**
	4.2nm,0.2s						
KOTS				*e*S	**Sg**	**10 02 56.6**	**+1.1**
	16nm,0.6s						
ARXS	**Arharly**	**5.21**	**309**	Pg	**Pg**	**10 01 45.5**	**-2.8**
	2.0nm,0.3s						
ARXS				Lg	Lg	10 02 56.2	
	13nm,0.3s						
MDOK	**Medeo**	**5.22**	**296**	Pg	**Pg**	**10 01 45.9**	**-2.6**
	2.2nm,0.4s						
MDOK				Lg	Lg	10 02 56.8	
	10nm,0.6s						
TNSS	**Tian-Shan**	**5.24**	**294**	Pg	**Pg**	**10 01 47.2**	**-1.8**
	1.2nm,0.2s						
TNSS				Lg	Lg	10 02 59.0	
	3.9nm,0.7s						
TNSS	**Tian-Shan**	**5.24**	**294**	*e*P	**Pg**	**10 01 47.2**	**-1.8**
	1.2nm,0.2s						
TNSS				*e*S	**Sg**	**10 02 59.0**	**+2.1**
	3.9nm,0.7s						
MTBS	**Maitube**	**5.63**	**294**	Pg	**Pg**	**10 01 53.2**	**-3.2**
	1.1nm,0.4s						
MTBS				Lg	Lg	10 03 09.1	
	8.2nm,0.4s						
MTBS	**Maitube**	**5.63**	**294**	*e*P	**Pg**	**10 01 53.2**	**-3.2**
	1.1nm,0.4s						
MTBS				*e*S	**Sg**	**10 03 09.1**	**-0.2**
	8.2nm,0.4s						
KTBS	**Karatobe**	**5.68**	**300**	Pg	**Pg**	**10 01 54.4**	**-2.9**
	1.0nm,0.6s						
KTBS				Lg	Lg	10 03 11.4	
	11nm,0.5s						
MK31	**Makanchi Array**	**5.77**	**352**	⇓Pn	**Pn**	**10 01 38.3**	**+4.1**
	0.2nm,0.3s,baz=181,slow=9.9,SNR=12						
MK31				⇑Pg	**Pg**	**10 01 56.9**	**-2.1**
	0.8nm,0.4s,baz=168,slow=16,SNR=7.2						
MK31				⇑Lg	Lg	10 03 12.8	
	4.1nm,0.7s,baz=172,slow=14,SNR=4.9						
MAKZ	**Makanchi**	**5.82**	**350**	⇑Lg	Lg	10 03 14.9	
	2.9nm,0.7s						
KST	**Kastek**	**5.93**	**292**	Pg	**Pg**	**10 01 58.9**	**-3.2**
	2.2nm,0.5s						
KST				Lg	Lg	10 03 19.2	
	8.5nm,0.6s						
KST	**Kastek**	**5.93**	**292**	*e*P	**Pg**	**10 01 58.9**	**-3.2**
	2.2nm,0.5s						
KST				*e*S	**Sg**	**10 03 19.2**	**+0.3**
	8.5nm,0.6s						
DGS	**Degeres**	**6.12**	**293**	Pg	**Pg**	**10 02 02.5**	**-3.3**
	2.2nm,0.5s						
DGS				Lg	Lg	10 03 25.6	
	8.8nm,0.7s						
KRBS	**Karabastau**	**6.34**	**297**	Pg	**Pg**	**10 02 06.5**	**-3.5**
	0.7nm,0.2s						
KRBS				Lg	Lg	10 03 32.0	
	2.8nm,0.2s						
ZSN	**Zaisan**	**6.44**	**8**	Pg	**Pg**	**10 02 08.2**	**-3.6**
	3.3nm,0.3s						
ZSN				Lg	Lg	10 03 35.3	
	14nm,0.4s						
ZSN	**Zaisan**	**6.44**	**8**	*e*P	**Pg**	**10 02 08.2**	**-3.6**
	3.3nm,0.3s						
ZSN				*e*S	**Sg**	**10 03 35.3**	**+0.2**
	14nm,0.4s						

DJA 26 10:09:24.4±0.3, 3°S±2°×12°8E±°, h10km, M4.0/9, mb4.5/1, MLv3.8/9, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.90**	**151**	P	Pb	10 09 42.4	+0.3
AAI	**Ambon**	**1.16**	**195**	P	Pb	10 09 46.5	0.0
AAI				S	Sn	10 10 02.9	+0.3
NLAI	**Namlea**	**1.54**	**244**	P	Pn	10 09 51.8	-0.2
SANI	**Sanana**	**2.55**	**281**	P	Pn	10 10 04.5	-1.4
SWI	**Sorong**	**3.24**	**59**	P	Pn	10 10 16.0	+0.6
FAKI	**Fak Fak**	**3.77**	**96**	P	Pn	10 10 21.4	-1.3

*IDC **26** 10:09:51.5±0.8, 31°.13N×141°.61E, h0km, mb3.8/11, mbtmp3.8/14, ML3.3/3, MS3.3/5, Error ellipse: s-maj=27.6km s-min=17.0km az=71.0*
*NEIC **26** 10:09:53.6±1.0, 31°.17N±0°.08×141°.7E±0°.2, h10km±1km, mb4.6/11, Error ellipse: s-maj=26.6km s-min=8.9km az=68.0*
*NIED **26** 10:09:55.5, 31°.51N×141°.64E, h0km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr3.30; Mθθ1.16; Mφφ-4.46; Mrθ3.03; Mθφ-0.69; Mφr2.22; Fault plane solution: M0 5.53000×10^14 NP1: φs159.00000°, δ36.00000°, λ38.00000°. NP2: φs36.00000°, δ69.00000°, λ119.00000°.*
*JMA **26** 10:09:55.5±0.6, 32°N±2°×14°2E±°, h0km, MV4.1/21, NEAR TORISHIMA IS*

ISC 26 10:09:57.1±0.7, 31°.24N±0°.07×141°.66E±0°.09, h37km, n50, σ1s05/53, mb4.1/17, MS3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.43**	**320**	Pn	**Pn**	**10 10 34.3**	**0.0**
JHJ2				Sn	**Sn**	**10 11 02.2**	**-0.5**
JHJ2	**Mitsune**	**2.43**	**320**	*e*P	**Pn**	**10 10 34.6**	**+0.3**
JHJ2				*e*S	**Sn**	**10 11 02.5**	**-0.2**
JHJ	**Hachijo jima 2**	**2.46**	**320**	Pn	**Pn**	**10 10 34.5**	**-0.1**
	14nm,0.3s,baz=328,slow=20,SNR=7.1						
JHJ				Sn	**Sn**	**10 11 02.5**	**-0.9**
	35nm,0.3s,baz=302,slow=22,SNR=5.6						
	203nm,0.9s						
JMYK	**Miyake Tsubota**	**3.33**	**328**	*e*P	**Pn**	**10 10 46.2**	**-0.4**
BSO1	**Boso 1**	**3.45**	**351**	*e*P	**Pn**	**10 10 47.5**	**-0.3**
BSO1				*e*S	**Sn**	**10 11 25.4**	**-1.6**
BSO3	**Boso 3**	**3.68**	**345**	*e*P	**Pn**	**10 10 52.2**	**+1.1**
JCJ	**Chichijima**	**4.16**	**174**	Pn	**Pn**	**10 10 55.3**	**-2.7**
JOD2	**Odawara 2**	**4.55**	**332**	*e*P	**Pn**	**10 11 06.3**	**+2.9**
JRY	**Ryogami san**	**5.29**	**335**	P	**Pn**	**10 11 15.6**	**+2.0**
JHO	**Hitachi**	**5.43**	**351**	*e*P	**Pn**	**10 11 14.7**	**-0.8**
JHO				*e*S	**Sn**	**10 12 14.5**	**-2.2**
JAG	**Ashikaga**	**5.49**	**341**	*e*P	**Pn**	**10 11 17.4**	**+1.2**
JGF	**Kuroka**	**5.64**	**322**	Pn	**Pn**	**10 11 17.7**	**-0.7**
INU	**Inuyama**	**5.65**	**318**	Pn	**Pn**	**10 11 16.6**	**-1.8**
MJAR	**Matsushiro Arr**	**6.01**	**332**	Pn	**Pn**	**10 11 24.4**	**+0.9**
	0.5nm,0.3s,baz=160,slow=11,SNR=23						
MJAR				Sn	**Sn**	**10 12 31.7**	**+0.6**
	0.1nm,0.3s,baz=137,slow=16,SNR=4.4						
	2.7nm,0.3s						
MAJO	**Matsushiro**	**6.01**	**332**		**Pn**	**10 11 22.5**	**-1.0**
MJB9	**Matsu-Tunnel**	**6.02**	**332**		**Pn**	**10 11 23.6**	**0.0**
JMM	**Marumori**	**6.64**	**354**		**Pn**	**10 11 31.4**	**-0.8**
JSD	**Sado**	**7.33**	**338**	Pn	**Pn**	**10 11 41.4**	**-0.2**
JNU	**Nakatsue**	**9.33**	**284**	LR	LR	10 15 28.6	
	comp=Z,79nm,20.6s,baz=90,slow=36						
JOW	**Kunigami**	**12.51**	**253**	LR	LR	10 17 16.6	
	comp=Z,50nm,19.4s,baz=124,slow=36						
ASAJ	**Asahikawa**	**12.87**	**3**	Pn	**Pn**	**10 12 56.8**	**-0.6**
	0.4nm,0.3s,baz=122,slow=19,SNR=2.3						
	7.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**15.01**	**332**	Pn	**Pn**	**10 13 26.9**	**+0.4**
YULB	**Yu-li**	**19.69**	**252**	P	**P**	**10 14 22.8**	**-0.5**
YULB				IAmb	IAmb	10 14 35.5	
	comp=Z,49nm,1.4s						
SONM	**Songino Array**	**31.51**	**312**	P	**P**	**10 16 14.7**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=127,slow=9.3,SNR=3.8						
	comp=Z,0.9nm,0.7s						
KRVT	**Keravat (AS076**	**36.71**	**163**	LR	LR	10 29 31.1	
	comp=Z,268nm,22.0s,baz=303,slow=32						
CMAR	**Chiang Mai Arr**	**40.56**	**262**	LR	LR	10 34 42.2	
	comp=Z,22nm,19.3s,baz=35,slow=37						
ZALV	**Zalesovo Beam**	**46.12**	**317**	P	**P**	**10 18 17.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=78,slow=7.8,SNR=2.8						
ZALV				PcP	**PcP**	**10 19 53.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=84,slow=4.5,SNR=3.7						
	comp=Z,0.7nm,0.4s						
MK31	**Makanchi Array**	**47.56**	**307**	P	**P**	**10 18 29.5**	**+0.5**
MK31				IAmb	IAmb	10 18 30.4	
	comp=Z,3.2nm,1.4s						
MKAR	**Makanchi Array**	**47.56**	**307**	P	**P**	**10 18 29.6**	**+0.6**
MKAR	**Makanchi Array**	**47.56**	**307**	P	**P**	**10 18 29.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=86,slow=9.0,SNR=11						
MKAR				PcP	**PcP**	**10 19 59.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=101,slow=4.7,SNR=2.7						
	comp=Z,0.6nm,0.5s						
MAKZ	**Makanchi**	**47.77**	**307**	P	**P**	**10 18 30.9**	**+0.3**
KNRA	**Kununurra**	**48.27**	**197**	P	**P**	**10 18 33.4**	**-1.2**
KNRA				IAmb	IAmb	10 18 59.1	
	comp=Z,17nm,1.2s						
KURK	**Kurchatov**	**49.82**	**312**	P	**P**	**10 18 46.2**	**+0.1**
KURBB	**Kurchatov Arra**	**49.88**	**312**	P	**P**	**10 18 46.1**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=90,slow=7.2,SNR=24						
	comp=Z,1.5nm,0.6s						
WB0	**Warramunga Arr**	**51.20**	**189**	P	**P**	**10 18 55.4**	**-1.4**
WB0				IAmb	IAmb	10 19 13.8	
	comp=Z,14nm,1.4s						
WR8	**Warramunga Arr**	**51.37**	**189**	P	**P**	**10 18 57.4**	**-0.7**
WR8				IAmb	IAmb	10 19 05.8	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**51.38**	**189**	P	**P**	**10 18 56.9**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=6.0,slow=7.6,SNR=25						
	comp=Z,1.4nm,0.4s						
BVAR	**Borovoye Array**	**54.73**	**316**	P	**P**	**10 19 22.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=75,slow=9.2,SNR=4.4						
	comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**55.10**	**189**	P	**P**	**10 19 24.9**	**-0.6**
AS31				IAmb	IAmb	10 19 26.0	
	comp=Z,1.3nm,0.4s						
ASAR	**Alice Springs**	**55.10**	**189**	P	**P**	**10 19 24.9**	**-0.7**
ASAR	**Alice Springs**	**55.10**	**189**	P	**P**	**10 19 24.6**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=0.4,slow=5.1,SNR=24						
	comp=Z,1.0nm,0.5s						
ARTI	**Arti**	**61.01**	**321**	P	**P**	**10 20 07.7**	**+1.2**
AB31	**Akbulak array**	**61.92**	**313**	P	**P**	**10 20 13.7**	**+0.8**
AB31				IAmb	IAmb	10 20 14.0	
	comp=Z,3.5nm,0.5s						
ABKAR	**Akbulak array**	**61.92**	**313**	P	**P**	**10 20 13.6**	**+0.7**
FORT	**Forrest**	**63.02**	**193**	P	**P**	**10 20 20.3**	**0.0**
YKA	**Yellowknife Ar**	**68.73**	**29**	P	**P**	**10 20 56.8**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=299,slow=6.7,SNR=3.1						
	comp=Z,0.1nm,0.7s						
NVAR	**Mina Array Bea**	**78.33**	**52**	P	**P**	**10 21 54.5**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=286,slow=6.0,SNR=4.4						
	comp=Z,0.5nm,0.7s						
AKASG	**Malin Array Be**	**79.02**	**323**	P	**P**	**10 21 57.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=26,slow=1.0,SNR=2.1						
	comp=Z,0.3nm,0.4s						
PFO	**Pinyon Flats O**	**82.11**	**56**	LR	LR	10 56 31.8	
	comp=Z,39nm,19.2s,baz=304,slow=34						
TXAR	**Lajitas Array**	**93.47**	**53**	P	**P**	**10 23 11.0**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=313,slow=4.6,SNR=5.2						
	comp=Z,0.2nm,0.6s						

*IDC **26** 10:15:18.1±0.8, 84°.61N×107°.35E, h0km, mb3.5/12, mbtmp3.5/13, ML4.0/1, MS3.3/23, Error ellipse: s-maj=28.0km s-min=15.0km az=128.0*
*NEIC **26** 10:15:20.0±1.5, 85°.25N±0°.07×9°5E±°, h10km±2km, mb4.3/32, Error ellipse: s-maj=20.7km s-min=11.1km az=88.0*

ISC 26 10:15:19.0±0.6, 85°.08N±0°.07×94°.72E±0°.07, h10km, n73, σ1s77/52, mb4.2/26, MS3.3/21, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**5.91**	**167**	*e*P	**Pn**	**10 16 48.5**	**+2.1**
SVZ				*e*S	**Sn**	**10 17 50.2**	**-3.8**
	16nm,0.8s						
ZFI2	**Zemlya Franca-**	**6.90**	**259**	*e*P	**Pn**	**10 16 58.9**	**-1.0**
ZFI2				*e*S	**Sn**	**10 18 16.4**	**-1.9**
	13nm,3.0s						
OMEGA	**Omega**	**6.91**	**258**	*e*P	**Pn**	**10 16 58.9**	**-1.2**
OMEGA				*e*S	**Sn**	**10 18 16.4**	**-2.3**
	15nm,4.2s						
SPB2	**Spitsbergen Ar**	**11.92**	**282**	Pn	**Pn**	**10 18 08.8**	**+0.1**
TIXI	**Tiksi**	**14.63**	**135**	LR	LR	10 23 27.4	
	comp=Z,50nm,19.9s,baz=18,slow=36						
NRIK	**Noril'sk**	**15.89**	**189**		**P**	**10 19 05.9**	**-0.1**
NRIK	**Noril'sk**	**15.89**	**189**	Pn	**Pn**	**10 18 59.7**	**-2.6**
	0.6nm,0.3s,baz=28,slow=8.7,SNR=7.2						
NRIK				LR	LR	10 25 44.5	
	comp=Z,143nm,19.0s,baz=360,slow=40						
	1.1nm,0.3s						
ARCES	**ARCESS Array B**	**19.37**	**262**	P	Pn	10 19 56.0	+11
	2.8nm,0.8s,baz=20,slow=8.4,SNR=3.7						
	2.8nm,0.8s						
RES	**Resolute Bay**	**20.31**	**7**	P	Pn	10 19 56.9	+0.4
	0.7nm,0.8s,baz=349,slow=12,SNR=6.8						
RES				LR	LR	10 27 55.8	
	comp=Z,57nm,19.2s,baz=359,slow=37						
	0.7nm,0.8s						
B22K	**Teshekpuk Lake**	**22.09**	**57**	P	**P**	**10 20 13.5**	**-0.2**
B22K				IAmb	IAmb	10 20 22.3	
	comp=Z,17nm,1.1s						
B20K	**Meade River**	**22.14**	**60**	P	**P**	**10 20 13.1**	**-1.1**
B20K				IAmb	IAmb	10 20 34.1	
	comp=Z,11nm,1.1s						
A36M	**Sachs Harbour**	**22.14**	**32**	P	**P**	**10 20 13.0**	**-1.2**
A36M				IAmb	IAmb	10 20 24.2	
	comp=Z,14nm,0.9s						
B21K	**Ikpikpuk River**	**22.71**	**58**	P	**P**	**10 20 19.4**	**-0.8**
B21K				IAmb	IAmb	10 20 34.9	
	comp=Z,15nm,1.1s						
C23K	**Itkillik River**	**22.79**	**54**	P	**P**	**10 20 20.1**	**-1.0**
C23K				IAmb	IAmb	10 20 32.4	
	comp=Z,12nm,1.1s						
C24K	**Franklin Bluff**	**23.03**	**53**	P	**P**	**10 20 24.5**	**+0.8**
C18K	**Utukok River**	**23.17**	**65**	P	**P**	**10 20 24.5**	**-0.7**
C18K				IAmb	IAmb	10 20 39.2	
	comp=Z,7.9nm,1.0s						
C27K	**Jago River**	**23.46**	**49**	P	**P**	**10 20 28.0**	**0.0**
C27K				IAmb	IAmb	10 20 37.0	
	comp=Z,9.3nm,1.1s						
D22K	**Ayikyak River**	**23.58**	**57**	P	**P**	**10 20 28.4**	**-0.9**
D22K				IAmb	IAmb	10 20 55.4	
	comp=Z,14nm,1.4s						
D24K	**Happy Valley**	**23.58**	**53**	P	**P**	**10 20 28.5**	**-0.7**
D24K				IAmb	IAmb	10 20 44.4	
	comp=Z,11nm,1.1s						
D23K	**Nanushuk River**	**23.64**	**55**	P	**P**	**10 20 29.0**	**-0.8**
D27M	**Malcolm River**	**24.01**	**46**	P	**P**	**10 20 33.4**	**-0.1**
TOLK	**Toolik Lake Re**	**24.04**	**54**	P	**P**	**10 20 33.0**	**-0.6**
E18K	**Tukpahlearik C**	**24.42**	**65**	P	**P**	**10 20 37.9**	**+0.8**
E23K	**Chandalar**	**24.61**	**54**	P	**P**	**10 20 39.5**	**+0.6**
E23K				IAmb	IAmb	10 21 02.0	
	comp=Z,11nm,1.3s						
C36M	**Paulatuk**	**24.82**	**32**	P	**P**	**10 20 40.2**	**-0.5**
E29M	**Blow River**	**25.05**	**44**	P	**P**	**10 20 42.5**	**-0.2**
E29M				IAmb	IAmb	10 20 53.2	
	comp=Z,6.0nm,1.1s						
F20K	**Avaraart Lake**	**25.16**	**60**	P	**P**	**10 20 42.1**	**-1.6**
F20K				IAmb	IAmb	10 20 52.9	
	comp=Z,7.1nm,1.1s						
INK	**Inuvik**	**25.38**	**40**	P	**P**	**10 20 44.2**	**-1.5**
COLD	**Coldfoot**	**25.39**	**55**	P	**P**	**10 20 45.5**	**-0.3**
BMAR	**Burnt Mountain**	**25.57**	**50**	P	**P**	**10 20 47.6**	**0.0**
F31M	**Tsiigehtchic**	**26.23**	**41**	P	**P**	**10 20 52.5**	**-1.0**
G29M	**Pine Creek**	**26.50**	**45**	P	**P**	**10 20 54.5**	**-1.4**
G30M	**tAoh Zraii Nji**	**26.54**	**43**	P	**P**	**10 20 56.0**	**-0.4**
G31M	**Satah River**	**26.71**	**41**	P	**P**	**10 20 57.0**	**-0.8**
G31M				IAmb	IAmb	10 21 20.8	
	comp=Z,8.6nm,1.2s						
H17K	**Granite Mounta**	**26.92**	**65**	P	**P**	**10 20 59.5**	**-0.3**
H17K				IAmb	IAmb	10 21 30.1	
	comp=Z,13nm,1.5s						
H24K	**Noodor Dome**	**26.93**	**54**	P	**P**	**10 20 59.6**	**-0.3**
H24K				IAmb	IAmb	10 21 09.2	
	comp=Z,10nm,1.4s						
FINES	**FINESS Array B**	**27.27**	**258**	P	**P**	**10 21 05.0**	**+2.1**
SFJD	**Kangerlussuaq**	**27.35**	**331**	LR	LR	10 30 57.5	
	comp=Z,25nm,18.4s,baz=12,slow=33						
ILAR	**Eielson Array**	**28.05**	**53**	P	**P**	**10 21 02.8**	**-7.1**
	comp=Z,0.1nm,0.6s,baz=352,slow=8.8,SNR=1.8						
	comp=Z,0.1nm,0.6s						
KIRV	**Kirov**	**28.30**	**232**	LR	LR	10 34 04.8	
	comp=Z,59nm,18.7s,baz=357,slow=39						
NOA	**NORSAR Array B**	**28.95**	**272**	LR	LR	10 33 09.9	
	comp=Z,11nm,19.2s,baz=5.0,slow=36						
HFS	**Hagfors**	**29.63**	**270**	LR	LR	10 34 04.5	
	comp=Z,35nm,18.7s,baz=312,slow=37						
ARTI	**Arti**	**29.93**	**221**	LR	LR	10 35 01.9	
	comp=Z,91nm,19.0s,baz=70,slow=39						
ZALV	**Zalesovo Beam**	**31.37**	**191**	LR	LR	10 35 27.9	
	comp=Z,48nm,18.3s,baz=22,slow=39						
YKA	**Yellowknife Ar**	**32.07**	**25**	P	**P**	**10 21 45.3**	**0.0**
YKA	**Yellowknife Ar**	**32.07**	**25**	P	**P**	**10 21 44.4**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=354,slow=8.2,SNR=8.7						
YKA				LR	LR	10 34 47.7	
	comp=Z,64nm,18.9s,baz=256,slow=37						
	comp=Z,0.5nm,0.9s						
BVAR	**Borovoye Array**	**32.70**	**207**	P	**P**	**10 21 54.3**	**+3.2**
	comp=Z,0.9nm,0.9s,baz=35,slow=5.3,SNR=2.8						
	comp=Z,0.9nm,0.9s						
SKAG	**Skagway**	**34.08**	**44**	P	**P**	**10 22 03.1**	**+0.2**
SKAG				IAmb	IAmb	10 22 18.1	
	comp=Z,4.0nm,0.8s						
KDAK	**Kodiak Island**	**34.57**	**61**	LR	LR	10 35 30.8	
	comp=Z,55nm,18.4s,baz=116,slow=36						
KURBB	**Kurchatov Arra**	**34.84**	**198**	LR	LR	10 38 24.7	
	comp=Z,68nm,19.6s,baz=174,slow=40						
AB31	**Akbulak array**	**36.96**	**218**	P	**P**	**10 22 30.6**	**+2.9**
ABKAR	**Akbulak array**	**36.96**	**218**	P	**P**	**10 22 30.6**	**+2.9**
SONM	**Songino Array**	**37.52**	**167**	P	P	10 22 27.4	-5.3
	comp=Z,0.2nm,0.4s,baz=344,slow=7.0,SNR=1.6						
	comp=Z,0.2nm,0.4s						
**A

comp=E,723nm,0.3s
PMR Palmer 0.77 119 Pg 10 16 12.8 -0.3
PMR Sg Sg 10 16 23.1 0.0
STLK Strandline Lak 0.78 233 Pg 10 16 13.2 -0.1
STLK Sg Sg 10 16 23.5 +0.1
STLK IAML 10 16 24.4
comp=E,270nm,0.1s
STLK IAML 10 16 24.7
comp=N,244nm,0.2s
GHO Glory Hole Cre 0.79 104 Pg 10 16 13.3 -0.2
GHO Sg Sg 10 16 24.1 +0.3
GHO IAML 10 16 26.5
comp=N,280nm,0.3s
FIS Fire Island 0.84 169 Pb 10 16 15.2 -0.3
FIS Sg Sb 10 16 27.6 +0.5
FIS IAML 10 16 30.5
comp=N,311nm,0.3s
RC01 Rabbit Creek A 0.96 156 Pg 10 16 15.8 -1.1
RC01 Sg Sg 10 16 28.2 -1.1
RC01 IAML 10 16 28.5
comp=N,298nm,0.4s
SML Sawmill 1.06 98 Pg 10 16 18.0 -0.6
SML IAML 10 16 32.7
comp=N,176nm,0.9s
SML IAML 10 16 33.1
comp=E,250nm,0.7s
SPCR Spurr Chakacha 1.11 227 Pg 10 16 19.1 -0.7
SPBG Spurr Blockage 1.13 232 Pg 10 16 19.3 -0.7
KNK Knik Glacier 1.14 119 Pg 10 16 19.4 -0.8
KNK IAML 10 16 35.4
comp=N,219nm,0.5s
PPLA Purkeypile 1.21 321 Pg Pn 10 16 22.0 0.0
PPLA Purkeypile 1.21 321 Sn 10 16 38.7 -0.1
CAPN Captain Cook N 1.24 194 Pn 10 16 22.4 0.0
M23K Glacier View 1.34 96 Pn 10 16 22.6 -1.2
SLKM Skilak Lake 1.48 174 Pn Pn 10 16 23.9 -1.8
SLKM IAML 10 16 43.3
comp=N,123nm,0.2s
TRF Thorofare Moun 1.49 4 Pn 10 16 26.1 +0.1
TRF IAML 10 16 48.6
comp=E,112nm,0.7s
TRF Thorofare Moun 1.49 4 Sg 10 16 46.3 0.0
SCM Sheep Creek Mo 1.52 94 Pn 10 16 25.7 -0.7
SCM IAML 10 16 49.6
comp=N,74nm,1.0s
SCM IAML 10 16 52.1
comp=E,98nm,0.5s
PWL Port Wells 1.54 136 Pn 10 16 25.4 -1.1
PWL IAML 10 16 49.5
comp=E,78nm,0.6s
PWL IAML 10 16 50.4
comp=N,57nm,0.4s
O22K Cooper Landing 1.55 165 Pn 10 16 25.5 -1.1
KTH Kantishna Hill 1.60 354 Pn 10 16 27.5 +0.1
KTH IAML 10 16 49.9
comp=E,52nm,0.7s
KTH IAML 10 16 52.1
comp=N,70nm,0.7s
KTH Kantishna Hill 1.60 354 Sb 10 16 48.9 0.0
CAST Castle Rocks 1.62 335 Pn 10 16 27.8 +0.2
CAST IAML 10 16 50.7
comp=E,104nm,0.7s
RND Reindeer 1.64 28 Pn 10 16 27.2 -0.7
RND IAML 10 16 52.4
comp=N,53nm,0.2s
L20K Farewell, AK 1.65 289 Pn 10 16 27.5 -0.5
RDT Redoubt 1.67 214 Pn 10 16 27.0 -1.3
RDT Sn 10 16 50.0 -0.1
RDJH Redoubt Jeurge 1.77 219 Pn 10 16 29.8 +0.1
M19K Big River Lodg 1.82 270 Pn 10 16 30.9 +0.5
NCT North Crescent 1.83 220 Pn 10 16 30.3 -0.2
NCT Sn 10 16 54.0 0.0
RDWB Redoubt West 1.86 218 Pn 10 16 30.2 -0.8
MCK McKinley 1.92 22 Pn Pn 10 16 32.2 +0.5
SEW Seward 1.95 164 Pn Pn 10 16 32.6 +0.6
GLI Glacier Island 1.98 122 Pn 10 16 32.8 +0.2
GLI IAML 10 17 01.4
comp=E,58nm,0.5s
GLI IAML 10 17 02.6
comp=N,63nm,0.8s
L19K White Mountain 2.04 278 Pn Pn 10 16 33.1 -0.3
L19K IAML 10 17 05.2
comp=N,33nm,0.8s
L19K IAML 10 17 06.9
comp=E,32nm,0.5s
M24K Tolsona, Glenn 2.06 84 Pn 10 16 34.5 +0.8
K20K Telida 2.14 312 Pn Pn 10 16 34.6 -0.2
BPAW Bear Paw Mtn. 2.15 355 Pn Pn 10 16 34.6 -0.3
BPAW IAML 10 17 09.7
comp=E,33nm,0.5s
O20K Slope Mountain 2.15 209 Pn 10 16 35.2 +0.3
BRLK Bradley Lake 2.22 185 Pn Pn 10 16 36.5 +0.7
BRLK IAML 10 17 07.8
comp=E,27nm,0.4s
BRLK IAML 10 17 08.4
comp=N,28nm,0.1s
N19K Bonanza Creek 2.23 240 Pn Pn 10 16 37.5 +1.5
N19K IAML 10 17 08.8
comp=E,34nm,0.7s
N19K IAML 10 17 09.9
comp=N,35nm,0.7s
BRSE Bradley Lake S 2.24 183 Pn 10 16 35.6 -0.5
KLU Klutina 2.25 100 Pn 10 16 36.5 +0.2
KLU IAML 10 17 08.4
comp=E,40nm,0.5s
KLU IAML 10 17 11.2
comp=N,42nm,0.6s
BWN Browne 2.26 12 Pn Pn 10 16 36.4 0.0
BWN IAML 10 17 15.9
comp=N,54nm,0.9s
BWN IAML 10 17 20.5
comp=E,48nm,0.9s
FID Port Fidalgo 2.31 120 Pn Pn 10 16 37.1 +0.1
FID IAML 10 17 10.0
comp=N,34nm,0.4s
FID IAML 10 17 14.6
comp=E,39nm,0.7s
ILSW Iliamna Southw 2.37 214 Pn Pn 10 16 38.7 +0.8
ILS Iliamna Low So 2.37 213 Pn 10 16 38.1 +0.1
HOM Homer 2.38 194 Pn Pn 10 16 39.5 +1.4
DIV Divide 2.43 108 Pn Pn 10 16 40.6 +1.8
CNPM China Poot 2.48 188 Pn Pn 10 16 40.6 +1.2
CNPM IAML 10 17 15.0
comp=N,22nm,0.6s
CNPM IAML 10 17 26.4
comp=E,20nm,0.4s
PAX Paxson 2.56 65 Pn 10 16 40.6 0.0
HARP HAARP 2.56 78 Pn 10 16 41.8 +1.3
O19K Port Alsworth 2.56 228 Pn Pn 10 16 40.5 0.0
NEA2 Nenana 2.71 13 Pn 10 16 42.1 -0.5
WRH Wood River Hil 2.74 23 Pn 10 16 44.4 +1.4
J20K Nowinta River 2.76 325 Pn Pn 10 16 43.7 +0.5
J20K IAML 10 17 30.2
comp=N,34nm,0.6s
N25K Chitina, Valde 2.84 95 Pn Pn 10 16 46.0 +1.5
N25K IAML 10 17 24.7
comp=E,15nm,0.5s
N25K IAML 10 17 25.4
comp=N,22nm,0.5s
K24K Donnelly Dome 2.85 48 Pn 10 16 45.6 +1.0
HDA Harding Lake 2.94 32 Pn 10 16 45.8 +0.1
HDA IAML 10 17 35.0
comp=E,24nm,0.7s
CCB Clear Creek Bu 2.96 23 Pn 10 16 47.1 +1.2
J19K Poorman 3.08 313 Pn 10 16 47.3 -0.3
J19K IAML 10 17 38.3
comp=E,13nm,0.4s
J19K IAML 10 17 39.9
comp=N,15nm,0.7s
COLA College 3.15 21 Pn 10 16 47.1 -1.5
RIDG Independent Ri 3.15 53 Pn 10 16 49.0 +0.2
RIDG IAML 10 17 40.6
comp=N,16nm,0.9s
RIDG IAML 10 17 42.9
comp=E,21nm,0.7s
J18K Innoko River 3.22 300 Pn Pn 10 16 49.4 -0.1
I23K Minto, Yukon-K 3.23 9 Pn 10 16 49.5 -0.2
GLB Gilahina Butte 3.25 96 Pn Pn 10 16 49.7 -0.3
GLB IAML 10 17 40.0
comp=N,13nm,0.5s
GLB IAML 10 17 40.5
comp=E,10nm,0.7s
IL31 3.26 29 Pn Pn 10 16 49.3 -0.7
ILAR Eielson Array 3.26 29 Pn Pn 10 16 49.5 -0.6

I21K Tanana 3.29 349 Pn Pn 10 16 51.5 +1.1
I21K IAML 10 17 45.7
comp=E,16nm,1.0s
I21K IAML 10 17 47.4
comp=N,16nm,1.1s
MENT Mentasta 3.31 70 Pn 10 16 52.3 +1.4
MENT IAML 10 17 47.9
comp=N,23nm,0.7s
DOT Dot Lake 3.42 58 Pn 10 16 54.4 +2.1
POKR Poker Plat Res 3.45 22 Pn Pn 10 16 52.5 -0.2
POKR IAML 10 17 51.5
comp=N,9.2nm,0.5s
L26K Log Cabin Wild 3.50 69 Pn 10 16 54.2 +0.8
L26K IAML 10 17 51.3
comp=N,18nm,0.4s
J25K Salcha River, 3.53 39 Pn 10 16 53.6 -0.3
J25K IAML 10 17 52.2
comp=N,14nm,0.8s
J25K IAML 10 17 52.3
comp=E,12nm,0.7s
SCRK Sand Creek 3.60 53 Pn 10 16 56.3 +1.4
SCRK IAML 10 17 56.1
comp=E,8.7nm,0.6s
SUCK Suckling Hills 3.80 117 Pn Pn 10 16 55.1 -2.4
H21K Melozitna Rive 3.83 346 Pn Pn 10 16 57.6 -0.4
H21K IAML 10 18 02.5
comp=E,8.7nm,1.0s
H21K IAML 10 18 05.6
comp=N,7.2nm,0.8s
J26L Joseph Creek 4.05 48 Pn 10 17 02.9 +1.9
J26L IAML 10 18 08.9
comp=N,7.5nm,1.1s
J26L IAML 10 18 13.8
comp=E,6.2nm,0.6s
L27K Beaver Creek, 4.18 71 Pn Pn 10 17 02.2 -0.6
ISLE Juniper Island 4.19 106 Pn Pn 10 17 03.6 +0.6
ISLE IAML 10 18 17.0
comp=E,11nm,1.0s
ISLE IAML 10 18 19.7
comp=N,12nm,1.0s
J17K VABM Dome 4.19 294 Pn Pn 10 17 02.4 -0.5
PRP Porcupine Dome 4.20 30 Pn Pn 10 17 03.4 +0.2
PRP IAML 10 18 14.6
comp=E,7.9nm,1.1s
PRP IAML 10 18 20.7
comp=N,7.1nm,1.0s
BCAR Beaver Creek A 4.20 71 Pn Pn 10 17 04.9 +1.8
L16K Owhat River 4.25 270 Pn Pn 10 17 02.5 -1.1
L16K IAML 10 18 16.0
comp=N,8.7nm,0.6s
KDAK Kodiak Island 4.33 195 Pn Pn 10 17 03.9 -0.8
KDAK IAML 10 18 08.6
comp=N,5.7nm,1.1s
K27K Chicken 4.38 58 Pn Pn 10 17 04.5 -0.9
O16K Kokwok River B 4.41 241 Pn Pn 10 17 05.3 -0.5
O16K IAML 10 18 15.3
comp=N,7.1nm,1.1s
O16K IAML 10 18 21.2
comp=E,10nm,1.1s
H19K Roundabout Mou 4.43 326 Pn Pn 10 17 06.3 +0.1
H19K IAML 10 18 20.3
comp=E,6.7nm,0.3s
H19K IAML 10 18 28.3
comp=N,4.6nm,1.1s
MESA MESA 4.54 110 Pn Pn 10 17 06.9 -0.9
YAH Yahtse 4.55 107 Pn 10 17 06.5 -1.5
YAH IAML 10 19 33.6
comp=E,6.9nm,0.2s
YAH IAML 10 19 55.5
comp=N,6.6nm,1.2s
I26K Coal Creek Min 4.69 41 Pn Pn 10 17 11.6 +1.9
I26K IAML 10 18 31.9
comp=E,7.2nm,1.2s
I26K IAML 10 18 35.4
comp=N,8.5nm,1.0s
H18K Honhosa River 4.74 316 Pn Pn 10 17 11.1 +0.8
G21K Allakaket 4.74 345 Pn Pn 10 17 11.2 +0.7
G21K IAML 10 18 32.7
comp=N,4.2nm,0.5s
G21K IAML 10 18 33.3
comp=E,5.6nm,1.0s
G23K Bananza Creek 4.76 2 Pn Pn 10 17 10.9 +0.1
J16K Anvik River 4.83 290 Pn Pn 10 17 11.3 -0.4
J16K IAML 10 18 09.4
comp=N,4.7nm,1.1s
G24K Hadweenzic Riv 4.93 14 Pn Pn 10 17 13.3 +0.2
OHAK Old Harbor 4.96 198 Pn Pn 10 17 11.0 -2.5
OHAK IAML 10 18 05.5
comp=E,4.4nm,1.1s
OHAK IAML 10 18 37.9
comp=N,5.9nm,1.2s
H17K Granite Mounta 5.15 309 Pn Pn 10 17 17.1 +1.1
FYU Fort Yukon 5.16 24 Pn Pn 10 17 16.8 +0.7
FYU IAML 10 19 49.1
comp=E,2.8nm,0.9s
K15K Wolf Creek Mou 5.17 278 Pn Pn 10 17 16.1 -0.2
K15K IAML 10 17 59.2
comp=N,4.5nm,1.2s
COLD Coldfoot 5.28 1 Pn Pn 10 17 18.1 +0.3
G18K Tagagawik 5.32 321 Pn Pn 10 17 18.8 +0.4
F21K Alatna River 5.42 348 Pn Pn 10 17 20.6 +0.8
F20K Avaraart Lake 5.57 339 Pn Pn 10 17 22.6 +0.8

*TIR **26** 10:29:32.2,41°.71N×20°.43E,h15km,MI2.9/5*
*PDG **26** 10:29:32.4±0.1,41°.68N×20°.42E,h0km,ML2.7/11,Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*SKO **26** 10:29:32.7,41°.72N×20°.43E,h6km,ML2.5*
*BEO **26** 10:29:34.2±0.3,41°.72N×20°.47E,h10km±9km,ML2.2/9*
ISC 26 10:29:33.2±0.8,41°.72N±0°.02×20°.44E±0°.02,h11km±5km, n56,σ1°.21/88,3C-1D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.04**	**175**	Pg	**Pg**	**10 29 35.3**	**0.0**
PHP				Sg	**Sg**	**10 29 36.6**	**-0.2**
PHP				AML	AML	10 29 36.8	
	28nm,0.1s						
PHP				AML	AML	10 29 37.2	
	35nm,0.1s						
PUK	**Puka**	**0.52**	**309**	Pg	**Pg**	**10 29 42.6**	**-0.8**
PUK				Sg	**Sb**	**10 29 50.5**	**-1.5**
PUK				AML	AML	10 29 53.6	
	3.1nm,0.2s						
TIR	**Tirane**	**0.57**	**229**	Pg	**Pg**	**10 29 43.5**	**-0.8**
TIR				Sg	**Sb**	**10 29 52.2**	**-1.1**
TIR	**Tirane**	**0.57**	**229**	*e*Pg	**Pg**	**10 29 44.1**	**-0.2**
TIR				*e*Sg	**Sb**	**10 29 54.4**	**+1.1**
OHR	**Ohrid**	**0.67**	**156**	⇑*i*Pg	**Pb**	**10 29 46.2**	**-0.7**
OHR				*i* Sg	**Sb**	**10 29 57.0**	**+0.8**
OHR				*e*Lg	Lg	10 29 57.7	
	comp=N,266nm,0.4s						
OHR				*e*Lg	Lg	10 29 59.5	
	comp=E,292nm,0.7s						
OHR	**Ohrid**	**0.67**	**156**	*e*Pg	**Pb**	**10 29 46.3**	**-0.7**
OHR				*e*Sg	**Sb**	**10 29 56.2**	**0.0**
BCI	**Bajram Curri**	**0.70**	**337**	Pg	**Pg**	**10 29 46.1**	**-0.7**
BCI				Sg	**Sb**	**10 29 56.9**	**-0.3**
BCI				AML	AML	10 30 03.3	
	comp=E,1.0nm,0.4s						
ULC	**Ulcinj**	**0.92**	**286**	Pg	**Pg**	**10 29 50.4**	**-0.7**
ULC	**Ulcinj**	**0.92**	**286**	*i* Pg	**Pg**	**10 29 50.3**	**-0.7**
ULC	**Ulcinj**	**0.92**	**286**	*e*Pg	**Pg**	**10 29 49.4**	**-1.6**
ULC				*i* Sg	**Sn**	**10 30 04.0**	**-1.5**
PVY	**Plav**	**0.94**	**338**	*e*Pg	**Pg**	**10 29 50.5**	**-0.9**
PVY				*i* Sg	**Sn**	**10 30 05.8**	**-0.4**
DRME	**Dracevica, Mon**	**1.04**	**297**	Pg	**Pg**	**10 29 52.2**	**-1.1**
DRME	**Dracevica, Mon**	**1.04**	**297**	*e*Pn	**Pg**	**10 29 52.0**	**-1.3**
DRME	**Dracevica, Mon**	**1.04**	**297**	*e*Pg	**Pg**	**10 29 52.0**	**-1.3**
DRME				*i* Sg	**Sn**	**10 30 08.4**	**-0.1**
PDG	**Podgorica**	**1.13**	**309**	*e*Pn	**Pb**	**10 29 53.6**	**-1.2**
PDG	**Podgorica**	**1.13**	**309**	*i* Pg	**Pb**	**10 29 54.2**	**-0.6**
PDG				*e*Sg	**Sn**	**10 30 11.9**	**+1.3**
PDG	**Podgorica**	**1.13**	**309**	*e*Pg	**Pb**	**10 29 54.1**	**-0.7**
PDG				*e*Sg	**Sn**	**10 30 12.0**	**+1.4**
PDG	**Podgorica**	**1.13**	**309**	*e*Pg	**Pb**	**10 29 53.7**	**-1.1**
PDG				*i* Sg	**Sn**	**10 30 11.7**	**+1.1**
FNA	**Florina**	**1.17**	**143**	Pg	**Pb**	**10 29 54.9**	**-0.7**
FNA				Sg	**Sn**	**10 30 11.9**	**+0.1**
FNA				AML	AML	10 30 15.6	
	comp=E,1.1nm,0.4s						
FNA	**Florina**	**1.17**	**143**	*i* Pg	**Pb**	**10 29 54.8**	**-0.9**
FNA				*i* Sg	**Sn**	**10 30 12.7**	**+0.9**
FNA	**Florina**	**1.17**	**143**	*e*Pg	**Pb**	**10 29 54.7**	**-0.9**
FNA				*e*Sg	**Sn**	**10 30 12.2**	**+0.5**
BEY	**Berane**	**1.22**	**341**	P	**Pg**	**10 29 56.0**	**-0.7**
BEY	**Berane**	**1.22**	**341**	*i* Pn	**Pg**	**10 29 56.2**	**-0.5**
IVA	**Berane**	**1.22**	**341**	⇑*i*Pg	**Pn**	**10 29 55.6**	**-0.8**
IVA				*i* Sg	**Sn**	**10 30 15.3**	**+2.4**
BUM	**Brajici-Budva**	**1.29**	**297**	Pn	**Pb**	**10 29 57.0**	**-0.5**
BUM	**Brajici-Budva**	**1.29**	**297**	⇑*i*Pg	**Pn**	**10 29 56.3**	**-1.0**
BUM				*i* Sg	**Sn**	**10 30 16.7**	**+2.1**
KOME	**Kolasin**	**1.32**	**329**	Pg	**Pn**	**10 29 57.0**	**-0.7**
KOME	**Kolasin**	**1.32**	**329**	*e*Pg	**Pn**	**10 29 57.3**	**-0.5**
KOME				*i* Sg	**Sg**	**10 30 18.6**	**+2.9**
NEST	**Nestorio**	**1.38**	**160**	Pn	**Pg**	**10 29 59.4**	**-0.4**
NEST				Sn	**Sg**	**10 30 19.3**	**+1.5**
NEST				AML	AML	10 30 25.0	
	comp=E,0.3nm,0.5s						
CEME	**Cevo**	**1.40**	**307**	Pn	**Pn**	**10 29 58.3**	**-0.5**
CEME	**Cevo**	**1.40**	**307**	*e*Pg	**Pn**	**10 29 58.5**	**-0.3**
CEME				*i* Sg	**Sg**	**10 30 20.8**	**+2.5**
BARS	**Barje**	**1.50**	**43**	*e*Pn	**Pg**	**10 30 02.4**	**+0.5**
BARS				*e*Sg	**Sg**	**10 30 25.3**	**+3.9**
BARS	**Barje**	**1.50**	**43**	*e*Pg	**Pg**	**10 30 01.2**	**-0.8**
BARS				*e*Sg	**Sg**	**10 30 21.4**	**0.0**
NKME	**Niksic**	**1.52**	**314**	⇓*i*Pg	**Pb**	**10 30 00.9**	**-0.6**
NKME				*i* Sg	**Sg**	**10 30 25.1**	**+3.0**
SJES	**Sjenica**	**1.58**	**348**	*e*Pn	**Pg**	**10 30 02.5**	**-1.0**
SJES	**Sjenica**	**1.58**	**348**	*e*Pg	**Pg**	**10 30 02.5**	**-1.0**
SJES				*e*Sg	**Sg**	**10 30 24.7**	**+0.7**
SELS	**Selova**	**1.58**	**18**	*e*Pg	**Pg**	**10 30 02.6**	**-1.0**
SELS				*e*Sg	**Sg**	**10 30 25.3**	**+1.2**
HCY	**Herceg Novi**	**1.62**	**297**	Pn	**Pb**	**10 30 02.5**	**-0.7**
HCY	**Herceg Novi**	**1.62**	**297**	*e*Pn	**Pn**	**10 30 01.9**	**+0.1**
HCY	**Herceg Novi**	**1.62**	**297**	*e*Pn	**Pb**	**10 30 02.5**	**-0.7**
HCY				*i* Sn	**Sg**	**10 30 27.9**	**+2.6**
VAY	**Valandovo**	**1.65**	**103**	*i* Pn	**Pb**	**10 30 03.5**	**-0.2**
VAY				*e*Sg	**Sg**	**10 30 26.6**	**+0.3**
VAY				*e*Lg	Lg	10 30 27.9	
	comp=E,28nm,0.8s						
VAY				*e*Lg	Lg	10 30 28.7	
	comp=N,25nm,0.6s						
GRG	**Griva**	**1.67**	**117**	*i* Pn	**Pb**	**10 30 03.8**	**-0.1**
GRG				*e*Sg	**Sg**	**10 30 26.5**	**-0.2**
BRY	**Bratogost**	**1.84**	**311**	*e*Pn	**Pg**	**10 30 07.2**	**-1.3**
TREB	**Trebinje**	**1.84**	**303**	*e*Pn	**Pb**	**10 30 06.2**	**-0.8**
TREB	**Trebinje**	**1.84**	**303**	*e*Pg	**Pg**	**10 30 07.8**	**-0.8**
TREB				*e*Sg	**Sg**	**10 30 34.9**	**+2.4**
UPM	**Unac-Piva**	**1.86**	**323**	*e*Pn	**Pg**	**10 30 08.0**	**-1.0**
UPM	**Unac-Piva**	**1.86**	**323**	*e*Pn	**Pb**	**10 30 07.2**	**-0.3**
UPM				*i* Sn	**Sg**	**10 30 34.8**	**+1.6**
GOCS	**Kraljevo Serbi**	**1.87**	**10**	*e*Pg	**Pb**	**10 30 06.8**	**-0.7**
GOCS				*e*Sg	**Sg**	**10 30 32.7**	**-0.6**
KNT	**Kendrikon**	**1.93**	**106**	*i* Pn	**Pb**	**10 30 07.6**	**-0.9**
DBRK	**Dubrovnik**	**1.95**	**300**	*e*Pn	**Pb**	**10 30 08.3**	**-0.5**
KKB	**Krupnik**	**2.02**	**86**	*i* Pn	**Pb**	**10 30 09.1**	**-0.9**
RUDO	**Rudo**	**2.05**	**338**	*e*Pn	**Pn**	**10 30 08.3**	**+0.6**
BBLS	**Lazi&#263i**	**2.27**	**341**	*e*Pn	**Pb**	**10 30 13.6**	**-0.8**
STON	**Ston**	**2.33**	**300**	*e*Pn	**Pn**	**10 30 12.2**	**+0.6**
STON	**Ston**	**2.33**	**300**	*e*Pn	**Pb**	**10 30 13.0**	**-2.3**
HAPS	**Han Pijesak,Bl**	**2.60**	**336**	*e*Pn	**Pb**	**10 30 18.6**	**-1.4**

IDC 26 10:43:23.6±2.2,1°.72N×126°.45E,h0km,mb3.4/3, mbtmp3.4/3,1C,Error ellipse: s-maj=173.3km s-min=28.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.88**	**161**	P	P	10 48 28.6	-0.3
	1.1nm,0.6s,baz=339,slow=11,SNR=10						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**26.26**	**164**	P	P	10 49 01.0	+0.3
	0.2nm,0.4s,baz=344,slow=9.4,SNR=5.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.04**	**326**	P	P	10 53 25.4	-0.1
	0.2nm,0.6s,baz=124,slow=7.7,SNR=2.8						
	0.2nm,0.6s						
AB31	**Akbulak array**	**73.52**	**321**	Pn	P	10 54 59.4	+1.1
	0.1nm,0.2s,baz=338,slow=16,SNR=7.8						
AB31				⇑Lg	Lg	10 55 31.4	
	0.4nm,0.3s,baz=348,slow=24						

*SFS **26** 10:47:56.9,36°.49N×7°.94W,h24km,ML3.1/13,ML3.4/13, MLv3.0/13*
*IGIL **26** 10:47:56.8,36°.46N×7°.98W,h21km,ML2.4*
*INMG **26** 10:47:57.4±1.3,36°.45N×7°.96W,h30km±7km,ML2.4,Error ellipse: s-maj=3.7km s-min=2.4km az=63.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cdiz*
*MDD **26** 10:47:57.9±0.7,36°.53N×7°.95W,h36km±13km, mb_Lg3.0/12,Error ellipse: s-maj=7.9km s-min=3.4km az=35.0*
*CNRM **26** 10:48:02.2,35°.63N×7°.90W,h15km,ML2.6*
ISC 26 10:47:55.1±1.2,36°.43N±0°.04×7°.94W±0°.03,h35km,n69, σ1°.65/105,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.81**	**0**	*e*P	**Pn**	**10 48 11.1**	**+1.0**
PBDV				*e*S	**Sn**	**10 48 21.5**	**+0.5**
PBDV				*i* AML	AML	10 48 22.2	
PBDV				*i* AML	AML	10 48 22.8	
PBDV				*i* AML	AML	10 48 22.8	
PVAQ	**Vaqueiros**	**0.99**	**10**	*e*P	**Pn**	**10 48 13.6**	**+1.1**
PVAQ				*e*S	**Sn**	**10 48 25.7**	**+0.5**
PVAQ				*i* AML	AML	10 48 26.2	
PVAQ				*i* AML	AML	10 48 26.3	
PVAQ				*i* AML	AML	10 48 26.3	
PVAQ	**Vaqueiros**	**0.99**	**10**	P	**Pn**	**10 48 13.7**	**+1.1**
PVAQ				S	**Sn**	**10 48 25.6**	**+0.3**
PFVI	**Vila Bisbo**	**1.00**	**315**	⇑*e*P	**Pn**	**10 48 13.3**	**+0.7**
PFVI				*e*S	**Sn**	**10 48 26.1**	**+0.4**
PFVI				*i* AML	AML	10 48 29.0	
PFVI				*i* AML	AML	10 48 35.3	
PFVI				*i* AML	AML	10 48 37.7	
PFVI	**Vila Bisbo**	**1.00**	**315**	P	**Pn**	**10 48 13.3**	**+0.7**
PFVI				S	**Sn**	**10 48 25.8**	**+0.2**
MORF	**Marmelete**	**1.05**	**327**	*e*P	**Pn**	**10 48 14.0**	**+0.6**
MORF				*e*S	**Sn**	**10 48 26.6**	**-0.1**
MORF				IAML		10 48 28.0	
	comp=N,46nm,0.1s						
MORF	**Marmelete**	**1.05**	**327**	*e*P	**Pn**	**10 48 14.0**	**+0.6**
MORF				*e*S	**Sn**	**10 48 26.9**	**+0.2**
MORF				*i* AML	AML	10 48 27.1	
MORF				*i* AML	AML	10 48 27.3	
MORF				*i* AML	AML	10 48 28.4	
EGRO	**El Granado**	**1.16**	**18**	P	**Pn**	**10 48 16.0**	**+1.1**
EGRO				S	**Sn**	**10 48 29.7**	**+0.2**
EGRO	**El Granado**	**1.16**	**18**	P	**Pn**	**10 48 16.0**	**+1.1**
EGRO				S	**Sn**	**10 48 29.7**	**+0.2**
EGRO				*i* Vmb_Lg		10 48 31.0	
PCVE	**Castro Verde**	**1.21**	**356**	*e*P	**Pn**	**10 48 16.8**	**+1.3**
PCVE				*e*S	**Sn**	**10 48 31.0**	**+0.4**
PCVE				*i* AML	AML	10 48 31.3	
PCVE				*i* AML	AML	10 48 31.4	
PCVE				*i* AML	AML	10 48 31.6	
PCVE	**Castro Verde**	**1.21**	**356**	P	**Pn**	**10 48 16.6**	**+1.2**
PTEO	**Sao Teotonio**	**1.28**	**331**	*e*P	**Pn**	**10 48 17.5**	**+1.0**
PTEO				*e*S	**Sn**	**10 48 33.0**	**+0.6**
PTEO				*i* AML	AML	10 48 34.1	
PTEO				*i* AML	AML	10 48 34.2	
PTEO				*i* AML	AML	10 48 34.3	
MESJ	**Messejana**	**1.43**	**351**	*e*P	**Pn**	**10 48 19.6**	**+1.1**
MESJ				*e*S	**Sn**	**10 48 36.1**	**0.0**
MESJ				IAML		10 48 36.8	
	comp=N,62nm,0.3s						
MESJ	**Messejana**	**1.43**	**351**	*e*P	**Pn**	**10 48 20.1**	**+1.6**
MESJ				*e*S	**Sn**	**10 48 36.6**	**+0.6**
MESJ				*i* AML	AML	10 48 36.9	
MESJ				*i* AML	AML	10 48 37.0	
MESJ				*i* AML	AML	10 48 37.8	
PBEJ	**Beja**	**1.60**	**2**	*e*S	**Sn**	**10 48 40.7**	**+0.5**
PBEJ				*i* AML	AML	10 48 43.1	
PBEJ				*i* AML	AML	10 48 43.2	
PBEJ				*i* AML	AML	10 48 43.2	
EMIN	**Mina Concepcio**	**1.68**	**37**	P	**Pn**	**10 48 22.8**	**+0.9**
EMIN	**Mina Concepcio**	**1.68**	**37**	P	**Pn**	**10 48 22.8**	**+0.9**
EMIN				S	**Sn**	**10 48 41.6**	**-0.7**
ESPR	**Espera**	**1.73**	**75**	P	**Pn**	**10 48 24.1**	**+1.4**
ESPR				S	**Sn**	**10 48 44.0**	**+0.5**
ESPR	**Espera**	**1.73**	**75**	P	**Pn**	**10 48 24.0**	**+1.4**

ESPR					S	Sn	10 48 43.6	+0.1
ESPR					*i* Vmb_Lg		10 48 46.1	
PBAR	**Barrancos**	**1.89**	**22**	*eP*		**Pn**	**10 48 26.0**	**+1.2**
PBAR				*eS*		**Sn**	**10 48 47.6**	**+0.2**
PBAR				*i* AML	AML		10 48 49.5	
PBAR				*i* AML	AML		10 48 53.4	
PBAR				*i* AML	AML		10 48 53.9	
PBAR	**Barrancos**	**1.89**	**22**	P		**Pn**	**10 48 26.3**	**+1.5**
EJIF	**Jimena Fronter**	**1.99**	**89**	S		**Sn**	**10 48 52.5**	**+2.6**
EVO	**Evora**	**2.10**	**358**	*eS*		**Sn**	**10 48 52.5**	**-0.2**
EVO				*i* AML	AML		10 48 53.7	
EVO				*i* AML	AML		10 48 55.7	
EVO	**Evora**	**2.10**	**358**	S		**Sn**	**10 48 52.1**	**-0.7**
EBAD	**Badajoz**	**2.44**	**17**	P		**Pn**	**10 48 32.9**	**+0.5**
EBAD				S		**Sn**	**10 49 00.5**	**-0.5**
EBAD	**Badajoz**	**2.44**	**17**	P		**Pn**	**10 48 33.2**	**+0.8**
EBAD				S		**Sn**	**10 48 59.1**	**-1.9**
EBAD				*i* Vmb_Lg			10 49 04.1	
ECAB	**El Cabril**	**2.60**	**50**	P		**Pn**	**10 48 35.4**	**+0.8**
ECAB				S		**Sn**	**10 49 04.5**	**-0.4**
ECAB	**El Cabril**	**2.60**	**50**	P		**Pn**	**10 48 35.4**	**+0.8**
ECAB				S		**Sn**	**10 49 02.9**	**-2.1**
PMTG	**Montargil**	**2.65**	**355**	*eP*		**Pn**	**10 48 36.2**	**+0.9**
PMTG				*eS*		**Sn**	**10 49 04.9**	**-1.3**
PMTG				*i* AML	AML		10 49 06.9	
PMTG				*i* AML	AML		10 49 06.9	
PMTG				*i* AML	AML		10 49 07.0	
PMAFR	**Mafra**	**2.74**	**337**	*eP*		**Pn**	**10 48 38.2**	**+1.6**
PMAFR				*eS*		**Sn**	**10 49 08.0**	**-0.5**
PMAFR				*i* AML	AML		10 49 09.8	
PMAFR				*i* AML	AML		10 49 10.7	
PMAFR				*i* AML	AML		10 49 13.1	
PMAFR	**Mafra**	**2.74**	**337**	P		**Pn**	**10 48 37.7**	**+0.5**
PMAFR				S		**Sn**	**10 49 08.3**	**-0.1**
PMRV	**Marv??o**	**3.03**	**8**	*eP*		**Pn**	**10 48 41.5**	**+1.0**
PMRV				*eS*		**Sn**	**10 49 14.7**	**-0.9**
PMRV				*i* AML	AML		10 49 15.8	
PMRV				*i* AML	AML		10 49 17.1	
PMRV				*i* AML	AML		10 49 17.4	
EGOR	**Sierra Gorda,**	**3.15**	**76**	P		**Pn**	**10 48 44.1**	**+1.8**
EGOR				S		**Sn**	**10 49 19.5**	**+0.8**
EGOR	**Sierra Gorda,**	**3.15**	**76**	P		**Pn**	**10 48 44.6**	**+2.3**
EGOR				S		**Sn**	**10 49 18.4**	**-0.3**
EGOR				*i* Vmb_Lg			10 49 23.6	
PSBE	**So Bento**	**3.16**	**348**	*eP*		**Pn**	**10 48 43.3**	**+0.9**
EADA	**Adamuz**	**3.19**	**56**	P		**Pn**	**10 48 44.0**	**+1.2**
EADA				S		**Sn**	**10 49 18.5**	**-1.2**
EADA	**Adamuz**	**3.19**	**56**	P		**Pn**	**10 48 44.0**	**+1.2**
EADA				S		**Sn**	**10 49 18.5**	**-1.2**
EADA				*i* Vmb_Lg			10 49 22.6	
PCBR	**Castelo Branco**	**3.43**	**6**	*eP*		**Pn**	**10 48 47.1**	**+1.1**
PCBR				*eS*		**Sn**	**10 49 24.4**	**-0.9**
PCBR				*i* AML	AML		10 49 25.7	
PCBR				*i* AML	AML		10 49 25.7	
PCBR				*i* AML	AML		10 49 26.0	
ELGU	**Los Guajares,**	**3.49**	**81**	P		**Pn**	**10 48 48.9**	**+1.9**
ELGU				S		**Sn**	**10 49 26.8**	**-0.4**
ELGU	**Los Guajares,**	**3.49**	**81**	P		**Pn**	**10 48 49.4**	**+2.4**
ELGU				S		**Sn**	**10 49 27.6**	**+0.4**
ELGU				*i* Vmb_Lg			10 49 31.0	
PCAS	**Casmilo, Conde**	**3.65**	**353**	*eS*		**Sn**	**10 49 29.5**	**-1.3**
PCAS				*i* AML	AML		10 49 31.0	
PCAS				*i* AML	AML		10 49 31.5	
PCAS				*i* AML	AML		10 49 32.0	
EQTA	**Presa de Quent**	**3.69**	**76**	P		**Pn**	**10 48 51.4**	**+1.7**
EQTA				S		**Sn**	**10 49 32.5**	**+0.5**
EQUE	**Quentar**	**3.69**	**77**	P		**Pn**	**10 48 51.7**	**+2.0**
EQUE				*i* Vmb_Lg			10 48 54.7	
EQUE				S		**Sn**	**10 49 31.9**	**-0.2**
AKLM	**AKL**	**3.83**	**119**	P		**Pn**	**10 48 54.1**	**+2.4**
AKLM	**AKL**	**3.83**	**119**	S		**Sn**	**10 49 35.1**	**-0.5**
EPLA	**Plasencia**	**3.91**	**21**	P		**Pn**	**10 48 53.5**	**+0.7**
EPLA				S		**Sn**	**10 49 34.9**	**-2.6**
EPLA				*i* Vmb_Lg			10 50 16.1	
MTE	**Manteigas**	**3.98**	**4**	*eS*		**Sn**	**10 49 38.0**	**-1.1**
MTE				*i* AML	AML		10 49 39.0	
MTE				*i* AML	AML		10 49 39.4	
MTE				*i* AML	AML		10 49 39.8	
PSIM	**Granatula de C**	**4.09**	**53**	P		**Pn**	**10 48 56.2**	**+1.1**
PSIM				S		**Sn**	**10 49 41.5**	**-0.3**
PAB	**San Pablo**	**4.21**	**41**	P		**Pn**	**10 48 57.8**	**+0.9**
PAB				S		**Sn**	**10 49 41.1**	**-3.7**
PAB				*i* Vmb_Lg			10 49 55.8	
MD31	**MD31**	**4.41**	**143**	P		**Pn**	**10 48 60.0**	**+0.3**
MD31	**MD31**	**4.41**	**143**	S		**Sn**	**10 49 45.7**	**-4.1**
MDT	**Midelt**	**4.53**	**142**	P		**Pn**	**10 49 01.9**	**+0.6**
MDT	**Midelt**	**4.53**	**142**	S		**Sn**	**10 49 48.5**	**-4.3**
MVO	**Moncorvo**	**4.78**	**8**	*eP*		**Pn**	**10 49 05.6**	**+0.9**
MVO				*eS*		**Sn**	**10 49 56.2**	**-2.7**
MVO				*i* AML	AML		10 49 58.9	
MVO				*i* AML	AML		10 49 59.0	
MVO				*i* AML	AML		10 49 59.5	
TISM	**Timmit**	**4.86**	**165**	P		**Pn**	**10 49 03.6**	**-2.0**
TISM	**Timmit**	**4.86**	**165**	S		Sn	10 49 52.3	-8.3
POLO	**Lamas de Olo**	**4.94**	**1**	*eS*		**Sn**	**10 50 01.2**	**-1.6**
POLO				*i* AML	AML		10 50 02.5	
POLO				*i* AML	AML		10 50 02.5	
POLO				*i* AML	AML		10 50 02.5	
GUD	**Guadarrama**	**5.15**	**34**	P		**Pn**	**10 49 10.9**	**+1.1**
GUD				S		**Sn**	**10 50 04.7**	**-3.3**
OUK	**Oukaimeden**	**5.21**	**179**	P		**Pn**	**10 49 11.1**	**+0.3**
OUK	**Oukaimeden**	**5.21**	**179**	S		Sn	10 50 01.4	-8.5
PCAB	**Cabril**	**5.28**	**359**	*eS*		**Sn**	**10 50 09.5**	**-1.5**
UCM	**Universidad Co**	**5.35**	**42**	P		**Pn**	**10 49 14.0**	**+1.6**
ELOB	**Lobios**	**5.43**	**359**	S		**Sn**	**10 50 11.1**	**-3.9**
PBRG	**Braganca**	**5.45**	**9**	*eS*		**Sn**	**10 50 12.9**	**-2.4**
PBRG				*i* AML	AML		10 50 13.6	
PBRG				*i* AML	AML		10 50 14.3	
OUZM	**OUZ**	**5.59**	**170**	P		**Pn**	**10 49 16.0**	**+0.1**
OUZM	**OUZ**	**5.59**	**170**	S		**Sn**	**10 50 13.8**	**-5.2**
TTIG	**Tnine Tigouga,**	**5.88**	**184**	P		Pn	10 49 17.1	-2.8
TTIG	**Tnine Tigouga,**	**5.88**	**184**	S		Sn	10 50 17.8	-8.3
ETOR	**Torete**	**6.36**	**45**	P		**Pn**	**10 49 27.6**	**+1.2**
ETOR				S		**Sn**	**10 50 31.2**	**-6.6**
ETOR				*i* Vmb_Lg			10 53 40.0	

*NEIC **26** 10:57:33.9±1.8, 61°.76N±0°.01×148°.63W±0°.02, h6km±10km, Error ellipse: s-maj=2.0km s-min=1.2km az=218.0*

AEIC 26 10:57:33.9±1.7, 61°.74N±0°.02×148°.62W±0°.03, h7km±7km, ML2.8, ML3.0/166(NEIC), **Error ellipse: s-maj=2.5km s-min=1.7km az=170.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.15**	**282**	Pg	Pg	10 57 37.6	+0.7
GHO				IAML		10 57 38.1	
	comp=E,3μm,0.2s						
GHO				IAML		10 57 38.2	
	comp=N,4μm,0.1s						
SML	**Sawmill**	**0.15**	**64**		Pg	10 57 37.6	+0.6
SML				Sg	Sg	10 57 40.8	+1.6
SML				IAML		10 57 41.0	
	comp=N,4μm,0.3s						
SML				IAML		10 57 41.0	
	comp=E,4μm,0.5s						
PMR	**Palmer**	**0.29**	**239**	Pg	Pg	10 57 39.6	+0.1
PMR				IAML		10 57 44.2	
	comp=E,2μm,0.2s						
PMR				IAML		10 57 44.4	
	comp=N,2μm,0.3s						
KNK	**Knik Glacier**	**0.34**	**167**	Pg	Pg	10 57 40.9	+0.4
KNK					Sg	10 57 45.9	+1.0
M23K	**Glacier View**	**0.43**	**83**		Pg	10 57 41.9	-0.2
M23K					Sg	10 57 47.8	+0.1
SCM	**Sheep Creek Mo**	**0.62**	**81**		Pg	10 57 45.2	-0.6
SCM					Sg	10 57 53.7	-0.1
SCM				IAML		10 57 54.5	
	comp=E,1μm,0.5s						
M22K	**Willow**	**0.72**	**272**		Pg	10 57 46.9	-0.7
M22K					Sg	10 57 56.4	-0.5
RC01	**Rabbit Creek A**	**0.85**	**220**		Pg	10 57 49.5	-0.6
RC01					Sg	10 58 00.8	-0.3
PWL	**Port Wells**	**0.90**	**171**		Pg	10 57 50.3	-0.7
FIS	**Fire Island**	**0.98**	**233**		Pg	10 57 52.5	0.0
FIS				IAML		10 58 14.6	
	comp=E,529nm,0.3s						
FIS				IAML		10 58 19.0	
	comp=N,607nm,0.7s						
CUT	**Chulitna**	**1.02**	**311**		Pg	10 57 52.2	-1.2
GLI	**Glacier Island**	**1.14**	**139**		Pg	10 57 55.0	-0.6
GLI				IAML		10 58 10.8	
	comp=N,438nm,0.2s						
M24K	**Tolsona, Glenn**	**1.21**	**71**		Pg	10 57 55.4	-1.7
M24K				IAML		10 58 12.9	
	comp=N,205nm,0.4s						
M24K				IAML		10 58 14.0	
	comp=E,299nm,0.3s						
KLU	**Klutina**	**1.31**	**100**		Pn	10 57 56.6	-2.1
KLU				IAML		10 58 17.6	
	comp=N,188nm,0.3s						
O22K	**Cooper Landing**	**1.37**	**204**		Pn	10 57 58.7	-0.8
SKT	**Skwentna**	**1.40**	**281**	Pn	Pn	10 57 58.8	-1.1
SKT				IAML		10 58 18.2	
	comp=N,182nm,0.3s						
SKT				IAML		10 58 18.3	
	comp=E,157nm,0.2s						
FID	**Port Fidalgo**	**1.44**	**133**	Pn	Pn	10 57 59.4	-0.9
FID				IAML		10 58 24.5	
	comp=N,231nm,0.5s						
SLKM	**Skilak Lake**	**1.46**	**213**		Pn	10 58 00.4	-0.3
DIV	**Divide**	**1.50**	**113**		Pn	10 57 59.2	-2.1
STLK	**Strandline Lak**	**1.56**	**262**	Pn	Pn	10 58 01.3	-0.7
STLK				IAML		10 58 26.7	
	comp=N,110nm,0.4s						
CAPN	**Captain Cook N**	**1.57**	**233**		Pn	10 58 02.6	+0.5
RND	**Reindeer**	**1.68**	**356**	Pn	Pn	10 58 02.5	-1.2
RND				IAML		10 58 24.7	
	comp=E,156nm,0.4s						
RND				IAML		10 58 26.1	
	comp=N,171nm,0.4s						
SEW	**Seward**	**1.69**	**194**		Pn	10 58 03.9	0.0
HIN	**Hinchinbrook I**	**1.70**	**142**		Pn	10 58 04.6	+0.6
HIN				IAML		10 58 33.6	
	comp=E,207nm,0.7s						
HIN				IAML		10 58 35.4	
	comp=N,143nm,0.9s						
HARP	**HAARP**	**1.76**	**66**		Pn	10 58 04.3	-0.4
EYAK	**Cordova Ski Ar**	**1.83**	**129**		Pn	10 58 05.3	-0.5
P23K	**Montague Islan**	**1.85**	**161**		Pn	10 58 06.8	+0.8
P23K					Sb	10 58 31.5	+0.3
TRF	**Thorofare Moun**	**1.88**	**336**	Pn	Pn	10 58 06.8	+0.2
TRF				IAML		10 58 35.5	
	comp=E,155nm,0.8s						
TRF				IAML		10 58 36.3	
	comp=N,128nm,0.7s						
PAX	**Paxson**	**1.92**	**49**		Pn	10 58 05.9	-1.2
N25K	**Chitina, Valde**	**1.92**	**92**		Pn	10 58 05.9	-1.1
N25K				IAML		10 58 35.9	
	comp=N,140nm,0.5s						
MCK	**McKinley**	**2.00**	**356**	Pn	Pn	10 58 07.7	-0.5
PPLA	**Purkeypile**	**2.03**	**306**		Pn	10 58 09.1	+0.5
WACK	**Wrangell Chich**	**2.05**	**81**		Pn	10 58 09.2	+0.2
BMRM	**Bremner River**	**2.08**	**110**		Pn	10 58 09.5	+0.2
KTH	**Kantishna Hill**	**2.11**	**331**	Pn	Pn	10 58 09.4	-0.2
KTH				IAML		10 58 43.2	
	comp=E,72nm,0.9s						
KTH				IAML		10 58 43.6	
	comp=N,85nm,0.8s						
M20K	**Styx River**	**2.15**	**276**		Pn	10 58 10.7	+0.5
M20K				IAML		10 58 42.1	
	comp=E,70nm,0.5s						
M20K				IAML		10 58 43.3	
	comp=N,74nm,0.9s						
RDT	**Redoubt**	**2.18**	**239**		Pn	10 58 10.7	+0.1
BRSE	**Bradley Lake S**	**2.26**	**208**		Pn	10 58 11.9	+0.3
BRLK	**Bradley Lake**	**2.28**	**210**		Pn	10 58 12.5	+0.6
BRLK				IAML		10 58 48.3	
	comp=N,106nm,0.4s						
BRLK				IAML		10 58 49.3	
	comp=E,86nm,0.8s						
GLB	**Gilahina Butte**	**2.32**	**95**		Pn	10 58 13.1	+0.6
GLB				IAML		10 58 48.1	
	comp=N,73nm,0.4s						
CAST	**Castle Rocks**	**2.33**	**318**	Pn	Pn	10 58 13.5	+0.9
CAST				IAML		10 58 45.7	
	comp=E,55nm,0.3s						
CAST				IAML		10 58 45.8	
	comp=N,49nm,0.3s						
RDJH	**Redoubt Jeurge**	**2.33**	**242**		Pn	10 58 13.6	+0.8
NCT	**North Crescent**	**2.40**	**242**		Pn	10 58 14.4	+0.7
RDWB	**Redoubt West**	**2.41**	**240**		Pn	10 58 14.7	+0.9
K24K	**Donnelly Dome**	**2.45**	**31**		Pn	10 58 15.6	+1.4
BWN	**Browne**	**2.47**	**351**	Pn	Pn	10 58 14.1	-0.4
BWN				IAML		10 58 50.8	
	comp=N,93nm,0.8s						
BWN				IAML		10 58 59.7	
	comp=E,79nm,0.9s						
VRDI	**Verde Repeater**	**2.53**	**99**		Pn	10 58 15.7	+0.1
HMT	**Hamilton**	**2.54**	**122**	Pn	Pn	10 58 16.2	+0.6
HOM	**Homer**	**2.57**	**217**	Pn	Pn	10 58 16.8	+1.0
O20K	**Slope Mountain**	**2.57**	**231**		Pn	10 58 17.2	+1.2
CNPM	**China Poot**	**2.57**	**211**		Pn	10 58 16.5	+0.6
CNPM				IAML		10 58 55.9	
	comp=E,75nm,0.5s						
CNPM				IAML		10 58 57.1	
	comp=N,63nm,0.7s						
MENT	**Mentasta**	**2.58**	**60**		Pn	10 58 16.6	+0.5
BPAW	**Bear Paw Mtn.**	**2.60**	**336**		Pn	10 58 16.2	-0.1
BPAW				IAML		10 58 57.6	
	comp=N,38nm,0.9s						
BPAW				IAML		10 58 57.9	
	comp=E,49nm,0.6s						
RIDG	**Independent Ri**	**2.65**	**39**		Pn	10 58 18.9	+1.8
RIDG				IAML		10 58 54.9	
	comp=E,55nm,0.6s						
RIDG				IAML		10 58 55.3	
	comp=N,84nm,0.7s						
NICHA	**Nichawak Mount**	**2.72**	**122**		Pn	10 58 19.0	+1.0
M26K	**Nabesna, AK**	**2.73**	**73**		Pn	10 58 18.9	+0.8
M19K	**Big River Lodg**	**2.75**	**276**		Pn	10 58 19.5	+1.1
M19K				IAML		10 59 02.6	
	comp=N,50nm,0.5s						
M19K				IAML		10 59 03.7	
	comp=E,50nm,0.7s						
BERG	**Berg Lake**	**2.75**	**117**		Pn	10 58 19.0	+0.7
BERG				IAML		10 59 06.5	
	comp=N,74nm,0.5s						
WRH	**Wood River Hil**	**2.75**	**5**	Pn	Pn	10 58 17.4	-1.0
L26K	**Log Cabin Wild**	**2.77**	**60**		Pn	10 58 20.4	+1.7
L26K				IAML		10 59 07.6	
	comp=N,62nm,0.4s						
HDA	**Harding Lake**	**2.78**	**15**		Pn	10 58 18.7	-0.2
HDA				IAML		10 58 57.7	
	comp=E,41nm,0.5s						
HDA				IAML		10 59 03.6	
	comp=N,62nm,0.4s						
ILS	**Iliamna Low So**	**2.82**	**233**		Pn	10 58 20.3	+0.9
ILSW	**Iliamna Southw**	**2.83**	**233**		Pn	10 58 20.2	+0.6
DOT	**Dot Lake**	**2.84**	**46**		Pn	10 58 20.2	+0.5
NEA2	**Nenana**	**2.87**	**356**		Pn	10 58 20.0	0.0
KHIT	**Khitrov Hills**	**2.91**	**114**		Pn	10 58 21.5	+0.8
CCB	**Clear Creek Bu**	**2.94**	**7**		Pn	10 58 21.5	+0.5
L19K	**White Mountain**	**2.98**	**281**		Pn	10 58 20.9	-0.7
N19K	**Bonanza Creek**	**2.98**	**254**	Pn	Pn	10 58 21.9	+0.3
K20K	**Telida**	**3.00**	**305**	Pn	Pn	10 58 22.5	+0.7
K20K				IAML		10 59 11.9	
	comp=E,33nm,0.7s						
WAX	**Waxell Ridge**	**3.08**	**112**	Pn	Pn	10 58 24.0	+1.0
WAX				IAML		10 59 18.0	
	comp=E,54nm,0.8s						
SCRK	**Sand Creek**	**3.09**	**41**		Pn	10 58 23.7	+0.6
SCRK				IAML		10 59 10.5	
	comp=N,32nm,1.2s						
SCRK				IAML		10 59 11.3	
	comp=E,42nm,0.6s						
IL31		**3.14**	**14**	Pn	Pn	10 58 23.1	-0.6
ILAR	**Eielson Array**	**3.14**	**14**		Pn	10 58 23.6	-0.1
COLA	**College**	**3.16**	**6**		Pn	10 58 22.9	-1.1
O19K	**Port Alsworth**	**3.18**	**243**		Pn	10 58 24.9	+0.6
O19K				IAML		10 59 26.5	
	comp=N,51nm,0.5s						
SNH	**Sunshine Point**	**3.22**	**117**	Pn	Pn	10 58 22.8	-2.1
SNH				IAML		10 59 01.0	
	comp=N,30nm,1.1s						
SNH				IAML		10 59 11.9	
	comp=E,29nm,0.9s						
M27K	**Edge Creek, AK**	**3.23**	**76**		Pn	10 58 24.9	-0.3
J25K	**Salcha River,**	**3.24**	**26**		Pn	10 58 26.4	+1.3
J25K				IAML		10 59 08.0	
	comp=E,32nm,0.5s						
J25K				IAML		10 59 09.4	
	comp=N,28nm,0.8s						
ISLE	**Juniper Island**	**3.25**	**108**	Pn	Pn	10 58 25.5	+0.1
ISLE				IAML		10 59 14.8	
	comp=E,29nm,0.7s						
ISLE				IAML		10 59 15.6	
	comp=N,30nm,0.7s						
L27K	**Beaver Creek,**	**3.43**	**64**		Pn	10 58 26.5	-1.2
POKR	**Poker Plat Res**	**3.43**	**8**		Pn	10 58 28.5	+0.8
POKR				IAML		10 59 23.8	
	comp=E,19nm,0.7s						
I23K	**Minto, Yukon-K**	**3.44**	**355**		Pn	10 58 27.4	-0.4
I23K				IAML		10 59 23.2	
	comp=E,19nm,0.7s						
I23K				IAML		10 59 25.2	
	comp=N,22nm,0.7s						
BCAR	**Beaver Creek A**	**3.45**	**64**	Pn	Pn	10 58 31.2	+3.2
J20K	**Nowinta River**	**3.51**	**316**		Pn	10 58 30.9	+2.1
J20K				IAML		10 59 23.7	
	comp=N,36nm,0.6s						
J20K				IAML		10 59 26.4	
	comp=E,42nm,0.7s						
J26L	**Joseph Creek**	**3.60**	**37**		Pn	10 58 31.3	+1.2
J26L				IAML		10 59 16.5	
	comp=N,22nm,0.4s						
J26L				IAML		10 59 16.6	
	comp=E,18nm,0.7s						
YAH	**Yahtse**	**3.62**	**109**	Pn	Pn	10 58 30.7	+0.2
YAH				IAML		10 59 27.1	
	comp=N,23nm,1.0s						
SYI	**Shuyak Island**	**3.66**	**213**		Pn	10 58 31.1	+0.2
SYI	**Shuyak Island**	**3.66**	**213**	IAML		10 59 35.5	
	comp=E,17nm,1.1s						
N18K	**Kilae Creek**	**3.68**	**256**	Pn	Pn	10 58 31.6	+0.5
K27K	**Chicken**	**3.77**	**50**	Pn	Pn	10 58 33.0	+0.6
K27K				IAML		10 59 38.5	
	comp=N,16nm,1.0s						
J19K	**Poorman**	**3.92**	**308**		Pn	10 58 36.0	+1.5
J19K				IAML		10 59 38.8	
	comp=E,19nm,0.5s						
J19K				IAML		10 59 42.0	
	comp=N,14nm,1.1s						
PRP	**Porcupine Dome**	**4.03**	**19**		Pn	10 58 37.6	+1.5
PRP				IAML		10 59 27.2	
	comp=E,18nm,0.8s						
PRP				IAML		10 59 27.7	
	comp=N,24nm,0.8s						
I20K	**Naaghedeneel**	**4.05**	**322**	Pn	Pn	10 58 40.4	+4.2
H23K	**Yukon River**	**4.12**	**355**		Pn	10 58 36.6	-0.6
J18K	**Innoko River**	**4.12**	**298**		Pn	10 58 37.8	+0.5
H24K	**Noodor Dome**	**4.12**	**4**		Pn	10 58 39.6	+2.3
H24K				IAML		10 59 48.9	
	comp=E,12nm,0.8s						
M17K	**Holitna River**	**4.23**	**269**	Pn	Pn	10 58 39.4	+0.7
M17K				IAML		10 59 51.5	
	comp=N,20nm,1.1s						
M17K				IAML		10 59 52.5	
	comp=E,24nm,1.0s						
I26K	**Coal Creek Min**	**4.33**	**32**		Pn	10 58 40.8	+0.7
I26K				IAML		10 59 52.5	
	comp=N,18nm,0.8s						
I26K				IAML		10 59 56.2	
	comp=E,23nm,0.7s						
H21K	**Melozitna Rive**	**4.35**	**336**		Pn	10 58 41.9	+1.6
H21K				IAML		10 59 50.7	
	comp=E,9.7nm,0.5s						
PCA	**Pinnacle**	**4.40**	**108**	Pn	Pn	10 58 40.3	-0.8
DAWY	**Dawson**	**4.82**	**57**	Pn	Pn	10 58 47.5	+0.7
DAWY				IAML		11 00 05.5	
	comp=E,6.9nm,0.8s						
DAWY				IAML		11 00 15.1	
	comp=N,7.4nm,0.8s						
M29M	**Somme Creek**	**4.82**	**77**	Pn	Pn	10 58 48.6	+1.7
FYU	**Fort Yukon**	**5.07**	**16**	Pn	Pn	10 58 51.1	+1.0
FYU				IAML		11 00 18.9	
	comp=N,12nm,1.2s						
FYU				IAML		11 00 27.4	
	comp=E,9.2nm,1.1s						
H19K	**Roundabout Mou**	**5.16**	**321**	Pn	Pn	10 58 53.8	+2.4
G21K	**Allakaket**	**5.25**	**338**	Pn	Pn	10 58 54.0	+1.3
I28M	**Miner Creek**	**5.37**	**42**		Pn	10 58 55.5	+1.1
I28M				IAML		11 00 25.6	
	comp=E,8.2nm,0.9s						
I28M				IAML		11 00 27.6	
	comp=N,6.5nm,0.7s						
HYT	**Haines Junctio**	**5.44**	**95**	Pn	Pn	10 58 56.8	+1.4
K29M	**Barlow Dome**	**5.51**	**63**	Pn	Pn	10 58 57.7	+1.3
N30M	**Aishikik Lake**	**5.51**	**88**	Pn	Pn	10 58 56.4	0.0
COLD	**Coldfoot**	**5.55**	**354**	Pn	Pn	10 58 56.7	-0.1
H18K	**Honhosa River**	**5.55**	**312**	Pn	Pn	10 58 58.1	+1.3
J16K	**Anvik River**	**5.76**	**291**	Pn	Pn	10 58 59.9	+0.1
F24K	**Squaw Lake**	**5.81**	**3**	Pn	Pn	10 58 59.5	-0.9
I29M	**Ogilvie Camp,**	**5.86**	**47**		Pn	10 59 01.9	+0.8
F21K	**Alatna River**	**5.89**	**341**	Pn	Pn	10 59 03.5	+2.0
BMAR	**Burnt Mountain**	**5.97**	**15**	Pn	Pn	10 59 02.9	+0.3
F25K	**Christian Rive**	**6.01**	**11**	Pn	Pn	10 59 03.6	+0.4
K15K	**Wolf Creek Mou**	**6.11**	**281**	Pn	Pn	10 59 05.2	+0.8
N31M	**Braeburn, Yuko**	**6.13**	**87**	Pn	Pn	10 59 06.2	+1.4
F26K	**Sheenjek River**	**6.28**	**16**		Pn	10 59 06.9	+0.1
E23K	**Chandalar**	**6.36**	**357**	Pn	Pn	10 59 08.6	+0.6
E24K	**Your Creek**	**6.36**	**0**	Pn	Pn	10 59 08.2	+0.2
H29M	**Whitestone**	**6.36**	**41**	Pn	Pn	10 59 09.4	+1.5
I30M	**Mount Dempster**	**6.50**	**52**	Pn	Pn	10 59 11.8	+1.9
E25K	**Arctic Village**	**6.54**	**10**	Pn	Pn	10 59 10.3	0.0
E19K	**Redstone River**	**6.82**	**331**	Pn	Pn	10 59 15.3	+1.0

*NEIC **26** 11:00:02.5±1.4, 61°.30N±0°.02×149°.90W±0°.05, h41km±7km, Error ellipse: s-maj=3.8km s-min=1.9km az=116.0*

AEIC 26 11:00:03.2±1.5, 61°.27N±0°.02×149°.91W±0°.05, h38km±7km, ML2.7, ML2.8/172(NEIC), **Error ellipse: s-maj=3.8km s-min=2.1km az=124.0, Southern Alaska**

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

SPBG Spurr Blockage 1.19 271 Pn 11 00 22.4 -0.9
SEW Seward 1.19 169 Pn 11 00 22.5 -0.7
SCM Sheep Creek Mo 1.36 64 Pn 11 00 25.1 -0.6
SCM IAML 11 00 44.0
comp=E,272nm,0.8s
RDT Redoubt 1.40 241 Pn 11 00 25.4 -0.8
GLI Glacier Island 1.42 105 Pn 11 00 25.9 -0.5
RDJH Redoubt Jeurge 1.57 246 Pn 11 00 28.0 -0.5
BRLK Bradley Lake 1.58 198 Pn Pn 11 00 28.2 -0.5
BRLK IAML 11 00 52.2
comp=N,127nm,0.1s
BRLK IAML 11 00 52.8
comp=E,154nm,0.4s
BRSE Bradley Lake S 1.59 195 Pn 11 00 27.9 -0.8
RDWB Redoubt West 1.63 243 Pn 11 00 28.9 -0.6
NCT North Crescent 1.64 246 Pn 11 00 29.0 -0.5
M20K Styx River 1.66 293 Pn 11 00 29.8 0.0
FID Port Fidalgo 1.75 106 Pn Pn 11 00 30.6 -0.4
FID IAML 11 00 53.8
comp=N,186nm,0.4s
FID IAML 11 00 57.3
comp=E,136nm,0.4s
P23K Montague Islan 1.78 135 Pn 11 00 30.1 -1.2
O20K Slope Mountain 1.79 229 Pn 11 00 31.8 +0.2
HOM Homer 1.83 209 Pn 11 00 31.8 -0.2
CNPM China Poot 1.87 201 Pn Pn 11 00 32.2 -0.4
CNPM IAML 11 01 01.8
comp=N,100nm,0.4s
CNPM IAML 11 01 03.3
comp=E,76nm,0.5s
HIN Hinchinbrook I 1.89 116 Pn 11 00 34.2 +1.4
HIN IAML 11 01 03.2
comp=E,154nm,0.8s
KLU Klutina 1.93 82 Pn 11 00 33.1 -0.4
KLU IAML 11 01 00.2
comp=E,75nm,0.2s
KLU IAML 11 01 04.5
comp=N,95nm,0.4s
PPLA Purkeypile 1.95 328 Pn 11 00 33.8 -0.1
M24K Tolsona, Glenn 1.97 63 Pn 11 00 34.0 +0.1
M24K IAML 11 01 07.8
comp=E,116nm,0.7s
DIV Divide 2.01 92 Pn 11 00 34.2 -0.3
ILS Iliamna Low So 2.04 231 Pn 11 00 35.0 +0.1
ILSW Iliamna Southw 2.05 232 Pn 11 00 34.4 -0.8
ILSW IAML 11 01 04.4
comp=E,62nm,0.8s
EYAK Cordova Ski Ar 2.16 108 Pn Pn 11 00 37.9 +1.4
TRF Thorofare Moun 2.20 356 Pn 11 00 37.5 +0.3
TRF IAML 11 01 07.0
comp=E,66nm,0.4s
TRF IAML 11 01 07.3
comp=N,108nm,0.5s
RND Reindeer 2.20 13 Pn 11 00 37.3 +0.1
M19K Big River Lodg 2.23 289 Pn 11 00 37.2 -0.4
N19K Bonanza Creek 2.27 260 Pn Pn 11 00 36.1 -2.1
P19K Oil Pt 2.31 227 Pn Pn 11 00 37.5 -1.1
KTH Kantishna Hill 2.34 349 Pn Pn 11 00 39.0 0.0
KTH IAML 11 01 09.6
comp=N,73nm,1.1s
KTH IAML 11 01 10.2
comp=E,76nm,0.8s
CAST Castle Rocks 2.38 336 Pn 11 00 39.2 -0.4
CAST IAML 11 01 23.6
comp=E,45nm,0.6s
O19K Port Alsworth 2.42 245 Pn Pn 11 00 40.4 +0.3
MCK McKinley 2.51 10 Pn 11 00 41.7 +0.3
L19K White Mountain 2.52 293 Pn 11 00 41.3 -0.2
HARP HAARP 2.52 61 Pn 11 00 42.9 +1.4
N25K Chitina, Valde 2.58 80 Pn 11 00 42.4 +0.1
N25K IAML 11 01 19.9
comp=E,37nm,0.6s
N25K IAML 11 01 25.6
comp=N,49nm,0.6s
BMRM Bremner River 2.59 94 Pn 11 00 43.8 +1.2
PAX Paxson 2.70 49 Pn 11 00 42.6 -1.4
WACK Wrangell Chich 2.76 72 Pn 11 00 47.2 +2.2
K20K Telida 2.86 319 Pn Pn 11 00 45.1 -1.1
K20K IAML 11 01 35.3
comp=E,24nm,0.8s
BPAW Bear Paw Mtn. 2.88 351 Pn 11 00 46.5 0.0
BPAW IAML 11 01 20.1
comp=N,20nm,0.8s
BPAW IAML 11 01 20.8
comp=E,25nm,0.4s
BWN Browne 2.92 4 Pn Pn 11 00 46.1 -0.9
GLB Gilahina Butte 2.94 84 Pn Pn 11 00 48.5 +1.1
GLB IAML 11 01 30.1
comp=E,24nm,0.6s
GLB IAML 11 01 33.5
comp=N,35nm,0.7s
SYI Shuyak Island 2.94 206 Pn Pn 11 00 47.1 -0.2
SYI IAML 11 01 34.7
comp=N,19nm,1.0s
SYI IAML 11 01 36.2
comp=E,18nm,1.1s
N18K Kilae Creek 2.97 261 Pn Pn 11 00 47.0 -0.8
O18K Koktuh Hills 2.98 244 Pn 11 00 46.0 -1.7
O18K IAML 11 01 37.1
comp=N,24nm,1.1s
Q19K Cape Douglas, 3.00 220 Pn Pn 11 00 48.0 -0.1
KAIM Kayak Island 3.03 114 Pn Pn 11 00 47.0 -1.4
KAIM IAML 11 01 47.1
comp=E,56nm,1.2s
KAIM IAML 11 02 49.5
comp=N,43nm,1.0s
VRDI Verde Repeater 3.12 88 Pn 11 00 48.9 -1.1
VRDI IAML 11 01 34.8
comp=N,20nm,0.7s
BERG Berg Lake 3.17 103 Pn Pn 11 00 47.6 -2.8
BERG IAML 11 01 52.0
comp=N,45nm,1.0s
P18K Big Mountain, 3.25 237 Pn Pn 11 00 49.9 -1.6
WRH Wood River Hil 3.32 14 Pn Pn 11 00 50.6 -1.8
MENT Mentasta 3.36 57 Pn Pn 11 00 51.3 -1.7
MENT IAML 11 01 49.4
comp=N,41nm,0.8s
MENT IAML 11 01 55.9
comp=E,35nm,0.7s
NEA2 Nenana 3.36 6 Pn 11 00 50.8 -2.2
L18K Granite Mounta 3.36 289 Pn Pn 11 00 52.3 -0.7
L18K IAML 11 01 52.0
comp=N,13nm,0.9s
RIDG Independent Ri 3.42 41 Pn 11 00 55.1 +1.2
RIDG IAML 11 01 43.3
comp=E,38nm,0.7s
RIDG IAML 11 01 49.1
comp=N,22nm,0.9s
HDA Harding Lake 3.43 22 Pn Pn 11 00 53.1 -0.9
HDA IAML 11 01 42.1
comp=E,23nm,0.5s
HDA IAML 11 01 44.2
comp=N,24nm,0.4s
J20K Nowinta River 3.51 328 Pn 11 00 54.2 -0.9
J20K IAML 11 01 36.3
comp=N,28nm,0.5s
CCB Clear Creek Bu 3.52 15 Pn 11 00 54.5 -0.7
L26K Log Cabin Wild 3.55 57 Pn Pn 11 00 54.7 -0.9
L26K IAML 11 01 53.0
comp=N,19nm,0.6s
L26K IAML 11 01 54.4
comp=E,21nm,0.8s
WAX Waxell Ridge 3.55 100 Pn Pn 11 00 54.5 -1.2
DOT Dot Lake 3.62 46 Pn Pn 11 00 54.1 -2.4
M17K Holitna River 3.63 275 Pn Pn 11 00 56.2 -0.5
M17K IAML 11 02 01.0
comp=E,19nm,1.2s
M17K IAML 11 02 10.6
comp=N,15nm,1.0s
N17K Nushagak Hills 3.63 261 Pn Pn 11 00 56.1 -0.7
N17K IAML 11 01 54.4
comp=N,11nm,1.2s
N17K IAML 11 02 14.5
comp=E,12nm,1.1s
COLA College 3.74 14 Pn Pn 11 00 56.6 -1.5
ISLE Juniper Island 3.76 97 Pn Pn 11 00 57.3 -1.3
ISLE IAML 11 02 04.2
comp=E,21nm,0.8s
ISLE IAML 11 02 06.4
comp=N,27nm,1.0s
IL31 3.78 20 Pn 11 00 57.6 -1.1
ILAR Eielson Array 3.78 20 Pn Pn 11 00 57.6 -1.1
J19K Poorman 3.80 319 Pn 11 00 57.7 -1.3
J19K IAML 11 01 58.9
comp=N,12nm,1.0s
J19K IAML 11 02 04.6
comp=E,12nm,0.8s
J18K Innoko River 3.86 308 Pn 11 00 59.0 -0.9
I23K Minto, Yukon-K 3.90 3 Pn 11 01 00.8 +0.4
I23K IAML 11 02 10.4
comp=N,12nm,0.7s
J25K Salcha River, 3.95 30 Pn Pn 11 01 00.2 -0.9
J25K IAML 11 01 56.6
comp=E,14nm,0.6s
J25K IAML 11 01 59.5
comp=N,18nm,0.5s
POKR Poker Plat Res 4.02 15 Pn Pn 11 01 00.4 -1.7
POKR IAML 11 02 08.7
comp=N,7.8nm,0.5s
POKR IAML 11 02 22.1
comp=E,8.2nm,1.0s
I21K Tanana 4.04 347 Pn Pn 11 01 02.4 +0.1
I21K IAML 11 02 16.6
comp=E,9.6nm,0.9s
K17K Iditarod 4.21 294 Pn Pn 11 01 04.3 -0.4
K17K IAML 11 02 26.9
comp=N,6.9nm,1.1s
K17K IAML 11 02 34.3
comp=E,7.2nm,1.1s
J26L Joseph Creek 4.35 39 Pn Pn 11 01 05.9 -0.8
J26L IAML 11 02 03.9
comp=N,11nm,0.3s
J26L IAML 11 02 04.0
comp=E,13nm,0.6s
O16K Kokwok River B 4.39 251 Pn Pn 11 01 06.9 -0.2
O16K IAML 11 02 18.1
comp=E,6.1nm,0.9s
M16K Timber Creek 4.39 271 Pn Pn 11 01 07.0 -0.2
OHAK Old Harbor 4.41 205 Pn Pn 11 01 05.2 -2.3
H23K Yukon River 4.58 2 Pn Pn 11 01 11.2 +1.5
H21K Melozitna Rive 4.59 345 Pn Pn 11 01 10.4 +0.5
L16K Owhat River 4.61 280 Pn Pn 11 01 09.6 -0.5
H24K Noodor Dome 4.67 10 Pn Pn 11 01 10.3 -0.8
H24K IAML 11 02 35.3
comp=E,6.9nm,1.1s
PRP Porcupine Dome 4.70 23 Pn 11 01 09.4 -2.1
PRP IAML 11 02 27.5
comp=N,7.0nm,0.6s
PRP IAML 11 02 32.2
comp=E,8.6nm,0.9s
J17K VABM Dome 4.78 301 Pn Pn 11 01 10.1 -2.3
J17K IAML 11 02 43.2
comp=N,4.9nm,0.9s
I26K Coal Creek Min 5.07 34 Pn Pn 11 01 15.9 -0.6
I26K IAML 11 02 42.3
comp=N,8.1nm,0.8s
I26K IAML 11 02 47.2
comp=E,7.7nm,0.8s
H19K Roundabout Mou 5.18 328 Pn Pn 11 01 17.5 -0.5
H19K IAML 11 04 48.9
comp=N,3.9nm,0.5s
H19K IAML 11 04 50.4
comp=E,6.1nm,1.1s
BCPM Bancas Point 5.23 100 Pn Pn 11 01 17.8 -0.9
J16K Anvik River 5.38 297 Pn Pn 11 01 19.9 -0.9
J16K IAML 11 02 06.5
comp=E,4.7nm,1.1s
J16K IAML 11 04 10.7
comp=N,4.8nm,1.1s
H18K Honhosa River 5.46 319 Pn Pn 11 01 20.3 -1.5
G21K Allakaket 5.50 345 Pn Pn 11 01 21.9 -0.5
G24K Hadweenzic Riv 5.56 10 Pn Pn 11 01 24.9 +1.7
K15K Wolf Creek Mou 5.61 286 Pn Pn 11 01 23.8 -0.1
FYU Fort Yukon 5.70 19 Pn Pn 11 01 24.1 -1.0
G19K Purcell Mounta 5.84 330 Pn Pn 11 01 26.8 -0.2
H17K Granite Mounta 5.84 313 Pn Pn 11 01 27.1 0.0
M14K Bethel 5.88 270 Pn Pn 11 01 27.5 -0.1
COLD Coldfoot 5.98 359 Pn Pn 11 01 27.6 -1.4
O14K Tigyukauivet M 6.00 255 Pn Pn 11 01 29.4 +0.1
G18K Tagagawik 6.06 324 Pn Pn 11 01 29.5 -0.6
I28M Miner Creek 6.14 43 Pn Pn 11 01 32.0 +0.8
L14K Kuka Creek 6.15 276 Pn Pn 11 01 31.3 0.0
F21K Alatna River 6.17 347 Pn Pn 11 01 32.8 +1.2
F20K Avaraart Lake 6.33 339 Pn Pn 11 01 33.7 -0.1
F19K Shaleruckik Mo 6.56 332 Pn Pn 11 01 37.6 +0.7
J14K Nanvaranak Lak 6.59 289 Pn Pn 11 01 36.9 -0.4
BMAR Burnt Mountain 6.60 18 Pn Pn 11 01 37.4 -0.1
E24K Your Creek 6.86 4 Pn Pn 11 01 42.1 +1.0
F26K Sheenjek River 6.91 19 Pn Pn 11 01 41.9 +0.2
G16K Koyuk River 6.96 312 Pn Pn 11 01 42.5 +0.2
E19K Redstone River 6.97 336 Pn Pn 11 01 42.5 0.0
F17K Baldwin Pennin 7.21 321 Pn Pn 11 01 45.5 -0.2
E18K Tukpahlearik C 7.71 328 Pn Pn 11 01 51.6 -1.1
ANM Nome 7.79 302 Pn Pn 11 01 54.4 +0.7
TNA Tin City 9.13 306 Pn Pn 11 02 11.9 -0.2

NEIC 26 11:09:54.0±1.5, 37°.69N±0°.02×105°.41W±0°.05, h7km±3km, ML2.0/16, Error ellipse: s-maj=6.2km s-min=2.6km az=74.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.09**	**307**	Pg	Pg	11 09 56.5	+0.1
SDCO				Sg	Sg	11 09 58.5	+0.5
SDCO				IAML		11 09 58.7	
	1μm,0.1s						
SDCO				IAML		11 09 59.0	
	928nm,0.1s						
T25A	**Trinidad**	**0.97**	**124**	Pg	Pb	11 10 13.4	+0.1
T25A				Sg	Sb	11 10 26.5	+0.2
T25A				IAML		11 10 26.8	
	comp=N,30nm,0.2s						
T25A				IAML		11 10 27.1	
	comp=E,28nm,0.2s						
Q24A	**Divide**	**1.29**	**9**	Pg	Pb	11 10 19.1	+0.3
Q24A				Sg	Sn	11 10 36.8	+0.4
ISCO	**Idaho Springs**	**2.11**	**356**	Pn	Pg	11 10 33.8	-0.6
ISCO					Sb	11 10 59.5	+0.2
RTBA	**Rita Blanca**	**2.48**	**120**	Pn	Pb	11 10 40.0	+1.0
RTBA					Sg	11 11 13.1	-0.5
MVCO	**Mesa Verde**	**2.50**	**260**	Pn	Pb	11 10 39.3	-0.1
MVCO				IAML		11 11 18.4	
	comp=E,7.8nm,0.8s						
PV15	**Paradox Valley**	**2.51**	**286**	Pn	Pn	11 10 34.8	-0.7
PV01	**Paradox Valley**	**2.54**	**281**	Pn	Pn	11 10 37.0	+1.2
PV07	**Paradox Valley**	**2.66**	**287**	Pn	Pn	11 10 38.9	+1.4
PV13	**Radium Mtn., P**	**2.74**	**281**	Pn	Pn	11 10 39.2	+0.7
PV03	**Paradox Valley**	**2.77**	**283**	Pn	Pn	11 10 40.0	+0.9
PV22	**Blue Mesa, Par**	**2.79**	**289**	Pn	Pn	11 10 38.9	-0.4
PV11	**David Mesa, Pa**	**2.80**	**284**	Pn	Pb	11 10 43.6	-0.9
PV23	**Carpenter Ridg**	**2.94**	**286**	Pn	Pn	11 10 44.0	+2.6
PV10	**Paradox Valley**	**2.94**	**285**	Pn	Pb	11 10 45.4	-1.6
SRU	**San Rafael Swe**	**4.26**	**291**	Pn	Pn	11 11 04.0	+4.6

*IDC **26** 11:29:51.2±0.6, 13°.78N×145°.03E, h107km±4km, mb3.7/11, mbtmp4.1/11, MS2.9/2, Error ellipse: s-maj=20.5km s-min=16.1km az=78.0*
*NEIC **26** 11:29:52.5±1.2, 13°.69N±0°.09×144°.9E±0°.1, h110km±4km, mb4.3/44, Error ellipse: s-maj=19.7km s-min=11.2km az=110.0*

ISC 26 11:29:52.2±0.8, 13°.71N±0°.10×144°.9E±0°.1, h113km±7km, n73, σ0°65/69, mb4.3/36, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.13**	**203**	P	**Pn**	**11 30 08.0**	**+0.2**
	4μm,0.3s,baz=301,slow=3.8,SNR=900						
GUMO				S	**Sn**	**11 30 19.3**	**-0.2**
	7μm,0.5s,baz=326,slow=20,SNR=21						
PATS	**Pohnpei**	**14.84**	**116**	Pn	**Pn**	**11 33 16.4**	**0.0**
H11S3	**WAKE ISLAND Hy 21.44**		**74**	T	T	11 56 39.7	
	baz=261,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy 21.46**		**74**	T	T	11 56 43.2	
	baz=261,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy 21.46**		**74**	T	T	11 56 42.3	
	baz=261,slow=75,SNR=3.9						
H11N1	**WAKE ISLAND Hy 21.86**		**71**	T	T	11 57 35.5	
	baz=257,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy 21.87**		**71**	T	T	11 57 40.5	
	baz=257,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy 21.88**		**71**	T	T	11 57 39.0	
	baz=257,slow=75,SNR=6.8						
JNU	**Nakatsue**	**23.18**	**329**	P	**P**	**11 34 48.8**	**-0.3**
JNU				IAmb	IAmb	11 35 26.0	
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**23.52**	**346**	LR	LR	11 42 56.3	
	comp=Z,50nm,21.5s,baz=152,slow=33						
YULB	**Yu-li**	**24.35**	**297**	P	**P**	**11 34 59.9**	**+0.1**
YULB				IAmb	IAmb	11 35 14.5	
	comp=Z,19nm,1.1s						
SSLB	**Suanglung**	**24.77**	**297**	P	**P**	**11 35 02.7**	**-1.0**
SSLB				IAmb	IAmb	11 35 09.2	
	comp=Z,12nm,0.6s						
KSRS	**Korea Array**	**28.09**	**330**	P	**P**	**11 35 32.8**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=145,slow=10,SNR=9.6						
KSRS				PcP	**PcP**	**11 38 44.8**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=180,slow=2.6,SNR=7.1						
	comp=Z,1.8nm,0.7s						
ASAJ	**Asahikawa**	**30.37**	**357**	LR	LR	11 49 37.3	
	comp=Z,14nm,18.2s,baz=354,slow=39						
WB0	**Warramunga Arr**	**34.84**	**198**	P	**P**	**11 36 32.5**	**-0.2**
WB0				IAmb	IAmb	11 37 15.3	
	comp=Z,3.6nm,1.1s						
WR8	**Warramunga Arr**	**34.99**	**197**	P	**P**	**11 36 33.4**	**-0.5**
WR8				IAmb	IAmb	11 36 39.0	
	comp=Z,4.0nm,1.1s						
WB2	**Warramunga Arr**	**35.02**	**198**	P	**P**	**11 36 34.2**	**0.0**
WB2				IAmb	IAmb	11 37 11.5	
	comp=Z,5.3nm,1.1s						
WRA	**Warramunga Arr**	**35.02**	**198**	P	**P**	**11 36 34.0**	**-0.2**
WRA	**Warramunga Arr**	**35.02**	**198**	P	**P**	**11 36 33.7**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=15,slow=9.4,SNR=5.1						
WRA				PcP	**PcP**	**11 39 04.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=19,slow=3.5,SNR=2.5						
	comp=Z,1.1nm,0.8s						
HNS	**HongShan**	**35.78**	**317**	⇑P	**P**	**11 36 41.5**	**+1.0**
HNS				pmax	pmax		
	comp=Z,29nm,0.8s						
FITZ	**Fitzroy Crossi**	**36.88**	**212**	P	**P**	**11 36 50.2**	**+0.1**
AS31	**Alice Springs**	**38.67**	**196**	P	**P**	**11 37 05.3**	**+0.2**
ASAR	**Alice Springs**	**38.67**	**196**	P	**P**	**11 37 04.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=11,slow=8.0,SNR=4.3						
ASAR				PcP	**PcP**	**11 39 15.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=28,slow=3.5,SNR=2.4						
	comp=Z,0.3nm,0.7s						
HEH	**HeiHe**	**39.15**	**342**	*e*P	**P**	**11 37 09.5**	**+0.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**39.72**	**319**	*e*P	**P**	**11 37 15.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,75nm,4.0s						
CMAR	**Chiang Mai Arr**	**44.34**	**282**	P	**P**	**11 37 51.4**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=87,slow=6.1,SNR=11						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**46.66**	**325**	P	**P**	**11 38 09.0**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=138,slow=8.9,SNR=7.0						
SONM				PcP	**PcP**	**11 39 41.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=146,slow=5.7,SNR=2.6						
	comp=Z,1.9nm,1.0s						
BBOO	**Buckleboo**	**47.02**	**190**	P	**P**	**11 38 12.3**	**0.0**
BBOO				IAmb	IAmb	11 38 18.1	
	comp=Z,9.2nm,1.1s						
MK31	**Makanchi Array**	**61.44**	**316**	P	**P**	**11 39 56.9**	**0.0**
MK31				IAmb	IAmb	11 39 57.5	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**61.44**	**316**	P	**P**	**11 39 56.7**	**-0.1**
MKAR	**Makanchi Array**	**61.44**	**316**	P	**P**	**11 39 57.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=90,slow=8.2,SNR=23						
	comp=Z,1.9nm,0.6s						
MAKZ	**Makanchi**	**61.66**	**316**	P	**P**	**11 39 58.4**	**+0.2**
SII	**Sitkinak Islan**	**62.76**	**33**	P	**P**	**11 40 06.2**	**+0.8**
K17K	**Iditarod**	**62.98**	**26**	P	**P**	**11 40 06.6**	**-0.1**
K17K				IAmb	IAmb	11 40 21.5	
	comp=Z,4.1nm,1.0s						
F17K	**Baldwin Pennin**	**63.50**	**21**	P	**P**	**11 40 09.7**	**-0.4**
F17K				IAmb	IAmb	11 40 52.1	
	comp=Z,3.4nm,0.9s						
E18K	**Tukpahlearik C**	**64.20**	**20**	P	**P**	**11 40 14.5**	**-0.2**
E18K				IAmb	IAmb	11 40 17.2	
	comp=Z,3.8nm,1.1s						
KURK	**Kurchatov**	**64.53**	**320**	P	**P**	**11 40 17.1**	**+0.1**
KURBB	**Kurchatov Arra**	**64.57**	**320**	P	**P**	**11 40 16.9**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=103,slow=6.6,SNR=36						
	comp=Z,5.3nm,0.7s						
CNPM	**China Poot**	**65.11**	**30**	P	**P**	**11 40 20.6**	**-0.1**
CAST	**Castle Rocks**	**65.87**	**26**	P	**P**	**11 40 25.1**	**-0.4**
E22K	**Anaktuvuk Pass**	**67.54**	**21**	P	**P**	**11 40 36.1**	**0.0**
E23K	**Chandalar**	**68.29**	**22**	P	**P**	**11 40 40.7**	**-0.2**
E23K				IAmb	IAmb	11 41 15.7	
	comp=Z,3.1nm,1.1s						
ILAR	**Eielson Array**	**68.44**	**25**	P	**P**	**11 40 39.5**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=249,slow=6.2,SNR=23						
	comp=Z,0.7nm,0.5s						
E24K	**Your Creek**	**68.70**	**22**	P	**P**	**11 40 42.6**	**-0.8**
D24K	**Happy Valley**	**68.91**	**21**	P	**P**	**11 40 44.4**	**-0.1**
D24K				IAmb	IAmb	11 40 45.3	
	comp=Z,2.5nm,0.7s						
J26L	**Joseph Creek**	**69.78**	**26**	P	**P**	**11 40 49.9**	**-0.2**
D25K	**Kavik River**	**69.79**	**21**	P	**P**	**11 40 50.7**	**+0.6**
BVAR	**Borovoye Array**	**69.87**	**322**	P	**P**	**11 40 50.5**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=101,slow=7.5,SNR=14						
	comp=Z,3.1nm,0.5s						
C27K	**Jago River**	**70.78**	**21**	P	**P**	**11 40 55.6**	**-0.4**
L29M	**L29M**	**71.97**	**28**	P	**P**	**11 41 03.6**	**+0.2**
L29M				IAmb	IAmb	11 41 05.7	
	comp=Z,3.1nm,0.8s						
I30M	**Mount Dempster**	**72.92**	**26**	P	**P**	**11 41 08.1**	**-1.0**
INK	**Inuvik**	**74.24**	**22**	P	**P**	**11 41 16.3**	**-0.2**
P33M	**Teslin, Yukon**	**74.38**	**31**	P	**P**	**11 41 17.7**	**+0.1**
P33M				IAmb	IAmb	11 41 20.1	
	comp=Z,4.4nm,1.1s						
DLBC	**Dease Lake**	**75.86**	**33**	P	**P**	**11 41 26.8**	**+0.6**
DLBC				IAmb	IAmb	11 41 27.5	
	comp=Z,2.8nm,0.8s						
WTLY	**Watson Lake, Y**	**76.39**	**31**	P	**P**	**11 41 29.4**	**+0.3**
WTLY				IAmb	IAmb	11 41 30.7	
	comp=Z,4.8nm,0.7s						
ABKAR	**Akbulak array**	**76.49**	**318**	P	**P**	**11 41 29.5**	**-0.3**
I02E	**Swisshome, OR**	**81.47**	**47**	P	**P**	**11 41 57.4**	**+0.3**
BUCK	**Buck Mountain**	**82.07**	**47**	P	**P**	**11 42 00.8**	**+0.5**
BUCK				IAmb	IAmb	11 42 18.8	
	comp=Z,9.3nm,1.2s						
KCPM	**Cahto Peak**	**82.52**	**51**	P	**P**	**11 42 03.6**	**+0.7**
YKA	**Yellowknife Ar**	**82.73**	**27**	P	**P**	**11 42 01.1**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=286,slow=5.5,SNR=16						
	comp=Z,0.4nm,0.6s						
L04D	**Klamath Falls**	**82.95**	**48**	P	**P**	**11 42 05.2**	**+0.1**
PINE	**Pine Mountain**	**83.59**	**47**	P	**P**	**11 42 09.0**	**+0.6**
BMO	**Blue Mountains**	**85.87**	**45**	P	**P**	**11 42 19.6**	**0.0**
BMO				IAmb	IAmb	11 42 21.0	
	comp=Z,4.2nm,0.9s						
PLID	**Pearl Lake**	**86.70**	**44**	P	**P**	**11 42 23.3**	**-0.6**
PLID				IAmb	IAmb	11 42 24.4	
	comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**86.81**	**51**	P	**P**	**11 42 25.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=265,slow=6.1,SNR=22						
	comp=Z,2.0nm,0.7s						
MFID	**Camas Ranch**	**87.28**	**46**	P	**P**	**11 42 27.3**	**+0.7**
HLID	**Hailey**	**88.23**	**46**	P	**P**	**11 42 31.6**	**+0.4**
HLID				IAmb	IAmb	11 42 32.8	
	comp=Z,3.5nm,0.9s						
ELK	**Elko**	**88.46**	**48**	P	**P**	**11 42 33.3**	**+0.9**
TPNV	**Topopah Spring**	**88.77**	**52**	P	**P**	**11 42 34.4**	**+0.5**
DUG	**Dugway, Tooele**	**90.39**	**48**	P	**P**	**11 42 41.8**	**+0.5**
DUG				IAmb	IAmb	11 42 43.0	
	comp=Z,3.9nm,1.0s						
DBIC	**Dimbokro**	**143.80**	**302**	PKP	PKPbc	11 49 13.1	0.0
	comp=Z,1.9nm,0.3s,baz=47,slow=1.4,SNR=9.5						
LPAZ	**La Paz**	**147.99**	**99**	PKPbc	**PKPdf**	**11 49 24.6**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=275,slow=3.0,SNR=8.3						
CPUP	**Villa Florida**	**155.66**	**124**	PKP	**PKPdf**	**11 49 32.8**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=134,slow=3.4,SNR=4.3						

*NNC **26** 11:47:42.9±0.8, 51°.26N×75°.48E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=23.1km s-min=4.7km az=23.0, Suspected Mining explosion.*
*IDC **26** 11:47:45.7±1.1, 51°.56N×75°.88E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=28.3km s-min=8.4km az=29.0*

ISC 26 11:47:44.2±1.1, 51°.4N±0°.1×75°.8E±0°.08, h0km, n10, σ19°53/9, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.89**	**113**	Pg	**Pg**	**11 48 20.9**	**+0.5**
	0.4nm,0.3s,baz=300,slow=18,SNR=11						
KURBB				Lg	Lg	11 48 47.0	
	0.5nm,0.3s,baz=303,slow=28,SNR=7.5						

KURBB	Kurchatov Arra	1.89	113	⇓Pg	Pb	11 48 20.3	+0.7
	3.4nm,0.4s						
KURBB				⇓Lg	Lg	11 48 48.3	
	14nm,0.3s						
KURK	Kurchatov	1.91	110	⇑Pg	Pb	11 48 19.9	+0.1
	2.6nm,0.6s						
KURK				⇑Lg	Lg	11 48 48.1	
	6.1nm,0.6s						
BVA0	Borovoye Array	3.71	298	Lg	Lg	11 49 36.3	
	1.7nm,0.5s,baz=119,slow=27,SNR=4.5						
BVAR	Borovoye Array	3.71	298	Pg	Pb	11 48 51.2	+0.7
	baz=113,slow=15,SNR=2.3						
BVAR				Sn	Sn	11 49 25.7	-1.3
	0.1nm,0.3s,baz=106,slow=26,SNR=6.5						
BVAR				Lg	Lg	11 49 34.5	
	0.2nm,0.3s,baz=108,slow=27,SNR=6.6						
BRVK	Borovoye	3.78	298	⇑Lg	Lg	11 49 41.0	
	2.5nm,0.7s						
I46RU	ZALESOVO INFRA	6.05	61	I	I	12 25 20.0	
	baz=249,slow=329,SNR=2.3						
ZALV	Zalesovo Beam	6.05	62	Pn	Pn	11 49 14.9	+0.1
	0.1nm,0.3s,baz=251,slow=14,SNR=2.6						
	0.7nm,0.3s						
MK31	Makanchi Array	6.27	135	Pn	Pn	11 49 17.3	-0.6
	0.5nm,0.7s,baz=183,slow=23,SNR=3.7						
MK31				⇓Lg	Lg	11 51 04.8	
	0.9nm,0.6s,baz=315,slow=26,SNR=2.8						
MKAR	Makanchi Array	6.27	135	Pn	Pn	11 49 20.1	+2.1
	0.2nm,0.3s,baz=322,slow=9.1,SNR=6.0						
MKAR				Sn	Sn	11 50 27.9	-2.5
	baz=344,slow=15,SNR=1.4						
MKAR				Lg	Lg	11 51 04.1	
	0.2nm,0.3s,baz=323,slow=26,SNR=5.7						
	0.1nm,0.4s						

IDC 26 11:51:57.5±5.9, 9.70S×129.58E, h0km, mb3.9/1, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=68.1km s-min=47.2km az=152.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.18	204	Pn	Pn	11 54 09.4	-1.9
	0.1nm,0.3s,baz=17,slow=12,SNR=0.8						
FITZ				Sn	Sn	11 55 57.1	+1.6
	0.2nm,0.3s,baz=319,slow=20,SNR=1.4						
	0.7nm,0.7s						
WRA	Warramunga Arr	11.18	156	Pn	Pn	11 54 39.0	+0.3
	0.1nm,0.3s,baz=339,slow=12,SNR=1.8						
WRA				Sn	Sn	11 56 46.7	+2.2
	baz=330,slow=22,SNR=1.4						
	0.8nm,1.2s						
ASAR	Alice Springs	14.49	164	Pn	Pn	11 55 23.9	-0.2
	0.1nm,0.3s,baz=339,slow=9.9,SNR=4.4						
ASAR				Sn	Sn	11 58 05.2	-0.5
	baz=346,slow=27,SNR=1.5						
	0.1nm,0.6s						
STKA	Stephens Creek	24.72	155	P	P	11 57 21.2	+0.6
	3.0nm,1.0s,baz=332,slow=15,SNR=2.4						
	3.0nm,1.0s						

*MOS **26** 12:01:44.7±1.4, 12°.59N×89°.10W, h6km, mb5.4/25, MS5.1/14, Error ellipse: s-maj=10.1km s-min=5.6km az=111.0*
*IDC **26** 12:01:44.8±0.5, 12°.72N×88°.91W, h0km, mb4.7/26, mbtmp4.7/27, ML4.4/1, MS5.0/57, Error ellipse: s-maj=17.6km s-min=9.3km az=50.0*
*GCG **26** 12:01:44.2±2.1, 12°.13N×89°.39W, h14km±27km, MD5.1, MW5.3*
*CATAC **26** 12:01:47.9±0.5, 12°№±2°×8°9W±°, h4km±3km, M5.4/48, mb5.5/3, mB6.0/3, MLv5.4/48, Mw(mB)5.6/3, MwMwp5.1/2, Mwp5.3/2, Error ellipse: s-maj=5.0km s-min=1.9km az=31.2, confirmed*
*NEIC **26** 12:01:47.5±1.8, 12°.55N±0°.05×89°.20W±0°.06, h8km±1km, mb5.3/720, Ms_20 5.2/592, Mwb5.4/58, Mww5.5/83, Error ellipse: s-maj=10.7km s-min=7.6km az=232.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.05; Mθθ-0.99; Mφφ-0.06; Mrθ1.25; Mθφ0.59; Mφr0.07; Fault plane solution: M0 1.72000×10^17^ NP1:φs94.61000°, δ69.76000°, λ71.92000°. NP2:φs317.94000°, δ26.88000°, λ130.08000°. Principal axes: T 1.6983, Plg61.0000°, Azm338.0000°; N 0.0375, Plg17.0000°, Azm101.0000°; P -1.7357, Plg23.0000°, Azm198.0000°;*
*RSNC **26** 12:01:48.6±1.9, 13°N±3°×8°9W±°, h10km±14km, M5.2, mb5.2, mB5.7, ML4.4, Mw(mB)5.2, MwMwp5.6, Mwp5.5*
*SNET **26** 12:01:48.0±1.4, 12°.41N×89°.31W, h9km±14km, ML5.4*
*NEIC **26** 12:01:48.1, 12°.50N×89°.00W, h12km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10^17^ Nm; Mrr1.61; Mθθ-1.48; Mφφ-0.13; Mrθ1.32; Mθφ0.36; Mφr0.50; Fault plane solution: M0 2.12000×10^17^ NP1: φs299.31000°, δ28.90000°, λ122.55000°. NP2: φs83.21000°, δ65.96000°, λ73.46000°. Principal axes: T 2.2482, Plg65.0000°, Azm325.0000°; N -0.2662, Plg15.0000°, Azm90.0000°; P -1.9820, Plg19.0000°, Azm186.0000°;*
*NEIC **26** 12:01:48.1, 12°.50N×89°.24W, h10km*
*NEIC **26** 12:01:48.1, 12°.50N×89°.24W, h12km*
*GCMT **26** 12:01:51.5±0.1, 12°.36N×89°.55W, h12km, MW5.5/149, Moment Tensor Solution. s122,c219; s149,c299; Duration: 1s4 Moment tensor: Scale 10^17^Nm; Mrr1.60±.01; Mθθ-1.50±.01; Mφφ-0.09±.02; Mrθ1.25±.04; Mθφ0.28±.01; Mφr-0.97±.04; Best double couple: M0 2.22600×10^17^ NP1:φs267.00000°, δ25.00000°, λ61.00000°. NP2:φs119.00000°, δ68.00000°, λ103.00000°. Principal axes: T 2.3260, Plg65.0000°, Azm50.0000°; N -0.1960, Plg12.0000°, Azm294.0000°; P -2.1270, Plg22.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 12:01:47.6±0.5, 12°.41N±0°.03×89°.23W±0°.02, h16km±2km, h16km:pP-P, n1561, σ1976/1218, mb5.3/357, MS5.2/362, 4C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.08	355	eP	Pb	12 02 08.1	+0.2
LALI				eS	Sn	12 02 23.0	+0.4
LALI	Alcalda de L	1.08	355	S	Sg	12 02 26.3	+3.7
LALI	Alcalda de L	1.08	355	P	Pb	12 02 08.1	+0.2
LALI	Alcalda de L	1.08	355	eP	Pb	12 02 07.8	0.0
LALI	Alcalda de L	1.08	355	eP		12 02 07.8	
ALJI	Alcalda de J	1.12	35	eP	Pg	12 02 09.4	+0.2
ALJI	Alcalda de J	1.12	35	S	Sg	12 02 27.0	+3.1
ALJI	Alcalda de J	1.12	35	S	Sn	12 02 23.6	0.0
ALJI	Alcalda de J	1.12	35	P	Pg	12 02 09.6	+0.3
PANCS	Alcalda de	1.20	2	P	Pg	12 02 12.5	+1.7
PANCS	Alcalda de	1.20	2	S	Sg	12 02 29.7	+3.3
PANCS	Alcalda de	1.20	2	P	Pb	12 02 10.8	+0.8
TECO	Alcaldia de Te	1.21	21	eP	Pn	12 02 10.2	+0.4
TECO	Alcaldia de Te	1.21	21	S	Sg	12 02 30.2	+3.5
TECO	Alcaldia de Te	1.21	21	P	Pg	12 02 11.7	+0.8
TECO	Alcaldia de Te	1.21	21	P	Pn	12 02 10.1	+0.4
LFRS	El Faro	1.22	8	eP	Pn	12 02 09.8	-0.2
LOMA	Loma Larga	1.23	3	eP	Pb	12 02 10.9	+0.4
LOMA	Loma Larga	1.23	3	P	Pg	12 02 12.7	+1.3
LOMA	Loma Larga	1.23	3	S	Sg	12 02 31.3	+3.8
LOMA	Loma Larga	1.23	3	P	Pn	12 02 10.7	+0.4
COEG	Centro de Oper	1.25	16	eP	Pn	12 02 10.7	+0.2
COEG	Centro de Oper	1.25	16	P	Pg	12 02 13.2	+1.4
COEG	Centro de Oper	1.25	16	S	Sg	12 02 31.3	+3.2
COEG	Centro de Oper	1.25	16	P	Pb	12 02 11.3	+0.4
JAYA	Jayaque - finc	1.26	350	eP	Pn	12 02 10.0	-0.6
JAYA	Jayaque - finc	1.26	350	S	Sg	12 02 31.0	+2.7
JAYA	Jayaque - finc	1.26	350	P	Pg	12 02 13.5	+1.6
JAYA	Jayaque - finc	1.26	350	P	Pn	12 02 10.5	-0.1
JAYA	Jayaque - finc	1.26	350	eP	Pn	12 02 10.0	-0.6
JAYA	Jayaque - finc	1.26	350	eP		12 02 10.0	
SNVI	San Vicente	1.26	18	eP	Pg	12 02 12.0	+0.1
ITCA	Escuela Especi	1.26	358	eP	Pn	12 02 10.7	+0.1
ITCA	Escuela Especi	1.26	358	S	Sg	12 02 31.4	+3.0
ITCA	Escuela Especi	1.26	358	P	Pb	12 02 11.3	+0.3
UTEC	Universidad Te	1.29	1	P	Sn	12 02 25.2	-2.7
SEMO	Seminario San	1.29	0	S	Sg	12 02 33.1	+3.8
SEMO	Seminario San	1.29	0	P	Pg	12 02 13.1	+0.7
SEMO	Seminario San	1.29	0	P	Pb	12 02 12.0	+0.5
TECA	Tecapa	1.29	33	eP	Pb	12 02 11.8	+0.1
UESV	Universidad de	1.30	19	P	Pg	12 02 14.4	+1.8
UESV	Universidad de	1.30	19	S	Sg	12 02 33.1	+3.6
UESV	Universidad de	1.30	19	P	Pb	12 02 11.6	0.0
PMON	Piamonte	1.30	356	eP	Pn	12 02 11.4	+0.3
PMON	Piamonte	1.30	356	P	Pg	12 02 13.4	+0.7
PMON	Piamonte	1.30	356	S	Sg	12 02 32.9	+3.3
PMON	Piamonte	1.30	356	P	Pn	12 02 11.0	-0.2
UEES	Universidad Ev	1.30	360	eP	Pn	12 02 11.4	+0.3
UEES	Universidad Ev	1.30	360	S	Sg	12 02 32.8	+3.1
UEES	Universidad Ev	1.30	360	P	Pg	12 02 13.1	+0.4
UEES	Universidad Ev	1.30	360	P	Pb	12 02 12.1	+0.4
UDBS	Universidad Do	1.30	3	P	Pg	12 02 13.5	+0.8
UDBS	Universidad Do	1.30	3	S	Sg	12 02 33.2	+3.4
UDBS	Universidad Do	1.30	3	P	Pg	12 02 13.5	+0.8
UESS	Universidad de	1.30	1	eP	Pn	12 02 11.6	+0.4
BOQS	Boqueron	1.32	358	eP	Pn	12 02 11.1	-0.5
PAVA	Las Pavas	1.33	12	eP	Pb	12 02 12.7	+0.4
PAVA	Las Pavas	1.33	12	P	Pg	12 02 14.6	+1.4
PAVA	Las Pavas	1.33	12	S	Sg	12 02 33.9	+3.3
PAVA	Las Pavas	1.33	12	S	Sg	12 02 31.1	+0.4
PAVA	Las Pavas	1.33	12	P	Pn	12 02 11.8	+0.2
PIC2	El Picacho	1.33	359	eP	Pn	12 02 12.3	+0.6
LFU	La Fuente	1.34	5	eP	Pn	12 02 12.1	+0.5
LCY	Lacayo	1.36	42	eP	Pb	12 02 13.2	+0.4
RANC	El Ranchito	1.37	42	S	Sg	12 02 35.0	+2.9
RANC	El Ranchito	1.37	42	P	Pg	12 02 15.4	+1.3
RANC	El Ranchito	1.37	42	P	Pb	12 02 13.6	+0.6
PQSS	Presa 15 de Se	1.38	28	eP	Pb	12 02 13.2	+0.3
PQSS	Presa 15 de Se	1.38	28	S	Sg	12 02 34.5	+2.5
PQSS	Presa 15 de Se	1.38	28	P	Pn	12 02 12.6	+0.5
SCLA	Alcaldia de Sa	1.38	21	eP	Pb	12 02 13.7	+0.7
SCLA	Alcaldia de Sa	1.38	21	P	Pg	12 02 14.6	+0.4
SCLA	Alcaldia de Sa	1.38	21	S	Sg	12 02 34.3	+2.2
SCLA	Alcaldia de Sa	1.38	21	P	Pn	12 02 12.3	+0.1
PACA	Pacayal	1.38	40	P	Pg	12 02 14.5	+0.3
PACA	Pacayal	1.38	40	P	Pn	12 02 07.7	-4.6
CEDA	San Andres	1.40	353	eP	Pn	12 02 12.4	0.0
CEDA	San Andres	1.40	353	S	Sg	12 02 36.0	+3.2
CEDA	San Andres	1.40	353	P	Pg	12 02 14.9	+0.4
CEDA	San Andres	1.40	353	P	Pb	12 02 14.1	+0.8
BLLM	Bellamira	1.41	43	eP	Pb	12 02 13.6	0.0
CEVE	Cerro Verde	1.46	345	eP	Pn	12 02 13.4	-0.1
CEVE	Cerro Verde	1.46	345	S	Sg	12 02 37.6	+2.7
CEVE	Cerro Verde	1.46	345	P	Pn	12 02 13.7	+0.1
SBLS	San Blas	1.47	345	eP	Pn	12 02 13.7	0.0
CNRM	Centro Naciona	1.48	44	eP	Pb	12 02 14.8	0.0
CNRM	Centro Naciona	1.48	44	P	Pg	12 02 16.4	+0.3
CNRM	Centro Naciona	1.48	44	S	Sg	12 02 37.7	+2.3
CNRM	Centro Naciona	1.48	44	P	Pb	12 02 15.3	+0.5
SNJE	San Jose	1.50	346	eP	Pn	12 02 14.3	+0.3
NUBE	Las Nubes	1.58	340	eP	Pn	12 02 14.9	-0.2
NUBE	Las Nubes	1.58	340	S	Sg	12 02 39.9	+1.3
NUBE	Las Nubes	1.58	340	P	Pn	12 02 13.7	-1.4
NUBE	Las Nubes	1.58	340	eP	Pn	12 02 13.8	-1.3
NUBE				eS	Sg	12 02 39.1	+0.5
NUBE	Las Nubes	1.58	340	eP		12 02 13.8	
NUBE				eS		12 02 39.1	
LCND	La Caada	1.59	55	eP	Pb	12 02 16.0	-0.5
LCND	La Caada	1.59	55	P	Pb	12 02 16.0	-0.5
UNIC	Universidad Ca	1.59	349	P	Pn	12 02 16.1	+0.8
UNIC	Universidad Ca	1.59	349	S	Sg	12 02 41.6	+2.6
UNIC	Universidad Ca	1.59	349	P	Pn	12 02 16.0	+0.8
CNCH	Conchagua	1.61	58	eP	Pn	12 02 16.4	+0.9
CNCH	Conchagua	1.61	58	P	Pg	12 02 18.7	0.0
CNCH	Conchagua	1.61	58	S	Sg	12 02 40.6	+0.9
CNCH	Conchagua	1.61	58	P	Pn	12 02 16.4	+0.9
LOAL	Lomas de Alarc	1.67	341	eP	Pn	12 02 16.4	+0.2
LOAL	Lomas de Alarc	1.67	341	S	Sg	12 02 43.5	+2.1
LOAL	Lomas de Alarc	1.67	341	P	Pn	12 02 16.5	+0.3
CAHU	Cacacuatique	1.68	36	eP	Pb	12 02 18.6	+0.3
ESSJ	San Jos, E	1.69	313	eP		12 02 21.8	
SLOZ	Alcaldia de Sa	1.70	342	eP	Pn	12 02 16.8	+0.2
SLOZ	Alcaldia de Sa	1.70	342	P	Pg	12 02 20.1	-0.1
SLOZ	Alcaldia de Sa	1.70	342	S	Sg	12 02 42.7	+0.4
SLOZ	Alcaldia de Sa	1.70	342	P	Pn	12 02 16.6	0.0
CSGN	Cosiguina Volc	1.73	71	P	Pb	12 02 19.7	+0.7
CSGN				S	Sg	12 02 43.6	+0.3
CSGN	Cosiguina Volc	1.73	71	P	Pn	12 02 17.8	+0.8
LLGN	La Laguna	1.77	9	eP	Pn	12 02 18.6	+1.1
LLGN	La Laguna	1.77	9	P	Pb	12 02 20.7	+1.0
LLGN	La Laguna	1.77	9	S	Sg	12 02 46.1	+1.5
LLGN	La Laguna	1.77	9	P	Pn	12 02 18.7	+1.1
POTN	Potosi Cosigui	1.78	71	P	Pb	12 02 20.0	+0.1
POTN				S	Sg	12 02 45.0	-0.1
POTN	Potosi Cosigui	1.78	71	P	Pb	12 02 19.0	-0.9
MTO3	Montecristo	1.98	356		Pn	12 02 20.8	+0.1
MTO3				Sn	Sn	12 02 33.6	-4.7
MTO3	Montecristo	1.98	356	eP	Pn	12 02 21.7	+1.0
MTO3	Montecristo	1.98	356	P	Pb	12 02 23.5	0.0
MTO3	Montecristo	1.98	356	S	Sg	12 02 51.8	+0.3
MTO3	Montecristo	1.98	356	P	Pn	12 02 21.3	+0.6
MTO3	Montecristo	1.98	356	eP	Pn	12 02 21.3	+0.6
MTO3	Montecristo	1.98	356	eP		12 02 21.3	
ESQI	Esquipulas	2.14	357		Pn	12 02 23.1	+0.3
ESQI	Esquipulas	2.14	357	eP	Pn	12 02 23.4	+0.6
ESQI	Esquipulas	2.14	357	P	Pb	12 02 26.5	+0.5
ESQI	Esquipulas	2.14	357	P	Pn	12 02 24.2	+1.4
CRIN	San Cristobal	2.15	82		Pn	12 02 24.2	+1.4
CRIN	San Cristobal	2.15	82	P	Pb	12 02 25.4	-0.8
CRIN	San Cristobal	2.15	82	S	Sb	12 02 54.6	+2.0
CRIN	San Cristobal	2.15	82	P	Pb	12 02 24.8	-1.4
QUEN	Al S del Volca	2.33	85	P	Pb	12 02 27.7	-1.6
QUEN	Al S del Volca	2.33	85	P	Pn	12 02 26.7	+1.4
TEL3	Telica 3	2.34	86	P	Pb	12 02 27.6	-1.8
TEL3	Telica 3	2.34	86	P	Pn	12 02 26.9	+1.4
HERN	Volcan Telica	2.35	85		Pn	12 02 26.1	+0.5
HERN	Volcan Telica	2.35	85	S	Sb	12 02 57.9	-0.6
HERN	Volcan Telica	2.35	85	P	Pn	12 02 26.5	+0.9
POLN	Al Sur del Vol	2.38	84	S	Sb	12 02 59.0	0.0
POLN	Al Sur del Vol	2.38	84	P	Pn	12 02 27.3	+1.4
PLRN	Geotermica Pol	2.41	86	P	Pn	12 02 28.3	+1.9
PLRN				S	Sb	12 02 59.8	-0.3
PLRN	Geotermica Pol	2.41	86	P	Pn	12 02 22.9	-3.5
CNGA	Al SSO del Vol	2.47	88	P	Pn	12 02 29.1	+1.9
CNGA	Al SSO del Vol	2.47	88	P	Pn	12 02 29.3	+2.0
CNGN	Cerro Negro	2.48	88		Pn	12 02 27.8	+0.5
CNGN	Cerro Negro	2.48	88	S	Sb	12 03 01.5	-0.5
CNGN	Cerro Negro	2.48	88	P	Pn	12 02 28.1	+0.8
ILCN	San Idelfonso	2.48	86	P	Pn	12 02 27.6	+0.3
ILCN				S	Sb	12 03 00.6	-1.4
ILCN	San Idelfonso	2.48	86	P	Pn	12 02 27.1	-0.2
GCG4	OSOP	2.51	330	eP	Pn	12 02 28.1	+0.2
GCG4	OSOP	2.51	330	eP		12 02 28.1	
TGUH	Tegucigalpa,Un	2.52	49	Pn	Pn	12 02 28.1	+0.2
TGUH	Tegucigalpa,Un	2.52	49	P	Pb	12 02 30.9	-1.6
TGUH				S	Sb	12 03 02.5	-0.7
TGUH	Tegucigalpa,Un	2.52	49	P	Pn	12 02 29.9	+2.0
LEVN	Ruinas Leon Vi	2.56	90	P	Pn	12 02 29.9	+1.6
LEVN				S	Sb	12 03 03.7	-0.5
LEVN	Ruinas Leon Vi	2.56	90	P	Pn	12 02 30.0	+1.7
COPN	Copaltepe	2.59	95	P	Pn	12 02 30.5	+1.7
COPN	Copaltepe	2.59	95	P	Pn	12 02 29.5	+0.7
MOMN	Momotombo	2.63	90	P	Pn	12 02 31.0	+1.6
MOMN				S	Sb	12 03 04.2	-2.3
MOMN	Momotombo	2.63	90	P	Pn	12 02 30.1	+0.7
APYN	Apoyeque	2.82	93	P	Pn	12 02 34.1	+2.0
APYN				S	Sb	12 03 09.8	-2.2
APYN	Apoyeque	2.82	93	P	Pn	12 02 34.2	+2.2
LIMN	Finca el Limon	2.87	77	P	Pn	12 02 34.8	+2.0
LIMN	Finca el Limon	2.87	77	P	Pn	12 02 33.6	+0.8
STG0	El Palmar, Qui	2.87	315	eP		12 02 35.9	
STG8	El Palmar, Qui	2.89	315	eP		12 02 36.1	
CRUN	El Crucero	2.90	98	P	Pn	12 02 34.9	+1.8
CRUN	El Crucero	2.90	98	P	Pn	12 02 34.1	+1.0
USIM	UNAN	2.91	95	Pn	Pn	12 02 34.5	+1.3
TISN	Laguna Tiscapa	2.91	95	P	Pn	12 02 35.0	+1.8
TISN	Laguna Tiscapa	2.91	95	P	Pn	12 02 33.7	+0.6
UNAN	Cigeo UNAN	2.91	95	P	Pn	12 02 35.4	+2.2
UNAN				S	Sb	12 03 11.5	-2.9
UNAN	Cigeo UNAN	2.91	95	P	Pn	12 02 34.9	+1.7
MGAN	Managua	2.93	95		Pn	12 02 34.4	+1.0
MGAN	Managua	2.93	95	P	Pn	12 02 34.7	+1.2
MGAN	Managua	2.93	95	S	Sb	12 03 12.5	-2.5
MGAN	Managua	2.93	95	P	Pn	12 02 35.1	+1.6
MAS3	AI N del Volca	3.01	97	P	Pn	12 02 36.5	+1.9
MAS3				S	Sn	12 03 13.5	+3.1
MAS3	AI N del Volca	3.01	97	P	Pn	12 02 36.0	+1.3
MASN	Masaya	3.04	98	P	Pn	12 02 37.0	+2.0
MASN				S	Sn	12 03 13.9	+2.7
MASN	Masaya	3.04	98	P	Pn	12 02 37.0	+2.0
NANN	Nandasmo	3.08	98	P	Pn	12 02 37.5	+2.0
NANN	Nandasmo	3.08	98	S	Sn	12 03 14.9	+2.8
NANN	Nandasmo	3.08	98	P	Pn	12 02 37.7	+2.2
RCVN	Varillal2	3.18	68	S	Sb	12 03 19.0	-3.5
RCVN	Varillal2	3.18	68	P	Pn	12 02 40.2	+3.1
RCVN	Varillal2	3.18	68	P	Pn	12 02 38.9	+1.8
RTAL	Retalhuleu	3.19	312		Pn	12 02 35.7	-1.3
RTAL	Retalhuleu	3.19	312	P	Pn	12 02 39.8	+2.7
RTAL	Retalhuleu	3.19	312	P	Pg	12 02 47.8	-0.9
SOKI	Kika Raxquin	3.19	319	eP	Pn	12 02 37.4	-0.1
SOKI	Kika Raxquin	3.19	319	eP		12 02 37.4	
RCPN	Sur Rio San Ju	3.25	70	P	Pn	12 02 41.3	+3.2
RCPN	Sur Rio San Ju	3.25	70	P	Pn	12 02 40.7	+2.7
MATN	Matagalpa	3.27	81	S	Sn	12 03 20.4	+3.5
MATN	Matagalpa	3.27	81	P	Pn	12 02 40.1	+1.9
MATN	Matagalpa	3.27	81	P	Pn	12 02 39.5	+1.3
IZABA	Izabal, Puerto	3.36	11	P	Pg	12 02 55.8	+3.7
BOAB	BOACO BROADBAN	3.48	89	Pn	Pn	12 02 41.6	+0.5
BOAB	BOACO BROADBAN	3.48	89	P	Pn	12 02 41.4	+0.3
BOAB	BOACO BROADBAN	3.48	89	S	Sn	12 03 25.9	+3.8
BOAB	BOACO BROADBAN	3.48	89	P	Pn	12 02 42.9	+1.8
BOAB	BOACO BROADBAN	3.48	89	P	Pn	12 02 41.6	+0.5
JAPN	AI SSO del Vol	3.59	104	P	Pn	12 02 44.1	+1.5
JAPN				S	Sn	12 03 27.6	+3.0
JAPN	AI SSO del Vol	3.59	104	P	Pn	12 02 44.0	+1.5
CONN	Concepcion	3.63	103	P	Pn	12 02 44.8	+1.7
CONN				S	Sn	12 03 29.1	+3.5
CONN	Concepcion	3.63	103	P	Pn	12 02 43.5	+0.4
HUEH	Huehuetenango	3.64	323		Pn	12 02 44.9	+1.5
HUEH	Huehuetenango	3.64	323	eP	Pn	12 02 44.0	+0.5
HUEH	Huehuetenango	3.64	323	eP		12 02 44.0	
CARN	Rivas	3.83	108	P	Pn	12 02 46.9	+1.1
CARN				S	Sn	12 03 36.1	+2.5
CARN	Rivas	3.83	108	P	Pn	12 02 47.9	+2.0
ALIBA	Liberia Airpor	4.04	116	eP	Pn	12 02 51.8	+3.0
VRLE	La Escondida,	4.12	113	eP	Pn	12 02 52.4	+2.5
VORI	VORI	4.12	112	eP	Pn	12 02 53.1	+3.0
GPS3	Bodega del ICE	4.13	113	eP	Pb	12 02 55.2	-4.7
GPS2	Hotel Rincn d	4.14	113	eP	Pn	12 02 52.1	+1.9
COLC	Colonia	4.31	113	eP	Pn	12 02 54.6	+2.1
HORNC	Hornillas	4.32	113	eP	Pn	12 02 55.1	+2.5
BAGA	Bagaces	4.32	115	eP	Pn	12 02 56.1	+3.5
VMAR	Armenia, Volca	4.33	111	eP	Pn	12 02 54.0	+1.2
NICO	Nicoya	4.35	121	eP	Pn	12 02 54.0	+1.1
CUI	Cuipilapa	4.35	113	eP	Pn	12 02 55.2	+2.2
CMARA	Lajas Hojancha	4.43	122	eP	Pn	12 02 55.2	+1.1
INDI	Punta indio, G	4.45	124	P	Pn	12 02 55.3	+1.0
INDI	Punta indio, G	4.45	124	S	Sn	12 03 48.7	+2.9
INDI	Punta indio, G	4.45	124	P	Pn	12 02 55.4	+1.1
PETO	El Achiote	4.50	112	eP	Pn	12 02 57.3	+2.1
PETF	Flores	4.52	352		Pn	12 02 53.6	-1.8
PETF	Flores	4.52	352	eP	Pn	12 02 57.5	+2.1
PETF	Flores	4.52	352	eP		12 02 57.5	
NYURE	Nandayure	4.58	121	eP	Pn	12 02 58.5	+2.3
JUNT	Juntas	4.69	116	eP	Pn	12 03 00.0	+2.3
JTS	Las Juntas de	4.69	116	Pn	Pn	12 02 59.6	+1.8
JTS	Las Juntas de	4.69	116	Pn	Pn	12 02 59.3	+1.5
	35nm,0.3s,baz=297,slow=11,SNR=48						
JTS				Sn	Sn	12 03 54.5	+2.5
	35nm,0.3s,baz=256,slow=17,SNR=3.8						
JTS	Las Juntas de	4.69	116	P	Pn	12 02 59.9	+2.1
JTS	Las Juntas de	4.69	116	P	Pn	12 02 59.6	+1.8
JTS	Las Juntas de	4.69	116	eP	Pn	12 02 59.1	+1.3
JTS	Las Juntas de	4.69	116	P	Pn	12 02 59.9	+2.1
CCIG	Comitan	4.77	324		Pn	12 03 00.0	+1.0
CCIG	Comitan	4.77	324	S	Sn	12 03 59.7	+5.7
CCIG	Comitan	4.77	324	P	Pn	12 03 01.2	+2.3
CC

CBCY The Bluff, Cay 11.66 50 *i* P **Pn 12 04 33.6 +0.3**
CBCY *eP* 12 04 34.8
UNM Universidad Na 11.78 307 Pn 12 04 34.5 -0.8
UNM Universidad Na 11.78 307 P **Pn 12 04 34.5 -0.8**
SOR Soroa 11.91 29 Pn 12 04 35.2 -1.5
SOR Soroa 11.91 29 *i* P **Pn 12 04 41.2 +4.5**
SOR Soroa 11.91 29 P **Pn 12 04 35.2 -1.5**
MCJ Malvern 12.42 62 *i* P **Pn 12 04 41.9 -2.0**
MTDJ Mount Denham 12.68 61 *eP* **Pn 12 04 44.4 -3.0**
MTDJ *i* P 12 04 51.3 -7.4
MTDJ Mount Denham 12.68 61 *i* P **Pn 12 04 45.5 -1.9**
PAYG Puerto Ayora 13.04 185 Pn **Pn 12 04 53.8 +1.6**
APAC Apartado, Choc 13.23 109 P **P 12 05 02.2 -2.6**
APAC Apartado, Choc 13.23 109 P **P 12 05 02.2 -2.6**
STH Stony Hill 13.24 63 *eP* **Pn 12 04 54.0 -1.0**
STH Stony Hill 13.24 63 *i* P **P 12 05 01.4 -3.5**
HOJ Hope 13.27 64 *i* P **P 12 05 00.8 -4.3**
JRQG Juriquilla Cam 13.54 309 Pn **Pn 12 05 00.8 +1.4**
MOIG Morelia 13.57 304 Pn 12 05 01.1 +1.4
PILO Pilon 13.58 55 *eP* **Pn 12 04 59.5 -0.2**
PILO *i* P 12 05 03.8 -4.9
DBBC Dabeiba 13.90 111 P **Pn 12 05 08.1 +3.9**
DBBC Dabeiba 13.90 111 P **Pn 12 05 08.1 +3.9**
LMGC Las Mercedes 13.99 55 *eP* **Pn 12 05 05.4 +0.3**
LMGC *i* P **P 12 05 08.5 -4.6**
SJCC San Jacinto, C 14.01 99 P **Pn 12 05 06.7 +1.0**
CHIV Chivirico 14.42 57 Pn 12 05 10.5 -0.6
CHIV Chivirico 14.42 57 *eP* **Pn 12 05 09.7 -1.4**
LTUP Las Tunas 14.47 52 *eP* Pn 12 05 05.0 -6.8
LTUP *i* P **P 12 05 18.4 -0.1**
TUMC Tumaco 14.80 134 P **P 12 05 23.7 +1.6**
5µm205nm,1.1s
TUMC Tumaco 14.80 134 P **P 12 05 23.7 +1.6**
5µm205nm,1.1s
PLMC San Jos del P 14.81 119 P **Pn 12 05 19.0 +2.5**
3µm96nm,1.3s
PLMC San Jos del P 14.81 119 P **Pn 12 05 19.0 +2.5**
3µm96nm,1.3s
MARVS Santiago de Cu 14.86 58 *eP* **Pn 12 05 13.9 -3.2**
MARVS *i* P **P 12 05 20.8 -2.0**
RCC Rio Carpintero 15.02 58 *eP* **Pn 12 05 18.8 -0.5**
RCC *i* P **P 12 05 22.8 -1.8**
HLGC Holguin 15.17 55 *eP* **Pn 12 05 20.5 -0.8**
HLGC *i* P **P 12 05 28.7 +2.4**
PINC Pinares de May 15.18 56 *eP* **Pn 12 05 22.9 +1.5**
PINC *i* P **P 12 05 25.1 -1.3**
YOTC Yotoco, Valle 15.25 122 P **Pn 12 05 21.7 -0.7**
YOTC Yotoco, Valle 15.25 122 P **Pn 12 05 21.7 -0.7**
JAMC Jamundi, Valle 15.42 125 P **P 12 05 33.9 +4.5**
JAMC Jamundi, Valle 15.42 125 P **P 12 05 33.9 +4.5**
GTBY Guantanamo Bay 15.48 59 Pn **Pn 12 05 24.9 -0.5**
GTBY Guantanamo Bay 15.48 59 *eP* **Pn 12 05 25.2 -0.1**
GTBY *i* P **P 12 05 26.9 -2.8**
GTBY Guantanamo Bay 15.48 59 *i* P **Pn 12 05 26.3 +1.0**
061Z Ochoppi 15.52 29 Pn **Pn 12 05 24.0 -1.7**
061Z IAmb IAmb 12 05 32.2
comp=Z,292nm,1.4s
NORC Norcasia 15.72 114 P **P 12 05 31.5 -1.0**
comp=Z,5µmcomp=Z,2µmcomp=Z,115nm,1.0s
NORC Norcasia 15.72 114 P **P 12 05 31.5 -1.0**
comp=Z,5µmcomp=Z,2µmcomp=Z,115nm,1.0s
BBAC Balboa, Cauca 15.73 130 P **Pn 12 05 27.1 -1.8**
BBAC Balboa, Cauca 15.73 130 P **Pn 12 05 27.1 -1.8**
FLF1 Flavio Alfaro- 15.74 143 P **P 12 05 33.1 +0.4**
comp=Z,7µmcomp=Z,467nm,1.2s
FLF1 Flavio Alfaro- 15.74 143 P **P 12 05 33.1 +0.4**
comp=Z,7µmcomp=Z,467nm,1.2s
POPC Popayan, Colom 15.83 127 P **Pn 12 05 27.1 -3.1**
POPC Popayan, Colom 15.83 127 P **Pn 12 05 27.1 -3.1**
QMBU Quimbuelo 15.85 59 *eP* **Pn 12 05 28.4 -1.8**
QMBU *i* P **P 12 05 32.0 -1.9**
NMDO Nuevo Mundo 15.88 57 P **Pn 12 05 32.1 +1.6**
NMDO IAmb IAmb 12 05 36.3
comp=Z,78nm,1.3s
NMDO Nuevo Mundo 15.88 57 *i* P **P 12 05 33.8 -0.3**
PAC1 Pacto, Paraso 15.90 139 P **P 12 05 33.0 -1.6**
comp=Z,2µmcomp=Z,66nm,1.4s
PAC1 Pacto, Paraso 15.90 139 P **P 12 05 33.0 -1.6**
comp=Z,2µmcomp=Z,66nm,1.4s
MOAC Moa 15.95 57 *eP* **Pn 12 05 29.9 -1.4**
MOAC *i* P **P 12 05 35.3 +0.4**
CMBC Cumbal 16.05 134 P **P 12 05 41.9 +5.3**
CMBC Cumbal 16.05 134 P **P 12 05 41.9 +5.3**
CUSE Cuicocha Este 16.13 137 P **P 12 05 38.5 +1.1**
comp=Z,5µmcomp=Z,116nm,0.9s
CUSE Cuicocha Este 16.13 137 P **P 12 05 38.5 +1.1**
comp=Z,5µmcomp=Z,116nm,0.9s
OTAV Otavalo 16.14 138 P **P 12 05 36.9 -0.7**
OTAV Otavalo 16.14 138 P **P 12 05 40.0 +2.4**
comp=Z,5µmcomp=Z,2µmcomp=Z,47nm,1.4s
OTAV Otavalo 16.14 138 P **P 12 05 36.9 -0.7**
OTAV pmax pmax
comp=Z,17nm,1.7s
OTAV Otavalo 16.14 138 *eP* **Pn 12 05 35.0 +0.6**
OTAV Otavalo 16.14 138 P **P 12 05 40.0 +2.4**
comp=Z,5µmcomp=Z,2µmcomp=Z,47nm,1.4s
GCUF Volcan Galeras 16.20 132 P **P 12 05 39.0 +0.8**
comp=Z,5µmcomp=Z,127nm,1.7s
GCUF Volcan Galeras 16.20 132 P **P 12 05 39.0 +0.8**
comp=Z,5µmcomp=Z,127nm,1.7s
ORTC Ortega, Tolima 16.21 120 P **P 12 05 36.5 -1.4**
ORTC Ortega, Tolima 16.21 120 P **P 12 05 36.5 -1.4**
CRUC La Cruz 16.25 131 P **P 12 05 44.7 +6.0**
CRUC La Cruz 16.25 131 P **P 12 05 44.7 +6.0**
MASC Masc 16.33 60 *eP* Pn 12 05 24.4 -12
MASC *i* P **P 12 05 36.4 -2.8**
ZAIG Zacatecas 16.35 311 Pn 12 05 37.2 +0.4
ROSC El Rosal 16.54 116 Pn **P 12 05 44.5 +2.6**
comp=Z,2.9nm,0.3s,baz=319,slow=9.3,SNR=36
ROSC Sn **Sn 12 08 46.3 +3.2**
comp=Z,2.0nm,0.3s,baz=33,slow=22,SNR=1.6
ROSC El Rosal 16.54 116 P **P 12 05 44.0 +2.0**
comp=Z,9µmcomp=Z,4µmcomp=Z,305nm,1.2s
ROSC El Rosal 16.54 116 P **P 12 05 44.0 +2.0**
comp=Z,9µmcomp=Z,4µmcomp=Z,305nm,1.2s
BONI La Bonita 16.61 135 P **P 12 05 44.6 +2.0**
comp=Z,5µmcomp=Z,3µmcomp=Z,84nm,1.7s
BONI La Bonita 16.61 135 P **P 12 05 44.6 +2.0**
comp=Z,5µmcomp=Z,3µmcomp=Z,84nm,1.7s
PRAC Prado 16.61 120 P **P 12 05 43.3 +0.9**
comp=Z,7µmcomp=Z,4µmcomp=Z,130nm,1.4s
PRAC Prado 16.61 120 P **P 12 05 44.1 +1.7**
PRAC Prado 16.61 120 P **P 12 05 43.3 +0.9**
comp=Z,7µmcomp=Z,4µmcomp=Z,130nm,1.4s
BETC Betania 16.73 124 P **P 12 05 49.3 +5.6**
BETC Betania 16.73 124 P **P 12 05 49.3 +5.6**
060A Indiantown 16.77 28 P **Pn 12 05 41.5 -0.3**
060A IAmb IAmb 12 05 47.2
comp=Z,759nm,2.0s
BARC Barichara 16.85 109 P **P 12 05 48.6 +3.4**
BARC Barichara 16.85 109 P **P 12 05 48.6 +3.4**
SLOR San Lorenzo - 16.85 140 P **P 12 05 47.9 +2.4**
CVER Cruz Verde, Cu 16.91 116 P **P** 12 05 53.5 +7.4
CVER Cruz Verde, Cu 16.91 116 P **P** 12 05 53.5 +7.4
GARC Garzon, Huila 16.98 126 P **P 12 05 47.2 +0.5**
comp=Z,5µmcomp=Z,2µmcomp=Z,71nm,1.2s
GARC Garzon, Huila 16.98 126 P **P 12 05 47.2 +0.5**
comp=Z,5µmcomp=Z,2µmcomp=Z,71nm,1.2s
PAMC Pamplona, Colo 17.04 106 P **P 12 05 49.4 +1.8**
PAMC Pamplona, Colo 17.04 106 P **P 12 05 49.4 +1.8**
KVTX Kingsville 17.11 333 P **Pn 12 05 46.4 +0.3**
RUSC La Rusia 17.20 111 P **P 12 05 49.9 +0.5**
RUSC La Rusia 17.20 111 P **P 12 05 52.4 +3.0**
comp=Z,6µmcomp=Z,2µmcomp=Z,80nm,1.3s
RUSC La Rusia 17.20 111 P **P 12 05 49.5 +0.1**
RUSC La Rusia 17.20 111 P **P 12 05 52.4 +3.0**
comp=Z,6µmcomp=Z,2µmcomp=Z,80nm,1.3s
PIAT Ana Tenorio 17.20 140 P **P 12 05 52.0 +2.7**
comp=Z,7µmcomp=Z,2µmcomp=Z,56nm,1.3s
PIAT Ana Tenorio 17.20 140 P **P 12 05 52.0 +2.7**
comp=Z,7µmcomp=Z,2µmcomp=Z,56nm,1.3s
FLOC Florencia 17.23 128 P **P 12 05 51.0 +1.8**
FLOC Florencia 17.23 128 P **P 12 05 53.1 +3.9**
comp=Z,4µmcomp=Z,4µmcomp=Z,360nm,1.3s
FLOC Florencia 17.23 128 P **P 12 05 53.1 +3.9**
comp=Z,4µmcomp=Z,4µmcomp=Z,360nm,1.3s
DWPF Disney Wildern 17.24 24 P **Pn 12 05 47.7 0.0**
DWPF Disney Wildern 17.24 24 *i* P **P 12 05 53.8 +4.6**
URMC La Uribe, Meta 17.29 121 P **P 12 05 53.4 +3.5**
comp=Z,2µmcomp=Z,149nm,1.3s
URMC La Uribe, Meta 17.29 121 P **P 12 05 53.4 +3.5**
comp=Z,2µmcomp=Z,149nm,1.3s
PAPH Port-au-Prince 17.41 67 P **P 12 05 52.6 +1.5**
PAPH IAmb IAmb 12 05 57.2
comp=Z,387nm,1.7s
PAPH Port-au-Prince 17.41 67 *i* P **P 12 05 53.7 +2.5**
VILC Villavicencio, 17.44 117 P **P 12 05 56.4 +4.8**
comp=Z,1µmcomp=Z,131nm,0.9s
VILC Villavicencio, 17.44 117 P **P 12 05 56.4 +4.8**
comp=Z,1µmcomp=Z,131nm,0.9s
656A Willston 17.99 19 P **Pn 12 05 56.9 -0.1**
656A IAmb IAmb 12 06 03.6
comp=Z,238nm,1.2s
735A Kenedy 18.21 335 P **Pn 12 05 59.3 -0.5**
735A IAmb IAmb 12 06 02.5
comp=Z,491nm,1.7s
553A Crawfordville 18.25 13 P **P 12 06 00.5 +0.2**
553A IAmb IAmb 12 06 07.0
comp=Z,553nm,1.9s
SDDR Presa de Saban 18.46 67 P **P 12 06 02.2 -0.6**
SDDR Presa de Saban 18.46 67 *i* P **Pn 12 06 07.0 +4.0**
HKT Hockley 18.50 342 P **P 12 06 02.8 -0.2**
HKT IAmb IAmb 12 06 10.4
comp=Z,345nm,1.8s
HKT Hockley 18.50 342 *c i* P **Pn 12 06 03.7 +0.5**
HKT pmax pmax
comp=Z,306nm,2.0s
SDV Santo Domingo 18.61 99 P **P 12 06 04.2 -0.4**
SDV Santo Domingo 18.61 99 P **P 12 06 04.5 -0.1**
comp=Z,29nm,0.7s,baz=301,slow=8.4,SNR=22
SDV S **S 12 09 35.9 -0.7**
comp=Z,3.1nm,0.6s,baz=19,slow=5.1,SNR=1.4
SDV LR LR 12 14 24.4
comp=Z,5µm,20.7s,baz=293,slow=41
SDV Santo Domingo 18.61 99 *eP* **Pn 12 06 05.3 +0.4**
MLDN Muldoon 18.76 338 P **P 12 06 04.2 -1.8**
BRAL Brewton 18.78 6 P **P 12 06 04.2 -1.9**
BRAL IAmb IAmb 12 06 16.2
comp=Z,375nm,1.5s
PTLC Puerto Leguiza 18.79 129 P Pn 12 06 14.8 +7.9
PTLC Puerto Leguiza 18.79 129 P Pn 12 06 14.8 +7.9
HNVL Huntsville, TX 19.15 343 P **P 12 06 09.9 -0.3**
HNVL IAmb IAmb 12 06 14.1
comp=Z,184nm,0.9s
352A Blakely 19.39 11 P **P 12 06 13.5 +0.6**
352A IAmb IAmb 12 06 19.9
comp=Z,183nm,0.8s
HNDO Hondo 19.43 333 P **P 12 06 13.1 -0.3**
GRTK Grand Turk 19.52 60 *i* P Pn 12 06 23.4 +7.8
TIGA Tifton 19.64 14 P **P 12 06 15.2 -0.4**
TIGA IAmb IAmb 12 06 26.2
comp=Z,232nm,0.7s
250A Grady 19.67 8 P **P 12 06 15.3 -0.6**
250A IAmb IAmb 12 06 23.6
comp=Z,380nm,1.5s
VBMS Vicksburg 19.75 357 P **P 12 06 17.4 +0.7**
435B Jarrell 19.85 338 P **P 12 06 17.7 -0.2**
NATX Nacogdoches 19.90 346 P **P 12 06 18.7 +0.3**
DRIO Del Rio 19.97 330 P 12 06 19.0 -0.2
146A Union 20.14 0 P **P 12 06 20.9 0.0**
146A IAmb IAmb 12 06 33.6
comp=Z,331nm,1.2s
146A IAMs_20 IAMs_20 12 15 06.6
comp=Z,8µm,21.0s
DR12 Loma Pena Alta 20.14 69 P **P 12 06 21.9 +0.7**
237A Washetta, Mont 20.42 344 P **P 12 06 24.1 0.0**
JCT Junction City 20.48 333 P **P 12 06 24.1 -0.7**
JCT IAmb IAmb 12 06 35.0
comp=Z,193nm,0.9s
JCT Junction City 20.48 333 P **P 12 06 24.1 -0.7**
JCT pmax pmax
comp=Z,193nm,0.9s
152A Waverly Hall 20.59 11 IAmb IAmb 12 06 35.5
comp=Z,202nm,1.1s
LRAL Lakeview Retre 20.63 5 **P 12 06 27.2 +0.8**
LRAL IAmb IAmb 12 06 33.2
comp=Z,119nm,1.0s
LRAL IAMs_20 IAMs_20 12 14 27.5
comp=Z,9µm,22.0s
Z47A Carrollton 20.72 3 P **P 12 06 27.3 0.0**
Z47A IAmb IAmb 12 06 38.8
comp=Z,156nm,0.7s
Z47A IAMs_20 IAMs_20 12 14 56.8
comp=Z,8µm,21.0s
BRDY Brady 20.84 336 P **P 12 06 27.8 -0.9**
257A Skidaway Islan 20.89 20 P **P 12 06 27.4 -1.7**
WHTX Lake Whitney, 20.91 340 P **P 12 06 28.5 -0.8**
Z41A Richland Creek 21.01 352 P **P 12 06 29.8 -0.7**
HPIG 21.14 316 P **P 12 06 32.5 +0.4**
HPIG IAmb IAmb 12 06 38.7
comp=Z,215nm,1.1s
TREL Terrell 21.18 344 P **P 12 06 31.7 -0.7**
FW14 Alvarado 21.20 341 P **P 12 06 31.6 -0.9**
FW13 Cleburne 21.23 341 P **P 12 06 32.1 -0.8**
Z38A Mt. Pleasant 21.41 347 P **P 12 06 34.3 -0.5**
Z38A IAmb IAmb 12 06 50.5
comp=Z,316nm,1.3s
OZNA Ozona 21.45 331 P **P 12 06 34.7 -0.7**
OZNA IAmb IAmb 12 06 45.5
comp=Z,123nm,0.9s
WLAR White Oak Lake 21.48 351 P **P 12 06 35.6 +0.2**
Y49A Blount Mountai 21.51 6 P **P 12 06 35.9 +0.1**
Y49A IAmb IAmb 12 06 46.0
comp=Z,73nm,0.7s
Y49A IAMs_20 IAMs_20 12 14 52.5
comp=Z,8µm,22.0s
CCAR Cane Creek 21.54 354 P **P 12 06 36.9 +0.8**
TXAR Lajitas Array 21.54 324 P **P 12 06 36.5 +0.2**
comp=Z,47nm,0.8s,baz=145,slow=9.9,SNR=206
TXAR S **S 12 10 38.9 +4.2**
comp=Z,1.3nm,0.6s,baz=122,slow=8.0,SNR=3.8
comp=Z,47nm,0.8s
TX31 Lajitas Ar. Si 21.54 324 P **P 12 06 36.8 +0.5**
GOGA Godfrey 21.56 13 P **P 12 06 36.7 +0.3**
GOGA IAmb IAmb 12 06 46.4
comp=Z,81nm,0.8s
GOGA Godfrey 21.56 13 P **P 12 06 36.7 +0.3**
GOGA pmax pmax
comp=Z,81nm,0.8s
GOGA MLR MLR
comp=Z,4µm,22.0s
FW06 Azle 21.84 341 IAmb IAmb 12 06 49.1
comp=Z,209nm,1.1s
Y52A Lilburn 21.87 12 IAmb IAmb 12 06 43.5
comp=Z,176nm,1.3s
X48A Hartselle 22.04 5 P **P 12 06 40.8 -0.7**
X48A IAmb IAmb 12 06 52.5
comp=Z,376nm,1.9s
X48A IAMs_20 IAMs_20 12 15 21.5
comp=Z,8µm,22.0s
X40A Basin Creek Fa 22.22 352 IAmb IAmb 12 06 56.5
comp=Z,128nm,1.0s
ABTX Abilene, Hawle 22.27 336 IAmb IAmb 12 06 55.9
comp=Z,210nm,1.0s
FPAL Fort Paine 22.28 8 P **P 12 06 43.5 -0.6**
SGCY Sterling City 22.29 332 IAmb IAmb 12 06 53.4
comp=Z,92nm,0.8s
ALPN Alpine 22.31 325 P **P 12 06 43.7 -1.0**
X51A Calhoun 22.41 10 IAmb IAmb 12 07 05.8
comp=Z,101nm,1.1s
UALR University of 22.45 353 P **P 12 06 45.2 -0.7**
AOPR Arecibo Observ 22.45 72 P **P 12 06 46.7 +0.6**
AOPR IAmb IAmb 12 06 49.1
comp=Z,112nm,1.4s
PLAL Pickwick Lake 22.50 2 IAMs_20 IAMs_20 12 15 49.8
comp=Z,8µm,22.0s
OBIP Obispado Ponce 22.53 73 P **P 12 06 45.6 -1.3**
MNHN Monahans 22.60 329 IAmb IAmb 12 06 51.5
comp=Z,114nm,0.7s
SLBS Sierra La Lagu 22.63 303 P **P 12 06 49.0 +1.0**
SLBS IAmb IAmb 12 07 11.2
comp=Z,175nm,1.2s
HODGE Hodges 22.64 15 P **P 12 06 48.3 +0.4**
HODGE IAmb IAmb 12 06 57.4
comp=Z,96nm,0.8s
WHAR Wooly Hollow 22.95 354 P **P 12 06 50.6 -0.6**
SJG San Juan 22.97 73 P **P 12 06 47.7 -3.9**
comp=Z,14nm,0.3s,baz=248,slow=13,SNR=2.2
comp=Z,14nm,0.3s
Y57A Sumter 22.97 19 IAMs_20 IAMs_20 12 16 48.4
comp=Z,7µm,18.0s
HBAR Harrisburg 23.08 357 P **P 12 06 52.3 -0.2**
W52A Murphy 23.09 11 IAmb IAmb 12 07 12.8
comp=Z,116nm,1.4s
LPIG La Paz 23.11 303 S **S 12 11 09.3 +5.6**
comp=Z,7.1nm,0.3s,baz=170,slow=9.0,SNR=1.4
LPIG LR LR 12 15 53.3
comp=Z,6µm,19.1s,baz=125,slow=37
SN07 Snyder 07 23.19 334 IAmb IAmb 12 07 01.6
comp=Z,142nm,0.7s
BG3 Lake Jocassee 23.20 13 P **P 12 06 53.6 -0.2**
BG3 IAmb IAmb 12 06 56.9
comp=Z,174nm,1.4s
PECS Pecos 23.20 327 IAmb IAmb 12 07 04.0
comp=Z,231nm,1.7s
PAULI Pauline 23.31 16 IAmb IAmb 12 07 07.2
comp=Z,76nm,0.8s
V48A Smith Brothers 23.33 5 IAmb IAmb 12 07 03.8
comp=Z,57nm,0.7s
V48A IAMs_20 IAMs_20 12 16 22.0
comp=Z,7µm,20.0s
CPCT Cooper Cave 23.33 10 P **P 12 06 54.5 -0.6**
CPCT IAmb IAmb 12 07 01.3
comp=Z,112nm,1.3s
VHRN Van Horn 23.38 324 IAmb IAmb 12 07 09.9
comp=Z,122nm,1.2s
POST Post 23.43 333 P **P 12 06 53.9 -2.3**
GNAR Gosnell 23.47 358 P **P 12 06 56.0 -0.4**
FCAR Ozark Folk Cen 23.53 354 P **P 12 06 56.1 -0.8**
FCAR IAmb IAmb 12 07 10.1
comp=Z,176nm,1.0s
BIRD Birdtown, Kers 23.53 18 P **P 12 06 56.8 -0.2**
BIRD IAmb IAmb 12 07 01.1
comp=Z,161nm,1.2s
LNXT Lenox 23.59 359 P **P 12 06 57.0 -0.6**
LCAR Lake Charles 23.62 356 P **P 12 06 57.0 -1.0**
LCAR IAmb IAmb 12 07 00.1
comp=Z,245nm,1.4s
WVT Waverly 23.65 3 P **P 12 06 57.0 -1.2**
WVT Waverly 23.65 3 IAMs_20 IAMs_20 12 16 23.5
comp=Z,7µm,22.0s
WVT Waverly 23.65 3 P **P 12 06 57.0 -1.2**
WVT pmax pmax
comp=Z,54nm,1.0s
WVT MLR MLR
comp=Z,8µm,22.0s
TKL Tuckaleechee C 23.67 11 IAmb IAmb 12 07 07.5
comp=Z,82nm,0.8s
TKL Tuckaleechee C 23.67 11 S **S 12 11 10.0 -2.7**
comp=Z,2.6nm,0.5s,baz=248,slow=19,SNR=1.3
TKL LR LR 12 16 38.4
comp=Z,5µm,21.4s,baz=203,slow=38
W35A Tecumseh 23.68 344 IAmb IAmb 12 07 05.9
comp=Z,124nm,0.8s
CLTN Cedars of Leba 23.73 6 P **P 12 06 58.8 -0.1**
CLTN IAmb IAmb 12 07 07.4
comp=Z,56nm,0.7s
KMSC Kings Mountain 23.74 16 P **P 12 06 57.0 -2.1**
KMSC IAmb IAmb 12 07 08.7
comp=Z,96nm,0.9s
UTMT University of 23.83 1 P **P 12 06 59.4 -0.6**
V53A Saluda 23.88 13 P **P 12 07 00.0 -0.4**
V53A IAmb IAmb 12 07 09.9
comp=Z,95nm,1.0s
OKCSW OKLAHOMA CITY 24.07 343 P **P 12 07 00.9 -1.4**
TUL3 Leonard 24.14 347 P **P 12 07 01.3 -1.6**
W57A Gilead 24.14 19 P **P 12 07 02.2 -0.6**
W57A IAmb IAmb 12 07 12.6
comp=Z,80nm,1.0s
HHAR Hobbs 24.15 351 IAmb IAmb 12 07 10.9
comp=Z,60nm,0.7s
PARMO Parma 24.16 359 P **P 12 07 02.4 -0.6**
U49A Red Boiling Sp 24.20 7 P **P 12 07 02.3 -1.1**
U49A IAmb IAmb 12 07 11.1
comp=Z,69nm,0.7s
PCRV Puerto La Cruz 24.22 93 P **P 12 07 01.9 -2.0**
comp=Z,12nm,0.6s,baz=224,slow=6.5,SNR=12
PCRV S **S 12 11 23.8 +1.8**
comp=Z,7.6nm,0.9s,baz=25,slow=18,SNR=1.9
PCRV LR LR 12 17 47.5
comp=Z,2µm,21.1s,slow=40
comp=Z,12nm,0.6s
PBMO Poplar Bluff 24.29 358 P **P 12 07 03.0 -1.3**
U38A Gravette 24.38 350 IAmb IAmb 12 07 10.5
comp=Z,190nm,1.4s
V55A Taylorsville 24.44 16 IAmb IAmb 12 07 11.8
comp=Z,137nm,1.3s
OK029 Liberty Lake 24.44 344 P **P 12 07 04.0 -1.7**
OK052 Battle Ridge R 24.46 345 P **P 12 07 04.4 -1.4**
T45A Paducah 24.51 1 IAMs_20 IAMs_20 12 17 25.2
comp=Z,6µm,21.0s
T47A Sharon Grove 24.55 4 P **P 12 07 05.4 -1.2**
T47A IAMs_20 IAMs_20 12 16 50.2
comp=Z,8µm,22.0s
TZTN Tazewell 24.57 11 IAmb IAmb 12 07 12.6
comp=Z,67nm,1.0s
T42A Van Buren 24.57 356 IAMs_20 IAMs_20 12 18 22.9
comp=Z,6µm,21.0s
SMWD Samnorwood 24.70 338 P **P 12 07 06.6 -1.5**
MGMO Mountain Grove 24.79 354 P **P 12 07 07.8 -1.0**
OK051 E0350 and S346 24.95 345 P **P 12 07 08.6 -1.6**
EPT El Paso 24.98 323 IAmb IAmb 12 07 23.0
comp=Z,110nm,1.8s
AMTX Amarillo 25.07 335 P **P 12 07 10.2 -1.1**
U56A King 25.14 17 IAmb IAmb 12 07 38.9
comp=Z,162nm,1.4s
S44A Carbondale 25.18 360 IAMs_20 IAMs_20 12 17 36.6
comp=Z,6µm,22.0s
T35A Sooner Cattle 25.27 346 IAmb IAmb 12 07 26.9
comp=Z,101nm,1.2s
BLOK Blackwell 25.29 345 P **P 12 07 11.7 -1.5**
TBTG Tabatinga, AM 25.31 129 P **P 12 07 15.0 +1.3**
TBTG Tabatinga, AM 25.31 129 P **P 12 07 16.6 +2.9**
comp=Z,3µmcomp=Z,178nm,1.0s
TBTG Tabatinga, AM 25.31 129 *eP* **P 12 07 14.8 +1.1**
TBTG Tabatinga, AM 25.31 129 P **P 12 07 16.6 +2.9**
comp=Z,3µmcomp=Z,178nm,1.0s
OK038 West end E0370 25.45 342 P **P 12 07 13.4 -1.3**
FVM French Village 25.49 358 P **P 12 07 13.3 -1.8**
FVM IAmb IAmb 12 07 25.0
comp=Z,121nm,0.9s
FVM French Village 25.49 358 P **P 12 07 13.3 -1.8**
FVM pmax pmax
comp=Z,121nm,1.0s
GC02 Grant County # 25.55 344 P **P 12 07 14.3 -1.3**
CCM Cathedral Cave 25.61 356 P **P 12 07 15.0 -1.1**
CCM IAMs_20 IAMs_20 12 19 04.2
comp=Z,6µm,20.0s
CCM Cathedral Cave 25.61 356 P **P 12 07 15.0 -1.1**
CCM pmax pmax
comp=Z,216nm,0.7s
CCM MLR MLR
comp=Z,6µm,20.0s
SABA Saba 25.62 75 IAMs_20 IAMs_20 12 18 32.8
comp=Z,6µm,18.0s
S51A Beattyville 25.63 10 IAmb IAmb 12 07 24.2
comp=Z,34nm,0.7s
S51A IAMs_20 IAMs_20 12 17 16.7
comp=Z,5µm,21.0s
KAN17 Caldwell West 25.70 344 P **P 12 07 15.2 -1.8**
KAN17 IAmb IAmb 12 07 25.0
comp=Z,100nm,0.8s
KAN09 Caldwell North 25.75 344 P **P 12 07 15.7 -1.7**
SEUS St. Eustatius 25.85 76 IAMs_20 IAMs_20 12 18 47.9
comp=Z,6µm,18.0s
WCI Wyandotte Cave 25.85 5 P **P 12 07 17.0 -1.3**
WCI Wyandotte Cave 25.85 5 IAMs_20 IAMs_20 12 17 38.5
comp=Z,7µm,22.0s
WCI Wyandotte Cave 25.85 5 P **P 12 07 17.0 -1.3**
WCI pmax pmax
comp=Z,125nm,0.8s
WCI MLR MLR
comp=Z,7µm,22.0s
CZSB Cruzeiro do Su 25.89 140 P **P 12 07 20.6 +1.6**
CZSB IAMs_20 IAMs_20 12 16 57.2
comp=Z,7µm,20.0s
CZSB Cruzeiro do Su 25.89 140 P **P 12 07 23.1 +4.2**
CZSB Cruzeiro do Su 25.89 140 P **P 12 07 23.1 +4.2**
R40A Maddies Statio 25.92 355 P **P 12 07 17.3 -1.7**
R40A IAmb IAmb 12 07 34.1
comp=Z,101nm,1.0s
KAN08 Anthony NE Sta 25.93 344 IAmb IAmb 12 07 26.1
comp=Z,114nm,0.9s
BLA Blacksburg 25.93 16 IAmb IAmb 12 07 52.3
comp=Z,91nm,1.1s
KAN12 Harper NE Stat 26.00 344 P **P 12 07 18.3 -1.5**
KAN12 IAmb IAmb 12 07 20.9
comp=Z,115nm,0.9s
R49A Shelbyville 26.03 7 P **P 12 07 18.4 -1.6**
R49A IAmb IAmb 12 07 27.2
comp=Z,44nm,0.6s
R49A IAMs_20 IAMs_20 12 17 33.4
comp=Z,6µm,21.0s
T57A Hurt 26.07 18 P **P 12 07 20.1 -0.4**

T57A IAmb IAmb 12 07 29.7
comp=Z,89nm,0.8s
SLM Saint Louis 26.14 358 P **P 12 07 20.0 -0.9**
SLM Saint Louis 26.14 358 P **P 12 07 20.0 -0.9**
SLM pmax pmax
comp=Z,139nm,0.6s
SRIG Santa Rosalia 26.17 308 IAms_20 IAms_20 12 18 29.7
comp=Z,6μm,18.0s
OLIL Olney 26.24 2 P **P 12 07 21.0 -0.8**
OLIL IAmb IAmb 12 07 35.1
comp=Z,87nm,0.9s
Q44A Meyer Farm, Va 26.39 0 P **P 12 07 22.3 -0.9**
319A Douglas 26.42 319 IAmb IAmb 12 07 45.0
comp=Z,167nm,1.3s
T59A Double "B" Far 26.61 21 P **P 12 07 24.7 -0.6**
T59A IAms_20 IAms_20 12 18 51.8
comp=Z,7μm,18.0s
SSFO Shawnee State 26.73 11 P **P 12 07 25.0 -1.3**
SSFO IAmb IAmb 12 07 27.5
comp=Z,78nm,1.4s
BLO Bloomington 26.77 5 IAmb IAmb 12 07 35.8
comp=Z,37nm,0.8s
RTBA Rita Blanca 26.84 335 P **P 12 07 26.5 -1.0**
Y22D IRIS PASSCAL I 26.92 326 P **P 12 07 28.3 +0.1**
Y22D IAmb IAmb 12 07 43.9
comp=Z,108nm,0.9s
Y22D IRIS PASSCAL I 26.92 326 P **P 12 07 29.5 +1.2**
baz=139
SBM South Baldy 26.99 326 P **P 12 07 30.2 +1.0**
ANWB Willy Bob 27.00 75 IAms_20 IAms_20 12 19 58.5
comp=Z,5μm,18.0s
CBE Ff, Capester 27.01 79 IAms_20 IAms_20 12 17 11.9
comp=Z,5μm,19.0s
R55A Marlinton 27.02 16 IAmb IAmb 12 07 37.6
comp=Z,56nm,0.9s
Q51A Peebles 27.02 10 IAmb IAmb 12 07 36.9
comp=Z,76nm,0.7s
Q51A IAms_20 IAms_20 12 18 00.6
comp=Z,5μm,21.0s
P43A Skaggs, Pawnee 27.13 360 P **P 12 07 28.9 -1.0**
P43A IAms_20 IAms_20 12 19 10.4
comp=Z,5μm,21.0s
P40A Paris 27.13 355 P **P 12 07 28.4 -1.5**
P40A IAms_20 IAms_20 12 20 02.6
comp=Z,7μm,20.0s
P48A Milroy 27.16 6 IAmb IAmb 12 07 37.0
comp=Z,46nm,0.6s
ABD La Joyeuse, An 27.16 78 IAms_20 IAms_20 12 17 26.8
comp=Z,4μm,20.0s
P46A Rosedale 27.16 3 IAmb IAmb 12 07 38.5
comp=Z,58nm,0.9s
P46A IAms_20 IAms_20 12 18 21.3
comp=Z,7μm,22.0s
Q52A Bidwell 27.16 12 IAmb IAmb 12 07 38.9
comp=Z,50nm,0.9s
NNA Nana 27.18 153 LR LR 12 16 30.1
comp=Z,2μm,19.4s,baz=320,slow=32
NNA Nana 27.18 153 *c i* P **P 12 07 31.6 +1.0**
P49A Miami Univ. Ec 27.31 8 IAmb IAmb 12 07 31.0
comp=Z,106nm,1.4s
ANMO Albuquerque 27.34 328 P **P 12 07 31.8 -0.3**
ANMO Albuquerque 27.34 328 S **S 12 12 12.9 +1.4**
comp=Z,1.7nm,0.8s,baz=246,slow=2.1,SNR=1.0
ANMO Albuquerque 27.34 328 *i* P **P 12 07 31.8 -0.3**
ANMO pmax pmax
comp=Z,22nm,2.0s
P38A Dawn 27.38 353 IAmb IAmb 12 07 41.3
comp=Z,70nm,0.6s
R58B Mineral 27.40 20 IAmb IAmb 12 07 41.5
comp=Z,64nm,0.9s
P51A Williamsport 27.52 10 IAmb IAmb 12 07 40.9
comp=Z,48nm,0.6s
ILAM Ilet Lapin Mar 27.66 82 IAms_20 IAms_20 12 18 20.2
comp=Z,4μm,18.0s
P52A Corning 27.84 12 P **P 12 07 34.2 -2.0**
P52A IAmb IAmb 12 07 43.9
comp=Z,43nm,0.7s
P53A Whipple 27.85 13 P **P 12 07 35.6 -0.8**
P53A IAmb IAmb 12 07 45.5
comp=Z,80nm,0.8s
P53A IAms_20 IAms_20 12 19 59.6
comp=Z,5μm,18.0s
SFIN Lafayette 27.93 3 IAms_20 IAms_20 12 19 05.6
comp=Z,6μm,20.0s
O48B Farmland 27.97 7 IAmb IAmb 12 07 43.9
comp=Z,30nm,0.7s
O48B IAms_20 IAms_20 12 18 42.8
comp=Z,6μm,22.0s
Q56A Snyder Ridge, 27.98 17 IAmb IAmb 12 07 47.8
comp=Z,50nm,0.8s
TUC Tucson 28.00 318 P **P 12 07 38.3 +0.4**
TUC IAmb IAmb 12 07 57.0
comp=Z,52nm,0.9s
TUC Tucson 28.00 318 IAms_20 IAms_20 12 20 47.7
comp=Z,7μm,18.0s
TUC Tucson 28.00 318 P **P 12 07 38.3 +0.4**
TUC pmax pmax
comp=Z,52nm,0.9s
TUC MLR MLR
comp=Z,7μm,18.0s
O49A Covington 28.01 8 P **P 12 07 35.9 -1.9**
O49A IAmb IAmb 12 07 46.2
comp=Z,44nm,0.8s
O49A IAms_20 IAms_20 12 18 53.7
comp=Z,5μm,21.0s
HDIL Hopedale 28.04 360 P **P 12 07 37.0 -1.0**
HDIL IAms_20 IAms_20 12 19 14.6
comp=Z,6μm,22.0s
N41A Harden Midland 28.23 357 IAms_20 IAms_20 12 19 36.6
comp=Z,6μm,22.0s
ACSO Alum Creek Sta 28.26 10 IAmb IAmb 12 07 47.7
comp=Z,50nm,0.8s
ACSO IAms_20 IAms_20 12 18 38.3
comp=Z,5μm,22.0s
O52A Adamsville 28.36 12 P **P 12 07 39.7 -1.2**
O52A IAmb IAmb 12 07 49.5
comp=Z,51nm,0.7s
MCWV Mont Chateau 28.38 15 P **P 12 07 40.2 -0.9**
MCWV IAmb IAmb 12 07 49.3
comp=Z,50nm,0.8s
MCWV IAms_20 IAms_20 12 19 48.7
comp=Z,4μm,18.0s
N38A Joes South For 28.49 354 P **P 12 07 40.6 -1.5**
N38A IAmb IAmb 12 07 49.7
comp=Z,87nm,0.8s
N38A IAms_20 IAms_20 12 20 58.7
comp=Z,5μm,20.0s
N47A Urbana 28.53 6 IAmb IAmb 12 07 48.9
comp=Z,52nm,0.8s
N47A IAms_20 IAms_20 12 19 10.6
comp=Z,5μm,22.0s
O53A New Philadelph 28.62 13 IAmb IAmb 12 07 51.9
comp=Z,64nm,0.8s
R61A Willards 28.63 23 IAms_20 IAms_20 12 20 23.3
comp=Z,6μm,19.0s
P57A Homestead Farm 28.74 18 IAmb IAmb 12 07 53.1
comp=Z,76nm,0.8s
O54A Avella 28.75 14 IAmb IAmb 12 07 52.9
comp=Z,90nm,0.9s
O54A IAms_20 IAms_20 12 20 03.3
comp=Z,4μm,18.0s
N49A Columbus Grove 28.75 8 IAmb IAmb 12 07 54.6
comp=Z,38nm,0.8s
N49A IAms_20 IAms_20 12 19 05.3
comp=Z,5μm,22.0s
M44A Midewin, Midew 28.89 2 IAms_20 IAms_20 12 19 26.1
comp=Z,6μm,22.0s
N35A Tabor 28.90 350 P **P 12 07 44.4 -1.3**
X18A Snowflake 28.97 323 P **P 12 07 47.5 +0.9**
N51A Ashland 29.03 11 P **P 12 07 45.2 -1.7**
N51A IAmb IAmb 12 07 55.0
comp=Z,48nm,0.6s
N51A IAms_20 IAms_20 12 19 11.8
comp=Z,5μm,22.0s
KSCO Kaye Shedlock' 29.04 338 P **P 12 07 46.5 -0.6**
SDMD Soldier's Deli 29.05 20 IAmb IAmb 12 07 55.6
comp=Z,52nm,0.7s
TEFE Tefe 29.11 121 *e*P **P 12 07 49.5 +1.6**
SDCO Great Sand Dun 29.12 333 P **P 12 07 47.3 -0.8**
N53A Lisbon 29.23 13 P **P 12 07 47.5 -1.2**
N53A IAmb IAmb 12 07 56.3
comp=Z,53nm,0.7s
HQIL Hanson Quary C 29.31 2 IAms_20 IAms_20 12 21 33.1
comp=Z,6μm,22.0s
PIX Pinacate 29.34 314 P **P 12 07 50.0 +0.2**
PIX IAms_20 IAms_20 12 21 23.6
comp=Z,4μm,18.0s

M50A Fremont 29.39 10 IAms_20 IAms_20 12 19 57.3
comp=Z,4μm,20.0s
L42A Oliver, Polo 29.49 359 IAms_20 IAms_20 12 20 33.0
comp=Z,5μm,21.0s
SCIA State Center 29.59 354 IAmb IAmb 12 07 59.0
comp=Z,58nm,0.8s
SCIA IAms_20 IAms_20 12 21 41.8
comp=Z,5μm,20.0s
L40A Anamosa 29.60 357 IAms_20 IAms_20 12 20 40.8
comp=Z,6μm,22.0s
L46A Eue Claire 29.61 4 IAmb IAmb 12 07 58.5
comp=Z,60nm,1.0s
L46A IAms_20 IAms_20 12 19 56.0
comp=Z,5μm,21.0s
L44A Lake County Fo 29.68 2 IAms_20 IAms_20 12 20 12.1
comp=Z,5μm,20.0s
S22A 4UR Ranch, Cre 29.73 331 P P 12 07 48.8 -4.7
M52A Chesterland 29.83 12 IAms_20 IAms_20 12 21 19.9
comp=Z,4μm,18.0s
SSPA Standing Stone 29.84 18 P **P 12 07 53.2 -0.8**
BGNE Belgrade 29.93 346 P **P 12 07 54.2 -0.6**
WUPA West Chester U 29.94 21 IAmb IAmb 12 08 06.7
comp=Z,87nm,1.9s
Q24A Divide 29.99 335 P **P 12 07 55.5 -0.3**
Q24A IAmb IAmb 12 08 02.2
comp=Z,57nm,1.5s
SFX San Felipe 30.04 312 IAmb IAmb 12 08 15.4
comp=Z,56nm,1.3s
BOAV Boa Vista 30.12 107 P **P 12 07 57.5 +0.6**
BOAV Boa Vista 30.12 107 *e*P **P 12 07 58.1 +1.2**
AAM Ann Arbor 30.18 8 IAms_20 IAms_20 12 20 01.1
comp=Z,5μm,22.0s
ALLY Alegheny Colle 30.20 14 IAmb IAmb 12 08 05.6
comp=Z,40nm,0.9s
K43A Burlington 30.20 1 IAmb IAmb 12 08 20.9
comp=Z,84nm,1.0s
K43A IAms_20 IAms_20 12 20 16.7
comp=Z,5μm,22.0s
113A Mohawk Valley, 30.26 316 IAmb IAmb 12 08 14.9
comp=Z,45nm,1.2s
JFWS Jewell Farm 30.41 359 IAms_20 IAms_20 12 20 52.3
comp=Z,5μm,21.0s
Y14A Wickenburg 30.47 319 IAms_20 IAms_20 12 21 44.2
comp=Z,4μm,20.0s
WUAZ Wupatki 30.50 323 P **P 12 08 00.0 -0.1**
WUAZ IAmb IAmb 12 08 16.3
comp=Z,32nm,0.9s
OGNE Ogallala 30.57 341 P **P 12 07 59.5 -1.1**
OGNE IAmb IAmb 12 08 11.7
comp=Z,67nm,1.1s
LUPA Lehigh Univers 30.61 21 P **P 12 08 00.3 -0.6**
LUPA IAmb IAmb 12 08 09.4
comp=Z,48nm,0.7s
K50A Casco 30.80 10 IAms_20 IAms_20 12 20 19.5
comp=Z,5μm,22.0s
ISCO Idaho Springs 30.89 335 IAmb IAmb 12 08 16.9
comp=Z,36nm,1.1s
VTX Valle De La Tr 30.91 312 IAmb IAmb 12 08 25.6
comp=Z,35nm,1.2s
J47A Sumner 30.96 6 IAmb IAmb 12 08 10.2
comp=Z,42nm,0.7s
J47A IAms_20 IAms_20 12 20 22.7
comp=Z,5μm,22.0s
BRNJ Basking Ridge 30.98 22 P **P 12 08 03.0 -1.1**
PV15 Paradox Valley 31.00 330 P **P 12 08 04.7 +0.1**
PV13 Radium Mtn., P 31.03 329 IAmb IAmb 12 08 16.1
comp=Z,64nm,1.3s
BRIGG Briggsdale 31.04 337 P **P 12 08 04.6 -0.3**
PV05 Paradox Valley 31.11 329 P **P 12 08 05.0 -0.6**
PV05 IAmb IAmb 12 08 20.6
comp=Z,38nm,1.0s
CPBX Cerro Prieto 31.12 314 IAms_20 IAms_20 12 22 56.6
comp=Z,4μm,18.0s
GLA Glamis 31.14 315 IAmb IAmb 12 08 19.5
comp=Z,51nm,1.0s
GLA IAms_20 IAms_20 12 21 37.3
comp=Z,4μm,21.0s
PV07 Paradox Valley 31.16 330 IAmb IAmb 12 08 17.2
comp=Z,42nm,1.1s
PV11 David Mesa, Pa 31.16 329 IAmb IAmb 12 08 23.9
comp=Z,57nm,0.8s
PV10 Paradox Valley 31.30 329 IAmb IAmb 12 08 20.9
comp=Z,69nm,0.8s
ODNJ Ogdensburg 31.31 22 IAmb IAmb 12 08 06.9
comp=Z,62nm,1.5s
L56A Greenwood 31.32 17 IAmb IAmb 12 08 15.7
comp=Z,34nm,0.9s
BLYC Blythe 31.35 317 IAms_20 IAms_20 12 22 53.6
comp=Z,4μm,18.0s
ESJX Sierra Juarez 31.35 313 IAmb IAmb 12 08 25.5
comp=Z,66nm,1.2s
ESJX IAms_20 IAms_20 12 20 26.8
comp=Z,4μm,20.0s
I42A Draeger Farm, 31.37 0 IAms_20 IAms_20 12 21 26.8
comp=Z,5μm,21.0s
I40A Norwalk 31.39 358 IAmb IAmb 12 08 17.4
comp=Z,53nm,0.7s
I40A IAms_20 IAms_20 12 21 33.4
comp=Z,5μm,21.0s
K30B Basset 31.48 345 P **P 12 08 07.3 -1.2**
I45A Fountain 31.62 4 IAms_20 IAms_20 12 20 56.4
comp=Z,5μm,22.0s
U15A North Rim 31.66 323 IAmb IAmb 12 08 26.8
comp=Z,41nm,1.3s
YUH Yuha Desert 31.68 314 IAms_20 IAms_20 12 22 28.5
comp=Z,5μm,18.0s
I37A Lemond, Waseca 31.70 354 IAms_20 IAms_20 12 22 13.6
comp=Z,7μm,22.0s
W13A Hualapai Mount 31.76 319 IAmb IAmb 12 08 28.7
comp=Z,48nm,1.3s
MMNY Mt. Morris Dam 31.77 16 P **P 12 08 11.1 0.0**
CCX Cicese 31.80 312 IAms_20 IAms_20 12 22 59.6
comp=Z,3μm,18.0s
BINY Binghamton 31.84 19 P **P 12 08 10.7 -1.0**
BINY IAmb IAmb 12 08 19.6
comp=Z,32nm,0.8s
BINY IAms_20 IAms_20 12 22 09.3
comp=Z,4μm,18.0s
ECSD EROS Data Cent 31.86 350 P **P 12 08 09.8 -2.0**
ECSD IAmb IAmb 12 08 25.8
comp=Z,37nm,0.8s
I49A Point Hope 31.90 9 IAms_20 IAms_20 12 21 02.8
comp=Z,5μm,22.0s
H43A Windswept, Lux 31.98 2 IAms_20 IAms_20 12 21 31.7
comp=Z,5μm,21.0s
CBX Cerro Bola 32.03 313 IAmb IAmb 12 08 31.5
comp=Z,75nm,1.0s
TKX Tete 32.12 313 IAmb IAmb 12 08 31.9
comp=Z,45nm,1.2s
L59A Walton 32.14 20 IAmb IAmb 12 08 21.9
comp=Z,29nm,0.8s
K57A Scipio Center 32.17 18 P **P 12 08 14.0 -0.6**
K57A IAmb IAmb 12 08 19.2
comp=Z,49nm,1.1s
J55A Hilton 32.29 16 IAms_20 IAms_20 12 22 57.2
comp=Z,4μm,18.0s
O20A White River Ci 32.31 332 IAmb IAmb 12 08 44.6
comp=Z,50nm,1.0s
MACA Manacapuru-AM 32.31 117 P **P 12 08 18.4 +2.3**
MACA Manacapuru-AM 32.31 117 *e*P **P 12 08 17.7 +1.6**
KNB Kanab 32.37 323 IAmb IAmb 12 08 35.7
comp=Z,59nm,1.5s
KNB IAms_20 IAms_20 12 23 46.5
comp=Z,4μm,19.0s
PKCU Pink Cliffs 32.37 324 IAmb IAmb 12 08 29.3
comp=Z,50nm,1.2s
PKCU IAms_20 IAms_20 12 22 52.4
comp=Z,3μm,19.0s
TJX Tijuana 32.41 313 IAms_20 IAms_20 12 23 40.9
comp=Z,4μm,18.0s
GLMI Grayling 32.55 6 IAms_20 IAms_20 12 21 54.8
comp=Z,4μm,20.0s
PFO Pinyon Flats O 32.59 315 P **P 12 08 18.3 -0.2**
PFO IAmb IAmb 12 08 38.7
comp=Z,41nm,1.1s
PFO Pinyon Flats O 32.59 315 LR LR 12 23 55.2
comp=Z,6μm,18.2s,baz=126,slow=41
PFO Pinyon Flats O 32.59 315 *i* P **P 12 08 19.6 +1.1**
PFO pmax pmax
comp=Z,77nm,1.3s
SRU San Rafael Swe 32.62 328 IAmb IAmb 12 08 34.5
comp=Z,32nm,1.1s
MTPU Mount Pierson 32.72 325 IAmb IAmb 12 08 31.0
comp=Z,68nm,1.6s
MTPU IAms_20 IAms_20 12 23 16.6
comp=Z,3μm,18.0s
G40A Rib Lake 32.76 359 P **P 12 08 17.9 -1.9**

G40A IAms_20 IAms_20 12 22 01.5
comp=Z,5μm,21.0s
V12A Nelson 32.77 319 IAmb IAmb 12 08 31.0
comp=Z,48nm,0.9s
V12A IAms_20 IAms_20 12 22 43.1
comp=Z,4μm,20.0s
Q16A Castle Valley 32.81 327 P **P 12 08 20.6 +0.1**
SPMN Marine on St. 32.85 355 IAms_20 IAms_20 12 22 56.9
comp=Z,5μm,22.0s
P18A Preston Nutter 32.87 329 IAmb IAmb 12 08 30.2
comp=Z,117nm,2.0s
J57A Williamstown 32.94 18 IAmb IAmb 12 08 28.6
comp=Z,50nm,1.0s
J57A IAms_20 IAms_20 12 22 37.3
comp=Z,3μm,18.0s
MSU Marysvale 33.05 326 P **P 12 08 23.2 +0.6**
MSU Marysvale 33.05 326 P **P 12 08 23.2 +0.6**
MVU Marysvale 33.07 326 IAmb IAmb 12 08 34.6
comp=Z,65nm,1.0s
TRY Troy 33.09 21 IAmb IAmb 12 08 32.1
comp=Z,51nm,1.1s
L61B Northampton 33.21 23 IAmb IAmb 12 08 38.4
comp=Z,34nm,1.2s
F42A Maple Grove Fa 33.25 1 IAms_20 IAms_20 12 22 21.5
comp=Z,5μm,21.0s
TCRU Three Creeks R 33.27 326 IAms_20 IAms_20 12 22 50.2
comp=Z,3μm,19.0s
M65A Busby, Falmout 33.28 26 IAms_20 IAms_20 12 22 17.4
comp=Z,4μm,18.0s
ELS Elsinore Mount 33.28 314 P **P 12 08 24.6 +0.1**
ELS IAmb IAmb 12 08 43.9
comp=Z,34nm,1.2s
ELS IAms_20 IAms_20 12 24 23.9
comp=Z,4μm,18.0s
SADO Sadowa 33.39 13 LR LR 12 22 50.0
comp=Z,3μm,18.9s,baz=217,slow=38
J59A Piesco 33.46 20 P **P 12 08 24.2 -1.7**
J59A IAmb IAmb 12 08 27.1
comp=Z,56nm,1.4s
DELO Deloro Mine 33.51 15 IAmb IAmb 12 08 34.0
comp=Z,31nm,0.8s
K62A Royalston 33.56 23 IAms_20 IAms_20 12 23 10.9
comp=Z,4μm,19.0s
COWI Conover 33.58 0 IAms_20 IAms_20 12 22 24.2
comp=Z,5μm,22.0s
K22A Casper 33.66 337 IAmb IAmb 12 08 36.0
comp=Z,81nm,1.3s
ACCN Adirondack Com 33.67 21 IAmb IAmb 12 08 42.4
comp=Z,51nm,1.5s
HRV Adam Dziewonsk 33.69 24 P **P 12 08 27.1 -0.8**
HRV IAmb IAmb 12 08 28.0
comp=Z,81nm,1.4s
HRV Adam Dziewonsk 33.69 24 IAms_20 IAms_20 12 22 38.3
comp=Z,5μm,20.0s
HRV Adam Dziewonsk 33.69 24 P **P 12 08 27.1 -0.8**
HRV pmax pmax
comp=Z,81nm,1.5s
HRV MLR MLR
comp=Z,5μm,20.0s
BCX Boston College 33.70 24 IAmb IAmb 12 08 37.9
comp=Z,51nm,1.0s
GSC Goldstone, Bar 33.78 317 P **P 12 08 28.9 0.0**
GSC Goldstone, Bar 33.78 317 P **P 12 08 28.9 0.0**
GSC pmax pmax
comp=Z,19nm,0.9s
GSC MLR MLR
comp=Z,6μm,19.0s
BSUT Blindstream Ca 33.81 330 IAmb IAmb 12 08 53.6
comp=Z,97nm,1.9s
MPU Maple Canyon 33.86 328 IAmb IAmb 12 08 38.9
comp=Z,36nm,1.2s
PRN Pahroc Range 33.96 322 IAmb IAmb 12 09 08.2
comp=Z,49nm,1.6s
PSUT Pine Spring 34.01 324 P **P 12 08 31.5 +0.6**
J61A Chester 34.03 22 IAmb IAmb 12 08 33.8
comp=Z,39nm,1.3s
J61A IAms_20 IAms_20 12 23 11.2
comp=Z,4μm,18.0s
PASC Pasadena Art C 34.09 314 IAmb IAmb 12 08 45.5
comp=Z,79nm,1.4s
PASC IAms_20 IAms_20 12 23 05.4
comp=Z,3μm,19.0s
E46A Sault Ste Mari 34.10 6 IAmb IAmb 12 08 32.9
comp=Z,74nm,1.6s
E46A IAms_20 IAms_20 12 22 43.0
comp=Z,3μm,20.0s
E38A The Farm, Brul 34.14 357 IAms_20 IAms_20 12 22 58.2
comp=Z,6μm,22.0s
TPNV Topopah Spring 34.41 320 IAms_20 IAms_20 12 25 01.6
comp=Z,5μm,19.0s
HNH Hanover 34.44 22 P **P 12 08 33.9 -0.5**
HNH IAmb IAmb 12 09 18.1
comp=Z,87nm,1.8s
LONY Lake Ozonia 34.47 19 IAmb IAmb 12 08 43.0
comp=Z,33nm,0.8s
CCAC Calif City Air 34.51 316 P **P 12 08 34.7 -0.5**
CCAC IAmb IAmb 12 08 49.0
comp=Z,54nm,0.8s
CCAC IAms_20 IAms_20 12 24 17.4
comp=Z,4μm,18.0s
S11A Rachel 34.54 321 IAmb IAmb 12 08 52.6
comp=Z,63nm,1.0s
WCT Wildcat Mounta 34.55 319 IAms_20 IAms_20 12 23 39.4
comp=Z,4μm,21.0s
SNCC San Nicolas Is 34.58 312 IAms_20 IAms_20 12 22 20.2
comp=Z,4μm,21.0s
TCUT Toone Canyon 34.58 330 IAmb IAmb 12 08 47.0
comp=Z,55nm,1.1s
SPR3 Spring Creek 3 34.60 324 P **P 12 08 36.2 0.0**
SPR3 IAmb IAmb 12 08 46.8
comp=Z,96nm,2.0s
SPR3 **PcP 12 11 10.7 +0.1**
WBO Williamsburg 34.60 18 IAmb IAmb 12 08 43.8
comp=Z,39nm,1.0s
I62A Tamworth 34.94 23 IAmb IAmb 12 08 47.5
comp=Z,58nm,0.9s
FRNY Flat Rock 34.98 20 IAmb IAmb 12 08 47.5
comp=Z,30nm,0.9s
PDAR Pinedale Array 35.01 334 P **P 12 08 38.0 -1.7**
PDAR Pinedale Array 35.01 334 P **P 12 08 37.7 -1.9**
comp=Z,1.8nm,0.5s,baz=133,slow=10,SNR=24
PDAR PcP **PcP 12 11 11.2 -0.5**
comp=Z,1.8nm,0.5s,baz=130,slow=4.6,SNR=12
PDAR ScP **ScP 12 14 58.8 +2.0**
comp=Z,1.7nm,1.1s,baz=151,slow=3.4,SNR=3.8
comp=Z,1.8nm,0.5s
HWUT Hardware Ranch 35.02 330 P **P 12 08 39.1 -0.6**
ISA Isabella, Lake 35.11 316 P **P 12 08 41.6 +1.2**
ISA IAmb IAmb 12 08 59.9
comp=Z,74nm,1.4s
ISA **PcP 12 11 13.8 +1.9**
ISA IAms_20 IAms_20 12 24 37.1
comp=Z,4μm,20.0s
ISA Isabella, Lake 35.11 316 P **P 12 08 41.6 +1.2**
ISA 12 11 13.8
ISA pmax pmax
comp=Z,74nm,1.4s
ISA MLR MLR
comp=Z,4μm,20.0s
GRAC Grapevine Rang 35.15 319 IAmb IAmb 12 08 55.0
comp=Z,65nm,1.1s
GRAC IAms_20 IAms_20 12 24 15.1
comp=Z,3μm,19.0s
LPAZ La Paz 35.33 143 P **P 12 08 42.7 -0.3**
LPAZ La Paz 35.33 143 P **P 12 08 42.9 -0.2**
comp=Z,5.8nm,0.6s,baz=324,slow=5.4,SNR=20
LPAZ LR LR 12 23 32.5
comp=Z,3μm,18.1s,baz=313,slow=37
comp=Z,5.8nm,0.6s
LPAZ La Paz 35.33 143 *e*P **P 12 08 44.1 +1.1**
LPAZ pmax pmax
comp=Z,6.0nm,0.6s
LPAZ La Paz 35.33 143 *e*P **P 12 08 43.9 +0.8**
BCW Bitter Crk WRg 35.36 314 IAms_20 IAms_20 12 24 55.9
comp=Z,3μm,18.0s
I63A Otisfield 35.38 23 IAmb IAmb 12 08 50.9
comp=Z,43nm,0.9s
I63A IAms_20 IAms_20 12 23 48.9
comp=Z,5μm,19.0s
E28A Huff 35.41 346 P **P 12 08 42.0 -0.7**
EYMN Ely 35.48 357 P **P 12 08 40.9 -2.4**
EYMN IAmb IAmb 12 08 50.3
comp=Z,57nm,0.7s
EYMN Ely 35.48 357 IAms_20 IAms_20 12 23 49.5
comp=Z,4μm,22.0s
H62A Milan 35.60 22 IAms_20 IAms_20 12 24 22.8
comp=Z,5μm,19.0s

PB18	Visviri	35.62	146	IAmb	IAmb	12 09 16.5	
	comp=Z,66nm,1.1s						
AHID	Auburn Hatcher	35.70	332	IAmb	IAmb	12 09 02.3	
	comp=Z,31nm,0.7s						
AP01	Chacalluta	35.81	148	IAms_20	IAms_20	12 22 32.5	
	comp=Z,3µm,19.0s						
TRQ	Mont Tremblant	35.92	17	P	P	12 08 45.6	-1.6
PB12	IPOC Station P	36.02	149	IAmb	IAmb	12 08 59.4	
	comp=Z,41nm,1.2s						
SNOW	Snow King Moun	36.09	333	P	P	12 08 48.6	-0.3
SNOW				IAmb	IAmb	12 09 08.1	
	comp=Z,66nm,0.8s						
LOHW	Long Hollow	36.15	333	P	P	12 08 48.8	-0.6
LOHW				IAmb	IAmb	12 08 58.1	
	comp=Z,36nm,0.9s						
Q09A	Carvers	36.16	322	IAms_20	IAms_20	12 26 23.9	
	comp=Z,3µm,20.0s						
WVL	Waterville	36.17	24	IAmb	IAmb	12 08 51.6	
	comp=Z,80nm,1.5s						
WVL				IAms_20	IAms_20	12 24 18.8	
	comp=Z,4µm,19.0s						
TPAW	Teton Pass	36.20	333	IAmb	IAmb	12 08 55.7	
	comp=Z,75nm,1.3s						
AGMN	Agassiz Nation	36.20	352	IAms_20	IAms_20	12 25 36.8	
	comp=Z,5µm,20.0s						
ELK	Elko	36.30	326	P	P	12 08 51.0	+0.3
ELK					PcP	12 11 16.5	+1.0
ELK	Elko	36.30	326	LR	LR	12 27 37.9	
	comp=Z,6µm,18.1s,baz=136,slow=43						
ELK	Elko	36.30	326	P	P	12 08 51.0	+0.3
ELK						12 11 16.5	
ELK				pmax	pmax		
	comp=Z,16nm,0.9s						
ELK				MLR	MLR		
	comp=Z,2µm,20.0s						
FXWY	Fox Creek	36.35	333	P	P	12 08 50.2	-0.9
MDND	Maddock	36.38	348	P	P	12 08 49.5	-1.5
MDND				IAms_20	IAms_20	12 26 27.5	
	comp=Z,3µm,21.0s						
G62A	West of Eustis	36.38	22	IAmb	IAmb	12 08 59.6	
	comp=Z,47nm,0.8s						
G62A				IAms_20	IAms_20	12 24 56.5	
	comp=Z,4µm,20.0s						
NV11	Mina Array Sit	36.51	320	P	P	12 08 52.1	-0.4
NV11				IAmb	IAmb	12 09 03.3	
	comp=Z,51nm,1.1s						
NVAR	Mina Array Bea	36.60	320	P	P	12 08 54.1	+0.7
NVAR	Mina Array Bea	36.60	320	P	P	12 08 52.2	-1.2
	comp=Z,31nm,1.1s,baz=136,slow=6.5,SNR=66						
NVAR				PcP	PcP	12 11 18.1	+1.6
	comp=Z,1.0nm,0.5s,baz=78,slow=2.9,SNR=5.4						
NVAR				ScP	ScP	12 15 04.2	+1.5
	comp=Z,1.7nm,0.7s,baz=132,slow=3.5,SNR=4.5						
NVAR				LR	LR	12 25 15.7	
	comp=Z,3µm,20.6s,baz=130,slow=39						
	comp=Z,31nm,1.1s						
LHV	Little Huntoon	36.62	320	P	P	12 08 53.6	+0.4
LHV				IAmb	IAmb	12 09 04.5	
	comp=Z,68nm,0.9s						
H17A	Grant Village	36.76	334	P	P	12 08 54.5	-0.1
H17A				IAmb	IAmb	12 09 11.3	
	comp=Z,53nm,1.4s						
RLMT	Red Lodge	36.82	336	IAmb	IAmb	12 09 01.9	
	comp=Z,44nm,1.1s						
LKWY	Lake	36.82	334	IAmb	IAmb	12 09 26.2	
	comp=Z,126nm,1.8s						
MDP	Montagnes des	36.85	98	LR	LR	12 26 09.6	
	comp=Z,2µm,19.7s,baz=297,slow=40						
RYN	Ryan	36.86	320	IAms_20	IAms_20	12 26 43.4	
	comp=Z,4µm,19.0s						
YMP	Mirror Lake Pl	36.86	335	IAmb	IAmb	12 09 23.4	
	comp=Z,61nm,1.0s						
PKME	Peaks-Kenny Pk	36.90	24	IAmb	IAmb	12 09 03.6	
	comp=Z,38nm,0.8s						
PKME				IAms_20	IAms_20	12 24 42.1	
	comp=Z,4µm,20.0s						
YFT	Old Faithful	36.91	334	IAmb	IAmb	12 09 06.5	
	comp=Z,48nm,1.1s						
VLDQ	Val d'Or	36.93	13	P	P	12 08 53.8	-1.9
VLDQ				IAmb	IAmb	12 09 03.3	
	comp=Z,30nm,0.8s						
PMPB	Monarch Peak	36.99	315	IAms_20	IAms_20	12 25 58.1	
	comp=Z,4µm,18.0s						
YNE	Yellowstone No	37.02	335	P	P	12 08 55.5	-1.3
YNE				IAmb	IAmb	12 09 18.8	
	comp=Z,44nm,1.0s						
YMR	Madison River	37.15	334	IAmb	IAmb	12 09 13.7	
	comp=Z,44nm,0.9s						
ITTB	Itaituba	37.23	115	eP	P	12 08 58.8	+0.1
PB11	IPOC Station P	37.33	149	P	P	12 09 00.6	+1.1
PB11				IAmb	IAmb	12 09 11.5	
	comp=Z,40nm,0.9s						
BBGB	Big Mountain B	37.35	316	IAms_20	IAms_20	12 26 11.5	
	comp=Z,4µm,20.0s						
WAKR	Walker	37.36	319	IAmb	IAmb	12 09 13.9	
	comp=Z,62nm,1.3s						
WAKR				IAms_20	IAms_20	12 27 04.7	
	comp=Z,4µm,18.0s						
YHL	Hebgen Lake	37.38	334	P	P	12 08 59.8	-0.2
YHL				IAmb	IAmb	12 09 07.6	
	comp=Z,73nm,1.6s						
G65A	Princeton	37.54	25	IAms_20	IAms_20	12 24 04.3	
	comp=Z,4µm,20.0s						
MAL2	Monte Alegre,	37.65	110	P	P	12 09 03.0	+0.8
MAL2				IAmb	IAmb	12 09 07.4	
	comp=Z,66nm,1.0s						
MAL2				IAms_20	IAms_20	12 26 03.8	
	comp=Z,3µm,19.0s						
CMB	Columbia Colle	37.70	318	IAms_20	IAms_20	12 26 31.8	
	comp=Z,3µm,19.0s						
SAO	San Andreas Ge	37.72	316	IAms_20	IAms_20	12 25 40.4	
	comp=Z,4µm,21.0s						
F64A	Sherman	37.76	24	IAms_20	IAms_20	12 25 44.0	
	comp=Z,4µm,18.0s						
GGN	Saint George	37.78	26	IAmb	IAmb	12 09 12.3	
	comp=Z,49nm,1.1s						
PNTR	Pine Nut	37.81	320	P	P	12 09 03.1	-0.5
PNTR				IAmb	IAmb	12 09 18.2	
	comp=Z,165nm,1.8s						
HLID	Hailey	37.88	330	P	P	12 09 03.1	-1.0
PB08	IPOC Station P	37.90	148	P	P	12 09 08.6	+4.0
E62A	Clayton Lake	37.95	22	P	P	12 09 01.8	-2.5
E62A				IAms_20	IAms_20	12 25 52.8	
	comp=Z,4µm,18.0s						
PAHR	Pah Rah Range	38.05	321	IAms_20	IAms_20	12 27 30.8	
	comp=Z,3µm,20.0s						
ULM	Lac du Bonnet	38.13	353	P	P	12 09 03.4	-2.4
ULM				IAmb	IAmb	12 09 12.2	
	comp=Z,54nm,0.7s						
ULM	Lac du Bonnet	38.13	353	P	P	12 09 03.1	-2.6
	comp=Z,15nm,0.5s,baz=170,slow=8.9,SNR=37						
ULM				PcP	PcP	12 11 21.2	+0.7
	comp=Z,21nm,0.8s,baz=154,slow=5.1,SNR=4.2						
ULM				S	S	12 14 54.1	-4.0
	comp=Z,6.0nm,0.8s,baz=178,slow=17,SNR=5.3						
ULM				LR	LR	12 27 05.5	
	comp=Z,4µm,20.2s,baz=171,slow=40						
	comp=Z,15nm,0.5s						
BOZ	Bozeman (W)	38.17	334	P	P	12 09 05.9	-0.5
BOZ				IAmb	IAmb	12 09 15.5	
	comp=Z,105nm,1.9s						
BOZ	Bozeman (W)	38.17	334	P	P	12 09 05.9	-0.5
BOZ				pmax	pmax		
	comp=Z,105nm,1.9s						
VILB	Vilhena	38.26	130	P	P	12 09 07.8	+0.4
VILB	Vilhena	38.26	130	eP	P	12 09 08.2	+0.8
DLMT	Dillon	38.40	333	IAmb	IAmb	12 09 17.7	
	comp=Z,60nm,1.4s						
LMQ	La Malbaie	38.45	21	P	P	12 09 08.0	-0.6
PB01	IPOC Station P	38.49	150	P	P	12 09 10.8	+1.5
LDAQ	Lac Daran	38.50	19	P	P	12 09 06.9	-2.2
D62A	Allapoint, All	38.51	22	IAmb	IAmb	12 09 16.8	
	comp=Z,50nm,0.8s						
AFDM	Forest Hills D	38.60	319	P	P	12 09 10.7	+0.7
AFDM				IAms_20	IAms_20	12 27 03.4	
	comp=Z,3µm,18.0s						
NPGB	Novo Progresso	38.83	118	eP	P	12 09 11.5	-0.7
HAL	Halifax	38.90	29	P	P	12 09 11.6	-0.7
HAL				IAmb	IAmb	12 09 20.8	
	comp=Z,47nm,0.8s						
HAL	Halifax	38.90	29	P	P	12 09 11.6	-0.7
HAL				pmax	pmax		
	comp=Z,47nm,0.8s						
LMN	Caledonia Moun	39.25	27	IAmb	IAmb	12 09 23.2	
	comp=Z,102nm,0.8s						
ORV	Oroville	39.28	319	IAms_20	IAms_20	12 27 26.5	
	comp=Z,3µm,18.0s						
EGMT	Eagleton	39.43	338	P	P	12 09 15.9	-0.9
EGMT				IAmb	IAmb	12 09 27.4	
	comp=Z,86nm,1.2s						
SIV	San Ignacio	39.65	135	LR	LR	12 25 01.0	
	comp=Z,3µm,19.2s,baz=318,slow=35						
BATG	Bathurst New B	39.83	25	IAmb	IAmb	12 09 28.0	
	comp=Z,42nm,0.8s						
J08A	Circle Bar Ran	39.84	326	P	P	12 09 20.1	-0.3
HATC	Hat Creek Radi	39.98	321	P	P	12 09 21.6	0.0
HATC				IAms_20	IAms_20	12 28 45.0	
	comp=Z,3µm,20.0s						
PDRB	Porto dos Gac	40.13	125	eP	P	12 09 22.9	-0.1
BMO	Blue Mountains	40.25	329	IAms_20	IAms_20	12 28 05.9	
	comp=Z,2µm,19.0s						
O02D	Mt. Diablo Mer	40.45	319	P	P	12 09 24.8	-0.7
CLDB	Colider	40.46	123	eP	P	12 09 25.0	-0.8
GBN	Guysborough	40.47	30	P	P	12 09 24.4	-1.0
GBN				IAmb	IAmb	12 09 33.6	
	comp=Z,49nm,0.8s						
PTLB	Pontes e Lacer	40.66	132	P	P	12 09 27.6	+0.2
PTLB				IAms_20	IAms_20	12 26 03.5	
	comp=Z,3µm,18.0s						
PTLB	Pontes e Lacer	40.66	132	eP	P	12 09 28.3	+0.9
I07A	Izee	40.88	326	P	P	12 09 27.8	-1.2
I07A				IAms_20	IAms_20	12 28 31.6	
	comp=Z,2µm,19.0s						
KMRM	Mail Ridge	41.06	319	P	P	12 09 31.3	+0.7
KMRM				IAmb	IAmb	12 09 42.8	
	comp=Z,69nm,1.0s						
PB14	IPOC Station P	41.14	153	P	P	12 09 29.9	-1.6
ICQ	Pointe Anglais	41.20	22	P	P	12 09 29.9	-1.4
ICQ				IAmb	IAmb	12 09 38.2	
	comp=Z,50nm,0.8s						
K04D	Chiloquin, OR	41.23	323	IAms_20	IAms_20	12 28 25.0	
	comp=Z,2µm,20.0s						
YBH	Yreka Blue Hor	41.28	321	P	P	12 09 31.9	-0.4
YBH				IAms_20	IAms_20	12 27 51.3	
	comp=Z,2µm,20.0s						
YBH	Yreka Blue Hor	41.28	321	LR	LR	12 30 13.7	
	comp=Z,2µm,18.2s,baz=150,slow=41						
YBH	Yreka Blue Hor	41.28	321	P	P	12 09 31.9	-0.4
YBH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YBH				MLR	MLR		
	comp=Z,2µm,20.0s						
L04D	Klamath Falls	41.32	322	P	P	12 09 32.5	-0.2
L04D				IAmb	IAmb	12 09 43.4	
	comp=Z,46nm,0.9s						
L04D				IAms_20	IAms_20	12 29 20.3	
	comp=Z,3µm,20.0s						
J05D	Fort Rock, OR	41.34	324	P	P	12 09 32.1	-0.7
J05D				IAms_20	IAms_20	12 27 42.7	
	comp=Z,2µm,20.0s						
KHMM	Horse Mountain	41.43	320	P	P	12 09 33.4	-0.3
KHMM				IAmb	IAmb	12 09 44.2	
	comp=Z,50nm,0.8s						
KMPM	Mount Pierce	41.44	319	IAmb	IAmb	12 09 45.2	
	comp=Z,57nm,0.9s						
PINE	Pine Mountain	41.49	325	IAms_20	IAms_20	12 28 40.7	
	comp=Z,3µm,18.0s						
KRPM	Rodgers	41.77	320	IAmb	IAmb	12 09 48.5	
	comp=Z,74nm,0.9s						
J04A	Umpqua Nationa	41.81	323	IAmb	IAmb	12 09 46.8	
	comp=Z,54nm,0.8s						
J04A				IAms_20	IAms_20	12 28 54.4	
	comp=Z,3µm,19.0s						
GO02	Mina Guanaco	41.97	153	P	P	12 09 39.1	+0.7
I04A	Tendick Farm,	42.32	324	P	P	12 09 41.0	+0.2
I04A				IAms_20	IAms_20	12 30 01.9	
	comp=Z,3µm,20.0s						
AC01	Pan de Azucar	42.40	155	P	P	12 09 43.4	+1.9
DBO	Dodson Butte	42.41	323	IAms_20	IAms_20	12 30 13.1	
	comp=Z,3µm,20.0s						
HAWA	Hanford	42.45	329	P	P	12 09 42.5	+0.9
NEW	Newport	42.63	333	LR	LR	12 32 33.8	
	comp=Z,3µm,18.1s,baz=144,slow=44						
H04A	Detroit Lake	42.74	325	P	P	12 09 43.6	-0.6
H04A				IAms_20	IAms_20	12 28 41.9	
	comp=Z,2µm,22.0s						
J01E	Myrtle Point	42.84	322	IAmb	IAmb	12 09 58.5	
	comp=Z,61nm,1.0s						
HOOD	Mount Hood Mea	42.85	326	IAmb	IAmb	12 09 57.0	
	comp=Z,91nm,0.9s						
HOOD				IAms_20	IAms_20	12 30 47.7	
	comp=Z,2µm,18.0s						
BUCK	Buck Mountain	42.90	324	IAms_20	IAms_20	12 29 53.0	
	comp=Z,3µm,21.0s						
H04D	Lebanon	42.95	325	IAms_20	IAms_20	12 30 23.5	
	comp=Z,3µm,18.0s						
PRPB	Parauapebas	43.31	113	eP	P	12 09 49.1	0.0
COR	Corvallis	43.31	324	IAms_20	IAms_20	12 28 43.0	
	comp=Z,2µm,20.0s						
TMAB	Tom-Au,PA,Br	43.41	107	eP	P	12 09 50.8	+0.9
SALV	Santo Antonio	43.50	129	eP	P	12 09 50.8	+0.3
G03D	McMinnville, O	43.67	325	IAms_20	IAms_20	12 29 10.5	
	comp=Z,3µm,20.0s						
F03A	Seaside	44.28	326	IAms_20	IAms_20	12 29 31.4	
	comp=Z,2µm,20.0s						
E03A	Lebam	44.66	326	IAms_20	IAms_20	12 30 44.5	
	comp=Z,4µm,20.0s						
RADR	Rader Ridge	44.71	326	IAms_20	IAms_20	12 30 22.9	
	comp=Z,3µm,19.0s						
SNDB	Serra Nova Dou	44.77	121	eP	P	12 10 00.6	-0.2
LCO	Las Campanas	44.90	157	P	P	12 10 02.8	+0.9
LCO				IAmb	IAmb	12 10 13.0	
	comp=Z,36nm,0.9s						
LCO	Las Campanas	44.90	157	eP	P	12 10 03.6	+1.7
AC05	El Transito	44.91	156	P	P	12 10 01.6	-0.3
AC05				IAmb	IAmb	12 10 30.4	
	comp=Z,32nm,0.9s						
GNW	Green Mountain	44.91	328	IAms_20	IAms_20	12 32 09.1	
	comp=Z,3µm,19.0s						
BDQN	Bodoquena, MS	45.68	135	eP	P	12 10 07.7	-0.2
SCHQ	Schefferville	45.84	18	P	P	12 10 04.8	-3.9
	comp=Z,22nm,0.5s,baz=217,slow=5.5,SNR=72						
SCHQ				LR	LR	12 31 19.1	
	comp=Z,3µm,18.9s,baz=210,slow=39						
	comp=Z,22nm,0.5s						
GO04	Tololo Observa	45.91	158	IAmb	IAmb	12 10 20.4	
	comp=Z,35nm,1.0s						
MURT	Porto Murtinho	45.93	137	eP	P	12 10 09.2	-0.7
PGC	Sidney	45.93	329	IAms_20	IAms_20	12 32 57.1	
	comp=Z,3µm,18.0s						
ARAG	Araguaiana, MT	46.38	126	eP	P	12 10 12.2	-1.3
CLRS	Cowichan Lake	46.39	329	IAms_20	IAms_20	12 33 19.2	
	comp=Z,2µm,19.0s						
FCC	Fort Churchill	46.41	357	IAmb	IAmb	12 10 19.9	
	comp=Z,30nm,0.8s						
AQDB	Aquidauana	46.43	134	IAms_20	IAms_20	12 28 47.3	
	comp=Z,2µm,19.0s						
AQDB	Aquidauana	46.43	134	eP	P	12 10 14.6	+0.9
LLLB	Lillooet	46.48	332	IAms_20	IAms_20	12 33 22.4	
	comp=Z,2µm,19.0s						
H03N2	Juan Fernandez	46.64	168	T	T	13 00 20.9	
	baz=347,slow=76,SNR=9.1						
H03N1	Juan Fernandez	46.64	168	T	T	13 00 27.4	
	baz=347,slow=76,SNR=9.1						
H03N3	Juan Fernandez	46.65	168	T	T	13 00 20.8	
	baz=347,slow=76,SNR=13						
C2SB	Chapadao do Su	47.41	130	eP	P	12 10 22.6	+1.2
CBB	Campbell River	47.78	329	IAms_20	IAms_20	12 34 02.9	
	comp=Z,2µm,19.0s						
RPRD	Ribas do Rio P	47.84	133	eP	P	12 10 26.9	+2.0
ZON	Zonda	47.94	156	IAmb	IAmb	12 10 32.6	
	comp=Z,65nm,1.3s						
CFA	Coronel Fontan	48.17	156	LR	LR	12 26 08.3	
	comp=Z,399nm,21.9s,baz=316,slow=30						
AMBA	Amambai (Brazi	48.56	136	eP	P	12 10 30.4	0.0
MT02	Curacav	48.58	160	IAmb	IAmb	12 10 48.3	
	comp=Z,63nm,1.6s						
MT02				IAms_20	IAms_20	12 25 59.8	
	comp=Z,2µm,20.0s						
SJPY	San Joaquin	49.26	139	eP	P	12 10 34.8	-0.9
MT13	San Alfonso	49.31	159	IAmb	IAmb	12 10 54.5	
	comp=Z,39nm,1.1s						
BDFB	Brasilia	49.40	123	P	P	12 10 35.9	-1.2
	comp=Z,7.7nm,0.8s,baz=309,slow=10.0,SNR=7.4						
BDFB				LR	LR	12 33 15.6	
	comp=Z,2µm,19.4s,baz=306,slow=38						
	comp=Z,7.7nm,0.8s						
BO04	La Punta	49.43	160	IAmb	IAmb	12 10 53.9	
	comp=Z,29nm,1.0s						
BO04				IAms_20	IAms_20	12 26 38.2	
	comp=Z,2µm,19.0s						
LMEL	Las Melosas	49.44	159	IAmb	IAmb	12 10 49.1	
	comp=Z,42nm,1.1s						
LMEL				IAms_20	IAms_20	12 26 41.5	
	comp=Z,2µm,20.0s						
CPUP	Villa Florida	49.45	141	IAmb	IAmb	12 10 46.9	
	comp=Z,39nm,1.2s						
CPUP	Villa Florida	49.45	141	P	P	12 10 36.8	-0.3
	comp=Z,18nm,1.0s,baz=331,slow=8.9,SNR=9.4						
CPUP				LR	LR	12 32 45.1	
	comp=Z,2µm,18.5s,baz=332,slow=38						
	comp=Z,18nm,1.0s						
BO01	Tunca	49.63	160	IAmb	IAmb	12 10 49.2	
	comp=Z,37nm,0.9s						
BO01				IAms_20	IAms_20	12 26 43.7	
	comp=Z,2µm,20.0s						
ITRB	Iturama	49.83	129	eP	P	12 10 39.9	-0.3
BO02	Sierra Bellavi	50.10	160	IAmb	IAmb	12 11 06.5	
	comp=Z,44nm,1.1s						
BO02				IAms_20	IAms_20	12 26 58.0	
	comp=Z,2µm,20.0s						
SDBA	SAO DESIDERIO	50.42	118	eP	P	12 10 46.6	+1.8
BBB	Bella Bella	50.47	330	LR	LR	12 36 58.4	
	comp=Z,1µm,18.2s,baz=144,slow=42						
ML02	Panimavida	50.78	161	IAmb	IAmb	12 10 51.5	
	comp=Z,71nm,1.0s						
LDASE	Londrina, Braz	51.54	134	eP	P	12 10 54.2	+1.1
BI02	San Fabin de	51.66	162	IAmb	IAmb	12 11 04.5	
	comp=Z,33nm,0.9s						
BI02				IAms_20	IAms_20	12 27 32.3	
	comp=Z,2µm,20.0s						
PTGB	Pitanga	51.74	136	eP	P	12 10 53.5	-1.1
BB19B	Bebedouro	52.02	129	eP	P	12 10 57.0	+0.3
JANB	Januaria	52.18	120	eP	P	12 10 57.9	-0.1
PMNB	Patos De Minas	52.22	125	eP	P	12 11 02.2	+3.9
NBPB	Pedra_Branca-C	52.47	107	eP	P	12 10 59.8	-0.3
FRTB	Fartura	52.62	132	eP	P	12 11 01.2	0.0
YKA	Yellowknife Ar	53.21	346	P	P	12 11 03.0	-1.8
YKA	Yellowknife Ar	53.21	346	P	P	12 11 02.0	-2.7
	comp=Z,18nm,0.9s,baz=146,slow=7.7,SNR=91						
YKA				LR	LR	12 36 45.4	
	comp=Z,2µm,20.0s,baz=155,slow=40						
	comp=Z,18nm,0.9s						
YKA	Yellowknife Ar	53.21	346	eP	P	12 11 03.0	-1.8
YKA				pmax	pmax		
	comp=Z,18nm,0.9s						
FRB	Frobisher Bay	53.30	11	LR	LR	12 34 10.8	
	comp=Z,3µm,21.1s,baz=201,slow=37						
ITAB	Concordia	53.37	138	P	P	12 11 06.8	+0.3
ITAB	Concordia	53.37	138	eP	P	12 11 06.0	-0.6
TOAD	Toad River Com	53.61	338	P	P	12 11 07.1	-0.8
	baz=134						
U35K	Hyder	53.64	333	P	P	12 11 09.5	+1.4
	baz=128						
V35K	Ketchikan	54.02	332	P	P	12 11 10.5	-0.3
	baz=126						
KOTAN	Kotaneelee Air	54.11	339	P	P	12 11 11.1	-0.4
	baz=136						
TBOT	Tacuaremb	54.23	145	eP	P	12 11 12.3	-0.3
DIAM	Diamantina, MG	54.32	123	eP	P	12 11 16.1	+2.3
VAO	Valinhos	54.32	130	IAmb	IAmb	12 11 24.0	
	comp=Z,38nm,1.1s						
VAO				IAms_20	IAms_20	12 34 46.5	
	comp=Z,2µm,21.0s						
VAO	Valinhos	54.32	130	eP	P	12 11 13.8	+0.1
T35M	Bob Quinn	54.39	334	P	P	12 11 14.1	+0.5
	baz=128						
CPSB	Cacapava Do Su	54.75	142	eP	P	12 11 18.1	+1.5
LR05	Currie	54.76	164	IAmb	IAmb	12 11 32.6	
	comp=Z,53nm,1.1s						
CRAG	Craig	54.80	331	IAms_20	IAms_20	12 38 56.6	
	comp=Z,2µm,18.0s						
CRAG	Craig	54.80	331	P	P	12 11 16.6	+0.1
	baz=124						
WRAK	Wrangell Islan	54.98	332	P	P	12 11 18.2	+0.3
	baz=125						
U33K	Whale Pass	55.16	332	IAms_20	IAms_20	12 39 21.1	
	comp=Z,2µm,18.0s						
U33K	Whale Pass	55.16	332	P	P	12 11 19.5	+0.3
	baz=124						
DLBC	Dease Lake	55.21	335	IAmb	IAmb	12 11 32.1	
	comp=Z,28nm,0.9s						
DLBC	Dease Lake	55.21	335	P	P	12 11 19.6	0.0
	baz=129						
S34M	Telegraph Cree	55.34	334	P	P	12 11 20.8	+0.3
	baz=128						
T33K	Petersburg	55.49	333	P	P	12 11 21.8	+0.3
	baz=125						
MAJ01	Sao Joao Batis	55.56	136	eP	P	12 11 21.6	-0.9
CNLB	Canela	55.61	139	eP	P	12 11 22.4	-0.4
PLTB	Pedras Altas	55.63	143	IAmb	IAmb	12 11 27.2	
	comp=Z,35nm,1.0s						
PLTB	Pedras Altas	55.63	143	eP	P	12 11 22.4	-0.5
PLCA	Paso Flores	55.63	163	IAmb	IAmb	12 11 32.9	
	comp=Z,21nm,0.9s						
PLCA	Paso Flores	55.63	163	P	P	12 11 23.1	+0.3
	comp=Z,19nm,1.0s,baz=338,slow=7.9,SNR=33						
PLCA				LR	LR	12 29 55.6	
	comp=Z,1µm,21.0s,baz=354,slow=30						
	comp=Z,19nm,1.0s						
PLCA	Paso Flores	55.63	163	eP	P	12 11 22.8	0.0
WTLY	Watson Lake, Y	55.81	337	IAmb	IAmb	12 11 34.9	
	comp=Z,38nm,1.4s						
WTLY	Watson Lake, Y	55.81	337	P	P	12 11 23.9	+0.1
	baz=131						
RCBR	Riachuelo	56.02	106	P	P	12 11 26.6	+0.5
RCBR	Riachuelo	56.02	106	IAms_20	IAms_20	12 36 09.6	
	comp=Z,1µm,21.0s						
RCBR	Riachuelo	56.02	106	P	P	12 11 26.6	+0.5
RCBR				pmax	pmax		
	comp=Z,122nm,1.1s						
RCBR				MLR	MLR		
	comp=Z,2µm,21.0s						
RCBR	Riachuelo	56.02	106	eP	P	12 11 27.5	+1.5
R33M	Jennings River	56.19	336	P	P	12 11 26.4	-0.2
R33M	Jennings River	56.19	336	P	P	12 11 26.5	-0.2
	baz=128						
WRGLY	Wrigley	56.21	342	IAmb	IAmb	12 11 51.4	
	comp=Z,45nm,1.2s						
WRGLY	Wrigley	56.21	342	P	P	12 11 25.8	-0.8
	baz=139						
TER01	Tubaro-SC	56.22	137	eP	P	12 11 27.3	+0.2
TRQA	Tornquist	56.32	154	P	P	12 11 27.4	-0.3
TRQA	Tornquist	56.32	154	P	P	12 11 27.4	-0.3

N32M			IAMs_20	IAMs_20	12 40 12.8		
	comp=Z,1µm,19.0s						
N32M	**Quiet Lake**	**58.10 337**	P	**P**	**12 11 39.6**	**-0.5**	
	baz=127						
PLBC	**Pleasant Camp**	**58.47 334**	P	**P**	**12 11 43.2**	**+0.6**	
	baz=123						
WHY	**Whitehorse**	**58.52 336**	P	**P**	**12 11 43.9**	**+0.7**	
	baz=125						
AY01	**Puyuhuapi**	**58.53 166**	IAmb	IAmb	12 11 53.5		
	comp=Z,33nm,1.0s						
FARO	**Faro, Yukon**	**58.86 338**	IAMs_20	IAMs_20	12 41 19.6		
	comp=Z,2µm,20.0s						
FARO	**Faro, Yukon**	**58.86 338**	P	**P**	**12 11 45.6**	**+0.3**	
	baz=127						
O30N	**Mendenhall**	**59.08 335**	IAmb	IAmb	12 11 58.0		
	comp=Z,27nm,1.2s						
O30N			IAMs_20	IAMs_20	12 40 56.5		
	comp=Z,1µm,18.0s						
O30N	**Mendenhall**	**59.08 335**	P	**P**	**12 11 46.7**	**-0.2**	
	baz=124						
P30M	**Million Dollar**	**59.08 334**	P	**P**	**12 11 46.7**	**-0.2**	
	baz=123						
M31M	**Drury Creek, Y**	**59.23 337**	IAMs_20	IAMs_20	12 41 51.6		
	comp=Z,2µm,20.0s						
M31M	**Drury Creek, Y**	**59.23 337**	P	**P**	**12 11 47.8**	**-0.2**	
	baz=126						
N31M	**Braeburn, Yuko**	**59.35 336**	IAmb	IAmb	12 11 59.8		
	comp=Z,18nm,1.0s						
N31M	**Braeburn, Yuko**	**59.35 336**	P	**P**	**12 11 48.5**	**-0.3**	
	baz=124						
HYT	**Haines Junctio**	**59.69 335**	IAMs_20	IAMs_20	12 41 52.7		
	comp=Z,2µm,20.0s						
HYT	**Haines Junctio**	**59.69 335**	P	**P**	**12 11 51.1**	**-0.1**	
	baz=122						
COYC	**Coyhaique**	**59.75 166**	P	**P**	**12 11 52.7**	**+1.1**	
N30M	**Aishikik Lake**	**59.86 336**	P	**P**	**12 11 52.1**	**-0.2**	
	baz=123						
O29M	**Mount Kennedy**	**59.86 334**	P	**P**	**12 11 52.3**	**-0.1**	
	baz=121						
PNL	**Peninsula**	**59.90 333**	P	**P**	**12 11 52.5**	**0.0**	
	baz=120						
YUK6	**Outpost Mounta**	**60.11 335**	P	**P**	**12 11 53.6**	**-0.6**	
	baz=122						
BCPM	**Bancas Point**	**60.14 333**	IAMs_20	IAMs_20	12 42 21.8		
	comp=Z,2µm,18.0s						
SFJD	**Kangerlussuaq**	**60.24 16**	P	**P**	**12 11 53.0**	**-1.7**	
SFJD			IAmb	IAmb	12 12 05.2		
	comp=Z,33nm,1.1s						
SFJD	**Kangerlussuaq**	**60.24 16**	LR	LR	12 38 56.4		
	comp=Z,1µm,18.5s,baz=220,slow=37						
SFJD	**Kangerlussuaq**	**60.24 16**	P	**P**	**12 11 53.0**	**-1.7**	
SFJD			pmax	pmax			
	comp=Z,33nm,1.1s						
SFJD	**Kangerlussuaq**	**60.24 16**	*e*P	**P**	**12 11 51.6**	**-3.0**	
M30M	**Minto, Yukon**	**60.37 337**	P	**P**	**12 11 54.8**	**-0.9**	
	baz=124						
YUK4	**Talbot Arm**	**60.44 335**	P	**P**	**12 11 56.1**	**-0.3**	
	baz=122						
PINM	**Pinnacle**	**60.48 333**	P	**P**	**12 11 55.8**	**-0.7**	
	baz=119						
MAYO	**Mayo, Yukon**	**60.61 338**	IAmb	IAmb	12 12 08.9		
	comp=Z,32nm,0.8s						
MAYO			IAMs_20	IAMs_20	12 41 39.9		
	comp=Z,2µm,20.0s						
MAYO	**Mayo, Yukon**	**60.61 338**	P	**P**	**12 11 56.6**	**-0.7**	
	baz=125						
O28M	**Mount Upton**	**60.79 334**	P	**P**	**12 11 57.9**	**-1.0**	
	baz=120						
YUK8	**Steele Glacier**	**60.87 335**	P	**P**	**12 11 59.1**	**-0.3**	
	baz=120						
M29M	**Somme Creek**	**60.94 336**	IAmb	IAmb	12 12 12.6		
	comp=Z,20nm,0.9s						
M29M	**Somme Creek**	**60.94 336**	P	**P**	**12 11 59.2**	**-0.5**	
	baz=122						
C36M	**Paulatuk**	**61.05 347**	P	**P**	**12 11 59.6**	**-0.5**	
	baz=140,SNR=6.8						
L29M	**L29M**	**61.17 337**	IAmb	IAmb	12 12 54.3		
	comp=Z,17nm,0.9s						
L29M			IAMs_20	IAMs_20	12 42 58.8		
	comp=Z,2µm,19.0s						
L29M	**L29M**	**61.17 337**	P	**P**	**12 12 00.4**	**-0.8**	
	baz=123						
AY03	**Cochrane**	**61.23 167**	P	**P**	**12 12 02.9**	**+1.3**	
YAH	**Yahtse**	**61.27 333**	IAMs_20	IAMs_20	12 43 08.4		
	comp=Z,1µm,20.0s						
MESA	**MESA**	**61.27 333**	P	**P**	**12 12 00.8**	**-1.3**	
	baz=118						
J30M	**Hart River**	**61.34 339**	IAmb	IAmb	12 12 48.8		
	comp=Z,28nm,1.6s						
J30M	**Hart River**	**61.34 339**	P	**P**	**12 12 01.4**	**-1.0**	
	baz=125						
K29M	**Barlow Dome**	**61.35 338**	IAMs_20	IAMs_20	12 42 01.4		
	comp=Z,2µm,21.0s						
K29M	**Barlow Dome**	**61.35 338**	P	**P**	**12 12 01.2**	**-1.3**	
	baz=124						
H31M	**Peel River**	**61.40 341**	IAMs_20	IAMs_20	12 42 38.7		
	comp=Z,2µm,22.0s						
H31M	**Peel River**	**61.40 341**	P	**P**	**12 12 02.0**	**-0.7**	
	baz=128						
YUK3	**Moose Creek**	**61.40 335**	P	**P**	**12 12 02.1**	**-0.9**	
	baz=120						
ISLE	**Juniper Island**	**61.64 333**	P	**P**	**12 12 04.4**	**-0.1**	
ISLE			IAmb	IAmb	12 12 17.6		
	comp=Z,22nm,1.0s						
ISLE			IAMs_20	IAMs_20	12 43 28.3		
	comp=Z,1µm,19.0s						
I30M	**Mount Dempster**	**61.73 339**	IAMs_20	IAMs_20	12 42 24.4		
	comp=Z,2µm,20.0s						
I30M	**Mount Dempster**	**61.73 339**	P	**P**	**12 12 04.0**	**-1.1**	
	baz=126						
WAX	**Waxell Ridge**	**61.79 333**	IAMs_20	IAMs_20	12 43 27.4		
	comp=Z,2µm,20.0s						
BVCY	**Beaver Creek**	**61.88 336**	P	**P**	**12 12 05.2**	**-0.8**	
	baz=120						
J29N	**Klondike Camp**	**61.94 338**	IAMs_20	IAMs_20	12 42 30.1		
	comp=Z,2µm,19.0s						
J29N	**Klondike Camp**	**61.94 338**	P	**P**	**12 12 06.2**	**-0.2**	
	baz=123						
G31M	**Satah River**	**62.07 342**	IAmb	IAmb	12 12 13.9		
	comp=Z,19nm,0.8s						
G31M			IAMs_20	IAMs_20	12 44 06.5		
	comp=Z,2µm,18.0s						
G31M	**Satah River**	**62.07 342**	P	**P**	**12 12 06.1**	**-1.1**	
	baz=128,SNR=15						
DAWY	**Dawson**	**62.16 338**	IAMs_20	IAMs_20	12 42 37.0		
	comp=Z,2µm,20.0s						
DAWY	**Dawson**	**62.16 338**	P	**P**	**12 12 07.1**	**-0.8**	
	baz=122						
F31M	**Tsiigehtchic**	**62.24 342**	IAmb	IAmb	12 12 15.6		
	comp=Z,25nm,1.1s						
F31M	**Tsiigehtchic**	**62.24 342**	P	**P**	**12 12 06.9**	**-1.3**	
	baz=129,SNR=19						
KAIM	**Kayak Island**	**62.27 332**	P	**P**	**12 12 08.6**	**0.0**	
	baz=115						
M27K	**Edge Creek, AK**	**62.27 335**	IAMs_20	IAMs_20	12 44 13.9		
	comp=Z,1µm,20.0s						
M27K	**Edge Creek, AK**	**62.27 335**	P	**P**	**12 12 08.9**	**+0.2**	
	baz=119						
RES	**Resolute Bay**	**62.34 358**	IAmb	IAmb	12 12 28.3		
	comp=Z,17nm,0.8s						
RES	**Resolute Bay**	**62.34 358**	LR	LR	12 39 49.9		
	comp=Z,2µm,21.2s,baz=190,slow=37						
VRDI	**Verde Repeater**	**62.41 334**	IAMs_20	IAMs_20	12 44 17.6		
	comp=Z,2µm,19.0s						
I29M	**Ogilvie Camp,**	**62.48 339**	P	**P**	**12 12 09.1**	**-0.8**	
	baz=124						
EPYK	**Eagle Plains**	**62.52 340**	IAMs_20	IAMs_20	12 43 11.2		
	comp=Z,2µm,20.0s						
EPYK	**Eagle Plains**	**62.52 340**	P	**P**	**12 12 09.4**	**-0.7**	
	baz=126,SNR=6.9						
BCAR	**Beaver Creek A**	**62.58 336**	P	**P**	**12 12 09.6**	**-1.1**	
L27K	**Beaver Creek,**	**62.59 336**	IAmb	IAmb	12 12 21.8		
	comp=Z,32nm,1.5s						
L27K	**Beaver Creek,**	**62.59 336**	P	**P**	**12 12 09.9**	**-0.8**	
	baz=119						
GLB	**Gilahina Butte**	**62.66 334**	P	**P**	**12 12 10.8**	**-0.5**	
GLB			IAmb	IAmb	12 12 20.3		
	comp=Z,16nm,0.9s						
G30M	**tAoh Zraii Nji**	**62.72 341**	IAmb	IAmb	12 12 22.4		
	comp=Z,46nm,1.8s						
G30M			IAMs_20	IAMs_20	12 42 20.5		
	comp=Z,2µm,20.0s						
G30M	**tAoh Zraii Nji**	**62.72 341**	P	**P**	**12 12 10.9**	**-0.6**	
	baz=126						
INK	**Inuvik**	**62.73 343**	IAmb	IAmb	12 12 18.5		
	comp=Z,17nm,0.9s						
INK	**Inuvik**	**62.73 343**	LR	LR	12 42 52.8		
	comp=Z,2µm,19.9s,baz=134,slow=40						
INK	**Inuvik**	**62.73 343**	P	**P**	**12 12 10.2**	**-1.2**	
	baz=130,SNR=25						
M26K	**Nabesna, AK**	**62.75 335**	IAMs_20	IAMs_20	12 41 08.6		
	comp=Z,1µm,20.0s						
M26K	**Nabesna, AK**	**62.75 335**	P	**P**	**12 12 11.1**	**-0.7**	
	baz=118						
BMRM	**Bremner River**	**62.80 333**	IAmb	IAmb	12 12 25.4		
	comp=Z,20nm,1.0s						
BMRM	**Bremner River**	**62.80 333**	P	**P**	**12 12 12.1**	**-0.1**	
	baz=115						
F30M	**Barrier River**	**62.96 342**	P	**P**	**12 12 12.2**	**-0.9**	
	baz=127,SNR=18						
H29M	**Whitestone**	**62.98 340**	IAMs_20	IAMs_20	12 42 41.4		
	comp=Z,2µm,20.0s						
H29M	**Whitestone**	**62.98 340**	P	**P**	**12 12 13.2**	**0.0**	
	baz=124						
NUUG	**Nuugaatsiaq**	**63.00 12**	*e*P	**P**	**12 12 09.7**	**-3.5**	
N25K	**Chitina, Valde**	**63.07 334**	IAmb	IAmb	12 12 29.1		
	comp=Z,20nm,0.8s						
N25K			IAMs_20	IAMs_20	12 44 48.1		
	comp=Z,2µm,19.0s						
N25K	**Chitina, Valde**	**63.07 334**	P	**P**	**12 12 14.0**	**0.0**	
	baz=116						
I28M	**Miner Creek**	**63.10 339**	P	**P**	**12 12 13.5**	**-0.6**	
	baz=122						
EYAK	**Cordova Ski Ar**	**63.13 332**	IAmb	IAmb	12 12 16.4		
	comp=Z,23nm,1.0s						
EYAK	**Cordova Ski Ar**	**63.13 332**	P	**P**	**12 12 14.5**	**+0.3**	
	baz=114						
K27K	**Chicken**	**63.16 337**	IAMs_20	IAMs_20	12 41 08.0		
	comp=Z,1µm,20.0s						
K27K	**Chicken**	**63.16 337**	P	**P**	**12 12 14.3**	**-0.2**	
	baz=119						
L26K	**Log Cabin Wild**	**63.18 336**	P	**P**	**12 12 15.1**	**+0.5**	
	baz=118						
G29M	**Pine Creek**	**63.26 341**	IAmb	IAmb	12 12 27.7		
	comp=Z,32nm,1.1s						
G29M			IAMs_20	IAMs_20	12 43 10.7		
	comp=Z,2µm,21.0s						
G29M	**Pine Creek**	**63.26 341**	P	**P**	**12 12 14.1**	**-1.0**	
	baz=125,SNR=18						
A36M	**Sachs Harbour**	**63.34 348**	IAmb	IAmb	12 12 25.3		
	comp=Z,22nm,0.8s						
A36M	**Sachs Harbour**	**63.34 348**	P	**P**	**12 12 13.9**	**-1.6**	
	baz=140						
DIV	**Divide**	**63.38 333**	IAmb	IAmb	12 12 45.7		
	comp=Z,20nm,1.1s						
ANGG	**Ammassalik, Gr**	**63.50 21**	*e*P	**P**	**12 12 13.8**	**-2.8**	
FID	**Port Fidalgo**	**63.54 333**	IAmb	IAmb	12 12 18.9		
	comp=Z,45nm,1.4s						
KLU	**Klutina**	**63.60 333**	IAmb	IAmb	12 13 03.5		
	comp=Z,16nm,1.0s						
KLU			IAMs_20	IAMs_20	12 44 38.0		
	comp=Z,1µm,20.0s						
KLU	**Klutina**	**63.60 333**	P	**P**	**12 12 17.3**	**-0.2**	
	baz=114,SNR=6.8						
HARP	**HAARP**	**63.65 334**	P	**P**	**12 12 16.8**	**-0.9**	
	baz=115						
P23K	**Montague Islan**	**63.67 332**	P	**P**	**12 12 16.9**	**-1.0**	
	baz=112						
I27K	**Kandik River**	**63.78 338**	P	**P**	**12 12 18.0**	**-0.6**	
	baz=120						
MLOA	**Mauna Loa Obse**	**63.85 286**	IAMs_20	IAMs_20	12 30 23.2		
	comp=Z,2µm,22.0s						
GLI	**Glacier Island**	**63.87 333**	P	**P**	**12 12 18.6**	**-0.6**	
	baz=113						
SCRK	**Sand Creek**	**63.88 336**	P	**P**	**12 12 19.1**	**-0.2**	
	baz=117						
J26L	**Joseph Creek**	**63.96 337**	IAmb	IAmb	12 12 57.3		
	comp=Z,17nm,1.0s						
J26L			IAMs_20	IAMs_20	12 45 30.4		
	comp=Z,1µm,20.0s						
J26L	**Joseph Creek**	**63.96 337**	P	**P**	**12 12 19.6**	**-0.3**	
	baz=118						
M24K	**Tolsona, Glenn**	**63.96 334**	IAmb	IAmb	12 12 56.5		
	comp=Z,34nm,1.0s						
M24K	**Tolsona, Glenn**	**63.96 334**	P	**P**	**12 12 19.2**	**-0.6**	
	baz=114						
PAX	**Paxson**	**64.03 335**	IAmb	IAmb	12 12 57.3		
	comp=Z,23nm,1.4s						
PAX	**Paxson**	**64.03 335**	P	**P**	**12 12 19.7**	**-0.7**	
	baz=115,SNR=5.8						
H27K	**Steamboat Moun**	**64.06 339**	P	**P**	**12 12 20.0**	**-0.4**	
	baz=121						
E29M	**Blow River**	**64.07 342**	IAmb	IAmb	12 12 39.2		
	comp=Z,33nm,1.1s						
E29M	**Blow River**	**64.07 342**	P	**P**	**12 12 19.9**	**-0.4**	
	baz=125,SNR=17						
RIDG	**Independent Ri**	**64.11 336**	IAmb	IAmb	12 12 38.7		
	comp=Z,29nm,1.3s						
RIDG	**Independent Ri**	**64.11 336**	P	**P**	**12 12 20.4**	**-0.4**	
	baz=116,SNR=6.6						
I26K	**Coal Creek Min**	**64.19 338**	IAmb	IAmb	12 12 58.0		
	comp=Z,40nm,1.6s						
I26K	**Coal Creek Min**	**64.19 338**	P	**P**	**12 12 20.4**	**-0.8**	
	baz=119						
SCM	**Sheep Creek Mo**	**64.35 333**	P	**P**	**12 12 21.6**	**-0.8**	
	baz=113						
G27K	**Doyon Strip**	**64.41 340**	IAMs_20	IAMs_20	12 44 34.2		
	comp=Z,2µm,19.0s						
G27K	**Doyon Strip**	**64.41 340**	P	**P**	**12 12 21.9**	**-0.8**	
	baz=121,SNR=11						
PWL	**Port Wells**	**64.42 332**	P	**P**	**12 12 22.2**	**-0.6**	
	baz=112						
M23K	**Glacier View**	**64.51 333**	P	**P**	**12 12 22.8**	**-0.6**	
	baz=113						
K24K	**Donnelly Dome**	**64.51 336**	P	**P**	**12 12 23.1**	**-0.4**	
	baz=115						
SEW	**Seward**	**64.67 331**	P	**P**	**12 12 23.5**	**-0.9**	
	baz=110						
KNK	**Knik Glacier**	**64.69 333**	IAmb	IAmb	12 12 51.3		
	comp=Z,21nm,1.1s						
KNK			IAMs_20	IAMs_20	12 44 38.9		
	comp=Z,2µm,18.0s						
KNK	**Knik Glacier**	**64.69 333**	P	**P**	**12 12 23.5**	**-1.1**	
	baz=112						
E28M	**Babbage River**	**64.69 342**	IAmb	IAmb	12 12 35.0		
	comp=Z,19nm,0.9s						
E28M	**Babbage River**	**64.69 342**	P	**P**	**12 12 23.6**	**-0.8**	
	baz=124						
J25K	**Salcha River,**	**64.70 337**	P	**P**	**12 12 24.1**	**-0.6**	
	baz=116						
ICESG	**Greenland Ices**	**64.75 18**	*i* P	**P**	**12 12 24.4**	**-0.8**	
ICESG			IAmb	IAmb	12 12 34.0		
	comp=Z,70nm,1.0s						
SML	**Sawmill**	**64.78 333**	IAmb	IAmb	12 12 49.5		
	comp=Z,23nm,1.0s						
SML			IAMs_20	IAMs_20	12 44 36.3		
	comp=Z,1µm,20.0s						
SML	**Sawmill**	**64.78 333**	P	**P**	**12 12 24.3**	**-0.9**	
	baz=112						
D28M	**Stokes Point**	**64.86 343**	P	**P**	**12 12 24.8**	**-0.7**	
	baz=125,SNR=20						
O22K	**Cooper Landing**	**64.93 332**	IAMs_20	IAMs_20	12 44 11.3		
	comp=Z,1µm,19.0s						
O22K	**Cooper Landing**	**64.93 332**	P	**P**	**12 12 25.3**	**-0.8**	
	baz=110						
GHO	**Glory Hole Cre**	**65.03 333**	IAmb	IAmb	12 12 35.3		
	comp=Z,20nm,0.8s						
GHO			IAMs_20	IAMs_20	12 44 52.8		
	comp=Z,1µm,20.0s						
PMR	**Palmer**	**65.05 333**	IAMs_20	IAMs_20	12 44 33.5		
	comp=Z,1µm,21.0s						
PMR	**Palmer**	**65.05 333**	P	**P**	**12 12 26.8**	**-0.1**	
	baz=111						
E27K	**Coleen River**	**65.10 341**	IAmb	IAmb	12 12 37.7		
	comp=Z,15nm,1.0s						
E27K			IAMs_20	IAMs_20	12 43 26.5		
	comp=Z,1µm,20.0s						
E27K	**Coleen River**	**65.10 341**	P	**P**	**12 12 26.8**	**-0.4**	
	baz=122						
RC01	**Rabbit Creek A**	**65.14 332**	IAmb	IAmb	12 12 33.7		
	comp=Z,48nm,1.5s						
RC01	**Rabbit Creek A**	**65.14 332**	P	**P**	**12 12 26.7**	**-0.8**	
	baz=110						
BRSE	**Bradley Lake S**	**65.16 331**	P	**P**	**12 12 26.8**	**-0.9**	
	baz=109						
PRP	**Porcupine Dome**	**65.17 338**	P	**P**	**12 12 27.0**	**-0.8**	
	baz=116,SNR=6.1						
SLKM	**Skilak Lake**	**65.17 332**	IAmb	IAmb	12 12 36.1		
	comp=Z,17nm,1.0s						
SLKM			IAMs_20	IAMs_20	12 44 10.7		
	comp=Z,1µm,19.0s						
G26K	**Porcupine Rive**	**65.21 339**	P	**P**	**12 12 27.3**	**-0.5**	
	baz=119,SNR=7.8						
HDA	**Harding Lake**	**65.23 336**	IAmb	IAmb	12 12 38.5		
	comp=Z,44nm,1.4s						
HDA			IAMs_20	IAMs_20	12 45 19.2		
	comp=Z,1µm,20.0s						
HDA	**Harding Lake**	**65.23 336**	P	**P**	**12 12 27.2**	**-0.8**	
	baz=114,SNR=8.3						
BRLK	**Bradley Lake**	**65.24 331**	IAmb	IAmb	12 13 14.6		
	comp=Z,38nm,1.3s						
BRLK			IAMs_20	IAMs_20	12 43 55.7		
	comp=Z,1µm,18.0s						
CNPM	**China Poot**	**65.33 330**	IAmb	IAmb	12 12 31.9		
	comp=Z,17nm,1.0s						
CNPM			IAMs_20	IAMs_20	12 40 46.0		
	comp=Z,2µm,20.0s						
IL31		**65.36 337**	IAmb	IAmb	12 12 39.4		
	comp=Z,28nm,1.1s						
ILAR	**Eielson Array**	**65.36 337**	P	**P**	**12 12 27.6**	**-1.3**	
ILAR	**Eielson Array**	**65.36 337**	P	**P**	**12 12 27.4**	**-1.5**	
	comp=Z,11nm,1.1s,baz=113,slow=6.5,SNR=44						
ILAR			PP	PP	**12 14 50.5**	**-2.1**	
	comp=Z,5.0nm,1.1s,baz=114,slow=6.5,SNR=5.0						
ILAR			LR	LR	12 46 26.8		
	comp=Z,1µm,18.2s,baz=105,slow=41						
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**65.36 337**	*e*P	**P**	**12 12 27.2**	**-1.7**	
ILAR			pmax	pmax			
	comp=Z,7.0nm,0.9s						
D27M	**Malcolm River**	**65.47 342**	IAmb	IAmb	12 12 40.6		
	comp=Z,15nm,0.9s						
D27M			IAMs_20	IAMs_20	12 45 31.9		
	comp=Z,2µm,20.0s						
D27M	**Malcolm River**	**65.47 342**	P	**P**	**12 12 28.9**	**-0.7**	
	baz=122						
KDAK	**Kodiak Island**	**65.48 328**	LR	LR	12 43 29.9		
	comp=Z,847nm,19.1s,baz=315,slow=38						
KDAK	**Kodiak Island**	**65.48 328**	P	**P**	**12 12 29.0**	**-0.8**	
	baz=106						
FYU	**Fort Yukon**	**65.53 339**	IAmb	IAmb	12 13 15.6		
	comp=Z,37nm,1.6s						
FYU			IAMs_20	IAMs_20	12 45 39.0		
	comp=Z,1µm,21.0s						
M22K	**Willow**	**65.55 333**	IAmb	IAmb	12 13 56.7		
	comp=Z,51nm,1.4s						
M22K			IAMs_20	IAMs_20	12 44 46.9		
	comp=Z,1µm,21.0s						
M22K	**Willow**	**65.55 333**	P	**P**	**12 12 29.0**	**-1.1**	
	baz=110						
HOM	**Homer**	**65.57 330**	P	**P**	**12 12 29.3**	**-0.9**	
	baz=108						
RND	**Reindeer**	**65.61 335**	IAmb	IAmb	12 12 42.2		
	comp=Z,30nm,1.0s						
RND			IAMs_20	IAMs_20	12 46 10.2		
	comp=Z,2µm,19.0s						
H25L	**Birch Creek**	**65.61 338**	P	**P**	**12 12 29.8**	**-0.6**	
	baz=116,SNR=6.1						
Q20K	**Shuyak Island**	**65.62 329**	P	**P**	**12 12 29.3**	**-1.3**	
	baz=107						
CCB	**Clear Creek Bu**	**65.67 336**	IAMs_20	IAMs_20	12 46 24.7		
	comp=Z,1µm,19.0s						
CAPN	**Captain Cook N**	**65.69 332**	P	**P**	**12 12 29.3**	**-1.7**	
	baz=109						
F26K	**Sheenjek River**	**65.69 340**	IAmb	IAmb	12 12 42.4		
	comp=Z,19nm,1.1s						
F26K			IAMs_20	IAMs_20	12 45 00.1		
	comp=Z,2µm,21.0s						
F26K	**Sheenjek River**	**65.69 340**	P	**P**	**12 12 30.4**	**-0.6**	
	baz=119,SNR=13						
OHAK	**Old Harbor**	**65.69 328**	P	**P**	**12 12 29.8**	**-1.3**	
	baz=105						
BMAR	**Burnt Mountain**	**65.71 340**	P	**P**	**12 12 30.6**	**-0.5**	
WRH	**Wood River Hil**	**65.71 336**	IAMs_20	IAMs_20	12 46 15.8		
	comp=Z,2µm,20.0s						
POKR	**Poker Plat Res**	**65.72 337**	P	**P**	**12 12 31.2**	**0.0**	
POKR			IAmb	IAmb	12 12 38.9		
	comp=Z,11nm,0.7s						
POKR			IAMs_20	IAMs_20	12 46 38.9		
	comp=Z,1µm,19.0s						
POKR	**Poker Plat Res**	**65.72 337**	P	**P**	**12 12 30.5**	**-0.7**	
	baz=114						
MCK	**McKinley**	**65.76 335**	IAmb	IAmb	12 12 42.2		
	comp=Z,20nm,1.0s						
MCK	**McKinley**	**65.76 335**	P	**P**	**12 12 31.2**	**-0.4**	
	baz=112,SNR=5.1						
COLA	**College**	**65.78 336**	P	**P**	**12 12 29.9**	**-1.6**	
COLA			IAmb	IAmb	12 12 38.9		
	comp=Z,11nm,0.8s						
COLA	**College**	**65.78 336**	IAMs_20	IAMs_20	12 46 29.7		
	comp=Z,1µm,18.0s						
COLA	**College**	**65.78 336**	*i* P	**P**	**12 12 30.3**	**-1.2**	
COLA			pmax	pmax			
	comp=Z,15nm,0.9s						
COLA	**College**	**65.78 336**	P	**P**	**12 12 31.1**	**-0.5**	
	baz=114						
CUT	**Chulitna**	**65.84 333**	P	**P**	**12 12 32.0**	**0.0**	
CUT			IAMs_20	IAMs_20	12 46 35.4		
	comp=Z,2µm,20.0s						
CUT	**Chulitna**	**65.84 333**	P	**P**	**12 12 31.1**	**-0.9**	
	baz=110,SNR=6.3						
G25K	**Bearman Lake**	**65.93 339**	P	**P**	**12 12 31.9**	**-0.6**	
	baz=116,SNR=5.6						
SII	**Sitkinak Islan**	**66.00 327**	P	**P**	**12 12 31.0**	**-2.2**	
	baz=104						
BWN	**Browne**	**66.15 335**	IAMs_20	IAMs_20	12 46 07.6		
	comp=Z,1µm,19.0s						
F25K	**Christian Rive**	**66.15 340**	IAMs_20	IAMs_20	12 45 37.3		
	comp=Z,2µm,21.0s						
F25K	**Christian Rive**	**66.15 340**	P	**P**	**12 12 33.6**	**-0.4**	
	baz=117						
NEA2	**Nenana**	**66.15 336**	P	**P**	**12 12 33.0**	**-1.0**	
	baz=112,SNR=7.7						
O20K	**Slope Mountain**	**66.17 331**	P	**P**	**12 12 32.9**	**-1.3**	
	baz=107						
H24K	**Noodor Dome**	**66.18 337**	IAmb	IAmb	12 12 45.0		
	comp=Z,18nm,1.1s						
H24K	**Noodor Dome**	**66.18 337**	P	**P**	**12 12 33.7**	**-0.5**	
	baz=114,SNR=7.0						
TRF	**Thorofare Moun**	**66.22 335**	IAmb	IAmb	12 12 42.9		
	comp=Z,17nm,0.8s						
TRF	**Thorofare Moun**	**66.22 335**	P	**P**	**12 12 34.0**	**-0.7**	
	baz=111,SNR=13						
STLK	**Strandline Lak**	**66.24 332**	IAMs_20	IAMs_20	12 46 30.9		
	comp=Z,1µm,19.0s						
SKT	**Skwentna**	**66.26 333**	IAMs_20	IAMs_20	12 45 07.4		
	comp=Z,2µm,20.0s						
SKT	**Skwentna**	**66.26 333**	P	**P**	**12 12 33.6**	**-1.2**	
	baz=109,SNR=6.7						
SPCR	**Spurr Chakacha**	**66.31 332**	P	**P**	**12 12 34.5**	**-0.7**	

comp=Z,40nm,1.9s
H23K Yukon River 66.81 337 P **P** 12 12 37.3 -0.9
baz=113
PPLA Purkeypile 66.84 334 IAmb IAmb 12 12 50.7
comp=Z,38nm,1.3s
PPLA Purkeypile 66.84 334 P **P** 12 12 37.7 -0.9
baz=109
F24K Squaw Lake 66.89 339 IAmb IAmb 12 13 08.8
comp=Z,20nm,1.2s
F24K IAMs_20 IAMs_20 12 47 29.8
comp=Z,1µm,19.0s
F24K Squaw Lake 66.89 339 P **P** 12 12 38.4 -0.3
baz=115,SNR=7.4
M20K Styx River 66.94 332 IAMs_20 IAMs_20 12 46 23.2
comp=Z,1µm,19.0s
M20K Styx River 66.94 332 P **P** 12 12 38.4 -0.9
baz=108
Q18K Katmai Hardscr 66.95 329 P **P** 12 12 38.4 -0.9
baz=104
CAST Castle Rocks 66.97 334 IAmb IAmb 12 12 40.3
comp=Z,52nm,1.7s
CAST IAMs_20 IAMs_20 12 47 23.2
comp=Z,1µm,18.0s
CAST Castle Rocks 66.97 334 P **P** 12 12 38.5 -0.7
baz=109,SNR=11
ACHA Angle Creek He 67.00 328 IAMs_20 IAMs_20 12 46 14.4
comp=Z,1µm,19.0s
C26K Camden Bay 67.01 342 P **P** 12 12 38.5 -0.8
baz=119
O19K Port Alsworth 67.01 331 P **P** 12 12 38.3 -1.2
baz=106
SUMG Summit 67.07 15 IAmb IAmb 12 12 54.7
comp=Z,52nm,1.3s
SUMG Summit 67.07 15 *i* P **P** 12 12 38.0 -2.2
D25K Kavik River 67.18 341 IAmb IAmb 12 12 51.7
comp=Z,25nm,0.9s
D25K IAMs_20 IAMs_20 12 47 11.1
comp=Z,1µm,19.0s
D25K Kavik River 67.18 341 P **P** 12 12 39.4 -1.2
baz=117
CHUM Lake Minchumin 67.22 335 P **P** 12 12 40.6 -0.2
baz=109
P18K Big Mountain, 67.25 330 IAMs_20 IAMs_20 12 45 55.7
comp=Z,1µm,18.0s
P18K Big Mountain, 67.25 330 P **P** 12 12 40.3 -0.8
baz=105
N19K Bonanza Creek 67.26 331 IAmb IAmb 12 12 49.3
comp=Z,14nm,0.8s
N19K Bonanza Creek 67.26 331 P **P** 12 12 40.6 -0.7
baz=106
G23K Bananza Creek 67.33 338 P **P** 12 12 41.4 -0.2
baz=112,SNR=7.6
E24K Your Creek 67.33 340 IAMs_20 IAMs_20 12 46 44.1
comp=Z,1µm,20.0s
E24K Your Creek 67.33 340 P **P** 12 12 40.9 -0.7
baz=114
O18K Koktuh Hills 67.35 330 IAmb IAmb 12 13 11.2
comp=Z,18nm,1.0s
O18K Koktuh Hills 67.35 330 P **P** 12 12 41.5 -0.2
baz=105
L20K Farewell, AK 67.46 333 P **P** 12 12 41.5 -0.9
baz=107
I21K Tanana 67.52 336 P **P** 12 12 41.8 -0.9
baz=110
M19K Big River Lodg 67.52 332 IAmb IAmb 12 13 12.8
comp=Z,38nm,1.6s
M19K IAMs_20 IAMs_20 12 43 01.0
comp=Z,1µm,21.0s
M19K Big River Lodg 67.52 332 P **P** 12 12 42.1 -0.7
baz=106
H22K Ishtalitna Cre 67.53 337 P **P** 12 12 41.9 -0.9
baz=111
COLD Coldfoot 67.59 338 IAmb IAmb 12 12 54.9
comp=Z,22nm,1.2s
COLD Coldfoot 67.59 338 P **P** 12 12 43.5 +0.4
baz=112,SNR=12
EUNU Eureka 67.67 1 IAmb IAmb 12 12 50.8
comp=Z,18nm,0.8s
E23K Chandalar 67.71 339 IAmb IAmb 12 12 53.1
comp=Z,16nm,0.8s
E23K IAMs_20 IAMs_20 12 46 38.7
comp=Z,1µm,18.0s
E23K Chandalar 67.71 339 P **P** 12 12 43.7 -0.3
baz=113,SNR=22
Q16K King Salmon 67.79 329 P **P** 12 12 44.3 -0.2
baz=103
K20K Telida 67.80 334 IAmb IAmb 12 12 51.9
comp=Z,12nm,0.8s
K20K IAMs_20 IAMs_20 12 47 59.2
comp=Z,1µm,18.0s
K20K Telida 67.80 334 P **P** 12 12 43.9 -0.6
baz=107
P17K Kvichak River 67.80 329 P **P** 12 12 44.0 -0.5
baz=103
L19K White Mountain 67.81 333 IAMs_20 IAMs_20 12 47 12.5
comp=Z,1µm,20.0s
L19K White Mountain 67.81 333 P **P** 12 12 43.9 -0.7
baz=106
D24K Happy Valley 67.89 341 IAmb IAmb 12 13 15.2
comp=Z,44nm,1.6s
D24K IAMs_20 IAMs_20 12 47 07.3
comp=Z,1µm,18.0s
D24K Happy Valley 67.89 341 P **P** 12 12 44.7 -0.3
baz=115
N18K Kilae Creek 67.89 331 IAMs_20 IAMs_20 12 45 21.7
comp=Z,2µm,18.0s
N18K Kilae Creek 67.89 331 P **P** 12 12 44.7 -0.5
baz=104
NEEM North Greenlan 67.89 8 *i* P **P** 12 12 44.2 -1.0
NEEM IAmb IAmb 12 12 55.0
comp=Z,59nm,1.1s
TOLK Toolik Lake Re 67.93 340 IAmb IAmb 12 13 00.1
comp=Z,16nm,1.0s
TOLK Toolik Lake Re 67.93 340 P **P** 12 12 45.1 -0.2
baz=114,SNR=6.4
H21K Melozitna Rive 68.01 336 IAMs_20 IAMs_20 12 46 14.6
comp=Z,2µm,20.0s
H21K Melozitna Rive 68.01 336 P **P** 12 12 45.3 -0.5
baz=109
R16K Pilot Point 68.03 327 P **P** 12 12 45.3 -0.7
baz=102
M18K Stony River 68.07 332 P **P** 12 12 46.0 -0.1
baz=105
J20K Nowinta River 68.08 335 IAmb IAmb 12 12 55.2
comp=Z,64nm,1.9s
J20K IAMs_20 IAMs_20 12 47 44.6
comp=Z,1µm,20.0s
J20K Nowinta River 68.08 335 P **P** 12 12 46.1 -0.1
baz=108,SNR=5.8
C24K Franklin Bluff 68.09 341 P **P** 12 12 45.9 -0.3
baz=115
CHGN Chignik 68.24 326 P **P** 12 12 46.0 -1.3
baz=100
O17K Koliganek Bris 68.26 330 P **P** 12 12 47.2 -0.2
baz=103
PMOZ Porto Moniz, M 68.35 60 *e*P P 12 12 55.1 +6.4
PMOZ *e*LR LR 12 34 19.0
PMOZ *i* AMs_20 12 36 19.7
comp=Z,539nm,22.0s
I20K Naaghedeneel 68.40 335 IAmb IAmb 12 12 56.1
comp=Z,29nm,0.8s
I20K IAMs_20 IAMs_20 12 45 54.6
comp=Z,1µm,19.0s
I20K Naaghedeneel 68.40 335 P **P** 12 12 47.9 -0.3
baz=107
F22K John River 68.41 338 P **P** 12 12 47.9 -0.4
baz=111
D23K Nanushuk River 68.43 340 IAmb IAmb 12 12 59.3
comp=Z,30nm,1.4s
D23K Nanushuk River 68.43 340 P **P** 12 12 47.9 -0.4
baz=113
N17K Nushagak Hills 68.48 330 IAMs_20 IAMs_20 12 46 47.3
comp=Z,1µm,20.0s
N17K Nushagak Hills 68.48 330 P **P** 12 12 49.0 +0.2
baz=103
E22K Anaktuvuk Pass 68.50 339 IAmb IAmb 12 13 00.5
comp=Z,19nm,1.0s
E22K IAMs_20 IAMs_20 12 44 46.1
comp=Z,2µm,22.0s
E22K Anaktuvuk Pass 68.50 339 P **P** 12 12 48.6 -0.3
baz=111
P16K Nushagak River 68.55 329 P **P** 12 12 48.9 -0.3
baz=102
G21K Allakaket 68.56 337 IAmb IAmb 12 12 57.6
comp=Z,12nm,0.8s
G21K Allakaket 68.56 337 P **P** 12 12 48.7 -0.5
baz=109,SNR=9.4
CHNA Chernabura Isl 68.65 324 P **P** 12 12 49.9 0.0
baz=99
J19K Poorman 68.65 334 IAMs_20 IAMs_20 12 48 14.5
comp=Z,2µm,19.0s
J19K Poorman 68.65 334 P **P** 12 12 49.5 -0.3
baz=106
L18K Granite Mounta 68.65 332 P **P** 12 12 49.4 -0.4
baz=104
O16K Kokwok River B 68.72 329 P **P** 12 12 49.3 -1.0
baz=102
C23K Itkillik River 68.75 341 IAmb IAmb 12 13 03.4
comp=Z,33nm,1.0s
C23K Itkillik River 68.75 341 P **P** 12 12 50.0 -0.3
baz=113
H20K Anotleneega Mo 68.77 336 P **P** 12 12 50.5 0.0
baz=107
F21K Alatna River 68.78 338 IAmb IAmb 12 13 02.7
comp=Z,28nm,0.9s
F21K Alatna River 68.78 338 P **P** 12 12 50.3 -0.3
baz=109,SNR=29
M17K Holitna River 68.80 331 P **P** 12 12 50.1 -0.7
baz=103
S14K Fog Glacier 68.86 326 P **P** 12 12 50.7 -0.7
baz=100
J18K Innoko River 68.97 334 IAmb IAmb 12 13 58.1
comp=Z,43nm,1.9s
J18K IAMs_20 IAMs_20 12 48 54.3
comp=Z,2µm,18.0s
J18K Innoko River 68.97 334 P **P** 12 12 51.1 -0.7
baz=105
D22K Ayikyak River 69.07 340 IAMs_20 IAMs_20 12 47 59.1
comp=Z,1µm,19.0s
D22K Ayikyak River 69.07 340 P **P** 12 12 52.8 +0.5
baz=111,SNR=8.8
SDPT Sand Point 69.23 325 P **P** 12 12 53.0 -0.5
baz=98
N16K Nishlik Lake 69.23 330 P **P** 12 12 52.7 -0.8
baz=102
USHA Ushuaia 69.25 167 LR LR 12 37 39.3
comp=Z,2µm,19.5s,baz=339,slow=31
L17K Donlin 69.36 332 P **P** 12 12 53.9 -0.3
baz=103
E21K Killik River 69.36 339 IAmb IAmb 12 13 05.2
comp=Z,17nm,1.1s
E21K IAMs_20 IAMs_20 12 49 10.8
comp=Z,2µm,22.0s
E21K Killik River 69.36 339 P **P** 12 12 54.2 0.0
baz=109
GCSA Galena City Sc 69.38 335 P **P** 12 12 54.3 0.0
baz=105
H19K Roundabout Mou 69.41 336 IAmb IAmb 12 13 04.9
comp=Z,71nm,1.6s
H19K Roundabout Mou 69.41 336 P **P** 12 12 54.0 -0.4
baz=106
M16K Timber Creek 69.43 331 P **P** 12 12 54.0 -0.7
baz=102
BORG Borgarnes 69.48 25 LR LR 12 43 10.3
comp=Z,549nm,18.0s,baz=260,slow=36
K17K Iditarod 69.49 333 IAMs_20 IAMs_20 12 47 45.1
comp=Z,1µm,20.0s
K17K Iditarod 69.49 333 P **P** 12 12 54.6 -0.4
baz=103
O15K Ungalikthiuk R 69.50 329 P **P** 12 12 55.0 -0.1
baz=100
F20K Avaraart Lake 69.56 337 P **P** 12 12 55.4 0.0
baz=107
L16K Owhat River 69.82 331 P **P** 12 12 56.1 -1.0
baz=102
N15K Kwethluk River 69.82 330 P **P** 12 12 56.6 -0.5
baz=100
B22K Teshekpuk Lake 69.83 341 IAmb IAmb 12 13 05.4
comp=Z,28nm,1.1s
B22K Teshekpuk Lake 69.83 341 P **P** 12 12 56.7 -0.3
baz=110
G19K Purcell Mounta 69.83 336 IAmb IAmb 12 13 07.9
comp=Z,22nm,1.2s
G19K Purcell Mounta 69.83 336 P **P** 12 12 56.7 -0.4
baz=105
C21K Knifeblade Rid 69.88 340 P **P** 12 12 57.0 -0.4
baz=109
B21K Ikpikpuk River 69.97 340 P **P** 12 12 57.8 0.0
baz=105
J17K VABM Dome 69.99 333 P **P** 12 12 58.4 +0.3
baz=102
E20K Nigu River 70.09 339 P **P** 12 12 59.4 +0.7
baz=107
H18K Honhosa River 70.09 335 IAmb IAmb 12 13 38.3
comp=Z,70nm,2.0s
H18K IAMs_20 IAMs_20 12 48 54.7
comp=Z,1µm,18.0s
H18K Honhosa River 70.09 335 P **P** 12 12 58.8 0.0
baz=104
M15K Kasigluk River 70.20 330 P **P** 12 12 59.3 -0.1
baz=100
E19K Redstone River 70.24 338 P **P** 12 12 59.4 -0.1
baz=106
O14K Tigyukauivet M 70.25 329 P **P** 12 12 59.8 +0.1
baz=99
F19K Shaleruckik Mo 70.28 337 IAMs_20 IAMs_20 12 48 18.5
comp=Z,1µm,18.0s
F19K Shaleruckik Mo 70.28 337 P **P** 12 12 59.0 -0.8
baz=105
D20K Etivluk River 70.37 339 P **P** 12 12 59.8 -0.6
baz=107
G18K Tagagawik 70.39 336 P **P** 12 13 00.6 +0.1
baz=104
BBTS Babate 70.43 79 LR LR 12 40 46.1
comp=Z,727nm,19.9s,baz=160,slow=33
A22K Sinclair Lake 70.54 342 P **P** 12 13 00.8 -0.5
baz=109
N14K Kuskokwak Cree 70.56 329 P **P** 12 13 01.6 0.0
baz=99
J16K Anvik River 70.64 333 IAmb IAmb 12 13 28.2
comp=Z,45nm,1.4s
J16K Anvik River 70.64 333 P **P** 12 13 02.2 +0.1
baz=101
H17K Granite Mounta 70.68 335 IAmb IAmb 12 13 15.3
comp=Z,75nm,1.9s
H17K Granite Mounta 70.68 335 P **P** 12 13 02.2 -0.2
baz=102
L15K Ungalak Mounta 70.75 331 P **P** 12 13 02.6 -0.2
baz=100
I17K Unalakleet 70.80 334 P **P** 12 13 04.0 +1.0
baz=101
M14K Bethel 70.83 330 P **P** 12 13 03.6 +0.4
baz=99
D19K Kuna River 70.84 339 IAmb IAmb 12 13 29.4
comp=Z,42nm,1.6s
D19K IAMs_20 IAMs_20 12 50 04.2
comp=Z,1µm,20.0s
D19K Kuna River 70.84 339 P **P** 12 13 02.8 -0.4
baz=105
FALS False Pass 70.84 324 P **P** 12 13 03.6 +0.2
baz=96
SCO Scoresbysund 70.86 19 *e*P P 12 13 08.7 +5.4
K15K Wolf Creek Mou 70.88 332 IAMs_20 IAMs_20 12 47 04.8
comp=Z,1µm,18.0s
K15K Wolf Creek Mou 70.88 332 P **P** 12 13 03.9 +0.4
baz=100
B20K Meade River 70.93 340 IAmb IAmb 12 13 14.3
comp=Z,30nm,1.1s
B20K IAMs_20 IAMs_20 12 48 30.2
comp=Z,1µm,21.0s
B20K Meade River 70.93 340 P **P** 12 13 03.6 -0.1
baz=107
F18K Selawik 70.94 337 P **P** 12 13 03.6 -0.2
baz=103
G17K Kiwalik Mounta 71.10 335 P **P** 12 13 04.8 -0.1
baz=102,SNR=6.3
A21K Barrow 71.15 342 P **P** 12 13 04.8 -0.2
baz=108
L14K Kuka Creek 71.27 331 P **P** 12 13 05.4 -0.4
baz=98
M13K Dall Lake 71.46 330 P **P** 12 13 06.9 -0.1
baz=98
E18K Tukpahlearik C 71.49 337 IAMs_20 IAMs_20 12 50 23.5
comp=Z,1µm,18.0s
E18K Tukpahlearik C 71.49 337 P **P** 12 13 06.2 -0.9
baz=102
F17K Baldwin Pennin 71.54 336 P **P** 12 13 07.3 -0.1
baz=102
H16K Elim 71.60 334 P **P** 12 13 07.7 -0.1
baz=100
G16K Koyuk River 71.78 335 P **P** 12 13 08.8 -0.2
baz=100
J14K Nanvaranak Lak 71.88 332 IAmb IAmb 12 13 11.8
comp=Z,47nm,1.3s
J14K Nanvaranak Lak 71.88 332 P **P** 12 13 08.8 -0.8
baz=98
E17K Hotham Inlet 71.89 337 P **P** 12 13 08.8 -0.7
baz=101
C18K Utukok River 71.97 339 P **P** 12 13 08.9 -1.3
baz=102
A19K Wainwright 72.28 340 P **P** 12 13 11.7 -0.1
baz=103
K13K Kusilvak Mount 72.28 331 P **P** 12 13 11.3 -0.7
baz=97
B18K Kokolik River 72.34 339 P **P** 12 13 12.1 -0.1
baz=102
G15K Niukluk 72.42 335 P **P** 12 13 12.8 0.0
baz=98
RDOG Red Dog Mine 72.48 338 P **P** 12 13 12.7 -0.4
baz=100
D17K Noatak River 72.48 337 P **P** 12 13 13.0 -0.1
baz=100
UNV Unalaska Valle 72.57 323 P **P** 12 13 13.0 -0.9
baz=93
C17K DeLong Mountai 72.66 338 P **P** 12 13 13.4 -0.8
baz=100
F15K North Star Dit 72.78 335 IAmb IAmb 12 13 16.9
comp=Z,25nm,1.2s
F15K North Star Dit 72.78 335 P **P** 12 13 14.1 -0.8
baz=98
M11K Mekoryuk 72.86 330 P **P** 12 13 15.1 -0.3
baz=95
ANM Nome 72.93 334 P **P** 12 13 15.1 -0.7
baz=97
C16K Lisburne Hills 73.41 338 P **P** 12 13 18.2 -0.4
baz=98
F14K Arctic Creek 73.44 335 P **P** 12 13 18.6 -0.2
baz=96
NIKH Nikolski High 73.95 322 P **P** 12 13 21.7 -0.4
baz=91
TNA Tin City 74.11 335 P **P** 12 13 22.7 0.0
baz=95
P08K Saint George I 74.41 326 P **P** 12 13 24.2 -0.4
baz=91
SPIA Saint Paul Isl 74.80 326 P **P** 12 13 26.1 -0.8
baz=91
PGAV Gavieira, Arco 75.13 50 *e*P **P** 12 13 32.9 +3.6
PGAV *e*LR LR 12 36 29.1
PGAV *i* AMs_20 12 44 22.3
comp=Z,2µm,18.0s
MORF Marmelete 75.15 54 *e*P **P** 12 13 29.6 +0.2
MORF IAMs_20 IAMs_20 12 44 05.4
comp=E,2µm,23.3s
NOR Nord 75.27 8 *i* P **P** 12 13 28.0 -1.2
JMIC Jan Mayen 75.33 20 LR LR 12 48 06.7
comp=E,446nm,18.5s,baz=252,slow=37
MESJ Messejana 75.45 54 *e*P **P** 12 13 31.2 +0.1
MESJ *e*S **S** 12 23 12.1 +1.2
MESJ IAMs_20 IAMs_20 12 43 36.3
comp=Z,2µm,18.5s
GAMB Gambell 75.63 333 P **P** 12 13 30.6 -0.9
baz=91
MTE Manteigas 75.78 51 *e*P **P** 12 13 31.5 -1.5
MTE *e*S **S** 12 23 18.4 +3.8
MTE *e*LR LR 12 36 47.3
MTE *i* AMs_20 12 43 33.2
comp=Z,2µm,20.0s
PVAQ Vaqueiros 75.88 54 *e*P **P** 12 13 36.5 +2.9
PVAQ *e*LR LR 12 37 47.7
PVAQ *i* AMs_20 12 44 26.9
comp=Z,2µm,20.0s
PMRV Marv??o 75.97 52 *e*P **P** 12 13 36.1 +2.1
PMRV *e*S **S** 12 23 20.5 +3.8
PMRV *e*LR LR 12 37 07.0
PMRV *i* AMs_20 12 43 56.8
comp=Z,1µm,18.0s
MVO Moncorvo 76.11 50 *e*P **P** 12 13 36.4 +1.5
MVO *e*LR LR 12 37 05.4
MVO *i* AMs_20 12 45 16.6
comp=Z,884nm,20.0s
RAR Rarotonga 76.89 245 LR LR 12 40 10.9
comp=Z,563nm,18.8s,baz=87,slow=30
ESPR Espera 77.41 55 P **P** 12 13 40.9 -1.3
ECAB El Cabril 77.63 53 P **P** 12 13 40.9 -2.6
EKA Eskdalemuir Ar 77.68 36 P **P** 12 13 40.0 -3.3
comp=Z,2.5nm,0.7s,baz=272,slow=5.7,SNR=9.2
comp=Z,2.5nm,0.7s
EKA Eskdalemuir Ar 77.68 36 P **P** 12 13 40.0 -3.3
ESDC Sonseca Array 78.58 52 P **P** 12 13 48.0 -0.7
ESDC IAmb IAmb 12 15 14.4
comp=Z,66nm,1.9s
ESDC Sonseca Array 78.58 52 P **P** 12 13 45.5 -3.2
comp=Z,2.0nm,0.8s,baz=301,slow=5.2,SNR=8.0
ESDC LR LR 12 44 53.2
comp=Z,2µm,19.1s,baz=292,slow=33
comp=Z,2.0nm,0.8s
MDT Midelt 78.92 59 LR LR 12 46 30.6
comp=Z,871nm,18.0s,baz=306,slow=34
PMSA Palmer Station 79.28 169 LR LR 12 44 35.7
comp=Z,894nm,19.3s,baz=330,slow=32
SPITS Spitsbergen Ar 81.10 12 P **P** 12 13 59.8 -1.8
comp=Z,1.8nm,0.5s,baz=251,slow=2.6,SNR=9.5
SPITS LR LR 12 51 25.7
comp=Z,1µm,19.2s,baz=264,slow=37
comp=Z,1.8nm,0.5s
DBIC Dimbokro 83.12 85 P **P** 12 14 12.7 -0.7
DBIC Dimbokro 83.12 85 P **P** 12 14 11.8 -1.6
comp=Z,4.5nm,0.7s,baz=279,slow=5.9,SNR=8.0
DBIC LR LR 12 50 29.9
comp=Z,209nm,18.4s,baz=270,slow=35
comp=Z,4.5nm,0.7s
BILL Bilibino 83.92 339 P **P** 12 14 15.7 -0.8
BILL IAmb IAmb 12 14 22.6
comp=Z,27nm,1.2s
SHEM Shemya Is, Ala 84.23 323 LR LR 12 53 13.7
comp=Z,233nm,18.1s,baz=71,slow=37
NB2 NORSAR Subarra 84.25 29 P **P** 12 14 16.5 -1.8
comp=Z,11nm,1.2s,baz=288,slow=5.1
NOA NORSAR Array B 84.25 29 P **P** 12 14 15.0 -3.3
comp=Z,0.5nm,0.5s,baz=286,slow=4.7,SNR=6.7
NOA LR LR 12 47 40.7
comp=Z,729nm,21.9s,baz=275,slow=33
comp=Z,0.5nm,0.5s
ECH Echery 85.07 42 IAMs_20 IAMs_20 12 54 56.2
comp=Z,930nm,19.0s
SENIN Lac Senin/Sane 85.58 44 IAMs_20 IAMs_20 12 52 05.0
comp=Z,831nm,19.0s
HFS Hagfors 85.67 29 P **P** 12 14 22.7 -2.7
comp=Z,1.7nm,0.6s,baz=280,slow=2.6,SNR=7.6
HFS LR LR 12 49 23.3
comp=Z,735nm,20.9s,baz=282,slow=34
comp=Z,1.7nm,0.6s
STU Stuttgart 86.25 41 IAMs_20 IAMs_20 12 50 32.4
comp=Z,874nm,21.0s
ARCES ARCESS Array B 86.79 19 P **P** 12 14 28.7 -2.0
comp=Z,0.8nm,0.3s,baz=290,slow=5.0,SNR=14
ARCES LR LR 12 52 56.0
comp=Z,492nm,18.4s,baz=302,slow=36
comp=Z,0.8nm,0.3s
ARCES ARCESS Array B 86.79 19 *e*P **P** 12 14 29.9 -0.9
ARCES pmax pmax
comp=Z,2.0nm,0.6s
TUE Stuetta 86.93 43 IAMs_20 IAMs_20 12 52 17.6
comp=Z,946nm,20.0s
DAVA Damuels 87.07 42 *e*P **P** 12 14 32.9 0.0
comp=Z,8.7nm,0.9s
DAVOX Davos/Dischmat 87.20 43 P **P** 12 14 31.1 -2.4
comp=Z,6.2nm,1.0s,baz=293,slow=11,SNR=9.7
DAVOX LR LR 12 47 49.0
comp=Z,769nm,21.5s,baz=282,slow=32
comp=Z,6.2nm,1.0s
FUORN Ofenpass-Fuorn 87.50 43 IAmb IAmb 12 14 42.7
comp=Z,11nm,0.8s
FUORN IAMs_20 IAMs_20 12 52 56.7
comp=Z,919nm,20.0s
RETA Reutte 87.60 42 *e*P **P** 12 14 35.1 -0.1
comp=Z,15nm,1.3s
FETA Feichten 87.70 42 *e*PcP **PcP** 12 14 37.3 -0.5
comp=Z,1.1nm,0.4s
MOTA Moosalm 87.86 42 *e*PcP **PcP** 12 14 38.0 -0.5
comp=Z,4.6nm,0.8s
CLL Collm 87.92 38 IAMs_20 IAMs_20 12 53 14.3
comp=Z,930nm,18.0s
CLL Collm 87.92 38 *i* P **P** 12 14 36.2 -0.4
CLL *e*S **S** 12 25 13.0 -6.2
CLL MLR MLR
comp=Z,900nm,19.0s
CLL Collm 87.92 38 *i* P **P** 12 14 36.2 -0.4
CLL *i* (sP) **pP** 12 14 41.4 0.0
CLL *i* x x 12 14 49.2
CLL *e*PP **PP** 12 18 00.0 -2.5
CLL *e*PPP PPP 12 19 54.0
CLL *e*SKSac **SKSac** 12 25 07.0 +2.6

CLL				*e*S	**S**	**12 25 19.0**	**-0.2**
CLL				*e*PS	**PnS**	**12 26 21.0**	**-0.5**
CLL				AMS	AMS	12 53 00.0	
	comp=N,500nm,19.9s						
CLL				AMS	AMS	12 53 00.0	
	comp=E,800nm,19.0s						
CLL				AMS	AMS	12 53 00.0	
	comp=Z,900nm,19.0s						
SQTA	**Sankt Quirin**	**87.96**	**42**	*e*pP	**P**	**12 14 40.0**	**+3.0**
	comp=Z,6.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**88.12**	**77**	P	**P**	**12 14 36.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**88.12**	**77**	P	**P**	**12 14 36.8**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=305,slow=5.1,SNR=2.5						
	comp=Z,1.8nm,0.4s						
BRG	**Berggiesshubel**	**88.62**	**38**	*e*P	**P**	**12 14 38.3**	**-1.6**
BRG				Amp		12 14 43.3	
	comp=Z,3.2nm,0.7s						
KHC	**Kasperske Hory**	**88.93**	**40**	*e*P	**P**	**12 14 37.1**	**-4.4**
KHC				*e*pP	**PcP**	**12 14 43.0**	**0.0**
KHC	**Kasperske Hory**	**88.93**	**40**	*i* P	**P**	**12 14 40.4**	**-1.1**
KHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GERES	**GERESS Array B**	**89.09**	**40**	P	**P**	**12 14 40.2**	**-2.1**
	comp=Z,1.4nm,0.8s,baz=252,slow=2.7,SNR=4.9						
GERES				LR	LR	12 50 05.3	
	comp=Z,1μm,21.7s,baz=278,slow=33						
	comp=Z,1.4nm,0.8s						
GERES	**GERESS Array B**	**89.09**	**40**	*e*P	**P**	**12 14 42.1**	**-0.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TAM	**Tamanrasset**	**89.57**	**67**	IAMs_20	IAMs_20	12 57 32.5	
	comp=Z,870nm,19.0s						
KEST	**Kesra**	**89.68**	**54**	P	**P**	**12 14 43.7**	**-1.6**
	comp=Z,3.4nm,0.8s,baz=307,slow=5.1,SNR=2.0						
KEST				LR	LR	12 51 32.8	
	comp=Z,529nm,18.9s,baz=302,slow=34						
	comp=Z,3.4nm,0.8s						
DPC	**Dobruska-Polom**	**90.22**	**38**	*e*P	**P**	**12 14 50.0**	**+2.5**
DPC	**Dobruska-Polom**	**90.22**	**38**	*e*P	**P**	**12 14 50.0**	**+2.5**
APA	**Apatity**	**90.29**	**19**	⇓*i* P	**P**	**12 14 51.4**	**+4.0**
APA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VRAC	**Vranov**	**90.74**	**39**	LR	LR	12 53 52.6	
	comp=Z,1μm,18.9s,baz=286,slow=35						
FINES	**FINESS Array B**	**90.77**	**26**	P	**P**	**12 14 48.5**	**-1.2**
	comp=Z,4.0nm,0.9s,baz=286,slow=1.4,SNR=6.5						
FINES				LR	LR	12 53 42.8	
	comp=Z,583nm,21.8s,baz=314,slow=34						
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**90.77**	**26**	*e*P	**P**	**12 14 49.3**	**-0.4**
FINES				*e*		12 18 31.4	
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SEY	**Seymchan**	**91.30**	**336**	LR	LR	13 02 17.2	
	comp=Z,912nm,18.8s,baz=358,slow=40						
SEY	**Seymchan**	**91.30**	**336**	*i* P	**P**	**12 14 52.2**	**+0.1**
SEY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MODS	**Modra-Piesok**	**91.49**	**40**	*e*P	**P**	**12 14 55.3**	**+1.8**
MODS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MODS	**Modra-Piesok**	**91.49**	**40**	*e*P	**P**	**12 14 55.2**	**+1.8**
TIXI	**Tiksi**	**92.35**	**349**	P	**P**	**12 14 55.4**	**-1.5**
TIXI				IAmb	IAmb	12 15 12.2	
	comp=Z,43nm,1.8s						
TIXI	**Tiksi**	**92.35**	**349**	LR	LR	12 59 18.3	
	comp=Z,1μm,21.4s,baz=48,slow=38						
TIXI	**Tiksi**	**92.35**	**349**	*i* P	**P**	**12 14 54.5**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PET	**Petropavlovsk**	**92.98**	**326**	*e*P	**P**	**12 15 02.5**	**+2.4**
PET				*e*		12 18 44.9	
PET				*e*S	**S**	**12 26 04.8**	**-0.8**
PET				*e*SS	**SS**	**12 32 19.1**	**+0.1**
PET				pmax	pmax		
	comp=Z,200nm,15.3s						
PET				pmax	pmax		
	comp=Z,100nm,13.6s						
VAE	**Valguarnera**	**93.09**	**51**	LR	LR	12 53 01.0	
	comp=Z,2μm,19.7s,baz=334,slow=33						
PSZ	**Piszkesteto**	**93.29**	**40**	IAMs_20	IAMs_20	12 52 15.4	
	comp=Z,878nm,21.0s						
PETK	**Petropavlovsk-**	**93.47**	**326**	P	**P**	**12 15 00.9**	**-1.5**
PETK	**Petropavlovsk-**	**93.47**	**326**	P	**P**	**12 15 02.8**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=86,slow=7.6,SNR=4.3						
	comp=Z,4.9nm,0.8s						
PETK	**Petropavlovsk-**	**93.47**	**326**	P	**P**	**12 15 00.9**	**-1.5**
WDD	**Wied Dalam**	**93.69**	**52**	IAMs_20	IAMs_20	12 54 45.6	
	comp=Z,915nm,19.0s						
MA2	**Magadan**	**93.72**	**334**	IAMs_20	IAMs_20	13 05 32.2	
	comp=Z,659nm,19.0s						
MA2	**Magadan**	**93.72**	**334**	LR	LR	13 03 58.1	
	comp=Z,515nm,18.5s,baz=57,slow=40						
CEL	**Celeste**	**93.96**	**50**	IAMs_20	IAMs_20	12 52 46.4	
	comp=Z,1μm,20.0s						
MNK	**Minsk**	**94.95**	**31**	*i* P	**P**	**12 15 12.8**	**+3.6**
MNK				*i*		12 19 03.2	
MNK				*i* PPP	PPP	12 21 02.8	
MNK				*i* S	**SKSac**	**12 25 48.1**	**+3.9**
MNK				*i* PS	**PS**	**12 27 44.6**	**+3.6**
MNK				*i* SS	**SS**	**12 32 52.2**	**+5.2**
MNK				*i* SSS	SSS	12 36 34.5	
MNK				pmax	pmax		
	comp=E,22nm,1.0s						
MNK				pmax	pmax		
	comp=N,17nm,0.5s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MNK				MLR	MLR		
	comp=E,208nm,20.0s						
MNK				MLR	MLR		
	comp=N,325nm,17.0s						
MNK				MLR	MLR		
	comp=Z,385nm,16.0s						
BELA	**Belgrano 2**	**95.11**	**170**	P	**P**	**12 15 10.3**	**+0.9**
BELA				IAmb	IAmb	12 15 12.3	
	comp=Z,14nm,1.2s						
RNPP9	**Sopachiv**	**95.36**	**35**	P	**P**	**12 15 08.4**	**-2.7**
KLMR	**Klimovskoe**	**96.50**	**23**	*e*P	**P**	**12 15 12.4**	**-3.7**
KLMR				*e*		12 19 07.4	
KLMR				pmax	pmax		
	comp=Z,15nm,1.8s						
KLMR				MLR	MLR		
	comp=Z,726nm,15.0s						
KIEV	**Kiev**	**97.54**	**34**	IAMs_20	IAMs_20	12 56 50.4	
	comp=Z,989nm,21.0s						
AKASG	**Malin Array Se**	**97.54**	**34**	LR	LR	12 58 18.5	
	comp=Z,826nm,19.4s,baz=281,slow=35						
AKBB	**Malin Array Si**	**97.54**	**34**	P	**P**	**12 15 18.1**	**-2.9**
MLR	**Muntele Rosu**	**98.08**	**40**	IAMs_20	IAMs_20	12 56 03.3	
	comp=Z,958nm,22.0s						
MLR	**Muntele Rosu**	**98.08**	**40**	LR	LR	12 56 27.0	
	comp=Z,699nm,20.9s,baz=295,slow=34						
VNA3	**Neumayer Olymp**	**98.32**	**161**	⇓Pdiff	**P**	**12 15 20.4**	**-3.6**
	comp=Z,2.7nm,0.9s						
NRIK	**Noril'sk**	**98.43**	**1**	LR	LR	13 00 59.4	
	comp=Z,2μm,21.7s,baz=5.0,slow=36						
OBN	**Obninsk**	**98.84**	**28**	LR	LR	12 59 29.9	
	comp=Z,573nm,20.1s,baz=340,slow=35						
VNA2	**Neumayer--Watz**	**98.98**	**161**	⇓Pdiff	**P**	**12 15 25.5**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=156,slow=4.6						
YAK	**Yakutsk**	**99.79**	**343**	LR	LR	13 04 55.2	
	comp=Z,960nm,21.9s,baz=22,slow=38						
TIRR	**Tirgusor**	**100.11**	**40**	IAMs_20	IAMs_20	13 04 29.1	
	comp=Z,756nm,19.0s						
SNAA	**Sanae**	**100.55**	**161**	⇓Pdiff	**Pdif**	**12 15 31.1**	**-2.9**
	comp=Z,37nm,1.0s						
SNAA	**Sanae**	**100.55**	**161**	P	**Pdif**	**12 15 33.3**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=255,slow=9.7,SNR=6.8						
TROLL	**Troll, Antarti**	**102.25**	**161**	⇓Pdiff	**Pdif**	**12 15 41.7**	**+0.1**
	comp=Z,62nm,0.6s						
QSPA	**South Pole Qui**	**102.37**	**180**	P	**Pdif**	**12 15 44.0**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=170,slow=1.3,SNR=8.2						
OUZ	**Omahuta**	**102.85**	**236**	IAMs_20	IAMs_20	12 58 52.4	
	comp=Z,688nm,19.0s						
KARP	**Karpathos**	**103.33**	**49**	IAMs_20	IAMs_20	13 03 20.4	
	comp=Z,636nm,20.0s						
ARTI	**Arti**	**106.34**	**18**	IAMs_20	IAMs_20	13 03 58.7	
	comp=Z,725nm,20.0s						
ELIB	**Princess Elisa**	**108.65**	**162**	*d*PKiKP	**PKiKP**	**12 20 15.4**	**+0.1**
MAK	**Makhachkala**	**112.17**	**33**	*i* P	**Pdif**	**12 16 21.0**	**-5.3**
MAK				*e*		12 21 01.2	
MAK				*e*PPP	PPP	12 23 26.4	
MAK				*e*		12 27 05.9	
MAK				*e*PS	**PS**	**12 30 39.7**	**-0.6**
MAK				*e*SS	SS	12 36 40.5	-3.4
MAK				*e*SSS	SSS	12 40 56.4	
MAK				pmax	pmax		
	comp=Z,249nm,1.1s						
BVAR	**Borovoye Array**	**112.52**	**13**	PKiKP	**PKiKP**	**12 20 23.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=310,slow=3.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**113.71**	**4**	PKiKP	**PKiKP**	**12 20 24.7**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=6.1,slow=1.6,SNR=5.6						
MAJO	**Matsushiro**	**113.93**	**320**	IAMs_20	IAMs_20	13 05 16.5	
	comp=Z,490nm,20.0s						
SYO	**Syowa Base**	**114.82**	**162**	⇓*e*Pdiff	**Pdif**	**12 16 36.8**	**-0.6**
CN2	**Changchun**	**115.75**	**333**	*e*PKP	**PKiKP**	**12 20 29.5**	**0.0**
CN2				PP	**PP**	**12 21 32.5**	**+0.9**
CN2				SS	SS	12 37 28.5	-2.4
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=Z,700nm,18.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
KURK	**Kurchatov**	**116.25**	**9**	PKiKP	**PKPdf**	**12 20 30.3**	**0.0**
KURBB	**Kurchatov Arra**	**116.33**	**9**	PKP	**PKiKP**	**12 20 30.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=355,slow=1.8,SNR=20						
KURBB				PKKPbc	**PKKPbc**	**12 31 00.2**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=183,slow=3.2,SNR=4.7						
BOSA	**Boshof**	**117.24**	**116**	PKP	**PKiKP**	**12 20 33.7**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=198,slow=3.2,SNR=6.9						
SNY	**Shenyang**	**118.15**	**333**	⇑PKP	**PKPdf**	**12 20 31.8**	**-2.4**
SNY				PP	**PP**	**12 21 48.0**	**-0.3**
SNY				SKS	**SKSac**	**12 27 35.5**	**+7.9**
SNY				SS	**SS**	**12 37 55.5**	**-6.7**
SNY				AMB	AMB		
	comp=Z,160nm,5.4s						
SNY				LR	LR		
	comp=Z,640nm,16.5s						
SNY				LR	LR		
	comp=Z,410nm,19.4s						
SNY				LR	LR		
	comp=Z,930nm,21.0s						
ULN	**Ulaanbaatar**	**118.27**	**348**	IAMs_20	IAMs_20	13 15 09.0	
	comp=Z,669nm,21.0s						
SONM	**Songino Array**	**118.43**	**348**	PKP	**PKiKP**	**12 20 34.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=13,slow=1.3,SNR=6.1						
SONM				PKKPbc	**PKKPab**	**12 30 55.3**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=196,slow=3.6,SNR=8.3						
KSRS	**Korea Array**	**119.36**	**327**	PKP	**PKiKP**	**12 20 37.4**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=41,slow=3.9,SNR=5.8						
KSAR	**Wonju Array Be**	**119.39**	**327**	PKPdf	**PKPdf**	**12 20 36.0**	**-0.7**
KSAR	**Wonju Array Be**	**119.39**	**327**	PKIKP	**PKPdf**	**12 20 36.0**	**-0.7**
MKAR	**Makanchi Array**	**120.58**	**7**	PKP	**PKPdf**	**12 20 38.3**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=332,slow=2.9,SNR=7.7						
DL2	**Dalian**	**121.39**	**332**	PKP	**PKPdf**	**12 20 38.8**	**-1.7**
DL2				PP	**PP**	**12 22 11.8**	**+1.2**
DL2				SKS	**SKSac**	**12 27 43.3**	**+4.3**
DL2				SS	**SS**	**12 38 45.5**	**+1.6**
DL2				AMB	AMB		
	comp=Z,330nm,4.5s						
DL2				LR	LR		
	comp=Z,790nm,22.7s						
DL2				LR	LR		
	comp=Z,400nm,17.5s						
DL2				LR	LR		
	comp=Z,1μm,21.1s						
HHC	**Hu-ho-hao-te**	**123.62**	**341**	*e*PKP	**PKPdf**	**12 20 40.5**	**-4.4**
HHC				LR	LR		
	comp=Z,190nm,18.5s						
HHC				LR	LR		
	comp=Z,170nm,22.7s						
HHC				LR	LR		
	comp=Z,340nm,20.2s						
WMQ	**Urumqi**	**123.97**	**3**	*e*PKP	**PKiKP**	**12 20 46.8**	**+1.1**
WMQ				LR	LR		
	comp=Z,1μm,24.3s						
WMQ				LR	LR		
	comp=Z,550nm,24.0s						
WMQ				LR	LR		
	comp=Z,2μm,24.3s						
BTO	**Baotou**	**124.32**	**342**	*e*PKP	**PKiKP**	**12 20 47.0**	**+0.5**
BTO				PP	**PP**	**12 22 34.5**	**+4.2**
BTO				LR	LR		
	comp=Z,2μm,24.8s						
BTO				LR	LR		
	comp=Z,1μm,19.5s						
BTO				LR	LR		
	comp=Z,2μm,24.1s						
SIMJ	**Simiganj**	**125.28**	**21**		**PKiKP**	**12 20 49.1**	**+0.5**
GAR	**Garm**	**125.41**	**20**	PKPdf	**PKiKP**	**12 20 48.6**	**-0.2**
HNS	**HongShan**	**125.59**	**337**	⇓PKP	**PKiKP**	**12 20 49.8**	**+0.8**
HNS				AMB	AMB		
	comp=Z,330nm,10.7s						
HNS				LR	LR		
	comp=Z,670nm,20.8s						
HNS				LR	LR		
	comp=Z,850nm,20.6s						
HNS				LR	LR		
	comp=Z,1μm,19.8s						
TIA	**Tai'an**	**125.62**	**334**	PKP	**PKPdf**	**12 20 48.3**	**-0.4**
TIA				PP	**PP**	**12 22 39.0**	**-0.1**
TIA				AMB	AMB		
	comp=Z,380nm,8.8s						
TIA				LR	LR		
	comp=Z,730nm,18.1s						
TIA				LR	LR		
	comp=Z,380nm,22.6s						
TIA				LR	LR		
	comp=Z,870nm,20.6s						
TIY	**Taiyuan**	**126.16**	**339**	*e*PKP	**PKPdf**	**12 20 49.0**	**-0.8**
TIY				PP	**PP**	**12 22 43.5**	**+0.9**
TIY				LR	LR		
	comp=Z,700nm,22.9s						
TIY				LR	LR		
	comp=Z,430nm,20.6s						
TIY				LR	LR		
	comp=Z,820nm,25.0s						
ATD	**Arta Tunnel**	**126.82**	**65**	IAMs_20	IAMs_20	13 14 48.0	
	comp=Z,584nm,20.0s						
GTA	**Gaotai**	**127.77**	**351**	PKP	**PKiKP**	**12 20 53.3**	**-0.2**
GTA				LR	LR		
	comp=Z,380nm,22.2s						
GTA				LR	LR		
	comp=Z,280nm,21.1s						
GTA				LR	LR		
	comp=Z,890nm,24.0s						
NJ2	**Nanjing**	**128.25**	**329**	*e*PKP	**PKiKP**	**12 20 54.5**	**0.0**
LYN	**LuoYang**	**128.95**	**337**	*e*PKP	**PKiKP**	**12 20 55.5**	**-0.3**
LYN				PP	**PP**	**12 23 01.8**	**+0.8**
LYN				SKKS		12 29 52.3	
LYN				AMB	AMB		
	comp=Z,460nm,7.6s						
LYN				LR	LR		
	comp=Z,2μm,21.0s						
LYN				LR	LR		
	comp=Z,630nm,18.5s						
LYN				LR	LR		
	comp=Z,2μm,19.9s						
STKA	**Stephens Creek**	**129.58**	**239**	PKP	**PKPdf**	**12 20 56.6**	**+0.3**
	comp=Z,5.5nm,1.0s,baz=3.1,slow=4.1,SNR=4.6						
LZH	**Lanzhou**	**130.21**	**346**	*e*PKP	**PKiKP**	**12 20 59.0**	**+0.5**
LZH				LR	LR		
	comp=Z,840nm,16.8s						
LZH				LR	LR		
	comp=Z,810nm,17.5s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
XAN	**Xi'an**	**130.69**	**340**	PKP	**PKPdf**	**12 20 58.8**	**+0.3**
XAN				PP	**PP**	**12 23 13.5**	**+1.2**
XAN				PKS	**PKSdf**	**12 24 36.8**	**+1.7**
XAN				AMB	AMB		
	comp=Z,310nm,12.5s						
XAN				LR	LR		
	comp=Z,820nm,19.1s						
XAN				LR	LR		
	comp=Z,580nm,18.7s						
XAN				LR	LR		
	comp=Z,1μm,19.4s						
GOMU	**GeErMu**	**131.51**	**356**	PKP	**PKiKP**	**12 21 01.0**	**-0.4**
GOMU				PP	**PP**	**12 23 17.5**	**-0.3**
GOMU				AMB	AMB		
	comp=Z,390nm,5.7s						
GOMU				LR	LR		
	comp=Z,1μm,19.5s						
GOMU				LR	LR		
	comp=Z,450nm,18.3s						
GOMU				LR	LR		
	comp=Z,2μm,20.1s						
WHN	**Wuhan**	**131.64**	**332**	PKP	**PKPdf**	**12 21 00.5**	**+0.2**
WHN				PP	**PP**	**12 23 18.3**	**-0.3**
WHN				LR	LR		
	comp=Z,2μm,22.1s						
WHN				LR	LR		
	comp=Z,1μm,18.7s						
WHN				LR	LR		
	comp=Z,2μm,21.7s						
NACB	**Ninganchiao**	**132.79**	**320**	IAMs_20	IAMs_20	13 31 53.9	
	comp=Z,453nm,20.0s						
SSLB	**Suanglung**	**133.47**	**321**	IAMs_20	IAMs_20	13 30 26.8	
	comp=Z,552nm,20.0s						
CNSH	**ChangSha**	**134.30**	**332**	PKP	**PKiKP**	**12 21 08.5**	**+1.7**
CNSH				PP	**PP**	**12 23 37.0**	**+1.3**
CNSH				AMB	AMB		
	comp=Z,460nm,8.6s						
CNSH				LR	LR		
	comp=Z,460nm,24.3s						
CNSH				LR	LR		
	comp=Z,340nm,22.9s						
CNSH				LR	LR		
	comp=Z,720nm,22.7s						
CD2	**Chengdu**	**135.16**	**344**	PKP	**PKiKP**	**12 21 08.0**	**-0.5**
CD2				PP	**PP**	**12 23 48.0**	**+7.1**
CD2				PKS	**PKSdf**	**12 24 40.3**	**-3.2**
CD2				SKKS		12 30 35.3	
CD2				AMB	AMB		
	comp=Z,180nm,5.4s						
CD2				LR	LR		
	comp=Z,440nm,17.8s						
CD2				LR	LR		
	comp=Z,510nm,16.5s						
WRA	**Warramunga Arr**	**137.59**	**254**	PKPdf	**PKPdf**	**12 21 10.9**	**-0.8**
WRA	**Warramunga Arr**	**137.59**	**254**	PKhKP	PKPpre	12 21 01.3	
	comp=Z,0.8nm,0.9s,baz=89,slow=3.1,SNR=5.6						
WRA				PKP	**PKPdf**	**12 21 11.9**	**+0.2**
	comp=Z,5.4nm,1.0s,baz=95,slow=1.5,SNR=13						
WRA				SKPab	**SKPab**	**12 24 57.5**	**+5.2**
	comp=Z,1.8nm,1.0s,baz=85,slow=2.0,SNR=5.5						
WRA	**Warramunga Arr**	**137.59**	**254**	PKIKP	**PKPdf**	**12 21 10.9**	**-0.8**
ASAR	**Alice Springs**	**137.63**	**248**		**PKPdf**	**12 21 09.8**	**-2.0**
ASAR	**Alice Springs**	**137.63**	**248**	PKhKP	PKPpre	12 20 58.5	
	comp=Z,0.7nm,0.7s,baz=108,slow=3.9,SNR=8.3						
ASAR				PKP	**PKPdf**	**12 21 10.7**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=118,slow=3.3,SNR=7.7						
ASAR				SKPab	**SKPab**	**12 24 58.1**	**+5.7**
	comp=Z,1.5nm,1.2s,baz=102,slow=2.0,SNR=4.1						
FAKI	**Fak Fak**	**137.88**	**279**	IAMs_20	IAMs_20	13 20 27.6	
	comp=Z,476nm,19.0s						
LSA	**Lhasa**	**138.14**	**360**	IAMs_20	IAMs_20	13 29 10.4	
	comp=Z,400nm,21.0s						
PZH	**PanZhiHua**	**139.88**	**345**	PKP	**PKPdf**	**12 21 16.3**	**+0.3**
PZH				PP	**PP**	**12 24 13.5**	**+3.1**
PZH				PKS	**PKSdf**	**12 24 52.3**	**0.0**
PZH				SKKS		12 30 58.8	
PZH				AMB	AMB		
	comp=Z,450nm,11.0s						
PZH				LR	LR		
	comp=Z,360nm,23.8s						
PZH				LR	LR		
	comp=Z,430nm,21.8s						
PZH				LR	LR		
	comp=Z,560nm,22.0s						
KMI	**Kunming**	**140.91**	**343**	PKP	**PKPdf**	**12 21 12.0**	**-6.0**
KMI				PP	**PP**	**12 24 17.5**	**+0.6**
KMI				PKS	**PKSdf**	**12 24 56.0**	**+1.7**
KMI				AMB	AMB		
	comp=Z,220nm,8.4s						
KMI				LR	LR		
	comp=Z,590nm,22.3s						
KMI				LR	LR		
	comp=Z,440nm,20.9s						
KMI				LR	LR		
	comp=Z,790nm,23.5s						
TNCH	**TengChong**	**142.03**	**349**	PKP	**PKPdf**	**12 21 16.0**	**-3.9**
TNCH				PP	**PP**	**12 24 24.0**	**+0.5**
TNCH				AMB	AMB		
	comp=Z,300nm,7.3s						
TNCH				LR	LR		
	comp=Z,290nm,17.9s						
TNCH				LR	LR		
	comp=Z,230nm,17.0s						
TNCH				LR	LR		
	comp=Z,860nm,24.9s						
QIZ	**Qiongzhong**	**143.54**	**329**	IAMs_20	IAMs_20	13 36 49.6	
	comp=Z,536nm,21.0s						
QIZ	**Qiongzhong**	**143.54**	**329**	PKP	**PKPdf**	**12 21 21.8**	**-0.7**
QIZ				PP	**PP**	**12 24 35.0**	**+2.0**
QIZ				SKKS		12 31 22.3	
QIZ				AMB	AMB		
	comp=Z,330nm,9.4s						
QIZ				LR	LR		
	comp=Z,320nm,19.1s						
QIZ				LR	LR		
	comp=Z,300nm,15.2s						
QIZ				LR	LR		
	comp=Z,470nm,24.7s						
CHTO	**Chiang Mai**	**147.95**	**345**	PKPdf	**PKPdf**	**12 21 30.1**	**0.0**
CHTO				IAMs_20	IAMs_20	13 35 20.1	
	comp=Z,423nm,20.0s						
CHTO	**Chiang Mai**	**147.95**	**345**	PKIKP	**PKPdf**	**12 21 30.1**	**0.0**
HYB	**Hyderabad**	**148.00**	**22**	*e*PKPbc	**PKPbc**	**12 21 33.2**	**0.0**
CMAR	**Chiang Mai Arr**	**148.29**	**345**	PKPdf	**PKPdf**	**12 21 30.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**148.29**	**345**	PKPbc	**PKPdf**	**12 21 31.4**	**+0.7**
	comp=Z,5.3nm,0.5s,baz=313,slow=1.1,SNR=27						
NWAO	**Narrogin (SRO)**	**148.32**	**226**	PKPbc	**PKPbc**	**12 21 34.3**	**+0.7**
NWAO	**Narrogin (SRO)**	**148.32**	**226**	PKP2	**PKPbc**	**12 21 34.3**	**+0.7**
KKM	**Kota Kinabalu**	**148.76**	**305**	IAMs_20	IAMs_20	13 25 13.6	
	comp=Z,262nm,18.0s						
UBPT	**Khong Chiam**	**148.88**	**332**	PKPbc	**PKPbc**	**12 21 35.9**	**+0.4**
PSA00	**Pilbara Seismi**	**150.78**	**248**	PKPdf	**PKPdf**	**12 21 32.2**	**-2.3**
PSA00					**pPKPdf**	**12 21 39.5**	**+0.4**
PSA00				PKPab	**sPKPbc**	**12 21 47.5**	**+1.2**
MBWA	**Marble Bar**	**150.98**	**249**	PKPdf	**PKPdf**	**12 21 32.8**	**-1.9**
MBWA					**pPKPdf**	**12 21 39.6**	**+0.2**
MBWA				PKPab	**sPKPbc**	**12 21 47.6**	**+0.8**
MORW	**Morawa**	**151.23**	**231**	PKPdf	**PKPdf**	**12 21 33.0**	**-2.0**
MORW					**PKPbc**	**12 21 40.6**	**-0.3**
MORW				PKPab	**sPKPbc**	**12 21 48.3**	**+1.1**
SBUM	**Sibu**	**154.08**	**303**	PKPdf	**PKPdf**	**12 21 38.2**	**-1.4**
SBUM					**PKPab**	**12 22 01.3**	**+0.2**
KSM	**Kuching**	**156.19**	**304**	PKPdf	**PKPdf**	**12 21 40.8**	**-1.7**
KSM					**PKPab**	**12 22 10.4**	**+0.3**
PSI	**Prapat**	**162.85**	**331**	PKIKP	**PKPdf**	**12 21 50.2**	**-0.1**
PSI						12 22 39.1	
RPSI	**Rantau Prapat**	**162.95**	**331**	PKPdf	**PKPdf**	**12 21 50.2**	**0.0**
RPSI				PKPab	**PKPab**	**12 22 39.1**	**-0.2**
GSI	**Gunungsitoli**	**164.79**	**333**	PKPdf	**PKPdf**	**12 21 51.0**	**-0.9**
GSI				PKPab	**PKPab**	**12 22 46.9**	**-0.5**
COCO	**West Island**	**174.07**	**271**	PKPdf	**PKPdf**	**12 21 55.1**	**-2.3**
COCO				PKPab	**P

JAYA	**Jayaque - finc**	**1.30 352**	*e*P		**Pn**	**12 10 31.4**	**-2.7**
JAYA			IAML			12 10 50.8	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.30 352**	S		**Sb**	**12 10 50.6**	**-0.6**
COEG	**Centro de Oper**	**1.31 17**	*e*P		**Pn**	**12 10 32.6**	**-1.6**
COEG	**Centro de Oper**	**1.31 17**	P		**Pn**	**12 10 34.0**	**-0.2**
COEG	**Centro de Oper**	**1.31 17**	P		**Pn**	**12 10 33.1**	**-1.1**
COEG	**Centro de Oper**	**1.31 17**	S		**Sn**	**12 10 52.0**	**+0.3**
PMON	**Piamonte**	**1.34 358**	*e*P		**Pn**	**12 10 32.9**	**-1.9**
PMON	**Piamonte**	**1.34 358**	S		**Sn**	**12 10 53.4**	**+0.6**
PMON	**Piamonte**	**1.34 358**	P		**Sn**	**12 10 51.3**	**-1.4**
PMON	**Piamonte**	**1.34 358**	P		**Pn**	**12 10 34.5**	**-0.2**
PMON	**Piamonte**	**1.34 358**	S		**Sb**	**12 10 52.0**	**-0.6**
UEES	**Universidad Ev**	**1.35 1**	S		**Sb**	**12 10 53.0**	**+0.4**
TECA	**Tecapa**	**1.35 33**	*e*P		**Pn**	**12 10 34.3**	**-0.6**
UESV	**Universidad de**	**1.35 20**	P		**Pn**	**12 10 34.4**	**-0.4**
UESV	**Universidad de**	**1.35 20**	S		**Sb**	**12 10 52.7**	**+0.1**
UESV	**Universidad de**	**1.35 20**	P		**Pn**	**12 10 33.6**	**-1.2**
UESV	**Universidad de**	**1.35 20**	S		**Sb**	**12 10 52.2**	**-0.4**
BOQS	**Boqueron**	**1.37 359**	*e*P		**Pn**	**12 10 33.2**	**-2.0**
PIC2	**El Picacho**	**1.38 0**	*e*P		**Pn**	**12 10 33.7**	**-1.6**
PAVA	**Las Pavas**	**1.38 13**	*e*P		**Pn**	**12 10 33.7**	**-1.6**
PAVA	**Las Pavas**	**1.38 13**	S		**Sb**	**12 10 54.4**	**+0.8**
PAVA	**Las Pavas**	**1.38 13**	P		**Pn**	**12 10 34.9**	**-0.3**
LFU	**La Fuente**	**1.39 6**	*e*P		**Pn**	**12 10 34.1**	**-1.2**
RANC	**El Ranchito**	**1.43 42**	*e*P		**Pn**	**12 10 35.2**	**-0.7**
RANC	**El Ranchito**	**1.43 42**	P		**Pn**	**12 10 36.0**	**0.0**
RANC	**El Ranchito**	**1.43 42**	P		**Pb**	**12 10 36.4**	**-0.3**
RANC	**El Ranchito**	**1.43 42**	S		**Sg**	**12 10 56.0**	**+0.1**
PQSS	**Presa 15 de Se**	**1.43 29**	*e*P		**Pn**	**12 10 34.8**	**-1.1**
PQSS	**Presa 15 de Se**	**1.43 29**	P		**Pg**	**12 10 38.2**	**+0.9**
PQSS	**Presa 15 de Se**	**1.43 29**	S		**Sb**	**12 10 55.2**	**+0.3**
PQSS	**Presa 15 de Se**	**1.43 29**	P		**Pb**	**12 10 36.2**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.43 21**	*e*P		**Pn**	**12 10 35.1**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.43 21**	S		**Sb**	**12 10 55.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.43 21**	S		**Sg**	**12 10 56.0**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.43 21**	P		**Pb**	**12 10 36.4**	**-0.2**
CEDA	**San Andres**	**1.44 355**	P		**Pb**	**12 10 37.0**	**+0.3**
CEDA	**San Andres**	**1.44 355**	S		**Sb**	**12 10 56.2**	**+1.0**
BLLM	**Bellamira**	**1.47 43**	*e*P		**Pn**	**12 10 36.2**	**-0.2**
CEVE	**Cerro Verde**	**1.50 347**	P		**Pn**	**12 10 37.0**	**-0.1**
CEVE	**Cerro Verde**	**1.50 347**	S		**Sb**	**12 10 57.7**	**+0.6**
CEVE	**Cerro Verde**	**1.50 347**	S		**Sn**	**12 10 56.8**	**0.0**
CEVE	**Cerro Verde**	**1.50 347**	P		**Pb**	**12 10 37.9**	**0.0**
SBLS	**San Blas**	**1.51 347**	*e*P		**Pn**	**12 10 36.2**	**-0.9**
NUBE	**Las Nubes**	**1.61 342**	*e*P		**Pn**	**12 10 35.7**	**-2.8**
NUBE	**Las Nubes**	**1.61 342**	S		**Sb**	**12 11 01.6**	**+1.3**
NUBE	**Las Nubes**	**1.61 342**	S		**Sn**	**12 11 00.5**	**+1.1**
NUBE	**Las Nubes**	**1.61 342**	P		**Pn**	**12 10 38.1**	**-0.4**
UNIC	**Universidad Ca**	**1.64 350**	P		**Pn**	**12 10 38.9**	**+0.2**
UNIC	**Universidad Ca**	**1.64 350**	P		**Pn**	**12 10 38.5**	**-0.2**
LCND	**La Caada**	**1.64 55**	*e*P		**Pn**	**12 10 38.2**	**-0.4**
LCND	**La Caada**	**1.64 55**	P		**Pn**	**12 10 38.3**	**-0.4**
LCND	**La Caada**	**1.64 55**	P		**Pn**	**12 10 38.2**	**-0.4**
LCND	**La Caada**	**1.64 55**	P		**Pn**	**12 10 38.7**	**0.0**
CNCH	**Conchagua**	**1.67 57**	*e*P		**Pn**	**12 10 38.7**	**-0.4**
CNCH	**Conchagua**	**1.67 57**	P		**Pn**	**12 10 38.8**	**-0.4**
CNCH	**Conchagua**	**1.67 57**	P		**Pn**	**12 10 39.4**	**+0.2**
CNCH	**Conchagua**	**1.67 57**	S		**Sb**	**12 11 01.7**	**-0.1**
LOAL	**Lomas de Alarc**	**1.70 343**	S		**Sb**	**12 11 03.9**	**+1.1**
LOAL	**Lomas de Alarc**	**1.70 343**	P		**Pn**	**12 10 40.2**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.73 343**	*e*P		**Pn**	**12 10 38.6**	**-1.4**
SLOZ	**Alcaldia de Sa**	**1.73 343**	P		**Pn**	**12 10 41.0**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.73 343**	S		**Sb**	**12 11 04.5**	**+0.9**
LLGN	**La Laguna**	**1.82 10**	P		**Pn**	**12 10 42.1**	**+0.9**
LLGN	**La Laguna**	**1.82 10**	P		**Pb**	**12 10 42.8**	**-0.5**
POTN	**Potosi Cosigui**	**1.83 69**	P		**Pb**	**12 10 41.9**	**-1.5**
MTO3	**Montecristo**	**2.03 357**	P		**Pn**	**12 10 43.0**	**-1.2**
MTO3	**Montecristo**	**2.03 357**	P		**Pn**	**12 10 44.9**	**+0.6**
MTO3	**Montecristo**	**2.03 357**	S		**Sb**	**12 11 12.8**	**+0.5**
POLN	**Al Sur del Vol**	**2.41 83**	P		**Pn**	**12 10 49.2**	**-0.1**
POLN			S		**Sn**	**12 11 19.9**	**+0.9**
PLRN	**Geotermica Pol**	**2.45 85**	P		**Pn**	**12 10 49.7**	**-0.2**
PLRN			S		**Sb**	**12 11 21.3**	**-2.9**
PLRN	**Geotermica Pol**	**2.45 85**	P		**Pn**	**12 10 48.9**	**-0.9**
ILCN	**San Idelfonso**	**2.51 85**	S		**Sb**	**12 11 23.0**	**-3.1**
MOMN	**Momotombo**	**2.66 89**	P		**Pn**	**12 10 52.5**	**-0.3**
MOMN			S		**Sn**	**12 11 26.1**	**+0.8**
LIMN	**Finca el Limon**	**2.91 76**	P		**Pn**	**12 10 56.6**	**+0.2**
UNAN	**Cigeo UNAN**	**2.94 95**	S		**Sn**	**12 11 32.5**	**+0.5**
MGAN	**Managua**	**2.96 94**	S		**Sn**	**12 11 32.5**	**+0.1**
MAS3	**Al N del Volca**	**3.04 96**	S		**Sn**	**12 11 34.5**	**0.0**
NANN	**Nandasmo**	**3.10 97**	S		**Sn**	**12 11 37.5**	**+1.5**
NANN	**Nandasmo**	**3.10 97**	P		**Pg**	**12 11 00.5**	**+1.7**
RCVN	**Varilla12**	**3.23 68**	P		**Pn**	**12 11 01.0**	**+0.2**
RCVN	**Varilla12**	**3.23 68**	P		**Pn**	**12 11 01.4**	**+0.7**
RCVN	**Varilla12**	**3.23 68**	S		**Sn**	**12 11 42.0**	**+2.6**
RCPN	**Sur Rio San Ju**	**3.30 69**	P		**Pn**	**12 11 02.2**	**+0.5**
RCPN	**Sur Rio San Ju**	**3.30 69**	P		**Pn**	**12 11 02.9**	**+1.2**
RCPN	**Sur Rio San Ju**	**3.30 69**	P		**Pn**	**12 11 02.6**	**+0.9**

*SOME **26** 12:16:34.6, 42°.20N×80°.52E, h20km*
*KRNET **26** 12:16:35.6±0.1, 42°.60N×80°.42E, mb3.2*
*NNC **26** 12:16:36.2±1.0, 42°.31N×80°.45E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=6.7km s-min=5.5km az=155.0

ISC 26 12:16:38.4±1.7, 42°.39N±0°.07×80°.30E±0°.07, h10km, n31, σ1°.76/49, 11C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.98**	**321**		P	**Pg**	**12 16 54.3**	**-3.1**
	12nm,0.2s							
SHLS					S	**Sg**	**12 17 09.0**	**-1.2**
	110nm,0.3s							
SHLS	**Shalkode**	**0.98**	**321**	*e*P		**Pg**	**12 16 54.3**	**-3.1**
	18nm,0.2s							
SHLS				*e*S		**Sg**	**12 17 08.6**	**-1.5**
	110nm,0.3s							
PDGK	**Podgornoye**	**1.11**	**328**	⇑P		**Pb**	**12 16 58.7**	**-1.1**
	6.9nm,0.3s							
PDGK				⇑S		**Sn**	**12 17 16.3**	**+0.7**
	31nm,0.7s							
UZB	**Uzynbulak**	**1.21**	**309**	P		**Pn**	**12 17 00.8**	**-0.7**
	4.2nm,0.2s							
UZB				S		**Sn**	**12 17 20.1**	**+2.1**
	33nm,0.2s							
UZB	**Uzynbulak**	**1.21**	**309**	*e*P		**Pn**	**12 17 00.8**	**-0.7**
	4.2nm,0.2s							
UZB				*e*S		**Sn**	**12 17 20.1**	**+2.1**
	33nm,0.2s							
PRZ	**Przheval'sk**	**1.41**	**274**	⇑*e*P		**Pn**	**12 17 03.7**	**-0.6**
PRZ				⇑*e*S		**Sg**	**12 17 24.7**	**+1.0**
SATY	**Saty**	**1.54**	**296**	P		**Pg**	**12 17 07.5**	**-0.6**
	18nm,0.2s							
SATY				S		**Sg**	**12 17 31.4**	**+3.2**
	50nm,0.2s							
ZHN	**Zhinishke**	**1.57**	**300**	P		**Pg**	**12 17 08.1**	**-0.6**
	21nm,0.3s							
ZHN				S		**Sg**	**12 17 32.5**	**+3.4**
	63nm,0.2s							
ZHN	**Zhinishke**	**1.57**	**300**	*e*P		**Pg**	**12 17 08.1**	**-0.6**
	21nm,0.3s							
ZHN				*e*S		**Sg**	**12 17 32.5**	**+3.4**
	63nm,0.2s							
KURS	**Kuram**	**1.91**	**306**	Pg		**Pg**	**12 17 13.8**	**-1.2**
	24nm,0.4s							
KURS				Lg		Lg	12 17 42.1	
	17nm,0.6s							
ANVS	**Anan'yevo**	**1.98**	**282**	⇑*e*P		**Pb**	**12 17 13.4**	**-1.3**
ANVS				⇑*e*S		**Sg**	**12 17 41.3**	**-0.8**
KNOS	**Konyrlen**	**2.13**	**338**	Pg		**Pb**	**12 17 17.0**	**-0.2**
	9.6nm,0.2s							
KNOS				Lg		Lg	12 17 47.5	
	70nm,0.5s							
BLB	**Baldybastay**	**2.16**	**323**	Pg		**Pb**	**12 17 17.5**	**-0.2**
	190nm,0.3s							
BLB				Lg		Lg	12 17 48.3	
	130nm,0.3s							
KDJ	**Kajisay**	**2.33**	**265**	⇓*e*P		**Pb**	**12 17 19.2**	**-1.4**
KDJ				⇓*e*S		**Sb**	**12 17 50.7**	**+1.2**
KOTS	**Kotyrbulak**	**2.49**	**291**	Pg		**Pb**	**12 17 23.2**	**-0.1**
	9.3nm,0.3s							
KOTS				Lg		Lg	12 17 58.1	
	79nm,0.6s							
KOTS	**Kotyrbulak**	**2.49**	**291**	*e*P		**Pb**	**12 17 23.2**	**-0.1**
	9.3nm,0.3s							
KOTS				*e*S		**Sg**	**12 17 58.1**	**-0.4**
	79nm,0.6s							
MDOK	**Medeo**	**2.51**	**289**	Pn		**Pb**	**12 17 21.8**	**-1.9**
	11nm,0.5s							
MDOK				⇓Lg		Lg	12 18 00.6	
	15nm,0.6s							
TNSS	**Tian-Shan**	**2.55**	**286**	Pg		**Pb**	**12 17 23.8**	**-0.7**
	8.0nm,0.3s							
TNSS				Lg		Lg	12 17 59.3	
	12nm,0.7s							
TNSS	**Tian-Shan**	**2.55**	**286**	*e*P		**Pb**	**12 17 23.8**	**-0.7**
	8.0nm,0.3s							
TNSS				*e*S		**Sg**	**12 17 59.3**	**-1.1**
	12nm,0.7s							
ARXS	**Arharly**	**2.56**	**316**	Pg		**Pb**	**12 17 25.4**	**+0.8**
	78nm,0.5s							
ARXS				Lg		Lg	12 18 01.8	
	34nm,0.4s							
CHKK	**Chushkaly**	**2.83**	**302**	Pg		**Pb**	**12 17 29.8**	**+0.7**
	2.4nm,0.3s							
CHKK				Lg		Lg	12 18 09.3	
	27nm,0.3s							
CHKK	**Chushkaly**	**2.83**	**302**	*e*P		**Pb**	**12 17 29.8**	**+0.7**
	2.4nm,0.3s							
CHKK				*e*S		**Sg**	**12 18 09.3**	**0.0**
	27nm,0.3s							
KTBS	**Karatobe**	**2.96**	**298**	Pg		**Pb**	**12 17 32.0**	**+0.7**
	3.2nm,0.2s							
KTBS				Lg		Lg	12 18 13.2	
	65nm,0.5s							
BOOM	**Boomskoye usch**	**3.23**	**273**	⇓*e*P		**Pn**	**12 17 30.8**	**+1.5**
BOOM				⇓*e*S		**Sb**	**12 18 11.7**	**-3.6**
DGS	**Degeres**	**3.44**	**286**	Pg		**Pb**	**12 17 39.8**	**+0.4**
	1.9nm,0.3s							
DGS				Lg		Lg	12 18 26.6	
	21nm,0.5s							
TKM2	**Tokmak 2**	**3.51**	**280**	⇑Pg		**Pb**	**12 17 41.3**	**+0.6**
	1.6nm,0.5s							
TKM2				⇑Lg		Lg	12 18 31.1	
	9.4nm,0.6s							
KRBS	**Karabastau**	**3.63**	**293**	Pg		**Pb**	**12 17 44.1**	**+1.4**
	1.7nm,0.3s							
KRBS				Lg		Lg	12 18 33.8	
	6.7nm,0.4s							
AAK	**Ala-Archa**	**4.30**	**275**	⇓Pg		**Pg**	**12 17 57.0**	**-3.7**
	2.1nm,0.5s							
AAK				⇑Lg		Lg	12 18 57.7	
	5.2nm,0.6s							
ARLS	**Aral**	**4.47**	**265**	⇓*e*P		**Pn**	**12 17 48.5**	**+2.0**
ARLS				⇓*e*S		**Sn**	**12 18 42.1**	**+3.4**
MAKZ	**Makanchi**	**4.58**	**15**	⇓Pn		**Pn**	**12 17 48.7**	**+1.0**
	1.3nm,0.5s							
MAKZ				⇓Sn		**Sn**	**12 18 42.7**	**+1.8**
	4.5nm,0.9s							
MAKZ				⇓Lg		Lg	12 19 00.6	
	1.9nm,0.5s							
MK31	**Makanchi Array**	**4.62**	**17**	⇓Pn		**Pn**	**12 17 49.2**	**+0.8**
	0.5nm,0.3s,baz=198,slow=13,SNR=5.2							
MK31				⇑Sn		**Sn**	**12 18 44.4**	**+2.2**
	0.9nm,0.4s,baz=189,slow=24,SNR=6.2							
MK31				⇑Lg		Lg	12 19 01.7	
	5.0nm,0.6s							

HEL 26 12:20:50.3±0.3, 67°.71N×33°.60E, h0km, ML1.2,
Suspected explosion, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.44**	**64**		PG	Pg	12 20 58.4	-0.4
LVZ					SG	Sg	12 21 02.1	-2.4
VRF	**Varrio**	**1.52**	**273**		PG	Pn	12 21 17.5	-1.2
	baz=86							
VRF					MSG		12 21 35.9	
	comp=Z,1.9nm,0.2s							
VRF					SG	Sg	12 21 37.3	-1.7
RAJF	**Raja-Jooseppi**	**2.13**	**294**		PG	Pn	12 21 28.2	+1.2
RAJF					SG	Sb	12 21 55.4	-1.2
OLKF	**Oulanka, Finla**	**2.16**	**232**		PB	Pn	12 21 27.6	+0.1
OLKF					MSG		12 21 54.3	
	comp=Z,0.8nm,0.2s							
OLKF					SG	Sb	12 21 56.9	-0.5
KU6	**Riekki**	**2.24**	**223**		PB	Pn	12 21 29.0	+0.5
KU6					MSG		12 21 56.4	
	comp=Z,0.6nm,0.2s							
KU6					SG	Sb	12 21 59.7	0.0
MSF	**Maaselka**	**2.55**	**227**		SB	Sb	12 22 07.2	-1.6
RNF	**Rovaniemi**	**3.16**	**253**		PG	Pb	12 21 48.9	+1.7
KEV	**Kevo**	**3.16**	**314**		PN	Pn	12 21 41.3	+0.1
KEV					SN	Sn	12 22 19.7	+0.1
RANF	**Ranua**	**3.18**	**241**		PG	Pb	12 21 46.2	-1.4
ARA0	**ARCESS Array S**	**3.48**	**305**		PN	Pn	12 21 44.8	-0.9
LANU	**Lannavaara**	**4.40**	**280**		PG	Pb	12 22 07.4	-1.0

ROM 26 12:52:13.2±0.1, 43°.868N±0°.005×12°.241E±0°.007,
h21km±1km, ML2.1/26, Error ellipse: s-maj=0.7km
s-min=0.3km az=225.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPGN	**Carpegna, Ital**	**0.09**	**139**		P	Pb	12 52 17.1	-0.3
CPGN					S	Sb	12 52 20.3	+0.1
CPGN					AML	AML		
	comp=E,1145μm,0.3s							
CPGN					AML	AML		
	comp=E,642μm,1.6s							
CPGN					AML	AML		
	comp=E,643μm,1.6s							
CPGN					AML	AML		
	comp=N,1059μm,0.3s							
CPGN					AML	AML		
	comp=E,1145μm,0.3s							
CPGN					AML	AML		
	comp=N,738μm,0.6s							
CPGN					AML	AML		
	comp=E,643μm,0.4s							
CPGN					AML	AML		
	comp=E,642μm,0.4s							
RSM	**Repubblica di**	**0.16**	**67**		P	Pb	12 52 18.1	-1.0
PARC	**Parchiule**	**0.22**	**180**		P	Pb	12 52 18.5	-0.7
PARC					S	Sb	12 52 22.6	-0.7
PARC					AML	AML		
	comp=N,630μm,0.5s							
PARC					AML	AML		
	comp=E,620μm,0.4s							
PE3	**Peglio**	**0.25**	**133**		P	Pb	12 52 19.3	-0.1
PE3					S	Sb	12 52 24.3	+0.6
PE3					AML	AML		
	comp=N,2425μm,0.4s							
PE3					AML	AML		
	comp=E,1195μm,0.3s							
SFI	**Santa Sofia**	**0.29**	**278**		P	Pb	12 52 19.5	-0.3
SFI					S	Sb	12 52 24.4	+0.1
A309A	**Martorano (FC)**	**0.30**	**0**		P	Pb	12 52 19.8	-0.1
A309A					S	Sb	12 52 25.8	+1.3
SSP9	**Sansepolcro**	**0.30**	**195**		P	Pb	12 52 20.0	0.0
SSP9					S	Sb	12 52 25.7	+1.1
CRE	**Caprese Michel**	**0.33**	**220**		P	Pb	12 52 20.6	+0.3
CRE					S	Sb	12 52 26.5	+1.3
APEC	**Apecchio**	**0.34**	**157**		P	Pb	12 52 20.6	+0.1
APEC					S	Sb	12 52 26.5	+1.1
ASQU	**Asqua**	**0.34**	**258**		P	Pb	12 52 20.3	-0.1
ASQU					S	Sb	12 52 26.1	+0.7
NARO	**Abbazia di Nar**	**0.36**	**136**		P	Pb	12 52 20.5	-0.2
NARO					S	Sb	12 52 26.7	+0.9
NARO					AML	AML		
	comp=N,270μm,0.1s							
NARO					AML	AML		
	comp=E,228μm,0.9s							
BADI	**Badiali**	**0.36**	**180**		P	Pb	12 52 20.8	+0.1
BADI					S	Sb	12 52 26.9	+1.0
BADI					AML	AML		
	comp=E,411μm,1.1s							
BADI					AML	AML		
	comp=N,536μm,0.1s							
BADI					AML	AML		
	comp=N,537μm,0.1s							
BADI					AML	AML		
	comp=E,411μm,0.9s							
ATPI	**Pietralunga -**	**0.43**	**164**		P	Pb	12 52 22.2	+0.1
ATPI					S	Sb	12 52 29.4	+1.3
LMD	**Lutirano**	**0.44**	**299**		P	Pb	12 52 22.2	0.0
LMD					S	Sb	12 52 29.8	+1.5
LMD					AML	AML		
	comp=N,92μm,1.4s							
LMD					AML	AML		
	comp=N,92μm,1.4s							
LMD					AML	AML		
	comp=N,92μm,0.6s							
LMD					AML	AML		
	comp=E,104μm,1.6s							
LMD					AML	AML		
	comp=N,92μm,0.6s							
MPAG	**Monte Paganucc**	**0.45**	**122**		P	Pb	12 52 22.1	-0.2
MPAG					S	Sb	12 52 29.5	+1.0
MPAG					AML	AML		
	comp=E,193μm,1.6s							
MPAG					AML	AML		
	comp=E,194μm,1.6s							
MPAG					AML	AML		
	comp=N,159μm,1.5s							
MPAG					AML	AML		
	comp=E,194μm,0.4s							
MPAG					AML	AML		
	comp=E,193μm,0.4s							
MPAG					AML	AML		
	comp=N,159μm,0.5s							
FRON	**Frontone**	**0.50**	**135**		P	Pb	12 52 23.1	-0.1
FRON					S	Sb	12 52 31.5	+1.5
FRON					AML	AML		
	comp=N,194μm,0.5s							
FRON					AML	AML		
	comp=E,103μm,1.5s							
ATVO	**AVT- Monte Val**	**0.50**	**166**		P	Pb	12 52 23.5	+0.2
RUFI	**Rufina**	**0.53**	**267**		P	Pb	12 52 23.7	-0.1
SSFR	**Montelago di S**	**0.58**	**138**		P	Pb	12 52 24.6	-0.3
SSFR					AML	AML		
	comp=E,384μm,1.3s							
SSFR					AML	AML		
	comp=N,318μm,0.1s							
SSFR					AML	AML		
	comp=N,420μm,1.1s							
SSFR					AML	AML		
	comp=E,287μm,0.6s							
SSFR					AML	AML		
	comp=N,318μm,1.9s							
SSFR					AML	AML		
	comp=E,384μm,0.7s							
BRIS	**BRISIGHELLA**	**0.60**	**298**		P	Pb	12 52 23.7	-1.3
BRIS					AML	AML		
	comp=E,308μm,0.5s							
BRIS					AML	AML		
	comp=N,306μm,0.4s							
ARVD	**Arcevia**	**0.63**	**126**		P	Pb	12 52 25.5	-0.1
ARVD					S	Sn	12 52 35.8	-0.5
ARVD					AML	AML		
	comp=E,134μm,1.2s							
ARVD					AML	AML		
	comp=N,121μm,0.8s							
ARVD					AML	AML		
	comp=E,134μm,0.8s							

ROM 26 12:52:58.3±0.1, 43°.854N±0°.007×12°.22E±0°.01, h22km±1km,
ML1.8/10, Error ellipse: s-maj=0.9km s-min=0.2km
az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPGN	**Carpegna, Ital**	**0.09**	**126**		P	Pb	12 53 02.2	-0.4
CPGN					S	Sb	12 53 05.5	0.0
RSM	**Repubblica di**	**0.18**	**65**		P	Pb	12 53 03.8	0.0
PARC	**Parchiule**	**0.21**	**176**		P	Pb	12 53 03.6	-0.4
PARC					S	Sb	12 53 07.8	0.0
PARC					AML	AML		
	comp=E,323μm,0.4s							
PARC					AML	AML		
	comp=N,298μm,0.5s							
PE3	**Peglio**	**0.25**	**128**		P	Pb	12 53 04.3	-0.1
PE3					S	Sb	12 53 09.4	+0.8
PE3					AML	AML		
	comp=E,527μm,1.5s							
PE3					AML	AML		
	comp=N,1370μm,0.4s							
PE3					AML	AML		
	comp=E,523μm,1.5s							
PE3					AML	AML		
	comp=N,1370μm,0.4s							
PE3					AML	AML		
	comp=E,458μm,0.3s							
PE3					AML	AML		
	comp=N,1370μm,1.6s							
SFI	**Santa Sofia**	**0.28**	**281**		P	Pb	12 53 04.7	0.0
SFI					S	Sb	12 53 09.8	+0.6
SSP9	**Sansepolcro**	**0.29**	**193**		P	Pb	12 53 05.1	+0.2
SSP9					S	Sb	12 53 10.7	+1.3
CRE	**Caprese Michel**	**0.30**	**220**		P	Pb	12 53 05.5	+0.3
APEC	**Apecchio**	**0.33**	**154**		P	Pb	12 53 05.3	-0.2
APEC					S	Sb	12 53 11.5	+1.1
BLLA	**Bellaria**	**0.34**	**32**		P	Pn	12 53 06.9	-1.0
BADI	**Badiali**	**0.34**	**177**		P	Pb	12 53 05.9	+0.1
BADI					S	Sb	12 53 12.0	+1.1
BADI					AML	AML		
	comp=E,225μm,1.5s							
BADI					AML	AML		
	comp=E,226μm,1.5s							
BADI					AML	AML		
	comp=N,244μm,0.1s							
NARO	**Abbazia di Nar**	**0.36**	**133**		P	Pb	12 53 05.7	-0.2
NARO					S	Sb	12 53 11.8	+0.7
NARO					AML	AML		
	comp=E,144μm,1.3s							
NARO					AML	AML		
	comp=N,150μm,0.9s							
NARO					AML	AML		
	comp=E,144μm,0.7s							
ATPI	**Pietralunga -**	**0.42**	**162**		P	Pb	12 53 07.2	+0.1
LMD	**Lutirano**	**0.43**	**301**		P	Pb	12 53 07.2	0.0
MPAG	**Monte Paganucc**	**0.45**	**120**		P	Pb	12 53 07.3	-0.3
MPAG					AML	AML		
	comp=E,66μm,0.1s							
MPAG					AML	AML		
	comp=N,83μm,0.4s							
MPAG					AML	AML		
	comp=N,83μm,1.6s							
BRIS	**BRISIGHELLA**	**0.59**	**300**		P	Pb	12 53 08.3	-1.7
ARVD	**Arcevia**	**0.63**	**124**		P	Pb	12 53 10.6	0.0

*NEIC **26** 13:17:00.4±1.8, 17°.07S±0°.07×172°.3W±0°.1, h10km±1km,*
mb4.7/13, Error ellipse: s-maj=23.4km s-min=9.5km
az=247.0
*IDC **26** 13:17:01.9±0.7, 17°.33S×172°.68W, h0km, mb4.2/13,*
mbtmp4.2/13, MS3.9/3, Error ellipse: s-maj=30.8km
s-min=17.6km az=140.0

ISC 26 13:17:01.4±0.4, 17°.27S±0°.08×172°.41W±0°.07, h10km, n59,
**σ2°.17/55, mb4.

WB2 IAmb IAmb 13 26 14.0
comp=Z,18nm,1.6s
WRA Warramunga Arr 50.37 258 P P 13 25 57.2 -2.0
comp=Z,2.7nm,0.7s,baz=94,slow=8.1,SNR=16
WRA PcP **PcP 13 27 17.8 0.0**
comp=Z,0.7nm,0.7s,baz=89,slow=3.6,SNR=2.1
comp=Z,2.7nm,0.7s
ASAR Alice Springs 50.46 253 P 13 25 58.4 -1.5
ASAR Alice Springs 50.46 253 P **P 13 25 58.7 -1.1**
comp=Z,7.5nm,0.6s,baz=89,slow=8.4,SNR=102
ASAR PcP **PcP 13 27 20.1 +2.0**
comp=Z,1.0nm,0.7s,baz=111,slow=2.8,SNR=4.6
comp=Z,7.5nm,0.6s
VNDA Vanda 61.62 186 P P 13 27 16.6 -2.2
VNDA IAmb IAmb 13 27 39.8
comp=Z,11nm,1.6s
QSPA South Pole Qui 72.78 180 P P 13 28 32.4 +2.5
QSPA South Pole Qui 72.78 180 P **P 13 28 32.6 +2.7**
comp=Z,4.2nm,0.8s,baz=346,slow=0.4,SNR=17
comp=Z,4.2nm,0.8s
PETK Petropavlovsk- 74.69 342 P P 13 28 43.4 +2.4
comp=Z,2.9nm,0.7s,baz=141,slow=9.3,SNR=2.8
comp=Z,2.9nm,0.7s
NVAR Mina Array Bea 75.09 41 P P 13 28 47.0 +3.0
comp=Z,1.6nm,0.9s,baz=230,slow=9.2,SNR=8.8
comp=Z,1.6nm,0.9s
KSRS Korea Array 78.15 315 P P 13 29 04.0 +3.0
comp=Z,1.2nm,0.9s,baz=142,slow=6.3,SNR=6.5
comp=Z,1.2nm,0.9s
ILSW Iliamna Southw 78.56 10 P P 13 29 01.1 -1.8
M19K Big River Lodg 80.20 9 P **P 13 29 09.5 -2.2**
TXAR Lajitas Array 80.87 56 P P 13 29 19.6 +3.4
comp=Z,0.9nm,0.9s,baz=230,slow=7.5,SNR=7.1
comp=Z,0.9nm,0.9s
N25K Chitina, Valde 81.68 13 P P 13 29 16.4 -3.2
N25K IAmb IAmb 13 30 48.4
comp=Z,13nm,1.5s
BELA Belgrano 2 82.02 172 P P 13 29 21.4 0.0
PDAR Pinedale Array 83.03 41 P P 13 29 29.4 +2.0
comp=Z,1.8nm,1.0s,baz=247,slow=4.6,SNR=9.1
comp=Z,1.8nm,1.0s
ILAR Eielson Array 84.09 11 P P 13 29 33.7 +1.6
comp=Z,0.7nm,0.8s,baz=229,slow=5.7,SNR=11
comp=Z,0.7nm,0.8s
INK Inuvik 89.85 13 P P 13 30 02.7 +2.8
comp=Z,0.8nm,0.8s,baz=229,slow=10,SNR=3.9
comp=Z,0.8nm,0.8s
SYO Syowa Base 90.95 191 *e*P **P 13 30 04.0 -1.3**
SNAA Sanae 90.99 177 P **P 13 30 05.3 -0.3**
YKA Yellowknife Ar 91.43 23 P **P 13 30 10.2 +2.8**
comp=Z,0.4nm,0.7s,baz=233,slow=4.7,SNR=7.7
comp=Z,0.4nm,0.7s
CMAR Chiang Mai Arr 94.10 288 P **P 13 30 23.6 +2.9**
comp=Z,1.3nm,0.8s,baz=95,slow=2.1,SNR=10
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 112.81 314 PKiKP **PKiKP 13 35 40.6 +2.0**
comp=Z,0.3nm,0.6s,baz=205,slow=1.0,SNR=5.1
KURBB Kurchatov Arra 115.23 318 PKP **PKPdf 13 35 44.1 +1.1**
comp=Z,0.3nm,0.7s,baz=106,slow=1.4,SNR=4.7
BVAR Borovoye Array 119.93 322 PKP **PKiKP 13 35 54.4 +2.2**
comp=Z,0.7nm,0.5s,baz=72,slow=4.8,SNR=5.3
GERES GERESS Array B 148.12 352 PKPbc **PKPab 13 36 50.6 +0.2**
comp=Z,2.1nm,1.0s,baz=2.6,slow=2.9,SNR=4.0
BRTR Keskin Array B 148.20 320 PKPbc **PKPab 13 36 49.2 -1.9**
comp=Z,1.7nm,0.9s,baz=89,slow=3.2,SNR=6.4
CONA Conrad Observa 148.68 349 *e*PKP **PKPab 13 36 50.7 -1.9**
comp=Z,7.5nm,2.0s
RONA Rosalia, Austr 148.82 349 *e*PKiKP **PKPab 13 36 52.8 -0.4**
comp=Z,12nm,1.6s
ARSA Arzberg 149.40 349 *e*PKP **PKPab 13 36 53.0 -2.4**
comp=Z,3.0nm,0.7s
WATA Walderalm 149.84 355 *e*PKP **PKiKP 13 36 51.4 -1.6**
comp=Z,2.0nm,0.5s
MOTA Moosalm 149.87 355 *e*PKiKP **PKPab 13 36 56.6 -1.0**
comp=Z,4.6nm,1.1s
KBA Koelnbreinsper 149.90 352 *e*PKP **PKiKP 13 36 52.2 -1.0**
comp=Z,3.7nm,1.2s
WTTA Wattenberg 149.91 354 *e*PKP **PKiKP 13 36 52.5 -0.7**
comp=Z,14nm,1.9s
DAVA Damuels 150.01 357 *e*PKP **PKiKP 13 36 52.2 -1.2**
comp=Z,4.8nm,1.2s
SOKA Soboth 150.04 350 *e*PKP **PKPbc 13 36 49.6 -2.9**
comp=Z,2.1nm,0.8s
FETA Feichten 150.22 356 *e*PKiKP **PKPab 13 36 58.2 -0.8**
comp=Z,4.2nm,1.0s
OBKA Obir 150.28 350 *e*PKP **PKPbc 13 36 50.5 -2.6**
comp=Z,7.8nm,1.2s
ABTA Abfaltersbach 150.33 353 *e*PKP **PKPdf 13 36 48.6 +0.6**
comp=Z,5.9nm,1.0s
MMAI Mount Meron Ar 150.47 307 PKPab **PKPab 13 37 02.9 +2.5**
comp=Z,0.5nm,0.3s,baz=60,slow=8.5,SNR=4.6

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*IDC **26** 13:30:29.2±13.0, 12°.78N×88°.43W, h0km, mb3.4/4, mbtmp3.4/4, MS3.7/1, Error ellipse: s-maj=241.8km s-min=86.1km az=176.0*
*CATAC **26** 13:30:33.8±0.8, 12°.N±4°.×8°.9W±°., h2km±4km, M3.7/21, MLv3.7/21, Error ellipse: s-maj=9.4km s-min=3.9km az=22.8, confirmed*
*SNET **26** 13:30:34.4±1.6, 12°.46N×89°.27W, h11km±22km, ML3.5*
ISC 26 13:30:32.4±1.4, 12°.42N±0°.07×89°.38W±0°.04, h10km, n111, σ0°.94/110, mb3.3/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.07**	**3**	S	**Sg**	**13 31 04.8**	**-2.0**
LALI	**Alcalda de L**	**1.07**	**3**	P	Pn	13 31 01.6	+8.2
LALI	**Alcalda de L**	**1.07**	**3**	P	**Pg**	**13 30 52.7**	**-0.2**
LALI	**Alcalda de L**	**1.07**	**3**	S	**Sb**	**13 31 07.0**	**0.0**
ALJI	**Alcalda de J**	**1.20**	**41**	P	**Pb**	**13 30 55.0**	**-0.2**
ALJI	**Alcalda de J**	**1.20**	**41**	S	**Sb**	**13 31 10.0**	**-0.8**
PANCS	**Alcalda de**	**1.20**	**9**	S	**Sg**	**13 31 10.2**	**-1.0**
PANCS	**Alcalda de**	**1.20**	**9**	P	**Pb**	**13 30 55.4**	**+0.1**
JAYA	**Jayaque - finc**	**1.23**	**357**	*e*P	**Pb**	**13 30 55.2**	**-0.7**
JAYA				*e*S	**Sg**	**13 31 11.6**	**-0.5**
JAYA				IAML		13 31 19.2	
	comp=Z,1μm,0.3s						
JAYA	**Jayaque - finc**	**1.23**	**357**	S	**Sb**	**13 31 09.4**	**-2.5**
JAYA	**Jayaque - finc**	**1.23**	**357**	S	**Sn**	**13 31 12.8**	**+0.2**
JAYA	**Jayaque - finc**	**1.23**	**357**	P	**Pb**	**13 30 55.8**	**-0.1**
JAYA	**Jayaque - finc**	**1.23**	**357**	P	**Pb**	**13 30 56.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.23**	**357**	S	**Sg**	**13 31 11.5**	**-0.6**
LOMA	**Loma Larga**	**1.24**	**9**	*e*P	**Pn**	**13 30 56.4**	**+0.5**
LOMA				*e*S	**Sn**	**13 31 13.0**	**+0.3**
LOMA	**Loma Larga**	**1.24**	**9**	P	**Pn**	**13 30 57.5**	**+1.7**
LOMA	**Loma Larga**	**1.24**	**9**	P	**Sn**	**13 31 14.8**	**+2.1**
LOMA	**Loma Larga**	**1.24**	**9**	S	**Sb**	**13 31 10.8**	**-1.2**
LOMA	**Loma Larga**	**1.24**	**9**	S	**Sn**	**13 31 12.4**	**-0.3**
LOMA	**Loma Larga**	**1.24**	**9**	P	**Pb**	**13 30 55.9**	**0.0**
LFRS	**El Faro**	**1.24**	**14**	*e*P	**Pb**	**13 30 55.1**	**-0.8**
ITCA	**Escuela Especi**	**1.25**	**4**	S	**Sg**	**13 31 12.0**	**-0.8**
ITCA	**Escuela Especi**	**1.25**	**4**	P	**Pb**	**13 30 56.1**	**-0.1**
TECO	**Alcaldia de Te**	**1.26**	**28**	P	**Pb**	**13 30 55.9**	**-0.3**
TECO	**Alcaldia de Te**	**1.26**	**28**	S	**Sg**	**13 31 12.3**	**-0.6**
PMON	**Piamonte**	**1.29**	**3**	*e*P	**Pg**	**13 30 57.6**	**+0.4**
PMON	**Piamonte**	**1.29**	**3**	S	**Sn**	**13 31 14.6**	**+0.6**
PMON	**Piamonte**	**1.29**	**3**	P	**Pg**	**13 30 58.2**	**+1.0**
PMON	**Piamonte**	**1.29**	**3**	S	**Sn**	**13 31 15.9**	**+2.0**
PMON	**Piamonte**	**1.29**	**3**	P	**Pg**	**13 30 58.0**	**+0.8**
PMON	**Piamonte**	**1.29**	**3**	S	**Sn**	**13 31 13.6**	**-0.3**
PMON	**Piamonte**	**1.29**	**3**	P	**Pn**	**13 30 56.6**	**0.0**
COEG	**Centro de Oper**	**1.29**	**22**	*e*P	**Pn**	**13 30 57.0**	**+0.4**
COEG	**Centro de Oper**	**1.29**	**22**	S	**Sb**	**13 31 12.8**	**-0.7**
COEG	**Centro de Oper**	**1.29**	**22**	P	**Pn**	**13 30 56.8**	**+0.2**
COEG	**Centro de Oper**	**1.29**	**22**	S	**Sn**	**13 31 14.2**	**+0.3**
UEES	**Universidad Ev**	**1.30**	**6**	S	**Sn**	**13 31 13.7**	**-0.5**
UEES	**Universidad Ev**	**1.30**	**6**	P	**Pn**	**13 30 56.5**	**-0.2**
BOQS	**Boqueron**	**1.31**	**4**	*e*P	**Pn**	**13 30 56.7**	**-0.3**
PIC2	**El Picacho**	**1.32**	**5**	*e*P	**Pn**	**13 30 57.2**	**0.0**
UESV	**Universidad de**	**1.34**	**25**	P	**Pn**	**13 30 57.7**	**+0.5**
UESV	**Universidad de**	**1.34**	**25**	S	**Sg**	**13 31 14.6**	**-1.0**
PAVA	**Las Pavas**	**1.36**	**18**	*e*P	**Pn**	**13 30 56.9**	**-0.6**
PAVA	**Las Pavas**	**1.36**	**18**	S	**Sn**	**13 31 18.7**	**+3.0**
PAVA	**Las Pavas**	**1.36**	**18**	P	**Pg**	**13 31 00.2**	**+1.7**
PAVA	**Las Pavas**	**1.36**	**18**	S	**Sg**	**13 31 15.1**	**-1.0**
PAVA	**Las Pavas**	**1.36**	**18**	P	**Pn**	**13 30 57.7**	**+0.1**
PAVA	**Las Pavas**	**1.36**	**18**	S	**Sn**	**13 31 16.4**	**+0.8**
TECA	**Tecapa**	**1.37**	**39**	*e*P	**Pn**	**13 30 57.6**	**-0.1**
CEDA	**San Andres**	**1.38**	**359**	S	**Sb**	**13 31 15.2**	**-0.8**
CEDA	**San Andres**	**1.38**	**359**	P	**Pn**	**13 30 57.9**	**+0.2**
CEVE	**Cerro Verde**	**1.42**	**350**	S	**Sb**	**13 31 16.7**	**-0.8**
CEVE	**Cerro Verde**	**1.42**	**350**	S	**Sb**	**13 31 15.2**	**-2.3**
CEVE	**Cerro Verde**	**1.42**	**350**	P	**Pn**	**13 30 59.1**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.43**	**26**	P	**Pn**	**13 30 58.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.43**	**26**	S	**Sn**	**13 31 17.1**	**-0.2**
SBLS	**San Blas**	**1.43**	**350**	*e*P	**Pg**	**13 31 00.1**	**+0.2**
PQSS	**Presa 15 de Se**	**1.44**	**34**	P	**Pb**	**13 30 59.4**	**+0.1**
PQSS	**Presa 15 de Se**	**1.44**	**34**	P	**Pb**	**13 30 59.4**	**+0.1**
PACA	**Pacayal**	**1.47**	**44**	*e*P	**Pn**	**13 30 59.1**	**+0.1**
PACA	**Pacayal**	**1.47**	**44**	P	**Pn**	**13 30 59.6**	**+0.5**
PACA	**Pacayal**	**1.47**	**44**	S	**Sb**	**13 31 18.5**	**-0.1**
PACA	**Pacayal**	**1.47**	**44**	P	**Pn**	**13 30 59.5**	**+0.5**
RANC	**El Ranchito**	**1.47**	**46**	*e*P	**Pn**	**13 30 58.2**	**-0.8**
RANC	**El Ranchito**	**1.47**	**46**	P	**Pn**	**13 30 59.5**	**+0.4**
RANC	**El Ranchito**	**1.47**	**46**	S	**Sg**	**13 31 18.8**	**-0.8**
BLLM	**Bellamira**	**1.51**	**47**	*e*P	**Pn**	**13 30 59.9**	**+0.3**
NUBE	**Las Nubes**	**1.53**	**345**	*e*P	**Pn**	**13 31 00.8**	**+0.9**
NUBE	**Las Nubes**	**1.53**	**345**	P	**Pn**	**13 30 59.4**	**-0.5**
NUBE	**Las Nubes**	**1.53**	**345**	S	**Sn**	**13 31 19.4**	**-0.5**
NUBE	**Las Nubes**	**1.53**	**345**	P	**Pn**	**13 30 59.2**	**-0.6**
NUBE	**Las Nubes**	**1.53**	**345**	S	**Sb**	**13 31 20.0**	**-0.4**
NUBE	**Las Nubes**	**1.53**	**345**	P	**Pn**	**13 31 00.3**	**+0.4**
FAME	**Alcaldia de Sa**	**1.55**	**336**	S	**Sb**	**13 31 20.5**	**-0.4**
FAME	**Alcaldia de Sa**	**1.55**	**336**	S	**Sn**	**13 31 19.9**	**-0.2**
FAME	**Alcaldia de Sa**	**1.55**	**336**	S	**Sn**	**13 31 19.5**	**-0.6**
UNIC	**Universidad Ca**	**1.56**	**354**	S	**Sn**	**13 31 20.5**	**-0.2**
UNIC	**Universidad Ca**	**1.56**	**354**	S	**Sn**	**13 31 19.5**	**-1.2**
UNIC	**Universidad Ca**	**1.56**	**354**	P	**Pn**	**13 31 01.0**	**+0.7**
LOAL	**Lomas de Alarc**	**1.62**	**346**	P	**Pn**	**13 31 01.7**	**+0.6**
LOAL	**Lomas de Alarc**	**1.62**	**346**	S	**Sb**	**13 31 22.8**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.65**	**346**	S	**Sb**	**13 31 23.1**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.65**	**346**	P	**Pn**	**13 31 02.4**	**+1.0**
LCND	**La Caada**	**1.70**	**58**	*e*P	**Pn**	**13 31 01.3**	**-0.9**
LCND				IAML		13 31 37.3	
	comp=Z,455nm,0.3s						
LCND	**La Caada**	**1.70**	**58**	P	**Pn**	**13 31 01.5**	**-0.7**
LCND	**La Caada**	**1.70**	**58**	P	**Pn**	**13 31 01.5**	**-0.7**
LCND	**La Caada**	**1.70**	**58**	P	**Pn**	**13 31 02.9**	**+0.7**
LCND	**La Caada**	**1.70**	**58**	P	**Pn**	**13 31 02.3**	**+0.2**
CNCH	**Conchagua**	**1.73**	**60**	*e*P	**Pn**	**13 31 02.8**	**+0.2**
CNCH	**Conchagua**	**1.73**	**60**	S	**Sg**	**13 31 28.3**	**+0.1**
CNCH	**Conchagua**	**1.73**	**60**	P	**Pn**	**13 31 03.4**	**+0.7**
CNCH	**Conchagua**	**1.73**	**60**	P	**Pn**	**13 31 03.3**	**+0.6**
CNCH	**Conchagua**	**1.73**	**60**	S	**Sb**	**13 31 26.1**	**-0.1**
LLGN	**La Laguna**	**1.79**	**14**	S	**Sb**	**13 31 26.7**	**-1.0**
LLGN	**La Laguna**	**1.79**	**14**	S	**Sn**	**13 31 25.9**	**-0.3**
LLGN	**La Laguna**	**1.79**	**14**	P	**Pn**	**13 31 04.3**	**+0.9**
MTO3	**Montecristo**	**1.97**	**1**	*e*P	**Pb**	**13 31 08.5**	**0.0**
MTO3	**Montecristo**	**1.97**	**1**	S	**Sg**	**13 31 38.2**	**+2.4**
MTO3	**Montecristo**	**1.97**	**1**	P	**Pb**	**13 31 08.9**	**+0.4**
MTO3	**Montecristo**	**1.97**	**1**	P	**Pn**	**13 31 07.2**	**+1.2**
MTO3	**Montecristo**	**1.97**	**1**	S	**Sb**	**13 31 32.9**	**-0.3**
ESQI	**Esquipulas**	**2.13**	**1**	S	**Sb**	**13 31 36.3**	**-1.4**
ESQI	**Esquipulas**	**2.13**	**1**	S	**Sg**	**13 31 43.3**	**+2.4**
ESQI	**Esquipulas**	**2.13**	**1**	P	**Pb**	**13 31 12.0**	**+0.9**
ESQI	**Esquipulas**	**2.13**	**1**	P	**Pn**	**13 31 10.0**	**+1.8**
ESQI	**Esquipulas**	**2.13**	**1**	S	**Sb**	**13 31 37.3**	**-0.4**
TXAR	**Lajitas Array**	**21.45**	**324**	P	**P**	**13 35 22.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=134,slow=7.5,SNR=7.2						
	comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**36.51**	**320**	P	**P**	**13 37 38.8**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=125,slow=7.6,SNR=2.6						
	comp=Z,0.3nm,0.7s						
ULM	**Lac du Bonnet**	**38.10**	**353**	P	P	13 37 47.2	-4.1
	comp=Z,0.6nm,0.5s,baz=158,slow=11,SNR=3.1						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**53.16**	**346**	P	**P**	**13 39 48.1**	**-2.1**
	comp=Z,0.2nm,0.7s,baz=147,slow=7.4,SNR=5.9						
	comp=Z,0.2nm,0.7s						
FRB	**Frobisher Bay**	**53.31**	**11**	LR	LR	14 02 46.9	
	comp=Z,77nm,19.9s,baz=99,slow=37						

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*IDC **26** 13:38:04.3±2.8, 14°.61N×91°.71W, h0km, mb3.4/3, mbtmp3.6/6, ML3.8/3, Error ellipse: s-maj=124.5km s-min=29.4km az=39.0*
*GCG **26** 13:38:06.9±2.0, 14°.09N×92°.18W, h20km±9km, MD4.5*
*CATAC **26** 13:38:08.0±0.5, 14°.N±2°.×9°.2W±°., h18km±3km, M4.3/18, MLv4.3/18, Error ellipse: s-maj=7.2km s-min=4.6km az=60.9, confirmed*
*NEIC **26** 13:38:07.9±1.3, 14°.16N±0°.08×92°.33W±0°.06, h31km±6km, mb3.7/4, Md4.3/42(MEX), Error ellipse: s-maj=11.0km s-min=7.6km az=190.0*
*MEX **26** 13:38:07.9±0.8, 14°.08N×92°.38W, h12km±18km, MD4.4*
ISC 26 13:38:04.2±1.5, 14°.04N±0°.05×92°.41W±0°.03, h14km±8km, n105, σ2°.04/146, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.85**	**55**		**Pg**	**13 38 21.1**	**+0.5**
RTAL	**Retalhuleu**	**0.85**	**55**	*i* P	**Pg**	**13 38 21.0**	**+0.5**
RTAL				*e*S	**Sg**	**13 38 30.8**	**-0.9**
RTAL	**Retalhuleu**	**0.85**	**55**	P	**Pg**	**13 38 21.3**	**+0.7**
RTAL				S	**Sg**	**13 38 30.5**	**-1.2**
THIG		**0.88**	**9**		**Pg**	**13 38 21.6**	**+0.4**
THIG					**Sg**	**13 38 32.5**	**-0.2**
THIG		**0.88**	**9**	*e*P	**Pg**	**13 38 21.6**	**+0.4**
THIG				*e*S	**Sg**	**13 38 32.5**	**-0.2**
THIG		**0.88**	**9**	*i* P	**Pg**	**13 38 21.6**	**+0.4**
THIG				*i* S	**Sg**	**13 38 33.5**	**+0.8**
THIG		**0.88**	**9**	*i* P		13 38 21.6	
THIG				*i* S		13 38 33.5	
SMCA	**Catarina**	**0.88**	**22**	*e*P	**Pg**	**13 38 20.9**	**-0.3**
SMCA				*i* S	**Sg**	**13 38 31.9**	**-0.8**
SMCA	**Catarina**	**0.88**	**22**	*e*P		13 38 20.9	
SMCA				*i* S		13 38 31.9	
PATR	**El Naranjo**	**1.09**	**9**	*i* P	**Pb**	**13 38 24.1**	**-0.8**
PATR				*i* S	**Sb**	**13 38 37.5**	**-1.6**
STG0	**El Palmar, Qui**	**1.11**	**69**	*e*P		13 38 23.3	
STG8	**El Palmar, Qui**	**1.11**	**68**	*e*P		13 38 23.0	
STG8				*e*S		13 38 35.7	
PAVE	**Pavencul**	**1.17**	**11**	*i* P	**Pn**	**13 38 25.4**	**-1.1**
PAVE				*i* S	**Sb**	**13 38 39.7**	**-1.9**
SOKI	**Kika Raxquin**	**1.25**	**51**	*e*P	**Pn**	**13 38 26.9**	**-0.7**
SOKI				*i* S	**Sb**	**13 38 41.9**	**-2.0**
SOKI	**Kika Raxquin**	**1.25**	**51**	*e*P		13 38 26.9	
SOKI				*i* S		13 38 41.9	
HUEH	**Huehuetenango**	**1.55**	**35**		**Pn**	**13 38 31.8**	**+0.1**
HUEH	**Huehuetenango**	**1.55**	**35**	*e*P	**Pn**	**13 38 31.7**	**+0.1**
HUEH				*e*S	**Sn**	**13 38 49.7**	**-1.9**
HUEH	**Huehuetenango**	**1.55**	**35**	P	**Pn**	**13 38 32.3**	**+0.7**
HUEH	**Huehuetenango**	**1.55**	**35**	S	**Sn**	**13 38 50.4**	**-1.2**
HUEH	**Huehuetenango**	**1.55**	**35**	*e*P	**Pn**	**13 38 31.7**	**+0.1**
HUEH				*i* S	**Sn**	**13 38 51.3**	**-0.4**
HUEH	**Huehuetenango**	**1.55**	**35**	*e*P		13 38 31.7	
HUEH				*i* S		13 38 51.3	
PCIG		**1.83**	**335**		**Pn**	**13 38 35.3**	**+0.1**
PCIG					**Sn**	**13 38 56.5**	**-1.8**
PCIG		**1.83**	**335**	*e*P	**Pn**	**13 38 35.3**	**+0.1**
PCIG				*i* S	**Sn**	**13 38 56.5**	**-1.8**
CCIG	**Comitan**	**2.25**	**7**		**Pn**	**13 38 41.2**	**0.0**
CCIG	**Comitan**	**2.25**	**7**	*e*P	**Pn**	**13 38 43.0**	**+1.8**
CCIG				*i* S	**Sn**	**13 39 09.0**	**+0.2**
CCIG	**Comitan**	**2.25**	**7**	P	**Pn**	**13 38 43.1**	**+1.9**
CCIG	**Comitan**	**2.25**	**7**	S	**Sn**	**13 39 10.5**	**+1.7**
CCIG	**Comitan**	**2.25**	**7**	*e*P	**Pn**	**13 38 43.1**	**+1.9**
CCIG				*i* S	**Sn**	**13 39 11.5**	**+2.7**
CCIG	**Comitan**	**2.25**	**7**	*e*P		13 38 43.1	
CCIG				*i* S		13 39 11.5	
SLOZ	**Alcaldia de Sa**	**2.55**	**90**	S	**Sn**	**13 39 14.4**	**-1.7**
SLOZ	**Alcaldia de Sa**	**2.55**	**90**	P	**Pn**	**13 38 46.2**	**+1.0**
LOAL	**Lomas de Alarc**	**2.55**	**91**	S	**Sn**	**13 39 14.3**	**-1.9**
LOAL	**Lomas de Alarc**	**2.55**	**91**	P	**Pn**	**13 38 45.7**	**+0.4**
NUBE	**Las Nubes**	**2.56**	**93**	P	**Pn**	**13 38 45.3**	**-0.1**
NUBE	**Las Nubes**	**2.56**	**93**	S	**Sn**	**13 39 14.1**	**-2.3**
NUBE	**Las Nubes**	**2.56**	**93**	*e*P	**Pn**	**13 38 45.3**	**-0.1**
NUBE	**Las Nubes**	**2.56**	**93**	*e*P		13 38 45.3	
CEVE	**Cerro Verde**	**2.71**	**94**	P	**Pn**	**13 38 47.7**	**0.0**
CEVE	**Cerro Verde**	**2.71**	**94**	S	**Sn**	**13 39 18.6**	**-1.9**
UNIC	**Universidad Ca**	**2.78**	**91**	P	**Pn**	**13 38 48.5**	**+0.1**
UNIC	**Universidad Ca**	**2.78**	**91**	S	**Sn**	**13 39 19.6**	**-2.2**
TGIG		**2.81**	**346**		**Pn**	**13 38 48.7**	**-0.1**
TGIG					**Sn**	**13 39 22.0**	**-0.6**
TGIG		**2.81**	**346**	*e*P	**Pn**	**13 38 48.7**	**-0.1**
TGIG				*e*S	**Sn**	**13 39 22.0**	**-0.6**
TGIG		**2.81**	**346**	*e*P	**Pn**	**13 38 49.6**	**+0.8**
TGIG		**2.81**	**346**	*e*P		13 38 49.6	
JAYA	**Jayaque - finc**	**2.90**	**97**	P	**Pn**	**13 38 50.7**	**+0.6**
JAYA	**Jayaque - finc**	**2.90**	**97**	S	**Sn**	**13 39 21.9**	**-3.1**
MTO3	**Montecristo**	**2.98**	**83**		**Pn**	**13 38 51.4**	**+0.1**
MTO3	**Montecristo**	**2.98**	**83**	P	**Pn**	**13 38 51.4**	**+0.1**
MTO3	**Montecristo**	**2.98**	**83**	S	**Sn**	**13 39 24.2**	**-2.7**
ESQI	**Esquipulas**	**3.02**	**80**		**Pn**	**13 38 52.2**	**+0.5**
ESQI	**Esquipulas**	**3.02**	**80**	P	**Pn**	**13 38 51.7**	**0.0**
ESQI	**Esquipulas**	**3.02**	**80**	S	**Sn**	**13 39 25.6**	**-2.3**
PMON	**Piamonte**	**3.02**	**96**	P	**Pn**	**13 38 52.7**	**+0.9**
PMON	**Piamonte**	**3.02**	**96**	S	**Sn**	**13 39 26.7**	**-1.2**
LALI	**Alcalda de L**	**3.05**	**100**	P	**Pn**	**13 38 51.3**	**-0.8**
LALI	**Alcalda de L**	**3.05**	**100**	S	**Sn**	**13 39 26.4**	**-2.0**
LOMA	**Loma Larga**	**3.17**	**97**	P	**Pn**	**13 38 53.9**	**0.0**
LOMA	**Loma Larga**	**3.17**	**97**	S	**Sn**	**13 39 29.4**	**-2.2**
LLGN	**La Laguna**	**3.37**	**87**	S	**Sn**	**13 39 34.5**	**-1.8**
LLGN	**La Laguna**	**3.37**	**87**	P	**Pn**	**13 38 56.7**	**+0.2**
PAVA	**Las Pavas**	**3.39**	**95**	P	**Pn**	**13 38 57.3**	**+0.5**
PAVA	**Las Pavas**	**3.39**	**95**	S	**Sn**	**13 39 35.0**	**-1.9**
COEG	**Centro de Oper**	**3.46**	**96**	S	**Sn**	**13 39 36.7**	**-1.8**
COEG	**Centro de Oper**	**3.46**	**96**	P	**Pn**	**13 38 57.9**	**+0.2**
SCLA	**Alcaldia de Sa**	**3.59**	**95**	P	**Pn**	**13 39 00.5**	**+0.9**
SCLA	**Alcaldia de Sa**	**3.59**	**95**	S	**Sn**	**13 39 40.5**	**-1.3**
UXUV	**UXUV**	**3.67**	**333**	*e*P	**Pn**	**13 39 02.5**	**+2.0**
UXUV				*i* S	**Sn**	**13 39 45.2**	**+1.6**
PETF	**Flores**	**3.77**	**40**	*i* P	**Pn**	**13 39 03.2**	**+1.3**
PETF				*i* S	**Sn**	**13 39 50.8**	**+4.6**
CMIG	**Matias Romero**	**3.86**	**322**		**Pn**	**13 39 04.3**	**+1.1**
CMIG					**Sn**	**13 39 45.3**	**-3.1**
CMIG	**Matias Romero**	**3.86**	**322**	Pn	**Pn**	**13 39 04.4**	**+1.3**
	5.2nm,0.3s,baz=159,slow=13,SNR=48						
CMIG				Sn	**Sn**	**13 39 48.9**	**+0.5**
	23nm,0.3s,baz=90,slow=15,SNR=7.8						
	26nm,0.5s						
CMIG	**Matias Romero**	**3.86**	**322**	*e*P	**Pn**	**13 39 04.3**	**+1.1**
CMIG				*e*S	**Sn**	**13 39 45.3**	**-3.1**
HUIG	**Huatulco**	**3.97**	**296**		**Pn**	**13 39 06.5**	**+1.9**
HUIG					**Sn**	**13 39 48.3**	**-2.7**
HUIG	**Huatulco**	**3.97**	**296**	*e*P	**Pn**	**13 39 06.5**	**+1.9**
HUIG				*e*S	**Sn**	**13 39 48.3**	**-2.7**
PACA	**Pacayal**	**4.01**	**98**	S	**Sn**	**13 39 50.3**	**-2.0**
PACA	**Pacayal**	**4.01**	**98**	P	**Pn**	**13 39 05.1**	**-0.3**
RANC	**El Ranchito**	**4.05**	**98**	P	**Pn**	**13 39 06.1**	**+0.1**
CNCH	**Conchagua**	**4.51**	**99**	S	**Sn**	**13 40 03.0**	**-1.7**
CNCH	**Conchagua**	**4.51**	**99**	P	**Pn**	**13 39 12.9**	**+0.6**
NEUV	**Arroyo Zacate**	**4.90**	**319**	*e*P	**Pn**	**13 39 15.6**	**-1.9**
NEUV				*e*S	**Sn**	**13 40 12.1**	**-1.9**
PEIG	**Puerto Escondi**	**4.97**	**294**		**Pn**	**13 39 20.6**	**+2.1**
PEIG					**Sn**	**13 40 11.2**	**-4.7**
PEIG	**Puerto Escondi**	**4.97**	**294**	*e*P	**Pn**	**13 39 20.6**	**+2.1**
PEIG				*e*S	**Sn**	**13 40 11.2**	**-4.7**
PMUV	**Sontecomapan**	**5.18**	**330**	*e*P	Pn	13 39 28.5	+7.0
PMUV				*i* S	**Sn**	**13 40 16.7**	**-4.5**
CRIN	**San Cristobal**	**5.38**	**104**		**Pn**	**13 39 24.6**	**+0.4**
YOIG	**Yosondua**	**5.69**	**300**		**Pn**	**13 39 33.0**	**+4.3**
YOIG	**Yosondua**	**5.69**	**300**	*e*P	**Pn**	**13 39 33.0**	**+4.3**
YOIG				*e*S	**Sn**	**13 40 39.0**	**+5.

YBH	Yreka Blue Hor	64.25	306	LR	LR	14 18 06.7	
	comp=Z,71nm,19.5s,baz=52,slow=35						
BBB	Bella Bella	65.99	318	LR	LR	14 17 07.3	
	comp=Z,66nm,21.3s,baz=72,slow=34						
ILAR	Eielson Array	72.26	334	P	P	13 51 44.9	-0.1
	0.5nm,0.6s,baz=71,slow=5.4,SNR=7.6						
ILAR				LR	LR	14 22 51.2	
	comp=Z,86nm,19.0s,baz=334,slow=35						
	0.5nm,0.6s						
BVAR	Borovoye Array	84.92	33	P	P	13 52 54.8	-0.2
	0.4nm,0.6s,baz=305,slow=5.1,SNR=3.7						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	90.37	32	P	P	13 53 21.9	+0.7
	0.6nm,0.9s,baz=311,slow=5.3,SNR=4.2						
	0.6nm,0.9s						
PETK	Petropavlovsk-	99.65	346	LR	LR	14 39 59.5	
	comp=Z,42nm,21.2s,baz=190,slow=36						

*IDC **26** 13:52:11.7±1.8, 19°.73N×93°.42E, h0km, mb3.6/2, mbtmp3.7/4, ML4.0/2, MS3.7/1, Error ellipse: s-maj=60.2km s-min=28.6km az=44.0*
*NEIC **26** 13:52:12.9±0.6, 20°.70N±0°.08×93°.4E±0°.1, h35km±2km, mb4.7/4, Error ellipse: s-maj=19.8km s-min=9.2km az=232.0*
*NDI **26** 13:52:15.9±3.4, 20°.74N×93°.73E, h35km, ML4.1, mb4.7(NEIC)*
*BKK **26** 13:52:18.3±1.4, 21°.1N±10°×9°.4E±1°.6, h132km±57km, M3.5/11, mB3.9/7, mb3.6/8, ML4.0/3, MLv3.7/11, Mw(mB)2.8/7*
ISC 26 13:52:11.1±0.8, 20°.81N±0°.08×93°.73E±0°.09, h10km, n31, σ2s66/36, mb4.2/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	2.68	314	Pn	Pg	13 53 06.2	+3.8
	34nm,0.3s,baz=97,slow=12,SNR=5.1						
BRDH				Sn	Sg	13 53 37.0	-0.2
	99nm,0.3s,baz=234,slow=23,SNR=9.1						
	105nm,0.3s						
AZL	Aizawl	3.06	342	eP	Pb	13 53 03.9	-1.8
AZL				ex	Sn	13 53 40.4	+4.0
AZL				IAML		13 53 43.6	
	comp=N,443nm,0.3s						
AZL				IAML		13 53 46.1	
	comp=E,555nm,0.2s						
IMP	Imphal	4.00	3	eP	Pn	13 53 16.6	+4.0
MHMT	Maesarieng	4.75	123	P	Pn	13 53 25.7	+2.9
MHMT				S	Sn	13 54 18.7	+0.6
KOHI	KOHIMA	4.90	4	eP	Pn	13 53 25.4	+0.5
KOHI				eS	Sn	13 54 19.4	-2.3
KOHI				IAML		13 54 24.0	
	comp=E,529nm,0.3s						
KOHI				IAML		13 54 24.7	
	comp=N,429nm,0.5s						
SHL	Shillong	5.03	341	eP	Pn	13 53 28.5	+1.8
SHL				eS	Sn	13 54 23.5	-1.4
CHTO	Chiang Mai	5.30	111		Pn	13 53 33.3	+3.0
CM13	Chiang Mai Arr	5.43	115	P	Pn	13 53 35.1	+2.9
	comp=N,76nmcomp=N,6.7nm,0.8s						
CM31	Chiang Mai Arr	5.45	115	Pn	Pn	13 53 34.6	+2.2
CMAR	Chiang Mai Arr	5.45	115	Pn	Pn	13 53 34.8	+2.5
CMAR	Chiang Mai Arr	5.45	115	Pn	Pn	13 53 34.6	+2.2
	comp=N,0.6nm,0.3s,baz=287,slow=14,SNR=7.9						
CMAR				Sn	Sn	13 54 37.5	+2.3
	comp=N,0.8nm,0.3s,baz=305,slow=19,SNR=5.2						
	comp=N,1.2nm,0.3s						
CM02	Chiang Mai Arr	5.46	115	P	Pn	13 53 35.6	+3.1
	comp=N,0.0nmcomp=N,80nmcomp=N,5.2nm,0.7s						
CM05	Chiang Mai Arr	5.47	115	P	Pn	13 53 36.2	+3.5
	comp=N,68nmcomp=N,3.9nm,0.5s						
CM01	Chiang Mai Arr	5.48	115	P	Pn	13 53 35.5	+2.7
	comp=N,0.0nmcomp=N,69nmcomp=N,5.6nm,0.6s						
CM09	Chiang Mai Arr	5.49	115	P	Pn	13 53 36.1	+3.1
	comp=N,0.0nmcomp=N,68nmcomp=N,5.4nm,0.6s						
CM04	Chiang Mai Arr	5.50	115	P	Pn	13 53 36.2	+3.1
	comp=N,0.0nmcomp=N,3.8nm,0.6s						
GUWA	GUWAHATI	5.67	341	eS	Sn	13 54 39.4	-1.2
CRAI	Chiangrai	6.26	94	Pn	Pn	13 53 46.2	+2.7
ZIRO	ZIRO	6.68	1	eP	Pn	13 53 54.7	+5.2
TAWA	Tawang	6.96	346	eS	Sn	13 55 11.7	-1.2
TAWA				IAML		13 55 17.6	
	comp=E,367nm,0.2s						
TAWA				IAML		13 55 17.6	
	comp=N,453nm,0.2s						
KHLT	Khaolaem Dam	7.57	141	P	Pn	13 54 03.0	+1.5
GTK	Tadong	7.99	325	eP	Pn	13 54 10.5	+3.1
GTK				eS	Sn	13 55 31.8	-6.2
TPUB	Ta-pu	25.04	79	P	P	13 57 35.8	+0.1
KSAR	Wonju Array Be	33.90	53	P	P	13 58 54.2	0.0
USRK	Ussuriysk Ar.	39.31	45	LR	LR	14 17 08.6	
	comp=N,98nm,20.8s,baz=208,slow=37						
TIXI	Tiksi	54.73	13	P	P	14 01 39.2	-1.1
TIXI				IAmb	IAmb	14 02 10.9	
	comp=Z,11nm,1.8s						
WRA	Warramunga Arr	56.75	133	P	P	14 01 53.6	-1.9
	comp=Z,0.2nm,0.4s,baz=318,slow=7.6,SNR=9.8						
	comp=Z,0.2nm,0.4s						
WR0	Warramunga Arr	56.90	133	P	P	14 01 54.7	-1.8
WR0				IAmb	IAmb	14 03 24.7	
	comp=Z,17nm,1.9s						
ASAR	Alice Springs	59.04	136	P	P	14 02 09.8	-1.8
	comp=Z,0.5nm,0.6s,baz=319,slow=7.0,SNR=10.0						
	comp=Z,0.5nm,0.6s						
BBOO	Buckleboo	66.93	142	P	P	14 03 01.6	-2.2
BMAR	Burnt Mountain	82.17	19	P	P	14 04 31.0	-1.0

*NEIC **26** 13:56:51.5±1.3, 15°.01N±0°.04×93°.34W±0°.06, h68km±9km, mb4.1/5, Md4.3/24(MEX), Error ellipse: s-maj=10.3km s-min=3.8km az=58.0*
*GCG **26** 13:56:51.6±1.8, 15°.02N×93°.36W, h39km±293km, MD4.0*
*MEX **26** 13:56:52.9±0.6, 15°.01N×93°.36W, h68km±10km, MD4.3*
ISC 26 13:56:50.5±1.0, 14°.96N±0°.05×93°.43W±0°.03, h69km±12km, n52, σ2s27/84, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.77	15		Pn	13 57 06.4	+0.2
PCIG					Sn	13 57 16.8	-0.9
PCIG		0.77	15	eP	Pn	13 57 06.4	+0.2
PCIG				eS	Sn	13 57 16.8	-0.9
THIG		1.12	92		Pn	13 57 10.6	+0.1
THIG					Sn	13 57 24.5	-0.9
THIG		1.12	92	eP	Pn	13 57 10.6	+0.1
THIG				eS	Sn	13 57 24.5	-0.9
THIG		1.12	92	eP	Pn	13 57 10.5	+0.1
THIG				eS	Sn	13 57 23.7	-1.7
THIG		1.12	92	eP		13 57 10.5	
THIG				eS		13 57 23.7	
PATR	El Naranjo	1.16	82	eP	Pn	13 57 10.9	-0.4
PATR				i S	Sn	13 57 25.0	-1.7
PAVE	Pavencul	1.23	79	eP	Pn	13 57 12.2	+0.2
PAVE				i S	Sn	13 57 27.2	-1.1
SMCA	Catarina	1.31	94	eP	Pn	13 57 13.0	0.0
SMCA	Catarina	1.31	94	eP		13 57 13.0	
RTAL	Retalhuleu	1.73	104	Pn	Pn	13 57 18.4	-0.1
RTAL				Sn	Sn	13 57 38.5	-1.2
RTAL	Retalhuleu	1.73	104	eP	Pn	13 57 17.5	-1.0
RTAL				eS	Sn	13 57 38.4	-1.3
CCIG	Comitan	1.81	43		Pn	13 57 19.4	-0.4
CCIG	Comitan	1.81	43	eP	Pn	13 57 20.9	+1.2
CCIG				eS	Sn	13 57 42.9	+0.9
CCIG	Comitan	1.81	43	eP	Pn	13 57 20.7	+1.0
CCIG	Comitan	1.81	43	eP		13 57 20.7	
TGIG		1.83	9		Pn	13 57 20.4	+0.5
TGIG					Sn	13 57 41.2	-1.1
TGIG		1.83	9	eP	Pn	13 57 20.4	+0.5
TGIG				eS	Sn	13 57 41.2	-1.1
TGIG		1.83	9	eP	Pn	13 57 20.4	+0.5
TGIG				eS	Sn	13 57 41.2	-1.1
TGIG		1.83	9	eP		13 57 20.4	
TGIG				eS		13 57 41.2	
HUEH	Huehuetenango	1.89	79		Pn	13 57 20.4	-0.4
HUEH	Huehuetenango	1.89	79	i P	Pn	13 57 21.7	+0.9
HUEH				eS	Sn	13 57 45.0	+1.1
STG8	El Palmar, Qui	2.07	104	eP		13 57 20.0	
STG8				eS		13 57 40.1	
STG0	El Palmar, Qui	2.08	104	eP		13 57 20.2	
STG0				i S		13 57 40.5	
UXUV	UXUV	2.45	344	i P	Pn	13 57 30.5	+2.3
UXUV				eS	Sn	13 57 56.4	-0.7
CMIG	Matias Romero	2.54	327		Pn	13 57 31.1	+1.6
CMIG					Sn	13 57 59.8	+0.4
CMIG	Matias Romero	2.54	327	eP	Pn	13 57 31.1	+1.6
CMIG				eS	Sn	13 57 59.8	+0.4
HUIG	Huatulco	2.71	288	eP	Pn	13 57 32.9	+1.2
HUIG				eS	Sn	13 58 00.7	-2.8
HUIG	Huatulco	2.71	288	i P	Pn	13 57 32.9	+1.2
HUIG	Huatulco	2.71	288	i P		13 57 32.9	
NEUV	Arroyo Zacate	3.56	321	eP	Pn	13 57 45.1	+1.7
NEUV				eS	Sn	13 58 21.3	-3.0
PEIG	Puerto Escondi	3.73	287	i P	Pn	13 57 47.4	+1.7
PEIG				eS	Sn	13 58 22.1	-6.5
OXLC	Oaxaca	3.78	304	eP	Pn	13 57 47.6	+1.1
OXLC				eS	Sn	13 58 31.3	+1.3
OXBJ	Oaxaca	3.80	304	eS	Sn	13 58 30.9	+0.4
VHO	Vista Hermosa	3.81	304	eP	Pn	13 57 47.6	+0.7
VHO				eS	Sn	13 58 25.6	-5.1
PMUV	Sontecomapan	3.92	336	eP	Pn	13 57 45.6	-2.7
PMUV				i S	Sn	13 58 29.1	-4.0
PETF	Flores	3.94	60		Pn	13 57 48.2	-0.3
PETF	Flores	3.94	60	eP	Pn	13 57 49.0	+0.5
YOIG	Yosondua	4.39	296	eP	Pn	13 57 58.6	+3.7
YOIG				eS	Sn	13 58 43.1	-1.8
SCIG	Sabancuy	4.53	28	eP	Pn	13 57 57.1	+0.5
SCIG				eS	Sn	13 58 44.3	-3.6
TOIG	Toxpalan	4.68	312	eP	Pn	13 58 01.2	+2.5
TOIG				eS	Sn	13 58 47.2	-4.7
PNIG	Pinotepa	4.75	288		Pn	13 58 02.0	+2.4
PNIG					Sn	13 58 49.4	-3.9
PNIG	Pinotepa	4.75	288	eP	Pn	13 58 02.0	+2.4
PNIG				eS	Sn	13 58 49.4	-3.9
TXIG	Tlaxiaco	4.76	299	eP	Pn	13 58 03.7	+3.8
TXIG				eS	Sn	13 58 52.6	-1.3
HLIG	Huajuapan de L	5.08	305	eP	Pn	13 58 08.0	+3.7
HLIG				eS	Sn	13 59 00.3	-1.4
FTIG	Fresnillo de T	5.38	304		Pn	13 58 12.4	+4.0
FTIG					Sn	13 59 07.1	-2.0
FTIG	Fresnillo de T	5.38	304	eP	Pn	13 58 12.4	+4.0
FTIG				eS	Sn	13 59 07.1	-2.0
JAUV	Jalcomulco	5.44	324	eP	Pn	13 58 09.6	+0.4
JAUV				eS	Sn	13 59 05.8	-4.7
PPM	Popocatepetl	6.44	310	eP	Pn	13 58 29.1	+5.9
CXUV	Coxquihui	6.53	323	eP	Pn	13 58 22.8	-1.2
CXUV				eS	Sn	13 59 32.5	-4.6
CRIN	San Cristobal	6.59	109		Pn	13 58 23.7	-1.2
PLIG	Platanillo	6.75	301	eP	Pn	13 58 31.4	+4.4
CAIG	El Cayaco	6.90	288	eP	Pn	13 58 32.4	+3.5
TEIG	Tepich	7.18	42		Pn	13 58 31.3	-1.6
ARIG	Puente Sto Nin	7.41	297	eP	Pn	13 58 40.9	+4.9
MTDJ	Mount Denham	15.57	76	Pn	Pn	14 00 26.3	+0.2
MTDJ				IAmb	IAmb	14 00 50.9	
	comp=Z,36nm,1.3s						
PAYG	Puerto Ayora	15.84	168	P	P	14 00 32.3	+0.4
SAND	Sanderson	16.94	333	P	P	14 00 45.2	+1.2
SMWD	Samnorwood	20.98	344	P	P	14 01 29.5	+1.4
SMWD				IAmb	IAmb	14 01 33.1	
	comp=Z,5.8nm,0.7s						

*NEIC **26** 14:03:23.8±0.7, 19°.9S±0°.2×179°.2E±0°.2, h440km±12km, mb4.2/9, Error ellipse: s-maj=33.9km s-min=21.0km az=100.0*
*IDC **26** 14:03:23.8±20.0, 19°.88S×179°.16E, h434km±139km, mb3.3/3, mbtmp4.0/4, Error ellipse: s-maj=517.9km s-min=108.5km az=85.0*
ISC 26 14:03:23.6±1.8, 19°.8S±0°.2×179°.2E±0°.3, h450km, n16, σ0s87/16, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.33	332	P	P	14 04 24.8	-1.4
MSVF	Nonsavu	2.33	332	P	P	14 04 25.3	-0.9
	5.2nm,0.6s,baz=139,slow=11,SNR=7.3						
DSZ	Denniston Nort	22.76	194	P	P	14 07 49.9	0.0
STKA	Stephens Creek	35.74	243	P	P	14 09 43.7	+0.7
STKA	Stephens Creek	35.74	243	P	P	14 09 43.5	+0.5
	1.5nm,0.6s,baz=108,slow=11,SNR=4.3						
	1.5nm,0.6s						
BBOO	Buckleboo	40.52	242	P	P	14 10 21.3	-0.9
BBOO				IAmb	IAmb	14 11 01.4	
	comp=Z,19nm,1.4s						
WB0	Warramunga Arr	42.06	262	P	P	14 10 35.1	+0.4
WB0				IAmb	IAmb	14 11 13.3	
	comp=Z,4.2nm,1.1s						
WRA	Warramunga Arr	42.09	262	P	P	14 10 35.8	+0.8
	comp=Z,0.9nm,0.3s,baz=96,slow=7.6,SNR=23						
	comp=Z,0.9nm,0.3s						
AS31	Alice Springs	42.12	256	P	P	14 10 35.6	+0.4
ASAR	Alice Springs	42.12	256	P	P	14 10 35.4	+0.2
ASAR	Alice Springs	42.12	256	P	P	14 10 36.0	+0.9
	comp=Z,4.1nm,0.6s,baz=96,slow=7.9,SNR=108						
	comp=Z,4.1nm,0.6s						
FORT	Forrest	47.16	246	P	P	14 11 12.5	-1.6
FORT				IAmb	IAmb	14 11 49.8	
	comp=Z,21nm,1.1s						
MIDW	Midway	47.85	4	P	P	14 11 20.0	+0.9
KNRA	Kununurra	48.08	266	P	P	14 11 21.4	+0.2
KNRA				IAmb	IAmb	14 11 53.2	
	comp=Z,23nm,1.4s						
CM31	Chiang Mai Arr	87.40	291	P	P	14 15 22.7	+0.3
CM31				IAmb	IAmb	14 15 40.4	
	comp=Z,2.3nm,0.8s						
CMAR	Chiang Mai Arr	87.40	291	P	P	14 15 22.7	+0.3

*IDC **26** 14:03:52.7±1.4, 24°.92N×45°.94W, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/23, Error ellipse: s-maj=47.6km s-min=24.4km az=89.0*
*NEIC **26** 14:03:55.0±1.7, 24°.9N±0°.1×46°.09W±0°.06, h10km±2km, mb4.7/15, Error ellipse: s-maj=24.4km s-min=9.6km az=175.0*
ISC 26 14:03:55.4±1.2, 24°.9N±0°.1×46°.1W±0°.2, h15km, n48, σ0s89/22, mb4.4/12, MS3.5/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBE	Ff, Capester	16.93	242	P	P	14 07 53.8	+0.1
TDBA	Terre de Bas,	17.07	241	Pn	Pn	14 07 53.8	+0.1
SJG	San Juan	19.79	254	LR	LR	14 14 30.6	
	comp=Z,55nm,21.3s,baz=224,slow=32						
SDV	Santo Domingo	28.24	240	LR	LR	14 19 19.8	
	comp=Z,32nm,20.4s,baz=76,slow=33						
BBTS	Babate	29.58	104	LR	LR	14 18 17.4	
	comp=Z,90nm,20.3s,baz=160,slow=29						
SADO	Sadowa	33.27	315	P	P	14 10 32.4	+0.2
SADO	Sadowa	33.27	315	LR	LR	14 21 04.8	
	comp=Z,104nm,20.3s,baz=59,slow=31						
SCHQ	Schefferville	33.63	338	LR	LR	14 21 36.3	
	comp=Z,72nm,20.7s,baz=240,slow=32						
TKL	Tuckaleechee C	34.06	297	LR	LR	14 22 08.1	
	comp=Z,84nm,18.4s,baz=106,slow=32						
250A	Grady	35.85	291	P	P	14 10 52.7	-2.0
JTS	Las Juntas de	39.59	256	LR	LR	14 28 41.1	
	comp=Z,40nm,18.7s,baz=22,slow=37						
BDFB	Brasilia	40.30	183	LR	LR	14 25 34.5	
	comp=Z,67nm,19.4s,baz=147,slow=32						
FRB	Frobisher Bay	41.59	345	LR	LR	14 26 46.7	
	comp=Z,73nm,19.3s,baz=80,slow=33						
DBIC	Dimbokro	43.41	108	LR	LR	14 26 55.8	
	comp=Z,66nm,18.1s,baz=287,slow=32						
H10N2	ASCENSION HYDR	44.79	132	T	T	14 59 46.1	
	baz=317,slow=75,SNR=50						
H10N3	ASCENSION HYDR	44.79	132	T	T	14 59 46.0	
	baz=317,slow=75,SNR=70						
H10N1	ASCENSION HYDR	44.81	132	T	T	14 59 47.4	
	baz=317,slow=75,SNR=72						
H10S3	ASCENSION HYDR	45.51	134	T	T	15 00 36.0	
	baz=316,slow=74,SNR=48						
H10S2	ASCENSION HYDR	45.52	134	T	T	15 00 36.5	
	baz=264,slow=74,SNR=58						
ULM	Lac du Bonnet	45.78	317	LR	LR	14 30 16.6	
	comp=Z,72nm,18.2s,baz=146,slow=34						
CMIG	Matias Romero	45.98	270	LR	LR	14 31 28.5	
	comp=Z,38nm,20.3s,baz=354,slow=36						
LPAZ	La Paz	46.19	210		P	14 12 21.2	+0.7
LPAZ				IAmb	IAmb	14 12 37.1	
	comp=Z,6.4nm,1.1s						
LPAZ	La Paz	46.19	210	P	P	14 12 21.4	+0.9
	comp=Z,2.7nm,0.7s,baz=29,slow=6.4,SNR=7.2						
	comp=Z,2.7nm,0.7s						
WMOK	Wichita Mounta	46.29	295	P	P	14 12 21.9	+1.3
BRDY	Brady	46.72	290	P	P	14 12 23.7	-0.4
BRDY				IAmb	IAmb	14 12 33.8	
	comp=Z,24nm,2.0s						
FCC	Fort Churchill	47.63	328	P	P	14 12 31.6	+0.9
PB11	IPOC Station P	49.92	209	P	P	14 12 48.0	-0.8
HMBC	Humberstone	50.47	209	P	P	14 12 52.3	-0.7
HMBC				IAmb	IAmb	14 12 55.1	
	comp=Z,18nm,1.4s						
TXAR	Lajitas Array	50.98	289	P	P	14 12 57.5	+0.7
	comp=Z,0.5nm,0.6s,baz=87,slow=6.8,SNR=4.5						
	comp=Z,0.5nm,0.6s						
ANMO	Albuquerque	52.57	296	LR	LR	14 33 00.1	
	comp=Z,47nm,21.9s,baz=221,slow=33						
PDAR	Pinedale Array	54.40	306	P	P	14 13 22.8	+0.6
	comp=Z,1.6nm,0.9s,baz=90,slow=7.4,SNR=9.3						
PDAR				LR	LR	14 36 02.6	
	comp=Z,37nm,18.1s,baz=72,slow=35						
	comp=Z,1.6nm,0.9s						
YNE	Yellowstone No	54.66	309	P	P	14 13 25.3	+1.3
YNE				IAmb	IAmb	14 13 33.9	
	comp=Z,13nm,1.7s						
GO02	Mina Guanaco	54.67	206	P	P	14 13 23.5	-0.7
GO02				IAmb	IAmb	14 13 24.9	
	comp=Z,6.0nm,0.7s						
RES	Resolute Bay	55.79	346	LR	LR	14 36 29.9	
	comp=Z,44nm,21.2s,baz=29,slow=35						
DUG	Dugway, Tooele	57.03	303	P	P	14 13 39.8	-1.2
BGU	Big Grassy Mou	57.12	304	P	P	14 13 41.5	-0.1
BGU				IAmb	IAmb	14 13 44.3	
	comp=Z,9.4nm,1.4s						
LPIG	La Paz	57.90	284	LR	LR	14 40 00.5	
	comp=Z,25nm,20.3s,baz=325,slow=37						
YKA	Yellowknife Ar	58.33	330	P	P	14 13 49.1	-0.4
	comp=Z,0.4nm,0.6s,baz=98,slow=7.4,SNR=9.6						
YKA				LR	LR	14 39 21.0	
	comp=Z,42nm,18.9s,baz=318,slow=36						
	comp=Z,0.4nm,0.6s						
ELK	Elko	58.80	304	LR	LR	14 37 33.2	
	comp=Z,57nm,19.8s,baz=38,slow=34						
NEW	Newport	59.42	313	LR	LR	14 37 19.8	
	comp=Z,54nm,21.8s,baz=39,slow=34						
PFO	Pinyon Flats O	60.95	296	LR	LR	14 38 29.4	
	comp=Z,53nm,21.2s,baz=46,slow=34						
NVAR	Mina Array Bea	61.50	302	LR	LR	14 38 32.6	
	comp=Z,80nm,21.7s,baz=172,slow=34						
VA01	Torpederas	62.49	204	P	P	14 14 19.1	+0.9
BBB	Bella Bella	65.95	318	LR	LR	14 43 02.4	
	comp=Z,46nm,18.0s,baz=24,slow=36						
PLCA	Paso Flores	69.10	200	P	P	14 15 01.1	+0.2
	comp=Z,1.4nm,0.6s,baz=19,slow=7.2,SNR=6.5						
	comp=Z,1.4nm,0.6s						
ILAR	Eielson Array	72.23	334	P	P	14 15 19.9	+0.3
	comp=Z,0.6nm,0.8s,baz=75,slow=4.3,SNR=6.8						
	comp=Z,0.6nm,0.8s						
KDAK	Kodiak Island	77.57	328	LR	LR	14 49 19.6	
	comp=Z,53nm,20.2s,baz=169,slow=35						
KURBB	Kurchatov Arra	90.38	32	P	P	14 16 55.3	-0.8
	comp=Z,1.0nm,1.0s,baz=310,slow=5.9,SNR=4.4						
	comp=Z,1.0nm,1.0s						

*SKHL **26** 14:20:11.0±0.3, 42°.70N×146°.10E, h24km±2km, mb4.3/3*
*JMA **26** 14:20:11.6±0.3, 42°.8N±0°.8×14°.6E±°, h37km±2km, MV3.0/33, OFF NEMURO PENINSULA*
ISC 26 14:20:12.1±2.5, 42°.8N±0°.1×146°.07E±0°.07, h25km±15km, n14, σ0s73/22, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.61	337	P	Pb	14 20 23.9	-0.3
NEM2				eS	Sb	14 20 32.9	+0.5
NMR	Nemuro--Hokkai	0.62	336	i P	Pb	14 20 23.9	-0.4
NMR				AMB	AMB	14 20 24.3	
	310nm,0.4s						
NMR				i S	Sb	14 20 33.4	+0.7
NMR				A	A	14 20 34.0	
	550nm,0.3s						
NMR				A	A	14 20 34.0	
	990nm,0.3s						
JKHN	Kushirohamanak	0.73	293	P	Pn	14 20 26.3	-0.5
JKHN				eS	Sn	14 20 37.7	+0.6
AKK	Akkeshi	0.93	284	eP	Pn	14 20 28.1	-1.5
AKK				eS	Sn	14 20 41.0	-1.1
JAK	Akkeshi	1.03	281	P	Pn	14 20 30.6	-0.3
JAK				eS	Sb	14 20 45.0	+0.7
SHO	Shikotan	1.20	27	i P	Pn	14 20 32.6	-0.8
SHO				AMB	AMB	14 20 33.9	
	20nm,0.3s						
SHO				AMB	AMB	14 20 33.9	
	30nm,0.3s						
SHO				AMB	AMB	14 20 33.9	
	50nm,0.3s						
SHO				eS	Sb	14 20 49.0	-0.3
SHO				A	A	14 20 50.2	
	150nm,0.2s						
SHO				A	A	14 20 50.2	
	250nm,0.2s						
YUK	Yuzh-Kuril'sk	1.24	353	eP	Pn	14 20 33.2	-0.7
YUK				AMB	AMB	14 20 35.0	
	40nm,0.5s						
YUK				AMB	AMB	14 20 35.0	
	10.0nm,0.5s						
YUK				AMB	AMB	14 20 35.0	
	190nm,0.5s						
YUK				eS	Sn	14 20 49.8	0.0
YUK				A	A	14 20 50.2	
	390nm,0.3s						
YUK				A	A	14 20 50.2	
	370nm,0.3s						
JNK	Nakash	1.26	309	P	Pn	14 20 33.8	-0.3
JRA	Rausu	1.33	329	eP	Pn	14 20 35.1	0.0
JOB	Onbets	1.65	274	eP	Pn	14 20 39.6	+0.1
JAR	Ashorobuto	1.76	287	eP	Pn	14 20 41.0	0.0
JTKR	Abashiri--Toko	1.96	307	eP	Pn	14 20 44.5	+0.7
JCH	Churui	2.01	266	eP	Pn	14 20 45.2	+0.8
KUR	Kuril'sk	2.75	27	eP	Pn	14 20 55.2	+0.5
KUR				eS	Sn	14 21 28.2	+1.1
KUR				A	A	14 21 37.5	
	40nm,0.3s						
KUR				A	A	14 21 37.5	
	20nm,0.3s						

*ATH **26** 14:28:18.1, 37°.61N×20°.67E, h14km±1km, ML2.6/13, Manual Solution by A.Agalos First location: 2019/03/26 14:28:44, This location: 2019/03/26 15:10:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **26** 14:28:19.2, 37°.65N×20°.70E, h10km±1km, ML2.7/7, Error ellipse: s-maj=1.6km s-min

DMLN				S	Sb	14 28 41.5	+0.5
	812nm,0.3s						
DMLN	**Damoulianata-K**	**0.66**	**338**	P	Pg	14 28 31.6	+0.2
DMLN				S	Sb	14 28 40.8	-0.2
YRMI	**Loutra Irminis**	**0.71**	**48**	P	Pg	14 28 31.9	-0.4
YRMI				S	Sg	14 28 41.7	-0.1
RLS	**Riolos of Patr**	**0.76**	**55**	P	Pg	14 28 33.0	-0.2
RLS				S	Sb	14 28 44.1	+0.4
RLS	**Riolos of Patr**	**0.76**	**55**	P	Pg	14 28 33.0	-0.2
RLS				S	Sb	14 28 43.7	0.0
AXS	**Araxos**	**0.79**	**44**	P	Pg	14 28 33.5	-0.4
AXS				S	Sb	14 28 44.8	0.0
FSK	**Fiskardo**	**0.84**	**354**	P	Pg	14 28 34.5	-0.3
FSK				S	Sb	14 28 46.4	+0.3
	368nm,0.2s						
FSK	**Fiskardo**	**0.84**	**354**	P	Pg	14 28 34.5	-0.3
FSK				S	Sb	14 28 46.4	+0.3
DRO	**Drossia**	**0.88**	**68**	P	Pb	14 28 35.8	+0.2
DRO	**Drossia**	**0.88**	**68**	P	Pg	14 28 35.6	0.0
EVGI	**Lefkada island**	**0.99**	**359**	P	Pg	14 28 37.0	-0.7
EVGI				S	Sb	14 28 51.6	+1.0
	342nm,0.2s						
EVGI	**Lefkada island**	**0.99**	**359**	P	Pg	14 28 37.2	-0.5
EVGI				S	Sb	14 28 51.2	+0.6
DRAG	**Dragano-Lefkad**	**1.06**	**355**	P	Pb	14 28 38.3	-0.4
NYDR	**Nydri-Lefkada**	**1.09**	**1**	P	Pb	14 28 38.2	-0.9
ITM	**Ithomi**	**1.09**	**114**	P	Pb	14 28 39.1	-0.1
LKD2	**Lefkada island**	**1.16**	**359**	P	Pb	14 28 39.6	-0.9
LKD2	**Lefkada island**	**1.16**	**359**	P	Pb	14 28 40.1	-0.4
PVO	**Paravola**	**1.19**	**34**	P	Pn	14 28 40.7	-0.2
TSLK	**Tsoukalades, L**	**1.20**	**359**	P	Pn	14 28 40.7	-0.2
KLV	**Kalavryta, Ach**	**1.23**	**70**	P	Pn	14 28 41.6	+0.1
EFP	**Efpalio**	**1.25**	**50**	P	Pb	14 28 42.1	+0.1
SERG	**Sergoula**	**1.34**	**54**	P	Pn	14 28 42.9	-0.1
GUR	**Goura**	**1.35**	**76**	P	Pn	14 28 43.2	0.0
ANX	**Ano Chora**	**1.37**	**45**	P	Pn	14 28 43.8	+0.3
ANX	**Ano Chora**	**1.37**	**45**	P	Pn	14 28 43.7	+0.3
TETR	**Tetrakomo, Epi**	**1.78**	**15**	P	Pn	14 28 49.6	+0.6

*NOU **26** 14:35:17.6, 40°.36S×174°.59E, h81km, MLv3.6/15, Cook Strait, New Zealand*
*WEL **26** 14:35:19.5±0.4, 40°.S±2°.×17°.5E±°, h31km±6km, M3.7/19, ML4.0/19, MLv3.7/19, Error ellipse: s-maj=3.5km s-min=2.8km az=79.2, confirmed*
ISC 26 14:35:19.7±1.3, 40°.34S±0°.02×174°.56E±0°.02, h59km±11km, n88, σ1°33/126, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.59**	**153**	P	Pn	14 35 31.7	-0.9
KIW				S	Sn	14 35 41.3	-0.7
OHWZ	**Ohakea**	**0.59**	**78**	P	Pn	14 35 32.2	-0.4
OHWZ				S	Sn	14 35 42.6	+0.7
WAZ	**Wanganui**	**0.67**	**29**	P	Pn	14 35 33.1	-0.4
WAZ				S	Sn	14 35 44.4	+0.9
OGWZ	**Otaki Gorge**	**0.67**	**136**	P	Pn	14 35 32.6	-0.9
OGWZ				S	Sn	14 35 43.7	+0.1
DUWZ	**D'Urville Isla**	**0.67**	**226**	P	Pn	14 35 32.8	-0.8
DUWZ				S	Sn	14 35 43.6	-0.2
MRZ	**Mangatainoka R**	**0.84**	**113**	P	Pn	14 35 34.4	-1.2
MRZ				S	Sn	14 35 47.4	0.0
CAW	**Cannon Point**	**0.86**	**154**	P	Pn	14 35 35.0	-0.9
CAW				S	Sn	14 35 48.7	+0.8
LREZ	**Lake Rotokare**	**0.88**	**352**	P	Pn	14 35 35.9	-0.2
LREZ				S	Sn	14 35 50.0	+1.7
TCW	**Tory Channel**	**0.90**	**194**	P	Pn	14 35 35.6	-0.8
TCW				S	Sn	14 35 48.7	0.0
HOWZ	**Holdsworth Sta**	**0.92**	**128**	P	Pn	14 35 35.3	-1.3
HOWZ				S	Sn	14 35 50.2	+1.0
POWZ	**Post Office Ro**	**0.92**	**94**	P	Pn	14 35 36.4	-0.3
POWZ				S	Sn	14 35 50.0	+0.7
WEL	**Wellington**	**0.96**	**171**	P	Pn	14 35 36.9	-0.3
SNZO	**South Karori**	**0.98**	**174**	P	Pn	14 35 36.5	-0.9
SNZO	**South Karori**	**0.98**	**174**	S	Sn	14 35 51.0	+0.5
PREZ	**Palmer Road**	**1.04**	**343**	P	Pn	14 35 38.4	+0.2
NMEZ	**Namu Road**	**1.06**	**330**	P	Pn	14 35 38.4	-0.1
MTW	**Mount Morrison**	**1.09**	**139**	P	Pn	14 35 37.7	-1.2
MTW				S	Sn	14 35 56.1	+3.0
BHW	**Baring Head**	**1.10**	**168**	P	Pn	14 35 38.1	-0.9
BHW				S	Sn	14 35 53.9	+0.6
PRWZ	**Pori Road**	**1.10**	**102**	P	Pn	14 35 37.9	-1.1
TIWZ	**Tintock**	**1.10**	**114**	P	Pn	14 35 38.9	-0.2
TIWZ				S	Sn	14 35 54.5	+1.1
TSZ	**Takapari Road**	**1.11**	**76**	P	Pn	14 35 38.0	-1.2
TSZ				S	Sn	14 35 52.7	-0.9
KHEZ	**Kahui Hut**	**1.12**	**338**	P	Pn	14 35 39.1	-0.3
KHEZ	**Kahui Hut**	**1.12**	**338**	S	Sn	14 35 54.9	+0.9
KHEZ	**Kahui Hut**	**1.12**	**338**	P	Pn	14 35 39.2	-0.1
NEZ	**North Egmont**	**1.12**	**341**	P	Pn	14 35 39.2	-0.2
DREZ	**Durham Road**	**1.18**	**346**	P	Pn	14 35 40.1	0.0
DREZ				S	Sn	14 35 57.1	+1.9
TUWZ	**Tuamarina**	**1.19**	**203**	P	Pn	14 35 39.3	-0.8
TUWZ				S	Sn	14 35 54.5	-1.0
NBEZ	**Newall Road No**	**1.19**	**333**	P	Pn	14 35 40.0	-0.3
NBEZ				S	Sn	14 35 58.3	+2.8
MSWZ	**Moikau Station**	**1.20**	**154**	P	Pn	14 35 39.8	-0.6
MSWZ				S	Sn	14 35 59.1	+3.3
PKVZ	**Pokaka**	**1.21**	**30**	P	Pn	14 35 40.1	-0.4
VRZ	**Vera Road**	**1.22**	**7**	P	Pn	14 35 40.1	-0.5
VRZ				S	Sn	14 35 57.3	+1.1
DVHZ	**Dannevirke**	**1.23**	**89**	P	Pn	14 35 38.8	-1.9
DVHZ				S	Sn	14 35 58.3	+1.8
PAWZ	**Paruwai Farm**	**1.23**	**148**	P	Pn	14 35 39.8	-1.0
PAWZ				S	Sn	14 35 59.8	+3.2
NNZ	**Nelson**	**1.26**	**225**	P	Pn	14 35 40.6	-0.5
NNZ				S	Sn	14 35 57.7	+0.7
MHEZ	**Mangahewa**	**1.27**	**352**	P	Pn	14 35 41.5	+0.2
MHEZ				S	Sn	14 35 59.9	+2.5
TMWZ	**Te Maipa**	**1.27**	**128**	P	Pn	14 35 41.2	-0.1
TMWZ				S	Sn	14 36 00.1	+2.7
TRVZ	**Turoa**	**1.28**	**37**	P	Pn	14 35 41.7	0.0
TRVZ				S	Sn	14 35 58.8	+0.7
WNVZ	**Wahianoa**	**1.29**	**39**	P	Pn	14 35 40.6	-1.1
WNVZ				S	Sn	14 35 59.5	+1.5
MOVZ	**Moawhango**	**1.30**	**45**	P	Pn	14 35 40.5	-1.3
MOVZ				S	Sn	14 35 58.1	-0.2
MAVZ	**Matarangi**	**1.32**	**36**	P	Pn	14 35 42.6	+0.4
MAVZ				S	Sn	14 35 59.6	+0.7
WHVZ	**Whangaehu Hut**	**1.32**	**37**	P	Pn	14 35 41.9	-0.2
WHVZ				S	Sn	14 35 59.0	+0.2
FWVZ	**Far West T-bar**	**1.32**	**36**	P	Pn	14 35 41.2	-1.0
PNHZ	**Pukenui**	**1.33**	**72**	P	Pn	14 35 40.5	-1.6
BFZ	**Birch Farm**	**1.33**	**106**	P	Pn	14 35 41.7	-0.4
BFZ	**Birch Farm**	**1.33**	**106**	S	Sn	14 35 57.4	-1.4
BFZ	**Birch Farm**	**1.33**	**106**	P	Pn	14 35 41.5	-0.6
PLWZ	**Palliser**	**1.34**	**157**	P	Pn	14 35 42.9	+0.7
TUVZ	**Tukino**	**1.36**	**39**	P	Pn	14 35 42.6	0.0
TUVZ				S	Sn	14 36 01.2	+1.5
TRWZ	**Traveller**	**1.36**	**142**	P	Pn	14 35 43.3	+0.8
TRWZ				S	Sn	14 36 03.7	+4.0
COVZ	**Chateau Observ**	**1.36**	**34**	P	Pn	14 35 42.1	-0.5
COVZ				S	Sn	14 35 59.8	0.0
CPWZ	**Castlepoint**	**1.38**	**115**	P	Pn	14 35 42.6	0.0
CPWZ				S	Sn	14 36 04.9	+5.1
TKNZ	**Takaka Hill**	**1.40**	**240**	P	Pn	14 35 42.5	-0.6
TKNZ				S	Sn	14 36 01.6	+1.1
NGZ	**Ngauruhoe**	**1.41**	**35**	P	Pn	14 35 43.0	-0.3
SNVZ	**South Ngauruho**	**1.42**	**36**	P	Pn	14 35 43.5	+0.1
TWVZ	**Taurewa**	**1.43**	**28**	P	Pn	14 35 42.2	-1.3
TWVZ				S	Sn	14 36 00.7	-0.7
CMWZ	**Cape Campbell**	**1.44**	**190**	P	Pn	14 35 46.1	+2.6
OTVZ	**Oturere**	**1.45**	**36**	P	Pn	14 35 43.4	-0.4
NNVZ	**North Ngauruho**	**1.45**	**34**	P	Pn	14 35 43.1	-0.8
WTVZ	**West Tongariro**	**1.46**	**33**	P	Pn	14 35 42.6	-1.2
WPHZ	**Waipukurau**	**1.47**	**80**	P	Pn	14 35 42.5	-1.4
ANWZ	**Angora Road**	**1.47**	**95**	P	Pn	14 35 42.0	-1.9
BSWZ	**Blackbirch Sta**	**1.47**	**200**	P	Pn	14 35 43.5	-0.4
BSWZ				S	Sn	14 36 02.0	-0.2
ETVZ	**East Tongariro**	**1.49**	**37**	P	Pn	14 35 44.1	-0.2
KRVZ	**Karewarewa**	**1.49**	**34**	P	Pn	14 35 43.2	-1.2
TMVZ	**Te Maari**	**1.50**	**36**	P	Pn	14 35 43.7	-0.9
NTVZ	**North Tongarir**	**1.51**	**35**	P	Pn	14 35 43.9	-0.6
KRHZ	**Kereru**	**1.55**	**64**	P	Pn	14 35 43.4	-1.7
PRHZ	**Porangahau**	**1.59**	**88**	P	Pn	14 35 44.0	-1.5
KATZ	**Kakaramea**	**1.62**	**33**	P	Pn	14 35 45.8	-0.3
QRZ	**Quartz Range**	**1.62**	**252**	P	Pn	14 35 44.9	-1.1
QRZ	**Quartz Range**	**1.62**	**252**	S	Sn	14 36 05.1	-0.8
QRZ	**Quartz Range**	**1.62**	**252**	P	Pn	14 35 45.1	-0.9
QRZ				S	Sn	14 36 05.2	-0.7
RITZ	**Rihia Road**	**1.69**	**37**	P	Pn	14 35 47.4	+0.4
KWHZ	**Kaweka Forest**	**1.70**	**58**	P	Pn	14 35 45.8	-1.2
MRNZ	**Matariki Terra**	**1.73**	**232**	P	Pn	14 35 47.4	-0.1
HIZ	**Hauiti**	**1.83**	**7**	P	Pn	14 35 48.0	-0.9
HIZ	**Hauiti**	**1.83**	**7**	S	Sn	14 36 10.9	-0.1
HIZ	**Hauiti**	**1.83**	**7**	P	Pn	14 35 48.3	-0.6
KAHZ	**Kahuranaki**	**1.86**	**74**	P	Pn	14 35 47.2	-2.0
WATZ	**Wairara**	**1.86**	**30**	P	Pn	14 35 49.3	0.0
MCHZ	**McNeill Hill**	**1.87**	**62**	P	Pn	14 35 47.9	-1.5
BKZ	**Black Stump Fm**	**1.89**	**53**	P	Pn	14 35 47.9	-1.8
BKZ	**Black Stump Fm**	**1.89**	**53**	P	Pn	14 35 48.2	-1.5
CKHZ	**Cape Kidnapper**	**2.05**	**72**	P	Pn	14 35 49.7	-2.0
KHZ	**Kahutara**	**2.22**	**200**	P	Pn	14 35 52.7	-1.3
URZ	**Urewera**	**2.87**	**44**	P	Pn	14 36 00.3	-2.6
OUZ	**Omahuta**	**5.16**	**351**	P	Pn	14 36 33.1	-1.3
ODZ	**Otahua Downs**	**5.52**	**210**	P	Pn	14 36 36.4	-2.8

*JMA **26** 14:40:59.2±0.3, 42°.8N±0°.9×14°.6E±°, h38km±2km, MV3.2/35, OFF NEMURO PENINSULA*
*SKHL **26** 14:40:59.5±0.2, 42°.80N×146°.10E, h12km±1km, mb4.3/5*
ISC 26 14:40:59.7±2.2, 42°.8N±0°.1×146°.11E±0°.07, h22km±12km, n13, σ0°57/20, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.62**	**335**	P	Pb	14 41 11.7	-0.1
NEM2				eS	Sb	14 41 20.4	+0.3
NMR	**Nemuro--Hokkai**	**0.63**	**334**	i P	Pb	14 41 11.7	-0.3
NMR				AMB	AMB	14 41 12.1	
	350nm,0.4s						
NMR				eS	Sb	14 41 20.6	+0.3
NMR				A	A	14 41 21.8	
	860nm,0.4s						
NMR				A	A	14 41 21.8	
	1μm,0.4s						
JKHN	**Kushirohamanak**	**0.75**	**292**	P	Pb	14 41 14.1	+0.1
JKHN				eS	Sn	14 41 25.9	+0.4
JAK	**Akkeshi**	**1.05**	**281**	eP	Pn	14 41 18.3	-0.8
JAK				eS	Sb	14 41 32.9	+0.3
SHO	**Shikotan**	**1.19**	**26**	i P	Pn	14 41 20.3	-0.6
SHO				AMB	AMB	14 41 21.7	
	40nm,0.5s						
SHO				AMB	AMB	14 41 21.7	
	50nm,0.5s						
SHO				AMB	AMB	14 41 21.7	
	90nm,0.5s						
SHO				eS	Sb	14 41 35.9	-0.5
SHO				A	A	14 41 39.9	
	360nm,0.2s						
SHO				A	A	14 41 39.9	
	320nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.24**	**352**	i P	Pn	14 41 21.0	-0.7
YUK				AMB	AMB	14 41 25.0	
	40nm,0.4s						
YUK				AMB	AMB	14 41 25.0	
	240nm,0.4s						
YUK				eS	Sn	14 41 37.1	-0.6
YUK				A	A	14 41 38.0	
	360nm,0.3s						
YUK				A	A	14 41 38.0	
	220nm,0.3s						
JNSB	**Nemuroshibetsu**	**1.26**	**321**	P	Pn	14 41 21.8	-0.2
JNK	**Nakash**	**1.28**	**308**	P	Pn	14 41 21.7	-0.5
JRA	**Rausu**	**1.34**	**328**	eP	Pn	14 41 22.8	-0.2
JOB	**Onbets**	**1.67**	**274**	eP	Pn	14 41 27.2	-0.4
JAR	**Ashorobuto**	**1.78**	**287**	eP	Pn	14 41 29.0	-0.1
JTKR	**Abashiri--Toko**	**1.98**	**307**	eP	Pn	14 41 32.7	+0.8
KUR	**Kuril'sk**	**2.74**	**27**	eP	Pn	14 41 43.3	+1.1
KUR				AMB	AMB	14 41 46.8	
	20nm,0.3s						
KUR				eS	Sn	14 42 15.2	+0.6
KUR				A	A	14 42 32.9	
	70nm,0.4s						
KUR				A	A	14 42 32.9	
	20nm,0.4s						

*NEIC **26** 14:41:49.0±0.7, 18°.17S±0°.07×178°.2W±0°.1, h538km±9km, mb4.3/34, Error ellipse: s-maj=20.0km s-min=9.1km az=98.0*
*IDC **26** 14:41:49.1±1.8, 18°.20S×178°.27W, h536km±19km, mb3.3/10, mbtmp4.1/11, Error ellipse: s-maj=22.9km s-min=18.2km az=128.0*
ISC 26 14:41:50.3±0.7, 18°.2S±0°.1×178°.4W±0°.1, h550km, n51, σ0°72/50, mb4.2/27, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.45**	**277**	P	P	14 43 07.0	-1.4
MSVF	**Nonsavu**	**3.45**	**277**	P	P	14 43 07.4	-0.9
	94nm,0.7s,baz=122,slow=8.4,SNR=49						
FUTU	**Fugatoga**	**3.88**	**3**	P	P	14 43 07.9	-3.5
NIUE	**Niue**	**8.04**	**98**	P	P	14 43 45.2	-3.2
URZ	**Urewera**	**20.37**	**190**	P	P	14 45 47.8	-1.7
	7.3nm,0.6s,baz=337,slow=2.4,SNR=6.5						
	7.3nm,0.6s						
MRZ	**Mangatainoka R**	**22.98**	**192**	P	P	14 46 11.1	-1.9
THZ	**Tophouse**	**24.64**	**196**	P	P	14 46 27.2	-0.6
MQZ	**McQueen's Vall**	**26.53**	**195**	P	P	14 46 44.9	+0.6
EIDS	**Eidsvold**	**29.21**	**250**	P	P	14 47 08.1	+0.1
EIDS				IAmb	IAmb	14 47 28.6	
	comp=Z,10nm,1.4s						
COEN	**Coen**	**37.15**	**271**	P	P	14 48 15.2	+0.1
COEN				IAmb	IAmb	14 48 16.5	
	comp=Z,5.4nm,0.7s						
STKA	**Stephens Creek**	**38.53**	**241**	P	P	14 48 26.8	+0.6
STKA	**Stephens Creek**	**38.53**	**241**	P	P	14 48 26.7	+0.6
	comp=Z,1.8nm,0.5s,baz=95,slow=10,SNR=11						
	comp=Z,1.8nm,0.5s						
BBOO	**Buckleboo**	**43.30**	**241**	P	P	14 49 04.7	+0.7
BBOO				IAmb	IAmb	14 49 26.9	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**44.44**	**260**	P	P	14 49 12.2	-0.7
WB0	**Warramunga Arr**	**44.59**	**260**	P	P	14 49 13.6	-0.6
WB0				IAmb	IAmb	14 49 15.6	
	comp=Z,5.0nm,1.0s						
WB2	**Warramunga Arr**	**44.61**	**260**	P	P	14 49 13.8	-0.5
WB2				IAmb	IAmb	14 49 29.8	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**44.62**	**260**	P	P	14 49 14.0	-0.4
	comp=Z,1.2nm,0.5s,baz=97,slow=7.7,SNR=36						
WRA				PcP	PcP	14 50 46.1	+0.8
	comp=Z,0.2nm,0.4s,baz=95,slow=4.8,SNR=1.1						
	comp=Z,1.2nm,0.5s						
AS31	**Alice Springs**	**44.76**	**255**	P	P	14 49 15.1	-0.3
ASAR	**Alice Springs**	**44.76**	**255**	P	P	14 49 15.1	-0.3
ASAR	**Alice Springs**	**44.76**	**255**	P	P	14 49 15.7	+0.2
	comp=Z,7.9nm,0.5s,baz=90,slow=8.4,SNR=384						
ASAR				PcP	PcP	14 50 45.7	-0.1
	comp=Z,0.5nm,0.7s,baz=93,slow=3.7,SNR=2.3						
	comp=Z,7.9nm,0.5s						
MIDW	**Midway**	**46.16**	**1**	P	P	14 49 24.2	-1.6
MTN	**Manton Dam**	**48.84**	**269**	P	P	14 49 46.1	-0.1
MTN				IAmb	IAmb	14 49 51.6	
	comp=Z,32nm,1.4s						
FORT	**Forrest**	**49.92**	**245**	P	P	14 49 54.0	-0.1
KNRA	**Kununurra**	**50.51**	**264**	P	P	14 49 58.5	0.0
KNRA				IAmb	IAmb	14 50 02.9	
	comp=Z,26nm,1.4s						
FAKI	**Fak Fak**	**50.68**	**281**	P	P	14 49 59.5	-0.3
FAKI				IAmb	IAmb	14 50 23.0	
	comp=Z,25nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.03**	**261**	P	P	14 50 16.6	0.0
	comp=Z,1.5nm,0.5s,baz=108,slow=6.4,SNR=2.9						
	comp=Z,1.5nm,0.5s						
PSA00	**Pilbara Seismi**	**57.88**	**256**	P	P	14 50 50.3	0.0
PSA00				IAmb	IAmb	14 50 56.2	
	comp=Z,8.5nm,0.9s						
MBWA	**Marble Bar**	**58.05**	**256**	P	P	14 50 51.0	-0.4
MBWA				IAmb	IAmb	14 51 25.5	
	comp=Z,32nm,1.4s						
UGM	**Wanagama**	**69.68**	**268**	P	P	14 52 05.1	-0.5
QSPA	**South Pole Qui**	**71.85**	**180**	P	P	14 52 17.8	+0.3
QSPA	**South Pole Qui**	**71.85**	**180**	P	P	14 52 18.7	+1.1
	comp=Z,1.2nm,0.6s,baz=162,slow=0.8,SNR=7.6						
	comp=Z,1.2nm,0.6s						
OHAK	**Old Harbor**	**78.01**	**14**	P	P	14 52 51.7	-0.1
OHAK				IAmb	IAmb	14 53 07.3	
	comp=Z,20nm,1.2s						
ACHA	**Angle Creek He**	**78.48**	**12**	P	P	14 52 54.3	-0.1
ACHA				IAmb	IAmb	14 53 13.4	
	comp=Z,8.4nm,1.3s						
O16K	**Kokwok River B**	**79.27**	**10**	P	P	14 52 57.3	-1.1
O16K				IAmb	IAmb	14 53 39.0	
	comp=Z,24nm,1.4s						
N15K	**Kwethluk River**	**79.49**	**9**	P	P	14 52 59.8	+0.2
P18K	**Big Mountain,**	**79.60**	**12**	P	P	14 52 59.6	-0.6
P18K				IAmb	IAmb	14 53 00.7	
	comp=Z,9.3nm,1.1s						
O18K	**Koktuh Hills**	**80.03**	**12**	P	P	14 53 02.2	-0.3
O18K				IAmb	IAmb	14 53 03.3	
	comp=Z,8.7nm,0.9s						
ILSW	**Iliamna Southw**	**80.56**	**13**	P	P	14 53 04.7	-0.7
ILSW				IAmb	IAmb	14 53 31.5	
	comp=Z,16nm,1.5s						
BELA	**Belgrano 2**	**81.87**	**173**	P	P	14 53 12.1	+0.3
L18K	**Granite Mounta**	**81.98**	**10**	P	P	14 53 12.8	+0.4
GHO	**Glory Hole Cre**	**83.08**	**14**	P	P	14 53 17.7	-0.4
GHO				IAmb	IAmb	14 53 18.4	
	comp=Z,6.6nm,0.7s						
SCM	**Sheep Creek Mo**	**83.50**	**14**	P	P	14 53 19.9	-0.3
SCM				IAmb	IAmb	14 53 20.5	
	comp=Z,5.1nm,0.6s						
ILAR	**Eielson Array**	**86.16**	**13**	P	P	14 53 32.8	-0.2
ILAR	**Eielson Array**	**86.16**	**13**	P	P	14 53 32.1	-0.8
	comp=Z,0.5nm,0.4s,baz=221,slow=5.2,SNR=19						
	comp=Z,0.5nm,0.4s						
J25K	**Salcha River,**	**86.36**	**14**	P	P	14 53 33.9	-0.1
PDAR	**Pinedale Array**	**87.53**	**43**	P	P	14 53 40.3	+0.1
	comp=Z,0.3nm,0.6s,baz=204,slow=3.3,SNR=3.8						
	comp=Z,0.3nm,0.6s						
E22K	**Anaktuvuk Pass**	**88.24**	**10**	P	P	14 53 42.7	-0.1
BMAR	**Burnt Mountain**	**88.94**	**12**	P	P	14 53 46.2	+0.3
CMAR	**Chiang Mai Arr**	**89.03**	**290**	P	P	14 53 49.8	+2.3
	comp=Z,0.4nm,0.5s,baz=109,slow=6.7,SNR=2.2						
	comp=Z,0.4nm,0.5s						
C23K	**Itkillik River**	**89.97**	**9**	P	P	14 53 51.0	+0.4
YKA	**Yellowknife Ar**	**94.58**	**25**	P	P	14 54 11.2	-0.7
	comp=Z,0.4nm,0.8s,baz=246,slow=4.4,SNR=5.7						
	comp=Z,0.4nm,0.8s						

*MDD **26** 14:42:09.4±0.2, 41°.16N×6°.93W, h0km, mb_Lg3.1/36, Error ellipse: s-maj=1.4km s-min=1.3km az=138.0*
*SFS **26** 14:42:10.6, 41°.13N×7°.03W, h0km, ML3.4/7, ML3.5/7, MLv3.5/7*
*INMG **26** 14:42:11.0±1.7, 41°.16N×6°.98W, h6km±3km, ML2.7, Error ellipse: s-maj=3.1km s-min=1.8km az=87.0, #DIST_RANGE: LOCAL #IPMA_REGION: E Torre de Moncorvo #FELT: II/III (MM56) at T. Moncorvo (Bragana)*
ISC 26 14:42:09.3±0.9, 41°.15N±0°.02×6°.90W±0°.02, h8km±7km, n57, σ0°99/135, 1C, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVO	**Moncorvo**	**0.10**	**281**	i iPg	Pg	14 42 12.1	+0.3
MVO				eSg	Sg	14 42 13.0	-0.5
MVO				i AML	AML	14 42 13.2	
MVO				i AML	AML	14 42 13.2	
MVO				i AML	AML	14 42 13.3	
PVRL	**Vila Real**	**0.63**	**282**	ePg	Pg	14 42 21.4	0.0
PVRL				eSg	Sg	14 42 29.4	-0.3
PVRL				i AML	AML	14 42 33.5	
PVRL				i AML	AML	14 42 33.6	
PVRL				i AML	AML	14 42 34.4	
PBRG	**Braganca**	**0.67**	**10**	ePg	Pg	14 42 22.8	+0.5
PBRG				eSg	Sg	14 42 30.8	-0.3
PBRG				i AML	AML	14 42 32.3	
PBRG				i AML	AML	14 42 32.4	
PBRG				i AML	AML	14 42 32.5	
POLO	**Lamas de Olo**	**0.71**	**289**	ePg	Pg	14 42 23.1	+0.1
POLO				eSg	Sg	14 42 31.4	-0.9
POLO				i AML	AML	14 42 35.4	
POLO				i AML	AML	14 42 35.5	
POLO				i AML	AML	14 42 35.7	
PVIS	**Viseu**	**0.87**	**241**	eP	Pb	14 42 26.4	-0.2
PVIS				eS	Sg	14 42 37.8	+0.5
MTE	**Manteigas**	**0.89**	**213**	eP	Pb	14 42 27.4	+0.4
MTE				eS	Sb	14 42 38.9	-0.2
MTE				i AML	AML	14 42 41.5	
MTE				i AML	AML	14 42 41.6	
MTE				i AML	AML	14 42 41.9	
PCAB	**Cabril**	**1.02**	**304**	eP	Pg	14 42 28.5	-0.4
PCAB				eS	Sg	14 42 41.5	-0.6
PCAB				i AML	AML	14 42 43.6	
PCAB				i AML	AML	14 42 43.9	
PCAB				i AML	AML	14 42 44.4	
ELOB	**Lobios**	**1.13**	**310**	Pg	Pg	14 42 30.6	-0.4
ELOB				Sg	Sg	14 42 45.3	-0.4
ELOB				i Vmb_Lg		14 42 46.9	
EPLA	**Plasencia**	**1.25**	**150**	Pg	Pg	14 42 33.5	+0.2
EPLA				Sg	Sn	14 42 50.7	+0.7
EPLA				i Vmb_Lg		14 42 53.4	
PTO	**Porto**	**1.28**	**270**	eP	Pg	14 42 36.5	+2.6
PTO				eS	Sn	14 42 52.8	+1.9
PTO				i AML	AML

PAB			Pg	Pb	14 42 55.2	+0.3
PAB			Sn	Sn	14 43 22.4	+0.8
PAB			Sg	Sg	14 43 29.3	-1.0
PAB			*i* Vmb_Lg		14 43 32.3	
ESDC	**Sonseca Array**	**2.68 122**	Pn	Pn	14 42 53.0	+0.2
ESDC			Pg	Pb	14 42 57.2	-0.4
ESDC			Sn	Sn	14 43 25.8	+0.3
ESDC			Sg	Sg	14 43 33.5	-2.0
ESDC			*i* Vmb_Lg		14 43 40.8	
EVO	**Evora**	**2.75 199**	*e*Sg	Sg	14 43 38.2	+0.6
EVO			*i* AML	AML	14 43 39.1	
EVO			*i* AML	AML	14 43 39.8	
EVO			*i* AML	AML	14 43 40.3	
EVO	**Evora**	**2.75 199**	P	Pn	14 42 55.0	+1.4
EVO			S	Sn	14 43 26.6	-0.4
PMAFR	**Mafra**	**2.85 221**	*e*Sn	Sn	14 43 28.4	-1.2
PMAFR			*e*Sg	Sg	14 43 40.9	0.0
PMAFR			*i* AML	AML	14 43 46.5	
PMAFR			*i* AML	AML	14 43 47.4	
PMAFR			*i* AML	AML	14 43 47.9	
PMAFR	**Mafra**	**2.85 221**	S	Sn	14 43 28.5	-1.0
UCM	**Universidad Co**	**2.90 106**	S	Sn	14 43 33.8	+2.9
PBAR	**Barrancos**	**2.97 182**	*e*Pg	Pg	14 43 05.7	-0.5
PBAR			*e*Sn	Sn	14 43 33.5	+1.1
PBAR			*e*Sg	Sg	14 43 44.2	-0.5
PBAR			*i* AML	AML	14 43 45.6	
PBAR			*i* AML	AML	14 43 46.2	
PBAR			*i* AML	AML	14 43 48.4	
PBAR	**Barrancos**	**2.97 182**	P	Pn	14 42 56.6	-0.1
PBAR			S	Sn	14 43 32.4	-0.1
ATANC	**Embalse El Ata**	**3.11 90**	Sn	Sn	14 43 35.9	-0.2
PBEJ	**Beja**	**3.20 194**	*e*Sn	Sn	14 43 38.0	-0.2
PBEJ			*e*Sg	Sg	14 43 51.0	-1.1
PBEJ			*i* AML	AML	14 43 53.4	
PBEJ			*i* AML	AML	14 43 59.0	
ECAB	**El Cabril**	**3.27 159**	P	Pn	14 43 02.0	+1.1
ECAB			S	Sn	14 43 41.6	+1.6
ECAB	**El Cabril**	**3.27 159**	Pn	Pn	14 43 02.1	+1.1
ECAB			Sn	Sn	14 43 39.2	-0.8
ECAB			Sg	Sg	14 43 53.5	-0.9
ECAB			*i* Vmb_Lg		14 43 58.0	
ELAN	**Lanestosa**	**3.31 50**	Pn	Pn	14 43 02.0	+0.5
ELAN			Pg	Pb	14 43 08.5	+0.1
ELAN			Sn	Sn	14 43 40.5	-0.6
ELAN			Sg	Sg	14 43 55.0	-0.7
ELAN			*i* Vmb_Lg		14 43 58.1	
PSIM	**Granatula de C**	**3.35 133**	Pn	Pn	14 43 02.5	+0.5
PSIM			Pg	Pb	14 43 09.0	0.0
PSIM			Sn	Sn	14 43 42.6	+0.7
PSIM			Sg	Sg	14 43 55.9	-1.1
EMIN	**Mina Concepcio**	**3.38 177**	P	Pn	14 43 02.8	+0.5
EMIN			S	Sn	14 43 42.3	-0.2
EMIN	**Mina Concepcio**	**3.38 177**	Pn	Pn	14 43 03.6	+1.3
EMIN			Sn	Sn	14 43 41.5	-1.1
EMIN			Sg	Sg	14 43 55.9	-1.9
EMIN			*i* Vmb_Lg		14 44 00.7	
MESJ	**Messejana**	**3.46 198**	*e*Pn	Pn	14 43 04.5	+1.1
MESJ			*e*Sn	Sn	14 43 43.4	-1.0
MESJ			*e*Sg	Sg	14 43 59.0	-1.3
MESJ			*i* AML	AML	14 44 02.7	
MESJ			*i* AML	AML	14 44 03.2	
MESJ			*i* AML	AML	14 44 06.3	
EADA	**Adamuz**	**3.47 148**	P	Pn	14 43 04.6	+0.9
EADA			S	Sn	14 43 44.2	-0.8
EADA	**Adamuz**	**3.47 148**	Pn	Pn	14 43 04.5	+0.9
EADA			Pg	Pb	14 43 11.3	+0.2
EADA			Sn	Sn	14 43 44.7	-0.3
EADA			Sg	Sg	14 43 59.0	-1.8
EADA			*i* Vmb_Lg		14 44 05.9	
PCVE	**Castro Verde**	**3.62 194**	*e*Pn	Pn	14 43 06.5	+0.9
PCVE			*e*Sn	Sn	14 43 48.0	-0.5
PCVE			*e*Sg	Sg	14 44 05.5	0.0
PCVE			*i* AML	AML	14 44 06.5	
PCVE			*i* AML	AML	14 44 07.6	
PCVE			*i* AML	AML	14 44 09.1	
PCVE	**Castro Verde**	**3.62 194**	P	Pn	14 43 06.0	+0.4
PCVE			S	Sn	14 43 46.7	-1.8
EGRO	**El Granado**	**3.63 187**	P	Pn	14 43 06.7	+0.9
EGRO			S	Sn	14 43 47.7	-1.2
EGRO	**El Granado**	**3.63 187**	Pn	Pn	14 43 06.4	+0.5
EGRO			Sn	Sn	14 43 48.4	-0.4
EGRO			Sg	Sg	14 44 04.4	-1.6
EGRO			*i* Vmb_Lg		14 44 11.0	
ETOR	**Torete**	**3.68 93**	Pn	Pn	14 43 06.5	-0.1
ETOR			Pg	Pb	14 43 17.0	+2.4
ETOR			Sn	Sn	14 43 51.0	+1.3
ETOR			Sg	Sg	14 44 07.1	-0.5
ETOR			*i* Vmb_Lg		14 44 13.2	
PVAQ	**Vaqueiros**	**3.79 190**	*e*Pn	Pn	14 43 08.9	+0.9
PVAQ			*i* AML	AML	14 44 14.2	
PVAQ	**Vaqueiros**	**3.79 190**	P	Pn	14 43 08.2	+0.3
PVAQ			S	Sn	14 43 50.0	-2.7
PTEO	**Sao Teotonio**	**3.86 202**	*e*Sn	Sn	14 43 53.5	-0.9
PTEO			*e*Sg	Sg	14 44 12.2	-1.2
PTEO			*i* AML	AML	14 44 16.8	
PTEO			*i* AML	AML	14 44 19.6	
PBDV	**Barranco-do-Ve**	**3.98 192**	*e*Pn	Pn	14 43 11.4	+0.8
PBDV			*e*Sn	Sn	14 43 56.5	-0.9
PBDV			*e*Sg	Sg	14 44 15.9	-1.2
PBDV			*i* AML	AML	14 44 19.4	
PBDV			*i* AML	AML	14 44 22.6	
PBDV			*i* AML	AML	14 44 23.0	
EQES	**Quesada**	**4.46 137**	Pn	Pn	14 43 18.0	+0.6
EQES			Sg	Sg	14 44 32.6	-0.1
EQES			*i* Vmb_Lg		14 44 42.7	
ESAC	**San Caprasio**	**4.87 81**	Pn	Pn	14 43 23.4	+0.6
ESAC			Sn	Sn	14 44 17.7	-1.8
EMOS	**Mosqueruela**	**4.95 97**	Pn	Pn	14 43 24.6	+0.6
EMOS			Sn	Sn	14 44 19.2	-2.3
EMOS			*i* Vmb_Lg		14 44 20.8	

JMA 26 14:43:30.2±0.1, 25°N±2°×12°4E±°, h118km±2km, MV1.5/5, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.57**	**150**	*e*P	Pn	14 43 48.5	+0.1
JISG				*e*S	Sn	14 44 02.4	+0.4
JIJ	**Ishigaki jima**	**0.73**	**169**	*e*P	Pn	14 43 49.7	+0.1
JIJ				*e*S	Sn	14 44 04.2	+0.1
JTJ	**Tarama**	**0.78**	**124**	*e*P	Pn	14 43 50.1	+0.2
JTJ				*e*S	Sn	14 44 05.2	+0.3
JKRS	**Kuro-shima**	**0.84**	**179**	*e*P	Pn	14 43 50.7	+0.2

TAP 26 14:43:41.8, 24°34N×122°09E, h59km, ML2.2, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.16**	**58**	P	Pn	14 43 50.3	-0.4
EOS2				S	Sn	14 43 56.8	-0.3
EOS3	**EOS3**	**0.22**	**103**	P	Pn	14 43 50.5	-0.5
EOS3				*e*S	Sn	14 43 57.4	-0.1
EWUT	**Wuta**	**0.30**	**291**	*i* P	Pn	14 43 51.8	+0.1
EWUT				S	Sn	14 43 59.3	+0.4
EOS4	**EOS4**	**0.30**	**135**	*e*P	Pn	14 43 50.4	-0.8
EOS4				*e*S	Sn	14 43 57.1	-1.1
EAHA	**Aohua**	**0.32**	**269**	*e*P	Pn	14 43 52.4	+0.6
EAHA				*i* S	Sn	14 44 00.2	+1.1
ENA	**Nanau**	**0.33**	**286**	*e*P	Pn	14 43 52.2	+0.3
ENA				*e*S	Sn	14 43 59.8	+0.5
NDS	**Dongshan**	**0.45**	**311**	*e*P	Pn	14 43 53.8	+0.7
NDS				*e*S	Sn	14 44 03.5	+2.3
ETL	**Fush Village**	**0.46**	**247**	*e*P	Pn	14 43 53.1	-0.1
ETL				*e*S	Sn	14 44 02.0	+0.5
NACB	**Ninganchiao**	**0.48**	**250**	P	Pn	14 43 53.1	-0.3
NACB				S	Sn	14 44 02.0	+0.3
TWD	**Chiawan**	**0.51**	**240**	P	Pn	14 43 53.6	-0.2
TWD				*i* S	Sn	14 44 02.8	+0.3
TWE	**Neicheng**	**0.54**	**315**	P	Pn	14 43 54.8	+0.7
TWE				*e*S	Sn	14 44 04.5	+1.6
LATG	**Datong**	**0.55**	**291**	*e*P	Pn	14 43 55.1	+0.9
LATG				*e*S	Sn	14 44 04.0	+0.7
ENTT	**Nioudou**	**0.56**	**303**	*i* P	Pn	14 43 55.1	+0.8
ENTT				*i* S	Sn	14 44 04.3	+0.9
ETLH	**Xiulin Townshi**	**0.56**	**257**	*e*P	Pn	14 43 54.5	+0.1
ETLH				*i* S	Sn	14 44 04.4	+0.8
FUSB	**Fushanzhiwuyua**	**0.62**	**313**	*e*P	Pn	14 43 56.0	+0.9

FUSB			*e*S	Sn	14 44 06.3	+1.6
NNSB	**Datong**	**0.65 278**	*e*P	Pn	14 43 55.9	+0.4
NNSB			*e*S	Sn	14 44 05.7	+0.4
ETM	**Tongmen**	**0.66 236**	*e*P	Pn	14 43 55.1	-0.2
ETM			*e*S	Sn	14 44 04.9	-0.4
NNS	**Nan Shan**	**0.66 279**	*e*P	Pn	14 43 56.2	+0.7
NNS			*e*S	Sn	14 44 06.5	+0.9
TWB1	**Santiao Chiao**	**0.68 353**	*e*P	Pn	14 43 55.9	+0.3
TWB1			*e*S	Sn	14 44 04.6	-1.1
TIPB	**Shuangxi**	**0.68 340**	*e*P	Pn	14 43 57.2	+1.5
TIPB			*e*S	Sn	14 44 05.9	+0.1
NWLT	**Wulai**	**0.69 310**	*e*P	Pn	14 43 56.5	+0.7
NWLT			*i* S	Sn	14 44 07.5	+1.4
SHUL	**Shoufeng**	**0.72 221**	*e*P	Pn	14 43 56.1	-0.1
SHUL			*i* S	Sn	14 44 07.6	+0.8
YHNB	**Yeheng**	**0.73 297**	*e*P	Pn	14 43 57.2	+0.9
YHNB			*e*S	Sn	14 44 07.5	+0.5
NSK	**Sanguang**	**0.74 297**	*e*P	Pn	14 43 57.8	+1.2
FUSS	**Fushou**	**0.77 264**	*e*P	Pn	14 43 57.8	+0.7
FUSS			*e*S	Sn	14 44 08.3	0.0
SXI1	**Grass Mountain**	**0.78 346**	*e*P	Pn	14 43 58.9	+1.9
WARBT	**Fenglin Townsh**	**0.89 226**	*e*P	Pn	14 43 57.8	-0.5
WARBT			S	Sn	14 44 10.2	-0.3
OWD	**Renai**	**0.91 246**	*e*P	Pn	14 43 58.8	+0.1
OWD			*e*S	Sn	14 44 11.8	+0.5
NFF	**Wufeng Townshi**	**0.93 289**	*e*P	Pn	14 44 00.5	+1.6
NFF			*e*S	Sn	14 44 13.1	+1.6
WUSB	**Renai**	**0.95 249**	*e*P	Pn	14 43 59.6	+0.4
WUSB			*e*S	Sn	14 44 12.6	+0.6
LIOB	**Emei**	**1.02 288**	*e*P	Pn	14 44 01.8	+1.8
NSTT	**Nanjuang**	**1.03 287**	*e*P	Pn	14 44 01.6	+1.4
NSTT			*e*S	Sn	14 44 15.9	+2.1
HGSD	**Ruisui**	**1.03 216**	*e*P	Pn	14 44 00.2	0.0
VWDT	**VWDT**	**1.04 236**	*e*P	Pn	14 44 00.8	+0.6
VWDT			S	Sn	14 44 14.6	+0.6
WHP	**Taichung City**	**1.04 267**	*e*P	Pn	14 44 02.6	+2.3
WHP			*e*S	Sn	14 44 16.5	+2.3
EHY	**Hungye**	**1.08 220**	*e*P	Pn	14 44 01.3	+0.4
WCS	**Beigang Elemen**	**1.11 256**	*e*P	Pn	14 44 02.9	+1.7
WCS			*e*S	Sn	14 44 18.4	+2.8
SSLB	**Suanglung**	**1.17 242**	*e*P	Pn	14 44 03.0	+1.0
SSLB			*e*S	Sn	14 44 18.2	+1.1
SMLT	**Sun Moon Lake**	**1.17 248**	*e*P	Pn	14 44 03.4	+1.3
YULB	**Yu-li**	**1.18 218**	*e*P	Pn	14 44 01.9	-0.3
TYC	**Yuchr**	**1.20 249**	*e*P	Pn	14 44 02.3	-0.1
EYUL	**Yuli**	**1.21 216**	*e*P	Pn	14 44 01.1	-1.5
EYUL			*e*S	Sn	14 44 18.2	+0.2
TWF1	**Yuli**	**1.22 217**	*e*P	Pn	14 44 02.7	+0.1
WHYT	**Xinyi Township**	**1.29 241**	*e*P	Pn	14 44 05.7	+2.0
WHYT			*e*S	Sn	14 44 22.6	+2.5
ALS	**Alishan**	**1.43 235**	*e*P	Pn	14 44 06.7	+0.9
ELDTW	**Lidau**	**1.50 221**	*e*P	Pn	14 44 06.1	-0.5

*ZUR **26** 15:00:20.6, 47°.20N×7°.24E, h-0km±1km, MLh1.8/39, Error ellipse: s-maj=3452.0km s-min=1337.7km az=187.0, Suspected Mining explosion.*

STR 26 15:00:21.8±0.9, 47°N±5°×°±°, h0km, MLv2.1/6, 1C-1D, Error ellipse: s-maj=0.0km s-min=0.0km az=8.1, preliminary, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIRA	**Les Sairains D**	**0.17**	**299**	Pg	Pg	15 00 24.0	-1.2
SAIRA	**Les Sairains D**	**0.17**	**299**	Pg	Pg	15 00 24.0	-1.2
BOURR	**Bourrignon**	**0.18**	**343**	↑Pg	Pg	15 00 25.0	-0.3
BOURR	**Bourrignon**	**0.18**	**343**	Pg	Pg	15 00 25.0	-0.3
BOURR	**Bourrignon**	**0.18**	**343**	Pg	Pg	15 00 25.0	-0.3
BOURR	**Bourrignon**	**0.18**	**343**	Sg	Sg	15 00 29.1	+1.4
MTI02	**Mont Terri, (H**	**0.19**	**329**	Pg	Pg	15 00 25.0	-0.4
MTI02	**Mont Terri, (H**	**0.19**	**329**	Pg	Pg	15 00 25.0	-0.4
BALST	**Balsthal**	**0.29**	**66**	Pg	Pg	15 00 26.9	-0.5
BALST	**Balsthal**	**0.29**	**66**	Pg	Pg	15 00 27.8	+0.4
BALST	**Balsthal**	**0.29**	**66**	Sg	Sg	15 00 32.4	+1.3
CHMF	**Charmoille**	**0.45**	**274**	Pg	Pg	15 00 28.7	-1.7
BRANT	**Les Verrieres**	**0.64**	**244**	Pg	Pg	15 00 34.6	+0.6
RONF	**Ronchamp**	**0.67**	**318**	Pg	Pg	15 00 35.2	+0.6
RONF				Sg	Sg	15 00 43.7	+0.5
METMA	**Mettma DE**	**0.81**	**52**	Pg	Pg	15 00 37.7	+0.3
KIZ	**Kirchzarten**	**0.84**	**29**	Pg	Pg	15 00 38.2	+0.2
SENIN	**Lac Senin/Sane**	**0.86**	**180**	Pg	Pg	15 00 38.4	+0.2
SLE	**Schleitheim**	**0.97**	**55**	Pg	Pg	15 00 39.9	-0.5
SLE				Sg	Sg	15 00 53.7	+0.7
ECH	**Echery**	**1.00**	**354**	‖Pg	Pg	15 00 40.8	-0.2
ECH	**Echery**	**1.00**	**354**	Pg	Pg	15 00 40.7	-0.3
ECH				Sg	Sg	15 00 54.7	+0.7

*GCG **26** 15:01:40.8±1.0, 12°.16N×89°.35W, h9km±23km, MD4.9*
*MOS **26** 15:01:42.7±1.3, 12°.69N×89°.11W, h5km, mb4.7/9, Error ellipse: s-maj=16.2km s-min=7.3km az=115.2*
*IDC **26** 15:01:42.9±0.6, 12°.62N×89°.09W, h0km, mb4.3/16, mbtmp4.3/20, ML3.0/4, MS3.8/27, Error ellipse: s-maj=23.3km s-min=11.9km az=50.0*
*CATAC **26** 15:01:43.4±0.3, 12°N±1°×8°9W±°, h1km, M4.6/39, MLv4.6/39, Error ellipse: s-maj=4.1km s-min=1.7km az=48.5, confirmed*
*NEIC **26** 15:01:45.6±1.9, 12°.55N±0°.07×89°.17W±0°.03, h10km±1km, mb4.9/237, Error ellipse: s-maj=11.7km s-min=4.3km az=190.0*
*SNET **26** 15:01:46.0±1.2, 12°.37N×89°.34W, h36km±10km, ML4.5*
*UCR **26** 15:01:46.4±1.4, 12°.86N×89°.22W, h35km±520km, MB4.9(NEIC)*

ISC 26 15:01:44.6±1.2, 12°41N±0°.03×89°27W±0°.03, h17km±6km, n455, σ1$95/359, mb4.8/123, MS3.9/28, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.07**	**357**	*e*P		15 02 04.5	
LALI	**Alcalda de L**	**1.07**	**357**	*e*P	**Pb**	**15 02 04.6**	**-0.1**
LALI				*e*S	**Sg**	**15 02 16.4**	**-3.0**
LALI	**Alcalda de L**	**1.07**	**357**	S	**Sn**	**15 02 22.0**	**+2.6**
LALI	**Alcalda de L**	**1.07**	**357**	P	**Pn**	**15 02 05.5**	**+0.6**
LALI	**Alcalda de L**	**1.07**	**357**	S	**Sn**	**15 02 22.2**	**+2.9**
LALI	**Alcalda de L**	**1.07**	**357**	P	**Pb**	**15 02 04.9**	**+0.2**
LALI	**Alcalda de L**	**1.07**	**357**	*e*P	**Pg**	**15 02 04.5**	**-0.9**
ALJI	**Alcalda de J**	**1.13**	**37**	*e*P	**Pn**	**15 02 06.5**	**+0.8**
ALJI	**Alcalda de J**	**1.13**	**37**	P	**Pn**	**15 02 07.2**	**+1.4**
ALJI	**Alcalda de J**	**1.13**	**37**	S	**Sn**	**15 02 24.5**	**+3.5**
PANCS	**Alcalda de**	**1.19**	**4**	S	**Sn**	**15 02 25.6**	**+3.1**
PANCS	**Alcalda de**	**1.19**	**4**	P	**Pn**	**15 02 08.2**	**+1.5**
TECO	**Alcaldia de Te**	**1.21**	**23**	*e*P	**Pg**	**15 02 06.9**	**-1.2**
TECO	**Alcaldia de Te**	**1.21**	**23**	S	**Sn**	**15 02 26.6**	**+3.6**
TECO	**Alcaldia de Te**	**1.21**	**23**	P	**Pn**	**15 02 08.5**	**+1.6**
TECO	**Alcaldia de Te**	**1.21**	**23**	S	**Sn**	**15 02 23.8**	**+0.8**
TECO	**Alcaldia de Te**	**1.21**	**23**	P	**Pn**	**15 02 07.5**	**+0.6**
LFRS	**El Faro**	**1.22**	**9**	*e*P	**Pg**	**15 02 07.0**	**-1.2**
LOMA	**Loma Larga**	**1.23**	**4**	*e*P	**Pb**	**15 02 07.4**	**-0.1**
LOMA	**Loma Larga**	**1.23**	**4**	S	**Sn**	**15 02 26.8**	**+3.3**
LOMA	**Loma Larga**	**1.23**	**4**	P	**Pn**	**15 02 08.1**	**+0.9**
LOMA	**Loma Larga**	**1.23**	**4**	P	**Pb**	**15 02 07.5**	**0.0**
JAYA	**Jayaque - finc**	**1.25**	**352**	*e*P	**Pg**	**15 02 07.0**	**-1.8**
JAYA	**Jayaque - finc**	**1.25**	**352**	P	**Pn**	**15 02 08.4**	**+0.9**
JAYA	**Jayaque - finc**	**1.25**	**352**	P	**Pg**	**15 02 07.3**	**-1.4**
JAYA	**Jayaque - finc**	**1.25**	**352**	*e*P	**Pg**	**15 02 06.8**	**-2.0**
JAYA	**Jayaque - finc**	**1.25**	**352**	*e*P		15 02 06.8	
ITCA	**Escuela Especi**	**1.25**	**360**	S	**Sn**	**15 02 27.2**	**+3.1**
ITCA	**Escuela Especi**	**1.25**	**360**	P	**Pn**	**15 02 08.5**	**+1.0**
COEG	**Centro de Oper**	**1.26**	**17**	*e*P	**Pg**	**15 02 07.8**	**-1.2**
COEG	**Centro de Oper**	**1.26**	**17**	P	**Pn**	**15 02 08.5**	**+0.9**
COEG	**Centro de Oper**	**1.26**	**17**	S	**Sn**	**15 02 28.3**	**+4.2**
COEG	**Centro de Oper**	**1.26**	**17**	P	**Pn**	**15 02 08.4**	**+0.9**
COEG	**Centro de Oper**	**1.26**	**17**	S	**Sn**	**15 02 26.4**	**+2.3**
UTEC	**Universidad Te**	**1.28**	**3**	P	**Pb**	**15 02 10.1**	**+1.7**
UTEC	**Universidad Te**	**1.28**	**3**	S	**Sn**	**15 02 27.9**	**+3.2**
SEMO	**Seminario San**	**1.28**	**2**	P	**Pb**	**15 02 10.3**	**+1.9**
SEMO	**Seminario San**	**1.28**	**2**	S	**Sn**	**15 02 28.8**	**+4.1**
PMON	**Piamonte**	**1.29**	**358**	*e*P	**Pg**	**15 02 07.9**	**-1.7**
PMON	**Piamonte**	**1.29**	**358**	S	**Sn**	**15 02 29.1**	**+4.1**
PMON	**Piamonte**	**1.29**	**358**	P	**Pb**	**15 02 09.5**	**+0.9**
PMON	**Piamonte**	**1.29**	**358**	P	**Pg**	**15 02 08.1**	**-1.5**
UEES	**Universidad Ev**	**1.29**	**1**	P	**Pb**	**15 02 09.2**	**+0.6**
UEES	**Universidad Ev**	**1.29**	**1**	S	**Sn**	**15 02 28.7**	**+3.7**
IGN	**Direccin Gen**	**1.30**	**4**	S	**Sn**	**15 02 28.7**	**+3.6**
IGN	**Direccin Gen**	**1.30**	**4**	P	**Pb**	**15 02 10.0**	**+1.4**
UDBS	**Universidad Do**	**1.30**	**5**	S	**Sn**	**15 02 29.9**	**+4.8**
UDBS	**Universidad Do**	**1.30**	**5**	P	**Pb**	**15 02 09.9**	**+1.3**
UESV	**Universidad de**	**1.30**	**21**	P	**Pb**	**15 02 10.6**	**+1.9**
UESV	**Universidad de**	**1.30**	**21**	S	**Sn**	**15 02 29.4**	**+4.2**
TECA	**Tecapa**	**1.31**	**35**	*e*P	**Pb**	**15 02 08.9**	**0.0**
BOQS	**Boqueron**	**1.31**	**359**	*e*P	**Pg**	**15 02 08.6**	**-1.5**
PIC2	**El Picacho**	**1.32**	**0**	*e*P	**Pn**	**15 02 09.1**	**+0.5**
PAVA	**Las Pavas**	**1.33**	**14**	*e*P	**Pb**	**15 02 09.2**	**0.0**
PAVA	**Las Pavas**	**1.33**	**14**	S	**Sn**	**15 02 30.1**	**+4.1**
PAVA	**Las Pavas**	**1.33**	**14**	P	**Pb**	**15 02 10.1**	**+0.8**
PAVA	**Las Pavas**	**1.33**	**14**	P	**Pb**	**15 02 09.3**	**0.0**
LFU	**La Fuente**	**1.33**	**6**	*e*P	**Pb**	**15 02 09.2**	**-0.1**
LCY	**Lacayo**	**1.38**	**43**	*e*P	**Pg**	**15 02 10.7**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.38**	**22**	*e*P	**Pn**	**15 02 09.8**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.38**	**22**	S	**Sn**	**15 02 31.7**	**+4.5**
SCLA	**Alcaldia de Sa**	**1.38**	**22**	P	**Pg**	**15 02 10.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.38**	**22**	P	**Pb**	**15 02 09.9**	**-0.2**
CEDA	**San Andres**	**1.39**	**355**	*e*P	**Pn**	**15 02 09.6**	**+0.3**
CEDA	**San Andres**	**1.39**	**355**	S	**Sn**	**15 02 31.3**	**+4.0**
CEDA	**San Andres**	**1.39**	**355**	P	**Pg**	**15 02 11.6**	**+0.2**
PQSS	**Presa 15 de Se**	**1.39**	**30**	*e*P	**Pb**	**15 02 10.0**	**-0.2**
PQSS	**Presa 15 de Se**	**1.39**	**30**	S	**Sn**	**15 02 31.6**	**+4.4**
PQSS	**Presa 15 de Se**	**1.39**	**30**	P	**Pg**	**15 02 11.2**	**-0.2**
PQSS	**Presa 15 de Se**	**1.39**	**30**	P	**Pg**	**15 02 10.2**	**-1.2**
RANC	**El Ranchito**	**1.39**	**43**	*e*P	**Pn**	**15 02 10.0**	**+0.5**
RANC	**El Ranchito**	**1.39**	**43**	P	**Pg**	**15 02 10.5**	**-1.1**
RANC	**El Ranchito**	**1.39**	**43**	S	**Sn**	**15 02 31.5**	**+3.9**
RANC	**El Ranchito**	**1.39**	**43**	P	**Pb**	**15 02 10.1**	**-0.2**
PACA	**Pacayal**	**1.40**	**41**	S	**Sn**	**15 02 32.3**	**+4.7**
PACA	**Pacayal**	**1.40**	**41**	P	**Pg**	**15 02 11.3**	**-0.3**
PACA	**Pacayal**	**1.40**	**41**	P	**Pg**	**15 02 10.5**	**-1.1**
BLLM	**Bellamira**	**1.43**	**44**	*e*P	**Pb**	**15 02 10.6**	**-0.4**
CEVE	**Cerro Verde**	**1.45**	**346**	P	**Pg**	**15 02 11.8**	**-0.9**
CEVE	**Cerro Verde**	**1.45**	**346**	S	**Sn**	**15 02 33.5**	**+4.5**
CEVE	**Cerro Verde**	**1.45**	**346**	P	**Pg**	**15 02 13.5**	**+0.9**
SBLS	**San Blas**	**1.46**	**346**	*e*P	**Pn**	**15 02 10.4**	**-0.1**
SNJE	**San Jose**	**1.48**	**347**	*e*P	**Pn**	**15 02 10.6**	**-0.1**
SNJE				*e*P	**Pb**	**15 02 10.8**	**-1.1**
CNRM	**Centro Naciona**	**1.50**	**45**	S	**Sg**	**15 02 34.8**	**+1.6**
CNRM	**Centro Naciona**	**1.50**	**45**	P	**Pg**	**15 02 13.8**	**+0.2**
NUBE	**Las Nubes**	**1.56**	**341**	*e*P	**Pn**	**15 02 11.2**	**-0.6**
NUBE	**Las Nubes**	**1.56**	**341**	S	**Sg**	**15 02 36.2**	**+1.1**
NUBE	**Las Nubes**	**1.56**	**341**	P	**Pn**	**15 02 11.2**	**-0.6**
NUBE	**Las Nubes**	**1.56**	**341**	*e*P	**Pn**	**15 02 11.1**	**-0.7**
NUBE				*e*S	**Sg**	**15 02 36.1**	**+1.0**
NUBE	**Las Nubes**	**1.56**	**341**	*e*P		15 02 11.1	
NUBE				*e*S		15 02 36.1	
UNIC	**Universidad Ca**	**1.58**	**350**	P	**Pb**	**15 02 13.6**	**0.0**
UNIC	**Universidad Ca**	**1.58**	**350**	S	**Sg**	**15 02 36.5**	**+0.7**
LCND	**La Caada**	**1.61**	**56**	*e*P	**Pn**	**15 02 13.1**	**+0.8**
LCND	**La Caada**	**1.61**	**56**	P	**Pb**	**15 02 14.0**	**0.0**
LCND	**La Caada**	**1.61**	**56**	S	**Sg**	**15 02 38.1**	**+1.5**
LCND	**La Caada**	**1.61**	**56**	P	**Pb**	**15 02 13.5**	**-0.5**
CNCH	**Conchagua**	**1.64**	**58**	*e*P	**Pn**	**15 02 13.0**	**+0.2**
CNCH	**Conchagua**	**1.64**	**58**	S	**Sg**	**15 02 39.0**	**+1.4**
CNCH	**Conchagua**	**1.64**	**58**	P	**Pg**	**15 02 15.0**	**-1.2**
CNCH	**Conchagua**	**1.64**	**58**	P	**Pb**	**15 02 14.2**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.68**	**343**	*e*P	**Pn**	**15 02 13.2**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.68**	**343**	S	**Sg**	**15 02 39.6**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.68**	**343**	P	**Pb**	**15 02 15.6**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.68**	**343**	P	**Pb**	**15 02 14.6**

VERA Finca Concepci 4.58 109 *eP* **Pn 15 02 55.8 +2.6**
JTS Las Juntas de 4.73 116 Pn 15 02 56.3 +1.1
JTS Las Juntas de 4.73 116 Pn **Pn 15 02 56.7 +1.4**
38nm,0.3s,baz=298,slow=16,SNR=17
JTS Sn **Sn 15 03 50.8 +1.1**
14nm,0.3s,baz=277,slow=21,SNR=5.2
JTS Las Juntas de 4.73 116 *eP* **Pn 15 02 57.3 +2.1**
CCIG Comitan 4.75 324 Pn 15 02 57.3 +1.7
VARE2 V. Arenal 4.86 113 *eP* **Pn 15 02 58.9 +1.8**
ARE1 Arenal 1 4.86 113 *eP* **Pn 15 02 59.6 +2.5**
ARE1 *eS* **Sn 15 03 57.3 +4.2**
CEDE Laguna Cedeo 4.87 113 *eP* **Pn 15 03 00.3 +3.1**
VACR Volcan Arenal 4.90 113 *eP* **Pn 15 03 00.5 +3.0**
SOCE Pocosol 4.99 113 Pn 15 02 59.2 +0.4
VBV1 V. Barva 5.56 114 *eP* **Pn 15 03 10.8 +3.9**
HDC Heredia 5.60 115 *eP* **Pn 15 03 11.4 +4.1**
ACOS Acosta 5.64 117 *eP* **Pn 15 03 12.3 +4.4**
PICV PH. Pirrs 5.70 119 *eP* **Pn 15 03 12.3 +3.7**
CVIMO Finca Echandi 5.74 114 *eP* **Pn 15 03 12.3 +3.0**
PISJ San Jernim 5.76 118 *eP* **Pn 15 03 13.6 +4.1**
ABE2 San Pablo 5.78 117 *eP* **Pn 15 03 13.9 +4.0**
CVTG V. Turrialba, 5.84 112 *eP* **Pn 15 03 13.0 +2.4**
VICA Volcano Irazu 5.84 114 *eP* **Pn 15 03 13.4 +2.4**
LLNJ Naranjito 5.86 119 *eP* **Pn 15 03 14.3 +3.6**
REPA Paraso 5.89 115 *eP* **Pn 15 03 13.6 +2.2**
VTCV VTCV, Calle Va 5.95 113 *eP* **Pn 15 03 15.3 +3.1**
RVLA Villa Bonita 6.02 112 *eP* **Pn 15 03 14.3 +1.2**
DRK0 Durika 6.69 117 *eP* **Pn 15 03 22.3 -0.1**
FIMO Fila Mora 6.73 120 *eP* Pn 15 03 27.4 +4.5
PIRO Carate, Puerto 7.07 124 P Pn 15 03 31.3 +3.9
PIRO Carate, Puerto 7.07 124 *eP* **Pn 15 03 30.4 +3.1**
CMIG Matias Romero 7.15 311 Pn **Pn 15 03 28.7 +0.2**
0.8nm,0.3s,baz=120,slow=11,SNR=9.2
CMIG Sn **Sn 15 04 53.7 +4.2**
1.2nm,0.3s,baz=97,slow=4.5,SNR=5.3
12nm,0.8s
BRU2 Volcan 7.40 118 Pn 15 03 34.1 +2.0
TEIG Tepich 7.83 7 Pn **Pn 15 03 37.8 0.0**
TEIG Tepich 7.83 7 Pn **Pn 15 03 36.5 -1.3**
baz=205,slow=24,SNR=6.9
TEIG Sn **Sn 15 05 03.2 -2.9**
baz=161,slow=24,SNR=1.1
GTBY Guantanamo Bay 15.51 59 Pn **Pn 15 05 22.0 -0.7**
OTAV Otavalo 16.17 138 *eP* **Pn 15 05 29.7 -2.0**
ZAIG Zacatecas 16.32 311 Pn **Pn 15 05 34.9 +1.4**
ROSC El Rosal 16.57 116 Pn **Pn 15 05 38.1 +1.2**
1.7nm,0.3s,baz=92,slow=4.5,SNR=18
7.7nm,0.3s
RUSC La Rusia 17.23 111 P 15 05 47.3 +0.6
HKT Hockley 18.48 342 *i* P **P 15 05 59.8 0.0**
HKT pmax pmax
comp=Z,28nm,1.0s
SDV Santo Domingo 18.64 99 P **P 15 06 02.3 +0.2**
SDV Santo Domingo 18.64 99 P **P 15 06 02.2 +0.2**
comp=Z,0.6nm,0.3s,baz=275,slow=8.1,SNR=9.7
SDV LR LR 15 14 19.9
comp=Z,172nm,20.6s,baz=295,slow=41
comp=Z,6.5nm,0.7s
SDV Santo Domingo 18.64 99 *eP* **Pn 15 06 04.8 +2.5**
TIGA Tifton 19.64 15 Pn 15 06 14.1 +0.1
TIGA IAmb IAmb 15 06 15.3
comp=Z,112nm,1.2s
250A Grady 19.67 8 P **P 15 06 12.6 -0.2**
250A IAmb IAmb 15 06 15.1
comp=Z,84nm,1.4s
435B Jarrell 19.83 338 P **P 15 06 14.9 +0.2**
NATX Nacogdoches 19.89 346 P **P 15 06 15.6 +0.3**
NATX IAmb IAmb 15 06 17.3
comp=Z,70nm,1.0s
DRIO Del Rio 19.95 330 P **P 15 06 16.4 +0.5**
JCT Junction City 20.45 333 P **P 15 06 20.8 -0.7**
JCT Junction City 20.45 333 P **P 15 06 20.8 -0.7**
JCT pmax pmax
comp=Z,30nm,1.0s
152A Waverly Hall 20.59 11 IAmb IAmb 15 06 25.6
comp=Z,38nm,1.1s
LRAL Lakeview Retre 20.63 5 P **P 15 06 24.2 +0.9**
LRAL IAmb IAmb 15 06 26.2
comp=Z,32nm,1.0s
Z47A Carrollton 20.72 3 IAmb IAmb 15 06 27.1
comp=Z,49nm,0.9s
BRDY Brady 20.82 336 P **P 15 06 24.3 -1.1**
BRDY IAmb IAmb 15 06 26.5
comp=Z,75nm,1.0s
154A Montrose 20.89 15 IAmb IAmb 15 06 32.4
comp=Z,78nm,0.9s
Z41A Richland Creek 21.00 352 IAmb IAmb 15 06 33.1
comp=Z,50nm,0.8s
HPIG 21.11 316 IAmb IAmb 15 06 32.3
comp=Z,33nm,0.7s
SAND Sanderson 21.14 328 P **P 15 06 29.1 +0.2**
FW13 Cleburne 21.21 341 IAmb IAmb 15 06 30.7
comp=Z,58nm,0.8s
Y49A Blount Mountai 21.50 6 P **P 15 06 33.0 +0.2**
TXAR Lajitas Array 21.51 324 P **P 15 06 33.8 +0.8**
TXAR Lajitas Array 21.51 324 P **P 15 06 34.4 +1.4**
comp=Z,14nm,0.9s,baz=143,slow=10,SNR=64
TXAR PcP **PcP 15 10 37.3 +1.7**
comp=Z,0.3nm,0.5s,baz=115,slow=3.5,SNR=4.7
comp=Z,14nm,0.9s
TX31 Lajitas Ar. Si 21.51 324 IAmb IAmb 15 06 35.4
comp=Z,39nm,1.2s
GOGA Godfrey 21.56 13 P **P 15 06 34.0 +0.6**
GOGA Godfrey 21.56 13 P **P 15 06 34.0 +0.6**
GOGA pmax pmax
comp=Z,21nm,1.1s
FW07 Weatherford 21.65 340 IAmb IAmb 15 06 48.1
comp=Z,107nm,1.4s
Y52A Lilburn 21.88 12 IAmb IAmb 15 06 38.0
comp=Z,32nm,1.1s
PLPT Palo Pinto 21.93 339 IAmb IAmb 15 06 38.1
comp=Z,73nm,1.0s
X48A Hartselle 22.03 5 IAmb IAmb 15 06 45.6
comp=Z,106nm,1.8s
Z35A Perchaven, San 22.06 342 IAmb IAmb 15 06 39.3
comp=Z,68nm,1.0s
ABTX Abilene, Hawle 22.25 336 IAmb IAmb 15 06 53.8
comp=Z,50nm,1.1s
MIAR Mount Ida 22.38 351 IAmb IAmb 15 06 45.5
comp=Z,74nm,1.0s
MIAR Mount Ida 22.38 351 P **P 15 06 42.7 +0.6**
MNHN Monahans 22.58 329 IAmb IAmb 15 06 57.5
comp=Z,21nm,0.9s
HODGE Hodges 22.64 15 IAmb IAmb 15 06 46.4
comp=Z,42nm,1.1s
WTFS Witchita Falls 22.85 340 IAmb IAmb 15 06 47.1
comp=Z,67nm,1.1s
WHAR Wooly Hollow 22.94 354 IAmb IAmb 15 06 50.6
comp=Z,48nm,1.0s
SN05 Snyder 5 22.98 334 IAmb IAmb 15 06 51.3
comp=Z,29nm,0.8s
APMT Aspermont 23.06 336 IAmb IAmb 15 06 50.6
comp=Z,50nm,0.9s
LPIG La Paz 23.08 303 LR LR 15 16 29.7
comp=Z,219nm,18.3s,baz=129,slow=38
ODSA Odessa 23.10 330 IAmb IAmb 15 06 58.2
comp=Z,20nm,1.0s
SN07 Snyder 07 23.17 335 IAmb IAmb 15 06 51.7
comp=Z,15nm,0.7s
BG3 Lake Jocassee 23.20 13 IAmb IAmb 15 06 52.0
comp=Z,41nm,1.2s
PAULI Pauline 23.31 16 IAmb IAmb 15 06 54.1
comp=Z,32nm,1.0s
CPCT Cooper Cave 23.33 10 IAmb IAmb 15 06 52.7
comp=Z,36nm,1.3s
VHRN Van Horn 23.35 324 IAmb IAmb 15 06 53.9
comp=Z,28nm,1.4s
POST Post 23.41 333 IAmb IAmb 15 06 54.3
comp=Z,37nm,1.0s
X34A Smith Ranch, M 23.42 342 IAmb IAmb 15 06 55.7
comp=Z,42nm,0.8s
LCAR Lake Charles 23.61 356 IAmb IAmb 15 06 56.4
comp=Z,49nm,1.2s
W35A Tecumseh 23.66 344 IAmb IAmb 15 06 55.6
comp=Z,38nm,1.0s
TKL Tuckaleechee C 23.67 11 IAmb IAmb 15 06 57.0
comp=Z,30nm,0.9s
TKL Tuckaleechee C 23.67 11 P **P 15 06 54.7 -0.7**
comp=Z,23nm,0.8s,baz=183,slow=11,SNR=14
TKL LR LR 15 16 22.7
comp=Z,220nm,20.7s,baz=211,slow=38
comp=Z,23nm,0.8s
DKNS Dickens 23.68 335 IAmb IAmb 15 06 57.9
comp=Z,30nm,0.7s
CLTN Cedars of Leba 23.72 6 IAmb IAmb 15 06 57.0
comp=Z,26nm,1.3s

WMOK Wichita Mounta 23.84 340 IAmb IAmb 15 06 56.9
comp=Z,34nm,1.0s
WMOK Wichita Mounta 23.84 340 P **P 15 06 55.3 -1.8**
V53A Saluda 23.88 13 IAmb IAmb 15 06 58.9
comp=Z,46nm,1.1s
U49A Red Boiling Sp 24.20 7 IAmb IAmb 15 07 01.1
comp=Z,31nm,1.0s
U38A Gravette 24.36 350 IAmb IAmb 15 07 06.2
comp=Z,39nm,1.5s
V55A Taylorsville 24.44 16 IAmb IAmb 15 07 03.8
comp=Z,61nm,1.4s
MSTX Muleshoe 24.74 332 IAmb IAmb 15 07 06.0
comp=Z,53nm,1.2s
CGM3 Cape Girardeau 24.78 359 IAmb IAmb 15 07 06.0
comp=Z,45nm,1.1s
U54A Nelsons Funny 24.92 14 IAmb IAmb 15 07 09.7
comp=Z,47nm,1.0s
V58A Windy Hill, Pi 25.02 20 IAmb IAmb 15 07 10.5
comp=Z,45nm,1.0s
CROK Carrier 25.24 343 IAmb IAmb 15 07 10.2
comp=Z,52nm,1.3s
T35A Sooner Cattle 25.25 346 IAmb IAmb 15 07 11.6
comp=Z,24nm,1.2s
ELIS Ellis County 25.27 340 IAmb IAmb 15 07 12.3
comp=Z,31nm,0.8s
BLOK Blackwell 25.27 345 IAmb IAmb 15 07 11.8
comp=Z,48nm,1.1s
TBTG Tabatinga, AM 25.34 129 *eP* **P 15 07 11.6 +0.6**
OK038 West end E0370 25.43 342 IAmb IAmb 15 07 13.5
comp=Z,36nm,1.0s
FVM French Village 25.48 358 IAmb IAmb 15 07 13.7
comp=Z,19nm,1.0s
KAN13 South Haven SW 25.58 345 IAmb IAmb 15 07 14.2
comp=Z,26nm,0.9s
CCM Cathedral Cave 25.60 356 P **P 15 07 11.9 -1.1**
CCM Cathedral Cave 25.60 356 P **P 15 07 11.9 -1.1**
CCM pmax pmax
comp=Z,60nm,0.9s
KAN17 Caldwell West 25.68 344 IAmb IAmb 15 07 15.1
comp=Z,34nm,0.8s
KAN05 Bluff City Nor 25.77 344 IAmb IAmb 15 07 14.7
comp=Z,31nm,0.9s
KAN01 Argonia South 25.79 344 IAmb IAmb 15 07 16.1
comp=Z,29nm,0.7s
WCI Wyandotte Cave 25.85 5 P **P 15 07 14.0 -1.3**
WCI IAmb IAmb 15 07 15.3
comp=Z,40nm,1.1s
WCI Wyandotte Cave 25.85 5 P **P 15 07 14.0 -1.3**
WCI pmax pmax
comp=Z,40nm,1.2s
R40A Maddies Statio 25.91 355 IAmb IAmb 15 07 18.4
comp=Z,26nm,0.8s
KAN08 Anthony NE Sta 25.91 344 IAmb IAmb 15 07 16.1
comp=Z,38nm,0.9s
CZSB Cruzeiro do Su 25.91 140 *eP* **P 15 07 16.0 -0.1**
RTBA Rita Blanca 26.82 335 IAmb IAmb 15 07 24.7
comp=Z,20nm,1.0s
Q51A Peebles 27.02 10 IAmb IAmb 15 07 25.9
comp=Z,33nm,1.1s
P40A Paris 27.12 355 IAmb IAmb 15 07 28.4
comp=Z,34nm,1.0s
P43A Skaggs, Pawnee 27.12 360 IAmb IAmb 15 07 27.3
comp=Z,24nm,0.8s
ANMO Albuquerque 27.32 328 P **P 15 07 30.6 +1.8**
comp=Z,1.7nm,0.9s,baz=153,slow=4.8,SNR=3.1
comp=Z,1.7nm,0.9s
ANMO Albuquerque 27.32 328 *i* P **P 15 07 31.5 +2.6**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
P38A Dawn 27.36 353 IAmb IAmb 15 07 30.4
comp=Z,28nm,1.3s
KSU1 Kansas State U 27.37 348 IAmb IAmb 15 07 29.4
comp=Z,31nm,0.8s
P53A Whipple 27.85 13 IAmb IAmb 15 07 34.4
comp=Z,19nm,0.9s
CBKS Cedar Bluff 27.89 342 IAmb IAmb 15 07 34.0
comp=Z,32nm,1.1s
T25A Trinidad 28.12 334 IAmb IAmb 15 07 38.8
comp=Z,17nm,1.1s
P57A Homestead Farm 28.75 18 IAmb IAmb 15 07 43.0
comp=Z,15nm,0.8s
L42A Oliver, Polo 29.48 359 IAmb IAmb 15 07 47.9
comp=Z,24nm,0.8s
BOAV Boa Vista 30.16 107 P **P 15 07 53.6 -0.5**
BOAV Boa Vista 30.16 107 *eP* **P 15 07 55.8 +1.6**
K43A Burlington 30.19 1 IAmb IAmb 15 07 55.2
comp=Z,29nm,1.1s
ISCO Idaho Springs 30.86 335 IAmb IAmb 15 08 14.2
comp=Z,17nm,1.7s
PV11 David Mesa, Pa 31.14 329 IAmb IAmb 15 08 13.5
comp=Z,12nm,1.2s
PV10 Paradox Valley 31.28 329 IAmb IAmb 15 08 06.5
comp=Z,11nm,0.9s
PV23 Carpenter Ridg 31.33 329 IAmb IAmb 15 08 07.1
comp=Z,16nm,0.9s
I40A Norwalk 31.39 358 IAmb IAmb 15 08 04.1
comp=Z,16nm,1.1s
I37A Lemond, Waseca 31.69 354 IAmb IAmb 15 08 07.0
comp=Z,18nm,0.9s
ECSD EROS Data Cent 31.84 350 IAmb IAmb 15 08 07.9
comp=Z,19nm,1.2s
H43A Windswept, Lux 31.97 2 IAmb IAmb 15 08 09.6
comp=Z,29nm,1.2s
MACA Manacapuru-AM 32.34 117 *eP* **P 15 08 15.5 +2.1**
PKCU Pink Cliffs 32.35 324 IAmb IAmb 15 08 30.4
comp=Z,11nm,1.2s
PFO Pinyon Flats O 32.56 315 P **P 15 08 17.6 +2.3**
comp=Z,1.7nm,0.5s,baz=114,slow=13,SNR=2.0
PFO LR LR 15 23 09.7
comp=Z,188nm,19.1s,baz=108,slow=40
comp=Z,1.7nm,0.5s
V12A Nelson 32.74 319 P **P 15 08 17.8 +1.0**
V12A IAmb IAmb 15 08 19.9
comp=Z,9.2nm,0.9s
SADO Sadowa 33.39 13 LR LR 15 22 45.5
comp=Z,126nm,18.8s,baz=235,slow=38
F33A 5 Mile Ranch, 33.84 351 IAmb IAmb 15 08 34.6
comp=Z,9.8nm,0.8s
TPNV Topopah Spring 34.38 320 P **P 15 08 32.2 +1.1**
TPNV Topopah Spring 34.38 320 P **P 15 08 32.2 +1.1**
TPNV pmax pmax
comp=Z,6.0nm,1.3s
LONY Lake Ozonia 34.47 19 IAmb IAmb 15 08 32.1
comp=Z,20nm,1.2s
S11A Rachel 34.51 321 IAmb IAmb 15 08 34.9
comp=Z,16nm,1.2s
PDAR Pinedale Array 34.99 334 P **P 15 08 36.0 -0.4**
comp=Z,0.7nm,0.8s,baz=136,slow=9.2,SNR=5.5
PDAR PcP **PcP 15 11 08.9 +0.4**
comp=Z,1.4nm,0.8s,baz=130,slow=4.5,SNR=8.5
comp=Z,0.7nm,0.8s
LPAZ La Paz 35.36 143 P **P 15 08 41.2 +1.0**
comp=Z,1.6nm,0.8s,baz=329,slow=5.9,SNR=4.0
LPAZ LR LR 15 23 19.9
comp=Z,80nm,18.2s,baz=326,slow=37
comp=Z,1.6nm,0.8s
LPAZ La Paz 35.36 143 *eP* **P 15 08 42.0 +1.8**
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
EYMN Ely 35.47 357 IAmb IAmb 15 08 39.0
comp=Z,28nm,1.2s
MNTQ Montreal, Queb 35.56 19 IAmb IAmb 15 08 41.0
comp=Z,26nm,1.1s
SNOW Snow King Moun 36.07 333 IAmb IAmb 15 08 53.2
comp=Z,12nm,0.6s
TPAW Teton Pass 36.18 333 IAmb IAmb 15 08 52.1
comp=Z,14nm,1.1s
AGMN Agassiz Nation 36.19 353 IAmb IAmb 15 08 55.2
comp=Z,12nm,0.7s
ELK Elko 36.28 326 P **P 15 08 47.9 +0.4**
comp=Z,2.5nm,0.8s,baz=130,slow=6.1,SNR=9.8
ELK LR LR 15 27 05.0
comp=Z,195nm,18.5s,baz=138,slow=42
comp=Z,2.5nm,0.8s
NVAR Mina Array Bea 36.58 320 P **P 15 08 51.4 +1.3**
comp=Z,6.9nm,1.0s,baz=137,slow=8.6,SNR=24
NVAR PcP **PcP 15 11 14.5 +1.2**
comp=Z,1.6nm,0.7s,baz=131,slow=4.3,SNR=5.6
NVAR LR LR 15 25 13.4
comp=Z,180nm,18.6s,baz=162,slow=39
comp=Z,6.9nm,1.0s
LHV Little Huntoon 36.60 320 IAmb IAmb 15 08 53.3
comp=Z,13nm,1.1s
MDP Montagnes des 36.89 98 LR LR 15 25 16.7
comp=Z,92nm,19.3s,baz=326,slow=38
VLDQ Val d'Or 36.93 13 IAmb IAmb 15 08 52.4
comp=Z,18nm,1.2s
LAO LASA Array 37.04 341 IAmb IAmb 15 09 03.8

comp=Z,16nm,0.9s
ITTB Itaituba 37.27 115 *eP* **P 15 08 56.3 +0.4**
ULM Lac du Bonnet 38.12 353 IAmb IAmb 15 09 01.2
comp=Z,15nm,1.2s
ULM Lac du Bonnet 38.12 353 P **P 15 09 00.6 -2.1**
comp=Z,8.5nm,0.8s,baz=173,slow=9.0,SNR=19
ULM PcP **PcP 15 11 16.7 -0.8**
comp=Z,4.9nm,0.8s,baz=211,slow=1.5,SNR=4.7
ULM LR LR 15 27 01.3
comp=Z,158nm,19.4s,baz=142,slow=40
comp=Z,8.5nm,0.8s
VILB Vilhena 38.29 130 P **P 15 09 04.6 0.0**
VILB IAmb IAmb 15 09 19.8
comp=Z,23nm,0.7s
VILB Vilhena 38.29 130 *eP* **P 15 09 05.3 +0.6**
D62A Allapoint, All 38.52 22 IAmb IAmb 15 09 06.3
comp=Z,21nm,1.1s
NPGB Novo Progresso 38.86 118 *eP* **P 15 09 09.5 +0.1**
LMN Caledonia Moun 39.26 27 IAmb IAmb 15 09 12.6
comp=Z,27nm,1.0s
EGMT Eagleton 39.41 338 IAmb IAmb 15 09 15.4
comp=Z,30nm,1.4s
MSO Missoula 40.11 334 P **P 15 09 18.7 -0.8**
PDRB Porto dos Gac 40.16 125 *eP* **P 15 09 21.0 +0.7**
BMO Blue Mountains 40.23 329 P **P 15 09 19.8 -0.8**
BMO Blue Mountains 40.23 329 P **P 15 09 19.8 -0.8**
BMO pmax pmax
comp=Z,3.0nm,1.1s
CLDB Colider 40.50 123 *eP* **P 15 09 25.2 +2.2**
PTLB Pontes e Lacer 40.69 132 *eP* **P 15 09 26.6 +2.1**
YBH Yreka Blue Hor 41.25 321 LR LR 15 27 59.4
comp=Z,109nm,18.8s,baz=154,slow=38
NEW Newport 42.60 333 LR LR 15 30 56.6
comp=Z,61nm,18.6s,baz=139,slow=41
HOOD Mount Hood Mea 42.83 326 IAmb IAmb 15 09 46.6
comp=Z,17nm,1.0s
FFC Flin Flon 43.38 349 P **P 15 09 45.0 -1.0**
FFC Flin Flon 43.38 349 P **P 15 09 45.1 -1.0**
FFC pmax pmax
comp=Z,8.0nm,1.1s
SALV Santo Antonio 43.53 129 *eP* **P 15 09 49.0 +1.3**
SNDB Serra Nova Dou 44.80 121 *eP* **P 15 09 59.7 +1.6**
BDQN Bodoquena, MS 45.71 135 *eP* **P 15 10 05.5 +0.4**
SCHQ Schefferville 45.84 18 P **P 15 10 03.3 -2.4**
SCHQ Schefferville 45.84 18 P **P 15 10 03.1 -2.6**
comp=Z,20nm,0.9s,baz=202,slow=8.1,SNR=14
SCHQ LR LR 15 31 14.1
comp=Z,137nm,18.7s,baz=231,slow=39
comp=Z,20nm,0.9s
MURT Porto Murtinho 45.96 137 *eP* **P 15 10 07.0 0.0**
ARAG Araguaiana, MT 46.41 126 *eP* **P 15 10 11.0 +0.3**
AQDB Aquidauana 46.46 134 *eP* **P 15 10 11.2 +0.3**
H03N2 Juan Fernandez 46.65 168 T T 16 00 30.7
baz=351
H03N1 Juan Fernandez 46.66 168 T T 16 00 36.0
baz=351
H03N3 Juan Fernandez 46.67 168 T T 16 00 31.6
baz=351
AMBA Amambai (Brazi 48.59 136 *eP* **P 15 10 28.1 +0.6**
SJPY San Joaquin 49.28 139 *eP* **P 15 10 33.4 +0.5**
CPUP Villa Florida 49.48 141 *eP* **P 15 10 34.6 +0.3**
YKA Yellowknife Ar 53.19 346 P **P 15 11 00.5 -1.2**
comp=Z,11nm,1.0s,baz=146,slow=7.7,SNR=72
comp=Z,11nm,1.0s
FRB Frobisher Bay 53.30 11 LR LR 15 33 32.6
comp=Z,152nm,21.7s,baz=162,slow=36
ITAB Concordia 53.40 138 *eP* **P 15 11 02.9 -0.8**
DIAM Diamantina, MG 54.35 123 *eP* **P 15 11 12.8 +1.8**
CNLB Canela 55.63 139 *eP* **P 15 11 20.6 +0.6**
PLCA Paso Flores 55.65 163 P **P 15 11 20.5 +0.6**
comp=Z,2.7nm,0.8s,baz=336,slow=9.4,SNR=7.2
comp=Z,2.7nm,0.8s
PLCA Paso Flores 55.65 163 *eP* **P 15 11 19.2 -0.7**
PLCA pmax pmax
comp=Z,3.0nm,0.8s
RCBR Riachuelo 56.05 106 P **P 15 11 24.0 +0.7**
RCBR Riachuelo 56.05 106 P **P 15 11 24.0 +0.7**
RCBR pmax pmax
comp=Z,30nm,1.1s
RCBR Riachuelo 56.05 106 *eP* **P 15 11 24.8 +1.5**
CMC01 Camacan, BA 56.45 118 *eP* **P 15 11 26.5 +0.6**
NBCA Caruaru-PE 56.76 108 *eP* **P 15 11 30.0 +1.7**
NBAN Anadia - AL 57.03 110 *eP* **P 15 11 31.4 +1.1**
RIB01 Linhares ES 57.55 123 *eP* **P 15 11 33.7 -0.1**
CAM01 Campos-RJ 57.79 126 *eP* **P 15 11 37.3 +2.0**
SFJD Kangerlussuaq 60.25 16 LR LR 15 37 14.4
comp=Z,55nm,18.5s,baz=201,slow=36
G31M Satah River 62.06 342 IAmb IAmb 15 12 09.6
comp=Z,4.9nm,0.8s
RES Resolute Bay 62.34 358 IAmb IAmb 15 12 16.4
comp=Z,8.8nm,1.2s
RES Resolute Bay 62.34 358 LR LR 15 41 56.0
comp=Z,67nm,18.8s,baz=150,slow=39
INK Inuvik 62.72 343 IAmb IAmb 15 12 08.4
comp=Z,14nm,1.4s
INK Inuvik 62.72 343 LR LR 15 43 42.9
comp=Z,153nm,18.0s,baz=238,slow=40
A36M Sachs Harbour 63.32 348 IAmb IAmb 15 12 11.5
comp=Z,10nm,1.3s
ICESG Greenland Ices 64.75 18 *eP* **P 15 12 19.9 -2.3**
IL31 65.34 337 IAmb IAmb 15 12 26.1
comp=Z,6.3nm,1.0s
ILAR Eielson Array 65.34 337 P **P 15 12 24.6 -1.1**
comp=Z,3.2nm,1.0s,baz=120,slow=4.6,SNR=27
ILAR PP **PP 15 14 49.4 0.0**
comp=Z,0.6nm,0.8s,baz=101,slow=5.5,SNR=4.1
comp=Z,3.2nm,1.0s
BMAR Burnt Mountain 65.69 340 P **P 15 12 27.1 -0.9**
COLA College 65.76 336 *i P* **P 15 12 27.9 -0.5**
COLA pmax pmax
comp=Z,25nm,3.0s
E25K Arctic Village 66.35 340 IAmb IAmb 15 12 33.5
comp=Z,7.1nm,1.2s
I23K Minto, Yukon-K 66.46 336 IAmb IAmb 15 12 33.1
comp=Z,9.4nm,1.1s
C27K Jago River 66.48 342 IAmb IAmb 15 12 33.7
comp=Z,11nm,1.3s
SUMG Summit 67.07 15 *i P* P 15 12 33.0 -4.2
COLD Coldfoot 67.57 338 IAmb IAmb 15 12 41.7
comp=Z,5.6nm,1.0s
C24K Franklin Bluff 68.07 341 IAmb IAmb 15 12 43.6
comp=Z,13nm,1.2s
BBTS Babate 70.47 79 LR LR 15 40 41.6
comp=Z,34nm,19.3s,baz=184,slow=33
EKA Eskdalemuir Ar 77.69 36 P **P 15 13 39.1 -1.2**
comp=Z,1.3nm,0.7s,baz=319,slow=8.8,SNR=3.8
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 78.61 52 P **P 15 13 45.8 -0.1**
comp=Z,1.1nm,0.9s,baz=256,slow=6.0,SNR=2.4
ESDC LR LR 15 44 58.0
comp=Z,72nm,18.3s,baz=288,slow=33
comp=Z,1.1nm,0.9s
MDT Midelt 78.94 59 LR LR 15 41 55.6
comp=Z,57nm,20.5s,baz=340,slow=31
SPITS Spitsbergen Ar 81.10 12 LR LR 15 50 43.8
comp=Z,67nm,18.2s,baz=298,slow=36
DBIC Dimbokro 83.16 85 P **P 15 14 12.3 +1.8**
comp=Z,3.6nm,0.8s,baz=267,slow=5.6,SNR=6.0
DBIC LR LR 15 46 54.6
comp=Z,24nm,19.7s,baz=216,slow=33
comp=Z,3.6nm,0.8s
NOA NORSAR Array B 84.26 29 LR LR 15 48 59.6
comp=Z,31nm,20.6s,baz=260,slow=34
VRAC Vranov 90.76 39 LR LR 15 51 26.6
comp=Z,59nm,18.2s,baz=290,slow=33
TIXI Tiksi 92.34 349 P **P 15 14 52.0 -1.7**
TIXI IAmb IAmb 15 15 08.0
comp=Z,2.5nm,0.8s
TIXI Tiksi 92.34 349 *i P* **P 15 14 52.6 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
VAE Valguarnera 93.12 51 LR LR 15 53 53.5
comp=Z,136nm,18.3s,baz=308,slow=34
MNK Minsk 94.96 31 *i P* **P 15 15 03.7 -2.5**
MNK *i* 15 18 50.0
MNK *i* S **SKSac 15 25 38.4 -2.8**
MNK *i* PS **PS 15 27 31.2 -6.9**
MNK *i* SS **SS 15 32 36.6 -7.4**
MNK pmax pmax
comp=Z,4.0nm,0.5s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=Z,33nm,16.0s

NRIK Noril'sk 98.42 1 LR LR 16 01 57.0
comp=Z,72nm,19.2s,baz=30,slow=37
YAK Yakutsk 99.78 342 LR LR 16 11 34.1
comp=Z,58nm,18.1s,slow=42
BVAR Borovoye Array 112.52 13 PP **PP 15 21 00.9 -4.4**
comp=Z,0.6nm,0.7s,baz=316,slow=4.0,SNR=3.8
KURK Kurchatov 116.25 9 PKIKP **PKiKP 15 20 27.6 +0.4**
KURBB Kurchatov Arra 116.33 9 PKP **PKiKP 15 20 27.6 +0.2**
comp=Z,0.7nm,0.6s,baz=348,slow=1.8,SNR=9.8
SONM Songino Array 118.42 348 PKP **PKPdf 15 20 32.2 +0.5**
comp=Z,1.2nm,0.8s,baz=3.2,slow=2.5,SNR=5.9
KSRS Korea Array 119.34 327 PKP **PKPdf 15 20 33.9 +0.3**
comp=Z,1.5nm,0.8s,baz=336,slow=1.1,SNR=5.9
MKAR Makanchi Array 120.58 7 PKP **PKPdf 15 20 35.5 -0.3**
comp=Z,0.5nm,0.7s,baz=17,slow=1.1,SNR=6.4
MKAR Makanchi Array 120.58 7 *e*PKIKP **PKPdf 15 20 36.5 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
WMQ Urumqi 123.97 3 *e*PKP **PKiKP 15 20 44.5 +1.8**
WMQ LR LR
comp=Z,94nm,23.3s
GTA Gaotai 127.75 351 *e*PKP **PKPdf 15 20 50.5 +0.6**
GTA sPKP 15 20 59.3
NJ2 Nanjing 128.23 329 *e*P **PKPdf 15 20 51.8 +1.0**
NJ2 pmax pmax
comp=Z,35nm,0.5s
ATG Ambohiby 136.72 104 P PKPdf 15 20 56.5 -11
WRA Warramunga Arr 137.55 254 PKP **PKPdf 15 21 09.5 +0.9**
comp=Z,1.5nm,0.9s,baz=92,slow=1.5,SNR=6.7
ASAR Alice Springs 137.68 248 PKP **PKPdf 15 21 10.6 +1.9**
comp=Z,0.7nm,0.9s,baz=94,slow=2.0,SNR=4.8
ABM Ambohimiarambe 137.79 106 P **PKiKP 15 21 11.8 +0.6**
GYA Guiyang 138.37 338 PKP **PKiKP 15 21 12.8 +0.6**
PZH PanZhiHua 139.86 345 PKP **PKPdf 15 21 13.8 +0.9**
CHTO Chiang Mai 147.93 345 PKPbc 15 21 29.8 -0.2
CHTO Chiang Mai 147.93 345 PKP2 **PKPbc 15 21 29.8 -0.2**
CMAR Chiang Mai Arr 148.27 345 PKPdf 15 21 28.7 +1.2
CMAR Chiang Mai Arr 148.27 345 PKPbc **PKPbc 15 21 31.6 +0.8**
comp=Z,8.2nm,0.9s,baz=335,slow=3.2,SNR=44

*NOU **26** 15:06:50.5,32°.58S×175°.41W,h8km,mB5.1/15,South of Kermadec Islands*
*IDC **26** 15:07:03.7±0.6,31°.45S×177°.68W,h0km,mb4.5/12, mbtmp4.4/13,ML3.1/1,MS4.2/14,Error ellipse: s-maj=22.3km s-min=20.4km az=148.0*
*WEL **26** 15:07:04.1±0.8,32°S±7°×17°8W±2°,h12km,M4.7/13, mB5.0/11,ML5.1/13,MLv5.2/13,Mw(mB)4.3/11,Error ellipse: s-maj=30.4km s-min=3.0km az=106.6,confirmed*
*NEIC **26** 15:07:07.2±1.3,31°.6S±0°.1×177°.9W±0°.2,h10km±1km, mb4.9/15,Error ellipse: s-maj=31.9km s-min=12.9km az=132.0*
*MOS **26** 15:07:07.1±1.4,30°.92S×178°.10W,h14km,mb4.8/7,Error ellipse: s-maj=24.1km s-min=17.9km az=174.6*
*GCMT **26** 15:07:11.2±0.4,31°.79S±0°.04×177°.47W±0°.03,h23km±1km, MW4.9/63,Moment Tensor Solution. s26,c29; s63,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.18±.19; Mθθ-0.23±.13; Mφφ-1.94±.12; Mrθ0.80±.23; Mrφ-0.49±.07; Mθφ0.83±.15; Best double couple: M0 2.41500×10^16 NP1:φs184.00000°,δ33.00000°,λ70.00000°. NP2: φs27.00000°,δ59.00000°,λ103.00000°. Principal axes: T 2.5220, Plg73.0000°, Azm329.0000°; N -0.2060, Plg11.0000°, Azm201.0000°; P -2.3090, Plg13.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 15:07:06.4±0.4,31°.82S±0°.05×177°.53W±0°.08,h18km, n135,σ2s54/146,mb4.8/25,MS4.2/12,12C-1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.57**	**352**	P	**Pn**	**15 07 43.3**	**-3.8**
GLKZ				S	**Sn**	**15 08 12.2**	**-5.6**
RIZ	**Raoul Island**	**2.58**	**352**	P	Pn	15 07 42.7	-4.7
RIZ				S	**Sn**	**15 08 14.3**	**-4.0**
WMGZ	**Waiomatatini S**	**6.85**	**208**	P	**Pn**	**15 08 43.5**	**-2.5**
WMGZ				S	**Sn**	**15 09 58.8**	**-4.7**
PKGZ	**Pakihiroa**	**7.03**	**210**	P	**Pn**	**15 08 45.9**	**-2.6**
PKGZ				S	**Sn**	**15 10 05.9**	**-2.0**
HAZ	**Te Kaha**	**7.07**	**212**	P	**Pn**	**15 08 46.7**	**-2.2**
HAZ				S	**Sn**	**15 10 08.1**	**-0.7**
PUZ	**Puketiti**	**7.13**	**208**	P	**Pn**	**15 08 47.3**	**-2.5**
PUZ				S	**Sn**	**15 10 08.9**	**-1.6**
RUGZ	**Raukumara Rang**	**7.29**	**211**	P	**Pn**	**15 08 49.9**	**-2.2**
RUGZ				S	**Sn**	**15 10 13.2**	**-1.2**
TWGZ	**Tauwhareparae**	**7.34**	**209**	P	**Pn**	**15 08 50.1**	**-2.5**
TWGZ				S	**Sn**	**15 10 13.0**	**-2.5**
CNGZ	**Carnagh Statio**	**7.51**	**207**	P	**Pn**	**15 08 52.1**	**-2.9**
CNGZ				S	**Sn**	**15 10 16.7**	**-3.1**
TKGZ	**Te Karaka**	**7.62**	**209**	P	**Pn**	**15 08 55.2**	**-1.2**
TKGZ				S	**Sn**	**15 10 20.4**	**-1.8**
MWZ	**Matawai**	**7.66**	**211**	P	**Pn**	**15 08 53.8**	**-3.3**
MWZ				S	**Sn**	**15 10 20.7**	**-2.8**
URZ	**Urewera**	**7.79**	**213**	Pn	**Pn**	**15 08 56.6**	**-2.2**
3.1nm,0.3s,baz=22,slow=1.8,SNR=20							
URZ				Sn	**Sn**	**15 10 23.2**	**-3.2**
11nm,0.3s,baz=323,slow=4.2,SNR=17							
URZ	**Urewera**	**7.79**	**213**	P	**Pn**	**15 08 56.4**	**-2.3**
URZ				S	**Sn**	**15 10 23.4**	**-3.0**
RAGZ	**Rawiri**	**7.84**	**210**	S	**Sn**	**15 10 26.4**	**-1.6**
RIGZ	**Rimuhau**	**7.88**	**208**	P	**Pn**	**15 08 59.1**	**-1.0**
RIGZ				S	**Sn**	**15 10 26.7**	**-2.1**
WCZ	**Waipu Caves**	**7.91**	**236**	P	**Pn**	**15 09 04.1**	**+3.6**
PRGZ	**Paritu Road**	**8.02**	**207**	P	**Pn**	**15 08 58.5**	**-3.5**
PRGZ				S	**Sn**	**15 10 29.4**	**-2.8**
SNGZ	**Shannon Statio**	**8.12**	**210**	P	**Pn**	**15 09 01.6**	**-1.7**
SNGZ				S	**Sn**	**15 10 33.2**	**-1.4**
MUGZ	**Murupara**	**8.12**	**214**	P	**Pn**	**15 08 58.9**	**-4.5**
MUGZ				S	**Sn**	**15 10 29.8**	**-4.9**
OUZ	**Omahuta**	**8.15**	**243**	P	**Pn**	**15 09 07.8**	**+4.0**
OUZ	**Omahuta**	**8.15**	**243**	P	Pn	15 09 08.2	+4.4
KNZ	**Kokohu**	**8.19**	**207**	P	**Pn**	**15 08 59.9**	**-4.4**
KNZ				S	**Sn**	**15 10 32.7**	**-3.5**
MHGZ	**Mahia Peninsul**	**8.21**	**206**	P	**Pn**	**15 09 00.2**	**-4.4**
MHGZ				S	**Sn**	**15 10 33.3**	**-3.6**
TOZ	**Tahuroa Road**	**8.22**	**222**	Pn	**Pn**	**15 09 05.9**	**+1.1**
RAHZ	**Arahi**	**8.34**	**210**	P	**Pn**	**15 09 04.4**	**-1.9**
RAHZ				S	**Sn**	**15 10 34.7**	**-5.3**
BKZ	**Black Stump Fm**	**8.80**	**212**	P	**Pn**	**15 09 10.3**	**-2.5**
BKZ				S	**Sn**	**15 10 46.3**	**-5.3**
MCHZ	**McNeill Hill**	**8.94**	**210**	P	Pn	15 09 05.6	-9.1
HIZ	**Hauiti**	**9.13**	**221**	P	**Pn**	**15 09 18.7**	**+1.4**
PNHZ	**Pukenui**	**9.55**	**210**	P	**Pn**	**15 09 19.2**	**-3.8**
PNHZ				S	**Sn**	**15 11 02.9**	**-6.9**
DVHZ	**Dannevirke**	**9.88**	**209**	P	Pn	15 09 18.9	-8.6
DVHZ				S	**Sn**	**15 11 09.2**	**-8.8**
WAZ	**Wanganui**	**9.98**	**215**	S	**Sn**	**15 11 18.9**	**-1.5**
BFZ	**Birch Farm**	**10.17**	**208**	P	**Pn**	**15 09 27.4**	**-4.1**
BFZ				S	**Sn**	**15 11 17.1**	**-8.0**
MRZ	**Mangatainoka R**	**10.43**	**210**	P	**Pn**	**15 09 30.7**	**-4.4**
THZ	**Tophouse**	**12.53**	**215**	Pn	**Pn**	**15 10 02.1**	**-1.7**
KHZ	**Kahutara**	**12.75**	**211**	P	Pn	15 09 57.6	-9.1
MSVF	**Nonsavu**	**14.58**	**343**	LR	LR	15 14 33.2
comp=Z,636nm,19.2s,baz=173,slow=32							
MSVF	**Nonsavu**	**14.58**	**343**	P	Pn	15 10 13.1	-19
DZM	**Mont Dzumac**	**17.25**	**300**	Pn	**Pn**	**15 11 02.0**	**-4.6**
0.1nm,0.3s,baz=287,slow=16,SNR=2.0							
7.9nm,1.0s							
DZM	**Mont Dzumac**	**17.25**	**300**	P	P	15 11 15.3	+7.3
RAR	**Rarotonga**	**19.05**	**61**	LR	LR	15 19 28.9
comp=Z,221nm,18.6s,baz=247,slow=39							
KOUNC	**Koumac, New Ca**	**19.77**	**300**	P	**Pn**	**15 11 42.4**	**+5.3**
TW1H	**Toowoomba 1 Ha**	**26.79**	**271**	P	**P**	**15 12 47.4**	**+1.9**
EIDS	**Eidsvold**	**28.23**	**275**	P	**P**	**15 12 57.0**	**-1.4**
EIDS				IAmb	IAmb	15 13 15.2
comp=Z,7.8nm,0.9s							
EIDS	**Eidsvold**	**28.23**	**275**	P	**P**	**15 12 59.9**	**+1.5**
PPT	**Papeete**	**28.98**	**67**	LR	LR	15 22 45.5
comp=Z,168nm,18.9s,baz=250,slow=32							
RK1H	**Rockhampton Ha**	**29.47**	**279**	P	**P**	**15 13 11.3**	**+1.9**
TOO	**Toolangi**	**30.80**	**249**	P	**P**	**15 13 22.6**	**+1.5**
TOO				IAmb	IAmb	15 14 01.0
comp=Z,10nm,1.4s							
TOO	**Toolangi**	**30.80**	**249**	P	**P**	**15 13 22.6**	**+1.5**
TOO				pmax	pmax	
comp=Z,11nm,1.4s							
CMSA	**Cobar Meteorol**	**31.21**	**261**	P	**P**	**15 13 24.9**	**+0.2**
QLP	**Quilpie**	**33.66**	**269**	P	**P**	**15 13 47.7**	**+1.4**
TV1H	**Townsville Har**	**34.38**	**283**	P	**P**	**15 13 54.4**	**+1.9**
STKA	**Stephens Creek**	**34.58**	**259**	P	**P**	**15 13 53.9**	**-0.3**
STKA	**Stephens Creek**	**34.58**	**259**	P	**P**	**15 13 53.6**	**-0.5**
comp=Z,3.7nm,0.5s,baz=102,slow=11,SNR=6.3							
STKA				LR	LR	15 27 45.3
comp=Z,680nm,18.6s,baz=73,slow=36							
comp=Z,3.7nm,0.5s							
STKA	**Stephens Creek**	**34.58**	**259**	*e*P	**P**	**15 13 54.8**	**+0.6**
STKA				pmax	pmax	
comp=Z,4.0nm,0.5s							
MGBR	**Mount Gambier**	**34.70**	**248**	P	**P**	**15 13 55.7**	**+0.5**
INKA	**Innaminka**	**36.28**	**265**	P	**P**	**15 14 09.5**	**+0.6**
HTT	**Hallett**	**36.52**	**256**	P	**P**	**15 14 09.8**	**-1.1**
MTSU	**Mount Surprise**	**36.97**	**282**	P	**P**	**15 14 15.7**	**+0.8**
LCRK	**Leigh Creek**	**37.71**	**260**	P	**P**	**15 14 21.5**	**+0.5**
BBOO	**Buckleboo**	**38.99**	**256**	P	**P**	**15 14 30.4**	**-1.4**
QIS	**Mount Isa**	**39.84**	**276**	P	**P**	**15 14 40.0**	**+1.0**
AS31	**Alice Springs**	**43.45**	**268**	P	**P**	**15 15 07.5**	**-1.1**
ASAR	**Alice Springs**	**43.45**	**268**	P	**P**	**15 15 07.4**	**-1.2**
ASAR	**Alice Springs**	**43.45**	**268**	P	**P**	**15 15 07.8**	**-0.8**
comp=Z,4.7nm,0.7s,baz=105,slow=6.9,SNR=71							
ASAR				ScP	**ScP**	**15 20 47.7**	**+0.4**
comp=Z,0.6nm,0.8s,baz=101,slow=3.2,SNR=3.8							
comp=Z,4.7nm,0.7s							
WR0	**Warramunga Arr**	**44.39**	**273**	P	**P**	**15 15 14.9**	**-1.2**
WR0				IAmb	IAmb	15 15 32.2
comp=Z,17nm,0.7s							
WB2	**Warramunga Arr**	**44.56**	**273**	P	**P**	**15 15 16.6**	**-0.8**
WB2				IAmb	IAmb	15 15 33.5
comp=Z,28nm,0.8s							
WRAB	**Tennant Creek**	**44.56**	**273**	P	**P**	**15 15 16.7**	**-0.8**
WRAB				IAmb	IAmb	15 15 33.5
comp=Z,26nm,0.8s							
WRAB	**Tennant Creek**	**44.56**	**273**	*i* P	**P**	**15 15 15.8**	**-1.7**
WRAB				pmax	pmax	
comp=Z,8.0nm,0.5s							
WRA	**Warramunga Arr**	**44.57**	**273**	P	**P**	**15 15 16.9**	**-0.6**
WRA	**Warramunga Arr**	**44.57**	**273**	P	**P**	**15 15 16.4**	**-1.1**
comp=Z,10nm,0.5s,baz=113,slow=7.9,SNR=123							
WRA				ScP	**ScP**	**15 20 51.3**	**-0.5**
comp=Z,0.6nm,0.8s,baz=117,slow=3.6,SNR=2.4							
WRA				LR	LR	15 33 29.8
comp=Z,798nm,18.1s,baz=124,slow=36							
comp=Z,10nm,0.5s							
WRA	**Warramunga Arr**	**44.57**	**273**	*e*P	**P**	**15 15 16.6**	**-1.0**
WRA				pmax	pmax	
comp=Z,8.0nm,0.4s							
VNDA	**Vanda**	**46.73**	**186**	P	**P**	**15 15 36.6**	**+2.8**
comp=Z,0.8nm,0.9s,baz=329,slow=5.9,SNR=1.9							
VNDA				LR	LR	15 31 46.9
comp=Z,203nm,20.5s,baz=19,slow=32							
comp=Z,0.8nm,0.9s							
KNRA	**Kununurra**	**51.22**	**275**	P	**P**	**15 16 08.8**	**-0.4**
KNRA				IAmb	IAmb	15 16 28.5
comp=Z,14nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.77**	**271**	P	**P**	**15 16 19.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.77**	**271**	P	**P**	**15 16 20.3**	**-0.3**
comp=Z,2.7nm,0.5s,baz=132,slow=2.4,SNR=5.1							
FITZ				LR	LR	15 38 39.2
comp=Z,837nm,18.4s,baz=112,slow=36							
comp=Z,2.7nm,0.5s							
PSA00	**Pilbara Seismi**	**56.21**	**264**	P	**P**	**15 16 44.6**	**-1.1**
QSPA	**South Pole Qui**	**58.30**	**180**	P	**P**	**15 17 02.9**	**+3.0**
QSPA				IAmb	IAmb	15 17 19.6
comp=Z,17nm,0.8s							
QSPA	**South Pole Qui**	**58.30**	**180**	P	**P**	**15 17 02.9**	**+3.0**
comp=Z,6.0nm,0.9s,baz=47,slow=1.4,SNR=18							
QSPA				LR	LR	15 39 53.6
comp=Z,205nm,18.9s,baz=38,slow=34							
comp=Z,6.0nm,0.9s							
KAPI	**Kappang**	**64.26**	**281**	LR	LR	15 45 29.4
comp=Z,271nm,19.5s,baz=108,slow=36							
SYO	**Syowa Base**	**75.83**	**193**	⇑*e*P	**P**	**15 18 54.0**	**+3.0**
TROLL	**Troll, Antarti**	**76.46**	**180**	⇑P	**P**	**15 18 56.5**	**+1.7**
comp=Z,259nm,0.8s							
SNAA	**Sanae**	**76.73**	**178**	⇑P	**P**	**15 18 57.1**	**+0.9**
comp=Z,88nm,0.9s							
SNAA	**Sanae**	**76.73**	**178**	P	**P**	**15 18 58.3**	**+2.1**
comp=Z,8.3nm,1.1s,baz=188,slow=6.1,SNR=5.7							
comp=Z,8.3nm,1.1s							
VNA3	**Neumayer Olymp**	**76.87**	**176**	⇑P	**P**	**15 18 58.2**	**+1.3**
comp=Z,9.7nm,0.8s							
VNA3				⇑PP	**PP**	**15 21 53.4**	**+4.2**
VNA3				⇑PKiKP	PKiKP	15 24 49.9	+11
VNA1	**Neumayer--Watz**	**77.31**	**177**	⇑P	**P**	**15 19 01.0**	**+1.6**
comp=Z,7.1nm,0.8s,baz=338,slow=7.3							
VNA1	**Neumayer--Stat**	**77.54**	**176**	⇑P	**P**	**15 19 02.3**	**+1.7**
comp=Z,17nm,1.0s							
PLCA	**Paso Flores**	**81.25**	**133**	LR	LR	15 53 39.5
comp=Z,89nm,18.1s,baz=188,slow=34							
KSRS	**Korea Array**	**85.68**	**319**	LR	LR	15 54 14.7
comp=Z,40nm,20.2s,baz=110,slow=33							
PSI	**Prapat**	**85.98**	**276**	LR	LR	16 02 26.0
comp=Z,249nm,18.1s,baz=158,slow=39							
PETK	**Petropavlovsk-**	**87.28**	**345**	P	**P**	**15 19 50.2**	**-1.3**
comp=Z,9.1nm,0.9s,baz=162,slow=5.2,SNR=5.3							
comp=Z,9.1nm,0.9s							
O02D	**Mt. Diablo Mer**	**87.74**	**39**	P	**P**	**15 19 56.9**	**+2.8**
O02D				IAmb	IAmb	15 20 08.4
comp=Z,6.8nm,1.1s							
NVAR	**Mina Array Bea**	**89.00**	**42**	P	**P**	**15 20 00.8**	**+0.5**
comp=Z,2.4nm,1.0s,baz=249,slow=6.0,SNR=7.5							
comp=Z,2.4nm,1.0s							
X16A	**Lo Mia Camp, P**	**90.57**	**49**	P	**P**	**15 20 10.5**	**+2.8**
X16A				IAmb	IAmb	15 20 11.9
comp=Z,4.9nm,1.0s							
BNX	**BinXian**	**91.90**	**325**	⇓P	**P**	**15 20 13.0**	**-0.3**
BNX				pmax	pmax	
comp=Z,9.0nm,1.1s							
KLR	**Kul'dur**	**92.46**	**329**	*i* P	**P**	**15 20 15.2**	**-0.6**
KLR				pmax	pmax	
comp=Z,1.0nm,0.6s							
CMIG	**Matias Romero**	**92.81**	**72**	LR	LR	15 55 16.5
comp=Z,44nm,18.4s,baz=182,slow=31							
TXAR	**Lajitas Array**	**92.81**	**57**	P	**P**	**15 20 17.9**	**-0.2**
comp=Z,0.7nm,0.8s,baz=209,slow=7.2,SNR=4.5							
comp=Z,0.7nm,0.8s							
ANMO	**Albuquerque**	**94.15**	**51**	*i* P	**P**	**15 20 28.0**	**+3.8**
ANMO				pmax	pmax	
comp=Z,1.0nm,0.9s							
SCM	**Sheep Creek Mo**	**96.47**	**14**	P	**P**	**15 20 32.2**	**-1.8**
PDAR	**Pinedale Array**	**96.88**	**43**	P	**P**	**15 20 35.2**	**-1.3**
comp=Z,0.5nm,0.9s,baz=234,slow=5.3,SNR=2.7							
comp=Z,0.5nm,0.9s							
LPAZ	**La Paz**	**97.20**	**114**	LR	LR	15 55 19.8
comp=Z,40nm,20.8s,baz=281,slow=30							
SEY	**Seymchan**	**97.44**	**347**	*i* P	**P**	**15 20 37.9**	**-0.4**
SEY				pmax	pmax	
comp=Z,15nm,2.8s							
HHC	**Hu-ho-hao-te**	**97.50**	**314**	*e*P	**P**	**15 20 37.0**	**-2.3**
ILAR	**Eielson Array**	**99.21**	**13**	P	**Pdif**	**15 20 43.2**	**-3.0**
comp=Z,0.9nm,1.2s,baz=198,slow=4.7,SNR=3.2							
comp=Z,0.9nm,1.2s							
LZH	**Lanzhou**	**99.89**	**306**	*e*PKP	**Pdif**	**15 20 51.3**	**+1.2**
LZH				sPKP		15 21 05.5
ULN	**Ulaanbaatar**	**104.10**	**318**	*i* P	**Pdif**	**15 21 06.1**	**-2.4**
MK31	**Makanchi Array**	**118.98**	**309**	*c i* PKIKP	**PKiKP**	**15 25 54.8**	**+1.1**
MKAR	**Makanchi Array**	**118.98**	**309**	PKP	**PKPdf**	**15 25 52.6**	**-1.0**
comp=Z,0.7nm,0.9s,baz=93,slow=2.4,SNR=5.4							
MKAR	**Makanchi Array**	**118.98**	**309**	*e*PKIKP	**PKPdf**	**15 25 53.6**	**-0.1**
MKAR				pmax	pmax	
comp=Z,1.0nm,0.9s							
NRIK	**Noril'sk**	**121.09**	**336**	*c i* PKIKP	**PKiKP**	**15 25 58.2**	**+1.1**
KURK	**Kurchatov**	**122.31**	**313**	*c i* PKIKP	**PKPdf**	**15 26 00.2**	**+0.4**
KURK				pmax	pmax	
comp=Z,7.0nm,2.5s							
KURBB	**Kurchatov Arra**	**122.35**	**313**	PKP	**PKPdf**	**15 25 58.6**	**-1.3**
comp=Z,1.5nm,0.7s,baz=109,slow=1.7,SNR=12							
BVAR	**Borovoye Array**	**127.69**	**315**	PKP	**PKPdf**	**15 26 09.1**	**-1.0**
comp=Z,0.7nm,0.5s,baz=104,slow=4.7,SNR=9.0							
BRVK	**Borovoye**	**127.76**	**315**	*c i* PKIKP	**PKiKP**	**15 26 11.6**	**+0.8**
BRVK				pmax	pmax	
comp=Z,2.0nm,1.0s							
ARCES	**ARCESS Array B**	**140.05**	**348**	PKP	**PKPdf**	**15 26 31.3**	**-1.5**
comp=Z,2.8nm,0.9s,baz=50,slow=2.9,SNR=1.3							
VRH	**Novokhopyorsk**	**145.34**	**316**	*e*PKIKP	**PKPbc**	**15 26 40.9**	**-1.6**
VRH				pmax	pmax	
comp=Z,8.0nm,0.8s							
MOS	**Moscow**	**145.72**	**325**	*i* PKIKP	**PKPdf**	**15 26 42.7**	**-0.5**
MOS				pmax	pmax	
comp=Z,63nm,0.8s							
KBZ	**Khabaz**	**146.22**	**302**	PKPbc	**PKPdf**	**15 26 44.2**	**-0.1**
comp=Z,12nm,1.0s,baz=122,slow=0.7,SNR=18							
KBZ	**Khabaz**	**146.22**	**302**	*e*PKIKP	**PKPab**	**15 26 46.3**	**+0.1**
KBZ				pmax	pmax	
comp=Z,13nm,1.0s							
KIV	**Kislovodsk**	**146.34**	**303**	*i* PKIKP	**PKPbc**	**15 26 46.4**	**+0.4**
KIV				pmax	pmax	
comp=Z,11nm,1.1s							
LPSR	**Galich'ya Gora**	**146.45**	**319**	*e*PKP2	**PKPdf**	**15 26 43.7**	**-0.8**
LPSR				pmax	pmax	
comp=Z,50nm,1.0s							
OBN	**Obninsk**	**146.56**	**324**	*i* PKIKP	**PKPbc**	**15 26 46.5**	**+0.4**
OBN				pmax	pmax	
comp=Z,35nm,1.2s							
FINES	**FINESS Array B**	**146.61**	**340**	PKPbc	**PKPdf**	**15 26 45.0**	**+0.5**
comp=Z,6.1nm,0.5s,baz=55,slow=3.6,SNR=36							
FINES	**FINESS Array B**	**146.61**	**340**	*e*PKIKP	**PKPbc**	**15 26 46.2**	**+0.1**
FINES				pmax	pmax	
comp=Z,6.0nm,0.4s							
VORR	**Voronezh**	**146.65**	**317**	*e*PKIKP	**PKPdf**	**15 26 44.7**	**-0.2**
VORR				pmax	pmax	
comp=Z,30nm,1.0s							
VSR	**Storozhevoye**	**146.84**	**317**	*e*PKIKP	**PKPdf**	**15 26 45.1**	**-0.1**
VSR				pmax	pmax	
comp=Z,20nm,1.0s							
VORD	**Divnogorie**	**146.86**	**316**	*e*PKP2	**PKPdf**	**15 26 45.6**	**+0.4**
VORD				pmax	pmax	
comp=Z,20nm,1.0s							
NB2	**NORSAR Subarra**	**150.21**	**351**	PKP	**PKiKP**	**15 26 56.9**	**+0.5**
comp=Z,34nm,2.0s,baz=19,slow=3.0							
NOA	**NORSAR Array B**	**150.21**	**351**	PKPbc	**PKPbc**	**15 26 54.9**	**-0.7**
comp=Z,2.8nm,1.0s,baz=14,slow=4.2,SNR=3.7							
HFS	**Hagfors**	**150.71**	**349**	PKPbc	**PKPbc**	**15 26 56.3**	**-0.5**
comp=Z,4.5nm,0.8s,baz=132,slow=2.2,SNR=3.8							
MMAI	**Mount Meron Ar**	**152.23**	**281**	PKPbc	**PKiKP**	**15 27 02.3**	**+0.8**
comp=Z,6.3nm,0.6s,baz=96,slow=5.1,SNR=7.7							
AKASG	**Malin Array Be**	**152.66**	**321**	PKPbc	**PKPbc**	**15 27 00.8**	**-0.7**
comp=Z,1.9nm,0.7s,baz=54,slow=2.0,SNR=7.5							
AKBB	**Malin Array Si**	**152.66**	**321**	PKP	**PKPdf**	**15 26 55.1**	**+0.7**
BRTR	**Keskin Array B**	**153.60**	**296**	PKPbc	**PKPbc**	**15 27 04.7**	**+0.5**
comp=Z,1.2nm,0.5s,baz=234,slow=4.2,SNR=6.3							
RNPP8	**Varash**	**153.99**	**325**	PKP	**PKPdf**	**15 26 57.4**	**+1.1**

*IDC **26** 15:24:26.2±1.1,52°.12N×169°.52W,h0km,mb4.0/17, mbtmp3.9/19,ML3.4/2,Error ellipse: s-maj=28.0km s-min=18.0km az=158.0*
*AEIC **26** 15:24:29.1±2.3,51°.95N±0°.09×169°.4W±0°.1,h26km±6km, Error ellipse: s-maj=14.4km s-min=8.0km az=148.0*
*NEIC **26** 15:24:30.5±1.8,52°.02N±0°.08×169°.4W±0°.1,h35km±2km, mb4.0/21,ML3.7/6,ML3.7(AEIC),Error ellipse: s-maj=16.0km s-min=8.4km az=141.0*

ISC 26 15:24:30.7±0.7,52°.07N±0°.10×169°.42W±0°.07,h30km,n78, σ1s09/70,mb4.0/22,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.97**	**21**		**Sb**	**15 25 02.3**	**+0.9**
NIKH	**Nikolski High**	**0.97**	**21**		**Pn**	**15 24 47.5**	**-0.7**
OKSP	**Okmok Steeple**	**1.37**	**30**		**Sn**	**15 25 11.9**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**1.56**	**32**		**Pn**	**15 24 56.3**	**-0.1**
OKWE	**Okmok W'ng Wal**	**1.58**	**27**		**Pn**	**15 24 56.7**	**+0.1**
OKFG	**Magazine Ridge**	**1.63**	**34**		**Pn**	**15 24 57.2**	**-0.1**
OKFG					**Sb**	**15 25 19.1**	**-1.1**
MAPS	**Pakushin South**	**2.30**	**40**		**Pn**	**15 25 06.4**	**-0.2**
MAPS					**Sn**	**15 25 35.5**	**+1.7**
MGOD	**Makushin Gods**	**2.32**	**41**		**Pn**	**15 25 06.5**	**-0.3**
MGOD					**Sn**	**15 25 35.5**	**+1.2**
UNV	**Unalaska Valle**	**2.51**	**44**		**Sn**	**15 25 40.1**	**+1.3**
UNV	**Unalaska Valle**	**2.51**	**44**	Pn	**Pn**	**15 25 09.2**	**-0.1**
MTBL	**Makushin Table**	**2.53**	**40**		**Pn**	**15 25 10.0**	**+0.4**
AKMO	**Akutan Morgan**	**2.89**	**44**		**Pn**	**15 25 14.9**	**+0.3**
LVA	**Lava Point**	**2.93**	**43**	Pn	**Pn**	**15 25 15.2**	**0.0**
LVA				IAML		15 26 19.8
comp=E,264nm,0.8s							
ATKA	**Atka Island**	**2.95**	**275**	Pn	**Pn**	**15 25 15.4**	**0.0**
ATKA				IAML		15 26 18.6
comp=N,73nm,1.0s							
AKGG	**Akutan Green G**	**2.97**	**43**		**Pn**	**15 25 17.0**	**+1.2**
WEBT	**Westdahl Beart**	**3.77**	**46**		**Pn**	**15 25 26.8**	**+0.1**
WEBT					**Sn**	**15 26 12.2**	**+2.1**
ISLZ	**Isanotski

WTFS	Witchita Falls	52.91	81	P	P	15 33 42.8	-1.0
HHC	Hu-ho-hao-te	53.00	291	eP	P	15 33 45.8	+1.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,4.6s						
ZALV	Zalesovo Beam	57.63	318	P	P	15 34 16.8	-0.7
	comp=Z,0.8nm,0.6s,baz=67,slow=3.9,SNR=3.8						
	comp=Z,0.8nm,0.6s						
ARCES	ARCESS Array B	58.22	354	P	P	15 34 20.9	-0.6
	comp=Z,2.0nm,0.8s,baz=35,slow=3.0,SNR=3.8						
	comp=Z,2.0nm,0.8s						
KURBB	Kurchatov Arra	62.69	318	P	P	15 34 52.2	0.0
	comp=Z,1.6nm,0.7s,baz=44,slow=7.1,SNR=14						
	comp=Z,1.6nm,0.7s						
BVAR	Borovoye Array	63.93	324	P	P	15 35 00.4	0.0
	comp=Z,1.7nm,0.5s,baz=55,slow=7.5,SNR=15						
	comp=Z,1.7nm,0.5s						
MKAR	Makanchi Array	63.99	313	P	P	15 35 00.5	-0.4
	comp=Z,0.2nm,0.4s,baz=50,slow=5.9,SNR=6.9						
	comp=Z,0.2nm,0.4s						
FINES	FINESS Array B	66.17	352	P	P	15 35 13.7	-1.0
	comp=Z,1.7nm,0.5s,baz=25,slow=6.3,SNR=10						
	comp=Z,1.7nm,0.5s						
NOA	NORSAR Array B	67.24	360	P	P	15 35 21.2	-0.5
	comp=Z,0.7nm,0.6s,baz=2.4,slow=6.6,SNR=2.3						
	comp=Z,0.7nm,0.6s						
HFS	Hagfors	68.13	358	P	P	15 35 26.4	-0.7
	comp=Z,1.1nm,0.4s,baz=49,slow=6.5,SNR=6.9						
	comp=Z,1.1nm,0.4s						
PZH	PanZhiHua	68.88	286	P	P	15 35 33.0	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,6.5s						
KSH	Kashi	72.56	313	P	P	15 35 58.0	+3.2
AKASG	Malin Array Be	76.40	348	P	P	15 36 16.6	-0.1
	comp=Z,1.0nm,0.6s,baz=17,slow=6.1,SNR=1.2						
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	76.65	283	P	P	15 36 18.4	-0.2
	comp=Z,0.4nm,0.4s,baz=23,slow=7.8,SNR=5.0						
	comp=Z,0.4nm,0.4s						
WRA	Warramunga Arr	86.79	232	P	P	15 37 10.6	-1.2
	comp=Z,0.3nm,0.5s,baz=27,slow=5.1,SNR=2.5						
	comp=Z,0.3nm,0.5s						
ASAR	Alice Springs	90.17	230	P	P	15 37 27.9	0.0
	comp=Z,0.9nm,0.7s,baz=26,slow=4.8,SNR=18						
	comp=Z,0.9nm,0.7s						

*IDC **26** 15:26:27.4±1.4,51°.95N×169°.48W,h0km,mb3.9/14, mbtmp3.9/16,ML3.7/2,Error ellipse: s-maj=40.6km s-min=17.4km az=3.0*
*NEIC **26** 15:26:34.1±1.7,52°.07N±0°.07×169°.50W±0°.10,h35km±1km, mb4.1/17,ML3.4(AEIC),Error ellipse: s-maj=12.8km s-min=8.7km az=147.0*
*AEIC **26** 15:26:34.8±3.9,52°.17N±0°.05×169°.05W±0°.10,h12km±4km, Error ellipse: s-maj=9.1km s-min=5.9km az=113.0*
ISC 26 15:26:32.5±0.7,52°.0N±0°.1×169°.48W±0°.07,h30km,n66, σ0986/65,mb4.0/18,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.03	21	Pn	Pn	15 26 50.0	-0.9
NIKH	Nikolski High	1.03	21		Sn	15 27 03.8	-0.5
OKTU	Okmok Mt. Tuli	1.63	32		Pn	15 26 58.9	-0.2
OKWE	Okmok W'ng Wal	1.64	27		Pn	15 26 59.5	+0.2
OKFG	Magazine Ridge	1.69	34		Pn	15 26 59.8	-0.2
OKFG					Sn	15 27 20.6	0.0
MAPS	Pakushin South	2.36	40		Pn	15 27 09.0	-0.2
MAPS					Sn	15 27 36.6	-0.5
MGOD	Makushin Gods	2.38	41		Pn	15 27 09.3	-0.2
MGOD					Sn	15 27 36.5	-1.2
UNV	Unalaska Valle	2.57	43		Pn	15 27 11.8	-0.2
UNV	Unalaska Valle	2.57	43		Sn	15 27 40.8	-1.3
MTBL	Makushin Table	2.59	40		Pn	15 27 12.6	+0.2
ATKA	Atka Island	2.91	276	Pn	Pn	15 27 17.9	+1.2
AKMO	Akutan Morgan	2.95	44		Pn	15 27 17.9	+0.7
ZRO	Akutan Zero	2.96	44		Pn	15 27 18.1	+0.6
AKBBA	Akutan Broad B	2.99	44		Pn	15 27 18.9	+1.1
LVA	Lava Point	2.99	43		Pn	15 27 19.1	+1.3
AHB	Akutan Harbor	3.05	45		Pn	15 27 19.0	+0.3
WECS	Westdahl Cape	3.78	46		Pn	15 27 30.0	+1.2
WEBT	Westdahl Beart	3.83	46		Pn	15 27 30.8	+1.4
ISLZ	Isanotski Laza	4.39	50		Pn	15 27 38.2	+1.1
SDPT	Sand Point	6.30	54	Pn	Pn	15 28 03.8	+0.5
CHGN	Chignik	7.78	52	Pn	Pn	15 28 25.1	+1.6
O18K	Koktuh Hills	11.19	40	Pn	Pn	15 29 11.4	+1.2
KDAK	Kodiak Island	11.30	53	Pn	Pn	15 29 09.1	-2.5
	0.4nm,0.3s,baz=72,slow=5.8,SNR=6.7						
H18K	Honhosa River	14.36	19	P	P	15 30 01.2	+1.2
BPAW	Bear Paw Mtn.	15.48	31	Pn	Pn	15 30 09.1	+0.7
BPAW				IAmb	IAmb	15 30 13.8	
	comp=Z,4.4nm,0.7s						
BWN	Browne	16.03	33		P	15 30 18.9	+0.2
BWN				IAmb	IAmb	15 30 50.9	
	comp=Z,14nm,0.8s						
I23K	Minto, Yukon-K	16.71	30		P	15 30 25.7	-0.5
H23K	Yukon River	17.12	28		P	15 30 31.5	+0.8
ILAR	Eielson Array	17.28	34	P	Pn	15 30 30.9	-0.4
	comp=Z,0.2nm,0.3s,baz=235,slow=8.5,SNR=11						
	comp=Z,0.5nm,0.9s						
J26L	Joseph Creek	18.32	37	P	P	15 30 43.3	-0.7
M29M	Somme Creek	19.56	46	P	Pn	15 30 58.7	-0.4
M29M				IAmb	IAmb	15 31 18.5	
	comp=Z,4.3nm,0.8s						
B22K	Teshekpuk Lake	19.82	16	P	Pn	15 31 01.0	-0.9
PETK	Petropavlovsk-	19.89	286	P	P	15 31 01.6	+0.5
PETK	Petropavlovsk-	19.89	286	P	P	15 31 01.2	0.0
	comp=Z,1.4nm,0.3s,baz=84,slow=14,SNR=20						
	comp=Z,5.3nm,0.5s						
N30M	Aishikik Lake	19.91	49		Pn	15 31 03.4	+0.2
N30M				IAmb	IAmb	15 31 18.5	
	comp=Z,11nm,0.8s						
O30N	Mendenhall	20.24	51	P	Pn	15 31 07.6	+0.5
O30N				IAmb	IAmb	15 31 23.3	
	comp=Z,11nm,0.9s						
G29M	Pine Creek	21.51	34	P	P	15 31 18.0	-0.6
G29M				IAmb	IAmb	15 31 34.7	
	comp=Z,9.3nm,0.8s						
YKA	Yellowknife Ar	30.53	48	P	P	15 32 43.4	+0.7
	comp=Z,0.5nm,0.6s,baz=272,slow=8.6,SNR=7.3						
	comp=Z,0.5nm,0.6s						
TIXI	Tiksi	33.00	329	P	P	15 33 04.7	+0.4
TIXI				IAmb	IAmb	15 33 46.8	
	comp=Z,1.6nm,0.8s						
H11S1	WAKE ISLAND Hy	38.32	218	T	T	16 15 08.2	
	baz=23						
H11S2	WAKE ISLAND Hy	38.34	218	T	T	16 15 26.1	
	baz=23						
H11S3	WAKE ISLAND Hy	38.34	218	T	T	16 15 17.0	
	baz=23						
PDAR	Pinedale Array	40.54	79	P	P	15 34 10.5	+1.5
PDAR	Pinedale Array	40.54	79	P	P	15 34 07.5	-1.4
	comp=Z,0.4nm,0.7s,baz=304,slow=7.6,SNR=4.5						
	comp=Z,0.4nm,0.7s						
FCC	Fort Churchill	41.22	50	P	P	15 34 14.9	+0.8
FCC				IAmb	IAmb	15 34 29.5	
	comp=Z,4.0nm,0.8s						
KSRS	Korea Array	45.38	277	P	P	15 34 46.7	-1.1
	comp=Z,1.2nm,0.7s,baz=52,slow=8.4,SNR=3.9						
	comp=Z,1.2nm,0.7s						
SPITS	Spitsbergen Ar	50.02	358	P	P	15 35 23.1	-0.3
	comp=Z,7.3nm,0.9s,baz=25,slow=8.3,SNR=1.5						
	comp=Z,7.3nm,0.9s						
SUMG	Summit	51.14	17	P	P	15 35 33.7	+1.3
SONM	Songino Array	51.42	301	P	P	15 35 34.3	-0.2
	comp=Z,1.5nm,1.0s,baz=67,slow=6.0,SNR=4.5						
	comp=Z,1.5nm,1.0s						
PATS	Pohnpei	52.25	222	P	P	15 35 39.8	-1.1
TX31	Lajitas Ar. Si	52.82	89	P	P	15 35 45.9	+0.8
TX31				IAmb	IAmb	15 36 05.5	
	comp=Z,3.1nm,1.1s						
TXAR	Lajitas Array	52.82	89	P	P	15 35 45.7	+0.6
TXAR	Lajitas Array	52.82	89	P	P	15 35 45.1	0.0
	comp=Z,1.0nm,0.5s,baz=303,slow=6.0,SNR=10.0						
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	57.64	318	P	P	15 36 19.1	-0.2
	comp=Z,0.4nm,0.4s,baz=52,slow=5.7,SNR=2.5						
	comp=Z,0.4nm,0.4s						
ARCES	ARCESS Array B	58.27	354	P	P	15 36 23.3	-0.2
	comp=Z,2.1nm,0.7s,baz=22,slow=5.7,SNR=1.4						
	comp=Z,2.1nm,0.7s						
KURBB	Kurchatov Arra	62.70	318	P	P	15 36 54.2	+0.2
	comp=Z,1.6nm,0.6s,baz=44,slow=7.2,SNR=13						
	comp=Z,1.6nm,0.6s						
BVAR	Borovoye Array	63.95	324	P	P	15 37 02.9	+0.6
	comp=Z,1.1nm,0.5s,baz=49,slow=7.9,SNR=7.2						
	comp=Z,1.1nm,0.5s						
MKAR	Makanchi Array	64.00	313	P	P	15 37 02.8	+0.1
	comp=Z,0.3nm,0.4s,baz=48,slow=6.0,SNR=5.4						
	comp=Z,0.3nm,0.4s						
FIA1	FINESS Array S	66.21	352	P	P	15 37 15.6	-1.1
FINES	FINESS Array B	66.21	352	P	P	15 37 15.6	-1.2
NOA	NORSAR Array B	67.29	360	P	P	15 37 23.1	-0.7
	comp=Z,0.8nm,0.8s,baz=337,slow=5.5,SNR=2.3						
	comp=Z,0.8nm,0.8s						
HFS	Hagfors	68.17	358	P	P	15 37 29.0	-0.3
	comp=Z,3.8nm,0.8s,baz=46,slow=7.0,SNR=6.7						
	comp=Z,3.8nm,0.8s						
ABKAR	Akbulak array	70.70	328	P	P	15 37 45.7	+0.7
KK31	Karatay Array	72.01	318	P	P	15 37 53.2	+0.1
KKAR	Karatay Array	72.01	318	P	P	15 37 53.2	+0.1
AKASG	Malin Array Be	76.44	348	P	P	15 38 18.2	-0.5
	comp=Z,0.5nm,0.4s,baz=16,slow=6.3,SNR=2.0						
	comp=Z,0.5nm,0.4s						

*IDC **26** 15:26:50.1±1.0,12°.67N×88°.80W,h0km,mb4.2/11, mbtmp4.2/12,ML3.6/1,MS3.6/8,Error ellipse: s-maj=32.4km s-min=19.5km az=56.0*
*CATAC **26** 15:26:51.9±0.9,12°.N±4°.×8°.9W±°,h1km±4km,M4.2/23, MLv4.2/23,Error ellipse: s-maj=9.7km s-min=3.6km az=22.4,confirmed*
*GCG **26** 15:26:52.0±2.1,12°.39N×89°.16W,h9km±37km,MD4.2*
*SNET **26** 15:26:52.0±1.1,12°.36N×89°.28W,h4km±12km,ML4.3*
*NEIC **26** 15:26:53.4±2.4,12°.56N±0°.07×89°.10W±0°.07,h10km±2km, mb4.8/111,Error ellipse: s-maj=14.3km s-min=8.8km az=227.0*
*UCR **26** 15:26:53.6±1.1,12°.51N×89°.11W,h3km±35km, MB4.8(NEIC)*
ISC 26 15:26:50.8±1.5,12°.35N±0°.05×89°.25W±0°.04,h10km±8km, n221,σ1933/181,mb4.8/57,MS3.8/7,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.13	356	eP	Pn	15 27 12.9	+0.3
LALI				eS	Sg	15 27 26.5	-0.8
LALI	Alcalda de L	1.13	356	P	Pn	15 27 13.0	+0.3
LALI	Alcalda de L	1.13	356	S	Sn	15 27 28.2	-0.1
LALI	Alcalda de L	1.13	356	P	Pn	15 27 12.9	+0.3
LALI	Alcalda de L	1.13	356	eP	Pn	15 27 12.8	+0.1
LALI				i S	Sg	15 27 26.6	-0.8
LALI	Alcalda de L	1.13	356	eP		15 27 12.8	
LALI				i S		15 27 26.6	
ALJI	Alcalda de J	1.17	34	S	Sb	15 27 28.3	0.0
ALJI	Alcalda de J	1.17	34	P	Pg	15 27 13.8	+0.4
PANCS	Alcalda de	1.26	3	P	Pb	15 27 14.9	+0.3
PANCS	Alcalda de	1.26	3	S	Sb	15 27 30.9	0.0
TECO	Alcaldia de Te	1.26	21	eP	Pn	15 27 14.9	+0.4
TECO	Alcaldia de Te	1.26	21	S	Sn	15 27 32.2	+0.6
TECO	Alcaldia de Te	1.26	21	P	Pg	15 27 15.3	+0.2
TECO	Alcaldia de Te	1.26	21	S	Sn	15 27 33.8	+2.3
TECO	Alcaldia de Te	1.26	21	P	Pg	15 27 15.3	+0.2
LFRS	El Faro	1.28	8	eP	Pb	15 27 15.2	+0.2
LOMA	Loma Larga	1.29	3	eP	Pg	15 27 15.7	+0.1
LOMA	Loma Larga	1.29	3	S	Sg	15 27 32.7	+0.3
LOMA	Loma Larga	1.29	3	P	Pg	15 27 16.3	+0.8
LOMA	Loma Larga	1.29	3	S	Sn	15 27 33.6	+1.2
LOMA	Loma Larga	1.29	3	S	Sn	15 27 34.2	+1.9
LOMA	Loma Larga	1.29	3	P	Pg	15 27 16.4	+0.8
COEG	Centro de Oper	1.31	16	eP	Pb	15 27 15.9	+0.4
COEG	Centro de Oper	1.31	16	S	Sb	15 27 33.1	+0.6
COEG	Centro de Oper	1.31	16	P	Pg	15 27 16.1	+0.2
COEG	Centro de Oper	1.31	16	S	Sg	15 27 34.7	+1.6
COEG	Centro de Oper	1.31	16	P	Pg	15 27 16.2	+0.2
JAYA	Jayaque - finc	1.31	351	eP	Pn	15 27 15.1	-0.2
JAYA	Jayaque - finc	1.31	351	S	Sb	15 27 32.9	+0.4
JAYA	Jayaque - finc	1.31	351	P	Pn	15 27 15.2	0.0
JAYA	Jayaque - finc	1.31	351	P	Pn	15 27 15.3	0.0
JAYA	Jayaque - finc	1.31	351	eP	Pn	15 27 14.8	-0.5
JAYA	Jayaque - finc	1.31	351	eP		15 27 14.8	
ITCA	Escuela Especi	1.32	359	P	Pb	15 27 15.9	+0.3
ITCA	Escuela Especi	1.32	359	S	Sb	15 27 32.8	+0.1
TECA	Tecapa	1.35	32	eP	Pb	15 27 16.6	+0.4
TECA				eP	Pb	15 27 16.7	+0.4
UESV	Universidad de	1.35	19	P	Pb	15 27 16.6	+0.3
UESV	Universidad de	1.35	19	S	Sb	15 27 33.5	-0.1
PMON	Piamonte	1.36	357	eP	Pn	15 27 16.1	+0.2
PMON	Piamonte	1.36	357	S	Sg	15 27 35.2	+0.7
PMON	Piamonte	1.36	357	P	Pb	15 27 16.6	+0.3
PMON	Piamonte	1.36	357	P	Pb	15 27 16.5	+0.1
IGN	Direccin Gen	1.36	3	S	Sb	15 27 33.8	0.0
IGN	Direccin Gen	1.36	3	P	Pg	15 27 17.1	+0.2
UEES	Universidad Ev	1.36	0	eP	Pb	15 27 16.4	+0.1
UEES	Universidad Ev	1.36	0	P	Pb	15 27 16.7	+0.3
UEES	Universidad Ev	1.36	0	S	Sn	15 27 34.3	+0.4
BOQS	Boqueron	1.38	359	eP	Pb	15 27 16.9	+0.2
PIC2	El Picacho	1.39	360	eP	Pb	15 27 16.9	0.0
PAVA	Las Pavas	1.39	12	eP	Pb	15 27 17.0	+0.2
PAVA	Las Pavas	1.39	12	P	Pb	15 27 17.1	+0.2
PAVA	Las Pavas	1.39	12	S	Sg	15 27 35.7	+0.2
PAVA	Las Pavas	1.39	12	P	Pb	15 27 17.1	+0.2
LFU	La Fuente	1.40	5	eP	Pg	15 27 17.7	0.0
RANC	El Ranchito	1.43	41	eP	Pg	15 27 18.4	+0.3
RANC	El Ranchito	1.43	41	P	Pg	15 27 18.6	+0.4
RANC	El Ranchito	1.43	41	S	Sg	15 27 37.1	+0.4
RANC	El Ranchito	1.43	41	P	Pg	15 27 18.5	+0.3
PACA	Pacayal	1.43	39	P	Pg	15 27 18.7	+0.4
PACA	Pacayal	1.43	39	S	Sg	15 27 37.2	+0.3
PACA	Pacayal	1.43	39	P	Pg	15 27 18.7	+0.4
PQSS	Presa 15 de Se	1.43	28	eP	Pb	15 27 17.9	+0.4
PQSS	Presa 15 de Se	1.43	28	P	Pb	15 27 18.0	+0.4
PQSS	Presa 15 de Se	1.43	28	P	Pg	15 27 18.2	-0.1
SCLA	Alcaldia de Sa	1.44	20	eP	Pb	15 27 18.0	+0.3
SCLA	Alcaldia de Sa	1.44	20	P	Pb	15 27 17.9	+0.3
SCLA	Alcaldia de Sa	1.44	20	S	Sb	15 27 36.6	+0.6
SCLA	Alcaldia de Sa	1.44	20	P	Pb	15 27 18.1	+0.5
CEDA	San Andres	1.45	354	S	Sb	15 27 37.0	+0.6
CEDA	San Andres	1.45	354	P	Pb	15 27 18.1	+0.2
BLLM	Bellamira	1.47	42	eP	Pb	15 27 18.6	+0.5
CEVE	Cerro Verde	1.52	346	eP	Pb	15 27 18.8	-0.3
CEVE	Cerro Verde	1.52	346	P	Sn	15 27 37.7	-0.3
CEVE	Cerro Verde	1.52	346	P	Pb	15 27 18.8	-0.3
CEVE	Cerro Verde	1.52	346	S	Sn	15 27 38.5	+0.5
SBLS	San Blas	1.53	346	eP	Pn	15 27 18.5	+0.2
SNJE	San Jose	1.55	347	eP	Pn	15 27 18.6	0.0
NUBE	Las Nubes	1.63	341	eP	Pn	15 27 19.1	-0.6
NUBE	Las Nubes	1.63	341	P	Pn	15 27 20.3	+0.6
NUBE	Las Nubes	1.63	341	S	Sb	15 27 41.8	+0.2
NUBE	Las Nubes	1.63	341	P	Pn	15 27 19.3	-0.3
NUBE	Las Nubes	1.63	341	P	Pn	15 27 19.2	-0.4
NUBE	Las Nubes	1.63	341	eP	Pn	15 27 18.9	-0.7
NUBE				eS	Sg	15 27 44.1	+0.8
NUBE	Las Nubes	1.63	341	eP		15 27 18.9	
NUBE				eS		15 27 44.1	
LCND	La Caada	1.63	54	eP	Pb	15 27 20.9	0.0
LCND	La Caada	1.63	54	P	Pb	15 27 20.8	0.0
LCND	La Caada	1.63	54	P	Pb	15 27 21.0	+0.1
UNIC	Universidad Ca	1.65	350	P	Pn	15 27 20.7	+0.9
UNIC	Universidad Ca	1.65	350	S	Sb	15 27 42.9	+0.8
UNIC	Universidad Ca	1.65	350	P	Pg	15 27 23.4	+0.9
CNCH	Conchagua	1.66	56	eP	Pb	15 27 21.1	-0.4
CNCH	Conchagua	1.66	56	P	Pb	15 27 21.5	+0.1
CNCH	Conchagua	1.66	56	S	Sb	15 27 43.1	+0.7
CNCH	Conchagua	1.66	56	P	Pb	15 27 21.6	+0.1
CAHU	Cacacuatique	1.73	35	eP	Pb	15 27 23.6	+0.7
SLOZ	Alcaldia de Sa	1.75	343	eP	Pn	15 27 21.7	+0.5
SLOZ	Alcaldia de Sa	1.75	343	S	Sb	15 27 46.0	+1.0
SLOZ	Alcaldia de Sa	1.75	343	P	Pn	15 27 21.6	+0.5
SLOZ	Alcaldia de Sa	1.75	343	P	Pn	15 27 21.6	+0.5
CSGN	Cosiguina Volc	1.76	69	P	Pn	15 27 22.4	+1.0
CSGN				S	Sb	15 27 46.2	+0.8
CSGN	Cosiguina Volc	1.76	69	P	Pb	15 27 22.8	-0.4
CSGN	Cosiguina Volc	1.76	69	eP	Pn	15 27 21.7	+0.3
POTN	Potosi Cosigui	1.82	69	P	Pb	15 27 23.4	-0.7
POTN				S	Sn	15 27 46.3	+1.2
POTN	Potosi Cosigui	1.82	69	P	Pb	15 27 23.4	-0.7
LLGN	La Laguna	1.83	9	P	Pb	15 27 24.4	+0.1
LLGN	La Laguna	1.83	9	S	Sb	15 27 48.0	+0.8
LLGN	La Laguna	1.83	9	P	Pg	15 27 25.5	-0.4
MTO3	Montecristo	2.04	357		Pn	15 27 25.4	0.0
MTO3	Montecristo	2.04	357	P	Pn	15 27 26.8	+1.5
MTO3	Montecristo	2.04	357	S	Sb	15 27 53.2	-0.4
MTO3	Montecristo	2.04	357	P	Pn	15 27 26.8	+1.5
MTO3	Montecristo	2.04	357	eP	Pn	15 27 26.4	+1.1
MTO3	Montecristo	2.04	357	eP		15 27 26.4	
CRIN	San Cristobal	2.17	81		Pn	15 27 27.2	+0.2
CRIN	San Cristobal	2.17	81	P	Pb	15 27 29.9	-0.3
CRIN	San Cristobal	2.17	81	eP	Pn	15 27 28.7	+1.7
ESQI	Esquipulas	2.20	358		Pn	15 27 27.6	+0.1
ESQI	Esquipulas	2.20	358	P	Pb	15 27 30.1	-0.6
HERN	Volcan Telica	2.37	83		Pn	15 27 30.2	+0.4
CNGN	Cerro Negro	2.49	86		Pn	15 27 31.9	+0.5
CNGN	Cerro Negro	2.49	86	P	Pn	15 27 33.2	+1.7
TGUH	Tegucigalpa,Un	2.56	48		Pn	15 27 31.3	-1.2
TGUH	Tegucigalpa,Un	2.56	48	P	Pb	15 27 35.1	-1.8
COPN	Copaltepe	2.60	93	P	Pn	15 27 34.6	+1.8
COPN	Copaltepe	2.60	93	eP	Pn	15 27 34.4	+1.6
COPN				eS	Sn	15 28 06.8	+2.3
MOMN	Momotombo	2.64	88	P	Pn	15 27 35.0	+1.5
LIMN	Finca el Limon	2.90	76	P	Pn	15 27 38.8	+1.8
MGAN	Managua	2.94	94		Pn	15 27 38.6	+1.2
MGAN	Managua	2.94	94	eP	Pn	15 27 39.4	+1.9
NANN	Nandasmo	3.08	97	P	Pn	15 27 42.7	+3.2
RCVN	Varillal2	3.22	67	P	Pn	15 27 44.2	+2.7
RCPN	Sur Rio San Ju	3.29	69	P	Pn	15 27 45.7	+3.3
MATN	Matagalpa	3.29	80	P	Pn	15 27 44.4	+1.9
BOAB	BOACO BROADBAN	3.50	88		Pn	15 27 45.9	+0.7
BOAB	BOACO BROADBAN	3.50	88	P	Pn	15 27 46.7	+1.5
CONN	Concepcion	3.63	102	P	Pn	15 27 49.2	+2.2
JTS	Las Juntas de	4.68	115		Pn	15 28 03.7	+2.2
JTS	Las Juntas de	4.68	115	Pn	Pn	15 28 04.0	+2.5
	10.0nm,0.3s,baz=310,slow=14,SNR=15						
JTS				Sn	Sn	15 28 54.5	-1.4
	8.1nm,0.3s,baz=268,slow=3.6,SNR=4.1						
JTS	Las Juntas de	4.68	115	eP	Pn	15 28 05.3	+3.8
CCIG	Comitan	4.81	325		Pn	15 28 06.8	+3.4
ARE1	Arenal 1	4.82	112	eP	Pn	15 28 07.5	+4.0
DRK0	Durika	6.64	117	eP	Pn	15 28 30.2	+1.6
FIMO	Fila Mora	6.68	119	eP	Pn	15 28 35.5	+6.3
CMIG	Matias Romero	7.21	312	Pn	Pn	15 28 36.5	+0.3
	1.1nm,0.3s,baz=173,slow=11,SNR=12						
CMIG				Sn	Sn	15 30 06.3	+8.1
	1.5nm,0.3s,baz=282,slow=17,SNR=4.0						
	2.0nm,0.3s						
TEIG	Tepich	7.89	7	Pn	Pn	15 28 45.7	+0.2
ROSC	El Rosal	16.53	116	Pn	P	15 30 47.3	+1.4
	1.3nm,0.3s,baz=7.9,slow=13,SNR=9.3						
SDV	Santo Domingo	18.61	99	P	Pn	15 31 09.6	+0.7
	3.6nm,0.6s,baz=274,slow=13,SNR=3.6						
SDV				LR	LR	15 39 26.6	
	comp=Z,92nm,20.2s,baz=270,slow=42						
HNDO	Hondo	19.47	333	P	P	15 31 17.4	-0.5
435B	Jarrell	19.90	338		P	15 31 22.1	-0.4
435B				IAmb	IAmb	15 31 25.8	
	comp=Z,55nm,0.8s						
DRIO	Del Rio	20.01	330		Pn	15 31 25.6	+0.1
JCT	Junction City	20.52	333	P	P	15 31 29.8	+0.5
LRAL	Lakeview Retre	20.69	5	Pn	Pn	15 31 32.9	-0.5
LRAL				IAmb	IAmb	15 31 35.4	
	comp=Z,41nm,1.4s						
Z47A	Carrollton	20.78	3	IAmb	IAmb	15 31 36.7	
	comp=Z,34nm,0.8s						
BRDY	Brady	20.89	336	P	P	15 31 32.7	-0.5
BRDY				IAmb	IAmb	15 31 36.1	
	comp=Z,40nm,1.1s						
FW13	Cleburne	21.28	341	IAmb	IAmb	15 31 40.4	
	comp=Z,57nm,1.1s						
TXAR	Lajitas Array	21.58	324	P	P	15 31 42.3	+1.6
	comp=Z,4.7nm,0.8s,baz=152,slow=8.2,SNR=26						
	comp=Z,4.7nm,0.8s						
PLPT	Palo Pinto	22.00	339	P	P	15 31 44.7	-0.5
PLPT				IAmb	IAmb	15 31 52.9	
	comp=Z,33nm,0.7s						
Z35A	Perchaven, San	22.13	342	IAmb	IAmb	15 31 53.8	
	comp=Z,30nm,0.8s		

comp=Z,0.2nm,0.5s
EYMN Ely 35.53 357 IAmb IAmb 15 33 54.2
comp=Z,8.2nm,0.6s
AGMN Agassiz Nation 36.26 353 IAmb IAmb 15 34 01.0
comp=Z,10nm,0.7s
NVAR Mina Array Bea 36.64 320 P **P 15 33 58.0 +0.3**
comp=Z,3.0nm,0.9s,baz=135,slow=8.9,SNR=12
comp=Z,3.0nm,0.9s
LHV Little Huntoon 36.66 320 P **P 15 33 59.7 +2.1**
LHV IAmb IAmb 15 34 10.5
comp=Z,29nm,1.8s
DGMT Dagmar 38.10 344 IAmb IAmb 15 34 22.8
comp=Z,13nm,0.8s
ULM Lac du Bonnet 38.18 353 P **P 15 34 08.1 -2.3**
comp=Z,1.9nm,0.4s,baz=174,slow=9.8,SNR=7.6
ULM LR LR 15 52 44.9
comp=Z,143nm,18.6s,baz=129,slow=41
comp=Z,1.9nm,0.4s
SCHQ Schefferville 45.90 18 P **P 15 35 11.2 -2.2**
SCHQ Schefferville 45.90 18 P **P 15 35 10.6 -2.7**
comp=Z,5.8nm,0.4s,baz=214,slow=6.2,SNR=36
comp=Z,5.8nm,0.4s
YKA Yellowknife Ar 53.26 346 P **P 15 36 08.1 -1.3**
comp=Z,4.7nm,1.0s,baz=146,slow=7.6,SNR=33
YKA ScP **ScP 15 41 18.4 +3.5**
comp=Z,0.2nm,0.7s,baz=141,slow=4.0,SNR=4.3
comp=Z,4.7nm,1.0s
PLCA Paso Flores 55.58 163 P **P 15 36 28.1 +1.5**
comp=Z,2.8nm,1.0s,baz=342,slow=6.4,SNR=4.8
comp=Z,2.8nm,1.0s
RES Resolute Bay 62.40 358 P **P 15 37 11.2 -2.2**
INK Inuvik 62.78 343 P **P 15 37 15.7 -0.2**
A36M Sachs Harbour 63.39 348 P **P 15 37 18.8 -1.1**
A36M IAmb IAmb 15 37 21.1
comp=Z,6.5nm,1.2s
J26L Joseph Creek 64.01 337 IAmb IAmb 15 36 14.4
comp=Z,4.3nm,0.6s
ILAR Eielson Array 65.41 337 P **P 15 37 32.8 -0.5**
comp=Z,1.7nm,1.1s,baz=125,slow=2.3,SNR=12
comp=Z,1.7nm,1.1s
ESDC Sonseca Array 78.63 52 LR LR 16 11 01.4
comp=Z,43nm,18.1s,baz=284,slow=34
MDT Midelt 78.96 59 LR LR 16 06 39.3
comp=Z,65nm,21.3s,baz=338,slow=30
DBIC Dimbokro 83.14 85 P **P 15 39 15.1 -2.6**
comp=Z,1.7nm,0.7s,baz=170,slow=8.7,SNR=2.5
comp=Z,1.7nm,0.7s
NOA NORSAR Array B 84.30 29 LR LR 16 13 26.7
comp=Z,25nm,21.1s,baz=40,slow=33
ARCES ARCESS Array B 86.84 19 P **P 15 39 34.0 -1.2**
comp=Z,8.1nm,1.2s,baz=284,slow=3.5,SNR=6.5
comp=Z,8.1nm,1.2s
WRA Warramunga Arr 137.56 254 PKP **PKiKP 15 46 19.0 +1.2**
comp=Z,0.6nm,0.5s,baz=88,slow=2.1,SNR=14
ASAR Alice Springs 137.60 248 PKP **PKiKP 15 46 19.6 +1.8**
comp=Z,0.6nm,0.7s,baz=99,slow=1.8,SNR=5.9
CMAR Chiang Mai Arr 148.34 345 PKPbc **PKiKP 15 46 40.1 +0.2**
comp=Z,3.6nm,1.0s,baz=329,slow=3.1,SNR=13

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*IDC **26** 15:28:39.0±1.9, 12°.69N×88°.58W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=51.8km s-min=40.6km az=84.0*
*GCG **26** 15:28:40.5±0.8, 12°.21N×89°.34W, h22km±19km, MD4.2, MW4.0*
*SNET **26** 15:28:42.0±1.3, 12°.35N×89°.36W, h14km±11km, ML3.9*
*NEIC **26** 15:28:42.2±1.1, 12°.5N±0°.1×89°.3W±0°.1, h10km±2km, mb4.6/25, Error ellipse: s-maj=24.0km s-min=10.5km az=221.0*
ISC 26 15:28:41.2±0.8, 12°.42N±0°.07×89°.29W±0°.07, h10km, n64, σ0.96/66, mb4.5/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.06**	**358**	*eP*	**Pn**	**15 29 02.8**	**+0.7**
LALI				*eS*	**Sn**	**15 29 17.6**	**+0.6**
LALI	**Alcalda de L**	**1.06**	**358**	*eP*	**Pn**	**15 29 02.9**	**+0.7**
LALI	**Alcalda de L**	**1.06**	**358**	*eP*		15 29 02.9	
TECO	**Alcaldia de Te**	**1.22**	**24**	*eP*	**Pg**	**15 29 04.8**	**+0.2**
LOMA	**Loma Larga**	**1.22**	**5**	*eP*	**Pn**	**15 29 05.3**	**+0.7**
JAYA	**Jayaque - finc**	**1.24**	**353**	*eP*	**Pn**	**15 29 05.0**	**+0.3**
JAYA				IAML		15 29 28.9	
	comp=Z,2μm,0.6s						
JAYA	**Jayaque - finc**	**1.24**	**353**	*eP*	**Pb**	**15 29 04.8**	**0.0**
JAYA	**Jayaque - finc**	**1.24**	**353**	*eP*		15 29 04.8	
COEG	**Centro de Oper**	**1.26**	**18**	*eP*	**Pg**	**15 29 06.2**	**+0.8**
PMON	**Piamonte**	**1.29**	**359**	*eP*	**Pg**	**15 29 06.3**	**+0.3**
BOQS	**Boqueron**	**1.31**	**0**	*eP*	**Pg**	**15 29 06.6**	**+0.2**
TECA	**Tecapa**	**1.32**	**36**	*eP*	**Pg**	**15 29 06.7**	**+0.2**
PIC2	**El Picacho**	**1.32**	**1**	*eP*	**Pg**	**15 29 07.0**	**+0.4**
PAVA	**Las Pavas**	**1.33**	**15**	*eP*	**Pg**	**15 29 07.0**	**+0.2**
LFU	**La Fuente**	**1.33**	**7**	*eP*	**Pg**	**15 29 07.3**	**+0.4**
PQSS	**Presa 15 de Se**	**1.39**	**31**	*eP*	**Pg**	**15 29 07.9**	**-0.1**
PACA	**Pacayal**	**1.41**	**42**	*eP*	**Pg**	**15 29 10.0**	**+1.7**
BLLM	**Bellamira**	**1.44**	**45**	*eP*	**Pg**	**15 29 09.1**	**+0.2**
SBLS	**San Blas**	**1.45**	**347**	*eP*	**Pb**	**15 29 08.6**	**+0.2**
NUBE	**Las Nubes**	**1.55**	**342**	*eP*	**Pn**	**15 29 09.1**	**+0.1**
NUBE	**Las Nubes**	**1.55**	**342**	*eP*	**Pn**	**15 29 09.1**	**+0.1**
NUBE				*eS*	**Sg**	**15 29 32.4**	**+1.2**
NUBE	**Las Nubes**	**1.55**	**342**	*eP*		15 29 09.1	
NUBE				*eS*		15 29 32.4	
LCND	**La Caada**	**1.63**	**57**	*eP*	**Pn**	**15 29 10.5**	**+0.6**
LCND				IAML		15 29 41.0	
	comp=Z,1μm,0.5s						
MTO3	**Montecristo**	**1.97**	**358**	Pn	**Pn**	**15 29 15.2**	**+0.3**
MTO3	**Montecristo**	**1.97**	**358**	*eP*	**Pn**	**15 29 16.2**	**+1.4**
MTO3	**Montecristo**	**1.97**	**358**	*eP*		15 29 16.2	
ESQI	**Esquipulas**	**2.13**	**359**	Pn	**Pn**	**15 29 16.7**	**-0.3**
CRIN	**San Cristobal**	**2.20**	**82**	Pn	**Pn**	**15 29 18.6**	**+0.6**
HERN	**Volcan Telica**	**2.41**	**85**	Pn	**Pn**	**15 29 21.1**	**+0.4**
CNGN	**Cerro Negro**	**2.53**	**88**	Pn	**Pn**	**15 29 22.9**	**+0.5**
STG0	**El Palmar, Qui**	**2.82**	**315**	*eP*		15 29 31.9	
435B	**Jarrell**	**19.82**	**339**	P	**P**	**15 33 12.9**	**+0.8**
435B				IAmb	IAmb	15 33 13.4	
	comp=Z,38nm,0.9s						
WHTX	**Lake Whitney,**	**20.88**	**340**	P	**P**	**15 33 23.8**	**+0.2**
TXAR	**Lajitas Array**	**21.50**	**324**	P	**P**	**15 33 31.9**	**+1.6**
TXAR	**Lajitas Array**	**21.50**	**324**	P	**P**	**15 33 31.8**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=142,slow=8.4,SNR=5.8						
	comp=Z,1.8nm,0.6s						
TX31	**Lajitas Ar. Si**	**21.50**	**324**	P	**P**	**15 33 32.2**	**+1.8**
PLPT	**Palo Pinto**	**21.92**	**339**	P	**P**	**15 33 34.0**	**-0.8**
PLPT				IAmb	IAmb	15 33 35.2	
	comp=Z,17nm,0.8s						
MIAR	**Mount Ida**	**22.37**	**351**	P	**P**	**15 33 40.4**	**+0.8**
MIAR				IAmb	IAmb	15 33 42.5	
	comp=Z,14nm,0.8s						
MNHN	**Monahans**	**22.56**	**329**	P	**P**	**15 33 41.5**	**-0.2**
WHAR	**Wooly Hollow**	**22.93**	**354**	P	**P**	**15 33 46.6**	**+1.0**
WHAR				IAmb	IAmb	15 33 47.6	
	comp=Z,22nm,1.3s						
APMT	**Aspermont**	**23.05**	**336**	P	**P**	**15 33 46.6**	**-0.2**
APMT				IAmb	IAmb	15 33 47.8	
	comp=Z,14nm,0.8s						
FCAR	**Ozark Folk Cen**	**23.51**	**354**	P	**P**	**15 33 51.5**	**+0.1**
FCAR				IAmb	IAmb	15 33 52.8	
	comp=Z,18nm,1.2s						
LCAR	**Lake Charles**	**23.61**	**356**	P	**P**	**15 33 52.2**	**-0.1**
DKNS	**Dickens**	**23.67**	**335**	P	**P**	**15 33 53.2**	**+0.1**
DKNS				IAmb	IAmb	15 33 57.4	
	comp=Z,11nm,0.6s						
CLTN	**Cedars of Leba**	**23.72**	**6**	P	**P**	**15 33 53.9**	**+0.5**
WMOK	**Wichita Mounta**	**23.83**	**340**	P	**P**	**15 33 53.3**	**-1.3**
PBMO	**Poplar Bluff**	**24.28**	**358**	P	**P**	**15 33 58.6**	**-0.1**
T42A	**Van Buren**	**24.56**	**357**	P	**P**	**15 34 01.2**	**0.0**
QUOK	**Quay**	**24.58**	**345**	P	**P**	**15 34 00.8**	**-0.6**
QUOK				IAmb	IAmb	15 34 01.6	
	comp=Z,19nm,1.0s						
SMWD	**Samnorwood**	**24.67**	**338**		**P**	**15 34 02.2**	**-0.2**
SMWD				IAmb	IAmb	15 34 05.8	
	comp=Z,14nm,0.7s						
CGM3	**Cape Girardeau**	**24.78**	**359**	P	**P**	**15 34 02.6**	**-0.6**
CGM3				IAmb	IAmb	15 34 13.4	
	comp=Z,8.0nm,0.7s						
CCM	**Cathedral Cave**	**25.59**	**356**	P	**P**	**15 34 10.5**	**-0.1**
CCM				IAmb	IAmb	15 34 12.7	
	comp=Z,12nm,0.7s						
Q44A	**Meyer Farm, Va**	**26.38**	**0**	P	**P**	**15 34 17.6**	**-0.1**
BOAV	**Boa Vista**	**30.18**	**107**	P	**P**	**15 34 52.9**	**+1.0**
JFWS	**Jewell Farm**	**30.40**	**359**	P	**P**	**15 34 52.9**	**-0.6**
PDAR	**Pinedale Array**	**34.98**	**334**	P	**P**	**15 35 33.6**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=154,slow=7.1,SNR=1.5						
	comp=Z,0.2nm,0.5s						
EYMN Ely 35.47 357 P **P 15 35 36.2 -1.6**							
EYMN				IAmb	IAmb	15 35 43.7	
	comp=Z,4.3nm,0.7s						
NVAR Mina Array Bea 36.56 320 P **P 15 35 49.4 +1.9**							
	comp=Z,1.0nm,0.8s,baz=132,slow=5.1,SNR=3.1						
	comp=Z,1.0nm,0.8s						
G65A Princeton 37.56 25 P **P 15 35 55.0 -0.6**							
G65A				IAmb	IAmb	15 36 22.9	
	comp=Z,18nm,1.2s						
ULM Lac du Bonnet 38.11 353 P **P 15 35 57.7 -2.6**							
	comp=Z,2.9nm,0.6s,baz=179,slow=9.9,SNR=4.4						
	comp=Z,2.9nm,0.6s						
SCHQ Schefferville 45.84 18 P **P 15 36 59.6 -3.7**							
	comp=Z,3.6nm,0.6s,baz=247,slow=8.6,SNR=5.4						
	comp=Z,3.6nm,0.6s						
YKA Yellowknife Ar 53.18 346 P **P 15 37 58.1 -1.1**							
	comp=Z,1.7nm,0.9s,baz=146,slow=7.7,SNR=4.0						
	comp=Z,1.7nm,0.9s						
ILAR Eielson Array 65.33 337 P **P 15 39 22.5 -0.8**							
	comp=Z,0.6nm,0.9s,baz=112,slow=6.8,SNR=4.5						
	comp=Z,0.6nm,0.9s						
BMAR Burnt Mountain 65.68 340 P **P 15 39 25.4 -0.2**							
TRF Thorofare Moun 66.19 335 P **P 15 39 29.5 +0.4**							
WRA Warramunga Arr 137.53 254 PKP **PKPdf 15 48 06.9 +0.6**							
	comp=Z,0.3nm,0.5s,baz=89,slow=2.3,SNR=1.9						
ASAR Alice Springs 137.59 249 PKP **PKPdf 15 48 07.4 +1.0**							
	comp=Z,0.3nm,0.8s,baz=96,slow=2.1,SNR=2.3						
FITZ Fitzroy Crossi 145.87 256 PKPbc **PKPab 15 48 23.3 +1.0**							
	comp=Z,3.1nm,1.0s,baz=72,slow=6.4,SNR=2.1						
CMAR Chiang Mai Arr 148.26 345 PKPbc **PKPdf 15 48 26.0 +0.7**							
	comp=Z,1.1nm,0.7s,baz=339,slow=3.4,SNR=4.5						

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*NOU **26** 15:32:17.2, 11°.04S×167°.15E, h92km, mb5.0/24, Santa Cruz Islands*
*BJI **26** 15:32:18.7, 12°.00S×165°.70E, h10km, mB5.1/12, mb4.9/38*
*IDC **26** 15:32:19.8±2.2, 11°.85S×166°.44E, h41km±18km, mb4.2/17, mbtmp4.4/21, ML4.7/3, MS3.8/22, Error ellipse: s-maj=17.3km s-min=13.4km az=65.0*
*NEIC **26** 15:32:22.4±1.0, 12°.00S±0°.10×165°.68E±0°.07, h10km±1km, mb4.9/25, Error ellipse: s-maj=18.8km s-min=8.2km az=29.0*
ISC 26 15:32:19.9±0.4, 11°.80S±0°.06×166°.42E±0°.06, h35km, n159, σ1.50/143, mb4.9/58, MS3.8/21, 9C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.23**	**336**	P	**Pn**	**15 32 41.8**	**+1.1**
ALEG	**Aligegeo Malai**	**6.39**	**298**	P	**Pn**	**15 33 53.7**	**+2.0**
HNR	**Honiara**	**6.78**	**290**		**Pn**	**15 33 53.5**	**-3.5**
HNR	**Honiara**	**6.78**	**290**	P	**Pn**	**15 33 58.9**	**+1.9**
	15nm,0.3s,baz=130,slow=2.1,SNR=35						
HNR				S	**Sn**	**15 35 12.5**	**-0.6**
	181nm,0.8s,baz=84,slow=24,SNR=4.1						
	295nm,0.8s						
HNR	**Honiara**	**6.78**	**290**	P	**Pn**	**15 33 59.4**	**+2.4**
SAVO	**Savo Central**	**7.01**	**291**	P	**Pn**	**15 34 02.3**	**+2.1**
TATA	**Tatamba Isabel**	**7.34**	**297**	P	**Pn**	**15 34 06.7**	**+2.0**
DZM	**Mont Dzumac**	**10.22**	**180**	Pn	**Pn**	**15 34 45.9**	**+1.7**
DZM	**Mont Dzumac**	**10.22**	**180**	P	**Pn**	**15 34 44.6**	**+0.4**
	2.3nm,0.3s,baz=313,slow=18,SNR=39						
DZM				S	**Sn**	**15 36 34.1**	**-3.6**
	8.9nm,0.6s,baz=184,slow=20,SNR=3.2						
	10.0nm,0.4s						
DZM	**Mont Dzumac**	**10.22**	**180**	P	Pn	15 34 51.8	+7.6
ONTNC	**Ouen Toro**	**10.45**	**180**	Pn	**Pn**	**15 34 49.4**	**+2.1**
PINNC	**Pines Island,**	**10.80**	**175**	Pn	**Pn**	**15 34 55.4**	**+3.4**
MSVF	**Nonsavu**	**12.70**	**119**	Pn	**P**	**15 35 30.9**	**+2.0**
MSVF	**Nonsavu**	**12.70**	**119**	P	**Pn**	**15 35 18.5**	**+0.4**
	0.3nm,0.3s,baz=174,slow=19,SNR=1.4						
MSVF				LR	LR	15 39 16.4	
	comp=Z,914nm,18.6s,baz=317,slow=33						
	5.8nm,1.0s						
RK1H	**Rockhampton Ha**	**19.04**	**231**	P	**Pn**	**15 36 43.0**	**+3.0**
PMG	**Port Moresby**	**19.08**	**275**	P	**Pn**	**15 36 40.4**	**-0.2**
	9.8nm,1.0s,baz=49,slow=7.6,SNR=2.1						
EIDS	**Eidsvold**	**19.81**	**225**	P	**P**	**15 36 45.5**	**-2.1**
EIDS	**Eidsvold**	**19.81**	**225**	P	**P**	**15 36 47.4**	**-0.2**
	comp=Z,10nm,0.7s						
AUWSH	**Wavell State H**	**19.97**	**217**	P	**Pn**	**15 36 54.1**	**+3.0**
PATS	**Pohnpei**	**20.19**	**336**	P	Pn	15 36 59.9	+6.1
	comp=Z,247nm,1.5s						
GC1S	**Gold Coast 1 S**	**20.27**	**215**	P	Pn	15 36 57.5	+2.8
TV1H	**Townsville Har**	**20.30**	**246**	P	Pn	15 36 57.1	+2.0
TW1H	**Toowoomba 1 Ha**	**20.71**	**219**	P	Pn	15 37 00.8	+0.9
AFI	**Afiamalu**	**21.36**	**98**	P	P	15 37 15.7	+11
AFI				IAmb	IAmb	15 37 26.9	
	comp=Z,59nm,1.1s						
MTSU	**Mount Surprise**	**22.25**	**251**	P	**P**	**15 37 14.8**	**+0.8**
	comp=Z,10nm,0.9s						
MTSU	**Mount Surprise**	**22.25**	**251**	P	**P**	**15 37 15.5**	**+1.5**
COEN	**Coen**	**22.76**	**262**	P	**P**	**15 37 18.8**	**-0.6**
COEN	**Coen**	**22.76**	**262**	P	**P**	**15 37 19.7**	**+0.3**
	comp=Z,15nm,0.9s						
COEN	**Coen**	**22.76**	**262**	P	**P**	**15 37 20.8**	**+1.4**
ARMA	**Armidale**	**23.05**	**214**	P	**P**	**15 37 22.5**	**+0.1**
ARMA				IAmb	IAmb	15 37 25.2	
	comp=Z,68nm,1.1s						
ARMA	**Armidale**	**23.05**	**214**	P	**P**	**15 37 22.6**	**+0.2**
	comp=Z,64nm,1.2s						
ARMA	**Armidale**	**23.05**	**214**	P	**P**	**15 37 24.1**	**+1.7**
OUZ	**Omahuta**	**24.21**	**166**	P	**P**	**15 37 34.4**	**+1.1**
WCZ	**Waipu Caves**	**25.08**	**165**	P	**P**	**15 37 44.5**	**+3.3**
RIV	**Riverview**	**25.99**	**210**	P	**P**	**15 37 48.4**	**-1.1**
	comp=Z,92nm,1.2s						
CMSA	**Cobar Meteorol**	**27.42**	**221**	P	**P**	**15 38 02.4**	**-0.1**
CMSA	**Cobar Meteorol**	**27.42**	**221**	P	**P**	**15 38 02.5**	**+0.1**
HAZ	**Te Kaha**	**27.78**	**160**	P	**P**	**15 38 06.1**	**+0.6**
URZ	**Urewera**	**28.03**	**162**	LR	LR	15 47 35.3	
	comp=Z,277nm,19.0s,baz=84,slow=33						
URZ	**Urewera**	**28.03**	**162**	P	**P**	**15 38 07.9**	**+0.2**
CNB	**Canberra Magne**	**28.06**	**211**	P	**P**	**15 38 07.6**	**-0.6**
	comp=Z,33nm,1.1s						
CNB	**Canberra Magne**	**28.06**	**211**	P	**P**	**15 38 08.6**	**+0.4**
PUZ	**Puketiti**	**28.22**	**160**	P	**P**	**15 38 08.4**	**-1.1**
CAN	**Canberra**	**28.25**	**211**	P	**P**	**15 38 10.3**	**+0.4**
CAN				IAmb	IAmb	15 38 39.3	
	comp=Z,31nm,1.3s						
BKZ	**Black Stump Fm**	**28.69**	**164**	P	**P**	**15 38 13.1**	**-0.6**
TSZ	**Takapari Road**	**29.39**	**165**	P	**P**	**15 38 16.7**	**-3.1**
PXZ	**Pawanui**	**29.60**	**164**	P	**P**	**15 38 22.3**	**+0.6**
MRZ	**Mangatainoka R**	**29.86**	**166**	P	**P**	**15 38 23.2**	**-0.8**
BFZ	**Birch Farm**	**30.05**	**165**	P	**P**	**15 38 23.3**	**-2.3**
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**15 38 28.6**	**0.0**
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**15 38 28.7**	**0.0**
	comp=Z,76nm,0.7s						
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**15 38 27.9**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=52,slow=8.0,SNR=20						
STKA				LR	LR	15 49 35.6	
	comp=Z,294nm,21.7s,baz=30,slow=34						
	comp=Z,6.6nm,0.6s						
THZ	**Tophouse**	**30.39**	**170**	P	**P**	**15 38 28.8**	**0.0**
KHZ	**Kahutara**	**31.13**	**170**	P	**P**	**15 38 33.8**	**-1.4**
LTZ	**Lake Taylor**	**31.29**	**172**	P	**P**	**15 38 36.2**	**-0.5**
GVZ	**Greta Valley S**	**31.58**	**171**	P	**P**	**15 38 41.2**	**+2.1**
WR0	**Warramunga Arr**	**31.67**	**251**	P	**P**	**15 38 39.3**	**-1.0**
AMCZ	**Amberley**	**31.73**	**171**	P	**P**	**15 38 41.6**	**+1.2**
WB0	**Warramunga Arr**	**31.78**	**252**	P	**P**	**15 38 40.4**	**-0.8**
WB0				IAmb	IAmb	15 38 41.4	
	comp=Z,16nm,0.8s						
TOO	**Toolangi**	**31.79**	**213**	P	**P**	**15 38 41.5**	**+0.4**
TOO				IAmb	IAmb	15 38 42.6	
	comp=Z,11nm,0.7s						
TOO	**Toolangi**	**31.79**	**213**	P	**P**	**15 38 41.6**	**+0.4**
	comp=Z,16nm,0.7s						
OXZ	**Oxford**	**31.79**	**172**	P	**P**	**15 38 41.0**	**0.0**
WB2	**Warramunga Arr**	**31.85**	**251**	P	**P**	**15 38 40.7**	**-1.1**
WB2				IAmb	IAmb	15 38 41.6	
	comp=Z,7.4nm,0.8s						
WB1	**Warramunga Ar.**	**31.85**	**251**	P	**P**	**15 38 41.2**	**-0.7**
WRA	**Warramunga Arr**	**31.86**	**251**	P	**P**	**15 38 41.1**	**-0.8**
	comp=Z,6.2nm,0.6s,baz=84,slow=9.0,SNR=55						
WRA				PcP	**PcP**	**15 41 31.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=80,slow=3.1,SNR=7.5						
	comp=Z,6.2nm,0.6s						
RPZ	**Rata Peaks**	**32.05**	**174**	P	**P**	**15 38 43.7**	**+0.4**
MQZ	**McQueen's Vall**	**32.25**	**172**	P	**P**	**15 38 44.6**	**-0.3**
MQZ	**McQueen's Vall**	**32.25**	**172**	P	**P**	**15 38 44.7**	**-0.3**
AS01	**Alice Springs**	**33.02**	**245**	P	**P**	**15 38 50.9**	**-1.2**
AS31	**Alice Springs**	**33.06**	**245**	P	**P**	**15 38 50.9**	**-1.5**
AS31				IAmb	IAmb	15 38 52.2	
	comp=Z,4.4nm,0.7s						
AS31	**Alice Springs**	**33.06**	**245**	P	**P**	**15 38 50.9**	**-1.5**
	comp=Z,6.3nm,0.7s						
ASAR	**Alice Springs**	**33.06**	**245**	P	**P**	**15 38 50.6**	**-1.8**
ASAR					**PcP**	**15 41 34.9**	**-0.8**
ASAR	**Alice Springs**	**33.06**	**245**	P	**P**	**15 38 51.1**	**-1.4**
	comp=Z,13nm,0.7s,baz=70,slow=9.5,SNR=261						
ASAR				PcP	**PcP**	**15 41 34.9**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=82,slow=2.3,SNR=11						
ASAR				ScP	**ScP**	**15 45 16.8**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=78,slow=2.8,SNR=5.3						
	comp=Z,13nm,0.7s						
GUMO Guam 33.06 319 LR LR 15 50 27.4							
	comp=Z,110nm,20.9s,baz=150,slow=33						
KDU Kakadu 33.17 265 P **P 15 38 53.0 -0.5**							
	comp=Z,29nm,1.4s						
ARPS Mount Arapiles 33.27 218 P **P 15 38 54.4 +0.3**							
	comp=Z,44nm,1.1s						
ODZ Otahua Downs 33.33 175 P **P 15 38 55.1 +0.7**							
EAZ Earnscleugh 33.41 176 P **P 15 38 54.8 -0.4**							
RAR Rarotonga 33.67 111 LR LR 15 50 49.6							
	comp=Z,56nm,18.9s,baz=276,slow=33						
TUZ Tuapeka 34.15 176 P **P 15 39 00.3 -1.2**							
MGBR Mount Gambier 34.66 217 P **P 15 39 06.5 +0.4**							
SYZ Scrubby Hill 34.70 177 P **P 15 39 06.8 +0.5**							
BBOO Buckleboo 34.81 228 P **P 15 39 06.9 -0.7**							
BBOO Buckleboo 34.81 228 P **P 15 39 06.9 -0.7**							
	comp=Z,25nm,0.5s						
MOO Moorlands 34.82 205 P **P 15 39 08.2 +0.8**							
	comp=Z,122nm,1.7s						
KNRA Kununurra 36.75 260 P **P 15 39 24.1 -0.3**							
KNRA				IAmb	IAmb	15 39 26.7	
	comp=Z,16nm,0.9s						
KNRA Kununurra 36.75 260 P **P 15 39 23.9 -0.4**							
	comp=Z,24nm,0.9s						
WRKA Warakurna 38.35 244 P **P 15 39 37.0 -0.9**							
	comp=Z,10nm,1.3s						
WRKA Warakurna 38.35 244 P **P 15 39 37.2 -0.7**							
XMAS Kiritimati 38.45 71 P **P** 15 39 50.1 +11							
FITZ Fitzroy Crossi 39.83 256 P **P 15 39 50.0 -0.3**							
FITZ Fitzroy Crossi 39.83 256 P **P 15 39 49.7 -0.6**							
	comp=Z,4.0nm,0.9s						
FITZ Fitzroy Crossi 39.83 256 P **P 15 39 50.1 -0.2**							
FORT Forrest 40.16 236 P **P 15 39 51.9 -0.9**							
FORT Forrest 40.16 236 P **P 15 39 51.6 -1.3**							
	comp=Z,53nm,1.3s						
SANI Sanana 41.23 280 P **P 15 39 58.6 -3.3**							
DAV Davao City (W) 44.74 293 LR LR 15 59 55.7							
	comp=Z,60nm,18.2s,baz=334,slow=37						
KMBL Kambalda 45.40 237 P **P 15 40 34.8 -0.5**							
	comp=Z,39nm,0.9s						
PSA00 Pilbara Seismi 45.51 251 P **P 15 40 36.3 -0.1**							
MEEK Meekatharra 47.22 245 P **P 15 40 49.6 -0.2**							
	comp=Z,33nm,0.7s						
KLBR Kellerberrin 48.87 238 P **P 15 41 01.8 -0.7**							
	comp=Z,58nm,0.7s						
NWAO Narrogin (SRO) 49.60 237 P **P 15 41 07.4 -0.6**							
NWAO Narrogin (SRO) 49.60 237 P **P 15 41 07.5 -0.5**							
	comp=Z,42nm,0.8s						
NWAO Narrogin (SRO) 49.60 237 LR LR 16 02 23.1							
	comp=Z,266nm,18.3s,baz=68,slow=36						
MORW Morawa 49.85 242 P **P 15 41 09.6 -0.3**							
MORW				IAmb	IAmb	15 41 10.3	
	comp=Z,11nm,0.8s						
MORW Morawa 49.85 242 P **P 15 41 09.4 -0.6**							
	comp=Z,18nm,1.4s						
RKGY Rocky Gully 50.21 235 P **P 15 41 12.6 +0.1**							
	comp=Z,9.3nm,1.0s						
MUN Mundaring 50.24 238 P **P 15 41 12.8 0.0**							
	comp=Z,39nm,1.7s						
KKM Kota Kinabalu 52.99 287 P **P 15 41 34.0 +0.3**							
JOW Kunigami 53.35 317 LR LR 16 03 58.9							
	comp=Z,42nm,19.1s,baz=124,slow=36						
MJAR Matsushiro Arr 54.94 332 LR LR 16 05 46.3							
	comp=Z,32nm,18.9s,baz=146,slow=36						
JNU Nakatsue 56.07 324 LR LR 16 02 44.0							
	comp=Z,34nm,21.9s,baz=160,slow=32						
KSRS Korea Array 60.87 325 P **P 15 42 28.4 -0.5**							
	comp=Z,1.4nm,0.7s,baz=138,slow=6.9,SNR=5.8						
KSRS				LR	LR	16 05 32.8	
	comp=Z,32nm,21.9s,baz=130,slow=33						
	comp=Z,1.4nm,0.7s						
NJ2 Nanjing 63.02 315 *eP* **P 15 42 48.3 +4.7**							
NJ2				pmax	pmax		
	comp=Z,26nm,0.6s						
USRK Ussuriysk Ar. 63.91 333 P **P 15 42 49.9 +0.6**							
	comp=Z,4.8nm,0.9s,baz=117,slow=8.2,SN

	comp=Z,0.4nm,0.6s						
LPIG	**La Paz**	**88.72**	**65**	LR	LR	16 18 14.1	
	comp=Z,23nm,18.1s,baz=324,slow=31						
ELK	**Elko**	**88.95**	**48**	LR	LR	16 16 27.8	
	comp=Z,55nm,21.1s,baz=248,slow=30						
WMQ	**Urumqi**	**90.09**	**315**	*eP*	P	15 45 21.8	+5.4
SYO	**Syowa Base**	**91.26**	**197**	⇓*e*PcP	**PcP**	**15 45 27.0**	**+4.7**
ELIB	**Princess Elisa**	**92.92**	**191**	*dP*	**P**	**15 45 27.0**	**-2.2**
	comp=Z,4.1nm,1.2s						
PDAR	**Pinedale Array**	**93.57**	**47**	P	**P**	**15 45 31.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=249,slow=8.3,SNR=1.8						
PDAR				LR	LR	16 22 59.3	
	comp=Z,28nm,18.1s,baz=278,slow=32						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**94.52**	**317**	P	**P**	**15 45 36.3**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=94,slow=6.1,SNR=49						
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**94.55**	**324**	P	**P**	**15 45 35.4**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=120,slow=5.7,SNR=2.9						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**15 45 39.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=221,slow=7.7,SNR=8.8						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**95.61**	**61**	LR	LR	16 21 27.2	
	comp=Z,28nm,19.4s,baz=252,slow=31						
TROLL	**Troll, Antarti**	**95.70**	**185**	⇑P	**P**	**15 45 39.9**	**-2.0**
	comp=Z,164nm,0.7s						
TROLL				⇑*p*P	**pP**	**15 45 52.5**	**0.0**
SNAA	**Sanae**	**96.41**	**183**	⇑P	**P**	**15 45 42.3**	**-2.7**
	comp=Z,24nm,0.6s						
SNAA				⇓*p*P	**pP**	**15 45 56.0**	**+0.2**
SNAA	**Sanae**	**96.41**	**183**	P	**P**	**15 45 42.4**	**-2.7**
	comp=Z,2.0nm,0.8s,baz=300,slow=1.5,SNR=3.9						
	comp=Z,2.0nm,0.8s						
VNA3	**Neumayer Olymp**	**97.11**	**181**	⇑P	Pdif	15 45 49.0	+0.7
	comp=Z,2.2nm,0.5s						
VNA3				⇑*p*P	pwP	15 46 00.7	+1.8
VNA2	**Neumayer--Watz**	**97.36**	**182**	⇑P	**P**	**15 45 48.3**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=190,slow=4.0						
VNA2				⇑*p*P	**pP**	**15 46 00.2**	**+0.1**
	baz=340,slow=4.7						
KURBB	**Kurchatov Arra**	**97.68**	**320**	P	**P**	**15 45 48.6**	**-2.4**
	comp=Z,0.2nm,0.6s,baz=90,slow=5.6,SNR=3.2						
	comp=Z,0.2nm,0.6s						
FINES	**FINESS Array B**	**122.71**	**339**	PKP	**PKPdf**	**15 51 09.8**	**-1.9**
	comp=Z,3.4nm,1.1s,baz=17,slow=1.5,SNR=5.0						

*KOLA **26** 15:48:13.3, 79°.98N×20°.20E, h^{0km}, ML2.0, Error ellipse: s-maj=20.8km s-min=17.7km az=40.0, Spitsbergen*
*NAO **26** 15:48:16.9±3.7, 79°.92N×20°.06E, h^{23km}±^{15km}, ML2.5*
*BER **26** 15:48:16.3±4.0, 80°.13N×20°.26E, h^{23km}±^{12km}, ML2.3, ML2.5(NAO), Confirmed Earthquake*
*FCIAR **26** 15:48:22.0, 80°.30N×19°.87E, h^{10km}, station OMEGA has station magnitude of 3.10*

ISC 26 15:48:13.4±1.6, 80°.00N±0°.05×20°.70E±0°.04, h13km±10km, n21, σ1°63/53, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.94**	**240**	Pn	**Pn**	**15 48 45.7**	**-0.3**
KBS				Pg	**Pg**	**15 48 50.7**	**+0.2**
KBS				Sn	**Sn**	**15 49 08.2**	**-2.0**
KBS				Sg	**Sb**	**15 49 13.4**	**+0.8**
KBS	**Kingsbay**	**1.94**	**240**	Pn	**Pn**	**15 48 45.7**	**-0.3**
KBS				Pg	**Pg**	**15 48 50.7**	**+0.2**
KBS				Sn	**Sn**	**15 49 08.2**	**-2.0**
KBS				Lg	Lg	15 49 13.4	
KBS	**Kingsbay**	**1.94**	**240**	P	**Pn**	**15 48 45.7**	**-0.3**
KBS				S	**Sn**	**15 49 10.4**	**+0.2**
SPA0	**Spitsbergen Ar**	**2.01**	**206**	Pn	**Pn**	**15 48 47.4**	**+0.4**
	baz=41,slow=10						
SPA0				Pg	**Pg**	**15 48 51.9**	**0.0**
	baz=34,slow=14						
SPA0				Sn	**Sn**	**15 49 12.0**	**0.0**
	baz=31,slow=16						
SPA0				Sg	**Sg**	**15 49 18.1**	**+0.1**
	baz=27,slow=22						
SPA0	**Spitsbergen Ar**	**2.01**	**206**	Pn	**Pn**	**15 48 47.4**	**+0.4**
	baz=41,slow=10						
SPA0				Pg	**Pg**	**15 48 51.9**	**0.0**
	baz=34,slow=14						
SPA0				Sn	**Sn**	**15 49 12.0**	**0.0**
	baz=31,slow=16						
SPA0				Lg	Lg	15 49 18.1	
	baz=27,slow=22						
SPA0	**Spitsbergen Ar**	**2.01**	**206**	*e*P	**Pb**	**15 48 50.5**	**+0.7**
SPA0				*e*S	**Sg**	**15 49 17.6**	**-0.4**
SPITS	**Spitsbergen Ar**	**2.01**	**206**	P	**Pn**	**15 48 47.4**	**+0.4**
SPITS				S	**Sn**	**15 49 12.4**	**+0.4**
BRBB	**Barentsburg B**	**2.29**	**216**	*e*P	**Pn**	**15 48 51.1**	**+0.4**
BRBB				*e*Pg	**Pg**	**15 48 56.7**	**-0.4**
BRBB				*e*S	**Sn**	**15 49 18.7**	**+0.1**
BRBB				*e*Sg	**Sg**	**15 49 26.4**	**-0.3**
BRBB	**Barentsburg B**	**2.29**	**216**	Pn	**Pn**	**15 48 51.3**	**+0.6**
BRBB				Sn	**Sn**	**15 49 18.3**	**-0.3**
BRBB				Lg	Lg	15 49 25.6	
BRBB	**Barentsburg B**	**2.29**	**216**	P	**Pn**	**15 48 51.1**	**+0.4**
BRBB				S	**Sb**	**15 49 24.8**	**+2.3**
BRBA	**Barentsburg A**	**2.31**	**216**	*e*P	**Pn**	**15 48 51.9**	**+0.8**
BRBA				*e*Pg	**Pg**	**15 48 57.1**	**-0.6**
BRBA				*e*S	**Sn**	**15 49 19.3**	**-0.1**
BRBA				*e*Sg	**Sb**	**15 49 26.5**	**+3.1**
BRBA				IAML		15 49 32.1	
	comp=Z,35nm,0.3s						
BRBA	**Barentsburg A**	**2.31**	**216**	Pn	**Pn**	**15 48 51.5**	**+0.4**
BRBA				Sn	**Sn**	**15 49 18.5**	**-0.9**
BRBA				Lg	Lg	15 49 26.5	
HSPB	**Hornsund (broa**	**3.19**	**202**	*e*P	**Pn**	**15 49 04.9**	**+1.7**
HSPB				*e*Pg	**Pg**	**15 49 13.0**	**-1.4**
HSPB				*e*Sg	**Sg**	**15 49 54.4**	**-1.3**
HSPB				IAML		15 49 57.1	
	comp=Z,17nm,0.6s						
HSPB	**Hornsund (broa**	**3.19**	**202**	Pn	**Pn**	**15 49 04.8**	**+1.7**
HSPB				Pg	**Pg**	**15 49 13.1**	**-1.4**
HSPB				Lg	Lg	15 49 54.3	
HSPB	**Hornsund (broa**	**3.19**	**202**	P	**Pn**	**15 49 03.1**	**0.0**
HSPB				S	**Sn**	**15 49 41.4**	**+0.4**
HOPEN	**Hopen**	**3.62**	**164**	*e*P	**Pn**	**15 49 10.2**	**+1.2**
HOPEN				*e*Pg	**Pg**	**15 49 23.3**	**+0.7**
HOPEN				*e*S	**Sn**	**15 49 53.5**	**+1.9**
HOPEN				*e*Sg	**Sg**	**15 50 08.0**	**-1.4**
HOPEN				IAML		15 50 16.0	
	comp=Z,21nm,0.4s						
HOPEN	**Hopen**	**3.62**	**164**	Pn	**Pn**	**15 49 10.8**	**+1.8**
HOPEN				Sn	**Sn**	**15 49 53.6**	**+2.0**
HOPEN				Lg	Lg	15 50 08.3	
HOPEN	**Hopen**	**3.62**	**164**	*e*P	**Pg**	**15 49 22.7**	**0.0**
HOPEN				*e*S	**Sg**	**15 50 07.5**	**-2.0**
	comp=Z,5μm,0.1s						
OMEGA	**Omega**	**4.56**	**67**	*e*P	**Pn**	**15 49 22.3**	**+0.4**
OMEGA				*e*S	**Sn**	**15 50 13.7**	**-1.1**
	comp=Z,15nm,1.0s						
ARA0	**ARCESS Array S**	**10.60**	**171**	Sn	**Sn**	**15 52 37.0**	**-5.9**
	slow=18						
ARA0	**ARCESS Array S**	**10.60**	**171**	Sn	**Sn**	**15 52 37.0**	**-5.9**
	slow=18						

IDC 26 16:04:16.4±3.3, 31°.90S×177°.92W, h^{0km}, mb3.6/2, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=73.6km s-min=37.0km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.54**	**211**	Pn	Pn	16 06 07.1	-0.5
	0.2nm,0.3s,baz=338,slow=4.7,SNR=7.0						
URZ				Sn	Sn	16 07 33.6	-0.2
	1.3nm,0.3s,baz=315,slow=8.6,SNR=14						
	7.1nm,1.0s						
ASAR	**Alice Springs**	**43.12**	**268**	P	P	16 12 18.6	-0.1
	0.4nm,0.7s,baz=108,slow=7.7,SNR=9.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**44.24**	**274**	P	P	16 12 28.0	+0.2
	0.3nm,0.3s,baz=112,slow=8.0,SNR=11						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	PKPdf	16 23 58.0	+0.5
	3.2nm,0.9s,baz=66,slow=4.6,SNR=4.1						

NEIC 26 16:26:18.1±0.4, 37°.74N±0°.05×105°.36W±0°.03, h5km±2km, ML1.8/20, Error ellipse: s-maj=9.7km s-min=3.3km az=24.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.11**	**275**	Pg	Pg	16 26 21.4	+0.8
SDCO				IAML		16 26 21.7	
	446nm,0.1s						
SDCO				IAML		16 26 21.8	
	646nm,0.1s						
SDCO				Sg	Sg	16 26 23.2	+0.9
T25A	**Trinidad**	**0.96**	**128**	Pg	Pn	16 26 38.1	-0.4
T25A				Sg	Sb	16 26 50.7	+0.2
T25A				IAML		16 26 51.5	
	comp=N,23nm,1.0s						
S22A	**4UR Ranch, Cre**	**1.17**	**271**	Pg		16 26 38.3	-2.2
S22A				Sg	Sg	16 26 52.3	-3.3
S22A				IAML		16 26 55.3	
	comp=E,24nm,0.1s						
Q24A	**Divide**	**1.24**	**8**		Pn	16 26 43.3	+0.9
ISCO	**Idaho Springs**	**2.07**	**355**	Pg	Pg	16 26 59.5	+1.6
ISCO				IAML		16 27 16.2	
	comp=E,5.0nm,3.1s						
PV15	**Paradox Valley**	**2.54**	**285**		Pb	16 27 04.0	-0.3
MVCO	**Mesa Verde**	**2.55**	**259**	Pn	Pn	16 26 59.9	-0.6
MVCO				IAML		16 27 35.2	
	comp=E,7.1nm,4.3s						
PV01	**Paradox Valley**	**2.57**	**280**	Pn	Pn	16 27 00.3	-0.4
PV13	**Radium Mtn., P**	**2.77**	**280**	Pn	Pn	16 27 02.5	-0.9
PV22	**Blue Mesa, Par**	**2.82**	**287**	Pn	Pn	16 27 03.5	-0.5
PV11	**David Mesa, Pa**	**2.83**	**283**	Pn	Pn	16 27 03.5	-0.7
PV18	**Skein Mesa, Pa**	**2.85**	**281**	Pn	Pn	16 27 04.0	-0.5
ANMO	**Albuquerque**	**2.92**	**198**	Pn	Pn	16 27 04.6	-0.9
ANMO				IAML		16 28 06.6	
	comp=E,5.1nm,4.9s						
LENM	**Lemitar**	**3.80**	**201**	Pn	Pn	16 27 17.1	-0.4

*CATAC **26** 16:33:35.9±0.3, 9°N±2°×8°3W±°, h^{3km}±^{1km}, M4.1/9, MLv4.1/9, Error ellipse: s-maj=5.7km s-min=3.3km az=47.8, confirmed*
*UCR **26** 16:33:35.8±1.3, 8°.93N×82°.83W, h^{16km}±^{3km}, MW3.7*
*UPA **26** 16:33:36.0±2.1, 8°.89N×82°.86W, h^{8km}±^{4km}, MW4.2*

ISC 26 16:33:36.2±0.9, 8°.94N±0°.02×82°.87W±0°.02, h20km±1km, n92, σ1°15/121, 19C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VITO	**San Vito**	**0.16**	**220**	⇓*e*P	**Pb**	**16 33 40.9**	**-1.1**
VITO				*e*S	**Sb**	**16 33 45.0**	**-0.9**
BRU2	**Volcan**	**0.23**	**129**	⇑*i*P	**Pb**	**16 33 41.5**	**-0.7**
BRU2				*i* S	**Sb**	**16 33 45.8**	**-0.6**
BRU2	**Volcan**	**0.23**	**129**	S	**Sb**	**16 33 45.8**	**-0.6**
BRU2	**Volcan**	**0.23**	**129**	P	**Pb**	**16 33 41.6**	**-0.7**
BRU2	**Volcan**	**0.23**	**129**	S	**Sb**	**16 33 46.2**	**-0.2**
BRU2	**Volcan**	**0.23**	**129**	P	**Pb**	**16 33 41.6**	**-0.7**
BRU2	**Volcan**	**0.23**	**129**	⇑*i*P	**Pb**	**16 33 41.5**	**-0.7**
BRU2				*e*S	**Sb**	**16 33 45.8**	**-0.6**
BC3P	**Paso Ancho**	**0.28**	**116**	⇑*i*P	**Pb**	**16 33 42.3**	**-0.6**
BC3P				*e*S	**Sb**	**16 33 46.6**	**-0.8**
EDP2	**Potrero Grande**	**0.31**	**284**	*e*P	**Pb**	**16 33 42.8**	**-0.3**
EDP2				*e*S	**Sb**	**16 33 48.6**	**+0.8**
CDITO	**Canoas**	**0.36**	**181**	P	**Pb**	**16 33 43.4**	**-0.5**
CDITO	**Canoas**	**0.36**	**181**	S	**Sb**	**16 33 50.1**	**+1.0**
CDITO	**Canoas**	**0.36**	**181**	S	**Sb**	**16 33 49.3**	**+0.2**
CDITO	**Canoas**	**0.36**	**181**	P	**Pb**	**16 33 43.4**	**-0.5**
LPPC	**Paso Canoas**	**0.41**	**176**	*e*P	**Pb**	**16 33 43.9**	**-0.7**
LPPC				*e*S	**Sb**	**16 33 50.9**	**+0.6**
EDAD	**Golfito**	**0.41**	**226**	⇓*i*P	**Pb**	**16 33 43.6**	**-1.1**
EDAD				*e*S	**Sb**	**16 33 50.5**	**0.0**
PTAR3	**Potrerillos Ar**	**0.44**	**124**	⇑*i*P	**Pb**	**16 33 44.9**	**-0.5**
PTAR3				*e*S	**Sb**	**16 33 51.0**	**-0.5**
LNBQ3	**Los Naranjos,**	**0.45**	**109**	⇑*i*P	**Pb**	**16 33 44.5**	**-0.9**
LNBQ3				*i* S	**Sb**	**16 33 51.0**	**-0.7**
FIMO	**Fila Mora**	**0.48**	**276**	⇓*e*P	**Pb**	**16 33 45.9**	**-0.2**
FIMO				*e*S	**Sb**	**16 33 53.8**	**+1.1**
DRK0	**Durika**	**0.49**	**311**	⇑*i*P	**Pb**	**16 33 43.4**	**-2.9**
DRK0				*i* S	**Sb**	**16 33 50.3**	**-2.8**
DRK0	**Durika**	**0.49**	**311**	P	**Pb**	**16 33 43.5**	**-2.9**
DRK0	**Durika**	**0.49**	**311**	S	**Sb**	**16 33 50.6**	**-2.5**
DRK0	**Durika**	**0.49**	**311**	P	**Pb**	**16 33 43.8**	**-2.4**
DRK0	**Durika**	**0.49**	**311**	⇑*i*P	**Pb**	**16 33 43.4**	**-2.9**
DRK0				*e*S	**Sb**	**16 33 50.6**	**-2.5**
PTJ1	**Puerto Jimnez**	**0.59**	**227**	*e*P	**Pb**	**16 33 46.7**	**-1.2**
PTJ1	**Puerto Jimnez**	**0.59**	**227**	S	**Sb**	**16 33 54.6**	**-1.2**
PTJ1	**Puerto Jimnez**	**0.59**	**227**	P	**Pb**	**16 33 46.6**	**-1.2**
PTJ1	**Puerto Jimnez**	**0.59**	**227**	⇓*i*P	**Pb**	**16 33 46.6**	**-1.2**
PTJ1				*e*S	**Sb**	**16 33 55.6**	**-0.1**
JIME	**Puerto Jimenez**	**0.60**	**229**	*e*P	**Pb**	**16 33 47.0**	**-1.2**
JIME				*e*S	**Sb**	**16 33 56.0**	**-0.3**
BRIBI	**Bribri**	**0.68**	**2**	⇓*e*P	**Pb**	**16 33 49.7**	**+0.2**
BRIBI				*e*S	**Sn**	**16 34 01.3**	**+0.6**
LOMA3	**Las Lomas, Chi**	**0.69**	**137**	*e*P	**Pb**	**16 33 48.8**	**-0.8**
GUAL3	**Gualaca, Chiri**	**0.69**	**126**	*e*P	**Pb**	**16 33 48.5**	**-1.2**
PIRO	**Carate, Puerto**	**0.70**	**221**	⇓*i*P	**Pb**	**16 33 48.3**	**-1.6**
PIRO	**Carate, Puerto**	**0.70**	**221**	P	**Pb**	**16 33 48.4**	**-1.4**
PIRO	**Carate, Puerto**	**0.70**	**221**	P	**Pb**	**16 33 48.4**	**-1.4**
PIRO	**Carate, Puerto**	**0.70**	**221**	⇓*i*P	**Pb**	**16 33 48.3**	**-1.6**
PEDE3	**Pedregal, Chir**	**0.71**	**141**	*e*P	**Pb**	**16 33 49.8**	**-0.1**
CHGR2	**Aguacate**	**0.72**	**90**	⇓*e*P	**Pb**	**16 33 48.9**	**-1.2**
CHGR2				*i* S	**Sb**	**16 33 58.6**	**-0.8**
OCHAL	**Ojochal**	**0.78**	**282**	P	**Pb**	**16 33 50.2**	**-0.9**
OCHAL	**Ojochal**	**0.78**	**282**	S	**Sb**	**16 34 01.9**	**+0.5**
OCHAL	**Ojochal**	**0.78**	**282**	P	**Pb**	**16 33 50.2**	**-0.9**
OCHAL	**Ojochal**	**0.78**	**282**	S	**Sb**	**16 34 00.3**	**-1.0**
TAAN	**Batan**	**1.23**	**338**	*e*P	**Pn**	**16 33 58.2**	**-0.1**
VINA	**Juan Vinas**	**1.28**	**318**	*e*P	**Pn**	**16 33 59.2**	**+0.1**
RVSTA	**Santa Teresita**	**1.29**	**323**	*e*P	**Pb**	**16 33 59.3**	**-0.5**
IRES	**Siquirres**	**1.31**	**331**	*e*P	**Pb**	**16 33 59.6**	**-0.5**
REPA	**Paraso**	**1.32**	**312**	⇓*e*P	**Pn**	**16 33 59.8**	**+0.1**
LLNJ	**Naranjito**	**1.33**	**294**	*e*P	**Pn**	**16 33 58.9**	**-0.7**
VTCV	**VTCV, Calle Va**	**1.34**	**321**	⇑*i*P	**Pn**	**16 34 00.1**	**+0.1**
PCAYA	**Pacayas**	**1.34**	**316**	⇓*i*P	**Pn**	**16 34 00.1**	**+0.1**
PCAYA				*e*S	**Sb**	**16 34 18.7**	**+1.0**
RAZU	**San Marcos de**	**1.34**	**302**	*e*P	**Pn**	**16 33 59.8**	**-0.2**
RVLA	**Villa Bonita**	**1.36**	**329**	⇑*e*P	**Pb**	**16 34 00.4**	**-0.6**
CVTV	**Tajo**	**1.37**	**321**	⇑*e*P	**Pn**	**16 34 00.6**	**+0.2**
CVTV				*e*S	**Sb**	**16 34 20.0**	**+1.5**
RAFA	**San Farael, Vo**	**1.38**	**318**	⇑*e*P	**Pn**	**16 34 00.7**	**+0.2**
RAFA				*e*S	**Sb**	**16 34 19.9**	**+1.2**
CVTQ	**Turrialba Volc**	**1.38**	**320**	⇑*e*P	**Pn**	**16 34 00.7**	**0.0**
CVTQ				*e*S	**Sb**	**16 34 20.5**	**+1.5**
VTLA	**Turrialba Volc**	**1.39**	**320**	⇑*e*P	**Pn**	**16 34 00.8**	**+0.1**
VTR0	**Volcan Turrial**	**1.39**	**321**	⇑*e*P	**Pn**	**16 34 01.0**	**+0.2**
VTR0				*e*S	**Sb**	**16 34 20.9**	**+1.7**
CVTR	**Volcan Turrial**	**1.39**	**321**	⇑*e*P	**Pn**	**16 34 00.8**	**0.0**
ABE2	**San Pablo**	**1.40**	**303**	*e*P	**Pn**	**16 34 00.4**	**-0.4**
VICA	**Volcano Irazu**	**1.42**	**317**	⇑*e*P	**Pn**	**16 34 01.1**	**-0.1**
VICA				*e*S	**Sb**	**16 34 21.3**	**+1.3**
TRIO	**Tres Rios**	**1.47**	**311**	*e*P	**Pn**	**16 34 01.8**	**+0.2**
PICV	**PH. Pirrs**	**1.48**	**298**	*e*P	**Pn**	**16 34 01.9**	**+0.2**
CVTG	**V. Turrialba,**	**1.50**	**323**	⇑*i*P	**Pb**	**16 34 02.6**	**-0.7**
CVTG				*e*S	**Sb**	**16 34 22.8**	**+0.9**
CVIMO	**Finca Echandi**	**1.51**	**316**	*e*P	**Pb**	**16 34 03.0**	**-0.7**
AMPA	**Desamparados**	**1.51**	**309**	*e*P	**Pn**	**16 34 01.8**	**-0.5**
CORON	**Coronado**	**1.52**	**313**	*e*P	**Pn**	**16 34 02.9**	**+0.5**
ACOS	**Acosta**	**1.54**	**304**	⇑*e*P	**Pn**	**16 34 02.9**	**+0.3**
HDC	**Heredia**	**1.62**	**311**	*e*P	**Pn**	**16 34 04.2**	**+0.4**
CARI	**Cariari**	**1.65**	**329**	*e*P	**Pn**	**16 34 04.8**	**+0.7**
BELE	**Belen**	**1.66**	**308**	*e*P	**Pn**	**16 34 04.9**	**+0.6**
VBV1	**V. Barva**	**1.68**	**314**	*e*P	**Pn**	**16 34 05.3**	**+0.5**
TCS1	**Tacares**	**1.79**	**308**	P	**Pb**	**16 34 07.2**	**-1.1**
TRB2	**Turrubares**	**1.83**	**302**	*e*P	**Pn**	**16 34 06.9**	**+0.3**
MESA3	**La Mesa, Verag**	**1.84**	**115**	⇑*e*P	**Pn**	**16 34 06.7**	**0.0**
MESA3				*i* S	**Sb**	**16 34 30.4**	**-1.5**
GMAL	**Guarumal, Vera**	**2.00**	**126**	*e*P	**Pn**	**16 34 07.4**	**-1.4**
GMAL				*i* S	**Sn**	**16 34 31.8**	**-1.4**
GMAL	**Guarumal, Vera**	**2.00**	**126**	*e*P	**Pn**	**16 34 08.2**	**-0.6**
STIA3	**Santiago, Vera**	**2.05**	**114**	*e*P	**Pn**	**16 34 10.5**	**+0.9**
SOCE	**Pocosol**	**2.24**	**310**	P	**Pn**	**16 34 13.5**	**+1.2**
SOCE	**Pocosol**	**2.24**	**310**	S	**Sn**	**16 34 41.2**	**+1.8**
COVE	**Coope Vega, Sa**	**2.33**	**320**	P	**Pn**	**16 34 15.0**	**+1.6**
COVE	**Coope Vega, Sa**	**2.33**	**320**	S	**Sb**	**16 34 43.7**	**-2.1**
CRIS3	**El Cristo, Coc**	**2.33**	**107**	*e*P	**Pn**	**16 34 14.9**	**+1.6**
CRIS3				*e*S	**Sb**	**16 34 43.5**	**-2.4**
ARE1	**Arenal 1**	**2.37**	**310**	*e*P	**Pn**	**16 34 14.5**	**+0.5**
CEDE	**Laguna Cedeo**	**2.37**	**311**	*e*P	**Pn**	**16 34 14.2**	**+0.1**
JTS	**Las Juntas de**	**2.46**	**303**	*e*P	**Pn**	**16 34 16.6**	**+1.4**
JTS				*e*S	**Sb**	**16 34 48.1**	**-1.5**
JTS	**Las Juntas de**	**2.46**	**303**	*e*P	**Pn**	**16 34 16.5**	**+1.4**
PNME	**Penonome**	**2.55**	**100**	*e*P	**Pn**	**16 34 17.0**	**+0.5**
CHIT3	**Chitre**	**2.61**	**112**	*e*P	**Pn**	**16 34 16.9**	**-0.4**
CHIT3				*e*S	**Sn**	**16 34 50.1**	**+1.6**
INDI	**Punta indio, G**	**2.76**	**290**	P	**Pn**	**16 34 19.9**	**+0.7**
INDI	**Punta indio, G**	**2.76**	**290**	S	**Sn**	**16 34 53.5**	**+1.6**
AZU	**Azuero**	**2.81**	**114**	*e*P	**Pn**	**16 34 21.2**	**+1.3**
AZU				*e*S	**Sn**	**16 34 55.4**	**+2.2**
BCIP	**Isla Barro Col**	**3.00**	**85**	*e*P	**Pn**	**16 34 23.9**	**+1.2**
CHOR3	**La Chorrera**	**3.07**	**91**	*e*P	**Pn**	**16 34 24.6**	**+1.1**

*IDC **26** 17:01:19.2±0.5, 1°.24N×133°.02E, h^{0km}, mb4.4/16, mbtmp4.4/19, ML2.9/2, MS3.6/32, Error ellipse: s-maj=25.1km s-min=11.9km az=71.0*
*NEIC **26** 17:01:20.4±1.7, 1°.28N±0°.07×132°.96E±0°.04, h^{10km}±^{1km}, mb4.8/72, Error ellipse: s-maj=11.6km s-min=7.0km az=349.0*
*MOS **26** 17:01:21.6±1.2, 1°.14N×133°.02E, h^{26km}, mb4.8/19, Error ellipse: s-maj=14.8km s-min=7.7km az=117.3*
*DJA **26** 17:01:23.0±1.0, 1°N±3°×13°.3E±°, h^{22km}±^{8km}, M4.7/38, mb4.8/38, mB5.3/13, MLv4.8/16, Mw(mB)4.7/13, MwMwp4.5/1, Mwp4.9/1*

ISC 26 17:01:20.6±0.3, 1°.19N±0°.04×133°.00E±0°.05, h10km, n261, σ1°57/236, mb4.8/78, MS3.7/32, 8C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.68**	**221**	P	**Pn**	**17 02 02.5**	**-1.4**
RKPI	**Ransiki, Papua**	**2.92**	**156**	P	**Pn**	**17 02 07.9**	**+0.7**
BAKI	**Biak**	**3.90**	**127**	P	**Pn**	**17 02 21.1**	**+0.5**
FAKI	**Fak Fak**	**4.15**	**190**	Pn	**Pn**	**17 02 25.6**	**+1.5**
FAKI				Sn	**Sn**	**17 03 09.6**	**-3.1**
FAKI	**Fak Fak**	**4.15**	**190**	P	**Pn**	**17 02 25.8**	**+1.7**
FAKI	**Fak Fak**	**4.15**	**190**	S	**Sn**	**17 03 13.8**	**+1.1**
FAKI	**Fak Fak**	**4.15**	**190**	P	**Pn**	**17 02 25.5**	**+1.5**
SRPI	**Serui, Papua**	**4.44**	**133**	P	**Pn**	**17 02 30.9**	**+2.9**
KMPI	**Kaimana, Papua**	**4.87**	**172**	P	**Pn**	**17 02 36.1**	**+2.2**
TNTI	**Ternate**	**5.65**	**266**		**Pn**	**17 02 43.8**	**-1.0**
TNTI				Sn	**Sn**	**17 03 47.5**	**-2.2**
TNTI	**Ternate**	**5.65**	**266**	P	**Pn**	**17 02 44.7**	**0.0**
TNTI	**Ternate**	**5.65**	**266**	P	**Pn**	**17 02 44.3**	**-0.4**
MSAI	**Masohi**	**6.07**	**222**	P	**Pn**	**17 02 52.0**	**+1.5**
BNDI	**Bandanaira**	**6.46**	**209**	P	**Pn**	**17 02 58.0**	**+2.1**
BNDI	**Bandanaira**	**6.46**	**209**	S	**Sn**	**17 04 09.6**	**-0.1**
BNDI	**Bandanaira**	**6.46**	**209**	P	**Pn**	**17 02 57.3**	**+1.4**
	4μm150nm,0.6s						
SMPI	**Sarmi**	**6.52**	**119**	P	**Pn**	**17 02 55.2**	**-1.5**
AAI	**Ambon**	**6.82**	**225**	P	**Pn**	**17 03 01.8**	**+1.0**
	0.6nm2μm111nm,0.5s						
NLAI	**Namlea**	**7.36**	**233**	P	**Pn**	**17 03 09.1**	**+0.9**
	0.5nm2μm119nm,0.5s						
SANI	**Sanana**	**7.72**	**245**	P	**Pn**	**17 03 12.9**	**-0.2**
SANI	**Sanana**	**7.72**	**245**	P	**Pn**	**17 03 12.9**	**-0.2**
	0.3nm67nm,1.0s						
JAY	**Jayapura**	**8.53**	**116**	Pn	**Pn**	**17 03 24.5**	**+0.1**
	0.7nm,0.3s,baz=214,slow=9.3,SNR=4.4						
JAY				Sn	**Sn**	**17 04 54.5**	**-6.3**
	1.7nm,0.3s,baz=124,slow=19

JOW Kunigami 25.90 350 LR LR 17 15 02.3
comp=Z,205nm,21.5s,baz=152,slow=32
WRKA Warakurna 26.46 190 P **P** **17 06 59.4 +1.3**
CGJI Cibinong 28.34 254 P **P** **17 07 15.7 +0.7**
comp=Z,15nm,1.3s
QIZ Qiongzhong 28.80 309 P **P** **17 07 19.3 +0.2**
QIZ S **S** **17 12 08.5 -0.6**
QIZ pmax pmax
comp=Z,17nm,2.8s
QIZ LR LR
comp=N,150nm,16.7s
QIZ LR LR
comp=E,86nm,4.5s
QIZ LR LR
comp=Z,150nm,13.0s
HNR Honiara 28.83 112 LR LR 17 18 00.9
comp=Z,128nm,22.0s,baz=340,slow=35
OOD Oodnadatta 28.93 175 P **P** **17 07 21.7 +1.6**
MDSI Maura Dua 29.35 259 P **P** **17 07 23.6 -0.4**
comp=Z,16nm,1.2s
JNU Nakatsue 31.83 357 LR LR 17 20 11.4
comp=Z,84nm,19.4s,baz=136,slow=36
FORT Forrest 32.14 188 P **P** **17 07 48.7 +0.3**
NJ2 Nanjing 33.48 338 *eP* **P** **17 07 59.5 -0.6**
NJ2 pmax pmax
comp=Z,25nm,0.6s
NJ2 LR LR
comp=Z,420nm,22.7s
STKA Stephens Creek 33.88 167 P **P** **17 08 03.5 -0.1**
STKA Stephens Creek 33.88 167 P **P** **17 08 03.7 0.0**
comp=Z,1.5nm,0.4s,baz=349,slow=10.0,SNR=6.0
STKA LR LR 17 23 16.9
comp=Z,181nm,19.5s,baz=13,slow=39
comp=Z,1.5nm,0.4s
STKA Stephens Creek 33.88 167 *i* P **P** **17 08 04.2 +0.6**
BBOO Buckleboo 33.94 175 P **P** **17 08 03.4 -0.8**
RPSI Rantau Prapat 34.09 273 P **P** **17 08 04.8 -1.0**
RPSI IAmb IAmb 17 08 05.7
comp=Z,11nm,1.2s
PSI Prapat 34.10 273 LR LR 17 21 51.8
comp=Z,25nm,20.9s,baz=70,slow=36
MORW Morawa 34.19 207 P **P** **17 08 06.0 -0.4**
MORW IAmb IAmb 17 08 10.1
comp=Z,12nm,1.2s
GSI Gunungsitoli 35.42 271 P **P** **17 08 15.1 -2.2**
MJAR Matsushiro Arr 35.51 7 LR LR 17 19 54.1
comp=Z,43nm,21.7s,baz=186,slow=31
KSRS Korea Array 36.39 353 LR LR 17 22 33.8
comp=Z,81nm,19.7s,baz=190,slow=35
NWAO Narrogin (SRO) 37.05 202 P **P** **17 08 29.5 -1.5**
NWAO IAmb IAmb 17 08 58.7
comp=Z,24nm,1.4s
H11S3 WAKE ISLAND Hy 37.25 60 T T 17 48 13.7
baz=247,slow=75,SNR=5.4
H11S2 WAKE ISLAND Hy 37.27 60 T T 17 48 16.4
baz=247,slow=75,SNR=6.0
H11S1 WAKE ISLAND Hy 37.27 60 T T 17 48 29.8
baz=247,slow=75,SNR=5.9
CM31 Chiang Mai Arr 37.56 299 P **P** **17 08 32.5 -3.0**
CMAR Chiang Mai Arr 37.56 299 P **P** **17 08 32.9 -2.6**
CMAR Chiang Mai Arr 37.56 299 P **P** **17 08 34.8 -0.7**
comp=Z,1.4nm,0.9s,baz=122,slow=6.9,SNR=11
CMAR LR LR 17 23 00.2
comp=Z,33nm,21.4s,baz=115,slow=35
comp=Z,1.4nm,0.9s
CMAR Chiang Mai Arr 37.56 299 *ce*P **P** **17 08 35.2 -0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
KMI Kunming 37.68 312 P **P** **17 08 36.5 -0.1**
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI LR LR
comp=N,110nm,12.0s
KMI LR LR
comp=E,68nm,4.7s
KMI LR LR
comp=Z,140nm,19.0s
CHTO Chiang Mai 37.71 300 P **P** **17 08 34.7 -2.0**
CHTO Chiang Mai 37.71 300 P **P** **17 08 37.4 +0.7**
H11N1 WAKE ISLAND Hy 37.92 59 T T 17 48 57.8
baz=245,slow=75,SNR=36
H11N2 WAKE ISLAND Hy 37.94 59 T T 17 48 59.2
baz=245,slow=75,SNR=30
H11N3 WAKE ISLAND Hy 37.94 59 T T 17 48 49.2
baz=245,slow=75,SNR=39
PZH PanZhiHua 39.20 313 P **P** **17 08 50.3 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.3s
XAN Xi'an 39.70 328 P **P** **17 08 55.0 +1.7**
XAN pP pwP 17 09 00.3 +0.7
XAN pmax pmax
comp=Z,13nm,1.0s
HNS HongShan 39.79 337 ⇓P **P** **17 08 56.0 +2.1**
HNS pmax pmax
comp=Z,17nm,1.0s
HNS LR LR
comp=N,150nm,13.9s
HNS LR LR
comp=Z,140nm,14.7s
CD2 Chengdu 40.51 320 P **P** **17 09 01.8 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
TNCH TengChong 40.86 308 ⇓P **P** **17 09 04.8 +1.6**
TNCH pP sP 17 09 06.5 +0.3
TNCH S **S** **17 15 17.0 +2.0**
TNCH sS sS 17 15 24.5 +6.2
TNCH SS SS 17 18 02.8 -14
TNCH pmax pmax
comp=Z,9.0nm,1.5s
TNCH pmax pmax
comp=Z,82nm,5.1s
TNCH LR LR
comp=N,72nm,3.7s
TNCH LR LR
comp=E,64nm,3.9s
TNCH LR LR
comp=Z,76nm,5.3s
USRK Ussuriysk Ar. 42.84 359 P **P** **17 09 18.6 -0.3**
comp=Z,2.7nm,0.8s,baz=95,slow=13,SNR=4.0
USRK LR LR 17 23 42.0
comp=Z,42nm,21.0s,baz=165,slow=31
comp=Z,2.7nm,0.8s
ASAJ Asahikawa 43.59 10 LR LR 17 27 04.3
comp=Z,57nm,18.0s,baz=72,slow=36
HHC Hu-ho-hao-te 44.00 336 *eP* **P** **17 09 30.0 +1.6**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.8s
LZH Lanzhou 44.01 325 *eP* **P** **17 09 29.0 +0.3**
LZH pP pwP 17 09 36.0 +1.0
LZH pmax pmax
comp=Z,15nm,1.2s
BTO Baotou 44.43 335 *eP* **P** **17 09 33.0 +1.1**
BTO pP **pwP** **17 09 42.8 +4.5**
BTO sP sP 17 09 47.0 +12
BTO pmax pmax
comp=Z,14nm,0.9s
BTO pmax pmax
comp=Z,180nm,5.3s
YSS Yuzhno-Sakhali 46.37 9 P **P** **17 09 46.1 -0.9**
YSS Yuzhno-Sakhali 46.37 9 *eP* **P** **17 09 45.4 -1.6**
YSS pmax pmax
comp=Z,30nm,1.3s
KLR Kul'dur 47.87 359 LR LR 17 30 09.4
comp=Z,28nm,19.2s,baz=159,slow=36
MSVF Nonsavu 48.16 115 LR LR 17 28 51.2
comp=Z,77nm,19.2s,baz=200,slow=34
GTA Gaotai 48.61 326 *eP* **P** **17 10 04.3 -0.5**
GTA pP sP 17 10 07.8 0.0
GTA PcP **PcP** **17 11 34.3 +3.9**
GTA pmax pmax
comp=Z,2.0nm,1.2s
LSA Lhasa 48.85 310 P **P** **17 10 05.1 -2.0**
LSA IAmb IAmb 17 10 28.6
comp=Z,8.4nm,1.2s
ULN Ulaanbaatar 51.64 338 P **P** **17 10 26.7 -1.0**
ULN IAmb IAmb 17 10 31.2
comp=Z,15nm,1.2s
SONM Songino Array 51.87 337 P **P** **17 10 28.1 -1.2**
SONM Songino Array 51.87 337 P **P** **17 10 31.0 +1.6**
comp=Z,2.3nm,0.8s,baz=160,slow=7.8,SNR=10
SONM PcP **PcP** **17 11 42.5 +0.3**
comp=Z,0.8nm,0.6s,baz=126,slow=2.5,SNR=3.0
SONM LR LR 17 32 10.1
comp=Z,76nm,20.5s,baz=181,slow=36
comp=Z,2.3nm,0.8s
SKR Severo-Kuril's 53.07 18 *eP* **P** **17 10 40.5 +2.5**
SKR *eSS* ScS 17 20 16.0 -12
SKR pmax pmax
comp=Z,900nm,5.6s
SKR MLR MLR
comp=Z,800nm,16.0s
FOZ Fox Glacier 55.39 148 P **P** **17 10 55.3 +0.3**
THZ Tophouse 55.93 145 P **P** **17 10 60.0 +0.9**
WHZ Wether Hill Ro 56.11 151 P **P** **17 11 00.8 +0.6**
TUWZ Tuamarina 56.33 144 P **P** **17 11 02.4 +0.5**
URZ Urewera 56.46 139 LR LR 17 35 43.8
comp=Z,150nm,18.7s,baz=21,slow=36
BKZ Black Stump Fm 56.57 140 P **P** **17 11 02.8 -0.8**
BKZ IAmb IAmb 17 11 10.4
comp=Z,15nm,1.0s
RTZ Ruatahuna 56.58 139 P **P** **17 11 02.4 -1.3**
MOY Mondy 57.04 337 *eP* **P** **17 11 08.8 +1.9**
MOY pmax pmax
comp=Z,16nm,2.4s
WMQ Urumqi 58.46 323 *eP* **P** **17 11 18.5 +1.6**
MA2 Magadan 59.85 10 *ce*P **P** **17 11 27.3 +1.1**
MA2 pmax pmax
comp=Z,4.0nm,1.0s
YAK Yakutsk 60.74 358 *eP* **P** **17 11 33.0 +0.8**
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
ZSN Zaisan 62.10 325 *eP* **P** **17 11 43.3 +1.6**
ZSN Zaisan 62.10 325 *eP* **P** **17 11 43.4 +1.6**
MK31 Makanchi Array 63.26 323 P **P** **17 11 48.2 -1.4**
MK31 IAmb IAmb 17 11 52.9
comp=Z,11nm,1.4s
MK31 Makanchi Array 63.26 323 *ce*P **P** **17 11 49.2 -0.3**
MKAR Makanchi Array 63.26 323 P **P** **17 11 48.3 -1.2**
MKAR Makanchi Array 63.26 323 P **P** **17 11 48.8 -0.8**
comp=Z,2.4nm,0.7s,baz=114,slow=8.2,SNR=17
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 63.26 323 *i* P **P** **17 11 51.2 +1.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
SEY Seymchan 63.27 10 *i* P **P** **17 11 49.0 -0.2**
SEY pmax pmax
comp=Z,12nm,1.2s
SHLS Shalkode 63.34 319 *eP* **P** **17 11 49.8 -0.4**
SHLS pmax pmax
comp=Z,10.0nm,1.8s
SHLS Shalkode 63.34 319 *eP* **P** **17 11 49.8 -0.4**
comp=Z,10nm,1.8s
MAKZ Makanchi 63.46 323 P **P** **17 11 50.0 -0.8**
MAKZ IAmb IAmb 17 11 54.0
comp=Z,5.7nm,0.9s
MAKZ Makanchi 63.46 323 P **P** **17 11 50.0 -0.8**
UZB Uzynbulak 63.62 319 *eP* **P** **17 11 53.7 +1.5**
UZB pmax pmax
comp=Z,16nm,1.8s
UZB Uzynbulak 63.62 319 *eP* **P** **17 11 53.7 +1.5**
comp=Z,16nm,1.8s
SATY Saty 63.99 318 *eP* **P** **17 11 55.9 +1.4**
SATY Saty 63.99 318 *eP* **P** **17 11 56.0 +1.4**
KSH Kashi 64.28 314 P **P** **17 12 00.0 +3.4**
KSH pmax pmax
comp=Z,7.0nm,0.8s
TDK Taldyqorghan 64.82 320 *eP* **P** **17 12 01.4 +1.6**
TDK pmax pmax
comp=Z,8.0nm,1.2s
TDK Taldyqorghan 64.82 320 *eP* **P** **17 12 01.4 +1.6**
comp=Z,8.1nm,1.2s
MDOK Medeo 64.94 318 *eP* **P** **17 12 02.0 +1.2**
MDOK Medeo 64.94 318 *eP* **P** **17 12 02.0 +1.2**
CHKK Chushkaly 65.26 319 *eP* **P** **17 12 04.0 +1.3**
CHKK Chushkaly 65.26 319 *eP* **P** **17 12 04.1 +1.3**
ZAA0 Zalesovo Array 65.76 331 P **P** **17 12 04.3 -1.3**
ZAA0 IAmb IAmb 17 12 08.0
comp=Z,10nm,1.5s
ZALV Zalesovo Beam 65.76 331 P **P** **17 12 04.7 -1.0**
ZALV Zalesovo Beam 65.76 331 P **P** **17 12 07.0 +1.4**
comp=Z,1.5nm,0.6s,baz=112,slow=7.2,SNR=9.5
ZALV LR LR 17 41 08.2
comp=Z,22nm,20.6s,baz=84,slow=36
comp=Z,1.5nm,0.6s
ZALV Zalesovo Beam 65.76 331 *i* P **P** **17 12 07.0 +1.4**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 66.47 317 LR LR 17 43 11.6
comp=Z,51nm,20.3s,baz=108,slow=38
AAK Ala-Archa 66.47 317 *i* P **P** **17 12 10.0 -0.7**
AAK pmax pmax
comp=Z,1.0nm,1.2s
SGDS Sogindy 66.68 318 *eP* **P** **17 12 13.2 +1.3**
SGDS Sogindy 66.68 318 *eP* **P** **17 12 13.3 +1.3**
ARSB Arslanbob 67.06 315 P **P** **17 12 13.1 -1.4**
ARSB IAmb IAmb 17 12 24.2
comp=Z,17nm,1.5s
ATKA Atka Island 67.16 32 P **P** **17 12 13.6 -1.0**
KURK Kurchatov 67.29 326 P **P** **17 12 14.2 -1.3**
KURK IAmb IAmb 17 12 18.8
comp=Z,12nm,1.1s
KURK Kurchatov 67.29 326 *ce*P **P** **17 12 16.9 +1.4**
KURK pmax pmax
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 67.30 326 P **P** **17 12 14.9 -0.7**
comp=Z,4.6nm,0.8s,baz=119,slow=5.9,SNR=22
comp=Z,4.6nm,0.8s
DRK Karamyk 67.31 313 P **P** **17 12 14.4 -1.9**
DRK IAmb IAmb 17 12 19.8
comp=Z,9.0nm,1.2s
BTLS Baital 67.66 319 *eP* **P** **17 12 19.5 +1.5**
BTLS Baital 67.66 319 *eP* **P** **17 12 19.5 +1.5**
BTK Batken 68.21 313 P **P** **17 12 20.0 -1.7**
BTK IAmb IAmb 17 12 44.9
comp=Z,13nm,1.5s
GAR Garm 68.26 312 P **P** **17 12 20.7 -1.4**
DZA Taraz 68.74 316 *eP* **P** **17 12 26.5 +1.6**
DZA Taraz 68.74 316 *eP* **P** **17 12 26.5 +1.6**
KK31 Karatay Array 69.38 316 P **P** **17 12 28.0 -0.9**
KK31 IAmb IAmb 17 12 32.0
comp=Z,5.1nm,1.1s
KK31 Karatay Array 69.38 316 P **P** **17 12 27.0 -1.8**
KKAR Karatay Array 69.38 316 P **P** **17 12 27.0 -1.8**
KKAR Karatay Array 69.38 316 P **P** **17 12 27.0 -1.8**
IUG luzhnay 69.41 315 *eP* **P** **17 12 30.6 +1.4**
IUG pmax pmax
comp=Z,13nm,1.8s
IUG luzhnay 69.41 315 *eP* **P** **17 12 30.6 +1.4**
comp=Z,13nm,1.8s
BRLS Borolday 69.82 316 *eP* **P** **17 12 33.3 +1.7**
BRLS Borolday 69.82 316 *eP* **P** **17 12 33.4 +1.7**
TIXI Tiksi 70.41 359 LR LR 17 44 00.2
comp=Z,48nm,19.5s,baz=202,slow=36
TIXI Tiksi 70.41 359 P **P** **17 12 36.2 +1.7**
BRZS Berezniki 70.41 323 *eP* **P** **17 12 36.5 +1.5**
BRZS pmax pmax
comp=Z,8.0nm,1.9s
BRZS Berezniki 70.41 323 *eP* **P** **17 12 36.5 +1.5**
comp=Z,8.1nm,1.9s
BVAR Borovoye Array 72.89 326 P **P** **17 12 49.3 -0.7**
comp=Z,5.6nm,0.7s,baz=111,slow=8.1,SNR=30
BVAR LR LR 17 46 03.9
comp=Z,25nm,20.8s,baz=136,slow=37
comp=Z,5.6nm,0.7s
BRVK Borovoye 72.96 326 P **P** **17 12 46.6 -3.7**
BRVK IAmb IAmb 17 12 53.5
comp=Z,8.4nm,0.9s
BRVK Borovoye 72.96 326 *ce*P **P** **17 12 52.8 +2.5**
BRVK pmax pmax
comp=Z,11nm,1.0s
NRIK Noril'sk 74.44 345 P **P** **17 12 55.4 -3.3**
NRIK IAmb IAmb 17 13 01.5
comp=Z,15nm,1.4s
NRIK Noril'sk 74.44 345 P **P** **17 13 00.2 +1.5**
comp=Z,5.1nm,0.9s,baz=124,slow=6.6,SNR=8.8
NRIK LR LR 17 47 42.3
comp=Z,91nm,18.8s,baz=124,slow=37
comp=Z,5.1nm,0.9s
NRIK Noril'sk 74.44 345 *ce*P **P** **17 13 00.6 +1.9**
NRIK pmax pmax
comp=Z,12nm,1.4s
AB31 Akbulak array 78.09 320 P **P** **17 13 16.0 -3.8**
ABKAR Akbulak array 78.09 320 P **P** **17 13 15.9 -3.9**
ABKAR IAmb IAmb 17 13 22.7
comp=Z,2.9nm,1.0s
AKTO Aktyubinsk 79.55 321 LR LR 17 52 03.2
comp=Z,19nm,18.5s,baz=50,slow=38
E18K Tukpahlearik C 80.00 21 P **P** **17 13 28.9 -1.1**
VNDA Vanda 80.19 174 P **P** **17 13 29.6 -1.2**
VNDA Vanda 80.19 174 P **P** **17 13 30.7 0.0**
comp=Z,2.9nm,0.8s,baz=315,slow=6.1,SNR=12
comp=Z,2.9nm,0.8s
VNDA Vanda 80.19 174 P **P** **17 13 31.1 +0.3**
N19K Bonanza Creek 80.49 28 P **P** **17 13 31.6 -1.2**
ARTI Arti 80.53 327 LR LR 17 50 34.9
comp=Z,34nm,21.8s,baz=226,slow=37
KDAK Kodiak Island 80.72 32 LR LR 17 49 17.3
comp=Z,42nm,19.7s,baz=98,slow=36
G19K Purcell Mounta 80.88 23 P **P** **17 13 33.0 -1.7**
H19K Roundabout Mou 80.94 23 P **P** **17 13 34.5 -0.5**
E19K Redstone River 81.24 21 IAmb IAmb 17 13 41.6
comp=Z,7.2nm,0.9s
D19K Kuna River 81.26 20 P **P** **17 13 35.5 -1.3**
SKT Skwentna 82.15 27 P **P** **17 13 40.2 -1.3**
SKT IAmb IAmb 17 13 43.7
comp=Z,12nm,1.5s
B21K Ikpikpuk River 82.80 20 P **P** **17 13 44.1 -0.6**
B21K IAmb IAmb 17 13 49.3
comp=Z,12nm,1.0s
B22K Teshekpuk Lake 83.39 19 P **P** **17 13 46.3 -1.5**
E22K Anaktuvuk Pass 83.41 21 IAmb IAmb 17 13 52.6
comp=Z,8.5nm,1.1s
RND Reindeer 83.64 26 P **P** **17 13 48.1 -1.1**
RND IAmb IAmb 17 13 55.6
comp=Z,5.5nm,1.1s
H23K Yukon River 83.79 24 P **P** **17 13 48.1 -1.9**
H23K IAmb IAmb 17 13 50.6
comp=Z,5.6nm,1.1s
D23K Nanushuk River 84.00 21 P **P** **17 13 49.7 -1.2**
C23K Itkillik River 84.21 20 P **P** **17 13 51.5 -0.4**
H24K Noodor Dome 84.47 24 IAmb IAmb 17 13 57.9
comp=Z,10.0nm,1.1s
D24K Happy Valley 84.69 21 IAmb IAmb 17 13 59.1
comp=Z,6.0nm,1.1s
IL31 84.71 25 P **P** **17 13 51.1 -3.5**
IL31 IAmb IAmb 17 13 57.1
comp=Z,5.6nm,1.1s
ILAR Eielson Array 84.71 25 P **P** **17 13 51.4 -3.2**
ILAR Eielson Array 84.71 25 P **P** **17 13 52.8 -1.8**
comp=Z,3.3nm,1.0s,baz=262,slow=5.1,SNR=18
comp=Z,3.3nm,1.0s
DIV Divide 84.72 29 P **P** **17 13 53.1 -1.7**
DIV IAmb IAmb 17 13 55.3
comp=Z,8.0nm,0.9s
G24K Hadweenzic Riv 84.77 23 IAmb IAmb 17 13 59.0
comp=Z,4.5nm,0.9s
PAX Paxson 85.09 27 P **P** **17 13 55.3 -1.4**
PAX IAmb IAmb 17 14 01.1
comp=Z,12nm,1.4s
KIRV Kirov 85.64 329 LR LR 17 53 34.1
comp=Z,36nm,21.9s,baz=98,slow=37
KIRV Kirov 85.64 329 *ce*P **P** **17 14 01.6 +2.3**
DOT Dot Lake 85.80 26 P **P** **17 13 59.3 -0.8**
DOT IAmb IAmb 17 14 03.4
comp=Z,6.4nm,1.0s
BMAR Burnt Mountain 85.99 23 P **P** **17 14 00.5 -0.6**
L27K Beaver Creek, 86.75 27 IAmb IAmb 17 14 08.9
comp=Z,7.6nm,1.2s
BCAR Beaver Creek A 86.77 27 P **P** **17 14 03.8 -1.1**
QSPA South Pole Qui 91.11 180 P **P** **17 14 24.8 -0.6**
comp=Z,1.8nm,0.8s,baz=318,slow=4.4,SNR=6.2
comp=Z,1.8nm,0.8s
SYO Syowa Base 92.33 201⇑ *eP* **P** **17 14 30.2 -0.7**
SPITS Spitsbergen Ar 94.14 349 LR LR 17 59 53.9
comp=Z,32nm,19.9s,baz=27,slow=37
ARCES ARCESS Array B 94.96 340 LR LR 18 04 04.7
comp=Z,31nm,18.2s,baz=50,slow=40
FINES FINESS Array B 97.00 332 LR LR 18 01 21.3
comp=Z,46nm,20.2s,baz=67,slow=37
AKASG Malin Array Be 97.79 321 *i* P Pdif 17 14 58.2 +1.9
YKA Yellowknife Ar 99.12 26 P **Pdif** **17 15 00.3 -1.7**
comp=Z,0.3nm,0.8s,baz=298,slow=4.9,SNR=3.9
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 99.12 26 *i* P **Pdif** **17 15 01.7 -0.3**
CO01 Juntas del Tor 143.92 145 PKPdf PKPbc 17 20 55.2 +0.1
LCO Las Campanas 144.27 143 PKPdf **PKPab** **17 20 55.8 -0.1**
AC04 Llanos de Chal 144.62 142 PKPdf **PKPab** **17 20 56.6 -0.2**
AC05 El Transito 144.65 143 PKPdf **PKPab** **17 20 57.2 0.0**
AC02 Maricunga 146.80 142 PKPbc **PKPbc** **17 21 04.8 +0.3**
GO02 Mina Guanaco 147.69 139 PKPbc **PKPdf** **17 21 05.0 +1.0**
PB05 IPOC Station P 148.82 135 PKPbc **PKPbc** **17 21 09.6 0.0**
CPUP Villa Florida 153.10 159 PKPbc **PKPbc** **17 21 19.4 0.0**
comp=Z,2.7nm,0.9s,baz=213,slow=3.4,SNR=4.6
LPAZ La Paz 154.33 127 PKP **PKPdf** **17 21 15.0 +0.1**
comp=Z,0.5nm,0.5s,baz=238,slow=2.0,SNR=3.6
LPAZ PKPbc **PKiKP** **17 21 23.5 +0.4**
comp=Z,1.3nm,0.6s,baz=247,slow=3.0,SNR=5.4
LPAZ PKPab **pPKPab** **17 21 38.8 -0.4**
comp=Z,3.7nm,0.9s,baz=216,slow=2.7,SNR=9.1

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*IDC **26** 17:10:56.8±1.0, 31°.64S×178°.18W, h0km, mb4.2/5, mbtmp4.1/6, ML3.4/1, MS3.4/2, Error ellipse: s-maj=32.8km s-min=28.3km az=119.0*
*NEIC **26** 17:11:00.2±1.2, 32°.15S±0°.08×178°.3W±0°.2, h10km±2km, mb4.4/13, Error ellipse: s-maj=28.4km s-min=5.2km az=117.0*

ISC 26 17:11:00.3±0.8, 31°.86S±0°.10×178°.2W±0°.2, h24km, n34, σ1.9 79/33, mb4.4/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.37**	**206**	Pn	**Pn**	**17 12 30.4**	**-2.2**
URZ	**Urewera**	**7.45**	**210**	Pn	**Pn**	**17 12 47.6**	**+0.2**
	0.6nm,0.3s,baz=357,slow=4.5,SNR=6.6						
URZ				Sn	**Sn**	**17 14 14.0**	**+2.8**
	2.1nm,0.3s,baz=263,slow=23,SNR=11						
	6.3nm,0.7s						
RTZ	**Ruatahuna**	**7.81**	**209**	Pn	**Pn**	**17 12 48.3**	**-4.1**
BKZ	**Black Stump Fm**	**8.47**	**209**	Pn	**Pn**	**17 12 59.8**	**-1.8**
TUWZ	**Tuamarina**	**11.44**	**211**	Pn	**Pn**	**17 13 39.9**	**-2.2**
MSVF	**Nonsavu**	**14.47**	**346**	LR	LR	17 19 06.0	
	comp=Z,131nm,20.3s,baz=119,slow=34						
ODZ	**Otahua Downs**	**15.78**	**210**	Pn	**Pn**	**17 14 34.9**	**-5.9**
ODZ				IAmb	IAmb	17 15 08.5	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**34.01**	**259**	P	**P**	**17 17 40.9**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=100,slow=13,SNR=4.5						
	comp=Z,1.1nm,0.6s						
BBOO	**Buckleboo**	**38.43**	**256**	P	**P**	**17 18 20.8**	**+0.7**
COEN	**Coen**	**39.53**	**288**	P	**P**	**17 18 30.3**	**+0.8**
COEN				IAmb	IAmb	17 18 47.2	
	comp=Z,4.8nm,1.1s						
AS31	**Alice Springs**	**42.88**	**269**	P	**P**	**17 18 57.1**	**0.0**
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**17 18 57.2**	**+0.2**
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**17 18 57.8**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=107,slow=7.1,SNR=29						
	comp=Z,1.3nm,0.5s						
WR0	**Warramunga Arr**	**43.83**	**274**	P	**P**	**17 19 05.9**	**+1.2**
WR0				IAmb	IAmb	17 19 11.8	
	comp=Z,3.4nm,0.9s						
WB2	**Warramunga Arr**	**43.99**	**274**	P	**P**	**17 19 07.0**	**+1.0**
WB2				IAmb	IAmb	17 19 33.0	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**44.01**	**274**	P	**P**	**17 19 07.7**	**+1.6**
WRA	**Warramunga Arr**	**44.01**	**274**	P	**P**	**17 19 07.2**	**+1.1**
	comp=Z,2.3nm,0.4s,baz=113,slow=7.8,SNR=44						
	comp=Z,2.3nm,0.4s						
WB0	**Warramunga Arr**	**44.03**	**274**	P	**P**	**17 19 07.2**	**+0.8**
WB0				IAmb	IAmb	17 19 13.4	
	comp=Z,5.1nm,0.8s						
KNRA	**Kununurra**	**50.66**	**276**	P	**P**	**17 19 58.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.20**	**271**	P	**P**	**17 20 09.8**	**+0.3**
PSA00	**Pilbara Seismi**	**55.64**	**264**	P	**P**	**17 20 34.8**	**+0.2**
QSPA	**South Pole Qui**	**58.25**	**180**	P	**P**	**17 20 53.0**	**+0.4**
QSPA	**South Pole Qui**	**58.25**	**180**	P	**P**	**17 20 55.2**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=87,slow=0.8,SNR=7.8						
	comp=Z,1.0nm,0.7s						
BELA	**Belgrano 2**	**68.36**	**172**	P	**P**	**17 21 59.5**	**+0.3**
BELA				IAmb	IAmb	17 22 08.9	
	comp=Z,4.0nm,1.2s						
SNAA	**Sanae**	**76.70**	**178**	P	**P**	**17 22 49.4**	**+0.4**
SNAA				IAmb	IAmb	17 23 12.4	
	comp=Z,9.8nm,1.4s						
PETK	**Petropavlovsk-**	**87.18**	**346**	P	**P**	**17 23 43.2**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=190,slow=7.3,SNR=2.3						
	comp=Z,3.4nm,0.8s						

CMAR	Chiang Mai Arr	93.72	289	LR	LR	18 09 31.8		
	comp=Z,19nm,18.9s,baz=115,slow=38							
MKAR	Makanchi Array	118.58	310	PKP	PKPdf	17 29 45.0	-0.9	
	comp=Z,0.1nm,0.5s,baz=56,slow=1.4,SNR=4.5							
KURBB	Kurchatov Arra	121.97	313	PKP	PKPdf	17 29 51.1	-1.0	
	comp=Z,0.4nm,0.5s,baz=116,slow=2.1,SNR=8.1							
BVAR	Borovoye Array	127.33	315	PKP	PKPdf	17 30 01.9	-0.5	
	comp=Z,0.5nm,0.5s,baz=93,slow=2.9,SNR=1.8							
KBZ	Khabaz	145.76	302	PKPbc	PKPbc	17 30 37.0	0.0	
	comp=Z,2.4nm,0.9s,baz=81,slow=4.3,SNR=5.3							
FINES	FINESS Array B	146.45	339	PKPbc	PKPdf	17 30 37.9	+0.7	
	comp=Z,2.8nm,0.5s,baz=40,slow=3.6,SNR=26							
HFS	Hagfors	150.64	348	PKPbc	PKPbc	17 30 48.5	-1.0	
	comp=Z,1.7nm,0.8s,baz=29,slow=3.3,SNR=1.9							
MMAI	Mount Meron Ar	151.69	281	PKPbc	PKiKP	17 30 54.3	+0.9	
	comp=Z,1.5nm,0.4s,baz=73,slow=5.3,SNR=7.6							

*GCG **26** 17:12:25.5±0.5, 12°.17N×89°.55W, h35km±999km, MD4.2*
*SNET **26** 17:12:27.4±1.1, 12°.39N×89°.31W, h11km±23km, ML3.5*
*CATAC **26** 17:12:29.2±0.6, 12°.N±3°×.8°.9W±°, h26km±6km, M3.6/24, MLv3.6/24, Error ellipse: s-maj=7.4km s-min=3.0km az=45.5, confirmed*
*IDC **26** 17:12:33.4±12.0, 13°.75N×88°.93W, h0km, mb3.7/3, mbtmp3.7/4, ML3.1/1, MS3.2/3, Error ellipse: s-maj=245.5km s-min=38.3km az=5.0*
ISC 26 17:12:27.1±1.1, 12°.44N±0°.05×89°.36W±0°.04, h10km, n97, σ0°76/95, mb3.6/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.04	2	eP	Pg	17 12 47.3	+0.1
LALI				eS	Sg	17 13 02.1	+1.3
LALI	Alcalda de L	1.04	2	P	Pg	17 12 47.8	+0.5
LALI	Alcalda de L	1.04	2	eP	Pg	17 12 47.4	+0.1
LALI	Alcalda de L	1.04	2	eP		17 12 47.4	
ALJI	Alcalda de J	1.17	41	P	Pb	17 12 50.0	+0.6
ALJI	Alcalda de J	1.17	41	S	Sb	17 13 05.4	+0.7
PANCS	Alcalda de	1.18	8	S	Sb	17 13 05.8	+0.7
PANCS	Alcalda de	1.18	8	P	Pb	17 12 49.9	+0.2
JAYA	Jayaque - finc	1.21	356	eP	Pb	17 12 50.2	-0.1
JAYA				IAML		17 13 11.5	
	comp=Z,880nm,0.2s						
JAYA	Jayaque - finc	1.21	356	P	Pb	17 12 51.3	+1.0
JAYA	Jayaque - finc	1.21	356	P	Pb	17 12 50.3	-0.1
JAYA	Jayaque - finc	1.21	356	S	Sb	17 13 06.1	0.0
JAYA	Jayaque - finc	1.21	356	i P	Pb	17 12 49.9	-0.5
JAYA	Jayaque - finc	1.21	356	i P		17 12 49.9	
LFRS	El Faro	1.21	14	eP	Pb	17 12 49.7	-0.6
LOMA	Loma Larga	1.21	8	eP	Pb	17 12 50.5	+0.3
LOMA	Loma Larga	1.21	8	P	Pb	17 12 50.6	+0.3
LOMA	Loma Larga	1.21	8	S	Sb	17 13 06.6	+0.6
TECO	Alcaldia de Te	1.23	27	P	Pn	17 12 50.4	0.0
TECO	Alcaldia de Te	1.23	27	S	Sb	17 13 06.3	-0.1
ITCA	Escuela Especi	1.23	3	P	Pn	17 12 50.8	+0.3
ITCA	Escuela Especi	1.23	3	S	Sb	17 13 07.0	+0.4
COEG	Centro de Oper	1.26	21	eP	Pn	17 12 50.5	-0.5
COEG				IAML		17 13 24.3	
	comp=Z,702nm,0.4s						
COEG	Centro de Oper	1.26	21	S	Sb	17 13 07.1	-0.4
COEG	Centro de Oper	1.26	21	P	Pn	17 12 50.7	-0.2
PMON	Piamonte	1.27	2	eP	Pn	17 12 50.5	-0.5
PMON	Piamonte	1.27	2	P	Pn	17 12 50.7	-0.3
PMON	Piamonte	1.27	2	P	Pn	17 12 50.7	-0.3
PMON	Piamonte	1.27	2	S	Sb	17 13 07.8	+0.2
UEES	Universidad Ev	1.28	5	P	Pn	17 12 51.1	0.0
UEES	Universidad Ev	1.28	5	S	Sb	17 13 07.8	0.0
UESV	Universidad de	1.31	25	S	Sb	17 13 08.8	0.0
UESV	Universidad de	1.31	25	P	Pn	17 12 51.9	+0.3
PAVA	Las Pavas	1.33	18	eP	Pn	17 12 51.4	-0.5
PAVA	Las Pavas	1.33	18	P	Pn	17 12 51.8	-0.1
PAVA	Las Pavas	1.33	18	P	Pn	17 12 52.0	+0.1
PAVA	Las Pavas	1.33	18	S	Sb	17 13 09.5	0.0
TECA	Tecapa	1.34	38	eP	Pn	17 12 51.4	-0.7
TECA				eP	Pn	17 12 51.4	-0.7
CEDA	San Andres	1.36	358	P	Pn	17 12 52.9	+0.6
CEDA	San Andres	1.36	358	S	Sb	17 13 10.2	0.0
SCLA	Alcaldia de Sa	1.40	26	P	Pn	17 12 53.1	+0.3
SCLA	Alcaldia de Sa	1.40	26	S	Sb	17 13 10.2	-1.1
CEVE	Cerro Verde	1.41	349	S	Sb	17 13 11.7	-0.1
PQSS	Presa 15 de Se	1.41	33	eP	Pn	17 12 52.4	-0.5
PQSS	Presa 15 de Se	1.41	33	P	Pn	17 12 53.1	+0.2
PQSS	Presa 15 de Se	1.41	33	P	Pn	17 12 52.9	0.0
PQSS	Presa 15 de Se	1.41	33	S	Sn	17 13 10.6	-1.0
SBLS	San Blas	1.42	349	eP	Pn	17 12 53.7	+0.5
PACA	Pacayal	1.44	44	eP	Pn	17 12 54.1	+0.7
PACA	Pacayal	1.44	44	P	Pn	17 12 54.1	+0.7
PACA	Pacayal	1.44	44	S	Sn	17 13 11.5	-0.9
PACA	Pacayal	1.44	44	P	Pn	17 12 53.4	0.0
RANC	El Ranchito	1.44	46	S	Sn	17 13 11.9	-0.5
RANC	El Ranchito	1.44	46	P	Pn	17 12 53.4	+0.1
NUBE	Las Nubes	1.51	344	P	Pn	17 12 53.8	-0.7
NUBE	Las Nubes	1.51	344	P	Pn	17 12 53.9	-0.6
NUBE	Las Nubes	1.51	344	S	Sn	17 13 14.1	-0.2
NUBE	Las Nubes	1.51	344	eP	Pn	17 12 53.7	-0.7
NUBE				eS	Sn	17 13 15.9	+1.5
NUBE	Las Nubes	1.51	344	eP		17 12 53.7	
NUBE				eS		17 13 15.9	
UNIC	Universidad Ca	1.55	353	P	Pn	17 12 54.9	+0.1
UNIC	Universidad Ca	1.55	353	S	Sn	17 13 15.0	-0.1
SLOZ	Alcaldia de Sa	1.63	345	P	Pn	17 12 56.2	+0.2
SLOZ	Alcaldia de Sa	1.63	345	S	Sn	17 13 17.0	-0.1
LCND	La Caada	1.67	59	P	Pn	17 12 56.0	-0.5
LCND	La Caada	1.67	59	P	Pn	17 12 56.0	-0.5
LCND	La Caada	1.67	59	S	Sn	17 13 17.8	-0.2
CNCH	Conchagua	1.70	61	eP	Pn	17 12 56.7	-0.3
CNCH	Conchagua	1.70	61	P	Pn	17 12 56.8	-0.3
CNCH	Conchagua	1.70	61	P	Pn	17 12 56.7	-0.3
CNCH	Conchagua	1.70	61	S	Sn	17 13 18.1	-0.8
LLGN	La Laguna	1.76	13	P	Pn	17 12 58.3	+0.5
LLGN	La Laguna	1.76	13	S	Sn	17 13 20.1	-0.3
CSGN	Cosiguina Volc	1.83	73	P	Pn	17 12 58.9	+0.1
POTN	Potosi Cosigui	1.89	73	P	Pn	17 12 59.6	+0.1
POTN				S	Sn	17 13 23.3	0.0
MTO3	Montecristo	1.95	360	P	Pn	17 13 02.4	+1.8
MTO3	Montecristo	1.95	360	P	Pn	17 13 00.8	+0.3
MTO3	Montecristo	1.95	360	S	Sn	17 13 24.7	-0.5
MTO3	Montecristo	1.95	360	eP	Pn	17 13 00.9	+0.4
MTO3	Montecristo	1.95	360	eP		17 13 00.9	
ESQI	Esquipulas	2.11	0	P	Pn	17 13 01.5	-1.1
ESQI	Esquipulas	2.11	0	S	Sn	17 13 28.7	-0.2
ESQI	Esquipulas	2.11	0	P	Pn	17 13 03.0	+0.3
CRIN	San Cristobal	2.27	83	S	Sn	17 13 32.7	-0.1
CRIN	San Cristobal	2.27	83	P	Pn	17 13 05.1	+0.4
COPN	Copaltepe	2.71	95	P	Pn	17 13 10.8	0.0
MOMN	Momotombo	2.75	90	P	Pn	17 13 10.8	-0.6
MOMN				S	Sn	17 13 44.3	-0.4
SAPS	Ciudad Sandino	2.90	95	P	Pn	17 13 13.4	+0.1
SAPS	Ciudad Sandino	2.90	95	S	Sn	17 13 47.8	-0.4
CMIG	Matias Romero	7.07	312	Pn	Pn	17 14 12.0	+1.2
	comp=Z,0.4nm,0.3s,baz=108,slow=13,SNR=3.5						
CMIG				Sn	Sn	17 15 27.1	-4.2
	comp=Z,0.4nm,0.3s,baz=308,slow=22,SNR=1.5						
	comp=Z,0.9nm,0.3s						
SDV	Santo Domingo	18.73	99	LR	LR	17 24 37.7	
	comp=Z,22nm,20.0s,baz=260,slow=39						
TXAR	Lajitas Array	21.44	324	P	P	17 17 16.6	+0.9
	comp=Z,0.7nm,0.5s,baz=137,slow=11,SNR=7.7						
	comp=Z,0.7nm,0.5s						
TKL	Tuckaleechee C	23.66	11	LR	LR	17 26 06.5	
	comp=Z,57nm,18.4s,baz=70,slow=36						
SCHQ	Schefferville	45.84	18	P	P	17 20 46.0	-3.3
	comp=Z,1.4nm,0.4s,baz=225,slow=8.6,SNR=5.3						
	comp=Z,1.4nm,0.4s						
AGUA	GUANDACOL	46.29	155	eP	P	17 20 59.6	+6.3
AROD	Rodeo	46.49	156	eP	P	17 20 57.0	+1.9
ACCO	Cerro Coronel	47.02	156	eP	P	17 20 57.6	-1.7
AVFE	Valle Fertil	47.75	154	eP	P	17 20 58.4	-6.2
APLL	PUNTA DE LOS L	47.92	153	eP	P	17 21 00.4	-5.5
ACHE	Chepes	48.52	154	eP	P	17 20 58.4	-12
YKA	Yellowknife Ar	53.15	346	P	P	17 21 43.7	-1.3
	comp=Z,0.7nm,0.8s,baz=146,slow=7.7,SNR=7.3						
	comp=Z,0.7nm,0.8s						
HFS	Hagfors	85.70	29	LR	LR	18 03 07.8	
	comp=Z,35nm,21.0s,baz=72,slow=36						

*BJI **26** 17:37:26.1, 6°.36S×131°.15E, h106km, mB5.2/21, mb5.2/75*
*MOS **26** 17:37:28.4±0.8, 6°.08S×130°.97E, h104km, mb5.1/46, Error ellipse: s-maj=10.5km s-min=5.3km az=118.9*
*NEIC **26** 17:37:30.6, 6°.05S×130°.91E, h120km*
*NEIC **26** 17:37:30.6, 6°.05S×131°.00E, h120km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr2.34; Mθθ0.24; Mφφ-2.58; Mrθ0.93; Mrφ2.06; Mθφ2.25; Fault plane solution: M0=4.04000×10^16 NP1: φs121.16000°, δ41.13000°, λ35.95000°. NP2: φs2.52000°, δ67.29000°, λ125.26000°. Principal axes: T 3.9799, Plg54.0000°, Azm316.0000°; N 0.1122, Plg32.0000°, Azm167.0000°; P -4.0921, Plg15.0000°, Azm68.0000°;*
*NEIC **26** 17:37:31.6±1.6, 6°.04S±0°.05×130°.91E±0°.06, h113km±5km, mb5.1/113, Mww5.0/26 Error ellipse: s-maj=9.3km s-min=7.1km az=86.0*
*DJA **26** 17:37:31.4±0.1, 6°S±1°×13°1E±°, h119km±2km, M5.0/98, mb5.2/98, mB5.5/61, MLv5.7/19, Mw(mB)4.9/61, MwMwp4.6/7, Mwp5.0/7*
*IDC **26** 17:37:31.2±2.0, 6°.07S×130°.93E, h110km±17km, mb4.4/16, mbtmp4.9/20, MS3.6/20, Error ellipse: s-maj=17.1km s-min=10.3km az=70.0*
*GCMT **26** 17:37:33.5±0.2, 6°.02S±0°.02×130°.94E±0°.01, h123km±2km, MW5.0/112, Moment Tensor Solution. s47, c54; s112, c167; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.96±.11; Mθθ0.24±.11; Mφφ-2.20±.13; Mrθ0.72±.07; Mφφ0.64±.12; Mφφ3.53±.09; Best double couple: M0=4.21400×10^16 NP1: φs144.00000°, δ20.00000°, λ48.00000°. NP2: φs8.00000°, δ76.00000°, λ103.00000°. Principal axes: T 4.2010, Plg57.0000°, Azm295.0000°; N 0.0260, Plg13.0000°, Azm184.0000°; P -4.2260, Plg29.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 17:37:31.7±0.3, 6°.11S±0°.03×130°.89E±0°.04, h120km±2km, h120km: pP-P, n541, σ1°928/561, mb5.1/139, 23C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.86	328	P	Pn	17 38 03.2	-0.2
BNDI	Bandanaira	1.86	328	P	Pn	17 38 03.4	0.0
BNDI				S	Sn	17 38 27.7	+0.1
SAUI	Saumlaki	1.90	168		Pn	17 38 04.1	+0.1
SAUI				Sn	Sn	17 38 26.3	-2.4
SAUI	Saumlaki	1.90	168	P	Pn	17 38 03.8	-0.2
SAUI	Saumlaki	1.90	168	P	Pn	17 38 04.2	+0.2
SAUI				S	Sn	17 38 29.2	+0.5
MSAI	Masohi	3.37	324	P	Pn	17 38 22.9	0.0
FAKI	Fak Fak	3.44	23	Pn	Pn	17 38 21.9	-2.0
FAKI				Sn	Sn	17 38 58.4	-5.9
FAKI	Fak Fak	3.44	23	P	Pn	17 38 22.2	-1.7
FAKI	Fak Fak	3.44	23	P	Pn	17 38 21.9	-2.0
AAI	Ambon	3.61	312	P	Pn	17 38 26.6	+0.5
KMPI	Kaimana, Papua	3.71	49	P	Pn	17 38 25.9	-1.5
NLAI	Namlea	4.74	307	P	Pn	17 38 42.5	+1.4
SWI	Sorong	5.22	4	P	Pn	17 38 45.2	-2.5
	9.7nm3µm205nm,0.5s						
RKPI	Ransiki, Papua	5.62	36	P	Pn	17 38 52.3	-0.8
DRS	Darwin Rock St	6.28	180	P	Pn	17 39 01.3	-0.7
SANI	Sanana	6.34	309	P	Pn	17 39 02.2	-0.5
SANI	Sanana	6.34	309	P	Pn	17 39 02.3	-0.5
	1.4nm2µm4µm374nm,0.9s						
MTN	Manton Dam	6.70	178	Pn	Pn	17 39 06.5	-1.1
MTN				Sn	Sn	17 40 16.9	-5.6
MTN	Manton Dam	6.70	178	P	Pn	17 39 06.5	-1.1
	comp=Z,952nm,0.6s						
MTN	Manton Dam	6.70	178	P	Pn	17 39 07.2	-0.4
KDU	Kakadu	6.72	167	P	Pn	17 39 06.1	-1.8
	comp=Z,315nm,0.4s						
KDU	Kakadu	6.72	167	S	Sn	17 40 17.1	-6.0
KDU	Kakadu	6.72	167	P	Pn	17 39 06.0	-1.8
SRPI	Serui, Papua	6.79	52	P	Pn	17 39 07.0	-1.9
	comp=Z,3.1nmcomp=Z,3µmcomp=Z,110nm,0.5s						
BAKI	Biak	7.14	47	P	Pn	17 39 12.4	-1.1
SOEI	Soe	7.50	241	Pn	Pn	17 39 19.1	+0.5
SOEI				Sn	Sn	17 40 38.0	-4.0
SOEI	Soe	7.50	241	P	Pn	17 39 19.2	+0.7
SOEI	Soe	7.50	241	P	Pn	17 39 18.9	+0.4
	comp=Z,4.2nmcomp=Z,4µmcomp=Z,414nm,0.9s						
TNTI	Ternate	7.69	333		Pn	17 39 18.1	-2.9
TNTI				Sn	Sn	17 40 40.7	-6.0
TNTI	Ternate	7.69	333	P	Pn	17 39 20.7	-0.3
TNTI	Ternate	7.69	333	P	Pn	17 39 20.3	-0.7
	comp=Z,99nm,0.9s						
WAMI	Wamena	8.10	75	P	Pn	17 39 27.8	+1.3
BBSI	Bau Bau	8.30	274	P	Pn	17 39 31.9	+2.5
	comp=Z,3µmcomp=Z,232nm,0.9s						
KDI	Kendari	8.52	284	P	Pn	17 39 33.0	+0.8
	comp=Z,288nm,1.0s						
SMPI	Sarmi	8.80	63	P	Pn	17 39 34.9	-1.2
	comp=Z,2µmcomp=Z,204nm,1.3s						
MMRI	Maumere	8.94	253	Pn	Pn	17 39 38.4	+0.4
MMRI				Sn	Sn	17 41 15.9	-1.2
MMRI	Maumere	8.94	253	P	Pn	17 39 39.1	+1.1
MMRI	Maumere	8.94	253	P	Pn	17 39 39.2	+1.2
	comp=Z,1µmcomp=Z,2µmcomp=Z,145nm,1.0s						
EDFI	Ende, Flores	9.50	253	P	Pn	17 39 45.6	+0.1
	comp=Z,84nm,0.8s						
LUWI	Luwuk	9.54	302	Pn	Pn	17 39 44.5	-1.6
LUWI	Luwuk	9.54	302	P	Pn	17 39 46.2	+0.2
	comp=Z,224nm,1.1s						
KMSI	Cibinong	9.58	314	P	Pn	17 39 45.2	-1.3
KNRA	Kununurra	9.73	192	Pn	Pn	17 39 46.6	-2.1
KNRA	Kununurra	9.73	192	P	Pn	17 39 46.3	-2.3
	comp=Z,203nm,0.7s						
GENI	Genyem	9.88	70	P	Pn	17 39 50.0	-0.7
GENI	Genyem	9.88	70	P	Pn	17 39 49.5	-1.2
	comp=Z,4µmcomp=Z,325nm,1.1s						
TABU	Tabubil	10.31	86	P	Pn	17 39 55.4	-1.1
BSSI	Bau Bau, Buton	10.35	269	P	Pn	17 39 58.2	+1.3
	comp=Z,3µmcomp=Z,294nm,0.7s						
JAY	Jayapura	10.41	70	P	Pn	17 39 56.2	-1.7
	comp=Z,178nm,1.0s,baz=256,slow=6.9,SNR=33						
JAY				S	Sn	17 41 52.8	0.0
	comp=Z,136nm,1.0s,baz=62,slow=16,SNR=4.0						
JAY				LR	LR	17 44 42.7	
	comp=Z,140nm,19.5s,baz=270,slow=42						
JAY	Jayapura	10.41	70	P	Pn	17 39 55.9	-2.0
	comp=Z,2µmcomp=Z,201nm,1.1s						
APSI	Ampana	10.57	299	P	Pn	17 40 01.1	+1.1
	comp=Z,2µmcomp=Z,124nm,1.0s						
BKSI	Bulukumba	10.75	274	P	Pn	17 40 02.9	+0.6
	comp=Z,1µmcomp=Z,126nm,1.0s						
BASI	Baing, Sumba	11.00	248	P	Pn	17 40 05.7	0.0
WSI	Waingapu	11.07	251	P	Pn	17 40 04.7	-2.0
MRSI	Marisa	11.08	306	P	Pn	17 40 06.7	-0.1
	comp=Z,2µmcomp=Z,191nm,0.8s						
KAPI	Kappang	11.14	275	Pn	Pn	17 40 07.0	-0.7
KAPI	Kappang	11.14	275	P	Pn	17 40 08.3	+0.6
	comp=Z,8.2nm,0.3s,baz=84,slow=7.3,SNR=15						
KAPI				LR	LR	17 44 21.2	
	comp=Z,102nm,18.2s,baz=100,slow=37						
KAPI	Kappang	11.14	275	P	Pn	17 40 11.5	+3.9
KAPI	Kappang	11.14	275	P	Pn	17 40 08.7	+1.1
KAPI	Kappang	11.14	275	P	Pn	17 40 07.0	-0.7
SPSI	Sidrap Palu	11.29	280	P	Pn	17 40 11.3	+1.8
	comp=Z,914nmcomp=Z,93nm,1.0s						
TTSI	Tana Toraja	11.45	285	P	Pn	17 40 13.0	+1.3
	comp=Z,1µmcomp=Z,110nm,0.9s						
WBSI	Waikabubak, Su	11.92	252	P	Pn	17 40 15.9	-2.1
	comp=Z,2µmcomp=Z,218nm,0.9s						
PCI	Palu	12.18	295	P	Pn	17 40 22.8	+1.4
	comp=Z,2µmcomp=Z,144nm,0.9s						
TOLI2	Tolitoli	12.38	305	Pn	Pn	17 40 23.0	-1.0
TOLI2	Tolitoli	12.38	305	P	Pn	17 40 24.0	0.0
FITZ	Fitzroy Crossi	12.97	203	Pn	Pn	17 40 27.8	-3.8
FITZ	Fitzroy Crossi	12.97	203	S	Sn	17 42 42.2	-12
FITZ	Fitzroy Crossi	12.97	203	P	Pn	17 40 28.2	-3.5
FITZ	Fitzroy Crossi	12.97	203	P	Pn	17 40 28.3	-3.3
	comp=Z,25nm,0.3s,baz=36,slow=12,SNR=110						
FITZ				S	Sn	17 42 42.4	-12
	comp=Z,54nm,0.3s,baz=194,slow=9.2,SNR=9.0						
FITZ				LR	LR	17 46 14.6	
	comp=Z,428nm,18.2s,baz=32,slow=40						
PLAI	Plampang	13.28	257	P	Pn	17 40 34.8	-0.9
PLAI	Plampang	13.28	257	P	Pn	17 40 34.3	-1.4
	comp=Z,1µmcomp=Z,117nm,0.6s						
WB0	Warramunga Arr	14.00	166	Pn	Pn	17 40 39.4	-5.5
DAV	Davao City (W)	14.12	338	P	Pn	17 40 47.3	+0.7
WRAB	Tennant Creek	14.15	167	Pn	Pn	17 40 41.6	-5.2
WRAB	Tennant Creek	14.15	167	i P	Pn	17 40 43.7	-3.1
WRA	Warramunga Arr	14.15	167	Pn	Pn	17 40 43.5	-3.4
WRA	Warramunga Arr	14.15	167	P	Pn	17 40 41.5	-5.4
	comp=Z,10nm,0.3s,baz=346,slow=13,SNR=75						
WRA				S	Sn	17 43 11.3	-12
	comp=Z,89nm,0.9s,baz=351,slow=22,SNR=14						
WRA				LR	LR	17 47 26.8	
	comp=Z,572nm,18.7s,baz=287,slow=42						
WRA	Warramunga Arr	14.15	167	i P	Pn	17 40 40.4	-6.5
WRA				pmax	pmax		
	comp=Z,11nm,0.3s						
WB2	Warramunga Arr	14.15	167	Pn	Pn	17 40 42.1	-4.8
WR0	Warramunga Arr	14.22	166	Pn	Pn	17 40 42.6	-5.1
COEN	Coen	14.38	124	Pn	Pn	17 40 46.5	-3.3
COEN	Coen	14.38	124	P	Pn	17 40 48.4	-1.4
	comp=Z,165nm,1.0s						
COEN	Coen	14.38	124	S	Sn	17 43 16.4	-12
COEN	Coen	14.38	124	P	Pn	17 40 48.4	-1.4
BKB	Balikpapan	14.77	288	P	Pn	17 40 56.0	+1.2
BKB	Balikpapan	14.77	288	P	P	17 40 58.6	+1.0
	comp=Z,3µmcomp=Z,197nm,1.4s						
SRBI	Singaraja	15.68	262	P	Pn	17 41 06.4	+0.2
	comp=Z,115nm,0.9s						
PMG	Port Moresby	16.44	103	Pn	Pn	17 41 13.0	-2.6
PMG	Port Moresby	16.44	103	P	P	17 41 16.3	+0.2
	comp=Z,362nm,1.0s,baz=294,slow=8.1,SNR=86						
PMG				S	Sn	17 44 04.8	-14
	comp=Z,26nm,0.5s,baz=195,slow=22,SNR=6.6						
PMG	Port Moresby	16.44	103	P	Pn	17 41 13.0	-2.6
PMG				pmax	pmax		
	comp=Z,542nm,1.1s						
ABJI	Asem Bagus	16.62	263	P	Pn	17 41 17.7	0.0
	comp=Z,132nm,1.0s						
QIS	Mount Isa	16.67	150	P	Pn	17 41 16.1	-2.2
	comp=Z,93nm,1.1s						
QIS	Mount Isa	16.67	150	P	Pn	17 41 16.6	-1.7
JAGI	Jajag, Banyuwa	16.77	261		Pn	17 41 15.2	-4.3
JAGI	Jajag, Banyuwa	16.77	261	P	P	17 41 20.2	+0.4
JAGI	Jajag, Banyuwa	16.77	261	P	Pn	17 41 16.8	-2.8
	comp=Z,57nm,0.8s						
KMMI	Kalianget	16.84	266	P	P	17 41 22.6	+2.1
	comp=Z,4µmcomp=Z,345nm,1.2s						
MANU	Manus Island	16.92	77	P	Pn	17 41 21.2	-0.2
MANU				IAmb	IAmb	17 41 25.0	
	comp=Z,60nm,0.9s						
GMJI	Gumukmas	17.45	262	P	P	17 41 26.3	-0.9
	comp=Z,84nm,0.9s						
AS31	Alice Springs	17.69	171	P	P	17 41 29.2	-0.7
AS31	Alice Springs	17.69	171	P	P	17 41 29.5	-0.4
	comp=Z,24nm,0.7s						
ASAR	Alice Springs	17.70	171	P	P	17 41 29.4	-0.5
ASAR	Alice Springs	17.70	171	P	P	17 41 29.3	-0.6
	comp=Z,20nm,0.5s,baz=352,slow=12,SNR=154						
ASAR				S	S	17 44 35.7	-12
	comp=Z,66nm,1.0s,baz=359,slow=28,SNR=8.6						
ASAR				LR	LR	17 48 40.1	
	comp=Z,198nm,19.0s,baz=347,slow=38						
ASAR	Alice Springs	17.70	171	P	P	17 41 29.4	-0.5
AS01	Alice Springs	17.70	171	P	P	17 41 30.0	0.0
MTSU	Mount Surprise	17.73	134	P	Pn	17 41 31.6	+0.4
	comp=Z,50nm,0.9s						
MTSU	Mount Surprise	17.73	134	P	Pn	17 41 31.1	-0.1
GRJI	Gresik	18.31	266	P	Pn	17 41 37.5	-0.7
	comp=Z,3µmcomp=Z,260nm,1.0s						
MBWA	Marble Bar	18.46	215	P	P	17 41 38.5	+0.2
MBWA	Marble Bar	18.46	215	P	P	17 41 38.4	+0.2
	comp=Z,48nm,1.0s						
MBWA	Marble Bar	18.46	215	P	P	17 41 38.7	+0.4
MBWA	Marble Bar	18.46	215	P	Pn	17 41 39.2	-0.6
PSA00	Pilbara Seismi	18.73	214	P	P	17 41 41.7	+0.5
PSA00				IAmb	IAmb	17 41 49.8	
	comp=Z,40nm,0.6s						
PSA00	Pilbara Seismi	18.73	214	P	P	17 41 41.2	+0.1
PSA00				IAmb	IAmb	17 41 59.8	
	comp=Z,16nm,0.8s						
PSA00	Pilbara Seismi	18.73	214	P	P	17 41 41.7	+0.5
	comp=Z,78nm,0.6s						
PSA00	Pilbara Seismi	18.73	214	P	Pn	17 41 42.3	-0.7
TBJI	Tambak Boyo	18.94	267	P	P	17 41 44.4	+0.8
	comp=Z,291nm,1.1s						
KKM	Kota Kinabalu	18.98	309	P	P	17

comp=Z,22nm,1.4s
CMSA Cobar Meteorol 28.84 153 P **P 17 43 20.4 +1.5**
HNR Honiara 28.97 98 LR LR 17 57 13.8
comp=Z,110nm,18.2s,baz=240,slow=41
HNR Honiara 28.97 98 P **P 17 43 21.1 +0.9**
MUN Mundaring 29.17 206 P **P 17 43 22.1 +0.3**
comp=Z,23nm,1.0s
NWAO Narrogin (SRO) 29.56 204 P **P 17 43 24.9 -0.2**
NWAO Narrogin (SRO) 29.56 204 LR LR 17 56 34.4
comp=Z,128nm,19.9s,baz=266,slow=39
NWAO Narrogin (SRO) 29.56 204 P **P 17 43 25.9 +0.7**
NWAO Narrogin (SRO) 29.56 204 P **P 17 43 25.0 -0.2**
NWAO pmax pmax
comp=Z,10.0nm,0.9s
TPUB Ta-pu 30.90 341 P **P 17 43 35.2 -1.9**
TPUB IAmb IAmb 17 43 39.9
comp=Z,23nm,1.0s
PPI Padang Panjang 30.95 279 P **P 17 43 35.5 -2.2**
comp=Z,51nm,1.1s
ARMA Armidale 31.06 144 P **P 17 43 38.8 +0.2**
SSLB Suanglung 31.26 342 P **P 17 43 38.4 -1.9**
SSLB IAmb IAmb 17 43 40.2
comp=Z,30nm,1.1s
SSLB Suanglung 31.26 342 P **P 17 43 39.9 -0.4**
YOJ Yonaguni jima 31.34 346 P **P 17 43 40.5 -0.5**
YOJ IAmb IAmb 17 43 46.9
comp=Z,51nm,0.9s
YOJ Yonaguni jima 31.34 346 P **P 17 43 40.5 -0.5**
YOJ pmax pmax
comp=Z,51nm,0.9s
JMZ Minamidaito 2 31.74 1 P **P 17 43 43.9 -0.5**
YHNB Yeheng 31.97 343 P **P 17 43 45.3 -1.3**
YHNB IAmb IAmb 17 43 54.0
comp=Z,32nm,1.1s
MNSI Mandailing Nat 32.01 281 P **P 17 43 45.8 -1.2**
comp=Z,634nmcomp=Z,53nm,1.2s
SISI Saibi 32.08 277 P **P 17 43 46.3 -1.4**
comp=Z,20nm,1.0s
KULM Kulim 32.25 290 P **P 17 43 47.7 -1.4**
KULM IAmb IAmb 17 43 50.1
comp=Z,20nm,0.9s
KULM Kulim 32.25 290 P **P 17 43 49.9 +0.8**
QIZ Qiongzhong 32.47 321 P **P 17 43 50.4 -0.5**
QIZ IAmb IAmb 17 43 52.2
comp=Z,55nm,1.1s
QIZ Qiongzhong 32.47 321 P **P 17 43 51.0 +0.1**
QIZ pP **pP 17 44 11.0 -5.5**
QIZ S **S 17 48 55.5 -1.7**
QIZ sS **sS 17 49 41.0 +1.4**
QIZ pmax pmax
comp=Z,47nm,1.2s
QIZ LR LR
comp=Z,180nm,10.3s
QIZ LR LR
comp=Z,190nm,11.7s
QIZ LR LR
comp=Z,210nm,12.4s
QIZ Qiongzhong 32.47 321 P **P 17 43 51.8 +0.8**
QIZ Qiongzhong 32.47 321 P **P 17 43 51.7 +0.8**
JOW Kunigami 32.84 356 P **P 17 43 53.8 -0.3**
JOW IAmb IAmb 17 43 56.2
comp=Z,61nm,1.1s
JOW Kunigami 32.84 356 LR LR 17 56 27.0
comp=Z,67nm,19.9s,baz=233,slow=35
JOW Kunigami 32.84 356 P **P 17 43 54.9 +0.8**
UBPT Khong Chiam 32.96 310 P **P 17 43 55.3 0.0**
UBPT IAmb IAmb 17 43 55.9
comp=Z,44nm,1.0s
UBPT Khong Chiam 32.96 310 P **P 17 43 55.8 +0.6**
PSI Prapat 33.13 285 LR LR 17 59 52.0
comp=Z,90nm,19.5s,baz=152,slow=40
PSI Prapat 33.13 285 P **P 17 43 55.2 -1.7**
CAN Canberra 33.51 153 P **P 17 44 00.8 +0.9**
CAN IAmb IAmb 17 44 02.2
comp=Z,15nm,0.7s
CAN Canberra 33.51 153 P **P 17 44 00.8 +0.9**
CAN pmax pmax
comp=Z,15nm,0.7s
CAN Canberra 33.51 153 P **P 17 44 01.5 +1.6**
TOO Toolangi 34.02 159 P **P 17 44 05.4 +1.1**
TOO Toolangi 34.02 159 P **P 17 44 05.4 +1.1**
TOO pmax pmax
comp=Z,4.0nm,0.9s
GSI Gunungsitoli 34.07 281 P **P 17 44 02.1 -2.8**
GSI Gunungsitoli 34.07 281 P **P 17 44 04.3 -0.7**
GSI Gunungsitoli 34.07 281 P **P 17 44 02.6 -2.4**
comp=Z,112nm,1.0s
SRIT Nakonsritamara 34.45 295 P **P 17 44 07.0 -1.2**
SRIT IAmb IAmb 17 44 08.6
comp=Z,22nm,0.6s
NAYO Nakonayok 35.67 305 P **P 17 44 19.1 +0.4**
LHMI Lhok Sumawe 35.71 288 P **P 17 44 17.1 -1.9**
LHMI Lhok Sumawe 35.71 288 P **P 17 44 18.6 -0.5**
LHMI Lhok Sumawe 35.71 288 P **P 17 44 17.9 -1.2**
MLSI Meulaboh, Aceh 35.95 286 P **P 17 44 19.2 -1.9**
comp=Z,125nm,0.9s
NONG Nongkai 36.43 312 P **P 17 44 25.1 0.0**
SANVU Saraoutou 36.80 108 P **P 17 44 29.6 +1.2**
SRDT SRDT 37.51 303 P **P 17 44 35.4 +1.2**
NOUC Port Laguerre 37.70 119 P **P 17 44 36.6 +0.7**
DZM Mont Dzumac 37.82 118 P **P 17 44 37.2 +0.2**
DZM IAmb IAmb 17 44 38.5
comp=Z,21nm,1.1s
DZM Mont Dzumac 37.82 118 P **P 17 44 37.8 +0.8**
ONTNC Ouen Toro 37.91 119 P **P 17 44 37.5 -0.1**
ONTNC IAmb IAmb 17 44 38.8
comp=Z,40nm,1.0s
SLVN Son La 38.01 317 P **P 17 44 37.5 -1.0**
SLVN IAmb IAmb 17 44 39.8
comp=Z,25nm,1.1s
SLVN Son La 38.01 317 P **P 17 44 39.3 +0.8**
CNSH ChangSha 38.25 334 P **P 17 44 40.5 +0.2**
CNSH pmax pmax
comp=Z,18nm,1.0s
PINNC Pines Island, 38.87 119 P **P 17 44 46.9 +1.2**
PINNC IAmb IAmb 17 44 53.6
comp=Z,49nm,1.1s
JNU Nakatsue 39.02 360 P **P 17 44 46.8 +0.2**
JNU IAmb IAmb 17 44 48.5
comp=Z,30nm,1.1s
JNU Nakatsue 39.02 360 LR LR 17 58 59.6
comp=Z,65nm,20.0s,baz=192,slow=33
JNU Nakatsue 39.02 360 P **P 17 44 47.5 +0.8**
NJ2 Nanjing 39.65 344 ⇑P **P 17 44 52.8 +0.9**
NJ2 pmax pmax
comp=Z,74nm,1.0s
JMN Monobe 39.72 4 P **P 17 44 51.9 -0.6**
WHN Wuhan 39.74 337 P **P 17 44 53.8 +1.1**
WHN pmax pmax
comp=Z,210nm,1.0s
CRAI Chiangrai 39.82 312 P **P 17 44 53.1 -0.4**
CRAI IAmb IAmb 17 44 55.1
comp=Z,29nm,1.1s
CM31 Chiang Mai Arr 39.86 308 P **P 17 44 54.1 +0.2**
CM31 IAmb IAmb 17 44 56.4
comp=Z,55nm,1.1s
CMAR Chiang Mai Arr 39.86 308 P **P 17 44 53.6 -0.3**
CMAR Chiang Mai Arr 39.86 308 P **P 17 44 54.4 +0.4**
comp=Z,28nm,1.1s,baz=136,slow=7.2,SNR=104
CMAR PcP **PcP 17 46 58.0 +0.5**
comp=Z,3.0nm,1.0s,baz=173,slow=3.9,SNR=4.1
CMAR ScP **ScP 17 50 36.9 +1.3**
comp=Z,3.1nm,1.1s,baz=162,slow=3.0,SNR=9.9
comp=Z,28nm,1.1s
CMAR Chiang Mai Arr 39.86 308*ce*P **P 17 44 54.5 +0.6**
CMAR pmax pmax
comp=Z,24nm,1.0s
JHJ2 Mitsune 39.91 12 P **P 17 44 55.2 +1.1**
GYA Guiyang 40.00 325 ⇑P **P 17 44 55.5 +0.4**
GYA pmax pmax
comp=Z,62nm,1.0s
CHTO Chiang Mai 40.06 309 P **P 17 44 55.6 0.0**
CHTO Chiang Mai 40.06 309 P **P 17 44 56.0 +0.4**
CHTO Chiang Mai 40.06 309 P **P 17 44 56.0 +0.4**
CHTO Chiang Mai 40.06 309 P **P 17 44 55.6 0.0**
CHTO pmax pmax
comp=Z,83nm,1.2s
CHTO Chiang Mai 40.06 309 P **P 17 44 55.8 +0.2**
CHTO ScP **ScP 17 50 37.2 +0.8**
KMI Kunming 41.40 320 ⇑P **P 17 45 07.8 +1.1**
KMI pP pP 17 45 32.5 -1.0
KMI pmax pmax
comp=Z,48nm,1.2s
KMI pmax pmax
comp=Z,140nm,4.0s

ENH Enshi 41.59 332 P **P 17 45 07.1 -0.9**
ENH Enshi 41.59 332 P **P 17 45 07.9 -0.1**
ENH Enshi 41.59 332 P **P 17 45 07.7 -0.3**
MJAR Matsushiro Arr 42.98 9 P **P 17 45 18.1 -0.9**
comp=Z,12nm,0.9s,baz=190,slow=9.4,SNR=15
MJAR LR LR 18 02 00.2
comp=Z,46nm,20.3s,baz=192,slow=34
comp=Z,12nm,0.9s
MAJO Matsushiro 42.98 9 P **P 17 45 17.5 -1.6**
MAJO IAmb IAmb 17 45 31.4
comp=Z,22nm,1.0s
MAJO Matsushiro 42.98 9 P **P 17 45 19.0 -0.1**
MAJO Matsushiro 42.98 9 *i*P **P 17 45 17.7 -1.4**
MAJO pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 42.98 9 P **P 17 45 18.7 -0.4**
MAJO pP **pP 17 45 45.9 +1.7**
MJB9 Matsu-Tunnel 42.98 9 P **P 17 45 18.4 -0.7**
MJB9 IAmb IAmb 17 45 32.4
comp=Z,20nm,1.0s
PZH PanZhiHua 43.01 320 P **P 17 45 19.5 -0.1**
PZH S **S 17 51 38.3 +1.9**
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,140nm,6.0s
KSAR Wonju Array Be 43.42 357 P **P 17 45 20.8 -1.8**
KSAR Wonju Array Be 43.42 357 P **P 17 45 20.8 -1.8**
KSRS Korea Array 43.43 357 P **P 17 45 23.2 +0.6**
comp=Z,3.6nm,0.8s,baz=178,slow=9.8,SNR=14
KSRS LR LR 18 03 52.6
comp=Z,22nm,20.9s,baz=205,slow=36
comp=Z,3.6nm,0.8s
LYN LuoYang 44.03 338 P **P 17 45 28.0 +0.5**
LYN S **S 17 51 50.0 -0.8**
LYN pmax pmax
comp=Z,65nm,1.0s
TIA Tai'an 44.04 344 P **P 17 45 27.3 -0.3**
TIA pmax pmax
comp=Z,19nm,1.2s
TNCH TengChong 44.16 316 ⇑P **P 17 45 29.0 0.0**
TNCH pP pP 17 45 54.5 -1.2
TNCH sP sP 17 46 08.8 -0.2
TNCH PP **PcP 17 47 12.8 +0.9**
TNCH S **S 17 51 53.0 -0.4**
TNCH sS sS 17 52 35.0 -2.3
TNCH pmax pmax
comp=Z,34nm,1.1s
TNCH pmax pmax
comp=Z,150nm,3.0s
XAN Xi'an 45.02 334 ⇑P **P 17 45 35.0 -0.5**
XAN sP pwP 17 46 10.3 +4.2
XAN pmax pmax
comp=Z,84nm,1.0s
XAN pmax pmax
comp=Z,270nm,3.6s
CD2 Chengdu 45.05 326 P **P 17 45 35.3 -0.4**
CD2 pmax pmax
comp=Z,40nm,0.8s
HNS HongShan 45.85 342 ⇑P **P 17 45 42.0 +0.2**
HNS pmax pmax
comp=Z,47nm,1.1s
MSVF Nonsavu 47.43 108 LR LR 18 05 31.1
comp=Z,91nm,18.1s,baz=296,slow=35
BJT Baijiatuau 47.87 345 P **P 17 45 57.4 -0.1**
BJT IAmb IAmb 17 45 58.9
comp=Z,21nm,0.7s
BJT Baijiatuau 47.87 345 P **P 17 45 57.9 +0.4**
BJT Baijiatuau 47.87 345 P **P 17 45 57.4 -0.1**
BJT pmax pmax
comp=Z,21nm,0.7s
BJI Beijing 47.88 345 P **P 17 45 57.8 +0.1**
BJI sP **sP 17 46 37.0 +0.6**
BJI pmax pmax
comp=Z,15nm,1.0s
LZH Lanzhou 49.05 331 ⇑P **P 17 46 08.0 +1.1**
LZH pP pP 17 46 27.8 -6.4
LZH pmax pmax
comp=Z,62nm,1.3s
SHL Shillong 49.27 311 P **P 17 46 08.1 -0.7**
SHL Shillong 49.27 311 P **P 17 46 08.5 -0.3**
SNR=30
SHL Shillong 49.27 311 P **P 17 46 08.1 -0.7**
SHL pmax pmax
comp=Z,109nm,1.0s
CN2 Changchun 49.92 355 *e*P **P 17 46 13.8 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 49.99 341 *e*P **P 17 46 15.0 +1.1**
HHC pmax pmax
comp=Z,26nm,1.2s
HHC pmax pmax
comp=Z,75nm,5.2s
USA0B Ussuriysk Arra 50.09 1 P **P 17 46 14.2 -0.2**
USA0B IAmb IAmb 17 46 15.9
comp=Z,16nm,0.9s
USA0B Ussuriysk Arra 50.09 1 P **P 17 46 14.2 -0.2**
USA0B pmax pmax
comp=Z,17nm,0.9s
USRK Ussuriysk Ar. 50.09 1 P **P 17 46 14.2 -0.2**
USRK Ussuriysk Ar. 50.09 1 P **P 17 46 14.8 +0.4**
comp=Z,10nm,0.8s,baz=181,slow=7.2,SNR=15
comp=Z,10nm,0.8s
USRK Ussuriysk Ar. 50.09 1 P **P 17 46 14.2 -0.2**
MDJ Mudanjiang 50.51 359 P **P 17 46 18.0 +0.4**
MDJ IAmb IAmb 17 46 19.3
comp=Z,29nm,1.1s
MDJ Mudanjiang 50.51 359 P **P 17 46 18.8 +1.3**
MDJ pmax pmax
comp=Z,30nm,0.9s
MDJ pmax pmax
comp=Z,400nm,4.1s
MDJ Mudanjiang 50.51 359 P **P 17 46 18.4 +0.8**
MDJ pP **pP 17 46 45.4 +2.0**
ASAJ Asahikawa 51.10 11 LR LR 18 09 18.8
comp=Z,34nm,18.2s,baz=164,slow=37
HIZ Hauiti 51.16 136 P **P 17 46 21.7 -0.9**
LTZ Lake Taylor 51.62 142 P **P 17 46 25.3 -0.7**
LTZ IAmb IAmb 17 46 44.2
comp=Z,22nm,1.1s
BNX BinXian 51.71 357 ⇓P **P 17 46 26.8 +0.3**
BNX pmax pmax
comp=Z,20nm,0.8s
PALK Pallekele 51.81 284 P **P 17 46 26.0 -1.9**
PALK Pallekele 51.81 284 P **P 17 46 27.3 -0.6**
PALK Pallekele 51.81 284 P **P 17 46 26.0 -1.9**
PALK pmax pmax
comp=Z,11nm,0.9s
TUWZ Tuamarina 51.97 139 P **P 17 46 29.3 +0.7**
LSA Lhasa 52.18 315 P **P 17 46 31.9 +1.0**
BKZ Black Stump Fm 52.60 136 P **P 17 46 33.6 +0.2**
BKZ IAmb IAmb 17 46 35.4
comp=Z,13nm,0.7s
BKZ Black Stump Fm 52.60 136 P **P 17 46 34.1 +0.7**
URZ Urewera 52.64 134 LR LR 18 09 11.0
comp=Z,79nm,20.2s,baz=14,slow=36
URZ Urewera 52.64 134 P **P 17 46 33.9 +0.3**
TSZ Takapari Road 52.64 137 P **P 17 46 34.2 +0.5**
MRZ Mangatainoka R 52.67 138 P **P 17 46 34.0 +0.2**
RTZ Ruatahuna 52.70 135 P **P 17 46 33.7 -0.4**
RTZ IAmb IAmb 17 46 35.1
comp=Z,18nm,0.9s
HAZ Te Kaha 52.91 133 P **P 17 46 36.3 +0.7**
MWZ Matawai 52.97 134 P **P 17 46 36.9 +0.8**
MXZ Matakaoa Point 53.21 133 P **P 17 46 37.2 -0.6**
PUZ Puketiti 53.38 134 P **P 17 46 39.8 +0.8**
GTA Gaotai 53.63 330 P **P 17 46 42.5 +1.5**
GTA PcP **PcP 17 47 47.5 +1.6**
GTA S **S 17 54 04.5 -1.1**
GTA pmax pmax
comp=Z,38nm,1.3s
GOMU GeErMu 53.99 324 P **P 17 46 44.0 0.0**
GOMU pP pP 17 47 10.3 -1.1
GOMU sP sP 17 47 21.0 -3.3
GOMU pmax pmax
comp=Z,16nm,1.0s
KLR Kul'dur 55.11 1*ce*P **P 17 46 50.4 -0.9**
KLR pmax pmax
comp=Z,7.0nm,0.9s
HEH HeiHe 56.21 357 *e*P **P 17 46 59.5 +0.3**
HEH pmax pmax
comp=Z,20nm,1.9s
HYB Hyderabad 56.73 295 *e*P **P 17 47 02.8 -0.7**
HYB IVmB_BB 17 47 03.1

comp=Z,498nm,1.7s
HYB *e*pP **pP 17 47 30.3 -0.7**
HYB *e* 17 47 41.2
HYB *e*S **S 17 54 46.0 -1.4**
HYB *e*SS **SS 17 58 40.3 +3.0**
ULN Ulaanbaatar 57.70 341 P **P 17 47 09.1 -0.8**
ULN IAmb IAmb 17 47 12.3
comp=Z,26nm,0.9s
ULN Ulaanbaatar 57.70 341 P **P 17 47 11.2 +1.3**
ULN Ulaanbaatar 57.70 341 *i*P **P 17 47 11.0 +1.1**
ULN pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 57.70 341 P **P 17 47 11.0 +1.1**
SONM Songino Array 57.89 341 P **P 17 47 11.1 -0.1**
SONM IAmb IAmb 17 47 13.5
comp=Z,14nm,0.9s
SONM Songino Array 57.89 341 P **P 17 47 11.8 +0.6**
comp=Z,11nm,0.9s,baz=160,slow=7.3,SNR=55
comp=Z,11nm,0.9s
SONM Songino Array 57.89 341 P **P 17 47 11.1 -0.1**
SONM pmax pmax
comp=Z,14nm,0.9s
DGAR Diego Garcia 58.02 265 P **P 17 47 12.3 -0.3**
DGAR Diego Garcia 58.02 265 P **P 17 47 13.7 +1.1**
DGAR Diego Garcia 58.02 265*ce*P **P 17 47 14.0 +1.4**
DGAR pmax pmax
comp=Z,122nm,1.3s
DGAR Diego Garcia 58.02 265 P **P 17 47 13.5 +0.9**
KAAM Kaadhehdhoo 58.16 274 P **P 17 47 13.7 0.0**
ZEA Zeya 59.70 357 *e*P **P 17 47 24.8 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
DRV Dumont d'Urvil 60.78 176 P **P 17 47 32.3 +1.6**
DRV PcP **PcP 17 48 16.2 +2.9**
ZAK Zakamensk 61.13 340 *e*P **P 17 47 33.5 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.4s
IRK Irkutsk 62.40 342 *e*P **P 17 47 42.3 +0.5**
IRK pmax pmax
comp=Z,167nm,2.3s
MOY Mondy 62.99 340 *e*P **P 17 47 46.9 +1.1**
MOY pmax pmax
comp=Z,50nm,1.9s
WMQ Urumqi 63.14 326 *e*P **P 17 47 48.3 +1.4**
WMQ sP sP 17 48 27.5 +0.5
WMQ pmax pmax
comp=Z,46nm,0.9s
PEA0B Petropavlovsk- 63.21 18 P **P 17 47 47.6 +0.5**
PEA0B IAmb IAmb 17 48 01.9
comp=Z,23nm,1.0s
PEA0B Petropavlovsk- 63.21 18 P **P 17 47 47.6 +0.5**
PEA0B pmax pmax
comp=Z,23nm,1.0s
PETK Petropavlovsk- 63.21 18 P **P 17 47 46.6 -0.5**
PETK Petropavlovsk- 63.21 18 P **P 17 47 48.1 +1.0**
comp=Z,7.7nm,0.9s,baz=175,slow=2.6,SNR=5.6
comp=Z,7.7nm,0.9s
PETK Petropavlovsk- 63.21 18 P **P 17 47 46.6 -0.5**
BOD Bodaibo 65.17 350 *e*P **P 17 48 00.0 +0.2**
BOD pmax pmax
comp=Z,28nm,1.6s
WUS Wushi 66.67 320 P **P 17 48 09.9 -0.1**
WUS IAmb IAmb 17 48 11.8
comp=Z,17nm,0.8s
ZSN Zaisan 66.99 328 *e*P **P 17 48 12.3 +0.7**
ZSN pmax pmax
comp=Z,21nm,1.2s
ZSN Zaisan 66.99 328 *e*P **P 17 48 12.4 +0.7**
comp=Z,21nm,1.2s
NIL Nilore 67.32 310 P **P 17 48 13.4 -0.6**
NIL IAmb IAmb 17 48 15.1
comp=Z,19nm,0.7s
NIL Nilore 67.32 310 P **P 17 48 13.5 -0.6**
NIL pmax pmax
comp=Z,19nm,0.7s
MA2 Magadan 67.36 11 P **P 17 48 13.9 +0.2**
MA2 IAmb IAmb 17 48 15.9
comp=Z,14nm,1.0s
MA2 Magadan 67.36 11*ce*P **P 17 48 14.0 +0.3**
MA2 pmax pmax
comp=Z,14nm,1.0s
MA2 Magadan 67.36 11 P **P 17 48 14.8 +1.1**
MA2 sP **sP 17 48 55.1 +2.1**
SHLS Shalkode 67.57 322 *e*P **P 17 48 14.6 -0.9**
SHLS pmax pmax
comp=Z,50nm,1.2s
SHLS Shalkode 67.57 322 *e*P **P 17 48 14.6 -0.9**
comp=Z,50nm,1.2s
UZB Uzynbulak 67.83 322 *e*P **P 17 48 17.9 +0.7**
UZB pmax pmax
comp=Z,31nm,1.1s
UZB Uzynbulak 67.83 322 *e*P **P 17 48 17.9 +0.7**
comp=Z,31nm,1.1s
TARG Taragay, Kyrgy 67.86 320 P **P 17 48 17.4 -0.4**
TARG IAmb IAmb 17 48 30.6
comp=Z,35nm,1.1s
TARG Taragay, Kyrgy 67.86 320 P **P 17 48 17.4 -0.4**
TARG pmax pmax
comp=Z,35nm,1.1s
YAK Yakutsk 67.95 359 P **P 17 48 17.1 -0.2**
YAK Yakutsk 67.95 359 *e*P **P 17 48 17.5 +0.2**
YAK *e**PP **pP 17 48 45.5 +0.9**
YAK *e* 17 50 47.9
YAK *e*PPP PPP 17 52 26.6
YAK *e*S **S 17 57 06.1 -0.3**
YAK *e* 17 58 05.0
YAK *e*SS **SS 18 01 29.8 -1.1**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,186nm,4.9s
YAK pmax pmax
comp=N,222nm,5.2s
YAK pmax pmax
comp=E,106nm,5.2s
YAK smax smax
comp=N,73nm,3.5s
YAK smax smax
comp=E,131nm,4.2s
YAK Yakutsk 67.95 359 P **P 17 48 17.4 +0.2**
YAK sP **sP 17 48 58.0 +1.3**
KSH Kashi 67.97 317 P **P 17 48 20.0 +1.8**
KSH pmax pmax
comp=E,41nm,1.0s
MK31 Makanchi Array 67.98 326 P **P 17 48 18.7 +0.8**
MK31 Makanchi Array 67.98 326*ce*P **P 17 48 18.7 +0.8**
MKAR Makanchi Array 67.98 326 P **P 17 48 18.8 +0.9**
comp=E,12nm,0.3s,baz=114,slow=7.5,SNR=332
comp=E,12nm,0.3s
MKAR Makanchi Array 67.98 326*c i*P **P 17 48 18.7 +0.8**
MKAR pmax pmax
comp=Z,13nm,0.3s
MAKZ Makanchi 68.16 326 P **P 17 48 19.7 +0.7**
MAKZ Makanchi 68.16 326 P **P 17 48 19.7 +0.7**
MAKZ pmax pmax
comp=Z,58nm,1.1s
MAKZ Makanchi 68.16 326 P **P 17 48 19.7 +0.7**
MAKZ pP **pP 17 48 47.9 +1.0**
MAKZ sP **sP 17 49 00.6 +1.3**
SATY Saty 68.17 321 *e*P **P 17 48 20.0 +0.7**
SATY pmax pmax
comp=Z,44nm,1.2s
SATY Saty 68.17 321 *e*P **P 17 48 20.1 +0.7**
comp=Z,44nm,1.2s
ZHN Zhinishke 68.21 321 *e*P **P 17 48 20.2 +0.7**
ZHN pmax pmax
comp=Z,32nm,1.5s
ZHN Zhinishke 68.21 321 *e*P **P 17 48 20.3 +0.7**
comp=Z,32nm,1.5s
KDJ Kajisay 68.46 320 P **P 17 48 21.6 +0.3**
KDJ IAmb IAmb 17 48 23.8
comp=Z,38nm,0.9s
KDJ Kajisay 68.46 320 P **P 17 48 21.6 +0.3**
KDJ pmax pmax
comp=Z,38nm,0.9s
MDOK Medeo 69.07 321 *e*P **P 17 48 25.6 +0.6**
MDOK Medeo 69.07 321 *e*P **P 17 48 25.6 +0.6**
TNSS Tian-Shan 69.07 321 *e*P **P 17 48 25.6 +0.4**
TNSS Tian-Shan 69.07 321 *e*P **P 17 48 25.7 +0.4**
CCD Concordia, Ant 69.08 182 P **P 17 48 27.2 +2.4**
ULHL Ulahol 69.12 320 P **P 17 48 26.6 +1.3**

SNR=16
AAA Alma-Ata 69.18 321 *e*P **P** **17 48 26.2 +0.7**
AAA pmax pmax
comp=Z,55nm,1.2s
AAA Alma-Ata 69.18 321 *e*P **P** **17 48 26.3 +0.7**
comp=Z,55nm,1.2s
TDK Taldyqorghan 69.20 323 *e*P **P** **17 48 26.3 +0.8**
TDK pmax pmax
comp=Z,32nm,1.0s
TDK Taldyqorghan 69.20 323 *e*P **P** **17 48 26.3 +0.8**
comp=Z,32nm,1.0s
BOOM Boomskoye usch 69.44 320 P **P** **17 48 28.4 +1.2**
BOOM Boomskoye usch 69.44 320 P **P** **17 48 28.5 +1.2**
BOOM pmax pmax
comp=Z,70nm,1.2s
CHKK Chushkaly 69.46 321 *e*P **P** **17 48 27.8 +0.6**
CHKK Chushkaly 69.46 321 *e*P **P** **17 48 27.8 +0.6**
TKM2 Tokmak 2 69.87 320 P **P** **17 48 31.2 +1.2**
SNR=14
KBK Karagaybulak 70.16 319 P **P** **17 48 33.2 +1.5**
SNR=14
UCH Uchtor 70.24 319 P **P** **17 48 35.0 +2.5**
SNR=5.3
FRU1 Bishkek 70.44 320 P **P** **17 48 33.4 +0.2**
FRU1 IAmb IAmb 17 48 35.6
comp=Z,35nm,1.2s
FRU1 Bishkek 70.44 320 P **P** **17 48 33.4 +0.2**
FRU1 pmax pmax
comp=Z,35nm,1.2s
AAK Ala-Archa 70.44 319 P **P** **17 48 33.8 +0.4**
AAK IAmb IAmb 17 48 36.1
comp=Z,52nm,1.1s
AAK Ala-Archa 70.44 319 P **P** **17 48 34.5 +1.1**
AAK Ala-Archa 70.44 319 P **P** **17 48 34.9 +1.5**
SNR=51
AAK Ala-Archa 70.44 319 *ce*P **P** **17 48 35.1 +1.7**
AAK pmax pmax
comp=Z,83nm,1.7s
AAK Ala-Archa 70.44 319 *i* P **P** **17 48 34.7 +1.3**
SNR=65
AAK Ala-Archa 70.44 319 P **P** **17 48 34.5 +1.1**
AAK pP **pP** **17 49 02.7 +0.4**
CHMS Chumysh 70.45 320 P **P** **17 48 34.5 +1.2**
SNR=9.9
AML Almayashu 70.73 319 P **P** **17 48 37.0 +1.6**
SNR=88
USP Ospenovka 70.74 320 P **P** **17 48 35.9 +0.8**
SNR=82
SGDS Sogindy 70.75 320 *e*P **P** **17 48 35.7 +0.6**
SGDS Sogindy 70.75 320 *e*P **P** **17 48 35.8 +0.6**
SEY Seymchan 70.78 10 *ce*P **P** **17 48 36.1 +1.4**
SEY pmax pmax
comp=Z,36nm,1.3s
DRK Karamyk 70.83 315 P **P** **17 48 36.3 +0.3**
DRK Karamyk 70.83 315 P **P** **17 48 36.3 +0.3**
DRK pmax pmax
comp=Z,76nm,1.1s
ARSB Arslanbob 70.83 318 P **P** **17 48 36.4 +0.7**
ARSB Arslanbob 70.83 318 P **P** **17 48 36.4 +0.7**
ARSB pmax pmax
comp=Z,117nm,1.1s
KBL Kabul 70.88 310 P **P** **17 48 36.1 -0.1**
KBL Kabul 70.88 310 P **P** **17 48 37.1 +0.9**
SNR=28
KBL Kabul 70.88 310 P **P** **17 48 36.2 -0.1**
KBL pmax pmax
comp=Z,57nm,1.0s
EKS2 Erkin-Say 70.92 319 P **P** **17 48 37.8 +1.6**
SNR=50
ZALV Zalesovo Beam 71.19 333 P **P** **17 48 37.3 -0.1**
ZALV Zalesovo Beam 71.19 333 P **P** **17 48 37.1 -0.3**
comp=Z,3.9nm,0.5s,baz=130,slow=5.2,SNR=44
comp=Z,3.9nm,0.5s
ZALV Zalesovo Beam 71.19 333 *i* P **P** **17 48 37.0 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
GAR Garm 71.68 314 P **P** **17 48 41.2 +0.3**
BTK Batken 71.76 316 P **P** **17 48 42.2 +0.9**
BTK Batken 71.76 316 P **P** **17 48 42.2 +0.9**
BTLS Baital 71.88 321 *e*P **P** **17 48 42.5 +0.7**
BTLS Baital 71.88 321 *e*P **P** **17 48 42.5 +0.7**
KURBB Kurchatov Arra 72.22 328 P **P** **17 48 44.1 +0.4**
comp=Z,4.0nm,0.4s,baz=128,slow=5.2,SNR=53
comp=Z,4.0nm,0.4s
KURK Kurchatov 72.23 328 P **P** **17 48 44.1 +0.4**
KURK IAmb IAmb 17 48 45.5
comp=Z,37nm,1.1s
KURK Kurchatov 72.23 328 P **P** **17 48 44.2 +0.5**
KURK Kurchatov 72.23 328 *ce*P **P** **17 48 44.5 +0.8**
KURK pmax pmax
comp=Z,57nm,1.7s
CHGR Chuyangaron 72.37 314 P **P** **17 48 44.5 -0.5**
CHGR Chuyangaron 72.37 314 P **P** **17 48 44.5 -0.5**
CHGR pmax pmax
comp=Z,178nm,1.1s
SIMJ Simiganj 72.48 314 P **P** **17 48 45.6 -0.1**
DZA Taraz 72.63 318 *e*P **P** **17 48 47.1 +0.8**
DZA Taraz 72.63 318 *e*P **P** **17 48 47.1 +0.8**
IUG Iuzhnay 73.18 317 *e*P **P** **17 48 50.3 +0.7**
IUG pmax pmax
comp=Z,46nm,1.3s
IUG Iuzhnay 73.18 317 *e*P **P** **17 48 50.4 +0.7**
comp=Z,46nm,1.3s
VNDA Vanda 73.22 173 P **P** **17 48 50.5 +1.4**
VNDA Vanda 73.22 173 P **P** **17 48 50.2 +1.1**
comp=Z,2.9nm,0.9s,baz=308,slow=5.8,SNR=9.4
VNDA LR LR 18 18 25.5
comp=Z,72nm,20.8s,baz=289,slow=34
comp=Z,2.9nm,0.9s
VNDA Vanda 73.22 173 P **P** **17 48 50.5 +1.4**
VNDA pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 73.27 318 IAmb IAmb 17 48 52.1
comp=Z,42nm,1.1s
KKAR Karatay Array 73.27 318 P **P** **17 48 50.2 +0.2**
KKAR Karatay Array 73.27 318 IAmb IAmb 17 48 52.1
comp=Z,44nm,1.1s
KKAR Karatay Array 73.27 318 P **P** **17 48 50.2 +0.2**
BRLS Borolday 73.68 318 *e*P **P** **17 48 53.2 +0.7**
BRLS Borolday 73.68 318 *e*P **P** **17 48 53.2 +0.7**
NGCH Negor - Chabah 74.56 298 P **P** **17 48 59.5 +1.6**
BRZS Berezniki 75.08 325 *e*P **P** **17 49 01.0 +0.6**
BRZS Berezniki 75.08 325 *e*P **P** **17 49 01.1 +0.6**
JLN Jalan Bani Buh 75.34 295 P **P** **17 49 03.0 +0.5**
WBK Wadi Bani Khal 75.84 295 P **P** **17 49 06.1 +0.8**
SNR=6.1
MAW Mawson 76.10 201 LR LR 18 21 58.8
comp=Z,107nm,18.7s,baz=314,slow=35
MHTO MHTO 76.40 293 P **P** **17 49 08.5 0.0**
SNR=5.9
JMDO Jabal Madar 76.57 295 P **P** **17 49 10.0 +0.5**
DQM DQM 76.58 292 P **P** **17 49 10.1 +0.6**
SMDO Samad 76.76 295 P **P** **17 49 11.5 +0.8**
BIDO Bidbid 76.79 296 P **P** **17 49 11.9 +1.2**
SNR=7.1
BSY Bisya 77.46 295 P **P** **17 49 15.0 +0.5**
HOQ Hoqain 77.54 296 P **P** **17 49 15.5 +0.6**
SNR=7.7
TIXI Tiksi 77.61 359 P **P** **17 49 13.2 -1.1**
TIXI Tiksi 77.61 359 *i* P **P** **17 49 14.0 -0.2**
TIXI pmax pmax
comp=Z,14nm,0.8s
BVAR Borovoye Array 77.79 327 P **P** **17 49 16.0 +0.4**
comp=Z,3.9nm,0.4s,baz=123,slow=5.5,SNR=50
comp=Z,3.9nm,0.4s
BRVK Borovoye 77.86 327 P **P** **17 49 16.1 +0.1**
BRVK Borovoye 77.86 327 P **P** **17 49 16.2 +0.2**
BRVK Borovoye 77.86 327 *ce*P **P** **17 49 16.4 +0.4**
BRVK pmax pmax
comp=Z,39nm,1.7s
ARQ Araqi 78.19 295 P **P** **17 49 19.7 +1.1**
SOHO SOHO 78.35 296 P **P** **17 49 20.1 +0.8**
SOHO SOHO 78.35 296 *i* P **P** **17 49 19.9 +0.6**
SNR=15
DMTO DMTO 78.57 289 P **P** **17 49 21.3 +0.6**
MDH Madha 78.80 297 P **P** **17 49 22.4 +0.6**
MDH Madha 78.80 297 P **P** **17 49 22.4 +0.6**
UOSS Minazif 78.81 297 P **P** **17 49 21.8 -0.1**
UOSS Minazif 78.81 297 P **P** **17 49 22.3 +0.4**
UOSS Minazif 78.81 297 P **P** **17 49 22.1 +0.3**
HATD Hatta, Dubai 78.85 297 P **P** **17 49 23.2 +1.1**
HATD Hatta, Dubai 78.85 297 P **P** **17 49 22.8 +0.7**
ASHO Ashiyiah 78.89 297 P **P** **17 49 23.6 +1.3**
ASHO Ashiyiah 78.89 297 P **P** **17 49 22.7 +0.3**
MSFE Esma-Masafi 78.94 297 *i* P **P** **17 49 23.3 +0.7**
SNR=8.2
MASF Masafi 78.94 297 P **P** **17 49 24.0 +1.4**
ALNE Al Ain 79.03 296 P **P** **17 49 23.9 +0.8**
ALNE Al Ain 79.03 296 *i* P **P** **17 49 23.7 +0.6**
SNR=6.3
SHME Shamm 79.10 298 P **P** **17 49 24.2 +0.8**
RBK Rabkut 79.23 289 P **P** **17 49 25.2 +0.9**
RBK P **P** **17 49 25.3 +0.9**
UMZA Um Al Zommool 79.30 294 P **P** **17 49 24.6 0.0**
FAQ Al Faqa, Dubai 79.31 296 P **P** **17 49 25.2 +0.6**
FAQ Al Faqa, Dubai 79.31 296 *i* P **P** **17 49 25.1 +0.4**
SNR=6.4
DOK Doka 79.49 290 P **P** **17 49 25.4 -0.3**
SNR=9.1
ASUD Al Ashush, Dub 79.53 296 P **P** **17 49 26.6 +0.8**
ASUD Al Ashush, Dub 79.53 296 P **P** **17 49 26.6 +0.8**
ABTO Aybut 80.06 289 P **P** **17 49 29.3 +0.4**
SNR=15
ABTO P **PcP** **17 49 30.0 -5.9**
SNR=5.7
MZWR Madinat Zayed 80.66 295 P **P** **17 49 32.8 +0.9**
MZR Muzera 80.88 294 P **P** **17 49 33.6 +0.6**
MZR Muzera 80.88 294 *i* P **P** **17 49 33.6 +0.6**
SNR=7.5
NRIK Noril'sk 80.92 346 IAmb IAmb 17 49 36.3
comp=Z,28nm,1.1s
NRIK Noril'sk 80.92 346 P **P** **17 49 32.6 +0.3**
comp=Z,15nm,0.8s,baz=133,slow=5.2,SNR=25
comp=Z,15nm,0.8s
NRIK Noril'sk 80.92 346 *ce*P **P** **17 49 33.2 +0.9**
GHWR Ruwais 81.60 295 P **P** **17 49 38.4 +1.6**
VOI Vohitsoka 82.29 249 P **P** **17 49 40.6 -0.1**
VOI IAmb IAmb 17 49 42.8
comp=Z,18nm,1.0s
VOI Vohitsoka 82.29 249 P **P** **17 49 41.2 +0.5**
ABKAR Akbulak array 82.37 321 P **P** **17 49 39.9 -0.4**
ABKAR Akbulak array 82.37 321 IAmb IAmb 17 49 42.8
comp=Z,10nm,1.0s
QSPA South Pole Qui 83.86 180 P **P** **17 49 48.5 +0.6**
comp=Z,9.7nm,0.7s,baz=333,slow=1.9,SNR=104
comp=Z,9.7nm,0.7s
SVE Sverdlovsk 84.47 329 *de*P **P** **17 49 51.4 +0.5**
SVE pmax pmax
comp=Z,51nm,1.5s
SYO Syowa Base 84.81 201 ⇓*e*P **P** **17 49 54.2 +1.8**
ARTI Arti 85.51 328 P **P** **17 49 54.8 -1.3**
ARTI Arti 85.51 328 *c i*P **P** **17 49 56.4 +0.3**
ARTI *PP **pP** **17 50 27.3 +2.6**
ARTI 17 53 14.4
ARTI S **SKSac** **18 00 10.3 +0.2**
ARTI SS **SS** **18 05 52.5 -3.4**
ARTI pmax pmax
comp=Z,18nm,1.1s
L19K White Mountain 88.09 27 IAmb IAmb 17 50 11.7
comp=Z,12nm,1.1s
RAYN Ar Rayn 88.20 294 P **P** **17 50 09.3 -0.7**
RAYN Ar Rayn 88.20 294 P **P** **17 50 10.5 +0.5**
RAYN Ar Rayn 88.20 294 P **P** **17 50 09.3 -0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 88.20 294 *i* P **P** **17 50 10.1 +0.1**
SNR=14
ELIB Princess Elisa 89.60 197 *d*P **P** **17 50 17.1 +1.5**
comp=Z,6.3nm,0.4s
KIRV Kirov 90.74 329 *ce*P **P** **17 50 22.6 +1.7**
CCB Clear Creek Bu 91.76 25 P **P** **17 50 24.4 -1.2**
GEVA Gevas 92.05 308 IAmb IAmb 17 50 29.8
comp=Z,18nm,1.0s
ILAR Eielson Array 92.17 25 P **P** **17 50 26.9 -0.6**
comp=Z,1.1nm,0.7s,baz=274,slow=4.4,SNR=12
comp=Z,1.1nm,0.7s
GURO Guroymak-BITLI 92.87 308 IAmb IAmb 17 50 33.6
comp=Z,1.1nm,1.1s
E25K Arctic Village 93.21 22 P **P** **17 50 32.9 +0.6**
BMAR Burnt Mountain 93.49 23 P **P** **17 50 33.7 +0.1**
KMBO Kilima Mbogo 93.50 268 P **P** **17 50 34.4 -0.7**
KMBO Kilima Mbogo 93.50 268 *i* P **P** **17 50 36.5 +1.4**
KMBO pmax pmax
comp=Z,1.0nm,0.9s
SOC Sochi 95.02 313 *e*P **P** **17 50 39.7 -1.3**
SOC *e* 17 54 30.1
SOC *e*PPP PPP 17 56 33.5
SOC *e*S **SKSac** **18 01 04.5 -1.2**
SOC *e*SS **SS** **18 08 12.0 -1.8**
SOC *e*SSS SSS 18 11 52.8
I28M Miner Creek 95.17 25 IAmb IAmb 17 50 43.7
comp=Z,7.1nm,0.9s
TROLL Troll, Antarti 95.24 194 ⇑P **P** **17 50 42.7 +1.1**
comp=Z,173nm,0.5s
TROLL ⇓sP **pwP** **17 51 18.9 -0.1**
BELA Belgrano 2 95.75 183 P **P** **17 50 43.7 -0.1**
BELA IAmb IAmb 17 50 45.1
comp=Z,2.9nm,0.5s
KLMR Klimovskoe 95.96 331 *e*P P 17 50 34.3 -11
KLMR pmax pmax
comp=Z,32nm,1.6s
J30M Hart River 96.67 26 P **P** **17 50 47.2 -1.0**
J30M IAmb IAmb 17 50 50.2
comp=Z,4.2nm,1.1s
SNAA Sanae 96.73 193 ⇑P **P** **17 50 49.7 +1.3**
comp=Z,46nm,0.6s
SNAA ⇓sP **pwP** **17 51 25.2 -0.5**
SNAA Sanae 96.73 193 P **P** **17 50 49.1 +0.8**
comp=Z,1.6nm,0.6s,baz=180,slow=4.6,SNR=8.6
SNAA LR LR 18 32 20.7
comp=Z,81nm,20.9s,baz=104,slow=34
comp=Z,1.6nm,0.6s
OBN Obninsk 97.45 325 *i* P **P** **17 50 50.0 -1.7**
OBN pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 97.71 22 **P** **17 50 51.5 -1.0**
INK Inuvik 97.71 22 P **P** **17 50 51.6 -1.0**
INK pmax pmax
comp=Z,3.0nm,1.1s
VNA3 Neumayer Olymp 98.53 192 ⇑Pdiff Pdif 17 51 01.1 +4.6
comp=Z,3.9nm,1.0s
ARCES ARCESS Array B 101.06 340 P **Pdif** **17 51 07.9 +0.3**
comp=Z,3.6nm,1.0s,baz=85,slow=4.8,SNR=5.9
ARCES PKiKP **PKiKP** **17 55 32.2 +0.2**
comp=Z,3.2nm,0.9s,baz=101,slow=1.4,SNR=9.1
FINES FINESS Array B 102.41 332 P **Pdif** **17 51 12.8 -1.0**
comp=Z,1.6nm,0.7s,baz=77,slow=3.0,SNR=4.6
FINES PKiKP **PKiKP** **17 55 34.7 0.0**
comp=Z,2.6nm,0.9s,baz=48,slow=2.1,SNR=5.8
FINES FINESS Array B 102.41 332 *i* P **Pdif** **17 51 13.0 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
MNK Minsk 102.50 324 *i* P **Pdif** **17 51 14.7 +0.4**
MNK *i* 17 55 29.5
MNK *i* PPP PPP 17 57 41.8
MNK *i* 18 02 29.2
MNK *i* S **Sdif** **18 02 51.1 +2.8**
MNK *i* SS **SS** **18 10 03.2 +5.5**
MNK *i* SSS SSS 18 13 58.2
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,12nm,1.0s
MNK pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 106.56 26 PKiKP **PKiKP** **17 55 42.7 +0.4**
comp=Z,0.5nm,0.5s,baz=291,slow=2.2,SNR=10
YKA PKKPbc **PKKPbc** **18 07 02.6 -2.2**
comp=Z,0.4nm,0.8s,baz=111,slow=2.9,SNR=4.5
GERES GERESS Array B 112.31 321 PKiKP **PKiKP** **17 55 53.8 +0.1**
comp=Z,0.9nm,0.4s,baz=64,slow=1.3,SNR=12
WTTA Wattenberg 114.11 319 *e*PKP **PKiKP** **17 55 57.3 0.0**
comp=Z,7.3nm,0.4s
WATA Walderalm 114.12 319 *i* PKP PKPdf 17 55 57.2 -0.1
comp=Z,1.9nm,0.4s
MOTA Moosalm 114.42 320 *i* PKP PKPdf 17 55 57.6 -0.2
comp=Z,2.2nm,0.5s
FETA Feichten 114.77 319 *e*PKP PKPdf 17 55 58.7 +0.2
comp=Z,2.3nm,0.7s
DAVA Damuels 115.23 320 *e*PKP **PKPdf** **17 55 59.5 +0.1**
comp=Z,1.0nm,0.2s
PDAR Pinedale Array 115.64 45 PKP **PKPdf** **17 56 00.7 +0.2**
comp=Z,0.2nm,0.4s,baz=102,slow=1.8,SNR=4.7
EKA Eskdalemuir Ar 118.81 332 PKP **PKPdf** **17 56 05.8 0.0**
comp=Z,1.2nm,0.4s,baz=31,slow=3.4,SNR=18
ULM Lac du Bonnet 121.22 33 PKP **PKiKP** **17 56 10.8 +0.1**
comp=Z,2.2nm,0.5s,baz=275,slow=1.7,SNR=6.2
TXAR Lajitas Array 123.71 59 PKP **PKiKP** **17 56 17.6 +1.2**
comp=Z,0.7nm,0.7s,baz=324,slow=3.7,SNR=6.3
TXAR PKKPbc **PKKPbc** **18 06 04.2 -0.2**
comp=Z,0.1nm,0.4s,baz=103,slow=4.0,SNR=4.3
ESDC Sonseca Array 127.48 316 PP **PP** **17 58 25.1 +0.6**
comp=Z,3.2nm,1.1s,baz=62,slow=6.6,SNR=8.0
PLCA Paso Flores 129.39 159 PKP **PKiKP** **17 56 27.9 +0.4**
comp=Z,2.0nm,1.0s,baz=227,slow=2.5,SNR=5.0
TORD Torodi Ar. Bea 129.50 282 PKP **PKiKP** **17 56 27.9 -0.3**
comp=Z,0.9nm,0.6s,baz=37,slow=3.0,SNR=7.5
DBIC Dimbokro 136.03 273 PKP **PKPdf** **17 56 40.5 +0.7**
comp=Z,1.4nm,0.8s,baz=180,slow=8.4,SNR=3.1
CPUP Villa Florida 146.78 166 PKPbc **PKPab** **17 57 02.2 +0.3**
comp=Z,6.1nm,0.9s,baz=215,slow=3.3,SNR=9.7
LPAZ La Paz 150.85 140 PKPbc **PKPbc** **17 57 11.9 -0.1**
comp=Z,8.3nm,0.8s,baz=274,slow=1.0,SNR=19

IDC 26 18:00:37.3±8.9, 4°.89S×150°.90E, h67km±64km, mb3.2/2, mbtmp3.5/3, ML1.6/1, MS3.0/1, Error ellipse: s-maj=129.3km s-min=55.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**219**	P	Pn	18 02 02.6	+1.5
	1.2nm,0.3s,baz=27,slow=9.0,SNR=3.8						
PMG				S	Sn	18 03 06.6	+0.1
	4.6nm,0.5s,baz=334,slow=22,SNR=1.6						
	5.2nm,0.7s						
WRA	**Warramunga Arr**	**21.99**	**226**	P	P	18 05 26.3	+0.2
	0.8nm,0.6s,baz=49,slow=11,SNR=10						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**24.84**	**220**	P	P	18 05 53.0	-0.6
	0.9nm,0.6s,baz=58,slow=8.6,SNR=26						
	0.9nm,0.6s						
KAPI	**Kappang**	**31.03**	**268**	LR	LR	18 21 56.5	
	comp=Z,29nm,18.9s,baz=124,slow=41						
TORD	**Torodi Ar. Bea**	**148.53**	**287**	PKPbc	PKPbc	18 20 17.4	-0.2
	0.8nm,0.7s,baz=93,slow=1.8,SNR=5.1						

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*HEL **26** 18:00:46.4±0.2, 67°.03N×20°.69E, h0km, ML2.2, Explosion*
*UPP **26** 18:00:46.8±0.2, 67°.06N×21°.01E, h0km, ML2.5, Unknown*
ISC 26 18:00:47.5±0.8, 67°.09N±0°.02×20°.97E±0°.03, h0km, n37, σ1°.03/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**281**	P	**Pg**	**18 00 50.5**	**-0.1**
DUNU				S	**Sg**	**18 00 53.1**	**+0.5**
ERTU	**Ertsjaerv**	**0.72**	**137**	PG	**Pg**	**18 01 00.1**	**-1.3**
ERTU				SB	**Sg**	**18 01 11.6**	**+0.8**
KUA	**Kurravaara**	**0.90**	**345**	P	**Pg**	**18 01 04.2**	**-0.6**
KUA				S	**Sb**	**18 01 17.6**	**-1.0**
RATU	**Laukkuluspa**	**0.91**	**325**	P	**Pg**	**18 01 04.3**	**-0.6**
LANU	**Lannavaara**	**1.04**	**22**	P	**Pg**	**18 01 06.7**	**-0.8**
LANU	**Lannavaara**	**1.04**	**22**	PG	**Pg**	**18 01 06.6**	**-0.8**
	baz=204						
LANU				SB	**Sb**	**18 01 22.0**	**-0.6**
KOVU	**Salmi**	**1.18**	**345**	P	**Pg**	**18 01 09.3**	**-0.8**
KLF	**Kolari**	**1.18**	**82**	PG	**Pg**	**18 01 09.0**	**-1.1**
KLF				MSG		18 01 25.6	
	comp=Z,23nm,0.2s						
KLF				SG	**Sb**	**18 01 26.8**	**+0.2**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**18 01 15.1**	**-1.4**
KALU	**Kalix**	**1.56**	**141**	PG	**Pn**	**18 01 15.0**	**-1.5**
	baz=321						
KALU				SN	**Sn**	**18 01 36.8**	**-0.6**
SJUU	**Sjulsmark**	**1.61**	**170**	P	**Pn**	**18 01 16.0**	**-1.2**
HEF	**Hetta**	**1.68**	**37**	*e*P	**Pn**	**18 01 18.1**	**-0.1**
HEF	**Hetta**	**1.68**	**37**	PG	**Pn**	**18 01 18.0**	**-0.1**
HEF				MSG		18 01 39.8	
	comp=Z,21nm,0.2s						
HEF				SG	**Sg**	**18 01 41.7**	**+0.4**
TOF	**Tornio**	**1.68**	**126**	PG	**Pn**	**18 01 17.4**	**-0.7**
	baz=307						
TOF				MSG		18 01 38.5	
	comp=Z,18nm,0.2s						
TOF				SN	**Sn**	**18 01 40.3**	**-0.1**
KIF	**Kilpisjarvi**	**1.92**	**358**	*e*P	**Pb**	**18 01 22.6**	**-0.8**
KIF	**Kilpisjarvi**	**1.92**	**358**	PG	**Pb**	**18 01 23.1**	**-0.3**
KIF				MSG		18 01 46.5	
	comp=Z,45nm,0.2s						
KIF				SG	**Sg**	**18 01 49.9**	**+0.6**
RNF	**Rovaniemi**	**2.05**	**101**	PB	**Pn**	**18 01 23.6**	**+0.3**
RNF				SB	**Sb**	**18 01 51.5**	**-0.2**
KTK1	**Kautokeino**	**2.11**	**23**	PG	**Pb**	**18 01 25.7**	**-0.9**
KTK1				SG	**Sg**	**18 01 54.2**	**-1.0**
BURU	**Burvik**	**2.52**	**176**	PG	**Pn**	**18 01 29.8**	**+0.1**
RANF	**Ranua**	**2.57**	**112**	PN	**Pn**	**18 01 30.3**	**0.0**
RANF				SB	**Sb**	**18 02 06.7**	**+0.3**
TRO	**Tromso**	**2.66**	**344**	SG	**Sb**	**18 02 09.8**	**+0.6**
OUL	**Oulu**	**2.84**	**133**	PN	**Pn**	**18 01 34.3**	**+0.2**
	baz=310						
OUL				SG	**Sb**	**18 02 14.7**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.85**	**142**	PB	**Pn**	**18 01 34.1**	**-0.1**
	baz=323						
OBF4				MSG		18 02 10.9	
	comp=Z,5.0nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.93**	**151**	PB	**Pn**	**18 01 35.0**	**-0.3**
OBF0				MSG		18 02 12.7	
	comp=Z,6.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.98**	**32**	PN	**Pn**	**18 01 36.7**	**+0.7**
ARA0				SN	**Sb**	**18 02 15.4**	**-2.9**
RAJF	**Raja-Jooseppi**	**3.12**	**60**	PN	**Pn**	**18 01 39.2**	**+1.3**
RAJF				SG	**Sb**	**18 02 24.6**	**+2.3**
OUF	**Merijarvi**	**3.15**	**149**	PB	**Pn**	**18 01 39.4**	**+1.2**
KU2	**Taivalkoski**	**3.23**	**112**	PN	**Pn**	**18 01 39.5**	**0.0**
KU2				SG	**Sb**	**18 02 26.7**	**+1.1**
VRF	**Varrio**	**3.40**	**75**	PN	**Pn**	**18 01 42.3**	**+0.5**
VRF				SG	**Sb**	**18 02 32.6**	**+2.2**
OLKF	**Oulanka, Finla**	**3.44**	**99**	PN	**Pn**	**18 01 42.8**	**+0.5**
	baz=287						
OLKF				SN	**Sn**	**18 02 24.4**	**+0.7**
MSF	**Maaselka**	**3.44**	**106**	PN	**Pn**	**18 01 42.6**	**+0.2**
KEV	**Kevo**	**3.48**	**37**	PN	**Pn**	**18 01 43.5**	**+0.6**
KEV				SN	**Sn**	**18 02 26.6**	**+1.8**
KU6	**Riekki**	**3.72**	**103**	PN	**Pn**	**18 01 46.3**	**+0.1**
	baz=289						
KU6				SN	**Sn**	**18 02 32.3**	**+1.6**
KU1	**Kurvinen**	**3.79**	**110**	PN	**Pn**	**18 01 47.6**	**+0.5**
HUSU	**Husum**	**3.84**	**192**	PB	**Pn**	**18 01 47.9**	**+0.2**
	baz=6.0						
VAF	**Ylistaro**	**4.13**	**169**	PB	**Pn**	**18 01 54.6**	**+2.9**
RMF	**Romuvaara**	**4.70**	**124**	PN	**Pn**	**18 02 00.1**	**+0.5**

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*AEIC **26** 18:13:05.7±2.2, 53°.60N±0°.03×164°.55W±0°.06, h27km±5km, Error ellipse: s-maj=5.9km s-min=3.8km az=136.0*
*MOS **26** 18:13:06.6±1.2, 53°.83N×164°.57W, h44km, mb4.7/20, Error ellipse: s-maj=12.9km s-min=6.9km az=87.1*
*NEIC **26** 18:13:07.6±1.8, 53°.73N±0°.06×164°.61W±0°.06, h43km±8km, mb4.2/93, ML4.2/10, ML4.3(AEIC), Error ellipse: s-maj=8.7km s-min=4.6km az=164.0*
*IDC **26** 18:13:07.8±3.3, 53°.83N×164°.75W, h37km±26km, mb4.0/27, mbtmp4.2/30, ML3.9/3, MS3.6/48, Error ellipse: s-maj=20.1km s-min=13.0km az=178.0*
ISC 26 18:13:06.6±0.6, 53°.60N±0°.07×164°.54W±0°.03, h37km±1km, n325, σ1°.31/279, mb4.4/58, MS3.6/48, 11C-1D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.87**	**309**		**Pn**	**18 13 21.5**	**-0.8**
AKSA					**Sn**	**18 13 33.3**	**-0.5**
WESE	**West Dahl East**	**0.88**	**358**		**Pn**	**18 13 21.8**	**-0.8**
WECS	**Westdahl Cape**	**0.95**	**352**		**Pn**	**18 13 22.9**	**-0.5**
AKMO	**Akutan Morgan**	**1.00**	**300**		**Pn**	**18 13 23.5**	**-0.6**
WEBT	**Westdahl Beart**	**1.00**	**353**		**Pn**	**18 13 23.7**	**-0.4**
AKGG	**Akutan Green G**	**1.05**	**306**		**Pn**	**18 13 24.4**	**-0.4**
AKGG					**Sn**	**18 13 38.4**	**+0.2**
LVA	**Lava Point**	**1.05**	**303**		**Pn**	**18 13 24.2**	**-0.5**
LVA				Sn	**Sn**	**18 13 35.9**	**-2.3**
LVA				IAML		18 13 44.0	
	comp=E,5μm,0.9s						
LVA				IAML		18 13 48.7	
	comp=N,9μm,0.7s						
AKRB	**Akutan Reef Bi**	**1.05**	**301**		**Pn**	**18 13 24.3**	**-0.5**
AKRB					**Sn**	**18 13 39.6**	**+1.4**
UNV	**Unalaska Valle**	**1.19**	**283**		**Sn**	**18 13 42.6**	**+1.0**
UNV	**Unalaska Valle**	**1.19**	**283**		**Pn**	**18 13 25.7**	**-1.0**
UNV	**Unalaska Valle**	**1.19**	**283**	P	**Pn**	**18 13 25.7**	**-1.0**
UNV	**Unalaska Valle**	**1.19**	**283**	S	**Sn**	**18 13 44.0**	**+2.3**
ISLZ	**Isanotski Laza**	**1.23**	**23**		**Pn**	**18 13 26.4**	**-0.9**
ISLZ					**Sn**	**18 13 44.0**	**+1.3**
ISNN	**Isanotski Nort**	**1.32**	**20**		**Pn**	**18 13 28.4**	**0.0**

MREP Makushin Rep't 1.33 280 Pn 18 13 28.1 -0.6
MGOD Makushin Gods 1.40 279 Pn 18 13 29.1 -0.6
FALS False Pass 1.42 27 Pn 18 13 29.1 -0.8
FALS False Pass 1.42 27 Sn 18 13 48.9 +1.6
FALS False Pass 1.42 27 P **Pn 18 13 29.5 -0.4**
FALS False Pass 1.42 27 S **Sn 18 13 50.8 +3.5**
MAPS Pakushin South 1.44 279 Pn 18 13 29.7 -0.5
OKFG Magazine Ridge 2.02 266 Pn 18 13 38.7 +0.6
OKTU Okmok Mt. Tuli 2.10 266 Pn 18 13 40.4 +1.1
OKSP Okmok Steeple 2.27 263 Pn 18 13 41.9 +0.3
HAG Hague Volcano 2.31 41 Pn 18 13 43.5 +1.4
HAG Hague Volcano 2.31 41 P **Pn 18 13 43.5 +1.4**
PS4A Pavlof South-4 2.35 41 Pn 18 13 43.8 +1.2
PVV Pavlof Volcano 2.40 41 Pn 18 13 44.6 +1.3
PS1A Pavlof South-1 2.45 41 Pn 18 13 45.5 +1.5
NIKH Nikolski High 2.67 258 Pn **Pn 18 13 47.1 +0.2**
NIKH Nikolski High 2.67 258 P **Pn 18 13 47.4 +0.5**
SDPT Sand Point 2.95 52 Pn 18 13 51.4 +0.5
SDPT **Sn 18 14 24.8 -0.1**
SDPT Sand Point 2.95 52 P **Pn 18 13 51.6 +0.8**
SDPT Sand Point 2.95 52 S **Sn 18 14 27.1 +2.2**
CNBA Chernabura Isl 3.15 65 Pn 18 13 53.4 -0.3
CNBA Sn **Sn 18 14 26.6 -3.4**
CNBA IAML 18 14 59.7
comp=N,403nm,0.8s
CHNA Chernabura Isl 3.16 65 P **Pn 18 13 53.3 -0.4**
VNFG Fog Glacier, M 3.94 45 Pn 18 14 06.0 +1.4
VNSS Veniaminof 8 3.94 46 Pn 18 14 05.5 +0.9
P08K Saint George I 4.16 318 Pn 18 14 06.3 -1.2
P08K Saint George I 4.16 318 IAML 18 15 27.5
comp=N,227nm,0.9s
CHGN Chignik 4.45 50 Pn 18 14 11.6 +0.2
CHGN IAML 18 15 19.0
comp=N,383nm,1.1s
CHGN IAML 18 15 28.5
comp=E,492nm,1.0s
ANPB Aniakchak Plen 4.81 46 Pn 18 14 17.8 +1.3
SPIA Saint Paul Isl 4.84 320 Pn 18 14 16.4 -0.4
ANNW Aniakchak Nort 4.95 44 Pn 18 14 20.3 +2.0
CHIR Chirikof Islan 5.63 63 Pn **Pn 18 14 27.1 -0.5**
O14K Tigyukauivet M 5.95 16 Pn **Pn 18 14 32.7 +0.6**
PLBL Peulik Blue Cr 6.00 44 Pn 18 14 34.7 +2.0
ATKA Atka Island 6.01 260 Pn **Pn 18 14 32.1 -0.7**
O15K Ungalikthiuk R 6.17 23 Pn 18 14 36.5 +1.4
N14K Kuskokwak Cree 6.53 13 Pn 18 14 42.2 +2.2
P16K Nushagak River 6.55 31 Pn 18 14 42.1 +1.9
SII Sitkinak Islan 6.64 59 Pn 18 14 41.1 -0.5
SII Sitkinak Islan 6.64 59 P **Pn 18 14 41.0 -0.6**
SII Sitkinak Islan 6.64 59 S **Sn 18 15 56.9 +0.9**
M13K Dall Lake 6.87 5 Pn 18 14 46.4 +1.9
M11K Mekoryuk 6.87 353 Pn 18 14 45.7 +1.1
ACHA Angle Creek He 6.94 45 Pn 18 14 47.1 +1.4
O16K Kokwok River B 6.98 28 Pn **Pn 18 14 46.9 +0.7**
N15K Kwethluk River 7.02 18 Pn 18 14 47.9 +1.1
M14K Bethel 7.31 10 Pn 18 14 50.8 +0.2
KAHC Katmai Hardscr 7.34 43 Pn 18 14 52.7 +1.5
OHAK Old Harbor 7.36 56 Pn 18 14 50.9 -0.5
OHAK Old Harbor 7.36 56 P **Pn 18 14 50.6 -0.8**
P18K Big Mountain, 7.76 38 Pn 18 14 58.3 +1.4
L14K Kuka Creek 7.83 7 Pn 18 14 58.8 +1.1
KIWB Kanaga Island 7.86 262 Pn **Pn 18 15 00.7 +2.5**
KDAK Kodiak Island 7.95 53 Pn **Pn 18 14 59.4 0.0**
comp=E,1.9nm,0.3s,baz=83,slow=4.9,SNR=18
KDAK Sn **Sn 18 16 24.5 -3.4**
comp=E,0.3nm,0.3s,baz=225,slow=22,SNR=1.5
comp=E,3.9nm,0.3s
KDAK Kodiak Island 7.95 53 *i* P **Pn 18 14 58.3 -1.1**
N17K Nushagak Hills 8.02 27 Pn 18 15 01.2 +0.8
M16K Timber Creek 8.03 20 Pn 18 15 01.3 +0.8
Q19K Cape Douglas, 8.08 44 Pn 18 15 02.7 +1.4
O18K Koktuh Hills 8.10 36 Pn 18 15 03.9 +2.5
K13K Kusilvak Mount 8.36 360 Pn 18 15 06.6 +1.5
SYI Shuyak Island 8.44 49 Pn **Pn 18 15 06.6 +0.5**
N18K Kilae Creek 8.51 30 Pn **Pn 18 15 07.7 +0.5**
L16K Owhat River 8.57 16 Pn **Pn 18 15 09.0 +1.0**
O19K Port Alsworth 8.65 36 Pn **Pn 18 15 09.3 +0.2**
P19K Oil Pt 8.69 41 Pn **Pn 18 15 10.3 +0.6**
M17K Holitna River 8.70 23 Pn **Pn 18 15 10.6 +0.9**
K15K Wolf Creek Mou 8.87 9 Pn 18 15 12.1 +0.1
ILSW Iliamna Southw 8.94 40 Pn 18 15 13.9 +0.8
N19K Bonanza Creek 9.05 33 Pn 18 15 15.1 +0.5
J14K Nanvaranak Lak 9.19 3 Pn **Pn 18 15 15.1 -1.4**
CNPM China Poot 9.44 46 Pn 18 15 19.5 -0.3
L18K Granite Mounta 9.59 23 Pn 18 15 20.9 -1.0
K17K Iditarod 9.71 17 Pn **Pn 18 15 22.7 -0.9**
BRLK Bradley Lake 9.71 45 Pn **Pn 18 15 22.7 -0.9**
M19K Big River Lodg 9.93 29 Pn 18 15 27.2 +0.8
J16K Anvik River 9.93 10 Pn 18 15 26.1 -0.4
L19K White Mountain 10.02 27 Pn **Pn 18 15 28.8 +1.0**
J17K VABM Dome 10.23 14 Pn **Pn 18 15 31.4 +0.8**
M20K Styx River 10.29 32 Pn 18 15 33.0 +1.4
SLKM Skilak Lake 10.41 43 Pn **Pn 18 15 33.5 +0.3**
STLK Strandline Lak 10.44 36 Pn 18 15 32.7 -0.9
SEW Seward 10.51 46 Pn **Pn 18 15 33.0 -1.4**
I17K Unalakleet 10.51 9 Pn **Pn 18 15 33.4 -1.1**
O22K Cooper Landing 10.60 44 Pn 18 15 34.1 -1.6
J18K Innoko River 10.70 19 Pn 18 15 35.1 -1.9
SKT Skwentna 10.88 34 Pn **Pn 18 15 39.1 -0.5**
RC01 Rabbit Creek A 10.95 41 Pn 18 15 39.8 -0.7
ANM Nome 11.01 358 Pn **Pn 18 15 40.9 -0.4**
ANM Nome 11.01 358 P **Pn 18 15 40.9 -0.4**
K20K Telida 11.20 25 Pn 18 15 44.0 +0.1
PPLA Purkeypile 11.34 30 Pn **Pn 18 15 46.0 -0.1**
PWL Port Wells 11.38 44 Pn 18 15 44.4 -1.9
J19K Poorman 11.39 20 Pn 18 15 45.8 -0.7
CUT Chulitna 11.60 35 Pn **Pn 18 15 49.0 -0.4**
H17K Granite Mounta 11.61 10 Pn **Pn 18 15 49.1 -0.5**
KNK Knik Glacier 11.64 41 Pn 18 15 48.8 -1.2
GHO Glory Hole Cre 11.67 39 Pn 18 15 49.1 -1.4
CAST Castle Rocks 11.78 28 Pn 18 15 53.7 +1.8
J20K Nowinta River 11.87 23 Pn 18 15 52.3 -0.8
G16K Koyuk River 11.88 4 Pn 18 15 51.9 -1.4
GLI Glacier Island 11.91 45 Pn **Pn 18 15 51.7 -1.9**
SML Sawmill 11.92 40 Pn **Pn 18 15 51.7 -2.1**
HIN Hinchinbrook I 11.93 48 Pn 18 15 52.4 -1.6
FID Port Fidalgo 12.11 47 Pn 18 15 53.9 -2.5
TRF Thorofare Moun 12.33 31 Pn 18 15 58.6 -1.0
DIV Divide 12.59 46 Pn 18 16 01.2 -1.8
KLU Klutina 12.71 44 Pn 18 16 02.6 -2.0
RND Reindeer 12.76 33 Pn 18 16 03.6 -1.7
RND Reindeer 12.76 33 P **Pn 18 16 03.6 -1.7**
SHEM Shemya Is, Ala 12.84 275 LR LR 18 20 40.7
comp=E,194nm,20.1s,baz=352,slow=36
BMRM Bremner River 13.03 48 Pn **Pn 18 16 07.1 -1.8**
BERG Berg Lake 13.20 51 Pn 18 16 09.5 -1.8
SNH Sunshine Point 13.53 52 Pn **Pn 18 16 16.3 +0.5**
VRDI Verde Repeater 13.64 48 Pn **Pn 18 16 15.0 -2.5**
WRH Wood River Hil 13.74 31 Pn 18 16 16.4 -2.2
CCB Clear Creek Bu 13.96 31 Pn 18 16 18.8 -2.7
YAH Yahtse 14.10 52 Pn 18 16 21.6 -2.1
COLA College 14.10 30 *i* P **Pn 18 16 21.5 -2.0**
ILAR Eielson Array 14.33 32 Pn **Pn 18 16 25.0 -1.5**
comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=14
comp=E,1.1nm,0.7s
H23K Yukon River 14.35 25 Pn **Pn 18 16 27.8 +1.0**
RIDG Independent Ri 14.36 37 Pn 18 16 24.7 -2.3
M26K Nabesna, AK 14.36 44 Pn **Pn 18 16 25.2 -1.9**
DOT Dot Lake 14.59 38 Pn 18 16 28.0 -2.2
J25K Salcha River, 14.71 34 Pn **Pn 18 16 29.1 -2.8**
C16K Lisburne Hills 14.73 359 Pn **Pn 18 16 31.8 -0.2**
SCRK Sand Creek 14.80 37 Pn **Pn 18 16 30.4 -2.8**
PNL Peninsula 15.05 56 P **Pn 18 16 36.4 +0.1**
L27K Beaver Creek, 15.15 42 Pn **Pn 18 16 36.2 -1.4**
C18K Utukok River 15.19 5 IAmb IAmb 18 16 54.8
comp=Z,9.7nm,1.2s
D19K Kuna River 15.25 9 IAmb IAmb 18 16 53.2
comp=Z,16nm,1.3s
J26L Joseph Creek 15.26 36 Pn **Pn 18 16 37.1 -2.0**
J26L IAmb IAmb 18 16 52.1
comp=Z,8.3nm,0.8s
COLD Coldfoot 15.33 21 IAmb IAmb 18 17 10.9
comp=Z,9.3nm,0.9s
K27K Chicken 15.54 39 Pn 18 16 40.1 -2.5
O29M Mount Kennedy 15.60 54 IAmb IAmb 18 17 13.8
comp=Z,17nm,1.1s
E22K Anaktuvuk Pass 15.79 18 IAmb IAmb 18 17 10.9
comp=Z,15nm,1.1s
I26K Coal Creek Min 15.88 34 Pn 18 16 43.5 -3.6
I26K IAmb IAmb 18 17 07.7
comp=Z,9.6nm,0.8s
E23K Chandalar 16.15 20 Pn 18 16 47.4 -3.2

HYT Haines Junctio 16.24 53 IAmb IAmb 18 17 12.4
comp=Z,14nm,1.0s
M29M Somme Creek 16.30 47 Pn 18 16 52.0 -0.5
M29M IAmb IAmb 18 17 14.7
comp=Z,26nm,0.7s
D22K Ayikyak River 16.31 15 P **Pn 18 16 53.0 +0.5**
S31K Pelican 16.45 63 P **Pn 18 16 54.6 +0.4**
S31K IAmb IAmb 18 16 58.7
comp=Z,14nm,0.8s
N30M Aishikik Lake 16.60 51 IAmb IAmb 18 17 02.9
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 16.65 19 IAmb IAmb 18 17 34.1
comp=Z,10nm,0.8s
L29M L29M 16.69 45 IAmb IAmb 18 17 42.5
comp=Z,23nm,1.1s
F25K Christian Rive 16.70 26 Pn 18 16 55.8 -1.7
B21K Ikpikpuk River 16.72 12 IAmb IAmb 18 17 12.4
comp=Z,11nm,1.0s
BMAR Burnt Mountain 16.87 27 Pn 18 16 57.8 -1.7
O30N Mendenhall 16.90 54 IAmb IAmb 18 17 17.1
comp=Z,15nm,0.9s
M30M Minto, Yukon 17.07 47 P **Pn 18 17 02.3 +0.1**
M30M IAmb IAmb 18 17 11.8
comp=Z,8.6nm,0.8s
J29N Klondike Camp 17.22 41 P **Pn 18 17 03.3 -0.7**
J29N IAmb IAmb 18 17 35.7
comp=Z,8.7nm,0.7s
K29M Barlow Dome 17.23 43 IAmb IAmb 18 17 21.7
comp=Z,8.3nm,0.7s
C23K Itkillik River 17.50 16 IAmb IAmb 18 17 31.3
comp=Z,29nm,1.4s
B22K Teshekpuk Lake 17.54 13 P **Pn 18 17 07.2 -0.6**
C24K Franklin Bluff 17.73 18 IAmb IAmb 18 17 35.3
comp=Z,9.9nm,0.8s
J30M Hart River 18.00 41 Pn 18 17 13.0 -0.8
J30M IAmb IAmb 18 17 26.5
comp=Z,10nm,0.8s
H29M Whitestone 18.03 35 P **Pn 18 17 12.9 -1.1**
H29M IAmb IAmb 18 17 23.3
comp=Z,14nm,1.0s
I30M Mount Dempster 18.27 39 P **P 18 17 15.8 -1.0**
P33M Teslin, Yukon 18.41 56 IAmb IAmb 18 17 24.7
comp=Z,11nm,0.8s
N32M Quiet Lake 18.42 53 IAmb IAmb 18 17 47.0
comp=Z,25nm,0.8s
FARO Faro, Yukon 18.51 50 P **P 18 17 19.6 +0.1**
FARO IAmb IAmb 18 17 25.0
comp=Z,26nm,0.8s
Q32M Nakina River 18.58 60 IAmb IAmb 18 17 24.7
comp=Z,11nm,0.8s
EPYK Eagle Plains 18.68 36 P **P 18 17 21.0 -0.3**
EPYK IAmb IAmb 18 17 32.4
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 19.16 35 IAmb IAmb 18 17 36.3
comp=Z,15nm,1.1s
R33M Jennings River 19.27 59 P **P 18 17 28.1 +0.3**
R33M IAmb IAmb 18 17 54.1
comp=Z,7.0nm,0.8s
H31M Peel River 19.28 39 P **P 18 17 27.0 -0.8**
H31M IAmb IAmb 18 18 00.6
comp=Z,12nm,0.9s
MMPY Sheldon Lake, 19.55 49 P 18 17 31.0 +0.2
MMPY IAmb IAmb 18 17 37.3
comp=Z,17nm,0.7s
T35M Bob Quinn 19.69 66 IAmb IAmb 18 17 50.9
comp=Z,23nm,1.4s
DLBC Dease Lake 19.74 62 P **Pn 18 17 35.0 +0.4**
comp=Z,0.3nm,0.3s,baz=273,slow=12,SNR=12
DLBC LR LR 18 23 51.0
comp=Z,76nm,20.5s,baz=291,slow=33
comp=Z,5.2nm,0.7s
G31M Satah River 19.80 36 IAmb IAmb 18 17 42.9
comp=Z,7.3nm,0.8s
F31M Tsiigehtchic 20.23 35 P **P 18 17 37.3 -0.8**
INK Inuvik 20.72 33 P **P 18 17 41.6 -1.8**
INK IAmb IAmb 18 17 56.0
comp=Z,8.8nm,1.1s
INK Inuvik 20.72 33 P **P 18 17 42.9 -0.5**
comp=Z,4.4nm,0.6s,baz=237,slow=12,SNR=24
comp=Z,4.4nm,0.6s
BBB Bella Bella 21.88 79 LR LR 18 25 26.3
comp=Z,94nm,18.8s,baz=260,slow=34
PEA0B Petropavlovsk- 22.38 284 P **P 18 18 00.3 -1.0**
PEA0B Petropavlovsk- 22.38 284 P **P 18 18 00.3 -1.0**
PEA0B pmax pmax
comp=Z,90nm,1.5s
PETK Petropavlovsk- 22.38 284 P **P 18 18 00.4 -0.9**
PETK Petropavlovsk- 22.38 284 P **P 18 18 00.2 -1.1**
comp=Z,5.5nm,0.7s,baz=83,slow=13,SNR=4.1
PETK LR LR 18 26 16.0
comp=Z,128nm,20.1s,baz=80,slow=36
comp=Z,5.5nm,0.7s
PETK Petropavlovsk- 22.38 284 P **P 18 18 00.4 -0.9**
HOLB Holberg 22.39 83 P **P 18 18 01.0 -0.5**
SEY Seymchan 24.05 310 *ce*P **P 18 18 19.0 +1.1**
SEY pmax pmax
comp=Z,6.0nm,1.7s
MA2 Magadan 24.93 302 LR LR 18 28 13.8
comp=Z,58nm,18.9s,baz=107,slow=37
MA2 Magadan 24.93 302 *ce*P **P 18 18 27.9 +2.0**
MA2 pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 27.22 51 P **P 18 18 46.7 +0.2**
YKA Yellowknife Ar 27.22 51 P **P 18 18 47.8 +1.2**
comp=Z,2.2nm,0.7s,baz=280,slow=9.6,SNR=26
YKA LR LR 18 30 49.2
comp=Z,100nm,18.7s,baz=308,slow=39
comp=Z,2.2nm,0.7s
H04A Detroit Lake 28.73 91 P **P 18 19 00.6 +0.4**
H04A IAmb IAmb 18 19 02.9
comp=Z,6.1nm,0.8s
G06A Carlson Farm, 29.35 88 P **P 18 19 06.7 +0.9**
G06A IAmb IAmb 18 19 50.5
comp=Z,7.0nm,1.4s
NEW Newport 29.90 81 LR LR 18 29 08.1
comp=Z,128nm,21.5s,baz=287,slow=32
J05D Fort Rock, OR 30.08 92 P **P 18 19 13.1 +0.7**
J05D IAmb IAmb 18 19 16.4
comp=Z,5.4nm,0.7s
YBH Yreka Blue Hor 30.13 96 LR LR 18 28 26.0
comp=Z,173nm,19.5s,baz=308,slow=30
KMRM Mail Ridge 30.48 99 P **P 18 19 18.3 +2.4**
I07A Izee 30.66 90 P **P 18 19 19.1 +1.7**
I07A IAmb IAmb 18 19 20.6
comp=Z,3.9nm,1.0s
WVOR Wild Horse Val 32.13 91 P **P 18 19 32.0 +1.6**
WVOR IAmb IAmb 18 19 33.2
comp=Z,4.1nm,0.8s
WVOR Wild Horse Val 32.13 91 P **P 18 19 32.0 +1.6**
WVOR pmax pmax
comp=Z,4.0nm,0.8s
BEKR Beckworth 32.69 97 P **P 18 19 36.5 +1.1**
BEKR IAmb IAmb 18 19 39.4
comp=Z,2.5nm,0.9s
TIXI Tiksi 33.22 328 LR LR 18 35 15.6
comp=Z,132nm,18.5s,baz=66,slow=40
PAHR Pah Rah Range 33.37 96 P **P 18 19 42.2 +1.0**
PNTR Pine Nut 33.63 97 P **P 18 19 44.9 +1.2**
YSS Yuzhno-Sakhali 33.66 280 *e*P **P 18 19 42.7 -0.8**
YSS pmax pmax
comp=Z,10.0nm,0.8s
WAKR Walker 34.11 98 P **P 18 19 49.8 +1.9**
WAKR IAmb IAmb 18 19 51.9
comp=Z,3.8nm,0.8s
YAK Yakutsk 34.57 311 LR LR 18 35 09.7
comp=Z,154nm,19.4s,baz=70,slow=38
LHV Little Huntoon 34.83 97 P **P 18 19 54.2 +0.4**
NVAR Mina Array Bea 34.83 97 P **P 18 19 53.5 -0.6**
NVAR Mina Array Bea 34.83 97 P **P 18 19 56.3 +2.2**
comp=Z,1.7nm,0.7s,baz=304,slow=9.1,SNR=7.7
NVAR LR LR 18 31 50.4
comp=Z,89nm,20.0s,baz=20,slow=32
comp=Z,1.7nm,0.7s
ELK Elko 35.18 91 LR LR 18 31 57.3
comp=Z,127nm,20.7s,baz=310,slow=32
ASAJ Asahikawa 35.30 276 LR LR 18 34 02.5
comp=Z,42nm,21.7s,baz=52,slow=36
GWY Greenwater Val 37.30 98 P **P 18 20 16.0 +0.9**
PDAR Pinedale Array 37.33 84 P **P 18 20 17.6 +2.1**
comp=Z,0.3nm,0.6s,baz=310,slow=9.2,SNR=3.5
PDAR LR LR 18 33 15.3
comp=Z,28nm,21.8s,baz=294,slow=32
comp=Z,0.3nm,0.6s
FCC Fort Churchill 37.89 53 P **P 18 20 19.9 +0.3**
FCC Fort Churchill 37.89 53 P **P 18 20 19.9 +0.3**
FCC pmax pmax
comp=Z,9.0nm,0.9s
KLR Kul'dur 38.79 290 LR LR 18 37 08.5
comp=Z,123nm,19.7s,baz=55,slow=37
KLR Kul'dur 38.79 290 *i* P **P 18 20 26.4 -1.0**
KLR pmax pmax
comp=Z,3.0nm,1.4s
PFO Pinyon Flats O 39.22 101 LR LR 18 33 14.1
comp=Z,161nm,18.9s,baz=240,slow=31
W13A Hualapai Mount 39.69 97 P **P 18 20 36.9 +1.6**
H11N2 WAKE ISLAND Hy 40.31 224 T T 19 04 01.8
baz=26,slow=76,SNR=207
H11N3 WAKE ISLAND Hy 40.31 224 T T 19 03 58.6
baz=26,slow=76,SNR=127
H11N1 WAKE ISLAND Hy 40.32 224 T T 19 04 00.1
baz=26,slow=76,SNR=134
PV13 Radium Mtn., P 40.65 89 P **P 18 20 44.1 +0.9**
PV13 IAmb IAmb 18 20 45.2
comp=Z,6.1nm,0.9s
WUAZ Wupatki 40.90 94 P **P 18 20 46.0 +0.8**
ULM Lac du Bonnet 40.99 66 LR LR 18 37 37.9
comp=Z,58nm,18.4s,baz=309,slow=36
USRK Ussuriysk Ar. 41.47 284 LR LR 18 36 20.1
comp=Z,83nm,22.0s,baz=27,slow=34
H11S1 WAKE ISLAND Hy 41.48 224 T T 19 05 27.7
baz=25,slow=76,SNR=355
H11S2 WAKE ISLAND Hy 41.49 224 T T 19 05 28.8
baz=25,slow=76,SNR=264
H11S3 WAKE ISLAND Hy 41.50 224 T T 19 05 37.4
baz=25,slow=76,SNR=150
MJAR Matsushiro Arr 42.64 270 P **P 18 20 58.8 -0.4**
comp=Z,2.4nm,0.9s,baz=20,slow=3.4,SNR=4.1
MJAR LR LR 18 36 45.9
comp=Z,53nm,22.0s,baz=64,slow=33
comp=Z,2.4nm,0.9s
NEEM North Greenlan 42.98 17 *e*P **P 18 21 01.4 -0.5**
NEEM IAmb IAmb 18 21 02.9
comp=Z,9.8nm,1.0s
NOR Nord 43.94 6 *e*P **P 18 21 10.6 +1.4**
NOR IAmb IAmb 18 21 10.7
comp=Z,5.1nm,0.8s
ANMO Albuquerque 44.21 91 LR LR 18 37 42.2
comp=Z,75nm,19.1s,baz=100,slow=33
NRIK Noril'sk 46.71 332 LR LR 18 42 13.1
comp=Z,55nm,18.8s,baz=27,slow=38
KSRS Korea Array 48.13 279 P **P 18 21 42.8 +0.1**
comp=Z,1.7nm,0.8s,baz=44,slow=6.7,SNR=5.8
KSRS LR LR 18 41 42.5
comp=Z,20nm,19.9s,baz=65,slow=36
comp=Z,1.7nm,0.8s
SPITS Spitsbergen Ar 48.48 360 P **P 18 21 44.2 -0.8**
comp=Z,17nm,1.1s,baz=352,slow=2.9,SNR=7.2
comp=Z,17nm,1.1s
SUMG Summit 48.71 19 P **P 18 21 46.5 -0.7**
SUMG Summit 48.71 19 P **P 18 21 46.5 -0.7**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 48.71 19 *i* P **P 18 21 47.0 -0.2**
JNU Nakatsue 49.35 273 LR LR 18 40 50.8
comp=Z,41nm,21.8s,baz=48,slow=34
TXAR Lajitas Array 49.86 94 P **P 18 21 57.1 +0.9**
TXAR Lajitas Array 49.86 94 P **P 18 21 57.5 +1.4**
comp=Z,6.9nm,0.7s,baz=302,slow=5.5,SNR=68
TXAR LR LR 18 41 19.1
comp=Z,36nm,18.7s,baz=271,slow=34
comp=Z,6.9nm,0.7s
SFJD Kangerlussuaq 49.96 28 LR LR 18 43 22.2
comp=Z,40nm,19.3s,baz=326,slow=36
DBG Daneborg 50.14 12 *e*P **P 18 21 56.5 -1.1**
R40A Maddies Statio 50.33 77 P **P 18 21 57.2 -2.3**
BRDY Brady 51.23 88 P **P 18 22 06.6 +0.2**
JCT Junction City 51.33 90 P **P 18 22 07.1 -0.1**
JCT Junction City 51.33 90 P **P 18 22 07.1 -0.1**
JCT pmax pmax
comp=Z,9.0nm,0.8s
DRIO Del Rio 51.61 91 P **P 18 22 09.0 -0.2**
FW16 Waxahatchie 51.63 86 P **P 18 22 09.0 -0.3**
FCAR Ozark Folk Cen 52.06 79 P **P 18 22 10.8 -1.7**
ULN Ulaanbaatar 52.79 302 P **P 18 22 16.8 -1.1**
ULN Ulaanbaatar 52.79 302 P **P 18 22 16.8 -1.1**
ULN pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 53.14 303 P **P 18 22 19.5 -1.0**
SONM IAmb IAmb 18 22 21.6
comp=Z,4.6nm,1.2s
SONM Songino Array 53.14 303 P **P 18 22 20.0 -0.4**
comp=Z,2.8nm,0.9s,baz=42,slow=6.4,SNR=15
SONM PcP **PcP 18 23 28.6 +0.3**
comp=Z,1.7nm,1.0s,baz=77,slow=2.6,SNR=4.4
SONM LR LR 18 45 33.1
comp=Z,45nm,21.4s,baz=68,slow=37
comp=Z,2.8nm,0.9s
SADO Sadowa 53.30 62 LR LR 18 43 35.3
comp=Z,46nm,18.9s,baz=186,slow=34
GLAT Glass 53.45 77 P **P 18 22 23.6 +0.8**
HBVL Hebbronville 54.50 92 P **P 18 22 31.9 +1.4**
HHC Hu-ho-hao-te 55.16 293 *e*P P 18 22 40.5 +5.2
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,95nm,5.3s
JOW Kunigami 55.46 269 P **P 18 22 36.9 -0.6**
E62A Clayton Lake 56.92 55 P **P 18 22 47.1 -0.6**
ARCES ARCESS Array B 56.96 356 P **P 18 22 46.9 -0.7**
comp=Z,3.3nm,0.8s,baz=16,slow=7.5,SNR=8.8
ARCES LR LR 18 49 18.3
comp=Z,30nm,18.0s,baz=23,slow=38
comp=Z,3.3nm,0.8s
TKL Tuckaleechee C 57.05 73 LR LR 18 46 32.7
comp=Z,85nm,19.3s,baz=54,slow=35
ZALV Zalesovo Beam 58.44 320 P **P 18 22 57.6 -0.5**
comp=Z,0.6nm,0.4s,baz=35,slow=5.3,SNR=2.4
ZALV LR LR 18 50 06.0
comp=Z,46nm,18.1s,baz=48,slow=38
comp=Z,0.6nm,0.4s
BORG Borgarnes 58.63 18 LR LR 18 49 41.6
comp=Z,28nm,20.2s,baz=350,slow=38
GTA Gaotai 62.47 300 *e*P **P 18 23 25.0 -1.1**
GTA pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 63.34 321 *i* P **P 18 23 32.1 +0.6**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURBB Kurchatov Arra 63.45 321 P **P 18 23 31.6 -0.6**
comp=Z,3.1nm,0.2s,baz=36,slow=6.2,SNR=4.3
KURBB LR LR 18 54 01.2
comp=Z,103nm,18.3s,baz=167,slow=39
comp=Z,3.1nm,0.2s
BVAR Borovoye Array 64.34 327 P **P 18 23 37.5 -0.6**
comp=Z,2.3nm,0.7s,baz=47,slow=6.9,SNR=11
BVAR LR LR 18 55 00.2
comp=Z,87nm,18.4s,baz=30,slow=39
comp=Z,2.3nm,0.7s
BRVK Borovoye 64.35 327 *ce*P **P 18 23 38.8 +0.7**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
KIRV Kirov 64.85 341 LR LR 18 56 07.3
comp=Z,78nm,18.3s,baz=31,slow=40
KIRV Kirov 64.85 341 *ce*P **P 18 23 40.9 -0.3**
ARTI Arti 64.88 335 LR LR 18 56 46.6
comp=Z,52nm,18.2s,baz=42,slow=40
ARTI Arti 64.88 335 *d i*P **P 18 23 41.4 -0.1**
ARTI 18 24 13.4
ARTI 18 25 59.1
ARTI S **S 18 32 20.6 +0.9**
ARTI SS **SS 18 36 32.3 +1.8**
ARTI pmax pmax
comp=Z,28nm,2.9s
FINES FINESS Array B 65.00 354 P **P 18 23 41.2 -0.9**
comp=Z,6.1nm,0.8s,baz=8.6,slow=6.6,SNR=8.2
FINES LR LR 18 54 43.0
comp=Z,37nm,18.2s,baz=3.5,slow=38
comp=Z,6.1nm,0.8s
MK31 Makanchi Array 65.02 316 *ce*P **P 18 23 40.7 -1.9**
MKAR Makanchi Array 65.02 316 P **P 18 23 41.3 -1.3**
comp=Z,0.7nm,0.7s,baz=44,slow=5.4,SNR=10
MKAR LR LR 18 53 23.6
comp=Z,85nm,20.6s,baz=20,slow=37
comp=Z,0.7nm,0.7s
MKAR Makanchi Array 65.02 316 *ce*P **P 18 23 41.7 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 65.66 2 P **P 18 23 46.3 -0.3**
comp=Z,4.1nm,0.9s,baz=358,slow=6.5
NOA NORSAR Array B 65.66 2 P **P 18 23 45.9 -0.6**
comp=Z,2.4nm,1.0s,baz=359,slow=6.3,SNR=5.0
NOA LR LR 18 53 51.8
comp=Z,13nm,18.6s,baz=60,slow=37

comp=Z,2.4nm,1.0s
HFS Hagfors 66.61 1 P **P 18 23 51.8 -0.8**
comp=Z,3.3nm,0.5s,baz=29,slow=3.3,SNR=22
comp=Z,3.3nm,0.5s
HOMB Homborsund 68.35 4 *e*S **S 18 32 58.9 -2.7**
OBN Obninsk 70.26 347 *i* P **P 18 24 13.8 -1.6**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,76nm,18.0s
AKTO Aktyubinsk 70.33 333 LR LR 18 57 25.4
comp=Z,36nm,21.4s,baz=70,slow=38
EKA Eskdalemuir Ar 70.35 11 P **P 18 24 16.2 +0.2**
comp=Z,2.3nm,0.7s,baz=340,slow=4.8,SNR=6.9
comp=Z,2.3nm,0.7s
AAK Ala-Archa 71.60 318 LR LR 18 58 12.1
comp=Z,83nm,20.7s,baz=37,slow=38
AAK Ala-Archa 71.60 318 *ce*P **P 18 24 24.7 +0.6**
AAK pmax pmax
comp=Z,4.0nm,1.3s
PPT Papeete 72.04 165 LR LR 18 51 45.0
comp=Z,89nm,20.3s,baz=338,slow=32
KSH Kashi 73.62 315 P **P 18 24 39.5 +3.4**
KSH pmax pmax
comp=Z,4.0nm,0.6s
RNPP9 Sopachiv 75.00 353 P **P 18 24 44.8 +1.1**
AKASG Malin Array Be 75.43 351 P **P 18 24 45.6 -0.6**
comp=Z,4.3nm,0.7s,baz=12,slow=5.5,SNR=17
AKASG LR LR 18 59 41.2
comp=Z,20nm,20.5s,baz=51,slow=37
comp=Z,4.3nm,0.7s
AKASG Malin Array Be 75.43 351 *ce*P **P 18 24 45.7 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 75.43 351 *ce*P **P 18 24 45.7 -0.5**
AKBB pmax pmax
comp=Z,12nm,1.0s
AKBB Malin Array Si 75.43 351 P **P 18 24 46.1 -0.1**
CLL Collm 75.45 2 *e*P **P 18 24 45.0 -1.3**
STHS Stebnicka Huta 77.24 356 *e*P **P 18 24 57.7 +1.2**
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 77.24 356 *e*P **P 18 24 57.7 +1.2**
KOLS Kolonicke sedl 77.68 355 *e*P **P 18 25 01.7 +2.7**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 77.68 355 *e*P **P 18 25 01.7 +2.7**
GERES GERESS Array B 77.92 1 P **P 18 25 00.5 +0.1**
comp=Z,0.9nm,0.8s,baz=349,slow=4.1,SNR=5.7
comp=Z,0.9nm,0.8s
MODS Modra-Piesok 78.39 359 *e*P **P 18 25 03.3 +0.4**
MODS pmax pmax
comp=Z,11nm,1.0s
MODS Modra-Piesok 78.39 359 *e*P **P 18 25 03.3 +0.4**
SRO Srobarova 78.94 358 *e*P **P 18 25 07.9 +2.0**
SRO pmax pmax
comp=Z,11nm,0.6s
SRO Srobarova 78.94 358 *e*P **P 18 25 07.8 +1.9**
CMAR Chiang Mai Arr 79.14 286 P **P 18 25 07.7 +0.2**
comp=Z,5.0nm,1.1s,baz=20,slow=5.0,SNR=20
CMAR LR LR 19 03 07.3
comp=Z,16nm,19.1s,baz=60,slow=38
comp=Z,5.0nm,1.1s
KVAR Kislovodsk Arr 80.06 340 LR LR 19 03 42.6
comp=Z,49nm,19.3s,baz=227,slow=38
KIV Kislovodsk 80.06 340 *e*P **P 18 25 12.3 +0.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,40nm,19.0s
KBZ Khabaz 80.24 340 P **P 18 25 13.8 +0.8**
comp=Z,5.0nm,0.9s,baz=335,slow=2.8,SNR=12
KBZ LR LR 19 04 28.8
comp=Z,62nm,18.0s,baz=20,slow=38
comp=Z,5.0nm,0.9s
KBZ Khabaz 80.24 340 *ce*P **P 18 25 13.5 +0.5**
SHA1 Shidzhatmaz 80.28 340 *i* P **P 18 25 13.8 +0.2**
GNI Garni 83.27 338 LR LR 19 08 35.5
comp=Z,40nm,18.3s,baz=48,slow=40
ESDC Sonseca Array 85.60 15 P **P 18 25 42.3 +1.4**
comp=Z,0.7nm,0.7s,baz=338,slow=5.7,SNR=2.6
comp=Z,0.7nm,0.7s
BRTR Keskin Array B 85.73 346 P **P 18 25 42.3 +0.6**
comp=Z,1.4nm,0.8s,baz=346,slow=3.0,SNR=4.7
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 85.73 346 *ce*P **P 18 25 41.5 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 90.08 235 P **P 18 26 04.6 +2.1**
comp=Z,0.6nm,1.2s,baz=27,slow=5.1,SNR=2.2
comp=Z,0.6nm,1.2s
PSI Prapat 91.65 277 LR LR 19 12 03.0
comp=Z,24nm,18.4s,baz=138,slow=39
ASAR Alice Springs 93.45 234 P **P 18 26 19.6 +1.5**
comp=Z,0.3nm,0.9s,baz=36,slow=4.0,SNR=6.2
comp=Z,0.3nm,0.9s
EIL Elat 95.37 343 LR LR 19 15 37.4
comp=Z,18nm,18.8s,baz=56,slow=39

*BUT **26** 18:30:55.3±1.8, 46°.81N±0°.01×113°.68W±0°.02, h8km±8km, Error ellipse: s-maj=2.4km s-min=0.9km az=144.0*
NEIC 26 18:30:54.5±1.7, 46°.80N±0°.01×113°.70W±0°.02, h10km±8km, ML2.4/36, ML2.5/16(BUT), Error ellipse: s-maj=2.7km s-min=1.2km az=134.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSO	**Missoula**	**0.17**	**279**		Pg	18 30 58.9	+0.7
MSO					Sg	18 31 01.4	+0.7
MSO				IAML		18 31 02.1	
	1μm,0.2s						
CHMT	**Chamberlain Mo**	**0.33**	**70**		Pg	18 31 01.4	+0.3
CHMT					Sg	18 31 05.8	+0.2
BPMT	**Black Pine Rid**	**0.41**	**154**		Pg	18 31 03.0	+0.5
BPMT					Sg	18 31 08.7	+0.7
SLMT	**Seeley Lake**	**0.46**	**18**		Pb	18 31 04.4	-0.4
PCMT	**Pistol Creek**	**0.47**	**332**		Pb	18 31 04.5	-0.5
VCMT	**Victor**	**0.49**	**223**		Pb	18 31 05.0	-0.3
OVMT	**Ovando**	**0.55**	**61**		Pg	18 31 05.3	+0.1
ALMT	**Alberton, Mont**	**0.56**	**294**		Pb	18 31 06.2	-0.3
SWMT	**Swartz Lake**	**0.73**	**344**		Pg	18 31 08.8	+0.1
FBMT	**Ferry Basin**	**0.78**	**321**		Pg	18 31 09.9	+0.4
NDMT	**Ninemile Divid**	**0.88**	**302**		Pb	18 31 12.1	0.0
BEMT	**Mount Belmont**	**0.94**	**93**		Pg	18 31 12.9	+0.2
MKMT	**Mink Peak**	**1.01**	**288**		Pb	18 31 14.4	+0.2
JTMT	**Jette**	**1.02**	**337**		Pg	18 31 13.9	-0.3
YBMT	**Yellow Bay**	**1.08**	**349**		Pg	18 31 15.1	-0.1
BUT	**Butte**	**1.12**	**135**		Pn	18 31 16.9	+0.5
BHMT	**Big Hole Peak**	**1.20**	**311**		Pn	18 31 17.9	+0.3
HBMT	**Mount Humbug**	**1.26**	**143**		Pg	18 31 18.8	0.0
BSMT	**Bassoo Peak**	**1.28**	**325**		Pg	18 31 19.2	+0.1
BLMT	**Blacktail Moun**	**1.29**	**340**		Pb	18 31 19.1	+0.1
HRY	**Holter Researc**	**1.29**	**93**		Pg	18 31 19.2	0.0
LRM	**Limekiln Ridge**	**1.31**	**138**		Pn	18 31 19.2	+0.1
DLMT	**Dillon**	**1.63**	**151**		Pn	18 31 22.9	-0.6
SXM	**Sixmile**	**1.84**	**110**		Pb	18 31 29.0	+0.5
BOZ	**Bozeman (W)**	**1.88**	**129**		Pn	18 31 27.0	+0.1
BGMT	**Barton Gulch**	**1.95**	**143**		Pn	18 31 28.4	+0.4
LDM	**Libby Dam**	**1.98**	**327**		Pb	18 31 29.5	-1.2
MCMT	**McKenzie Canyo**	**2.06**	**163**		Pn	18 31 30.1	+0.6
PLID	**Pearl Lake**	**2.35**	**224**		Pn	18 31 34.6	+1.2
MOMT	**Monida**	**2.39**	**157**		Pn	18 31 34.9	+0.9
ICI	**Italian Canyon**	**2.53**	**168**		Pn	18 31 36.9	+0.9
F10A	**Beach Ranch, E**	**2.58**	**252**	Pn	Pn	18 31 37.6	+1.2
YHL	**Hebgen Lake**	**2.63**	**137**	Pn	Pn	18 31 37.5	+0.1
YHL				IAML		18 32 19.5	
	comp=N,14nm,0.8s						
YHL				IAML		18 32 22.2	
	comp=E,12nm,0.7s						
YHB	**Horse Butte**	**2.70**	**139**	Pn	Pn	18 31 38.1	-0.1
YHB				IAML		18 32 23.8	
	comp=N,13nm,0.2s						
NEW	**Newport**	**2.74**	**303**	Pn	Pn	18 31 38.4	-0.2
NEW				IAML		18 33 08.9	
	comp=N,13nm,4.0s						
YHH	**Holmes Hill**	**2.84**	**134**	Pn	Pn	18 31 41.5	+1.3
YMR	**Madison River**	**2.87**	**137**		Pn	18 31 41.2	+0.7
YMR				IAML		18 32 03.3	
	comp=E,14nm,4.8s						
YMR				IAML		18 32 26.6	
	comp=N,14nm,2.5s						
CNCI	**Crows Nest Can**	**2.88**	**176**		Pn	18 31 41.5	+0.8
EGMT	**Eagleton**	**2.95**	**64**	Pn	Pn	18 31 41.2	-0.3
EGMT				IAML		18 32 35.0	
	comp=N,16nm,1.3s						
YNE	**Yellowstone No**	**3.14**	**124**	Pn	Pn	18 31 44.0	-0.3
YNE				IAML		18 32 34.2	
	comp=E,8.1nm,0.5s						
YNE				IAML		18 32 35.8	
	comp=N,11nm,0.4s						
BMO	**Blue Mountains**	**3.19**	**234**	Pn	Pn	18 31 44.4	-0.4
BMO				IAML		18 32 47.9	
	comp=N,6.1nm,4.4s						
C09A	**Chrisman Ranch**	**3.27**	**289**	Pn	Pn	18 31 47.0	+1.1
HLID	**Hailey**	**3.28**	**189**	Pn	Pn	18 31 45.5	-0.6
HLID				IAML		18 32 38.7	
	comp=N,15nm,0.3s						
HLID				IAML		18 32 41.1	
	comp=N,9.6nm,0.2s						
LNOR	**Lincton Mounta**	**3.31**	**255**	Pn	Pn	18 31 45.8	-0.7
LNOR				IAML		18 32 30.9	
	comp=E,8.7nm,4.6s						
LNOR				IAML		18 32 36.1	
	comp=N,13nm,4.6s						
RLMT	**Red Lodge**	**3.52**	**117**	Pn	Pn	18 31 47.4	-2.1
RLMT				IAML		18 32 22.9	
	comp=N,11nm,4.5s						
RLMT				IAML		18 33 45.0	
	comp=N,9.2nm,3.7s						
MFID	**Camas Ranch**	**3.71**	**205**	Pn	Pn	18 31 49.8	-2.2
B08A	**Colville Reser**	**4.12**	**294**	Pn	Pn	18 31 56.6	-0.9
B08A				IAML		18 34 16.2	
	comp=N,6.7nm,4.5s						

*IDC **26** 18:32:20.4±1.9, 22°.30S×169°.72E, h0km, mb4.2/9, mbtmp4.2/10, ML3.8/1, MS3.1/3, Error ellipse: s-maj=72.3km s-min=22.8km az=158.0*
*NOU **26** 18:32:21.5, 22°.11S×169°.63E, h0km, MLv4.3/11, Southeast of Loyalty Islands*
*NEIC **26** 18:32:23.3±1.9, 22°.10S±0°.09×169°.54E±0°.09, h10km±1km, mb4.6/26, Error ellipse: s-maj=17.0km s-min=12.6km az=149.0*
ISC 26 18:32:25.2±0.5, 22°.11S±0°.06×169°.52E±0°.06, h25km, n66, σ0°.84/67, mb4.5/18, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.52**	**294**	P	**Pn**	**18 32 50.2**	**-0.6**
MARNC	**Mare, Loyalty**	**1.52**	**294**	S	**Sb**	**18 33 12.1**	**+0.5**
PINNC	**Pines Island,**	**1.99**	**255**		**Pn**	**18 32 57.8**	**+0.6**
PINNC				Sn	**Sn**	**18 33 21.2**	**-0.1**
PINNC	**Pines Island,**	**1.99**	**255**	P	**Pn**	**18 32 57.5**	**+0.2**
YATNC	**Mamie plateau,**	**2.44**	**271**	P	**Pn**	**18 33 03.5**	**0.0**
OUENC	**Ouen Island, N**	**2.50**	**262**	P	**Pn**	**18 33 04.6**	**+0.2**
INH	**Isangel**	**2.56**	**355**	P	**Pn**	**18 33 04.8**	**-0.3**
ONTNC	**Ouen Toro**	**2.85**	**265**		**Pn**	**18 33 09.6**	**+0.4**
ONTNC				Sn	**Sn**	**18 33 40.4**	**-2.3**
ONTNC	**Ouen Toro**	**2.85**	**265**	P	**Pn**	**18 33 09.9**	**+0.7**
DZM	**Mont Dzumac**	**2.86**	**270**		**Pn**	**18 33 09.1**	**-0.2**
DZM				Sn	**Sn**	**18 33 41.4**	**-1.6**
DZM	**Mont Dzumac**	**2.86**	**270**	Pn	**Pn**	**18 33 09.7**	**+0.3**
	12nm,0.3s,baz=119,slow=14,SNR=222						
DZM				Sn	**Sn**	**18 33 42.5**	**-0.5**
	48nm,0.3s,baz=317,slow=22,SNR=7.9						
DZM				LR	LR	18 34 08.8	
	comp=Z,115nm,19.0s,baz=47,slow=36						
	28nm,0.3s						
DZM	**Mont Dzumac**	**2.86**	**270**	P	**Pn**	**18 33 09.6**	**+0.3**
DVP	**Devils Point**	**4.54**	**344**	P	**Pn**	**18 33 31.5**	**-0.8**
KOUNC	**Koumac, New Ca**	**5.12**	**287**	P	**Pn**	**18 33 41.1**	**+0.7**
MSVF	**Nonsavu**	**9.12**	**63**	LR	LR	18 37 18.7	
	comp=Z,102nm,20.3s,baz=203,slow=33						
RTZ	**Ruatahuna**	**17.66**	**160**		**Pn**	**18 36 29.8**	**+0.2**
RTZ				IAmb	IAmb	18 36 37.4	
	comp=Z,45nm,1.4s						
ARMA	**Armidale**	**18.04**	**239**		**Pn**	**18 36 33.5**	**-0.9**
BFZ	**Birch Farm**	**19.38**	**164**	P	**P**	**18 36 47.8**	**-1.3**
BFZ				IAmb	IAmb	18 37 01.7	
	comp=Z,64nm,1.3s						
MRNZ	**Matariki Terra**	**19.43**	**173**	P	**P**	**18 36 48.5**	**-1.2**
TCW	**Tory Channel**	**19.47**	**169**	P	**Pn**	**18 36 51.4**	**-0.1**
COEN	**Coen**	**26.30**	**283**	P	**P**	**18 38 00.2**	**+1.1**
WR8	**Warramunga Arr**	**32.72**	**267**	P	**P**	**18 38 55.0**	**-1.1**
WR8				IAmb	IAmb	18 38 56.7	
	comp=Z,4.1nm,0.8s						
AS31	**Alice Springs**	**32.80**	**260**	P	**P**	**18 38 56.4**	**-0.4**
ASAR	**Alice Springs**	**32.80**	**260**	P	**P**	**18 38 56.5**	**-0.3**
ASAR	**Alice Springs**	**32.80**	**260**	P	**P**	**18 38 57.1**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=77,slow=8.5,SNR=46						
	comp=Z,2.3nm,0.8s						
WB0	**Warramunga Arr**	**32.85**	**268**	P	**P**	**18 38 55.9**	**-1.3**
WB0				IAmb	IAmb	18 38 58.3	
	comp=Z,6.1nm,0.9s						
WRA	**Warramunga Arr**	**32.87**	**267**	P	**P**	**18 38 55.6**	**-1.8**
WRA	**Warramunga Arr**	**32.87**	**267**	P	**P**	**18 38 57.1**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=98,slow=8.2,SNR=25						
	comp=Z,2.2nm,0.6s						
MTN	**Manton Dam**	**37.67**	**278**	P	**P**	**18 39 38.2**	**-0.6**
KNRA	**Kununurra**	**39.00**	**272**	P	**P**	**18 39 49.8**	**-0.2**
KNRA				IAmb	IAmb	18 40 26.1	
	comp=Z,22nm,1.5s						
FITZ	**Fitzroy Crossi**	**41.30**	**267**	P	**P**	**18 40 09.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**41.30**	**267**	LR	LR	18 57 25.2	
	comp=Z,73nm,19.1s,baz=278,slow=36						
JOHN	**Johnston Islan**	**43.71**	**30**	P	**P**	**18 40 29.6**	**+1.1**
PSA00	**Pilbara Seismi**	**45.95**	**261**	P	**P**	**18 40 46.1**	**-0.4**
MBWA	**Marble Bar**	**46.13**	**261**	P	**P**	**18 40 47.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**47.20**	**245**	P	**P**	**18 40 56.1**	**0.0**
QSPA	**South Pole Qui**	**67.96**	**180**	P	**P**	**18 43 22.1**	**+0.2**
QSPA				IAmb	IAmb	18 43 26.8	
	comp=Z,5.5nm,1.2s						
PEA0B	**Petropavlovsk-**	**75.60**	**353**	P	**P**	**18 44 07.9**	**+0.3**
PETK	**Petropavlovsk-**	**75.60**	**353**	P	**P**	**18 44 07.0**	**-0.6**
PETK	**Petropavlovsk-**	**75.60**	**353**	P	**P**	**18 44 08.0**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=143,slow=5.3,SNR=4.4						
	comp=Z,5.6nm,0.8s						
KLR	**Kul'dur**	**78.58**	**336**	P	**P**	**18 44 25.4**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=153,slow=2.3,SNR=2.6						
	comp=Z,1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**79.93**	**295**	P	**P**	**18 44 34.1**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=134,slow=4.8,SNR=6.1						
	comp=Z,1.0nm,0.9s						
SYO	**Syowa Base**	**82.27**	**196⇑**	*es*P	sP	18 44 49.0	-3.6
ACHA	**Angle Creek He**	**85.18**	**18**	P	**P**	**18 44 58.9**	**-0.2**
ACHA				IAmb	IAmb	18 45 27.4	
	comp=Z,10.0nm,1.4s						
O16K	**Kokwok River B**	**85.63**	**16**	P	**P**	**18 45 00.3**	**-0.8**
O16K				IAmb	IAmb	18 45 38.4	
	comp=Z,4.7nm,1.0s						
N15K	**Kwethluk River**	**85.64**	**15**	P	**P**	**18 45 01.8**	**+0.6**
SEY	**Seymchan**	**85.83**	**352**	P	**P**	**18 45 02.1**	**0.0**
	comp=Z,0.5nm,0.2s,baz=189,slow=6.6,SNR=4.1						
	comp=Z,0.5nm,0.2s						
N17K	**Nushagak Hills**	**86.67**	**16**	P	**P**	**18 45 06.3**	**0.0**
J16K	**Anvik River**	**88.30**	**13**	P	**P**	**18 45 14.4**	**+0.3**
J18K	**Innoko River**	**89.31**	**14**	P	**P**	**18 45 17.8**	**-1.1**
J18K				IAmb	IAmb	18 45 29.0	
	comp=Z,4.4nm,1.1s						
SONM	**Songino Array**	**89.66**	**323**	P	**P**	**18 45 21.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=133,slow=7.0,SNR=5.2						
	comp=Z,0.9nm,0.8s						
CAST	**Castle Rocks**	**90.41**	**16**	P	**P**	**18 45 22.4**	**-1.6**
CAST				IAmb	IAmb	18 45 26.3	
	comp=Z,3.1nm,1.0s						
NVAR	**Mina Array Bea**	**90.49**	**48**	P	**P**	**18 45 25.4**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=228,slow=8.5,SNR=7.7						
	comp=Z,1.9nm,0.8s						
J05D	**Fort Rock, OR**	**90.89**	**43**	P	**P**	**18 45 26.9**	**0.0**
G18K	**Tagagawik**	**91.00**	**13**	P	**P**	**18 45 25.8**	**-1.0**
H19K	**Roundabout Mou**	**91.14**	**13**	P	**P**	**18 45 27.3**	**-0.1**
H19K				IAmb	IAmb	18 45 47.7	
	comp=Z,6.1nm,1.5s						
ILAR	**Eielson Array**	**92.88**	**17**	P	**P**	**18 45 33.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=228,slow=5.6,SNR=8.8						
	comp=Z,0.5nm,0.6s						
PLCA	**Paso Flores**	**96.22**	**139**	LR	LR	19 19 43.1	
	comp=Z,226nm,21.0s,baz=276,slow=30						
ARCES	**ARCESS Array B**	**127.89**	**345**	PKP	**PKPdf**	**18 51 26.0**	**-2.0**
	comp=Z,2.0nm,0.9s,baz=22,slow=1.3,SNR=3.7						
BRG	**Berggiesshubel**	**145.54**	**332**	*e*P	**PKPab**	**18 52 02.0**	**+0.5**
BRG				Amp		18 52 03.2	
	comp=Z,7.2nm,1.0s						
CLL	**Collm**	**145.61**	**334**	*i* PKPbc	**PKPab**	**18 52 01.7**	**0.0**
CLL				*i* PKiKP	**PKiKP**	**18 52 05.2**	**0.0**
EKA	**Eskdalemuir Ar**	**146.37**	**352**	PKPbc	**PKPdf**	**18 52 02.7**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=9.6,slow=2.5,SNR=9.5						
EKB	**Eskdalemuir**	**146.37**	**352**	PKPdf	**PKPbc**	**18 52 02.9**	**-0.7**
ESK	**Eskdalemuir**	**146.39**	**352**	PKPdf	**PKPdf**	**18 52 02.5**	**+0.1**
GEC2	**GERESS Array S**	**147.12**	**330**		**PKPdf**	**18 52 04.8**	**+0.9**
GERES	**GERESS Array B**	**147.12**	**330**	PKPbc	**PKPbc**	**18 52 06.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=32,slow=3.8,SNR=9.5						

GUC 26 18:40:15.0±0.7, 22°.18S×68°.68W, h109km±3km, ML2.7, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**306**	*e*P	Pn	18 40 33.1	+0.1
PB09				*i* S	Sn	18 40 46.7	+0.1
PB09	**IPOC Station P**	**0.65**	**306⇑**	*i*P	Pn	18 40 32.9	-0.2
PB09				*i* S	Sn	18 40 46.4	-0.2
PB09				IAML		18 40 47.3	
	comp=N,118nm,0.6s						
PB06	**IPOC Station P**	**0.98**	**237**	*e*P	Pn	18 40 35.6	-0.5
PB06				*i* S	Sn	18 40 51.9	-0.1
PB06				IAML		18 40 52.4	
	comp=E,197nm,0.2s						
PB06	**IPOC Station P**	**0.98**	**237**	*e*P	Pn	18 40 35.7	-0.4
PB06				*i* S	Sn	18 40 51.8	-0.2
PB06				IAML		18 40 52.4	
	comp=E,199nm,0.2s						
PB03	**IPOC Station P**	**1.01**	**277**	*e*P	Pn	18 40 35.9	-0.5
PB03				*i* S	Sn	18 40 52.2	-0.2
PB03				IAML		18 40 53.4	
	comp=N,188nm,0.2s						
PB03	**IPOC Station P**	**1.01**	**277⇑**	*i*P	Pn	18 40 35.9	-0.5
PB03				*i* S	Sn	18 40 52.2	-0.3
PB03				IAML		18 40 53.4	
	comp=N,189nm,0.1s						
PB01	**IPOC Station P**	**1.36**	**326**	*e*P	Pn	18 40 39.6	-0.6
PB01				*i* S	Sn	18 40 59.1	-0.2
PB01				IAML		18 41 00.7	
	comp=N,98nm,0.3s						
PB01	**IPOC Station P**	**1.36**	**326⇑**	*i*P	Pn	18 40 39.6	-0.6
PB01				*i* S	Sn	18 40 58.8	-0.5
PB01				IAML		18 41 00.8	
	comp=N,98nm,0.4s						
PB05	**IPOC Station P**	**1.56**	**244**	*e*P	Pn	18 40 42.0	-0.7
PB05				*i* S	Sn	18 41 02.9	-0.8
PB05	**IPOC Station P**	**1.56**	**244**	*e*P	Pn	18 40 41.9	-0.7
PB05				*i* S	Sn	18 41 02.5	-1.1
PATCX	**Punta Patache**	**1.93**	**314**	*e*P	Pn	18 40 46.4	-0.8
PATCX				*i* S	Sn	18 41 10.8	-0.8
PX03	**IPOC Station P**	**1.98**	**333**	*i* S	Sn	18 41 12.2	-0.6
PB08	**IPOC Station P**	**2.08**	**348**	*e*P	Pn	18 40 49.7	+0.4
PB08				*i* S	Sn	18 41 16.2	+0.8
PB08				IAML		18 41 19.1	
	comp=E,33nm,0.5s						
TA01	**Diego Aracena**	**2.13**	**319**	*e*P	Pn	18 40 49.5	-0.1
TA01				*e*S	Sn	18 41 15.8	-0.3
TA01	**Diego Aracena**	**2.13**	**319**	*e*P	Pn	18 40 49.0	-0.6
TA01				*i* S	Sn	18 41 14.9	-1.2
TA01				IAML		18 41 16.7	
	comp=E,89nm,0.2s						
HMBC	**Humberstone**	**2.20**	**329**	*e*P	Pn	18 40 49.4	-1.3
HMBC				*i* S	Sn	18 41 17.4	-0.6
HMBC				IAML		18 41 18.0	
	comp=N,92nm,0.2s						
HMBC	**Humberstone**	**2.20**	**329**	*e*P	Pn	18 40 49.4	-1.3
HMBC				*i* S	Sn	18 41 17.3	-0.7
PB11	**IPOC Station P**	**2.57**	**339**	*e*P	Pn	18 40 54.4	-1.1
PB11				*i* S	Sn	18 41 26.2	-0.4
PB11	**IPOC Station P**	**2.57**	**339**	*e*P	Pn	18 40 54.4	-1.2
PB11				*i* S	Sn	18 41 25.0	-1.6

*NEIC **26** 18:51:16.0±1.8, 18°.74N±0°.08×145°.5E±0°.1, h205km±6km, mb4.5/88, Error ellipse: s-maj=16.4km s-min=11.0km az=91.0*
*IDC **26** 18:51:17.9±1.7, 18°.78N×145°.48E, h236km±15km, mb3.4/13, mbtmp4.0/16, Error ellipse: s-maj=18.5km s-min=9.7km az=84.0*
ISC 26 18:51:14.6±0.4, 18°.78N±0°.05×145°.48E±0°.08, h200km, n128, σ1°.26/129, mb4.4/51, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.19**	**187**	Pn	**Pn**	**18 52 33.0**	**+1.5**
GUMO				Sn	**Sn**	**18 53 32.1**	**-0.2**
GUMO	**Guam**	**5.19**	**187**	P	**Pn**	**18 52 36.0**	**+4.4**
	47nm,0.8s,baz=18,slow=20,SNR=1.7						
GUMO				S	**Sn**	**18 53 31.4**	**-0.9**
	29nm,0.3s,baz=214,slow=20,SNR=1.7						
JOW	**Kunigami**	**17.76**	**300**	P	**P**	**18 55 08.4**	**+0.5**
JOW				IAmb	IAmb	18 55 12.5	
	comp=Z,19nm,0.7s						
JOW	**Kunigami**	**17.76**	**300**	P	**P**	**18 55 09.5**	**+1.6**
	comp=Z,16nm,0.6s,baz=111,slow=16,SNR=5.1						
JGF	**Kuroka**	**18.24**	**338**	P	**P**	**18 55 14.9**	**+1.9**
JGF				IAmb	IAmb	18 55 57.4	
	comp=Z,34nm,1.4s						
MJAR	**Matsushiro Arr**	**18.82**	**342**	P	**P**	**18 55 20.4**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=168,slow=10,SNR=5.1						
MAJO	**Matsushiro**	**18.82**	**342**	P	**P**	**18 55 20.1**	**+0.7**
MAJO				IAmb	IAmb	18 55 45.0	
	comp=Z,23nm,1.5s						
MJB9	**Matsu-Tunnel**	**18.83**	**342**	P	**P**	**18 55 21.0**	**+1.6**
MJB9				IAmb	IAmb	18 55 45.9	
	comp=Z,21nm,1.5s						
JMM	**Marumori**	**19.46**	**349**	P	**P**	**18 55 28.2**	**+2.1**
H11S3	**WAKE ISLAND Hy**	**20.10**	**87**	T	T	19 16 52.9	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**20.11**	**87**	T	T	19 16 55.8	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**20.11**	**87**	T	T	19 16 57.1	
	baz=274						
H11N1	**WAKE ISLAND Hy**	**20.23**	**84**	T	T	19 17 09.7	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**20.24**	**84**	T	T	19 17 10.8	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**20.25**	**84**	T	T	19 17 18.3	
	baz=267						
MANU	**Manus Island**	**20.77**	**175**	P	**P**	**18 55 40.1**	**-0.3**
JAY	**Jayapura**	**21.67**	**193**	P	**P**	**18 55 50.0**	**+0.2**
	comp=Z,9.7nm,0.8s,baz=5.2,slow=11,SNR=5.9

WR8	**Warramunga Arr**	**39.97 196**	P	**P**	**18 58 29.9**	**0.0**
WR8			IAmb	IAmb	18 58 31.0	
comp=Z,42nm,1.3s						
WRAB	**Tennant Creek**	**39.99 196**	P	**P**	**18 58 29.8**	**-0.2**
WB2	**Warramunga Arr**	**40.00 196**	P	**P**	**18 58 30.3**	**+0.1**
WRA	**Warramunga Arr**	**40.00 196**	P	**P**	**18 58 29.2**	**-0.9**
WRA	**Warramunga Arr**	**40.00 196**	P	**P**	**18 58 30.5**	**+0.3**
comp=Z,25nm,0.5s,baz=23,slow=9.1,SNR=140						
WRA			PcP	**PcP**	**19 00 29.9**	**-1.3**
comp=Z,0.3nm,0.4s,baz=19,slow=3.2,SNR=1.5						
WRA			ScP	**ScP**	**19 03 55.8**	**-5.5**
comp=Z,0.5nm,0.8s,baz=20,slow=3.7,SNR=3.3						
JAGI	**Jajag, Banyuwa**	**41.08 232**	P	**P**	**18 58 37.9**	**-1.3**
JAGI			IAmb	IAmb	18 58 59.0	
comp=Z,19nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.51 209**	P	**P**	**18 58 42.7**	**+0.2**
SONM	**Songino Array**	**42.96 321**	P	**P**	**18 58 52.3**	**-1.8**
comp=Z,0.3nm,0.6s,baz=97,slow=8.7,SNR=2.2						
comp=Z,0.3nm,0.6s						
UGM	**Wanagama**	**43.49 236**	P	**P**	**18 58 58.1**	**-0.5**
AS31	**Alice Springs**	**43.67 195**	P	**P**	**18 58 58.9**	**-0.9**
ASAR	**Alice Springs**	**43.67 195**	P	**P**	**18 58 59.5**	**-0.4**
ASAR	**Alice Springs**	**43.67 195**	P	**P**	**18 58 59.8**	**-0.1**
comp=Z,3.8nm,0.7s,baz=18,slow=7.9,SNR=90						
ASAR			ScP	**ScP**	**19 04 11.2**	**-4.8**
comp=Z,0.3nm,0.7s,baz=17,slow=3.4,SNR=2.7						
comp=Z,3.8nm,0.7s						
CM31	**Chiang Mai Arr**	**44.01 277**	P	**P**	**18 59 03.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**44.01 277**	P	**P**	**18 59 04.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**44.01 277**	P	**P**	**18 59 03.3**	**+0.6**
comp=Z,0.7nm,0.6s,baz=81,slow=5.1,SNR=11						
comp=Z,0.7nm,0.6s						
MYKOM	**Kota Tinggi**	**44.13 252**	P	**P**	**18 59 05.1**	**+1.4**
MYKOM			IAmb	IAmb	18 59 06.2	
comp=Z,18nm,0.6s						
EIDS	**Eidsvold**	**44.22 173**	P	**P**	**18 59 03.4**	**-0.7**
DZM	**Mont Dzumac**	**45.48 152**	P	**P**	**18 59 13.9**	**-0.3**
DZM			IAmb	IAmb	18 59 39.1	
comp=Z,16nm,1.2s						
KULM	**Kulim**	**45.70 259**	P	**P**	**18 59 17.8**	**+1.7**
KULM			IAmb	IAmb	18 59 19.0	
comp=Z,12nm,0.8s						
MBWA	**Marble Bar**	**47.02 214**	P	**P**	**18 59 26.0**	**-0.2**
MBWA			IAmb	IAmb	18 59 48.2	
comp=Z,43nm,1.5s						
PSA00	**Pilbara Seismi**	**47.30 213**	P	**P**	**18 59 28.2**	**-0.1**
PSA00			IAmb	IAmb	18 59 29.4	
comp=Z,20nm,1.2s						
PSA00	**Pilbara Seismi**	**47.30 213**	P	**P**	**18 59 28.1**	**-0.2**
XMIS	**Christmas Isla**	**48.87 237**	P	**P**	**18 59 39.6**	**-0.8**
XMIS			IAmb	IAmb	18 59 40.3	
comp=Z,29nm,0.7s						
ARMA	**Armidale**	**49.27 173**	P	**P**	**18 59 44.1**	**+0.8**
ARMA			IAmb	IAmb	19 00 10.9	
comp=Z,38nm,1.5s						
GSI	**Gunungsitoli**	**50.05 255**		**P**	**18 59 50.2**	**+0.8**
STKA	**Stephens Creek**	**50.50 184**	P	**P**	**18 59 51.7**	**-0.7**
STKA			IAmb	IAmb	19 00 31.9	
comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**50.50 184**	P	**P**	**18 59 51.2**	**-1.2**
comp=Z,1.7nm,0.5s,baz=10,slow=11,SNR=7.1						
comp=Z,1.7nm,0.5s						
GIRL	**Giralia**	**51.26 218**	P	**P**	**18 59 59.0**	**+0.8**
FORT	**Forrest**	**52.04 199**	P	**P**	**19 00 03.8**	**-0.1**
FORT			IAmb	IAmb	19 00 25.3	
comp=Z,31nm,1.2s						
BBOO	**Buckleboo**	**52.08 190**	P	**P**	**19 00 03.1**	**-1.0**
BBOO			IAmb	IAmb	19 00 36.5	
comp=Z,31nm,1.4s						
CAN	**Canberra**	**53.90 176**	P	**P**	**19 00 18.7**	**+1.2**
CAN			IAmb	IAmb	19 00 35.6	
comp=Z,25nm,1.3s						
SDPT	**Sand Point**	**54.52 35**	P	**P**	**19 00 22.9**	**+1.2**
MORW	**Morawa**	**55.41 212**	P	**P**	**19 00 28.4**	**0.0**
MORW			IAmb	IAmb	19 00 28.8	
comp=Z,7.2nm,0.7s						
TOO	**Toolangi**	**56.04 180**	P	**P**	**19 00 32.9**	**+0.1**
N15K	**Kwethluk River**	**56.45 29**	P	**P**	**19 00 36.1**	**+0.7**
N15K			IAmb	IAmb	19 00 38.5	
comp=Z,18nm,1.2s						
K15K	**Wolf Creek Mou**	**56.67 27**	P	**P**	**19 00 36.9**	**0.0**
J16K	**Anvik River**	**57.48 26**	P	**P**	**19 00 43.9**	**+1.4**
J16K			IAmb	IAmb	19 00 47.3	
comp=Z,19nm,1.4s						
MK31	**Makanchi Array**	**58.26 314**	P	**P**	**19 00 47.9**	**-0.4**
MKAR	**Makanchi Array**	**58.26 314**	P	**P**	**19 00 47.8**	**-0.5**
MKAR	**Makanchi Array**	**58.26 314**	P	**P**	**19 00 48.0**	**-0.3**
comp=Z,0.5nm,0.6s,baz=92,slow=7.5,SNR=8.6						
MKAR			PcP	**PcP**	**19 01 36.4**	**-0.9**
comp=Z,0.2nm,0.4s,baz=103,slow=4.6,SNR=4.6						
MKAR			ScP	**ScP**	**19 05 15.2**	**-3.2**
comp=Z,0.3nm,0.8s,baz=93,slow=5.9,SNR=2.3						
comp=Z,0.5nm,0.6s						
O18K	**Koktuh Hills**	**58.65 31**	P	**P**	**19 00 52.5**	**+1.8**
O18K			IAmb	IAmb	19 00 53.0	
comp=Z,14nm,1.4s						
H18K	**Honhosa River**	**59.14 24**	P	**P**	**19 00 54.8**	**+0.8**
CNPM	**China Poot**	**60.50 32**	P	**P**	**19 01 03.5**	**+0.2**
F20K	**Avaraart Lake**	**60.87 23**	P	**P**	**19 01 07.5**	**+1.9**
SKT	**Skwentna**	**60.97 29**	P	**P**	**19 01 06.8**	**+0.3**
KURK	**Kurchatov**	**61.08 318**	P	**P**	**19 01 07.2**	**-0.1**
CAST	**Castle Rocks**	**61.12 27**	P	**P**	**19 01 08.3**	**+0.8**
CAST			IAmb	IAmb	19 01 12.6	
comp=Z,6.3nm,1.4s						
KURBB	**Kurchatov Arra**	**61.13 318**	P	**P**	**19 01 06.9**	**-0.8**
comp=Z,0.8nm,0.6s,baz=93,slow=7.5,SNR=17						
comp=Z,0.8nm,0.6s						
SLKM	**Skilak Lake**	**61.23 31**	P	**P**	**19 01 08.9**	**+0.6**
SLKM			IAmb	IAmb	19 01 11.1	
comp=Z,9.6nm,1.3s						
H21K	**Melozitna Rive**	**61.49 25**	P	**P**	**19 01 11.0**	**+1.0**
B20K	**Meade River**	**61.56 19**	P	**P**	**19 01 11.0**	**+0.7**
B20K			IAmb	IAmb	19 01 24.9	
comp=Z,9.5nm,1.4s						
KDJ	**Kajisay**	**61.68 308**	P	**P**	**19 01 11.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**61.78 26**	P	**P**	**19 01 12.8**	**+1.0**
BPAW			IAmb	IAmb	19 01 34.5	
comp=Z,7.3nm,1.4s						
E23K	**Chandalar**	**63.42 22**	P	**P**	**19 01 23.6**	**+0.9**
E23K			IAmb	IAmb	19 01 24.8	
comp=Z,5.4nm,1.2s						
ILAR	**Eielson Array**	**63.67 26**	P	**P**	**19 01 23.4**	**-0.9**
comp=Z,0.5nm,0.6s,baz=259,slow=5.5,SNR=8.4						
comp=Z,0.5nm,0.6s						
D24K	**Happy Valley**	**64.00 21**	P	**P**	**19 01 27.8**	**+1.4**
D24K			IAmb	IAmb	19 01 53.0	
comp=Z,8.5nm,1.5s						
SCRK	**Sand Creek**	**64.76 27**	P	**P**	**19 01 31.9**	**+0.3**
BMAR	**Burnt Mountain**	**65.13 24**	P	**P**	**19 01 35.0**	**+1.2**
BFZ	**Birch Farm**	**65.71 155**	P	**P**	**19 01 39.7**	**+2.0**
PLWZ	**Palliser**	**66.07 156**	P	**P**	**19 01 41.0**	**+0.9**
KHZ	**Kahutara**	**66.16 158**	P	**P**	**19 01 40.1**	**-0.4**
BVAR	**Borovoye Array**	**66.29 320**	P	**P**	**19 01 40.6**	**-0.8**
comp=Z,1.4nm,0.5s,baz=92,slow=7.2,SNR=21						
comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**66.35 320**	P	**P**	**19 01 41.3**	**-0.5**
GVZ	**Greta Valley S**	**66.47 158**	P	**P**	**19 01 41.9**	**-0.6**
KKAR	**Karatay Array**	**66.56 310**	P	**P**	**19 01 43.2**	**-0.1**
GAR	**Garm**	**67.08 305**	P	**P**	**19 01 47.0**	**+0.1**
L29M	**L29M**	**67.27 29**	P	**P**	**19 01 49.1**	**+1.6**
MAYO	**Mayo, Yukon**	**68.30 28**	P	**P**	**19 01 55.4**	**+1.5**
G31M	**Satah River**	**69.07 25**	P	**P**	**19 01 58.9**	**+0.5**
G31M			IAmb	IAmb	19 02 01.6	
comp=Z,7.2nm,1.4s						
ARTI	**Arti**	**72.99 324**	P	**P**	**19 02 22.2**	**-0.1**
ARTI			IAmb	IAmb	19 02 23.1	
comp=Z,3.6nm,0.7s						
AB31	**Akbulak array**	**73.14 317**	P	**P**	**19 02 22.1**	**-1.2**
ABKAR	**Akbulak array**	**73.14 317**	P	**P**	**19 02 22.3**	**-1.0**
ABKAR	**Akbulak array**	**73.14 317**	P	**P**	**19 02 22.2**	**-1.1**
EUNU	**Eureka**	**77.68 8**	P	**P**	**19 02 49.2**	**+0.6**
YKAW3	**Yellowknife Wh**	**77.99 28**	P	**P**	**19 02 50.1**	**-0.4**
YKAW3			IAmb	IAmb	19 03 24.6	
comp=Z,1.5nm,1.2s						
YKA	**Yellowknife Ar**	**78.02 28**	P	**P**	**19 02 50.0**	**-0.7**
YKA	**Yellowknife Ar**	**78.02 28**	P	**P**	**19 02 51.0**	**+0.3**
comp=Z,0.6nm,0.7s,baz=290,slow=5.7,SNR=7.8						
comp=Z,0.6nm,0.7s						
J05D	**Fort Rock, OR**	**79.69 48**	P	**P**	**19 03 01.5**	**+1.0**
J05D			IAmb	IAmb	19 03 37.7	
comp=Z,7.9nm,1.3s						
PINE	**Pine Mountain**	**79.76 47**	P	**P**	**19 03 01.3**	**+0.5**
PINE			IAmb	IAmb	19 03 18.7	
comp=Z,11nm,1.5s						
NVAR	**Mina Array Bea**	**83.25 52**	P	**P**	**19 03 20.7**	**+1.4**
NVAR	**Mina Array Bea**	**83.25 52**	P	**P**	**19 03 19.9**	**+0.6**
comp=Z,1.2nm,0.6s,baz=269,slow=6.7,SNR=7.2						
comp=Z,1.2nm,0.6s						
YHL	**Hebgen Lake**	**86.02 44**	P	**P**	**19 03 34.1**	**+1.0**
FINES	**FINESS Array B**	**86.73 335**	P	**P**	**19 03 33.1**	**-2.7**
comp=Z,1.0nm,0.5s,baz=65,slow=4.7,SNR=10.0						
comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**87.92 45**	P	**P**	**19 03 42.1**	**-0.1**
BO02	**Sierra Bellavi**	**144.14 124**	PKPdf	**PKPab**	**19 10 25.6**	**+0.4**
MT02	**Curacav**	**144.27 121**	PKPdf	**PKPab**	**19 10 25.5**	**-0.2**
CO06	**Fray Jorge**	**144.42 117**	PKPdf	**PKPab**	**19 10 25.7**	**-0.6**
GO04	**Tololo Observa**	**145.22 116**	PKPdf	**PKPdf**	**19 10 27.9**	**-1.3**
HMBC	**Humberstone**	**146.67 99**	PKPbc	**PKPdf**	**19 10 33.2**	**+1.4**
PB11	**IPOC Station P**	**146.85 98**	PKPbc	**PKPdf**	**19 10 34.3**	**+2.2**
PB08	**IPOC Station P**	**147.35 98**	PKPbc	**PKPbc**	**19 10 36.1**	**+0.2**

IDC 26 19:05:53.8±5.0, 10°.84S×166°.10E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=250.2km s-min=30.0km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.88**	**250**	P	P	19 12 21.0	0.0
0.5nm,0.4s,baz=77,slow=8.9,SNR=2.9							
0.5nm,0.4s							
ASAR	**Alice Springs**	**33.20**	**243**	P	P	19 12 31.4	-1.2
0.2nm,0.9s,baz=73,slow=8.8,SNR=4.1							
0.2nm,0.9s							
FITZ	**Fitzroy Crossi**	**39.77**	**255**	P	P	19 13 29.9	+1.1
0.9nm,0.6s,baz=76,slow=8.3,SNR=1.1							
0.9nm,0.6s							
ILAR	**Eielson Array**	**83.21**	**18**	P	P	19 18 21.6	0.0
0.6nm,0.5s,baz=230,slow=5.4,SNR=14							
0.6nm,0.5s							

IDC 26 19:06:54.1±2.4, 50°.34N×114°.38W, h0km, mbtmp2.7/2, ML3.3/2, Error ellipse: s-maj=82.3km s-min=16.1km az=76.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.75**	**222**	I	I	19 21 47.1	
baz=43,slow=327,SNR=2.6							
PDAR	**Pinedale Array**	**8.27**	**155**	Pn	Pn	19 08 56.6	+1.3
0.1nm,0.3s,baz=347,slow=14,SNR=2.1							
0.1nm,0.4s							
YKA	**Yellowknife Ar**	**12.19**	**359**	Pn	Pn	19 09 44.6	-4.1
0.1nm,0.3s,baz=184,slow=18,SNR=7.5							
YKA				Lg	Lg	19 13 11.4	
baz=178,slow=28,SNR=2.3							
0.2nm,0.4s							

GCG ***26*** *19:07:23.8±0.8, 12°.17N×89°.48W, h17km±10km, MD4.5*
NEIC ***26*** *19:07:24.7±2.5, 12°.43N±0°.04×89°.25W±0°.07, h10km±1km, mb4.7/121, Error ellipse: s-maj=11.7km s-min=5.5km az=247.0*
IDC ***26*** *19:07:24.1±0.8, 12°.70N×88°.87W, h0km, mb4.0/13, mbtmp4.0/14, ML3.6/1, MS3.4/16, Error ellipse: s-maj=33.0km s-min=17.1km az=57.0*
CATAC ***26*** *19:07:26.4±0.5, 12°N±2°×8°.9W±°, h10km±3km, M4.3/23, MLv4.3/23, Error ellipse: s-maj=6.1km s-min=2.9km az=52.0, confirmed*
SNET ***26*** *19:07:30.0±1.2, 12°.56N×89°.27W, h25km±8km, ML4.3*
ISC 26 19:07:24.7±0.9, 12°.39N±0°.03×89°.28W±0°.03, h13km±5km, n262, σ1§27/248, mb4.6/61, MS3.4/14, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.10**	**358**	*i* P	**Pn**	**19 07 46.8**	**+1.0**
LALI				*e*S	**Sn**	**19 08 00.0**	**-0.8**
LALI	**Alcalda de L**	**1.10**	**358**	P	**Pn**	**19 07 46.8**	**+1.0**
LALI	**Alcalda de L**	**1.10**	**358**	S	**Sn**	**19 08 01.9**	**+1.1**
LALI	**Alcalda de L**	**1.10**	**358**	P	**Pn**	**19 07 47.0**	**+1.2**
LALI	**Alcalda de L**	**1.10**	**358**	*e*P	**Pn**	**19 07 46.8**	**+1.0**
LALI	**Alcalda de L**	**1.10**	**358**	*e*P		19 07 46.8	
PANCS	**Alcalda de**	**1.22**	**4**	P	**Pg**	**19 07 48.9**	**+0.7**
PANCS	**Alcalda de**	**1.22**	**4**	S	**Sn**	**19 08 03.8**	**-0.2**
PANCS	**Alcalda de**	**1.22**	**4**	P	**Sn**	**19 08 02.8**	**-1.2**
TECO	**Alcaldia de Te**	**1.24**	**23**	*e*P	**Pg**	**19 07 48.9**	**+0.3**
TECO	**Alcaldia de Te**	**1.24**	**23**	P	**Pg**	**19 07 49.2**	**+0.6**
TECO	**Alcaldia de Te**	**1.24**	**23**	S	**Sn**	**19 08 05.4**	**+1.0**
TECO	**Alcaldia de Te**	**1.24**	**23**	P	**Sn**	**19 08 03.5**	**-0.9**
LFRS	**El Faro**	**1.25**	**10**	*e*P	**Pg**	**19 07 49.1**	**+0.3**
LOMA	**Loma Larga**	**1.25**	**5**	*e*P	**Pg**	**19 07 49.2**	**+0.3**
LOMA	**Loma Larga**	**1.25**	**5**	P	**Pg**	**19 07 49.4**	**+0.6**
LOMA	**Loma Larga**	**1.25**	**5**	S	**Sn**	**19 08 06.1**	**+1.2**
LOMA	**Loma Larga**	**1.25**	**5**	P	**Pg**	**19 07 49.5**	**+0.6**
JAYA	**Jayaque - finc**	**1.27**	**352**	*e*P	**Pg**	**19 07 48.8**	**-0.4**
JAYA	**Jayaque - finc**	**1.27**	**352**	S	**Sn**	**19 08 05.9**	**+0.5**
JAYA	**Jayaque - finc**	**1.27**	**352**	P	**Pg**	**19 07 48.9**	**-0.4**
JAYA	**Jayaque - finc**	**1.27**	**352**	P	**Pg**	**19 07 49.0**	**-0.2**
JAYA	**Jayaque - finc**	**1.27**	**352**	*e*P	**Pg**	**19 07 48.8**	**-0.4**
JAYA	**Jayaque - finc**	**1.27**	**352**	*e*P		19 07 48.8	
COEG	**Centro de Oper**	**1.28**	**17**	*e*P	**Pg**	**19 07 49.8**	**+0.4**
COEG	**Centro de Oper**	**1.28**	**17**	P	**Pg**	**19 07 50.0**	**+0.5**
COEG	**Centro de Oper**	**1.28**	**17**	S	**Sn**	**19 08 07.1**	**+1.5**
COEG	**Centro de Oper**	**1.28**	**17**	S	**Sn**	**19 08 08.7**	**+3.1**
COEG	**Centro de Oper**	**1.28**	**17**	P	**Pg**	**19 07 49.9**	**+0.5**
PMON	**Piamonte**	**1.32**	**358**	*e*P	**Pg**	**19 07 50.0**	**0.0**
PMON	**Piamonte**	**1.32**	**358**	P	**Pg**	**19 07 50.2**	**+0.1**
PMON	**Piamonte**	**1.32**	**358**	S	**Sn**	**19 08 07.9**	**+1.4**
PMON	**Piamonte**	**1.32**	**358**	P	**Pg**	**19 07 50.2**	**+0.1**
UEES	**Universidad Ev**	**1.32**	**2**	*e*P	**Pg**	**19 07 50.2**	**0.0**
UEES	**Universidad Ev**	**1.32**	**2**	S	**Sn**	**19 08 08.4**	**+1.9**
UEES	**Universidad Ev**	**1.32**	**2**	P	**Pg**	**19 07 50.4**	**+0.2**
UEES	**Universidad Ev**	**1.32**	**2**	P	**Pg**	**19 07 50.4**	**+0.2**
TECA	**Tecapa**	**1.33**	**34**	*e*P	**Pg**	**19 07 50.8**	**+0.4**
BOQS	**Boqueron**	**1.34**	**360**	*e*P	**Pg**	**19 07 50.6**	**+0.1**
PIC2	**El Picacho**	**1.35**	**1**	*e*P	**Pg**	**19 07 50.9**	**+0.2**
PAVA	**Las Pavas**	**1.36**	**14**	*e*P	**Pg**	**19 07 51.1**	**+0.3**
PAVA	**Las Pavas**	**1.36**	**14**	P	**Pg**	**19 07 51.3**	**+0.4**
PAVA	**Las Pavas**	**1.36**	**14**	S	**Sg**	**19 08 09.5**	**+0.9**
PAVA	**Las Pavas**	**1.36**	**14**	S	**Sg**	**19 08 10.7**	**+2.2**
PAVA	**Las Pavas**	**1.36**	**14**	P	**Pg**	**19 07 51.2**	**+0.3**
LFU	**La Fuente**	**1.36**	**7**	*e*P	**Pg**	**19 07 51.1**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.41**	**22**	S	**Sb**	**19 08 07.0**	**-1.9**
SCLA	**Alcaldia de Sa**	**1.41**	**22**	S	**Sg**	**19 08 09.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.41**	**22**	P	**Pg**	**19 07 51.9**	**0.0**
SCLA	**Alcaldia de Sa**	**1.41**	**22**	P	**Pg**	**19 07 52.0**	**0.0**
CEDA	**San Andres**	**1.41**	**355**	*e*P	**Pg**	**19 07 51.4**	**-0.5**
RANC	**El Ranchito**	**1.42**	**43**	*e*P	**Pg**	**19 07 52.1**	**+0.1**
RANC	**El Ranchito**	**1.42**	**43**	S	**Sg**	**19 08 11.6**	**+1.2**
RANC	**El Ranchito**	**1.42**	**43**	P	**Pg**	**19 07 52.1**	**+0.1**
RANC	**El Ranchito**	**1.42**	**43**	P	**Pg**	**19 07 52.2**	**+0.2**
PACA	**Pacayal**	**1.42**	**41**	P	**Pg**	**19 07 52.6**	**+0.5**
PACA	**Pacayal**	**1.42**	**41**	S	**Sg**	**19 08 12.0**	**+1.5**
PACA	**Pacayal**	**1.42**	**41**	P	**Pg**	**19 07 52.6**	**+0.5**
BLLM	**Bellamira**	**1.46**	**44**	*e*P	**Pg**	**19 07 52.2**	**-0.5**
CEVE	**Cerro Verde**	**1.47**	**347**	*e*P	**Pg**	**19 07 52.2**	**-0.8**
CEVE	**Cerro Verde**	**1.47**	**347**	P	**Pg**	**19 07 52.4**	**-0.6**
CEVE	**Cerro Verde**	**1.47**	**347**	S	**Sg**	**19 08 12.1**	**-0.1**
CEVE	**Cerro Verde**	**1.47**	**347**	P	**Pg**	**19 07 52.5**	**-0.6**
SBLS	**San Blas**	**1.48**	**347**	*e*P	**Pb**	**19 07 52.2**	**-0.1**
SNJE	**San Jose**	**1.51**	**348**	*e*P	**Pb**	**19 07 52.1**	**-0.6**
NUBE	**Las Nubes**	**1.58**	**342**	*e*P	**Pn**	**19 07 53.5**	**+0.5**
NUBE	**Las Nubes**	**1.58**	**342**	S	**Sg**	**19 08 14.6**	**-1.2**
NUBE	**Las Nubes**	**1.58**	**342**	P	**Pn**	**19 07 53.2**	**+0.5**
NUBE	**Las Nubes**	**1.58**	**342**	P	**Pn**	**19 07 53.2**	**+0.5**
NUBE	**Las Nubes**	**1.58**	**342**	*i* P	**Pn**	**19 07 53.1**	**+0.5**
NUBE				*e*S	**Sg**	**19 08 16.8**	**+1.0**
NUBE	**Las Nubes**	**1.58**	**342**	*i* P		19 07 53.1	
NUBE				*e*S		19 08 16.8	
UNIC	**Universidad Ca**	**1.61**	**350**	P	**Pb**	**19 07 54.4**	**+0.1**
UNIC	**Universidad Ca**	**1.61**	**350**	S	**Sb**	**19 08 14.6**	**0.0**
UNIC	**Universidad Ca**	**1.61**	**350**	P	**Pg**	**19 07 54.8**	**-0.8**
CNCH	**Conchagua**	**1.66**	**58**	*e*P	**Pb**	**19 07 55.3**	**0.0**
CNCH	**Conchagua**	**1.66**	**58**	P	**Pg**	**19 07 56.1**	**-0.6**
CNCH	**Conchagua**	**1.66**	**58**	S	**Sg**	**19 08 18.9**	**+0.6**
CNCH	**Conchagua**	**1.66**	**58**	P	**Pg**	**19 07 55.9**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.70**	**343**	*e*P	**Pb**	**19 07 55.1**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.70**	**343**	S	**Sg**	**19 08 18.8**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.70**	**343**	P	**Pb**	**19 07 55.4**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.70**	**343**	P	**Pb**	**19 07 55.4**	**-0.5**
CAHU	**Cacacuatique**	**1.72**	**37**	*e*P	**Pg**	**19 07 57.4**	**-0.4**
LLGN	**La Laguna**	**1.79**	**10**	S	**Sg**	**19 08 20.7**	**-1.8**
LLGN	**La Laguna**	**1.79**	**10**	P	**Pb**	**19 07 57.6**	**+0.1**
LLGN	**La Laguna**	**1.79**	**10**	P	**Pb**	**19 07 57.7**	**+0.1**
POTN	**Potosi Cosigui**	**1.83**	**70**	P	**Pg**	**19 07 58.7**	**-1.2**
POTN				S	**Sg**	**19 08 22.6**	**-1.1**
POTN	**Potosi Cosigui**	**1.83**	**70**	P	**Pb**	**19 07 57.9**	**-0.2**
MTO3	**Montecristo**	**2.00**	**358**		**Pb**	**19 08 00.4**	**-0.8**
MTO3	**Montecristo**	**2.00**	**358**	*e*P	**Pb**	**19 08 00.4**	**-0.8**
MTO3	**Montecristo**	**2.00**	**358**	P	**Pb**	**19 08 00.5**	**-0.6**
MTO3	**Montecristo**	**2.00**	**358**	S	**Sb**	**19 08 25.8**	**-0.2**
MTO3	**Montecristo**	**2.00**	**358**	P	**Pb**	**19 08 00.5**	**-0.8**
MTO3	**Montecristo**	**2.00**	**358**	*e*P	**Pb**	**19 08 00.3**	**-0.8**
MTO3	**Montecristo**	**2.00**	**358**	*e*P		19 08 00.3	
ESQI	**Esquipulas**	**2.16**	**358**		**Pb**	**19 08 02.8**	**-1.0**
ESQI	**Esquipulas**	**2.16**	**358**	*e*P	**Pb**	**19 08 02.9**	**-1.0**
ESQI	**Esquipulas**	**2.16**	**358**	S	**Sb**	**19 08 29.6**	**-0.9**
ESQI	**Esquipulas**	**2.16**	**358**	P	**Pb**	**19 08 02.8**	**-1.0**
ESQI	**Esquipulas**	**2.16**	**358**	P	**Pb**	**19 08 03.0**	**-0.8**
CRIN	**San Cristobal**	**2.19**	**82**	Pn	**Pb**	**19 08 02.9**	**-1.5**
HERN	**Volcan Telica**	**2.40**	**84**	Pn	**Pn**	**19 08 05.3**	**+1.6**
CNGN	**Cerro Negro**	**2.52**	**87**	Pn	**Pn**	**19 08 07.0**	**+1.6**
CNGN	**Cerro Negro**	**2.52**	**87**	P	**Pb**	**19 08 07.7**	**-2.1**
CNGN	**Cerro Negro**	**2.52**	**87**	S	**Sb**	**19 08 40.7**	**-0.1**
CNGN	**Cerro Negro**	**2.52**	**87**	P	**Pb**	**19 08 08.1**	**-1.8**
TGUH	**Tegucigalpa,Un**	**2.56**	**49**	Pn	**Pn**	**19 08 06.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.56**	**49**	P	**Pb**	**19 08 08.4**	**-2.2**
TGUH				S	**Sb**	**19 08 40.9**	**-1.2**
TGUH	**Tegucigalpa,Un**	**2.56**	**49**	P	**Pb**	**19 08 09.3**	**-1.3**
COPN	**Copaltepe**	**2.63**	**94**	P	**Pn**	**19 08 09.1**	**+2.1**
COPN	**Copaltepe**	**2.63**	**94**	P	**Pn**	**19 08 09.2**	**+2.3**
MOMN	**Momotombo**	**2.67**	**89**	P	**Pn**	**19 08 09.7**	**+2.2**
MOMN				S	**Sb**	**19 08 43.2**	**-2.0**
MOMN	**Momotombo**	**2.67**	**89**	P	**Pn**	**19 08 09.7**	**+2.2**
LIMN	**Finca el Limon**	**2.92**	**76**	P	**Pn**	**19 08 12.7**	**+1.8**
LIMN	**Finca el Limon**	**2.92**	**76**	P	**Pn**	**19 08 13.1**	**+2.2**
MGAN	**Managua**	**2.97**	**94**	Pn	**Pn**	**19 08 13.4**	**+1.8**
RTAL	**Retalhuleu**	**3.17**	**312**	Pn	**Pn**	**19 08 16.2**	**+1.9**
RCVN	**Varillal2**	**3.23**	**68**	P	**Pb**	**19 08 18.5**	**-3.5**
RCPN	**Sur Rio San Ju**	**3.30**	**70**	P	**Pb**	**19 08 20.4**	**-2.8**
BOAB	**BOACO BROADBAN**	**3.53**	**89**	Pn	**Pn**	**19 08 20.8**	**+1.6**
BOAB	**BOACO BROADBAN**	**3.53**	**89**	P	**Pn**	**19 08 21.3**	**+2.1**
BOAB	**BOACO BROADBAN**	**3.53**	**89**	S	**Sn**	**19 09 04.1**	**+3.3**
BOAB	**BOACO BROADBAN**	**3.53**	**89**	P	**Pn**	**19 08 21.2**	**+2.1**
HUEH	**Huehuetenango**	**3.63**	**324**	Pn	**Pn**	**19 08 21.8**	**+0.9**
CONN	**Concepcion**	**3.66**	**103**	P	**Pn**	**19 08 24.0**	**+2.9**
CONN				S	**Sn**	**19 09 07.3**	**+3.0**
CONN	**Concepcion**	**3.66**	**103**	P	**

ODSA IAmb IAmb 19 12 31.5
comp=Z,26nm,1.3s
SN07 Snyder 07 23.19 335 P **P** **19 12 29.9 -1.5**
SN07 IAmb IAmb 19 12 43.1
comp=Z,12nm,0.8s
CPCT Cooper Cave 23.36 10 P **P** **19 12 33.3 +0.3**
VHRN Van Horn 23.37 324 P **P** **19 12 33.6 +0.3**
POST Post 23.43 333 P **P** **19 12 33.0 -0.8**
POST IAmb IAmb 19 12 47.0
comp=Z,18nm,0.8s
FCAR Ozark Folk Cen 23.54 354 P **P** **19 12 34.5 -0.3**
FCAR IAmb IAmb 19 12 37.6
comp=Z,29nm,0.9s
LCAR Lake Charles 23.64 356 P **P** **19 12 35.0 -0.7**
LCAR IAmb IAmb 19 12 37.5
comp=Z,16nm,0.6s
W35A Tecumseh 23.69 344 IAmb IAmb 19 12 37.9
comp=Z,17nm,0.7s
TKL Tuckaleechee C 23.70 11 LR LR 19 21 53.7
comp=Z,110nm,21.1s,baz=204,slow=37
DKNS Dickens 23.70 335 IAmb IAmb 19 12 48.7
comp=Z,19nm,0.8s
WMOK Wichita Mounta 23.87 340 P **P** **19 12 36.8 -1.2**
WMOK IAmb IAmb 19 12 39.1
comp=Z,14nm,0.8s
OK052 Battle Ridge R 24.47 345 P **P** **19 12 42.5 -1.0**
T47A Sharon Grove 24.57 4 P **P** **19 12 44.1 -0.4**
QUOK Quay 24.61 345 P **P** **19 12 44.0 -0.8**
MSTX Muleshoe 24.76 332 IAmb IAmb 19 12 47.7
comp=Z,20nm,1.1s
MGMO Mountain Grove 24.81 354 P **P** **19 12 45.9 -0.7**
S44A Carbondale 25.20 0 P **P** **19 12 49.9 -0.2**
S44A IAmb IAmb 19 12 51.4
comp=Z,31nm,1.1s
SIUC Southern Illin 25.22 0 P **P** **19 12 49.5 -0.8**
T35A Sooner Cattle 25.27 346 IAmb IAmb 19 13 14.9
comp=Z,11nm,1.0s
CCM Cathedral Cave 25.62 356 P **P** **19 12 53.3 -0.7**
CCM IAmb IAmb 19 12 55.5
comp=Z,19nm,0.8s
R40A Maddies Statio 25.93 355 IAmb IAmb 19 13 00.2
comp=Z,13nm,0.7s
Q44A Meyer Farm, Va 26.41 0 P **P** **19 13 00.1 -0.9**
RTBA Rita Blanca 26.84 335 IAmb IAmb 19 13 06.3
comp=Z,17nm,1.1s
P40A Paris 27.15 355 P **P** **19 13 07.0 -0.6**
P40A IAmb IAmb 19 13 12.2
comp=Z,18nm,1.2s
L40A Anamosa 29.61 357 IAmb IAmb 19 13 30.3
comp=Z,17nm,1.0s
PV23 Carpenter Ridg 31.34 329 P **P** **19 13 43.5 -1.9**
PV23 IAmb IAmb 19 13 48.7
comp=Z,11nm,1.0s
I37A Lemond, Waseca 31.71 354 IAmb IAmb 19 13 48.7
comp=Z,10.0nm,0.8s
G40A Rib Lake 32.78 359 P **P** **19 13 55.9 -1.7**
SADO Sadowa 33.42 13 P **P** **19 14 02.0 -1.0**
SADO IAmb IAmb 19 14 03.8
comp=Z,8.7nm,1.1s
SADO Sadowa 33.42 13 LR LR 19 27 45.0
comp=Z,66nm,21.4s,baz=193,slow=37
F33A 5 Mile Ranch, 33.87 351 IAmb IAmb 19 14 06.6
comp=Z,5.8nm,0.7s
E38A The Farm, Brul 34.16 357 IAmb IAmb 19 14 09.6
comp=Z,8.9nm,0.8s
PDAR Pinedale Array 35.01 334 P **P** **19 14 18.2 +1.0**
comp=Z,0.4nm,0.5s,baz=129,slow=11,SNR=5.9
PDAR PcP **PcP** **19 16 49.8 +0.4**
comp=Z,0.6nm,0.6s,baz=131,slow=5.8,SNR=5.2
PDAR LR LR 19 33 16.1
comp=Z,19nm,18.1s,baz=138,slow=44
comp=Z,0.4nm,0.5s
ISA Isabella, Lake 35.09 316 P **P** **19 14 17.2 -0.7**
LPAZ La Paz 35.34 143 P **P** **19 14 23.1 +2.3**
comp=Z,0.6nm,0.5s,baz=242,slow=5.4,SNR=2.8
comp=Z,0.6nm,0.5s
EYMN Ely 35.50 357 IAmb IAmb 19 14 20.7
comp=Z,8.6nm,0.6s
AGMN Agassiz Nation 36.22 353 IAmb IAmb 19 14 27.3
comp=Z,8.2nm,0.7s
ELK Elko 36.29 326 LR LR 19 33 25.1
comp=Z,100nm,18.2s,baz=134,slow=43
NVAR Mina Array Bea 36.59 320 P **P** **19 14 29.9 -0.9**
NVAR Mina Array Bea 36.59 320 P **P** **19 14 33.4 +2.5**
comp=Z,3.0nm,0.9s,baz=134,slow=8.4,SNR=12
NVAR LR LR 19 30 09.3
comp=Z,51nm,19.8s,baz=294,slow=37
comp=Z,3.0nm,0.9s
DGMT Dagmar 38.06 344 P **P** **19 14 43.4 +0.5**
ULM Lac du Bonnet 38.14 353 IAmb IAmb 19 14 42.9
comp=Z,14nm,1.4s
ULM Lac du Bonnet 38.14 353 P **P** **19 14 42.0 -1.6**
comp=Z,3.6nm,0.6s,baz=179,slow=7.6,SNR=8.0
ULM LR LR 19 32 11.3
comp=Z,81nm,18.8s,baz=175,slow=39
comp=Z,3.6nm,0.6s
EGMT Eagleton 39.43 338 IAmb IAmb 19 14 57.7
comp=Z,16nm,1.4s
PLID Pearl Lake 39.77 330 P **P** **19 14 56.9 -0.7**
F10A Beach Ranch, E 41.01 330 P **P** **19 15 07.6 0.0**
NEW Newport 42.62 333 LR LR 19 38 02.4
comp=Z,36nm,18.6s,baz=151,slow=43
FFC Flin Flon 43.41 349 P **P** **19 15 26.6 -0.4**
SCHQ Schefferville 45.87 18 P **P** **19 15 45.5 -1.1**
SCHQ IAmb IAmb 19 15 46.8
comp=Z,13nm,1.0s
SCHQ Schefferville 45.87 18 P **P** **19 15 45.3 -1.3**
comp=Z,4.9nm,0.5s,baz=220,slow=6.3,SNR=20
SCHQ LR LR 19 36 57.2
comp=Z,50nm,18.2s,baz=260,slow=39
comp=Z,4.9nm,0.5s
FCC Fort Churchill 46.43 357 P **P** **19 15 50.1 -0.8**
FCC IAmb IAmb 19 15 52.6
comp=Z,11nm,1.5s
YKA Yellowknife Ar 53.22 346 P **P** **19 16 42.1 -0.4**
comp=Z,6.1nm,1.1s,baz=148,slow=7.3,SNR=5.2
comp=Z,6.1nm,1.1s
FRB Frobisher Bay 53.32 11 LR LR 19 39 37.7
comp=Z,85nm,18.1s,baz=156,slow=36
PLCA Paso Flores 55.62 163 P **P** **19 17 02.7 +2.3**
comp=Z,1.6nm,0.8s,baz=346,slow=13,SNR=4.0
comp=Z,1.6nm,0.8s
SFJD Kangerlussuaq 60.27 16 LR LR 19 42 01.7
comp=Z,28nm,21.2s,baz=216,slow=35
ILAR Eielson Array 65.36 337 P **P** **19 18 06.4 -0.2**
comp=Z,1.3nm,0.9s,baz=128,slow=4.6,SNR=12
comp=Z,1.3nm,0.9s
SUMG Summit 67.10 15 *i* P **P** **19 18 16.0 -2.0**
D25K Kavik River 67.19 341 P **P** **19 18 18.0 -0.2**
D25K IAmb IAmb 19 18 19.6
comp=Z,5.7nm,1.2s
EUNU Eureka 67.69 1 P **P** **19 18 20.5 -0.8**
EUNU IAmb IAmb 19 18 34.7
comp=Z,6.4nm,1.2s
TOLK Toolik Lake Re 67.93 340 P **P** **19 18 23.4 +0.4**
G21K Allakaket 68.56 337 P **P** **19 18 27.4 +0.5**
F21K Alatna River 68.79 338 P **P** **19 18 27.0 -1.3**
F21K IAmb IAmb 19 18 30.7
comp=Z,5.1nm,1.1s
B22K Teshekpuk Lake 69.83 341 P **P** **19 18 34.4 -0.2**
B22K IAmb IAmb 19 18 38.2
comp=Z,5.8nm,1.2s
G18K Tagagawik 70.39 336 P **P** **19 18 38.2 0.0**
G18K IAmb IAmb 19 18 49.8
comp=Z,7.0nm,1.4s
B20K Meade River 70.94 340 P **P** **19 18 41.4 0.0**
B20K IAmb IAmb 19 18 51.9
comp=Z,8.7nm,1.2s
EKA Eskdalemuir Ar 77.72 36 P **P** **19 19 19.1 -2.1**
comp=Z,0.7nm,0.7s,baz=258,slow=5.9,SNR=1.8
comp=Z,0.7nm,0.7s
ESDC Sonseca Array 78.63 52 P **P** **19 19 26.0 -0.7**
comp=Z,0.5nm,0.8s,baz=278,slow=5.8,SNR=2.2
comp=Z,0.5nm,0.8s
NOA NORSAR Array B 84.28 29 LR LR 19 57 19.9
comp=Z,9.4nm,18.0s,baz=330,slow=36
TORD Torodi Ar. Bea 88.16 77 P **P** **19 20 16.2 0.0**
comp=Z,0.3nm,0.5s,baz=287,slow=5.0,SNR=2.1
comp=Z,0.3nm,0.5s
TIXI Tiksi 92.36 349 P **P** **19 20 34.5 -0.1**
comp=Z,0.4nm,0.3s,baz=52,slow=3.0,SNR=6.7
TIXI LR LR 20 06 20.1
comp=Z,22nm,18.2s,baz=56,slow=38
comp=Z,0.4nm,0.3s
NRIK Noril'sk 98.45 1 LR LR 20 07 10.2
comp=Z,38nm,20.6s,baz=352,slow=36
YAK Yakutsk 99.80 342 LR LR 20 14 04.3
comp=Z,24nm,18.1s,baz=23,slow=40
KURBB Kurchatov Arra 116.36 9 PKP **PKPdf** **19 26 09.5 +1.3**
comp=Z,0.4nm,0.5s,baz=356,slow=1.8,SNR=8.8
SONM Songino Array 118.44 348 PKP **PKiKP** **19 26 13.5 +1.0**
comp=Z,0.5nm,0.6s,baz=48,slow=2.1,SNR=4.6
KSRS Korea Array 119.36 326 PKP **PKiKP** **19 26 16.2 +1.8**
comp=Z,0.3nm,0.3s,baz=31,slow=3.5,SNR=2.8
MKAR Makanchi Array 120.61 7 PKP **PKPdf** **19 26 16.9 +0.4**
comp=Z,0.2nm,0.5s,baz=2.9,slow=2.9,SNR=4.9
WRA Warramunga Arr 137.54 254 PKP **PKPdf** **19 26 50.8 +1.4**
comp=Z,1.0nm,1.0s,baz=98,slow=1.6,SNR=5.3
ASAR Alice Springs 137.59 248 PKP **PKiKP** **19 26 51.1 -0.2**
comp=Z,0.1nm,0.3s,baz=95,slow=3.7,SNR=2.3
CMAR Chiang Mai Arr 148.30 345 PKP **PKPdf** **19 27 08.3 0.0**
comp=Z,3.8nm,0.9s,baz=336,slow=3.2,SNR=26
CMAR PKPbc **sPKPdf** **19 27 13.1 +0.1**
comp=Z,3.8nm,0.9s,baz=332,slow=2.8,SNR=10

*NEIC **26** 19:07:55.2±2.2, 37.°18S±0.°09×179.°27E±0.°07, h10km±2km, mb4.2/8, Error ellipse: s-maj=15.3km s-min=8.8km az=342.0*
*IDC **26** 19:07:55.3±1.3, 36.°75S×179.°15E, h0km, mb4.2/4, mbtmp4.2/5, ML3.9/1, MS2.7/1, Error ellipse: s-maj=35.0km s-min=33.1km az=168.0*
*WEL **26** 19:07:58.6±0.7, 37.°3S±5.°5×17.°9E±.°, h12km, M3.9/23, ML4.1/25, MLv3.9/23, Error ellipse: s-maj=7.8km s-min=6.0km az=125.2, confirmed*
ISC 26 19:07:57.2±1.3, 37.°05S±0.°05×179.°23E±0.°06, h18km±4km, n102, σ1§56/116, mb4.1/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.89**	**235**		**Pb**	**19 08 13.8**	**-0.4**
MXZ					**Sb**	**19 08 25.2**	**-0.6**
MXZ	**Matakaoa Point**	**0.89**	**235**	P	**Pb**	**19 08 14.1**	**0.0**
MXZ				S	**Sb**	**19 08 24.8**	**-0.9**
WMGZ	**Waiomatatini S**	**1.00**	**220**	P	**Pg**	**19 08 18.1**	**+1.4**
WMGZ				S	**Sn**	**19 08 31.6**	**+1.6**
PKGZ	**Pakihiroa**	**1.22**	**228**	P	**Pg**	**19 08 20.5**	**-0.3**
PKGZ				S	**Sg**	**19 08 37.2**	**+0.4**
PUZ	**Puketiti**	**1.28**	**217**	P	**Pg**	**19 08 21.9**	**0.0**
PUZ				S	**Sg**	**19 08 38.6**	**0.0**
HAZ	**Te Kaha**	**1.35**	**238**	P	**Pg**	**19 08 23.1**	**-0.1**
HAZ				S	**Sg**	**19 08 40.5**	**-0.4**
TWGZ	**Tauwhareparae**	**1.50**	**221**	P	**Pb**	**19 08 25.3**	**+0.9**
TWGZ				S	**Sb**	**19 08 44.3**	**+1.1**
RUGZ	**Raukumara Rang**	**1.53**	**233**	P	**Pb**	**19 08 25.3**	**+0.2**
RUGZ				S	**Sb**	**19 08 45.4**	**+1.1**
CNGZ	**Carnagh Statio**	**1.64**	**209**	P	**Pb**	**19 08 27.7**	**+0.8**
TKGZ	**Te Karaka**	**1.76**	**218**	P	**Pb**	**19 08 28.5**	**-0.5**
MWZ	**Matawai**	**1.86**	**226**	P	**Pb**	**19 08 29.8**	**-0.9**
MWZ				S	**Sn**	**19 08 51.6**	**+0.4**
WHRZ	**Whale Island**	**1.96**	**245**	P	**Pb**	**19 08 31.8**	**-0.6**
WHRZ				S	**Sn**	**19 08 55.3**	**+1.6**
RIGZ	**Rimuhau**	**2.02**	**215**	P	**Pn**	**19 08 32.0**	**+1.6**
RAGZ	**Rawiri**	**2.04**	**224**	P	**Pb**	**19 08 32.4**	**-1.3**
URZ	**Urewera**	**2.07**	**234**	Pn	**Pn**	**19 08 32.5**	**+1.6**
	38nm,0.3s,baz=353,slow=4.6,SNR=333						
URZ				Sn	**Sn**	**19 08 56.4**	**+0.1**
	28nm,0.3s,baz=37,slow=20,SNR=5.9						
URZ				LR	LR	19 09 40.9	
	comp=Z,167nm,19.9s,baz=70,slow=48 116nm,0.3s						
URZ	**Urewera**	**2.07**	**234**	P	**Pn**	**19 08 32.5**	**+1.6**
URZ				S	**Sn**	**19 08 56.6**	**+0.4**
PRGZ	**Paritu Road**	**2.15**	**209**	P	**Pn**	**19 08 33.4**	**+1.3**
SNGZ	**Shannon Statio**	**2.28**	**220**	P	**Pn**	**19 08 35.6**	**+1.6**
SNGZ				S	**Sn**	**19 09 02.2**	**+0.6**
KNZ	**Kokohu**	**2.32**	**212**	P	**Pn**	**19 08 35.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.34**	**206**	P	**Pn**	**19 08 36.3**	**+1.5**
RTZ	**Ruatahuna**	**2.37**	**228**		**Pn**	**19 08 36.0**	**+0.8**
RTZ					**Sn**	**19 09 03.3**	**-0.5**
RTZ	**Ruatahuna**	**2.37**	**228**	P	**Pn**	**19 08 37.1**	**+1.9**
MUGZ	**Murupara**	**2.41**	**233**	P	**Pn**	**19 08 36.9**	**+1.1**
TGRZ	**Tauranga**	**2.46**	**253**	P	**Pn**	**19 08 37.7**	**+1.3**
TARZ	**Mount Tarawera**	**2.46**	**241**	P	**Pb**	**19 08 39.0**	**-2.0**
RRRZ	**Republican Roa**	**2.51**	**238**	P	**Pn**	**19 08 39.1**	**+2.0**
RAHZ	**Arahi**	**2.52**	**222**	P	**Pn**	**19 08 38.5**	**+1.3**
RAHZ				S	**Sn**	**19 09 07.4**	**0.0**
KARZ	**Kaharoa**	**2.56**	**247**	P	**Pn**	**19 08 39.4**	**+1.6**
HLRZ	**Highlands Stat**	**2.58**	**241**	P	**Pn**	**19 08 40.1**	**+2.0**
MTHZ	**Maungataniwha**	**2.61**	**226**	P	**Pn**	**19 08 40.1**	**+1.6**
MTHZ				S	**Sn**	**19 09 09.8**	**+0.2**
UTU	**Utuhina**	**2.66**	**244**	P	**Pb**	**19 08 42.0**	**-2.2**
PRRZ	**Plateau Road**	**2.67**	**236**	P	**Pn**	**19 08 40.4**	**+1.1**
ALRZ	**Allen Road**	**2.74**	**236**	P	**Pn**	**19 08 41.9**	**+1.6**
GRRZ	**Galatos Road**	**2.79**	**241**	P	**Pn**	**19 08 43.1**	**+2.2**
NMHZ	**Naumai**	**2.80**	**222**	P	**Pn**	**19 08 42.6**	**+1.5**
ARHZ	**Aropaoanui**	**2.82**	**218**	P	**Pn**	**19 08 42.4**	**+1.1**
MRHZ	**Matea Rd**	**2.85**	**230**	P	**Pn**	**19 08 43.1**	**+1.3**
BKZ	**Black Stump Fm**	**3.02**	**225**		**Pn**	**19 08 44.3**	**+0.2**
BKZ				Sn	**Sn**	**19 09 18.5**	**-1.3**
BKZ	**Black Stump Fm**	**3.02**	**225**	P	**Pn**	**19 08 45.0**	**+0.9**
TOZ	**Tahuroa Road**	**3.04**	**256**		**Pn**	**19 08 44.5**	**+0.1**
TOZ				Sn	**Sn**	**19 09 18.7**	**-1.6**
TOZ	**Tahuroa Road**	**3.04**	**256**	P	**Pn**	**19 08 44.5**	**+0.1**
KUTZ	**Kaahu Road**	**3.06**	**241**	P	**Pn**	**19 08 46.6**	**+2.0**
CKHZ	**Cape Kidnapper**	**3.10**	**212**	P	**Pn**	**19 08 45.4**	**+0.2**
MCHZ	**McNeill Hill**	**3.11**	**219**	P	**Pn**	**19 08 46.1**	**+0.7**
GRZ	**Great Barrier**	**3.14**	**284**	P	**Pn**	**19 08 46.3**	**+0.7**
WATZ	**Wairara**	**3.22**	**238**	P	**Pn**	**19 08 49.0**	**+2.1**
KWHZ	**Kaweka Forest**	**3.24**	**222**	P	**Pn**	**19 08 47.6**	**+0.4**
MKAZ	**Moumakai**	**3.25**	**268**	P	**Pn**	**19 08 47.6**	**+0.3**
RITZ	**Rihia Road**	**3.28**	**233**	P	**Pn**	**19 08 49.7**	**+1.9**
WIAZ	**Waiheke Island**	**3.29**	**273**	P	**Pn**	**19 08 47.8**	**0.0**
KAHZ	**Kahuranaki**	**3.30**	**213**	P	**Pn**	**19 08 47.9**	**-0.1**
KRHZ	**Kereru**	**3.43**	**220**	P	**Pn**	**19 08 49.6**	**-0.1**
TMVZ	**Te Maari**	**3.46**	**232**	P	**Pn**	**19 08 51.0**	**+0.7**
ETVZ	**East Tongariro**	**3.47**	**232**	P	**Pn**	**19 08 51.4**	**+1.1**
NTVZ	**North Tongarir**	**3.47**	**233**	P	**Pn**	**19 08 51.5**	**+1.1**
COVZ	**Chateau Observ**	**3.61**	**232**	P	**Pn**	**19 08 53.4**	**+1.1**
HIZ	**Hauiti**	**3.76**	**246**	Pn	**Pn**	**19 08 55.2**	**+1.0**
PRHZ	**Porangahau**	**3.80**	**212**	P	**Pn**	**19 08 53.9**	**-0.8**
BFZ	**Birch Farm**	**4.31**	**212**	Pn	**Pn**	**19 08 59.5**	**-2.3**
MRZ	**Mangatainoka R**	**4.59**	**217**	Pn	**Pn**	**19 09 03.5**	**-2.2**
MSWZ	**Moikau Station**	**5.34**	**214**	Pn	**Pn**	**19 09 13.4**	**-2.6**
PLWZ	**Palliser**	**5.46**	**213**	Pn	**Pn**	**19 09 15.2**	**-2.5**
BHW	**Baring Head**	**5.51**	**217**	Pn	**Pn**	**19 09 15.9**	**-2.3**
TCW	**Tory Channel**	**5.66**	**221**	Pn	**Pn**	**19 09 17.9**	**-2.4**
TUWZ	**Tuamarina**	**5.99**	**222**	Pn	**Pn**	**19 09 20.3**	**-4.6**
CMWZ	**Cape Campbell**	**6.09**	**218**	Pn	**Pn**	**19 09 22.7**	**-3.5**
NNZ	**Nelson**	**6.16**	**226**	Pn	**Pn**	**19 09 25.2**	**-2.0**
BSWZ	**Blackbirch Sta**	**6.23**	**220**	Pn	**Pn**	**19 09 25.5**	**-2.7**
TKNZ	**Takaka Hill**	**6.29**	**229**	Pn	**Pn**	**19 09 27.9**	**-1.2**
QRZ	**Quartz Range**	**6.44**	**232**	Pn	**Pn**	**19 09 29.0**	**-2.1**
MRNZ	**Matariki Terra**	**6.64**	**227**	Pn	**Pn**	**19 09 30.5**	**-3.3**
THZ	**Tophouse**	**6.79**	**224**	Pn	**Pn**	**19 09 32.9**	**-3.0**
KHZ	**Kahutara**	**6.92**	**218**	Pn	**Pn**	**19 09 35.1**	**-2.5**
CTZ	**Chatham Island**	**7.39**	**156**	Pn	**Pn**	**19 09 41.0**	**-3.1**
CTZ	**Chatham Island**	**7.39**	**156**	P	**Pn**	**19 09 46.4**	**+2.3**
GVZ	**Greta Valley S**	**7.58**	**217**	Pn	**Pn**	**19 09 44.4**	**-2.3**
LTZ	**Lake Taylor**	**7.83**	**221**	Pn	**Pn**	**19 09 47.2**	**-2.9**
MQZ	**McQueen's Vall**	**8.32**	**215**	Pn	**Pn**	**19 09 53.7**	**-3.2**
LBZ	**Lake Benmore**	**10.03**	**220**	Pn	**Pn**	**19 10 17.4**	**-3.0**
ODZ	**Otahua Downs**	**10.28**	**216**	Pn	**Pn**	**19 10 19.8**	**-3.9**
COEN	**Coen**	**39.49**	**296**	P	**P**	**19 15 26.2**	**-0.6**
COEN				IAmb	IAmb	19 15 47.4	
comp=Z,9.7nm,1.4s							
AS31	**Alice Springs**	**40.95**	**276**	P	**P**	**19 15 38.2**	**-0.8**
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**19 15 37.6**	**-1.4**
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**19 15 39.0**	**+0.1**
comp=Z,2.0nm,0.5s,baz=119,slow=7.9,SNR=52 comp=Z,2.0nm,0.5s							
WR0	**Warramunga Arr**	**42.39**	**281**	P	**P**	**19 15 50.4**	**-0.3**
WR0				IAmb	IAmb	19 16 06.8	
comp=Z,4.3nm,1.2s							
WR8	**Warramunga Arr**	**42.42**	**281**	P	**P**	**19 15 50.8**	**-0.2**
WR8				IAmb	IAmb	19 16 27.4	
comp=Z,5.7nm,1.3s							
FORT	**Forrest**	**42.50**	**263**	P	**P**	**19 15 50.0**	**-1.4**
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**19 15 51.7**	**-0.3**
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**19 15 52.0**	**0.0**
comp=Z,3.5nm,0.6s,baz=121,slow=7.7,SNR=26 comp=Z,3.5nm,0.6s							
KNRA	**Kununurra**	**49.33**	**282**	P	**P**	**19 16 45.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	**P**	**19 16 53.8**	**-0.1**
FITZ				IAmb	IAmb	19 17 25.5	
comp=Z,1.3nm,1.1s							
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	**P**	**19 16 54.2**	**+0.3**
comp=Z,2.1nm,0.7s,baz=109,slow=8.8,SNR=8.6 comp=Z,2.1nm,0.7s							
QSPA	**South Pole Qui**	**53.07**	**180**	P	**P**	**19 17 14.6**	**+1.4**
QSPA				IAmb	IAmb	19 17 36.5	
comp=Z,9.8nm,1.4s							
QSPA	**South Pole Qui**	**53.07**	**180**	P	**P**	**19 17 16.4**	**+3.3**
comp=Z,1.4nm,1.0s,baz=16,slow=8.5,SNR=2.4 comp=Z,1.4nm,1.0s							
H03N3	**Juan Fernandez**	**78.94**	**124**	T	T	20 46 50.8	
baz=234,slow=72,SNR=4.0							
H03N2	**Juan Fernandez**	**78.94**	**124**	T	T	20 46 48.8	
baz=234,slow=72,SNR=3.5							
H03N1	**Juan Fernandez**	**78.95**	**124**	T	T	20 46 51.7	
baz=234,slow=72,SNR=4.5							
MKAR	**Makanchi Array**	**120.15**	**308**	PKP	**PKiKP**	**19 26 47.1**	**+0.5**
comp=Z,0.2nm,0.7s,baz=111,slow=0.7,SNR=1.4							
KURBB	**Kurchatov Arra**	**123.86**	**311**	PKP	**PKiKP**	**19 26 53.8**	**+0.1**
comp=Z,0.2nm,0.4s,baz=110,slow=2.0,SNR=4.3							
BVAR	**Borovoye Array**	**129.36**	**312**	PKP	**PKiKP**	**19 27 04.9**	**+0.3**
comp=Z,0.2nm,0.4s,baz=94,slow=2.0,SNR=2.1							
ARCES	**ARCESS Array B**	**144.48**	**344**	PKP	**PKPab**	**19 27 29.6**	**-0.1**
comp=Z,1.9nm,0.8s,baz=33,slow=2.6,SNR=4.7							
FINES	**FINESS Array B**	**150.36**	**334**	PKPbc	**PKiKP**	**19 27 46.9**	**-0.3**
comp=Z,2.4nm,0.8s,baz=48,slow=2.8,SNR=3.9							

*IDC **26** 19:17:38.2±1.9, 42.°64S×74.°50W, h0km, mb3.9/4, mbtmp3.9/5, ML4.0/1, MS3.4/2, Error ellipse: s-maj=52.8km s-min=27.1km az=106.0*
*NEIC **26** 19:17:40.8±2.2, 42.°68S±0.°03×74.°3W±0.°1, h25km±8km, mb4.3/4, Error ellipse: s-maj=12.3km s-min=3.2km az=81.0*
*GUC **26** 19:17:42.8±0.8, 42.°64S×74.°20W, h35km±2km, ML4.0*
ISC 26 19:17:40.3±2.0, 42.°63S±0.°03×74.°19W±0.°07, h12km±13km, n63, σ1§19/69, mb4.0/6, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL07	**Hotel Espejo d**	**0.56**	**111**	Pn	**Pn**	**19 17 54.7**	**+0.6**
LL07					**Sn**	**19 18 03.2**	**-0.1**
LL07	**Hotel Espejo d**	**0.56**	**111**	*e*P	**Pn**	**19 17 54.7**	**+0.6**
LL07				*i* S	**Sn**	**19 18 03.0**	**-0.3**
LL07				IAML		19 18 04.8	
comp=N,7μm,0.4s							
LL06	**Loncomilla**	**0.58**	**45**	Pn	**Pn**	**19 17 54.9**	**+0.5**
LL06				Sn	**Sn**	**19 18 03.8**	**-0.2**
LL06	**Loncomilla**	**0.58**	**45**	*e*P	**Pn**	**19 17 55.0**	**+0.5**
LL06				*i* S	**Sn**	**19 18 03.3**	**-0.6**
LL06				IAML		19 18 05.0	
comp=E,21μm,0.5s							
GO07	**Milladeo Hill,**	**0.62**	**142**	Pn	**Pn**	**19 17 55.1**	**+0.2**
GO07					**Sn**	**19 18 03.2**	**-1.5**
GO07	**Milladeo Hill,**	**0.62**	**142**	*e*P	**Pn**	**19 17 55.2**	**+0.4**
GO07				*i* S	**Sn**	**19 18 04.0**	**-0.7**
GO07				IAML		19 18 11.8	
comp=E,12μm,0.5s							
LL01	**San Ignacio de**	**1.33**	**80**	Pn	**Pb**	**19 18 05.8**	**+0.5**
LL01	**San Ignacio de**	**1.33**	**80**	*e*P	**Pb**	**19 18 05.7**	**+0.5**
LL05	**Los Muermos**	**1.33**	**24**	Pn	**Pb**	**19 18 06.0**	**+0.7**
LL05				Sn	**Sb**	**19 18 23.1**	**+0.8**
LL05	**Los Muermos**	**1.33**	**24**	*e*P	**Pb**	**19 18 05.9**	**+0.7**
LL05				*i* S	**Sg**	**19 18 24.2**	**+1.0**
LL05				IAML		19 18 27.5	
comp=N,4μm,0.4s							
RMBA	**Ra§l Marn B**	**1.57**	**144**	*e*P	**Pn**	**19 18 08.8**	**+0.9**
RMBA				*i* S	**Sb**	**19 18 29.8**	**+0.8**
LL02	**Futaleuf**	**1.81**	**109**	Pn	**Pb**	**19 18 13.3**	**0.0**
LL02	**Futaleuf**	**1.81**	**109**	*e*P	**Pb**	**19 18 13.3**	**0.0**
LL02				*i* S	**Sb**	**19 18 36.7**	**+0.8**
LJUN	**La Junta**	**1.85**	**138**	*e*P	**Pn**	**19 18 13.3**	**+1.4**
LJUN				*i* S	**Sb**	**19 18 37.1**	**-0.1**
LL03	**Petrohue**	**2.00**	**42**		**Pn**	**19 18 14.9**	**+1.0**
LL03	**Petrohue**	**2.00**	**42**	*e*P	**Pn**	**19 18 15.3**	**+1.4**
LL03				*i* S	**Sn**	**19 18 39.1**	**+0.3**
LL03				IAML		19 19 02.9	
comp=N,2μm,0.5s							
AY01	**Puyuhuapi**	**2.11**	**149**	Pn	**Pn**	**19 18 16.6**	**+1.2**
AY01	**Puyuhuapi**	**2.11**	**149**	*e*P	**Pn**	**19 18 17.0**	**+1.6**
AY01				*i* S	**Sb**	**19 18 43.4**	**-1.2**
AY01				IAML		19 18 55.3	
comp=N,773nm,0.3s							
LL04	**Puerto Octay**	**2.17**	**38**	IAML		19 18 48.3	
comp=E,2μm,0.2s							
MGDN	**Magdalena**	**2.20**	**156**	*e*P	**Pn**	**19 18 18.3**	**+1.6**
MGDN				*i* S	**Sn**	**19 18 45.1**	**+1.3**
LR04	**Corral**	**2.81**	**12**	Pn	**Pn**	**19 18 27.8**	**+2.8**
LR04	**Corral**	**2.81**	**12**	*e*P	**Pn**	**19 18 26.7**	**+1.8**
LR04	**Corral**	**2.81**	**12**	*e*P	**Pb**	**19 18 30.3**	**-0.1**
LR04				*e*S	**Sg**	**19 19 09.3**	**-1.2**
LR05	**Currie**	**2.91**	**35**	Pn	**Pn**	**19 18 27.7**	**+1.3**
LR03	**Panguipulli**	**3.30**	**25**	Pn	**Pn**	**19 18 31.7**	**-0.1**
COYC	**Coyhaique**	**3.31**	**153**		**Pn**	**19 18 32.1**	**+0.2**
PLCA	**Paso Flores**	**3.32**	**56**		**Pn**	**19 18 32.6**	**+0.5**
PLCA	**Paso Flores**	**3.32**	**56**	Pn	**Pn**	**19 18 34.7**	**+2.6**
comp=E,2.9nm,0.3s,baz=234,slow=16,SNR=38							
PLCA				Sn	**Sb**	**19 19 17.9**	**-1.6**
comp=E,6.6nm,0.3s,baz=192,slow=19,SNR=4.9 comp=E,40nm,1.0s							
PLCA	**Paso Flores**	**3.32**	**56**	*e*P	**Pn**	**19 18 34.1**	**+2.0**
PLCA				IAML		19 19 32.6	
comp=Z,112nm,0.7s							
LC02	**Puerto Saavedr**	**3.88**	**9**	Pn	**Pn**	**19 18 40.3**	**+0.5**
AY03	**Cochrane**	**4.76**	**167**	Pn	**Pn**	**19 18 51.5**	**-0.3**
CANA	**Caviahue**	**5.30**	**28**	*i* P	Pn	19 19 04.8

az=18.1, confirmed
ISC 26 19:36:18.3±2.8, 13°6'N±0'2×88°46'W±0'07, h225km±17km, n61, σ1°17/63, 3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.12**	**200**	*e*P	**Pn**	**19 36 48.5**	**+0.8**
TECA				*e*P		19 36 48.6	
TECA				*e*S	**S**	**19 37 15.2**	**+4.3**
PACA	**Pacayal**	**0.19**	**135**	*e*P	**Pn**	**19 36 48.5**	**+0.8**
PACA				*e*S	**S**	**19 37 13.8**	**+3.0**
PACA	**Pacayal**	**0.19**	**135**	P	**Pn**	**19 36 48.6**	**+0.8**
PACA	**Pacayal**	**0.19**	**135**	S	**S**	**19 37 10.0**	**-0.7**
PACA	**Pacayal**	**0.19**	**135**	P	**Pn**	**19 36 48.6**	**+0.8**
RANC	**El Ranchito**	**0.24**	**135**	*e*P	**Pn**	**19 36 48.4**	**+0.5**
RANC	**El Ranchito**	**0.24**	**135**	S	**S**	**19 37 10.0**	**-0.9**
RANC	**El Ranchito**	**0.24**	**135**	P	**Pn**	**19 36 48.2**	**+0.4**
BLLM	**Bellamira**	**0.27**	**126**	*e*P	**Pn**	**19 36 48.3**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.28**	**291**	*e*P	**Pn**	**19 36 48.5**	**+0.8**
ALJI	**Alcalda de J**	**0.29**	**201**	S	**S**	**19 37 10.1**	**-0.7**
ALJI	**Alcalda de J**	**0.29**	**201**	P	**Pn**	**19 36 48.1**	**+0.4**
TECO	**Alcaldia de Te**	**0.32**	**258**	*e*P	**Pn**	**19 36 48.2**	**+0.5**
TECO	**Alcaldia de Te**	**0.32**	**258**	P	**Pn**	**19 36 48.3**	**+0.5**
TECO	**Alcaldia de Te**	**0.32**	**258**	P	**Pn**	**19 36 48.3**	**+0.5**
UESV	**Universidad de**	**0.32**	**276**	P	**Pn**	**19 36 48.5**	**+0.7**
UESV	**Universidad de**	**0.32**	**276**	S	**S**	**19 37 09.5**	**-1.3**
COEG	**Centro de Oper**	**0.41**	**272**	*e*P	**Pn**	**19 36 48.4**	**+0.3**
COEG	**Centro de Oper**	**0.41**	**272**	P	**Pn**	**19 36 48.5**	**+0.5**
PAVA	**Las Pavas**	**0.47**	**283**	⇑*i*P	**Pn**	**19 36 49.0**	**+0.8**
PAVA				IAML		19 36 49.4	
	comp=Z,876nm,0.5s						
PAVA	**Las Pavas**	**0.47**	**283**	P	**Pn**	**19 36 49.1**	**+0.8**
PAVA	**Las Pavas**	**0.47**	**283**	S	**S**	**19 37 11.5**	**-0.2**
PAVA	**Las Pavas**	**0.47**	**283**	P	**Pn**	**19 36 49.1**	**+0.8**
LFRS	**El Faro**	**0.58**	**272**	*e*P	**Pn**	**19 36 49.0**	**+0.3**
LCND	**La Caada**	**0.63**	**118**	⇑*i*P	**Pn**	**19 36 49.2**	**+0.5**
LCND				IAML		19 36 49.5	
	comp=Z,227nm,0.2s						
LCND	**La Caada**	**0.63**	**118**	P	**Pn**	**19 36 49.3**	**+0.5**
LCND	**La Caada**	**0.63**	**118**	S	**S**	**19 37 11.8**	**-0.7**
LCND	**La Caada**	**0.63**	**118**	P	**Pn**	**19 36 49.2**	**+0.5**
LOMA	**Loma Larga**	**0.69**	**273**	⇑*i*P	**Pn**	**19 36 49.6**	**+0.5**
LOMA				IAML		19 36 50.3	
	comp=Z,423nm,0.2s						
LOMA	**Loma Larga**	**0.69**	**273**	P	**Pn**	**19 36 49.6**	**+0.5**
LOMA	**Loma Larga**	**0.69**	**273**	S	**S**	**19 37 12.6**	**-0.5**
LOMA	**Loma Larga**	**0.69**	**273**	P	**Pn**	**19 36 49.7**	**+0.5**
CNCH	**Conchagua**	**0.69**	**118**	*e*P	**Pn**	**19 36 49.3**	**+0.2**
CNCH	**Conchagua**	**0.69**	**118**	S	**S**	**19 37 13.2**	**0.0**
CNCH	**Conchagua**	**0.69**	**118**	P	**Pn**	**19 36 49.3**	**+0.2**
CNCH	**Conchagua**	**0.69**	**118**	P	**Pn**	**19 36 49.4**	**+0.2**
LLGN	**La Laguna**	**0.73**	**320**	P	**Pn**	**19 36 49.7**	**+0.5**
LLGN	**La Laguna**	**0.73**	**320**	S	**S**	**19 37 11.4**	**-2.1**
PMON	**Piamonte**	**0.84**	**278**	P	**Pn**	**19 36 50.6**	**+0.8**
PMON	**Piamonte**	**0.84**	**278**	P	**Pn**	**19 36 50.8**	**+1.0**
JAYA	**Jayaque - finc**	**0.96**	**273**	P	**Pn**	**19 36 51.0**	**+0.4**
JAYA	**Jayaque - finc**	**0.96**	**273**	S	**S**	**19 37 13.7**	**-2.0**
JAYA	**Jayaque - finc**	**0.96**	**273**	P	**Pn**	**19 36 51.0**	**+0.4**
CSGN	**Cosiguina Volc**	**1.08**	**125**	P	**Pn**	**19 36 51.3**	**+0.1**
CSGN				S	**S**	**19 37 15.6**	**-1.2**
CSGN	**Cosiguina Volc**	**1.08**	**125**	P	**Pn**	**19 36 49.2**	**-2.0**
MTO3	**Montecristo**	**1.18**	**312**	P	**Pn**	**19 36 53.4**	**+1.4**
MTO3	**Montecristo**	**1.18**	**312**	S	**S**	**19 37 14.9**	**-3.4**
MTO3	**Montecristo**	**1.18**	**312**	P	**Pn**	**19 36 53.4**	**+1.4**
NUBE	**Las Nubes**	**1.31**	**283**	P	**Pn**	**19 36 54.0**	**+1.1**
NUBE	**Las Nubes**	**1.31**	**283**	S	**S**	**19 37 18.6**	**-1.2**
NUBE	**Las Nubes**	**1.31**	**283**	P	**Pn**	**19 36 53.9**	**+1.0**
SLOZ	**Alcaldia de Sa**	**1.35**	**288**	P	**Pn**	**19 36 53.8**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.35**	**288**	S	**S**	**19 37 19.2**	**-1.0**
FAME	**Alcaldia de Sa**	**1.53**	**279**	S	**S**	**19 37 22.4**	**-0.1**
LIMN	**Finca el Limon**	**2.11**	**105**	P	**Pn**	**19 37 00.6**	**+0.7**
LIMN	**Finca el Limon**	**2.11**	**105**	P	**Pn**	**19 37 00.6**	**+0.7**
RCVN	**Varillal2**	**2.21**	**90**	S	**S**	**19 37 33.0**	**-1.0**
RCVN	**Varillal2**	**2.21**	**90**	P	**Pn**	**19 37 01.3**	**+0.5**
RCVN	**Varillal2**	**2.21**	**90**	P	**Pn**	**19 37 01.4**	**+0.5**
RCPN	**Sur Rio San Ju**	**2.30**	**92**	P	**Pn**	**19 37 02.4**	**+0.6**
APQ2	**Apoyeque**	**2.51**	**124**	P	Pn	19 37 11.4	+7.6

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*IDC **26** 19:42:49.1±28.0, 23°68'S×178°89'E, h544km±95km, mb3.4/6, mbtmp4.4/6, Error ellipse: s-maj=385.1km s-min=45.2km az=94.0*
ISC 26 19:42:49.7±5.5, 23°7'S±0'4×178°9'E±0'7, h550km, n6, σ0°44/8, mb4.2/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**33.45**	**290**	P	**P**	**19 48 44.4**	**+0.7**
	12nm,0.9s,baz=122,slow=7.7,SNR=3.8						
	12nm,0.9s						
STKA	**Stephens Creek**	**33.83**	**248**	P	**P**	**19 48 46.7**	**0.0**
	0.8nm,0.5s,baz=103,slow=8.5,SNR=3.7						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**41.04**	**261**	P	**P**	**19 49 45.7**	**0.0**
	2.5nm,0.5s,baz=95,slow=7.7,SNR=52						
ASAR				ScP	**ScP**	**19 54 30.1**	**0.0**
	1.0nm,0.8s,baz=105,slow=4.6,SNR=10						
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**41.38**	**266**	P	**P**	**19 49 48.1**	**-0.3**
	4.9nm,0.4s,baz=103,slow=8.0,SNR=75						
WRA				ScP	**ScP**	**19 54 31.7**	**+0.2**
	0.6nm,0.8s,baz=106,slow=4.0,SNR=1.6						
	4.9nm,0.4s						
JAY	**Jayapura**	**42.48**	**294**	P	**P**	**19 49 56.6**	**-0.6**
	5.2nm,0.4s,baz=117,slow=6.8,SNR=8.5						
	5.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**49.80**	**266**	P	**P**	**19 50 52.6**	**-0.1**
	1.9nm,0.5s,baz=104,slow=8.3,SNR=2.0						
	1.9nm,0.5s						

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*MOS **26** 19:48:00.2±1.0, 46°92N×153°03E, h64km, mb4.5/15, Error ellipse: s-maj=9.2km s-min=6.6km az=71.5*
*SKHL **26** 19:48:00.2±0.9, 46°80N×153°30E, h73km±4km, mb4.8/7*
*NEIC **26** 19:48:03.6±1.2, 47°15N±0°09×152°8E±0°1, h65km±8km, mb4.5/61, Error ellipse: s-maj=14.0km s-min=10.4km az=141.0*
*IDC **26** 19:48:04.4±2.1, 47°07N×152°87E, h78km±18km, mb3.7/23, mbtmp4.0/29, MS3.1/9, Error ellipse: s-maj=16.9km s-min=10.9km az=145.0*
ISC 26 19:48:01.3±0.5, 46°91N±0°07×153°07E±0°06, h56km, n164, σ1°22/168, mb4.4/61, MS3.5/4, 7C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**247**	*e*PN	**Pn**	**19 49 00.6**	**+0.7**
KUR				*i* S	**Sn**	**19 49 48.5**	**+3.1**
KUR				pmax	pmax		
	comp=Z,95nm,0.4s						
KUR				pmax	pmax		
	comp=E,42nm,0.2s						
KUR				pmax	pmax		
	comp=N,41nm,0.3s						
KUR				smax	smax		
	comp=N,244nm,0.6s						
KUR				smax	smax		
	comp=E,120nm,0.6s						
KUR	**Kuril'sk**	**3.99**	**247**	*e*P	**Pn**	**19 49 00.2**	**+0.3**
KUR				AMB	AMB	19 49 10.0	
	comp=E,40nm,0.4s						
KUR				AMB	AMB	19 49 10.0	
	comp=E,40nm,0.4s						
KUR				AMB	AMB	19 49 10.0	
	comp=E,100nm,0.4s						
KUR				*e*S	**Sn**	**19 49 45.4**	**0.0**
KUR				A	A	19 50 06.3	
	comp=E,240nm,0.6s						
KUR				A	A	19 50 06.3	
	comp=E,120nm,0.6s						
SKR	**Severo-Kuril's**	**4.28**	**27**	*e*PN	**Pn**	**19 49 05.1**	**+1.2**
SKR				*e*S	**Sn**	**19 49 51.0**	**-1.4**
SKR				pmax	pmax		
	comp=Z,128nm,0.6s						
SKR				smax	smax		
	comp=E,160nm,0.6s						
SKR				smax	smax		
	comp=N,138nm,0.6s						
SKR				MLR	MLR		
	comp=Z,800nm,13.0s						
SKR	**Severo-Kuril's**	**4.28**	**27**	*e*P	**Pn**	**19 49 04.3**	**+0.4**
SKR				AMB	AMB	19 49 05.6	
	comp=Z,50nm,0.6s						
SKR				*e*S	**Sn**	**19 49 51.6**	**-0.8**
	comp=Z,140nm,0.6s						
SKR				A	A	19 49 58.2	
	comp=Z,160nm,0.6s						
SKR				A	A	19 49 58.2	
	comp=Z,2μm,13.0s						
SKR				AMS	AMS	19 50 49.4	
	comp=Z,800nm,13.0s						
SKR				AMS	AMS	19 50 49.4	
SHO	**Shikotan**	**5.34**	**238**	*e*PN	**Pn**	**19 49 16.9**	**-1.5**
SHO				pmax	pmax		
	comp=Z,39nm,0.4s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.2s						
SHO				pmax	pmax		
	comp=N,14nm,0.4s						
SHO	**Shikotan**	**5.34**	**238**	*e*P	**Pn**	**19 49 17.2**	**-1.2**
SHO				AMB	AMB	19 49 29.4	
	comp=N,10.0nm,0.4s						
SHO				AMB	AMB	19 49 29.4	
	comp=N,10.0nm,0.4s						
SHO				AMB	AMB	19 49 29.4	
	comp=N,40nm,0.4s						
SHO				*e*S	**Sn**	**19 50 15.5**	**-3.1**
SHO				A	A	19 50 33.6	
	comp=N,90nm,0.3s						
SHO				A	A	19 50 33.6	
	comp=N,40nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.83**	**243**	*e*PN	**Pn**	**19 49 25.9**	**+0.9**
YUK				*e*S	**Sn**	**19 50 32.0**	**+1.5**
YUK				pmax	pmax		
	comp=Z,91nm,0.3s						
YUK				pmax	pmax		
	comp=N,44nm,0.2s						
YUK				pmax	pmax		
	comp=E,27nm,0.2s						
YUK				smax	smax		
	comp=E,177nm,0.8s						
YUK				smax	smax		
	comp=N,230nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.83**	**243**	*i* P	**Pn**	**19 49 26.0**	**+0.9**
YUK				AMB	AMB	19 49 27.5	
	comp=N,40nm,0.3s						
YUK				AMB	AMB	19 49 27.5	
	comp=N,30nm,0.3s						
YUK				AMB	AMB	19 49 27.5	
	comp=N,90nm,0.3s						
YUK				*e*S	**Sn**	**19 50 30.1**	**-0.4**
YUK				A	A	19 50 47.6	
	comp=N,230nm,0.6s						
YUK				A	A	19 50 47.6	
	comp=N,180nm,0.6s						
RUSJ	**Misakicho**	**6.17**	**246**	*e*PN	**Pn**	**19 49 33.3**	**+3.5**
RUSJ				*e*S	**Sn**	**19 50 43.1**	**+4.2**
NMR	**Nemuro--Hokkai**	**6.28**	**238**	*e*PN	**Pn**	**19 49 29.2**	**-2.1**
NMR	**Nemuro--Hokkai**	**6.28**	**238**	*i* P	**Pn**	**19 49 29.8**	**-1.5**
NMR				*e*S	**Sn**	**19 50 37.7**	**-4.0**
PEA0B	**Petropavlovsk-**	**6.88**	**24**	Pn	**Pn**	**19 49 38.5**	**-1.0**
PEA0B	**Petropavlovsk-**	**6.88**	**24**	*i* PN	**Pn**	**19 49 40.6**	**+1.1**
PETK	**Petropavlovsk-**	**6.88**	**24**	Pn	**Pn**	**19 49 39.0**	**-0.6**
PETK	**Petropavlovsk-**	**6.88**	**24**	P	**Pn**	**19 49 40.4**	**+0.8**
	comp=N,4.9nm,0.8s,baz=181,slow=13,SNR=12						
PETK				S	**Sn**	**19 50 59.1**	**+2.7**
	comp=N,2.5nm,0.6s,baz=194,slow=18,SNR=1.0						
AKK	**Akkeshi**	**7.01**	**239**	*e*P	**Pn**	**19 49 39.9**	**-1.4**
YSS	**Yuzhno-Sakhali**	**7.07**	**274**	*e*PN	**Pn**	**19 49 43.9**	**+1.9**
YSS				*e*S	**Sn**	**19 51 01.8**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=Z,700nm,17.0s						
YSS	**Yuzhno-Sakhali**	**7.07**	**274**	*e*P	**Pn**	**19 49 43.9**	**+1.9**
YSS				AMB	AMB	19 49 45.3	
	comp=Z,10.0nm,0.4s						
YSS				*e*S	**Sn**	**19 51 01.8**	**+0.9**
YSS				AMS	AMS	19 52 15.6	
	comp=Z,700nm,17.0s						
PET	**Petropavlovsk**	**7.10**	**28**	Pn	**Pn**	**19 49 43.0**	**+0.5**
PET				Sn	**Sn**	**19 50 59.5**	**-2.2**
PET	**Petropavlovsk**	**7.10**	**28**	*e*P	**Pn**	**19 49 42.4**	**-0.1**
PET				AMB	AMB	19 49 46.2	
	comp=Z,20nm,0.2s						
PET				*e*S	**Sn**	**19 50 59.3**	**-2.3**
PET				A	A	19 51 12.2	
	comp=Z,80nm,0.5s						
PET				A	A	19 51 12.2	
	comp=Z,60nm,0.5s						
JKA	**Kamikawa-asahi**	**7.87**	**253**	Pn	**Pn**	**19 49 52.5**	**-0.5**
JKA	**Kamikawa-asahi**	**7.87**	**253**	*e*P	**Pn**	**19 49 54.6**	**+1.6**
ASAJ	**Asahikawa**	**7.87**	**253**	P	**Pn**	**19 49 54.6**	**+1.5**
	comp=Z,39nm,0.9s,baz=87,slow=13,SNR=9.5						
ASAJ				LR	LR	19 52 44.5	
	comp=Z,69nm,20.5s,baz=138,slow=36						
ERM	**Erimo**	**8.61**	**239**	Pn	**Pn**	**19 50 03.7**	**+0.5**
ERM	**Erimo**	**8.61**	**239**	*i* PN	**Pn**	**19 50 03.9**	**+0.7**
JTM	**Tenmabayashi**	**10.61**	**239**	Pn	Pn	19 50 27.0	-3.4
MA2	**Magadan**	**12.77**	**355**		**Pn**	**19 50 58.4**	**-1.4**
MA2	**Magadan**	**12.77**	**355**	P	**Pn**	**19 51 00.8**	**+1.0**
	comp=Z,6.2nm,0.6s,baz=176,slow=8.6,SNR=15						
MA2				LR	LR	19 55 46.4	
	comp=Z,36nm,21.8s,baz=115,slow=37						
KLR	**Kul'dur**	**14.44**	**287**	P	**Pn**	**19 51 24.2**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=90,slow=8.0,SNR=7.9						
KLR				LR	LR	19 56 55.7	
	comp=Z,79nm,19.0s,baz=114,slow=37						
KLR	**Kul'dur**	**14.44**	**287**	*i* P	**Pn**	**19 51 23.7**	**+1.3**
KLR	**Kul'dur**	**14.44**	**287**	*i* P	**Pn**	**19 51 21.9**	**-0.5**
SHEM	**Shemya Is, Ala**	**14.75**	**59**	LR	LR	19 56 08.0	
	comp=Z,55nm,19.6s,baz=266,slow=33						
USRK	**Ussuriysk Ar.**	**15.01**	**267**	P	**Pn**	**19 51 30.1**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=66,slow=12,SNR=8.0						
MJAR	**Matsushiro Arr**	**15.15**	**232**	P	**Pn**	**19 51 35.0**	**+3.2**
	comp=Z,2.4nm,0.7s,baz=28,slow=9.5,SNR=7.3						
MJAR				LR	LR	19 57 09.0	
	comp=Z,28nm,20.2s,baz=36,slow=36						
YAK	**Yakutsk**	**20.17**	**327**	*i* P	Pn	19 52 31.1	-2.0
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSRS	**Korea Array**	**20.82**	**252**	P	**P**	**19 52 38.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=63,slow=9.3,SNR=5.9						
	comp=Z,1.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.37**	**153**	T	T	20 25 19.4	
	baz=340,slow=76,SNR=493						
H11N1	**WAKE ISLAND Hy**	**29.39**	**153**	T	T	20 25 20.5	
	baz=340,slow=76,SNR=196						
H11N3	**WAKE ISLAND Hy**	**29.39**	**153**	T	T	20 25 18.6	
	baz=340,slow=76,SNR=160						
C16K	**Lisburne Hills**	**29.94**	**30**	P	**P**	**19 54 03.7**	**+0.1**
C16K				IAmb	IAmb	19 54 05.5	
	comp=Z,16nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**30.46**	**154**	T	T	20 26 43.6	
	baz=341,slow=75,SNR=523						
H11S3	**WAKE ISLAND Hy**	**30.47**	**154**	T	T	20 26 28.2	
	baz=341,slow=75,SNR=576						
H11S2	**WAKE ISLAND Hy**	**30.48**	**154**	T	T	20 26 21.2	
	baz=341,slow=75,SNR=591						
J17K	**VABM Dome**	**31.00**	**40**	P	**P**	**19 54 13.9**	**+0.9**
J17K				IAmb	IAmb	19 54 50.9	
	comp=Z,8.2nm,1.2s						
K17K	**Iditarod**	**31.25**	**42**	P	**P**	**19 54 16.7**	**+1.4**
K17K				IAmb	IAmb	19 54 47.3	
	comp=Z,13nm,1.2s						
SONM	**Songino Array**	**31.25**	**289**	P	**P**	**19 54 14.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=71,slow=7.7,SNR=3.6						
	comp=Z,0.3nm,0.6s						
C18K	**Utukok River**	**31.50**	**30**	P	**P**	**19 54 18.3**	**+0.8**
C18K				IAmb	IAmb	19 54 19.1	
	comp=Z,5.5nm,0.8s						
M17K	**Holitna River**	**31.52**	**44**	P	**P**	**19 54 18.6**	**+0.9**
M17K				IAmb	IAmb	19 54 20.1	
	comp=Z,12nm,1.1s						
H18K	**Honhosa River**	**31.62**	**37**	P	**P**	**19 54 18.8**	**+0.3**
H18K				IAmb	IAmb	19 54 49.3	
	comp=Z,13nm,1.4s						
G18K	**Tagagawik**	**31.66**	**36**	P	**P**	**19 54 19.2**	**+0.3**
D19K	**Kuna River**	**32.53**	**31**	P	**P**	**19 54 27.4**	**+1.0**
D19K				IAmb	IAmb	19 54 28.7	
	comp=Z,6.3nm,0.9s						
E19K	**Redstone River**	**32.58**	**33**	P	**P**	**19 54 27.8**	**+0.9**
E19K				IAmb	IAmb	19 54 28.9	
	comp=Z,4.3nm,0.6s						
J19K	**Poorman**	**32.61**	**40**	P	**P**	**19 54 27.6**	**+0.4**
F20K	**Avaraart Lake**	**33.06**	**34**	P	**P**	**19 54 31.8**	**+0.8**
B20K	**Meade River**	**33.30**	**29**	P	**P**	**19 54 33.5**	**+0.5**
B21K	**Melozitna Rive**	**34.00**	**37**	P	**P**	**19 54 39.9**	**+0.6**
B21K	**Ikpikpuk River**	**34.04**	**30**	P	**P**	**19 54 40.8**	**+1.3**
B22K	**Teshekpuk Lake**	**34.61**	**29**	P	**P**	**19 54 45.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**34.65**	**40**	P	**P**	**19 54 45.5**	**+0.6**
E22K	**Anaktuvuk Pass**	**34.73**	**33**	P	**P**	**19 54 46.6**	**+1.0**
D23K	**Nanushuk River**	**35.27**	**31**	P	**P**	**19 54 50.9**	**+0.7**
D23K				IAmb	IAmb	19 54 53.3	
	comp=Z,4.5nm,1.0s						
C23K	**Itkillik River**	**35.45**	**30**	P	**P**	**19 54 52.6**	**+0.9**
E23K	**Chandalar**	**35.54**	**33**	P	**P**	**19 54 53.0**	**+0.4**
E23K				IAmb	IAmb	19 54 55.4	
	comp=Z,5.3nm,0.9s						
TOLK	**Toolik Lake Re**	**35.63**	**32**	P	**P**	**19 54 54.2**	**+0.9**
TOLK				IAmb	IAmb	19 54 55.5	
	comp=Z,6.4nm,1.1s						
SML	**Sawmill**	**35.88**	**44**	P	**P**	**19 54 56.1**	**+0.6**
SML				IAmb	IAmb	19 55 11.0	
	comp=Z,7.0nm,1.0s						
E24K	**Your Creek**	**35.96**	**33**	P	**P**	**19 54 57.1**	**+1.0**
D24K	**Happy Valley**	**35.96**	**31**	P	**P**	**19 54 56.9**	**+0.8**
D24K				IAmb	IAmb	19 54 58.5	
	comp=Z,7.2nm,1.1s						
F24K	**Squaw Lake**	**36.14**	**34**	P	**P**	**19 54 58.6**	**+0.9**
G24K	**Hadweenzic Riv**	**36.24**	**35**	P	**P**	**19 54 59.8**	**+1.3**
G24K				IAmb	IAmb	19 55 01.2	
	comp=Z,5.4nm,1.0s						
ILAR	**Eielson Array**	**36.44**	**39**	P	**P**	**19 55 00.9**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=264,slow=7.1,SNR=8.0						
	comp=Z,1.0nm,0.8s						
D25K	**Kavik River**	**36.85**	**31**	P	**P**	**19 55 04.5**	**+0.8**
D25K				IAmb	IAmb	19 55 05.7	
	comp=Z,4.7nm,0.7s						
F25K	**Christian Rive**	**37.00**	**34**	P	**P**	**19 55 06.8**	**+1.8**
E25K	**Arctic Village**	**37.05**	**33**	P	**P**	**19 55 07.0**	**+1.6**
BMAR	**Burnt Mountain**	**37.40**	**34**	P	**P**	**19 55 09.7**	**+1.2**
SCRK	**Sand Creek**	**37.73**	**40**	P	**P**	**19 55 11.6**	**+0.2**
C27K	**Jago River**	**37.81**	**31**	P	**P**	**19 55 12.7**	**+0.9**
C27K				IAmb	IAmb	19 55 13.6	
	comp=Z,2.4nm,0.6s						
E27K	**Coleen River**	**38.54**	**33**	P	**P**	**19 55 19.1**	**+1.1**
K27K	**Chicken**	**38.57**	**40**	P	**P**	**19 55 18.9**	**+0.7**
K27K				IAmb	IAmb	19 55 20.5	
	comp=Z,5.7nm,1.1s						
D27M	**Malcolm River**	**38.77**	**31**	P	**P**	**19 55 20.6**	**+0.7**
BCAR	**Beaver Creek A**	**38.80**	**41**	P	**P**	**19 55 21.5**	**+1.2**
H29M	**Whitestone**	**39.91**	**36**	P	**P**	**19 55 31.0**	**+1.7**
H29M				IAmb	IAmb	19 55 44.6	
	comp=Z,7.2nm,1.4s						
L29M	**L29M**	**40.44**	**41**	P	**P**	**19 55 35.4**	**+1.6**
N31M	**Braeburn, Yuko**	**41.84**	**43**	P	**P**	**19 55 47.3**	**+1.9**
N31M				IAmb	IAmb	19 56 03.8	
	comp=Z,10nm,1.4s						
ZALV	**Zalesovo Beam**	**42.50**	**306**	P	**P**	**19 55 50.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=71,slow=5.2,SNR=1.7						
ZALV				PcP	**PcP**	**19 57 42.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=90,slow=4.3,SNR=3.9						
	comp=Z,0.3nm,0.3s						
A36M	**Sachs Harbour**	**43.72**	**26**	P	**P**	**19 56 01.5**	**+1.1**
C36M	**Paulatuk**	**44.70**	**30**		**P**	**19 56 09.0**	**+0.8**
C36M				IAmb	IAmb	19 56 10.1	
	comp=Z,10nm,1.2s						
MK31	**Makanchi Array**	**46.84**	**297**	P	**P**	**19 56 24.2**	**-1.3**
MK31	**Makanchi Array**	**46.84**	**297**	*ce*P	**P**	**19 56 26.0**	**+0.5**
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**19 56 24.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=71,slow=9.1,SNR=6.0						
MKAR				PcP	**PcP**	**19 57 57.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=64,slow=3.4,SNR=4.8						
MKAR				LR	LR	20 17 14.5	
	comp=Z,63nm,19.7s,baz=9.5,slow=38						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**47.25**	**303**	P	**P**	**19 56 27.6**	**-0.9**
KURK						19 57 59.0	
KURK	**Kurchatov**	**47.25**	**303**	*e*P	**P**	**19 56 27.6**	**-0.9**
KURBB	**Kurchatov Arra**	**47.34**	**303**	P	**P**	**19 56 27.6**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=68,slow=8.4,SNR=6.9						
KURBB				PcP	**PcP**	**19 57 59.0**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=66,slow=3.7,SNR=4.2						
	comp=Z,1.1nm,0.7s						
EUNU	**Eureka**	**48.98**	**11**	P	**P**	**19 56 41.6**	**0.0**
EUNU				IAmb	IAmb	19 56 42.4	
	comp=Z,3.1nm,0.8s						
RES	**Resolute Bay**	**50.70**	**19**	P	**P**	**19 56 54.2**	**-0.3**
RES	**Resolute Bay**	**50.70**	**19**	P	**P**	**19 56 54.2**	**-0.3**
RES				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BVAR	**Borovoye Array**	**50.74**	**309**	P	**P**	**19 56 54.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=65,slow=6.2,SNR=5.6						
BVAR				PcP	**PcP**	**19 58 11.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=110,slow=3.2,SNR=6.6						
	comp=Z,0.7nm,0.6s						
YKAW3	**Yellowknife Wh**	**50.78**	**37**	P	**P**	**19 56 56.1**	**+0.8**
YKAW3				IAmb	IAmb	19 57 27.2	
	comp=Z,4.5nm,1.4s						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**19 56 55.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=298,slow=7.5,SNR=15						
YKA				PcP	**PcP

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**68.30**	**339**	P	**P**	**19 58 55.4**	**-0.6**
	comp=Z,7.0nm,0.6s,baz=57,slow=5.5,SNR=25						
	comp=Z,7.0nm,0.6s						
WB0	**Warramunga Arr**	**68.47**	**199**	P	**P**	**19 58 57.2**	**-0.2**
WB0				IAmb	IAmb	19 59 03.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**68.65**	**199**	P	**P**	**19 58 58.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=14,slow=6.7,SNR=2.4						
	comp=Z,0.4nm,0.6s						
KBZ	**Khabaz**	**70.73**	**314**	P	**P**	**19 59 10.7**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=57,slow=6.3,SNR=6.3						
	comp=Z,2.5nm,0.9s						
KBZ	**Khabaz**	**70.73**	**314**	*ce*P	**P**	**19 59 11.0**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**70.73**	**314**	*e*P	**P**	**19 59 11.0**	**-0.2**
AKASG	**Malin Array Be**	**71.40**	**326**	P	**P**	**19 59 14.1**	**-1.1**
	comp=Z,3.3nm,0.4s,baz=37,slow=6.2,SNR=23						
AKASG				LR	LR	20 34 42.3	
	comp=Z,23nm,19.7s,baz=152,slow=39						
	comp=Z,3.3nm,0.4s						
AKASG	**Malin Array Be**	**71.40**	**326**	*c i*P	**P**	**19 59 14.3**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKBB	**Malin Array Si**	**71.40**	**326**	P	**P**	**19 59 13.6**	**-1.5**
AKBB	**Malin Array Si**	**71.40**	**326**	*ce*P	**P**	**19 59 13.6**	**-1.5**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIEV	**Kiev**	**71.41**	**326**	P	**P**	**19 59 13.8**	**-1.3**
KIEV	**Kiev**	**71.41**	**326**	P	**P**	**19 59 13.9**	**-1.3**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ASAR	**Alice Springs**	**72.35**	**198**	P	**P**	**19 59 21.7**	**+0.6**
ASAR	**Alice Springs**	**72.35**	**198**	P	**P**	**19 59 22.3**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=10,slow=5.5,SNR=9.1						
	comp=Z,0.5nm,0.5s						
GNI	**Garni**	**72.41**	**310**	LR	LR	20 33 29.9	
	comp=Z,26nm,18.5s,baz=102,slow=38						
STHS	**Stebnicka Huta**	**75.36**	**330**	*e*P	**P**	**19 59 37.4**	**-1.1**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STHS	**Stebnicka Huta**	**75.36**	**330**	*e*P	**P**	**19 59 37.4**	**-1.1**
KOLS	**Kolonicke sedl**	**75.41**	**329**	*e*P	**P**	**19 59 38.7**	**-0.1**
KOLS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KOLS	**Kolonicke sedl**	**75.41**	**329**	*e*P	**P**	**19 59 38.7**	**-0.1**
BUR08	**Bucovina Ar. S**	**75.42**	**327**	P	**P**	**19 59 38.0**	**-1.0**
BUR08				IAmb	IAmb	19 59 39.3	
	comp=Z,3.6nm,0.7s						
BURAR	**Bucovina Array**	**75.44**	**327**	P	**P**	**19 59 38.4**	**-0.7**
EKA	**Eskdalemuir Ar**	**76.18**	**346**	P	**P**	**19 59 42.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=32,slow=4.9,SNR=4.3						
	comp=Z,0.4nm,0.5s						
LANS	**Liptovska Anna**	**76.20**	**331**	*e*P	**P**	**19 59 43.7**	**+0.4**
LANS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LANS	**Liptovska Anna**	**76.20**	**331**	*e*P	**P**	**19 59 43.7**	**+0.4**
CLL	**Collm**	**76.31**	**336**	*i*P	**P**	**19 59 43.1**	**-0.7**
CLL	**Collm**	**76.31**	**336**	*i*P	**P**	**19 59 43.1**	**-0.7**
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**19 59 51.6**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=298,slow=4.7,SNR=12						
	comp=Z,1.1nm,0.5s						
MODS	**Modra-Piesok**	**77.59**	**332**	*e*PP	PP	20 02 37.2	-8.7
KHC	**Kasperske Hory**	**78.08**	**334**	*ce*P	**P**	**19 59 54.4**	**+0.5**
KHC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	**GERESS Array B**	**78.30**	**334**	P	**P**	**19 59 54.6**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.2,SNR=6.2						
	comp=Z,0.6nm,0.5s						
MMAI	**Mount Meron Ar**	**82.69**	**311**	P	**P**	**20 00 19.4**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=42,slow=8.9,SNR=3.7						
	comp=Z,1.4nm,0.5s						
QSPA	**South Pole Qui**	**136.64**	**180**	PKP	**PKPdf**	**20 07 17.1**	**+1.2**
	comp=Z,1.7nm,1.2s,baz=293,slow=4.1,SNR=1.7						
H03N2	**Juan Fernandez**	**138.78**	**90**	T	T	22 42 37.0	
	baz=308,slow=77,SNR=22						
H03N1	**Juan Fernandez**	**138.80**	**90**	T	T	22 42 38.3	
	baz=308,slow=77,SNR=21						
H03N3	**Juan Fernandez**	**138.80**	**90**	T	T	22 42 40.1	
	baz=308,slow=77,SNR=21						

GCG 26 19:59:11.5±0.5, 14°.44N×91°.56W, h80km±49km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG8	**El Palmar, Qui**	**0.20**	**87**	*e*P		19 59 24.9	
STG8				*e*S		19 59 34.9	
STG0	**El Palmar, Qui**	**0.21**	**94**	*e*P		19 59 24.2	

*SLM **26** 20:07:32.8±0.5, 36°.069N±0°.008×89°.812W±0°.009, h10km±3km, Error ellipse: s-maj=1.4km s-min=0.7km az=138.0*

NEIC 26 20:07:33.3±0.5, 36°.066N±0°.006×89°.82W±0°.01, h11km±3km, mb_Lg2.8/49, ML3.0/30, Md2.9/49(SLM), Error ellipse: s-maj=1.6km s-min=0.5km az=122.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEBM	**Pemiscott Bayo**	**0.06**	**321**		Pg	20 07 35.1	-0.4
PEBM				Sg	Sg	20 07 37.2	0.0
CHNM	**Channel**	**0.10**	**256**		Pg	20 07 35.7	-0.2
CHNM					Sg	20 07 38.1	+0.3
BRGM	**Braggadocio**	**0.14**	**346**		Pg	20 07 36.4	-0.2
BRGM					Sg	20 07 39.1	+0.2
GSAR	**Gosnell High S**	**0.16**	**230**		Pg	20 07 36.8	-0.1
GSAR					Sg	20 07 39.9	+0.5
CWPT	**Cottonwood Poi**	**0.16**	**110**		Pg	20 07 36.6	-0.3
GNAR	**Gosnell**	**0.19**	**239**		Pg	20 07 37.4	-0.1
GNAR				Sg	Sg	20 07 40.6	+0.4
GNAR				IAML		20 07 41.0	
	comp=E,3μm,0.3s						
GNAR				IAML		20 07 41.0	
	comp=N,5μm,0.4s						
LNXT	**Lenox**	**0.27**	**82**		Pg	20 07 38.3	-0.4
LNXT				Sg	Sg	20 07 42.5	+0.1
LNXT				IAML		20 07 42.8	
	comp=N,3μm,0.4s						
LNXT				IAML		20 07 46.0	
	comp=E,2μm,0.6s						
MIST	**Miston**	**0.27**	**67**		Pg	20 07 38.5	-0.4
EDIT	**Edith**	**0.29**	**134**		Pg	20 07 38.9	-0.3
DLAR	**Dell**	**0.30**	**212**		Pg	20 07 39.1	-0.2
WADM	**Wardell**	**0.30**	**3**		Pg	20 07 39.1	-0.3
FPST	**Four Points**	**0.30**	**107**		Pg	20 07 39.2	-0.2
ARPT	**Arp**	**0.33**	**160**		Pg	20 07 39.6	-0.3
PVMO	**Portageville**	**0.36**	**15**		Pg	20 07 40.0	-0.5
PVMO	**Portageville**	**0.36**	**15**		Sg	20 07 40.0	-5.3
PVMO				IAML		20 07 48.6	
	comp=N,859nm,0.2s						
PVMO				IAML		20 07 50.5	
	comp=E,520nm,0.3s						
LVAR	**Leachville**	**0.36**	**246**		Pg	20 07 40.3	-0.2
POBM	**Portage Bay**	**0.36**	**20**		Pg	20 07 40.2	-0.3
MSAR	**Manila South**	**0.39**	**224**		Pg	20 07 40.7	-0.3
PGVM	**Portageville**	**0.40**	**10**		Pg	20 07 40.8	-0.4
PENMO	**Penman**	**0.41**	**21**		Pg	20 07 41.0	-0.4
HALT	**Halls**	**0.42**	**112**		Pg	20 07 41.0	-0.5
RELT	**Roellen**	**0.42**	**94**		Pg	20 07 41.3	-0.2
TOPM	**Tallapoosa**	**0.46**	**353**		Pg	20 07 41.9	-0.5
GLAT	**Glass**	**0.47**	**64**		Pg	20 07 42.1	-0.5
MARMO	**Marston**	**0.48**	**14**		Pg	20 07 42.2	-0.5
WALK	**Watson Lake**	**0.52**	**25**		Pg	20 07 42.9	-0.5
FLPT	**Flippin**	**0.53**	**49**		Pg	20 07 43.0	-0.5
NMEM	**New Madrid Sch**	**0.54**	**20**		Pg	20 07 43.3	-0.5
CATM	**Catron**	**0.56**	**14**		Pg	20 07 43.7	-0.5
NMMO	**New Madrid**	**0.56**	**22**		Pg	20 07 43.7	-0.6
MLDM	**Malden**	**0.56**	**351**		Pg	20 07 43.7	-0.6
BETM	**Bethany**	**0.58**	**340**		Pg	20 07 44.0	-0.5
PARMO	**Parma**	**0.60**	**5**		Pg	20 07 44.3	-0.6
PARMO				Sg	Sg	20 07 52.1	-0.7
PARMO				IAML		20 07 53.7	
	comp=N,881nm,0.3s						
LPAR	**Lepanto**	**0.61**	**221**		Pg	20 07 44.4	-0.7
HICK	**Hickman**	**0.67**	**45**		Pg	20 07 45.4	-0.9
HICK				IAML		20 08 00.3	
	comp=E,787nm,0.2s						
HICK				IAML		20 08 05.0	
	comp=N,771nm,0.3s						
HENM	**Henderson Moun**	**0.71**	**23**		Pg	20 07 46.2	-0.8
SFTN	**Shelby Forest**	**0.73**	**193**		Pg	20 07 46.7	-0.6
UTMT	**University of**	**0.82**	**70**		Pg	20 07 48.5	-0.5
UTMT	**University of**	**0.82**	**70**	Pg	Pg	20 07 48.3	-0.8
UTMT	**University of**	**0.82**	**70**	Sg	Sg	20 07 59.6	-0.1
UTMT				IAML		20 08 03.1	
	comp=E,429nm,0.2s						
UTMT				IAML		20 08 03.2	
	comp=N,691nm,0.5s						
HBAR	**Harrisburg**	**0.85**	**234**		Pg	20 07 49.0	-0.7
HBAR	**Harrisburg**	**0.85**	**234**	IAML		20 08 04.0	
	comp=N,531nm,0.4s						
HBAR				IAML		20 08 07.6	
	comp=E,640nm,0.4s						
PBMO	**Poplar Bluff**	**0.87**	**325**		Pg	20 07 48.8	-1.2
PBMO				Sg	Sg	20 08 00.5	-0.9
PBMO				IAML		20 08 03.0	
	comp=E,649nm,0.2s						
PBMO				IAML		20 08 03.1	
	comp=N,457nm,0.2s						
MET	**Memphis--Engin**	**0.95**	**186**	Pg	Pg	20 07 50.1	-1.4
MET				Sg	Sg	20 08 03.1	-0.7
MET				IAML		20 08 09.7	
	comp=N,402nm,0.2s						
MET				IAML		20 08 14.0	
	comp=E,578nm,0.1s						
EBZ	**Ebenezer Churc**	**1.00**	**158**		Pg	20 07 51.7	-0.8
LCAR	**Lake Charles**	**1.08**	**271**		Pb	20 07 52.7	-1.4
LCAR				IAML		20 08 07.8	
	comp=N,317nm,0.2s						
CGM3	**Cape Girardeau**	**1.24**	**6**		Pn	20 07 54.6	-1.9
T45A	**Paducah**	**1.34**	**44**		Pn	20 07 57.0	-1.0
T42A	**Van Buren**	**1.41**	**313**		Pn	20 07 58.0	-0.9
WVT	**Waverly**	**1.61**	**87**		Pn	20 08 01.0	-0.6
SIUC	**Southern Illin**	**1.71**	**16**		Pn	20 08 03.2	+0.1
SIUC				IAmb_Lg		20 08 28.9	
	comp=Z,52nm,0.9s						
PLAL	**Pickwick Lake**	**1.78**	**127**		Pn	20 08 03.6	-0.4
PWLA	**Pickwick Lake**	**1.79**	**127**		Pn	20 08 03.8	-0.4
FCAR	**Ozark Folk Cen**	**1.88**	**265**		Pn	20 08 05.2	-0.2
FVM	**French Village**	**1.98**	**346**		Pn	20 08 06.9	+0.2
FVM	**French Village**	**1.98**	**346**	Pn	Pn	20 08 06.7	-0.1
WHAR	**Wooly Hollow**	**2.16**	**250**	Pn	Pn	20 08 09.0	-0.2
Y45A	**Yeager Farm, C**	**2.21**	**174**	Pn	Pn	20 08 09.0	-0.9
MGMO	**Mountain Grove**	**2.25**	**300**		Pn	20 08 10.0	-0.6
MGMO				IAmb_Lg		20 08 45.1	
	comp=Z,28nm,0.7s						
CCM	**Cathedral Cave**	**2.29**	**330**		Pn	20 08 10.9	-0.2
CCM				IAmb_Lg		20 08 47.3	
	comp=Z,48nm,0.7s						
CCM	**Cathedral Cave**	**2.29**	**330**		Pn	20 08 10.8	-0.2
T47A	**Sharon Grove**	**2.37**	**66**	Pn	Pn	20 08 11.5	-0.6
UALR	**University of**	**2.43**	**239**	Pn	Pn	20 08 12.6	-0.4
UALR				IAmb_Lg		20 08 56.5	
	comp=Z,41nm,1.0s						
U40A	**Yellville**	**2.47**	**278**		Pn	20 08 13.8	+0.2
USIN	**University of**	**2.56**	**42**		Pn	20 08 11.3	-3.4
SLM	**Saint Louis**	**2.59**	**353**	Pn	Pn	20 08 13.7	-1.4
CCAR	**Cane Creek**	**2.68**	**217**	Pn	Pn	20 08 15.1	-1.2
X48A	**Hartselle**	**2.78**	**125**	Pn	Pn	20 08 16.6	-1.2
CLTN	**Cedars of Leba**	**2.82**	**88**	Pn	Pn	20 08 17.6	-0.8
Q44A	**Meyer Farm, Va**	**2.90**	**12**	Pn	Pn	20 08 18.6	-0.8
Q44A				IAmb_Lg		20 09 10.8	
	comp=Z,29nm,1.1s						
X40A	**Basin Creek Fa**	**2.93**	**238**	Pn	Pn	20 08 18.5	-1.3
X40A				IAmb_Lg		20 09 07.2	
	comp=Z,31nm,0.7s						
R40A	**Maddies Statio**	**2.96**	**319**		Pn	20 08 18.6	-1.7
R40A				IAmb_Lg		20 09 06.1	
	comp=Z,20nm,0.8s						
OLIL	**Olney**	**2.99**	**27**	IAmb_Lg		20 09 09.3	
	comp=Z,24nm,1.2s						
Z47A	**Carrollton**	**3.20**	**153**	Pn	Pn	20 08 21.5	-2.0
U49A	**Red Boiling Sp**	**3.29**	**81**	Pn	Pn	20 08 22.4	-2.3
HHAR	**Hobbs**	**3.34**	**275**	Pn	Pn	20 08 23.5	-2.0
MIAR	**Mount Ida**	**3.43**	**245**	Pn	Pn	20 08 24.4	-2.3
MIAR				IAmb_Lg		20 09 29.3	
	comp=Z,17nm,0.8s						
146A	**Union**	**3.48**	**169**	Pn	Pn	20 08 26.6	-0.8
WCI	**Wyandotte Cave**	**3.55**	**51**	Pn	Pn	20 08 26.3	-2.0
WCI				IAmb_Lg		20 09 22.9	
	comp=Z,16nm,0.8s						
Y49A	**Blount Mountai**	**3.56**	**127**	Pn	Pn	20 08 26.6	-1.9
Y49A				IAmb_Lg		20 09 32.7	
	comp=Z,26nm,1.0s						
P43A	**Skaggs, Pawnee**	**3.58**	**4**	Pn	Pn	20 08 25.8	-2.9
Z41A	**Richland Creek**	**3.73**	**222**	Pn	Pn	20 08 30.1	-0.7
FPAL	**Fort Paine**	**3.76**	**113**	Pn	Pn	20 08 30.2	-1.1
W50A	**Signal Mountai**	**3.77**	**102**	Pn	Pn	20 08 30.3	-1.1
LRAL	**Lakeview Retre**	**3.81**	**142**	Pn	Pn	20 08 29.6	-2.4
P40A	**Paris**	**3.88**	**334**	Pn	Pn	20 08 31.0	-1.9
P46A	**Rosedale**	**4.10**	**29**	Pn	Pn	20 08 33.0	-2.9
T50A	**Nancy**	**4.12**	**75**	IAmb_Lg		20 09 40.7	
	comp=Z,26nm,0.7s						
X51A	**Calhoun**	**4.32**	**109**	Pn	Pn	20 08 37.5	-1.4
X51A				IAmb_Lg		20 09 57.3	
	comp=Z,24nm,1.0s						
R49A	**Shelbyville**	**4.32**	**58**	Pn	Pn	20 08 37.2	-1.7
CPCT	**Cooper Cave**	**4.35**	**97**	Pn	Pn	20 08 37.6	-1.7
HDIL	**Hopedale**	**4.50**	**5**	Pn	Pn	20 08 41.2	-0.3
P38A	**Dawn**	**4.61**	**321**		Pn	20 08 42.7	-0.2
P38A				IAmb_Lg		20 09 55.9	
	comp=Z,12nm,0.7s						
N41A	**Harden Midland**	**4.71**	**350**	Pn	Pn	20 08 40.6	-3.6
N41A				IAmb_Lg		20 10 03.3	
	comp=Z,22nm,0.7s						
TUL3	**Leonard**	**4.85**	**270**	Pn	Pn	20 08 42.7	-3.5
TUL3				IAmb_Lg		20 10 04.4	
	comp=Z,19nm,0.7s						
P48A	**Milroy**	**4.86**	**44**	Pn	Pn	20 08 43.7	-2.6
R50A	**Paris**	**4.91**	**62**	Pn	Pn	20 08 43.4	-3.6
TKL	**Tuckaleechee C**	**4.92**	**93**	Pn	Pn	20 08 44.6	-2.7
250A	**Grady**	**5.03**	**143**	Pn	Pn	20 08 46.7	-2.0
TZTN	**Tazewell**	**5.08**	**83**	Pn	Pn	20 08 47.1	-2.3
S51A	**Beattyville**	**5.23**	**71**	Pn	Pn	20 08 49.1	-2.3
152A	**Waverly Hall**	**5.41**	**127**	Pn	Pn	20 08 52.1	-1.8
T35A	**Sooner Cattle**	**5.46**	**281**	IAmb_Lg		20 10 26.5	
	comp=Z,14nm,0.7s						
QUOK	**Quay**	**5.58**	**273**	IAmb_Lg		20 10 32.8	
	comp=Z,12nm,0.8s						
OK031	**S. Brethren Rd**	**5.70**	**271**	IAmb_Lg		20 10 45.2	
	comp=Z,14nm,0.8s						
BG3	**Lake Jocassee**	**5.71**	**99**	Pn	Pn	20 08 56.9	-1.2
OK048	**Pawnee Station**	**5.77**	**276**		Pn	20 08 56.3	-2.6
OK048				IAmb_Lg		20 10 43.7	
	comp=Z,12nm,0.9s						
N47A	**Urbana**	**5.79**	**33**	Pn	Pn	20 08 58.2	-1.0
W35A	**Tecumseh**	**5.82**	**263**	Pn	Pn	20 08 57.0	-2.6
GOGA	**Godfrey**	**5.86**	**115**	Pn	Pn	20 09 00.1	0.0
SSFO	**Shawnee State**	**5.89**	**62**	Pn	Pn	20 08 58.5	-2.0
SSFO				IAmb_Lg		20 10 50.7	
	comp=Z,14nm,0.7s						
Q51A	**Peebles**	**5.93**	**58**	Pn	Pn	20 08 58.2	-2.8
Q51A				IAmb_Lg		20 10 45.2	
	comp=Z,14nm,0.9s						
L42A	**Oliver, Polo**	**5.93**	**1**	Pn	Pn	20 08 59.2	-1.8
BLOK	**Blackwell**	**6.01**	**279**	IAmb_Lg		20 10 53.6	
	comp=Z,12nm,1.0s						
SCIA	**State Center**	**6.41**	**337**	IAmb_Lg		20 10 52.2	
	comp=Z,16nm,0.8s						
JSC	**Jenkinsville**	**7.23**	**102**		Pn	20 09 17.7	-1.2
BIRD	**Birdtown, Kers**	**7.77**	**98**		Pn	20 09 22.7	-3.7

NNC 26 20:09:24.0±13.0, 38°.45N×72°.59E, h0km, mb3.7, mpv3.6, 2C-1D, Error ellipse: s-maj=107.0km s-min=70.1km az=153.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.43**	**19**	⇑S	Sn	20 11 25.7	+0.7
	2.5nm,0.4s						
KK31	**Karatay Array**	**4.91**	**342**	P	Pn	20 10 40.5	+1.4
	2.4nm,0.2s,baz=196,slow=8.2,SNR=24						
KK31				⇑S	Sn	20 11 37.9	+1.3
	5.5nm,0.3s,baz=160,slow=24,SNR=21						
AB31	**Akbulak array**	**14.12**	**324**	⇓P	Pn	20 12 40.9	-4.3
	0.4nm,0.6s,baz=142,slow=14,SNR=10						

*IDC **26** 20:27:36.8±2.7, 18°.07S×178°.27W, h388km±21km, mb3.4/4, mbtmp4.1/5, Error ellipse: s-maj=37.6km s-min=29.5km az=117.0*

ISC 26 20:27:37.1±1.8, 18°.0S±0°.2×178°.3W±0°.3, h400km, n8, σ0°.86/8, mb3.5/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.49**	**273**	P	**Pn**	**20 28 43.8**	**-0.9**
	14nm,0.5s,baz=109,slow=17,SNR=12						
URZ	**Urewera**	**20.63**	**190**	P	**P**	**20 31 46.4**	**-0.8**
	7.0nm,0.9s,baz=8.1,slow=7.1,SNR=1.3						
	7.0nm,0.9s						
STKA	**Stephens Creek**	**38.71**	**241**	P	**P**	**20 34 25.9**	**+1.1**
	1.4nm,0.6s,baz=95,slow=9.5,SNR=5.1						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**20 35 13.0**	**0.0**
	0.4nm,0.4s,baz=95,slow=8.2,SNR=35						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**20 35 14.5**	**+0.3**
	7.7nm,0.6s,baz=90,slow=8.2,SNR=93						
	7.7nm,0.6s						
BVAR	**Borovoye Array**	**116.94**	**321**	PKP	**PKiKP**	**20 45 34.9**	**0.0**
	0.4nm,0.4s,baz=108,slow=2.6,SNR=5.8						
MMAI	**Mount Meron Ar**	**146.26**	**303**	PKPbc	**PKPab**	**20 46 33.2**	**-0.6**
	0.4nm,0.3s,baz=66,slow=4.8,SNR=4.1						
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	**PKPbc**	**20 46 36.2**	**+0.8**
	0.4nm,0.4s,baz=18,slow=3.7,SNR=5.2						

*MOS **26** 21:03:15.3±1.8, 85°.14N×95°.46E, h10km, mb4.8/41, MS3.8/6, Error ellipse: s-maj=65.4km s-min=6.1km az=88.3*

*NEIC **26** 21:03:15.3±1.3, 85°.13N±0°.08×9°.4E±°, h10km±1km, mb4.7/71, Error ellipse: s-maj=17.2km s-min=13.2km az=98.0*

*IDC **26** 21:03:15.9±0.6, 85°.11N×97°.52E, h0km, mb3.9/20, mbtmp4.0/22, ML3.5/2, MS3.7/41, Error ellipse: s-maj=15.6km s-min=13.5km az=104.0*

*GCMT **26** 21:03:18.3±0.3, 85°.10N±0°.02×96°.4E±0°.4, h12km, MW4.7/89, Moment Tensor Solution. s19,c21; s89,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45±.04; $M_{\theta\theta}$0.86±.04; $M_{\phi\phi}$0.59±.04; $M_{r\theta}$-0.09±.16; $M_{\theta\phi}$-0.57±.04; $M_{r\phi}$0.24±.23; Best double couple: $M_0$1.40400×10^{16} NP1:ϕ_s304.00000°, δ41.00000°, λ-97.00000°. NP2: ϕ_s133.00000°, δ50.00000°, λ-84.00000°. Principal axes: T 1.3290, Plg5.0000°, Azm219.0000°; N 0.1450, Plg4.0000°, Azm309.0000°; P -1.4780, Plg84.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*FCIAR **26** 21:03:24.7, 84°.77N×92°.87E, h10km, station SVZ has station magnitude of 4.00 station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.60*

ISC 26 21:03:16.6±0.3, 85°.12N±0°.04×96°.05E±0°.04, h10km, n263, σ2°.22/252, mb4.6/94, MS3.7/47, 6C-4D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**5.93**	**170**	*e*P	**Pn**	**21 04 46.8**	**+2.6**
SVZ				*e*S	**Sn**	**21 05 48.6**	**-3.4**
	77nm,0.6s						
ZFI2	**Zemlya Franca-**	**7.02**	**260**	*e*P	**Pn**	**21 04 58.7**	**-0.4**
ZFI2				*e*S	**Sn**	**21 06 11.6**	**-7.2**
	27nm,1.0s						
OMEGA	**Omega**	**7.03**	**259**	*e*P	**Pn**	**21 04 58.9**	**-0.4**
OMEGA				*e*S	**Sn**	**21 06 11.6**	**-7.6**
	18nm,0.4s						
NOR	**Nord**	**11.29**	**316**	*i*P	Pn	21 06 04.4	+6.8
SPA0	**Spitsbergen Ar**	**12.02**	**283**	P	Pn	21 05 52.1	-15
SPA0				S	Sn	21 07 56.2	-25
TIXI	**Tiksi**	**14.58**	**137**	Pn	**Pn**	**21 06 41.9**	**-0.5**
TIXI	**Tiksi**	**14.58**	**137**	Pn	**Pn**	**21 06 41.1**	**-1.3**
	0.2nm,0.3s,baz=8.4,slow=10,SNR=12						
TIXI				Sn	**Sn**	**21 09 18.6**	**-5.1**
	baz=54,slow=9.8						
TIXI				LR	LR	21 11 51.1	
	comp=Z,133nm,20.8s,baz=20,slow=36						
	3.0nm,0.3s						
TIXI	**Tiksi**	**14.58**	**137**	*i*P	**Pn**	**21 06 44.4**	**+2.0**
EUNU	**Eureka**	**14.92**	**2**	Pn	**Pn**	**21 06 43.5**	**-3.7**
NRIK	**Noril'sk**	**15.95**	**191**	Pn	**Pn**	**21 06 56.3**	**-4.2**
NRIK	**Noril'sk**	**15.95**	**191**	Pn	**Pn**	**21 06 56.1**	**-4.5**
	0.2nm,0.3s,baz=4.9,slow=12,SNR=6.5						
NRIK				Sn	Sn	21 09 41.6	-15
	0.2nm,0.3s,baz=37,slow=20,SNR=2.1						
NRIK				LR	LR	21 13 42.7	
	comp=Z,870nm,18.3s,baz=6.5,slow=39						
NRIK	**Noril'sk**	**15.95**	**191**	*i*P	**Pn**	**21 06 56.4**	**-4.2**
NEEM	**North Greenlan**	**16.97**	**336**	*i*P	**Pn**	**21 07 08.4**	**-5.4**
NEEM				IAML		21 07 22.7	
	comp=Z,20nm,3.1s						
TULEG	**Thule**	**18.33**	**349**	Pn	**Pn**	**21 07 26.5**	**-3.9**
KEV	**Kevo**	**19.15**	**262**		**P**	**21 07 36.9**	**-2.5**
KEV				IAmb	IAmb	21 07 40.0	
	comp=Z,68nm,1.5s						
KEV	**Kevo**	**19.15**	**262**	P	**P**	**21 07 36.9**	**-2.5**
KEV				pmax	pmax		
	comp=Z,68nm,1.5s						
ARCES	**ARCESS Array B**	**19.49**	**264**	P	**Pn**	**21 07 45.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=21,slow=9.9,SNR=6.7						
ARCES				LR	LR

YAK pmax pmax
comp=E,2.0nm,1.2s
E25K Arctic Village 24.71 52 P P 21 08 37.0 -0.3
E25K IAmb IAmb 21 09 09.6
comp=Z,14nm,1.2s
C36M Paulatuk 24.73 33 P P 21 08 37.4 0.0
SEY Seymchan 24.82 115 *i* P **P 21 08 40.3 +2.1**
SEY pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 25.27 42 P P 21 08 41.9 -0.4
INK Inuvik 25.27 42 LR LR 21 20 23.7
comp=Z,92nm,19.0s,baz=40,slow=41
INK Inuvik 25.27 42 P P 21 08 41.9 -0.4
INK pmax pmax
comp=Z,48nm,1.3s
F15K North Star Dit 25.66 70 P P 21 08 43.7 -2.3
F15K IAmb IAmb 21 09 00.0
comp=Z,22nm,1.1s
F31M Tsiigehtchic 26.12 42 P P 21 08 49.7 -0.3
FYU Fort Yukon 26.27 52 P P 21 08 49.8 -1.6
G31M Satah River 26.61 43 P P 21 08 54.2 -0.2
G31M IAmb IAmb 21 09 06.8
comp=Z,26nm,1.3s
KLMR Klimovskoe 26.89 245 *e*P **P 21 08 55.6 -1.4**
KLMR S **S 21 13 32.5 -0.7**
KLMR pmax pmax
comp=Z,37nm,1.3s
KLMR MLR MLR
comp=Z,158nm,15.0s
EPYK Eagle Plains 27.01 45 P P 21 08 58.1 0.0
SFJD Kangerlussuaq 27.37 332 LR LR 21 18 53.8
comp=Z,145nm,21.7s,baz=358,slow=34
FIA1 FINESS Array S 27.39 259 P P 21 08 59.5 -2.0
FIA0 FINESS Array S 27.39 259 P P 21 09 01.0 -0.5
FINES FINESS Array B 27.39 259 P P 21 08 58.8 -2.8
FINES FINESS Array B 27.39 259 P P 21 09 01.8 +0.3
comp=Z,2.5nm,0.8s,baz=80,slow=2.1,SNR=4.3
FINES PcP **PcP 21 12 20.8 +1.0**
comp=Z,3.4nm,1.1s,baz=28,slow=7.7,SNR=2.5
comp=Z,2.5nm,0.8s
ILAR Eielson Array 27.93 55 P P 21 09 08.5 +2.1
BORG Borgarnes 27.98 306 LR LR 21 18 11.8
comp=Z,71nm,19.6s,baz=348,slow=32
BORG Borgarnes 27.98 306 P P 21 09 07.0 +0.3
MA2 Magadan 28.02 118 LR LR 21 21 11.4
comp=Z,49nm,18.9s,baz=354,slow=38
MA2 Magadan 28.02 118 *i* P **P 21 09 08.4 +1.2**
MA2 pmax pmax
comp=Z,9.0nm,1.3s
MA2 Magadan 28.02 118 P P 21 09 08.0 +0.8
comp=Z,8.0nm,1.3s
I30M Mount Dempster 28.17 45 P P 21 09 08.0 -0.7
KIRV Kirov 28.42 233 LR LR 21 22 14.3
comp=Z,255nm,20.1s,baz=0.9,slow=40
KIRV Kirov 28.42 233 *i* P **P 21 09 11.7 +1.0**
NOA NORSAR Array B 29.06 274 LR LR 21 20 47.6
comp=Z,70nm,20.6s,baz=5.0,slow=36
HFS Hagfors 29.74 271 LR LR 21 20 53.0
comp=Z,105nm,21.3s,baz=3.5,slow=35
ARTI Arti 30.04 223 LR LR 21 22 59.8
comp=Z,469nm,20.1s,baz=6.0,slow=39
ARTI Arti 30.04 223*d i*P **P 21 09 26.5 +1.4**
ARTI 21 10 21.3
ARTI S **S 21 14 25.8 +3.1**
ARTI pmax pmax
comp=Z,12nm,2.1s
ARTI MLR MLR
comp=Z,469nm,21.0s
FRB Frobisher Bay 31.16 347 LR LR 21 20 52.6
comp=Z,77nm,21.1s,baz=20,slow=34
ZAA0 Zalesovo Array 31.43 193 P P 21 09 35.4 -2.0
ZALV Zalesovo Beam 31.43 193 P P 21 09 36.9 -0.5
ZALV Zalesovo Beam 31.43 193 P P 21 09 38.4 +1.0
comp=Z,0.7nm,0.7s,baz=345,slow=11,SNR=4.0
ZALV LR LR 21 23 25.7
comp=Z,276nm,18.7s,baz=22,slow=38
comp=Z,0.7nm,0.7s
ZALV Zalesovo Beam 31.43 193 *i* P **P 21 09 40.2 +2.8**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 31.98 27 P P 21 09 40.9 -1.2
YKA Yellowknife Ar 31.98 27 P P 21 09 42.2 0.0
comp=Z,0.9nm,0.8s,baz=353,slow=8.4,SNR=15
YKA PcP **PcP 21 12 32.3 +0.7**
comp=Z,0.1nm,0.4s,baz=23,slow=2.7,SNR=4.0
YKA LR LR 21 22 55.9
comp=Z,320nm,18.3s,baz=9.5,slow=37
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 31.98 27 *i* P **P 21 09 43.2 +1.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
MOS Moscow 32.11 245 *e*P **P 21 09 46.2 +2.9**
ZEA Zeya 32.33 145 *e*P **P 21 09 47.4 +2.1**
BRVK Borovoye 32.77 209 P P 21 09 46.7 -2.4
BRVK IAmb IAmb 21 10 07.0
comp=Z,7.2nm,1.0s
BRVK Borovoye 32.77 209*ce*P **P 21 09 51.4 +2.3**
BRVK pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 32.79 209 P P 21 09 50.4 +1.0
comp=Z,5.3nm,1.0s,baz=4.5,slow=7.6,SNR=18
BVAR LR LR 21 25 36.4
comp=Z,182nm,18.9s,baz=16,slow=41
comp=Z,5.3nm,1.0s
OBN Obninsk 32.81 246 LR LR 21 26 12.1
comp=Z,123nm,21.5s,baz=352,slow=42
OBN Obninsk 32.81 246 *i* P **P 21 09 50.4 +0.9**
OBN *i* 21 10 55.8
OBN *i* 21 12 32.6
OBN pmax pmax
comp=Z,12nm,1.3s
OBN MLR MLR
comp=Z,131nm,21.0s
IRK Irkutsk 33.09 171 *e*P **P 21 09 51.7 -0.3**
IRK pmax pmax
comp=Z,42nm,1.4s
MOY Mondy 33.63 174 *e*P **P 21 09 58.2 +1.4**
MOY pmax pmax
comp=Z,17nm,1.8s
NACGM Naroch 33.81 256 *e*P **P 21 09 59.8 +1.6**
comp=Z,858nm,0.8s,baz=7.6
MNK Minsk 34.12 255 *i* P **P 21 10 02.5 +1.7**
comp=E,5.0nm,0.8s,baz=255
MNK *i* P **P 21 10 02.5 +1.7**
comp=N,12nm,1.5s,baz=255
MNK *i* P **P 21 10 02.5 +1.7**
comp=Z,12nm,1.3s,baz=255
MNK *i* PP **PP 21 11 15.3 -2.5**
baz=255
MNK *i* PPP PPP 21 11 28.0
baz=255
MNK *i* S **S 21 15 30.0 +3.6**
baz=255
MNK *i* SS **SnSn 21 17 37.2 +3.8**
baz=255
MNK *i* SSS SSS 21 17 55.8
baz=255
MNK *i* LR LR 21 23 59.8
baz=255
MNK Minsk 34.12 255 *i* P **P 21 10 02.5 +1.7**
MNK *i* 21 11 15.2
MNK *i* PPP PPP 21 11 28.0
MNK *i* S **S 21 15 29.9 +3.6**
MNK *i* SS **SnSn 21 17 37.2 +3.8**
MNK *i* SSS SSS 21 17 55.8
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=N,12nm,1.5s
MNK pmax pmax
comp=Z,12nm,1.3s
KURK Kurchatov 34.81 199 P P 21 10 05.2 -1.7
KURK Kurchatov 34.81 199*ce*P **P 21 10 08.6 +1.7**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURBB Kurchatov Arra 34.91 200 P P 21 10 08.8 +1.1
comp=Z,1.0nm,0.8s,baz=20,slow=7.0,SNR=8.2
KURBB PcP **PcP 21 12 41.5 +1.5**
comp=Z,1.4nm,1.0s,baz=4.5,slow=2.9,SNR=4.4
KURBB LR LR 21 26 23.2
comp=Z,285nm,20.9s,baz=324,slow=40
comp=Z,1.0nm,0.8s
PETK Petropavlovsk- 34.98 112 LR LR 21 25 31.0
comp=Z,62nm,18.5s,baz=346,slow=38
LPSR Galich'ya Gora 35.13 243 *e*P **P 21 10 09.9 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
PET Petropavlovsk 35.13 111 P **P 21 10 10.2 +0.6**
comp=Z,40nm,1.4s
EKA Eskdalemuir Ar 35.92 286 P **P 21 10 18.0 +1.7**
comp=Z,0.9nm,0.6s,baz=32,slow=13,SNR=3.5
comp=Z,0.9nm,0.6s
AKTO Aktyubinsk 35.99 222 LR LR 21 26 27.2
comp=Z,309nm,21.3s,baz=43,slow=39
VORR Voronezh 36.03 242 *e*P **P 21 10 17.4 +0.1**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 36.48 242 *e*P **P 21 10 21.6 +0.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 36.72 242 *e*P **P 21 10 23.7 +0.4**
VORD pmax pmax
comp=Z,10.0nm,1.1s
ABKAR Akbulak array 37.06 220 P P 21 10 24.4 -1.8
ABKAR Akbulak array 37.06 220 P P 21 10 21.7 -4.5
KLR Kul'dur 37.06 141 LR LR 21 26 17.6
comp=Z,98nm,19.4s,baz=20,slow=37
KLR Kul'dur 37.06 141 *i* P **P 21 10 27.3 +1.1**
KLR pmax pmax
comp=Z,4.0nm,1.3s
RNPP9 Sopachiv 37.35 256 P P 21 10 28.8 +0.2
RNPP8 Varash 37.43 256 P P 21 10 29.4 +0.1
ULN Ulaanbaatar 37.52 168 P P 21 10 28.4 -1.8
ULN Ulaanbaatar 37.52 168 *i* P **P 21 10 31.7 +1.4**
ULN pmax pmax
comp=Z,8.0nm,1.8s
RNPP5 Staryi Chortor 37.53 256 P P 21 10 30.3 +0.2
SONM Songino Array 37.53 169 P P 21 10 30.8 +0.4
SONM Songino Array 37.53 169 P P 21 10 30.7 +0.3
comp=Z,3.7nm,0.9s,baz=346,slow=7.7,SNR=19
SONM PcP **PcP 21 12 50.2 +2.1**
comp=Z,0.2nm,0.4s,baz=336,slow=2.4,SNR=2.2
SONM LR LR 21 26 46.0
comp=Z,148nm,18.0s,baz=357,slow=38
comp=Z,3.7nm,0.9s
SONM Songino Array 37.53 169 P P 21 10 30.8 +0.4
SONM pmax pmax
comp=Z,7.0nm,1.1s
MI28 Mi28,Pidlybu 37.68 254 P P 21 10 31.6 +0.2
AK21 Malin Array Si 37.72 253 P P 21 10 31.9 +0.2
AK22 Malin Array Si 37.73 253 P P 21 10 32.2 +0.4
AK03 Malin Array Si 37.76 253 P P 21 10 32.4 +0.4
AK20 Malin Array Si 37.76 253 P P 21 10 32.4 +0.4
AK04 Malin Array Si 37.77 253 P P 21 10 32.4 +0.3
AK18 Malin Array Si 37.77 253 P P 21 10 32.5 +0.3
AK19 Malin Array Si 37.78 253 P P 21 10 32.5 +0.3
AKASG Malin Array Be 37.78 253 P P 21 10 34.2 +2.0
comp=Z,1.8nm,0.7s,baz=12,slow=8.8,SNR=5.1
AKASG LR LR 21 29 17.5
comp=Z,154nm,18.0s,baz=13,slow=41
comp=Z,1.8nm,0.7s
AKBB Malin Array Si 37.78 253 P P 21 10 29.5 -2.8
AKBB IAmb IAmb 21 10 43.6
comp=Z,14nm,1.3s
AKBB Malin Array Si 37.78 253*ce*P **P 21 10 34.6 +2.4**
AKBB pmax pmax
comp=Z,15nm,1.5s
AKBB Malin Array Si 37.78 253 P P 21 10 32.6 +0.4
KIEV Kiev 37.79 253 P P 21 10 30.1 -2.2
KIEV IAmb IAmb 21 10 43.6
comp=Z,13nm,1.3s
KIEV Kiev 37.79 253 P P 21 10 30.1 -2.2
KIEV pmax pmax
comp=Z,13nm,1.3s
KIEV Kiev 37.79 253 P P 21 10 32.6 +0.3
comp=Z,31nm,1.9s
AK01 Malin Array Si 37.79 253 P P 21 10 32.7 +0.4
AK15 Malin Array Si 37.80 253 P P 21 10 32.7 +0.3
AK11 Malin Array Si 37.81 253 P P 21 10 32.8 +0.3
AK17 Malin Array Si 37.81 253 P P 21 10 32.8 +0.3
AK16 Malin Array Si 37.82 253 P P 21 10 32.9 +0.3
AK02 Malin Array Si 37.83 253 P P 21 10 32.9 +0.3
AK12 Malin Array Si 37.84 253 P P 21 10 33.1 +0.3
AK08 Malin Array Si 37.85 253 P P 21 10 33.1 +0.3
AK14 Malin Array Si 37.86 253 P P 21 10 33.2 +0.3
AK09 Malin Array Si 37.86 253 P P 21 10 33.2 +0.3
AK05 Malin Array Si 37.86 253 P P 21 10 33.3 +0.4
AK10 Malin Array Si 37.88 253 P P 21 10 33.4 +0.3
CLL Collm 38.55 269 *i* P **P 21 10 38.7 0.0**
CLL Collm 38.55 269 *i* Px Px 21 10 38.7
MK31 Makanchi Array 38.64 195 P P 21 10 36.1 -3.5
MK31 Makanchi Array 38.64 195*ce*P **P 21 10 40.3 +0.7**
MKAR Makanchi Array 38.64 195 P P 21 10 38.4 -1.2
MKAR Makanchi Array 38.64 195 P P 21 10 39.4 -0.2
comp=Z,1.6nm,0.8s,baz=3.8,slow=7.3,SNR=15
MKAR LR LR 21 27 59.7
comp=Z,177nm,18.8s,baz=344,slow=38
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 38.64 195 *i* P **P 21 10 40.4 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
KSP Ksiaz 38.73 266 P P 21 10 40.4 +0.2
comp=Z,5.9nm,1.4s
BRG Berggiesshubel 38.90 268 *e*P **P 21 10 44.4 +2.8**
BRG Amp 21 10 45.4
comp=Z,3.4nm,1.0s
OJC Ojcow 39.05 262 P P 21 10 38.7 -4.2
OJC IAmb IAmb 21 10 59.1
comp=Z,14nm,1.2s
OJC Ojcow 39.05 262 P P 21 10 38.7 -4.2
OJC pmax pmax
comp=Z,14nm,1.2s
OJC Ojcow 39.05 262 P P 21 10 43.0 +0.1
KRLC Kraliky 39.45 265 P P 21 10 49.9 +3.6
NKC Novy Kostel 39.66 269 P P 21 10 51.7 +3.6
MORC Moravsky Berou 39.68 264 *e*P **P 21 10 51.0 +2.8**
STHS Stebnicka Huta 39.72 260 *e*P **P 21 10 50.3 +1.7**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 39.72 260 *e*P **P 21 10 50.3 +1.7**
STHS *e*PP **PnPn 21 12 30.7 +8.1**
KOLS Kolonicke sedl 40.11 259 *e*P **P 21 10 55.6 +3.8**
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS Kolonicke sedl 40.11 259 *e*P **P 21 10 55.6 +3.8**
KOLS *e*PP **PnPn 21 12 32.5 +5.2**
KMPD K-Podol'skiy 40.13 255 P P 21 10 52.0 +0.1
KMPD P **P 21 10 52.0 +0.1**
VRAC Vranov 40.22 265 LR LR 21 27 50.1
comp=Z,95nm,21.6s,baz=17,slow=36
VRAC Vranov 40.22 265 *e*P **P 21 10 53.1 +0.4**
BNX BinXian 40.32 146 ||P **P 21 10 52.8 -0.8**
BNX pmax pmax
comp=Z,7.0nm,1.2s
MEZ Mezhgor'ye 40.43 258 P P 21 10 54.9 +0.5
KSV Kosov 40.49 256 P P 21 10 55.0 0.0
KSV Kosov 40.49 256 P P 21 10 55.0 0.0
KHC Kasperske Hory 40.66 268 P P 21 11 00.2 +3.9
GERES GERESS Array B 40.93 268 P P 21 11 01.4 +2.7
comp=Z,1.2nm,0.8s,baz=16,slow=6.0,SNR=6.7
comp=Z,1.2nm,0.8s
MODS Modra-Piesok 41.09 264 *e*P **P 21 11 04.0 +4.1**
MODS pmax pmax
comp=Z,15nm,1.1s
MODS Modra-Piesok 41.09 264 *e*P **P 21 11 04.0 +4.1**
BURAR Bucovina Array 41.18 256 P P 21 11 02.2 +1.5
PSZ Piszkesteto 41.32 262 P P 21 10 59.9 -2.0
PSZ IAmb IAmb 21 11 21.6
comp=Z,16nm,1.3s
PSZ Piszkesteto 41.32 262 P P 21 10 59.9 -2.0
PSZ pmax pmax
comp=Z,16nm,1.3s
WMQ Urumqi 41.52 189 *e*P **P 21 11 06.0 +2.5**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,270nm,20.5s
MDJ Mudanjiang 41.55 143 P P 21 11 05.0 +1.3
MDJ pmax pmax
comp=Z,9.0nm,1.1s
CONA Conrad Observa 41.66 266 *e*pP pP 21 11 08.7 +2.3
comp=Z,2.9nm,0.9s
RONA Rosalia, Austr 41.84 265 *e*pP pP 21 11 11.2 +3.3
comp=Z,2.0nm,0.6s
BIOA Bad Ischl, Aus 42.08 268 *e*pP pP 21 11 10.7 +0.9
comp=Z,2.0nm,0.7s
USRK Ussuriysk Ar. 42.09 141 LR LR 21 29 55.6
comp=Z,73nm,18.9s,baz=0.3,slow=38
CN2 Changchun 42.17 148 *e*P **P 21 11 08.8 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KK31 Karatay Array 42.70 208 P P 21 11 11.0 -2.1
KK31 Karatay Array 42.70 208 P P 21 11 11.0 -2.1
KK31 pmax pmax
comp=Z,10.0nm,1.5s
KKAR Karatay Array 42.70 208 P P 21 11 11.2 -1.9
KKAR Karatay Array 42.70 208 P P 21 11 11.2 -1.9
ANN Anapa 43.00 243 *e*P **P 21 11 19.7 +4.3**
ANN *e*S **S 21 17 48.2 +7.9**
ANN pmax pmax
comp=Z,19nm,0.8s
ANN MLR MLR
comp=Z,244nm,18.0s
AAK Ala-Archa 43.02 203 P P 21 11 13.6 -2.3
AAK Ala-Archa 43.02 203 LR LR 21 32 17.4
comp=Z,602nm,18.7s,baz=8.5,slow=40
AAK Ala-Archa 43.02 203*ce*P **P 21 11 18.1 +2.2**
AAK pmax pmax
comp=Z,6.0nm,1.3s
ABTA Abfaltersbach 43.11 269 *e*pP pP 21 11 21.9 +3.6
comp=Z,0.3nm,0.3s
BOOM Boomskoye usch 43.12 202 P P 21 11 16.0 -0.7
BOOM IAmb IAmb 21 11 37.5
comp=Z,14nm,1.1s
BOOM Boomskoye usch 43.12 202 P P 21 11 16.0 -0.7
BOOM pmax pmax
comp=Z,14nm,1.1s
OBKA Obir 43.18 267 *e*pP pP 21 11 20.7 +1.9
comp=Z,4.2nm,0.9s
MLR Muntele Rosu 43.23 255 LR LR 21 33 22.7
comp=Z,70nm,18.1s,baz=9.5,slow=42
DAVOX Davos/Dischmat 43.31 271 LR LR 21 30 35.0
comp=Z,66nm,18.6s,baz=324,slow=38
KDJ Kajisay 43.44 200 P P 21 11 17.8 -1.5
KDJ Kajisay 43.44 200 P P 21 11 17.8 -1.5
KDJ pmax pmax
comp=Z,6.0nm,0.9s
KVAR Kislovodsk Arr 43.44 237 LR LR 21 32 14.2
comp=Z,75nm,21.2s,baz=254,slow=40
KIV Kislovodsk 43.45 237 P P 21 11 17.2 -2.0
KIV IAmb IAmb 21 11 31.1
comp=Z,24nm,1.1s
KIV Kislovodsk 43.45 237 *e*P **P 21 11 21.6 +2.4**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,88nm,16.0s
KBZ Khabaz 43.66 237 P P 21 11 23.1 +2.4
comp=Z,4.4nm,0.9s,baz=359,slow=6.4,SNR=8.9
KBZ PcP **PcP 21 13 11.3 +3.6**
comp=Z,5.2nm,1.1s,baz=336,slow=11,SNR=4.1
KBZ LR LR 21 32 04.1
comp=Z,123nm,21.5s,baz=6.5,slow=40
comp=Z,4.4nm,0.9s
KBZ Khabaz 43.66 237*ce*P **P 21 11 24.2 +3.5**
KBZ pmax pmax
comp=Z,19nm,1.5s
SHA1 Shidzhatmaz 43.66 237 *i* P **P 21 11 23.7 +2.6**
TARG Taragay, Kyrgy 43.82 200 P P 21 11 20.3 -2.3
TARG Taragay, Kyrgy 43.82 200 P P 21 11 20.3 -2.3
TARG pmax pmax
comp=Z,5.0nm,0.9s
MAK Makhachkala 44.10 232*d i*P **P 21 11 21.0 -3.3**
MAK *e* 21 13 04.7
MAK *e*S **S 21 17 52.3 -4.1**
MAK *e*SS **SS 21 21 10.2 -3.0**
MAK pmax pmax
comp=Z,148nm,1.0s
MAK MLR MLR
comp=Z,527nm,19.0s
HHC Hu-ho-hao-te 44.62 163 *e*P **P 21 11 30.8 +2.1**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,55nm,4.7s
HHC LR LR
comp=N,160nm,20.2s
HHC LR LR
comp=E,200nm,16.0s
HHC LR LR
comp=Z,160nm,13.5s
GTA Gaotai 45.88 176 *e*P **P 21 11 40.0 +1.3**
GTA pP pwP 21 11 46.0 +0.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA LR LR
comp=N,110nm,16.0s
GTA LR LR
comp=E,160nm,15.6s
GTA LR LR
comp=Z,260nm,18.9s
B08A Colville Reser 45.91 33 P P 21 11 38.6 -0.1
NEW Newport 46.10 30 P P 21 11 40.1 -0.2
NEW IAmb IAmb 21 11 51.8
comp=Z,12nm,1.2s
NEW Newport 46.10 30 P P 21 11 40.1 -0.2
NEW pmax pmax
comp=Z,13nm,1.2s
EGMT Eagleton 46.63 24 P P 21 11 44.0 -0.5
GAR Garm 46.80 208 P P 21 11 44.0 -2.0
GAR IAmb IAmb 21 11 59.5
comp=Z,8.1nm,0.9s
DZET Dzherino 47.05 209 P P 21 11 50.1 +2.2
GNI Garni 47.09 235 P P 21 11 45.6 -2.6
GNI Garni 47.09 235 LR LR 21 34 03.4
comp=Z,94nm,21.6s,baz=359,slow=39
GNI Garni 47.09 235 P P 21 11 45.6 -2.6
GNI pmax pmax
comp=Z,17nm,1.4s
SIMJ Simiganj 47.19 209 P P 21 11 47.3 -1.7
OVMT Ovando 47.47 27 P P 21 11 51.1 0.0
TOKA Tokat 47.52 243 P P 21 11 49.5 -1.9
TOKA IAmb IAmb 21 12 04.2
comp=Z,7.6nm,1.0s
MSO Missoula 47.67 28 P P 21 11 52.6 0.0
MSO IAmb IAmb 21 12 12.4
comp=Z,7.7nm,0.9s
MDUB Mudurnu 47.78 249 P P 21 11 51.1 -2.4
BPMT Black Pine Rid 48.08 27 P P 21 11 56.1 +0.1
ANTO Ankara 48.26 247 P P 21 11 54.2 -3.0
ANTO Ankara 48.26 247 P P 21 11 54.2 -3.0
ANTO pmax pmax
comp=Z,6.0nm,0.6s
BRTR Keskin Array B 48.33 246 P P 21 11 56.2 -1.6
BRTR Keskin Array B 48.33 246 P P 21 11 59.0 +1.1
comp=Z,1.6nm,0.7s,baz=25,slow=6.8,SNR=7.0
BRTR LR LR 21 37 10.6
comp=Z,60nm,20.2s,baz=324,slow=42
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 48.33 246 *i* P **P 21 12 00.7 +2.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 48.61 146 LR LR 21 33 48.8
comp=Z,47nm,18.2s,baz=20,slow=38
COWI Conover 48.98 5 P P 21 12 01.6 -1.1
COWI IAmb IAmb 21 12 35.3
comp=Z,13nm,1.4s
BOZ Bozeman (W) 48.99 26 P P 21 12 01.7 -1.1
BOZ IAmb IAmb 21 12 13.8
comp=Z,11nm,1.4s
BOZ Bozeman (W) 48.99 26 P P 21 12 01.7 -1.1
BOZ pmax pmax
comp=Z,11nm,1.4s
G08A Pilot Rock 48.99 32 P P 21 12 02.4 -0.4
F42A Maple Grove Fa 49.33 4 P P 21 12 04.4 -0.9
TIA Tai'an 49.41 157 P P 21 12 07.3 +1.3
TIA pmax pmax
comp=Z,12nm,1.4s
BMO Blue Mountains 49.50 31 P P 21 12 06.2 -0.5
BMO IAmb IAmb 21 12 27.3
comp=Z,11nm,1.4s
BMO Blue Mountains 49.50 31 P P 21 12 06.2 -0.5
BMO pmax pmax
comp=Z,11nm,1.5s
MJAR Matsushiro Arr 50.08 135 P P 21 12 12.0 +0.9
comp=Z,2.9nm,1.1s,baz=316,slow=8.1,SNR=4.2
comp=Z,2.9nm,1.1s
J08A Circle Bar Ran 50.94 32 P P 21 12 17.3 -0.3
J08A IAmb IAmb 21 12 39.0
comp=Z,10nm,1.0s
ESDC Sonseca Array 51.53 284 P P 21 12 23.5 +1.5
comp=Z,1.0nm,0.8s,baz=359,slow=11,SNR=3.5
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 51.89 24 P P 21 12 25.9 +1.0
comp=Z,0.3nm,0.7s,baz=301,slow=4.7,SNR=4.0
comp=Z,0.3nm,0.7s
NIL Nilore 52.02 204 P P 21 12 23.7 -2.1

NIL				IAmb	IAmb	21 12 37.3
	comp=Z,12nm,1.1s					
NIL	**Nilore**	**52.02**	**204**	P	**P**	**21 12 23.7 -2.1**
NIL				pmax	pmax	
	comp=Z,12nm,1.1s					
HWUT	**Hardware Ranch**	**52.97**	**26**	P	**P**	**21 12 32.9 0.0**
HWUT				IAmb	IAmb	21 12 43.8
	comp=Z,15nm,1.3s					
NJ2	**Nanjing**	**53.62**	**156**	eP	**P**	**21 12 38.8 +1.3**
NJ2				pmax	pmax	
	comp=Z,14nm,0.5s					
KEST	**Kesra**	**54.32**	**270**	P	**P**	**21 12 44.5 +1.8**
	comp=Z,8.9nm,1.0s,baz=38,slow=3.2,SNR=5.7					
KEST				LR	LR	21 38 33.8
	comp=Z,37nm,19.2s,baz=325,slow=39					
	comp=Z,8.9nm,1.0s					
MMAI	**Mount Meron Ar**	**54.86**	**244**	LR	LR	21 40 54.5
	comp=Z,46nm,20.3s,baz=7.0,slow=41					
R11B	**Troy Canyon, C**	**56.06**	**30**	P	**P**	**21 12 55.4 0.0**
R11B				IAmb	IAmb	21 13 15.5
	comp=Z,11nm,1.3s					
MVCO	**Mesa Verde**	**57.47**	**23**	P	**P**	**21 13 05.3 -0.2**
MVCO				IAmb	IAmb	21 13 21.3
	comp=Z,14nm,1.3s					
EIL	**Elat**	**58.22**	**444**	LR	LR	21 44 57.6
	comp=Z,30nm,18.1s,baz=29,slow=43					
PZH	**PanZhiHua**	**58.77**	**174**	P	P	21 13 19.8 +5.3
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,100nm,6.7s					
ANMO	**Albuquerque**	**59.79**	**21**	LR	LR	21 39 14.8
	comp=Z,188nm,20.9s,baz=151,slow=36					
BRDH	**Bariadhala**	**62.56**	**185**	LR	LR	21 43 02.7
	comp=Z,121nm,19.3s,baz=299,slow=38					
RAYN	**Ar Rayn**	**63.56**	**232**	P	**P**	**21 13 45.2 -1.7**
RAYN	**Ar Rayn**	**63.56**	**232**	P	**P**	**21 13 45.2 -1.7**
RAYN				pmax	pmax	
	comp=Z,12nm,1.4s					
SLVN	**Son La**	**63.93**	**172**	P	**P**	**21 13 49.0 -0.4**
SLVN				IAmb	IAmb	21 14 00.1
	comp=Z,2.9nm,0.8s					
VHRN	**Van Horn**	**63.98**	**20**	P	**P**	**21 13 48.2 -1.5**
TXAR	**Lajitas Array**	**65.47**	**19**	P	**P**	**21 13 59.6 +0.2**
	comp=Z,0.5nm,0.6s,baz=21,slow=4.0,SNR=5.0					
	comp=Z,0.5nm,0.6s					
QIZ	**Qiongzhong**	**66.33**	**166**	P	**P**	**21 14 06.8 +1.9**
QIZ				S	**S**	**21 22 55.8 +1.7**
QIZ				LR	LR	
	comp=N,140nm,13.1s					
QIZ				LR	LR	
	comp=E,110nm,10.3s					
QIZ				LR	LR	
	comp=Z,140nm,16.5s					
CMAR	**Chiang Mai Arr**	**66.75**	**177**	P	**P**	**21 14 07.0 -0.7**
CMAR	**Chiang Mai Arr**	**66.75**	**177**	P	**P**	**21 14 08.4 +0.8**
	comp=Z,1.3nm,0.7s,baz=351,slow=7.2,SNR=9.4					
CMAR				LR	LR	21 45 44.3
	comp=Z,73nm,18.4s,baz=20,slow=38					
	comp=Z,1.3nm,0.7s					
TORD	**Torodi Ar. Bea**	**77.36**	**275**	P	**P**	**21 15 08.2 -3.0**
TORD	**Torodi Ar. Bea**	**77.36**	**275**	P	**P**	**21 15 12.9 +1.8**
	comp=Z,1.9nm,0.8s,baz=351,slow=8.1,SNR=15					
	comp=Z,1.9nm,0.8s					

*IDC **26** 21:05:02.6±3.3, 58.°91N×151.°78W, h0km, mb3.6/3, mbtmp3.5/5, ML3.3/2, MS3.9/1, Error ellipse: s-maj=64.0km s-min=26.3km az=146.0*

*NEIC **26** 21:05:14.6±1.1, 59.°85N±0.°04×151.°60W±0.°06, h55km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=189.0*

*AEIC **26** 21:05:15.6±1.2, 59.°87N±0.°03×151.°59W±0.°05, h47km±7km, ML3.3, ML3.5/134(NEIC), Error ellipse: s-maj=4.1km s-min=3.1km az=135.0*

ISC 26 21:05:14.3±0.9, 59.°84N±0.°05×151.°55W±0.°03, h59km±7km, n105, σ0§61/113, mb3.7/3, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.18**	**196**	Pn	**Pn**	**21 05 23.6**	**0.0**
HOM				Sn	**Sn**	**21 05 30.2**	**0.0**
BRLK	**Bradley Lake**	**0.34**	**102**	Pn	**Pn**	**21 05 24.5**	**-0.2**
BRLK				Sn	**Sn**	**21 05 31.9**	**-0.4**
CNPM	**China Poot**	**0.35**	**153**	Pn	**Pn**	**21 05 24.8**	**0.0**
CNPM				Sn	**Sn**	**21 05 32.2**	**-0.1**
BRSE	**Bradley Lake S**	**0.42**	**103**		**Pn**	**21 05 25.1**	**-0.3**
BRSE					**Sn**	**21 05 33.5**	**+0.1**
O20K	**Slope Mountain**	**0.60**	**295**		**Pn**	**21 05 27.0**	**-0.3**
O20K					**Sn**	**21 05 36.9**	**0.0**
ILS	**Iliamna Low So**	**0.78**	**280**		**Pn**	**21 05 28.9**	**-0.6**
ILS					**Sn**	**21 05 40.1**	**-0.6**
ILSW	**Iliamna Southw**	**0.82**	**281**		**Pn**	**21 05 29.3**	**-0.8**
ILSW					**Sn**	**21 05 40.3**	**-1.4**
RDT	**Redoubt**	**0.86**	**330**		**Pn**	**21 05 29.7**	**-0.8**
RDT					**Sn**	**21 05 41.6**	**-0.9**
P19K	**Oil Pt**	**0.87**	**259**	Pn	**Pn**	**21 05 30.5**	**-0.1**
SLKM	**Skilak Lake**	**0.95**	**44**	Pn	**Pn**	**21 05 31.0**	**-0.6**
SLKM				IAML		21 05 47.9	
	comp=N,2μm,0.3s						
CAPN	**Captain Cook N**	**0.96**	**12**	Pn	**Pn**	**21 05 32.8**	**+1.1**
RDJH	**Redoubt Jeurge**	**0.98**	**321**		**Pn**	**21 05 31.6**	**-0.6**
AU22	**Augustine Moun**	**1.03**	**244**		**Pn**	**21 05 33.0**	**+0.3**
AUL	**Augustine Lava**	**1.06**	**246**		**Pn**	**21 05 33.7**	**+0.6**
AUCH	**Augustine Cone**	**1.08**	**245**		**Pn**	**21 05 33.8**	**+0.4**
SEW	**Seward**	**1.09**	**75**	Pn	**Pn**	**21 05 34.1**	**+0.7**
SYI	**Shuyak Island**	**1.30**	**200**	Pn	**Pn**	**21 05 36.9**	**+0.6**
SYI				IAML		21 05 57.8	
	comp=E,671nm,0.3s						
SYI				IAML		21 05 58.1	
	comp=N,431nm,0.3s						
Q19K	**Cape Douglas,**	**1.41**	**231**	Pn	**Pn**	**21 05 38.3**	**+0.6**
O19K	**Port Alsworth**	**1.44**	**286**	Pn	**Pn**	**21 05 38.0**	**-0.1**
FIS	**Fire Island**	**1.47**	**26**	Pn	**Pn**	**21 05 39.5**	**+1.1**
FIS				IAML		21 06 03.7	
	comp=N,1μm,0.6s						
FIS				IAML		21 06 04.2	
	comp=E,723nm,0.4s						
SPBG	**Spurr Blockage**	**1.49**	**344**		**Pn**	**21 05 38.9**	**+0.1**
RC01	**Rabbit Creek A**	**1.55**	**35**	Pn	**Pn**	**21 05 39.8**	**+0.2**
RC01				IAML		21 06 03.6	
	comp=E,577nm,0.3s						
RC01				IAML		21 06 06.6	
	comp=N,489nm,0.4s						
STLK	**Strandline Lak**	**1.68**	**355**	Pn	**Pn**	**21 05 41.8**	**+0.4**
STLK				IAML		21 06 06.5	
	comp=E,322nm,0.3s						
STLK				IAML		21 06 06.9	
	comp=N,460nm,0.6s						
N19K	**Bonanza Creek**	**1.76**	**305**	Pn	**Pn**	**21 05 42.2**	**-0.4**
N19K				IAML		21 06 04.3	
	comp=N,318nm,0.2s						
O18K	**Koktuh Hills**	**1.85**	**272**	Pn	**Pn**	**21 05 43.0**	**-0.6**
O18K				IAML		21 06 09.1	
	comp=E,310nm,0.6s						
O18K				IAML		21 06 11.4	
	comp=N,314nm,0.7s						
PWL	**Port Wells**	**1.90**	**56**		**Pn**	**21 05 44.3**	**-0.1**
PWL				IAML		21 06 16.0	
	comp=E,576nm,0.6s						
P18K	**Big Mountain,**	**1.92**	**258**	Pn	**Pn**	**21 05 44.3**	**-0.4**
KAHG	**Katmai Hook Gl**	**2.05**	**230**		**Pn**	**21 05 47.2**	**+0.8**
M22K	**Willow**	**2.05**	**19**		**Pn**	**21 05 46.9**	**+0.6**
M22K				IAML		21 06 23.5	
	comp=E,583nm,0.6s						
PMR	**Palmer**	**2.13**	**33**	Pn	**Pn**	**21 05 47.1**	**-0.3**
PMR				IAML		21 06 19.9	
	comp=N,190nm,0.6s						
KDAK	**Kodiak Island**	**2.13**	**195**	Pn	**Pn**	**21 05 46.9**	**-0.5**
KDAK				IAML		21 06 25.2	
	comp=N,172nm,0.8s						
KAHC	**Katmai Hardscr**	**2.14**	**238**		**Pn**	**21 05 48.0**	**+0.3**
SKT	**Skwentna**	**2.15**	**0**	Pn	**Pn**	**21 05 48.5**	**+0.7**
SKT				IAML		21 06 18.3	
	comp=N,334nm,0.4s						
KNK	**Knik Glacier**	**2.20**	**43**		**Pn**	**21 05 48.4**	**+0.1**
KNK				IAML		21 06 23.4	
	comp=E,426nm,0.7s						
KNK				IAML		21 06 23.6	
	comp=N,307nm,0.5s						
M20K	**Styx River**	**2.20**	**340**		**Pn**	**21 05 49.3**	**+0.8**
M20K				IAML		21 06 19.3	
	comp=E,216nm,0.6s						
N18K	**Kilae Creek**	**2.33**	**293**	Pn	**Pn**	**21 05 49.6**	**-0.5**
GHO	**Glory Hole Cre**	**2.33**	**32**		**Pn**	**21 05 50.2**	**0.0**
GHO				IAML		21 06 26.1	
	comp=E,337nm,0.6s						
GHO				IAML		21 06 31.2	
	comp=N,236nm,0.6s						
GLI	**Glacier Island**	**2.45**	**63**		**Pn**	**21 05 50.4**	**-1.4**
GLI				IAML		21 06 30.2	
	comp=E,281nm,0.4s						
GLI				IAML		21 06 33.7	
	comp=N,265nm,0.6s						
M19K	**Big River Lodg**	**2.50**	**327**		**Pn**	**21 05 52.7**	**+0.2**
ACHA	**Angle Creek He**	**2.54**	**232**	Pn	**Pn**	**21 05 53.5**	**+0.3**
P17K	**Kvichak River**	**2.58**	**258**		**Pn**	**21 05 53.5**	**0.0**
HIN	**Hinchinbrook I**	**2.59**	**75**		**Pn**	**21 05 54.0**	**+0.3**
HIN				IAML		21 06 40.4	
	comp=N,362nm,1.0s						
HIN				IAML		21 06 43.0	
	comp=E,307nm,1.0s						
CUT	**Chulitna**	**2.65**	**13**	Pn	**Pn**	**21 05 54.6**	**+0.1**
M18K	**Stony River**	**2.68**	**310**		**Pn**	**21 05 54.5**	**-0.5**
FID	**Port Fidalgo**	**2.69**	**68**		**Pn**	**21 05 53.5**	**-1.5**
FID				IAML		21 06 36.8	
	comp=N,257nm,0.9s						
OHAK	**Old Harbor**	**2.77**	**200**	Pn	**Pn**	**21 05 55.1**	**-1.1**
L19K	**White Mountain**	**2.85**	**327**	Pn	**Pn**	**21 05 57.3**	**-0.1**
SCM	**Sheep Creek Mo**	**2.88**	**44**		**Pn**	**21 05 58.2**	**+0.4**
SCM				IAML		21 06 34.1	
	comp=E,229nm,0.4s						
SCM				IAML		21 06 35.9	
	comp=N,119nm,0.5s						
L20K	**Farewell, AK**	**2.88**	**338**		**Pn**	**21 05 58.1**	**+0.3**
N17K	**Nushagak Hills**	**2.90**	**286**	Pn	**Pn**	**21 05 57.4**	**-0.6**
PPLA	**Purkeypile**	**3.09**	**355**	Pn	**Pn**	**21 06 00.6**	**-0.1**
DIV	**Divide**	**3.14**	**63**	Pn	**Pn**	**21 06 00.8**	**-0.4**
KLU	**Klutina**	**3.23**	**57**		**Pn**	**21 06 02.3**	**-0.2**
KLU				IAML		21 06 40.4	
	comp=E,137nm,0.3s						
KLU				IAML		21 06 51.2	
	comp=N,168nm,0.4s						
M17K	**Holitna River**	**3.30**	**301**		**Pn**	**21 06 03.4**	**-0.1**
M17K				IAML		21 06 42.3	
	comp=N,110nm,0.5s						
M17K				IAML		21 06 42.6	
	comp=E,182nm,0.4s						
O16K	**Kokwok River B**	**3.33**	**269**	Pn	**Pn**	**21 06 03.6**	**-0.2**
O16K				IAML		21 06 56.9	
	comp=N,84nm,1.1s						
L18K	**Granite Mounta**	**3.46**	**316**	Pn	**Pn**	**21 06 05.2**	**-0.4**
SII	**Sitkinak Islan**	**3.57**	**204**	Pn	**Pn**	**21 06 06.5**	**-0.6**
CAST	**Castle Rocks**	**3.61**	**356**	Pn	**Pn**	**21 06 08.1**	**+0.5**
CAST				IAML		21 06 58.6	
	comp=E,52nm,0.6s						
BMRM	**Bremner River**	**3.63**	**69**	Pn	**Pn**	**21 06 06.8**	**-1.1**
KTH	**Kantishna Hill**	**3.74**	**4**	Pn	**Pn**	**21 06 09.9**	**+0.3**
KTH				IAML		21 07 00.2	
	comp=E,146nm,0.7s						
RND	**Reindeer**	**3.81**	**19**	Pn	**Pn**	**21 06 10.8**	**+0.4**
RND				IAML		21 07 12.9	
	comp=N,49nm,0.9s						
RND				IAML		21 07 13.6	
	comp=E,57nm,0.6s						
N25K	**Chitina, Valde**	**3.85**	**60**	Pn	**Pn**	**21 06 10.7**	**-0.2**
N25K				IAML		21 06 58.9	
	comp=E,46nm,0.5s						
N25K				IAML		21 07 20.4	
	comp=N,73nm,0.8s						
M16K	**Timber Creek**	**3.86**	**291**	Pn	**Pn**	**21 06 11.3**	**+0.2**
MCK	**McKinley**	**4.10**	**16**	Pn	**Pn**	**21 06 15.3**	**+0.8**
GLB	**Gilahina Butte**	**4.14**	**64**	Pn	**Pn**	**21 06 14.2**	**-0.7**
GLB				IAML		21 07 22.3	
	comp=N,50nm,0.9s						
GLB				IAML		21 07 22.9	
	comp=E,40nm,0.9s						
VRDI	**Verde Repeater**	**4.24**	**67**	Pn	**Pn**	**21 06 15.8**	**-0.6**
VRDI				IAML		21 07 27.5	
	comp=E,34nm,0.7s						
VRDI				IAML		21 07 28.1	
	comp=N,46nm,0.8s						
BPAW	**Bear Paw Mtn.**	**4.29**	**3**	Pn	**Pn**	**21 06 17.4**	**+0.5**
BPAW				IAML		21 07 12.9	
	comp=N,55nm,0.4s						
PAX	**Paxson**	**4.29**	**40**		**Pn**	**21 06 17.6**	**+0.6**
N15K	**Kwethluk River**	**4.30**	**278**	Pn	**Pn**	**21 06 17.6**	**+0.4**
N15K				IAML		21 07 07.1	
	comp=N,60nm,0.5s						
N15K				IAML		21 07 08.0	
	comp=E,56nm,0.5s						
L16K	**Owhat River**	**4.32**	**299**	Pn	**Pn**	**21 06 17.0**	**-0.3**
K17K	**Iditarod**	**4.36**	**314**	Pn	**Pn**	**21 06 18.1**	**+0.2**
K17K				IAML		21 07 37.9	
	comp=N,31nm,1.4s						
K17K				IAML		21 07 42.6	
	comp=E,33nm,0.6s						
WAX	**Waxell Ridge**	**4.39**	**78**	Pn	**Pn**	**21 06 18.7**	**+0.3**
WAX				IAML		21 07 10.6	
	comp=E,50nm,0.3s						
WAX				IAML		21 07 12.0	
	comp=N,79nm,0.4s						
J18K	**Innoko River**	**4.40**	**328**	Pn	**Pn**	**21 06 18.8**	**+0.3**
BWN	**Browne**	**4.46**	**12**		**Pn**	**21 06 20.0**	**+0.7**
J20K	**Nowinta River**	**4.53**	**345**	Pn	**Pn**	**21 06 20.9**	**+0.8**
J20K				IAML		21 07 22.3	
	comp=N,33nm,0.5s						
J20K				IAML		21 07 47.7	
	comp=E,28nm,0.7s						
J19K	**Poorman**	**4.60**	**337**		**Pn**	**21 06 21.3**	**+0.1**
MENT	**Mentasta**	**4.88**	**47**	Pn	**Pn**	**21 06 25.3**	**+0.2**
MENT				IAML		21 07 57.0	
	comp=E,46nm,0.8s						
MENT				IAML		21 07 59.1	
	comp=N,42nm,1.0s						
HDA	**Harding Lake**	**5.07**	**23**	Pn	**Pn**	**21 06 28.1**	**+0.5**
HDA				IAML		21 07 26.6	
	comp=E,46nm,0.3s						
CHGN	**Chignik**	**5.08**	**229**	Pn	**Pn**	**21 06 28.1**	**+0.3**
CHGN				IAML		21 08 02.7	
	comp=N,33nm,1.0s						
CHGN				IAML		21 08 05.1	
	comp=E,34nm,0.1s						
DOT	**Dot Lake**	**5.22**	**40**	Pn	**Pn**	**21 06 29.6**	**-0.2**
M27K	**Edge Creek, AK**	**5.33**	**57**		**Pn**	**21 06 31.4**	**+0.1**
M27K				IAML		21 08 20.0	
	comp=N,14nm,0.9s						
COLA	**College**	**5.34**	**17**	Pn	**Pn**	**21 06 31.4**	**+0.1**
I21K	**Tanana**	**5.37**	**358**		**Pn**	**21 06 32.6**	**+0.9**
I21K				IAML		21 07 41.1	
	comp=E,17nm,0.7s						
I21K				IAML		21 07 42.0	
	comp=N,16nm,0.7s						
ILAR	**Eielson Array**	**5.41**	**22**	Pn	**Pn**	**21 06 32.6**	**+0.3**
ILAR	**Eielson Array**	**5.41**	**22**	Pn	**Pn**	**21 06 32.3**	**0.0**
	comp=N,2.8nm,0.3s,baz=209,slow=14,SNR=103						
ILAR				Sn	**Sn**	**21 07 30.6**	**-2.4**
	comp=N,2.7nm,0.3s,baz=225,slow=16,SNR=6.4						
	comp=N,4.8nm,0.3s						
I23K	**Minto, Yukon-K**	**5.43**	**10**		**Pn**	**21 06 32.9**	**+0.4**
I23K				IAML		21 07 53.6	
	comp=N,18nm,0.9s						
I23K				IAML		21 07 57.0	
	comp=E,17nm,0.7s						
K15K	**Wolf Creek Mou**	**5.44**	**301**	Pn	**Pn**	**21 06 32.6**	**0.0**
POKR	**Poker Plat Res**	**5.63**	**18**		**Pn**	**21 06 35.7**	**+0.4**
BCAR	**Beaver Creek A**	**5.69**	**51**	Pn	**Pn**	**21 06 35.6**	**-0.6**
PRP	**Porcupine Dome**	**6.34**	**23**	Pn	**Pn**	**21 06 45.5**	**+0.4**
O29M	**Mount Kennedy**	**6.51**	**80**	Pn	**Pn**	**21 06 48.3**	**+0.8**
HYT	**Haines Junctio**	**7.04**	**76**	Pn	**Pn**	**21 06 55.8**	**+1.0**
DAWY	**Dawson**	**7.13**	**48**		**Pn**	**21 06 55.7**	**-0.1**
FYU	**Fort Yukon**	**7.33**	**20**	Pn	**Pn**	**21 06 58.7**	**+0.3**
COLD	**Coldfoot**	**7.45**	**4**	Pn	**Pn**	**21 07 00.3**	**+0.2**
BMAR	**Burnt Mountain**	**8.22**	**19**	Pn	**Pn**	**21 07 10.3**	**-0.5**
SKAG	**Skagway**	**8.22**	**86**	Pn	**Pn**	**21 07 11.7**	**+1.0**
WHY	**Whitehorse**	**8.33**	**77**	Pn	**Pn**	**21 07 13.0**	**+0.7**
E25K	**Arctic Village**	**8.72**	**15**	Pn	**Pn**	**21 07 16.8**	**-0.7**
H31M	**Peel River**	**9.86**	**45**	Pn	**Pn**	**21 07 33.5**	**+0.4**
YKA	**Yellowknife Ar**	**17.85**	**66**	P	**Pn**	**21 09 17.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=280,slow=12,SNR=4.0						
	comp=E,0.1nm,0.5s						
SADO	**Sadowa**	**44.40**	**76**	LR	LR	21 33 39.4	
	comp=E,142nm,18.8s,baz=264,slow=38						
SONM	**Songino Array**	**55.48**	**307**	P	**P**	**21 14 43.6**	**+0.9**
	comp=E,0.3nm,0.4s,baz=35,slow=5.3,SNR=3.1						
	comp=E,0.3nm,0.4s						
BVAR	**Borovoye Array**	**62.55**	**333**	P	**P**	**21 15 32.0**	**+0.6**
	comp=E,0.3nm,0.4s,baz=18,slow=4.9,SNR=4.3						
	comp=E,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.68**	**327**	P	**P**	**21 15 32.6**	**+0.4**
	comp=E,0.3nm,0.4s,baz=28,slow=6.7,SNR=3.4						
	comp=E,0.3nm,0.4s						

*BJI **26** 21:27:17.0, 66.°30N×157.°20W, h12km, mB5.3/25, mb5.1/81, Ms5.3/71, Ms7 5.0/68*

*NEIC **26** 21:27:18.4, 66.°29N×157.°18W, h1km*

*NEIC **26** 21:27:18.6, 66.°37N×157.°00W, h12km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.12; $M_{\theta\theta}$3.09; $M_{\phi\phi}$0.03; $M_{r\theta}$-1.42; $M_{\theta\phi}$-3.15; $M_{\phi r}$0.35; Fault plane solution: $M_0$4.38000×10^{16} NP1: ϕ_s319.98000°, δ38.19000°, λ-63.69000°. NP2: ϕ_s107.80000°, δ56.35000°, λ-109.22000°. Principal axes: T 5.2876, Plg9.0000°, Azm211.0000°; N -1.8111, Plg16.0000°, Azm119.0000°; P -3.4765, Plg71.0000°, Azm331.0000°;*

*NEIC **26** 21:27:18.6, 66.°27N×157.°23W, h12km*

*AEIC **26** 21:27:18.7±1.5, 66.°31N±0.°02×157.°25W±0.°04, h8km±3km, ML5.2, mb5.4/147(NEIC), ML5.4/138(NEIC), Mwr4.9/113(NEIC), Mww5.0/104(NEIC), Error ellipse: s-maj=2.8km s-min=2.1km az=61.0*

*NEIC **26** 21:27:18.6±1.3, 66.°30N±0.°02×157.°22W±0.°04, h4km±1km, Error ellipse: s-maj=2.6km s-min=2.5km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.74; $M_{\theta\theta}$1.94; $M_{\phi\phi}$-0.20; $M_{r\theta}$0.33; $M_{\theta\phi}$-2.10; $M_{\phi r}$0.69; Fault plane solution: $M_0$2.90000×10^{16} NP1: ϕ_s154.25000°, δ58.13000°, λ-40.37000°. NP2: ϕ_s268.42000°, δ56.63000°, λ-140.78000°. Principal axes: T 3.2300, Plg1.0000°, Azm212.0000°; N -0.8472, Plg40.0000°, Azm302.0000°; P -2.3827, Plg50.0000°, Azm121.0000°;*

*MOS **26** 21:27:18.8±0.9, 66.°33N×157.°10W, h16km, mb5.4/79, MS4.4/8 Error ellipse: s-maj=11.1km s-min=4.3km az=100.3*

*ANF **26** 21:27:18.2±0.2, 66.°33N×157.°22W, h1km±1km, ML5.7/83, Error ellipse: s-maj=1.1km s-min=1.0km az=89.0*

*IDC **26** 21:27:18.5±0.3, 66.°43N×157.°24W, h0km, mb4.9/39, mbtmp4.9/43, ML4.6/5, MS4.2/65, Error ellipse: s-maj=10.6km s-min=7.2km az=21.0*

*GCMT **26** 21:27:19.7±0.2, 66.°36N±0.°01×157.°08W±0.°03, h13km, MW5.1/124, Moment Tensor Solution. s59, c80; s124, c190; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.33±.16; $M_{\theta\theta}$3.51±.12; $M_{\phi\phi}$-0.17±.12; $M_{r\theta}$-0.02±.26; $M_{\theta\phi}$-3.94±.09; $M_{\phi r}$-0.95±.32; Best double couple: $M_0$4.97300×10^{16} NP1:ϕ_s93.00000°, δ51.00000°, λ-135.00000°. NP2:ϕ_s331.00000°, δ57.00000°, λ-48.00000°. Principal axes: T 6.0440, Plg3.0000°, Azm33.0000°; N -2.1350, Plg34.0000°, Azm125.0000°; P -3.9020, Plg56.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 21:27:19.5±0.4, 66.°28N±0.°01×157.°19W±0.°02, h9km±2km, h9km:pP-P, n1003, σ1§30/1040, mb5.3/236, MS4.4/95, 49C-19D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.14**	**162**		**Pg**	**21 27 22.1**	**-0.6**
G19K				Sg	**Sg**	**21 27 24.2**	**-0.7**
G19K				IAML		21 27 25.5	
	comp=E,550μm,0.3s						
G19K	**Purcell Mounta**	**0.14**	**162**	P	**Pg**	**21 27 22.5**	**-0.2**
	baz=344,SNR=1000						
G19K				S	**Sg**	**21 27 24.1**	**-0.7**
	baz=344						
F19K	**Shaleruckik Mo**	**0.60**	**338**	Pg	**Pg**	**21 27 29.3**	**-1.8**
F19K					**Sg**	**21 27 37.6**	**-1.4**
F19K	**Shaleruckik Mo**	**0.60**	**338**	P	**Pg**	**21 27 29.3**	**-1.8**
	baz=154,SNR=1000						
F19K				S	**Sg**	**21 27 36.3**	**-2.8**
	baz=154						
G18K	**Tagagawik**	**0.71**	**238**		**Pg**	**21 27 32.0**	**-1.2**
G18K				Sg	**Sg**	**21 27 39.9**	**-2.5**
G18K	**Tagagawik**	**0.71**	**238**	P	**Pb**	**21 27 32.4**	**-1.7**
	baz=45,SNR=1000						
G18K				S	**Sb**	**21 27 42.1**	**-1.8**
	baz=45						
H19K	**Roundabout Mou**	**0.81**	**158**		**Sb**	**21 27 46.4**	**-0.5**
H19K	**Roundabout Mou**	**0.81**	**158**	Pg	**Pb**	**21 27 34.5**	**-1.4**
H19K	**Roundabout Mou**	**0.81**	**158**	P	**Pb**	**21 27 34.7**	**-1.2**
	baz=340						
H19K				S	**Sb**	**21 27 46.0**	**-0.9**
	baz=340						
F20K	**Avaraart Lake**	**0.97**	**36**		**Sg**	**21 27 49.1**	**-1.6**
F20K	**Avaraart Lake**	**0.97**	**36**		**Pg**	**21 27 36.3**	**-1.8**
F20K				IAML		21 27 50.3	
	comp=N,110μm,0.6s						
F20K	**Avaraart Lake**	**0.97**	**36**	P	**Pg**	**21 27 36.3**	**-1.8**
	baz=226						
F20K				S	**Sg**	**21 27 48.4**	**-2.3**
	baz=226						
F18K	**Selawik**	**1.04**	**289**		**Pg**	**21 27 37.5**	**-1.9**
F18K					**Sb**	**21 27 52.1**	**-1.2**
F18K	**Selawik**	**1.04**	**289**	P	**Pg**	**21 27 37.8**	**-1.6**
	baz=99,SNR=1000						
F18K				S	**Sg**	**21 27 51.3**	**-1.6**
	baz=99						
E19K	**Redstone River**	**1.18**	**359**		**Pg**	**21 27 39.9**	**-2.3**
E19K				IAML		21 28 00.4	
	comp=E,56μm,1.3s						
E19K				IAML		21 28 06.4	
	comp=N,50μm,0.7s						
E19K	**Redstone River**	**1.18**	**359**	P	**Pg**	**21 27 40.0**	**-2.2**
	baz=181						
E19K				S	**Sg**	**21 27 54.8**	**-2.7**
	baz=181						
H18K	**Honhosa River**	**1.23**	**204**		**Sn**	**21 27 59.4**	**-0.2**
H18K	**Honhosa River**	**1.23**	**204**		**Pb**	**21 27 41.5**	**-1.4**
H18K				IAML		21 28 02.3	
	comp=E,54μm,0.8s						
H18K				IAML		21 28 02.5	
	comp=N,60μm,1.2s						
H18K	**Honhosa River**	**1.23**	**204**	P	**Pb**	**21 27 41.6**	**-1.3**
	baz=18						
H18K				S	**Sn**	**21 27 59.0**	**-0.7**
	baz=18						
H20K	**Anotleneega Mo**	**1.24**	**129**		**Pn**	**21 27 42.4**

H17K Sn **Sn** **21 28 12.3 -0.3**
H17K IAML 21 28 18.6
comp=E,39µm,1.1s
H17K IAML 21 28 20.4
comp=N,30µm,0.8s
H17K Granite Mounta 1.76 221 P **Pn** **21 27 49.2 -1.0**
baz=35,SNR=1000
H17K S **Sg** **21 28 13.6 -2.4**
baz=35
E18K Tukpahlearik C 1.77 312 **Pn** **21 27 50.1 -0.2**
E18K Tukpahlearik C 1.77 312 P **Pn** **21 27 49.6 -0.7**
baz=126
E18K S **Sn** **21 28 12.6 -0.3**
baz=126
I20K Naaghedeneel 1.87 142 **Pb** **21 27 51.7 -2.1**
I20K IAML 21 28 38.8
comp=E,49µm,1.4s
I20K IAML 21 28 41.3
comp=N,45µm,1.0s
I20K Naaghedeneel 1.87 142 P **Pb** **21 27 51.7 -2.1**
baz=326,SNR=1000
I20K S **Sg** **21 28 17.9 -1.7**
baz=326
H21K Melozitna Rive 1.90 107 **Pn** **21 27 51.3 -0.9**
H21K Sn **Sb** **21 28 17.9 -0.3**
H21K IAML 21 28 21.1
comp=E,18µm,0.3s
H21K IAML 21 28 22.5
comp=N,22µm,1.2s
H21K Melozitna Rive 1.90 107 P **Pn** **21 27 51.2 -0.9**
baz=295,SNR=1000
H21K S **Sb** **21 28 18.2 0.0**
baz=295
E17K Hotham Inlet 2.01 296 **Pn** **21 27 52.6 -1.0**
E17K **Sb** **21 28 20.6 -0.7**
E17K Hotham Inlet 2.01 296 P **Pn** **21 27 52.6 -1.0**
baz=108
E17K S **Sn** **21 28 19.1 +0.3**
baz=108
E20K Nigu River 2.02 11 **Pn** **21 27 54.1 +0.3**
E20K Nigu River 2.02 11 P **Pn** **21 27 54.3 +0.4**
baz=194
E20K S **Sn** **21 28 19.1 -0.2**
baz=194
D19K Kuna River 2.25 351 **Sn** **21 28 25.7 +0.8**
D19K Kuna River 2.25 351 **Pn** **21 27 56.9 -0.1**
D19K IAML 21 28 32.4
comp=E,20µm,0.7s
D19K IAML 21 28 33.9
comp=N,26µm,0.9s
D19K Kuna River 2.25 351 P **Pn** **21 27 57.0 +0.1**
baz=171
D19K Sb **Sb** **21 28 27.5 -0.8**
baz=171
G16K Koyuk River 2.30 250 **Pn** **21 27 55.9 -1.7**
G16K IAML 21 28 39.1
comp=N,16µm,1.2s
G16K Koyuk River 2.30 250 Sb **Sg** **21 28 30.6 -2.8**
baz=61
F22K John River 2.33 56 **Pn** **21 27 57.5 -0.5**
F22K **Sb** **21 28 29.4 -1.2**
F22K John River 2.33 56 P **Pn** **21 27 57.5 -0.5**
baz=244,SNR=1000
F22K Sb **Sb** **21 28 31.0 +0.4**
baz=244
J19K Poorman 2.39 163 **Pn** **21 27 58.3 -0.5**
J19K Sn **Sn** **21 28 27.1 -1.1**
J19K Poorman 2.39 163 P **Pn** **21 27 58.8 -0.1**
baz=345,SNR=1000
J19K S **Sb** **21 28 30.5 -1.7**
baz=345
H22K Ishtalitna Cre 2.40 97 **Pn** **21 27 58.5 -0.5**
H22K Ishtalitna Cre 2.40 97 P **Pn** **21 27 58.3 -0.7**
baz=286
H22K S **Sn** **21 28 29.6 +1.1**
baz=286
I21K Tanana 2.42 115 **Pn** **21 27 58.5 -0.7**
I21K IAML 21 28 42.2
comp=E,17µm,0.9s
I21K IAML 21 28 45.6
comp=N,18µm,0.7s
I21K Tanana 2.42 115 P **Pn** **21 27 58.7 -0.5**
baz=302
I21K S **Sn** **21 28 30.3 +1.4**
baz=302
D20K Etivluk River 2.46 5 **Pn** **21 27 59.7 -0.1**
D20K Etivluk River 2.46 5 P **Pn** **21 27 59.6 -0.1**
baz=187
D20K Sn **Sb** **21 28 33.9 -0.2**
baz=187
J20K Nowinta River 2.47 147 Pn **Pn** **21 27 59.4 -0.5**
J20K Nowinta River 2.47 147 P **Pn** **21 27 59.6 -0.3**
baz=331,SNR=244
J20K Sb **Sg** **21 28 38.0 -0.8**
baz=331
E21K Killik River 2.50 28 **Pn** **21 27 60.0 -0.4**
E21K IAML 21 28 44.7
comp=N,23µm,1.1s
E21K IAML 21 28 47.2
comp=E,24µm,0.8s
E21K Killik River 2.50 28 P **Pn** **21 28 00.1 -0.3**
baz=214
E21K Sb **Sb** **21 28 36.1 +0.6**
baz=214
H16K Elim 2.67 234 **Pn** **21 28 00.9 -1.8**
H16K Elim 2.67 234 P **Pn** **21 28 00.9 -1.8**
baz=46,SNR=393
H16K S **Sn** **21 28 36.8 +1.6**
baz=46
D17K Noatak River 2.72 304 P **Pn** **21 28 02.6 -0.7**
baz=116,SNR=425
D17K S **Sn** **21 28 36.3 +0.1**
baz=116
E22K Anaktuvuk Pass 2.80 46 **Pn** **21 28 04.8 +0.3**
E22K IAML 21 28 55.1
comp=E,12µm,1.1s
E22K IAML 21 28 56.2
comp=N,12µm,1.2s
E22K Anaktuvuk Pass 2.80 46 P **Pn** **21 28 04.8 +0.3**
baz=234
E22K S **Sn** **21 28 38.3 -0.1**
baz=234
I17K Unalakleet 2.82 213 Pn **Pn** **21 28 04.2 -0.6**
I17K IAML 21 28 54.2
comp=N,12µm,0.7s
I17K Unalakleet 2.82 213 P **Pn** **21 28 04.5 -0.3**
baz=28,SNR=289
C18K Utukok River 2.83 329 **Pn** **21 28 04.4 -0.6**
C18K Utukok River 2.83 329 P **Pn** **21 28 04.1 -0.9**
baz=144
C18K Sb **Sb** **21 28 44.8 -0.3**
baz=144
J18K Innoko River 2.83 176 Pn **Pn** **21 28 04.7 -0.3**
J18K Innoko River 2.83 176 P **Pn** **21 28 04.8 -0.1**
baz=356,SNR=764
J18K Sb **Sg** **21 28 48.4 -2.0**
baz=356
RDOG Red Dog Mine 2.85 311 Pn **Pn** **21 28 05.3 +0.2**
RDOG Red Dog Mine 2.85 311 P **Pn** **21 28 05.3 +0.2**
baz=124,SNR=356
RDOG S **Sn** **21 28 39.8 +0.2**
baz=124
G23K Bananza Creek 2.91 78 Pn **Pn** **21 28 06.2 +0.3**
G23K IAML 21 29 00.2
comp=E,8µm,1.2s
G23K Bananza Creek 2.91 78 P **Pn** **21 28 04.4 -1.5**
baz=268,SNR=492
G23K Sb **Sb** **21 28 48.4 +1.3**
baz=268
COLD Coldfoot 2.93 68 Pn **Pn** **21 28 04.9 -1.4**
COLD Coldfoot 2.93 68 P **Pn** **21 28 05.0 -1.4**
baz=257,SNR=854
COLD Sg **Sg** **21 28 53.4 -0.2**
baz=257
J17K VABM Dome 3.01 196 **Pn** **21 28 07.0 -0.3**
J17K IAML 21 29 04.4
comp=E,11µm,1.0s
J17K VABM Dome 3.01 196 P **Pn** **21 28 07.1 -0.2**
baz=13,SNR=322
J17K Sb **Sg** **21 28 53.5 -2.4**
baz=13
C21K Knifeblade Rid 3.03 17 P **Pn** **21 28 06.9 -0.8**
baz=200
C21K Sb **Sb** **21 28 52.0 +1.3**
baz=200
F15K North Star Dit 3.10 263 **Pn** **21 28 06.8 -1.8**
F15K IAML 21 29 00.1
comp=N,10µm,1.6s
F15K IAML 21 29 00.6
comp=E,7µm,1.2s
F15K North Star Dit 3.10 263 P **Pn** **21 28 06.8 -1.8**
baz=73
F15K Sb **Sb** **21 28 53.9 +1.3**
baz=73
G15K Niukluk 3.12 249 P **Pn** **21 28 06.7 -2.1**
baz=60
G15K Sb **Sb** **21 28 54.6 +1.4**
baz=60
D22K Ayikyak River 3.13 31 **Pn** **21 28 09.0 0.0**
D22K Ayikyak River 3.13 31 P **Pn** **21 28 09.0 0.0**
baz=218,SNR=807
D22K Sg **Sg** **21 28 58.9 -1.1**
baz=218
H23K Yukon River 3.15 95 **Pn** **21 28 08.6 -0.7**
H23K Yukon River 3.15 95 P **Pn** **21 28 08.6 -0.7**
baz=285
H23K Sb **Sb** **21 28 55.9 +1.7**
baz=285
CHUM Lake Minchumin 3.17 137 P **Pn** **21 28 09.8 +0.2**
baz=323,SNR=630
CHUM Sb **Sg** **21 28 58.0 -3.2**
baz=323
C17K DeLong Mountai 3.19 316 P **Pn** **21 28 09.3 -0.6**
baz=129,SNR=166
C17K Sb **Sb** **21 28 54.4 -0.9**
baz=129
K20K Telida 3.23 154 **Pn** **21 28 10.2 -0.1**
K20K Telida 3.23 154 P **Pn** **21 28 10.2 -0.1**
baz=338
K20K S **Sb** **21 28 51.8 -4.4**
baz=338
J16K Anvik River 3.34 207 Pn **Pn** **21 28 11.2 -0.7**
J16K IAML 21 29 12.2
comp=E,11µm,1.6s
J16K IAML 21 29 13.8
comp=N,8µm,1.2s
J16K Anvik River 3.34 207 P **Pn** **21 28 11.7 -0.3**
baz=23,SNR=1000
BPAW Bear Paw Mtn. 3.41 127 Pn **Pn** **21 28 12.5 -0.3**
BPAW Bear Paw Mtn. 3.41 127 P **Pn** **21 28 12.5 -0.3**
baz=314,SNR=1000
I23K Minto, Yukon-K 3.43 106 **Pn** **21 28 12.1 -1.0**
I23K IAML 21 29 16.0
comp=E,8µm,1.4s
I23K Minto, Yukon-K 3.43 106 P **Pn** **21 28 11.7 -1.4**
baz=295,SNR=1000
E23K Chandalar 3.45 55 **Pn** **21 28 12.9 -0.5**
E23K IAML 21 29 18.9
comp=N,10µm,0.8s
E23K Chandalar 3.45 55 P **Pn** **21 28 13.1 -0.4**
baz=245,SNR=1000
B21K Ikpikpuk River 3.50 15 **Pn** **21 28 12.6 -1.4**
B21K IAML 21 29 12.6
comp=N,12µm,1.1s
B21K Ikpikpuk River 3.50 15 P **Pn** **21 28 12.5 -1.5**
baz=199
B18K Kokolik River 3.56 333 P **Pn** **21 28 14.3 -0.5**
baz=148,SNR=334
CAST Castle Rocks 3.61 140 Pn **Pn** **21 28 15.7 +0.2**
CAST Castle Rocks 3.61 140 P **Pn** **21 28 16.3 +0.8**
baz=326,SNR=1000
K17K Iditarod 3.61 188 Pn **Pn** **21 28 15.1 -0.5**
K17K IAML 21 29 28.9
comp=N,6µm,1.4s
K17K IAML 21 29 32.2
comp=E,5µm,1.6s
K17K Iditarod 3.61 188 P **Pn** **21 28 15.1 -0.5**
baz=6.2,SNR=352
D23K Nanushuk River 3.67 40 Pn **Pn** **21 28 16.4 0.0**
D23K Nanushuk River 3.67 40 P **Pn** **21 28 16.3 0.0**
baz=228,SNR=761
C16K Lisburne Hills 3.74 306 **Pn** **21 28 17.1 -0.2**
C16K IAML 21 29 21.1
comp=E,4µm,1.2s
C16K Lisburne Hills 3.74 306 P **Pn** **21 28 17.1 -0.2**
baz=117
B20K Meade River 3.75 0 **Pn** **21 28 16.7 -0.7**
B20K IAML 21 30 01.1
comp=N,9µm,1.1s
B20K Meade River 3.75 0 P **Pn** **21 28 16.6 -0.7**
baz=181
TOLK Toolik Lake Re 3.77 48 Pn **Pn** **21 28 17.6 -0.3**
TOLK Toolik Lake Re 3.77 48 P **Pn** **21 28 17.8 -0.1**
baz=237,SNR=821
NEA2 Nenana 3.79 113 **Pn** **21 28 16.7 -1.4**
NEA2 IAML 21 29 22.0
comp=N,5µm,1.3s
NEA2 IAML 21 29 28.8
comp=E,5µm,1.2s
NEA2 Nenana 3.79 113 P **Pn** **21 28 17.0 -1.1**
baz=302,SNR=1000
H24K Noodor Dome 3.82 92 Pn **Pn** **21 28 17.5 -1.1**
H24K IAML 21 29 26.7
comp=N,9µm,1.6s
H24K IAML 21 29 33.9
comp=E,8µm,1.4s
H24K Noodor Dome 3.82 92 P **Pn** **21 28 17.6 -0.9**
baz=283,SNR=497
KTH Kantishna Hill 3.82 133 Pn **Pn** **21 28 18.7 +0.1**
KTH IAML 21 29 27.6
comp=N,5µm,1.8s
KTH IAML 21 29 37.6
comp=E,4µm,1.4s
ANM Nome 3.83 247 Pn **Pn** **21 28 16.2 -2.3**
ANM IAML 21 29 28.2
comp=N,3µm,0.9s
ANM IAML 21 29 33.8
comp=E,4µm,1.4s
ANM Nome 3.83 247 P **Pn** **21 28 16.2 -2.3**
ANM Nome 3.83 247 P **Pn** **21 28 16.3 -2.3**
baz=57
F14K Arctic Creek 3.84 262 P **Pn** **21 28 17.1 -1.6**
baz=71,SNR=49
E24K Your Creek 3.84 58 **Pn** **21 28 17.9 -0.9**
E24K IAML 21 29 25.9
comp=E,7µm,0.8s
E24K Your Creek 3.84 58 P **Pn** **21 28 18.0 -0.9**
baz=248
F24K Squaw Lake 3.87 67 Pn **Pn** **21 28 17.5 -1.7**
F24K IAML 21 29 37.2
comp=N,8µm,1.2s
F24K Squaw Lake 3.87 67 P **Pn** **21 28 17.8 -1.4**
baz=258,SNR=453
BWN Browne 3.88 119 **Pn** **21 28 19.1 -0.2**
G24K Hadweenzic Riv 3.92 79 Pn **Pn** **21 28 18.0 -1.8**
G24K Hadweenzic Riv 3.92 79 P **Pn** **21 28 18.0 -1.8**
baz=271,SNR=204
PPLA Purkeypile 4.02 145 P **Pn** **21 28 22.0 +0.6**
baz=331,SNR=565
L20K Farewell, AK 4.08 158 P **Pn** **21 28 22.4 +0.3**
baz=341,SNR=1000
L18K Granite Mounta 4.08 177 IAML 21 29 40.7
comp=E,3µm,1.7s
L18K IAML 21 29 48.4
comp=N,3µm,1.4s
L18K Granite Mounta 4.08 177 P **Pn** **21 28 22.3 +0.2**
baz=357,SNR=197
TRF Thorofare Moun 4.09 131 IAML 21 29 42.7
comp=N,5µm,1.7s
TRF IAML 21 29 43.8
comp=E,4µm,1.7s
TRF Thorofare Moun 4.09 131 P **Pn** **21 28 22.4 +0.1**
baz=318,SNR=835
I53US FAIRBANKS INFR 4.12 106 Pn **Pn** **21 28 25.0 +2.4**
baz=305,slow=22
I53US I I 21 50 30.0
baz=295,slow=321,SNR=0.6
COLA College 4.13 106 **Pn** **21 28 22.4 -0.2**
COLA College 4.13 106 IAML 21 29 44.2
comp=E,7µm,0.7s
COLA College 4.13 106 P **Pn** **21 28 22.4 -0.2**
COLA College 4.13 106 P **Pn** **21 28 22.3 -0.4**
baz=296
L17K Donlin 4.19 187 P **Pn** **21 28 23.4 -0.2**
baz=5.3,SNR=240
A19K Wainwright 4.20 342 P **Pn** **21 28 23.2 -0.4**
baz=158
POKR Poker Flat Res 4.20 102 P **Pn** **21 28 22.5 -1.2**
baz=292,SNR=759
WRH Wood River Hil 4.22 111 **Pn** **21 28 23.4 -0.5**
WRH Wood River Hil 4.22 111 IAML 21 29 35.5
comp=E,2µm,1.2s
WRH IAML 21 29 45.3
comp=N,4µm,1.8s
L19K White Mountain 4.24 165 IAML 21 29 43.5
comp=N,3µm,2.0s
L19K IAML 21 29 44.2
comp=E,3µm,1.8s
L19K White Mountain 4.24 165 P **Pn** **21 28 24.6 +0.4**
baz=347,SNR=656
D24K Happy Valley 4.30 44 P **Pn** **21 28 24.6 -0.4**
baz=234
B22K Teshekpuk Lake 4.31 17 **Pn** **21 28 25.1 -0.1**
B22K Teshekpuk Lake 4.31 17 P **Pn** **21 28 23.3 -1.9**
baz=202,SNR=1000
MCK McKinley 4.34 122 Pn **Pn** **21 28 25.3 -0.3**
MCK McKinley 4.34 122 P **Pn** **21 28 25.3 -0.3**
MCK McKinley 4.34 122 P **Pn** **21 28 25.3 -0.3**
baz=311,SNR=258
C23K Itkillik River 4.34 32 IAML 21 30 03.6
comp=E,6µm,1.8s
C23K Itkillik River 4.34 32 P **Pn** **21 28 24.4 -1.2**
baz=219
K15K Wolf Creek Mou 4.42 207 IAML 21 29 54.3
comp=E,4µm,1.9s
K15K IAML 21 29 59.6
comp=N,3µm,1.9s
K15K Wolf Creek Mou 4.42 207 P **Pn** **21 28 26.7 0.0**
baz=22,SNR=112
TNA Tin City 4.46 266 P **Pn** **21 28 25.5 -1.6**
baz=74,SNR=34
G25K Bearman Lake 4.46 79 P **Pn** **21 28 26.6 -0.7**
baz=271
J14K Nanvaranak Lak 4.48 221 IAML 21 29 53.1
comp=E,3µm,1.9s
J14K IAML 21 29 58.3
comp=N,5µm,1.0s
J14K Nanvaranak Lak 4.48 221 P **Pn** **21 28 26.6 -1.0**
baz=33,SNR=35
IL31 4.55 105 **Pn** **21 28 28.0 -0.4**
ILAR Eielson Array 4.55 105 **Pn** **21 28 27.0 -1.5**
ILAR Eielson Array 4.55 105 Pn **Pn** **21 28 26.8 -1.6**
comp=N,114nm,0.3s,baz=292,slow=13,SNR=3424
ILAR Sn **Sn** **21 29 18.1 -3.3**
comp=N,82nm,0.3s,baz=259,slow=30,SNR=7.1
ILAR Lg Lg 21 29 41.1
comp=N,104nm,0.3s,baz=298,slow=28,SNR=8.3
ILAR Eielson Array 4.55 105 P **Pn** **21 28 27.0 -1.5**
M19K Big River Lodg 4.56 163 IAML 21 30 00.6
comp=E,3µm,1.6s
M19K Big River Lodg 4.56 163 P **Pn** **21 28 29.4 +0.8**
baz=346
RND Reindeer 4.58 125 Pn **Pn** **21 28 29.2 +0.2**
RND Reindeer 4.58 125 P **Pn** **21 28 29.2 +0.2**
H25L Birch Creek 4.60 85 P **Pn** **21 28 28.5 -0.6**
baz=277,SNR=256
HDA Harding Lake 4.68 109 **Pn** **21 28 28.9 -1.5**
HDA IAML 21 29 53.4
comp=N,4µm,1.0s
HDA IAML 21 29 54.6
comp=E,2µm,1.4s
HDA Harding Lake 4.68 109 P **Pn** **21 28 29.0 -1.3**
baz=300,SNR=623
L16K Owhat River 4.70 193 IAML 21 29 55.1
comp=E,3µm,2.4s
L16K IAML 21 29 55.4
comp=N,2µm,2.2s
L16K Owhat River 4.70 193 P **Pn** **21 28 29.8 -0.7**
baz=10,SNR=67
C24K Franklin Bluff 4.70 39 P **Pn** **21 28 29.3 -1.3**
baz=228
F25K Christian Rive 4.73 69 P **Pn** **21 28 30.0 -1.0**
baz=261,SNR=391
M20K Styx River 4.76 156 P **Pn** **21 28 32.5 +1.0**
baz=340
FYU Fort Yukon 4.81 81 Pn **Pn** **21 28 30.7 -1.3**
A22K Sinclair Lake 4.81 9 P **Pn** **21 28 29.9 -2.2**
baz=192
PRP Porcupine Dome 4.84 94 P **Pn** **21 28 31.3 -1.3**
baz=286,SNR=1000
M18K Stony River 4.85 172 P **Pn** **21 28 32.9 +0.3**
baz=353,SNR=705
E25K Arctic Village 4.88 63 Pn **Pn** **21 28 31.6 -1.5**
E25K IAML 21 30 05.2
comp=E,4µm,1.1s
E25K Arctic Village 4.88 63 P **Pn** **21 28 31.7 -1.4**
baz=255,SNR=369
M17K Holitna River 4.90 181 P **Pn** **21 28 33.4 +0.1**
baz=0.7,SNR=86
CUT Chulitna 4.92 139 P **Pn** **21 28 34.5 +1.0**
baz=326,SNR=166
SKT Skwentna 4.98 148 Pn **Pn** **21 28 35.2 +0.9**
SKT IAML 21 30 11.9
comp=E,2µm,1.8s
SKT Skwentna 4.98 148 P **Pn** **21 28 35.3 +0.9**
baz=333,SNR=1000
L15K Ungalak Mounta 4.99 204 P **Pn** **21 28 34.2 -0.3**
baz=19
A21K Barrow 5.07 2 P **Pn** **21 28 32.0 -3.5**
baz=183,SNR=88
BMAR Burnt Mountain 5.11 71 Pn **Pn** **21 28 33.9 -2.3**
D25K Kavik River 5.11 48 P **Pn** **21 28 34.3 -1.9**
baz=240
J25K Salcha River, 5.21 103 P **Pn** **21 28 36.4 -1.2**
baz=296,SNR=469
F26K Sheenjek River 5.31 69 P **Pn** **21 28 37.3 -1.7**
baz=262,SNR=135
M16K Timber Creek 5.34 189 P **Pn** **21 28 38.8 -0.5**
baz=7.0,SNR=61
G26K Porcupine Rive 5.38 77 P **Pn** **21 28 38.2 -1.7**
baz=271,SNR=143
K24K Donnelly Dome 5.43 112 P **Pn** **21 28 39.7 -1.0**
baz=304,SNR=138
K13K Kusilvak Mount 5.45 220 P **Pn** **21 28 39.9 -1.0**
baz=32,SNR=24
M22K Willow 5.50 142 P **Pn** **21 28 41.8 +0.2**
baz=329,SNR=70
L14K Kuka Creek 5.52 209 P **Pn** **21 28 42.1 +0.3**
baz=23,SNR=34
SPCR Spurr Chakacha 5.56 154 P **Pn** **21 28 43.1 +0.7**
baz=339,SNR=102
N19K Bonanza Creek 5.62 166 P **Pn** **21 28 43.8 +0.5**
baz=349,SNR=135
N18K Kilae Creek 5.65 173 P **Pn** **21 28 44.2 +0.6**
baz=354,SNR=223
N17K Nushagak Hills 5.78 180 P **Pn** **21 28 45.5 +0.2**
baz=360,SNR=256
RIDG Independent Ri 5.82 110 P **Pn** **21 28 44.9 -1.0**
baz=303,SNR=153
M15K Kasigluk River 5.82 197 P **Pn** **21 28 45.4 -0.5**
baz=13,SNR=30
I26K Coal Creek Min 5.86 93 P **Pn** **21 28 45.3 -1.2**
baz=288
C26K Camden Bay 5.86 46 P **Pn** **21 28 45.3 -1.1**
baz=239,SNR=1000
N16K Nishlik Lake 5.87 188 P **Pn** **21 28 46.2 -0.5**
baz=5.7,SNR=90
PMR Palmer 5.89 139 P **Pn** **21 28 47.4 +0.5**
baz=327,SNR=109
SML Sawmill 5.94 135 P **Pn** **21 28 47.6 +0.1**
baz=324,SNR=219
M14K Bethel 5.94 203 P **Pn** **21 28 47.8 +0.3**
baz=18,SNR=41
J26L Joseph Creek 5.97 101 P **Pn** **21 28 47.0 -1.1**
baz=295,SNR=620
SCRK Sand Creek 6.03 106 P **Pn** **21 28 47.6 -1.3**
baz=300,SNR=243
PAX Paxson 6.03 118 P **Pn** **21 28 48.9 0.0**
baz=310,SNR=286
C27K Jago River 6.08 50 P **Pn** **21 28 48.6 -0.9**
baz=244
M23K Glacier View 6.12 133 P **Pn** **21 28 50.1 0.0**
baz=322,SNR=212
CAPN Captain Cook N 6.15 151 P **Pn** **21 28 51.9 +1.4**
baz=337
RC01 Rabbit Creek A 6.17 144 P **Pn** **21 28 51.1 +0.3**
baz=331,SNR=37
SCM Sheep Creek Mo 6.21 131 P **Pn** **21 28 51.5 +0.1**
baz=321,SNR=261
KNK Knik Glacier 6.22 138 P **Pn** **21 28 52.7 +1.3**
baz=326,SNR=277
G27K Doyon Strip 6.23 78 P **Pn** **21 28 50.0 -1.5**
baz=274,SNR=95
O19K Port Alsworth 6.24 167 P **Pn** **21 28 52.1 +0.4**
baz=349,SNR=38
N15K Kwethluk River 6.27 193 P **Pn** **21 28 51.8 -0.3**
baz=10,SNR=17
H27K Steamboat Moun 6.33 83 P **Pn** **21 28 51.2 -1.7**
baz=279,SNR=150
E27K Coleen River 6.35 65 P **Pn** **21 28 51.7 -1.5**
baz=261
M24K Tolsona, Glenn 6.37 126 P **Pn** **21 28 54.2 +0.7**

baz=317,SNR=221
I27K **Kandik River** 6.41 89 P Pn 21 28 52.7 -1.3
baz=285,SNR=212
M13K **Dall Lake** 6.50 208 Pn Pn 21 28 56.0 +0.7
M13K **Dall Lake** 6.50 208 P Pn 21 28 55.8 +0.6
baz=22
HARP **HAARP** 6.51 121 P Pn 21 28 56.8 +1.4
baz=313,SNR=90
O18K **Koktuh Hills** 6.51 171 P Pn 21 28 55.6 +0.2
baz=353,SNR=55
O17K **Koliganek Bris** 6.53 180 P Pn 21 28 55.7 0.0
baz=359
O20K **Slope Mountain** 6.55 160 P Pn 21 28 56.8 +0.8
baz=344,SNR=50
GAMB **Gambell** 6.63 254 P Pn 21 28 55.2 -1.8
baz=60
N14K **Kuskokwak Cree** 6.70 200 P Pn 21 28 58.5 +0.6
baz=15,SNR=9.5
O22K **Cooper Landing** 6.71 147 P Pn 21 28 59.2 +1.0
baz=334,SNR=33
PWL **Port Wells** 6.72 140 Pn 21 28 58.6 +0.3
PWL **Port Wells** 6.72 140 P Pn 21 28 57.5 -0.8
baz=328,SNR=35
O16K **Kokwok River B** 6.72 184 P Pn 21 28 58.4 +0.1
baz=2.7,SNR=87
K27K **Chicken** 6.75 103 P Pn 21 28 58.1 -0.7
baz=298
L26K **Log Cabin Wild** 6.78 112 P Pn 21 28 58.8 -0.2
baz=306,SNR=55
D27M **Malcolm River** 6.83 57 P Pn 21 28 59.2 -0.6
baz=253,SNR=641
P19K **Oil Pt** 6.89 163 P Pn 21 29 01.7 +1.0
baz=347,SNR=47
KLU **Klutina** 6.91 129 Pn 21 29 01.7 +0.8
KLU **Klutina** 6.91 129 P Pn 21 29 01.8 +0.9
baz=320,SNR=138
P18K **Big Mountain,** 6.97 172 P Pn 21 29 01.6 -0.1
baz=353,SNR=61
GLI **Glacier Island** 7.04 136 P Pn 21 29 03.0 +0.3
baz=325,SNR=60
HOM **Homer** 7.11 157 P Pn 21 29 04.4 +0.9
baz=342,SNR=6.9
SEW **Seward** 7.11 147 P Pn 21 29 04.3 +0.7
baz=334,SNR=18
P17K **Kvichak River** 7.12 177 P Pn 21 29 04.0 +0.3
baz=357,SNR=60
I28M **Miner Creek** 7.12 89 P Pn 21 29 02.7 -1.1
baz=286,SNR=204
BRLK **Bradley Lake** 7.14 153 Pn Pn 21 29 03.6 -0.5
E28M **Babbage River** 7.17 63 P Pn 21 29 03.0 -1.4
baz=261,SNR=346
BRSE **Bradley Lake S** 7.18 153 Pn 21 29 05.6 +1.0
BRSE **Bradley Lake S** 7.18 153 P Pn 21 29 05.8 +1.2
baz=339,SNR=21
O15K **Ungalikthiuk R** 7.23 191 P Pn 21 29 04.7 -0.6
baz=7.9
N25K **Chitina, Valde** 7.25 124 P Pn 21 29 06.7 +1.0
baz=317,SNR=112
M26K **Nabesna, AK** 7.28 116 P Pn 21 29 05.6 -0.5
baz=310,SNR=84
P16K **Nushagak River** 7.29 183 P Pn 21 29 06.3 +0.3
baz=2.2,SNR=37
O14K **Tigyukauivet M** 7.29 197 P Pn 21 29 07.9 +1.8
baz=12
CNPM **China Poot** 7.30 155 Pn Pn 21 29 06.9 +0.6
FID **Port Fidalgo** 7.32 134 Pn 21 29 07.6 +1.1
L27K **Beaver Creek,** 7.33 109 P Pn 21 29 05.4 -1.3
baz=304,SNR=327
BCAR **Beaver Creek A** 7.35 109 Pn Pn 21 29 05.0 -1.8
Q19K **Cape Douglas,** 7.56 166 P Pn 21 29 10.4 +0.7
baz=349,SNR=10
H29M **Whitestone** 7.60 82 P Pn 21 29 09.8 -0.5
baz=280,SNR=118
HIN **Hinchinbrook I** 7.61 136 Pn 21 29 11.1 +0.7
D28M **Stokes Point** 7.61 58 P Pn 21 29 10.9 +0.5
baz=256,SNR=82
Q16K **King Salmon** 7.64 178 P Pn 21 29 11.1 +0.3
baz=358,SNR=15
GLB **Gilahina Butte** 7.64 123 Pn Pn 21 29 11.2 +0.4
G29M **Pine Creek** 7.65 77 P Pn 21 29 10.3 -0.8
baz=275,SNR=117
EYAK **Cordova Ski Ar** 7.70 133 Pn 21 29 12.4 +0.8
EYAK **Cordova Ski Ar** 7.70 133 P Pn 21 29 12.6 +0.9
baz=324,SNR=26
P23K **Montague Islan** 7.70 140 P Pn 21 29 12.8 +1.1
baz=330,SNR=11
M27K **Edge Creek, AK** 7.72 113 P Pn 21 29 12.0 -0.1
baz=308,SNR=168
BMRM **Bremner River** 7.72 128 Pn Pn 21 29 12.1 0.0
BMRM **Bremner River** 7.72 128 P Pn 21 29 11.7 -0.4
baz=320,SNR=40
Q18K **Katmai Hardscr** 7.73 171 P Pn 21 29 12.1 -0.1
baz=353,SNR=16
E29M **Blow River** 7.74 65 P Pn 21 29 11.6 -0.6
baz=264,SNR=363
I29M **Ogilvie Camp,** 7.80 88 P Pn 21 29 12.1 -1.0
baz=286,SNR=16
DAWY **Dawson** 7.81 98 Pn Pn 21 29 12.5 -0.7
DAWY **Dawson** 7.81 98 P Pn 21 29 11.8 -1.4
baz=296,SNR=397
KAHG **Katmai Hook Gl** 7.91 170 Pn 21 29 15.1 +0.5
VRDI **Verde Repeater** 7.91 123 Pn Pn 21 29 15.2 +0.4
Q20K **Shuyak Island** 8.01 162 P Pn 21 29 17.9 +2.0
baz=346,SNR=16
BVCY **Beaver Creek** 8.07 111 P Pn 21 29 16.1 -0.6
baz=307,SNR=144
J29N **Klondike Camp** 8.13 94 P Pn 21 29 16.9 -0.7
baz=293,SNR=181
EPYK **Eagle Plains** 8.23 80 Pn Pn 21 29 17.8 -1.2
EPYK **Eagle Plains** 8.23 80 P Pn 21 29 17.0 -2.0
baz=280,SNR=72
G30M **tAoh Zraii Nji** 8.36 76 P Pn 21 29 19.0 -1.7
baz=276
BALM **Baldy** 8.43 122 Pn 21 29 22.6 +0.9
BERG **Berg Lake** 8.45 128 Pn 21 29 22.2 +0.2
F30M **Barrier River** 8.49 71 P Pn 21 29 22.9 +0.4
baz=272,SNR=65
KIAG **Kiagna River** 8.50 122 Pn 21 29 23.0 +0.2
KHIT **Khitrov Hills** 8.56 127 Pn 21 29 23.4 -0.1
YUK3 **Moose Creek** 8.61 114 P Pn 21 29 23.1 -1.2
baz=310,SNR=55
I30M **Mount Dempster** 8.62 87 P Pn 21 29 23.6 -0.8
baz=288,SNR=450
K29M **Barlow Dome** 8.65 97 P Pn 21 29 22.6 -2.3
baz=296,SNR=64
WAX **Waxell Ridge** 8.68 126 Pn 21 29 25.2 0.0
R16K **Pilot Point** 8.75 181 P Pn 21 29 25.4 -0.6
baz=0.7
L29M **L29M** 8.75 102 P Pn 21 29 24.9 -1.2
baz=301,SNR=106
BGLC **Bering Glacier** 8.79 128 P Pn 21 29 25.6 -1.1
baz=321
KDAK **Kodiak Island** 8.80 164 Pn Pn 21 29 27.6 +0.9
KDAK **Kodiak Island** 8.80 164 Pn Pn 21 29 24.4 -2.3
comp=E,12nm,0.3s,baz=308,slow=17,SNR=54
KDAK Lg Lg 21 31 50.9
comp=E,0.2nm,0.3s,baz=56,slow=21,SNR=3.7
KDAK LR LR 21 33 02.4
comp=E,4µm,18.2s,baz=209,slow=38
comp=E,38nm,1.1s
KDAK **Kodiak Island** 8.80 164 *i* P Pn 21 29 28.2 +1.5
KDAK **Kodiak Island** 8.80 164 P Pn 21 29 26.9 +0.3
baz=348
R18K **Karluk** 8.84 170 P Pn 21 29 28.0 +0.7
baz=353
J30M **Hart River** 8.85 91 P Pn 21 29 26.9 -0.6
baz=292,SNR=167
M29M **Somme Creek** 8.97 107 P Pn 21 29 28.6 -0.6
baz=304,SNR=100
YAH **Yahtse** 9.12 123 Pn 21 29 31.1 -0.2
G31M **Satah River** 9.13 75 P Pn 21 29 29.1 -2.0
baz=278,SNR=28
YUK8 **Steele Glacier** 9.18 115 Pn 21 29 32.4 +0.3
YUK8 **Steele Glacier** 9.18 115 P Pn 21 29 33.6 +1.4
baz=311,SNR=219
MESA **MESA** 9.19 125 Pn 21 29 32.1 -0.1
MESA **MESA** 9.19 125 P Pn 21 29 31.7 -0.5
baz=319
OHAK **Old Harbor** 9.28 167 P Pn 21 29 34.3 +1.1
baz=350,SNR=14
F31M **Tsiigehtchic** 9.28 72 P Pn 21 29 33.4 +0.1
baz=275,SNR=28
H31M **Peel River** 9.29 82 P Pn 21 29 32.2 -1.3
baz=284,SNR=49
RKAV **Rock Avalanche** 9.30 123 Pn 21 29 34.2 +0.4
INK **Inuvik** 9.35 67 Pn Pn 21 29 33.7 -0.5
INK **Inuvik** 9.35 67 Pn Pn 21 29 32.4 -1.8
comp=E,3.4nm,0.3s,baz=283,slow=17,SNR=114
INK Sn Sn 21 31 12.8 -6.5
comp=E,3.3nm,0.3s,baz=181,slow=10.0,SNR=3.5
INK LR LR 21 33 58.9
comp=E,965nm,18.2s,baz=258,slow=43
comp=E,85nm,0.7s
INK **Inuvik** 9.35 67 P Pn 21 29 32.9 -1.3
baz=270,SNR=151
O28M **Mount Upton** 9.37 118 P Pn 21 29 35.4 +0.6
baz=314,SNR=221
M30M **Minto, Yukon** 9.55 103 P Pn 21 29 35.3 -1.7
baz=303,SNR=43
CHX **Chaix Hills** 9.55 123 Pn 21 29 36.6 -0.5
YUK4 **Talbot Arm** 9.55 112 P Pn 21 29 35.7 -1.5
baz=310,SNR=45
PINM **Pinnacle** 9.82 121 P Pn 21 29 39.8 -1.0
baz=317,SNR=9.5
SII **Sitkinak Islan** 9.86 170 P Pn 21 29 43.1 +1.8
baz=353
YUK6 **Outpost Mounta** 9.92 114 Pn 21 29 41.6 -0.7
YUK6 **Outpost Mounta** 9.92 114 P Pn 21 29 42.3 0.0
baz=312,SNR=18
YUK5 **Granite Creek** 9.98 112 Pn 21 29 41.8 -1.3
CHGN **Chignik** 10.03 184 Pn 21 29 43.6 0.0
CHGN **Chignik** 10.03 184 P Pn 21 29 44.2 +0.6
baz=2.5
N30M **Aishikik Lake** 10.07 109 P Pn 21 29 43.4 -0.8
baz=308,SNR=58
S14K **Fog Glacier** 10.09 188 P Pn 21 29 45.3 +0.7
baz=5.1
BCPM **Bancas Point** 10.14 120 Pn 21 29 45.9 +0.8
O29M **Mount Kennedy** 10.27 117 P Pn 21 29 47.5 +0.5
baz=314,SNR=15
HYT **Haines Junctio** 10.31 113 Pn Pn 21 29 47.9 +0.3
HYT **Haines Junctio** 10.31 113 P Pn 21 29 47.9 +0.3
baz=311,SNR=20
PNL **Peninsula** 10.43 121 P Pn 21 29 49.4 +0.3
baz=318
N31M **Braeburn, Yuko** 10.56 107 P Pn 21 29 50.7 -0.2
baz=307,SNR=9.1
M31M **Drury Creek, Y** 10.70 102 P Pn 21 29 52.6 -0.1
baz=303,SNR=98
O30N **Mendenhall** 10.88 111 Pn 21 29 54.7 -0.5
O30N **Mendenhall** 10.88 111 P Pn 21 29 54.6 -0.7
baz=310,SNR=30
P30M **Million Dollar** 10.98 115 P Pn 21 29 57.4 +0.7
baz=313,SNR=22
SPIA **Saint Paul Isl** 11.00 220 P Pn 21 29 57.8 +0.9
baz=28
SDPT **Sand Point** 11.08 190 P Pn 21 29 59.9 +1.9
baz=6.6
FARO **Faro, Yukon** 11.10 100 Pn Pn 21 29 57.0 -1.2
FARO **Faro, Yukon** 11.10 100 P Pn 21 29 57.6 -0.6
baz=303,SNR=48
P08K **Saint George I** 11.34 217 P Pn 21 30 01.6 +0.2
baz=25
WHY **Whitehorse** 11.41 109 Pn Pn 21 30 01.8 -0.8
WHY **Whitehorse** 11.41 109 P Pn 21 30 02.0 -0.6
baz=310,SNR=21
CHNA **Chernabura Isl** 11.55 187 P Pn 21 30 05.4 +1.1
baz=4.5
PLBC **Pleasant Camp** 11.66 116 P Pn 21 30 05.0 -0.9
baz=315
MMPY **Sheldon Lake,** 11.73 96 Pn 21 30 06.3 -0.6
MMPY **Sheldon Lake,** 11.73 96 P Pn 21 30 06.2 -0.7
baz=300,SNR=74
N32M **Quiet Lake** 11.81 104 Pn 21 30 07.2 -0.7
N32M **Quiet Lake** 11.81 104 P Pn 21 30 07.7 -0.2
baz=307
FALS **False Pass** 11.85 198 P Pn 21 30 09.4 +0.9
baz=12
SKAG **Skagway** 12.04 114 P Pn 21 30 12.1 +1.1
baz=314,SNR=19
P33M **Teslin, Yukon** 12.49 108 Pn Pn 21 30 17.3 +0.1
P33M **Teslin, Yukon** 12.49 108 P Pn 21 30 17.2 0.0
baz=310,SNR=30
P32M **Atlin** 12.55 111 P Pn 21 30 16.6 -1.5
baz=313,SNR=9.3
A36M **Sachs Harbour** 12.60 49 P Pn 21 30 15.3 -3.2
baz=260,SNR=905
C36M **Paulatuk** 12.78 61 P Pn 21 30 18.2 -2.9
baz=273,SNR=140
S31K **Pelican** 12.80 121 P Pn 21 30 19.7 -1.7
baz=320
R32K **Eaglecrest** 13.18 117 P Pn 21 30 25.6 -1.1
baz=317
UNV **Unalaska Valle** 13.29 205 P Pn 21 30 27.3 -0.8
baz=16
Q32M **Nakina River** 13.53 111 P Pn 21 30 31.0 -0.5
baz=314,SNR=23
R33M **Jennings River** 13.73 108 Pn Pn 21 30 33.9 -0.4
R33M **Jennings River** 13.73 108 P Pn 21 30 33.8 -0.4
baz=312,SNR=18
S32K **Killisnoo** 13.76 119 P Pn 21 30 33.7 -0.8
baz=320
SIT **Sitka** 13.81 122 Pn 21 30 35.3 +0.1
SIT **Sitka** 13.81 122 P Pn 21 30 35.3 +0.1
SIT **Sitka** 13.81 122 P Pn 21 30 34.1 -1.2
baz=321
BILL **Bilibino** 14.16 294 Pn 21 30 38.1 -1.8
NIKH **Nikolski High** 14.55 209 Pn 21 30 44.5 -0.9
WRGLY **Wrigley** 14.60 86 Pn Pn 21 30 44.9 -1.1
WRGLY **Wrigley** 14.60 86 P Pn 21 30 43.4 -2.5
baz=298,SNR=40
S34M **Telegraph Cree** 14.69 112 P Pn 21 30 46.4 -0.8
baz=316,SNR=24
DLBC **Dease Lake** 14.74 109 Pn Pn 21 30 45.9 -2.0
DLBC **Dease Lake** 14.74 109 Pn Pn 21 30 49.2 +1.3
comp=E,0.9nm,0.3s,baz=321,slow=12,SNR=17
DLBC Lg Lg 21 35 00.2
comp=E,0.1nm,0.3s,baz=18,slow=19,SNR=5.2
DLBC LR LR 21 37 13.0
comp=E,1µm,19.4s,baz=320,slow=40
comp=E,8.0nm,0.3s
DLBC **Dease Lake** 14.74 109 P Pn 21 30 47.1 -0.8
baz=314,SNR=40
U33K **Whale Pass** 15.32 120 P Pn 21 30 55.1 -0.5
baz=322
WRAK **Wrangell Islan** 15.35 118 P Pn 21 30 55.6 -0.4
baz=321,SNR=20
T35M **Bob Quinn** 15.69 113 P Pn 21 30 59.3 -1.2
baz=318,SNR=39
CRAG **Craig** 15.83 122 P Pn 21 31 00.4 -1.8
baz=323
KOTAN **Kotaneelee Air** 16.00 97 P Pn 21 31 02.2 -2.3
baz=307,SNR=48
TOAD **Toad River Com** 16.33 102 P Pn 21 31 07.7 -1.0
baz=311,SNR=30
V35K **Ketchikan** 16.46 119 P Pn 21 31 09.5 -0.9
baz=322,SNR=20
U35K **Hyder** 16.58 116 P Pn 21 31 10.9 -0.9
baz=320
YKA **Yellowknife Ar** 18.51 82 P P 21 31 34.6 -1.0
comp=E,0.9nm,0.3s,baz=301,slow=12,SNR=67
YKA S Sn 21 34 51.3 -11
comp=E,2.1nm,0.8s,baz=304,slow=22,SNR=1.7
comp=E,30nm,1.0s
YKA **Yellowknife Ar** 18.51 82 *i* P P 21 31 35.0 -0.7
YKA pmax pmax
comp=Z,31nm,1.0s
SHEM **Shemya Is, Ala** 19.65 240 LR LR 21 39 33.1
comp=Z,1µm,18.2s,baz=50,slow=37
BBB **Bella Bella** 20.23 120 P Pn 21 31 55.2 -1.2
comp=Z,56nm,0.9s,baz=317,slow=11,SNR=9.3
BBB LR LR 21 40 12.4
comp=Z,904nm,18.4s,baz=324,slow=38
comp=Z,56nm,0.9s
RES **Resolute Bay** 21.31 40 P P 21 32 05.5 -0.5
RES **Resolute Bay** 21.31 40 P P 21 32 04.2 -1.9
comp=Z,27nm,1.2s,baz=258,slow=13,SNR=34
RES S S 21 35 51.4 -11
comp=Z,41nm,0.9s,baz=258,slow=20,SNR=4.6
RES LR LR 21 42 08.9
comp=Z,1µm,21.2s,baz=236,slow=42
comp=Z,27nm,1.2s
RES **Resolute Bay** 21.31 40 P P 21 32 05.5 -0.5
RES pmax pmax
comp=Z,98nm,1.4s
SEY **Seymchan** 21.39 285 P P 21 32 06.0 -0.9
comp=Z,54nm,1.0s,baz=79,slow=9.6,SNR=67
SEY LR LR 21 40 11.6
comp=Z,769nm,18.1s,baz=110,slow=36
comp=Z,54nm,1.0s
SEY **Seymchan** 21.39 285 *ce*P P 21 32 08.3 +1.3
SEY pmax pmax
comp=Z,86nm,1.0s
HOLB **Holberg** 21.51 123 P P 21 32 08.7 +0.2
LLLB **Lillooet** 23.77 114 P P 21 32 32.7 +0.7
LLLB IAmb IAmb 21 32 38.7
comp=Z,110nm,1.3s
MA2 **Magadan** 23.95 279 P P 21 32 34.1 +0.4
MA2 **Magadan** 23.95 279 *ce*P P 21 32 34.4 +0.8
MA2 pmax pmax
comp=Z,495nm,1.7s
PGC **Sidney** 24.83 119 P P 21 32 41.8 +0.2
PGC IAmb IAmb 21 32 48.4
comp=Z,107nm,1.1s
PET **Petropavlovsk** 25.29 260 *e*P P 21 32 52.2 +6.4
PET *e*S S 21 37 09.6 -1.8
PET MLR MLR
comp=Z,500nm,13.0s
TIXI **Tiksi** 25.46 315 P P 21 32 46.7 -0.5
TIXI **Tiksi** 25.46 315 LR LR 21 45 06.5
comp=Z,630nm,18.7s,baz=71,slow=42
TIXI **Tiksi** 25.46 315 *i* P P 21 32 47.0 -0.2
TIXI pmax pmax
comp=Z,69nm,1.0s
PEA0B **Petropavlovsk-** 25.61 261 P P 21 32 49.7 +0.9
PEA0B IAmb IAmb 21 32 52.6
comp=Z,87nm,1.1s
PEA0B **Petropavlovsk-** 25.61 261 *ce*P P 21 32 51.5 +2.7
PETK **Petropavlovsk-** 25.61 261 P P 21 32 49.4 +0.6
PETK **Petropavlovsk-** 25.61 261 P P 21 32 47.9 -0.9
comp=Z,22nm,0.8s,baz=61,slow=11,SNR=25
PETK LR LR 21 42 51.1
comp=Z,634nm,18.4s,baz=37,slow=36
comp=Z,22nm,0.8s
PETK **Petropavlovsk-** 25.61 261 P P 21 32 49.4 +0.6
NLWA **Neilton Lookou** 25.75 121 P P 21 32 50.8 +0.6
NLWA IAmb IAmb 21 32 58.1
comp=Z,113nm,1.1s
TULEG **Thule** 26.90 31 P P 21 32 59.5 -0.7
TULEG IAmb IAmb 21 33 06.5
comp=Z,63nm,1.0s
F03A **Seaside** 27.12 122 P P 21 33 02.8 +0.3
F03A IAmb IAmb 21 33 21.1
comp=Z,137nm,1.2s
NEW **Newport** 27.47 111 LR LR 21 45 28.6
comp=Z,630nm,18.8s,baz=26,slow=40
HAWA **Hanford** 28.15 116 P P 21 33 11.2 -0.5
FFC **Flin Flon** 28.50 87 P P 21 33 14.5 -0.2
FFC **Flin Flon** 28.50 87 P P 21 33 14.5 -0.2
FFC pmax pmax
comp=Z,48nm,1.2s
FCC **Fort Churchill** 28.85 74 P P 21 33 17.7 -0.1
FCC IAmb IAmb 21 33 22.1
comp=Z,56nm,0.8s
FCC **Fort Churchill** 28.85 74 P P 21 33 17.7 -0.1
FCC pmax pmax
comp=Z,55nm,0.9s
NEEM **North Greenlan** 29.80 25 *i* P P 21 33 28.5 +2.1
NEEM IAmb IAmb 21 33 31.4
comp=Z,53nm,1.0s
MSO **Missoula** 29.87 109 P P 21 33 26.6 -0.5
BMO **Blue Mountains** 30.28 115 P P 21 33 30.2 -0.5
BMO **Blue Mountains** 30.28 115 P P 21 33 30.2 -0.5
BMO pmax pmax
comp=Z,13nm,1.3s
KULLO **Kullorsuaq** 30.41 31 *i* P P 21 33 34.1 +2.7
KULLO IAmb IAmb 21 33 35.2
comp=Z,31nm,1.2s
YAK **Yakutsk** 30.47 297 LR LR 21 45 45.2
comp=Z,110nm,20.3s,baz=37,slow=36
YAK **Yakutsk** 30.47 297 *e*P P 21 33 32.8 +0.7
YAK *e**PP sP 21 33 36.0 -0.2
YAK *e* 21 34 31.0
YAK *e* 21 36 33.1
YAK *e*S S 21 38 34.1 +1.3
YAK *e**SS sS 21 38 39.5 +1.9
YAK *e*SS ScP 21 40 10.3 -2.7
YAK *e* 21 44 10.9
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=N,7.0nm,0.8s
YAK pmax pmax
comp=E,10.0nm,0.6s
YAK pmax pmax
comp=Z,78nm,3.0s
YAK pmax pmax
comp=N,71nm,2.9s
YAK pmax pmax
comp=E,73nm,3.1s
YAK smax smax
comp=N,106nm,2.6s
YAK smax smax
comp=E,58nm,2.3s
YAK MLR MLR
comp=Z,150nm,13.0s
YAK MLR MLR
comp=N,288nm,12.0s
YAK MLR MLR
comp=E,372nm,15.0s
PLID **Pearl Lake** 30.56 113 P P 21 33 32.7 -0.6
YBH **Yreka Blue Hor** 31.12 125 P P 21 33 39.0 +0.9
YBH IAmb IAmb 21 33 44.1
comp=Z,42nm,1.1s
YBH **Yreka Blue Hor** 31.12 125 LR LR 21 45 47.0
comp=Z,159nm,18.9s,baz=338,slow=36
YBH **Yreka Blue Hor** 31.12 125 P P 21 33 39.0 +0.9
YBH pmax pmax
comp=Z,42nm,1.1s
BOZ **Bozeman (W)** 31.78 108 P P 21 33 44.2 +0.3
BOZ **Bozeman (W)** 31.78 108 P P 21 33 44.3 +0.3
BOZ pmax pmax
comp=Z,17nm,1.1s
UPNV **Upernavik** 31.80 34 *i* P P 21 33 46.2 +2.6
UPNV IAmb IAmb 21 33 50.2
comp=Z,28nm,1.0s
WVOR **Wild Horse Val** 31.90 119 P P 21 33 45.5 +0.5
WVOR **Wild Horse Val** 31.90 119 P P 21 33 45.5 +0.5
WVOR pmax pmax
comp=Z,36nm,1.1s
HATC **Hat Creek Radi** 32.36 124 P P 21 33 49.2 +0.2
HATC IAmb IAmb 21 34 10.5
comp=Z,54nm,1.1s
DGMT **Dagmar** 32.37 97 P P 21 33 48.7 -0.2
DGMT IAmb IAmb 21 33 53.3
comp=Z,99nm,1.1s
HLID **Hailey** 32.45 113 P P 21 33 49.5 -0.4
O02D **Mt. Diablo Mer** 32.50 126 P P 21 33 50.7 +0.5
YHL **Hebgen Lake** 32.58 108 P P 21 33 51.9 +0.7
YHL IAmb IAmb 21 33 56.7
comp=Z,49nm,1.4s
LAO **LASA Array** 33.00 101 P P 21 33 54.5 -0.1
LAO IAmb IAmb 21 33 59.5
comp=Z,93nm,1.1s
NUUG **Nuugaatsiaq** 33.31 34 *i* P P 21 33 59.3 +2.4
NUUG IAmb IAmb 21 34 04.4
comp=Z,39nm,1.1s
TYV **Tymovskoe** 33.38 273 *e*P P 21 33 58.9 +1.2
TYV pmax pmax
comp=Z,200nm,3.6s
TYV pmax pmax
comp=Z,62nm,0.8s
UMMG **Uummannaq** 34.17 35 *i* P P 21 34 07.4 +3.0
UMMG IAmb IAmb 21 34 08.4
comp=Z,38nm,1.1s
AFDM **Forest Hills D** 34.20 125 P P 21 34 05.6 +0.5
ULM **Lac du Bonnet** 34.33 87 P P 21 34 06.2 +0.2
ULM **Lac du Bonnet** 34.33 87 P P 21 34 06.0 0.0
comp=Z,62nm,0.9s,baz=319,slow=8.8,SNR=29
ULM PcP PcP 21 36 41.1 -0.5
comp=Z,12nm,0.8s,baz=305,slow=4.4,SNR=5.3
ULM PKiKP PKiKP 21 44 02.1 -2.4
comp=Z,5.4nm,1.0s,baz=12,slow=0.8,SNR=3.1
ULM LR LR 21 50 25.6
comp=Z,211nm,18.1s,baz=326,slow=40
comp=Z,62nm,0.9s
ULM **Lac du Bonnet** 34.33 87 *i* P P 21 34 06.7 +0.7
FRB **Frobisher Bay** 34.58 52 LR LR 21 49 46.8
comp=Z,872nm,20.0s,baz=308,slow=39
ELK **Elko** 34.60 117 P P 21 34 09.0 +0.3
ELK **Elko** 34.60 117 LR LR 21 49 37.5
comp=Z,860nm,19.1s,baz=337,slow=39
ELK **Elko** 34.60 117 P P 21 34 09.0 +0.3
ELK pmax pmax
comp=Z,19nm,1.2s
KBS **Kingsbay** 34.87 4 *i* P P 21 34 04.3 -6.1
PDAR **Pinedale Array** 34.97 108 P P 21 34 13.1 +1.2
comp=Z,12nm,1.0s,baz=330,slow=5.1,SNR=23
PDAR PcP PcP 21 36 44.1 +0.1

comp=Z,5.2nm,1.0s,baz=120,slow=1.8,SNR=3.3
PDAR LR LR 21 49 28.8
comp=Z,665nm,18.3s,baz=330,slow=38
comp=Z,12nm,1.0s
BGU Big Grassy Mou 35.25 114 P **P 21 34 15.5 +1.3**
ILULI Ilulissat 35.49 36 *i* P **P 21 34 18.3 +2.5**
ILULI IAmb IAmb 21 34 21.6
comp=Z,25nm,1.0s
SUMG Summit 35.57 27 P **P 21 34 17.1 +0.2**
SUMG IAmb IAmb 21 34 21.2
comp=Z,80nm,1.3s
SUMG Summit 35.57 27 P **P 21 34 17.1 +0.2**
SUMG pmax pmax
comp=Z,80nm,1.3s
SUMG Summit 35.57 27 *i* P **P 21 34 19.2 +2.3**
SUMG IAmb IAmb 21 34 20.9
comp=Z,78nm,1.3s
NVAR Mina Array Bea 35.57 122 P **P 21 34 18.3 +1.2**
NVAR Mina Array Bea 35.57 122 P **P 21 34 18.1 +1.0**
comp=Z,26nm,0.8s,baz=314,slow=7.0,SNR=50
NVAR PcP **PcP 21 36 48.0 +2.2**
comp=Z,4.0nm,0.7s,baz=295,slow=2.1,SNR=5.5
NVAR LR LR 21 49 15.8
comp=Z,446nm,19.2s,baz=2.5,slow=37
comp=Z,26nm,0.8s
SPITS Spitsbergen Ar 35.71 2 P **P 21 34 16.3 -1.4**
comp=Z,12nm,1.0s,baz=331,slow=8.3,SNR=2.3
SPITS PcP **PcP 21 36 45.1 -0.2**
comp=Z,5.9nm,0.7s,baz=55,slow=3.2,SNR=2.2
SPITS LR LR 21 48 41.8
comp=Z,436nm,18.3s,baz=324,slow=36
comp=Z,12nm,1.0s
AGMN Agassiz Nation 35.87 89 P **P 21 34 19.3 0.0**
AGMN IAmb IAmb 21 34 23.6
comp=Z,92nm,1.0s
GRNR Gornyy 35.96 278⇑ *i* P **P 21 34 20.7 +0.6**
GRNR pmax pmax
comp=Z,60nm,0.9s
GRNR MLR MLR
comp=E,780nm,19.0s
GRNR MLR MLR
comp=N,550nm,14.0s
GRNR MLR MLR
comp=Z,470nm,16.0s
BBGB Big Mountain B 36.34 127 P **P 21 34 24.6 +1.1**
BBGB IAmb IAmb 21 34 28.9
comp=Z,56nm,1.0s
YSS Yuzhno-Sakhali 36.43 268 *e*P **P 21 34 25.3 +1.3**
YSS *e*S **S 21 40 08.1 +2.7**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=E,2μm,18.0s
DBG Daneborg 36.92 18 *i* P **P 21 34 28.4 +0.5**
DBG IAmb IAmb 21 34 32.1
comp=Z,14nm,0.8s
ZEA Zeya 37.29 288 *e*P **P 21 34 31.5 +0.2**
ZEA pmax pmax
comp=Z,100nm,1.4s
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA MLR MLR
comp=E,400nm,17.0s
ZEA MLR MLR
comp=N,700nm,11.0s
ZEA MLR MLR
comp=Z,900nm,13.0s
SFJD Kangerlussuaq 37.29 38 P **P 21 34 31.6 +0.4**
SFJD IAmb IAmb 21 34 35.3
comp=Z,114nm,1.6s
SFJD Kangerlussuaq 37.29 38 LR LR 21 52 01.4
comp=Z,543nm,20.4s,baz=324,slow=40
SFJD Kangerlussuaq 37.29 38 P **P 21 34 31.6 +0.4**
SFJD pmax pmax
comp=Z,114nm,1.7s
NRIK Noril'sk 37.46 328 P **P 21 34 32.8 +0.2**
NRIK Noril'sk 37.46 328 P **P 21 34 30.6 -2.0**
comp=Z,24nm,0.9s,baz=50,slow=7.6,SNR=24
NRIK LR LR 21 52 19.3
comp=Z,565nm,20.2s,baz=50,slow=40
comp=Z,24nm,0.9s
NRIK Noril'sk 37.46 328 *ce*P **P 21 34 33.0 +0.4**
NRIK pmax pmax
comp=Z,28nm,0.9s
MVU Marysvale 37.67 115 P **P 21 34 35.3 +0.3**
ICESG Greenland Ices 38.15 31 *i* P **P 21 34 40.7 +1.9**
ICESG IAmb IAmb 21 34 42.4
comp=Z,106nm,1.1s
JKA Kamikawa-asahi 38.81 266 P **P 21 34 44.6 +0.4**
JKA IAmb IAmb 21 34 48.3
comp=Z,242nm,1.9s
ASAJ Asahikawa 38.81 266 P **P 21 34 44.0 -0.2**
comp=Z,9.3nm,0.8s,baz=49,slow=2.1,SNR=4.6
ASAJ LR LR 21 51 30.1
comp=Z,699nm,18.6s,baz=110,slow=37
comp=Z,9.3nm,0.8s
ASAJ Asahikawa 38.81 266 P **P 21 34 44.6 +0.3**
ASAJ pmax pmax
comp=Z,242nm,1.9s
BOD Bodaibo 39.01 302 *e*P **P 21 34 44.7 -1.0**
BOD pmax pmax
comp=Z,121nm,1.1s
ISCO Idaho Springs 39.04 107 P **P 21 34 46.8 +0.2**
ISCO Idaho Springs 39.04 107 P **P 21 34 46.8 +0.2**
ISCO pmax pmax
comp=Z,28nm,1.3s
KLR Kul'dur 39.04 280 P **P 21 34 45.0 -1.1**
comp=Z,20nm,0.6s,baz=64,slow=7.8,SNR=87
KLR LR LR 21 52 12.7
comp=Z,564nm,18.4s,baz=49,slow=38
comp=Z,20nm,0.6s
KLR Kul'dur 39.04 280 *ce*P **P 21 34 45.2 -0.9**
KLR pmax pmax
comp=Z,18nm,0.6s
NUUK Nuuk 39.20 42 *i* P **P 21 34 50.3 +3.1**
NUUK IAmb IAmb 21 34 51.5
comp=Z,61nm,1.1s
ECSD EROS Data Cent 39.28 94 P **P 21 34 48.0 -0.3**
OGNE Ogallala 39.46 102 P **P 21 34 49.9 +0.1**
OGNE IAmb IAmb 21 34 54.3
comp=Z,161nm,1.3s
U15A North Rim 39.49 116 P **P 21 34 51.1 +0.8**
HEH HeiHe 39.94 285 *e*P **P 21 34 53.5 -0.1**
HEH pmax pmax
comp=Z,29nm,1.1s
HEH LR LR
comp=Z,3μm,16.3s
HEH LR LR
comp=Z,4μm,13.5s
HEH LR LR
comp=Z,3μm,11.5s
PFO Pinyon Flats O 40.56 123 P **P 21 34 59.4 +0.3**
PFO Pinyon Flats O 40.56 123 LR LR 21 52 38.2
comp=Z,300nm,19.3s,baz=344,slow=37
PFO Pinyon Flats O 40.56 123 *i* P **P 21 34 59.4 +0.3**
PFO pmax pmax
comp=Z,39nm,1.5s
WUAZ Wupatki 40.63 116 P **P 21 35 00.0 +0.3**
WUAZ IAmb IAmb 21 35 04.9
comp=Z,66nm,0.9s
SDCO Great Sand Dun 40.86 108 P **P 21 35 01.6 -0.1**
ISOG Isortoq, Green 41.24 34 *i* P **P 21 35 06.5 +2.4**
ISOG IAmb IAmb 21 35 07.1
comp=Z,118nm,1.2s
JMIC Jan Mayen 41.35 15 LR LR 21 51 37.3
comp=Z,518nm,20.3s,baz=36,slow=35
ANGG Ammassalik, Gr 41.48 33 P **P 21 35 06.8 +0.7**
ANGG IAmb IAmb 21 35 16.8
comp=Z,180nm,1.4s
ANGG Ammassalik, Gr 41.48 33 *i* P **P 21 35 08.1 +2.0**
ANGG IAmb IAmb 21 35 09.4
comp=Z,98nm,1.0s
SCHQ Schefferville 41.89 60 P **P 21 35 09.6 0.0**
SCHQ IAmb IAmb 21 35 13.6
comp=Z,121nm,1.2s
SCHQ Schefferville 41.89 60 P **P 21 35 08.5 -1.1**
comp=Z,57nm,1.0s,baz=328,slow=8.4,SNR=21
SCHQ LR LR 21 54 21.0
comp=Z,482nm,19.2s,baz=331,slow=39
comp=Z,57nm,1.0s
SCIA State Center 42.18 93 P **P 21 35 11.8 -0.3**
SCIA IAmb IAmb 21 35 16.7
comp=Z,158nm,1.2s
JFWS Jewell Farm 42.54 89 P **P 21 35 14.6 -0.4**
JFWS IAmb IAmb 21 35 18.9
comp=Z,131nm,1.5s
JFWS Jewell Farm 42.54 89 P **P 21 35 14.6 -0.4**
JFWS pmax pmax
comp=Z,131nm,1.5s
ANMO Albuquerque 42.96 111 P **P 21 35 18.3 -0.5**
ANMO Albuquerque 42.96 111 LR LR 21 55 51.4
comp=Z,290nm,19.3s,baz=153,slow=40
ANMO Albuquerque 42.96 111 *i* P **P 21 35 20.3 +1.5**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
USA0B Ussuriysk Arra 43.03 275 P **P 21 35 19.0 0.0**
USA0B Ussuriysk Arra 43.03 275 *i* P **P 21 35 19.3 +0.3**
USRK Ussuriysk Ar. 43.03 275 P **P 21 35 18.3 -0.7**
comp=Z,17nm,0.9s,baz=34,slow=8.3,SNR=16
USRK PcP **PcP 21 37 10.6 +1.6**
comp=Z,9.1nm,1.0s,baz=21,slow=4.9,SNR=3.1
USRK LR LR 21 54 32.1
comp=Z,348nm,18.6s,baz=37,slow=38
comp=Z,17nm,0.9s
KSU1 Kansas State U 43.19 98 P **P 21 35 19.5 -0.9**
KSU1 IAmb IAmb 21 35 24.1
comp=Z,133nm,1.1s
NRS Narsarsuaq 43.36 41 *i* P **P 21 35 23.6 +2.2**
NRS IAmb IAmb 21 35 25.0
comp=Z,80nm,1.2s
BNX BinXian 43.60 281⇑ P **P 21 35 23.0 -0.5**
BNX pmax pmax
comp=Z,28nm,1.1s
MDJ Mudanjiang 43.65 278 P **P 21 35 24.5 +0.5**
MDJ pmax pmax
comp=Z,20nm,1.2s
HIA Hailar 43.70 290 P **P 21 35 24.8 +0.4**
HIA IAmb IAmb 21 35 27.2
comp=Z,65nm,0.8s
HIA Hailar 43.70 290 P **P 21 35 24.8 +0.4**
HIA pmax pmax
comp=Z,65nm,0.8s
CIT Chita 43.76 297 *e*P **P 21 35 25.8 +1.0**
CIT *e* 21 35 32.4
CIT *e* 21 37 09.8
CIT *e* 21 37 18.2
CIT pmax pmax
comp=Z,112nm,1.4s
ARCES ARCESS Array B 44.44 359 P **P 21 35 29.2 -0.8**
comp=Z,5.1nm,1.0s,baz=355,slow=6.1,SNR=7.1
ARCES PcP **PcP 21 37 13.4 +0.1**
comp=Z,6.6nm,0.7s,baz=347,slow=3.7,SNR=7.4
ARCES LR LR 21 53 52.0
comp=Z,184nm,18.3s,baz=354,slow=36
comp=Z,5.1nm,1.0s
P40A Paris 44.66 93 P **P 21 35 32.4 +0.2**
I49A Point Hope 44.67 82 P **P 21 35 32.6 +0.4**
M44A Midewin, Midew 44.71 88 P **P 21 35 33.0 +0.5**
T35A Sooner Cattle 45.11 100 P **P 21 35 35.7 -0.1**
T35A IAmb IAmb 21 35 39.2
comp=Z,67nm,0.9s
BORG Borgarnes 45.45 25 LR LR 21 54 37.4
comp=Z,553nm,21.8s,baz=345,slow=36
SADO Sadowa 45.45 78 P **P 21 35 38.4 0.0**
SADO IAmb IAmb 21 35 41.9
comp=Z,66nm,1.2s
SADO Sadowa 45.45 78 LR LR 21 54 25.2
comp=Z,384nm,20.8s,baz=333,slow=36
R40A Maddies Statio 45.63 94 P **P 21 35 39.7 -0.2**
R40A IAmb IAmb 21 35 43.4
comp=Z,61nm,1.3s
CN2 Changchun 45.98 281 *e*P **P 21 35 43.5 +0.9**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,900nm,14.0s
TRQ Mont Tremblant 46.04 73 P **P 21 35 43.2 +0.1**
WMOK Wichita Mounta 46.11 103 P **P 21 35 43.8 +0.1**
WMOK IAmb IAmb 21 35 47.6
comp=Z,36nm,1.0s
WMOK Wichita Mounta 46.11 103 P **P 21 35 43.8 +0.1**
WMOK pmax pmax
comp=Z,36nm,1.0s
APA Apatity 46.22 354⇓ *i* P P 21 35 39.3 -4.8
APA *i* 21 37 17.0
APA *i* 21 37 37.0
APA pmax pmax
comp=Z,8.0nm,0.8s
CCM Cathedral Cave 46.25 94 P **P 21 35 44.1 -0.6**
CCM IAmb IAmb 21 35 48.3
comp=Z,70nm,1.0s
CCM Cathedral Cave 46.25 94 P **P 21 35 44.1 -0.6**
CCM pmax pmax
comp=Z,70nm,1.0s
DELO Deloro Mine 46.26 77 P **P 21 35 44.6 -0.2**
POST Post 46.52 107 P **P 21 35 46.9 -0.1**
LMQ La Malbaie 46.55 69 P **P 21 35 46.9 -0.1**
MGMO Mountain Grove 46.61 95 P **P 21 35 47.0 -0.7**
HSIG 46.66 120 P **P 21 35 48.5 +0.4**
HSIG IAmb IAmb 21 35 52.8
comp=Z,31nm,1.0s
N49A Columbus Grove 46.66 85 P **P 21 35 47.9 0.0**
WBO Williamsburg 46.78 75 P **P 21 35 48.4 -0.4**
IRK Irkutsk 46.82 304 *e*P **P 21 35 48.8 -0.3**
IRK pmax pmax
comp=Z,88nm,1.9s
ODSA Odessa 46.96 109 P **P 21 35 49.9 -0.6**
ODSA IAmb IAmb 21 35 54.4
comp=Z,26nm,1.0s
MNTQ Montreal, Queb 47.00 73 P **P 21 35 49.3 -1.2**
MAJO Matsushiro 47.01 264 P **P 21 35 49.5 -1.2**
MAJO IAmb IAmb 21 35 53.5
comp=Z,38nm,0.8s
MAJO Matsushiro 47.01 264 *i* P **P 21 35 52.1 +1.4**
MAJO pmax pmax
comp=Z,44nm,0.9s
MJAR Matsushiro Arr 47.01 264 P **P 21 35 51.5 +0.7**
comp=Z,17nm,0.9s,baz=11,slow=7.4,SNR=23
MJAR PcP **PcP 21 37 23.5 +0.7**
comp=Z,6.0nm,0.9s,baz=1.0,slow=3.7,SNR=4.5
MJAR LR LR 21 56 43.3
comp=Z,387nm,19.1s,baz=25,slow=38
comp=Z,17nm,0.9s
T42A Van Buren 47.19 94 P **P 21 35 51.4 -0.7**
T42A IAmb IAmb 21 35 55.4
comp=Z,54nm,0.9s
ERPA Erie 47.34 81 P **P 21 35 52.7 -0.5**
SIUC Southern Illin 47.36 92 P **P 21 35 53.2 -0.2**
LONY Lake Ozonia 47.37 74 P **P 21 35 52.8 -0.6**
FRNY Flat Rock 47.57 73 P **P 21 35 54.3 -0.7**
ACSO Alum Creek Sta 47.73 85 P **P 21 35 56.4 +0.1**
SRIG Santa Rosalia 47.76 122 P **P 21 35 56.9 +0.3**
SRIG IAmb IAmb 21 36 01.5
comp=Z,25nm,1.0s
WCI Wyandotte Cave 48.10 89 P **P 21 35 58.3 -0.9**
WCI IAmb IAmb 21 36 02.4
comp=Z,58nm,0.9s
WCI Wyandotte Cave 48.10 89 P **P 21 35 58.3 -0.9**
WCI pmax pmax
comp=Z,58nm,1.0s
JGF Kuroka 48.16 264 **P 21 35 59.8 0.0**
JGF IAmb IAmb 21 36 02.8
comp=Z,54nm,1.2s
BATG Bathurst New B 48.37 66 P **P 21 36 01.0 -0.2**
SNY Shenyang 48.38 281⇓ P **P 21 36 02.8 +1.5**
SNY S **S 21 43 03.3 +1.9**
SNY pmax pmax
comp=Z,24nm,0.8s
SNY LR LR
comp=Z,730nm,14.0s
SNY LR LR
comp=Z,1μm,11.5s
SNY LR LR
comp=Z,880nm,14.1s
MOY Mondy 48.40 305 *e*P **P 21 36 03.2 +1.7**
MOY pmax pmax
comp=Z,57nm,2.1s
ZAK Zakamensk 48.73 303 *e*P **P 21 36 04.2 +0.2**
ZAK pmax pmax
comp=Z,14nm,1.4s
BINY Binghamton 48.85 77 P **P 21 36 04.0 -0.9**
TXAR Lajitas Array 49.03 112 P **P 21 36 06.4 -0.1**
TXAR Lajitas Array 49.03 112 P **P 21 36 06.0 -0.6**
comp=Z,22nm,0.9s,baz=335,slow=5.7,SNR=51
TXAR LR LR 21 58 43.0
comp=Z,200nm,19.5s,baz=334,slow=38
comp=Z,22nm,0.9s
TXAR Lajitas Array 49.03 112 P **P 21 36 06.4 -0.1**
WVT Waverly 49.29 92 P **P 21 36 07.9 -0.4**
WVT IAmb IAmb 21 36 12.4
comp=Z,69nm,1.1s
WVT Waverly 49.29 92 P **P 21 36 07.9 -0.4**
WVT pmax pmax
comp=Z,69nm,1.2s
JHJ Hachijo jima 2 49.36 260 LR LR 22 01 08.5
comp=Z,75nm,18.1s,baz=334,slow=41
SSPA Standing Stone 49.43 80 P **P 21 36 08.8 -0.6**
JCT Junction City 49.48 107 P **P 21 36 09.6 -0.3**
JCT Junction City 49.48 107 P **P 21 36 09.6 -0.3**
JCT pmax pmax
comp=Z,270nm,2.0s
MCWV Mont Chateau 49.48 82 P **P 21 36 09.3 -0.4**
ULN Ulaanbaatar 49.55 298 P **P 21 36 10.5 +0.2**
ULN Ulaanbaatar 49.55 298 *i* P **P 21 36 11.5 +1.1**
ULN pmax pmax
comp=Z,26nm,0.9s
XLT XiLinHaoTe 49.56 289 *e*P **P 21 36 10.5 0.0**
XLT pmax pmax
comp=Z,19nm,1.3s
XLT LR LR
comp=Z,390nm,16.7s
SONM Songino Array 49.81 299 P **P 21 36 12.6 +0.3**
SONM IAmb IAmb 21 36 16.0
comp=Z,46nm,1.0s
SONM Songino Array 49.81 299 P **P 21 36 12.2 -0.1**
comp=Z,33nm,0.9s,baz=29,slow=4.1,SNR=134
SONM LR LR 21 59 14.2
comp=Z,644nm,18.6s,baz=26,slow=38
comp=Z,33nm,0.9s
SONM Songino Array 49.81 299 P **P 21 36 12.6 +0.3**
SONM pmax pmax
comp=Z,46nm,1.0s
GGN Saint George 49.90 68 P **P 21 36 13.3 +0.4**
LMN Caledonia Moun 50.04 66 P **P 21 36 14.1 +0.2**
LMN IAmb IAmb 21 36 17.6
comp=Z,58nm,1.0s
KSRS Korea Array 50.38 274 P **P 21 36 17.7 +1.2**
comp=Z,13nm,0.8s,baz=24,slow=7.6,SNR=27
comp=Z,13nm,0.8s
KSAR Wonju Array Be 50.40 274 P **P 21 36 17.0 +0.2**
KSAR Wonju Array Be 50.40 274 P **P 21 36 17.0 +0.2**
ZAA0 Zalesovo Array 51.29 318 P **P 21 36 22.1 -1.1**
ZAA0 IAmb IAmb 21 36 25.1
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 51.29 318 P **P 21 36 22.0 -1.2**
ZALV Zalesovo Beam 51.29 318 P **P 21 36 22.2 -1.0**
comp=Z,27nm,0.8s,baz=27,slow=6.4,SNR=60
ZALV LR LR 22 00 04.6
comp=Z,312nm,19.1s,baz=16,slow=38
comp=Z,27nm,0.8s
TKL Tuckaleechee C 51.34 88 LR LR 21 59 51.1
comp=Z,197nm,19.8s,baz=333,slow=38
BLA Blacksburg 51.35 84 P **P 21 36 23.5 -0.5**
BLA IAmb IAmb 21 36 31.5
comp=Z,64nm,1.1s
BLA Blacksburg 51.35 84 P **P 21 36 23.5 -0.5**
BLA pmax pmax
comp=Z,64nm,1.1s
LPIG La Paz 51.39 121 LR LR 21 59 23.8
comp=Z,196nm,19.7s,baz=12,slow=37
HKT Hockley 51.50 103 *i* P **P 21 36 25.1 +0.1**
HKT pmax pmax
comp=Z,22nm,1.4s
TJN Taejon 51.53 274 *i* P **P 21 36 26.7 +1.4**
DL2 Dalian 51.65 281 P **P 21 36 27.0 +0.9**
DL2 *e*S **S 21 43 45.8 -1.3**
DL2 pmax pmax
comp=Z,91nm,0.7s
DL2 LR LR
comp=Z,1μm,16.2s
DL2 LR LR
comp=Z,2μm,15.7s
DL2 LR LR
comp=Z,650nm,14.4s
FIA1 FINESS Array S 52.56 358 P **P 21 36 33.4 +0.8**
FIA1 IAmb IAmb 21 37 08.1
comp=Z,47nm,1.1s
FINES FINESS Array B 52.56 358 P **P 21 36 32.8 +0.3**
comp=Z,4.2nm,0.8s,baz=7.1,slow=5.2,SNR=15
FINES PcP **PcP 21 37 42.9 +0.3**
comp=Z,5.7nm,0.9s,baz=357,slow=12,SNR=1.9
FINES LR LR 21 59 57.5
comp=Z,172nm,20.6s,baz=9.0,slow=37
comp=Z,4.2nm,0.8s
FINES FINESS Array B 52.56 358 *i* P **P 21 36 34.0 +1.4**
FINES pmax pmax
comp=Z,4.0nm,0.7s
KLMR Klimovskoe 52.57 350 *e*P **P 21 36 30.7 -2.0**
KLMR pmax pmax
comp=Z,41nm,1.5s
NC405 NORSAR Array S 52.65 7 P **P 21 36 33.5 +0.2**
NC405 IAmb IAmb 21 37 17.9
comp=Z,90nm,2.0s
NB2 NORSAR Subarra 52.70 7 P **P 21 36 34.8 +1.1**
comp=Z,1.7nm,0.6s,baz=353,slow=7.4
NOA NORSAR Array B 52.70 7 P **P 21 36 33.1 -0.6**
comp=Z,2.3nm,0.6s,baz=352,slow=7.2,SNR=11
comp=Z,2.3nm,0.6s
BJI Beijing 52.82 286 P **P 21 36 37.0 +2.2**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI LR LR
comp=Z,460nm,15.0s
BJI LR LR
comp=Z,500nm,14.8s
BJI LR LR
comp=Z,470nm,13.6s
JNU Nakatsue 52.94 269 P **P 21 36 36.8 +1.0**
comp=Z,16nm,0.9s,baz=307,slow=4.4,SNR=6.5
comp=Z,16nm,0.9s
HFS Hagfors 53.71 6 P **P 21 36 38.9 -2.2**
comp=Z,5.7nm,0.7s,baz=54,slow=7.5,SNR=7.7
comp=Z,5.7nm,0.7s
KIRV Kirov 53.87 343 LR LR 22 02 33.5
comp=Z,337nm,20.7s,baz=7.9,slow=39
KIRV Kirov 53.87 343 *i* P **P 21 36 43.3 +1.0**
HHC Hu-ho-hao-te 53.90 290⇓ *i* P **P 21 36 45.0 +2.1**
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,110nm,4.0s
HHC LR LR
comp=Z,910nm,17.5s
HHC LR LR
comp=Z,1μm,17.7s
HHC LR LR
comp=Z,1μm,17.7s
BRAL Brewton 53.93 94 P **P 21 36 42.7 -0.4**
SVE Sverdlovsk 53.97 335 *e*P **P 21 36 43.2 +0.2**
SVE pmax pmax
comp=Z,34nm,1.1s
BTO Baotou 54.69 291 *e*P **P 21 36 48.3 -0.4**
BTO pP **sP 21 36 52.8 -0.1**
BTO sP **pP 21 36 55.3 +3.6**
BTO PP **PP 21 38 52.0 +1.2**
BTO S **S 21 44 29.3 +0.6**
BTO sS **sS 21 44 35.8 +2.2**
BTO SS **SS 21 48 07.0 -3.9**
BTO pmax pmax
comp=Z,17nm,0.7s
BTO pmax pmax
comp=Z,330nm,6.4s
BTO LR LR
comp=Z,2μm,14.7s
BTO LR LR
comp=Z,3μm,13.7s
BTO LR LR
comp=Z,930nm,13.3s
ARTI Arti 54.76 337 P **P 21 36 47.9 -0.9**
ARTI Arti 54.76 337 *c i* P **P 21 36 48.4 -0.4**
ARTI 21 37 51.1
ARTI S **S 21 44 30.1 +1.2**
ARTI SS **SS 21 48 07.7 -3.2**
ARTI pmax pmax
comp=Z,18nm,0.6s
KPL Plockton 54.86 18 *e*P **P 21 36 50.7 +1.3**

MCD Coleburn Disti 54.92 17 *e*P **P 21 36 50.3 +0.4**
MCD IAmb IAmb 21 36 54.2
comp=Z,74nm,0.9s
ZAIG Zacatecas 55.38 114 P **P 21 36 53.8 -0.2**
ZAIG IAmb IAmb 21 36 58.6
comp=Z,33nm,1.2s
BRVK Borovoye 55.66 327 P **P 21 36 54.7 -0.6**
BRVK IAmb IAmb 21 37 02.6
comp=Z,24nm,0.8s
BRVK Borovoye 55.66 327 *ce*P **P 21 36 54.9 -0.4**
BRVK pmax pmax
comp=Z,32nm,1.3s
DRUM Mains of Drumt 55.66 16 *e*P **P 21 36 55.9 +0.6**
DRUM IAmb IAmb 21 36 59.0
comp=Z,122nm,0.8s
BVAR Borovoye Array 55.67 327 P **P 21 36 54.1 -1.3**
comp=Z,15nm,0.6s,baz=35,slow=7.3,SNR=42
BVAR LR LR 22 03 58.8
comp=Z,484nm,21.0s,baz=24,slow=40
comp=Z,15nm,0.6s
HNS HongShan 55.68 285 ⇑P **P 21 36 56.5 +0.8**
HNS S **S 21 44 43.0 +1.3**
HNS pmax pmax
comp=Z,62nm,1.1s
HNS LR LR
comp=Z,770nm,16.6s
HNS LR LR
comp=Z,740nm,15.6s
HNS LR LR
comp=Z,850nm,14.5s
TIA Tai'an 55.77 283 P **P 21 36 57.5 +1.1**
TIA pmax pmax
comp=Z,19nm,1.3s
TIA LR LR
comp=Z,680nm,17.2s
TIA LR LR
comp=Z,1μm,18.1s
TIA LR LR
comp=Z,820nm,14.2s
KURK Kurchatov 55.84 321 P **P 21 36 55.9 -0.8**
KURK IAmb IAmb 21 36 58.8
comp=Z,44nm,0.9s
KURK Kurchatov 55.84 321 *ce*P **P 21 36 56.2 -0.5**
KURK pmax pmax
comp=Z,69nm,1.3s
LAWE Loch Awe, Argy 55.95 19 *e*P **P 21 36 58.4 +1.0**
INVG Invergeldie, C 55.95 18 *e*P **P 21 36 58.3 +0.9**
INVG IAmb IAmb 21 37 00.9
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 55.95 321 P **P 21 36 56.0 -1.4**
comp=Z,24nm,1.0s,baz=26,slow=6.7,SNR=68
KURBB PcP **PcP 21 37 56.0 +0.2**
comp=Z,2.1nm,0.8s,baz=32,slow=4.4,SNR=4.2
KURBB LR LR 22 03 42.6
comp=Z,263nm,18.0s,baz=200,slow=39
comp=Z,24nm,1.0s
ZSN Zaisan 57.11 314 *e*P **P 21 37 05.9 +0.1**
ZSN pmax pmax
comp=Z,20nm,0.9s
ZSN Zaisan 57.11 314 *e*P **P 21 37 05.9 +0.1**
comp=Z,20nm,0.9s
EKA Eskdalemuir Ar 57.13 17 P **P 21 37 05.0 -0.8**
comp=Z,35nm,0.7s,baz=336,slow=4.8,SNR=59
comp=Z,35nm,0.7s
ESK Eskdalemuir 57.14 17 P **P 21 37 05.6 -0.2**
ESK Eskdalemuir 57.14 17 *e*P **P 21 37 06.5 +0.7**
ESK IAmb IAmb 21 37 09.7
comp=Z,118nm,1.3s
ESK Eskdalemuir 57.14 17 P **P 21 37 05.6 -0.2**
ESK pmax pmax
comp=Z,99nm,1.2s
GAL1 Galloway 57.40 18 *e*P **P 21 37 07.8 +0.1**
GAL1 IAmb IAmb 21 37 11.2
comp=Z,50nm,0.8s
EDMD Edmundbyers 57.77 17 *e*P **P 21 37 10.9 +0.6**
EDMD IAmb IAmb 21 37 14.1
comp=Z,61nm,1.0s
KESW Keswick, Cumbr 57.87 17 *e*P **P 21 37 12.0 +1.1**
KESW IAmb IAmb 21 37 14.7
comp=Z,53nm,1.0s
BRZS Berezniki 57.99 324 *e*P **P 21 37 11.9 0.0**
BRZS Berezniki 57.99 324 *e*P **P 21 37 12.0 0.0**
ILTH Belurgan, Co L 58.00 20 *e*P **P 21 37 12.2 +0.3**
MK31 Makanchi Array 58.44 316 P **P 21 37 13.8 -1.4**
MK31 Makanchi Array 58.44 316 *ce*P **P 21 37 14.2 -1.0**
MKAR Makanchi Array 58.44 316 P **P 21 37 13.6 -1.6**
MKAR Makanchi Array 58.44 316 P **P 21 37 13.3 -1.8**
comp=Z,14nm,0.8s,baz=46,slow=6.9,SNR=79
MKAR LR LR 22 04 03.9
comp=Z,236nm,20.9s,baz=10.0,slow=38
comp=Z,14nm,0.8s
MKAR Makanchi Array 58.44 316 *i* P **P 21 37 13.8 -1.4**
MKAR pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 58.48 351 LR LR 22 05 28.3
comp=Z,107nm,21.8s,baz=358,slow=39
MAKZ Makanchi 58.52 316 P **P 21 37 14.4 -1.2**
MAKZ Makanchi 58.52 316 P **P 21 37 15.3 -0.4**
SSE Sheshan 58.63 276 P **P 21 37 14.8 -1.8**
SSE S **S 21 45 22.3 +1.6**
SSE pmax pmax
comp=Z,11nm,0.6s
SSE pmax pmax
comp=Z,34nm,3.5s
SSE LR LR
comp=Z,170nm,13.1s
SSE LR LR
comp=Z,220nm,13.1s
HPK Haverah Park 58.66 17 *e*P **P 21 37 17.2 +0.7**
HPK IAmb IAmb 21 37 20.4
comp=Z,60nm,1.0s
NJ2 Nanjing 58.72 279 *e*P **P 21 37 16.8 -0.4**
NJ2 pmax pmax
comp=Z,83nm,0.7s
NJ2 LR LR
comp=Z,1μm,15.2s
NJ2 LR LR
comp=Z,2μm,14.7s
NJ2 LR LR
comp=Z,2μm,20.8s
DSB Dublin 58.76 20 P **P 21 37 16.9 -0.3**
DSB IAmb IAmb 21 37 21.0
comp=Z,82nm,1.4s
WPS Cemaes, Angles 58.86 19 *e*P **P 21 37 18.2 +0.3**
WPS IAmb IAmb 21 37 21.2
comp=Z,32nm,0.8s
WME Myndd Eilian 58.88 19 *e*P **P 21 37 17.8 -0.2**
WLF1 Llynfaes 58.98 19 *e*P **P 21 37 19.9 +1.2**
WLF1 IAmb IAmb 21 37 22.0
comp=Z,93nm,0.8s
LYN LuoYang 59.05 286 P **P 21 37 21.3 +1.8**
LYN pmax pmax
comp=Z,83nm,1.0s
LYN LR LR
comp=Z,1μm,13.7s
LYN LR LR
comp=Z,590nm,13.1s
LYN LR LR
comp=Z,830nm,13.7s
LBWR Ladybower, Pea 59.20 17 *e*P **P 21 37 20.7 +0.4**
LBWR IAmb IAmb 21 37 24.0
comp=Z,51nm,1.0s
MNK Minsk 59.48 357 *i* P **P 21 37 20.8 -1.4**
MNK *i* 21 39 32.2
MNK *i* S **S 21 45 31.6 +0.5**
MNK *i* SS **SS 21 49 28.0 +2.9**
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=Z,11nm,1.0s
MNK MLR MLR
comp=E,122nm,14.0s
MNK MLR MLR
comp=N,133nm,20.0s
MNK MLR MLR
comp=Z,152nm,18.0s
GTA Gaotai 59.48 299 *e*P **P 21 37 23.5 +0.9**
GTA pP sP 21 37 30.0 +3.2
GTA pmax pmax
comp=Z,32nm,0.9s
GTA LR LR
comp=Z,790nm,16.0s
GTA LR LR
comp=Z,540nm,20.0s
GTA LR LR
comp=Z,900nm,18.5s
LLW Llanuwychllyn 59.50 18 *e*P **P 21 37 22.5 +0.2**
JOW Kunigami 59.54 268 P **P 21 37 22.8 -0.2**
JOW Kunigami 59.54 268 P **P 21 37 24.1 +1.1**
comp=Z,13nm,0.5s,baz=350,slow=14,SNR=8.4
comp=Z,13nm,0.5s
IWEX Carrickbyrne, 59.55 21 *e*P **P 21 37 24.1 +1.5**
WMQ Urumqi 59.55 311 *e*P **P 21 37 25.0 +2.0**
WMQ sP sP 21 37 30.0 +2.8
WMQ pmax pmax
comp=Z,43nm,0.9s
WMQ LR LR
comp=Z,960nm,19.3s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,440nm,14.5s
HLM1 Long Mynd 59.92 18 *e*P **P 21 37 25.9 +0.5**
HLM1 IAmb IAmb 21 37 29.1
comp=Z,35nm,0.9s
RSBS Rosebush, Pemb 60.24 19 *e*P **P 21 37 27.8 +0.4**
RSBS IAmb IAmb 21 37 31.0
comp=Z,34nm,0.8s
MCH1 Michaelchurch 60.42 18 *e*P **P 21 37 29.2 +0.5**
MCH1 IAmb IAmb 21 37 32.4
comp=Z,69nm,0.9s
AKTO Aktyubinsk 60.55 335 LR LR 22 05 24.4
comp=Z,196nm,21.1s,baz=49,slow=38
MONM Monmouth 60.60 18 *e*P **P 21 37 30.6 +0.7**
MONM IAmb IAmb 21 37 33.8
comp=Z,60nm,0.8s
GKP Gorka Klasztor 60.70 4 *e*P **P 21 37 31.5 +1.0**
STRD Stroud 60.74 17 *e*P **P 21 37 31.6 +0.7**
STRD IAmb IAmb 21 37 34.9
comp=Z,74nm,0.8s
LPSR Galich'ya Gora 60.81 349 *e*P **P 21 37 32.3 +1.0**
LPSR pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 60.87 288 P **P 21 37 32.8 +0.7**
XAN pP sP 21 37 38.3 +2.0
XAN S **S 21 45 51.0 +1.4**
XAN pmax pmax
comp=Z,23nm,1.3s
XAN pmax pmax
comp=Z,130nm,6.2s
XAN LR LR
comp=Z,2μm,17.0s
XAN LR LR
comp=Z,4μm,16.5s
XAN LR LR
comp=Z,860nm,16.8s
LZH Lanzhou 60.97 294 ⇑P **P 21 37 35.0 +2.1**
LZH pP sP 21 37 41.5 +4.4
LZH pmax pmax
comp=Z,49nm,1.2s
LZH LR LR
comp=Z,860nm,15.1s
LZH LR LR
comp=Z,2μm,14.8s
LZH LR LR
comp=Z,870nm,14.8s
SWN1 Swindon 61.04 17 *e*P **P 21 37 34.4 +1.4**
SWN1 IAmb IAmb 21 37 37.1
comp=Z,104nm,0.9s
TDK Taldyqorghan 61.16 318 *e*P **P 21 37 34.1 +0.3**
TDK Taldyqorghan 61.16 318 *e*P **P 21 37 34.2 +0.3**
WOL Wolverton 61.31 17 *e*P **P 21 37 35.4 +0.7**
ABKAR Akbulak array 61.34 333 P **P 21 37 34.3 -0.7**
ABKAR IAmb IAmb 21 37 41.5
comp=Z,24nm,0.8s
ABKAR Akbulak array 61.34 333 P **P 21 37 34.0 -0.9**
VORR Voronezh 61.71 348 *e*P **P 21 37 38.7 +1.3**
VORR pmax pmax
comp=Z,6.0nm,0.8s
WHN Wuhan 61.85 282 P **P 21 37 40.3 +1.7**
WHN pmax pmax
comp=Z,50nm,0.7s
CCA1 Carnmenellis 61.90 20 *e*P **P 21 37 39.2 +0.5**
VRH Novokhopyorsk 61.96 347 *e*P **P 21 37 39.1 0.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 62.17 348 *e*P **P 21 37 38.7 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BTLS Baital 62.26 321 *e*P **P 21 37 41.5 +0.3**
BTLS pmax pmax
comp=Z,17nm,1.0s
BTLS Baital 62.26 321 *e*P **P 21 37 41.6 +0.3**
comp=Z,17nm,1.0s
UCC Uccle 62.40 13 P **P 21 37 41.7 -0.4**
UCC IAmb IAmb 21 37 45.9
comp=Z,22nm,0.8s
UCC Uccle 62.40 13 *d*P **P 21 37 42.1 0.0**
comp=Z,21nm,0.8s
UCC Uccle 62.40 13 P **P 21 37 41.7 -0.4**
UCC pmax pmax
comp=Z,22nm,0.8s
VORD Divnogorie 62.41 348 *e*P **P 21 37 40.2 -1.9**
VORD pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 62.50 7 P **P 21 37 42.6 -0.1**
CLL IAmb IAmb 21 37 45.8
comp=Z,64nm,2.0s
CLL Collm 62.50 7 *e*P **P 21 37 43.0 +0.2**
CLL *e*S S 21 46 21.0 +11
CLL pmax pmax
comp=Z,38nm,1.7s
CLL Collm 62.50 7 P **P 21 37 45.0 +2.2**
comp=Z,15nm,1.7s
CLL Collm 62.50 7 *e*P **P 21 37 43.0 +0.2**
comp=Z,38nm,1.7s
CLL *e*PcP **PcP 21 38 23.0 +1.1**
CLL *e*S **S 21 46 18.0 +8.3**
CLL *e*SS SS 21 50 25.0 +12
CLL AMS AMS 22 10 00.0
comp=Z,200nm,19.6s
SHLS Shalkode 62.58 316 *e*P **P 21 37 43.1 -0.5**
SHLS pmax pmax
comp=Z,19nm,0.8s
SHLS Shalkode 62.58 316 *e*P **P 21 37 43.1 -0.5**
comp=Z,19nm,0.8s
CHKK Chushkaly 62.60 319 *e*P **P 21 37 44.0 +0.4**
CHKK Chushkaly 62.60 319 *e*P **P 21 37 44.0 +0.4**
RNPP9 Sopachiv 62.61 358 P **P 21 37 45.4 +1.9**
UZB Uzynbulak 62.71 317 *e*P **P 21 37 44.6 +0.2**
UZB pmax pmax
comp=Z,17nm,1.2s
UZB Uzynbulak 62.71 317 *e*P **P 21 37 44.6 +0.2**
comp=Z,18nm,1.2s
BSTI Sart Tilman 62.72 12 *d*P **P 21 37 45.0 +0.8**
MEM Membach 62.74 12 *d*P **P 21 37 44.6 +0.2**
comp=Z,18nm,1.0s
BTNL Ternell 62.77 12 *d*P **P 21 37 44.2 -0.4**
ZHN Zhinishke 62.85 317 *e*P **P 21 37 45.6 +0.2**
ZHN Zhinishke 62.85 317 *e*P **P 21 37 45.6 +0.2**
BCLA Clavier 62.86 12 *d*P **P 21 37 46.3 +1.1**
BGES Gesves 62.88 13 *d*P **P 21 37 47.2 +2.0**
comp=Z,8.1nm,0.9s
BMRD Maredsous 62.93 13 *d*P **P 21 37 46.7 +1.0**
SATY Saty 62.96 317 *e*P **P 21 37 46.3 +0.2**
SATY pmax pmax
comp=Z,11nm,1.1s
SATY Saty 62.96 317 *e*P **P 21 37 46.4 +0.2**
comp=Z,11nm,1.1s
BRG Berggiesshubel 62.98 6⇑*i*P **P 21 37 46.6 +0.7**
BRG Amp 21 37 47.7
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 62.98 6 P **P 21 37 49.4 +3.4**
BRG Amp 21 37 50.1
comp=Z,8.9nm,0.9s
BHOU Houvegnez 62.99 12 *d*P **P 21 37 44.7 -1.4**
SOR Soroa 63.00 95 P **P 21 37 45.7 -0.7**
SOR IAmb IAmb 21 37 50.0
comp=Z,34nm,1.1s
SOR Soroa 63.00 95 P **P 21 37 45.7 -0.7**
SOR pmax pmax
comp=Z,34nm,1.1s
KSP Ksiaz 63.10 5 *e*P **P 21 37 47.6 +0.8**
KSP Ksiaz 63.10 5 P **P 21 37 49.2 +2.4**
comp=Z,6.3nm,1.6s
RCHB Rochefort 63.12 13 *d*P **P 21 37 48.1 +1.2**
DOU Dourbes 63.12 13 *d*P **P 21 37 47.4 +0.5**
comp=Z,13nm,1.0s
HSKC Hora Svate Kat 63.22 7 *e*P **P 21 37 48.4 +0.8**
AAA Alma-Ata 63.22 318 *e*P **P 21 37 48.1 +0.3**
AAA Alma-Ata 63.22 318 *e*P **P 21 37 48.1 +0.3**
MDOK Medeo 63.23 318 *e*P **P 21 37 48.0 +0.1**
MDOK Medeo 63.23 318 *e*P **P 21 37 48.0 +0.1**
AKASG Malin Array Be 63.25 355 P **P 21 37 47.0 -0.7**
comp=Z,4.5nm,0.5s,baz=3.8,slow=6.7,SNR=20
AKASG LR LR 22 04 36.9
comp=Z,205nm,21.7s,baz=360,slow=36
comp=Z,4.5nm,0.5s
AKASG Malin Array Be 63.25 355 *i* P **P 21 37 47.2 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 63.25 355 P **P 21 37 47.1 -0.6**
AKBB IAmb IAmb 21 37 59.2
comp=Z,16nm,0.8s
AKBB Malin Array Si 63.25 355 *ce*P **P 21 37 48.2 +0.5**
KIEV Kiev 63.25 355 ⇑P **P 21 37 48.6 +0.9**
KIEV Kiev 63.25 355 P **P 21 37 48.6 +0.9**
TNSS Tian-Shan 63.38 318 *e*P **P 21 37 49.1 -0.1**
TNSS Tian-Shan 63.38 318 *e*P **P 21 37 49.1 -0.1**
OSTC Ostas 63.38 5 *e*P **P 21 37 52.1 +3.4**
OSTC Ostas 63.38 5 *e*P **P 21 37 52.1 +3.4**
CMIG Matias Romero 63.45 109 LR LR 22 05 52.3
comp=Z,150nm,20.9s,baz=356,slow=36
NKC Novy Kostel 63.55 7 *e*P **P 21 37 52.8 +3.0**
NKC Novy Kostel 63.55 7 *e*P **P 21 37 52.8 +3.0**
DPC Dobruska-Polom 63.59 5 *e*P **P 21 37 50.8 +0.7**
DPC *ep*P **sP 21 37 53.8 -0.5**
DPC Dobruska-Polom 63.59 5 *e*P **P 21 37 50.8 +0.7**
DPC *e* 21 37 53.8
DPC Dobruska-Polom 63.59 5 P **P 21 37 51.2 +1.1**
comp=Z,14nm,0.8s
SGDS Sogindy 63.60 320 *e*P **P 21 37 50.5 +0.3**
SGDS pmax pmax
comp=Z,12nm,1.0s
SGDS Sogindy 63.60 320 *e*P **P 21 37 50.6 +0.3**
comp=Z,12nm,1.0s
WLF Walferdange 63.69 12 P **P 21 37 50.1 -0.5**
WLF IAmb IAmb 21 37 55.2
comp=Z,25nm,1.0s
WLF Walferdange 63.69 12 *d*P **P 21 37 49.3 -1.3**
WLF Walferdange 63.69 12 P **P 21 37 50.1 -0.5**
WLF pmax pmax
comp=Z,25nm,1.0s
USP Ospenovka 63.81 320 P **P 21 37 51.5 -0.1**
SNR=29
OJC Ojcow 63.81 2 *e*P **P 21 37 52.2 +0.7**
OJC Ojcow 63.81 2 P **P 21 37 51.1 -0.4**
OJC IAmb IAmb 21 37 59.5
comp=Z,35nm,1.8s
OJC Ojcow 63.81 2 P **P 21 37 51.1 -0.4**
OJC pmax pmax
comp=Z,35nm,1.8s
TKM2 Tokmak 2 63.84 319 P **P 21 37 53.2 +1.1**
SNR=22
KRLC Kraliky 63.88 4 *e*P **P 21 37 52.2 +0.2**
KRLC *ep*P **sP 21 37 55.5 -0.7**
KRLC Kraliky 63.88 4 *e*P **P 21 37 52.2 +0.2**
KRLC *e* 21 37 55.5
PRU Pruhonice 63.89 6 *e*P **P 21 37 55.3 +3.3**
PRU Pruhonice 63.89 6 *e*P **P 21 37 55.3 +3.3**
CHMS Chumysh 63.99 320 P **P 21 37 53.0 +0.1**
SNR=25
ENH Enshi 63.99 286 P **P 21 37 52.2 -0.8**
GRA1 Grafenberg Arr 64.02 8 P **P 21 37 52.1 -0.8**
GRA1 IAmb IAmb 21 37 57.6
comp=Z,25nm,1.1s
GRF Grafenberg Arr 64.02 8 P **P 21 37 52.1 -0.8**
GRF pmax pmax
comp=Z,25nm,1.1s
GRFO Grafenberg 64.02 8 P **P 21 37 52.7 -0.2**
GRFO IAmb IAmb 21 37 57.5
comp=Z,27nm,1.2s
GRFO Grafenberg 64.02 8 P **P 21 37 52.7 -0.2**
GRFO pmax pmax
comp=Z,27nm,1.2s
STEB Steborice 64.05 4 *e*P **P 21 37 52.9 -0.2**
STEB *ep*P **sP 21 37 56.4 -0.9**
GOMU GeErMu 64.11 301 P **P 21 37 52.0 -2.1**
GOMU S **S 21 46 25.0 -6.0**
GOMU pmax pmax
comp=Z,71nm,1.0s
GOMU pmax pmax
comp=Z,250nm,5.7s
GOMU LR LR
comp=Z,810nm,15.5s
GOMU LR LR
comp=Z,1μm,15.9s
BOOM Boomskoye usch 64.15 319 P **P 21 37 53.5 -0.6**
BOOM Boomskoye usch 64.15 319 P **P 21 37 53.5 -0.6**
BOOM pmax pmax
comp=Z,14nm,0.9s
KDJ Kajisay 64.16 318 P **P 21 37 53.5 -0.6**
KDJ IAmb IAmb 21 37 56.9
comp=Z,18nm,0.9s
KDJ Kajisay 64.16 318 P **P 21 37 53.5 -0.6**
KDJ pmax pmax
comp=Z,18nm,0.9s
FRU1 Bishkek 64.20 320 P **P 21 37 54.0 -0.3**
FRU1 IAmb IAmb 21 37 57.5
comp=Z,41nm,0.9s
FRU1 Bishkek 64.20 320 P **P 21 37 54.0 -0.3**
FRU1 pmax pmax
comp=Z,41nm,0.9s
MORC Moravsky Berou 64.20 4 P **P 21 37 53.8 -0.3**
MORC Moravsky Berou 64.20 4 *e*P **P 21 37 54.8 +0.7**
MORC Moravsky Berou 64.20 4 ⇑P **P 21 37 54.9 +0.8**
MORC Moravsky Berou 64.20 4 P **P 21 37 53.8 -0.3**
MORC pmax pmax
comp=Z,22nm,1.5s
KBK Karagaybulak 64.26 320 P **P 21 37 55.0 +0.2**
SNR=34
ULHL Ulahol 64.30 319 P **P 21 37 54.8 -0.3**
SNR=13
AAK Ala-Archa 64.40 320 P **P 21 37 55.4 -0.3**
AAK IAmb IAmb 21 38 03.2
comp=Z,37nm,1.0s
AAK Ala-Archa 64.40 320 LR LR 22 08 41.1
comp=Z,263nm,18.3s,baz=16,slow=39
AAK Ala-Archa 64.40 320 P **P 21 37 56.1 +0.5**
SNR=32
AAK Ala-Archa 64.40 320 *ce*P **P 21 37 56.0 +0.4**
AAK pmax pmax
comp=Z,44nm,1.3s
KWP Kalwaria Pacla 64.42 0 *e*P **P 21 37 56.1 +0.7**
ZVC Zvikov 64.42 6 *e*P **P 21 37 53.4 -2.1**
CNSH ChangSha 64.50 282 P **P 21 37 56.5 +0.2**
CNSH pmax pmax
comp=Z,28nm,1.2s
EKS2 Erkin-Say 64.56 321 P **P 21 37 56.8 +0.1**
SNR=51
NIE Niedzica 64.62 2 *e*P **P** 21 37 44.5 -12
STHS Stebnicka Huta 64.63 1 *e*P **P 21 37 59.7 +2.8**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 64.63 1 *e*P **P 21 37 59.7 +2.8**
VRAC Vranov 64.64 4 LR LR 22 05 50.1
comp=Z,127nm,20.5s,baz=358,slow=36
VRAC Vranov 64.64 4 *e*P **P 21 37 57.8 +0.8**
VRAC Vranov 64.64 4 ⇑P **P 21 37 58.1 +1.1**
VRAC Vranov 64.64 4 P **P 21 37 58.0 +1.1**
KHC Kasperske Hory 64.70 7 *e*P **P 21 37 58.3 +0.9**
KHC AMS AMS 22 08 30.0
comp=Z,300nm,17.7s
KHC Kasperske Hory 64.70 7 *ce*P **P 21 37 58.9 +1.5**
KHC pmax pmax
comp=Z,58nm,1.7s
KHC Kasperske Hory 64.70 7 P **P 21 37 59.1 +1.7**
comp=Z,553nmcomp=Z,11nm,1.4s
LANS Liptovska Anna 64.87 2 *e*P **P 21 37 59.8 +1.3**
LANS pmax pmax
comp=Z,6.0nm,1.4s
LANS Liptovska Anna 64.87 2 *e*P **P 21 37 59.8 +1.3**
KRUC Moravsky 64.89 5 *e*P **P 21 37 59.3 +0.8**
CLF Chambon-Foret 64.94 15 P **P 21 37 59.2 +0.4**
DZA Taraz 64.96 323 *e*P **P 21 37 59.3 +0.2**
DZA Taraz 64.96 323 *e*P **P 21 37 59.4 +0.3**
KKAR Karatay Array 64.96 323 P **P 21 37 58.3 -0.8**
KKAR Karatay Array 64.96 323 P **P 21 37 58.3 -0.8**
GERES GERESS Array B 65.00 7 P **P 21 37 59.2 -0.2**
comp=Z,3.6nm,0.7s,baz=338,slow=3.2,SNR=21
comp=Z,3.6nm,0.7s
GERES GERESS Array B 65.00 7 P **P 21 37 59.3 -0.1**
CKRC Cesky Krumlov 65.05 6 *e*P **P 21 38 00.2 +0.6**

CKRC Cesky Krumlov 65.05 6 *eP* **P 21 38 00.2 +0.6**
AML Almayashu 65.08 320 P **P 21 38 00.9 +0.6**
SNR=31
KOLS Kolonicke sedl 65.12 0 *eP* **P 21 38 00.8 +0.7**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 65.12 0 *eP* **P 21 38 00.8 +0.7**
JAVC Velka Javorina 65.13 4 *eP* **P 21 38 01.8 +1.6**
BFO Black Forest 65.18 11 P **P 21 38 01.1 +0.7**
BFO IAmb IAmb 21 38 04.8
comp=Z,41nm,1.5s
BFO Black Forest 65.18 11 P **P 21 38 01.2 +0.7**
BFO pmax pmax
comp=Z,41nm,1.5s
BRLS Borolday 65.19 324 *eP* **P 21 38 02.6 +2.0**
BRLS Borolday 65.19 324 *eP* **P 21 38 02.6 +2.0**
ECH Echery 65.21 11 P **P 21 38 01.3 +0.7**
ECH Echery 65.21 11 P **P 21 38 01.3 +0.7**
ECH pmax pmax
comp=Z,12nm,0.9s
MODS Modra-Piesok 65.60 4 *eP* **P 21 38 04.6 +1.4**
MODS pmax pmax
comp=Z,36nm,1.3s
MODS Modra-Piesok 65.60 4 *eP* **P 21 38 04.6 +1.4**
CD2 Chengdu 65.62 291 P **P 21 38 01.0 -2.6**
CD2 pP sP 21 38 05.0 -2.9
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 LR LR
comp=Z,810nm,14.0s
CD2 LR LR
comp=Z,920nm,14.6s
SORM Soroca 65.84 356 ⇑P **P 21 38 04.4 -0.2**
SORM Soroca 65.84 356 P **P 21 38 04.4 -0.2**
SORM Soroca 65.84 356 P **P 21 38 06.3 +1.6**
comp=Z,15nm,0.9s
IUG Iuzhnay 65.98 323 *eP* **P 21 38 05.9 +0.1**
IUG pmax pmax
comp=Z,21nm,0.9s
IUG Iuzhnay 65.98 323 *eP* **P 21 38 06.0 +0.1**
comp=Z,21nm,0.9s
CONA Conrad Observa 66.00 5 *epP* pP 21 38 06.9 -2.1
comp=Z,5.7nm,0.6s,SNR=5.9
MOA Molln 66.02 6 *epP* pP 21 38 06.7 -2.2
comp=Z,1.3nm,0.4s,SNR=11
ARSB Arslanbob 66.02 321 P **P 21 38 06.1 -0.1**
ARSB IAmb IAmb 21 38 14.0
comp=Z,28nm,1.0s
ARSB Arslanbob 66.02 321 P **P 21 38 06.1 -0.1**
ARSB pmax pmax
comp=Z,29nm,1.0s
PSZ Piszkesteto 66.11 2 ⇑P **P 21 38 07.5 +0.9**
PSZ Piszkesteto 66.11 2 P **P 21 38 07.5 +0.9**
BIOA Bad Ischl, Aus 66.14 7 *i pP* **P 21 38 06.8 +0.1**
comp=Z,1.1nm,0.3s
RETA Reutte 66.19 9 *epP* pP 21 38 07.7 -2.5
comp=Z,14nm,1.2s
RONA Rosalia, Austr 66.24 5 *epP* **P 21 38 07.7 +0.3**
comp=Z,2.3nm,0.5s
MOTA Moosalm 66.35 9 *epP* **P 21 38 08.1 -0.1**
comp=Z,11nm,1.2s
LESA Schwarzleotal 66.36 7 *epP* pP 21 38 09.0 -2.3
comp=Z,9.8nm,0.7s,SNR=8.7
BMR Baia Mare 66.38 359 ⇑P **P 21 38 09.2 +1.0**
BMR Baia Mare 66.38 359 P **P 21 38 09.2 +1.0**
WATA Walderalm 66.39 8 *epP* **P 21 38 08.7 +0.3**
comp=Z,29nm,1.5s,SNR=8.6
BURAR Bucovina Array 66.42 358 P **P 21 38 08.8 +0.2**
BURAR Bucovina Array 66.42 358 ⇑P **P 21 38 08.4 -0.2**
BURAR Bucovina Array 66.42 358 P **P 21 38 08.4 -0.2**
WTTA Wattenberg 66.46 8 *epP* **P 21 38 09.3 +0.3**
comp=Z,20nm,1.4s,SNR=6.6
SQTA Sankt Quirin 66.48 9 *epP* pP 21 38 09.8 -2.3
comp=Z,14nm,1.4s
FETA Feichten 66.65 9 *epP* pP 21 38 11.0 -2.2
comp=Z,14nm,1.1s,SNR=11
ARSA Arzberg 66.67 5 *epP* pP 21 38 10.8 -2.3
comp=Z,2.4nm,0.8s
KBA Koelnbreinsper 66.74 7 *epP* pP 21 38 11.8 -2.0
comp=Z,19nm,0.7s,SNR=9.0
MPLH Magyarpolny 66.81 4 P **P 21 38 13.8 +2.9**
comp=Z,31nm,1.9s
DAVOX Davos/Dischmat 66.83 10 LR LR 22 06 14.3
comp=Z,117nm,21.8s,baz=336,slow=35
MESR Meseseni 66.90 360 ⇑P **P 21 38 12.5 +1.0**
KSH Kashi 66.92 318 P **P 21 38 15.3 +3.4**
KSH pP sP 21 38 21.8 +5.6
KSH pmax pmax
comp=Z,16nm,1.0s
KSH LR LR
comp=Z,450nm,15.1s
KSH LR LR
comp=Z,980nm,16.5s
KSH LR LR
comp=Z,940nm,13.1s
ABTA Abfaltersbach 67.03 8 *epP* pP 21 38 13.3 -2.3
comp=Z,5.7nm,0.6s
MILM Milestii Mici 67.04 356 ⇑P **P 21 38 11.8 -0.6**
MILM Milestii Mici 67.04 356 P **P 21 38 11.7 -0.6**
TUE Stuetta 67.11 10 P **P 21 38 14.9 +1.8**
comp=Z,86nm,0.8s
DRGR 67.26 0 ⇑P **P 21 38 14.4 +0.5**
DRGR 67.26 0 P **P 21 38 14.4 +0.5**
CJR Cluj-Napoca 67.34 359 ⇑P **P 21 38 15.5 +1.1**
CJR Cluj-Napoca 67.34 359 P **P 21 38 15.5 +1.1**
OBKA Obir 67.36 6 *epP* pP 21 38 15.5 -2.2
comp=Z,34nm,0.7s,SNR=5.8
MARR Marisel-Cluj 67.38 360 ⇑P **P 21 38 14.7 0.0**
PRED Cave del Predi 67.39 7 P **P 21 38 14.9 +0.2**
PRED IAmb IAmb 21 38 18.1
comp=Z,13nm,0.7s
BTK Batken 67.76 322 P **P 21 38 17.2 0.0**
BTK IAmb IAmb 21 38 20.6
comp=Z,64nm,1.4s
BTK Batken 67.76 322 P **P 21 38 17.2 0.0**
BTK pmax pmax
comp=Z,64nm,1.5s
MORH Mrgy, Hungar 67.79 3 ⇑P **P 21 38 17.6 +0.5**
MORH Mrgy, Hungar 67.79 3 P **P 21 38 18.1 +0.9**
comp=Z,8.9nm,0.8s
GOF Gofitskoye 67.91 345 *ceP* **P 21 38 18.4 +0.5**
OZUR 67.94 358 ⇑P **P 21 38 19.1 +0.9**
DOPR Dopca 68.07 358 ⇑P **P 21 38 17.9 -1.1**
PLOR Plostina 68.16 357 ⇑P **P 21 38 19.0 -0.7**
PLOR Plostina 68.16 357 P **P 21 38 18.9 -0.7**
COVR Voineasa-Covas 68.18 357 ⇑P **P 21 38 20.6 +1.0**
SURR Surduc 68.30 1 ⇑P **P 21 38 20.1 -0.3**
BZS Buzias 68.43 1 ⇑P **P 21 38 21.6 +0.4**
BZS Buzias 68.43 1 P **P 21 38 21.6 +0.4**
MLR Muntele Rosu 68.54 358 ⇓P **P 21 38 22.0 0.0**
MLR Muntele Rosu 68.54 358 P **P 21 38 22.0 0.0**
VOIR 68.60 358 ⇑P **P 21 38 23.1 +0.7**
VOIR 68.60 358 P **P 21 38 23.0 +0.7**
GZR Gura Zlata 68.66 0 ⇑P **P 21 38 23.4 +0.6**
GZR Gura Zlata 68.66 0 P **P 21 38 23.3 +0.6**
ARR Arges 68.68 359 ⇑P **P 21 38 23.6 +0.8**
CFR Carcaliu 68.80 356 ⇑P **P 21 38 23.7 +0.2**
CFR Carcaliu 68.80 356 P **P 21 38 23.6 +0.2**
GAR Garm 68.88 322 P **P 21 38 23.6 -0.7**
KVAR Kislovodsk Arr 69.03 345 LR LR 22 10 44.3
comp=Z,212nm,20.9s,baz=272,slow=38
KIV Kislovodsk 69.03 345 P **P 21 38 24.6 -0.4**
KIV IAmb IAmb 21 38 35.2
comp=Z,25nm,0.9s
KIV Kislovodsk 69.03 345 ⇑P **P 21 38 25.4 +0.3**
KIV Kislovodsk 69.03 345 *eP* **P 21 38 24.7 -0.4**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,189nm,17.0s
HERR Herculane 69.17 0 ⇑P **P 21 38 26.1 +0.3**
TGUH Tegucigalpa,Un 69.18 103 P **P 21 38 25.9 -0.4**
KBZ Khabaz 69.24 345 P **P 21 38 26.4 +0.3**
comp=Z,5.3nm,0.9s,baz=357,slow=13,SNR=14
KBZ LR LR 22 10 57.6
comp=Z,201nm,19.8s,baz=4.0,slow=38
comp=Z,5.3nm,0.9s
KBZ Khabaz 69.24 345 *ceP* **P 21 38 27.5 +1.3**
SHA1 Shidzhatmaz 69.25 345 *i P* **P 21 38 27.2 +0.6**
MSSA Maissana 69.26 10 P **P 21 38 26.3 -0.2**
MSSA IAmb IAmb 21 38 46.5
comp=Z,33nm,1.1s
MDVR Moldovita 69.27 1 ⇑P **P 21 38 26.8 +0.3**
MTDJ Mount Denham 69.31 92 P **P 21 38 26.8 -0.4**

MAK Makhachkala 69.44 341 *eP* P 21 38 21.4 -6.1
MAK MLR MLR
comp=Z,331nm,18.0s
PGAV Gavieira, Arco 69.46 24 *eP* **P 21 38 31.5 +3.8**
PGAV *i* Amb 21 38 32.7
comp=Z,121nm,1.6s
CHGR Chuyangaron 69.49 323 P **P 21 38 27.5 -0.5**
CHGR Chuyangaron 69.49 323 P **P 21 38 27.5 -0.5**
SIMJ Simiganj 69.53 323 P **P 21 38 27.7 -0.6**
SIMJ IAmb IAmb 21 38 35.3
comp=Z,35nm,0.8s
SOC Sochi 69.70 347 *eP* **P 21 38 26.0 -3.1**
SOC *e* 21 41 02.1
SOC *eS* **S 21 47 35.4 -2.0**
SOC *eSS* **SS 21 52 06.9 +2.6**
SOC MLR MLR
comp=Z,171nm,18.0s
PCAB Cabril 69.75 24 *eP* **P 21 38 33.4 +3.9**
PCAB *i* Amb 21 38 35.2
comp=Z,74nm,1.5s
PBRG Braganca 69.86 23 *eP* **P 21 38 33.9 +3.7**
PBRG *i* Amb 21 38 35.1
comp=Z,66nm,1.5s
POLO Lamas de Olo 70.11 24 *eP* **P 21 38 35.8 +4.0**
POLO *i* Amb 21 38 37.3
comp=Z,28nm,1.9s
PTO Porto 70.21 25 *eP* P 21 38 38.5 +6.3
PTO *i* Amb 21 38 39.5
comp=Z,60nm,1.2s
PVRL Vila Real 70.22 24 *eP* **P 21 38 36.5 +4.1**
PVRL *i* Amb 21 38 38.9
comp=Z,84nm,2.1s
PZH PanZhiHua 70.34 291 P **P 21 38 33.5 0.0**
PZH S **S 21 47 42.8 -3.0**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.3s
PZH LR LR
comp=Z,530nm,17.5s
PZH LR LR
comp=Z,1μm,17.3s
PZH LR LR
comp=Z,790nm,13.3s
BOVS Bovan 70.42 1 ⇑P **P 21 38 33.3 -0.2**
MVO Moncorvo 70.44 23 *eP* **P 21 38 37.3 +3.5**
MVO *i* Amb 21 38 38.2
comp=Z,46nm,0.8s
PVIS Viseu 70.74 24 *eP* **P 21 38 39.0 +3.4**
MTE Manteigas 71.11 24 P **P 21 38 37.4 -0.4**
MTE Manteigas 71.11 24 *eP* **P 21 38 39.8 +1.9**
MTE *i* Amb 21 38 42.7
comp=Z,95nm,1.2s
KMI Kunming 71.21 289 P **P 21 38 40.0 +1.1**
KMI pmax pmax
comp=Z,16nm,1.4s
KMI LR LR
comp=Z,830nm,18.6s
KMI LR LR
comp=Z,2μm,16.6s
KMI LR LR
comp=Z,600nm,13.5s
BOAB BOACO BROADBAN 71.27 102 P **P 21 38 38.9 -0.2**
LSA Lhasa 71.28 301 P **P 21 38 39.8 +0.3**
PCAS Casmilo, Conde 71.28 25 *eP* **P 21 38 40.9 +2.0**
PCAS *i* Amb 21 38 43.9
comp=Z,128nm,1.4s
PDG Podgorica 71.59 3 P **P 21 38 39.6 -1.0**
PCBR Castelo Branco 71.66 24 *eP* **P 21 38 44.8 +3.7**
PCBR *i* Amb 21 38 45.8
comp=Z,71nm,1.2s
PSBE So Bento 71.76 25 *eP* **P 21 38 45.5 +3.8**
PSBE *i* Amb 21 38 49.8
comp=Z,67nm,1.8s
PMRV Marv??o 72.08 24 *eP* **P 21 38 47.2 +3.6**
PMRV *i* Amb 21 38 48.9
comp=Z,52nm,1.8s
PMTG Montargil 72.29 25 *eP* **P 21 38 47.9 +3.0**
PMTG *i* Amb 21 38 49.3
comp=Z,49nm,1.2s
ESBB Sonseca Array 72.38 21 P **P 21 38 46.1 +0.7**
ESBB IAmb IAmb 21 38 50.0
comp=Z,35nm,0.8s
ESDC Sonseca Array 72.38 21 P **P 21 38 46.1 +0.7**
ESDC Sonseca Array 72.38 21 P **P 21 38 46.2 +0.7**
comp=Z,26nm,0.7s,baz=351,slow=5.9,SNR=78
ESDC LR LR 22 10 42.9
comp=Z,210nm,20.6s,baz=336,slow=36
comp=Z,26nm,0.7s
PAB San Pablo 72.44 22 P **P 21 38 41.7 -4.2**
GNI Garni 72.56 343 P **P 21 38 47.5 +0.9**
GNI Garni 72.56 343 LR LR 22 14 32.1
comp=Z,147nm,20.7s,baz=18,slow=39
GNI Garni 72.56 343 P **P 21 38 47.6 +0.9**
GNI pmax pmax
comp=Z,13nm,1.0s
GNI Garni 72.56 343 P **P 21 38 49.5 +2.8**
comp=Z,15nm,1.0s
PESTR Estremoz 72.59 24 *eP* **P 21 38 50.4 +3.6**
PESTR *i* Amb 21 38 51.2
comp=Z,68nm,1.1s
VAY Valandovo 72.73 0 *i P* **P 21 38 50.0 +2.5**
EVO Evora 72.85 25 *eP* **P 21 38 49.6 +1.4**
EVO *i* Amb 21 38 52.9
comp=Z,89nm,1.2s
TNCH TengChong 72.89 293 P P 21 38 39.5 -9.4
TNCH pP sP 21 38 50.8 -2.3
TNCH sP PcP 21 39 02.0 -3.9
TNCH S S 21 48 04.0 -11
TNCH sS sS 21 48 18.8 -1.6
TNCH TengChong 72.89 293 SS SS 21 52 49.0 -5.6
TNCH pmax pmax
comp=Z,8.0nm,1.8s
TNCH pmax pmax
comp=Z,140nm,5.4s
TNCH LR LR
comp=N,350nm,20.0s
TNCH LR LR
comp=E,500nm,18.5s
TNCH LR LR
comp=Z,190nm,13.5s
NIL Nilore 73.17 318 P **P 21 38 50.0 -0.2**
NIL IAmb IAmb 21 38 53.0
comp=Z,38nm,0.8s
NIL Nilore 73.17 318 P **P 21 38 50.1 -0.2**
NIL pmax pmax
comp=Z,38nm,0.9s
PBAR Barrancos 73.36 24 *eP* **P 21 38 55.3 +4.0**
PBAR *i* Amb 21 38 57.7
comp=Z,87nm,2.0s
PBEJ Beja 73.37 25 *eP* **P 21 38 54.9 +3.6**
PBEJ *i* Amb 21 39 06.0
comp=Z,45nm,1.7s
KBL Kabul 73.43 322 P **P 21 38 51.4 -0.6**
KBL Kabul 73.43 322 P **P 21 38 51.4 -0.6**
KBL pmax pmax
comp=Z,13nm,1.0s
MESJ Messejana 73.49 25 *eP* **P 21 38 56.0 +4.0**
MESJ *i* Amb 21 39 06.4
comp=Z,61nm,2.1s
JTS Las Juntas de 73.52 102 LR LR 22 16 11.9
comp=Z,137nm,19.0s,baz=90,slow=40
PTEO Sao Teotonio 73.69 26 *eP* P 21 38 57.5 +4.4
PTEO *i* Amb 21 39 01.4
comp=Z,114nm,1.9s
ANTO Ankara 73.90 352 ⇑P **P 21 38 54.1 -0.5**
ANTO Ankara 73.90 352 P **P 21 38 54.0 -0.5**
ANTO Ankara 73.90 352 P **P 21 38 56.3 +1.8**
MORF Marmelete 73.94 26 *eP* **P 21 38 58.8 +4.1**
MORF *i* Amb 21 39 02.2
comp=Z,134nm,1.8s
QIZ Qiongzhong 73.94 281 P **P 21 38 52.8 -2.1**
QIZ S **SKiKP 21 48 22.0 -1.2**
QIZ pmax pmax
comp=Z,18nm,2.1s
QIZ LR LR
comp=Z,430nm,15.2s
QIZ LR LR
comp=Z,820nm,14.2s
QIZ LR LR
comp=Z,380nm,15.1s
BRTR Keskin Array B 74.00 351 P **P 21 38 55.2 +0.1**
BRTR Keskin Array B 74.00 351 P **P 21 38 55.1 -0.1**
comp=Z,2.5nm,0.7s,baz=349,slow=3.8,SNR=6.1
BRTR LR LR 22 17 41.7
comp=Z,75nm,18.1s,baz=348,slow=41
comp=Z,2.5nm,0.7s
PVAQ Vaqueiros 74.00 25 *eP* **P 21 38 59.2 +4.2**
PVAQ *i* Amb 21 39 00.1
comp=Z,80nm,1.3s
SJG San Juan 74.00 82 LR LR 22 14 43.8
comp=Z,159nm,19.5s,baz=243,slow=38
PFVI Vila Bisbo 74.07 26 *eP* **P 21 38 59.3 +3.8**
PBDV Barranco-do-Ve 74.12 25 *eP* P 21 39 00.2 +4.5
PBDV *i* Amb 21 39 03.0
comp=Z,106nm,1.6s
MARD Mardin 75.81 345 P **P 21 39 06.3 +0.6**
MARD IAmb IAmb 21 39 15.1
comp=Z,25nm,0.8s
VAE Valguarnera 76.37 7 LR LR 22 11 36.7
comp=Z,148nm,22.0s,baz=7.5,slow=35
CRAI Chiangrai 76.55 289 P **P 21 39 10.1 +0.2**
CRAI IAmb IAmb 21 39 12.7
comp=Z,66nm,1.8s
KEST Kesra 77.78 11 P **P 21 39 17.6 +0.8**
comp=Z,12nm,0.7s,baz=295,slow=4.0,SNR=12
KEST LR LR 22 14 08.6
comp=Z,136nm,19.9s,baz=37,slow=36
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 78.71 290 P **P 21 39 21.8 -0.2**
CMAR Chiang Mai Arr 78.71 290 P **P 21 39 22.1 +0.1**
comp=Z,11nm,0.8s,baz=5.5,slow=6.1,SNR=66
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 78.71 290 P **P 21 39 21.8 -0.2**
MDT Midelt 79.00 23 LR LR 22 16 50.3
comp=Z,122nm,19.2s,baz=350,slow=38
SDV Santo Domingo 80.54 90 *eP* **P 21 39 32.5 +0.3**
MMAI Mount Meron Ar 80.55 349 P **P 21 39 32.1 +0.2**
comp=Z,2.4nm,0.6s,baz=12,slow=4.6,SNR=4.3
MMAI LR LR 22 20 59.8
comp=Z,61nm,19.9s,baz=7.5,slow=40
comp=Z,2.4nm,0.6s
ASF Jabal al Asfar 81.27 348 LR LR 22 20 43.3
comp=Z,63nm,19.8s,baz=11,slow=40
PCRV Puerto La Cruz 81.79 84 LR LR 22 18 39.3
comp=Z,119nm,18.8s,slow=38
RUSC La Rusia 82.27 93 P **P 21 39 40.8 -0.9**
RUSC IAmb IAmb 21 39 45.0
comp=Z,36nm,1.0s
ROSC El Rosal 82.72 95 P **P 21 39 43.8 -0.2**
comp=Z,34nm,0.9s,baz=270,slow=20,SNR=9.5
comp=Z,34nm,0.9s
SWI Sorong 83.43 253 P **P 21 39 49.4 +2.3**
comp=Z,46nm,1.4s
EIL Elat 83.90 349 LR LR 22 24 24.4
comp=Z,49nm,18.0s,baz=14,slow=41
OTAV Otavalo 85.25 100 P **P 21 39 57.6 +0.7**
OTAV Otavalo 85.25 100 P **P 21 39 57.6 +0.7**
OTAV pmax pmax
comp=Z,15nm,1.1s
OTAV Otavalo 85.25 100 *eP* **P 21 39 58.0 +1.0**
HYB Hyderabad 86.86 308 *eP* **P 21 40 03.9 -0.5**
COHC Cochancay 87.40 102 P **P 21 40 07.1 +0.2**
RAYN Ar Rayn 88.83 339 P **P 21 40 10.5 -3.3**
BOAV Boa Vista 90.52 83 *eP* **P 21 40 21.5 -0.2**
MDP Montagnes des 91.17 75 LR LR 22 21 34.9
comp=Z,105nm,20.2s,baz=340,slow=36
BBTS Babate 94.17 38 LR LR 22 21 15.7
comp=Z,146nm,20.4s,baz=234,slow=34
EDFI Ende, Flores 94.38 258 P **P 21 40 38.8 -0.8**
CZSB Cruzeiro do Su 94.80 98 *eP* **P 21 40 40.8 -0.5**
TORD Torodi Ar. Bea 99.26 21 P **Pdif 21 41 00.6 -1.0**
comp=Z,0.4nm,0.8s,baz=345,slow=7.9,SNR=4.4
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 99.81 243 P **Pdif 21 41 03.4 -0.4**
comp=Z,2.2nm,0.6s,baz=27,slow=5.6,SNR=23
comp=Z,2.2nm,0.6s
ASAR Alice Springs 103.39 242 Pdiff **Pdif 21 41 21.2 +1.6**
comp=Z,0.8nm,0.8s,baz=24,slow=4.5,SNR=5.2
ASAR PKiKP **PKiKP 21 45 37.2 -1.3**
comp=Z,0.7nm,0.8s,baz=44,slow=2.7,SNR=5.2
ASAR PKKPbc **PKKPbc 21 57 12.6 +1.4**
comp=Z,0.9nm,1.1s,baz=204,slow=2.5,SNR=4.3
KMBO Kilima Mbogo 114.17 344 PKP **PKiKP 21 46 02.2 +2.8**
comp=Z,1.1nm,0.5s,baz=48,slow=4.4,SNR=5.3
CAM01 Campos-RJ 120.00 76 *eP* **PKiKP 21 46 11.8 +1.8**
TER01 Tubaro-SC 123.02 86 *eP* **PKiKP 21 46 16.6 +0.8**
PLCA Paso Flores 125.20 112 PKP **PKiKP 21 46 19.6 -0.2**
comp=Z,5.3nm,0.8s,baz=318,slow=1.7,SNR=12
BOSA Boshof 142.28 356 PKhKP PKPpre 21 46 48.4
comp=Z,4.8nm,0.9s,baz=0.5,slow=7.2,SNR=6.0
VNDA Vanda 145.71 195 PKPbc **PKPab 21 46 57.2 +0.2**
comp=Z,7.6nm,0.8s,baz=347,slow=4.3,SNR=31
QSPA South Pole Qui 156.10 180 PKP **PKPdf 21 47 10.0 -2.4**
comp=Z,2.7nm,1.0s,baz=31,slow=3.2,SNR=5.9
QSPA PKPbc sPKPdf 21 47 24.9 +8.1
comp=Z,8.6nm,0.8s,baz=348,slow=20,SNR=24
QSPA PKPab **pPKPab 21 47 40.9 -2.5**
comp=Z,11nm,0.7s,baz=85,slow=0.1,SNR=16
VNA3 Neumayer Olymp 167.36 127 ⇑PKPab **PKPab 21 48 28.7 -0.6**
comp=Z,3.0nm,0.8s
VNA1 Neumayer--Stat 167.88 125 ⇓PKPab **PKPab 21 48 31.1 -0.5**
VNA2 Neumayer--Watz 168.13 126 ⇓PKPab **PKPab 21 48 33.5 +0.8**
comp=Z,9.9nm,0.8s,baz=68,slow=32
SNAA Sanae 169.40 132 ⇓PKPab **PKPab 21 48 39.0 +0.6**
comp=Z,65nm,1.0s
SNAA Sanae 169.40 132 PKPab **PKPab 21 48 39.3 +0.8**
comp=Z,4.2nm,0.8s,baz=232,slow=4.9,SNR=147
TROLL Troll, Antarti 170.81 138 ⇑PKPab **PKPab 21 48 46.8 +2.0**
comp=Z,148nm,0.8s
ELIB Princess Elisa 174.30 182 *d*PKP **PKPab 21 49 02.3 +2.1**

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*IDC **26** 21:33:59.9±3.3, 30°.54N×141°.06E, h0km, mb3.5/4, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=134.0km s-min=21.2km az=74.0*
*JMA **26** 21:33:59.1±0.3, 31°.N±1°.×14°.2E±°, h46km, MV3.9/26, NEAR TORISHIMA IS*
ISC 26 21:34:00.9±1.4, 30°.95N±0°.09×142°.3E±0°.1, h35km, n15, σ2s43/22, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.99**	**317**	*eP*	**Pn**	**21 34 45.0**	**-0.8**
JHJ2				*eS*	**Sn**	**21 35 20.1**	**-0.3**
JHJ	**Hachijo jima 2**	**3.01**	**317**	Pn	**Pn**	**21 34 45.3**	**-0.9**
	4.6nm,0.3s,baz=207,slow=9.0,SNR=1.8						
JHJ				Sn	**Sn**	**21 35 16.9**	**-4.1**
	14nm,0.3s,baz=234,slow=14,SNR=3.1						
	163nm,0.9s						
BSO1	**Boso 1**	**3.85**	**344**	*eP*	**Pn**	**21 34 58.8**	**+1.7**
BSO1				*eS*	**Sn**	**21 35 42.0**	**+1.2**
BSO3	**Boso 3**	**4.11**	**340**	*eS*	**Sn**	**21 35 47.7**	**-0.1**
BSO4	**Boso 4**	**4.34**	**339**	*eP*	**Pn**	**21 35 06.1**	**+1.8**
BSO4				*eS*	**Sn**	**21 35 58.1**	**+4.5**
JOD2	**Odawara 2**	**5.06**	**329**	*eP*	**Pn**	**21 35 15.8**	**+1.5**
JOD2				*eS*	**Sn**	**21 36 13.4**	**+2.0**
JRY	**Ryogami san**	**5.78**	**332**	P	**Pn**	**21 35 25.2**	**+1.0**
JRY				S	**Sn**	**21 36 29.8**	**+0.6**
JAG	**Ashikaga**	**5.94**	**338**	*eP*	**Pn**	**21 35 26.7**	**+0.3**
JAG				*eS*	**Sn**	**21 36 32.9**	**-0.3**
JFK	**Kawauchi**	**6.50**	**350**	*eS*	**Sn**	**21 36 43.4**	**-3.7**
MJAR	**Matsushiro Arr**	**6.52**	**330**	Pn	**Pn**	**21 35 35.1**	**+0.8**
	0.2nm,0.3s,baz=162,slow=12,SNR=13						
	1.5nm,0.3s						
JMK	**Ichinoseki**	**8.03**	**354**	S	**Sn**	**21 37 18.3**	**-6.3**
MKAR	**Makanchi Array**	**48.14**	**307**	P	**P**	**21 42 37.9**	**+0.4**
	0.5nm,0.5s,baz=89,slow=8.9,SNR=5.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**50.45**	**312**	P	**P**	**21 42 55.2**	**+0.2**
	0.6nm,0.6s,baz=86,slow=6.8,SNR=6.3						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**51.16**	**190**	P	**P**	**21 42 59.1**	**-1.5**
	0.2nm,0.3s,baz=5.4,slow=7.6,SNR=5.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**54.89**	**189**	P	**P**	**21 43 29.4**	**+1.3**
	0.1nm,0.3s,baz=356,slow=5.3,SNR=4.4						
	0.1nm,0.3s						

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*AEIC **26** 21:35:29.9±1.1, 66°.31N±0°.02×157°.19W±0°.05, h1km±7km, ML3.5, ML3.7/126(NEIC), Error ellipse: s-maj=2.8km s-min=2.7km az=110.0*
*NEIC **26** 21:35:30.7±1.4, 66°.33N±0°.02×157°.22W±0°.05, h10km±8km, Error ellipse: s-maj=2.9km s-min=2.3km az=92.0*
*IDC **26** 21:35:32.1±1.0, 66°.83N×156°.72W, h0km, mb3.5/4, mbtmp3.6/7, ML3.6/3, Error ellipse: s-maj=26.7km s-min=13.1km az=35.0*
ISC 26 21:35:29.9±1.2, 66°.33N±0°.02×157°.17W±0°.03, h3km±10km,

n101,σ0§87/94,mb3.5/4,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.19**	**169**	Pg	**Pg**	**21 35 34.2**	**+0.7**
G19K				Sg	**Sg**	**21 35 37.2**	**+1.1**
F19K	**Shaleruckik Mo**	**0.56**	**335**		**Pg**	**21 35 40.7**	**0.0**
F19K				Sg	**Sg**	**21 35 48.5**	**+0.5**
G18K	**Tagagawik**	**0.74**	**235**		**Pg**	**21 35 43.9**	**-0.3**
G18K				Sg	**Sg**	**21 35 53.9**	**+0.1**
H19K	**Roundabout Mou**	**0.86**	**159**		**Pg**	**21 35 46.3**	**0.0**
H19K				IAML		21 36 03.2	
	comp=N,3μm,0.4s						
H19K				IAML		21 36 03.5	
	comp=E,4μm,0.5s						
H19K	**Roundabout Mou**	**0.86**	**159**		**Sb**	**21 35 58.6**	**-0.7**
F20K	**Avaraart Lake**	**0.92**	**38**		**Pg**	**21 35 47.5**	**-0.1**
F20K				IAML		21 36 04.3	
	comp=N,2μm,0.6s						
F20K	**Avaraart Lake**	**0.92**	**38**		**Sb**	**21 36 00.3**	**-1.0**
F18K	**Selawik**	**1.03**	**286**		**Pg**	**21 35 49.1**	**-0.6**
F18K					**Sg**	**21 36 03.3**	**+0.3**
E19K	**Redstone River**	**1.13**	**359**		**Pg**	**21 35 51.5**	**-0.1**
E19K				IAML		21 36 10.0	
	comp=N,2μm,0.5s						
E19K				IAML		21 36 12.2	
	comp=E,2μm,0.8s						
H20K	**Anotleneega Mo**	**1.26**	**131**		**Pg**	**21 35 54.0**	**-0.1**
H18K	**Honhosa River**	**1.28**	**203**	Pn	**Pn**	**21 35 53.5**	**-1.3**
H18K	**Honhosa River**	**1.28**	**203**		**Sg**	**21 36 10.6**	**-0.4**
G21K	**Allakaket**	**1.49**	**81**	Pn	**Pn**	**21 35 57.3**	**-0.2**
GCSA	**Galena City Sc**	**1.59**	**175**		**Pn**	**21 35 58.9**	**-0.1**
F17K	**Baldwin Pennin**	**1.65**	**276**	Pn	**Pn**	**21 35 58.6**	**-1.1**
F17K				IAML		21 36 24.7	
	comp=E,814nm,0.6s						
F17K				IAML		21 36 26.7	
	comp=N,892nm,0.7s						
G17K	**Kiwalik Mounta**	**1.65**	**241**		**Pn**	**21 35 58.6**	**-1.2**
F21K	**Alatna River**	**1.72**	**57**	Pn	**Pn**	**21 36 00.4**	**-0.4**
F21K				IAML		21 36 28.1	
	comp=N,1μm,0.7s						
F21K				IAML		21 36 28.3	
	comp=E,1μm,0.7s						
E18K	**Tukpahlearik C**	**1.74**	**311**	Pn	**Pn**	**21 36 01.2**	**+0.2**
H17K	**Granite Mounta**	**1.80**	**220**	Pn	**Pn**	**21 36 01.1**	**-0.8**
H17K				IAML		21 36 27.1	
	comp=N,910nm,0.6s						
I20K	**Naaghedeneel**	**1.90**	**143**	Pn	**Pn**	**21 36 03.4**	**+0.1**
H21K	**Melozitna Rive**	**1.91**	**109**	Pn	**Pn**	**21 36 03.1**	**-0.3**
H21K				IAML		21 36 33.2	
	comp=E,915nm,0.5s						
H21K				IAML		21 36 34.9	
	comp=N,646nm,0.5s						
E20K	**Nigu River**	**1.98**	**11**		**Pb**	**21 36 05.3**	**-1.3**
E17K	**Hotham Inlet**	**2.00**	**294**		**Pn**	**21 36 04.6**	**0.0**
D19K	**Kuna River**	**2.21**	**351**	Pn	**Pn**	**21 36 08.2**	**+0.7**
D19K				IAML		21 36 46.0	
	comp=N,412nm,0.8s						
D19K				IAML		21 36 48.1	
	comp=E,391nm,1.0s						
F22K	**John River**	**2.30**	**57**		**Pn**	**21 36 09.1**	**+0.4**
G16K	**Koyuk River**	**2.33**	**249**	Pn	**Pn**	**21 36 07.4**	**-1.7**
G16K				IAML		21 36 44.6	
	comp=N,477nm,0.5s						
H22K	**Ishtalitna Cre**	**2.40**	**98**		**Pn**	**21 36 10.0**	**-0.1**
D20K	**Etivluk River**	**2.41**	**5**		**Pn**	**21 36 11.2**	**+1.0**
I21K	**Tanana**	**2.43**	**116**	Pn	**Pn**	**21 36 10.2**	**-0.3**
I21K				IAML		21 36 49.7	
	comp=N,524nm,0.5s						
I21K				IAML		21 36 54.4	
	comp=E,506nm,0.5s						
J19K	**Poorman**	**2.44**	**164**	Pn	**Pn**	**21 36 10.4**	**-0.2**
E21K	**Killik River**	**2.46**	**29**		**Pn**	**21 36 11.2**	**+0.3**
E21K				IAML		21 36 58.3	
	comp=E,350nm,0.7s						
J20K	**Nowinta River**	**2.51**	**148**	Pn	**Pn**	**21 36 11.7**	**+0.1**
J20K				IAML		21 36 58.0	
	comp=E,392nm,0.6s						
J20K				IAML		21 36 58.3	
	comp=N,400nm,0.7s						
D17K	**Noatak River**	**2.70**	**303**		**Pn**	**21 36 14.5**	**+0.3**
E22K	**Anaktuvuk Pass**	**2.76**	**47**	Pn	**Pn**	**21 36 16.3**	**+1.2**
C18K	**Utukok River**	**2.80**	**328**	Pn	**Pn**	**21 36 15.1**	**-0.5**
I17K	**Unalakleet**	**2.87**	**213**		**Pn**	**21 36 16.0**	**-0.5**
J18K	**Innoko River**	**2.88**	**176**	Pn	**Pn**	**21 36 16.1**	**-0.7**
G23K	**Bananza Creek**	**2.89**	**79**	Pn	**Pn**	**21 36 16.2**	**-0.7**
G23K				IAML		21 37 07.4	
	comp=E,277nm,0.6s						
G23K				IAML		21 37 09.7	
	comp=N,380nm,0.9s						
COLD	**Coldfoot**	**2.91**	**69**		**Pn**	**21 36 16.7**	**-0.4**
C21K	**Knifeblade Rid**	**2.98**	**17**		**Pn**	**21 36 18.4**	**+0.3**
J17K	**VABM Dome**	**3.06**	**196**	Pn	**Pn**	**21 36 19.0**	**-0.1**
J17K				IAML		21 37 11.6	
	comp=E,298nm,1.0s						
J17K				IAML		21 37 12.5	
	comp=N,242nm,0.6s						
D22K	**Ayikyak River**	**3.09**	**32**		**Pn**	**21 36 20.2**	**+0.6**
D22K	**Ayikyak River**	**3.09**	**32**	IAML		21 37 15.4	
	comp=N,323nm,1.0s						
F15K	**North Star Dit**	**3.12**	**262**		**Pn**	**21 36 19.0**	**-1.0**
F15K				IAML		21 37 09.5	
	comp=N,293nm,0.6s						
F15K				IAML		21 37 12.6	
	comp=E,172nm,0.7s						
H23K	**Yukon River**	**3.15**	**96**	Pn	**Pn**	**21 36 20.5**	**+0.1**
K20K	**Telida**	**3.27**	**155**	Pn	**Pn**	**21 36 21.9**	**-0.1**
K20K				IAML		21 37 18.0	
	comp=N,155nm,1.1s						
J16K	**Anvik River**	**3.39**	**207**		**Pn**	**21 36 23.2**	**-0.5**
J16K				IAML		21 37 31.8	
	comp=N,254nm,0.8s						
E23K	**Chandalar**	**3.42**	**56**	Pn	**Pn**	**21 36 24.3**	**+0.1**
E23K				IAML		21 37 27.8	
	comp=N,238nm,0.5s						
BPAW	**Bear Paw Mtn.**	**3.43**	**128**	Pn	**Pn**	**21 36 24.5**	**+0.1**
BPAW				IAML		21 37 26.5	
	comp=E,135nm,1.0s						
I23K	**Minto, Yukon-K**	**3.44**	**107**	Pn	**Pn**	**21 36 23.8**	**-0.5**
I23K				IAML		21 37 22.8	
	comp=N,223nm,1.2s						
B21K	**Ikpikpuk River**	**3.44**	**15**	Pn	**Pn**	**21 36 23.8**	**-0.7**
B21K				IAML		21 37 29.4	
	comp=N,160nm,0.7s						
D23K	**Nanushuk River**	**3.63**	**40**	Pn	**Pn**	**21 36 27.8**	**+0.8**
CAST	**Castle Rocks**	**3.64**	**141**	Pn	**Pn**	**21 36 28.1**	**+0.9**
K17K	**Iditarod**	**3.66**	**188**	Pn	**Pn**	**21 36 26.9**	**-0.5**
K17K				IAML		21 37 37.7	
	comp=N,144nm,1.0s						
K17K				IAML		21 37 43.5	
	comp=E,124nm,1.1s						
B20K	**Meade River**	**3.70**	**0**	Pn	**Pn**	**21 36 28.3**	**+0.4**
B20K				IAML		21 37 38.4	
	comp=N,142nm,1.4s						
B20K				IAML		21 37 44.9	
	comp=E,132nm,1.4s						
C16K	**Lisburne Hills**	**3.72**	**305**	Pn	**Pn**	**21 36 28.3**	**+0.1**
TOLK	**Toolik Lake Re**	**3.73**	**48**	Pn	**Pn**	**21 36 29.3**	**+0.8**
TOLK				IAML		21 37 45.0	
	comp=N,184nm,1.2s						
NEA2	**Nenana**	**3.80**	**114**	IAML		21 37 34.3	
	comp=E,101nm,1.3s						
NEA2				IAML		21 37 34.5	
	comp=N,111nm,0.9s						
E24K	**Your Creek**	**3.81**	**59**	Pn	**Pn**	**21 36 29.8**	**+0.3**
E24K				IAML		21 37 37.7	
	comp=N,150nm,0.7s						
H24K	**Noodor Dome**	**3.82**	**93**	Pn	**Pn**	**21 36 29.8**	**+0.1**
H24K				IAML		21 37 36.2	
	comp=N,124nm,1.4s						
KTH	**Kantishna Hill**	**3.85**	**133**	IAML		21 37 37.0	
	comp=E,118nm,1.4s						
KTH				IAML		21 37 40.0	
	comp=N,172nm,1.4s						
ANM	**Nome**	**3.85**	**246**	Pn	**Pn**	**21 36 28.6**	**-1.5**
ANM				IAML		21 37 44.0	
	comp=N,101nm,0.5s						
TRF	**Thorofare Moun**	**4.12**	**131**	IAML		21 37 44.6	
	comp=E,146nm,1.4s						
L18K	**Granite Mounta**	**4.13**	**177**		**Pn**	**21 36 34.6**	**+0.7**
L18K	**Granite Mounta**	**4.13**	**177**	IAML		21 37 50.1	
	comp=N,85nm,1.2s						
L18K				IAML		21 37 51.1	
	comp=E,77nm,1.1s						
COLA	**College**	**4.13**	**106**		**Pn**	**21 36 34.0**	**+0.2**
POKR	**Poker Plat Res**	**4.20**	**102**		**Pn**	**21 36 34.7**	**-0.2**
POKR				IAML		21 37 44.6	
	comp=E,88nm,0.8s						
POKR				IAML		21 37 44.9	
	comp=N,97nm,1.1s						
WRH	**Wood River Hil**	**4.23**	**112**	IAML		21 37 47.1	
	comp=E,91nm,1.0s						
CCB	**Clear Creek Bu**	**4.25**	**109**	IAML		21 37 50.4	
	comp=E,76nm,0.7s						
B22K	**Teshekpuk Lake**	**4.26**	**17**		**Pn**	**21 36 36.9**	**+1.2**
B22K	**Teshekpuk Lake**	**4.26**	**17**	IAML		21 37 57.2	
	comp=N,75nm,0.9s						
B22K				IAML		21 38 09.9	
	comp=E,92nm,1.1s						
L19K	**White Mountain**	**4.29**	**165**	IAML		21 38 02.5	
	comp=E,76nm,1.1s						
L19K				IAML		21 38 05.5	
	comp=N,96nm,1.3s						
K15K	**Wolf Creek Mou**	**4.47**	**207**	Pn	**Pn**	**21 36 38.7**	**+0.1**
K15K				IAML		21 38 02.1	
	comp=E,91nm,1.1s						
K15K				IAML		21 38 05.1	
	comp=N,65nm,1.3s						
J14K	**Nanvaranak Lak**	**4.53**	**220**		**Pn**	**21 36 38.2**	**-1.1**
J14K				IAML		21 38 02.3	
	comp=N,107nm,0.9s						
ILAR	**Eielson Array**	**4.55**	**105**	Pn	**Pn**	**21 36 38.7**	**-1.0**
	comp=N,9.7nm,0.3s,baz=295,slow=14,SNR=63						
ILAR				Sn	**Sn**	**21 37 30.5**	**-2.5**
	comp=N,3.4nm,0.3s,baz=295,slow=18,SNR=5.4						
ILAR				Lg	Lg	21 37 52.5	
	comp=N,6.7nm,0.3s,baz=305,slow=33,SNR=9.1						
	comp=N,38nm,0.6s						
HDA	**Harding Lake**	**4.69**	**110**	IAML		21 37 59.7	
	comp=E,49nm,0.9s						
HDA				IAML		21 38 00.4	
	comp=N,94nm,0.6s						
M20K	**Styx River**	**4.80**	**156**	Pn	**Pn**	**21 36 44.3**	**+1.1**
M20K				IAML		21 38 08.7	
	comp=E,66nm,1.1s						
E25K	**Arctic Village**	**4.85**	**63**		**Pn**	**21 36 43.6**	**-0.2**
E25K	**Arctic Village**	**4.85**	**63**	IAML		21 38 12.6	
	comp=E,72nm,0.8s						
SKT	**Skwentna**	**5.01**	**148**	IAML		21 38 14.1	
	comp=E,44nm,1.4s						
K13K	**Kusilvak Mount**	**5.49**	**220**	Pn	**Pn**	**21 36 51.2**	**-1.4**
N18K	**Kilae Creek**	**5.70**	**174**	Pn	**Pn**	**21 36 55.9**	**+0.4**
GHO	**Glory Hole Cre**	**5.83**	**138**	Pn	**Pn**	**21 36 58.0**	**+0.8**
SCRK	**Sand Creek**	**6.04**	**107**	Pn	**Pn**	**21 36 59.3**	**-0.9**
C27K	**Jago River**	**6.04**	**51**	Pn	**Pn**	**21 37 00.7**	**+0.6**
E27K	**Coleen River**	**6.32**	**66**	Pn	**Pn**	**21 37 03.7**	**-0.2**
N15K	**Kwethluk River**	**6.32**	**193**	Pn	**Pn**	**21 37 03.6**	**-0.4**
O16K	**Kokwok River B**	**6.77**	**184**	Pn	**Pn**	**21 37 10.1**	**0.0**
KLU	**Klutina**	**6.93**	**129**		**Pn**	**21 37 13.2**	**+0.8**
P18K	**Big Mountain,**	**7.02**	**172**	Pn	**Pn**	**21 37 13.5**	**-0.1**
DAWY	**Dawson**	**7.81**	**99**	Pn	**Pn**	**21 37 24.3**	**0.0**
L29M	**L29M**	**8.75**	**103**	Pn	**Pn**	**21 37 37.2**	**0.0**
KDAK	**Kodiak Island**	**8.84**	**164**	Pn	**Pn**	**21 37 39.5**	**+1.0**
KDAK	**Kodiak Island**	**8.84**	**164**	Pn	**Pn**	**21 37 41.2**	**+2.7**
	comp=E,0.5nm,0.3s,baz=262,slow=7.1,SNR=5.2						
KDAK				Lg	Lg	21 40 18.7	
	comp=E,0.2nm,0.3s,baz=350,slow=17,SNR=1.5						
	comp=E,4.7nm,0.6s						
INK	**Inuvik**	**9.32**	**67**	Pn	**Pn**	**21 37 42.8**	**-2.2**
	comp=E,0.2nm,0.3s,baz=259,slow=10,SNR=1.8						
	comp=E,3.6nm,1.1s						
N30M	**Aishikik Lake**	**10.08**	**110**	Pn	**Pn**	**21 37 55.5**	**0.0**
O30N	**Mendenhall**	**10.89**	**111**	Pn	**Pn**	**21 38 06.6**	**0.0**
SONM	**Songino Array**	**49.79**	**299**	P	**P**	**21 44 26.8**	**+3.2**
	comp=E,0.8nm,1.0s,baz=25,slow=7.9,SNR=2.3						
	comp=E,0.8nm,1.0s						
ZALV	**Zasovo Beam**	**51.26**	**318**	P	**P**	**21 44 35.1**	**+0.8**
	comp=E,0.4nm,0.5s,baz=12,slow=7.4,SNR=2.1						
	comp=E,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**55.92**	**321**	P	**P**	**21 45 09.2**	**+0.6**
	comp=E,0.3nm,0.6s,baz=27,slow=6.3,SNR=2.2						
	comp=E,0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.41**	**316**	P	**P**	**21 45 25.3**	**-1.1**
	comp=E,0.2nm,0.6s,baz=27,slow=7.1,SNR=2.1						
	comp=E,0.2nm,0.6s						

*IDC **26** 21:37:42.0±0.7, 55.°39N×164.°41E, h0km, mb3.7/15, mbtmp3.8/17, ML4.7/1, MS4.0/1, Error ellipse: s-maj=23.3km s-min=14.0km az=162.0*
*NEIC **26** 21:37:43.8±1.3, 55.°3N±0.°1×164.°2E±0.°2, h10km±2km, mb4.2/21, Error ellipse: s-maj=27.1km s-min=14.8km az=151.0*
*KRSC **26** 21:37:43.3±1.5, 55.°26N×164.°48E, h59km±26km, Ml4.6*
*MOS **26** 21:37:45.7±1.0, 55.°30N×164.°49E, h49km, mb4.3/7, Error ellipse: s-maj=6.9km s-min=5.8km az=52.4*

ISC 26 21:37:44.3±2.8, 55.°32N±0.°03×164.°42E±0.°03, h17km±18km,
n135,σ1§44/167,mb4.0/27,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.90**	**97**	PN	**Pb**	**21 38 00.3**	**-1.1**
BKI				S	**Sb**	**21 38 11.4**	**-1.6**
BKI	**Bering**	**0.90**	**97**	*eP*	**Pb**	**21 38 00.3**	**-1.1**
BKI				*eS*	**Sb**	**21 38 11.5**	**-1.6**
KBTR	**Krutoberegovo**	**1.27**	**315**	PN	**Pn**	**21 38 06.3**	**-0.9**
KBTR				S	**Sb**	**21 38 22.1**	**-1.7**
KBTR	**Krutoberegovo**	**1.27**	**315**	*eP*	**Pn**	**21 38 06.4**	**-0.9**
KBTR				*eS*	**Sb**	**21 38 22.2**	**-1.7**
KBG	**Krutoberegovo**	**1.35**	**315**	PN	**Pn**	**21 38 07.5**	**-0.8**
KBG				S	**Sn**	**21 38 23.9**	**-1.9**
KBG	**Krutoberegovo**	**1.35**	**315**	*eP*	**Pn**	**21 38 07.5**	**-0.8**
KBG				*eS*	**Sn**	**21 38 23.9**	**-1.9**
MKZ	**Mys Kozlova**	**1.73**	**245**	PN	**Pn**	**21 38 13.4**	**-0.2**
MKZ				S	**Sn**	**21 38 33.8**	**-1.5**
MKZ	**Mys Kozlova**	**1.73**	**245**	*eP*	**Pn**	**21 38 13.5**	**-0.2**
MKZ				*eS*	**Sn**	**21 38 33.9**	**-1.5**
SMKR	**Semkarok**	**2.09**	**308**	PN	**Pn**	**21 38 19.5**	**+0.9**
SMKR	**Semkarok**	**2.09**	**308**	*eP*	**Pn**	**21 38 19.5**	**+0.9**
ZLN	**Zelenaya**	**2.17**	**290**	PN	**Pb**	**21 38 21.8**	**-1.3**
ZLN	**Zelenaya**	**2.17**	**290**	*eP*	**Pb**	**21 38 21.9**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**2.20**	**288**	PN	**Pn**	**21 38 22.0**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**2.20**	**288**	*eP*	**Pn**	**21 38 22.0**	**+1.8**
TUMD	**Tumrok D**	**2.31**	**269**	PN	**Pn**	**21 38 22.7**	**+1.2**
TUMD				S	**Sn**	**21 38 50.5**	**+1.0**
TUMD	**Tumrok D**	**2.31**	**269**	*eP*	**Pn**	**21 38 22.7**	**+1.2**
TUMD				*eS*	**Sn**	**21 38 50.6**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.32**	**288**	PN	**Pn**	**21 38 24.0**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.32**	**288**	*eP*	**Pn**	**21 38 24.0**	**+2.2**
KLY	**Klyuchi**	**2.35**	**297**	PN	**Pn**	**21 38 21.9**	**-0.2**
KLY				S	**Sn**	**21 38 48.9**	**-1.6**
KLY	**Klyuchi**	**2.35**	**297**	*eP*	**Pn**	**21 38 21.9**	**-0.2**
KLY				*eS*	**Sn**	**21 38 48.9**	**-1.6**
KRSR	**Krestovskiy**	**2.36**	**294**	PN	**Pn**	**21 38 23.4**	**+1.1**
KRSR	**Krestovskiy**	**2.36**	**294**	*eP*	**Pn**	**21 38 23.4**	**+1.1**
KIRR	**Kirishev**	**2.40**	**287**	PN	**Pn**	**21 38 24.6**	**+1.7**
KIRR	**Kirishev**	**2.40**	**287**	*eP*	**Pn**	**21 38 24.7**	**+1.7**
KMNR	**Kamenistaya**	**2.42**	**282**	PN	**Pn**	**21 38 25.3**	**+2.1**
KMNR	**Kamenistaya**	**2.42**	**282**	*eP*	**Pn**	**21 38 25.3**	**+2.1**
KPT	**Kopyto**	**2.47**	**287**	PN	**Pn**	**21 38 25.6**	**+1.8**
KPT	**Kopyto**	**2.47**	**287**	*eP*	**Pn**	**21 38 25.7**	**+1.8**
KOZ	**Kozyrevsk**	**2.68**	**288**	PN	**Pn**	**21 38 29.0**	**+2.3**
KOZ	**Kozyrevsk**	**2.68**	**288**	*eP*	**Pn**	**21 38 29.0**	**+2.3**
SRDR	**Sredinnyy**	**2.84**	**293**	PN	**Pn**	**21 38 30.8**	**+1.9**
SRDR	**Sredinnyy**	**2.84**	**293**	*eP*	**Pn**	**21 38 30.9**	**+1.9**
KII	**Karymskiy**	**3.16**	**248**	PN	**Pn**	**21 38 34.6**	**+1.3**
KII				S	**Sn**	**21 39 11.0**	**+0.3**
KII	**Karymskiy**	**3.16**	**248**	*eP*	**Pn**	**21 38 34.7**	**+1.3**
KII				*eS*	**Sn**	**21 39 11.1**	**+0.3**
ESO	**Esso**	**3.30**	**283**	PN	**Pn**	**21 38 36.7**	**+1.5**
ESO	**Esso**	**3.30**	**283**	*eP*	**Pn**	**21 38 36.7**	**+1.5**
SPN	**Mys Shipunski**	**3.41**	**231**	PN	**Pn**	**21 38 36.5**	**-0.2**
SPN	**Mys Shipunski**	**3.41**	**231**	*eP*	**Pn**	**21 38 36.6**	**-0.2**
SPN				*eS*	**Sn**	**21 39 12.9**	**-3.8**
NLC	**Nalytchevo**	**3.68**	**236**	PN	**Pn**	**21 38 41.0**	**+0.7**
NLC	**Nalytchevo**	**3.68**	**236**	*eP*	**Pn**	**21 38 41.1**	**+0.7**
SDLR	**Sedlovina**	**3.84**	**240**	PN	**Pn**	**21 38 44.2**	**+1.5**
SDLR				S	**Sn**	**21 39 26.7**	**-0.7**
SDLR	**Sedlovina**	**3.84**	**240**	*eP*	**Pn**	**21 38 44.2**	**+1.5**
SDLR				*eS*	**Sn**	**21 39 26.7**	**-0.7**
KRER	**Koryakskii**	**3.89**	**241**	PN	**Pn**	**21 38 45.4**	**+1.9**
KRER				S	**Sn**	**21 39 27.5**	**-1.3**
KRER	**Koryakskii**	**3.89**	**241**	*eP*	**Pn**	**21 38 45.4**	**+1.9**
KRER				*eS*	**Sn**	**21 39 27.6**	**-1.3**
UGLR	**Uglovaya**	**3.91**	**239**	PN	**Pn**	**21 38 45.3**	**+1.7**
UGLR				S	**Sn**	**21 39 28.0**	**-1.1**
UGLR	**Uglovaya**	**3.91**	**239**	*eP*	**Pn**	**21 38 45.4**	**+1.7**
UGLR				*eS*	**Sn**	**21 39 28.1**	**-1.1**
KRX	**Arik**	**3.91**	**242**	PN	**Pn**	**21 38 45.3**	**+1.6**
KRX				S	**Sn**	**21 39 28.3**	**-0.9**
KRX	**Arik**	**3.91**	**242**	*eP*	**Pn**	**21 38 45.4**	**+1.6**
KRX				*eS*	**Sn**	**21 39 28.4**	**-0.9**
AVH	**Avacha**	**3.92**	**241**	PN	**Pn**	**21 38 45.7**	**+2.0**
AVH				S	**Sn**	**21 39 28.7**	**-0.6**
AVH	**Avacha**	**3.92**	**241**	*eP*	**Pn**	**21 38 45.7**	**+2.0**
AVH				*eS*	**Sn**	**21 39 28.7**	**-0.6**
KOK	**Koryaka**	**3.95**	**241**	PN	**Pn**	**21 38 46.1**	**+1.9**
KOK				S	**Sn**	**21 39 29.5**	**-0.7**
KOK	**Koryaka**	**3.95**	**241**	*eP*	**Pn**	**21 38 46.1**	**+1.9**
KOK				*eS*	**Sn**	**21 39 29.5**	**-0.7**
OSSR	**Ossora**	**4.01**	**350**	PN	**Pn**	**21 38 45.7**	**+0.8**
OSSR	**Ossora**	**4.01**	**350**	*eP*	**Pn**	**21 38 45.7**	**+0.8**
OSSR				*eS*	**Sn**	**21 39 29.8**	**-1.6**
DALK	**Dalny**	**4.04**	**238**	PN	**Pn**	**21 38 46.4**	**+1.0**
DALK	**Dalny**	**4.04**	**238**	*eP*	**Pn**	**21 38 46.5**	**+1.0**
DALK				*eS*	**Sn**	**21 39 30.7**	**-1.6**
PET	**Petropavlovsk**	**4.10**	**238**		**Pn**	**21 38 46.9**	**+0.8**
PET				Sn	**Sn**	**21 39 31.6**	**-2.0**
PET	**Petropavlovsk**	**4.10**	**238**	*e*PN	**Pn**	**21 38 47.4**	**+1.3**
PET				*eS*	**Sn**	**21 39 32.3**	**-1.3**
PET				smax	smax		
	comp=N,545nm,0.7s						
PET				smax	smax		
	comp=E,522nm,0.8s						
PET	**Petropavlovsk**	**4.10**	**238**	*e*P	**Pn**	**21 38 47.6**	**+1.5**
PET				*eS*	**Sn**	**21 39 32.0**	**-1.6**
GNL	**Ganaly**	**4.11**	**249**	PN	**Pn**	**21 38 48.2**	**+1.7**
GNL	**Ganaly**	**4.11**	**249**	*eP*	**Pn**	**21 38 48.2**	**+1.7**
KRMR	**Karymshinskiy**	**4.47**	**239**	PN	**Pn**	**21 38 53.1**	**+1.9**
KRMR				S	**Sn**	**21 39 42.0**	**-0.7**
KRMR	**Karymshinskiy**	**4.47**	**239**	*eP*	**Pn**	**21 38 53.2**	**+1.9**
KRMR				*eS*	**Sn**	**21 39 42.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**4.53**	**243**		**Pn**	**21 38 54.0**	**+1.9**
PEA0B	**Petropavlovsk-**	**4.53**	**243**	*i* PN	**Pn**	**21 38 53.7**	**+1.6**
PETK	**Petropavlovsk-**	**4.53**	**243**	Pn	**Pn**	**21 38 53.2**	**+1.2**
	comp=E,9.6nm,0.5s,baz=71,slow=17,SNR=57						
PETK				Sn	**Sn**	**21 39 42.8**	**-1.5**
	comp=E,5.2nm,0.3s,baz=30,slow=16,SNR=7.3						
RUS	**Russkaya**	**4.54**	**233**	PN	**Pn**	**21 38 52.6**	**+0.4**
RUS	**Russkaya**	**4.54**	**233**	*eP*	**Pn**	**21 38 52.6**	**+0.4**
RUS				*eS*	**Sn**	**21 39 39.7**	**-4.7**
GRL	**Gorelyy**	**4.67**	**236**	PN	**Pn**	**21 38 55.8**	**+1.8**
GRL	**Gorelyy**	**4.67**	**236**	*eP*	**Pn**	**21 38 55.9**	**+1.8**
GRL				*eS*	**Sn**	**21 39 47.0**	**-0.8**
APC	**Apacha**	**4.90**	**244**	PN	**Pn**	**21 38 59.5**	**+2.4**
APC	**Apacha**	**4.90**	**244**	*eP*	**Pn**	**21 38 59.6**	**+2.4**
APC				*eS*	**Sn**	**21 39 52.6**	**-0.8**
KDTR	**Khodutka, Kamc**	**5.16**	**230**	PN	**Pn**	**21 39 00.7**	**-0.1**
KDTR	**Khodutka, Kamc**	**5.16**	**230**	*eP*	**Pn**	**21 39 00.7**	**-0.1**
KDTR				*eS*	**Sn**	**21 39 55.2**	**-4.7**
TILK	**Tilichiki**	**5.22**	**9**	PN	**Pn**	**21 39 03.1**	**+1.6**
TILK	**Tilichiki**	**5.22**	**9**	*eP*	**Pn**	**21 39 03.2**	**+1.6**
K13K	**Kusilvak Mount**	**17.28**	**55**	P	**P**	**21 41 47.7**	**+1.8**
K13K				IAmb	IAmb	21 42 26.2	
	comp=Z,30nm,1.4s						
YAK	**Yakutsk**	**19.08**	**305**	P	**P**	**21 42 04.5**	**-1.2**
YAK				IAmb	IAmb	21 42 22.1	
	comp=Z,19nm,0.9s						
YAK	**Yakutsk**	**19.08**	**305**	P	**P**	**21 42 05.3**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=90,slow=16,SNR=4.7						
	comp=Z,14nm,0.6s						
N15K	**Kwethluk River**	**19.38**	**61**	P	**Pn**	**21 42 11.9**	**+1.7**
N15K				IAmb	IAmb	21 42 35.6	
	comp=Z,20nm,1.1s						
M17K	**Holitna River**	**20.67**	**57**	P	**P**	**21 42 24.1**	**+1.0**
M17K				IAmb	IAmb	21 42 33.1	
	comp=Z,13nm,1.1s						
L18K	**Granite Mounta**	**21.04**	**55**	P	**P**	**21 42 29.7**	**+2.7**
L18K				IAmb	IAmb	21 42 44.7	
	comp=Z,16nm,1.3s						
ZEA	**Zeya**	**21.47**	**281**	*i* P	**P**	**21 42 31.1**	**-0.6**
O18K	**Koktuh Hills**	**21.85**	**61**	P	**P**	**21 42 36.5**	**+0.7**
**TI

comp=Z,1.3nm,0.8s
ABKAR **Akbulak array** 58.25 312 P **P** 21 47 37.6 +0.1
BTK **Batken** 60.10 298 P **P** 21 47 50.2 -0.3
BTK IAmb IAmb 21 47 51.9
comp=Z,3.2nm,1.1s
BTK **Batken** 60.10 298 P **P** 21 47 50.2 -0.3
BTK pmax pmax
comp=Z,3.0nm,1.1s
CMAR **Chiang Mai Arr** 61.09 261 P **P** 21 47 59.3 +1.9
comp=Z,1.2nm,0.8s,baz=23,slow=6.9,SNR=8.8
comp=Z,1.2nm,0.8s
GAR **Garm** 61.16 297 P **P** 21 47 57.0 -0.7
NOA **NORSAR Array B** 62.06 346 P **P** 21 48 03.9 +0.4
comp=Z,0.7nm,0.8s,baz=81,slow=5.4,SNR=2.0
comp=Z,0.7nm,0.8s
NIL **Nilore** 63.72 292 P **P** 21 48 14.6 -0.2
NIL **Nilore** 63.72 292 P **P** 21 48 14.6 -0.2
NIL pmax pmax
comp=Z,5.0nm,0.5s
TXAR **Lajitas Array** 67.46 71 P **P** 21 48 39.8 +0.6
comp=Z,0.4nm,0.6s,baz=297,slow=5.0,SNR=4.8
comp=Z,0.4nm,0.6s
WRA **Warramunga Arr** 79.22 209 P **P** 21 49 48.1 -0.2
comp=Z,0.4nm,0.5s,baz=20,slow=5.7,SNR=4.2
comp=Z,0.4nm,0.5s
ASAR **Alice Springs** 82.88 208 P **P** 21 50 08.1 +0.4
comp=Z,0.7nm,0.8s,baz=12,slow=4.5,SNR=6.4
comp=Z,0.7nm,0.8s
RAYN **Ar Rayn** 85.87 306 P **P** 21 50 23.3 +0.1
RAYN **Ar Rayn** 85.87 306 P **P** 21 50 23.3 +0.1
RAYN pmax pmax
comp=Z,5.0nm,1.3s

IDC 26 21:45:56.1±1.9,31°.77S×177°.86W,h0km,mb3.7/3, mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=44.7km s-min=33.8km az=91.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	7.67	211	Pn	Pn	21 47 49.4	+0.4
	0.4nm,0.3s,baz=45,slow=7.1,SNR=0.9						
URZ				Sn	Sn	21 49 15.3	-1.4
	3.5nm,0.3s,baz=50,slow=19,SNR=12						
	5.0nm,0.7s						
ASAR	**Alice Springs**	43.17	268	P	P	21 53 58.5	-0.3
	0.7nm,0.8s,baz=105,slow=7.0,SNR=4.9						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	44.28	273	P	P	21 54 08.1	+0.3
	0.8nm,0.4s,baz=114,slow=7.8,SNR=8.6						
	0.8nm,0.4s						
H11N3	**WAKE ISLAND Hy**	53.24	342	T	T	22 51 44.4	
	baz=155,slow=76						
H11N1	**WAKE ISLAND Hy**	53.24	342	T	T	22 51 46.4	
	baz=155,slow=76						
H11N2	**WAKE ISLAND Hy**	53.25	342	T	T	22 51 46.3	
	baz=155,slow=76						
QSPA	**South Pole Qui**	58.34	180	P	P	21 55 53.0	+0.2
	0.9nm,1.0s,baz=31,slow=5.9,SNR=1.0						
	0.9nm,1.0s						
FINES	**FINESS Array B**	146.47	339	PKPbc	PKPdf	22 05 37.2	+0.2
	0.8nm,0.4s,baz=40,slow=2.4,SNR=8.7						

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*IDC **26** 21:51:22.3±1.7,33°.72N×134°.93E,h0km,mb3.4/2, mbtmp3.3/4,ML3.1/2,Error ellipse: s-maj=34.2km s-min=31.7km az=120.0*
*JMA **26** 21:51:26.7±0.1,33°.8N±0°.2×134°.9E±0°.1,h40km,MV3.6/40, S PART OF KII CHANNEL*
JMA Felt II J1 at S PART OF KII CHANNEL .
ISC 26 21:51:25.8±2.0,33°.83N±0°.07×134°.92E±0°.03,h28km±17km, n15,σ0°66/24,8D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	0.36	87	⇓P	Pn	21 51 35.6	+0.3
JWM				⇓S	Sn	21 51 41.6	+0.2
JAI	**Aioi**	0.39	265	P	Pn	21 51 36.2	+0.5
JAI				S	Sn	21 51 42.6	+0.4
JTNC	**Tanabenakahech**	0.57	91	P	Pn	21 51 38.3	+0.1
JTNC				S	Sn	21 51 46.6	-0.1
JAWN	**Awajishima-nag**	0.65	359	⇓P	Pn	21 51 39.5	+0.2
JAWN				⇓S	Sb	21 51 48.5	+0.9
JWY	**Kouya**	0.68	55	P	Pn	21 51 39.7	0.0
JWY				S	Sn	21 51 48.9	-0.5
JMN	**Monobe**	0.87	264	P	Pn	21 51 42.5	+0.2
JMN				S	Sn	21 51 53.9	-0.2
JJS	**Sakaide**	0.98	304	⇓P	Pn	21 51 43.9	+0.1
JJS				⇓S	Sb	21 51 56.1	-0.8
JHE	**Heguri**	1.04	37	P	Pn	21 51 44.5	-0.1
JHE				S	Sb	21 51 57.5	-1.0
JKS	**Kasai**	1.15	357	⇓P	Pn	21 51 46.2	+0.1
JKN2	**Miekihoku**	1.20	70	P	Pn	21 51 46.3	-0.4
JAD	**Aida**	1.27	331	⇓P	Pn	21 51 47.5	-0.2
JNU	**Nakatsue**	3.45	259	Pn	Pn	21 52 18.3	+0.5
	4.4nm,0.3s,baz=61,slow=5.3,SNR=87						
JNU				Sn	Sn	21 52 56.3	-1.4
	2.6nm,0.3s,baz=54,slow=14,SNR=4.9						
	8.8nm,0.3s						
MJAR	**Matsushiro Arr**	3.82	44	Pn	Pn	21 52 24.2	+1.5
	0.3nm,0.3s,baz=226,slow=14,SNR=12						
	2.0nm,0.4s						
SONM	**Songino Array**	25.55	312	P	P	21 56 52.9	+0.6
	0.2nm,0.5s,baz=132,slow=9.9,SNR=2.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	53.47	181	P	P	22 00 43.3	-0.3
	0.4nm,0.6s,baz=358,slow=7.4,SNR=6.0						
	0.4nm,0.6s						

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*IDC **26** 21:54:03.8±0.3,21°.46S×173°.45W,h0km,mb5.0/27, mbtmp5.1/30,ML5.8/3,MS4.5/41,Error ellipse: s-maj=14.6km s-min=12.0km az=144.0*
*MOS **26** 21:54:04.9±0.8,21°.46S×173°.53W,h13km,mb5.6/43, MS4.8/6,Error ellipse: s-maj=8.3km s-min=8.1km az=103.5*
*NEIC **26** 21:54:06.2,21°.46S×172°.89W,h36km,Moment Tensor Solution. Duration: 1ŝ1.0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.93; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.95; $M_{r\theta}$-0.03; $M_{\theta\phi}$-0.23; $M_{\phi r}$-0.50; Fault plane solution: $M_0$1.09000×10^{17} NP1: ϕ_s17.53000°,δ31.72000°,λ98.16000°. NP2:ϕ_s187.97000°, δ58.64000°,λ84.99000°. Principal axes: T 1.0498, Plg76.0000°, Azm83.0000°; N 0.0717, Plg4.0000°, Azm191.0000°; P -1.1215, Plg14.0000°, Azm282.0000°;*
*NEIC **26** 21:54:06.3±1.4,21°.36S±0°.05×173°.42W±0°.08,h10km±1km, mb5.6/213,Mww5.3/14 Error ellipse: s-maj=12.7km s-min=7.5km az=243.0*
*NEIC **26** 21:54:06.2,21°.36S×173°.43W,h36km*
*BJI **26** 21:54:07.9,21°.11S×173°.28W,h26km,mB5.7/25, mb5.2/55,Ms5.1/29,Ms7 4.8/33*
*GCMT **26** 21:54:10.3±0.1,21°.48S±0°.01×173°.27W±0°.01,h43km, MW5.3/132,Moment Tensor Solution. s122,c199; s132,c233; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.94±.02; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-0.98±.01; $M_{r\theta}$0.04±.01; $M_{\theta\phi}$-0.25±.01; $M_{\phi r}$-0.55±.01; Best double couple: $M_0$1.12900×10^{17} NP1:ϕ_s22.00000°,δ32.00000°, λ105.00000°. NP2:ϕ_s184.00000°,δ60.00000°,λ81.00000°. Principal axes: T 1.0910, Plg74.0000°, Azm70.0000°; N 0.0770, Plg8.0000°, Azm189.0000°; P -1.1680, Plg14.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **26** 21:54:12.0,21°.34S×173°.62W,h47km,ML5.5/101,Tonga Islands*
ISC 26 21:54:08.1±0.5,21°.47S±0°.04×173°.42W±0°.04,h28km±3km, h28km:pP-P,n1135,σ1ŝ21/1170,mb5.5/256,MS4.6/57, 71C-36D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	4.05	55	Pn	Pn	21 55 05.9	-2.4
NIUE	**Niue**	4.05	55	P	Pn	21 55 05.8	-2.4
AFI	**Afiamalu**	7.68	12		Pn	21 55 55.2	-3.1
AFI	**Afiamalu**	7.68	12	P	Pn	21 55 55.2	-3.1
FUTU	**Fugatoga**	8.41	327	Pn	Pn	21 56 06.1	-2.1
RIZ	**Raoul Island**	8.75	207	P	Pn	21 56 14.0	+1.3
RIZ				S	Sn	21 57 45.1	-5.3
GLKZ	**Green Lake**	8.76	207	P	Pn	21 56 13.2	+0.3
GLKZ				S	Sn	21 57 44.3	-6.4
MSVF	**Nonsavu**	8.86	293	Pn	Pn	21 56 17.5	+3.1
MSVF	**Nonsavu**	8.86	293	Pn	Pn	21 56 14.8	+0.3
	29nm,0.3s,baz=133,slow=10.0,SNR=125						
MSVF				LR	LR	21 59 18.7	
	comp=Z,9μm,20.9s,baz=95,slow=36						
	786nm,1.1s						
MSVF	**Nonsavu**	8.86	293	P	Pn	21 56 14.5	+0.1
	2μm,1.1s						
RAR	**Rarotonga**	12.72	91	Pn	Pn	21 57 04.0	-3.2
RAR	**Rarotonga**	12.72	91	Pn	Pn	21 57 03.0	-4.2
	17nm,0.3s,baz=265,slow=9.4,SNR=38						
RAR				Sn	Sn	21 59 10.9	-17
	32nm,0.3s,baz=217,slow=16,SNR=5.7						
RAR				LR	LR	22 00 58.6	
	comp=Z,3μm,18.7s,baz=276,slow=32						
RAR	**Rarotonga**	12.72	91	P	Pn	21 57 04.0	-3.2
RAR	**Rarotonga**	12.72	91	P	Pn	21 57 04.8	-2.4
INH	**Isangel**	16.33	274	P	Pn	21 57 55.9	+0.4
	1μm,1.3s						
MARNC	**Mare, Loyalty**	17.27	267	P	P	21 58 08.2	-0.4
	7.8nm,0.8s						
DVP	**Devils Point**	17.73	279	P	Pn	21 58 13.1	+0.1
	9μm,1.2s						
PINNC	**Pines Island,**	17.78	263	P	Pn	21 58 13.5	-0.1
PINNC	**Pines Island,**	17.78	263	P	Pn	21 58 13.9	+0.3
	328nm,1.5s						
HAZ	**Te Kaha**	17.92	203	P	Pn	21 58 12.5	-2.8
WCZ	**Waipu Caves**	17.95	214	P	P	21 58 23.9	+7.9
PUZ	**Puketiti**	18.04	202	P	P	21 58 16.9	-0.1
PUZ				S	Sn	22 01 20.3	-17
YATNC	**Mamie plateau,**	18.30	265	P	Pn	21 58 21.2	+1.1
	327nm,1.2s						
OUENC	**Ouen Island, N**	18.34	263	P	Pn	21 58 21.3	+0.8
	66nm,1.1s						
NFK	**Norfolk Island**	18.46	242	P	Pn	21 58 22.9	+1.0
	comp=Z,340nm,1.0s						
MWZ	**Matawai**	18.53	203	P	P	21 58 19.1	-3.3
MWZ				S	Sn	22 01 33.2	-16
URZ	**Urewera**	18.62	204	P	P	21 58 20.8	-2.5
	comp=Z,3.0nm,0.3s,baz=100,slow=4.3,SNR=18						
URZ				S	Sn	22 01 35.2	-16
	comp=Z,28nm,0.5s,baz=90,slow=20,SNR=8.7						
URZ				LR	LR	22 06 51.0	
	comp=Z,510nm,19.8s,baz=114,slow=41						
	comp=Z,18nm,1.0s						
URZ	**Urewera**	18.62	204	P	Pn	21 58 25.4	+1.6
URZ				S	Sn	22 01 36.1	-15
ONTNC	**Ouen Toro**	18.70	264	P	P	21 58 23.9	-0.5
ONTNC	**Ouen Toro**	18.70	264	P	Pn	21 58 25.8	+0.9
	comp=Z,170nm,0.8s						
DZM	**Mont Dzumac**	18.71	264	P	P	21 58 24.5	-0.2
DZM				IAmb	IAmb	21 58 28.4	
	comp=Z,393nm,1.0s						
DZM	**Mont Dzumac**	18.71	264	P	P	21 58 23.7	-1.0
	comp=Z,5.6nm,0.3s,baz=84,slow=18,SNR=70						
DZM				LR	LR	22 04 30.2	
	comp=Z,2μm,21.4s,baz=100,slow=34						
	comp=Z,312nm,1.0s						
DZM	**Mont Dzumac**	18.71	264	P	Pn	21 58 26.0	+0.8
	comp=Z,465nm,1.2s						
TOZ	**Tahuroa Road**	18.82	208	P	Pn	21 58 26.4	+0.1
TOZ	**Tahuroa Road**	18.82	208	P	Pn	21 58 29.4	+3.1
RTZ	**Ruatahuna**	18.98	204	P	P	21 58 26.5	-0.9
KNZ	**Kokohu**	19.09	202	P	P	21 58 28.4	-0.1
KNZ				S	Sn	22 01 44.6	-18
BKZ	**Black Stump Fm**	19.64	204	P	Pn	21 58 37.0	+0.8
	comp=Z,47nm,1.1s						
HIZ	**Hauiti**	19.76	208	P	Pn	21 58 40.0	+2.6
MCHZ	**McNeill Hill**	19.81	203	P	P	21 58 35.2	-1.2
MCHZ				S	S	22 02 05.8	-12
TMVZ	**Te Maari**	19.91	206	P	Pn	21 58 44.3	+4.9
TMVZ				S	S	22 02 06.6	-14
KAHZ	**Kahuranaki**	20.06	202	P	Pn	21 58 42.2	+1.2
KAHZ				S	S	22 02 07.6	-16
PXZ	**Pawanui**	20.27	202	P	Pn	21 58 43.6	+0.1
PXZ				S	S	22 02 09.4	-18
TSZ	**Takapari Road**	20.62	204	P	P	21 58 46.0	+0.7
TSZ				S	S	22 02 19.6	-15
KOUNC	**Koumac, New Ca**	20.83	268	P	P	21 58 48.8	+1.1
	comp=Z,1.1nm,1.2s						
PRWZ	**Pori Road**	21.05	203	P	P	21 58 52.5	+2.6
PRWZ				S	S	22 02 28.5	-14
BFZ	**Birch Farm**	21.07	202	P	P	21 58 52.4	+2.4
	comp=Z,142nm,0.9s						
BFZ	**Birch Farm**	21.07	202	P	P	21 58 52.1	+2.1
BFZ				S	S	22 02 28.5	-15
MRZ	**Mangatainoka R**	21.29	204	P	P	21 58 53.8	+1.3
HOWZ	**Holdsworth Sta**	21.52	203	P	P	21 58 54.7	-0.2
MTW	**Mount Morrison**	21.75	203	P	P	21 59 05.5	+8.2
LUES	**Luesalemba Tem**	22.55	295	P	P	21 59 04.3	-1.9
	comp=Z,126nm,0.8s						
PPT	**Papeete**	22.80	84	P	P	21 59 09.1	+0.3
	comp=Z,40nm,0.6s,baz=252,slow=16,SNR=4.9						
PPT				LR	LR	22 05 26.0	
	comp=Z,2μm,21.0s,baz=264,slow=30						
	comp=Z,40nm,0.6s						
PPTF	**Pamatai, Papee**	22.80	84	P	P	21 59 07.1	-1.8
PPTF	**Pamatai, Papee**	22.80	84	P	P	21 59 11.3	+2.4
	comp=Z,182nm,1.2s						
KHZ	**Kahutara**	23.58	205	P	P	21 59 20.0	+3.7
	comp=Z,97nm,1.3s						
LHI	**Lord Howe Isla**	26.52	242	P	P	21 59 42.6	-0.8
LHI				IAmb	IAmb	21 59 48.3	
	comp=Z,123nm,0.8s						
JCZ	**Jackson Bay**	26.94	209	P	P	21 59 50.4	+3.3
	comp=Z,130nm,1.4s						
NGOA	**Tingoa Renbel**	27.23	287	P	P	21 59 50.4	+0.5
	comp=Z,497nm,1.5s						
HNR	**Honiara**	28.27	291	P	P	21 59 57.2	-2.0
HNR	**Honiara**	28.27	291	P	P	21 59 59.6	+0.4
	comp=Z,368nm,0.9s						
HNR	**Honiara**	28.27	291	P	P	21 59 57.2	-2.0
HNR				pmax	pmax		
	comp=Z,339nm,0.9s						
SAVO	**Savo Central**	28.52	291	P	P	22 00 01.6	+0.1
	comp=Z,371nm,1.0s						
TATA	**Tatamba Isabel**	28.90	293	P	P	22 00 02.9	-1.9
	comp=Z,626nm,1.0s						
TW1H	**Toowoomba 1 Ha**	32.00	252	P	P	22 00 32.6	+0.4
ARMA	**Armidale**	32.56	247	P	P	22 00 36.6	-0.5
ARMA				IAmb	IAmb	22 00 38.9	
	comp=Z,74nm,0.9s						
ARMA	**Armidale**	32.56	247	P	P	22 00 37.3	+0.1
	comp=Z,95nm,1.0s						
ARMA	**Armidale**	32.56	247	P	P	22 00 37.6	+0.4
	comp=Z,95nm,1.0s						
GD1S	**Gladstone Soft**	32.72	259	P	P	22 00 38.5	+0.1
	comp=Z,113nm,0.4s						
EIDS	**Eidsvold**	32.75	256	P	P	22 00 37.2	-1.5
EIDS				IAmb	IAmb	22 00 38.5	
	comp=Z,68nm,0.9s						
EIDS	**Eidsvold**	32.75	256	P	P	22 00 37.3	-1.5
	comp=Z,85nm,1.1s						
EIDS	**Eidsvold**	32.75	256	P	P	22 00 37.8	-0.9
	comp=Z,85nm,1.1s						
MGCD	**Mangrove Creek**	33.45	242	P	P	22 00 45.6	+0.8
	comp=Z,66nm,0.9s						
MGCD	**Mangrove Creek**	33.45	242	P	P	22 00 46.4	+1.6
	comp=Z,65nm,0.9s						
SYDH	**Sydney Hard Ro**	33.87	241	P	P	22 00 50.1	+1.7
	comp=Z,55nm,1.2s						
CNB	**Canberra Magne**	35.31	239	P	P	22 01 01.1	+0.2
	comp=Z,37nm,0.7s						
CNB	**Canberra Magne**	35.31	239	P	P	22 01 03.3	+2.3
	comp=Z,38nm,0.7s						
CAN	**Canberra**	35.60	239	P	P	22 01 03.6	+0.2
CAN	**Canberra**	35.60	239	P	P	22 01 05.1	+1.6
	comp=Z,86nm,1.3s						
CAN	**Canberra**	35.60	239	P	P	22 01 03.6	+0.2
CAN				pmax	pmax		
	comp=Z,64nm,1.1s						
MILA	**Mila**	35.89	236	P	P	22 01 06.6	+0.7
	comp=Z,20nm,1.4s						
TV1H	**Townsville Har**	37.30	266	P	P	22 01 17.2	-0.8
	comp=Z,46nm,1.0s						
CMSA	**Cobar Meteorol**	37.75	246	P	P	22 01 21.2	-0.6
	comp=Z,148nm,1.2s						
CMSA	**Cobar Meteorol**	37.75	246	P	P	22 01 21.3	-0.5
	comp=Z,148nm,1.2s						
GLAD	**Gladstone**	37.90	230	P	P	22 01 25.2	+2.3
	comp=Z,44nm,0.8s						
CORO	**Coronation Par**	38.67	230	P	P	22 01 31.8	+2.5
	comp=Z,70nm,1.1s						
TOO	**Toolangi**	38.85	236	P	P	22 01 31.0	0.0
TOO	**Toolangi**	38.85	236	P	P	22 01 31.7	+0.7
	comp=Z,25nm,1.2s						
TOO	**Toolangi**	38.85	236	P	P	22 01 31.0	0.0
TOO				pmax	pmax		
	comp=Z,55nm,1.5s						
QLP	**Quilpie**	38.88	254	P	P	22 01 30.0	-1.3
	comp=Z,210nm,1.3s						
QLP	**Quilpie**	38.88	254	P	P	22 01 30.4	-0.9
	comp=Z,210nm,1.3s						
TAU	**Tasmania Unive**	39.04	228	P	P	22 01 32.8	+0.4
TAU	**Tasmania Unive**	39.04	228	P	P	22 01 32.8	+0.4
TAU				pmax	pmax		
	comp=Z,70nm,1.2s						
MTSU	**Mount Surprise**	39.82	267	P	P	22 01 38.5	-0.8
	comp=Z,56nm,0.9s						
MTSU	**Mount Surprise**	39.82	267	P	P	22 01 38.4	-0.8
	comp=Z,56nm,0.9s						
STKA	**Stephens Creek**	41.26	246	P	P	22 01 50.3	-0.6
STKA	**Stephens Creek**	41.26	246	P	P	22 01 51.5	+0.4
	comp=Z,282nm,1.5s						
STKA	**Stephens Creek**	41.26	246	P	P	22 01 50.6	-0.5
	comp=Z,37nm,1.0s,baz=89,slow=10,SNR=33						
STKA				LR	LR	22 17 58.7	
	comp=Z,736nm,19.6s,baz=73,slow=35						
	comp=Z,37nm,1.0s						
STKA	**Stephens Creek**	41.26	246	P	P	22 01 50.5	-0.5
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	41.26	246	*i* P	P	22 01 50.4	-0.6
ARPS	**Mount Arapiles**	41.57	238	P	P	22 01 53.8	+0.3
	comp=Z,84nm,0.8s						
COEN	**Coen**	41.91	273	P	P	22 01 55.1	-1.4
COEN				IAmb	IAmb	22 01 57.1	
	comp=Z,89nm,1.0s						
COEN	**Coen**	41.91	273	P	P	22 01 55.7	-0.9
	comp=Z,94nm,1.0s						
COEN	**Coen**	41.91	273	P	P	22 01 55.9	-0.6
	comp=Z,94nm,1.0s						
INKA	**Innaminka**	41.95	252	P	P	22 01 57.2	+0.5
	comp=Z,199nm,1.1s						
MANU	**Manus Island**	42.77	291	P	P	22 02 02.4	-1.1
MANU				IAmb	IAmb	22 02 04.2	
	comp=Z,123nm,1.1s						
HTT	**Hallett**	43.60	244	P	P	22 02 10.3	+0.2
	comp=Z,122nm,1.4s						
QIS	**Mount Isa**	43.73	262	P	P	22 02 09.3	-2.0
	comp=Z,36nm,1.4s						
QIS	**Mount Isa**	43.73	262	P	P	22 02 09.7	-1.6
	comp=Z,36nm,1.4s						
LCRK	**Leigh Creek**	44.12	248	P	P	22 02 14.8	+0.6
	comp=Z,113nm,0.9s						
KNHH	**Kane Nui o Ham**	44.35	25	P	P	22 02 15.7	-0.5
POHA	**Pohakuloa**	44.56	24	P	P	22 02 17.4	-0.5
POHA	**Pohakuloa**	44.56	24	P	P	22 02 18.8	+0.8
	comp=Z,85nm,1.7s						
WHYH	**Whyalla**	44.71	244	P	P	22 02 18.7	-0.2
	comp=Z,55nm,0.7s						
HPAH	**Hawaii Prepara**	44.74	24	P	P	22 02 19.2	-0.1
KIP	**Kipapa**	45.21	20	P	P	22 02 23.8	+0.9
	comp=Z,46nm,2.9s						
KIP	**Kipapa**	45.21	20	P	P	22 02 23.9	+1.0
	comp=Z,46nm,2.9s						
BBOO	**Buckleboo**	45.98	245	P	P	22 02 27.9	-1.1
BBOO	**Buckleboo**	45.98	245	P	P	22 02 28.0	-1.1
	comp=Z,72nm,1.5s						
BBOO	**Buckleboo**	45.98	245	P	P	22 02 29.1	+0.1
	comp=Z,71nm,1.5s						
OOD	**Oodnadatta**	46.43	252	P	P	22 02 33.7	+1.1
	comp=Z,162nm,1.0s						
TABU	**Tabubil**	46.77	283	P	P	22 02 35.3	-0.2
	comp=Z,3μm,0.7s						
AS17	**Alice Springs**	48.39	257	P	P	22 02 46.6	-1.4
	comp=Z,163nm,1.0s						
JAY	**Jayapura**	48.42	287	LR	LR	22 21 35.6	
	comp=Z,563nm,21.7s,baz=79,slow=34						
JAY	**Jayapura**	48.42	287	P	P	22 02 47.9	-0.4
	comp=Z,1μmcomp=Z,143nm,1.1s						
AS01	**Alice Springs**	48.42	257	P	P	22 02 47.6	-0.7
	comp=Z,170nm,1.1s						
AS31	**Alice Springs**	48.47	257	P	P	22 02 47.6	-1.0
AS31				IAmb	IAmb	22 02 49.0	
	comp=Z,41nm,1.1s						
ASAR	**Alice Springs**	48.47	257	P	P	22 02 47.2	-1.4
	comp=Z,108nm,1.0s,baz=88,slow=8.2,SNR=351						
ASAR				PcP	PcP	22 04 15.4	+0.9
	comp=Z,5.6nm,0.8s,baz=126,slow=4.1,SNR=1.8						
ASAR				S	S	22 09 40.7	-7.4
	comp=Z,1.9nm,1.0s,baz=96,slow=16,SNR=5.6						
	comp=Z,108nm,1.0s						
WRAB	**Tennant Creek**	48.70	262	P	P	22 02 48.4	-2.0
WRAB	**Tennant Creek**	48.70	262	*i* P	P	22 02 48.3	-2.0
WRAB				pmax	pmax		
	comp=Z,139nm,1.0s						
WRA	**Warramunga Arr**	48.70	262	P	P	22 02 47.9	-2.5
WRA	**Warramunga Arr**	48.70	262	P	P	22 02 48.3	-2.1
	comp=Z,75nm,0.9s,baz=97,slow=7.8,SNR=235						
WRA				PcP	PcP	22 04 16.1	+0.7
	comp=Z,5.9nm,0.8s,baz=95,slow=3.7,SNR=2.1						
WRA				S	S	22 09 45.6	-5.9
	comp=Z,1.5nm,0.9s,baz=94,slow=15,SNR=9.2						
	comp=Z,75nm,0.9s						
WC1	**Warramunga Arr**	48.71	262	P	P	22 02 48.3	-2.1
GENI	**Genyem**	48.86	286	P	P	22 02 52.4	+0.8
	comp=Z,161nm,1.1s						
GENI	**Genyem**	48.86	286	P	P	22 02 53.1	+1.5
	comp=Z,2μmcomp=Z,160nm,1.4s						
SMPI	**Sarmi**	50.43	286	P	P	22 03 04.1	+0.5
	comp=Z,1μmcomp=Z,97nm,1.0s						
KDU	**Kakadu**	52.24	270	P	P	22 03 15.3	-1.8
	comp=Z,81nm,1.4s						
KDU	**Kakadu**	52.24	270	P	P	22 03 16.0	-1.2
	comp=Z,81nm,1.4s						
SRPI	**Serui, Papua**	52.70	285	P	P	22 03 21.4	+0.8
FORT	**Forrest**	52.85	247	P	P	22 03 21.4	-0.1
FORT	**Forrest**	52.85	247	P	P	22 03 20.6	-0.9
	comp=Z,160nm,0.8s						
FORT	**Forrest**	52.85	247	P	P	22 03 22.1	+0.6
	comp=Z,160nm,0.8s						
BAKI	**Biak**	53.12	285	P	P	22 03 24.7	+1.0
	comp=Z,1μmcomp=Z,142nm,1.0s						
WRKA	**Warakurna**	53.32	254	P	P	22 03 24.1	-1.0
	comp=Z,111nm,1.0s						
WRKA	**Warakurna**	53.32	254	P	P	22 03 24.7	-0.4
	comp=Z,111nm,1.0s						
MTN	**Manton Dam**	53.45	270	P	P	22 03 24.4	-1.7
MTN				IAmb	IAmb	22 03 26.0	
	comp=Z,41nm,0.7s						
MTN	**Manton Dam**	53.45	270	P	P	22 03 23.9	-2.2
	comp=Z,62nm,0.7s						
MTN	**Manton Dam**	53.45	270	P	P	22 03 24.9	-1.2

KLBR Kellerberrin 61.52 245 P **P 22 04 23.1 +0.2**
comp=Z,167nm,0.9s
KLBR Kellerberrin 61.52 245 P **P 22 04 23.0 +0.2**
comp=Z,167nm,0.9s
PSA00 Pilbara Seismi 61.61 256 P **P 22 04 22.9 -0.7**
PSA00 IAmb IAmb 22 04 24.1
comp=Z,61nm,0.9s
PSA00 Pilbara Seismi 61.61 256 P **P 22 04 22.9 -0.7**
PSA00 IAmb IAmb 22 04 24.1
comp=Z,47nm,1.2s
PSA00 Pilbara Seismi 61.61 256 P **P 22 04 23.2 -0.4**
comp=Z,72nm,1.4s
PSA00 Pilbara Seismi 61.61 256 P **P 22 04 23.3 -0.3**
comp=Z,72nm,1.4s
MEEK Meekatharra 61.64 251 P **P 22 04 23.5 -0.2**
comp=Z,51nm,1.5s
PSAD3 Pilbara Seismi 61.65 256 P **P 22 04 23.2 -0.7**
comp=Z,85nm,1.1s
NWAO Narrogin (SRO) 61.76 243 P **P 22 04 24.5 +0.1**
NWAO IAmb IAmb 22 04 44.1
comp=Z,57nm,1.3s
NWAO Narrogin (SRO) 61.76 243 P **P 22 04 25.5 +1.2**
NWAO Narrogin (SRO) 61.76 243 P **P 22 04 25.6 +1.2**
comp=Z,30nm,1.5s
NWAO Narrogin (SRO) 61.76 243 P **P 22 04 25.4 +1.0**
comp=Z,30nm,1.5s
NWAO Narrogin (SRO) 61.76 243 P **P 22 04 24.5 +0.1**
NWAO pmax pmax
comp=Z,57nm,1.3s
MBWA Marble Bar 61.81 257 P **P 22 04 23.8 -1.1**
MBWA IAmb IAmb 22 04 25.4
comp=Z,44nm,0.8s
MBWA Marble Bar 61.81 257 P **P 22 04 24.8 -0.1**
comp=Z,43nm,1.3s
TNTI Ternate 61.85 283 P **P 22 04 24.2 -1.1**
TNTI Ternate 61.85 283 P **P 22 04 25.0 -0.2**
comp=Z,85nm,1.1s
TNTI Ternate 61.85 283 P **P 22 04 26.3 +1.1**
comp=Z,1µmcomp=Z,84nm,1.1s
SANI Sanana 61.97 279 P **P 22 04 25.8 -0.2**
comp=Z,86nm,1.1s
SANI Sanana 61.97 279 P **P 22 04 26.0 0.0**
comp=Z,676nmcomp=Z,86nm,0.9s
BLDU Ballidu 62.57 246 P **P 22 04 31.1 +1.3**
comp=Z,37nm,1.2s
MUN Mundaring 62.76 244 P **P 22 04 31.0 -0.1**
comp=Z,51nm,1.0s
MMRI Maumere 63.06 271 P **P 22 04 31.8 -1.5**
MMRI IAmb IAmb 22 04 34.4
comp=Z,97nm,1.4s
MMRI Maumere 63.06 271 P **P 22 04 33.0 -0.3**
comp=Z,48nm,0.9s
MMRI Maumere 63.06 271 P **P 22 04 33.8 +0.5**
comp=Z,48nm,0.8s
MTKN Mount Kenneth 63.13 244 P **P 22 04 35.4 +1.8**
comp=Z,126nm,0.9s
MORW Morawa 63.41 247 P **P 22 04 35.3 -0.2**
MORW IAmb IAmb 22 04 55.2
comp=Z,51nm,1.0s
MORW Morawa 63.41 247 P **P 22 04 35.7 +0.1**
comp=Z,63nm,1.3s
MORW Morawa 63.41 247 P **P 22 04 37.1 +1.6**
comp=Z,63nm,1.3s
EDFI Ende, Flores 63.53 271 P **P 22 04 36.4 -0.2**
comp=Z,50nm,0.8s
BBSI Bau Bau 63.84 274 P **P 22 04 39.6 +1.1**
comp=Z,54nm,1.2s
BASI Baing, Sumba 64.09 269 P **P 22 04 41.8 +1.7**
comp=Z,6µmcomp=Z,129nm,1.1s
KDI Kendari 64.35 276 P **P 22 04 42.7 +0.8**
WSI Waingapu 64.53 269 P **P 22 04 43.7 +0.7**
JCJ Chichijima 64.63 316 LR LR 22 29 07.2
comp=Z,156nm,21.1s,baz=346,slow=33
KMSI Cibinong 64.85 281 P **P 22 04 46.9 +1.8**
comp=Z,133nm,1.1s
CASY Casey 64.93 206 P **P 22 04 46.0 +1.2**
LUWI Luwuk 65.32 279 P **P 22 04 47.7 -0.5**
LUWI Luwuk 65.32 279 P **P 22 04 48.7 +0.6**
comp=Z,82nm,1.2s
LUWI Luwuk 65.32 279 P **P 22 04 48.9 +0.8**
comp=Z,1µmcomp=Z,81nm,0.9s
BSSI Bau Bau, Buton 65.54 273 P **P 22 04 50.7 +1.1**
comp=Z,40nm,1.0s
BKSI Bulukumba 66.17 274 P **P 22 04 54.7 +1.0**
DAV Davao City (W) 66.19 288 LR LR 22 33 28.5
comp=Z,191nm,18.1s,baz=126,slow=36
KAPI Kappang 66.63 274 P **P 22 04 55.4 -1.2**
KAPI Kappang 66.63 274 LR LR 22 33 34.3
comp=Z,243nm,21.6s,baz=112,slow=36
KAPI Kappang 66.63 274 P **P 22 04 57.9 +1.3**
comp=Z,12nm,0.7s
KAPI Kappang 66.63 274 *i* P **P 22 04 57.9 +1.3**
KAPI pmax pmax
comp=Z,17nm,1.0s
MRSI Marisa 66.68 280 P **P 22 04 58.0 +1.1**
comp=Z,41nm,1.1s
SPSI Sidrap Palu 66.99 275 P **P 22 04 58.5 -0.4**
comp=Z,17nm,0.6s
PLAI Plampang 67.15 269 P **P 22 04 59.8 -0.1**
comp=Z,79nm,0.9s
PLAI Plampang 67.15 269 P **P 22 04 59.8 -0.1**
comp=Z,79nm,0.9s
TTSI Tana Toraja 67.28 276 P **P 22 05 01.6 +0.8**
TOLI2 Tolitoli 67.99 280 P **P 22 05 04.4 -0.9**
TOLI2 IAmb IAmb 22 05 18.6
comp=Z,35nm,0.9s
TOLI2 Tolitoli 67.99 280 P **P 22 05 05.1 -0.1**
comp=Z,48nm,1.3s
PCI Palu 68.07 278 P **P 22 05 07.0 +1.2**
comp=Z,2µmcomp=Z,123nm,1.1s
QSPA South Pole Qui 68.60 180 P **P 22 05 09.7 +1.3**
QSPA South Pole Qui 68.60 180 P **P 22 05 09.7 +1.3**
comp=Z,68nm,0.9s,baz=41,slow=1.6,SNR=104
QSPA PKKP **PKKPdf 22 25 12.6 +6.1**
comp=Z,1.5nm,1.1s,baz=125,slow=3.7,SNR=3.7
QSPA LR LR 22 31 14.5
comp=Z,462nm,20.4s,baz=29,slow=32
comp=Z,68nm,0.9s
SRBI Singaraja 69.79 269 P **P 22 05 17.2 +0.8**
comp=Z,37nm,1.0s
JHJ Hachijo jima 2 70.30 319 LR LR 22 37 43.5
comp=Z,159nm,18.1s,baz=98,slow=37
JAGI Jajag, Banyuwa 70.65 268 P **P 22 05 20.1 -1.6**
JAGI IAmb IAmb 22 05 21.5
comp=Z,68nm,1.1s
JAGI Jajag, Banyuwa 70.65 268 P **P 22 05 21.1 -0.6**
comp=Z,57nm,1.3s
GMJI Gumukmas 71.37 268 P **P 22 05 25.7 -0.4**
comp=Z,39nm,1.0s
GRJI Gresik 72.73 269 P **P 22 05 35.3 +1.1**
KIWB Kanaga Island 73.08 358 P **P 22 05 35.5 +0.1**
ADK Adak 73.09 358 P **P 22 05 35.0 -0.5**
ADK Adak 73.09 358 P **P 22 05 35.0 -0.5**
ADK pmax pmax
comp=Z,133nm,1.2s
ATKA Atka Island 73.36 360 P **P 22 05 36.3 -0.7**
JGF Kuroka 73.45 320 P **P 22 05 36.9 -1.2**
PCJI Pacitan 73.51 268 P **P 22 05 39.4 +0.6**
NGJI Ngawi 73.53 268 P **P 22 05 40.6 +1.7**
comp=Z,71nm,1.1s
MJAR Matsushiro Arr 73.59 321 P **P 22 05 38.7 -0.1**
comp=Z,16nm,0.9s,baz=156,slow=5.2,SNR=15
comp=Z,16nm,0.9s
MAJO Matsushiro 73.59 321 P **P 22 05 38.4 -0.4**
MAJO IAmb IAmb 22 05 49.2
comp=Z,67nm,1.6s
MAJO Matsushiro 73.59 321 P **P 22 05 39.8 +1.0**
comp=Z,28nm,1.9s
MAJO Matsushiro 73.59 321 *i* P **P 22 05 39.2 +0.4**
MAJO pmax pmax
comp=Z,39nm,1.5s
MJB9 Matsu-Tunnel 73.59 321 P **P 22 05 38.9 +0.1**
MJB9 IAmb IAmb 22 05 50.2
comp=Z,65nm,1.6s
JOW Kunigami 74.11 308 P **P 22 05 41.3 -0.7**
JOW IAmb IAmb 22 06 02.9
comp=Z,51nm,1.2s
KKM Kota Kinabalu 74.15 283 P **P 22 05 42.2 -0.5**
KKM IAmb IAmb 22 05 56.5
comp=Z,182nm,1.9s
UGM Wanagama 74.21 268 P **P 22 05 42.6 -0.4**
NIKH Nikolski High 74.24 3 P **P 22 05 41.9 -0.3**
baz=184
JMN Monobe 74.38 316 P **P 22 05 44.0 +0.4**
JMN IAmb IAmb 22 06 00.2
comp=Z,58nm,1.1s
SMRI Semarang 74.58 268 P **P 22 05 45.0 -0.2**
SMRI IAmb IAmb 22 05 50.2
comp=Z,28nm,0.6s
SHEM Shemya Is, Ala 74.68 352 LR LR 22 31 08.7
comp=Z,630nm,20.5s,baz=140,slow=30
UNV Unalaska Valle 75.24 4 P **P 22 05 47.5 -0.5**
baz=187
CBX Cerro Bola 76.19 47 P **P 22 05 53.5 -0.6**
CBX IAmb IAmb 22 05 56.9
comp=Z,59nm,1.4s
LPIG La Paz 76.28 57 LR LR 22 32 26.2
comp=Z,702nm,19.5s,baz=220,slow=30
SLBS Sierra La Lagu 76.35 58 P **P 22 05 55.4 +0.3**
SLBS IAmb IAmb 22 05 58.2
comp=Z,48nm,1.3s
SBUM Sibu 76.39 278 P **P 22 05 55.5 +0.1**
SBUM Sibu 76.39 278 P **P 22 05 56.6 +1.2**
comp=Z,11nm,1.6s
SRIG Santa Rosalia 76.50 53 P **P 22 05 55.8 0.0**
SRIG IAmb IAmb 22 05 58.3
comp=Z,67nm,1.1s
JKA Kamikawa-asahi 76.69 329 P **P 22 05 56.6 +0.2**
JKA IAmb IAmb 22 06 26.3
comp=Z,81nm,1.4s
ASAJ Asahikawa 76.69 329 LR LR 22 34 21.0
comp=Z,310nm,21.9s,baz=164,slow=32
ASAJ Asahikawa 76.69 329 P **P 22 05 56.6 +0.2**
ASAJ pmax pmax
comp=Z,81nm,1.4s
SFX San Felipe 76.69 49 P **P 22 05 57.1 +0.4**
YOJ Yonaguni jima 76.83 303 P **P 22 05 57.5 -0.2**
YOJ IAmb IAmb 22 06 13.3
comp=Z,84nm,1.1s
YOJ Yonaguni jima 76.83 303 P **P 22 05 57.5 -0.2**
YOJ pmax pmax
comp=Z,84nm,1.1s
CHNA Chernabura Isl 76.91 8 P **P 22 05 57.5 +0.1**
baz=193
ISA Isabella, Lake 77.03 43 P **P 22 05 59.8 +1.1**
ISA Isabella, Lake 77.03 43 P **P 22 05 59.8 +1.1**
ISA pmax pmax
comp=Z,36nm,1.1s
BBJI Bungbulang 77.04 267 P **P 22 06 00.7 +1.4**
comp=Z,43nm,0.9s
PFO Pinyon Flats O 77.10 46 P **P 22 05 59.9 +0.7**
PFO IAmb IAmb 22 06 02.0
comp=Z,59nm,1.4s
PFO Pinyon Flats O 77.10 46 P **P 22 05 59.6 +0.4**
comp=Z,13nm,0.9s,baz=228,slow=3.7,SNR=18
PFO LR LR 22 31 20.3
comp=Z,273nm,21.7s,baz=239,slow=29
comp=Z,13nm,0.9s
PFO Pinyon Flats O 77.10 46 *i* P **P 22 06 00.1 +0.9**
PFO pmax pmax
comp=Z,80nm,1.5s
LEM Lembang 77.29 268 LR LR 22 39 23.6
comp=Z,173nm,21.8s,baz=132,slow=35
LEM Lembang 77.29 268 P **P 22 06 01.7 +0.9**
comp=Z,129nm,1.0s
SDPT Sand Point 77.31 8 P **P 22 05 59.6 0.0**
baz=192
KHMM Horse Mountain 77.31 36 P **P 22 06 01.3 +1.1**
CMB Columbia Colle 77.35 40 P **P 22 06 01.4 +1.0**
CMB Columbia Colle 77.35 40 P **P 22 06 01.4 +1.0**
CMB pmax pmax
comp=Z,29nm,1.0s
TWG Pinlang 77.53 301 P **P 22 06 01.7 +0.1**
TWG IAmb IAmb 22 06 20.7
comp=Z,61nm,1.4s
CNJI Cibinong 77.58 267 P **P 22 06 03.4 +1.2**
comp=Z,53nm,1.2s
AFDM Forest Hills D 77.59 39 P **P 22 06 02.1 +0.4**
KSM Kuching 77.78 276 P **P 22 06 03.5 +0.2**
KSM IAmb IAmb 22 06 23.9
comp=Z,65nm,1.0s
KSM Kuching 77.78 276 P **P 22 06 04.3 +1.0**
comp=Z,69nm,1.4s
NACB Ninganchiao 77.79 302 P **P 22 06 02.4 -0.7**
NACB IAmb IAmb 22 06 17.3
comp=Z,33nm,0.9s
NACB Ninganchiao 77.79 302 P **P 22 06 04.1 +1.0**
comp=Z,38nm,0.9s
P08K Saint George I 77.83 2 P **P 22 06 02.9 +0.4**
baz=184
GLA Glamis 77.87 47 P **P 22 06 04.5 +1.1**
GLA IAmb IAmb 22 06 06.6
comp=Z,94nm,1.4s
GLA Glamis 77.87 47 P **P 22 06 04.5 +1.1**
GLA pmax pmax
comp=Z,95nm,1.4s
BELA Belgrano 2 78.02 172 P **P 22 06 04.2 +0.6**
BELA IAmb IAmb 22 06 05.4
comp=Z,67nm,1.0s
SSLB Suanglung 78.11 301 P **P 22 06 06.4 +1.5**
comp=Z,18nm,0.8s
TPUB Ta-pu 78.12 301 P **P 22 06 04.4 -0.5**
TPUB IAmb IAmb 22 06 18.5
comp=Z,70nm,1.0s
TPUB Ta-pu 78.12 301 P **P 22 06 06.2 +1.2**
comp=Z,80nm,1.2s
WAKR Walker 78.22 40 P **P 22 06 05.9 +0.5**
WAKR IAmb IAmb 22 06 08.6
comp=Z,64nm,1.1s
HSIG 78.38 52 P **P 22 06 06.0 -0.3**
HSIG IAmb IAmb 22 06 08.6
comp=Z,53nm,1.3s
PEA0B Petropavlovsk- 78.39 343 P **P 22 06 05.8 +0.1**
PEA0B IAmb IAmb 22 06 17.2
comp=Z,106nm,1.5s
PEA0B Petropavlovsk- 78.39 343 *ce* P **P 22 06 06.0 +0.3**
PETK Petropavlovsk- 78.39 343 P **P 22 06 05.6 -0.1**
PETK Petropavlovsk- 78.39 343 P **P 22 06 05.7 0.0**
comp=Z,12nm,0.8s,baz=116,slow=8.0,SNR=12
PETK PP **PP 22 09 02.0 -1.5**
comp=Z,2.1nm,0.8s,baz=188,slow=7.0,SNR=4.0
PETK LR LR 22 34 38.2
comp=Z,319nm,21.6s,baz=154,slow=31
comp=Z,12nm,0.8s
SPIA Saint Paul Isl 78.39 2 P **P 22 06 06.1 +0.5**
baz=183
YBH Yreka Blue Hor 78.45 36 P **P 22 06 06.9 +0.4**
YBH Yreka Blue Hor 78.45 36 P **P 22 06 07.3 +0.8**
comp=Z,20nm,1.0s,baz=203,slow=4.7,SNR=20
comp=Z,20nm,1.0s
CHIR Chirikof Islan 78.46 10 P **P 22 06 06.4 +0.3**
baz=197
BLYC Blythe 78.48 47 P **P 22 06 07.3 +0.6**
BLYC IAmb IAmb 22 06 09.7
comp=Z,66nm,1.4s
PNTR Pine Nut 78.50 40 P **P 22 06 07.5 +0.5**
PNTR IAmb IAmb 22 06 10.0
comp=Z,68nm,0.9s
CHGN Chignik 78.50 8 P **P 22 06 06.4 +0.2**
baz=194
HATC Hat Creek Radi 78.54 38 P **P 22 06 07.8 +0.8**
HATC IAmb IAmb 22 06 10.1
comp=Z,98nm,1.2s
LHV Little Huntoon 78.63 41 P **P 22 06 08.3 +0.9**
LHV IAmb IAmb 22 06 10.8
comp=Z,51nm,1.1s
YSS Yuzhno-Sakhali 78.75 331 P **P 22 06 08.5 +0.7**
comp=Z,60nm,1.0s
YSS Yuzhno-Sakhali 78.75 331 *e* P **P 22 06 09.1 +1.3**
YSS *e* S **S 22 16 01.3 -2.1**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,700nm,16.0s
NVAR Mina Array Bea 78.86 41 P **P 22 06 09.5 +0.5**
NVAR Mina Array Bea 78.86 41 P **P 22 06 10.1 +1.1**
comp=Z,32nm,1.0s,baz=223,slow=9.0,SNR=100
NVAR LR LR 22 34 31.6
comp=Z,374nm,19.8s,baz=262,slow=31
comp=Z,32nm,1.0s
L04D Klamath Falls 79.01 36 P **P 22 06 10.5 +0.9**
L04D IAmb IAmb 22 06 12.4
comp=Z,51nm,1.1s
CGJI Cibinong 79.16 267 P **P 22 06 11.2 +0.3**
comp=Z,929nmcomp=Z,74nm,0.9s
TPNV Topopah Spring 79.24 43 P **P 22 06 11.8 +0.8**
TPNV Topopah Spring 79.24 43 P **P 22 06 11.8 +0.8**
TPNV pmax pmax
comp=Z,23nm,1.1s
SII Sitkinak Islan 79.41 11 P **P 22 06 11.6 +0.3**
baz=198
Y14A Wickenburg 79.62 47 P **P 22 06 13.8 +0.8**
J04A Umpqua Nationa 79.80 35 P **P 22 06 14.5 +0.6**
J04A IAmb IAmb 22 06 16.9
comp=Z,70nm,0.9s
MG05 Puerto Natales 79.92 142 P **P 22 06 15.6 +1.2**
MG05 IAmb IAmb 22 06 17.3
comp=Z,48nm,1.0s
OHAK Old Harbor 80.19 11 P **P 22 06 16.8 +1.3**
comp=Z,39nm,1.7s
OHAK Old Harbor 80.19 11 P **P 22 06 16.1 +0.7**
baz=199
MG03 Isla Dawson 80.24 144 P **P 22 06 17.0 +0.9**
MG03 IAmb IAmb 22 09 17.6
comp=Z,158nm,1.6s
R18K Karluk 80.32 10 P **P 22 06 16.8 +0.7**
baz=198
KSRS Korea Array 80.49 316 P **P 22 06 18.6 +1.0**
comp=Z,11nm,1.1s,baz=136,slow=6.4,SNR=15
KSRS LR LR 22 37 11.6
comp=Z,103nm,21.9s,baz=130,slow=32
comp=Z,11nm,1.1s
KSAR Wonju Array Be 80.51 316 P **P 22 06 18.3 +0.6**
KSAR Wonju Array Be 80.51 316 P **P 22 06 18.3 +0.6**
ACHA Angle Creek He 80.80 10 P **P 22 06 19.3 +0.5**
KDAK Kodiak Island 80.85 11 P **P 22 06 19.9 +0.9**
KDAK IAmb IAmb 22 07 24.3
comp=Z,85nm,1.6s
KDAK Kodiak Island 80.85 11 LR LR 22 35 07.7
comp=Z,358nm,22.0s,baz=55,slow=30
KDAK Kodiak Island 80.85 11 P **P 22 06 19.9 +0.9**
KDAK pmax pmax
comp=Z,85nm,1.6s
KDAK Kodiak Island 80.85 11 P **P 22 06 19.9 +0.9**
baz=200
O14K Tigyukauivet M 81.05 6 P **P 22 06 20.4 +0.4**
baz=191
Q16K King Salmon 81.05 9 P **P 22 06 20.7 +0.7**
baz=196
O15K Ungalikthiuk R 81.13 7 P **P 22 06 20.8 +0.3**
baz=193
WVOR Wild Horse Val 81.20 38 P **P 22 06 22.3 +0.9**
WVOR Wild Horse Val 81.20 38 P **P 22 06 22.3 +0.9**
WVOR pmax pmax
comp=Z,21nm,1.2s
P16K Nushagak River 81.21 8 P **P 22 06 21.5 +0.7**
baz=194
Q18K Katmai Hardscr 81.27 10 P **P 22 06 21.6 +0.2**
baz=197
MDSI Maura Dua 81.31 269 P **P 22 06 22.7 +0.2**
comp=Z,37nm,0.9s
HPIG 81.32 57 P **P 22 06 22.7 +0.2**
AY03 Cochrane 81.53 137 P **P 22 06 24.2 +1.1**
P17K Kvichak River 81.58 9 P **P 22 06 23.1 +0.3**
baz=196
SSE Sheshan 81.63 308 P **P 22 06 23.5 -0.2**
SSE S **S 22 16 35.8 +1.4**
SSE pmax pmax
comp=Z,8.0nm,0.5s
SSE pmax pmax
comp=Z,82nm,4.9s
Q20K Shuyak Island 81.67 11 P **P 22 06 24.2 +1.0**
baz=200
N14K Kuskokwak Cree 81.67 6 P **P 22 06 24.2 +1.0**
baz=191,SNR=5.4
PSUT Pine Spring 81.70 43 P **P 22 06 24.8 +0.5**
O16K Kokwok River B 81.75 8 P **P 22 06 23.8 +0.1**
baz=194,SNR=9.0
Q19K Cape Douglas, 81.75 10 P **P 22 06 24.3 +0.4**
baz=198
M11K Mekoryuk 81.77 4 P **P 22 06 25.1 +1.3**
baz=187
ZAIG Zacatecas 81.84 62 P **P 22 06 26.2 +0.8**
J08A Circle Bar Ran 81.88 37 P **P 22 06 25.8 +0.8**
J08A IAmb IAmb 22 06 27.7
comp=Z,57nm,1.5s
P18K Big Mountain, 81.95 9 P **P 22 06 25.0 +0.1**
P18K IAmb IAmb 22 06 26.2
comp=Z,49nm,0.8s
P18K Big Mountain, 81.95 9 P **P 22 06 25.2 +0.3**
baz=197
M13K Dall Lake 82.00 5 P **P 22 06 26.6 +1.6**
baz=189
O17K Koliganek Bris 82.05 8 P **P 22 06 25.5 +0.2**
baz=195
N15K Kwethluk River 82.07 7 P **P 22 06 26.1 +0.7**
baz=192,SNR=5.5
ELK Elko 82.15 41 P **P 22 06 26.9 +0.3**
ELK Elko 82.15 41 P **P 22 06 26.9 +0.3**
comp=Z,6.2nm,1.0s,baz=226,slow=4.8,SNR=15
comp=Z,6.2nm,1.0s
USA0B Ussuriysk Arra 82.22 324 P **P 22 06 27.1 +0.5**
USA0B Ussuriysk Arra 82.22 324 *i* P **P 22 06 28.9 +2.3**
USRK Ussuriysk Ar. 82.22 324 P **P 22 06 26.8 +0.2**
comp=Z,7.4nm,1.1s,baz=140,slow=1.5,SNR=9.3
USRK LR LR 22 38 10.5
comp=Z,295nm,20.9s,baz=128,slow=32
comp=Z,7.4nm,1.1s
O18K Koktuh Hills 82.39 9 P **P 22 06 27.6 +0.5**
O18K Koktuh Hills 82.39 9 P **P 22 06 27.7 +0.6**
baz=197,SNR=14
M14K Bethel 82.46 6 P **P 22 06 28.5 +1.2**
M14K IAmb IAmb 22 06 30.2
comp=Z,71nm,1.0s
M14K Bethel 82.46 6 P **P 22 06 28.9 +1.5**
baz=191,SNR=8.4
MNAI Manna 82.50 268 P **P 22 06 28.8 0.0**
COYC Coyhaique 82.50 136 P **P 22 06 29.5 +1.3**
COYC IAmb IAmb 22 06 31.5
comp=Z,91nm,1.6s
P19K Oil Pt 82.51 10 P **P 22 06 28.3 +0.5**
baz=199
N16K Nishlik Lake 82.52 7 P **P 22 06 28.9 +1.1**
baz=194,SNR=7.4
M15K Kasigluk River 82.52 6 P **P 22 06 28.9 +1.1**
baz=192,SNR=15
CLRS Cowichan Lake 82.62 30 P **P 22 06 29.7 +1.1**
CLRS IAmb IAmb 22 06 31.3
comp=Z,51nm,1.1s
CNPM China Poot 82.73 11 P **P 22 06 29.3 +0.4**
CNPM IAmb IAmb 22 06 30.9
comp=Z,57nm,1.0s
N17K Nushagak Hills 82.77 8 P **P 22 06 29.7 +0.6**
baz=195,SNR=6.1
HOM Homer 82.79 11 P **P 22 06 30.1 +0.9**
baz=200
PGC Sidney 82.83 31 P **P 22 06 30.7 +1.1**
PGC IAmb IAmb 22 06 32.2
comp=Z,41nm,0.9s
O19K Port Alsworth 82.85 9 P **P 22 06 29.8 +0.3**
O19K Port Alsworth 82.85 9 P **P 22 06 29.9 +0.5**
baz=198
CBB Campbell River 82.91 29 P **P 22 06 30.9 +0.8**
CBB IAmb IAmb 22 06 32.9
comp=Z,68nm,1.2s
TLIG Tlapa 82.93 68 P **P 22 06 31.1 +0.1**
TLIG IAmb IAmb 22 06 34.0
comp=Z,98nm,1.6s
L14K Kuka Creek 82.98 5 P **P 22 06 31.6 +1.5**
baz=190
O20K Slope Mountain 83.02 10 P **P 22 06 30.8 +0.4**
baz=199,SNR=5.9
BRLK Bradley Lake 83.02 11 P **P 22 06 30.7 +0.3**
BRLK IAmb IAmb 22 06 32.3
comp=Z,73nm,1.0s
BRSE Bradley Lake S 83.03 11 P **P 22 06 31.0 +0.5**
baz=201
M16K Timber Creek 83.03 7 P **P 22 06 31.9 +1.5**
baz=194,SNR=18
KSI Kapahiang 83.09 269 P **P 22 06 32.8 +0.9**
comp=Z,130nm,1.0s
N18K Kilae Creek 83.09 9 P **P 22 06 31.1 +0.3**
baz=196
HAWA Hanford 83.26 34 P **P 22 06 32.9 +1.0**
HAWA IAmb IAmb 22 06 34.7
comp=Z,80nm,1.4s
BBB Bella Bella 83.31 26 P **P 22 06 32.7 +0.7**
comp=Z,32nm,0.9s,baz=166,slow=2.9,SNR=6.4
BBB LR LR 22 37 09.5
comp=Z,263nm,18.9s,baz=214,slow=31
comp=Z,32nm,0.9s
K13K Kusilvak Mount 83.41 4 P **P 22 06 33.2 +0.9**
K13K IAmb IAmb 22 06 35.3
comp=Z,72nm,1.4s
K13K Kusilvak Mount 83.41 4 P **P 22 06 33.9 +1.6**
baz=188
L15K Ungalak Mounta 83.41 6 P **P 22 06 33.6 +1.2**
baz=191
N19K Bonanza Creek 83.42 9 P **P 22 06 32.7 +0.1**
baz=198,SNR=17

MFID	Camas Ranch	83.42	38	P	P	22 06 33.7	+0.7
BMO	Blue Mountains	83.48	36	P	P	22 06 33.6	+0.3
BMO	Blue Mountains	83.48	36	P	P	22 06 33.6	+0.3
BMO				pmax	pmax		
	comp=Z,19nm,1.1s						
M17K	Holitna River	83.58	8	P	P	22 06 34.9	+1.7
	baz=195,SNR=10						
LL02	Futaleuf	83.59	134	P	P	22 06 34.9	+1.0
SEW	Seward	83.61	12	P	P	22 06 33.7	+0.4
SEW	Seward	83.61	12	P	P	22 06 33.9	+0.5
	baz=202,SNR=5.7						
L16K	Owhat River	83.65	7	P	P	22 06 35.0	+1.4
	baz=193,SNR=12						
VHRN	Van Horn	83.72	54	P	P	22 06 35.4	+0.5
VHRN				IAmb	IAmb	22 06 37.7	
	comp=Z,64nm,1.6s						
MDJ	Mudanjiang	83.82	323	P	P	22 06 35.5	+0.7
MDJ				IAmb	IAmb	22 06 46.9	
	comp=Z,40nm,1.3s						
MDJ	Mudanjiang	83.82	323	P	P	22 06 37.0	+2.1
MDJ				pP	pP	22 06 41.0	-0.4
MDJ				S	S	22 17 02.8	+6.6
MDJ				pmax	pmax		
	comp=Z,21nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,770nm,4.8s						
MDJ				LR	LR		
	comp=Z,570nm,19.2s						
NJ2	Nanjing	83.83	308	*e*P	P	22 06 40.5	+5.3
NJ2				pmax	pmax		
	comp=Z,25nm,0.9s						
SLKM	Skilak Lake	83.84	11	P	P	22 06 34.9	+0.3
M18K	Stony River	83.88	8	P	P	22 06 35.5	+0.8
	baz=196,SNR=7.6						
MYKOM	Kota Tinggi	83.89	274	P	P	22 06 35.9	0.0
MYKOM				IAmb	IAmb	22 06 47.0	
	comp=Z,82nm,1.6s						
O22K	Cooper Landing	83.90	12	P	P	22 06 35.4	+0.6
	baz=202						
CAPN	Captain Cook N	83.91	11	P	P	22 06 36.6	+1.7
	baz=201						
P23K	Montague Islan	83.91	13	P	P	22 06 35.5	+0.5
	baz=204						
CRAG	Craig	83.95	22	P	P	22 06 36.8	+1.6
	baz=217						
K15K	Wolf Creek Mou	84.02	6	P	P	22 06 37.4	+1.9
	baz=191,SNR=44						
TXAR	Lajitas Array	84.03	55	P	P	22 06 37.3	+0.9
TXAR	Lajitas Array	84.03	55	P	P	22 06 36.7	+0.3
	comp=Z,8.4nm,0.9s,baz=210,slow=7.2,SNR=59						
TXAR				LR	LR	22 37 49.0	
	comp=Z,258nm,19.1s,baz=240,slow=31						
	comp=Z,8.4nm,0.9s						
SPCR	Spurr Chakacha	84.14	10	P	P	22 06 35.9	-0.3
	baz=200,SNR=10						
L17K	Donlin	84.19	7	P	P	22 06 38.3	+2.0
	baz=194,SNR=17						
J14K	Nanvaranak Lak	84.30	5	P	P	22 06 38.0	+1.2
	baz=189						
HLID	Hailey	84.33	39	P	P	22 06 38.2	+0.5
V35K	Ketchikan	84.37	23	P	P	22 06 38.8	+1.5
	baz=218,SNR=7.0						
GRNR	Gornyy	84.39	331	⇑*i*P	P	22 06 38.9	+1.3
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIN	Hinchinbrook I	84.47	13	P	P	22 06 38.1	+0.3
HIN				IAmb	IAmb	22 06 39.6	
	comp=Z,64nm,1.2s						
L18K	Granite Mounta	84.47	8	P	P	22 06 39.3	+1.5
	baz=196,SNR=18						
RC01	Rabbit Creek A	84.47	11	P	P	22 06 38.1	+0.4
RC01	Rabbit Creek A	84.47	11	P	P	22 06 38.3	+0.6
	baz=202,SNR=14						
U33K	Whale Pass	84.47	21	P	P	22 06 39.3	+1.5
	baz=217,SNR=5.7						
M19K	Big River Lodg	84.47	9	P	P	22 06 38.3	+0.5
	baz=198						
MVCO	Mesa Verde	84.49	47	P	P	22 06 39.2	+0.4
KAIM	Kayak Island	84.50	14	P	P	22 06 38.1	+0.2
KAIM	Kayak Island	84.50	14	P	P	22 06 39.3	+1.4
	baz=207,SNR=5.6						
SIT	Sitka	84.51	20	P	P	22 06 39.1	+1.1
	baz=215						
PWL	Port Wells	84.52	12	P	P	22 06 38.0	0.0
PWL	Port Wells	84.52	12	P	P	22 06 38.6	+0.5
	baz=203,SNR=10						
M20K	Styx River	84.64	9	P	P	22 06 38.6	-0.1
	baz=199,SNR=8.5						
LR03	Panguipulli	84.66	130	P	P	22 06 40.7	+1.2
LR03				IAmb	IAmb	22 06 42.2	
	comp=Z,70nm,1.1s						
LR05	Currie	84.66	131	P	P	22 06 40.7	+1.2
L19K	White Mountain	84.67	9	P	P	22 06 39.5	+0.6
	baz=197,SNR=10.0						
ANMO	Albuquerque	84.72	49	P	P	22 06 40.5	+0.5
ANMO				IAmb	IAmb	22 06 42.9	
	comp=Z,47nm,1.1s						
ANMO	Albuquerque	84.72	49	LR	LR	22 37 45.3	
	comp=Z,552nm,19.8s,baz=57,slow=31						
ANMO	Albuquerque	84.72	49	⇑*i*P	P	22 06 41.6	+1.6
ANMO				pmax	pmax		
	comp=Z,27nm,1.1s						
K17K	Iditarod	84.76	7	P	P	22 06 40.7	+1.6
	baz=194,SNR=7.6						
EYAK	Cordova Ski Ar	84.76	13	P	P	22 06 39.9	+0.6
EYAK				IAmb	IAmb	22 06 41.1	
	comp=Z,31nm,1.0s						
EYAK	Cordova Ski Ar	84.76	13	P	P	22 06 40.3	+1.1
	comp=Z,28nm,1.1s						
EYAK	Cordova Ski Ar	84.76	13	P	P	22 06 40.0	+0.8
	baz=206,SNR=7.3						
GLI	Glacier Island	84.78	13	P	P	22 06 39.5	+0.2
GLI	Glacier Island	84.78	13	P	P	22 06 39.9	+0.5
	baz=204						
RAGM	Ragged Mountai	84.85	14	P	P	22 06 40.3	+0.5
RAGM				IAmb	IAmb	22 06 41.9	
	comp=Z,58nm,1.3s						
HWUT	Hardware Ranch	84.91	42	P	P	22 06 41.0	+0.3
LLLB	Lillooet	84.92	30	P	P	22 06 41.2	+0.9
LLLB				IAmb	IAmb	22 06 42.7	
	comp=Z,63nm,1.4s						
S31K	Pelican	84.97	19	P	P	22 06 41.7	+1.4
	baz=214						
WRAK	Wrangell Islan	84.97	22	P	P	22 06 41.7	+1.3
	baz=218,SNR=6.2						
GAMB	Gambell	84.98	1	P	P	22 06 41.3	+1.1
	baz=182						
SKT	Skwentna	84.99	10	P	P	22 06 39.8	-0.6
SKT	Skwentna	84.99	10	P	P	22 06 39.9	-0.5
	baz=200,SNR=11						
KNK	Knik Glacier	85.00	12	P	P	22 06 41.1	+0.6
	baz=203,SNR=17						
M22K	Willow	85.02	11	P	P	22 06 40.9	+0.5
	baz=202,SNR=7.1						
PMR	Palmer	85.05	11	P	P	22 06 40.8	+0.2
PMR	Palmer	85.05	11	P	P	22 06 42.0	+1.4
	comp=Z,39nm,1.3s						
PMR	Palmer	85.05	11	P	P	22 06 40.8	+0.2
PMR				pmax	pmax		
	comp=Z,1μm,0.4s						
PMR	Palmer	85.05	11	P	P	22 06 41.1	+0.5
	baz=202,SNR=6.3						
J16K	Anvik River	85.08	6	P	P	22 06 42.0	+1.2
	baz=192,SNR=16						
S32K	Killisnoo	85.08	20	P	P	22 06 41.8	+0.9
	baz=216						
SNH	Sunshine Point	85.09	15	P	P	22 06 41.9	+0.9
L20K	Farewell, AK	85.10	9	P	P	22 06 41.3	+0.3
	baz=198,SNR=12						
QIZ	Qiongzhong	85.17	292	P	P	22 06 42.5	+0.2
QIZ				S	S	22 17 14.3	+3.5
QIZ				LR	LR		
	comp=Z,130nm,20.6s						
QIZ				LR	LR		
	comp=Z,140nm,17.9s						
QIZ				LR	LR		
	comp=Z,210nm,20.6s						
MESA	MESA	85.31	15	P	P	22 06 43.5	+1.3
	baz=209,SNR=12						
J17K	VABM Dome	85.34	6	P	P	22 06 43.5	+1.5
	baz=193,SNR=14						
BMRM	Bremner River	85.39	14	P	P	22 06 43.3	+0.8
BMRM	Bremner River	85.39	14	P	P	22 06 43.3	+0.8
	baz=207,SNR=17						
SML	Sawmill	85.39	12	P	P	22 06 42.8	+0.3
	baz=203,SNR=5.7						
DL2	Dalian	85.41	315	*e*P	P	22 06 44.8	+1.8
DL2				pmax	pmax		
	comp=Z,33nm,0.9s						
DL2				pmax	pmax		
	comp=Z,500nm,6.3s						
DL2				LR	LR		
	comp=Z,290nm,17.1s						
DL2				LR	LR		
	comp=Z,170nm,17.3s						
DL2				LR	LR		
	comp=Z,400nm,22.5s						
PLCA	Paso Flores	85.47	132	P	P	22 06 44.0	+0.4
PLCA				IAmb	IAmb	22 06 46.5	
	comp=Z,49nm,1.5s						
PLCA	Paso Flores	85.47	132	P	P	22 06 43.4	-0.2
	comp=Z,9.9nm,1.1s,baz=282,slow=5.7,SNR=8.1						
	comp=Z,9.9nm,1.1s						
PLCA	Paso Flores	85.47	132	P	P	22 06 44.0	+0.4
PLCA				pmax	pmax		
	comp=Z,49nm,1.5s						
M23K	Glacier View	85.49	12	P	P	22 06 43.4	+0.5
	baz=204,SNR=8.0						
PNL	Peninsula	85.51	17	P	P	22 06 44.2	+1.1
	comp=Z,96nm,1.0s						
PNL	Peninsula	85.51	17	P	P	22 06 43.8	+0.7
	baz=211						
YAH	Yahtse	85.52	15	P	P	22 06 44.1	+0.8
KLU	Klutina	85.58	13	P	P	22 06 43.7	+0.2
KLU	Klutina	85.58	13	P	P	22 06 44.0	+0.5
	baz=206,SNR=16						
KLR	Kul'dur	85.59	327	LR	LR	22 39 46.1	
	comp=Z,302nm,21.2s,baz=154,slow=32						
KLR	Kul'dur	85.59	327	*ce*P	P	22 06 45.9	+2.2
KLR				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CUT	Chulitna	85.60	11	P	P	22 06 43.7	+0.3
	baz=202,SNR=5.3						
SCM	Sheep Creek Mo	85.61	12	P	P	22 06 44.3	+0.7
SCM	Sheep Creek Mo	85.61	12	P	P	22 06 44.3	+0.7
SCM				pmax	pmax		
	comp=Z,339nm,0.6s						
SCM	Sheep Creek Mo	85.61	12	P	P	22 06 44.2	+0.6
	baz=204,SNR=11						
PCA	Pinnacle	85.66	16	P	P	22 06 44.2	+0.4
PCA				IAmb	IAmb	22 06 46.1	
	comp=Z,56nm,1.1s						
PINM	Pinnacle	85.66	16	P	P	22 06 44.8	+0.9
	baz=211,SNR=6.7						
I17K	Unalakleet	85.66	6	P	P	22 06 45.0	+1.4
	baz=192						
J18K	Innoko River	85.67	7	P	P	22 06 44.9	+1.2
	baz=196,SNR=38						
BCPM	Bancas Point	85.69	16	P	P	22 06 44.6	+0.7
BCPM				IAmb	IAmb	22 06 46.4	
	comp=Z,53nm,1.0s						
NEW	Newport	85.72	34	P	P	22 06 44.4	0.0
NEW	Newport	85.72	34	P	P	22 06 43.7	-0.7
	comp=Z,3.4nm,0.9s,baz=306,slow=3.1,SNR=5.5						
NEW				LR	LR	22 39 37.4	
	comp=Z,582nm,19.0s,baz=214,slow=32						
	comp=Z,3.4nm,0.9s						
NEW	Newport	85.72	34	P	P	22 06 44.4	0.0
NEW				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CN2	Changchun	85.72	321	*e*P	P	22 06 45.0	+0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,11.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
BNX	BinXian	85.73	323	⇓P	P	22 06 45.5	+1.1
BNX				pmax	pmax		
	comp=Z,13nm,1.2s						
SNY	Shenyang	85.75	318	⇓P	P	22 06 46.0	+1.4
SNY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PPLA	Purkeypile	85.75	10	P	P	22 06 45.4	+1.1
	baz=200						
R32K	Eaglecrest	85.75	19	P	P	22 06 45.2	+0.9
	baz=216						
K20K	Telida	85.91	9	P	P	22 06 45.6	+0.6
	baz=198						
MA2	Magadan	85.92	343	P	P	22 06 44.8	-0.3
MA2				IAmb	IAmb	22 06 55.6	
	comp=Z,58nm,1.4s						
MA2	Magadan	85.92	343	LR	LR	22 39 44.6	
	comp=Z,281nm,21.4s,baz=132,slow=32						
MA2	Magadan	85.92	343	P	P	22 06 45.9	+0.8
	comp=Z,30nm,1.6s						
MA2	Magadan	85.92	343	*ce*P	P	22 06 45.5	+0.4
MA2				pmax	pmax		
	comp=Z,35nm,1.7s						
CMIG	Matias Romero	85.94	70	P	P	22 06 45.4	-0.8
	comp=Z,22nm,1.0s,baz=263,slow=5.8,SNR=16						
CMIG				LR	LR	22 35 29.8	
	comp=Z,542nm,21.4s,baz=178,slow=29						
	comp=Z,22nm,1.0s						
N25K	Chitina, Valde	85.96	13	P	P	22 06 46.4	+1.0
	baz=207,SNR=24						
ANM	Nome	85.98	3	P	P	22 06 46.7	+1.4
	baz=187						
GLB	Gilahina Butte	85.99	14	P	P	22 06 46.4	+1.0
GLB				IAmb	IAmb	22 06 47.5	
	comp=Z,66nm,1.3s						
M24K	Tolsona, Glenn	86.09	12	P	P	22 06 47.1	+1.2
	baz=205,SNR=17						
ELIB	Princess Elisa	86.12	185	*d*P	P	22 06 46.9	+0.7
	comp=Z,39nm,1.0s						
ELIB				*dx*	x	22 06 57.1	
T35M	Bob Quinn	86.14	22	P	P	22 06 48.1	+1.9
	baz=220,SNR=8.7						
PLBC	Pleasant Camp	86.17	18	P	P	22 06 47.9	+1.6
	baz=214						
O28M	Mount Upton	86.26	16	P	P	22 06 47.9	+0.9
	baz=211,SNR=12						
CAST	Castle Rocks	86.26	9	P	P	22 06 45.6	-1.0
CAST	Castle Rocks	86.26	9	P	P	22 06 45.9	-0.8
	baz=200,SNR=24						
H16K	Elim	86.27	5	P	P	22 06 47.6	+0.9
	baz=190,SNR=9.2						
O29M	Mount Kennedy	86.27	17	P	P	22 06 48.3	+1.3
	baz=212,SNR=8.5						
J19K	Poorman	86.31	8	P	P	22 06 48.2	+1.3
	baz=196,SNR=14						
SKAG	Skagway	86.48	18	P	P	22 06 48.7	+0.9
SKAG	Skagway	86.48	18	P	P	22 06 49.4	+1.7
	comp=Z,67nm,1.3s						
SKAG	Skagway	86.48	18	P	P	22 06 49.5	+1.7
	baz=215,SNR=12						
WHN	Wuhan	86.49	305	P	P	22 06 50.5	+1.9
G15K	Niukluk	86.49	4	P	P	22 06 48.7	+1.0
	baz=189,SNR=13						
HARP	HAARP	86.56	13	P	P	22 06 49.1	+0.9
	baz=206,SNR=7.7						
P30M	Million Dollar	86.56	17	P	P	22 06 50.0	+1.8
	baz=214						
S34M	Telegraph Cree	86.56	21	P	P	22 06 49.9	+1.7
	baz=219,SNR=14						
KTH	Kantishna Hill	86.56	10	P	P	22 06 47.6	-0.7
TRF	Thorofare Moun	86.57	10	P	P	22 06 48.2	-0.2
TRF	Thorofare Moun	86.57	10	P	P	22 06 48.6	+0.2
	baz=201,SNR=36						
BI02	San Fabin de	86.63	128	P	P	22 06 49.2	-0.2
CHUM	Lake Minchumin	86.66	9	P	P	22 06 48.4	-0.2
	baz=200,SNR=15						
SYO	Syowa Base	86.67	191	⇑*e*P	P	22 06 49.4	+0.6
SYO	Syowa Base	86.67	191	⇓*e*PcP	PcP	22 06 51.5	+0.4
J20K	Nowinta River	86.68	8	P	P	22 06 49.5	+0.8
	baz=198,SNR=24						
TROLL	Troll, Antarti	86.72	179	⇑P	P	22 06 50.0	+0.8
	comp=Z,1μm,0.9s						
TROLL				⇓PKiKP	PKiKP	22 11 46.3	-9.0
H17K	Granite Mounta	86.76	6	P	P	22 06 49.9	+0.8
	baz=192,SNR=7.5						
RND	Reindeer	86.77	11	P	P	22 06 49.5	+0.2
RND	Reindeer	86.77	11	P	P	22 06 49.5	+0.2
RND				pmax	pmax		
	comp=Z,67nm,0.6s						
PD31	Pinedale Array	86.79	41	P	P	22 06 49.8	-0.2
PDAR	Pinedale Array	86.79	41	P	P	22 06 49.9	-0.2
PDAR	Pinedale Array	86.79	41	P	P	22 06 49.5	-0.6
	comp=Z,5.1nm,0.9s,baz=209,slow=3.9,SNR=32						
PDAR				LR	LR	22 40 04.3	
	comp=Z,167nm,19.0s,baz=234,slow=32						
	comp=Z,5.1nm,0.9s						
YUK8	Steele Glacier	86.80	16	P	P	22 06 50.8	+1.0
	baz=211,SNR=20						
SDCO	Great Sand Dun	86.81	47	P	P	22 06 50.4	+0.1
F14K	Arctic Creek	86.84	3	P	P	22 06 50.3	+0.9
	baz=187						
VNA3	Neumayer Olymp	86.84	175	⇑P	P	22 06 49.7	+0.1
	comp=Z,19nm,0.9s						
VNA3				⇓PKiKP	PKiKP	22 11 50.0	-5.4
TNA	Tin City	86.86	2	P	P	22 06 50.4	+0.9
	baz=185						
YUK6	Outpost Mounta	86.87	16	P	P	22 06 51.0	+1.0
	baz=212,SNR=5.9						
SNAA	Sanae	86.87	177	P	P	22 06 50.5	+0.6
SNAA				IAmb	IAmb	22 06 51.9	
	comp=Z,54nm,1.2s						
SNAA	Sanae	86.87	177	⇑P	P	22 06 50.3	+0.4
	comp=Z,368nm,0.9s						
SNAA				⇓PKiKP	PKiKP	22 11 39.7	-16
SNAA	Sanae	86.87	177	P	P	22 06 49.9	0.0
	comp=Z,30nm,1.1s,baz=208,slow=3.0,SNR=26						
	comp=Z,30nm,1.1s						
SNAA	Sanae	86.87	177	*i*P	P	22 06 50.8	+0.9
SNAA				pmax	pmax		
	comp=Z,54nm,1.2s						
ML02	Panimavida	86.89	127	P	P	22 06 51.2	+0.6
ML02				IAmb	IAmb	22 06 52.6	
	comp=Z,67nm,1.2s						
HYT	Haines Junctio	87.00	17	P	P	22 06 51.4	+0.9
HYT				IAmb	IAmb	22 06 53.3	
	comp=Z,36nm,1.2s						
HYT	Haines Junctio	87.00	17	P	P	22 06 51.8	+1.3
	baz=213,SNR=13						
G16K	Koyuk River	87.01	5	P	P	22 06 51.4	+1.2
	baz=190,SNR=8.9						
PAX	Paxson	87.01	12	P	P	22 06 50.8	+0.3
	baz=206,SNR=17						
Q32M	Nakina River	87.01	20	P	P	22 06 52.2	+1.5
	baz=218,SNR=8.5						
M26K	Nabesna, AK	87.02	14	P	P	22 06 51.3	+0.8
	baz=208,SNR=30						
YUK3	Moose Creek	87.06	15	P	P	22 06 52.1	+1.2
	baz=210,SNR=43						
MCK	McKinley	87.06	11	P	P	22 06 50.7	+0.1
MCK	McKinley	87.06	11	P	P	22 06 50.7	+0.1
MCK				pmax	pmax		
	comp=Z,89nm,1.0s						
MCK	McKinley	87.06	11	P	P	22 06 51.1	+0.5
	baz=203,SNR=38						
P32M	Atlin	87.06	19	P	P	22 06 52.0	+1.3
	baz=216,SNR=7.2						
BPAW	Bear Paw Mtn.	87.07	10	P	P	22 06 50.0	-0.7
	baz=201,SNR=8.0						
TIA	Tai'an	87.12	311	P	P	22 06 52.8	+1.3
TIA				pmax	pmax		
	comp=Z,22nm,1.2s						
H18K	Honhosa River	87.12	6	P	P	22 06 51.4	+0.6
	baz=194						
BOZ	Bozeman (W)	87.14	38	P	P	22 06 51.6	0.0
BOZ	Bozeman (W)	87.14	38	P	P	22 06 51.6	0.0
BOZ				pmax	pmax		
	comp=Z,12nm,1.2s						
YUK4	Talbot Arm	87.14	16	P	P	22 06 52.8	+1.5
	baz=212,SNR=6.2						
F15K	North Star Dit	87.16	4	P	P	22 06 51.7	+0.6
	baz=188						
I20K	Naaghedeneel	87.23	8	P	P	22 06 52.5	+1.2
	baz=198						
M27K	Edge Creek, AK	87.23	14	P	P	22 06 52.9	+1.3
	baz=209,SNR=34						
G17K	Kiwalik Mounta	87.25	5	P	P	22 06 52.3	+0.9
	baz=192						
VNA2	Neumayer--Watz	87.33	175	⇑P	P	22 06 52.9	+0.9
	comp=Z,22nm,1.2s,baz=173,slow=4.6						
DLBC	Dease Lake	87.34	21	P	P	22 06 53.3	+1.2
DLBC				IAmb	IAmb	22 06 55.0	
	comp=Z,31nm,1.1s						
DLBC	Dease Lake	87.34	21	LR	LR	22 39 32.4	
	comp=Z,143nm,20.9s,baz=262,slow=31						
DLBC	Dease Lake	87.34	21	P	P	22 06 53.7	+1.6
	baz=220,SNR=8.8						
O30N	Mendenhall	87.34	17	P	P	22 06 53.4	+1.4
	baz=214,SNR=17						
MENT	Mentasta	87.34	13	P	P	22 06 52.9	+0.9
MENT				IAmb	IAmb	22 06 54.5	
	comp=Z,58nm,1.3s						
MENT	Mentasta	87.34	13	P	P	22 06 53.3	+1.3
	comp=Z,37nm,1.4s						
BWN	Browne	87.38	10	P	P	22 06 52.4	+0.2
L26K	Log Cabin Wild	87.50	13	P	P	22 06 53.9	+1.2
	baz=208,SNR=13						
UBPT	Khong Chiam	87.50	287	P	P	22 06 54.2	+0.4
UBPT				IAmb	IAmb	22 07 05.4	
	comp=Z,51nm,1.5s						
UBPT	Khong Chiam	87.50	287	P	P	22 06 55.0	+1.2
	comp=Z,20nm,1.6s						
BVCY	Beaver Creek	87.52	15	P	P	22 06 54.0	+1.2
	baz=210,SNR=13						
JCT	Junction City	87.53	56	P	P	22 06 53.6	-0.1
JCT				IAmb	IAmb	22 06 55.4	
	comp=Z,44nm,1.6s						
JCT	Junction City	87.53	56	P	P	22 06 53.6	-0.1
VNA1	Neumayer--Stat	87.53	175	⇑P	P	22 06 54.0	+1.1
	comp=Z,45nm,1.2s						
WHY	Whitehorse	87.59	18	P	P	22 06 54.3	+0.9
WHY				IAmb	IAmb	22 06 56.0	
	comp=Z,71nm,1.3s						
WHY	Whitehorse	87.59	18	P	P	22 06 54.7	+1.3
	baz=215,SNR=7.7						
N30M	Aishikik Lake	87.64	17	P	P	22 06 54.4	+0.9
	baz=213,SNR=5.4						
H19K	Roundabout Mou	87.69	7	P	P	22 06 54.8	+1.2
	baz=196,SNR=17						
BO01	Tunca	87.70	126	P	P	22 06 54.9	+0.3
K24K	Donnelly Dome	87.70	12	P	P	22 06 54.8	+1.1
	baz=206,SNR=13						
BO02	Sierra Bellavi	87.76	127	P	P	22 06 55.1	+0.2
BO02				IAmb	IAmb	22 06 57.1	
	comp=Z,48nm,1.4s						
R33M	Jennings River	87.77	20	P	P	22 06 55.8	+1.6
	baz=219,SNR=15						
MT01	Popeta	87.79	126	P	P	22 06 55.1	+0.1
G18K	Tagagawik	87.82	6	P	P	22 06 54.8	+0.7
	baz=194						
RIDG	Independent Ri	87.83	12	P	P	22 06 54.5	+0.1
RIDG	Independent Ri	87.83	12	P	P	22 06 55.1	+0.8
	baz=206,SNR=18						
P33M	Teslin, Yukon	87.83	19	P	P	22 06 55.3	+0.9
	baz=217,SNR=5.7						
NEA2	Nenana	87.84	10	P	P	22 06 54.2	-0.1
	baz=202						
H20K	Anotleneega Mo	87.85	8	P	P	22 06 55.5	+1.1
	baz=197,SNR=12						
L27K	Beaver Creek,	87.86	14	P	P	22 06 55.5	+1.0
	baz=209,SNR=21						
BCAR	Beaver Creek A	87.87	14	P	P	22 06 54.9	+0.4
WRH	Wood River Hil	87.89	11	P	P	22 06 55.0	+0.5
EFI	East Falkland	87.91	146	P	P	22 06 54.5	-0.7
EFI	East Falkland	87.91	146	P	P	22 06 54.5	-0.7
EFI				pmax	pmax		
	comp=Z,84nm,1.0s						
I21K	Tanana	87.94	9	P	P	22 06 55.2	+0.4
	baz=200						
NVL	N'lazarevskaya	87.94	182	*e*P	P	22 06 54.7	-0.2
NVL				pmax	pmax		
	comp=Z,11nm,1.0s						
N31M	Braeburn, Yuko	88.02	17	P	P	22 06 56.6	+1.3
	baz=215,SNR=9.9						
HDA	Harding Lake	88.03	11	P	P	22 06 55.7	+0.5
	baz=204,SNR=21						
M29M	Somme Creek	88.12	15	P	P	22 06 56.8	+1.0

comp=Z,35nm,1.3s
COLA College 88.30 11 P **P** 22 06 56.4 -0.1
COLA pmax pmax
comp=Z,67nm,1.1s
COLA College 88.30 11 P **P** 22 06 57.0 +0.6
baz=204
I23K Minto, Yukon-K 88.31 10 P **P** 22 06 56.8 +0.3
baz=202,SNR=15
ROC1 El Roble 88.34 125 *i* P **P** 22 06 57.5 -0.4
SEY Seymchan 88.35 345 *i* P **P** 22 06 57.3 +0.6
SEY pmax pmax
comp=Z,37nm,1.1s
IL31 88.38 11 P **P** 22 06 57.1 +0.3
IL31 IAmb IAmb 22 07 08.1
comp=Z,64nm,1.4s
ILAR Eielson Array 88.38 11 P **P** 22 06 56.7 -0.1
ILAR Eielson Array 88.38 11 P **P** 22 06 57.1 +0.2
comp=Z,14nm,1.0s,baz=214,slow=5.2,SNR=58
ILAR LR LR 22 40 03.2
comp=Z,154nm,20.6s,baz=214,slow=31
comp=Z,14nm,1.0s
F18K Selawik 88.42 5 P **P** 22 06 57.6 +0.6
baz=193
HEH HeiHe 88.43 327 *e*P **P** 22 06 58.3 +0.9
HEH pmax pmax
comp=Z,13nm,1.6s
N32M Quiet Lake 88.51 18 P **P** 22 06 58.7 +1.1
baz=217
J25K Salcha River, 88.51 12 P **P** 22 06 58.2 +0.7
baz=206,SNR=24
PEL Peldehue 88.52 125 P **P** 22 06 58.9 +0.3
PEL IAmb IAmb 22 07 00.8
comp=Z,25nm,0.9s
PEL Peldehue 88.52 125 *i* P **P** 22 06 59.1 +0.6
POKR Poker Plat Res 88.60 11 P **P** 22 06 58.3 +0.4
baz=204,SNR=8.7
M30M Minto, Yukon 88.65 16 P **P** 22 06 59.2 +0.9
baz=214,SNR=13
K27K Chicken 88.65 13 P **P** 22 06 59.7 +1.5
baz=209
H22K Ishtalitna Cre 88.69 9 P **P** 22 06 59.2 +0.9
baz=200
E17K Hotham Inlet 88.71 5 P **P** 22 06 59.1 +0.7
baz=191
J26L Joseph Creek 88.76 12 P **P** 22 07 00.4 +1.6
baz=208,SNR=73
L29M L29M 88.76 15 P **P** 22 07 00.2 +1.5
baz=212,SNR=33
RPSI Rantau Prapat 88.80 273 P **P** 22 06 59.3 -0.8
F19K Shaleruckik Mo 88.82 6 P **P** 22 06 59.6 +0.7
baz=194
PSI Prapat 88.83 273 LR LR 22 49 55.7
comp=Z,148nm,19.1s,baz=158,slow=38
PSI Prapat 88.83 273 P **P** 22 07 00.7 +0.3
comp=Z,29nm,1.1s
PSI Prapat 88.83 273 P **P** 22 06 59.3 -1.1
PSI pmax pmax
comp=Z,18nm,0.9s
H23K Yukon River 88.91 10 P **P** 22 06 59.5 +0.2
baz=202
M31M Drury Creek, Y 88.98 17 P **P** 22 07 00.5 +0.7
baz=216,SNR=8.9
G21K Allakaket 89.00 8 P **P** 22 07 00.8 +1.1
baz=198
WTLY Watson Lake, Y 89.03 21 P **P** 22 07 01.5 +1.5
baz=221,SNR=10
E18K Tukpahlearik C 89.14 5 P **P** 22 07 00.8 +0.5
E18K IAmb IAmb 22 07 02.5
comp=Z,33nm,0.9s
E18K Tukpahlearik C 89.14 5 P **P** 22 07 01.4 +1.0
baz=192
H24K Noodor Dome 89.18 10 P **P** 22 07 01.7 +1.0
baz=204
D17K Noatak River 89.24 4 P **P** 22 07 01.9 +1.1
baz=190
F20K Avaraart Lake 89.24 7 P **P** 22 07 01.8 +0.9
baz=196,SNR=12
DAWY Dawson 89.28 14 P **P** 22 07 02.4 +1.2
baz=211,SNR=26
FARO Faro, Yukon 89.30 18 P **P** 22 07 02.2 +0.9
baz=217,SNR=8.6
PRP Porcupine Dome 89.30 11 P **P** 22 07 01.4 +0.1
PRP IAmb IAmb 22 07 03.5
comp=Z,53nm,1.1s
PRP Porcupine Dome 89.30 11 P **P** 22 07 02.1 +0.8
baz=206,SNR=36
TOAD Toad River Com 89.32 23 P **P** 22 07 02.8 +1.4
baz=224,SNR=76
E19K Redstone River 89.48 6 P **P** 22 07 02.7 +0.7
baz=195
K29M Barlow Dome 89.53 15 P **P** 22 07 03.8 +1.3
baz=213,SNR=37
GSI Gunungsitoli 89.55 272 P **P** 22 07 03.9 +0.3
GSI IAmb IAmb 22 07 27.2
comp=Z,47nm,1.0s
GSI Gunungsitoli 89.55 272 P **P** 22 07 05.4 +1.9
comp=Z,59nm,1.0s
GSI Gunungsitoli 89.55 272 P **P** 22 07 05.5 +1.9
I26K Coal Creek Min 89.56 12 P **P** 22 07 03.6 +1.2
baz=208
RDOG Red Dog Mine 89.60 4 P **P** 22 07 03.1 +0.6
RDOG Red Dog Mine 89.60 4 P **P** 22 07 03.5 +0.9
baz=190
G23K Bananza Creek 89.66 9 P **P** 22 07 03.9 +1.0
baz=202,SNR=7.4
GO04 Tololo Observa 89.67 122 P **P** 22 07 03.6 -0.6
GO04 IAmb IAmb 22 07 06.2
comp=Z,38nm,0.9s
F21K Alatna River 89.67 8 P **P** 22 07 03.6 +0.7
baz=198,SNR=6.2
C16K Lisburne Hills 89.68 3 P **P** 22 07 03.5 +0.6
baz=188
LYN LuoYang 89.72 307 P **P** 22 07 05.5 +1.6
LYN pmax pmax
comp=Z,22nm,0.6s
MTO3 Montecristo 89.80 75 P **P** 22 07 04.9 0.0
MTO3 IAmb IAmb 22 07 07.5
comp=Z,77nm,1.4s
J29N Klondike Camp 89.88 14 P **P** 22 07 05.9 +1.9
baz=212,SNR=11
AUSP Uspallata 89.90 125 *i* P **P** 22 07 07.5 +2.1
H25L Birch Creek 89.93 11 P **P** 22 07 05.0 +0.9
baz=206
C17K DeLong Mountai 90.00 4 P **P** 22 07 05.1 +0.7
baz=190
G24K Hadweenzic Riv 90.04 10 P **P** 22 07 05.5 +0.9
baz=204
F22K John River 90.11 8 P **P** 22 07 05.9 +1.0
baz=200
COLD Coldfoot 90.11 9 P **P** 22 07 05.4 +0.4
COLD Coldfoot 90.11 9 P **P** 22 07 06.3 +1.3
baz=202
I27K Kandik River 90.13 13 P **P** 22 07 06.1 +0.9
baz=209,SNR=10.0
ENH Enshi 90.15 303 P **P** 22 07 06.7 +0.6
RTLS Leoncito 90.15 124 *i* P **P** 22 07 08.4 +1.9
ASAL Salagasta 90.17 125 *i* P **P** 22 07 07.9 +1.6
MMPY Sheldon Lake, 90.20 18 P **P** 22 07 07.0 +1.5
baz=219,SNR=17
LCO Las Campanas 90.23 121 P **P** 22 07 07.2 +0.3
LCO IAmb IAmb 22 07 09.5
comp=Z,32nm,1.0s
LCO Las Campanas 90.23 121 P **P** 22 07 07.2 +0.3
LCO pmax pmax
comp=Z,32nm,1.0s
C18K Utukok River 90.30 4 P **P** 22 07 06.5 +0.6
baz=191
SRIT Nakonsritamara 90.32 279 P **P** 22 07 07.8 +0.6
SRIT IAmb IAmb 22 07 25.0
comp=Z,75nm,1.4s
G25K Bearman Lake 90.33 10 P **P** 22 07 06.5 +0.6
baz=205
I28M Miner Creek 90.35 13 P **P** 22 07 07.1 +0.9
baz=211,SNR=11
E20K Nigu River 90.36 6 P **P** 22 07 07.2 +1.1
baz=196
HKT Hockley 90.40 58 *i* P **P** 22 07 08.4 +1.3
HKT pmax pmax
comp=Z,34nm,1.4s
D19K Kuna River 90.40 6 P **P** 22 07 07.0 +0.6
baz=194
J30M Hart River 90.43 15 P **P** 22 07 07.7 +1.1
baz=214,SNR=19
ZEA Zeya 90.60 329 *e*P **P** 22 07 09.2 +1.7
ZEA pmax pmax
comp=Z,30nm,1.1s
I29M Ogilvie Camp, 90.63 14 P **P** 22 07 08.4 +1.0
baz=212,SNR=9.8
AC05 El Transito 90.64 121 P **P** 22 07 09.7 +1.0
AC05 IAmb IAmb 22 07 11.1
comp=Z,38nm,1.1s
KOTAN Kotaneelee Air 90.66 22 P **P** 22 07 09.1 +1.5
baz=225,SNR=8.8
H27K Steamboat Moun 90.70 12 P **P** 22 07 09.3 +1.5
baz=209,SNR=25
AROD Rodeo 90.71 123 *i* P **P** 22 07 11.4 +2.2
F24K Squaw Lake 90.73 10 P **P** 22 07 09.1 +1.2
baz=204,SNR=10.0
E22K Anaktuvuk Pass 90.75 8 P **P** 22 07 08.9 +1.0
baz=200
D20K Etivluk River 90.76 6 P **P** 22 07 08.7 +0.8
baz=196
E21K Killik River 90.78 7 P **P** 22 07 08.5 +0.5
baz=198
ACCO Cerro Coronel 90.85 123 *i* P **P** 22 07 11.4 +1.6
NAYO Nakonayok 90.85 285 P **P** 22 07 11.0 +1.4
comp=Z,215nm,1.0s
GYA Guiyang 90.87 298 P **P** 22 07 11.5 +1.9
GYA pmax pmax
comp=Z,10.0nm,1.3s
LAO LASA Array 90.89 39 P **P** 22 07 09.8 +0.7
LAO IAmb IAmb 22 07 12.1
comp=Z,34nm,1.3s
G26K Porcupine Rive 90.90 11 P **P** 22 07 10.0 +1.4
baz=207,SNR=28
I30M Mount Dempster 90.96 15 P **P** 22 07 10.1 +1.0
baz=214,SNR=38
B18K Kokolik River 90.97 4 P **P** 22 07 10.2 +1.3
baz=191
E23K Chandalar 90.97 9 P **P** 22 07 10.2 +1.1
baz=202,SNR=12
E24K Your Creek 91.15 9 P **P** 22 07 11.0 +1.2
baz=203
F25K Christian Rive 91.16 10 P **P** 22 07 11.4 +1.5
baz=206,SNR=12
G27K Doyon Strip 91.18 12 P **P** 22 07 11.4 +1.4
baz=209,SNR=14
BMAR Burnt Mountain 91.19 11 P **P** 22 07 11.2 +1.2
SLVN Son La 91.20 292 P **P** 22 07 11.7 +0.5
SLVN Son La 91.20 292 P **P** 22 07 12.7 +1.5
comp=Z,14nm,1.1s
H29M Whitestone 91.34 13 P **P** 22 07 11.9 +1.2
baz=212,SNR=18
D22K Ayikyak River 91.35 7 P **P** 22 07 11.9 +1.3
baz=199,SNR=12
C21K Knifeblade Rid 91.37 7 P **P** 22 07 12.0 +1.3
baz=197
F26K Sheenjek River 91.50 11 P **P** 22 07 12.9 +1.5
baz=207,SNR=19
TOLK Toolik Lake Re 91.52 9 P **P** 22 07 12.7 +1.1
baz=202
XLT XiLinHaoTe 91.53 317 *e*P P 22 07 18.3 +6.1
XLT S **S** 22 18 14.3 +4.0
XLT pmax pmax
comp=Z,11nm,1.6s
XLT pmax pmax
comp=Z,280nm,7.9s
TGUH Tegucigalpa,Un 91.55 76 P **P** 22 07 13.6 +0.6
E25K Arctic Village 91.65 10 P **P** 22 07 13.4 +1.3
baz=206
D23K Nanushuk River 91.68 8 P **P** 22 07 13.5 +1.3
baz=201
NNA Nana 91.68 103 *i* P **P** 22 07 15.1 +1.5
NNA pmax pmax
comp=Z,50nm,1.2s
AGUA GUANDACOL 91.77 123 *i* P **P** 22 07 15.3 +1.5
W35A Tecumseh 91.78 53 P **P** 22 07 13.8 +0.3
B21K Ikpikpuk River 91.84 6 P **P** 22 07 13.8 +0.9
baz=197
EPYK Eagle Plains 91.84 14 P **P** 22 07 13.9 +0.9
baz=214,SNR=11
A19K Wainwright 91.84 4 P **P** 22 07 13.8 +0.9
baz=191
H31M Peel River 91.92 15 P **P** 22 07 14.4 +0.9
baz=216,SNR=5.4
B20K Meade River 91.96 6 P **P** 22 07 14.3 +0.8
baz=195
G29M Pine Creek 92.01 13 P **P** 22 07 14.3 +0.5
baz=213
HIA Hailar 92.01 323 P **P** 22 07 14.3 +0.1
HIA Hailar 92.01 323 P **P** 22 07 14.3 +0.1
HIA pmax pmax
comp=Z,8.0nm,0.5s
NATX Nacogdoches 92.06 57 P **P** 22 07 15.1 +0.3
AVFE Valle Fertil 92.07 124 *i* P **P** 22 07 16.3 +1.1
D24K Happy Valley 92.10 9 P **P** 22 07 15.4 +1.2
baz=203
XAN Xi'an 92.15 306 P **P** 22 07 16.5 +1.2
XAN pP pP 22 07 20.8 -1.3
XAN SKS **SKSac** 22 17 45.5 -1.2
XAN S **ScS** 22 18 19.8 +1.3
XAN pmax pmax
comp=Z,22nm,1.1s
XAN pmax pmax
comp=Z,530nm,5.5s
XAN LR LR
comp=Z,270nm,19.6s
XAN LR LR
comp=Z,280nm,21.1s
XAN LR LR
comp=Z,460nm,21.8s
JTS Las Juntas de 92.30 80 P **P** 22 07 16.9 +0.6
JTS IAmb IAmb 22 07 19.4
comp=Z,43nm,1.0s
JTS Las Juntas de 92.30 80 LR LR 22 38 53.6
comp=Z,309nm,21.2s,baz=68,slow=29
JTS Las Juntas de 92.30 80 P **P** 22 07 16.9 +0.6
JTS pmax pmax
comp=Z,43nm,1.0s
E27K Coleen River 92.39 11 P **P** 22 07 16.9 +1.3
baz=209
AC02 Maricunga 92.41 120 P **P** 22 07 17.4 +0.1
AC02 IAmb IAmb 22 07 20.6
comp=Z,21nm,0.9s
ACHE Chepes 92.45 125 *i* P **P** 22 07 17.9 +0.8
G30M tAoh Zraii Nji 92.45 14 P **P** 22 07 16.7 +0.8
baz=214
C23K ItkilIik River 92.50 8 P **P** 22 07 16.7 +0.7
baz=201
D25K Kavik River 92.61 9 P **P** 22 07 17.1 +0.6
baz=205
C24K Franklin Bluff 92.64 8 P **P** 22 07 17.7 +1.1
baz=203
B22K Teshekpuk Lake 92.65 7 P **P** 22 07 17.5 +0.9
baz=198
GO02 Mina Guanaco 92.74 118 P **P** 22 07 19.4 +0.8
GO02 IAmb IAmb 22 07 21.7
comp=Z,28nm,1.2s
G31M Satah River 92.85 14 P **P** 22 07 18.4 +0.8
baz=216
APLL PUNTA DE LOS L 92.90 124 *i* P **P** 22 07 20.2 +1.2
COHC Cochancay 92.98 94 P **P** 22 07 20.1 +0.5
WRGLY Wrigley 93.05 20 P **P** 22 07 19.5 +0.9
baz=226
F30M Barrier River 93.07 14 P **P** 22 07 19.6 +0.9
baz=215,SNR=5.7
HHC Hu-ho-hao-te 93.12 313 *e*P **P** 22 07 21.0 +1.3
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,91nm,4.5s
HHC LR LR
comp=Z,170nm,16.0s
HHC LR LR
comp=Z,140nm,17.7s
HHC LR LR
comp=Z,300nm,21.6s
A22K Sinclair Lake 93.13 6 P **P** 22 07 19.8 +1.0
baz=197
E28M Babbage River 93.14 12 P **P** 22 07 20.0 +1.0
baz=211
E29M Blow River 93.28 12 P **P** 22 07 20.3 +0.7
baz=213,SNR=9.3
C27K Jago River 93.30 10 P **P** 22 07 20.8 +1.1
baz=208
C26K Camden Bay 93.37 10 P **P** 22 07 21.3 +1.3
baz=206
F31M Tsiigehtchic 93.39 14 P **P** 22 07 20.9 +0.8
baz=216
D27M Malcolm River 93.43 11 P **P** 22 07 21.4 +1.0
baz=210,SNR=13
KMI Kunming 93.62 295 P **P** 22 07 24.3 +1.8
KMI sP sP 22 07 34.0 +2.3
KMI pmax pmax
comp=Z,15nm,0.9s
KMI LR LR
comp=Z,120nm,19.5s
KMI LR LR
comp=Z,310nm,21.8s
KMI LR LR
comp=Z,540nm,22.3s
CRAI Chiangrai 93.86 290 P **P** 22 07 23.4 0.0
D28M Stokes Point 93.91 12 P **P** 22 07 23.3 +0.8
baz=212
BTO Baotou 94.08 312 *e*P **P** 22 07 25.5 +1.4
BTO pP **pP** 22 07 30.3 -0.6
BTO S **S** 22 18 37.0 +3.9
BTO sS **sS** 22 18 43.3 -0.9
BTO pmax pmax
comp=Z,22nm,0.4s
BTO pmax pmax
comp=Z,950nm,6.9s
BTO LR LR
comp=Z,440nm,22.8s
BTO LR LR
comp=Z,260nm,15.9s
BTO LR LR
comp=Z,580nm,24.3s
INK Inuvik 94.14 14 P **P** 22 07 23.2 -0.3
INK IAmb IAmb 22 07 34.9
comp=Z,26nm,1.2s
INK Inuvik 94.14 14 LR LR 22 44 11.5
comp=Z,228nm,19.9s,baz=232,slow=32
INK Inuvik 94.14 14 P **P** 22 07 23.2 -0.3
INK pmax pmax
comp=Z,26nm,1.2s
INK Inuvik 94.14 14 P **P** 22 07 24.0 +0.5
baz=217
CM31 Chiang Mai Arr 94.48 288 P **P** 22 07 26.1 -0.2
CMAR Chiang Mai Arr 94.48 288 P **P** 22 07 26.6 +0.3
CMAR Chiang Mai Arr 94.48 288 P **P** 22 07 27.0 +0.7
comp=Z,3.4nm,0.9s,baz=116,slow=3.0,SNR=19
CMAR PP **PP** 22 11 15.4 +1.1
comp=Z,0.7nm,0.4s,baz=130,slow=7.3,SNR=5.4
CMAR PKKPbc **PKKPbc** 22 24 25.7 +0.7
comp=Z,0.8nm,0.3s,baz=300,slow=5.5,SNR=4.0
CMAR LR LR 22 48 06.1
comp=Z,37nm,21.1s,baz=105,slow=34
comp=Z,3.4nm,0.9s
CMAR Chiang Mai Arr 94.48 288 P **P** 22 07 26.6 +0.3
PB01 IPOC Station P 94.56 115 P **P** 22 07 26.2 -0.6
PB01 IAmb IAmb 22 07 30.4
comp=Z,50nm,1.7s
CHTO Chiang Mai 94.61 288 P **P** 22 07 26.1 -0.8
CHTO Chiang Mai 94.61 288 P **P** 22 07 28.7 +1.8
comp=Z,9.4nm,0.9s
CHTO Chiang Mai 94.61 288 P **P** 22 07 26.1 -0.8
CHTO pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 94.66 337 P **P** 22 07 24.0 -2.0
YAK IAmb IAmb 22 11 11.2
comp=Z,19nm,0.5s
YAK Yakutsk 94.66 337 LR LR 22 44 04.4
comp=Z,62nm,21.4s,baz=104,slow=32
YAK Yakutsk 94.66 337 *c e*P **P** 22 07 25.9 -0.1
YAK pmax pmax
comp=Z,19nm,1.7s
PB11 IPOC Station P 94.95 113 P **P** 22 07 29.0 +0.3
PB11 IAmb IAmb 22 07 31.9
comp=Z,26nm,1.0s
PZH PanZhiHua 94.96 296 P **P** 22 07 30.3 +1.8
PZH S **S** 22 18 44.3 +2.9
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH LR LR
comp=Z,160nm,23.0s
PZH LR LR
comp=Z,210nm,23.0s
PZH LR LR
comp=Z,340nm,25.0s
PB08 IPOC Station P 95.22 114 P **P** 22 07 29.9 -0.3
ECSD EROS Data Cent 95.54 45 P **P** 22 07 30.0 -0.6
ECSD IAmb IAmb 22 07 32.0
comp=Z,31nm,1.1s
YKA Yellowknife Ar 95.65 24 P **P** 22 07 30.5 0.0
YKA Yellowknife Ar 95.65 24 P **P** 22 07 30.4 -0.2
comp=Z,4.3nm,0.8s,baz=237,slow=4.5,SNR=54
YKA PP **PP** 22 11 20.6 -1.8
comp=Z,1.9nm,1.1s,baz=236,slow=7.8,SNR=7.6
YKA PKKPbc **PKKPbc** 22 24 21.4 -2.2
comp=Z,1.2nm,1.0s,baz=37,slow=2.0,SNR=8.6
YKA LR LR 22 44 16.1
comp=Z,199nm,20.9s,baz=290,slow=32
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 95.65 24 P **P** 22 07 30.5 0.0
PB16 IPOC Station P 95.67 112 P **P** 22 07 32.4 -0.1
PB16 IAmb IAmb 22 07 36.7
comp=Z,28nm,1.5s
LZH Lanzhou 96.78 306 *e*P P 22 07 42.8 +6.2
LZH pmax pmax
comp=Z,16nm,1.2s
CZSB Cruzeiro do Su 97.06 101 P **P** 22 07 36.8 -1.4
CZSB IAmb IAmb 22 09 36.6
comp=Z,13nm,0.7s
TNCH TengChong 97.16 294 P Pdif 22 07 40.0 +1.3
TNCH SKS **SKSac** 22 18 11.5 -2.8
TNCH S **S** 22 18 55.3 -5.3
TNCH pmax pmax
comp=Z,5.0nm,0.4s
TNCH pmax pmax
comp=Z,81nm,5.2s
TNCH LR LR
comp=Z,160nm,4.3s
TNCH LR LR
comp=Z,110nm,4.6s
TNCH LR LR
comp=Z,310nm,22.0s
C36M Paulatuk 97.18 16 Pdiff Pdif 22 07 37.8 +0.3
baz=225
LPAZ La Paz 97.72 111 P Pdif 22 07 43.2 +1.2
comp=Z,2.4nm,1.0s,baz=189,slow=4.5,SNR=5.4
comp=Z,2.4nm,1.0s
FLOC Florencia 97.80 91 P **P** 22 07 41.3 -0.3
FLOC IAmb IAmb 22 07 45.2
comp=Z,17nm,1.4s
ULM Lac du Bonnet 98.63 39 P **P** 22 07 42.9 -1.5
comp=Z,1.3nm,0.7s,baz=270,slow=4.0,SNR=4.4
ULM LR LR 22 49 29.0
comp=Z,171nm,18.4s,baz=254,slow=34
comp=Z,1.3nm,0.7s
A36M Sachs Harbour 98.78 14 Pdiff Pdif 22 07 45.1 +0.6
baz=225
ULN Ulaanbaatar 98.92 318 P Pdif 22 07 46.1 +0.1
ULN Ulaanbaatar 98.92 318 *i* P Pdif 22 07 47.1 +1.1
ULN pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 99.32 318 P **Pdif** 22 07 47.0 -0.7
SONM Songino Array 99.32 318 P **Pdif** 22 07 48.2 +0.5
comp=Z,0.6nm,0.9s,baz=174,slow=3.0,SNR=4.8
comp=Z,0.6nm,0.9s
SONM Songino Array 99.32 318 P **Pdif** 22 07 47.0 -0.7
SONM pmax pmax
comp=Z,14nm,2.0s
TIXI Tiksi 100.81 344 Pdiff **Pdif** 22 07 51.6 -2.0
comp=Z,3.4nm,0.3s,baz=85,slow=4.9,SNR=3.6
GTA Gaotai 100.92 308 *e*P **Pdif** 22 07 58.0 +3.0
GTA sP pwP 22 08 12.8 +1.5
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA LR LR
comp=Z,100nm,14.9s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,190nm,21.8s
RES Resolute Bay 107.55 16 PKiKP **PKiKP** 22 12 30.0 -1.4
comp=Z,1.0nm,0.7s,baz=264,slow=4.1,SNR=4.4
WMQ Urumqi 110.81 310 *e*PKP **PKiKP** 22 12 39.3 +0.7
WMQ LR LR
comp=Z,220nm,23.8s
NRIK Noril'sk 113.09 338 PP **PP** 22 13 30.2 -1.6
comp=Z,2.3nm,0.5s,baz=80,slow=3.3,SNR=4.8
M65A Busby, Falmout 113.27 53 PKiKP **PKiKP** 22 12 42.6 -0.6
baz=261
ZSN Zaisan 113.31 314 *i* PKiKP **PKiKP** 22 12 42.7 -0.4
ZSN Zaisan 113.31 314 *e*PKiKP **PKiKP** 22 12 42.7 -0.4
ZALV Zalesovo Beam 113.94 321 PKiKP **PKiKP** 22 12 43.8 -0.3
comp=Z,4.3nm,0.7s,baz=154,slow=0.9,SNR=16
ZALV PKKPbc **PKKPbc** 22 23 24.4 -3.0
comp=Z,0.8nm,0.6s,baz=312,slow=16,SNR=4.5
MK31 Makanchi Array 114.99 313 *c i* PKiKP PKPdf 22 12 46.2 -0.2

MKAR Makanchi Array 114.99 313 PKP PKPdf 22 12 46.0 -0.4
comp=Z,5.4nm,0.8s,baz=69,slow=2.6,SNR=37
MKAR PKKPbc **PKKPbc 22 23 21.7 -2.0**
comp=Z,1.4nm,1.0s,baz=260,slow=3.6,SNR=8.0
SHLS Shalkode 116.66 309 *e*PKIKP **PKPdf 22 12 48.7 -1.1**
SHLS Shalkode 116.66 309 *e*PKP **PKPdf 22 12 48.8 -1.1**
UZB Uzynbulak 116.98 308 *e*PKIKP **PKPdf 22 12 49.9 -0.6**
UZB Uzynbulak 116.98 308 *e*PKP **PKPdf 22 12 50.0 -0.6**
SATY Saty 117.42 308 *e*PKIKP **PKPdf 22 12 50.8 -0.5**
SATY *e* 22 14 01.7
SATY Saty 117.42 308 *e*PKP **PKPdf 22 12 50.9 -0.4**
SATY *e*PP **PP 22 14 01.7 -1.7**
TDK Taldyqorghan 117.56 311 *e*PKIKP **PKPdf 22 12 51.1 -0.3**
TDK Taldyqorghan 117.56 311 *e*PKP **PKPdf 22 12 51.2 -0.3**
KURK Kurchatov 117.61 317 PKPdf **PKPdf 22 12 50.7 -0.6**
KURK Kurchatov 117.61 317 *c i*PKIKP **PKPdf 22 12 50.9 -0.3**
KURK pmax pmax
comp=Z,14nm,1.0s
NEEM North Greenlan 117.66 12 *i* P **PKPdf 22 12 50.7 -0.3**
NEEM IAmb IAmb 22 12 53.1
comp=Z,4.5nm,1.0s
KURBB Kurchatov Arra 117.67 317 PKP **PKPdf 22 12 51.1 -0.3**
comp=Z,8.6nm,1.0s,baz=94,slow=1.8,SNR=59
KURBB PP **PP 22 14 00.3 -4.3**
comp=Z,0.8nm,0.9s,baz=101,slow=5.0,SNR=4.5
KURBB PKKPbc **PKKPbc 22 23 14.3 0.0**
comp=Z,0.9nm,0.5s,baz=273,slow=4.3,SNR=14
KURBB SKKP **SKKPdf 22 27 12.6 -3.8**
comp=Z,0.7nm,0.2s,baz=283,slow=4.6,SNR=4.9
TARG Taragay, Kyrgy 117.76 307 **PKPdf 22 12 51.6 -0.8**
TARG Taragay, Kyrgy 117.76 307 PKIKP **PKPdf 22 12 51.6 -0.8**
KDJ Kajisay 118.25 307 PKPdf **PKPdf 22 12 51.9 -1.1**
KDJ Kajisay 118.25 307 PKIKP **PKPdf 22 12 51.9 -1.1**
UPNV Upernavik 118.33 18 *i* P **PKPdf 22 12 51.7 -0.3**
MDOK Medeo 118.42 308 *e*PKIKP **PKPdf 22 12 52.8 -0.5**
MDOK Medeo 118.42 308 *e*PKP **PKPdf 22 12 52.9 -0.5**
TNSS Tian-Shan 118.49 308 *e*PKIKP **PKPdf 22 12 52.8 -0.9**
TNSS Tian-Shan 118.49 308 *e*PKP **PKPdf 22 12 52.9 -0.9**
AAA Alma-Ata 118.52 308 *e*PKIKP **PKPdf 22 12 52.7 -0.7**
AAA Alma-Ata 118.52 308 *e*PKP **PKPdf 22 12 52.7 -0.7**
ULHL Ulahol 118.96 307 P **PKiKP 22 12 55.1 +0.6**
SNR=13
KSH Kashi 118.96 304 PKP **PKiKP 22 12 56.0 +1.5**
BOOM Boomskoye usch 119.20 308 PKPdf **PKPdf 22 12 54.6 -0.2**
BOOM Boomskoye usch 119.20 308 PKIKP **PKPdf 22 12 54.6 -0.2**
TKM2 Tokmak 2 119.47 308 P **PKPdf 22 12 55.4 0.0**
SNR=8.9
KBK Karagaybulak 119.94 308 P **PKiKP 22 12 56.6 +0.2**
SNR=8.9
CHMS Chumysh 120.09 308 P **PKiKP 22 12 56.6 +0.1**
SNR=6.7
FRU1 Bishkek 120.18 308 PKPdf **PKPdf 22 12 56.6 +0.1**
FRU1 Bishkek 120.18 308 PKIKP **PKPdf 22 12 56.6 +0.1**
SGDS Sogindy 120.20 309 *e*PKIKP **PKPdf 22 12 55.9 -0.7**
SGDS Sogindy 120.20 309 *e*PKP **PKPdf 22 12 56.0 -0.7**
AAK Ala-Archa 120.27 308 PKPdf **PKPdf 22 12 56.1 -0.7**
AAK Ala-Archa 120.27 308 P **PKiKP 22 12 57.2 +0.3**
SNR=7.9
AAK Ala-Archa 120.27 308 *c i*PKIKP **PKiKP 22 12 57.0 0.0**
AAK pmax pmax
comp=Z,13nm,1.7s
USP Ospenovka 120.29 308 P **PKPdf 22 12 56.8 +0.1**
SNR=11
NIL Nilore 120.56 297 PKPdf **PKPdf 22 12 57.0 -0.6**
NIL Nilore 120.56 297 PKIKP **PKPdf 22 12 57.0 -0.6**
BTLS Baital 120.65 310 *e*PKIKP **PKPdf 22 12 56.8 -0.5**
BTLS *e* 22 14 24.0
BTLS Baital 120.65 310 *e*PKP **PKPdf 22 12 56.8 -0.5**
BTLS *e*PP **PP 22 14 24.0 -1.3**
EKS2 Erkin-Say 120.80 308 P **PKPdf 22 12 57.8 0.0**
SNR=9.7
AML Almayashu 120.84 307 P **PKiKP 22 12 58.9 +0.5**
SNR=15
BVAR Borovoye Array 122.57 320 PKP **PKPdf 22 13 00.6 -0.1**
comp=Z,15nm,0.8s,baz=86,slow=2.2,SNR=60
DZA Taraz 122.60 308 *e*PKIKP **PKPdf 22 13 00.7 -0.4**
DZA Taraz 122.60 308 *e*PKP **PKPdf 22 13 00.8 -0.4**
BRVK Borovoye 122.63 320 PKPdf **PKPdf 22 13 00.6 -0.2**
BRVK Borovoye 122.63 320 *c i*PKIKP **PKiKP 22 13 01.0 0.0**
BRVK pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 123.05 15 PKPdf **PKPdf 22 13 01.2 -0.4**
SUMG Summit 123.05 15 PKIKP **PKPdf 22 13 01.2 -0.4**
SUMG Summit 123.05 15 *i* P **PKPdf 22 13 01.0 -0.6**
SUMG IAmb IAmb 22 13 03.0
comp=Z,7.2nm,0.9s
SPITS Spitsbergen Ar 123.05 358 PKP **PKPdf 22 13 00.9 -0.1**
comp=Z,10nm,0.8s,baz=67,slow=3.7,SNR=4.1
KK31 Karatay Array 123.20 308 PKPdf **PKPdf 22 13 01.6 -0.7**
KK31 Karatay Array 123.20 308 PKIKP **PKPdf 22 13 01.6 -0.7**
KKAR Karatay Array 123.20 308 PKPdf **PKPdf 22 13 01.6 -0.7**
KKAR Karatay Array 123.20 308 PKIKP **PKPdf 22 13 01.6 -0.7**
IUG Iuzhnay 123.57 307 *e*PKIKP **PKPdf 22 13 02.6 -0.5**
IUG *e* 22 14 43.9
IUG Iuzhnay 123.57 307 *e*PKP **PKPdf 22 13 02.6 -0.5**
IUG *e*PP **PP 22 14 44.0 -1.5**
BRLS Borolday 123.70 308 *e*PKIKP **PKPdf 22 13 03.1 -0.1**
BRLS Borolday 123.70 308 *e*PKP **PKPdf 22 13 03.2 -0.1**
KBL Kabul 124.12 298 PKPdf **PKiKP 22 13 05.0 +0.2**
KBL Kabul 124.12 298 PKIKP **PKiKP 22 13 05.0 +0.2**
SUR Sutherland 124.75 195 PKPdf **PKiKP 22 13 06.7 +0.4**
ICESG Greenland Ices 124.82 18 *i* P **PKPdf 22 13 04.3 -0.7**
ICESG IAmb IAmb 22 13 05.5
comp=Z,15nm,0.8s
DBG Daneborg 125.20 9 *i* P **PKPdf 22 13 05.1 -0.1**
BOSA Boshof 127.04 201 PKPdf **PKPdf 22 13 10.1 -0.3**
BOSA Boshof 127.04 201 PKP **PKPdf 22 13 09.8 -0.5**
comp=Z,19nm,1.2s,baz=126,slow=2.6,SNR=8.5
SVE Sverdlovsk 127.20 326 *e*PKIKP **PKPdf 22 13 09.7 +0.2**
SVE pmax pmax
comp=Z,26nm,1.3s
ARTI Arti 128.52 326 PKPdf **PKPdf 22 13 11.8 -0.2**
ARTI Arti 128.52 326 *i*PKIKP **PKiKP 22 13 12.8 +0.2**
ARTI 22 15 15.5
ARTI 22 20 23.7
ABKAR Akbulak array 129.73 317 PKPdf **PKiKP 22 13 15.0 -0.3**
ABKAR Akbulak array 129.73 317 PKPdf **PKPdf 22 13 14.8 +0.3**
ARCES ARCESS Array B 130.58 351 PKP **PKiKP 22 13 16.1 -0.4**
comp=Z,6.5nm,0.9s,baz=338,slow=2.6,SNR=10
KIRV Kirov 131.90 331 *c i*PKIKP **PKiKP 22 13 20.3 +1.0**
KLMR Klimovskoe 134.43 338 *e*PKIKP **PKPdf 22 13 17.2 -5.8**
KLMR pmax pmax
comp=Z,19nm,1.4s
LSZ Lusaka 137.77 212 PKPdf **PKPdf 22 13 30.8 0.0**
LSZ Lusaka 137.77 212 PKIKP **PKPdf 22 13 30.8 0.0**
FINES FINESS Array B 137.82 346 PKhKP PKPpre 22 13 22.1
comp=Z,1.6nm,0.7s,baz=48,slow=2.8,SNR=4.0
FINES PKP **PKPdf 22 13 29.0 -0.3**
comp=Z,3.0nm,0.8s,baz=77,slow=8.6,SNR=5.7
FINES FINESS Array B 137.82 346 PKIKP **PKPdf 22 13 29.0 -0.3**
VRH Novokhopyorsk 139.65 326 *e*PKIKP **PKPdf 22 13 31.6 -1.4**
VRH pmax pmax
comp=Z,9.0nm,0.9s
LPSR Galich'ya Gora 140.21 329 *e*PKIKP **PKPdf 22 13 32.6 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 140.33 356 PKP PKPpre 22 13 26.0
comp=Z,10nm,1.4s,baz=14,slow=3.8
NOA NORSAR Array B 140.33 356 PKhKP PKPpre 22 13 25.4
comp=Z,2.3nm,0.9s,baz=16,slow=4.4,SNR=4.7
VORR Voronezh 140.65 328 *e*PKIKP **PKPdf 22 13 35.7 +0.9**
VORR pmax pmax
comp=Z,39nm,1.7s
VSR Storozhevoye 140.95 327 *e*PKIKP **PKPdf 22 13 32.8 -2.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
HFS Hagfors 141.05 354 PKhKP PKPpre 22 13 27.9
comp=Z,6.7nm,1.0s,baz=102,slow=4.9,SNR=5.9
KIBK Kibwezi 141.18 236 PKPdf **PKPdf 22 13 36.9 -0.1**
KMBO Kilima Mbogo 142.55 237 PKhKP PKPpre 22 13 36.3
comp=Z,5.7nm,0.9s,baz=54,slow=2.9,SNR=16
KBZ Khabaz 142.63 315 PKhKP PKPpre 22 13 34.3
comp=Z,2.6nm,0.9s,baz=34,slow=14,SNR=5.4
KIV Kislovodsk 142.68 315 PKPdf **PKPdf 22 13 38.5 -0.3**
KIV Kislovodsk 142.68 315 *i*PKIKP **PKiKP 22 13 41.0 -0.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,104nm,24.0s
MNK Minsk 143.30 339 *i*PKP PKPbc 22 13 37.9 +1.4
MNK *i*PKP PKPbc 22 13 37.9 +1.4
comp=N,3.0nm,0.8s
MNK *i*PKP PKPbc 22 13 37.9 +1.4
comp=Z,12nm,0.8s,baz=35
MNK *i*PP PP 22 16 59.9 +10
MNK *i*PPP PPP 22 19 55.9
MNK *i*SKS **SKSdf 22 20 47.7 +0.7**
MNK *i*SKKS **SKKSdf 22 30 04.4 0.0**
MNK *i*SS **SS 22 35 26.6 -1.4**
MNK *i*SSS SSS 22 40 46.9
MNK *i*LQ LQ 23 09 42.8
MNK *i*LR LR 23 13 31.0
MNK *i*LRM MLR 23 16 20.3
comp=N,139nm,22.4s
MNK *i*LRM MLR 23 16 37.8
comp=Z,148nm,18.8s
MNK *i*LRM MLR 23 16 51.7
comp=E,384nm,23.2s
MNK Minsk 143.30 339 *i*PKIKP PKPbc 22 13 37.8 +1.3
MNK *i* 22 16 59.9
MNK *i* 22 20 47.6
MNK *i*SS SS 22 35 26.5 -1.4
MNK *i*SSS SSS 22 40 46.9
MNK pmax pmax
comp=N,3.0nm,0.8s
MNK pmax pmax
comp=E,8.0nm,1.2s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=N,139nm,22.0s
MNK MLR MLR
comp=Z,148nm,19.0s
MNK MLR MLR
comp=E,384nm,23.0s
NACGM Naroch 143.32 340 *e*PKP PKPbc 22 13 37.4 +0.9
comp=Z,3μm,1.3s,baz=33
NACGM *e*PKP PKPbc 22 13 37.4 +0.9
comp=Z,25nm,0.8s
NACGM *e*PP **PP 22 16 47.0 -3.1**
NACGM *e*PPP PPP 22 20 08.7
NACGM SKS **SKSdf 22 20 44.2 -2.9**
NACGM SKKS **SKKSdf 22 30 01.0 -3.4**
NACGM SS **SS 22 35 26.7 -1.3**
NACGM SSS SSS 22 41 01.9
NACGM LQ LQ 23 04 26.0
NACGM LR LR 23 09 35.3
NACGM LRM MLR 23 15 56.9
NACGM LRM MLR 23 15 56.9
comp=Z,305nm,17.6s
KARS Kars 143.70 310 PKPdf **PKPdf 22 13 39.9 -0.9**
KARS Kars 143.70 310 PKIKP **PKPdf 22 13 39.9 -0.9**
RAYN Ar Rayn 144.06 281 PKPdf PKPbc 22 13 40.5 +0.7
RAYN Ar Rayn 144.06 281 PKIKP PKPbc 22 13 40.5 +0.7
LAWE Loch Awe, Argy 144.14 11 *e*P **PKPab 22 13 38.2 -0.3**
INVG Invergeldie, C 144.21 10 *e*P **PKPab 22 13 38.1 -0.6**
FABU Falkenberg 144.23 354 *i* P PKPbc 22 13 39.2 0.0
BLEU Blekinge 144.55 351 *i* P **PKPab 22 13 39.0 -0.9**
DEL Delary 144.63 353 *i* P **PKPab 22 13 40.4 +0.1**
PGBU Glenifferbraes 144.73 11 *e*P **PKPab 22 13 40.1 -0.6**
SOC Sochi 144.77 316 *e*PKIKP **PKPab 22 13 39.8 -1.5**
SOC *e* 22 16 55.4
SOC *e*PPP PPP 22 20 19.4
SOC *e*SS SS 22 35 45.7 -0.5
SOC pmax pmax
comp=Z,12nm,0.7s
MUD Monsted U'grnd 145.01 357 *i* P **PKPdf 22 13 42.7 +0.4**
BJUU Bjuv 145.12 354 *i* P **PKPbc 22 13 41.9 -0.2**
SUW Suwalki 145.15 343 *e*PKP **PKPab 22 13 42.3 +0.1**
SUW Suwalki 145.15 343 **PKPbc 22 13 42.0 -0.2**
SUW Suwalki 145.15 343 PKIKP **PKPbc 22 13 42.0 -0.2**
EKB Eskdalemuir 145.40 10 PKPbc **PKPbc 22 13 42.4 -0.6**
EKA Eskdalemuir Ar 145.41 10 PKPbc **PKPbc 22 13 42.1 -0.9**
comp=Z,18nm,0.9s,baz=336,slow=3.1,SNR=24
ESK Eskdalemuir 145.42 10 **PKPbc 22 13 41.6 -1.4**
ESK Eskdalemuir 145.42 10 PKP2 **PKPbc 22 13 41.6 -1.4**
NEWG New Galloway 145.44 11 *e*P **PKPbc 22 13 42.2 -0.9**
LUNU Lund 145.50 353 *i* P **PKPbc 22 13 43.4 +0.1**
ANN Anapa 145.57 320 *i* PKP2 **PKPdf 22 13 42.5 -1.2**
ANN pmax pmax
comp=Z,145nm,1.2s
BSD Bornholm Skovb 145.83 351 *i* P **PKPbc 22 13 44.5 +0.2**
AK23 Malin Array Si 145.84 334 PKP **PKPdf 22 13 42.9 -1.1**
AKASG Malin Array Be 145.85 334 **PKPdf 22 13 43.5 -0.5**
AKASG Malin Array Be 145.85 334 PKPbc **PKPdf 22 13 43.1 -0.9**
comp=Z,11nm,0.7s,baz=38,slow=3.0,SNR=67
AKASG Malin Array Be 145.85 334 PKP2 **PKPdf 22 13 43.5 -0.5**
AKBB Malin Array Si 145.85 334 PKPdf **PKPdf 22 13 43.3 -0.7**
AKBB Malin Array Si 145.85 334 PKIKP **PKPdf 22 13 43.3 -0.7**
AKBB Malin Array Si 145.85 334 PKP **PKPdf 22 13 42.9 -1.1**
KIEV Kiev 145.86 334 PKPdf **PKPdf 22 13 43.6 -0.3**
KIEV Kiev 145.86 334 ⇑P **PKPbc 22 13 44.3 -0.3**
KIEV Kiev 145.86 334 ⇑PKP2 **PKPbc 22 13 44.3 -0.3**
KIEV Kiev 145.86 334 PKP **PKPdf 22 13 42.9 -1.1**
KESW Keswick, Cumbr 146.13 10 *e*P **PKPbc 22 13 45.2 -0.1**
RNPP9 Sopachiv 146.54 338 PKP **PKPdf 22 13 44.2 -0.9**
GDLE Glaisdale, N Y 146.63 8 *e*P **PKPbc 22 13 46.6 -0.2**
DSB Dublin 146.76 14 PKPdf **PKPdf 22 13 45.9 +0.4**
LODK Lodwar 146.77 241 PKPbc **PKPab 22 13 49.3 -0.5**
HPK Haverah Park 146.97 9 *e*P **PKPbc 22 13 47.4 -0.4**
WPS Cemaes, Angles 147.01 12 *e*P **PKPbc 22 13 47.6 -0.2**
WME Myndd Eilian 147.06 12 *e*P **PKPbc 22 13 47.6 -0.4**
WLF1 Llynfaes 147.14 12 *e*P **PKPbc 22 13 47.3 -0.9**
GKP Gorka Klasztor 147.22 348 *e*PKP **PKPbc 22 13 49.2 +0.7**
R9F13 Warsaw-Wawer 147.30 343 *e*PKP **PKPab 22 13 49.8 -0.7**
YLL Llanberis 147.33 12 *e*P **PKPbc 22 13 49.1 +0.4**
SIM Simferopol' 147.43 322 *e*PKP2 **PKPab 22 13 50.7 -0.6**
SIM pmax pmax
comp=Z,60nm,1.0s
BEL Belsk 147.74 343 *e*PKP **PKPdf 22 13 48.2 +1.1**
FOEL Foel Wylfa 147.75 11 *e*P **PKPbc 22 13 49.6 -0.4**
MBAR Mbarara 147.78 230 **PKPdf 22 13 47.2 -1.4**
MBAR Mbarara 147.78 230 PKIKP **PKPdf 22 13 47.2 -1.4**
HLM1 Long Mynd 148.16 11 *e*P **PKPdf 22 13 48.6 +0.8**
SORM Soroca 148.17 332 ⇑P **PKPbc 22 13 51.2 0.0**
SORM Soroca 148.17 332 ⇑PKP2 **PKPbc 22 13 51.2 0.0**
CWF Charnwood Fore 148.20 9 *e*P **PKPdf 22 13 48.5 +0.7**
RSBS Rosebush, Pemb 148.33 13 *e*P **PKPbc 22 13 50.8 -0.7**
MCH1 Michaelchurch 148.64 11 *e*P **PKPdf 22 13 49.2 +0.6**
PURM Purcari 148.64 328 ⇑P **PKiKP 22 13 53.7 -0.2**
MONM Monmouth 148.82 11 *e*P **PKPdf 22 13 49.5 +0.6**
MILM Milestii Mici 148.87 330 ⇑P **PKPbc 22 13 52.8 -0.3**
MILM Milestii Mici 148.87 330 ⇑PKP2 **PKPbc 22 13 52.8 -0.3**
KWP Kalwaria Pacla 149.13 339 *e*PKP **PKPbc 22 13 54.3 +0.6**
SWN1 Swindon 149.31 10 *e*P **PKPbc 22 13 54.4 +0.4**
OJC Ojcow 149.47 343 *e*PKP **PKPbc 22 13 54.7 +0.2**
KSP Ksiaz 149.71 348 *e*PKP **PKiKP 22 13 56.4 +0.3**
STHS Stebnicka Huta 149.78 341 *e*PKP2 **PKPbc 22 13 55.1 -0.2**
STHS Stebnicka Huta 149.78 341 *e*PKP **PKPbc 22 13 55.1 -0.2**
STHS *e* 22 14 01.3
CLL Collm 149.80 352 PKPdf **PKPdf 22 13 49.6 -0.9**
CLL PKPbc **PKPbc 22 13 55.6 +0.3**
CLL Collm 149.80 352 PKIKP **PKPdf 22 13 49.6 -0.9**
CLL 22 13 55.6
CLL Collm 149.80 352 *e*PKPdf **PKPdf 22 13 51.0 +0.5**
CLL ⇑ *i*PKPbc **PKPbc 22 13 55.7 +0.4**
comp=Z,91nm,1.3s
CLL ⇓ *i*PKPab **PKPab 22 14 00.8 +0.2**
comp=Z,33nm,1.1s
CLL *i*pPKPab **sPKPbc 22 14 05.3 +0.8**
CLL *i* x x 22 14 10.7
CLL *e*SKPdf **SKPdf 22 17 26.0 +3.7**
KOLS Kolonicke sedl 149.87 339 *e*PKP2 **PKPbc 22 13 55.4 -0.1**
KOLS Kolonicke sedl 149.87 339 *e*PKP **PKPbc 22 13 55.4 -0.1**
KOLS *e* 22 14 01.3
ILGA Ilgaz 149.88 317 PKPdf **PKPdf 22 13 50.6 -0.6**
BURAR Bucovina Array 149.90 334 PKPdf **PKPdf 22 13 51.1 +0.1**
BURAR Bucovina Array 149.90 334 ⇑P **PKPbc 22 13 56.1 +0.3**
BURAR Bucovina Array 149.90 334 ⇑PKP2 **PKPbc 22 13 56.1 +0.3**
VLDR Vladesti 150.00 329 ⇑P **PKiKP 22 13 56.6 -0.2**
CHVC Chvalec 150.00 348 ⇑*e*PKP **PKiKP 22 13 57.3 +0.6**
CHVC Chvalec 150.00 348 *e*PKP2 **PKiKP 22 13 57.3 +0.6**
NIE Niedzica 150.06 342 *e*PKP **PKiKP 22 13 57.0 +0.1**
UPC Upice 150.09 348 ⇑*e*PKP **PKiKP 22 13 57.2 +0.3**
UPC Upice 150.09 348 *e*PKIKP **PKiKP 22 13 57.2 +0.3**
BRG Berggiesshubel 150.09 351 *i* PKP **PKiKP 22 13 57.1 +0.3**
BRG Amp 22 13 58.1
comp=Z,36nm,1.0s
BRG Berggiesshubel 150.09 351 P **PKPab 22 14 07.1 +5.2**
BRG Amp 22 14 08.0
comp=Z,54nm,1.4s
GHRR 150.16 330 ⇓P **PKiKP 22 13 57.9 +0.8**
TESR Tescani 150.16 332 ⇑P **PKPdf 22 13 51.8 +0.5**
SCTR Scanteiesti 150.17 329 ⇑P **PKiKP 22 13 56.8 -0.3**
DPC Dobruska-Polom 150.18 347 ⇑*e*PKP **PKiKP 22 13 57.2 +0.1**
DPC *ex* x 22 14 07.9
DPC Dobruska-Polom 150.18 347 *e*PKIKP **PKiKP 22 13 57.2 +0.1**
STEB Steborice 150.25 345 ⇑*e*PKP **PKiKP 22 13 57.1 -0.1**
NEGRR Negrea 150.32 329 ⇑P **PKPbc 22 13 56.9 +0.2**
PVCC Panska Ves 150.33 350 ⇑*e*PKP **PKiKP 22 13 58.2 +0.8**
PVCC Panska Ves 150.33 350 *e*PKIKP **PKiKP 22 13 58.2 +0.8**
KRLC Kraliky 150.34 347 ⇑*e*PKP **PKiKP 22 13 57.4 -0.1**
KRLC Kraliky 150.34 347 *e*PKIKP **PKiKP 22 13 57.4 -0.1**
COSR Cosmesti PH 150.36 330 ⇑P **PKiKP 22 13 58.2 +0.7**
PANC Panciu 150.42 330 ⇑P **PKiKP 22 13 57.6 0.0**
HSKC Hora Svate Kat 150.43 351 AMS AMS 23 26 30.0
comp=Z,300nm,23.0s
MORC Moravsky Berou 150.45 346 *e*PKP **PKPdf 22 13 51.8 +0.2**
MORC *e* 22 13 57.5
CFR Carcaliu 150.46 328 ⇑P **PKPbc 22 13 57.4 +0.4**
CFR Carcaliu 150.46 328 ⇑PKIKP **PKPbc 22 13 57.4 +0.4**
BMR Baia Mare 150.52 336 ⇑P **PKPbc 22 13 57.0 -0.1**
BMR Baia Mare 150.52 336 ⇑PKIKP **PKPbc 22 13 57.0 -0.1**
LANS Liptovska Anna 150.53 343 *e*PKIKP **PKiKP 22 13 59.2 +1.3**
LANS *e* 22 14 05.8
LANS Liptovska Anna 150.53 343 *e*PKP **PKiKP 22 13 59.2 +1.3**
LANS *e* 22 14 05.8
TPGR Topolog 150.55 327 ⇑P **PKiKP 22 13 58.7 +0.7**
VRI Vrincioaia 150.62 331 ⇓P **PKiKP 22 13 58.0 -0.1**
VRI Vrincioaia 150.62 331 ⇓PKIKP **PKiKP 22 13 58.0 -0.1**
BRTR Keskin Array B 150.62 314 PKPdf **PKPdf 22 13 51.1 -1.3**
BRTR PKPbc **PKPbc 22 13 58.2 +0.4**
BRTR Keskin Array B 150.62 314 PKPbc **PKiKP 22 13 58.4 -0.2**
comp=Z,26nm,0.8s,baz=126,slow=2.1,SNR=67
BRTR Keskin Array B 150.62 314 PKIKP **PKPdf 22 13 51.1 -1.3**
BRTR 22 13 58.2
PLOR Plostina 150.66 331 ⇑P **PKPbc 22 13 57.5 -0.1**
PLOR Plostina 150.66 331 ⇑PKIKP **PKPbc 22 13 57.5 -0.1**
UCC Uccle 150.68 3 *d*PKPdf **PKPdf 22 13 52.8 +0.9**
UCC *d*PKP **PKiKP 22 13 58.0 -0.1**
BEBN Eben Emael 150.73 1 *d*PKP **PKiKP 22 13 58.5 +0.3**
KIRS Kirsehir-Merke 150.73 313 ⇑P **PKPbc 22 13 58.1 +0.1**
MAUC Maruska 150.76 345 ⇑*e*PKP **PKiKP 22 13 59.2 +0.8**
PRA Prague 150.79 350 ⇑*e*PKP **PKiKP 22 13 58.9 +0.6**
PRA Prague 150.79 350 *e*PKIKP **PKiKP 22 13 58.9 +0.6**
PRU Pruhonice 150.85 349 ⇑*e*PKP **PKiKP 22 13 58.9 +0.4**
PRU AMS AMS 23 27 00.0
comp=Z,300nm,17.1s
PRU Pruhonice 150.85 349 *e*PKIKP **PKiKP 22 13 58.9 +0.4**
PRU MLR MLR
comp=Z,300nm,17.1s
OZUR 150.86 332 ⇑P **PKPdf 22 13 53.7 +1.3**
COVR Voineasa-Covas 150.87 331 ⇑P **PKPbc 22 13 57.7 -0.3**
GOPC GO Pecny, Ondr 150.88 349 *e*PKPAB **PKPab 22 14 08.6 +3.4**
HARR Harsova 150.91 328 ⇑P **PKiKP 22 13 59.4 +0.7**
HARR Harsova 150.91 328 ⇑PKIKP **PKiKP 22 13 59.4 +0.7**
MEM Membach 150.92 1 *d*PKPdf **PKPdf 22 13 52.4 +0.1**
MEM *d*PKP **PKPbc 22 13 58.2 +0.3**
BSTI Sart Tilman 150.94 1 *d*PKP **PKiKP 22 13 58.6 0.0**
BTNL Ternell 150.94 1 *d*PKPdf **PKPdf 22 13 52.3 0.0**
BTNL *d*PKP **PKiKP 22 13 58.6 0.0**
BTNL *d*PKPab **sPKPbc 22 14 08.8 +1.5**
BCLA Clavier 151.09 2 *d*PKP **PKPbc 22 13 58.5 +0.1**
VRAC Vranov 151.10 346 *e*PKP **PKPdf 22 13 52.7 +0.1**
VRAC *e* 22 13 59.2
VRAC *e* 22 14 06.7
VRAC *e* 22 14 16.8
ANTO Ankara 151.10 315 **PKPbc 22 13 58.9 +0.1**
ANTO Ankara 151.10 315 ⇓P **PKPab 22 14 08.0 +1.5**
ANTO Ankara 151.10 315 PKIKP **PKPbc 22 13 58.9 +0.1**
BGES Gesves 151.12 2 *d*PKPdf **PKPdf 22 13 53.4 +0.8**
DOPR Dopca 151.14 332 ⇑P **PKPdf 22 13 54.3 +1.6**
MESR Meseseni 151.16 337 ⇑P **PKiKP 22 13 59.1 0.0**
BHOU Houvegnez 151.17 1 *d*PKPdf **PKPdf 22 13 54.1 +1.4**
BHOU *d*PKP **pPKPdf 22 13 59.6 +0.1**
BMRD Maredsous 151.19 2 *d*PKPdf **PKPdf 22 13 52.8 +0.1**
BMRD *d*PKP **PKiKP 22 13 59.1 0.0**
MLR Muntele Rosu 151.26 331 PKPdf **PKPdf 22 13 52.0 -1.1**
MLR Muntele Rosu 151.26 331 ⇑P **PKPdf 22 13 54.2 +1.0**
MLR Muntele Rosu 151.26 331 PKIKP **PKPdf 22 13 52.0 -1.1**
ISR Istrita 151.27 330 ⇑P **PKiKP 22 13 59.5 0.0**
ISR Istrita 151.27 330 ⇑PKIKP **PKiKP 22 13 59.5 0.0**
CJR Cluj-Napoca 151.27 335 ⇑P **PKiKP 22 13 59.6 +0.1**
CJR Cluj-Napoca 151.27 335 ⇑PKIKP **PKiKP 22 13 59.6 +0.1**
JAVC Velka Javorina 151.27 345 *e*PKP **PKPdf 22 13 54.3 +1.3**
JAVC *e* 22 14 00.4
TREC Trest 151.35 348 ⇑*e*PKP **PKiKP 22 14 00.1 +0.6**
TREC AMS AMS 23 28 20.0
comp=Z,300nm,18.6s
TREC Trest 151.35 348 *e*PKIKP **PKiKP 22 14 00.1 +0.6**
TREC MLR MLR
comp=Z,300nm,18.6s
RCHB Rochefort 151.36 2 *d*PKPdf **PKPdf 22 13 53.9 +0.9**
RCHB *d*PKP **PKiKP 22 13 59.6 +0.1**
RCHB *d*PKPab **sPKPbc 22 14 09.7 +1.5**
KRUC Moravsky 151.38 346 *e*PKP **PKPdf 22 13 54.0 +1.0**
KRUC *e* 22 13 59.5
KRUC *e* 22 14 08.3
KRUC *e* 22 14 17.6
DOU Dourbes 151.39 3 *d*PKPdf **PKPdf 22 13 53.8 +0.8**
DOU *d*PKP **PKPbc 22 13 58.9 -0.1**
JSA Saint Aubin 151.48 12 *e*P **PKPdf 22 13 54.1 +0.9**
MARR Marisel-Cluj 151.49 336 ⇑P **PKPbc 22 13 58.9 -0.6**
PSZ Piszkesteto 151.52 341 **PKPbc 22 13 58.3 -1.2**
PSZ Piszkesteto 151.52 341 PKIKP **PKPbc 22 13 58.3 -1.2**
GRA1 Grafenberg Arr 151.60 354 PKPdf **PKPdf 22 13 52.6 -0.8**
GRF Grafenberg Arr 151.60 354 PKIKP **PKPdf 22 13 52.6 -0.8**
GRFO Grafenberg 151.60 354 PKPdf **PKPdf 22 13 52.5 -0.8**
GRFO **PKPbc 22 13 59.8 +0.2**
GRFO Grafenberg 151.60 354 PKIKP **PKPdf 22 13 52.5 -0.8**
GRFO 22 13 59.8
VOIR 151.70 332 ⇑P **PKPdf 22 13 54.7 +0.9**
VOIR 151.70 332 ⇑PKIKP **PKPdf 22 13 54.7 +0.9**
MODS Modra-Piesok 151.82 345 *e*PKIKP **PKiKP 22 14 01.6 +1.1**
MODS *e* 22 14 11.2
MODS Modra-Piesok 151.82 345 *e*PKP **PKiKP 22 14 01.6 +1.1**
MODS *e* 22 14 11.2
MODS *e* 22 14 20.6
KHC Kasperske Hory 151.84 350 ⇑*e*PKP **PKPbc 22 14 00.0 -0.2**
KHC AMS AMS 23 23 40.0
comp=Z,300nm,20.5s
KHC Kasperske Hory 151.84 350 *e*PKIKP **PKPbc 22 14 00.0 -0.2**
KHC MLR MLR
comp=Z,300nm,20.5s
WLF Walferdange 151.87 1 PKPdf **PKPdf 22 13 53.7 0.0**
WLF PKPbc **PKiKP 22 14 01.3 +0.7**
WLF Walferdange 151.87 1 *d*PKPdf **PKPdf 22 13 55.1 +1.3**
WLF *d*PKP **PKiKP 22 14 01.4 +0.9**
WLF Walferdange 151.87 1 PKIKP **PKPdf 22 13 53.7 0.0**
WLF 22 14 01.3
ARR Arges 151.94 332 ⇑P **PKPdf 22 13 55.6 +1.5**
MMAI Mount Meron Ar 152.01 300 PKPbc **PKiKP 22 14 02.5 +1.0**
comp=Z,26nm,1.0s,baz=101,slow=1.5,SNR=14
MMAI PKPab **PKPab 22 14 11.2 +0.6**
comp=Z,14nm,0.7s,baz=58,slow=7.9,SNR=13
CKRC Cesky Krumlov 152.02 349 ⇑*e*PKP **PKiKP 22 14 01.6 +0.7**
CKRC *ex* x 22 14 11.7
CKRC Cesky Krumlov 152.02 349 *e*PKIKP **PKiKP 22 14 01.6 +0.7**
SRO Srobarova 152.07 343 *e*PKIKP **PKiKP 22 14 02.0 +1.0**
SRO Srobarova 152.07 343 *e*PKP **PKiKP 22 14 02.0 +1.0**
GERES GERESS Array B 152.10 350 PKPbc **PKiKP 22 14 01.6 +0.4**
comp=Z,8.9nm,0.9s,baz=46,slow=3.9,SNR=23
GHAJ Ghor Haditha 152.32 297 PKPbc **PKiKP 22 14 02.2 +0.1**
SIRR Siria 152.38 337 ⇑P **PKiKP 22 14 02.5 +0.8**
CONA Conrad Observa 152.57 346 *e*PKP **PKPdf 22 13 54.4 -0.6**
comp=Z,9.3nm,1.1s
CONA *e*PKiKP **PKiKP 22 14 02.5 +0.3**
com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,2.7nm,0.5s						
BIOA				*e*PKP	**PKPbc**	**22 14 03.3**	**-0.1**
	comp=Z,13nm,1.1s						
HERR	**Herculane**	**153.25**	**334**	⇑P	**PKPbc**	**22 14 03.1**	**-0.4**
MORH	**Mrgy, Hungar**	**153.43**	**341**	⇑P	**PKPdf**	**22 13 56.0**	**-0.1**
LESA	**Schwarzleotal**	**153.65**	**351**	*e*PKP	**PKPdf**	**22 13 56.1**	**-0.5**
	comp=Z,9.3nm,1.3s						
LESA				*e*PKP	**PKPbc**	**22 14 04.2**	**-0.1**
	comp=Z,4.3nm,0.8s						
LESA				*ep*PKP	**PKPab**	**22 14 18.3**	**+1.4**
	comp=Z,14nm,1.1s						
RETA	**Reutte**	**153.83**	**354**	*e*PKP	**PKPbc**	**22 14 04.7**	**0.0**
	comp=Z,12nm,1.2s						
KBA	**Koelnbreinsper**	**153.87**	**349**	*e*PKP	**PKPdf**	**22 13 56.2**	**-0.8**
	comp=Z,6.4nm,1.3s						
KBA				*e*PKP	**PKPbc**	**22 14 04.5**	**-0.5**
	comp=Z,11nm,1.3s						
WATA	**Walderalm**	**153.88**	**352**	*e*PKP	**PKPdf**	**22 13 56.6**	**-0.4**
	comp=Z,8.7nm,1.2s						
WATA				*e*PKP	**PKPbc**	**22 14 04.4**	**-0.5**
	comp=Z,10nm,1.0s						
MOTA	**Moosalm**	**153.93**	**353**	*e*PKP	**PKPdf**	**22 13 56.8**	**-0.2**
	comp=Z,7.6nm,1.2s						
MOTA				*e*PKP	**PKPbc**	**22 14 04.7**	**-0.4**
	comp=Z,15nm,1.3s						
SOKA	**Soboth**	**153.93**	**347**	*e*PKP	**PKPdf**	**22 13 56.3**	**-0.6**
	comp=Z,13nm,1.4s						
SOKA				*e*PKP	**PKPab**	**22 14 18.2**	**+0.1**
	comp=Z,25nm,1.3s						
WTTA	**Wattenberg**	**153.95**	**352**	*e*PKP	**PKPdf**	**22 13 56.9**	**-0.2**
	comp=Z,16nm,1.5s						
WTTA				*e*PKP	**pPKPdf**	**22 14 04.5**	**+0.5**
	comp=Z,13nm,0.8s						
SQTA	**Sankt Quirin**	**154.04**	**353**	*e*PKP	**PKPbc**	**22 14 05.2**	**0.0**
	comp=Z,9.8nm,1.2s						
DAVA	**Damuels**	**154.11**	**355**	*e*PKiKP	**PKiKP**	**22 14 05.9**	**+0.5**
	comp=Z,13nm,1.1s						
FETA	**Feichten**	**154.29**	**353**	*e*PKP	**PKPdf**	**22 13 57.0**	**-0.6**
	comp=Z,9.6nm,1.4s						
ABTA	**Abfaltersbach**	**154.33**	**351**	*e*PKP	**PKPdf**	**22 13 57.1**	**-0.4**
	comp=Z,7.5nm,1.0s						
ABTA				*e*PKP	**pPKPdf**	**22 14 04.9**	**+0.5**
	comp=Z,11nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**154.74**	**354**	PKPdf	**PKPdf**	**22 13 56.9**	**-1.4**
MVO	**Moncorvo**	**157.24**	**27**	*e*PKP	**PKPdf**	**22 14 03.1**	**+1.5**
PCAS	**Casmilo, Conde**	**157.46**	**31**	*e*PKP	**PKPdf**	**22 14 03.3**	**+1.5**
MTE	**Manteigas**	**157.63**	**29**	*e*PKP	**PKPdf**	**22 14 03.2**	**+1.2**
PCBR	**Castelo Branco**	**158.11**	**30**	*e*PKP	**PKPdf**	**22 14 04.0**	**+1.4**
PMRV	**Marv??o**	**158.47**	**31**	*e*PKP	**PKPdf**	**22 14 04.6**	**+1.5**
EVO	**Evora**	**158.86**	**33**	*e*PKP	**PKPdf**	**22 14 05.5**	**+1.9**
PTEO	**Sao Teotonio**	**159.22**	**36**	*e*PKP	**PKPdf**	**22 14 06.5**	**+2.5**
MESJ	**Messejana**	**159.27**	**35**	*e*PKP	**PKPdf**	**22 14 05.9**	**+1.8**
PBEJ	**Beja**	**159.32**	**34**	*e*PKP	**PKPdf**	**22 14 06.3**	**+2.2**
PBAR	**Barrancos**	**159.63**	**32**	*e*PKP	**PKPdf**	**22 14 06.1**	**+1.6**
ESDC	**Sonseca Array**	**159.74**	**24**	PKPdf	**PKPdf**	**22 14 04.5**	**-0.1**
ESDC				PKPab	**PKPab**	**22 14 43.6**	**+0.2**
ESDC	**Sonseca Array**	**159.74**	**24**	PKP	**PKPdf**	**22 14 03.9**	**-0.7**
	comp=Z,3.1nm,1.0s,baz=325,slow=3.6,SNR=8.0						
ESDC				PKPab	**PKPab**	**22 14 43.4**	**0.0**
	comp=Z,4.7nm,0.9s,baz=308,slow=4.9,SNR=12						
PBDV	**Barranco-do-Ve**	**159.87**	**36**	*e*PKP	**PKPdf**	**22 14 07.1**	**+2.3**
DBIC	**Dimbokro**	**161.59**	**141**	PKPdf	**PKPdf**	**22 14 05.8**	**-1.5**
DBIC					**PKPab**	**22 14 51.6**	**-0.3**
DBIC	**Dimbokro**	**161.59**	**141**	PKP	**PKPdf**	**22 14 05.4**	**-1.9**
	comp=Z,14nm,1.1s,baz=184,slow=2.6,SNR=9.5						
DBIC				PKPab	**PKPab**	**22 14 52.3**	**+0.3**
	comp=Z,12nm,0.9s,baz=206,slow=4.8,SNR=7.9						
DBIC	**Dimbokro**	**161.59**	**141**	PKIKP	**PKPdf**	**22 14 05.8**	**-1.5**
DBIC						22 14 51.6	
TORD	**Torodi Ar. Bea**	**170.50**	**150**	PKPdf	**PKPdf**	**22 14 12.9**	**-1.4**
TORD					**PKPab**	**22 15 31.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**170.50**	**150**	PKP	**PKPdf**	**22 14 12.8**	**-1.6**
	comp=Z,9.0nm,1.0s,baz=231,slow=0.9,SNR=27						
TORD				PKPab	**PKPab**	**22 15 31.7**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=252,slow=2.8,SNR=9.3						
TORD				PP	**PP**	**22 19 24.8**	**+4.4**
	comp=Z,0.9nm,0.3s,baz=132,slow=2.2,SNR=5.5						

*MOS **26** 22:01:57.2±1.1, 85°.05N×95°.65E, h10km, mb4.4/9, Error ellipse: s-maj=99.9km s-min=8.4km az=88.7*
*NEIC **26** 22:01:58.8±1.5, 85°.12N±0°.09×9°.5E±°, h10km±1km, mb4.4/27, Error ellipse: s-maj=18.5km s-min=14.9km az=113.0*
*IDC **26** 22:01:58.4±0.8, 85°.03N×96°.08E, h0km, mb3.6/12, mbtmp3.7/16, ML3.8/4, MS3.4/7, Error ellipse: s-maj=24.7km s-min=14.4km az=117.0*
*FCIAR **26** 22:02:07.0, 84°.95N×92°.16E, h10km, station SVZ has station magnitude of 3.70 station OMEGA has station magnitude of 3.50 station ZFI2 has station magnitude of 3.40*

ISC 26 22:01:58.8±0.5, 85°.13N±0°.05×94°.00E±0°.06, h10km, n68, σ1°65/69, mb4.1/29, MS3.4/4, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**5.97**	**166**	*e*P	**Pn**	**22 03 30.2**	**+3.2**
SVZ				*e*S	**Sn**	**22 04 32.7**	**-2.5**
	34nm,0.2s						
ZFI2	**Zemlya Franca-**	**6.85**	**257**	*e*P	**Pn**	**22 03 41.5**	**+2.5**
ZFI2				*e*S	**Sn**	**22 04 53.9**	**-3.0**
	13nm,2.6s						
OMEGA	**Omega**	**6.86**	**257**	*e*P	**Pn**	**22 03 41.5**	**+2.2**
OMEGA				*e*S	**Sn**	**22 04 53.8**	**-3.4**
	15nm,1.2s						
SPA0	**Spitsbergen Ar**	**11.85**	**281**	*e*P	**Pn**	**22 04 51.3**	**+3.8**
SPA0				*e*S	**Sn**	**22 06 54.4**	**-5.1**
SPITS	**Spitsbergen Ar**	**11.85**	**281**	Pn	**Pn**	**22 04 49.7**	**+2.3**
	baz=57,slow=17						
	12nm,1.1s						
SPB2	**Spitsbergen Ar**	**11.85**	**281**	Pn	**Pn**	**22 04 47.6**	**+0.2**
TIXI	**Tiksi**	**14.70**	**134**	Pn	**Pn**	**22 05 25.9**	**-0.5**
TIXI	**Tiksi**	**14.70**	**134**	Pn	**Pn**	**22 05 25.1**	**-1.3**
	0.9nm,0.3s,baz=43,slow=0.4,SNR=4.2						
TIXI				LR	LR	22 10 24.1	
	comp=Z,43nm,18.8s,baz=324,slow=35						
	3.3nm,0.3s						
EUNU	**Eureka**	**14.92**	**0**	Pn	**Pn**	**22 05 27.7**	**-1.6**
NRIK	**Noril'sk**	**15.92**	**188**		**Pn**	**22 05 40.5**	**-2.0**
NRIK	**Noril'sk**	**15.92**	**188**	Pn	**Pn**	**22 05 41.0**	**-1.5**
	0.4nm,0.3s,baz=6.2,slow=8.9,SNR=5.8						
NRIK				Sn	Sn	22 08 25.6	-13
	0.4nm,0.3s,baz=17,slow=16,SNR=2.4						
NRIK				LR	LR	22 12 26.4	
	comp=Z,125nm,19.3s,baz=360,slow=40						
	2.0nm,0.5s						
ARCES	**ARCESS Array B**	**19.32**	**262**	P	**Pn**	**22 06 25.5**	**+0.9**
	0.1nm,0.3s,baz=15,slow=5.3,SNR=3.8						
ARCES				LR	LR	22 14 09.2	
	comp=Z,70nm,18.1s,baz=342,slow=38						
	3.6nm,1.0s						
RES	**Resolute Bay**	**20.27**	**7**	P	**P**	**22 06 33.0**	**-0.9**
RES	**Resolute Bay**	**20.27**	**7**	P	Pn	22 06 36.2	+0.3
	0.7nm,0.9s,baz=5.2,slow=12,SNR=6.2						
RES				LR	LR	22 15 06.7	
	comp=Z,78nm,18.8s,baz=3.5,slow=39						
	0.7nm,0.9s						
BILL	**Bilibino**	**21.10**	**96**	P	**P**	**22 06 41.7**	**-1.2**
BILL				IAmb	IAmb	22 07 18.0	
	comp=Z,21nm,1.0s						
BILL	**Bilibino**	**21.10**	**96**	P	**P**	**22 06 41.7**	**-1.2**
B22K	**Teshekpuk Lake**	**22.12**	**56**	P	**P**	**22 06 52.9**	**-0.9**
B22K				IAmb	IAmb	22 07 03.9	
	comp=Z,27nm,1.1s						
A36M	**Sachs Harbour**	**22.14**	**31**	P	**P**	**22 06 54.1**	**+0.2**
A36M				IAmb	IAmb	22 07 05.8	
	comp=Z,20nm,1.0s						
B20K	**Meade River**	**22.17**	**60**	P	**P**	**22 06 53.3**	**-1.1**
B21K	**Ikpikpuk River**	**22.74**	**58**		**P**	**22 07 00.3**	**-0.1**
B21K				IAmb	IAmb	22 07 17.1	
	comp=Z,16nm,1.0s						
C23K	**Itkillik River**	**22.81**	**54**	P	**P**	**22 07 01.0**	**-0.2**
C24K	**Franklin Bluff**	**23.05**	**52**	P	**P**	**22 07 03.1**	**-0.6**
HFS	**Hagfors**	**29.57**	**269**	LR	LR	22 19 44.1	
	comp=Z,52nm,18.0s,baz=224,slow=36						
YKA	**Yellowknife Ar**	**32.05**	**25**	P	**P**	**22 08 25.3**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=351,slow=8.1,SNR=4.4						
YKA				LR	LR	22 21 38.2	
	comp=Z,112nm,18.9s,baz=353,slow=37						
	comp=Z,0.8nm,0.9s						
BRVK	**Borovoye**	**32.69**	**207**	P	**P**	**22 08 30.2**	**-0.4**
BRVK				IAmb	IAmb	22 08 52.5	
	comp=Z,2.8nm,0.9s						
BRVK	**Borovoye**	**32.69**	**207**	P	**P**	**22 08 30.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**32.72**	**207**	P	**P**	**22 08 31.6**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=3.8,slow=4.3,SNR=3.3						
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**34.76**	**197**	P	**P**	**22 08 49.6**	**+0.9**
KURK	**Kurchatov**	**34.76**	**197**	P	**P**	**22 08 49.6**	**+0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURBB	**Kurchatov Arra**	**34.86**	**197**	P	**P**	**22 08 50.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=20,slow=7.0,SNR=4.4						
	comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**37.58**	**166**	P	**P**	**22 09 12.8**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=350,slow=7.3,SNR=5.1						
	comp=Z,2.0nm,1.0s						
AKASG	**Malin Array Be**	**37.62**	**250**	P	**P**	**22 09 14.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=10,slow=7.8,SNR=1.9						
	comp=Z,0.2nm,0.3s						
MK31	**Makanchi Array**	**38.60**	**193**	P	**P**	**22 09 21.5**	**0.0**
MK31	**Makanchi Array**	**38.60**	**193**	P	**P**	**22 09 21.5**	**0.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MKAR	**Makanchi Array**	**38.60**	**193**	P	**P**	**22 09 22.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=15,slow=5.0,SNR=6.6						
	comp=Z,0.7nm,0.8s						
BURAR	**Bucovina Array**	**41.01**	**254**	P	**P**	**22 09 41.6**	**0.0**
BURAR	**Bucovina Array**	**41.01**	**254**	P	**P**	**22 09 41.6**	**0.0**
KKAR	**Karatay Array**	**42.62**	**206**	P	**P**	**22 09 55.8**	**+1.0**
KKAR	**Karatay Array**	**42.62**	**206**	P	**P**	**22 09 54.8**	**0.0**
KKAR				IAmb	IAmb	22 10 16.9	
	comp=Z,2.6nm,1.5s						
KKAR	**Karatay Array**	**42.62**	**206**	P	**P**	**22 09 55.8**	**+1.0**
AAK	**Ala-Archa**	**42.95**	**201**	P	**P**	**22 09 58.1**	**+0.5**
AAK				IAmb	IAmb	22 10 25.8	
	comp=Z,5.2nm,1.4s						
AAK	**Ala-Archa**	**42.95**	**201**	LR	LR	22 30 51.3	
	comp=Z,138nm,18.1s,baz=356,slow=40						
AAK	**Ala-Archa**	**42.95**	**201**	P	**P**	**22 09 58.1**	**+0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BOOM	**Boomskoye usch**	**43.06**	**200**	P	**P**	**22 09 58.3**	**-0.2**
BOOM				IAmb	IAmb	22 10 16.5	
	comp=Z,3.7nm,1.0s						
BOOM	**Boomskoye usch**	**43.06**	**200**	P	**P**	**22 09 58.3**	**-0.2**
BOOM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	**Kislovodsk**	**43.30**	**235**	P	**P**	**22 10 01.4**	**+1.1**
KIV				IAmb	IAmb	22 10 09.1	
	comp=Z,8.3nm,1.0s						
KIV	**Kislovodsk**	**43.30**	**235**	*e*P	**P**	**22 10 05.1**	**+4.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KDJ	**Kajisay**	**43.38**	**198**	P	**P**	**22 10 01.5**	**+0.4**
KDJ	**Kajisay**	**43.38**	**198**	P	**P**	**22 10 01.5**	**+0.4**
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**43.51**	**235**	P	**P**	**22 10 04.8**	**+2.9**
	comp=Z,2.0nm,1.1s,baz=341,slow=5.1,SNR=4.2						
	comp=Z,2.0nm,1.1s						
BTK	**Batken**	**45.65**	**205**	P	**P**	**22 10 17.7**	**-1.4**
BTK				IAmb	IAmb	22 10 35.4	
	comp=Z,2.5nm,0.8s						
BTK	**Batken**	**45.65**	**205**	P	**P**	**22 10 17.7**	**-1.4**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
B08A	**Colville Reser**	**46.00**	**31**	P	**P**	**22 10 20.9**	**-0.8**
NEW	**Newport**	**46.18**	**29**	P	**P**	**22 10 24.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=39,slow=7.6,SNR=1.5						
	comp=Z,0.5nm,0.3s						
NEW	**Newport**	**46.18**	**29**	P	**P**	**22 10 24.0**	**+0.8**
DRK	**Karamyk**	**46.19**	**204**	P	**P**	**22 10 22.5**	**-1.1**
DRK				IAmb	IAmb	22 10 40.6	
	comp=Z,5.5nm,1.0s						
DRK	**Karamyk**	**46.19**	**204**	P	**P**	**22 10 22.5**	**-1.1**
DRK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR	**Keskin Array B**	**48.18**	**244**	P	**P**	**22 10 38.8**	**-0.1**
BRTR	**Keskin Array B**	**48.18**	**244**	P	**P**	**22 10 42.3**	**+3.4**
	comp=Z,1.0nm,0.8s,baz=343,slow=4.5,SNR=4.4						
	comp=Z,1.0nm,0.8s						
J08A	**Circle Bar Ran**	**51.02**	**30**	P	**P**	**22 11 00.0**	**-0.5**
J08A				IAmb	IAmb	22 11 12.4	
	comp=Z,7.2nm,1.0s						
SPR3	**Spring Creek 3**	**55.54**	**27**	P	**P**	**22 11 34.1**	**0.0**
SPR3				IAmb	IAmb	22 11 46.5	
	comp=Z,3.5nm,1.1s						
NVAR	**Mina Array Bea**	**55.95**	**30**	P	**P**	**22 11 37.6**	**+0.7**
NVAR	**Mina Array Bea**	**55.95**	**30**	P	**P**	**22 11 38.6**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=4.6,slow=11,SNR=2.0						
	comp=Z,0.5nm,0.7s						
PSUT	**Pine Spring**	**56.02**	**26**	P	**P**	**22 11 37.5**	**+0.1**
PSUT				IAmb	IAmb	22 11 49.1	
	comp=Z,6.4nm,1.2s						
LCMT	**Little Creek M**	**57.56**	**26**	P	**P**	**22 11 48.2**	**-0.1**
LCMT				IAmb	IAmb	22 11 59.2	
	comp=Z,9.0nm,1.4s						
WVT	**Waverly**	**58.96**	**2**	P	**P**	**22 11 58.1**	**+0.3**
WVT	**Waverly**	**58.96**	**2**	P	**P**	**22 11 58.1**	**+0.3**
WVT				pmax	pmax		
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**65.51**	**17**	P	**P**	**22 12 43.5**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=310,slow=2.7,SNR=4.0						
	comp=Z,0.4nm,0.7s						

RSNC 26 22:02:54.0±0.0, 9°N±4°×7°8W±°, h40km±13km, M2.5, mb4.1, mB4.6, ML2.5, Mw(mB)3.8, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.65**	**138**	P	Pn	22 03 04.9	-1.9
CAPC				S	Sn	22 03 15.3	-0.6
CAPC	**Capurgana**	**0.65**	**138**	P	Pn	22 03 04.9	-1.9
CAPC				S	Sn	22 03 15.3	-0.6
LCBC	**Los crdobas,**	**1.43**	**100**	P	Pn	22 03 18.1	+0.6
LCBC				S	Sn	22 03 34.3	-0.7
LCBC	**Los crdobas,**	**1.43**	**100**	P	Pn	22 03 18.1	+0.6
LCBC				S	Sn	22 03 34.3	-0.7
APAC	**Apartado, Choc**	**1.70**	**135**	P	Pn	22 03 21.7	+0.5
APAC				S	Sn	22 03 44.2	+2.4
APAC	**Apartado, Choc**	**1.70**	**135**	P	Pn	22 03 21.7	+0.5
APAC				S	Sn	22 03 44.2	+2.4
BCIP	**Isla Barro Col**	**2.02**	**271**	P	Pn	22 03 24.9	-0.7
BCIP				S	Sn	22 03 49.0	-0.7
BCIP	**Isla Barro Col**	**2.02**	**271**	P	Pn	22 03 24.9	-0.7
BCIP				S	Sn	22 03 49.0	-0.7
SJCC	**San Jacinto, C**	**2.69**	**73**	P	Pn	22 03 35.2	+0.4
SJCC				S	Sn	22 04 04.7	-1.5
SJCC	**San Jacinto, C**	**2.69**	**73**	P	Pn	22 03 35.2	+0.4
SJCC				S	Sn	22 04 04.7	-1.5
ZARC	**Zaragoza, Cauc**	**3.32**	**119**	P	Pn	22 03 42.5	-1.0
ZARC				S	Sn	22 04 18.9	-2.9
ZARC	**Zaragoza, Cauc**	**3.32**	**119**	P	Pn	22 03 42.5	-1.0
ZARC				S	Sn	22 04 18.9	-2.9
CRJC	**Cerrejon, Guaj**	**5.19**	**68**	P	Pn	22 04 08.6	-0.7
CRJC	**Cerrejon, Guaj**	**5.19**	**68**	P	Pn	22 04 08.6	-0.7

*NEIC **26** 22:08:23.8±1.1, 50°.32N±0°.07×176°.30W±0°.08, h10km±2km, mb4.1/6, ML3.5(AEIC), Error ellipse: s-maj=12.7km s-min=8.8km az=185.0*
*AEIC **26** 22:08:27.0±0.8, 50°.26N±0°.08×176°.32W±0°.09, h2km±7km, Error ellipse: s-maj=11.3km s-min=8.1km az=177.0*

ISC 26 22:08:23.6±3.2, 50°.40N±0°.09×176°.30W±0°.05, h8km±18km, n29, σ0°62/36, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.48**	**337**		**Pb**	**22 08 51.5**	**+0.1**
ADK	**Adak**	**1.50**	**351**	Pn	**Pn**	**22 08 51.4**	**+0.5**
ADK				Sn	**Sg**	**22 09 11.7**	**-0.2**
KIWB	**Kanaga Island**	**1.55**	**340**		**Pb**	**22 08 52.4**	**-0.2**
KIWB				Sn	**Sb**	**22 09 12.5**	**+0.1**
ADAG	**Mount Adagdak**	**1.59**	**353**		**Pb**	**22 08 53.4**	**+0.1**
GSCK	**Great Sitkin C**	**1.61**	**3**		**Pb**	**22 08 53.6**	**-0.1**
GSCK					**Sb**	**22 09 13.5**	**-0.8**
KICM	**Kanaga Island**	**1.62**	**340**		**Pn**	**22 08 53.2**	**+0.6**
GSMY	**Great Sitkin M**	**1.65**	**5**		**Pb**	**22 08 54.2**	**-0.1**
GSSP	**Great Sitkin S**	**1.70**	**3**		**Pb**	**22 08 55.0**	**-0.1**
GSTR	**Great Sitkin T**	**1.70**	**5**		**Pb**	**22 08 55.1**	**-0.1**
GSTR				Sn	**Sb**	**22 09 16.8**	**0.0**
TASE	**Tanaga Southea**	**1.81**	**323**		**Pn**	**22 08 56.0**	**+0.9**
TAFP	**Tanaga Falls P**	**1.84**	**325**		**Pn**	**22 08 56.2**	**+0.7**
TAFP					**Sn**	**22 09 19.4**	**+0.4**
TANO	**Tanaga North**	**1.90**	**324**		**Pn**	**22 08 57.5**	**+1.1**
GAEA	**Gareloi East**	**2.07**	**313**		**Pn**	**22 08 59.2**	**+0.5**
GANE	**Gareloi Northe**	**2.11**	**313**		**Pn**	**22 08 59.8**	**+0.6**
GANO	**Gareloi North**	**2.12**	**313**		**Pn**	**22 08 59.8**	**+0.3**
GANO					**Sn**	**22 09 25.2**	**-0.9**
ATKA	**Atka Island**	**2.24**	**35**		**Pn**	**22 09 01.2**	**+0.3**
ATKA					**Sn**	**22 09 29.2**	**+0.5**
NIKH	**Nikolski High**	**5.30**	**58**	Pn	**Pn**	**22 09 43.6**	**+0.6**
MAPS	**Pakushin South**	**6.70**	**56**		**Pn**	**22 10 03.2**	**+0.9**
MREP	**Makushin Rep't**	**6.80**	**56**		**Pn**	**22 10 04.6**	**+0.9**
UNV	**Unalaska Valle**	**6.95**	**56**	Pn	**Pn**	**22 10 06.2**	**+0.6**
O14K	**Tigyukauivet M**	**12.37**	**38**	Pn	**Pn**	**22 11 18.8**	**-1.1**
HIN	**Hinchinbrook I**	**19.48**	**48**		**P**	**22 12 51.2**	**+0.4**
SCM	**Sheep Creek Mo**	**19.60**	**43**	P	**Pn**	**22 12 53.2**	**-0.2**
SCM				IAmb	IAmb	22 12 58.9	
	comp=Z,10nm,0.8s						
FID	**Port Fidalgo**	**19.60**	**47**	P	**P**	**22 12 51.2**	**-0.9**
KLU	**Klutina**	**20.10**	**45**	P	**P**	**22 12 58.7**	**+1.1**
KLU				IAmb	IAmb	22 13 02.7	
	comp=Z,11nm,1.2s						
KURK	**Kurchatov**	**60.84**	**315**	P	**P**	**22 18 35.9**	**-0.2**
KURK				IAmb	IAmb	22 18 46.2	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**61.88**	**310**	P	**P**	**22 18 42.5**	**-0.7**
BRVK	**Borovoye**	**62.67**	**321**	P	**P**	**22 18 48.8**	**+0.4**
BRVK				IAmb	IAmb	22 18 49.3	
	comp=Z,0.8nm,0.6s						
KKAR	**Karatay Array**	**70.21**	**314**	P	**P**	**22 19 36.6**	**-0.2**

*AEIC **26** 22:09:22.9±1.2, 61°.38N±0°.03×150°.03W±0°.05, h38km±5km, ML3.3, ML3.5/184(NEIC), Error ellipse: s-maj=3.9km s-min=3.6km az=164.0*
*NEIC **26** 22:09:22.1±1.6, 61°.42N±0°.02×150°.02W±0°.05, h46km±5km, Error ellipse: s-maj=3.8km s-min=2.3km az=96.0*

ISC 26 22:09:22.3±1.3, 61°.38N±0°.03×150°.01W±0°.03, h45km±9km, n113, σ0°71/120, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.26**	**204**		**Pn**	**22 09 31.1**	**+0.5**
FIS				Sn	**Sn**	**22 09 38.2**	**+1.8**
FIS				IAML		22 09 39.4	
	comp=E,4μm,0.8s						
FIS				IAML		22 09 40.2	
	comp=N,3μm,0.6s						
RC01	**Rabbit Creek A**	**0.32**	**156**		**Pn**	**22 09 30.7**	**-0.5**
RC01					**Sn**	**22 09 37.7**	**+0.3**
RC01				IAML		22 09 39.2	
	comp=E,3μm,0.4s						
RC01				IAML		22 09 39.2	
	comp=N,6μm,0.3s						
M22K	**Willow**	**0.38**	**352**		**Pn**	**22 09 30.6**	**-1.2**
M22K					**Sn**	**22 09 37.8**	**-0.7**
PMR	**Palmer**	**0.47**	**63**		**Pn**	**22 09 32.0**	**-0.8**
PMR					**Sn**	**22 09 39.9**	**-0.5**
PMR				IAML		22 09 40.6	
	comp=N,2μm,0.6s						
GHO	**Glory Hole Cre**	**0.65**	**52**		**Pn**	**22 09 34.4**	**-0.8**
GHO					**Sn**	**22 09 44.4**	**-0.2**
GHO				IAML		22 09 47.2	
	comp=N,2μm,0.5s						
GHO				IAML		22 09 47.6	
	comp=E,2μm,0.6s						
KNK	**Knik Glacier**	**0.74**	**87**		**Pn**	**22 09 36.1**	**-0.3**
KNK					**Sn**	**22 09 47.2**	**+0.4**
CAPN	**Captain Cook N**	**0.83**	**223**		**Pn**	**22 09 38.5**	**+1.0**
SLKM	**Skilak Lake**	**0.88**	**187**		**Pn**	**22 09 37.7**	**-0.6**
SLKM				IAML		22 09 52.9	
	comp=E,2μm,0.3s						
SLKM				IAML		22 09 53.5	
	comp=N,2μm,0.2s						
STLK	**Strandline Lak**	**0.89**	**278**		**Pn**	**22 09 37.9**	**-0.5**
STLK				IAML		22 09 50.6	
	comp=E,1μm,0.3s						
SML	**Sawmill**	**0.91**	**61**		**Pn**	**22 09 38.0**	**-0.7**
SML				IAML		22 09 54.0	
	comp=E,1μm,0.8s						
SML				IAML		22 09 54.1	
	comp=N,1μm,0.7s						
O22K	**Cooper Landing**	**0.91**	**171**		**Pn**	**22 09 38.4**	**-0.2**
SKT	**Skwentna**	**0.94**	**310**		**Pn**	**22 09 38.1**	**-1.1**
SKT					**Sn**	**22 09 50.6**	**-0.9**
PWL	**Port Wells**	**0.96**	**122**		**Pn**	**22 09 39.3**	**-0.1**
CUT	**Chulitna**	**1.03**	**353**		**Pn**	**22 09 39.5**	**-0.9**
SPCR	**

RAGM	Ragged Mountai	2.79	109		Pn	22 10 03.3	-1.1
BWN	Browne	2.81	5		Pn	22 10 05.8	+1.1
BWN				IAML		22 10 52.7	
	comp=E,228nm,1.0s						
BWN				IAML		22 11 03.5	
	comp=N,278nm,1.1s						
N18K	Kilae Creek	2.95	259	Pn	Pn	22 10 06.2	-0.4
GLB	Gilahina Butte	2.98	86		Pn	22 10 07.4	+0.4
GLB				IAML		22 10 53.7	
	comp=N,253nm,0.7s						
GLB				IAML		22 10 54.3	
	comp=E,113nm,0.5s						
O18K	Koktuh Hills	2.99	241	Pn	Pn	22 10 06.6	-0.5
O18K				IAML		22 11 08.9	
	comp=E,92nm,0.9s						
O18K				IAML		22 11 09.4	
	comp=N,96nm,1.0s						
HMT	Hamilton	3.00	108		Pn	22 10 06.0	-1.3
SYI	Shuyak Island	3.03	204		Pn	22 10 07.3	-0.3
SYI				IAML		22 10 52.2	
	comp=E,149nm,0.8s						
SYI				IAML		22 10 54.7	
	comp=N,108nm,0.6s						
Q19K	Cape Douglas,	3.06	218		Pn	22 10 08.0	-0.1
KAIM	Kayak Island	3.11	115	Pn	Pn	22 10 07.0	-1.8
KAIM				IAML		22 11 02.9	
	comp=E,103nm,0.7s						
KAIM				IAML		22 11 04.7	
	comp=N,107nm,0.6s						
VRDI	Verde Repeater	3.17	90	Pn	Pn	22 10 08.6	-1.1
VRDI				IAML		22 11 01.8	
	comp=N,99nm,0.6s						
VRDI				IAML		22 11 02.1	
	comp=E,94nm,0.6s						
WRH	Wood River Hil	3.22	15	Pn	Pn	22 10 10.5	+0.2
BERG	Berg Lake	3.24	105		Pn	22 10 09.5	-1.0
NEA2	Nenana	3.25	7		Pn	22 10 10.7	0.0
P18K	Big Mountain,	3.27	235	Pn	Pn	22 10 10.2	-0.9
L18K	Granite Mounta	3.28	288	Pn	Pn	22 10 10.7	-0.5
L18K				IAML		22 11 09.3	
	comp=N,72nm,0.9s						
SUCK	Suckling Hills	3.33	110	Pn	Pn	22 10 11.3	-0.5
SUCK				IAML		22 11 06.9	
	comp=N,114nm,0.6s						
SUCK				IAML		22 11 25.2	
	comp=E,89nm,1.1s						
HDA	Harding Lake	3.35	23		Pn	22 10 11.9	-0.1
RIDG	Independent Ri	3.36	43	Pn	Pn	22 10 12.9	+0.6
RIDG				IAML		22 11 01.8	
	comp=N,167nm,0.8s						
J20K	Nowinta River	3.39	328		Pn	22 10 12.3	-0.3
J20K				IAML		22 10 52.4	
	comp=E,124nm,0.4s						
J20K				IAML		22 10 52.6	
	comp=N,150nm,0.5s						
CCB	Clear Creek Bu	3.43	16	Pn	Pn	22 10 13.5	+0.4
CCB				IAML		22 11 09.0	
	comp=E,78nm,0.9s						
M26K	Nabesna, AK	3.47	70		Pn	22 10 13.6	-0.2
M26K				IAML		22 11 13.8	
	comp=N,100nm,0.6s						
M26K				IAML		22 11 16.0	
	comp=E,66nm,0.6s						
DOT	Dot Lake	3.57	48		Pn	22 10 16.4	+1.3
M17K	Holitna River	3.58	274		Pn	22 10 15.0	-0.2
M17K				IAML		22 11 15.0	
	comp=N,124nm,0.9s						
M17K				IAML		22 11 17.4	
	comp=E,104nm,0.6s						
N17K	Nushagak Hills	3.61	259		Pn	22 10 15.4	-0.2
N17K				IAML		22 11 17.8	
	comp=N,57nm,0.7s						
WAX	Waxell Ridge	3.62	102		Pn	22 10 14.9	-0.9
WAX				IAML		22 11 12.8	
	comp=E,140nm,0.6s						
J19K	Poorman	3.68	318		Pn	22 10 15.9	-0.7
J19K				IAML		22 11 15.4	
	comp=N,52nm,0.8s						
J19K				IAML		22 11 16.8	
	comp=E,57nm,0.6s						
IL31		3.69	21	Pn	Pn	22 10 16.9	+0.3
ILAR	Eielson Array	3.69	21		Pn	22 10 17.1	+0.4
J18K	Innoko River	3.76	307	Pn	Pn	22 10 17.1	-0.5
I23K	Minto, Yukon-K	3.79	4		Pn	22 10 18.4	+0.3
I23K				IAML		22 11 25.8	
	comp=N,56nm,1.4s						
SCRK	Sand Creek	3.81	44		Pn	22 10 19.1	+0.7
SCRK				IAML		22 11 23.6	
	comp=N,66nm,0.8s						
SCRK				IAML		22 11 25.7	
	comp=E,79nm,0.8s						
KDAK	Kodiak Island	3.84	201	Pn	Pn	22 10 16.8	-1.9
KDAK				IAML		22 11 21.3	
	comp=E,104nm,1.1s						
KDAK				IAML		22 11 25.3	
	comp=E,98nm,0.8s						
J25K	Salcha River,	3.87	31		Pn	22 10 20.3	+1.1
J25K				IAML		22 11 13.5	
	comp=E,97nm,0.6s						
J25K				IAML		22 11 13.9	
	comp=N,76nm,0.6s						
I21K	Tanana	3.92	348		Pn	22 10 20.1	+0.3
I21K				IAML		22 11 37.1	
	comp=N,44nm,1.2s						
I21K				IAML		22 11 38.2	
	comp=E,42nm,0.8s						
POKR	Poker Plat Res	3.93	16		Pn	22 10 19.6	-0.4
POKR				IAML		22 11 25.6	
	comp=N,41nm,0.8s						
POKR				IAML		22 11 33.9	
	comp=E,41nm,0.7s						
M27K	Edge Creek, AK	3.97	72	Pn	Pn	22 10 21.8	+1.1
I20K	Naaghedeneel	3.98	331		Pn	22 10 20.8	+0.1
K17K	Iditarod	4.13	293	Pn	Pn	22 10 22.5	-0.3
K17K				IAML		22 11 41.9	
	comp=E,60nm,1.2s						
K17K				IAML		22 11 48.4	
	comp=N,57nm,0.9s						
MESA	MESA	4.13	103		Pn	22 10 22.2	-0.7
MESA				IAML		22 11 33.7	
	comp=E,102nm,0.5s						
MESA				IAML		22 11 34.4	
	comp=N,95nm,0.6s						
ACHA	Angle Creek He	4.16	223	Pn	Pn	22 10 22.8	-0.4
L27K	Beaver Creek,	4.18	63	Pn	Pn	22 10 23.8	+0.3
L27K				IAML		22 11 34.4	
	comp=N,33nm,1.1s						
BCAR	Beaver Creek A	4.20	63		Pn	22 10 23.8	+0.1
J26L	Joseph Creek	4.30	40		Pn	22 10 26.8	+1.6
J26L				IAML		22 11 24.4	
	comp=N,88nm,0.6s						
J26L				IAML		22 11 35.8	
	comp=E,61nm,0.7s						
M16K	Timber Creek	4.35	269	Pn	Pn	22 10 25.6	-0.1
O16K	Kokwok River B	4.38	249	Pn	Pn	22 10 26.1	-0.1
O16K				IAML		22 11 56.4	
	comp=N,44nm,1.5s						
H23K	Yukon River	4.47	2		Pn	22 10 28.1	+0.7
H21K	Melozitna River	4.47	345		Pn	22 10 27.5	+0.1
L16K	Owhat River	4.54	278		Pn	22 10 28.0	-0.4
H24K	Noodor Dome	4.57	11		Pn	22 10 29.4	+0.6
H24K				IAML		22 11 50.6	
	comp=E,31nm,1.0s						
PRP	Porcupine Dome	4.61	24		Pn	22 10 30.6	+1.1
PRP				IAML		22 11 30.3	
	comp=N,50nm,0.8s						
PRP				IAML		22 11 51.3	
	comp=E,38nm,0.7s						
J17K	VABM Dome	4.68	300		Pn	22 10 29.6	-0.7
J17K				IAML		22 11 21.9	
	comp=N,26nm,0.9s						
I26K	Coal Creek Min	5.00	35		Pn	22 10 36.2	+1.5
I26K				IAML		22 12 06.7	
	comp=N,50nm,0.7s						
H19K	Roundabout Mou	5.07	328	Pn	Pn	22 10 35.5	0.0
H19K				IAML		22 12 14.6	
	comp=N,20nm,0.8s						
H19K				IAML		22 12 19.0	
	comp=E,20nm,1.2s						
J16K	Anvik River	5.29	296	Pn	Pn	22 10 37.7	-1.0
J16K				IAML		22 12 09.7	
	comp=N,16nm,1.1s						
J16K				IAML		22 12 21.5	
	comp=E,15nm,1.1s						
G23K	Bananza Creek	5.35	360		Pn	22 10 40.2	+0.7
G21K	Allakaket	5.38	345		Pn	22 10 40.1	+0.2
G21K				IAML		22 11 45.6	
	comp=N,16nm,0.6s						
G21K				IAML		22 11 55.8	
	comp=E,16nm,0.9s						
G24K	Hadweenzic Riv	5.46	11		Pn	22 10 42.2	+1.3
L29M	L29M	5.81	67	Pn	Pn	22 10 45.5	-0.4
M14K	Bethel	5.84	269	Pn	Pn	22 10 45.9	-0.3
F21K	Alatna River	6.06	347		Pn	22 10 50.0	+0.9
I28M	Miner Creek	6.09	44	Pn	Pn	22 10 49.9	+0.2
HYT	Haines Junctio	6.09	90	Pn	Pn	22 10 50.0	+0.2
L14K	Kuka Creek	6.10	275		Pn	22 10 50.2	+0.5
K29M	Barlow Dome	6.27	61	Pn	Pn	22 10 52.0	-0.1
BMAR	Burnt Mountain	6.51	19	Pn	Pn	22 10 56.1	+0.8
E24K	Your Creek	6.75	5		Pn	22 10 59.4	+0.7

IDC 26 22:09:53.1±2.5, 31°.81S×178°.02W, h0km, mb3.6/2, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=63.8km s-min=35.7km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.58	210	Pn	Pn	22 11 43.5	-1.3
	0.4nm,0.3s,baz=35,slow=6.1,SNR=1.1						
URZ				Sn	Sn	22 13 11.0	-0.3
	1.8nm,0.3s,baz=119,slow=19,SNR=10						
	12nm,0.9s						
ASAR	Alice Springs	43.04	268	P	P	22 17 54.8	+0.1
	0.3nm,0.4s,baz=103,slow=7.3,SNR=5.1						
	0.3nm,0.4s						
WRA	Warramunga Arr	44.15	274	P	P	22 18 03.9	+0.1
	0.6nm,0.4s,baz=112,slow=7.9,SNR=12						
	0.6nm,0.4s						
BVAR	Borovoye Array	127.39	315	PKP	PKiKP	22 29 00.4	+0.5
	0.2nm,0.4s,baz=90,slow=5.8,SNR=2.9						
FINES	FINESS Array B	146.46	339	PKPbc	PKPdf	22 29 33.2	-0.8
	1.0nm,0.6s,baz=46,slow=4.0,SNR=3.8						

*IPEC **26** 22:12:05.0±0.3, 49°.82N×18°.56E, h1km, ML2.2/4, Error ellipse: s-maj=2.1km s-min=1.7km az=72.0*

PRU 26 22:12:07.2, 49°.81N×18°.42E, h0km, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.18	279	*e*PG	Pg	22 12 10.7	+0.1
OKC				*e*SG	Sg	22 12 14.4	+1.5
STEB	Steborice	0.44	287	*e*PG	Pg	22 12 15.1	-0.5
STEB				*e*SG	Sg	22 12 22.3	+1.1
MORC	Moravsky Berou	0.57	267	*e*Pg	Pg	22 12 17.9	-0.2
	baz=86						
MORC				*e*Sg	Sg	22 12 25.7	+0.2
	61nm,0.6s,baz=86						
MORC	Moravsky Berou	0.57	267	⇑P	Pg	22 12 18.0	-0.1
LANS	Liptovska Anna	0.95	134	*e*PG	Pg	22 12 22.5	-2.9
LANS				*e*SG	Sg	22 12 35.1	-2.6
LANS				*e*LG	Lg	22 12 38.7	
OJC	Ojcow	0.98	65	*e*Pg	Pg	22 12 21.6	-4.3
OJC				*e*Sg	Sg	22 12 36.4	-2.3
JAVC	Velka Javorina	1.07	208	*e*Pg	Pg	22 12 26.7	-1.0
	baz=31						
JAVC	Velka Javorina	1.07	208	*e*PG	Pg	22 12 26.8	-0.9
KRLC	Kraliky	1.09	285	*e*SG	Sg	22 12 41.7	-0.5
	comp=Z,33nm,0.7s						
NIE	Niedzica	1.28	107	*e*Pg	Pg	22 12 28.7	-3.1
NIE				*e*Sg	Sg	22 12 47.0	-1.4
VRAC	Vranov	1.29	248	*e*Pg	Pg	22 12 30.6	-1.3
	baz=68						
VRAC				*e*Sg	Sg	22 12 48.2	-0.4
	29nm,0.4s,baz=68						
DPC	Dobruska-Polom	1.46	293	*e*PG	Pn	22 12 32.8	-2.0
DPC				*e*SG	Sg	22 12 53.4	-0.5
	comp=Z,11nm,0.3s						
KRUC	Moravsky	1.52	241	*e*Pg	Pn	22 12 34.0	-1.6
	baz=61						
KRUC				*e*Sg	Sg	22 12 55.3	-0.7
	15nm,0.2s,baz=61						
OSTC	Ostas	1.60	299	*e*PG	Pn	22 12 35.5	-1.3
OSTC				*e*SG	Sn	22 12 57.6	-0.6
MODS	Modra-Piesok	1.62	208	*e*PG	Pn	22 12 35.7	-1.4
MODS				*e*SG	Sn	22 12 57.2	-1.5
UPC	Upice	1.70	295	*e*PG	Pn	22 12 37.5	-0.6
CHVC	Chvalec	1.71	298	*e*PG	Pn	22 12 37.0	-1.3
KSP	Ksiaz	1.71	308	*e*Pg	Pn	22 12 37.8	-0.5
KSP				*e*Sg	Sn	22 13 00.4	-0.4
STHS	Stebnicka Huta	1.88	101	*e*PG	Pn	22 12 38.2	-2.4
KECS	Kecovo	1.90	134	*e*PG	Pn	22 12 37.5	-3.3
KECS				*e*SG	Sn	22 13 02.1	-3.3
TREC	Trest	1.98	256	*e*PG	Pn	22 12 42.2	+0.2
TREC				*e*SG	Sb	22 13 09.5	+0.2
GOPC	GO Pecny, Ondr	2.35	274	*e*SG	Sb	22 13 20.9	+0.8
	comp=Z,9.8nm,0.6s						
PRU	Pruhonice	2.51	276	*e*PG	Pb	22 12 52.6	-0.6
PRU				*e*SG	Sb	22 13 25.1	+0.4
CKRC	Cesky Krumlov	2.87	251	*e*PG	Pb	22 12 58.9	-0.3
CKRC				*e*SG	Sg	22 13 37.1	-2.1
BRG	Berggiesshubel	3.06	292	Pg	Pb	22 13 02.8	+0.4
BRG				Sg	Sg	22 13 43.7	-1.7
BRG				Amp		22 13 46.7	
	comp=Z,5.3nm,0.4s						
KHC	Kasperske Hory	3.23	260	*e*PN	Pn	22 12 57.8	-1.4
KHC				*e*PG	Pb	22 13 05.1	-0.3
KHC				*e*SG	Sg	22 13 49.0	-1.9

TRN 26 22:14:13.3, 17°.17N×62°.30W, h16km, MD3.7, East of Nevis., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBFL	Flemmings, Mon	0.43	168	*e*P	Pn	22 14 24.7	-0.2
MBFL				*e*S	Sn	22 14 30.9	-1.4
MBWH		0.44	166	*e*P	Pn	22 14 24.6	-0.3
MBWH				*e*S	Sn	22 14 30.9	-1.8
SKI	Saint Kitts	0.45	291	*e*P	Pn	22 14 24.9	-0.3
SKI				*e*S	Sn	22 14 31.3	-1.5
ANBD	Bethesda, Anti	0.53	103	*e*P	Pn	22 14 27.0	+0.8
ANBD				*e*S	Sn	22 14 34.8	0.0
ANWB	Willy Bob	0.70	45	*e*P	Pn	22 14 29.9	+1.3
ANWB				*e*S	Sn	22 14 40.0	+1.0
TBG	Guadaloupe-3	1.45	154	*e*P	Pg	22 14 41.8	+0.5
TBG				*e*S	Sg	22 15 01.2	+0.9
MAGL	Barre de l'ile	1.56	141	*e*P	Pb	22 14 41.7	-0.1
MAGL				*e*S	Sg	22 15 03.6	0.0
DSLB	Salisbury	1.92	154	*e*P	Pb	22 14 46.9	-1.0
DSLB				*e*S	Sb	22 15 12.5	+0.8

*IDC **26** 22:16:49.9±3.2, 3°.69S×129°.20E, h132km±28km, mb3.7/9, mbtmp4.1/11, MS3.8/4, Error ellipse: s-maj=42.1km s-min=14.6km az=62.0*

*NEIC **26** 22:16:51.4±1.7, 3°.90S±0°.08×128°.73E±0°.09, h129km±5km, mb4.2/15, Error ellipse: s-maj=14.0km s-min=10.7km az=51.0*

*DJA **26** 22:16:52.3±0.3, 4°.S±3°×12°.9E±°, h118km±5km, M4.5/12, mB5.4/1, mb4.5/3, MLv4.5/12, Mw(mB)4.9/1*

ISC 26 22:16:51.2±0.5, 3°.90S±0°.06×128°.74E±0°.05, h150km, n49, σ1§94/49, mb4.1/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.58	19	P	Pn	22 17 10.7	-2.3
MSAI				S	Sn	22 17 24.6	-5.0
AAI	Ambon	0.59	291	P	Pn	22 17 10.9	-2.1
BNDI	Bandanaira	1.31	118	P	Pn	22 17 19.3	+0.5
NLAI	Namlea	1.77	292	P	Pn	22 17 21.6	-2.0
NLAI				S	Sn	22 17 45.4	-3.1
SANI	Sanana	3.31	304	P	Pn	22 17 40.2	-2.3
FAKI	Fak Fak	3.63	75	Pn	Pn	22 17 47.0	+0.3
FAKI				Sn	Sn	22 18 26.8	-2.9
FAKI	Fak Fak	3.63	75	P	Pn	22 17 47.0	+0.3
SWI	Sorong	3.92	40	P	Pn	22 17 49.8	-0.7
SWI				S	Sn	22 18 32.8	-3.7
SAUI	Saumlaki	4.79	148	P	Pn	22 18 05.3	+3.4
TNTI	Ternate	4.84	343	P	Pn	22 18 00.5	-2.0
KMPI	Kaimana, Papua	4.96	87	P	Pn	22 18 04.5	+0.5
RKPI	Ransiki, Papua	5.92	67	P	Pn	22 18 17.0	+0.1
	154nm,0.9s						
KDI	Kendari	6.11	269	P	Pn	22 18 19.5	+0.1
	5µm157nm,0.9s						
KAPI	Kappang	9.03	263	LR	LR	22 23 05.5	
	comp=Z,89nm,19.6s,baz=118,slow=40						
MTN	Manton Dam	9.20	165	Pn	Pn	22 18 59.2	-1.4
TOLI2	Tolitoli	9.38	302	Pn	Pn	22 19 03.1	0.0
KNRA	Kununurra	11.71	180	Pn	Pn	22 19 33.3	-0.4
FITZ	Fitzroy Crossi	14.44	192	Pn	P	22 20 09.7	-1.5
FITZ	Fitzroy Crossi	14.44	192	P	P	22 20 11.0	-0.2
	3.5nm,0.7s,baz=38,slow=11,SNR=5.2						
WB0	Warramunga Arr	16.71	161	P	Pn	22 20 36.9	+0.2
WB0				IAmb	IAmb	22 20 39.5	
	comp=Z,9.0nm,1.1s						
WRA	Warramunga Arr	16.86	162	P	Pn	22 20 38.2	-0.2
WRA	Warramunga Arr	16.86	162	P	Pn	22 20 38.9	+0.4
	comp=Z,2.5nm,0.3s,baz=339,slow=12,SNR=48						
COEN	Coen	17.40	126	P	Pn	22 20 46.4	+1.4
COEN				IAmb	IAmb	22 20 48.5	
	comp=Z,7.8nm,0.6s						
KSM	Kuching	19.18	286	P	Pn	22 21 04.4	-1.6
MBWA	Marble Bar	19.27	206	P	Pn	22 21 04.4	-2.6
MBWA				IAmb	IAmb	22 21 05.7	
	comp=Z,9.1nm,0.9s						
AS31	Alice Springs	20.28	166	P	Pn	22 21 16.8	-2.1
AS31				IAmb	IAmb	22 21 18.3	
	comp=Z,5.1nm,0.7s						
ASAR	Alice Springs	20.28	166	P	Pn	22 21 16.9	-1.9
ASAR	Alice Springs	20.28	166	P	Pn	22 21 16.7	-2.2
	comp=Z,13nm,0.6s,baz=347,slow=12,SNR=108						
ASAR				PcP	PcP	22 25 24.8	+1.9
	comp=Z,1.7nm,0.5s,baz=2.3,slow=1.4,SNR=9.5						
ASAR				ScP	ScP	22 28 47.4	+2.0
	comp=Z,0.5nm,0.6s,baz=323,slow=1.7,SNR=5.5						
	comp=Z,13nm,0.6s						
KULM	Kulim	29.51	288	P	P	22 22 43.3	+1.7
BBOO	Buckleboo	29.57	167	P	P	22 22 42.9	+1.0
STKA	Stephens Creek	30.34	158	P	P	22 22 50.2	+1.5
STKA				IAmb	IAmb	22 23 07.8	
	comp=Z,8.1nm,1.0s						
STKA	Stephens Creek	30.34	158	P	P	22 22 50.1	+1.4
	comp=Z,2.3nm,0.5s,baz=328,slow=9.3,SNR=5.8						
	comp=Z,2.3nm,0.5s						
CMAR	Chiang Mai Arr	36.82	308	P	P	22 23 46.7	+1.7
	comp=Z,0.9nm,0.4s,baz=143,slow=6.9,SNR=6.4						
	comp=Z,0.9nm,0.4s						
CHTO	Chiang Mai	37.02	309	P	P	22 23 48.1	+1.4
CHTO				IAmb	IAmb	22 23 49.6	
	comp=Z,3.8nm,0.8s						
MK31	Makanchi Array	64.96	327	P	P	22 27 16.3	+1.4
MKAR	Makanchi Array	64.96	327	P	P	22 27 16.0	+1.1
	comp=Z,0.2nm,0.3s,baz=113,slow=8.1,SNR=11						
	comp=Z,0.2nm,0.3s						
KURBB	Kurchatov Arra	69.23	328	P	P	22 27 43.6	+1.9
	comp=Z,0.5nm,0.2s,baz=143,slow=4.9,SNR=4.1						
KURBB				LR	LR	23 00 54.1	
	comp=Z,139nm,20.5s,baz=172,slow=38						
	comp=Z,0.5nm,0.2s						
RAR	Rarotonga	71.34	111	P	P	22 27 52.6	-2.5
	comp=Z,16nm,0.8s,baz=5.7,slow=10,SNR=3.5						
	comp=Z,16nm,0.8s						
BVAR	Borovoye Array	74.79	328	P	P	22 28 16.4	+1.6
	comp=Z,0.5nm,0.8s,baz=134,slow=6.2,SNR=1.7						
BVAR				LR	LR	23 03 57.6	
	comp=Z,208nm,21.7s,baz=60,slow=38						
	comp=Z,0.5nm,0.8s						
ABKAR	Akbulak array	79.31	322	P	P	22 28 41.9	+1.7
ABKAR	Akbulak array	79.31	322	P	P	22 28 42.7	+2.5
ABKAR				IAmb	IAmb	22 28 50.1	
	comp=Z,2.1nm,1.4s						
QSPA	South Pole Qui	86.06	180	P	P	22 29 14.8	-0.1
	comp=Z,2.8nm,1.2s,baz=56,slow=3.6,SNR=3.1						
	comp=Z,2.8nm,1.2s						
KBZ	Khabaz	89.66	314	LR	LR	23 15 07.5	
	comp=Z,66nm,21.8s,baz=34,slow=39						
ILAR	Eielson Array	91.09	25	P	P	22 29 37.5	-0.9
	comp=Z,0.2nm,0.7s,baz=252,slow=4.9,SNR=2.1						
	comp=Z,0.2nm,0.7s						
J26L	Joseph Creek	92.49	26	P	P	22 29 46.7	+1.7
J26L				IAmb	IAmb	22 30 05.7	
	comp=Z,2.6nm,1.2s						
L27K	Beaver Creek,	93.18	27	P	P	22 29 50.8	+2.6
L27K				IAmb	IAmb	22 30 09.4	
	comp=Z,3.5nm,1.4s						
BCAR	Beaver Creek A	93.20	27	P	P	22 29 50.3	+2.0
I28M	Miner Creek	94.07	25	P	P	22 29 54.8	+2.5
I28M				IAmb	IAmb	22 30 08.0	
	comp=Z,3.4nm,1.4s						
CPUP	Villa Florida	149.38	169	PKPbc	PKPab	22 36 24.8	-3.4
	comp=Z,1.0nm,0.4s,baz=194,slow=4.8,SNR=3.3						

*IDC **26** 22:17:56.0±1.7, 1°.79N×126°.39E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=165.2km s-min=22.5km az=66.0*

*DJA **26** 22:18:02.5±0.9, 2°.N±3°×12°.6E±°, h12km±8km, M3.9/6, MLv3.9/6*

ISC 26 22:18:03.4±1.1, 1°.69N±0°.07×126°.44E±0°.08, h47km, n7, σ1§43/9, mb4.0/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.30	135	P	Pn	22 18 26.3	+1.1
SGSI	Sangihe	2.18	335	P	Pn	22 18 37.6	+0.4
SGSI				S	Sn	22 19 05.1	+2.1
KMSI	Cibinong	2.70	246	P	Pn	22 18 44.8	+0.5
KMSI				S	Sn	22 19 16.9	+1.2
WRA	Warramunga Arr	22.86	161	P	P	22 23 02.4	-0.5
	2.7nm,0.4s,baz=339,slow=11,SNR=10.0						
	2.7nm,0.4s						
ASAR	Alice Springs	26.23	164	P	P	22 23 33.7	-0.5
	0.9nm,0.6s,baz=345,slow=7.9,SNR=2.8						
	0.9nm,0.6s						
MKAR	Makanchi Array	59.06	326	P	P	22 27 57.4	-1.4
	0.5nm,0.4s,baz=122,slow=8.2,SNR=4.2						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	63.29	328	P	P	22 28 25.9	-1.4
	0.8nm,0.2s,baz=130,slow=6.2,SNR=6.8						
	0.8nm,0.2s						

*SOF **26** 22:25:19.8, 41°.94N×22°.98E±0°.01, h18km±2km, MD2.6/9*

*SKO **26** 22:25:20.9, 41°.94N×23°.00E, h15km, ML2.0*

*BEO **26** 22:25:21.2±0.2, 41°.94N×22°.96E, h10km±2km, ML2.1/13*

*ATH **26** 22:25:22.3, 41°.85N×22°.93E, h18km±2km, ML2.3/9,*

Manual Solution by M.Kolligri First location: 2019/03/26 22:26:33, This location: 2020/07/03 14:15:19 ML

Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km

ISC 26 22:25:20.8±0.8, 41°.94N±0°.01×22°.99E±0°.02, h12km±6km, n54, σ0§66/93, 7C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.15	134	*i* Pg	Pg	22 25 24.2	-0.1
KKB				Sg	Sg	22 25 26.6	-0.2
KKB	Krupnik	0.15	134	*i* Pg	Pg	22 25 24.3	0.0
KKB				*i* Sg	Sg	22 25 27.0	+0.2
PLNA	Plana	0.62	31	Pg	Pg	22 25 33.2	+0.2
PLNA				Sg	Sg	22 25 41.7	+0.4
BOSS	Bosilegrad	0.67	326	*e*Pg	Pg	22 25 33.3	-0.5
BOSS			

SRS				*e*Sg		**Sb**	**22 25 51.5**	**0.0**
SRS	**Serrai**	**0.94**	**151**	P		**Pb**	**22 25 38.6**	**-0.5**
SRS				S		**Sg**	**22 25 51.6**	**+0.4**
PGB	**Panagyurishte**	**1.05**	**57**	*e*Pg		**Pb**	**22 25 40.9**	**0.0**
PGB				Sg		**Sb**	**22 25 54.7**	**0.0**
GRG	**Griva**	**1.08**	**204**	*e*Pg		**Pg**	**22 25 42.9**	**+1.3**
GRG				*i* Sg		**Sn**	**22 25 55.9**	**-0.8**
NGRA	**Nigrita**	**1.10**	**159**	P		**Pb**	**22 25 41.7**	**-0.1**
NGRA				S		**Sb**	**22 25 55.7**	**-0.5**
SOH	**Sokhos**	**1.15**	**166**	P		**Pn**	**22 25 42.5**	**-0.3**
BARS	**Barje**	**1.23**	**316**	*i* Pg		**Pb**	**22 25 44.2**	**+0.2**
BARS				*i* Sg		**Sg**	**22 26 01.1**	**+0.6**
BARS	**Barje**	**1.23**	**316**	*e*Pg		**Pb**	**22 25 43.9**	**-0.1**
BARS				*e*Sg		**Sn**	**22 26 00.2**	**-0.2**
THE	**Thessaloniki**	**1.31**	**181**	*i* Pg		**Pb**	**22 25 45.5**	**+0.1**
THE				*i* Sg		**Sb**	**22 26 02.4**	**+0.3**
THE	**Thessaloniki**	**1.31**	**181**	P		**Pb**	**22 25 45.4**	**+0.1**
THE				S		**Sn**	**22 25 59.8**	**-2.5**
PLD	**Plovdiv**	**1.33**	**81**	Pg		**Pb**	**22 25 45.9**	**+0.3**
PLD				Sg		**Sg**	**22 26 03.6**	**+0.1**
PLD	**Plovdiv**	**1.33**	**81**	*i* Pg		**Pb**	**22 25 45.9**	**+0.3**
PLD				*i* Sg		**Sg**	**22 26 04.3**	**+0.8**
PLD	**Plovdiv**	**1.33**	**81**	*e*Pg		**Pb**	**22 25 45.8**	**+0.2**
PLD				*e*Sg		**Sb**	**22 26 02.9**	**+0.3**
RZN	**Rozhen**	**1.33**	**100**	Pg		**Pb**	**22 25 45.8**	**-0.1**
RZN				Sg		**Sg**	**22 26 04.4**	**+0.6**
HORT	**Hortiatis**	**1.35**	**176**	P		**Pb**	**22 25 46.0**	**0.0**
ZAPS	**Zavoj**	**1.35**	**349**	*e*Pg		**Pb**	**22 25 46.1**	**-0.1**
ZAPS				*e*Sg		**Sb**	**22 26 03.5**	**0.0**
KOKK	**Kokkinochori,**	**1.36**	**146**	P		**Pb**	**22 25 45.9**	**-0.2**
KOKK				S		**Sb**	**22 26 03.1**	**-0.4**
KVLA	**Kavala**	**1.46**	**133**	P		**Pb**	**22 25 48.2**	**+0.4**
KAVA	**Kavala**	**1.49**	**129**	P		**Pb**	**22 25 48.3**	**-0.1**
KAVA				S		**Sn**	**22 26 06.5**	**-0.2**
MPEP	**Malo Peshtene**	**1.52**	**21**	P		**Pb**	**22 25 49.6**	**+0.7**
MPEP				S		**Sg**	**22 26 10.0**	**+0.4**
PLG	**Polygyros**	**1.61**	**167**	P		**Pn**	**22 25 49.5**	**+0.4**
FNA	**Florina**	**1.68**	**227**	*i* Pn		**Pb**	**22 25 51.6**	**-0.1**
OUR	**Ouranopolis**	**1.77**	**155**	P		**Pn**	**22 25 51.6**	**+0.3**
OHR	**Ohrid**	**1.84**	**244**	*i* Pn		**Pb**	**22 25 54.6**	**+0.2**
OHR				*i* Sn		**Sg**	**22 26 20.1**	**+0.1**
OHR				*e*Lg		Lg	22 26 22.0	
	comp=N,13nm,0.7s							
OHR				*e*Lg		Lg	22 26 23.8	
	comp=E,24nm,1.0s							
THAS	**Thassos island**	**1.87**	**135**	P		**Pn**	**22 25 53.0**	**+0.4**
SELS	**Selova**	**1.88**	**313**	*e*Pn		**Pn**	**22 25 53.3**	**+0.5**
SELS				*e*Sn		**Sn**	**22 26 16.7**	**+0.3**
BOVS	**Bovan**	**1.94**	**331**	⇑P		**Pb**	**22 25 55.1**	**-0.9**
BOVS	**Bovan**	**1.94**	**331**	*e*Pn		**Pn**	**22 25 53.7**	**+0.2**
BOVS				*e*Sn		**Sb**	**22 26 18.8**	**-1.3**
ZAGS	**Zajecar**	**1.95**	**344**	*e*Pn		**Pn**	**22 25 54.0**	**+0.3**
GOCS	**Kraljevo Serbi**	**2.25**	**317**	*e*Sn		**Sn**	**22 26 26.5**	**+0.9**
BORS2	**Bor- Borsko je**	**2.26**	**342**	*e*Pn		**Pn**	**22 25 57.5**	**-0.5**
BORS2				*e*Sn		**Sn**	**22 26 25.3**	**-0.6**
GRUS	**Gruza**	**2.56**	**320**	*e*Pn		**Pn**	**22 26 02.7**	**+0.6**
GRUS				*e*Sn		**Sn**	**22 26 34.5**	**+1.2**
SJES	**Sjenica**	**2.58**	**302**	*e*Pn		**Pn**	**22 26 03.2**	**+0.6**
HERR	**Herculane**	**2.97**	**352**	⇓P		**Pn**	**22 26 07.2**	**-0.5**
HERR				⇑S		**Sn**	**22 26 43.0**	**-0.2**
MDVR	**Moldovita**	**2.98**	**342**	⇓P		**Pn**	**22 26 08.4**	**+0.4**
MDVR				⇑S		**Sn**	**22 26 46.1**	**+2.3**
MDVR	**Moldovita**	**2.98**	**342**	*e*Pn		**Pn**	**22 26 08.2**	**+0.2**
MDVR				*e*Sn		**Sn**	**22 26 43.2**	**-0.6**
DIVS	**Divibare**	**3.08**	**315**	*e*Pn		**Pn**	**22 26 09.1**	**-0.2**
DIVS				*e*Sn		**Sn**	**22 26 45.7**	**-0.4**
GZR	**Gura Zlata**	**3.45**	**358**	⇑S		**Sn**	**22 26 54.7**	**-0.6**
BZS	**Buzias**	**3.80**	**345**	⇑P		**Pn**	**22 26 19.7**	**+0.5**
PLOR	**Plostina**	**4.72**	**33**	⇑S		Sn	22 27 16.3	-10

*IDC **26** 22:28:49.4±5.5, 22°.62S×175°.74W, h113km±45km, mb3.2/4, mbtmp3.6/5, MS3.1/1, Error ellipse: s-maj=39.6km s-min=28.4km az=127.0*

ISC 26 22:28:47.9±1.0, 22°.7S±0°.2×175°.7W±0°.2, h100km, n13, σ1§61/8, mb3.6/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.67**	**309**	P		**Pn**	**22 30 37.5**	**+0.5**
	11nm,0.8s,baz=129,slow=21,SNR=4.2						
RAR	**Rarotonga**	**14.82**	**87**	LR		LR	22 36 01.4	
	comp=Z,83nm,20.6s,baz=264,slow=29							
ASAR	**Alice Springs**	**46.18**	**258**	P		**P**	**22 37 00.9**	**-2.1**
	0.2nm,0.4s,baz=100,slow=7.8,SNR=2.1							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**46.49**	**264**	P		**P**	**22 37 05.0**	**-0.4**
	0.4nm,0.7s,baz=102,slow=8.3,SNR=7.5							
	0.4nm,0.7s							
QSPA	**South Pole Qui**	**67.42**	**180**	P		**P**	**22 39 34.2**	**+1.7**
	0.8nm,0.7s,baz=68,slow=5.4,SNR=1.9							
	0.8nm,0.7s							
SHEM	**Shemya Is, Ala**	**75.59**	**354**	P		**P**	**22 40 22.8**	**+1.4**
	29nm,0.4s,baz=180,slow=4.0,SNR=4.7							
H03S2	**Juan Fernandez**	**82.99**	**124**	T		T	00 12 34.3	
	baz=246,slow=74,SNR=17							
H03S1	**Juan Fernandez**	**83.00**	**124**	T		T	00 12 36.1	
	baz=246,slow=74,SNR=17							
H03S3	**Juan Fernandez**	**83.01**	**124**	T		T	00 12 35.1	
	baz=246,slow=74,SNR=14							
TXAR	**Lajitas Array**	**86.41**	**56**	P		**P**	**22 41 17.9**	**-1.7**
	0.5nm,0.9s,baz=204,slow=5.5,SNR=5.2							
	0.5nm,0.9s							
MKAR	**Makanchi Array**	**114.25**	**313**	PKP		PKPdf	22 47 14.9	-0.8
	0.1nm,0.6s,baz=126,slow=2.5,SNR=1.4							
BVAR	**Borovoye Array**	**122.12**	**319**	PKP		**PKPdf**	**22 47 30.8**	**+0.2**
	0.2nm,0.4s,baz=88,slow=3.5,SNR=1.8							
AKASG	**Malin Array Be**	**145.94**	**331**	PKPbc		**PKPdf**	**22 48 14.3**	**-0.5**
	1.0nm,0.5s,baz=40,slow=4.0,SNR=9.6							

IDC 26 22:41:34.1±3.2, 32°.00S×177°.90W, h0km, mb3.8/2, mbtmp3.9/3, ML3.2/1, Error ellipse: s-maj=74.8km s-min=47.6km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.46**	**212**	Pn		Pn	22 43 23.2	-1.1
	0.4nm,0.3s,baz=5.5,slow=3.7,SNR=2.1							
URZ				Sn		Sn	22 44 44.5	-5.1
	1.6nm,0.3s,baz=157,slow=22,SNR=6.5							
	15nm,0.9s							
ASAR	**Alice Springs**	**43.13**	**269**	P		P	22 49 36.2	-0.3
	0.5nm,0.6s,baz=107,slow=7.6,SNR=10							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**44.27**	**274**	P		P	22 49 45.9	+0.3
	1.0nm,0.3s,baz=113,slow=7.9,SNR=19							
	1.0nm,0.3s							
FINES	**FINESS Array B**	**146.67**	**339**	PKPbc		PKPdf	23 01 16.1	+0.7
	1.2nm,0.6s,baz=48,slow=5.5,SNR=4.9							

NEIC 26 22:43:31.2±1.1, 43°.5N±0°.1×128°.6W±0°.2, h10km±2km, ML3.4/62, Error ellipse: s-maj=22.3km s-min=17.2km az=239.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.41**	**94**	Pn	Pn	22 44 23.7	-0.7
J01E				IAML		22 45 04.7	
	comp=N,112nm,0.3s						
I02E	**Swisshome, OR**	**3.47**	**79**	Pn	Pn	22 44 23.9	-1.4
K02D	**Willamette Mer**	**3.69**	**101**	Pn	Pn	22 44 27.6	-0.8
I03D	**Drain, OR**	**3.80**	**86**		Pn	22 44 29.4	-0.4
I03D				IAML		22 45 15.3	
	comp=N,47nm,0.8s						
HEBO	**Mount Hebo**	**3.85**	**62**	Pn	Pn	22 44 29.7	-0.8
HEBO				IAML		22 45 39.2	
	comp=N,66nm,2.1s						
HEBO				IAML		22 46 00.4	
	comp=E,77nm,1.9s						
DBO	**Dodson Butte**	**3.91**	**94**		Pn	22 44 31.6	+0.1
DBO				IAML		22 45 18.6	
	comp=E,47nm,0.6s						
DBO				IAML		22 45 19.1	
	comp=N,38nm,0.6s						
L02F	**Cave Junction**	**3.94**	**109**	Pn	Pn	22 44 31.2	-0.6
COR	**Corvallis**	**3.95**	**73**	Pn	Pn	22 44 31.6	-0.2
BUCK	**Buck Mountain**	**4.10**	**79**		Pn	22 44 33.6	-0.4
BUCK				IAML		22 47 16.8	
	comp=E,41nm,3.6s						
G03D	**McMinnville, O**	**4.17**	**64**		Pn	22 44 34.5	-0.3
G03D				IAML		22 45 29.9	
	comp=N,34nm,1.9s						
G03D				IAML		22 46 17.4	
	comp=E,35nm,3.3s						
F03A	**Seaside**	**4.31**	**54**	Pn	Pn	22 44 36.6	-0.3
H04D	**Lebanon**	**4.33**	**75**		Pn	22 44 37.2	+0.1
H04D				IAML		22 45 27.6	
	comp=E,33nm,2.8s						
H04D				IAML		22 46 09.1	
	comp=N,30nm,4.0s						
BBOR	**Butler Butte**	**4.36**	**96**		Pn	22 44 37.8	+0.2
BBOR				IAML		22 45 32.1	
	comp=E,49nm,0.6s						
BBOR				IAML		22 45 33.6	
	comp=N,36nm,0.7s						
RADR	**Rader Ridge**	**4.46**	**48**	Pn	Pn	22 44 37.7	-1.2
RADR				IAML		22 46 20.9	
	comp=N,40nm,4.3s						
RADR				IAML		22 46 20.9	
	comp=E,41nm,3.8s						
I04A	**Tendick Farm,**	**4.48**	**84**		Pn	22 44 39.8	+0.5
I04A				IAML		22 45 34.4	
	comp=E,28nm,0.7s						
E03A	**Lebam**	**4.66**	**48**	Pn	Pn	22 44 40.8	-0.9
E03A				IAML		22 45 37.8	
	comp=E,26nm,2.6s						
E03A				IAML		22 45 39.3	
	comp=N,26nm,3.7s						
G04A	**Mulino**	**4.68**	**67**	Pn	Pn	22 44 42.2	+0.2
G04A				IAML		22 45 28.2	
	comp=N,36nm,2.2s						
G04A				IAML		22 47 37.8	
	comp=E,41nm,3.2s						
F04D	**Rainier, OR**	**4.71**	**55**		Pn	22 44 42.1	-0.3
J04A	**Umpqua Nationa**	**4.72**	**91**	Pn	Pn	22 44 43.9	+1.2
H04A	**Detroit Lake**	**4.75**	**74**	Pn	Pn	22 44 43.0	+0.2
L04D	**Klamath Falls**	**4.79**	**104**	Pn	Pn	22 44 45.5	+2.0
L04D				IAML		22 45 43.2	
	comp=N,25nm,0.5s						
L04D				IAML		22 45 43.5	
	comp=E,38nm,0.9s						
WISH	**Wishkah**	**4.94**	**42**	Pn	Pn	22 44 45.4	-0.1
NLWA	**Neilton Lookou**	**5.09**	**39**		Pn	22 44 47.8	+0.2
NLWA				IAML		22 45 54.7	
	comp=E,26nm,3.9s						
NLWA				IAML		22 47 27.3	
	comp=E,22nm,3.5s						
C03A	**Quillayute Air**	**5.24**	**31**	Pn	Pn	22 44 49.5	-0.1
HOOD	**Mount Hood Mea**	**5.28**	**68**		Pn	22 44 50.2	0.0
HOOD				IAML		22 46 35.8	
	comp=N,16nm,1.9s						
HOOD				IAML		22 47 31.2	
	comp=E,18nm,1.6s						
J05D	**Fort Rock, OR**	**5.35**	**90**		Pn	22 44 51.6	+0.2
J05D				IAML		22 47 31.5	
	comp=E,15nm,4.3s						
J05D				IAML		22 48 24.7	
	comp=N,14nm,4.2s						
PINE	**Pine Mountain**	**5.55**	**85**		Pn	22 44 54.5	+0.5
GNW	**Green Mountain**	**5.71**	**43**		Pn	22 44 55.9	-0.1
LON	**Longmire**	**5.77**	**54**		Pn	22 44 57.4	+0.5
D05A	**Enumclaw**	**5.91**	**49**		Pn	22 44 59.8	+0.9
G06A	**Carlson Farm,**	**5.94**	**71**		Pn	22 44 59.5	+0.2
CLRS	**Cowichan Lake**	**6.13**	**29**	Pn	Pn	22 45 01.9	+0.1
PGC	**Sidney**	**6.24**	**33**	Pn	Pn	22 45 02.4	-0.9
I07A	**Izee**	**6.59**	**82**		Pn	22 45 08.5	+0.2
MXC	**Moxie City**	**6.61**	**60**		Pn	22 45 08.0	-0.5
LTY	**Liberty**	**6.70**	**53**		Pn	22 45 10.3	+0.6
HAWA	**Hanford**	**7.03**	**63**	Pn	Pn	22 45 14.3	+0.2
G08A	**Pilot Rock**	**7.11**	**72**		Pn	22 45 15.6	+0.1
WAH2	**Wahluke Slope**	**7.14**	**60**		Pn	22 45 15.1	-0.6
D08A	**Wollman Farm,**	**7.67**	**59**		Pn	22 45 22.8	-0.1
LNOR	**Lincton Mounta**	**7.70**	**69**	Pn	Pn	22 45 22.7	-0.7
BMO	**Blue Mountains**	**8.21**	**77**	Pn	Pn	22 45 30.2	-0.3
F10A	**Beach Ranch, E**	**8.44**	**69**		Pn	22 45 32.9	-0.7
NEW	**Newport**	**9.29**	**55**	Pn	Pn	22 45 44.4	-0.7

*IDC **26** 22:44:21.9±0.8, 55°.54N×164°.40E, h0km, mb3.7/14, mbtmp3.7/16, ML4.9/1, MS3.1/2, Error ellipse: s-maj=25.8km s-min=14.4km az=168.0*
*NEIC **26** 22:44:23.9±1.7, 55°.5N±0°.2×164°.3E±0°.2, h10km±1km, mb4.3/13, Error ellipse: s-maj=29.3km s-min=16.2km az=165.0*
*KRSC **26** 22:44:23.5±1.4, 55°.36N×164°.38E, h61km±27km, Ml4.5*
*MOS **26** 22:44:25.0±0.8, 55°.40N×164°.50E, h41km, mb4.3/7, Error ellipse: s-maj=6.8km s-min=6.1km az=50.0*

ISC 26 22:44:24.6±1.1, 55°.41N±0°.04×164°.44E±0°.04, h19km±10km, n132, σ1§48/150, mb3.9/24, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.90**	**102**	Pn	**Pb**	**22 44 40.6**	**-0.9**
BKI				S	**Sb**	**22 44 52.8**	**-0.2**
BKI	**Bering**	**0.90**	**102**	*e*P	**Pb**	**22 44 40.7**	**-0.9**
BKI				*e*S	**Sb**	**22 44 52.9**	**-0.2**
KBTR	**Krutoberegovo**	**1.22**	**312**	PN	**Pn**	**22 44 44.6**	**-2.0**
KBTR				S	**Sb**	**22 45 00.1**	**-2.3**
KBTR	**Krutoberegovo**	**1.22**	**312**	*e*P	**Pn**	**22 44 44.6**	**-2.0**
KBTR				*e*S	**Sb**	**22 45 00.1**	**-2.3**
KBG	**Krutoberegovo**	**1.30**	**312**	PN	**Pn**	**22 44 46.0**	**-1.7**
KBG				S	**Sn**	**22 45 02.5**	**-2.0**
KBG	**Krutoberegovo**	**1.30**	**312**	*e*P	**Pn**	**22 44 46.1**	**-1.7**
KBG				*e*S	**Sn**	**22 45 02.6**	**-2.0**
MKZ	**Mys Kozlova**	**1.78**	**243**	PN	**Pn**	**22 44 53.6**	**-0.7**
MKZ				S	**Sn**	**22 45 13.4**	**-3.0**
MKZ	**Mys Kozlova**	**1.78**	**243**	*e*P	**Pn**	**22 44 53.6**	**-0.7**
MKZ				*e*S	**Sn**	**22 45 13.5**	**-3.0**
ZLN	**Zelenaya**	**2.15**	**288**	PN	**Pn**	**22 45 00.0**	**+0.5**
ZLN	**Zelenaya**	**2.15**	**288**	*e*P	**Pn**	**22 45 00.0**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.19**	**286**	PN	**Pn**	**22 45 00.8**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**2.19**	**286**	*e*P	**Pn**	**22 45 00.9**	**+0.8**
CIRR	**Tsirk**	**2.21**	**290**	PN	**Pn**	**22 45 01.0**	**+0.7**
CIRR	**Tsirk**	**2.21**	**290**	*e*P	**Pn**	**22 45 01.0**	**+0.7**
LGNR	**Loginova**	**2.23**	**289**	PN	**Pn**	**22 45 01.5**	**+0.7**
LGNR	**Loginova**	**2.23**	**289**	*e*P	**Pn**	**22 45 01.5**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.30**	**286**	PN	**Pn**	**22 45 02.6**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.30**	**286**	*e*P	**Pn**	**22 45 02.7**	**+0.9**
TUMD	**Tumrok D**	**2.32**	**267**	PN	**Pn**	**22 45 01.9**	**+0.1**
TUMD	**Tumrok D**	**2.32**	**267**	*e*P	**Pn**	**22 45 02.0**	**+0.1**
KLY	**Klyuchi**	**2.32**	**295**	PN	**Pn**	**22 45 00.7**	**-1.1**
KLY				S	**Sn**	**22 45 26.6**	**-3.1**
KLY	**Klyuchi**	**2.32**	**295**	*e*P	**Pn**	**22 45 00.7**	**-1.1**
KLY				*e*S	**Sn**	**22 45 26.7**	**-3.1**
KRSR	**Krestovskiy**	**2.33**	**292**	PN	**Pn**	**22 45 02.4**	**+0.3**
KRSR	**Krestovskiy**	**2.33**	**292**	*e*P	**Pn**	**22 45 02.4**	**+0.3**
KIRR	**Kirishev**	**2.39**	**285**	PN	**Pn**	**22 45 03.1**	**+0.3**
KIRR	**Kirishev**	**2.39**	**285**	*e*P	**Pn**	**22 45 03.1**	**+0.3**
KMNR	**Kamenistaya**	**2.41**	**280**	PN	**Pn**	**22 45 04.3**	**+1.2**
KMNR	**Kamenistaya**	**2.41**	**280**	*e*P	**Pn**	**22 45 04.4**	**+1.2**
KPT	**Kopyto**	**2.46**	**285**	PN	**Pn**	**22 45 04.5**	**+0.8**
KPT	**Kopyto**	**2.46**	**285**	*e*P	**Pn**	**22 45 04.6**	**+0.8**
KOZ	**Kozyrevsk**	**2.67**	**286**	PN	**Pn**	**22 45 08.0**	**+1.5**
KOZ	**Kozyrevsk**	**2.67**	**286**	*e*P	**Pn**	**22 45 08.0**	**+1.5**
SRDR	**Sredinnyy**	**2.82**	**291**	PN	**Pn**	**22 45 10.4**	**+1.8**
SRDR	**Sredinnyy**	**2.82**	**291**	*e*P	**Pn**	**22 45 10.5**	**+1.8**
KII	**Karymskiy**	**3.21**	**247**	PN	**Pn**	**22 45 14.8**	**+0.8**
KII				S	**Sn**	**22 45 50.8**	**-0.8**
KII	**Karymskiy**	**3.21**	**247**	*e*P	**Pn**	**22 45 14.8**	**+0.8**
KII				*e*S	**Sn**	**22 45 50.9**	**-0.8**
ESO	**Esso**	**3.29**	**281**	PN	**Pn**	**22 45 16.3**	**+1.1**
ESO	**Esso**	**3.29**	**281**	*e*P	**Pn**	**22 45 16.3**	**+1.1**
SPN	**Mys Shipunski**	**3.48**	**230**	PN	**Pn**	**22 45 17.4**	**-0.2**
SPN	**Mys Shipunski**	**3.48**	**230**	*e*P	**Pn**	**22 45 17.4**	**-0.2**
SPN				*e*S	**Sn**	**22 45 53.7**	**-4.5**
NLC	**Nalytchevo**	**3.73**	**235**	PN	**Pn**	**22 45 21.5**	**+0.3**
NLC	**Nalytchevo**	**3.73**	**235**	*e*P	**Pn**	**22 45 21.5**	**+0.3**
NLC				*e*S	**Sn**	**22 46 01.7**	**-2.9**
SDLR	**Sedlovina**	**3.89**	**239**	PN	**Pn**	**22 45 24.0**	**+0.6**
SDLR	**Sedlovina**	**3.89**	**239**	*e*P	**Pn**	**22 45 24.1**	**+0.6**
SDLR				*e*S	**Sn**	**22 46 06.7**	**-1.9**
OSSR	**Ossora**	**3.93**	**350**	PN	**Pn**	**22 45 24.5**	**+0.7**
OSSR	**Ossora**	**3.93**	**350**	*e*P	**Pn**	**22 45 24.5**	**+0.7**
OSSR				*e*S	**Sn**	**22 46 07.3**	**-1.9**
KRER	**Koryakskii**	**3.94**	**240**	PN	**Pn**	**22 45 25.2**	**+1.0**
KRER				S	**Sn**	**22 46 08.9**	**-1.1**
KRER	**Koryakskii**	**3.94**	**240**	*e*P	**Pn**	**22 45 25.2**	**+1.0**
KRER				*e*S	**Sn**	**22 46 08.9**	**-1.1**
UGLR	**Uglovaya**	**3.96**	**239**	PN	**Pn**	**22 45 25.2**	**+0.8**
UGLR	**Uglovaya**	**3.96**	**239**	*e*P	**Pn**	**22 45 25.2**	**+0.8**
UGLR				*e*S	**Sn**	**22 46 08.7**	**-1.6**
AVH	**Avacha**	**3.97**	**240**	PN	**Pn**	**22 45 25.7**	**+1.2**
AVH				S	**Sn**	**22 46 09.7**	**-0.8**
AVH	**Avacha**	**3.97**	**240**	*e*P	**Pn**	**22 45 25.8**	**+1.2**
AVH				*e*S	**Sn**	**22 46 09.7**	**-0.8**
KOK	**Koryaka**	**4.00**	**240**	PN	**Pn**	**22 45 25.9**	**+0.9**
KOK	**Koryaka**	**4.00**	**240**	*e*P	**Pn**	**22 45 26.0**	**+0.9**
DALK	**Dalny**	**4.10**	**237**	PN	**Pn**	**22 45 26.8**	**+0.6**
DALK	**Dalny**	**4.10**	**237**	*e*P	**Pn**	**22 45 26.9**	**+0.6**
DALK				*e*S	**Sn**	**22 46 10.7**	**-2.9**
INSR	**Institute**	**4.15**	**238**	*e*S	**Sn**	**22 46 12.7**	**-2.1**
PET	**Petropavlovsk**	**4.15**	**237**		**Pn**	**22 45 26.4**	**-0.5**
PET	**Petropavlovsk**	**4.15**	**237**	*e*PN	**Pn**	**22 45 27.7**	**+0.8**
PET				pmax	pmax		
	comp=Z,56nm,0.8s						
PET	**Petropavlovsk**	**4.15**	**237**	*e*S	**Sn**	**22 46 12.0**	**-2.9**
GNL	**Ganaly**	**4.16**	**248**	PN	**Pn**	**22 45 28.3**	**+1.2**
GNL	**Ganaly**	**4.16**	**248**	*e*P	**Pn**	**22 45 28.4**	**+1.2**
KRMR	**Karymshinskiy**	**4.52**	**238**	PN	**Pn**	**22 45 33.3**	**+1.3**
KRMR	**Karymshinskiy**	**4.52**	**238**	*e*P	**Pn**	**22 45 33.4**	**+1.3**
KRMR				*e*S	**Sn**	**22 46 21.3**	**-2.7**
PEA0B	**Petropavlovsk-**	**4.58**	**243**		**Pn**	**22 45 32.7**	**0.0**
PEA0B	**Petropavlovsk-**	**4.58**	**243**	*i* PN	**Pn**	**22 45 33.3**	**+0.5**
PETK	**Petropavlovsk-**	**4.58**	**243**		**Pn**	**22 45 32.7**	**0.0**
PETK	**Petropavlovsk-**	**4.58**	**243**	Pn	**Pn**	**22 45 33.3**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=79,slow=30,SNR=44						
PETK				Sn	**Sn**	**22 46 24.8**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=89,slow=19,SNR=5.7						
RUS	**Russkaya**	**4.60**	**232**	*e*S	**Sn**	**22 46 21.9**	**-4.0**
GRL	**Gorelyy**	**4.72**	**235**	PN	**Pn**	**22 45 36.1**	**+1.2**
GRL	**Gorelyy**	**4.72**	**235**	*e*P	**Pn**	**22 45 36.2**	**+1.2**
GRL				*e*S	**Sn**	**22 46 28.8**	**-0.3**
APC	**Apacha**	**4.95**	**243**	PN	**Pn**	**22 45 39.7**	**+1.8**
APC	**Apacha**	**4.95**	**243**	*e*P	**Pn**	**22 45 39.7**	**+1.8**
TILK	**Tilichiki**	**5.13**	**9**	PN	**Pn**	**22 45 41.3**	**+1.0**
TILK	**Tilichiki**	**5.13**	**9**	*e*P	**Pn**	**22 45 41.4**	**+1.0**
KDTR	**Khodutka, Kamc**	**5.23**	**229**	PN	**Pn**	**22 45 41.3**	**-0.4**
KDTR	**Khodutka, Kamc**	**5.23**	**229**	*e*P	**Pn**	**22 45 41.3**	**-0.4**
KDTR				*e*S	**Sn**	**22 46 35.8**	**-5.6**
SKR	**Severo-Kuril's**	**6.90**	**230**	*i* PN	**Pn**	**22 46 05.9**	**+1.3**
MA2	**Magadan**	**8.46**	**305**	LR	LR	22 49 58.8	
	comp=Z,76nm,21.6s,baz=102,slow=40						
MA2	**Magadan**	**8.46**	**305**	*i* PN	**Pn**	**22 46 29.5**	**+3.4**
YAK	**Yakutsk**	**19.04**	**305**	P	**P**	**22 48 44.2**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=90,slow=11,SNR=4.6						
	comp=Z,12nm,0.5s						
N15K	**Kwethluk River**	**19.33**	**61**	P	**Pn**	**22 48 51.1**	**+1.5**
M16K	**Timber Creek**	**19.88**	**59**	P	**P**	**22 48 54.9**	**+0.5**
M16K				IAmb	IAmb	22 49 21.6	
	comp=Z,24nm,1.4s						
TIXI	**Tiksi**	**22.17**	**331**	P	**P**	**22 49 19.2**	**+0.1**
TIXI	**Tiksi**	**22.17**	**331**	P	**P**	**22 49 19.2**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=128,slow=8.4,SNR=9.2						
	comp=Z,2.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**23.53**	**255**	LR	LR	22 59 25.5	
	comp=Z,93nm,18.0s,baz=200,slow=38						
WRH	**Wood River Hil**	**24.86**	**49**	P	**P**	**22 49 44.9**	**-0.6**
WRH				IAmb	IAmb	22 49 54.2	
	comp=Z,5.9nm,1.1s						
SML	**Sawmill**	**24.93**	**56**	P	**P**	**22 49 46.8**	**+0.5**
SML				IAmb	IAmb	22 49 54.6	
	comp=Z,8.9nm,1.1s						
CCB	**Clear Creek Bu**	**24.98**	**49**	P	**P**	**22 49 45.9**

Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17; $M_{\theta\theta}$1.58; $M_{\phi\phi}$-1.41; $M_{r\theta}$-0.12; $M_{\theta\phi}$0.56; $M_{\phi r}$-0.24; Fault plane solution: $M_0$1.62000×10^{17} NP1: ϕ_s304.53000°, δ80.14000°, λ-2.92000°. NP2:ϕ_s35.03000°, δ87.12000°, λ-170.13000°. Principal axes: T 1.6966, Plg5.0000°, Azm169.0000°; N -0.1495, Plg80.0000°, Azm51.0000°; P -1.5470, Plg9.0000°, Azm260.0000°;

NEIC ***26*** *22:44:40.4±1.9, 57°.5S±0°.1×147°.3W±0°.2, $h10^{km}$±1km, mb5.0/29, Mww5.4/15 Error ellipse: s-maj=24.6km s-min=18.3km az=20.0*

GCMT ***26*** *22:44:43.4±0.1, 57°.81S±0°.01×147°.34W±0°.01, $h12^{km}$, MW5.4/143, Moment Tensor Solution. s118,c183; s143,c259; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$1.38±.02; $M_{\phi\phi}$-1.24±.02; $M_{r\theta}$-0.16±.04; $M_{\theta\phi}$0.80±.02; $M_{\phi r}$-0.07±.04; Best double couple: $M_0$1.54300×10^{17} NP1:ϕ_s299.00000°, δ85.00000°, λ3.00000°. NP2:ϕ_s209.00000°, δ87.00000°, λ175.00000°. Principal axes: T 1.6210, Plg6.0000°, Azm164.0000°; N -0.1580, Plg84.0000°, Azm355.0000°; P -1.4640, Plg1.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 22:44:39.9±0.4,**57°.5S**±0°.1×**147°.31W**±0°.09,**h10**^{km},**n127,** σ1s**59**/89,**mb4.8**/26,**MS4.8**/43,**5C-2D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.60**	**201**	P	**P**	**22 50 09.4**	**+0.8**
SBA				IAmb	IAmb	22 50 33.5	
	comp=Z,31nm,1.4s						
VNDA	**Vanda**	**26.44**	**202**	P	**P**	**22 50 17.1**	**+0.8**
VNDA	**Vanda**	**26.44**	**202**	P	**P**	**22 50 17.6**	**+1.3**
	comp=Z,0.7nm,1.0s,baz=27,slow=6.8,SNR=1.9						
VNDA				LR	LR	22 58 22.5	
	comp=Z,2μm,18.4s,baz=74,slow=31						
	comp=Z,0.7nm,1.0s						
RPZ	**Rata Peaks**	**29.27**	**280**	LR	LR	22 59 53.5	
	comp=Z,3μm,19.4s,baz=131,slow=31						
URZ	**Urewera**	**30.13**	**294**	LR	LR	23 00 46.1	
	comp=Z,1μm,20.3s,baz=217,slow=32						
TOZ	**Tahuroa Road**	**31.34**	**293**	P	**P**	**22 50 58.6**	**-1.6**
QSPA	**South Pole Qui**	**32.69**	**180**	P	**P**	**22 51 11.6**	**-0.5**
QSPA	**South Pole Qui**	**32.69**	**180**	P	**P**	**22 51 11.6**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=65,slow=1.2,SNR=11						
QSPA				LR	LR	23 02 40.2	
	comp=Z,3μm,18.6s,baz=63,slow=33						
	comp=Z,1.6nm,0.7s						
RAR	**Rarotonga**	**37.34**	**341**	LR	LR	23 03 53.2	
	comp=Z,2μm,18.2s,baz=177,slow=31						
PMSA	**Palmer Station**	**38.06**	**136**	LR	LR	23 03 20.6	
	comp=Z,2μm,20.5s,baz=304,slow=30						
BELA	**Belgrano 2**	**38.90**	**162**	P	**P**	**22 52 04.5**	**-0.4**
BELA				IAmb	IAmb	22 52 13.9	
	comp=Z,31nm,1.3s						
PPT	**Papeete**	**39.86**	**357**	LR	LR	23 04 17.2	
	comp=Z,1μm,18.9s,baz=185,slow=30						
USHA	**Ushuaia**	**41.71**	**121**	LR	LR	23 04 55.0	
	comp=Z,889nm,21.3s,baz=232,slow=29						
NIUE	**Niue**	**41.82**	**327**	P	**P**	**22 52 30.0**	**+0.4**
AY03	**Cochrane**	**44.52**	**110**	P	**P**	**22 52 51.2**	**-0.1**
AY03				IAmb	IAmb	22 53 03.0	
	comp=Z,35nm,1.4s						
COYC	**Coyhaique**	**45.92**	**109**	P	**P**	**22 53 00.7**	**-1.6**
COYC				IAmb	IAmb	22 53 13.5	
	comp=Z,37nm,1.3s						
AY01	**Puyuhuapi**	**46.43**	**107**	P	**P**	**22 53 06.1**	**-0.2**
AY01				IAmb	IAmb	22 53 20.2	
	comp=Z,35nm,1.4s						
MSVF	**Nonsavu**	**47.27**	**312**	LR	LR	23 08 41.7	
	comp=Z,1μm,21.4s,baz=179,slow=31						
VNA3	**Neumayer Olymp**	**48.17**	**163**	⇑P	**P**	**22 53 20.6**	**+0.9**
	comp=Z,4.0nm,0.7s						
SNAA	**Sanae**	**48.78**	**166**	P	**P**	**22 53 23.3**	**-1.1**
SNAA				IAmb	IAmb	22 53 32.8	
	comp=Z,27nm,1.5s						
SNAA	**Sanae**	**48.78**	**166**	⇑P	**P**	**22 53 23.3**	**-1.1**
	comp=Z,109nm,0.8s						
SNAA	**Sanae**	**48.78**	**166**	P	**P**	**22 53 22.9**	**-1.4**
	comp=Z,3.8nm,0.7s,baz=223,slow=8.1,SNR=8.6						
SNAA				LR	LR	23 11 33.2	
	comp=Z,760nm,21.3s,baz=202,slow=33						
	comp=Z,3.8nm,0.7s						
VNA2	**Neumayer--Watz**	**48.81**	**164**	⇑P	**P**	**22 53 23.6**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=204,slow=8.8						
VNA1	**Neumayer--Stat**	**48.92**	**163**	⇑P	**P**	**22 53 24.5**	**-0.8**
	comp=Z,6.6nm,0.8s						
PLCA	**Paso Flores**	**50.14**	**105**	P	**P**	**22 53 34.7**	**-0.5**
PLCA	**Paso Flores**	**50.14**	**105**	P	**P**	**22 53 35.2**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=266,slow=7.6,SNR=3.6						
PLCA				LR	LR	23 09 53.1	
	comp=Z,994nm,18.1s,baz=222,slow=30						
	comp=Z,1.2nm,0.7s						
ELIB	**Princess Elisa**	**50.72**	**176**	*d*P	**P**	**22 53 38.6**	**-0.6**
	comp=Z,6.5nm,0.9s						
ELIB				*d*PcP	**PcP**	**22 54 54.9**	**-1.3**
H03S2	**Juan Fernandez**	**50.80**	**93**	T	T	23 48 32.4	
	baz=218,slow=74,SNR=38						
H03S1	**Juan Fernandez**	**50.80**	**93**	T	T	23 48 41.6	
	baz=218,slow=74,SNR=34						
H03S3	**Juan Fernandez**	**50.82**	**93**	T	T	23 48 33.5	
	baz=218,slow=74,SNR=38						
H03N3	**Juan Fernandez**	**51.09**	**93**	T	T	23 48 58.4	
	baz=221,slow=72,SNR=484						
H03N2	**Juan Fernandez**	**51.10**	**93**	T	T	23 48 50.8	
	baz=221,slow=72,SNR=517						
H03N1	**Juan Fernandez**	**51.11**	**93**	T	T	23 48 57.3	
	baz=221,slow=72,SNR=596						
MAW	**Mawson**	**53.27**	**194**	LR	LR	23 14 43.3	
	comp=Z,1μm,18.4s,baz=159,slow=34						
SYO	**Syowa Base**	**53.74**	**183**	⇑*e*P	**P**	**22 54 01.2**	**-0.2**
STKA	**Stephens Creek**	**53.76**	**266**	P	**P**	**22 54 04.2**	**+2.1**
STKA	**Stephens Creek**	**53.76**	**266**	P	**P**	**22 54 03.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=143,slow=5.3,SNR=7.5						
STKA				LR	LR	23 12 42.9	
	comp=Z,1μm,20.6s,baz=135,slow=31						
	comp=Z,0.8nm,0.6s						
BO02	**Sierra Bellavi**	**54.44**	**100**	P	**P**	**22 54 07.2**	**0.0**
BO02				IAmb	IAmb	22 54 40.3	
	comp=Z,18nm,1.2s						
MT05	**Renca**	**55.54**	**99**	P	**P**	**22 54 13.8**	**-1.3**
TRQA	**Tornquist**	**56.55**	**109**	P	**P**	**22 54 21.6**	**-0.6**
TRQA				IAmb	IAmb	22 54 32.3	
	comp=Z,24nm,1.2s						
CO03	**El Pedregal**	**57.54**	**97**	P	**P**	**22 54 29.0**	**-0.4**
CO03				IAmb	IAmb	22 54 40.4	
	comp=Z,16nm,1.2s						
CFA	**Coronel Fontan**	**58.25**	**100**	LR	LR	23 15 08.9	
	comp=Z,490nm,18.2s,baz=216,slow=31						
AC05	**El Transito**	**59.33**	**96**	P	**P**	**22 54 41.5**	**-0.5**
AC05				IAmb	IAmb	22 54 51.9	
	comp=Z,15nm,1.1s						
FORT	**Forrest**	**61.84**	**256**	P	**P**	**22 55 00.6**	**+1.7**
AS31	**Alice Springs**	**64.39**	**266**	P	**P**	**22 55 15.7**	**-0.3**
ASAR	**Alice Springs**	**64.39**	**266**	P	**P**	**22 55 16.1**	**+0.1**
ASAR	**Alice Springs**	**64.39**	**266**	P	**P**	**22 55 15.0**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=143,slow=6.7,SNR=16						
ASAR				LR	LR	23 20 03.1	
	comp=Z,203nm,18.8s,baz=152,slow=33						
	comp=Z,1.7nm,0.8s						
AF01	**San Pedro de A**	**65.16**	**94**	P	**P**	**22 55 21.4**	**+0.2**
H01W1	**Cape Leeuwin H**	**65.60**	**243**	T	T	00 07 07.4	
	baz=144,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**65.60**	**243**	T	T	00 07 12.0	
	baz=144,slow=76,SNR=21						
H01W3	**Cape Leeuwin H**	**65.61**	**243**	T	T	00 07 11.7	
	baz=144,slow=76,SNR=18						
NWAO	**Narrogin (SRO)**	**65.67**	**247**	LR	LR	23 16 51.3	
	comp=Z,890nm,20.5s,baz=132,slow=29						
WB2	**Warramunga Arr**	**67.17**	**269**	P	**P**	**22 55 33.4**	**-0.5**
WB2				IAmb	IAmb	22 55 44.8	
	comp=Z,7.7nm,0.9s						
WRA	**Warramunga Arr**	**67.17**	**269**	P	**P**	**22 55 33.6**	**-0.3**
WRA	**Warramunga Arr**	**67.17**	**269**	P	**P**	**22 55 32.5**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=148,slow=5.7,SNR=8.8						
WRA				LR	LR	23 21 31.0	
	comp=Z,995nm,20.1s,baz=131,slow=33						
	comp=Z,1.7nm,0.8s						
WB0	**Warramunga Arr**	**67.29**	**269**	P	**P**	**22 55 33.6**	**-1.0**
WB0				IAmb	IAmb	22 55 45.1	
	comp=Z,8.2nm,0.9s						
CPUP	**Villa Florida**	**68.20**	**105**	P	**P**	**22 55 39.9**	**-0.4**
CPUP				IAmb	IAmb	22 55 50.0	
	comp=Z,9.0nm,1.1s						
CPUP	**Villa Florida**	**68.20**	**105**	P	**P**	**22 55 39.8**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=234,slow=7.0,SNR=6.6						
CPUP				LR	LR	23 21 24.5	
	comp=Z,290nm,19.9s,baz=208,slow=32						
	comp=Z,0.8nm,0.3s						
NNA	**Nana**	**69.49**	**80**	LR	LR	23 20 08.5	
	comp=Z,321nm,18.8s,baz=212,slow=31						
ITAB	**Concordia**	**70.15**	**109**	P	**P**	**22 55 53.2**	**+0.8**
LPAZ	**La Paz**	**70.61**	**90**	P	**P**	**22 55 55.9**	**-0.2**
LPAZ				IAmb	IAmb	22 56 07.6	
	comp=Z,11nm,1.1s						
LPAZ	**La Paz**	**70.61**	**90**	P	**P**	**22 55 56.3**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=163,slow=7.0,SNR=4.3						
LPAZ				LR	LR	23 19 54.2	
	comp=Z,348nm,20.7s,baz=202,slow=30						
	comp=Z,1.6nm,0.9s						
ATAH	**Atahualpa**	**72.74**	**76**	LR	LR	23 20 41.3	
	comp=Z,1μm,19.7s,baz=217,slow=30						
FITZ	**Fitzroy Crossi**	**73.37**	**262**	LR	LR	23 24 09.9	
	comp=Z,1μm,21.2s,baz=140,slow=32						
SIV	**San Ignacio**	**74.67**	**96**	LR	LR	23 24 49.0	
	comp=Z,262nm,19.6s,baz=234,slow=32						
COHC	**Cochancay**	**76.25**	**73**	P	**P**	**22 56 30.0**	**+1.5**
VILB	**Vilhena**	**77.65**	**95**	P	**P**	**22 56 34.9**	**-1.6**
VILB				IAmb	IAmb	22 56 47.0	
	comp=Z,14nm,1.0s						
JAY	**Jayapura**	**78.25**	**284**	LR	LR	23 30 00.3	
	comp=Z,443nm,18.6s,baz=223,slow=35						
OTAV	**Otavalo**	**78.96**	**72**	P	**P**	**22 56 44.3**	**+0.1**
BDFB	**Brasilia**	**81.88**	**106**	P	**P**	**22 56 58.8**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=211,slow=1.7,SNR=4.8						
BDFB				LR	LR	23 30 17.1	
	comp=Z,1μm,18.1s,baz=186,slow=34						
	comp=Z,1.8nm,0.7s						
JTS	**Las Juntas de**	**84.41**	**61**	LR	LR	23 27 18.8	
	comp=Z,415nm,18.4s,baz=141,slow=30						
ROSC	**El Rosal**	**85.01**	**73**	LR	LR	23 29 03.7	
	comp=Z,799nm,18.7s,baz=207,slow=31						
CMIG	**Matias Romero**	**86.02**	**49**	LR	LR	23 27 39.1	
	comp=Z,226nm,18.5s,baz=178,slow=30						
LPIG	**La Paz**	**86.97**	**33**	LR	LR	23 29 03.4	
	comp=Z,263nm,18.1s,baz=212,slow=31						
KAPI	**Kappang**	**87.39**	**265**	LR	LR	23 33 39.7	
	comp=Z,1μm,20.6s,baz=152,slow=34						
GUMO	**Guam**	**89.89**	**296**	LR	LR	23 37 15.6	
	comp=Z,77nm,18.4s,baz=95,slow=35						
SUR	**Sutherland**	**89.95**	**170**	LR	LR	23 33 37.6	
	comp=Z,1μm,20.5s,baz=186,slow=33						
SDV	**Santo Domingo**	**90.35**	**74**	LR	LR	23 33 14.4	
	comp=Z,446nm,18.9s,baz=239,slow=32						
LEM	**Lembang**	**92.31**	**254**	LR	LR	23 34 23.3	
	comp=Z,263nm,18.6s,baz=166,slow=32						
TXAR	**Lajitas Array**	**93.93**	**37**	LR	LR	23 33 23.5	
	comp=Z,64nm,18.3s,baz=211,slow=31						
BOSA	**Boshof**	**94.04**	**173**	LR	LR	23 36 00.1	
	comp=Z,1μm,20.8s,baz=179,slow=33						
DAV	**Davao City (W)**	**94.35**	**276**	LR	LR	23 38 24.4	
	comp=Z,192nm,20.5s,baz=148,slow=34						
PFO	**Pinyon Flats O**	**94.38**	**25**	LR	LR	23 31 51.3	
	comp=Z,452nm,19.3s,baz=224,slow=30						
PCRV	**Puerto La Cruz**	**94.58**	**78**	LR	LR	23 35 41.3	
	comp=Z,1μm,18.8s,slow=32						
MDP	**Montagnes des**	**96.78**	**91**	LR	LR	23 36 17.6	
	comp=Z,269nm,19.4s,baz=188,slow=32						
LBTB	**Lobatse**	**97.64**	**174**	LR	LR	23 38 28.8	
	comp=Z,2μm,20.3s,baz=183,slow=33						
ANMO	**Albuquerque**	**98.27**	**33**	LR	LR	23 36 16.2	
	comp=Z,242nm,18.0s,baz=8.0,slow=32						
NVAR	**Mina Array Bea**	**98.60**	**23**	LR	LR	23 33 35.4	
	comp=Z,326nm,20.6s,baz=209,slow=30						
ILAR	**Eielson Array**	**121.90**	**0**	PKP	**PKiKP**	**23 03 33.3**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=255,slow=1.6,SNR=8.5						
YKA	**Yellowknife Ar**	**122.27**	**17**	PKP	**PKPdf**	**23 03 30.6**	**-2.8**
	comp=Z,0.1nm,0.4s,baz=230,slow=1.8,SNR=2.1						
TIXI	**Tixsi**	**141.22**	**330**	PKP	**PKPdf**	**23 04 08.0**	**-0.7**
	comp=Z,1.0nm,0.2s,baz=106,slow=2.9,SNR=4.7						
WUS	**Wushi**	**146.37**	**261**	PKPdf	**PKPdf**	**23 04 18.9**	**-0.1**
PTEO	**Sao Teotonio**	**146.38**	**108**	*e*PKPdf	**PKiKP**	**23 04 24.3**	**+1.1**
PTEO				*e*PKPab	sPKPab	23 04 30.1	+5.7
KBL	**Kabul**	**146.53**	**243**	PKPdf	**PKPdf**	**23 04 19.0**	**-0.6**
PCVE	**Castro Verde**	**146.80**	**109**	*e*PKPab	**PKiKP**	**23 04 30.9**	**+6.8**
MESJ	**Messejana**	**146.86**	**108**	*e*PKPdf	**PKiKP**	**23 04 25.0**	**+0.8**
TARG	**Taragay, Kyrgy**	**147.50**	**261**	PKPdf	**PKPdf**	**23 04 21.3**	**+0.1**
PMTG	**Montargil**	**147.79**	**107**	*e*PKPdf	**PKPab**	**23 04 27.6**	**+1.0**
PMTG				*e*PKPab	**sPKPab**	**23 04 33.1**	**+3.2**
PESTR	**Estremoz**	**147.96**	**108**	*e*PKPab	**PKPab**	**23 04 34.0**	**+6.6**
PCAS	**Casmilo, Conde**	**148.37**	**105**	*e*PKPdf	**PKPab**	**23 04 28.9**	**0.0**
MK31	**Makanchi Array**	**148.43**	**272**		**PKPbc**	**23 04 24.4**	**-1.2**
MKAR	**Makanchi Array**	**148.43**	**272**	PKPbc	**PKPbc**	**23 04 24.6**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=104,slow=5.1,SNR=20						
PMRV	**Marv??o**	**148.49**	**107**	*e*PKPab	**PKPab**	**23 04 32.9**	**+3.5**
MAKZ	**Makanchi**	**148.61**	**272**		**PKPdf**	**23 04 22.7**	**+0.4**
PCBR	**Castelo Branco**	**148.75**	**107**	*e*PKPab	**PKPab**	**23 04 35.5**	**+5.1**
DRK	**Karamyk**	**149.02**	**252**	PKPbc	**PKiKP**	**23 04 29.2**	**+0.2**
BOOM	**Boomskoye usch**	**149.03**	**260**	PKPbc	**PKPbc**	**23 04 28.3**	**+0.8**
MTE	**Manteigas**	**149.12**	**106**	*e*PKPdf	**PKiKP**	**23 04 30.4**	**+1.5**
MTE				*e*PKPab	**sPKPab**	**23 04 36.4**	**+1.1**
PVIS	**Viseu**	**149.17**	**105**	*e*PKPdf	**PKiKP**	**23 04 30.6**	**+1.6**
PVIS				*e*PKPab	**sPKPab**	**23 04 36.1**	**+0.6**
HRA	**Herat**	**149.52**	**234**		**PKPdf**	**23 04 24.9**	**+0.5**
PVRL	**Vila Real**	**149.67**	**105**	*e*PKPab	PKPab	23 04 42.5	+8.3
CHGR	**Chuyangaron**	**149.74**	**247**		**PKPbc**	**23 04 28.6**	**-0.7**
ARSB	**Arslanbob**	**149.76**	**255**	PKPbc	**PKPbc**	**23 04 28.6**	**-0.7**
PGAV	**Gavieira, Arco**	**149.87**	**103**	*e*PKPdf	**PKPab**	**23 04 33.3**	**-1.8**
AAK	**Ala-Archa**	**149.90**	**259**	PKPbc	**PKPbc**	**23 04 29.5**	**-0.1**
MVO	**Moncorvo**	**149.95**	**106**	*e*PKPdf	**PKiKP**	**23 04 32.2**	**+1.7**
MVO				*e*PKPab	**sPKPab**	**23 04 39.0**	**+0.3**
BTK	**Batken**	**149.96**	**251**	PKPbc	**PKPbc**	**23 04 29.0**	**-0.7**
ESDC	**Sonseca Array**	**150.42**	**111**	PKPbc	**PKPbc**	**23 04 30.3**	**-0.5**
ESDC	**Sonseca Array**	**150.42**	**111**	PKPbc	**PKPbc**	**23 04 29.9**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=260,slow=1.7,SNR=14						
PBRG	**Braganca**	**150.56**	**105**	*e*PKPab	**PKPab**	**23 04 39.4**	**+1.5**
ZALV	**Zalesovo Beam**	**151.01**	**286**	PKPbc	**PKiKP**	**23 04 32.6**	**+0.4**
ZALV	**Zalesovo Beam**	**151.01**	**286**	PKPbc	**PKiKP**	**23 04 32.4**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=146,slow=2.9,SNR=7.8						
KKAR	**Karatay Array**	**152.32**	**255**	PKPbc	**PKPbc**	**23 04 35.4**	**+0.3**
KURBB	**Kurchatov Arra**	**152.68**	**275**	PKPbc	**PKPbc**	**23 04 34.5**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=113,slow=1.9,SNR=11						
KURK	**Kurchatov**	**152.68**	**276**	PKPbc	**PKPbc**	**23 04 35.4**	**-0.2**
BVAR	**Borovoye Array**	**158.25**	**274**	PKPab	**PKPab**	**23 05 09.2**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=114,slow=1.8,SNR=6.3						
BRTR	**Keskin Array B**	**162.25**	**182**	PKPab	**PKPab**	**23 05 28.6**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=204,slow=5.4,SNR=3.6						

IDC ***26*** *22:59:22.4±1.6, 58°.71S×149°.82W, $h0^{km}$, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=61.4km s-min=31.6km az=44.0*

ISC 26 22:59:23.2±1.9,**58°.6S**±0°.3×**149°.8W**±0°.4,**h10**^{km},**n15,** σ0s**81**/7,**mb3.7**/4,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**31.52**	**180**	P	**P**	**23 05 44.5**	**-0.7**
	0.6nm,0.8s,baz=122,slow=10,SNR=0.9						
	0.6nm,0.8s						
SNAA	**Sanae**	**47.95**	**167**	P	**P**	**23 08 02.0**	**+0.7**
	1.9nm,1.0s,baz=187,slow=8.1,SNR=2.2						
	1.9nm,1.0s						
H03N3	**Juan Fernandez**	**52.32**	**94**	T	T	00 03 32.1	
	baz=221,slow=72,SNR=41						
H03N2	**Juan Fernandez**	**52.32**	**94**	T	T	00 03 29.1	
	baz=221,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**52.33**	**94**	T	T	00 03 31.9	
	baz=221,slow=72,SNR=37						
ASAR	**Alice Springs**	**63.04**	**268**	P	**P**	**23 09 51.2**	**+0.8**
	0.3nm,0.6s,baz=149,slow=6.6,SNR=4.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**65.88**	**271**	P	**P**	**23 10 09.0**	**0.0**
	0.6nm,0.9s,baz=144,slow=5.9,SNR=5.7						
	0.6nm,0.9s						
H10S2	**ASCENSION HYDR**	**103.55**	**134**	T	T	01 09 19.8	
	baz=16,slow=74,SNR=4.2						
H10S3	**ASCENSION HYDR**	**103.55**	**134**	T	T	01 09 19.4	
	baz=204,slow=74,SNR=3.7						
H10N3	**ASCENSION HYDR**	**104.63**	**134**	T	T	01 10 45.4	
	baz=204,slow=75,SNR=4.5						
H10N1	**ASCENSION HYDR**	**104.64**	**134**	T	T	01 10 44.2	
	baz=204,slow=75,SNR=7.8						
H10N2	**ASCENSION HYDR**	**104.65**	**134**	T	T	01 10 43.7	
	baz=204,slow=75,SNR=4.4						
MKAR	**Makanchi Array**	**147.18**	**272**	PKPbc	**PKPab**	**23 19 07.1**	**-0.2**
	2.0nm,0.8s,baz=132,slow=1.8,SNR=19						
ESDC	**Sonseca Array**	**151.14**	**116**	PKPbc	**PKPbc**	**23 19 16.2**	**+0.3**
	1.3nm,1.1s,baz=212,slow=2.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**151.49**	**275**	PKPbc	**PKPbc**	**23 19 15.2**	**-1.0**
	0.3nm,0.7s,baz=122,slow=2.2,SNR=4.9						

NIED ***26*** *23:23:02.8, 32°.16N×132°.15E, $h19^{km}$, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.16; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-3.43; $M_{r\theta}$1.55; $M_{\theta\phi}$-0.57; $M_{\phi r}$3.93; Fault plane solution: $M_0$5.39000×10^{14} NP1: ϕ_s177.00000°, δ20.00000°, λ69.00000°. NP2:ϕ_s19.00000°, δ71.00000°, λ98.00000°.*

JMA 26 23:23:02.8±0.1,**32°.2N**±0°.3×**132°.2E**±0°.5,**h19**^{km}±1km, **MV3.5**/40,**8D,HYUGANADA REGION,Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.52**	**303**	⇓*i*P	Pg	23 23 12.9	-0.3
JHHC				⇓*e*S	Sg	23 23 20.1	-0.2
JTSN	**Tsuno**	**0.56**	**279**	⇓P	Pb	23 23 13.2	-0.6
JTSN				⇓*e*S	Sb	23 23 20.7	-0.6
JSKE	**Saikikamae**	**0.67**	**342**	P	Pb	23 23 15.8	0.0
JSKE				*e*S	Sg	23 23 25.2	+0.2
JKIT	**Kitakata**	**0.75**	**308**	⇓P	Pb	23 23 17.0	-0.2
JKIT				⇓S	Sg	23 23 27.4	-0.1
JTO	**Tosashimizu**	**0.89**	**38**	⇓P	Pb	23 23 19.0	-0.6
JTO				⇓*e*S	Sb	23 23 30.6	-0.5
JTZ	**Takazaki**	**0.94**	**254**	*i* P	Pb	23 23 20.4	-0.1
JTZ				S	Sg	23 23 33.7	+0.2
JUS	**Usuki**	**0.96**	**340**	*i* P	Pn	23 23 21.1	-0.2
JUS				S	Sg	23 23 34.1	-0.1
JNAR	**Kushima--Naru**	**0.98**	**230**	*i* P	Pb	23 23 21.2	0.0
JNAR				S	Sn	23 23 35.9	+1.0
UWA2	**Uwa jima 2**	**1.12**	**21**	P	Pn	23 23 22.8	-0.8
UWA2				*e*S	Sb	23 23 37.2	-0.7
JIU3	**Izumi3**	**1.20**	**289**	*i* P	Pn	23 23 24.7	+0.2
JIU3				S	Sn	23 23 40.3	0.0
JKU	**Kubokawa**	**1.38**	**34**	P	Pn	23 23 26.6	-0.4
JKU				S	Sn	23 23 43.6	-1.1
JNA	**Nagahama**	**1.42**	**11**	*e*P	Pn	23 23 27.3	-0.3

IDC ***26*** *23:33:15.9±1.6, 56°.17N×162°.10W, $h164^{km}$±13km, mb3.8/25, mbtmp4.3/29, MS4.0/3, Error ellipse: s-maj=16.2km s-min=9.3km az=17.0*

NEIC ***26*** *23:33:16.8±2.0, 56°.07N±0°.05×161°.97W±0°.09, $h169^{km}$±4^{km}, mb4.5/170, ML3.7(AEIC), Error ellipse: s-maj=9.2km s-min=3.8km az=130.0*

AEIC ***26*** *23:33:17.7±3.4, 55°.87N±0°.07×161°.75W±0°.10, $h180^{km}$±5^{km}, Error ellipse: s-maj=10.3km s-min=7.0km az=153.0*

ISC 26 23:33:16.0±0.4,**56°.09N**±0°.06×**161°.86W**±0°.04,**h168**^{km}, **n503,** σ1s**34**/461,**mb4.4**/104,**1C, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS1A	**Pavlof South-1**	**0.67**	**174**		**Pn**	**23 33 41.5**	**+1.2**
PS1A					**Sn**	**23 34 00.4**	**+1.5**
PVV	**Pavlof Volcano**	**0.72**	**177**		**Pn**	**23 33 41.6**	**+1.1**
PS4A	**Pavlof South-4**	**0.74**	**180**		**Pn**	**23 33 41.6**	**+0.9**
HAG	**Hague Volcano**	**0.77**	**182**		**Pn**	**23 33 42.0**	**+1.0**
SDPT	**Sand Point**	**1.08**	**133**	Pn	**Pn**	**23 33 42.9**	**-0.3**
SDPT					**Sn**	**23 34 03.3**	**-0.6**
SDPT	**Sand Point**	**1.08**	**133**	P	**Pn**	**23 33 42.8**	**-0.3**
SDPT	**Sand Point**	**1.08**	**133**	P	**Pn**	**23 33 43.5**	**+0.4**
	baz=311,SNR=33						
**VNWF

OHAK	Old Harbor	4.87	73	Pn	Pn	23 34 27.2	-0.7
OHAK	Old Harbor	4.87	73	P	Pn	23 34 27.3	-0.5
OHAK	Old Harbor	4.87	73	S	Sn	23 35 21.1	-3.0
OHAK	Old Harbor	4.87	73	P	Pn	23 34 27.6	-0.3
	baz=260,SNR=16						
M11K	Mekoryuk	4.88	334	Pn	Pn	23 34 28.9	+1.0
M11K	Mekoryuk	4.88	334	P	Pn	23 34 29.0	+1.0
	baz=151						
N17K	Nushagak Hills	5.09	27		Pn	23 34 32.9	+2.2
N17K	Nushagak Hills	5.09	27	P	Pn	23 34 32.6	+1.9
	baz=211						
NIKH	Nikolski High	5.13	235	Pn	Pn	23 34 31.5	+0.1
NIKH	Nikolski High	5.13	235	P	Pn	23 34 31.3	0.0
	baz=50						
M16K	Timber Creek	5.18	16	P	Pn	23 34 33.5	+1.6
	baz=199						
O18K	Koktuh Hills	5.18	40	Pn	Pn	23 34 34.3	+2.4
O18K	Koktuh Hills	5.18	40	P	Pn	23 34 34.3	+2.4
	baz=226,SNR=35						
Q19K	Cape Douglas,	5.27	54	Pn	Pn	23 34 34.8	+1.7
Q19K	Cape Douglas,	5.27	54	P	Pn	23 34 34.5	+1.4
	baz=241,SNR=8.0						
L14K	Kuka Creek	5.29	356		Pn	23 34 35.4	+2.1
L14K	Kuka Creek	5.29	356	P	Pn	23 34 35.0	+1.7
	baz=176						
KDAK	Kodiak Island	5.36	68	Pn	Pn	23 34 33.8	-0.5
KDAK	Kodiak Island	5.36	68	P	Pn	23 34 34.1	-0.1
	44nm,0.3s,baz=212,slow=9.5,SNR=212						
KDAK				S	Sn	23 35 32.1	-3.6
	71nm,0.4s,baz=229,slow=15,SNR=11						
KDAK	Kodiak Island	5.36	68	P	Pn	23 34 34.2	-0.1
	baz=255						
N18K	Kilae Creek	5.57	32		Pn	23 34 39.1	+2.1
N18K	Kilae Creek	5.57	32	P	Pn	23 34 39.2	+2.1
	baz=217						
L15K	Ungalak Mounta	5.61	2		Pn	23 34 39.4	+1.8
L15K	Ungalak Mounta	5.61	2	P	Pn	23 34 39.1	+1.5
	baz=183,SNR=24						
Q20K	Shuyak Island	5.71	60	P	Pn	23 34 39.6	+0.6
	baz=248,SNR=15						
O19K	Port Alsworth	5.74	41	P	Pn	23 34 41.2	+2.0
	baz=228,SNR=5.7						
L16K	Owhat River	5.77	11		Pn	23 34 41.6	+1.9
L16K	Owhat River	5.77	11	P	Pn	23 34 41.3	+1.6
	baz=194,SNR=10						
M17K	Holitna River	5.80	22	P	Pn	23 34 41.8	+1.7
	baz=206,SNR=6.3						
P19K	Oil Pt	5.83	49		Pn	23 34 42.1	+1.7
P19K	Oil Pt	5.83	49	P	Pn	23 34 42.2	+1.7
	baz=236						
K13K	Kusilvak Mount	6.04	347		Pn	23 34 44.9	+1.8
K13K	Kusilvak Mount	6.04	347	P	Pn	23 34 44.6	+1.4
	baz=166,SNR=7.1						
ILSW	Iliamna Southw	6.06	46	Pn	Pn	23 34 45.1	+1.5
N19K	Bonanza Creek	6.12	36	P	Pn	23 34 46.8	+2.4
	baz=223,SNR=12						
K15K	Wolf Creek Mou	6.23	1		Pn	23 34 47.6	+1.9
K15K	Wolf Creek Mou	6.23	1	P	Pn	23 34 47.5	+1.8
	baz=182,SNR=6.3						
M18K	Stony River	6.26	28	P	Pn	23 34 48.4	+2.3
	baz=213,SNR=11						
O20K	Slope Mountain	6.33	47	P	Pn	23 34 49.5	+2.4
	baz=235,SNR=6.4						
L17K	Donlin	6.33	15		Pn	23 34 48.7	+1.6
L17K	Donlin	6.33	15	P	Pn	23 34 49.1	+1.9
	baz=199						
HOM	Homer	6.52	53	P	Pn	23 34 50.9	+1.3
	baz=241						
CNPM	China Poot	6.64	54	Pn	Pn	23 34 51.6	+0.4
L18K	Granite Mounta	6.70	21	P	Pn	23 34 53.8	+1.9
	baz=206						
J14K	Nanvaranak Lak	6.74	353	Pn	Pn	23 34 54.0	+1.6
J14K	Nanvaranak Lak	6.74	353	P	Pn	23 34 53.5	+1.1
	baz=172						
K17K	Iditarod	6.89	14		Pn	23 34 56.2	+1.8
K17K	Iditarod	6.89	14	P	Pn	23 34 56.0	+1.5
	baz=197						
BRLK	Bradley Lake	6.91	53	Pn	Pn	23 34 54.6	-0.2
BRSE	Bradley Lake S	6.96	54	P	Pn	23 34 55.6	+0.1
	baz=243,SNR=14						
M19K	Big River Lodg	6.99	30	P	Pn	23 34 57.8	+2.0
	baz=217						
L19K	White Mountain	7.09	28	P	Pn	23 34 59.4	+2.3
	baz=214						
SPBG	Spurr Blockage	7.16	40		Pn	23 35 01.2	+3.1
SPCR	Spurr Chakacha	7.18	41	P	Pn	23 35 00.8	+2.4
	baz=229,SNR=13						
J16K	Anvik River	7.25	5	P	Pn	23 35 01.0	+1.8
	baz=186,SNR=9.5						
M20K	Styx River	7.35	34	Pn	Pn	23 35 03.9	+3.3
M20K	Styx River	7.35	34	P	Pn	23 35 02.6	+2.0
	baz=222,SNR=12						
J17K	VABM Dome	7.46	10	P	Pn	23 35 04.0	+2.0
	baz=192,SNR=7.5						
SLKM	Skilak Lake	7.56	49		Pn	23 35 04.7	+1.3
L20K	Farewell, AK	7.60	29		Pn	23 35 06.7	+2.9
L20K	Farewell, AK	7.60	29	P	Pn	23 35 06.3	+2.5
	baz=216,SNR=8.0						
SEW	Seward	7.71	53		Pn	23 35 06.2	+1.0
SEW	Seward	7.71	53	P	Pn	23 35 05.4	+0.2
	baz=244,SNR=18						
O22K	Cooper Landing	7.76	50	Pn	Pn	23 35 06.2	+0.2
O22K	Cooper Landing	7.76	50	P	Pn	23 35 06.9	+0.9
	baz=241,SNR=21						
J18K	Innoko River	7.84	17		Pn	23 35 09.6	+2.6
J18K	Innoko River	7.84	17	P	Pn	23 35 09.6	+2.6
	baz=202,SNR=7.3						
I17K	Unalakleet	7.84	4	P	Pn	23 35 08.4	+1.4
	baz=185						
SKT	Skwentna	7.95	38		Pn	23 35 10.6	+2.1
SKT	Skwentna	7.95	38	P	Pn	23 35 11.2	+2.7
	baz=227,SNR=15						
RC01	Rabbit Creek A	8.07	47	P	Pn	23 35 10.4	+0.3
	baz=237,SNR=18						
K20K	Telida	8.28	25	P	Pn	23 35 14.9	+2.0
	baz=212						
PPLA	Purkeypile	8.41	32	Pn	Pn	23 35 17.8	+3.1
PPLA	Purkeypile	8.41	32	P	Pn	23 35 14.8	+0.1
	baz=220,SNR=7.5						
J19K	Poorman	8.52	19	Pn	Pn	23 35 18.1	+2.2
J19K	Poorman	8.52	19	P	Pn	23 35 16.1	+0.1
	baz=205,SNR=9.9						
PWL	Port Wells	8.54	50	P	Pn	23 35 15.9	-0.5
	baz=242,SNR=21						
PMR	Palmer	8.60	45	P	Pn	23 35 17.4	+0.4
	baz=236						
P23K	Montague Islan	8.61	57	P	Pn	23 35 17.2	0.0
	baz=249						
CUT	Chulitna	8.67	38	P	Pn	23 35 19.0	+1.0
	baz=228						
ANM	Nome	8.68	350	P	Pn	23 35 18.4	+0.3
	baz=167						
KNK	Knik Glacier	8.77	47		Pn	23 35 18.9	-0.4
KNK	Knik Glacier	8.77	47	P	Pn	23 35 19.1	-0.2
	baz=239,SNR=16						
CAST	Castle Rocks	8.84	30	P	Pn	23 35 21.4	+1.1
	baz=218,SNR=8.5						
H17K	Granite Mounta	8.93	5	P	Pn	23 35 22.0	+0.6
	baz=187						
J20K	Nowinta River	8.97	22	P	Pn	23 35 23.0	+1.0
	baz=209						
G15K	Niukluk	9.00	354	P	Pn	23 35 22.2	-0.1
	baz=173						
GCSA	Galena City Sc	9.03	14	P	Pn	23 35 22.8	+0.2
	baz=198						
SML	Sawmill	9.03	45	P	Pn	23 35 23.0	+0.2
	baz=237,SNR=11						
GLI	Glacier Island	9.09	52	P	Pn	23 35 22.4	-1.2
	baz=245						
GAMB	Gambell	9.14	331	P	Pn	23 35 23.4	-0.8
	baz=143						
CHUM	Lake Minchumin	9.15	27	P	Pn	23 35 26.3	+1.9
	baz=216,SNR=6.8						
H18K	Honhosa River	9.25	9	P	Pn	23 35 26.6	+0.9
	baz=193						
M23K	Glacier View	9.27	46		Pn	23 35 25.9	0.0
M23K	Glacier View	9.27	46	P	Pn	23 35 25.7	-0.2
	baz=238,SNR=50						
KTH	Kantishna Hill	9.28	32		Pn	23 35 28.1	+2.0
G16K	Koyuk River	9.34	359	P	Pn	23 35 26.8	0.0
	baz=179						
TRF	Thorofare Moun	9.40	34		Pn	23 35 29.4	+1.7
TRF	Thorofare Moun	9.40	34	P	Pn	23 35 27.8	+0.1
	baz=224						
SCM	Sheep Creek Mo	9.45	47		Pn	23 35 28.0	-0.4
SCM	Sheep Creek Mo	9.45	47	P	Pn	23 35 27.5	-0.8
	baz=239,SNR=34						
G17K	Kiwalik Mounta	9.46	3	P	Pn	23 35 30.5	+2.1
	baz=184						
EYAK	Cordova Ski Ar	9.57	56		Pn	23 35 29.2	-0.6
EYAK	Cordova Ski Ar	9.57	56	P	Pn	23 35 29.3	-0.6
EYAK	Cordova Ski Ar	9.57	56	P	Pn	23 35 28.8	-1.1
	baz=249,SNR=11						
F14K	Arctic Creek	9.66	349	P	Pn	23 35 31.5	+0.5
	baz=165						
BPAW	Bear Paw Mtn.	9.68	30	P	Pn	23 35 32.2	+0.9
	baz=219,SNR=6.0						
F15K	North Star Dit	9.75	353	P	Pn	23 35 32.2	+0.1
	baz=171						
H19K	Roundabout Mou	9.83	13	P	Pn	23 35 33.7	+0.5
	baz=198						
KLU	Klutina	9.87	50	Pn	Pn	23 35 32.7	-1.2
KLU	Klutina	9.87	50	P	Pn	23 35 33.5	-0.4
	baz=244,SNR=85						
TNA	Tin City	9.95	345	P	Pn	23 35 34.2	-0.5
	baz=160						
G18K	Tagagawik	9.96	8	P	Pn	23 35 36.4	+1.5
	baz=191,SNR=6.5						
KAIM	Kayak Island	10.02	60	P	Pn	23 35 36.2	+0.5
	baz=255						
H20K	Anotleneega Mo	10.02	17	P	Pn	23 35 35.7	-0.1
	baz=203						
MCK	McKinley	10.03	35	Pn	Pn	23 35 36.5	+0.6
MCK	McKinley	10.03	35	P	Pn	23 35 36.7	+0.8
	baz=226						
M24K	Tolsona, Glenn	10.06	47	P	Pn	23 35 36.3	0.0
	baz=240,SNR=34						
BMRM	Bremner River	10.25	54	P	Pn	23 35 37.9	-1.0
	baz=249,SNR=20						
I21K	Tanana	10.31	24	P	Pn	23 35 39.4	-0.2
	baz=213						
F17K	Baldwin Pennin	10.39	1	P	Pn	23 35 39.8	-0.8
	baz=182						
N25K	Chitina, Valde	10.50	51	P	Pn	23 35 41.8	-0.3
	baz=246,SNR=16						
H21K	Melozitna Rive	10.55	21	Pn	Pn	23 35 46.0	+3.3
H21K	Melozitna Rive	10.55	21	P	Pn	23 35 43.3	+0.6
	baz=209						
F18K	Selawik	10.60	5	P	Pn	23 35 43.7	+0.4
	baz=187,SNR=5.7						
HARP	HAARP	10.62	47	P	Pn	23 35 44.0	+0.5
	baz=241,SNR=12						
PAX	Paxson	10.78	44	P	Pn	23 35 46.0	+0.2
	baz=238,SNR=19						
WRH	Wood River Hil	10.81	33	Pn	Pn	23 35 44.7	-1.4
VRDI	Verde Repeater	10.87	54	Pn	Pn	23 35 46.2	-0.8
I23K	Minto, Yukon-K	10.94	29	P	Pn	23 35 49.3	+1.6
	baz=220						
F19K	Shaleruckik Mo	10.96	9	P	Pn	23 35 47.3	-0.6
	baz=192						
E17K	Hotham Inlet	11.03	0	P	Pn	23 35 48.7	-0.2
	baz=180						
H22K	Ishtalitna Cre	11.05	23	P	Pn	23 35 50.0	+0.8
	baz=212						
HDA	Harding Lake	11.13	35	P	Pn	23 35 51.0	+0.8
	baz=228,SNR=7.7						
K24K	Donnelly Dome	11.14	40	P	Pn	23 35 51.9	+1.5
	baz=234,SNR=8.5						
MESA	MESA	11.28	61	P	Pn	23 35 52.3	-0.1
	baz=257,SNR=9.4						
F20K	Avaraart Lake	11.37	12	P	Pn	23 35 54.3	+1.0
	baz=198						
E18K	Tukpahlearik C	11.39	2	P	Pn	23 35 54.4	+0.9
	baz=184						
IL31		11.39	34	Pn	Pn	23 35 52.5	-1.1
ILAR	Eielson Array	11.39	34	P	Pn	23 35 52.0	-1.6
	0.6nm,0.5s,baz=208,slow=13,SNR=20						
ILAR				S	Sn	23 37 51.8	-7.9
	1.4nm,0.4s,baz=192,slow=7.8,SNR=6.5						
ILAR				ScP	ScP	23 44 47.0	-0.4
	0.3nm,0.6s,baz=272,slow=3.0,SNR=7.5						
H23K	Yukon River	11.43	26	P	Pn	23 35 55.7	+1.6
	baz=217						
RIDG	Independent Ri	11.44	41	Pn	Pn	23 35 53.3	-1.0
RIDG	Independent Ri	11.44	41	P	Pn	23 35 55.4	+1.1
	baz=236,SNR=11						
MENT	Mentasta	11.46	46	P	Pn	23 35 55.7	+1.2
POKR	Poker Plat Res	11.47	32	P	Pn	23 35 55.0	+0.4
	baz=225						
M26K	Nabesna, AK	11.52	49	P	Pn	23 35 55.0	-0.3
	baz=245,SNR=33						
E19K	Redstone River	11.61	9	P	Pn	23 35 56.9	+0.4
	baz=193						
L26K	Log Cabin Wild	11.65	46	P	Pn	23 35 56.8	-0.2
	baz=242,SNR=11						
J25K	Salcha River,	11.78	37	P	Pn	23 35 58.7	-0.1
	baz=231						
F21K	Alatna River	11.84	16	P	Pn	23 36 00.6	+1.2
	baz=204						
H24K	Noodor Dome	11.87	29	P	Pn	23 36 00.5	+0.6
	baz=221						
SCRK	Sand Creek	11.89	41	Pn	Pn	23 35 58.3	-2.0
SCRK	Sand Creek	11.89	41	P	Pn	23 35 59.7	-0.5
	baz=237,SNR=12						
M27K	Edge Creek, AK	11.97	50	P	Pn	23 36 02.1	+0.7
	baz=247,SNR=8.5						
G23K	Bananza Creek	12.04	23	P	Pn	23 36 03.4	+1.4
	baz=214						
PINM	Pinnacle	12.10	62	P	Pn	23 36 03.6	+0.8
	baz=260						
O28M	Mount Upton	12.26	59	P	Pn	23 36 05.9	+0.8
	baz=257,SNR=34						
L27K	Beaver Creek,	12.28	47	P	Pn	23 36 05.4	+0.2
	baz=245,SNR=8.0						
BCAR	Beaver Creek A	12.30	47	Pn	Pn	23 36 04.9	-0.5
F22K	John River	12.32	18	P	Pn	23 36 07.1	+1.5
	baz=206						
PRP	Porcupine Dome	12.32	33	P	Pn	23 36 07.9	+2.1
	baz=228						
C16K	Lisburne Hills	12.34	354	P	Pn	23 36 07.9	+2.2
	baz=171						
J26L	Joseph Creek	12.34	39	P	Pn	23 36 07.2	+1.3
	baz=236,SNR=14						
YUK3	Moose Creek	12.40	54	P	Pn	23 36 07.0	+0.1
	baz=252,SNR=14						
BVCY	Beaver Creek	12.44	51	P	Pn	23 36 07.4	+0.2
	baz=249						
COLD	Coldfoot	12.44	21	P	Pn	23 36 08.2	+1.1
	baz=212						
C17K	DeLong Mountai	12.45	358	P	Pn	23 36 07.6	+0.4
	baz=177						
PNL	Peninsula	12.46	64	P	Pn	23 36 08.8	+1.3
PNL	Peninsula	12.46	64	P	Pn	23 36 08.4	+1.0
	baz=263						
E20K	Nigu River	12.49	10	P	Pn	23 36 09.5	+1.7
	baz=195						
D19K	Kuna River	12.57	6	P	Pn	23 36 10.5	+1.7
	baz=190						
YUK8	Steele Glacier	12.58	57	P	Pn	23 36 09.5	+0.3
	baz=255,SNR=25						
C18K	Utukok River	12.61	1	P	Pn	23 36 10.7	+1.3
	baz=182						
G24K	Hadweenzic Riv	12.63	27	P	Pn	23 36 10.4	+0.8
	baz=220						
K27K	Chicken	12.64	43	P	Pn	23 36 10.2	+0.6
	baz=240						
H25L	Birch Creek	12.76	30	P	Pn	23 36 11.9	+0.8
	baz=225						
D20K	Etivluk River	12.89	9	P	Pn	23 36 13.6	+0.7
	baz=194						
E21K	Killik River	12.91	13	P	Pn	23 36 13.6	+0.5
	baz=200						
E22K	Anaktuvuk Pass	12.94	17	Pn	Pn	23 36 16.4	+2.8
E22K	Anaktuvuk Pass	12.94	17	P	Pn	23 36 14.5	+1.0
	baz=206,SNR=17						
I26K	Coal Creek Min	12.95	37	P	Pn	23 36 14.7	+1.0
	baz=233						
O29M	Mount Kennedy	12.96	61	P	Pn	23 36 15.0	+1.2
	baz=261,SNR=16						
G25K	Bearman Lake	13.04	29	P	Pn	23 36 15.3	+0.5
	baz=223						
YUK4	Talbot Arm	13.12	57	P	Pn	23 36 16.6	+0.6
	baz=256,SNR=5.3						
YUK6	Outpost Mounta	13.17	59	P	Pn	23 36 17.2	+0.5
	baz=259,SNR=7.6						
F24K	Squaw Lake	13.19	24	P	Pn	23 36 16.7	+0.1
	baz=217						
E23K	Chandalar	13.27	20	P	Pn	23 36 18.0	+0.2
	baz=211						
B18K	Kokolik River	13.33	0	P	Pn	23 36 18.3	0.0
	baz=180						
D22K	Ayikyak River	13.49	14	P	Pn	23 36 21.3	+0.8
	baz=203						
C21K	Knifeblade Rid	13.50	11	P	Pn	23 36 21.0	+0.4
	baz=197						
M29M	Somme Creek	13.50	52	P	Pn	23 36 19.8	-0.9
	baz=252,SNR=35						
E24K	Your Creek	13.51	22	P	Pn	23 36 21.2	+0.5
	baz=214						
HYT	Haines Junctio	13.56	60	P	Pn	23 36 20.6	-1.0
	baz=260,SNR=11						
I27K	Kandik River	13.65	38	P	Pn	23 36 23.5	+1.0
	baz=235						
P30M	Million Dollar	13.73	63	P	Pn	23 36 23.7	+0.1
	baz=264						
TOLK	Toolik Lake Re	13.78	19	P	P	23 36 29.1	+1.9
TOLK	Toolik Lake Re	13.78	19	P	Pn	23 36 24.6	+0.4
	baz=210,SNR=9.6						
F25K	Christian Rive	13.78	27	P	Pn	23 36 24.9	+0.7
	baz=221						
G26K	Porcupine Rive	13.82	31	P	Pn	23 36 24.2	-0.3
	baz=227						
L29M	L29M	13.86	50	P	Pn	23 36 25.4	+0.2
	baz=250,SNR=13						
D23K	Nanushuk River	13.88	17	P	Pn	23 36 25.5	+0.3
	baz=207						
N30M	Aishikik Lake	13.88	57	P	Pn	23 36 25.5	+0.1
	baz=258,SNR=21						
B21K	Ikpikpuk River	13.96	11	P	Pn	23 36 26.0	-0.3
	baz=197,SNR=21						
PLBC	Pleasant Camp	13.98	66	P	Pn	23 36 27.9	+1.2
	baz=267						
H27K	Steamboat Moun	14.05	35	P	Pn	23 36 27.5	+0.1
	baz=234						
S31K	Pelican	14.05	72	Pn	Pn	23 36 28.8	+1.2
S31K	Pelican	14.05	72	P	Pn	23 36 26.4	-1.2
	baz=273						
B20K	Meade River	14.13	7	P	Pn	23 36 26.9	-1.5
	baz=191,SNR=11						
I28M	Miner Creek	14.15	40	P	Pn	23 36 27.2	-1.6
	baz=239,SNR=8.1						
A19K	Wainwright	14.18	1	P	Pn	23 36 26.8	-2.1
	baz=182						
E25K	Arctic Village	14.20	25	P	Pn	23 36 27.9	-1.5
	baz=220						
O30N	Mendenhall	14.24	60	P	Pn	23 36 28.3	-1.6
	baz=262,SNR=20						
F26K	Sheenjek River	14.24	28	P	Pn	23 36 28.6	-1.3
	baz=224						
M30M	Minto, Yukon	14.28	53	P	Pn	23 36 29.2	-1.2
	baz=254,SNR=12						
G27K	Doyon Strip	14.36	33	P	Pn	23 36 29.9	-1.5
	baz=231						
D24K	Happy Valley	14.36	19	P	Pn	23 36 30.0	-1.3
	baz=211						
K29M	Barlow Dome	14.37	47	P	Pn	23 36 30.6	-1.0
	baz=249,SNR=12						
N31M	Braeburn, Yuko	14.50	57	Pn	Pn	23 36 33.6	+0.5
N31M	Braeburn, Yuko	14.50	57	P	Pn	23 36 32.6	-0.5
	baz=260,SNR=9.2						
SKAG	Skagway	14.51	66	P	Pn	23 36 35.6	+2.4
SKAG	Skagway	14.51	66	P	Pn	23 36 32.0	-1.2
	baz=268,SNR=6.2						
SIT	Sitka	14.63	75	P	Pn	23 36 33.6	-1.1
	baz=277						
C23K	Itkillik River	14.67	15	P	Pn	23 36 34.1	-1.0
	baz=206						
I29M	Ogilvie Camp,	14.70	41	P	Pn	23 36 35.2	-0.4
	baz=242,SNR=5.3						
B22K	Teshekpuk Lake	14.78	11	P	Pn	23 36 35.6	-0.9
	baz=199						
WHY	Whitehorse	14.82	61	P	Pn	23 36 36.7	-0.4
	baz=264,SNR=18						
C24K	Franklin Bluff	14.88	18	P	Pn	23 36 36.6	-1.0
	baz=210						
R32K	Eaglecrest	14.95	70	P	Pn	23 36 37.7	-0.9
	baz=273						
D25K	Kavik River	14.98	22	P	Pn	23 36 38.3	-0.7
	baz=216						
S32K	Killisnoo	14.98	73		Pn	23 36 40.7	+1.6
S32K	Killisnoo	14.98	73	P	Pn	23 36 38.2	-0.8
	baz=276,SNR=5.9						
H29M	Whitestone	15.10	38	P	Pn	23 36 40.8	+0.3
	baz=239						
J30M	Hart River	15.13	45	P	Pn	23 36 41.4	+0.5
	baz=248,SNR=5.6						
A22K	Sinclair Lake	15.27	9	P	Pn	23 36 42.5	+0.1
	baz=195,SNR=13						
M31M	Drury Creek, Y	15.28	55	IAmb	IAmb	23 36 48.4	
	comp=Z,25nm,1.1s						
M31M	Drury Creek, Y	15.28	55	P	Pn	23 36 43.4	+0.6
	baz=259,SNR=20						
P32M	Atlin	15.33	65	IAmb	IAmb	23 36 49.6	
	comp=Z,20nm,0.8s						
P32M	Atlin	15.33	65	P	Pn	23 36 43.8	+0.3
	baz=269,SNR=7.7						
I30M	Mount Dempster	15.37	43	P	Pn	23 36 44.1	+0.1
	baz=246,SNR=7.1						
A21K	Barrow	15.46	6	P	Pn	23 36 45.5	+0.7
	baz=191						
G29M	Pine Creek	15.59	36	P	Pn	23 36 47.8	+1.4
	baz=238						
N32M	Quiet Lake	15.74	59	P	Pn	23 36 49.6	+1.2
	baz=264,SNR=29						
EPYK	Eagle Plains	15.76	39	P	Pn	23 36 49.2	+0.6
	baz=241						
C26K	Camden Bay	15.77	22	P	Pn	23 36 49.3	+0.7
	baz=217,SNR=6.5						
FARO	Faro, Yukon	15.77	55	P	Pn	23 36 49.1	+0.4
	baz=260,SNR=48						
C27K	Jago River	15.80	24	P	Pn	23 36 49.3	+0.3
	baz=220						
P33M	Teslin, Yukon	15.80	63	P	Pn	23 36 48.8	-0.5
	baz=268,SNR=46						
U33K	Whale Pass	15.99	78	P	Pn	23 36 50.6	-0.8
	baz=282,SNR=8.2						
Q32M	Nakina River	16.09	67	IAmb	IAmb	23 36 55.9	
	comp=Z,17nm,0.8s						
Q32M	Nakina River	16.09	67	P	Pn	23 36 52.4	-0.4
	baz=272,SNR=6.9						
E28M	Babbage River	16.13	30	P	P	23 36 53.2	+0.2
	baz=230						
CRAG	Craig	16.13	80	P	Pn	23 36 55.7	+2.5
CRAG	Craig	16.13	80	P	Pn	23 36 55.6	+2.5
CRAG	Craig	16.13	80	P	P	23 36 52.7	-0.5
	baz=284						
D27M	Malcolm River	16.18	27	P	P	23 36 53.2	-0.4
	baz=226						
G30M	tAoh Zraii Nji	16.23	38	P	P	23 36 53.4	-0.9
	baz=240						
WRAK	Wrangell Islan	16.35	77	P	P	23 36 55.2	-0.4
	baz=281,SNR=7.4						
H31M	Peel River	16.38	42	P	P	23 36 55.8	-0.1
	baz=247						
E29M	Blow River	16.47	32	P	P	23 36 56.7	-0.1
	baz=234						
F30M	Barrier River	16.70	36	P	P	23 36 58.9	-0.5
	baz=239						
R33M	Jennings River	16.74	66	IAmb	IAmb	23 37 06.3	
	comp=Z,24nm,0.8s						
R33M	Jennings River	16.74	66	P	P	23 36 59.4

comp=Z,1.5nm,0.4s,baz=201,slow=9.3,SNR=11
INK S **S** **23 40 21.4 -5.3**
comp=Z,0.9nm,0.9s,baz=270,slow=31,SNR=1.4
INK PcP **PcP** **23 41 40.1 +0.5**
comp=Z,0.6nm,0.7s,baz=196,slow=3.8,SNR=3.4
INK ScP **ScP** **23 44 57.7 -0.9**
comp=Z,4.6nm,0.7s,baz=228,slow=0.7,SNR=33
INK Inuvik 17.79 35 P **P** **23 37 11.2 0.0**
baz=241
WTLY Watson Lake, Y 17.81 63 P **P** **23 37 11.5 -0.2**
baz=272,SNR=13
TOAD Toad River Com 19.73 67 P **P** **23 37 32.0 -0.5**
baz=278,SNR=11
KOTAN Kotaneelee Air 20.18 63 P **P** **23 37 38.1 +0.9**
baz=275
WRGLY Wrigley 20.40 54 P **P** **23 37 38.9 -0.6**
WRGLY IAmb IAmb 23 37 52.4
comp=Z,10.0nm,0.6s
WRGLY Wrigley 20.40 54 P **P** **23 37 39.8 +0.3**
baz=267
C36M Paulatuk 21.34 37 P **P** **23 37 47.5 -1.9**
C36M Paulatuk 21.34 37 P **P** **23 37 49.2 -0.3**
baz=251
A36M Sachs Harbour 22.02 30 P **P** **23 37 55.7 -0.8**
A36M IAmb IAmb 23 37 59.9
comp=Z,12nm,0.8s
A36M Sachs Harbour 22.02 30 P **P** **23 37 56.2 -0.2**
baz=243,SNR=18
PETK Petropavlovsk- 23.38 280 P **P** **23 38 07.2 -2.1**
comp=Z,3.0nm,0.7s,baz=72,slow=12,SNR=2.6
comp=Z,3.0nm,0.7s
LLLB Lillooet 24.23 86 P **P** **23 38 19.3 +2.3**
LLLB IAmb IAmb 23 38 21.0
comp=Z,17nm,0.9s
YKA Yellowknife Ar 24.48 55 P **P** **23 38 19.5 +0.4**
YKA Yellowknife Ar 24.48 55 P **P** **23 38 19.9 +0.8**
comp=Z,2.2nm,0.6s,baz=278,slow=9.7,SNR=42
YKA PcP **PcP** **23 41 52.6 0.0**
comp=Z,0.6nm,0.8s,baz=280,slow=2.7,SNR=5.8
YKA ScP **ScP** **23 45 14.8 -0.4**
comp=Z,2.5nm,0.8s,baz=281,slow=2.8,SNR=35
comp=Z,2.2nm,0.6s
MA2 Magadan 25.03 298 P **P** **23 38 23.2 -0.9**
comp=Z,9.6nm,0.7s,baz=75,slow=11,SNR=7.2
comp=Z,9.6nm,0.7s
MA2 Magadan 25.03 298 P **P** **23 38 23.4 -0.8**
comp=Z,15nm,1.0s
LON Longmire 26.32 94 P **P** **23 38 38.2 +2.2**
B08A Colville Reser 26.81 89 P **P** **23 38 42.6 +2.3**
B08A IAmb IAmb 23 38 43.6
comp=Z,7.2nm,0.8s
WAH2 Wahluke Slope 27.58 92 P **P** **23 38 48.3 +1.2**
D08A Wollman Farm, 27.76 91 P **P** **23 38 50.2 +1.5**
D08A IAmb IAmb 23 38 51.8
comp=Z,5.2nm,0.8s
HAWA Hanford 27.81 92 P **P** **23 38 49.9 +0.8**
HAWA IAmb IAmb 23 38 52.5
comp=Z,10.0nm,0.8s
NEW Newport 28.10 87 IAmb IAmb 23 38 54.9
comp=Z,6.3nm,0.9s
YPT Yellepit 28.33 92 IAmb IAmb 23 38 57.0
comp=Z,7.6nm,1.0s
LNOR Lincton Mounta 28.82 92 P **P** **23 38 59.4 +1.2**
F10A Beach Ranch, E 29.35 91 IAmb IAmb 23 39 05.9
comp=Z,5.9nm,0.8s
BMO Blue Mountains 29.98 93 P **P** **23 39 09.8 +1.3**
J08A Circle Bar Ran 30.27 96 IAmb IAmb 23 39 14.3
comp=Z,6.8nm,0.8s
WVOR Wild Horse Val 30.79 98 P **P** **23 39 16.4 +0.7**
WVOR IAmb IAmb 23 39 19.0
comp=Z,7.5nm,0.8s
RES Resolute Bay 31.05 28 P **P** **23 39 17.2 -0.2**
RES Resolute Bay 31.05 28 LR LR 23 55 36.7
comp=Z,141nm,19.0s,baz=198,slow=43
BPMT Black Pine Rid 31.19 87 P **P** **23 39 20.7 +1.4**
TIXI Tiksi 31.97 326 P **P** **23 39 25.1 -0.4**
TIXI IAmb IAmb 23 39 27.0
comp=Z,9.8nm,0.8s
PAHR Pah Rah Range 32.24 102 IAmb IAmb 23 39 31.5
comp=Z,10nm,0.9s
EGMT Eagleton 32.34 82 IAmb IAmb 23 39 32.2
comp=Z,9.8nm,0.8s
MCMT McKenzie Canyo 32.49 89 P **P** **23 39 32.5 +1.7**
YHL Hebgen Lake 33.41 88 IAmb IAmb 23 39 42.0
comp=Z,11nm,0.8s
NVAR Mina Array Bea 33.73 103 P **P** **23 39 43.1 +1.6**
NVAR Mina Array Bea 33.73 103 P **P** **23 39 43.7 +2.2**
comp=Z,4.3nm,0.6s,baz=308,slow=7.9,SNR=24
comp=Z,4.3nm,0.6s
ELK Elko 33.81 97 IAmb IAmb 23 39 45.4
comp=Z,5.6nm,0.8s
YNE Yellowstone No 33.98 87 IAmb IAmb 23 39 46.6
comp=Z,9.5nm,0.7s
H17A Grant Village 34.04 88 IAmb IAmb 23 39 48.6
comp=Z,11nm,0.8s
HVU Hansel Valley 34.49 93 IAmb IAmb 23 39 51.1
comp=Z,7.5nm,0.8s
LOHW Long Hollow 34.51 89 P **P** **23 39 49.3 +1.2**
HWUT Hardware Ranch 35.28 93 IAmb IAmb 23 39 57.9
comp=Z,7.1nm,1.1s
R11B Troy Canyon, C 35.28 100 IAmb IAmb 23 39 57.6
comp=Z,9.4nm,1.2s
PD31 Pinedale Array 35.64 89 IAmb IAmb 23 40 00.4
comp=Z,4.0nm,0.6s
PDAR Pinedale Array 35.64 89 P **P** **23 39 59.4 +1.5**
PDAR Pinedale Array 35.64 89 P **P** **23 39 59.5 +1.7**
comp=Z,4.2nm,0.6s,baz=307,slow=4.3,SNR=57
comp=Z,4.2nm,0.6s
PRN Pahroc Range 36.25 101 IAmb IAmb 23 40 06.1
comp=Z,9.0nm,0.8s
GWY Greenwater Val 36.26 104 IAmb IAmb 23 40 05.9
comp=Z,8.6nm,0.7s
BSUT Blindstream Ca 36.45 93 IAmb IAmb 23 40 08.0
comp=Z,9.7nm,0.9s
TMUT Trail Mountain 37.05 95 IAmb IAmb 23 40 13.1
comp=Z,8.6nm,0.8s
RDMU Red Mountain 37.09 92 IAmb IAmb 23 40 13.2
comp=Z,7.8nm,0.8s
Q16A Castle Valley 37.33 96 IAmb IAmb 23 40 15.5
comp=Z,10nm,0.9s
K22A Casper 37.42 87 IAmb IAmb 23 40 15.7
comp=Z,9.4nm,0.7s
V12A Nelson 37.59 103 IAmb IAmb 23 40 17.5
comp=Z,12nm,0.9s
PKCU Pink Cliffs 37.74 98 P **P** **23 40 16.9 +1.2**
U15A North Rim 38.48 99 IAmb IAmb 23 40 25.0
comp=Z,8.1nm,1.1s
W13A Hualapai Mount 38.58 102 IAmb IAmb 23 40 25.6
comp=Z,8.9nm,1.1s
ULM Lac du Bonnet 38.61 70 IAmb IAmb 23 40 24.5
comp=Z,6.6nm,0.9s
ULM Lac du Bonnet 38.61 70 P **P** **23 40 23.6 +1.1**
comp=Z,3.4nm,0.5s,baz=309,slow=9.0,SNR=11
comp=Z,3.4nm,0.5s
PV11 David Mesa, Pa 39.05 94 IAmb IAmb 23 40 31.7
comp=Z,7.0nm,0.6s
PV15 Paradox Valley 39.24 94 IAmb IAmb 23 40 32.5
comp=Z,11nm,0.8s
WUAZ Wupatki 39.66 100 IAmb IAmb 23 40 34.6
comp=Z,6.9nm,0.8s
AGMN Agassiz Nation 39.76 73 IAmb IAmb 23 40 33.8
comp=Z,7.7nm,0.7s
Y14A Wickenburg 39.93 103 IAmb IAmb 23 40 36.4
comp=Z,6.9nm,0.8s
MVCO Mesa Verde 40.03 95 P **P** **23 40 35.2 +0.6**
MVCO IAmb IAmb 23 40 36.8
comp=Z,6.2nm,0.8s
NEEM North Greenlan 40.13 18 *i* P **P** **23 40 35.0 0.0**
NEEM IAmb IAmb 23 40 36.0
comp=Z,8.8nm,0.9s
X16A Lo Mia Camp, P 40.43 101 IAmb IAmb 23 40 41.4
comp=Z,8.7nm,0.9s
KULLO Kullorsuaq 40.53 23 *i* P **P** **23 40 38.2 +0.3**
KULLO IAmb IAmb 23 40 39.2
comp=Z,5.1nm,0.6s
X18A Snowflake 41.17 99 IAmb IAmb 23 40 47.2
comp=Z,12nm,0.8s
UPNV Upernavik 41.81 25 *i* P **P** **23 40 48.3 -0.1**
UPNV IAmb IAmb 23 40 52.3
comp=Z,5.0nm,0.9s
ECSD EROS Data Cent 42.22 78 P **P** **23 40 52.0 -0.1**
ECSD IAmb IAmb 23 40 53.2
comp=Z,5.9nm,0.6s
EYMN Ely 42.30 70 P **P** **23 40 53.2 +0.5**
EYMN IAmb IAmb 23 40 54.4
comp=Z,10nm,0.7s
T25A Trinidad 42.37 92 IAmb IAmb 23 40 56.6
comp=Z,11nm,1.0s
DUN6 Lazy B Ranch 43.12 100 IAmb IAmb 23 41 02.3
comp=Z,11nm,0.6s
I37A Lemond, Waseca 43.79 76 P **P** **23 41 05.5 +0.8**
G40A Rib Lake 44.69 72 IAmb IAmb 23 41 13.3
comp=Z,8.4nm,0.8s
NRIK Noril'sk 45.23 332 P **P** **23 41 15.4 -0.3**
NRIK IAmb IAmb 23 41 17.0
comp=Z,6.9nm,0.7s
NRIK Noril'sk 45.23 332 P **P** **23 41 15.9 +0.2**
comp=Z,6.2nm,0.7s,baz=58,slow=7.4,SNR=26
comp=Z,6.2nm,0.7s
ILULI Ilulissat 45.36 28 *i* P **P** **23 41 20.5 +3.7**
ILULI IAmb IAmb 23 41 21.3
comp=Z,7.9nm,0.6s
SUMG Summit 45.84 21 P **P** **23 41 20.8 -0.2**
SUMG IAmb IAmb 23 41 23.5
comp=Z,7.9nm,0.7s
SUMG Summit 45.84 21 *i* P **P** **23 41 21.4 +0.4**
SUMG IAmb IAmb 23 41 23.7
comp=Z,8.4nm,0.7s
P38A Dawn 46.69 81 P **P** **23 41 27.6 0.0**
P38A IAmb IAmb 23 41 28.7
comp=Z,13nm,0.7s
WMOK Wichita Mounta 47.26 89 IAmb IAmb 23 41 33.9
comp=Z,6.6nm,0.8s
DBG Daneborg 47.37 13 *i* P **P** **23 41 31.9 -0.4**
DBG IAmb IAmb 23 41 33.3
comp=Z,4.9nm,0.6s
N41A Harden Midland 47.41 78 IAmb IAmb 23 41 34.2
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 48.33 92 IAmb IAmb 23 41 42.1
comp=Z,12nm,0.7s
U38A Gravette 48.48 84 P **P** **23 41 41.2 -0.2**
U38A IAmb IAmb 23 41 42.1
comp=Z,11nm,1.1s
TXAR Lajitas Array 48.58 98 P **P** **23 41 42.5 +0.1**
TXAR Lajitas Array 48.58 98 P **P** **23 41 43.8 +1.4**
comp=Z,2.5nm,0.7s,baz=306,slow=5.7,SNR=33
TXAR PcP **PcP** **23 43 06.8 +1.4**
comp=Z,0.4nm,0.6s,baz=314,slow=2.0,SNR=2.8
comp=Z,2.5nm,0.7s
OZNA Ozona 48.78 95 IAmb IAmb 23 41 45.4
comp=Z,6.1nm,0.6s
FVM French Village 49.57 80 IAmb IAmb 23 41 50.1
comp=Z,8.1nm,0.7s
BRDY Brady 49.70 93 IAmb IAmb 23 41 52.2
comp=Z,5.6nm,0.7s
T42A Van Buren 49.88 81 IAmb IAmb 23 41 51.7
comp=Z,5.3nm,0.7s
N47A Urbana 50.09 74 P **P** **23 41 53.2 -0.3**
FCAR Ozark Folk Cen 50.14 83 IAmb IAmb 23 41 54.0
comp=Z,9.3nm,0.8s
SONM Songino Array 53.09 303 P **P** **23 42 15.8 -0.1**
comp=Z,1.4nm,0.7s,baz=62,slow=5.7,SNR=8.6
SONM ScP **ScP** **23 47 03.9 +0.8**
comp=Z,0.1nm,0.4s,baz=66,slow=3.6,SNR=4.2
comp=Z,1.4nm,0.7s
CLTN Cedars of Leba 53.19 78 IAmb IAmb 23 42 18.4
comp=Z,7.3nm,0.8s
HHC Hu-ho-hao-te 55.60 293 *eP* **P** **23 42 33.8 -0.2**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.6s
BORG Borgarnes 55.77 19 LR LR 00 08 21.1
comp=Z,199nm,21.2s,baz=304,slow=38
ZALV Zalesovo Beam 57.53 320 P **P** **23 42 47.2 -0.1**
comp=Z,0.3nm,0.3s,baz=9.8,slow=9.4,SNR=2.4
comp=Z,0.3nm,0.3s
NJ2 Nanjing 58.27 281 *eP* **P** **23 42 52.0 -0.7**
NJ2 pmax pmax
comp=Z,21nm,0.5s
KURK Kurchatov 62.37 321 P **P** **23 43 20.4 +0.1**
KURK IAmb IAmb 23 43 21.4
comp=Z,7.4nm,1.5s
KURBB Kurchatov Arra 62.48 321 P **P** **23 43 20.8 -0.2**
comp=Z,1.5nm,0.9s,baz=23,slow=6.7,SNR=7.9
comp=Z,1.5nm,0.9s
GTA Gaotai 62.56 300 *eP* **P** **23 43 21.0 -0.9**
GTA pP PcP 23 43 52.3 -7.1
GTA PcP **pP** **23 44 04.5 +3.3**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA LR LR
comp=N,120nm,14.9s
GTA LR LR
comp=E,97nm,15.3s
GTA LR LR
comp=Z,120nm,16.7s
FINES FINESS Array B 62.64 356 P **P** **23 43 21.2 -0.7**
comp=Z,2.9nm,0.7s,baz=15,slow=7.9,SNR=12
comp=Z,2.9nm,0.7s
BVAR Borovoye Array 63.08 328 P **P** **23 43 24.9 0.0**
comp=Z,8.7nm,0.7s,baz=38,slow=7.3,SNR=60
comp=Z,8.7nm,0.7s
BRVK Borovoye 63.08 328 P **P** **23 43 24.7 -0.3**
BRVK IAmb IAmb 23 43 25.9
comp=Z,5.9nm,0.8s
NB2 NORSAR Subarra 63.09 4 P **P** **23 43 24.2 -0.7**
comp=Z,1.2nm,0.7s,baz=357,slow=6.9
NOA NORSAR Array B 63.09 4 P **P** **23 43 24.2 -0.7**
comp=Z,2.5nm,0.8s,baz=357,slow=6.6,SNR=7.9
comp=Z,2.5nm,0.8s
ARTI Arti 63.23 336 P **P** **23 43 25.0 -0.9**
HFS Hagfors 64.07 2 P **P** **23 43 30.9 -0.3**
comp=Z,4.5nm,0.6s,baz=57,slow=5.5,SNR=18
comp=Z,4.5nm,0.6s
MK31 Makanchi Array 64.29 317 P **P** **23 43 32.2 -0.8**
MKAR Makanchi Array 64.29 317 P **P** **23 43 32.2 -0.8**
comp=Z,0.5nm,0.5s,baz=51,slow=6.1,SNR=11
comp=Z,0.5nm,0.5s
WMQ Urumqi 64.55 311 *eP* **P** **23 43 36.8 +2.0**
WMQ pmax pmax
comp=Z,30nm,0.7s
EKA Eskdalemuir Ar 67.59 13 P **P** **23 43 54.2 +0.4**
comp=Z,1.9nm,0.5s,baz=344,slow=4.8,SNR=18
comp=Z,1.9nm,0.5s
ABKAR Akbulak array 69.40 332 P **P** **23 44 05.1 -0.1**
ABKAR Akbulak array 69.40 332 IAmb IAmb 23 44 05.8
comp=Z,6.8nm,0.6s
BOOM Boomskoye usch 70.34 318 P **P** **23 44 11.3 0.0**
KKAR Karatay Array 71.74 322 P **P** **23 44 18.5 -1.0**
PZH PanZhiHua 71.84 290 P **P** **23 44 19.5 -1.0**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,6.1s
KMI Kunming 72.43 289 ⇑P **P** **23 44 26.5 +2.4**
KMI pmax pmax
comp=Z,22nm,0.8s
RNPP9 Sopachiv 72.67 355 P **P** **23 44 24.7 -0.1**
KSH Kashi 72.90 317 P **P** **23 44 30.3 +3.8**
KSH pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 73.18 353 P **P** **23 44 26.9 -0.9**
comp=Z,5.4nm,0.5s,baz=10,slow=6.0,SNR=29
comp=Z,5.4nm,0.5s
AKBB Malin Array Si 73.18 353 P **P** **23 44 26.8 -1.0**
KIEV Kiev 73.19 353 P **P** **23 44 26.4 -1.4**
KIEV IAmb IAmb 23 44 27.7
comp=Z,9.2nm,0.7s
GERES GERESS Array B 75.37 3 P **P** **23 44 40.5 -0.1**
comp=Z,0.6nm,0.7s,baz=349,slow=1.0,SNR=4.5
comp=Z,0.6nm,0.7s
GAR Garm 75.45 321 IAmb IAmb 23 44 41.8
comp=Z,15nm,1.4s
CONA Conrad Observa 76.33 2 *i* P **P** **23 44 46.8 +0.7**
comp=Z,1.6nm,0.6s
WATA Walderalm 76.80 5 *eP* **P** **23 44 49.5 +0.7**
comp=Z,0.3nm,0.2s
WTTA Wattenberg 76.87 5 *eP* **P** **23 44 50.2 +0.9**
comp=Z,0.5nm,0.3s
SQTA Sankt Quirin 76.90 5 *i* P **P** **23 44 50.3 +1.0**
comp=Z,0.4nm,0.2s
SOKA Soboth 77.57 2 *i* P **P** **23 44 53.1 +0.1**
comp=Z,1.3nm,0.6s
OBKA Obir 77.73 3 *i* P **P** **23 44 54.7 +0.8**
comp=Z,3.5nm,0.4s
KIV Kislovodsk 78.19 342 P **P** **23 44 56.4 -0.1**
KIV IAmb IAmb 23 44 57.6
comp=Z,7.1nm,0.8s
KBZ Khabaz 78.38 342 P **P** **23 44 57.5 +0.1**
comp=Z,4.3nm,0.9s,baz=307,slow=5.2,SNR=13
comp=Z,4.3nm,0.9s
CMAR Chiang Mai Arr 79.89 288 P **P** **23 45 04.6 -1.4**
comp=Z,2.1nm,0.3s,baz=16,slow=5.9,SNR=11
comp=Z,2.1nm,0.3s
ESDC Sonseca Array 82.77 17 P **P** **23 45 20.5 -0.4**
comp=Z,1.0nm,0.7s,baz=348,slow=6.3,SNR=5.6
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 83.65 348 P **P** **23 45 25.9 +0.4**
comp=Z,0.7nm,0.6s,baz=90,slow=1.4,SNR=4.7
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 92.75 238 P **P** **23 46 07.8 -1.1**
comp=Z,0.8nm,0.8s,baz=43,slow=5.3,SNR=5.8
comp=Z,0.8nm,0.8s
ASAR Alice Springs 96.15 236 P **P** **23 46 24.0 -0.4**
comp=Z,0.5nm,0.6s,baz=23,slow=5.3,SNR=5.0
comp=Z,0.5nm,0.6s
NNA Nana 97.08 101 LR LR 00 26 23.8
comp=Z,84nm,21.7s,baz=203,slow=33
QSPA South Pole Qui 145.87 180 PKPbc **PKPdf** **23 52 33.8 +0.8**
comp=Z,2.4nm,0.8s,baz=358,slow=0.6,SNR=14
BOSA Boshof 152.07 347 PKPbc **PKPbc** **23 52 50.1 -1.0**
comp=Z,2.7nm,0.7s,baz=25,slow=2.3,SNR=7.1

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*SKHL **26** 23:52:09.8±0.3, 43°.20N×146°.60E, h35km±3km, mb4.6/3*
*JMA **26** 23:52:09.2±0.2, 43°.2N±0°.7×14°.7E±°, h47km±1km,*
MV3.6/38, OFF NEMURO PENINSULA
JMA Felt I J1 at OFF NEMURO PENINSULA .
ISC 26 23:52:05.7±1.8, **43°.22N**±0°.06×**146°.56E**±0°.06, **h12**km±10km,
n16, σ1°**05**/31, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.61**	**284**	P	**Pn**	**23 52 21.6**	**+1.5**
NEM2				S	**Sn**	**23 52 30.4**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.62**	**284**	*i* P	**Pn**	**23 52 21.6**	**+1.3**
NMR				*e*S	**Sn**	**23 52 30.5**	**+0.3**
SHO	**Shikotan**	**0.68**	**17**	*i* P	**Pn**	**23 52 22.6**	**+1.5**
SHO				AMB	AMB	23 52 23.9	
	110nm,0.2s						
SHO				AMB	AMB	23 52 23.9	
	70nm,0.2s						
SHO				AMB	AMB	23 52 23.9	
	250nm,0.2s						
SHO				*e*S	**Sn**	**23 52 31.9**	**+0.3**
SHO				A	A	23 52 34.0	
	1μm,0.3s						
SHO				A	A	23 52 34.0	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.96**	**328**	*i* P	**Pn**	**23 52 26.0**	**+1.1**
YUK				AMB	AMB	23 52 27.6	
	240nm,0.3s						
YUK				AMB	AMB	23 52 27.6	
	190nm,0.3s						
YUK				AMB	AMB	23 52 27.6	
	960nm,0.3s						
YUK				*e*S	**Sn**	**23 52 38.0**	**-0.5**
YUK				A	A	23 52 39.0	
	3μm,0.4s						
YUK				A	A	23 52 39.0	
	2μm,0.4s						
JKHN	**Kushirohamanak**	**1.03**	**263**	P	**Pn**	**23 52 27.6**	**+1.6**
JKHN				S	**Sn**	**23 52 41.2**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.26**	**297**	P	**Pg**	**23 52 30.5**	**+0.6**
JNSB				S	**Sg**	**23 52 46.5**	**+0.3**
JRA	**Rausu**	**1.27**	**305**	*i* P	**Pg**	**23 52 30.9**	**+0.9**
JRA				S	**Sg**	**23 52 46.9**	**+0.4**
AKK	**Akkeshi**	**1.27**	**261**	*e*P	**Pg**	**23 52 30.5**	**+0.4**
AKK				*e*S	**Sg**	**23 52 46.1**	**-0.6**
JAK	**Akkeshi**	**1.38**	**261**	P	**Pg**	**23 52 32.0**	**-0.2**
JAK				*e*S	**Sn**	**23 52 48.4**	**-0.5**
JNK	**Nakash**	**1.39**	**286**	P	**Pg**	**23 52 32.2**	**-0.1**
JNK				S	**Sb**	**23 52 48.9**	**-0.3**
JOB	**Onbets**	**2.02**	**262**	P	**Pb**	**23 52 41.9**	**-0.4**
JAR	**Ashorobuto**	**2.04**	**273**	P	**Pb**	**23 52 41.7**	**-1.0**
JAR				S	**Sb**	**23 53 06.2**	**-1.7**
JTKR	**Abashiri--Toko**	**2.07**	**292**	P	**Pb**	**23 52 42.6**	**-0.5**
JTKR				S	**Sb**	**23 53 07.7**	**-1.0**
KUR	**Kuril'sk**	**2.22**	**25**	*e*P	**Pb**	**23 52 45.0**	**-0.7**
KUR				AMB	AMB	23 52 46.1	
	40nm,0.3s						
KUR				*e*S	**Sb**	**23 53 11.1**	**-2.1**
KUR				A	A	23 53 15.4	
	150nm,0.4s						
KUR				A	A	23 53 15.4	
	200nm,0.4s						
JCH	**Churui**	**2.42**	**257**	P	**Pb**	**23 52 47.7**	**-1.4**
JCH				S	**Sn**	**23 53 15.6**	**+0.9**
JMP	**Maruseppu**	**2.45**	**290**	P	**Pb**	**23 52 48.2**	**-1.5**
JMP				S	**Sb**	**23 53 18.8**	**-1.1**

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*NIED **26** 23:53:21.7, 32°.16N×132°.15E, h17km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.02; $M_{\theta\theta}$0.49; $M_{\phi\phi}$-1.51; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.39; $M_{\phi r}$1.54; Fault plane solution: $M_0$2.09000×10^{14} NP1: ϕ_s175.00000°, δ21.00000°, λ67.00000°. NP2: ϕ_p20.00000°, δ71.00000°, λ98.00000°.*
JMA 26 23:53:21.7±0.1, **32°.2N**±0°.3×**132°.2E**±0°.4, **h17**km±1km,
MV3.5/40, **8D, HYUGANADA REGION, Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.52**	**303**	⇓*i*P	Pg	23 53 31.9	-0.2
JHHC				⇓*e*S	Sg	23 53 38.9	-0.2
JTSN	**Tsuno**	**0.55**	**279**	⇓P	Pg	23 53 32.2	-0.6
JTSN				⇓S	Sg	23 53 39.8	-0.4
JSKE	**Saikikamae**	**0.67**	**342**	*i* P	Pg	23 53 34.7	-0.2
JSKE				*e*S	Sb	23 53 44.1	+0.2
JKIT	**Kitakata**	**0.75**	**308**	⇓P	Pb	23 53 35.9	-0.4
JKIT				⇓S	Sb	23 53 46.0	-0.2
JTO	**Tosashimizu**	**0.89**	**38**	⇓P	Pb	23 53 37.9	-0.8
JTO				⇓S	Sb	23 53 49.6	-0.6
JTZ	**Takazaki**	**0.94**	**254**	*e*P	Pb	23 53 39.3	-0.3
JTZ				*e*S	Sg	23 53 52.1	-0.3
JUS	**Usuki**	**0.96**	**340**	*i* P	Pb	23 53 40.2	+0.2
JUS				S	Sg	23 53 53.0	-0.2
JNAR	**Kushima--Naru**	**0.98**	**230**	*i* P	Pb	23 53 40.2	0.0
JNAR				S	Sn	23 53 54.7	+0.6
UWA2	**Uwa jima 2**	**1.12**	**21**	*e*P	Pn	23 53 41.8	-0.9
UWA2				*e*S	Sb	23 53 56.1	-1.0
JIU3	**Izumi3**	**1.20**	**289**	*i* P	Pn	23 53 43.6	0.0
JIU3				*e*S	Sb	23 53 59.2	+0.1
JKU	**Kubokawa**	**1.38**	**34**	P	Pn	23 53 45.6	-0.6
JKU				S	Sn	23 54 02.4	-1.6
JNA	**Nagahama**	**1.42**	**11**	*e*P	Pg	23 53 48.5	-0.7
JNA				*e*S	Sg	23 54 06.6	-1.0

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*IDC **27** 00:10:18.9±4.8, 31°.75N×131°.86E, h50km±33km, mb3.4/7, mbtmp3.6/10, ML3.3/3, Error ellipse: s-maj=51.1km s-min=22.0km az=22.0*
*JMA **27** 00:10:18.7±0.1, 32°.2N±0°.3×132°.2E±0°.4, h19km±1km, MD3.7/39, MV3.9/39, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .
ISC 27 00:10:17.3±1.9, **32°.09N**±0°.08×**132°.22E**±0°.06, **h26**km±11km,
n29, σ1°**19**/31, **mb3.6**/7, **9D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHC	**Hyugahichiya**	**0.61**	**306**	⇓*i*P	**Pb**	**00 10 29.1**	**-0.2**
JHHC				⇓*e*S	**Sb**	**00 10 36.4**	**-1.1**
JTSN	**Tsuno**	**0.62**	**285**	⇓*i*P	**Pb**	**00 10 29.4**	**-0.2**
JTSN				⇓*e*S	**Sb**	**00 10 36.8**	**-1.1**
JTSN	**Tsuno**	**0.62**	**285**	A	A	00 10 29.4	
	comp=N,5.0nm,1.3s,comp=E,5.0nm,0.4s						
JSKE	**Saikikamae**	**0.76**	**339**	⇓*i*P	**Pb**	**00 10 31.9**	**+0.1**
JSKE				⇓*e*S	**Sb**	**00 10 41.2**	**-0.5**
JSKE	**Saikikamae**	**0.76**	**339**	A	A	00 10 31.9	
	comp=N,4.0nm,0.5s,comp=E,7.0nm,2.4s						
JNKG	**Nichinankitago**	**0.83**	**240**	A	A	00 10 34.1	
	comp=N,4.0nm,0.5s,comp=E,4.0nm,1.5s						
JKIT	**Kitakata**	**0.84**	**310**	⇓*i*P	**Pb**	**00 10 33.2**	**-0.1**
JKIT				⇓S	**Sb**	**00 10 43.8**	**-0.3**
JKIT	**Kitakata**	**0.84**	**310**	A	A	00 10 33.2	
	comp=N,11nm,0.4s,comp=E,7.0nm,0.4s						
JTO	**Tosashimizu**	**0.92**	**33**	⇓*i*P	**Pn**	**00 10 35.0**	**+0.6**
JTZ	**Takazaki**	**0.98**	**259**	P	**Pn**	**00 10 36.4**	**+1.1**
JNAR	**Kushima--Naru**	**0.98**	**235**	*i* P	**Pn**	**00 10 37.2**	**+1.9**
JUS	**Usuki**	**1.05**	**338**	P	**Pb**	**00 10 37.0**	**+0.2**
JUS				S	**Sn**	**00 10 50.5**	**+0.3**
JUS	**Usuki**	**1.05**	**338**	A	A	00 10 37.0	
	comp=N,4.0nm,0.6s,comp=E,4.0nm,1.6s						
UWA2	**Uwa jima 2**	**1.18**	**17**	P	**Pb**	**00 10 38.9**	**0.0**
UWA2				*e*S	**Sn**	**00 10 53.7**	**+0.5**
JIU3	**Izumi3**	**1.27**	**292**	P	**Pb**	**00 10 40.8**	**+0.2**

JIU3				*e*S	**Sb**	**00 10 56.7**	**+0.1**
JZO	**Okuchi**	**1.37 273**		A	A	00 10 42.3	
comp=N,4.0nm,1.9s,comp=E,5.0nm,0.9s							
JKU	**Kubokawa**	**1.41 30**		P	**Pb**	**00 10 42.8**	**-0.2**
JKU				S	**Sn**	**00 10 59.8**	**+0.7**
JNA	**Nagahama**	**1.48 8**		*e*P	**Pb**	**00 10 43.3**	**-0.8**
JNU	**Nakatsue**	**1.53 313**		P	**Pb**	**00 10 45.2**	**+0.2**
comp=E,406nm,0.5s,baz=122,slow=7.1,SNR=456							
JNU				S	**Sb**	**00 11 04.4**	**+0.4**
comp=E,529nm,0.5s,baz=211,slow=19,SNR=20							
KSRS	**Korea Array**	**6.41 328**		P	**Pn**	**00 11 52.0**	**+2.0**
comp=E,0.5nm,0.3s,baz=145,slow=14,SNR=4.7							
comp=E,1.3nm,0.4s							
MJAR	**Matsushiro Arr**	**6.66 46**		P	Pn	00 11 59.9	+6.4
comp=E,0.2nm,0.3s,baz=242,slow=14,SNR=6.0							
comp=E,1.5nm,0.4s							
KLR	**Kul'dur**	**17.13 359**		P	**P**	**00 14 19.5**	**+3.2**
comp=E,0.3nm,0.3s,baz=174,slow=6.4,SNR=16							
comp=E,3.9nm,0.7s							
SONM	**Songino Array**	**25.12 316**		P	**P**	**00 15 40.0**	**-0.1**
comp=E,1.0nm,0.6s,baz=128,slow=9.3,SNR=9.9							
comp=E,1.0nm,0.6s							
MKAR	**Makanchi Array**	**40.57 306**		P	**P**	**00 17 52.5**	**-2.1**
comp=E,0.2nm,0.5s,baz=87,slow=10.0,SNR=2.6							
comp=E,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**43.30 312**		P	**P**	**00 18 14.5**	**-2.2**
comp=E,0.2nm,0.5s,baz=98,slow=9.9,SNR=4.4							
comp=E,0.2nm,0.5s							
BVAR	**Borovoye Array**	**48.44 315**		P	**P**	**00 18 56.7**	**-0.6**
comp=E,0.9nm,0.6s,baz=100,slow=9.3,SNR=8.8							
comp=E,0.9nm,0.6s							
FINES	**FINESS Array B**	**69.50 330**		P	**P**	**00 21 21.9**	**-1.3**
comp=E,0.6nm,0.4s,baz=56,slow=5.2,SNR=4.3							
comp=E,0.6nm,0.4s							
YKA	**Yellowknife Ar**	**71.75 27**		P	**P**	**00 21 38.5**	**+1.6**
comp=E,0.1nm,0.5s,baz=297,slow=4.2,SNR=3.8							
comp=E,0.1nm,0.5s							
AKASG	**Malin Array Be**	**73.34 320**		P	**P**	**00 21 46.0**	**-0.6**
comp=E,0.8nm,0.4s,baz=56,slow=6.6,SNR=5.3							
comp=E,0.8nm,0.4s							

BJI ***27*** *00:11:20.0,31°.88N×132°.37E,h40km,mB5.4/64,mb5.1/92, Ms5.5/99,Ms7 5.5/97*

NEIC ***27*** *00:11:21.5,32°.20N×132°.00E,h20km,Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}5.64; $M_{\theta\theta}$-1.86; $M_{\phi\phi}$-3.79; $M_{r\theta}$1.79; $M_{\theta\phi}$-3.18; $M_{\phi r}$6.21; Fault plane solution: $M_0$8.75000×10^{16} NP1: ϕ_s231.85000°,δ23.64000°,λ118.21000°. NP2: ϕ_s21.50000°,δ69.31000°,λ78.31000°. Principal axes: T 8.7289, Plg64.0000°, Azm273.0000°; N 0.0517, Plg11.0000°, Azm26.0000°; P -8.7806, Plg23.0000°, Azm120.0000°;*

NEIC ***27*** *00:11:21.5,32°.20N×131°.98E,h20km*

NEIC ***27*** *00:11:22.5±1.5,32°.16N±0°.05×131°.98E±0°.07,h17km±3km, mb5.4/415,Mww5.2/20,Error ellipse: s-maj=8.9km s-min=7.4km az=75.0*

MOS ***27*** *00:11:23.8±0.9,32°.15N×131°.84E,h40km,mb5.5/64, MS5.4/19,Error ellipse: s-maj=6.3km s-min=3.4km az=114.3*

NIED ***27*** *00:11:23.3,32°.15N×132°.16E,h15km,MW5.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}3.69; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-4.17; $M_{r\theta}$2.82; $M_{\theta\phi}$-4.29; $M_{\phi r}$5.49; Fault plane solution: $M_0$8.08000×10^{16} NP1: ϕ_s221.00000°,δ21.00000°,λ104.00000°. NP2: ϕ_s26.00000°,δ70.00000°,λ85.00000°.*

JMA ***27*** *00:11:23.3±0.1,32°.2N±0°.4×132°.2E±0°.5,h15km±2km, MD5.4/38,MW5.3/38,HYUGANADA REGION*

JMA Felt III J1 at HYUGANADA REGION .

GCMT ***27*** *00:11:25.5±0.1,32°.09N±0°.01×132°.14E±0°.01,h28km, MW5.3/130,Moment Tensor Solution. s109,c177; s130,c236; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.91±.02; $M_{\theta\theta}$-0.28±.01; $M_{\phi\phi}$-0.63±.01; $M_{r\theta}$0.37±.03; $M_{\theta\phi}$-0.48±.01; $M_{\phi r}$0.72±.03; Best double couple: $M_0$1.24200×10^{17} NP1:ϕ_s221.00000°,δ25.00000°, λ100.00000°. NP2:ϕ_s30.00000°,δ65.00000°,λ85.00000°. Principal axes: T 1.2160, Plg69.0000°, Azm290.0000°; N 0.0510, Plg4.0000°, Azm32.0000°; P -1.2680, Plg20.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***27*** *00:11:30.0±1.0,32°.20N×131°.82E,h82km±7km,mb4.5/41, mbtmp4.8/44,MS4.8/69 Error ellipse: s-maj=11.7km s-min=8.5km az=89.0*

ISC 27 00:11:24.3±0.4,32°.15N±0°.02×132°.08E±0°.03,h31km±2km, h31km:pP-P,n1383,σ1559/1237,mb5.3/378,MS5.2/113, 85C-38D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.48 308**		⇓*i*P	**Pb**	**00 11 33.6**	**-0.8**
JHHC				⇓S	**Sb**	**00 11 41.0**	**-0.4**
JHHC	**Hyugahichiya**	**0.48 308**		A	A	00 11 33.6	
comp=N,170nm,5.4s,comp=E,213nm,2.9s							
JTSN	**Tsuno**	**0.50 282**		⇓*e*P	**Pb**	**00 11 33.8**	**-0.9**
JTSN				⇓S	**Sb**	**00 11 41.6**	**-0.3**
JTSN	**Tsuno**	**0.50 282**		A	A	00 11 33.8	
comp=N,250nm,1.1s,comp=E,254nm,0.9s							
JSKE	**Saikikamae**	**0.67 347**		P	**Pb**	**00 11 36.5**	**-1.0**
JSKE				S	**Sb**	**00 11 46.3**	**-0.3**
JSKE	**Saikikamae**	**0.67 347**		A	A	00 11 36.5	
comp=N,123nm,1.9s,comp=E,335nm,2.2s							
JKIT	**Kitakata**	**0.71 312**		⇓*i*P	**Pn**	**00 11 37.7**	**-0.5**
JKIT				⇓*e*S	**Sn**	**00 11 48.7**	**+0.5**
JKIT	**Kitakata**	**0.71 312**		A	A	00 11 37.7	
comp=N,225nm,2.0s,comp=E,215nm,1.8s							
JNKG	**Nichinankitago**	**0.77 231**		P	**Pb**	**00 11 39.4**	**+0.2**
JNKG				*e*S	**Sn**	**00 11 51.3**	**+1.8**
JNKG	**Nichinankitago**	**0.77 231**		A	A	00 11 39.4	
comp=N,332nm,3.1s,comp=E,286nm,2.0s							
JTZ	**Takazaki**	**0.88 254**		P	**Pn**	**00 11 40.9**	**+0.4**
JTZ	**Takazaki**	**0.88 254**		A	A	00 11 40.9	
comp=N,200nm,2.2s,comp=E,241nm,2.0s							
JNAR	**Kushima--Naru**	**0.93 228**		P	**Pn**	**00 11 41.6**	**+0.5**
JNAR	**Kushima--Naru**	**0.93 228**		A	A	00 11 41.6	
comp=N,328nm,4.1s,comp=E,402nm,1.5s							
JTO	**Tosashimizu**	**0.94 40**		*e*P	**Pn**	**00 11 39.9**	**-1.4**
JTO				S	**Sn**	**00 11 51.9**	**-1.8**
JTO	**Tosashimizu**	**0.94 40**		A	A	00 11 39.9	
comp=N,92nm,3.0s,comp=E,132nm,4.3s							
JUS	**Usuki**	**0.96 343**		*e*P	**Pb**	**00 11 42.0**	**-0.4**
JUS				S	**Sb**	**00 11 55.2**	**+0.5**
JUS	**Usuki**	**0.96 343**		A	A	00 11 42.0	
comp=N,179nm,2.1s,comp=E,286nm,2.0s							
JIU3	**Izumi3**	**1.15 291**		*e*P	**Pb**	**00 11 45.1**	**-0.5**
JIU3	**Izumi3**	**1.15 291**		A	A	00 11 45.1	
comp=N,184nm,2.3s,comp=E,364nm,1.4s							
UWA2	**Uwa jima 2**	**1.16 23**		*e*P	**Pn**	**00 11 43.8**	**-0.6**
UWA2	**Uwa jima 2**	**1.16 23**		A	A	00 11 43.8	
comp=N,63nm,3.9s,comp=E,86nm,5.5s							
JZO	**Okuchi**	**1.26 270**		A	A	00 11 47.2	
comp=N,246nm,1.3s,comp=E,442nm,1.2s							
JBEP	**Beppuamama**	**1.32 335**		A	A	00 11 47.4	
comp=N,306nm,1.4s,comp=E,313nm,1.4s							
JTSR	**Tashiro 2**	**1.39 226**		A	A	00 11 49.0	
comp=N,134nm,3.4s,comp=E,75nm,7.2s							
JNU	**Nakatsue**	**1.41 314**		Pn	**Pn**	**00 11 48.9**	**+1.1**
JNU	**Nakatsue**	**1.41 314**		P	**Pb**	**00 11 50.2**	**+0.3**
comp=E,38μm,0.9s,baz=127,slow=9.7,SNR=220							
JNU				S	**Sb**	**00 12 08.7**	**+1.2**
comp=E,14μm,0.6s,baz=204,slow=19,SNR=13							
JNU	**Nakatsue**	**1.41 314**		P	**Pb**	**00 11 49.7**	**-0.2**
JNU	**Nakatsue**	**1.41 314**		P	**Sn**	**00 12 09.9**	**+4.6**
JNU	**Nakatsue**	**1.41 314**		A	A	00 11 49.2	
comp=N,156nm,4.3s,comp=E,134nm,2.1s							
JKU	**Kubokawa**	**1.43 35**		A	A	00 11 48.2	
comp=N,40nm,1.6s,comp=E,88nm,2.9s							
JNA	**Nagahama**	**1.45 13**		A	A	00 11 48.9	
comp=N,35nm,2.1s,comp=E,49nm,3.8s							
JSU	**Suzuyama**	**1.52 246**		A	A	00 11 51.2	
comp=N,94nm,3.1s,comp=E,66nm,9.0s							
JTA	**Tamana**	**1.54 302**		A	A	00 11 51.4	
comp=N,166nm,2.0s,comp=E,238nm,3.2s							
JKI	**Kunimi**	**1.54 344**		A	A	00 11 50.9	
comp=N,160nm,1.0s,comp=E,158nm,3.0s							
JHD	**Hondo**	**1.68 281**		A	A	00 11 53.6	
comp=N,117nm,2.3s,comp=E,219nm,1.6s							
JTN	**Tanegashima 3**	**1.76 213**		A	A	00 11 54.4	
comp=N,70nm,2.8s,comp=E,62nm,2.0s							
JKHR	**Kochiharuno**	**1.81 41**		A	A	00 11 53.9	
comp=N,44nm,2.6s,comp=E,42nm,1.5s							
JET	**Tanbara**	**1.82 26**		A	A	00 11 54.3	
comp=N,52nm,1.6s,comp=E,44nm,1.9s							
JFA	**Akaike**	**1.90 326**		A	A	00 11 56.4	
comp=N,54nm,2.3s,comp=E,59nm,2.9s							
JKD	**Kudamatsu**	**1.91 355**		A	A	00 11 56.1	
comp=N,42nm,1.7s,comp=E,55nm,4.3s							
JFI	**Itaya**	**1.92 312**		A	A	00 11 56.8	
comp=N,86nm,3.4s,comp=E,60nm,3.5s							
NGSJ	**Nagasakinomoza**	**1.99 285**		A	A	00 11 58.1	
comp=N,79nm,2.6s,comp=E,64nm,4.7s							
JMTN	**Minamitane**	**2.02 210**		A	A	00 11 58.1	
comp=N,56nm,5.0s,comp=E,78nm,4.0s							
JUR	**Ureshino**	**2.03 298**		A	A	00 11 58.6	
comp=N,78nm,3.8s,comp=E,190nm,2.1s							
JSJ	**Shimokoshiki**	**2.07 258**		A	A	00 11 59.2	
comp=N,34nm,1.6s,comp=E,37nm,4.4s							
MRT2	**Murotomisaki 2**	**2.13 54**		A	A	00 11 58.5	
comp=N,35nm,3.7s,comp=E,24nm,2.9s							
JMN	**Monobe**	**2.19 43**		Pn	**Pn**	**00 11 58.5**	**0.0**
JMN	**Monobe**	**2.19 43**		P	**Pb**	**00 12 03.3**	**+0.1**
JMN	**Monobe**	**2.19 43**		A	A	00 11 59.4	
comp=N,45nm,1.4s,comp=E,30nm,1.4s							
JTY	**Toyota**	**2.28 338**		A	A	00 12 01.7	
comp=N,54nm,1.6s,comp=E,72nm,3.0s							
JKC	**Kuchinoerabu**	**2.33 224**		A	A	00 12 02.8	
comp=N,55nm,3.4s,comp=E,38nm,5.5s							
JYAK	**Yakushimahirau**	**2.33 216**		A	A	00 12 02.8	
comp=N,41nm,5.4s,comp=E,63nm,5.0s							
JHIK	**Hikimi**	**2.38 357**		A	A	00 12 02.9	
comp=N,33nm,2.4s,comp=E,38nm,3.3s							
JHT	**Toyohira**	**2.53 6**		A	A	00 12 04.8	
comp=N,20nm,1.7s,comp=E,37nm,4.3s							
JMAF	**Mimaanabuki**	**2.57 42**		A	A	00 12 04.9	
comp=N,34nm,1.7s,comp=E,17nm,2.2s							
JII	**Iki**	**2.57 310**		A	A	00 12 06.3	
comp=N,157nm,2.2s,comp=E,91nm,3.2s							
JAI	**Aioi**	**2.58 50**		A	A	00 12 05.0	
comp=N,18nm,3.0s,comp=E,13nm,4.1s							
JJG	**Jouge**	**2.65 20**		A	A	00 12 06.3	
comp=N,40nm,3.2s,comp=E,51nm,3.3s							
JJS	**Sakaide**	**2.71 34**		A	A	00 12 07.0	
comp=N,33nm,5.9s,comp=E,32nm,3.9s							
JHGM	**Hagimishima**	**2.75 344**		A	A	00 12 08.3	
comp=N,47nm,4.2s,comp=E,48nm,3.1s							
JFU	**Fukue jima 2**	**2.87 281**		A	A	00 12 10.7	
comp=N,27nm,4.5s,comp=E,59nm,3.0s							
JGT2	**ShimaneMisato**	**2.93 7**		A	A	00 12 10.6	
comp=N,16nm,3.3s,comp=E,53nm,2.1s							
JHS	**Saijyo**	**2.97 17**		A	A	00 12 11.0	
comp=N,17nm,2.7s,comp=E,58nm,2.7s							
JNN	**Nakanoshima**	**2.98 220**		A	A	00 12 12.1	
comp=N,25nm,4.3s,comp=E,26nm,2.4s							
JTSM	**Tsushimamitsus**	**3.15 315**		A	A	00 12 14.4	
comp=N,38nm,3.5s,comp=E,32nm,4.1s							
JWM	**Minabe**	**3.23 57**		A	A	00 12 14.2	
comp=N,11nm,5.3s,comp=E,8.0nm,4.5s							
JTU	**Tsushima**	**3.27 317**		P	**Pn**	**00 12 15.3**	**+2.0**
JTU	**Tsushima**	**3.27 317**		A	A	00 12 16.1	
comp=N,37nm,1.9s,comp=E,23nm,2.8s							
JAD	**Aida**	**3.29 31**		A	A	00 12 15.3	
comp=N,36nm,2.1s,comp=E,41nm,2.1s							
JAWN	**Awajishima-nag**	**3.32 45**		A	A	00 12 15.6	
comp=N,29nm,4.7s,comp=E,14nm,3.7s							
JWKM	**Wakayamakushim**	**3.36 66**		A	A	00 12 16.0	
comp=N,12nm,3.7s,comp=E,12nm,4.7s							
JTNC	**Tanabenakahech**	**3.40 60**		A	A	00 12 16.6	
comp=N,10.0nm,2.2s,comp=E,7.0nm,1.6s							
JISK	**Izumosakaura**	**3.41 11**		A	A	00 12 17.3	
comp=N,51nm,1.5s,comp=E,50nm,2.9s							
JNM	**Ikuma**	**3.43 13**		A	A	00 12 17.6	
comp=N,41nm,4.7s,comp=E,63nm,2.0s							
JKR	**Kurayoshi**	**3.54 24**		A	A	00 12 18.9	
comp=N,28nm,3.4s,comp=E,30nm,2.1s							
JMIK	**Miki**	**3.63 42**		A	A	00 12 20.1	
comp=N,26nm,3.5s,comp=E,21nm,1.5s							
JHE	**Heguri**	**3.92 49**		A	A	00 12 24.0	
comp=N,12nm,4.4s,comp=E,16nm,6.9s							
JKSM	**Kasumi**	**4.05 31**		A	A	00 12 26.1	
comp=N,19nm,3.6s,comp=E,25nm,1.9s							
JZK	**Kikaishima**	**4.23 206**		A	A	00 12 29.6	
comp=N,62nm,5.6s,comp=E,46nm,4.5s							
JOI	**OKI**	**4.25 13**		A	A	00 12 29.1	
comp=N,21nm,1.4s,comp=E,50nm,3.1s							
JKY	**Yasaka**	**4.29 35**		A	A	00 12 29.4	
comp=N,36nm,4.6s,comp=E,22nm,3.7s							
JFM	**Mihama**	**4.68 43**		A	A	00 12 34.9	
comp=N,13nm,8.4s,comp=E,9.0nm,6.1s							
JAA	**Atsumi**	**4.91 58**		A	A	00 12 37.9	
comp=N,7.0nm,6.5s,comp=E,4.0nm,2.0s							
JICN	**Ichinomiyachia**	**5.06 50**		A	A	00 12 40.1	
comp=N,12nm,2.2s,comp=E,12nm,1.9s							
INU	**Inuyama**	**5.21 51**		Pn	**Pn**	**00 12 39.4**	**-0.5**
INU	**Inuyama**	**5.21 51**		P	**Pn**	**00 12 42.0**	**+2.0**
JAO	**Obara**	**5.32 53**		A	A	00 12 43.7	
comp=N,8.0nm,2.3s,comp=E,7.0nm,4.4s							
JKG	**Kaga**	**5.42 39**		A	A	00 12 45.2	
comp=N,10.0nm,3.1s,comp=E,10.0nm,3.7s							
JGF	**Kuroka**	**5.58 50**		Pn	**Pn**	**00 12 44.4**	**-0.7**
JGF	**Kuroka**	**5.58 50**		P	**Pn**	**00 12 45.7**	**+0.6**
JSG	**Sagara**	**5.69 62**		Pn	**Pn**	**00 12 44.6**	**-2.0**
JSG	**Sagara**	**5.69 62**		P	**Pn**	**00 12 51.1**	**+4.4**
TJN	**Taejon**	**5.75 319**		Pn	**Pn**	**00 12 47.5**	**0.0**
TJN	**Taejon**	**5.75 319**		P	**Pn**	**00 12 50.6**	**+3.2**
TJN	**Taejon**	**5.75 319**		*i*P	**Pn**	**00 12 48.0**	**+0.6**
JJH	**Hakui**	**6.14 38**		A	A	00 12 55.4	
comp=N,14nm,4.5s,comp=E,12nm,4.1s							
JTT	**Ttatey**	**6.21 43**		A	A	00 12 56.3	
comp=N,13nm,3.3s,comp=E,19nm,4.8s							
JOW	**Kunigami**	**6.25 213**		Pn	**Pn**	**00 12 53.6**	**-0.7**
JOW	**Kunigami**	**6.25 213**		P	**Pn**	**00 12 56.4**	**+2.0**
comp=E,11nm,0.2s,baz=108,slow=20,SNR=4.0							
JOW				S	**Sn**	**00 14 01.1**	**-3.6**
comp=E,62nm,0.5s,baz=90,slow=20,SNR=1.4							
JOW	**Kunigami**	**6.25 213**		P	Pn	00 13 00.9	+6.6
KSRS	**Korea Array**	**6.30 328**		P	**Pn**	**00 12 56.9**	**+1.8**
comp=E,17nm,0.3s,baz=146,slow=15,SNR=24							
KSAR	**Wonju Array Be**	**6.31 328**		Pn	**Pn**	**00 12 55.7**	**+0.6**
KSAR	**Wonju Array Be**	**6.31 328**		P	**Pn**	**00 12 55.7**	**+0.6**
JMZ	**Minamidaito 2**	**6.35 187**		Pn	**Pn**	**00 12 55.4**	**-0.3**
JMZ	**Minamidaito 2**	**6.35 187**		P	Pn	00 13 01.9	+6.2
KS19	**Wonju Array Si**	**6.37 328**		Pn	**Pn**	**00 12 56.5**	**+0.5**
JHJ	**Hachijo jima 2**	**6.57 79**		P	**Pn**	**00 12 57.9**	**-0.8**
comp=E,480nm,0.7s,baz=248,slow=22,SNR=11							
JHJ				LR	LR	00 15 39.0	
comp=E,7μm,18.6s,baz=287,slow=37							
JHJ2	**Mitsune**	**6.60 80**		Pn	**Pn**	**00 12 57.7**	**-1.4**
MAJO	**Matsushiro**	**6.70 47**		Pn	**Pn**	**00 13 00.6**	**+0.1**
MAJO	**Matsushiro**	**6.70 47**		P	**Pn**	**00 13 01.7**	**+1.2**
MAJO	**Matsushiro**	**6.70 47**		*i*P	**Pn**	**00 13 01.9**	**+1.4**
MJAR	**Matsushiro Arr**	**6.70 47**		P	**Pn**	**00 13 01.9**	**+1.4**
comp=E,19nm,0.6s,baz=240,slow=14,SNR=30							
MJAR				LR	LR	00 16 21.3	
comp=E,4μm,18.0s,baz=225,slow=43							
MJB9	**Matsu-Tunnel**	**6.70 47**		Pn	**Pn**	**00 13 01.2**	**+0.7**
INCN	**Inchon**	**6.96 321**		Pn	**Pn**	**00 13 04.0**	**0.0**
INCN	**Inchon**	**6.96 321**		P	**Pn**	**00 13 05.2**	**+1.2**
INCN				S	**Sn**	**00 14 28.3**	**+6.2**
INCN	**Inchon**	**6.96 321**		P	**Pn**	**00 13 07.6**	**+3.5**
INCN	**Inchon**	**6.96 321**		P	**Pn**	**00 13 04.1**	**0.0**
JMM	**Marumori**	**9.14 49**		Pn	**Pn**	**00 13 34.6**	**+0.6**
JMM	**Marumori**	**9.14 49**		P	**Pn**	**00 13 38.1**	**+4.1**
SSE	**Sheshan**	**9.35 266**		P	**Pn**	**00 13 36.5**	**-0.3**
SSE				S	**Sn**	**00 15 20.0**	**-0.9**
SSE				pmax	pmax		
comp=E,8.0nm,0.5s							
SSE				LR	LR		
comp=E,5μm,14.2s							
SSE				LR	LR		
comp=E,7μm,14.2s							
JCJ	**Chichijima**	**10.13 117**		LR	LR	00 17 10.6	
comp=E,5μm,20.3s,baz=281,slow=33							
MSHR	**Mys Shultsa**	**10.44 356**		*i*P	**Pn**	**00 13 53.9**	**+2.1**
DL2	**Dalian**	**10.86 311**		P	**Pn**	**00 14 01.8**	**+4.3**
DL2				S	Sn	00 16 08.0	+10
DL2				pmax	pmax		
comp=E,100nm,1.1s							
DL2				pmax	pmax		
comp=E,480nm,5.8s							
DL2				LR	LR		
comp=E,14μm,15.5s							
DL2				LR	LR		
comp=E,13μm,12.9s							
DL2				LR	LR		
comp=E,21μm,14.1s							
VLA	**Vladivostok**	**10.96 359**		*i*P	**Pn**	**00 13 58.6**	**-0.2**
YOJ	**Yonaguni jima**	**11.06 228**		P	Pn	00 14 05.6	+5.3
NJ2	**Nanjing**	**11.22 273**		⇑P	**Pn**	**00 14 06.0**	**+3.5**
NJ2				PP	**PnPn**	**00 14 15.3**	**+5.2**
NJ2				S	**Sn**	**00 16 07.5**	**+0.7**
NJ2				pmax	pmax		
comp=E,2μm,4.6s							
NJ2				LR	LR		
comp=E,20μm,12.2s							
NJ2				LR	LR		
comp=E,35μm,12.6s							
NJ2				LR	LR		
comp=E,46μm,14.0s							
JTM	**Tenmabayashi**	**11.25 37**		Pn	**Pn**	**00 14 03.1**	**+0.3**
TATO	**Taipei**	**11.73 235**		P	**Pn**	**00 14 13.9**	**+4.4**
SNY	**Shenyang**	**11.81 327**		⇑P	Pn	00 14 15.5	+5.0
SNY				S	Sn	00 16 30.5	+9.4
SNY				pmax	pmax		
comp=E,240nm,1.1s							
SNY				pmax	pmax		
comp=E,900nm,3.6s							
SNY				LR	LR		
comp=E,12μm,13.7s							
SNY				LR	LR		
comp=E,14μm,14.5s							
SNY				LR	LR		
comp=E,25μm,12.9s							
YHNB	**Yeheng**	**12.01 234**		Pn	**Pn**	**00 14 12.3**	**-1.1**
YHNB	**Yeheng**	**12.01 234**		P	Pn	00 14 19.2	+5.9
USA0B	**Ussuriysk Arra**	**12.04 360**		*i*P	**Pn**	**00 14 15.8**	**+2.2**
USRK	**Ussuriysk Ar.**	**12.04 360**		P	**Pn**	**00 14 16.7**	**+3.1**
comp=E,2.7nm,0.7s,baz=183,slow=13,SNR=6.2							
USRK				LR	LR	00 18 36.5	
comp=E,5μm,18.4s,baz=178,slow=36							
NACB	**Ninganchiao**	**12.19 232**		P	Pn	00 14 20.9	+5.2
MDJ	**Mudanjiang**	**12.60 352**		P	**Pn**	**00 14 26.0**	**+4.7**
MDJ				sP	P	00 14 31.8	-0.6
MDJ				S	**Sn**	**00 16 48.0**	**+7.5**
MDJ				pmax	pmax		
comp=E,33nm,1.6s							
MDJ				pmax	pmax		
comp=E,1μm,11.2s							
MDJ				LR	LR		
comp=E,5μm,19.2s							
MDJ				LR	LR		
comp=E,7μm,14.4s							
MDJ				LR	LR		
comp=E,7μm,15.5s							
CN2	**Changchun**	**12.75 338**		*e*P	**Pn**	**00 14 26.5**	**+3.1**
CN2				*e*PP	**P**	**00 14 37.5**	**+3.4**
CN2				*e*S	**Sn**	**00 16 46.0**	**+1.8**
CN2				pmax	pmax		
comp=E,20nm,1.2s							
CN2				pmax	pmax		
comp=E,530nm,5.0s							
CN2				LR	LR		
comp=E,8μm,11.0s							
CN2				LR	LR		
comp=E,7μm,11.0s							
CN2				LR	LR		
comp=E,10μm,12.0s							
SSLB	**Suanglung**	**12.88 232**		Pn	**Pn**	**00 14 24.5**	**-0.7**
SSLB	**Suanglung**	**12.88 232**		P	**Pn**	**00 14 28.4**	**+3.2**
YULB	**Yu-li**	**12.92 230**		P	P	00 14 31.2	-4.9
TIA	**Tai'an**	**13.03 292**		P	**Pn**	**00 14 29.3**	**+2.1**
TIA				S	Sn	00 17 03.0	+12
TIA				pmax	pmax		
comp=E,110nm,1.4s							
TIA				pmax	pmax		
comp=E,2μm,11.6s							
TIA				LR	LR		
comp=E,13μm,13.2s							
TIA				LR	LR		
comp=E,15μm,15.1s							
TIA				LR	LR		
comp=E,24μm,14.4s							
TEY	**Ternei**	**13.34 14**		*e*P	**P**	**00 14 36.0**	**-4.6**
TPUB	**Ta-pu**	**13.43 232**		P	**Pn**	**00 14 37.2**	**+4.5**
QZH	**Quanzhou**	**13.85 242**		P	**Pn**	**00 14 39.0**	**+0.5**
QZH				S	**Sn**	**00 17 18.0**	**+6.8**
QZH				pmax	pmax		
comp=E,100nm,1.1s							
QZH				pmax	pmax		
comp=E,940nm,7.0s							
QZH				LR	LR		
comp=E,12μm,14.4s							
QZH				LR	LR		
comp=E,12μm,15.1s							
QZH				LR	LR		
comp=E,20μm,13.9s							
BNX	**BinXian**	**14.05 346**		⇑P	**Pn**	**00 14 43.5**	**+2.4**
BNX				S	**Sn**	**00 17 21.8**	**+6.0**
BNX				pmax	pmax		
comp=E,16nm,1.4s							
BNX				pmax	pmax		
comp=E,830nm,7.7s							
BNX				LR	LR		
comp=E,6μm,12.9s							
BNX				LR	LR		
comp=E,5μm,10.4s							
BNX				LR	LR		
comp=E,8μm,15.2s							
KNMB	**Chin-men Tao**	**14.28 241**		Pn	**Pn**	**00 14 42.9**	**-1.4**

CNSH	**ChangSha**	**17.02 262**	P	**Pn**	**00 15 19.8 -0.2**
CNSH			S	**Sn**	**00 18 31.5 +3.1**
CNSH			pmax	pmax	
	comp=E,140nm,1.3s				
CNSH			LR	LR	
	comp=E,4μm,14.9s				
CNSH			LR	LR	
	comp=E,8μm,13.9s				
CNSH			LR	LR	
	comp=E,9μm,13.6s				
TIY	**Taiyuan**	**17.03 294**	P	**P**	**00 15 22.3 +0.6**
TIY			pmax	pmax	
	comp=E,94nm,1.6s				
TIY			pmax	pmax	
	comp=E,1μm,6.9s				
TIY			LR	LR	
	comp=E,3μm,9.8s				
TIY			LR	LR	
	comp=E,13μm,14.9s				
TIY			LR	LR	
	comp=E,14μm,14.4s				
KLR	**Kul'dur**	**17.07 359**	P	**P**	**00 15 24.0 +2.1**
	comp=E,119nm,0.8s,baz=175,slow=13,SNR=196				
KLR			LR	LR	00 21 44.4
	comp=E,2μm,18.7s,baz=178,slow=36				
KLR	**Kul'dur**	**17.07 359⇑**	*e*P	**P**	**00 15 22.6 +0.6**
KLR			pmax	pmax	
	comp=Z,430nm,1.7s				
XLT	**XiLinHaoTe**	**17.19 318**	*e*P	**P**	**00 15 23.8 +0.4**
XLT			pP	sP	00 15 33.5 -1.8
XLT			S	**S**	**00 18 37.8 -3.0**
XLT			pmax	pmax	
	comp=Z,53nm,0.9s				
XLT			pmax	pmax	
	comp=Z,1μm,9.0s				
XLT			LR	LR	
	comp=Z,14μm,12.8s				
XLT			LR	LR	
	comp=Z,20μm,12.8s				
SZP	**Santa**	**17.93 219**	P	**P**	**00 15 34.2 +2.5**
HEH	**HeiHe**	**18.42 350**	*e*P	**Pn**	**00 15 38.0 +0.9**
HEH			pP	**sP**	**00 15 47.8 -0.9**
HEH			S	**S**	**00 19 06.8 +1.3**
HEH			sS	**sS**	**00 19 20.0 +1.8**
HEH			pmax	pmax	
	comp=Z,150nm,1.5s				
HEH			pmax	pmax	
	comp=Z,930nm,6.1s				
HEH			LR	LR	
	comp=Z,4μm,16.2s				
HEH			LR	LR	
	comp=Z,4μm,12.3s				
HEH			LR	LR	
	comp=Z,5μm,16.6s				
HHC	**Hu-ho-hao-te**	**18.61 304⇑**	*i*P	**Pn**	**00 15 40.8 +1.2**
HHC			PP	**PnPn**	**00 15 53.0 +1.3**
HHC			S	**Sn**	**00 19 06.0 -0.8**
HHC			pmax	pmax	
	comp=Z,87nm,1.0s				
HHC			pmax	pmax	
	comp=Z,1μm,4.3s				
HHC			LR	LR	
	comp=Z,5μm,15.7s				
HHC			LR	LR	
	comp=Z,9μm,14.1s				
HHC			LR	LR	
	comp=Z,12μm,14.9s				
GZH	**Guangzhou**	**18.88 246**	P	**P**	**00 15 36.3 -5.7**
GZH			S	**Sn**	**00 19 04.5 -8.7**
GZH			pmax	pmax	
	comp=Z,130nm,0.9s				
GZH			LR	LR	
	comp=Z,11μm,13.7s				
GZH			LR	LR	
	comp=Z,11μm,13.1s				
GZH			LR	LR	
	comp=Z,20μm,14.7s				
GRNR	**Gornyy**	**18.88 9⇑**	*i*P	**P**	**00 15 41.4 -0.6**
GRNR			pmax	pmax	
	comp=Z,7.0nm,0.9s				
GRNR			MLR	MLR	
	comp=E,6μm,18.0s				
GRNR			MLR	MLR	
	comp=N,4μm,17.0s				
GRNR			MLR	MLR	
	comp=Z,2μm,14.0s				
ENH	**Enshi**	**19.41 270**		**P**	**00 15 47.5 -0.5**
HIA	**Hailar**	**19.45 335**	P	**P**	**00 15 48.6 +0.4**
HIA	**Hailar**	**19.45 335**	P	**P**	**00 15 48.6 +0.4**
HIA			pmax	pmax	
	comp=Z,146nm,1.1s				
XAN	**Xi'an**	**19.49 282**	⇑P	**P**	**00 15 48.8 0.0**
XAN			pP	sP	00 16 00.0 -0.8
XAN			S	**S**	**00 19 23.5 -3.9**
XAN			sS	sS	00 19 35.3 -5.0
XAN			pmax	pmax	
	comp=Z,150nm,1.5s				
XAN			pmax	pmax	
	comp=Z,1μm,5.5s				
XAN			LR	LR	
	comp=Z,8μm,14.8s				
XAN			LR	LR	
	comp=Z,14μm,15.5s				
XAN			LR	LR	
	comp=Z,18μm,13.4s				
BTO	**Baotou**	**19.63 302**	*e*P	**Pn**	**00 15 52.5 +0.6**
BTO			pP	**sP**	**00 16 02.8 +0.5**
BTO			sP	pP	00 16 09.0 +10
BTO			PP	**PnPn**	**00 16 12.0 +6.3**
BTO			S	**Sn**	**00 19 33.5 +2.1**
BTO			sS	**sS**	**00 19 42.0 -1.1**
BTO			SS	**SnSn**	**00 19 57.5 +12**
BTO			pmax	pmax	
	comp=Z,97nm,1.0s				
BTO			pmax	pmax	
	comp=Z,2μm,8.1s				
BTO			LR	LR	
	comp=Z,12μm,15.8s				
BTO			LR	LR	
	comp=Z,20μm,13.4s				
BTO			LR	LR	
	comp=Z,27μm,12.9s				
GULI	**GuiLin**	**20.21 256**	P	Pn	00 15 58.0 -0.7
GULI			S	**S**	**00 19 40.8 -1.2**
GULI			pmax	pmax	
	comp=Z,100nm,1.6s				
GULI			LR	LR	
	comp=Z,4μm,13.3s				
GULI			LR	LR	
	comp=Z,9μm,14.1s				
GULI			LR	LR	
	comp=Z,12μm,13.6s				
TYV	**Tymovskoe**	**20.27 20**	*e*P	Pn	00 15 59.3 +0.1
TYV			*e*S	Sn	00 19 46.5 +0.1
TYV			pmax	pmax	
	comp=Z,600nm,4.1s				
TYV			pmax	pmax	
	comp=Z,24nm,1.1s				
TYV			smax	smax	
	comp=N,500nm,5.5s				
TYV			smax	smax	
	comp=E,600nm,5.5s				
TYV			MLR	MLR	
	comp=Z,3μm,15.0s				
TGY	**Tagaytay City**	**20.65 212**	P	**P**	**00 16 02.8 +1.3**
	comp=Z,889nm,0.3s,baz=36,slow=19,SNR=6.5				
TGY			LR	LR	00 24 36.9
	comp=Z,617nm,20.4s,baz=66,slow=38				
ZEA	**Zeya**	**21.86 352**	*e*P	**P**	**00 16 13.5 -0.6**
ZEA			*e*		00 16 24.7
ZEA			*e*S	**S**	**00 20 05.9 -8.0**
ZEA			pmax	pmax	
	comp=N,100nm,1.8s				
ZEA			pmax	pmax	
	comp=Z,200nm,1.7s				
ZEA			pmax	pmax	
	comp=N,50nm,1.4s				
ZEA			pmax	pmax	
	comp=Z,80nm,1.3s				
ZEA			smax	smax	
	comp=E,400nm,5.8s				
ZEA			smax	smax	
	comp=N,400nm,5.3s				
ZEA			MLR	MLR	
	comp=N,2μm,17.0s				
ZEA			MLR	MLR	
	comp=E,2μm,17.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,18.0s				
GUMO	**Guam**	**21.87 145**	LR	LR	00 24 01.0
	comp=Z,1μm,19.0s,baz=327,slow=34				
NKL	**Nikolayevsk**	**21.89 14**	*e*P	**P**	**00 16 14.3 -0.2**
NKL			*e*S	Sn	00 20 20.1 -5.2
NKL			pmax	pmax	
	comp=N,188nm,1.9s				
NKL			pmax	pmax	
	comp=E,118nm,1.5s				
NKL			pmax	pmax	
	comp=Z,340nm,1.5s				
NKL			MLR	MLR	
	comp=N,5μm,13.0s				
NKL			MLR	MLR	
	comp=E,9μm,13.0s				
NKL			MLR	MLR	
	comp=Z,10μm,16.0s				
GYA	**Guiyang**	**22.85 262**	⇑P	**P**	**00 16 25.5 +0.3**
GYA			pP	pP	00 16 29.5 -3.8
GYA			S	**S**	**00 20 30.8 -2.0**
GYA			sS	pS	00 20 42.5 -0.1
GYA			pmax	pmax	
	comp=Z,98nm,0.9s				
GYA			LR	LR	
	comp=Z,7μm,12.0s				
LZH	**Lanzhou**	**23.67 287**	⇑P	**P**	**00 16 32.3 -1.0**
LZH			sP	pP	00 16 42.3 +0.4
LZH			PcP	**PcP**	**00 20 18.5 +1.4**
LZH			S	S	00 20 33.5 -13
LZH			sS	pS	00 20 57.0 +1.3
LZH			pmax	pmax	
	comp=Z,94nm,1.3s				
LZH			pmax	pmax	
	comp=Z,820nm,4.3s				
LZH			LR	LR	
	comp=Z,5μm,11.7s				
LZH			LR	LR	
	comp=Z,9μm,12.4s				
LZH			LR	LR	
	comp=Z,12μm,12.0s				
QIZ	**Qiongzhong**	**23.88 242**	P	**P**	**00 16 34.0 -1.1**
QIZ			S	**S**	**00 20 49.5 +0.1**
QIZ			pmax	pmax	
	comp=Z,470nm,13.3s				
QIZ			LR	LR	
	comp=Z,4μm,12.4s				
QIZ			LR	LR	
	comp=Z,2μm,12.4s				
QIZ			LR	LR	
	comp=Z,6μm,14.4s				
CIT	**Chita**	**24.03 331**	*e*P	**P**	**00 16 36.2 -0.1**
CIT			*e*		00 16 44.8
CIT			*e*		00 16 50.4
CIT			*e*		00 17 21.0
CIT			*e*		00 21 53.0
CIT			pmax	pmax	
	comp=Z,239nm,2.1s				
CD2	**Chengdu**	**24.15 275**	P	**P**	**00 16 36.3 -1.4**
CD2			S	**S**	**00 20 58.8 +5.0**
CD2			pmax	pmax	
	comp=Z,150nm,1.1s				
CD2			pmax	pmax	
	comp=Z,720nm,4.3s				
CD2			LR	LR	
	comp=Z,13μm,12.1s				
CD2			LR	LR	
	comp=Z,31μm,12.7s				
ULN	**Ulaanbaatar**	**24.63 317**	P	**P**	**00 16 40.9 -1.1**
ULN			IAmb	IAmb	00 16 52.0
	comp=Z,147nm,1.1s				
ULN			PcP	**PcP**	**00 20 19.0 +0.1**
ULN	**Ulaanbaatar**	**24.63 317**	P	**P**	**00 16 41.6 -0.4**
ULN			S	**S**	**00 21 06.3 +5.0**
ULN	**Ulaanbaatar**	**24.63 317⇑**	*i*P	**P**	**00 16 41.7 -0.3**
ULN			pmax	pmax	
	comp=Z,155nm,1.2s				
SONM	**Songino Array**	**25.00 316**	P	**P**	**00 16 43.8 -1.5**
SONM			PcP	**PcP**	**00 20 20.5 +0.8**
SONM	**Songino Array**	**25.00 316**	P	**P**	**00 16 45.0 -0.3**
	comp=Z,91nm,1.0s,baz=130,slow=7.5,SNR=163				
SONM			PcP	**PcP**	**00 20 19.7 0.0**
	comp=Z,3.8nm,0.9s,baz=122,slow=2.3,SNR=5.0				
	comp=Z,91nm,1.0s				
DAV	**Davao City (W)**	**25.68 195**	LR	LR	00 28 02.1
	comp=Z,1μm,19.3s,baz=1.0,slow=39				
KMI	**Kunming**	**26.63 262**	P	**P**	**00 16 57.3 -3.1**
KMI			PP	**PnPn**	**00 17 48.3 +6.6**
KMI			pmax	pmax	
	comp=Z,22nm,1.0s				
KMI			pmax	pmax	
	comp=Z,290nm,9.2s				
KMI			LR	LR	
	comp=Z,4μm,11.1s				
KMI			LR	LR	
	comp=Z,7μm,13.6s				
KMI			LR	LR	
	comp=Z,7μm,12.5s				
PZH	**PanZhiHua**	**26.99 266**	P	**P**	**00 17 01.8 -1.7**
PZH			PP	PP	00 17 51.0 -14
PZH			S	**S**	**00 21 35.3 -3.9**
PZH			pmax	pmax	
	comp=Z,40nm,1.5s				
PZH			pmax	pmax	
	comp=Z,290nm,4.7s				
PZH			LR	LR	
	comp=Z,2μm,14.2s				
PZH			LR	LR	
	comp=Z,5μm,13.2s				
PZH			LR	LR	
	comp=Z,4μm,13.5s				
GTA	**Gaotai**	**27.06 295**	P	**P**	**00 17 03.0 -1.1**
GTA			pP	pP	00 17 12.0 -0.8
GTA			PcP	**PcP**	**00 20 25.8 +1.1**
GTA			PcS	**PcS**	**00 24 06.3 0.0**
GTA			pmax	pmax	
	comp=Z,20nm,1.5s				
GTA			pmax	pmax	
	comp=Z,230nm,6.5s				
GTA			LR	LR	
	comp=Z,3μm,13.8s				
GTA			LR	LR	
	comp=Z,7μm,14.2s				
GTA			LR	LR	
	comp=Z,9μm,17.8s				
SLVN	**Son La**	**27.29 254**	P	**P**	**00 17 04.8 -1.4**
SLVN	**Son La**	**27.29 254**	P	**P**	**00 17 07.1 +0.9**
PETK	**Petropavlovsk-**	**27.92 34**	P	**P**	**00 17 10.6 -0.8**
PETK	**Petropavlovsk-**	**27.92 34**	P	**P**	**00 17 12.6 +1.2**
	comp=Z,6.6nm,0.8s,baz=221,slow=7.2,SNR=5.4				
PETK			PcP	**PcP**	**00 20 25.3 -1.0**
	comp=Z,11nm,1.1s,baz=230,slow=6.7,SNR=3.8				
PETK			LR	LR	00 29 52.1
	comp=Z,1μm,18.1s,baz=226,slow=39				
	comp=Z,6.6nm,0.8s				
ZAK	**Zakamensk**	**28.03 319**	*e*P	**P**	**00 17 10.8 -1.8**
ZAK			pmax	pmax	
	comp=Z,18nm,1.2s				
PET	**Petropavlovsk**	**28.32 35**	*e*P	**P**	**00 17 18.3 +3.3**
PET			*e*S	**S**	**00 22 00.1 +0.8**
IRK	**Irkutsk**	**28.49 323**	*e*P	**P**	**00 17 15.0 -1.5**
IRK			pmax	pmax	
	comp=Z,71nm,2.1s				
BOD	**Bodaibo**	**28.49 340**	*e*P	**P**	**00 17 15.2 -1.3**
BOD			pmax	pmax	
	comp=Z,30nm,1.6s				
UBPT	**Khong Chiam**	**29.47 242**	P	**P**	**00 17 24.8 -0.7**
UBPT			IAmb	IAmb	00 17 35.6
	comp=Z,37nm,0.9s				
UBPT	**Khong Chiam**	**29.47 242**	P	**P**	**00 17 25.1 -0.4**
DLV	**Lat**	**29.58 233**	P	**P**	**00 17 25.8 -1.0**
DLV	**Lat**	**29.58 233**	P	**P**	**00 17 27.1 +0.3**
NONG	**Nongkai**	**29.61 249**	P	**P**	**00 17 26.4 -0.3**
KKM	**Kota Kinabalu**	**29.90 213**	P	**P**	**00 17 30.4 +1.0**
KKM			IAmb	IAmb	00 17 37.5
	comp=Z,128nm,1.5s				
KKM	**Kota Kinabalu**	**29.90 213**	P	**P**	**00 17 31.1 +1.6**
MOY	**Mondy**	**29.92 320**	*e*P	**P**	**00 17 28.7 -0.7**
MOY			pmax	pmax	
	comp=Z,29nm,2.5s				
YAK	**Yakutsk**	**29.94 358**	P	**P**	**00 17 28.2 -1.0**
YAK			IAmb	IAmb	00 17 32.9
	comp=Z,33nm,0.8s				
YAK	**Yakutsk**	**29.94 358**	P	**P**	**00 17 29.1 -0.1**
	comp=Z,14nm,0.3s,baz=206,slow=7.4,SNR=8.1				
YAK			LR	LR	00 29 34.7
	comp=Z,2μm,18.1s,baz=165,slow=36				
	comp=Z,14nm,0.3s				
YAK	**Yakutsk**	**29.94 358**	*e*P	**P**	**00 17 27.1 -2.1**
YAK			*e**PP	**pP**	**00 17 35.9 -2.1**
YAK			*e*		00 18 22.5
YAK			*e*		00 20 29.1
YAK			*e*S	**S**	**00 22 23.4 -1.1**
YAK			*e**SS	**sS**	**00 22 40.1 +0.9**
YAK			*e*SS	**SnSn**	**00 23 54.7 -2.4**
YAK			pmax	pmax	
	comp=Z,14nm,1.3s				
YAK			pmax	pmax	
	comp=N,11nm,1.7s				
YAK			pmax	pmax	
	comp=E,4.0nm,1.3s				
YAK			pmax	pmax	
	comp=Z,182nm,4.0s				
YAK			pmax	pmax	
	comp=N,281nm,6.1s				
YAK			pmax	pmax	
	comp=E,143nm,5.8s				
YAK			smax	smax	
	comp=E,208nm,5.4s				
YAK			smax	smax	
	comp=N,199nm,5.2s				
YAK			MLR	MLR	
	comp=Z,3μm,27.0s				
YAK			MLR	MLR	
	comp=N,2μm,17.0s				
YAK			MLR	MLR	
	comp=E,1μm,20.0s				
MA2	**Magadan**	**30.14 19**	P	**P**	**00 17 29.5 -1.6**
MA2	**Magadan**	**30.14 19**	P	**P**	**00 17 31.2 +0.1**
	comp=E,3.0nm,0.3s,baz=223,slow=7.0,SNR=9.0				
	comp=E,3.0nm,0.3s				
MA2	**Magadan**	**30.14 19**	P	**P**	**00 17 32.2 +1.1**
MA2	**Magadan**	**30.14 19**	*ce*P	**P**	**00 17 32.7 +1.6**
MA2			pmax	pmax	
	comp=Z,15nm,1.7s				
TNCH	**TengChong**	**30.23 265**	P	**P**	**00 17 30.5 -1.9**
TNCH			S	**S**	**00 22 29.5 -0.7**
TNCH			SS	**SnSn**	**00 24 08.3 +3.1**
TNCH			pmax	pmax	
	comp=Z,86nm,0.6s				
TNCH			pmax	pmax	
	comp=Z,170nm,4.4s				
TNCH			LR	LR	
	comp=Z,2μm,11.2s				
TNCH			LR	LR	
	comp=Z,3μm,14.9s				
TNCH			LR	LR	
	comp=Z,4μm,18.1s				
CRAI	**Chiangrai**	**30.72 255**	P	**P**	**00 17 35.8 -0.8**
CRAI			IAmb	IAmb	00 17 38.1
	comp=Z,52nm,1.2s				
CRAI			PcP	**PcP**	**00 20 33.9 -0.1**
GOMU	**GeErMu**	**30.97 288**	P	**P**	**00 17 37.8 -1.3**
GOMU			S	**S**	**00 22 39.8 -2.3**
GOMU			pmax	pmax	
	comp=Z,27nm,0.9s				
GOMU			LR	LR	
	comp=Z,3μm,17.6s				
GOMU			LR	LR	
	comp=Z,3μm,17.3s				
GOMU			LR	LR	
	comp=Z,4μm,17.5s				
TNTI	**Ternate**	**31.52 189**	P	**P**	**00 17 43.5 -0.2**
TNTI			IAmb	IAmb	00 17 57.2
	comp=Z,76nm,1.2s				
TNTI	**Ternate**	**31.52 189**	P	**P**	**00 17 45.0 +1.4**
TNTI	**Ternate**	**31.52 189**	P	**P**	**00 17 45.9 +2.3**
	comp=Z,33nm,1.2s				
KMSI	**Cibinong**	**32.32 195**	P	**P**	**00 17 54.0 +3.4**
CHTO	**Chiang Mai**	**32.59 254**	P	**P**	**00 17 51.2 -1.8**
CHTO			IAmb	IAmb	00 17 54.2
	comp=Z,57nm,1.0s				
CHTO	**Chiang Mai**	**32.59 254**	P	**P**	**00 17 52.9 -0.2**
CHTO			S	**S**	**00 23 12.2 +5.4**
CHTO	**Chiang Mai**	**32.59 254**	P	**P**	**00 17 52.7 -0.3**
CHTO	**Chiang Mai**	**32.59 254**	P	**P**	**00 17 51.2 -1.8**
CHTO			pmax	pmax	
	comp=Z,57nm,1.0s				
TOLI2	**Tolitoli**	**32.66 201**	P	**P**	**00 17 53.5 -0.1**
TOLI2			IAmb	IAmb	00 17 55.9
	comp=Z,60nm,1.4s				
TOLI2	**Tolitoli**	**32.66 201**	P	**P**	**00 17 53.8 +0.2**
CM31	**Chiang Mai Arr**	**32.77 253**	P	**P**	**00 17 54.1 -0.6**
CM31			IAmb	IAmb	00 17 56.8
	comp=Z,40nm,1.2s				
CMAR	**Chiang Mai Arr**	**32.77 253**	P	**P**	**00 17 53.4 -1.2**
CMAR			PcP	**PcP**	**00 20 38.9 -0.6**
CMAR	**Chiang Mai Arr**	**32.77 253**	P	**P**	**00 17 53.6 -1.0**
	comp=Z,8.6nm,0.8s,baz=51,slow=8.4,SNR=46				
CMAR			PcP	**PcP**	**00 20 39.2 -0.3**
	comp=Z,7.6nm,1.0s,baz=66,slow=2.9,SNR=7.6				
CMAR			LR	LR	00 32 51.9
	comp=Z,3μm,20.6s,baz=60,slow=39				
	comp=Z,8.6nm,0.8s				
CMAR	**Chiang Mai Arr**	**32.77 253**	*i* P	**P**	**00 17 54.4 -0.2**
CMAR			pmax	pmax	
	comp=Z,8.0nm,0.7s				
MRSI	**Marisa**	**32.92 199**	P	**P**	**00 17 57.9 +2.0**
	comp=Z,908nmcomp=Z,34nm,1.5s				
NAYO	**Nakonayok**	**33.21 245**	P	**P**	**00 17 58.8 +0.4**
SEY	**Seymchan**	**33.40 17**	P	**P**	**00 18 00.3 +0.7**
	comp=Z,3.3nm,0.8s,baz=206,slow=6.9,SNR=12				
SEY			PcP	**PcP**	**00 20 40.2 -0.3**
	comp=Z,1.1nm,0.4s,baz=196,slow=5.0,SNR=4.1				
	comp=Z,3.3nm,0.8s				
SEY	**Seymchan**	**33.40 17**	*ce*P	**P**	**00 18 01.4 +1.7**
SEY			pmax	pmax	
	comp=Z,13nm,1.3s				
H11N2	**WAKE ISLAND Hy**	**33.51 103**	T	T	00 53 29.3
	baz=298,slow=75				
H11N1	**WAKE ISLAND Hy**	**33.52 103**	T	T	00 53 30.4
	baz=298,slow=75				
H11N3	**WAKE ISLAND Hy**	**33.53 103**	T	T	00 53 34.0
	baz=298,slow=75				
H11S3	**WAKE ISLAND Hy**	**33.95 105**	T	T	00 54 04.8
	baz=302,SNR=22				
H11S1	**WAKE ISLAND Hy**	**33.95 105**	T	T	00 54 38.0
	baz=302,slow=74,SNR=58				
H11S2	**WAKE ISLAND Hy**	**33.96 105**	T	T	00 54 38.9
	baz=302,slow=74,SNR=29				
SANI	**Sanana**	**34.49 191**	P	**P**	**00 18 08.8 -0.8**
SANI	**Sanana**	**34.49 191**	P	**P**	**00 18 13.1 +3.5**
	comp=Z,693nmcomp=Z,39nm,0.8s				
SMPI	**Sarmi**	**34.52 168**	P	**P**	**00 18 11.9 +2.0**
	comp=Z,2μmcomp=Z,31nm,1.1s				
FAKI	**Fak Fak**	**34.87 180**	P	**P**	**00 18 13.2 +0.3**
FAKI	**Fak Fak**	**34.87 180**	P	**P**	**00 18 13.6 +0.7**
FAKI	**Fak Fak**	**34.87 180**	P	**P**	**00 18 13.9 +1.0**
	comp=Z,2μmcomp=Z,104nm,1.2s				
SRDT	**SRDT**	**34.89 247**	P	**P**	**00 18 12.5 -0.6**
SBUM	**Sibu**	**34.95 216**	P	**P**	**00 18 14.2 +0.6**
LSA	**Lhasa**	**35.05 277**	P	**P**	**00 18 13.4 -1.5**
LSA	**Lhasa**	**35.05 277**	P	**P**	**00 18 14.5 -0.4**
LSA			S	**S**	**00 23 50.5 +4.8**
LSA			LR	LR	
	comp=Z,3μm,14.7s				
LSA			LR	LR	
	comp=Z,5μm,15.8s				
LSA	**Lhasa**	**35.05 277**	P	**P**	**00 18 13.4 -1.5**
LSA			pmax	pmax	
	comp=Z,26nm,0.9s				
GENI	**Genyem**	**35.39 166**	P	**P**	**00 18 19.6 +2.3**
	comp=Z,54nm,1.0s				
JAY	**Jayapura**	**35.43 165**	LR	LR	00 30 22.9
	comp=Z,698nm,20.4s,baz=339,slow=32				
NLAI	**Namlea**	**35.51 189**	P	**P**	**00 18 21.5 +3.2**
	comp=Z,50nm,1.0s				
WMQ	**Urumqi**	**36.47 302**	*e*P	**P**	**00 18 25.0 -1.5**
WMQ			PcP	**PcP**	**00 20 50.5 +0.6**
WMQ			pmax	pmax	
	comp=Z,58nm,1.3s				
WMQ			pmax	pmax	
	comp=Z,190nm,3.7s				
WMQ			LR	LR	
	comp=Z,3μm,17.9s				
WMQ			LR	LR	
	comp=Z,6μm,16.3s				
WMQ			LR	LR	
	comp=Z,4μm,18.7s				
KSM	**Kuching**	**36.77 218**	IAmb	IAmb	00 18 31.5
	comp=Z,71nm,0.9s				

KSM	Kuching	36.77	218	P	P	00 18 30.8 +1.6
BRDH	Bariadhala	36.94	266	LR	LR	00 36 34.2
	comp=Z,6µm,18.1s,baz=90,slow=41					
KDI	Kendari	37.01	196	P	P	00 18 34.8 +3.6
STKI	Sintang	37.38	215	P	P	00 18 36.2 +1.9
SRIT	Nakonsritamara	38.16	239	IAmb	IAmb	00 18 42.6
	comp=Z,82nm,1.0s					
SRIT	Nakonsritamara	38.16	239	P	P	00 18 41.9 +0.9
BBSI	Bau Bau	38.50	195	P	P	00 18 47.5 +3.7
	comp=Z,2µmcomp=Z,50nm,1.5s					
ZSN	Zaisan	38.74	307	eP	P	00 18 44.4 -1.2
ZSN	Zaisan	38.74	307	eP	P	00 18 44.4 -1.2
KAPI	Kappang	38.77	200	P	P	00 18 43.9 -2.1
KAPI				PcP	PcP	00 20 57.6 +0.4
KAPI	Kappang	38.77	200	LR	LR	00 36 13.0
	comp=Z,274nm,20.9s,baz=24,slow=38					
KAPI	Kappang	38.77	200	P	P	00 18 46.2 +0.2
KAPI	Kappang	38.77	200	P	P	00 18 46.7 +0.7
KAPI	Kappang	38.77	200	P	P	00 18 43.9 -2.1
KAPI						00 20 57.6
KAPI				pmax	pmax	
	comp=Z,66nm,1.4s					
TIXI	Tiksi	39.60	358	P	P	00 18 50.3 -2.0
TIXI	Tiksi	39.60	358	P	P	00 18 51.2 -1.1
	comp=Z,4.2nm,0.3s,baz=173,slow=4.6,SNR=13					
TIXI				LR	LR	00 35 53.2
	comp=Z,2µm,18.8s,baz=183,slow=37					
	comp=Z,4.2nm,0.3s					
TIXI	Tiksi	39.60	358	i P	P	00 18 52.7 +0.3
TIXI				pmax	pmax	
	comp=Z,6.0nm,1.1s					
BSSI	Bau Bau, Buton	39.65	198	P	P	00 18 57.9 +4.6
	comp=Z,1µmcomp=Z,71nm,1.2s					
KULM	Kulim	39.71	234	IAmb	IAmb	00 18 55.5
	comp=Z,85nm,1.0s					
KULM	Kulim	39.71	234	P	P	00 18 54.6 +0.6
ZALV	Zalesovo Beam	39.88	317	P	P	00 18 52.3 -2.7
ZALV				PcP	PcP	00 20 58.3 -1.9
ZALV	Zalesovo Beam	39.88	317	P	P	00 18 53.3 -1.7
	comp=Z,4.5nm,1.0s,baz=90,slow=5.8,SNR=19					
ZALV				PcP	PcP	00 20 59.3 -0.9
	comp=Z,20nm,0.9s,baz=108,slow=4.0,SNR=15					
ZALV				ScP	ScP	00 24 45.2 -1.7
	comp=Z,1.9nm,0.8s,baz=96,slow=4.5,SNR=4.1					
ZALV				LR	LR	00 36 43.2
	comp=Z,3µm,21.1s,baz=104,slow=38					
	comp=Z,4.5nm,1.0s					
ZALV	Zalesovo Beam	39.88	317	i P	P	00 18 53.4 -1.5
ZALV				pmax	pmax	
	comp=Z,6.0nm,1.0s					
MYKOM	Kota Tinggi	40.23	227	P	P	00 18 57.6 -0.7
MYKOM				IAmb	IAmb	00 19 00.2
	comp=Z,150nm,1.8s					
MYKOM	Kota Tinggi	40.23	227	P	P	00 18 59.4 +1.2
MK31	Makanchi Array	40.45	306	ceP	P	00 18 58.7 -1.1
MKAR	Makanchi Array	40.45	306	P	P	00 18 58.4 -1.4
MKAR				PcP	PcP	00 21 01.3 -1.0
MKAR	Makanchi Array	40.45	306	P	P	00 18 58.3 -1.5
	comp=Z,11nm,0.9s,baz=94,slow=10,SNR=78					
MKAR				PcP	PcP	00 21 01.6 -0.6
	comp=Z,16nm,0.9s,baz=90,slow=2.4,SNR=9.9					
MKAR				LR	LR	00 37 06.1
	comp=Z,4µm,18.1s,baz=84,slow=38					
	comp=Z,11nm,0.9s					
MKAR	Makanchi Array	40.45	306	ceP	P	00 18 58.7 -1.1
MKAR				pmax	pmax	
	comp=Z,11nm,0.9s					
MAKZ	Makanchi	40.66	306	P	P	00 19 00.1 -1.5
MAKZ	Makanchi	40.66	306	P	P	00 19 00.5 -1.1
BILL	Biiibino	41.01	19	P	P	00 19 05.2 +1.1
BILL				IAmb	IAmb	00 19 07.2
	comp=Z,90nm,1.3s					
BILL	Biiibino	41.01	19	||i P	P	00 19 05.6 +1.5
BILL				pmax	pmax	
	comp=Z,97nm,1.5s					
MMRI	Maumere	41.63	195	P	P	00 19 08.1 -1.6
MMRI				IAmb	IAmb	00 19 21.8
	comp=Z,86nm,1.3s					
MMRI	Maumere	41.63	195	P	P	00 19 09.5 -0.2
TPI	Tanjungpandan	41.74	218	P	P	00 19 12.4 +1.7
	comp=Z,1µmcomp=Z,90nm,1.2s					
EDFI	Ende, Flores	41.86	195	P	P	00 19 11.5 -0.2
	comp=Z,27nm,1.2s					
SOEI	Soe	42.33	191	IAmb	IAmb	00 19 48.7
	comp=Z,111nm,1.0s					
SOEI	Soe	42.33	191	P	P	00 19 14.5 -1.1
SOEI	Soe	42.33	191	P	P	00 19 17.0 +1.4
	comp=Z,2µmcomp=Z,105nm,1.2s					
LHMI	Lhok Sumawe	42.37	238	P	P	00 19 17.1 +1.3
LHMI	Lhok Sumawe	42.37	238	P	P	00 19 18.4 +2.6
	comp=Z,2µmcomp=Z,165nm,1.1s					
PDGK	Podgornoye	42.43	301	P	P	00 19 14.0 -2.2
SHLS	Shalkode	42.46	301	eP	P	00 19 12.3 -4.2
SHLS	Shalkode	42.46	301	eP	P	00 19 12.4 -4.2
KMMI	Kalianget	42.63	207	P	P	00 19 21.2 +3.3
	comp=Z,119nm,1.2s					
PSI	Prapat	42.69	234	LR	LR	00 36 38.5
	comp=Z,640nm,21.6s,baz=22,slow=35					
PSI	Prapat	42.69	234	P	P	00 19 18.5 -0.1
PSI	Prapat	42.69	234	P	P	00 19 17.5 -1.1
PSI				pmax	pmax	
	comp=Z,46nm,1.1s					
RPSI	Rantau Prapat	42.77	234	P	P	00 19 17.5 -1.6
UZB	Uzynbulak	42.78	301	eP	P	00 19 17.6 -1.5
UZB	Uzynbulak	42.78	301	eP	P	00 19 17.6 -1.5
PLAI	Plampang	42.97	201	P	P	00 19 21.8 +1.1
GRJI	Gresik	43.11	209	P	P	00 19 23.5 +1.8
SRBI	Singaraja	43.12	205	P	P	00 19 24.1 +2.2
	comp=Z,56nm,1.5s					
KURK	Kurchatov	43.13	312	P	P	00 19 19.4 -2.2
KURK				IAmb	IAmb	00 19 31.7
	comp=Z,74nm,1.1s					
KURK	Kurchatov	43.13	312	P	P	00 19 20.6 -1.0
KURK				S	S	00 25 49.1 +3.3
KURK	Kurchatov	43.13	312	ceP	P	00 19 20.6 -1.0
KURK				pmax	pmax	
	comp=Z,62nm,1.3s					
TDK	Taldyqorghan	43.14	303	eP	P	00 19 20.4 -1.4
TDK				pmax	pmax	
	comp=Z,69nm,1.5s					
TDK				MLR	MLR	
	comp=Z,2µm,14.0s					
TDK	Taldyqorghan	43.14	303	eP	P	00 19 20.4 -1.4
	comp=Z,70nm,1.5s					
TDK				LR	LR	00 38 38.3
	comp=Z,2µm,14.2s					
TWSI	Taliwang, Sumb	43.17	202	P	P	00 19 25.1 +2.9
	comp=Z,2µmcomp=Z,133nm,1.1s					
KURBB	Kurchatov Arra	43.18	312	P	P	00 19 20.6 -1.4
	comp=Z,24nm,1.1s,baz=97,slow=9.0,SNR=63					
KURBB				PcP	PcP	00 21 10.1 -1.0
	comp=Z,12nm,0.8s,baz=92,slow=3.5,SNR=11					
KURBB				LR	LR	00 38 58.3
	comp=Z,4µm,19.8s,baz=81,slow=38					
	comp=Z,24nm,1.1s					
ZHN	Zhinishke	43.21	301	eP	P	00 19 21.0 -1.5
ZHN	Zhinishke	43.21	301	eP	P	00 19 21.0 -1.5
ABJI	Asem Bagus	43.22	206	P	P	00 19 24.8 +2.2
	comp=Z,62nm,1.4s					
SATY	Saty	43.24	300	eP	P	00 19 21.3 -1.5
SATY	Saty	43.24	300	eP	P	00 19 21.4 -1.5
TBJI	Tambak Boyo	43.28	210	P	P	00 19 24.9 +1.7
BSI	Banda Aceh	43.39	240	P	P	00 19 24.0 -0.2
	comp=Z,56nm,1.0s					
MLSI	Meulaboh, Aceh	43.42	238	P	P	00 19 24.0 -0.4
PMBI	Palembang	43.45	222	P	P	00 19 25.0 +0.4
PMBI	Palembang	43.45	222	P	P	00 19 27.1 +2.5
MNSI	Mandailing Nat	43.73	231	P	P	00 19 28.0 +1.2
	comp=Z,62nm,0.8s					
PMG	Port Moresby	43.76	158	P	P	00 19 27.2 +0.2
	comp=Z,5.7nm,0.3s,baz=327,slow=11,SNR=3.1					
	comp=Z,5.7nm,0.3s					
JAGI	Jajag, Banyuwa	43.87	206	P	P	00 19 27.4 -0.4
JAGI				IAmb	IAmb	00 20 02.5
	comp=Z,90nm,1.7s					
JAGI	Jajag, Banyuwa	43.87	206	P	P	00 19 29.5 +1.6
JAGI	Jajag, Banyuwa	43.87	206	P	P	00 19 30.7 +2.8
	comp=Z,1µmcomp=Z,27nm,1.1s					
NGJI	Ngawi	43.94	210	P	P	00 19 31.4 +2.9
	comp=Z,135nm,1.3s					
GMJI	Gumukmas	43.96	207	P	P	00 19 30.3 +1.7
SMRI	Semarang	44.10	212	P	P	00 19 31.5 +1.7
SMRI	Semarang	44.10	212	P	P	00 19 32.2 +2.4
	comp=Z,98nm,0.9s					
PPI	Padang Panjang	44.14	229	P	P	00 19 31.5 +1.4
	comp=Z,954nmcomp=Z,52nm,1.4s					
CHKK	Chushkaly	44.21	302	eP	P	00 19 29.1 -1.4
CHKK	Chushkaly	44.21	302	eP	P	00 19 29.1 -1.4
KDJ	Kajisay	44.22	299	P	P	00 19 29.2 -1.5
KDJ	Kajisay	44.22	299	P	P	00 19 29.2 -1.5
KDJ				pmax	pmax	
	comp=Z,15nm,1.1s					
MDOK	Medeo	44.22	301	P	P	00 19 29.3 -1.5
MDOK	Medeo	44.22	301	eP	P	00 19 29.2 -1.5
MDOK				eS	S	00 26 02.8 +0.5
MDOK				LR	LR	00 39 36.9
	comp=Z,2µm,13.4s					
TNSS	Tian-Shan	44.31	301	eP	P	00 19 29.9 -1.8
TNSS	Tian-Shan	44.31	301	eP	P	00 19 29.9 -1.8
AAA	Alma-Ata	44.31	301	eP	P	00 19 29.9 -1.4
AAA				pmax	pmax	
	comp=Z,31nm,0.6s					
AAA	Alma-Ata	44.31	301	eP	P	00 19 30.0 -1.4
	comp=Z,30nm,0.6s					
GSI	Gunungsitoli	44.70	234	P	P	00 19 33.9 -0.7
GSI	Gunungsitoli	44.70	234	P	P	00 19 34.7 +0.1
	comp=Z,207nm,1.4s					
MTN	Manton Dam	44.74	181	P	P	00 19 33.6 -1.2
	comp=Z,75nm,1.2s					
MTN	Manton Dam	44.74	181	P	P	00 19 34.6 -0.2
SNSI	Sinabang, Aceh	44.77	236	P	P	00 19 36.4 +1.2
	comp=Z,104nm,1.5s					
NRIK	Noril'sk	44.79	339	P	P	00 19 33.9 -0.8
NRIK				IAmb	IAmb	00 19 35.3
	comp=Z,60nm,1.1s					
NRIK	Noril'sk	44.79	339	P	P	00 19 34.0 -0.7
	comp=Z,44nm,1.1s,baz=118,slow=9.3,SNR=57					
NRIK				LR	LR	00 39 36.6
	comp=Z,2µm,20.1s,baz=124,slow=38					
	comp=Z,44nm,1.1s					
UGM	Wanagama	44.84	211	P	P	00 19 34.9 -0.8
UGM	Wanagama	44.84	211	P	P	00 19 36.0 +0.3
UGM	Wanagama	44.84	211	P	P	00 19 37.2 +1.5
	comp=Z,126nm,1.5s					
ULHL	Ulahol	44.90	299	P	P	00 19 35.2 -1.0
	SNR=14					
MDSI	Maura Dua	45.07	221	P	P	00 19 39.3 +1.8
	comp=Z,2µmcomp=Z,164nm,1.4s					
BOOM	Boomskoye usch	45.10	300	P	P	00 19 36.3 -1.5
BOOM				PcP	PcP	00 21 17.9 -0.2
BOOM				IAmb	IAmb	00 21 19.5
	comp=Z,32nm,0.8s					
BOOM	Boomskoye usch	45.10	300	P	P	00 19 36.3 -1.5
BOOM						00 21 17.9
BOOM				pmax	pmax	
	comp=Z,32nm,0.8s					
PBSI	Pulau Batu	45.22	232	P	P	00 19 39.9 +1.2
	comp=Z,147nm,1.0s					
LEM	Lembang	45.23	215	P	P	00 19 39.6 +0.6
	comp=Z,241nm,0.8s,baz=73,slow=4.7,SNR=33					
LEM				LR	LR	00 38 57.0
	comp=Z,389nm,21.2s,baz=12,slow=36					
LEM	Lembang	45.23	215	P	P	00 19 40.7 +1.7
TKM2	Tokmak 2	45.30	301	P	P	00 19 38.8 -0.6
	SNR=40					
TKM2	Tokmak 2	45.30	301	i P	P	00 19 38.1 -1.3
TKM2				pmax	pmax	
	comp=Z,54nm,1.0s					
SBJI	Serang	45.38	218	P	P	00 19 42.0 +2.0
KSH	Kashi	45.45	296	P	P	00 19 43.0 +2.4
KSH				PcP	PcP	00 21 21.5 +2.2
KSH				PP	PP	00 21 35.0 +7.9
KSH				S	S	00 26 29.5 +9.3
KSH				pmax	pmax	
	comp=Z,12nm,0.8s					
KSH				LR	LR	
	comp=Z,2µm,15.9s					
KSH				LR	LR	
	comp=Z,5µm,16.6s					
KSH				LR	LR	
	comp=Z,6µm,17.2s					
SISI	Saibi	45.64	230	P	P	00 19 42.6 +0.5
	comp=Z,94nm,0.7s					
BBJI	Bungbulang	45.77	215	P	P	00 19 42.0 -1.1
KBK	Karagaybulak	45.81	300	P	P	00 19 42.8 -0.6
	SNR=15					
CNJI	Cibinong	45.89	216	P	P	00 19 46.4 +2.4
	comp=Z,39nm,1.0s					
CHMS	Chumysh	45.91	301	P	P	00 19 43.4 -0.7
	SNR=14					
SGDS	Sogindy	45.95	301	eP	P	00 19 43.1 -1.3
SGDS	Sogindy	45.95	301	eP	P	00 19 43.1 -1.3
FRU1	Bishkek	46.02	300	P	P	00 19 43.2 -1.7
FRU1				IAmb	IAmb	00 19 45.6
	comp=Z,37nm,0.8s					
FRU1	Bishkek	46.02	300	P	P	00 19 43.2 -1.7
FRU1				pmax	pmax	
	comp=Z,37nm,0.8s					
CGJI	Cibinong	46.02	218	P	P	00 19 47.1 +2.0
	comp=Z,56nm,1.0s					
USP	Ospenovka	46.07	301	P	P	00 19 44.2 -1.0
	SNR=25					
AAK	Ala-Archa	46.14	300	P	P	00 19 44.1 -1.8
AAK	Ala-Archa	46.14	300	LR	LR	00 41 35.0
	comp=Z,3µm,18.9s,baz=81,slow=39					
AAK	Ala-Archa	46.14	300	P	P	00 19 45.4 -0.6
AAK				S	S	00 26 32.9 +2.8
AAK	Ala-Archa	46.14	300	P	P	00 19 45.0 -1.0
	SNR=19					
AAK	Ala-Archa	46.14	300	ceP	P	00 19 45.4 -0.6
AAK				pmax	pmax	
	comp=Z,15nm,0.8s					
AAK	Ala-Archa	46.14	300	i P	P	00 19 45.0 -1.0
	SNR=23					
UCH	Uchtor	46.18	300	P	P	00 19 46.6 0.0
	SNR=6.4					
BTLS	Baital	46.23	304	eP	P	00 19 45.0 -1.4
BTLS				pmax	pmax	
	comp=Z,27nm,1.3s					
BTLS	Baital	46.23	304	eP	P	00 19 45.1 -1.4
	comp=Z,27nm,1.3s					
SPIA	Saint Paul Isl	46.28	40	P	P	00 19 45.8 -0.8
	baz=263					
P08K	Saint George I	46.59	40	P	P	00 19 48.0 -1.1
	baz=264					
EKS2	Erkin-Say	46.66	300	P	P	00 19 49.3 -0.7
	SNR=11					
NIKH	Nikolski High	46.73	45	P	P	00 19 48.9 -1.3
	baz=268					
AML	Almayashu	46.79	300	P	P	00 19 51.0 -0.4
	SNR=30					
GAMB	Gambell	46.85	30	P	P	00 19 50.1 -0.8
	baz=255					
BRZS	Berezniki	46.91	310	eP	P	00 19 50.5 -1.2
BRZS	Berezniki	46.91	310	eP	P	00 19 50.5 -1.2
COEN	Coen	47.06	165	P	P	00 19 53.2 +0.1
COEN	Coen	47.06	165	P	P	00 19 54.2 +1.1
ARSB	Arslanbob	47.44	299	P	P	00 19 54.8 -1.3
ARSB				IAmb	IAmb	00 20 14.8
	comp=Z,55nm,1.2s					
ARSB	Arslanbob	47.44	299	P	P	00 19 54.8 -1.3
ARSB				pmax	pmax	
	comp=Z,55nm,1.2s					
UNV	Unalaska Valle	48.16	44	P	P	00 19 59.9 -1.4
	baz=269					
TATA	Tatamba Isabel	48.22	142	P	P	00 20 02.7 +0.5
BVA0	Borovoye Array	48.32	315	i P	P	00 20 00.8 -1.8
BVAR	Borovoye Array	48.32	315	P	P	00 20 01.7 -0.9
	comp=Z,25nm,0.7s,baz=97,slow=8.9,SNR=134					
BVAR				PcP	PcP	00 21 28.1 -0.9
	comp=Z,20nm,0.8s,baz=101,slow=3.6,SNR=9.4					
BVAR				LR	LR	00 42 33.8
	comp=Z,1µm,18.1s,baz=86,slow=39					
	comp=Z,25nm,0.7s					
BRVK	Borovoye	48.38	315	P	P	00 20 01.9 -1.1
BRVK				IAmb	IAmb	00 20 03.3
	comp=Z,41nm,0.8s					
BRVK	Borovoye	48.38	315	P	P	00 20 02.1 -0.9
BRVK				S	S	00 27 03.9 +2.5
BRVK	Borovoye	48.38	315	ceP	P	00 20 02.0 -1.1
BRVK				pmax	pmax	
	comp=Z,68nm,1.3s					
DRK	Karamyk	48.64	296	P	P	00 20 04.1 -1.5
DRK	Karamyk	48.64	296	P	P	00 20 04.1 -1.5
DRK				pmax	pmax	
	comp=Z,38nm,0.3s					
M11K	Mekoryuk	48.76	36	P	P	00 20 04.9 -0.9
	baz=264					
NIL	Nilore	48.83	289	P	P	00 20 05.4 -1.5
NIL				IAmb	IAmb	00 20 07.6
	comp=Z,50nm,1.0s					
NIL	Nilore	48.83	289	P	P	00 20 05.3 -1.6
NIL	Nilore	48.83	289	P	P	00 20 05.4 -1.5
NIL				pmax	pmax	
	comp=Z,50nm,1.0s					
TNA	Tin City	48.85	29	P	P	00 20 06.4 0.0
TNA				IAmb	IAmb	00 20 21.2
	comp=Z,37nm,1.0s					
TNA	Tin City	48.85	29	P	P	00 20 05.7 -0.8
	baz=257,SNR=5.9					
SAVO	Savo Central	48.87	142	P	P	00 20 07.1 -0.1
KK31	Karatay Array	48.98	301	IAmb	IAmb	00 20 17.2
	comp=Z,52nm,1.1s					
KK31	Karatay Array	48.98	301	i P	P	00 20 06.3 -1.6
KKAR	Karatay Array	48.98	301	P	P	00 20 06.2 -1.7
KKAR	Karatay Array	48.98	301	IAmb	IAmb	00 20 17.1
	comp=Z,33nm,1.1s					
KKAR	Karatay Array	48.98	301	P	P	00 20 06.2 -1.7
BTK	Batken	49.27	297	P	P	00 20 08.1 -2.2
BTK	Batken	49.27	297	P	P	00 20 08.1 -2.2
BTK				pmax	pmax	
	comp=Z,21nm,1.1s					
BRLS	Borolday	49.48	301	eP	P	00 20 11.7 0.0
BRLS	Borolday	49.48	301	eP	P	00 20 11.7 0.0
IUG	Iuzhnay	49.48	300	eP	P	00 20 10.3 -1.5
IUG				pmax	pmax	
	comp=Z,30nm,1.0s					
IUG	Iuzhnay	49.48	300	eP	P	00 20 10.4 -1.5
	comp=Z,30nm,1.0s					
F14K	Arctic Creek	49.48	29	P	P	00 20 09.9 -1.5
	baz=259					
K13K	Kusilvak Mount	49.68	34	P	P	00 20 11.4 -1.5
	baz=264					
ANM	Nome	49.72	30	P	P	00 20 12.1 -1.1
	baz=261					
GAR	Garm	49.87	296	P	P	00 20 12.9 -1.9
GAR				IAmb	IAmb	00 20 25.9
	comp=Z,59nm,1.0s					
GAR				PcP	PcP	00 21 35.0 0.0
FALS	False Pass	49.97	43	P	P	00 20 14.1 -1.0
	baz=271					
M13K	Dall Lake	50.17	36	P	P	00 20 15.6 -1.0
	baz=266					
F15K	North Star Dit	50.21	29	P	P	00 20 16.5 -0.4
	baz=260					
J14K	Nanvaranak Lak	50.28	33	P	P	00 20 15.9 -1.4
	baz=264					
HYB	Hyderabad	50.29	266	eP	P	00 20 17.5 -0.7
HYB				IVmB_BB		00 20 17.8
	comp=Z,473nm,1.0s					
HYB				IVMs_BB	IVMs_BB	00 45 25.4
	comp=Z,380nm,11.0s					
FITZ	Fitzroy Crossi	50.34	188	P	P	00 20 18.1 -0.1
G15K	Niukluk	50.35	30	P	P	00 20 17.0 -0.9
	baz=262					
C16K	Lisburne Hills	50.44	25	IAmb	IAmb	00 20 21.4
	comp=Z,37nm,0.8s					
C16K	Lisburne Hills	50.44	25	P	P	00 20 18.0 -0.5
	baz=258					
L14K	Kuka Creek	50.56	35	P	P	00 20 18.4 -1.1
	baz=266					
M14K	Bethel	50.88	35	P	P	00 20 22.8 +0.9
M14K				IAmb	IAmb	00 20 35.3
	comp=Z,100nm,1.4s					
M14K	Bethel	50.88	35	P	P	00 20 20.4 -1.5
	baz=267					
SIMJ	Simiganj	50.94	296	P	P	00 20 21.6 -1.3
SIMJ				IAmb	IAmb	00 20 40.4
	comp=Z,68nm,1.1s					
N14K	Kuskokwak Cree	50.98	36	P	P	00 20 21.1 -1.6
	baz=268					
H16K	Elim	51.07	30	P	P	00 20 22.1 -1.3
	baz=264					
G16K	Koyuk River	51.11	29	P	P	00 20 22.4 -1.3
	baz=263					
L15K	Ungalak Mounta	51.16	34	P	P	00 20 23.0 -1.1
	baz=267					
D17K	Noatak River	51.16	26	P	P	00 20 23.3 -0.7
	baz=260,SNR=15					
O14K	Tigyukauivet M	51.17	37	P	P	00 20 22.6 -1.6
	baz=269					
K15K	Wolf Creek Mou	51.18	33	P	P	00 20 22.8 -1.4
	baz=266					
C17K	DeLong Mountai	51.27	25	P	P	00 20 24.5 -0.2
	baz=260					
RDOG	Red Dog Mine	51.29	26	P	P	00 20 24.2 -0.8
	baz=260					
M15K	Kasigluk River	51.50	35	P	P	00 20 25.2 -1.4
	baz=268					
E17K	Hotham Inlet	51.55	27	P	P	00 20 25.9 -1.0
	baz=262					
SDPT	Sand Point	51.65	42	P	P	00 20 26.2 -1.6
	baz=273					
WB0	Warramunga Arr	51.66	177	IAmb	IAmb	00 20 30.5
	comp=Z,69nm,1.5s					
J16K	Anvik River	51.67	32	P	P	00 20 28.0 +0.2
	baz=266					
I17K	Unalakleet	51.67	31	P	P	00 20 27.5 -0.3
	baz=266					
F17K	Baldwin Pennin	51.69	28	P	P	00 20 26.7 -1.3
	baz=263,SNR=7.6					
N15K	Kwethluk River	51.78	36	P	P	00 20 27.1 -1.6
	baz=269					
WRAB	Tennant Creek	51.83	177	P	P	00 20 29.2 -0.3
WRAB	Tennant Creek	51.83	177	P	P	00 20 29.2 -0.3
WRAB				pmax	pmax	
	comp=Z,35nm,1.2s					
G17K	Kiwalik Mounta	51.83	29	P	P	00 20 28.0 -1.0
	baz=264					
WRA	Warramunga Arr	51.84	177	P	P	00 20 28.8 -0.7
WRA	Warramunga Arr	51.84	177	P	P	00 20 29.6 0.0
	comp=Z,11nm,0.9s,baz=353,slow=7.7,SNR=35					
WRA				PcP	PcP	00 21 42.6 +0.3
	comp=Z,1.8nm,0.8s,baz=354,slow=4.5,SNR=0.9					
WRA				LR	LR	00 42 07.7
	comp=Z,374nm,20.6s,baz=310,slow=35					
	comp=Z,11nm,0.9s					
WB2	Warramunga Arr	51.84	177	IAmb	IAmb	00 20 52.8
	comp=Z,35nm,1.1s					
WB2	Warramunga Arr	51.84	177	P	P	00 20 28.9 -0.6
	comp=Z,33nm,1.0s					
WB1	Warramunga Ar.	51.85	177	P	P	00 20 30.0 +0.3
WR0	Warramunga Arr	51.86	177	P	P	00 20 29.2 -0.5
WR0				IAmb	IAmb	00 20 40.4
	comp=Z,48nm,1.1s					
O15K	Ungalikthiuk R	51.91	37	P	P	00 20 28.2 -1.5
	baz=270					
B18K	Kokolik River	51.91	24	P	P	00 20 27.7 -1.8
	baz=260					
KBL	Kabul	51.95	291	P	P	00 20 29.4 -1.3
KBL	Kabul	51.95	291	P	P	00 20 29.0 -1.7
	SNR=18					
KBL	Kabul	51.95	291	P	P	00 20 29.4 -1.3
KBL				pmax	pmax	
	comp=Z,28nm,1.1s					
C18K	Utukok River	52.01	25	IAmb	IAmb	00 20 33.3
	comp=Z,66nm,1.5s					
C18K	Utukok River	52.01	25	P	P	00 20 29.0 -1.4
	baz=262					
E18K	Tukpahlearik C	52.06	27	P	P	00 20 29.3 -1.4
	baz=263					
H17K	Granite Mounta	52.09	30	P	P	00 20 30.9 0.0
H17K	Granite Mounta	52.09	30	P	P	00 20 29.5 -1.5
	baz=266					
L16K	Owhat River	52.12	34	P	P	00 20 31.8 +0.6
L16K	Owhat River	52.12	34	P	P	00 20 30.0 -1.2
	baz=268					
S14K	Fog Glacier	52.12	41	P	P	00 20 30.9 -0.6
	baz=273					
CHNA	Chernabura Isl	52.18	43	P	P	00 20 30.4 -1.4
	baz=274					
A19K	Wainwright	52.30	23	P	P	00 20 32.3 -0.2
	baz=260					
F18K	Selawik	52

baz=269
CHGN Chignik 52.76 41 P P 00 20 35.4 -0.6
baz=274
H18K Honhosa River 52.76 30 IAmb IAmb 00 20 49.4
comp=Z,104nm,1.9s
H18K Honhosa River 52.76 30 P P 00 20 34.6 -1.3
baz=267
O16K Kokwok River B 52.79 37 P P 00 20 34.1 -2.2
baz=271
P16K Nushagak River 52.86 38 P P 00 20 35.2 -1.5
baz=272
QIS Mount Isa 52.90 171 P P 00 20 37.5 +0.1
TV1H Townsville Har 53.02 163 P P 00 20 39.4 +1.1
M17K Holitna River 53.09 35 P P 00 20 39.3 +0.8
M17K Holitna River 53.09 35 P P 00 20 36.9 -1.6
baz=271
F19K Shaleruckik Mo 53.11 28 IAmb IAmb 00 20 50.6
comp=Z,85nm,1.8s
F19K Shaleruckik Mo 53.11 28 P P 00 20 36.9 -1.6
baz=266
D19K Kuna River 53.12 26 IAmb IAmb 00 20 43.1
comp=Z,75nm,1.2s
D19K Kuna River 53.12 26 P P 00 20 37.1 -1.5
baz=265
R16K Pilot Point 53.14 39 P P 00 20 36.5 -2.4
baz=273
N17K Nushagak Hills 53.23 36 P P 00 20 41.6 +2.2
N17K Nushagak Hills 53.23 36 P P 00 20 38.0 -1.4
baz=271
O17K Koliganek Bris 53.29 37 P P 00 20 38.7 -1.2
baz=272
E19K Redstone River 53.36 27 IAmb IAmb 00 20 57.7
comp=Z,30nm,1.0s
E19K Redstone River 53.36 27 P P 00 20 39.0 -1.3
baz=266
GCSA Galena City Sc 53.38 30 P P 00 20 39.2 -1.2
baz=268
J18K Innoko River 53.43 32 P P 00 20 40.6 -0.3
baz=270
L18K Granite Mounta 53.44 34 P P 00 20 41.1 +0.1
L18K Granite Mounta 53.44 34 P P 00 20 40.3 -0.7
baz=271
Q16K King Salmon 53.57 38 P P 00 20 41.8 -0.1
baz=273
H19K Roundabout Mou 53.58 29 IAmb IAmb 00 20 54.6
comp=Z,68nm,1.3s
H19K Roundabout Mou 53.58 29 P P 00 20 40.7 -1.2
baz=268,SNR=17
B20K Meade River 53.60 24 IAmb IAmb 00 20 45.1
comp=Z,26nm,0.8s
B20K Meade River 53.60 24 P P 00 20 41.3 -0.8
baz=264
P17K Kvichak River 53.65 37 P P 00 20 41.1 -1.4
baz=273
D20K Etivluk River 53.69 25 P P 00 20 42.6 -0.1
baz=266
PALK Pallekele 53.71 254 P P 00 20 41.7 -1.9
PALK IAmb IAmb 00 20 44.7
comp=Z,46nm,1.0s
PALK Pallekele 53.71 254 P P 00 20 43.5 -0.2
PALK P P 00 20 43.5 -0.2
PALK S S 00 28 19.9 +3.8
PALK Pallekele 53.71 254 P P 00 20 44.1 +0.4
SVE Sverdlovsk 53.79 320 *de* P P 00 20 42.8 -0.8
SVE pmax pmax
comp=Z,45nm,1.4s
SVE MLR MLR
comp=Z,2µm,15.0s
E20K Nigu River 53.81 26 P P 00 20 42.7 -1.0
baz=267
N18K Kilae Creek 53.86 35 P P 00 20 43.3 -0.8
N18K Kilae Creek 53.86 35 P P 00 20 43.4 -0.8
baz=272
M18K Stony River 53.86 34 P P 00 20 42.6 -1.4
baz=272
J19K Poorman 53.91 31 IAmb IAmb 00 20 56.8
comp=Z,33nm,1.2s
J19K Poorman 53.91 31 P P 00 20 43.7 -0.7
baz=270,SNR=9.0
A21K Barrow 53.92 22 P P 00 20 44.1 -0.2
baz=264
F20K Avaraart Lake 53.93 28 P P 00 20 43.9 -0.6
baz=268
H20K Anotleneega Mo 54.23 29 P P 00 20 45.6 -1.2
baz=270
O18K Koktuh Hills 54.24 36 P P 00 20 47.0 +0.1
baz=274
P18K Big Mountain, 54.26 37 P P 00 20 48.4 +1.3
P18K Big Mountain, 54.26 37 P P 00 20 45.9 -1.2
baz=274
L19K White Mountain 54.30 34 P P 00 20 47.8 +0.5
L19K White Mountain 54.30 34 P P 00 20 46.5 -0.8
baz=272
MBWA Marble Bar 54.30 194 P P 00 20 47.4 -0.2
MBWA Marble Bar 54.30 194 P P 00 20 47.5 -0.2
MBWA S S 00 28 25.1 +1.6
MBWA Marble Bar 54.30 194 P P 00 20 48.1 +0.4
CHIR Chirikof Islan 54.36 41 P P 00 20 47.7 0.0
baz=276
C21K Knifeblade Rid 54.37 25 P P 00 20 46.8 -0.9
baz=267,SNR=32
I20K Naaghedeneel 54.41 30 P P 00 20 47.7 -0.2
baz=271,SNR=5.3
A22K Sinclair Lake 54.42 23 P P 00 20 47.7 -0.3
baz=266
Q18K Katmai Hardscr 54.43 38 P P 00 20 48.0 -0.4
baz=275
B21K Ikpikpuk River 54.46 24 IAmb IAmb 00 20 51.7
comp=Z,63nm,1.2s
B21K Ikpikpuk River 54.46 24 P P 00 20 49.3 +1.1
baz=267
M19K Big River Lodg 54.53 34 P P 00 20 47.7 -1.3
baz=273
N19K Bonanza Creek 54.54 35 P P 00 20 48.1 -1.1
baz=274
J20K Nowinta River 54.56 31 IAmb IAmb 00 21 12.4
comp=Z,34nm,1.1s
J20K Nowinta River 54.56 31 P P 00 20 48.7 -0.4
baz=271,SNR=10
PSAD1 Pilbara Seismi 54.57 194 P P 00 20 49.0 -0.6
comp=Z,38nm,0.9s
K20K Telida 54.62 32 P P 00 20 48.2 -1.4
baz=272,SNR=8.3
E21K Killik River 54.64 26 IAmb IAmb 00 20 52.7
comp=Z,38nm,1.1s
E21K Killik River 54.64 26 P P 00 20 48.3 -1.4
baz=268,SNR=16
PSAC1 Pilbara Seismi 54.65 194 P P 00 20 50.0 -0.2
comp=Z,26nm,1.1s
PSAC2 Pilbara Seismi 54.66 194 P P 00 20 50.1 -0.2
comp=Z,38nm,1.0s
PSAB2 Pilbara Seismi 54.66 194 P P 00 20 50.0 -0.3
comp=Z,31nm,0.9s
O19K Port Alsworth 54.66 36 P P 00 20 49.5 -0.4
O19K IAmb IAmb 00 21 15.6
comp=Z,26nm,1.1s
O19K Port Alsworth 54.66 36 P P 00 20 48.4 -1.5
baz=274
PSAA2 Pilbara Seismi 54.67 194 P P 00 20 49.7 -0.6
comp=Z,30nm,1.0s
PSA00 Pilbara Seismi 54.68 194 P P 00 20 49.3 -1.1
PSA00 Pilbara Seismi 54.68 194 P P 00 20 49.7 -0.7
comp=Z,37nm,1.5s
PSA00 Pilbara Seismi 54.68 194 P P 00 20 51.8 +1.4
PSAA3 Pilbara Seismi 54.69 194 P P 00 20 49.9 -0.6
comp=Z,38nm,1.5s
L20K Farewell, AK 54.74 33 P P 00 20 49.7 -0.8
baz=273
G21K Allakaket 54.80 28 IAmb IAmb 00 21 03.5
comp=Z,34nm,1.1s
G21K Allakaket 54.80 28 P P 00 20 49.1 -1.7
baz=270
F21K Alatna River 54.81 27 P P 00 20 49.1 -1.8
baz=270,SNR=12
R18K Karluk 54.82 39 P P 00 20 49.6 -1.4
baz=276
B22K Teshekpuk Lake 54.90 23 P P 00 20 50.4 -1.1
baz=268
SII Sitkinak Islan 55.08 40 P P 00 20 52.0 -1.0
baz=277
ARTI Arti 55.08 319 P P 00 20 50.9 -2.0
ARTI IAmb IAmb 00 20 52.6
comp=Z,38nm,1.0s
ARTI Arti 55.08 319 P P 00 20 51.3 -1.7
comp=Z,25nm,0.9s,baz=100,slow=5.3,SNR=37
ARTI PcP PcP 00 21 52.8 -1.3
comp=Z,17nm,0.8s,baz=95,slow=3.0,SNR=3.9
ARTI LR LR 00 47 33.4
comp=Z,641nm,19.8s,baz=87,slow=39
comp=Z,25nm,0.9s
ARTI Arti 55.08 319 *c i* P P 00 20 51.5 -1.5
ARTI 00 21 52.4
ARTI 00 22 53.1
ARTI S S 00 28 36.6 +3.3
ARTI SS SS 00 32 19.5 +2.6
ARTI pmax pmax
comp=Z,42nm,1.0s
ARTI MLR MLR
comp=Z,2µm,15.0s
H21K Melozitna Rive 55.09 29 IAmb IAmb 00 21 05.7
comp=Z,39nm,1.4s
H21K Melozitna Rive 55.09 29 P P 00 20 51.1 -1.9
baz=272,SNR=9.1
Q19K Cape Douglas, 55.11 37 P P 00 20 52.3 -1.0
baz=276
D22K Ayikyak River 55.12 25 IAmb IAmb 00 20 56.6
comp=Z,64nm,1.2s
D22K Ayikyak River 55.12 25 P P 00 20 51.4 -1.7
baz=269,SNR=48
M20K Styx River 55.13 34 P P 00 20 52.5 -0.8
baz=274
AB31 Akbulak array 55.22 311 *i* P P 00 20 52.8 -1.3
ABKAR Akbulak array 55.22 311 P P 00 20 52.4 -1.6
ABKAR IAmb IAmb 00 20 54.3
comp=Z,45nm,0.9s
P19K Oil Pt 55.26 37 P P 00 20 52.5 -1.7
baz=275
F22K John River 55.31 27 P P 00 20 54.0 -0.5
baz=271,SNR=48
CHUM Lake Minchumin 55.38 31 P P 00 20 53.9 -1.1
baz=273,SNR=8.9
E22K Anaktuvuk Pass 55.44 26 P P 00 20 55.0 -0.5
baz=271,SNR=41
I21K Tanana 55.46 30 P P 00 20 54.6 -0.9
baz=273
OHAK Old Harbor 55.48 40 P P 00 20 56.5 +0.6
OHAK Old Harbor 55.48 40 P P 00 20 54.5 -1.3
baz=277
AS15 Alice Springs 55.49 178 P P 00 20 56.0 -0.3
comp=Z,36nm,0.9s
PPLA Purkeypile 55.49 33 P P 00 20 57.2 +1.1
PPLA IAmb IAmb 00 21 20.0
comp=Z,35nm,1.2s
PPLA Purkeypile 55.49 33 P P 00 20 54.2 -1.9
baz=274,SNR=6.4
CAST Castle Rocks 55.51 32 P P 00 20 54.0 -2.0
baz=274
O20K Slope Mountain 55.52 36 P P 00 20 54.1 -2.1
baz=276
AS31 Alice Springs 55.52 178 P P 00 20 57.0 +0.4
comp=Z,8.2nm,1.0s
AS01 Alice Springs 55.52 178 P P 00 20 57.3 +0.8
ASAR Alice Springs 55.52 178 P P 00 20 55.8 -0.7
ASAR Alice Springs 55.52 178 P P 00 20 56.9 +0.3
comp=Z,8.4nm,0.8s,baz=8.7,slow=8.1,SNR=52
ASAR PcP PcP 00 21 55.9 -0.3
comp=Z,2.9nm,0.8s,baz=10,slow=13,SNR=0.9
comp=Z,8.4nm,0.8s
SPCR Spurr Chakacha 55.62 35 P P 00 20 55.4 -1.5
baz=275
H22K Ishtalitna Cre 55.68 29 P P 00 20 56.1 -1.1
baz=273
STLK Strandline Lak 55.77 34 IAmb IAmb 00 21 29.9
comp=Z,20nm,0.6s
KDAK Kodiak Island 55.79 39 P P 00 21 00.2 +2.1
KDAK Kodiak Island 55.79 39 LR LR 00 45 03.0
comp=Z,535nm,20.9s,baz=81,slow=36
KDAK Kodiak Island 55.79 39 P P 00 21 00.2 +2.1
KDAK pmax pmax
comp=Z,88nm,1.2s
KDAK Kodiak Island 55.79 39 P P 00 20 56.2 -1.9
baz=277
Q20K Shuyak Island 55.79 38 P P 00 20 55.9 -2.2
baz=277
D23K Nanushuk River 55.84 25 P P 00 20 56.7 -1.6
baz=271,SNR=29
C23K Itkillik River 55.85 24 P P 00 20 57.2 -1.1
baz=271,SNR=29
SKT Skwentna 55.87 34 P P 00 20 57.1 -1.5
baz=275
BPAW Bear Paw Mtn. 55.95 31 P P 00 20 57.6 -1.5
baz=274,SNR=8.6
HOM Homer 56.06 36 P P 00 20 57.8 -2.1
baz=277
COLD Coldfoot 56.08 27 IAmb IAmb 00 21 12.8
comp=Z,42nm,1.4s
COLD Coldfoot 56.08 27 P P 00 20 58.9 -1.2
baz=273,SNR=7.0
G23K Bananza Creek 56.18 28 P P 00 20 58.8 -2.0
baz=273,SNR=15
AKTO Aktyubinsk 56.22 312 LR LR 00 48 33.7
comp=Z,1µm,18.4s,baz=56,slow=40
AKTO Aktyubinsk 56.22 312 P P 00 20 59.4 -1.9
TOLK Toolik Lake Re 56.26 26 IAmb IAmb 00 21 13.9
comp=Z,65nm,1.4s
TOLK Toolik Lake Re 56.26 26 P P 00 20 59.4 -2.0
baz=272,SNR=27
E23K Chandalar 56.27 26 P P 00 20 60.0 -1.5
baz=273,SNR=46
TRF Thorofare Moun 56.31 32 P P 00 21 00.7 -1.3
baz=275
H23K Yukon River 56.43 29 P P 00 21 01.1 -1.5
baz=274,SNR=17
BRSE Bradley Lake S 56.50 36 P P 00 21 02.0 -1.2
baz=277
D24K Happy Valley 56.51 25 P P 00 21 01.6 -1.4
baz=273
C24K Franklin Bluff 56.52 24 P P 00 21 01.9 -1.2
baz=273
M22K Willow 56.56 34 IAmb IAmb 00 21 20.7
comp=Z,46nm,0.8s
M22K Willow 56.56 34 P P 00 21 02.8 -0.7
baz=277
I23K Minto, Yukon-K 56.56 30 IAmb IAmb 00 21 16.3
comp=Z,68nm,1.7s
I23K Minto, Yukon-K 56.56 30 P P 00 21 01.9 -1.6
baz=275,SNR=7.2
BWN Browne 56.61 31 P P 00 21 05.4 +1.6
E24K Your Creek 56.69 26 IAmb IAmb 00 21 09.4
comp=Z,42nm,1.1s
E24K Your Creek 56.69 26 P P 00 21 04.0 -0.4
baz=274
NEA2 Nenana 56.74 30 IAmb IAmb 00 21 17.3
comp=Z,81nm,1.4s
NEA2 Nenana 56.74 30 P P 00 21 04.1 -0.6
baz=276,SNR=22
RC01 Rabbit Creek A 56.82 35 IAmb IAmb 00 21 16.9
comp=Z,46nm,1.3s
RC01 Rabbit Creek A 56.82 35 P P 00 21 05.1 -0.3
baz=277
MCK McKinley 56.88 31 P P 00 21 06.8 +1.0
MCK IAmb IAmb 00 21 17.8
comp=Z,51nm,1.4s
MCK McKinley 56.88 31 P P 00 21 06.8 +1.0
MCK pmax pmax
comp=Z,51nm,1.4s
MCK McKinley 56.88 31 P P 00 21 04.8 -1.0
baz=276,SNR=7.7
O22K Cooper Landing 56.91 35 P P 00 21 04.8 -1.1
baz=278
RND Reindeer 56.96 32 IAmb IAmb 00 21 18.0
comp=Z,57nm,1.3s
F24K Squaw Lake 56.96 27 IAmb IAmb 00 21 09.7
comp=Z,50nm,1.6s
F24K Squaw Lake 56.96 27 P P 00 21 05.4 -0.9
baz=275,SNR=19
WRKA Warakurna 56.98 184 P P 00 21 07.3 +0.5
comp=Z,24nm,1.1s
WRKA Warakurna 56.98 184 P P 00 21 07.5 +0.6
PMR Palmer 57.05 34 IAmb IAmb 00 21 18.4
comp=Z,35nm,1.2s
PMR Palmer 57.05 34 P P 00 21 07.8 +0.8
PMR Palmer 57.05 34 P P 00 21 05.1 -1.9
baz=278
SEW Seward 57.09 36 IAmb IAmb 00 21 17.9
comp=Z,57nm,1.2s
SEW Seward 57.09 36 P P 00 21 05.3 -2.0
baz=278
H24K Noodor Dome 57.11 29 P P 00 21 08.1 +0.6
H24K IAmb IAmb 00 21 20.7
comp=Z,58nm,1.4s
H24K Noodor Dome 57.11 29 P P 00 21 05.4 -2.1
baz=276,SNR=18
GHO Glory Hole Cre 57.12 34 IAmb IAmb 00 21 19.5
comp=Z,82nm,1.5s
WRH Wood River Hil 57.17 31 P P 00 21 08.5 +0.7
WRH IAmb IAmb 00 21 20.3
comp=Z,88nm,2.0s
G24K Hadweenzic Riv 57.19 28 IAmb IAmb 00 21 26.0
comp=Z,49nm,1.2s
G24K Hadweenzic Riv 57.19 28 P P 00 21 06.3 -1.6
baz=276,SNR=24
COLA College 57.23 30 P P 00 21 08.1 -0.1
COLA College 57.23 30 *i* P P 00 21 10.7 +2.5
COLA pmax pmax
comp=Z,16nm,1.1s
HRA Herat 57.35 293 P P 00 21 08.7 -1.1
HRA IAmb IAmb 00 21 11.1
comp=Z,65nm,1.8s
D25K Kavik River 57.37 25 IAmb IAmb 00 21 21.5
comp=Z,40nm,1.1s
D25K Kavik River 57.37 25 P P 00 21 07.5 -1.7
baz=275
POKR Poker Plat Res 57.38 30 P P 00 21 07.5 -1.7
baz=277,SNR=7.9
KNK Knik Glacier 57.39 34 IAmb IAmb 00 21 27.0
comp=Z,30nm,1.0s
KNK Knik Glacier 57.39 34 P P 00 21 07.2 -2.3
baz=278
SML Sawmill 57.40 34 IAmb IAmb 00 22 13.7
comp=Z,41nm,1.3s
SML Sawmill 57.40 34 P P 00 21 07.4 -2.1
baz=278
PWL Port Wells 57.53 35 P P 00 21 09.2 -1.2
baz=279
IL31 57.65 30 IAmb IAmb 00 21 26.6
comp=Z,60nm,1.9s
ILAR Eielson Array 57.65 30 P P 00 21 12.3 +1.1
comp=Z,2.9nm,0.7s,baz=286,slow=5.8,SNR=21
comp=Z,2.9nm,0.7s
HDA Harding Lake 57.67 31 IAmb IAmb 00 21 22.6
comp=Z,37nm,1.2s
HDA Harding Lake 57.67 31 P P 00 21 09.8 -1.5
baz=278,SNR=18
M23K Glacier View 57.68 34 P P 00 21 09.8 -1.8
baz=279
G25K Bearman Lake 57.73 28 P P 00 21 11.6 -0.1
baz=277,SNR=19
E25K Arctic Village 57.78 26 IAmb IAmb 00 21 15.9
comp=Z,42nm,1.2s
E25K Arctic Village 57.78 26 P P 00 21 12.7 +0.6
baz=276,SNR=50
F25K Christian Rive 57.81 27 IAmb IAmb 00 21 26.8
comp=Z,32nm,1.1s
F25K Christian Rive 57.81 27 P P 00 21 11.3 -1.0
baz=277,SNR=33
C26K Camden Bay 57.82 24 P P 00 21 11.0 -1.3
baz=276
SCM Sheep Creek Mo 57.87 34 IAmb IAmb 00 21 24.9
comp=Z,55nm,1.2s
SCM Sheep Creek Mo 57.87 34 P P 00 21 11.7 -1.2
baz=279
H25L Birch Creek 57.90 28 P P 00 21 11.9 -0.9
baz=277,SNR=14
PRP Porcupine Dome 58.12 29 P P 00 21 13.6 -1.0
baz=278,SNR=12
P23K Montague Islan 58.13 36 P P 00 21 14.1 -0.5
baz=280
GLI Glacier Island 58.13 35 IAmb IAmb 00 22 56.1
comp=Z,20nm,0.7s
GLI Glacier Island 58.13 35 P P 00 21 13.2 -1.4
baz=280
K24K Donnelly Dome 58.27 31 P P 00 21 14.2 -1.4
baz=279
C27K Jago River 58.27 24 IAmb IAmb 00 21 19.1
comp=Z,62nm,1.2s
C27K Jago River 58.27 24 P P 00 21 14.1 -1.3
baz=277
J25K Salcha River, 58.32 30 P P 00 21 14.2 -1.7
baz=279,SNR=5.7
M24K Tolsona, Glenn 58.36 33 P P 00 21 17.3 +1.0
M24K IAmb IAmb 00 21 38.2
comp=Z,61nm,1.4s
M24K Tolsona, Glenn 58.36 33 P P 00 21 16.0 -0.3
baz=280
F26K Sheenjek River 58.36 26 IAmb IAmb 00 21 20.4
comp=Z,52nm,1.0s
F26K Sheenjek River 58.36 26 P P 00 21 14.8 -1.4
baz=278,SNR=67
FID Port Fidalgo 58.45 35 IAmb IAmb 00 21 28.6
comp=Z,48nm,1.3s
PAX Paxson 58.54 32 P P 00 21 16.8 -0.8
baz=280
KLU Klutina 58.58 34 P P 00 21 19.0 +1.1
KLU Klutina 58.58 34 P P 00 21 16.7 -1.2
baz=280
G26K Porcupine Rive 58.61 27 P P 00 21 16.6 -1.3
baz=279,SNR=39
RIDG Independent Ri 58.69 31 IAmb IAmb 00 21 37.0
comp=Z,81nm,1.8s
RIDG Independent Ri 58.69 31 P P 00 21 16.5 -2.0
baz=280
DIV Divide 58.72 34 P P 00 21 19.4 +0.6
DIV IAmb IAmb 00 21 31.0
comp=Z,36nm,1.2s
HARP HAARP 58.78 33 P P 00 21 18.1 -1.0
baz=280
EYAK Cordova Ski Ar 58.84 35 P P 00 21 17.6 -1.9
baz=281
SCRK Sand Creek 59.02 31 IAmb IAmb 00 21 32.6
comp=Z,58nm,1.3s
SCRK Sand Creek 59.02 31 P P 00 21 19.4 -1.5
baz=280,SNR=24
DOT Dot Lake 59.05 31 P P 00 21 20.8 -0.2
DOT IAmb IAmb 00 21 32.5
comp=Z,41nm,1.2s
J26L Joseph Creek 59.11 30 IAmb IAmb 00 21 32.7
comp=Z,26nm,1.2s
J26L Joseph Creek 59.11 30 P P 00 21 20.4 -1.1
baz=280,SNR=12
I26K Coal Creek Min 59.13 29 P P 00 21 20.3 -1.2
baz=280
N25K Chitina, Valde 59.19 34 IAmb IAmb 00 21 34.7
comp=Z,39nm,1.4s
N25K Chitina, Valde 59.19 34 P P 00 21 21.3 -0.8
baz=281,SNR=5.8
E27K Coleen River 59.24 26 IAmb IAmb 00 21 26.0
comp=Z,33nm,0.9s
E27K Coleen River 59.24 26 P P 00 21 20.8 -1.5
baz=280,SNR=35
D27M Malcolm River 59.28 24 IAmb IAmb 00 21 26.1
comp=Z,34nm,0.9s
D27M Malcolm River 59.28 24 P P 00 21 21.3 -1.3
baz=280,SNR=28
BMRM Bremner River 59.31 34 IAmb IAmb 00 21 40.0
comp=Z,41nm,1.0s
BMRM Bremner River 59.31 34 P P 00 21 21.1 -1.7
baz=282,SNR=6.1
MENT Mentasta 59.33 32 IAmb IAmb 00 21 48.0
comp=Z,28nm,0.9s
MENT Mentasta 59.33 32 P P 00 21 23.3 +0.3
G27K Doyon Strip 59.46 27 IAmb IAmb 00 21 36.9
comp=Z,35nm,1.4s
G27K Doyon Strip 59.46 27 P P 00 21 22.2 -1.6
baz=281,SNR=26
L26K Log Cabin Wild 59.48 32 IAmb IAmb 00 21 36.6
comp=Z,60nm,1.4s
L26K Log Cabin Wild 59.48 32 P P 00 21 23.1 -0.9
baz=282,SNR=18
KIRV Kirov 59.48 323 P P 00 21 23.1 -0.9
comp=Z,25nm,1.0s,baz=84,slow=21,SNR=17
KIRV LR LR 00 50 16.7
comp=Z,2µm,19.3s,baz=81,slow=39
comp=Z,25nm,1.0s
QLP Quilpie 59.54 167 P P 00 21 24.4 -0.3
comp=Z,27nm,1.5s
QLP Quilpie 59.54 167 P P 00 21 24.7 0.0
GLB Gilahina Butte 59.59 34 P P 00 21 25.4 +0.6
GLB IAmb IAmb 00 21 37.2
comp=Z,39nm,1.4s
KAIM Kayak Island 59.61 35 P P 00 21 22.8 -2.2
baz=282
H27K Steamboat Moun 59.62 28 P P 00 21 24.0 -0.9
baz=281,SNR=23
OOD Oodnadatta 59.71 176 P P 00 21 26.6 +0.8
I27K Kandik River 59.71 29 P P 00 21 24.4 -1.2
baz=282,SNR=46
M26K Nabesna, AK 59.77 32 P P 00 21 24.2 -1.8
baz=282,SNR=24
VRDI Verde Repeater 59.80 34 IAmb IAmb 00 21 38.6
comp=Z,50nm,1.4s
K27K Chicken 59.84 31 IAmb IAmb 00 21 30.9

comp=Z,30nm,1.1s
K27K Chicken 59.84 31 P P 00 21 24.3 -2.1
baz=282
MEEK Meekatharra 59.85 194 P P 00 21 26.3 -0.6
comp=Z,21nm,1.3s
MEEK Meekatharra 59.85 194 P P 00 21 26.6 -0.3
BERG Berg Lake 59.86 35 P P 00 21 27.6 +0.9
E28M Babbage River 59.91 25 IAmb IAmb 00 21 30.4
comp=Z,30nm,1.0s
E28M Babbage River 59.91 25 P P 00 21 25.5 -1.3
baz=282,SNR=29
EIDS Eidsvold 60.00 160 P P 00 21 27.4 -0.5
EIDS Eidsvold 60.00 160 P P 00 21 27.9 0.0
comp=Z,33nm,1.4s
EIDS Eidsvold 60.00 160 P P 00 21 28.2 +0.3
D28M Stokes Point 60.05 24 P P 00 21 26.9 -0.8
baz=282,SNR=7.0
INKA Innaminka 60.12 171 P P 00 21 29.4 +0.7
L27K Beaver Creek, 60.15 32 IAmb IAmb 00 21 41.4
comp=Z,37nm,1.2s
L27K Beaver Creek, 60.15 32 P P 00 21 26.2 -2.4
baz=283,SNR=20
BCAR Beaver Creek A 60.17 32 P P 00 21 30.1 +1.3
M27K Edge Creek, AK 60.28 32 IAmb IAmb 00 21 42.0
comp=Z,44nm,1.4s
M27K Edge Creek, AK 60.28 32 P P 00 21 27.4 -2.3
baz=283,SNR=13
I28M Miner Creek 60.43 29 P P 00 21 32.8 +2.2
I28M Miner Creek 60.43 29 P P 00 21 28.3 -2.2
baz=283,SNR=52
E29M Blow River 60.55 25 P P 00 21 30.9 -0.3
baz=283,SNR=51
BVCY Beaver Creek 60.73 32 P P 00 21 30.9 -1.7
baz=284
MESA MESA 60.76 35 P P 00 21 32.3 -0.7
baz=284
G29M Pine Creek 60.84 27 P P 00 21 33.3 0.0
baz=284,SNR=41
H29M Whitestone 60.88 28 IAmb IAmb 00 21 37.3
comp=Z,33nm,1.0s
H29M Whitestone 60.88 28 P P 00 21 33.6 +0.2
baz=284,SNR=28
YUK3 Moose Creek 61.07 33 P P 00 21 34.6 -0.5
baz=285,SNR=12
I29M Ogilvie Camp, 61.11 29 P P 00 21 35.5 +0.4
I29M IAmb IAmb 00 21 47.7
comp=Z,28nm,1.1s
I29M Ogilvie Camp, 61.11 29 P P 00 21 34.3 -0.8
baz=284,SNR=7.7
J29N Klondike Camp 61.38 30 IAmb IAmb 00 21 41.2
comp=Z,28nm,1.0s
J29N Klondike Camp 61.38 30 P P 00 21 36.2 -0.8
baz=285,SNR=10
O28M Mount Upton 61.45 34 P P 00 21 36.1 -1.7
baz=285
EPYK Eagle Plains 61.48 27 P P 00 21 36.3 -1.3
baz=285,SNR=41
F30M Barrier River 61.51 26 P P 00 21 37.0 -0.7
baz=285,SNR=50
G30M tAoh Zraii Nji 61.51 27 P P 00 21 37.1 -0.7
baz=285,SNR=90
YUK8 Steele Glacier 61.52 33 P P 00 21 37.4 -0.8
baz=285
NGCH Negor - Chabah 61.57 283 P P 00 21 39.5 +0.7
PINM Pinnacle 61.60 35 P P 00 21 37.3 -1.3
baz=286
L29M L29M 61.77 31 P P 00 21 41.5 +1.9
L29M L29M 61.77 31 P P 00 21 38.8 -0.8
baz=286,SNR=22
M29M Somme Creek 61.80 32 P P 00 21 39.4 -0.6
baz=286,SNR=18
K29M Barlow Dome 61.83 30 IAmb IAmb 00 21 52.9
comp=Z,33nm,1.2s
K29M Barlow Dome 61.83 30 P P 00 21 39.5 -0.6
baz=286,SNR=16
I30M Mount Dempster 61.93 29 P P 00 21 42.4 +1.6
I30M Mount Dempster 61.93 29 P P 00 21 39.6 -1.1
baz=286,SNR=60
YUK4 Talbot Arm 62.02 33 P P 00 21 40.7 -0.8
baz=286,SNR=7.4
J30M Hart River 62.13 29 P P 00 21 41.7 -0.4
baz=286,SNR=12
INK Inuvik 62.13 25 P P 00 21 42.4 +0.5
INK IAmb IAmb 00 21 44.7
comp=Z,38nm,1.0s
INK Inuvik 62.13 25 P P 00 21 43.4 +1.5
comp=Z,31nm,1.0s,baz=286,slow=5.8,SNR=60
comp=Z,31nm,1.0s
INK Inuvik 62.13 25 P P 00 21 41.0 -0.9
baz=287,SNR=33
PNL Peninsula 62.14 35 P P 00 21 41.4 -0.7
baz=286
G31M Satah River 62.27 26 IAmb IAmb 00 21 55.5
comp=Z,37nm,1.1s
G31M Satah River 62.27 26 P P 00 21 42.2 -0.5
baz=287,SNR=17
YUK6 Outpost Mounta 62.27 33 P P 00 21 41.6 -1.6
baz=287
F31M Tsiigehtchic 62.31 26 P P 00 21 42.1 -1.0
baz=287,SNR=29
O29M Mount Kennedy 62.35 34 IAmb IAmb 00 22 02.7
comp=Z,36nm,1.2s
O29M Mount Kennedy 62.35 34 P P 00 21 43.2 -0.4
baz=287,SNR=6.6
M30M Minto, Yukon 62.51 31 IAmb IAmb 00 21 57.6
comp=Z,53nm,1.5s
M30M Minto, Yukon 62.51 31 P P 00 21 43.3 -1.3
baz=287,SNR=11
H31M Peel River 62.57 28 P P 00 21 46.0 +1.1
H31M Peel River 62.57 28 P P 00 21 45.1 +0.1
baz=288,SNR=53
MAYO Mayo, Yukon 62.60 30 P P 00 21 44.3 -0.8
baz=287
FORT Forrest 62.70 184 P P 00 21 45.4 -0.7
FORT Forrest 62.70 184 P P 00 21 45.9 -0.2
comp=Z,61nm,1.2s
FORT Forrest 62.70 184 P P 00 21 46.4 +0.4
HYT Haines Junctio 62.70 33 P P 00 21 47.4 +1.3
HYT IAmb IAmb 00 21 58.9
comp=Z,40nm,1.3s
HYT Haines Junctio 62.70 33 P P 00 21 45.4 -0.6
baz=288,SNR=8.3
N30M Aishikik Lake 62.71 33 IAmb IAmb 00 22 04.8
comp=Z,44nm,1.7s
N30M Aishikik Lake 62.71 33 P P 00 21 45.2 -0.8
baz=288
MORW Morawa 62.76 196 P P 00 21 45.2 -1.3
MORW IAmb IAmb 00 22 02.2
comp=Z,25nm,1.0s
MORW Morawa 62.76 196 P P 00 21 45.5 -1.0
comp=Z,30nm,0.9s
MORW Morawa 62.76 196 P P 00 21 46.8 +0.3
DZM Mont Dzumac 63.14 144 P P 00 21 50.1 +0.8
DZM IAmb IAmb 00 21 51.8
comp=Z,33nm,1.0s
DZM Mont Dzumac 63.14 144 *e*S **S 00 30 23.5 +4.9**
comp=Z,548nm,26.9s
DZM Mont Dzumac 63.14 144 *e*LR LR 00 40 41.4
comp=Z,989nm,22.8s
P30M Million Dollar 63.18 34 P P 00 21 48.8 -0.2
baz=288
N31M Braeburn, Yuko 63.30 32 IAmb IAmb 00 21 54.8
comp=Z,32nm,1.1s
N31M Braeburn, Yuko 63.30 32 P P 00 21 49.7 -0.1
baz=288,SNR=9.3
O30N Mendenhall 63.38 33 P P 00 21 50.9 +0.5
O30N Mendenhall 63.38 33 P P 00 21 49.6 -0.8
baz=289
A36M Sachs Harbour 63.55 20 P P 00 21 51.5 +0.2
baz=292,SNR=116
M31M Drury Creek, Y 63.69 31 IAmb IAmb 00 22 10.7
comp=Z,64nm,1.6s
M31M Drury Creek, Y 63.69 31 P P 00 21 52.1 -0.3
baz=289,SNR=11
KLMR Klimovskoe 63.70 327 *e*P **P 00 21 49.6 -2.8**
KLMR *e* 00 24 10.0
KLMR pmax pmax
comp=Z,35nm,1.5s
KLMR MLR MLR
comp=Z,6μm,16.0s
SPITS Spitsbergen Ar 63.75 348 P P 00 21 51.4 -1.2
comp=Z,26nm,1.1s,baz=93,slow=7.2,SNR=4.4
SPITS LR LR 00 51 36.8
comp=Z,1μm,18.4s,baz=10,slow=38
comp=Z,26nm,1.1s
KMBL Kambalda 63.90 190 P P 00 21 53.6 -0.4
comp=Z,31nm,1.2s

APA Apatity 63.91 335 ⇓*i*P **P 00 21 51.3 -2.4**
APA *i*S **S 00 30 23.0 -3.9**
APA *i*SS **ScS 00 31 46.0 +1.3**
APA MLR MLR
comp=Z,1μm,17.0s
WHY Whitehorse 63.98 33 P P 00 21 53.4 -1.1
baz=290,SNR=12
BLDU Ballidu 64.10 195 P P 00 21 54.9 -0.4
comp=Z,28nm,1.5s
BLDU Ballidu 64.10 195 P P 00 21 55.4 +0.1
FARO Faro, Yukon 64.14 31 P P 00 21 56.8 +1.5
FARO Faro, Yukon 64.14 31 P P 00 21 54.3 -1.1
baz=290,SNR=29
SKAG Skagway 64.17 35 P P 00 21 56.4 +0.8
SKAG IAmb IAmb 00 22 08.3
comp=Z,51nm,1.4s
SKAG Skagway 64.17 35 P P 00 21 55.7 +0.2
SKAG Skagway 64.17 35 P P 00 21 54.4 -1.1
baz=290
S31K Pelican 64.23 36 P P 00 21 54.8 -1.2
baz=290
STKA Stephens Creek 64.31 171 P P 00 21 56.8 +0.2
comp=Z,143nm,1.4s
STKA Stephens Creek 64.31 171 P P 00 21 57.0 +0.3
comp=Z,12nm,0.7s,baz=337,slow=7.5,SNR=22
STKA PcP **PcP 00 22 30.0 -1.1**
comp=Z,8.0nm,0.7s,baz=340,slow=5.5,SNR=3.1
comp=Z,12nm,0.7s
STKA Stephens Creek 64.31 171 P P 00 21 57.4 +0.7
JLN Jalan Bani Buh 64.36 281 P P 00 21 56.7 -0.7
SNR=7.7
WBK Wadi Bani Khal 64.53 282 P P 00 21 58.7 +0.2
CMSA Cobar Meteorol 64.64 167 P P 00 21 59.7 +0.9
comp=Z,24nm,1.1s
CMSA Cobar Meteorol 64.64 167 P P 00 22 00.2 +1.4
N32M Quiet Lake 64.64 32 P P 00 21 59.8 +1.1
N32M IAmb IAmb 00 22 26.2
comp=Z,21nm,1.0s
N32M Quiet Lake 64.64 32 P P 00 21 57.2 -1.4
baz=291
BBOO Buckleboo 64.72 176 P P 00 21 59.0 -0.3
comp=Z,18nm,1.0s
KLBR Kellerberrin 64.83 193 P P 00 21 59.2 -0.9
comp=Z,24nm,1.2s
BIDO Bidbid 64.83 283 P P 00 22 00.7 +0.3
SNR=5.5
P32M Atlin 64.90 34 P P 00 21 59.5 -0.9
P32M IAmb IAmb 00 22 13.0
comp=Z,34nm,1.4s
P32M Atlin 64.90 34 P P 00 21 59.5 -0.9
baz=291
MMPY Sheldon Lake, 64.91 30 IAmb IAmb 00 22 13.3
comp=Z,45nm,1.3s
MMPY Sheldon Lake, 64.91 30 P P 00 21 58.7 -1.7
baz=292,SNR=12
ARMA Armidale 64.92 161 P P 00 22 01.3 +0.5
comp=Z,35nm,1.4s
ARMA Armidale 64.92 161 P P 00 22 02.4 +1.5
C36M Paulatuk 64.97 22 P P 00 22 01.2 +0.6
C36M Paulatuk 64.97 22 P P 00 21 59.9 -0.7
baz=295,SNR=83
R32K Eaglecrest 64.98 36 P P 00 21 59.0 -1.8
baz=291
SIT Sitka 65.01 37 P P 00 22 00.3 -0.8
baz=291
SMDO Samad 65.09 282 P P 00 22 02.0 -0.3
SNR=5.8
P33M Teslin, Yukon 65.09 33 P P 00 22 02.5 +0.9
P33M IAmb IAmb 00 22 14.4
comp=Z,39nm,1.3s
P33M Teslin, Yukon 65.09 33 P P 00 22 00.7 -1.0
baz=291,SNR=13
S32K Killisnoo 65.24 36 P P 00 22 01.5 -1.0
baz=291
MAK Makhachkala 65.27 306 *e*P P 00 21 55.9 -7.1
MAK *e* 00 24 22.1
MAK *e*S S 00 30 34.7 -10
MAK *e*SS **SS 00 34 52.4 -4.6**
MAK pmax pmax
comp=Z,247nm,1.3s
MAK MLR MLR
comp=Z,4μm,14.0s
JMDO Jabal Madar 65.35 282 P P 00 22 02.6 -1.3
NOR Nord 65.35 355 *i*P **P 00 22 03.2 +0.3**
SHME Shamm 65.38 286 P P 00 22 04.1 +0.1
SHME Shamm 65.38 286 P P 00 22 04.0 +0.1
HOQ Hoqain 65.48 283 P P 00 22 04.4 -0.3
SNR=10
HTT Hallett 65.54 174 P P 00 22 06.3 +1.6
MDH Madha 65.57 285 P P 00 22 04.9 -0.3
MDH Madha 65.57 285 P P 00 22 04.7 -0.6
MASF Masafi 65.65 286 P P 00 22 06.3 +0.4
MSFE Esma-Masafi 65.66 286 P P 00 22 05.8 -0.1
ARCES ARCESS Array B 65.76 338 P P 00 22 04.8 -0.9
comp=Z,8.4nm,0.8s,baz=58,slow=5.6,SNR=11
ARCES PcP **PcP 00 22 35.8 -1.0**
comp=Z,12nm,0.9s,baz=56,slow=6.5,SNR=5.7
ARCES LR LR 00 55 39.5
comp=Z,1μm,19.8s,baz=68,slow=40
comp=Z,8.4nm,0.8s
UOSS Minazif 65.80 285 P P 00 22 06.6 -0.1
UOSS Minazif 65.80 285 P P 00 22 06.7 -0.1
Q32M Nakina River 65.82 34 P P 00 22 04.6 -1.9
baz=292
SOHO SOHO 65.88 284 P P 00 22 07.3 +0.1
SOHO SOHO 65.88 284 *i*P **P 00 22 07.0 -0.2**
SNR=13
HATD Hatta, Dubai 65.91 285 P P 00 22 07.7 +0.3
SNR=9.6
HATD Hatta, Dubai 65.91 285 *i*P **P 00 22 07.3 -0.2**
SNR=9.6
VRH Novokhopyorsk 65.91 316 *e*P **P 00 22 05.0 -1.9**
VRH pmax pmax
comp=Z,68nm,0.7s
BSY Bisya 65.93 283 P P 00 22 06.6 -1.1
ASHO Ashiyiah 66.03 285 P P 00 22 07.8 -0.4
SNR=7.4
ASHO Ashiyiah 66.03 285 *i*P **P 00 22 08.0 -0.3**
SNR=15
EUNU Eureka 66.05 7 P P 00 22 07.9 +0.4
EUNU IAmb IAmb 00 22 09.7
comp=Z,29nm,1.1s
MHTO MHTO 66.08 281 P P 00 22 07.7 -0.8
SNR=12
NAZ Nazwa, Dubai 66.22 285 P P 00 22 09.2 -0.2
NAZ Nazwa, Dubai 66.22 285 P P 00 22 09.0 -0.5
NWAO Narrogin (SRO) 66.22 194 P P 00 22 08.7 -0.4
comp=Z,76nm,1.4s
NWAO Narrogin (SRO) 66.22 194 P P 00 22 09.0 -0.1
NWAO Narrogin (SRO) 66.22 194 P P 00 22 08.8 -0.3
ARQ Araqi 66.23 283 P P 00 22 09.0 -0.5
SNR=6.1
R33M Jennings River 66.27 34 P P 00 22 07.6 -1.8
baz=293
MSVF Nonsavu 66.32 132 P P 00 22 11.4 +1.3
MSVF IAmb IAmb 00 22 13.6
comp=Z,31nm,1.1s
MSVF Nonsavu 66.32 132 P P 00 22 10.7 +0.6
MSVF Nonsavu 66.32 132 P P 00 22 11.4 +1.3
MSVF pmax pmax
comp=Z,31nm,1.1s
FAQ Al Faqa, Dubai 66.38 285 P P 00 22 10.1 -0.3
FAQ Al Faqa, Dubai 66.38 285 P P 00 22 09.9 -0.6
MOS Moscow 66.46 322 *e*P **P 00 22 08.7 -1.7**
MOS *e* 00 22 38.3
MOS *e* 00 24 38.0
MOS *e*S **S 00 30 55.6 -2.9**
MOS pmax pmax
comp=Z,76nm,1.0s
MOS MLR MLR
comp=N,2μm,15.0s
MOS MLR MLR
comp=Z,4μm,15.0s
MOS MLR MLR
comp=E,4μm,16.0s
U33K Whale Pass 66.49 37 P P 00 22 09.1 -1.5
baz=293
JOF Joensuu 66.53 331 *e*P **P 00 22 09.6 -1.1**
ALNE Al Ain 66.55 284 P P 00 22 11.0 -0.6
SNR=6.1
ALNE Al Ain 66.55 284 *i*P **P 00 22 11.1 -0.6**
SNR=9.1
ASUD Al Ashush, Dub 66.65 285 P P 00 22 12.3 +0.1
ASUD Al Ashush, Dub 66.65 285 P P 00 22 12.0 -0.1
CRAG Craig 66.74 38 P P 00 22 11.1 -1.1
baz=293

WRAK Wrangell Islan 66.77 37 P P 00 22 10.8 -1.5
baz=293
S34M Telegraph Cree 66.78 35 P P 00 22 10.7 -1.8
baz=294
DQM DQM 66.91 280 P P 00 22 12.8 -1.1
AJN Ajban 66.96 285 P P 00 22 13.5 -0.6
LPSR Galich'ya Gora 66.97 319 *e*P **P 00 22 12.2 -1.6**
LPSR pmax pmax
comp=Z,88nm,0.9s
WTLY Watson Lake, Y 66.98 32 IAmb IAmb 00 22 26.3
comp=Z,23nm,1.3s
WTLY Watson Lake, Y 66.98 32 P P 00 22 11.7 -2.1
baz=295,SNR=7.0
DLBC Dease Lake 67.10 34 P P 00 22 15.0 +0.4
comp=Z,5.0nm,1.0s,baz=309,slow=8.4,SNR=4.5
DLBC LR LR 00 54 56.4
comp=Z,217nm,18.5s,baz=315,slow=39
comp=Z,5.0nm,1.0s
DLBC Dease Lake 67.10 34 P P 00 22 13.1 -1.5
baz=294
VORR Voronezh 67.18 318 *e*P **P 00 22 14.1 -1.0**
VORR pmax pmax
comp=Z,60nm,0.7s
OBN Obninsk 67.26 322 P P 00 22 13.2 -2.3
OBN Obninsk 67.26 322 LR LR 00 54 46.9
comp=Z,2μm,19.1s,baz=54,slow=39
OBN Obninsk 67.26 322 ⇑*i*P **P 00 22 14.1 -1.4**
OBN Obninsk 67.26 322 *ce*P **P 00 22 14.5 -1.0**
OBN *i* 00 22 22.9
OBN *e* 00 22 43.1
OBN *e* 00 24 43.1
OBN pmax pmax
comp=Z,89nm,1.7s
OBN MLR MLR
comp=Z,4μm,15.0s
VSR Storozhevoye 67.39 317 *e*P **P 00 22 13.1 -3.3**
VSR *e* 00 22 22.3
VSR pmax pmax
comp=Z,70nm,0.9s
VSR MLR MLR
comp=Z,3μm,16.0s
VORD Divnogorie 67.41 317 *e*P **P 00 22 13.1 -3.5**
VORD *e* 00 22 22.5
VORD pmax pmax
comp=Z,30nm,1.1s
GOF Gofitskoye 67.44 310 *ce*P **P 00 22 15.8 -1.1**
V35K Ketchikan 67.58 38 P P 00 22 15.7 -1.9
baz=294
T35M Bob Quinn 67.60 36 IAmb IAmb 00 22 57.2
comp=Z,25nm,1.3s
T35M Bob Quinn 67.60 36 P P 00 22 15.9 -1.8
baz=295
UMZA Um Al Zommool 67.63 283 P P 00 22 17.3 -1.1
NCK Nalchik 67.70 308 ⇓*i*P **P 00 22 17.6 -1.0**
NCK pmax pmax
comp=Z,8.0nm,0.9s
WRGLY Wrigley 67.90 28 P P 00 22 18.1 -1.4
baz=298,SNR=9.6
KBZ Khabaz 68.07 309 P P 00 22 19.5 -1.3
comp=Z,23nm,0.9s,baz=80,slow=2.5,SNR=52
KBZ LR LR 00 56 09.0
comp=Z,2μm,19.1s,baz=71,slow=40
comp=Z,23nm,0.9s
KBZ Khabaz 68.07 309 *ce*P **P 00 22 20.3 -0.5**
KVAR Kislovodsk Arr 68.11 309 LR LR 00 55 25.3
comp=Z,1μm,19.2s,baz=250,slow=39
KIV Kislovodsk 68.12 309 P P 00 22 19.8 -1.5
KIV Kislovodsk 68.12 309 P P 00 22 20.8 -0.5
KIV Kislovodsk 68.12 309 ⇑*i*P **P 00 22 20.7 -0.5**
KIV Kislovodsk 68.12 309 *e*P **P 00 22 20.3 -1.0**
KIV pmax pmax
comp=Z,62nm,1.1s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 68.12 309 *i*P **P 00 22 20.7 -0.5**
SNR=38
U35K Hyder 68.16 37 P P 00 22 19.3 -1.9
baz=295
SHA1 Shidzhatmaz 68.22 309 *i*P **P 00 22 21.3 -0.8**
GNI Garni 68.27 304 P P 00 22 20.9 -1.5
GNI IAmb IAmb 00 22 52.0
comp=Z,39nm,1.1s
GNI Garni 68.27 304 LR LR 00 55 07.4
comp=Z,418nm,18.8s,baz=60,slow=38
GNI Garni 68.27 304 P P 00 22 22.4 0.0
GNI Garni 68.27 304 ⇓*i*P **P 00 22 22.8 +0.4**
GNI pmax pmax
comp=Z,38nm,1.2s
GNI Garni 68.27 304 P P 00 22 22.2 -0.2
ERBR Yeremizino-Bor 68.82 311 *e*P **P 00 22 22.6 -2.9**
ERBR *e*S **S 00 31 25.7 -1.6**
ERBR pmax pmax
comp=Z,30nm,1.0s
ERBR MLR MLR
comp=N,2μm,15.0s
ERBR MLR MLR
comp=E,4μm,15.0s
ERBR MLR MLR
comp=Z,3μm,16.0s
MZR Muzera 68.89 284 P P 00 22 25.1 -1.2
RES Resolute Bay 69.11 12 LR LR 00 55 10.8
comp=Z,180nm,19.4s,baz=351,slow=38
KOTAN Kotaneelee Air 69.11 31 P P 00 22 25.4 -1.6
baz=298
LABN Labinsk 69.12 310 *e*P **P 00 22 24.2 -3.2**
LABN *e*S **S 00 31 29.1 -1.7**
LABN pmax pmax
comp=Z,12nm,1.1s
LABN MLR MLR
comp=N,3μm,16.0s
LABN MLR MLR
comp=E,4μm,15.0s
LABN MLR MLR
comp=Z,4μm,18.0s
ARPS Mount Arapiles 69.16 172 P P 00 22 28.1 +0.6
comp=Z,24nm,0.9s
TOAD Toad River Com 69.17 33 P P 00 22 26.3 -1.2
baz=298
KARS Kars 69.23 306 P P 00 22 27.1 -1.2
KARS Kars 69.23 306 P P 00 22 27.1 -1.2
KARS pmax pmax
comp=Z,57nm,0.9s
FINES FINESS Array B 69.39 330 P P 00 22 27.3 -1.5
FINES FINESS Array B 69.39 330 P P 00 22 27.1 -1.6
comp=Z,7.2nm,0.7s,baz=60,slow=5.6,SNR=20
FINES LR LR 00 55 51.2
comp=Z,1μm,18.7s,baz=64,slow=38
comp=Z,7.2nm,0.7s
FINES FINESS Array B 69.39 330 P P 00 22 27.3 -1.5
KEF Keuruu 69.53 331 *e*P **P 00 22 28.0 -1.6**
SLWR Sila 69.87 286 P P 00 22 31.5 -0.9
VAF Ylistaro 69.95 333 *e*P **P 00 22 32.2 0.0**
DMTO DMTO 70.11 279 P P 00 22 32.7 -1.2
SOC Sochi 70.23 310 *e*P **P 00 22 29.8 -4.4**
SOC *e*PPP PPP 00 26 55.9
SOC *e*S **S 00 31 39.7 -4.1**
SOC *e*SS **SS 00 36 10.9 -2.8**
SOC pmax pmax
comp=Z,28nm,1.1s
SOC MLR MLR
comp=Z,2μm,19.0s
GEVA Gevas 70.23 303 P P 00 22 33.9 -0.7
GEVA IAmb IAmb 00 22 35.3
comp=Z,40nm,1.0s
DOK Doka 70.37 280 P P 00 22 33.8 -1.7
ARBE Arbavere 70.43 329 *e*P **P 00 22 34.4 -0.7**
TOO Toolangi 70.48 169 IAmb IAmb 00 22 38.9
comp=Z,61nm,2.0s
TOO Toolangi 70.48 169 P P 00 22 36.5 +0.9
comp=Z,13nm,1.9s
VSU Vasula 70.58 327 *ce*P **P 00 22 35.2 -0.9**
VSU pmax pmax
comp=Z,36nm,1.3s
VSU Vasula 70.58 327 *e*P **P 00 22 35.0 -1.0**
NEEM North Greenlan 70.65 1 *i*P **P 00 22 37.2 +0.6**
NEEM IAmb IAmb 00 22 39.0
comp=Z,95nm,1.2s
MEF Metsahovi 70.72 330 *e*P **P 00 22 35.7 -1.2**
KBD Kabd 70.77 293 P P 00 22 36.7 -1.1
BBB Bella Bella 70.83 40 LR LR 00 51 26.7
comp=Z,161nm,21.1s,baz=306,slow=34
RBK Rabkut 70.84 279 P P 00 22 37.3 -1.1
GURO Guroymak-BITLI 70.85 304 IAmb IAmb 00 22 39.3
comp=Z,24nm,1.0s
WHFO Wadi Hawf 71.00 280 P P 00 22 37.8 -1.6

ANN	Anapa	71.16	311	eP	P	00 22 37.4	-2.5
ANN				eS	S	00 31 54.2	-0.4
ANN				pmax	pmax		
	comp=Z,40nm,1.0s						
ANN				MLR	MLR		
	comp=E,843nm,17.0s						
ANN				MLR	MLR		
	comp=N,725nm,16.0s						
ANN				MLR	MLR		
	comp=Z,2μm,16.0s						
RAF	Rauma	71.39	331	eP	P	00 22 39.2	-1.8
ABTO	Aybut	71.67	279	P	P	00 22 41.9	-1.6
	SNR=6.8						
YKA	Yellowknife Ar	71.75	27	P	P	00 22 44.0	+0.9
	comp=Z,8.2nm,1.0s,baz=302,slow=5.9,SNR=73						
YKA				LR	LR	00 57 43.0	
	comp=Z,177nm,18.5s,baz=338,slow=39						
	comp=Z,8.2nm,1.0s						
YKA	Yellowknife Ar	71.75	27	iP	P	00 22 44.5	+1.4
YKA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MTSE	Matsula	71.77	329	eP	P	00 22 42.7	-0.5
MNK	Minsk	72.02	324	iP	P	00 22 43.4	-1.5
MNK				i		00 25 23.5	
MNK				i PPP	PPP	00 27 06.1	
MNK				i S	S	00 32 06.0	+1.8
MNK				i SS	SS	00 36 44.2	+3.7
MNK				pmax	pmax		
	comp=Z,46nm,1.2s						
MNK				pmax	pmax		
	comp=N,49nm,1.4s						
MNK				pmax	pmax		
	comp=E,25nm,1.2s						
MNK				MLR	MLR		
	comp=Z,3μm,16.0s						
MNK				MLR	MLR		
	comp=N,2μm,16.0s						
MNK				MLR	MLR		
	comp=E,1μm,16.0s						
DBG	Daneborg	72.24	352	iP	P	00 22 45.7	-0.1
DBG				IAmb	IAmb	00 22 47.2	
	comp=Z,37nm,1.1s						
MARD	Mardin	72.29	303	P	P	00 22 45.9	-1.1
MARD				IAmb	IAmb	00 22 56.4	
	comp=Z,42nm,0.9s						
ISAL	Salakas	72.34	325	eP	P	00 22 47.0	+0.3
IIGN	Ignalina	72.41	325	eP	P	00 22 47.5	+0.3
SIM	Simferopol'	73.18	313	eP	P	00 22 50.7	-1.3
SIM				pmax	pmax		
	comp=Z,40nm,1.1s						
SIM				MLR	MLR		
	comp=Z,899nm,19.0s						
AKASG	Malin Array Be	73.23	320	P	P	00 22 49.9	-2.3
AKASG	Malin Array Be	73.23	320	P	P	00 22 50.8	-1.4
	comp=Z,30nm,0.7s,baz=57,slow=6.2,SNR=117						
AKASG				LR	LR	00 57 37.9	
	comp=Z,2μm,18.4s,baz=57,slow=38						
	comp=Z,30nm,0.7s						
AKASG	Malin Array Be	73.23	320	iP	P	00 22 50.7	-1.4
AKASG				pmax	pmax		
	comp=Z,31nm,0.7s						
AKBB	Malin Array Si	73.23	320	ceP	P	00 22 51.0	-1.1
AKBB				pmax	pmax		
	comp=Z,64nm,0.9s						
KIEV	Kiev	73.24	320	P	P	00 22 50.4	-1.8
KIEV	Kiev	73.24	320	⇑P	P	00 22 50.9	-1.3
KIEV	Kiev	73.24	320	P	P	00 22 50.8	-1.3
KIEV	Kiev	73.24	320	iP	P	00 22 50.7	-1.4
	SNR=36						
JMIC	Jan Mayen	73.41	347	LR	LR	00 56 55.5	
	comp=Z,305nm,19.2s,baz=268,slow=37						
PABE	Paberze	73.42	326	eP	P	00 22 52.6	-0.5
SUW	Suwalki	74.62	325	eP	P	00 22 59.3	-0.9
SUW	Suwalki	74.62	325	eP	P	00 23 00.1	-0.1
GAZ	Gaziantep	74.87	304	P	P	00 23 01.2	-0.9
GAZ				IAmb	IAmb	00 23 04.0	
	comp=Z,35nm,1.0s						
LLLB	Lilloet	75.00	39	IAmb	IAmb	00 23 18.6	
	comp=Z,35nm,1.4s						
SORM	Soroca	75.03	318	⇓P	P	00 23 01.3	-1.4
SORM	Soroca	75.03	318	P	P	00 23 01.3	-1.4
RAYN	Ar Rayn	75.13	289	P	P	00 23 02.2	-1.6
RAYN				IAmb	IAmb	00 23 03.8	
	comp=Z,26nm,0.9s						
RAYN	Ar Rayn	75.13	289	P	P	00 23 02.6	-1.2
RAYN	Ar Rayn	75.13	289	P	P	00 23 02.7	-1.2
RAYN	Ar Rayn	75.13	289	iP	P	00 23 02.6	-1.2
	SNR=31						
HFS	Hagfors	75.14	333	P	P	00 23 01.5	-1.6
	comp=Z,5.3nm,0.7s,baz=38,slow=7.5,SNR=9.1						
HFS				LR	LR	01 00 07.1	
	comp=Z,1μm,19.8s,baz=50,slow=39						
	comp=Z,5.3nm,0.7s						
UPNV	Upernavik	75.20	3	iP	P	00 23 03.9	+0.7
ILGA	Ilgaz	75.34	309	P	P	00 23 03.7	-1.2
ILGA				IAmb	IAmb	00 23 05.7	
	comp=Z,39nm,1.0s						
SUMG	Summit	75.36	357	iP	P	00 23 05.8	+1.1
KIS	Kishinev	75.36	316	eP	P	00 23 03.0	-1.6
KIS	Kishinev	75.36	316	ePcP	PcP	00 23 12.0	-5.8
KIS	Kishinev	75.36	316	eP	P	00 23 03.0	-1.6
KIS				e		00 23 12.0	
KIS				MLR	MLR		
	comp=Z,800nm,14.5s						
KIS				MLR	MLR		
	comp=E,600nm,16.0s						
MILM	Milestii Mici	75.40	316	iP	P	00 23 02.8	-2.1
	comp=E,40nm,0.9s						
MILM	Milestii Mici	75.40	316	ePcP	PcP	00 23 12.0	-5.9
MILM	Milestii Mici	75.40	316	⇑P	P	00 23 02.9	-1.9
MILM	Milestii Mici	75.40	316	P	P	00 23 03.5	-1.4
NB201	NORSAR Array S	75.44	334	IAmb	IAmb	00 23 04.8	
	comp=Z,79nm,1.6s						
NB2	NORSAR Subarra	75.48	334	P	P	00 23 03.5	-1.6
	comp=Z,91nm,2.0s,baz=46,slow=5.9						
NB2	NORSAR Subarra	75.48	334	P	P	00 23 03.5	-1.6
	baz=46,slow=5.9						
NOA	NORSAR Array B	75.48	334	P	P	00 23 03.6	-1.6
	comp=Z,6.2nm,0.9s,baz=48,slow=5.8,SNR=15						
NOA				LR	LR	00 59 25.9	
	comp=Z,1μm,20.4s,baz=45,slow=38						
	comp=Z,6.2nm,0.9s						
IASR	Iasi	75.98	317	⇓P	P	00 23 07.7	-0.5
BR131	Keskin Array S	76.05	308	IAmb	IAmb	00 23 09.1	
	comp=Z,28nm,1.1s						
BR131	Keskin Array S	76.05	308	⇓iP	P	00 23 08.2	-0.7
BRTR	Keskin Array B	76.06	308	P	P	00 23 07.3	-1.7
BRTR	Keskin Array B	76.06	308	P	P	00 23 07.8	-1.1
	comp=Z,17nm,1.0s,baz=95,slow=4.2,SNR=54						
BRTR				LR	LR	01 01 19.3	
	comp=Z,722nm,19.6s,baz=54,slow=39						
	comp=Z,17nm,1.0s						
GNW	Green Mountain	76.11	42	P	P	00 23 09.5	+0.6
KIRS	Kirsehir-Merke	76.17	308	⇑P	P	00 23 08.4	-1.1
TLCR		76.31	315	⇓P	P	00 23 08.4	-1.6
TLCR		76.31	315	P	P	00 23 08.4	-1.6
VLDR	Vladesti	76.40	316	⇑P	P	00 23 09.6	-0.9
VARL	Varlezi	76.51	316	⇓P	P	00 23 10.1	-1.1
SCTR	Scanteiesti	76.54	316	⇑P	P	00 23 10.4	-1.0
ANTO	Ankara	76.54	309	P	P	00 23 10.1	-1.6
ANTO	Ankara	76.54	309	⇑P	P	00 23 11.0	-0.6
ANTO	Ankara	76.54	309	P	P	00 23 11.0	-0.6
TATR	Tatarca	76.55	316	⇓P	P	00 23 10.9	-0.5
PRAR	RASCA	76.66	318	⇑P	P	00 23 11.1	-1.0
GHRR		76.68	316	⇑P	P	00 23 12.1	-0.1
CFR	Carcaliu	76.72	315	⇑P	P	00 23 11.4	-1.0
CFR	Carcaliu	76.72	315	P	P	00 23 11.3	-1.0
TPGR	Topolog	76.72	315	⇑P	P	00 23 10.9	-1.6
TESR	Tescani	76.88	317	⇑P	P	00 23 12.0	-1.3
PANC	Panciu	76.93	316	⇑P	P	00 23 13.5	-0.1
ODBI	Odobesti	77.05	316	⇑P	P	00 23 14.7	+0.5
BEL	Belsk	77.05	324	eP	P	00 23 14.5	+0.3
BUR08	Bucovina Ar. S	77.08	318	IAmb	IAmb	00 23 25.4	
	comp=Z,27nm,0.9s						
BURAR	Bucovina Array	77.09	318	P	P	00 23 13.8	-0.8
BURAR	Bucovina Array	77.09	318	⇑P	P	00 23 14.2	-0.4
BURAR	Bucovina Array	77.09	318	P	P	00 23 14.2	-0.4
HARR	Harsova	77.10	315	⇑P	P	00 23 13.7	-0.8
HARR	Harsova	77.10	315	P	P	00 23 13.7	-0.8
TLBR	Topalu	77.11	315	⇑P	P	00 23 14.2	-0.5
VRI	Vrincioaia	77.18	316	⇑P	P	00 23 14.5	-0.6
VRI	Vrincioaia	77.18	316	P	P	00 23 14.9	-0.1
PLOR	Plostina	77.24	316	⇑P	P	00 23 15.0	-0.4
PLOR	Plostina	77.24	316	P	P	00 23 15.0	-0.4
MDUB	Mudurnu	77.28	310	P	P	00 23 14.2	-1.6
ICOR	Ion Corvin	77.49	314	⇑P	P	00 23 16.6	-0.2
COVR	Voineasa-Covas	77.50	316	⇑P	P	00 23 16.3	-0.6
LTY	Liberty	77.51	42	IAmb	IAmb	00 23 48.2	
	comp=Z,49nm,1.9s						
ASF	Jabal al Asfar	77.55	300	LR	LR	01 03 18.4	
	comp=Z,473nm,18.4s,baz=135,slow=40						
OZUR		77.61	317	⇑P	P	00 23 17.6	+0.2
B08A	Colville Reser	77.63	40	P	P	00 23 17.6	+0.1
MLR	Muntele Rosu	77.85	316	LR	LR	01 00 39.9	
	comp=Z,2μm,20.3s,baz=59,slow=38						
MLR	Muntele Rosu	77.85	316	⇑P	P	00 23 18.2	-0.7
MLR	Muntele Rosu	77.85	316	P	P	00 23 19.9	+1.0
ARCR	ARCALIA	77.87	318	⇑P	P	00 23 18.8	-0.1
DOPR	Dopca	77.91	317	⇑P	P	00 23 18.9	-0.2
GKP	Gorka Klasztor	77.92	326	eP	P	00 23 19.2	+0.2
KOLS	Kolonicke sedl	77.97	321	eP	P	00 23 18.9	-0.5
KOLS				pmax	pmax		
	comp=Z,17nm,0.9s						
KOLS	Kolonicke sedl	77.97	321	eP	P	00 23 18.9	-0.5
KOLS				epP	pP	00 23 28.6	-0.2
HOOD	Mount Hood Mea	78.02	44	P	P	00 23 20.5	+0.6
HOOD				IAmb	IAmb	00 23 36.3	
	comp=Z,33nm,1.2s						
BMR	Baia Mare	78.02	319	⇓P	P	00 23 19.6	-0.1
BMR	Baia Mare	78.02	319	P	P	00 23 19.5	-0.1
H04A	Detroit Lake	78.05	45	P	P	00 23 19.8	-0.1
H04A				IAmb	IAmb	00 23 31.2	
	comp=Z,38nm,1.6s						
MMAI	Mount Meron Ar	78.22	302	P	P	00 23 18.9	-2.2
	comp=Z,2.6nm,0.8s,baz=70,slow=4.7,SNR=2.2						
MMAI				LR	LR	01 02 32.0	
	comp=Z,658nm,19.3s,baz=40,slow=39						
	comp=Z,2.6nm,0.8s						
STHS	Stebnicka Huta	78.23	321	eP	P	00 23 20.4	-0.4
STHS				pmax	pmax		
	comp=Z,38nm,1.3s						
STHS	Stebnicka Huta	78.23	321	eP	P	00 23 20.4	-0.4
VOIR		78.40	317	⇑P	P	00 23 20.7	-1.3
VOIR		78.40	317	P	P	00 23 20.6	-1.3
CBBR	Cluj-Babes-Bol	78.51	318	⇑P	P	00 23 22.4	0.0
CJR	Cluj-Napoca	78.51	318	⇑P	P	00 23 22.4	-0.1
CJR	Cluj-Napoca	78.51	318	P	P	00 23 22.3	-0.1
OJC	Ojcow	78.51	323	eP	P	00 23 22.1	-0.2
C09A	Chrisman Ranch	78.53	40	IAmb	IAmb	00 23 34.4	
	comp=Z,36nm,1.3s						
D08A	Wollman Farm,	78.60	41	P	P	00 23 21.9	-1.0
HAWA	Hanford	78.64	42	P	P	00 23 22.4	-0.7
G06A	Carlson Farm,	78.66	43	P	P	00 23 22.6	-0.7
ARR	Arges	78.68	317	⇑P	P	00 23 23.4	0.0
NIE	Niedzica	78.73	322	eP	P	00 23 24.0	+0.4
TNR	Turnu Rosu	78.73	317	⇑P	P	00 23 23.7	0.0
TNR	Turnu Rosu	78.73	317	P	P	00 23 23.6	0.0
MARR	Marisel-Cluj	78.80	318	⇑P	P	00 23 23.9	-0.2
ICESG	Greenland Ices	78.88	357	iP	P	00 23 25.2	+0.8
NEW	Newport	78.89	40	P	P	00 23 25.1	+0.6
NEW	Newport	78.89	40	P	P	00 23 25.1	+0.6
NEW				pmax	pmax		
	comp=Z,23nm,1.4s						
ILULI	Ilulissat	78.92	1	P	P	00 23 24.5	+0.3
ILULI				IAmb	IAmb	00 23 25.9	
	comp=Z,64nm,1.2s						
ILULI	Ilulissat	78.92	1	P	P	00 23 24.5	+0.3
ILULI				pmax	pmax		
	comp=Z,64nm,1.2s						
ILULI	Ilulissat	78.92	1	iP	P	00 23 25.1	+0.9
HUMR	Humele	78.95	316	⇑P	P	00 23 23.5	-1.4
DRGR		78.97	319	⇑P	P	00 23 24.8	-0.3
DRGR		78.97	319	P	P	00 23 24.7	-0.3
GHAJ	Ghor Haditha	78.97	300	IAmb	IAmb	00 23 34.5	
	comp=Z,30nm,1.1s						
SZH	Strazhitsa	79.06	314	P	P	00 23 24.8	-0.7
LOT	Lotru	79.14	317	⇑P	P	00 23 25.6	-0.4
KECS	Kecovo	79.19	321	eP	P	00 23 26.3	+0.2
KECS				pmax	pmax		
	comp=Z,22nm,0.7s						
KECS	Kecovo	79.19	321	eP	P	00 23 26.2	+0.2
LANS	Liptovska Anna	79.33	322	eP	P	00 23 27.7	+0.8
LANS				pmax	pmax		
	comp=Z,32nm,1.6s						
LANS	Liptovska Anna	79.33	322	eP	P	00 23 27.7	+0.8
LANS				epP	pP	00 23 36.8	+0.5
L04D	Klamath Falls	79.34	47	P	P	00 23 28.5	+1.2
L04D				IAmb	IAmb	00 23 46.6	
	comp=Z,54nm,1.4s						
J05D	Fort Rock, OR	79.40	45	P	P	00 23 27.3	-0.3
J05D				IAmb	IAmb	00 23 45.1	
	comp=Z,52nm,1.7s						
OKC	Ostrava-Krasne	79.59	323	AMS	AMS	01 02 40.0	
	comp=Z,5μm,15.4s						
VLAD	Vladila	79.59	316	⇑P	P	00 23 27.4	-1.0
G08A	Pilot Rock	79.60	43	P	P	00 23 28.6	0.0
STEB	Steborice	79.72	323	ex	x	00 23 37.3	
GZR	Gura Zlata	79.74	317	⇑P	P	00 23 28.6	-0.6
GZR	Gura Zlata	79.74	317	P	P	00 23 29.1	-0.1
PSZ	Piszkesteto	79.84	321	⇑P	P	00 23 29.6	-0.2
PSZ	Piszkesteto	79.84	321	P	P	00 23 29.5	-0.2
PSZ	Piszkesteto	79.84	321	eP	P	00 23 29.8	0.0
KSP	Ksiaz	79.89	325	eP	P	00 23 29.8	-0.1
MORC	Moravsky Berou	79.94	323	P	P	00 23 29.1	-1.0
MORC				IAmb	IAmb	00 23 31.4	
	comp=Z,55nm,1.3s						
MORC	Moravsky Berou	79.94	323	eP	P	00 23 29.7	-0.5
MORC	Moravsky Berou	79.94	323	⇑P	P	00 23 29.9	-0.3
MORC	Moravsky Berou	79.94	323	P	P	00 23 30.3	+0.1
I07A	Izee	79.98	44	P	P	00 23 30.5	-0.1
RUE	Ruedersdorf	80.04	327	eP	P	00 23 31.1	+0.5
OSTC	Ostas	80.11	324	eP	P	00 23 31.5	+0.4
OSTC				AMS	AMS	01 02 50.0	
	comp=Z,7μm,15.7s						
OSTC	Ostas	80.11	324	eP	P	00 23 31.5	+0.4
OSTC				MLR	MLR		
	comp=Z,7μm,15.7s						
KRLC	Kraliky	80.13	324	eP	P	00 23 30.8	-0.4
KRLC				AMS	AMS	01 03 00.0	
	comp=Z,7μm,15.2s						
KRLC	Kraliky	80.13	324	eP	P	00 23 30.8	-0.4
KRLC				MLR	MLR		
	comp=Z,7μm,15.2s						
CHVC	Chvalec	80.17	324	eP	P	00 23 31.5	+0.1
CHVC				AMS	AMS	01 03 00.0	
	comp=Z,7μm,15.7s						
CHVC	Chvalec	80.17	324	eP	P	00 23 31.5	+0.1
CHVC				MLR	MLR		
	comp=Z,7μm,15.7s						
O02D	Mt. Diablo Mer	80.18	49	P	P	00 23 31.1	-0.6
O02D				IAmb	IAmb	00 23 52.1	
	comp=Z,38nm,1.4s						
F10A	Beach Ranch, E	80.19	41	P	P	00 23 31.4	-0.3
DPC	Dobruska-Polom	80.19	324	eP	P	00 23 31.6	+0.1
DPC				AMS	AMS	01 03 00.0	
	comp=Z,7μm,15.6s						
DPC	Dobruska-Polom	80.19	324	eP	P	00 23 31.6	+0.1
DPC				MLR	MLR		
	comp=Z,7μm,15.6s						
UPC	Upice	80.24	324	AMS	AMS	01 03 10.0	
	comp=Z,7μm,15.5s						
HERR	Herculane	80.25	317	⇑P	P	00 23 31.3	-0.6
EIL	Elat	80.26	299	LR	LR	01 05 55.0	
	comp=Z,404nm,18.3s,baz=60,slow=41						
BZS	Buzias	80.27	318	⇑P	P	00 23 31.2	-0.8
BZS	Buzias	80.27	318	P	P	00 23 31.2	-0.8
VALD	Valchedram	80.34	316	P	P	00 23 32.5	+0.1
MPEP	Malo Peshtene	80.36	315	P	P	00 23 32.1	-0.4
JAVC	Velka Javorina	80.44	322	eP	P	00 23 33.6	+0.7
MDVR	Moldovita	80.71	317	⇑P	P	00 23 33.5	-0.9
VRAC	Vranov	80.71	323	LR	LR	01 03 19.7	
	comp=Z,2μm,18.4s,baz=50,slow=39						
VRAC	Vranov	80.71	323	eP	P	00 23 34.1	-0.2
VRAC	Vranov	80.71	323	⇓P	P	00 23 34.7	+0.3
VRAC	Vranov	80.71	323	P	P	00 23 34.6	+0.3
SRO	Srobarova	80.75	321	eP	P	00 23 34.9	+0.4
SRO				pmax	pmax		
	comp=Z,22nm,1.2s						
SRO	Srobarova	80.75	321	eP	P	00 23 34.9	+0.4
SRO				epP	pP	00 23 44.3	+0.3
SMOL	Smolenice	80.78	322	eP	P	00 23 35.5	+0.8
SMOL				pmax	pmax		
	comp=Z,34nm,1.2s						
PVCC	Panska Ves	80.94	325	eP	P	00 23 37.3	+1.8
PVCC				AMS	AMS	01 03 20.0	
	comp=Z,5μm,15.6s						
PVCC	Panska Ves	80.94	325	eP	P	00 23 37.3	+1.8
PVCC				MLR	MLR		
	comp=Z,5μm,15.6s						
MODS	Modra-Piesok	80.95	322	eP	P	00 23 36.2	+0.6
MODS				pmax	pmax		
	comp=Z,164nm,1.4s						
MODS	Modra-Piesok	80.95	322	eP	P	00 23 36.2	+0.6
MODS				epP	pP	00 23 45.9	+0.8
KRUC	Moravsky	80.97	323	eP	P	00 23 35.3	-0.4
J08A	Circle Bar Ran	81.01	44	P	P	00 23 36.3	+0.2
BRG	Berggiesshubel	81.02	326	iP	P	00 23 35.9	0.0
BRG				Amp		00 23 37.7	
	comp=Z,14nm,1.0s						
PLNA	Plana	81.06	315	P	P	00 23 36.4	0.0
VTS	Vitosha	81.09	315	P	P	00 23 36.9	+0.3
SFJD	Kangerlussuaq	81.15	1	P	P	00 23 36.6	+0.4
SFJD				IAmb	IAmb	00 23 37.9	
	comp=Z,47nm,1.1s						
SFJD	Kangerlussuaq	81.15	1	LR	LR	01 02 11.6	
	comp=Z,546nm,18.3s,baz=346,slow=38						
SFJD	Kangerlussuaq	81.15	1	P	P	00 23 36.6	+0.4
SFJD				pmax	pmax		
	comp=Z,47nm,1.1s						
SFJD	Kangerlussuaq	81.15	1	iP	P	00 23 36.6	+0.4
CLL	Collm	81.18	326	IAmb	IAmb	00 23 38.3	
	comp=Z,47nm,1.2s						
BORG	Borgarnes	81.20	349	LR	LR	01 00 50.4	
	comp=Z,241nm,18.7s,baz=15,slow=36						
GOPC	GO Pecny, Ondr	81.23	324	AMS	AMS	01 03 40.0	
	comp=Z,6μm,15.8s						
TREC	Trest	81.28	324	epP	pP	00 23 46.9	0.0
TREC				AMS	AMS	01 03 40.0	
	comp=Z,8μm,15.4s						
TREC	Trest	81.28	324	eP	P	00 23 46.9	+10
TREC				MLR	MLR		
	comp=Z,8μm,15.4s						
PRA	Prague	81.30	325	AMS	AMS	01 03 40.0	
	comp=Z,6μm,15.4s						
PRU	Pruhonice	81.30	325	eP	P	00 23 37.1	-0.3
PRU				AMS	AMS	01 03 40.0	
	comp=Z,6μm,15.5s						
PRU	Pruhonice	81.30	325	eP	P	00 23 37.1	-0.3
PRU				MLR	MLR		
	comp=Z,6μm,15.5s						
BOVS	Bovan	81.39	316	⇑P	P	00 23 37.1	-0.9
PLID	Pearl Lake	81.41	42	P	P	00 23 38.4	0.0
HSKC	Hora Svate Kat	81.44	326	AMS	AMS	01 03 40.0	
	comp=Z,4μm,15.5s						
WVOR	Wild Horse Val	81.45	45	IAmb	IAmb	00 24 02.6	
	comp=Z,44nm,1.7s						
MORH	Mrgy, Hungar	81.56	320	⇑P	P	00 23 38.4	-0.5
FRGS	Fruska Gora	81.56	319	⇑iP	P	00 23 38.6	-0.3
KKB	Krupnik	81.60	314	P	P	00 23 39.3	+0.1
FCC	Fort Churchill	81.62	22	IAmb	IAmb	00 23 41.1	
	comp=Z,47nm,1.1s						
URZ	Urewera	81.64	146	LR	LR	00 55 24.4	
	comp=Z,164nm,21.0s,baz=55,slow=32						
FFC	Flin Flon	81.81	28	P	P	00 23 40.7	+0.7
FFC	Flin Flon	81.81	28	P	P	00 23 40.7	+0.7
FFC				pmax	pmax		
	comp=Z,15nm,1.0s						
ZVC	Zvikov	81.83	324	AMS	AMS	01 04 10.0	
	comp=Z,7μm,15.7s						
RONA	Rosalia, Austr	81.89	322	eP	P	00 23 40.7	+0.1
	comp=Z,9.9nm,0.9s,SNR=9.9						
BEKR	Beckworth	81.89	48	P	P	00 23 40.6	-0.4
CONA	Conrad Observa	81.96	322	eP	P	00 23 41.1	0.0
	comp=Z,16nm,1.0s,SNR=17						
AFDM	Forest Hills D	82.03	49	P	P	00 23 41.1	-0.4
TEKS	Tekeris	82.09	318	eP	P	00 23 40.7	-1.0
NKC	Novy Kostel	82.15	326	eP	P	00 23 41.9	-0.1
NKC				AMS	AMS	01 04 50.0	
	comp=Z,4μm,14.5s						
NKC	Novy Kostel	82.15	326	eP	P	00 23 41.9	-0.1
NKC				MLR	MLR		
	comp=Z,4μm,14.5s						
CKRC	Cesky Krumlov	82.18	324	eP	P	00 23 41.7	-0.4
CKRC				AMS	AMS	01 04 20.0	
	comp=Z,8μm,14.9s						
CKRC	Cesky Krumlov	82.18	324	eP	P	00 23 41.7	-0.4
CKRC				MLR	MLR		
	comp=Z,8μm,14.9s						
KHC	Kasperske Hory	82.34	324	eP	P	00 23 42.7	-0.3
KHC				epP	pP	00 23 51.1	-1.4
KHC				AMS	AMS	01 04 20.0	
	comp=Z,7μm,15.6s						
KHC	Kasperske Hory	82.34	324	eP	P	00 23 42.7	-0.3
KHC				e		00 23 51.1	
KHC				MLR	MLR		
	comp=Z,7μm,15.6s						
GEC2	GERESS Array S	82.46	324	IAmb	IAmb	00 23 44.6	
	comp=Z,47nm,1.6s						
GERES	GERESS Array B	82.46	324	P	P	00 23 42.9	-0.8
GERES	GERESS Array B	82.46	324	P	P	00 23 43.0	-0.7
	comp=Z,5.1nm,0.8s,baz=53,slow=5.2,SNR=28						
GERES				LR	LR	01 04 35.8	
	comp=Z,3μm,20.4s,baz=51,slow=39						
	comp=Z,5.1nm,0.8s						
MFID	Camas Ranch	82.52	43	IAmb	IAmb	00 23 55.7	
	comp=Z,42nm,1.4s						
ARSA	Arzberg	82.58	322	eP	P	00 23 44.0	-0.2
	comp=Z,5.5nm,0.7s,SNR=9.3						
ARSA	Arzberg	82.58	322	IAmb	IAmb	00 23 45.5	
	comp=Z,56nm,1.6s						
BBLS	Lazi&#263i	82.58	318	⇑iP	P	00 23 43.8	-0.6
SJES	Sjenica	82.63	317	⇑iP	P	00 23 45.0	+0.3
HAPS	Han Pijesak,Bl	82.71	318	⇑iP	P	00 23 44.5	-0.6
RUDO	Rudo	82.75	318	⇑iP	P	00 23 44.0	-1.2
MOA	Molln	82.83	323	eP	P	00 23 45.6	+0.1
	comp=Z,12nm,1.0s,SNR=14						
EGMT	Eagleton	82.89	37	P	P	00 23 45.0	-1.0
CMB	Columbia Colle	82.93	49	P	P	00 23 46.6	+0.3
CMB	Columbia Colle	82.93	49	P	P	00 23 46.6	+0.3
CMB				pmax	pmax		
	comp=Z,20nm,1.4s						
FRB	Frobisher Bay	83.04	9	LR	LR	01 02 14.8	

comp=Z,220nm,21.0s,baz=314,slow=31
comp=Z,1.8nm,0.7s
NV11 Mina Array Sit 84.12 48 IAmb IAmb 00 24 09.8
comp=Z,20nm,1.4s
PRED Cave del Predi 84.12 322 IAmb IAmb 00 24 01.3
comp=Z,18nm,1.1s
CEY Cerknica 84.13 321⇑ *iP* **P 00 23 51.6 -0.7**
YHL Hebgen Lake 84.22 40 P **P 00 23 53.0 0.0**
YHL IAmb IAmb 00 23 57.5
comp=Z,27nm,1.5s
IDI Anoyia 84.30 308 LR LR 01 06 25.2
comp=Z,480nm,19.5s,baz=42,slow=39
YMR Madison River 84.45 40 P **P 00 23 55.2 +1.0**
YMR IAmb IAmb 00 24 06.8
comp=Z,47nm,1.6s
ABTA Abfaltersbach 84.46 323 *eP* **P 00 23 52.5 -1.5**
comp=Z,29nm,1.1s,SNR=13
SKDS Skadanscina 84.48 321⇑ *iP* **P 00 23 52.6 -1.4**
ELK Elko 84.50 45 P **P 00 23 54.6 +0.1**
ELK Elko 84.50 45 LR LR 00 56 12.5
comp=Z,118nm,21.2s,baz=316,slow=32
ELK Elko 84.50 45 P **P 00 23 54.6 +0.1**
ELK pmax pmax
comp=Z,16nm,1.2s
WATA Walderalm 84.53 324 *eP* **P 00 23 53.6 -0.8**
comp=Z,18nm,1.1s,SNR=6.6
WTTA Wattenberg 84.55 324 *eP* **P 00 23 53.9 -0.7**
comp=Z,28nm,1.2s,SNR=11
STU Stuttgart 84.70 326 P **P 00 23 54.1 -0.9**
STU Stuttgart 84.70 326 P **P 00 23 54.1 -0.9**
STU pmax pmax
comp=Z,53nm,1.1s
STU Stuttgart 84.70 326 *eP* **P 00 23 55.2 +0.2**
MOTA Moosalm 84.76 324 *eP* **P 00 23 54.7 -0.9**
comp=Z,14nm,0.9s
SQTA Sankt Quirin 84.80 324 *i P* **P 00 23 54.9 -0.8**
comp=Z,16nm,1.0s,SNR=6.9
BTNL Ternell 84.81 329 *dP* **P 00 23 55.3 -0.3**
comp=Z,7.3nm,1.2s
EKA Eskdalemuir Ar 84.81 336 P **P 00 23 54.2 -1.3**
comp=Z,12nm,1.0s,baz=32,slow=4.9,SNR=14
comp=Z,12nm,1.0s
RETA Reutte 84.83 324 *eP* **P 00 23 55.3 -0.6**
comp=Z,29nm,1.4s,SNR=11
MEM Membach 84.84 329 *dP* **P 00 23 54.8 -0.9**
comp=Z,12nm,1.2s
DSP Deep Springs 84.87 49 IAmb IAmb 00 24 13.6
comp=Z,40nm,1.6s
BHOU Houvegnez 85.03 329 *dP* **P 00 23 55.9 -0.8**
comp=Z,8.4nm,1.4s
BSTI Sart Tilman 85.06 329 *dP* **P 00 23 55.9 -0.9**
RLMT Red Lodge 85.07 39 P **P 00 23 57.9 +0.6**
RLMT IAmb IAmb 00 24 01.5
comp=Z,23nm,1.3s
FETA Feichten 85.17 324 *eP* **P 00 23 56.9 -0.8**
comp=Z,19nm,1.1s,SNR=9.4
MOOW Moose Ponds 85.17 40 IAmb IAmb 00 24 15.6
comp=Z,28nm,1.6s
TPAW Teton Pass 85.23 41 IAmb IAmb 00 24 27.7
comp=Z,38nm,1.8s
BCLA Clavier 85.29 329 *dP* **P 00 23 57.1 -0.8**
comp=Z,5.4nm,1.3s
HVU Hansel Valley 85.30 43 IAmb IAmb 00 24 15.0
comp=Z,31nm,1.6s
DGMT Dagmar 85.31 34 P **P 00 23 58.7 +0.6**
DGMT IAmb IAmb 00 24 00.5
comp=Z,23nm,1.0s
DAVA Damuels 85.41 325 *i P* **P 00 23 58.1 -0.7**
comp=Z,43nm,1.1s,SNR=16
BGES Gesves 85.41 329 *dP* **P 00 23 57.7 -0.9**
UCC Uccle 85.42 330 *dP* **P 00 23 57.0 -1.6**
BFO Black Forest 85.42 326 P **P 00 23 57.4 -1.3**
BFO Black Forest 85.42 326 P **P 00 23 57.4 -1.3**
BFO pmax pmax
comp=Z,62nm,1.2s
WLF Walferdange 85.47 328 *dP* **P 00 23 57.8 -1.1**
comp=Z,17nm,1.2s
RCHB Rochefort 85.52 329 *dP* **P 00 23 57.8 -1.3**
comp=Z,9.1nm,1.3s
ISA Isabella, Lake 85.56 50 P **P 00 23 58.9 -0.8**
ISA Isabella, Lake 85.56 50 P **P 00 23 58.9 -0.8**
ISA pmax pmax
comp=Z,7.0nm,1.0s
LAO LASA Array 85.57 36 IAmb IAmb 00 24 02.3
comp=Z,25nm,1.2s
BMRD Maredsous 85.61 329 *dP* **P 00 23 58.9 -0.7**
comp=Z,9.6nm,1.2s
FUORN Ofenpass-Fuorn 85.68 324 P **P 00 23 59.3 -1.0**
BGU Big Grassy Mou 85.70 44 IAmb IAmb 00 24 12.2
comp=Z,30nm,1.6s
DAVOX Davos/Dischmat 85.76 324 LR LR 01 06 59.4
comp=Z,5μm,18.2s,baz=40,slow=39
R11B Troy Canyon, C 85.77 47 IAmb IAmb 00 24 12.3
comp=Z,34nm,1.8s
DOU Dourbes 85.84 329 *dP* **P 00 23 58.6 -2.0**
comp=Z,4.7nm,1.3s
ECH Echery 86.05 327 IAmb IAmb 00 24 03.0
comp=Z,42nm,1.3s
WCT Wildcat Mounta 86.07 49 P **P 00 24 02.6 +0.4**
HWUT Hardware Ranch 86.11 42 IAmb IAmb 00 24 14.9
comp=Z,41nm,1.4s
TPNV Topopah Spring 86.22 48 P **P 00 24 03.9 +0.8**
TPNV IAmb IAmb 00 24 15.2
comp=Z,26nm,1.4s
TPNV Topopah Spring 86.22 48 P **P 00 24 03.9 +0.8**
TPNV pmax pmax
comp=Z,26nm,1.4s
DUG Dugway, Tooele 86.29 44 IAmb IAmb 00 24 20.7
comp=Z,58nm,1.7s
PDAR Pinedale Array 86.47 40 P **P 00 24 04.2 -0.1**
PDAR Pinedale Array 86.47 40 P **P 00 24 04.8 +0.5**
comp=Z,8.5nm,1.1s,baz=300,slow=2.9,SNR=26
comp=Z,8.5nm,1.1s
TCUT Toone Canyon 86.51 43 IAmb IAmb 00 24 22.7
comp=Z,50nm,1.4s
INTR Introdacqua 86.87 319 P **P 00 24 05.5 -0.6**
PRMA PARMA 86.94 323 P **P 00 24 06.0 -0.2**
ULM Lac du Bonnet 87.64 29 P **P 00 24 09.8 +0.3**
comp=Z,30nm,1.1s,baz=321,slow=5.2,SNR=32
ULM LR LR 01 04 51.7
comp=Z,166nm,20.1s,baz=346,slow=36
comp=Z,30nm,1.1s
TMUT Trail Mountain 87.81 44 IAmb IAmb 00 24 35.7
comp=Z,32nm,1.7s
MDND Maddock 87.87 32 P **P 00 24 10.9 +0.2**
RDMU Red Mountain 87.92 42 IAmb IAmb 00 24 23.5
comp=Z,29nm,1.3s
PFO Pinyon Flats O 88.12 51 LR LR 00 56 47.0
comp=Z,494nm,21.6s,baz=261,slow=31
K22A Casper 88.20 39 IAmb IAmb 00 24 29.8
comp=Z,22nm,1.3s
SRU San Rafael Swe 88.34 44 IAmb IAmb 00 24 24.5
comp=Z,14nm,1.0s
BNI Bardonecchia 88.56 325 IAmb IAmb 00 24 23.2
comp=Z,18nm,1.1s
O20A White River Ci 88.97 42 IAmb IAmb 00 24 28.1
comp=Z,26nm,1.4s
AGMN Agassiz Nation 89.16 30 IAmb IAmb 00 24 19.8
comp=Z,28nm,1.4s
SSB Saint Sauveur 89.42 326 IAmb IAmb 00 24 17.6
comp=Z,51nm,1.7s
VAE Valguarnera 89.58 315 LR LR 01 08 56.9
comp=Z,813nm,19.6s,baz=34,slow=38
PPT2 Papeete2 89.74 111 *eS* **S 00 35 15.7 +5.8**
comp=Z,243nm,24.8s
PPT2 Papeete2 89.74 111 *eLR* LR 00 52 57.1
PPT2 comp=Z,532nm,24.5s *eLR* LR 00 53 00.0
comp=Z,452nm,25.5s
RAFF Raffo Rosso 89.77 315 P **P 00 24 18.8 -1.1**
WUAZ Wupatki 90.17 47 P **P 00 24 21.7 -0.3**
MVCO Mesa Verde 90.79 44 IAmb IAmb 00 24 29.1
comp=Z,22nm,1.3s
F33A 5 Mile Ranch, 90.88 32 IAmb IAmb 00 24 27.2
comp=Z,24nm,1.1s
EYMN Ely 91.21 28 IAmb IAmb 00 24 28.7
comp=Z,25nm,1.0s
S22A 4UR Ranch, Cre 91.40 43 IAmb IAmb 00 24 31.8
comp=Z,17nm,1.4s
Q24A Divide 91.51 41 P **P 00 24 28.6 +0.3**
Q24A IAmb IAmb 00 24 32.0
comp=Z,21nm,1.6s
K30B Basset 91.73 35 P **P 00 24 29.4 +0.6**
SCHQ Schefferville 91.86 11 IAmb IAmb 00 24 30.7
comp=Z,16nm,1.1s
SCHQ Schefferville 91.86 11 P **P 00 24 28.4 -0.7**
comp=Z,12nm,1.1s,baz=3.3,slow=5.3,SNR=5.6
SCHQ LR LR 01 08 05.2
comp=Z,624nm,20.4s,baz=353,slow=37
comp=Z,12nm,1.1s
SDCO Great Sand Dun 92.16 42 IAmb IAmb 00 24 48.7
comp=Z,16nm,1.5s
E38A The Farm, Brul 92.28 28 P **P 00 24 31.1 -0.1**
TAOE Nuku Hiva Isla 92.77 99 *eP* **P 00 24 37.2 +3.1**
comp=Z,84nm,24.2s
TAOE Nuku Hiva Isla 92.77 99 *eS* **S 00 35 34.3 -3.4**
comp=Z,214nm,25.0s
TAOE Nuku Hiva Isla 92.77 99 *eLR* LR 00 54 24.0
comp=Z,622nm,24.9s
TBI Tubuai 93.02 116 *eP* **P 00 24 33.2 -1.7**
comp=Z,247nm,23.2s
TBI Tubuai 93.02 116 *eS* **S 00 35 39.3 +0.1**
comp=Z,1μm,27.0s
TBI Tubuai 93.02 116 *eLR* LR 00 54 28.9
comp=Z,2μm,24.2s
ANMO Albuquerque 93.54 45 P **P 00 24 38.0 +0.4**
ANMO Albuquerque 93.54 45 LR LR 01 09 00.3
comp=Z,118nm,18.7s,baz=136,slow=37
ANMO Albuquerque 93.54 45 P **P 00 24 38.0 +0.4**
ANMO pmax pmax
comp=Z,12nm,1.4s
KEST Kesra 93.75 317 P **P 00 24 37.3 -1.0**
comp=Z,11nm,1.0s,baz=133,slow=1.2,SNR=5.0
KEST LR LR 01 12 54.9
comp=Z,555nm,19.5s,baz=46,slow=39
comp=Z,11nm,1.0s
G40A Rib Lake 93.92 28 P **P 00 24 39.0 +0.1**
G40A IAmb IAmb 00 24 41.1
comp=Z,11nm,0.9s
KIBK Kibwezi 94.65 270 P **P 00 24 40.9 -1.9**
KMBO Kilima Mbogo 94.69 272 P **P 00 24 41.7 -1.5**
comp=Z,1.1nm,0.8s,baz=12,slow=10.0,SNR=4.2
KMBO LR LR 01 08 36.6
comp=Z,330nm,20.9s,baz=94,slow=36
comp=Z,1.1nm,0.8s
KMBO Kilima Mbogo 94.69 272 *i P* **P 00 24 43.5 +0.3**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
E46A Sault Ste Mari 95.21 24 IAmb IAmb 00 24 47.1
comp=Z,17nm,1.2s
OPO Ambohidratompo 95.51 252 LR LR 01 05 10.2
comp=Z,153nm,18.8s,baz=195,slow=34
L40A Anamosa 96.10 31 IAmb IAmb 00 24 51.0
comp=Z,20nm,1.3s
ESDC Seneca Army 97.74 327 P **P 00 24 55.2 -1.2**
comp=Z,1.8nm,1.0s,baz=358,slow=3.6,SNR=5.5
ESDC LR LR 01 14 48.7
comp=Z,799nm,21.3s,baz=32,slow=39
comp=Z,1.8nm,1.0s
WMOK Wichita Mounta 98.08 40 IAmb IAmb 00 28 20.8
comp=Z,5.5nm,0.8s
LPIG La Paz 98.29 55 LR LR 01 01 48.1
comp=Z,132nm,21.8s,baz=310,slow=31
SADO Sadowa 98.34 22 LR LR 01 14 41.0
comp=Z,258nm,18.6s,baz=44,slow=38
TRQ Mont Tremblant 98.36 18 P **P 00 24 59.0 -0.1**
TRQ IAmb IAmb 00 25 01.6
comp=Z,15nm,1.2s
TXAR Lajitas Array 99.14 47 P **Pdif 00 25 03.1 +0.1**
comp=Z,0.5nm,0.7s,baz=324,slow=3.8,SNR=5.5
TXAR LR LR 01 11 37.3
comp=Z,122nm,18.1s,baz=323,slow=36
comp=Z,0.5nm,0.7s
RKT Rikitea 104.29 108 *eS* **Sdif 00 37 13.2 -1.9**
comp=Z,592nm,25.8s
RKT Rikitea 104.29 108 *eLR* LR 00 59 43.9
comp=Z,2μm,26.8s
TSUM Tsumeb 120.37 265 PKPdf **PKiKP 00 30 13.2 0.0**
SYO Syowa Base 120.48 205⇑ *eP*Pdiff **Pdif 00 26 40.8 +4.3**
QSPA South Pole Qui 121.90 180 PKPdf **PKPdf 00 30 13.8 -0.7**
QSPA South Pole Qui 121.90 180 PKP **PKPdf 00 30 14.2 -0.3**
comp=Z,7.9nm,1.0s,baz=355,slow=1.9,SNR=10
DBIC Dimbokro 123.68 305 PKPdf **PKPdf 00 30 17.6 -1.9**
DBIC Dimbokro 123.68 305 PKP **PKPdf 00 30 18.9 -0.6**
comp=Z,11nm,0.9s,baz=62,slow=4.3,SNR=10
ELIB Princess Elisa 126.02 201 *e*PKPdf **PKiKP 00 30 22.8 0.0**
comp=Z,7.2nm,0.0s
NVL N'lazarevskaya 129.88 202 *e*PKIKP **PKiKP 00 30 30.8 +0.5**
NVL pmax pmax
comp=Z,12nm,1.1s
TROLL Troll, Antarti 132.16 199 ⇓PKPdf **PKPdf 00 30 33.9 -0.1**
comp=Z,217nm,0.7s
TROLL ⇓SKP 00 34 00.6
comp=Z,250nm,1.1s
SNAA Sanae 133.77 198 ⇓PKPdf **PKiKP 00 30 38.2 -0.1**
comp=Z,88nm,0.9s
SNAA ⇓SKP 00 34 05.5
comp=Z,118nm,1.1s
SNAA Sanae 133.77 198 PKP **PKPdf 00 30 37.0 0.0**
comp=Z,4.9nm,1.0s,baz=135,slow=4.3,SNR=5.4
SNAA Sanae 133.77 198 PKiKP **PKPdf 00 30 37.0 0.0**
SDV Santo Domingo 133.79 32 PKPdf **PKPdf 00 30 38.7 -0.3**
SDV Santo Domingo 133.79 32 *eP* **PKiKP 00 30 40.1 -0.1**
VNA2 Neumayer--Watz 135.40 198 ⇓PKPdf **PKiKP 00 30 40.9 -0.6**
comp=Z,14nm,0.8s,baz=100,slow=1.9
VNA2 ⇑SKP 00 34 11.3
baz=360,slow=1.1
ROSC El Rosal 135.46 39 PKP **PKiKP 00 30 43.5 -0.5**
comp=Z,6.6nm,0.4s,baz=225,slow=20,SNR=4.7
VNA3 Neumayer Olymp 135.77 197 ⇓PKPdf **PKPdf 00 30 39.4 -1.3**
comp=Z,6.9nm,0.8s
VNA3 ⇑SKP 00 34 11.8
VNA1 Neumayer--Stat 135.80 198 ⇓PKPdf **PKiKP 00 30 41.7 -0.6**
comp=Z,31nm,1.1s
BOAV Boa Vista 143.63 22 PKPdf PKPbc 00 30 53.9 -0.2
TBTG Tabatinga, AM 145.38 41 *eP* **PKPdf 00 31 00.9 +1.2**
TEFE Tefe 147.47 32 *eP* **PKPbc 00 31 05.5 -0.3**
MACA Manacapuru-AM 148.77 25 PKPdf **PKPdf 00 31 05.1 -0.3**
MAL2 Monte Alegre, 149.46 12 PKPdf **PKPdf 00 31 06.0 -0.6**
PRPB Paraua pebas 154.10 4 *eP* **PKPdf 00 31 15.1 +1.6**
LPAZ La Paz 155.80 54 PKP **PKPdf 00 31 15.9 -0.6**
comp=Z,1.6nm,1.0s,baz=348,slow=6.2,SNR=5.4
PLCA Paso Flores 159.91 122 PKPab **PKPab 00 31 59.9 +0.2**
comp=Z,3.3nm,1.0s,baz=211,slow=5.0,SNR=4.4
BDFB Brasília 163.57 0 PKPdf **PKPdf 00 31 22.9 -1.8**
BDFB **PKPab 00 32 15.5 -0.5**
BDFB Brasília 163.57 0 PKP **PKPdf 00 31 23.9 -0.8**
comp=Z,6.8nm,1.0s,baz=19,slow=1.2,SNR=7.3
BDFB PKPab **PKPab 00 32 15.9 -0.2**
comp=Z,19nm,1.1s,baz=1.1,slow=5.4,SNR=9.8
RPRD Ribas do Rio P 167.28 25 *eP* **PKPdf 00 31 28.3 +0.7**
VAO Valinhos 170.85 354 *eP* **PKPdf 00 31 31.2 +1.4**
PARB Paraibuna 171.00 346 *eP* **PKPdf 00 31 30.8 +0.9**
FRTB Fartura 171.11 10 *eP* **PKPdf 00 31 30.8 +0.9**
PTGB Pitanga 171.75 27 *eP* **PKPdf 00 31 30.8 +0.5**
MAJ01 Sao Joao Batis 175.17 12 *eP* **PKPdf 00 31 31.2 -0.2**

KRSC 27 00:16:34.4±1.7, 53°.29N×163°.24E, h61km±29km, MI3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.55**	**325**	*eP*	Pn	00 17 02.0	+2.3
MKZ				*eS*	Sn	00 17 20.8	+2.1
SPN	**Mys Shipunski**	**1.94**	**265**	*eP*	Pn	00 17 07.4	+2.4
SPN				*eS*	Sn	00 17 29.3	+1.0
NLC	**Nalytchevo**	**2.34**	**269**	*eP*	Pn	00 17 12.9	+2.4
NLC				*eS*	Sn	00 17 40.0	+1.9
KII	**Karymskiy**	**2.37**	**290**	*eP*	Pn	00 17 14.0	+3.0
KII				*eS*	Sn	00 17 41.3	+2.4
BKI	**Bering**	**2.50**	**39**	*eP*	Pn	00 17 14.0	+1.4
BKI				*eS*	Sn	00 17 41.2	-0.7
TUMD	**Tumrok D**	**2.54**	**320**	*eP*	Pn	00 17 15.8	+2.6
TUMD				*eS*	Sn	00 17 45.8	+2.9
SDLR	**Sedlovina**	**2.61**	**271**	*eP*	Pn	00 17 17.7	+3.4
SDLR				*eS*	Sn	00 17 47.5	+2.6
UGLR	**Uglovaya**	**2.65**	**270**	*eP*	Pn	00 17 18.2	+3.4
UGLR				*eS*	Sn	00 17 48.6	+2.7
KRER	**Koryakskii**	**2.69**	**272**	*eP*	Pn	00 17 19.0	+3.5
KRER				*eS*	Sn	00 17 49.6	+2.6
AVH	**Avacha**	**2.70**	**271**	*eP*	Pn	00 17 19.1	+3.6
AVH				*eS*	Sn	00 17 49.5	+2.5
DALK	**Dalny**	**2.71**	**266**	*eP*	Pn	00 17 18.8	+3.2
DALK				*eS*	Sn	00 17 48.7	+1.6
KRX	**Arik**	**2.75**	**273**	*eP*	Pn	00 17 19.5	+3.3
KRX				*eS*	Sn	00 17 50.3	+1.9
KOK	**Koryaka**	**2.76**	**272**	*eP*	Pn	00 17 19.7	+3.4
PET	**Petropavlovsk**	**2.77**	**266**	*eP*	Pn	00 17 19.9	+3.6
PET				*eS*	Sn	00 17 51.5	+2.9
KBTR	**Krutoberegovo**	**2.93**	**355**	*eP*	Pn	00 17 20.5	+2.0
KBTR				*eS*	Sn	00 17 53.2	+0.7
KMNR	**Kamenistaya**	**3.02**	**326**	*eP*	Pn	00 17 23.8	+4.0
BZGR	**Bezymyannyi-Gr**	**3.04**	**332**	*eP*	Pn	00 17 23.7	+3.6
BZGR				*eS*	Sn	00 17 58.9	+3.7
KRMR	**Karymshinskiy**	**3.12**	**263**	*eP*	Pn	00 17 24.0	+2.9
KRMR				*eS*	Sn	00 17 58.4	+1.4
KIRR	**Kirishev**	**3.15**	**329**	*eP*	Pn	00 17 25.6	+3.9
LGNR	**Loginova**	**3.16**	**333**	*eP*	Pn	00 17 25.8	+3.8
GNL	**Ganaly**	**3.19**	**279**	*eP*	Pn	00 17 26.7	+4.5
KPT	**Kopyto**	**3.20**	**328**	*eP*	Pn	00 17 26.5	+4.2
GRL	**Gorelyy**	**3.21**	**259**	*eP*	Pn	00 17 25.6	+3.1
KLY	**Klyuchi**	**3.38**	**335**	*eP*	Pn	00 17 27.5	+2.9
KOZ	**Kozyrevsk**	**3.39**	**326**	*eP*	Pn	00 17 28.8	+4.0
KOZ				*eS*	Sn	00 18 08.2	+4.5
SMKR	**Semkarok**	**3.45**	**344**	*eP*	Pn	00 17 28.6	+2.9
KDTR	**Khodutka, Kamc**	**3.48**	**247**	*eP*	Pn	00 17 27.7	+1.6
KDTR				*eS*	Sn	00 18 05.7	-0.3
APC	**Apacha**	**3.68**	**267**	*eP*	Pn	00 17 33.7	+5.0
APC				*eS*	Sn	00 18 15.9	+5.0
ESO	**Esso**	**3.73**	**317**	*eP*	Pn	00 17 33.1	+3.6
ESO				*eS*	Sn	00 18 15.8	+3.7
TILK	**Tilichiki**	**7.34**	**11**	*eP*	Pn	00 18 23.3	+4.5

*IDC **27** 00:24:52.6±1.4, 10°.08S×149°.92E, h0km, mb3.7/5, mbtmp3.7/7, ML3.2/1, MS4.0/1, Error ellipse: s-maj=25.6km s-min=21.1km az=175.0*

ISC 27 00:24:57.3±1.5, 10°.1S±0°.2×149°.8E±0°.2, h28km, n8, σ1§20/7, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.67**	**284**	Pn	**Pn**	**00 25 37.8**	**-0.7**
	14nm,0.3s,baz=98,slow=4.9,SNR=6.1						
PMG				Lg	Lg	00 26 22.4	
	15nm,0.3s,baz=131,slow=20,SNR=8.6						
WRA	**Warramunga Arr**	**17.84**	**235**	P	**Pn**	**00 29 04.2**	**+0.4**
	0.1nm,0.3s,baz=58,slow=12,SNR=4.7						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**20.31**	**226**	P	**P**	**00 29 32.5**	**+1.3**
	1.5nm,0.7s,baz=60,slow=9.6,SNR=15						
ASAR				S	Sn	00 33 27.7	+6.2
	0.1nm,0.3s,baz=47,slow=30,SNR=1.5						
	1.5nm,0.7s						
STKA	**Stephens Creek**	**22.99**	**198**	P	**P**	**00 29 59.1**	**-0.8**
	1.5nm,0.7s,baz=29,slow=16,SNR=3.6						
	1.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.72**	**248**	P	**P**	**00 30 15.7**	**-0.8**
	2.4nm,0.6s,baz=89,slow=11,SNR=8.3						
	2.4nm,0.6s						
JCJ	**Chichijima**	**37.67**	**349**	LR	LR	00 45 34.5	
	comp=Z,197nm,19.9s,baz=350,slow=33						
SONM	**Songino Array**	**69.28**	**330**	P	**P**	**00 36 03.4**	**+1.3**
	0.4nm,0.6s,baz=146,slow=6.2,SNR=3.8						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**88.14**	**23**	P	**P**	**00 37 44.5**	**-0.7**
	0.8nm,0.8s,baz=253,slow=4.6,SNR=7.0						
	0.8nm,0.8s						

*IDC **27** 00:29:14.8±1.4, 57°.54S×146°.70W, h0km, mb4.1/5, mbtmp4.1/5, MS4.3/15, Error ellipse: s-maj=47.0km s-min=28.4km az=57.0*

*GCMT **27** 00:29:18.0±0.2, 57°.80S±0°.01×147°.39W±0°.02, h12km, MW5.0/115, Moment Tensor Solution. s26,c28; s115,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.40±.10; $M_{\theta\theta}$3.16±.10; $M_{\phi\phi}$-2.76±.10; $M_{r\theta}$-0.49±.28; $M_{\theta\phi}$1.93±.10; $M_{r\phi}$0.02±.30; Best double couple: M_o3.56400×10^{16} NP1:ϕ_s208.00000°, δ83.00000°, λ178.00000°. NP2:ϕ_s299.00000°, δ88.00000°, λ7.00000°. Principal axes: T 3.7850, Plg6.0000°, Azm164.0000°; N -0.4440, Plg83.0000°, Azm318.0000°; P -3.3420, Plg3.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 27 00:29:17.2±1.5, 57°.6S±0°.2×146°.9W±0°.3, h10km, n45, σ0§95/13, mb4.5/8, MS4.3/15, 4D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**26.38**	**202**	P	**P**	**00 34 52.7**	**-0.5**
	0.6nm,0.7s,baz=25,slow=7.9,SNR=3.1						
VNDA				LR	LR	00 42 29.5	
	comp=Z,394nm,20.1s,baz=78,slow=30						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**32.53**	**180**	P	**P**	**00 35 48.0**	**0.0**
	2.0nm,0.8s,baz=77,slow=1.8,SNR=9.6						
QSPA				LR	LR	00 47 16.0	
	comp=Z,752nm,18.6s,baz=64,slow=33						
	2.0nm,0.8s						
TBI	**Tubuai**	**34.28**	**356**	*eLR*	LR	00 44 43.8	
	1μm,30.8s						
TBI				*eLR*	LR	00 45 13.4	
	1μm,20.0s						
RKT	**Rikitea**	**35.52**	**19**	*eLR*	LR	00 45 54.8	
	3μm,25.5s						
PMSA	**Palmer Station**	**37.78**	**136**	LR	LR	00 47 33.6	
	comp=Z,478nm,19.8s,baz=302,slow=29						
PPT2	**Papeete2**	**40.01**	**356**	*eLR*	LR	00 47 47.3	
	1μm,25.5s						
PPT	**Papeete**	**40.03**	**356**	LR	LR	00 49 11.8	
	comp=Z,324nm,18.1s,baz=192,slow=30						
VNA3	**Neumayer Olymp**	**47.95**	**163**	⇓P	**P**	**00 37 56.1**	**+0.8**
	comp=Z,5.9nm,0.8s						
SNAA	**Sanae**	**48.57**	**166**	⇓P	**P**	**00 38 00.7**	**+0.6**
	comp=Z,75nm,0.8s						
SNAA	**Sanae**	**48.57**	**166**	P	**P**	**00 37 59.6**	**-0.5**
	comp=Z,3.6nm,0.9s,baz=238,slow=5.7,SNR=6.3						
SNAA				LR	LR	00 57 04.0	
	comp=Z,210nm,18.1s,baz=243,slow=34						
	comp=Z,3.6nm,0.9s						
VNA2	**Neumayer--Watz**	**48.59**	**163**	⇓P	**P**	**00 38 01.2**	**+1.0**
	comp=Z,6.1nm,0.8s,baz=199,slow=10						
VNA1	**Neumayer--Stat**	**48.70**	**163**	⇓P	**P**	**00 38 00.7**	**-0.3**
	comp=Z,14nm,1.0s						
TAOE	**Nuku Hiva Isla**	**48.92**	**9**	*eLR*	LR	00 52 08.0	
	comp=Z,637nm,24.8s						
PLCA	**Paso Flores**	**49.86**	**105**	LR	LR	00 54 30.6	
	comp=Z,206nm,18.6s,baz=223,slow=30						
H03S2	**Juan Fernandez**	**50.55**	**93**	T	T	01 33 15.5	
	baz=218,slow=74,SNR=20						
H03S1	**Juan Fernandez**	**50.55**	**93**	T	T	01 33 15.9	
	baz=218,slow=74,SNR=17						
H03S3	**Juan Fernandez**	**50.56**	**93**	T	T	01 33 15.1	
	baz=218,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**50.84**	**92**	T	T	01 33 37.0	
	baz=220,slow=72,SNR=246						
H03N2	**Juan Fernandez**	**50.84**	**92**	T	T	01 33 36.6	
	baz=220,slow=72,SNR=256						
H03N1	**Juan Fernandez**	**50.85**	**92**	T	T	01 33 34.5	
	baz=220,slow=72,SNR=273						
MAW	**Mawson**	**53.17**	**194**	LR	LR	00 59 19.3	
	comp=Z,256nm,19.2s,baz=102,slow=34						
ASAR	**Alice Springs**	**64.63**	**266**	P	**P**	**00 39 55.0**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=128,slow=6.7,SNR=6.5						
	comp=Z,2.0nm,0.6s						
H01W1	**Cape Leeuwin H**	**65.75**	**243**	T	T	01 51 38.2	
	baz=143,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**65.75**	**243**	T	T	01 51 39.8	
	baz=143,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**65.76**	**243**	T	T	01 51 40.2	
	baz=143,slow=76,SNR=16						
NWAO	**Narrogin (SRO)**	**65.84**	**246**	LR	LR	01 01 35.9	
	comp=Z,187nm,21.3s,baz=165,slow=29						
WRA	**Warramunga Arr**	**67.42**	**268**	P	**P**	**00 40 13.0**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=143,slow=5.6,SNR=2.8						
WRA				LR	LR	01 05 54.1	
	comp=Z,196nm,20.5s,baz=244,slow=33						
	comp=Z,2.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**73.59**	**262**	LR	LR	01 08 42.2	
	comp=Z,366nm,21.1s,baz=148,slow=32						
H11S2	**WAKE ISLAND Hy**	**85.05**	**316**	T	T	02 16 29.0	
	baz=148,slow=74						
H11S3	**WAKE ISLAND Hy**	**85.06**	**316**	T	T	02 16 28.1	
	baz=148,slow=74						
H11S1	**WAKE ISLAND Hy**	**85.07**	**316**	T	T	02 16 32.2	
	baz=148						
KAPI	**Kappang**	**87.62**	**264**	LR	LR	01 18 32.3	
	comp=Z,206nm,19.9s,baz=152,slow=34						
LEM	**Lembang**	**92.50**	**253**	LR	LR	01 17 52.0	
	comp=Z,109nm,18.9s,baz=156,slow=32						
PCRV	**Puerto La Cruz**	**94.37**	**78**	LR	LR	01 19 39.0	
	comp=Z,279nm,20.1s,slow=32						
PFO	**Pinyon Flats O**	**94.41**	**25**	LR	LR	01 16 34.5	
	comp=Z,194nm,19.4s,baz=258,slow=30						
DAV	**Davao City (W)**	**94.61**	**276**	LR	LR	01 23

comp=Z,81nm,21.3s,baz=344,slow=34
H10S3 ASCENSION HYDR 03.11 131 T T 02 39 24.5
baz=204,slow=74,SNR=18
H10S2 ASCENSION HYDR 03.11 131 T T 02 39 28.0
baz=16,slow=74,SNR=18
H10N3 ASCENSION HYDR 04.18 131 T T 02 40 53.1
baz=204,slow=75,SNR=19
H10N1 ASCENSION HYDR 04.19 131 T T 02 40 53.2
baz=204,slow=75,SNR=28
H10N2 ASCENSION HYDR 04.20 131 T T 02 40 53.2
baz=204,slow=75,SNR=15
MKAR Makanchi Array 148.68 271 PKPbc **PKPdf 00 49 01.0 +1.2**
comp=Z,1.8nm,0.7s,baz=132,slow=2.2,SNR=7.6
ESDC Sonseca Array 150.13 111 PKPbc **PKPbc 00 49 06.6 -0.9**
comp=Z,2.4nm,1.0s,baz=186,slow=2.6,SNR=4.9
ZALV Zalesovo Beam 151.29 285 PKPbc **PKPbc 00 49 10.4 +0.8**
comp=Z,0.6nm,0.5s,baz=127,slow=3.8,SNR=4.4
KURBB Kurchatov Arra 152.94 275 PKPbc **PKPbc 00 49 11.6 -1.9**
comp=Z,0.8nm,0.7s,baz=116,slow=2.1,SNR=5.1

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*ISK **27** 00:29:16.3, 38°.79N×38°.15E, h2km, ML3.9/16*
*AFAD **27** 00:29:17.3, 38°.77N×38°.14E, h7km±3km, MW3.8*
*IDC **27** 00:29:18.1±0.9, 38°.84N×37°.99E, h0km, mb3.7/8, mbtmp3.6/15, ML3.1/7, Error ellipse: s-maj=14.6km s-min=10.6km az=166.0*
ISC 27 00:29:17.7±1.1, 38°.78N±0°.02×38°.15E±0°.02, h1km±8km, n49, σ1§19/64, mb3.8/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.17**	**304**	P	**Pg**	**00 29 21.5**	**+0.3**
HEKM				S	**Sg**	**00 29 24.7**	**+1.3**
HEKM				*i* AML	AML	00 29 25.0	
	comp=N,7μm,0.5s						
HEKM				*i* AML	AML	00 29 25.0	
	comp=E,8μm,0.4s						
MAYA	**Malatya/Merkez**	**0.51**	**154**	P	**Pg**	**00 29 27.2**	**-0.2**
MAYA				S	**Sg**	**00 29 34.7**	**+0.7**
MAYA				*i* AML	AML	00 29 35.0	
	comp=N,4μm,0.3s						
MAYA				*i* AML	AML	00 29 36.0	
	comp=E,5μm,0.2s						
AKCD	**Akcadag**	**0.52**	**200**	P	**Pg**	**00 29 27.5**	**-0.1**
AKCD				S	**Sb**	**00 29 36.5**	**-1.2**
AKCD				*i* AML	AML	00 29 38.0	
	comp=E,10μm,0.2s						
AKCD				*i* AML	AML	00 29 39.0	
	comp=N,1μm,0.3s						
KEMA	**Kemaliye**	**0.56**	**29**	P	**Pg**	**00 29 28.1**	**-0.4**
KEMA				S	**Sg**	**00 29 37.1**	**+1.4**
KEMA				*i* AML	AML	00 29 41.0	
	comp=N,4μm,0.9s						
KEMA				*i* AML	AML	00 29 41.0	
	comp=E,4μm,0.6s						
DARE	**Darende-Malaty**	**0.56**	**248**	Pg	**Pg**	**00 29 27.9**	**-0.5**
DARE				Sg	**Sg**	**00 29 36.5**	**+0.8**
CUGUR	**Gurin_SVAS**	**0.69**	**265**	P	**Pg**	**00 29 30.5**	**-0.4**
CUGUR				*i* AML	AML	00 29 41.0	
	comp=N,1μm,0.5s						
CUGUR				S	**Sg**	**00 29 41.1**	**+1.4**
CUGUR				*i* AML	AML	00 29 43.0	
	comp=E,1μm,0.4s						
ELZG	**Elazig**	**0.72**	**113**	P	**Pg**	**00 29 31.1**	**-0.4**
ELZG				S	**Sg**	**00 29 42.2**	**+1.5**
ELZG				*i* AML	AML	00 29 43.0	
	comp=N,9μm,0.3s						
ELZG				*i* AML	AML	00 29 43.0	
	comp=E,8μm,0.3s						
CUKAN	**kangal_SIVAS**	**0.75**	**316**	P	**Pg**	**00 29 31.2**	**-0.9**
CUKAN				S	**Sg**	**00 29 42.6**	**+0.7**
CUKAN				*i* AML	AML	00 29 52.0	
	comp=E,2μm,0.6s						
CUKAN				*i* AML	AML	00 29 53.0	
	comp=N,2μm,0.3s						
AZEY	**Adyaman-Merk**	**0.97**	**175**	P	**Pg**	**00 29 36.4**	**+0.1**
AZEY				*i* AML	AML	00 29 55.0	
	comp=E,2μm,0.7s						
AZEY				*i* AML	AML	00 29 56.0	
	comp=N,889nm,0.4s						
PTK	**Pertek**	**0.98**	**83**	Pg	**Pg**	**00 29 35.4**	**-1.1**
PTK				Sg	**Sg**	**00 29 50.1**	**+0.9**
NARI	**Adyaman-Kaht**	**1.02**	**151**	P	**Pg**	**00 29 37.4**	**+0.2**
NARI				*i* AML	AML	00 29 56.0	
	comp=N,935nm,0.9s						
NARI				*i* AML	AML	00 29 56.0	
	comp=E,1μm,0.8s						
AKCA	**Adyaman/G¶l**	**1.05**	**200**	P	**Pg**	**00 29 37.5**	**-0.4**
AKCA				S	**Sn**	**00 29 54.1**	**-0.8**
AKCA				*i* AML	AML	00 29 58.0	
	comp=E,2μm,0.7s						
AKCA				*i* AML	AML	00 30 00.0	
	comp=N,3μm,0.5s						
TNCL	**Tunceli-Merkez**	**1.14**	**73**	P	**Pb**	**00 29 38.2**	**-2.1**
TNCL				*i* AML	AML	00 29 59.0	
	comp=N,2μm,0.6s						
TNCL				*i* AML	AML	00 29 59.0	
	comp=E,4μm,0.7s						
CUZAR	**Zara_SIVAS**	**1.14**	**345**	P	**Pb**	**00 29 39.5**	**-0.9**
CUZAR				S	**Sn**	**00 29 58.0**	**+0.7**
CUZAR				*i* AML	AML	00 30 01.0	
	comp=N,1μm,0.4s						
CUZAR				*i* AML	AML	00 30 03.0	
	comp=E,2μm,0.6s						
CUAYA	**Sivas-Altinyay**	**1.19**	**294**	P	**Pb**	**00 29 39.4**	**-1.8**
CUAYA				S	**Sn**	**00 29 57.6**	**-0.9**
CUAYA				*i* AML	AML	00 30 01.0	
	comp=N,3μm,0.7s						
CUAYA				*i* AML	AML	00 30 04.0	
	comp=E,2μm,0.6s						
KOVA	**Elazig, Kovanc**	**1.31**	**93**	P	**Pn**	**00 29 41.4**	**-1.8**
KOVA				*i* AML	AML	00 30 03.0	
	comp=E,838nm,0.8s						
KOVA				*i* AML	AML	00 30 07.0	
	comp=N,644nm,1.0s						
ATAB	**Bozova**	**1.31**	**175**	P	**Pn**	**00 29 42.7**	**-0.5**
ATAB				*i* AML	AML	00 30 11.0	
	comp=N,896nm,0.7s						
ATAB				*i* AML	AML	00 30 11.0	
	comp=E,688nm,0.4s						
SARI	**SarD1z-Kayseri**	**1.40**	**255**	Pn	**Pn**	**00 29 43.8**	**-0.8**
SARI				Sn	**Sg**	**00 30 04.1**	**+1.3**
SUSE	**Susehri**	**1.43**	**2**	P	**Pn**	**00 29 44.8**	**-0.1**
SUSE				*i* AML	AML	00 30 08.0	
	comp=N,847nm,0.7s						
SUSE				*i* AML	AML	00 30 08.0	
	comp=E,1μm,0.7s						
SVSK	**Karacayir**	**1.44**	**322**	Pn	**Pn**	**00 29 43.9**	**-1.0**
SVSK				Sn	**Sg**	**00 30 04.9**	**+0.9**
URFA	**Urfa**	**1.44**	**158**	Pn	**Pn**	**00 29 44.9**	**-0.1**
KHMN	**Narli-Kahraman**	**1.59**	**210**	Pn	**Pn**	**00 29 46.7**	**-0.3**
KMRS	**Kahramanmaras**	**1.61**	**218**	Pn	**Pn**	**00 29 46.6**	**-0.6**
KMRS				Sn	**Sb**	**00 30 08.9**	**-0.1**
CUSAR	**Sarkisla-SIVAS**	**1.61**	**294**	P	**Pn**	**00 29 47.0**	**-0.4**
CUSAR				*i* AML	AML	00 30 12.0	
	comp=N,1μm,0.7s						
CUSAR				*i* AML	AML	00 30 13.0	
	comp=E,520nm,0.5s						
RSDY	**Resadiye-TOKAT**	**1.73**	**339**	Pn	**Pn**	**00 29 48.8**	**-0.2**
GAZ	**Gaziantep**	**1.77**	**205**	Pn	**Pn**	**00 29 49.3**	**-0.2**
BNN	**Bunyan**	**1.80**	**273**	Pn	**Pn**	**00 29 49.7**	**-0.2**
TOKT	**Tokat**	**1.97**	**322**	Pn	**Pn**	**00 29 51.8**	**-0.5**
KOZT	**Kozan**	**2.24**	**235**	Pn	**Pn**	**00 29 55.9**	**0.0**
YOZ	**Yozgat**	**2.36**	**292**	Pn	**Pn**	**00 29 57.8**	**+0.2**
KOZK	**Kozakli-Nevseh**	**2.59**	**281**	Pn	**Pn**	**00 30 00.9**	**+0.1**
CEYT	**Ceyhan**	**2.59**	**228**	Pn	**Pn**	**00 30 00.9**	**+0.2**
CMRD	**Camardi-Nigde**	**2.73**	**247**	Pn	**Pn**	**00 30 02.8**	**+0.1**
BRTR	**Keskin Array B**	**3.62**	**286**	Pn	**Pn**	**00 30 15.3**	**+0.3**
	1.9nm,0.3s,baz=107,slow=11,SNR=39						
BRTR				Lg	Lg	00 31 09.0	
	3.6nm,0.3s,baz=116,slow=29,SNR=7.4 7.4nm,0.6s						
GNI	**Garni**	**5.28**	**73**	Pn	**Pn**	**00 30 40.9**	**+3.1**
	0.2nm,0.3s,baz=234,slow=14,SNR=3.1 4.6nm,1.1s						
KBZ	**Khabaz**	**6.10**	**34**	Pn	**Pn**	**00 30 51.3**	**+2.4**
	0.1nm,0.3s,baz=224,slow=2.8,SNR=4.5 1.1nm,0.7s						
MMAI	**Mount Meron Ar**	**6.17**	**202**	Pn	**Pn**	**00 30 51.9**	**+2.0**
	0.8nm,0.3s,baz=9.5,slow=14,SNR=5.8						
MMAI				Lg	Lg	00 32 32.1	
	0.7nm,0.3s,baz=24,slow=29,SNR=1.9 1.2nm,0.6s						
ASF	**Jabal al Asfar**	**6.67**	**189**	Pn	**Pn**	**00 30 58.1**	**+1.2**
	0.4nm,0.3s,baz=339,slow=8.6,SNR=5.3						
ASF				Lg	Lg	00 32 50.6	
	1.2nm,0.3s,baz=210,slow=23,SNR=5.7 2.5nm,0.5s						
AKASG	**Malin Array Be**	**13.48**	**335**	Pn	**Pn**	**00 32 29.9**	**-0.2**
	0.3nm,0.3s,baz=144,slow=11,SNR=2.0 0.1nm,0.2s						
AKTO	**Aktyubinsk**	**18.26**	**44**	P	**P**	**00 33 33.7**	**+1.2**
	0.1nm,0.3s,baz=258,slow=10.0,SNR=3.6 1.3nm,0.9s						
GERES	**GERESS Array B**	**20.22**	**308**	P	**P**	**00 33 52.5**	**-1.6**
	0.6nm,0.8s,baz=108,slow=15,SNR=5.2 0.6nm,0.8s						
ARTI	**Arti**	**22.14**	**31**	P	**P**	**00 34 14.6**	**0.0**
	2.4nm,0.7s,baz=222,slow=4.3,SNR=5.3 2.4nm,0.7s						
FINES	**FINESS Array B**	**23.89**	**346**	P	**P**	**00 34 30.5**	**-2.0**
	3.0nm,0.8s,baz=147,slow=8.7,SNR=5.9 3.0nm,0.8s						
BVAR	**Borovoye Array**	**26.30**	**47**	P	**P**	**00 34 56.4**	**+1.7**
	0.8nm,0.6s,baz=240,slow=7.6,SNR=6.8 0.8nm,0.6s						
HFS	**Hagfors**	**26.34**	**332**	P	**P**	**00 34 53.9**	**-1.0**
	1.4nm,0.7s,baz=128,slow=9.3,SNR=4.8 1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**30.67**	**54**	P	**P**	**00 35 36.7**	**+3.2**
	0.8nm,0.2s,baz=272,slow=9.5,SNR=2.1						
MKAR	**Makanchi Array**	**33.01**	**61**	P	**P**	**00 35 57.1**	**+2.9**
	0.7nm,0.8s,baz=262,slow=6.5,SNR=5.3 0.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**40.53**	**353**	P	**P**	**00 36 57.2**	**-0.6**
	14nm,1.1s,baz=148,slow=8.5,SNR=1.9 14nm,1.1s						
YKA	**Yellowknife Ar**	**76.71**	**347**	P	**P**	**00 41 10.8**	**+0.7**
	0.4nm,0.8s,baz=20,slow=5.5,SNR=6.3 0.4nm,0.8s						

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*ISK **27** 00:31:27.2, 38°.79N×38°.18E, h5km, ML3.3/11*
*AFAD **27** 00:31:28.4, 38°.78N×38°.15E, h7km±3km, MW3.6*
ISC 27 00:31:28.5±1.0, 38°.80N±0°.02×38°.15E±0°.02, h9km±8km, n35, σ0§95/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.17**	**299**	P	**Pg**	**00 31 32.4**	**+0.2**
HEKM				S	**Sg**	**00 31 35.2**	**+0.4**
HEKM				*i* AML	AML	00 31 36.0	
	comp=E,2μm,0.3s						
HEKM				*i* AML	AML	00 31 38.0	
	comp=N,2μm,0.3s						
MAYA	**Malatya/Merkez**	**0.52**	**155**	P	**Pg**	**00 31 38.3**	**-0.3**
MAYA				*i* AML	AML	00 31 46.0	
	comp=N,2μm,0.3s						
MAYA				*i* AML	AML	00 31 46.0	
	comp=E,2μm,0.3s						
MAYA				S	**Sb**	**00 31 46.1**	**-1.4**
AKCD	**Akcadag**	**0.53**	**199**	P	**Pg**	**00 31 38.6**	**-0.3**
AKCD				S	**Sb**	**00 31 47.3**	**-0.6**
AKCD				*i* AML	AML	00 31 49.0	
	comp=N,3μm,0.3s						
AKCD				*i* AML	AML	00 31 49.0	
	comp=E,3μm,0.5s						
KEMA	**Kemaliye**	**0.54**	**30**	P	**Pg**	**00 31 39.0**	**-0.1**
KEMA				S	**Sb**	**00 31 48.1**	**-0.1**
KEMA				*i* AML	AML	00 31 49.0	
	comp=N,2μm,0.2s						
KEMA				*i* AML	AML	00 31 50.0	
	comp=E,2μm,0.5s						
DARE	**Darende-Malaty**	**0.57**	**247**	Pg	**Pg**	**00 31 39.1**	**-0.4**
DARE				Sg	**Sg**	**00 31 47.5**	**+0.5**
CUGUR	**Gurin_SVAS**	**0.69**	**264**	P	**Pg**	**00 31 41.3**	**-0.5**
CUGUR				*i* AML	AML	00 31 52.0	
	comp=N,2μm,0.5s						
CUGUR				S	**Sb**	**00 31 52.3**	**-0.2**
CUGUR				*i* AML	AML	00 31 54.0	
	comp=E,2μm,0.5s						
ELZG	**Elazig**	**0.72**	**114**	P	**Pg**	**00 31 42.0**	**-0.4**
ELZG				S	**Sb**	**00 31 53.1**	**-0.3**
ELZG				*i* AML	AML	00 31 54.0	
	comp=N,4μm,0.4s						
ELZG				*i* AML	AML	00 31 55.0	
	comp=E,3μm,0.3s						
CUKAN	**kangal_SIVAS**	**0.74**	**315**	P	**Pg**	**00 31 42.2**	**-0.7**
CUKAN				S	**Sb**	**00 31 53.4**	**-0.6**
CUKAN				*i* AML	AML	00 32 01.0	
	comp=E,490nm,0.4s						
CUKAN				*i* AML	AML	00 32 04.0	
	comp=N,618nm,0.3s						
PTK	**Pertek**	**0.98**	**84**	Pg	**Pg**	**00 31 46.3**	**-1.0**
PTK				Sg	**Sb**	**00 32 01.1**	**+0.3**
AZEY	**Adyaman-Merk**	**0.99**	**175**	P	**Pn**	**00 31 48.5**	**-0.2**
AZEY				S	**Sn**	**00 32 02.4**	**-0.4**
AZEY				*i* AML	AML	00 32 06.0	
	comp=N,455nm,0.4s						
AZEY				*i* AML	AML	00 32 07.0	
	comp=E,463nm,0.4s						
NARI	**Adyaman-Kaht**	**1.03**	**152**	P	**Pn**	**00 31 50.5**	**+1.2**
NARI				*i* AML	AML	00 32 07.0	
	comp=N,268nm,0.9s						
NARI				*i* AML	AML	00 32 08.0	
	comp=E,387nm,0.6s						
AKCA	**Adyaman/G¶l**	**1.06**	**200**	P	**Pn**	**00 31 50.8**	**+1.1**
AKCA				*i* AML	AML	00 32 09.0	
	comp=E,523nm,0.6s						
AKCA				*i* AML	AML	00 32 13.0	
	comp=N,681nm,0.5s						
CUZAR	**Zara_SIVAS**	**1.13**	**345**	P	**Pg**	**00 31 49.8**	**-0.4**
CUZAR				S	**Sn**	**00 32 08.8**	**+2.4**
CUZAR				*i* AML	AML	00 32 12.0	
	comp=N,754nm,0.4s						
CUZAR				*i* AML	AML	00 32 14.0	
	comp=E,558nm,0.6s						
TNCL	**Tunceli-Merkez**	**1.13**	**73**	P	**Pg**	**00 31 49.3**	**-1.0**
TNCL				*i* AML	AML	00 32 07.0	
	comp=E,1μm,0.4s						
TNCL				*i* AML	AML	00 32 09.0	
	comp=N,675nm,0.4s						
CUAYA	**Sivas-Altinyay**	**1.19**	**294**	P	**Pg**	**00 31 50.3**	**-1.0**
CUAYA				S	**Sn**	**00 32 08.7**	**+0.9**
CUAYA				*i* AML	AML	00 32 12.0	
	comp=N,925nm,0.7s						
CUAYA				*i* AML	AML	00 32 15.0	
	comp=E,480nm,0.5s						
KOVA	**Elazig, Kovanc**	**1.31**	**94**	P	**Pn**	**00 31 52.4**	**-0.6**
KOVA				*i* AML	AML	00 32 18.0	
	comp=N,240nm,1.4s						
KOVA				*i* AML	AML	00 32 19.0	
	comp=E,288nm,0.5s						
ATAB	**Bozova**	**1.33**	**175**	P	**Pg**	**00 31 55.1**	**+1.0**
ATAB				*i* AML	AML	00 32 15.0	
	comp=N,346nm,0.5s						
ATAB				*i* AML	AML	00 32 16.0	
	comp=E,358nm,0.4s						
HANM	**anlurfa/Hi**	**1.35**	**154**	P	**Pg**	**00 31 55.1**	**+0.7**
HANM				*i* AML	AML	00 32 20.0	
	comp=E,174nm,0.5s						
HANM				*i* AML	AML	00 32 23.0	
	comp=N,294nm,1.1s						
SARI	**SarD1z-Kayseri**	**1.41**	**254**	Pn	**Pg**	**00 31 55.3**	**-0.3**
SARI				Sn	**Sg**	**00 32 15.9**	**+2.0**
SUSE	**Susehri**	**1.41**	**2**	P	**Pg**	**00 31 55.9**	**+0.3**
SUSE				*i* AML	AML	00 32 18.0	
	comp=E,401nm,0.5s						
SUSE				*i* AML	AML	00 32 20.0	
	comp=N,301nm,0.5s						
SVSK	**Karacayir**	**1.43**	**322**	Pn	**Pg**	**00 31 55.5**	**-0.5**
SVSK				Sn	**Sg**	**00 32 16.2**	**+1.7**
URFA	**Urfa**	**1.46**	**158**	Pn	**Pg**	**00 31 55.8**	**-0.7**
URFA				Sn	**Sg**	**00 32 16.3**	**+1.0**
EUZM	**Uzumlu**	**1.51**	**52**	P	**Pg**	**00 31 57.3**	**-0.1**
EUZM				*i* AML	AML	00 32 21.0	
	comp=N,375nm,0.6s						
EUZM				*i* AML	AML	00 32 21.0	
	comp=E,394nm,0.4s						
GZT	**Gaziantep**	**1.51**	**198**	P	**Pg**	**00 31 58.7**	**+1.1**
GZT				*i* AML	AML	00 32 21.0	
	comp=N,277nm,0.5s						
GZT				*i* AML	AML	00 32 24.0	
	comp=E,297nm,1.0s						
KAHM	**Kahramanmaras,**	**1.57**	**216**	P	**Pg**	**00 31 58.3**	**-0.4**
KAHM				*i* AML	AML	00 32 23.0	
	comp=N,171nm,0.8s						
KAHM				*i* AML	AML	00 32 31.0	
	comp=E,125nm,1.3s						
CUSAR	**Sarkisla-SIVAS**	**1.60**	**293**	P	**Pn**	**00 31 57.0**	**-0.3**
CUSAR				*i* AML	AML	00 32 23.0	
	comp=N,180nm,0.6s						
CUSAR				*i* AML	AML	00 32 24.0	
	comp=E,127nm,0.7s						
KHMN	**Narli-Kahraman**	**1.61**	**209**	Pn	**Pg**	**00 31 58.2**	**-1.1**
ALUC	**Giresun/Alucra**	**1.62**	**17**	P	**Pg**	**00 31 59.9**	**+0.4**
ALUC				*i* AML	AML	00 32 24.0	
	comp=N,358nm,0.5s						
ALUC				*i* AML	AML	00 32 25.0	
	comp=E,339nm,0.4s						
KMRS	**Kahramanmaras**	**1.62**	**218**	Pn	**Pb**	**00 31 58.3**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.72**	**339**	Pn	**Pb**	**00 31 59.8**	**-0.5**
GAZ	**Gaziantep**	**1.78**	**205**	Pn	**Pb**	**00 32 00.8**	**-0.6**
BNN	**Bunyan**	**1.80**	**272**	Pn	**Pb**	**00 32 01.2**	**-0.5**
TOKT	**Tokat**	**1.96**	**321**	Pn	**Pb**	**00 32 03.2**	**-1.2**
KOZT	**Kozan**	**2.25**	**235**	Pn	**Pb**	**00 32 07.5**	**-1.9**
YOZ	**Yozgat**	**2.35**	**292**	Pn	**Pb**	**00 32 09.1**	**-2.1**

IDC 27 00:33:33.0±1.1, 9°.23S×155°.91E, h0km, mb4.3/4, mbtmp4.3/5, ML4.6/1, Error ellipse: s-maj=38.0km s-min=27.0km az=39.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.99**	**93**	Pn	Pn	00 34 37.4	+1.9
	38nm,0.3s,baz=263,slow=6.0,SNR=4.1						
HNR				Sn	Sn	00 35 23.8	+0.8
	20nm,0.3s,baz=170,slow=17,SNR=1.3 158nm,0.5s						
VNDA	**Vanda**	**68.34**	**179**	P	P	00 44 35.6	-0.1
	0.9nm,0.6s,baz=47,slow=6.5,SNR=7.4 0.9nm,0.6s						
SONM	**Songino Array**	**71.70**	**327**	P	P	00 44 57.1	+0.1
	3.5nm,0.7s,baz=136,slow=6.2,SNR=16 3.5nm,0.7s						
MKAR	**Makanchi Array**	**85.67**	**319**	P	P	00 46 14.6	+0.8
	1.3nm,0.6s,baz=100,slow=6.1,SNR=8.8 1.3nm,0.6s						
YKA	**Yellowknife Ar**	**97.88**	**28**	P	P	00 47 08.2	-2.1
	0.6nm,0.9s,baz=264,slow=4.6,SNR=7.5 0.6nm,0.9s						

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*NEIC **27** 00:33:44.1±2.0, 0°.42N±0°.07×123°.95E±0°.07, h202km±5km, mb4.6/68, Error ellipse: s-maj=10.5km s-min=10.5km az=53.0*
*DJA **27** 00:33:45.2±0.2, 0°.N±2°×12°.4E±°, h200km±2km, M4.6/25, mB5.1/7, mb4.5/19, MLv4.8/25, Mw(mB)4.5/7*
*IDC **27** 00:33:46.1±1.2, 0°.41N×123°.88E, h232km±12km, mb4.0/25, mbtmp4.6/27, Error ellipse: s-maj=13.6km s-min=6.4km az=76.0*
ISC 27 00:33:44.3±0.5, 0°.41N±0°.04×123°.98E±0°.05, h209km±5km, n190, σ1§13/204, mb4.5/69, 2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.16**	**359**	P	**Pn**	**00 34 12.2**	**+0.6**
KMSI				S	**S**	**00 34 33.8**	**+0.7**
LUWI	**Luwuk**	**1.88**	**220**	Pn	**Pn**	**00 34 22.0**	**-0.4**
LUWI				Sn	**S**	**00 34 48.7**	**-2.9**
LUWI	**Luwuk**	**1.88**	**220**	P	**Pn**	**00 34 21.3**	**-1.0**
LUWI	**Luwuk**	**1.88**	**220**	S	**S**	**00 34 49.2**	**-2.4**
LUWI	**Luwuk**	**1.88**	**220**	P	**Pn**	**00 34 21.9**	**-0.4**
LUWI				S	**S**	**00 34 49.1**	**-2.5**
MRSI	**Marisa**	**2.04**	**272**	P	**Pn**	**00 34 23.9**	**0.0**
MRSI				S	**S**	**00 34 52.4**	**-1.9**
APSI	**Ampana**	**2.68**	**241**	P	**Pn**	**00 34 30.7**	**0.0**
SANI	**Sanana**	**3.16**	**141**	P	**Pn**	**00 34 35.1**	**-1.2**
SANI	**Sanana**	**3.16**	**141**	P	**Pn**	**00 34 34.5**	**-1.8**
TOLI2	**Tolitoli**	**3.28**	**282**	Pn	**Pn**	**00 34 37.6**	**-0.1**
TOLI2	**Tolitoli**	**3.28**	**282**	P	**Pn**	**00 34 37.7**	**+0.1**
TOLI2	**Tolitoli**	**3.28**	**282**	S	**S**	**00 35 17.9**	**-1.0**
TNTI	**Ternate**	**3.40**	**84**	Pn	**Pn**	**00 34 39.2**	**+0.1**
TNTI	**Ternate**	**3.40**	**84**	P	**Pn**	**00 34 39.5**	**+0.4**
SGSI	**Sangihe**	**3.60**	**25**	P	**Pn**	**00 34 43.0**	**+1.5**
PCI	**Palu**	**4.35**	**253**	P	**Pn**	**00 34 51.4**	**+0.7**
KDI	**Kendari**	**4.55**	**197**	P	**Pn**	**00 34 52.9**	**-0.3**
NLAI	**Namlea**	**4.78**	**139**	P	**Pn**	**00 34 56.8**	**+0.7**
TTSI	**Tana Toraja**	**5.39**	**230**	P	**Pn**	**00 35 05.2**	**+1.3**
BBSI	**Bau Bau**	**6.03**	**194**	P	**Pn**	**00 35 12.5**	**+0.5**
	0.3nm69nm,0.8s						
SPSI	**Sidrap Palu**	**6.05**	**224**	P	**Pn**	**00 35 13.2**	**+0.9**
	0.5nm122nm,1.0s						
MSAI	**Masohi**	**6.19**	**127**	P	**Pn**	**00 35 14.7**	**+0.5**
	0.7nm7μm53nm,0.8s						
KAPI	**Kappang**	**6.85**	**218**	Pn	**Pn**	**00 35 23.5**	**+0.8**
KAPI	**Kappang**	**6.85**	**218**	P	**Pn**	**00 35 24.1**	**+1.5**
	104nm,0.9s,baz=24,slow=11,SNR=61						
KAPI				S	**S**	**00 36 44.6**	**+3.9**
	10nm,0.4s,baz=213,slow=20,SNR=1.8						
KAPI	**Kappang**	**6.85**	**218**	P	**Pn**	**00 35 22.5**	**-0.1**
MYLDM	**Lahad Datu**	**7.24**	**311**	Pn	**Pn**	**00 35 29.9**	**+2.1**
BSSI	**Bau Bau, Buton**	**7.38**	**208**	P	**Pn**	**00 35 30.0**	**+0.4**
	0.3nm78nm,1.0s						
FAKI	**Fak Fak**	**8.90**	**112**	Pn	**Pn**	**00 35 48.6**	**-0.6**
FAKI	**Fak Fak**	**8.90**	**112**	P	**Pn**	**00 35 49.4**	**+0.2**
EDFI	**Ende, Flores**	**9.38**	**194**	P	**Pn**	**00 35 56.7**	**+1.1**
	24nm,1.2s						
PLAI	**Plampang**	**11.06**	**214**	P	**Pn**	**00 36 17.1**	**0.0**
PLAI	**Plampang**	**11.06**	**214**	P	**Pn**	**00 36 19.3**	**+2.2**
	39nm,1.1s						
TWSI	**Taliwang, Sumb**	**11.52**	**218**	P	**Pn**	**00 36 25.5**	**+2.6**
	19nm,0.6s						
KSM	**Kuching**	**13.71**	**275**	P	**P**	**00 36 54.0**	**+1.5**
DRS	**Darwin Rock St**	**14.49**	**152**	P	**Pn**	**00 36 59.8**	**-0.1**
MTN	**Manton Dam**	**14.96**	**152**		**Pn**	**00 37 05.3**	**-0.4**
MTN	**Manton Dam**	**14.96**	**152**	P	**Pn**	**00 37 05.6**	**-0.1**
PCJI	**Pacitan**	**15.36**	**236**	P	**P**	**00 37 12.0**	**+1.3**
	22nm,0.7s						
KDU	**Kakadu**	**15.50**	**147**	P	**Pn**	**00 37 11.8**	**-0.5**
KNRA	**Kununurra**	**16.67**	**164**	P	**P**	**00 37 25.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.46**	**175**	P	**P**	**00 37 44.8**	**+0.1**
FITZ				IAmb	IAmb	00 37 45.8	
	comp=Z,8.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.46**	**175**	P	**P**	**00 37 44.7**	**+0.1**
	comp=Z,21nm,0.3s,baz=354,slow=7.2,SNR=235						
FITZ	**Fitzroy Crossi**	**18.46**	**175**	P	**P**	**00 37 44.7**	**+0.1**
MBWA	**Marble Bar**	**21.84**	**191**	P	**P**	**00

ASAR ScP **ScP** **00 45 39.1 -1.1**
comp=Z,1.4nm,0.8s,baz=338,slow=2.3,SNR=7.6
comp=Z,5.0nm,0.6s
AS01 Alice Springs 25.82 159 P **P** **00 38 57.4 +0.9**
QIS Mount Isa 25.85 145 P **P** **00 38 57.4 +0.6**
MEEK Meekatharra 27.38 190 P **P** **00 39 10.5 +0.1**
OOD Oodnadatta 30.21 159 P **P** **00 39 35.6 +0.2**
MORW Morawa 30.28 194 P **P** **00 39 35.0 -1.1**
MORW IAmb IAmb 00 39 36.8
comp=Z,11nm,0.9s
MORW Morawa 30.28 194 P **P** **00 39 36.0 0.0**
CMAR Chiang Mai Arr 30.44 308 P **P** **00 39 37.4 -0.1**
comp=Z,2.1nm,0.3s,baz=123,slow=7.8,SNR=5.6
CMAR ScP **ScP** **00 45 53.6 -1.0**
comp=Z,1.0nm,0.3s,baz=141,slow=2.5,SNR=4.6
comp=Z,2.1nm,0.3s
FORT Forrest 31.26 173 P **P** **00 39 44.2 -0.4**
FORT Forrest 31.26 173 P **P** **00 39 44.9 +0.4**
WHN Wuhan 31.34 344 P **P** **00 39 47.5 +2.3**
BLDU Ballidu 31.62 192 P **P** **00 39 47.7 0.0**
KMBL Kambalda 31.67 183 P **P** **00 39 48.1 0.0**
JCJ Chichijima 31.78 32 P **P** **00 39 48.9 -0.3**
JCJ Chichijima 31.78 32 P **P** **00 39 48.4 -0.8**
comp=Z,93nm,0.4s,baz=280,slow=18,SNR=6.1
JCJ Chichijima 31.78 32 P **P** **00 39 51.0 +1.8**
NJ2 Nanjing 31.84 352 *eP* **P** **00 39 51.8 +2.2**
NJ2 pmax pmax
comp=Z,34nm,0.6s
INKA Innaminka 32.29 151 P **P** **00 39 54.6 +1.0**
KLBR Kellerberrin 32.37 190 P **P** **00 39 54.8 +0.5**
LCRK Leigh Creek 33.54 157 P **P** **00 40 05.2 +0.8**
PZH PanZhiHua 33.64 322 P **P** **00 40 07.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
NWAO Narrogin (SRO) 33.76 190 P **P** **00 40 05.6 -0.7**
NWAO IAmb IAmb 00 40 07.5
comp=Z,48nm,1.5s
NWAO Narrogin (SRO) 33.76 190 P **P** **00 40 06.4 +0.1**
JMN Monobe 34.42 15 P **P** **00 40 13.4 +1.4**
BBOO Buckleboo 34.95 162 P **P** **00 40 16.5 0.0**
BBOO IAmb IAmb 00 40 19.5
comp=Z,22nm,1.2s
BBOO Buckleboo 34.95 162 P **P** **00 40 17.5 +1.0**
STKA Stephens Creek 36.18 154 P **P** **00 40 27.6 +0.6**
STKA Stephens Creek 36.18 154 P **P** **00 40 27.9 +0.8**
comp=Z,14nm,0.5s,baz=334,slow=8.3,SNR=48
comp=Z,14nm,0.5s
STKA Stephens Creek 36.18 154 P **P** **00 40 28.0 +1.0**
TIA Tai'an 36.19 351 P **P** **00 40 28.3 +1.3**
TIA pmax pmax
comp=Z,9.0nm,1.1s
XAN Xi'an 36.31 339 P **P** **00 40 29.0 +0.9**
XAN pmax pmax
comp=Z,15nm,1.0s
HTT Hallett 36.48 159 P **P** **00 40 29.8 +0.2**
EIDS Eidsvold 36.65 136 P **P** **00 40 29.7 -1.3**
EIDS IAmb IAmb 00 40 54.5
comp=Z,17nm,1.4s
INU Inuyama 36.82 18 P **P** **00 40 32.1 -0.2**
INU IAmb IAmb 00 40 34.4
comp=Z,12nm,0.9s
KSRS Korea Array 37.04 5 P **P** **00 40 34.4 +0.2**
comp=Z,4.7nm,0.9s,baz=182,slow=9.6,SNR=9.0
KSRS ScP **ScP** **00 46 16.1 -1.4**
comp=Z,1.8nm,0.8s,baz=198,slow=4.8,SNR=2.9
comp=Z,4.7nm,0.9s
JGF Kuroka 37.16 18 P **P** **00 40 34.7 -0.5**
JGF IAmb IAmb 00 40 55.0
comp=Z,31nm,1.4s
HNS HongShan 37.79 348 ⇓P **P** **00 40 42.5 +2.1**
HNS pmax pmax
comp=Z,10.0nm,1.0s
CMSA Cobar Meteorol 37.85 149 P **P** **00 40 42.1 +1.0**
MJAR Matsushiro Arr 38.30 19 P **P** **00 40 44.3 -0.4**
comp=Z,10nm,0.7s,baz=191,slow=8.6,SNR=19
comp=Z,10nm,0.7s
MAJO Matsushiro 38.30 19 P **P** **00 40 43.5 -1.2**
MAJO IAmb IAmb 00 40 44.9
comp=Z,16nm,0.9s
MJB9 Matsu-Tunnel 38.30 19 P **P** **00 40 44.7 0.0**
MJB9 IAmb IAmb 00 40 45.9
comp=Z,15nm,0.9s
BJT Baijiatuau 40.06 351 P **P** **00 40 59.7 +0.5**
BJI Beijing 40.08 351 P **P** **00 41 00.5 +1.1**
BJI pmax pmax
comp=Z,4.0nm,0.6s
JMM Marumori 40.36 21 P **P** **00 41 02.5 +0.7**
JMM IAmb IAmb 00 41 04.2
comp=Z,25nm,0.7s
ARMA Armidale 40.39 142 P **P** **00 41 03.3 +1.0**
ARMA IAmb IAmb 00 41 05.0
comp=Z,13nm,0.7s
ARMA Armidale 40.39 142 P **P** **00 41 02.6 +0.3**
ARPS Mount Arapiles 40.53 158 P **P** **00 41 03.6 +0.5**
HHC Hu-ho-hao-te 41.80 346 *eP* **P** **00 41 15.3 +1.7**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,310nm,6.9s
MGCD Mangrove Creek 42.08 145 P **P** **00 41 16.6 +0.8**
CAN Canberra 42.53 149 P **P** **00 41 21.3 +1.8**
CAN Canberra 42.53 149 P **P** **00 41 20.0 +0.5**
TOO Toolangi 42.70 155 P **P** **00 41 20.6 -0.2**
JTM Tenmabayashi 43.08 19 P **P** **00 41 22.9 -0.8**
XLT XiLinHaoTe 43.87 352 *eP* **P** **00 41 31.8 +1.7**
XLT pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 44.18 8 P **P** **00 41 32.5 +0.1**
comp=Z,12nm,0.7s,baz=201,slow=6.4,SNR=12
comp=Z,12nm,0.7s
MDJ Mudanjiang 44.30 6 P **P** **00 41 33.2 -0.1**
MDJ IAmb IAmb 00 41 38.0
comp=Z,14nm,0.8s
MDJ Mudanjiang 44.30 6 P **P** **00 41 34.3 +1.0**
MDJ pmax pmax
comp=Z,14nm,0.7s
KOUNC Koumac, New Ca 44.59 120 P **P** **00 41 37.2 +1.2**
GTA Gaotai 44.66 333 *eP* **P** **00 41 37.3 +0.8**
GTA pP pwP 00 42 29.5 +3.7
GTA pmax pmax
comp=Z,8.0nm,0.9s
BNX BinXian 45.24 3 ⇓P **P** **00 41 43.5 +2.8**
BNX pmax pmax
comp=Z,10.0nm,0.7s
ASAJ Asahikawa 46.57 18 P **P** **00 41 51.4 +0.2**
comp=Z,10nm,0.7s,baz=219,slow=11,SNR=3.6
comp=Z,10nm,0.7s
JKA Kamikawa-asahi 46.57 18 P **P** **00 41 51.5 +0.3**
JKA IAmb IAmb 00 42 06.8
comp=Z,78nm,1.5s
HIA Hailar 48.81 356 P **P** **00 42 09.2 +0.9**
KLR Kul'dur 49.09 7 P **P** **00 42 10.1 -0.3**
comp=Z,5.4nm,0.5s,baz=193,slow=2.9,SNR=16
comp=Z,5.4nm,0.5s
ULN Ulaanbaatar 49.50 345 P **P** **00 42 13.0 -0.7**
SONM Songino Array 49.65 345 P **P** **00 42 14.0 -0.8**
SONM Songino Array 49.65 345 P **P** **00 42 14.3 -0.5**
comp=Z,7.8nm,0.9s,baz=158,slow=9.1,SNR=34
SONM PcP **PcP** **00 43 31.7 -1.2**
comp=Z,0.4nm,0.6s,baz=152,slow=6.5,SNR=1.5
comp=Z,7.8nm,0.9s
HEH HeiHe 49.74 3 *eP* **P** **00 42 15.0 -0.3**
HEH pmax pmax
comp=Z,12nm,0.8s
WUS Wushi 57.29 321 P **P** **00 43 10.3 -0.1**
WUS IAmb IAmb 00 43 13.1
comp=Z,9.6nm,1.2s
KSH Kashi 58.53 318 P **P** **00 43 21.3 +2.1**
MK31 Makanchi Array 58.79 328 P **P** **00 43 19.4 -1.2**
MK31 PcP **pP** **00 44 06.8 -0.5**
MKAR Makanchi Array 58.79 328 P **P** **00 43 19.4 -1.3**
MKAR **pP** **00 44 06.4 -1.0**
MKAR Makanchi Array 58.79 328 P **P** **00 43 19.6 -1.0**
comp=Z,3.9nm,0.7s,baz=125,slow=8.3,SNR=48
MKAR PcP **pP** **00 44 06.7 -0.6**
comp=Z,0.9nm,0.6s,baz=134,slow=6.2,SNR=4.7
comp=Z,3.9nm,0.7s
MAKZ Makanchi 58.97 328 P **P** **00 43 21.1 -0.8**
MAKZ IAmb IAmb 00 43 23.8
comp=Z,9.9nm,1.3s
KDJ Kajisay 59.08 321 P **P** **00 43 22.6 -0.3**
KDJ IAmb IAmb 00 43 25.6
comp=Z,5.8nm,0.6s
PETK Petropavlovsk- 59.53 23 P **P** **00 43 26.6 +1.0**
comp=Z,6.6nm,0.8s,baz=212,slow=5.3,SNR=5.2
comp=Z,6.6nm,0.8s
BOOM Boomskoye usch 60.05 321 P **P** **00 43 29.4 -0.2**
AAK Ala-Archa 61.04 320 P **P** **00 43 36.6 +0.4**
TUWZ Tuamarina 61.38 139 P **P** **00 43 39.1 +0.8**
ARSB Arslanbob 61.40 318 P **P** **00 43 37.6 -1.0**
ARSB IAmb IAmb 00 43 40.9
comp=Z,8.6nm,1.2s
YAK Yakutsk 61.62 3 P **P** **00 43 39.2 -0.2**
YAK Yakutsk 61.62 3 P **P** **00 43 39.1 -0.3**
comp=Z,50nm,0.7s,baz=239,slow=0.8,SNR=7.2
comp=Z,50nm,0.7s
BKZ Black Stump Fm 62.05 136 P **P** **00 43 42.4 -0.5**
GAR Garm 62.22 315 P **P** **00 43 42.6 -1.5**
GAR IAmb IAmb 00 43 46.1
comp=Z,19nm,1.3s
ZAA0 Zalesovo Array 62.35 335 P **P** **00 43 42.3 -2.2**
ZALV Zalesovo Beam 62.35 335 P **P** **00 43 42.5 -2.0**
ZALV Zalesovo Beam 62.35 335 P **P** **00 43 42.7 -1.8**
comp=Z,2.3nm,0.7s,baz=92,slow=3.4,SNR=13
comp=Z,2.3nm,0.7s
MA2 Magadan 62.59 15 P **P** **00 43 46.4 +0.5**
SIMJ Simiganj 63.02 314 P **P** **00 43 48.4 -1.0**
KURBB Kurchatov Arra 63.11 329 P **P** **00 43 48.4 -1.2**
comp=Z,4.4nm,0.8s,baz=127,slow=6.1,SNR=21
comp=Z,4.4nm,0.8s
KURK Kurchatov 63.12 330 P **P** **00 43 48.4 -1.2**
KURK IAmb IAmb 00 43 52.0
comp=Z,11nm,0.6s
KK31 Karatay Array 63.85 319 P **P** **00 43 53.6 -1.0**
KKAR Karatay Array 63.85 319 P **P** **00 43 54.4 -0.2**
SEY Seymchan 65.88 14 P **P** **00 44 08.5 +1.3**
comp=Z,3.1nm,0.5s,baz=222,slow=6.4,SNR=14
comp=Z,3.1nm,0.5s
BVAR Borovoye Array 68.64 329 P **P** **00 44 23.6 -1.3**
comp=Z,2.8nm,0.7s,baz=141,slow=7.1,SNR=17
comp=Z,2.8nm,0.7s
BRVK Borovoye 68.72 329 P **P** **00 44 24.5 -0.7**
TIXI Tiksi 71.20 2 P **P** **00 44 38.7 -1.3**
TIXI IAmb IAmb 00 44 40.1
comp=Z,9.5nm,0.8s
ATKA Atka Island 72.77 35 P **P** **00 44 50.5 +0.8**
NRIK Noril'sk 73.01 347 P **P** **00 44 50.4 -0.4**
NRIK Noril'sk 73.01 347 P **P** **00 44 50.0 -0.8**
comp=Z,4.7nm,0.6s,baz=127,slow=5.6,SNR=18
comp=Z,4.7nm,0.6s
ABKAR Abkulak array 73.01 322 P **P** **00 44 50.5 -0.7**
AKTO Aktyubinsk 74.58 323 P **P** **00 44 58.8 -1.5**
comp=Z,4.9nm,0.6s,baz=111,slow=6.6,SNR=18
comp=Z,4.9nm,0.6s
ARTI Arti 76.37 329 P **P** **00 45 08.6 -1.7**
ARTI Arti 76.37 329 P **P** **00 45 08.0 -2.3**
comp=Z,3.1nm,0.7s,baz=87,slow=6.6,SNR=6.2
comp=Z,3.1nm,0.7s
VNDA Vanda 80.52 172 P **P** **00 45 33.1 +0.6**
VNDA Vanda 80.52 172 P **P** **00 45 33.0 +0.4**
comp=Z,1.4nm,0.5s,baz=314,slow=7.3,SNR=10.0
comp=Z,1.4nm,0.5s
KIRV Kirov 81.64 329 P **P** **00 45 37.5 -1.3**
comp=Z,8.3nm,0.6s,baz=135,slow=1.4,SNR=6.1
comp=Z,8.3nm,0.6s
M14K Bethel 81.89 28 P **P** **00 45 41.6 +1.5**
N15K Kwethluk River 82.66 29 P **P** **00 45 45.5 +1.3**
N15K IAmb IAmb 00 45 47.2
comp=Z,14nm,1.1s
L16K Owhat River 83.27 28 P **P** **00 45 48.3 +1.0**
L16K IAmb IAmb 00 45 49.7
comp=Z,17nm,1.2s
GURO Guroymak-BITLI 83.44 309 P **P** **00 45 48.8 0.0**
O16K Kokwok River B 83.54 30 P **P** **00 45 49.8 +1.1**
O16K IAmb IAmb 00 46 30.5
comp=Z,17nm,1.4s
E18K Tukpahlearik C 84.04 22 P **P** **00 45 52.8 +1.8**
E18K IAmb IAmb 00 45 53.8
comp=Z,5.9nm,0.8s
H19K Roundabout Mou 85.30 24 P **P** **00 45 58.7 +1.4**
H19K IAmb IAmb 00 45 59.4
comp=Z,5.9nm,0.6s
MMAI Mount Meron Ar 88.59 303 P **P** **00 46 13.6 -0.3**
comp=Z,0.4nm,0.4s,baz=93,slow=3.2,SNR=1.6
comp=Z,0.4nm,0.4s
ILAR Eielson Array 89.26 25 P **P** **00 46 14.3 -2.0**
comp=Z,0.4nm,0.6s,baz=260,slow=5.5,SNR=9.1
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 92.59 340 P **P** **00 46 29.1 -2.6**
comp=Z,2.9nm,0.9s,baz=75,slow=4.7,SNR=4.2
comp=Z,2.9nm,0.9s
FARO Faro, Yukon 95.53 27 P **P** **00 46 45.9 +0.5**
FARO IAmb IAmb 00 46 47.0
comp=Z,5.0nm,0.7s
C36M Paulatuk 97.24 19 P **P** **00 46 52.5 -0.3**
C36M IAmb IAmb 00 46 53.7
comp=Z,4.6nm,1.2s
MT13 San Alfonso 144.24 159 PKPdf PKPbc 00 52 55.9 +1.1
MT02 Curacav 144.36 158 PKPdf **PKPab** **00 52 55.0 +0.3**
LCO Las Campanas 148.29 155 **PKPbc** **00 53 08.2 +1.3**
AC02 Maricunga 150.86 155 PKPbc **PKPbc** **00 53 12.5 -1.0**
CHIV Chivirico 151.54 43 PKPbc **PKPbc** **00 53 13.1 -1.4**

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*SJA **27** 00:34:50.1±0.8, 19°.24S×70°.29W, h62km±6km, ML4.3, MW4.1*
*NEIC **27** 00:34:52.4±1.7, 19°.26S±0°.03×70°.30W±0°.05, h44km±5km, mb4.5/55, Error ellipse: s-maj=7.5km s-min=3.6km az=77.0*
*GUC **27** 00:34:53.4±0.7, 19°.27S×70°.28W, h34km±5km, ML4.2*
*VAO **27** 00:34:54.2±3.0, 19°.29S×70°.09W, h81km±12km, mb4.2*
*IDC **27** 00:34:55.1±3.5, 19°.19S×70°.18W, h74km±31km, mb3.8/10, mbtmp4.1/13, MS4.4/5, Error ellipse: s-maj=33.7km s-min=14.9km az=77.0*
ISC 27 00:34:51.9±0.7, 19°.24S±0°.02×70°.24W±0°.05, h48km±6km, n157, σ1°29/174, mb4.4/36, MS4.5/5, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.27**	**8**	⇑*iP*		**Pn**		**00 35 00.6**	**-0.1**
PX02				*i* S		**Sn**		**00 35 06.9**	**0.0**
PX02				IAML				00 35 07.6	
comp=N,35μm,0.5s									
PB12	**IPOC Station P**	**0.62**	**352**			**Pn**		**00 35 05.5**	**+0.9**
PB12				Sn		**Sn**		**00 35 14.7**	**+0.8**
PB12	**IPOC Station P**	**0.62**	**352**	⇑*iP*		**Pn**		**00 35 05.5**	**+0.9**
PB12				*i* S		**Sn**		**00 35 14.6**	**+0.8**
PB12				IAML				00 35 15.8	
comp=E,36μm,0.5s									
PB12	**IPOC Station P**	**0.62**	**352**	*eP*		**Pn**		**00 35 04.8**	**+0.1**
PB12				*e*S		**Sn**		**00 35 15.0**	**+1.2**
PB12				IAML				00 35 15.3	
comp=Z,12μm,0.5s									
PB11	**IPOC Station P**	**0.76**	**134**	Pn		**Pn**		**00 35 07.1**	**+0.7**
PB11				Sn		**Sn**		**00 35 17.5**	**+0.4**
PB11	**IPOC Station P**	**0.76**	**134**	⇓*iP*		**Pn**		**00 35 07.3**	**+0.8**
PB11				*i* S		**Sn**		**00 35 17.8**	**+0.7**
PB11				IAML				00 35 19.1	
comp=E,18μm,0.5s									
PB11	**IPOC Station P**	**0.76**	**134**	*eP*		**Pn**		**00 35 07.0**	**+0.5**
PB11				*e*S		**Sn**		**00 35 18.3**	**+1.2**
PB11				IAML				00 35 19.1	
comp=Z,6μm,0.1s									
AP01	**Chacalluta**	**0.86**	**353**	Pn		**Pn**		**00 35 08.8**	**+1.0**
AP01				Sn		**Sn**		**00 35 19.3**	**0.0**
AP01	**Chacalluta**	**0.86**	**353**	*eP*		**Pn**		**00 35 08.7**	**+1.0**
AP01				*i* S		**Sn**		**00 35 19.4**	**0.0**
AP01				IAML				00 35 21.5	
comp=N,22μm,0.3s									
AP01	**Chacalluta**	**0.86**	**353**	*eP*		**Pn**		**00 35 07.5**	**-0.2**
AP01				*e*S		**Sn**		**00 35 19.6**	**+0.3**
AP01				IAML				00 35 23.0	
comp=Z,13μm,0.2s									
TA02	**Huaiquique**	**1.03**	**174**	Pn		**Pn**		**00 35 10.3**	**+0.3**
TA02				Sn		**Sn**		**00 35 23.3**	**-0.1**
TA02	**Huaiquique**	**1.03**	**174**	*eP*		**Pn**		**00 35 10.6**	**+0.6**
TA02				*i* S		**Sn**		**00 35 23.6**	**+0.2**
TA02	**Huaiquique**	**1.03**	**174**	*eP*		**Pn**		**00 35 10.0**	**0.0**
TA02				*e*S		**Sn**		**00 35 24.5**	**+1.1**
TA02				IAML				00 35 25.8	
comp=Z,11μm,0.3s									
HMBC	**Humberstone**	**1.09**	**162**	Pn		**Pn**		**00 35 11.2**	**+0.3**
HMBC				Sn		**Sn**		**00 35 24.2**	**-0.7**
HMBC	**Humberstone**	**1.09**	**162**	⇑*iP*		**Pn**		**00 35 11.2**	**+0.3**
HMBC				*i* S		**Sn**		**00 35 24.9**	**-0.1**
HMBC				IAML				00 35 31.1	
comp=N,12μm,0.4s									
HMBC	**Humberstone**	**1.09**	**162**	*eP*		**Pn**		**00 35 07.5**	**-3.4**
HMBC				*eP*				00 35 11.0	
HMBC				*e*S		**Sn**		**00 35 24.1**	**-0.8**
HMBC				IAML				00 35 30.6	
comp=Z,4μm,0.3s									
PB16	**IPOC Station P**	**1.13**	**38**	Pn		**Pn**		**00 35 12.9**	**+1.0**
PB16				Sn		**Sn**		**00 35 24.2**	**-2.4**
PB16	**IPOC Station P**	**1.13**	**38**	⇓*iP*		**Pn**		**00 35 13.2**	**+1.4**
PB16				*i* S		**Sn**		**00 35 24.5**	**-2.1**
PB16	**IPOC Station P**	**1.13**	**38**	*eP*		**Pn**		**00 35 07.5**	**-4.4**
PB16				*eP*				00 35 12.5	
PB16				*e*S		**Sn**		**00 35 28.7**	**+2.1**
TA01	**Diego Aracena**	**1.32**	**178**	Pn		**Pn**		**00 35 14.1**	**+0.1**
TA01				Sn		**Sn**		**00 35 30.3**	**-0.2**
TA01	**Diego Aracena**	**1.32**	**178**	*eP*		**Pn**		**00 35 14.5**	**+0.5**
TA01				*i* S		**Sn**		**00 35 30.6**	**+0.2**
TA01				IAML				00 35 33.6	
comp=E,8μm,0.1s									
TA01	**Diego Aracena**	**1.32**	**178**	*eP*		**Pn**		**00 35 13.9**	**0.0**
TA01				*e*S		**Sn**		**00 35 30.5**	**0.0**
TA01				*e*S				00 35 31.5	
TA01				IAML				00 35 33.2	
comp=Z,6μm,0.3s									
PB08	**IPOC Station P**	**1.36**	**132**	Pn		**Pn**		**00 35 16.3**	**+1.4**
PB08				Sn		**Sn**		**00 35 32.9**	**+0.9**
PB08	**IPOC Station P**	**1.36**	**132**	*eP*		**Pn**		**00 35 16.1**	**+1.2**
PB08				*i* S		**Sn**		**00 35 32.5**	**+0.5**
PB08				IAML				00 35 35.0	
comp=E,5μm,0.2s									
PB08	**IPOC Station P**	**1.36**	**132**	*eP*		**Pn**		**00 35 15.4**	**+0.6**
PB08				*e*S		**Sn**		**00 35 34.0**	**+2.0**
PATCX	**Punta Patache**	**1.58**	**177**	Pn		**Pn**		**00 35 17.4**	**-0.2**
PATCX	**Punta Patache**	**1.58**	**177**	*eP*		**Pn**		**00 35 18.1**	**+0.6**
PATCX				*i* S		**Sn**		**00 35 37.0**	**+0.2**
PATCX	**Punta Patache**	**1.58**	**177**	*eP*		**Pn**		**00 35 17.8**	**+0.3**
PATCX				*e*S		**Sn**		**00 35 37.4**	**+0.5**
PATCX				IAML				00 35 47.6	
comp=Z,2μm,0.4s									
PB18	**Visviri**	**1.79**	**24**	Pn		**Pn**		**00 35 23.7**	**+2.9**
PB01	**IPOC Station P**	**1.93**	**159**	Pn		**Pn**		**00 35 22.5**	**+0.1**
PB01	**IPOC Station P**	**1.93**	**159**	*eP*		**Pn**		**00 35 23.0**	**+0.7**
PB01				*i* S		**Sn**		**00 35 45.8**	**+0.3**
PB01				IAML				00 35 53.0	
comp=E,2μm,0.6s									
PB01	**IPOC Station P**	**1.93**	**159**	*eP*		**Pn**		**00 35 22.5**	**+0.1**
PB01				*e*S		**Sn**		**00 35 48.0**	**+2.4**
PB01				IAML				00 35 58.6	
comp=Z,1μm,0.5s									
PB09	**IPOC Station P**	**2.71**	**160**	Pn		**Pn**		**00 35 34.5**	**+1.3**
PB09	**IPOC Station P**	**2.71**	**160**	*eP*		**Pn**		**00 35 34.9**	**+1.7**
PB09				*e*S		**Sn**		**00 36 06.0**	**+1.1**
PB09				IAML				00 36 26.4	
comp=Z,2μm,0.5s									
PB03	**IPOC Station P**	**2.84**	**171**	*eP*		**Pn**		**00 35 30.5**	**-4.4**
PB03				*eP*				00 35 35.6	
PB03				*e*S		**Sn**		**00 36 10.0**	**+2.1**
PB03				IAML				00 36 23.7	
comp=Z,1μm,0.3s									
PB06	**IPOC Station P**	**3.51**	**170**	*eP*		**Pn**		**00 35 44.7**	**+0.6**
PB06				*eP*				00 35 44.8	
PB06				*e*S		**Sn**		**00 36 30.5**	**+6.0**
PB06				IAML				00 36 46.4	
comp=Z,615nm,0.4s									
LPAZ	**La Paz**	**3.55**	**35**	P		Pn		00 35 49.3	+4.2
comp=Z,41nm,0.6s,baz=237,slow=7.7,SNR=127									
LPAZ	**La Paz**	**3.55**	**35**	*eP*		**Pn**		**00 35 45.5**	**+0.4**
LPAZ	**La Paz**	**3.55**	**35**	*eP*		**Pn**		**00 35 47.2**	**+2.1**
PB05	**IPOC Station P**	**3.60**	**179**	Pn		**Pn**		**00 35 44.7**	**-0.6**
PB05	**IPOC Station P**	**3.60**	**179**	*eP*		**Pn**		**00 35 44.7**	**-0.6**
PB05				*eP*				00 35 44.8	
PB05				*e*S		**Sn**		**00 36 26.9**	**+0.3**
PB05				IAML				00 36 43.4	
comp=Z,401nm,0.8s									
PB14	**IPOC Station P**	**5.37**	**182**	Pn		**Pn**		**00 36 07.8**	**-1.9**
PB14	**IPOC Station P**	**5.37**	**182**	*eP*		**Pn**		**00 36 08.6**	**-1.1**
PB14				*e*S		**Sn**		**00 37 05.6**	**-4.8**
GO02	**Mina Guanaco**	**5.93**	**174**	Pn		**Pn**		**00 36 16.6**	**-0.8**
AC01	**Pan de Azucar**	**6.89**	**183**	Pn		**Pn**		**00 36 28.4**	**-1.9**
AC02	**Maricunga**	**7.63**	**173**	Pn		**Pn**		**00 36 39.7**	**-1.2**
AC06	**Mina Casimiro**	**8.09**	**181**	Pn		**Pn**		**00 36 44.2**	**-2.5**
SIV	**San Ignacio**	**9.32**	**71**	P		**Pn**		**00 37 04.0**	**+0.4**
comp=Z,80nm,1.0s,baz=266,slow=9.1,SNR=44									
SIV				LR		LR		00 41 15.5	
comp=Z,122nm,18.2s,baz=280,slow=41									
AC05	**El Transito**	**9.56**	**180**	Pn		**Pn**		**00 37 04.5**	**-2.5**
LCO	**Las Campanas**	**9.74**	**182**	Pn		**Pn**		**00 37 07.3**	**-2.3**
PTLB	**Pontes e Lacer**	**11.25**	**72**	Pn		**Pn**		**00 37 29.4**	**-0.7**
PTLB	**Pontes e Lacer**	**11.25**	**72**	*eP*		**Pn**		**00 37 29.8**	**-0.3**
VILB	**Vilhena**	**11.49**	**59**	Pn		**Pn**		**00 37 34.2**	**+0.8**
VILB	**Vilhena**	**11.49**	**59**	*eP*		**Pn**		**00 37 35.0**	**+1.6**
MURT	**Porto Murtinho**	**12.08**	**104**	*eP*		**Pn**		**00 37 41.5**	**+0.1**
BDQN	**Bodoquena, MS**	**12.75**	**98**	*eP*		**Pn**		**00 37 49.2**	**-1.3**
CPUP	**Villa Florida**	**13.84**	**123**	Pn		**Pn**		**00 38 05.7**	**+0.3**
CPUP	**Villa Florida**	**13.84**	**123**	P		**Pn**		**00 38 06.0**	**+0.6**
comp=Z,1.6nm,0.8s,baz=304,slow=16,SNR=3.6									
CPUP				LR		LR		00 43 07.2	
comp=Z,49nm,21.7s,baz=235,slow=36									
SALV	**Santo Antonio**	**14.26**	**79**	*eP*		**Pn**		**00 38 11.1**	**0.0**
ATAH	**Atahualpa**	**14.40**	**326**	LR		LR		00 43 03.2	
comp=Z,38nm,20.1s,baz=152,slow=34									
MT01	**Popeta**	**14.60**	**183**	Pn		**Pn**		**00 38 15.6**	**+0.1**
H03N1	**Juan Fernandez**	**16.13**	**207**	T		T		00 54 54.3	
baz=32,slow=72,SNR=300									
H03N2	**Juan Fernandez**	**16.14**	**207**	T		T		00 54 54.8	
baz=32,slow=72,SNR=201									
H03N3	**Juan Fernandez**	**16.15**	**207**	T		T		00 54 53.7	
baz=32,slow=72,SNR=276									
TEFE	**Tefe**	**16.56**	**20**	*eP*		**P**		**00 38 41.3**	**-1.5**
ITAB	**Concordia**	**18.43**	**119**	P		**Pn**		**00 39 03.2**	**-0.7**
PLTB	**Pedras Altas**	**19.49**	**133**	P		**P**		**00 39 13.9**	**-1.0**
SNDB	**Serra Nova Dou**	**19.61**	**71**	*eP*		**P**		**00 39 15.0**	**-1.4**
TRQA	**Tornquist**	**20.09**	**161**	P		**P**		**00 39 21.5**	**+0.1**
ITTB	**Itaituba**	**20.46**	**46**	*eP*		**P**		**00 39 24.2**	**-1.4**
BB19B	**Bebedouro**	**20.46**	**99**	*eP*		**P**		**00 39 24.8**	**-0.9**
IPMB	**Ipameri, GO**	**20.91**	**90**	*eP*		**P**		**00 39 29.3**	**-1.3**
OTAV	**Otavalo**	**20.96**	**336**	P		**P**		**00 39 32.5**	**+1.0**
FLOC	**Florencia**	**21.36**	**345**	P		**P**		**00 39 34.9**	**-0.5**
FLOC				IAmb		IAmb		00 39 36.8	
comp=Z,9.5nm,0.7s									
PLCA	**Paso Flores**	**21.43**	**181**	P		**P**		**00 39 37.6**	**+1.7**
PLCA	**Paso Flores**	**21.43**	**181**	P		**P**		**00 39 37.1**	**+1.2**
comp=Z,2.3nm,0.8s,baz=340,slow=13,SNR=5.1									
comp=Z,2.3nm,0.8s									
BDFB	**Brasilia**	**21.50**	**84**	P		**P**		**00 39 37.8**	**+0.9**
BDFB	**Brasilia**	**21.50**	**84**	P		**P**		**00 39 38.0**	**+1.1**
comp=Z,2.0nm,0.4s,baz=253,slow=8.6,SNR=6.1									
comp=Z,2.0nm,0.4s									
MAL2	**Monte Alegre,**	**23.23**	**44**	P		**P**		**00 39 53.3**	**-1.8**
MAL2				IAmb		IAmb		00 39 55.1	
comp=Z,9.4nm,0.6s									
BOAV	**Boa Vista**	**23.52**	**25**	P		**P**		**00 39 57.0**	**-0.8**
BOAV				IAmb		IAmb		00 40 16.8	
comp=Z,12nm,1.0s									
BOAV	**Boa Vista**	**23.52**	**25**	*eP*		**P**		**00 39 57.0**	**-0.8**
RUSC	**La Rusia**	**25.13**	**353**	P		**P**		**00 40 13.1**	**+0.1**
RUSC				IAmb		IAmb		00 40 15.8	
comp=Z,17

comp=Z,8.0nm,1.4s
L59A Walton 61.28 356 P **P 00 45 02.6 +0.4**
L56A Greenwood 61.44 354 P **P 00 45 03.1 -0.2**
K57A Scipio Center 61.93 355 P **P 00 45 06.7 +0.2**
J59A Piesco 62.51 356 P **P 00 45 10.9 +0.4**
J59A IAmb IAmb 00 45 17.6
comp=Z,12nm,1.4s
WBO Williamsburg 64.09 356 P **P 00 45 21.1 +0.3**
WBO IAmb IAmb 00 45 38.9
comp=Z,10nm,1.2s
SADO Sadowa 64.21 353 P **P 00 45 21.4 -0.2**
SADO IAmb IAmb 00 45 26.6
comp=Z,11nm,1.4s
SNAA Sanae 64.82 161 P **P 00 45 26.4 +1.0**
SNAA IAmb IAmb 00 45 40.3
comp=Z,5.3nm,1.1s
SNAA Sanae 64.82 161 P **P 00 45 26.0 +0.6**
comp=Z,2.2nm,0.7s,baz=282,slow=8.9,SNR=9.9
comp=Z,2.2nm,0.7s
E62A Clayton Lake 65.55 1 P **P 00 45 30.6 +0.3**
E62A IAmb IAmb 00 45 50.5
comp=Z,19nm,1.4s
D62A Allapoint, All 66.01 1 P **P 00 45 33.4 +0.1**
LDAQ Lac Daran 66.89 359 P **P 00 45 38.8 -0.2**
LDAQ IAmb IAmb 00 45 52.1
comp=Z,13nm,1.2s
ECSD EROS Data Cent 67.17 340 P **P 00 45 40.0 -0.7**
ECSD IAmb IAmb 00 45 55.6
comp=Z,3.1nm,1.1s
U15A North Rim 68.15 324 P **P 00 45 48.4 +1.0**
U15A IAmb IAmb 00 45 49.8
comp=Z,2.4nm,0.7s
KNB Kanab 68.87 325 P **P 00 45 54.0 +2.2**
KNB IAmb IAmb 00 45 54.9
comp=Z,6.8nm,0.9s
SHPR Sheep Range 69.81 323 P **P 00 45 59.1 +1.5**
RDMU Red Mountain 69.84 329 P **P 00 45 58.3 +0.5**
GSC Goldstone, Bar 69.94 321 P **P 00 45 59.9 +1.6**
BSUT Blindstream Ca 70.40 328 P **P 00 46 02.0 +0.6**
PSUT Pine Spring 70.53 325 P **P 00 46 02.9 +0.8**
PSUT IAmb IAmb 00 46 04.7
comp=Z,3.1nm,0.8s
QSPA South Pole Qui 70.94 180 P **P 00 46 05.3 +1.2**
QSPA South Pole Qui 70.94 180 P **P 00 46 04.9 +0.8**
comp=Z,2.3nm,0.5s,baz=108,slow=3.0,SNR=28
comp=Z,2.3nm,0.5s
SPR3 Spring Creek 3 71.12 325 P **P 00 46 07.0 +1.3**
SPR3 IAmb IAmb 00 46 07.5
comp=Z,2.2nm,0.7s
PDAR Pinedale Array 71.53 331 P **P 00 46 08.6 +0.6**
comp=Z,0.2nm,0.5s,baz=127,slow=5.0,SNR=3.2
comp=Z,0.2nm,0.5s
ULM Lac du Bonnet 72.80 343 P **P 00 46 13.8 -1.3**
comp=Z,1.6nm,0.5s,baz=136,slow=6.5,SNR=5.6
comp=Z,1.6nm,0.5s
LHV Little Huntoon 72.94 322 P **P 00 46 17.6 +1.4**
LHV IAmb IAmb 00 46 18.9
comp=Z,3.1nm,0.7s
NVAR Mina Array Bea 72.95 322 P **P 00 46 17.4 +0.8**
comp=Z,1.6nm,0.7s,baz=137,slow=4.0,SNR=11
NVAR LR LR 01 17 16.2
comp=Z,278nm,18.3s,baz=352,slow=35
comp=Z,1.6nm,0.7s
SCHQ Schefferville 73.82 2 P **P 00 46 20.6 -0.5**
SCHQ IAmb IAmb 00 46 21.8
comp=Z,6.2nm,1.0s
SCHQ Schefferville 73.82 2 P **P 00 46 20.6 -0.5**
comp=Z,2.9nm,0.8s,baz=187,slow=5.0,SNR=3.8
comp=Z,2.9nm,0.8s
GCMT Greycliff 73.94 332 P **P 00 46 24.6 +2.5**
HATC Hat Creek Radi 76.36 322 P **P 00 46 37.3 +1.2**
HATC IAmb IAmb 00 46 46.4
comp=Z,17nm,1.2s
PLID Pearl Lake 76.36 329 P **P 00 46 37.3 +1.1**
PLID IAmb IAmb 00 46 38.2
comp=Z,3.3nm,0.9s
BMO Blue Mountains 76.84 328 P **P 00 46 39.4 +0.6**
BMO IAmb IAmb 00 46 41.3
comp=Z,3.1nm,0.9s
YBH Yreka Blue Hor 77.67 323 LR LR 01 20 28.6
comp=Z,188nm,18.1s,baz=211,slow=35
TORD Torodi Ar. Bea 77.79 71 P **P 00 46 43.2 -1.4**
PINE Pine Mountain 78.02 325 P **P 00 46 46.1 +0.6**
PINE IAmb IAmb 00 47 12.4
comp=Z,6.0nm,1.5s
K02D Willamette Mer 78.83 323 P **P 00 46 50.3 +0.5**
K02D IAmb IAmb 00 47 26.6
comp=Z,17nm,1.5s
LTY Liberty 80.20 328 P **P 00 46 58.8 +1.6**
LTY IAmb IAmb 00 46 59.6
comp=Z,7.5nm,1.4s
LBTB Lobatse 87.10 115 LR LR 01 24 30.7
comp=Z,414nm,18.4s,baz=104,slow=34
YKA Yellowknife Ar 88.65 341 P **P 00 47 39.6 +0.2**
comp=Z,3.8nm,0.7s,baz=140,slow=4.7,SNR=80
comp=Z,3.8nm,0.7s
INK Inuvik 98.40 340 LR LR 01 37 15.7
comp=Z,83nm,19.8s,baz=243,slow=38
H11S2 WAKE ISLAND Hy 126.32 279 T T 03 12 57.6
baz=100,slow=74
H11S1 WAKE ISLAND Hy 126.33 279 T T 03 12 57.8
baz=100,slow=74
H11S3 WAKE ISLAND Hy 126.34 279 T T 03 12 53.8
baz=100,slow=74
H11N3 WAKE ISLAND Hy 126.35 281 T T 03 13 01.2
baz=101,slow=74
H11N2 WAKE ISLAND Hy 126.36 281 T T 03 12 55.6
baz=101,slow=74
H11N1 WAKE ISLAND Hy 126.36 281 T T 03 12 57.5
baz=101,slow=74
ABKAR Akbulak array 130.30 41 PKPdf **PKiKP 00 53 58.1 +0.5**
ASAR Alice Springs 131.29 210 PKPdf **PKPdf 00 53 59.1 -0.5**
ASAR Alice Springs 131.29 210 PKP **PKPdf 00 53 59.3 -0.2**
comp=Z,0.5nm,0.6s,baz=128,slow=1.5,SNR=2.5
WB2 Warramunga Arr 134.21 213 PKPdf **PKPdf 00 54 05.0 -0.2**
WRA Warramunga Arr 134.21 213 PKPdf **PKPdf 00 54 05.0 -0.1**
WRA Warramunga Arr 134.21 213 PKP **PKPdf 00 54 04.9 -0.3**
comp=Z,0.9nm,0.5s,baz=145,slow=1.8,SNR=11
WB0 Warramunga Arr 134.33 213 PKPdf **PKPdf 00 54 05.7 +0.3**
ZALV Zalesovo Beam 140.40 23 PKP **PKPdf 00 54 15.5 +0.1**
comp=Z,1.3nm,0.6s,baz=313,slow=2.3,SNR=5.2
MK31 Makanchi Array 144.48 33 PKPdf PKPbc 00 54 21.7 +0.1
MKAR Makanchi Array 144.48 33 PKPdf **PKPab 00 54 21.3 0.0**
MKAR Makanchi Array 144.48 33 PKP PKPbc 00 54 21.7 +0.1
comp=Z,0.6nm,0.6s,baz=324,slow=4.1,SNR=8.7
NIL Nilore 144.50 59 PKPdf **PKPdf 00 54 23.4 0.0**
KLR Kul'dur 145.25 334 PKPbc **PKPbc 00 54 23.5 -0.4**
comp=Z,2.2nm,0.5s,baz=73,slow=4.4,SNR=9.7
SONM Songino Array 151.34 5 PKPbc **PKPbc 00 54 40.5 +0.1**
comp=Z,0.7nm,0.4s,baz=334,slow=1.3,SNR=6.8

*IDC **27** 00:39:55.0±0.9, 31°.67N×132°.05E, h0km, mb3.6/9, mbtmp3.6/12, ML3.2/3, MS3.8/1, Error ellipse: s-maj=31.6km s-min=15.8km az=65.0*
*NEIC **27** 00:40:00.1±1.8, 31°.99N±0°.09×132°.10E±0°.05, h10km±1km, mb4.6/21, Error ellipse: s-maj=16.4km s-min=4.0km az=204.0*
*NIED **27** 00:40:01.4, 32°.15N×132°.14E, h18km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=0.56; $M_{\theta\theta}$0.06; $M_{\phi\phi}$0.50; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.25; $M_{\phi r}$1.09; Fault plane solution: $M_0$1.39000×10^15^ NP1: ϕ_s=325.00000°, δ17.00000°, λ-148.00000°. NP2: ϕ_s=205.00000°, δ81.00000°, λ-75.00000°.*
*JMA **27** 00:40:01.4±0.2, 32°.2N±0°.4×132°.1E±0°.6, h18km±2km, MD4.1/40, MV4.1/40, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .

ISC 27 00:40:00.1±1.5, 32°.08N±0°.05×132°.13E±0°.04, h16km±9km, n71, σ1°20/56, mb4.3/20, 4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.55**	**311**	*i* P	**Pb**	**00 40 11.5**	**+0.1**
JHHC				S	**Sg**	**00 40 18.7**	**+0.3**
JHHC	**Hyugahichiya**	**0.55**	**311**	A	A	00 40 11.5	
comp=N,11nm,0.6s,comp=E,11nm,0.6s							
JTSN	**Tsuno**	**0.55**	**288**	P	**Pb**	**00 40 11.7**	**+0.2**
JTSN				S	**Sb**	**00 40 19.1**	**0.0**
JTSN	**Tsuno**	**0.55**	**288**	A	A	00 40 11.7	
comp=N,6.0nm,1.7s,comp=E,13nm,1.3s							
JSKE	**Saikikamae**	**0.74**	**345**	P	**Pg**	**00 40 14.7**	**0.0**
JSKE				S	**Sg**	**00 40 23.9**	**-0.5**
JSKE	**Saikikamae**	**0.74**	**345**	A	A	00 40 14.7	
comp=N,8.0nm,0.4s,comp=E,6.0nm,1.9s							
JNKG	**Nichinankitago**	**0.76**	**237**	A	A	00 40 16.5	
comp=N,17nm,2.7s,comp=E,9.0nm,1.2s							
JKIT	**Kitakata**	**0.79**	**314**	P	**Pb**	**00 40 15.6**	**+0.2**
JKIT				*e*S	**Sg**	**00 40 26.3**	**+0.5**
JKIT	**Kitakata**	**0.79**	**314**	A	A	00 40 15.6	
comp=N,12nm,1.1s,comp=E,14nm,0.7s							
JTZ	**Takazaki**	**0.90**	**259**	*e*P	**Pn**	**00 40 18.2**	**+0.1**
JTZ	**Takazaki**	**0.90**	**259**	A	A	00 40 18.2	
comp=N,11nm,1.5s,comp=E,18nm,1.1s							
JNAR	**Kushima--Naru**	**0.91**	**233**	||P	**Pn**	**00 40 19.5**	**+1.2**
JNAR	**Kushima--Naru**	**0.91**	**233**	A	A	00 40 19.5	
comp=N,14nm,3.2s,comp=E,13nm,0.7s							
JTO	**Tosashimizu**	**0.97**	**36**	||*i*P	**Pg**	**00 40 17.9**	**-0.9**
JUS	**Usuki**	**1.03**	**342**	*e*P	**Pg**	**00 40 19.7**	**-0.4**
JUS				*e*S	**Sg**	**00 40 33.1**	**-0.6**
JUS	**Usuki**	**1.03**	**342**	A	A	00 40 19.7	
comp=N,6.0nm,1.4s,comp=E,5.0nm,0.5s							
JIU3	**Izumi3**	**1.21**	**293**	P	**Pn**	**00 40 23.4**	**+0.9**
JIU3	**Izumi3**	**1.21**	**293**	A	A	00 40 23.4	
comp=N,8.0nm,1.0s,comp=E,9.0nm,1.0s							
UWA2	**Uwa jima 2**	**1.21**	**20**	||P	**Pn**	**00 40 21.8**	**-0.7**
JZO	**Okuchi**	**1.30**	**273**	A	A	00 40 24.8	
comp=N,6.0nm,2.5s,comp=E,7.0nm,1.0s							
JBEP	**Beppuamama**	**1.39**	**334**	A	A	00 40 25.2	
comp=N,14nm,0.7s,comp=E,13nm,0.7s							
JKU	**Kubokawa**	**1.46**	**33**	||*e*P	**Pn**	**00 40 25.6**	**-0.3**
JNU	**Nakatsue**	**1.48**	**315**			**Pg**	**00 40 27.9**	**-0.8**
JNU	**Nakatsue**	**1.48**	**315**	Pn		**Pn**	**00 40 26.5**	**+0.3**
comp=E,225nm,0.3s,baz=120,slow=6.6,SNR=544							
JNU				Sn		**Sb**	**00 40 47.4**	**+1.4**
comp=E,127nm,0.3s,baz=300,slow=20,SNR=13							
JNA	**Nagahama**	**1.50**	**11**	*e*P		**Pn**	**00 40 26.5**	**0.0**
JNA				*e*S		**Sn**	**00 40 44.6**	**-1.3**
JTA	**Tamana**	**1.61**	**304**	A	A	00 40 29.0	
comp=N,4.0nm,2.1s,comp=E,4.0nm,1.3s							
JKI	**Kunimi**	**1.62**	**343**	A	A	00 40 28.6	
comp=N,6.0nm,0.9s,comp=E,5.0nm,2.3s							
JMN	**Monobe**	**2.21**	**41**	Pn		**Pn**	**00 40 37.1**	**+0.8**
INU	**Inuyama**	**5.22**	**50**	Pn		**Pn**	**00 41 20.5**	**+2.9**
JGF	**Kuroka**	**5.59**	**50**	Pn		**Pn**	**00 41 23.9**	**+1.1**
KSRS	**Korea Array**	**6.38**	**328**	Pn		**Pn**	**00 41 34.8**	**+1.3**
comp=E,0.6nm,0.3s,baz=149,slow=15,SNR=4.9							
KSRS				Lg	Lg		00 43 28.2
comp=E,0.5nm,0.3s,baz=150,slow=30,SNR=5.7							
comp=E,1.1nm,0.3s							
MJAR	**Matsushiro Arr**	**6.72**	**47**	Pn		**Pn**	**00 41 39.9**	**+1.6**
comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=4.6							
comp=E,2.6nm,0.7s							
USRK	**Ussuriysk Ar.**	**12.10**	**360**	LR	LR		00 47 11.5
comp=E,390nm,18.1s,baz=352,slow=35							
KLR	**Kul'dur**	**17.14**	**359**	P	**P**		**00 44 02.0**	**+1.5**
comp=E,0.2nm,0.3s,baz=170,slow=7.6,SNR=7.0							
comp=E,3.1nm,0.6s							
SONM	**Songino Array**	**25.07**	**316**	P	**P**		**00 45 23.4**	**-0.5**
comp=E,1.3nm,0.9s,baz=128,slow=9.9,SNR=11							
comp=E,1.3nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**33.46**	**103**	T	T		01 22 10.3
baz=298,slow=75,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**33.47**	**103**	T	T		01 22 06.6
baz=298,slow=75,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**33.48**	**103**	T	T		01 22 08.7
baz=298,slow=75,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**33.89**	**105**	T	T		01 22 42.1
baz=302							
H11S1	**WAKE ISLAND Hy**	**33.90**	**105**	T	T		01 22 38.2
baz=302,SNR=4.7							
H11S2	**WAKE ISLAND Hy**	**33.91**	**105**	T	T		01 22 44.5
baz=302							
MKAR	**Makanchi Array**	**40.52**	**306**	P	**P**		**00 47 38.5**	**0.0**
comp=E,0.3nm,0.7s,baz=90,slow=10,SNR=3.1							
comp=E,0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**43.25**	**312**	P	**P**		**00 48 00.5**	**-0.1**
comp=E,0.2nm,0.4s,baz=98,slow=9.4,SNR=9.6							
comp=E,0.2nm,0.4s							
COEN	**Coen**	**46.98**	**165**	P	**P**		**00 48 30.8**	**+0.2**
COEN				IAmb	IAmb		00 49 12.9
comp=Z,9.9nm,1.4s							
KNRA	**Kununurra**	**47.59**	**184**	P	**P**		**00 48 34.7**	**-0.6**
BVAR	**Borovoye Array**	**48.39**	**315**	P	**P**		**00 48 39.5**	**-1.7**
comp=Z,0.6nm,0.5s,baz=96,slow=9.3,SNR=13							
comp=Z,0.6nm,0.5s							
KK31	**Karatay Array**	**49.05**	**301**	P	**P**		**00 48 46.5**	**0.0**
KKAR	**Karatay Array**	**49.05**	**301**	P	**P**		**00 48 46.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.28**	**188**	P	**P**		**00 48 56.0**	**+0.1**
WB0	**Warramunga Arr**	**51.60**	**177**	P	**P**		**00 49 03.9**	**-1.9**
WB0				IAmb	IAmb		00 49 46.8
comp=Z,10.0nm,1.4s							
WRA	**Warramunga Arr**	**51.77**	**177**	P	P		00 49 01.5	-5.6
comp=Z,0.2nm,0.6s,baz=356,slow=7.7,SNR=9.4							
comp=Z,0.2nm,0.6s							
WB2	**Warramunga Arr**	**51.77**	**177**	P	**P**		**00 49 06.6**	**-0.6**
WB2				IAmb	IAmb		00 49 37.0
comp=Z,8.7nm,1.4s							
ABKAR	**Akbulak array**	**55.29**	**311**	P	**P**		**00 49 34.2**	**+1.5**
ASAR	**Alice Springs**	**55.46**	**178**	P	P		00 49 28.6	-5.6
comp=Z,0.4nm,0.9s,baz=2.5,slow=6.3,SNR=4.7							
comp=Z,0.4nm,0.9s							
E27K	**Coleen River**	**59.28**	**26**	P	**P**		**00 50 02.9**	**+2.2**
M26K	**Nabesna, AK**	**59.80**	**32**	P	**P**		**00 50 05.9**	**+1.5**
M26K				IAmb	IAmb		00 50 17.0
comp=Z,6.0nm,1.4s							
E28M	**Babbage River**	**59.95**	**25**	P	**P**		**00 50 07.5**	**+2.2**
E28M				IAmb	IAmb		00 50 20.7
comp=Z,3.1nm,1.1s							
M27K	**Edge Creek, AK**	**60.32**	**32**	P	**P**		**00 50 09.5**	**+1.4**
M27K				IAmb	IAmb		00 50 35.1
comp=Z,11nm,1.5s							
G29M	**Pine Creek**	**60.89**	**27**	P	**P**		**00 50 14.4**	**+2.7**
G29M				IAmb	IAmb		00 50 29.7
comp=Z,7.5nm,1.4s							
EPYK	**Eagle Plains**	**61.52**	**27**	P	**P**		**00 50 17.4**	**+1.4**
EPYK				IAmb	IAmb		00 50 18.7
comp=Z,5.6nm,0.9s							
I30M	**Mount Dempster**	**61.97**	**29**	P	**P**		**00 50 21.2**	**+2.0**
I30M				IAmb	IAmb		00 50 33.9
comp=Z,6.4nm,1.3s							
INK	**Inuvik**	**62.18**	**25**	P	**P**		**00 50 21.5**	**+1.2**
INK				IAmb	IAmb		00 50 54.2
comp=Z,8.3nm,1.4s							
G31M	**Satah River**	**62.31**	**26**	P	**P**		**00 50 22.1**	**+0.9**
G31M				IAmb	IAmb		00 50 31.4
comp=Z,2.0nm,0.8s							
H31M	**Peel River**	**62.61**	**28**	P	**P**		**00 50 24.8**	**+1.5**
FORT	**Forrest**	**62.63**	**184**	P	**P**		**00 50 22.7**	**-1.0**
A36M	**Sachs Harbour**	**63.60**	**20**	P	**P**		**00 50 30.5**	**+0.8**
C36M	**Paulatuk**	**65.02**	**22**	P	**P**		**00 50 40.3**	**+1.2**
FINES	**FINESS Array B**	**69.47**	**330**	P	**P**		**00 51 06.8**	**-0.6**
FINES	**FINESS Array B**	**69.47**	**330**	P	**P**		**00 51 06.1**	**-1.3**
comp=Z,1.4nm,0.8s,baz=44,slow=4.4,SNR=4.4							
comp=Z,1.4nm,0.8s							
AKASG	**Malin Array Be**	**73.30**	**320**	P	**P**		**00 51 29.6**	**-1.2**
comp=Z,0.7nm,0.5s,baz=56,slow=6.6,SNR=8.1							
comp=Z,0.7nm,0.5s							
NVAR	**Mina Array Bea**	**84.04**	**48**	P	**P**		**00 52 29.7**	**-0.7**
comp=Z,0.4nm,0.6s,baz=296,slow=4.8,SNR=4.3							
comp=Z,0.4nm,0.6s							

*IDC **27** 00:51:53.1±1.6, 21°.38S×169°.75E, h0km, mb3.6/4, mbtmp3.6/4, MS3.8/4, Error ellipse: s-maj=42.5km s-min=38.5km az=162.0*

ISC 27 00:51:53.9±1.6, 21°.2S±0°.3×169°.8E±0°.3, h10km, n10, σ0°22/6, mb3.7/4, MS3.8/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.28**	**241**	P	**P**	**00 57 38.8**	**+0.2**
1.2nm,0.5s,baz=100,slow=12,SNR=4.3							
1.2nm,0.5s							
WRA	**Warramunga Arr**	**33.17**	**266**	P	**P**	**00 58 30.7**	**-0.3**
0.3nm,0.5s,baz=98,slow=8.0,SNR=2.3							
0.3nm,0.5s							
ASAR	**Alice Springs**	**33.20**	**259**	P	**P**	**00 58 31.2**	**+0.1**
0.3nm,0.6s,baz=82,slow=9.2,SNR=4.7							
0.3nm,0.6s							
JCJ	**Chichijima**	**54.99**	**330**	LR	LR	01 20 42.8	
comp=Z,74nm,20.9s,baz=347,slow=31							
MJAR	**Matsushiro Arr**	**64.76**	**332**	LR	LR	01 27 29.1	
comp=Z,53nm,21.8s,baz=120,slow=33							
QSPA	**South Pole Qui**	**68.82**	**180**	P	**P**	**01 02 58.2**	**-0.1**
0.8nm,0.9s,baz=348,slow=16,SNR=6.2							
0.8nm,0.9s							
ASAJ	**Asahikawa**	**69.65**	**339**	LR	LR	01 27 22.3	
comp=Z,85nm,20.1s,baz=174,slow=30							
YAK	**Yakutsk**	**88.93**	**342**	LR	LR	01 40 39.0	
comp=Z,47nm,19.1s,baz=233,slow=33							
EKA	**Eskdalemuir Ar**	**145.55**	**353**	PKPbc	**PKPab**	**01 11 32.5**	**+0.1**
0.6nm,0.4s,baz=358,slow=2.8,SNR=5.4							
GERES	**GERESS Array B**	**146.49**	**331**	PKPbc	**PKPab**	**01 11 36.3**	**0.0**
0.5nm,0.5s,baz=55,slow=3.7,SNR=3.8							

*AEIC **27** 01:07:05.7±1.2, 66°.31N±0°.02×157°.25W±0°.05, h6km±6km, ML3.3, ML3.5/136(NEIC), Error ellipse: s-maj=3.2km s-min=2.4km az=66.0*
*NEIC **27** 01:07:05.6±1.3, 66°.32N±0°.02×157°.26W±0°.03, h9km±6km, Error ellipse: s-maj=2.8km s-min=1.6km az=208.0*
*IDC **27** 01:07:09.2±1.3, 66°.76N×156°.75W, h0km, mb3.4/4, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=52.9km s-min=15.4km az=26.0*

ISC 27 01:07:06.5±0.7, 66°.32N±0°.03×157°.18W±0°.03, h10km, n133, σ1°14/141, mb3.4/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.18**	**168**		**Pg**	**01 07 09.7**	**-0.6**
G19K					**Sg**	**01 07 12.2**	**-0.7**
G19K				IAML		01 07 12.7	
comp=N,14μm,0.7s							
F19K	**Shaleruckik Mo**	**0.57**	**336**	Pg	**Pg**	**01 07 16.2**	**-1.4**
F19K				Sg	**Sg**	**01 07 23.9**	**-1.3**
G18K	**Tagagawik**	**0.74**	**236**	Pg	**Pg**	**01 07 18.9**	**-1.8**
H19K	**Roundabout Mou**	**0.85**	**159**	Pg	**Pg**	**01 07 21.7**	**-1.0**
H19K				Sg	**Sg**	**01 07 32.9**	**-0.9**
H19K				IAML		01 07 37.6	
comp=E,2μm,0.6s							
H19K				IAML		01 07 37.9	
comp=N,1μm,0.4s							
F20K	**Avaraart Lake**	**0.94**	**37**	Pg	**Pg**	**01 07 23.2**	**-1.3**
F20K				Sg	**Sg**	**01 07 35.7**	**-0.9**
F18K	**Selawik**	**1.03**	**287**		**Pg**	**01 07 24.9**	**-1.5**
F18K					**Sn**	**01 07 39.1**	**-2.4**
E19K	**Redstone River**	**1.15**	**359**	Pg	**Pb**	**01 07 26.8**	**-1.6**
E19K				IAML		01 07 45.6	
comp=E,817nm,0.5s							
E19K				IAML		01 07 50.3	
comp=N,970nm,0.5s							
H20K	**Anotleneega Mo**	**1.25**	**130**		**Pn**	**01 07 29.3**	**-0.7**
H20K					**Sn**	**01 07 46.8**	**-0.2**
H18K	**Honhosa River**	**1.27**	**203**		**Pn**	**01 07 28.7**	**-1.6**
H18K				IAML		01 07 48.7	
comp=E,1μm,0.8s							
G21K	**Allakaket**	**1.49**	**81**	Pn	**Pn**	**01 07 32.6**	**-0.7**
G21K					**Sb**	**01 07 53.2**	**0.0**
GCSA	**Galena City Sc**	**1.58**	**175**		**Pn**	**01 07 34.2**	**-0.3**
G17K	**Kiwalik Mounta**	**1.64**	**242**		**Pn**	**01 07 34.2**	**-1.2**
F17K	**Baldwin Pennin**	**1.65**	**276**	Pn	**Pn**	**01 07 34.2**	**-1.2**
F17K				IAML		01 08 01.9	
comp=N,436nm,0.9s							
F21K	**Alatna River**	**1.72**	**56**	Pn	**Pn**	**01 07 35.7**	**-0.9**
F21K				IAML		01 08 03.9	
comp=N,613nm,0.7s							
E18K	**Tukpahlearik C**	**1.75**	**311**	Pn	**Pn**	**01 07 36.1**	**-0.8**
H17K	**Granite Mounta**	**1.79**	**221**	Pn	**Pn**	**01 07 36.1**	**-1.3**
H17K				IAML		01 08 02.6	
comp=E,424nm,0.6s							
H17K				IAML		01 08 12.5	
comp=N,318nm,0.6s							
I20K	**Naaghedeneel**	**1.89**	**142**	Pn	**Pn**	**01 07 38.0**	**-0.8**
H21K	**Melozitna Rive**	**1.91**	**108**		**Pn**	**01 07 38.2**	**-0.8**
H21K				Sn	**Sn**	**01 08 02.6**	**-0.5**
H21K				IAML		01 08 09.5	
comp=N,333nm,0.5s							
H21K				IAML		01 08 09.7	
comp=E,389nm,0.6s							
E20K	**Nigu River**	**1.99**	**11**		**Pb**	**01 07 41.1**	**-1.6**
E17K	**Hotham Inlet**	**2.00**	**295**		**Pb**	**01 07 40.5**	**-2.5**
D19K	**Kuna River**	**2.22**	**351**	Pn	**Pn**	**01 07 42.8**	**-0.6**
D19K				IAML		01 08 25.8	
comp=N,270nm,0.8s							
F22K	**John River**	**2.31**	**56**	Pn	**Pn**	**01 07 44.5**	**0.0**
G16K	**Koyuk River**	**2.32**	**249**	Pn	**Pn**	**01 07 42.4**	**-2.3**
G16K				IAML		01 08 25.5	
comp=E,194nm,0.8s							
G16K				IAML		01 08 25.5	
comp=N,201nm,0.7s							
H22K	**Ishtalitna Cre**	**2.40**	**98**		**Pn**	**01 07 45.4**	**-0.4**
D20K	**Etivluk River**	**2.42**	**5**		**Pn**	**01 07 46.9**	**+0.8**
J19K	**Poorman**	**2.42**	**164**	Pn	**Pn**	**01 07 45.7**	**-0.4**
I21K	**Tanana**	**2.43**	**116**	Pn	**Pn**	**01 07 45.2**	**-1.0**
I21K				IAML		01 08 24.6	
comp=N,283nm,0.6s							
E21K	**Killik River**	**2.47**	**29**	Pn	**Pn**	**01 07 46.7**	**-0.1**
E21K				IAML		01 08 30.3	
comp=N,213nm,0.8s							
E21K				IAML		01 08 30.3	
comp=E,251nm,0.8s							
J20K	**Nowinta River**	**2.50**	**148**	Pn	**Pn**	**01 07 46.8**	**-0.4**
J20K				IAML		01 08 33.1	
comp=E,208nm,0.6s							
J20K				IAML		01 08 35.0	
comp=N,188nm,0.8s							
H16K	**Elim**	**2.70**	**234**		**Pn**	**01 07 48.1**	**-1.8**
D17K	**Noatak River**	**2.70**	**304**		**Pn**	**01 07 49.8**	**-0.1**
E22K	**Anaktuvuk Pass**	**2.77**	**46**	Pn	**Pn**	**01 07 51.2**	**+0.2**
E22K				IAML		01 08 40.1	
comp=N,116nm,0.7s							
E22K				IAML		01 08 40.9	
comp=E,136nm,0.8s							
C18K	**Utukok River**	**2.81**	**328**	Pn	**Pn**	**01 07 51.1**	**-0.4**
RDOG	**Red Dog Mine**	**2.83**	**311**	Pn	**Pn**	**01 07 52.4**	**+0.6**
I17K	**Unalakleet**	**2.86**	**213**	Pn	**Pn**	**01 07 52.1**	**+0.1**
I17K				IAML		01 08 45.0	
comp=N,204nm,0.9s							
J18K	**Innoko River**	**2.87**	**176**	Pn	**Pn**	**01 07 51.8**	**-0.5**
G23K	**Bananza Creek**	**2.89**	**79**	Pn	**Pn**	**01 07 52.0**	**-0.6**
G23K				IAML		01 08 48.0	
comp=E,138nm,0.7s							
COLD	**Coldfoot**	**2.91**	**68**	Pn	**Pn**	**01 07 51.6**	**-1.2**
C21K	**Knifeblade Rid**	**3.00**	**17**		**Pn**	**01 07 54.4**	**+0.4**
J17K	**VABM Dome**	**3.04**	**196**	Pn	**Pn**	**01 07 53.6**	**-1.0**
J17K				IAML		01 08 50.5	
comp=E,97nm,0.9s							
D22K	**Ayikyak River**	**3.10**	**32**	Pn	**Pn**	**01 07 55.4**	**0.0**
F15K	**North Star Dit**	**3.11**	**262**	Pn	**Pn**	**01 07 54.9**	**-0.7**
F15K	

	comp=N,69nm,1.1s						
E24K	**Your Creek**	**3.82**	**58**	Pn	**Pn**	**01 08 04.9**	**-0.4**
E24K				IAML		01 09 12.8	
	comp=E,97nm,0.7s						
E24K				IAML		01 09 13.7	
	comp=N,77nm,0.6s						
H24K	**Noodor Dome**	**3.82**	**93**	Pn	**Pn**	**01 08 04.3**	**-1.1**
H24K				IAML		01 09 10.4	
	comp=N,96nm,0.6s						
H24K				IAML		01 09 11.0	
	comp=E,77nm,0.5s						
KTH	**Kantishna Hill**	**3.84**	**133**	Pn	**Pn**	**01 08 05.6**	**-0.1**
KTH				IAML		01 09 11.6	
	comp=E,59nm,1.1s						
KTH				IAML		01 09 15.2	
	comp=N,59nm,1.5s						
F24K	**Squaw Lake**	**3.85**	**68**	Pn	**Pn**	**01 08 05.2**	**-0.6**
F24K				IAML		01 09 10.7	
	comp=E,96nm,0.5s						
BWN	**Browne**	**3.89**	**120**	Pn	**Pn**	**01 08 06.2**	**-0.1**
G24K	**Hadweenzic Riv**	**3.90**	**80**	Pn	**Pn**	**01 08 06.0**	**-0.4**
PPLA	**Purkeypile**	**4.05**	**146**	Pn	**Pn**	**01 08 09.0**	**+0.4**
L20K	**Farewell, AK**	**4.11**	**158**		**Pn**	**01 08 10.2**	**+0.9**
TRF	**Thorofare Moun**	**4.11**	**131**	Pn	**Pn**	**01 08 09.5**	**+0.1**
TRF				IAML		01 09 18.1	
	comp=E,72nm,1.0s						
TRF				IAML		01 09 19.4	
	comp=N,67nm,1.0s						
COLA	**College**	**4.13**	**106**	Pn	**Pn**	**01 08 09.2**	**-0.4**
POKR	**Poker Plat Res**	**4.20**	**102**	Pn	**Pn**	**01 08 10.6**	**0.0**
POKR				IAML		01 09 21.8	
	comp=N,76nm,0.7s						
POKR				IAML		01 09 22.4	
	comp=E,58nm,0.8s						
WRH	**Wood River Hil**	**4.23**	**112**	Pn	**Pn**	**01 08 10.2**	**-0.6**
WRH				IAML		01 09 21.2	
	comp=E,40nm,0.9s						
WRH				IAML		01 09 23.6	
	comp=N,36nm,1.3s						
CCB	**Clear Creek Bu**	**4.25**	**109**	Pn	**Pn**	**01 08 10.3**	**-0.9**
CCB				IAML		01 09 23.8	
	comp=E,46nm,0.9s						
L19K	**White Mountain**	**4.27**	**165**	Pn	**Pn**	**01 08 12.4**	**+0.8**
B22K	**Teshekpuk Lake**	**4.28**	**17**	Pn	**Pn**	**01 08 10.8**	**-0.7**
B22K				IAML		01 09 28.6	
	comp=E,69nm,1.2s						
B22K				IAML		01 09 39.1	
	comp=N,66nm,0.9s						
C23K	**Itkillik River**	**4.31**	**32**	Pn	**Pn**	**01 08 11.7**	**-0.3**
C23K				IAML		01 09 37.5	
	comp=E,56nm,1.1s						
MCK	**McKinley**	**4.35**	**123**	Pn	**Pn**	**01 08 11.7**	**-0.9**
IL31		**4.55**	**105**	Pn	**Pn**	**01 08 14.3**	**-1.0**
ILAR	**Eielson Array**	**4.55**	**105**	Pn	**Pn**	**01 08 14.3**	**-1.0**
ILAR	**Eielson Array**	**4.55**	**105**	Pn	**Pn**	**01 08 15.4**	**+0.1**
	comp=E,4.7nm,0.3s,baz=294,slow=14,SNR=284						
ILAR				Sn	**Sn**	**01 09 06.1**	**-2.1**
	comp=E,1.2nm,0.3s,baz=302,slow=21,SNR=4.3						
ILAR				Lg	Lg	01 09 26.6	
	comp=E,3.4nm,0.3s,baz=300,slow=30,SNR=11						
	comp=E,24nm,0.6s						
RND	**Reindeer**	**4.59**	**126**	Pn	**Pn**	**01 08 16.2**	**+0.1**
C24K	**Franklin Bluff**	**4.67**	**39**	Pn	**Pn**	**01 08 18.8**	**+1.9**
L16K	**Owhat River**	**4.73**	**193**	Pn	**Pn**	**01 08 16.9**	**-0.9**
M20K	**Styx River**	**4.79**	**156**	Pn	**Pn**	**01 08 19.4**	**+0.6**
M20K				IAML		01 09 17.0	
	comp=E,27nm,0.9s						
FYU	**Fort Yukon**	**4.80**	**82**	Pn	**Pn**	**01 08 17.4**	**-1.3**
PRP	**Porcupine Dome**	**4.84**	**94**	Pn	**Pn**	**01 08 19.3**	**-0.2**
PRP				IAML		01 09 44.9	
	comp=E,48nm,0.9s						
PRP				IAML		01 09 49.5	
	comp=N,41nm,0.6s						
E25K	**Arctic Village**	**4.86**	**63**	Pn	**Pn**	**01 08 19.1**	**-0.5**
E25K				IAML		01 09 43.3	
	comp=N,46nm,0.7s						
E25K				IAML		01 09 48.6	
	comp=E,40nm,1.0s						
M17K	**Holitna River**	**4.94**	**181**	Pn	**Pn**	**01 08 19.8**	**-0.9**
M17K				IAML		01 10 01.6	
	comp=N,41nm,1.3s						
M17K				IAML		01 10 06.0	
	comp=E,46nm,1.4s						
SKT	**Skwentna**	**5.00**	**148**	Pn	**Pn**	**01 08 23.2**	**+1.7**
SKT				IAML		01 10 02.4	
	comp=E,23nm,1.5s						
BMAR	**Burnt Mountain**	**5.09**	**72**	Pn	**Pn**	**01 08 23.1**	**+0.3**
J25K	**Salcha River,**	**5.21**	**104**	Pn	**Pn**	**01 08 22.9**	**-1.5**
J25K				IAML		01 09 51.0	
	comp=E,30nm,0.5s						
J25K				IAML		01 09 56.7	
	comp=N,34nm,0.6s						
M16K	**Timber Creek**	**5.37**	**189**	Pn	**Pn**	**01 08 25.7**	**-1.0**
M16K				IAML		01 10 03.2	
	comp=N,16nm,0.8s						
K13K	**Kusilvak Mount**	**5.48**	**220**	Pn	**Pn**	**01 08 26.9**	**-1.2**
N19K	**Bonanza Creek**	**5.65**	**166**	Pn	**Pn**	**01 08 30.3**	**-0.3**
N18K	**Kilae Creek**	**5.69**	**174**	Pn	**Pn**	**01 08 30.9**	**-0.1**
GHO	**Glory Hole Cre**	**5.82**	**138**	Pn	**Pn**	**01 08 33.1**	**+0.3**
I26K	**Coal Creek Min**	**5.85**	**94**	Pn	**Pn**	**01 08 32.2**	**-1.0**
PMR	**Palmer**	**5.92**	**140**	Pn	**Pn**	**01 08 33.6**	**-0.4**
SML	**Sawmill**	**5.96**	**135**	Pn	**Pn**	**01 08 35.1**	**+0.4**
J26L	**Joseph Creek**	**5.97**	**101**	Pn	**Pn**	**01 08 35.3**	**+0.4**
M14K	**Bethel**	**5.98**	**203**	Pn	**Pn**	**01 08 37.7**	**+2.8**
PAX	**Paxson**	**6.04**	**118**	Pn	**Pn**	**01 08 36.5**	**+0.5**
DFR	**Drift River**	**6.09**	**159**		**Pn**	**01 08 37.8**	**+1.3**
DOT	**Dot Lake**	**6.17**	**110**	Pn	**Pn**	**01 08 38.3**	**+0.7**
SCM	**Sheep Creek Mo**	**6.23**	**132**	Pn	**Pn**	**01 08 38.9**	**+0.4**
KNK	**Knik Glacier**	**6.24**	**138**	Pn	**Pn**	**01 08 40.6**	**+2.0**
N15K	**Kwethluk River**	**6.31**	**193**	Pn	**Pn**	**01 08 38.9**	**-0.6**
M24K	**Tolsona, Glenn**	**6.39**	**126**	Pn	**Pn**	**01 08 41.4**	**+0.8**
ILSW	**Iliamna Southw**	**6.61**	**162**	Pn	**Pn**	**01 08 44.7**	**+1.0**
K27K	**Chicken**	**6.76**	**103**	Pn	**Pn**	**01 08 45.4**	**-0.2**
O16K	**Kokwok River B**	**6.76**	**184**	Pn	**Pn**	**01 08 44.9**	**-0.8**
L26K	**Log Cabin Wild**	**6.78**	**113**	Pn	**Pn**	**01 08 44.6**	**-1.4**
KLU	**Klutina**	**6.92**	**129**	Pn	**Pn**	**01 08 49.4**	**+1.4**
I28M	**Miner Creek**	**7.11**	**89**	Pn	**Pn**	**01 08 50.1**	**-0.5**
N25K	**Chitina, Valde**	**7.27**	**125**	Pn	**Pn**	**01 08 53.9**	**+1.1**
L27K	**Beaver Creek,**	**7.34**	**109**	Pn	**Pn**	**01 08 52.8**	**-0.8**
BCAR	**Beaver Creek A**	**7.35**	**109**	Pn	**Pn**	**01 08 53.4**	**-0.4**
H29M	**Whitestone**	**7.58**	**82**	Pn	**Pn**	**01 08 57.2**	**+0.2**
GLB	**Gilahina Butte**	**7.65**	**123**	Pn	**Pn**	**01 08 58.4**	**+0.5**
M27K	**Edge Creek, AK**	**7.73**	**114**	Pn	**Pn**	**01 08 59.3**	**+0.2**
I30M	**Mount Dempster**	**8.61**	**88**	Pn	**Pn**	**01 09 10.7**	**-0.4**
K29M	**Barlow Dome**	**8.65**	**98**	Pn	**Pn**	**01 09 10.6**	**-1.0**
L29M	**L29M**	**8.75**	**103**	Pn	**Pn**	**01 09 11.5**	**-1.4**
J30M	**Hart River**	**8.84**	**92**	Pn	**Pn**	**01 09 14.1**	**-0.2**
M29M	**Somme Creek**	**8.97**	**107**	Pn	**Pn**	**01 09 15.7**	**-0.4**
G31M	**Satah River**	**9.11**	**76**	Pn	**Pn**	**01 09 16.3**	**-1.5**
H31M	**Peel River**	**9.28**	**83**	Pn	**Pn**	**01 09 17.6**	**-2.6**
INK	**Inuvik**	**9.33**	**67**	Pn	**Pn**	**01 09 19.5**	**-1.3**
N30M	**Aishikik Lake**	**10.07**	**109**	Pn	**Pn**	**01 09 30.8**	**-0.3**
A36M	**Sachs Harbour**	**12.57**	**49**	Pn	**Pn**	**01 10 03.0**	**-2.0**
YKA	**Yellowknife Ar**	**18.50**	**82**	P	**Pn**	**01 11 22.9**	**+0.4**
	baz=302,slow=13,SNR=6.9						
	comp=N,0.4nm,0.9s						
SEY	**Seymchan**	**21.39**	**285**	P	**P**	**01 11 59.4**	**+5.6**
	comp=N,1.2nm,0.5s,baz=52,slow=17,SNR=1.9						
	comp=N,1.2nm,0.5s						
NVAR	**Mina Array Bea**	**35.59**	**122**	P	P	01 14 08.9	+4.9
	comp=N,0.3nm,0.7s,baz=327,slow=8.4,SNR=2.8						
	comp=N,0.3nm,0.7s						
BVAR	**Borovoye Array**	**55.64**	**327**	P	**P**	**01 16 44.8**	**+2.8**
	comp=N,0.4nm,0.6s,baz=24,slow=7.9,SNR=2.4						
	comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.42**	**316**	P	**P**	**01 17 03.5**	**+1.7**
	comp=N,0.1nm,0.4s,baz=40,slow=6.4,SNR=2.2						
	comp=N,0.1nm,0.4s						

*SOME **27** 01:19:01.6, 41.°43N×83.°73E, h5km*
*NNC **27** 01:19:03.7±2.9, 41.°30N×83.°58E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=21.3km s-min=14.8km az=155.0

ISC 27 01:19:06.1±2.3, 41.°3N±0.°1×83.°40E±0.°08, h10km, n28, σ2.9 81/41, 7C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.48**	**304**	*e*P	**Pb**	**01 20 04.0**	**-3.8**
	38nm,0.5s						
SHLS				*e*S	**Sb**	**01 20 50.0**	**-0.1**
	85nm,0.7s						
PDGK	**Podgornoye**	**3.55**	**307**	⇑Pn	**Pn**	**01 20 00.2**	**-1.2**
	4.5nm,0.6s						
PDGK				⇓Pg	**Pg**	**01 20 16.1**	**+2.0**
	24nm,0.6s						
PDGK				⇑Lg	Lg	01 21 05.4	
	36nm,0.5s						
UZB	**Uzynbulak**	**3.75**	**301**	Pg	**Pb**	**01 20 12.4**	**0.0**
	6.3nm,0.2s						
UZB				Lg	Lg	01 21 03.7	
	24nm,0.4s						
UZB	**Uzynbulak**	**3.75**	**301**	*e*P	**Pb**	**01 20 12.4**	**0.0**
	6.3nm,0.2s						
UZB				*e*S	**Sg**	**01 21 03.7**	**-2.8**
	34nm,0.5s						
DJR	**Jarkent**	**4.04**	**320**	Pg	**Pb**	**01 20 17.8**	**+0.3**
	8.1nm,0.5s						
DJR				Lg	Lg	01 21 13.6	
	20nm,0.5s						
DJR	**Jarkent**	**4.04**	**320**	*e*P	**Pb**	**01 20 17.8**	**+0.3**
	8.1nm,0.5s						
DJR				*e*S	**Sg**	**01 21 12.9**	**-3.0**
	20nm,0.5s						
SATY	**Saty**	**4.12**	**297**	Pg	**Pb**	**01 20 20.3**	**+1.6**
	19nm,0.5s						
SATY				Lg	Lg	01 21 16.9	
	45nm,0.5s						
ZHN	**Zhinishke**	**4.14**	**299**	Pg	**Pb**	**01 20 20.3**	**+1.2**
	5.6nm,0.1s						
ZHN				Lg	Lg	01 21 17.4	
	37nm,0.3s						
ZHN	**Zhinishke**	**4.14**	**299**	*e*P	**Pb**	**01 20 20.3**	**+1.2**
	5.6nm,0.1s						
ZHN				*e*S	**Sg**	**01 21 17.4**	**-1.6**
	37nm,0.3s						
BLB	**Baldybastay**	**4.59**	**309**	Pg	**Pb**	**01 20 27.7**	**+0.9**
	40nm,0.6s						
BLB				Lg	Lg	01 21 29.5	
	21nm,0.7s						
KOTS	**Kotyrbulak**	**5.06**	**295**	*e*P	**Pb**	**01 20 37.8**	**+3.0**
	5.1nm,0.4s						
KOTS				*e*S	**Sg**	**01 21 47.5**	**-1.0**
	41nm,0.7s						
MDOK	**Medeo**	**5.08**	**294**	Pg	**Pb**	**01 20 38.8**	**+3.7**
	6.1nm,0.5s						
MDOK				Lg	Lg	01 21 48.5	
	9.1nm,0.8s						
TNSS	**Tian-Shan**	**5.11**	**292**	Pg	**Pb**	**01 20 39.2**	**+3.5**
	4.7nm,0.5s						
TNSS				Lg	Lg	01 21 49.6	
	6.2nm,0.7s						
TNSS	**Tian-Shan**	**5.11**	**292**	*e*P	**Pb**	**01 20 39.2**	**+3.5**
	4.7nm,0.5s						
TNSS				*e*S	**Sg**	**01 21 49.6**	**-0.5**
	6.2nm,0.7s						
TDK	**Taldyqorghan**	**5.21**	**317**	*e*P	**Pb**	**01 20 36.8**	**-0.5**
	28nm,0.2s						
TDK				*e*S	**Sb**	**01 21 45.5**	**+5.5**
	31nm,0.2s						
CHKK	**Chushkaly**	**5.39**	**301**	Pg	**Pb**	**01 20 42.4**	**+2.1**
	1.5nm,0.1s						
CHKK				Lg	Lg	01 21 54.7	
	10nm,0.4s						
CHKK	**Chushkaly**	**5.39**	**301**	*e*P	**Pb**	**01 20 42.4**	**+2.1**
	1.5nm,0.1s						
CHKK				*e*S	**Sg**	**01 21 54.7**	**-4.4**
	10nm,0.4s						
MTBS	**Maitube**	**5.50**	**292**	Pg	**Pg**	**01 20 47.0**	**-4.4**
	4.3nm,0.4s						
MTBS				Lg	Lg	01 22 02.6	
	12nm,0.5s						
MTBS	**Maitube**	**5.50**	**292**	*e*P	**Pg**	**01 20 47.0**	**-4.4**
	4.3nm,0.4s						
MTBS				*e*S	**Sg**	**01 22 02.6**	**0.0**
	12nm,0.5s						
MK31	**Makanchi Array**	**5.57**	**352**	⇑Pn	**Pn**	**01 20 28.7**	**-0.3**
	0.1nm,0.2s,baz=175,slow=13,SNR=7.9						
MK31				⇓Pg	**Pb**	**01 20 45.0**	**+1.6**
	1.3nm,0.5s,baz=169,slow=15,SNR=11						
MK31				⇑Lg	Lg	01 21 58.3	
	21nm,0.6s,baz=158,slow=27,SNR=13						
KST	**Kastek**	**5.80**	**290**	Pg	**Pb**	**01 20 51.3**	**+3.9**
	4.6nm,0.6s						
KST				Lg	Lg	01 22 10.0	
	13nm,0.6s						
KST	**Kastek**	**5.80**	**290**	*e*P	**Pb**	**01 20 51.3**	**+3.9**
	4.6nm,0.6s						
KST				*e*S	**Sg**	**01 22 10.1**	**-2.2**
	13nm,0.6s						
ZSN	**Zaisan**	**6.26**	**9**	Pg	**Pb**	**01 20 54.9**	**-0.3**
	3.1nm,0.5s						
ZSN				Lg	Lg	01 22 16.2	
	43nm,1.4s						
MRKS	**Merke**	**7.72**	**284**	Pg	**Pg**	**01 21 30.0**	**-3.8**
	2.0nm,1.0s						
MRKS				Lg	Lg	01 23 16.4	
	4.1nm,0.7s						
MRKS	**Merke**	**7.72**	**284**	*e*P	**Pg**	**01 21 30.0**	**-3.8**
	2.0nm,1.0s						
MRKS				*e*S	**Sg**	**01 23 16.4**	**+2.7**
	4.1nm,0.7s						
BTLS	**Baital**	**7.80**	**302**	*e*P	Pg	01 21 28.4	-7.0
	1.5nm,0.4s						
BTLS				*e*S	**Sg**	**01 23 13.2**	**-3.1**
	1.9nm,0.3s						
KURBB	**Kurchatov Arra**	**9.94**	**342**	⇑Sn	**Sn**	**01 23 23.8**	**+3.4**
	4.2nm,0.6s						
KURBB				⇓Lg	Lg	01 24 20.4	
	14nm,0.7s						
KURK	**Kurchatov**	**10.00**	**342**	⇑Sn	**Sn**	**01 23 25.9**	**+3.9**
	2.5nm,0.7s						
KURK				⇑Lg	Lg	01 24 20.5	
	11nm,0.9s						

*TEH **27** 01:20:10.4, 27.°55N×56.°79E, h8km±57km*
*DSN **27** 01:20:10.1±1.7, 27.°60N×56.°73E, h10km, ML3.3/10, Error ellipse: s-maj=29.7km s-min=16.5km az=113.0*
*OMAN **27** 01:20:13.0±0.9, 27.°37N×56.°90E, h10km, ml3.5/21, Error ellipse: s-maj=7.9km s-min=5.9km az=5.0*

ISC 27 01:20:10.2±1.4, 27.°49N±0.°04×56.°85E±0.°04, h1km±12km, n57, σ1.9 02/72, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.28**	**262**	Pg	**Pg**	**01 20 15.3**	**-0.1**
IBND				Sg	**Sg**	**01 20 19.9**	**+0.9**
BNDS	**Bandar-Abbas**	**0.61**	**262**	Pg	**Pg**	**01 20 21.0**	**-0.8**
KHNJ	**Kahnooj**	**0.89**	**59**	Pg	**Pg**	**01 20 27.9**	**+0.6**
SHME	**Shamm**	**1.56**	**204**	P	**Pn**	**01 20 39.3**	**+0.3**
	SNR=46						
SHME	**Shamm**	**1.56**	**204**	*e*P	**Pn**	**01 20 39.3**	**+0.3**
	SNR=18						
SHME				S	**Sb**	**01 21 00.9**	**+0.7**
NGRK	**Negar Kerman**	**2.15**	**357**	Pn	**Pn**	**01 20 47.1**	**-0.4**
KBAM	**BAM**	**2.17**	**40**	Pn	**Pb**	**01 20 48.9**	**-1.4**
MASF	**Masafi**	**2.19**	**196**	P	**Pn**	**01 20 48.5**	**+0.7**
MSFE	**Esma-Masafi**	**2.21**	**196**	*e*P	**Pn**	**01 20 48.3**	**+0.4**
	SNR=18						
UMQ	**Umm Al-Quwin**	**2.22**	**209**	P	**Pn**	**01 20 49.0**	**+0.9**
MDH	**Madha**	**2.23**	**193**	P	**Pn**	**01 20 48.7**	**+0.5**
MDH				S	**Sn**	**01 21 16.6**	**+0.1**
MDH	**Madha**	**2.23**	**193**	*e*P	**Pn**	**01 20 46.8**	**-1.5**
	SNR=6.5						
CHMN	**Cheshme madani**	**2.44**	**14**	Pn	**Pn**	**01 20 51.9**	**+0.5**
KRBR	**Kerman**	**2.49**	**358**	Pn	**Pn**	**01 20 52.2**	**+0.2**
UOSS	**Minazif**	**2.60**	**193**	Pn	**Pn**	**01 20 55.3**	**+2.0**
UOSS	**Minazif**	**2.60**	**193**	P	**Pn**	**01 20 54.6**	**+1.3**
UOSS				S	**Sn**	**01 21 25.5**	**+0.1**
UOSS	**Minazif**	**2.60**	**193**	*e*P	**Pn**	**01 20 55.0**	**+1.7**
	SNR=7.4						
NAZ	**Nazwa, Dubai**	**2.71**	**203**	P	**Pb**	**01 21 00.2**	**+0.8**
NAZ				S	**Sn**	**01 21 30.5**	**+2.3**
HATD	**Hatta, Dubai**	**2.73**	**194**	P	**Pb**	**01 20 57.9**	**-1.8**
HATD				S	**Sn**	**01 21 28.8**	**+0.1**
HATD	**Hatta, Dubai**	**2.73**	**194**	*e*P	**Pn**	**01 20 56.4**	**+1.4**
	SNR=10						
ASHO	**Ashiyiah**	**2.88**	**194**	P	**Pn**	**01 20 58.0**	**+0.8**
	SNR=11						
ASHO	**Ashiyiah**	**2.88**	**194**	P	**Pn**	**01 20 58.8**	**+1.6**
KHGB	**Koh Gabri**	**2.90**	**354**	Pn	**Pn**	**01 20 58.0**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.95**	**203**	P	**Pn**	**01 20 58.4**	**+0.2**
	SNR=11						
FAQ				S	**Sn**	**01 21 34.5**	**+0.2**
FAQ	**Al Faqa, Dubai**	**2.95**	**203**	P	**Pn**	**01 20 57.7**	**-0.5**
KRM1	**Kerman Provinc**	**3.03**	**7**	Pn	**Pn**	**01 21 00.5**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.16**	**206**	P	**Pn**	**01 21 01.8**	**+0.8**
ASUD	**Al Ashush, Dub**	**3.16**	**206**	P	**Pn**	**01 21 01.3**	**+0.3**
SOHO	**SOHO**	**3.35**	**185**	P	**Pn**	**01 21 03.0**	**-0.7**
SOHO	**SOHO**	**3.35**	**185**	P	**Pn**	**01 21 02.9**	**-0.7**
AJN	**Ajban**	**3.36**	**210**	P	**Pn**	**01 21 04.7**	**+0.9**
AJN				S	**Sn**	**01 21 44.4**	**+0.2**
ZRDN	**Zarand Kerman**	**3.48**	**356**	Pn	**Pn**	**01 21 05.9**	**+0.3**
ALNE	**Al Ain**	**3.56**	**196**	P	**Pn**	**01 21 07.3**	**+0.8**
ALNE	**Al Ain**	**3.56**	**196**	P	**Pn**	**01 21 06.7**	**+0.2**
HOQ	**Hoqain**	**3.91**	**174**	P	**Pn**	**01 21 11.3**	**0.0**
HOQ				S	**Sn**	**01 21 57.4**	**-0.6**
ZHSF	**Zahedan**	**4.05**	**58**	Pn	**Pn**	**01 21 15.0**	**+1.5**
BIDO	**Bidbid**	**4.12**	**163**	P	**Pn**	**01 21 13.2**	**-0.9**
BIDO				S	**Sn**	**01 22 01.6**	**-1.3**
ARQ	**Araqi**	**4.14**	**184**	P	**Pn**	**01 21 16.0**	**+1.4**
	SNR=13						
NGCH	**Negor - Chabah**	**4.39**	**118**	Pn	**Pn**	**01 21 19.8**	**+1.9**
NGCH	**Negor - Chabah**	**4.39**	**118**	P	**Pn**	**01 21 19.6**	**+1.7**
NGCH				S	**Sn**	**01 22 10.5**	**+0.8**
JRN	**Qarnain Island**	**4.39**	**236**	P	**Pn**	**01 21 16.5**	**-1.5**
SMDO	**Samad**	**4.54**	**166**	P	**Pn**	**01 21 20.0**	**-0.1**
SMDO				S	**Sn**	**01 22 12.9**	**-0.7**
MZWR	**Madinat Zayed**	**4.58**	**216**	P	**Pn**	**01 21 21.7**	**+1.2**
BSY	**Bisya**	**4.73**	**176**	P	**Pn**	**01 21 23.9**	**+1.2**
NHDN	**Nehbandan**	**4.79**	**35**	Pn	**Pn**	**01 21 24.2**	**+0.7**
BSRN	**Basiran**	**4.88**	**23**	Pn	**Pn**	**01 21 26.3**	**+1.5**
SRVN	**Saravan**	**4.93**	**90**	Pn	**Pn**	**01 21 27.7**	**+2.1**
JMDO	**Jabal Madar**	**5.22**	**167**	P	**Pn**	**01 21 30.0**	**+0.6**
	SNR=6.2						
JMDO				S	**Sn**	**01 22 30.1**	**-0.1**
WBK	**Wadi Bani Khal**	**5.22**	**158**	P	**Pn**	**01 21 29.6**	**+0.2**
MZR	**Muzera**	**5.41**	**215**	P	**Pn**	**01 21 31.4**	**-0.5**
MZR	**Muzera**	**5.41**	**215**	P	**Pn**	**01 21 30.8**	**-1.1**
TPRV	**Parvadeh(Tabas**	**5.53**	**359**	Pn	**Pn**	**01 21 33.8**	**+0.1**
TRNA	**Turayna**	**5.76**	**243**	P	**Pn**	**01 21 37.8**	**+1.1**
JLN	**Jalan Bani Buh**	**5.80**	**156**	P	**Pn**	**01 21 37.1**	**-0.2**
JLN				S	**Sn**	**01 22 43.5**	**-1.0**
TKDS	**Koohdasht(Taba**	**6.11**	**2**	Pn	**Pn**	**01 21 42.8**	**+1.1**
TNSJ	**Nastanj**	**6.46**	**358**	Pn	**Pn**	**01 21 46.7**	**+0.3**
MHTO	**MHTO**	**6.55**	**171**	P	**Pn**	**01 21 47.2**	**-0.5**
MHTO				S	**Sn**	**01 23 02.2**	**-0.8**

IDC 27 01:27:55.8±422.0, 18.°29N×95.°89W, h0km, Error ellipse: s-maj=310.3km s-min=170.2km az=76.0, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I20EC	**Galapagos**	**19.55**	**163**	I	I	03 24 40.0	
	0.1nm,0.8s,baz=339,slow=317,SNR=11						
I10CA	**LAC DU BONNET**	**31.83**	**360**	I	I	04 40 41.8	
	baz=179,slow=317,SNR=1.4						
I56US	**NEWPORT INFRAS**	**34.53**	**335**	I	I	05 01 20.0	
	baz=136,slow=275,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**60.67**	**6**	I	I	08 01 15.0	
	baz=195,slow=336,SNR=22						

*SJA **27** 01:38:27.5±0.7, 24.°32S×68.°75W, h125km±5km, ML3.7, MW3.7*
*IDC **27** 01:38:27.5±2.5, 24.°38S×68.°36W, h81km±23km, mb3.8/3, mbtmp4.2/6, Error ellipse: s-maj=47.6km s-min=18.6km az=112.0*
*GUC **27** 01:38:29.1±0.7, 24.°35S×68.°75W, h110km±4km, ML3.7*

ISC 27 01:38:28.6±0.8, 24.°33S±0.°03×68.°78W±0.°04, h112km±9km, n41, σ2.9 36/59, mb4.0/3, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.11**	**221**	⇑*i*P	**Pn**	**01 38 52.0**	**+0.6**
GO02				*i* S	**Sn**	**01 39 09.3**	**+0.6**
GO02				IAML		01 39 11.4	
	comp=E,2μm,0.5s						
GO02	**Mina Guanaco**	**1.11**	**221**	*e*P	**Pn**	**01 38 52.2**	**+0.8**
GO02				*e*S	**Sn**	**01 39 10.7**	**+2.0**
AF01	**San Pedro de A**	**1.48**	**22**	*i* P	**Pn**	**01 38 55.8**	**+0.2**
AF01				*i* S	**Sn**	**01 39 16.6**	**+0.6**
AF01	**San Pedro de A**	**1.48**	**22**	*e*P	**Pn**	**01 38 55.9**	**+0.3**
AF01				*e*S	**Sn**	**01 39 16.8**	**+0.7**
AF01				IAML		01 39 20.1	
	comp=Z,2μm,0.2s						
PB14	**IPOC Station P**	**1.51**	**258**	⇑*i*P	**Pn**	**01 38 56.7**	**+0.8**
PB14				*i* S	**Sn**	**01 39 16.3**	**-0.3**
PB14	**IPOC Station P**	**1.51**	**258**	*e*P	**Pn**	**01 38 56.8**	**+0.8**
PB14				*e*S	**Sn**	**01 39 18.7**	**+2.0**
PB14				IAML		01 39 20.0	
	comp=Z,552nm,0.2s						
PB06	**IPOC Station P**	**1.77**	**336**	*i* P	**Pn**	**01 38 59.6**	**+0.7**
PB06				*i* S	**Sn**	**01 39 23.8**	**+1.6**
PB06				IAML		01 39 30.0	
	comp=E,570nm,0.2s						
PB06	**IPOC Station P**	**1.77**	**336**	*e*P	**Pn**	**01 38 59.7**	**+0.7**
PB06				*e*S	**Sn**	**01 39 25.5**	**+3.3**
PB06				IAML		01 39 30.5	
	comp=Z,293nm,0.3s						
PB05	**IPOC Station P**	**1.96**	**318**	*i* P	**Pn**	**01 39 02.6**	**+1

comp=Z,2.3nm,0.2s,baz=337,slow=13,SNR=17
CFA S **Sn** **01 41 26.0 -7.0**
comp=Z,1.6nm,0.3s,baz=343,slow=12,SNR=3.7
LPAZ La Paz 8.02 4 P **Pn** **01 40 23.0 0.0**
comp=Z,2.0nm,0.3s,baz=163,slow=4.5,SNR=16
SIV San Ignacio 11.01 43 P Pn 01 40 57.8 -5.1
comp=Z,19nm,0.5s,baz=228,slow=11,SNR=41
SIV S **Sn** **01 42 59.1 -5.0**
comp=Z,9.6nm,0.9s,baz=153,slow=16,SNR=1.4
BDFB Brasilia 21.32 70 P **P** **01 43 04.7 -2.1**
comp=Z,1.6nm,0.4s,baz=244,slow=12,SNR=5.3
comp=Z,1.6nm,0.4s
QSPA South Pole Qui 65.88 180 P **P** **01 49 04.0 +1.9**
comp=Z,1.9nm,0.6s,baz=144,slow=15,SNR=25
comp=Z,1.9nm,0.6s
TORD Torodi Ar. Bea 78.21 70 P **P** **01 50 16.7 +0.5**
comp=Z,1.0nm,0.4s,baz=253,slow=5.2,SNR=2.3
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 147.80 39 PKPbc **PKPbc** **01 58 01.9 +1.6**
comp=Z,0.5nm,0.6s,baz=295,slow=2.7,SNR=6.5

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*IDC **27** 02:15:58.1±0.9, 0.°88N×124.°90E, h0km, mb3.9/8, mbtmp3.9/9, ML3.3/1, Error ellipse: s-maj=67.8km s-min=17.1km az=70.0*
*DJA **27** 02:16:08.4±0.3, 1.°N±4.°×12.°5E±.°, h60km±9km, M4.3/12, mB5.4/1, mb4.6/4, MLv4.2/12, Mw(mB)4.8/1*
ISC 27 02:16:07.7±0.8, 0.°86N±0.°08×125.°31E±0.°06, h79km, n16, σ1°19/18, mb3.8/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.36**	**258**	P	**Pn**	**02 16 31.3**	**+0.2**
KMSI				S	**Sn**	**02 16 51.5**	**+2.7**
TNTI	**Ternate**	**2.06**	**92**	P	**Pn**	**02 16 41.2**	**+0.9**
SANI	**Sanana**	**2.97**	**167**	P	**Pn**	**02 16 52.0**	**-0.6**
LUWI	**Luwuk**	**3.17**	**233**	P	**Pn**	**02 16 55.8**	**+0.5**
NLAI	**Namlea**	**4.45**	**156**	P	**Pn**	**02 17 12.6**	**-0.1**
MSAI	**Masohi**	**5.52**	**139**	P	**Pn**	**02 17 28.8**	**+1.4**
	4μm120nm,0.5s						
FAKI	**Fak Fak**	**7.88**	**118**	P	**Pn**	**02 17 59.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.84**	**179**	P	**P**	**02 20 19.7**	**-1.7**
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=2.5						
	2.7nm,1.0s						
WRA	**Warramunga Arr**	**22.49**	**157**	P	**P**	**02 21 00.6**	**-0.2**
	1.2nm,0.5s,baz=337,slow=11,SNR=14						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**25.77**	**162**	P	**P**	**02 21 32.9**	**+1.5**
	1.0nm,0.7s,baz=343,slow=8.1,SNR=12						
	1.0nm,0.7s						
USRK	**Ussurisyk Ar.**	**43.56**	**7**	P	**P**	**02 24 04.4**	**+0.7**
	1.0nm,0.6s,baz=192,slow=6.2,SNR=2.2						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.13**	**327**	P	**P**	**02 25 59.2**	**-0.9**
	0.5nm,0.3s,baz=129,slow=8.7,SNR=5.2						
MKAR				PcP	**PcP**	**02 26 48.0**	**0.0**
	0.4nm,0.5s,baz=110,slow=4.1,SNR=2.4						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**63.41**	**329**	P	**P**	**02 26 28.0**	**-0.9**
	0.4nm,0.5s,baz=128,slow=6.5,SNR=4.6						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**68.96**	**328**	P	**P**	**02 27 03.1**	**-1.3**
	0.2nm,0.3s,baz=122,slow=6.9,SNR=2.6						
	0.2nm,0.3s						
NRIK	**Noril'sk**	**72.87**	**347**	P	**P**	**02 27 27.8**	**+0.1**
	1.4nm,0.6s,baz=164,slow=15,SNR=2.0						
	1.4nm,0.6s						
AKTO	**Aktyubinsk**	**75.03**	**322**	P	**P**	**02 27 39.5**	**-1.2**
	0.8nm,0.4s,baz=125,slow=7.1,SNR=3.1						
	0.8nm,0.4s						

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*IDC **27** 02:25:42.7±0.9, 57.°75S×147.°66W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=36.5km s-min=25.1km az=30.0*
ISC 27 02:25:44.0±0.9, 57.°7S±0.°2×147.°6W±0.°2, h10km, n26, σ1°24/11, mb4.1/5, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**32.45**	**180**	P	**P**	**02 32 15.8**	**+1.7**
	0.9nm,0.6s,baz=3.3,slow=3.2,SNR=6.5						
	0.9nm,0.6s						
TBI	**Tubuai**	**34.34**	**357**	*e*LR	LR	02 41 33.1	
	754nm,26.2s						
TBI				*e*LR	LR	02 41 35.1	
	1μm,27.0s						
PPT2	**Papeete2**	**40.07**	**357**	*e*LR	LR	02 44 11.2	
	182nm,24.0s						
PPT2				*e*LR	LR	02 44 17.3	
	205nm,23.2s						
SNAA	**Sanae**	**48.58**	**166**	P	**P**	**02 34 25.6**	**-1.4**
	1.5nm,0.8s,baz=220,slow=12,SNR=6.6						
	1.5nm,0.8s						
TAOE	**Nuku Hiva Isla**	**49.06**	**10**	*e*LR	LR	02 48 21.8	
	231nm,27.4s						
PLCA	**Paso Flores**	**50.21**	**105**	P	**P**	**02 34 39.5**	**-0.3**
	1.4nm,1.0s,baz=181,slow=8.2,SNR=3.6						
	1.4nm,1.0s						
H03S2	**Juan Fernandez**	**50.93**	**93**	T	T	03 29 39.7	
	baz=216						
H03S1	**Juan Fernandez**	**50.93**	**93**	T	T	03 29 47.4	
	baz=216						
H03S3	**Juan Fernandez**	**50.94**	**93**	T	T	03 29 39.0	
	baz=216						
H03N3	**Juan Fernandez**	**51.22**	**93**	T	T	03 30 04.4	
	baz=222,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**51.23**	**93**	T	T	03 29 57.6	
	baz=222,slow=72,SNR=38						
H03N1	**Juan Fernandez**	**51.24**	**93**	T	T	03 29 58.2	
	baz=222,slow=72,SNR=49						
ASAR	**Alice Springs**	**64.23**	**266**	P	**P**	**02 36 18.9**	**-0.2**
	2.2nm,1.1s,baz=145,slow=7.2,SNR=8.6						
	2.2nm,1.1s						
H01W1	**Cape Leeuwin H**	**65.36**	**243**	T	T	03 48 15.7	
	baz=143						
H01W2	**Cape Leeuwin H**	**65.37**	**243**	T	T	03 48 18.0	
	baz=143						
H01W3	**Cape Leeuwin H**	**65.38**	**243**	T	T	03 48 17.6	
	baz=143						
WRA	**Warramunga Arr**	**67.03**	**269**	P	**P**	**02 36 36.5**	**-0.7**
	1.6nm,1.0s,baz=152,slow=5.5,SNR=4.6						
	1.6nm,1.0s						
H10N3	**ASCENSION HYDR**	**04.42**	**132**	T	T	04 37 05.0	
	baz=204,slow=75,SNR=7.0						
H10N1	**ASCENSION HYDR**	**04.42**	**132**	T	T	04 37 04.6	
	baz=204,slow=75,SNR=7.3						
H10N2	**ASCENSION HYDR**	**04.44**	**132**	T	T	04 37 02.3	
	baz=204,slow=75,SNR=4.6						
ILAR	**Eielson Array**	**122.14**	**0**	PKP	**PKiKP**	**02 44 38.2**	**+0.7**
	0.5nm,0.8s,baz=242,slow=2.0,SNR=5.8						
YKA	**Yellowknife Ar**	**122.54**	**17**	PKP	**PKiKP**	**02 44 40.1**	**+1.9**
	0.1nm,0.5s,baz=219,slow=1.8,SNR=4.1						
MKAR	**Makanchi Array**	**148.30**	**272**	PKPbc	**PKPbc**	**02 45 28.1**	**-1.3**
	2.1nm,1.0s,baz=108,slow=4.0,SNR=11						
ESDC	**Sonseca Array**	**150.46**	**112**	PKPbc	**PKPbc**	**02 45 34.3**	**-0.7**
	1.4nm,0.9s,baz=259,slow=1.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**152.56**	**275**	PKPbc	**PKiKP**	**02 45 40.3**	**+0.6**
	0.3nm,0.4s,baz=135,slow=1.5,SNR=4.2						
BVAR	**Borovoye Array**	**158.13**	**274**	PKPab	**PKPab**	**02 46 13.7**	**-0.2**
	0.3nm,0.5s,baz=67,slow=4.8,SNR=1.9						

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*IDC **27** 02:28:47.7±0.6, 57.°53S×147.°59W, h0km, mb4.3/9, mbtmp4.3/9, MS4.2/27, Error ellipse: s-maj=30.7km s-min=17.9km az=13.0*
*NEIC **27** 02:28:50.3±1.2, 57.°6S±0.°1×147.°6W±0.°2, h10km±1km, mb4.7/11, Error ellipse: s-maj=30.0km s-min=7.9km az=46.0*
*GCMT **27** 02:28:53.3±0.2, 57.°78S±0.°01×147.°41W±0.°02, h17km±1km, MW5.0/112, Moment Tensor Solution. s50,c61; s112,c161; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.40±.14; Mθθ4.40±.15; Mφφ-4.00±.12; Mrθ0.06±.31; Mθφ1.75±.11; Mφr-0.85±.31; Best double couple: Mo4.63700×1016 NP1:φs303.00000°, δ81.00000°, λ-7.00000°. NP2:φs34.00000°, δ83.00000°, λ-171.00000°. Principal axes: T 4.7520, Plg1.0000°, Azm169.0000°; N -0.2310, Plg78.0000°, Azm73.0000°; P -4.5220, Plg12.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 02:28:49.2±0.6, 57.°5S±0.°2×147.°6W±0.°1, h10km, n79, σ0°95/45, mb4.6/15, MS4.2/27, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.31**	**202**	LR	LR	02 41 52.3	
	comp=Z,530nm,21.9s,baz=76,slow=30						
URZ	**Urewera**	**30.00**	**295**	LR	LR	02 43 00.0	
	comp=Z,299nm,21.4s,baz=192,slow=28						
QSPA	**South Pole Qui**	**32.63**	**180**	P	**P**	**02 35 21.4**	**+0.6**
QSPA				IAmb	IAmb	02 35 41.5	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**32.63**	**180**	P	**P**	**02 35 21.7**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=110,slow=3.5,SNR=5.7						
QSPA				LR	LR	02 46 48.8	
	comp=Z,735nm,18.3s,baz=64,slow=33						
	comp=Z,3.4nm,1.0s						
TBI	**Tubuai**	**34.16**	**357**	*e*LR	LR	02 44 19.1	
	comp=Z,1μm,32.5s						
TBI				*e*LR	LR	02 44 47.7	
	comp=Z,1μm,20.0s						
RKT	**Rikitea**	**35.57**	**20**	*e*LR	LR	02 45 28.8	
	comp=Z,3μm,27.0s						
RAR	**Rarotonga**	**37.34**	**341**	LR	LR	02 47 41.7	
	comp=Z,725nm,18.9s,baz=147,slow=30						
PMSA	**Palmer Station**	**38.13**	**136**	LR	LR	02 48 26.4	
	comp=Z,413nm,19.1s,baz=294,slow=31						
BELA	**Belgrano 2**	**38.89**	**162**	P	**P**	**02 36 14.9**	**+0.7**
BELA				IAmb	IAmb	02 36 17.5	
	comp=Z,38nm,1.5s						
PPT2	**Papeete2**	**39.89**	**357**	*e*LR	LR	02 47 23.9	
	comp=Z,700nm,23.0s						
PPT2				*e*LR	LR	02 47 29.8	
	comp=Z,688nm,24.2s						
PPT	**Papeete**	**39.91**	**357**	LR	LR	02 49 33.3	
	comp=Z,302nm,18.0s,baz=173,slow=31						
MSVF	**Nonsavu**	**47.19**	**313**	LR	LR	02 52 49.1	
	comp=Z,232nm,21.6s,baz=195,slow=30						
VNA3	**Neumayer Olymp**	**48.16**	**163**	⇑P	**P**	**02 37 28.8**	**0.0**
	comp=Z,4.3nm,0.7s						
DZM	**Mont Dzumac**	**48.50**	**297**	*e*LR	LR	02 51 36.2	
	comp=Z,320nm,26.2s						
SNAA	**Sanae**	**48.76**	**166**	P	**P**	**02 37 33.0**	**-0.5**
SNAA				IAmb	IAmb	02 37 37.9	
	comp=Z,16nm,1.3s						
SNAA	**Sanae**	**48.76**	**166**	⇑P	**P**	**02 37 31.6**	**-1.9**
	comp=Z,83nm,0.9s						
SNAA	**Sanae**	**48.76**	**166**	P	**P**	**02 37 32.8**	**-0.7**
	comp=Z,4.3nm,1.0s,baz=222,slow=7.4,SNR=4.2						
SNAA				LR	LR	02 56 36.8	
	comp=Z,123nm,18.4s,baz=282,slow=34						
	comp=Z,4.3nm,1.0s						
VNA2	**Neumayer--Watz**	**48.79**	**164**	⇑P	**P**	**02 37 33.2**	**-0.5**
	comp=Z,6.5nm,0.8s,baz=210,slow=7.1						
TAOE	**Nuku Hiva Isla**	**48.90**	**10**	*e*LR	LR	02 51 41.5	
	comp=Z,657nm,25.0s						
PLCA	**Paso Flores**	**50.28**	**106**	P	**P**	**02 37 46.2**	**+0.6**
PLCA				IAmb	IAmb	02 37 57.9	
	comp=Z,7.3nm,1.3s						
PLCA	**Paso Flores**	**50.28**	**106**	P	**P**	**02 37 46.0**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=216,slow=8.8,SNR=4.1						
PLCA				LR	LR	02 54 04.1	
	comp=Z,239nm,18.1s,baz=223,slow=30						
	comp=Z,1.7nm,0.8s						
H03S2	**Juan Fernandez**	**50.96**	**93**	T	T	03 32 47.8	
	baz=218,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**50.97**	**93**	T	T	03 32 50.0	
	baz=218,slow=74,SNR=9.8						
H03S3	**Juan Fernandez**	**50.98**	**93**	T	T	03 32 50.5	
	baz=218,slow=74,SNR=11						
H03N3	**Juan Fernandez**	**51.25**	**93**	T	T	03 33 16.1	
	baz=221,slow=72,SNR=117						
H03N2	**Juan Fernandez**	**51.26**	**93**	T	T	03 33 06.4	
	baz=221,slow=72,SNR=141						
H03N1	**Juan Fernandez**	**51.27**	**93**	T	T	03 33 10.6	
	baz=221,slow=72,SNR=140						
MAW	**Mawson**	**53.16**	**194**	P	**P**	**02 38 05.5**	**-1.1**
	comp=Z,22nm,0.9s,baz=241,slow=13,SNR=1.7						
MAW				LR	LR	02 58 51.2	
	comp=Z,292nm,18.3s,baz=154,slow=34						
	comp=Z,22nm,0.9s						
STKA	**Stephens Creek**	**53.59**	**267**	P	**P**	**02 38 11.7**	**+1.5**
	comp=Z,5.3nm,1.0s,baz=126,slow=12,SNR=6.2						
STKA				LR	LR	02 56 50.2	
	comp=Z,300nm,20.3s,baz=149,slow=31						
	comp=Z,5.3nm,1.0s						
SYO	**Syowa Base**	**53.66**	**183**	⇑*e*PcP	**PcP**	**02 39 15.4**	**-0.9**
AC02	**Maricunga**	**61.69**	**96**	P	**P**	**02 39 07.9**	**+0.1**
AC02				IAmb	IAmb	02 39 15.3	
	comp=Z,9.7nm,1.2s						
AS31	**Alice Springs**	**64.22**	**266**	P	**P**	**02 39 25.0**	**+0.8**
ASAR	**Alice Springs**	**64.22**	**266**	P	**P**	**02 39 24.9**	**+0.7**
ASAR	**Alice Springs**	**64.22**	**266**	P	**P**	**02 39 24.6**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=141,slow=6.4,SNR=19						
ASAR				LR	LR	03 05 22.2	
	comp=Z,148nm,18.0s,baz=140,slow=34						
	comp=Z,3.4nm,0.9s						
H01W1	**Cape Leeuwin H**	**65.42**	**243**	T	T	03 51 18.4	
	baz=144,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**65.42**	**243**	T	T	03 51 19.9	
	baz=144,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**65.43**	**243**	T	T	03 51 18.9	
	baz=144,slow=76,SNR=15						
NWAO	**Narrogin (SRO)**	**65.49**	**247**	LR	LR	03 00 57.9	
	comp=Z,202nm,20.9s,baz=78,slow=30						
WR0	**Warramunga Arr**	**66.88**	**269**	P	**P**	**02 39 42.5**	**+1.2**
WB2	**Warramunga Arr**	**67.00**	**269**	P	**P**	**02 39 42.3**	**+0.2**
WB2				IAmb	IAmb	02 39 51.5	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**67.00**	**269**	P	**P**	**02 39 42.0**	**-0.2**
WRA	**Warramunga Arr**	**67.00**	**269**	P	**P**	**02 39 42.4**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=148,slow=5.7,SNR=12						
WRA				LR	LR	03 05 17.4	
	comp=Z,209nm,20.5s,baz=150,slow=33						
	comp=Z,4.5nm,1.0s						
WB0	**Warramunga Arr**	**67.12**	**269**	P	**P**	**02 39 43.0**	**+0.1**
WB0				IAmb	IAmb	02 39 55.7	
	comp=Z,7.6nm,1.1s						
CPUP	**Villa Florida**	**68.35**	**105**	P	**P**	**02 39 50.1**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=213,slow=6.1,SNR=3.8						
CPUP				LR	LR	03 05 34.8	
	comp=Z,113nm,18.9s,baz=214,slow=32						
	comp=Z,2.7nm,0.9s						
PB16	**IPOC Station P**	**68.36**	**90**	P	**P**	**02 39 52.0**	**+0.6**
NNA	**Nana**	**69.66**	**80**	LR	LR	03 03 26.0	
	comp=Z,87nm,18.1s,baz=210,slow=30						
LPAZ	**La Paz**	**70.78**	**90**	P	**P**	**02 40 06.9**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=204,slow=6.6,SNR=5.0						
LPAZ				LR	LR	03 04 30.1	
	comp=Z,66nm,19.9s,baz=198,slow=30						
	comp=Z,1.5nm,0.9s						
ATAH	**Atahualpa**	**72.92**	**76**	LR	LR	03 04 51.9	
	comp=Z,147nm,19.7s,baz=223,slow=30						
FITZ	**Fitzroy Crossi**	**73.19**	**263**	LR	LR	03 08 16.7	
	comp=Z,293nm,20.9s,baz=136,slow=32						
SIV	**San Ignacio**	**74.83**	**96**	LR	LR	03 09 09.3	
	comp=Z,54nm,21.8s,baz=278,slow=32						
CMIG	**Matias Romero**	**86.19**	**50**	LR	LR	03 13 06.0	
	comp=Z,58nm,18.6s,baz=172,slow=31						
KAPI	**Kappang**	**87.22**	**265**	LR	LR	03 17 57.0	
	comp=Z,189nm,20.4s,baz=152,slow=34						
SDV	**Santo Domingo**	**90.53**	**74**	LR	LR	03 17 13.5	
	comp=Z,76nm,18.1s,baz=94,slow=32						
DAV	**Davao City (W)**	**94.19**	**276**	LR	LR	03 22 41.0	
	comp=Z,48nm,20.8s,baz=130,slow=34						
PFO	**Pinyon Flats O**	**94.51**	**26**	LR	LR	03 15 58.9	
	comp=Z,121nm,19.3s,baz=237,slow=30						
PCRV	**Puerto La Cruz**	**94.76**	**79**	LR	LR	03 19 22.5	
	comp=Z,269nm,19.5s,slow=32						
NVAR	**Mina Array Bea**	**98.72**	**23**	LR	LR	03 16 51.1	
	comp=Z,92nm,21.3s,baz=188,slow=29						
H10S3	**ASCENSION HYDR**	**03.48**	**132**	T	T	04 38 56.6	
	baz=204,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**03.48**	**132**	T	T	04 39 03.8	
	baz=16,slow=74,SNR=15						
H10N3	**ASCENSION HYDR**	**04.55**	**132**	T	T	04 40 19.2	
	baz=204,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**	**04.56**	**132**	T	T	04 40 27.6	
	baz=204,slow=75,SNR=23						
H10N2	**ASCENSION HYDR**	**04.57**	**132**	T	T	04 40 13.1	
	baz=204,slow=75,SNR=22						
ILAR	**Eielson Array**	**121.97**	**0**	PKP	**PKPdf**	**02 47 42.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=231,slow=2.9,SNR=4.7						
SONM	**Songino Array**	**136.24**	**291**	PKP	**PKPdf**	**02 48 09.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=108,slow=3.2,SNR=3.6						
MK31	**Makanchi Array**	**148.26**	**272**	PKPdf	**PKPdf**	**02 48 32.6**	**+1.5**
MKAR	**Makanchi Array**	**148.26**	**272**	PKPdf	**PKPbc**	**02 48 33.5**	**-1.0**
MKAR	**Makanchi Array**	**148.26**	**272**	PKPbc	**PKPbc**	**02 48 34.0**	**-0.5**
	comp=Z,4.7nm,0.9s,baz=117,slow=4.3,SNR=14						
MAKZ	**Makanchi**	**148.44**	**272**	PKPdf	**PKPdf**	**02 48 33.1**	**+1.7**
HRA	**Herat**	**149.35**	**234**	PKPbc	**PKPbc**	**02 48 37.8**	**-0.1**
ARSB	**Arslanbob**	**149.59**	**256**	PKPbc	**PKPbc**	**02 48 38.0**	**-0.2**
AAK	**Ala-Archa**	**149.72**	**259**	PKPbc	**PKPbc**	**02 48 38.8**	**+0.3**
AAK	**Ala-Archa**	**149.72**	**259**	PKPbc	**PKPbc**	**02 48 37.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=127,slow=5.2,SNR=5.7						
ESDC	**Sonseca Array**	**150.55**	**112**	PKPbc	**PKPbc**	**02 48 40.6**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=269,slow=1.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**150.87**	**286**	PKP	**PKPdf**	**02 48 34.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=52,slow=2.4,SNR=1.5						
ZALV				PKPab	**PKPab**	**02 48 46.6**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=159,slow=4.6,SNR=5.5						
KKAR	**Karatay Array**	**152.14**	**255**	PKPbc	**PKPbc**	**02 48 41.7**	**-2.3**
KURBB	**Kurchatov Arra**	**152.52**	**276**	PKP	**PKPdf**	**02 48 38.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=117,slow=2.2,SNR=1.7						
KURBB				PKPbc	**PKPbc**	**02 48 44.4**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=116,slow=2.0,SNR=7.1						
KURBB				PKPab	**PKPab**	**02 48 56.2**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=115,slow=2.1,SNR=7.3						
KURK	**Kurchatov**	**152.52**	**276**	PKPbc	**PKPbc**	**02 48 43.0**	**-1.5**
BVAR	**Borovoye Array**	**158.09**	**275**	PKPab	**PKPab**	**02 49 17.3**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=90,slow=7.4,SNR=4.4						
AKTO	**Aktyubinsk**	**163.41**	**256**	PKPab	**PKPab**	**02 49 42.3**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=138,slow=1.8,SNR=5.1						

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*ISN **27** 02:34:56.4±1.1, 34.°70N×46.°31E, h25km±21km, ML3.2*
*TEH **27** 02:34:56.1, 34.°65N×46.°23E, h9km*
ISC 27 02:34:56.4±1.4, 34.°65N±0.°05×46.°22E±0.°05, h2km±14km, n10, σ0°42/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.14**	**70**	Pg	**Pg**	**02 34 59.7**	**+0.5**
IGHG	**Ghaleghazi**	**0.43**	**138**	Pg	**Pg**	**02 35 05.2**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.54**	**255**	Pg	**Pg**	**02 35 07.0**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.59**	**206**	Pg	**Pg**	**02 35 07.8**	**+0.1**
KCHF	**Cheshme Sefid,**	**0.77**	**119**	Pg	**Pg**	**02 35 11.0**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.18**	**79**	Pg	**Pg**	**02 35 18.6**	**-0.3**
IBDR	**Badra**	**1.56**	**189**	*e*Pg	**Pg**	**02 35 26.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**02 35 46.0**	**-0.3**
IBDR				AML	AML	02 35 59.5	
	comp=E,229nm,0.1s						
IBDR				AML	AML	02 35 60.0	
	comp=N,241nm,0.3s						
SDS1	**Sardasht. Az.**	**1.61**	**338**	Pg	**Pb**	**02 35 26.9**	**-0.1**
IKRK	**Kirkuk**	**1.72**	**296**	*e*Pn	**Pn**	**02 35 27.0**	**-0.3**
IKRK				*e*Sn	**Sn**	**02 35 50.0**	**+0.1**
IKRK				AML	AML	02 36 01.0	
	comp=E,436nm,0.5s						
IKRK				AML	AML	02 36 01.3	
	comp=N,523nm,0.7s						
BHD	**Baghdad**	**2.06**	**229**	*e*Pn	**Pn**	**02 35 32.0**	**0.0**
BHD				*e*Sn	**Sn**	**02 35 59.0**	**+0.7**

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*IDC **27** 02:39:18.4±2.4, 36.°07N×141.°34E, h0km, mb3.5/3, mbtmp3.5/5, ML2.6/2, Error ellipse: s-maj=49.4km s-min=26.9km az=61.0*
*JMA **27** 02:39:24.2±0.3, 35.°8N±0.°7×14.°1E±.°, h33km±1km, MV3.0/28, NEAR CHOSHI CITY*
ISC 27 02:39:22.6±2.7, 35.°93N±0.°06×141.°2E±0.°1, h24km±15km, n16, σ1°07/16, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.52**	**275**	P	**Pb**	**02 39 33.8**	**+0.6**
JIHU				S	**Sb**	**02 39 40.9**	**+0.6**
JHYU	**Hitachinakayam**	**0.62**	**312**	P	**Pn**	**02 39 36.3**	**+0.4**
JHYU				S	**Sn**	**02 39 44.9**	**-0.3**
JHO	**Hitachi**	**0.83**	**325**	*i* P	**Pn**	**02 39 39.5**	**+0.6**
JHO				*e*S	**Sn**	**02 39 50.6**	**+0.1**
JYT	**Yasato**	**0.84**	**291**	*i* P	**Pb**	**02 39 38.0**	**-0.6**
JYT				S	**Sb**	**02 39 47.9**	**-1.6**
BSO3	**Boso 3**	**1.24**	**206**	P	**Pn**	**02 39 43.4**	**-0.9**
MJAR	**Matsushiro Arr**	**2.47**	**285**	Pn	**Pn**	**02 40 01.6**	**+0.2**
	0.6nm,0.3s,baz=97,slow=9.4,SNR=16						
MJAR				Sn	**Sn**	**02 40 32.0**	**+1.3**
	0.6nm,0.3s,baz=122,slow=12,SNR=5.4						
	3.8nm,0.3s						
JHJ	**Hachijo jima 2**	**3.02**	**203**	Pn	**Pn**	**02 40 10.9**	**+1.9**
	4.4nm,0.3s,baz=73,slow=17,SNR=1.4						
JHJ				Sn	**Sn**	**02 40 43.5**	**-0.9**
	16nm,0.3s,baz=62,slow=21,SNR=1.4						
	120nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.77**	**119**	T	T	03 14 14.7	
	baz=310,slow=74,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**27.78**	**119**	T	T	03 14 15.5	
	baz=310,slow=74,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**27.79**	**119**	T	T	03 14 16.3	
	baz=310,slow=74,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**28.45**	**121**	T	T	03 15 02.2	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**28.45**	**121**	T	T	03 15 02.2	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**28.46**	**121**	T	T	03 15 03.4	
	baz=313

PB03 IAML 02 56 01.6
comp=E,5μm,0.3s
PB03 IPOC Station P 1.60 231 *eP* **Pn 02 55 38.7 +0.9**
PB03 *eS* **Sn 02 56 01.5 +1.2**
PB03 IAML 02 56 02.9
comp=Z,3μm,0.3s
PATCX Punta Patache 1.64 277 Pn 02 55 39.0 +0.9
TA01 Diego Aracena 1.72 285 Pn **Pn 02 55 39.1 +0.2**
TA01 Diego Aracena 1.72 285 *eP* **Pn 02 55 39.4 +0.4**
TA01 *i* S **Sn 02 56 01.4 -1.0**
TA01 IAML 02 56 03.1
comp=N,3μm,0.2s
PB11 IPOC Station P 1.72 317 Pn **Pn 02 55 39.7 +0.6**
PB11 IPOC Station P 1.72 317 *eP* **Pn 02 55 40.0 +0.8**
PB11 *eS* **Sn 02 56 02.9 +0.1**
PB11 IPOC Station P 1.72 317 *eP* **Pn 02 55 39.9 +0.8**
PB11 *eS* **Sn 02 56 03.2 +0.4**
PB11 IAML 02 56 06.3
comp=Z,2μm,0.3s
TA02 Huaiquique 1.78 295 Pn **Pn 02 55 39.9 +0.2**
TA02 Huaiquique 1.78 295 *i* P **Pn 02 55 40.2 +0.5**
TA02 *eS* **Sn 02 56 03.2 -0.5**
TA02 Huaiquique 1.78 295 *eP* **Pn 02 55 39.9 +0.2**
TA02 *eS* **Sn 02 56 03.4 -0.3**
TA02 IAML 02 56 04.9
comp=Z,2μm,0.2s
AF01 San Pedro de A 1.92 174 Pn **Pn 02 55 44.3 +2.7**
AF01 San Pedro de A 1.92 174 *eP* **Pn 02 55 44.5 +2.9**
AF01 San Pedro de A 1.92 174 *eP* **Pn 02 55 44.5 +2.9**
PB06 IPOC Station P 1.98 213⇑ *eP* **Pn 02 55 43.5 +1.3**
PB06 *eS* **Sn 02 56 09.1 +0.9**
PB06 IAML 02 56 09.9
comp=E,2μm,0.2s
PB06 IPOC Station P 1.98 213 *eP* **Pn 02 55 42.8 +0.6**
PB06 *eS* **Sn 02 56 09.9 +1.7**
PB05 IPOC Station P 2.46 222 Pn **Pn 02 55 48.2 +0.2**
PB05 IPOC Station P 2.46 222 *eP* **Pn 02 55 48.5 +0.5**
PB05 *eS* **Sn 02 56 18.3 -0.3**
PB05 IAML 02 56 20.3
comp=E,799nm,0.2s
PB05 IPOC Station P 2.46 222 *eP* **Pn 02 55 48.5 +0.5**
PB05 *eS* **Sn 02 56 18.6 -0.1**
PB16 IPOC Station P 2.88 339 Pn **Pn 02 55 55.2 +1.2**
PB16 IPOC Station P 2.88 339 *eP* **Pn 02 55 55.7 +1.8**
PB16 *eS* **Sn 02 56 30.9 +1.9**
PB16 IAML 02 56 32.2
comp=E,440nm,0.4s
PB16 IPOC Station P 2.88 339 *eP* **Pn 02 55 55.1 +1.2**
PB16 *eS* **Sn 02 56 27.1 -1.9**
YJA Yavi 2.93 113 *eP* **Pn 02 55 57.4 +3.1**
PB12 IPOC Station P 3.01 323 Pn **Pn 02 55 54.4 -0.8**
PB12 IPOC Station P 3.01 323 *eP* **Pn 02 55 54.5 -0.6**
PB12 *eS* **Sn 02 56 31.2 -0.1**
AP01 Chacalluta 3.21 325 Pn **Pn 02 55 56.9 -0.8**
AP01 Chacalluta 3.21 325 *eP* **Pn 02 55 57.8 +0.1**
AP01 *eS* Sn 02 56 23.6 -12
PB18 Visviri 3.57 343 Pn **Pn 02 56 05.6 +2.7**
PB14 IPOC Station P 4.02 207 Pn **Pn 02 56 07.7 -0.8**
PB14 IPOC Station P 4.02 207 *eP* **Pn 02 56 08.2 -0.4**
PB14 *eS* **Sn 02 56 54.1 -1.2**
GO02 Mina Guanaco 4.25 195 Pn **Pn 02 56 11.3 -0.2**
GO02 Mina Guanaco 4.25 195 *eP* **Pn 02 56 12.0 +0.4**
GO02 *eS* **Sn 02 57 00.4 -0.4**
SLA San Lorenzo 4.54 144 *eP* **Pn 02 56 17.6 +2.2**
LPAZ La Paz 4.73 3 Pn **Pn 02 56 19.9 +1.6**
LPAZ La Paz 4.73 3 P **Pn 02 56 20.4 +2.1**
comp=E,40nm,0.3s,baz=176,slow=6.5,SNR=426
LPAZ S **Sn 02 57 15.8 +3.0**
comp=E,6.5nm,0.5s,baz=117,slow=18,SNR=0.9
LPAZ La Paz 4.73 3 *eP* **Pn 02 56 20.4 +2.1**
AC01 Pan de Azucar 5.47 201 Pn **Pn 02 56 26.2 -1.4**
AC01 Pan de Azucar 5.47 201 *eP* **Pn 02 56 26.4 -1.3**
AC02 Maricunga 5.81 186 Pn **Pn 02 56 32.6 0.0**
AC06 Mina Casimiro 6.54 195 Pn **Pn 02 56 39.5 -2.5**
GO03 Copiapo 6.74 194 Pn **Pn 02 56 42.5 -2.2**
AC04 Llanos de Chal 7.54 198 Pn **Pn 02 56 51.4 -4.0**
AC05 El Transito 7.95 192 Pn **Pn 02 56 58.5 -2.5**
LCO Las Campanas 8.21 194 Pn **Pn 02 57 01.1 -3.6**
SIV San Ignacio 8.58 55 P **Pn 02 57 07.7 -1.9**
comp=E,293nm,0.9s,baz=246,slow=11,SNR=258
SIV S **Sn 02 58 41.0 -3.8**
comp=E,41nm,0.9s,baz=176,slow=14,SNR=1.5
CO01 Juntas del Tor 9.03 189 Pn **Pn 02 57 13.8 -1.9**
GO04 Tololo Observa 9.35 193 Pn **Pn 02 57 16.3 -3.7**
CO03 El Pedregal 9.97 191 Pn **Pn 02 57 24.4 -3.8**
CO06 Fray Jorge 10.03 196 Pn Pn 02 57 23.5 -5.3
MURT Porto Murtinho 10.09 95 *eP* **Pn 02 57 28.4 -1.3**
PTLB Pontes e Lacer 10.42 59 Pn **Pn 02 57 32.8 -1.3**
PTLB Pontes e Lacer 10.42 59 *eP* **Pn 02 57 32.4 -1.7**
CFA Coronel Fontan 10.53 179 P **Pn 02 57 32.9 -2.6**
comp=E,3.1nm,0.3s,baz=3.3,slow=14,SNR=26
CFA S **Sn 02 59 23.6 -8.1**
comp=E,2.5nm,0.3s,baz=90,slow=20,SNR=5.1
VILB Vilhena 11.23 46 Pn **Pn 02 57 43.4 -1.7**
VILB Vilhena 11.23 46 *eP* **Pn 02 57 44.7 -0.4**
CPUP Villa Florida 11.44 120 Pn **Pn 02 57 47.4 -0.3**
CPUP Villa Florida 11.44 120 P **Pn 02 57 47.0 -0.7**
comp=E,1.5nm,0.6s,baz=312,slow=9.8,SNR=4.9
CPUP Villa Florida 11.44 120 *eP* **Pn 02 57 47.1 -0.6**
VA03 San Esteban 11.84 189 Pn **Pn 02 57 50.4 -2.5**
SJPY San Joaquin 12.00 112 *eP* **Pn 02 57 55.6 +0.6**
NNA Nana 12.09 317 S **Sn 03 00 11.6 +1.9**
comp=E,3.0nm,0.3s,baz=110,slow=17,SNR=1.3
MT02 Curacav 12.41 191 Pn Pn 02 57 55.0 -5.4
MT08 Bocatoma Ro 12.44 186 Pn **Pn 02 58 01.4 +0.4**
AMBA Amambai (Brazi 12.60 101 *eP* **Pn 02 58 01.4 -1.5**
MT13 San Alfonso 12.77 187 Pn **Pn 02 58 03.6 -1.5**
LMEL Las Melosas 12.86 187 Pn **Pn 02 58 03.6 -2.8**
MT09 Talagante 12.89 190 Pn **Pn 02 58 05.5 -3.2**
SALV Santo Antonio 13.10 69 *eP* **Pn 02 58 09.1 -0.3**
BO01 Tunca 13.51 189 Pn **Pn 02 58 13.5 -1.0**
BO02 Sierra Bellavi 13.86 188 Pn **Pn 02 58 18.0 -1.1**
CZSB Cruzeiro do Su 13.86 342 *eP* **Pn 02 58 15.2 -4.0**
PDRB Porto dos Gac 14.60 52 *eP* **Pn 02 58 26.7 -1.9**
H03N1 Juan Fernandez 15.47 215 P **P 02 58 41.2 +0.7**
baz=106,slow=15,SNR=45
H03N2 Juan Fernandez 15.48 215 P **P 02 58 41.2 +0.5**
baz=106,slow=15,SNR=14
H03N3 Juan Fernandez 15.49 215 P **P 02 58 41.0 +0.2**
baz=106,slow=15,SNR=25
PTGB Pitanga 15.51 107 *eP* **Pn 02 58 39.6 -0.2**
H03S3 Juan Fernandez 15.77 214 P **P 02 58 44.2 +0.4**
baz=189,slow=74,SNR=7.3
BI02 San Fabin de 15.77 188 Pn 02 58 43.1 +0.1
BI02 IAmb IAmb 02 58 45.9
comp=Z,18nm,0.7s
CLDB Colider 15.78 52 *eP* **Pn 02 58 42.6 -0.6**
H03S1 Juan Fernandez 15.78 214 P **P 02 58 43.9 0.0**
H03S2 Juan Fernandez 15.79 214 P **P 02 58 44.3 +0.3**
baz=111,slow=74,SNR=4.9
ARAG Araguaiana, MT 16.62 74 *eP* **P 02 58 53.1 -0.6**
TEFE Tefe 17.80 12 *eP* **P 02 59 06.5 -0.2**
BB19B Bebedouro 18.56 94 *eP* **P 02 59 15.2 +0.2**
SNDB Serra Nova Dou 18.71 64 *eP* **P 02 59 16.8 +0.2**
NPGB Novo Progresso 18.79 44 *eP* **P 02 59 16.6 -0.9**
IPMB Ipameri, GO 19.28 84 *eP* **P 02 59 23.8 +0.9**
MACA Manacapuru-AM 19.30 24 *eP* **P 02 59 21.9 -1.0**
PLCA Paso Flores 19.72 185 P **Pn 02 59 28.9 -1.3**
comp=Z,1.6nm,0.7s,baz=354,slow=12,SNR=3.2
BDFB Brasilia 20.09 78 P **P 02 59 31.4 -0.2**
BDFB Brasilia 20.09 78 P **P 02 59 31.0 -0.6**
comp=Z,2.4nm,0.4s,baz=260,slow=12,SNR=9.4
ITTB Itaituba 20.65 38 *eP* **P 02 59 35.6 -1.9**
PRPB Paraua pebas 23.30 53 *eP* **P 03 00 04.0 -0.6**
OTAV Otavalo 23.31 334 *eP* **P 03 00 01.9 -3.1**
MAL2 Monte Alegre, 23.45 38 P **P 03 00 04.8 -1.0**
MAL2 IAmb IAmb 03 00 09.2
comp=Z,31nm,1.0s
JANB Januaria 23.66 79 *eP* **P 03 00 07.5 -0.3**
SDBA SAO DESIDERIO 24.07 73 *eP* **P 03 00 12.1 +0.5**
BOAV Boa Vista 24.54 19 P **P 03 00 16.5 +0.9**
ROSC El Rosal 26.36 347 P **P 03 00 33.5 +0.9**
comp=Z,3.6nm,0.3s,baz=108,slow=20,SNR=1.5
comp=Z,3.6nm,0.3s
RUSC La Rusia 27.15 350 P **P 03 00 40.7 +0.9**
RUSC IAmb IAmb 03 00 42.5
comp=Z,14nm,0.6s
RCBR Riachuelo 34.94 69 P **P 03 01 46.8 -1.0**
RCBR IAmb IAmb 03 01 57.0
comp=Z,9.1nm,1.1s
BIM Bigot 36.06 12 P **P 03 01 55.2 -1.9**
FDF Fort de France 36.26 12 P **P 03 01 57.0 -1.8**
IGPR InterUniversit 38.83 4 P **P 03 02 19.2 -1.2**
IGPR IAmb IAmb 03 02 27.6
comp=Z,15nm,0.8s
OBIP Obispado Ponce 38.88 3 P **P 03 02 20.0 -0.8**
PDPR Patillas Dam, 38.88 4 P **P 03 02 19.3 -1.6**
PDPR IAmb IAmb 03 02 20.4
comp=Z,14nm,0.7s
CELP Cerrillos 38.91 3 P **P 03 02 20.3 -0.9**
SJG San Juan 38.97 3 P **P 03 02 19.7 -1.9**
GCPR Guaynabo City 39.17 4 P **P 03 02 21.5 -1.7**
GCPR IAmb IAmb 03 02 47.7
comp=Z,13nm,1.1s
AOPR Arecibo Observ 39.17 2 P **P 03 02 22.1 -1.2**
AOPR IAmb IAmb 03 02 50.6
comp=Z,13nm,0.8s
DR12 Loma Pena Alta 39.59 359 P **P 03 02 24.4 -2.4**
DR12 IAmb IAmb 03 02 50.6
comp=Z,10.0nm,1.0s
F64A Sherman 66.58 0 P **P 03 05 44.8 +0.8**
F64A IAmb IAmb 03 05 50.2
comp=Z,5.5nm,1.1s
DBIC Dimbokro 68.16 73 P **P 03 05 54.7 +0.1**
DBIC IAmb IAmb 03 05 55.9
comp=Z,6.9nm,0.8s
DBIC Dimbokro 68.16 73 P **P 03 05 55.3 +0.7**
comp=Z,5.2nm,0.6s,baz=232,slow=3.8,SNR=11
comp=Z,5.2nm,0.6s
LDAQ Lac Daran 68.73 358 P **P 03 05 58.0 +0.6**
QSPA South Pole Qui 69.15 180 P **P 03 06 02.9 +2.8**
QSPA South Pole Qui 69.15 180 P **P 03 06 02.5 +2.4**
comp=Z,0.9nm,0.5s,baz=90,slow=3.0,SNR=7.8
comp=Z,0.9nm,0.5s
DSP Deep Springs 74.51 321 P **P 03 06 34.9 +2.6**
ULM Lac du Bonnet 75.02 342 P **P 03 06 35.5 +0.6**
comp=Z,1.7nm,0.5s,baz=146,slow=4.8,SNR=5.4
comp=Z,1.7nm,0.5s
TORD Torodi Ar. Bea 76.76 70 P **P 03 06 45.8 +0.2**
TORD IAmb IAmb 03 06 46.9
comp=Z,4.6nm,0.7s
TORD Torodi Ar. Bea 76.76 70 P **P 03 06 45.5 -0.1**
comp=Z,6.5nm,0.5s,baz=265,slow=4.6,SNR=4.3
comp=Z,6.5nm,0.5s
SYO Syowa Base 76.77 159‖ *eP* **P 03 06 43.6 -1.1**
comp=Z,0.3nm,0.3s,baz=59,slow=5.9,SNR=1.3
comp=Z,0.3nm,0.3s
YKA Yellowknife Ar 90.91 340 P **P 03 07 58.1 +1.7**
comp=Z,0.2nm,0.5s,baz=137,slow=4.2,SNR=7.9
comp=Z,0.2nm,0.5s
MK31 Makanchi Array 144.99 36 PKPbc **PKPdf 03 14 31.1 +1.3**
MKAR Makanchi Array 144.99 36 PKP **PKPdf 03 14 31.3 +1.5**
comp=Z,1.5nm,0.6s,baz=316,slow=3.5,SNR=20

*IDC **27** 03:09:04.5±0.6, 43°.17S×39°.52E, h0km, mb4.2/13, mbtmp4.2/15, ML3.8/2, MS3.8/7, Error ellipse: s-maj=24.2km s-min=15.5km az=47.0*
*NEIC **27** 03:09:06.7±1.8, 43°.1S±0°.1×39°.4E±0°.2, h10km±1km, mb4.7/15, Error ellipse: s-maj=29.1km s-min=10.4km az=44.0*
ISC 27 03:09:06.3±0.5, **43°.2S**±0°.1×**39°.4E**±0°.1, **h10**km, **n56, g0**°**98/50, mb4.4/17, MS3.8/7, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**14.22**	**310**	Pn	**Pn**	**03 12 25.8**	**-2.0**
SOE	**Somerset East**	**15.10**	**309**	Pn	**Pn**	**03 12 36.9**	**-2.9**
SOE				IAmb	IAmb	03 12 55.5	
comp=Z,48nm,1.3s							
POGA	**Pongola**	**16.99**	**336**		**Pn**	**03 13 05.2**	**+1.1**
POGA				IAmb	IAmb	03 13 24.7	
comp=Z,43nm,1.5s							
SUR	**Sutherland**	**18.19**	**300**		**Pn**	**03 13 18.4**	**-0.7**
SUR	**Sutherland**	**18.19**	**300**	P	**Pn**	**03 13 18.9**	**-0.3**
comp=Z,0.2nm,0.3s,baz=120,slow=15,SNR=7.6							
comp=Z,17nm,1.0s							
BOSA	**Boshof**	**18.48**	**317**		**P**	**03 13 22.2**	**-0.2**
BOSA	**Boshof**	**18.48**	**317**	P	**P**	**03 13 21.9**	**-0.5**
comp=Z,0.3nm,0.3s,baz=149,slow=14,SNR=8.0							
comp=Z,8.3nm,1.0s							
MAKGR	**Makgori**	**21.05**	**321**	*i* P	**P**	**03 13 51.1**	**+0.6**
LBTB	**Lobatse**	**21.38**	**324**	P	**P**	**03 13 54.3**	**+0.3**
LBTB				IAmb	IAmb	03 13 55.2	
comp=Z,23nm,1.0s							
LBTB	**Lobatse**	**21.38**	**324**	P	**P**	**03 13 53.9**	**-0.2**
comp=Z,16nm,0.9s,baz=155,slow=9.3,SNR=14							
comp=Z,16nm,0.9s							
SKOMA	**Sekoma**	**22.56**	**321**	*i* P	**P**	**03 14 07.1**	**+0.4**
LPHEP	**Lephephe**	**22.73**	**326**	*i* P	**P**	**03 14 09.8**	**+1.3**
KGCAE	**Kacgae**	**24.79**	**319**	*i* P	**P**	**03 14 30.2**	**+1.6**
KOOLE	**Kule**	**25.67**	**316**	*i* P	**P**	**03 14 36.4**	**-0.1**
GRTLG	**Ghanzi**	**26.54**	**319**	*i* P	**P**	**03 14 44.2**	**-0.2**
MAW	**Mawson**	**27.51**	**161**	P	**P**	**03 14 53.5**	**+1.0**
MAW				IAmb	IAmb	03 14 57.0	
comp=Z,22nm,1.2s							
TSUM	**Tsumeb**	**30.16**	**316**	P	**P**	**03 15 16.1**	**-0.5**
TSUM				IAmb	IAmb	03 15 17.8	
comp=Z,12nm,1.0s							
SNAA	**Sanae**	**35.10**	**202**	P	**P**	**03 15 59.9**	**+0.5**
SNAA				IAmb	IAmb	03 16 09.5	
comp=Z,5.7nm,1.0s							
SNAA	**Sanae**	**35.10**	**202**	P	**P**	**03 15 59.3**	**-0.1**
comp=Z,2.3nm,0.9s,baz=96,slow=5.9,SNR=4.4							
SNAA				LR	LR	03 27 14.3	
comp=Z,103nm,20.4s,baz=72,slow=31							
comp=Z,2.3nm,0.9s							
QSPA	**South Pole Qui**	**47.03**	**180**	P	**P**	**03 17 37.4**	**-0.3**
QSPA				IAmb	IAmb	03 17 48.7	
comp=Z,9.1nm,1.1s							
QSPA	**South Pole Qui**	**47.03**	**180**	P	**P**	**03 17 37.2**	**-0.4**
comp=Z,3.3nm,0.8s,baz=244,slow=1.9,SNR=13							
comp=Z,3.3nm,0.8s							
VNDA	**Vanda**	**54.54**	**167**	P	**P**	**03 18 33.9**	**+0.1**
VNDA	**Vanda**	**54.54**	**167**	P	**P**	**03 18 34.2**	**+0.3**
comp=Z,0.8nm,0.7s,baz=227,slow=10,SNR=4.0							
comp=Z,0.8nm,0.7s							
H01W2	**Cape Leeuwin H**	**56.85**	**109**	T	T	04 20 43.8	
baz=238,slow=75,SNR=9.8							
H01W3	**Cape Leeuwin H**	**56.86**	**109**	T	T	04 20 44.5	
baz=238,slow=75,SNR=8.8							
H01W1	**Cape Leeuwin H**	**56.87**	**109**	T	T	04 20 18.8	
baz=238,slow=75,SNR=12							
DBIC	**Dimbokro**	**63.79**	**309**	P	**P**	**03 19 39.2**	**+0.6**
DBIC	**Dimbokro**	**63.79**	**309**	P	**P**	**03 19 39.0**	**+0.3**
comp=Z,5.9nm,0.8s,baz=139,slow=7.2,SNR=9.2							
comp=Z,5.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**65.82**	**319**	P	**P**	**03 19 52.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**65.82**	**319**	P	**P**	**03 19 52.8**	**+0.9**
comp=Z,1.7nm,0.3s,baz=150,slow=6.2,SNR=1.8							
comp=Z,1.7nm,0.3s							
LEM	**Lembang**	**69.50**	**80**	LR	LR	03 44 11.2	
comp=Z,101nm,19.1s,baz=156,slow=30							
TRQA	**Tornquist**	**72.27**	**234**	P	**P**	**03 20 32.0**	**+0.2**
TRQA				IAmb	IAmb	03 20 50.5	
comp=Z,11nm,1.5s							
BBOO	**Buckleboo**	**72.76**	**119**	P	**P**	**03 20 33.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**75.15**	**101**	LR	LR	03 45 20.5	
comp=Z,54nm,21.1s,baz=188,slow=29							
STKA	**Stephens Creek**	**76.88**	**121**	P	**P**	**03 20 58.5**	**-0.2**
comp=Z,2.3nm,0.7s,baz=223,slow=2.3,SNR=5.5							
comp=Z,2.3nm,0.7s							
BBTS	**Babate**	**77.00**	**305**	LR	LR	03 49 41.7	
comp=Z,54nm,21.9s,baz=52,slow=32							
CPUP	**Villa Florida**	**77.07**	**246**	P	**P**	**03 20 59.9**	**0.0**
comp=Z,2.5nm,0.9s,baz=127,slow=2.8,SNR=4.1							
comp=Z,2.5nm,0.9s							
ASAR	**Alice Springs**	**77.31**	**110**	P	**P**	**03 21 00.8**	**-0.5**
comp=Z,0.9nm,0.8s,baz=222,slow=5.4,SNR=9.1							
comp=Z,0.9nm,0.8s							
BDFB	**Brasilia**	**77.63**	**260**	P	**P**	**03 21 03.2**	**0.0**
comp=Z,2.2nm,0.7s,baz=146,slow=5.6,SNR=3.9							
comp=Z,2.2nm,0.7s							
KAPI	**Kappang**	**79.54**	**87**	LR	LR	03 51 41.1	
comp=Z,35nm,18.6s,baz=245,slow=32							
WRA	**Warmunga Arr**	**80.09**	**108**	P	**P**	**03 21 15.7**	**-0.9**
comp=Z,0.6nm,0.7s,baz=222,slow=4.8,SNR=5.1							
comp=Z,0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**82.09**	**56**	P	**P**	**03 21 26.7**	**-0.4**
comp=Z,0.8nm,0.3s,baz=202,slow=5.1,SNR=5.6							
comp=Z,0.8nm,0.3s							
PTLB	**Pontes e Lacer**	**85.67**	**253**	P	**P**	**03 21 45.6**	**+0.1**
PTLB				IAmb	IAmb	03 21 46.9	
comp=Z,7.9nm,1.2s							
ESDC	**Sonseca Array**	**91.33**	**328**	P	**P**	**03 22 12.9**	**+1.1**
comp=Z,0.7nm,0.9s,baz=152,slow=6.0,SNR=2.1							
comp=Z,0.7nm,0.9s							
AKASG	**Malin Array Be**	**93.92**	**354**	LR	LR	04 06 54.0	
comp=Z,48nm,19.8s,baz=322,slow=37							
OBN	**Obninsk**	**97.95**	**358**	LR	LR	04 05 50.4	
comp=Z,109nm,21.4s,baz=186,slow=35							
RES	**Resolute Bay**	**142.48**	**342**	PKP	**PKPdf**	**03 28 37.3**	**-0.6**
comp=Z,1.0nm,0.9s,baz=255,slow=3.3,SNR=4.7							
WHTX	**Lake Whitney,**	**144.40**	**266**		**PKPab**	**03 28 41.7**	**+0.9**
HNDO	**Hondo**	**144.42**	**261**		**PKPab**	**03 28 41.3**	**+0.3**
W35A	**Tecumseh**	**145.50**	**272**		**PKPdf**	**03 28 43.7**	**-0.7**
TXAR	**Lajitas Array**	**147.46**	**257**	PKPbc	**PKPdf**	**03 28 50.7**	**+2.7**
comp=Z,2.8nm,0.8s,baz=136,slow=6.2,SNR=29							
ULM	**Lac du Bonnet**	**148.93**	**299**	PKP	**PKPdf**	**03 28 49.6**	**0.0**
comp=Z,1.1nm,0.5s,baz=90,slow=2.6,SNR=4.8							
ULM				PKPbc	**pPKPdf**	**03 28 53.4**	**+1.7**
comp=Z,1.4nm,0.6s,baz=323,slow=4.7,SNR=3.1							
ANMO	**Albuquerque**	**152.40**	**264**		**PKPab**	**03 29 11.8**	**-1.1**
ANMO	**Albuquerque**	**152.40**	**264**	PKPbc	**PKPbc**	**03 29 02.0**	**-0.6**
comp=Z,1.7nm,0.9s,baz=2.8,slow=6.6,SNR=5.3							
ANMO				PKPab	**PKPab**	**03 29 12.5**	**-0.4**
comp=Z,3.1nm,0.9s,baz=322,slow=5.6,SNR=4.4							
YKA	**Yellowknife Ar**	**155.40**	**331**	PKP	**PKPdf**	**03 28 57.1**	**-1.7**
comp=Z,0.7nm,1.1s,baz=41,slow=2.1,SNR=4.9							
YKA				PKPab	**PKPab**	**03 29 23.0**	**-1.4**
comp=Z,0.1nm,0.4s,baz=49,slow=3.2,SNR=4.4							
PDAR	**Pinedale Array**	**157.35**	**280**	PKPab	**PKPab**	**03 29 34.0**	**+0.2**
comp=Z,0.2nm,0.6s,baz=345,slow=1.6,SNR=2.3							

*IDC **27** 03:10:03.6±0.6, 12°.85S×45°.34E, h0km, mb4.1/16, mbtmp4.1/18, ML5.3/2, MS3.0/1, Error ellipse: s-maj=20.4km s-min=16.1km az=107.0*
*NEIC **27** 03:10:06.9±1.6, 13°.06S±0°.08×45°.3E±0°.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=24.1km s-min=11.6km az=253.0*
ISC 27 03:10:04.9±0.5, **12°.93S**±0°.05×**45°.41E**±0°.07, **h10**km, **n49, g**°**84/56, mb4.3/19, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.42**	**97**	P	**Pn**	**03 11 11.8**	**-0.3**
SBV				S	**Sn**	**03 11 57.7**	**-6.0**
OPO	**Ambohidratompo**	**5.86**	**163**	Pn	**Pn**	**03 11 33.5**	**+1.4**
12nm,0.3s,baz=338,slow=12,SNR=209							
OPO				Sn	**Sn**	**03 12 36.4**	**-3.0**
3.0nm,0.3s,baz=67,slow=21,SNR=8.1							
OPO				LR	LR	03 13 55.1	
comp=Z,140nm,19.8s,baz=172,slow=39							
OPO	**Ambohidratompo**	**5.86**	**163**	P	**Pn**	**03 11 33.6**	**+1.6**
OPO				S	**Sn**	**03 12 36.2**	**-3.2**
FIRM	**Firavahana**	**5.91**	**166**	P	**Pn**	**03 11 34.4**	**+1.7**
FIRM				S	**Sn**	**03 12 37.0**	**-3.5**
ATG	**Ambohiby**	**5.96**	**173**	P	**Pn**	**03 11 34.5**	**+1.2**
ABPO	**Ambohimpanom**	**6.30**	**164**	Pn	**Pn**	**03 11 39.1**	**+1.0**
ABPO				Sn	**Sn**	**03 12 47.8**	**-2.4**
ABPO	**Ambohimpanom**	**6.30**	**164**	P	**Pn**	**03 11 39.4**	**+1.3**
MDSM	**Mandiavato**	**6.31**	**166**	P	**Pn**	**03 11 40.0**	**+1.8**
MDSM				S	**Sn**	**03 12 47.0**	**-3.6**
DGRM	**Ambatolahisoa**	**6.36**	**171**	P	**Pn**	**03 11 40.6**	**+1.6**
DGRM				S	**Sn**	**03 12 48.8**	**-3.0**
AVY	**Angavokely**	**6.37**	**160**	P	**Pn**	**03 11 39.9**	**+0.9**
ABM	**Ambohimiarambe**	**7.06**	**165**	P	**Pn**	**03 11 50.1**	**+1.5**
VOI	**Vohitsoka**	**9.02**	**172**	Pn	**Pn**	**03 12 16.3**	**+0.9**
FOMA	**Nahampoana Res**	**12.07**	**173**	Pn	**Pn**	**03 12 57.3**	**+0.3**
RER	**Riviere de l'E**	**12.82**	**131**	Pn	**Pn**	**03 13 07.9**	**+0.5**
KMBO	**Kilima Mbogo**	**14.25**	**325**	P	**Pn**	**03 13 25.2**	**-1.9**
KMBO	**Kilima Mbogo**	**14.25**	**325**	Pn	**Pn**	**03 13 23.8**	**-3.3**
0.7nm,0.4s,baz=82,slow=19,SNR=2.8							
KMBO				Sn	**Sn**	**03 16 03.1**	**-2.4**
0.8nm,0.3s,baz=42,slow=22,SNR=6.3							
LSZ	**Lusaka**	**16.87**	**260**	P	**Pn**	**03 14 00.8**	**-0.7**
LSZ	**Lusaka**	**16.87**	**260**	Pn	**Pn**	**03 14 00.4**	**-1.0**
1.2nm,0.3s,baz=80,slow=9.8,SNR=15							
5.1nm,0.5s							
POGA	**Pongola**	**19.24**	**220**	P	**P**	**03 14 26.7**	**-2.7**
POGA				IAmb	IAmb	03 14 35.7	
comp=Z,22nm,1.1s							
LBTB	**Lobatse**	**22.22**	**234**	P	**P**	**03 15 01.2**	**-0.7**
LBTB				IAmb	IAmb	03 15 06.0	
comp=Z,18nm,1.1s							
LBTB	**Lobatse**	**22.22**	**234**	P	**P**	**03 15 01.4**	**-0.6**
comp=Z,9.1nm,0.8s,baz=43,slow=9.0,SNR=5.2							
comp=Z,9.1nm,0.8s							
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**03 15 23.4**	**-0.4**
BOSA				IAmb	IAmb	03 15 33.7	
comp=Z,11nm,1.4s							
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**03 15 24.1**	**+0.3**
comp=Z,3.5nm,0.4s,baz=57,slow=10,SNR=9.0							
comp=Z,3.5nm,0.4s							
SUR	**Sutherland**	**29.70**	**225**	P	**P**	**03 16 13.1**	**+1.6**
SUR	**Sutherland**	**29.70**	**225**	P	**P**	**03 16 12.5**	**+1.1**
comp=Z,7.8nm,0.8s,baz=58,slow=9.0,SNR=2.3							
comp=Z,7.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**50.49**	**299**	P	**P**	**03 19 03.3**	**-0.3**
comp=Z,1.4nm,0.3s,baz=115,slow=8.4,SNR=1.7							
comp=Z,1.4nm,0.3s							
SIMJ	**Simiganj**	**55.87**	**22**	P	**P**	**03 19 45.7**	**+2.8**
SIMJ				IAmb	IAmb	03 19 50.4	
comp=Z,5.1nm,0.6s							
BTK	**Batken**	**57.77**	**23**	P	**P**	**03 19 58.5**	**+2.2**
FNA	**Florina**	**57.90**	**339**	P	**P**	**03 19 59.1**	**+1.9**
GERES	**GERESS Array B**	**67.61**	**338**	P	**P**	**03 21 02.1**	**+0.2**
comp=Z,0.9nm,0.8s,baz=195,slow=8.3,SNR=4.2							
comp=Z,0.9nm,0.8s							
MKAR	**Makanchi Array**	**68.02**	**26**	P	**P**	**03 21 04.8**	**+0.4**
comp=Z,0.3nm,0.6s,baz=226,slow=5.8,SNR=1.1							
comp=Z,0.3nm,0.6s							
CASY	**Casey**	**68.33**	**157**	P	**P**	**03 21 07.4**	**+1.3**
BVAR	**Borovoye Array**	**69.11**	**16**	P	**P**	**03 21 12.1**	**+1.0**
comp=Z,0.5nm,0.5s,baz=192,slow=7.2,SNR=2.7							
comp=Z,0.5nm,0.5s

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.62±.16; $M_{\theta\theta}$=1.05±.10; $M_{\phi\phi}$=0.56±.09; $M_{r\theta}$=0.10±.27; $M_{\phi\theta}$=-0.37±.05; $M_{\phi r}$=-0.33±.39; Best double couple: M_0=1.46700×10^{16} NP1:ϕ_s=112.00000°, δ=41.00000°, λ=-100.00000°. NP2: ϕ_s=306.00000°, δ=50.00000°, λ=-81.00000°. Principal axes: T 1.2660, Plg5.0000°, Azm29.0000°; N 0.3950, Plg7.0000°, Azm120.0000°; P -1.6690, Plg82.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*FCIAR **27** 03:11:36.0, 84.76N×95.08E, $h10^{km}$, station SVZ has station magnitude of 4.00 station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 4.00*

ISC 27 03:11:34.3±0.3, 85.01N±0.04×95.00E±0.03, h10km, n227, σ1§67/200, mb4.5/101, MS3.7/41, 9C-3D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**5.83**	**168**		*e*P		**Pn**	**03 13 03.5**	**+2.8**
SVZ					*e*S		**Sn**	**03 14 05.7**	**-1.7**
	76nm,0.8s								
ZFI2	**Zemlya Franca-**	**6.91**	**259**		*e*P		**Pn**	**03 13 15.4**	**0.0**
ZFI2					*e*S		**Sn**	**03 14 29.7**	**-4.2**
	47nm,0.7s								
OMEGA	**Omega**	**6.92**	**259**		*e*P		**Pn**	**03 13 15.4**	**-0.2**
OMEGA					*e*S		**Sn**	**03 14 29.7**	**-4.6**
	49nm,0.5s								
NOR	**Nord**	**11.31**	**316**		*i* P		Pn	03 14 21.2	+5.6
SPA0	**Spitsbergen Ar**	**11.96**	**283**		*e*P		**Pn**	**03 14 21.4**	**-3.0**
SPA0					*e*S		Sn	03 16 27.8	-10
SPITS	**Spitsbergen Ar**	**11.96**	**283**		Pn		**Pn**	**03 14 22.1**	**-2.4**
	baz=45,slow=14								
SPITS					Sn		**Sn**	**03 16 30.9**	**-6.7**
	baz=28,slow=23								
HOPEN	**Hopen**	**12.75**	**271**		S		Sn	03 16 47.8	-9.1
TIXI	**Tiksi**	**14.56**	**135**		Pn		**Pn**	**03 15 00.4**	**+0.5**
TIXI	**Tiksi**	**14.56**	**135**		Pn		**Pn**	**03 14 56.0**	**-3.9**
	2.3nm,0.3s,baz=0.4,slow=3.6,SNR=9.4								
TIXI					LR		LR	03 20 07.6	
	comp=Z,82nm,21.8s,baz=14,slow=36								
TIXI	**Tiksi**	**14.56**	**135**		*i* P		Pn	03 14 54.7	-5.2
NRIK	**Noril'sk**	**15.82**	**190**		Pn		**Pn**	**03 15 13.8**	**-2.8**
	0.8nm,0.3s,baz=14,slow=9.4,SNR=7.5								
NRIK					Sn		**Sn**	**03 18 03.4**	**-8.3**
	0.3nm,0.3s,baz=229,slow=23,SNR=1.3								
NRIK					LR		LR	03 21 59.2	
	comp=Z,573nm,18.4s,baz=8.0,slow=39								
NRIK	**Noril'sk**	**15.82**	**190**		*ce*P		**Pn**	**03 15 13.1**	**-3.6**
DBG	**Daneborg**	**18.49**	**309**		*e*P		**Pn**	**03 15 52.1**	**+2.1**
ARCES	**ARCESS Array B**	**19.39**	**263**		P		**Pn**	**03 16 02.0**	**+1.1**
	0.2nm,0.3s,baz=22,slow=6.7,SNR=6.5								
ARCES					S		**Sn**	**03 19 33.8**	**-4.2**
	3.4nm,0.9s,baz=15,slow=28,SNR=2.0								
ARCES					LR		LR	03 23 59.2	
	comp=Z,122nm,18.4s,baz=20,slow=38								
	3.1nm,0.7s								
RES	**Resolute Bay**	**20.38**	**8**		P		**P**	**03 16 11.3**	**+0.7**
RES	**Resolute Bay**	**20.38**	**8**		P		**P**	**03 16 08.5**	**-2.1**
	1.2nm,1.0s,baz=0.8,slow=14,SNR=9.9								
RES					LR		LR	03 24 21.2	
	comp=Z,201nm,18.9s,baz=1.0,slow=38								
	1.2nm,1.0s								
RES	**Resolute Bay**	**20.38**	**8**		P		**P**	**03 16 11.3**	**+0.7**
RES					pmax		pmax		
	comp=Z,12nm,1.5s								
APA	**Apatity**	**20.63**	**253**		*i* P		Pn	03 16 16.9	+1.3
APA					pmax		pmax		
	comp=Z,10.0nm,1.0s								
BILL	**Bilibino**	**21.00**	**96**		P		**P**	**03 16 17.6**	**+0.2**
BILL	**Bilibino**	**21.00**	**96**		*ce*P		**P**	**03 16 17.1**	**-0.3**
BILL					pmax		pmax		
	comp=Z,17nm,1.3s								
SUMG	**Summit**	**21.30**	**323**		P		**P**	**03 16 22.5**	**+1.6**
SUMG	**Summit**	**21.30**	**323**		P		**P**	**03 16 22.5**	**+1.6**
SUMG					pmax		pmax		
	comp=Z,59nm,1.5s								
SUMG	**Summit**	**21.30**	**323**		*e*P		**P**	**03 16 24.1**	**+3.2**
SUMG					*i* P		**P**	**03 16 25.2**	**+4.3**
SUMG					IAmb		IAmb	03 16 34.0	
	comp=Z,76nm,1.6s								
B22K	**Teshekpuk Lake**	**22.11**	**57**		P		**P**	**03 16 28.6**	**-0.6**
B20K	**Meade River**	**22.16**	**60**		P		**P**	**03 16 28.9**	**-0.8**
B20K					IAmb		IAmb	03 16 44.4	
	comp=Z,22nm,1.2s								
A36M	**Sachs Harbour**	**22.19**	**32**		P		**P**	**03 16 28.8**	**-1.3**
B21K	**Ikpikpuk River**	**22.73**	**58**		P		**P**	**03 16 35.9**	**0.0**
B21K					IAmb		IAmb	03 16 49.6	
	comp=Z,16nm,1.0s								
C23K	**Itkillik River**	**22.81**	**55**		P		**P**	**03 16 36.4**	**-0.3**
C23K					IAmb		IAmb	03 16 59.7	
	comp=Z,36nm,1.4s								
C18K	**Utukok River**	**23.18**	**65**		P		**P**	**03 16 40.8**	**+0.3**
C16K	**Lisburne Hills**	**23.21**	**69**		P		**P**	**03 16 41.9**	**+1.1**
C16K					IAmb		IAmb	03 17 06.3	
	comp=Z,23nm,1.2s								
C27K	**Jago River**	**23.49**	**49**		P		**P**	**03 16 43.2**	**-0.4**
D19K	**Kuna River**	**23.57**	**62**		P		**P**	**03 16 45.1**	**+0.6**
D19K					IAmb		IAmb	03 16 53.3	
	comp=Z,15nm,1.1s								
D22K	**Ayikyak River**	**23.60**	**57**		P		**P**	**03 16 44.7**	**0.0**
D22K					IAmb		IAmb	03 17 02.0	
	comp=Z,22nm,1.1s								
D24K	**Happy Valley**	**23.61**	**53**		P		**P**	**03 16 45.1**	**+0.3**
D24K					IAmb		IAmb	03 16 58.9	
	comp=Z,17nm,1.2s								
D25K	**Kavik River**	**23.61**	**51**		P		**P**	**03 16 45.0**	**+0.1**
D25K					IAmb		IAmb	03 17 11.4	
	comp=Z,25nm,1.3s								
RDOG	**Red Dog Mine**	**23.62**	**67**		P		**P**	**03 16 44.3**	**-0.7**
RDOG					IAmb		IAmb	03 16 54.1	
	comp=Z,28nm,1.2s								
D23K	**Nanushuk River**	**23.66**	**55**		P		**P**	**03 16 45.0**	**-0.4**
D23K					IAmb		IAmb	03 17 11.4	
	comp=Z,22nm,1.4s								
TOLK	**Toolik Lake Re**	**24.06**	**54**		P		**P**	**03 16 49.5**	**+0.3**
TOLK					IAmb		IAmb	03 17 05.0	
	comp=Z,20nm,1.2s								
YAK	**Yakutsk**	**24.15**	**139**		LR		LR	03 26 38.0	
	comp=Z,96nm,20.3s,baz=43,slow=38								
YAK	**Yakutsk**	**24.15**	**139**		*ce*P		**P**	**03 16 48.3**	**-1.7**
YAK					pmax		pmax		
	comp=Z,11nm,0.7s								
E22K	**Anaktuvuk Pass**	**24.40**	**56**		P		**P**	**03 16 52.4**	**+0.1**
E18K	**Tukpahlearik C**	**24.43**	**65**		P		**P**	**03 16 53.1**	**+0.6**
E18K					IAmb		IAmb	03 17 08.2	
	comp=Z,14nm,1.1s								
E23K	**Chandalar**	**24.63**	**55**		P		**P**	**03 16 54.4**	**-0.1**
E23K					IAmb		IAmb	03 17 16.9	
	comp=Z,15nm,1.1s								
E19K	**Redstone River**	**24.66**	**62**		P		**P**	**03 16 54.2**	**-0.4**
E24K	**Your Creek**	**24.69**	**54**		P		**P**	**03 16 54.2**	**-0.8**
E28M	**Babbage River**	**24.77**	**46**		P		**P**	**03 16 55.4**	**-0.2**
E28M					IAmb		IAmb	03 17 06.8	
	comp=Z,17nm,1.4s								
SEY	**Seymchan**	**24.85**	**114**		*ce*P		**P**	**03 16 57.2**	**+0.9**
SEY					pmax		pmax		
	comp=Z,19nm,1.3s								
E25K	**Arctic Village**	**24.85**	**51**		P		**P**	**03 16 56.3**	**-0.1**
C36M	**Paulatuk**	**24.88**	**32**		P		**P**	**03 16 55.5**	**-1.0**
C36M					IAmb		IAmb	03 17 03.3	
	comp=Z,21nm,1.1s								
E27K	**Coleen River**	**25.05**	**47**		P		**P**	**03 16 58.0**	**-0.1**
E27K					IAmb		IAmb	03 17 07.1	
	comp=Z,12nm,1.3s								
E29M	**Blow River**	**25.08**	**44**		P		**P**	**03 16 57.6**	**-0.8**
E29M					IAmb		IAmb	03 17 16.5	
	comp=Z,10nm,1.1s								
F20K	**Avaraart Lake**	**25.18**	**60**		P		**P**	**03 16 58.5**	**-0.7**
F20K					IAmb		IAmb	03 17 08.1	
	comp=Z,17nm,1.3s								
F19K	**Shaleruckik Mo**	**25.23**	**62**		P		**P**	**03 17 01.0**	**+1.3**
F19K					IAmb		IAmb	03 17 38.1	
	comp=Z,17nm,1.4s								
F24K	**Squaw Lake**	**25.29**	**53**		P		**P**	**03 16 59.6**	**-0.7**
F17K	**Baldwin Pennin**	**25.34**	**66**		P		**P**	**03 17 01.6**	**+0.9**
COLD	**Coldfoot**	**25.41**	**55**		P		**P**	**03 17 01.7**	**+0.3**
INK	**Inuvik**	**25.42**	**40**		P		**P**	**03 17 00.9**	**-0.5**
INK	**Inuvik**	**25.42**	**40**		P		**P**	**03 17 00.9**	**-0.5**
INK					pmax		pmax		
	comp=Z,40nm,1.3s								
G23K	**Bananza Creek**	**25.93**	**56**		P		**P**	**03 17 06.7**	**+0.6**
G23K					IAmb		IAmb	03 17 24.1	
	comp=Z,23nm,1.4s								
G19K	**Purcell Mounta**	**25.96**	**62**		P		**P**	**03 17 04.0**	**-2.4**
G24K	**Hadweenzic Riv**	**26.12**	**53**		P		**P**	**03 17 07.3**	**-0.5**
G24K					IAmb		IAmb	03 17 18.5	
	comp=Z,11nm,1.1s								
F31M	**Tsiigehtchic**	**26.27**	**41**		P		**P**	**03 17 07.8**	**-1.4**
G27K	**Doyon Strip**	**26.41**	**48**		P		**P**	**03 17 07.7**	**-2.8**
G27K					IAmb		IAmb	03 17 21.8	
	comp=Z,16nm,1.2s								
FYU	**Fort Yukon**	**26.41**	**51**				**P**	**03 17 11.5**	**+1.1**
G29M	**Pine Creek**	**26.54**	**45**		P		**P**	**03 17 11.5**	**-0.2**
G30M	**tAoh Zraii Nji**	**26.58**	**43**		P		**P**	**03 17 11.4**	**-0.6**
H19K	**Roundabout Mou**	**26.62**	**62**		P		**P**	**03 17 12.4**	**+0.1**
H19K					IAmb		IAmb	03 17 23.6	
	comp=Z,15nm,1.2s								
G31M	**Satah River**	**26.75**	**42**				**P**	**03 17 13.3**	**-0.1**
G31M					IAmb		IAmb	03 17 24.0	
	comp=Z,22nm,1.3s								
KLMR	**Klimovskoe**	**26.76**	**244**		*e*P		**P**	**03 17 15.0**	**+1.4**
KLMR					pmax		pmax		
	comp=Z,29nm,1.4s								
H21K	**Melozitna Rive**	**26.77**	**58**		P		**P**	**03 17 13.5**	**-0.2**
H23K	**Yukon River**	**26.84**	**55**		P		**P**	**03 17 14.4**	**0.0**
H23K					IAmb		IAmb	03 17 34.1	
	comp=Z,22nm,1.5s								
H24K	**Noodor Dome**	**26.95**	**54**		P		**P**	**03 17 15.3**	**0.0**
H24K					IAmb		IAmb	03 17 39.4	
	comp=Z,18nm,1.4s								
EPYK	**Eagle Plains**	**27.16**	**44**		P		**P**	**03 17 17.3**	**+0.1**
H29M	**Whitestone**	**27.20**	**45**		P		**P**	**03 17 17.7**	**+0.1**
H29M					IAmb		IAmb	03 17 29.5	
	comp=Z,20nm,1.2s								
FINES	**FINESS Array B**	**27.28**	**258**		P		**P**	**03 17 20.1**	**+1.8**
	comp=Z,4.1nm,1.0s,baz=1.0,slow=10,SNR=5.0								
FINES					LR		LR	03 30 17.2	
	comp=Z,81nm,18.8s,baz=6.5,slow=41								
	comp=Z,4.1nm,1.0s								
I21K	**Tanana**	**27.30**	**58**		P		**P**	**03 17 18.3**	**-0.1**
SFJD	**Kangerlussuaq**	**27.43**	**331**		LR		LR	03 27 08.7	
	comp=Z,104nm,21.0s,baz=0.5,slow=34								
PRP	**Porcupine Dome**	**27.43**	**52**				**P**	**03 17 20.3**	**+0.5**
PRP					IAmb		IAmb	03 17 34.3	
	comp=Z,12nm,1.3s								
H31M	**Peel River**	**27.86**	**42**		P		**P**	**03 17 23.8**	**+0.3**
MA2	**Magadan**	**28.05**	**117**		*ce*P		**P**	**03 17 26.2**	**+1.0**
MA2					pmax		pmax		
	comp=Z,10.0nm,2.5s								
MA2	**Magadan**	**28.05**	**117**		P		**P**	**03 17 26.7**	**+1.5**
	comp=Z,7.0nm,1.2s								
IL31		**28.07**	**53**		P		**P**	**03 17 25.4**	**0.0**
ILAR	**Eielson Array**	**28.07**	**53**		P		**P**	**03 17 25.9**	**+0.6**
ILAR	**Eielson Array**	**28.07**	**53**		P		**P**	**03 17 25.4**	**0.0**
	comp=Z,0.5nm,0.9s,baz=352,slow=9.4,SNR=7.2								
ILAR					LR		LR	03 29 11.8	
	comp=Z,207nm,20.6s,baz=206,slow=38								
ILAR	**Eielson Array**	**28.07**	**53**		P		**P**	**03 17 26.0**	**+0.6**
CCB	**Clear Creek Bu**	**28.13**	**54**		P		**P**	**03 17 26.2**	**+0.4**
CCB					IAmb		IAmb	03 17 35.0	
	comp=Z,9.5nm,1.3s								
KIRV	**Kirov**	**28.27**	**232**		P		**P**	**03 17 27.8**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=9.0,slow=19,SNR=4.1								
KIRV					LR		LR	03 30 40.7	
	comp=Z,172nm,19.2s,baz=4.4,slow=40								
	comp=Z,2.8nm,0.5s								
NOA	**NORSAR Array B**	**28.98**	**273**		LR		LR	03 29 02.6	
	comp=Z,47nm,20.6s,baz=15,slow=36								
K27K	**Chicken**	**29.14**	**49**		P		**P**	**03 17 35.8**	**+0.9**
K27K					IAmb		IAmb	03 17 53.6	
	comp=Z,9.7nm,1.3s								
SVE	**Sverdlovsk**	**29.32**	**219**		*e*P		P	03 17 49.5	+13
HFS	**Hagfors**	**29.65**	**270**		LR		LR	03 29 19.4	
	comp=Z,93nm,19.4s,baz=12,slow=36								
ARTI	**Arti**	**29.89**	**222**		P		**P**	**03 17 42.6**	**+1.1**
ARTI					IAmb		IAmb	03 17 53.0	
	comp=Z,9.2nm,1.0s								
ARTI	**Arti**	**29.89**	**222**		LR		LR	03 31 25.8	
	comp=Z,298nm,19.2s,baz=29,slow=40								
ARTI	**Arti**	**29.89**	**222**		*d i*P		**P**	**03 17 42.3**	**+0.8**
ARTI								03 18 37.4	
ARTI								03 20 49.5	
ARTI					S		**S**	**03 22 38.6**	**+0.4**
ARTI					pmax		pmax		
	comp=Z,5.0nm,1.0s								
MMPY	**Sheldon Lake,**	**31.21**	**40**		P		**P**	**03 17 52.5**	**-0.7**
MMPY					IAmb		IAmb	03 18 04.9	
	comp=Z,14nm,1.5s								
FRB	**Frobisher Bay**	**31.26**	**346**		LR		LR	03 29 09.1	
	comp=Z,73nm,21.4s,baz=317,slow=34								
ZALV	**Zalesovo Beam**	**31.30**	**192**		P		**P**	**03 17 54.6**	**+0.6**
ZALV	**Zalesovo Beam**	**31.30**	**192**		P		**P**	**03 17 55.2**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=10,slow=9.0,SNR=5.1								
ZALV					LR		LR	03 31 42.5	
	comp=Z,192nm,18.3s,baz=18,slow=38								
	comp=Z,1.2nm,0.7s								
MOS	**Moscow**	**31.98**	**244**		*e*P		P	03 18 07.3	+7.4
MOS					*e*			03 19 17.1	
YKA	**Yellowknife Ar**	**32.12**	**26**		P		**P**	**03 17 58.6**	**-2.6**
	comp=Z,1.1nm,0.9s,baz=355,slow=8.3,SNR=16								
YKA					PcP		**PcP**	**03 20 48.8**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=352,slow=3.5,SNR=3.9								
YKA					LR		LR	03 31 12.1	
	comp=Z,184nm,18.0s,baz=291,slow=37								
	comp=Z,1.1nm,0.9s								
ZEA	**Zeya**	**32.29**	**144**		*e*P		**P**	**03 18 03.8**	**+1.1**
ZEA					pmax		pmax		
	comp=Z,10.0nm,1.3s								
BRVK	**Borovoye**	**32.62**	**208**		P		**P**	**03 18 06.5**	**+0.9**
BRVK	**Borovoye**	**32.62**	**208**		*ce*P		**P**	**03 18 08.0**	**+2.4**
BRVK					pmax		pmax		
	comp=Z,6.0nm,0.8s								
BVAR	**Borovoye Array**	**32.65**	**208**		P		**P**	**03 18 07.6**	**+1.7**
	comp=Z,5.4nm,1.0s,baz=12,slow=7.6,SNR=14								
BVAR					LR		LR	03 33 53.3	
	comp=Z,138nm,19.0s,baz=16,slow=41								
	comp=Z,5.4nm,1.0s								
OBN	**Obninsk**	**32.68**	**245**		LR		LR	03 34 27.9	
	comp=Z,82nm,21.4s,baz=352,slow=42								
OBN	**Obninsk**	**32.68**	**245**		*e*P		**P**	**03 18 07.1**	**+1.0**
OBN					*e*SS		SS	03 25 39.5	-2.3
OBN					pmax		pmax		
	comp=Z,6.0nm,0.8s								
OBN					MLR		MLR		
	comp=Z,81nm,21.0s								
MOY	**Mondy**	**33.53**	**173**		*e*P		**P**	**03 18 15.2**	**+1.5**
MOY					pmax		pmax		
	comp=Z,18nm,1.5s								
KDAK	**Kodiak Island**	**34.59**	**61**		LR		LR	03 33 08.6	
	comp=Z,163nm,18.0s,baz=184,slow=38								
KURK	**Kurchatov**	**34.68**	**198**		P		**P**	**03 18 25.1**	**+1.6**
KURK					IAmb		IAmb	03 18 34.5	
	comp=Z,4.7nm,0.8s								
KURK	**Kurchatov**	**34.68**	**198**		*ce*P		**P**	**03 18 23.9**	**+0.4**
KURK					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KURBB	**Kurchatov Arra**	**34.77**	**198**		P		**P**	**03 18 25.6**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=14,slow=7.5,SNR=14								
KURBB					PP		**PP**	**03 19 42.3**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=3.8,slow=12,SNR=5.0								
KURBB					PcP		**PcP**	**03 20 58.1**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=350,slow=3.4,SNR=3.6								
KURBB					LR		LR	03 35 25.4	
	comp=Z,205nm,18.2s,baz=141,slow=41								
	comp=Z,1.8nm,0.9s								
LPSR	**Galich'ya Gora**	**34.99**	**242**		*e*P		**P**	**03 18 28.0**	**+1.8**
LPSR					pmax		pmax		
	comp=Z,11nm,0.7s								
AKTO	**Aktyubinsk**	**35.85**	**221**		LR		LR	03 34 43.1	
	comp=Z,214nm,20.7s,baz=15,slow=38								
EKA	**Eskdalemuir Ar**	**35.86**	**285**		P		**P**	**03 18 35.0**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=20,slow=8.3,SNR=4.4								
	comp=Z,2.4nm,0.9s								
VORR	**Voronezh**	**35.90**	**241**		*e*P		P	03 18 43.9	+10
VORR					pmax		pmax		
	comp=Z,10.0nm,0.5s								
VRH	**Novokhopyorsk**	**36.17**	**239**		*e*P		**P**	**03 18 36.7**	**+0.4**
VRH					pmax		pmax		
	comp=Z,7.0nm,0.8s								
VSR	**Storozhevoye**	**36.35**	**241**		*e*P		**P**	**03 18 37.8**	**-0.1**
VSR					pmax		pmax		
	comp=Z,10.0nm,0.9s								
VORD	**Divnogorie**	**36.59**	**241**		*e*P		**P**	**03 18 40.6**	**+0.7**
VORD					pmax		pmax		
	comp=Z,7.0nm,0.9s								
ABKAR	**Akbulak array**	**36.91**	**219**		P		**P**	**03 18 43.7**	**+1.0**
ABKAR	**Akbulak array**	**36.91**	**219**		P		**P**	**03 18 44.0**	**+1.3**
KLR	**Kul'dur**	**37.03**	**139**		*i* P		**P**	**03 18 43.8**	**+0.1**
KLR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
RNPP1	**Kostyukhnivka**	**37.31**	**255**		P		P	03 18 51.4	+5.4
SONM	**Songino Array**	**37.44**	**167**		P		**P**	**03 18 48.9**	**+1.6**
SONM					IAmb		IAmb	03 18 58.3	
	comp=Z,8.6nm,1.1s								
SONM	**Songino Array**	**37.44**	**167**		P		**P**	**03 18 48.7**	**+1.3**
	comp=Z,3.6nm,0.9s,baz=349,slow=8.0,SNR=18								
SONM					PcP		**PcP**	**03 21 06.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=2.9,slow=2.9,SNR=2.6								
SONM					LR		LR	03 35 03.1	
	comp=Z,106nm,18.2s,baz=82,slow=38								
	comp=Z,3.6nm,0.9s								
AKASG	**Malin Array Be**	**37.66**	**252**		P		**P**	**03 18 50.4**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=11,slow=8.2,SNR=5.9								
AKASG					LR		LR	03 37 33.6	
	comp=Z,110nm,18.1s,baz=30,slow=41								
	comp=Z,1.1nm,0.6s								
AKBB	**Malin Array Si**	**37.66**	**252**		*i* P		**P**	**03 18 50.0**	**+1.0**
AKBB					pmax		pmax		
	comp=Z,2.0nm,0.5s								
AKBB	**Malin Array Si**	**37.66**	**252**		P		P	03 18 54.0	+5.0
AK01	**Malin Array Si**	**37.67**	**252**		P		P	03 18 54.2	+5.1
AK08	**Malin Array Si**	**37.72**	**252**		P		P	03 18 54.7	+5.2
AK09	**Malin Array Si**	**37.74**	**252**		P		P	03 18 54.8	+5.1
AK10	**Malin Array Si**	**37.76**	**252**		P		P	03 18 54.9	+5.1
AK13	**Malin Array Si**	**37.76**	**252**		P		P	03 18 55.0	+5.2
AK07	**Malin Array Si**	**37.81**	**252**		P		P	03 18 55.4	+5.1
MAKZ	**Makanchi**	**38.50**	**194**		P		**P**	**03 18 56.6**	**+0.4**
MAKZ	**Makanchi**	**38.50**	**194**		P		**P**	**03 18 56.6**	**+0.4**
MAKZ					pmax		pmax		
	comp=Z,4.0nm,0.9s								
MK31	**Makanchi Array**	**38.51**	**194**		P		**P**	**03 18 57.0**	**+0.7**
MK31	**Makanchi Array**	**38.51**	**194**		*ce*P		**P**	**03 18 56.9**	**+0.7**
MKAR	**Makanchi Array**	**38.51**	**194**		P		**P**	**03 18 57.1**	**+0.9**
MKAR	**Makanchi Array**	**38.51**	**194**		P		**P**	**03 18 56.9**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=9.0,slow=6.7,SNR=21								
MKAR					LR		LR	03 36 16.4	
	comp=Z,115nm,18.7s,baz=354,slow=38								
	comp=Z,2.6nm,0.8s								
MKAR	**Makanchi Array**	**38.51**	**194**		P		**P**	**03 18 57.1**	**+0.9**
LUBAR	**Lubar, Ukraine**	**38.56**	**253**		P		P	03 19 01.7	+5.1
LUBAR					pP		pwP	03 19 05.9	+2.8
MORC	**Moravsky Berou**	**39.58**	**263**		P		**P**	**03 19 06.1**	**+1.0**
MORC	**Moravsky Berou**	**39.58**	**263**		*e*P		**P**	**03 19 07.7**	**+2.6**
MORC	**Moravsky Berou**	**39.58**	**263**		P		**P**	**03 19 06.1**	**+1.0**
MORC					pmax		pmax		
	comp=Z,7.0nm,1.2s								
STNU	**Starunia**	**40.03**	**256**		P		P	03 19 14.3	+5.4
VRAC	**Vranov**	**40.12**	**264**		LR		LR	03 36 42.6	
	comp=Z,50nm,18.5s,baz=358,slow=37								
VRAC	**Vranov**	**40.12**	**264**		*e*P		**P**	**03 19 12.3**	**+2.6**
BNX	**BinXian**	**40.28**	**145**		P		**P**	**03 19 11.3**	**+0.3**
BNX					pmax		pmax		
	comp=Z,8.0nm,1.0s								
MEZ	**Mezhgor'ye**	**40.31**	**257**		P		P	03 19 17.2	+6.0
CHRU	**Chernivtsi**	**40.32**	**255**		P		P	03 19 16.5	+5.2
KRUC	**Moravsky**	**40.38**	**264**		*e*P		**P**	**03 19 14.2**	**+2.4**
MUKU	**Mukachevo**	**40.44**	**258**		P		P	03 19 17.8	+5.5
JAVC	**Velka Javorina**	**40.47**	**263**		*e*P		**P**	**03 19 10.0**	**-2.6**
GERES	**GERESS Array B**	**40.83**	**267**		P		**P**	**03 19 17.5**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=8.9,slow=9.5,SNR=9.5								
	comp=Z,1.0nm,0.7s								
MODS	**Modra-Piesok**	**40.99**	**263**		*e*P		**P**	**03 19 20.1**	**+3.3**
MODS					pmax		pmax		
	comp=Z,19nm,1.1s								
MODS	**Modra-Piesok**	**40.99**	**263**		*e*P		**P**	**03 19 20.1**	**+3.3**
SRO	**Srobarova**	**41.46**	**262**		*e*P		**P**	**03 19 25.3**	**+4.7**
SRO	**Srobarova**	**41.46**	**262**		*e*P		**P**	**03 19 25.3**	**+4.7**
BBB	**Bella Bella**	**41.79**	**39**		LR		LR	03 36 55.5	
	comp=Z,82nm,21.8s,baz=340,slow=37								
USRK	**Ussuriysk Ar.**	**42.06**	**

comp=Z,12nm,1.5s
BOZ Bozeman (W) 49.13 25 P P 03 20 21.6 -0.1
BOZ pmax pmax
comp=Z,12nm,1.5s
G08A Pilot Rock 49.13 31 P P 03 20 21.6 -0.1
G08A IAmb IAmb 03 20 36.5
comp=Z,9.5nm,1.4s
BMO Blue Mountains 49.64 30 P P 03 20 25.9 +0.3
BMO IAmb IAmb 03 20 33.8
comp=Z,8.5nm,1.4s
BMO Blue Mountains 49.64 30 P P 03 20 25.9 +0.3
BMO pmax pmax
comp=Z,8.0nm,1.5s
MJAR Matsushiro Arr 50.06 134 P P 03 20 28.0 -0.7
comp=Z,2.7nm,0.9s,baz=3.5,slow=9.9,SNR=4.7
MJAR LR LR 03 43 18.9
comp=Z,34nm,18.8s,baz=322,slow=38
comp=Z,2.7nm,0.9s
I07A Izee 50.31 32 P P 03 20 31.1 +0.4
I07A IAmb IAmb 03 20 39.7
comp=Z,9.7nm,1.3s
SADO Sadowa 50.42 355 LR LR 03 42 04.0
comp=Z,97nm,18.4s,baz=358,slow=36
J08A Circle Bar Ran 51.08 31 P P 03 20 36.6 +0.2
J08A IAmb IAmb 03 20 38.4
comp=Z,6.6nm,0.9s
FXWY Fox Creek 51.11 24 P P 03 20 37.0 +0.2
TPAW Teton Pass 51.26 24 P P 03 20 38.4 +0.4
TPAW IAmb IAmb 03 20 58.4
comp=Z,7.3nm,1.4s
ESDC Sonseca Array 51.47 283 P P 03 20 41.3 +1.9
comp=Z,0.9nm,0.8s,baz=7.9,slow=7.7,SNR=4.1
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 52.03 23 P P 03 20 42.4 -1.3
comp=Z,0.5nm,0.8s,baz=345,slow=5.5,SNR=2.9
comp=Z,0.5nm,0.8s
HWUT Hardware Ranch 53.11 25 P P 03 20 52.0 +0.3
HWUT IAmb IAmb 03 21 00.2
comp=Z,9.8nm,1.4s
KEST Kesra 54.23 269 P P 03 21 01.4 +1.6
comp=Z,8.0nm,0.8s,baz=54,slow=2.9,SNR=5.5
comp=Z,8.0nm,0.8s
SPR3 Spring Creek 3 55.61 28 P P 03 21 09.5 -0.5
SPR3 IAmb IAmb 03 21 22.5
comp=Z,8.0nm,1.3s
NVAR Mina Array Bea 56.01 31 P P 03 21 11.4 -1.4
comp=Z,0.4nm,0.7s,baz=354,slow=9.1,SNR=4.1
NVAR PcP PcP 03 22 10.7 -0.3
comp=Z,0.7nm,0.9s,baz=339,slow=4.7,SNR=1.9
NVAR LR LR 03 46 08.6
comp=Z,93nm,20.2s,baz=359,slow=37
comp=Z,0.4nm,0.7s
Q51A Peebles 56.19 358 P P 03 21 12.7 -1.1
R11B Troy Canyon, C 56.20 29 P P 03 21 13.7 -0.5
R11B IAmb IAmb 03 21 29.7
comp=Z,7.4nm,1.3s
PV13 Radium Mtn., P 56.65 22 P P 03 21 16.8 -0.6
PV13 IAmb IAmb 03 21 36.1
comp=Z,8.9nm,1.2s
DSP Deep Springs 57.08 31 P P 03 21 20.0 0.0
LCMT Little Creek M 57.63 27 P P 03 21 24.0 -0.2
EIL Elat 58.09 243 LR LR 03 50 38.9
comp=Z,72nm,21.6s,baz=234,slow=40
GWY Greenwater Val 58.31 30 P P 03 21 28.6 -0.5
GWY IAmb IAmb 03 21 29.9
comp=Z,4.9nm,1.0s
MDT Midelt 58.33 283 LR LR 03 45 26.4
comp=Z,116nm,21.7s,baz=168,slow=35
TKL Tuckaleechee C 59.55 359 LR LR 03 46 58.7
comp=Z,136nm,19.3s,baz=358,slow=36
ANMO Albuquerque 59.93 20 LR LR 03 47 20.4
comp=Z,136nm,21.4s,baz=146,slow=36
PFO Pinyon Flats O 60.89 30 LR LR 03 48 45.1
comp=Z,61nm,21.3s,baz=26,slow=37
VHRN Van Horn 64.12 19 P P 03 22 08.1 -0.3
TXAR Lajitas Array 65.60 18 P P 03 22 17.2 -0.8
comp=Z,0.7nm,0.7s,baz=343,slow=1.7,SNR=7.1
TXAR LR LR 03 51 41.2
comp=Z,69nm,18.4s,baz=347,slow=37
comp=Z,0.7nm,0.7s
CMAR Chiang Mai Arr 66.64 176 P P 03 22 25.4 +0.7
comp=Z,1.3nm,0.4s,baz=349,slow=7.7,SNR=10
comp=Z,1.3nm,0.4s
LPIG La Paz 70.60 24 LR LR 03 55 37.4
comp=Z,72nm,18.5s,baz=359,slow=38
TORD Torodi Ar. Bea 77.28 274 P P 03 23 28.7 +0.2
CMIG Matias Romero 77.97 10 LR LR 04 01 00.7
comp=Z,60nm,18.9s,baz=14,slow=38
RUSC La Rusia 89.06 348 P P 03 24 29.6 -0.3

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*SJA **27** 03:20:54.4±0.8, 20.°40S×68.°66W, h149km±9km, ML4.2, MW3.9*
*VAO **27** 03:20:55.1±0.5, 20.°31S×68.°60W, h134km, mb4.3*
*NEIC **27** 03:20:55.1±1.6, 20.°39S±0.°02×68.°80W±0.°08, h152km±7km, mb4.5/11, Error ellipse: s-maj=11.5km s-min=2.4km az=92.0*
*SCB **27** 03:20:56.2±0.8, 20.°36S×68.°74W, h130km±11km, ML3.9/3, MW3.7, Error ellipse: s-maj=4.1km s-min=3.3km az=358.0*
*GUC **27** 03:20:56.7±0.7, 20.°37S×68.°72W, h139km±3km, ML4.0*
*IDC **27** 03:20:56.8±0.8, 20.°29S×68.°41W, h144km±6km, mb3.7/9, mbtmp4.2/13, Error ellipse: s-maj=20.3km s-min=16.4km az=82.0*
ISC 27 03:20:55.0±0.5,**20.°39S**±0.°03×**68.°68W**±0.°04,**h144**km±4km, **n151**,σ1º**19**/176,**mb4.2**/10,**10C**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.51**	**299**		**Pn**	**03 21 16.1**	**0.0**
PB08				Sn	**Sn**	**03 21 31.8**	**-0.3**
PB08	**IPOC Station P**	**0.51**	**299⇑**	*e*P	**Pn**	**03 21 16.3**	**+0.1**
PB08				*e*S	**Sn**	**03 21 31.8**	**-0.3**
PB08				IAML		03 21 33.0	
comp=E,6μm,0.1s							
PB08	**IPOC Station P**	**0.51**	**299**	*e*P	**Sn**	**03 21 32.1**	**0.0**
PB08	**IPOC Station P**	**0.51**	**299**	Pg	**Pn**	**03 21 16.3**	**+0.1**
PB01	**IPOC Station P**	**1.00**	**229**		**Pn**	**03 21 19.8**	**+0.5**
PB01				Sn	**Sn**	**03 21 37.8**	**0.0**
PB01	**IPOC Station P**	**1.00**	**229⇑**	*e*P	**Pn**	**03 21 19.8**	**+0.5**
PB01				*e*S	**Sn**	**03 21 37.8**	**0.0**
PB01	**IPOC Station P**	**1.00**	**229**	*e*P	**Pn**	**03 21 19.0**	**-0.3**
PB01				*e*P		03 21 21.4	
PB01				*e*S	**Sn**	**03 21 38.4**	**+0.6**
PB01				IAML		03 21 39.1	
comp=Z,5μm,0.1s							
PB01	**IPOC Station P**	**1.00**	**229**	Pg	**Pn**	**03 21 19.7**	**+0.5**
PB01				Sg	**Sn**	**03 21 37.3**	**-0.5**
PB01				IAML		03 21 38.9	
comp=Z,7μm,0.7s							
PB11	**IPOC Station P**	**1.11**	**304**		**Pn**	**03 21 20.4**	**0.0**
PB11				Sn	**Sn**	**03 21 39.1**	**-0.6**
PB11	**IPOC Station P**	**1.11**	**304⇑**	*i*P	**Pn**	**03 21 20.5**	**+0.1**
PB11				*i* S	**Sn**	**03 21 39.2**	**-0.4**
PB11	**IPOC Station P**	**1.11**	**304**	*e*P	**Pn**	**03 21 21.4**	**+1.0**
PB11				*e*S	**Sn**	**03 21 40.5**	**+0.8**
PB11				IAML		03 21 41.5	
comp=Z,2μm,0.5s							
PB11	**IPOC Station P**	**1.11**	**304**	Pg	**Pn**	**03 21 20.3**	**0.0**
HMBC	**Humberstone**	**1.14**	**275**		**Pn**	**03 21 20.3**	**-0.3**
HMBC				Sn	**Sn**	**03 21 39.9**	**-0.2**
HMBC	**Humberstone**	**1.14**	**275**	*e*P	**Pn**	**03 21 20.5**	**-0.1**
HMBC				IAML		03 21 47.9	
comp=N,3μm,0.2s							
HMBC	**Humberstone**	**1.14**	**275**	*e*P	**Pn**	**03 21 21.4**	**+0.7**
HMBC				*e*S	**Sn**	**03 21 40.7**	**+0.6**
HMBC				IAML		03 21 41.4	
comp=Z,1μm,0.5s							
TA02	**Huaiquique**	**1.37**	**275**		**Pn**	**03 21 22.8**	**+0.2**
TA02				Sn	**Sn**	**03 21 43.3**	**-0.5**
TA02	**Huaiquique**	**1.37**	**275⇑**	*e*P	**Pn**	**03 21 22.9**	**+0.2**
TA02	**Huaiquique**	**1.37**	**275**	*e*P	**Pn**	**03 21 22.9**	**+0.2**
TA02				*e*S	**Sn**	**03 21 45.2**	**+1.4**
TA02				IAML		03 21 46.9	
comp=Z,2μm,0.2s							
TA01	**Diego Aracena**	**1.42**	**263**		**Pn**	**03 21 23.1**	**-0.1**
TA01				Sn	**Sn**	**03 21 44.0**	**-0.8**
TA01	**Diego Aracena**	**1.42**	**263⇑**	*e*P	**Pn**	**03 21 23.3**	**+0.1**
TA01				IAML		03 21 46.0	
comp=E,2μm,0.3s							
TA01	**Diego Aracena**	**1.42**	**263**	*e*P	**Pn**	**03 21 23.3**	**+0.1**
TA01				*e*S	**Sn**	**03 21 46.1**	**+1.3**
PATCX	**Punta Patache**	**1.45**	**252**		**Pn**	**03 21 24.1**	**+0.5**
PATCX				Sn	**Sn**	**03 21 45.1**	**-0.4**
PATCX	**Punta Patache**	**1.45**	**252**	*e*P	**Pn**	**03 21 23.9**	**+0.3**
PATCX				*e*S	**Sn**	**03 21 45.0**	**-0.4**
PATCX	**Punta Patache**	**1.45**	**252**	*e*P	**Pn**	**03 21 24.0**	**+0.3**
PATCX				*e*S	**Sn**	**03 21 46.7**	**+1.2**
PB09	**IPOC Station P**	**1.50**	**200**		**Pn**	**03 21 25.7**	**+1.4**
PB09				Sn	**Sn**	**03 21 47.7**	**+1.0**
PB09	**IPOC Station P**	**1.50**	**200**	*e*P	**Pn**	**03 21 25.3**	**+1.0**
PB09				*e*S	**Sn**	**03 21 47.7**	**+1.0**
PB09				IAML		03 21 50.6	
comp=E,1μm,0.6s							
PB09	**IPOC Station P**	**1.50**	**200**	*e*P	**Pn**	**03 21 24.9**	**+0.6**
PB09				*e*S	**Sn**	**03 21 48.2**	**+1.5**
PB09	**IPOC Station P**	**1.50**	**200**	Pg	**Pn**	**03 21 25.2**	**+0.9**
PB09				Sg	**Sn**	**03 21 48.0**	**+1.3**
PB09				IAML		03 21 51.1	
comp=E,758nm,0.4s							
PB03	**IPOC Station P**	**1.93**	**211⇑**	*e*P	**Pn**	**03 21 30.0**	**+0.8**
PB03				*e*S	**Sn**	**03 21 55.3**	**-0.1**
PB03				IAML		03 21 55.5	
comp=N,1μm,0.3s							
PB03	**IPOC Station P**	**1.93**	**211**	*e*P	**Pn**	**03 21 29.4**	**+0.2**
PB03				*e*S	**Sn**	**03 21 55.5**	**+0.1**
PB03				IAML		03 21 56.4	
comp=Z,1μm,0.4s							
SOEO	**Opoqueri**	**1.96**	**23**	Pg	**Pn**	**03 21 31.1**	**+1.3**
PB16	**IPOC Station P**	**2.19**	**339**		**Pn**	**03 21 33.5**	**+0.9**
PB16				Sn	**Sn**	**03 22 01.6**	**+0.2**
PB16	**IPOC Station P**	**2.19**	**339⇑**	*e*P	**Pn**	**03 21 33.6**	**+0.9**
PB16				*e*S	**Sn**	**03 22 02.1**	**+0.7**
PB16				IAML		03 22 04.8	
comp=N,495nm,0.5s							
PB16	**IPOC Station P**	**2.19**	**339**	*e*P	**Pn**	**03 21 33.6**	**+0.9**
PB16				*e*S	**Sn**	**03 21 57.7**	**-3.7**
PB16	**IPOC Station P**	**2.19**	**339**	Pg	**Pn**	**03 21 33.5**	**+0.9**
PB12	**IPOC Station P**	**2.35**	**318**	Pn	**Pn**	**03 21 33.2**	**-0.9**
PB06	**IPOC Station P**	**2.45**	**200⇑**	*e*P	**Pn**	**03 21 36.3**	**+0.8**
PB06				*e*S	**Sn**	**03 22 06.7**	**+0.1**
PB06				IAML		03 22 07.2	
comp=E,910nm,0.3s							
PB06	**IPOC Station P**	**2.45**	**200**	*e*P	**Pn**	**03 21 35.8**	**+0.4**
PB06				*e*S	**Sn**	**03 22 06.9**	**+0.3**
PB06				IAML		03 22 08.4	
comp=Z,672nm,0.3s							
AP01	**Chacalluta**	**2.55**	**322**	Pn	**Pn**	**03 21 35.7**	**-0.7**
AF01	**San Pedro de A**	**2.59**	**170**		**Pn**	**03 21 38.3**	**+1.0**
PB05	**IPOC Station P**	**2.83**	**210**	Pn	**Pn**	**03 21 40.0**	**-0.1**
PB05	**IPOC Station P**	**2.83**	**210⇑**	*e*P	**Pn**	**03 21 40.7**	**+0.6**
PB05				IAML		03 22 13.8	
comp=E,770nm,0.2s							
PB05	**IPOC Station P**	**2.83**	**210**	*e*P	**Pn**	**03 21 40.1**	**-0.1**
PB05				*e*S	**Sn**	**03 22 13.7**	**-1.3**
PB05				IAML		03 22 15.8	
comp=Z,549nm,0.4s							
PB18	**Visviri**	**2.88**	**345**		**Pn**	**03 21 42.1**	**+0.9**
MOCB	**Mochara**	**2.97**	**107**	Pg	**Pn**	**03 21 44.2**	**+2.0**
MOCB				Sg	**Sn**	**03 22 21.0**	**+2.4**
MOCB				IAML		03 22 23.8	
comp=Z,132nm,1.1s							
SOEJ	**Jacaque**	**3.42**	**8**	Pg	**Pn**	**03 21 49.4**	**+1.2**
YJA	**Yavi**	**3.45**	**122**	*e*P	**Pn**	**03 21 50.5**	**+2.2**
YJA				*e*S	**Sn**	**03 22 27.2**	**-2.3**
SOET	**ToroToro**	**3.53**	**51**	Pg	**Pn**	**03 21 51.2**	**+1.9**
BBOD	**La Paz, Gloria**	**3.73**	**1**	Pg	**Pn**	**03 21 53.9**	**+1.8**
AOEA	**Aiquile**	**3.92**	**57**	Pg	**Pn**	**03 21 56.0**	**+1.5**
LPAZ	**La Paz**	**4.11**	**7**	Pn	**Pn**	**03 21 58.2**	**+1.1**
LPAZ	**La Paz**	**4.11**	**7**	P	**Pn**	**03 21 59.0**	**+1.8**
comp=Z,13nm,0.7s,baz=179,slow=5.8,SNR=30							
LPAZ	**La Paz**	**4.11**	**7**	*e*P	**Pn**	**03 21 59.0**	**+1.8**
LPAZ	**La Paz**	**4.11**	**7**	Pg	**Pn**	**03 21 58.5**	**+1.3**
LPAZ	**La Paz**	**4.11**	**7**	*e*P	**Pn**	**03 21 56.0**	**-1.2**
PB14	**IPOC Station P**	**4.51**	**200**	Pn	**Pn**	**03 22 01.0**	**-1.2**
GO02	**Mina Guanaco**	**4.83**	**190**	Pn	**Pn**	**03 22 05.9**	**-0.4**
GO02	**Mina Guanaco**	**4.83**	**190**	*e*P	**Pn**	**03 22 06.5**	**+0.2**
GO02				*e*S	**Sn**	**03 23 00.4**	**-1.4**
AC01	**Pan de Azucar**	**6.00**	**197**	Pn	**Pn**	**03 22 20.6**	**-1.1**
AC02	**Maricunga**	**6.43**	**184**	Pn	**Pn**	**03 22 27.9**	**0.0**
AC06	**Mina Casimiro**	**7.11**	**192**	Pn	**Pn**	**03 22 36.6**	**+0.1**
GO03	**Copiapo**	**7.31**	**191**	Pn	**Pn**	**03 22 37.3**	**-2.0**
AC04	**Llanos de Chal**	**8.08**	**195**	Pn	**Pn**	**03 22 45.9**	**-3.7**
SIV	**San Ignacio**	**8.45**	**60**	P	**Pn**	**03 22 51.8**	**-2.7**
comp=Z,67nm,0.9s,baz=256,slow=11,SNR=42							
AC05	**El Transito**	**8.54**	**189**	Pn	**Pn**	**03 22 54.1**	**-1.7**
LCO	**Las Campanas**	**8.78**	**192**	Pn	**Pn**	**03 22 56.2**	**-3.0**
GO04	**Tololo Observa**	**9.93**	**191**	Pn	**Pn**	**03 23 12.1**	**-2.3**
PTLB	**Pontes e Lacer**	**10.32**	**63**	Pn	**Pn**	**03 23 16.9**	**-2.6**
PTLB	**Pontes e Lacer**	**10.32**	**63**	*e*P	**Pn**	**03 23 18.0**	**-1.5**
MURT	**Porto Murtinho**	**10.42**	**99**	*e*P	**Pn**	**03 23 18.1**	**-2.6**
CO03	**El Pedregal**	**10.56**	**189**	Pn	**Pn**	**03 23 19.7**	**-3.0**
VILB	**Vilhena**	**10.98**	**49**	Pn	**Pn**	**03 23 27.5**	**-0.8**
VILB	**Vilhena**	**10.98**	**49**	*e*P	**Pn**	**03 23 26.6**	**-1.6**
BDQN	**Bodoquena, MS**	**11.19**	**92**	*e*P	**Pn**	**03 23 28.9**	**-2.0**
CPUP	**Villa Florida**	**11.98**	**122**	P	**Pn**	**03 23 40.6**	**-0.7**
comp=Z,8.4nm,0.9s,baz=303,slow=12,SNR=15							
CPUP	**Villa Florida**	**11.98**	**122**	*e*P	**Pn**	**03 23 40.9**	**-0.4**
AQDB	**Aquidauana**	**12.17**	**93**	Pn	**Pn**	**03 23 44.7**	**+0.9**
VA03	**San Esteban**	**12.44**	**187**	Pn	**Pn**	**03 23 45.7**	**-1.6**
SJPY	**San Joaquin**	**12.48**	**114**	*e*P	**Pn**	**03 23 48.1**	**+0.3**
AMBA	**Amambai (Brazi**	**12.98**	**104**	*e*P	**Pn**	**03 23 54.3**	**+0.1**
MT02	**Curacav**	**13.01**	**189**	Pn	**Pn**	**03 23 54.5**	**0.0**
SALV	**Santo Antonio**	**13.12**	**72**	*e*P	**Pn**	**03 23 54.8**	**-1.3**
RPRD	**Ribas do Rio P**	**14.04**	**93**	*e*P	**Pn**	**03 24 08.0**	**+0.2**
PDRB	**Porto dos Gac**	**14.42**	**55**	*e*P	**Pn**	**03 24 12.2**	**-0.3**
CLDB	**Colider**	**15.59**	**55**	*e*P	**Pn**	**03 24 27.2**	**0.0**
H03N1	**Juan Fernandez**	**15.87**	**213**	T	T	03 39 49.1	
baz=34							
H03N2	**Juan Fernandez**	**15.88**	**213**	T	T	03 39 55.0	
baz=34							
H03N3	**Juan Fernandez**	**15.89**	**213**	T	T	03 40 03.9	
baz=34							
PTGB	**Pitanga**	**15.94**	**109**	*e*P	**Pn**	**03 24 31.6**	**+0.1**
TBOT	**Tacuaremb**	**16.04**	**137**	*e*P	**P**	**03 24 33.3**	**+0.2**
LDASE	**Londrina, Braz**	**16.57**	**104**	*e*P	**Pn**	**03 24 40.5**	**+1.3**
ITAB	**Concordia**	**16.60**	**117**	P	**Pn**	**03 24 39.6**	**+0.2**
ITAB				IAmb	IAmb	03 24 41.6	
comp=Z,22nm,0.8s							
ITAB	**Concordia**	**16.60**	**117**	*e*P	**Pn**	**03 24 40.7**	**+1.3**
ARAG	**Araguaiana, MT**	**16.70**	**77**	*e*P	**Pn**	**03 24 40.6**	**-0.1**
CPSB	**Cacapava Do Su**	**16.98**	**129**	*e*P	**Pn**	**03 24 44.5**	**+0.4**
ITRB	**Iturama**	**17.23**	**91**	*e*P	**Pn**	**03 24 46.7**	**-0.4**
PLTB	**Pedras Altas**	**17.63**	**133**	P	**P**	**03 24 50.1**	**-0.7**
PLTB				IAmb	IAmb	03 25 22.8	
comp=Z,20nm,1.3s							
PLTB	**Pedras Altas**	**17.63**	**133**	*e*P	**Pn**	**03 24 51.3**	**-0.6**
FRTB	**Fartura**	**17.98**	**103**	*e*P	**Pn**	**03 24 55.4**	**-0.8**
CNLB	**Canela**	**18.44**	**122**	*e*P	**Pn**	**03 25 00.8**	**-0.7**
NPGB	**Novo Progresso**	**18.51**	**46**	*e*P	**P**	**03 24 59.0**	**-1.5**
TRQA	**Tornquist**	**18.54**	**163**	Pn	**Pn**	**03 25 01.6**	**-0.9**
SNDB	**Serra Nova Dou**	**18.66**	**66**	*e*P	**P**	**03 25 02.1**	**0.0**
MACA	**Manacapuru-AM**	**18.81**	**26**	P	**P**	**03 25 02.7**	**-1.0**
MACA				IAmb	IAmb	03 25 05.9	
comp=Z,31nm,0.8s							
MACA	**Manacapuru-AM**	**18.81**	**26**	*e*P	**P**	**03 25 03.3**	**-0.4**
BB19B	**Bebedouro**	**18.86**	**96**	*e*P	**P**	**03 25 04.2**	**-0.1**
MAJ01	**Sao Joao Batis**	**19.28**	**115**	*e*P	**P**	**03 25 07.9**	**-0.8**
IPMB	**Ipameri, GO**	**19.48**	**86**	*e*P	**P**	**03 25 11.0**	**0.0**
TER01	**Tubaro-SC**	**19.54**	**118**	*e*P	**P**	**03 25 10.3**	**-1.3**
BDFB	**Brasilia**	**20.20**	**80**	P	**P**	**03 25 17.9**	**-1.0**
BDFB				IAmb	IAmb	03 25 22.3	
comp=Z,7.9nm,0.5s							
BDFB	**Brasilia**	**20.20**	**80**	P	**P**	**03 25 17.9**	**-1.0**
comp=Z,6.1nm,0.4s,baz=250,slow=10,SNR=13							
ITTB	**Itaituba**	**20.30**	**40**	*e*P	**P**	**03 25 18.7**	**-1.2**
VAO	**Valinhos**	**20.34**	**101**	P	**P**	**03 25 19.7**	**-0.6**
VAO				IAmb	IAmb	03 25 20.7	
comp=Z,17nm,0.4s							
VAO	**Valinhos**	**20.34**	**101**	*e*P	**P**	**03 25 20.1**	**-0.2**
PLCA	**Paso Flores**	**20.34**	**184**	P	**P**	**03 25 19.9**	**-0.2**
PLCA	**Paso Flores**	**20.34**	**184**	P	Pn	**03 25 23.1**	**-0.7**
comp=Z,3.0nm,0.7s,baz=6.0,slow=11,SNR=10							
comp=Z,3.0nm,0.7s							
PLCA	**Paso Flores**	**20.34**	**184**	*e*P	Pn	03 25 21.7	-2.0
PMNB	**Patos De Minas**	**21.05**	**89**	*e*P	**P**	**03 25 27.2**	**-0.7**
PRPB	**Parauapebas**	**23.12**	**55**	*e*P	**P**	**03 25 49.2**	**+0.5**
DIAM	**Diamantina, MG**	**23.68**	**89**	*e*P	**P**	**03 25 54.2**	**+0.2**
JANB	**Januaria**	**23.80**	**81**	*e*P	**P**	**03 25 54.8**	**0.0**
BOAV	**Boa Vista**	**24.01**	**20**	P	**P**	**03 25 57.0**	**+0.3**
BOAV				IAmb	IAmb	03 26 00.3	
comp=Z,13nm,1.5s							
BOAV	**Boa Vista**	**24.01**	**20**	*e*P	**P**	**03 25 56.7**	**0.0**
SDBA	**SAO DESIDERIO**	**24.13**	**74**	*e*P	**P**	**03 25 57.9**	**0.0**
SJMB	**Sao Joao De Ma**	**25.95**	**91**	*e*P	**P**	**03 26 14.9**	**+0.6**
RIB01	**Linhares ES**	**26.61**	**93**	*e*P	**P**	**03 26 20.0**	**-0.3**
GUA01	**Guaratinga, BA**	**27.63**	**87**	*e*P	**P**	**03 26 29.9**	**+0.5**
NBPB	**Pedra_Branca-C**	**31.88**	**66**	*e*P	**P**	**03 27 07.3**	**+0.4**
NBAN	**Anadia - AL**	**32.99**	**76**	*e*P	**P**	**03 27 16.8**	**+0.1**
NBCA	**Caruaru-PE**	**33.80**	**74**	*e*P	**P**	**03 27 24.2**	**+0.5**
RCBR	**Riachuelo**	**34.95**	**70**	P	**P**	**03 27 33.7**	**+0.1**
RCBR	**Riachuelo**	**34.95**	**70**	*e*P	**P**	**03 27 34.2**	**+0.6**
KMSC	**Kings Mountain**	**56.52**	**348**	P	**P**	**03 30 20.6**	**-1.7**
BG3	**Lake Jocassee**	**56.71**	**346**	P	**P**	**03 30 21.2**	**-2.5**
BG3				IAmb	IAmb	03 30 25.3	
comp=Z,20nm,1.4s							
DBIC	**Dimbokro**	**68.21**	**74**	P	**P**	**03 31 40.6**	**+0.1**
comp=Z,3.6nm,0.6s,baz=258,slow=8.8,SNR=7.7							
comp=Z,3.6nm,0.6s							
QSPA	**South Pole Qui**	**69.80**	**180**	P	**P**	**03 31 52.8**	**+3.2**
comp=Z,0.4nm,0.5s,baz=108,slow=5.4,SNR=1.9							
QSPA				pP	**pP**	**03 32 26.7**	**+0.7**
comp=Z,0.8nm,0.7s,baz=105,slow=5.8,SNR=2.0							
comp=Z,0.4nm,0.5s							
PDAR	**Pinedale Array**	**73.26**	**330**	P	**P**	**03 32 12.9**	**+2.1**
comp=Z,0.1nm,0.3s,baz=151,slow=8.6,SNR=1.6							
comp=Z,0.1nm,0.3s							
ULM	**Lac du Bonnet**	**74.33**	**342**	P	**P**	**03 32 17.0**	**+0.5**
comp=Z,0.8nm,0.6s,baz=202,slow=12,SNR=2.0							
comp=Z,0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**03 32 31.4**	**+0.1**
comp=Z,1.8nm,0.4s,baz=261,slow=5.2,SNR=1.6							
comp=Z,1.8nm,0.4s							
SYO	**Syowa Base**	**77.46**	**159⇑**	*e*P	**P**	**03 32 29.9**	**-4.2**
BOSA	**Boshof**	**83.78**	**118**	P	**P**	**03 33 09.7**	**+0.9**
comp=Z,2.9nm,0.9s,baz=128,slow=5.6,SNR=2.6							
comp=Z,2.9nm,0.9s							
YKA	**Yellowknife Ar**	**90.21**	**341**	P	**P**	**03 33 40.3**	**+1.6**
comp=Z,0.7nm,0.7s,baz=138,slow=4.1,SNR=14							
YKA				pP	**pP**	**03 34 16.8**	**+0.1**
comp=Z,1.7nm,0.8s,baz=139,slow=4.6,SNR=18							
YKA				sP	**sP**	**03 34 32.4**	**+0.2**
comp=Z,0.7nm,0.8s,baz=137,slow=5.0,SNR=4.3							
comp=Z,0.7nm,0.7s							
KEST	**Kesra**	**92.46**	**53**	P	**P**	**03 33 51.0**	**+1.0**
comp=Z,3.1nm,1.0s,baz=98,slow=14,SNR=1.5							
comp=Z,3.1nm,1.0s							
H11S2	**WAKE ISLAND Hyl**	**27.95**	**278**	T	T	05 59 44.1	
baz=102,slow=74,SNR=8.9							
H11S1	**WAKE ISLAND Hyl**	**27.95**	**278**	T	T	05 59 51.4	
baz=102,slow=74,SNR=5.7							
H11S3	**WAKE ISLAND Hyl**	**27.96**	**278**	T	T	05 59 41.2	
baz=102,slow=74,SNR=6.5							
H11N3	**WAKE ISLAND Hyl**	**28.00**	**280**	T	T	05 59 56.2	
baz=103,slow=74							
H11N2	**WAKE ISLAND Hyl**	**28.01**	**280**	T	T	05 59 57.5	
baz=103,slow=74							
H11N1	**WAKE ISLAND Hyl**	**28.01**	**280**	T	T	05 59 56.1	
baz=103							
MKAR	**Makanchi Array**	**144.61**	**35**	PKP	**PKPdf**	**03 40 15.7**	**+1.1**
comp=Z,0.1nm,0.4s,baz=335,slow=2.4,SNR=2.7							
MKAR				pPKP	**pPKPdf**	**03 40 54.4**	**+0.3**
comp=Z,0.3nm,0.7s,baz=327,slow=2.4,SNR=3.0							
SONM	**Songino Array**	**152.33**	**7**	pPKPbc	pPKPbc	03 41 14.4	+0.8
comp=Z,0.6nm,0.6s,baz=342,slow=1.4,SNR=1.7							

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*IDC **27** 03:28:06.6±14.0, 11.°43N×88.°66W, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=298.8km s-min=115.2km az=10.0*
*SNET **27** 03:28:15.1±1.1, 12.°00N×89.°66W, h36km±47km, ML3.3*
ISC 27 03:28:19.5±2.1,**12.°2N**±0.°2×**89.°4W**±0.°1,**h35**km,**n10**, σ1º**80**/9,**mb3.1**/3,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.33**	**2**	*e*P	**Pn**	**03 28 40.0**	**-1.6**
JAYA	**Jayaque - finc**	**1.50**	**357**	*e*P	**Pn**	**03 28 42.1**	**-2.0**
COEG	**Centro de Oper**	**1.54**	**18**	*e*P	**Pn**	**03 28 43.5**	**-1.1**
COEG				IAML		03 29 17.9	
comp=Z,195nm,0.5s							
BOQS	**Boqueron**	**1.58**	**3**	*e*P	**Pn**	**03 28 44.5**	**-0.8**
CEVE	**Cerro Verde**	**1.69**	**352**	IAML		03 29 20.3	
comp=Z,486nm,0.3s							
LCND	**La Caada**	**1.85**	**51**	*e*P	**Pn**	**03 28 48.3**	**-0.5**
ESQI	**Esquipulas**	**2.40**	**1**	*e*S	**Sn**	**03 29 26.2**	**+1.5**
TXAR	**Lajitas Array**	**21.66**	**324**	P	**P**	**03 33 09.8**	**+2.5**
comp=Z,0.6nm,0.7s,baz=141,slow=12,SNR=4.1							
comp=Z,0.6nm

2.3nm,1.0s
KURBB **Kurchatov Arra** 39.47 51 P P 03 48 14.6 +0.6
0.2nm,0.3s,baz=279,slow=8.7,SNR=1.7
0.2nm,0.3s
MKAR **Makanchi Array** 41.98 57 P P 03 48 35.1 +0.3
0.2nm,0.5s,baz=268,slow=7.2,SNR=2.9
0.2nm,0.5s
SONM **Songino Array** 57.84 51 P P 03 50 35.3 -0.2
0.5nm,0.8s,baz=279,slow=9.9,SNR=1.8
0.5nm,0.8s
SCHQ **Schefferville** 64.81 320 P P 03 51 21.2 -1.2
1.6nm,0.6s,baz=82,slow=7.1,SNR=4.0
1.6nm,0.6s
YKA **Yellowknife Ar** 78.32 343 P P 03 52 42.4 -1.2
0.2nm,0.8s,baz=38,slow=5.2,SNR=2.8
0.2nm,0.8s

*UCR **27** 03:43:13.8±0.8, 9°.40N×84°.63W, h1^{km}±5^{km}, MW3.9*
*UPA **27** 03:43:14.1±1.2, 9°.99N×84°.45W, h10^{km}±48^{km}, MD4.1, MW4.6*

ISC 27 03:43:16.5±1.1, 9°.48N±0°.04×84°.57W±0°.03, h24^{km}±9^{km}, n90, σ0°.90/101, 2C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.23**	**80**	*eP*	**Pb**	**03 43 21.7**	**-0.7**
RITA				*eS*	**Sb**	**03 43 27.3**	**+0.8**
PICV	**PH. Pirrs**	**0.39**	**68**	*eP*	**Pb**	**03 43 24.5**	**-0.5**
TRB2	**Turrubares**	**0.45**	**15**	*eP*	**Pb**	**03 43 25.2**	**-0.6**
LLNJ	**Naranjito**	**0.46**	**91**	*eP*	**Pb**	**03 43 25.1**	**-0.9**
LLNJ				*eS*	**Sn**	**03 43 33.5**	**-1.6**
PISJ	**San Jernim**	**0.46**	**71**	*eP*	**Pb**	**03 43 25.6**	**-0.6**
ACOS	**Acosta**	**0.50**	**52**	*iP*	**Pb**	**03 43 26.3**	**-0.5**
ARZA	**Esparza**	**0.52**	**349**	*eP*	**Pb**	**03 43 26.2**	**-0.8**
ABE2	**San Pablo**	**0.55**	**66**	*eP*	**Pb**	**03 43 27.0**	**-0.7**
RAZU	**San Marcos de**	**0.56**	**72**	*eP*	**Pb**	**03 43 27.1**	**-0.7**
SANTA	**Santa Ana**	**0.58**	**40**	*iP*	**Pb**	**03 43 27.6**	**-0.6**
SRA1	**San Ramn**	**0.61**	**8**	*eP*	**Pb**	**03 43 28.1**	**-0.5**
RAMO	**San Ramon**	**0.61**	**9**	*eP*	**Pn**	**03 43 29.3**	**-0.6**
TCS1	**Tacares**	**0.61**	**25**	*eP*	**Pb**	**03 43 28.6**	**-0.1**
BELE	**Belen**	**0.62**	**37**	*iP*	**Pb**	**03 43 28.2**	**-0.6**
GREC	**Grecia**	**0.64**	**23**	*eP*	**Pn**	**03 43 29.5**	**-0.8**
SARCI	**Sarchi**	**0.64**	**20**	*eP*	**Pb**	**03 43 29.2**	**0.0**
AMPA	**Desamparados**	**0.64**	**50**	*iP*	**Pb**	**03 43 28.6**	**-0.7**
CENT	**San Jose**	**0.65**	**47**	*eP*	**Pb**	**03 43 28.9**	**-0.5**
LUJA	**Lujan**	**0.66**	**48**	*iP*	**Pn**	**03 43 29.9**	**-0.6**
MEXI	**Barrio Mexico**	**0.66**	**46**	*eP*	**Pb**	**03 43 29.1**	**-0.4**
SJS	**Escuela Geolog**	**0.68**	**48**	*eP*	**Pb**	**03 43 29.3**	**-0.5**
SJS3	**Mercedes San J**	**0.68**	**48**	*iP*	**Pb**	**03 43 29.5**	**-0.3**
HDC	**Heredia**	**0.68**	**41**	*eP*	**Pb**	**03 43 29.6**	**-0.3**
DOMI	**Santo Domingo**	**0.68**	**43**	*eP*	**Pb**	**03 43 29.5**	**-0.4**
TRIO	**Tres Rios**	**0.70**	**53**	*eP*	**Pb**	**03 43 29.7**	**-0.5**
ZARE	**Zarcero**	**0.72**	**14**	*iP*	**Pn**	**03 43 31.9**	**+0.5**
CORON	**Coronado**	**0.74**	**49**	*eP*	**Pb**	**03 43 30.6**	**-0.2**
TAGO	**Cartago**	**0.74**	**59**	*eP*	**Pb**	**03 43 30.1**	**-0.8**
REPA	**Paraso**	**0.77**	**63**	*eP*	**Pb**	**03 43 30.6**	**-0.7**
VBV1	**V. Barva**	**0.78**	**36**	*eP*	**Pb**	**03 43 31.4**	**-0.2**
BUS1	**Rivas**	**0.81**	**85**	*eP*	**Pb**	**03 43 31.0**	**-1.2**
CVIMO	**Finca Echandi**	**0.82**	**49**	*eP*	**Pb**	**03 43 31.9**	**-0.2**
NYURE	**Nandayure**	**0.85**	**307**	*eP*	**Pb**	**03 43 32.2**	**-0.4**
PCAYA	**Pacayas**	**0.86**	**60**	*eP*	**Pb**	**03 43 32.2**	**-0.7**
VICA	**Volcano Irazu**	**0.87**	**55**	*eP*	**Pb**	**03 43 32.8**	**-0.4**
MTEVE	**Monteverde**	**0.87**	**343**	*eP*	**Pb**	**03 43 33.1**	**-0.4**
RAFA	**San Farael, Vo**	**0.88**	**57**	*eP*	**Pb**	**03 43 33.1**	**-0.3**
JUNT	**Juntas**	**0.89**	**334**	*eP*	**Pb**	**03 43 31.9**	**-1.3**
JUNT				*eP*	**Pn**	**03 43 32.1**	**-1.4**
JTS	**Las Juntas de**	**0.89**	**335**	*iP*	**Pb**	**03 43 31.9**	**-1.5**
JTS	**Las Juntas de**	**0.89**	**335**	*eP*	**Pb**	**03 43 32.1**	**-1.3**
SOCE	**Pocosol**	**0.90**	**357**	*eP*	**Pb**	**03 43 33.1**	**-0.3**
VINA	**Juan Vinas**	**0.91**	**63**	*eP*	**Pb**	**03 43 33.3**	**-0.4**
VTLA	**Turrialba Volc**	**0.94**	**56**	*eP*	**Pb**	**03 43 34.0**	**-0.3**
VTLA				*eP*	**Pn**	**03 43 34.2**	**-0.3**
CVTQ	**Turrialba Volc**	**0.94**	**56**	*eP*	**Pn**	**03 43 34.4**	**-0.2**
VTR0	**Volcan Turrial**	**0.95**	**56**	*eP*	**Pn**	**03 43 34.9**	**0.0**
CVTV	**Tajo**	**0.96**	**57**	*eP*	**Pn**	**03 43 34.4**	**-0.4**
FORC	**Fortuna**	**0.98**	**354**	*eP*	**Pn**	**03 43 34.6**	**-0.4**
TUNA	**La Fortuna**	**0.98**	**355**	*eP*	**Pn**	**03 43 34.7**	**-0.1**
TUNA				*eP*	**Pn**	**03 43 34.8**	**-0.1**
ARE1	**Arenal 1**	**0.98**	**351**	*eP*	**Pn**	**03 43 34.7**	**-0.2**
VARE2	**V. Arenal**	**0.98**	**351**	*eP*	**Pn**	**03 43 34.7**	**-0.3**
VACR	**Volcan Arenal**	**0.99**	**354**	*eP*	**Pb**	**03 43 34.6**	**-0.5**
VACR				*eP*	**Pn**	**03 43 34.8**	**-0.2**
CMARA	**Lajas Hojancha**	**1.00**	**302**	*eP*	**Pb**	**03 43 33.6**	**-1.7**
CEDE	**Laguna Cedeo**	**1.01**	**352**	*eP*	**Pn**	**03 43 35.1**	**-0.2**
CVTG	**V. Turrialba,**	**1.02**	**50**	*eP*	**Pn**	**03 43 35.5**	**0.0**
RVSTA	**Santa Teresita**	**1.03**	**61**	*eP*	**Pb**	**03 43 35.3**	**-0.5**
CNAS	**Canas**	**1.08**	**331**	*eP*	**Pb**	**03 43 35.2**	**-1.3**
NICO	**Nicoya**	**1.08**	**307**	*eP*	**Pb**	**03 43 36.3**	**-0.3**
NICO				*eP*	**Pn**	**03 43 36.6**	**+0.3**
SARA	**Sarapiqu**	**1.10**	**29**	*eP*	**Pb**	**03 43 37.4**	**+0.5**
RVLA	**Villa Bonita**	**1.15**	**57**	*eP*	**Pb**	**03 43 37.8**	**+0.1**
CARI	**Cariari**	**1.20**	**43**	*eP*	**Pb**	**03 43 38.6**	**+0.1**
IRES	**Siquirres**	**1.21**	**60**	*eP*	**Pb**	**03 43 38.7**	**0.0**
BAGA	**Bagaces**	**1.25**	**327**	*eP*	**Pb**	**03 43 39.4**	**0.0**
BURE	**Buenos Aires**	**1.25**	**104**	*eP*	**Pn**	**03 43 38.1**	**-0.5**
SACU	**Santa Cruz**	**1.27**	**308**	*eP*	**Pn**	**03 43 38.9**	**+0.1**
TENO	**El Achiote**	**1.28**	**342**	*eP*	**Pn**	**03 43 38.6**	**-0.4**
FIMO	**Fila Mora**	**1.29**	**112**	*eP*	**Pn**	**03 43 38.2**	**-1.0**
CUI	**Cuipilapa**	**1.31**	**333**	*eP*	**Pn**	**03 43 39.4**	**-0.1**
DRK0	**Durika**	**1.32**	**99**	*eP*	**Pn**	**03 43 37.3**	**-2.4**
DRK0				*eS*	**Sb**	**03 43 57.8**	**+0.5**
DRK0	**Durika**	**1.32**	**99**	*eP*	**Pn**	**03 43 37.1**	**-2.6**
COLC	**Colonia**	**1.33**	**332**	*eP*	**Pn**	**03 43 39.6**	**-0.1**
TAAN	**Batan**	**1.34**	**63**	*eP*	**Pb**	**03 43 41.2**	**+0.3**
HORNC	**Hornillas**	**1.36**	**334**	*eP*	**Pb**	**03 43 40.5**	**+0.2**
VERA	**Finca Concepci**	**1.40**	**348**	*eP*	**Pb**	**03 43 40.9**	**-1.0**
VMAR	**Armenia, Volca**	**1.43**	**338**	*eP*	**Pb**	**03 43 41.5**	**-1.0**
EDP2	**Potrero Grande**	**1.45**	**109**	*eP*	**Pn**	**03 43 40.7**	**-0.5**
ALIBA	**Liberia Airopor**	**1.47**	**319**	*eP*	**Pb**	**03 43 43.2**	**+0.1**
GPS2	**Hotel Rincn d**	**1.48**	**329**	*eP*	**Pb**	**03 43 42.3**	**-1.1**
GPS3	**Bodega del ICE**	**1.49**	**328**	*iP*	**Pb**	**03 43 43.5**	**-0.1**
ELI1	**Hacienda Flor**	**1.51**	**320**	*eP*	**Pn**	**03 43 42.1**	**0.0**
VRLE	**La Escondida,**	**1.52**	**329**	*eP*	**Pn**	**03 43 42.7**	**+0.4**
VORI	**VORI**	**1.54**	**330**	*eP*	**Pb**	**03 43 43.2**	**-1.2**
EDAD	**Golfito**	**1.61**	**121**	*eP*	**Pn**	**03 43 42.4**	**-1.2**
PIRO	**Carate, Puerto**	**1.62**	**131**	*eP*	**Pb**	**03 43 46.1**	**+0.4**
PIRO				*eS*	**Sb**	**03 44 10.7**	**+5.0**
PIRO	**Carate, Puerto**	**1.62**	**131**	*eP*	**Pb**	**03 43 45.5**	**-0.2**
LCRUZ	**La Cruz**	**1.90**	**327**	*eP*	**Pb**	**03 43 50.2**	**-0.3**
BRU2	**Volcan**	**1.97**	**110**	*eP*	**Pn**	**03 43 49.8**	**+1.1**
BRU2				*eS*	**Sb**	**03 44 15.5**	**-0.6**
BRU2	**Volcan**	**1.97**	**110**	*eP*	**Pb**	**03 43 50.7**	**-1.1**
CHGR2	**Aguacate**	**2.45**	**103**	*eP*	**Pn**	**03 43 54.8**	**-0.3**
CHGR2				*eS*	**Sn**	**03 44 25.1**	**+0.8**
ACON	**Acoyapa**	**2.54**	**346**	*eP*	**Pn**	**03 43 57.0**	**+0.7**
ESPN	**Las Esperanzas**	**2.71**	**5**	*eP*	**Pn**	**03 43 59.2**	**+0.6**

*SJA **27** 03:57:06.4±0.6, 18°.44S×69°.49W, h154^{km}±4^{km}, ML4.6, MW4.5*
*NEIC **27** 03:57:08.4, 18°.57S×69°.00W, h130^{km}, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}0.16; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$0.02; $M_{r\theta}$0.53; $M_{\theta\phi}$0.12; $M_{\phi r}$-1.56; Fault plane solution: $M_0$1.66000×10^{16} NP1: ϕ_s270.73000°, δ5.93000°, λ20.27000°. NP2:ϕ_s160.56000°, δ87.95000°, λ95.57000°. Principal axes: T 1.7040, Plg47.0000°, Azm76.0000°; N -0.0810, Plg6.0000°, Azm340.0000°; P -1.6230, Plg43.0000°, Azm245.0000°;*
*NEIC **27** 03:57:08.5±1.6, 18°.47S±0°.04×69°.39W±0°.06, h129^{km}±5^{km}, mb4.9/204, Mww4.7/14 Error ellipse: s-maj=8.8km s-min=3.9km az=118.0*
*NEIC **27** 03:57:08.4, 18°.47S×69°.38W, h130^{km}*
*VAO **27** 03:57:09.0±0.4, 18°.34S×69°.11W, h128^{km}, mb5.0*
*IDC **27** 03:57:09.2±0.4, 18°.39S×69°.19W, h132^{km}±3^{km}, mb4.2/16, mbtmp4.6/20, MS3.4/6, Error ellipse: s-maj=12.2km s-min=8.5km az=103.0*
*GUC **27** 03:57:10.0±0.7, 18°.44S×69°.59W, h117^{km}±3^{km}, ML4.7*
*GCMT **27** 03:57:11.4±0.4, 18°.32S±0°.03×69°.40W±0°.03, h145^{km}±4^{km}, MW4.9/77, Moment Tensor Solution. s17,c17; s77,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.21±.13; $M_{\theta\theta}$0.01±.12; $M_{\phi\phi}$0.19±.17; $M_{r\theta}$0.52±.07; $M_{\theta\phi}$-0.60±.18; $M_{\phi r}$-2.74±.11; Best double couple: $M_0$2.85400×10^{16} NP1:ϕ_s96.00000°, δ11.00000°, λ-164.00000°. NP2: ϕ_s350.00000°, δ87.00000°, λ-79.00000°. Principal axes: T 2.9550, Plg41.0000°, Azm70.0000°; N -0.2010, Plg11.0000°, Azm169.0000°; P -2.7540, Plg47.0000°,*

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Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 27 03:57:07.8±0.3, 18°.40S±0°.03×69°.29W±0°.05, h128^{km}±3^{km}, h128^{km}:pP-P, n310, σ1°.54/293, mb4.9/96, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.22**	**288**	Pn	**Pn**	**03 57 26.7**	**+0.5**
PB16				Sn	**Sn**	**03 57 39.7**	**-0.1**
PB16	**IPOC Station P**	**0.22**	**288**	*iP*	**Pn**	**03 57 26.8**	**+0.7**
PB16				*eS*	**Sn**	**03 57 40.3**	**+0.4**
PB16				IAML		03 57 41.4	
comp=E,35μm,0.5s							
PB16	**IPOC Station P**	**0.22**	**288**	*eP*	**Sn**	**03 57 41.1**	**+1.2**
PB18	**Visviri**	**0.83**	**347**		**Pn**	**03 57 31.4**	**+1.8**
PB18				Sn	**Sn**	**03 57 48.1**	**+2.1**
PB18	**Visviri**	**0.83**	**347**	*eP*	**Pn**	**03 57 31.4**	**+1.8**
AP01	**Chacalluta**	**1.00**	**272**		**Pn**	**03 57 30.3**	**-0.1**
AP01				Sn	**Sn**	**03 57 46.8**	**-0.8**
AP01	**Chacalluta**	**1.00**	**272**	*eP*	**Pn**	**03 57 30.5**	**+0.1**
AP01	**Chacalluta**	**1.00**	**272**	*eP*	**Pn**	**03 57 30.5**	**+0.1**
AP01				*eS*	**Sn**	**03 57 48.6**	**+1.0**
AP01				IAML		03 57 51.3	
comp=Z,14μm,0.3s							
PB12	**IPOC Station P**	**1.01**	**258**		**Pn**	**03 57 30.2**	**-0.4**
PB11	**IPOC Station P**	**1.40**	**194**	Pn	**Pn**	**03 57 35.1**	**+0.3**
PB11				Sn	**Sn**	**03 57 54.7**	**-0.5**
PB11	**IPOC Station P**	**1.40**	**194**	*eP*	**Pn**	**03 57 35.1**	**+0.3**
PB11	**IPOC Station P**	**1.40**	**194**	*eP*	**Pn**	**03 57 34.9**	**+0.2**
PB11				*eS*	**Sn**	**03 57 55.9**	**+0.6**
PB11				IAML		03 57 58.5	
comp=Z,5μm,0.5s							
PB08	**IPOC Station P**	**1.73**	**176**		**Pn**	**03 57 39.6**	**+0.8**
PB08				Sn	**Sn**	**03 58 02.5**	**0.0**
PB08	**IPOC Station P**	**1.73**	**176**	*eP*	**Pn**	**03 57 40.1**	**+1.3**
PB08				*eS*	**Sn**	**03 58 03.8**	**+1.2**
PB08				IAML		03 58 04.7	
comp=E,4μm,0.2s							
PB08	**IPOC Station P**	**1.73**	**176**	*eP*	**Pn**	**03 57 39.9**	**+1.0**
PB08				*eS*	**Sn**	**03 58 04.5**	**+1.9**
PB08				IAML		03 58 05.9	
comp=Z,3μm,0.3s							
HMBC	**Humberstone**	**1.95**	**197**		**Pn**	**03 57 40.8**	**-0.4**
HMBC	**Humberstone**	**1.95**	**197**	*eP*	**Pn**	**03 57 40.9**	**-0.3**
HMBC				*eS*	**Sn**	**03 58 05.1**	**-1.6**
HMBC				IAML		03 58 12.5	
comp=N,17μm,0.7s							
HMBC	**Humberstone**	**1.95**	**197**	*eP*	**Pn**	**03 57 40.9**	**-0.3**
HMBC				*eS*	**Sn**	**03 58 06.8**	**+0.1**
HMBC				IAML		03 58 13.3	
comp=Z,7μm,0.4s							
TA02	**Huaiquique**	**2.02**	**203**		**Pn**	**03 57 41.5**	**-0.4**
TA02	**Huaiquique**	**2.02**	**203**	*eP*	**Pn**	**03 57 41.1**	**-0.8**
TA02				*eS*	**Sn**	**03 58 05.3**	**-2.7**
TA02	**Huaiquique**	**2.02**	**203**	*eP*	**Pn**	**03 57 41.7**	**-0.2**
TA02				*eS*	**Sn**	**03 58 07.3**	**-0.8**
TA02				IAML		03 58 14.5	
comp=Z,3μm,0.3s							
TA01	**Diego Aracena**	**2.31**	**201**	Pn	**Pn**	**03 57 44.4**	**-1.1**
TA01	**Diego Aracena**	**2.31**	**201**	*eP*	**Pn**	**03 57 44.8**	**-0.7**
TA01				*eS*	**Sn**	**03 58 11.6**	**-2.8**
TA01				IAML		03 58 21.1	
comp=N,6μm,0.4s							
TA01	**Diego Aracena**	**2.31**	**201**	*eP*	**Pn**	**03 57 44.6**	**-0.9**
TA01				*eS*	**Sn**	**03 58 12.6**	**-1.8**
LPAZ	**La Paz**	**2.38**	**28**	P	**Pn**	**03 57 49.4**	**+2.4**
comp=N,352nm,0.4s,baz=204,slow=2.9,SNR=1626							
LPAZ				S	**Sn**	**03 58 18.7**	**+1.8**
comp=N,573nm,1.1s,baz=53,slow=20,SNR=8.7							
LPAZ	**La Paz**	**2.38**	**28**	*eP*	**Pn**	**03 57 49.4**	**+2.4**
LPAZ				*eS*	**Sn**	**03 58 11.2**	**-5.7**
PATCX	**Punta Patache**	**2.54**	**199**		**Pn**	**03 57 47.6**	**-0.9**
PATCX	**Punta Patache**	**2.54**	**199**	*eP*	**Pn**	**03 57 48.1**	**-0.4**
PATCX				*eS*	**Sn**	**03 58 18.7**	**-1.1**
PATCX				IAML		03 58 25.2	
comp=Z,2μm,1.6s							
PB01	**IPOC Station P**	**2.63**	**184**		**Pn**	**03 57 49.6**	**-0.1**
PB01	**IPOC Station P**	**2.63**	**184**	*eP*	**Pn**	**03 57 50.3**	**+0.6**
PB01				*eS*	**Sn**	**03 58 21.4**	**-0.6**
PB01				IAML		03 58 23.0	
comp=E,2μm,0.3s							
PB01	**IPOC Station P**	**2.63**	**184**	*eP*	**Pn**	**03 57 49.5**	**-0.3**
PB01				*eS*	**Sn**	**03 58 21.8**	**-0.2**
PB01				IAML		03 58 25.2	
comp=Z,1μm,0.2s							
PB09	**IPOC Station P**	**3.38**	**179**		**Pn**	**03 57 59.8**	**+0.3**
PB09	**IPOC Station P**	**3.38**	**179**	*eP*	**Pn**	**03 58 00.7**	**+1.2**
PB09	**IPOC Station P**	**3.38**	**179**	*eP*	**Pn**	**03 57 60.0**	**+0.5**
PB09				*eS*	**Sn**	**03 58 39.2**	**-0.2**
PB09				IAML		03 59 09.2	
comp=Z,1μm,0.4s							
PB06	**IPOC Station P**	**4.29**	**183**	*eP*	**Pn**	**03 58 10.8**	**-0.7**
PB06				*eS*	**Sn**	**03 58 59.5**	**-1.5**
PB06				IAML		03 59 25.7	
comp=Z,631nm,0.7s							
PB05	**IPOC Station P**	**4.51**	**191**	Pn	**Pn**	**03 58 13.6**	**-0.9**
PB05	**IPOC Station P**	**4.51**	**191**	*eP*	**Pn**	**03 58 13.4**	**-1.0**
PB05				*eS*	**Sn**	**03 59 03.4**	**-2.8**
PB05				IAML		03 59 05.7	
comp=Z,512nm,1.1s							
AF01	**San Pedro de A**	**4.64**	**167**		**Pn**	**03 58 16.7**	**+0.3**
PB14	**IPOC Station P**	**6.28**	**189**	Pn	**Pn**	**03 58 36.0**	**-2.4**
GO02	**Mina Guanaco**	**6.73**	**182**	Pn	**Pn**	**03 58 42.6**	**-1.8**
AC01	**Pan de Azucar**	**7.80**	**189**		**Pn**	**03 58 55.7**	**-2.9**
SIV	**San Ignacio**	**8.21**	**74**	P	**Pn**	**03 59 03.0**	**-1.2**
comp=Z,264nm,0.9s,baz=255,slow=12,SNR=140							
AC02	**Maricunga**	**8.39**	**179**	Pn	**Pn**	**03 59 05.6**	**-1.4**
AC06	**Mina Casimiro**	**8.97**	**186**		**Pn**	**03 59 10.6**	**-3.7**
NNA	**Nana**	**9.68**	**310**	Pn	**Pn**	**03 59 22.8**	**-1.2**
NNA	**Nana**	**9.68**	**310**	P	**Pn**	**03 59 22.6**	**-1.4**
comp=Z,8.6nm,0.3s,baz=147,slow=13,SNR=7.6							
NNA				S	**Sn**	**04 01 02.7**	**-8.4**
comp=Z,11nm,0.4s,baz=183,slow=11,SNR=1.4							
PTLB	**Pontes e Lacer**	**10.15**	**75**	Pn	**Pn**	**03 59 28.7**	**-1.5**
PTLB	**Pontes e Lacer**	**10.15**	**75**	*eP*	**Pn**	**03 59 28.4**	**-1.9**
VILB	**Vilhena**	**10.29**	**60**	Pn	**Pn**	**03 59 30.6**	**-1.6**
VILB	**Vilhena**	**10.29**	**60**	*eP*	**Pn**	**03 59 30.2**	**-2.0**
AC05	**El Transito**	**10.43**	**185**	Pn	**Pn**	**03 59 30.5**	**-3.5**
CZSB	**Cruzeiro do Su**	**11.12**	**342**	Pn	**Pn**	**03 59 40.1**	**-3.1**
MURT	**Porto Murtinho**	**11.45**	**108**	*eP*	**Pn**	**03 59 45.4**	**-2.1**
CO01	**Juntas del Tor**	**11.55**	**183**	Pn	**Pn**	**03 59 45.8**	**-3.2**
BDQN	**Bodoquena, MS**	**12.01**	**102**	*eP*	**Pn**	**03 59 53.0**	**-1.9**
CO03	**El Pedregal**	**12.45**	**186**	Pn	**Pn**	**03 59 56.5**	**-4.2**
ZON	**Zonda**	**13.10**	**178**	Pn	**Pn**	**04 00 08.0**	**-1.1**
CFA	**Coronel Fontan**	**13.18**	**176**	P	**Pn**	**04 00 07.7**	**-2.5**
comp=Z,4.3nm,0.6s,baz=350,slow=12,SNR=18							
CFA				S	Sn	04 02 25.3	-10
comp=Z,1.7nm,0.6s,baz=185,slow=12,SNR=2.8							
SALV	**Santo Antonio**	**13.23**	**81**	*eP*	**Pn**	**04 00 08.3**	**-2.6**
CPUP	**Villa Florida**	**13.58**	**128**	Pn	**Pn**	**04 00 13.8**	**-1.5**
CPUP	**Villa Florida**	**13.58**	**128**	P	**Pn**	**04 00 13.7**	**-1.7**
comp=Z,7.6nm,1.0s,baz=304,slow=11,SNR=9.8							
CPUP				LR	LR	04 07 06.8	
comp=Z,104nm,18.0s,baz=311,slow=44							
CPUP	**Villa Florida**	**13.58**	**128**	*eP*	**Pn**	**04 00 14.6**	**-0.7**
SJPY	**San Joaquin**	**13.90**	**120**	*eP*	**Pn**	**04 00 17.9**	**-1.5**
AMBA	**Amambai (Brazi**	**14.12**	**111**	*eP*	**Pn**	**04 00 22.3**	**+0.1**
TBTG	**Tabatinga, AM**	**14.14**	**357**	Pn	**Pn**	**04 00 22.1**	**-0.4**
ATAH	**Atahualpa**	**14.28**	**320**	P	**Pn**	**04 00 25.6**	**+0.9**
comp=Z,8.1nm,0.9s,baz=87,slow=5.4,SNR=4.1							
VA03	**San Esteban**	**14.35**	**184**	P	**Pn**	**04 00 25.0**	**-0.1**
PEL	**Peldehue**	**14.73**	**185**	Pn	**Pn**	**04 00 29.8**	**-0.1**
RPRD	**Ribas do Rio P**	**14.85**	**101**	*eP*	**Pn**	**04 00 31.1**	**-0.4**
MT02	**Curacav**	**14.89**	**186**	P	**Pn**	**04 00 31.8**	**0.0**
MT05	**Renca**	**14.98**	**185**	Pn	**Pn**	**04 00 31.5**	**-1.6**
MT08	**Bocatoma Ro**	**14.99**	**182**	Pn	**Pn**	**04 00 33.0**	**-0.4**
MT16	**CCHEN**	**15.01**	**184**	Pn	**Pn**	**04 00 32.6**	**-0.8**
CLDB	**Colider**	**15.04**	**62**	*eP*	**Pn**	**04 00 32.6**	**-1.3**
MT03	**Universidad Ad**	**15.07**	**184**	P	**Pn**	**04 00 35.0**	**+0.8**
MT13	**San Alfonso**	**15.30**	**183**	IAmb	IAmb	04 00 43.5	
comp=Z,61nm,0.9s							
VA05	**Santo Domingo**	**15.33**	**187**	IAmb	IAmb	04 00 42.0	
comp=Z,45nm,0.8s							
MT09	**Talagante**	**15.39**	**185**	IAmb	IAmb	04 00 43.4	
comp=Z,67nm,0.9s							
LMEL	**Las Melosas**	**15.40**	**183**	IAmb	IAmb	04 00 44.7	
comp=Z,45nm,0.9s							
TEFE	**Tefe**	**15.49**	**18**	*eP*	**Pn**	**04 00 39.4**	**-0.1**
MT01	**Popeta**	**15.50**	**186**	IAmb	IAmb	04 00 44.9	
comp=Z,78nm,1.0s							
BO04	**La Punta**	**15.57**	**184**	Pn	**Pn**	**04 00 39.2**	**-1.2**

BO04				IAmb	IAmb	04 00 45.6	
comp=Z,31nm,0.8s							
C2SB	**Chapadao do Su**	**15.61**	**94**	*eP*	**Pn**	**04 00 41.3**	**+0.4**
BO01	**Tunca**	**16.01**	**185**	IAmb	IAmb	04 00 49.9	
comp=Z,62nm,1.4s							
BO02	**Sierra Bellavi**	**16.38**	**184**	IAmb	IAmb	04 00 55.3	
comp=Z,40nm,0.9s							
ARAG	**Araguaiana, MT**	**16.93**	**84**	*eP*	**Pn**	**04 00 57.1**	**0.0**
PTGB	**Pitanga**	**17.20**	**114**	*eP*	**Pn**	**04 01 00.4**	**-0.1**
H03N1	**Juan Fernandez**	**17.28**	**208**	P	**Pn**	**04 01 07.0**	**+6.0**
baz=107,slow=15,SNR=6.1							
H03N1				T	T	04 18 58.5	
baz=27,slow=73,SNR=68							
H03N2	**Juan Fernandez**	**17.29**	**208**	P	**Pn**	**04 01 07.5**	**+6.5**
baz=107,slow=15,SNR=6.3							
H03N2				T	T	04 19 19.9	
baz=27,slow=73,SNR=142							
H03N3	**Juan Fernandez**	**17.30**	**208**	P	**Pn**	**04 01 07.6**	**+6.4**
baz=107,slow=15,SNR=8.5							
H03N3				T	T	04 19 18.9	
baz=27,slow=73,SNR=92							
MACA	**Manacapuru-AM**	**17.34**	**30**	P	**P**	**04 01 00.9**	**-0.6**
MACA	**Manacapuru-AM**	**17.34**	**30**	*eP*	**P**	**04 01 00.9**	**-0.6**
ML02	**Panimavida**	**17.39**	**186**	IAmb	IAmb	04 01 05.0	
comp=Z,60nm,0.9s							
NPGB	**Novo Progresso**	**17.65**	**52**	*eP*	**P**	**04 01 04.1**	**-0.9**
LDASE	**Londrina, Braz**	**17.69**	**109**	*eP*	**P**	**04 01 05.7**	**+0.4**
TBOT	**Tacuaremb**	**17.90**	**140**	*eP*	**Pn**	**04 01 09.3**	**+0.6**
ITRB	**Iturama**	**17.95**	**97**	*eP*	**P**	**04 01 08.3**	**+0.1**
ITAB	**Concordia**	**18.08**	**122**	P	**P**	**04 01 09.9**	**+0.3**
ITAB				IAmb	IAmb	04 01 12.9	
comp=Z,61nm,0.8s							
ITAB	**Concordia**	**18.08**	**122**	*eP*	**Pn**	**04 01 10.4**	**-0.5**
SNDB	**Serra Nova Dou**	**18.50**	**72**	*eP*	**P**	**04 01 14.2**	**0.0**
CPSB	**Cacapava Do Su**	**18.71**	**133**	*eP*	**P**	**04 01 16.6**	**+0.1**
FRTB	**Fartura**	**19.07**	**108**	*eP*	**P**	**04 01 20.3**	**-0.2**
ITTB	**Itaituba**	**19.24**	**45**	*eP*	**P**	**04 01 21.7**	**-0.7**
PLTB	**Pedras Altas**	**19.43**	**136**	P	**P**	**04 01 24.1**	**-0.3**
PLTB	**Pedras Altas**	**19.43**	**136**	*eP*	**P**	**04 01 24.0**	**-0.3**
BB19B	**B

OZNA pP pP 04 07 19.8 +2.1
TXAR Lajitas Array 57.90 324 P **P 04 06 47.2 +0.4**
TXAR Lajitas Array 57.90 324 P **P 04 06 47.6 +0.8**
comp=Z,2.1nm,0.8s,baz=148,slow=8.5,SNR=17
comp=Z,2.1nm,0.8s
LCAR Lake Charles 57.99 339 P **P 04 06 46.8 -0.3**
LCAR pP **pP 04 07 18.4 -0.5**
LCAR lAmb lAmb 04 07 19.4
comp=Z,20nm,1.0s
FCAR Ozark Folk Cen 58.17 338 P **P 04 06 48.5 +0.1**
FCAR **pP 04 07 19.5 -0.7**
FCAR lAmb lAmb 04 07 20.6
comp=Z,16nm,1.0s
ABTX Abilene, Hawle 58.46 330 lAmb lAmb 04 06 52.4
comp=Z,17nm,1.0s
WCI Wyandotte Cave 58.55 344 P **P 04 06 50.9 0.0**
WCI lAmb lAmb 04 07 23.5
comp=Z,27nm,1.4s
T42A Van Buren 58.85 340 P **P 04 06 52.8 -0.2**
T42A **pP 04 07 23.6 -1.4**
T42A lAmb lAmb 04 07 25.2
comp=Z,20nm,1.1s
WTFS Witchita Falls 58.87 332 pP pP 04 07 27.9 +2.9
SIUC Southern Illin 58.88 342 pP 04 07 25.1 0.0
MNHN Monahans 58.98 327 lAmb lAmb 04 06 56.2
comp=Z,15nm,0.9s
MNHN pP 04 07 27.1 +1.1
HHAR Hobbs 59.17 337 pP **pP 04 07 27.5 +0.1**
HHAR lAmb lAmb 04 07 28.8
comp=Z,19nm,1.2s
APMT Aspermont 59.27 330 lAmb lAmb 04 06 57.9
comp=Z,12nm,0.8s
X34A Smith Ranch, M 59.29 333 P **P 04 06 56.3 +0.2**
X34A pP **pP 04 07 26.4 -1.6**
W35A Tecumseh 59.35 334 P **P 04 06 56.4 -0.1**
W35A pP **pP 04 07 27.2 -1.3**
W35A lAmb lAmb 04 07 30.4
comp=Z,18nm,1.2s
MGMO Mountain Grove 59.35 339 P **P 04 06 56.4 -0.1**
MGMO **pP 04 07 25.4 -3.1**
SN07 Snyder 07 59.44 329 lAmb lAmb 04 06 58.8
comp=Z,11nm,0.8s
FVM French Village 59.50 341 P **P 04 06 58.0 +0.5**
FVM pP **pP 04 07 27.8 -1.7**
TUL3 Leonard 59.56 335 lAmb lAmb 04 07 31.1
comp=Z,18nm,1.1s
FNO Franklin 59.66 333 P **P 04 06 59.5 +0.8**
FNO **pP 04 07 28.7 -1.9**
VHRN Van Horn 59.75 324 lAmb lAmb 04 07 01.4
comp=Z,9.7nm,0.8s
DEOK Depew 59.79 335 P **P 04 07 00.4 +0.9**
DEOK **pP 04 07 31.3 -0.3**
CCM Cathedral Cave 59.83 340 P **P 04 06 59.9 +0.2**
CCM pP **pP 04 07 29.6 -2.2**
Q44A Meyer Farm, Va 59.92 342 P **P 04 07 00.3 -0.1**
Q44A **pP 04 07 31.3 -1.1**
R40A Maddies Statio 60.38 339 lAmb lAmb 04 07 36.1
comp=Z,24nm,1.1s
T35A Sooner Cattle 60.72 335 lAmb lAmb 04 07 39.2
comp=Z,18nm,1.1s
SFIN Lafayette 60.78 344 lAmb lAmb 04 07 38.7
comp=Z,17nm,1.2s
SMWD Samnorwood 60.79 331 lAmb lAmb 04 07 08.1
comp=Z,17nm,0.8s
MSTX Muleshoe 61.08 328 lAmb lAmb 04 07 10.6
comp=Z,22nm,1.1s
P40A Paris 61.43 340 lAmb lAmb 04 07 43.4
comp=Z,26nm,1.0s
P38A Dawn 62.01 339 lAmb lAmb 04 07 46.8
comp=Z,7.3nm,0.9s
319A Douglas 62.63 322 lAmb lAmb 04 07 21.8
comp=Z,17nm,0.9s
KSU1 Kansas State U 62.66 336 P **P 04 07 19.2 +0.4**
KSU1 lAmb lAmb 04 07 23.2
comp=Z,17nm,0.9s
J47A Sunmer 62.98 347 lAmb lAmb 04 07 22.3
comp=Z,12nm,0.7s
VNA3 Neumayer Olymp 63.11 162 ⇓P **P 04 07 23.7 +2.3**
comp=Z,3.6nm,0.8s
G62A West of Eustis 63.32 359 P **P 04 07 24.2 +1.1**
G62A lAmb lAmb 04 07 25.4
comp=Z,17nm,0.7s
WBO Williamsburg 63.33 355 lAmb lAmb 04 07 25.0
comp=Z,8.0nm,0.7s
VNA2 Neumayer--Watz 63.68 161 ⇓P **P 04 07 26.8 +1.7**
comp=Z,3.6nm,0.8s,baz=301,slow=7.4
ANMO Albuquerque 63.73 326 P **P 04 07 26.8 +0.6**
F64A Sherman 63.96 1 P **P 04 07 27.9 +0.7**
F64A lAmb lAmb 04 07 28.6
comp=Z,13nm,0.7s
JFWS Jewell Farm 63.99 343 lAmb lAmb 04 08 02.1
comp=Z,26nm,0.9s
TRQ Mont Tremblant 64.49 356 lAmb lAmb 04 07 32.0
comp=Z,11nm,0.8s
I42A Draeger Farm, 64.54 344 lAmb lAmb 04 08 04.4
comp=Z,22nm,1.0s
E62A Clayton Lake 64.72 360 lAmb lAmb 04 07 34.7
comp=Z,19nm,1.1s
D62A Allapoint, All 65.18 0 P **P 04 07 35.8 +0.7**
D62A lAmb lAmb 04 07 36.5
comp=Z,16nm,0.7s
PIX Pinacate 65.29 319 P **P 04 07 37.6 +1.5**
SNAA Sanae 65.31 161 P **P 04 07 36.6 +0.8**
SNAA lAmb lAmb 04 08 11.2
comp=Z,17nm,1.5s
SNAA Sanae 65.31 161 ⇓P **P 04 07 37.2 +1.4**
comp=Z,67nm,0.7s
SNAA Sanae 65.31 161 P **P 04 07 36.7 +0.8**
comp=Z,4.4nm,1.0s,baz=314,slow=3.7,SNR=6.0
comp=Z,4.4nm,1.0s
SDCO Great Sand Dun 65.42 329 lAmb lAmb 04 07 39.9
comp=Z,12nm,1.0s
E46A Sault Ste Mari 65.88 349 lAmb lAmb 04 08 13.7
comp=Z,29nm,1.3s
LDAQ Lac Daran 66.08 359 P **P 04 07 41.8 +0.8**
LDAQ lAmb lAmb 04 08 17.7
comp=Z,13nm,1.1s
Q24A Divide 66.21 330 lAmb lAmb 04 07 44.9
comp=Z,8.4nm,0.9s
MVCO Mesa Verde 66.52 327 lAmb lAmb 04 07 46.9
comp=Z,8.7nm,0.8s
ECSD EROS Data Cent 66.71 339 lAmb lAmb 04 08 20.4
comp=Z,18nm,1.1s
WUAZ Wupatki 66.83 324 lAmb lAmb 04 07 49.6
comp=Z,17nm,1.1s
TROLL Troll, Antarti 67.03 161 ⇓P **P 04 07 48.4 +1.6**
comp=Z,116nm,0.6s
PV15 Paradox Valley 67.37 327 lAmb lAmb 04 07 52.7
comp=Z,16nm,0.9s
U15A North Rim 68.00 324 lAmb lAmb 04 07 57.2
comp=Z,10nm,1.0s
DBIC Dimbokro 68.23 75 P **P 04 07 54.8 -0.4**
DBIC Dimbokro 68.23 75 P **P 04 07 55.0 -0.3**
comp=Z,57nm,0.8s,baz=233,slow=5.8,SNR=76
DBIC LR LR 04 35 07.3
comp=Z,35nm,21.2s,baz=9.0,slow=33
F33A 5 Mile Ranch, 68.47 340 lAmb lAmb 04 08 30.1
comp=Z,14nm,0.8s
PFO Pinyon Flats O 68.54 319 P **P 04 07 57.8 +0.9**
O20A White River Ci 68.61 329 lAmb lAmb 04 08 00.1
comp=Z,15nm,1.1s
KNB Kanab 68.72 324 lAmb lAmb 04 08 01.9
comp=Z,25nm,0.9s
V12A Nelson 68.99 322 lAmb lAmb 04 08 02.9
comp=Z,18nm,1.2s
PSUT Pine Spring 70.37 324 lAmb lAmb 04 08 11.5
comp=Z,8.5nm,0.7s
GWY Greenwater Val 70.38 321 lAmb lAmb 04 08 11.4
comp=Z,10nm,0.8s
E28A Huff 70.62 338 lAmb lAmb 04 08 43.9
comp=Z,27nm,1.1s
ISA Isabella, Lake 71.14 319 P **P 04 08 14.1 +1.4**
PDAR Pinedale Array 71.26 330 P **P 04 08 14.4 +0.9**
comp=Z,1.3nm,0.8s,baz=142,slow=7.5,SNR=11
PDAR pP **pP 04 08 45.7 -0.7**
comp=Z,1.7nm,0.9s,baz=144,slow=6.4,SNR=4.3
comp=Z,1.3nm,0.8s
QSPA South Pole Qui 71.77 180 P **P 04 08 18.0 +1.9**
comp=Z,4.2nm,0.6s,baz=167,slow=1.0,SNR=38
QSPA pP **pP 04 08 49.7 +0.7**
comp=Z,2.2nm,0.8s,baz=156,slow=4.2,SNR=2.8
comp=Z,4.2nm,0.6s
ULM Lac du Bonnet 72.27 342 lAmb lAmb 04 08 52.3
comp=Z,11nm,0.8s
ULM Lac du Bonnet 72.27 342 P **P 04 08 19.2 +0.2**
comp=Z,5.1nm,0.5s,baz=153,slow=6.2,SNR=15
ULM pP **pP 04 08 51.8 -0.4**
comp=Z,7.1nm,0.6s,baz=146,slow=6.1,SNR=6.9
comp=Z,5.1nm,0.5s
NVAR Mina Array Bea 72.85 322 P **P 04 08 25.3 +2.3**
comp=Z,4.7nm,0.9s,baz=151,slow=7.0,SNR=23
NVAR pP **pP 04 08 57.1 +1.2**
comp=Z,2.4nm,1.0s,baz=142,slow=6.2,SNR=3.1
comp=Z,4.7nm,0.9s
SCHQ Schefferville 72.97 1 P **P 04 08 23.5 +0.5**
comp=Z,3.3nm,0.8s,baz=205,slow=3.8,SNR=4.3
comp=Z,3.3nm,0.8s
YNE Yellowstone No 73.18 331 lAmb lAmb 04 08 27.7
comp=Z,18nm,0.8s
YHL Hebgen Lake 73.61 330 lAmb lAmb 04 08 31.1
comp=Z,21nm,1.5s
MFID Camas Ranch 74.87 327 lAmb lAmb 04 08 38.0
comp=Z,16nm,1.1s
BMO Blue Mountains 76.63 327 lAmb lAmb 04 08 47.4
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 76.68 71 P **P 04 08 44.8 -0.5**
TORD Torodi Ar. Bea 76.68 71 P **P 04 08 45.0 -0.3**
comp=Z,10nm,0.5s,baz=280,slow=4.4,SNR=7.7
comp=Z,10nm,0.5s
HAWA Hanford 78.82 327 lAmb lAmb 04 08 59.8
comp=Z,12nm,0.9s
VNDA Vanda 79.82 190 P **P 04 09 02.0 +0.5**
comp=Z,1.7nm,0.9s,baz=138,slow=3.2,SNR=5.4
comp=Z,1.7nm,0.9s
MESJ Messejana 80.10 45 *e*P **P 04 09 05.5 +1.9**
MESJ *i* Amb 04 09 27.5
comp=Z,50nm,1.6s
PBEJ Beja 80.44 45 *e*P **P 04 09 07.6 +2.2**
EVO Evora 80.61 44 *e*P **P 04 09 06.6 +0.3**
EVO *i* Amb 04 09 41.3
comp=Z,31nm,2.3s
PMTG Montargil 80.76 44 *e*P **P 04 09 08.5 +1.4**
PESTR Estremoz 81.07 44 *e*P **P 04 09 10.6 +1.9**
PESTR *i* Amb 04 09 18.7
comp=Z,30nm,1.6s
PBAR Barrancos 81.07 45 *e*P **P 04 09 09.5 +0.8**
PBAR *i* Amb 04 09 11.8
comp=Z,44nm,1.7s
PCAS Casmilo, Conde 81.11 43 *e*P P 04 09 18.9 +10
COI Coimbra 81.25 43 *e*P **P 04 09 11.5 +1.8**
COI *i* Amb 04 09 12.5
comp=Z,59nm,1.4s
TSUM Tsumeb 81.29 107 P **P 04 09 10.9 +0.3**
PMRV Marv??o 81.50 44 *e*P **P 04 09 12.5 +1.5**
PTO Porto 81.64 42 *e*P **P 04 09 15.7 +4.0**
PCBR Castelo Branco 81.66 43 *e*P **P 04 09 13.4 +1.6**
MTE Manteigas 81.91 43 *e*P **P 04 09 14.4 +1.2**
PVRL Vila Real 82.27 42 *e*P **P 04 09 16.4 +1.3**
PGC Sidney 82.31 327 lAmb lAmb 04 09 18.1
comp=Z,11nm,0.7s
MVO Moncorvo 82.65 42 *e*P **P 04 09 16.9 -0.2**
PAB San Pablo 83.57 45 P **P 04 09 23.1 +1.2**
PAB lAmb lAmb 04 09 24.6
comp=Z,31nm,1.1s
TAM Tamanrasset 83.76 64 lAmb lAmb 04 09 27.7
comp=Z,13nm,0.8s
ESDC Sonseca Array 83.89 45 P **P 04 09 24.1 +0.6**
ESDC Sonseca Array 83.89 45 P **P 04 09 24.4 +0.9**
comp=Z,14nm,0.9s,baz=250,slow=5.4,SNR=46
ESDC pP **pP 04 09 59.3 +1.9**
comp=Z,4.6nm,1.0s,baz=257,slow=6.1,SNR=4.2
ESDC LR LR 04 45 36.0
comp=Z,18nm,20.0s,baz=144,slow=35
comp=Z,14nm,0.9s
ESBB Sonseca Array 83.90 45 lAmb lAmb 04 09 25.8
comp=Z,16nm,0.9s
BOSA Boshof 85.22 118 P **P 04 09 31.0 +0.4**
comp=Z,4.1nm,1.0s,baz=309,slow=6.5,SNR=3.3
comp=Z,4.1nm,1.0s
YKA Yellowknife Ar 88.16 341 P **P 04 09 44.8 +1.0**
comp=Z,6.3nm,0.8s,baz=139,slow=4.7,SNR=116
YKA pP **pP 04 10 17.7 -0.4**
comp=Z,8.5nm,0.9s,baz=140,slow=4.9,SNR=10
comp=Z,6.3nm,0.8s
ICESG Greenland Ices 89.81 10 *e*P **P 04 09 53.3 +1.5**
LSZ Lusaka 92.13 107 LR LR 04 50 25.2
comp=Z,34nm,19.4s,baz=168,slow=35
EKA Eskdalemuir Ar 92.18 32 P **P 04 10 02.2 -0.5**
comp=Z,1.2nm,0.7s,baz=245,slow=5.4,SNR=3.5
comp=Z,1.2nm,0.7s
SUMG Summit 93.07 9 *i* P **P 04 10 08.6 +1.6**
GERES GERESS Array B 99.15 42 P **Pdif 04 10 32.7 -2.0**
comp=Z,0.4nm,0.6s,baz=241,slow=3.2,SNR=4.2
CLL Collm 99.46 39 *e*P **Pdif 04 10 37.0 +1.1**
H11N3 WAKE ISLAND Hyl 27.07 281 T T 06 36 19.8
baz=101,slow=74
H11S2 WAKE ISLAND Hyl 27.07 280 T T 06 35 30.9
baz=101,slow=75,SNR=44
H11S1 WAKE ISLAND Hyl 27.08 280 T T 06 35 39.0
baz=101,slow=75,SNR=47
H11N2 WAKE ISLAND Hyl 27.09 281 T T 06 35 42.7
baz=101,slow=74
H11N1 WAKE ISLAND Hyl 27.09 281 T T 06 35 07.4
baz=101
H11S3 WAKE ISLAND Hyl 27.09 280 T T 06 35 41.5
baz=101,slow=75,SNR=41
ASAR Alice Springs 132.45 209 PKP **PKiKP 04 16 08.7 -0.4**
comp=Z,0.9nm,0.6s,baz=129,slow=2.0,SNR=9.0
ASAR pPKP **pPKPdf 04 16 43.8 0.0**
comp=Z,3.3nm,1.1s,baz=125,slow=1.8,SNR=7.5
ASAR SKPbc **SKPbc 04 19 22.5 -0.7**
comp=Z,1.0nm,0.9s,baz=143,slow=3.5,SNR=4.7
BVAR Borovoye Array 133.42 33 PKP **PKiKP 04 16 09.5 -0.5**
comp=Z,0.7nm,0.7s,baz=306,slow=5.2,SNR=3.2
BVAR SKPbc **SKPbc 04 19 24.4 -1.1**
comp=Z,1.0nm,0.6s,baz=298,slow=3.1,SNR=5.7
WRA Warramunga Arr 135.40 212 PKP **PKPdf 04 16 14.2 +0.7**
comp=Z,1.7nm,0.8s,baz=156,slow=1.4,SNR=9.5
WRA pPKP **pPKPdf 04 16 49.7 +0.4**
comp=Z,1.9nm,0.8s,baz=158,slow=1.5,SNR=5.3
WRA SKPbc **SKPbc 04 19 32.5 -0.5**
comp=Z,2.3nm,0.9s,baz=155,slow=2.3,SNR=8.3
KURBB Kurchatov Arra 138.92 31 PKP **PKPdf 04 16 19.4 +0.4**
comp=Z,0.7nm,0.6s,baz=308,slow=2.4,SNR=5.5
KURBB SKPbc **SKPbc 04 19 42.0 -0.2**
comp=Z,0.8nm,0.7s,baz=300,slow=3.0,SNR=5.3
ZAA0 Zalesovo Array 139.29 23 PKPdf **PKPdf 04 16 20.5 +1.0**
ZALV Zalesovo Beam 139.29 23 PKPdf **PKPdf 04 16 20.1 +0.6**
ZALV Zalesovo Beam 139.29 23 PKP **PKiKP 04 16 21.0 -0.8**
comp=Z,3.5nm,0.7s,baz=286,slow=1.8,SNR=13
ZALV pPKP **pPKPdf 04 16 56.4 +1.0**
comp=Z,4.2nm,0.9s,baz=302,slow=2.8,SNR=4.4
ZALV SKPbc **SKPbc 04 19 42.4 -0.7**
comp=Z,2.9nm,0.7s,baz=320,slow=3.9,SNR=9.3
MKAR Makanchi Array 143.30 33 PKP **PKPdf 04 16 26.9 -0.1**
comp=Z,0.6nm,0.6s,baz=336,slow=3.2,SNR=3.8
MKAR SKP **SKPdf 04 19 49.6 -0.2**
comp=Z,2.0nm,0.7s,baz=330,slow=2.5,SNR=12
USRK Ussuriysk Ar. 148.69 330 PKPbc **PKiKP 04 16 41.6 +0.2**
comp=Z,3.7nm,0.8s,baz=16,slow=3.7,SNR=5.6
USRK pPKPbc **pPKPbc 04 17 15.7 0.0**
comp=Z,6.3nm,1.0s,baz=28,slow=3.4,SNR=3.6
MJAR Matsushiro Arr 149.80 312 PKPbc **PKPbc 04 16 43.5 +0.3**
comp=Z,2.4nm,0.5s,baz=83,slow=1.7,SNR=6.3
MJAR pPKPbc **pPKPbc 04 17 19.2 +0.5**
comp=Z,1.2nm,0.3s,baz=70,slow=1.0,SNR=3.0
SONM Songino Array 150.43 6 PKPbc **PKiKP 04 16 46.2 +1.0**
comp=Z,3.2nm,0.7s,baz=304,slow=1.6,SNR=20
SONM pPKPbc **pPKPbc 04 17 20.8 +0.6**
comp=Z,3.3nm,0.9s,baz=298,slow=0.9,SNR=3.4
JAGI Jajag, Banyuwa 153.08 188 PKPdf **PKPdf 04 16 43.2 -0.7**
KAPI Kappang 155.08 202 PKPab **PKPab 04 17 12.7 +1.2**
comp=Z,4.7nm,0.3s,baz=176,slow=1.9,SNR=7.0
HHC Hu-ho-hao-te 157.62 358 *e*P **PKPdf 04 16 43.8 -5.6**
NJ2 Nanjing 164.55 333 *e*P **PKPdf 04 16 56.0 -0.8**
NJ2 pmax pmax
comp=Z,28nm,0.6s
PZH PanZhiHua 168.44 44 PKP **PKPdf 04 16 59.0 -1.2**
CMAR Chiang Mai Arr 168.83 88 PKPab **PKPab 04 18 12.2 +0.3**
comp=Z,0.9nm,0.3s,baz=285,slow=5.1,SNR=8.6

*OSPL **27** 04:03:22.6±1.4, 19°.51N×71°.86W, h99km±19km, ML1.5*
*SDD **27** 04:03:22.6±0.8, 19°.45N×72°.23W, h84km±10km, MD2.6, ML2.2, MW2.6*
ISC 27 04:03:24.1±2.0, 19°.37N±0°.06×72°.09W±0°.07, h66km±26km, n7, σ0s85/13, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.66**	**38**	*e*Pg	**Pn**	**04 03 38.3**	**0.0**
MCDR				*e*Sg	**Sn**	**04 03 48.9**	**+0.1**
MCDR				IAML		04 04 26.9	
	comp=N,64nm,0.1s						
SDDR	**Presa de Saban**	**0.85**	**117**	*i* P	**Pn**	**04 03 40.1**	**-0.5**
SDDR				*e*S	**Sn**	**04 03 52.0**	**-0.8**
SDDR				IAML		04 03 53.2	
	comp=Z,8.3nm,1.2s						
JIDR	**Jimani**	**0.90**	**165**	*e*Pg	**Pn**	**04 03 40.7**	**-0.4**
JIDR				*e*Sg	**Sn**	**04 03 55.2**	**+1.4**
JIDR				IAML		04 04 03.2	
	comp=N,27nm,0.8s						
LONE3	**El Aguacate, B**	**0.97**	**142**	*i* P	**Pn**	**04 03 41.4**	**-0.7**
LONE3				*e*S	**Sn**	**04 03 55.9**	**+0.4**
LONE3				IAML		04 03 58.8	
	comp=Z,8.8nm,1.0s						
PODR	**Polo**	**1.42**	**147**	*i* P	**Pn**	**04 03 47.7**	**-0.4**
ABDR	**Alto Bandera**	**1.49**	**112**	*e*Pg	**Pn**	**04 03 49.2**	**0.0**
ABDR				*e*Sg	**Sn**	**04 04 08.9**	**+0.9**
ABDR				IAML		04 04 16.7	
	comp=N,26nm,2.3s						
MASC	**Masc**	**2.17**	**292**	*i* P	**Pn**	**04 03 57.1**	**-0.8**
MASC				*e*S	**Sn**	**04 04 24.8**	**+1.0**
MASC				IAML		04 04 27.2	
	comp=Z,8.3nm,0.9s						

DJA 27 04:04:41.7±0.6, 7°.S±5°.5×10°.3E±°, h10km, M4.1/12, mB5.5/1, mb4.4/4, MLv4.0/12, Mw(mB)5.0/1, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**2.33**	**73**	P	Pn	04 05 19.2	-1.0
LWLI	**Liwa**	**2.37**	**15**	P	Pn	04 05 20.0	-0.7
MDSI	**Maura Dua**	**2.91**	**14**	P	Pn	04 05 28.2	+0.1
MNAI	**Manna**	**2.98**	**350**	P	Pn	04 05 28.7	-0.4
CNJI	**Cibinong**	**3.65**	**90**	P	Pn	04 05 38.1	-0.2
CMJI	**Cimerak**	**4.98**	**96**	P	Pn	04 05 56.9	+0.4
SMRI	**Semarang**	**6.94**	**88**	P	Pn	04 06 22.6	-1.0
	3μm35nm,0.4s						
UGM	**Wanagama**	**7.04**	**95**	P	Pn	04 06 25.3	+0.4
	55nm,1.9s						
PCJI	**Pacitan**	**7.71**	**97**	P	Pn	04 06 34.2	+0.1

*IDC **27** 04:17:32.4±0.8, 2°.30N×126°.80E, h0km, mb3.9/12, mbtmp3.9/12, Error ellipse: s-maj=48.1km s-min=13.8km az=70.0*
*DJA **27** 04:17:39.5±0.9, 2°.N±5°.×12°.7E±°, h61km±42km, M4.1/9, mb4.2/2, MLv4.0/9*
ISC 27 04:17:39.2±0.8, 2°.35N±0°.08×126°.9E±0°.1, h53km, n19, σ0s73/16, mb3.9/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.63**	**163**	P	**Pn**	**04 18 05.6**	**0.0**
SGSI	**Sangihe**	**1.91**	**314**	P	**Pn**	**04 18 08.6**	**-0.8**
SANI	**Sanana**	**4.46**	**192**	P	**Pn**	**04 18 43.7**	**-0.7**
LUWI	**Luwuk**	**5.32**	**231**	P	**Pn**	**04 18 57.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.35**	**183**	P	**P**	**04 22 10.8**	**-0.6**
	1.2nm,0.3s,baz=19,slow=11,SNR=16						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**23.32**	**162**	P	**P**	**04 22 41.6**	**-1.3**
	2.0nm,0.5s,baz=339,slow=11,SNR=15						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**26.74**	**166**	P	**P**	**04 23 13.4**	**-0.7**
	0.3nm,0.4s,baz=346,slow=13,SNR=12						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**04 23 57.6**	**-0.8**
	1.6nm,0.3s,baz=117,slow=9.1,SNR=5.0						
	1.6nm,0.3s						
MJAR	**Matsushiro Arr**	**35.60**	**16**	P	**P**	**04 24 32.5**	**+0.8**
	0.7nm,0.3s,baz=182,slow=8.0,SNR=1.5						
	0.7nm,0.3s						
STKA	**Stephens Creek**	**36.79**	**159**	P	**P**	**04 24 42.1**	**+0.1**
	3.3nm,0.6s,baz=338,slow=8.9,SNR=10.0						
	3.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**42.15**	**65**	T	T	05 11 02.3	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**42.16**	**65**	T	T	05 11 06.0	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**42.16**	**65**	T	T	05 11 13.3	
	baz=252						
SONM	**Songino Array**	**48.66**	**342**	P	**P**	**04 26 18.3**	**+0.2**
	0.4nm,0.5s,baz=169,slow=8.5,SNR=2.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**58.78**	**326**	P	**P**	**04 27 32.2**	**+0.1**
	0.4nm,0.4s,baz=120,slow=7.7,SNR=11						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**61.89**	**333**	P	**P**	**04 27 53.3**	**+0.2**
	0.4nm,0.3s,baz=122,slow=8.5,SNR=2.2						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**62.99**	**328**	P	**P**	**04 28 00.8**	**+0.3**
	0.7nm,0.5s,baz=129,slow=6.3,SNR=10.0						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**68.56**	**327**	P	**P**	**04 28 37.5**	**+1.2**
	0.6nm,0.6s,baz=126,slow=7.5,SNR=3.7						
	0.6nm,0.6s						
VNDA	**Vanda**	**82.04**	**173**	P	**P**	**04 29 53.6**	**+0.4**
	0.5nm,0.8s,baz=18,slow=5.5,SNR=1.8						
	0.5nm,0.8s						

*IDC **27** 04:19:25.8±1.9, 2°.46N×128°.54E, h220km±17km, mb3.7/13, mbtmp4.3/14, Error ellipse: s-maj=21.9km s-min=8.5km az=73.0*
*NEIC **27** 04:19:27.4±0.8, 2°.4N±0°.1×128°.5E±0°.1, h229km±10km, mb4.4/17, Error ellipse: s-maj=20.6km s-min=15.5km az=219.0*
*DJA **27** 04:19:28.3±0.8, 2°.N±6°.×12°.8E±°, h210km±7km, M4.6/14, mb4.7/13, mB5.1/7, MLv4.8/14, Mw(mB)4.5/7*
ISC 27 04:19:24.9±0.6, 2°.51N±0°.07×128°.51E±0°.07, h200km, n66, σ2s04/69, mb4.2/20, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.07**	**213**		**Pn**	**04 20 08.0**	**+3.8**
TNTI	**Ternate**	**2.07**	**213**	P	**Pn**	**04 20 08.3**	**+4.1**
TNTI	**Ternate**	**2.07**	**213**	P	**Pn**	**04 20 08.0**	**+3.8**
SGSI	**Sangihe**	**3.19**	**291**	P	**Pn**	**04 20 20.0**	**+3.1**
KMSI	**Cibinong**	**4.92**	**247**	P	**Pn**	**04 20 40.1**	**+1.8**
SANI	**Sanana**	**5.18**	**209**	P	**Pn**	**04 20 42.5**	**+0.8**
SANI	**Sanana**	**5.18**	**209**	P	**Pn**	**04 20 42.6**	**+0.8**
MSAI	**Masohi**	**5.83**	**176**	P	**Pn**	**04 20 53.9**	**+3.8**
	0.7nm3μm218nm,0.9s						
NLAI	**Namlea**	**5.88**	**194**	P	**Pn**	**04 20 54.2**	**+3.5**
FAKI	**Fak Fak**	**6.57**	**145**	Pn	**Pn**	**04 21 01.5**	**+1.9**
FAKI	**Fak Fak**	**6.57**	**145**	P	**Pn**	**04 21 02.7**	**+3.1**
FAKI	**Fak Fak**	**6.57**	**145**	P	**Pn**	**04 21 02.7**	**+3.1**
	0.4nm118nm,0.8s						
LUWI	**Luwuk**	**6.73**	**238**		**Pn**	**04 21 01.2**	**-0.5**
LUWI	**Luwuk**	**6.73**	**238**	P	**Pn**	**04 21 04.7**	**+2.9**
LUWI	**Luwuk**	**6.73**	**238**	P	**Pn**	**04 21 03.3**	**+1.5**
MRSI	**Marisa**	**6.87**	**253**	P	**Pn**	**04 21 05.5**	**+2.0**
	0.5nm2μm123nm,0.7s						
APSI	**Ampana**	**7.65**	**244**	P	**Pn**	**04 21 14.6**	**+0.9**
	0.6nm2μm218nm,1.0s						
TOLI2	**Tolitoli**	**7.84**	**260**	Pn	**Pn**	**04 21 17.4**	**+1.1**
TTSI	**Tana Toraja**	**10.29**	**238**	P	**Pn**	**04 21 49.3**	**+1.3**
	1μm118nm,0.7s						
SPSI	**Sidrap Palu**	**10.85**	**234**	P	**Pn**	**04 21 56.0**	**+0.8**
	5μm58nm,0.7s						
BKSI	**Bulukumba**	**11.43**	**227**	P	**Pn**	**04 22 05.0**	**+2.3**
	29nm,0.7s						
KAPI	**Kappang**	**11.51**	**229**	P	**Pn**	**04 22 04.3**	**+0.7**
	11nm,0.9s,baz=38,slow=7.9,SNR=12						
KAPI				S	**Sn**	**04 24 09.9**	**-2.1**
	4.1nm,0.4s,baz=98,slow=22,SNR=1.9						
KAPI	**Kappang**	**11.51**	**229**	P	**Pn**	**04 22 05.2**	**+1.6**
GENI	**Genyem**	**12.71**	**113**	P	**P**	**04 22 24.8**	**+2.2**
EDFI	**Ende, Flores**	**13.09**	**211**	P	**Pn**	**04 22 26.1**	**+2.3**
TABU	**Tabubil**	**14.87**	**121**	P	**P**	**04 22 49.4**	**+2.8**
DRS	**Darwin Rock St**	**15.04**	**171**	P	**Pn**	**04 22 47.3**	**-0.4**
MTN	**Manton Dam**	**15.48**	**170**	P	**Pn**	**04 22 52.2**	**-0.9**
MTN				lAmb	lAmb	04 22 57.1	
	comp=Z,38nm,1.3s						
PLAI	**Plampang**	**15.53**	**223**	P	**Pn**	**04 22 54.4**	**+0.6**
PLAI	**Plampang**	**15.53**	**223**	P	**Pn**	**04 22 55.0**	**+1.2**
SBUM	**Sibu**	**16.27**	**270**		**P**	**04 23 02.4**	**+0.4**
SBUM				lAmb	lAmb	04 23 07.1	
	comp=Z,7.5nm,1.0s						
SBUM	**Sibu**	**16.27**	**270**	P	**Pn**	**04 23 06.3**	**+3.6**
KNRA	**Kununurra**	**18.07**	**179**		**P**	**04 23 21.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**04 23 48.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**04 23 47.9**	**-1.7**
	comp=Z,2.2nm,0.5s,baz=352,slow=8.2,SNR=6.9						
	comp=Z,2.2nm,0.5s						

COEN	**Coen**	**21.89**	**139**	P	**P**	**04 24 00.3**	**-2.0**
COEN				IAmb	IAmb	04 24 41.1	
	comp=Z,11nm,1.4s						
LEM	**Lembang**	**22.82**	**246**	P	**P**	**04 24 09.7**	**-1.4**
	comp=Z,22nm,0.5s,baz=16,slow=12,SNR=3.7						
	comp=Z,22nm,0.5s						
WB0	**Warramunga Arr**	**22.88**	**166**	P	**P**	**04 24 10.1**	**-1.3**
WRAB	**Tennant Creek**	**23.03**	**166**	P	**P**	**04 24 11.5**	**-1.2**
WRAB				IAmb	IAmb	04 24 13.0	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**23.04**	**166**	P	**P**	**04 24 11.2**	**-1.6**
WRA	**Warramunga Arr**	**23.04**	**166**	P	**P**	**04 24 11.4**	**-1.3**
	comp=Z,14nm,1.0s,baz=345,slow=10,SNR=31						
WRA				S	**S**	**04 28 07.0**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=340,slow=20,SNR=5.3						
WRA				ScP	**ScP**	**04 31 09.9**	**-5.2**
	comp=Z,0.2nm,0.6s,baz=332,slow=3.1,SNR=1.4						
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**23.04**	**166**	P	**P**	**04 24 11.4**	**-1.4**
WB2				IAmb	IAmb	04 24 13.6	
	comp=Z,14nm,0.8s						
BBJI	**Bungbulang**	**23.05**	**244**	P	**P**	**04 24 13.1**	**+0.1**
WR8	**Warramunga Arr**	**23.09**	**165**	P	**P**	**04 24 11.7**	**-1.6**
WR8				IAmb	IAmb	04 24 13.5	
	comp=Z,20nm,1.1s						
QIS	**Mount Isa**	**25.38**	**155**	P	**P**	**04 24 33.4**	**-0.6**
AS31	**Alice Springs**	**26.55**	**169**	P	**P**	**04 24 43.3**	**-1.1**
ASAR	**Alice Springs**	**26.55**	**169**	P	**P**	**04 24 43.1**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=357,slow=8.4,SNR=36						
ASAR				ScP	**ScP**	**04 31 19.8**	**-5.2**
	comp=Z,0.4nm,0.7s,baz=336,slow=2.5,SNR=5.2						
	comp=Z,4.3nm,0.6s						
AS01	**Alice Springs**	**26.55**	**169**	P	**P**	**04 24 43.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**33.01**	**301**	P	**P**	**04 25 42.2**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=115,slow=7.2,SNR=14						
	comp=Z,2.5nm,0.6s						
FORT	**Forrest**	**33.11**	**181**	P	**P**	**04 25 41.0**	**-1.2**
FORT				IAmb	IAmb	04 26 03.4	
	comp=Z,21nm,1.1s						
LCRK	**Leigh Creek**	**34.06**	**165**	P	**P**	**04 25 50.6**	**+0.2**
MJAR	**Matsushiro Arr**	**35.03**	**14**	P	**P**	**04 25 57.8**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=192,slow=9.7,SNR=4.1						
	comp=Z,1.1nm,0.4s						
BBOO	**Buckleboo**	**35.85**	**169**	P	**P**	**04 26 04.5**	**-1.2**
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**04 26 09.2**	**-1.0**
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**04 26 08.4**	**-1.8**
	comp=Z,6.2nm,0.8s,baz=337,slow=10,SNR=12						
	comp=Z,6.2nm,0.8s						
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**04 26 09.6**	**-0.7**
GTA	**Gaotai**	**45.05**	**328**	*e*P	**P**	**04 27 22.3**	**+1.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**49.02**	**340**	P	**P**	**04 27 51.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=150,slow=9.7,SNR=4.4						
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**59.56**	**325**	P	**P**	**04 29 07.1**	**-0.4**
MKAR	**Makanchi Array**	**59.56**	**325**	P	**P**	**04 29 07.0**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=119,slow=8.5,SNR=20						
	comp=Z,1.7nm,0.4s						
MAKZ	**Makanchi**	**59.75**	**325**	P	**P**	**04 29 08.4**	**-0.4**
MAKZ				IAmb	IAmb	04 29 08.9	
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**62.47**	**333**	P	P	04 29 24.8	-2.1
	comp=Z,0.6nm,0.3s,baz=128,slow=10,SNR=2.8						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**63.72**	**327**	P	**P**	**04 29 34.1**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=126,slow=6.0,SNR=27						
	comp=Z,4.3nm,0.7s						
KURK	**Kurchatov**	**63.72**	**327**	P	**P**	**04 29 34.3**	**-0.8**
KURK				IAmb	IAmb	04 29 34.9	
	comp=Z,5.2nm,0.7s						
BVAR	**Borovoye Array**	**69.30**	**327**	P	**P**	**04 30 08.9**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=128,slow=8.3,SNR=5.9						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**92.43**	**180**	P	**P**	**04 32 11.9**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=348,slow=4.9,SNR=1.4						
	comp=Z,1.0nm,1.0s						

*ATH **27** 04:20:41.0, 37.°58N×20.°55E, h8km±2km, ML2.6/13, Manual Solution by S.Liakopoulos First location: 2019/03/27 04:21:35, This location: 2019/03/27 07:30:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **27** 04:20:42.0, 37.°62N×20.°61E, h12km±1km, ML2.7/6, Error ellipse: s-maj=2.0km s-min=0.7km az=44.0*
ISC 27 04:20:41.6±1.6, 37.°61N±0.°05×20.°58E±0.°05, h11km±7km, n38, σ0§52/65, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**76**	P	**Pg**	**04 20 46.2**	**+0.4**
KRI1				S	**Sg**	**04 20 48.7**	**0.0**
	9μm,0.4s						
LTHK	**Lithakia**	**0.23**	**65**	P	**Pg**	**04 20 46.3**	**0.0**
LTHK				S	**Sg**	**04 20 49.1**	**-0.4**
	8μm,0.4s						
LTHK	**Lithakia**	**0.23**	**65**	P	**Pg**	**04 20 46.3**	**0.0**
LTHK				S	**Sg**	**04 20 48.9**	**-0.6**
ORTH	**Orthonies,Zaky**	**0.26**	**22**	P	**Pg**	**04 20 47.1**	**+0.3**
ORTH				S	**Sg**	**04 20 50.3**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.28**	**44**	P	**Pg**	**04 20 47.7**	**+0.3**
KYPS				S	**Sg**	**04 20 51.7**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.50**	**1**	P	**Pg**	**04 20 51.8**	**+0.5**
PSDA				S	**Sg**	**04 20 59.2**	**+1.2**
	1μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.50**	**1**	P	**Pg**	**04 20 51.6**	**+0.3**
PSDA				S	**Sg**	**04 20 58.2**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**0.52**	**58**	P	**Pg**	**04 20 51.8**	**+0.1**
CLEM				S	**Sg**	**04 20 58.7**	**+0.1**
VLS	**Valsamata**	**0.56**	**1**	P	**Pg**	**04 20 52.7**	**+0.2**
VLS				S	**Sg**	**04 21 00.7**	**+0.7**
	555nm,0.3s						
VLS	**Valsamata**	**0.56**	**1**	P	**Pg**	**04 20 52.5**	**0.0**
VLS				S	**Sg**	**04 21 00.3**	**+0.3**
SMHA	**Samh**	**0.64**	**5**	P	**Pg**	**04 20 53.0**	**-0.9**
SMHA				S	**Sg**	**04 21 02.2**	**-0.2**
DMLN	**Damoulianata-K**	**0.64**	**346**	P	**Pg**	**04 20 54.6**	**+0.5**
DMLN	**Damoulianata-K**	**0.64**	**346**	P	**Pg**	**04 20 54.1**	**0.0**
DMLN				S	**Sb**	**04 21 03.7**	**-0.2**
YRMI	**Loutra Irminis**	**0.78**	**51**	P	**Pg**	**04 20 56.4**	**-0.3**
YRMI				S	**Sg**	**04 21 07.3**	**+0.3**
RLS	**Riolos of Patr**	**0.83**	**58**	P	**Pg**	**04 20 57.2**	**-0.4**
RLS	**Riolos of Patr**	**0.83**	**58**	P	**Pg**	**04 20 57.4**	**-0.2**
RLS				S	**Sb**	**04 21 09.2**	**-0.1**
FSK	**Fiskardo**	**0.84**	**359**	P	**Pg**	**04 20 57.5**	**-0.4**
FSK	**Fiskardo**	**0.84**	**359**	P	**Pg**	**04 20 57.3**	**-0.6**
FSK				S	**Sb**	**04 21 09.8**	**+0.2**
AXS	**Araxos**	**0.86**	**47**	P	**Pg**	**04 20 57.7**	**-0.4**
AXS				S	**Sb**	**04 21 09.9**	**-0.1**
AMT	**Artemida-Makis**	**0.90**	**95**	P	**Pg**	**04 20 58.9**	**-0.1**
AMT				S	**Sb**	**04 21 12.1**	**+0.7**
DRO	**Drossia**	**0.96**	**69**	P	**Pg**	**04 21 00.0**	**-0.1**
DRO				S	**Sb**	**04 21 13.2**	**+0.2**
	308nm,0.4s						
DRO	**Drossia**	**0.96**	**69**	P	**Pg**	**04 21 00.0**	**-0.1**
DRO				S	**Sn**	**04 21 14.2**	**-0.5**
EVGI	**Lefkada island**	**1.01**	**4**	P	**Pg**	**04 21 00.2**	**-0.8**
EVGI				S	**Sn**	**04 21 15.7**	**-0.2**
	202nm,0.2s						
EVGI	**Lefkada island**	**1.01**	**4**	P	**Pg**	**04 21 00.4**	**-0.6**
EVGI				S	**Sb**	**04 21 15.1**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.07**	**360**	P	**Pg**	**04 21 01.7**	**-0.4**
DRAG				S	**Sb**	**04 21 17.1**	**+1.0**
NYDR	**Nydri-Lefkada**	**1.10**	**5**	P	**Pb**	**04 21 01.5**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.10**	**5**	P	**Pb**	**04 21 01.8**	**-0.9**
NYDR				S	**Sn**	**04 21 18.3**	**+0.2**
ITM	**Ithomi**	**1.16**	**112**	P	**Pb**	**04 21 03.3**	**-0.3**
ITM				S	**Sg**	**04 21 18.6**	**-0.3**
LKD2	**Lefkada island**	**1.18**	**3**	P	**Pb**	**04 21 03.2**	**-0.7**
LKD2	**Lefkada island**	**1.18**	**3**	P	**Pb**	**04 21 03.2**	**-0.7**
LKD2				S	**Sn**	**04 21 20.9**	**+0.9**
TSLK	**Tsoukalades, L**	**1.21**	**3**	P	**Pn**	**04 21 04.1**	**-0.4**
TSLK				S	**Sg**	**04 21 21.1**	**+0.5**
PVO	**Paravola**	**1.25**	**37**	P	**Pn**	**04 21 05.1**	**+0.1**
PVO				S	**Sn**	**04 21 23.4**	**+1.5**
KLV	**Kalavryta, Ach**	**1.32**	**71**	P	**Pn**	**04 21 06.0**	**0.0**
EFP	**Efpalio**	**1.33**	**52**	P	**Pn**	**04 21 05.9**	**-0.1**
SERG	**Sergoula**	**1.42**	**55**	P	**Pn**	**04 21 07.5**	**+0.1**
GUR	**Goura**	**1.44**	**77**	P	**Pg**	**04 21 08.8**	**-0.3**
ANX	**Ano Chora**	**1.44**	**47**	P	**Pb**	**04 21 08.3**	**-0.2**
VLX	**Vlachokerasia**	**1.46**	**99**	P	**Pb**	**04 21 08.9**	**+0.2**

*SOME **27** 04:36:10.7, 38.°73N×69.°62E, h0km*
NNC 27 04:36:10.5±2.1, 38.°65N×69.°68E, h0km, mb3.8, mpv3.4, 2D, Error ellipse: s-maj=20.2km s-min=14.6km az=91.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.51**	**4**	Pg	Pb	04 37 13.9	+0.3
	23nm,0.5s						
IUG				Lg	Lg	04 38 02.5	
	40nm,0.7s						
BRLS	**Borolday**	**4.38**	**1**	Pg	Pb	04 37 26.3	-2.0
	3.8nm,0.3s						
BRLS				Lg	Lg	04 38 23.0	
	15nm,0.4s						
BRLS	**Borolday**	**4.38**	**1**	*e*P	Pb	04 37 26.3	-2.0
	3.8nm,0.3s						
BRLS				*e*S	Sb	04 38 21.0	-0.8
	15nm,0.4s						
KK31	**Karatay Array**	**4.50**	**8**	⇓Pn	Pn	04 37 20.3	+0.4
	0.3nm,0.2s,baz=200,slow=54,SNR=10						
KK31				Pg	Pb	04 37 32.5	+2.1
	6.2nm,0.6s,baz=192,slow=18,SNR=21						
KK31				⇓Lg	Lg	04 38 30.9	
	2.1nm,0.3s,baz=190,slow=32,SNR=5.5						
MRKS	**Merke**	**4.90**	**32**	Pg	Pb	04 37 40.1	+2.8
	2.5nm,0.4s						
MRKS				Lg	Lg	04 38 46.5	
	7.5nm,0.5s						
MRKS	**Merke**	**4.90**	**32**	*e*P	Pb	04 37 40.1	+2.8
	2.5nm,0.4s						
MRKS				*e*S	Sg	04 38 44.6	-3.3
	7.5nm,0.5s						

IDC 27 04:37:14.9±3.0, 3.°70S×127.°44E, h478km±40km, mb2.9/3, mbtmp3.7/4, Error ellipse: s-maj=131.6km s-min=13.1km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.49**	**158**	P	P	04 40 50.0	-1.4
	1.0nm,0.3s,baz=338,slow=9.9,SNR=13						
WRA				S	S	04 43 49.0	-0.1
	0.9nm,0.6s,baz=326,slow=20,SNR=7.1						
ASAR	**Alice Springs**	**20.81**	**163**	P	P	04 41 22.4	+0.2
	1.5nm,0.4s,baz=336,slow=8.1,SNR=37						
ASAR				S	S	04 44 44.6	+1.6
	0.6nm,0.9s,baz=345,slow=20,SNR=5.0						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**64.09**	**327**	P	P	04 47 01.3	+0.1
	0.3nm,0.3s,baz=123,slow=6.6,SNR=5.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**68.39**	**329**	P	P	04 47 28.0	+0.2
	0.2nm,0.4s,baz=134,slow=5.8,SNR=4.4						
	0.2nm,0.4s						

*IDC **27** 04:47:32.5±0.7, 56.°31S×148.°00E, h0km, mb4.3/10, mbtmp4.3/10, MS4.1/31, Error ellipse: s-maj=47.8km s-min=15.5km az=80.0*
*NEIC **27** 04:47:35.1±1.7, 56.°4S±0.°1×147.°4E±0.°3, h10km±1km, mb4.7/26, Error ellipse: s-maj=32.3km s-min=18.1km az=75.0*
*GCMT **27** 04:47:37.1±0.2, 56.°42S±0.°01×147.°30E±0.°02, h12km, MW4.9/113, Moment Tensor Solution. s26,c35; s113,c153; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.02±.08; Mθθ 1.55±.07; Mφφ -1.53±.08; Mrθ -0.91±.20; Mrφ -2.68±.06; Mθφ 0.25±.21; Best double couple: M=3.22500×1016 NP1:φs=346.00000°, δ76.00000°, λ8.00000°. NP2:φs=254.00000°, δ83.00000°, λ166.00000°. Principal axes: T 3.3490, Plg15.0000°, Azm209.0000°; N -0.2470, Plg74.0000°, Azm48.0000°; P -3.1010, Plg5.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 04:47:37.6±0.5, 56.°35S±0.°08×147.°6E±0.°2, h28km, n112, σ1§40/80, mb4.7/22, MS4.1/30, 5C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WKZ	**Wanaka**	**17.74**	**58**		**P**	**04 51 45.0**	**+2.0**
TOO	**Toolangi**	**18.84**	**355**	P	**P**	**04 51 55.3**	**+0.1**
RPZ	**Rata Peaks**	**19.54**	**60**	LR	LR	04 58 12.9	
	comp=Z,2μm,20.2s,baz=234,slow=33						
CAN	**Canberra**	**21.06**	**3**	P	**P**	**04 52 19.9**	**+0.6**
CAN				IAmb	IAmb	04 52 27.6	
	comp=Z,29nm,1.0s						
VNDA	**Vanda**	**21.84**	**172**	P	**P**	**04 52 27.7**	**+0.5**
VNDA				IAmb	IAmb	04 52 44.8	
	comp=Z,40nm,1.4s						
VNDA	**Vanda**	**21.84**	**172**	P	**P**	**04 52 26.5**	**-0.8**
	comp=Z,2.3nm,1.1s,baz=351,slow=8.3,SNR=7.2						
VNDA				LR	LR	05 00 08.7	
	comp=Z,276nm,18.5s,baz=346,slow=35						
	comp=Z,2.3nm,1.1s						
STKA	**Stephens Creek**	**24.83**	**348**	P	**P**	**04 52 57.5**	**+0.2**
STKA	**Stephens Creek**	**24.83**	**348**	P	**P**	**04 52 56.8**	**-0.5**
	comp=Z,13nm,1.0s,baz=156,slow=12,SNR=14						
STKA				LR	LR	05 00 15.0	
	comp=Z,336nm,19.3s,baz=175,slow=31						
	comp=Z,13nm,1.0s						
URZ	**Urewera**	**26.66**	**60**	LR	LR	05 02 52.1	
	comp=Z,734nm,21.6s,baz=292,slow=35						
H01W1	**Cape Leeuwin H**	**31.26**	**299**	T	T	05 26 41.1	
	baz=143,slow=76,SNR=200						
H01W2	**Cape Leeuwin H**	**31.27**	**299**	T	T	05 26 40.0	
	baz=143,slow=76,SNR=150						
H01W3	**Cape Leeuwin H**	**31.28**	**299**	T	T	05 26 40.9	
	baz=143,slow=76,SNR=133						
NWAO	**Narrogin (SRO)**	**31.43**	**305**	LR	LR	05 03 34.7	
	comp=Z,1μm,21.0s,baz=136,slow=30						
QSPA	**South Pole Qui**	**33.75**	**180**	P	**P**	**04 54 15.5**	**-0.9**
QSPA				IAmb	IAmb	04 54 45.3	
	comp=Z,13nm,1.2s						
QSPA	**South Pole Qui**	**33.75**	**180**	P	**P**	**04 54 14.9**	**-1.5**
	comp=Z,4.7nm,1.1s,baz=351,slow=6.9,SNR=4.7						
QSPA				LR	LR	05 07 49.4	
	comp=Z,387nm,18.8s,baz=12,slow=36						
	comp=Z,4.7nm,1.1s						
ASAR	**Alice Springs**	**34.16**	**337**	P	**P**	**04 54 19.4**	**-0.8**
ASAR	**Alice Springs**	**34.16**	**337**	P	**P**	**04 54 19.6**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=166,slow=9.3,SNR=29						
ASAR				PcP	**PcP**	**04 56 55.5**	**-1.2**
	comp=Z,1.1nm,1.0s,baz=161,slow=3.5,SNR=3.8						
	comp=Z,4.1nm,0.9s						
AS31	**Alice Springs**	**34.17**	**337**	P	**P**	**04 54 20.1**	**-0.2**
MORW	**Morawa**	**35.24**	**307**	P	**P**	**04 54 29.4**	**-0.1**
MORW				IAmb	IAmb	04 54 55.7	
	comp=Z,14nm,1.3s						
WR0	**Warramunga Arr**	**37.63**	**340**	P	**P**	**04 54 49.1**	**-0.8**
WR0				IAmb	IAmb	04 55 00.9	
	comp=Z,19nm,1.1s						
WR8	**Warramunga Arr**	**37.65**	**340**	P	**P**	**04 54 48.9**	**-1.1**
WR8				IAmb	IAmb	04 54 50.4	
	comp=Z,16nm,1.2s						
WB2	**Warramunga Arr**	**37.69**	**339**	P	**P**	**04 54 49.2**	**-1.2**
WB2				IAmb	IAmb	04 55 01.2	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**37.69**	**339**	P	**P**	**04 54 49.2**	**-1.2**
WRA	**Warramunga Arr**	**37.69**	**339**	P	**P**	**04 54 49.5**	**-0.9**
	comp=Z,8.9nm,1.0s,baz=168,slow=7.2,SNR=32						
WRA				PcP	**PcP**	**04 57 06.5**	**-0.7**
	comp=Z,1.2nm,1.0s,baz=172,slow=2.6,SNR=2.7						
WRA				LR	LR	05 09 06.7	
	comp=Z,90nm,19.9s,baz=183,slow=34						
	comp=Z,8.9nm,1.0s						
WRAB	**Tennant Creek**	**37.70**	**339**	P	**P**	**04 54 48.9**	**-1.6**
WRAB				IAmb	IAmb	04 55 01.3	
	comp=Z,15nm,0.9s						
WB0	**Warramunga Arr**	**37.85**	**339**	P	**P**	**04 54 50.0**	**-1.8**
WB0				IAmb	IAmb	04 54 57.6	
	comp=Z,12nm,0.9s						
MAW	**Mawson**	**38.11**	**218**	LR	LR	05 09 30.0	
	comp=Z,586nm,19.1s,baz=96,slow=34						
PSA00	**Pilbara Seismi**	**40.35**	**318**	P	**P**	**04 55 11.5**	**-1.1**
PSA00				IAmb	IAmb	04 55 14.7	
	comp=Z,18nm,1.0s						
PSA00	**Pilbara Seismi**	**40.35**	**318**	P	**P**	**04 55 11.5**	**-1.1**
MBWA	**Marble Bar**	**40.77**	**318**	P	**P**	**04 55 15.5**	**-0.6**
MBWA				IAmb	IAmb	04 55 17.5	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.63**	**328**	P	**P**	**04 55 22.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.63**	**328**	LR	LR	05 11 12.4	
	comp=Z,281nm,19.0s,baz=168,slow=34						
COEN	**Coen**	**42.45**	**354**	P	**P**	**04 55 30.0**	**+0.1**
KNRA	**Kununurra**	**43.07**	**333**	P	**P**	**04 55 34.9**	**0.0**
KNRA				IAmb	IAmb	04 55 41.7	
	comp=Z,22nm,1.3s						
MSVF	**Nonsavu**	**44.85**	**43**	LR	LR	05 11 24.3	
	comp=Z,289nm,19.2s,baz=199,slow=32						
MTN	**Manton Dam**	**45.25**	**337**	P	**P**	**04 55 51.7**	**-0.7**
HNR	**Honiara**	**47.79**	**17**	LR	LR	05 12 57.3	
	comp=Z,120nm,19.5s,baz=164,slow=32						
TROLL	**Troll, Antarti**	**49.63**	**194**	⇑P	**P**	**04 56 27.0**	**+1.1**
	comp=Z,155nm,0.8s						
SNAA	**Sanae**	**50.59**	**192**	P	**P**	**04 56 33.2**	**0.0**
SNAA				IAmb	IAmb	04 56 36.2	
	comp=Z,14nm,1.3s						
SNAA	**Sanae**	**50.59**	**192**	⇑P	**P**	**04 56 32.8**	**-0.4**
	comp=Z,88nm,0.9s						
SNAA	**Sanae**	**50.59**	**192**	P	**P**	**04 56 33.5**	**+0.3**
	comp=Z,4.8nm,1.0s,baz=194,slow=5.6,SNR=6.4						
SNAA				LR	LR	05 17 46.4	
	comp=Z,903nm,18.6s,baz=144,slow=36						
	comp=Z,4.8nm,1.0s						
VNA3	**Neumayer Olymp**	**51.69**	**189**	⇑P	**P**	**04 56 42.4**	**+1.1**
	comp=Z,2.9nm,0.8s						
VNA2	**Neumayer--Watz**	**51.78**	**190**	⇑P	P	04 56 35.9	-6.1
	comp=N,2.6nm,0.9s,baz=329,slow=15						
RAR	**Rarotonga**	**52.10**	**70**	LR	LR	05 15 09.7	
	comp=N,131nm,21.5s,baz=222,slow=32						
VNA1	**Neumayer--Stat**	**52.13**	**190**	⇑P	**P**	**04 56 45.1**	**+0.5**
	comp=Z,11nm,0.8s						
H04S1	**CROZET ISLANDS**	**55.52**	**236**	T	T	05 57 40.1	
	baz=140,slow=75,SNR=20						
H04S2	**CROZET ISLANDS**	**55.52**	**236**	T	T	05 57 42.8	
	baz=140,slow=75,SNR=14						
H04S3	**CROZET ISLANDS**	**55.54**	**236**	T	T	05 57 40.1	
	baz=140,slow=75,SNR=18						
KAPI	**Kappang**	**55.78**	**326**	P	**P**	**04 57 11.9**	**0.0**
KAPI	**Kappang**	**55.78**	**326**	LR	LR	05 21 39.4	
	comp=Z,131nm,18.1s,baz=162,slow=37						
LEM	**Lembang**	**58.57**	**312**	LR	LR	05 20 45.1	
	comp=Z,201nm,19.6s,baz=157,slow=34						
LUWI	**Luwuk**	**58.66**	**331**	P	**P**	**04 57 33.4**	**+1.2**
PPT	**Papeete**	**60.53**	**77**	LR	LR	05 18 13.2	
	comp=Z,62nm,21.6s,baz=240,slow=30						
DAV	**Davao City (W)**	**65.76**	**336**	LR	LR	05 27 00.7	
	comp=Z,93nm,20.3s,baz=343,slow=36						
GUMO	**Guam**	**69.72**	**357**	LR	LR	05 29 40.7	
	comp=Z,49nm,18.2s,baz=133,slow=36						
PSI	**Prapat**	**70.93**	**307**	LR	LR	05 28 41.1	
	comp=Z,123nm,18.5s,baz=132,slow=35						
H08S2	**Diego Garcia H**	**75.44**	**278**	T	T	06 21 50.2	
	baz=147,slow=76,SNR=52						
H08S1	**Diego Carcia H**	**75.45**	**278**	T	T	06 21 48.1	
	baz=147,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**75.46**	**278**	T	T	06 21 51.8	
	baz=147,slow=76,SNR=5.9						
PLCA	**Paso Flores**	**78.03**	**151**	P	**P**	**04 59 33.7**	**+0.5**
PLCA				IAmb	IAmb	04 59 53.0	
	comp=Z,6.9nm,1.4s						
PLCA	**Paso Flores**	**78.03**	**151**	P	**P**	**04 59 32.6**	**-0.6**
	comp=Z,3.1nm,1.2s,baz=354,slow=8.7,SNR=1.4						
PLCA				LR	LR	05 26 20.9	
	comp=Z,171nm,21.1s,baz=194,slow=30						
	comp=Z,3.1nm,1.2s						
SUR	**Sutherland**	**80.76**	**223**	LR	LR	05 28 29.5	
	comp=Z,180nm,20.0s,baz=157,slow=30						
H03S2	**Juan Fernandez**	**81.85**	**142**	T	T	06 31 01.6	
	baz=202						
H03S1	**Juan Fernandez**	**81.85**	**142**	T	T	06 30 59.0	
	baz=202						
H03S3	**Juan Fernandez**	**81.86**	**142**	T	T	06 30 57.4	
	baz=202						
BOSA	**Boshof**	**82.31**	**229**	P	**P**	**04 59 57.6**	**+1.0**
	comp=Z,4.0nm,1.0s,baz=112,slow=4.3,SNR=1.8						
	comp=Z,4.0nm,1.0s						
JCJ	**Chichijima**	**83.25**	**355**	LR	LR	05 36 01.2	
	comp=Z,48nm,20.0s,baz=354,slow=35						
CMAR	**Chiang Mai Arr**	**84.98**	**314**	P	**P**	**05 00 10.6**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=186,slow=3.9,SNR=8.2						
	comp=Z,1.4nm,0.3s						
LBTB	**Lobatse**	**85.32**	**231**	LR	LR	05 33 13.1	
	comp=Z,76nm,19.8s,baz=150,slow=32						
GO04	**Tololo Observa**	**87.83**	**147**	P	**P**	**05 00 23.9**	**-0.5**
JHJ	**Hachijo jima 2**	**89.37**	**353**	LR	LR	05 38 22.4	
	comp=Z,91nm,19.9s,baz=50,slow=34						
JNU	**Nakatsue**	**90.26**	**346**	LR	LR	05 40 11.3	
	comp=Z,42nm,19.1s,baz=170,slow=35						
BRDH	**Bariadhala**	**91.76**	**310**	LR	LR	05 42 11.2	
	comp=Z,115nm,19.9s,baz=144,slow=36						
LSZ	**Lusaka**	**92.66**	**237**	LR	LR	05 35 15.8	
	comp=Z,180nm,21.8s,baz=162,slow=31						
MJAR	**Matsushiro Arr**	**92.88**	**352**	P	**P**	**05 00 46.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=178,slow=3.7,SNR=1.5						
MJAR				LR	LR	05 43 10.9	
	comp=Z,28nm,18.8s,baz=156,slow=36						
	comp=Z,0.8nm,0.3s						
TSUM	**Tsumeb**	**93.83**	**226

CLL *e*PPKPab **PKPab** **05 07 46.0 +2.8**
NOA **NORSAR Array B 157.21 300** PKPab **PKPab** **05 08 00.0 -0.4**
comp=Z,0.5nm,0.7s,baz=89,slow=5.6,SNR=3.5

DSN ***27*** *04:52:02.0±1.6,29°.10N×56°.76E,h30km,ML4.1/12,Error ellipse: s-maj=23.6km s-min=12.8km az=70.0*
MOS ***27*** *04:52:08.5±1.0,28°.18N×56°.20E,h13km,mb4.6/18,Error ellipse: s-maj=7.7km s-min=5.4km az=107.3*
IDC ***27*** *04:52:08.6±0.6,28°.21N×56°.19E,h0km,mb4.2/26, mbtmp4.2/32,ML3.9/6,MS3.3/12,Error ellipse: s-maj=13.9km s-min=12.4km az=2.0*
NEIC ***27*** *04:52:10.7±1.3,28°.23N±0°.07×56°.18E±0°.09,h10km±1km, mb4.3/33,Error ellipse: s-maj=14.5km s-min=11.8km az=71.0*
OMAN ***27*** *04:52:11.8±0.0,28°.36N×56°.25E,h14km,mb4.6/13, ml4.3/17,Error ellipse: s-maj=1.2km s-min=0.6km az=13.0*
TEH ***27*** *04:52:11.1,28°.27N×56°.23E,h8km±43km*
THR ***27*** *04:52:12.1±0.0,28°.32N×56°.18E,h10km±11km,mb4.4*
ISC 27 04:52:10.7±0.3,28°.30N±0°.03×56°.23E±0°.03,h10km,n318, σ1°50/327,**mb4.4/75,MS3.2/11,26C-8D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.89**	**162**	Pg	**Pg**	**04 52 27.6**	**-0.2**
BNDS	**Bandar-Abbas**	**0.90**	**183**	Pg	**Pg**	**04 52 27.6**	**-0.3**
BNDS	**Bandar-Abbas**	**0.90**	**183**	*e*PgA		04 52 29.1	
BNDS				*e*Sg	**Sn**	**04 52 44.0**	**+1.4**
BNDS				IAML		04 52 49.8	
	comp=Z,17nm,1.0s						
KHNJ	**Kahnooj**	**1.35**	**105**	Pg	**Pn**	**04 52 35.4**	**-0.2**
NGRK	**Negar Kerman**	**1.41**	**18**	Pg	**Pb**	**04 52 37.3**	**-0.1**
KRBR	**Kerman**	**1.74**	**15**	Pg	**Pb**	**04 52 42.8**	**-0.2**
KRBR	**Kerman**	**1.74**	**15**	*e*Pn	**Pb**	**04 52 43.2**	**+0.2**
KRBR				IAML		04 53 12.5	
	comp=Z,6.6nm,1.0s						
LAR1	**LAR**	**1.75**	**250**	Pg	**Pb**	**04 52 43.1**	**+0.1**
CHMN	**Cheshme madani**	**1.94**	**36**	Pn	**Pb**	**04 52 45.5**	**-0.8**
KHGB	**Koh Gabri**	**2.08**	**6**	Pn	**Pb**	**04 52 48.4**	**-0.3**
KBAM	**BAM**	**2.12**	**66**	Pn	**Pb**	**04 52 48.5**	**-0.8**
SHME	**Shamm**	**2.24**	**182**	P	**Pb**	**04 52 52.2**	**+1.0**
SHME	**Shamm**	**2.24**	**182**	P	**Pn**	**04 52 48.9**	**+1.1**
JHRM	**Jahrom**	**2.35**	**276**	Pn	**Pb**	**04 52 51.7**	**-1.4**
BANOM	**Banah**	**2.36**	**178**	P	**Pb**	**04 52 53.0**	**-0.4**
BANOM				S	**Sb**	**04 53 24.1**	**+1.5**
BANOM	**Banah**	**2.36**	**178**	*i* P	**Pn**	**04 52 50.8**	**+1.3**
	SNR=60						
BANOM				S	**Sg**	**04 53 27.9**	**+1.2**
KRM1	**Kerman Provinc**	**2.38**	**22**	Pn	**Pb**	**04 52 52.8**	**-0.9**
ZRDN	**Zarand Kerman**	**2.68**	**6**	Pn	**Pb**	**04 52 57.5**	**-1.4**
UMQ	**Umm Al-Quwin**	**2.81**	**191**	P	**Pn**	**04 52 57.0**	**+1.4**
QIR1	**Qir**	**2.81**	**274**	Pn	**Pn**	**04 52 58.1**	**+2.3**
GHIR	**Ghir-Karzin**	**2.86**	**271**	*e*PnA		04 52 59.5	
GHIR				IAML		04 54 32.0	
	comp=Z,0.1nm,1.0s						
LMD1	**Lamerd**	**2.88**	**251**	Pn	**Pn**	**04 52 58.9**	**+2.3**
MASF	**Masafi**	**2.91**	**181**	P	**Pn**	**04 52 59.3**	**+2.1**
	SNR=18						
MSFE	**Esma-Masafi**	**2.92**	**181**	*i* P	**Pn**	**04 52 58.7**	**+1.4**
	SNR=18						
MDH	**Madha**	**2.99**	**179**	P	**Pn**	**04 52 59.3**	**+1.2**
MDH	**Madha**	**2.99**	**179**	P	**Pn**	**04 52 58.0**	**-0.1**
NAZ	**Nazwa, Dubai**	**3.33**	**189**	P	**Pn**	**04 53 05.6**	**+2.7**
	SNR=27						
NAZ				S	**Sn**	**04 53 45.8**	**+3.3**
NAZ	**Nazwa, Dubai**	**3.33**	**189**	*i* P	**Pn**	**04 53 05.3**	**+2.4**
	SNR=27						
UOSS	**Minazif**	**3.34**	**180**		**Pn**	**04 53 01.9**	**-1.0**
UOSS	**Minazif**	**3.34**	**180**	P	**Pn**	**04 53 04.7**	**+1.8**
UOSS				S	**Sn**	**04 53 46.0**	**+3.3**
UOSS	**Minazif**	**3.34**	**180**	*i* P	**Pn**	**04 53 02.9**	**0.0**
	SNR=20						
HATD	**Hatta, Dubai**	**3.46**	**181**	P	**Pn**	**04 53 06.4**	**+1.8**
	SNR=13						
HATD	**Hatta, Dubai**	**3.46**	**181**	*i* P	**Pn**	**04 53 04.7**	**+0.1**
	SNR=14						
SHI	**Shiraz**	**3.52**	**293**	Pn	**Pn**	**04 53 08.1**	**+2.5**
FAQ	**Al Faqa, Dubai**	**3.58**	**189**	P	**Pn**	**04 53 08.6**	**+2.3**
	SNR=8.6						
FAQ	**Al Faqa, Dubai**	**3.58**	**189**	P	**Pn**	**04 53 08.5**	**+2.3**
ASHO	**Ashiyiah**	**3.60**	**182**	P	**Pn**	**04 53 09.0**	**+2.4**
	SNR=51						
ASHO				S	**Sn**	**04 53 51.9**	**+2.7**
ASHO	**Ashiyiah**	**3.60**	**182**	*i* P	**Pn**	**04 53 08.0**	**+1.4**
	SNR=51						
ASUD	**Al Ashush, Dub**	**3.74**	**193**	P	**Pn**	**04 53 11.6**	**+3.1**
	SNR=6.8						
ASUD	**Al Ashush, Dub**	**3.74**	**193**	P	**Pn**	**04 53 11.5**	**+3.1**
AJN	**Ajban**	**3.88**	**197**	P	**Pn**	**04 53 13.1**	**+2.7**
AJN	**Ajban**	**3.88**	**197**	P	**Pn**	**04 53 13.1**	**+2.7**
SOHO	**SOHO**	**4.15**	**176**	P	**Pn**	**04 53 16.4**	**+2.2**
SOHO	**SOHO**	**4.15**	**176**	P	**Pn**	**04 53 13.5**	**-0.7**
ZHSF	**Zahedan**	**4.19**	**71**	Pn	**Pn**	**04 53 17.7**	**+2.8**
ZHSF	**Zahedan**	**4.19**	**71**	*e*PnA		04 53 19.1	
ZHSF				IAML		04 54 15.1	
	comp=Z,0.2nm,1.0s						
KAZ2	**Kazeron-Fars-I**	**4.21**	**289**	Pn	**Pn**	**04 53 17.4**	**+2.4**
ICHK	**Chekchek**	**4.24**	**339**	Pn	**Pn**	**04 53 18.5**	**+3.0**
ALNE	**Al Ain**	**4.24**	**186**	P	**Pn**	**04 53 17.4**	**+2.0**
	SNR=10						
ALNE	**Al Ain**	**4.24**	**186**	*i* P	**Pn**	**04 53 16.6**	**+1.2**
	SNR=10						
YZKH	**Yazd**	**4.32**	**341**	*e*PnA		04 53 20.3	
YZKH				IAML		04 54 46.9	
	comp=Z,0.3nm,1.0s						
AHBU	**AHRAM**	**4.38**	**279**	Pn	**Pn**	**04 53 19.6**	**+2.4**
DSBU	**Dashti - Bushe**	**4.38**	**272**	Pn	**Pn**	**04 53 18.7**	**+1.4**
BSRN	**Basiran**	**4.43**	**34**	Pn	**Pn**	**04 53 21.3**	**+3.2**
BSRN	**Basiran**	**4.43**	**34**	*e*Pn	**Pn**	**04 53 21.3**	**+3.2**
NHDN	**Nehbandan**	**4.53**	**46**	Pn	**Pn**	**04 53 22.3**	**+2.9**
TPRV	**Parvadeh(Tabas**	**4.73**	**5**	Pn	**Pn**	**04 53 25.7**	**+3.5**
HOQ	**Hoqain**	**4.79**	**168**	P	**Pn**	**04 53 23.0**	**0.0**
HOQ				S	**Sn**	**04 54 19.3**	**+0.6**
KLNJ	**Kolanjah**	**4.86**	**305**	Pn	**Pn**	**04 53 27.0**	**+2.9**
KLNJ	**Kolanjah**	**4.86**	**305**	*e*Pn	**Pn**	**04 53 27.3**	**+3.2**
KLNJ				IAML		04 54 52.1	
	comp=Z,0.5nm,1.0s						
ARQ	**Araqi**	**4.95**	**177**	P	**Pn**	**04 53 27.0**	**+1.9**
	SNR=25						
ARQ				S	**Sn**	**04 54 23.6**	**+1.2**
MZWR	**Madinat Zayed**	**4.99**	**206**	P	**Pn**	**04 53 27.6**	**+2.0**
BIDO	**Bidbid**	**5.05**	**160**	P	**Pn**	**04 53 26.1**	**-0.4**
BIDO				S	**Sn**	**04 54 24.6**	**-0.3**
NGCH	**Negor - Chabah**	**5.27**	**123**	Pn	**Pn**	**04 53 30.5**	**+1.0**
NGCH	**Negor - Chabah**	**5.27**	**123**	P	**Pn**	**04 53 30.7**	**+1.2**
SHMA	**Al-Shehemyia**	**5.29**	**244**	P	**Pn**	**04 53 32.2**	**+2.5**
	SNR=16						
SHMA				S	**Sn**	**04 54 32.9**	**+2.2**
ANAR	**Anarak**	**5.33**	**337**	Pn	**Pn**	**04 53 33.8**	**+3.3**
TKDS	**Koohdasht(Taba**	**5.36**	**8**	Pn	**Pn**	**04 53 34.2**	**+3.4**
NASN	**Na'in**	**5.37**	**328**	*e*PnA		04 53 34.5	
NASN				IAML		04 55 25.1	
	comp=Z,0.1nm,1.0s						
TABS	**Tabas**	**5.39**	**8**	*e*PnA		04 53 35.9	
TABS				IAML		04 55 24.2	
	comp=Z,0.3nm,1.0s						
SMDO	**Samad**	**5.47**	**162**	P	**Pn**	**04 53 33.7**	**+1.4**
SMDO				S	**Sn**	**04 54 35.1**	**-0.3**
WSAR	**Wadi Sarin**	**5.48**	**156**	Pn	**Pn**	**04 53 32.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=351,slow=24,SNR=94						
WSAR				Sn	**Sn**	**04 54 31.2**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=241,slow=24,SNR=7.6						
SRVN	**Saravan**	**5.53**	**98**	Pn	**Pn**	**04 53 35.7**	**+2.5**
SRVN	**Saravan**	**5.53**	**98**	*e*PnA		04 53 37.4	
SRVN				IAML		04 55 36.1	
	comp=Z,0.1nm,1.0s						
SAKB	**Bahrain**	**5.57**	**247**	P	**Pn**	**04 53 34.1**	**+0.5**
SAKB				S	**Sn**	**04 54 39.1**	**+1.3**
BSY	**Bisya**	**5.60**	**171**	P	**Pn**	**04 53 36.0**	**+2.0**
	SNR=6.0						
UMZA	**Um Al Zommool**	**5.64**	**190**	P	**Pn**	**04 53 35.9**	**+1.3**
AFRZ	**Afriz**	**5.64**	**24**	Pn	**Pn**	**04 53 38.2**	**+3.4**
TNSJ	**Nastanj**	**5.66**	**3**	Pn	**Pn**	**04 53 38.5**	**+3.6**
TRNA	**Turayna**	**5.72**	**233**	P	**Pn**	**04 53 38.0**	**+2.2**
	SNR=11						
TRNA				S	**Sn**	**04 54 43.1**	**+1.5**
	SNR=11						
SLWR	**Sila**	**5.86**	**225**	P	**Pn**	**04 53 39.1**	**+1.5**
SMRA	**Abu-Samra**	**6.00**	**235**	P	**Pn**	**04 53 41.5**	**+2.0**
	SNR=5.6						
SMRA				S	**Sn**	**04 54 49.3**	**+1.1**
JMDO	**Jabal Madar**	**6.14**	**164**	P	**Pn**	**04 53 43.4**	**+2.0**
JMDO				S	**Sn**	**04 54 51.0**	**-0.8**
WBK	**Wadi Bani Khal**	**6.18**	**156**	P	**Pn**	**04 53 42.6**	**+0.6**
	SNR=9.4						
SHRT	**Shahrakht**	**6.37**	**32**	Pn	**Pn**	**04 53 48.1**	**+3.4**
SHRT	**Shahrakht**	**6.37**	**32**	*e*PnA		04 53 49.5	
SHRT				IAML		04 55 59.1	
	comp=Z,0.1nm,1.0s						
TAPT	**Tabas- Tapeh t**	**6.62**	**7**	Pn	**Pn**	**04 53 52.1**	**+4.0**
JLN	**Jalan Bani Buh**	**6.76**	**154**	P	**Pn**	**04 53 50.3**	**+0.3**
	SNR=13						
ISFB	**Sefidab**	**6.93**	**332**	Pn	**Pn**	**04 53 56.1**	**+3.6**
GTMR	**Gotvand**	**7.42**	**306**	*e*PnA		04 54 01.3	
GTMR				IAML		04 55 31.0	
	comp=Z,0.1nm,1.0s						
MHTO	**MHTO**	**7.45**	**167**	P	**Pn**	**04 54 00.1**	**+0.7**
	SNR=18						
GHVR	**GHOM**	**7.47**	**327**	*e*PnA		04 54 04.1	
GHVR				IAML		04 56 31.6	
	comp=Z,0.1nm,1.0s						
KBD	**Kabd**	**7.55**	**279**	P	**Pn**	**04 54 02.4**	**+1.7**
KBD				S	**Sn**	**04 55 25.2**	**-1.1**
KHMZ	**Khomeyn**	**7.64**	**317**	*e*PnA		04 54 04.8	
KHMZ				IAML		04 54 51.7	
	comp=Z,0.1nm,1.0s						
SHRO	**Shahrood**	**7.67**	**359**	*e*PnA		04 54 06.4	
SHRO				IAML		04 55 29.0	
	comp=Z,0.0nm,1.0s						
IQOM	**Qom**	**7.87**	**327**	Pn	**Pn**	**04 54 08.7**	**+3.3**
IDMV	**Damavand**	**8.09**	**335**	Pn	**Pn**	**04 54 12.0**	**+3.5**
SBZV	**Sabzevar**	**8.15**	**8**	Pn	**Pn**	**04 54 12.8**	**+3.5**
SBZV	**Sabzevar**	**8.15**	**8**	IAML		04 57 47.8	
	comp=Z,0.0nm,9.7s						
DAMV	**Damavand**	**8.16**	**335**	*e*PnA		04 54 13.2	
DAMV				IAML		04 57 35.8	
	comp=Z,0.0nm,4.7s						
IKIA	**Kiasar**	**8.18**	**345**	Pn	**Pn**	**04 54 12.8**	**+3.2**
ASAO	**Ashtian**	**8.18**	**321**	*e*PnA		04 54 12.5	
ASAO				IAML		04 57 41.0	
	comp=Z,0.0nm,0.5s						
DQM	**DQM**	**8.41**	**172**	P	**Pn**	**04 54 13.4**	**+0.7**
IGLO	**Ghaloghah**	**8.43**	**347**	Pn	**Pn**	**04 54 16.4**	**+3.3**
IPRN	**Peran**	**8.58**	**338**	Pn	**Pn**	**04 54 18.3**	**+3.2**
IKFM	**Kafar-mosalman**	**8.89**	**308**	Pn	**Pn**	**04 54 22.2**	**+3.1**
QABG	**Abgarm-Qazvin**	**9.30**	**324**	Pn	**Pn**	**04 54 28.1**	**+3.2**
MRVT	**Maraveh tapeh**	**9.34**	**359**	*e*Pn	**Pn**	**04 54 29.4**	**+4.0**
MRVT				IAML		04 58 18.7	
	comp=Z,0.0nm,6.2s						
BJRD	**Bojnurd**	**9.43**	**6**	*e*PnA		04 54 31.9	
BJRD				IAML		04 54 47.7	
	comp=Z,7.1nm,1.0s						
DOK	**Doka**	**9.82**	**192**	P	**Pn**	**04 54 31.8**	**-0.2**
	SNR=10						
SNQR	**Sonqor, Kerman**	**9.82**	**314**	Pn	**Pn**	**04 54 34.7**	**+2.4**
GIDE	**GILAN DEYLAMAN**	**10.12**	**330**	*e*Pn	Pn	04 54 41.4	+5.2
GIDE				IAML		04 59 13.4	
	comp=Z,0.0nm,4.2s						
SNGE	**Sanandaj**	**10.15**	**314**	IAML		04 54 50.9	
	comp=Z,0.0nm,0.1s						
IGHG	**Ghalegh̄azi**	**10.22**	**308**	Pn	**Pn**	**04 54 39.2**	**+1.6**
IDHR	**Dehrash**	**10.55**	**310**	Pn	**Pn**	**04 54 42.7**	**+0.6**
WHFO	**Wadi Hawf**	**10.57**	**193**	P	**Pn**	**04 54 41.4**	**-0.9**
	SNR=10						
DMTO	**DMTO**	**10.60**	**187**	P	**Pn**	**04 54 41.5**	**-1.2**
	SNR=14						
RAYN	**Ar Rayn**	**10.76**	**246**		**Pn**	**04 54 42.2**	**-2.7**
RAYN	**Ar Rayn**	**10.76**	**246**	P	**Pn**	**04 54 43.0**	**-1.9**
RAYN	**Ar Rayn**	**10.76**	**246**	P	**Pn**	**04 54 42.2**	**-2.7**
RAYN	**Ar Rayn**	**10.76**	**246**	*i* P	**Pn**	**04 54 43.0**	**-1.9**
	SNR=10						
ABTO	**Aybut**	**11.22**	**195**	P	**Pn**	**04 54 50.3**	**-0.9**
	SNR=18						
SRSL	**SARDASHT**	**12.07**	**314**	IAML		04 55 14.1	
	comp=Z,0.0nm,0.1s						
SIMJ	**Simiganj**	**14.83**	**43**	Pn	**Pn**	**04 55 42.0**	**+1.3**
GEVA	**Gevas**	**14.85**	**316**		**Pn**	**04 55 41.6**	**+0.7**
GNI	**Garni**	**15.15**	**324**	Pn	**Pn**	**04 55 44.5**	**-0.4**
GNI				IAmb	IAmb	04 55 53.7	
	comp=Z,13nm,0.8s						
GNI	**Garni**	**15.15**	**324**	Pn	**P**	**04 55 48.5**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=245,slow=2.5,SNR=6.8						
GNI				LR	LR	05 02 15.3	
	comp=Z,61nm,21.6s,baz=115,slow=40						
	comp=Z,14nm,0.9s						
GNI	**Garni**	**15.15**	**324**	*i* P	**P**	**04 55 48.7**	**-1.4**
GNI	**Garni**	**15.15**	**324**	P	**Pn**	**04 55 45.3**	**+0.4**
	comp=Z,17nm,0.9s						
GURO	**Guroymak-BITLI**	**15.64**	**314**	Pn	**Pn**	**04 55 52.0**	**+0.7**
MARD	**Mardin**	**15.78**	**309**	Pn	**Pn**	**04 55 51.7**	**-1.5**
GAR	**Garm**	**15.84**	**44**	Pn	**Pn**	**04 55 54.0**	**+0.2**
GAR				IAmb	IAmb	04 56 05.2	
	comp=Z,13nm,0.8s						
BTK	**Batken**	**16.81**	**42**	Pn	**Pn**	**04 56 05.7**	**-0.5**
BTK	**Batken**	**16.81**	**42**	P	**Pn**	**04 56 05.7**	**-0.5**
BTK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ASF	**Jabal al Asfar**	**17.14**	**288**	P	**Pn**	**04 56 08.0**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=141,slow=11,SNR=6.3						
ASF				LR	LR	05 04 41.8	
	comp=Z,111nm,19.3s,baz=165,slow=44						
	comp=Z,1.5nm,0.4s						
KOPT	**Kop Dagi**	**17.47**	**316**	Pn	**Pn**	**04 56 13.4**	**-1.3**
GAZ	**Gaziantep**	**18.26**	**304**		**Pn**	**04 56 23.2**	**-1.0**
GAZ				IAmb	IAmb	04 56 31.0	
	comp=Z,11nm,0.7s						
NCK	**Nalchik**	**18.26**	**329**	*i* P	**P**	**04 56 25.9**	**+1.5**
NEUR	**Neytrino**	**18.50**	**327**	*i* P	**P**	**04 56 23.1**	**-4.0**
MMAI	**Mount Meron Ar**	**18.52**	**290**	P	**P**	**04 56 26.8**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=101,slow=15,SNR=2.8						
MMAI				LR	LR	05 05 19.4	
	comp=Z,85nm,18.8s,baz=114,slow=43						
	comp=Z,0.8nm,0.4s						
EIL	**Elat**	**18.67**	**279**	P	**P**	**04 56 28.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=47,slow=5.2,SNR=5.8						
EIL				LR	LR	05 04 55.6	
	comp=Z,31nm,21.0s,baz=109,slow=41						
	comp=Z,6.5nm,0.9s						
KK31	**Karatay Array**	**18.74**	**34**	P	**P**	**04 56 28.2**	**-1.4**
KK31	**Karatay Array**	**18.74**	**34**	P	**P**	**04 56 28.2**	**-1.4**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	**Karatay Array**	**18.74**	**34**	P	**P**	**04 56 28.5**	**-1.1**
KKAR	**Karatay Array**	**18.74**	**34**		**Pn**	**04 56 30.4**	**+0.4**
KKAR	**Karatay Array**	**18.74**	**34**	P	**Pn**	**04 56 30.4**	**+0.4**
KBZ	**Khabaz**	**18.76**	**329**	P	**Pn**	**04 56 30.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=166,slow=8.3,SNR=5.1						
	comp=Z,1.4nm,0.7s						
KBZ	**Khabaz**	**18.76**	**329**	*i* P	**Pn**	**04 56 31.7**	**+1.5**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SHA1	**Shidzhatmaz**	**18.88**	**328**	*i* P	**Pn**	**04 56 34.5**	**+2.6**
KVAR	**Kislovodsk Arr**	**19.03**	**329**	P	**Pn**	**04 56 33.8**	**+0.2**
	baz=93,slow=21						
	comp=Z,1.3nm,0.3s						
KIV	**Kislovodsk**	**19.03**	**329**	*e*P	**Pn**	**04 56 35.0**	**+1.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV	**Kislovodsk**	**19.03**	**329**	P	**Pn**	**04 56 34.1**	**+0.5**
	comp=Z,7.5nm,0.7s						
KSH	**Kashi**	**19.80**	**50**	P	**P**	**04 56 39.0**	**-2.4**
KSH				pmax	pmax		
	comp=Z,13nm,0.5s						
BNN	**Bunyan**	**19.94**	**307**	P	**P**	**04 56 42.2**	**-0.7**
BNN				IAmb	IAmb	04 56 57.1	
	comp=Z,25nm,0.9s						
SOC	**Sochi**	**20.23**	**323**	*e*P	**P**	**04 56 45.3**	**-0.5**
SOC				*e*		04 57 02.5	
SOC				*e*PPP	PPP	04 57 13.6	
SOC				*e*S	Sn	05 00 34.4	-1.0
SOC				*e*SS	**SnSn**	**05 00 52.1**	**+2.1**
SOC				*e*SSS	SSS	05 01 08.3	
SOC				MLR	MLR		
	comp=Z,65nm,15.0s						
AAK	**Ala-Archa**	**20.58**	**41**	P	**P**	**04 56 49.8**	**0.0**
AAK	**Ala-Archa**	**20.58**	**41**	P	**P**	**04 56 50.4**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=218,slow=12,SNR=6.5						
AAK				LR	LR	05 06 13.0	
	comp=Z,94nm,18.2s,baz=259,slow=41						
	comp=Z,3.9nm,0.9s						
AAK	**Ala-Archa**	**20.58**	**41**	*ce*P	**P**	**04 56 50.3**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ATD	**Arta Tunnel**	**20.86**	**220**	P	**P**	**04 56 51.2**	**-1.7**
ATD	**Arta Tunnel**	**20.86**	**220**	P	**P**	**04 56 51.4**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=68,slow=9.5,SNR=5.5						
ABKAR	**Akbulak array**	**21.12**	**7**	P	**P**	**04 56 56.5**	**+1.0**
ABKAR	**Akbulak array**	**21.12**	**7**	P	**P**	**04 56 55.0**	**-0.5**
ABKAR				IAmb	IAmb	04 57 00.4	
	comp=Z,14nm,0.9s						
BOOM	**Boomskoye usch**	**21.35**	**43**	P	**P**	**04 56 58.1**	**-0.1**
BOOM	**Boomskoye usch**	**21.35**	**43**	P	**P**	**04 56 58.1**	**-0.1**
BOOM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIRS	**Kirsehir-Merke**	**21.42**	**306**	⇓P	**P**	**04 56 58.5**	**-0.4**
DIKM	**Dikmen**	**21.67**	**313**	P	**P**	**04 57 01.5**	**0.0**
	comp=Z,23nm,1.0s						
BR104	**Keskin Array S**	**21.85**	**307**	P	**P**	**04 57 03.3**	**-0.3**
	comp=Z,159nmcomp=Z,23nm,0.9s						
BR131	**Keskin Array S**	**21.86**	**307**	P	**P**	**04 57 03.5**	**-0.2**
BR131	**Keskin Array S**	**21.86**	**307**	*i* P	**P**	**04 57 04.3**	**+0.6**
BRTR	**Keskin Array B**	**21.86**	**307**	P	**P**	**04 57 04.5**	**+0.8**
BRTR	**Keskin Array B**	**21.86**	**307**	P	**P**	**04 57 03.8**	**+0.1**
	comp=Z,9.0nm,0.8s,baz=130,slow=13,SNR=20						
	comp=Z,9.0nm,0.8s						
BR105	**Keskin Array S**	**21.87**	**307**	P	**P**	**04 57 03.5**	**-0.3**
	comp=Z,162nmcomp=Z,22nm,0.8s						
BR106	**Keskin Array S**	**21.88**	**307**	P	**P**	**04 57 03.6**	**-0.3**
	comp=Z,159nmcomp=Z,24nm,0.8s						
KDJ	**Kajisay**	**21.91**	**45**	P	**P**	**04 57 04.9**	**+0.7**
KDJ	**Kajisay**	**21.91**	**45**	P	**P**	**04 57 04.9**	**+0.7**
KDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**22.15**	**3**	LR	LR	05 07 11.7	
	comp=Z,119nm,19.2s,baz=46,slow=41						
ILGA	**Ilgaz**	**22.39**	**311**	P	**P**	**04 57 08.8**	**-0.6**
ANTO	**Ankara**	**22.51**	**307**	P	**P**	**04 57 10.3**	**-0.3**
	comp=Z,8.5nm,0.8s						
BRVK	**Borovoye**	**26.84**	**19**	*ce*P	**P**	**04 57 50.8**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**26.84**	**19**	P	**P**	**04 57 51.6**	**+0.5**
	comp=Z,5.8nm,0.7s,baz=200,slow=8.2,SNR=23						
BVAR				PcP	**PcP**	**05 01 13.5**	**0.0**
	comp=Z,1.7nm,0.5s,baz=318,slow=2.0,SNR=5.6						
BVAR				LR	LR	05 08 57.9	
	comp=Z,30nm,18.5s,baz=238,slow=38						
	comp=Z,5.8nm,0.7s						
NE56	**Odesa**	**27.03**	**320**	P	**P**	**04 57 52.8**	**-0.1**
MAKZ	**Makanchi**	**27.34**	**41**	P	**P**	**04 57 56.2**	**+0.4**
MAKZ				IAmb	IAmb	04 58 00.9	
	comp=Z,5.2nm,0.7s						
MAKZ	**Makanchi**	**27.34**	**41**	⇓P	**P**	**04 57 56.7**	**+0.9**
MK31	**Makanchi Array**	**27.51**	**41**	P	**P**	**04 57 57.4**	**0.0**
MK31	**Makanchi Array**	**27.51**	**41**	*ce*P	**P**	**04 57 57.6**	**+0.3**
MKAR	**Makanchi Array**	**27.51**	**41**	P	**P**	**04 57 57.6**	**+0.3**
MKAR	**Makanchi Array**	**27.51**	**41**	P	**P**	**04 57 57.9**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=224,slow=8.1,SNR=33						
MKAR				PcP	**PcP**	**05 01 14.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=242,slow=2.8,SNR=2.3						
MKAR				LR	LR	05 10 33.7	
	comp=Z,69nm,18.9s,baz=234,slow=40						
	comp=Z,2.4nm,0.6s						
MKAR	**Makanchi Array**	**27.51**	**41**	P	**P**	**04 57 57.6**	**+0.3**
TPGR	**Topolog**	**27.60**	**314**	⇑P	**P**	**04 57 57.8**	**-0.3**
CFR	**Carcaliu**	**27.92**	**315**	⇑P	**P**	**04 58 00.3**	**-0.6**
CFR	**Carcaliu**	**27.92**	**315**	⇑P	**P**	**04 58 00.3**	**-0.6**
KURBB	**Kurchatov Arra**	**27.97**	**31**	P	**P**	**04 58 01.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=233,slow=8.6,SNR=7.7						
KURBB				PcP	**PcP**	**05 01 14.4**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=242,slow=2.3,SNR=1.6						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**28.07**	**31**	P	**P**	**04 58 01.9**	**-0.3**
KURK						05 01 14.4	
ARTI	**Arti**	**28.12**	**3**	LR	LR	05 10 44.6	
	comp=Z,69nm,18.6s,baz=174,slow=40					

MNK	**Minsk**	**33.31 330**	*i* P	**P**	**04 58 47.0**	**-1.4**
MNK			*i*		04 59 57.2	
MNK			*i* S	**S**	**05 04 08.8**	**+0.1**
MNK			*i* SS	**SnSn**	**05 06 12.6**	**+3.5**
MNK			pmax	pmax		
comp=N,16nm,0.7s						
MNK			pmax	pmax		
comp=E,33nm,1.0s						
MNK			MLR	MLR		
comp=N,562nm,23.0s						
MNK			MLR	MLR		
comp=Z,67nm,21.0s						
OJC	**Ojcow**	**35.20 319**	P	**P**	**04 59 04.7**	**-0.1**
OJC	**Ojcow**	**35.20 319**	P	**P**	**04 59 04.7**	**-0.1**
OJC			pmax	pmax		
comp=Z,7.0nm,0.7s						
RONA	**Rosalia, Austr**	**36.44 313**	*e*P	**P**	**04 59 14.5**	**-1.1**
comp=Z,5.7nm,0.5s						
CONA	**Conrad Observa**	**36.79 313**	*i* P	**P**	**04 59 18.1**	**-0.5**
comp=Z,0.9nm,0.4s						
ARSA	**Arzberg**	**36.81 312**	*e*P	**P**	**04 59 17.8**	**-1.0**
comp=Z,1.0nm,0.4s						
OSTC	**Ostas**	**37.44 318**	*e*P	**P**	**04 59 23.4**	**-0.6**
OSTC	**Ostas**	**37.44 318**	*e*P	**P**	**04 59 23.4**	**-0.6**
GTA	**Gaotai**	**37.53 61**	*e*P	**P**	**04 59 25.3**	**+0.2**
GTA			pP	sP	04 59 29.5	-0.4
GTA			pmax	pmax		
comp=Z,5.0nm,0.9s						
CHVC	**Chvalec**	**37.55 318**	*e*P	**P**	**04 59 24.9**	**-0.1**
CHVC	**Chvalec**	**37.55 318**	*e*P	**P**	**04 59 24.9**	**-0.1**
MOA	**Molln**	**37.80 313**	*e*P	**P**	**04 59 26.6**	**-0.5**
comp=Z,3.0nm,0.5s,SNR=6.1						
BIOA	**Bad Ischl, Aus**	**38.16 312**	*i* P	**P**	**04 59 29.5**	**-0.7**
comp=Z,2.9nm,0.4s						
KBA	**Koelnbreinsper**	**38.20 311**	*e*P	**P**	**04 59 30.0**	**-0.7**
comp=Z,3.7nm,0.6s						
ZVC	**Zvikov**	**38.30 315**	*e*P	**P**	**04 59 31.1**	**-0.2**
ZVC			*ep*P	**pP**	**04 59 34.9**	**+0.2**
GEC2	**GERESS Array S**	**38.43 314**	P	**P**	**04 59 32.2**	**-0.3**
GEC2			IAmb	IAmb	04 59 36.1	
comp=Z,3.8nm,0.8s						
GERES	**GERESS Array B**	**38.43 314**	P	**P**	**04 59 32.2**	**-0.3**
comp=Z,2.6nm,0.6s,baz=108,slow=8.6,SNR=16						
comp=Z,2.6nm,0.6s						
KHC	**Kasperske Hory**	**38.59 314**	*e*P	**P**	**04 59 33.6**	**-0.2**
KHC			*ep*P	**pP**	**04 59 37.6**	**+0.4**
KHC	**Kasperske Hory**	**38.59 314**	*ce*P	**P**	**04 59 34.2**	**+0.4**
KHC			pmax	pmax		
comp=Z,22nm,1.0s						
ABTA	**Abfaltersbach**	**38.68 310**	*e*P	**P**	**04 59 34.2**	**-0.4**
comp=Z,5.0nm,1.1s						
LESA	**Schwarzleotal**	**38.73 312**	*e*P	**P**	**04 59 34.6**	**-0.4**
comp=Z,4.6nm,0.7s						
FINES	**FINESS Array B**	**38.74 337**	P	**P**	**04 59 35.3**	**+0.5**
comp=Z,2.3nm,0.6s,baz=142,slow=9.6,SNR=6.6						
comp=Z,2.3nm,0.6s						
WTTA	**Wattenberg**	**39.38 311**	*e*P	**P**	**04 59 40.2**	**-0.4**
comp=Z,7.1nm,0.6s						
WATA	**Walderalm**	**39.43 311**	*e*P	**P**	**04 59 40.3**	**-0.7**
comp=Z,4.1nm,0.9s						
CLL	**Collm**	**39.61 318**	P	**P**	**04 59 42.0**	**-0.2**
CLL			IAmb	IAmb	04 59 46.6	
comp=Z,4.1nm,0.8s						
CLL	**Collm**	**39.61 318**	P	**P**	**04 59 42.0**	**-0.2**
CLL			pmax	pmax		
comp=Z,4.0nm,0.8s						
CLL	**Collm**	**39.61 318**	*e*P	**P**	**04 59 43.0**	**+0.8**
CLL			*ex*	x	04 59 45.0	
CLL			*e*PPP	PPP	05 01 38.0	
SQTA	**Sankt Quirin**	**39.65 311**	*e*P	**P**	**04 59 42.0**	**-0.8**
comp=Z,7.7nm,0.6s						
MOTA	**Moosalm**	**39.75 311**	*e*P	**P**	**04 59 43.1**	**-0.6**
comp=Z,9.0nm,1.0s						
FETA	**Feichten**	**39.93 311**	*e*P	**P**	**04 59 44.7**	**-0.4**
comp=Z,9.7nm,0.9s,SNR=9.1						
RETA	**Reutte**	**40.01 311**	*e*P	**P**	**04 59 44.6**	**-1.1**
comp=Z,5.0nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**40.17 310**	P	**P**	**04 59 46.1**	**-1.1**
FUORN			IAmb	IAmb	04 59 52.2	
comp=Z,4.7nm,0.6s						
GRA1	**Grafenberg Arr**	**40.23 315**	P	**P**	**04 59 46.5**	**-0.9**
GRF	**Grafenberg Arr**	**40.23 315**	P	**P**	**04 59 46.5**	**-0.9**
GRF			pmax	pmax		
comp=Z,15nm,1.0s						
GRFO	**Grafenberg**	**40.23 315**	P	**P**	**04 59 46.8**	**-0.6**
GRFO	**Grafenberg**	**40.23 315**	P	**P**	**04 59 46.8**	**-0.6**
GRFO			pmax	pmax		
comp=Z,13nm,0.9s						
PZH	**PanZhiHua**	**40.27 82**	P	**P**	**04 59 50.0**	**+1.8**
PZH			pmax	pmax		
comp=Z,10.0nm,0.5s						
PZH			pmax	pmax		
comp=Z,80nm,4.5s						
DAVA	**Damuels**	**40.55 311**	*e*P	**P**	**04 59 49.5**	**-0.8**
comp=Z,10nm,0.5s,SNR=11						
TUE	**Stuetta**	**40.77 309**	P	**P**	**04 59 52.3**	**+0.2**
TUE			IAmb	IAmb	04 59 57.9	
comp=Z,4.2nm,0.8s						
SENIN	**Lac Senin/Sane**	**42.15 309**	P	**P**	**05 00 03.0**	**-0.6**
ECH	**Echery**	**42.53 312**	P	**P**	**05 00 06.4**	**+0.1**
ECH			IAmb	IAmb	05 00 10.2	
comp=Z,5.9nm,1.0s						
ECH	**Echery**	**42.53 312**	P	**P**	**05 00 06.4**	**+0.1**
ECH			pmax	pmax		
comp=Z,6.0nm,1.0s						
HFS	**Hagfors**	**42.82 330**	P	**P**	**05 00 08.6**	**+0.1**
comp=Z,1.3nm,0.4s,baz=139,slow=9.2,SNR=9.9						
comp=Z,1.3nm,0.4s						
SONM	**Songino Array**	**43.19 49**	P	**P**	**05 00 12.0**	**+0.1**
comp=Z,3.9nm,0.8s,baz=257,slow=8.9,SNR=25						
comp=Z,3.9nm,0.8s						
NB2	**NORSAR Subarra**	**44.33 330**	P	**P**	**05 00 20.3**	**-0.4**
comp=Z,4.3nm,1.4s,baz=116,slow=7.9						
NOA	**NORSAR Array B**	**44.33 330**	P	**P**	**05 00 20.7**	**0.0**
comp=Z,1.7nm,1.0s,baz=116,slow=7.9,SNR=5.6						
comp=Z,1.7nm,1.0s						
NRIK	**Noril'sk**	**44.91 15**	LR	LR	05 22 27.5	
comp=Z,54nm,18.1s,baz=256,slow=40						
NRIK	**Noril'sk**	**44.91 15**	*ce*P	**P**	**05 00 25.0**	**-0.2**
NRIK			pmax	pmax		
comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**44.92 345**	P	**P**	**05 00 26.2**	**+0.9**
comp=Z,2.0nm,0.8s,baz=138,slow=9.0,SNR=6.9						
comp=Z,2.0nm,0.8s						
TAM	**Tamanrasset**	**45.81 275**	P	**P**	**05 00 32.4**	**-0.8**
TAM			IAmb	IAmb	05 00 34.6	
comp=Z,3.5nm,0.8s						
TAM	**Tamanrasset**	**45.81 275**	P	**P**	**05 00 32.4**	**-0.8**
TAM			pmax	pmax		
comp=Z,4.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**46.55 59**	*e*P	**P**	**05 00 40.8**	**+2.1**
HHC			pmax	pmax		
comp=Z,10.0nm,0.7s						
HHC			pmax	pmax		
comp=Z,61nm,3.7s						
EKA	**Eskdalemuir Ar**	**49.94 320**	P	**P**	**05 01 03.9**	**-0.6**
comp=Z,2.6nm,0.6s,baz=98,slow=7.4,SNR=13						
comp=Z,2.6nm,0.6s						
ESDC	**Sonseca Array**	**50.34 300**	P	**P**	**05 01 07.7**	**-0.2**
comp=Z,0.3nm,0.4s,baz=66,slow=7.5,SNR=5.0						
comp=Z,0.3nm,0.4s						
TIA	**Tai'an**	**51.37 65**	P	**P**	**05 01 15.8**	**+0.2**
TIA			pmax	pmax		
comp=Z,8.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**52.77 265**	P	**P**	**05 01 25.2**	**-1.1**
TORD			IAmb	IAmb	05 01 26.3	
comp=Z,4.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**52.77 265**	P	**P**	**05 01 24.7**	**-1.6**
comp=Z,7.5nm,0.7s,baz=46,slow=8.2,SNR=5.5						
comp=Z,7.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**53.06 350**	P	**P**	**05 01 26.7**	**-0.8**
comp=Z,12nm,0.9s,baz=121,slow=10,SNR=2.0						
comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**59.60 61**	P	**P**	**05 02 14.2**	**-0.7**
comp=Z,3.8nm,0.6s,baz=281,slow=6.7,SNR=10						
comp=Z,3.8nm,0.6s						
KLR	**Kul'dur**	**59.96 47**	*e*P	**P**	**05 02 15.9**	**-1.2**
KLR			pmax	pmax		
comp=Z,4.0nm,1.3s						
DBIC	**Dimbokro**	**61.45 262**	P	**P**	**05 02 26.6**	**-1.2**
comp=Z,1.8nm,0.5s,baz=26,slow=5.2,SNR=4.2						
comp=Z,1.8nm,0.5s						
BOSA	**Boshof**	**63.89 210**	P	**P**	**05 02 43.2**	**-0.6**
comp=Z,3.2nm,0.7s,baz=25,slow=8.8,SNR=4.6						
comp=Z,3.2nm,0.7s						
SUMG	**Summit**	**64.66 341**	P	**P**	**05 02 49.0**	**+0.3**
SUMG			pmax	pmax		
comp=Z,9.0nm,1.0s						
SUMG	**Summit**	**64.66 341**	*i* P	**P**	**05 02 49.0**	**+0.3**
SEY	**Seymchan**	**67.91 29**	*ce*P	**P**	**05 03 09.8**	**+0.6**
SEY			pmax	pmax		
comp=Z,7.0nm,1.3s						
INK	**Inuvik**	**83.42 4**	P	**P**	**05 04 37.7**	**-0.1**
comp=Z,1.4nm,0.8s,baz=14,slow=7.4,SNR=4.3						
comp=Z,1.4nm,0.8s						
SCHQ	**Schefferville**	**83.90 331**	P	**P**	**05 04 40.6**	**0.0**
comp=Z,3.3nm,0.8s,baz=18,slow=8.6,SNR=6.3						
comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**85.50 10**	P	**P**	**05 04 47.5**	**-1.0**
comp=Z,1.1nm,0.7s,baz=320,slow=4.7,SNR=10						
comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**89.23 356**	P	**P**	**05 05 06.8**	**+0.3**
comp=Z,0.9nm,0.7s,baz=0.1,slow=4.9,SNR=26						
comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**89.37 113**	P	**P**	**05 05 07.7**	**-0.2**
comp=Z,2.3nm,0.8s,baz=311,slow=4.0,SNR=17						
comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	**89.37 113**	*i* P	**P**	**05 05 07.9**	**0.0**
WRA			pmax	pmax		
comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**90.90 116**	P	**P**	**05 05 14.8**	**-0.2**
comp=Z,1.3nm,0.8s,baz=304,slow=4.7,SNR=15						
comp=Z,1.3nm,0.8s						
BBB	**Bella Bella**	**99.78 3**	LR	LR	05 53 20.9	
comp=Z,56nm,20.9s,baz=202,slow=37						
QSPA	**South Pole Qui**	**118.13 180**	PKP	**PKPdf**	**05 10 56.3**	**-0.9**
comp=Z,1.3nm,0.8s,baz=309,slow=0.9,SNR=6.8						
TXAR	**Lajitas Array**	**119.55 340**	PKP	**PKPdf**	**05 11 00.7**	**-0.6**
comp=Z,0.5nm,1.0s,baz=16,slow=5.1,SNR=2.8						

ASRS ***27*** *04:55:35.0±0.9, 54°.26N×86°.19E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 04:55:38.1±2.4, 54°.25N×86°.15E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=18.7km s-min=11.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**250**	I	I	05 01 30.0	
baz=67,slow=331,SNR=1.5							
ZALV	**Zalesovo Beam**	**0.84**	**250**	Pg	Pg	04 55 53.7	-0.4
1.8nm,0.3s,baz=71,slow=15,SNR=15							
ZALV				Lg	Lg	04 56 06.0	
5.5nm,0.3s,baz=69,slow=29,SNR=10							
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn	04 57 07.6	+0.9
0.1nm,0.3s,baz=50,slow=13,SNR=11							
KURBB				Lg	Lg	04 58 44.5	
baz=51,slow=32,SNR=4.0							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.85**	**200**	Pn	Pn	04 57 34.2	+0.7
0.3nm,0.3s,baz=24,slow=13,SNR=11							
0.2nm,0.3s							

NEIC ***27*** *05:06:34.7±1.4, 66°.32N±0°.03×157°.25W±0°.07, h5km±5km, Error ellipse: s-maj=4.9km s-min=2.7km az=49.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=1.81; Mθθ2.78; Mφφ-0.97; Mrθ0.58; Mθφ-1.57; Mφr-1.18; Fault plane solution: M0 3.18000×10^14^ NP1: φs320.45000°, δ65.03000°, λ-48.26000°. NP2: φs75.77000°, δ47.44000°, λ-145.02000°. Principal axes: T 3.5203, Plg10.0000°, Azm22.0000°; N -0.8394, Plg37.0000°, Azm120.0000°; P -2.6809, Plg51.0000°, Azm279.0000°;*

AEIC ***27*** *05:06:34.9±1.4, 66°.30N±0°.03×157°.28W±0°.09, h10km±6km, ML3.7, ML3.9/152(NEIC), Mwr3.6/73(NEIC) Error ellipse: s-maj=5.5km s-min=3.9km az=61.0*

NEIC ***27*** *05:06:35.8, 66°.31N×156°.92W, h0km*

IDC ***27*** *05:06:37.1±1.0, 66°.93N×156°.47W, h0km, mb3.5/8, mbtmp3.6/12, ML3.4/4, MS2.9/1, Error ellipse: s-maj=28.2km s-min=13.1km az=39.0*

ISC 27 05:06:35.1±1.1, 66°.33N±0°.02×157°.21W±0°.03, h6km±8km, n144, σ1$05/113, mb3.7/8, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.19**	**165**		**Pg**	**05 06 38.8**	**-0.1**
G19K					**Sg**	**05 06 41.9**	**+0.4**
G19K	**Purcell Mounta**	**0.19**	**165**	IAML		05 06 42.1	
comp=E,31μm,0.7s							
G19K				IAML		05 06 42.1	
comp=N,17μm,0.5s							
F19K	**Shaleruckik Mo**	**0.56**	**336**		**Pg**	**05 06 45.3**	**-0.6**
F19K					**Sg**	**05 06 53.8**	**+0.7**
F19K	**Shaleruckik Mo**	**0.56**	**336**	IAML		05 06 54.2	
comp=E,2μm,0.4s							
F19K				IAML		05 06 59.5	
comp=N,4μm,0.7s							
G18K	**Tagagawik**	**0.73**	**234**		**Pg**	**05 06 48.6**	**-0.5**
G18K					**Sb**	**05 06 59.0**	**-1.5**
H19K	**Roundabout Mou**	**0.86**	**158**		**Pg**	**05 06 51.0**	**-0.6**
H19K				IAML		05 07 06.8	
comp=E,4μm,0.5s							
H19K	**Roundabout Mou**	**0.86**	**158**		**Sb**	**05 07 03.5**	**-0.6**
F20K	**Avaraart Lake**	**0.94**	**38**		**Pg**	**05 06 52.1**	**-1.0**
F18K	**Selawik**	**1.02**	**287**		**Pg**	**05 06 53.5**	**-1.1**
F18K					**Sb**	**05 07 08.0**	**-0.7**
E19K	**Redstone River**	**1.14**	**360**		**Pg**	**05 06 55.9**	**-1.0**
E19K				IAML		05 07 13.7	
comp=E,3μm,0.4s							
E19K				IAML		05 07 14.4	
comp=N,3μm,0.6s							
H18K	**Honhosa River**	**1.27**	**203**		**Pg**	**05 06 58.0**	**-1.5**
H18K				IAML		05 07 18.5	
comp=E,3μm,0.8s							
H18K	**Honhosa River**	**1.27**	**203**		**Sb**	**05 07 15.6**	**-0.4**
H20K	**Anotleneega Mo**	**1.27**	**130**		**Pg**	**05 06 58.1**	**-1.4**
G21K	**Allakaket**	**1.50**	**81**		**Pn**	**05 07 01.8**	**-0.8**
G21K					**Sn**	**05 07 22.9**	**+0.5**
G21K	**Allakaket**	**1.50**	**81**	IAML		05 07 24.6	
comp=N,2μm,0.8s							
GCSA	**Galena City Sc**	**1.59**	**175**		**Pn**	**05 07 03.2**	**-0.5**
F17K	**Baldwin Pennin**	**1.63**	**276**	Pn	**Pn**	**05 07 03.5**	**-0.7**
G17K	**Kiwalik Mounta**	**1.64**	**241**		**Pn**	**05 07 03.1**	**-1.3**
G17K					**Sn**	**05 07 24.7**	**-1.0**
F21K	**Alatna River**	**1.73**	**57**		**Pn**	**05 07 05.3**	**-0.5**
F21K	**Alatna River**	**1.73**	**57**	IAML		05 07 32.6	
comp=N,1μm,0.8s							
E18K	**Tukpahlearik C**	**1.73**	**311**		**Pn**	**05 07 05.5**	**-0.2**
H17K	**Granite Mounta**	**1.79**	**220**	Pn	**Pn**	**05 07 05.6**	**-0.9**
H17K				IAML		05 07 33.9	
comp=N,1μm,0.8s							
I20K	**Naaghedeneel**	**1.91**	**142**		**Pn**	**05 07 08.2**	**+0.1**
H21K	**Melozitna Rive**	**1.92**	**108**		**Pn**	**05 07 07.6**	**-0.8**
H21K				IAML		05 07 38.5	
comp=N,705nm,0.9s							
H21K				IAML		05 07 38.5	
comp=E,1μm,0.5s							
E20K	**Nigu River**	**1.98**	**11**		**Pn**	**05 07 10.1**	**+0.9**
E17K	**Hotham Inlet**	**1.99**	**295**		**Pn**	**05 07 09.1**	**-0.1**
D19K	**Kuna River**	**2.21**	**351**		**Pn**	**05 07 12.9**	**+0.6**
D19K	**Kuna River**	**2.21**	**351**	IAML		05 07 45.4	
comp=N,634nm,0.7s							
F22K	**John River**	**2.31**	**57**		**Pn**	**05 07 13.7**	**0.0**
G16K	**Koyuk River**	**2.31**	**248**		**Pn**	**05 07 12.1**	**-1.6**
G16K	**Koyuk River**	**2.31**	**248**	IAML		05 07 50.1	
comp=N,564nm,0.8s							
D20K	**Etivluk River**	**2.41**	**5**		**Pn**	**05 07 15.7**	**+0.7**
H22K	**Ishtalitna Cre**	**2.41**	**98**		**Pn**	**05 07 14.8**	**-0.4**
J19K	**Poorman**	**2.44**	**163**		**Pn**	**05 07 14.8**	**-0.6**
I21K	**Tanana**	**2.45**	**116**		**Pn**	**05 07 15.0**	**-0.5**
I21K	**Tanana**	**2.45**	**116**	IAML		05 07 55.9	
comp=N,649nm,0.8s							
E21K	**Killik River**	**2.47**	**29**		**Pn**	**05 07 16.0**	**+0.1**
E21K	**Killik River**	**2.47**	**29**	IAML		05 08 02.6	
comp=N,487nm,0.6s							
E21K				IAML		05 08 03.1	
comp=E,666nm,0.7s							
J20K	**Nowinta River**	**2.51**	**148**		**Pn**	**05 07 16.2**	**-0.3**
J20K	**Nowinta River**	**2.51**	**148**	IAML		05 08 02.0	
comp=E,424nm,0.8s							
J20K				IAML		05 08 04.1	
comp=N,387nm,0.7s							
D17K	**Noatak River**	**2.69**	**304**		**Pn**	**05 07 18.6**	**-0.2**
E22K	**Anaktuvuk Pass**	**2.78**	**47**	Pn	**Pn**	**05 07 21.0**	**+0.9**
E22K				IAML		05 08 11.7	
comp=N,286nm,1.1s							
C18K	**Utukok River**	**2.79**	**329**		**Pn**	**05 07 20.0**	**-0.3**
RDOG	**Red Dog Mine**	**2.82**	**311**		**Pn**	**05 07 21.1**	**+0.5**
I17K	**Unalakleet**	**2.86**	**213**		**Pn**	**05 07 21.4**	**+0.3**
I17K				IAML		05 08 13.4	
comp=N,578nm,0.8s							
J18K	**Innoko River**	**2.88**	**176**	Pn	**Pn**	**05 07 20.8**	**-0.7**
G23K	**Bananza Creek**	**2.90**	**79**		**Pn**	**05 07 21.6**	**-0.3**
G23K	**Bananza Creek**	**2.90**	**79**	IAML		05 08 10.0	
comp=E,297nm,0.5s							
COLD	**Coldfoot**	**2.92**	**69**		**Pn**	**05 07 21.3**	**-0.8**
C21K	**Knifeblade Rid**	**2.99**	**17**		**Pn**	**05 07 23.0**	**0.0**
J17K	**VABM Dome**	**3.05**	**196**		**Pn**	**05 07 23.4**	**-0.4**
J17K				IAML		05 08 18.1	
comp=N,262nm,1.0s							
J17K				IAML		05 08 20.2	
comp=E,364nm,0.8s							
D22K	**Ayikyak River**	**3.10**	**32**		**Pn**	**05 07 25.0**	**+0.5**
F15K	**North Star Dit**	**3.10**	**262**		**Pn**	**05 07 23.6**	**-0.9**
F15K	**North Star Dit**	**3.10**	**262**	IAML		05 08 17.8	
comp=N,286nm,0.6s							
C17K	**DeLong Mountai**	**3.16**	**316**		**Pn**	**05 07 25.2**	**-0.1**
H23K	**Yukon River**	**3.17**	**96**		**Pn**	**05 07 24.9**	**-0.5**
H23K	**Yukon River**	**3.17**	**96**	IAML		05 08 20.2	
comp=E,351nm,0.9s							
H23K				IAML		05 08 20.7	
comp=N,368nm,0.7s							
CHUM	**Lake Minchumin**	**3.21**	**138**		**Pn**	**05 07 26.1**	**+0.2**
K20K	**Telida**	**3.27**	**154**		**Pn**	**05 07 26.9**	**0.0**
J16K	**Anvik River**	**3.38**	**207**		**Pn**	**05 07 28.1**	**-0.2**
J16K	**Anvik River**	**3.38**	**207**	IAML		05 08 29.9	
comp=N,354nm,0.7s							
E23K	**Chandalar**	**3.43**	**56**		**Pn**	**05 07 29.2**	**+0.1**
BPAW	**Bear Paw Mtn.**	**3.44**	**128**	Pn	**Pn**	**05 07 29.1**	**-0.2**
BPAW				IAML		05 08 27.7	
comp=E,205nm,1.4s							
BPAW				IAML		05 08 32.7	
comp=N,167nm,1.1s							
I23K	**Minto, Yukon-K**	**3.45**	**106**	IAML		05 08 28.1	
comp=E,265nm,0.5s							
B21K	**Ikpikpuk River**	**3.45**	**15**		**Pn**	**05 07 28.5**	**-0.8**
B21K	**Ikpikpuk River**	**3.45**	**15**	IAML		05 08 42.9	
comp=E,301nm,1.2s							
B18K	**Kokolik River**	**3.51**	**332**		**Pn**	**05 07 30.1**	**-0.1**
D23K	**Nanushuk River**	**3.64**	**40**		**Pn**	**05 07 32.4**	**+0.5**
CAST	**Castle Rocks**	**3.65**	**141**		**Pn**	**05 07 31.6**	**-0.4**
K17K	**Iditarod**	**3.66**	**188**	IAML		05 08 40.9	
comp=N,178nm,0.8s							
K17K				IAML		05 08 42.9	
comp=E,247nm,1.0s							
B20K	**Meade River**	**3.70**	**0**		**Pn**	**05 07 32.7**	**0.0**
B20K	**Meade River**	**3.70**	**0**	IAML		05 09 04.4	
comp=E,192nm,1.0s							
B20K				IAML		05 09 05.8	
comp=N,186nm,0.9s							
C16K	**Lisburne Hills**	**3.71**	**306**	Pn	**Pn**	**05 07 33.0**	**+0.2**
TOLK	**Toolik Lake Re**	**3.75**	**48**	Pn	**Pn**	**05 07 34.0**	**+0.6**
NEA2	**Nenana**	**3.82**	**113**	IAML		05 08 39.0	
comp=N,151nm,0.8s							
E24K	**Your Creek**	**3.82**	**59**	IAML		05 08 45.4	
comp=N,244nm,0.8s							
E24K				IAML		05 08 47.8	
comp=E,199nm,0.6s							
H24K	**Noodor Dome**	**3.83**	**93**		**Pn**	**05 07 33.9**	**-0.7**
H24K	**Noodor Dome**	**3.83**	**93**	IAML		05 08 43.1	
comp=N,178nm,0.9s							
H24K				IAML		05 08 49.8	
comp=E,188nm,1.0s							
KTH	**Kantishna Hill**	**3.86**	**133**		**Pn**	**05 07 35.1**	**+0.1**
KTH				IAML		05 08 51.7	
comp=N,182nm,1.1s							
F24K	**Squaw Lake**	**3.86**	**68**	IAML		05 08 45.1	
comp=E,220nm,0.6s							
F24K				IAML		05 08 45.8	
comp=N,214nm,1.0s							
PPLA	**Purkeypile**	**4.07**	**146**		**Pn**	**05 07 38.4**	**+0.5**
TRF	**Thorofare Moun**	**4.13**	**131**		**Pn**	**05 07 38.9**	**+0.1**
TRF	**Thorofare Moun**	**4.13**	**131**	IAML		05 08 48.9	
comp=N,194nm,1.5s							
TRF				IAML		05 08 49.2	
comp=E,185nm,1.5s							
L18K	**Granite Mounta**	**4.13**	**177**	IAML		05 08 54.9	
comp=N,110nm,1.2s							
L18K				IAML		05 08 55.8	
comp=E,110nm,1.1s							
COLA	**College**	**4.15**	**106**		**Pn**	**05 07 38.6**	**-0.3**
A19K	**Wainwright**	**4.15**	**342**		**Pn**	**05 07 39.0**	**+0.1**
POKR	**Poker Plat Res**	**4.22**	**102**	IAML		05 08 48.7	
comp=N,152nm,1.2s							
POKR				IAML		05 08 51.3	
comp=E,120nm,1.3s							
WRH	**Wood River Hil**	**4.24**	**112**		**Pn**	**05 07 39.4**	**-0.8**
WRH				IAML		05 08 50.9	
comp=E,110nm,1.0s							
WRH				IAML		05 08 52.7	
comp=N,94nm,1.0s							
CCB	**Clear Creek Bu**	**4.27**	**109**	IAML		05 08 52.6	
comp=E,95nm,0.8s							
B22K	**Teshekpuk Lake**	**4.27**	**17**	IAML		05 09 07.0	
comp=E,140nm,0.7s							
B22K				IAML		05 09 07.7	
comp=N,138nm,1.1s							
L19K	**White Mountain**	**4.29**	**165**	IAML		05 08 35.2	
comp=N,97nm,0.9s							
L19K				IAML		05 09 07.7	
comp=E,99nm,1.3s							
C23K	**Itkillik River**	**4.30**	**32**	Pn	**Pn**	**05 07 41.0**	**0.0**
C23K				IAML		05 09 03.6	
comp=E,142nm,1.1s							
C23K				IAML		05 09 07.1	
comp=N,150nm,0.8s							
MCK	**McKinley**	**4.37**	**123**		**Pn**	**05 07 41.7**	**-0.2**
K15K	**Wolf Creek Mou**	**4.46**	**207**	IAML		05 09 10.2	
comp=E,112nm,1.2s							
K15K				IAML		05 09 11.2	
comp=N,114nm,0.8s							
J14K	**Nanvaranak Lak**	**4.51**	**220**	IAML		05 09 08.9	

RED	Redoubt Volcan	6.25	159			Pn	05 08 07.6 -0.3
KNK	Knik Glacier	6.26	138			Pn	05 08 08.7 +0.8
M24K	Tolsona, Glenn	6.41	126			Pn	05 08 10.2 +0.3
I27K	Kandik River	6.41	89			Pn	05 08 09.2 -0.8
HARP	HAARP	6.54	121			Pn	05 08 12.7 +0.9
O18K	Koktuh Hills	6.56	171			Pn	05 08 12.1 +0.1
KLU	Klutina	6.94	129			Pn	05 08 18.0 +0.6
GLI	Glacier Island	7.08	136			Pn	05 08 19.8 +0.7
N25K	Chitina, Valde	7.29	125			Pn	05 08 22.8 +0.8
BCAR	Beaver Creek A	7.37	109	Pn		Pn	05 08 22.0 -1.1
E29M	Blow River	7.72	66			Pn	05 08 28.1 +0.2
M27K	Edge Creek, AK	7.74	114			Pn	05 08 28.0 -0.3
L29M	L29M	8.77	103			Pn	05 08 41.0 -1.2
KDAK	Kodiak Island	8.84	164	Pn		Pn	05 08 47.9 +4.6
	comp=E,0.7nm,0.3s,baz=191,slow=7.9,SNR=8.3						
KDAK				LR		LR	05 12 12.4
	comp=E,74nm,19.6s,baz=238,slow=36						
	comp=E,5.0nm,0.6s						
INK	Inuvik	9.34	67			Pn	05 08 50.0 +0.1
INK	Inuvik	9.34	67	Pn		Pn	05 08 50.2 +0.3
	comp=E,0.3nm,0.3s,baz=263,slow=19,SNR=21						
INK				Sn		Sn	05 10 29.2 -5.9
	comp=E,0.1nm,0.3s,baz=298,slow=16,SNR=1.5						
A36M	Sachs Harbour	12.57	49	Pn		Pn	05 09 32.5 -1.7
C36M	Paulatuk	12.76	61	Pn		Pn	05 09 36.0 -0.8
DLBC	Dease Lake	14.76	109	Pn		Pn	05 10 06.2 +2.0
	comp=E,0.1nm,0.3s,baz=286,slow=15,SNR=2.3						
DLBC				Lg		Lg	05 14 19.2
	baz=64,slow=12,SNR=4.0						
	comp=E,1.9nm,0.6s						
YKA	Yellowknife Ar	18.51	82	P		P	05 10 50.3 -1.3
	comp=E,0.1nm,0.3s,baz=295,slow=10,SNR=7.8						
	comp=E,0.7nm,0.8s						
ULM	Lac du Bonnet	34.33	87	P		P	05 13 22.6 +0.6
	comp=E,0.9nm,0.6s,baz=326,slow=13,SNR=2.2						
	comp=E,0.9nm,0.6s						
PDAR	Pinedale Array	34.99	108	P		P	05 13 29.7 +1.6
	comp=E,0.2nm,0.5s,baz=347,slow=9.9,SNR=2.3						
	comp=E,0.2nm,0.5s						
NVAR	Mina Array Bea	35.60	122	P		P	05 13 35.4 +2.0
	comp=E,0.5nm,0.7s,baz=322,slow=8.8,SNR=4.2						
	comp=E,0.5nm,0.7s						
TXAR	Lajitas Array	49.05	112	P		P	05 15 23.4 +0.7
	comp=E,0.4nm,0.8s,baz=343,slow=11,SNR=4.2						
	comp=E,0.4nm,0.8s						
BVAR	Borovoye Array	55.62	327	P		P	05 16 11.9 +0.7
	comp=E,0.5nm,0.4s,baz=12,slow=7.5,SNR=3.4						
	comp=E,0.5nm,0.4s						
KURBB	Kurchatov Arra	55.91	321	P		P	05 16 13.3 +0.1
	comp=E,0.8nm,0.9s,baz=35,slow=5.1,SNR=2.9						
	comp=E,0.8nm,0.9s						
MKAR	Makanchi Array	58.40	316	P		P	05 16 32.2 +1.3
	comp=E,0.4nm,0.7s,baz=41,slow=9.6,SNR=2.7						
	comp=E,0.4nm,0.7s						
ESDC	Sonseca Array	72.33	21	P		P	05 18 01.2 0.0
	comp=E,0.6nm,0.7s,baz=344,slow=6.1,SNR=2.6						
	comp=E,0.6nm,0.7s						

*SNET **27** 05:40:02.7±1.4, 12°.24N×89°.36W, h13km±7km, ML3.3*
*CATAC **27** 05:40:04.9±1.0, 12°.N±6°×.8°.9W±°., h14km±15km, M3.5/7, MLv3.5/7, Error ellipse: s-maj=15.4km s-min=8.6km az=37.6, confirmed*
*IDC **27** 05:40:04.1±14.0, 13°.08N×88°.57W, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=300.1km s-min=102.5km az=6.0*
ISC 27 05:40:03.8±1.4, **12°.39N**±0°.07×**89°.41W**±0°.05, **h10**km, **n56**, σ0**94**/59, **mb3.2/4, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.09	4	eP	Pg	05 40 25.2	+0.3
JAYA	Jayaque - finc	1.26	358	eP	Pb	05 40 27.2	-0.4
JAYA				IAML		05 40 49.2	
	comp=Z,386nm,0.3s						
JAYA	Jayaque - finc	1.26	358	P	Pb	05 40 27.3	-0.4
JAYA	Jayaque - finc	1.26	358	S	Sg	05 40 44.2	-0.1
JAYA	Jayaque - finc	1.26	358	P	Pg	05 40 28.5	+0.6
LFRS	El Faro	1.27	15	eP	Pn	05 40 27.1	-0.6
PMON	Piamonte	1.32	4	eP	Pg	05 40 29.4	+0.4
PMON	Piamonte	1.32	4	P	Pn	05 40 28.7	+0.4
PMON	Piamonte	1.32	4	S	Sb	05 40 43.5	-2.1
PMON	Piamonte	1.32	4	S	Sb	05 40 43.5	-2.1
PMON	Piamonte	1.32	4	P	Pn	05 40 28.7	+0.4
COEG	Centro de Oper	1.32	23	eP	Pn	05 40 27.8	-0.6
COEG				IAML		05 40 58.1	
	comp=Z,395nm,0.5s						
COEG	Centro de Oper	1.32	23	P	Pn	05 40 29.1	+0.7
COEG	Centro de Oper	1.32	23	S	Sb	05 40 46.1	+0.3
COEG	Centro de Oper	1.32	23	P	Pn	05 40 29.4	+1.0
UEES	Universidad Ev	1.33	7	P	Sn	05 40 46.6	+0.4
BOQS	Boqueron	1.34	5	eP	Pn	05 40 28.6	-0.2
PAVA	Las Pavas	1.39	19	eP	Pn	05 40 29.3	-0.1
PAVA				eS	Sg	05 40 51.2	+2.6
PAVA	Las Pavas	1.39	19	P	Pn	05 40 29.1	-0.2
PAVA	Las Pavas	1.39	19	P	Pn	05 40 29.3	-0.1
SBLS	San Blas	1.46	352	eP	Pb	05 40 31.3	+0.2
SCLA	Alcaldia de Sa	1.46	27	P	Pn	05 40 30.0	-0.2
SCLA	Alcaldia de Sa	1.46	27	S	Sn	05 40 48.6	-0.9
SCLA	Alcaldia de Sa	1.46	27	S	Sn	05 40 46.5	-3.0
SCLA	Alcaldia de Sa	1.46	27	P	Pn	05 40 30.1	-0.2
PQSS	Presa 15 de Se	1.48	34	S	Sn	05 40 50.5	+0.7
PQSS	Presa 15 de Se	1.48	34	P	Pn	05 40 30.4	-0.1
PQSS	Presa 15 de Se	1.48	34	S	Sn	05 40 50.5	+0.7
PQSS	Presa 15 de Se	1.48	34	P	Pn	05 40 30.4	-0.1
PACA	Pacayal	1.50	44	eP	Pn	05 40 31.2	+0.3
PACA	Pacayal	1.50	44	P	Pn	05 40 31.5	+0.6
PACA	Pacayal	1.50	44	S	Sg	05 40 53.1	+0.9
PACA	Pacayal	1.50	44	P	Pn	05 40 31.8	+0.8
BLLM	Bellamira	1.54	47	eP	Pn	05 40 30.6	-0.9
NUBE	Las Nubes	1.54	346	eP	Pn	05 40 31.5	-0.1
NUBE				eS	Sg	05 40 53.6	0.0
NUBE	Las Nubes	1.54	346	P	Pn	05 40 31.4	-0.1
NUBE	Las Nubes	1.54	346	S	Sn	05 40 51.4	-0.3
NUBE	Las Nubes	1.54	346	S	Sn	05 40 50.6	-1.2
NUBE	Las Nubes	1.54	346	P	Pn	05 40 31.4	-0.2
UNIC	Universidad Ca	1.59	355	P	Pg	05 40 34.2	0.0
SLOZ	Alcaldia de Sa	1.67	347	P	Pb	05 40 34.5	-0.1
LCND	La Caada	1.74	58	eP	Pn	05 40 32.9	-1.1
LCND				eS	Sn	05 40 55.6	-0.6
LCND				IAML		05 41 05.8	
	comp=Z,305nm,0.7s						
LCND	La Caada	1.74	58	P	Pn	05 40 33.4	-0.6
LCND	La Caada	1.74	58	P	Pn	05 40 33.6	-0.4
CNCH	Conchagua	1.77	60	eP	Pn	05 40 34.0	-0.5
CNCH	Conchagua	1.77	60	P	Pn	05 40 35.2	+0.7
CAHU	Cacacuatique	1.80	40	eP	Pn	05 40 34.4	-0.6
MTO3	Montecristo	2.00	1	eP	Pn	05 40 39.0	+1.2
MTO3	Montecristo	2.00	1	P	Pb	05 40 40.2	-0.1
ESQI	Esquipulas	2.16	2	eS	Sb	05 41 10.3	+0.5
TGUH	Tegucigalpa,Un	2.66	51	P	Pn	05 40 47.5	+0.7
LIMN	Finca el Limon	3.04	77	P	Pn	05 40 51.9	-0.2
TXAR	Lajitas Array	21.45	324	P	P	05 44 54.1	+1.6
	comp=Z,0.8nm,0.7s,baz=140,slow=6.9,SNR=8.7						
	comp=Z,0.8nm,0.7s						
PDAR	Pinedale Array	34.95	334	P	P	05 46 55.3	-1.0
	comp=Z,0.1nm,0.6s,baz=158,slow=6.2,SNR=1.3						
	comp=Z,0.1nm,0.6s						
NVAR	Mina Array Bea	36.51	320	P	P	05 47 11.6	+1.9
	comp=Z,0.2nm,0.5s,baz=99,slow=4.8,SNR=2.3						
	comp=Z,0.2nm,0.5s						
YKA	Yellowknife Ar	53.18	346	P	P	05 49 20.4	-1.4
	comp=Z,0.5nm,0.8s,baz=151,slow=7.2,SNR=7.9						
	comp=Z,0.5nm,0.8s						

*NEIC **27** 05:59:57.8±0.8, 21°.4S±0°.2×178°.7W±0°.2, h544km±20km, mb4.2/14, Error ellipse: s-maj=38.2km s-min=14.2km az=205.0*
*IDC **27** 06:00:01.0±1.8, 21°.25S×178°.87W, h590km±20km, mb3.2/11, mbtmp4.1/13, Error ellipse: s-maj=27.2km s-min=13.3km az=154.0*
ISC 27 05:59:57.5±0.7, **21°.4S**±0°.2×**178°.75W**±0°.09, **h550**km, **n33**, σ1**20**/33, **mb4.1**/16, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.70	320	P	P	06 01 23.3	-1.8
MSVF	Nonsavu	4.70	320	P	P	06 01 28.9	+3.9
	8.1nm,0.8s,baz=278,slow=23,SNR=4.1						
NIUE	Niue	8.59	76	P	P	06 02 01.1	-0.1
DZM	Mont Dzumac	13.78	264	P	P	06 02 54.5	-0.1
DZM	Mont Dzumac	13.78	264	P	P	06 02 56.0	+1.4
	4.5nm,0.7s,baz=91,slow=19,SNR=1.8						
EIDS	Eidsvold	27.95	256	P	P	06 05 04.6	+0.3
ARMA	Armidale	28.07	245	P	P	06 05 06.3	+0.9
STKA	Stephens Creek	36.79	245	P	P	06 06 19.7	+0.6
STKA				IAmb	IAmb	06 06 37.5	
	comp=Z,6.6nm,0.9s						
STKA	Stephens Creek	36.79	245	P	P	06 06 20.4	+1.2
	comp=Z,1.7nm,0.5s,baz=81,slow=12,SNR=5.5						
	comp=Z,1.7nm,0.5s						
COEN	Coen	36.94	275	P	P	06 06 21.3	+0.6
COEN				IAmb	IAmb	06 06 24.2	
	comp=Z,10.0nm,1.4s						
BBOO	Buckleboo	41.54	244	P	P	06 06 57.7	+0.3
BBOO				IAmb	IAmb	06 06 58.5	
	comp=Z,19nm,1.1s						
WR8	Warramunga Arr	43.64	263	P	P	06 07 13.7	-0.3
WR8				IAmb	IAmb	06 07 15.2	
	comp=Z,4.7nm,0.9s						
AS31	Alice Springs	43.64	258	P	P	06 07 14.2	+0.1
ASAR	Alice Springs	43.64	258	P	P	06 07 14.1	+0.1
ASAR	Alice Springs	43.64	258	P	P	06 07 14.3	+0.3
	comp=Z,7.0nm,0.7s,baz=96,slow=7.7,SNR=80						
ASAR				PcP	PcP	06 08 48.5	-0.6
	comp=Z,0.6nm,0.6s,baz=110,slow=3.6,SNR=4.4						
ASAR				S	S	06 13 00.6	-3.7
	comp=Z,0.1nm,0.3s,baz=99,slow=13,SNR=4.2						
	comp=Z,7.0nm,0.7s						
JAY	Jayapura	43.66	290	P	P	06 07 14.4	+0.1
	comp=Z,4.8nm,0.4s,baz=157,slow=20,SNR=5.4						
	comp=Z,4.8nm,0.4s						
WB0	Warramunga Arr	43.77	263	P	P	06 07 14.9	-0.2
WB0				IAmb	IAmb	06 07 15.5	
	comp=Z,7.4nm,0.7s						
WB2	Warramunga Arr	43.78	263	P	P	06 07 14.9	-0.2
WB2				IAmb	IAmb	06 07 15.7	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	43.79	263	P	P	06 07 15.0	-0.2
WRA	Warramunga Arr	43.79	263	P	P	06 07 14.9	-0.4
	comp=Z,3.4nm,0.5s,baz=96,slow=7.5,SNR=45						
	comp=Z,3.4nm,0.5s						
FORT	Forrest	48.31	247	P	P	06 07 48.2	-1.2
FITZ	Fitzroy Crossi	52.22	263	P	P	06 08 18.6	+0.5
MBWA	Marble Bar	56.98	258	P	P	06 08 50.5	-0.9
MBWA				IAmb	IAmb	06 08 52.2	
	comp=Z,7.5nm,0.9s						
QSPA	South Pole Qui	68.72	180	P	P	06 10 07.0	+0.8
QSPA				IAmb	IAmb	06 10 26.4	
	comp=Z,8.6nm,1.4s						
QSPA	South Pole Qui	68.72	180	P	P	06 10 06.8	+0.5
	comp=Z,1.3nm,0.9s,baz=290,slow=0.7,SNR=5.4						
	comp=Z,1.3nm,0.9s						
NVAR	Mina Array Bea	82.13	44	P	P	06 11 21.5	+0.2
	comp=Z,0.8nm,0.6s,baz=224,slow=8.5,SNR=8.8						
	comp=Z,0.8nm,0.6s						
TXAR	Lajitas Array	88.11	58	P	P	06 11 50.2	-0.1
	comp=Z,0.5nm,0.8s,baz=206,slow=5.4,SNR=5.7						
	comp=Z,0.5nm,0.8s						
ILAR	Eielson Array	89.30	13	P	P	06 11 53.5	-1.4
	comp=Z,0.2nm,0.4s,baz=217,slow=5.1,SNR=9.0						
	comp=Z,0.2nm,0.4s						
CMAR	Chiang Mai Arr	89.74	290	P	P	06 11 58.0	+0.1
	comp=Z,0.7nm,0.2s,baz=105,slow=4.6,SNR=5.5						
	comp=Z,0.7nm,0.2s						
PDAR	Pinedale Array	90.06	44	P	P	06 11 58.5	-0.7
	comp=Z,0.5nm,0.7s,baz=180,slow=2.8,SNR=6.0						
	comp=Z,0.5nm,0.7s						
YKA	Yellowknife Ar	97.58	25	P	Pdif	06 12 32.8	+0.2
	comp=Z,0.1nm,0.7s,baz=245,slow=2.7,SNR=1.9						
	comp=Z,0.1nm,0.7s						
MKAR	Makanchi Array	111.27	313	PKiKP	PKiKP	06 17 29.6	+0.5
	comp=Z,0.1nm,0.4s,baz=120,slow=3.6,SNR=1.6						
AKASG	Malin Array Be	143.41	330	PKP	PKPab	06 18 26.2	-1.6
	comp=Z,1.2nm,0.6s,baz=47,slow=3.7,SNR=10						

JMA 27 06:02:55.2±0.2, **29°.2N**±0°.7×**13°0E**±°., **h45**km, **MV1.4**/8, **NEAR AMAMI-OSHIMA ISLAND, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.61	347	eP	Pn	06 03 07.7	0.0
JNN				eS	Sn	06 03 16.2	-0.4
JTAJ	Takarajima	0.74	263	eS	Sn	06 03 20.0	+0.6
JAM	Amami Oshima	0.91	205	eS	Sn	06 03 24.4	+0.8
JYAK	Yakushimahirau	1.07	22	eS	Sn	06 03 27.1	-0.5
JAMN	Amaminishikomi	1.25	217	eP	Pn	06 03 16.1	-0.2
JAMN				eS	Sn	06 03 31.6	-0.4

*JMA **27** 06:04:31.8±0.2, 24°.7N±0°.7×122°.2E±0°.3, h60km±2km, MV2.4/11, TAIWAN REGION*
*TAP **27** 06:04:32.3, 24°.65N×122°.13E, h51km±1km, ML3.0, B*
ISC 27 06:04:32.3±1.3, **24°.64N**±0°.03×**122°.18E**±0°.02, **h55**km±7km, **n68**, σ0**69**/94, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.23	167	iP	Pn	06 04 41.4	+0.3
EOS2				S	Sn	06 04 48.9	+1.5
EGS		0.30	313	eP	Pn	06 04 41.7	-0.1
ESAO	Su ao	0.31	258	eS	Sn	06 04 48.1	-0.8
EOS3	EOS3	0.37	160	P	Pn	06 04 42.8	+0.5
TWB1	Santiao Chiao	0.41	335	eP	Pn	06 04 42.6	-0.2
TWB1				eS	Sn	06 04 50.1	-0.4
ILA	Ilan	0.41	242	eP	Pn	06 04 42.9	+0.1
ILA				eS	Sn	06 04 50.5	0.0
EWUT	Wuta	0.41	242	eP	Pn	06 04 42.7	-0.2
EWUT				eS	Sn	06 04 49.8	-0.7
NDS	Dongshan	0.42	269	eP	Pn	06 04 43.1	+0.1
NDS				eS	Sn	06 04 50.0	-0.7
ENA	Nanau	0.45	242	P	Pn	06 04 43.2	-0.1
ENA				S	Sn	06 04 50.8	-0.4
TIPB	Shuangxi	0.46	316	eP	Pn	06 04 43.3	-0.2
TIPB				S	Sn	06 04 51.1	-0.3
TWE	Neicheng	0.47	280	P	Pn	06 04 43.4	-0.1
SXI1	Grass Mountain	0.53	329	P	Pn	06 04 44.2	-0.1
SXI1				S	Sn	06 04 52.9	0.0
EOS4	EOS4	0.53	166	eP	Pn	06 04 45.0	+1.2
FUSB	Fushanzhiwuyua	0.55	283	P	Pn	06 04 44.4	-0.1
ENTT	Nioudou	0.56	270	eP	Pn	06 04 44.5	0.0
NWF	Wu-fen Shan	0.56	320	eP	Pn	06 04 44.6	0.0
WFSB	Wu-fen Shan	0.56	320	eP	Pn	06 04 44.6	+0.1
WFSB				eS	Sn	06 04 53.3	-0.1
LATG	Datong	0.60	260	eP	Pn	06 04 45.1	0.0
LATG				eS	Sn	06 04 54.7	+0.3
TNOU	National Taiwa	0.63	324	eP	Pn	06 04 46.0	+0.7
TNOU				eS	Sn	06 04 55.5	+0.7
NWLT	Wulai	0.63	283	eP	Pn	06 04 45.4	0.0
NWLT				eS	Sn	06 04 54.6	-0.2
TWA	Mucha	0.64	302	iP	Pn	06 04 46.4	+0.9
ETL	Fush Village	0.69	227	eP	Pn	06 04 46.6	+0.4
NACB	Ninganchiao	0.70	229	S	Sn	06 04 56.0	-0.5
NACB	Ninganchiao	0.70	229	P	Pn	06 04 46.1	-0.2
NACB	Ninganchiao	0.70	229	eP	Pn	06 04 45.9	-0.4
NACB				S	Sn	06 04 55.8	-0.7
TATO	Taipei	0.71	298	P	Pn	06 04 46.1	-0.2
TATO	Taipei	0.71	298	S	Sn	06 04 56.7	+0.1
JYNG	Yonagunijimaku	0.72	105	P	Pn	06 04 46.4	-0.1
JYNG				eS	Sn	06 04 56.9	0.0
YHNB	Yeheng	0.73	273	P	Pn	06 04 46.9	+0.2
YHNB	Yeheng	0.73	273	S	Sn	06 04 57.9	+0.7
YHNB	Yeheng	0.73	273	P	Pn	06 04 46.9	+0.2
NSK	Sanguang	0.75	273	P	Pn	06 04 46.9	0.0
YM01	YM01	0.75	313	eP	Pn	06 04 46.6	-0.3
NNSB	Datong	0.75	254	eP	Pn	06 04 47.1	+0.1
NNS	Nan Shan	0.76	255	eP	Pn	06 04 47.3	+0.2
YM08	YM08	0.76	316	eP	Pn	06 04 46.5	-0.5
YM08				eS	Sn	06 04 57.1	-0.8
ETLH	Xiulin Townshi	0.77	236	eP	Pn	06 04 46.5	-0.6
TWD	Chiawan	0.77	224	eP	Pn	06 04 47.6	+0.5
ZUZH	Zhuzihu	0.78	312	P	Pn	06 04 46.9	-0.3
ZUZH				eS	Sn	06 04 57.4	-0.7
YOJ	Yonaguni jima	0.78	103	P	Pn	06 04 47.2	0.0
YOJ	Yonaguni jima	0.78	103	S	Sn	06 04 57.4	-0.8
YOJ	Yonaguni jima	0.78	103	iP	Pn	06 04 47.2	0.0
YOJ				eS	Sn	06 04 58.3	+0.2
YOJ	Yonaguni jima	0.78	103	eP	Pn	06 04 47.2	0.0
YOJ				eS	Sn	06 04 58.2	0.0
TWY	Chenhua	0.82	321	eP	Pn	06 04 46.9	-0.9
TWY				eS	Sn	06 04 59.2	+0.1
TWS1	Kuangyinshan	0.83	304	iP	Pn	06 04 46.9	-1.0
TWS1				eS	Sn	06 04 58.8	-0.5
KSHI	Guanxi Townshi	0.92	279	eP	Pn	06 04 49.7	+0.7
KSHI				eS	Sn	06 05 03.3	+1.8
FUSS	Fushou	0.94	246	eP	Pn	06 04 49.8	+0.3
NFF	Wufeng Townshi	0.96	270	eP	Pn	06 04 50.1	+0.4
NFF				eS	Sn	06 05 03.1	+0.5
WHF	Hehuan Shan	0.97	240	eP	Pn	06 04 49.8	-0.2
WHF				eS	Sn	06 05 02.1	-1.1
PCYT	Pengchaiyu	0.99	354	eP	Pn	06 04 50.7	+0.7
TDCB	Techi	1.00	248	eP	Pn	06 04 50.9	+0.6
LIOB	Emei	1.06	271	eP	Pn	06 04 51.6	+0.8
NSTT	Nanjuang	1.07	270	eP	Pn	06 04 51.8	+0.7
OWD	Renai	1.14	233	eS	Sn	06 05 05.0	-1.8
WUSB	Renai	1.16	237	eP	Pn	06 04 52.6	+0.2
WARBT	Fenglin Townsh	1.17	218	eP	Pn	06 04 50.7	-1.7
WHP	Taichung City	1.18	252	eP	Pn	06 04 53.8	+1.2
WCS	Beigang Elemen	1.29	244	eP	Pn	06 04 55.0	+1.0
VWDT	VWDT	1.29	227	eP	Pn	06 04 53.4	-0.6
VWDT				eS	Sn	06 05 09.2	-1.1
HGSD	Ruisui	1.33	211	eP	Pn	06 04 54.9	+0.3
SMLT	Sun Moon Lake	1.39	237	eP	Pn	06 04 55.4	0.0
SSLB	Suanglung	1.40	233	P	Pn	06 04 58.5	+2.9
SSLB	Suanglung	1.40	233	eP	Pn	06 04 56.7	+1.1
TYC	Yuchr	1.41	239	eP	Pn	06 04 56.2	+0.6
IRIF	Iriomote-Funau	1.45	102	eP	Pn	06 04 55.8	-0.3
IRIF				eS	Sn	06 05 13.6	-0.4
JKRS	Kuro-shima	1.72	103	eS	Sn	06 05 20.9	+0.3
JIJ	Ishigaki jima	1.81	98	eP	Pn	06 05 00.9	-0.1
JIJ				eS	Sn	06 05 22.8	-0.2
JISG	Ishigakijimahi	1.94	91	eP	Pn	06 05 02.9	0.0

*SDD **27** 06:09:09.0±1.7, 17°.51N×68°.46W, h31km±208km, MD2.7, ML2.1, MW2.4*
*NEIC **27** 06:09:11.6±1.1, 18°.2N±0°.2×68°.27W±0°.08, h121km±10km, ML2.2/14, Md3.0/4(RSPR), Error ellipse: s-maj=34.1km s-min=6.8km az=196.0*
*RSPR **27** 06:09:11.6, 18°.21N×68°.29W, h126km±3km, MD3.0/4*
ISC 27 06:09:12.6±2.1, **18°.1N**±0°.2×**68°.32W**±0°.08, **h107**km±19km, **n19**, σ1**33**/22, **9C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.46	353			06 09 27.9	-0.9
PCDR					Sn	06 09 42.4	+1.4
PCDR	Punta Cana, DR	0.46	353	IAML		06 09 44.0	
	comp=E,51nm,1.6s						
PCDR	Punta Cana, DR	0.46	353	↑ePg	Pn	06 09 27.5	-1.3
PCDR				↑eSg	Sn	06 09 39.0	-2.0
PCDR				IAML		06 10 15.3	
	comp=N,104nm,2.4s						
PCDR	Punta Cana, DR	0.46	353	↓eP	Pn	06 09 27.9	-0.9
PCDR	Punta Cana, DR	0.46	353	eS	Sn	06 09 42.4	+1.4
PRSN	Puerto Rico Se	1.13	82	Pn	Pn	06 09 34.7	-0.2
PRSN				IAML		06 10 12.7	
	comp=E,38nm,0.9s						
PRSN				IAML		06 10 20.1	
	comp=N,41nm,0.3s						
CRPR	Cabo Rojo, PR	1.16	92		Pn	06 09 34.9	-0.2
CRPR					Sn	06 09 53.8	+1.6
CRPR	Cabo Rojo, PR	1.16	92	IAML		06 10 03.7	
	comp=N,26nm,2.8s						
CRPR	Cabo Rojo, PR	1.16	92	↑eP	Pn	06 09 34.9	-0.2
CRPR	Cabo Rojo, PR	1.16	92	eS	Sn	06 09 53.8	+1.6
MIDR	Miches	1.16	323	↑ePg	Pn	06 09 35.6	+0.5
MIDR				↑eSg	Sn	06 09 54.5	+2.2
MIDR				IAML		06 09 55.5	
	comp=N,22nm,1.9s						
DR12	Loma Pena Alta	1.24	306	Pn	Pn	06 09 35.7	-0.6
HATOM	Hato Mayor del	1.24	306	↑ePg	Pn	06 09 35.1	-1.1
HATOM				↑eSg	Sn	06 09 53.4	-0.7
HATOM				IAML		06 10 06.7	
	comp=N,15nm,1.9s						
UUPR	Utuado, UPR, P	1.54	82	Pn	Pn	06 09 38.0	-1.6
UUPR				IAML		06 10 25.9	
	comp=E,26nm,0.4s						
UUPR				IAML		06 10 26.2	
	comp=N,23nm,0.4s						
SDD	Santo Domingo	1.56	285	Pn	Pn	06 09 39.9	0.0
CELP	Cerrillos	1.66	89		Pn	06 09 40.7	-0.4
CELP	Cerrillos	1.66	89	IAML		06 10 32.1	
	comp=E,17nm,2.5s						
CELP				IAML		06 10 51.3	
	comp=N,23nm,2.8s						
CELP	Cerrillos	1.66	89	↑ePg	Pn	06 09 39.0	-2.1
CELP				↑eSg	Sn	06 10 03.4	+0.6
CELP				IAML		06 10 08.7	
	comp=N,14nm,3.1s						
CELP	Cerrillos	1.66	89	↓eP	Pn	06 09 40.7	-0.4

*MOS **27** 06:19:27.6±1

SNR=14
LMD1 Lamerd 3.18 267 Pn **Pb 06 20 24.4 -2.5**
ASUD Al Ashush, Dub 3.19 204 P **Pn 06 20 23.0 +2.5**
SNR=6.4
ASUD Al Ashush, Dub 3.19 204 *i* P **Pn 06 20 22.3 +1.9**
SNR=6.2
ZRDN Zarand Kerman 3.40 357 Pn **Pn 06 20 26.3 +2.8**
SOHO SOHO 3.42 183 P **Pn 06 20 25.1 +1.4**
SOHO SOHO 3.42 183 *i* P **Pn 06 20 25.0 +1.4**
SNR=6.0
ALNE Al Ain 3.60 194 P **Pn 06 20 28.2 +2.0**
ALNE Al Ain 3.60 194 *i* P **Pn 06 20 28.6 +2.4**
SNR=6.4
HOQ Hoqain 4.00 172 P **Pn 06 20 32.2 +0.6**
HOQ S **Sn 06 21 17.8 -0.7**
ZHSF Zahedan 4.10 59 Pn **Pn 06 20 36.1 +2.9**
ZHSF Zahedan 4.10 59 *e*PnA 06 20 36.5
ZHSF IAML 06 20 49.1
comp=Z,0.3nm,1.0s
IBAF Bafgh 4.14 346 Pn **Pn 06 20 36.4 +2.7**
ARQ Araqi 4.21 183 P **Pn 06 20 37.5 +2.9**
SNR=8.7
BIDO Bidbid 4.22 162 P **Pn 06 20 34.9 +0.2**
SNR=13
BIDO S **Sn 06 21 21.1 -2.8**
IMEH Mehriz 4.24 335 Pn **Pn 06 20 38.0 +2.9**
NGCH Negor - Chabah 4.52 118 Pn **Pn 06 20 41.4 +2.7**
NGCH Negor - Chabah 4.52 118 P **Pn 06 20 40.4 +1.6**
SNR=9.7
NGCH S **Sn 06 21 31.7 +0.5**
WSAR Wadi Sarin 4.64 158 Pn **Pn 06 20 40.8 +0.4**
comp=Z,0.4nm,0.3s,baz=356,slow=24,SNR=42
WSAR Sn **Sn 06 21 32.4 -1.9**
comp=Z,0.2nm,0.3s,baz=202,slow=24,SNR=7.1
SMDO Samad 4.64 165 P **Pn 06 20 41.4 +0.9**
SMDO S **Sn 06 21 36.0 +1.5**
NHDN Nehbandan 4.79 36 Pn **Pn 06 20 44.8 +2.3**
BSY Bisya 4.82 175 P **Pn 06 20 44.8 +1.9**
BSY S **Sn 06 21 41.9 +3.2**
BSRN Basiran 4.85 25 Pn **Pn 06 20 46.2 +2.7**
AHBU AHRAM 4.97 286 Pn **Pn 06 20 49.4 +4.4**
SRVN Saravan 5.04 91 Pn **Pn 06 20 48.8 +2.8**
SRVN Saravan 5.04 91 *e*Pn **Pn 06 20 48.5 +2.5**
SRVN IAML 06 22 26.7
comp=Z,0.1nm,1.0s
YZKH Yazd 5.16 339 *e*PnA 06 20 49.4
YZKH IAML 06 22 38.9
comp=Z,0.1nm,1.0s
JMDO Jabal Madar 5.32 166 P **Pn 06 20 51.0 +1.2**
JMDO S **Sn 06 21 51.9 +0.8**
WBK Wadi Bani Khal 5.33 157 P **Pn 06 20 50.4 +0.3**
SNR=40
MZR Muzera 5.41 214 P **Pn 06 20 52.4 +1.3**
MZR Muzera 5.41 214 *i* P **Pn 06 20 52.2 +1.1**
SNR=6.1
TPRV Parvadeh(Tabas 5.45 360 Pn **Pn 06 20 54.7 +3.1**
KLNJ Kolanjah 5.65 309 Pn **Pn 06 20 57.8 +3.1**
KLNJ Kolanjah 5.65 309 *e*Pn **Pn 06 20 57.3 +2.7**
KLNJ IAML 06 23 05.2
comp=Z,0.2nm,1.0s
TRNA Turayna 5.70 242 P **Pn 06 20 55.2 +0.1**
SNR=5.2
JLN Jalan Bani Buh 5.91 155 P **Pn 06 20 58.8 +0.8**
JLN S **Sn 06 22 04.3 -1.4**
SMRA Abu-Samra 6.00 243 P **Pn 06 20 59.6 +0.4**
TKDS Koohdasht(Taba 6.04 3 Pn **Pn 06 21 02.9 +3.2**
AFRZ Afriz 6.16 18 Pn **Pn 06 21 04.2 +2.6**
ANAR Anarak 6.18 336 Pn **Pn 06 21 03.9 +2.2**
NASN Na'in 6.22 328 *e*Pn **Pn 06 21 04.1 +1.6**
NASN IAML 06 21 16.2
comp=Z,0.6nm,1.0s
TNSJ Nastanj 6.38 359 Pn **Pn 06 21 07.4 +2.9**
MHTO MHTO 6.65 170 P **Pn 06 21 09.1 +1.1**
MHTO S **Sn 06 22 23.4 -0.3**
SHRT Shahrakht 6.79 26 Pn **Pn 06 21 12.4 +2.3**
SHRT Shahrakht 6.79 26 IAML 06 23 30.4
comp=Z,0.1nm,1.0s
DQM DQM 7.64 174 P **Pn 06 21 22.8 +1.2**
HRA Herat 8.28 33 Pn **Pn 06 21 31.8 +1.2**
KHMZ Khomeyn 8.48 318 *e*PnA 06 21 34.7
KHMZ *e*Sg **Sn 06 23 09.0 -0.1**
KHMZ IAML 06 26 00.8
comp=Z,0.0nm,1.0s
ASAO Ashtian 9.03 322 *e*PnA 06 21 43.9
ASAO *e*Sg **Sn 06 23 23.2 +0.6**
ASAO IAML 06 25 54.5
comp=Z,0.0nm,1.0s
DOK Doka 9.22 196 P **Pn 06 21 43.0 -0.4**
DMTO DMTO 9.94 190 P **Pn 06 21 53.2 0.0**
WHFO Wadi Hawf 9.98 196 P **Pn 06 21 54.0 +0.2**
SNR=5.6
ABTO Aybut 10.65 198 P **Pn 06 22 01.2 -1.8**
RAYN Ar Rayn 10.91 251 Pn **Pn 06 22 03.1 -3.4**
RAYN Ar Rayn 10.91 251 P **Pn 06 22 03.1 -3.4**
RAYN Ar Rayn 10.91 251 *i* P **Pn 06 22 02.8 -3.7**
SNR=10.0
SNGE Sanandaj 10.98 315 *e*PnA 06 22 10.2
SNGE IAML 06 22 49.1
comp=Z,0.0nm,1.0s
SRSL SARDASHT 12.89 315 *e*PnA 06 22 37.2
SRSL IAML 06 24 30.2
comp=Z,0.0nm,1.0s
GNI Garni 16.00 325 Pn **Pn 06 23 15.0 -0.6**
comp=Z,0.6nm,0.3s,baz=28,slow=23,SNR=1.4
comp=Z,3.3nm,0.5s
GNI Garni 16.00 325 P **Pn 06 23 15.0 -0.6**
GAR Garm 16.07 41 Pn **Pn 06 23 18.2 +1.7**
GAR IAmb IAmb 06 23 35.7
comp=Z,9.5nm,0.7s
GURO Guroymak-BITLI 16.46 315 Pn **Pn 06 23 19.5 -2.0**
MARD Mardin 16.59 310 Pn **Pn 06 23 21.7 -1.4**
BTK Batken 17.07 40 **P 06 23 31.6 +0.8**
BTK Batken 17.07 40 P **P 06 23 31.6 +0.8**
BTK pmax pmax
comp=Z,6.0nm,1.0s
DRK Karamyk 17.27 43 P **P 06 23 34.4 +1.2**
DRK IAmb IAmb 06 23 35.3
comp=Z,20nm,0.4s
DRK Karamyk 17.27 43 P **P 06 23 34.4 +1.2**
DRK pmax pmax
comp=Z,20nm,0.4s
TRKS Terek-Say 18.27 37 P **P 06 23 46.0 +1.9**
KK31 Karatay Array 19.11 32 P **Pn 06 23 53.8 -0.3**
KK31 IAmb IAmb 06 24 04.7
comp=Z,5.4nm,0.8s
KK31 Karatay Array 19.11 32 P **Pn 06 23 53.8 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 19.11 32 P **P 06 23 53.8 +0.5**
KKAR Karatay Array 19.11 32 P **P 06 23 53.6 +0.4**
KKAR Karatay Array 19.11 32 P **P 06 23 53.6 +0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
EIL Elat 19.23 281 P **P 06 23 54.2 -0.5**
comp=Z,0.3nm,0.3s,baz=35,slow=16,SNR=3.9
comp=Z,2.2nm,0.6s
KBZ Khabaz 19.61 329 P **P 06 23 58.4 -0.2**
baz=32,slow=9.9,SNR=1.8
comp=Z,0.9nm,1.0s
SHA1 Shidzhatmaz 19.73 329‖ *e*P **Pn 06 24 04.0 +2.3**
KIV Kislovodsk 19.89 329 *e*P **Pn 06 24 06.8 +3.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KSH Kashi 19.94 48 P **P 06 24 00.0 -2.4**
KSH pmax pmax
comp=Z,21nm,0.5s
ARLS Aral 20.25 41 P Pn 06 24 07.2 -0.7
AAK Ala-Archa 20.85 39 P **P 06 24 13.5 +1.1**
AAK Ala-Archa 20.85 39 P **P 06 24 13.2 +0.9**
comp=Z,2.4nm,0.7s,baz=268,slow=5.0,SNR=4.2
AAK LR LR 06 33 37.8
comp=Z,102nm,18.1s,baz=256,slow=41
comp=Z,2.4nm,0.7s
AAK Ala-Archa 20.85 39⇑ *e*P Pn 06 24 14.3 -0.5
AAK pmax pmax
comp=Z,6.0nm,1.2s
BOOM Boomskoye usch 21.59 41 P **P 06 24 23.1 +2.8**
BOOM IAmb IAmb 06 24 31.2
comp=Z,5.7nm,0.7s
BOOM Boomskoye usch 21.59 41 P **P 06 24 23.1 +2.8**
BOOM pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 21.80 6 P **P 06 24 22.6 +0.3**
ABKAR IAmb IAmb 06 24 36.0
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 21.80 6 P **P 06 24 22.5 +0.2**
KDJ Kajisay 22.12 44 P **P 06 24 27.6 +1.6**
KDJ IAmb IAmb 06 24 41.7
comp=Z,11nm,1.0s
KDJ Kajisay 22.12 44 P **P 06 24 27.7 +1.6**
KDJ pmax pmax
comp=Z,11nm,1.0s
TARG Taragay, Kyrgy 22.29 45 P **P 06 24 30.0 +1.9**
TARG IAmb IAmb 06 24 30.7
comp=Z,5.9nm,0.6s
TARG Taragay, Kyrgy 22.29 45 P **P 06 24 30.0 +1.9**
TARG pmax pmax
comp=Z,6.0nm,0.6s
BR131 Keskin Array S 22.66 308‖ *e*P **P 06 24 33.5 +1.7**
BRTR Keskin Array B 22.66 308 P **P 06 24 32.3 +0.6**
comp=Z,1.8nm,0.7s,baz=131,slow=13,SNR=5.2
comp=Z,1.8nm,0.7s
AKTO Aktyubinsk 22.86 2 LR LR 06 35 18.0
comp=Z,66nm,19.7s,baz=115,slow=42
ELL Elmali 24.42 299 P **P 06 24 50.7 +1.6**
ELL Elmali 24.42 299 P **P 06 24 50.7 +1.6**
ELL pmax pmax
comp=Z,157nm,0.9s
MANT Manisa 25.92 302 P **P 06 25 01.4 -1.4**
YLV Yalova 25.99 307 pP pP 06 25 14.5 +7.4
comp=Z,12nm,0.8s
BRVK Borovoye 27.39 18‖ *e*P **P 06 25 17.3 +1.7**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Bovoye Array 27.39 18 P **P 06 25 16.4 +0.8**
comp=Z,1.6nm,0.6s,baz=198,slow=9.3,SNR=7.1
comp=Z,1.6nm,0.6s
MK31 Makanchi Array 27.78 39 P **P 06 25 19.9 +0.6**
MK31 IAmb IAmb 06 25 36.5
comp=Z,3.5nm,1.5s
MK31 Makanchi Array 27.78 39 *ce*P **P 06 25 19.6 +0.3**
MKAR Makanchi Array 27.78 39 P **P 06 25 20.1 +0.8**
MKAR Makanchi Array 27.78 39 P **P 06 25 19.4 +0.1**
comp=Z,0.8nm,0.6s,baz=218,slow=7.4,SNR=6.2
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 27.78 39 *e*P **P 06 25 19.8 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
APE Apeiranthos 27.91 298‖ *e*P **P 06 25 19.9 -0.7**
APE pmax pmax
comp=Z,92nm,1.6s
KURBB Kurchatov Arra 28.37 30 P **P 06 25 24.9 +0.5**
comp=Z,1.3nm,0.8s,baz=228,slow=8.7,SNR=9.6
comp=Z,1.3nm,0.8s
KURK Kurchatov 28.48 30⇑ *e*P **P 06 25 26.8 +1.4**
KURK pmax pmax
comp=Z,3.0nm,0.9s
AK08 Malin Array Si 31.08 325 P **P 06 25 46.8 -1.6**
AK05 Malin Array Si 31.09 325 P **P 06 25 48.0 -0.5**
AK02 Malin Array Si 31.12 325 P **P 06 25 47.6 -1.1**
AK01 Malin Array Si 31.13 325 P **P 06 25 47.6 -1.3**
AK12 Malin Array Si 31.13 325 P **P 06 25 47.5 -1.4**
AKASG Malin Array Be 31.13 325 P **P 06 25 48.2 -0.7**
comp=Z,0.8nm,0.4s,baz=132,slow=8.7,SNR=10
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 31.13 325 P **P 06 25 47.7 -1.1**
AKBB IAmb IAmb 06 25 53.3
comp=Z,5.2nm,0.8s
AKBB Malin Array Si 31.13 325 *de*P **P 06 25 48.1 -0.8**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 31.13 325 P **P 06 25 46.9 -2.0**
KIEV Kiev 31.14 325 P **P 06 25 47.9 -1.0**
KIEV IAmb IAmb 06 25 53.3
comp=Z,4.9nm,0.9s
KIEV Kiev 31.14 325 P **P 06 25 47.9 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 31.14 325 P **P 06 25 47.2 -1.7**
AK11 Malin Array Si 31.15 325 P **P 06 25 47.4 -1.6**
AK04 Malin Array Si 31.18 325 P **P 06 25 48.0 -1.3**
AK15 Malin Array Si 31.18 325 P **P 06 25 48.7 -0.6**
AK17 Malin Array Si 31.21 325 P **P 06 25 48.7 -0.8**
AK18 Malin Array Si 31.23 325 P **P 06 25 47.6 -2.1**
AK22 Malin Array Si 31.25 325 P **P 06 25 48.7 -1.2**
AK19 Malin Array Si 31.25 325 P **P 06 25 48.0 -1.9**
AK20 Malin Array Si 31.27 325 P **P 06 25 49.2 -0.9**
AK21 Malin Array Si 31.27 325 P **P 06 25 49.1 -1.0**
LUBAR Lubar, Ukraine 31.43 323 P **P 06 25 50.2 -1.4**
ZAA0 Zalesovo Array 33.46 30 P **P 06 26 09.2 -0.1**
ZAA0 IAmb IAmb 06 26 21.5
comp=Z,4.2nm,0.8s
ZALV Zalesovo Beam 33.46 30 P **P 06 26 10.2 +0.9**
ZALV Zalesovo Beam 33.46 30 P **P 06 26 09.3 0.0**
comp=Z,2.3nm,0.7s,baz=240,slow=11,SNR=8.8
comp=Z,2.3nm,0.7s
ZALV Zalesovo Beam 33.46 30 *e*P **P 06 26 09.8 +0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 39.26 315 P **P 06 26 57.9 -1.1**
comp=Z,0.7nm,0.7s,baz=97,slow=9.3,SNR=4.6
comp=Z,0.7nm,0.7s
GERES GERESS Array B 39.26 315 *e*P **P 06 27 02.1 +3.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 39.59 337 P **P 06 27 00.9 -0.5**
FINES FINESS Array B 39.59 337 P **P 06 27 00.6 -0.8**
comp=Z,1.4nm,0.5s,baz=124,slow=9.5,SNR=8.0
comp=Z,1.4nm,0.5s
FINES FINESS Array B 39.59 337 *e*P **P 06 27 02.0 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.6s
WTTA Wattenberg 40.19 312 *e*P **P 06 27 07.8 +0.9**
comp=Z,4.2nm,0.5s
WATA Walderalm 40.25 312 *i* pP **P 06 27 08.6 +1.3**
comp=Z,5.3nm,0.5s
SQTA Sankt Quirin 40.47 311 *i* pP **P 06 27 10.5 +1.4**
comp=Z,6.4nm,0.7s
MOTA Moosalm 40.56 312 *i* pP **P 06 27 11.6 +1.6**
comp=Z,2.8nm,0.5s
FETA Feichten 40.74 311 *e*pP **P 06 27 13.3 +1.9**
comp=Z,2.0nm,0.4s
FUORN Ofenpass-Fuorn 40.98 310 P **P 06 27 13.8 +0.3**
FUORN IAmb IAmb 06 27 29.3
comp=Z,4.2nm,0.9s
DAVA Damuels 41.37 311 *e*pP **P 06 27 19.1 +2.5**
comp=Z,2.6nm,0.4s
SONM Songino Array 43.34 48 P **P 06 27 33.7 +1.1**
SONM Songino Array 43.34 48 P **P 06 27 33.1 +0.5**
comp=Z,0.8nm,0.6s,baz=262,slow=9.0,SNR=7.2
comp=Z,0.8nm,0.6s
HFS Hagfors 43.67 330 P **P 06 27 34.2 -0.7**
comp=Z,4.1nm,0.8s,baz=129,slow=12,SNR=6.4
comp=Z,4.1nm,0.8s
ULN Ulaanbaatar 43.78 49‖ *e*P **P 06 27 36.1 -0.1**
ULN pmax pmax
comp=Z,2.0nm,0.7s
NC405 NORSAR Array S 45.00 331 P **P 06 27 45.2 -0.3**
NB2 NORSAR Subarra 45.18 331 P **P 06 27 45.9 -1.1**
comp=Z,8.6nm,1.4s,baz=116,slow=7.9
NOA NORSAR Array B 45.18 331 P **P 06 27 46.0 -1.0**
comp=Z,1.9nm,0.8s,baz=115,slow=8.0,SNR=6.1
comp=Z,1.9nm,0.8s
NOA NORSAR Array B 45.18 331 *e*P **P 06 27 50.0 +3.0**
NOA pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 45.74 345 P **P 06 27 50.9 -0.4**
comp=Z,2.4nm,0.8s,baz=146,slow=8.4,SNR=1.5
comp=Z,2.4nm,0.8s
EKA Eskdalemuir Ar 50.78 320 P **P 06 28 29.8 -0.6**
comp=Z,0.2nm,0.3s,baz=95,slow=7.4,SNR=2.1
comp=Z,0.2nm,0.3s
TORD Torodi Ar. Bea 53.16 266 P **P 06 28 47.5 -1.2**
comp=Z,1.1nm,0.4s,baz=61,slow=7.8,SNR=2.5
comp=Z,1.1nm,0.4s
BOSA Boshof 63.49 211 P **P 06 30 00.3 -0.4**
comp=Z,1.2nm,0.5s,baz=183,slow=9.4,SNR=2.2
comp=Z,1.2nm,0.5s
SEY Seymchan 68.33 29 *e*P **P 06 30 30.6 -0.7**
SEY pmax pmax
comp=Z,3.0nm,1.7s
ILAR Eielson Array 86.14 10 P **P 06 32 10.5 -0.7**
comp=Z,0.2nm,0.7s,baz=343,slow=5.1,SNR=2.8
comp=Z,0.2nm,0.7s
YKA Yellowknife Ar 89.99 356 P **P 06 32 29.6 0.0**
comp=Z,0.4nm,0.8s,baz=0.6,slow=4.9,SNR=10
comp=Z,0.4nm,0.8s

*IDC **27** 06:24:31.2±1.0, 18.°08S×178.°03W, h586km±10km,*
mb3.6/20, mbtmp4.5/22, Error ellipse: s-maj=14.0km s-min=11.8km az=141.0
*NEIC **27** 06:24:31.7±1.4, 18.°0S±0.°1×178.°02W±0.°10, h588km±7km, mb4.4/55, Error ellipse: s-maj=20.3km s-min=13.4km az=178.0*
*NOU **27** 06:24:39.9, 18.°21S×178.°76W, h639km, mb4.7/18, Fiji Islands Region*
ISC 27 06:24:31.2±0.4, 18.°14S±0.°07×178.°02W±0.°07, h590km, n144, σ1§15/137, mb4.3/49, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.77**	**276**	P	**P**	**06 25 55.3**	**+0.8**
MSVF	**Nonsavu**	**3.77**	**276**	P	**P**	**06 25 55.4**	**+0.9**
	142nm,0.8s,baz=134,slow=4.2,SNR=75						
MSVF				S	**S**	**06 27 01.5**	**-0.8**
	9.1nm,0.7s,baz=269,slow=23,SNR=7.5						
FUTU	**Fugatoga**	**3.82**	**359**	P	**P**	**06 25 53.5**	**-1.3**
AFI	**Afiamalu**	**7.33**	**56**	P	**P**	**06 26 21.2**	**-2.9**
NIUE	**Niue**	**7.73**	**98**	P	**P**	**06 26 28.8**	**+1.1**
RIZ	**Raoul Island**	**11.05**	**180**	S	**S**	**06 29 03.9**	**+1.2**
PINNC	**Pines Island,**	**14.33**	**250**	P	**P**	**06 27 33.8**	**+0.3**
DZM	**Mont Dzumac**	**15.11**	**252**	P	**P**	**06 27 40.9**	**0.0**
DZM				IAmb	IAmb	06 27 47.4	
	comp=Z,11nm,0.7s						
DZM	**Mont Dzumac**	**15.11**	**252**	P	**P**	**06 27 40.5**	**-0.4**
	comp=Z,8.6nm,0.6s,baz=123,slow=21,SNR=13						
WMGZ	**Waiomatatini S**	**19.85**	**188**	S	**S**	**06 31 24.0**	**-8.1**
TWGZ	**Tauwhareparae**	**20.26**	**189**	S	**S**	**06 31 34.1**	**-4.6**
URZ	**Urewera**	**20.49**	**191**	P	**P**	**06 28 28.8**	**-0.9**
	comp=Z,4.8nm,0.4s,baz=312,slow=1.7,SNR=6.0						
URZ				S	**S**	**06 31 40.7**	**-1.4**
	comp=Z,3.7nm,0.3s,baz=213,slow=23,SNR=13						
	comp=Z,4.8nm,0.4s						
URZ	**Urewera**	**20.49**	**191**	S	**S**	**06 31 41.3**	**-0.9**
SNGZ	**Shannon Statio**	**20.96**	**190**	S	**S**	**06 31 50.9**	**+1.3**
PPT	**Papeete**	**27.07**	**93**	P	**P**	**06 29 28.6**	**+0.3**
	comp=Z,8.3nm,0.6s,baz=59,slow=14,SNR=1.7						
	comp=Z,8.3nm,0.6s						
TW1H	**Toowoomba 1 Ha**	**29.13**	**246**	P	**P**	**06 29 47.5**	**+1.3**
EIDS	**Eidsvold**	**29.54**	**250**	P	**P**	**06 29 49.8**	**+0.2**
EIDS	**Eidsvold**	**29.54**	**250**	P	**P**	**06 29 49.6**	**0.0**
ARMA	**Armidale**	**30.14**	**240**	P	**P**	**06 29 56.2**	**+1.3**
ARMA				IAmb	IAmb	06 29 56.9	
	comp=Z,14nm,0.8s						
CNB	**Canberra Magne**	**33.58**	**233**	P	**P**	**06 30 25.1**	**+1.2**
CAN	**Canberra**	**33.86**	**233**	P	**P**	**06 30 27.3**	**+1.1**
CAN	**Canberra**	**33.86**	**233**	P	**P**	**06 30 27.1**	**+0.9**
CMSA	**Cobar Meteorol**	**35.36**	**241**	P	**P**	**06 30 39.3**	**+0.6**
MTSU	**Mount Surprise**	**35.75**	**264**	P	**P**	**06 30 42.3**	**+0.2**
QLP	**Quilpie**	**35.80**	**250**	P	**P**	**06 30 42.7**	**+0.3**
TOO	**Toolangi**	**37.31**	**231**	P	**P**	**06 30 56.0**	**+1.3**
TOO				IAmb	IAmb	06 30 56.6	
	comp=Z,11nm,0.8s						
COEN	**Coen**	**37.48**	**271**	P	**P**	**06 30 57.0**	**+0.6**
COEN	**Coen**	**37.48**	**271**	P	**P**	**06 30 56.9**	**+0.6**
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**06 31 08.2**	**+1.1**
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**06 31 08.1**	**+0.9**
	comp=Z,23nm,0.8s,baz=88,slow=9.5,SNR=50						
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**06 31 08.2**	**+1.1**
INKA	**Innaminka**	**39.00**	**248**	P	**P**	**06 31 09.7**	**+1.3**
QIS	**Mount Isa**	**39.98**	**259**	P	**P**	**06 31 16.2**	**-0.2**
HTT	**Hallett**	**41.35**	**240**	P	**P**	**06 31 27.7**	**+0.6**
LCRK	**Leigh Creek**	**41.49**	**244**	P	**P**	**06 31 28.8**	**+0.6**
WHYH	**Whyalla**	**42.39**	**241**	P	**P**	**06 31 36.2**	**+1.0**
OOD	**Oodnadatta**	**43.48**	**249**	P	**P**	**06 31 44.7**	**+1.0**
BBOO	**Buckleboo**	**43.62**	**241**	P	**P**	**06 31 45.3**	**+0.6**
BBOO	**Buckleboo**	**43.62**	**241**	P	**P**	**06 31 45.3**	**+0.6**
WR0	**Warramunga Arr**	**44.77**	**260**	P	**P**	**06 31 53.2**	**-0.6**
WR0				IAmb	IAmb	06 31 54.4	
	comp=Z,22nm,1.5s						
WB0	**Warramunga Arr**	**44.92**	**260**	P	**P**	**06 31 54.5**	**-0.5**
WB2	**Warramunga Arr**	**44.94**	**260**	P	**P**	**06 31 54.8**	**-0.3**
WRAB	**Tennant Creek**	**44.95**	**260**	P	**P**	**06 31 55.1**	**-0.1**
WRAB				IAmb	IAmb	06 31 55.5	
	comp=Z,15nm,0.6s						
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**06 31 54.8**	**-0.5**
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**06 31 54.6**	**-0.6**
	comp=Z,14nm,0.6s,baz=95,slow=7.2,SNR=200						
WRA				PcP	**PcP**	**06 33 23.9**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=90,slow=3.7,SNR=4.8						
	comp=Z,14nm,0.6s						
AS31	**Alice Springs**	**45.08**	**254**	P	**P**	**06 31 56.5**	**+0.3**
AS31				IAmb	IAmb	06 31 57.4	
	comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**06 31 56.6**	**+0.3**
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**06 31 56.4**	**+0.2**
	comp=Z,47nm,0.6s,baz=87,slow=8.7,SNR=579						
ASAR				PcP	**PcP**	**06 33 24.4**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=102,slow=3.9,SNR=7.3						
ASAR				S	**S**	**06 37 51.0**	**-2.5**
	comp=Z,1.1nm,0.8s,baz=91,slow=14,SNR=9.0						
	comp=Z,47nm,0.6s						
KDU	**Kakadu**	**47.92**	**269**	P	**P**	**06 32 17.5**	**-0.1**
MTN	**Manton Dam**	**49.16**	**269**	P	**P**	**06 32 26.4**	**-0.4**
MTN				IAmb	IAmb	06 32 27.3	
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**50.24**	**245**	P	**P**	**06 32 34.4**	**-0.1**
KNRA	**Kununurra**	**50.84**	**264**	IAmb	IAmb	06 32 39.5	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.36**	**261**	P	**P**	**06 32 57.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.36**	**261**	P	**P**	**06 32 57.2**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=90,slow=8.1,SNR=4.4						
	comp=Z,2.8nm,0.5s						
PSA00	**Pilbara Seismi**	**58.21**	**255**	P	**P**	**06 33 30.2**	**-0.2**
MBWA	**Marble Bar**	**58.38**	**256**	P	**P**	**06 33 31.5**	**0.0**
NWAO	**Narrogin (SRO)**	**59.43**	**242**	P	**P**	**06 33 38.2**	**-0.2**
NWAO				IAmb	IAmb	06 34 19.5	
	comp=Z,37nm,1.3s						
MORW	**Morawa**	**60.73**	**246**	P	**P**	**06 33 46.6**	**-0.5**
MORW				IAmb	IAmb	06 33 52.1	
	comp=Z,11nm,1.1s						
KAPI	**Kappang**	**62.08**	**274**	P	**P**	**06 33 55.9**	**-0.1**
	comp=Z,2.3nm,0.2s,baz=41,slow=4.3,SNR=3.5						
	comp=Z,2.3nm,0.2s						
JAGI	**Jajag, Banyuwa**	**66.41**	**269**	P	**P**	**06 34 22.1**	**-1.3**
MJAR	**Matsushiro Arr**	**68.32**	**323**	P	**P**	**06 34 33.9**	**-0.7**
	comp=Z,3.1nm,0.5s,baz=155,slow=5.8,SNR=6.2						
	comp=Z,3.1nm,0.5s						
UGM	**Wanagama**	**70.01**	**268**	P	**P**	**06 34 45.2**	**0.0**
JNU	**Nakatsue**	**70.56**	**316**	P	**P**	**06 34 47.9**	**-0.2**
	comp=Z,3.6nm,0.4s,baz=201,slow=7.8,SNR=11						
	comp=Z,3.6nm,0.4s						
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**06 34 56.8**	**+1.3**
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**06 34 56.7**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=252,slow=0.8,SNR=18						
	comp=Z,1.1nm,0.5s						
SSLB	**Suanglung**	**72.67**	**303**	P	**P**	**06 34 59.8**	**-0.8**
SSLB				IAmb	IAmb	06 35 37.3	
	comp=Z,32nm,1.5s						
TPUB	**Ta-pu**	**72.70**	**302**	P	**P**	**06 34 59.9**	**-0.8**
KSM	**Kuching**	**73.08**	**277**	P	**P**	**06 35 03.5**	**+0.4**
PETK	**Petropavlovsk-**	**74.00**	**345**	P	**P**	**06 35 07.2**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=120,slow=8.8,SNR=4.9						
	comp=Z,2.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**06 35 37.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=226,slow=9.3,SNR=10						
	comp=Z,1.3nm,0.8s						
J05D	**Fort Rock, OR**	**80.27**	**38**	P	**P**	**06 35 42.5**	**+0.7**
J05D				IAmb	IAmb	06 35 44.1	
	comp=Z,14nm,1.5s						
M16K	**Timber Creek**	**80.37**	**9**	IAmb	IAmb	06 35 43.9	
	comp=Z,19nm,1.2s						
O19K	**Port Alsworth**	**80.40**	**12**	IAmb	IAmb	06 35 41.9	
	comp=Z,9.6nm,0.8s						
BNX	**BinXian**	**80.50**	**325**	⇑P	**P**	**06 35 43.3**	**+0.6**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
U15A	**North Rim**	**82.40**	**48**	P	**P**	**06 35 53.7**	**+0.7**
BMRM	**Bremner River**	**83.28**	**16**	P	**P**	**06 35 56.4**	**-0.1**
BMRM				IAmb	IAmb	06 35 56.6	
	comp=Z,5.3nm,0.8s						
WAX	**Waxell Ridge**	**83.31**	**17**	P	**P**	**06 35 56.9**	**+0.2**
WAX				IAmb	IAmb	06 36 19.7	
	comp=Z,16nm,1.4s						
SCM	**Sheep Creek Mo**	**83.36**	**14**	P	**P**	**06 35 56.8**	**-0.2**
SCM				IAmb	IAmb	06 35 57.3	
	comp=Z,6.4nm,0.7s						
VRDI	**Verde Repeater**	**83.80**	**16**	P	**P**	**06 35 58.7**	**-0.6**
VRDI				IAmb	IAmb	06 36 42.7	
	comp=Z,8.2nm,1.4s						
GLB	**Gilahina Butte**	**83.89**	**16**	P	**P**	**06 35 59.5**	**-0.1**
GLB				IAmb	IAmb	06 35 59.6	
	comp=Z,3.6nm,0.7s						

TRF	**Thorofare Moun**	**84.16**	**12**	P	**P**	**06 36 00.1**	**-0.9**
TRF				IAmb	IAmb	06 36 01.3	
	comp=Z,8.0nm,0.8s						
LYN	**LuoYang**	**84.26**	**309**	P	**P**	**06 36 03.3**	**+1.4**
LYN				pmax	pmax		
	comp=Z,21nm,0.5s						
PSI	**Prapat**	**84.27**	**275**	P	**P**	**06 36 02.1**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=276,slow=12,SNR=4.6						
	comp=Z,5.5nm,0.6s						
RND	**Reindeer**	**84.42**	**13**	P	**P**	**06 36 01.9**	**-0.2**
RND				IAmb	IAmb	06 36 02.4	
	comp=Z,5.6nm,0.6s						
MCK	**McKinley**	**84.69**	**13**	IAmb	IAmb	06 36 03.4	
	comp=Z,11nm,1.2s						
M26K	**Nabesna, AK**	**84.91**	**16**	IAmb	IAmb	06 36 05.7	
	comp=Z,4.7nm,1.0s						
M27K	**Edge Creek, AK**	**85.16**	**16**	P	**P**	**06 36 06.3**	**+0.5**
TX31	**Lajitas Ar. Si**	**85.81**	**57**	P	**P**	**06 36 09.9**	**+0.3**
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**06 36 11.0**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=219,slow=5.5,SNR=16						
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	**86.03**	**13**	P	**P**	**06 36 08.7**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=229,slow=5.3,SNR=4.5						
	comp=Z,1.0nm,0.4s						
M30M	**Minto, Yukon**	**86.74**	**18**	IAmb	IAmb	06 36 13.9	
	comp=Z,5.3nm,1.1s						
YHL	**Hebgen Lake**	**87.22**	**41**	P	**P**	**06 36 16.4**	**+0.2**
YHL				IAmb	IAmb	06 36 18.5	
	comp=Z,2.7nm,0.8s						
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**06 36 15.8**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=227,slow=2.0,SNR=8.6						
	comp=Z,0.7nm,0.7s						
ELIB	**Princess Elisa**	**88.97**	**187**	*d*P	**P**	**06 36 23.9**	**+0.2**
	comp=Z,2.9nm,0.6s						
F26K	**Sheenjek River**	**89.12**	**12**	IAmb	IAmb	06 36 27.1	
	comp=Z,7.6nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	**P**	**06 36 27.1**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=109,slow=2.9,SNR=14						
	comp=Z,1.2nm,0.3s						
G30M	**tAoh Zraii Nji**	**90.33**	**15**	IAmb	IAmb	06 36 30.2	
	comp=Z,5.9nm,0.9s						
SNAA	**Sanae**	**90.35**	**178**	P	**P**	**06 36 30.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=202,slow=11,SNR=6.6						
	comp=Z,1.7nm,0.8s						
F31M	**Tsiigehtchic**	**91.31**	**16**	IAmb	IAmb	06 36 34.6	
	comp=Z,5.2nm,0.8s						
SONM	**Songino Array**	**93.97**	**319**	P	**P**	**06 36 47.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=115,slow=5.3,SNR=1.8						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**94.39**	**25**	P	**P**	**06 36 47.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=242,slow=4.7,SNR=8.9						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**109.56**	**314**	PKiKP	**PKiKP**	**06 41 54.4**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=218,slow=1.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**112.30**	**318**	PKiKP	**PKiKP**	**06 41 59.7**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=97,slow=1.6,SNR=8.9						
BVAR	**Borovoye Array**	**117.26**	**321**	PKP	**PKPdf**	**06 42 09.6**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=158,slow=4.3,SNR=5.0						
SPITS	**Spitsbergen Ar**	**119.52**	**357**	PKP	**PKPdf**	**06 42 13.2**	**-0.6**
	comp=Z,16nm,1.1s,baz=12,slow=7.4,SNR=2.0						
ARTI	**Arti**	**123.36**	**326**	PKP	**PKPdf**	**06 42 21.1**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=289,slow=21,SNR=4.7						
AKTO	**Aktyubinsk**	**125.29**	**319**	PKP	**PKPdf**	**06 42 25.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=122,slow=2.5,SNR=4.7						
ARCES	**ARCESS Array B**	**126.61**	**350**	PKP	**PKPdf**	**06 42 26.8**	**-0.8**
	comp=Z,4.0nm,1.0s,baz=6.6,slow=2.3,SNR=10						
FINES	**FINESS Array B**	**133.51**	**344**	PKP	**PKPdf**	**06 42 39.9**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=90,slow=1.5,SNR=1.6						
NOA	**NORSAR Array B**	**136.65**	**353**	PKP	**PKPdf**	**06 42 45.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=18,slow=3.7,SNR=2.5						
HFS	**Hagfors**	**137.22**	**351**	PKhKP	PKPpre	06 42 38.0	
	comp=Z,1.0nm,0.7s,baz=47,slow=6.3,SNR=1.1						
AKASG	**Malin Array Be**	**140.94**	**332**	PKhKP	PKPpre	06 42 49.0	
	comp=Z,0.4nm,0.4s,baz=41,slow=3.2,SNR=6.4						
AKASG				PKP	**PKPdf**	**06 42 54.2**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=47,slow=3.4,SNR=7.6						
EKA	**Eskdalemuir Ar**	**142.67**	**5**	PKhKP	PKPpre	06 42 51.7	
	comp=Z,0.5nm,0.6s,baz=333,slow=2.6,SNR=3.9						
ILGA	**Ilgaz**	**144.50**	**317**	PKPdf	**PKPdf**	**06 43 02.5**	**+0.8**
BUR08	**Bucovina Ar. S**	**144.98**	**332**	PKPdf	PKPbc	06 43 03.9	+0.8
BR131	**Keskin Array S**	**145.21**	**315**	PKPdf	**PKPdf**	**06 43 04.1**	**+1.2**
BRTR	**Keskin Array B**	**145.21**	**315**	PKPbc	**PKPdf**	**06 43 04.0**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=145,slow=3.0,SNR=12						
ASF	**Jabal al Asfar**	**145.62**	**301**	PKPbc	**PKPbc**	**06 43 05.8**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=45,slow=4.3,SNR=5.3						
CHVC	**Chvalec**	**145.73**	**344**	*e*PKP	**PKPab**	**06 43 07.3**	**+0.5**
STEB	**Steborice**	**145.84**	**342**	*e*PKP	**PKPbc**	**06 43 05.7**	**+0.4**
DPC	**Dobruska-Polom**	**145.88**	**344**	*e*PKP	**PKPbc**	**06 43 06.3**	**+0.8**
PVCC	**Panska Ves**	**146.16**	**346**	*e*PKP	**PKPbc**	**06 43 06.8**	**+0.6**
MLR	**Muntele Rosu**	**146.22**	**329**	PKPbc	**PKPdf**	**06 43 06.3**	**+1.9**
	comp=Z,3.3nm,0.4s,baz=246,slow=13,SNR=3.4						
MAUC	**Maruska**	**146.33**	**341**	*e*PKP	**PKPbc**	**06 43 07.5**	**+0.8**
MMAI	**Mount Meron Ar**	**146.58**	**303**	PKPbc	**PKPdf**	**06 43 07.3**	**+2.0**
	comp=Z,6.6nm,0.6s,baz=62,slow=6.7,SNR=5.8						
PRU	**Pruhonice**	**146.67**	**345**	*e*PKP	**PKPbc**	**06 43 07.9**	**+0.3**
VRAC	**Vranov**	**146.75**	**342**	PKPbc	**PKPbc**	**06 43 08.3**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=100,slow=1.4,SNR=3.4						
ZVC	**Zvikov**	**147.26**	**345**	*e*PKP	**PKPbc**	**06 43 10.0**	**+0.8**
KHC	**Kasperske Hory**	**147.70**	**346**	*e*PKP	**PKPbc**	**06 43 10.7**	**+0.4**
CKRC	**Cesky Krumlov**	**147.81**	**345**	*e*PKP	**PKPbc**	**06 43 11.2**	**+0.6**
EIL	**Elat**	**147.86**	**297**	PKPbc	**PKPbc**	**06 43 10.9**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=300,slow=5.4,SNR=2.3						
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	**PKPbc**	**06 43 11.1**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=22,slow=3.4,SNR=23						
CONA	**Conrad Observa**	**148.20**	**342**	*e*PKiKP	**PKPbc**	**06 43 12.4**	**+0.7**
	comp=Z,3.3nm,0.6s						
RONA	**Rosalia, Austr**	**148.28**	**341**	*i* PKiKP	**PKPbc**	**06 43 12.5**	**+0.7**
	comp=Z,0.6nm,0.1s						
BIOA	**Bad Ischl, Aus**	**149.02**	**345**	*i* PKiKP	**PKPbc**	**06 43 13.8**	**+0.2**
	comp=Z,1.4nm,0.2s						
LESA	**Schwarzleotal**	**149.51**	**346**	*i* PKiKP	**PKPbc**	**06 43 15.0**	**+0.1**
	comp=Z,3.2nm,0.5s						
WATA	**Walderalm**	**149.84**	**347**	*i* PKiKP	**PKPbc**	**06 43 15.3**	**-0.4**
	comp=Z,3.4nm,0.3s						
WTTA	**Wattenberg**	**149.89**	**347**	*e*PKiKP	**PKPbc**	**06 43 16.1**	**+0.2**
	comp=Z,6.7nm,0.5s						
MYKA	**Terra Mystica**	**150.00**	**344**	*i* PKiKP	**PKPbc**	**06 43 15.4**	**-0.6**
	comp=Z,3.2nm,0.4s						
ABTA	**Abfaltersbach**	**150.18**	**345**	*i* PKiKP	**PKPbc**	**06 43 16.2**	**-0.2**
	comp=Z,3.0nm,0.3s						
DAVA	**Damuels**	**150.22**	**349**	*e*PKiKP	**PKPbc**	**06 43 17.3**	**+0.6**
	comp=Z,1.8nm,0.3s						
FETA	**Feichten**	**150.31**	**348**	*i* PKiKP	**PKPbc**	**06 43 17.4**	**+0.5**
	comp=Z,3.5nm,0.6s						
FNA	**Florina**	**151.94**	**328**		**PKPbc**	**06 43 20.2**	**-0.4**
IDI	**Anoyia**	**153.45**	**315**	PKPbc	**PKPbc**	**06 43 24.9**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=355,slow=19,SNR=2.0						

ROM 27 06:26:04.4±0.2, 37°.744N±0°.006×14°.62E±0°.01, h31km±1km, ML2.4/45, 1C-3D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GALF	**Gagliano Caste**	**0.05**	**230**	⇑P		Pb	06 26 09.1	-0.6
GALF				S		Sb	06 26 13.4	+0.1
GALF				AML		AML		
	comp=E,269μm,1.4s							
GALF				AML		AML		
	comp=E,2280μm,0.3s							
GALF				AML		AML		
	comp=E,269μm,0.6s							
GALF				AML		AML		
	comp=N,266μm,0.5s							
GALF				AML		AML		
	comp=E,2280μm,1.7s							
GALF				AML		AML		
	comp=N,1685μm,0.3s							
CAGR	**Agira**	**0.15**	**217**	P		Pn	06 26 11.1	+0.4
CAGR				AML		AML		
	comp=N,681μm,0.5s							
CAGR				AML		AML		
	comp=E,594μm,0.3s							
CAGR				AML		AML		
	comp=N,681μm,1.5s							
MNO	**Monte Soro**	**0.20**	**18**	P		Pb	06 26 10.5	-0.5
MNO				S		Sb	06 26 15.2	-0.2
MNO				AML		AML		
	comp=E,1445μm,0.5s							
MNO				AML		AML		
	comp=N,1695μm,0.6s							
MNO				AML		AML		
	comp=N,1695μm,1.4s							
EPZF	**Pizzo Felice**	**0.21**	**67**	P		Pb	06 26 10.6	-0.3
EPZF				S		Sn	06 26 16.6	+0.7
EPZF				AML		AML		
	comp=E,1065μm,0.5s							
EPZF				AML		AML		
	comp=N,1078μm,0.4s							
ESML	**S. M. di Licod**	**0.24**	**121**	AML		AML		
	comp=N,683μm,1.4s							
ESML				AML		AML		
	comp=N,683μm,0.6s							
ESML				AML		AML		
	comp=E,636μm,0.5s							
EMSG	**Monte Spagnolo**	**0.28**	**74**	P		Pb	06 26 11.7	0.0
EMSG				AML		AML		
	comp=E,1155μm,0.4s							
EMSG				AML		AML		
	comp=N,1110μm,0.6s							
EMSG				AML		AML		
	comp=E,1155μm,1.6s							
ESLN	**Serra La Nave**	**0.29**	**100**	P		Pb	06 26 12.2	+0.2
ESLN				S		Sn	06 26 18.2	+0.1
ESLN				AML		AML		
	comp=E,1036μm,0.8s							
ESLN				AML		AML		
	comp=N,660μm,0.3s							
MSFR	**San Fratello**	**0.29**	**356**	⇓P		Pb	06 26 11.7	-0.1
MSFR				S		Sn	06 26 17.5	-0.5
MSFR				AML		AML		
	comp=E,258μm,1.0s							
MSFR				AML		AML		
	comp=E,258μm,1.0s							
MSFR				AML		AML		
	comp=N,280μm,0.4s							
ENIC	**Nicolosi**	**0.34**	**109**	AML		AML		
	comp=N,1318μm,0.3s							
ENIC				AML		AML		
	comp=E,964μm,0.3s							
EPIT	**Pozzo Pitarron**	**0.35**	**79**	P		Pb	06 26 13.2	+0.4
EPIT				S		Sn	06 26 20.4	+0.7
MUCR	**Ucria**	**0.36**	**34**	P		Pb	06 26 12.4	-0.4
MUCR				S		Sb	06 26 18.3	-0.3
MUCR				AML		AML		
	comp=N,454μm,0.3s							
MUCR				AML		AML		
	comp=N,454μm,1.7s							
MUCR				AML		AML		
	comp=E,724μm,0.4s							
ECTS	**Castiglione**	**0.42**	**71**	AML		AML		
	comp=N,484μm,1.3s							
ECTS				AML		AML		
	comp=E,452μm,0.7s							
ECTS				AML		AML		
	comp=N,484μm,0.7s							
EPOZ	**Pozzillo**	**0.43**	**122**	P		Pn	06 26 14.5	0.0
EPOZ				S		Sn	06 26 22.9	+1.6
HLNI	**Lentini**	**0.44**	**153**	P		Pb	06 26 13.6	-0.4
HLNI				S		Sb	06 26 21.0	+0.5
HLNI				AML		AML		
	comp=N,339μm,0.3s							
HLNI				AML		AML		
	comp=E,402μm,0.6s							
PLLN	**Pollina**	**0.45**	**304**	P		Pn	06 26 15.0	+0.2
PLLN				AML		AML		
	comp=N,238μm,0.7s							
PLLN				AML		AML		
	comp=E,322μm,0.7s							
PLLN				AML		AML		
	comp=N,238μm,1.3s							
CSLB	**Castelbuono**	**0.48**	**294**	P		Pn	06 26 15.1	-0.2
CSLB				AML		AML		
	comp=E,53μm,0.4s							
CSLB				AML		AML		
	comp=N,68μm,1.4s							
NOV	**Novara**	**0.50**	**55**	P		Pb	06 26 14.5	-0.4
NOV				S		Sn	06 26 22.7	-0.4
NOV				AML		AML		
	comp=E,716μm,0.5s							
NOV				AML		AML		
	comp=N,433μm,0.4s							
NOV				AML		AML		
	comp=E,716μm,1.5s							
NOV				AML		AML		
	comp=N,433μm,1.6s							
AIO	**Antillo**	**0.54**	**65**	P		Pb	06 26 15.2	-0.3
AIO				S		Sn	06 26 24.2	+0.2
AIO				AML		AML		
	comp=N,428μm,0.4s							
AIO				AML		AML		
	comp=E,328μm,0.5s							
RAFF	**Raffo Rosso**	**0.56**	**201**	AML		AML		
	comp=E,238μm,1.6s							
RAFF				AML		AML		
	comp=N,206μm,0.2s							
HAGA	**Augusta**	**0.63**	**137**	⇓P		Pb	06 26 16.3	-0.6
HAGA				S		Sb	06 26 25.7	+0.2
HAGA				AML		AML		
	comp=E,304μm,0.3s							
HAGA				AML		AML		
	comp=N,326μm,1.6s							
HAGA				AML		AML		
	comp=E,304μm,1.7s							
HAGA				AML		AML		
	comp=N,326μm,0.4s							
ALJA	**Alia**	**0.68**	**271**	AML		AML		
	comp=N,156μm,1.4s							
ALJA				AML		AML		
	comp=E,128μm,0.7s							
ALJA				AML		AML		
	comp=E,128μm,1.3s							
SSY	**Sortino**	**0.69**	**148**	⇓P		Pb	06 26 17.6	-0.4
SSY				S		Sn	06 26 28.2	+0.4
SSY				AML		AML		
	comp=N,2755μm,0.6s							
SSY				AML		AML		
	comp=N,2755μm,1.4s							
SSY				AML		AML		
	comp=E,1035μm,0.3s							
MPNC	**Port Mandanici**	**0.71**	**55**	P		Pb	06 26 18.2	0.0
MPNC				S		Sn	06 26 29.6	+1.4
MPNC				AML		AML		
	comp=E,690μm,0.4s							
MPNC				AML		AML		
	comp=N,498μm,1.6s							
MPNC				AML		AML		
	comp=E,690μm,1.6s							
MPNC				AML		AML		
	comp=N,498μm,0.4s							
MILZ	**Milazzo**	**0.72**	**42**	AML		AML		
	comp=E,550μm,0.1s							
MILZ				AML		AML		
	comp=N,435μm,0.1s							
MSRU	**Castanea**	**0.88**	**53**	P		Pb	06 26 21.1	0.0
CROCE	**Santa Croce Ca**	**0.91**	**184**	P		Pb	06 26 22.2	+0.5
CROCE				S		Sb	06 26 35.5	+2.0
CROCE				AML		AML		
	comp=N,343μm,0.3s							
CROCE				AML		AML		
	comp=E,286μm,0.6s							
CROCE				AML		AML		
	comp=N,280μm,0.2s							
CROCE				AML		AML		
	comp=E,287μm,0.6s							
CEL	**Celeste**	**1.13**	**63**	P		Pb	06 26 25.2	-0.2
CEL	**Celeste**	**1.13**	**63**	P		Pb	06 26 25.2	-0.2
SOI	**Samo**	**1.18**	**73**	P		Pb	06 26 25.8	-0.4

*ASRS **27** 06:29:51.0±0.6, 54°.35N×86°.64E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 06:29:48.3±3.8, 54°.62N×87°.02E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=32.9km s-min=22.5km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**243**	I		I	06 37 50.0	
	0.2nm,0.9s,baz=62,slow=34,SNR=3.6							
ZALV	**Zalesovo Beam**	**1.45**	**243**	Pg		Pn	06 30 13.8	-1.9
	0.4nm,0.3s,baz=57,slow=18,SNR=3.8							
ZALV				Lg		Lg	06 30 34.7	
	0.5nm,0.3s,baz=63,slow=28,SNR=5.5							
KURBB	**Kurchatov Arra**	**6.53**	**236**	Pn		Pn	06 31 26.7	+1.1
	baz=44,slow=16,SNR=1.7							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**8.39**	**203**	Pn		Pn	06 31 51.8	+0.8
	0.1nm,0.3s,baz=19,slow=14,SNR=2.1							
	0.1nm,0.3s							

*NEIC **27** 06:36:14.6±0.9, 19°.47N±0°.05×65°.28W±0°.07, h10km±2km, ML2.6/28, Md3.4/11(RSPR), Error ellipse: s-maj=14.2km s-min=5.2km az=54.0*

*RSPR **27** 06:36:16.4, 19°.44N×65°.22W, h87km±10km, MD3.4/11*

ISC 27 06:36:11.8±3.3, 19°.6N±0°.1×65°.20W±0°.06, h12km±24km, n50, σ0=96/53, 5C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.52**	**213**			**Pb**	**06 36 39.6**	**-0.4**
GCPR						**Sn**	**06 36 58.5**	**-0.1**
GCPR	**Guaynabo City**	**1.52**	**213**	⇓*e*P		**Pb**	**06 36 39.6**	**-0.4**
GCPR	**Guaynabo City**	**1.52**	**213**	*e*S		**Sn**	**06 36 58.5**	**-0.1**
HUMP	**Col San Antoni**	**1.56**	**203**			**Pb**	**06 36 40.2**	**-0.5**
HUMP						**Sn**	**06 36 59.5**	**-0.1**
HUMP	**Col San Antoni**	**1.56**	**203**	IAML			06 37 01.3	
	comp=E,63nm,0.2s							
HUMP	**Col San Antoni**	**1.56**	**203**	⇓*e*P		**Pb**	**06 36 40.2**	**-0.5**
HUMP	**Col San Antoni**	**1.56**	**203**	*e*S		**Sn**	**06 36 59.5**	**-0.1**
ECPR	**Experimental S**	**1.67**	**221**	⇑*e*P		**Pb**	**06 36 41.9**	**-0.6**
ECPR	**Experimental S**	**1.67**	**221**	*e*S		**Sn**	**06 37 02.6**	**+0.2**
EMPR	**Esperanza - Ma**	**1.67**	**229**	Pn		**Pb**	**06 36 41.9**	**-0.6**
EMPR				IAML			06 36 54.8	
	comp=N,117nm,0.6s							
EMPR				IAML			06 37 16.0	
	comp=E,140nm,1.1s							
SJG	**San Juan**	**1.72**	**212**			**Pn**	**06 36 42.4**	**+0.8**
SJG				IAML			06 37 11.0	
	comp=E,44nm,0.5s							
SJG				IAML			06 37 34.7	
	comp=E,55nm,0.2s							
SJG	**San Juan**	**1.72**	**212**	*e*P		**Pn**	**06 36 42.4**	**+0.8**
PDPR	**Patillas Dam,**	**1.74**	**207**			**Pn**	**06 36 42.3**	**+0.4**
PDPR	**Patillas Dam,**	**1.74**	**207**	⇓*e*P		**Pb**	**06 36 42.8**	**-0.9**
IGPR	**InterUniversit**	**1.82**	**208**			**Pn**	**06 36 44.1**	**+1.0**
IGPR						**Sn**	**06 37 05.8**	**-0.3**
IGPR	**InterUniversit**	**1.82**	**208**	IAML			06 37 07.2	
	comp=E,87nm,0.3s							
IGPR				IAML			06 37 13.2	
	comp=N,79nm,0.2s							
IGPR	**InterUniversit**	**1.82**	**208**	⇓*e*P		**Pn**	**06 36 44.1**	**+1.0**
IGPR	**InterUniversit**	**1.82**	**208**	*e*S		**Sn**	**06 37 05.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.92**	**230**			**Pn**	**06 36 45.4**	**+1.0**
AOPR						**Sn**	**06 37 08.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.92**	**230**	IAML			06 37 11.5	
	comp=N,118nm,0.5s							
AOPR	**Arecibo Observ**	**1.92**	**230**	*e*P		**Pn**	**06 36 45.3**	**+0.9**
AOPR	**Arecibo Observ**	**1.92**	**230**	⇓*e*P		**Pn**	**06 36 45.4**	**+1.0**
AOPR	**Arecibo Observ**	**1.92**	**230**	*e*S		**Sn**	**06 37 08.1**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.95**	**228**			**Pn**	**06 36 45.9**	**+1.0**
UUPR						**Sn**	**06 37 09.8**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.95**	**228**	⇓*e*P		**Pn**	**06 36 45.9**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.95**	**228**	*e*S		**Sn**	**06 37 09.8**	**+0.4**
CELP	**Cerrillos**	**1.99**	**221**			**Pn**	**06 36 46.5**	**+1.2**
CELP						**Sn**	**06 37 08.9**	**-1.3**
CELP	**Cerrillos**	**1.99**	**221**	IAML			06 37 24.4	
	comp=N,28nm,0.6s							
CELP	**Cerrillos**	**1.99**	**221**	⇓*e*P		**Pn**	**06 36 46.5**	**+1.2**
CELP	**Cerrillos**	**1.99**	**221**	*e*S		**Sn**	**06 37 08.9**	**-1.3**
OBIP	**Obispado Ponce**	**2.03**	**221**			**Pn**	**06 36 46.1**	**+0.2**
OBIP						**Sn**	**06 37 10.2**	**-1.0**
OBIP	**Obispado Ponce**	**2.03**	**221**	IAML			06 37 21.6	
	comp=E,43nm,1.0s							
OBIP	**Obispado Ponce**	**2.03**	**221**	⇑*e*P		**Pn**	**06 36 46.1**	**+0.2**
OBIP	**Obispado Ponce**	**2.03**	**221**	*e*S		**Sn**	**06 37 10.2**	**-1.0**
AGPR	**Aguadilla, PR**	**2.12**	**239**	Pn		**Pn**	**06 36 48.7**	**+1.5**
AGPR				IAML			06 37 33.9	
	comp=E,69nm,1.9s							
AGPR				IAML			06 37 41.1	
	comp=N,96nm,1.9s							
LSP	**Las Mesas**	**2.27**	**232**			**Pn**	**06 36 50.5**	**+1.3**
LSP						**Sn**	**06 37 17.1**	**0.0**
LSP	**Las Mesas**	**2.27**	**232**	⇑*e*P		**Pn**	**06 36 50.5**	**+1.3**
LSP	**Las Mesas**	**2.27**	**232**	*e*S		**Sn**	**06 37 17.1**	**0.0**
PRSN	**Puerto Rico Se**	**2.29**	**234**	Pn		**Pn**	**06 36 50.6**	**+1.1**
MLPR	**Magueyes Islan**	**2.37**	**228**	⇑*e*P		**Pn**	**06 36 52.0**	**+1.4**
MLPR	**Magueyes Islan**	**2.37**	**228**	*e*S		**Sn**	**06 37 18.7**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.39**	**229**			**Pn**	**06 36 52.5**	**+1.6**
CRPR						**Sn**	**06 37 19.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**2.39**	**229**	IAML			06 37 33.5	
	comp=E,34nm,2.9s							
CRPR				IAML			06 37 52.9	
	comp=N,29nm,2.4s							
CRPR	**Cabo Rojo, PR**	**2.39**	**229**	⇓*e*P		**Pn**	**06 36 52.5**	**+1.6**
CRPR	**Cabo Rojo, PR**	**2.39**	**229**	*e*S		**Sn**	**06 37 19.5**	**-0.7**
PCDR	**Punta Cana, DR**	**3.19**	**251**			**Pn**	**06 37 01.4**	**-0.5**
PCDR	**Punta Cana, DR**	**3.19**	**251**	⇑*e*P		**Pn**	**06 37 01.4**	**-0.5**
ANBD	**Bethesda, Anti**	**4.13**	**127**	*e*P		**Pn**	**06 37 16.4**	**+1.7**
ANBD	**Bethesda, Anti**	**4.13**	**127**	*e*S		**Sn**	**06 38 02.9**	**-0.1**
SDDR	**Presa de Saban**	**5.78**	**265**	Pn		**Pn**	**06 37 39.9**	**+2.4**

*IDC **27** 06:37:51.3±2.1, 23°.89S×66°.82W, h178km±28km, mb3.4/2, mbtmp3.7/6, MS4.2/1, Error ellipse: s-maj=39.6km s-min=16.9km az=103.0*

*GUC **27** 06:37:54.2±0.6, 24°.00S×67°.25W, h243km±6km, ML3.6*

ISC 27 06:37:51.6±0.9, 24°.02S±0°.06×66°.75W±0°.08, h200km, n14, σ2=50/21, 4C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.69**	**309**	*i* S		**Sn**	**06 38 58.3**	**+3.3**
GO02	**Mina Guanaco**	**2.82**	**246**	⇑*i* P		**Pn**	**06 38 40.4**	**+1.0**
GO02				*i* S		**Sn**	**06 39 16.4**	**-0.4**
GO02				IAML			06 39 17.4	
	comp=N

JMA Felt IV J1 at HYUGANADA REGION .

NEIC ***27*** *06:38:03.6±2.9, 32°.15N±0°.06×132°.11E±0°.06, h19km±1km, mb5.2/342, Mww5.3/25, Error ellipse: s-maj=9.8km s-min=8.8km az=163.0*

NIED ***27*** *06:38:03.3, 32°.17N×132°.15E, h21km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr4.83; Mθθ0.40; Mφφ-5.24; Mrθ3.99; Mθφ-4.95; Mφr5.98; Fault plane solution: M0 9.68000×10^16^ NP1: φs202.00000°, δ21.00000°, λ78.00000°. NP2: φs34.00000°, δ69.00000°, λ94.00000°.*

GCMT ***27*** *06:38:05.6±0.1, 32°.09N±0°.01×132°.13E±0°.01, h30km, MW5.4/126, Moment Tensor Solution. s119, c209; s126, c240; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.04±.02; Mθθ-0.32±.01; Mφφ-0.71±.01; Mrθ0.54±.02; Mθφ-0.51±.01; Mφr0.79±.02; Best double couple: M0 1.42100×10^17^ NP1: φs215.00000°, δ24.00000°, λ90.00000°. NP2: φs34.00000°, δ66.00000°, λ90.00000°. Principal axes: T 1.4090, Plg69.0000°, Azm304.0000°; N 0.0290, Plg0.0000°, Azm34.0000°; P -1.4340, Plg21.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***27*** *06:38:06.9±1.4, 32°.22N×131°.94E, h54km±11km, mb4.5/42, mbtmp4.7/48, MS4.8/75 Error ellipse: s-maj=11.6km s-min=9.3km az=82.0*

ISC 27 06:38:04.1±0.4, 32°.15N±0°.03×132°.14E±0°.03, h31km±2km, h31km; pP-P, n1005, σ1974/845, mb5.2/280, MS5.2/119, 39C-47D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.52**	**305**	⇓P	**Pb**	**06 38 13.4**	**-1.5**
JHHC				⇓S	**Sb**	**06 38 20.7**	**-1.6**
JHHC	**Hyugahichiya**	**0.52**	**305**	A	A	06 38 13.4	
	comp=N,341nm,0.6s,comp=E,218nm,3.4s						
JTSN	**Tsuno**	**0.55**	**280**	⇓*i*P	**Pb**	**06 38 13.9**	**-1.5**
JTSN				⇓S	**Sb**	**06 38 21.6**	**-1.5**
JTSN	**Tsuno**	**0.55**	**280**	A	A	06 38 13.9	
	comp=N,265nm,2.1s,comp=E,213nm,5.5s						
JSKE	**Saikikamae**	**0.68**	**343**	⇓*i*P	**Pb**	**06 38 16.3**	**-1.2**
JSKE				⇓S	**Sb**	**06 38 25.7**	**-1.0**
JSKE	**Saikikamae**	**0.68**	**343**	A	A	06 38 16.3	
	comp=N,230nm,1.3s,comp=E,421nm,2.8s						
JKIT	**Kitakata**	**0.75**	**309**	⇓P	**Pb**	**06 38 17.4**	**-1.4**
JKIT				⇓*e*S	**Sb**	**06 38 27.7**	**-1.1**
JKIT	**Kitakata**	**0.75**	**309**	A	A	06 38 17.4	
	comp=N,344nm,1.3s,comp=E,261nm,0.4s						
JNKG	**Nichinankitago**	**0.81**	**233**	A	A	06 38 18.7	
	comp=N,180nm,2.7s,comp=E,116nm,4.9s						
JTO	**Tosashimizu**	**0.90**	**38**	⇓*i*P	**Pn**	**06 38 19.6**	**-1.1**
JTO				⇓*e*S	**Sn**	**06 38 31.5**	**-1.2**
JTO	**Tosashimizu**	**0.90**	**38**	A	A	06 38 19.6	
	comp=N,181nm,4.9s,comp=E,170nm,3.7s						
JTZ	**Takazaki**	**0.93**	**255**	P	**Pb**	**06 38 21.0**	**-0.8**
JTZ	**Takazaki**	**0.93**	**255**	A	A	06 38 21.0	
	comp=N,160nm,3.8s,comp=E,189nm,2.1s						
JNAR	**Kushima--Naru**	**0.97**	**230**	P	**Pb**	**06 38 21.9**	**-0.5**
JNAR	**Kushima--Naru**	**0.97**	**230**	A	A	06 38 21.9	
	comp=N,255nm,3.3s,comp=E,204nm,4.8s						
JUS	**Usuki**	**0.97**	**340**	⇓*i*P	**Pn**	**06 38 21.3**	**-0.4**
JUS				⇓*e*S	**Sb**	**06 38 34.5**	**-0.5**
JUS	**Usuki**	**0.97**	**340**	A	A	06 38 21.3	
	comp=N,278nm,1.8s,comp=E,416nm,1.9s						
UWA2	**Uwa jima 2**	**1.14**	**21**	P	**Pn**	**06 38 23.4**	**-0.6**
UWA2	**Uwa jima 2**	**1.14**	**21**	A	A	06 38 23.4	
	comp=N,92nm,4.6s,comp=E,114nm,4.1s						
JIU3	**Izumi3**	**1.19**	**290**	⇓P	**Pn**	**06 38 24.7**	**-0.1**
JIU3	**Izumi3**	**1.19**	**290**	A	A	06 38 24.7	
	comp=N,196nm,2.3s,comp=E,238nm,2.3s						
JZO	**Okuchi**	**1.31**	**270**	A	A	06 38 26.7	
	comp=N,130nm,2.0s,comp=E,214nm,1.8s						
JBEP	**Beppuamama**	**1.33**	**333**	A	A	06 38 26.8	
	comp=N,545nm,2.2s,comp=E,443nm,1.5s						
JKU	**Kubokawa**	**1.39**	**34**	P	**Pn**	**06 38 27.2**	**-0.2**
JKU	**Kubokawa**	**1.39**	**34**	A	A	06 38 27.2	
	comp=N,62nm,1.2s,comp=E,88nm,2.7s						
JTSR	**Tashiro 2**	**1.43**	**227**	A	A	06 38 28.6	
	comp=N,84nm,4.4s,comp=E,68nm,3.2s						
JNA	**Nagahama**	**1.43**	**11**	P	**Pn**	**06 38 27.8**	**-0.3**
JNA	**Nagahama**	**1.43**	**11**	A	A	06 38 27.8	
	comp=N,59nm,1.4s,comp=E,76nm,1.3s						
JNU	**Nakatsue**	**1.44**	**313**	Pn	**Pb**	**06 38 29.3**	**-1.1**
JNU	**Nakatsue**	**1.44**	**313**	P	**Pb**	**06 38 29.7**	**-0.7**
	comp=E,31μm,0.9s,baz=127,slow=9.2,SNR=3240						
JNU				S	**Sb**	**06 38 48.9**	**+0.5**
	comp=E,35μm,0.6s,baz=136,slow=4.3,SNR=18						
JNU	**Nakatsue**	**1.44**	**313**	P	**Pb**	**06 38 29.5**	**-0.9**
JNU	**Nakatsue**	**1.44**	**313**	A	A	06 38 28.6	
	comp=N,169nm,2.5s,comp=E,171nm,2.0s						
JKI	**Kunimi**	**1.56**	**342**	A	A	06 38 30.2	
	comp=N,291nm,0.9s,comp=E,255nm,2.6s						
JSU	**Suzuyama**	**1.57**	**246**	A	A	06 38 30.8	
	comp=N,63nm,5.2s,comp=E,49nm,8.6s						
JTA	**Tamana**	**1.58**	**301**	A	A	06 38 30.7	
	comp=N,146nm,1.9s,comp=E,246nm,3.6s						
JHD	**Hondo**	**1.73**	**281**	A	A	06 38 33.0	
	comp=N,92nm,2.6s,comp=E,183nm,1.9s						
JKHR	**Kochiharuno**	**1.77**	**40**	A	A	06 38 33.3	
	comp=N,71nm,3.0s,comp=E,53nm,1.7s						
JTN	**Tanegashima 3**	**1.79**	**214**	A	A	06 38 34.0	
	comp=N,47nm,3.2s,comp=E,46nm,8.6s						
JET	**Tanbara**	**1.79**	**25**	A	A	06 38 33.6	
	comp=N,88nm,1.3s,comp=E,59nm,1.9s						
JKD	**Kudamatsu**	**1.91**	**353**	A	A	06 38 35.4	
	comp=N,69nm,1.8s,comp=E,88nm,4.6s						
JFA	**Akaike**	**1.93**	**324**	A	A	06 38 35.7	
	comp=N,89nm,1.4s,comp=E,76nm,3.0s						
JFI	**Itaya**	**1.95**	**311**	A	A	06 38 36.1	
	comp=N,95nm,3.2s,comp=E,64nm,5.2s						
NGSJ	**Nagasakinomoza**	**2.04**	**284**	A	A	06 38 37.5	
	comp=N,72nm,5.3s,comp=E,58nm,4.5s						
JMTN	**Minamitane**	**2.04**	**212**	A	A	06 38 37.7	
	comp=N,46nm,3.9s,comp=E,64nm,4.4s						
JUR	**Ureshino**	**2.08**	**298**	A	A	06 38 38.0	
	comp=N,78nm,2.3s,comp=E,188nm,2.2s						
MRT2	**Murotomisaki 2**	**2.09**	**53**	A	A	06 38 37.9	
	comp=N,35nm,4.2s,comp=E,27nm,5.8s						
JSJ	**Shimokoshiki**	**2.12**	**258**	A	A	06 38 38.7	
	comp=N,29nm,1.7s,comp=E,32nm,4.8s						
JMN	**Monobe**	**2.15**	**42**	Pn	**Pn**	**06 38 39.1**	**+1.2**
JMN	**Monobe**	**2.15**	**42**	P	**Pn**	**06 38 39.2**	**+1.3**
JMN	**Monobe**	**2.15**	**42**	A	A	06 38 38.7	
	comp=N,54nm,1.7s,comp=E,48nm,3.5s						
JTY	**Toyota**	**2.29**	**337**	A	A	06 38 41.0	
	comp=N,99nm,1.0s,comp=E,106nm,3.4s						
JYAK	**Yakushimahirau**	**2.36**	**217**	A	A	06 38 42.3	
	comp=N,30nm,4.5s,comp=E,39nm,4.8s						
JKC	**Kuchinoerabu**	**2.37**	**225**	A	A	06 38 42.3	
	comp=N,36nm,4.2s,comp=E,23nm,3.2s						
JHIK	**Hikimi**	**2.38**	**356**	A	A	06 38 42.2	
	comp=N,35nm,2.9s,comp=E,56nm,3.5s						
JHT	**Toyohira**	**2.52**	**5**	A	A	06 38 44.1	
	comp=N,37nm,1.5s,comp=E,52nm,6.0s						
JMAF	**Mimaanabuki**	**2.53**	**41**	A	A	06 38 44.3	
	comp=N,37nm,4.4s,comp=E,33nm,1.7s						
JAI	**Aioi**	**2.54**	**49**	A	A	06 38 44.4	
	comp=N,30nm,5.1s,comp=E,14nm,5.3s						
JII	**Iki**	**2.61**	**310**	A	A	06 38 45.6	
	comp=N,179nm,2.2s,comp=E,136nm,1.8s						
JJG	**Jouge**	**2.62**	**19**	A	A	06 38 45.6	
	comp=N,41nm,2.3s,comp=E,76nm,3.1s						
JJS	**Sakaide**	**2.68**	**34**	A	A	06 38 46.4	
	comp=N,51nm,1.8s,comp=E,50nm,3.9s						
JHGM	**Hagimishima**	**2.76**	**343**	A	A	06 38 47.5	
	comp=N,78nm,1.3s,comp=E,70nm,6.8s						
JFU	**Fukue jima 2**	**2.91**	**281**	A	A	06 38 50.0	
	comp=N,26nm,2.3s,comp=E,49nm,3.2s						
JGT2	**ShimaneMisato**	**2.92**	**6**	A	A	06 38 49.8	
	comp=N,29nm,1.5s,comp=E,69nm,4.3s						
JHS	**Saijyo**	**2.96**	**16**	A	A	06 38 50.3	
	comp=N,24nm,1.2s,comp=E,74nm,2.6s						
JTSM	**Tsushimamitsus**	**3.18**	**314**	A	A	06 38 53.6	
	comp=N,37nm,3.1s,comp=E,36nm,3.5s						
JAD	**Aida**	**3.26**	**31**	A	A	06 38 54.6	
	comp=N,31nm,2.4s,comp=E,40nm,3.3s						
JAWN	**Awajishima-nag**	**3.28**	**44**	A	A	06 38 55.0	
	comp=N,30nm,4.4s,comp=E,23nm,5.9s						
JTU	**Tsushima**	**3.30**	**317**	P	**Pn**	**06 38 55.1**	**+1.5**
JTU	**Tsushima**	**3.30**	**317**	A	A	06 38 55.4	
	comp=N,36nm,1.7s,comp=E,30nm,2.1s						
JISK	**Izumosakaura**	**3.39**	**10**	A	A	06 38 56.5	
	comp=N,65nm,1.7s,comp=E,65nm,3.0s						
JNM	**Ikuma**	**3.42**	**12**	A	A	06 38 56.9	
	comp=N,50nm,1.5s,comp=E,71nm,1.6s						
JKR	**Kurayoshi**	**3.51**	**23**	A	A	06 38 58.2	
	comp=N,40nm,1.4s,comp=E,49nm,4.1s						
JMIK	**Miki**	**3.60**	**42**	A	A	06 38 59.4	
	comp=N,28nm,1.6s,comp=E,31nm,4.0s						
JKS	**Kasai**	**3.62**	**38**	A	A	06 38 59.7	
	comp=N,21nm,1.6s,comp=E,17nm,5.3s						
JKSM	**Kasumi**	**4.02**	**31**	A	A	06 39 05.4	
	comp=N,28nm,4.4s,comp=E,29nm,2.3s						
JWT	**Wachi**	**4.14**	**40**	A	A	06 39 07.1	
	comp=N,15nm,5.6s,comp=E,11nm,3.4s						
JOI	**OKI**	**4.23**	**12**	A	A	06 39 08.4	
	comp=N,39nm,1.2s,comp=E,84nm,1.5s						
JKY	**Yasaka**	**4.25**	**35**	A	A	06 39 08.7	
	comp=N,52nm,1.9s,comp=E,37nm,1.4s						
INU	**Inuyama**	**5.16**	**51**	Pn	**Pn**	**06 39 20.6**	**+1.3**
INU	**Inuyama**	**5.16**	**51**	P	**Pn**	**06 39 20.9**	**+1.6**
JGF	**Kuroka**	**5.54**	**50**	Pn	**Pn**	**06 39 25.5**	**+1.0**
JGF	**Kuroka**	**5.54**	**50**	P	**Pn**	**06 39 25.6**	**+1.1**
TJN	**Taejon**	**5.78**	**318**	Pn	**Pn**	**06 39 28.8**	**+1.0**
TJN	**Taejon**	**5.78**	**318**	P	**Pn**	**06 39 28.9**	**+1.1**
TJN	**Taejon**	**5.78**	**318**	⇓*e*P	**Pn**	**06 39 28.9**	**+1.1**
JOW	**Kunigami**	**6.28**	**213**		**Pn**	**06 39 35.9**	**+1.2**
JOW	**Kunigami**	**6.28**	**213**	P	**Pn**	**06 39 35.0**	**+0.3**
	comp=E,13nm,0.2s,baz=46,slow=18,SNR=7.1						
JOW				S	**Sn**	**06 40 39.9**	**-5.4**
	comp=E,58nm,0.3s,baz=116,slow=26,SNR=7.4						
JOW	**Kunigami**	**6.28**	**213**	P	**Pn**	**06 39 37.4**	**+2.7**
KSRS	**Korea Array**	**6.33**	**328**	P	**Pn**	**06 39 36.7**	**+1.5**
	comp=E,32nm,0.4s,baz=146,slow=14,SNR=56						
KSAR	**Wonju Array Be**	**6.33**	**328**	Pn	**Pn**	**06 39 36.5**	**+1.1**
KSAR	**Wonju Array Be**	**6.33**	**328**	P	**Pn**	**06 39 36.5**	**+1.1**
JMZ	**Minamidaito 2**	**6.36**	**187**	Pn	**Pn**	**06 39 37.8**	**+2.1**
JMZ	**Minamidaito 2**	**6.36**	**187**	P	**Pn**	**06 39 39.2**	**+3.5**
KS19	**Wonju Array Si**	**6.39**	**328**		**Pn**	**06 39 36.8**	**+0.7**
JHJ	**Hachijo jima 2**	**6.52**	**79**	P	**Pn**	**06 39 38.2**	**+0.3**
	comp=E,179nm,0.3s,baz=77,slow=18,SNR=15						
JHJ				LR	LR	06 42 19.4	
	comp=E,8μm,18.6s,baz=276,slow=38						
JHJ2	**Mitsune**	**6.54**	**80**	Pn	**Pn**	**06 39 38.5**	**+0.2**
MAJO	**Matsushiro**	**6.66**	**47**	Pn	**Pn**	**06 39 41.1**	**+1.2**
MAJO	**Matsushiro**	**6.66**	**47**	P	**Pn**	**06 39 41.0**	**+1.2**
MAJO	**Matsushiro**	**6.66**	**47**	*de*P	**Pn**	**06 39 41.0**	**+1.2**
MJAR	**Matsushiro Arr**	**6.66**	**47**	P	**Pn**	**06 39 41.9**	**+2.0**
	comp=E,24nm,0.7s,baz=240,slow=14,SNR=47						
MJAR				LR	LR	06 43 00.7	
	comp=E,4μm,18.2s,baz=225,slow=44						
MJB9	**Matsu-Tunnel**	**6.66**	**47**	Pn	**Pn**	**06 39 42.3**	**+2.4**
INCN	**Inchon**	**6.99**	**321**	Pn	**Pn**	**06 39 45.5**	**+1.1**
INCN	**Inchon**	**6.99**	**321**	P	**Pn**	**06 39 45.5**	**+1.1**
JMM	**Marumori**	**9.10**	**49**		**Pn**	**06 40 15.7**	**+2.4**
SSE	**Sheshan**	**9.40**	**266**	P	**Pn**	**06 40 17.5**	**+0.1**
SSE				S	**Sn**	**06 42 01.8**	**-0.3**
SSE				pmax	pmax		
	comp=E,9.0nm,0.6s						
SSE				LR	LR		
	comp=E,5μm,13.6s						
SSE				LR	LR		
	comp=E,8μm,14.3s						
JCJ	**Chichijima**	**10.08**	**117**	LR	LR	06 43 51.5	
	comp=E,6μm,20.4s,baz=305,slow=34						
MSHR	**Mys Shultsa**	**10.44**	**356**	⇓*e*P	**Pn**	**06 40 32.3**	**+0.7**
PSTR	**Posyet**	**10.54**	**355**	⇓*e*P	**Pn**	**06 40 35.3**	**+2.4**
DL2	**Dalian**	**10.89**	**311**	P	**Pn**	**06 40 40.3**	**+2.4**
DL2				S	**Sn**	**06 42 46.0**	**+7.3**
DL2				pmax	pmax		
	comp=E,93nm,0.9s						
DL2				pmax	pmax		
	comp=E,1μm,6.7s						
DL2				LR	LR		
	comp=E,16μm,15.3s						
DL2				LR	LR		
	comp=E,16μm,15.4s						
DL2				LR	LR		
	comp=E,26μm,15.5s						
VLA	**Vladivostok**	**10.95**	**359**	⇓*e*P	Pn	06 40 43.2	+4.5
NJ2	**Nanjing**	**11.27**	**273**	⇑P	**Pn**	**06 40 46.0**	**+2.9**
NJ2				PP	**PnPn**	**06 40 55.5**	**+4.8**
NJ2				S	**Sn**	**06 42 47.5**	**-0.5**
NJ2				pmax	pmax		
	comp=E,340nm,1.6s						
NJ2				LR	LR		
	comp=E,23μm,11.2s						
NJ2				LR	LR		
	comp=E,42μm,12.6s						
NJ2				LR	LR		
	comp=E,48μm,13.1s						
SNY	**Shenyang**	**11.83**	**327**	⇑P	Pn	06 40 55.5	+4.8
SNY				S	**Sn**	**06 43 06.8**	**+5.2**
SNY				pmax	pmax		
	comp=E,210nm,1.2s						
SNY				pmax	pmax		
	comp=E,890nm,3.8s						
SNY				LR	LR		
	comp=E,15μm,12.3s						
SNY				LR	LR		
	comp=E,18μm,13.9s						
SNY				LR	LR		
	comp=E,31μm,13.5s						
USA0B	**Ussuriysk Arra**	**12.03**	**359**	Pn	**Pn**	**06 40 54.8**	**+1.4**
USA0B	**Ussuriysk Arra**	**12.03**	**359**	P	**Pn**	**06 40 54.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**12.03**	**359**	P	**Pn**	**06 40 56.2**	**+2.8**
	comp=E,2.1nm,0.6s,baz=183,slow=14,SNR=7.0						
USRK				LR	LR	06 45 16.2	
	comp=E,7μm,18.5s,baz=178,slow=36						
MDJ	**Mudanjiang**	**12.61**	**352**		**Pn**	**06 41 03.2**	**+1.9**
MDJ	**Mudanjiang**	**12.61**	**352**	P	**Pn**	**06 41 05.5**	**+4.2**
MDJ				sP	P	06 41 11.5	-0.8
MDJ				S	**Sn**	**06 43 24.5**	**+4.0**
MDJ				pmax	pmax		
	comp=E,55nm,1.1s						
MDJ				pmax	pmax		
	comp=E,1μm,9.6s						
MDJ				LR	LR		
	comp=E,7μm,17.2s						
MDJ				LR	LR		
	comp=E,7μm,15.1s						
MDJ				LR	LR		
	comp=E,9μm,15.5s						
CN2	**Changchun**	**12.77**	**338**	*e*P	**Pn**	**06 41 06.5**	**+3.0**
CN2				*e*PP	**P**	**06 41 17.3**	**+3.1**
CN2				*e*S	**Sn**	**06 43 26.3**	**+1.8**
CN2				pmax	pmax		
	comp=E,30nm,1.6s						
CN2				pmax	pmax		
	comp=E,800nm,5.0s						
CN2				LR	LR		
	comp=E,10μm,11.0s						
CN2				LR	LR		
	comp=E,10μm,11.0s						
CN2				LR	LR		
	comp=E,12μm,12.0s						
SSLB	**Suanglung**	**12.92**	**233**	Pn	**Pn**	**06 41 05.6**	**-0.1**
YULB	**Yu-li**	**12.96**	**230**	Pn	**Pn**	**06 41 06.6**	**+0.3**
TIA	**Tai'an**	**13.08**	**292**	P	**Pn**	**06 41 10.3**	**+2.6**
TIA				S	**Sn**	**06 43 39.0**	**+6.9**
TIA				ScS	**ScS**	**06 53 45.5**	**-1.0**
TIA				pmax	pmax		
	comp=E,57nm,1.4s						
TIA				pmax	pmax		
	comp=E,3μm,12.0s						
TIA				LR	LR		
	comp=E,16μm,12.7s						
TIA				LR	LR		
	comp=E,18μm,14.7s						
TIA				LR	LR		
	comp=E,28μm,13.7s						
TEY	**Ternei**	**13.33**	**14**	⇑*e*P	**Pn**	**06 41 14.6**	**+3.5**
TEY				*e*		06 43 50.7	
TEY				pmax	pmax		
	comp=N,30nm,1.1s						
TEY				pmax	pmax		
	comp=Z,30nm,1.1s						
QZH	**Quanzhou**	**13.90**	**242**	P	**Pn**	**06 41 19.3**	**+0.3**
QZH				sP	**P**	**06 41 31.0**	**+4.2**
QZH				S	**Sn**	**06 43 59.5**	**+7.3**
QZH				SS	**S**	**06 44 11.5**	**-2.0**
QZH				pmax	pmax		
	comp=Z,850nm,7.4s						
QZH				LR	LR		
	comp=Z,12μm,14.4s						
QZH				LR	LR		
	comp=Z,14μm,13.7s						
QZH				LR	LR		
	comp=Z,21μm,14.2s						
BNX	**BinXian**	**14.06**	**346**	⇓P	**Pn**	**06 41 24.0**	**+2.9**
BNX				S	**Sn**	**06 43 56.8**	**+0.9**
BNX				pmax	pmax		
	comp=Z,20nm,1.3s						
BNX				pmax	pmax		
	comp=Z,960nm,8.7s						
BNX				LR	LR		
	comp=Z,7μm,11.8s						
BNX				LR	LR		
	comp=Z,7μm,10.8s						
BNX				LR	LR		
	comp=Z,10μm,15.4s						
ASAJ	**Asahikawa**	**14.49**	**31**	P	**Pn**	**06 41 27.9**	**+1.0**
	comp=Z,10nm,0.8s,baz=222,slow=23,SNR=4.4						
ASAJ	**Asahikawa**	**14.49**	**31**	P	**Pn**	**06 41 28.0**	**+1.0**
BJT	**Baijiatuau**	**15.10**	**306**	Pn	**Pn**	**06 41 36.3**	**+1.1**
BJT	**Baijiatuau**	**15.10**	**306**	P	**Pn**	**06 41 36.3**	**+1.1**
BJT				pmax	pmax		
	comp=Z,84nm,1.1s						
BJI	**Beijing**	**15.11**	**306**	P	**Pn**	**06 41 35.8**	**+0.6**
BJI				pP	**P**	**06 41 42.0**	**+1.9**
BJI				sP	**sP**	**06 41 50.0**	**-2.0**
BJI				S	**Sn**	**06 44 24.8**	**+3.3**
BJI				pmax	pmax		
	comp=Z,56nm,1.4s						
BJI				pmax	pmax		
	comp=Z,680nm,10.5s						
BJI				LR	LR		
	comp=Z,4μm,17.1s						
BJI				LR	LR		
	comp=Z,5μm,15.7s						
BJI				LR	LR		
	comp=Z,10μm,15.6s						
HNS	**HongShan**	**15.25**	**295**	*e*P	**Pn**	**06 41 37.5**	**+0.3**
HNS				PP	**pP**	**06 41 47.8**	**-1.9**
HNS				S	**Sn**	**06 44 32.0**	**+7.0**
HNS				SS	**S**	**06 44 44.0**	**+3.0**
HNS				LR	LR		
	comp=Z,19μm,13.5s						
HNS				LR	LR		
	comp=Z,20μm,14.7s						
HNS				LR	LR		
	comp=Z,23μm,14.5s						
WHN	**Wuhan**	**15.29**	**269**	⇑P	**Pn**	**06 41 37.3**	**-0.4**
WHN				sP	**pP**	**06 41 50.0**	**-0.2**
WHN				pmax	pmax		
	comp=Z,210nm,1.3s						
WHN				LR	LR		
	comp=Z,11μm,9.1s						
WHN				LR	LR		
	comp=Z,57μm,11.4s						
WHN				LR	LR		
	comp=Z,76μm,13.1s						
LYN	**LuoYang**	**16.61**	**284**	⇑P	**Pn**	**06 41 55.0**	**+0.3**
LYN				sP	sP	06 42 06.8	-1.9
LYN				PP	**pP**	**06 42 09.8**	**+4.8**
LYN				S	**Sn**	**06 45 01.0**	**+2.8**
LYN				pmax	pmax		
	comp=Z,160nm,1.1s						
LYN				pmax	pmax		
	comp=Z,2μm,5.9s						
LYN				LR	LR		
	comp=Z,9μm,12.4s						
LYN				LR	LR		
	comp=Z,18μm,13.5s						
LYN				LR	LR		
	comp=Z,22μm,16.5s						
YSS	**Yuzhno-Sakhali**	**16.87**	**26**	*e*P	**P**	**06 42 00.8**	**+1.1**
YSS				*e*S	**S**	**06 45 09.3**	**-4.8**
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,3μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,13.0s						
KLR	**Kul'dur**	**17.07**	**359**	P	**P**	**06 42 02.2**	**+0.4**
	comp=E,122nm,0.7s,baz=168,slow=8.7,SNR=222						
KLR				LR	LR	06 48 24.0	
	comp=E,3μm,18.4s,baz=178,slow=36						
KLR	**Kul'dur**	**17.07**	**359**	*c*P	**P**	**06 42 02.0**	**+0.2**
KLR				pmax	pmax		
	comp=Z,468nm,1.7s						
CNSH	**ChangSha**	**17.07**	**262**	P	**Pn**	**06 42 00.0**	**-0.6**
CNSH				S	**Sn**	**06 45 11.5**	**+2.0**
CNSH				pmax	pmax		
	comp=Z,75nm,1.3s						
CNSH				LR	LR		
	comp=Z,5μm,15.3s						
CNSH				LR	LR		
	comp=Z,8μm,14.1s						
CNSH				LR	LR		
	comp=Z,10μm,13.8s						
TIY	**Taiyuan**	**17.08**	**294**	P	**P**	**06 42 01.5**	**-0.6**
TIY				pP	**pP**	**06 42 09.3**	**-0.8**
TIY				S	**S**	**06 45 19.0**	**+0.4**
TIY				pmax	pmax		
	comp=Z,91nm,1.0s						
TIY				pmax	pmax		
	comp=Z,2μm,8.0s						
TIY				LR	LR		
	comp=Z,8μm,15.5s						
TIY				LR	LR		
	comp=Z,15μm,13.0s						
TIY				LR	LR		
	comp=Z,16μm,14.8s						
XLT	**XiLinHaoTe**	**17.22**	**318**	*e*P	**P**	**06 42 04.3**	**+0.6**
XLT				pP	sP	06 42 14.3	-1.1
XLT				S	**S**	**06 45 17.5**	**-3.9**
XLT				pmax	pmax		
	comp=Z,51nm,0.9s						
XLT				LR	LR		
	comp=Z,17μm,13.2s						
XLT				LR	LR		
	comp=Z,25μm,12.9s						
KUR	**Kuril'sk**	**17.88**	**39**	*e*P	**P**	**06 42 16.2**	**+5.3**
KUR				S	**S**	**06 45 35.0**	**+0.4**
KUR				MLR	MLR		
	comp=Z,3μm,12.0s						
HEH	**HeiHe**	**18.43**	**350**	*e*P	**Pn**	**06 42 18.0**	**+1.0**
HEH				pP	**sP**	**06 42 26.8**	**-1.7**
HEH				sP	**pP**	**06 42 31.0**	**+6.3**
HEH				S	**S**	**06 45 48.0**	**+2.5**
HEH				sS	**sS**	**06 45 58.3**	**+0.3**
HEH				pmax	pmax		
	comp=Z,150nm,1.7s						
HEH				pmax	pmax		
	comp=Z,1μm,6.2s						
HEH				LR	LR		
	comp=Z,4μm,15.7s						
HEH				LR	LR		
	comp=Z,5μm,12.2s						
HEH				LR	LR		
	comp=Z,6μm,16.3s						
UGL	**Uglegorsk**	**18.48**	**21**	⇓P	**Pn**	**06 42 20.6**	**+2.9**
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
UGL				MLR	MLR		
	comp=N,2μm,15.0s				

comp=Z,3μm,14.0s
GZH Guangzhou 18.92 246 P P 06 42 16.5 -6.0
GZH S **Sn 06 45 45.8 -8.5**
GZH SS **SnSn 06 46 06.0 -2.3**
GZH pmax pmax
comp=Z,45nm,0.9s
GZH LR LR
comp=Z,12μm,13.9s
GZH LR LR
comp=Z,12μm,12.0s
GZH LR LR
comp=Z,22μm,14.7s
ENH Enshi 19.46 270 P P 06 42 27.5 -0.9
ENH IAmb IAmb 06 42 39.9
comp=Z,119nm,0.8s
HIA Hailar 19.47 335 Pn 06 42 29.2 -0.5
HIA Hailar 19.47 335 P Pn 06 42 29.2 -0.5
HIA pmax pmax
comp=Z,105nm,1.0s
XAN Xi'an 19.54 282 P P 06 42 28.8 -0.4
XAN pP sP 06 42 38.8 -2.3
XAN S **S 06 46 07.5 -0.8**
XAN sS sS 06 46 23.0 +2.0
XAN pmax pmax
comp=Z,84nm,1.5s
XAN pmax pmax
comp=Z,1μm,6.9s
XAN LR LR
comp=Z,10μm,14.3s
XAN LR LR
comp=Z,16μm,14.9s
XAN LR LR
comp=Z,21μm,14.1s
BTO Baotou 19.67 302 *e*P **Pn 06 42 32.5 +0.3**
BTO pP **sP 06 42 43.0 +0.5**
BTO sP pP 06 42 49.0 +10
BTO PP **PnPn 06 42 52.0 +5.9**
BTO S **S 06 46 10.0 -0.9**
BTO sS **sS 06 46 22.5 -1.2**
BTO SS **SnSn 06 46 34.3 +7.7**
BTO pmax pmax
comp=Z,68nm,1.0s
BTO pmax pmax
comp=Z,4μm,10.5s
BTO LR LR
comp=Z,15μm,16.6s
BTO LR LR
comp=Z,24μm,14.7s
BTO LR LR
comp=Z,32μm,13.4s
TYV Tymovskoe 20.25 20 *e*P Pn 06 42 39.6 +0.8
TYV *e*S Sn 06 46 24.2 -1.6
TYV pmax pmax
comp=Z,500nm,3.3s
TYV pmax pmax
comp=Z,22nm,1.2s
TYV smax smax
comp=N,1μm,7.0s
TYV smax smax
comp=E,1μm,7.0s
TYV MLR MLR
comp=E,4μm,14.0s
TYV MLR MLR
comp=Z,3μm,14.0s
GULI GuiLin 20.27 256 P Pn 06 42 38.3 -0.9
GULI pmax pmax
comp=Z,40nm,1.7s
GULI LR LR
comp=Z,4μm,13.4s
GULI LR LR
comp=Z,14μm,14.6s
TGY Tagaytay City 20.68 212 P Pn 06 42 42.9 -1.3
comp=Z,131nm,0.3s,baz=358,slow=20,SNR=3.6
TGY LR LR 06 52 22.3
comp=Z,798nm,18.3s,baz=64,slow=41
GUMO Guam 21.84 145 LR LR 06 50 32.6
comp=Z,2μm,18.9s,baz=338,slow=34
ZEA Zeya 21.86 352 *e*P **P 06 42 53.2 -0.9**
ZEA *e*S S 06 46 43.1 -11
ZEA pmax pmax
comp=E,100nm,3.3s
ZEA pmax pmax
comp=N,200nm,2.1s
ZEA pmax pmax
comp=Z,300nm,5.3s
ZEA pmax pmax
comp=N,40nm,1.5s
ZEA pmax pmax
comp=Z,70nm,1.1s
ZEA smax smax
comp=N,500nm,10.3s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=Z,2μm,17.0s
NKL Nikolayevsk 21.88 14 *e*P **P 06 42 53.4 -0.8**
NKL *e*S **S 06 46 52.4 -1.7**
NKL pmax pmax
comp=E,147nm,1.5s
NKL pmax pmax
comp=N,186nm,1.8s
NKL pmax pmax
comp=Z,374nm,1.8s
NKL smax smax
comp=E,382nm,6.0s
NKL smax smax
comp=N,113nm,3.0s
NKL MLR MLR
comp=E,6μm,12.0s
NKL MLR MLR
comp=N,9μm,18.0s
NKL MLR MLR
comp=Z,9μm,13.0s
LZH Lanzhou 23.72 287 *e*P **P 06 43 12.0 -1.6**
LZH pP pP 06 43 20.8 -1.3
LZH sP sP 06 43 28.5 +2.6
LZH PcP **PcP 06 46 58.3 +1.2**
LZH S S 06 47 16.0 -11
LZH sS sS 06 47 38.3 -3.4
LZH pmax pmax
comp=Z,77nm,1.5s
LZH pmax pmax
comp=Z,900nm,4.1s
LZH LR LR
comp=Z,5μm,12.4s
LZH LR LR
comp=Z,10μm,11.3s
LZH LR LR
comp=Z,13μm,11.7s
QIZ Qiongzhong 23.92 242 P **P 06 43 16.0 +0.5**
QIZ S **S 06 47 29.8 -0.2**
QIZ pmax pmax
comp=Z,400nm,11.3s
QIZ LR LR
comp=Z,4μm,13.1s
QIZ LR LR
comp=Z,3μm,11.7s
QIZ LR LR
comp=Z,7μm,15.1s
CIT Chita 24.05 331 *e*P **P 06 43 16.0 -0.4**
CIT *e* 06 43 25.1
CIT *e* 06 43 45.8
CIT *e* 06 43 52.3
CIT *e* 06 47 03.0
CIT pmax pmax
comp=Z,267nm,2.2s
CD2 Chengdu 24.20 275 P **P 06 43 16.0 -2.0**
CD2 PP **PnPn 06 43 54.5 +6.4**
CD2 S **S 06 47 26.5 -8.0**
CD2 sS pS 06 47 45.0 +0.9
CD2 pmax pmax
comp=Z,70nm,1.3s
CD2 pmax pmax
comp=Z,770nm,2.6s
CD2 LR LR
comp=Z,15μm,13.3s
CD2 LR LR
comp=Z,39μm,12.6s
ULN Ulaanbaatar 24.66 317 P **P 06 43 21.2 -1.0**
ULN Ulaanbaatar 24.66 317*c i*P **P 06 43 21.1 -1.1**
ULN pmax pmax
comp=Z,181nm,1.7s
SONM Songino Array 25.03 316 P **P 06 43 24.4 -1.0**
SONM IAmb IAmb 06 43 26.9
comp=Z,90nm,1.0s
SONM Songino Array 25.03 316 P **P 06 43 24.9 -0.6**
comp=Z,61nm,1.0s,baz=130,slow=8.5,SNR=158
SONM PcP **PcP 06 46 59.6 -0.1**
comp=Z,2.2nm,0.8s,baz=142,slow=2.2,SNR=3.2
SONM LR LR 06 53 47.8
comp=Z,5μm,21.2s,baz=124,slow=38
comp=Z,61nm,1.0s
DAV Davao City (W) 25.69 195 LR LR 06 54 43.0
comp=Z,1μm,19.5s,baz=23,slow=39
KMI Kunming 26.68 262 P **P 06 43 37.0 -3.8**
KMI PP **PnPn 06 44 26.3 +4.0**
KMI pmax pmax
comp=Z,32nm,1.3s
KMI pmax pmax
comp=Z,400nm,9.7s
KMI LR LR
comp=Z,5μm,10.5s
KMI LR LR
comp=Z,8μm,13.3s
KMI LR LR
comp=Z,9μm,12.5s
PZH PanZhiHua 27.04 266 P **P 06 43 43.8 -0.1**
PZH PP **PnPn 06 44 31.8 +4.7**
PZH S **S 06 48 20.0 +0.1**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,250nm,6.0s
PZH LR LR
comp=Z,3μm,14.7s
PZH LR LR
comp=Z,5μm,13.7s
PZH LR LR
comp=Z,4μm,15.2s
GTA Gaotai 27.11 295 *e*P **P 06 43 43.0 -1.4**
GTA pP pP 06 43 54.0 +0.9
GTA sP sP 06 43 59.8 +3.2
GTA PP **PnPn 06 44 29.3 +1.5**
GTA PcP **PcP 06 47 05.5 +0.8**
GTA S **S 06 48 17.5 -3.2**
GTA sS sS 06 48 35.5 0.0
GTA PcS **PcS 06 50 46.3 0.0**
GTA pmax pmax
comp=Z,14nm,1.6s
GTA pmax pmax
comp=Z,230nm,9.1s
GTA LR LR
comp=Z,2μm,20.4s
GTA LR LR
comp=Z,9μm,16.7s
GTA LR LR
comp=Z,11μm,16.4s
SLVN Son La 27.34 254 P **P 06 43 44.7 -1.8**
PEA0B Petropavlovsk- 27.89 34|| *e*P **P 06 43 50.6 -0.5**
PETK Petropavlovsk- 27.89 34 P **P 06 43 50.4 -0.6**
PETK Petropavlovsk- 27.89 34 P **P 06 43 51.7 +0.7**
comp=Z,2.7nm,0.5s,baz=107,slow=1.5,SNR=5.5
PETK PcP **PcP 06 47 06.2 +0.1**
comp=Z,2.1nm,0.9s,baz=278,slow=2.2,SNR=1.9
PETK LR LR 06 56 32.3
comp=Z,1μm,18.4s,baz=224,slow=40
comp=Z,2.7nm,0.5s
ZAK Zakamensk 28.06 319 *e*P **P 06 43 50.8 -2.0**
ZAK pmax pmax
comp=Z,24nm,1.3s
PET Petropavlovsk 28.29 35 *e*P P 06 44 00.0 +5.4
PET *e*S **S 06 48 39.2 +0.5**
PET pmax pmax
comp=Z,500nm,11.8s
PET pmax pmax
comp=Z,100nm,13.7s
PET MLR MLR
comp=Z,2μm,14.0s
PET MLR MLR
comp=Z,1μm,18.0s
BOD Bodaibo 28.51 340 *e*P **P 06 43 54.8 -1.7**
BOD pmax pmax
comp=Z,25nm,1.8s
UBPT Khong Chiam 29.51 242 P **P 06 44 04.8 -1.0**
KKM Kota Kinabalu 29.93 213 P **P 06 44 09.9 +0.3**
KKM IAmb IAmb 06 44 17.5
comp=Z,65nm,1.3s
YAK Yakutsk 29.94 358 LR LR 06 56 14.4
comp=Z,3μm,18.2s,baz=166,slow=36
YAK Yakutsk 29.94 358 *e*P **P 06 44 05.7 -3.4**
YAK *e**PP **pP 06 44 12.7 -5.0**
YAK *e* 06 47 08.4
YAK *e*S **S 06 49 01.1 -3.3**
YAK pmax pmax
comp=Z,15nm,0.7s
YAK pmax pmax
comp=N,11nm,1.8s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,373nm,7.7s
YAK pmax pmax
comp=N,177nm,6.6s
YAK pmax pmax
comp=E,213nm,6.4s
YAK smax smax
comp=N,81nm,3.3s
YAK smax smax
comp=E,64nm,3.3s
YAK MLR MLR
comp=Z,3μm,31.0s
YAK MLR MLR
comp=N,2μm,28.0s
YAK MLR MLR
comp=E,2μm,31.0s
MOY Mondy 29.95 320 *e*P **P 06 44 07.7 -1.8**
MOY pmax pmax
comp=Z,22nm,2.5s
MA2 Magadan 30.12 19 P **P 06 44 10.3 -0.5**
MA2 Magadan 30.12 19*c i*P **P 06 44 11.1 +0.3**
MA2 pmax pmax
comp=Z,22nm,1.1s
MA2 Magadan 30.12 19 P **P 06 44 11.8 +1.0**
comp=Z,21nm,1.2s
TNCH TengChong 30.28 265 ⇑P **P 06 44 09.8 -3.0**
TNCH pP pP 06 44 22.0 +0.5
TNCH PP **PP 06 45 16.3 -5.0**
TNCH S **S 06 49 15.5 +4.6**
TNCH sS sS 06 49 28.5 +2.8
TNCH SS **ScP 06 50 54.5 +1.5**
TNCH pmax pmax
comp=Z,81nm,0.4s
TNCH pmax pmax
comp=Z,190nm,5.2s
TNCH LR LR
comp=Z,2μm,11.1s
TNCH LR LR
comp=Z,3μm,13.9s
TNCH LR LR
comp=Z,5μm,18.1s
GOMU GeErMu 31.02 288 P **P 06 44 18.5 -1.0**
GOMU S **S 06 49 22.5 -0.2**
GOMU pmax pmax
comp=Z,15nm,1.0s
GOMU LR LR
comp=Z,3μm,18.0s
GOMU LR LR
comp=Z,4μm,17.5s
GOMU LR LR
comp=Z,4μm,17.8s
CHTO Chiang Mai 32.64 254 P **P 06 44 32.2 -1.2**
CHTO IAmb IAmb 06 44 34.3
comp=Z,32nm,1.1s
CHTO Chiang Mai 32.64 254 P **P 06 44 32.2 -1.2**
CHTO pmax pmax
comp=Z,32nm,1.1s
CMAR Chiang Mai Arr 32.82 254 P **P 06 44 34.0 -1.0**
CMAR Chiang Mai Arr 32.82 254 P **P 06 44 34.4 -0.6**
comp=Z,3.5nm,0.8s,baz=46,slow=7.0,SNR=30
CMAR PcP **PcP 06 47 19.7 +0.1**
comp=Z,1.4nm,0.3s,baz=65,slow=3.4,SNR=10
CMAR LR LR 06 59 32.2
comp=Z,4μm,19.6s,baz=60,slow=39
comp=Z,3.5nm,0.8s
SEY Seymchan 33.38 17⇑*e*P **P 06 44 40.6 +1.2**
SEY pmax pmax
comp=Z,13nm,1.1s
H11N2 WAKE ISLAND Hy 33.46 103 T T 07 20 45.6
baz=297,slow=74,SNR=84
H11N1 WAKE ISLAND Hy 33.47 103 T T 07 20 45.9
baz=297,slow=74,SNR=48
H11N3 WAKE ISLAND Hy 33.48 103 T T 07 20 42.8
baz=297,slow=74,SNR=64
H11S3 WAKE ISLAND Hy 33.90 105 T T 07 20 37.9
baz=301
H11S1 WAKE ISLAND Hy 33.90 105 T T 07 20 39.5
baz=301,slow=74
H11S2 WAKE ISLAND Hy 33.91 105 T T 07 20 44.2
baz=301,slow=74
SBUM Sibu 34.99 216 P **P 06 44 53.0 -0.8**
LSA Lhasa 35.10 277 P **P 06 44 55.0 -0.3**
LSA LR LR
comp=Z,3μm,14.5s
LSA LR LR
comp=Z,6μm,16.0s
JAY Jayapura 35.42 165 LR LR 06 57 04.5
comp=Z,785nm,20.0s,baz=3.0,slow=32
SHEM Shemya Is, Ala 36.48 43 LR LR 06 58 39.7
comp=Z,514nm,21.9s,baz=243,slow=34
WMQ Urumqi 36.51 302 *e*P **P 06 45 06.0 -0.7**
WMQ PcP **PcP 06 47 30.8 +0.8**
WMQ S **S 06 50 47.3 +0.3**
WMQ pmax pmax
comp=Z,38nm,1.7s
WMQ pmax pmax
comp=Z,200nm,6.7s
WMQ LR LR
comp=Z,3μm,16.9s
WMQ LR LR
comp=Z,7μm,16.1s
WMQ LR LR
comp=Z,5μm,20.1s
KSM Kuching 36.80 218 P **P 06 45 08.7 -0.7**
KSM IAmb IAmb 06 45 11.7
comp=Z,40nm,1.1s
BRDH Bariadhala 36.99 266 LR LR 07 03 14.4
comp=Z,7μm,18.0s,baz=92,slow=41
SRIT Nakonsritamara 38.20 239 P **P 06 45 20.4 -0.9**
SRIT IAmb IAmb 06 45 22.7
comp=Z,58nm,1.2s
ZSN Zaisan 38.78 307 *e*P **P 06 45 24.5 -1.3**
ZSN Zaisan 38.78 307 *e*P **P 06 45 24.5 -1.3**
KAPI Kappang 38.79 200 LR LR 07 02 53.3
comp=Z,277nm,20.6s,baz=22,slow=38
TIXI Tiksi 39.60 358 P **P 06 45 30.8 -1.4**
TIXI Tiksi 39.60 358 LR LR 07 02 33.1
comp=Z,4μm,18.7s,baz=180,slow=37
TIXI Tiksi 39.60 358||*i*P **P 06 45 32.2 0.0**
TIXI pmax pmax
comp=Z,14nm,1.6s
ZALV Zalesovo Beam 39.91 317 PcP **PcP 06 47 38.6 -1.6**
comp=Z,8.9nm,0.7s,baz=101,slow=3.6,SNR=8.3
ZALV LR LR 07 03 12.4
comp=Z,5μm,18.3s,baz=103,slow=38
MK31 Makanchi Array 40.49 306*c i*P **P 06 45 38.0 -2.0**
MKAR Makanchi Array 40.49 306 P **P 06 45 38.6 -1.4**
MKAR Makanchi Array 40.49 306 P **P 06 45 38.9 -1.2**
comp=Z,7.7nm,0.9s,baz=92,slow=9.9,SNR=52
MKAR PcP **PcP 06 47 40.5 -1.8**
comp=Z,9.0nm,0.9s,baz=72,slow=4.0,SNR=8.4
MKAR ScP **ScP 06 51 27.2 -2.2**
comp=Z,0.9nm,0.7s,baz=81,slow=4.0,SNR=4.9
MKAR LR LR 07 03 45.9
comp=Z,5μm,18.2s,baz=88,slow=38
comp=Z,7.7nm,0.9s
MAKZ Makanchi 40.70 306 P **P 06 45 40.3 -1.5**
MAKZ Makanchi 40.70 306 P **P 06 45 40.3 -1.5**
MAKZ pmax pmax
comp=Z,13nm,0.8s
BILL Bilibino 40.99 19 P **P 06 45 44.9 +1.1**
BILL Bilibino 40.99 19*c i*P **P 06 45 45.4 +1.5**
BILL pmax pmax
comp=Z,101nm,1.7s
PDGK Podgornoye 42.47 301 P **P 06 45 54.1 -2.4**
SHLS Shalkode 42.50 301 *e*P **P 06 45 52.3 -4.4**
SHLS Shalkode 42.50 301 *e*P **P 06 45 52.4 -4.4**
PSI Prapat 42.73 234 P **P 06 45 58.8 -0.1**
comp=Z,9.9nm,0.8s,baz=35,slow=5.4,SNR=8.8
PSI LR LR 07 06 16.5
comp=Z,820nm,18.5s,baz=38,slow=40
comp=Z,9.9nm,0.8s
RPSI Rantau Prapat 42.81 234 P **P 06 45 57.5 -1.8**
UZB Uzynbulak 42.82 301 *e*P **P 06 45 57.5 -1.9**
UZB Uzynbulak 42.82 301 *e*P **P 06 45 57.5 -1.9**
WUS Wushi 42.83 298 IAmb IAmb 06 46 17.2
comp=Z,106nm,1.9s
KURK Kurchatov 43.16 312 P **P 06 46 00.2 -1.6**
KURK IAmb IAmb 06 46 11.5
comp=Z,49nm,1.1s
KURK Kurchatov 43.16 312*c i*P **P 06 46 00.0 -1.8**
KURK pmax pmax
comp=Z,34nm,1.0s
TDK Taldyqorghan 43.18 303 *e*P **P 06 46 00.4 -1.6**
TDK pmax pmax
comp=Z,110nm,1.9s
TDK Taldyqorghan 43.18 303 *e*P **P 06 46 00.5 -1.6**
comp=Z,110nm,1.9s
KURBB Kurchatov Arra 43.22 312 P **P 06 46 00.6 -1.6**
comp=Z,15nm,1.1s,baz=98,slow=9.1,SNR=48
KURBB PcP **PcP 06 47 50.2 -0.9**
comp=Z,5.2nm,0.7s,baz=96,slow=3.9,SNR=6.4
KURBB ScP **ScP 06 51 38.5 -1.6**
comp=Z,0.2nm,0.3s,baz=113,slow=3.6,SNR=2.2
KURBB LR LR 07 05 38.0
comp=Z,5μm,19.8s,baz=74,slow=38
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 43.22 312 P **P 06 45 59.9 -2.3**
ZHN Zhinishke 43.25 301 *e*P **P 06 46 01.0 -1.8**
ZHN Zhinishke 43.25 301 *e*P **P 06 46 01.1 -1.8**
SATY Saty 43.28 300 *e*P **P 06 46 01.3 -1.7**
SATY Saty 43.28 300 *e*P **P 06 46 01.3 -1.7**
CHKK Chushkaly 44.25 302 *e*P **P 06 46 09.1 -1.6**
CHKK Chushkaly 44.25 302 *e*P **P 06 46 09.1 -1.6**
KDJ Kajisay 44.26 299 IAmb IAmb 06 46 28.8
comp=Z,64nm,1.9s
MDOK Medeo 44.26 301 *e*P **P 06 46 09.3 -1.6**
MDOK Medeo 44.26 301 *e*P **P 06 46 09.4 -1.6**
TNSS Tian-Shan 44.35 301 *e*P **P 06 46 09.7 -2.2**
TNSS Tian-Shan 44.35 301 *e*P **P 06 46 09.8 -2.2**
AAA Alma-Ata 44.36 301 *e*P **P 06 46 09.9 -1.7**
AAA pmax pmax
comp=Z,41nm,1.0s
AAA Alma-Ata 44.36 301 *e*P **P 06 46 09.9 -1.7**
comp=Z,41nm,1.0s
GSI Gunungsitoli 44.74 234 P **P 06 46 13.5 -1.3**
NRIK Noril'sk 44.80 339 P **P 06 46 13.8 -0.9**
NRIK IAmb IAmb 06 46 15.2
comp=Z,52nm,1.1s
NRIK Noril'sk 44.80 339 P **P 06 46 13.9 -0.8**
comp=Z,23nm,0.8s,baz=119,slow=7.8,SNR=32
NRIK PcP **PcP 06 47 55.0 -1.2**
comp=Z,9.4nm,0.8s,baz=103,slow=2.2,SNR=2.7
NRIK LR LR 07 06 16.0
comp=Z,3μm,20.1s,baz=124,slow=38
comp=Z,23nm,0.8s
NRIK Noril'sk 44.80 339*c i*P **P 06 46 13.8 -0.9**
NRIK pmax pmax
comp=Z,54nm,1.2s
ULHL Ulahol 44.94 299 P **P 06 46 15.2 -1.3**
SNR=9.4
BOOM Boomskoye usch 45.14 300 IAmb IAmb 06 47 59.5
comp=Z,18nm,0.8s
LEM Lembang 45.27 215 LR LR 07 05 37.7
comp=Z,403nm,20.9s,baz=347,slow=36
TKM2 Tokmak 2 45.34 301 P **P 06 46 19.5 -0.1**
SNR=28
TKM2 Tokmak 2 45.34 301 *i* P **P 06 46 18.1 -1.6**
TKM2 pmax pmax
comp=Z,31nm,1.0s
KSH Kashi 45.50 296 P **P 06 46 23.0 +2.2**
KSH PP **PP 06 48 11.0 +3.6**
KSH pmax pmax
comp=Z,12nm,1.1s
KSH LR LR
comp=Z,3μm,16.8s
KSH LR LR
comp=Z,5μm,18.6s
KSH LR LR
comp=Z,7μm,15.9s
CHMS Chumysh 45.95 301 P **P 06 46 23.8 -0.5**
SNR=5.6
SGDS Sogindy 45.99 301 *e*P **P 06 46 22.9 -1.7**
SGDS Sogindy 45.99 301 *e*P **P 06 46 23.0 -1.7**
USP Ospenovka 46.11 301 P **P 06 46 24.4 -1.1**
SNR=9.4
AAK Ala-Archa 46.18 300 P **P 06 46 25.2 -1.0**
AAK Ala-Archa 46.18 300 P **P 06 46 24.9 -1.4**
comp=Z,6.7nm,0.6s,baz=107,slow=5.2,SNR=18

AAK PcP **PcP** **06 48 02.1 +0.4**
comp=Z,6.1nm,0.7s,baz=167,slow=2.6,SNR=3.4
AAK LR LR 07 08 15.0
comp=Z,4μm,19.1s,baz=82,slow=39
comp=Z,6.7nm,0.6s
AAK Ala-Archa 46.18 300 P **P** **06 46 25.6 -0.6**
SNR=9.7
AAK Ala-Archa 46.18 300 P **P** **06 46 25.2 -1.0**
AAK pmax pmax
comp=Z,9.0nm,0.8s
SPIA Saint Paul Isl 46.24 40 P **P** **06 46 25.7 -0.5**
baz=263
BTLS Baital 46.27 304 *e*P **P** **06 46 25.2 -1.4**
BTLS Baital 46.27 304 *e*P **P** **06 46 25.2 -1.4**
P08K Saint George I 46.55 40 P **P** **06 46 28.0 -0.7**
baz=264
NIKH Nikolski High 46.69 45 P **P** **06 46 29.4 -0.4**
baz=268
GAMB Gambell 46.82 30 P **P** **06 46 29.3 -1.3**
baz=255
AML Almayashu 46.83 300 P **P** **06 46 31.6 0.0**
SNR=19
BRZS Berezniki 46.95 310 *e*P **P** **06 46 30.5 -1.4**
BRZS Berezniki 46.95 310 *e*P **P** **06 46 30.5 -1.4**
COEN Coen 47.05 165 P **P** **06 46 34.1 +1.2**
OTUK Ortayu 47.23 308 P **P** **06 46 32.7 -1.5**
KNRA Kununurra 47.66 184 P **P** **06 46 38.1 +0.4**
KNRA Kununurra 47.66 184 P **P** **06 46 38.1 +0.4**
comp=Z,49nm,1.3s
UNV Unalaska Valle 48.12 44 P **P** **06 46 40.0 -1.0**
baz=269
BVA0 Borovoye Array 48.35 315 *i* P **P** **06 46 41.3 -1.5**
BVAR Borovoye Array 48.35 315 P **P** **06 46 41.4 -1.4**
comp=Z,22nm,0.7s,baz=94,slow=9.1,SNR=92
BVAR PcP **PcP** **06 48 08.9 -0.1**
comp=Z,11nm,0.7s,baz=97,slow=3.5,SNR=5.9
BVAR LR LR 07 10 24.9
comp=Z,684nm,18.9s,baz=89,slow=40
comp=Z,22nm,0.7s
BRVK Borovoye 48.42 315 P **P** **06 46 41.7 -1.6**
BRVK Borovoye 48.42 315 *c i* P **P** **06 46 42.0 -1.2**
BRVK pmax pmax
comp=Z,27nm,0.7s
M11K Mekoryuk 48.73 36 P **P** **06 46 45.1 -0.3**
baz=263
TNA Tin City 48.82 29 IAmb IAmb 06 46 49.9
comp=Z,34nm,1.1s
TNA Tin City 48.82 29 P **P** **06 46 46.1 -0.1**
baz=257,SNR=5.6
NIL Nilore 48.88 289 P **P** **06 46 46.5 -0.7**
NIL IAmb IAmb 06 46 47.6
comp=Z,23nm,0.8s
NIL Nilore 48.88 289 P **P** **06 46 46.5 -0.7**
NIL pmax pmax
comp=Z,23nm,0.9s
KK31 Karatay Array 49.02 301 P **P** **06 46 46.2 -1.9**
KKAR Karatay Array 49.02 301 P **P** **06 46 46.7 -1.4**
KKAR Karatay Array 49.02 301 IAmb IAmb 06 47 05.5
comp=Z,29nm,1.2s
KKAR Karatay Array 49.02 301 P **P** **06 46 46.7 -1.4**
HNR Honiara 49.15 143 LR LR 07 05 39.4
comp=Z,231nm,20.4s,baz=324,slow=34
BTK Batken 49.32 297 IAmb IAmb 06 47 08.5
comp=Z,23nm,1.2s
F14K Arctic Creek 49.46 29 P **P** **06 46 51.1 +0.1**
baz=259
BRLS Borolday 49.52 301 *e*P **P** **06 46 51.3 -0.6**
BRLS Borolday 49.52 301 *e*P **P** **06 46 51.4 -0.6**
IUG Iuzhnay 49.52 300 *e*P **P** **06 46 50.3 -1.7**
IUG Iuzhnay 49.52 300 *e*P **P** **06 46 50.3 -1.7**
K13K Kusilvak Mount 49.65 34 P **P** **06 46 52.3 -0.3**
baz=264
ANM Nome 49.69 30 P **P** **06 46 52.2 -0.6**
baz=261
GAR Garm 49.91 296 P **P** **06 46 54.0 -1.1**
FALS False Pass 49.93 43 P **P** **06 46 53.8 -1.0**
baz=271
M13K Dall Lake 50.14 36 P **P** **06 46 56.1 -0.1**
baz=266
F15K North Star Dit 50.19 29 IAmb IAmb 06 47 14.0
comp=Z,26nm,0.9s
F15K North Star Dit 50.19 29 P **P** **06 46 56.8 +0.2**
baz=260
J14K Nanvaranak Lak 50.25 33 P **P** **06 46 57.6 +0.5**
baz=264
G15K Niukluk 50.33 30 P **P** **06 46 57.8 +0.2**
baz=262
HYB Hyderabad 50.34 266 IVmB_BB 06 46 57.6
comp=Z,395nm,4.3s
HYB *e*P **P** **06 46 58.1 -0.3**
HYB *e* 06 52 11.9
FITZ Fitzroy Crossi 50.35 188 P **P** **06 46 58.6 +0.3**
comp=Z,3.6nm,0.5s,baz=14,slow=8.7,SNR=14
comp=Z,3.6nm,0.5s
C16K Lisburne Hills 50.41 25 IAmb IAmb 06 47 01.3
comp=Z,34nm,0.9s
C16K Lisburne Hills 50.41 25 P **P** **06 46 58.4 +0.2**
baz=258
L14K Kuka Creek 50.53 35 P **P** **06 46 60.0 +0.8**
baz=266
M14K Bethel 50.84 35 IAmb IAmb 06 47 52.0
comp=Z,28nm,1.1s
M14K Bethel 50.84 35 P **P** **06 47 02.3 +0.7**
baz=267
N14K Kuskokwak Cree 50.94 36 P **P** **06 47 02.5 +0.2**
baz=268
SIMJ Simiganj 50.98 296 P **P** **06 47 01.7 -1.5**
SIMJ IAmb IAmb 06 47 32.7
comp=Z,22nm,0.9s
H16K Elim 51.04 30 P **P** **06 47 02.2 -0.9**
baz=264
G16K Koyuk River 51.08 29 P **P** **06 47 02.6 -0.7**
baz=263
L15K Ungalak Mounta 51.13 34 P **P** **06 47 03.8 +0.1**
baz=267
D17K Noatak River 51.14 26 P **P** **06 47 04.5 +0.8**
baz=260,SNR=15
O14K Tigyukauivet M 51.14 37 P **P** **06 47 03.7 -0.1**
baz=269
K15K Wolf Creek Mou 51.15 33 P **P** **06 47 04.7 +0.8**
baz=266
C17K DeLong Mountai 51.24 25 P **P** **06 47 04.4 -0.1**
baz=260
RDOG Red Dog Mine 51.26 26 P **P** **06 47 05.5 +0.8**
baz=260
M15K Kasigluk River 51.47 35 P **P** **06 47 06.2 -0.1**
baz=268
E17K Hotham Inlet 51.52 27 P **P** **06 47 06.5 -0.1**
baz=262
SDPT Sand Point 51.61 42 P **P** **06 47 07.3 -0.1**
baz=273
J16K Anvik River 51.64 32 P **P** **06 47 06.4 -1.1**
baz=266
I17K Unalakleet 51.64 31 P **P** **06 47 07.4 -0.1**
baz=266
F17K Baldwin Pennin 51.66 28 IAmb IAmb 06 47 25.0
comp=Z,22nm,0.8s
F17K Baldwin Pennin 51.66 28 P **P** **06 47 07.3 -0.4**
baz=263
N15K Kwethluk River 51.75 36 P **P** **06 47 08.8 +0.4**
baz=269
G17K Kiwalik Mounta 51.80 29 P **P** **06 47 08.4 -0.3**
baz=264,SNR=5.1
WRAB Tennant Creek 51.83 177 *de*P **P** **06 47 10.1 +0.7**
WRAB pmax pmax
comp=Z,24nm,1.5s
WB2 Warramunga Arr 51.84 177 P **P** **06 47 10.1 +0.6**
WRA Warramunga Arr 51.84 177 P **P** **06 47 10.8 +1.3**
WRA Warramunga Arr 51.84 177 P **P** **06 47 09.9 +0.5**
comp=Z,6.2nm,1.1s,baz=356,slow=7.7,SNR=17
WRA LR LR 07 08 49.4
comp=Z,494nm,20.8s,baz=360,slow=36
comp=Z,6.2nm,1.1s
WRA Warramunga Arr 51.84 177 P **P** **06 47 10.8 +1.3**
O15K Ungalikthiuk R 51.88 37 P **P** **06 47 09.3 0.0**
baz=270
B18K Kokolik River 51.89 24 P **P** **06 47 10.0 +0.8**
baz=260
C18K Utukok River 51.99 25 IAmb IAmb 06 47 13.4
comp=Z,73nm,1.6s
C18K Utukok River 51.99 25 P **P** **06 47 10.1 0.0**
baz=261,SNR=18
KBL Kabul 51.99 291 P **P** **06 47 09.4 -1.5**
KBL IAmb IAmb 06 47 42.3
comp=Z,50nm,1.6s
KBL Kabul 51.99 291 P **P** **06 47 09.4 -1.5**
KBL pmax pmax
comp=Z,49nm,1.6s
E18K Tukpahlearik C 52.04 27 IAmb IAmb 06 47 35.1
comp=Z,22nm,0.8s
E18K Tukpahlearik C 52.04 27 P **P** **06 47 11.2 +0.7**
baz=263
H17K Granite Mounta 52.06 30 P **P** **06 47 10.0 -0.7**
baz=266
L16K Owhat River 52.09 34 P **P** **06 47 10.6 -0.2**
baz=268
S14K Fog Glacier 52.09 41 P **P** **06 47 10.4 -0.7**
baz=273
CHNA Chernabura Isl 52.15 43 P **P** **06 47 11.3 0.0**
baz=274
A19K Wainwright 52.28 23 P **P** **06 47 11.2 -0.9**
baz=260
F18K Selawik 52.32 28 P **P** **06 47 12.0 -0.5**
baz=264,SNR=9.6
M16K Timber Creek 52.32 35 P **P** **06 47 12.2 -0.5**
baz=269
J17K VABM Dome 52.33 32 P **P** **06 47 12.5 -0.2**
baz=268,SNR=5.4
N16K Nishlik Lake 52.41 36 P **P** **06 47 12.7 -0.6**
baz=270
L17K Donlin 52.65 34 P **P** **06 47 14.7 -0.4**
baz=269
G18K Tagagawik 52.66 29 IAmb IAmb 06 47 39.9
comp=Z,39nm,1.4s
G18K Tagagawik 52.66 29 P **P** **06 47 14.1 -1.0**
baz=266,SNR=12
K17K Iditarod 52.66 33 P **P** **06 47 14.1 -1.0**
baz=269
CHGN Chignik 52.72 41 P **P** **06 47 14.9 -0.7**
baz=274
H18K Honhosa River 52.73 30 IAmb IAmb 06 47 38.7
comp=Z,57nm,1.7s
H18K Honhosa River 52.73 30 P **P** **06 47 14.8 -0.8**
baz=267
O16K Kokwok River B 52.76 37 P **P** **06 47 18.6 +2.7**
O16K Kokwok River B 52.76 37 P **P** **06 47 15.0 -0.9**
baz=271
P16K Nushagak River 52.83 38 P **P** **06 47 15.9 -0.5**
baz=272
QIS Mount Isa 52.89 171 P **P** **06 47 16.3 -1.0**
comp=Z,13nm,0.9s
M17K Holitna River 53.06 35 P **P** **06 47 17.5 -0.6**
baz=270
F19K Shaleruckik Mo 53.08 28 IAmb IAmb 06 47 37.2
comp=Z,80nm,1.9s
F19K Shaleruckik Mo 53.08 28 P **P** **06 47 18.2 0.0**
baz=266
D19K Kuna River 53.09 26 IAmb IAmb 06 47 23.1
comp=Z,52nm,1.2s
D19K Kuna River 53.09 26 P **P** **06 47 18.7 +0.4**
baz=264,SNR=21
N17K Nushagak Hills 53.19 36 IAmb IAmb 06 47 23.7
comp=Z,34nm,1.4s
N17K Nushagak Hills 53.19 36 P **P** **06 47 18.8 -0.3**
baz=271
O17K Koliganek Bris 53.26 37 P **P** **06 47 19.9 +0.3**
baz=272
G19K Purcell Mounta 53.31 29 IAmb IAmb 06 48 10.7
comp=Z,15nm,0.6s
G19K Purcell Mounta 53.31 29 P **P** **06 47 20.0 +0.1**
baz=267,SNR=5.4
E19K Redstone River 53.34 27 IAmb IAmb 06 47 39.2
comp=Z,20nm,0.9s
E19K Redstone River 53.34 27 P **P** **06 47 20.6 +0.6**
baz=266
GCSA Galena City Sc 53.35 30 P **P** **06 47 20.5 +0.4**
baz=268
J18K Innoko River 53.40 32 P **P** **06 47 21.1 +0.5**
baz=270
L18K Granite Mounta 53.41 34 IAmb IAmb 06 47 39.4
comp=Z,66nm,1.9s
L18K Granite Mounta 53.41 34 P **P** **06 47 21.3 +0.7**
baz=270
Q16K King Salmon 53.53 38 P **P** **06 47 22.1 +0.6**
baz=273
H19K Roundabout Mou 53.55 29 IAmb IAmb 06 47 42.2
comp=Z,28nm,0.8s
H19K Roundabout Mou 53.55 29 P **P** **06 47 22.2 +0.6**
baz=268,SNR=14
B20K Meade River 53.58 24 IAmb IAmb 06 47 25.1
comp=Z,22nm,0.8s
B20K Meade River 53.58 24 P **P** **06 47 22.5 +0.7**
baz=264
P17K Kvichak River 53.62 37 P **P** **06 47 22.5 +0.3**
baz=273
D20K Etivluk River 53.66 25 P **P** **06 47 21.8 -0.6**
baz=266,SNR=17
PALK Pallekele 53.76 254 P **P** **06 47 23.4 -0.5**
PALK IAmb IAmb 06 47 24.8
comp=Z,32nm,1.2s
PALK Pallekele 53.76 254 P **P** **06 47 23.4 -0.5**
PALK pmax pmax
comp=Z,32nm,1.2s
E20K Nigu River 53.78 26 P **P** **06 47 23.0 -0.4**
baz=266,SNR=23
SVE Sverdlovsk 53.82 320 *e*P **P** **06 47 22.6 -1.1**
SVE pmax pmax
comp=Z,35nm,1.4s
SVE MLR MLR
comp=Z,2μm,15.0s
N18K Kilae Creek 53.83 35 P **P** **06 47 23.8 0.0**
baz=272
M18K Stony River 53.83 34 P **P** **06 47 23.5 -0.3**
baz=272
J19K Poorman 53.88 31 P **P** **06 47 23.6 -0.5**
baz=270,SNR=8.1
A21K Barrow 53.90 22 P **P** **06 47 23.7 -0.4**
baz=264
F20K Avaraart Lake 53.90 28 P **P** **06 47 24.4 +0.2**
baz=268
H20K Anotleneega Mo 54.20 29 P **P** **06 47 25.8 -0.6**
baz=270,SNR=6.6
O18K Koktuh Hills 54.21 36 IAmb IAmb 06 47 29.7
comp=Z,45nm,1.5s
O18K Koktuh Hills 54.21 36 P **P** **06 47 26.5 -0.1**
baz=274
P18K Big Mountain, 54.23 37 P **P** **06 47 26.4 -0.4**
baz=274
L19K White Mountain 54.27 34 P **P** **06 47 26.9 -0.1**
baz=272
CHIR Chirikof Islan 54.32 41 P **P** **06 47 27.1 -0.3**
baz=276
C21K Knifeblade Rid 54.35 25 P **P** **06 47 27.1 -0.4**
baz=267,SNR=22
I20K Naaghedeneel 54.38 30 P **P** **06 47 28.0 +0.3**
baz=271,SNR=5.9
Q18K Katmai Hardscr 54.39 38 P **P** **06 47 28.4 +0.3**
baz=275
A22K Sinclair Lake 54.40 23 P **P** **06 47 28.0 +0.3**
baz=266
B21K Ikpikpuk River 54.43 24 P **P** **06 47 28.7 +0.7**
baz=267
M19K Big River Lodg 54.50 34 P **P** **06 47 28.9 +0.3**
baz=273
N19K Bonanza Creek 54.51 35 P **P** **06 47 29.0 +0.1**
baz=273
J20K Nowinta River 54.53 31 IAmb IAmb 06 47 53.7
comp=Z,39nm,1.3s
J20K Nowinta River 54.53 31 P **P** **06 47 29.8 +1.0**
baz=271,SNR=11
K20K Telida 54.59 32 IAmb IAmb 06 47 52.6
comp=Z,18nm,0.8s
K20K Telida 54.59 32 P **P** **06 47 30.1 +0.8**
baz=272,SNR=10
E21K Killik River 54.61 26 IAmb IAmb 06 47 32.6
comp=Z,51nm,1.4s
E21K Killik River 54.61 26 P **P** **06 47 29.9 +0.5**
baz=268
O19K Port Alsworth 54.63 36 IAmb IAmb 06 47 58.9
comp=Z,20nm,0.9s
O19K Port Alsworth 54.63 36 P **P** **06 47 30.7 +1.1**
baz=274
PSA00 Pilbara Seismi 54.70 194 P **P** **06 47 30.6 +0.1**
comp=Z,20nm,1.0s
L20K Fawell, AK 54.71 33 P **P** **06 47 31.4 +1.3**
baz=273
G21K Allakaket 54.77 28 IAmb IAmb 06 47 50.0
comp=Z,21nm,0.9s
G21K Allakaket 54.77 28 P **P** **06 47 31.7 +1.2**
baz=270,SNR=13
F21K Alatna River 54.78 27 P **P** **06 47 31.9 +1.3**
baz=270,SNR=8.9
R18K Karluk 54.78 39 P **P** **06 47 31.3 +0.6**
baz=276
B22K Teshekpuk Lake 54.88 23 P **P** **06 47 32.5 +1.3**
baz=268,SNR=33
SII Sitkinak Islan 55.04 40 P **P** **06 47 32.9 +0.2**
baz=277
H21K Melozitna Rive 55.07 29 P **P** **06 47 33.5 +0.8**
baz=272,SNR=8.1
Q19K Cape Douglas, 55.08 37 P **P** **06 47 33.7 +0.8**
baz=276
M20K Styx River 55.09 34 P **P** **06 47 34.0 +1.0**
baz=274
D22K Ayikyak River 55.09 25 P **P** **06 47 34.4 +1.5**
baz=269
ARTI Arti 55.10 319 P **P** **06 47 31.3 -1.8**
ARTI Arti 55.10 319 P **P** **06 47 31.1 -2.0**
comp=Z,8.2nm,0.5s,baz=81,slow=3.1,SNR=17
ARTI LR LR 07 14 13.3
comp=Z,758nm,20.5s,baz=90,slow=39
comp=Z,8.2nm,0.5s
ARTI Arti 55.10 319 P **P** **06 47 31.3 -1.8**
ARTI pmax pmax
comp=Z,51nm,1.3s
P19K Oil Pt 55.22 37 P **P** **06 47 34.9 +1.0**
baz=275
AB31 Akbulak array 55.25 311 *i* P **P** **06 47 32.8 -1.4**
ABKAR Akbulak array 55.25 311 P **P** **06 47 32.8 -1.5**
ABKAR Akbulak array 55.25 311 IAmb IAmb 06 47 34.2
comp=Z,38nm,1.0s
F22K John River 55.28 27 P **P** **06 47 35.3 +1.1**
baz=271
CHUM Lake Minchumin 55.35 31 P **P** **06 47 35.6 +0.9**
baz=273,SNR=7.8
E22K Anaktuvuk Pass 55.41 26 P **P** **06 47 36.2 +1.0**
baz=271,SNR=36
I21K Tanana 55.43 30 IAmb IAmb 06 48 02.2
comp=Z,27nm,1.1s
I21K Tanana 55.43 30 P **P** **06 47 35.7 +0.4**
baz=273
OHAK Old Harbor 55.45 40 P **P** **06 47 36.0 +0.5**
baz=277
PPLA Purkeypile 55.46 33 IAmb IAmb 06 48 08.0
comp=Z,44nm,1.4s
PPLA Purkeypile 55.46 33 P **P** **06 47 36.6 +0.9**
baz=274
CAST Castle Rocks 55.48 32 P **P** **06 47 38.1 +2.4**
CAST Castle Rocks 55.48 32 P **P** **06 47 36.5 +0.8**
baz=274,SNR=7.0
O20K Slope Mountain 55.49 36 P **P** **06 47 37.4 +1.5**
baz=276
AS31 Alice Springs 55.53 178 P **P** **06 47 37.7 +1.3**
ASAR Alice Springs 55.53 178 P **P** **06 47 36.8 +0.4**
ASAR Alice Springs 55.53 178 P **P** **06 47 37.6 +1.2**
comp=Z,4.3nm,1.0s,baz=353,slow=6.3,SNR=25
ASAR PKPPKP **P'P'df** **07 17 39.0 +5.6**
comp=Z,0.5nm,0.9s,baz=208,slow=1.9,SNR=4.2
comp=Z,4.3nm,1.0s
SPCR Spurr Chakacha 55.59 35 P **P** **06 47 36.7 +0.2**
baz=275
H22K Ishtalitna Cre 55.65 29 P **P** **06 47 37.8 +0.9**
baz=273
KDAK Kodiak Island 55.76 39 LR LR 07 11 32.5
comp=Z,557nm,21.0s,baz=83,slow=36
KDAK Kodiak Island 55.76 39 P **P** **06 47 38.2 +0.5**
baz=277
Q20K Shuyak Island 55.76 38 P **P** **06 47 38.2 +0.5**
baz=277
D23K Nanushuk River 55.82 25 IAmb IAmb 06 47 42.0
comp=Z,44nm,1.3s
D23K Nanushuk River 55.82 25 P **P** **06 47 39.2 +1.2**
baz=271,SNR=26
C23K Itkillik River 55.83 24 IAmb IAmb 06 47 41.7
comp=Z,46nm,1.2s
C23K Itkillik River 55.83 24 P **P** **06 47 38.7 +0.7**
baz=271
SKT Skwentna 55.84 34 P **P** **06 47 39.1 +0.8**
baz=275
BPAW Bear Paw Mtn. 55.92 31 P **P** **06 47 40.7 +1.8**
BPAW IAmb IAmb 06 48 03.5
comp=Z,34nm,1.4s
BPAW Bear Paw Mtn. 55.92 31 P **P** **06 47 39.4 +0.6**
baz=274,SNR=5.2
KTH Kantishna Hill 55.99 32 IAmb IAmb 06 47 52.3
comp=Z,44nm,1.4s
HOM Homer 56.02 36 P **P** **06 47 40.0 +0.3**
baz=277
COLD Coldfoot 56.06 27 IAmb IAmb 06 47 52.7
comp=Z,22nm,1.2s
COLD Coldfoot 56.06 27 P **P** **06 47 41.0 +1.3**
baz=273,SNR=18
G23K Bananza Creek 56.15 28 IAmb IAmb 06 47 44.2
comp=Z,29nm,1.4s
G23K Bananza Creek 56.15 28 P **P** **06 47 41.7 +1.2**
baz=273,SNR=14
TOLK Toolik Lake Re 56.23 26 P **P** **06 47 42.8 +1.8**
TOLK IAmb IAmb 06 47 44.7
comp=Z,43nm,1.4s
TOLK Toolik Lake Re 56.23 26 P **P** **06 47 41.7 +0.7**
baz=272,SNR=17
E23K Chandalar 56.24 26 P **P** **06 47 41.7 +0.5**
baz=273,SNR=49
AKTO Aktyubinsk 56.25 312 P **P** **06 47 40.5 -1.0**
comp=Z,23nm,0.8s,baz=86,slow=4.7,SNR=51
AKTO LR LR 07 15 13.6
comp=Z,1μm,18.4s,baz=87,slow=40
comp=Z,23nm,0.8s
TRF Thorofare Moun 56.28 32 P **P** **06 47 41.4 -0.2**
baz=275
CUT Chulitna 56.39 33 P **P** **06 47 43.9 +1.7**
CUT IAmb IAmb 06 48 42.0
comp=Z,33nm,1.0s
CUT Chulitna 56.39 33 P **P** **06 47 43.1 +0.9**
baz=276
H23K Yukon River 56.40 29 IAmb IAmb 06 48 00.8
comp=Z,27nm,0.8s
H23K Yukon River 56.40 29 P **P** **06 47 42.9 +0.6**
baz=274
BRSE Bradley Lake S 56.47 36 P **P** **06 47 43.8 +1.0**
baz=277
D24K Happy Valley 56.48 25 P **P** **06 47 43.8 +1.1**
baz=273
C24K Franklin Bluff 56.50 24 P **P** **06 47 42.8 0.0**
baz=272
M22K Willow 56.53 34 IAmb IAmb 06 48 05.8
comp=Z,29nm,0.8s
M22K Willow 56.53 34 P **P** **06 47 43.8 +0.6**
baz=276
I23K Minto, Yukon-K 56.53 30 IAmb IAmb 06 48 43.9
comp=Z,45nm,1.8s
I23K Minto, Yukon-K 56.53 30 P **P** **06 47 44.1 +1.0**
baz=275,SNR=5.3
E24K Your Creek 56.66 26 P **P** **06 47 44.7 +0.5**
baz=274
NEA2 Nenana 56.71 30 IAmb IAmb 06 48 09.0
comp=Z,36nm,1.2s
NEA2 Nenana 56.71 30 P **P** **06 47 45.4 +0.9**
baz=276,SNR=13
RC01 Rabbit Creek A 56.79 35 P **P** **06 47 46.8 +1.7**
RC01 IAmb IAmb 06 48 11.3
comp=Z,38nm,1.4s
RC01 Rabbit Creek A 56.79 35 P **P** **06 47 45.5 +0.4**
baz=277
MCK McKinley 56.85 31 IAmb IAmb 06 47 57.8
comp=Z,49nm,1.7s
MCK McKinley 56.85 31 P **P** **06 47 46.6 +1.1**
baz=276,SNR=6.6
O22K Cooper Landing 56.88 35 P **P** **06 47 46.7 +1.1**
baz=278
RND Reindeer 56.93 32 IAmb IAmb 06 48 03.8
comp=Z,22nm,0.9s
F24K Squaw Lake 56.93 27 IAmb IAmb 06 47 50.9
comp=Z,37nm,1.6s
F24K Squaw Lake 56.93 27 P **P** **06 47 47.0 +1.0**
baz=275,SNR=17
WRKA Warakurna 56.98 184 P **P** **06 47 48.2 +1.4**
comp=Z,16nm,1.2s
PMR Palmer 57.02 34 P **P** **06 47 48.3 +1.7**
PMR Palmer 57.02 34 P **P** **06 47 48.3 +1.7**
PMR pmax pmax
comp=Z,15nm,0.9s
PMR Palmer 57.02 34 P **P** **06 47 47.4 +0.7**
baz=277
SEW Seward 57.06 36 P **P** **06 47 48.3 +1.3**
baz=278
H24K Noodor Dome 57.09 29 IAmb IAmb 06 48 12.3
comp=Z,23nm,1.1s
H24K Noodor Dome 57.09 29 P **P** **06 47 48.5 +1.3**
baz=276,SNR=9.6
GHO Glory Hole Cre 57.09 34 IAmb IAmb 06 48 46.4
comp=Z,35nm,1.2s
WRH Wood River Hil 57.14 31 P **P** **06 47 49.1 +1.6**

G24K	**Hadweenzic Riv**	57.16	28	IAmb	IAmb	06 47 51.9
	comp=Z,51nm,1.4s					
G24K	**Hadweenzic Riv**	57.16	28	P	**P**	**06 47 49.0 +1.4**
	baz=276,SNR=19					
COLA	**College**	57.20	30⇑	*e*P	**P**	**06 47 49.8 +1.9**
COLA				pmax	pmax	
	comp=Z,20nm,1.2s					
COLA	**College**	57.20	30	P	**P**	**06 47 48.5 +0.6**
	baz=276					
D25K	**Kavik River**	57.34	25	IAmb	IAmb	06 47 52.3
	comp=Z,35nm,1.2s					
D25K	**Kavik River**	57.34	25	P	**P**	**06 47 49.6 +0.7**
	baz=275					
POKR	**Poker Plat Res**	57.35	30	P	**P**	**06 47 51.1 +2.1**
POKR	**Poker Plat Res**	57.35	30	P	**P**	**06 47 49.8 +0.8**
	baz=277,SNR=6.1					
KNK	**Knik Glacier**	57.36	34	IAmb	IAmb	06 48 17.4
	comp=Z,21nm,0.9s					
KNK	**Knik Glacier**	57.36	34	P	**P**	**06 47 49.3 +0.2**
	baz=278					
SML	**Sawmill**	57.37	34	P	**P**	**06 47 49.8 +0.6**
	baz=278					
HRA	**Herat**	57.40	293	IAmb	IAmb	06 48 06.9
	comp=Z,64nm,2.0s					
PWL	**Port Wells**	57.50	35	IAmb	IAmb	06 48 12.8
	comp=Z,26nm,1.0s					
PWL	**Port Wells**	57.50	35	P	**P**	**06 47 50.7 +0.5**
	baz=279					
IL31		57.62	30	IAmb	IAmb	06 48 15.3
	comp=Z,53nm,2.0s					
ILAR	**Eielson Array**	57.62	30	P	**P**	**06 47 51.3 +0.4**
ILAR	**Eielson Array**	57.62	30	P	**P**	**06 47 51.5 +0.6**
	comp=Z,2.4nm,0.7s,baz=286,slow=5.9,SNR=25					
	comp=Z,2.4nm,0.7s					
HDA	**Harding Lake**	57.64	31	IAmb	IAmb	06 48 21.1
	comp=Z,20nm,1.0s					
HDA	**Harding Lake**	57.64	31	P	**P**	**06 47 51.6 +0.6**
	baz=278,SNR=17					
M23K	**Glacier View**	57.65	34	P	**P**	**06 47 51.9 +0.8**
	baz=278					
G25K	**Bearman Lake**	57.70	28	P	**P**	**06 47 52.0 +0.6**
	baz=277					
E25K	**Arctic Village**	57.75	26	IAmb	IAmb	06 47 56.0
	comp=Z,38nm,1.3s					
E25K	**Arctic Village**	57.75	26	P	**P**	**06 47 52.7 +0.9**
	baz=276,SNR=25					
F25K	**Christian Rive**	57.78	27	IAmb	IAmb	06 47 56.4
	comp=Z,28nm,1.1s					
F25K	**Christian Rive**	57.78	27	P	**P**	**06 47 53.0 +1.0**
	baz=277,SNR=27					
C26K	**Camden Bay**	57.79	24	P	**P**	**06 47 53.2 +1.2**
	baz=276					
SCM	**Sheep Creek Mo**	57.83	34	IAmb	IAmb	06 48 38.1
	comp=Z,45nm,1.3s					
SCM	**Sheep Creek Mo**	57.83	34	P	**P**	**06 47 52.8 +0.2**
	baz=279					
H25L	**Birch Creek**	57.87	28	P	**P**	**06 47 53.3 +0.7**
	baz=277,SNR=12					
PRP	**Porcupine Dome**	58.09	29	P	**P**	**06 47 54.5 +0.2**
	baz=278,SNR=9.8					
P23K	**Montague Islan**	58.09	36	P	**P**	**06 47 54.8 +0.6**
	baz=280					
GLI	**Glacier Island**	58.10	35	P	**P**	**06 47 55.3 +1.0**
	baz=280					
BMAR	**Burnt Mountain**	58.21	27	P	**P**	**06 47 57.1 +2.0**
K24K	**Donnelly Dome**	58.23	31	P	**P**	**06 47 56.1 +0.8**
	baz=279,SNR=5.2					
C27K	**Jago River**	58.24	24	P	**P**	**06 47 56.0 +0.8**
	baz=277					
J25K	**Salcha River,**	58.29	30	IAmb	IAmb	06 48 22.5
	comp=Z,44nm,2.0s					
J25K	**Salcha River,**	58.29	30	P	**P**	**06 47 56.8 +1.2**
	baz=279					
M24K	**Tolsona, Glenn**	58.33	33	P	**P**	**06 47 56.9 +0.9**
	baz=280					
F26K	**Sheenjek River**	58.34	26	P	**P**	**06 47 57.0 +1.1**
	baz=278,SNR=56					
FID	**Port Fidalgo**	58.42	35	IAmb	IAmb	06 48 08.6
	comp=Z,36nm,1.4s					
PAX	**Paxson**	58.51	32	IAmb	IAmb	06 48 42.6
	comp=Z,53nm,2.0s					
PAX	**Paxson**	58.51	32	P	**P**	**06 47 58.1 +0.9**
	baz=280					
KLU	**Klutina**	58.55	34	P	**P**	**06 47 58.6 +1.0**
	baz=280					
G26K	**Porcupine Rive**	58.58	27	P	**P**	**06 47 57.9 +0.4**
	baz=279,SNR=24					
RIDG	**Independent Ri**	58.66	31	P	**P**	**06 47 59.7 +1.4**
RIDG				IAmb	IAmb	06 49 03.9
	comp=Z,22nm,1.2s					
RIDG	**Independent Ri**	58.66	31	P	**P**	**06 47 59.2 +1.0**
	baz=280					
DIV	**Divide**	58.69	34	P	**P**	**06 48 00.5 +2.0**
DIV				IAmb	IAmb	06 48 23.1
	comp=Z,30nm,1.3s					
HARP	**HAARP**	58.75	33	P	**P**	**06 47 59.8 +1.0**
	baz=280					
EYAK	**Cordova Ski Ar**	58.81	35	P	**P**	**06 48 00.1 +0.9**
	baz=281					
SCRK	**Sand Creek**	58.99	31	IAmb	IAmb	06 48 31.0
	comp=Z,20nm,1.0s					
SCRK	**Sand Creek**	58.99	31	P	**P**	**06 48 01.6 +0.9**
	baz=280,SNR=17					
DOT	**Dot Lake**	59.02	31	IAmb	IAmb	06 48 12.5
	comp=Z,38nm,1.5s					
J26L	**Joseph Creek**	59.08	30	P	**P**	**06 48 02.2 +1.0**
	baz=280,SNR=9.3					
I26K	**Coal Creek Min**	59.10	29	P	**P**	**06 48 01.9 +0.7**
	baz=280,SNR=7.3					
N25K	**Chitina, Valde**	59.15	34	P	**P**	**06 48 03.1 +1.3**
	baz=281,SNR=5.5					
E27K	**Coleen River**	59.21	26	IAmb	IAmb	06 48 05.9
	comp=Z,25nm,0.9s					
E27K	**Coleen River**	59.21	26	P	**P**	**06 48 03.5 +1.5**
	baz=280,SNR=36					
D27M	**Malcolm River**	59.26	24	P	**P**	**06 48 03.4 +1.0**
	baz=280,SNR=14					
BMRM	**Bremner River**	59.28	34	IAmb	IAmb	06 48 25.9
	comp=Z,26nm,1.0s					
BMRM	**Bremner River**	59.28	34	P	**P**	**06 48 03.8 +1.2**
	baz=282,SNR=6.9					
MENT	**Mentasta**	59.30	32	P	**P**	**06 48 04.9 +2.2**
MENT				IAmb	IAmb	06 48 33.6
	comp=Z,19nm,0.9s					
G27K	**Doyon Strip**	59.44	27	IAmb	IAmb	06 48 08.9
	comp=Z,17nm,1.1s					
G27K	**Doyon Strip**	59.44	27	P	**P**	**06 48 05.1 +1.5**
	baz=281,SNR=16					
L26K	**Log Cabin Wild**	59.45	32	IAmb	IAmb	06 48 35.1
	comp=Z,21nm,1.1s					
L26K	**Log Cabin Wild**	59.45	32	P	**P**	**06 48 05.0 +1.3**
	baz=281,SNR=9.5					
KIRV	**Kirov**	59.51	323	P	**P**	**06 48 03.2 -0.9**
	comp=Z,9.8nm,0.4s,baz=79,slow=7.6,SNR=9.3					
KIRV				LR	LR	07 16 56.0
	comp=Z,2μm,20.8s,baz=80,slow=39					
	comp=Z,9.8nm,0.4s					
GLB	**Gilahina Butte**	59.56	34	IAmb	IAmb	06 48 10.0
	comp=Z,26nm,1.4s					
KAIM	**Kayak Island**	59.58	35	P	**P**	**06 48 05.7 +1.1**
	baz=282					
H27K	**Steamboat Moun**	59.59	28	P	**P**	**06 48 05.7 +1.0**
	baz=281,SNR=19					
I27K	**Kandik River**	59.68	29	P	**P**	**06 48 06.8 +1.5**
	baz=281,SNR=29					
M26K	**Nabesna, AK**	59.73	32	P	**P**	**06 48 06.8 +1.1**
	baz=282,SNR=28					
VRDI	**Verde Repeater**	59.77	34	P	**P**	**06 48 08.0 +1.8**
VRDI				IAmb	IAmb	06 48 52.1
	comp=Z,20nm,1.0s					
K27K	**Chicken**	59.80	31	IAmb	IAmb	06 48 10.9
	comp=Z,30nm,1.2s					
K27K	**Chicken**	59.80	31	P	**P**	**06 48 07.6 +1.6**
	baz=282					
BERG	**Berg Lake**	59.83	35	IAmb	IAmb	06 48 19.0
	comp=Z,30nm,1.0s					
E28M	**Babbage River**	59.88	25	IAmb	IAmb	06 48 10.4
	comp=Z,20nm,0.9s					
E28M	**Babbage River**	59.88	25	P	**P**	**06 48 07.8 +1.2**
	baz=282,SNR=36					
D28M	**Stokes Point**	60.02	24	P	**P**	**06 48 08.7 +1.3**
	baz=282,SNR=19					
BGLC	**Bering Glacier**	60.09	35	P	**P**	**06 48 09.2 +1.1**
	baz=283					
L27K	**Beaver Creek,**	60.12	32	IAmb	IAmb	06 48 40.0
	comp=Z,26nm,1.1s					
L27K	**Beaver Creek,**	60.12	32	P	**P**	**06 48 09.2 +0.9**
	baz=283,SNR=18					
BCAR	**Beaver Creek A**	60.14	32	P	**P**	**06 48 11.1 +2.7**
M27K	**Edge Creek, AK**	60.25	32	IAmb	IAmb	06 48 14.1
	comp=Z,14nm,0.9s					
M27K	**Edge Creek, AK**	60.25	32	P	**P**	**06 48 10.8 +1.5**
	baz=283,SNR=9.6					
I28M	**Miner Creek**	60.40	29	P	**P**	**06 48 11.4 +1.2**
	baz=283,SNR=32					
E29M	**Blow River**	60.52	25	P	**P**	**06 48 12.5 +1.6**
	baz=283,SNR=65					
BVCY	**Beaver Creek**	60.70	32	P	**P**	**06 48 12.7 +0.5**
	baz=284					
MESA	**MESA**	60.73	35	P	**P**	**06 48 12.9 +0.1**
	baz=284					
G29M	**Pine Creek**	60.82	27	P	**P**	**06 48 14.1 +1.1**
	baz=284					
H29M	**Whitestone**	60.85	28	IAmb	IAmb	06 48 17.2
	comp=Z,25nm,1.0s					
H29M	**Whitestone**	60.85	28	P	**P**	**06 48 14.2 +1.0**
	baz=284,SNR=17					
DAWY	**Dawson**	60.95	30	P	**P**	**06 48 15.7 +1.8**
DAWY	**Dawson**	60.95	30	P	**P**	**06 48 15.8 +1.8**
	baz=284,SNR=5.2					
YUK3	**Moose Creek**	61.04	33	P	**P**	**06 48 15.7 +0.9**
	baz=284,SNR=8.9					
I29M	**Ogilvie Camp,**	61.08	29	P	**P**	**06 48 16.3 +1.5**
	baz=284,SNR=16					
J29N	**Klondike Camp**	61.35	30	IAmb	IAmb	06 48 21.7
	comp=Z,17nm,0.9s					
J29N	**Klondike Camp**	61.35	30	P	**P**	**06 48 17.3 +0.6**
	baz=285,SNR=14					
O28M	**Mount Upton**	61.42	34	P	**P**	**06 48 17.9 +0.4**
	baz=285					
EPYK	**Eagle Plains**	61.45	27	P	**P**	**06 48 18.5 +1.1**
	baz=285,SNR=32					
F30M	**Barrier River**	61.48	26	P	**P**	**06 48 18.7 +1.2**
	baz=285,SNR=38					
G30M	**tAoh Zrail Nji**	61.49	27	P	**P**	**06 48 18.2 +0.7**
	baz=285,SNR=67					
YUK8	**Steele Glacier**	61.49	33	P	**P**	**06 48 18.2 +0.2**
	baz=285					
PINM	**Pinnacle**	61.57	35	P	**P**	**06 48 19.2 +0.9**
	baz=286					
L29M	**L29M**	61.74	31	IAmb	IAmb	06 48 24.4
	comp=Z,25nm,0.9s					
L29M	**L29M**	61.74	31	P	**P**	**06 48 20.0 +0.7**
	baz=286,SNR=24					
M29M	**Somme Creek**	61.77	32	IAmb	IAmb	06 48 24.5
	comp=Z,13nm,0.9s					
M29M	**Somme Creek**	61.77	32	P	**P**	**06 48 21.0 +1.4**
	baz=286,SNR=15					
K29M	**Barlow Dome**	61.80	30	IAmb	IAmb	06 48 23.8
	comp=Z,25nm,1.2s					
K29M	**Barlow Dome**	61.80	30	P	**P**	**06 48 21.3 +1.5**
	baz=286,SNR=19					
I30M	**Mount Dempster**	61.90	29	P	**P**	**06 48 21.7 +1.2**
	baz=286,SNR=36					
YUK4	**Talbot Arm**	61.99	33	P	**P**	**06 48 22.9 +1.6**
	baz=286,SNR=6.2					
J30M	**Hart River**	62.10	29	IAmb	IAmb	06 48 45.8
	comp=Z,15nm,1.1s					
J30M	**Hart River**	62.10	29	P	**P**	**06 48 23.3 +1.5**
	baz=286,SNR=9.4					
PNL	**Peninsula**	62.10	35	P	**P**	**06 48 22.1 +0.3**
	baz=286					
INK	**Inuvik**	62.11	25	P	**P**	**06 48 23.1 +1.5**
INK				IAmb	IAmb	06 48 24.7
	comp=Z,24nm,0.9s					
INK	**Inuvik**	62.11	25	LR	LR	07 18 03.6
	comp=Z,416nm,19.1s,baz=269,slow=39					
INK	**Inuvik**	62.11	25	P	**P**	**06 48 23.1 +1.5**
INK				pmax	pmax	
	comp=Z,24nm,0.9s					
INK	**Inuvik**	62.11	25	P	**P**	**06 48 21.5 -0.1**
	baz=287,SNR=39					
YUK6	**Outpost Mounta**	62.24	33	P	**P**	**06 48 23.6 +0.6**
	baz=287					
G31M	**Satah River**	62.24	26	IAmb	IAmb	06 48 25.3
	comp=Z,17nm,0.8s					
G31M	**Satah River**	62.24	26	P	**P**	**06 48 24.2 +1.7**
	baz=287,SNR=19					
F31M	**Tsiigehtchic**	62.28	26	P	**P**	**06 48 23.8 +1.0**
	baz=287,SNR=25					
O29M	**Mount Kennedy**	62.32	34	IAmb	IAmb	06 48 36.1
	comp=Z,29nm,1.2s					
O29M	**Mount Kennedy**	62.32	34	P	**P**	**06 48 24.8 +1.4**
	baz=287,SNR=6.8					
M30M	**Minto, Yukon**	62.48	31	P	**P**	**06 48 25.6 +1.3**
	baz=287,SNR=8.6					
H31M	**Peel River**	62.54	28	P	**P**	**06 48 25.5 +0.8**
	baz=288,SNR=37					
MAYO	**Mayo, Yukon**	62.57	30	P	**P**	**06 48 25.3 +0.5**
	baz=287					
HYT	**Haines Junctio**	62.67	33	P	**P**	**06 48 26.6 +0.9**
HYT				IAmb	IAmb	06 48 38.2
	comp=Z,31nm,1.3s					
HYT	**Haines Junctio**	62.67	33	P	**P**	**06 48 26.1 +0.4**
	baz=287,SNR=9.8					
N30M	**Aishikik Lake**	62.68	33	P	**P**	**06 48 25.7 0.0**
	baz=287,SNR=6.7					
DZM	**Mont Dzumac**	63.12	144	*e*P	**P**	**06 48 30.0 +0.9**
	comp=Z,50nm,28.2s					
DZM				*e*S	**S**	**06 57 04.0 +5.8**
	comp=Z,642nm,26.9s					
DZM	**Mont Dzumac**	63.12	144	*e*LR	LR	07 07 24.9
	comp=Z,1μm,22.7s					
DZM	**Mont Dzumac**	63.12	144	P	**P**	**06 48 29.9 +0.9**
	comp=Z,14nm,1.0s,baz=13,slow=7.4,SNR=4.2					
	comp=Z,14nm,1.0s					
P30M	**Million Dollar**	63.14	34	P	**P**	**06 48 30.1 +1.3**
	baz=288					
N31M	**Braeburn, Yuko**	63.27	32	IAmb	IAmb	06 48 51.9
	comp=Z,22nm,0.9s					
N31M	**Braeburn, Yuko**	63.27	32	P	**P**	**06 48 30.3 +0.8**
	baz=288,SNR=11					
O30N	**Mendenhall**	63.35	33	P	**P**	**06 48 30.6 +0.5**
	baz=288,SNR=6.5					
A36M	**Sachs Harbour**	63.53	20	P	**P**	**06 48 32.6 +1.6**
A36M	**Sachs Harbour**	63.53	20	P	**P**	**06 48 32.1 +1.0**
	baz=292,SNR=123					
M31M	**Drury Creek, Y**	63.66	31	IAmb	IAmb	06 48 50.4
	comp=Z,28nm,1.4s					
M31M	**Drury Creek, Y**	63.66	31	P	**P**	**06 48 32.9 +0.8**
	baz=289,SNR=9.6					
KLMR	**Klimovskoe**	63.72	327	*e*P	**P**	**06 48 29.6 -2.8**
KLMR				*e**PP	**pP**	**06 48 40.3 -1.4**
KLMR				SSS	SSS	07 03 56.6
KLMR				pmax	pmax	
	comp=Z,28nm,1.4s					
KLMR				MLR	MLR	
	comp=Z,6μm,15.0s					
SPITS	**Spitsbergen Ar**	63.76	348	P	**P**	**06 48 32.5 0.0**
	comp=Z,13nm,1.1s,baz=70,slow=7.4,SNR=11					
SPITS				LR	LR	07 18 16.2
	comp=Z,1μm,18.6s,baz=11,slow=38					
	comp=Z,13nm,1.1s					
APA	**Apatity**	63.92	335⇓	*i*P	**P**	**06 48 32.7 -1.0**
APA				pmax	pmax	
	comp=Z,6.0nm,1.1s					
APA				MLR	MLR	
	comp=Z,2μm,18.0s					
WHY	**Whitehorse**	63.95	33	P	**P**	**06 48 34.0 -0.1**
	baz=290					
FARO	**Faro, Yukon**	64.11	31	IAmb	IAmb	06 48 39.9
	comp=Z,29nm,1.1s					
FARO	**Faro, Yukon**	64.11	31	P	**P**	**06 48 35.7 +0.6**
	baz=290,SNR=21					
SKAG	**Skagway**	64.14	35	IAmb	IAmb	06 49 04.8
	comp=Z,20nm,1.1s					
SKAG	**Skagway**	64.14	35	P	**P**	**06 48 36.5 +1.3**
	baz=290,SNR=7.1					
S31K	**Pelican**	64.20	36	P	**P**	**06 48 36.0 +0.4**
	baz=290					
R31K	**City Hall, Gus**	64.29	36	P	**P**	**06 48 36.8 +0.6**
	baz=290					
STKA	**Stephens Creek**	64.31	171	P	**P**	**06 48 37.0 +0.5**
STKA	**Stephens Creek**	64.31	171	P	**P**	**06 48 36.8 +0.2**
	comp=Z,66nm,1.1s					
STKA	**Stephens Creek**	64.31	171	P	**P**	**06 48 37.5 +0.9**
	comp=Z,3.1nm,0.8s,baz=340,slow=5.8,SNR=4.9					
STKA				LR	LR	07 16 17.8
	comp=Z,448nm,20.6s,baz=345,slow=36					
	comp=Z,3.1nm,0.8s					
STKA	**Stephens Creek**	64.31	171⇑	*e*P	**P**	**06 48 38.0 +1.4**
WSAR	**Wadi Sarin**	64.58	282	LR	LR	07 21 10.5
	comp=Z,4.4nm,18.2s,baz=100,slow=40					
N32M	**Quiet Lake**	64.61	32	IAmb	IAmb	06 49 09.7
	comp=Z,27nm,1.1s					
N32M	**Quiet Lake**	64.61	32	P	**P**	**06 48 38.7 +0.4**
	baz=291					
CMSA	**Cobar Meteorol**	64.63	167	P	**P**	**06 48 40.4 +1.8**
	comp=Z,15nm,2.5s					
P32M	**Atlin**	64.87	34	P	**P**	**06 48 39.7 -0.4**
	baz=291					
R32K	**Eaglecrest**	64.94	36	P	**P**	**06 48 40.7 +0.1**
	baz=291					
C36M	**Paulatuk**	64.95	22	P	**P**	**06 48 40.7 +0.3**
	baz=295,SNR=77					
SIT	**Sitka**	64.97	37	P	**P**	**06 48 40.7 0.0**
	baz=291					
P33M	**Teslin, Yukon**	65.06	33	IAmb	IAmb	06 48 46.4
	comp=Z,24nm,1.2s					
P33M	**Teslin, Yukon**	65.06	33	P	**P**	**06 48 41.5 +0.1**
	baz=291,SNR=16					
S32K	**Killisnoo**	65.20	36	P	**P**	**06 48 42.4 +0.2**
	baz=291					
MAK	**Makhachkala**	65.30	306	*e*P	**P**	**06 48 41.0 -2.1**
MAK				*e*		06 51 10.6
MAK				*e*S	**S**	**06 57 22.0 -2.8**
MAK				*e*SS	**SS**	**07 01 34.5 -3.0**
MAK				pmax	pmax	
	comp=Z,182nm,1.1s					
MAK				MLR	MLR	
	comp=Z,4μm,15.0s					
NOR	**Nord**	65.35	355	*i* P	**P**	**06 48 43.0 +0.2**
ARCES	**ARCESS Array B**	65.78	338	P	**P**	**06 48 44.6 -1.1**
	comp=Z,10.0nm,0.9s,baz=61,slow=5.3,SNR=15					
ARCES				LR	LR	07 22 18.9
	comp=Z,1μm,19.6s,baz=66,slow=40					
	comp=Z,10.0nm,0.9s					
Q32M	**Nakina River**	65.79	34	P	**P**	**06 48 46.3 +0.1**
	baz=292					
VRH	**Novokhopyorsk**	65.94	316	*e*P	**P**	**06 48 44.5 -2.6**
VRH				pmax	pmax	
	comp=Z,39nm,0.6s					
EUNU	**Eureka**	66.03	7	IAmb	IAmb	06 48 49.6
	comp=Z,25nm,1.2s					
R33M	**Jennings River**	66.24	34	IAmb	IAmb	06 49 06.5
	comp=Z,40nm,1.9s					
R33M	**Jennings River**	66.24	34	P	**P**	**06 48 48.2 -0.9**
	baz=293					
NWAO	**Narrogin (SRO)**	66.24	194	P	**P**	**06 48 50.1 +1.0**
NWAO	**Narrogin (SRO)**	66.24	194	LR	LR	07 18 36.1
	comp=Z,127nm,21.8s,baz=70,slow=37					
NWAO	**Narrogin (SRO)**	66.24	194	P	**P**	**06 48 50.1 +1.0**
NWAO				pmax	pmax	
	comp=Z,39nm,1.2s					
MSVF	**Nonsavu**	66.28	132	LR	LR	07 12 23.8
	comp=Z,426nm,21.6s,baz=350,slow=31					
U33K	**Whale Pass**	66.45	38	P	**P**	**06 48 50.1 -0.2**
	baz=293					
MOS	**Moscow**	66.49	322	*e*P	**P**	**06 48 48.4 -2.1**
MOS				*e*		06 51 14.1
MOS				pmax	pmax	
	comp=Z,64nm,0.9s					
MOS				MLR	MLR	
	comp=Z,5μm,15.0s					
MOS				MLR	MLR	
	comp=N,2μm,14.0s					
MOS				MLR	MLR	
	comp=E,4μm,15.0s					
CRAG	**Craig**	66.71	38	P	**P**	**06 48 52.0 +0.1**
	baz=293					
WRAK	**Wrangell Islan**	66.73	37	P	**P**	**06 48 52.5 +0.5**
	baz=293					
S34M	**Telegraph Cree**	66.75	35	P	**P**	**06 48 52.5 +0.3**
	baz=294					
WTLY	**Watson Lake, Y**	66.95	33	IAmb	IAmb	06 49 27.0
	comp=Z,16nm,1.2s					
WTLY	**Watson Lake, Y**	66.95	33	P	**P**	**06 48 54.1 +0.6**
	baz=294,SNR=5.8					
LPSR	**Galich'ya Gora**	67.00	319	*e*P	**P**	**06 48 52.0 -1.9**
LPSR				pmax	pmax	
	comp=Z,55nm,0.9s					
DLBC	**Dease Lake**	67.07	34	IAmb	IAmb	06 49 07.8
	comp=Z,34nm,1.6s					
DLBC	**Dease Lake**	67.07	34	P	**P**	**06 48 54.7 +0.4**
	baz=294					
VORR	**Voronezh**	67.21	318	*e*P	**P**	**06 48 53.8 -1.4**
VORR				pmax	pmax	
	comp=Z,29nm,0.7s					
OBN	**Obninsk**	67.29	322	P	**P**	**06 48 54.1 -1.5**
	comp=Z,15nm,0.4s,baz=17,slow=4.5,SNR=6.1					
OBN				LR	LR	07 21 26.2
	comp=Z,3μm,18.8s,baz=54,slow=39					
	comp=Z,15nm,0.4s					
OBN	**Obninsk**	67.29	322⇓	*i*P	**P**	**06 48 54.2 -1.4**
OBN				*i*		06 49 04.0
OBN				*i* S	**S**	**06 57 56.5 +8.1**
OBN				*i* SS	**SS**	**07 02 15.0 +7.3**
OBN				pmax	pmax	
	comp=Z,57nm,1.7s					
OBN				MLR	MLR	
	comp=Z,5μm,15.0s					
VSR	**Storozhevoye**	67.42	317	*e*P	**P**	**06 48 52.9 -3.6**
VSR				pmax	pmax	
	comp=Z,30nm,0.7s					
VSR				MLR	MLR	
	comp=Z,4μm,16.0s					
VORD	**Divnogorie**	67.44	317	*e*P	**P**	**06 48 53.9 -2.8**
VORD				pmax	pmax	
	comp=Z,20nm,1.1s					
GOF	**Gofitskoye**	67.48	310	*c e*P	**P**	**06 48 56.2 -0.8**
V35K	**Ketchikan**	67.55	38	P	**P**	**06 48 57.4 +0.1**
	baz=294					
T35M	**Bob Quinn**	67.56	36	P	**P**	**06 48 57.8 +0.4**
	baz=295					
WRGLY	**Wrigley**	67.88	28	IAmb	IAmb	06 49 13.5
	comp=Z,30nm,1.2s					
WRGLY	**Wrigley**	67.88	28	P	**P**	**06 48 59.1 -0.1**
	baz=298,SNR=7.2					
KBZ	**Khabaz**	68.11	309	P	**P**	**06 48 59.6 -1.3**
	comp=Z,10.0nm,0.8s,baz=71,slow=1.9,SNR=27					
KBZ				LR	LR	07 22 48.7
	comp=Z,3μm,19.3s,baz=70,slow=40					
	comp=Z,10.0nm,0.8s					
U35K	**Hyder**	68.12	37	P	**P**	**06 49 00.7 -0.1**
	baz=295					
KVAR	**Kislovodsk Arr**	68.15	309	LR	LR	07 22 05.0
	comp=Z,2μm,19.2s,baz=258,slow=39					
KIV	**Kislovodsk**	68.15	309	P	**P**	**06 49 00.6 -0.9**
KIV	**Kislovodsk**	68.15	309	⇓P	**P**	**06 49 01.1 -0.3**
KIV	**Kislovodsk**	68.15	309	*e*P	**P**	**06 49 00.3 -1.1**
KIV				*e*S	**S**	**06 57 57.4 -2.1**
KIV				*e*SS	**SS**	**07 02 21.3 -0.6**
KIV				pmax	pmax	
	comp=Z,35nm,1.0s					
KIV				MLR	MLR	
	comp=Z,1μm,17.0s					
KIV	**Kislovodsk**	68.15	309	P	**P**	**06 49 00.9 -0.5**
	comp=Z,542nmcomp=Z,38nm,1.2s					
SHA1	**Shidzhatmaz**	68.26	309	*c i*P	**P**	**06 49 01.2 -1.1**
GNI	**Garni**	68.31	305	P	**P**	**06 49 02.1 -0.5**
GNI				IAmb	IAmb	06 49 26.5
	comp=Z,26nm,0.9s					
GNI	**Garni**	68.31	305	P	**P**	**06 49 01.3 -1.2**
	comp=Z,5.0nm,0.4s,baz=54,slow=4.0,SNR=7.5					
GNI				LR	LR	07 21 37.6
	comp=Z,630nm,18.5s,baz=56,slow=38					
	comp=Z,5.0nm,0.4s					
GNI	**Garni**	68.31	305	*c i*P	**P**	**06 49 02.3 -0.3**
GNI				pmax	pmax	
	comp=Z,17nm,0.9s					
GNI	**Garni**	68.31	305	P	**P**	**06 49 02.0 -0.5**
	comp=Z,28nm,1.1s					
ERBR	**Yeremizino-Bor**	68.86	311	*e*P	**P**	**06 49 08.0 +2.3**
ERBR				*e*S	**S**	**06 58 13.

comp=E,4µm,15.0s
LABN MLR MLR
comp=Z,5µm,17.0s
LABN MLR MLR
comp=N,4µm,18.0s
FINES FINESS Array B 69.41 330 P **P 06 49 07.5 -1.3**
comp=N,5.2nm,0.4s,baz=69,slow=5.9,SNR=58
FINES LR LR 07 22 30.5
comp=N,1µm,18.9s,baz=64,slow=38
comp=N,5.2nm,0.4s
VSLR Vesyoloye 70.11 309⇑ *e*P **P 06 49 13.0 -0.4**
VSLR pmax pmax
comp=Z,46nm,1.2s
SOC Sochi 70.26 310 *e*P **P 06 49 11.0 -3.4**
SOC *e* 06 51 45.1
SOC *e*PPP PPP 06 53 27.0
SOC *e*S **S 06 58 19.4 -4.8**
SOC *e*SS **SS 07 02 51.1 -3.0**
SOC *e*SSS SSS 07 05 57.1
SOC MLR MLR
comp=Z,3µm,21.0s
GEVA Gevas 70.27 303 IAmb IAmb 06 49 15.3
comp=Z,24nm,1.0s
VSU Vasula 70.61 328⇓ *i*P **P 06 49 13.9 -2.2**
VSU pmax pmax
comp=Z,23nm,1.0s
NEEM North Greenlan 70.64 1 *i*P **P 06 49 17.7 +1.2**
BBB Bella Bella 70.80 40 LR LR 07 18 17.2
comp=Z,159nm,21.1s,baz=298,slow=34
GURO Guroymak-BITLI 70.89 304 IAmb IAmb 06 49 19.2
comp=Z,19nm,1.0s
ANN Anapa 71.20 311 *e*P **P 06 49 21.8 +1.8**
ANN *e**PP **sP 06 49 33.6 +0.7**
ANN *e*S **S 06 58 41.5 +6.5**
ANN pmax pmax
comp=Z,15nm,0.9s
ANN MLR MLR
comp=N,841nm,16.0s
ANN MLR MLR
comp=Z,2µm,16.0s
ANN MLR MLR
comp=E,1µm,16.0s
KOPT Kop Dagi 71.31 306 IAmb IAmb 06 50 13.2
comp=Z,16nm,1.0s
YKA Yellowknife Ar 71.73 27 P **P 06 49 24.2 +1.3**
YKA Yellowknife Ar 71.73 27 P **P 06 49 23.9 +1.0**
comp=Z,7.0nm,1.0s,baz=298,slow=5.8,SNR=60
YKA LR LR 07 24 23.2
comp=Z,213nm,18.5s,baz=288,slow=39
comp=Z,7.0nm,1.0s
YKA Yellowknife Ar 71.73 27 P **P 06 49 24.2 +1.3**
MNK Minsk 72.04 324 *i*P **P 06 49 22.4 -2.5**
MNK *i* 06 52 03.4
MNK *i*PPP PPP 06 53 47.9
MNK *i*S **S 06 58 41.4 -3.0**
MNK *i*SS **SS 07 03 21.4 +0.5**
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,24nm,1.0s
MNK pmax pmax
comp=E,20nm,1.1s
MNK MLR MLR
comp=Z,4µm,16.0s
MNK MLR MLR
comp=N,3µm,16.0s
MNK MLR MLR
comp=E,2µm,16.0s
DBG Daneborg 72.24 352 *i*P **P 06 49 25.7 -0.1**
SIM Simferopol' 73.22 313 *e*P **P 06 49 31.6 -0.5**
SIM pmax pmax
comp=Z,34nm,1.2s
SIM MLR MLR
comp=Z,1µm,19.0s
AK03 Malin Array Si 73.24 320 P **P 06 49 30.5 -1.6**
AKASG Malin Array Be 73.25 320 P **P 06 49 30.6 -1.5**
AKASG Malin Array Be 73.25 320 P **P 06 49 30.7 -1.5**
comp=Z,10nm,0.4s,baz=56,slow=6.2,SNR=91
AKASG LR LR 07 24 17.8
comp=Z,2µm,18.6s,baz=58,slow=38
comp=Z,10nm,0.4s
AKBB Malin Array Si 73.25 320*c* *i*P **P 06 49 30.7 -1.5**
AKBB pmax pmax
comp=Z,49nm,1.0s
AKBB Malin Array Si 73.25 320 P **P 06 49 30.6 -1.6**
AK09 Malin Array Si 73.27 320 P **P 06 49 30.8 -1.5**
AK01 Malin Array Si 73.27 320 P **P 06 49 30.8 -1.5**
KIEV Kiev 73.27 320 P **P 06 49 30.6 -1.7**
KIEV IAmb IAmb 06 49 31.9
comp=Z,32nm,0.9s
KIEV Kiev 73.27 320 ⇑P **P 06 49 30.8 -1.5**
KIEV Kiev 73.27 320 P **P 06 49 30.8 -1.5**
KIEV Kiev 73.27 320 P **P 06 49 30.6 -1.7**
comp=Z,214nm,1.4s
AK08 Malin Array Si 73.27 320 P **P 06 49 30.9 -1.4**
AK04 Malin Array Si 73.28 320 P **P 06 49 30.8 -1.5**
AK23 Malin Array Si 73.28 320 P **P 06 49 31.0 -1.3**
AK02 Malin Array Si 73.29 320 P **P 06 49 30.9 -1.5**
AK10 Malin Array Si 73.29 320 P **P 06 49 31.0 -1.4**
AK11 Malin Array Si 73.30 320 P **P 06 49 31.0 -1.5**
AK05 Malin Array Si 73.31 320 P **P 06 49 31.0 -1.5**
AK22 Malin Array Si 73.31 320 P **P 06 49 31.0 -1.5**
AK15 Malin Array Si 73.31 320 P **P 06 49 31.1 -1.4**
AK21 Malin Array Si 73.32 320 P **P 06 49 31.1 -1.5**
AK12 Malin Array Si 73.32 320 P **P 06 49 31.1 -1.5**
KULLO Kullorsuaq 73.36 3 *i*P **P 06 49 32.5 +0.1**
JMIC Jan Mayen 73.42 347 LR LR 07 23 26.2
comp=Z,406nm,18.4s,baz=242,slow=37
LUBAR Lubar, Ukraine 74.46 319 P **P 06 49 38.0 -1.3**
SUW Suwalki 74.64 325 *e*P **P 06 49 38.6 -1.6**
GAZ Gaziantep 74.91 304 IAmb IAmb 06 49 42.9
comp=Z,22nm,1.0s
SORM Soroca 75.06 318 ⇑P **P 06 49 41.3 -1.5**
SORM Soroca 75.06 318 P **P 06 49 41.3 -1.5**
HFS Hagfors 75.15 333 P **P 06 49 41.8 -1.3**
comp=Z,3.3nm,0.4s,baz=57,slow=5.5,SNR=18
HFS LR LR 07 26 46.6
comp=Z,1µm,19.2s,baz=49,slow=39
comp=Z,3.3nm,0.4s
RAYN Ar Rayn 75.18 289 P **P 06 49 42.4 -1.6**
RAYN IAmb IAmb 06 49 43.8
comp=Z,19nm,1.1s
RAYN Ar Rayn 75.18 289 P **P 06 49 43.4 -0.6**
UPNV Upernavik 75.19 3 *i*P **P 06 49 43.4 +0.3**
SUMG Summit 75.35 357 *i*P **P 06 49 45.7 +1.1**
ILGA Ilgaz 75.38 309 IAmb IAmb 06 50 57.2
comp=Z,40nm,1.2s
MILM Milestii Mici 75.43 316 *e*P **P 06 49 49.0 +4.1**
MILM *e*L L 07 18 56.0
MILM LRM MLR 07 25 28.0
comp=Z,2µm,14.0s
MILM Milestii Mici 75.43 316 *e*P **P 06 49 49.0 +4.1**
MILM MLR MLR
comp=Z,3µm,15.0s
MILM MLR MLR
comp=N,2µm,14.0s
MILM MLR MLR
comp=E,2µm,17.0s
NB2 NORSAR Subarra 75.50 334 P **P 06 49 43.5 -1.6**
comp=Z,89nm,2.0s,baz=50,slow=5.9
NB2 NORSAR Subarra 75.50 334 P **P 06 49 43.5 -1.6**
baz=50,slow=5.9
NOA NORSAR Array B 75.50 334 P **P 06 49 43.1 -2.0**
comp=Z,3.9nm,0.8s,baz=48,slow=5.6,SNR=15
NOA LR LR 07 26 05.3
comp=Z,2µm,20.3s,baz=45,slow=38
comp=Z,3.9nm,0.8s
SCO Scoresbysund 75.98 351 *i*P **P 06 49 48.6 +0.9**
SCO IAmb IAmb 06 49 50.1
comp=Z,99nm,1.5s
BR131 Keskin Array S 76.09 308 P **P 06 49 48.1 -1.0**
BR131 Keskin Array S 76.09 308*ce*P **P 06 49 47.8 -1.3**
BRTR Keskin Array B 76.09 308 P **P 06 49 47.5 -1.6**
BRTR Keskin Array B 76.09 308 P **P 06 49 48.2 -0.9**
comp=Z,9.7nm,0.9s,baz=106,slow=4.4,SNR=24
BRTR LR LR 07 27 59.1
comp=Z,947nm,19.9s,baz=52,slow=39
comp=Z,9.7nm,0.9s
BR104 Keskin Array S 76.10 308 P **P 06 49 48.0 -1.1**
NUUG Nuugaatsiaq 76.53 2 *e*P **P 06 49 51.1 +0.4**
CFR Carcaliu 76.75 315 ⇓P **P 06 49 51.6 -0.9**
CFR Carcaliu 76.75 315 P **P 06 49 51.5 -0.9**
TPGR Topolog 76.75 315 ⇑P **P 06 49 52.5 0.0**
TESR Tescani 76.91 317 ⇓P **P 06 49 52.8 -0.6**
BEL Belsk 77.08 324 *e*P **P 06 49 54.1 -0.1**

BURAR Bucovina Array 77.12 318 P **P 06 49 53.7 -1.0**
BURAR Bucovina Array 77.12 318 ⇑P **P 06 49 54.2 -0.6**
BURAR Bucovina Array 77.12 318 P **P 06 49 54.1 -0.6**
VRI Vrincioaia 77.22 316 ⇑P **P 06 49 54.8 -0.3**
VRI Vrincioaia 77.22 316 P **P 06 49 54.8 -0.3**
PLOR Plostina 77.27 316 ⇑P **P 06 49 55.6 +0.1**
PLOR Plostina 77.27 316 P **P 06 49 55.5 +0.1**
KWP Kalwaria Pacla 77.36 321 *e*P **P 06 49 56.2 +0.4**
UMMG Uummannaq 77.42 1 *e*P **P 06 49 56.6 +0.8**
ASF Jabal al Asfar 77.59 300 P **P 06 49 56.2 -1.4**
comp=Z,2.1nm,0.5s,baz=170,slow=1.4,SNR=5.9
ASF LR LR 07 29 58.2
comp=Z,567nm,18.5s,baz=87,slow=40
comp=Z,2.1nm,0.5s
MLR Muntele Rosu 77.88 316 P **P 06 49 57.9 -1.1**
comp=Z,4.9nm,0.5s,baz=330,slow=8.9,SNR=5.2
MLR LR LR 07 27 19.4
comp=Z,2µm,20.6s,baz=68,slow=38
comp=Z,4.9nm,0.5s
DOPR Dopca 77.94 317 ⇑P **P 06 49 59.3 +0.1**
KOLS Kolonicke sedl 78.00 321 *e*P **P 06 49 58.6 -0.8**
KOLS pmax pmax
comp=Z,14nm,0.9s
KOLS Kolonicke sedl 78.00 321 *e*P **P 06 49 58.6 -0.8**
STHS Stebnicka Huta 78.26 321 *e*P **P 06 49 59.7 -1.2**
STHS pmax pmax
comp=Z,29nm,1.5s
STHS Stebnicka Huta 78.26 321 *e*P **P 06 49 59.7 -1.2**
E07A Sunnyside 78.32 42 IAmb IAmb 06 50 14.1
comp=Z,32nm,1.6s
VOIR 78.43 317 ⇑P **P 06 50 01.7 -0.3**
VOIR 78.43 317 P **P 06 50 01.7 -0.3**
C09A Chrisman Ranch 78.50 40 P **P 06 50 03.8 +1.6**
OJC Ojcow 78.54 323 *e*P **P 06 50 01.9 -0.5**
G06A Carlson Farm, 78.62 44 IAmb IAmb 06 50 29.2
comp=Z,41nm,1.8s
ARR Arges 78.71 317 ⇑P **P 06 50 03.5 -0.1**
NIE Niedzica 78.76 322 *e*P **P 06 50 03.8 +0.1**
NEW Newport 78.85 40 LR LR 07 22 35.2
comp=Z,137nm,21.9s,baz=307,slow=34
ICESG Greenland Ices 78.88 357 *i*P **P 06 50 04.9 +0.5**
ILULI Ilulissat 78.91 1 IAmb IAmb 06 50 05.9
comp=Z,37nm,1.1s
ILULI Ilulissat 78.91 1 *e*P **P 06 50 04.9 +0.8**
PINE Pine Mountain 79.25 45 IAmb IAmb 06 50 31.4
comp=Z,59nm,1.6s
YBH Yreka Blue Hor 79.32 47 LR LR 07 21 37.3
comp=Z,118nm,19.6s,baz=318,slow=33
LANS Liptovska Anna 79.36 322 *e*P **P 06 50 07.5 +0.6**
LANS pmax pmax
comp=Z,10.0nm,1.1s
LANS Liptovska Anna 79.36 322 *e*P **P 06 50 07.5 +0.6**
LNOR Lincton Mounta 79.61 42 IAmb IAmb 06 50 21.3
comp=Z,38nm,2.0s
OKC Ostrava-Krasne 79.62 323 AMS AMS 07 29 40.0
comp=Z,6µm,15.0s
STEB Steborice 79.75 323 *e*P **P 06 50 09.4 +0.4**
GZR Gura Zlata 79.77 318 ⇓P **P 06 50 09.4 +0.1**
GZR Gura Zlata 79.77 318 P **P 06 50 09.4 +0.1**
PSZ Piszkesteto 79.87 321 ⇓P **P 06 50 09.5 -0.3**
PSZ Piszkesteto 79.87 321 P **P 06 50 09.5 -0.3**
SIRR Siria 79.89 319 ⇑P **P 06 50 09.5 -0.4**
KSP Ksiaz 79.92 325 *e*P **P 06 50 09.5 -0.4**
SURR Surduc 79.93 318 ⇑P **P 06 50 09.9 -0.2**
MORC Moravsky Berou 79.96 323 IAmb IAmb 06 50 11.3
comp=Z,37nm,1.3s
MORC Moravsky Berou 79.96 323 *e*P **P 06 50 09.3 -0.9**
MORC Moravsky Berou 79.96 323 ⇓P **P 06 50 09.9 -0.4**
MORC Moravsky Berou 79.96 323 P **P 06 50 09.8 -0.4**
OSTC Ostas 80.14 324 AMS AMS 07 29 40.0
comp=Z,9µm,16.0s
KRLC Kraliky 80.16 324 AMS AMS 07 29 50.0
comp=Z,9µm,15.1s
CHVC Chvalec 80.20 324 AMS AMS 07 29 50.0
comp=Z,8µm,15.9s
DPC Dobruska-Polom 80.22 324 AMS AMS 07 29 50.0
comp=Z,9µm,15.3s
UPC Upice 80.27 324 AMS AMS 07 29 50.0
comp=Z,9µm,15.6s
EIL Elat 80.31 299 P **P 06 50 11.9 -0.5**
comp=Z,1.7nm,0.5s,baz=55,slow=4.6,SNR=1.8
EIL LR LR 07 32 35.0
comp=Z,426nm,18.6s,baz=64,slow=41
comp=Z,1.7nm,0.5s
JAVC Velka Javorina 80.47 322 *e*P **P 06 50 13.5 +0.5**
VRAC Vranov 80.74 323 P **P 06 50 13.5 -0.9**
comp=Z,10nm,0.8s,baz=62,slow=6.1,SNR=20
VRAC LR LR 07 29 59.1
comp=Z,2µm,18.4s,baz=51,slow=39
comp=Z,10nm,0.8s
VRAC Vranov 80.74 323 *e*P **P 06 50 14.0 -0.4**
VRAC Vranov 80.74 323 ⇓P **P 06 50 14.3 -0.1**
VRAC Vranov 80.74 323 P **P 06 50 14.3 -0.1**
MDVR Moldovita 80.74 317 ⇑P **P 06 50 13.6 -0.9**
SRO Srobarova 80.78 321 *e*P **P 06 50 15.6 +1.0**
SRO Srobarova 80.78 321 *e*P **P 06 50 15.6 +1.0**
SMOL Smolenice 80.81 322 *e*P **P 06 50 15.4 +0.6**
SMOL pmax pmax
comp=Z,34nm,1.5s
PVCC Panska Ves 80.96 325 AMS AMS 07 30 10.0
comp=Z,6µm,16.0s
MODS Modra-Piesok 80.97 322 *e*P **P 06 50 16.2 +0.5**
MODS pmax pmax
comp=Z,122nm,1.4s
MODS Modra-Piesok 80.97 322 *e*P **P 06 50 16.2 +0.5**
KRUC Moravsky 81.00 323 *e*P **P 06 50 15.1 -0.6**
BRG Berggiesshubel 81.04 326 *e*P **P 06 50 15.8 -0.1**
BRG Amp 06 50 17.8
comp=Z,19nm,1.4s
BRG pP **sP 06 50 28.7 0.0**
BRG Amp 06 50 30.0
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 81.04 326 S **SKSac 07 00 31.0 -1.5**
SFJD Kangerlussuaq 81.14 1 P **P 06 50 16.2 +0.1**
SFJD Kangerlussuaq 81.14 1 LR LR 07 28 42.2
comp=Z,824nm,18.4s,baz=346,slow=37
SFJD Kangerlussuaq 81.14 1 P **P 06 50 16.3 +0.1**
SFJD pmax pmax
comp=Z,64nm,1.4s
SFJD Kangerlussuaq 81.14 1 *e*P **P 06 50 16.3 +0.1**
BORG Borgarnes 81.21 349 LR LR 07 27 30.1
comp=Z,254nm,19.2s,baz=14,slow=36
GOPC GO Pecny, Ondr 81.25 324 AMS AMS 07 30 30.0
comp=Z,8µm,15.9s
TREC Trest 81.31 324 AMS AMS 07 30 40.0
comp=Z,10µm,15.3s
PRA Prague 81.33 325 AMS AMS 07 30 30.0
comp=Z,7µm,15.8s
PRU Pruhonice 81.33 325 AMS AMS 07 30 10.0
comp=Z,7µm,15.6s
HSKC Hora Svate Kat 81.46 326 AMS AMS 07 31 10.0
comp=Z,5µm,14.1s
MORH Mrgy, Hungar 81.59 320 ⇓P **P 06 50 18.7 -0.2**
FCC Fort Churchill 81.60 22 IAmb IAmb 06 50 21.0
comp=Z,26nm,1.0s
URZ Urewera 81.61 146 LR LR 07 23 22.6
comp=Z,150nm,18.8s,baz=72,slow=33
FFC Flin Flon 81.78 28 P **P 06 50 20.4 +0.6**
FFC Flin Flon 81.78 28 P **P 06 50 20.4 +0.6**
FFC pmax pmax
comp=Z,10.0nm,1.0s
ZVC Zvikov 81.86 324 AMS AMS 07 30 50.0
comp=Z,8µm,15.6s
RONA Rosalia, Austr 81.91 322 *i*P **P 06 50 20.8 +0.1**
comp=Z,24nm,1.3s,SNR=6.6
CONA Conrad Observa 81.99 322 *e*P **P 06 50 21.3 +0.2**
comp=Z,26nm,1.2s,SNR=15
NKC Novy Kostel 82.18 326 AMS AMS 07 31 40.0
comp=Z,6µm,14.4s
CKRC Cesky Krumlov 82.20 324 AMS AMS 07 31 00.0
comp=Z,10µm,15.4s
KHC Kasperske Hory 82.36 324 *e*P **P 06 50 24.1 +1.1**
KHC AMS AMS 07 31 10.0
comp=Z,9µm,15.9s
KHC Kasperske Hory 82.36 324*c* *i*P **P 06 50 22.2 -0.8**
KHC pmax pmax
comp=Z,48nm,1.6s
MFID Camas Ranch 82.48 43 IAmb IAmb 06 50 36.5
comp=Z,28nm,1.4s
GEC2 GERESS Array S 82.49 324 IAmb IAmb 06 50 24.5
comp=Z,34nm,1.6s
GERES GERESS Array B 82.49 324 P **P 06 50 22.6 -1.2**
GERES GERESS Array B 82.49 324 P **P 06 50 22.9 -0.8**
comp=Z,2.8nm,0.8s,baz=46,slow=3.9,SNR=18
comp=Z,2.8nm,0.8s

GERES GERESS Array B 82.49 324 P **P 06 50 23.0 -0.8**
ARSA Arzberg 82.60 322 *e*P **P 06 50 23.8 -0.5**
comp=Z,14nm,1.2s,SNR=5.2
KOGS Kog 82.73 321 *e*P **P 06 50 23.8 -1.2**
MOA Molln 82.86 323 *i*P **P 06 50 25.5 -0.1**
comp=Z,19nm,1.2s,SNR=7.8
EGMT Eagleton 82.86 37 IAmb IAmb 06 51 00.7
comp=Z,19nm,1.0s
FRB Frobisher Bay 83.03 9 LR LR 07 28 54.4
comp=Z,603nm,20.1s,baz=342,slow=37
GRFO Grafenberg 83.13 326 P **P 06 50 26.1 -0.8**
GRFO Grafenberg 83.13 326 P **P 06 50 26.1 -0.8**
GRFO pmax pmax
comp=Z,110nm,1.4s
PERS Pernice 83.21 322 *i*P **P 06 50 27.1 -0.3**
SOKA Soboth 83.23 322 *e*P **P 06 50 27.2 -0.4**
comp=Z,50nm,1.2s,SNR=24
BIOA Bad Ischl, Aus 83.28 323 *i*P **P 06 50 27.5 -0.3**
comp=Z,23nm,1.2s,SNR=7.2
ATD Arta Tunnel 83.37 279 LR LR 07 29 25.9
comp=Z,22nm,22.0s,baz=40,slow=37
PDG Podgorica 83.58 317 ⇓P **P 06 50 29.3 -0.1**
OBKA Obir 83.59 322 *i*P **P 06 50 28.9 -0.6**
comp=Z,23nm,1.1s
KBA Koelnbreinsper 83.84 323 *e*P **P 06 50 29.9 -0.9**
comp=Z,35nm,1.9s,SNR=7.1
LJU Ljubljana 83.91 322 *i*P **P 06 50 30.6 -0.5**
LJU *i* 06 50 32.0
comp=Z,41nm,1.1s
LESA Schwarzleotal 83.95 324 *e*P **P 06 50 30.6 -0.6**
comp=Z,29nm,1.1s,SNR=17
LHV Little Huntoon 83.96 48 IAmb IAmb 06 51 13.7
comp=Z,30nm,1.4s
RAR Rarotonga 83.98 119 LR LR 07 22 23.6
comp=Z,143nm,18.9s,baz=282,slow=32
MYKA Terra Mystica 83.98 322 *e*P **P 06 50 30.2 -1.2**
comp=Z,16nm,1.0s,SNR=7.5
NVAR Mina Array Bea 83.98 48 P **P 06 50 32.8 +1.0**
NVAR Mina Array Bea 83.98 48 P **P 06 50 31.7 -0.2**
comp=Z,1.9nm,0.6s,baz=294,slow=5.4,SNR=14
NVAR LR LR 07 23 17.0
comp=Z,246nm,21.2s,baz=300,slow=32
comp=Z,1.9nm,0.6s
YHL Hebgen Lake 84.18 40 IAmb IAmb 06 50 44.9
comp=Z,16nm,1.2s
YHB Horse Butte 84.24 40 IAmb IAmb 06 50 59.5
comp=Z,12nm,1.0s
IDI Anoyia 84.33 308 P **P 06 50 32.5 -1.0**
comp=Z,11nm,1.0s,baz=72,slow=5.4,SNR=2.2
IDI LR LR 07 33 04.7
comp=Z,586nm,19.5s,baz=44,slow=39
comp=Z,11nm,1.0s
ELK Elko 84.47 45 IAmb IAmb 06 50 59.2
comp=Z,28nm,1.6s
ELK Elko 84.47 45 LR LR 07 23 57.0
comp=Z,135nm,21.1s,baz=330,slow=32
ABTA Abfaltersbach 84.48 323 *i*P **P 06 50 32.4 -1.7**
comp=Z,22nm,1.2s,SNR=8.1
WATA Walderalm 84.56 324 *e*P **P 06 50 33.5 -1.0**
comp=Z,16nm,1.3s
WTTA Wattenberg 84.58 324 *e*P **P 06 50 33.7 -0.9**
comp=Z,21nm,1.3s,SNR=5.5
MOTA Moosalm 84.79 324 *e*P **P 06 50 34.5 -1.1**
comp=Z,8.9nm,0.8s
SQTA Sankt Quirin 84.82 324 *e*P **P 06 50 34.7 -1.1**
comp=Z,11nm,0.9s
DSP Deep Springs 84.83 49 IAmb IAmb 06 50 48.8
comp=Z,16nm,1.2s
BTNL Ternell 84.83 329 *d*P **P 06 50 34.6 -1.0**
EKA Eskdalemuir Ar 84.83 336 P **P 06 50 34.2 -1.3**
comp=Z,9.8nm,1.1s,baz=26,slow=5.9,SNR=10
comp=Z,9.8nm,1.1s
RETA Reutte 84.86 324 *e*P **P 06 50 35.3 -0.6**
comp=Z,4.6nm,0.3s,SNR=5.3
MEM Membach 84.87 329 *d*P **P 06 50 35.1 -0.7**
RLMT Red Lodge 85.03 39 IAmb IAmb 06 50 55.0
comp=Z,16nm,1.3s
FETA Feichten 85.20 324 *e*P **P 06 50 36.7 -1.0**
comp=Z,14nm,1.3s,SNR=5.0
HVU Hansel Valley 85.27 43 IAmb IAmb 06 50 50.2
comp=Z,15nm,1.3s
DGMT Dagmar 85.28 34 IAmb IAmb 06 52 17.5
comp=Z,17nm,0.9s
BCLA Clavier 85.31 329 *d*P **P 06 50 37.7 -0.3**
DAVA Damuels 85.43 325 *e*P **P 06 50 37.8 -1.0**
comp=Z,27nm,1.2s,SNR=11
GRAC Grapevine Rang 85.44 49 IAmb IAmb 06 51 19.9
comp=Z,13nm,0.8s
BFO Black Forest 85.45 326 P **P 06 50 37.7 -1.0**
BFO Black Forest 85.45 326 P **P 06 50 37.7 -1.0**
BFO pmax pmax
comp=Z,38nm,1.2s
WLF Walferdange 85.49 328 *d*P **P 06 50 38.8 -0.1**
RCHB Rochefort 85.54 329 *d*P **P 06 50 38.0 -1.1**
BMRD Maredsous 85.63 329 *d*P **P 06 50 38.6 -0.9**
BGU Big Grassy Mou 85.66 44 IAmb IAmb 06 51 05.1
comp=Z,25nm,1.7s
FUORN Ofenpass-Fuorn 85.70 324 P **P 06 50 38.8 -1.5**
R11B Troy Canyon, C 85.73 47 IAmb IAmb 06 51 05.3
comp=Z,39nm,1.8s
DAVOX Davos/Dischmat 85.78 324 LR LR 07 33 38.7
comp=Z,6µm,18.2s,baz=40,slow=39
WCT Wildcat Mounta 86.03 49 IAmb IAmb 06 50 54.5
comp=Z,21nm,1.6s
HWUT Hardware Ranch 86.07 42 IAmb IAmb 06 51 00.4
comp=Z,23nm,1.2s
SPR3 Spring Creek 3 86.10 46 IAmb IAmb 06 51 07.0
comp=Z,35nm,1.7s
TPNV Topopah Spring 86.17 48 IAmb IAmb 06 51 06.5
comp=Z,17nm,1.2s
GWY Greenwater Val 86.37 49 IAmb IAmb 06 51 09.0
comp=Z,27nm,1.5s
PDAR Pinedale Array 86.44 41 P **P 06 50 43.7 -0.3**
PDAR Pinedale Array 86.44 41 P **P 06 50 43.9 -0.2**
comp=Z,9.5nm,1.2s,baz=297,slow=1.3,SNR=20
comp=Z,9.5nm,1.2s
PRN Pahroc Range 86.65 47 IAmb IAmb 06 51 10.0
comp=Z,20nm,1.5s
BSUT Blindstream Ca 87.23 43 IAmb IAmb 06 51 13.0
comp=Z,22nm,1.6s
ULM Lac du Bonnet 87.61 29 P **P 06 50 50.1 +0.9**
comp=Z,22nm,1.1s,baz=318,slow=4.9,SNR=23
ULM LR LR 07 31 31.2
comp=Z,157nm,20.3s,baz=338,slow=37
comp=Z,22nm,1.1s
RDMU Red Mountain 87.89 42 IAmb IAmb 06 51 03.6
comp=Z,13nm,1.2s
LCMT Little Creek M 88.02 47 IAmb IAmb 06 51 16.5
comp=Z,22nm,1.7s
Q16A Castle Valley 88.04 44 IAmb IAmb 06 51 17.8
comp=Z,19nm,1.2s
PFO Pinyon Flats O 88.08 51 LR LR 07 23 15.9
comp=Z,562nm,21.8s,baz=272,slow=31
K22A Casper 88.16 39 IAmb IAmb 06 51 09.7
comp=Z,16nm,1.3s
KNB Kanab 88.27 47 IAmb IAmb 06 51 06.0
comp=Z,19nm,1.2s
E28A Huff 88.29 33 IAmb IAmb 06 50 54.9
comp=Z,21nm,1.2s
SRU San Rafael Swe 88.30 44 IAmb IAmb 06 51 18.3
comp=Z,16nm,1.2s
O20A White River Ci 88.93 42 IAmb IAmb 06 51 07.6
comp=Z,18nm,1.5s
VAE Valguarnera 89.61 315 LR LR 07 35 36.5
comp=Z,1µm,18.6s,baz=30,slow=39
PPT Papeete 89.69 111 LR LR 07 26 09.5
comp=Z,186nm,18.3s,baz=288,slow=32
PPT2 Papeete2 89.70 111 *e*P **P 06 51 03.5 +3.9**
comp=Z,51nm,23.8s
PPT2 Papeete2 89.70 111 *e*S **S 07 01 48.0 -1.4**
comp=Z,298nm,25.5s
PPT2 *e*SS **SS 07 07 49.7 +2.8**
comp=Z,283nm,25.5s
PPT2 *e*LQ LQ 07 15 50.4
comp=Z,341nm,23.2s
PPT2 *e*LR LR 07 19 37.4
comp=Z,607nm,24.2s
PPT2 *e*LR LR 07 19 38.8
comp=Z,452nm,25.0s
PV13 Radium Mtn., P 89.93 44 IAmb IAmb 06 51 13.5
comp=Z,18nm,1.2s
PV15 Paradox Valley 90.00 43 IAmb IAmb 06 51 25.1
comp=Z,35nm,1.5s
WUAZ Wupatki 90.13 47 IAmb IAmb 06 51 14.4
comp=Z,13nm,1.1s
MVCO Mesa Verde 90.75 44 P **P 06 51 05.7 +1.0**
MVCO IAmb IAmb 06 51 52.8
comp=Z,21nm,1.4s

F33A	5 Mile Ranch, comp=Z,12nm,0.9s	90.85	32	IAmb	IAmb	06 51 07.2	
SCHQ	Schefferville comp=Z,7.5nm,1.1s,baz=7.2,slow=5.5,SNR=4.9	91.84	11	P	P	06 51 08.2	-0.8
SCHQ	comp=Z,763nm,20.3s,baz=341,slow=37 comp=Z,7.5nm,1.1s			LR	LR	07 34 45.0	
ECSD	EROS Data Cent comp=Z,29nm,1.9s	92.33	33	IAmb	IAmb	06 51 22.5	
TUC	Tucson	92.59	49	P	P	06 51 13.8	+0.8
TUC	Tucson	92.59	49	P	P	06 51 13.8	+0.8
TAOE	Nuku Hiva Isla comp=Z,48nm,24.3s	92.72	99	eP	P	06 51 12.2	-1.6
TAOE	Nuku Hiva Isla comp=Z,286nm,25.3s	92.72	99	eS	S	07 02 09.7	-7.5
TAOE	comp=Z,213nm,25.3s			eSS	SS	07 08 28.9	-1.7
TAOE	comp=Z,356nm,27.6s			eLQ	LQ	07 16 43.0	
TAOE	comp=Z,665nm,24.0s			eLR	LR	07 20 58.8	
TBI	Tubuai comp=Z,523nm,40.8s	92.97	116	eP	P	06 51 21.3	+6.7
TBI	Tubuai comp=Z,1μm,26.8s	92.97	116	eS	S	07 02 19.4	+0.6
TBI	comp=Z,840nm,26.0s			eSS	SS	07 08 30.2	-3.7
TBI	comp=Z,927nm,26.2s			eLQ	LQ	07 17 17.2	
TBI	comp=Z,1μm,27.2s			eLR	LR	07 21 08.5	
TBI	comp=Z,3μm,24.0s			eLR	LR	07 21 10.4	
ANMO	Albuquerque	93.50	45	P	P	06 51 18.6	+1.3
ANMO	Albuquerque comp=Z,2.1nm,1.0s,baz=106,slow=7.2,SNR=5.0 comp=Z,2.1nm,1.0s	93.50	45	P	P	06 51 18.7	+1.3
KEST	Kesra comp=Z,770nm,18.1s,baz=41,slow=39	93.78	317	LR	LR	07 39 15.6	
Y22D	IRIS PASSCAL I baz=313	93.82	46	P	P	06 51 17.9	-0.9
G40A	Rib Lake comp=Z,7.4nm,0.8s	93.89	28	IAmb	IAmb	06 51 21.1	
KMBO	Kilima Mbogo comp=Z,398nm,20.7s,baz=92,slow=36	94.74	272	LR	LR	07 35 16.9	
ESDC	Sonseca Array comp=Z,807nm,18.1s,baz=35,slow=38	97.76	327	LR	LR	07 40 14.0	
LPIG	La Paz comp=Z,127nm,21.3s,baz=312,slow=31	98.25	55	LR	LR	07 28 38.8	
SADO	Sadowa comp=Z,329nm,20.3s,baz=26,slow=37	98.32	22	LR	LR	07 39 26.0	
TXAR	Lajitas Array comp=Z,0.3nm,0.8s,baz=262,slow=3.6,SNR=4.4	99.10	47	P	Pdif	06 51 42.1	-0.6
TXAR	comp=Z,0.3nm,1.0s,baz=94,slow=5.9,SNR=1.7			PKKPbc	PKKPdf	07 08 08.9	-1.2
TXAR	comp=Z,152nm,18.1s,baz=324,slow=36 comp=Z,0.3nm,0.8s			LR	LR	07 38 07.7	
RKT	Rikitea	104.25	108	eSS	SS	07 11 09.0	-3.1
RKT	comp=Z,978nm,26.2s Rikitea comp=Z,2μm,28.8s	104.25	108	eLR	LR	07 26 25.0	
SYO	Syowa Base	120.50	205	⇓ePdiff	Pdif	06 53 19.0	+2.4
QSPA	South Pole Qui	121.91	180	PKPdf	PKiKP	06 56 55.1	+0.5
QSPA	South Pole Qui comp=Z,6.0nm,1.1s,baz=299,slow=2.2,SNR=6.5	121.91	180	PKP	PKiKP	06 56 54.5	-0.1
DBIC	Dimbokro	123.72	305		PKPdf	06 56 58.9	-0.6
DBIC	Dimbokro comp=Z,5.8nm,0.8s,baz=48,slow=4.3,SNR=9.1	123.72	305	PKP	PKPdf	06 56 59.2	-0.3
ELIB	Princess Elisa	126.04	201	dPKPdf	PKiKP	06 57 03.8	+1.1
TROLL	Troll, Antarti comp=Z,207nm,1.0s	132.18	199	⇓PKPdf	PKPdf	06 57 14.2	+0.2
SDV	Santo Domingo	133.76	32	PKPdf	PKiKP	06 57 19.4	-0.7
SNAA	Sanae comp=Z,28nm,0.9s	133.79	198	⇓PKPdf	PKiKP	06 57 18.1	-0.1
BELA	Belgrano 2	133.80	184	PKPdf	PKiKP	06 57 17.5	-0.6
RUSC	La Rusia	135.18	37		PKPdf	06 57 21.6	-0.3
VNA2	Neumayer--Watz comp=Z,9.8nm,1.0s,baz=304,slow=1.4	135.42	198	⇓PKPdf	PKPdf	06 57 20.4	+0.4
ROSC	El Rosal comp=Z,3.2nm,0.5s,baz=284,slow=23,SNR=4.0	135.43	39	PKP	PKPdf	06 57 21.5	-0.7
VNA3	Neumayer Olymp comp=Z,3.0nm,0.9s	135.79	197	⇓PKPdf	PKiKP	06 57 21.8	-0.4
VNA1	Neumayer--Stat comp=Z,4.8nm,0.7s	135.82	198	⇓PKPdf	PKiKP	06 57 22.7	+0.4
CZSB	Cruzeiro do Su	146.47	49	eP	PKPdf	06 57 40.3	-1.2
ROSB	Rosrio	150.69	352	eP	PKPdf	06 57 49.2	+0.8
ITTB	Itaituba	151.39	17	eP	PKPdf	06 57 50.0	+0.5
NBCA	Caruaru-PE	153.77	333	eP	PKPdf	06 57 53.3	+0.3
LPAZ	La Paz comp=Z,1.7nm,0.9s,baz=166,slow=4.2,SNR=5.0	155.75	54	PKPbc	PKPdf	06 58 05.8	+9.5
LPAZ	comp=Z,6.1nm,1.2s,baz=356,slow=5.8,SNR=4.6			PKPab	PKPab	06 58 21.9	-0.9
PLCA	Paso Flores	159.88	122	eP	PKPdf	06 58 00.4	+0.3
BDFB	Brasilia	163.56	1		PKPab	06 58 56.1	+0.2
BDFB	Brasilia comp=Z,9.4nm,1.0s,baz=17,slow=5.5,SNR=8.8	163.56	1	PKPab	PKPab	06 58 55.8	-0.1
CNLB	Canela	176.18	43	eP	PKPdf	06 58 12.7	+1.2

*ASRS **27** 06:50:46.0±1.8,53°.82N×88°.12E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 06:50:48.4±3.4, 53°.72N×88°.19E, h0km, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=27.7km s-min=16.9km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=91,slow=334,SNR=16	2.01	278		I	I	07 04 35.0	
ZALV	Zalesovo Beam 0.8nm,0.3s,baz=93,slow=24,SNR=16	2.01	278	Pg	Pg	Pb	06 51 24.8	-1.0
ZALV	1.6nm,0.3s,baz=94,slow=23,SNR=20			Lg	Lg	Lg	06 51 52.3	
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=59,slow=16,SNR=1.9	6.70	246	Pn	Pn	Pn	06 52 29.3	+1.3
KURBB	baz=64,slow=27,SNR=5.2 0.4nm,0.4s			Lg	Lg	Lg	06 54 19.4	
MKAR	Makanchi Array baz=29,slow=15,SNR=1.9	7.90	211	Pn	Pn	Pn	06 52 45.6	+1.2
MKAR	0.1nm,0.3s,baz=31,slow=26,SNR=1.9			Sn	Sn	Sn	06 54 13.0	-1.5
MKAR	baz=25,slow=25,SNR=2.8 0.4nm,0.8s			Lg	Lg	Lg	06 54 57.1	

*ASRS **27** 07:00:34.0±0.7, 54°.21N×86°.41E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 07:00:36.8±2.8, 54°.20N×86°.38E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=21.2km s-min=13.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=75,slow=331,SNR=3.1	0.95	255		I	I	07 07 10.0	
ZALV	Zalesovo Beam 0.9nm,0.3s,baz=78,slow=22,SNR=7.3	0.95	255	Pg	Pg	Pg	07 00 53.7	-1.4
ZALV	1.5nm,0.3s,baz=77,slow=29,SNR=13			Lg	Lg	Lg	07 01 08.8	
KURBB	Kurchatov Arra baz=52,slow=13,SNR=5.0	5.99	236	Pn	Pn	Pn	07 02 06.7	+0.1
KURBB	baz=52,slow=30,SNR=4.5 0.2nm,0.3s			Lg	Lg	Lg	07 03 48.0	
MKAR	Makanchi Array 0.1nm,0.3s,baz=19,slow=14,SNR=4.0	7.86	201	Pn	Pn	Pn	07 02 34.1	+1.9
MKAR	baz=24,slow=33,SNR=2.9 0.2nm,0.5s			Lg	Lg	Lg	07 04 48.3	

*GII **27** 07:13:23.2±0.0, 34°.01N±0°.04×34°.66E±0°.01, h7km, Mws2.3, confirmed*

*GRAL **27** 07:13:24.4±0.3, 34°.04N×34°.56E, h25km±3km, MD2.7*

ISC 27 07:13:23.8±2.4, 34°.04N±0°.08×34°.6E±0°.1, h19km, n23, σ0°31/25, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QRWL	Qaraoun	1.01	119	eP		Pb	07 13 42.7	0.0
HWQ	Hawqa	1.12	78	eP		Pn	07 13 44.4	-0.2
HWQ				eS		Sb	07 13 59.2	+0.3
RCY	Rachaya	1.15	118	eP		Pn	07 13 44.8	-0.2
RCY				eS		Sb	07 13 59.6	0.0
SHBL	Chebaa	1.16	126	eP		Pn	07 13 44.8	-0.4
GEM	Giv'at Ha'Em	1.20	133	P		Pn	07 13 45.2	-0.4
GEM	Giv'at Ha'Em	1.20	133	S		Sb	07 14 01.2	+0.1
MMC7	Mount Meron ar	1.21	148	P		Pn	07 13 45.8	+0.1
NATI	Neve Ativ	1.21	130	P		Pn	07 13 45.5	-0.1
NATI	Neve Ativ	1.21	130	S		Sb	07 14 01.4	+0.1
BEIL	Beino	1.38	69	eP		Pn	07 13 48.0	-0.1
BLGI	Bet Lehem HaGe	1.39	160	P		Pn	07 13 47.5	-0.7
BLGI	Bet Lehem HaGe	1.39	160	S		Sn	07 14 06.0	0.0
KSHT	Keshet	1.45	137	P		Pn	07 13 48.5	-0.6
KSHT	Keshet	1.45	137	S		Sb	07 14 08.5	+0.2
MMLI	Mount Malkishu	1.74	157	P		Pn	07 13 52.8	-0.2
MMLI	Mount Malkishu	1.74	157	S		Sn	07 14 14.8	+0.2
SLTI	Sal'it	1.83	169	P		Pn	07 13 54.4	+0.2
SLTI	Sal'it	1.83	169	S		Sn	07 14 16.8	-0.1
HMDT	Nahal Hemdat	1.94	157	P		Pn	07 13 55.4	-0.3
HMDT	Nahal Hemdat	1.94	157	S		Sn	07 14 20.2	+0.6
DSI	Dead Sea	2.55	165	P		Pn	07 14 03.9	-0.2
DSI	Dead Sea	2.55	165	S		Sn	07 14 34.8	+0.2
KRMI	Paran Flat	3.92	179	P		Pn	07 14 22.8	-0.1

*NNC **27** 07:14:14.3±0.8, 49°.98N×78°.30E, h0km, mb3.2, mpv3.4, Error ellipse: s-maj=7.7km s-min=3.3km az=81.0, Suspected Mining explosion.*

*IDC **27** 07:14:15.9±0.9, 50°.08N×78°.83E, h0km, mbtmp2.5/2, ML2.5/2, Error ellipse: s-maj=11.7km s-min=6.0km az=63.0.*

*SOME **27** 07:14:17.7, 49°.72N×78°.67E, h5km*

ISC 27 07:14:08.8±1.4, 49°.96N±0°.03×77°.78E±0°.08, h0km, n23, σ1°66/38, 17C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.78	37	⇓P		Pb	07 14 26.4	+1.1
KUR07				⇓S		Sg	07 14 35.5	+1.5
KUR06	Kurchatov Arra	0.80	36	⇓P		Pb	07 14 26.8	+1.2
KUR06				⇑S		Sg	07 14 36.4	+1.8
KUR17	Kurchatov Arra	0.81	33	⇑P		Pn	07 14 28.0	+0.6
KUR17				⇑S		Sb	07 14 37.8	+0.7
KUR16	Kurchatov Arra	0.81	35	⇓P		Pn	07 14 27.6	+0.1
KUR16				⇑S		Sb	07 14 37.3	0.0
KURBB	Kurchatov Arra 2.1nm,0.3s,baz=164,slow=19,SNR=181	0.82	36	Pg		Pb	07 14 27.1	+1.2
KURBB	1.5nm,0.3s,baz=161,slow=32,SNR=27			Lg		Lg	07 14 35.8	
KURBB	Kurchatov Arra 14nm,0.3s	0.82	36	⇑P		Pb	07 14 27.1	+1.2
KURBB	72nm,0.7s			⇑S		Sg	07 14 36.5	+1.3
KUR15	Kurchatov Arra	0.83	37	⇑P		Pb	07 14 27.1	+1.0
KUR15				⇑S		Sg	07 14 36.4	+0.9
KUR14	Kurchatov Arra	0.84	38	⇑P		Pb	07 14 26.8	+0.6
KUR14				⇑S		Sg	07 14 35.6	-0.1
KUR05	Kurchatov Arra	0.84	35	⇓P		Pb	07 14 27.4	+1.1
KUR05				⇑S		Sg	07 14 36.9	+1.2
KUR04	Kurchatov Arra	0.86	35	⇑P		Pb	07 14 28.1	+1.5
KUR04				⇑S		Sg	07 14 37.6	+1.2
KURK	Kurchatov 6.0nm,0.4s	0.93	35	⇓P		Pb	07 14 28.8	+1.0
KURK	12nm,0.6s			⇑S		Sg	07 14 39.3	+0.7
SEM	Semipalatinsk 5.4nm,0.1s	1.65	73	P		Pg	07 14 40.8	+0.3
SEM	7.6nm,0.2s			S		Sn	07 14 57.1	-4.2
SEM	Semipalatinsk 5.2nm,0.1s	1.65	73	eP		Pg	07 14 40.8	+0.3
SEM	59nm,0.3s			eS		Sn	07 14 57.1	-4.2
MK31	Makanchi Array baz=182,slow=19,SNR=16	4.37	135	⇑Pn		Pn	07 15 19.2	+2.8
MK31	0.8nm,0.4s,baz=326,slow=14,SNR=14			⇑Pg		Pb	07 15 28.7	+2.3
MK31	13nm,0.8s,baz=334,slow=27,SNR=16			⇑Lg		Lg	07 16 21.9	
MKAR	Makanchi Array 0.3nm,0.3s,baz=321,slow=9.9,SNR=13	4.37	135	Pn		Pn	07 15 19.5	+3.0
MKAR	0.8nm,0.3s,baz=326,slow=14,SNR=21			Pg		Pb	07 15 26.1	-0.3
MKAR	0.5nm,0.3s,baz=325,slow=16,SNR=5.4			Sn		Sn	07 16 06.8	-1.2
MKAR	1.2nm,0.3s,baz=331,slow=29,SNR=6.5 0.3nm,0.3s			Lg		Lg	07 16 19.6	
ZSN	Zaisan 2.0nm,0.1s	5.32	115	Pg		Pb	07 15 44.0	+1.3
ZSN	11nm,0.6s			Lg		Lg	07 16 46.0	
ZSN	Zaisan 2.0nm,0.1s	5.32	115	eP		Pb	07 15 44.0	+1.3
ZSN	11nm,0.6s			eS		Sb	07 16 46.0	-1.1
BVAR	Borovoye Array baz=122,slow=29	5.54	306	Lg		Lg	07 17 26.7	
KNOS	Konyrlen 0.5nm,0.2s	5.69	170	Pg		Pg	07 15 56.7	-1.1
KNOS	2.7nm,1.0s			Lg		Lg	07 17 08.9	
ZALV	Zalesovo Beam 0.9nm,0.3s,baz=231,slow=14,SNR=7.9	5.91	45	Pn		Pn	07 15 35.0	-2.5
ZALV	baz=225,slow=26 0.4nm,0.3s			Lg		Lg	07 17 03.3	
I46RU	ZALESOVO INFRA 0.1nm,1.0s,baz=224,slow=321,SNR=13	5.91	45	I		I	07 46 08.5	
UZB	Uzynbulak 2.8nm,0.2s	6.87	172	Pg		Pg	07 16 19.9	-0.5
UZB	4.7nm,1.1s			Lg		Lg	07 17 48.5	
UZB	Uzynbulak 2.8nm,0.2s	6.87	172	eP		Pg	07 16 19.9	-0.5
UZB	4.7nm,1.1s			eS		Sg	07 17 48.5	-0.9

*IDC **27** 07:21:36.6±1.1, 2°.59S×138°.95E, h0km, mb3.5/5, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=25.4km s-min=14.6km az=2.0*

*DJA **27** 07:21:40.0±0.8, 3°.5±7°.×13°.9E±°., h12km±9km, M3.8/6, mb4.1/1, MLv3.7/6*

ISC 27 07:21:42.0±0.8, 2°.51S±0°.10×138°.97E±0°.05, h37km, n12, σ1°24/13, mb3.4/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.58	334	P		Pn	07 21 52.1	-1.8
GENI	Genyem	1.20	94	P		Pn	07 22 01.6	-0.7
GENI				S		Sn	07 22 19.0	+1.7
JAY	Jayapura	1.74	90	Pn		Pn	07 22 08.2	-1.4
JAY	8.0nm,0.3s,baz=270,slow=14,SNR=21			Lg		Lg	07 22 32.4	
JAY	29nm,0.3s,baz=270,slow=20,SNR=10.0							
JAY	Jayapura	1.74	90	P		Pn	07 22 09.7	+0.1
SRPI	Serui, Papua	2.80	283	P		Pn	07 22 24.4	+0.1
FAKI	Fak Fak	6.72	266	P		Pn	07 23 18.5	+0.3
WRA	Warramunga Arr 0.1nm,0.3s,baz=15,slow=12,SNR=6.0 1.0nm,0.8s	17.90	194	P		Pn	07 25 47.1	-1.2
ASAR	Alice Springs 0.4nm,0.6s,baz=16,slow=10,SNR=7.8 0.4nm,0.6s	21.59	193	P		P	07 26 27.0	-1.8
MKAR	Makanchi Array 0.5nm,0.4s,baz=110,slow=7.5,SNR=6.3 0.5nm,0.4s	69.79	322	P		P	07 32 49.7	+1.0
KURBB	Kurchatov Arra 0.2nm,0.4s,baz=114,slow=4.9,SNR=2.1 0.2nm,0.4s	73.72	325	P		P	07 33 12.9	+0.8
BVAR	Borovoye Array 0.7nm,0.6s,baz=110,slow=6.8,SNR=3.1 0.7nm,0.6s	79.30	325	P		P	07 33 44.0	+0.3
ILAR	Eielson Array 0.2nm,0.8s,baz=252,slow=4.9,SNR=2.2 0.2nm,0.8s	85.55	24	P		P	07 34 16.6	+0.5

*KRSC **27** 07:23:00.4±1.0, 54°.85N×160°.46E, h137km±12km, Ml4.0*

*NEIC **27** 07:23:01.9±0.8, 55°.0N±0°.2×159°.8E±0°.3, h138km±15km, mb4.3/21, Error ellipse: s-maj=31.7km s-min=17.0km az=144.0*

*IDC **27** 07:23:01.8±1.4, 55°.16N×159°.52E, h142km±15km, mb3.4/13, mbtmp3.8/14, MS3.9/1, Error ellipse: s-maj=22.5km s-min=12.5km az=149.0*

ISC 27 07:23:01.5±0.6, 54°.87N±0°.03×160°.26E±0°.05, h135km±5km, n78, σ1°32/94, mb3.9/23, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.34	13	eP		Pn	07 23 19.9	-0.3
TUMD				eS		Sn	07 23 34.4	-0.2
KMNR	Kamenistaya	0.89	359	eP		Pn	07 23 24.0	+0.2
KMNR				eS		Sn	07 23 41.8	+1.0
MKZ	Mys Kozlova	0.91	110	eP		Pn	07 23 23.1	-0.7
MKZ				eS		Sn	07 23 40.1	-0.8
KIRR	Kirishev	1.08	2	eP		Pn	07 23 25.4	-0.3
KIRR				eS		Sn	07 23 43.8	-0.3
KPT	Kopyto	1.09	359	eP		Pn	07 23 25.4	-0.3
KPT				eS		Sn	07 23 44.2	0.0
BZGR	Bezymyannyi-Gr	1.10	13	eP		Pn	07 23 25.8	+0.1
BZWR	Bezymyannyi-We	1.10	7	eP		Pn	07 23 26.4	+0.6
ZLN	Zelenaya	1.19	15	eP		Pn	07 23 27.4	+0.8
ZLN				eS		Sn	07 23 47.7	+1.8
KOZ	Kozyrevsk	1.21	350	eP		Pn	07 23 26.6	-0.1
LGNR	Loginova	1.24	11	eP		Pn	07 23 28.3	+1.0
LGNR				eS		Sn	07 23 49.1	+2.0
CIRR	Tsirk	1.27	12	eP		Pn	07 23 28.6	+1.0
KRSR	Krestovskiy	1.36	7	eP		Pn	07 23 28.6	+0.2
KRSR				eS		Sn	07 23 49.0	+0.1
ESO	Esso	1.38	320	eP		Pn	07 23 28.5	0.0
ESO				eS		Sn	07 23 49.6	+0.4
KLY	Klyuchi	1.46	9	eP		Pn	07 23 30.0	+0.7
KLY				eS		Sn	07 23 51.9	+1.2
SPN	Mys Shipunski	1.79	185	eP		Pn	07 23 32.3	-0.8
SPN				eS		Sn	07 23 55.9	-1.3
NLC	Nalytchevo	1.79	198	eP		Pn	07 23 33.5	+0.4
NLC				eS		Sn	07 23 58.6	+1.3
KRX	Arik	1.79	213	eP		Pn	07 23 34.6	+1.3
SDLR	Sedlovina	1.79	208	eP		Pn	07 23 34.4	+1.1
SMKR	Semkarok	1.84	21	eS		Sn	07 24 02.1	+3.5
AVH	Avacha	1.85	210	eP		Pn	07 23 35.5	+1.7
KOK	Koryaka	1.85	212	eP		Pn	07 23 35.3	+1.3
UGLR	Uglovaya	1.87	208	eP		Pn	07 23 35.5	+1.3
KBG	Krutoberegovo	1.96	44	eP		Pn	07 23 35.7	+0.6
KBTR	Krutoberegovo	1.97	46	eP		Pn	07 23 35.6	+0.3
KBTR				eS		Sn	07 24 00.3	-0.9
DALK	Dalny	2.05	206	eP		Pn	07 23 37.2	+0.9
DALK				eS		Sn	07 24 05.5	+2.6
PET	Petropavlovsk	2.08	208			Pn	07 23 37.6	+0.9
PET	Petropavlovsk	2.08	208	eP		Pn	07 23 37.9	+1.3
PET				eS		Sn	07 24 06.9	+3.4
PEA0B	Petropavlovsk-	2.33	222			Pn	07 23 40.3	+0.6
PETK	Petropavlovsk-	2.33	222			Pn	07 23 39.8	+0.2
PETK	Petropavlovsk- 24nm,0.6s,baz=60,slow=16,SNR=68	2.33	222	P		Pn	07 23 39.7	0.0
PETK	33nm,0.9s,baz=47,slow=20,SNR=3.8			S		Sn	07 24 10.6	+1.6
KRMR	Karymshinskiy	2.41	213	eP		Pn	07 23 41.8	+1.2
RUS	Russkaya	2.66	204	eP		Pn	07 23 43.8	0.0
RUS				eS		Sn	07 24 16.3	-0.1
GRL	Gorelyy	2.67	210	eP		Pn	07 23 45.5	+1.4
APC	Apacha	2.68	225	eP		Pn	07 23 45.6	+1.6
BKI	Bering	3.30	82	eP		Pn	07 23 51.3	-0.7
BKI				eS		Sn	07 24 26.9	-4.2
KDTR	Khodutka, Kamc	3.34	204	eP		Pn	07 23 52.5	0.0
KDTR				eS		Sn	07 24 32.4	+0.4
OSSR	Ossora	4.65	18	eP		Pn	07 24 10.5	+0.8
MA2	Magadan 3.5nm,0.6s,baz=128,slow=19,SNR=4.5	6.98	316	P		Pn	07 24 42.0	+1.0
ASAJ	Asahikawa 8.3nm,0.6s,baz=23,slow=15,SNR=11	15.69	234	P		P	07 26 37.6	+1.5
ERM	Erimo	17.09	228	P		P	07 26 50.3	-1.3
KLR	Kul'dur 2.5nm,0.5s,baz=68,slow=10,SNR=9.8	18.34	264	P		Pn	07 27 05.8	-1.1
JTM	Tenmabayashi	19.00	230	P		P	07 27 11.3	-1.3
J14K	Nanvaranak Lak	20.08	52	P		P	07 27 25.1	+1.2
N15K	Kwethluk River	21.68	60	P		P	07 27 42.6	+1.5
N15K	comp=Z,17nm,1.1s			IAmb		IAmb	07 27 43.6	
C18K	Utukok River	22.34	37	P		P	07 27 47.9	-0.1
C18K	comp=Z,6.5nm,0.8s			IAmb		IAmb	07 27 49.5	
G19K	Purcell Mounta	23.30	44	P		P	07 27 58.7	+1.8
H19K	Roundabout Mou	23.49	46	P		P	07 27 59.5	+0.9
MJAR	Matsushiro Arr comp=Z,1.1nm,0.3s,baz=44,slow=8.2,SNR=1.6 comp=Z,1.1nm,0.3s	23.77	229	P		P	07 27 58.4	-3.0
B20K	Meade River	24.13	35	P		P	07 28 04.7	+0.4
B20K	comp=Z,11nm,0.8s			IAmb		IAmb	07 28 06.5	
B21K	Ikpikpuk River	24.88	36	P		P	07 28 11.8	+0.7
B21K	comp=Z,11nm,0.8s			IAmb		IAmb	07 28 12.3	
B22K	Teshekpuk Lake	25.44	35	P		P	07 28 16.3	+0.1
ILAR	Eielson Array comp=Z,0.8nm,0.5s,baz=270,slow=9.1,SNR=16 comp=Z,0.8nm,0.5s	27.51	48	P		P	07 28 34.5	-0.4
SCRK	Sand Creek	28.85	49	P		P	07 28 46.4	-0.5
SCRK	comp=Z,3.8nm,0.7s			IAmb		IAmb	07 28 46.9	
DOT	Dot Lake	28.87	50	P		P	07 28 46.4	-0.6
N25K	Chitina, Valde	28.99	54	P		P	07 28 48.9	+0.8
N25K	comp=Z,10nm,1.5s			IAmb		IAmb	07 29 25.6	
L27K	Beaver Creek,	29.96	51	P		P	07 28 57.9	+1.2
L27K	comp=Z,2.5nm,0.7s			IAmb		IAmb	07 28 58.4	
BCAR	Beaver Creek A	29.98	51	P		P	07 28 58.2	+1.4
I30M	Mount Dempster	31.87	46	P		P	07 29 13.9	+0.5
INK	Inuvik comp=Z,0.7nm,0.7s,baz=281,slow=8.4,SNR=6.3 comp=Z,0.7nm,0.7s	32.41	39	P		P	07 29 18.7	+0.8
SONM	Songino Array comp=Z,0.3nm,0.4s,baz=60,slow=8.5,SNR=2.3	33.63	281	P		P	07 29 27.9	-1.1
C36M	Paulatuk	35.54	36	P		P	07 29 45.2	+0.3
C36M	comp=Z,3.9nm,0.8s			IAmb		IAmb	07 29 45.8	
DLBC	Dease Lake	36.92	55	P		P	07 29 58.8	+1.9
DLBC	comp=Z,7.1nm,1.4s			IAmb		IAmb	07 30 06.7	
DLBC	Dease Lake comp=Z,1.9nm,0.8s,baz=292,slow=5.4,SNR=5.0 comp=Z,1.9nm,0.8s	36.92	55	P		P	07 29 58.3	+1.4
EUNU	Eureka	40.20	14	P		P	07 30 24.0	0.0
YKA	Yellowknife Ar	41.79	44	P		P	07 30 37.0	-0.1
YKA	Yellowknife Ar comp=Z,1.0nm,0.6s,baz=299,slow=8.5,SNR=25	41.79	44	P		P	07 30 37.4	+0.3
YKA				PcP		PcP	07 32 29.8	-0.7
KURK	Kurchatov comp=Z,0.1nm,0.7s,baz=317,slow=2.8,SNR=4.0 comp=Z,1.0nm,0.6s	46.90	301	P		P	07 31 14.9	-2.9
KURBB	Kurchatov Arra comp=Z,0.5nm,0.5s,baz=56,slow=7.6,SNR=7.3 comp=Z,0.5nm,0.5s	47.00	300	P		P	07 31 15.2	-3.4
MKAR	Makanchi Array comp=Z,0.4nm,0.6s,baz=55,slow=7.2,SNR=2.6 comp=Z,0.4nm,0.6s	47.49	294	P		P	07 31 18.5	-4.1
ILON	Igloolik, Nuna	48.15	25	P		P	07 31 27.2	0.0
ILON	comp=Z,7.2nm,1.5s			IAmb		IAmb	07 31 50.7	
BVAR	Borovoye Array comp=Z,0.4nm,0.4s,baz=61,slow=8.9,SNR=1.9 comp=Z,0.4nm,

*IDC **27** 07:28:19.7±0.7, 2.04N×89.71E, h0km, mb4.2/21, mbtmp4.2/25, ML4.5/4, MS3.9/25, Error ellipse: s-maj=25.4km s-min=13.0km az=45.0*

*NEIC **27** 07:28:21.2±2.7, 1.8N±0.1×89.64E±0.09, h10km±1km, mb4.5/31, Error ellipse: s-maj=22.8km s-min=8.7km az=213.0*

ISC 27 07:28:21.2±0.6, 1.87N±0.08×89.66E±0.06, h10km, n131, σ2.31/106, mb4.4/45, MS4.0/26, 2C, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.68**	**57**	P	**Pn**	**07 29 57.5**	**-2.0**
	0.9nm1μm115nm,0.8s						
SNSI	**Sinabang, Aceh**	**6.68**	**85**	P	**Pn**	**07 29 56.5**	**-3.0**
MLSI	**Meulaboh, Aceh**	**7.14**	**70**	P	**Pn**	**07 30 04.2**	**-1.6**
GSI	**Gunungsitoli**	**7.93**	**94**	Pn	**Pn**	**07 30 14.6**	**-2.1**
GSI	**Gunungsitoli**	**7.93**	**94**	P	**Pn**	**07 30 14.8**	**-1.9**
GSI	**Gunungsitoli**	**7.93**	**94**	P	**Pn**	**07 30 14.8**	**-1.9**
	2μm88nm,1.0s						
LHMI	**Lhok Sumawe**	**8.00**	**65**	P	Pb	07 30 28.8	-11
PBSI	**Pulau Batu**	**8.83**	**102**	P	**Pn**	**07 30 28.3**	**-0.7**
RPSI	**Rantau Prapat**	**9.29**	**85**	Pn	**Pn**	**07 30 35.4**	**0.0**
RPSI	**Rantau Prapat**	**9.29**	**85**		**Pn**	**07 30 34.5**	**-0.8**
PSI	**Prapat**	**9.30**	**84**	Pn	**Pn**	**07 30 34.5**	**-1.1**
	1.1nm,0.3s,baz=267,slow=12,SNR=5.8						
PSI				Sn	**Sn**	**07 32 12.8**	**-7.7**
	0.4nm,0.3s,baz=300,slow=20,SNR=8.1						
PSI				LR	LR	07 34 10.0	
	comp=Z,961nm,21.6s,baz=316,slow=38 4.2nm,0.4s						
PSI	**Prapat**	**9.30**	**84**	P	**Pn**	**07 30 33.8**	**-1.8**
MNSI	**Mandailing Nat**	**9.97**	**96**	P	**Pn**	**07 30 44.0**	**-0.7**
	75nm,1.1s						
PALK	**Pallekele**	**10.42**	**301**	Pn	**Pn**	**07 30 48.8**	**-2.0**
PALK	**Pallekele**	**10.42**	**301**	Pn	**Pn**	**07 30 48.5**	**-2.3**
	2.9nm,0.3s,baz=121,slow=13,SNR=8.7						
PALK				Sn	Sn	07 32 36.1	-12
	baz=162,slow=19						
PALK				LR	LR	07 34 16.4	
	comp=Z,675nm,19.8s,baz=169,slow=34 7.1nm,0.4s						
PPI	**Padang Panjang**	**10.98**	**102**	P	**Pn**	**07 30 58.2**	**-0.3**
	1μm31nm,1.2s						
KULM	**Kulim**	**11.48**	**72**	Pn	**Pn**	**07 31 03.9**	**-1.5**
SRIT	**Nakonsritamara**	**11.94**	**56**	P	Pn	07 31 17.4	+5.7
KSI	**Kapahiang**	**14.04**	**113**	P	**Pn**	**07 31 38.7**	**-1.7**
KOD	**Kodaikanal**	**14.69**	**305**	*e*P	**Pn**	**07 31 51.4**	**+1.8**
KOD				IAmb	IAmb	07 31 57.4	
	comp=Z,8.8nm,0.7s						
KOD				IAML		07 34 21.6	
	comp=E,23nm,1.0s						
KOD				*e*S	**Sn**	**07 34 31.0**	**-1.8**
KOD				IAML		07 34 37.2	
	comp=E,34nm,1.0s						
SALM	**Salem**	**14.96**	**311**	*e*x	**Pn**	**07 31 50.4**	**-2.5**
SALM				*e*S	**Sn**	**07 34 34.4**	**-4.3**
MDSI	**Maura Dua**	**15.82**	**114**	P	**Pn**	**07 32 04.3**	**+0.1**
	comp=E,42nm,1.0s						
KASI	**Kota Agung**	**16.54**	**116**	P	**Pn**	**07 32 14.5**	**+1.1**
	comp=E,653nmcomp=E,39nm,1.1s						
CGJI	**Cibinong**	**18.09**	**118**	P	**Pn**	**07 32 32.1**	**-0.7**
	comp=E,4μmcomp=E,30nm,1.2s						
RAGD	**RAYAGADA**	**18.31**	**341**	*e*P	**P**	**07 32 37.0**	**+1.4**
RAGD				IAmb	IAmb	07 32 42.3	
	comp=Z,21nm,0.7s						
RAGD				*e*S	**Sn**	**07 35 52.1**	**-8.0**
TPI	**Tanjungpandan**	**18.56**	**104**	P	**Pn**	**07 32 38.6**	**-0.1**
	comp=Z,821nmcomp=Z,31nm,1.2s						
CMAR	**Chiang Mai Arr**	**18.83**	**28**	P	**P**	**07 32 41.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.83**	**28**	P	**P**	**07 32 39.9**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=216,slow=12,SNR=16						
CMAR				LR	LR	07 39 41.8	
	comp=Z,247nm,21.2s,baz=200,slow=37 comp=Z,1.6nm,0.3s						
HYB	**Hyderabad**	**18.92**	**325**	*e*P	**P**	**07 32 42.0**	**-0.4**
HYB				*e*		07 35 59.8	
HYB				*e*		07 36 11.8	
CHTO	**Chiang Mai**	**19.14**	**28**	P	**P**	**07 32 44.6**	**-0.2**
CHTO	**Chiang Mai**	**19.14**	**28**	P	**Pn**	**07 32 50.9**	**+5.3**
H08S2	**Diego Garcia H**	**19.56**	**241**	T	T	07 52 53.3	
	baz=60,slow=75,SNR=342						
H08S3	**Diego Garcia H**	**19.56**	**241**	T	T	07 52 49.4	
	baz=60,slow=75,SNR=613						
H08S1	**Diego Carcia H**	**19.58**	**241**	T	T	07 52 53.2	
	baz=60,slow=75,SNR=77						
CNJI	**Cibinong**	**19.67**	**118**	P	**P**	**07 32 50.7**	**+0.1**
	comp=Z,27nm,1.0s						
LEM	**Lembang**	**19.89**	**116**	P	**Pn**	**07 32 55.2**	**+0.3**
	comp=Z,8.2nm,0.3s,baz=288,slow=19,SNR=3.6						
LEM				LR	LR	07 39 54.0	
	comp=Z,348nm,18.4s,baz=321,slow=35 comp=Z,12nm,0.4s						
UBPT	**Khong Chiam**	**20.52**	**49**	P	**P**	**07 32 59.5**	**-0.3**
KSM	**Kuching**	**20.64**	**91**	P	**P**	**07 32 58.0**	**-3.2**
KSM				IAmb	IAmb	07 33 09.3	
	comp=Z,13nm,0.8s						
BRDH	**Bariadhala**	**20.77**	**5**	LR	LR	07 41 23.1	
	comp=Z,492nm,19.3s,baz=175,slow=38						
NONG	**Nongkai**	**20.84**	**39**	P	**P**	**07 33 02.4**	**-0.9**
KAD	**Karad**	**21.61**	**316**	*e*P	**P**	**07 33 15.8**	**+4.2**
KAD				IAmb	IAmb	07 33 25.9	
	comp=Z,21nm,0.9s						
KAD				*e*S	**S**	**07 37 07.8**	**-3.4**
AGT	**Agartala**	**21.94**	**4**	*e*P	**P**	**07 33 18.2**	**+3.1**
IMP	**Imphal**	**23.20**	**10**	*e*P	P	07 33 36.4	+7.9
SLVN	**Son La**	**23.81**	**35**	P	**P**	**07 33 34.6**	**0.0**
SLVN				IAmb	IAmb	07 33 57.5	
	comp=Z,13nm,1.1s						
NRDN	**NARMADA NAGAR**	**24.02**	**331**	*e*P	**P**	**07 33 41.1**	**+4.6**
NRDN				IAmb	IAmb	07 34 00.8	
	comp=Z,15nm,0.9s						
KOHI	**KOHIMA**	**24.10**	**10**	*e*P	**P**	**07 33 43.3**	**+6.0**
GTK	**Tadong**	**25.33**	**358**	*e*P	**P**	**07 33 53.2**	**+4.7**
QIZ	**Qiongzhong**	**26.11**	**48**	P	**P**	**07 33 54.5**	**-1.0**
QIZ				S	**S**	**07 38 34.8**	**+7.6**
QIZ				LR	LR		
	comp=N,370nm,17.2s						
QIZ				LR	LR		
	comp=E,420nm,17.2s						
QIZ				LR	LR		
	comp=Z,290nm,14.4s						
PZH	**PanZhiHua**	**27.11**	**24**	P	**P**	**07 34 09.5**	**+4.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
KAPI	**Kappang**	**30.83**	**103**	LR	LR	07 47 15.4	
	comp=Z,174nm,20.2s,baz=268,slow=37						
HNLY	**HANLEY**	**32.35**	**343**	*e*P	**P**	**07 34 55.2**	**+3.7**
HNLY				IAmb	IAmb	07 34 58.0	
	comp=Z,8.1nm,1.2s						
NIL	**Nilore**	**35.15**	**336**	P	**P**	**07 35 16.5**	**+1.2**
DAV	**Davao City (W)**	**36.17**	**81**	LR	LR	07 50 57.3	
	comp=Z,86nm,21.1s,baz=284,slow=38						
XAN	**Xi'an**	**36.72**	**27**	P	P	07 35 35.5	+6.7
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA	**Gaotai**	**38.50**	**13**	*e*P	**P**	**07 35 45.3**	**+1.5**
GTA				pP	pwP	07 35 50.8	+1.0
GTA				sP	sP	07 35 54.0	+7.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				LR	LR		
	comp=N,190nm,18.2s						
GTA				LR	LR		
	comp=E,110nm,14.9s						
GTA				LR	LR		
	comp=Z,140nm,17.4s						
LYN	**LuoYang**	**38.85**	**31**	P	P	07 35 53.0	+6.2
LYN				pmax	pmax		
	comp=Z,29nm,0.8s						
LYN				LR	LR		
	comp=N,350nm,13.7s						
LYN				LR	LR		
	comp=E,340nm,13.3s						
LYN				LR	LR		
	comp=Z,490nm,16.7s						
KSH	**Kashi**	**39.49**	**343**	P	**P**	**07 35 53.3**	**+1.1**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.60**	**121**	P	**P**	**07 36 03.2**	**+1.7**
	comp=Z,4.6nm,1.1s,baz=270,slow=7.1,SNR=2.9						
	comp=Z,4.6nm,1.1s						
NJ2	**Nanjing**	**40.71**	**39**	*e*P	**P**	**07 36 04.5**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
GAR	**Garm**	**40.96**	**337**	P	**P**	**07 36 04.3**	**-0.1**
GAR				IAmb	IAmb	07 36 10.4	
	comp=Z,13nm,1.1s						
TARG	**Taragay, Kyrgy**	**41.09**	**346**	IAmb	IAmb	07 36 10.7	
	comp=Z,5.8nm,0.9s						
SIMJ	**Simiganj**	**41.20**	**335**	P	**P**	**07 36 04.2**	**-2.1**
KDJ	**Kajisay**	**41.62**	**346**	P	**P**	**07 36 10.3**	**+0.4**
BTK	**Batken**	**41.69**	**338**	P	**P**	**07 36 10.5**	**+0.2**
WMQ	**Urumqi**	**41.81**	**358**	*e*P	**P**	**07 36 13.0**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				LR	LR		
	comp=Z,210nm,21.9s						
ARSB	**Arslanbob**	**42.06**	**341**	P	**P**	**07 36 13.6**	**+0.2**
ARSB				IAmb	IAmb	07 36 23.3	
	comp=Z,6.9nm,1.0s						
HNS	**HongShan**	**42.21**	**30**	⇑P	P	07 36 20.3	+5.9
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BOOM	**Boomskoye usch**	**42.27**	**345**	P	**P**	**07 36 16.0**	**+0.9**
TIA	**Tai'an**	**42.59**	**33**	P	**P**	**07 36 17.5**	**-0.1**
H01W3	**Cape Leeuwin H**	**43.16**	**150**	T	T	08 22 24.6	
	baz=324,slow=76,SNR=8.9						
H01W2	**Cape Leeuwin H**	**43.17**	**150**	T	T	08 22 27.3	
	baz=324,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**43.18**	**150**	T	T	08 22 25.6	
	baz=324,slow=76,SNR=12						
HHC	**Hu-ho-hao-te**	**43.57**	**24**	*e*P	**P**	**07 36 28.5**	**+2.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.6s						
KK31	**Karatay Array**	**44.48**	**340**	P	**P**	**07 36 32.0**	**-0.8**
KK31				IAmb	IAmb	07 36 39.1	
	comp=Z,6.0nm,1.1s						
KKAR	**Karatay Array**	**44.48**	**340**	P	**P**	**07 36 31.8**	**-0.9**
KKAR				IAmb	IAmb	07 36 39.2	
	comp=Z,6.3nm,1.1s						
KKAR	**Karatay Array**	**44.48**	**340**	P	**P**	**07 36 31.7**	**-1.0**
JOW	**Kunigami**	**44.57**	**53**	LR	LR	07 54 46.1	
	comp=Z,104nm,21.9s,baz=211,slow=36						
MK31	**Makanchi Array**	**45.21**	**353**	P	**P**	**07 36 37.3**	**-1.2**
MKAR	**Makanchi Array**	**45.21**	**353**	P	**P**	**07 36 37.4**	**-1.1**
MKAR	**Makanchi Array**	**45.21**	**353**	P	**P**	**07 36 37.2**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=159,slow=8.6,SNR=9.9						
	comp=Z,1.2nm,0.8s						
MAKZ	**Makanchi**	**45.26**	**353**	P	**P**	**07 36 38.8**	**-0.2**
MAKZ				IAmb	IAmb	07 36 46.7	
	comp=Z,4.9nm,1.1s						
ATD	**Arta Tunnel**	**47.41**	**284**	LR	LR	07 54 02.4	
	comp=Z,4.6nm,20.1s,baz=29,slow=32						
SONM	**Songino Array**	**48.03**	**15**	P	**P**	**07 37 00.0**	**-0.7**
SONM	**Songino Array**	**48.03**	**15**	P	**P**	**07 37 00.5**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=197,slow=8.2,SNR=22						
	comp=Z,3.8nm,0.7s						
WB0	**Warramunga Arr**	**48.87**	**118**	P	**P**	**07 37 07.1**	**-0.4**
WB0				IAmb	IAmb	07 37 18.3	
	comp=Z,5.8nm,0.9s						
WRA	**Warramunga Arr**	**48.88**	**119**	P	**P**	**07 37 07.0**	**-0.7**
WRA	**Warramunga Arr**	**48.88**	**119**	P	**P**	**07 37 07.5**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=293,slow=7.7,SNR=12						
	comp=Z,2.5nm,0.8s						
WB2	**Warramunga Arr**	**48.89**	**119**	P	**P**	**07 37 07.4**	**-0.4**
WB2				IAmb	IAmb	07 37 15.0	
	comp=Z,5.8nm,0.8s						
WR8	**Warramunga Arr**	**49.03**	**119**	P	**P**	**07 37 08.6**	**-0.2**
KURBB	**Kurchatov Arra**	**49.49**	**351**	P	**P**	**07 37 10.3**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=175,slow=7.3,SNR=18						
KURBB				PcP	**PcP**	**07 38 34.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=171,slow=3.4,SNR=1.8						
	comp=Z,1.8nm,0.9s						
KURK	**Kurchatov**	**49.56**	**351**	P	**P**	**07 37 11.8**	**-0.5**
KURK				IAmb	IAmb	07 37 24.8	
	comp=Z,6.0nm,0.9s						
JNU	**Nakatsue**	**49.57**	**47**	LR	LR	07 59 29.9	
	comp=Z,153nm,18.1s,baz=246,slow=38						
KSRS	**Korea Array**	**49.90**	**40**	LR	LR	08 01 35.0	
	comp=Z,71nm,18.1s,baz=255,slow=40						
ASAR	**Alice Springs**	**49.94**	**123**	P	**P**	**07 37 14.3**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=299,slow=8.1,SNR=11						
ASAR				PcP	**PcP**	**07 38 38.0**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=299,slow=3.8,SNR=1.8						
	comp=Z,0.9nm,0.7s						
ZAA0	**Zalesovo Array**	**52.06**	**356**	IAmb	IAmb	07 37 38.6	
	comp=Z,8.0nm,1.4s						
ZALV	**Zalesovo Beam**	**52.06**	**356**	P	**P**	**07 37 30.2**	**-0.9**
ZALV	**Zalesovo Beam**	**52.06**	**356**	P	**P**	**07 37 28.4**	**-2.6**
	comp=Z,1.2nm,0.5s,baz=166,slow=7.5,SNR=6.3						
ZALV				LR	LR	08 00 36.2	
	comp=Z,75nm,21.4s,baz=214,slow=37						
	comp=Z,1.2nm,0.5s						
KMBO	**Kilima Mbogo**	**52.49**	**267**	LR	LR	07 55 38.7	
	comp=Z,158nm,20.9s,baz=90,slow=31						
BVAR	**Borovoye Array**	**53.44**	**346**	P	**P**	**07 37 38.9**	**-2.5**
	comp=Z,2.1nm,0.9s,baz=148,slow=6.0,SNR=4.9						
BVAR				LR	LR	08 00 45.7	
	comp=Z,148nm,20.6s,baz=170,slow=36						
	comp=Z,2.1nm,0.9s						
BNX	**BinXian**	**54.79**	**32**	⇑P	**P**	**07 37 53.0**	**+1.7**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GNI	**Garni**	**55.72**	**319**	LR	LR	08 03 08.3	
	comp=Z,58nm,19.3s,baz=128,slow=38						
GUMO	**Guam**	**55.80**	**75**	LR	LR	08 00 51.9	
	comp=Z,43nm,22.0s,baz=9.0,slow=35						
MJAR	**Matsushiro Arr**	**56.49**	**46**	LR	LR	08 01 55.5	
	comp=Z,113nm,21.4s,baz=260,slow=36						
ASF	**Jabal al Asfar**	**57.99**	**307**	LR	LR	08 03 53.6	
	comp=Z,147nm,18.7s,baz=155,slow=37						
H04N2	**CROZET ISLANDS**	**58.32**	**210**	T	T	08 41 25.0	
	baz=47,slow=74,SNR=53						
H04N1	**CROZET ISLANDS**	**58.33**	**210**	T	T	08 41 25.6	
	baz=47,slow=74,SNR=39						
H04N3	**CROZET ISLANDS**	**58.34**	**210**	T	T	08 41 24.3	
	baz=47,slow=74,SNR=72						
KBZ	**Khabaz**	**58.76**	**322**	P	**P**	**07 38 20.1**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=114,slow=10.0,SNR=6.6						
	comp=Z,3.4nm,1.0s						
EIL	**Elat**	**58.77**	**304**	LR	LR	08 01 42.3	
	comp=Z,138nm,21.9s,baz=66,slow=34						
KLR	**Kul'dur**	**59.29**	**31**	P	**P**	**07 38 22.0**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=260,slow=6.1,SNR=6.9						
KLR				LR	LR	08 07 02.0	
	comp=Z,75nm,20.8s,baz=314,slow=39						
	comp=Z,2.2nm,0.7s						
STKA	**Stephens Creek**	**59.52**	**129**	P	**P**	**07 38 25.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=295,slow=6.1,SNR=3.8						
STKA				LR	LR	08 02 20.6	
	comp=Z,118nm,21.2s,baz=43,slow=34						
	comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**63.17**	**314**	P	**P**	**07 38 49.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=125,slow=6.0,SNR=3.9						
	comp=Z,1.3nm,0.6s						
NRIK	**Noril'sk**	**67.37**	**359**	P	**P**	**07 39 16.9**	**+0.6**
NRIK				IAmb	IAmb	07 39 21.2	
	comp=Z,4.1nm,0.9s						
NRIK	**Noril'sk**	**67.37**	**359**	P	**P**	**07 39 15.1**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=168,slow=5.7,SNR=5.4						
NRIK				LR	LR	08 10 07.9	
	comp=Z,112nm,21.5s,baz=179,slow=37						
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.21**	**324**	P	**P**	**07 39 33.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=5.1,SNR=4.2						
AKASG				LR	LR	08 12 16.7	
	comp=Z,42nm,19.1s,baz=101,slow=38						
	comp=Z,0.2nm,0.3s						
MAW	**Mawson**	**71.82**	**190**	LR	LR	08 07 41.8	
	comp=Z,161nm,18.6s,baz=5.0,slow=33						
TIXI	**Tiksi**	**73.98**	**12**	P	**P**	**07 39 55.0**	**-1.5**
TIXI	**Tiksi**	**73.98**	**12**	P	**P**	**07 39 55.0**	**-1.5**
	comp=Z,7.8nm,0.6s,baz=245,slow=2.3,SNR=23						
	comp=Z,7.8nm,0.6s						
FINES	**FINESS Array B**	**75.99**	**334**	P	**P**	**07 40 07.4**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=109,slow=7.3,SNR=4.2						
	comp=Z,2.2nm,0.8s						
SEY	**Seymchan**	**76.21**	**25**	P	**P**	**07 40 08.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=243,slow=6.8,SNR=1.7						
	comp=Z,0.3nm,0.3s						
GEC2	**GERESS Array S**	**79.37**	**319**	P	**P**	**07 40 27.5**	**-0.2**
GEC2				IAmb	IAmb	07 40 35.5	
	comp=Z,5.4nm,0.9s						
GERES	**GERESS Array B**	**79.37**	**319**	P	**P**	**07 40 28.2**	**+0.6**
GERES	**GERESS Array B**	**79.37**	**319**	P	**P**	**07 40 27.3**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=96,slow=6.8,SNR=12						
	comp=Z,2.5nm,0.8s						
ARCES	**ARCESS Array B**	**79.42**	**341**	P	**P**	**07 40 28.3**	**+0.9**
	comp=Z,6.8nm,1.0s,baz=107,slow=5.8,SNR=7.5						
	comp=Z,6.8nm,1.0s						
CLL	**Collm**	**80.21**	**322**	*e*P	**P**	**07 40 32.0**	**0.0**
SPITS	**Spitsbergen Ar**	**84.78**	**349**	LR	LR	08 22 17.8	
	comp=Z,74nm,20.7s,baz=93,slow=38						
TORD	**Torodi Ar. Bea**	**87.60**	**283**	P	**P**	**07 41 10.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=83,slow=5.6,SNR=3.8						
	comp=Z,0.7nm,0.4s						
EKA	**Eskdalemuir Ar**	**90.09**	**325**	P	**P**	**07 41 22.4**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=90,slow=4.5,SNR=1.4						
	comp=Z,0.9nm,0.7s						
JMIC	**Jan Mayen**	**90.91**	**341**	LR	LR	08 24 06.5	
	comp=Z,52nm,18.9s,baz=229,slow=37						
PDAR	**Pinedale Array**	**132.31**	**19**	PKP	**PKPdf**	**07 47 34.0**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=336,slow=2.6,SNR=1.7						
NVAR	**Mina Array Bea**	**132.32**	**30**	PKP	**PKPdf**	**07 47 35.0**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=336,slow=2.5,SNR=2.5						

IDC 27 07:35:45.4±2.2, 6.57S×129.54E, h0km, mb3.5/1, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=89.9km s-min=28.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**198**	Pn	Pn	07 38 39.9	+1.0
	0.2nm,0.3s,baz=27,slow=13,SNR=9.9						
FITZ				Sn	Sn	07 40 43.2	-11
	0.5nm,0.3s,baz=27,slow=18,SNR=6.2 1.2nm,0.8s						
WRA	**Warramunga Arr**	**14.09**	**161**	Pn	Pn	07 39 04.5	-1.9
	0.4nm,0.3s,baz=342,slow=13,SNR=13						
WRA				Sn	Sn	07 41 29.9	-14
	0.3nm,0.3s,baz=330,slow=22,SNR=5.1 0.4nm,0.5s						
ASAR	**Alice Springs**	**17.51**	**167**	P	Pn	07 39 51.7	+0.5
	0.2nm,0.3s,baz=342,slow=9.5,SNR=11						
ASAR				S	Sn	07 42 55.5	-11
	0.1nm,0.4s,baz=343,slow=25,SNR=2.0 0.8nm,0.6s						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	07 46 44.0	0.0
	0.2nm,0.4s,baz=129,slow=6.7,SNR=4.9 0.2nm,0.4s						

*MOS **27** 07:38:37.8±1.1, 66.37N×157.25W, h10km, mb4.6/12, Error ellipse: s-maj=18.9km s-min=8.8km az=106.2*

*IDC **27** 07:38:38.8±0.5, 66.40N×157.42W, h0km, mb4.0/23, mbtmp4.0/27, ML3.8/5, MS3.5/10, Error ellipse: s-maj=15.6km s-min=8.7km az=25.0*

*NEIC **27** 07:38:39.9±1.4, 66.29N±0.03×157.27W±0.07, h10km±1km, Error ellipse: s-maj=5.6km s-min=3.1km az=47.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.21; $M_{\theta\theta}$1.17; $M_{\phi\phi}$0.04; $M_{r\theta}$0.09; $M_{\theta\phi}$-1.33; $M_{\phi r}$1.19; Fault plane solution: $M_0$2.14000×10^{15} NP1: ϕ_s155.87000°, δ65.62000°, λ-48.32000°. NP2: ϕ_s270.75000°, δ47.14000°, λ-145.72000°. Principal axes: T 2.1585, Plg11.0000°, Azm217.0000°; N -0.0300, Plg37.0000°, Azm316.0000°; P -2.1285, Plg51.0000°, Azm114.0000°;*

*ANF **27** 07:38:39.0±0.2, 66.32N×157.30W, h6km±1km, ML4.8/103 Error ellipse: s-maj=1.1km s-min=0.8km az=140.0*

*AEIC **27** 07:38:39.3±1.2, 66.31N±0.03×157.21W±0.07, h9km±4km, ML4.4, mb4.4/19(NEIC), ML4.5/158(NEIC), Mwr4.2/68(NEIC), Error ellipse: s-maj=5.1km s-min=2.6km az=47.0*

*NEIC **27** 07:38:40.8, 66.30N×157.30W, h24km*

ISC 27 07:38:38.7±1.0, 66.33N±0.02×157.25W±0.02, h3km±6km, n493, σ0.81/498, mb4.2/40, MS3.5/7, 4C-10D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.19**	**160**		**Pg**	**07 38 43.3**	**+0.9**
G19K					**Sg**	**07 38 46.1**	**+1.1**
G19K	**Purcell Mounta**	**0.19**	**160**	IAML		07 38 46.2	
	comp=E,491μm,0.9s						
G19K				IAML		07 38 46.3	
	comp=N,347μm,0.6s						
G19K	**Purcell Mounta**	**0.19**	**160**	P	**Pg**	**07 38 43.2**	**+0.7**
	baz=331,SNR=1000						
G19K				S	**Sg**	**07 38 45.9**	**+1.0**
	baz=331						
F19K	**Shaleruckik Mo**	**0.55**	**338**		**Pg**	**07 38 50.1**	**+0.8**
F19K					**Sb**	**07 38 58.1**	**-1.2**
F19K	**Shaleruckik Mo**	**0.55**	**338**	P	**Pg**	**07 38 49.9**	**+0.6**
	baz=160						
F19K				S	**Sg**	**07 38 57.4**	**+1.0**
	baz=160						
G18K	**Tagagawik**	**0.72**	**234**		**Pg**	**07 38 52.9**	**+0.5**
G18K					**Sb**	**07 39 03.0**	**-1.0**
G18K	**Tagagawik**	**0.72**	**234**	P	**Pg**	**07 38 52.9**	**+0.5**
	baz=53,SNR=1000						
G18K				S	**Sg**	**07 39 02.5**	**+0.8**
	baz=53						
H19K	**Roundabout Mou**	**0.86**	**157**		**Pg**	**07 38 55.4**	**+0.1**
H19K				IAML		07 39 11.4	
	comp=E,22μm,0.5s						
H19K				IAML		07 39 11.4	
	comp=N,15μm,0.4s						
H19K	**Roundabout Mou**	**0.86**	**157**		**Sg**	**07 39 06.9**	**+0.4**
H19K	**Roundabout Mou**	**0.86**	**157**	P	**Pg**	**07 38 55.3**	**+0.1**
	baz=336,SNR=1000						
H19K				S	**Sg**	**07 39 06.8**	**+0.3**
	baz=336						
F20K	**Avaraart Lake**	**0.95**	**39**		**Pg**	**07 38 56.8**	**0.0**
F20K

E18K Tukpahlearik C 1.72 311 Pb 07 39 10.1 -0.8
E18K Tukpahlearik C 1.72 311 P **Pb 07 39 10.1 -0.8**
baz=129
E18K Sb **Sg 07 39 33.7 -0.2**
baz=129
F21K Alatna River 1.75 57 Pn 07 39 10.0 +0.2
F21K Alatna River 1.75 57 IAML 07 39 37.2
comp=E,5µm,0.7s
F21K IAML 07 39 37.4
comp=N,5µm,0.8s
F21K Alatna River 1.75 57 P **Pn 07 39 09.7 -0.1**
baz=240,SNR=1000
F21K S **Sn 07 39 32.8 +0.2**
baz=240
H17K Granite Mounta 1.78 220 Pn 07 39 09.9 -0.3
H17K IAML 07 39 39.4
comp=E,5µm,0.8s
H17K Granite Mounta 1.78 220 P **Pn 07 39 09.8 -0.4**
baz=37,SNR=1000
H17K S **Sn 07 39 32.7 -0.6**
baz=37
I20K Naaghedeneel 1.92 142 Pn 07 39 12.5 +0.3
I20K Naaghedeneel 1.92 142 P **Pn 07 39 12.2 0.0**
baz=323,SNR=508
I20K Sb **Sg 07 39 40.3 0.0**
baz=323
H21K Melozitna Rive 1.94 108 Pn 07 39 12.4 -0.1
H21K IAML 07 39 43.0
comp=N,5µm,0.5s
H21K Melozitna Rive 1.94 108 P **Pn 07 39 12.0 -0.5**
baz=291,SNR=1000
E17K Hotham Inlet 1.97 295 Pn 07 39 13.2 +0.3
E17K **Sb 07 39 39.2 -0.9**
E17K Hotham Inlet 1.97 295 P **Pn 07 39 13.2 +0.3**
baz=112
E17K Sb **Sb 07 39 40.5 +0.4**
baz=112
E20K Nigu River 1.98 11 Pb 07 39 14.6 -0.9
E20K Nigu River 1.98 11 P **Pb 07 39 14.8 -0.7**
baz=193,SNR=779
E20K S **Sb 07 39 39.5 -1.1**
baz=193
D19K Kuna River 2.21 352 Pn 07 39 17.4 +1.2
D19K Kuna River 2.21 352 P **Pb 07 39 17.6 -1.6**
baz=172,SNR=441
D19K Sb **Sb 07 39 48.2 +1.3**
baz=172
G16K Koyuk River 2.30 248 Pn 07 39 16.4 -0.9
G16K Koyuk River 2.30 248 IAML 07 39 59.5
comp=N,2µm,0.8s
G16K Koyuk River 2.30 248 P **Pn 07 39 16.0 -1.4**
baz=64
G16K Sb **Sb 07 39 50.6 +1.1**
baz=64
F22K John River 2.33 57 Pn 07 39 18.4 +0.6
F22K John River 2.33 57 P **Pn 07 39 18.2 +0.4**
baz=241
D20K Etivluk River 2.41 6 Pn 07 39 19.9 +0.9
D20K Etivluk River 2.41 6 P **Pn 07 39 20.3 +1.3**
baz=187,SNR=183
D20K Sb **Sb 07 39 53.9 +1.1**
baz=187
H22K Ishtalitna Cre 2.43 98 Pn 07 39 19.1 -0.1
H22K Ishtalitna Cre 2.43 98 P **Pn 07 39 19.1 -0.1**
baz=282
H22K S **Sn 07 39 49.2 -0.3**
baz=282
J19K Poorman 2.44 163 Pn 07 39 19.5 +0.1
J19K IAML 07 39 56.1
comp=E,2µm,1.0s
J19K IAML 07 40 04.5
comp=N,2µm,1.0s
J19K Poorman 2.44 163 P **Pn 07 39 19.5 +0.1**
baz=344,SNR=404
J19K S **Sn 07 39 49.7 +0.1**
baz=344
I21K Tanana 2.46 115 Pn 07 39 19.2 -0.4
I21K Tanana 2.46 115 IAML 07 40 02.2
comp=N,4µm,0.6s
I21K Tanana 2.46 115 P **Pn 07 39 19.4 -0.2**
baz=300
I21K Sb **Sg 07 39 55.9 -1.6**
baz=300
E21K Killik River 2.48 29 Pn 07 39 20.5 +0.7
E21K Killik River 2.48 29 P **Pn 07 39 21.1 +1.2**
baz=212
J20K Nowinta River 2.52 147 Pn 07 39 20.2 -0.2
J20K IAML 07 40 03.9
comp=N,2µm,0.7s
J20K IAML 07 40 06.6
comp=E,3µm,0.6s
J20K Nowinta River 2.52 147 P **Pn 07 39 20.1 -0.4**
baz=330,SNR=72
J20K Sb **Sg 07 39 58.1 -1.5**
baz=330
D17K Noatak River 2.67 304 Pn 07 39 23.2 +0.6
D17K Noatak River 2.67 304 P **Pn 07 39 23.2 +0.6**
baz=119,SNR=74
D17K Sb **Sb 07 40 00.5 +0.2**
baz=119
H16K Elim 2.68 233 Pn 07 39 21.4 -1.3
H16K Elim 2.68 233 P **Pn 07 39 21.2 -1.5**
baz=49,SNR=144
H16K Sb **Sb 07 40 01.6 +1.1**
baz=49
C18K Utukok River 2.78 329 Pn 07 39 24.8 +0.7
C18K Utukok River 2.78 329 P **Pn 07 39 24.3 +0.1**
baz=146,SNR=35
C18K S **Sn 07 39 56.4 -1.8**
baz=146
E22K Anaktuvuk Pass 2.79 47 Pn 07 39 26.0 +1.8
E22K IAML 07 40 14.9
comp=E,1µm,1.1s
E22K Anaktuvuk Pass 2.79 47 P **Pn 07 39 25.1 +0.9**
baz=232,SNR=317
E22K S **Sn 07 39 59.2 +0.9**
baz=232
RDOG Red Dog Mine 2.81 311 Pn 07 39 25.5 +1.1
RDOG Red Dog Mine 2.81 311 P **Pn 07 39 25.4 +1.0**
baz=126,SNR=28
RDOG Sb **Sb 07 40 03.7 -0.4**
baz=126
I17K Unalakleet 2.85 212 Pn 07 39 25.3 +0.4
I17K IAML 07 40 13.5
comp=E,2µm,0.8s
I17K Unalakleet 2.85 212 P **Pn 07 39 25.0 0.0**
baz=29,SNR=247
I17K Sb **Sb 07 40 06.4 +1.2**
baz=29
J18K Innoko River 2.88 175 Pn 07 39 25.8 +0.4
J18K Innoko River 2.88 175 P **Pn 07 39 25.5 +0.1**
baz=355,SNR=49
J18K Sb **Sb 07 40 07.2 +1.0**
baz=355
G23K Bananza Creek 2.92 79 Pn 07 39 25.9 -0.2
G23K Bananza Creek 2.92 79 IAML 07 40 21.5
comp=E,2µm,0.7s
G23K Bananza Creek 2.92 79 P **Pn 07 39 24.8 -1.2**
baz=265,SNR=492
G23K Sb **Sb 07 40 09.5 +2.1**
baz=265
COLD Coldfoot 2.94 69 Pn 07 39 27.4 +1.3
COLD Coldfoot 2.94 69 P **Pn 07 39 25.6 -0.6**
baz=255,SNR=43
C21K Knifeblade Rid 3.00 17 Pn 07 39 27.4 +0.4
C21K Knifeblade Rid 3.00 17 P **Pn 07 39 27.2 +0.2**
baz=200
C21K Sb **Sg 07 40 12.9 -2.0**
baz=200
J17K VABM Dome 3.04 196 Pn 07 39 27.8 +0.2
J17K IAML 07 40 23.9
comp=E,1µm,1.1s
J17K VABM Dome 3.04 196 P **Pn 07 39 27.8 +0.2**
baz=14,SNR=106
J17K Sb **Sg 07 40 13.7 -2.6**
baz=14
F15K North Star Dit 3.08 262 Pn **Pn 07 39 29.1 +0.8**
F15K IAML 07 40 20.6
comp=N,1µm,1.3s
F15K North Star Dit 3.08 262 P **Pn 07 39 26.9 -1.4**
baz=75
D22K Ayikyak River 3.11 32 Pn 07 39 29.6 +1.0
D22K Ayikyak River 3.11 32 IAML 07 40 27.4
comp=N,1µm,1.2s
D22K IAML 07 40 30.9
comp=E,2µm,1.6s
D22K Ayikyak River 3.11 32 P **Pn 07 39 29.4 +0.8**
baz=216
G15K Niukluk 3.11 248 Pn 07 39 27.7 -0.9
G15K Niukluk 3.11 248 P **Pn 07 39 27.0 -1.6**
baz=62,SNR=30
G15K Sb **Sb 07 40 15.2 +2.3**
baz=62
C17K DeLong Mountai 3.15 316 Pn 07 39 29.7 +0.6
C17K DeLong Mountai 3.15 316 P **Pn 07 39 28.6 -0.5**
baz=131,SNR=17
H23K Yukon River 3.18 96 Pn 07 39 29.7 +0.1
H23K Yukon River 3.18 96 P **Pn 07 39 29.1 -0.5**
baz=282
CHUM Lake Minchumin 3.22 137 Pn 07 39 30.4 +0.3
CHUM Lake Minchumin 3.22 137 P **Pn 07 39 30.3 +0.3**
baz=321,SNR=150
K20K Telida 3.27 154 Pn 07 39 31.5 +0.6
K20K Telida 3.27 154 P **Pn 07 39 30.8 -0.1**
baz=336,SNR=49
J16K Anvik River 3.37 207 Pn 07 39 32.6 +0.4
J16K IAML 07 40 29.6
comp=N,1µm,0.9s
J16K IAML 07 40 34.9
comp=E,1µm,1.3s
J16K Anvik River 3.37 207 P **Pn 07 39 32.1 0.0**
baz=24,SNR=276
E23K Chandalar 3.44 56 Pn 07 39 33.9 +0.7
E23K Chandalar 3.44 56 IAML 07 40 33.0
comp=E,1µm,1.0s
E23K IAML 07 40 36.6
comp=N,1µm,0.8s
E23K Chandalar 3.44 56 P **Pn 07 39 33.7 +0.4**
baz=243,SNR=123
BPAW Bear Paw Mtn. 3.46 127 Pn 07 39 34.0 +0.7
BPAW IAML 07 40 31.1
comp=E,759nm,1.4s
BPAW IAML 07 40 36.1
comp=N,822nm,1.1s
BPAW Bear Paw Mtn. 3.46 127 P **Pn 07 39 33.1 -0.2**
baz=313,SNR=333
B21K Ikpikpuk River 3.46 15 Pn **Pn 07 39 33.2 -0.1**
B21K IAML 07 40 38.9
comp=N,841nm,1.0s
B21K IAML 07 40 51.5
comp=E,938nm,1.5s
B21K Ikpikpuk River 3.46 15 P **Pn 07 39 32.9 -0.4**
baz=198,SNR=45
I23K Minto, Yukon-K 3.46 106 Pn 07 39 32.7 -0.7
I23K Minto, Yukon-K 3.46 106 P **Pn 07 39 32.8 -0.6**
baz=293,SNR=161
B18K Kokolik River 3.51 333 Pn 07 39 34.5 +0.5
B18K Kokolik River 3.51 333 P **Pn 07 39 33.8 -0.2**
baz=149
D23K Nanushuk River 3.65 40 Pn 07 39 36.9 +0.9
D23K Nanushuk River 3.65 40 IAML 07 40 46.0
comp=N,1µm,1.2s
D23K IAML 07 40 51.1
comp=E,1µm,1.1s
D23K Nanushuk River 3.65 40 P **Pn 07 39 37.0 +0.9**
baz=226
K17K Iditarod 3.65 188 Pn 07 39 35.9 -0.1
K17K IAML 07 40 40.0
comp=E,908nm,1.1s
K17K IAML 07 40 44.7
comp=N,969nm,1.0s
K17K Iditarod 3.65 188 P **Pn 07 39 35.8 -0.1**
baz=6.4,SNR=46
CAST Castle Rocks 3.66 141 Pn 07 39 37.0 +0.9
CAST Castle Rocks 3.66 141 P **Pn 07 39 36.5 +0.4**
baz=325,SNR=289
C16K Lisburne Hills 3.70 306 Pn 07 39 37.6 +1.0
C16K Lisburne Hills 3.70 306 P **Pn 07 39 37.1 +0.5**
baz=119
B20K Meade River 3.70 0 Pn 07 39 37.1 +0.5
B20K Meade River 3.70 0 IAML 07 40 45.2
comp=E,837nm,1.3s
B20K IAML 07 40 53.0
comp=N,716nm,1.3s
B20K Meade River 3.70 0 P **Pn 07 39 37.0 +0.4**
baz=181
TOLK Toolik Lake Re 3.76 48 IAML 07 40 54.4
comp=N,1µm,1.0s
TOLK Toolik Lake Re 3.76 48 P **Pn 07 39 38.0 +0.5**
baz=235
F14K Arctic Creek 3.82 261 Pn 07 39 38.1 -0.3
F14K Arctic Creek 3.82 261 P **Pn 07 39 38.0 -0.3**
baz=73
ANM Nome 3.82 246 P **Pn 07 39 36.8 -1.6**
baz=59
NEA2 Nenana 3.83 113 Pn 07 39 38.6 +0.1
NEA2 IAML 07 40 43.3
comp=E,779nm,1.0s
NEA2 IAML 07 40 43.7
comp=N,882nm,0.9s
NEA2 Nenana 3.83 113 P **Pn 07 39 38.2 -0.2**
baz=300,SNR=131
E24K Your Creek 3.84 59 IAML 07 40 50.1
comp=E,832nm,0.7s
E24K IAML 07 40 54.1
comp=N,804nm,0.9s
E24K Your Creek 3.84 59 P **Pn 07 39 38.8 +0.2**
baz=247
H24K Noodor Dome 3.85 93 IAML 07 40 54.3
comp=E,1µm,1.0s
H24K Noodor Dome 3.85 93 P **Pn 07 39 38.1 -0.6**
baz=281,SNR=91
KTH Kantishna Hill 3.87 133 Pn 07 39 39.7 +0.6
KTH IAML 07 40 47.9
comp=N,768nm,1.5s
KTH IAML 07 40 51.2
comp=E,715nm,0.9s
F24K Squaw Lake 3.88 68 Pn 07 39 38.7 -0.4
F24K Squaw Lake 3.88 68 P **Pn 07 39 38.7 -0.4**
baz=256,SNR=19
BWN Browne 3.92 120 Pn 07 39 40.0 +0.3
G24K Hadweenzic Riv 3.93 80 Pn 07 39 39.4 -0.5
G24K Hadweenzic Riv 3.93 80 P **Pn 07 39 39.0 -0.8**
baz=269,SNR=30
PPLA Purkeypile 4.07 145 Pn 07 39 42.9 +1.0
PPLA Purkeypile 4.07 145 P **Pn 07 39 42.5 +0.6**
baz=330,SNR=105
L20K Farewell, AK 4.13 158 P **Pn 07 39 43.0 +0.4**
baz=340,SNR=158
L18K Granite Mounta 4.13 176 IAML 07 40 58.6
comp=N,467nm,1.1s
L18K IAML 07 40 59.7
comp=E,553nm,1.4s
L18K Granite Mounta 4.13 176 P **Pn 07 39 42.9 +0.3**
baz=356,SNR=36
TRF Thorofare Moun 4.14 131 Pn 07 39 43.8 +0.9
TRF IAML 07 40 53.1
comp=E,906nm,0.9s
TRF IAML 07 40 53.0
comp=N,824nm,1.0s
TRF Thorofare Moun 4.14 131 P **Pn 07 39 43.1 +0.3**
baz=317,SNR=100
A19K Wainwright 4.15 342 P **Pn 07 39 42.6 -0.2**
baz=159
I53US FAIRBANKS INFR 4.16 106 I I 08 02 30.0
baz=293,slow=324,SNR=0.8
COLA College 4.16 106 Pn 07 39 43.2 +0.2
COLA College 4.16 106 *ce* P **Pn 07 39 42.7 -0.3**
COLA College 4.16 106 P **Pn 07 39 43.2 +0.2**
baz=294
POKR Poker Plat Res 4.23 102 IAML 07 40 55.9
comp=E,812nm,0.8s
POKR Poker Plat Res 4.23 102 P **Pn 07 39 44.0 +0.1**
baz=291,SNR=210
L17K Donlin 4.23 187 P **Pn 07 39 44.0 +0.1**
baz=5.5,SNR=30
WRH Wood River Hil 4.26 112 Pn 07 39 44.3 0.0
WRH IAML 07 40 54.7
comp=E,577nm,0.9s
WRH IAML 07 40 57.1
comp=N,485nm,0.8s
B22K Teshekpuk Lake 4.28 18 Pn 07 39 45.3 +0.8
B22K Teshekpuk Lake 4.28 18 IAML 07 41 02.2
comp=E,575nm,1.5s
B22K IAML 07 41 12.6
comp=N,507nm,0.9s
B22K Teshekpuk Lake 4.28 18 P **Pn 07 39 43.8 -0.7**
baz=201
CCB Clear Creek Bu 4.28 109 Pn 07 39 44.6 0.0
CCB IAML 07 40 57.3
comp=E,670nm,0.9s
D24K Happy Valley 4.28 45 Pn 07 39 45.2 +0.6
D24K Happy Valley 4.28 45 IAML 07 41 05.9
comp=N,841nm,1.3s
D24K Happy Valley 4.28 45 P **Pn 07 39 45.1 +0.4**
baz=232
L19K White Mountain 4.29 165 IAML 07 41 01.9
comp=N,423nm,0.9s
L19K IAML 07 41 11.7
comp=E,498nm,1.1s
L19K White Mountain 4.29 165 P **Pn 07 39 45.0 +0.2**
baz=347,SNR=103
C23K Itkillik River 4.32 32 Pn 07 39 45.0 -0.1
C23K Itkillik River 4.32 32 IAML 07 41 10.5
comp=E,502nm,1.4s
C23K IAML 07 41 15.3
comp=N,758nm,1.1s
C23K Itkillik River 4.32 32 P **Pn 07 39 44.8 -0.2**
baz=218
MCK McKinley 4.38 123 Pn 07 39 46.3 +0.2
MCK McKinley 4.38 123 P **Pn 07 39 46.3 +0.2**
MCK McKinley 4.38 123 P **Pn 07 39 45.8 -0.2**
baz=310,SNR=68
TNA Tin City 4.44 265 Pn 07 39 47.7 +1.0
TNA Tin City 4.44 265 P **Pn 07 39 46.6 -0.1**
baz=76
K15K Wolf Creek Mou 4.46 207 IAML 07 41 10.8
comp=E,411nm,0.9s
K15K IAML 07 41 11.9
comp=N,387nm,1.9s
K15K Wolf Creek Mou 4.46 207 P **Pn 07 39 47.2 +0.1**
baz=23,SNR=11
G25K Bearman Lake 4.48 79 Pn 07 39 47.4 0.0
G25K Bearman Lake 4.48 79 P **Pn 07 39 47.3 -0.1**
baz=269
J14K Nanvaranak Lak 4.50 220 IAML 07 41 17.7
comp=E,550nm,1.3s
J14K IAML 07 41 20.9
comp=N,497nm,0.9s
J14K Nanvaranak Lak 4.50 220 P **Pn 07 39 46.7 -1.0**
baz=34,SNR=35
IL31 4.58 105 Pn 07 39 49.0 +0.3
ILAR Eielson Array 4.58 105 Pn 07 39 49.0 +0.2
ILAR Eielson Array 4.58 105 Pn **Pn 07 39 47.8 -1.0**
comp=N,37nm,0.3s,baz=294,slow=14,SNR=2487
ILAR Sn **Sn 07 40 40.5 -1.9**
comp=N,16nm,0.3s,baz=292,slow=21,SNR=6.4
ILAR Lg Lg 07 41 00.3
comp=N,16nm,0.3s,baz=302,slow=31,SNR=6.5
ILAR Eielson Array 4.58 105 P **Pn 07 39 49.0 +0.2**
M19K Big River Lodg 4.61 163 IAML 07 41 14.5
comp=E,460nm,1.4s
M19K Big River Lodg 4.61 163 P **Pn 07 39 50.1 +0.9**
baz=345
H25L Birch Creek 4.62 85 Pn 07 39 49.2 0.0
H25L Birch Creek 4.62 85 P **Pn 07 39 49.5 +0.3**
baz=276,SNR=20
C24K Franklin Bluff 4.68 39 Pn 07 39 50.0 -0.1
C24K Franklin Bluff 4.68 39 P **Pn 07 39 50.1 0.0**
baz=227
HDA Harding Lake 4.72 109 Pn 07 39 50.0 -0.6
HDA Harding Lake 4.72 109 IAML 07 41 14.9
comp=E,435nm,0.6s
HDA Harding Lake 4.72 109 P **Pn 07 39 50.2 -0.5**
baz=298,SNR=127
F25K Christian Rive 4.74 69 IAML 07 41 15.1
comp=N,557nm,0.7s
F25K IAML 07 41 16.8
comp=E,604nm,0.9s
F25K Christian Rive 4.74 69 P **Pn 07 39 51.5 +0.6**
baz=260
L16K Owhat River 4.74 193 IAML 07 41 15.6
comp=E,305nm,2.0s
L16K Owhat River 4.74 193 P **Pn 07 39 50.1 -0.8**
baz=11,SNR=10
A22K Sinclair Lake 4.77 9 Pn 07 39 51.4 +0.1
A22K Sinclair Lake 4.77 9 P **Pn 07 39 51.1 -0.2**
baz=191
M20K Styx River 4.81 156 IAML 07 41 17.4
comp=E,423nm,1.2s
M20K Styx River 4.81 156 P **Pn 07 39 53.0 +0.9**
baz=339,SNR=114
PRP Porcupine Dome 4.87 94 Pn 07 39 52.5 -0.3
PRP IAML 07 41 15.9
comp=E,541nm,0.9s
PRP Porcupine Dome 4.87 94 P **Pn 07 39 52.2 -0.7**
baz=285,SNR=116
E25K Arctic Village 4.88 63 IAML 07 41 16.8
comp=N,528nm,0.7s
E25K IAML 07 41 22.2
comp=E,515nm,1.0s
E25K Arctic Village 4.88 63 P **Pn 07 39 52.4 -0.5**
baz=254,SNR=45
M18K Stony River 4.89 172 P **Pn 07 39 53.5 +0.4**
baz=353,SNR=60
M17K Holitna River 4.95 181 IAML 07 41 35.2
comp=N,497nm,1.2s
M17K Holitna River 4.95 181 P **Pn 07 39 54.0 +0.2**
baz=0.6,SNR=14
CUT Chulitna 4.97 139 P **Pn 07 39 55.4 +1.4**
baz=325,SNR=35
L15K Ungalak Mounta 5.02 204 P **Pn 07 39 54.7 -0.1**
baz=20,SNR=15
A21K Barrow 5.03 2 Pn 07 39 54.5 -0.3
A21K Barrow 5.03 2 P **Pn 07 39 54.3 -0.5**
baz=183,SNR=8.2
SKT Skwentna 5.03 148 IAML 07 41 30.8
comp=N,255nm,0.9s
SKT IAML 07 41 35.4
comp=E,292nm,1.3s
SKT Skwentna 5.03 148 P **Pn 07 39 56.1 +1.2**
baz=332,SNR=148
D25K Kavik River 5.10 49 IAML 07 41 32.3
comp=E,323nm,1.2s
D25K IAML 07 41 33.1
comp=N,423nm,1.2s
D25K Kavik River 5.10 49 P **Pn 07 39 56.1 +0.1**
baz=239
BMAR Burnt Mountain 5.12 72 Pn 07 39 56.9 +0.8
J25K Salcha River, 5.24 104 P **Pn 07 39 57.5 -0.4**
baz=294,SNR=83
F26K Sheenjek River 5.32 69 IAML 07 41 41.5
comp=E,368nm,1.2s
F26K Sheenjek River 5.32 69 P **Pn 07 39 59.2 +0.3**
baz=261,SNR=20
M16K Timber Creek 5.38 189 Pn 07 39 59.3 -0.4
M16K Timber Creek 5.38 189 IAML 07 41 37.0
comp=N,208nm,1.1s
M16K Timber Creek 5.38 189 P **Pn 07 39 59.3 -0.4**
baz=7.2,SNR=10
G26K Porcupine Rive 5.40 77 P **Pn 07 39 59.7 -0.2**
baz=269,SNR=18
K13K Kusilvak Mount 5.47 220 Pn 07 40 00.4 -0.5
K13K Kusilvak Mount 5.47 220 P **Pn 07 40 00.2 -0.8**
baz=33
K24K Donnelly Dome 5.47 112 P **Pn 07 40 00.6 -0.5**
baz=302,SNR=56
SPBG Spurr Blockage 5.52 155 Pn 07 40 02.7 +0.9
L14K Kuka Creek 5.55 208 P **Pn 07 40 02.2 +0.2**
baz=23
SPCR Spurr Chakacha 5.61 154 P **Pn 07 40 03.8 +0.9**
baz=338,SNR=12
N19K Bonanza Creek 5.67 166 Pn 07 40 04.2 +0.4
N19K Bonanza Creek 5.67 166 P **Pn 07 40 04.0 +0.2**
baz=348,SNR=16
N18K Kilae Creek 5.70 173 P **Pn 07 40 04.7 +0.5**
baz=354,SNR=24
N17K Nushagak Hills 5.82 180 P **Pn 07 40 06.3 +0.5**
baz=360,SNR=41
C26K Camden Bay 5.85 46 P **Pn 07 40 06.7 +0.5**
baz=238,SNR=301
RIDG Independent Ri 5.86 111 P **Pn 07 40 05.6 -0.7**
baz=302,SNR=18
M15K Kasigluk River 5.86 197 P **Pn 07 40 06.6 +0.3**
baz=14,SNR=8.0
I26K Coal Creek Min 5.88 94 P **Pn 07 40 06.0 -0.7**
baz=286
N16K Nishlik Lake 5.91 187 P **Pn 07 40 06.9 -0.2**
baz=5.8,SNR=14
PMR Palmer 5.94 139 Pn 07 40 08.1 +0.7
PMR Palmer 5.94 139 P **Pn 07 40 08.1 +0.7**
PMR Palmer 5.94 139 P **Pn 07 40 07.9 +0.5**
baz=326,SNR=44
M14K Bethel 5.98 203 Pn 07 40 08.6 +0.7
M14K Bethel 5.98 203 P **Pn 07 40 07.4 -0.5**
baz=18
SML Sawmill 5.99 135 P **Pn 07 40 08.2 +0.2**
baz=323,SNR=40
J26L Joseph Creek 6.00 101 Pn 07 40 08.4 +0.1
J26L Joseph Creek 6.00 101 P **Pn 07 40 08.1 -0.2**
baz=294,SNR=98

SCRK **Sand Creek** 6.07 107 P Pn 07 40 08.5 -0.7
baz=298,SNR=38
C27K **Jago River** 6.07 51 Pn 07 40 09.9 +0.8
C27K **Jago River** 6.07 51 P Pn 07 40 10.2 +1.0
baz=243
PAX **Paxson** 6.07 118 Pn 07 40 09.8 +0.4
PAX **Paxson** 6.07 118 P Pn 07 40 09.8 +0.4
PAX **Paxson** 6.07 118 P Pn 07 40 09.4 +0.1
baz=309,SNR=39
RDT **Redoubt** 6.17 157 Pn 07 40 11.2 +0.6
M23K **Glacier View** 6.17 133 Pn 07 40 10.9 +0.2
M23K **Glacier View** 6.17 133 P Pn 07 40 10.7 +0.1
baz=321,SNR=23
RDWB **Redoubt West** 6.18 159 Pn 07 40 10.8 -0.1
RC01 **Rabbit Creek A** 6.22 144 P Pn 07 40 11.9 +0.6
baz=331
G27K **Doyon Strip** 6.24 78 Pn 07 40 12.1 +0.5
G27K **Doyon Strip** 6.24 78 P Pn 07 40 12.1 +0.5
baz=273,SNR=16
RED **Redoubt Volcan** 6.26 159 Pn 07 40 12.3 +0.4
SCM **Sheep Creek Mo** 6.26 131 P Pn 07 40 12.3 +0.4
baz=320,SNR=21
KNK **Knik Glacier** 6.27 138 Pn 07 40 13.0 +1.0
KNK **Knik Glacier** 6.27 138 P Pn 07 40 13.0 +1.0
baz=325,SNR=46
O19K **Port Alsworth** 6.29 167 P Pn 07 40 12.6 +0.3
baz=349,SNR=11
N15K **Kwethluk River** 6.31 193 Pn 07 40 12.5 0.0
N15K **Kwethluk River** 6.31 193 P Pn 07 40 12.5 0.0
baz=10
H27K **Steamboat Moun** 6.34 84 Pn 07 40 13.5 +0.5
H27K **Steamboat Moun** 6.34 84 P Pn 07 40 13.4 +0.5
baz=278,SNR=14
E27K **Coleen River** 6.35 66 P Pn 07 40 12.7 -0.3
baz=260
M24K **Tolsona, Glenn** 6.42 126 Pn 07 40 14.9 +0.9
M24K **Tolsona, Glenn** 6.42 126 P Pn 07 40 15.4 +1.4
baz=316,SNR=39
I27K **Kandik River** 6.43 89 P Pn 07 40 13.3 -0.8
baz=283,SNR=26
HARP **HAARP** 6.56 121 Pn 07 40 16.8 +0.9
HARP **HAARP** 6.56 121 P Pn 07 40 17.2 +1.3
baz=312,SNR=36
O18K **Koktuh Hills** 6.56 171 P Pn 07 40 15.8 -0.2
baz=353
O17K **Koliganek Bris** 6.58 179 Pn 07 40 16.3 +0.2
O17K **Koliganek Bris** 6.58 179 P Pn 07 40 16.1 0.0
baz=359
O20K **Slope Mountain** 6.61 159 P Pn 07 40 17.8 +1.2
baz=343,SNR=6.0
ILSW **Iliamna Southw** 6.63 162 Pn 07 40 17.4 +0.4
SLKM **Skilak Lake** 6.63 148 Pn 07 40 17.2 +0.2
ILS **Iliamna Low So** 6.67 162 Pn 07 40 17.7 +0.2
MENT **Mentasta** 6.73 114 Pn 07 40 18.3 0.0
N14K **Kuskokwak Cree** 6.73 199 Pn 07 40 18.7 +0.5
N14K **Kuskokwak Cree** 6.73 199 P Pn 07 40 18.5 +0.3
baz=15
O22K **Cooper Landing** 6.76 147 P Pn 07 40 18.4 -0.3
baz=333
O16K **Kokwok River B** 6.77 184 P Pn 07 40 18.9 +0.1
baz=2.7,SNR=15
PWL **Port Wells** 6.77 140 P Pn 07 40 19.1 +0.3
baz=328,SNR=10
K27K **Chicken** 6.79 103 Pn 07 40 18.9 -0.2
K27K **Chicken** 6.79 103 P Pn 07 40 18.9 -0.2
baz=296
L26K **Log Cabin Wild** 6.81 113 Pn 07 40 18.9 -0.5
L26K **Log Cabin Wild** 6.81 113 P Pn 07 40 18.8 -0.7
baz=305,SNR=42
D27M **Malcolm River** 6.82 57 Pn 07 40 19.9 +0.3
D27M **Malcolm River** 6.82 57 P Pn 07 40 20.3 +0.7
baz=252
P19K **Oil Pt** 6.94 163 P Pn 07 40 21.6 +0.4
baz=346
KLU **Klutina** 6.95 129 Pn 07 40 20.9 -0.5
KLU **Klutina** 6.95 129 P Pn 07 40 22.4 +1.0
baz=319,SNR=35
P18K **Big Mountain,** 7.02 172 P Pn 07 40 22.5 +0.2
baz=353
GLI **Glacier Island** 7.09 136 Pn 07 40 23.3 +0.1
GLI **Glacier Island** 7.09 136 P Pn 07 40 23.8 +0.6
baz=325,SNR=16
WACK **Wrangell Chich** 7.12 122 Pn 07 40 23.5 -0.3
I28M **Miner Creek** 7.14 89 P Pn 07 40 24.0 0.0
baz=285,SNR=30
HOM **Homer** 7.16 157 P Pn 07 40 24.0 -0.1
baz=341
SEW **Seward** 7.16 147 Pn 07 40 24.8 +0.7
SEW **Seward** 7.16 147 P Pn 07 40 24.7 +0.5
baz=334
P17K **Kvichak River** 7.17 177 P Pn 07 40 24.3 +0.1
baz=357,SNR=8.6
E28M **Babbage River** 7.17 63 P Pn 07 40 24.4 0.0
baz=260,SNR=21
M11K **Mekoryuk** 7.19 218 P Pn 07 40 24.0 -0.5
baz=30
BRSE **Bradley Lake S** 7.24 153 P Pn 07 40 26.1 +0.9
baz=338
O15K **Ungalikthiuk R** 7.27 191 Pn 07 40 25.4 -0.3
O15K **Ungalikthiuk R** 7.27 191 P Pn 07 40 25.6 -0.1
baz=8.1
DIV **Divide** 7.28 130 Pn 07 40 25.8 -0.1
N25K **Chitina, Valde** 7.30 125 Pn 07 40 27.0 +0.9
N25K **Chitina, Valde** 7.30 125 P Pn 07 40 26.2 +0.1
baz=316,SNR=31
M26K **Nabesna, AK** 7.32 116 P Pn 07 40 26.5 +0.1
baz=308,SNR=9.2
P16K **Nushagak River** 7.33 183 Pn 07 40 26.6 +0.2
P16K **Nushagak River** 7.33 183 P Pn 07 40 25.9 -0.6
baz=2.2
O14K **Tigyukauivet M** 7.33 196 P Pn 07 40 26.3 -0.1
baz=13
CNPM **China Poot** 7.35 155 Pn 07 40 25.9 -0.9
L27K **Beaver Creek,** 7.37 109 P Pn 07 40 26.1 -1.0
baz=303,SNR=66
BCAR **Beaver Creek A** 7.38 109 Pn 07 40 26.3 -0.9
Q19K **Cape Douglas,** 7.61 166 P Pn 07 40 30.7 +0.4
baz=349
D28M **Stokes Point** 7.61 58 P Pn 07 40 30.1 -0.1
baz=255,SNR=24
H29M **Whitestone** 7.61 82 P Pn 07 40 31.5 +1.2
baz=279
HIN **Hinchinbrook I** 7.65 136 Pn 07 40 30.6 -0.3
G29M **Pine Creek** 7.67 77 P Pn 07 40 31.8 +0.8
baz=274
GLB **Gilahina Butte** 7.68 123 Pn 07 40 32.4 +1.0
Q16K **King Salmon** 7.68 178 P Pn 07 40 31.9 +0.6
baz=358
E29M **Blow River** 7.74 66 P Pn 07 40 32.3 +0.3
baz=264,SNR=26
EYAK **Cordova Ski Ar** 7.75 133 Pn 07 40 33.4 +1.2
EYAK **Cordova Ski Ar** 7.75 133 P Pn 07 40 32.2 +0.1
baz=323,SNR=7.6
P23K **Montague Islan** 7.75 140 P Pn 07 40 33.0 +0.8
baz=329
M27K **Edge Creek, AK** 7.76 114 P Pn 07 40 31.3 -1.2
baz=307,SNR=19
BMRM **Bremner River** 7.77 128 Pn 07 40 32.4 -0.1
BMRM **Bremner River** 7.77 128 P Pn 07 40 32.5 0.0
baz=319,SNR=8.3
Q18K **Katmai Hardscr** 7.77 171 P Pn 07 40 32.3 -0.4
baz=353
DAWY **Dawson** 7.84 99 Pn Pn 07 40 33.2 -0.2
DAWY **Dawson** 7.84 99 P Pn 07 40 32.7 -0.8
baz=295,SNR=24
VRDI **Verde Repeater** 7.96 124 Pn 07 40 34.6 -0.6
BVCY **Beaver Creek** 8.10 111 P Pn 07 40 36.7 -0.4
baz=306,SNR=19
J29N **Klondike Camp** 8.15 94 P Pn 07 40 38.0 +0.1
baz=292,SNR=34
EPYK **Eagle Plains** 8.25 80 P Pn 07 40 38.2 -0.9
baz=279,SNR=13
G30M **tAoh Zraii Nji** 8.37 76 P Pn 07 40 40.3 -0.4
baz=275
BALM **Baldy** 8.47 122 Pn 07 40 42.6 +0.5
F30M **Barrier River** 8.50 72 P Pn 07 40 42.2 -0.3
baz=271
I30M **Mount Dempster** 8.64 88 P Pn 07 40 44.0 -0.5
baz=287,SNR=48
KAIM **Kayak Island** 8.64 132 P Pn 07 40 44.2 -0.2
baz=323
YUK3 **Moose Creek** 8.64 114 P Pn 07 40 44.1 -0.6
baz=309,SNR=6.6
K29M **Barlow Dome** 8.68 97 P Pn 07 40 45.1 +0.1
baz=295,SNR=11
L29M **L29M** 8.78 103 P Pn 07 40 45.9 -0.5
baz=300,SNR=17
R16K **Pilot Point** 8.79 181 P Pn 07 40 45.5 -1.0
baz=0.7
KDAK **Kodiak Island** 8.85 164 Pn Pn 07 40 44.1 -3.1
comp=N,1.2nm,0.3s,baz=346,slow=4.2,SNR=13
KDAK Lg Lg 07 43 14.4
comp=N,0.3nm,0.3s,baz=351,slow=18,SNR=2.6
KDAK LR LR 07 43 56.4
comp=N,213nm,20.1s,baz=204,slow=36
comp=N,9.5nm,1.1s
KDAK **Kodiak Island** 8.85 164⇑ *e*P Pn 07 40 49.3 +2.1
KDAK **Kodiak Island** 8.85 164 P Pn 07 40 47.2 0.0
baz=348
J30M **Hart River** 8.87 92 P Pn 07 40 47.1 -0.6
baz=291,SNR=21
R18K **Karluk** 8.89 170 P Pn 07 40 47.6 -0.2
baz=352
M29M **Somme Creek** 9.00 107 P Pn 07 40 49.0 -0.5
baz=304,SNR=20
G31M **Satah River** 9.14 76 P Pn 07 40 51.6 +0.4
baz=277
YUK8 **Steele Glacier** 9.22 115 Pn 07 40 52.7 +0.1
YUK8 **Steele Glacier** 9.22 115 P Pn 07 40 53.8 +1.2
baz=311,SNR=24
MESA **MESA** 9.23 125 P Pn 07 40 53.1 +0.5
baz=318
F31M **Tsiigehtchic** 9.29 72 P Pn 07 40 53.4 +0.1
baz=274
H31M **Peel River** 9.31 83 P Pn 07 40 53.7 +0.1
baz=284
OHAK **Old Harbor** 9.32 167 P Pn 07 40 54.9 +1.2
baz=350
RKAV **Rock Avalanche** 9.34 123 Pn 07 40 54.0 -0.2
INK **Inuvik** 9.35 67 Pn 07 40 53.9 -0.2
INK **Inuvik** 9.35 67 Pn Pn 07 40 54.0 -0.1
comp=N,0.3nm,0.3s,baz=263,slow=8.7,SNR=20
INK Sn Sn 07 42 36.2 -3.4
comp=N,0.8nm,0.3s,baz=259,slow=13,SNR=3.1
INK Lg Lg 07 43 29.9
comp=N,0.9nm,0.3s,baz=243,slow=9.0,SNR=4.7
INK LR LR 07 44 27.4
comp=N,110nm,19.5s,baz=241,slow=37
comp=N,3.4nm,0.6s
INK **Inuvik** 9.35 67 P Pn 07 40 54.6 +0.5
baz=269,SNR=6.3
O28M **Mount Upton** 9.41 118 P Pn 07 40 55.7 +0.5
baz=313,SNR=35
M30M **Minto, Yukon** 9.58 104 Pn 07 40 55.8 -1.5
M30M **Minto, Yukon** 9.58 104 P Pn 07 40 57.4 +0.1
baz=302,SNR=6.6
YUK4 **Talbot Arm** 9.59 113 P Pn 07 40 56.9 -0.7
baz=309,SNR=7.4
PINM **Pinnacle** 9.87 121 P Pn 07 41 01.5 +0.2
baz=316
YUK6 **Outpost Mounta** 9.96 114 P Pn 07 41 02.8 +0.2
baz=311
N30M **Aishikik Lake** 10.11 109 Pn 07 41 04.7 +0.2
N30M **Aishikik Lake** 10.11 109 P Pn 07 41 04.6 0.0
baz=307,SNR=12
O29M **Mount Kennedy** 10.31 117 P Pn 07 41 07.5 +0.1
baz=314
HYT **Haines Junctio** 10.35 113 Pn 07 41 09.2 +1.3
HYT **Haines Junctio** 10.35 113 P Pn 07 41 08.8 +0.8
baz=310
PNL **Peninsula** 10.47 121 P Pn 07 41 10.1 +0.6
baz=317
N31M **Braeburn, Yuko** 10.59 107 P Pn 07 41 11.8 +0.6
baz=306
M31M **Drury Creek, Y** 10.73 102 P Pn 07 41 13.0 0.0
baz=302,SNR=7.2
O30N **Mendenhall** 10.92 111 P Pn 07 41 15.1 -0.5
baz=310
P30M **Million Dollar** 11.02 115 P Pn 07 41 17.1 +0.1
baz=313
SPIA **Saint Paul Isl** 11.02 220 P Pn 07 41 16.7 -0.3
baz=28
SDPT **Sand Point** 11.12 190 P Pn 07 41 17.0 -1.4
baz=6.7
FARO **Faro, Yukon** 11.13 100 P Pn 07 41 18.0 -0.4
baz=302
P08K **Saint George I** 11.36 217 P Pn 07 41 20.9 -0.7
baz=26
WHY **Whitehorse** 11.45 109 Pn 07 41 23.1 +0.2
WHY **Whitehorse** 11.45 109 P Pn 07 41 23.0 0.0
baz=309
CHNA **Chernabura Isl** 11.59 187 P Pn 07 41 23.9 -0.8
baz=4.6
N32M **Quiet Lake** 11.84 105 P Pn 07 41 27.9 -0.3
baz=306
FALS **False Pass** 11.89 198 P Pn 07 41 27.3 -1.5
baz=12
SKAG **Skagway** 12.08 114 P Pn 07 41 31.2 -0.2
baz=314
P33M **Teslin, Yukon** 12.52 108 P Pn 07 41 37.5 -0.1
baz=310
A36M **Sachs Harbour** 12.58 49 P Pn 07 41 36.5 -1.8
baz=259,SNR=145
P32M **Atlin** 12.59 111 P Pn 07 41 38.3 -0.1
baz=312
R31K **City Hall, Gus** 12.68 118 P Pn 07 41 39.8 +0.1
baz=318
C36M **Paulatuk** 12.78 61 Pn Pn 07 41 39.2 -1.7
C36M **Paulatuk** 12.78 61 P Pn 07 41 40.3 -0.6
baz=272,SNR=12
S31K **Pelican** 12.85 121 P Pn 07 41 41.8 -0.1
baz=319
R32K **Eaglecrest** 13.22 117 P Pn 07 41 46.6 -0.4
baz=317
UNV **Unalaska Valle** 13.32 204 P Pn 07 41 46.4 -1.9
baz=16
Q32M **Nakina River** 13.56 111 P Pn 07 41 51.2 -0.7
baz=313
R33M **Jennings River** 13.77 108 P Pn 07 41 53.9 -0.6
baz=311
S32K **Killisnoo** 13.80 119 P Pn 07 41 54.3 -0.6
baz=319
SIT **Sitka** 13.86 122 P Pn 07 41 54.9 -0.8
baz=321
WTLY **Watson Lake, Y** 14.15 103 P Pn 07 41 59.1 -0.7
baz=308,SNR=6.1
NIKH **Nikolski High** 14.58 209 P Pn 07 42 03.5 -2.1
baz=19
WRGLY **Wrigley** 14.62 86 P Pn 07 42 05.6 -0.4
baz=297,SNR=9.5
S34M **Telegraph Cree** 14.73 112 P Pn 07 42 07.4 -0.2
baz=316
DLBC **Dease Lake** 14.77 109 Pn Pn 07 42 09.6 +1.3
comp=N,0.2nm,0.3s,baz=317,slow=10.0,SNR=8.1
DLBC Lg Lg 07 46 20.7
comp=N,0.1nm,0.3s,baz=348,slow=20,SNR=3.1
comp=N,5.5nm,0.9s
DLBC **Dease Lake** 14.77 109 P Pn 07 42 07.8 -0.5
baz=314,SNR=12
U33K **Whale Pass** 15.36 120 P Pn 07 42 15.9 -0.1
baz=321
WRAK **Wrangell Islan** 15.39 118 IAmb IAmb 07 42 24.2
comp=Z,17nm,0.9s
WRAK **Wrangell Islan** 15.39 118 P Pn 07 42 15.7 -0.8
baz=320
T35M **Bob Quinn** 15.73 114 IAmb IAmb 07 42 34.0
comp=Z,18nm,1.1s
T35M **Bob Quinn** 15.73 114 P Pn 07 42 19.3 -1.7
baz=317
CRAG **Craig** 15.87 122 P Pn 07 42 21.6 -1.1
baz=323
KOTAN **Kotaneelee Air** 16.03 97 P Pn 07 42 25.3 +0.6
baz=307,SNR=13
TOAD **Toad River Com** 16.36 102 P Pn 07 42 29.5 +0.5
baz=310
V35K **Ketchikan** 16.50 120 P Pn 07 42 30.9 +0.1
baz=322
U35K **Hyder** 16.62 116 P Pn 07 42 31.3 -1.0
baz=320
YKA **Yellowknife Ar** 18.53 82 P Pn 07 42 56.0 0.0
comp=Z,0.2nm,0.3s,baz=299,slow=11,SNR=44
YKA Lg Lg 07 48 27.9
baz=313,slow=27
comp=Z,4.1nm,0.9s
YKA **Yellowknife Ar** 18.53 82 *i* P Pn 07 42 56.9 +0.9
YKA pmax pmax
comp=Z,8.0nm,1.0s
SHEM **Shemya Is, Ala** 19.66 240 LR LR 07 50 54.3
comp=Z,108nm,18.1s,baz=105,slow=38
BBB **Bella Bella** 20.27 120 P P 07 43 14.9 0.0
comp=Z,9.6nm,1.0s,baz=324,slow=11,SNR=4.0
comp=Z,9.6nm,1.0s
RES **Resolute Bay** 21.29 40 P P 07 43 26.3 +0.5
RES **Resolute Bay** 21.29 40 P P 07 43 26.8 +1.0
comp=Z,1.1nm,0.7s,baz=278,slow=17,SNR=8.1
RES S S 07 47 10.6 -12
comp=Z,1.3nm,1.0s,baz=270,slow=19,SNR=2.1
RES LR LR 07 52 41.2
comp=Z,87nm,21.1s,baz=336,slow=40
comp=Z,1.1nm,0.7s
SEY **Seymchan** 21.36 285 P P 07 43 27.4 +0.8
comp=Z,3.0nm,0.7s,baz=75,slow=10,SNR=8.3
comp=Z,3.0nm,0.7s
SEY **Seymchan** 21.36 285⇓ *e*P P 07 43 27.9 +1.3
SEY pmax pmax
comp=Z,15nm,1.3s
EUNU **Eureka** 22.49 25 P P 07 43 39.6 +0.9
MA2 **Magadan** 23.93 279 LR LR 07 53 42.1
comp=Z,113nm,18.1s,baz=276,slow=38
MA2 **Magadan** 23.93 279⇓ *e*P P 07 43 50.2 -3.2
MA2 pmax pmax
comp=Z,30nm,1.6s
TIXI **Tiksi** 25.41 315⇓ *e*P P 07 44 08.6 +1.8
TIXI pmax pmax
comp=Z,6.0nm,1.1s
PETK **Petropavlovsk-** 25.59 261 P P 07 44 08.9 +0.2
comp=Z,1.6nm,0.7s,baz=54,slow=8.7,SNR=2.5
comp=Z,1.6nm,0.7s
FCC **Fort Churchill** 28.86 74 P P 07 44 39.1 +1.2
FCC IAmb IAmb 07 44 42.9
comp=Z,5.2nm,0.8s
FCC **Fort Churchill** 28.86 74 P P 07 44 39.1 +1.2
FCC pmax pmax
comp=Z,5.0nm,0.8s
PINE **Pine Mountain** 29.94 121 P P 07 44 49.3 +1.4
PINE IAmb IAmb 07 44 54.1
comp=Z,4.5nm,1.0s
YNE **Yellowstone No** 32.94 107 IAmb IAmb 07 45 19.7
comp=Z,3.2nm,0.9s
ULM **Lac du Bonnet** 34.35 87 P P 07 45 26.4 +0.1
ULM IAmb IAmb 07 45 28.1
comp=Z,5.4nm,0.8s
ULM **Lac du Bonnet** 34.35 87 P P 07 45 26.3 +0.1
comp=Z,4.9nm,0.8s,baz=324,slow=8.1,SNR=11
comp=Z,4.9nm,0.8s
ULM **Lac du Bonnet** 34.35 87⇓ *e*P P 07 45 26.0 -0.2
PDAR **Pinedale Array** 35.01 108 P P 07 45 32.7 +0.5
comp=Z,0.6nm,0.8s,baz=311,slow=9.0,SNR=6.6
comp=Z,0.6nm,0.8s
NVAR **Mina Array Bea** 35.62 122 P P 07 45 39.5 +2.0
comp=Z,2.1nm,0.8s,baz=333,slow=10.0,SNR=16
comp=Z,2.1nm,0.8s
AGMN **Agassiz Nation** 35.89 89 IAmb IAmb 07 45 44.5
comp=Z,7.6nm,0.8s
YSS **Yuzhno-Sakhali** 36.41 268 *e*P P 07 45 42.7 -1.2
YSS pmax pmax
comp=Z,10.0nm,0.5s
R11B **Troy Canyon, C** 36.63 119 IAmb IAmb 07 45 48.6
comp=Z,4.6nm,1.2s
ZEA **Zeya** 37.25 288 *e*P P 07 45 53.6 +2.5
NRIK **Noril'sk** 37.41 328 P P 07 45 53.0 +0.8
comp=Z,3.6nm,0.7s,baz=56,slow=6.5,SNR=7.8
comp=Z,3.6nm,0.7s
NRIK **Noril'sk** 37.41 328⇓ *e*P P 07 45 50.6 -1.6
NRIK pmax pmax
comp=Z,4.0nm,0.8s
EYMN **Ely** 37.93 86 P P 07 45 57.8 +0.9
E38A **The Farm, Brul** 38.99 87 P P 07 46 06.2 +0.4
E38A IAmb IAmb 07 46 10.4
comp=Z,7.4nm,0.8s
KLR **Kul'dur** 39.01 280 P P 07 46 05.4 -0.5
comp=Z,1.6nm,0.5s,baz=68,slow=7.0,SNR=6.1
comp=Z,1.6nm,0.5s
KLR **Kul'dur** 39.01 280⇓ *e*P P 07 46 07.0 +1.1
KLR pmax pmax
comp=Z,10.0nm,2.2s
SPMN **Marine on St.** 39.61 89 IAmb IAmb 07 46 13.2
comp=Z,9.9nm,1.1s
SCHQ **Schefferville** 41.89 60 P P 07 46 30.8 +1.1
comp=Z,4.0nm,1.0s,baz=326,slow=13,SNR=3.2
comp=Z,4.0nm,1.0s
ANMO **Albuquerque** 43.00 111⇓ *e*P P 07 46 40.6 +1.4
ANMO pmax pmax
comp=Z,5.0nm,4.0s
Y22D **IRIS PASSCAL I** 43.60 112 P P 07 46 42.6 -1.4
baz=333
P40A **Paris** 44.69 93 P P 07 46 53.1 +0.7
BORG **Borgarnes** 45.42 25 LR LR 08 06 06.9
comp=Z,58nm,20.7s,baz=140,slow=36
LMQ **La Malbaie** 46.56 69 P P 07 47 07.9 +0.8
TXAR **Lajitas Array** 49.06 112 P P 07 47 28.1 +1.2
comp=Z,1.7nm,0.8s,baz=331,slow=7.4,SNR=19
comp=Z,1.7nm,0.8s
SONM **Songino Array** 49.77 299 P P 07 47 32.3 +0.2
comp=Z,1.5nm,0.8s,baz=31,slow=6.7,SNR=8.5
comp=Z,1.5nm,0.8s
KSRS **Korea Array** 50.35 274 P P 07 47 36.5 +0.1
comp=Z,1.0nm,0.6s,baz=21,slow=7.0,SNR=1.7
comp=Z,1.0nm,0.6s
ZALV **Zalesovo Beam** 51.24 318 P P 07 47 42.2 -0.7
comp=Z,0.7nm,0.4s,baz=28,slow=6.5,SNR=5.7
comp=Z,0.7nm,0.4s
HHC **Hu-ho-hao-te** 53.86 290 *e*P P 07 48 00.5 -2.2
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,190nm,4.1s
ARTI **Arti** 54.71 337 *c i*P P 07 48 08.4 -0.1
ARTI 07 50 08.7
ARTI S S 07 55 50.7 +1.8
ARTI SS SS 07 59 28.9 -1.9
ARTI pmax pmax
comp=Z,10.0nm,3.1s
BRVK **Borovoye** 55.61 327⇓ *e*P P 07 48 16.6 +1.5
BRVK pmax pmax
comp=Z,5.0nm,1.2s
BVAR **Borovoye Array** 55.62 327 P P 07 48 15.4 +0.2
comp=Z,1.9nm,0.6s,baz=35,slow=8.0,SNR=9.0
comp=Z,1.9nm,0.6s
KURK **Kurchatov** 55.80 320⇓ *e*P P 07 48 15.4 -1.0
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURBB **Kurchatov Arra** 55.90 321 P P 07 48 16.0 -1.2
comp=Z,2.2nm,1.0s,baz=27,slow=7.2,SNR=9.6
comp=Z,2.2nm,1.0s
EKA **Eskdalemuir Ar** 57.09 17 P P 07 48 25.7 +0.1
comp=Z,4.9nm,0.8s,baz=348,slow=7.1,SNR=12
comp=Z,4.9nm,0.8s
MK31 **Makanchi Array** 58.40 316⇓ *e*P P 07 48 33.3 -1.6
MKAR **Makanchi Array** 58.40 316 P P 07 48 34.6 -0.3
comp=Z,1.0nm,1.0s,baz=36,slow=8.9,SNR=7.1
comp=Z,1.0nm,1.0s
WMQ **Urumqi** 59.51 310 *e*P P 07 48 44.0 +1.3
WMQ pmax pmax
comp=Z,17nm,0.7s
XAN **Xi'an** 60.83 288 P P 07 49 00.5 +8.6
XAN pmax pmax
comp=Z,19nm,0.7s
AKASG **Malin Array Be** 63.20 355 P P 07 49 07.9 +0.4
comp=Z,0.7nm,0.5s,baz=3.4,slow=6.3,SNR=1.9
comp=Z,0.7nm,0.5s
AKBB **Malin Array Si** 63.20 355⇑ *e*P P 07 49 07.1 -0.4
AKBB pmax pmax
comp=Z,7.0nm,1.5s
GERES **GERESS Array B** 64.95 7 P P 07 49 17.9 -1.2
comp=Z,3.0nm,0.2s,baz=359,slow=7.0,SNR=4.4
comp=Z,0.3nm,0.2s
GERES **GERESS Array B** 64.95 7 P P 07 49 18.0 -1.2
GUMO **Guam** 65.02 245 LR LR 08 15 59.1
comp=Z,24nm,21.1s,baz=71,slow=34
KIV **Kislovodsk** 68.98 345 *e*P P 07 49 43.1 -1.8
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ **Khabaz** 69.19 345 P P 07 49 46.4 +0.4
comp=Z,0.8nm,0.6s,baz=12,slow=20,SNR=1.6
comp=Z,0.8nm,0.6s
PZH **PanZhiHua** 70.31 291 P P 07 49 52.3 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.7s
ESDC **Sonseca Array** 72.34 21 P P 07 50 05.4 0.0
comp=Z,1.8nm,0.8s,baz=342,slow=8.1,SNR=7.5
ESDC LR LR 08 22 13.3
comp=Z,39nm,21.1s,baz=270,slow=36
comp=Z,1.8nm,0.8s
CMAR **Chiang Mai Arr** 78.67 290 P P 07 50 42.8 +0.9
comp=Z,0.7nm,0.3s,baz=30,slow=5.9,SNR=4.6
CMAR LR LR 08 28 43.8
comp=Z,26nm,20.7s,baz=195,slow=38
comp=Z,0.7nm,0.3s
ATAH **Atahualpa** 92.03 103 LR LR 08 38 30.0

comp=Z,119nm,18.4s,baz=116,slow=39

*IDC **27** 07:43:57.0±0.8,32°.13S×177°.89W,h0km,mb4.3/6, mbtmp4.2/8,ML3.5/2,MS3.7/6,Error ellipse: s-maj=27.3km s-min=23.5km az=134.0*
*WEL **27** 07:43:57.0±1.0,32°.S±9°.×17°.8W±2°.6,h12km,mb4.6/2, ML5.1/10,MLv4.9/10,Mw(mB)3.8/2,Error ellipse: s-maj=35.0km s-min=4.0km az=107.7,confirmed*
*NEIC **27** 07:44:00.6±1.1,32°.1S±0°.1×178°.0W±0°.2,h10km±1km, mb4.6/11,Error ellipse: s-maj=25.8km s-min=17.7km az=89.0*
ISC 27 07:43:58.6±0.7,**32°.08S**±0°.06×**178°.0W**±0°.1,**h10**km,**n62**, σ1°.**75**/70,**mb4.5**/15,**MS3.9**/3,**5C**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.81**	**1**	P	**Pn**	**07 44 41.3**	**-2.3**
GLKZ				S	**Sn**	**07 45 13.2**	**-4.2**
MXZ	**Matakaoa Point**	**6.28**	**208**	Pn	**Pn**	**07 45 32.5**	**+1.3**
WMGZ	**Waiomatatini S**	**6.46**	**206**	P	**Pn**	**07 45 31.7**	**-2.0**
WMGZ				S	**Sn**	**07 46 48.4**	**+1.0**
PKGZ	**Pakihiroa**	**6.63**	**208**	P	**Pn**	**07 45 34.2**	**-1.9**
PKGZ				S	**Sn**	**07 46 50.9**	**-0.8**
HAZ	**Te Kaha**	**6.66**	**211**	P	**Pn**	**07 45 36.4**	**-0.1**
HAZ				S	**Sn**	**07 46 53.5**	**+1.2**
PUZ	**Puketiti**	**6.74**	**206**	P	**Pn**	**07 45 36.2**	**-1.4**
PUZ				S	**Sn**	**07 46 53.4**	**-1.0**
RUGZ	**Raukumara Rang**	**6.88**	**210**	P	**Pn**	**07 45 38.7**	**-0.9**
RUGZ				S	**Sn**	**07 46 59.9**	**+1.9**
TWGZ	**Tauwhareparae**	**6.94**	**208**	P	Pn	07 45 35.3	-5.0
TWGZ				S	**Sn**	**07 46 57.7**	**-1.6**
CNGZ	**Carnagh Statio**	**7.12**	**205**	P	Pn	07 45 39.9	-2.9
MWZ	**Matawai**	**7.25**	**209**	P	**Pn**	**07 45 43.4**	**-1.3**
MWZ				S	**Sn**	**07 47 06.1**	**-1.0**
URZ	**Urewera**	**7.37**	**212**	Pn	**Pn**	**07 45 44.0**	**-2.3**
	0.9nm,0.3s,baz=18,slow=3.2,SNR=9.1						
URZ				Sn	**Sn**	**07 47 08.7**	**-1.2**
	3.0nm,0.3s,baz=90,slow=20,SNR=13						
URZ				LR	LR	07 48 32.5	
	comp=Z,350nm,20.8s,baz=108,slow=37						
	3.5nm,0.3s						
URZ	**Urewera**	**7.37**	**212**	P	**Pn**	**07 45 44.9**	**-1.4**
URZ				S	**Sn**	**07 47 07.8**	**-2.1**
RIGZ	**Rimuhau**	**7.48**	**207**	P	**Pn**	**07 45 47.2**	**-0.6**
RIGZ				S	**Sn**	**07 47 11.9**	**-0.8**
MUGZ	**Murupara**	**7.70**	**213**	S	**Sn**	**07 47 17.8**	**-0.4**
SNGZ	**Shannon Statio**	**7.71**	**209**	P	**Pn**	**07 45 53.7**	**+2.7**
SNGZ				S	**Sn**	**07 47 18.1**	**-0.2**
RTZ	**Ruatahuna**	**7.72**	**211**	Pn	**Pn**	**07 45 51.3**	**+0.1**
KNZ	**Kokohu**	**7.79**	**206**	P	Pn	07 45 47.9	-4.0
KNZ				S	**Sn**	**07 47 16.6**	**-3.6**
MHGZ	**Mahia Peninsul**	**7.82**	**204**	S	**Sn**	**07 47 18.8**	**-2.2**
BKZ	**Black Stump Fm**	**8.39**	**211**	Pn	**Pn**	**07 46 01.1**	**+0.8**
BKZ	**Black Stump Fm**	**8.39**	**211**	P	**Pn**	**07 46 00.8**	**+0.5**
BKZ				S	**Sn**	**07 47 33.4**	**-1.8**
KWHZ	**Kaweka Forest**	**8.63**	**210**	S	**Sn**	**07 47 39.5**	**-1.7**
KAHZ	**Kahuranaki**	**8.76**	**207**	P	**Pn**	**07 46 04.4**	**-1.1**
KAHZ				S	**Sn**	**07 47 41.5**	**-2.8**
KRHZ	**Kereru**	**8.84**	**210**	P	**Sn**	**07 47 43.0**	**-3.1**
PNHZ	**Pukenui**	**9.14**	**210**	P	**Pn**	**07 46 10.3**	**-0.2**
TSZ	**Takapari Road**	**9.36**	**210**	P	**Sn**	**07 47 54.6**	**-4.3**
DVHZ	**Dannevirke**	**9.48**	**208**	P	**Sn**	**07 47 56.2**	**-5.5**
POWZ	**Post Office Ro**	**9.72**	**210**	S	**Sn**	**07 48 03.9**	**-3.8**
DZM	**Mont Dzumac**	**17.08**	**302**	P	**Pn**	**07 47 59.3**	**+1.7**
	0.1nm,0.3s,baz=69,slow=19,SNR=1.0						
DZM				LR	LR	07 53 38.6	
	comp=Z,370nm,18.6s,baz=170,slow=34						
	3.9nm,1.0s						
RAR	**Rarotonga**	**19.50**	**61**	LR	LR	07 54 48.4	
	comp=Z,109nm,20.5s,baz=238,slow=34						
STKA	**Stephens Creek**	**34.17**	**259**	P	**P**	**07 50 44.5**	**+0.4**
STKA	**Stephens Creek**	**34.17**	**259**	P	**P**	**07 50 43.0**	**-1.1**
	2.8nm,0.8s,baz=102,slow=19,SNR=6.9						
	2.8nm,0.8s						
BBOO	**Buckleboo**	**38.58**	**256**	P	**P**	**07 51 22.3**	**+0.5**
BBOO				IAmb	IAmb	07 51 24.1	
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**43.08**	**269**	P	**P**	**07 52 00.2**	**+1.1**
ASAR	**Alice Springs**	**43.08**	**269**	P	**P**	**07 51 58.8**	**-0.3**
ASAR	**Alice Springs**	**43.08**	**269**	P	**P**	**07 52 00.2**	**+1.2**
	comp=Z,3.2nm,0.6s,baz=113,slow=8.6,SNR=38						
	comp=Z,3.2nm,0.6s						
WR8	**Warramunga Arr**	**44.08**	**274**	P	**P**	**07 52 08.2**	**+1.1**
WR8				IAmb	IAmb	07 52 09.5	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**44.21**	**274**	P	**P**	**07 52 09.2**	**+1.0**
WB2				IAmb	IAmb	07 52 11.1	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**07 52 08.6**	**+0.3**
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**07 52 08.8**	**+0.5**
	comp=Z,14nm,1.0s,baz=114,slow=8.1,SNR=45						
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**44.25**	**274**	P	**P**	**07 52 09.4**	**+0.9**
WB0				IAmb	IAmb	07 52 10.7	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**45.67**	**257**	P	**P**	**07 52 21.0**	**+1.3**
KNRA	**Kununurra**	**50.89**	**276**	P	**P**	**07 53 00.7**	**+0.6**
KNRA				IAmb	IAmb	07 53 20.5	
	comp=Z,7.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.41**	**271**	P	**P**	**07 53 12.7**	**+1.2**
FITZ				IAmb	IAmb	07 53 13.6	
	comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**58.04**	**180**	P	**P**	**07 53 53.1**	**+1.6**
QSPA				IAmb	IAmb	07 54 23.1	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**58.04**	**180**	P	**P**	**07 53 52.7**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=50,slow=1.8,SNR=3.3						
	comp=Z,1.0nm,0.8s						
KAPI	**Kappang**	**63.95**	**281**	LR	LR	08 23 21.1	
	comp=Z,70nm,18.5s,baz=106,slow=37						
TROLL	**Troll, Antarti**	**76.20**	**180**	⇑P	**P**	**07 55 47.6**	**+0.8**
	comp=Z,116nm,0.9s						
SNAA	**Sanae**	**76.48**	**178**	⇑P	**P**	**07 55 48.7**	**+0.4**
	comp=Z,56nm,0.9s						
SNAA	**Sanae**	**76.48**	**178**	P	**P**	**07 55 48.2**	**-0.1**
	comp=Z,5.7nm,1.2s,baz=195,slow=12,SNR=3.5						
	comp=Z,5.7nm,1.2s						
VNA3	**Neumayer Olymp**	**76.63**	**176**	⇑P	**P**	**07 55 50.4**	**+1.3**
	comp=Z,2.3nm,0.8s						
VNA2	**Neumayer--Watz**	**77.07**	**177**	⇑P	**P**	**07 55 49.9**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=180,slow=6.2						
VNA1	**Neumayer--Stat**	**77.30**	**176**	⇑P	**P**	**07 55 54.4**	**+1.6**
	comp=Z,3.3nm,1.0s						
ASAJ	**Asahikawa**	**83.94**	**333**	LR	LR	08 28 07.4	
	comp=Z,46nm,22.0s,baz=151,slow=32						
PFO	**Pinyon Flats O**	**87.31**	**47**	LR	LR	08 27 50.9	
	comp=Z,70nm,19.9s,baz=30,slow=30						
NVAR	**Mina Array Bea**	**89.44**	**43**	P	**P**	**07 56 55.1**	**-0.8**
	comp=Z,1.5nm,1.1s,baz=251,slow=3.8,SNR=5.0						
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**118.87**	**309**	PKP	**PKPdf**	**08 02 46.5**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=72,slow=4.7,SNR=3.9						
KURBB	**Kurchatov Arra**	**122.26**	**313**	PKP	**PKPdf**	**08 02 52.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=96,slow=1.6,SNR=5.4						
BVAR	**Borovoye Array**	**127.62**	**315**	PKP	**PKPdf**	**08 03 04.5**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=72,slow=4.7,SNR=3.8						
KBZ	**Khabaz**	**146.05**	**302**	PKPbc	**PKPdf**	**08 03 39.4**	**+1.7**
	comp=Z,4.4nm,1.0s,baz=58,slow=3.1,SNR=6.3						
FINES	**FINESS Array B**	**146.72**	**339**	PKPbc	**PKPdf**	**08 03 38.9**	**+0.7**
	comp=Z,7.7nm,1.0s,baz=42,slow=2.3,SNR=9.8						
NOA	**NORSAR Array B**	**150.41**	**351**	PKPbc	**PKPbc**	**08 03 49.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=15,slow=2.6,SNR=1.9						
AKASG	**Malin Array Be**	**152.64**	**321**	PKPbc	**PKPbc**	**08 03 54.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=54,slow=1.8,SNR=5.6						

*CATAC **27** 07:46:39.7±0.6,12°.N±3°.×8°.9W±°.,h9km±3km,M3.2/16, MLv3.2/16,Error ellipse: s-maj=7.7km s-min=3.6km az=45.9,confirmed*
*SNET **27** 07:46:39.5±0.9,12°.32N×89°.31W,h10km±7km,ML2.9*
*GCG **27** 07:46:41.6±0.3,12°.49N×89°.61W,h7km±9km,MD4.1*
ISC 27 07:46:37.1±2.5,**12°.29N**±0°.09×**89°.30W**±0°.05,**h8**km±13km, **n67**,σ0°.**89**/72,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.19**	**359**	*e*P	**Pg**	**07 47 00.5**	**+0.4**
LALI	**Alcalda de L**	**1.19**	**359**	S	**Sg**	**07 47 17.3**	**+1.8**
LALI	**Alcalda de L**	**1.19**	**359**	P	**Pg**	**07 47 00.4**	**+0.4**
LALI	**Alcalda de L**	**1.19**	**359**	*e*P	**Pg**	**07 47 00.4**	**+0.4**
LALI	**Alcalda de L**	**1.19**	**359**	*e*P		07 47 00.4	
LOMA	**Loma Larga**	**1.35**	**5**	S	**Sg**	**07 47 20.9**	**+0.2**
LOMA	**Loma Larga**	**1.35**	**5**	P	**Pg**	**07 47 03.6**	**+0.5**
JAYA	**Jayaque - finc**	**1.36**	**354**	*e*P	**Pb**	**07 47 03.4**	**+0.4**
JAYA				*e*S	**Sg**	**07 47 21.1**	**+0.1**
JAYA				IAML		07 47 22.7	
	comp=Z,227nm,0.2s						
JAYA	**Jayaque - finc**	**1.36**	**354**	P	**Pg**	**07 47 03.8**	**+0.5**
JAYA	**Jayaque - finc**	**1.36**	**354**	P	**Pg**	**07 47 03.8**	**+0.5**
JAYA	**Jayaque - finc**	**1.36**	**354**	S	**Sg**	**07 47 20.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.36**	**354**	*e*P	**Pb**	**07 47 02.7**	**-0.3**
JAYA				*e*S	**Sb**	**07 47 19.1**	**-1.6**
JAYA	**Jayaque - finc**	**1.36**	**354**	*e*P		07 47 02.7	
JAYA				*e*S		07 47 19.1	
COEG	**Centro de Oper**	**1.38**	**17**	*e*P	**Pg**	**07 47 03.8**	**+0.1**
COEG				*e*S	**Sg**	**07 47 22.9**	**+1.2**
COEG				IAML		07 47 37.3	
	comp=Z,156nm,0.3s						
COEG	**Centro de Oper**	**1.38**	**17**	P	**Pg**	**07 47 03.9**	**+0.2**
COEG	**Centro de Oper**	**1.38**	**17**	P	**Pg**	**07 47 03.7**	**-0.1**
SEMO	**Seminario San**	**1.41**	**3**	P	**Pb**	**07 47 04.0**	**+0.3**
PMON	**Piamonte**	**1.41**	**359**	*e*P	**Pb**	**07 47 04.1**	**+0.3**
PMON	**Piamonte**	**1.41**	**359**	P	**Pg**	**07 47 04.8**	**+0.5**
PMON	**Piamonte**	**1.41**	**359**	P	**Pg**	**07 47 04.8**	**+0.5**
PMON	**Piamonte**	**1.41**	**359**	S	**Sg**	**07 47 22.6**	**0.0**
UEES	**Universidad Ev**	**1.42**	**2**	P	**Pg**	**07 47 04.2**	**-0.1**
UEES	**Universidad Ev**	**1.42**	**2**	P	**Pg**	**07 47 04.3**	**-0.1**
UEES	**Universidad Ev**	**1.42**	**2**	S	**Sg**	**07 47 22.2**	**-0.6**
UESV	**Universidad de**	**1.43**	**20**	P	**Pb**	**07 47 04.0**	**-0.1**
UESV	**Universidad de**	**1.43**	**20**	S	**Sg**	**07 47 22.3**	**-0.9**
PAVA	**Las Pavas**	**1.46**	**14**	*e*P	**Pg**	**07 47 04.9**	**-0.2**
PAVA	**Las Pavas**	**1.46**	**14**	P	**Pb**	**07 47 04.7**	**+0.1**
PAVA	**Las Pavas**	**1.46**	**14**	S	**Sg**	**07 47 24.2**	**+0.1**
RANC	**El Ranchito**	**1.51**	**41**	P	**Pg**	**07 47 07.0**	**+0.9**
PACA	**Pacayal**	**1.51**	**39**	*e*P	**Pg**	**07 47 06.3**	**+0.2**
PACA	**Pacayal**	**1.51**	**39**	P	**Pg**	**07 47 06.6**	**+0.5**
PACA	**Pacayal**	**1.51**	**39**	S	**Sg**	**07 47 26.5**	**+0.8**
PACA	**Pacayal**	**1.51**	**39**	P	**Pb**	**07 47 05.9**	**-0.3**
PQSS	**Presa 15 de Se**	**1.51**	**28**	P	**Pg**	**07 47 05.9**	**-0.3**
PQSS	**Presa 15 de Se**	**1.51**	**28**	P	**Pg**	**07 47 05.8**	**-0.3**
PQSS	**Presa 15 de Se**	**1.51**	**28**	S	**Sg**	**07 47 26.8**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.51**	**22**	P	**Pb**	**07 47 05.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.51**	**22**	P	**Pg**	**07 47 05.8**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.51**	**22**	S	**Sg**	**07 47 26.3**	**+0.5**
CEVE	**Cerro Verde**	**1.56**	**348**	P	**Pg**	**07 47 07.5**	**+0.4**
NUBE	**Las Nubes**	**1.67**	**344**	*e*P	**Pn**	**07 47 07.3**	**+0.5**
NUBE	**Las Nubes**	**1.67**	**344**	P	**Pn**	**07 47 07.3**	**+0.5**
NUBE	**Las Nubes**	**1.67**	**344**	P	**Pb**	**07 47 07.5**	**-0.7**
NUBE	**Las Nubes**	**1.67**	**344**	*i* P	**Pn**	**07 47 07.2**	**+0.5**
NUBE	**Las Nubes**	**1.67**	**344**	*i* P		07 47 07.2	
UNIC	**Universidad Ca**	**1.70**	**352**	P	**Pg**	**07 47 09.6**	**-0.2**
UNIC	**Universidad Ca**	**1.70**	**352**	P	**Pg**	**07 47 09.7**	**0.0**
UNIC	**Universidad Ca**	**1.70**	**352**	S	**Sg**	**07 47 31.5**	**-0.3**
LCND	**La Caada**	**1.71**	**53**	*e*P	**Pb**	**07 47 09.1**	**+0.3**
LCND				*e*S	**Sg**	**07 47 31.1**	**-1.0**
LCND				IAML		07 47 35.6	
	comp=Z,143nm,0.4s						
LCND	**La Caada**	**1.71**	**53**	P	**Pb**	**07 47 08.9**	**+0.1**
LCND	**La Caada**	**1.71**	**53**	P	**Pb**	**07 47 08.9**	**+0.1**
CNCH	**Conchagua**	**1.73**	**55**	*e*S	**Sg**	**07 47 33.3**	**+0.3**
CNCH	**Conchagua**	**1.73**	**55**	P	**Pg**	**07 47 11.1**	**+0.7**
CNCH	**Conchagua**	**1.73**	**55**	S	**Sg**	**07 47 32.6**	**-0.3**
CNCH	**Conchagua**	**1.73**	**55**	P	**Pg**	**07 47 10.2**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.79**	**345**	P	**Pg**	**07 47 12.0**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.79**	**345**	P	**Pg**	**07 47 11.5**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.79**	**345**	S	**Sg**	**07 47 34.3**	**-0.3**
MTO3	**Montecristo**	**2.10**	**358**	S	**Sb**	**07 47 40.1**	**-1.8**
MTO3	**Montecristo**	**2.10**	**358**	P	**Pb**	**07 47 15.9**	**+0.4**
CRIN	**San Cristobal**	**2.24**	**79**	S	**Sb**	**07 47 46.2**	**+0.5**
ESQI	**Esquipulas**	**2.26**	**359**	*e*P	**Pb**	**07 47 17.0**	**-1.2**
ESQI				*e*S	**Sb**	**07 47 45.8**	**-0.5**
ESQI	**Esquipulas**	**2.26**	**359**	P	**Pb**	**07 47 17.0**	**-1.2**
ESQI	**Esquipulas**	**2.26**	**359**	S	**Sb**	**07 47 44.8**	**-1.5**
PLRN	**Geotermica Pol**	**2.49**	**83**	S	**Sb**	**07 47 50.3**	**-2.7**
COPN	**Copaltepe**	**2.65**	**92**	S	**Sb**	**07 47 54.5**	**-3.1**
MOMN	**Momotombo**	**2.70**	**87**	S	**Sb**	**07 47 56.9**	**-2.1**
UNAN	**Cigeo UNAN**	**2.97**	**93**	S	**Sn**	**07 48 02.2**	**+1.8**
MGAN	**Managua**	**2.99**	**92**	S	**Sn**	**07 48 02.5**	**+1.7**

*NEIC **27** 07:54:50.8±1.8,61°.42N±0°.02×150°.05W±0°.05,h40km±6km, Error ellipse: s-maj=3.5km s-min=2.6km az=64.0*
AEIC 27 07:54:50.8±1.2,**61°.38N**±0°.03×**150°.03W**±0°.05,**h44**km±5km, **ML2.5**,**ML2.7**/138(NEIC),**Error ellipse: s-maj=4.0km s-min=3.3km az=157.0**,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.25**	**201**	Pn	Pn	07 54 59.1	+0.3
RC01	**Rabbit Creek A**	**0.32**	**154**		Pn	07 54 59.0	-0.6
RC01				IAML		07 55 10.4	
	comp=N,760nm,0.2s						
RC01				IAML		07 55 10.8	
	comp=E,768nm,0.2s						
M22K	**Willow**	**0.38**	**353**		Pn	07 54 58.7	-1.4
M22K				IAML		07 55 06.4	
	comp=N,829nm,0.7s						
M22K				IAML		07 55 06.9	
	comp=E,795nm,0.5s						
M22K	**Willow**	**0.38**	**353**		Sn	07 55 05.8	-1.0
PMR	**Palmer**	**0.48**	**63**		Pn	07 55 00.3	-1.1
PMR				IAML		07 55 08.7	
	comp=E,623nm,0.2s						
PMR	**Palmer**	**0.48**	**63**		Sn	07 55 08.1	-0.8
GHO	**Glory Hole Cre**	**0.66**	**53**		Pn	07 55 02.8	-1.0
GHO				IAML		07 55 14.8	
	comp=N,467nm,0.2s						
GHO	**Glory Hole Cre**	**0.66**	**53**		Sn	07 55 13.2	0.0
KNK	**Knik Glacier**	**0.76**	**87**		Pn	07 55 04.5	-0.6
KNK				IAML		07 55 18.7	
	comp=N,400nm,0.5s						
KNK				IAML		07 55 19.1	
	comp=E,398nm,0.3s						
KNK	**Knik Glacier**	**0.76**	**87**		Sn	07 55 16.1	+0.7
STLK	**Strandline Lak**	**0.88**	**279**		Pn	07 55 06.0	-0.7
STLK				IAML		07 55 18.5	
	comp=E,337nm,0.3s						
STLK	**Strandline Lak**	**0.88**	**279**		Sn	07 55 18.0	-0.4
SLKM	**Skilak Lake**	**0.88**	**186**		Pn	07 55 06.3	-0.5
SLKM				IAML		07 55 20.6	
	comp=N,360nm,0.2s						
SLKM	**Skilak Lake**	**0.88**	**186**		Sn	07 55 20.0	+1.6
O22K	**Cooper Landing**	**0.91**	**171**		Pn	07 55 06.7	-0.5
SML	**Sawmill**	**0.92**	**61**		Pn	07 55 06.4	-0.9
SML				IAML		07 55 22.8	
	comp=N,199nm,0.7s						
SML				IAML		07 55 23.7	
	comp=E,165nm,0.6s						
SKT	**Skwentna**	**0.94**	**311**		Pn	07 55 06.4	-1.2
SKT	**Skwentna**	**0.94**	**311**		Sn	07 55 19.1	-0.7
PWL	**Port Wells**	**0.97**	**122**		Pn	07 55 07.6	-0.4
CUT	**Chulitna**	**1.03**	**354**		Pn	07 55 08.0	-0.8
CUT	**Chulitna**	**1.03**	**354**		Sn	07 55 21.4	-0.7
CKL	**Chakachamna La**	**1.13**	**262**		Pn	07 55 09.6	-0.6
SPBG	**Spurr Blockage**	**1.14**	**265**		Pn	07 55 09.7	-0.6
SPBG					Sn	07 55 24.6	-0.1
M23K	**Glacier View**	**1.18**	**68**		Sn	07 55 26.5	+0.9
SEW	**Seward**	**1.31**	**167**		Pn	07 55 12.0	-0.6
SCM	**Sheep Creek Mo**	**1.37**	**69**		Pn	07 55 13.4	-0.1
GLI	**Glacier Island**	**1.51**	**108**		Pn	07 55 14.8	-0.5
GLI				IAML		07 55 39.9	
	comp=E,104nm,0.2s						
GLI				IAML		07 55 40.1	
	comp=N,120nm,0.5s						
M20K	**Styx River**	**1.57**	**290**		Pn	07 55 15.8	-0.4
M20K				IAML		07 55 38.5	
	comp=N,70nm,0.8s						
M20K				IAML		07 55 39.1	
	comp=E,59nm,0.8s						
BRLK	**Bradley Lake**	**1.68**	**195**	Pn	Pn	07 55 17.6	-0.1
BRLK				IAML		07 55 43.0	
	comp=E,103nm,0.3s						
BRLK				IAML		07 55 44.8	
	comp=N,119nm,0.1s						
O20K	**Slope Mountain**	**1.82**	**226**		Pn	07 55 20.2	+0.5
PPLA	**Purkeypile**	**1.83**	**327**		Pn	07 55 19.6	-0.2
FID	**Port Fidalgo**	**1.84**	**109**		Pn	07 55 18.7	-1.2
FID	**Port Fidalgo**	**1.84**	**109**	IAML		07 55 49.3	
	comp=N,56nm,0.3s						
FID				IAML		07 55 53.0	
	comp=E,74nm,0.3s						
P23K	**Montague Islan**	**1.90**	**136**		Pn	07 55 19.6	-1.0
HOM	**Homer**	**1.90**	**206**		Pn	07 55 20.7	0.0
CNPM	**China Poot**	**1.95**	**198**	Pn	Pn	07 55 21.2	-0.2
CNPM				IAML		07 55 50.4	
	comp=N,77nm,0.5s						
CNPM				IAML		07 55 51.3	
	comp=E,83nm,0.4s						
M24K	**Tolsona, Glenn**	**1.97**	**67**	IAML		07 55 52.9	
	comp=E,96nm,0.6s						
M24K				IAML		07 55 56.5	
	comp=N,93nm,0.9s						
KLU	**Klutina**	**1.98**	**85**		Pn	07 55 21.4	-0.3
KLU				IAML		07 55 50.3	
	comp=N,70nm,0.3s						
KLU				IAML		07 55 53.0	
	comp=E,49nm,0.5s						
HIN	**Hinchinbrook I**	**1.99**	**118**		Pn	07 55 21.7	-0.2
HIN				IAML		07 55 53.2	
	comp=E,75nm,0.7s						
HIN				IAML		07 55 53.4	
	comp=N,87nm,0.9s						
DIV	**Divide**	**2.07**	**95**		Pn	07 55 22.7	-0.4
ILSW	**Iliamna Southw**	**2.08**	**229**		Pn	07 55 23.7	+0.5
TRF	**Thorofare Moun**	**2.08**	**357**		Pn	07 55 23.4	+0.1
TRF				IAML		07 56 02.4	
	comp=N,42nm,0.5s						
TRF				IAML		07 56 03.3	
	comp=E,34nm,1.1s						
RND	**Reindeer**	**2.11**	**15**		Pn	07 55 23.7	+0.1
M19K	**Big River Lodg**	**2.15**	**286**		Pn	07 55 23.9	-0.2
KTH	**Kantishna Hill**	**2.22**	**350**	IAML		07 55 54.6	
	comp=E,35nm,0.6s						
KTH				IAML		07 56 05.9	
	comp=N,32nm,0.8s						
N19K	**Bonanza Creek**	**2.24**	**257**		Pn	07 55 25.4	0.0
EYAK	**Cordova Ski Ar**	**2.25**	**110**		Pn	07 55 25.8	+0.4
CAST	**Castle Rocks**	**2.26**	**336**	IAML		07 56 09.1	
	comp=E,31nm,1.1s						
MCK	**McKinley**	**2.42**	**12**		Pn	07 55 28.2	+0.5
O19K	**Port Alsworth**	**2.42**	**242**	Pn	Pn	07 55 27.5	-0.2
O19K				IAML		07 56 00.2	
	comp=N,55nm,0.4s						
O19K				IAML		07 56 00.6	
	comp=E,58nm,0.4s						
L19K	**White Mountain**	**2.43**	**291**		Pn	07 55 28.0	0.0
N25K	**Chitina, Valde**	**2.61**	**83**		Pn	07 55 29.9	-0.6
N25K	**Chitina, Valde**	**2.61**	**83**	IAML		07 56 11.7	
	comp=E,20nm,0.3s						
N25K				IAML		07 56 14.2	
	comp=N,30nm,1.1s						
BMRM	**Bremner River**	**2.66**	**97**		Pn	07 55 31.7	+0.6
PAX	**Paxson**	**2.67**	**51**		Pn	07 55 32.0	+0.8
GOAT	**Goat Mountain**	**2.71**	**105**		Pn	07 55 30.8	-1.0
CHUM	**Lake Minchumin**	**2.73**	**338**		Pn	07 55 31.3	-0.6
BPAW	**Bear Paw Mtn.**	**2.77**	**351**		Pn	07 55 32.0	-0.6
BPAW				IAML		07 56 19.9	
	comp=E,17nm,0.6s						
BPAW				IAML		07 56 19.9	
	comp=N,18nm,0.7s						
WACK	**Wrangell Chich**	**2.78**	**75**		Pn	07 55 33.1	+0.1
RAGM	**Ragged Mountai**	**2.80**	**108**		Pn	07 55 32.3	-0.7
GLB	**Gilahina Butte**	**2.99**	**86**		Pn	07 55 37.5	+1.9
GLB				IAML		07 56 21.1	
	comp=N,20nm,0.3s						
VRDI	**Verde Repeater**	**3.18**	**90**		Pn	07 55 40.2	+1.9
WRH	**Wood River Hil**	**3.23**	**15**		Pn	07 55 37.8	-1.0
HDA	**Harding Lake**	**3.35**	**24**		Pn	07 55 42.1	+1.6
HDA				IAML		07 56 39.5	
	comp=N,16nm,1.0s						
HDA				IAML		07 56 40.2	
	comp=E,12nm,0.6s						
RIDG	**Independent Ri**	**3.37**	**43**		Pn	07 55 44.2	+3.3
RIDG				IAML		07 56 29.8	
	comp=N,18nm,0.7s						
J20K	**Nowinta River**	**3.38**	**328**	Pn	Pn	07 55 40.9	-0.1
J20K				IAML		07 56 21.0	
	comp=N,19nm

SHO			*i* S		Sn	07 56 09.1	-1.3
SHO			A		A	07 56 10.8	
	410nm,0.4s						
SHO			A		A	07 56 10.8	
	1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.21 253**	*e*P		**Pn**	**07 55 59.0**	**+1.3**
YUK				AMB	AMB	07 56 04.1	
	350nm,0.3s						
YUK			*i* S		**Sn**	**07 56 25.2**	**+1.2**
YUK			A		A	07 56 31.2	
	940nm,0.4s						
YUK			A		A	07 56 31.2	
	1μm,0.4s						
NEM2	**Nemuro 2**	**2.57 240**	P		**Pn**	**07 56 02.7**	**-0.1**
NEM2			S		**Sn**	**07 56 31.6**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.58 240**	*e*P		**Pn**	**07 56 02.6**	**-0.2**
NMR			*i* S		**Sn**	**07 56 32.0**	**-1.1**
JRA	**Rausu**	**2.74 255**	*e*P		**Pn**	**07 56 06.6**	**+1.6**
JRA			*e*S		**Sn**	**07 56 38.5**	**+1.5**
JNK	**Nakash**	**3.14 250**	*e*S		**Sn**	**07 56 47.8**	**+1.1**
AKK	**Akkeshi**	**3.32 241**	*e*P		**Pn**	**07 56 13.4**	**+0.5**
AKK			*e*S		**Sn**	**07 56 50.8**	**-0.3**
JAK	**Akkeshi**	**3.42 241**	P		**Pn**	**07 56 14.7**	**+0.5**
JAK			*e*S		**Sn**	**07 56 52.1**	**-1.5**
JTKR	**Abashiri--Tokio**	**3.58 260**	*e*P		**Pn**	**07 56 18.1**	**+1.6**
JAR	**Ashorobuto**	**3.89 250**	P		**Pn**	**07 56 23.0**	**+2.3**
JAR			*e*S		**Sn**	**07 57 06.8**	**+1.8**
JOB	**Onbets**	**4.01 245**	P		**Pn**	**07 56 24.1**	**+1.7**
JOB			*e*S		**Sn**	**07 57 07.6**	**-0.6**
JKK2	**Kamakawa 2**	**4.42 261**	*e*P		**Pn**	**07 56 30.6**	**+2.7**
JCH	**Churui**	**4.46 244**	P		**Pn**	**07 56 30.1**	**+1.7**
JCH			*e*S		**Sn**	**07 57 18.3**	**-0.7**
ASAJ	**Asahikawa**	**4.48 265**	P		**Pn**	**07 56 30.9**	**+2.2**
	11nm,0.4s,baz=76,slow=12,SNR=13						
ASAJ			S		Sn	07 57 28.2	+8.7
	7.0nm,0.4s,baz=102,slow=19,SNR=1.0						
JWK2	**Keihoku**	**4.92 280**	*e*P		**Pn**	**07 56 37.8**	**+3.1**
JNBK	**Urakawa-nobuka**	**5.02 243**	P		**Pn**	**07 56 36.8**	**+0.7**
JRBN	**Rebuntou**	**5.52 280**	*e*P		**Pn**	**07 56 45.0**	**+2.1**
JANG	**Nango**	**6.90 234**	P		**Pn**	**07 57 01.0**	**-0.8**
JANG			*e*S		**Sn**	**07 58 13.3**	**-5.6**
JTH	**Tanohata**	**7.00 229**	*e*S		**Sn**	**07 58 16.2**	**-5.2**
PETK	**Petropavlovsk-**	**10.24 32**	P		**Pn**	**07 57 50.3**	**+2.9**
	2.2nm,0.7s,baz=174,slow=7.2,SNR=6.3						
MJAR	**Matsushiro Arr**	**11.44 228**	P		**Pn**	**07 58 06.8**	**+2.8**
	1.3nm,0.6s,baz=12,slow=10,SNR=2.5						
USRK	**Ussuriysk Ar.**	**12.02 273**	P		**Pn**	**07 58 12.7**	**+1.0**
	2.0nm,0.5s,baz=84,slow=14,SNR=4.2						
KSRS	**Korea Array**	**17.29 252**	P		**P**	**07 59 22.1**	**+1.6**
	0.8nm,0.5s,baz=54,slow=13,SNR=1.8						
SEY	**Seymchan**	**18.38 5**	P		**Pn**	**07 59 31.1**	**-1.9**
	0.5nm,0.3s,baz=198,slow=11,SNR=7.0						
H11N2	**WAKE ISLAND Hy 29.11 143**		T		T	08 32 12.4	
	baz=334,slow=76,SNR=268						
H11N1	**WAKE ISLAND Hy 29.12 143**		T		T	08 32 13.4	
	baz=334,slow=76,SNR=248						
H11N3	**WAKE ISLAND Hy 29.12 143**		T		T	08 32 12.9	
	baz=334,slow=76,SNR=249						
SONM	**Songino Array**	**29.20 291**	P		**P**	**08 01 18.2**	**-0.1**
	0.2nm,0.3s,baz=73,slow=11,SNR=1.3						
	0.2nm,0.3s						
H11S1	**WAKE ISLAND Hy 30.11 144**		T		T	08 33 27.6	
	baz=335,slow=76,SNR=203						
H11S3	**WAKE ISLAND Hy 30.12 144**		T		T	08 33 24.8	
	baz=335,slow=76,SNR=124						
H11S2	**WAKE ISLAND Hy 30.13 144**		T		T	08 33 29.0	
	baz=335,slow=76,SNR=95						
ILAR	**Eielson Array**	**40.02 37**	P		**P**	**08 02 51.3**	**+0.3**
	0.2nm,0.4s,baz=275,slow=9.2,SNR=2.2						
ILAR			PcP		**PcP**	**08 04 53.8**	**-0.8**
	0.1nm,0.4s,baz=288,slow=3.4,SNR=2.3						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**41.37 307**	P		**P**	**08 03 01.3**	**-0.9**
	0.4nm,0.4s,baz=75,slow=9.2,SNR=1.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.19 297**	P		**P**	**08 03 31.5**	**-1.7**
	0.4nm,0.5s,baz=68,slow=7.2,SNR=4.8						
MKAR			PcP		**PcP**	**08 05 10.6**	**-1.7**
	0.2nm,0.6s,baz=73,slow=5.0,SNR=2.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**46.06 304**	P		**P**	**08 03 38.5**	**-1.5**
	0.5nm,0.4s,baz=72,slow=8.6,SNR=6.4						
KURBB			PcP		**PcP**	**08 05 13.4**	**-1.7**
	0.1nm,0.3s,baz=90,slow=2.9,SNR=1.5						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**54.35 35**	P		**P**	**08 04 42.2**	**-0.1**
	0.7nm,0.9s,baz=298,slow=7.5,SNR=7.4						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**64.55 333**	P		**P**	**08 05 50.1**	**-2.5**
	1.7nm,0.5s,baz=38,slow=7.1,SNR=9.1						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**65.68 195**	P		**P**	**08 06 01.1**	**+0.8**
	0.4nm,0.7s,baz=10,slow=6.5,SNR=2.3						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**66.07 59**	P		**P**	**08 06 04.3**	**+1.2**
	1.0nm,0.7s,baz=316,slow=6.8,SNR=9.2						
	1.0nm,0.7s						
PDAR	**Pinedale Array**	**68.39 51**	P		**P**	**08 06 18.5**	**+0.7**
	0.7nm,0.6s,baz=288,slow=4.2,SNR=8.8						
	0.7nm,0.6s						
HFS	**Hagfors**	**69.25 338**	P		**P**	**08 06 21.3**	**-1.2**
	1.5nm,0.8s,baz=35,slow=13,SNR=1.5						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**69.39 195**	P		**P**	**08 06 25.9**	**+2.2**
	0.4nm,0.5s,baz=12,slow=6.3,SNR=9.1						
	0.4nm,0.5s						
AKASG	**Malin Array Be**	**71.50 324**	P		**P**	**08 06 36.2**	**0.0**
	0.6nm,0.4s,baz=46,slow=0.5,SNR=1.7						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**81.14 57**	P		**P**	**08 07 32.2**	**+0.8**
	1.6nm,0.5s,baz=319,slow=5.7,SNR=49						
	1.6nm,0.5s						
SNAA	**Sanae**	**149.72 197**	PKPbc		**PKPbc**	**08 15 03.8**	**-0.1**
	1.1nm,0.8s,baz=198,slow=3.2,SNR=1.9						

*ASRS **27** 07:59:44.0±1.9, 53°.67N×88°.18E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 07:59:47.5±3.2, 53°.64N×88°.09E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.5km s-min=17.2km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**280**	I	I	08 13 00.0	
	baz=93,slow=328,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.96**	**280**	Pn	Pn	08 00 22.3	+0.4
	0.7nm,0.3s,baz=96,slow=13,SNR=18						
ZALV				Lg	Lg	08 00 49.4	
	1.5nm,0.3s,baz=98,slow=29,SNR=15						
KURBB	**Kurchatov Arra**	**6.61**	**247**	Pn	Pn	08 01 26.8	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=4.6						
KURBB				Lg	Lg	08 03 16.5	
	baz=62,slow=32,SNR=4.0						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.79**	**211**	Pn	Pn	08 01 43.0	+0.9
	0.1nm,0.3s,baz=28,slow=13,SNR=2.6						
MKAR				Sn	Sn	08 03 10.5	-0.5
	baz=31,slow=25,SNR=2.3						
MKAR				Lg	Lg	08 03 52.5	
	0.1nm,0.3s,baz=24,slow=29,SNR=2.2						
	0.1nm,0.4s						

*NEIC **27** 08:04:22.0±0.8, 19°.39N±0°.02×156°.36W±0°.06, h33km±9km, Error ellipse: s-maj=8.5km s-min=3.0km az=92.0*

HVO 27 08:04:23.6±1.0, 19°.37N±0°.04×156°.40W±0°.05, h28km±6km, ML2.5/16, ML2.7/40(NEIC), Error ellipse: s-maj=7.8km s-min=5.3km az=61.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.46**	**51**		Pb	08 04 32.2	-1.2
KKH					Sb	08 04 38.5	-1.5
CPH	**Captain Cook**	**0.47**	**75**		Pb	08 04 32.2	-1.4
HUH	**Hualalai**	**0.62**	**59**		Pb	08 04 34.2	-2.0
HUH					Sb	08 04 42.4	-2.3
ALEP	**Alea Permanent**	**0.74**	**76**		Pb	08 04 36.0	-2.1
ALEP					Sb	08 04 45.5	-2.6
KHU	**Kahuku**	**0.75**	**99**	Pn	Pb	08 04 36.1	-2.3
KHU				IAML		08 04 42.6	
	comp=N,330nm,3.3s						
KHU	**Kahuku**	**0.75**	**99**		Pb	08 04 35.8	-2.5
KHU				IAML		08 04 58.7	
	comp=E,438nm,4.5s						
KHU	**Kahuku**	**0.75**	**99**		Sb	08 04 45.4	-3.0
MWH	**Mokuaweoweo**	**0.77**	**81**		Pb	08 04 36.1	-2.7
MWH	**Mokuaweoweo**	**0.77**	**81**	IAML		08 04 58.7	
	comp=E,278nm,2.3s						
HMH	**Humu'ula Sheep**	**0.90**	**75**		Sb	08 04 49.3	-3.3
HMH	**Humu'ula Sheep**	**0.90**	**75**		Pn	08 04 38.3	-2.4
HMH				IAML		08 04 52.8	
	comp=N,231nm,4.0s						
HMH	**Humu'ula Sheep**	**0.90**	**75**	IAML		08 04 47.1	
	comp=E,200nm,3.7s						
POHA	**Pohakuloa**	**0.91**	**65**		Pn	08 04 38.0	-2.8
POHA					Sb	08 04 48.5	-4.3
HPAH	**Hawaii Prepara**	**0.94**	**45**		Pn	08 04 38.2	-2.8
HPAH					Sb	08 04 49.0	-4.4
MHA	**Mahukona**	**0.94**	**30**		Pn	08 04 38.9	-2.2
MHA					Sb	08 04 49.6	-3.9
HTC	**Hot Caves**	**0.96**	**98**		Pn	08 04 38.5	-2.8
MLH	**Mauna Loa**	**0.97**	**82**		Pn	08 04 39.1	-2.5
MLH					Sb	08 04 50.4	-4.1
MLH	**Mauna Loa**	**0.97**	**82**	IAML		08 05 02.7	
	comp=N,247nm,3.9s						
MLH				IAML		08 05 16.6	
	comp=E,188nm,4.6s						
HLP	**Hilina Pali**	**1.04**	**94**		Pn	08 04 39.8	-2.6
HLP					Sn	08 04 51.8	-4.2
WRMHI	**West Rim**	**1.04**	**88**		Pn	08 04 39.7	-2.9
WRMHI					Sn	08 04 51.5	-4.7
SDHHI	**Sand Hill**	**1.05**	**89**		Pn	08 04 40.0	-2.6
SDHHI					Sn	08 04 51.8	-4.6
UWE	**Uwekahuna**	**1.05**	**87**		Sn	08 04 52.3	-4.2
UWE	**Uwekahuna**	**1.05**	**87**		Pn	08 04 39.8	-2.9
UWE	**Uwekahuna**	**1.05**	**87**	IAML		08 04 48.8	
	comp=N,254nm,3.5s						
OBL	**Observatory Le**	**1.06**	**87**		Pn	08 04 40.2	-2.5
OBL					Sn	08 04 52.2	-4.4
UWB	**Uwekahuna Bluf**	**1.06**	**87**		Pn	08 04 40.2	-2.6
UWB					Sn	08 04 52.3	-4.5
RIM	**Rim**	**1.07**	**88**		Pn	08 04 39.8	-3.1
RIM					Sn	08 04 52.2	-4.7
RSD	**Rainshed**	**1.07**	**85**		Pn	08 04 40.1	-2.8
RSD					Sn	08 04 52.6	-4.3
KKO	**Keanakako'i**	**1.07**	**88**		Pn	08 04 39.9	-3.1
KKO					Sn	08 04 52.2	-4.9
SBLHI	**Steaming Bluff**	**1.07**	**87**		Pn	08 04 40.3	-2.7
SBLHI					Sn	08 04 52.3	-4.7
BYL	**Byron's Ledge**	**1.08**	**87**		Pn	08 04 40.4	-2.7
BYL				IAML		08 05 17.9	
	comp=E,154nm,3.1s						
BYL	**Byron's Ledge**	**1.08**	**87**	IAML		08 04 51.4	
	comp=N,218nm,3.9s						
BYL	**Byron's Ledge**	**1.08**	**87**		Sn	08 04 52.5	-4.6
HATHI	**Halema'uma'u T**	**1.08**	**87**		Pn	08 04 39.9	-3.1
HATHI	**Halema'uma'u T**	**1.08**	**87**	IAML		08 04 51.4	
	comp=N,207nm,4.6s						
HATHI				IAML		08 05 15.9	
	comp=E,169nm,4.3s						
HATHI	**Halema'uma'u T**	**1.08**	**87**		Sn	08 04 52.6	-4.5
PUH	**Pauahi**	**1.12**	**89**		Pn	08 04 40.4	-3.2
PUH					Sn	08 04 53.3	-4.9
PUH	**Pauahi**	**1.12**	**89**	IAML		08 04 55.7	
	comp=N,169nm,2.2s						
PUH				IAML		08 05 20.4	
	comp=E,156nm,3.7s						
KNHH	**Kane Nui o Ham**	**1.17**	**89**		Pn	08 04 41.1	-3.1
STCH	**Steam Cracks**	**1.21**	**89**		Pn	08 04 41.4	-3.3
STCH					Sn	08 04 55.0	-5.2
STCH	**Steam Cracks**	**1.21**	**89**	IAML		08 05 04.3	
	comp=N,176nm,3.4s						
NPOC	**North of Pu'u**	**1.22**	**89**		Pn	08 04 41.7	-3.3
NPOC					Sn	08 04 55.5	-5.1
JOKA	**Jonika Flow**	**1.32**	**87**	IAML		08 05 26.7	
	comp=E,139nm,4.5s						
HLK	**Haleakala**	**1.39**	**6**		Pn	08 04 44.8	-2.7
HLK	**Haleakala**	**1.39**	**6**	IAML		08 05 08.9	
	comp=E,160nm,4.7s						

*ASRS **27** 08:10:08.0±1.6, 53°.67N×88°.00E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 08:10:10.2±3.2, 53°.67N×87°.90E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=26.6km s-min=18.0km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**280**	I	I	08 23 00.0	
	baz=94,slow=333,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.85**	**280**	Pg	Pn	08 10 43.3	+0.1
	0.9nm,0.3s,baz=95,slow=10,SNR=9.1						
ZALV				Lg	Lg	08 11 09.6	
	1.8nm,0.3s,baz=99,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	08 11 48.7	+1.3
	baz=62,slow=14,SNR=3.5						
KURBB				Sn	Sn	08 13 00.7	-1.7
	baz=60,slow=26,SNR=1.9						
KURBB				Lg	Lg	08 13 36.6	
	baz=62,slow=32,SNR=4.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	Pn	08 12 05.5	+1.1
	0.1nm,0.3s,baz=22,slow=10,SNR=4.1						
	0.1nm,0.3s						

MEX 27 08:15:49.6±1.2, 15°.48N×96°.52W, h16km±20km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.19**	**12**	*i* P	Pg	08 15 51.3	-2.9
PANG				*i* S	Sg	08 15 53.3	-4.1
HUIG	**Huatulco**	**0.49**	**54**	*e*P	Pg	08 15 57.5	-1.9
HUIG				*e*S	Sg	08 16 04.5	-1.5
PEIG	**Puerto Escondi**	**0.80**	**310**	*e*P	Pb	08 16 01.6	-3.6
PEIG				*e*S	Sg	08 16 11.8	-4.0
OXLC	**Oaxaca**	**1.59**	**354**	*i* P	Pn	08 16 15.2	-2.1
OXBJ	**Oaxaca**	**1.59**	**353**	*i* P	Pn	08 16 14.9	-2.5
VHO	**Vista Hermosa**	**1.60**	**353**	*e*P	Pn	08 16 14.4	-3.1
VHO				*e*S	Sn	08 16 33.6	-4.4
YOIG	**Yosondua**	**1.69**	**324**	*e*P	Pn	08 16 16.1	-2.7
PNIG	**Pinotepa**	**1.80**	**301**	*e*P	Pn	08 16 16.8	-3.2
TXIG	**Tlaxiaco**	**2.14**	**326**	*e*P	Pn	08 16 22.8	-2.1
CMIG	**Matias Romero**	**2.24**	**44**	*e*P	Pn	08 16 23.4	-2.7
NEUV	**Arroyo Zacate**	**2.33**	**17**	*e*P	Pn	08 16 26.0	-1.3
HLIG	**Huajuapan de L**	**2.65**	**332**	*e*P	Pn	08 16 31.7	-0.2
TOIG	**Toxpalan**	**2.66**	**349**	*e*P	Pn	08 16 32.4	+0.5
CRIG	**Cruz Grande**	**2.81**	**297**	*e*P	Pn	08 16 31.2	-2.7
TLIG	**Tlapa**	**2.86**	**317**	*e*P	Pn	08 16 36.4	+1.7
FTIG	**Fresnillo de T**	**2.87**	**328**	*e*P	Pn	08 16 35.0	+0.1
UXUV	**UXUV**	**2.92**	**51**	*e*P	Pn	08 16 33.5	-1.9
TPIG	**Tehuac#an**	**3.04**	**345**	*e*P	Pn	08 16 35.6	-1.6
PCIG		**3.19**	**85**	*e*P	Pn	08 16 37.0	-2.1
TGIG		**3.51**	**68**	*e*P	Pn	08 16 44.0	+0.4
MEIG	**Mezcala**	**3.84**	**310**	*e*P	Pn	08 16 48.4	+0.2
PLIG	**Platanillo**	**4.07**	**316**	*e*P	Pn	08 16 52.1	+0.7
PPM	**Popocatepetl**	**4.10**	**331**	*e*P	Pn	08 16 55.6	+3.4
LVIG	**Laguna Verde**	**4.22**	**1**	*e*P	Pn	08 16 54.2	+0.8

*IDC **27** 08:16:07.0±2.8, 15°.34N×96°.38W, h0km, mb3.5/4, mbtmp3.6/6, ML3.9/2, Error ellipse: s-maj=44.6km s-min=18.7km az=152.0*

*MEX **27** 08:16:11.1±0.7, 15°.54N×96°.52W, h7km±11km, MD4.3*

*NEIC **27** 08:16:11.7±3.0, 15°.68N±0°.05×96°.46W±0°.04, h10km±1km, mb4.1/14, Md4.3/67(MEX), Error ellipse: s-maj=9.6km s-min=6.0km az=199.0*

ISC 27 08:16:09.9±0.9, 15°.58N±0°.04×96°.52W±0°.02, h14km±5km, n96, σ1°.76/148, mb3.8/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.10**	**25**		**Pg**	**08 16 13.3**	**+0.2**
PANG					**Sg**	**08 16 15.3**	**+0.1**
PANG	**Puerto Angel**	**0.10**	**25**	*i* P	**Pg**	**08 16 13.3**	**+0.2**
PANG				*i* S	**Sg**	**08 16 15.3**	**+0.1**
HUIG	**Huatulco**	**0.44**	**64**		**Pb**	**08 16 19.4**	**0.0**
HUIG					**Sb**	**08 16 26.4**	**+0.6**
HUIG	**Huatulco**	**0.44**	**64**	*e*P	**Pb**	**08 16 19.4**	**0.0**
HUIG				*e*S	**Sb**	**08 16 26.4**	**+0.6**
PEIG	**Puerto Escondi**	**0.74**	**305**		**Pg**	**08 16 23.4**	**-0.8**
PEIG					**Sg**	**08 16 33.8**	**-0.2**
PEIG	**Puerto Escondi**	**0.74**	**305**	*e*P	**Pg**	**08 16 23.4**	**-0.8**
PEIG				*e*S	**Sg**	**08 16 33.8**	**-0.2**
OXLC	**Oaxaca**	**1.49**	**353**	*e*P	**Pn**	**08 16 34.8**	**-1.6**
OXLC				*e*S	**Sn**	**08 16 54.0**	**-1.8**
OXBJ	**Oaxaca**	**1.50**	**352**		**Pn**	**08 16 34.0**	**-2.5**
OXBJ					**Sn**	**08 16 53.6**	**-2.4**
OXBJ	**Oaxaca**	**1.50**	**352**	*e*P	**Pn**	**08 16 34.0**	**-2.5**
OXBJ				*e*S	**Sn**	**08 16 53.6**	**-2.4**
OXIG	**Oaxaca**	**1.50**	**352**		**Pn**	**08 16 34.9**	**-1.7**
OXIG					**Sb**	**08 16 56.0**	**-0.7**
VHO	**Vista Hermosa**	**1.50**	**352**	*e*P	**Pn**	**08 16 34.9**	**-1.7**
VHO				*e*S	**Sb**	**08 16 56.0**	**-0.6**
YOIG	**Yosondua**	**1.61**	**322**		**Pn**	**08 16 37.0**	**-1.1**
YOIG					**Sn**	**08 16 58.8**	**-0.1**
YOIG	**Yosondua**	**1.61**	**322**	*e*P	**Pn**	**08 16 37.0**	**-1.1**
YOIG				*e*S	**Sn**	**08 16 58.8**	**-0.1**
PNIG	**Pinotepa**	**1.75**	**298**		**Pn**	**08 16 39.9**	**+0.1**
PNIG					**Sn**	**08 17 00.6**	**-1.3**
PNIG	**Pinotepa**	**1.75**	**298**	*e*P	**Pn**	**08 16 39.9**	**+0.1**
PNIG				*e*S	**Sn**	**08 17 00.6**	**-1.3**
TXIG	**Tlaxiaco**	**2.05**	**324**		**Pn**	**08 16 44.6**	**+0.3**
TXIG	**Tlaxiaco**	**2.05**	**324**	*e*P	**Pn**	**08 16 44.6**	**+0.3**
CMIG	**Matias Romero**	**2.17**	**46**		**Pn**	**08 16 45.1**	**-0.6**
CMIG					**Sn**	**08 17 10.8**	**-1.6**
CMIG	**Matias Romero**	**2.17**	**46**	Pn	**Pn**	**08 16 45.8**	**+0.1**
	37nm,0.3s,baz=224,slow=12,SNR=12						
CMIG				Sn	**Sb**	**08 17 13.5**	**-2.3**
	78nm,0.3s,baz=234,slow=17,SNR=5.8						
CMIG				Lg	Lg	08 17 19.5	
	225nm,0.3s,baz=255,slow=12,SNR=14						
	194nm,0.2s						
CMIG	**Matias Romero**	**2.17**	**46**	*e*P	**Pn**	**08 16 45.1**	**-0.6**
CMIG				*e*S	**Sn**	**08 17 10.8**	**-1.6**
NEUV	**Arroyo Zacate**	**2.23**	**18**	*e*P	**Pn**	**08 16 46.3**	**-0.2**
NEUV				*e*S	**Sb**	**08 17 17.0**	**-0.5**
HLIG	**Huajuapan de L**	**2.56**	**331**		**Pb**	**08 16 55.0**	**-0.7**
HLIG					**Sn**	**08 17 22.9**	**+0.7**
HLIG	**Huajuapan de L**	**2.56**	**331**	*e*P	**Pb**	**08 16 55.0**	**-0.7**
HLIG				*e*S	**Sn**	**08 17 22.9**	**+0.7**
TOIG	**Toxpalan**	**2.56**	**348**		**Pb**	**08 16 53.4**	**-2.3**
TOIG					**Sb**	**08 17 24.6**	**-2.5**
TOIG	**Toxpalan**	**2.56**	**348**	*e*P	**Pb**	**08 16 53.4**	**-2.3**
TOIG				*e*S	**Sb**	**08 17 24.6**	**-2.5**
MGIG	**Malinaltepec**	**2.62**	**309**		**Pn**	**08 16 54.0**	**+2.1**
MGIG					**Sb**	**08 17 26.4**	**-2.4**
MGIG	**Malinaltepec**	**2.62**	**309**	*e*P	**Pn**	**08 16 54.0**	**+2.1**
MGIG				*e*S	**Sb**	**08 17 26.4**	**-2.4**
CRIG	**Cruz Grande**	**2.76**	**295**		**Pn**	**08 16 56.0**	**+2.2**
CRIG					**Sn**	**08 17 27.4**	**+0.5**
CRIG	**Cruz Grande**	**2.76**	**295**	*e*P	**Pn**	**08 16 56.0**	**+2.2**
CRIG				*e*S	**Sn**	**08 17 27.4**	**+0.5**
TLIG	**Tlapa**	**2.79**	**315**		**Pb**	**08 16 57.5**	**-2.1**
TLIG	**Tlapa**	**2.79**	**315**	*e*P	**Pb**	**08 16 55.5**	**+1.3**
TLIG				*e*S	**Sn**	**08 17 28.9**	**+1.2**
FTIG	**Fresnillo de T**	**2.79**	**326**		**Pb**	**08 16 57.4**	**-2.1**
FTIG	**Fresnillo de T**	**2.79**	**326**	*e*P	**Pb**	**08 16 57.4**	**-2.1**
UXUV	**UXUV**	**2.86**	**52**	*e*P	**Pn**	**08 16 54.3**	**-0.8**
UXUV				*e*S	**Sb**	**08 17 34.7**	**-0.9**
TPIG	**Tehuac#an**	**2.94**	**344**		**Pn**	**08 16 56.6**	**+0.3**
TPIG					**Sb**	**08 17 38.3**	**+0.2**
TPIG	**Tehuac#an**	**2.94**	**344**	*e*P	**Pn**	**08 16 56.6**	**+0.3**
TPIG				*e*S	**Sb**	**08 17 38.3**	**+0.2**
TUIG	**Tuzandepetl**	**3.16**	**39**	*e*P	**Pn**	**08 16 59.5**	**+0.3**
PCIG		**3.18**	**87**		**Pn**	**08 16 58.2**	**-1.3**
PCIG		**3.18**	**87**	*e*P	**Pn**	**08 16 58.2**	**-1.3**
PMUV	**Sontecomapan**	**3.24**	**24**	*e*P	**Pn**	**08 17 03.0**	**+2.6**
PMUV				*e*S	**Sb**	**08 17 44.1**	**-2.5**
DAIG	**Los Arroyos**	**3.33**	**296**		**Pb**	**08 17 06.9**	**-1.9**
DAIG					**Sn**	**08 17 44.9**	**+3.9**
DAIG	**Los Arroyos**	**3.33**	**296**	*e*P	**Pb**	**08 17 06.9**	**-1.9**
DAIG				*e*S	**Sn**	**08 17 44.9**	**+3.9**
TGIG		**3.47**	**69**		**Pn**	**08 17 03.5**	**-0.1**
TGIG		**3.47**	**69**	*e*P	**Pn**	**08 17 03.5**	**-0.1**
JAUV	**Jalcomulco**	**3.78**	**356**	*e*P	**Pn**	**08 17 09.4**	**+1.7**
JAUV				*e*S	**Sn**	**08 17 50.9**	**-1.2**
MEIG	**Mezcala**	**3.78**	**309**		**Pn**	**08 17 12.4**	**+4.5**
MEIG					**Sb**	**08 17 59.7**	**-2.5**
MEIG	**Mezcala**	**3.78**	**309**	*e*P	**Pn**	**08 17 12.4**	**+4.5**
MEIG				*e*S	**Sb**	**08 17 59.7**	**-2.5**
CAIG	**El Cayaco**	**3.89**	**293**		**Sn**	**08 17 51.0**	**-3.6**
CAIG	**El Cayaco**	**3.89**	**293**	*e*P	**Pn**	**08 17 08.9**	**-0.3**
CAIG				*e*S	**Sn**	**08 17 51.0**	**-3.6**
**PB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PV13	**Radium Mtn., P**	**24.98**	**337**	P	**P**	**08 21 35.4**	**+2.0**
PV13				IAmb	IAmb	08 21 37.7	
	comp=Z,3.9nm,0.9s						
O49A	**Covington**	**26.72**	**21**	P	**P**	**08 21 49.5**	**+0.6**
NVAR	**Mina Array Bea**	**29.77**	**324**	P	**P**	**08 22 18.7**	**+2.3**
	comp=Z,1.6nm,1.0s,baz=144,slow=5.2,SNR=6.3						
	comp=Z,1.6nm,1.0s						
YKA	**Yellowknife Ar**	**48.57**	**349**	P	**P**	**08 24 52.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=161,slow=7.7,SNR=4.0						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**59.70**	**338**	P	**P**	**08 26 15.3**	**+1.7**
	comp=Z,0.9nm,1.1s,baz=125,slow=7.4,SNR=5.9						
	comp=Z,0.9nm,1.1s						

*ASRS **27** 08:19:06.0±1.6, 54°.59N×83°.59E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 08:19:06.3±1.9, 54°.66N×83°.79E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=14.6km s-min=11.1km az=179.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**139**	I	I	08 24 35.0	
	0.1nm,1.2s,baz=317,slow=332,SNR=18						
ZALV	**Zalesovo Beam**	**0.93**	**139**	Pg	Pg	08 19 23.9	-0.2
	2.5nm,0.3s,baz=321,slow=15,SNR=14						
ZALV				Lg	Lg	08 19 37.7	
	4.4nm,0.3s,baz=323,slow=28,SNR=5.9						
MKAR	**Makanchi Array**	**7.93**	**187**	Pn	Pn	08 21 02.3	-0.5
	0.1nm,0.3s,baz=7.1,slow=11,SNR=2.8						
MKAR				Sn	Sn	08 22 32.2	-1.0
	baz=9.7,slow=27,SNR=1.9						
MKAR				Lg	Lg	08 23 20.4	
	baz=6.9,slow=28,SNR=3.0						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**8.10**	**264**	Pn	Pn	08 21 04.5	-0.5
	0.1nm,0.3s,baz=64,slow=13,SNR=2.8						
	0.6nm,0.4s						

*SJA **27** 08:20:23.9±1.3, 19°.93S×69°.49W, h117km±10km, ML3.9, MW3.8*
*GUC **27** 08:20:25.5±0.8, 19°.90S×69°.48W, h120km±3km, ML3.8*
*NEIC **27** 08:20:25.4±1.5, 19°.93S±0°.05×69°.39W±0°.08, h112km±8km, mb4.0/4, Error ellipse: s-maj=10.8km s-min=6.7km az=96.0*
*IDC **27** 08:20:28.7±2.3, 19°.74S×68°.91W, h145km±20km, mb3.2/5, mbtmp3.9/7, Error ellipse: s-maj=33.7km s-min=19.0km az=85.0*

ISC 27 08:20:24.7±0.7, 19°.91S±0°.04×69°.38W±0°.07, h114km±5km, n63, σ1§10/74, mb3.8/6, 6C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.30**	**299**	Pn	**Pn**	**08 20 41.5**	**+0.4**
PB11	**IPOC Station P**	**0.30**	**299**	⇓iP	**Pn**	**08 20 41.5**	**+0.4**
PB11				*i* S	**Sn**	**08 20 53.9**	**+0.4**
PB11				IAML		08 20 54.3	
	comp=N,10μm,0.4s						
PB11	**IPOC Station P**	**0.30**	**299**	*i* P	**Pn**	**08 20 40.7**	**-0.4**
PB11				IAML		08 20 55.8	
	comp=Z,3μm,0.1s						
PB08	**IPOC Station P**	**0.32**	**138**		**Pn**	**08 20 42.3**	**+0.7**
PB08	**IPOC Station P**	**0.32**	**138**	⇓*i*P	**Pn**	**08 20 42.1**	**+0.6**
PB08				*i* S	**Sn**	**08 20 54.7**	**+0.6**
PB08				IAML		08 20 55.8	
	comp=N,4μm,0.2s						
PB08	**IPOC Station P**	**0.32**	**138**	*i* P	**Pn**	**08 20 41.4**	**-0.1**
PB08				IAML		08 20 56.5	
	comp=Z,2μm,0.2s						
HMBC	**Humberstone**	**0.60**	**232**		**Pn**	**08 20 43.4**	**+0.5**
HMBC	**Humberstone**	**0.60**	**232**	⇑*i*P	**Pn**	**08 20 43.3**	**+0.5**
HMBC				*i* S	**Sn**	**08 20 56.9**	**+0.3**
HMBC				IAML		08 20 58.4	
	comp=E,8μm,0.1s						
HMBC	**Humberstone**	**0.60**	**232**	*i* P	**Pn**	**08 20 42.6**	**-0.3**
HMBC				IAML		08 20 58.6	
	comp=Z,9μm,0.2s						
TA02	**Huaiquique**	**0.79**	**243**		**Pn**	**08 20 44.8**	**+0.5**
TA02	**Huaiquique**	**0.79**	**243**	*e*P	**Pn**	**08 20 44.7**	**+0.4**
TA02				*i* S	**Sn**	**08 20 59.8**	**+0.8**
TA02	**Huaiquique**	**0.79**	**243**	*i* P	**Pn**	**08 20 44.1**	**-0.2**
TA02				IAML		08 21 00.4	
	comp=Z,11μm,0.1s						
TA01	**Diego Aracena**	**1.00**	**229**	Pn	**Pn**	**08 20 46.5**	**+0.3**
TA01	**Diego Aracena**	**1.00**	**229**	⇑*i*P	**Pn**	**08 20 46.4**	**+0.2**
TA01				*i* S	**Sn**	**08 21 02.3**	**-0.2**
TA01				IAML		08 21 03.9	
	comp=E,2μm,0.2s						
TA01	**Diego Aracena**	**1.00**	**229**	*i* P	**Pn**	**08 20 45.6**	**-0.6**
TA01				IAML		08 21 06.9	
	comp=Z,843nm,0.2s						
PB01	**IPOC Station P**	**1.14**	**185**		**Pn**	**08 20 48.2**	**+0.4**
PB01	**IPOC Station P**	**1.14**	**185**	⇑*i*P	**Pn**	**08 20 48.3**	**+0.5**
PB01				*e*S	**Sn**	**08 21 05.7**	**+0.5**
PB01				IAML		08 21 06.6	
	comp=N,6μm,0.3s						
PB01	**IPOC Station P**	**1.14**	**185**	*i* P	**Pn**	**08 20 47.6**	**-0.2**
PB01				IAML		08 21 06.5	
	comp=Z,2μm,0.2s						
PATCX	**Punta Patache**	**1.16**	**218**		**Pn**	**08 20 48.6**	**+0.6**
PATCX	**Punta Patache**	**1.16**	**218**	⇑*i*P	**Pn**	**08 20 48.4**	**+0.3**
PATCX				*i* S	**Sn**	**08 21 06.0**	**+0.3**
PATCX	**Punta Patache**	**1.16**	**218**	*i* P	**Pn**	**08 20 47.9**	**-0.2**
PATCX				IAML		08 21 07.9	
	comp=Z,1μm,0.3s						
PX02	**IPOC Station P**	**1.22**	**320**	*e*P	**Pn**	**08 20 47.9**	**-0.8**
PX02				*i* S	**Sn**	**08 21 06.0**	**-0.8**
PX02				IAML		08 21 07.6	
	comp=N,1μm,0.3s						
PB12	**IPOC Station P**	**1.57**	**325**	Pn	**Pn**	**08 20 52.7**	**0.0**
PB12	**IPOC Station P**	**1.57**	**325**	⇓*i*P	**Pn**	**08 20 52.5**	**-0.2**
PB12				*i* S	**Sn**	**08 21 13.4**	**-0.5**
PB12				IAML		08 21 15.4	
	comp=E,2μm,0.2s						
PB12	**IPOC Station P**	**1.57**	**325**	*i* P	**Pn**	**08 20 51.8**	**-0.9**
PB12				IAML		08 21 15.3	
	comp=Z,967nm,0.2s						
PB16	**IPOC Station P**	**1.57**	**356**		**Pn**	**08 20 54.5**	**+1.3**
PB16	**IPOC Station P**	**1.57**	**356**	⇓*i*P	**Pn**	**08 20 54.2**	**+1.0**
PB16				*i* S	**Sn**	**08 21 15.7**	**+1.0**
PB16				IAML		08 21 17.3	
	comp=N,1μm,0.5s						
PB16	**IPOC Station P**	**1.57**	**356**	*i* P	**Pn**	**08 20 53.6**	**+0.4**
PB16				IAML		08 21 17.8	
	comp=Z,573nm,0.4s						
AP01	**Chacalluta**	**1.78**	**329**	Pn	**Pn**	**08 20 55.3**	**+0.2**
AP01	**Chacalluta**	**1.78**	**329**	*e*P	**Pn**	**08 20 54.9**	**-0.2**
AP01				*i* S	**Sn**	**08 21 17.8**	**-0.5**
AP01	**Chacalluta**	**1.78**	**329**	*i* P	**Pn**	**08 20 54.7**	**-0.4**
AP01				IAML		08 21 21.9	
	comp=Z,1μm,0.1s						
PB09	**IPOC Station P**	**1.89**	**176**		**Pn**	**08 20 57.7**	**+1.1**
PB09	**IPOC Station P**	**1.89**	**176**	⇑*i*P	**Pn**	**08 20 57.6**	**+1.0**
PB09				*i* S	**Sn**	**08 21 22.4**	**+1.4**
PB09				IAML		08 21 24.7	
	comp=N,756nm,0.8s						
PB09	**IPOC Station P**	**1.89**	**176**	*i* P	**Pn**	**08 20 57.1**	**+0.4**
PB09				IAML		08 21 24.9	
	comp=Z,689nm,0.4s						
PB18	**Visviri**	**2.31**	**358**		**Pn**	**08 21 04.9**	**+2.5**
PB18	**Visviri**	**2.31**	**358**	IAML		08 21 46.8	
	comp=E,221nm,0.3s						
PB06	**IPOC Station P**	**2.79**	**184**	⇓*i*P	**Pn**	**08 21 08.5**	**+0.2**
PB06				IAML		08 21 44.3	
	comp=E,296nm,0.3s						
PB06	**IPOC Station P**	**2.79**	**184**	*i* P	**Pn**	**08 21 08.0**	**-0.3**
PB06				IAML		08 21 45.0	
	comp=Z,364nm,0.3s						
PB05	**IPOC Station P**	**3.03**	**195**	Pn	**Pn**	**08 21 11.3**	**0.0**
PB05	**IPOC Station P**	**3.03**	**195**	⇑*i*P	**Pn**	**08 21 11.2**	**-0.2**
PB05				IAML		08 21 48.6	
	comp=E,346nm,0.1s						
PB05	**IPOC Station P**	**3.03**	**195**	*i* P	**Pn**	**08 21 10.6**	**-0.8**
PB05				IAML		08 21 48.9	
	comp=Z,181nm,0.6s						
LPAZ	**La Paz**	**3.79**	**18**	Pn	**Pn**	**08 21 24.3**	**+2.3**
LPAZ	**La Paz**	**3.79**	**18**	P	**Pn**	**08 21 24.1**	**+2.2**
	comp=Z,23nm,0.3s,baz=196,slow=5.5,SNR=222						
LPAZ				S	**Sn**	**08 22 05.2**	**-1.0**
	comp=Z,9.4nm,0.7s,baz=221,slow=18,SNR=3.9						
LPAZ	**La Paz**	**3.79**	**18**	*i* P	**Pn**	**08 21 24.3**	**+2.3**
PB14	**IPOC Station P**	**4.79**	**191**	Pn	**Pn**	**08 21 33.5**	**-1.5**
GO02	**Mina Guanaco**	**5.24**	**182**	Pn	**Pn**	**08 21 40.7**	**-0.3**
AC02	**Maricunga**	**6.90**	**178**		**Pn**	**08 22 03.1**	**-0.6**
AC04	**Llanos de Chal**	**8.40**	**190**	Pn	**Pn**	**08 22 19.2**	**-4.5**
SIV	**San Ignacio**	**8.81**	**65**	P	**Pn**	**08 22 26.5**	**-2.8**
	comp=Z,52nm,0.7s,baz=252,slow=8.3,SNR=67						
VILB	**Vilhena**	**11.19**	**53**	Pn	**Pn**	**08 23 00.3**	**-1.2**
TRQA	**Tornquist**	**19.20**	**162**	P	**P**	**08 24 39.4**	**-0.2**
PLCA	**Paso Flores**	**20.78**	**183**	P	**P**	**08 24 56.0**	**-0.8**
PLCA	**Paso Flores**	**20.78**	**183**	P	Pn	08 25 00.4	+0.1
	comp=Z,1.0nm,0.8s,baz=2.8,slow=17,SNR=4.0						
	comp=Z,1.0nm,0.8s						
BOAV	**Boa Vista**	**23.81**	**22**	P	**P**	**08 25 28.0**	**+0.8**
BOAV				IAmb	IAmb	08 25 34.6	
	comp=Z,8.0nm,1.4s						
RUSC	**La Rusia**	**25.89**	**352**	P	**P**	**08 25 47.1**	**+0.4**
RUSC				IAmb	IAmb	08 25 47.7	
	comp=Z,3.3nm,0.7s						
TXAR	**Lajitas Array**	**59.08**	**325**	P	**P**	**08 30 13.6**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=150,slow=6.0,SNR=1.7						
	comp=Z,0.1nm,0.6s						
QSPA	**South Pole Qui**	**70.28**	**180**	P	**P**	**08 31 27.1**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=157,slow=1.0,SNR=2.0						
	comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**77.24**	**71**	P	**P**	**08 32 04.4**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=262,slow=4.6,SNR=4.7						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**89.55**	**341**	P	**P**	**08 33 09.5**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=139,slow=4.5,SNR=25						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**131.10**	**209**	PKP	**PKPdf**	**08 39 24.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=130,slow=1.9,SNR=4.5						
WRA	**Warramunga Arr**	**134.08**	**212**	PKP	**PKPdf**	**08 39 30.4**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=151,slow=1.6,SNR=1.7						
MKAR	**Makanchi Array**	**144.59**	**34**	PKP	**PKPab**	**08 39 47.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=311,slow=3.0,SNR=5.2						
SONM	**Songino Array**	**151.93**	**6**	PKPbc	**PKiKP**	**08 40 07.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=289,slow=4.4,SNR=2.7						

*ASRS **27** 08:50:14.0±0.9, 54°.12N×87°.17E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 08:50:09.6±3.0, 54°.48N×87°.87E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=29.0km s-min=21.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**255**	I	I	09 00 40.0	
	baz=69,slow=332,SNR=9.3						
ZALV	**Zalesovo Beam**	**1.87**	**255**	Pn	Pn	08 50 41.9	-0.8
	1.8nm,0.3s,baz=74,slow=16,SNR=22						
ZALV				Lg	Lg	08 51 08.7	
	2.3nm,0.3s,baz=79,slow=22,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.88**	**240**	Pn	Pn	08 51 52.7	+1.1
	baz=54,slow=14,SNR=4.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.47**	**207**	Pn	Pn	08 52 13.9	+0.5
	0.1nm,0.3s,baz=26,slow=14,SNR=5.8						
MKAR				Lg	Lg	08 54 36.6	
	baz=24,slow=30,SNR=1.8						
	0.1nm,0.2s						
BVAR	**Borovoye Array**	**10.46**	**269**	Pn	Pn	08 52 39.4	-1.2
	baz=71,slow=14,SNR=2.4						
	0.4nm,0.3s						

IDC 27 08:52:08.5±6.1, 18°.31S×177°.40W, h577km±33km, mb2.6/4, mbtmp3.5/5, Error ellipse: s-maj=168.9km s-min=29.8km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**277**	P	P	08 53 35.1	0.0
	5.9nm,0.5s,baz=135,slow=19,SNR=9.7						
STKA	**Stephens Creek**	**39.29**	**242**	P	P	08 58 49.1	+0.3
	0.5nm,0.4s,baz=78,slow=14,SNR=1.7						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**45.51**	**260**	P	P	08 59 37.3	-0.3
	0.2nm,0.4s,baz=96,slow=6.9,SNR=5.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.61**	**255**	P	P	08 59 38.1	-0.3
	0.9nm,0.7s,baz=93,slow=8.2,SNR=16						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**86.06**	**13**	P	P	09 03 48.3	-0.1
	0.2nm,0.8s,baz=206,slow=5.8,SNR=6.4						
	0.2nm,0.8s						

*IDC **27** 08:57:58.1±1.6, 54°.50S×159°.09E, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/1, Error ellipse: s-maj=95.4km s-min=23.2km az=71.0*

ISC 27 08:58:02.2±1.0, 54°.5S±0°.2×158°.9E±0°.5, h27km±7km, n24, σ0§37/11, mb3.8/4, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.01**	**31**	P	**Pb**	**08 58 06.6**	**-0.2**
MCQ				S	**Sb**	**08 58 10.1**	**+0.3**
MOO	**Moorlands**	**14.35**	**323**	P	**Pn**	**09 01 23.1**	**-0.3**
	comp=Z,33nm,2.6s						
VNDA	**Vanda**	**23.13**	**178**	P	**P**	**09 03 05.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=0.0,slow=6.1,SNR=1.9						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**35.60**	**180**	P	**P**	**09 04 57.2**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=50,slow=16,SNR=2.8						
QSPA				LR	LR	09 17 43.7	
	comp=Z,72nm,18.7s,baz=137,slow=33						
	comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**36.03**	**319**	P	**P**	**09 05 01.8**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=156,slow=8.6,SNR=17						
ASAR				PcP	**PcP**	**09 07 26.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=150,slow=3.9,SNR=7.4						
	comp=Z,1.5nm,0.8s						
H01W1	**Cape Leeuwin H**	**36.60**	**284**	T	T	09 43 46.9	
	baz=136,slow=76,SNR=1075						
H01W2	**Cape Leeuwin H**	**36.61**	**284**	T	T	09 43 47.4	
	baz=136,slow=76,SNR=1091						
H01W3	**Cape Leeuwin H**	**36.62**	**284**	T	T	09 43 48.2	
	baz=136,slow=76,SNR=717						
WRA	**Warramunga Arr**	**39.27**	**322**	P	**P**	**09 05 28.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=157,slow=7.9,SNR=4.0						
	comp=Z,1.1nm,0.8s						
H04S2	**CROZET ISLANDS**	**61.74**	**228**	T	T	10 15 50.2	
	baz=140,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**61.74**	**228**	T	T	10 16 04.9	
	baz=140,slow=75,SNR=36						
H04S3	**CROZET ISLANDS**	**61.75**	**228**	T	T	10 15 49.7	
	baz=140,slow=75,SNR=37						
H03S2	**Juan Fernandez**	**78.92**	**134**	T	T	10 37 28.9	
	baz=208,slow=74,SNR=206						
H03S1	**Juan Fernandez**	**78.93**	**134**	T	T	10 37 30.3	
	baz=208,slow=74,SNR=223						
H03S3	**Juan Fernandez**	**78.94**	**134**	T	T	10 37 29.6	
	baz=208,slow=74,SNR=258						
H03N3	**Juan Fernandez**	**79.25**	**134**	T	T	10 37 45.0	
	baz=207,slow=73,SNR=101						
H03N2	**Juan Fernandez**	**79.26**	**134**	T	T	10 37 45.5	
	baz=207,slow=73,SNR=158						
H03N1	**Juan Fernandez**	**79.27**	**134**	T	T	10 37 39.0	
	baz=207,slow=73,SNR=82						
H08S2	**Diego Garcia H**	**81.77**	**268**	T	T	10 40 16.2	
	baz=144,slow=76,SNR=175						
H08S1	**Diego Carcia H**	**81.78**	**268**	T	T	10 40 14.1	
	baz=144,slow=76,SNR=94						
H08S3	**Diego Garcia H**	**81.79**	**268**	T	T	10 40 14.3	
	baz=144,slow=76,SNR=229						
MKAR	**Makanchi Array**	**119.85**	**310**	PKP	**PKiKP**	**09 16 49.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=115,slow=2.4,SNR=2.6						
ILAR	**Eielson Array**	**125.99**	**25**	PKP	**PKiKP**	**09 17 00.7**	**+0.2**
	comp=Z,0.4nm,1.1s,baz=212,slow=3.2,SNR=2.8						
AKASG	**Malin Array Be**	**149.76**	**284**	PKPbc	**PKPbc**	**09 17 48.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=80,slow=1.7,SNR=4.9						

*IDC **27** 09:11:17.8±2.1, 31°.96N×132°.07E, h46km±31km, mb3.1/1, mbtmp3.4/5, ML2.9/4, MS2.8/2, Error ellipse: s-maj=24.3km s-min=13.1km az=84.0*
*JMA **27** 09:11:17.3±0.1, 32°.2N±0°.3×132°.1E±0°.3, h19km±1km, MV3.8/38, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .
*NIED **27** 09:11:17.3, 32°.22N×132°.13E, h19km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.03; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-1.07; $M_{r\theta}$1.32; $M_{\theta\phi}$-0.49; $M_{\phi r}$2.28; Fault plane solution: $M_0$2.88000×10^{14} NP1: ϕ_s188.00000°, δ12.00000°, λ69.00000°. NP2: ϕ_s30.00000°, δ78.00000°, λ94.00000°.*

ISC 27 09:11:14.6±1.6, 32°.09N±0°.06×132°.18E±0°.04, h13km±10km, n17, σ1§40/26, 8D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.58**	**308**	⇓*i*P	**Pb**	**09 11 26.7**	**0.0**
JHHC				⇓S	**Sg**	**09 11 33.2**	**-0.5**
JTSN	**Tsuno**	**0.59**	**285**	⇓P	**Pb**	**09 11 27.5**	**+0.6**
JTSN				⇓S	**Sg**	**09 11 34.8**	**+0.7**
JSKE	**Saikikamae**	**0.75**	**342**	⇓*i*P	**Pg**	**09 11 29.4**	**+0.2**
JSKE				⇓S	**Sg**	**09 11 37.9**	**-1.0**
JKIT	**Kitakata**	**0.82**	**311**	⇓P	**Pg**	**09 11 30.7**	**+0.3**
JKIT				⇓S	**Sg**	**09 11 40.1**	**-1.0**
JTO	**Tosashimizu**	**0.93**	**34**	P	**Pb**	**09 11 33.1**	**+0.4**
JTO				*e*S	**Sg**	**09 11 44.6**	**-0.2**
JTZ	**Takazaki**	**0.95**	**259**	P	**Pn**	**09 11 34.9**	**+1.2**
JTZ				*e*S	**Sn**	**09 11 47.5**	**+0.4**
JNAR	**Kushima--Naru**	**0.96**	**234**	P	**Pn**	**09 11 36.2**	**+2.4**
JUS	**Usuki**	**1.04**	**340**	P	**Pg**	**09 11 34.3**	**-0.4**
JUS				S	**Sg**	**09 11 46.9**	**-1.4**
UWA2	**Uwa jima 2**	**1.18**	**18**	P	**Pb**	**09 11 37.0**	**0.0**
UWA2				*e*S	**Sb**	**09 11 50.9**	**-1.3**
JIU3	**Izumi3**	**1.25**	**292**	P	**Pb**	**09 11 38.5**	**+0.4**
JNU	**Nakatsue**	**1.51**	**313**	P	**Pb**	**09 11 42.7**	**+0.1**
	203nm,0.3s,baz=138,slow=7.7,SNR=4.7						
JNU				S	**Sn**	**09 12 01.8**	**+0.7**
	171nm,0.4s,baz=193,slow=18,SNR=5.6						
JOW	**Kunigami**	**6.25**	**214**	P	**Pn**	**09 12 46.5**	**-0.1**
	0.5nm,0.3s,baz=43,slow=19,SNR=1.7						
JOW				S	**Sn**	**09 13 53.7**	**-4.2**
	3.9nm,0.3s,baz=130,slow=26,SNR=6.8						
	12nm,1.0s						
KSRS	**Korea Array**	**6.40**	**328**	P	**Pn**	**09 12 48.9**	**+0.4**
	0.5nm,0.3s,baz=145,slow=15,SNR=4.6						
KSRS				LR	LR	09 15 25.8	
	comp=Z,63nm,20.2s,baz=140,slow=38						
	0.6nm,0.3s						
MJAR	**Matsushiro Arr**	**6.68**	**47**	P	**Pn**	**09 12 55.1**	**+2.6**
	0.1nm,0.3s,baz=247,slow=14,SNR=4.7						
	0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**12.09**	**359**	LR	LR	09 18 37.7	
	comp=Z,53nm,20.2s,baz=292,slow=36						
KLR	**Kul'dur**	**17.13**	**359**	P	**P**	**09 15 16.9**	**+1.6**
	0.1nm,0.3s,baz=185,slow=11,SNR=5.1						
	1.1nm,0.5s						
SONM	**Songino Array**	**25.09**	**316**	P	**P**	**09 16 38.3**	**-0.9**
	0.3nm,0.5s,baz=115,slow=10,SNR=1.5						
	0.3nm,0.5s						

*ASRS **27** 09:16:05.0±1.5, 53°.63N×87°.93E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 09:16:09.0±2.9, 53°.54N×87°.85E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=23.4km s-min=15.4km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**284**	I	I	09 29 00.0	
	baz=97,slow=342,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.84**	**284**	Pn	Pn	09 16 41.0	-0.8
	0.8nm,0.3s,baz=103,slow=16,SNR=17						
ZALV				Lg	Lg	09 17 08.2	
	4.3nm,0.3s,baz=102,slow=25,SNR=28						
KURBB	**Kurchatov Arra**	**6.44**	**247**	Pn	Pn	09 17 46.4	+1.3
	0.1nm,0.3s,baz=61,slow=14,SNR=2.3						
KURBB				Sn	Sn	09 18 57.3	-1.9
	baz=60,slow=31,SNR=1.7						
KURBB				Lg	Lg	09 19 33.8	
	0.1nm,0.3s,baz=60,slow=30,SNR=5.5						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	09 18 03.2	+1.7
	0.1nm,0.3s,baz=22,slow=10,SNR=3.7						
MKAR				Sn	Sn	09 19 27.4	-1.4
	baz=26,slow=27,SNR=5.1						
MKAR				Lg	Lg	09 20 11.1	
	0.1nm,0.3s,baz=24,slow=36,SNR=3.6						
	0.1nm,0.3s						

*NEIC **27** 09:51:23.4±1.0, 17°.7S±0°.1×177°.9W±0°.2, h603km±15km, mb4.3/20, Error ellipse: s-maj=24.5km s-min=15.4km az=93.0*
*IDC **27** 09:51:25.4±1.9, 17°.88S×178°.12W, h619km±11km, mb3.5/5, mbtmp4.6/6, Error ellipse: s-maj=49.1km s-min=16.6km az=17.0*
*NOU **27** 09:51:28.1, 18°.45S×178°.49W, h587km, mb4.6/17, Fiji Islands Region*

ISC 27 09:51:24.8±0.8, 18°.1S±0°.1×178°.16W±0°.10, h590km, n73, σ1§68/76, mb4.3/17, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.62**	**275**	P	**P**	**09 52 48.9**	**+1.8**
MSVF	**Nonsavu**	**3.62**	**275**	P	**P**	**09 52 48.8**	**+1.7**
	352nm,0.7s,baz=102,slow=18,SNR=289						
MSVF				S	**S**	**09 53 59.8**	**+5.7**
	23nm,1.1s,baz=84,slow=15,SNR=7.3						
MSVF	**Nonsavu**	**3.62**	**275**	P	**P**	**09 52 48.5**	**+1.4**
FUTU	**Fugatoga**	**3.73**	**1**	P	**P**	**09 52 45.5**	**-2.3**
AFI	**Afiamalu**	**7.40**	**57**	P	**P**	09 53 13.2	-5.1
LUES	**Luesalemba Tem**	**17.08**	**293**	P	**P**	**09 54 54.3**	**+1.7**

WRAB			IAmb	IAmb	09 58 47.4	
	comp=Z,4.6nm,0.6s					
WRA	**Warramunga Arr**	**44.84 260**	P	**P**	**09 58 47.0**	**-0.9**
WRA	**Warramunga Arr**	**44.84 260**	P	**P**	**09 58 46.8**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=95,slow=7.8,SNR=10.0					
WRA			S	**S**	**10 04 40.6**	**-3.0**
	comp=Z,0.4nm,0.8s,baz=93,slow=13,SNR=2.1					
	comp=Z,2.5nm,0.3s					
AS31	**Alice Springs**	**44.98 254**	P	**P**	**09 58 48.6**	**-0.3**
AS31			IAmb	IAmb	09 58 49.5	
	comp=Z,4.5nm,0.5s					
ASAR	**Alice Springs**	**44.98 254**	P	**P**	**09 58 48.7**	**-0.2**
ASAR	**Alice Springs**	**44.98 254**	P	**P**	**09 58 48.5**	**-0.5**
	comp=Z,14nm,0.6s,baz=86,slow=8.8,SNR=336					
ASAR			PcP	**PcP**	**10 00 15.9**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=104,slow=3.8,SNR=7.3					
ASAR			S	**S**	**10 04 44.6**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=90,slow=16,SNR=17					
	comp=Z,14nm,0.6s					
FORT	**Forrest**	**50.16 245**	P	**P**	**09 59 26.4**	**-1.0**
KNRA	**Kununurra**	**50.71 264**	P	**P**	**09 59 30.8**	**-0.8**
KNRA			IAmb	IAmb	09 59 58.1	
	comp=Z,9.8nm,1.2s					
FITZ	**Fitzroy Crossi**	**53.23 261**	P	**P**	**09 59 49.0**	**-0.7**
MBWA	**Marble Bar**	**58.27 256**	P	**P**	**10 00 23.1**	**-1.3**
SBA	**Scott Base**	**60.29 184**	P	**P**	**10 00 37.5**	**+0.7**
VNDA	**Vanda**	**60.32 185**	P	**P**	**10 00 37.5**	**+0.4**
VNDA	**Vanda**	**60.32 185**	P	**P**	**10 00 36.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=1.2,slow=6.1,SNR=8.3					
	comp=Z,0.9nm,0.7s					
CASY	**Casey**	**66.10 205**	P	**P**	**10 01 14.0**	**-0.2**
CASY			IAmb	IAmb	10 01 29.0	
	comp=Z,17nm,1.4s					
UGM	**Wanagama**	**69.88 268**	P	**P**	**10 01 37.0**	**-1.0**
QSPA	**South Pole Qui**	**72.00 180**	P	**P**	**10 01 49.2**	**-0.4**
QSPA			IAmb	IAmb	10 01 49.6	
	comp=Z,4.1nm,0.7s					
QSPA	**South Pole Qui**	**72.00 180**	P	**P**	**10 01 48.5**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=14,slow=4.2,SNR=44					
	comp=Z,2.8nm,0.5s					
TROLL	**Troll, Antarti**	**90.16 180**	⇑P	**P**	**10 03 20.6**	**-2.2**
	comp=Z,91nm,0.6s					
SNAA	**Sanae**	**90.44 179**	⇑P	**P**	**10 03 22.1**	**-1.9**
	comp=Z,20nm,0.7s					
VNA3	**Neumayer Olymp**	**90.58 176**	⇑P	**P**	**10 03 23.1**	**-1.5**
	comp=Z,3.5nm,0.6s					
VNA2	**Neumayer--Watz**	**91.02 177**	⇑P	**P**	**10 03 25.5**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=185,slow=4.7					
VNA1	**Neumayer--Stat**	**91.25 177**	⇑P	**P**	**10 03 30.1**	**+2.5**
	comp=Z,5.5nm,0.7s					

IDC 27 09:52:52.0±5.3, 13°.70S×167°.19E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=142.1km s-min=51.8km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.61**	**228**	P	P	09 58 59.1	+0.1
	1.9nm,0.5s,baz=65,slow=8.1,SNR=3.3						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**32.01**	**254**	P	P	09 59 20.6	+0.2
	1.2nm,0.5s,baz=86,slow=9.5,SNR=8.3						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**32.98**	**248**	P	P	09 59 28.6	-0.3
	1.5nm,0.4s,baz=76,slow=9.6,SNR=7.5						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**96.41**	**316**	P	P	10 06 22.8	-0.3
	0.3nm,0.6s,baz=108,slow=4.2,SNR=4.4						
	0.3nm,0.6s						

IDC 27 09:58:18.4±2.8, 64°.73N×32°.93E, h0km, mbtmp3.3/4, ML2.3/4, Error ellipse: s-maj=36.9km s-min=9.6km az=105.0
HEL 27 09:58:24.9±0.2, 64°.79N×30°.66E, h0km, ML2.0, Suspected explosion
KOLA 27 09:58:25.2, 64°.75N×30°.80E, h0km, ML2.1, Kostomuksha, Karelia

ISC 27 09:58:24.5±0.8, 64°.82N±0°.02×30°.73E±0°.04, h0km, n45, σ1s48/76, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.70**	**210**	PG	**Pg**	**09 58 37.0**	**-0.9**
RMF				SG	**Sg**	**09 58 45.6**	**-1.2**
RMF				MSG		09 58 45.7	
	comp=Z,24nm,0.2s						
KU1	**Kurvinen**	**0.90**	**327**	PG	**Pg**	**09 58 41.3**	**-0.3**
KU6	**Riekki**	**1.26**	**344**	PG	**Pg**	**09 58 47.8**	**-0.8**
	baz=166						
KU6				MSG		09 59 03.8	
	comp=Z,10.0nm,0.2s						
KU6				SB	**Sb**	**09 59 05.7**	**-0.1**
MSF	**Maaselka**	**1.30**	**328**	PG	**Pg**	**09 58 48.7**	**-0.8**
MSF				SG	**Sg**	**09 59 05.8**	**-0.6**
KU2	**Taivalkoski**	**1.38**	**311**	PG	**Pg**	**09 58 49.8**	**-1.1**
OLKF	**Oulanka, Finla**	**1.60**	**340**	PG	**Pn**	**09 58 53.9**	**-0.2**
OLKF				MSG		09 59 13.6	
	comp=Z,9.7nm,0.2s						
OLKF				SN	**Sg**	**09 59 16.0**	**0.0**
NIF	**Nilsia**	**1.93**	**223**	PG	**Pn**	**09 58 58.6**	**+0.1**
NIF				SG	**Sn**	**09 59 23.6**	**+0.2**
JOF	**Joensuu**	**1.93**	**172**	*e*P	**Pn**	**09 58 58.1**	**-0.4**
JOF	**Joensuu**	**1.93**	**172**	PB	**Pn**	**09 58 57.6**	**-0.9**
	baz=353						
JOF				SG	**Sn**	**09 59 24.2**	**+0.8**
RANF	**Ranua**	**2.04**	**308**	PG	**Pn**	**09 59 00.8**	**+0.8**
RANF				SG	**Sn**	**09 59 26.8**	**+0.7**
OUL	**Oulu**	**2.07**	**280**	PG	**Pn**	**09 59 01.4**	**+0.9**
	baz=95						
OUL				SG	**Sn**	**09 59 27.7**	**+0.7**
KVDA	**Kovda**	**2.08**	**24**	P	**Pn**	**09 59 01.0**	**+0.5**
KVDA				S	**Sb**	**09 59 29.4**	**0.0**
OBF4	**Vikkela, Lumij**	**2.41**	**272**	PG	**Pn**	**09 59 05.9**	**+0.8**
	baz=89						
OBF4				MSG		09 59 35.1	
	comp=Z,14nm,0.2s						
OBF4				SG	**Sb**	**09 59 38.2**	**-0.6**
OUF	**Merijarvi**	**2.63**	**263**	PB	**Pn**	**09 59 09.6**	**+1.5**
OUF				MSG		09 59 41.3	
	comp=Z,13nm,0.2s						
OUF				SG	**Sb**	**09 59 43.6**	**-1.5**
RNF	**Rovaniemi**	**2.65**	**315**	PB	**Pn**	**09 59 09.1**	**+0.6**
	baz=128						
RNF				SG	**Sb**	**09 59 45.2**	**-0.6**
OBF0	**Syolatti, Pyha**	**2.81**	**266**	PB	**Pn**	**09 59 11.3**	**+0.6**
OBF0				MSG		09 59 46.8	
	comp=Z,6.6nm,0.2s						
OBF0				SG	**Sb**	**09 59 49.2**	**-1.3**
SUF	**Sumiainen**	**2.93**	**226**	PB	**Pn**	**09 59 13.8**	**+1.5**
SUF				MSG		09 59 49.9	
	comp=Z,4.5nm,0.2s						
SUF				SG	**Sb**	**09 59 53.0**	**-0.9**
APA0	**Apatity Array**	**2.94**	**17**	P	**Pn**	**09 59 13.6**	**+1.1**
APA0				S	**Sn**	**09 59 49.3**	**+0.8**
TOF	**Tornio**	**2.96**	**298**	PB	**Pn**	**09 59 13.9**	**+1.2**
TOF				MSG		09 59 51.4	
	comp=Z,4.0nm,0.2s						
TOF				SB	**Sb**	**09 59 52.7**	**-2.0**
VRF	**Varrio**	**2.97**	**352**	PN	**Pn**	**09 59 13.9**	**+1.0**
VRF				MSG		09 59 53.3	
	comp=Z,3.3nm,0.2s						
VRF				SG	**Sb**	**09 59 56.2**	**+1.0**
KALU	**Kalix**	**3.26**	**292**	PB	**Pn**	**09 59 17.9**	**+1.0**
KALU				SG	**Sb**	**10 00 03.6**	**+0.2**
KAF	**Kangasniemi**	**3.37**	**218**	PB	**Pn**	**09 59 20.0**	**+1.7**
KAF				SG	**Sb**	**10 00 04.2**	**-2.3**
LVZ	**Lovozero**	**3.47**	**25**	PN	**Pn**	**09 59 20.9**	**+1.1**
LVZ				SG	**Sg**	**10 00 14.8**	**-1.0**
RUF	**Ruokolahti**	**3.50**	**194**	PN	**Pn**	**09 59 20.6**	**+0.4**
KLF	**Kolari**	**3.67**	**314**	PN	**Pn**	**09 59 22.9**	**+0.4**
KEF	**Keuruu**	**3.74**	**227**	*e*P	**Pn**	**09 59 25.2**	**+1.8**
KEF	**Keuruu**	**3.74**	**227**	PG	**Pb**	**09 59 30.8**	**-0.6**
KEF				SG	**Sb**	**10 00 20.4**	**+3.2**
RAJF	**Raja-Jooseppi**	**3.79**	**346**	PN	**Pn**	**09 59 24.8**	**+0.6**
PAJU	**Pajala**	**3.82**	**309**	PN	**Pn**	**09 59 25.1**	**+0.5**
PAJU				SG	**Sb**	**10 00 22.0**	**+2.4**
VAF	**Ylistaro**	**3.98**	**247**	*e*P	**Pn**	**09 59 27.8**	**+1.1**
VAF	**Ylistaro**	**3.98**	**247**	PN	**Pn**	**09 59 27.8**	**+1.1**
VAF				SG	**Sb**	**10 00 27.9**	**+3.9**
FIA0	**FINESS Array S**	**3.99**	**214**	PN	**Pn**	**09 59 27.0**	**+0.1**
FIA0				SG	**Sb**	**10 00 27.2**	**+2.7**
FINES	**FINESS Array B**	**3.99**	**214**	Pn	**Pn**	**09 59 26.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=11						
FINES				Pg	**Pb**	**09 59 36.4**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=44,slow=8.1,SNR=16						
FINES				Sn	**Sb**	**10 00 21.9**	**-2.6**
	comp=Z,1.8nm,0.3s,baz=38,slow=25,SNR=6.0						
FINES				Lg	Lg	10 00 42.8	
	comp=Z,0.3nm,0.3s,baz=41,slow=28,SNR=12						
	comp=Z,0.5nm,0.3s						
BURU	**Burvik**	**4.02**	**271**	PN	**Pn**	**09 59 27.1**	**-0.1**
VJF	**Virojoki**	**4.54**	**200**	SG	**Sb**	**10 00 43.8**	**+3.7**
HEF	**Hetta**	**4.57**	**325**	PN	**Pn**	**09 59 36.5**	**+1.6**
HEF				SG	**Sb**	**10 00 45.2**	**+4.2**
LANU	**Lannavaara**	**4.77**	**317**	PN	**Pn**	**09 59 37.5**	**-0.1**
LANU				SG	**Sb**	**10 00 51.5**	**+4.7**
ARCES	**ARCESS Array B**	**5.15**	**339**	Pn	**Pn**	**09 59 42.4**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=141,slow=8.2,SNR=95						
ARCES				Sn	**Sn**	**10 00 41.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=141,slow=22,SNR=2.0						
ARCES				Lg	Lg	10 01 04.7	
	comp=Z,0.6nm,0.3s,baz=151,slow=30,SNR=12						
	comp=Z,1.2nm,0.2s						
ARCES	**ARCESS Array B**	**5.15**	**339**	P	**Pn**	**09 59 42.9**	**+0.1**
ARCES				S	**Sn**	**10 00 41.4**	**-1.5**
VADS	**Vadso**	**5.35**	**355**	P	**Pn**	**09 59 45.2**	**-0.3**
VADS				S	**Sn**	**10 00 46.2**	**-1.5**
MEF	**Metsahovi**	**5.47**	**215**	*e*P	**Pn**	**09 59 47.5**	**+0.3**
RAF	**Rauma**	**5.59**	**231**	*e*P	**Pn**	**09 59 48.9**	**+0.1**
FAUS	**Fauske**	**6.77**	**299**	S	**Sn**	**10 01 21.2**	**-1.5**
HFS	**Hagfors**	**9.16**	**247**	Pn	**Pn**	**10 00 37.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=54,slow=7.3,SNR=1.9						
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**9.65**	**256**	Pn	**Pn**	**10 00 44.3**	**-0.2**
	baz=56,slow=19,SNR=4.2						
	comp=Z,1.4nm,1.1s						

KOLA 27 10:01:06.3, 64°.74N×30°.70E, h0km, ML2.2, Error ellipse: s-maj=22.3km s-min=16.8km az=10.0, Kostomuksha, Karelia
HEL 27 10:01:07.1±0.1, 64°.80N×30°.58E, h0km, ML1.9, Suspected explosion
IDC 27 10:01:08.7±2.3, 64°.82N×30°.28E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=35.4km s-min=8.2km az=98.0

ISC 27 10:01:05.5±0.8, 64°.76N±0°.02×30°.41E±0°.04, h0km, n38, σ1s36/59, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.58**	**201**	PG	**Pb**	**10 01 18.4**	**0.0**
RMF				SG	**Sb**	**10 01 26.8**	**-0.4**
RMF				MSG		10 01 27.6	
	comp=Z,20nm,0.2s						
KU1	**Kurvinen**	**0.88**	**336**	PG	**Pg**	**10 01 22.7**	**+0.3**
KU1				SB	**Sb**	**10 01 35.6**	**-0.4**
KU6	**Riekki**	**1.29**	**351**	PG	**Pg**	**10 01 29.6**	**-0.6**
	baz=166						
KU6				MSG		10 01 45.5	
	comp=Z,8.1nm,0.2s						
KU6				SB	**Sg**	**10 01 46.8**	**-0.1**
MSF	**Maaselka**	**1.29**	**334**	PG	**Pg**	**10 01 30.2**	**0.0**
	baz=152						
MSF				SB	**Sb**	**10 01 48.0**	**+0.3**
KU2	**Taivalkoski**	**1.32**	**317**	PG	**Pn**	**10 01 31.2**	**0.0**
	baz=128						
KU2				SN	**Sn**	**10 01 51.6**	**+2.1**
OLKF	**Oulanka, Finla**	**1.62**	**346**	PG	**Pn**	**10 01 35.7**	**+0.4**
OLKF				MSG		10 01 55.0	
	comp=Z,8.5nm,0.2s						
OLKF				SN	**Sg**	**10 01 57.8**	**+0.2**
NIF	**Nilsia**	**1.79**	**221**	PG	**Pg**	**10 01 40.3**	**+0.6**
NIF				SG	**Sg**	**10 02 04.7**	**+2.0**
JOF	**Joensuu**	**1.89**	**167**	PG	**Pb**	**10 01 41.6**	**+0.8**
JOF				SG	**Sb**	**10 02 06.3**	**+1.3**
OUL	**Oulu**	**1.95**	**282**	PG	**Pg**	**10 01 43.1**	**+0.4**
	baz=94						
OUL				SG	**Sg**	**10 02 09.2**	**+1.2**
RANF	**Ranua**	**1.97**	**311**	PG	**Pg**	**10 01 42.7**	**-0.5**
RANF				SG	**Sg**	**10 02 08.9**	**+0.2**
KVDA	**Kovda**	**2.19**	**27**	P	**Pn**	**10 01 42.9**	**-0.1**
KVDA				S	**Sn**	**10 02 08.1**	**-2.8**
OBF4	**Vikkela, Lumij**	**2.27**	**274**	PG	**Pg**	**10 01 48.1**	**-0.9**
	baz=91						
OBF4				MSG		10 02 16.3	
	comp=Z,8.7nm,0.2s						
OBF4				SG	**Sg**	**10 02 20.1**	**+1.7**
OUF	**Merijarvi**	**2.48**	**263**	PG	**Pg**	**10 01 51.8**	**-1.2**
OUF				MSG		10 02 22.5	
	comp=Z,10nm,0.2s						
OUF				SG	**Sg**	**10 02 25.8**	**+0.7**
RNF	**Rovaniemi**	**2.60**	**318**	PB	**Pb**	**10 01 52.0**	**-0.9**
	baz=135						
RNF				SG	**Sg**	**10 02 27.0**	**-1.9**
OBF0	**Syolatti, Pyha**	**2.67**	**267**	MSG		10 02 27.9	
	comp=Z,5.4nm,0.2s						
OBF0				SG	**Sg**	**10 02 31.3**	**+0.2**
SUF	**Sumiainen**	**2.79**	**225**	PG	**Pb**	**10 01 57.1**	**+1.0**
SUF				MSG		10 02 31.6	
	comp=Z,4.2nm,0.2s						
SUF				SG	**Sg**	**10 02 34.0**	**-0.9**
TOF	**Tornio**	**2.87**	**300**	MSG		10 02 32.6	
	comp=Z,2.0nm,0.2s						
TOF				SB	**Sg**	**10 02 34.8**	**-2.6**
VRF	**Varrio**	**3.02**	**354**	PN	**Pn**	**10 01 55.9**	**+1.4**
VRF				MSG		10 02 34.9	
	comp=Z,3.0nm,0.2s						
VRF				SG	**Sb**	**10 02 38.8**	**+1.4**
APA0	**Apatity Array**	**3.05**	**19**	P	**Pn**	**10 01 55.5**	**+0.7**
APA0				S	**Sn**	**10 02 32.3**	**+0.4**
KALU	**Kalix**	**3.16**	**294**	SG	**Sg**	**10 02 47.0**	**+0.3**
KAF	**Kangasniemi**	**3.23**	**217**	PB	**Pb**	**10 02 03.7**	**+0.1**
	baz=34						
LVZ	**Lovozero**	**3.59**	**27**	PN	**Pn**	**10 02 03.6**	**+1.3**
KEF	**Keuruu**	**3.60**	**226**	SG	**Sg**	**10 03 00.7**	**-0.2**
KLF	**Kolari**	**3.62**	**316**	PG	**Pg**	**10 02 13.8**	**-1.0**
PAJU	**Pajala**	**3.76**	**310**	SG	**Sg**	**10 03 03.8**	**-2.3**
RAJF	**Raja-Jooseppi**	**3.82**	**348**	PG	**Pb**	**10 02 16.1**	**+2.4**
VAF	**Ylistaro**	**3.83**	**247**	PB	**Pb**	**10 02 13.6**	**-0.1**
FIA0	**FINESS Array S**	**3.87**	**213**	PB	**Pb**	**10 02 14.0**	**-0.4**
FIA0				SG	**Sg**	**10 03 09.5**	**0.0**
FINES	**FINESS Array B**	**3.87**	**213**	Pn	**Pn**	**10 02 08.2**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=1.5						
FINES				Pg	**Pg**	**10 02 17.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=28,slow=15,SNR=5.1						
FINES				Lg	Lg	10 03 09.0	
	comp=Z,1.3nm,0.3s,baz=30,slow=28,SNR=9.0						
	comp=Z,0.4nm,0.3s						
BURU	**Burvik**	**3.88**	**271**	PG	**Pg**	**10 02 19.2**	**-0.7**
VJF	**Virojoki**	**4.44**	**199**	SG	**Sg**	**10 03 24.4**	**-3.4**
HEF	**Hetta**	**4.54**	**327**	SN	**Sn**	**10 03 08.0**	**-0.9**
LANU	**Lannavaara**	**4.72**	**318**	PN	**Pn**	**10 02 20.9**	**+3.1**
TERR	**Teriberka**	**4.83**	**20**	S	**Sn**	**10 03 13.5**	**-2.2**
ARCES	**ARCESS Array B**	**5.16**	**340**	Pn	**Pn**	**10 02 24.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=156,slow=13,SNR=22						
ARCES				Sn	**Sn**	**10 03 21.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=23,SNR=1.7						
ARCES				Lg	Lg	10 03 46.5	
	comp=Z,0.3nm,0.3s,baz=144,slow=33,SNR=6.3						
	comp=Z,1.0nm,0.2s						
ARCES	**ARCESS Array B**	**5.16**	**340**	P	**Pn**	**10 02 24.4**	**+0.5**
ARCES				S	**Sn**	**10 03 22.9**	**-1.1**
VADS	**Vadso**	**5.40**	**356**	S	**Sn**	**10 03 28.1**	**-1.7**
NOA	**NORSAR Array B**	**9.50**	**256**	Pn	**Pn**	**10 03 22.5**	**-0.9**
	baz=58,slow=13,SNR=3.9						
	comp=Z,0.6nm,0.8s						

ISC 27 10:03:10.3±0.9, 49°.85N±0°.06×17°.87E±0°.05, h10km, n7, σ0s58/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.23**	**250**	*e*PG	**Pg**	**10 03 14.5**	**-0.5**
MORC				*e*SG	**Sg**	**10 03 17.8**	**-0.4**
VRAC	**Vranov**	**1.00**	**237**	*e*PG	**Pg**	**10 03 29.2**	**-0.3**
JAVC	**Velka Javorina**	**1.00**	**188**	*e*PG	**Pn**	**10 03 30.8**	**+0.3**
KRUC	**Moravsky**	**1.25**	**231**	*e*PG	**Pn**	**10 03 33.8**	**0.0**
LANS	**Liptovska Anna**	**1.26**	**124**	*e*PG	**Pn**	**10 03 34.2**	**+0.2**
LANS				*e*SG	**Sn**	**10 03 51.6**	**+0.7**
OJC	**Ojcow**	**1.29**	**73**	*e*Pg	**Pn**	**10 03 33.8**	**-0.7**
OJC				*e*Sg	**Sb**	**10 03 51.4**	**0.0**
KSP	**Ksiaz**	**1.42**	**315**	*e*Pg	**Pb**	**10 03 36.8**	**0.0**
KSP				*e*Sg	**Sg**	**10 03 56.9**	**+1.1**

ISK 27 10:17:43.9, 37°.45N×29°.44E, h4km, ML3.3/63
IDC 27 10:17:43.4±1.5, 37°.39N×29°.53E, h0km, mb3.4/3, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=133.8km s-min=20.0km az=143.0
AFAD 27 10:17:44.0, 37°.45N×29°.44E, h7km±3km, ML3.2

ISC 27 10:17:44.5±0.9, 37°.46N±0°.02×29°.45E±0°.02, h8km±6km, n80, σ1s01/100, mb3.2/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.12**	**278**	Pg	**Pg**	**10 17 47.1**	**-0.1**
APMY				Sg	**Sg**	**10 17 49.3**	**+0.2**
GOLH	**Golhisar**	**0.24**	**158**	P	**Pg**	**10 17 49.0**	**-0.2**
GOLH				S	**Sg**	**10 17 53.4**	**+0.9**
GOLH				*i* AML	AML	10 17 54.0	
	comp=E,2μm,0.3s						
GOLH				*i* AML	AML	10 17 54.0	
	comp=N,6μm,0.7s						
INCE	**Denizli-Bozkur**	**0.27**	**22**	P	**Pg**	**10 17 49.5**	**-0.5**
INCE				S	**Sg**	**10 17 54.6**	**+0.9**
INCE				*i* AML	AML	10 17 56.0	
	comp=E,5μm,0.4s						
INCE				*i* AML	AML	10 17 56.0	
	comp=N,3μm,0.2s						
CAEL	**Denizli, Camel**	**0.35**	**197**	P	**Pg**	**10 17 50.8**	**-0.6**
CAEL				S	**Sb**	**10 17 57.6**	**-1.1**
CAEL				*i* AML	AML	10 18 02.0	
	comp=N,4μm,0.5s						
CAEL				*i* AML	AML	10 18 05.0	
	comp=E,3μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.37**	**298**	P	**Pg**	**10 17 51.4**	**-0.3**
DNIZ				S	**Sb**	**10 17 57.6**	**-1.6**
DNIZ				*i* AML	AML	10 17 58.0	
	comp=N,7μm,0.3s						
DNZT	**Denizli-Tavas-**	**0.38**	**242**	P	**Pg**	**10 17 51.5**	**-0.5**
DNZT				S	**Sg**	**10 17 57.5**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.42**	**271**	P	**Pg**	**10 17 52.6**	**-0.2**
TAVA				*i* AML	AML	10 17 59.0	
	comp=E,2μm,0.4s						
TAVA				S	**Sb**	**10 17 59.2**	**-1.7**
CAME	**Cameli-Denizli**	**0.53**	**193**	Pg	**Pg**	**10 17 53.7**	**-1.0**
CAME				Sg	**Sb**	**10 18 02.5**	**-1.3**
BRDR	**BURDUR-Merkez**	**0.54**	**64**	P	**Pg**	**10 17 54.1**	**-0.9**
BRDR				S	**Sb**	**10 18 03.4**	**-0.9**
BRDR				*i* AML	AML	10 18 07.0	
	comp=E,2μm,0.3s						
BRDR				*i* AML	AML	10 18 11.0	
	comp=N,2μm,0.9s						
KNIK	**Mula-Seydike**	**0.62**	**171**	P	**Pg**	**10 17 54.9**	**-1.6**
KNIK				S	**Sg**	**10 18 04.9**	**+0.3**
KNIK				*i* AML	AML	10 18 11.0	
	comp=N,769nm,0.6s						
BASM	**Basmaki-Afyon**	**0.67**	**46**	Pg	**Pg**	**10 17 56.3**	**-1.0**
BASM				Sg	**Sb**	**10 18 07.2**	**-0.6**
SABU	**Mula-Dalaman**	**0.74**	**211**	P	**Pg**	**10 17 58.0**	**-0.8**
SABU				S	**Sb**	**10 18 09.8**	**-0.1**
SABU				*i* AML	AML	10 18 14.0	
	comp=E,643nm,0.8s						
ELL	**Elmali**	**0.80**	**152**	Pg	**Pg**	**10 17 59.2**	**-0.6**
KORT	**Korkueli**	**0.85**	**122**	Pg	**Pg**	**10 18 00.6**	**-0.3**
FETY	**Fethiye**	**0.87**	**200**	Pg	**Pb**	**10 18 01.6**	**-0.2**
PASA	**Karahalli, USA**	**0.89**	**2**	P	**Pg**	**10 18 00.2**	**-1.5**
PASA				S	**Sg**	**10 18 13.2**	**-0.1**
PASA				*i* AML	AML	10 18 19.0	
	comp=E,536nm,0.3s						
PASA				*i* AML	AML	10 18 19.0	
	comp=N,713nm,0.4s						
DALY	**Dalyan (Mula)**	**0.90**	**225**	Pg	**Pb**	**10 18 01.8**	**-0.5**
DALY				Sg	**Sb**	**10 18 14.8**	**+0.4**
BCK	**Bucak**	**0.91**	**89**	Pg	**Pb**	**10 18 01.9**	**-0.6**
MULA	**Mugla, Merkez-**	**0.92**	**258**	P	**Pg**	**10 18 01.9**	**-0.3**
MULA				S	**Sn**	**10 18 17.2**	**0.0**
MULA				*i* AML	AML	10 18 19.0	
	comp=E,392nm,0.3s						
MULA				*i* AML	AML	10 18 20.0	
	comp=N,372nm,0.6s						
ISP	**Isparta**	**0.93**	**66**	Pg	**Pg**	**10 18 01.7**	**-0.6**
ISP				Sg	**Sb**	**10 18 16.1**	**+0.7**
ESEN	**Aydn-Nazilli**	**0.94**	**292**	P	**Pg**	**10 18 01.8**	**-0.7**
ESEN				S	**Sg**	**10 18 13.6**	**-1.1**
ESEN				*i* AML	AML	10 18 19.0	
	comp=E,549nm,0.3s						
ESEN				*i* AML	AML	10 18 19.0	
	comp=N,698nm,0.4s						
YER	**Yerkesik**	**0.98**	**251**	Pg	**Pg**	**10 18 02.8**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.05**	**299**	Pg	**Pg**	**10 18 04.0**	**-0.6**
KIRA	**zmir-Kiraz**	**1.11**	**312**	P	**Pg**	**10 18 05.0**	**-0.8**
KIRA				S	**Sn**	**10 18 21.4**	**-0.5**
KIRA				*i* AML	AML	10 18 24.0	
	comp=E,347nm,0.4s						
ANTB	**Antalya**	**1.11**	**120**	Pn	**Pn**	**10 18 06.1**	**-0.2**
TURN	**Turunc**	**1.18**	**235**	Pn	**Pb**	**10 18 06.8**	**-0.2**
KULA	**Kula-Manisa**	**1.23**	**330**	Pn	**Pg**	**10 18 07.4**	**-0.6**
AKAS	**Kas**	**1.23**	**174**	Pn	**Pn**	**10 18 08.1**	**0.0**
AYDN	**Tasoluk**	**1.26**	**280**	P	**Pg**	**10 18 07.8**	**-0.9**
AYDN				S	**Sn**	**10 18 26.3**	**+0.6**
DEMR	**Demre-Antalya**	**1.27**	**163**	Pn	**Pn**	**10 18 09.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**292**	Pn	**Pb**

s-min=27.8km az=150.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.98**	**274**	Pn	Pn	10 28 01.5	-0.1
	6.8nm,0.4s,baz=98,slow=4.4,SNR=6.1						
PMG				Sn	Sb	10 28 41.1	-2.9
	4.8nm,0.3s,baz=140,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**18.41**	**234**	P	Pn	10 31 29.3	-0.5
	baz=56,slow=11,SNR=2.2						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**20.89**	**226**	P	P	10 31 56.4	-0.7
	0.4nm,0.5s,baz=60,slow=10,SNR=11						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**87.59**	**22**	P	P	10 40 03.1	+0.3
	0.4nm,0.7s,baz=240,slow=4.5,SNR=6.8						
	0.4nm,0.7s						

*KOLA **27** 10:32:28.0, 78°.34N×8°.37E, h0km, ML2.9, Error ellipse: s-maj=14.3km s-min=10.0km az=90.0, Greenland sea, Knipovich ridge, middle*
*BER **27** 10:32:29.1±3.6, 78°.46N×7°.74E, h15km±21km, mb(Pn)3.7, ML1.5(DNK), Confirmed Earthquake*
*FCIAR **27** 10:32:31.0, 78°.70N×7°.82E, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.60*

ISC 27 10:32:25.2±0.9, 78°.49N±0°.05×7°.65E±0°.05, h10km, n24, σ1§89/44, 4C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.95**	**61**	*i* P	**Pn**	**10 32 46.3**	**+1.7**
KBS				*i* S	**Sb**	**10 32 57.4**	**+1.0**
KBS	**Kingsbay**	**0.95**	**61**	P	**Pn**	**10 32 46.5**	**+2.0**
KBS				S	**Sn**	**10 32 58.4**	**+0.3**
KBS	**Kingsbay**	**0.95**	**61**	*i* P	**Pn**	**10 32 46.3**	**+1.7**
KBS				*i* S	**Sb**	**10 32 57.4**	**+1.0**
BRBB	**Barentsburg B**	**1.40**	**103**	⇑*i* P	**Pb**	**10 32 52.0**	**+0.7**
BRBB				*i*		10 32 53.7	
BRBB				*e* S	**Sb**	**10 33 08.0**	**-1.1**
BRBB	**Barentsburg B**	**1.40**	**103**	P	**Pb**	**10 32 51.8**	**+0.5**
BRBB				S	**Sb**	**10 33 08.7**	**-0.5**
BRBA	**Barentsburg A**	**1.41**	**105**	*e* P	**Pb**	**10 32 52.2**	**+0.6**
BRBA				*e* S	**Sn**	**10 33 08.6**	**-0.8**
BRBA				IAML		10 33 12.4	
	comp=Z,159nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.80**	**96**	⇑*i* P	**Pb**	**10 32 59.0**	**+0.8**
SPA0				*e* S	**Sn**	**10 33 20.1**	**+1.0**
SPA0				IAML		10 33 22.9	
	comp=Z,83nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.80**	**96**	*e* P	**Pb**	**10 32 58.7**	**+0.5**
SPA0				*e* S	**Sb**	**10 33 21.2**	**+0.4**
SPITS	**Spitsbergen Ar**	**1.80**	**96**	P	**Pb**	**10 32 58.5**	**+0.4**
SPITS				S	**Sn**	**10 33 20.0**	**+1.0**
HSPB	**Hornsund (broa**	**2.25**	**128**	⇑*i* P	**Pn**	**10 33 02.7**	**+0.3**
HSPB				*e* S	**Sn**	**10 33 27.9**	**-2.2**
HSPB				IAML		10 33 32.5	
	comp=Z,22nm,0.5s						
HSPB	**Hornsund (broa**	**2.25**	**128**	P	**Pn**	**10 33 02.6**	**+0.3**
HSPB				S	**Sn**	**10 33 29.0**	**-1.1**
HOPEN	**Hopen**	**4.25**	**109**	⇑*i* P	**Pn**	**10 33 31.0**	**+1.2**
HOPEN				*e* S	**Sn**	**10 34 17.8**	**-1.7**
HOPEN				IAML		10 34 21.2	
	comp=Z,22nm,0.4s						
HOPEN	**Hopen**	**4.25**	**109**	*e* P	**Pn**	**10 33 29.1**	**-0.7**
HOPEN				*e* S	**Sn**	**10 34 17.6**	**-1.8**
BJO1	**Bjornoya**	**4.80**	**141**	*e* P	**Pn**	**10 33 39.8**	**+2.4**
BJO1				IAML		10 34 28.8	
	comp=Z,15nm,0.7s						
BJO1				*e* S	**Sn**	**10 34 31.9**	**-1.0**
NOR	**Nord**	**5.20**	**318**	*e*	**Pn**	**10 33 42.4**	**-0.4**
	baz=90,slow=22						
NOR				*i* P	**Pn**	**10 33 45.0**	**+2.2**
NOR				*i* S	**Sn**	**10 34 40.3**	**-2.4**
NOR				IAML		10 34 49.8	
	comp=Z,1.4nm,0.3s						
NOR	**Nord**	**5.20**	**318**	*e*	**Pn**	**10 33 42.4**	**-0.4**
	baz=90,slow=22						
NOR				*i* P	**Pn**	**10 33 45.0**	**+2.2**
NOR				*i* S	**Sn**	**10 34 40.3**	**-2.4**
NOR				IAML		10 34 49.8	
	comp=Z,1.4nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.42**	**53**	*e* P	**Pn**	**10 34 15.2**	**+1.9**
ZFI2				*e* S	**Sn**	**10 35 33.6**	**-3.8**
	comp=Z,18nm,2.8s						
OMEGA	**Omega**	**7.44**	**53**	*e* P	**Pn**	**10 34 15.2**	**+1.7**
OMEGA				*e* S	**Sn**	**10 35 33.6**	**-4.1**
	comp=Z,19nm,1.6s						
DBG	**Daneborg**	**7.71**	**252**	*e*	**Pn**	**10 34 21.6**	**+4.4**
DBG				*e*		10 35 35.3	
DBG				IAML		10 35 43.1	
	comp=Z,1.4nm,0.4s						
DBG	**Daneborg**	**7.71**	**252**	*e*	**Pn**	**10 34 21.6**	**+4.4**
DBG				*e*		10 35 35.3	
DBG				IAML		10 35 43.1	
	comp=Z,1.4nm,0.4s						
NEEM	**North Greenlan**	**11.84**	**294**	*i* P	**Pn**	**10 35 11.9**	**-2.1**
NEEM				*i* S	Sn	10 37 14.1	-12
NEEM				IAML		10 37 25.9	
	comp=Z,1.5nm,0.5s						
NEEM	**North Greenlan**	**11.84**	**294**	*i* P	**Pn**	**10 35 11.9**	**-2.1**
NEEM				*i* S	Sn	10 37 14.1	-12
NEEM				IAML		10 37 25.9	
	comp=Z,1.5nm,0.5s						
SUMG	**Summit**	**12.56**	**267**	*i* P	**Pn**	**10 35 23.6**	**-0.3**
SUMG	**Summit**	**12.56**	**267**	*i* P	**Pn**	**10 35 23.6**	**-0.3**

*NCEDC **27** 10:36:45.2±1.9, 41°.28N±0°.05×126°.1W±0°.1, h9km±8km, Error ellipse: s-maj=12.1km s-min=7.0km az=82.0*

NEIC 27 10:36:43.4±1.8, 41°.31N±0°.05×126°.13W±0°.09, h10km±2km, ML3.0/68, ML3.2/10(NCEDC), Error ellipse: s-maj=12.2km s-min=7.7km az=257.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**1.60**	**95**		Pn	10 37 11.5	-0.2
KRPM				IAML		10 37 34.7	
	comp=N,129nm,1.1s						
KCTM	**Capetown**	**1.60**	**121**		Pn	10 37 11.4	-0.3
KCTM					Sn	10 37 31.6	-0.9
SIGP	**Signal Peak, C**	**1.65**	**69**		Pn	10 37 12.3	-0.1
JCC	**Jacoby Creek,**	**1.67**	**107**		Pn	10 37 11.8	-0.8
JCC	**Jacoby Creek,**	**1.67**	**107**		Pn	10 37 12.0	-0.6
JCC				IAML		10 37 33.6	
	comp=E,154nm,0.6s						
JCC				IAML		10 37 33.8	
	comp=N,134nm,0.4s						
KBO	**Bosley Butte**	**1.68**	**57**		Pn	10 37 12.7	-0.2
KBO				IAML		10 37 34.5	
	comp=N,210nm,0.5s						
PETL	**Petrolia**	**1.70**	**126**		Pn	10 37 12.1	-0.9
KMPM	**Mount Pierce**	**1.77**	**120**		Pn	10 37 13.6	-0.5
KHMM	**Horse Mountain**	**1.87**	**103**		Pn	10 37 15.4	-0.1
KHMM				IAML		10 37 40.4	
	comp=N,94nm,0.3s						
KCRM	**Chalk Rock**	**1.96**	**116**		Pn	10 37 16.4	-0.4
KOMM	**Orleans Mounta**	**2.02**	**90**		Pn	10 37 18.1	+0.5
L02F	**Cave Junction**	**2.08**	**66**		Pn	10 37 18.7	+0.4
L02F				IAML		10 37 45.0	
	comp=E,101nm,0.2s						
L02F				IAML		10 37 48.9	
	comp=N,106nm,0.4s						
BRIC	**Briceland Vine**	**2.08**	**125**		Pn	10 37 18.1	-0.2
KMRM	**Mail Ridge**	**2.14**	**120**		Pn	10 37 19.2	0.0
K02D	**Willamette Mer**	**2.30**	**52**	Pn	Pn	10 37 21.5	+0.1
K02D				IAML		10 37 49.9	
	comp=E,63nm,0.2s						
KHBM	**Hayfork Bally**	**2.30**	**106**		Pn	10 37 21.4	-0.2
KHBM				IAML		10 37 50.9	
	comp=N,63nm,0.5s						
J01E	**Myrtle Point**	**2.46**	**41**	Pn	Pn	10 37 23.0	-0.6
J01E				IAML		10 37 53.0	
	comp=E,116nm,0.3s						
M02C	**Callahan**	**2.47**	**87**		Pn	10 37 24.6	+0.9
KIPM	**Iron Peak**	**2.52**	**126**		Pn	10 37 24.3	-0.1
KCPM	**Cahto Peak**	**2.53**	**129**	Pn	Pn	10 37 24.1	-0.6
YBH	**Yreka Blue Hor**	**2.60**	**80**		Pn	10 37 27.3	+1.7
LAMM	**Antelope Mount**	**2.65**	**82**		Pn	10 37 28.1	+1.7
LBPM	**Beegum Peak**	**2.66**	**111**		Pn	10 37 26.2	-0.1
O02D	**Mt. Diablo Mer**	**2.78**	**113**	Pn	Pn	10 37 28.2	+0.2
DBO	**Dodson Butte**	**2.80**	**49**		Pn	10 37 28.6	+0.3
L04D	**Klamath Falls**	**3.00**	**71**	Pn	Pn	10 37 33.4	+2.3
L04D				IAML		10 38 12.7	
	comp=N,40nm,0.4s						
L04D				IAML		10 38 15.0	
	comp=E,74nm,0.7s						
BBOR	**Butler Butte**	**3.01**	**57**		Pn	10 37 32.8	+1.5
BBOR				IAML		10 38 14.4	
	comp=E,32nm,0.6s						
I03D	**Drain, OR**	**3.15**	**40**	Pn	Pn	10 37 32.7	-0.3
I02E	**Swisshome, OR**	**3.26**	**30**	Pn	Pn	10 37 34.7	+0.1
I02E				IAML		10 38 04.6	
	comp=E,48nm,2.1s						
I02E				IAML		10 38 12.2	
	comp=N,41nm,2.4s						
K04D	**Chiloquin, OR**	**3.52**	**67**		Pn	10 37 40.0	+1.8
BUCK	**Buck Mountain**	**3.70**	**38**	Pn	Pn	10 37 41.0	+0.3
BUCK				IAML		10 38 27.2	
	comp=N,24nm,4.0s						
BUCK				IAML		10 38 52.8	
	comp=E,33nm,4.4s						
I04A	**Tendick Farm,**	**3.70**	**47**		Pn	10 37 41.8	+1.2
I04A				IAML		10 38 26.8	
	comp=E,45nm,0.3s						
I04A				IAML		10 38 26.9	
	comp=N,34nm,0.2s						
COR	**Corvallis**	**3.87**	**31**	Pn	Pn	10 37 44.4	+1.5
COR				IAML		10 38 34.3	
	comp=N,24nm,2.0s						
COR				IAML		10 38 44.7	
	comp=N,26nm,3.5s						
H04D	**Lebanon**	**4.06**	**37**	Pn	Pn	10 37 47.1	+1.5
H04D				IAML		10 38 39.8	
	comp=E,26nm,0.9s						
H04D				IAML		10 40 10.9	
	comp=N,20nm,2.1s						
J05D	**Fort Rock, OR**	**4.13**	**60**	Pn	Pn	10 37 48.3	+1.6
J05D				IAML		10 38 39.5	
	comp=N,13nm,3.9s						
J05D				IAML		10 39 00.8	
	comp=E,18nm,3.9s						
H04A	**Detroit Lake**	**4.44**	**39**		Pn	10 37 52.2	+1.4
H04A				IAML		10 38 45.0	
	comp=N,24nm,0.4s						
PINE	**Pine Mountain**	**4.56**	**55**		Pn	10 37 54.4	+1.8
PINE				IAML		10 38 54.6	
	comp=N,12nm,4.2s						
PINE				IAML		10 39 16.9	
	comp=E,14nm,5.0s						
I05D	**Terrebonne, OR**	**4.64**	**48**	Pn	Pn	10 37 55.2	+1.6
I05D				IAML		10 38 57.0	
	comp=N,20nm,4.4s						
I05D				IAML		10 40 26.9	
	comp=E,20nm,4.4s						
G04A	**Mulino**	**4.72**	**33**	Pn	Pn	10 37 56.8	+2.2
CCOB	**Coe Ranch Numb**	**5.33**	**138**		Pn	10 38 01.5	-1.4
WVOR	**Wild Horse Val**	**5.71**	**76**		Pn	10 38 08.8	+0.6
G08A	**Pilot Rock**	**6.57**	**50**	Pn	Pn	10 38 22.5	+2.4
MXC	**Moxie City**	**6.74**	**37**	Pn	Pn	10 38 25.0	+2.7
BMO	**Blue Mountains**	**7.36**	**58**	Pn	Pn	10 38 32.2	+1.2
B08A	**Colville Reser**	**8.54**	**32**	Pn	Pn	10 38 48.7	+1.7

*IDC **27** 10:48:08.7±1.2, 42°.60N×145°.91E, h0km, mb3.2/4, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=32.4km s-min=26.5km az=42.0*
*SKHL **27** 10:48:09.4±0.2, 43°.70N×146°.80E, h65km±4km, mb4.8/4*
*JMA **27** 10:48:09.6±0.2, 43°.7N±0°.6×14°.7E±°, h62km±2km, MV3.7/38, NEAR KUNASHIRI ISLAND*

ISC 27 10:48:09.1±1.2, 43°.70N±0°.07×146°.76E±0°.06, h60km±9km, n28, σ0§84/32, mb3.1/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.18**	**17**	*i* P	**Pn**	**10 48 19.0**	**+0.6**
SHO				AMB	AMB	10 48 19.3	
	230nm,0.4s						
SHO				AMB	AMB	10 48 19.3	
	780nm,0.4s						
SHO				*i* S	**Sn**	**10 48 26.1**	**+0.9**
SHO				A	A	10 48 26.5	
	4μm,0.4s						
SHO				A	A	10 48 26.5	
	2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.73**	**298**	*i* P	**Pn**	**10 48 22.8**	**-0.9**
YUK				AMB	AMB	10 48 23.1	
	140nm,0.3s						
YUK				AMB	AMB	10 48 23.1	
	450nm,0.3s						
YUK				AMB	AMB	10 48 23.1	
	2μm,0.3s						
YUK				*i* S	**Sn**	**10 48 32.8**	**-1.5**
YUK				A	A	10 48 33.2	
	6μm,0.4s						
YUK				A	A	10 48 33.2	
	6μm,0.4s						
NEM2	**Nemuro 2**	**0.81**	**246**	*i* P	**Pn**	**10 48 24.6**	**0.0**
NEM2				*e* S	**Sn**	**10 48 36.0**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.82**	**247**	*i* P	**Pn**	**10 48 24.6**	**-0.2**
NMR				*i* S	**Sn**	**10 48 35.9**	**-0.4**
JRA	**Rausu**	**1.21**	**282**	*i* P	**Pn**	**10 48 29.6**	**-0.2**
JRA				*e* S	**Sn**	**10 48 44.4**	**-0.9**
JNSB	**Nemuroshibetsu**	**1.27**	**274**	*i* P	**Pn**	**10 48 30.8**	**+0.1**
JNSB				*e* S	**Sn**	**10 48 46.6**	**-0.3**
JKHN	**Kushirohamanak**	**1.32**	**243**	*i* P	**Pn**	**10 48 31.5**	**+0.2**
JKHN				S	**Sn**	**10 48 47.8**	**-0.1**
JNK	**Nakash**	**1.48**	**266**	*i* P	**Pn**	**10 48 33.1**	**-0.4**
AKK	**Akkeshi**	**1.55**	**245**	*e* P	**Pn**	**10 48 34.3**	**-0.2**
AKK				*e* S	**Sn**	**10 48 53.0**	**-0.6**
JAK	**Akkeshi**	**1.66**	**246**	P	**Pn**	**10 48 35.7**	**-0.2**
JAK				*e* S	**Sn**	**10 48 55.2**	**-0.9**
KUR	**Kuril'sk**	**1.73**	**27**	*i* P	**Pn**	**10 48 36.6**	**-0.2**
KUR				AMB	AMB	10 48 36.8	
	210nm,0.4s						
KUR				*i* S	**Sn**	**10 48 57.0**	**-0.8**
KUR				A	A	10 48 59.4	
	650nm,0.3s						
KUR				A	A	10 48 59.4	
	110nm,0.3s						
JTKR	**Abashiri--Toko**	**2.08**	**278**	P	**Pn**	**10 48 41.5**	**0.0**
JAR	**Ashorobuto**	**2.21**	**261**	*i* P	**Pn**	**10 48 43.9**	**+0.5**
JAR				S	**Sn**	**10 49 09.8**	**+0.1**
JOB	**Onbets**	**2.28**	**251**	P	**Pn**	**10 48 44.6**	**+0.4**
JMP	**Maruseppu**	**2.48**	**278**	P	**Pn**	**10 48 47.2**	**+0.2**
JCH	**Churui**	**2.71**	**248**	P	**Pn**	**10 48 50.0**	**-0.2**
JCH				*e* S	**Sn**	**10 49 21.4**	**-0.4**
JKK2	**Kamakawa 2**	**2.91**	**275**	*e* P	**Pn**	**10 48 54.3**	**+1.3**
ASAJ	**Asahikawa**	**3.04**	**279**	Pn	**Pn**	**10 48 55.3**	**+0.6**
	2.3nm,0.3s,baz=80,slow=13,SNR=21						
ASAJ				Sn	**Sn**	**10 49 32.8**	**+3.0**
	1.1nm,0.3s,baz=44,slow=29,SNR=1.8						
	16nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.25**	**138**	T	T	11 24 52.2	
	baz=330,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**29.26**	**138**	T	T	11 24 58.7	
	baz=330,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**29.27**	**138**	T	T	11 24 53.6	
	baz=330,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**30.21**	**140**	T	T	11 26 05.2	
	baz=330,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**30.22**	**140**	T	T	11 26 10.1	
	baz=330,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**30.23**	**140**	T	T	11 26 13.3	
	baz=330,slow=76,SNR=37						
MKAR	**Makanchi Array**	**44.35**	**298**	P	P	10 56 20.2	+7.0
	0.1nm,0.4s,baz=64,slow=6.6,SNR=1.5						
	0.1nm,0.4s						
YKA	**Yellowknife Ar**	**56.00**	**34**	P	P	10 57 56.4	+15
	0.2nm,0.7s,baz=293,slow=7.0,SNR=3.5						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**68.07**	**193**	P	**P**	**10 59 02.3**	**0.0**
	0.5nm,0.7s,baz=9.3,slow=6.6,SNR=10.0						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**82.91**	**56**	P	P	11 00 42.8	+15
	0.1nm,0.5s,baz=304,slow=5.1,SNR=1.5						
	0.1nm,0.5s						

*IDC **27** 10:53:38.9±0.9, 27°.25N×91°.13E, h0km, mb3.7/11, mbtmp3.7/12, ML3.7/1, MS3.7/2, Error ellipse: s-maj=36.7km s-min=16.9km az=52.0*
*DMN **27** 10:53:40.8±0.0, 28°.96N×91°.65E, h10km, Ml4.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 27 10:53:41.6±0.7, 27°.5N±0°.1×91°.44E±0°.06, h10km, n22, σ1§84/24, mb3.9/10, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**3.65**	**262**	Pn	**Pb**	**10 54 46.4**	**0.0**
	baz=242,slow=0.0						
ODAN				Sn	**Sb**	**10 55 34.1**	**+3.2**
	1μm,0.4s,baz=242,slow=0.0						
RAMN	**Ramite**	**4.34**	**264**	Pn	**Pn**	**10 54 49.3**	**+1.5**
	baz=247,slow=0.0						
GUN	**Gumba**	**4.95**	**277**	Pn	**Pn**	**10 54 58.6**	**+2.3**
	baz=260,slow=0.0						
PKI	**Pulchoki**	**5.35**	**273**	Pn	**Pn**	**10 55 02.9**	**+1.0**
	baz=257,slow=0.0						
PKI				Sn	**Sn**	**10 56 04.6**	**+0.8**
	41nm,0.3s,baz=257,slow=0.0						
PKIN	**Phulchoki**	**5.37**	**273**	Pn	**Pn**	**10 55 03.9**	**+1.9**
	baz=257,slow=0.0						
PKIN				Sn	**Sn**	**10 56 04.2**	**+0.2**
	51nm,0.3s,baz=257,slow=0.0						
KKN	**Kakani**	**5.47**	**275**	Pn	**Pn**	**10 55 05.2**	**+1.8**
	baz=260,slow=0.0						
KOLN	**Koldanda**	**6.96**	**274**	Pn	**Pn**	**10 55 23.7**	**-0.1**
	baz=262,slow=0.0						
KOLN				Sn	**Sn**	**10 56 39.8**	**-3.4**
	58nm,0.4s,baz=262,slow=0.0						
PYUN	**Piuthan**	**7.51**	**277**	Pn	**Pn**	**10 55 30.7**	**-0.7**
	baz=266,slow=0.0						
PYUN				Sn	**Sn**	**10 56 52.4**	**-4.4**
	50nm,0.4s,baz=266,slow=0.0						
CMAR	**Chiang Mai Arr**	**11.31**	**141**	Pn	**Pn**	**10 56 22.7**	**-0.7**
	0.2nm,0.3s,baz=313,slow=13,SNR=5.4						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**20.60**	**342**	P	**P**	**10 58 20.0**	**-0.9**
	0.8nm,0.6s,baz=146,slow=14,SNR=9.8						
	0.8nm,0.6s						
SONM	**Songino Array**	**23.46**	**26**	P	**P**	**10 58 52.4**	**+1.1**
	0.3nm,0.6s,baz=218,slow=9.1,SNR=2.0						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**26.91**	**351**	P	**P**	**10 59 23.7**	**+1.0**
	0.7nm,0.4s,baz=188,slow=7.3,SNR=2.0						
	0.7nm,0.4s						
KSRS	**Korea Array**	**32.19**	**63**	P	**P**	**11 00 12.1**	**+2.4**
	1.6nm,0.7s,baz=259,slow=8.2,SNR=2.8						
	1.6nm,0.7s						
NRIK	**Noril'sk**	**41.97**	**358**	LR	LR	11 20 32.8	
	comp=Z,43nm,20.0s,baz=349,slow=38						
AKASG	**Malin Array Be**	**51.87**	**314**	P	P	11 02 48.0	-2.0
	0.5nm,0.4s,baz=87,slow=6.2,SNR=1.8						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**54.53**	**328**	P	**P**	**11 03 08.2**	**-1.2**
	1.2nm,0.7s,baz=103,slow=8.0,SNR=2.0						
	1.2nm,0.7s						
ARCES	**ARCESS Array B**	**56.16**	**337**	P	**P**	**11 03 20.5**	**-0.6**
	3.5nm,1.1s,baz=106,slow=6.9,SNR=1.2						
	3.5nm,1.1s						
IDI	**Anoyia**	**56.42**	**296**	LR	LR	11 32 11.2	
	comp=Z,161nm,20.2s,baz=49,slow=41						
HFS	**Hagfors**	**60.56**	**326**	P	**P**	**11 03 51.1**	**-0.9**
	1.4nm,0.6s,baz=106,slow=4.7,SNR=5.3						
	1.4nm,0.6s						
GERES	**GERESS Array B**	**62.03**	**313**	P	**P**	**11 04 01.6**	**-0.7**
	1.0nm,0.5s,baz=78,slow=7.0,SNR=6.9						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**62.82**	**134**	P	**P**	**11 04 06.8**	**-0.9**
	0.3nm,0.8s,baz=326,slow=6.7,SNR=5.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**65.30**	**137**	P	**P**	**11 04 22.7**	**-1.2**
	0.2nm,0.6s,baz=314,slow=6.7,SNR=6.0						
	0.2nm,0.6s						

*NEIC **27** 10:56:05.3±1.4, 66°.32N±0°.01×157°.19W±0°.04, h3km±6km, Error ellipse: s-maj=2.5km s-min=2.0km az=77.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.89; $M_{\theta\theta}$1.20; $M_{\phi\phi}$-0.30; $M_{r\theta}$-0.79; $M_{\theta\phi}$-1.18; $M_{\phi r}$-0.69; Fault plane solution: $M_0$1.91000×10^{14} NP1: ϕ_s83.00000°, δ66.83000°, λ-139.44000°. NP2: ϕ_s334.38000°, δ53.29000°, λ-29.40000°. Principal axes: T 1.8976, Plg8.0000°, Azm206.0000°; N 0.0297, Plg44.0000°, Azm108.0000°; P -1.9273, Plg45.0000°, Azm304.0000°;*
*NEIC **27** 10:56:07.7, 66°.33N×157°.01W, h15km*

AEIC 27 10:56:05.1±1.7, 66°.321N±0°.008×157°.24W±0°.05, h5km±4km, ML3.5, ML3.6/136(NEIC), Mwr3.5/39(NEIC), Error ellipse: s-maj=3.0km s-min=1.2km az=90.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.19**	**160**		Pg	10 56 09.4	+0.6
G19K					Sg	10 56 12.2	+0.9
F19K	**Shaleruckik Mo**	**0.56**	**338**		Pg	10 56 15.7	-0.1
F19K					Sg	10 56 23.7	+0.6
G18K	**Tagagawik**	**0.72**	**234**		Pg	10 56 19.0	+0.2
H19K	**Roundabout Mou**	**0.86**	**157**	Pg	Pg	10 56 21.7	+0.1
H19K					Sg	10 56 33.0	+0.2
H19K				IAML		10 56 38.0	
	comp=N,3μm,0.3s						
F20K	**Avaraart Lake**	**0.95**	**39**		Pg	10 56 22.7	-0.6
F20K					Sg	10 56 35.5	-0.1
F20K				IAML		10 56 39.5	
	comp=N,2μm,0.4s						
F18K	**Selawik**	**1.01**	**287**		Pg	10 56 24.3	-0.1
F18K					Sb	10 56 38.5	0.0
E19K	**Redstone River**	**1.14**	**0**		Pg	10 56 26.4	-0.6
E19K					Sg	10 56 41.3	-0.5
E19K				IAML		10 56 44.9	
	comp=E,1μm,0.6s						
E19K				IAML		10 56 45.0	
	comp=N,1μm,0.6s						
H18K	**Honhosa River**	**1.26**	**202**		Pg	10 56 28.5	-0.8
H20K	**Anotleneega Mo**	**1.28**	**130**		Pg	10 56 28.8	-0.8
H20K					Sb	10 56 46.7	+0.3
G21K	**Allakaket**	**1.52**	**81**		Pn	10 56 32.4	-0.5
G21K					Sb	10 56 53.1	-0.1
GCSA	**Galena City Sc**	**1.59**	**174**		Pn	10 56 34.0	+0.1
GCSA					Sg	10 56 56.5	+0.4
F17K	**Baldwin Pennin**	**1.62**	**276**		Pn	10 56 34.1	-0.2
F17K				IAML		10 57 01.2	
	comp=N,577nm,0.9s						
G17K	**Kiwalik Mounta**	**1.62**	**241**		Pn	10 56 33.8	-0.6
E18K	**Tukpahlearik C**	**1.73**	**311**		Pb	10 56 36.6	-0.7
F21K	**Alatna River**	**1.74**	**57**		Pn	10 56 36.1	0.0
F21K				IAML		10 57 03.4	
	comp=E,877nm,0.7s						
F21K				IAML		10 57 04.1	
	comp=N,806nm,0.6s				

RDOG	Red Dog Mine	2.81	311	Pn	Pn	10 56 51.3	+0.6
I17K	Unalakleet	2.85	212	Pn	Pn	10 56 51.6	+0.5
I17K				IAML		10 57 47.1	
	comp=N,289nm,1.0s						
J18K	Innoko River	2.88	175	Pn	Pn	10 56 52.0	+0.4
G23K	Bananza Creek	2.92	79		Pn	10 56 51.5	-0.7
G23K				IAML		10 57 38.9	
	comp=E,167nm,0.6s						
COLD	Coldfoot	2.94	69	Pn	Pn	10 56 51.9	-0.5
C21K	Knifeblade Rid	3.00	17		Pn	10 56 53.7	+0.4
J17K	VABM Dome	3.04	196	Pn	Pn	10 56 54.0	+0.2
J17K				IAML		10 57 50.7	
	comp=N,162nm,0.9s						
F15K	North Star Dit	3.09	262	Pn	Pn	10 56 53.9	-0.6
F15K				IAML		10 57 48.3	
	comp=N,161nm,0.6s						
D22K	Ayikyak River	3.11	32		Pn	10 56 55.4	+0.6
C17K	DeLong Mountai	3.15	316		Pn	10 56 55.6	+0.2
H23K	Yukon River	3.18	95		Pn	10 56 55.6	-0.1
H23K				IAML		10 57 47.9	
	comp=E,225nm,1.0s						
CHUM	Lake Minchumin	3.21	137		Pn	10 56 56.8	+0.6
K20K	Telida	3.27	154	Pn	Pn	10 56 57.3	+0.3
J16K	Anvik River	3.37	207	Pn	Pn	10 56 58.7	+0.3
J16K				IAML		10 58 00.5	
	comp=N,183nm,1.1s						
J16K				IAML		10 58 00.6	
	comp=E,204nm,0.8s						
E23K	Chandalar	3.44	56		Pn	10 56 59.8	+0.4
E23K				IAML		10 58 07.1	
	comp=N,161nm,0.8s						
BPAW	Bear Paw Mtn.	3.45	127	Pn	Pn	10 56 59.8	+0.3
BPAW				IAML		10 57 58.3	
	comp=E,96nm,1.1s						
BPAW				IAML		10 58 06.0	
	comp=N,93nm,0.7s						
I23K	Minto, Yukon-K	3.46	106	Pn	Pn	10 56 59.1	-0.5
I23K				IAML		10 57 57.2	
	comp=N,156nm,1.2s						
I23K				IAML		10 58 00.8	
	comp=E,168nm,0.8s						
K17K	Iditarod	3.65	188	Pn	Pn	10 57 02.2	+0.1
K17K				IAML		10 58 08.8	
	comp=N,93nm,0.9s						
K17K				IAML		10 58 13.4	
	comp=E,136nm,1.1s						
CAST	Castle Rocks	3.65	141		Pn	10 57 03.2	+1.0
C16K	Lisburne Hills	3.70	306	Pn	Pn	10 57 03.8	+0.9
B20K	Meade River	3.71	0	Pn	Pn	10 57 03.2	+0.2
B20K				IAML		10 58 13.3	
	comp=E,110nm,0.8s						
B20K				IAML		10 58 36.4	
	comp=N,108nm,0.9s						
TOLK	Toolik Lake Re	3.76	48	Pn	Pn	10 57 04.0	+0.3
TOLK				IAML		10 58 17.8	
	comp=N,144nm,0.8s						
NEA2	Nenana	3.83	113		Pn	10 57 04.6	0.0
NEA2				IAML		10 58 10.0	
	comp=N,91nm,0.8s						
H24K	Noodor Dome	3.84	93	Pn	Pn	10 57 04.7	-0.3
H24K				IAML		10 58 13.7	
	comp=N,100nm,1.0s						
KTH	Kantishna Hill	3.87	133	Pn	Pn	10 57 05.5	+0.3
KTH				IAML		10 58 19.7	
	comp=E,70nm,1.1s						
KTH				IAML		10 58 22.3	
	comp=N,95nm,1.0s						
F24K	Squaw Lake	3.88	68		Pn	10 57 05.4	+0.1
F24K				IAML		10 58 12.9	
	comp=N,123nm,0.6s						
F24K				IAML		10 58 15.7	
	comp=E,134nm,0.6s						
BWN	Browne	3.92	120		Pn	10 57 06.8	+0.9
G24K	Hadweenzic Riv	3.93	80		Pn	10 57 05.6	-0.5
PPLA	Purkeypile	4.07	145	Pn	Pn	10 57 09.2	+1.1
L18K	Granite Mounta	4.12	176	Pn	Pn	10 57 08.9	+0.2
L18K				IAML		10 58 20.4	
	comp=N,54nm,0.9s						
TRF	Thorofare Moun	4.13	131	Pn	Pn	10 57 09.8	+0.9
TRF				IAML		10 58 25.3	
	comp=E,80nm,0.9s						
TRF				IAML		10 58 27.8	
	comp=N,80nm,1.2s						
COLA	College	4.16	106		Pn	10 57 09.2	0.0
POKR	Poker Plat Res	4.23	102	Pn	Pn	10 57 09.4	-0.7
POKR				IAML		10 58 25.9	
	comp=N,91nm,1.1s						
POKR				IAML		10 58 27.9	
	comp=E,61nm,0.9s						
WRH	Wood River Hil	4.25	112	Pn	Pn	10 57 09.7	-0.7
WRH				IAML		10 58 21.5	
	comp=E,54nm,1.1s						
WRH				IAML		10 58 23.3	
	comp=N,53nm,1.0s						
CCB	Clear Creek Bu	4.28	109	Pn	Pn	10 57 10.2	-0.6
CCB				IAML		10 58 23.6	
	comp=E,56nm,0.9s						
B22K	Teshekpuk Lake	4.28	18	Pn	Pn	10 57 12.0	+1.2
B22K				IAML		10 58 37.6	
	comp=E,66nm,0.8s						
B22K				IAML		10 58 38.3	
	comp=N,82nm,1.1s						
L19K	White Mountain	4.28	165	Pn	Pn	10 57 11.1	+0.1
C23K	Itkillik River	4.32	32	Pn	Pn	10 57 11.6	+0.2
C23K				IAML		10 58 38.7	
	comp=E,85nm,0.8s						
C23K				IAML		10 58 41.2	
	comp=N,82nm,1.1s						
MCK	McKinley	4.38	123	Pn	Pn	10 57 12.6	+0.4
TNA	Tin City	4.44	265	Pn	Pn	10 57 12.6	-0.4
K15K	Wolf Creek Mou	4.45	207	Pn	Pn	10 57 13.6	+0.4
K15K				IAML		10 58 30.7	
	comp=N,71nm,1.1s						
K15K				IAML		10 58 45.3	
	comp=E,70nm,1.1s						
J14K	Nanvaranak Lak	4.50	220	Pn	Pn	10 57 13.5	-0.3
IL31		4.58	105	Pn	Pn	10 57 14.6	-0.3
ILAR	Eielson Array	4.58	105	Pn	Pn	10 57 14.9	-0.1
M19K	Big River Lodg	4.61	163	Pn	Pn	10 57 16.0	+0.7
M19K				IAML		10 58 33.7	
	comp=E,42nm,1.0s						
RND	Reindeer	4.62	125	Pn	Pn	10 57 15.9	+0.3
C24K	Franklin Bluff	4.68	39	Pn	Pn	10 57 16.2	-0.1
HDA	Harding Lake	4.72	109		Pn	10 57 15.7	-1.2
HDA				IAML		10 58 35.5	
	comp=N,49nm,0.6s						
HDA				IAML		10 58 38.5	
	comp=E,42nm,1.0s						
L16K	Owhat River	4.73	193	Pn	Pn	10 57 16.5	-0.5
L16K				IAML		10 58 40.9	
	comp=N,40nm,1.0s						
L16K				IAML		10 58 44.2	
	comp=E,39nm,1.1s						
A22K	Sinclair Lake	4.78	9		Pn	10 57 17.3	-0.3
PRP	Porcupine Dome	4.87	94	Pn	Pn	10 57 19.5	+0.5
PRP				IAML		10 58 44.7	
	comp=N,46nm,0.9s						
PRP				IAML		10 58 51.5	
	comp=E,46nm,0.8s						
E25K	Arctic Village	4.88	63	Pn	Pn	10 57 18.6	-0.5
E25K				IAML		10 58 53.0	
	comp=E,55nm,0.7s						
M17K	Holitna River	4.94	181	Pn	Pn	10 57 20.3	+0.4
M17K				IAML		10 59 04.9	
	comp=E,57nm,0.9s						
SKT	Skwentna	5.02	148	Pn	Pn	10 57 22.2	+1.1
SKT				IAML		10 59 09.9	
	comp=E,31nm,1.1s						
J25K	Salcha River,	5.24	104	Pn	Pn	10 57 23.2	-0.9
J25K				IAML		10 58 53.0	
	comp=N,33nm,0.7s						
J25K				IAML		10 58 54.1	
	comp=E,32nm,1.0s						
M16K	Timber Creek	5.37	189	Pn	Pn	10 57 25.8	-0.1
M16K				IAML		10 59 00.6	
	comp=E,25nm,1.1s						
M16K				IAML		10 59 03.1	
	comp=N,27nm,0.8s						
STLK	Strandline Lak	5.40	151		Pn	10 57 26.9	+0.7
K13K	Kusilvak Mount	5.47	220	Pn	Pn	10 57 26.4	-0.8
L14K	Kuka Creek	5.55	208	Pn	Pn	10 57 28.1	-0.1
N19K	Bonanza Creek	5.66	166	Pn	Pn	10 57 30.1	+0.2
N18K	Kilae Creek	5.70	173		Pn	10 57 31.2	+0.9
N17K	Nushagak Hills	5.82	180		Pn	10 57 32.8	+0.8
GHO	Glory Hole Cre	5.84	137		Pn	10 57 33.1	+0.7
I26K	Coal Creek Min	5.88	93	Pn	Pn	10 57 32.5	-0.3
PMR	Palmer	5.94	139	Pn	Pn	10 57 35.0	+1.5
M14K	Bethel	5.97	203	Pn	Pn	10 57 33.5	-0.5
SML	Sawmill	5.98	135		Pn	10 57 34.4	+0.2
J26L	Joseph Creek	5.99	101		Pn	10 57 34.4	-0.1
SCRK	Sand Creek	6.06	107		Pn	10 57 34.9	-0.6
NCT	North Crescent	6.09	160		Pn	10 57 36.9	+1.0
DFR	Drift River	6.10	158		Pn	10 57 36.9	+1.0
RDT	Redoubt	6.16	157		Pn	10 57 37.5	+0.7
DOT	Dot Lake	6.20	110		Pn	10 57 36.0	-1.2
N15K	Kwethluk River	6.31	193	Pn	Pn	10 57 39.1	+0.4
MENT	Mentasta	6.72	114	Pn	Pn	10 57 44.5	+0.1
O16K	Kokwok River B	6.76	184	Pn	Pn	10 57 45.3	+0.4
K27K	Chicken	6.78	103	Pn	Pn	10 57 45.5	+0.2
L26K	Log Cabin Wild	6.81	113		Pn	10 57 45.4	-0.3
D27M	Malcolm River	6.82	57	Pn	Pn	10 57 47.6	+1.8
I28M	Miner Creek	7.14	89		Pn	10 57 49.8	-0.4
E28M	Babbage River	7.17	63	Pn	Pn	10 57 50.6	+0.1
L27K	Beaver Creek,	7.36	109		Pn	10 57 52.3	-0.9
BCAR	Beaver Creek A	7.38	109		Pn	10 57 53.2	-0.2
H29M	Whitestone	7.61	82	Pn	Pn	10 57 56.7	+0.2
G29M	Pine Creek	7.66	77	Pn	Pn	10 57 57.4	+0.1
GLB	Gilahina Butte	7.68	123		Pn	10 57 57.5	0.0
E29M	Blow River	7.74	66	Pn	Pn	10 57 58.5	+0.3
M27K	Edge Creek, AK	7.75	114		Pn	10 57 58.6	-0.1
BMRM	Bremner River	7.76	128	Pn	Pn	10 57 58.9	+0.2
DAWY	Dawson	7.83	99		Pn	10 57 60.0	+0.3
J29N	Klondike Camp	8.15	94		Pn	10 58 03.8	-0.2
G30M	tAoh Zraii Nji	8.37	76	Pn	Pn	10 58 06.1	-0.8
I30M	Mount Dempster	8.64	88		Pn	10 58 10.6	-0.2
K29M	Barlow Dome	8.68	97	Pn	Pn	10 58 10.6	-0.6
L29M	L29M	8.78	103	Pn	Pn	10 58 12.7	+0.1
J30M	Hart River	8.87	92	Pn	Pn	10 58 14.0	+0.2
M29M	Somme Creek	9.00	107		Pn	10 58 15.2	-0.5
INK	Inuvik	9.35	67	Pn	Pn	10 58 19.7	-0.6
M30M	Minto, Yukon	9.58	104	Pn	Pn	10 58 23.4	-0.2
A36M	Sachs Harbour	12.58	49	Pn	Pn	10 59 03.0	-1.5

*NEIC **27** 10:58:21.7±1.4, 59.°65N±0.°04×151.°39W±0.°07, h48km±5km,*
Error ellipse: s-maj=6.3km s-min=4.9km az=157.0
AEIC 27 10:58:22.5±1.0, 59.°68N±0.°04×151.°42W±0.°04, h47km±4km, ML2.4, ML2.7/90(NEIC), Error ellipse: s-maj=6.2km s-min=2.5km az=162.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	Homer	0.12	260		Pn	10 58 29.7	-0.3
HOM					Sn	10 58 36.3	+0.9
HOM				IAML		10 58 36.8	
	comp=N,555nm,0.5s						
HOM				IAML		10 58 36.8	
	comp=E,400nm,0.5s						
CNPM	China Poot	0.18	149		Pn	10 58 29.9	-0.6
CNPM					Sn	10 58 36.0	0.0
CNPM				IAML		10 58 36.5	
	comp=N,827nm,0.2s						
CNPM				IAML		10 58 36.9	
	comp=E,591nm,0.4s						
BRLK	Bradley Lake	0.28	72		Pn	10 58 30.5	-0.7
BRLK					Sn	10 58 37.0	-0.5
BRSE	Bradley Lake S	0.35	79		Pn	10 58 31.0	-0.9
BRSE					Sn	10 58 38.4	-0.1
O20K	Slope Mountain	0.73	304		Pn	10 58 36.0	-0.5
ILS	Iliamna Low So	0.88	289		Pn	10 58 37.7	-0.9
ILS					Sn	10 58 49.7	-0.6
OPT	Oil Point	0.92	269		Pn	10 58 38.6	-0.5
P19K	Oil Pt	0.92	269		Pn	10 58 38.5	-0.6
P19K				IAML		10 58 54.0	
	comp=N,255nm,0.5s						
ILSW	Iliamna Southw	0.92	290		Pn	10 58 38.1	-1.1
ILSW					Sn	10 58 50.4	-1.0
ILSW				IAML		10 58 51.2	
	comp=N,205nm,0.3s						
ILSW				IAML		10 58 51.2	
	comp=E,204nm,0.5s						
RED	Redoubt Volcan	1.01	318		Pn	10 58 39.4	-0.9
RED					Sn	10 58 52.9	-0.6
SLKM	Skilak Lake	1.02	35		Pn	10 58 39.8	-0.7
RDT	Redoubt	1.03	332		Pn	10 58 39.3	-1.3
RDT					Sn	10 58 53.2	-0.6
AU22	Augustine Moun	1.04	253		Pn	10 58 40.4	-0.2
AUL	Augustine Lava	1.07	255		Pn	10 58 40.8	-0.2
SEW	Seward	1.08	66		Pn	10 58 40.5	-0.6
RDWB	Redoubt West	1.08	319		Pn	10 58 40.2	-1.1
AUCH	Augustine Cone	1.08	254		Pn	10 58 41.2	-0.1
DFR	Drift River	1.11	326		Sn	10 58 55.3	-0.8
RDJH	Redoubt Jeurge	1.15	323		Pn	10 58 41.3	-1.0
NCT	North Crescent	1.17	320		Pn	10 58 41.5	-0.9
NCT					Sn	10 58 56.6	-0.7
O22K	Cooper Landing	1.17	46		Pn	10 58 42.3	-0.1
SYI	Shuyak Island	1.18	206	Pn	Pn	10 58 42.1	-0.4
SYI				IAML		10 59 00.6	
	comp=E,79nm,0.8s						
Q19K	Cape Douglas,	1.37	238	Pn	Pn	10 58 45.1	-0.1
O19K	Port Alsworth	1.55	291		Pn	10 58 47.4	-0.2
O19K				IAML		10 59 07.6	
	comp=E,114nm,0.5s						
CKL	Chakachamna La	1.59	344		Pn	10 58 47.7	-0.6
RC01	Rabbit Creek A	1.64	30	Pn	Pn	10 58 49.1	+0.3
RC01				IAML		10 59 15.2	
	comp=N,69nm,0.3s						
SPBG	Spurr Blockage	1.66	344		Pn	10 58 48.9	-0.2
STLK	Strandline Lak	1.84	354	Pn	Pn	10 58 51.7	+0.1
N19K	Bonanza Creek	1.91	308		Pn	10 58 52.0	-0.6
O18K	Koktuh Hills	1.93	277		Pn	10 58 52.0	-0.7
PWL	Port Wells	1.94	51		Pn	10 58 52.2	-0.7
PWL				IAML		10 59 26.7	
	comp=E,74nm,0.6s						
P18K	Big Mountain,	1.96	263	Pn	Pn	10 58 52.6	-0.7
KDAK	Kodiak Island	2.00	198	Pn	Pn	10 58 52.1	-1.6
KAHG	Katmai Hook Gl	2.01	235		Pn	10 58 53.7	-0.2
KAHC	Katmai Hardscr	2.12	242		Pn	10 58 55.2	-0.3
M22K	Willow	2.18	16	Pn	Pn	10 58 56.3	+0.2
M22K				IAML		10 59 33.1	
	comp=N,62nm,0.6s						
M22K				IAML		10 59 35.0	
	comp=E,66nm,1.1s						
PMR	Palmer	2.23	29		Pn	10 58 56.3	-0.5
PMR				IAML		10 59 33.1	
	comp=E,29nm,0.8s						
KNK	Knik Glacier	2.27	39		Pn	10 58 56.8	-0.7
KNK				IAML		10 59 34.1	
	comp=N,46nm,0.5s						
GHO	Glory Hole Cre	2.43	29	Pn	Pn	10 58 58.9	-0.9
GHO				IAML		10 59 21.1	
	comp=N,37nm,0.8s						
GHO				IAML		10 59 36.2	
	comp=E,40nm,0.7s						
N18K	Kilae Creek	2.45	296		Pn	10 58 59.1	-0.8
N18K				IAML		10 59 27.7	
	comp=N,23nm,1.1s						
GLI	Glacier Island	2.47	59		Pn	10 58 58.1	-2.0
GLI				IAML		10 59 38.8	
	comp=N,32nm,0.6s						
GLI				IAML		10 59 41.1	
	comp=E,48nm,0.5s						
HIN	Hinchinbrook I	2.57	72		Pn	10 59 00.1	-1.5
HIN				IAML		10 59 50.4	
	comp=E,30nm,0.8s						
HIN				IAML		10 59 54.9	
	comp=N,28nm,1.2s						
P17K	Kvichak River	2.61	261		Pn	10 59 02.1	0.0
R18K	Karluk	2.65	218		Pn	10 59 01.7	-0.9
OHAK	Old Harbor	2.65	203	Pn	Pn	10 59 00.8	-1.8
FID	Port Fidalgo	2.69	64		Pn	10 59 01.1	-2.1
FID				IAML		10 59 44.7	
	comp=N,37nm,0.7s						
FID				IAML		10 59 45.5	
	comp=E,40nm,0.6s						
M23K	Glacier View	2.79	39		Pn	10 59 04.5	-0.1
M18K	Stony River	2.83	312		Pn	10 59 04.6	-0.6
O17K	Koliganek Bris	2.88	274		Pn	10 59 05.2	-0.6
Q16K	King Salmon	2.88	252		Pn	10 59 05.7	-0.1
SCM	Sheep Creek Mo	2.95	41		Pn	10 59 06.6	-0.2
SCM				IAML		10 59 42.1	
	comp=E,30nm,1.0s						
SCM				IAML		10 59 54.0	
	comp=N,24nm,0.9s						
L19K	White Mountain	3.02	328	Pn	Pn	10 59 07.8	0.0
L19K				IAML		10 59 33.6	
	comp=E,13nm,1.2s						
KLU	Klutina	3.26	54	Pn	Pn	10 59 10.3	-0.9
KLU				IAML		11 00 03.1	
	comp=E,15nm,0.6s						
M17K	Holitna River	3.44	303	Pn	Pn	10 59 13.3	-0.2
M17K				IAML		10 59 55.1	
	comp=E,21nm,1.1s						
M17K				IAML		11 00 10.1	
	comp=N,20nm,0.9s						
GOAT	Goat Mountain	3.47	72		Pn	10 59 12.3	-1.6
M24K	Tolsona, Glenn	3.53	44	Pn	Pn	10 59 14.8	0.0
M24K				IAML		11 00 09.6	
	comp=E,20nm,1.0s						
BMRM	Bremner River	3.63	66	Pn	Pn	10 59 14.7	-1.4
KTH	Kantishna Hill	3.90	3	Pn	Pn	10 59 21.0	+1.2
KTH				IAML		11 00 00.1	
	comp=E,8.6nm,1.1s						
KTH				IAML		11 00 13.7	
	comp=N,13nm,1.1s						
RND	Reindeer	3.94	17	Pn	Pn	10 59 20.6	+0.2
M16K	Timber Creek	3.98	293	Pn	Pn	10 59 20.6	-0.4
M16K				IAML		10 59 54.4	
	comp=N,7.6nm,1.1s						
M16K				IAML		11 00 02.2	
	comp=E,6.7nm,1.1s						
GLB	Gilahina Butte	4.15	62	Pn	Pn	10 59 21.9	-1.4
GLB				IAML		11 00 26.6	
	comp=E,6.8nm,0.7s						
GLB				IAML		11 00 28.1	
	comp=N,11nm,0.6s						
VRDI	Verde Repeater	4.24	65	Pn	Pn	10 59 23.1	-1.5
VRDI				IAML		11 00 29.2	
	comp=N,4.9nm,1.2s						
SNH	Sunshine Point	4.35	80	Pn	Pn	10 59 26.1	+0.1
SNH				IAML		11 01 03.9	
	comp=N,9.0nm,1.1s						
N15K	Kwethluk River	4.39	280	Pn	Pn	10 59 26.6	0.0
BPAW	Bear Paw Mtn.	4.44	2	Pn	Pn	10 59 27.0	-0.2
WRH	Wood River Hil	5.06	17	Pn	Pn	10 59 35.6	0.0
WRH				IAML		11 00 19.9	
	comp=N,3.1nm,1.0s						
WRH				IAML		11 00 20.2	
	comp=E,3.6nm,1.1s						
I21K	Tanana	5.53	358	Pn	Pn	10 59 42.6	+0.5
I23K	Minto, Yukon-K	5.57	9	Pn	Pn	10 59 42.6	0.0
J25K	Salcha River,	5.70	27	Pn	Pn	10 59 44.5	-0.1

IDC 27 11:01:43.3±2.0, 52.°77S×27.°53E, h0km, mb3.9/4, mbtmp3.9/4, MS3.4/3, Error ellipse: s-maj=60.1km s-min=35.4km az=136.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	16.76	79	T	T	11 23 18.8	
	baz=241,slow=72,SNR=3.8						
H04S3	CROZET ISLANDS	16.76	79	T	T	11 23 19.7	
	baz=241,slow=72,SNR=3.6						
H04S1	CROZET ISLANDS	16.77	79	T	T	11 23 16.1	
	baz=241,slow=72,SNR=4.3						
SUR	Sutherland	20.95	344	LR	LR	11 13 04.8	
	comp=Z,57nm,21.9s,baz=172,slow=32						
SNAA	Sanae	23.18	204	P	P	11 06 52.0	+0.8
	5.5nm,0.8s,baz=72,slow=11,SNR=12						
	5.5nm,0.8s						
LBTB	Lobatse	27.75	356	LR	LR	11 16 28.4	
	comp=Z,88nm,20.5s,baz=196,slow=32						
LSZ	Lusaka	37.41	1	LR	LR	11 22 20.8	
	comp=Z,95nm,20.4s,baz=183,slow=33						
QSPA	South Pole Qui	37.45	180	P	P	11 08 57.4	-0.7
	1.7nm,0.8s,baz=81,slow=1.3,SNR=14						
	1.7nm,0.8s						
ASAR	Alice Springs	80.80	117	P	P	11 13 59.1	+0.3
	0.6nm,0.6s,baz=212,slow=4.7,SNR=17						
	0.6nm,0.6s						
WRA	Warramunga Arr	84.03	115	P	P	11 14 15.7	0.0
	0.4nm,0.7s,baz=217,slow=6.2,SNR=2.8						
	0.4nm,0.7s						
NVAR	Mina Array Bea	152.44	252	PKPbc	PKPbc	11 21 40.5	-0.5
	0.4nm,0.5s,baz=167,slow=5.9,SNR=5.3						

*KRNET **27** 11:12:31.5±0.1, 39.°03N×70.°21E, mb3.1*
*SOME **27** 11:12:36.3, 39.°50N×71.°33E, h15km*
*NNC **27** 11:12:40.5±6.1, 39.°47N×70.°79E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=49.0km s-min=28.1km az=12.0
ISC 27 11:12:34.3±2.4, 39.°19N±0.°09×70.°27E±0.°07, h8km±13km, n17, σ2.2/29, 15C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.96	26	⇓eP	Pb	11 12 52.3	-1.0
BTK				⇓eS	Sg	11 13 07.9	+2.7
DRK	Karamyk	1.22	76	⇑eP	Pn	11 12 55.9	-2.0
DRK				⇑eS	Sb	11 13 13.5	-0.3
OHH	Osh	2.35	55	⇑eP	Pn	11 13 13.5	+0.3
OHH				⇑eS	Sn	11 13 44.3	+2.0
TRKS	Terek-Say	2.42	16	⇑eP	Pn	11 13 14.3	-0.1
TRKS				⇑eS	Sn	11 13 45.5	+1.1
SFK	Sufi-Kurgan	2.63	71	⇓eP	Pn	11 13 16.7	-0.5
SFK				⇓eS	Sn	11 13 50.2	+0.7
IUG	Iuzhnay	2.96	357	Pg	Pg	11 13 30.5	-0.4
	39nm,0.4s						
IUG				Lg	Lg	11 14 09.4	
	52nm,0.4s						
ARSB	Arslanbob	2.97	43	⇓eP	Pn	11 13 22.7	+0.8
ARSB				⇓eS	Sn	11 13 59.6	+1.8
SALK	Salom-Alik	3.20	57	⇑eP	Pn	11 13 25.5	+0.4
SALK				⇑eS	Sn	11 14 04.6	+1.0
BRLS	Boroldaу	3.85	355	Pg	Pb	11 13 40.0	-2.4
	3.0nm,0.2s						
BRLS				Lg	Lg	11 14 26.0	
	8.9nm,0.4s						
BRLS	Boroldaу	3.85	355	eP	Pb	11 13 40.0	-2.4
	3.0nm,0.2s						
BRLS				eS	Sb	11 14 26.0	-3.2
	8.9nm,0.4s						
KK31	Karatay Array	3.91	3	Pn	Pb	11 13 39.3	-4.2
	6.4nm,0.5s,baz=169,slow=12,SNR=18						
KK31				⇑Sn	Sb	11 14 30.7	-0.3
	2.4nm,0.3s,baz=178,slow=29,SNR=5.0						
MRKS	Merke	4.19	31	Pg	Pn	11 13 40.8	+2.2
	5.2nm,0.5s						
MRKS				Lg	Lg	11 14 27.8	
	15nm,0.3s						
MRKS	Merke	4.19	31	eP	Pn	11 13 40.8	+2.2
	5.2nm,0.5s						
MRKS				eS	Sn	11 14 27.1	-0.8
	15nm,0.3s						
AAK	Ala-Archa	4.70	42	⇑Pn	Pn	11 13 46.6	+1.0
	2.7nm,0.5s						
AAK				⇑Sn	Sn	11 14 34.1	-6.3
	5.2nm,0.6s						
TKM2	Tokmak 2	5.48	46	⇑Pn	Pn	11 13 58.0	+1.5
	2.3nm,0.5s						
TKM2				⇑Sn	Sn	11 14 59.4	-0.4
	1.2nm,0.5s						
AB31	Akbulak array	12.48	327	⇑P	Pn	11 15 34.4	+2.3
	0.8nm,0.5s,baz=146,slow=12,SNR=7.8					

P33M			Sb	Sb	11 20 45.3	+2.7
	baz=32					
MAYO	**Mayo, Yukon**	**3.15 288**	Sb	Sb	11 20 45.7	+2.8
	baz=102					
N31M	**Braeburn, Yuko**	**3.37 250**	P	Pn	11 20 00.8	-0.5
	baz=64					
N31M			Sb	Sb	11 20 52.6	+3.2
	baz=64					
WHY	**Whitehorse**	**3.47 234**	P	Pn	11 20 02.4	-0.2
	baz=49,SNR=12					
WHY			Sb	Sb	11 20 54.7	+2.5
	baz=49					
R33M	**Jennings River**	**3.53 195**	P	Pn	11 20 03.7	+0.1
	baz=14,SNR=15					
R33M			Sb	Sb	11 20 56.6	+2.5
	baz=14					
KOTAN	**Kotaneelee Air**	**3.64 135**	P	Pn	11 20 05.2	+0.3
	baz=320,SNR=12					
J30M	**Hart River**	**3.65 302**	P	Pn	11 20 05.3	+0.1
	baz=116,SNR=98					
H31M	**Peel River**	**3.76 325**	P	Pn	11 20 06.5	-0.1
	baz=141,SNR=60					
O30N	**Mendenhall**	**3.87 241**	P	Pn	11 20 07.9	-0.2
	baz=55,SNR=36					
O30N			Sb	Sb	11 21 06.5	+2.9
	baz=55					
P32M	**Atlin**	**3.91 216**	P	Pn	11 20 08.6	0.0
	baz=32,SNR=26					
K29M	**Barlow Dome**	**3.91 289**	P	Pn	11 20 08.4	-0.4
	baz=102,SNR=21					
K29M			Sb	Sb	11 21 07.7	+2.8
	baz=102					
N30M	**Aishikik Lake**	**3.96 254**	P	Pn	11 20 09.2	-0.2
	baz=66,SNR=22					
I30M	**Mount Dempster**	**3.99 311**	P	Pn	11 20 09.9	0.0
	baz=124,SNR=78					
L29M	**L29M**	**4.10 278**	P	Pn	11 20 11.3	-0.1
	baz=90,SNR=17					
Q32M	**Nakina River**	**4.14 203**	P	Pn	11 20 12.1	0.0
	baz=20,SNR=67					
M29M	**Somme Creek**	**4.31 269**	P	Pn	11 20 14.0	-0.2
	baz=81,SNR=9.5					
J29N	**Klondike Camp**	**4.36 296**	P	Pn	11 20 14.3	-0.6
	baz=108					
DLBC	**Dease Lake**	**4.40 186**	P	Pn	11 20 15.2	-0.3
	baz=5.1,SNR=35					
TOAD	**Toad River Com**	**4.41 152**	P	Pn	11 20 15.3	-0.3
	baz=336					
HYT	**Haines Junctio**	**4.42 247**	P	Pn	11 20 16.0	+0.2
	baz=60,SNR=26					
SKAG	**Skagway**	**4.49 224**	P	Pn	11 20 16.5	-0.1
	baz=39,SNR=16					
P30M	**Million Dollar**	**4.61 238**	P	Pn	11 20 18.0	-0.2
	baz=51					
G31M	**Satah River**	**4.67 334**	P	Pn	11 20 18.4	-0.6
	baz=150,SNR=62					
G31M			S	Sn	11 21 12.4	-0.1
	baz=150					
YUK4	**Talbot Arm**	**4.69 256**	P	Pn	11 20 18.3	-1.3
	baz=68,SNR=26					
YUK6	**Outpost Mounta**	**4.74 251**	P	Pn	11 20 20.1	-0.1
	baz=63,SNR=30					
I29M	**Ogilvie Camp,**	**4.76 307**	P	Pn	11 20 20.4	+0.1
	baz=118,SNR=7.2					
DAWY	**Dawson**	**4.76 290**	P	Pn	11 20 20.4	0.0
	baz=101					
EPYK	**Eagle Plains**	**4.83 321**	P	Pn	11 20 21.1	-0.2
	baz=134					
PLBC	**Pleasant Camp**	**4.84 229**	P	Pn	11 20 21.2	-0.3
	baz=43					
S34M	**Telegraph Cree**	**5.00 192**	P	Pn	11 20 23.6	-0.1
	baz=10,SNR=28					
F31M	**Tsiigehtchic**	**5.04 339**	P	Pn	11 20 23.5	-0.6
	baz=155,SNR=29					
O29M	**Mount Kennedy**	**5.15 245**	P	Pn	11 20 25.4	-0.4
	baz=57					
G30M	**tAoh Zraii Nji**	**5.16 327**	P	Pn	11 20 25.3	-0.4
	baz=141					
H29M	**Whitestone**	**5.24 315**	P	Pn	11 20 26.8	-0.2
	baz=126,SNR=40					
R32K	**Eaglecrest**	**5.26 213**	P	Pn	11 20 27.2	+0.1
	baz=28					
YUK3	**Moose Creek**	**5.37 264**	P	Pn	11 20 28.5	-0.4
	baz=74,SNR=8.9					
I28M	**Miner Creek**	**5.41 304**	P	Pn	11 20 29.1	-0.2
	baz=114,SNR=15					
F30M	**Barrier River**	**5.57 333**	P	Pn	11 20 31.2	-0.2
	baz=147					
G29M	**Pine Creek**	**5.58 321**	P	Pn	11 20 31.0	-0.7
	baz=133					
L27K	**Beaver Creek,**	**5.79 278**	P	Pn	11 20 34.1	-0.4
	baz=87,SNR=9.9					
INK	**Inuvik**	**5.81 344**	P	Pn	11 20 34.0	-0.7
	baz=160,SNR=80					
PNL	**Peninsula**	**5.85 242**	P	Pn	11 20 35.9	+0.6
	baz=53,SNR=9.7					
T35M	**Bob Quinn**	**5.87 186**	P	Pn	11 20 35.8	+0.2
	baz=4.8					
M27K	**Edge Creek, AK**	**5.89 271**	P	Pn	11 20 35.5	-0.5
	baz=80					
K27K	**Chicken**	**5.92 288**	P	Pn	11 20 35.9	-0.4
	baz=96					
S31K	**Pelican**	**5.99 219**	P	Pn	11 20 37.5	+0.4
	baz=33,SNR=6.7					
S32K	**Killisnoo**	**6.00 209**	P	Pn	11 20 37.3	+0.1
	baz=24					
I27K	**Kandik River**	**6.11 303**	P	Pn	11 20 38.5	-0.4
	baz=112,SNR=11					
H27K	**Steamboat Moun**	**6.34 308**	P	Pn	11 20 41.9	-0.2
	baz=117,SNR=13					
M26K	**Nabesna, AK**	**6.40 273**	P	Pn	11 20 43.3	+0.5
	baz=80					
L26K	**Log Cabin Wild**	**6.48 278**	P	Pn	11 20 43.8	-0.1
	baz=86,SNR=7.0					
WRAK	**Wrangell Islan**	**6.61 196**	P	Pn	11 20 45.3	-0.4
	baz=13					
I26K	**Coal Creek Min**	**6.63 298**	P	Pn	11 20 45.9	0.0
	baz=106					
J26L	**Joseph Creek**	**6.63 291**	P	Pn	11 20 46.0	0.0
	baz=98					
E29M	**Blow River**	**6.66 331**	P	Pn	11 20 46.6	+0.2
	baz=143					
G27K	**Doyon Strip**	**6.67 312**	P	Pn	11 20 46.6	+0.1
	baz=121					
SCRK	**Sand Creek**	**6.76 287**	P	Pn	11 20 47.6	-0.2
	baz=93,SNR=5.8					
C36M	**Paulatuk**	**6.89 15**	P	Pn	11 20 48.9	-0.5
	baz=200					
E28M	**Babbage River**	**7.21 328**	P	Pn	11 20 52.8	-1.1
	baz=139					
E27K	**Coleen River**	**7.46 322**	P	Pn	11 20 56.6	-0.7
	baz=130					
G26K	**Porcupine Rive**	**7.47 310**	P	Pn	11 20 57.1	-0.4
	baz=117					
D28M	**Stokes Point**	**7.61 334**	P	Pn	11 20 59.3	0.0
	baz=145					
F26K	**Sheenjek River**	**7.96 315**	P	Pn	11 21 03.9	-0.3
	baz=121					
D27M	**Malcolm River**	**8.04 329**	P	Pn	11 21 05.0	-0.2
	baz=138					
G25K	**Bearman Lake**	**8.23 306**	P	Pn	11 21 07.0	-0.9
	baz=111					
F25K	**Christian Rive**	**8.41 312**	P	Pn	11 21 10.0	-0.4
	baz=117					
E25K	**Arctic Village**	**8.64 315**	P	Pn	11 21 12.7	-0.8
	baz=120,SNR=15					
C27K	**Jago River**	**8.99 326**	P	Pn	11 21 18.1	-0.3
	baz=132					
A36M	**Sachs Harbour**	**9.34 8**	P	Pn	11 21 22.1	-1.0
	baz=191,SNR=19					
C26K	**Camden Bay**	**9.50 325**	P	Pn	11 21 25.9	+0.7
	baz=131					
D25K	**Kavik River**	**9.54 321**	P	Pn	11 21 26.1	+0.3
	baz=125					
E24K	**Your Creek**	**9.59 312**	P	Pn	11 21 26.2	-0.3
	baz=114					
COLD	**Coldfoot**	**9.91 306**	P	Pn	11 21 30.3	-0.6
	baz=107					
E23K	**Chandalar**	**9.97 311**	P	Pn	11 21 32.2	+0.4
	baz=112					
TOLK	**Toolik Lake Re**	**10.20 314**	P	Pn	11 21 34.9	+0.1
	baz=115					
C24K	**Franklin Bluff**	**10.44 320**	P	Pn	11 21 38.4	+0.3
	baz=122					
F22K	**John River**	**10.72 306**	P	Pn	11 21 42.4	+0.4
	baz=105					
C23K	**Itkillik River**	**11.07 319**	P	Pn	11 21 46.6	-0.1
	baz=119					
F21K	**Alatna River**	**11.15 304**	P	Pn	11 21 48.0	+0.2
	baz=102					
B22K	**Teshekpuk Lake**	**12.16 319**	P	Pn	11 22 02.0	+0.4
	baz=116					
B21K	**Ikpikpuk River**	**12.24 315**	P	Pn	11 22 03.5	+0.9
	baz=111					

*ISK **27** 11:27:01.9, 37°.46N×29°.40E, h5km, ML4.3/90*
*IDC **27** 11:27:02.2±0.6, 37°.49N×29°.48E, h0km, mb4.2/20, mbtmp4.2/30, ML4.2/5, MS3.6/31, Error ellipse: s-maj=12.7km s-min=10.5km az=173.0*
*MOS **27** 11:27:02.4±1.1, 37°.54N×29°.45E, h9km, mb4.6/20, Error ellipse: s-maj=6.2km s-min=3.6km az=81.4*
*MED_RC **27** 11:27:02.0±0.3, 37°.35N×29°.37E, h13km±1km, MW4.5/15, Moment Tensor Solution. Mantle waves: s15,c18; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr=4.62±.68; Mθθ0.94±.43; Mφφ3.68±.42; Mrθ2.54±.81; Mθφ-3.13±.26; Mφr-1.55±.56; Best double couple: M0=6.01000×10^15 NP1:φs=164.00000°, δ33.00000°, λ-63.00000°. NP2:φs=312.00000°, δ60.00000°, λ-107.00000°. Principal axes: T 6.3900, Plg14.0000°, Azm54.0000°; N -0.7800, Plg14.0000°, Azm321.0000°; P -5.6200, Plg70.0000°, Azm187.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*AFAD **27** 11:27:02.9, 37°.47N×29°.42E, h6km±1km, MW4.3*
*NEIC **27** 11:27:04.2±1.6, 37°.43N±0°.05×29°.47E±0°.06, h10km±2km, mb4.3/19, Error ellipse: s-maj=8.6km s-min=7.7km az=152.0*
*MCSM **27** 11:27:04.5±0.5, 37°N±4°×2°9E±°, h13km±4km, mb4.4, mB5.0, MLv4.4, Mw(mB)4.3*
*NAO **27** 11:27:04.8, 37°.46N×29°.44E, h10km, mb4.2*
*GII **27** 11:27:06.7±0.0, 36°.864N±0°.003×29°.225E±0°.001, h5km, Mws4.6/5, confirmed*
*HLW **27** 11:27:10.7, 37°.03N×29°.31E, h28km±14km, Ml4.3*

ISC 27 11:27:03.4±0.8, 37°.46N±0°.02×29°.42E±0°.02, h9km±5km, n433, σ1§52/449, mb4.4/45, MS3.7/26, 32C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.10**	**277**	Pg	**Pg**	**11 27 05.3**	**-0.6**
APMY				Sg	**Sg**	**11 27 07.4**	**-0.4**
GOLH	**Golhisar**	**0.25**	**154**	P	**Pg**	**11 27 07.8**	**-0.7**
GOLH				S	**Sg**	**11 27 12.5**	**+0.6**
INCE	**Denizli-Bozkur**	**0.28**	**26**	P	**Pg**	**11 27 08.6**	**-0.5**
INCE				S	**Sg**	**11 27 13.6**	**+0.8**
CAEL	**Denizli, Camel**	**0.35**	**194**	P	**Pg**	**11 27 09.2**	**-1.1**
CAEL				S	**Sb**	**11 27 16.5**	**-0.9**
DNIZ	**Denizli-Tavas-**	**0.35**	**299**	P	**Pg**	**11 27 09.6**	**-0.8**
DNIZ				S	**Sb**	**11 27 16.2**	**-1.3**
DNZT	**Denizli-Tavas-**	**0.36**	**240**	P	**Pg**	**11 27 09.6**	**-1.0**
DNZT				P	**Pb**	**11 27 09.8**	**-2.4**
TAVA	**DENIZLI_Tavas**	**0.41**	**271**	P	**Pg**	**11 27 11.0**	**-0.4**
TAVA				S	**Sb**	**11 27 17.1**	**-2.0**
CAME	**Cameli-Denizli**	**0.53**	**191**	Pg	**Pg**	**11 27 12.3**	**-1.3**
CAME				Sg	**Sg**	**11 27 20.6**	**+0.1**
BRDR	**BURDUR-Merkez**	**0.56**	**65**	P	**Pg**	**11 27 12.9**	**-1.4**
KNIK	**Mula-Seydike**	**0.62**	**169**	P	**Pg**	**11 27 13.8**	**-1.7**
KNIK				S	**Sb**	**11 27 24.6**	**-0.9**
BASM	**Basmaki-Afyon**	**0.68**	**47**	Pg	**Pg**	**11 27 15.3**	**-1.2**
SABU	**Mula-Dalaman**	**0.73**	**210**	P	**Pg**	**11 27 15.8**	**-1.8**
SABU				S	**Sb**	**11 27 27.3**	**-1.1**
ELL	**Elmali**	**0.81**	**151**	Pg	**Pg**	**11 27 17.5**	**-1.5**
ELL	**Elmali**	**0.81**	**151**	Pg	**Pg**	**11 27 16.8**	**-2.2**
ELL	**Elmali**	**0.81**	**151**	P	**Pg**	**11 27 16.8**	**-2.2**
KHL	**Karahalli**	**0.86**	**5**	Pg	**Pg**	**11 27 19.2**	**-0.9**
FETY	**Fethiye**	**0.87**	**198**	Pg	**Pg**	**11 27 18.1**	**-2.0**
FETY	**Fethiye**	**0.87**	**198**	P	**Pg**	**11 27 19.5**	**-0.6**
KORT	**Korkueli**	**0.87**	**121**	Pg	**Pg**	**11 27 18.8**	**-1.4**
KORT				Sg	**Sb**	**11 27 32.4**	**-0.2**
KORT	**Korkueli**	**0.87**	**121**	P	**Pg**	**11 27 18.7**	**-1.4**
KORT				S	**Sb**	**11 27 32.4**	**-0.2**
DALY	**Dalyan (Mula)**	**0.89**	**224**	Pg	**Pg**	**11 27 18.6**	**-1.9**
DALY				Sg	**Sb**	**11 27 31.9**	**-1.0**
PASA	**Karahalli, USA**	**0.89**	**3**	P	**Pg**	**11 27 18.6**	**-1.9**
MULA	**Mugla, Merkez-**	**0.90**	**257**	P	**Pg**	**11 27 19.0**	**-1.7**
BUCA	**Burdur, Bucak-**	**0.92**	**98**	P	**Pg**	**11 27 19.6**	**-1.4**
ESEN	**Aydn-Nazilli**	**0.92**	**292**	P	**Pg**	**11 27 19.8**	**-1.2**
ESEN				S	**Sb**	**11 27 33.3**	**-0.4**
BCK	**Bucak**	**0.93**	**90**	Pg	**Pg**	**11 27 20.7**	**-0.6**
ISP	**Isparta**	**0.94**	**67**	Pg	**Pg**	**11 27 20.3**	**-1.3**
ISP	**Isparta**	**0.94**	**67**	Pg	**Pg**	**11 27 20.3**	**-1.3**
ISP	**Isparta**	**0.94**	**67**	*i* P	**Pg**	**11 27 20.4**	**-1.2**
YER	**Yerkesik**	**0.96**	**251**	Pg	**Pg**	**11 27 20.6**	**-1.4**
KZIL	**AFYON_Kizioren**	**0.98**	**35**	P	**Pg**	**11 27 20.4**	**-1.9**
NAZL	**Nazilli-Aydin**	**1.03**	**300**	Pg	**Pg**	**11 27 22.1**	**-1.1**
IZZE	**Mula-Seydike**	**1.03**	**189**	P	**Pg**	**11 27 22.1**	**-1.2**
KIRA	**zmir-Kiraz**	**1.09**	**313**	P	**Pg**	**11 27 22.9**	**-1.5**
ANTB	**Antalya**	**1.13**	**119**	Pn	**Pb**	**11 27 24.8**	**-0.3**
TURN	**Turunc**	**1.16**	**234**	Pn	**Pb**	**11 27 23.8**	**-1.9**
TURN	**Turunc**	**1.16**	**234**	P	**Pb**	**11 27 23.6**	**-2.0**
BAGO	**Egridir - ISPA**	**1.21**	**64**	P	**Pb**	**11 27 24.2**	**-2.3**
KULA	**Kula-Manisa**	**1.21**	**330**	Pn	**Pb**	**11 27 25.0**	**-1.6**
AKAS	**Kas**	**1.23**	**173**	Pn	**Pb**	**11 27 25.6**	**-1.4**
AKAS	**Kas**	**1.23**	**173**		**Pb**	**11 27 25.9**	**-1.0**
AKAS	**Kas**	**1.23**	**173**	P	**Pn**	**11 27 26.4**	**-0.5**
MANT	**Manisa**	**1.23**	**327**	P	**Pb**	**11 27 24.6**	**-2.5**
MANT				S	**Sn**	**11 27 43.3**	**-0.7**
AYDN	**Tasoluk**	**1.24**	**280**	P	**Pb**	**11 27 26.1**	**-0.9**
AYDN				S	**Sn**	**11 27 43.1**	**-0.7**
KEMT	**Kemer-ANTALYA**	**1.25**	**133**	Pn	**Pb**	**11 27 26.8**	**-0.3**
BNAZ	**Uak-Banaz**	**1.27**	**16**	P	**Pn**	**11 27 25.1**	**-2.3**
DEMR	**Demre-Antalya**	**1.28**	**162**	Pn	**Pb**	**11 27 27.2**	**-0.5**
USAK	**Uak-Merkez**	**1.29**	**346**	P	**Pn**	**11 27 25.6**	**-2.1**
USAK				S	**Sb**	**11 27 44.0**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**292**	Pn	**Pn**	**11 27 27.1**	**-0.9**
KSL	**Kastellorizon**	**1.31**	**174**	P	**Pg**	**11 27 28.3**	**-0.3**
MLSB	**Milas**	**1.32**	**263**	Pn	**Pn**	**11 27 26.7**	**-1.4**
ODEM	**Odemis-Izmir**	**1.34**	**308**	Pn	**Pn**	**11 27 27.6**	**-0.8**
IZMR	**zmir-demi**	**1.35**	**301**	P	**Pn**	**11 27 26.8**	**-1.5**
IZMR				P	**Pb**	**11 27 27.2**	**-1.6**
AKUM	**Antalya-Kumluc**	**1.35**	**147**	P	**Pb**	**11 27 28.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.41**	**39**	Pn	**Pn**	**11 27 28.7**	**-0.7**
AFYO	**Afyonkarahisar**	**1.49**	**27**	P	**Pn**	**11 27 29.8**	**-0.8**
SHAP	**Saphane-Kutahy**	**1.57**	**354**	Pn	**Pn**	**11 27 31.1**	**-0.4**
DATC	**Datca-Mugla**	**1.57**	**244**	Pn	**Pn**	**11 27 31.1**	**-0.4**
GEDZ	**Gediz**	**1.58**	**360**	Pn	**Pn**	**11 27 31.2**	**-0.5**
ARG	**Arkhangelos**	**1.62**	**220**	Pn	**Pb**	**11 27 32.1**	**-1.3**
ARG	**Arkhangelos**	**1.62**	**220**	P	**Pb**	**11 27 32.8**	**-0.6**
ARG	**Arkhangelos**	**1.62**	**220**		**Pg**	**11 27 33.3**	**-1.2**
ARG	**Arkhangelos**	**1.62**	**220**	P	**Pg**	**11 27 33.3**	**-1.2**
GDZ	**Gediz**	**1.63**	**2**	P	**Pn**	**11 27 31.3**	**-1.1**
DAT	**Datca**	**1.65**	**244**	Pn	**Pn**	**11 27 32.3**	**-0.3**
SIMA	**Simav-Kutahya**	**1.66**	**348**	Pn	**Pn**	**11 27 32.2**	**-0.5**
SMAA	**Simav-Kutahya**	**1.67**	**348**	Pn	**Pn**	**11 27 32.6**	**-0.4**
DEMI	**Demirci**	**1.68**	**341**	P	**Pn**	**11 27 31.1**	**-1.8**
GOMA	**Golmarmara-Man**	**1.72**	**317**	Pn	**Pn**	**11 27 33.3**	**-0.2**
MNVG	**Manavgat-Antal**	**1.73**	**112**	Pn	**Pn**	**11 27 33.8**	**+0.2**
BODT	**Bodrum**	**1.73**	**257**	Pn	**Pn**	**11 27 33.3**	**-0.4**
DDIM	**Aydin, Didim**	**1.73**	**271**	P	**Pb**	**11 27 33.8**	**-1.6**
YKAV	**Yalikavak-Bodr**	**1.74**	**260**	Pn	**Pn**	**11 27 33.7**	**-0.1**
KURO	**Afyon-Bolvadin**	**1.74**	**43**	P	**Pn**	**11 27 33.8**	**-0.2**
GORD	**Gordes-Manisa**	**1.75**	**326**	Pn	**Pn**	**11 27 33.4**	**-0.6**
GCAM	**G?zelcaml?**	**1.75**	**279**	Pn	**Pn**	**11 27 33.5**	**-0.5**
YAZI	**Mula-Dat§a-**	**1.76**	**244**	P	**Pb**	**11 27 34.2**	**-1.6**
SEDI	**Konya, Seydise**	**1.86**	**90**	P	**Pn**	**11 27 35.8**	**+0.2**
DOGA	**KONYA_Doganhis**	**1.89**	**69**	P	**Pn**	**11 27 36.3**	**+0.3**
AKS	**Akhisar**	**1.90**	**319**	Pn	**Pn**	**11 27 35.6**	**-0.4**
SEYD	**Seydisehir-KON**	**1.92**	**91**	Pn	**Pn**	**11 27 36.4**	**0.0**
BYAT	**Afyon-Bayat**	**1.93**	**39**	Pn	**Pn**	**11 27 36.0**	**-0.4**
TVSB	**Tavsanli**	**1.99**	**1**	Pn	**Pn**	**11 27 36.9**	**-0.4**
NISR	**Nisiros**	**2.02**	**246**	P	**Pg**	**11 27 40.7**	**-1.5**
GMLD	**Gumuldur**	**2.08**	**288**	Pn	**Pn**	**11 27 38.7**	**+0.3**
BLCB	**Balcova**	**2.10**	**297**	Pn	**Pn**	**11 27 38.5**	**-0.2**
DST	**Dursunbey**	**2.23**	**344**	Pn	**Pn**	**11 27 40.1**	**-0.5**
ALAN	**Alanya-ANTALYA**	**2.28**	**113**	Pn	**Pn**	**11 27 41.7**	**+0.6**
CIFT	**Cifteler, Eski**	**2.29**	**34**	Pn	**Pn**	**11 27 41.1**	**-0.4**
KONT	**Konya--Tatoy**	**2.38**	**77**	Pn	**Pn**	**11 27 43.1**	**+0.5**
KIZT	**Kizilcal**	**2.40**	**53**	Pn	**Pn**	**11 27 41.7**	**-1.3**
FOCM	**Foa**	**2.46**	**301**	Pn	**Pn**	**11 27 43.8**	**+0.1**
HDMB	**Hadim**	**2.50**	**101**	Pn	**Pn**	**11 27 45.1**	**+0.7**
AUKUT	**KUTAHYA**	**2.54**	**10**	P	Pn	11 27 36.6	-8.2
CAND	**Candarli**	**2.55**	**307**	Pn	**Pn**	**11 27 44.7**	**-0.2**
BORA	**Eskisehir**	**2.55**	**18**		**Pn**	**11 27 46.2**	**+1.2**
DKL	**Dikili**	**2.55**	**310**	Pn	**Pn**	**11 27 44.9**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.58**	**39**	Pn	**Pn**	**11 27 45.4**	**0.0**
ORLT	**Orhaneli**	**2.62**	**351**	Pn	**Pn**	**11 27 45.8**	**-0.1**
GAZI	**Gazipasa**	**2.62**	**117**	Pn	**Pn**	**11 27 46.9**	**+0.9**
KARP	**Karpathos**	**2.64**	**224**	Pn	**Pn**	**11 27 46.7**	**+0.5**
KARP	**Karpathos**	**2.64**	**224**	P	**Pn**	**11 27 47.0**	**+0.8**
KARP	**Karpathos**	**2.64**	**224**	Pn	**Pn**	**11 27 46.5**	**+0.3**
KARP	**Karpathos**	**2.64**	**224**	Pn	**Pn**	**11 27 46.9**	**+0.8**
SUSR	**Susurluk-Balik**	**2.71**	**338**	Pn	**Pn**	**11 27 47.1**	**0.0**
CAVI	**Cavuskoy**	**2.76**	**7**	Pn	**Pn**	**11 27 47.9**	**+0.1**
GPA	**Golpazari**	**2.91**	**13**	Pn	**Pn**	**11 27 50.4**	**+0.5**
GONE	**Gonen-Balikesi**	**2.92**	**333**	Pn	**Pn**	**11 27 50.0**	**0.0**
KCTX	**Karacabey (Bur**	**2.92**	**344**	Pn	**Pn**	**11 27 50.1**	**0.0**
MDNY	**Mudanya-Bursa**	**2.94**	**352**	Pn	**Pn**	**11 27 50.8**	**+0.6**
CHBY	**Cihanbeyli**	**2.96**	**67**	Pn	**Pn**	**11 27 51.2**	**+0.6**
ADVT	**Abdulvahap**	**2.98**	**5**	Pn	**Pn**	**11 27 51.3**	**+0.5**
YENI	**Yenice-Canakka**	**3.00**	**326**	Pn	**Pn**	**11 27 51.2**	**0.0**
PRK	**Paraskevi**	**3.05**	**307**	P	**Pn**	**11 27 51.6**	**-0.2**
BAND	**Balkesir-Ban**	**3.07**	**341**	⇑P	**Pn**	**11 27 51.7**	**-0.4**
KRMN	**Karaman**	**3.08**	**94**	Pn	**Pn**	**11 27 53.1**	**+0.9**
GULT	**Gulveren**	**3.09**	**16**	Pn	**Pn**	**11 27 53.1**	**+0.7**
YLV	**Yalova**	**3.10**	**359**	Pn	**Pn**	**11 27 52.8**	**+0.2**
YLV	**Yalova**	**3.10**	**359**	Pn	**Pn**	**11 27 52.7**	**+0.2**
EDC	**Edincik**	**3.13**	**338**	Pn	**Pn**	**11 27 53.1**	**+0.2**
APE	**Apeiranthos**	**3.13**	**264**	Pn	**Pn**	**11 27 53.3**	**+0.4**
APE	**Apeiranthos**	**3.13**	**264**	⇓P	**Pn**	**11 27 52.9**	**-0.1**
APE	**Apeiranthos**	**3.13**	**264**	*de*P	**Pn**	**11 27 53.8**	**+0.9**
APE	**Apeiranthos**	**3.13**	**264**	P	**Pn**	**11 27 53.6**	**+0.7**
ARMT	**Armutlu**	**3.13**	**352**	Pn	**Pn**	**11 27 53.5**	**+0.6**
OSMT	**Osmaniye**	**3.15**	**4**	Pn	**Pn**	**11 27 53.7**	**+0.5**
CANM	**Can-anakkale**	**3.15**	**325**	Pn	**Pn**	**11 27 53.3**	**+0.1**
BOZY	**Bozyazi-Mersin**	**3.16**	**114**	Pn	**Pn**	**11 27 54.2**	**+1.0**
KULU	**Kulu**	**3.23**	**60**	Pn	**Pn**	**11 27 54.7**	**+0.3**
BERE	**Bereket-Mersin**	**3.24**	**109**	Pn	**Pn**	**11 27 55.4**	**+0.8**
TEKE	**Tekeli-Mersin**	**3.24**	**113**	Pn	**Pn**	**11 27 55.4**	**+1.0**
GPNR	**Gulpinar-Canak**	**3.26**	**309**	Pn	**Pn**	**11 27 54.9**	**+0.2**
SIGR	**SIGRI**	**3.31**	**303**	Pn	**Pn**	**11 27 55.4**	**+0.1**
MDUB	**Mudurnu**	**3.31**	**24**	Pn	**Pn**	**11 27 56.1**	**+0.6**
MDUB	**Mudurnu**	**3.31**	**24**	Pn	**Pn**	**11 27 56.5**	**+1.0**
EZNE	**Ezine-Canakkal**	**3.31**	**315**	Pn	**Pn**	**11 27 55.6**	**+0.2**
SULT	**Sultanhani-AKS**	**3.32**	**76**	Pn	**Pn**	**11 27 56.5**	**+0.8**
SAUV	**Serdivan-Sakar**	**3.35**	**12**	Pn	**Pn**	**11 27 56.7**	**+0.8**
HRT	**Hereke**	**3.36**	**3**	Pn	**Pn**	**11 27 56.5**	**+0.4**
KRBG	**Karabiga-Canak**	**3.37**	**331**	Pn	**Pn**	**11 27 56.2**	**+0.1**
TEVE	**Tevekalti-Mers**	**3.38**	**106**	Pn	**Pn**	**11 27 57.6**	**+1.2**
EZN	**Ezine**	**3.38**	**315**	Pn	**Pn**	**11 27 56.7**	**+0.3**
EZN	**Ezine**	**3.38**	**315**	Pn	**Pn**	**11 27 56.4**	**0.0**
YUVA	**Yuva-Kibriscik**	**3.42**	**30**	Pn	**Pn**	**11 27 57.8**	**+0.8**
MRMT	**Marmara Adasi**	**3.45**	**336**	Pn	**Pn**	**11 27 57.9**	**+0.6**
YESY	**Yesilyurt**	**3.45**	**83**	Pn	**Pn**	**11 27 58.2**	**+0.8**
AFSR	**Afar-Bala (An**	**3.48**	**54**	Pn	**Pn**	**11 27 58.9**	**+1.0**
ZKR	**Zakros**	**3.49**	**229**	Pn	**Pn**	**11 27 58.2**	**+0.3**
ZKR	**Zakros**	**3.49**	**229**	P	**Pn**	**11 27 59.6**	**+1.7**
COMU	**Canakkale**	**3.50**	**320**	Pn	**Pn**	**11 27 58.5**	**+0.5**
BOZC	**Bozcaada**	**3.55**	**313**	Pn	**Pn**	**11 27 58.8**	**+0.1**
ANTO	**Ankara**	**3.57**	**47**		**Pn**	**11 27 59.6**	**+0.7**
ANTO	**Ankara**	**3.57**	**47**	⇓P	**Pn**	**11 27 59.9**	**+0.9**
ANTO	**Ankara**	**3.57**	**47**	P	**Pn**	**11 27 59.7**	**+0.7**
ANTO	**Ankara**	**3.57**	**47**	Pn	**Pn**	**11 28 00.1**	**+1.1**
LPK	**Lapseki**	**3.57**	**325**	Pn	**Pn**	**11 27 59.3**	**+0.3**
KAVV	**Kandilli-Istan**	**3.61**	**356**	Pn	**Pn**	**11 28 00.1**	**+0.6**
ISK	**Istanbul-Kandi**	**3.61**	**356**	Pn	**Pn**	**11 28 00.3**	**+0.8**
KIRS	**Kirsehir-Merke**	**3.91**	**63**	⇑P	**Pn**	**11 28

comp=Z,3.4nm,0.3s,baz=350,slow=3.4,SNR=12
ASF Sn **Sn** **11 30 34.7 +1.7**
comp=Z,1.6nm,0.3s,baz=206,slow=14,SNR=1.5
comp=Z,9.3nm,0.5s
SIM Simferopol' 8.27 24 *e*P **Pn** **11 29 05.3 +1.8**
SIM S **Sn** **11 30 41.6 +4.5**
SIM pmax pmax
comp=Z,60nm,1.0s
SIM smax smax
comp=N,42nm,1.1s
SIM smax smax
comp=E,73nm,1.1s
SIM MLR MLR
comp=Z,406nm,16.0s
RYAN Fayoum 8.39 175 P **Pn** **11 29 05.0 -0.1**
MTUR Matau 8.42 338 ⇓P **Pn** **11 29 06.0 +0.3**
MTUR Matau 8.42 338 P **Pn** **11 29 05.9 +0.3**
MLR Muntele Rosu 8.44 343 Pn **Pn** **11 29 07.1 +1.2**
MLR Muntele Rosu 8.44 343 Pn **Pn** **11 29 06.9 +1.0**
comp=Z,1.7nm,0.3s,baz=55,slow=6.3,SNR=8.5
MLR LR LR 11 31 53.3
comp=Z,74nm,21.1s,baz=129,slow=34
comp=Z,6.5nm,0.5s
MLR Muntele Rosu 8.44 343 ⇑P **Pn** **11 29 06.3 +0.5**
MLR Muntele Rosu 8.44 343 P **Pn** **11 29 07.1 +1.2**
MLR Muntele Rosu 8.44 343 Pn **Pn** **11 29 07.2 +1.3**
comp=Z,25nm,1.4s
PRNI Paran 8.47 145 P **Pn** **11 29 05.2 -1.1**
BOVS Bovan 8.51 319 ⇑P **Pn** **11 29 07.0 +0.2**
SUDU Sudak 8.53 28 *e*P **Pn** **11 29 07.6 +0.6**
SUDU Sudak 8.53 28 *e*P **Pn** **11 29 07.6 +0.6**
SUDU Pm 11 29 09.0
comp=Z,6.0nm,0.3s
KRMI Paran Flat 8.55 147 P **Pn** **11 29 06.1 -1.3**
KRMI Paran Flat 8.55 147 S **Sn** **11 30 38.7 -5.3**
VOIR 8.62 339 ⇑P **Pn** **11 29 08.8 +0.4**
VOIR 8.62 339 P **Pn** **11 29 08.7 +0.4**
VOIR 8.62 339 Pn **Pn** **11 29 08.7 +0.4**
comp=Z,11nm,0.9s
PLOR Plostina 8.64 347 ⇑P **Pn** **11 29 08.3 -0.2**
PLOR Plostina 8.64 347 P **Pn** **11 29 08.3 -0.2**
VRI Vrincioaia 8.64 347 ⇑P **Pn** **11 29 08.8 +0.3**
VRI Vrincioaia 8.64 347 P **Pn** **11 29 08.8 +0.3**
HRFI Mount Harif 8.75 146 P **Pn** **11 29 09.4 -0.8**
HRFI Mount Harif 8.75 146 S **Sn** **11 30 43.7 -5.3**
SWA2 8.84 203 P **Pn** **11 29 11.2 -0.1**
MBRI Mt Berech 8.91 148 P **Pn** **11 29 11.7 -0.7**
DOPR Dopca 9.02 342 ⇑P **Pn** **11 29 13.8 +0.1**
KOPT Kop Dagi 9.02 70 Pn **Pn** **11 29 17.4 +3.3**
EIL Elat 9.03 148 Pn **Pn** **11 29 13.3 -0.7**
comp=Z,55nm,0.6s,baz=335,slow=7.9,SNR=29
EIL Sn **Sn** **11 30 50.7 -5.1**
comp=Z,5.0nm,0.3s,baz=354,slow=16,SNR=6.4
EIL Elat 9.03 148 P **Pn** **11 29 12.9 -1.1**
EIL Elat 9.03 148 S **Sn** **11 30 50.0 -5.9**
LOT Lotru 9.04 334 ⇑P **Pn** **11 29 14.4 +0.4**
MARD Mardin 9.04 87 Pn **Pn** **11 29 15.0 +0.8**
ONER Baraj Valea Uz 9.15 347 ⇑P **Pn** **11 29 15.4 -0.2**
PDG Podgorica 9.25 306 ⇓P **Pn** **11 29 16.7 -0.2**
TESR Tescani 9.28 348 ⇓P **Pn** **11 29 17.7 +0.4**
MDVR Moldovita 9.34 324 ⇑P **Pn** **11 29 17.6 -0.6**
GZR Gura Zlata 9.36 330 ⇑P **Pn** **11 29 17.7 -0.8**
GZR Gura Zlata 9.36 330 P **Pn** **11 29 17.7 -0.8**
ANN Anapa 9.50 37 *e*P **Pn** **11 29 17.6 -2.7**
ANN *e*S **Sn** **11 31 03.9 -3.2**
ANN pmax pmax
comp=Z,9.0nm,0.8s
SOC Sochi 9.94 49 *e*P **Pn** **11 29 26.7 +0.4**
SOC *e* 11 31 20.9
SOC MLR MLR
comp=Z,533nm,12.0s
BZS Buzias 10.03 327 ⇑P **Pn** **11 29 26.7 -0.8**
BZS Buzias 10.03 327 P **Pn** **11 29 26.7 -0.8**
TIP Timpagrande 10.10 284 **Pn** **11 29 30.5 +1.9**
TIP Timpagrande 10.10 284 ⇓P **Pn** **11 29 27.3 -1.4**
BURAR Bucovina Array 10.61 344 Pn **Pn** **11 29 37.0 +1.4**
BURAR Bucovina Array 10.61 344 ⇑P **Pn** **11 29 35.5 -0.1**
BURAR Bucovina Array 10.61 344 P **Pn** **11 29 35.5 -0.1**
BUR08 Bucovina Ar. S 10.64 344 **Pn** **11 29 36.9 +0.8**
CEL Celeste 10.73 278 Pn **Pn** **11 29 38.9 +1.7**
CUC Castrocucco 10.93 288 Pn **Pn** **11 29 40.4 +0.4**
SHA1 Shidzhatmaz 11.85 54⇑*e*P **Pn** **11 29 55.0 +2.3**
KIV Kislovodsk 11.97 53 *e*P **Pn** **11 29 58.2 +4.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,189nm,13.0s
RAFF Raffo Rosso 11.99 273 Pn **Pn** **11 29 57.3 +2.8**
KBZ Khabaz 12.00 54 Pn **Pn** **11 29 57.7 +3.2**
comp=Z,3.5nm,1.0s,baz=249,slow=11,SNR=5.3
KBZ LR LR 11 35 03.4
comp=Z,203nm,20.0s,baz=223,slow=40
KBZ Khabaz 12.00 54⇓*e*P **Pn** **11 29 56.5 +2.0**
KBZ pmax pmax
comp=Z,9.0nm,1.4s
GNI Garni 12.25 73 Pn **Pn** **11 29 57.8 -0.3**
GNI Garni 12.25 73 Pn **Pn** **11 30 01.8 +3.7**
comp=Z,0.6nm,0.3s,baz=242,slow=17,SNR=4.3
comp=Z,5.1nm,0.8s
GNI Garni 12.25 73 P **Pn** **11 29 57.8 -0.3**
AKASG Malin Array Be 13.24 359 Pn **Pn** **11 30 10.3 -1.1**
comp=Z,0.6nm,0.3s,baz=201,slow=13,SNR=6.3
AKASG LR LR 11 36 11.4
comp=Z,167nm,20.0s,baz=167,slow=42
comp=Z,0.8nm,0.5s
AKBB Malin Array Si 13.24 359⇓*e*P **Pn** **11 30 13.7 +2.3**
AKBB pmax pmax
comp=Z,15nm,1.6s
MODS Modra-Piesok 14.06 325 *e*P **P** **11 30 31.2 +0.7**
MODS Modra-Piesok 14.06 325 *e*PN **P** **11 30 31.2 +0.7**
ARSA Arzberg 14.17 318 pP **P** **11 30 35.6 +3.8**
comp=Z,8.2nm,1.2s
JAVC Velka Javorina 14.24 327 *e*P **P** **11 30 33.1 +0.5**
OJC Ojcow 14.51 335 P **P** **11 30 36.8 +1.3**
OJC Ojcow 14.51 335 P **P** **11 30 36.8 +1.3**
MYKA Terra Mystica 14.86 313 *e*P **P** **11 30 39.7 +0.2**
comp=Z,7.8nm,1.1s
MAK Makhachkala 14.86 63 *e*P **Pn** **11 30 29.7 -3.9**
MAK *e*S **Sn** **11 33 13.5 -4.8**
MAK pmax pmax
comp=Z,39nm,0.4s
MAK MLR MLR
comp=Z,240nm,15.0s
KRUC Moravsky 14.96 325 *e*P **P** **11 30 40.2 -0.3**
MORC Moravsky Berou 14.99 329 P **P** **11 30 41.0 0.0**
MORC IAmb IAmb 11 30 43.6
comp=Z,11nm,1.5s
MORC Moravsky Berou 14.99 329 *e*P **P** **11 30 42.2 +1.2**
MORC Moravsky Berou 14.99 329 P **P** **11 30 41.0 0.0**
MORC pmax pmax
comp=Z,11nm,1.5s
VRAC Vranov 15.05 326 *e*P **P** **11 30 42.5 +1.0**
VORD Divnogorie 15.22 24 *e*P **Pn** **11 30 36.9 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 15.40 24 *e*P **Pn** **11 30 38.0 -2.7**
VSR pmax pmax
comp=Z,30nm,1.7s
CTI Castel Tesino 15.77 309 P **P** **11 30 51.5 +1.8**
CTI IAmb IAmb 11 30 58.9
comp=Z,12nm,0.9s
CTI Castel Tesino 15.77 309 P **P** **11 30 51.5 +1.8**
CTI pmax pmax
comp=Z,12nm,0.9s
VORR Voronezh 15.80 23 *e*P **Pn** **11 30 47.1 +1.1**
VORR pmax pmax
comp=Z,31nm,1.5s
LESA Schwarzleotal 15.84 314 *e*P **P** **11 30 50.5 0.0**
comp=Z,5.7nm,0.9s
GEC2 GERESS Array S 16.12 320 P **P** **11 30 53.8 +0.2**
GERES GERESS Array B 16.12 320 P **P** **11 30 54.9 +1.3**
GERES GERESS Array B 16.12 320 Pn **P** **11 30 53.9 +0.4**
comp=Z,4.0nm,0.9s,baz=125,slow=12,SNR=20
KEST Kesra 16.22 270 Pn **P** **11 30 55.2 +0.6**
comp=Z,0.2nm,0.3s,baz=87,slow=12,SNR=4.7
CHVC Chvalec 16.23 328 *e*P **P** **11 30 58.6 +3.9**
CHVC Chvalec 16.23 328 *e*P **P** **11 30 58.6 +3.9**
VRH Novokhopyorsk 16.28 29 *e*P **Pn** **11 30 50.7 -1.4**
VRH pmax pmax
comp=Z,22nm,1.7s
WTTA Wattenberg 16.36 312 P **P** **11 30 57.7 +1.4**
comp=Z,13nm,1.1s
KHC Kasperske Hory 16.36 320 *e*P **P** **11 30 59.1 +2.9**
KHC Kasperske Hory 16.36 320⇑*e*P **P** **11 30 57.6 +1.4**
KHC pmax pmax
comp=Z,27nm,2.5s
WATA Walderalm 16.43 313 *e*pP pP 11 30 59.4 -0.5
comp=Z,5.3nm,0.8s
LPSR Galich'ya Gora 16.54 21 *e*P **Pn** **11 30 55.6 +0.2**
LPSR pmax pmax
comp=Z,15nm,1.2s
SQTA Sankt Quirin 16.59 312 P **P** **11 31 04.8 +6.0**
comp=Z,6.8nm,0.8s
MOTA Moosalm 16.71 312 *e*P P 11 31 06.9 +6.7
comp=Z,7.1nm,1.0s
FETA Feichten 16.78 311 *e*Pn **P** **11 31 01.3 +0.4**
comp=Z,16nm,1.3s
MNK Minsk 17.08 357 *i* P **Pn** **11 30 60.0 -2.2**
MNK *i* P **Pn** **11 30 60.0 -2.2**
MNK *i* P **Pn** **11 30 60.0 -2.2**
comp=Z,3.0nm,0.5s,baz=176
MNK *i* PP **PnPn** **11 31 09.7 -2.2**
MNK *i* PPP PPP 11 31 17.2
MNK *i* S **Sn** **11 34 10.2 -1.9**
MNK *i* SS **SnSn** **11 34 24.7 -0.6**
MNK *i* SSS SSS 11 34 37.4
MNK *i* LQ LQ 11 36 02.9
MNK *i* LR LR 11 37 17.8
MNK *i* LRM MLR 11 38 33.0
comp=E,246nm,15.3s
MNK *i* LRM MLR 11 38 33.0
comp=N,174nm,16.2s
MNK *i* LRM MLR 11 38 33.0
comp=Z,157nm,14.5s
MNK Minsk 17.08 357 *i* P **Pn** **11 30 59.9 -2.2**
MNK *i* S **Sn** **11 34 10.1 -1.9**
MNK pmax pmax
comp=Z,3.0nm,0.5s
MNK MLR MLR
comp=N,174nm,16.0s
MNK MLR MLR
comp=E,246nm,15.0s
MNK MLR MLR
comp=Z,157nm,15.0s
DAVOX Davos/Dischmat 17.19 309 P **P** **11 31 07.2 +1.6**
comp=Z,3.6nm,0.8s,baz=124,slow=15,SNR=3.8
DAVOX LR LR 11 38 53.1
comp=Z,177nm,20.6s,baz=14,slow=41
BRG Berggiesshubel 17.36 325 *e*P **P** **11 31 08.8 +1.7**
BRG Amp 11 31 15.4
comp=Z,5.8nm,1.0s
DAVA Damuels 17.42 310 Pn **P** **11 31 08.2 +0.3**
comp=Z,8.6nm,0.9s
NACGM Naroch 17.54 355 *e*P **P** **11 31 08.2 -0.9**
comp=Z,959nm,0.8s,baz=172
OBN Obninsk 18.32 13⇓*e*P **P** **11 31 19.3 +1.7**
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,127nm,17.0s
SENIN Lac Senin/Sane 18.67 305 P **Pn** **11 31 23.2 +1.1**
BFO Black Forest 18.83 312 P **Pn** **11 31 25.3 +1.5**
BFO Black Forest 18.83 312 P **Pn** **11 31 25.3 +1.5**
BFO pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 19.11 14 *e*P **P** **11 31 19.7 -6.6**
MOS pmax pmax
comp=Z,35nm,0.6s
ECH Echery 19.48 311 P **Pn** **11 31 32.1 +0.5**
ECH IAmb IAmb 11 31 37.1
comp=Z,16nm,1.0s
ECH Echery 19.48 311 P **Pn** **11 31 32.2 +0.5**
ECH pmax pmax
comp=Z,17nm,1.0s
RAYN Ar Rayn 19.58 131 P **Pn** **11 31 32.2 -0.9**
RAYN IAmb IAmb 11 31 38.1
comp=Z,14nm,1.1s
RAYN Ar Rayn 19.58 131 P **Pn** **11 31 32.2 -0.9**
RAYN pmax pmax
comp=Z,14nm,1.1s
WLF Walferdange 20.71 313 *d*P Pn 11 31 45.2 -1.0
comp=Z,11nm,1.0s
VSU Vasula 21.09 356⇓*e*P **P** **11 31 49.2 +1.4**
VSU pmax pmax
comp=Z,58nm,1.7s
MEM Membach 21.24 316 *d*P P 11 31 56.5 +6.9
MEM *d*PP **PnPn** **11 32 08.6 -0.3**
BGES Gesves 21.66 314 *d*P **P** **11 31 55.8 +1.8**
comp=Z,9.5nm,1.2s
BMRD Maredsous 21.80 314 *d*P **P** **11 32 01.8 +6.2**
comp=Z,7.5nm,1.1s
DOU Dourbes 21.81 313 *d*P **P** **11 31 57.9 +2.2**
comp=Z,6.4nm,1.1s
FINES FINESS Array B 24.10 356 P **P** **11 32 18.7 -0.3**
comp=Z,8.1nm,0.6s,baz=152,slow=10,SNR=28
FINES LR LR 11 41 33.4
comp=Z,48nm,19.5s,baz=190,slow=36
comp=Z,8.1nm,0.6s
FIA1 FINESS Array S 24.10 356 P **P** **11 32 18.8 -0.2**
AKTO Aktyubinsk 24.16 48 LR LR 11 44 58.4
comp=Z,146nm,19.3s,baz=152,slow=45
KLMR Klimovskoe 24.27 12 *e*P **P** **11 32 18.1 -2.5**
KLMR S **S** **11 36 35.6 -3.6**
KLMR pmax pmax
comp=Z,22nm,0.9s
HFS Hagfors 24.81 341 P **P** **11 32 25.7 +0.1**
comp=Z,8.0nm,0.8s,baz=151,slow=10,SNR=12
HFS LR LR 11 42 44.0
comp=Z,110nm,20.0s,baz=146,slow=38
comp=Z,8.0nm,0.8s
KIRV Kirov 24.83 25 LR LR 11 43 42.0
comp=Z,122nm,20.4s,baz=214,slow=40
KIRV Kirov 24.83 25 *ce*P **P** **11 32 24.7 -0.9**
ABKAR Akbulak array 24.95 52 P **P** **11 32 26.9 0.0**
ABKAR IAmb IAmb 11 32 33.7
comp=Z,6.0nm,0.8s
TAM Tamanrasset 25.22 241 P **P** **11 32 30.4 +0.6**
TAM Tamanrasset 25.22 241 P **P** **11 32 30.4 +0.6**
TAM pmax pmax
comp=Z,67nm,1.3s
ESDC Sonseca Array 26.11 285 P **P** **11 32 38.1 +0.5**
comp=Z,5.6nm,1.0s,baz=75,slow=9.6,SNR=14
comp=Z,5.6nm,1.0s
NAO01 NORSAR Array S 26.17 339 P **P** **11 32 38.5 +0.7**
NB2 NORSAR Subarra 26.24 340 P **P** **11 32 38.6 +0.1**
comp=Z,4.7nm,1.1s,baz=146,slow=9.3
NOA NORSAR Array B 26.24 340 P **P** **11 32 38.8 +0.2**
comp=Z,1.3nm,0.9s,baz=146,slow=11,SNR=5.7
NOA LR LR 11 43 36.8
comp=Z,48nm,19.6s,baz=140,slow=38
comp=Z,1.3nm,0.9s
ARTI Arti 27.06 36 P **P** **11 32 45.4 -0.5**
ARTI Arti 27.06 36 LR LR 11 46 27.2
comp=Z,90nm,19.4s,baz=218,slow=43
ARTI Arti 27.06 36*d* *i*P **P** **11 32 45.5 -0.4**
ARTI 11 33 27.3
ARTI S **S** **11 37 25.1 +1.5**
ARTI SS **SnSn** **11 38 28.6 -1.1**
ARTI pmax pmax
comp=Z,18nm,1.7s
MDT Midelt 28.12 271 LR LR 11 47 25.4
comp=Z,56nm,18.1s,baz=192,slow=43
EKA Eskdalemuir Ar 28.34 320 P **P** **11 32 57.8 +0.5**
comp=Z,0.6nm,0.5s,baz=122,slow=8.9,SNR=2.8
comp=Z,0.6nm,0.5s
KK31 Karatay Array 31.61 67 P **P** **11 33 26.3 -0.2**
KK31 IAmb IAmb 11 33 39.2
comp=Z,6.1nm,1.3s
KK31 Karatay Array 31.61 67 P **P** **11 33 26.3 -0.2**
KK31 pmax pmax
comp=Z,6.0nm,1.3s
KKAR Karatay Array 31.61 67 P **P** **11 33 26.8 +0.3**
KKAR IAmb IAmb 11 33 39.1
comp=Z,3.9nm,1.3s
KKAR Karatay Array 31.61 67 P **P** **11 33 27.1 +0.6**
KKAR Karatay Array 31.61 67 P **P** **11 33 26.8 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,1.3s
ARCES ARCESS Array B 32.20 357 P **P** **11 33 31.3 -0.1**
comp=Z,5.0nm,0.8s,baz=179,slow=6.9,SNR=6.1
comp=Z,5.0nm,0.8s
BRVK Borovoye 32.21 48⇑*e*P **P** **11 33 32.0 +0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.5s
BVAR Borovoye Array 32.26 48 P **P** **11 33 31.7 -0.4**
comp=Z,0.8nm,0.7s,baz=260,slow=8.6,SNR=5.4
BVAR LR LR 11 49 43.5
comp=Z,169nm,20.8s,baz=269,slow=42
comp=Z,0.8nm,0.7s
ARLS Aral 34.54 68 P **P** **11 33 54.4 +2.1**
AAK Ala-Archa 34.57 67 P **P** **11 33 53.6 +1.1**
AAK IAmb IAmb 11 33 57.6
comp=Z,5.4nm,1.1s
AAK Ala-Archa 34.57 67⇑*e*P **P** **11 33 55.0 +2.5**
AAK pmax pmax
comp=Z,6.0nm,1.1s
TORD Torodi Ar. Bea 34.61 233 P **P** **11 33 52.6 -0.2**
comp=Z,5.0nm,0.5s,baz=36,slow=10,SNR=11
comp=Z,5.0nm,0.5s
BOOM Boomskoye usch 35.65 67 P **P** **11 34 00.2 -1.6**
BOOM IAmb IAmb 11 34 07.3
comp=Z,4.6nm,1.2s
BOOM Boomskoye usch 35.65 67 P **P** **11 34 00.2 -1.6**
BOOM pmax pmax
comp=Z,5.0nm,1.2s
KDJ Kajisay 36.61 67 P **P** **11 34 10.1 0.0**
KDJ IAmb IAmb 11 34 15.4
comp=Z,10nm,1.4s
KDJ Kajisay 36.61 67 P **P** **11 34 10.1 0.0**
KDJ pmax pmax
comp=Z,10.0nm,1.4s
KURBB Kurchatov Arra 36.99 53 P **P** **11 34 12.8 -0.2**
comp=Z,5.3nm,0.5s,baz=276,slow=8.8,SNR=31
KURBB LR LR 11 53 23.8
comp=Z,74nm,18.5s,baz=210,slow=43
comp=Z,5.3nm,0.5s
KURK Kurchatov 37.05 53 P **P** **11 34 13.2 -0.3**
KURK IAmb IAmb 11 34 18.1
comp=Z,6.0nm,0.9s
KURK Kurchatov 37.05 53*d* *i*P **P** **11 34 14.3 +0.8**
KURK pmax pmax
comp=Z,10.0nm,1.3s
MK31 Makanchi Array 39.64 59⇓*e*P **P** **11 34 35.4 0.0**
MKAR Makanchi Array 39.64 59 P **P** **11 34 35.0 -0.4**
MKAR Makanchi Array 39.64 59 P **P** **11 34 35.2 -0.2**
comp=Z,2.0nm,0.6s,baz=278,slow=7.6,SNR=16
MKAR LR LR 11 55 08.9
comp=Z,53nm,21.5s,baz=280,slow=43
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 39.64 59 *i* P **P** **11 34 35.5 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
ZAA0 Zalesovo Array 40.92 48 P **P** **11 34 45.5 -0.3**
ZALV Zalesovo Beam 40.92 48 P **P** **11 34 45.4 -0.5**
ZALV Zalesovo Beam 40.92 48 P **P** **11 34 45.6 -0.2**
comp=Z,2.6nm,0.6s,baz=268,slow=9.3,SNR=12
ZALV LR LR 11 54 56.1
comp=Z,125nm,19.8s,baz=275,slow=41
comp=Z,2.6nm,0.6s
ZALV Zalesovo Beam 40.92 48 *i* P **P** **11 34 45.5 -0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 43.70 234 P **P** **11 35 10.7 +1.8**
comp=Z,1.6nm,0.5s,baz=59,slow=3.7,SNR=3.1
DBIC LR LR 11 56 16.8
comp=Z,71nm,18.0s,baz=73,slow=40
comp=Z,1.6nm,0.5s
NRIK Noril'sk 44.33 26 P **P** **11 35 14.1 +0.8**
comp=Z,3.6nm,0.6s,baz=247,slow=4.7,SNR=6.7
NRIK LR LR 11 57 19.7
comp=Z,60nm,18.7s,baz=194,slow=41
comp=Z,3.6nm,0.6s
NRIK Noril'sk 44.33 26*ce*P **P** **11 35 14.4 +1.1**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
SFJD Kangerlussuaq 52.34 331 LR LR 12 02 47.9
comp=Z,67nm,18.6s,baz=110,slow=41
SONM Songino Array 55.36 53 P **P** **11 36 37.7 0.0**
comp=Z,0.7nm,0.7s,baz=278,slow=8.3,SNR=6.2
SONM LR LR 12 03 35.7
comp=Z,103nm,20.8s,baz=288,slow=40
comp=Z,0.7nm,0.7s
ULN Ulaanbaatar 55.77 53⇑*e*P **P** **11 36 41.6 +0.9**
ULN pmax pmax
comp=Z,5.0nm,1.6s
TSUM Tsumeb 57.45 193 LR LR 12 01 56.1
comp=Z,84nm,21.1s,baz=172,slow=36
PZH PanZhiHua 60.96 78 P **P** **11 37 18.8 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC Hu-ho-hao-te 61.50 59 *e*P **P** **11 37 21.5 +0.8**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.5s
YAK Yakutsk 62.14 32 LR LR 12 09 21.7
comp=Z,64nm,18.4s,baz=264,slow=41
YAK Yakutsk 62.14 32⇓*e*P **P** **11 37 26.8 +2.4**
YAK pmax pmax
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 62.95 87 P **P** **11 37 28.9 -1.6**
comp=Z,0.7nm,0.5s,baz=296,slow=7.0,SNR=9.2
CMAR LR LR 12 10 16.1
comp=Z,27nm,19.5s,baz=305,slow=41
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 62.95 87 *i* P **P** **11 37 31.1 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
SCHQ Schefferville 63.65 320 P **P** **11 37 33.9 -0.8**
comp=Z,1.5nm,0.7s,baz=43,slow=7.9,SNR=4.2
comp=Z,1.5nm,0.7s
ZEA Zeya 64.99 40 *e*P **P** **11 37 47.7 +4.3**
HEH HeiHe 66.84 44 *e*P **P** **11 37 54.5 -0.9**
HEH pmax pmax
comp=Z,4.0nm,1.1s
KLR Kul'dur 69.76 43 LR LR 12 14 13.3
comp=Z,60nm,19.2s,baz=334,slow=41
KLR Kul'dur 69.76 43⇑*e*P **P** **11 38 15.1 +1.4**
KLR pmax pmax
comp=Z,15nm,3.2s
BILL Bilibino 69.95 16⇑*e*P **P** **11 38 14.7 +0.1**
BILL pmax pmax
comp=Z,11nm,1.1s
SEY Seymchan 70.09 24⇓*e*P **P** **11 38 17.9 +2.4**
SEY pmax pmax
comp=Z,10.0nm,1.6s
MA2 Magadan 71.90 27 LR LR 12 14 52.8
comp=Z,52nm,19.2s,baz=279,slow=40
MA2 Magadan 71.90 27⇓*e*P **P** **11 38 27.3 +0.8**
MA2 pmax pmax
comp=Z,11nm,1.2s
USRK Ussuriysk Ar. 72.77 47 LR LR 12 15 03.5
comp=Z,42nm,18.1s,baz=13,slow=40
KSRS Korea Array 74.15 55 LR LR 12 15 55.5
comp=Z,61nm,18.0s,baz=320,slow=40
SADO Sadowa 75.84 316 LR LR 12 10 43.0
comp=Z,32nm,18.6s,baz=252,slow=34
YKA Yellowknife Ar 76.27 344 P **P** **11 38 52.1 +0.1**
comp=Z,1.0nm,0.9s,baz=33,slow=5.6,SNR=12
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 76.27 344 *i* P **P** **11 38 52.0 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YSS Yuzhno-Sakhali 76.98 40 *e*P **P** **11 38 59.1 +2.8**
YSS pmax pmax
comp=Z,20nm,0.9s
COLA College 77.98 359⇓*e*P **P** **11 39 02.5 +1.0**
COLA pmax pmax
comp=Z,13nm,1.8s
ILAR Eielson Array 78.06 358 P **P** **11 39 02.9 +0.8**
comp=Z,0.9nm,0.9s,baz=358,slow=4.3,SNR=8.1
comp=Z,0.9nm,0.9s
PETK Petropavlovsk- 79.28 29 LR LR 12 18 36.1
comp=Z,63nm,18.7s,baz=115,slow=39
BDFB Brasilia 89.74 250 P **P** **11 40 04.2 +1.7**
comp=Z,5.4nm,0.7s,baz=74,slow=1.9,SNR=6.1
comp=Z,5.4nm,0.7s
JCJ Chichijima 90.00 55 LR LR 12 25 56.8
comp=Z,28nm,18.8s,baz=178,slow=39
PDAR Pinedale Array 91.86 331 P **P** **11 40 11.2 -1.0**
comp=Z,0.4nm,0.7s,baz=64,slow=6.8,SNR=4.3
comp=Z,0.4nm,0.7s
NVAR Mina Array Bea 98.83 335 LR LR 12 28 34.7
comp=Z,56nm,18.3s,baz=161,slow=37

HEL 27 11:27:53.3±0.7, 66°68N×32°63E, h0km, ML1.0,
Suspected explosion, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLKF	**Oulanka, Finla**	**1.34**	**256**	PN	Pb	11 28 19.6	+0.3
OLKF				MSG		11 28 33.7	
	comp=Z,0.4nm,0.2s						

OLKF			SB	Sg	11 28 35.2	-1.1
VRF	**Varrio**	**1.59 314**	PN	Pn	11 28 22.9	+0.1
	baz=131					
VRF			MSG		11 28 41.0	
	comp=Z,1.9nm,0.2s					
VRF			SN	Sg	11 28 44.6	+0.2
RAJF	**Raja-Jooseppi**	**2.45 320**	PN	Pn	11 28 34.5	0.0
KEV	**Kevo**	**3.74 328**	SN	Sn	11 29 33.0	-3.7
HEF	**Hetta**	**3.85 301**	SN	Sn	11 29 39.4	-0.3
NIF	**Nilsia**	**3.88 214**	PB	Pb	11 28 58.9	-3.6
KTK1	**Kautokeino**	**4.26 308**	SN	Sn	11 29 45.5	-4.2

*AEIC **27** 11:43:13.6±1.3, 69°.56N±0°.05×144°.54W±0°.06, h10km±3km, ML3.7, mb3.9/5(NEIC), ML3.8/110(NEIC), Mwr3.7/33(NEIC), Error ellipse: s-maj=8.0km s-min=2.4km az=166.0*
*IDC **27** 11:43:14.4±1.0, 69°.66N×144°.44W, h0km, mb3.8/5, mbtmp3.7/9, ML3.6/4, MS3.2/4, Error ellipse: s-maj=23.1km s-min=14.2km az=81.0*
*NEIC **27** 11:43:15.4±1.1, 69°.60N±0°.02×144°.52W±0°.05, h10km±2km, Error ellipse: s-maj=4.1km s-min=3.0km az=138.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=1.51; Mθθ=0.26; Mϕϕ=1.77; Mrθ=1.22; Mθϕ=-3.67; Mϕr=1.30; Fault plane solution: M0=4.40000×10^14^ NP1:ϕ=9.28000°, δ=72.90000°, λ=4.47000°. NP2:ϕ=277.97000°, δ=85.73000°, λ=162.85000°. Principal axes: T 5.0442, Plg=15.0000°, Azm=232.0000°; N -1.9579, Plg=72.0000°, Azm=84.0000°; P -3.0863, Plg=9.0000°, Azm=325.0000°;*
*NEIC **27** 11:43:15.7, 69°.66N×144°.46W, h14km*
ISC 27 11:43:14.9±0.6, 69°.58N±0°.05×144°.47W±0°.03, h14km, n162, σ1°.24/163, mb3.9/6, MS3.1/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.27**	**81**		**Pg**	**11 43 19.1**	**-1.5**
C27K					**Sg**	**11 43 23.3**	**-1.2**
C27K				IAML		11 43 23.7	
	comp=E,11μm,0.8s						
C26K	**Camden Bay**	**0.37**	**335**		**Pg**	**11 43 22.0**	**-0.4**
D25K	**Kavik River**	**0.72**	**250**		**Pg**	**11 43 26.4**	**-2.6**
D25K					**Sg**	**11 43 36.8**	**-1.7**
D27M	**Malcolm River**	**1.28**	**104**		**Pn**	**11 43 37.4**	**-1.1**
D27M				IAML		11 43 59.5	
	comp=N,1μm,0.8s						
C24K	**Franklin Bluff**	**1.49**	**277**		**Pn**	**11 43 41.8**	**+0.6**
E25K	**Arctic Village**	**1.52**	**196**	Pn	**Pn**	**11 43 42.1**	**+0.4**
E25K					**Sb**	**11 44 03.1**	**+1.0**
E25K				IAML		11 44 07.3	
	comp=N,967nm,1.0s						
D24K	**Happy Valley**	**1.60**	**256**		**Pn**	**11 43 43.7**	**+0.9**
D24K				IAML		11 44 09.1	
	comp=N,1μm,0.7s						
D24K				IAML		11 44 11.4	
	comp=E,1μm,0.6s						
E27K	**Coleen River**	**1.75**	**142**		**Pn**	**11 43 45.6**	**+0.8**
F26K	**Sheenjek River**	**1.90**	**176**		**Pn**	**11 43 48.2**	**+1.3**
E28M	**Babbage River**	**2.02**	**117**		**Pn**	**11 43 49.6**	**+1.1**
D28M	**Stokes Point**	**2.04**	**95**		**Pn**	**11 43 50.6**	**+1.9**
F25K	**Christian Rive**	**2.05**	**193**		**Pn**	**11 43 50.2**	**+1.3**
F25K				IAML		11 44 21.1	
	comp=N,507nm,0.9s						
F25K				IAML		11 44 23.7	
	comp=E,618nm,1.1s						
TOLK	**Toolik Lake Re**	**2.06**	**245**	Pn	**Pn**	**11 43 50.2**	**+1.1**
TOLK				IAML		11 44 22.8	
	comp=E,462nm,0.6s						
TOLK				IAML		11 44 31.9	
	comp=N,524nm,0.9s						
E24K	**Your Creek**	**2.10**	**226**		**Pn**	**11 43 51.1**	**+1.3**
C23K	**Itkillik River**	**2.16**	**280**		**Pn**	**11 43 52.3**	**+1.9**
BMAR	**Burnt Mountain**	**2.17**	**181**		**Pn**	**11 43 51.6**	**+1.0**
D23K	**Nanushuk River**	**2.30**	**257**		**Pn**	**11 43 53.5**	**+1.2**
D23K				IAML		11 44 37.8	
	comp=N,428nm,0.7s						
D23K				IAML		11 44 40.8	
	comp=E,495nm,1.0s						
E23K	**Chandalar**	**2.42**	**233**		**Pn**	**11 43 55.0**	**+0.9**
E23K				IAML		11 44 35.1	
	comp=E,334nm,0.9s						
E23K				IAML		11 44 35.8	
	comp=N,330nm,0.8s						
F24K	**Squaw Lake**	**2.43**	**213**		**Pn**	**11 43 55.1**	**+1.0**
E29M	**Blow River**	**2.66**	**114**		**Pn**	**11 43 58.7**	**+1.5**
E29M				IAML		11 44 40.4	
	comp=N,419nm,0.7s						
E29M				IAML		11 44 50.8	
	comp=E,287nm,0.8s						
G26K	**Porcupine Rive**	**2.66**	**174**		**Pn**	**11 43 59.4**	**+2.1**
G25K	**Bearman Lake**	**2.90**	**193**		**Pn**	**11 44 01.4**	**+0.8**
G27K	**Doyon Strip**	**2.98**	**158**		**Pn**	**11 44 02.5**	**+0.7**
D22K	**Ayikyak River**	**3.01**	**260**		**Pn**	**11 44 03.1**	**+0.9**
D22K				IAML		11 44 58.6	
	comp=E,271nm,1.0s						
D22K				IAML		11 45 05.2	
	comp=N,304nm,0.8s						
E22K	**Anaktuvuk Pass**	**3.04**	**245**	Pn	**Pn**	**11 44 02.4**	**-0.1**
FYU	**Fort Yukon**	**3.05**	**186**		**Pn**	**11 44 03.6**	**+1.0**
G24K	**Hadweenzic Riv**	**3.11**	**203**		**Pn**	**11 44 03.9**	**+0.4**
G24K				IAML		11 44 53.7	
	comp=E,234nm,0.9s						
G24K				IAML		11 44 55.6	
	comp=N,267nm,1.1s						
B22K	**Teshekpuk Lake**	**3.17**	**288**		**Pn**	**11 44 05.6**	**+1.3**
COLD	**Coldfoot**	**3.18**	**225**	Pn	**Pn**	**11 44 05.3**	**+0.9**
H25L	**Birch Creek**	**3.37**	**189**		**Pn**	**11 44 08.3**	**+1.2**
F22K	**John River**	**3.52**	**237**		**Pn**	**11 44 10.2**	**+1.1**
B21K	**Ikpikpuk River**	**3.55**	**275**		**Pn**	**11 44 10.6**	**+1.1**
B21K				IAML		11 45 24.5	
	comp=N,236nm,1.1s						
B21K				IAML		11 45 27.8	
	comp=E,190nm,1.1s						
G23K	**Bananza Creek**	**3.56**	**218**		**Pn**	**11 44 10.5**	**+0.9**
G23K				IAML		11 45 12.8	
	comp=E,206nm,1.2s						
G23K				IAML		11 45 18.2	
	comp=N,218nm,1.0s						
G29M	**Pine Creek**	**3.60**	**135**		**Pn**	**11 44 11.0**	**+0.8**
G29M				IAML		11 45 19.0	
	comp=N,213nm,0.9s						
C21K	**Knifeblade Rid**	**3.68**	**268**		**Pn**	**11 44 12.3**	**+1.1**
F30M	**Barrier River**	**3.75**	**118**		**Pn**	**11 44 14.0**	**+1.8**
A22K	**Sinclair Lake**	**3.83**	**297**		**Pn**	**11 44 14.2**	**+0.9**
H24K	**Noodor Dome**	**3.98**	**201**		**Pn**	**11 44 15.9**	**+0.4**
H24K				IAML		11 45 30.5	
	comp=E,118nm,0.9s						
G30M	**tAoh Zraii Nji**	**4.03**	**127**		**Pn**	**11 44 17.2**	**+1.1**
G30M				IAML		11 45 31.1	
	comp=N,90nm,1.1s						
H29M	**Whitestone**	**4.09**	**143**		**Pn**	**11 44 18.1**	**+1.2**
H29M				IAML		11 45 32.1	
	comp=E,146nm,1.1s						
H29M				IAML		11 45 40.6	
	comp=N,114nm,0.8s						
F21K	**Alatna River**	**4.09**	**239**	Pn	**Pn**	**11 44 17.9**	**+0.9**
F21K				IAML		11 45 31.4	
	comp=E,99nm,1.0s						
PRP	**Porcupine Dome**	**4.11**	**186**	Pn	**Pn**	**11 44 19.0**	**+1.7**
PRP				IAML		11 45 09.2	
	comp=E,89nm,0.7s						
PRP				IAML		11 45 09.4	
	comp=N,114nm,0.4s						
INK	**Inuvik**	**4.15**	**103**	Pn	**Pn**	**11 44 18.4**	**+0.7**
INK	**Inuvik**	**4.15**	**103**	Pn	**Pn**	**11 44 18.0**	**+0.3**
	comp=N,1.4nm,0.3s,baz=291,slow=10.0,SNR=80						
INK				Sn	**Sn**	**11 45 06.0**	**+0.1**
	comp=N,3.4nm,0.3s,baz=270,slow=6.1,SNR=5.5						
	comp=N,4.9nm,0.4s						
H23K	**Yukon River**	**4.24**	**210**		**Pn**	**11 44 19.7**	**+0.6**
H23K				IAML		11 45 32.8	
	comp=N,112nm,0.9s						
H23K				IAML		11 45 33.0	
	comp=E,124nm,1.1s						
I26K	**Coal Creek Min**	**4.33**	**173**		**Pn**	**11 44 21.0**	**+0.8**
EPYK	**Eagle Plains**	**4.35**	**134**	Pn	**Pn**	**11 44 21.1**	**+0.6**
EPYK				IAML		11 45 42.7	
	comp=E,121nm,1.1s						
B20K	**Meade River**	**4.42**	**281**		**Pn**	**11 44 22.5**	**+1.0**
B20K				IAML		11 46 00.8	
	comp=N,112nm,0.8s						
F31M	**Tsiigehtchic**	**4.49**	**114**		**Pn**	**11 44 22.5**	**+0.1**
F31M				IAML		11 45 46.4	
	comp=E,87nm,1.2s						
F31M				IAML		11 45 46.4	
	comp=N,71nm,1.0s						
I28M	**Miner Creek**	**4.50**	**155**		**Pn**	**11 44 22.8**	**+0.1**
I28M				IAML		11 45 18.1	
	comp=E,84nm,0.8s						
I28M				IAML		11 45 50.2	
	comp=N,63nm,0.9s						
POKR	**Poker Plat Res**	**4.63**	**196**		**Pn**	**11 44 25.8**	**+1.4**
POKR				IAML		11 45 48.8	
	comp=N,74nm,0.9s						
G31M	**Satah River**	**4.64**	**120**		**Pn**	**11 44 24.2**	**-0.2**
G31M				IAML		11 45 45.4	
	comp=E,84nm,1.1s						
G31M				IAML		11 45 47.7	
	comp=N,70nm,0.7s						
I23K	**Minto, Yukon-K**	**4.84**	**205**		**Pn**	**11 44 27.5**	**+0.3**
I23K				IAML		11 45 50.3	
	comp=N,48nm,0.8s						
I23K				IAML		11 45 54.3	
	comp=E,74nm,1.2s						
I29M	**Ogilvie Camp,**	**4.86**	**148**		**Pn**	**11 44 27.6**	**+0.1**
I29M				IAML		11 45 28.9	
	comp=N,54nm,0.6s						
I29M				IAML		11 45 50.2	
	comp=E,57nm,0.9s						
COLA	**College**	**4.91**	**197**		**Pn**	**11 44 28.8**	**+0.6**
IL31		**4.93**	**192**		**Pn**	**11 44 29.8**	**+1.5**
ILAR	**Eielson Array**	**4.93**	**192**	Pn	**Pn**	**11 44 29.3**	**+0.9**
	comp=E,1.7nm,0.3s,baz=6.8,slow=12,SNR=73						
ILAR				Sn	**Sn**	**11 45 27.0**	**+1.9**
	comp=E,3.6nm,0.3s,baz=10,slow=26,SNR=11						
ILAR				Lg	Lg	11 45 50.2	
	comp=E,3.0nm,0.3s,baz=307,slow=32,SNR=5.7						
	comp=E,4.6nm,0.6s						
J25K	**Salcha River,**	**5.01**	**184**		**Pn**	**11 44 31.0**	**+1.4**
J25K				IAML		11 45 58.1	
	comp=N,50nm,0.9s						
J25K				IAML		11 46 04.8	
	comp=E,62nm,1.0s						
D19K	**Kuna River**	**5.02**	**264**		**Pn**	**11 44 30.7**	**+1.0**
D19K				IAML		11 46 05.7	
	comp=E,74nm,1.2s						
J26L	**Joseph Creek**	**5.12**	**176**		**Pn**	**11 44 31.6**	**+0.4**
J26L				IAML		11 46 10.2	
	comp=N,41nm,1.1s						
CCB	**Clear Creek Bu**	**5.13**	**196**		**Pn**	**11 44 31.5**	**+0.4**
CCB				IAML		11 46 06.7	
	comp=E,39nm,1.1s						
E19K	**Redstone River**	**5.15**	**252**		**Pn**	**11 44 32.1**	**+0.6**
I21K	**Tanana**	**5.29**	**217**		**Pn**	**11 44 33.4**	**0.0**
HDA	**Harding Lake**	**5.29**	**192**		**Pn**	**11 44 34.8**	**+1.4**
HDA				IAML		11 46 15.1	
	comp=N,61nm,1.1s						
NEA2	**Nenana**	**5.33**	**202**		**Pn**	**11 44 34.2**	**+0.3**
NEA2				IAML		11 46 07.9	
	comp=E,34nm,1.2s						
WRH	**Wood River Hil**	**5.33**	**197**	Pn	**Pn**	**11 44 34.4**	**+0.5**
WRH				IAML		11 46 03.9	
	comp=N,38nm,0.7s						
WRH				IAML		11 46 17.4	
	comp=E,47nm,0.8s						
I30M	**Mount Dempster**	**5.37**	**141**		**Pn**	**11 44 35.0**	**+0.3**
I30M				IAML		11 45 38.8	
	comp=E,54nm,0.5s						
H31M	**Peel River**	**5.41**	**130**		**Pn**	**11 44 34.6**	**-0.4**
SCRK	**Sand Creek**	**5.64**	**178**	Pn	**Pn**	**11 44 39.5**	**+1.3**
K27K	**Chicken**	**5.66**	**169**		**Pn**	**11 44 39.8**	**+1.3**
J29N	**Klondike Camp**	**5.70**	**152**		**Pn**	**11 44 40.9**	**+1.7**
A19K	**Wainwright**	**5.76**	**284**		**Pn**	**11 44 41.1**	**+1.3**
BWN	**Browne**	**5.78**	**202**		**Pn**	**11 44 40.7**	**+0.5**
RIDG	**Independent Ri**	**5.87**	**182**	Pn	**Pn**	**11 44 43.0**	**+1.6**
DAWY	**Dawson**	**5.89**	**158**	Pn	**Pn**	**11 44 43.6**	**+1.9**
J30M	**Hart River**	**5.95**	**144**		**Pn**	**11 44 43.3**	**+0.8**
DOT	**Dot Lake**	**5.96**	**178**		**Pn**	**11 44 43.5**	**+0.8**
C18K	**Utukok River**	**6.05**	**269**		**Pn**	**11 44 43.6**	**-0.3**
BPAW	**Bear Paw Mtn.**	**6.08**	**208**	Pn	**Pn**	**11 44 44.6**	**+0.4**
B18K	**Kokolik River**	**6.10**	**276**		**Pn**	**11 44 45.3**	**+0.9**
H19K	**Roundabout Mou**	**6.13**	**234**	Pn	**Pn**	**11 44 45.6**	**+0.7**
MCK	**McKinley**	**6.14**	**199**		**Pn**	**11 44 46.2**	**+1.1**
E18K	**Tukpahlearik C**	**6.31**	**258**		**Pn**	**11 44 48.4**	**+1.0**
K29M	**Barlow Dome**	**6.38**	**151**	Pn	**Pn**	**11 44 49.9**	**+1.3**
F18K	**Selawik**	**6.42**	**249**		**Pn**	**11 44 50.0**	**+1.2**
RND	**Reindeer**	**6.45**	**198**		**Pn**	**11 44 50.6**	**+1.2**
CHUM	**Lake Minchumin**	**6.51**	**212**		**Pn**	**11 44 50.9**	**+0.8**
G18K	**Tagagawik**	**6.53**	**242**		**Pn**	**11 44 51.0**	**+0.5**
KTH	**Kantishna Hill**	**6.58**	**206**		**Pn**	**11 44 51.7**	**+0.5**
TRF	**Thorofare Moun**	**6.58**	**203**	Pn	**Pn**	**11 44 52.1**	**+0.8**
L26K	**Log Cabin Wild**	**6.60**	**176**		**Pn**	**11 44 52.8**	**+1.4**
J20K	**Nowinta River**	**6.63**	**220**	Pn	**Pn**	**11 44 52.2**	**+0.4**
BCAR	**Beaver Creek A**	**6.64**	**169**	Pn	**Pn**	**11 44 53.0**	**+1.1**
L27K	**Beaver Creek,**	**6.64**	**170**		**Pn**	**11 44 53.0**	**+1.1**
MENT	**Mentasta**	**6.68**	**177**		**Pn**	**11 44 53.9**	**+1.3**
A36M	**Sachs Harbour**	**6.77**	**60**	Pn	**Pn**	**11 44 53.1**	**-0.5**
C17K	**DeLong Mountai**	**6.80**	**269**		**Pn**	**11 44 54.2**	**+0.1**
RDOG	**Red Dog Mine**	**6.85**	**266**	Pn	**Pn**	**11 44 55.0**	**+0.2**
E17K	**Hotham Inlet**	**6.89**	**257**		**Pn**	**11 44 55.4**	**0.0**
CAST	**Castle Rocks**	**6.89**	**210**	Pn	**Pn**	**11 44 56.1**	**+0.7**
MAYO	**Mayo, Yukon**	**6.91**	**146**	Pn	**Pn**	**11 44 56.0**	**+0.4**
H18K	**Honhosa River**	**6.96**	**237**		**Pn**	**11 44 57.1**	**+0.8**
L29M	**L29M**	**6.98**	**156**		**Pn**	**11 44 57.9**	**+1.2**
F17K	**Baldwin Pennin**	**7.03**	**251**		**Pn**	**11 44 57.0**	**-0.3**
C36M	**Paulatuk**	**7.17**	**82**	Pn	**Pn**	**11 44 58.2**	**-0.9**
HARP	**HAARP**	**7.22**	**183**		**Pn**	**11 45 01.6**	**+1.6**
M26K	**Nabesna, AK**	**7.24**	**175**		**Pn**	**11 45 02.2**	**+2.0**
K20K	**Telida**	**7.33**	**216**		**Pn**	**11 45 01.6**	**+0.1**
BVCY	**Beaver Creek**	**7.35**	**167**		**Pn**	**11 45 03.0**	**+1.3**
PPLA	**Purkeypile**	**7.40**	**209**	Pn	**Pn**	**11 45 03.5**	**+1.0**
G17K	**Kiwalik Mounta**	**7.42**	**244**		**Pn**	**11 45 03.3**	**+0.8**
H17K	**Granite Mounta**	**7.57**	**239**	Pn	**Pn**	**11 45 05.4**	**+0.7**
M29M	**Somme Creek**	**7.57**	**158**		**Pn**	**11 45 06.1**	**+1.3**
CUT	**Chulitna**	**7.58**	**201**		**Pn**	**11 45 06.1**	**+1.3**
C16K	**Lisburne Hills**	**7.62**	**270**		**Pn**	**11 45 05.7**	**+0.3**
WACK	**Wrangell Chich**	**7.63**	**180**		**Pn**	**11 45 06.4**	**+0.6**
J18K	**Innoko River**	**7.84**	**224**	Pn	**Pn**	**11 45 06.9**	**-1.5**
SCM	**Sheep Creek Mo**	**7.87**	**190**		**Pn**	**11 45 11.6**	**+2.6**
SML	**Sawmill**	**7.97**	**193**		**Pn**	**11 45 11.8**	**+1.5**
N25K	**Chitina, Valde**	**8.01**	**180**		**Pn**	**11 45 12.8**	**+1.9**
G16K	**Koyuk River**	**8.03**	**247**	Pn	**Pn**	**11 45 11.2**	**+0.2**
GLB	**Gilahina Butte**	**8.18**	**178**	Pn	**Pn**	**11 45 15.0**	**+1.8**
J17K	**VABM Dome**	**8.50**	**230**	Pn	**Pn**	**11 45 17.4**	**-0.1**
M20K	**Styx River**	**8.51**	**209**	Pn	**Pn**	**11 45 18.9**	**+1.3**
L19K	**White Mountain**	**8.55**	**215**	Pn	**Pn**	**11 45 17.9**	**-0.3**
YUK8	**Steele Glacier**	**8.56**	**165**		**Pn**	**11 45 19.9**	**+1.4**
I17K	**Unalakleet**	**8.57**	**236**	Pn	**Pn**	**11 45 17.5**	**-0.9**
F15K	**North Star Dit**	**8.59**	**253**	Pn	**Pn**	**11 45 17.6**	**-1.1**
FARO	**Faro, Yukon**	**8.65**	**143**		**Pn**	**11 45 19.4**	**-0.2**
STLK	**Strandline Lak**	**8.67**	**204**		**Pn**	**11 45 20.2**	**+0.4**
KIAG	**Kiagna River**	**8.74**	**173**		**Pn**	**11 45 22.0**	**+1.1**
N31M	**Braeburn, Yuko**	**8.88**	**152**	Pn	**Pn**	**11 45 20.1**	**-2.6**
L18K	**Granite Mounta**	**8.90**	**220**		**Pn**	**11 45 23.5**	**+0.6**
YUK6	**Outpost Mounta**	**9.04**	**161**		**Pn**	**11 45 25.8**	**+0.7**
KHIT	**Khitrov Hills**	**9.20**	**176**		**Pn**	**11 45 28.6**	**+1.6**
HYT	**Haines Junctio**	**9.26**	**158**		**Pn**	**11 45 29.3**	**+1.4**
O30N	**Mendenhall**	**9.51**	**154**		**Pn**	**11 45 32.1**	**+0.8**
CHX	**Chaix Hills**	**9.66**	**170**		**Pn**	**11 45 35.4**	**+2.0**
M17K	**Holitna River**	**9.80**	**219**	Pn	**Pn**	**11 45 35.5**	**+0.3**
WHY	**Whitehorse**	**9.81**	**151**		**Pn**	**11 45 35.6**	**+0.1**
L16K	**Owhat River**	**10.01**	**225**	Pn	**Pn**	**11 45 37.4**	**-0.6**
J14K	**Nanvaranak Lak**	**10.28**	**238**	Pn	**Pn**	**11 45 40.6**	**-1.1**
M16K	**Timber Creek**	**10.48**	**222**	Pn	**Pn**	**11 45 43.0**	**-1.5**
WRGLY	**Wrigley**	**10.51**	**117**		**Pn**	**11 45 44.1**	**-0.8**
SKAG	**Skagway**	**10.88**	**155**	Pn	**Pn**	**11 45 51.1**	**+1.1**
BESE	**Bessie Mountai**	**11.80**	**155**	Pn	**Pn**	**11 46 04.3**	**+1.7**
DLBC	**Dease Lake**	**12.80**	**144**	Pn	**Pn**	**11 46 15.7**	**-0.6**
	comp=E,0.3nm,0.3s,baz=341,slow=14,SNR=6.1						
DLBC				LR	LR	11 51 07.3	
	comp=E,82nm,19.2s,baz=266,slow=37						
	comp=E,1.2nm,0.5s						
YKAW3	**Yellowknife Wh**	**13.87**	**106**	Pn	**Pn**	**11 46 27.4**	**-3.3**
YKA	**Yellowknife Ar**	**13.91**	**106**	Pn	Pn	11 46 27.6	-3.7
	comp=E,0.4nm,0.3s,baz=312,slow=13,SNR=18						
	comp=E,1.0nm,0.5s						
YKAW1	**Yellowknife Wh**	**13.96**	**106**	Pn	**Pn**	**11 46 28.6**	**-3.5**
RES	**Resolute Bay**	**15.59**	**49**		**Pn**	**11 46 50.5**	**-3.2**
RES				IAmb	IAmb	11 47 08.8	
	comp=Z,7.0nm,1.2s						
RES	**Resolute Bay**	**15.59**	**49**	Pn	**Pn**	**11 46 50.6**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=256,slow=10,SNR=20						
EUNU	**Eureka**	**17.36**	**30**	Pn	**Pn**	**11 47 14.9**	**-1.5**
FCC	**Fort Churchill**	**23.68**	**92**	P	**P**	**11 48 27.5**	**+1.9**
FCC				IAmb	IAmb	11 48 34.7	
	comp=Z,6.0nm,1.3s						
NEW	**Newport**	**25.18**	**134**	LR	LR	11 59 47.6	
	comp=Z,59nm,18.4s,baz=359,slow=39						
FRB	**Frobisher Bay**	**28.76**	**64**	LR	LR	12 02 40.7	
	comp=Z,45nm,20.5s,baz=94,slow=41						
YBH	**Yreka Blue Hor**	**30.13**	**146**	LR	LR	12 02 24.5	
	comp=Z,52nm,19.3s,baz=209,slow=38						
PDAR	**Pinedale Array**	**32.28**	**128**	P	**P**	**11 49 45.7**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=320,slow=10,SNR=4.5						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**49.09**	**6**	P	**P**	**11 52 01.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=359,slow=7.8,SNR=5.8						
	comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**49.63**	**14**	P	**P**	**11 52 06.6**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=343,slow=9.3,SNR=6.3						
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**56.05**	**328**	P	**P**	**11 52 54.2**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=11,slow=7.4,SNR=4.7						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**59.94**	**5**	P	**P**	**11 53 20.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=360,slow=7.2,SNR=5.6						
	comp=Z,1.1nm,0.5s						

*ATH **27** 11:53:54.9, 41°.15N×23°.34E, h8km±2km, ML2.3/12, Manual Solution by K.Orfanogiannaki First location: 2019/03/27 11:54:52, This location: 2019/03/27 15:20:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*SKO **27** 11:53:55.7, 41°.15N×23°.35E, h0km, ML2.1*
*SOF **27** 11:53:55.8, 41°.17N±0°.01×23°.33E±0°.01, h7km±2km, MD2.5/6*
*BEO **27** 11:53:55.7±0.5, 41°.15N×23°.32E, h0km, ML2.2/5*
ISC 27 11:53:54.1±0.9, 41°.15N±0°.02×23°.29E±0°.02, h13km±7km, n44, σ0°.72/77, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.23**	**97**	*i* Pg	**Pg**	**11 53 59.1**	**0.0**
SRS				*i* Sg	**Sg**	**11 54 01.9**	**-0.6**
SRS	**Serrai**	**0.23**	**97**	*e*Pg	**Pg**	**11 53 59.1**	**0.0**
SRS				*e*Sg	**Sg**	**11 54 01.8**	**-0.7**
SRS	**Serrai**	**0.23**	**97**	P	**Pg**	**11 53 59.1**	**0.0**
SRS				S	**Sg**	**11 54 01.9**	**-0.6**
NGRA	**Nigrita**	**0.29**	**146**	P	**Pg**	**11 54 00.3**	**+0.3**
NGRA				S	**Sg**	**11 54 04.5**	**+0.5**
KNT	**Kendrikon**	**0.29**	**273**	*i* Pg	**Pb**	**11 54 01.5**	**+0.3**
KNT				*i* Sg	**Sb**	**11 54 06.1**	**+0.1**
KNT	**Kendrikon**	**0.29**	**273**	P	**Pb**	**11 54 01.5**	**+0.3**
KNT				S	**Sb**	**11 54 05.8**	**-0.2**
SOH	**Sokhos**	**0.33**	**171**	P	**Pb**	**11 54 01.6**	**-0.2**
SOH				S	**Sg**	**11 54 06.1**	**+0.9**
MMB	**Musomishta**	**0.53**	**41**	Pg	**Pg**	**11 54 04.9**	**+0.3**
MMB				Sg	**Sg**	**11 54 10.4**	**-1.2**
MMB	**Musomishta**	**0.53**	**41**	*i* Pg	**Pg**	**11 54 04.8**	**+0.3**
MMB				*i* Sg	**Sg**	**11 54 12.1**	**+0.5**
HORT	**Hortiatis**	**0.56**	**195**	P	**Pb**	**11 54 06.2**	**+0.3**
HORT				S	**Sb**	**11 54 14.3**	**+0.4**
THE	**Thessaloniki**	**0.57**	**206**	*i* Pg	**Pb**	**11 54 06.4**	**+0.5**
THE				*i* Sg	**Sb**	**11 54 14.0**	**+0.2**
THE	**Thessaloniki**	**0.57**	**206**	P	**Pb**	**11 54 06.2**	**+0.3**
THE				S	**Sb**	**11 54 13.8**	**-0.1**
VAY	**Valandovo**	**0.57**	**288**	*i* Pg	**Pn**	**11 54 06.9**	**-1.0**
VAY				*i* Sg	**Sn**	**11 54 15.6**	**-1.6**
VAY				*e*Lg	Lg	11 54 16.1	
	comp=N,48nm,0.3s						
VAY				*e*Lg	Lg	11 54 16.7	
	comp=E,57nm,0.3s						
VAY	**Valandovo**	**0.57**	**288**	*e*Pg	**Pn**	**11 54 06.8**	**-1.1**
VAY				*e*Sg	**Sn**	**11 54 15.3**	**-1.8**
KOKK	**Kokkinochori,**	**0.63**	**121**	P	**Pg**	**11 54 06.6**	**+0.2**
KOKK				S	**Sg**	**11 54 14.8**	**+0.1**
GRG	**Griva**	**0.69**	**255**	*i* Pg	**Pn**	**11 54 10.2**	**+0.5**
GRG				*i* Sg	**Sn**	**11 54 19.3**	**-1.1**
GRG	**Griva**	**0.69**	**255**	P	**Pn**	**11 54 09.7**	**0.0**
GRG				S	**Sn**	**11 54 19.0**	**-1.4**
KKB	**Krupnik**	**0.71**	**350**	Pg	**Pb**	**11 54 08.7**	**+0.4**
KKB	**Krupnik**	**0.71**	**350**	*i* Pg	**Pb**	**11 54 08.7**	**+0.4**
KKB				*i* Sg	**Sn**	**11 54 19.4**	**-1.2**
PLG	**Polygyros**	**0.78**	**171**	P	**Pb**	**11 54 09.5**	**-0.1**
PLG				S	**

ZLN	**Zelenaya**	**2.20 293**	*e*P	Pn	12 55 57.0 +4.1
BZGR	**Bezymyannyi-Gr**	**2.23 291**	*e*P	Pn	12 55 57.4 +4.1
TUMD	**Tumrok D**	**2.30 272**	*e*P	Pn	12 55 57.6 +3.5
TUMD			*e*S	Sn	12 56 24.4 +3.2
BZWR	**Bezymyannyi-We**	**2.35 291**	*e*P	Pn	12 55 59.3 +4.4
KLY	**Klyuchi**	**2.40 299**	*e*P	Pn	12 55 57.7 +2.3
KRSR	**Krestovskiy**	**2.40 297**	*e*P	Pn	12 55 58.8 +3.2
KIRR	**Kirishev**	**2.43 290**	*e*P	Pn	12 56 00.0 +4.0
KMNR	**Kamenistaya**	**2.44 285**	*e*P	Pn	12 56 00.5 +4.4
KPT	**Kopyto**	**2.50 290**	*e*P	Pn	12 56 01.1 +4.2
KOZ	**Kozyrevsk**	**2.71 290**	*e*P	Pn	12 56 04.4 +4.6
SRDR	**Sredinnyy**	**2.88 295**	*e*P	Pn	12 56 07.3 +5.2
ESO	**Esso**	**3.32 285**	*e*P	Pn	12 56 12.2 +4.0
SPN	**Mys Shipunski**	**3.33 232**	*e*S	Sn	12 56 47.2 +0.7
NLC	**Nalytchevo**	**3.60 238**	*e*S	Sn	12 56 55.3 +2.1
SDLR	**Sedlovina**	**3.77 241**	*e*P	Pn	12 56 19.0 +4.6
SDLR			*e*S	Sn	12 57 00.5 +3.0
UGLR	**Uglovaya**	**3.84 241**	*e*P	Pn	12 56 19.9 +4.6
UGLR			*e*S	Sn	12 57 02.2 +3.1
KRX	**Arik**	**3.85 244**	*e*P	Pn	12 56 20.2 +4.8
KRX			*e*S	Sn	12 57 02.5 +3.0
AVH	**Avacha**	**3.85 242**	*e*P	Pn	12 56 20.5 +5.1
AVH			*e*S	Sn	12 57 03.2 +3.8
KOK	**Koryaka**	**3.89 243**	*e*P	Pn	12 56 20.7 +4.7
DALK	**Dalny**	**3.97 239**	*e*P	Pn	12 56 21.1 +4.1
DALK			*e*S	Sn	12 57 04.7 +2.5
PET	**Petropavlovsk**	**4.03 240**	*e*S	Sn	12 57 06.1 +2.5
GNL	**Ganaly**	**4.06 251**	*e*P	Pn	12 56 23.6 +5.2
OSSR	**Ossora**	**4.12 350**	*e*P	Pn	12 56 21.3 +2.3
OSSR			*e*S	Sn	12 57 05.9 0.0
KRMR	**Karymshinskiy**	**4.40 240**	*e*S	Sn	12 57 16.1 +3.3
RUS	**Russkaya**	**4.46 234**	*e*P	Pn	12 56 27.6 +3.9
RUS			*e*S	Sn	12 57 15.2 +1.0
GRL	**Gorelyy**	**4.59 237**	*e*P	Pn	12 56 30.4 +4.7
KDTR	**Khodutka, Kamc**	**5.08 231**	*e*P	Pn	12 56 35.7 +3.5
KDTR			*e*S	Sn	12 57 30.0 +0.5

*NOU **27** 13:04:41.1, 40˚58S×176˚27E, h85km, MLv3.2/6, North Island, New Zealand*
*WEL **27** 13:04:43.9±0.4, 40˚S±3˚×17˚6E±˚, h34km±4km, M3.3/49, ML3.5/19, MLv3.3/49, Error ellipse: s-maj=4.5km s-min=3.4km az=117.3, confirmed*
ISC 27 13:04:44.7±1.4, **40.42S**±0.03×**175.96E**±0.03, **h43**km±7km, **n79**, σ0.9**70**/88, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDPS	**Woodville Poli**	**0.11**	**320**	P	**Pn**	**13 04 50.9**	**-0.8**
WDPS				S	**Sn**	**13 04 56.1**	**-0.6**
PRWZ	**Pori Road**	**0.13**	**178**	P	**Pn**	**13 04 51.8**	**-0.1**
PRWZ				S	**Sn**	**13 04 57.6**	**+0.7**
POWZ	**Post Office Ro**	**0.15**	**282**	P	**Pn**	**13 04 51.1**	**-0.9**
DVHZ	**Dannevirke**	**0.20**	**51**	P	**Pn**	**13 04 51.8**	**-0.6**
DVHZ				S	**Sn**	**13 04 57.0**	**-0.7**
TRMS	**Tiraumea**	**0.25**	**175**	P	**Pn**	**13 04 52.9**	**+0.1**
TRMS				S	**Sn**	**13 04 59.5**	**+1.0**
BFZ	**Birch Farm**	**0.34**	**140**	P	**Pn**	**13 04 53.7**	**+0.1**
BFZ	**Birch Farm**	**0.34**	**140**	P	**Pn**	**13 04 53.8**	**+0.2**
BFZ				S	**Sn**	**13 05 01.2**	**+1.2**
TIWZ	**Tintock**	**0.36**	**190**	P	**Pn**	**13 04 54.0**	**+0.1**
TIWZ				S	**Sn**	**13 05 01.4**	**+1.0**
TSZ	**Takapari Road**	**0.36**	**360**	P	**Pn**	**13 04 53.1**	**-0.9**
MRZ	**Mangatainoka R**	**0.38**	**231**	P	**Pn**	**13 04 53.6**	**-0.5**
MRZ				S	**Sn**	**13 05 00.3**	**-0.4**
ANWZ	**Angora Road**	**0.39**	**95**	P	**Pn**	**13 04 54.6**	**+0.4**
ANWZ				S	**Sn**	**13 05 02.6**	**+1.7**
WPHZ	**Waipukurau**	**0.51**	**46**	P	**Pn**	**13 04 55.8**	**0.0**
WPHZ				S	**Sn**	**13 05 04.8**	**+1.2**
CPWZ	**Castlepoint**	**0.52**	**160**	P	**Pn**	**13 04 56.5**	**+0.7**
PRHZ	**Porangahau**	**0.54**	**73**	P	**Pn**	**13 04 56.3**	**+0.2**
PNHZ	**Pukenui**	**0.54**	**20**	P	**Pn**	**13 04 55.7**	**-0.5**
OHWZ	**Ohakea**	**0.54**	**293**	P	**Pn**	**13 04 56.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**0.58**	**216**	P	**Pn**	**13 04 56.4**	**-0.3**
TMWZ	**Te Maipa**	**0.68**	**185**	P	**Pn**	**13 04 57.9**	**-0.2**
OGWZ	**Otaki Gorge**	**0.72**	**237**	P	**Pn**	**13 04 58.0**	**-0.5**
PXZ	**Pawanui**	**0.79**	**61**	P	**Pn**	**13 04 59.2**	**-0.2**
MTW	**Mount Morrison**	**0.81**	**205**	P	**Pn**	**13 04 59.2**	**-0.5**
KRHZ	**Kereru**	**0.84**	**22**	P	**Pn**	**13 04 59.8**	**-0.3**
KIW	**Kapiti Island**	**0.91**	**241**	P	**Pn**	**13 05 01.0**	**-0.2**
KAHZ	**Kahuranaki**	**0.94**	**48**	P	**Pn**	**13 05 01.4**	**-0.2**
CAW	**Cannon Point**	**0.96**	**225**	P	**Pn**	**13 05 01.3**	**-0.5**
TRWZ	**Traveller**	**1.00**	**192**	P	**Pn**	**13 05 01.8**	**-0.5**
WAZ	**Wanganui**	**1.00**	**311**	P	**Pn**	**13 05 02.8**	**+0.4**
MOVZ	**Moawhango**	**1.03**	**351**	P	**Pn**	**13 05 02.4**	**-0.4**
PAWZ	**Paruwai Farm**	**1.04**	**203**	P	**Pn**	**13 05 02.1**	**-0.8**
KWHZ	**Kaweka Forest**	**1.06**	**20**	P	**Pn**	**13 05 03.0**	**-0.2**
MTVZ	**Mangateitei**	**1.10**	**340**	P	**Pn**	**13 05 03.8**	**0.0**
MCHZ	**McNeill Hill**	**1.13**	**30**	P	**Pn**	**13 05 03.9**	**-0.2**
MSWZ	**Moikau Station**	**1.13**	**208**	P	**Pn**	**13 05 03.1**	**-1.0**
WNVZ	**Wahianoa**	**1.13**	**345**	P	**Pn**	**13 05 04.2**	**0.0**
CKHZ	**Cape Kidnapper**	**1.15**	**49**	P	**Pn**	**13 05 03.7**	**-0.6**
TRVZ	**Turoa**	**1.17**	**344**	P	**Pn**	**13 05 05.0**	**+0.1**
WHVZ	**Whangaehu Hut**	**1.18**	**346**	P	**Pn**	**13 05 05.2**	**+0.3**
TUVZ	**Tukino**	**1.18**	**348**	P	**Pn**	**13 05 05.0**	**+0.1**
MAVZ	**Matarangi**	**1.20**	**345**	P	**Pn**	**13 05 05.5**	**+0.2**
FWVZ	**Far West T-bar**	**1.21**	**345**	P	**Pn**	**13 05 05.6**	**+0.2**
PKVZ	**Pokaka**	**1.23**	**337**	P	**Pn**	**13 05 05.5**	**0.0**
SNVZ	**South Ngauruho**	**1.26**	**348**	P	**Pn**	**13 05 06.1**	**+0.1**
PLWZ	**Palliser**	**1.26**	**205**	P	**Pn**	**13 05 04.8**	**-1.1**
COVZ	**Chateau Observ**	**1.27**	**345**	P	**Pn**	**13 05 06.3**	**+0.3**
NGZ	**Ngauruhoe**	**1.28**	**347**	P	**Pn**	**13 05 06.5**	**+0.2**
OTVZ	**Oturere**	**1.28**	**350**	P	**Pn**	**13 05 06.4**	**+0.2**
BHW	**Baring Head**	**1.29**	**220**	P	**Pn**	**13 05 05.1**	**-1.1**
ETVZ	**East Tongariro**	**1.30**	**351**	P	**Pn**	**13 05 06.7**	**+0.2**
SNZO	**South Karori**	**1.30**	**227**	P	**Pn**	**13 05 05.3**	**-1.1**
NNVZ	**North Ngauruho**	**1.32**	**348**	P	**Pn**	**13 05 07.1**	**+0.3**
BKZ	**Black Stump Fm**	**1.32**	**18**	P	**Pn**	**13 05 06.0**	**-0.7**
BKZ	**Black Stump Fm**	**1.32**	**18**	P	**Pn**	**13 05 06.2**	**-0.5**
TMVZ	**Te Maari**	**1.32**	**351**	P	**Pn**	**13 05 06.9**	**+0.1**
WTVZ	**West Tongariro**	**1.34**	**347**	P	**Pn**	**13 05 07.2**	**+0.2**
NTVZ	**North Tongarir**	**1.34**	**350**	P	**Pn**	**13 05 07.2**	**+0.1**
KRVZ	**Karewarewa**	**1.35**	**349**	P	**Pn**	**13 05 07.5**	**+0.3**
ARHZ	**Aropaoanui**	**1.41**	**35**	P	**Pn**	**13 05 07.3**	**-0.5**
TWVZ	**Taurewa**	**1.41**	**343**	P	**Pn**	**13 05 07.9**	**-0.1**
RITZ	**Rihia Road**	**1.45**	**357**	P	**Pn**	**13 05 08.7**	**+0.2**
KATZ	**Kakaramea**	**1.46**	**352**	P	**Pn**	**13 05 09.0**	**+0.2**
NMHZ	**Naumai**	**1.48**	**26**	P	**Pn**	**13 05 08.5**	**-0.3**
TCW	**Tory Channel**	**1.50**	**238**	P	**Pn**	**13 05 08.2**	**-1.0**
LREZ	**Lake Rotokare**	**1.54**	**308**	P	**Pn**	**13 05 10.1**	**+0.5**
VRZ	**Vera Road**	**1.60**	**324**	P	**Pn**	**13 05 10.5**	**+0.1**
DUWZ	**D'Urville Isla**	**1.60**	**256**	P	**Pn**	**13 05 10.7**	**+0.2**
MRHZ	**Matea Rd**	**1.63**	**13**	P	**Pn**	**13 05 10.3**	**-0.6**
WATZ	**Wairara**	**1.72**	**354**	P	**Pn**	**13 05 11.8**	**-0.4**
RAHZ	**Arahi**	**1.74**	**30**	P	**Pn**	**13 05 11.5**	**-0.9**
PREZ	**Palmer Road**	**1.76**	**307**	P	**Pn**	**13 05 13.6**	**+0.8**
TUWZ	**Tuamarina**	**1.83**	**236**	P	**Pn**	**13 05 12.5**	**-1.2**
DREZ	**Durham Road**	**1.83**	**312**	P	**Pn**	**13 05 14.6**	**+0.8**
NEZ	**North Egmont**	**1.84**	**308**	P	**Pn**	**13 05 14.7**	**+0.8**
KHEZ	**Kahui Hut**	**1.88**	**306**	P	**Pn**	**13 05 15.2**	**+0.8**
KHEZ	**Kahui Hut**	**1.88**	**306**	P	**Pn**	**13 05 15.3**	**+0.8**
KNZ	**Kokohu**	**1.92**	**44**	P	**Pn**	**13 05 13.3**	**-1.6**
MHGZ	**Mahia Peninsul**	**1.96**	**50**	P	**Pn**	**13 05 14.5**	**-1.0**
HIZ	**Hauiti**	**2.09**	**335**	P	**Pn**	**13 05 17.6**	**+0.3**
RIGZ	**Rimuhau**	**2.21**	**40**	P	**Pn**	**13 05 17.2**	**-1.7**
URZ	**Urewera**	**2.34**	**23**	P	**Pn**	**13 05 18.5**	**-2.1**

*NEIC **27** 13:06:50.6±1.3, 66˚33N±0.02×157˚19W±0.04, h2km±6km, Error ellipse: s-maj=2.8km s-min=2.2km az=114.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.00; $M_{\theta\theta}$3.15; $M_{\phi\phi}$-1.15; $M_{r\theta}$-1.36; $M_{\theta\phi}$-1.44; $M_{r\phi}$0.05; Fault plane solution: $M_0$3.40000×10^{14} NP1:ϕ_s88.78000°, δ60.89000°, λ-114.25000°. NP2:ϕ_s311.58000°, δ37.19000°, λ-53.58000°. Principal axes: T 3.8891, Plg13.0000°, Azm196.0000°; N -1.4542, Plg21.0000°, Azm101.0000°; P -2.4349, Plg65.0000°, Azm315.0000°;*
*AEIC **27** 13:06:50.7±1.4, 66˚32N±0.01×157˚20W±0.03, h5km±4km, ML3.6, ML3.8/132(NEIC), Mwr3.6/53(NEIC) Error ellipse: s-maj=2.4km s-min=1.5km az=214.0*
*NEIC **27** 13:06:50.5, 66˚33N×157˚19W, h2km*
*IDC **27** 13:06:52.6±1.9, 66˚97N×156˚74W, h0km, mb3.5/2, mbtmp3.6/4, ML3.0/2, MS2.6/1, Error ellipse: s-maj=44.6km s-min=22.0km az=32.0*
ISC 27 13:06:50.6±1.1, **66˚34N**±0.02×**157˚18W**±0.03, **h4**km±9km, **n183**, σ0.9**74**/179, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.20**	**168**		**Pg**	**13 06 54.6**	**+0.2**
G19K					**Sg**	**13 06 57.8**	**+0.8**
G19K	**Purcell Mounta**	**0.20**	**168**	IAML		13 06 58.1	
comp=E,54μm,0.5s							
G19K				IAML		13 06 58.2	
comp=N,33μm,0.3s							
F19K	**Shaleruckik Mo**	**0.55**	**335**		**Pg**	**13 07 01.2**	**-0.1**
F19K					**Sg**	**13 07 09.1**	**+0.7**
G18K	**Tagagawik**	**0.74**	**234**		**Pg**	**13 07 04.5**	**-0.4**
G18K					**Sg**	**13 07 14.9**	**+0.4**
H19K	**Roundabout Mou**	**0.87**	**159**		**Pg**	**13 07 06.9**	**-0.3**
H19K				IAML		13 07 23.0	
comp=E,4μm,0.6s							
H19K				IAML		13 07 23.5	
comp=N,3μm,0.4s							
H19K	**Roundabout Mou**	**0.87**	**159**		**Sg**	**13 07 18.8**	**+0.4**
F20K	**Avaraart Lake**	**0.92**	**38**		**Pg**	**13 07 08.0**	**-0.3**
F20K					**Sg**	**13 07 20.4**	**+0.2**
F18K	**Selawik**	**1.03**	**286**		**Pg**	**13 07 09.5**	**-0.7**
F18K					**Sg**	**13 07 23.9**	**+0.4**
E19K	**Redstone River**	**1.13**	**359**		**Pg**	**13 07 11.7**	**-0.5**
E19K	**Redstone River**	**1.13**	**359**	IAML		13 07 32.9	
comp=E,2μm,0.4s							
E19K				IAML		13 07 33.4	
comp=N,2μm,0.4s							
H20K	**Anotleneega Mo**	**1.27**	**131**		**Pg**	**13 07 14.1**	**-0.8**
H20K					**Sb**	**13 07 32.3**	**+0.6**
H18K	**Honhosa River**	**1.28**	**203**	Pn	**Pg**	**13 07 13.5**	**-1.7**
G21K	**Allakaket**	**1.49**	**81**		**Pn**	**13 07 17.4**	**-0.7**
G21K					**Sg**	**13 07 38.7**	**+0.2**
G21K	**Allakaket**	**1.49**	**81**	IAML		13 07 40.5	
comp=N,2μm,0.5s							
GCSA	**Galena City Sc**	**1.60**	**175**		**Pn**	**13 07 19.4**	**-0.2**
GCSA					**Sn**	**13 07 40.9**	**+0.3**
F17K	**Baldwin Pennin**	**1.64**	**276**		**Pn**	**13 07 20.0**	**-0.2**
G17K	**Kiwalik Mounta**	**1.65**	**241**		**Pn**	**13 07 19.1**	**-1.2**
F21K	**Alatna River**	**1.72**	**57**		**Pn**	**13 07 21.3**	**0.0**
F21K					**Sb**	**13 07 45.0**	**+0.4**
F21K	**Alatna River**	**1.72**	**57**	IAML		13 07 48.5	
comp=N,1μm,0.8s							
E18K	**Tukpahlearik C**	**1.73**	**311**		**Pn**	**13 07 21.7**	**+0.2**
H17K	**Granite Mounta**	**1.80**	**220**	Pn	**Pn**	**13 07 21.1**	**-1.3**
H17K	**Granite Mounta**	**1.80**	**220**		**Sb**	**13 07 47.6**	**+0.5**
I20K	**Naaghedeneel**	**1.91**	**143**		**Pn**	**13 07 24.0**	**+0.1**
H21K	**Melozitna Rive**	**1.92**	**109**	Pn	**Pn**	**13 07 22.8**	**-1.2**
H21K				IAML		13 07 54.3	
comp=N,833nm,0.9s							
E20K	**Nigu River**	**1.97**	**11**		**Pn**	**13 07 25.7**	**+0.9**
E17K	**Hotham Inlet**	**1.99**	**294**		**Pn**	**13 07 24.9**	**-0.1**
D19K	**Kuna River**	**2.20**	**351**		**Pn**	**13 07 28.8**	**+0.9**
D19K	**Kuna River**	**2.20**	**351**	IAML		13 08 01.2	
comp=N,421nm,0.7s							
G16K	**Koyuk River**	**2.33**	**248**		**Pn**	**13 07 29.4**	**-0.2**
G16K	**Koyuk River**	**2.33**	**248**	IAML		13 08 06.8	
comp=N,415nm,0.6s							
H22K	**Ishtalitna Cre**	**2.41**	**98**		**Pn**	**13 07 30.6**	**-0.1**
I21K	**Tanana**	**2.44**	**116**		**Pn**	**13 07 31.1**	**0.0**
I21K	**Tanana**	**2.44**	**116**	IAML		13 08 11.7	
comp=N,593nm,0.8s							
J19K	**Poorman**	**2.44**	**164**	Pn	**Pn**	**13 07 30.8**	**-0.4**
J19K				IAML		13 08 09.7	
comp=E,355nm,0.7s							
J19K				IAML		13 08 15.3	
comp=N,394nm,0.9s							
E21K	**Killik River**	**2.45**	**29**		**Pn**	**13 07 32.0**	**+0.6**
E21K	**Killik River**	**2.45**	**29**	IAML		13 08 18.5	
comp=N,348nm,0.5s							
E21K				IAML		13 08 18.7	
comp=E,410nm,0.7s							
J20K	**Nowinta River**	**2.52**	**148**	Pn	**Pn**	**13 07 33.0**	**+0.8**
J20K				IAML		13 08 15.9	
comp=N,310nm,0.7s							
J20K				IAML		13 08 17.9	
comp=E,403nm,0.8s							
D17K	**Noatak River**	**2.69**	**303**		**Pn**	**13 07 35.6**	**+1.0**
H16K	**Elim**	**2.71**	**233**		**Pn**	**13 07 33.0**	**-1.8**
E22K	**Anaktuvuk Pass**	**2.76**	**47**	Pn	**Pn**	**13 07 37.0**	**+1.3**
E22K				IAML		13 08 22.5	
comp=N,262nm,1.1s							
C18K	**Utukok River**	**2.79**	**328**		**Pn**	**13 07 37.1**	**+1.0**
RDOG	**Red Dog Mine**	**2.82**	**310**		**Pn**	**13 07 37.9**	**+1.5**
I17K	**Unalakleet**	**2.87**	**213**		**Pn**	**13 07 37.2**	**+0.1**
J18K	**Innoko River**	**2.89**	**176**	Pn	**Pn**	**13 07 37.2**	**-0.2**
COLD	**Coldfoot**	**2.91**	**69**	Pn	**Pn**	**13 07 36.7**	**-0.9**
C21K	**Knifeblade Rid**	**2.98**	**17**		**Pn**	**13 07 39.2**	**+0.6**
J17K	**VABM Dome**	**3.06**	**196**		**Pn**	**13 07 39.5**	**-0.2**
J17K				IAML		13 08 30.7	
comp=E,226nm,1.3s							
J17K				IAML		13 08 36.8	
comp=N,257nm,0.6s							
F15K	**North Star Dit**	**3.11**	**262**		**Pn**	**13 07 40.5**	**+0.1**
F15K				IAML		13 08 33.7	
comp=N,210nm,0.7s							
H23K	**Yukon River**	**3.15**	**96**		**Pn**	**13 07 41.4**	**+0.3**
H23K	**Yukon River**	**3.15**	**96**	IAML		13 08 36.2	
comp=N,328nm,0.8s							
H23K				IAML		13 08 41.3	
comp=E,315nm,0.8s							
C17K	**DeLong Mountai**	**3.16**	**316**		**Pn**	**13 07 41.4**	**+0.3**
K20K	**Telida**	**3.27**	**155**		**Pn**	**13 07 42.4**	**-0.3**
K20K				IAML		13 08 38.1	
comp=N,175nm,0.8s							
J16K	**Anvik River**	**3.39**	**207**		**Pn**	**13 07 44.2**	**-0.1**
J16K				IAML		13 08 45.9	
comp=N,270nm,0.9s							
BPAW	**Bear Paw Mtn.**	**3.44**	**128**	Pn	**Pn**	**13 07 45.6**	**+0.6**
BPAW				IAML		13 08 42.2	
comp=N,156nm,0.7s							
BPAW				IAML		13 08 43.6	
comp=E,179nm,1.4s							
I23K	**Minto, Yukon-K**	**3.44**	**107**		**Pn**	**13 07 45.1**	**+0.2**
B18K	**Kokolik River**	**3.51**	**332**		**Pn**	**13 07 46.3**	**+0.5**
CAST	**Castle Rocks**	**3.65**	**141**	Pn	**Pn**	**13 07 48.1**	**+0.3**
K17K	**Iditarod**	**3.67**	**188**		**Pn**	**13 07 46.6**	**-1.4**
K17K				IAML		13 08 58.8	
comp=E,195nm,1.1s							
K17K				IAML		13 08 58.9	
comp=N,140nm,0.8s							
B20K	**Meade River**	**3.69**	**0**		**Pn**	**13 07 48.5**	**+0.3**
B20K	**Meade River**	**3.69**	**0**	IAML		13 08 54.2	
comp=E,145nm,1.0s							
B20K				IAML		13 09 16.5	
comp=N,135nm,1.4s							
C16K	**Lisburne Hills**	**3.71**	**305**		**Pn**	**13 07 49.1**	**+0.5**
E24K	**Your Creek**	**3.81**	**59**		**Pn**	**13 07 50.3**	**+0.3**
E24K	**Your Creek**	**3.81**	**59**	IAML		13 09 01.0	
comp=N,195nm,1.0s							
E24K				IAML		13 09 03.6	
comp=E,158nm,0.6s							
NEA2	**Nenana**	**3.81**	**114**		**Pn**	**13 07 49.8**	**-0.2**
NEA2				IAML		13 08 54.8	
comp=N,129nm,0.8s							
NEA2				IAML		13 08 59.6	
comp=E,114nm,0.9s							
H24K	**Noodor Dome**	**3.82**	**93**	Pn	**Pn**	**13 07 50.2**	**0.0**
H24K				IAML		13 08 58.9	
comp=N,150nm,0.9s							
H24K				IAML		13 09 05.7	
comp=E,139nm,1.0s							
KTH	**Kantishna Hill**	**3.86**	**133**		**Pn**	**13 07 50.9**	**+0.2**
KTH				IAML		13 08 58.2	
comp=E,102nm,1.3s							
KTH				IAML		13 09 07.6	
comp=N,151nm,1.1s							
BWN	**Browne**	**3.91**	**120**	Pn	**Pn**	**13 07 51.9**	**+0.6**
PPLA	**Purkeypile**	**4.07**	**146**		**Pn**	**13 07 54.3**	**+0.6**
TRF	**Thorofare Moun**	**4.12**	**131**	Pn	**Pn**	**13 07 55.0**	**+0.5**
L20K	**Farewell, AK**	**4.13**	**158**		**Pn**	**13 07 55.2**	**+0.8**
L18K	**Granite Mounta**	**4.14**	**177**		**Pn**	**13 07 55.5**	**+1.0**
L18K				IAML		13 09 11.8	
comp=E,88nm,1.1s							
L18K				IAML		13 09 12.9	
comp=N,94nm,1.2s							
COLA	**College**	**4.14**	**106**	Pn	**Pn**	**13 07 54.4**	**-0.1**
A19K	**Wainwright**	**4.15**	**341**		**Pn**	**13 07 54.9**	**+0.4**
POKR	**Poker Plat Res**	**4.21**	**102**	Pn	**Pn**	**13 07 54.9**	**-0.5**
POKR				IAML		13 09 04.5	
comp=N,147nm,0.8s							
POKR				IAML		13 09 10.8	
comp=E,108nm,0.8s							
WRH	**Wood River Hil**	**4.24**	**112**	Pn	**Pn**	**13 07 55.8**	**-0.1**
WRH				IAML		13 09 06.9	
comp=E,99nm,1.0s							
WRH				IAML		13 09 08.6	
comp=N,86nm,1.0s							
L17K	**Donlin**	**4.25**	**187**		**Pn**	**13 07 56.0**	**0.0**
B22K	**Teshekpuk Lake**	**4.26**	**17**		**Pn**	**13 07 56.2**	**+0.1**
B22K				IAML		13 09 18.8	
comp=N,97nm,0.9s							
B22K				IAML		13 09 21.0	
comp=E,104nm,1.3s							
CCB	**Clear Creek Bu**	**4.26**	**109**	Pn	**Pn**	**13 07 55.5**	**-0.6**
CCB				IAML		13 09 08.4	
comp=E,80nm,0.8s							
L19K	**White Mountain**	**4.29**	**165**		**Pn**	**13 07 57.5**	**+0.8**
L19K				IAML		13 08 51.1	
comp=N,102nm,0.8s							
L19K				IAML		13 09 22.9	
comp=E,73nm,1.6s							
MCK	**McKinley**	**4.36**	**123**		**Pn**	**13 07 57.8**	**+0.2**
TNA	**Tin City**	**4.46**	**265**		**Pn**	**13 07 58.8**	**-0.1**
K15K	**Wolf Creek Mou**	**4.48**	**207**		**Pn**	**13 07 58.7**	**-0.5**
K15K				IAML		13 09 21.9	
comp=E,77nm,1.1s							
K15K				IAML		13 09 27.1	
comp=N,87nm,0.8s							
J14K	**Nanvaranak Lak**	**4.53**	**220**	Pn	**Pn**	**13 07 58.8**	**-1.0**
J14K				IAML		13 09 23.4	
comp=N,97nm,1.0s							
J14K				IAML		13 09 25.4	
comp=E,110nm,1.0s							
IL31		**4.56**	**105**		**Pn**	**13 08 00.3**	**+0.1**
ILAR	**Eielson Array**	**4.56**	**105**		**Pn**	**13 08 00.0**	**-0.2**
ILAR	**Eielson Array**	**4.56**	**105**	Pn	**Pn**	**13 08 00.3**	**+0.1**
comp=E,0.5nm,0.3s,baz=301,slow=30,SNR=14							
ILAR				Sn	**Sn**	**13 08 51.5**	**-2.0**
comp=E,4.0nm,0.3s,baz=306,slow=28,SNR=5.2							
ILAR				LR	LR	13 09 59.8	
comp=E,72nm,18.7s,baz=306,slow=41							
comp=E,39nm,0.5s							
RND	**Reindeer**	**4.61**	**126**		**Pn**	**13 08 01.3**	**+0.3**
M19K	**Big River Lodg**	**4.62**	**163**		**Pn**	**13 08 01.8**	**+0.7**
M19K	**Big River Lodg**	**4.62**	**163**	IAML		13 09 19.2	
comp=E,60nm,0.9s							
HDA	**Harding Lake**	**4.70**	**110**		**Pn**	**13 08 01.0**	**-1.2**
HDA				IAML		13 09 21.3	
comp=N,81nm,0.6s							
HDA				IAML		13 09 24.4	
comp=E,65nm,0.7s							
F25K	**Christian Rive**	**4.71**	**69**		**Pn**	**13 08 02.1**	**-0.2**
F25K	**Christian Rive**	**4.71**	**69**	IAML		13 09 27.2	
comp=N,83nm,0.6s							
L16K	**Owhat River**	**4.75**	**193**		**Pn**	**13 08 02.3**	**-0.6**
L16K				IAML		13 09 32.6	
comp=E,56nm,0.7s							
A22K	**Sinclair Lake**	**4.76**	**9**		**Pn**	**13 08 03.0**	**+0.1**
FYU	**Fort Yukon**	**4.80**	**82**		**Pn**	**13 08 03.5**	**0.0**
M20K	**Styx River**	**4.81**	**156**		**Pn**	**13 08 04.9**	**+1.1**
M20K	**Styx River**	**4.81**	**156**	IAML		13 09 04.3	
comp=E,57nm,0.8s							
PRP	**Porcupine Dome**	**4.84**	**94**		**Pn**	**13 08 04.2**	**-0.1**
PRP				IAML		13 09 30.0	
comp=N,71nm,0.6s							
PRP				IAML		13 09 30.6	
comp=E,82nm,0.7s							
E25K	**Arctic Village**	**4.86**	**63**		**Pn**	**13 08 04.0**	**-0.4**
E25K				IAML		13 09 30.1	
comp=E,67nm,0.8s							
M18K	**Stony River**	**4.90**	**172**		**Pn**	**13 08 05.3**	**+0.4**
M17K	**Holitna River**	**4.96**	**181**		**Pn**	**13 08 05.8**	**+0.1**
CUT	**Chulitna**	**4.96**	**140**		**Pn**	**13 08 06.2**	**+0.5**
A21K	**Barrow**	**5.02**	**2**		**Pn**	**13 08 06.5**	**0.0**
SKT	**Skwentna**	**5.02**	**148**		**Pn**	**13 08 07.3**	**+0.7**
SKT				IAML		13 09 37.9	
comp=E,45nm,1.2s							
J25K	**Salcha River,**	**5.22**	**104**		**Pn**	**13 08 08.8**	**-0.5**
J25K				IAML		13 09 37.5	
comp=N,56nm,1.3s							
J25K				IAML		13 09 40.6	
comp=E

comp=E,0.3nm,0.3s

*IDC **27** 13:16:11.8±1.9,53°.46N×164°.77W,h0km,mb3.3/4, mbtmp3.4/5,ML3.8/2,Error ellipse: s-maj=37.8km s-min=24.5km az=164.0*
*AEIC **27** 13:16:17.7±2.4,53°.69N±0°.06×164°.66W±0°.07,h54km±9km, Error ellipse: s-maj=9.8km s-min=5.1km az=155.0*
*NEIC **27** 13:16:17.5±2.4,53°.58N±0°.07×164°.57W±0°.06, h33km±13km,mb3.6/6,ML3.4/8,ML3.4(AEIC),Error ellipse: s-maj=11.7km s-min=2.1km az=155.0*

ISC 27 13:16:16.3±2.0,53°.51N±0°.09×164°.54W±0°.05, h25km±15km,n75,σ1§07/69,mb3.3/3,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.93**	**313**		**Pb**	**13 16 32.6**	**-1.2**
AKSA					**Sb**	**13 16 44.4**	**-1.4**
AHB	**Akutan Harbor**	**0.97**	**309**		**Pb**	**13 16 33.5**	**-1.0**
AHB					**Sb**	**13 16 45.4**	**-1.6**
WEBT	**Westdahl Beart**	**1.09**	**353**		**Pn**	**13 16 35.0**	**-1.1**
WEBT					**Sb**	**13 16 47.6**	**-2.8**
AKRB	**Akutan Reef Bi**	**1.10**	**305**		**Pn**	**13 16 35.4**	**-0.8**
AKRB					**Sb**	**13 16 48.6**	**-2.1**
LVA	**Lava Point**	**1.10**	**307**	Pn	**Pn**	**13 16 35.4**	**-0.8**
LVA				IAML		13 16 55.3	
	comp=E,826nm,0.6s						
AKGG	**Akutan Green G**	**1.11**	**309**		**Pn**	**13 16 35.4**	**-0.9**
AKGG					**Sb**	**13 16 49.1**	**-1.6**
UNV	**Unalaska Valle**	**1.22**	**287**	Pn	Pn	13 16 36.3	-1.5
UNV	**Unalaska Valle**	**1.22**	**287**		**Sn**	**13 16 51.8**	**-1.6**
SSLS	**Shishaldin Sou**	**1.25**	**14**		**Pn**	**13 16 36.8**	**-1.5**
ISLZ	**Isanotski Laza**	**1.31**	**21**		Pn	13 16 37.4	-1.8
SSLN	**Shishaldin Nor**	**1.34**	**13**		**Pn**	**13 16 38.6**	**-0.9**
MTBL	**Makushin Table**	**1.35**	**291**		**Pn**	**13 16 39.2**	**-0.5**
ISNN	**Isanotski Nort**	**1.40**	**18**		**Pn**	**13 16 39.5**	**-0.8**
MGOD	**Makushin Gods**	**1.42**	**283**		**Pn**	**13 16 40.1**	**-0.5**
MAPS	**Pakushin South**	**1.46**	**283**		**Pn**	**13 16 40.7**	**-0.4**
FALS	**False Pass**	**1.50**	**25**	Pn	**Pn**	**13 16 40.6**	**-1.1**
FALS	**False Pass**	**1.50**	**25**		**Sn**	**13 16 58.8**	**-1.7**
OKTU	**Okmok Mt. Tuli**	**2.10**	**268**		**Pn**	**13 16 51.0**	**+1.1**
OKSP	**Okmok Steeple**	**2.26**	**265**		**Pn**	**13 16 53.3**	**+1.2**
HAG	**Hague Volcano**	**2.38**	**39**		**Pn**	**13 16 54.4**	**+0.7**
PS4A	**Pavlof South-4**	**2.42**	**39**		**Pn**	**13 16 55.0**	**+0.7**
PS1A	**Pavlof South-1**	**2.52**	**39**		**Pn**	**13 16 56.5**	**+0.9**
NIKH	**Nikolski High**	**2.65**	**260**	Pn	**Pn**	**13 16 57.7**	**+0.3**
SDPT	**Sand Point**	**3.00**	**50**		**Pn**	**13 17 02.8**	**+0.5**
SDPT				IAML		13 17 59.5	
	comp=E,117nm,1.4s						
CNBA	**Chernabura Isl**	**3.19**	**64**	Pn	**Pn**	**13 17 04.1**	**-0.8**
CHGN	**Chignik**	**4.51**	**49**	Pn	**Pn**	**13 17 21.1**	**-1.8**
CHGN				IAML		13 18 36.9	
	comp=N,36nm,0.7s						
CHGN				IAML		13 18 39.0	
	comp=E,39nm,1.3s						
CHIR	**Chirikof Islan**	**5.67**	**62**	Pn	**Pn**	**13 17 38.0**	**-0.9**
O14K	**Tigyukauivet M**	**6.04**	**16**	Pn	**Pn**	**13 17 45.0**	**+1.0**
M11K	**Mekoryuk**	**6.96**	**353**	Pn	**Pn**	**13 17 56.9**	**+0.4**
M13K	**Dall Lake**	**6.96**	**5**	Pn	**Pn**	**13 17 57.2**	**+0.7**
ACHA	**Angle Creek He**	**7.00**	**44**	Pn	**Pn**	**13 17 57.2**	**-0.1**
O16K	**Kokwok River B**	**7.06**	**28**	Pn	**Pn**	**13 17 59.1**	**+1.2**
N15K	**Kwethluk River**	**7.11**	**18**	Pn	**Pn**	**13 17 59.1**	**+0.5**
M14K	**Bethel**	**7.40**	**10**	Pn	**Pn**	**13 18 01.8**	**-0.7**
OHAK	**Old Harbor**	**7.41**	**55**	Pn	**Pn**	**13 18 01.8**	**-1.0**
L14K	**Kuka Creek**	**7.92**	**6**	Pn	**Pn**	**13 18 10.7**	**+1.0**
KDAK	**Kodiak Island**	**8.00**	**53**	Pn	**Pn**	**13 18 10.0**	**-0.9**
KDAK	**Kodiak Island**	**8.00**	**53**	Pn	**Pn**	**13 18 10.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=283,slow=18,SNR=11						
KDAK				Sn	Sn	13 19 33.2	-7.2
	comp=E,0.1nm,0.3s,baz=147,slow=8.4,SNR=2.6						
	comp=E,3.8nm,0.8s						
N17K	**Nushagak Hills**	**8.09**	**27**	Pn	**Pn**	**13 18 12.5**	**+0.4**
M16K	**Timber Creek**	**8.12**	**20**	Pn	**Pn**	**13 18 12.1**	**-0.3**
Q19K	**Cape Douglas,**	**8.14**	**44**	Pn	**Pn**	**13 18 13.5**	**+0.7**
O18K	**Koktuh Hills**	**8.17**	**35**	Pn	**Pn**	**13 18 14.0**	**+0.8**
K13K	**Kusilvak Mount**	**8.45**	**360**	Pn	**Pn**	**13 18 17.8**	**+0.9**
N18K	**Kilae Creek**	**8.59**	**30**	Pn	**Pn**	**13 18 19.3**	**+0.4**
M17K	**Holitna River**	**8.78**	**23**	Pn	**Pn**	**13 18 21.1**	**-0.5**
K15K	**Wolf Creek Mou**	**8.95**	**9**	Pn	**Pn**	**13 18 24.4**	**+0.5**
N19K	**Bonanza Creek**	**9.12**	**33**	Pn	**Pn**	**13 18 26.7**	**+0.3**
CNPM	**China Poot**	**9.50**	**45**	Pn	**Pn**	**13 18 31.0**	**-0.4**
L18K	**Granite Mounta**	**9.68**	**22**	Pn	**Pn**	**13 18 34.8**	**+1.0**
K17K	**Iditarod**	**9.80**	**17**	Pn	**Pn**	**13 18 36.2**	**+0.7**
J16K	**Anvik River**	**10.02**	**10**	Pn	**Pn**	**13 18 39.2**	**+0.8**
J17K	**VABM Dome**	**10.32**	**14**	Pn	**Pn**	**13 18 43.7**	**+1.1**
KLU	**Klutina**	**12.77**	**44**		**Pn**	**13 19 14.4**	**-1.7**
IL31		**14.40**	**31**		**Pn**	**13 19 37.5**	**-0.8**
ILAR	**Eielson Array**	**14.40**	**31**		**Pn**	**13 19 37.1**	**-1.3**
ILAR	**Eielson Array**	**14.40**	**31**	Pn	**Pn**	**13 19 37.6**	**-0.8**
	comp=E,2.0nm,0.3s,baz=224,slow=12,SNR=195						
G24K	**Hadweenzic Riv**	**15.64**	**26**	P	**P**	**13 19 58.2**	**-0.5**
M29M	**Somme Creek**	**16.36**	**47**	P	**Pn**	**13 20 04.8**	**+0.6**
M29M				IAmb	IAmb	13 20 24.9	
	comp=Z,4.2nm,0.9s						
E24K	**Your Creek**	**16.49**	**21**	P	**P**	**13 20 08.2**	**+0.1**
E24K				IAmb	IAmb	13 20 36.3	
	comp=Z,8.3nm,1.5s						
F26K	**Sheenjek River**	**17.25**	**27**	P	**P**	**13 20 17.4**	**+0.8**
G27K	**Doyon Strip**	**17.37**	**31**	P	**Pn**	**13 20 16.7**	**-0.1**
G27K				IAmb	IAmb	13 20 19.1	
	comp=Z,3.2nm,0.6s						
E27K	**Coleen River**	**18.29**	**28**	P	**Pn**	**13 20 28.0**	**-0.1**
E27K				IAmb	IAmb	13 20 47.5	
	comp=Z,4.9nm,1.4s						
INK	**Inuvik**	**20.80**	**33**	P	**P**	**13 20 54.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=251,slow=10,SNR=5.5						
	comp=Z,0.9nm,0.8s						
PETK	**Petropavlovsk-**	**22.40**	**284**	P	**P**	**13 21 09.8**	**-2.8**
	comp=Z,1.0nm,0.8s,baz=81,slow=13,SNR=8.7						
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**27.27**	**51**	P	**P**	**13 21 59.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=242,slow=7.7,SNR=5.4						
	comp=Z,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**40.24**	**224**	T	T	14 07 19.3	
	baz=26,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**40.25**	**224**	T	T	14 07 13.7	
	baz=26,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**40.26**	**224**	T	T	14 07 20.0	
	baz=26,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**41.42**	**224**	T	T	14 08 38.0	
	baz=25,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**41.43**	**224**	T	T	14 08 39.8	
	baz=25,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**41.44**	**224**	T	T	14 08 40.3	
	baz=25,slow=76,SNR=15						
TXAR	**Lajitas Array**	**49.85**	**94**	P	**P**	**13 25 08.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=291,slow=5.3,SNR=8.5						
	comp=Z,0.5nm,0.6s						
H03N2	**Juan Fernandez**	**113.68**	**114**	T	T	15 38 43.8	
	baz=319						
H03N1	**Juan Fernandez**	**113.69**	**114**	T	T	15 38 42.4	
	baz=319						
H03N3	**Juan Fernandez**	**113.69**	**114**	T	T	15 38 42.4	
	baz=319						

*NEIC **27** 13:19:05.8±0.7,63°.33N±0°.04×149°.82W±0°.08, h107km±2km,Error ellipse: s-maj=5.5km s-min=5.2km az=159.0*

AEIC 27 13:19:06.0±0.9,63°.33N±0°.04×149°.85W±0°.06, h105km±4km,ML2.6,ML2.9/146(NEIC),**Error ellipse: s-maj=5.8km s-min=3.9km az=185.0,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.23**	**303**	Pn	Pn	13 19 21.6	+0.5
TRF				IAML		13 19 35.0	
	comp=N,285nm,0.4s						
TRF				IAML		13 19 35.0	
	comp=E,199nm,0.6s						
TRF	**Thorofare Moun**	**0.23**	**303**		Sn	13 19 33.1	+0.7
RND	**Reindeer**	**0.46**	**79**	Pn	Pn	13 19 21.8	-0.2
RND				IAML		13 19 34.3	
	comp=E,281nm,0.3s						
RND				IAML		13 19 35.0	
	comp=N,234nm,0.2s						
RND	**Reindeer**	**0.46**	**79**		Sn	13 19 34.0	-0.1
KTH	**Kantishna Hill**	**0.53**	**296**	Pn	Pn	13 19 23.1	+0.5
KTH	**Kantishna Hill**	**0.53**	**296**		Sn	13 19 35.4	+0.3
MCK	**McKinley**	**0.58**	**45**	Pn	Pn	13 19 22.9	0.0
MCK	**McKinley**	**0.58**	**45**		Sn	13 19 35.2	-0.3
BWN	**Browne**	**0.87**	**11**		Pn	13 19 25.6	+0.2
BWN				IAML		13 19 40.7	
	comp=E,109nm,0.5s						
BWN				IAML		13 19 41.5	
	comp=N,107nm,1.0s						
BWN	**Browne**	**0.87**	**11**		Sn	13 19 40.4	+0.4
BPAW	**Bear Paw Mtn.**	**0.93**	**327**	Pn	Pn	13 19 26.1	+0.1
BPAW	**Bear Paw Mtn.**	**0.93**	**327**		Sn	13 19 41.2	0.0
CUT	**Chulitna**	**0.94**	**192**		Pn	13 19 26.2	+0.1
CUT				IAML		13 19 47.8	
	comp=N,323nm,0.3s						
CAST	**Castle Rocks**	**1.01**	**276**	Pn	Pn	13 19 27.0	+0.2
CAST	**Castle Rocks**	**1.01**	**276**		Sn	13 19 42.5	-0.1
PPLA	**Purkeypile**	**1.15**	**249**	Pn	Pn	13 19 29.0	+0.5
PPLA	**Purkeypile**	**1.15**	**249**		Sn	13 19 45.9	+0.4
CHUM	**Lake Minchumin**	**1.24**	**298**		Pn	13 19 29.8	+0.5
CHUM					Sn	13 19 47.2	+0.2
NEA2	**Nenana**	**1.32**	**15**		Pn	13 19 29.8	-0.5
NEA2				IAML		13 19 48.3	
	comp=E,69nm,0.7s						
WRH	**Wood River Hil**	**1.39**	**33**	Pn	Pn	13 19 30.7	-0.4
WRH				IAML		13 19 49.3	
	comp=E,68nm,0.6s						
SKT	**Skwentna**	**1.56**	**211**		Pn	13 19 33.0	-0.2
SKT				IAML		13 19 57.0	
	comp=N,134nm,0.3s						
SKT				IAML		13 19 57.2	
	comp=E,175nm,0.3s						
M22K	**Willow**	**1.58**	**185**		Pn	13 19 33.5	+0.1
CCB	**Clear Creek Bu**	**1.60**	**33**	Pn	Pn	13 19 33.3	-0.4
CCB				IAML		13 19 53.7	
	comp=E,61nm,0.6s						
GHO	**Glory Hole Cre**	**1.62**	**164**		Pn	13 19 34.1	+0.2
SML	**Sawmill**	**1.68**	**155**		Pn	13 19 34.4	-0.2
SML				IAML		13 20 01.6	
	comp=N,178nm,0.7s						
HDA	**Harding Lake**	**1.68**	**48**		Pn	13 19 34.3	-0.4
PMR	**Palmer**	**1.77**	**169**	Pn	Pn	13 19 35.6	-0.2
PMR				IAML		13 20 03.9	
	comp=N,127nm,0.5s						
PMR				IAML		13 20 04.0	
	comp=E,165nm,0.3s						
COLA	**College**	**1.79**	**29**		Pn	13 19 35.5	-0.4
COLA				IAML		13 19 58.8	
	comp=E,91nm,0.6s						
COLA				IAML		13 19 59.5	
	comp=E,69nm,0.6s						
M23K	**Glacier View**	**1.82**	**146**		Pn	13 19 36.5	0.0
I23K	**Minto, Yukon-K**	**1.84**	**6**		Pn	13 19 36.8	+0.1
K24K	**Donnelly Dome**	**1.88**	**73**		Pn	13 19 37.7	+0.5
SCM	**Sheep Creek Mo**	**1.90**	**141**		Pn	13 19 37.1	-0.4
SCM				IAML		13 20 10.0	
	comp=E,127nm,0.5s						
K20K	**Telida**	**1.90**	**273**		Pn	13 19 37.6	+0.2
K20K				IAML		13 20 02.4	
	comp=N,69nm,0.5s						
K20K				IAML		13 20 02.8	
	comp=E,76nm,0.7s						
PAX	**Paxson**	**2.02**	**98**		Pn	13 19 38.9	-0.2
KNK	**Knik Glacier**	**2.02**	**161**		Pn	13 19 39.0	-0.1
L20K	**Farewell, AK**	**2.03**	**247**		Pn	13 19 39.4	+0.2
STLK	**Strandline Lak**	**2.05**	**208**		Pn	13 19 39.2	-0.2
STLK				IAML		13 20 08.7	
	comp=E,70nm,0.2s						
STLK				IAML		13 20 08.9	
	comp=N,103nm,0.4s						
I21K	**Tanana**	**2.08**	**334**		Pn	13 19 40.0	+0.3
POKR	**Poker Plat Res**	**2.09**	**29**		Pn	13 19 39.4	-0.4
M24K	**Tolsona, Glenn**	**2.09**	**124**		Pn	13 19 40.4	+0.6
J20K	**Nowinta River**	**2.09**	**296**		Pn	13 19 40.0	+0.1
M20K	**Styx River**	**2.10**	**228**		Pn	13 19 40.1	+0.1
M20K	**Styx River**	**2.10**	**228**	IAML		13 20 09.0	
	comp=E,66nm,0.4s						
M20K				IAML		13 20 09.6	
	comp=N,48nm,0.5s						
FIS	**Fire Island**	**2.20**	**185**		Pn	13 19 43.5	+2.4
RC01	**Rabbit Creek A**	**2.24**	**179**		Pn	13 19 41.6	-0.2
RC01				IAML		13 20 16.1	
	comp=N,103nm,0.3s						
RC01				IAML		13 20 18.0	
	comp=E,99nm,0.4s						
RIDG	**Independent Ri**	**2.28**	**77**		Pn	13 19 42.3	0.0
RIDG				IAML		13 20 12.5	
	comp=E,114nm,0.7s						
RIDG				IAML		13 20 12.7	
	comp=N,109nm,0.7s						
HARP	**HAARP**	**2.34**	**111**		Pn	13 19 43.2	0.0
J25K	**Salcha River,**	**2.36**	**55**		Pn	13 19 43.2	-0.1
J25K				IAML		13 20 16.3	
	comp=N,96nm,0.5s						
SPBG	**Spurr Blockage**	**2.38**	**211**		Pn	13 19 44.0	+0.3
SPCR	**Spurr Chakacha**	**2.40**	**208**		Pn	13 19 44.2	+0.3
I20K	**Naaghedeneel**	**2.52**	**308**		Pn	13 19 45.5	+0.2
I20K	**Naaghedeneel**	**2.52**	**308**	IAML		13 20 18.9	
	comp=N,31nm,0.8s						
I20K				IAML		13 20 22.3	
	comp=E,44nm,1.2s						
M19K	**Big River Lodg**	**2.54**	**238**		Pn	13 19 45.6	0.0
L19K	**White Mountain**	**2.57**	**246**		Pn	13 19 46.4	+0.3
PWL	**Port Wells**	**2.58**	**163**		Pn	13 19 45.8	-0.3
KLU	**Klutina**	**2.59**	**133**		Pn	13 19 45.5	-0.9
DOT	**Dot Lake**	**2.62**	**80**	Pn	Pn	13 19 46.2	-0.5
J19K	**Poorman**	**2.66**	**287**		Pn	13 19 47.1	-0.2
H24K	**Noodor Dome**	**2.66**	**18**		Pn	13 19 47.1	-0.2
H22K	**Ishtalitna Cre**	**2.66**	**346**		Pn	13 19 47.5	+0.2
H21K	**Melozitna Rive**	**2.67**	**333**		Pn	13 19 47.6	+0.3
SCRK	**Sand Creek**	**2.70**	**73**		Pn	13 19 47.6	-0.3
SCRK				IAML		13 20 21.2	
	comp=N,45nm,1.0s						
SCRK				IAML		13 20 27.9	
	comp=E,24nm,0.8s						
MENT	**Mentasta**	**2.81**	**95**		Pn	13 19 48.8	-0.5
MENT				IAML		13 20 28.2	
	comp=N,61nm,0.5s						
MENT				IAML		13 20 37.9	
	comp=E,74nm,0.6s						
SLKM	**Skilak Lake**	**2.83**	**184**		Pn	13 19 49.3	-0.2
SLKM				IAML		13 20 38.0	
	comp=N,31nm,0.2s						
SLKM				IAML		13 20 39.9	
	comp=E,44nm,0.6s						
O22K	**Cooper Landing**	**2.85**	**179**		Pn	13 19 49.5	-0.3
WACK	**Wrangell Chich**	**2.88**	**115**		Pn	13 19 50.0	-0.4
PRP	**Porcupine Dome**	**2.89**	**39**		Pn	13 19 49.7	-0.7
PRP				IAML		13 20 28.6	
	comp=E,19nm,0.8s						
PRP				IAML		13 20 29.5	
	comp=N,26nm,0.7s						
DIV	**Divide**	**2.92**	**137**		Pn	13 19 51.3	+0.6
L26K	**Log Cabin Wild**	**2.96**	**93**		Pn	13 19 50.7	-0.6
L26K				IAML		13 20 30.5	
	comp=N,66nm,0.5s						
L26K				IAML		13 20 36.2	
	comp=E,63nm,0.5s						
WASW	**Wrangell South**	**2.97**	**116**		Pn	13 19 51.3	-0.3
N25K	**Chitina, Valde**	**2.99**	**123**		Pn	13 19 50.9	-0.7
N25K				IAML		13 20 38.9	
	comp=E,33nm,0.5s						
N25K				IAML		13 20 41.3	
	comp=N,40nm,0.5s						
RDT	**Redoubt**	**3.01**	**205**		Pn	13 19 52.7	+0.6
J26L	**Joseph Creek**	**3.02**	**64**		Pn	13 19 51.7	-0.4
FID	**Port Fidalgo**	**3.03**	**147**		Pn	13 19 51.6	-0.6
H20K	**Anotleneega Mo**	**3.08**	**317**		Pn	13 19 53.1	+0.3
J18K	**Innoko River**	**3.09**	**276**		Pn	13 19 52.5	-0.5
J18K				IAML		13 20 30.6	
	comp=E,16nm,0.9s						
NCT	**North Crescent**	**3.13**	**209**		Pn	13 19 54.3	+0.7
RED	**Redoubt Volcan**	**3.23**	**207**		Pn	13 19 55.7	+0.8
SEW	**Seward**	**3.24**	**176**	Pn	Pn	13 19 54.5	-0.4
M26K	**Nabesna, AK**	**3.27**	**103**		Pn	13 19 54.1	-1.4
M26K				IAML		13 20 52.3	
	comp=N,22nm,0.5s						
M26K				IAML		13 20 52.4	
	comp=E,20nm,0.4s						
N19K	**Bonanza Creek**	**3.33**	**223**		Pn	13 19 56.2	-0.1
N19K				IAML		13 20 55.2	
	comp=E,15nm,1.0s						
L18K	**Granite Mounta**	**3.33**	**254**		Pn	13 19 56.5	+0.3
L18K	**Granite Mounta**	**3.33**	**254**	IAML		13 20 36.6	
	comp=E,11nm,1.1s						
M18K	**Stony River**	**3.33**	**239**		Pn	13 19 56.2	0.0
HIN	**Hinchinbrook I**	**3.34**	**150**		Pn	13 19 55.4	-0.9
GLB	**Gilahina Butte**	**3.39**	**121**		Pn	13 19 56.5	-0.5
GLB				IAML		13 20 49.2	
	comp=E,29nm,0.9s						
GLB				IAML		13 20 53.1	
	comp=N,29nm,0.9s						
EYAK	**Cordova Ski Ar**	**3.39**	**143**		Pn	13 19 56.5	-0.4
GCSA	**Galena City Sc**	**3.41**	**298**		Pn	13 19 56.9	-0.2
BMRM	**Bremner River**	**3.41**	**132**		Pn	13 19 56.5	-0.8
H25L	**Birch Creek**	**3.42**	**28**		Pn	13 19 57.4	+0.1
O20K	**Slope Mountain**	**3.51**	**203**		Pn	13 19 59.4	+0.7
I26K	**Coal Creek Min**	**3.53**	**53**		Pn	13 19 57.7	-1.1
I26K				IAML		13 20 42.0	
	comp=E,36nm,1.0s						
P23K	**Montague Islan**	**3.54**	**160**		Pn	13 19 58.7	-0.2
G21K	**Allakaket**	**3.56**	**336**		Pn	13 19 59.4	+0.1
G21K	**Allakaket**	**3.56**	**336**	IAML		13 20 40.9	
	comp=N,10nm,1.3s						
BRLK	**Bradley Lake**	**3.61**	**188**		Pn	13 19 59.8	-0.1
BRLK	**Bradley Lake**	**3.61**	**188**	IAML		13 20 42.4	
	comp=E,26nm,0.6s						
BRLK				IAML		13 20 55.7	
	comp=N,23nm,0.7s						
H19K	**Roundabout Mou**	**3.62**	**311**		Pn	13 19 59.8	-0.1
H19K				IAML		13 22 28.4	
	comp=N,10nm,0.7s						
H19K				IAML		13 22 29.0	
	comp=E,9.6nm,0.2s						
BRSE	**Bradley Lake S**	**3.62**	**187**		Pn	13 19 59.7	-0.4
L27K	**Beaver Creek,**	**3.64**	**91**		Pn	13 19 58.8	-1.5
L27K				IAML		13 20 44.7	
	comp=E,10nm,0.5s						
L27K				IAML		13 21 03.3	
	comp=N,11nm,0.7s						
VRDI	**Verde Repeater**	**3.66**	**122**		Pn	13 19 60.0	-0.7
VRDI				IAML		13 20 58.1	
	comp=N,22nm,1.1s						
VRDI				IAML		13 20 58.9	
	comp=E,18nm,0.8s						
BCAR	**Beaver Creek A**	**3.66**	**90**		Pn	13 19 59.1	-1.6
GOAT	**Goat Mountain**	**3.66**	**136**		Pn	13 19 60.0	-0.7
M27K	**Edge Creek, AK**	**3.78**	**101**		Pn	13 20 02.1	-0.2
M27K				IAML		13 21 10.3	
	comp=N,17nm,1.4s						
M27K				IAML		13 21 15.0	
	comp=E,9.2nm,0.8s						
FYU	**Fort Yukon**	**3.80**	**29**		Pn	13 20 02.0	-0.4
FYU				IAML		13 20 51.7	
	comp=N,8.7nm,1.3s						
FYU				IAML		13 21 21.1	
	comp=E,7.6nm,1.3s						
CNPM	**China Poot**	**3.87**	**191**		Pn	13 20 03.5	+0.1
CNPM	**China Poot**	**3.87**	**191**	IAML		13 21 01.1	
	comp=N,26nm,1.1s						
N18K	**Kilae Creek**	**3.89**	**230**		Pn	13 20 03.9	+0.1
N18K	**Kilae Creek**	**3.89**	**230**	IAML		13 21 11.1	
	comp=N,9.5nm,1.5s						
K17K	**Iditarod**	**3.90**	**265**		Pn	13 20 04.1	+0.3
K17K	**Iditarod**	**3.90**	**265**	IAML		13 20 50.1	
	comp=E,9.7nm,1.4s						
K17K				IAML		13 22 06.4	
	comp=N,7.8nm,1.4s						
COLD	**Coldfoot**	**3.92**	**358**		Pn	13 20 02.4	-1.6
L17K	**Donlin**	**4.07**	**257**		Pn	13 20 06.6	+0.6
H18K	**Honhosa River**	**4.14**	**300**		Pn	13 20 07.7	+0.6
H18K	**Honhosa River**	**4.14**	**300**	IAML		13 22 39.1	
	comp=N,5.9nm,0.5s						
J17K	**VABM Dome**	**4.16**	**275**		Pn	13 20 07.3	+0.1
J17K	**VABM Dome**	**4.16**	**275**	IAML		13 20 55.0	
	comp=E,6.9nm,0.8s						
I27K	**Kandik River**	**4.23**	**54**		Pn	13 20 09.0	+0.7
KIAG	**Kiagna River**	**4.26**	**121**		Pn	13 20 07.7	-1.1
WAX	**Waxell Ridge**	**4.39**	**128**		Pn	13 20 10.1	-0.3
YUK2	**White River**	**4.44**	**106**		Pn	13 20 11.9	+0.7
H27K	**Steamboat Moun**	**4.60**	**47**		Pn	13 20 12.8	-0.4
BMAR	**Burnt Mountain**	**4.67**	**26**		Pn	13 20 13.2	-1.0
DAWY	**Dawson**	**4.71**	**76**	Pn	Pn	13 20 14.0	-0.8
I28M	**Miner Creek**	**4.80**	**59**		Pn	13 20 16.0	0.0
I28M				IAML		13 21 14.2	
	comp=N,11nm,1.4s						
E25K	**Arctic Village**	**5.13**	**18**		Pn	13 20 20.1	-0.2
YUK8	**Steele Glacier**	**5.13**	**109**		Pn	13 20 22.2	+1.6
L29M	**L29M**	**5.31**	**87**		Pn	13 20 22.2	-0.6
L29M				IAML		13 21 55.9	
	comp=N,11nm,0.7s						
OHAK	**Old Harbor**	**6.36**	**197**	Pn	Pn	13 20 36.1	-0.9
EPYK	**Eagle Plains**	**6.37**	**56**		Pn	13 20 34.3	-2.9

*IDC **27** 13:31:39.9±0.9,4°.14S×105°.18W,h0km,mb4.0/10, mbtmp4.0/10,MS4.6/41,Error ellipse: s-maj=45.6km s-min=17.8km az=66.0*
*NEIC **27** 13:31:40.2±1.4,4°.8S±0°.1×105°.5W±0°.1,h10km±1km, mb4.6/68,Error ellipse: s-maj=25.9km s-min=22.4km az=236.0*
*GCMT **27** 13:31:44.2±0.1,4°.48S±0°.01×105°.25W±0°.01,h12km, MW5.3/153,Moment Tensor Solution. s109,c181; s153,c278; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.12±.01; $M_{\theta\theta}$0.30±.01; $M_{\phi\phi}$-0.18±.01; $M_{r\theta}$0.13±.03; $M_{\theta\phi}$0.98±.01; $M_{\phi r}$0.12±.03; Best double couple: $M_0$1.02400×10^{17} NP1:ϕ_s97.00000°,δ83.00000°, $\l

319A IAmb IAmb 13 39 02.3
comp=Z,12nm,1.4s
BRDY Brady 36.20 10 P **P 13 38 43.9 +0.8**
BRDY IAmb IAmb 13 38 46.8
comp=Z,8.9nm,1.2s
SGCY Sterling City 36.52 6 P **P 13 38 46.1 +0.1**
SGCY IAmb IAmb 13 39 06.5
comp=Z,12nm,0.9s
ABTX Abilene, Hawle 37.41 8 P **P 13 38 54.2 +0.8**
ABTX IAmb IAmb 13 38 57.7
comp=Z,16nm,1.2s
SN05 Snyder 5 37.51 6 P **P 13 38 54.8 +0.5**
POST Post 37.63 6 P **P 13 38 56.3 +1.0**
POST IAmb IAmb 13 38 59.7
comp=Z,8.8nm,1.0s
SN07 Snyder 07 37.71 6 P **P 13 38 55.8 -0.3**
SN07 IAmb IAmb 13 39 01.1
comp=Z,7.0nm,0.6s
H03N2 Juan Fernandez 37.95 142 T T 14 19 12.2
baz=317,slow=77,SNR=50
H03N1 Juan Fernandez 37.96 142 T T 14 19 11.5
baz=317,slow=77,SNR=79
H03N3 Juan Fernandez 37.97 142 T T 14 19 10.8
baz=317,slow=77,SNR=57
SBM South Baldy 38.37 358 P **P 13 39 03.0 +1.1**
BNM Barren Site 38.52 359 P **P 13 39 04.7 +1.6**
LPAZ La Paz 38.53 110 P **P 13 39 03.6 -0.2**
comp=Z,1.6nm,0.9s,baz=329,slow=6.8,SNR=2.3
LPAZ LR LR 13 52 30.4
comp=Z,640nm,19.5s,baz=271,slow=33
comp=Z,1.6nm,0.9s
LENM Lemitar 38.55 358 P **P 13 39 05.1 +1.8**
ANMO Albuquerque 39.31 359 LR LR 13 52 40.4
comp=Z,516nm,20.6s,baz=347,slow=32
SMWD Samnorwood 39.78 7 P **P 13 39 14.4 +1.1**
SMWD IAmb IAmb 13 39 17.5
comp=Z,17nm,1.2s
V12A Nelson 41.02 348 P **P 13 39 26.7 +3.0**
MVCO Mesa Verde 41.65 356 P **P 13 39 30.2 +1.2**
SHPR Sheep Range 41.84 348 P **P 13 39 33.4 +2.9**
S22A 4UR Ranch, Cre 42.12 358 P **P 13 39 32.7 -0.1**
WCT Wildcat Mounta 42.43 347 P **P 13 39 36.7 +1.6**
LCAR Lake Charles 42.62 17 P **P 13 39 36.4 -0.2**
PRN Pahroc Range 42.69 349 P **P 13 39 40.0 +2.6**
PCRV Puerto La Cruz 43.31 70 LR LR 13 57 00.2
comp=Z,466nm,20.6s,slow=36
R11B Troy Canyon, C 43.70 349 P **P 13 39 47.7 +2.1**
CFA Coronel Fontan 44.14 132 LR LR 13 53 38.1
comp=Z,602nm,20.4s,baz=297,slow=30
NVAR Mina Array Bea 44.38 346 P **P 13 39 49.8 -1.3**
comp=Z,0.2nm,0.4s,baz=167,slow=7.2,SNR=5.1
NVAR LR LR 13 54 30.1
comp=Z,1μm,18.8s,baz=182,slow=31
comp=Z,0.2nm,0.4s
SJG San Juan 44.92 59 LR LR 13 55 01.3
comp=Z,572nm,20.6s,baz=228,slow=32
PPT Papeete 44.96 250 LR LR 13 54 00.1
comp=Z,746nm,19.5s,baz=83,slow=30
PPT2 Papeete2 44.96 250 *e*S **S 13 46 30.3 -4.0**
comp=Z,288nm,26.0s
PPT2 *e*SS **ScS 13 49 54.0 +0.2**
comp=Z,2μm,31.8s
PPT2 *e*LR LR 13 52 24.8
comp=Z,3μm,26.2s
PPT2 *e*LR LR 13 52 25.8
comp=Z,2μm,27.0s
SIV San Ignacio 45.12 108 LR LR 13 56 00.9
comp=Z,2μm,21.9s,baz=284,slow=32
TBI Tubuai 46.26 242 *e*S **S 13 46 53.2 +0.4**
comp=Z,2μm,26.2s
TBI *e*SS **SS 13 50 21.5 +3.0**
comp=Z,4μm,33.2s
TBI *e*LR LR 13 53 01.6
comp=Z,2μm,26.8s
TBI *e*LR LR 13 53 06.0
comp=Z,9μm,27.8s
PTLB Pontes e Lacer 46.87 107 P **P 13 40 09.3 -1.6**
PTLB IAmb IAmb 13 40 11.2
comp=Z,8.7nm,1.3s
PDAR Pinedale Array 47.25 356 P **P 13 40 12.1 -1.7**
comp=Z,0.7nm,1.0s,baz=176,slow=4.2,SNR=5.4
PDAR LR LR 13 57 47.8
comp=Z,852nm,18.5s,baz=174,slow=34
comp=Z,0.7nm,1.0s
PLCA Paso Flores 47.78 144 P **P 13 40 20.1 +2.3**
comp=Z,6.7nm,1.3s,baz=257,slow=8.9,SNR=3.6
comp=Z,6.7nm,1.3s
YBH Yreka Blue Hor 48.66 343 LR LR 13 57 23.2
comp=Z,895nm,18.3s,baz=169,slow=32
CPUP Villa Florida 50.89 120 P **P 13 40 41.8 +0.1**
comp=Z,1.1nm,0.5s,baz=292,slow=7.0,SNR=4.4
CPUP LR LR 13 58 31.2
comp=Z,665nm,21.6s,baz=275,slow=32
comp=Z,1.1nm,0.5s
MDP Montagnes des 53.72 80 LR LR 14 01 31.4
comp=Z,509nm,20.4s,baz=286,slow=34
SADO Sadowa 54.52 23 LR LR 14 04 42.9
comp=Z,326nm,18.1s,baz=269,slow=37
RAR Rarotonga 55.08 247 LR LR 13 59 40.5
comp=Z,294nm,18.4s,baz=103,slow=30
ULM Lac du Bonnet 55.24 8 P **P 13 41 11.0 -2.3**
comp=Z,1.6nm,0.4s,baz=190,slow=6.4,SNR=4.2
comp=Z,1.6nm,0.4s
BDFB Brasilia 57.55 106 LR LR 14 04 05.3
comp=Z,745nm,18.2s,baz=271,slow=34
USHA Ushuaia 58.37 156 LR LR 14 01 45.5
comp=Z,728nm,19.0s,baz=278,slow=31
BBB Bella Bella 59.70 344 LR LR 14 04 27.8
comp=Z,666nm,18.8s,baz=156,slow=33
DLBC Dease Lake 65.80 346 LR LR 14 07 48.6
comp=Z,620nm,20.7s,baz=148,slow=33
YKA Yellowknife Ar 67.23 355 P **P 13 42 33.2 -1.1**
comp=Z,2.9nm,1.1s,baz=169,slow=5.9,SNR=16
YKA LR LR 14 09 53.2
comp=Z,534nm,20.4s,baz=192,slow=34
comp=Z,2.9nm,1.1s
SCHQ Schefferville 67.33 23 LR LR 14 11 18.3
comp=Z,459nm,20.1s,baz=236,slow=36
K29M Barlow Dome 72.31 346 P **P 13 43 08.4 +2.7**
K29M IAmb IAmb 13 43 22.1
comp=Z,4.7nm,0.8s
BCAR Beaver Creek A 72.80 344 P **P 13 43 09.6 +1.0**
L27K Beaver Creek, 72.81 344 P **P 13 43 09.8 +1.2**
L27K IAmb IAmb 13 43 19.5
comp=Z,4.6nm,1.1s
FRB Frobisher Bay 73.55 16 LR LR 14 14 48.2
comp=Z,389nm,18.9s,baz=225,slow=35
KNK Knik Glacier 73.63 340 P **P 13 43 15.2 +1.7**
KNK IAmb IAmb 13 43 31.9
comp=Z,8.4nm,1.0s
K27K Chicken 73.64 344 P **P 13 43 15.1 +1.6**
K27K IAmb IAmb 13 43 22.8
comp=Z,11nm,1.1s
RIDG Independent Ri 74.20 343 P **P 13 43 17.6 +0.8**
G29M Pine Creek 74.99 347 P **P 13 43 22.6 +1.3**
G29M IAmb IAmb 13 43 31.1
comp=Z,11nm,1.4s
SKT Skwentna 75.08 339 P **P 13 43 22.8 +0.9**
RND Reindeer 75.17 341 P **P 13 43 23.1 +0.6**
ILAR Eielson Array 75.56 343 P **P 13 43 24.5 -0.1**
comp=Z,2.4nm,1.0s,baz=160,slow=4.0,SNR=18
ILAR LR LR 14 13 51.9
comp=Z,340nm,20.4s,baz=116,slow=34
comp=Z,2.4nm,1.0s
MSVF Nonsavu 75.67 253 LR LR 14 08 28.8
comp=Z,251nm,21.5s,baz=156,slow=29
WRH Wood River Hil 75.70 342 P **P 13 43 26.4 +1.0**
BWN Browne 75.91 342 P **P 13 43 27.8 +1.2**
PPLA Purkeypile 75.92 340 P **P 13 43 27.6 +0.7**
KTH Kantishna Hill 75.94 341 P **P 13 43 27.6 +0.7**
NEA2 Nenana 76.08 342 P **P 13 43 28.5 +0.9**
NEA2 IAmb IAmb 13 43 43.0
comp=Z,6.5nm,1.2s
CAST Castle Rocks 76.24 340 P **P 13 43 28.4 -0.1**
CAST IAmb IAmb 13 43 34.6
comp=Z,5.9nm,1.0s
L19K White Mountain 76.40 339 P **P 13 43 30.3 +0.8**
L19K IAmb IAmb 13 43 33.5
comp=Z,10nm,1.2s
I23K Minto, Yukon-K 76.56 342 P **P 13 43 31.9 +1.7**
H24K Noodor Dome 76.63 343 P **P 13 43 31.6 +0.9**
H24K IAmb IAmb 13 43 34.5
comp=Z,11nm,1.4s
E27K Coleen River 76.83 347 P **P 13 43 32.8 +1.0**
E27K IAmb IAmb 13 43 47.9
comp=Z,5.7nm,1.2s
K20K Telida 76.87 340 P **P 13 43 32.6 +0.5**
K20K IAmb IAmb 13 43 40.2
comp=Z,7.1nm,0.9s
F26K Sheenjek River 77.04 346 P **P 13 43 33.5 +0.6**
F26K IAmb IAmb 13 43 37.2
comp=Z,6.8nm,1.4s
G24K Hadweenzic Riv 77.15 344 P **P 13 43 34.5 +1.0**
URZ Urewera 77.24 232 LR LR 14 12 34.0
comp=Z,554nm,18.1s,baz=190,slow=32
F25K Christian Rive 77.33 345 P **P 13 43 36.4 +1.7**
I21K Tanana 77.39 342 P **P 13 43 36.7 +1.8**
E25K Arctic Village 77.71 346 P **P 13 43 37.7 +1.0**
E25K IAmb IAmb 13 43 48.5
comp=Z,6.1nm,1.4s
H21K Melozitna Rive 77.97 342 P **P 13 43 38.7 +0.5**
H21K IAmb IAmb 13 43 52.8
comp=Z,6.1nm,1.1s
COLD Coldfoot 78.27 344 P **P 13 43 41.4 +1.5**
E23K Chandalar 78.70 345 P **P 13 43 43.7 +1.4**
TOLK Toolik Lake Re 79.11 345 P **P 13 43 45.8 +1.3**
TOLK IAmb IAmb 13 43 47.8
comp=Z,13nm,1.4s
F21K Alatna River 79.21 343 P **P 13 43 46.1 +1.1**
E22K Anaktuvuk Pass 79.35 344 P **P 13 43 46.7 +0.9**
E22K IAmb IAmb 13 43 49.2
comp=Z,10nm,1.4s
RES Resolute Bay 79.39 3 LR LR 14 17 08.0
comp=Z,390nm,19.2s,baz=198,slow=35
H18K Honhosa River 79.46 340 P **P 13 43 48.3 +1.9**
H18K IAmb IAmb 13 44 27.0
comp=Z,16nm,1.4s
D23K Nanushuk River 79.62 345 P **P 13 43 48.4 +1.1**
D23K IAmb IAmb 13 43 56.4
comp=Z,12nm,1.2s
SFJD Kangerlussuaq 81.24 19 LR LR 14 19 27.7
comp=Z,307nm,18.3s,baz=234,slow=36
RPZ Rata Peaks 82.08 227 LR LR 14 15 57.0
comp=Z,682nm,18.4s,baz=113,slow=32
QSPA South Pole Qui 85.49 180 P **P 13 44 17.2 -0.9**
QSPA South Pole Qui 85.49 180 P **P 13 44 22.3 +4.2**
comp=Z,3.5nm,0.9s,baz=107,slow=3.6,SNR=6.5
QSPA LR LR 14 16 03.0
comp=Z,539nm,18.9s,baz=140,slow=31
comp=Z,3.5nm,0.9s
DZM Mont Dzumac 86.45 248 *e*SS SS 14 00 32.9 -7.6
comp=Z,221nm,22.9s
DZM Mont Dzumac 86.45 248 *e*LR LR 14 11 40.5
comp=Z,404nm,23.4s
H11N3 WAKE ISLAND Hy 89.20 290 T T 15 23 35.5
baz=96,slow=75,SNR=58
H11N2 WAKE ISLAND Hy 89.22 290 T T 15 23 34.7
baz=96,slow=75,SNR=62
H11N1 WAKE ISLAND Hy 89.22 290 T T 15 23 34.9
baz=96,slow=75,SNR=60
H11S2 WAKE ISLAND Hy 89.29 288 T T 15 23 42.0
baz=94,slow=74,SNR=190
H11S1 WAKE ISLAND Hy 89.29 289 T T 15 23 38.2
baz=94,slow=74,SNR=87
H11S3 WAKE ISLAND Hy 89.31 288 T T 15 23 43.6
baz=94,slow=74,SNR=68
SNAA Sanae 89.68 162 LR LR 14 17 32.5
comp=Z,574nm,20.0s,baz=265,slow=31
BBTS Babate 90.20 75 LR LR 14 18 49.1
comp=Z,98nm,19.5s,baz=140,slow=32
BORG Borgarnes 91.63 25 LR LR 14 24 04.1
comp=Z,71nm,18.8s,baz=287,slow=34
HNR Honiara 93.68 260 LR LR 14 20 12.9
comp=Z,196nm,18.0s,baz=110,slow=31
JMIC Jan Mayen 96.60 19 LR LR 14 29 03.7
comp=Z,143nm,18.6s,baz=256,slow=36
PETK Petropavlovsk- 97.68 323 LR LR 14 21 32.4
comp=Z,503nm,20.5s,baz=90,slow=31
SEY Seymchan 99.53 333 LR LR 14 26 07.2
comp=Z,484nm,18.1s,baz=144,slow=33
SONM Songino Array 128.93 333 PKP **PKiKP 13 50 49.7 +0.6**
comp=Z,0.4nm,0.3s,baz=60,slow=3.5,SNR=2.8
KURBB Kurchatov Arra 133.98 356 PKP **PKiKP 13 50 58.3 -0.7**
comp=Z,0.4nm,0.8s,baz=358,slow=1.6,SNR=4.9
MKAR Makanchi Array 137.39 352 PKP **PKPdf 13 51 04.4 +0.1**
comp=Z,0.5nm,0.9s,baz=45,slow=2.4,SNR=4.5
BTK Batken 144.52 5 PKPdf **PKPab 13 51 15.5 -0.2**
DRK Karamyk 145.16 4 PKPbc **PKPbc 13 51 18.0 -0.2**
GAR Garm 145.52 6 PKPdf **PKPab 13 51 19.2 -0.2**
SIMJ Simiganj 145.71 8 PKPdf **PKPdf 13 51 19.3 -0.2**
CHGR Chuyangaron 145.73 7 **PKPbc 13 51 19.4 -0.3**
RAYN Ar Rayn 146.32 53 PKPdf **PKPdf 13 51 20.3 -0.6**
CMAR Chiang Mai Arr 152.36 302 PKPbc **PKiKP 13 51 38.6 +0.9**
comp=Z,0.8nm,0.7s,baz=30,slow=1.4,SNR=5.0

IDC 27 13:41:24.0±278.0, 66°.75N×41°.60E, h0km, Error ellipse: s-maj=154.0km s-min=113.4km az=37.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**8.95**	**296**	I	I	14 29 10.0	
baz=94,slow=335,SNR=0.7							
I31KZ	**AKTYUBINSK INF**	**18.38**	**145**	I	I	15 40 30.0	
baz=333,slow=336,SNR=0.6							
I46RU	**ZALESOVO INFRA**	**24.31**	**101**	I	I	16 07 00.0	
baz=316,slow=323,SNR=0.7							
I18DK	**QAANAAQ INFRAS**	**30.14**	**336**	I	I	16 50 00.0	
baz=38,slow=346,SNR=1.9							

*NEIC **27** 13:52:37.8±0.8, 35°.917N±0°.010×98°.05W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.4km az=46.0*
NEIC 27 13:52:37.4±0.6, 35°.915N±0°.009×98°.04W±0°.01, h1km±1km, mb_Lg2.6/57, ML2.5/35, ML2.6/64, Error ellipse: s-maj=1.5km s-min=1.2km az=223.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.44**	**126**		Pb	13 52 47.6	-0.2
BCOK					Sg	13 52 53.0	+1.6
OK029	**Liberty Lake**	**0.49**	**104**		Pg	13 52 47.5	+0.7
OK029					Sg	13 52 54.7	+1.5
CROK	**Carrier**	**0.59**	**5**		Pg	13 52 49.4	+0.7
CROK					Sg	13 52 57.8	+1.5
CROK				IAML		13 53 05.4	
comp=N,271nm,0.4s							
CROK				IAML		13 53 08.2	
comp=E,291nm,0.3s							
CSTR	**Hydro, Custer**	**0.59**	**243**		Pg	13 52 49.5	+0.8
CSTR					Sg	13 52 57.6	+1.2
OK004	**Okla Sci Mus**	**0.60**	**130**		Pg	13 52 49.8	+0.9
OK004					Sg	13 52 58.2	+1.4
ADOK	**Arcadia Dam**	**0.61**	**116**	Pg	Pg	13 52 49.3	+0.3
OK038	**West end E0370**	**0.80**	**315**		Pg	13 52 53.3	+0.6
OK038					Sg	13 53 04.1	+1.1
FNO	**Franklin**	**0.84**	**141**		Pb	13 52 54.2	-0.5
FNO					Sg	13 53 05.3	+0.9
FNO				IAML		13 53 10.8	
comp=E,224nm,0.6s							
OK032	**Salt Plains WL**	**0.90**	**351**		Pg	13 52 54.8	+0.2
OK032					Sb	13 53 07.5	-0.7
OK032				IAML		13 53 15.8	
comp=E,222nm,0.2s							
OK032				IAML		13 53 16.1	
comp=E,339nm,0.2s							
GC02	**Grant County #**	**0.95**	**9**		Pg	13 52 55.7	+0.2
GC02					Sb	13 53 09.0	-0.6
OK031	**S. Brethren Rd**	**0.98**	**87**		Pg	13 52 56.2	+0.2
OK031					Sb	13 53 10.1	-0.4
OK031				IAML		13 53 19.5	
comp=E,112nm,0.3s							
OK031				IAML		13 53 20.8	
comp=E,106nm,0.4s							
OK052	**Battle Ridge R**	**1.01**	**85**		Pg	13 52 56.8	+0.1
OK052				IAML		13 53 14.3	
comp=E,151nm,0.3s							
OK052				IAML		13 53 15.7	
comp=E,166nm,0.2s							
NOKA	**Waynoka**	**1.02**	**315**		Pg	13 52 57.0	+0.1
NOKA					Sg	13 53 10.5	+0.5
OK048	**Pawnee Station**	**1.02**	**60**		Pg	13 52 57.2	+0.3
OK048					Sg	13 53 10.7	+0.6
OK048				IAML		13 53 18.6	
comp=E,210nm,0.3s							
OK048				IAML		13 53 18.6	
comp=E,148nm,0.5s							
KAN14	**Manchester OK**	**1.04**	**3**		Pg	13 52 57.2	-0.1
KAN14					Sb	13 53 11.7	-0.7
KAN14				IAML		13 53 16.7	
comp=E,136nm,0.3s							
KAN14				IAML		13 53 24.0	
comp=N,103nm,0.3s							
QUOK Quay	**1.11**	**76**			Pg	13 52 58.7	0.0
QUOK					Sb	13 53 14.5	+0.2
QUOK				IAML		13 53 15.0	
comp=N,186nm,0.2s							
QUOK				IAML		13 53 21.9	
comp=E,174nm,0.2s							
ELIS Ellis County	**1.13**	**278**			Pg	13 52 59.0	+0.1
OK051 E0350 and S346	**1.14**	**59**	Pg	Pg	Pg	13 52 58.9	-0.3
KAN17 Caldwell West	**1.15**	**11**			Pg	13 52 59.3	-0.1
KAN17				IAML		13 53 18.4	
comp=N,212nm,0.3s							
KAN13 South Haven SW	**1.19**	**22**	Pg	Pg	Pg	13 52 58.9	-1.2
KAN05 Bluff City Nor	**1.20**	**7**			Pg	13 52 59.8	-0.6
KAN05				IAML		13 53 20.2	
comp=E,205nm,0.5s							
W35A Tecumseh	**1.22**	**128**			Pg	13 53 00.5	-0.2
KAN09 Caldwell North	**1.27**	**16**			Pg	13 53 01.1	-0.5
KAN08 Anthony NE Sta	**1.31**	**2**			Pg	13 53 02.1	-0.4
KAN08				IAML		13 53 32.3	
comp=N,69nm,0.3s							
WMOK Wichita Mounta	**1.32**	**207**			Pg	13 53 01.6	-1.1
WMOK				IAML		13 53 20.3	
comp=N,68nm,0.5s							
X34A Smith Ranch, M	**1.32**	**172**			Pg	13 53 02.3	-0.4
X34A				IAML		13 53 22.3	
comp=N,164nm,0.3s							
X34A				IAML		13 53 25.2	
comp=E,150nm,0.4s							
KAN12 Harper NE Stat	**1.38**	**1**			Pn	13 53 02.6	-1.1
T35A Sooner Cattle	**1.59**	**51**			Pn	13 53 06.2	-0.4
TUL3 Leonard	**1.83**	**89**			Pn	13 53 09.9	+0.1
PLPT Palo Pinto	**3.10**	**184**			Pn	13 53 25.8	-1.6
DKNS Dickens	**3.26**	**227**	IAmb_Lg			13 54 28.6	
comp=Z,12nm,0.8s							
KSU1 Kansas State U	**3.38**	**19**	IAmb_Lg			13 54 27.6	
comp=Z,11nm,0.8s							
ABTX Abilene, Hawle	**3.54**	**202**	IAmb_Lg			13 54 36.3	
comp=Z,12nm,0.9s							
Z38A Mt. Pleasant	**3.66**	**136**	IAmb_Lg			13 54 34.9	
comp=Z,11nm,0.7s							
SN07 Snyder 07	**3.67**	**221**	IAmb_Lg			13 54 38.6	
comp=Z,16nm,0.9s							
MIAR Mount Ida	**3.90**	**109**	IAmb_Lg			13 54 51.5	
comp=Z,11nm,0.8s							
POST Post	**4.03**	**226**	IAmb_Lg			13 54 52.6	
comp=Z,20nm,0.9s							
X40A Basin Creek Fa	**4.50**	**107**	IAmb_Lg			13 55 03.5	
comp=Z,14nm,0.9s							
BRDY Brady	**4.69**	**190**	IAmb_Lg			13 55 12.7	
comp=Z,7.9nm,0.9s							
WHAR Wooly Hollow	**4.73**	**96**	IAmb_Lg			13 55 16.1	
comp=Z,8.7nm,0.8s							
SGCY Sterling City	**4.74**	**214**	IAmb_Lg			13 55 20.5	
comp=Z,21nm,0.8s							
MGMO Mountain Grove	**4.81**	**73**	IAmb_Lg			13 55 10.7	
comp=Z,20nm,0.9s							
P38A Dawn	**5.14**	**43**	IAmb_Lg			13 55 30.8	
comp=Z,10nm,0.8s							
R40A Maddies Statio	**5.19**	**61**	IAmb_Lg			13 55 21.5	
comp=Z,16nm,0.9s							
T25A Trinidad	**5.27**	**285**	IAmb_Lg			13 55 30.1	
comp=Z,9.2nm,1.0s							
OZNA Ozona	**5.61**	**208**	IAmb_Lg			13 55 45.7	
comp=Z,11nm,0.8s							
T42A Van Buren	**5.71**	**77**	IAmb_Lg			13 55 42.1	
comp=Z,7.6nm,0.7s							
CCM Cathedral Cave	**5.84**	**67**	IAmb_Lg			13 55 49.7	
comp=Z,12nm,0.8s							
P40A Paris	**5.96**	**51**	IAmb_Lg			13 55 52.5	
comp=Z,15nm,0.8s							
MNHN Monahans	**6.03**	**222**	IAmb_Lg			13 56 00.2	
comp=Z,6.5nm,0.8s							
FVM French Village	**6.44**	**69**	IAmb_Lg			13 56 03.4	
comp=Z,7.4nm,0.7s							
PECS Pecos	**6.64**	**229**	IAmb_Lg			13 56 17.6	
comp=Z,8.4nm,0.7s							
DRIO Del Rio	**6.83**	**199**	IAmb_Lg			13 56 26.8	
comp=Z,7.4nm,0.7s							
CGM3 Cape Girardeau	**6.88**	**76**	IAmb_Lg			13 56 16.2	
comp=Z,7.6nm,0.8s							
ALPN Alpine	**7.25**	**222**	IAmb_Lg			13 56 34.7	
comp=Z,6.5nm,0.9s							
MNTX Cornudas Mount	**7.42**	**238**	IAmb_Lg			13 56 51.7	
comp=Z,4.8nm,0.8s							

*NOU **27** 13:57:48.8, 41°.39S×178°.10E, h8km, MLv4.0/9, Off E. Coast of N. Island, N.Z.*
*WEL **27** 13:57:55.3±0.9, 41°.5±6°×17°.8E±°, h33km, M3.2/26, ML3.5/27, MLv3.2/26, Error ellipse: s-maj=10.8km s-min=4.5km az=126.0, confirmed*
ISC 27 13:57:52.4±1.7, 41°.26S±0°.06×177°.86E±0°.08, h35km, n99, σ1°85/104, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**1.30**	**285**	P	**Pn**	**13 58 15.7**	**+1.7**
ANWZ	**Angora Road**	**1.32**	**307**	P	**Pn**	**13 58 14.6**	**+0.3**
PGFS	**Porangahau Fir**	**1.34**	**315**	P	**Pn**	**13 58 15.4**	**+0.8**
BFZ	**Birch Farm**	**1.35**	**295**	P	**Pn**	**13 58 16.6**	**+1.9**
BFZ	**Birch Farm**	**1.35**	**295**	P	**Pn**	**13 58 15.2**	**+0.5**
PRHZ	**Porangahau**	**1.36**	**317**	P	**Pn**	**13 58 15.2**	**+0.4**
PXZ	**Pawanui**	**1.44**	**328**	P	**Pn**	**13 58 16.6**	**+0.6**
TMWZ	**Te Maipa**	**1.49**	**275**	P	**Pn**	**13 58 18.1**	**+1.4**
TIWZ	**Tintock**	**1.57**	**287**	P	**Pn**	**13 58 18.7**	**+1.0**
PRWZ	**Pori Road**	**1.59**	**296**	P	**Pn**	**13 58 19.1**	**+1.0**
PRWZ				S	**Sn**	**13 58 34.7**	**-2.7**
DVHZ	**Dannevirke**	**1.60**	**306**	P	**Pn**	**13 58 18.5**	**+0.3**
WPHZ	**Waipukurau**	**1.61**	**317**	P	**Pn**	**13 58 20.1**	**+1.8**
TRWZ	**Traveller**	**1.64**	**264**	P	**Pn**	**13 58 20.3**	**+1.5**
KAHZ	**Kahuranaki**	**1.64**	**333**	P	**Pn**	**13 58 19.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.71**	**339**	P	**Pn**	**13 58 20.6**	**+1.0**
MTW	**Mount Morrison**	**1.78**	**273**	P	**Pn**	**13 58 21.9**	**+1.2**
HOWZ	**Holdsworth Sta**	**1.81**	**281**	P	**Pn**	**13 58 21.9**	**+0.9**
POWZ	**Post Office Ro**	**1.81**	**298**	P	**Pn**	**13 58 22.1**	**+1.1**
MRZ	**Mangatainoka R**	**1.83**	**288**	P	**Pn**	**13 58 22.0**	**+0.7**
PAWZ	**Paruwai Farm**	**1.83**	**265**	P	**Pn**	**13 58 22.6**	**+1.2**
PAWZ				S	**Sn**	**13 58 41.6**	**-1.8**
PNHZ	**Pukenui**	**1.84**	**316**	P	**Pn**	**13 58 22.6**	**+1.0**
TSZ	**Takapari Road**	**1.88**	**309**	P	**Pn**	**13 58 22.5**	**+0.5**
TSZ				S	**Sn**	**13 58 40.6**	**-3.8**
MSWZ	**Moikau Station**	**1.97**	**265**	P	**Pn**	**13 58 24.3**	**+1.0**
MSWZ				S	**Sn**	**13 58 45.2**	**-1.6**
KRHZ	**Kereru**	**1.97**	**324**	P	**Pn**	**13 58 24.4**	**+1.1**
PLWZ	**Palliser**	**1.98**	**260**	P	**Pn**	**13 58 24.5**	**+1.1**
MCHZ	**McNeill Hill**	**2.02**	**334**	P	**Pn**	**13 58 25.2**	**+1.3**
OGWZ	**Otaki Gorge**	**2.08**	**281**	P	**Pn**	**13 58 26.0**	**+1.2**
ARHZ	**Aropaoanui**	**2.10**	**341**	P	**Pn**	**13 58 26.4**	**+1.3**
MHGZ	**Mahia Peninsul**	**2.10**	**1**	P	**Pn**	**13 58 26.4**	**+1.2**
CAW	**Cannon Point**	**2.11**	**273**	P	**Pn**	**13 58 26.4**	**+1.2**
KWHZ	**Kaweka Forest**	**2.14**	**329**	P	**Pn**	**13 58 26.7**	**+1.0**
WHHZ	**Waihua**	**2.23**	**347**	P	**Pn**	**13 58 28.1**	**+1.2**
KNZ	**Kokohu**	**2.24**	**356**	P	**Pn**	**13 58 28.0**	**+1.1**
KIW	**Kapiti Island**	**2.26**	**279**	P	**Pn**	**13 58 29.0**	**+1.6**
NMHZ	**Naumai**	**2.31**	**339**	P	**Pn**	**13 58 29.4**	**+1.4**
PRGZ	**Paritu Road**	**2.33**	**1**	P	**Pn**	**13 58 29.4**	**+1.1**
BKZ	**Black Stump Fm**	**2.34**	**333**	P	**Pn**	**13 58 29.6**	**+1.2**
BKZ	**Black Stump Fm**	**2.34**	**333**	P	**Pn**	**13 58 29.4**	**+1.0**
SNZO	**South Karori**	**2.38**	**268**	P	**Pn**	**13 58 29.9**	**+1.1**
RAHZ	**Arahi**	**2.41**	**346**	P	**Pn**	**13 58 30.8**	**+1.4**
MOVZ	**Moawhango**	**2.45**	**318**	P	**Pn**	**13 58 31.8**	**+1.9**
SNGZ	**Shannon Statio**	**2.51**	**351**	P	**Pn**	**13 58 32.3**	**+1.6**
MTHZ	**Maungataniwha**	**2.53**	**342**	P	**Pn**	**13 58 32.2**	**+1.2**
RIGZ	**Rimuhau**	**2.55**	**358**	P	**Pn**	**13 58 32.6**	**+1.3**
WNVZ	**Wahianoa**	**2.59**	**317**	P	**Pn**	**13 58 34.5**	**+2.5**
TUVZ	**Tukino**	**2.61**	**319**	P	**Pn**	**13 58 34.6**	**+2.4**
MTVZ	**Mangateitei**	**2.61**	**315**	P	**Pn**	**13 58 34.8**	**+2.6**
WAZ	**Wanganui**	**2.66**	**304**	P	**Pn**	**13 58 35.9**	**+3.2**
MRHZ	**Matea Rd**	**2.66**	**335**	P	**Pn**	**13 58 34.6**	**+1.8**
SNVZ	**South Ngauruho**	**2.68**	**320**	P	**Pn**	**13 58 35.3**	**+2.1**
ETVZ	**East Tongariro**	**2.68**	**322**	P	**Pn**	**13 58 35.3**	**+2.1**
OTVZ	**Oturere**	**2.68**	**321**	P	**Pn**	**13 58 35.3**	**+2.1**
TCW	**Tory Channel**	**2.70**	**270**	P	**Pn**	**13 58 34.8**	**+1.5**
TMVZ	**Te Maari**	**2.70**	**322**	P	**Pn**	**13 58 35.5**	**+2.0**
NGZ	**Ngauruhoe**	**2.70**	**320**	P	**Pn**	**13 58 35.8**	**+2.3**
COVZ	**Chateau Observ**	**2.71**	**319**	P	**Pn**	**13 58 35.9**	**+2.3**
RTZ	**Ruatahuna**	**2.73**	**345**	P	**Pn**	**13 58 35.1**	**+1.3**
**NT

PKVZ	Pokaka	2.75 315	P		Pn	13 58 36.6	+2.5
WTVZ	West Tongariro	2.76 320	P		Pn	13 58 36.4	+2.2
RAGZ	Rawiri	2.78 353	P		Pn	13 58 35.8	+1.3
CNGZ	Carnagh Statio	2.79 6	P		Pn	13 58 35.7	+1.2
KATZ	Kakaramea	2.82 323	P		Pn	13 58 37.7	+2.6
TWVZ	Taurewa	2.87 319	P		Pn	13 58 37.8	+2.1
MUGZ	Murupara	2.90 343	P		Pn	13 58 37.4	+1.3
MWZ	Matawai	2.93 355	P		Pn	13 58 37.4	+0.8
PRRZ	Plateau Road	2.98 337	P		Pn	13 58 38.7	+1.5
DUWZ	D'Urville Isla	3.01 277	P		Pn	13 58 40.1	+2.5
BSWZ	Blackbirch Sta	3.02 260	P		Pn	13 58 39.4	+1.6
URZ	Urewera	3.05 349	P		Pn	13 58 39.1	+1.0
URZ	Urewera	3.05 349	P		Pn	13 58 39.2	+1.0
TWGZ	Tauwhareparae	3.08 2	P		Pn	13 58 40.1	+1.4
VRZ	Vera Road	3.19 311	P		Pn	13 58 42.5	+2.4
HSRZ	Hossack Road	3.19 337	P		Pn	13 58 41.8	+1.6
TARZ	Mount Tarawera	3.19 341	P		Pn	13 58 42.0	+1.8
HLRZ	Highlands Stat	3.22 338	P		Pn	13 58 44.4	+3.9
RUGZ	Raukumara Rang	3.29 358	P		Pn	13 58 42.7	+1.1
PKGZ	Pakihiroa	3.39 3	P		Pn	13 58 43.7	+0.8
PREZ	Palmer Road	3.42 303	P		Pn	13 58 47.1	+3.9
KHZ	Kahutara	3.43 249	P		Pn	13 58 44.3	+1.0
KHZ	Kahutara	3.43 249	P		Pn	13 58 44.2	+1.0
WMGZ	Waiomatatini S	3.46 7	P		Pn	13 58 45.5	+1.7
NEZ	North Egmont	3.50 303	P		Pn	13 58 48.0	+3.7
HAZ	Te Kaha	3.50 359	P		Pn	13 58 45.5	+1.2
KHEZ	Kahui Hut	3.53 302	P		Pn	13 58 48.8	+3.9
KHEZ	Kahui Hut	3.53 302	P		Pn	13 58 48.7	+3.9
HIZ	Hauiti	3.58 319	P		Pn	13 58 47.1	+1.6
TKNZ	Takaka Hill	3.70 272	P		Pn	13 58 49.9	+2.8
MXZ	Matakaoa Point	3.71 6	P		Pn	13 58 48.7	+1.5
MXZ	Matakaoa Point	3.71 6	P		Pn	13 58 49.0	+1.9
THZ	Tophouse	3.75 261	P		Pn	13 58 49.3	+1.5
MRNZ	Matariki Terra	3.84 266	P		Pn	13 58 50.7	+1.7
GVZ	Greta Valley S	3.97 243	P		Pn	13 58 52.3	+1.5
QRZ	Quartz Range	4.05 274	P		Pn	13 58 53.9	+2.0
OKCZ	Okains Bay	4.32 234	P		Pn	13 58 57.7	+2.1
MQZ	McQueen's Vall	4.56 236	P		Pn	13 58 59.5	+0.7
MQZ			S		Sn	13 59 48.2	-2.3

IDC ***27*** *14:14:06.7±4.3, 19°.29S×177°.37W, h440km±33km, mb3.2/4, mbtmp4.0/6, Error ellipse: s-maj=120.9km s-min=26.3km az=30.0*

ISC 27 14:14:08.3±2.0, 20°.3S±0°.1×177°.7W±0°.2, h400km, n37, σ1º**64**/38**, mb3.4**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.81 302		P	Pn	14 15 26.9	-1.6
	7.7nm,0.9s,baz=120,slow=16,SNR=4.9						
DZM	Mont Dzumac	14.92 261		P	P	14 17 22.9	+2.8
	7.9nm,0.6s,baz=70,slow=20,SNR=7.9						
MXZ	Matakaoa Point	17.52 191		P	P	14 17 48.4	+0.8
WMGZ	Waiomatatini S	17.75 190		P	P	14 17 50.0	-0.1
HAZ	Te Kaha	17.80 192		P	P	14 17 50.0	-0.6
HAZ				S	S	14 20 53.4	-1.2
MKAZ	Moumakai	17.84 199		P	P	14 17 53.1	+2.1
PKGZ	Pakihiroa	17.85 191		P	P	14 17 50.8	-0.4
PUZ	Puketiti	18.02 190		P	P	14 17 53.8	+0.8
PUZ				S	S	14 20 57.7	-1.1
RUGZ	Raukumara Rang	18.02 192		P	P	14 17 53.1	0.0
TGRZ	Tauranga	18.12 196		P	P	14 17 52.6	-1.4
TWGZ	Tauwhareparae	18.17 191		P	P	14 17 53.8	-0.8
TWGZ				S	S	14 20 57.2	-4.4
TOZ	Tahuroa Road	18.32 197		P	P	14 17 58.0	+1.9
MWZ	Matawai	18.41 192		P	P	14 17 55.3	-1.9
MWZ				S	S	14 21 03.0	-2.9
URZ	Urewera	18.43 193		P	P	14 17 54.3	-3.0
URZ				S	S	14 20 59.6	-6.4
CNGZ	Carnagh Statio	18.43 190		P	P	14 17 56.5	-0.9
OMRZ	Omania	18.45 195		P	P	14 17 57.5	0.0
RIGZ	Rimuhau	18.73 191		P	P	14 17 59.2	-1.2
RIGZ				S	S	14 21 11.2	-0.2
PRRZ	Plateau Road	18.82 195		P	P	14 17 59.0	-2.3
KNZ	Kokohu	19.05 191		P	P	14 18 02.2	-1.4
RAHZ	Arahi	19.06 193		P	P	14 18 02.3	-1.6
MRHZ	Matea Rd	19.13 194		P	P	14 18 02.3	-2.2
BKZ	Black Stump Fm	19.43 194		P	P	14 18 04.3	-3.1
NTVZ	North Tongarir	19.56 196		P	P	14 18 07.0	-1.7
TMVZ	Te Maari	19.57 196		P	P	14 18 06.7	-2.1
ETVZ	East Tongariro	19.59 196		P	P	14 18 07.3	-1.7
TWVZ	Taurewa	19.59 196		P	P	14 18 08.0	-1.1
OTVZ	Oturere	19.62 196		P	P	14 18 05.8	-3.5
MCHZ	McNeill Hill	19.65 193		P	P	14 18 07.5	-2.0
SNVZ	South Ngauruho	19.65 196		P	P	14 18 08.1	-1.5
PXZ	Pawanui	20.18 192		P	P	14 18 12.8	-1.4
TSZ	Takapari Road	20.40 194		P	P	14 18 14.5	-1.9
BFZ	Birch Farm	20.93 193		P	P	14 18 20.0	-1.2
MRZ	Mangatainoka R	21.06 194		P	P	14 18 19.6	-2.7
ASAR	Alice Springs	44.86 257		P	P	14 21 44.4	-0.8
	1.0nm,0.5s,baz=89,slow=8.1,SNR=17 1.0nm,0.5s						
WRA	Warramunga Arr	44.93 262		P	P	14 21 44.3	-1.5
	0.2nm,0.4s,baz=97,slow=7.5,SNR=6.6 0.2nm,0.4s						
VNDA	Vanda	58.10 185		P	P	14 23 23.0	+1.9
	0.7nm,0.4s,baz=20,slow=8.0,SNR=10 0.7nm,0.4s						
QSPA	South Pole Qui	69.73 180		P	P	14 24 37.5	+1.3
	3.7nm,0.7s,baz=35,slow=1.8,SNR=22 3.7nm,0.7s						

ASIES ***27*** *14:19:18.4, 25°.30N×122°.31E, h234km, ML4.4, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr=2.95; Mθθ=2.73; Mφφ=0.22; Mrθ=-6.11; Mrφ=-2.17; Mθφ=1.64; Fault plane solution: M₀=7.26582×10²¹ NP1: φs=320.32000°, δ=16.55000°, λ=-56.78000°. NP2: φs=105.98000°, δ=76.22000°, λ=-99.24000°. Principal axes: T Plg=30.6180°, Azm=203.5670°; N Plg=8.9780°, Azm=108.2010°; P Plg=57.8130°, Azm=3.6640°;*

NEIC ***27*** *14:19:18.9±1.5, 25°.33N±0°.09×122°.22E±0°.07, h220km±7km, mb4.1/32 Error ellipse: s-maj=14.9km s-min=6.0km az=211.0*

TAP ***27*** *14:19:18.4, 25°.30N×122°.31E, h234km, ML4.4, B*

IDC ***27*** *14:19:19.7±2.2, 25°.36N×122°.29E, h230km±23km, mb3.3/17, mbtmp4.0/20, Error ellipse: s-maj=17.6km s-min=9.1km az=72.0*

JMA ***27*** *14:19:20.4±0.3, 25°.N×122°.3E±0°.7, h212km±2km, MV4.1/15, TAIWAN REGION*

ISC 27 14:19:19.0±0.6, 25°.31N±0°.03×122°.28E±0°.03, h224km±4km**, n255,** σ0º**91**/406**, mb3.9**/31**, 4C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	Pengchaiyu	0.36 330		P	Pn	14 19 49.7	+1.3
PCYT				S	S	14 20 11.8	+0.2
TWB1	Santiao Chiao	0.40 221		||P	Pn	14 19 48.9	+0.3
TWB1				S	S	14 20 10.8	-0.9
SXI1	Grass Mountain	0.42 239		*i* P	Pn	14 19 49.0	+0.2
SXI1				*e*S	S	14 20 11.3	-0.6
TNOU	National Taiwa	0.48 250		*e*P	Pn	14 19 50.0	+1.3
TNOU				S	S	14 20 12.2	+0.2
NWF	Wu-fen Shan	0.51 242		*i* P	Pn	14 19 49.3	+0.3
NWF				*e*S	S	14 20 11.6	-0.8
WFSB	Wu-fen Shan	0.51 242		P	Pn	14 19 49.5	+0.6
WFSB				S	S	14 20 12.4	+0.2
TIPB	Shuangxi	0.53 230		||P	Pn	14 19 49.2	+0.2
TIPB				*e*S	S	14 20 11.3	-1.1
EGS		0.56 214		*e*P	Pn	14 19 49.4	+0.4
EGS				*i* S	S	14 20 12.3	-0.3
NTC	Toucheng	0.61 222		*e*P	Pn	14 19 49.9	+0.7
NTC				*i* S	S	14 20 12.6	-0.2
TWY	Chenhua	0.61 267		*e*P	Pn	14 19 48.9	-0.3
TWY				*e*S	S	14 20 11.5	-1.3
NSM	Shimen	0.62 268		P	Pn	14 19 50.5	+1.2
NSM				S	S	14 20 12.9	+0.1
YM08	YM08	0.63 259		*e*P	Pn	14 19 49.6	+0.3
YM08				*e*S	S	14 20 13.2	+0.2
YM01	YM01	0.66 256		*i* P	Pn	14 19 49.8	+0.3
YM01				*e*S	S	14 20 15.9	+2.6
ZUZH	Zhuzihu	0.68 257		*i* P	Pn	14 19 50.0	+0.4
ZUZH				*e*S	S	14 20 13.2	-0.2
NHY	Taipei	0.70 247		*i* P	Pn	14 19 50.0	+0.4
NHY				S	S	14 20 13.7	+0.3
TWA	Mucha	0.71 242		*i* P	Pn	14 19 50.9	+1.2
TWA				*e*S	S	14 20 14.2	+0.6
ILA	Ilan	0.73 221		*i* P	Pn	14 19 50.2	+0.5
ILA				S	S	14 20 14.0	+0.2
TAP	Taipei	0.75 249		*i* P	Pn	14 19 50.3	+0.5
TAP				*e*S	S	14 20 13.5	-0.3
NTST	Danshui	0.76 259		*e*P	Pn	14 19 51.8	+1.9
NTST				S	S	14 20 14.3	+0.4
NHDH	Xindian Distri	0.77 243		*e*S	S	14 20 12.9	-1.1
TATO	Taipei	0.79 245		Pn	Pn	14 19 49.8	-0.2
TATO	Taipei	0.79 245		P	Pn	14 19 50.1	0.0
TATO	Taipei	0.79 245		S	S	14 20 13.4	-0.8
TATO	Taipei	0.79 245		||P	Pn	14 19 50.0	0.0
TATO				S	S	14 20 13.2	-1.0
TWS1	Kuangyinshan	0.81 255		*e*P	Pn	14 19 49.0	-1.1
TWS1				*i* S	S	14 20 14.2	-0.2
TWE	Neicheng	0.81 223		*i* P	Pn	14 19 50.4	+0.3
TWE				S	S	14 20 13.9	-0.5
BACT	New Taipei Cit	0.82 248		P	Pn	14 19 51.3	+1.1
BACT				S	S	14 20 14.5	+0.1
ESAO	Su ao	0.83 208		P	Pn	14 19 50.4	+0.1
ESAO				S	S	14 20 14.1	-0.7
FUSB	Fushanzhiwuyua	0.83 229		P	Pn	14 19 50.5	+0.1
FUSB				*i* S	S	14 20 14.2	-0.7
NDS	Dongshan	0.85 217		*i* P	Pn	14 19 50.8	+0.4
NDS				*e*S	S	14 20 15.6	+0.7
NWLT	Wulai	0.88 233		*i* P	Pn	14 19 50.9	+0.3
NWLT				S	S	14 20 14.6	-0.7
EOS2	EOS2	0.89 183		*e*P	Pn	14 19 51.3	+0.8
EOS2				S	S	14 20 15.8	+0.7
ENTT	Nioudou	0.93 224		*i* P	Pn	14 19 51.1	+0.3
ENTT				*e*S	S	14 20 14.7	-1.0
EWUT	Wuta	0.98 208		*i* P	Pn	14 19 51.5	+0.4
EWUT				*i* S	S	14 20 15.3	-0.8
ENA	Nanau	1.01 209		*i* P	Pn	14 19 51.7	+0.4
ENA				*e*S	S	14 20 15.8	-0.7
EOS3	EOS3	1.02 178		P	Pn	14 19 52.0	+0.8
EOS3				*e*S	S	14 20 17.2	+0.9
LATG	Datong	1.03 221		P	Pn	14 19 52.1	+0.5
LATG				*i* S	S	14 20 16.7	-0.3
YHNB	Yeheng	1.04 232		Pn	Pn	14 19 51.3	-0.3
YHNB	Yeheng	1.04 232		P	Pn	14 19 51.4	-0.1
YHNB	Yeheng	1.04 232		S	S	14 20 15.3	-1.6
YHNB	Yeheng	1.04 232		*i* P	Pn	14 19 51.5	-0.1
YHNB				*e*S	S	14 20 15.3	-1.6
NCU	National Centr	1.04 251		*e*P	Pn	14 19 51.1	-0.4
NCU				*e*S	S	14 20 16.4	-0.4
NCUH	Zhongli	1.05 251		*i* P	Pn	14 19 51.9	+0.4
NCUH				S	S	14 20 16.1	-0.7
NSK	Sanguang	1.05 233		*i* P	Pn	14 19 51.5	-0.1
NSK				*e*S	S	14 20 15.1	-1.9
JYNG	Yonagunijimaku	1.05 145		P	Pn	14 19 51.4	-0.2
JYNG				S	S	14 20 15.7	-1.3
YOJ	Yonaguni jima	1.08 142			Pn	14 19 51.2	-0.5
YOJ	Yonaguni jima	1.08 142		P	Pn	14 19 51.3	-0.5
YOJ	Yonaguni jima	1.08 142		*i* P	Pn	14 19 51.6	-0.2
YOJ				*e*S	S	14 20 16.0	-1.2
YOJ	Yonaguni jima	1.08 142		P	Pn	14 19 51.5	-0.2
YOJ				S	S	14 20 16.0	-1.2
EAHA	Aohua	1.09 207		*i* P	Pn	14 19 52.2	+0.3
EAHA				*i* S	S	14 20 17.1	-0.4
KSHI	Guanxi Townshi	1.13 242		*e*P	Pn	14 19 52.8	+0.7
KSHI				S	S	14 20 17.7	-0.1
NHW	Xinwu Township	1.16 255		*i* P	Pn	14 19 52.8	+0.6
NHW				*e*S	S	14 20 18.3	+0.2
EOS4	EOS4	1.19 178		*i* P	Pn	14 19 52.3	+0.2
EOS4				S	S	14 20 17.3	-0.6
NNS	Nan Shan	1.20 224		P	Pn	14 19 52.7	0.0
NNS				*i* S	S	14 20 18.2	-0.7
NNSB	Datong	1.20 223		*i* P	Pn	14 19 53.0	+0.3
NNSB				*e*S	S	14 20 19.6	+0.6
NNSH	Datong	1.20 223		||P	Pn	14 19 53.1	+0.4
NNSH				*i* S	S	14 20 18.3	-0.7
NJD	Zhudong	1.22 242		⇑P	Pn	14 19 53.3	+0.6
NJD				S	S	14 20 18.5	-0.4
NFF	Wufeng Townshi	1.25 237		||*i*P	Pn	14 19 52.9	-0.1
NFF				*e*S	S	14 20 17.7	-1.8
HSN1	Hsinchu	1.26 245		P	Pn	14 19 53.8	+0.8
HSN1				S	S	14 20 19.3	-0.1
SBCB	Hsinchu	1.28 246		P	Pn	14 19 53.8	+0.7
SBCB				*e*S	S	14 20 20.2	+0.6
HSN	Hsinchu	1.29 247		*e*P	Pn	14 19 53.1	-0.1
HSN				*i* S	S	14 20 18.6	-1.1
NACB	Ninganchiao	1.29 209		Pn	Pn	14 19 52.0	-1.3
NACB	Ninganchiao	1.29 209		P	Pn	14 19 52.8	-0.5
NACB	Ninganchiao	1.29 209		S	S	14 20 18.4	-1.5
NACB	Ninganchiao	1.29 209		*e*P	Pn	14 19 52.9	-0.4
NACB				*e*S	S	14 20 18.6	-1.3
ETL	Fush Village	1.29 207		P	Pn	14 19 53.1	+0.2
ETL				*e*S	S	14 20 19.6	-0.4
ETLH	Xiulin Townshi	1.32 213		||*i*P	Pn	14 19 53.5	0.0
ETLH				*i* S	S	14 20 19.3	-1.1
LIOB	Emei	1.32 240		*i* P	Pn	14 19 53.8	+0.3
LIOB				*i* S	S	14 20 19.5	-0.8
NSTT	Nanjuang	1.34 240		*i* P	Pn	14 19 53.8	+0.2
NSTT				S	S	14 20 19.2	-1.3
TWD	Chiawan	1.38 207		||*i*P	Pn	14 19 53.6	-0.2
TWD				*i* S	S	14 20 19.5	-1.5
FUSS	Fushou	1.42 222		*i* P	Pn	14 19 55.3	+0.8
FUSS				S	S	14 20 21.3	-0.7
NJN	Zhunan	1.42 244		*e*P	Pn	14 19 55.2	+1.0
NJN				*e*S	S	14 20 21.5	-0.1
TWT	Tachien	1.45 224		*i* P	Pn	14 19 55.2	+0.6
TWT				*e*S	S	14 20 22.2	-0.3
HWA	Hwalien	1.46 205		*e*P	Pn	14 19 55.1	+0.6
HWA				*e*S	S	14 20 23.3	+1.1
TDCB	Techi	1.47 224		*i* P	Pn	14 19 55.5	+0.9
TDCB				*e*S	S	14 20 21.8	-0.7
WHF	Hehuan Shan	1.48 219		*i* P	Pn	14 19 55.9	+0.6
WHF				*i* S	S	14 20 22.6	-0.8
LXIB	Xiulin Townshi	1.51 212		*i* P	Pn	14 19 54.9	-0.2
LXIB				S	S	14 20 22.7	-0.5
ETM	Tongmen	1.52 208		*e*P	Pn	14 19 54.8	-0.3
ETM				S	S	14 20 21.8	-1.3
NMLH	Miaoli	1.55 240		*i* P	Pn	14 19 55.9	+0.6
NMLH				*i* S	S	14 20 22.8	-0.7
TEYL	Yanliau Villag	1.57 203		*e*P	Pn	14 19 53.6	-1.8
TEYL				*e*S	S	14 20 21.6	-2.2
WHP	Taichung City	1.59 230		*i* P	Pn	14 19 56.2	+0.5
WHP				*i* S	S	14 20 23.1	-1.2
NSY	Sanyi	1.64 237		*e*P	Pn	14 19 55.2	-0.8
NSY				*i* S	S	14 20 23.4	-1.5
IRIF	Iriomote-Funau	1.64 126		P	Pn	14 19 56.0	0.0
IRIF				S	S	14 20 23.3	-1.1
SHUL	Shoufeng	1.65 203		*i* P	Pn	14 19 56.2	+0.1
SHUL				*e*S	S	14 20 26.2	+1.2
TWQ1	Liyutan	1.67 235		*i* P	Pn	14 19 56.7	+0.4
TWQ1				S	S	14 20 24.5	-0.8
ESL	Shilin	1.68 207		*e*P	Pn	14 19 55.8	-0.6
ESL				S	S	14 20 24.4	-1.1
OWD	Renai	1.68 217		*i* P	Pn	14 19 57.0	+0.4
OWD				*i* S	S	14 20 25.7	-0.1
WUSB	Renai	1.69 219		*i* P	Pn	14 19 57.4	+0.8
WUSB				*e*S	S	14 20 26.5	+0.7
TEGC	Jichi Village	1.73 203		*e*P	Pn	14 19 57.7	+0.8
TEGC				S	S	14 20 25.9	-0.4
WCS	Beigang Elemen	1.76 225		*i* P	Pn	14 19 57.6	+0.5
WCS				S	S	14 20 26.1	-0.7
WPL	Puli Township	1.77 223		*e*P	Pn	14 19 55.7	-1.5
WPL				*e*S	S	14 20 26.1	-0.8
DPDB	Guoxing	1.77 224		⇑P	Pn	14 19 57.7	+0.5
DPDB				*e*S	S	14 20 27.1	+0.1
WDJ	Dajia District	1.77 237		*e*P	Pn	14 19 58.0	+0.9
WDJ				S	S	14 20 26.6	-0.2
WARBT	Fenglin Townsh	1.78 207		*i* P	Pn	14 19 56.6	-0.7
WARBT				*i* S	S	14 20 25.7	-1.5
EGFH	Guangfu	1.81 205		*e*P	Pn	14 19 57.4	-0.1
TCU	Taichung	1.86 232		*e*P	Pn	14 19 58.8	+0.8
TCU				*e*S	S	14 20 28.2	-0.2
VWDT	VWDT	1.87 214		*e*P	Pn	14 19 59.4	+1.3
VWDT				*e*S	S	14 20 29.5	+1.1
HATJ	Hateruma jima	1.87 132		P	Pn	14 19 58.7	+0.6
SMLT	Sun Moon Lake	1.90 222		*i* P	Pn	14 19 57.9	-0.6
SMLT				S	S	14 20 28.1	-1.1
JKRS	Kuro-shima	1.91 124		P	Pn	14 19 59.0	+0.6
JKRS				S	S	14 20 28.7	-0.4
TYC	Yuchr	1.91 223		*i* P	Pn	14 19 58.9	+0.5
TYC				*e*S	S	14 20 28.5	-0.6
WWF	Wufeng	1.91 229		*e*P	Pn	14 19 59.2	+0.7
WWF				*e*S	S	14 20 29.5	+0.3
SSLB	Suanglung	1.94 219		Pn	Pn	14 19 58.8	0.0
SSLB	Suanglung	1.94 219		P	Pn	14 19 59.1	+0.3
SSLB	Suanglung	1.94 219		S	S	14 20 29.2	-0.6
SSLB	Suanglung	1.94 219		P	Pn	14 19 59.2	+0.4
SSLB				*i* S	S	14 20 29.1	-0.6
JIJ	Ishigaki jima	1.94 119		P	Pn	14 19 58.9	+0.1
HGSD	Ruisui	1.97 203		*e*P	Pn	14 19 59.7	+0.6
HGSD				*e*S	S	14 20 29.5	-0.8
JISG	Ishigakijimahi	1.98 111		P	Pn	14 19 59.6	+0.5
JISG				S	S	14 20 28.9	-1.5
WCHH	Zhanghua	1.99 232		*e*P	Pn	14 19 59.9	+0.7
EHY	Hungye	2.00 206		*e*P	Pn	14 19 58.8	-0.6
WNT1	Nantou City	2.02 226		*e*P	Pn	14 19 59.6	+0.1
WNT1				*e*S	S	14 20 31.0	0.0
WNT	Mingjian	2.04 226		*e*P	Pn	14 20 00.3	+0.6
WNT				*e*S	S	14 20 31.2	-0.1
WJS	Zhushan	2.05 224		*i* P	Pn	14 20 00.5	+0.7
WJS				*e*S	S	14 20 31.4	-0.2
WHYT	Xinyi Township	2.07 219		*i* P	Pn	14 20 00.6	+0.5
WHYT				*i* S	S	14 20 31.5	-0.5
YULB	Yu-li	2.11 205		Pn	Pn	14 19 59.1	-1.3
YULB	Yu-li	2.11 205		P	Pn	14 19 59.6	-0.9
YULB	Yu-li	2.11 205		*e*P	Pn	14 19 59.9	-0.6
YULB				*e*S	S	14 20 31.3	-1.5
ECBN	Changbin	2.13 201		*e*P	Pn	14 20 01.7	+1.1
EYUL	Yuli	2.14 204		*e*P	Pn	14 20 00.6	-0.2
TWF1	Yuli	2.15 205		*e*P	Pn	14 20 00.4	-0.5
YUS	Yu-Shan	2.18 214		*e*P	Pn	14 19 59.9	-1.8
YUS				S	S	14 20 33.6	-1.3
WRL	Guolierlin Hig	2.23 231		*e*P	Pn	14 20 02.6	+1.0
WRL				*e*S	S	14 20 33.6	-1.2
ALS	Alishan	2.24 217		*e*P	Pn	14 20 02.6	+0.5
ALS				*e*S	S	14 20 36.1	+0.6
CHN5	Tsauling	2.25 221		*i* P	Pn	14 20 02.4	+0.5
CHN5				*i* S	S	14 20 34.2	-1.1
RLNB	Erlin	2.25 231		*e*P	Pn	14 20 02.1	+0.4
RLNB				*e*S	S	14 20 34.7	-0.4
WGK	Gukeng	2.25 224		*e*P	Pn	14 20 02.7	+0.8
WGK				*e*S	S	14 20 36.2	+1.0
CHKH	Chenggong	2.26 201		*e*P	Pn	14 20 02.1	+0.1
CHKH				*e*S	S	14 20 34.7	-0.7
MATB	Ma-tsu	2.26 292		*e*P	Pn	14 20 02.2	+0.3
MATB				*e*S	S	14 20 34.5	-0.8
WDLH	Douliu	2.26 225		*e*P	Pn	14 20 02.5	+0.6
WDLH				*e*S	S	14 20 34.2	-1.2
FULB	Fuli	2.29 203		*e*P	Pn	14 20 02.5	+0.2
JTJ	Tarama	2.30 106		P	Pn	14 20 03.4	+1.1
JTJ				S	S	14 20 35.1	-0.9
CHKT	Chengkung	2.36 201		*e*P	Pn	14 20 03.3	+0.4
CHKT				*e*S	S	14 20 37.8	+0.6
EHD	Haiduan	2.37 205		*e*P	Pn	14 20 04.9	+1.8
ELDTW	Lidau	2.41 209		*e*P	Pn	14 20 03.9	+0.3
ELDTW				*e*S	S	14 20 39.0	+0.6
WCKO	Fanlu	2.41 220		*i* P	Pn	14 20 04.2	+0.7
WCKO				*e*S	S	14 20 39.3	+1.1
CHN2	Minshiung	2.42 223		*e*P	Pn	14 20 03.9	+0.4
CHN2				*e*S	S	14 20 35.2	-3.1
XPSS	Dashiqiu	2.47 311		*e*P	Pn	14 20 04.0	-0.1
XPSS				S	S	14 20 38.1	-1.2
CHY	Chiayi	2.47 223		*e*P	Pn	14 20 04.7	+0.6
CHY				*e*S	S	14 20 39.7	+0.4
CHN4	Tsaushan	2.48 219		*e*P	Pn	14 20 05.0	+0.7
CHN4				*e*S	S	14 20 39.8	+0.2
EDH	Donghe	2.49 201		*e*P	Pn	14 20 04.7	+0.3
EDH				*e*S	S	14 20 37.4	-2.4
TPUB	Ta-pu	2.50 217		Pn	Pn	14 20 04.4	-0.2
TPUB	Ta-pu	2.50 217		P	Pn	14 20 04.8	+0.3
TPUB	Ta-pu	2.50 217		*i* P	Pn	14 20 05.1	+0.6
TPUB				S	S	14 20 39.6	-0.4
WSF	Szhu	2.51 229		*i* P	Pn	14 20 04.8	+0.3
WSF				*e*S	S	14 20 40.3	+0.3
STYH	Taoyuan	2.54 213		*i* P	Pn	14 20 04.3	-0.5
STYH				*e*S	S	14 20 38.8	-1.7
STYT	Tauyuan	2.55 213		⇑P	Pn	14 20 04.8	-0.3
STYT				S	S	14 20 39.5	-1.5
WTP	Ta-pu	2.56 217		*i* P	Pn	14 20 05.5	+0.4
WTP				*e*S	S	14 20 40.7	-0.4
VWUC	VWUC	2.58 263		*e*P	Pn	14 20 05.3	0.0
VWUC				*e*S	S	14 20 40.4	-1.0
WSL	Shuilin Townsh	2.58 227		P	Pn	14 20 05.9	+0.6
WSL				*e*S	S	14 20 41.0	-0.5
TWK	Hsinying	2.61 219		*e*P	Pn	14 20 06.5	+0.8
TWK				S	S	14 20 40.8	-1.4
LONT	Longtian	2.62 204		*e*P	Pn	14 20 05.6	-0.1
LONT				S	S	14 20 40.5	-1.7
SNST	Tainan City	2.64 218		*i* P	Pn	14 20 06.4	+0.5
SNST				*e*S	S	14 20 42.6	0.0
CHN1	Nanshi	2.65 217		*i* P	Pn	14 20 06.4	+0.3
CHN1				*e

KSRS	Korea Array	13.02	20	P	Pn	14 22 16.8	+0.9
	4.1nm,0.6s,baz=202,slow=11,SNR=19						
USRK	Ussuriysk Ar.	20.43	20	P	P	14 23 39.4	+0.2
	1.6nm,0.6s,baz=188,slow=7.6,SNR=4.3						
	1.6nm,0.6s						
CMAR	Chiang Mai Arr	22.68	257	P	P	14 24 02.6	+1.0
	0.5nm,0.5s,baz=59,slow=8.5,SNR=6.5						
	0.5nm,0.5s						
SONM	Songino Array	25.74	335	P	P	14 24 28.5	-0.6
SONM				IAmb	IAmb	14 24 30.1	
	comp=Z,2.3nm,0.8s						
SONM	Songino Array	25.74	335	P	P	14 24 29.0	-0.1
	comp=Z,2.8nm,0.7s,baz=150,slow=9.9,SNR=14						
	comp=Z,2.8nm,0.7s						
MKAR	Makanchi Array	38.24	314	P	P	14 26 16.7	-0.7
MKAR	Makanchi Array	38.24	314	P	P	14 26 17.4	0.0
	comp=Z,0.3nm,0.3s,baz=96,slow=7.9,SNR=11						
	comp=Z,0.3nm,0.3s						
MTN	Manton Dam	38.90	166	P	P	14 26 22.0	-1.1
MTN				IAmb	IAmb	14 27 01.3	
	comp=Z,8.2nm,1.0s						
ZAA0	Zalesovo Array	39.85	326	P	P	14 26 29.8	-0.8
ZAA0				IAmb	IAmb	14 26 30.4	
	comp=Z,2.3nm,0.6s						
ZALV	Zalesovo Beam	39.85	326	P	P	14 26 29.5	-1.1
ZALV	Zalesovo Beam	39.85	326	P	P	14 26 29.8	-0.8
	comp=Z,1.7nm,0.6s,baz=116,slow=8.2,SNR=5.8						
	comp=Z,1.7nm,0.6s						
KNRA	Kununurra	41.23	170	P	P	14 26 41.8	-0.4
KNRA				IAmb	IAmb	14 27 10.8	
	comp=Z,8.4nm,1.1s						
KURBB	Kurchatov Arra	41.90	319	P	P	14 26 47.1	-0.2
	comp=Z,0.5nm,0.6s,baz=106,slow=9.8,SNR=8.1						
	comp=Z,0.5nm,0.6s						
FITZ	Fitzroy Crossi	43.27	175	P	P	14 26 57.8	-0.9
FITZ	Fitzroy Crossi	43.27	175	P	P	14 26 58.4	-0.3
	comp=Z,1.3nm,0.4s,baz=1.9,slow=8.3,SNR=11						
	comp=Z,1.3nm,0.4s						
COEN	Coen	44.03	150	P	P	14 27 05.4	+0.7
WB0	Warramunga Arr	46.33	164	P	P	14 27 22.1	-0.7
WB0				IAmb	IAmb	14 27 45.5	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	46.49	164	P	P	14 27 24.5	+0.5
WRA	Warramunga Arr	46.49	164	P	P	14 27 24.4	+0.4
	comp=Z,2.5nm,0.6s,baz=347,slow=8.6,SNR=27						
	comp=Z,2.5nm,0.6s						
TIXI	Tiksi	46.52	3		P	14 27 22.8	-0.8
TIXI				IAmb	IAmb	14 27 23.7	
	comp=Z,7.1nm,0.8s						
BVAR	Borovoye Array	47.44	320	P	P	14 27 30.1	-0.9
	comp=Z,0.8nm,0.5s,baz=106,slow=6.9,SNR=7.0						
	comp=Z,0.8nm,0.5s						
AS31	Alice Springs	49.98	166	P	P	14 27 51.1	+0.5
ASAR	Alice Springs	49.98	166	P	P	14 27 50.8	+0.2
ASAR	Alice Springs	49.98	166	P	P	14 27 51.4	+0.8
	comp=Z,2.1nm,0.9s,baz=349,slow=6.9,SNR=25						
	comp=Z,2.1nm,0.9s						
AB31	Akbulak array	53.37	314	P	P	14 28 14.4	-0.9
ABKAR	Akbulak array	53.37	314	P	P	14 28 14.9	-0.5
BBOO	Buckleboo	59.27	167	P	P	14 28 57.2	+0.2
STKA	Stephens Creek	59.79	161	P	P	14 29 01.1	+0.4
	comp=Z,0.9nm,0.7s,baz=343,slow=14,SNR=3.0						
	comp=Z,0.9nm,0.7s						
K15K	Wolf Creek Mou	61.52	31	P	P	14 29 12.8	+0.9
C18K	Utukok River	61.78	24	P	P	14 29 13.8	+0.2
C18K				IAmb	IAmb	14 29 40.1	
	comp=Z,7.5nm,1.4s						
N15K	Kwethluk River	62.28	33	P	P	14 29 17.0	-0.1
J17K	VABM Dome	62.62	30	P	P	14 29 20.4	+1.2
J17K				IAmb	IAmb	14 29 28.0	
	comp=Z,4.3nm,1.1s						
M16K	Timber Creek	62.79	32	P	P	14 29 20.5	+0.1
K17K	Iditarod	63.00	31	P	P	14 29 22.5	+0.8
B20K	Meade River	63.23	22	P	P	14 29 23.7	+0.6
B20K				IAmb	IAmb	14 29 54.4	
	comp=Z,6.0nm,1.4s						
L18K	Granite Mounta	63.78	31	P	P	14 29 27.7	+0.8
L18K				IAmb	IAmb	14 30 08.0	
	comp=Z,4.6nm,1.2s						
L19K	White Mountain	64.64	31	P	P	14 29 33.2	+0.7
D22K	Ayikyak River	64.87	24	P	P	14 29 35.0	+1.1
D22K				IAmb	IAmb	14 29 36.0	
	comp=Z,3.6nm,1.1s						
C23K	Itkillik River	65.50	22	P	P	14 29 38.1	+0.3
C23K				IAmb	IAmb	14 29 41.3	
	comp=Z,6.7nm,1.4s						
PPLA	Purkeypile	65.78	30	P	P	14 29 40.8	+0.9
D24K	Happy Valley	66.22	23	P	P	14 29 43.4	+1.0
D24K				IAmb	IAmb	14 29 44.4	
	comp=Z,3.8nm,1.1s						
F24K	Squaw Lake	66.83	25	P	P	14 29 47.2	+0.9
RND	Reindeer	67.19	29	P	P	14 29 48.6	-0.1
RND				IAmb	IAmb	14 29 49.5	
	comp=Z,2.8nm,0.7s						
ILAR	Eielson Array	67.76	28	P	P	14 29 51.6	-0.5
	comp=Z,0.2nm,0.5s,baz=299,slow=9.3,SNR=4.9						
	comp=Z,0.2nm,0.5s						
BMAR	Burnt Mountain	68.09	25	P	P	14 29 55.5	+1.2
SPITS	Spitsbergen Ar	68.60	348	P	P	14 29 57.6	+0.5
	comp=Z,8.7nm,1.0s,baz=74,slow=6.2,SNR=5.2						
	comp=Z,8.7nm,1.0s						
M24K	Tolsona, Glenn	68.67	30	P	P	14 29 58.4	+0.4
ARCES	ARCESS Array B	68.87	338	P	P	14 29 59.0	0.0
	comp=Z,3.2nm,0.8s,baz=3.8,slow=3.6,SNR=5.1						
	comp=Z,3.2nm,0.8s						
I26K	Coal Creek Min	69.17	27	P	P	14 30 01.0	+0.1
I26K				IAmb	IAmb	14 30 19.3	
	comp=Z,3.6nm,1.4s						
E28M	Babbage River	69.62	23	P	P	14 30 04.4	+0.8
L27K	Beaver Creek,	70.35	29	P	P	14 30 08.9	+0.7
BCAR	Beaver Creek A	70.37	29	P	P	14 30 09.9	+1.5
FINES	FINESS Array B	70.98	330	P	P	14 30 11.1	-0.8
FINES	FINESS Array B	70.98	330	P	P	14 30 11.8	-0.1
	comp=Z,0.6nm,0.4s,baz=58,slow=4.7,SNR=4.4						
	comp=Z,0.6nm,0.4s						
I30M	Mount Dempster	71.91	26	P	P	14 30 17.4	-0.2
L29M	L29M	71.93	28	P	P	14 30 18.5	+0.9
L29M				IAmb	IAmb	14 30 26.9	
	comp=Z,3.4nm,1.2s						
HFS	Hagfors	77.07	331	P	P	14 30 46.2	-0.9
	comp=Z,0.8nm,0.7s,baz=46,slow=4.2,SNR=1.1						
	comp=Z,0.8nm,0.7s						
YKA	Yellowknife Ar	81.55	23	P	P	14 31 11.1	-0.1
	comp=Z,0.4nm,0.7s,baz=313,slow=5.1,SNR=8.6						
	comp=Z,0.4nm,0.7s						

*IDC **27** 14:50:24.8±0.9, 1°.65S×120°.79E, h0km, mb3.6/9, mbtmp3.6/10, ML3.8/1, MS3.7/2, Error ellipse: s-maj=33.2km s-min=16.2km az=68.0*
*DJA **27** 14:50:28.6±0.2, 2°.S±2°.×12°.1E±°, h10km, M4.0/13, MLv4.0/13*

ISC 27 14:50:30.2±0.6, 1°.77S±0°.04×120°.61E±0°.05, h33km, n23, σ1.9 66/25, mb3.7/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	1.15	318	P	Pn	14 50 48.8	-1.2
PCI				S	Sb	14 51 08.7	+2.4
APSI	Ampana	1.35	51	P	Pb	14 50 53.8	-1.1
TTSI	Tana Toraja	1.49	212	P	Pn	14 50 52.4	-2.3
LUWI	Luwuk	2.28	72	P	Pn	14 51 06.2	+0.6
LUWI				S	Sn	14 51 34.8	+2.2
SPSI	Sidrap Palu	2.33	201	P	Pn	14 51 07.0	+0.7
SPSI				S	Sn	14 51 36.0	+2.1
MRSI	Marisa	2.60	31	P	Pn	14 51 10.2	+0.2
KAPI	Kappang	3.33	195	Pn	Pn	14 51 21.3	+1.2
	8.1nm,0.3s,baz=51,slow=8.6,SNR=8.2						
KAPI				Sn	Sn	14 52 01.8	+3.3
	6.7nm,0.3s,baz=90,slow=20,SNR=6.2						
	16nm,0.3s						
BKSI	Bulukumba	3.56	188	P	Pn	14 51 24.0	+0.8
BKB	Balikpapan	3.74	278	P	Pn	14 51 28.2	+2.5
KMSI	Cibinong	4.10	55	P	Pn	14 51 33.2	+2.6
BSSI	Bau Bau, Buton	4.35	181	P	Pn	14 51 33.9	-0.1
FITZ	Fitzroy Crossi	16.96	163	LR	LR	15 02 17.1	
	comp=Z,151nm,18.3s,baz=222,slow=42						
PSI	Prapat	22.14	282	P	P	14 55 24.0	+0.5
	1.9nm,0.4s,baz=53,slow=10,SNR=3.5						
	1.9nm,0.4s						
WRA	Warramunga Arr	22.51	144	P	P	14 55 26.6	-0.7
	0.6nm,0.6s,baz=310,slow=12,SNR=7.9						
	0.6nm,0.6s						
ASAR	Alice Springs	25.30	150	P	P	14 55 53.6	-0.3
	0.3nm,0.6s,baz=323,slow=7.8,SNR=7.4						
	0.3nm,0.6s						
CMAR	Chiang Mai Arr	29.30	314	P	P	14 56 30.6	+0.7
	0.9nm,0.5s,baz=140,slow=7.2,SNR=8.0						
	0.9nm,0.5s						
SONM	Songino Array	50.94	348	P	P	14 59 29.1	+0.5
	0.4nm,0.5s,baz=149,slow=5.9,SNR=4.8						
	0.4nm,0.5s						
MKAR	Makanchi Array	58.90	330	P	P	15 00 25.4	-0.6
	0.6nm,0.6s,baz=137,slow=7.3,SNR=6.6						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	63.32	331	P	P	15 00 55.0	-0.9
	0.4nm,0.9s,baz=142,slow=6.1,SNR=4.3						
	0.4nm,0.9s						
QSPA	South Pole Qui	88.18	180	P	P	15 03 17.6	-0.1
	0.6nm,0.9s,baz=45,slow=2.9,SNR=3.1						
	0.6nm,0.9s						
ILAR	Eielson Array	92.66	25	P	P	15 03 36.8	-1.7
	0.1nm,0.7s,baz=260,slow=5.9,SNR=1.2						
	0.1nm,0.7s						
ARCES	ARCESS Array B	93.44	339	P	P	15 03 39.8	-2.2
	2.2nm,0.8s,baz=109,slow=7.7,SNR=3.8						
SPITS	Spitsbergen Ar	94.63	348	LR	LR	15 52 02.3	
	comp=Z,46nm,18.9s,baz=4.0,slow=39						

*IDC **27** 14:54:23.7±1.1, 30°.33N×87°.79E, h0km, mb3.6/9, mbtmp3.6/12, ML3.3/2, Error ellipse: s-maj=66.4km s-min=16.5km az=57.0*

ISC 27 14:54:29.3±1.2, 30°.4N±0°.2×87°.9E±0°.3, h41km, n12, σ1.9 03/12, mb3.6/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.58	137	Pn	Pn	14 58 04.5	-1.5
	0.2nm,0.3s,baz=318,slow=11,SNR=13						
AAK	Ala-Archa	16.24	322	Pn	Pn	14 58 13.5	-1.1
	0.1nm,0.3s,baz=134,slow=15,SNR=4.5						
	0.3nm,0.3s						
MKAR	Makanchi Array	16.94	347	Pn	Pn	14 58 21.5	-1.6
	0.1nm,0.3s,baz=166,slow=12,SNR=8.2						
	0.5nm,0.9s						
KURBB	Kurchatov Arra	21.38	344	P	P	14 59 12.6	-0.6
	1.7nm,1.0s,baz=159,slow=10,SNR=8.7						
	1.7nm,1.0s						
ZALV	Zalesovo Beam	23.64	356	P	P	14 59 36.9	+0.3
	1.0nm,0.9s,baz=189,slow=8.5,SNR=2.1						
	1.0nm,0.9s						
BVAR	Borovoye Array	25.97	336	P	P	14 59 58.5	+0.6
	0.7nm,0.7s,baz=129,slow=12,SNR=5.5						
	0.7nm,0.7s						
FINES	FINESS Array B	50.37	327	P	P	15 03 21.9	0.0
	1.3nm,0.8s,baz=108,slow=7.4,SNR=3.8						
	1.3nm,0.8s						
HFS	Hagfors	56.37	325	P	P	15 04 06.5	+0.5
	1.7nm,0.6s,baz=99,slow=9.8,SNR=5.0						
	1.7nm,0.6s						
NOA	NORSAR Array B	57.52	326	P	P	15 04 14.9	+0.6
	0.4nm,0.7s,baz=87,slow=7.2,SNR=3.8						
	0.4nm,0.7s						
WRA	Warramunga Arr	67.11	132	P	P	15 05 19.2	+0.4
	0.6nm,0.7s,baz=324,slow=6.4,SNR=6.0						
	0.6nm,0.7s						
ASAR	Alice Springs	69.58	135	P	P	15 05 34.9	+0.6
	0.7nm,0.7s,baz=323,slow=6.9,SNR=12						
	0.7nm,0.7s						
ILAR	Eielson Array	76.05	21	P	P	15 06 13.3	+1.2
	0.3nm,0.8s,baz=324,slow=7.0,SNR=3.5						
	0.3nm,0.8s						

*TAP **27** 15:20:31.6, 22°.51N×121°.69E, h20km, ML3.3, C*
*JMA **27** 15:20:31.2±0.1, 22°.5N±0°.4×121°.8E±0°.3, h37km, MV3.4/16, TAIWAN REGION*

ISC 27 15:20:30.2±1.1, 22°.51N±0°.02×121°.77E±0°.02, h20km±5km, n122, σ0.9 92/216, 3C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	0.32	301	⇓P	Pb	15 20 37.8	+0.5
LDUT				S	Sb	15 20 42.3	+0.2
LAY	Lan-yu	0.51	203	⇑P	Pg	15 20 40.7	+0.2
LAY				eS	Sg	15 20 46.7	-0.7
LYUB	Lan-yu	0.53	199	⇑rP	Pb	15 20 40.7	-0.1
LYUB				eS	Sb	15 20 46.6	-1.5
TTN	Taitung	0.62	294	eP	Pg	15 20 42.9	+0.2
TTN				eS	Sb	15 20 50.0	-0.8
EDH	Donghe	0.63	318	⇑P	Pb	15 20 42.7	+0.1
EDH				eS	Sb	15 20 50.7	-0.3
CHKT	Chengkung	0.70	328	⇓P	Pb	15 20 43.5	-0.2
CHKT				S	Sb	15 20 52.0	-1.0
TWGBT	Beinan	0.71	296	P	Pb	15 20 43.8	-0.1
TWGBT				eS	Sb	15 20 52.1	-1.0
LONT	Longtian	0.71	304	eP	Pb	15 20 43.7	-0.3
LONT				eS	Sg	15 20 54.3	+0.5
TWG	Pinlang	0.71	296	⇓P	Pb	15 20 43.7	-0.3
TWG				eS	Sb	15 20 52.3	-1.1
ECL	Taimali	0.76	277	⇓P	Pb	15 20 44.7	-0.1
ECL				S	Sb	15 20 54.0	-0.6
CHKH	Chenggong	0.76	333	⇓P	Pb	15 20 44.6	-0.2
CHKH				eS	Sb	15 20 54.0	-0.9
ECS	Chishang	0.78	319	⇓P	Pb	15 20 45.3	+0.2
ECS				S	Sg	15 20 55.9	0.0
FULB	Fuli	0.82	328	eP	Pb	15 20 45.2	-0.5
FULB				eS	Sb	15 20 55.4	-1.0
TAW	Tawu	0.82	260	eP	Pb	15 20 45.7	-0.1
TAW				eS	Sb	15 20 55.0	-1.5
EHD	Haiduan	0.82	321	P	Pb	15 20 45.4	-0.5
EHD				eS	Sb	15 20 56.0	-0.6
TAWH	Dawu Township	0.83	259	eP	Pb	15 20 46.0	0.0
TAWH				eS	Sb	15 20 55.6	-1.1
ECBN	Changbin	0.86	340	eS	Sb	15 20 56.7	-0.8
EAST	Anshuo	0.86	262	eP	Pb	15 20 46.3	-0.2
EAST				eS	Sb	15 20 56.8	-0.8
EYUL	Yuli	0.93	334	eP	Pb	15 20 47.6	-0.2
EYUL				eS	Sb	15 20 58.7	-1.1
SLIU	Shizi	0.94	252	eP	Pb	15 20 47.5	-0.4
SLIU				eS	Sb	15 20 58.2	-1.8
TWF1	Yuli	0.95	333	eP	Pb	15 20 47.5	-0.5
TWF1				eS	Sb	15 20 59.5	-0.7
ELDTW	Lidau	0.97	315	eP	Pb	15 20 47.6	-0.8
ELDTW				eS	Sb	15 20 59.1	-1.8
YULB	Yu-li	0.98	334	⇓P	Pb	15 20 48.2	-0.4
YULB				eS	Sb	15 21 00.5	-0.7
SMST	Manzhou Townsh	0.99	241	eP	Pb	15 20 48.4	-0.2
SMST				eS	Sb	15 20 59.9	-1.3
TSEB	Hengchuen, Pin	1.00	233	eS	Sb	15 21 02.1	+0.4
HGSD	Ruisui	1.03	342	eP	Pb	15 20 48.7	-0.8
HGSD				eS	Sb	15 21 01.2	-1.4
TWKBT	Hengchun	1.05	238	eP	Pb	15 20 49.5	-0.2
TWKBT				eS	Sb	15 21 02.0	-1.0
TWK1	Hengchun	1.05	238	eP	Pb	15 20 49.6	-0.2
TWK1				eS	Sb	15 21 02.0	-1.1
MASBT	Mashibuluo	1.05	276	eP	Pb	15 20 49.5	-0.3
EHYH	Wanrong	1.06	339	eP	Pb	15 20 49.4	-0.4
EHYH				eS	Sb	15 21 03.3	0.0
SCZT	Fangliau	1.07	263	eP	Pb	15 20 49.9	-0.2
HEN	Hengchun	1.07	243	eP	Pb	15 20 49.6	-0.6
HEN				eS	Sb	15 21 02.9	-0.9
EHY	Hungye	1.08	338	eP	Pb	15 20 49.6	-0.6
EHY				eS	Sb	15 21 02.9	-1.0
STYH	Taoyuan	1.13	306	eP	Pn	15 20 49.6	-1.4
SGLT	Jiouru	1.20	281	eP	Pg	15 20 53.6	+0.2
EGFH	Guangfu	1.20	345	eP	Pn	15 20 52.1	+0.2
EGFH				eS	Sb	15 21 06.4	-1.0
TEGC	Jichi Village	1.22	350	eP	Pn	15 20 51.8	-0.3
TEGC				eS	Sb	15 21 05.7	-2.1
SGST	Jiashian	1.23	298	eP	Pn	15 20 52.3	-0.1
SGST				eS	Sn	15 21 08.7	+0.2
SCST	Cishan	1.23	288	eP	Pb	15 20 53.4	+0.5
WARBT	Fenglin Townsh	1.26	344	⇓P	Pn	15 20 52.2	-0.5
WARBT				eS	Sb	15 21 07.0	-2.1
TWM1	Shoushan	1.28	285	eP	Pg	15 20 54.9	-0.2
SHUL	Shoufeng	1.29	352	eP	Pn	15 20 53.0	-0.2
SHUL				eS	Sn	15 21 08.9	-0.9
WTP	Ta-pu	1.29	305	⇓P	Pb	15 20 54.1	+0.2
WTP				eS	Sg	15 21 11.6	-0.7
TPUB	Ta-pu	1.31	307	⇓P	Pb	15 20 54.5	+0.2
TPUB				eS	Sb	15 21 11.8	+1.0
CHN1	Nanshi	1.33	301	eP	Pb	15 20 55.0	+0.5
CHN1				eS	Sg	15 21 13.2	-0.2
ALS	Alishan	1.34	319	eP	Pb	15 20 54.7	-0.1
ALS				eS	Sn	15 21 11.6	+0.2
ESL	Shilin	1.34	347	eP	Pn	15 20 53.7	-0.1
ESL				eS	Sn	15 21 09.5	-1.6
TEYL	Yanliau Villag	1.36	353	eP	Pn	15 20 52.8	-1.4
TEYL				eS	Sn	15 21 09.9	-1.8
SNST	Tainan City	1.37	302	eP	Pb	15 20 55.7	+0.5
SNST				eS	Sg	15 21 14.7	0.0
VWDT	VWDT	1.37	335	eP	Pn	15 20 54.6	+0.3
CHN4	Tsaushan	1.37	308	eP	Pb	15 20 55.6	+0.4
CHN4				eS	Sg	15 21 14.3	-0.4
TWK	Hsinying	1.40	303	eP	Pb	15 20 56.1	+0.4
TWK				eS	Sg	15 21 14.9	-0.8
SHHT	Tainan City	1.41	292	eP	Pg	15 20 57.9	+0.5
WCKO	Fanlu	1.42	311	eP	Pb	15 20 56.7	+0.7
WCKO				eS	Sb	15 21 14.9	+1.3
WHYT	Xinyi Township	1.45	325	eP	Pb	15 20 56.7	+0.1
WHYT				eS	Sn	15 21 14.3	+0.3
HWA	Hwalien	1.47	354	eS	Sn	15 21 14.5	+0.2
ETM	Tongmen	1.48	350	eP	Pn	15 20 55.4	-0.3
ETM				eS	Sn	15 21 12.3	-2.1
CHN5	Tsauling	1.48	318	eP	Pb	15 20 57.4	+0.3
CHN5				eS	Sb	15 21 16.6	+1.1
SSLB	Suanglung	1.48	330	eP	Pb	15 20 56.5	-0.5
OWD	Renai	1.54	339	eP	Pn	15 20 57.0	+0.2
OWD				eS	Sn	15 21 15.0	-1.3
LXIB	Xiulin Townshi	1.54	348	eP	Pn	15 20 56.6	-0.2
LXIB				eS	Sn	15 21 14.5	-1.8
CHN2	Minshiung	1.57	311	eP	Pn	15 20 54.6	-2.4
TWD	Chiawan	1.57	354	eP	Pn	15 20 57.1	+0.1
TWD				eS	Sn	15 21 15.7	-1.2
CHY	Chiayi	1.58	309	eP	Pb	15 20 59.5	+0.7
CHY				eS	Sb	15 21 19.2	+0.8
SMLT	Sun Moon Lake	1.59	330	eP	Pn	15 20 58.1	+0.8
SMLT				eS	Sn	15 21 17.5	+0.1
WUSB	Renai	1.60	338	eP	Pn	15 20 58.0	+0.5
WUSB				eS	Sn	15 21 16.7	-0.9
ICHU	Yijhu	1.61	302	eP	Pb	15 20 59.8	+0.5
ICHU				eS	Sb	15 21 20.2	+0.9
WGK	Gukeng	1.62	317	eP	Pb	15 21 00.1	+0.7
WGK				eS	Sb	15 21 20.7	+1.3
WJS	Zhushan	1.62	324	eP	Pb	15 20 60.0	+0.5
WJS				eS	Sb	15 21 20.4	+0.8
TYC	Yuchr	1.62	329	eP	Pb	15 20 59.6	0.0
TYC				eS	Sb	15 21 19.7	+0.1
WDLH	Douliu	1.63	316	eP	Pb	15 21 00.1	+0.4
WDLH				eS	Sb	15 21 21.3	+1.4
ETL	Fush Village	1.65	355	eS	Sn	15 21 17.7	-1.1
NACB	Ninganchiao	1.67	355	eP	Pn	15 20 58.0	-0.4
NACB				eS	Sn	15 21 17.4	-1.8
EOS4	EOS4	1.69	17	eP	Pn	15 20 59.0	+0.7
EOS4				eS	Sn	15 21 18.0	-1.1
WNT	Mingjian	1.69	324	eP	Pb	15 21 01.1	+0.5
WNT				eS	Sb	15 21 22.7	+1.1
WHF	Hehuan Shan	1.70	344	eP	Pn	15 20 59.4	+0.3
WHF				eS	Sn	15 21 19.1	-1.4
ETLH	Xiulin Townshi	1.71	351	eP	Pn	15 20 59.0	0.0
ETLH				eS	Sn	15 21 18.4	-2.0
WCS	Beigang Elemen	1.73	333	eP	Pb	15 21 00.8	-0.6
WCS				eS	Sn	15 21 21.6	+0.8
WSL	Shuilin Townsh	1.74	306	eP	Pb	15 21 01.2	-0.4
WSL				eS	Sb	15 21 23.6	+0.6
FUSS	Fushou	1.80	345	eP	Pn	15 21 01.2	+0.8
FUSS				eS	Sn	15 21 22.2	-0.6
TWT	Tachien	1.82	343	eS	Sn	15 21 23.2	-0.1
EOS3	EOS3	1.84	16	eP	Pn	15 21 01.7	+1.1
EOS3				eS	Sn	15 21 23.2	-0.1
ENA	Nanau	1.91	359	eS	Sn	15 21 24.7	-0.6
TCU	Taichung	1.92	329	eS	Sb	15 21 28.6	+0.5
WHP	Taichung City	1.92	337	eP	Pb	15 21 04.8	+0.2
WHP				eS	Sb	15 21 28.8	+0.6
NNSB	Datong	1.95	350	eP	Pn	15 21 03.2	+0.9
NNSB				eS	Sn	15 21 25.4	-0.8
EOS2	EOS2	1.95	13	eS	Sn	15 21 26.7	+0.7
NNS	Nan Shan	1.96	349	eS	Sn	15 21 26.2	-0.4
LATG	Datong	2.03	354	eP	Pn	15 21 03.8	+0.3
TWQ1	Liyutan	2.05	334	eP	Pb	15 21 06.3	-0.5
TWQ1				eS	Sb	15 21 31.8	-0.1
ESAO	Su ao	2.06	2	eS	Sb	15 21 30.9	-1.3
WDGT	Dungji	2.08	292	eP	Pn	15 21 05.2	+1.1
WDGT				eS	Sn	15 21 30.3	+0.9
NSY	Sanyi	2.11	334	eP	Pn	15 21 06.2	+1.7
NSY				eS	Sb	15 21 32.4	-1.4
ENTT	Nioudou	2.13	355	eP	Pn	15 21 05.8	+1.0
ENTT				eS	Sn	15 21 30.2	-0.5
YHNB	Yeheng	2.18	351	eP	Pn	15 21 06.9	+1.3
YHNB				eS	Sn	15 21 32.0	0.0
NSK	Sanguang	2.19	350	eP	Pn	15 21 07.5	+1.8
NSK				eS	Sn	15 21 32.6	+0.3
NFF	Wufeng Townshi	2.20	344	eP	Pb	15 21 08.3	-1.0
JYNG	Yonagunijimaku	2.22	29	P	Pn	15 21 06.8	+0.9
JYNG				eS	Sn	15 21 33.9	+1.1
NSTT	Nanjuang	2.23	342	eP	Pb	15 21 09.1	-0.7
NSTT				eS	Sn	15 21 35.1	+2.0
LIOB	Emei	2.24	342	eP	Pb	15 21 09.5	-0.6
PHUB	P'eng-hu	2.26	297	eP	Pn	15 21 07.3	+0.9
PHUB			

GLG1	**Gilan-e-Gharb**	**0.40**	**36**	Pg	**Pg**	**15 25 41.3**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.71**	**357**	Pg	**Pb**	**15 25 47.6**	**-0.4**
IBDR	**Badra**	**0.72**	**160**	*e*Pg	**Pg**	**15 25 47.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**15 25 57.0**	**+0.1**
IGHG	**Ghaleghazi**	**0.95**	**55**	Pg	**Pg**	**15 25 51.3**	**-0.5**
IDHR	**Dehrash**	**1.10**	**35**	Pg	**Pg**	**15 25 54.2**	**-0.6**
BHD	**Baghdad**	**1.17**	**244**	*e*Pg	**Pb**	**15 25 55.5**	**-0.2**
BHD				*e*Sg	**Sn**	**15 26 11.5**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.27**	**67**	Pg	**Pg**	**15 25 58.5**	**+0.6**
IKFM	**Kafar-mosalman**	**1.87**	**98**	Pn	**Pb**	**15 26 07.1**	**-0.6**
IKRK	**Kirkuk**	**1.93**	**327**	*e*Pn	**Pn**	**15 26 07.0**	**+0.7**
IKRK				*e*Sn	**Sb**	**15 26 32.5**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.97**	**57**	Pn	**Pb**	**15 26 08.7**	**-0.9**
RAFI	**Al-Rafai**	**2.10**	**169**	*e*Pn	**Pn**	**15 26 10.0**	**+1.3**
RAFI				*e*Sn	**Sb**	**15 26 37.0**	**-0.8**
RAFI				AML	AML	15 26 48.9	
	comp=E,127nm,0.2s						
RAFI				AML	AML	15 26 51.2	
	comp=N,123nm,1.1s						
IDOB	**Doab**	**2.12**	**89**	Pn	**Pb**	**15 26 10.9**	**-1.2**
BDRS	**Dareh Seyedi**	**2.71**	**86**	Pn	**Pn**	**15 26 19.3**	**+1.9**

*OSPL **27** 15:34:15.7±0.3, 18°.45N×64°.93W, h140km±6km, ML2.9*
*NEIC **27** 15:34:16.9±1.5, 18°.5N±0°.2×65°.13W±0°.06, h129km±13km, ML3.1/26, Md3.2/14(RSPR), Error ellipse: s-maj=34.2km s-min=7.8km az=186.0*
*RSPR **27** 15:34:17.6, 18°.30N×65°.18W, h137km±1km, MD3.1/14*
ISC 27 15:34:13.7±2.0, 18°.4N±0°.2×65°.00W±0°.07, h146km±13km, n51, σ1⇑12/65, 13C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.84**	**253**		**Pn**	**15 34 38.1**	**+1.3**
HUMP					**Sn**	**15 34 54.0**	**-0.4**
HUMP				IAML		15 34 55.6	
	comp=N,386nm,0.2s						
HUMP				IAML		15 34 56.5	
	comp=E,539nm,0.2s						
HUMP	**Col San Antoni**	**0.84**	**253⇓**	*e*P	**Pn**	**15 34 38.2**	**+1.3**
HUMP	**Col San Antoni**	**0.84**	**253**	*e*S	**Sn**	**15 34 54.3**	**-0.1**
GCPR	**Guaynabo City**	**1.03**	**266**	Pn	**Pn**	**15 34 38.9**	**+0.5**
GCPR				Sn	**Sn**	**15 34 55.0**	**-2.1**
GCPR	**Guaynabo City**	**1.03**	**266⇑**	*e*P	**Pn**	**15 34 38.9**	**+0.5**
GCPR	**Guaynabo City**	**1.03**	**266**	*e*S	**Sn**	**15 34 56.4**	**-0.8**
PDPR	**Patillas Dam,**	**1.04**	**249**	Pn	**Pn**	**15 34 39.2**	**+0.8**
PDPR				IAML		15 34 58.6	
	comp=N,199nm,0.1s						
PDPR				IAML		15 34 59.1	
	comp=E,271nm,0.3s						
PDPR	**Patillas Dam,**	**1.04**	**249⇑**	*e*P	**Pn**	**15 34 39.5**	**+1.1**
PDPR	**Patillas Dam,**	**1.04**	**249**	*e*S	**Sn**	**15 34 56.8**	**-0.5**
SJG	**San Juan**	**1.13**	**256**	Pn	**Pn**	**15 34 40.2**	**+0.9**
SJG				IAML		15 35 00.9	
	comp=E,155nm,0.4s						
SJG				IAML		15 35 02.5	
	comp=E,167nm,0.4s						
SJG	**San Juan**	**1.13**	**256**	*i* P	**Pn**	**15 34 40.3**	**+1.0**
SJG				*e*S	**Sn**	**15 34 58.6**	**-0.1**
SJG				IAML		15 35 00.0	
	comp=Z,86nm,0.3s						
IGPR	**InterUniversit**	**1.13**	**248**	Pn	**Pn**	**15 34 39.9**	**+0.6**
IGPR				Sn	**Sn**	**15 34 56.6**	**-2.2**
IGPR				IAML		15 35 00.5	
	comp=N,366nm,0.2s						
IGPR	**InterUniversit**	**1.13**	**248⇑**	*e*P	**Pn**	**15 34 40.8**	**+1.5**
IGPR	**InterUniversit**	**1.13**	**248**	*e*S	**Sn**	**15 34 57.4**	**-1.4**
ECPR	**Experimental S**	**1.29**	**267⇑**	*e*P	**Pn**	**15 34 41.8**	**+0.9**
ECPR	**Experimental S**	**1.29**	**267**	*e*S	**Sn**	**15 35 01.5**	**-0.1**
EMPR	**Esperanza - Ma**	**1.45**	**274**	Pn	**Pn**	**15 34 42.8**	**+0.3**
EMPR				Sn	**Sn**	**15 35 04.0**	**-0.4**
EMPR				IAML		15 35 08.6	
	comp=E,177nm,0.4s						
EMPR				IAML		15 35 14.2	
	comp=N,154nm,0.4s						
EMPR	**Esperanza - Ma**	**1.45**	**274⇑**	*e*P	**Pn**	**15 34 43.6**	**+1.2**
EMPR	**Esperanza - Ma**	**1.45**	**274**	*e*S	**Sn**	**15 35 04.6**	**+0.2**
CELP	**Cerrillos**	**1.53**	**258**	Sn	**Sn**	**15 35 05.0**	**-1.0**
CELP	**Cerrillos**	**1.53**	**258⇑**	*e*P	**Pn**	**15 34 44.5**	**+1.1**
CELP	**Cerrillos**	**1.53**	**258**	*e*S	**Sn**	**15 35 05.3**	**-0.7**
OBIP	**Obispado Ponce**	**1.56**	**258**	Pn	**Pn**	**15 34 43.8**	**+0.1**
OBIP				Sn	**Sn**	**15 35 04.2**	**-2.4**
OBIP	**Obispado Ponce**	**1.56**	**258⇑**	*e*P	**Pn**	**15 34 44.2**	**+0.5**
OBIP	**Obispado Ponce**	**1.56**	**258**	*e*S	**Sn**	**15 35 05.4**	**-1.2**
UUPR	**Utuado, UPR, P**	**1.64**	**266**	Pn	**Pn**	**15 34 44.8**	**+0.3**
UUPR				Sn	**Sn**	**15 35 07.2**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.64**	**266⇑**	*e*P	**Pn**	**15 34 45.8**	**+1.3**
UUPR	**Utuado, UPR, P**	**1.64**	**266**	*e*S	**Sn**	**15 35 07.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.67**	**269**	Pn	**Pn**	**15 34 45.1**	**+0.4**
AOPR				Sn	**Sn**	**15 35 06.8**	**-1.8**
AOPR				IAML		15 35 12.8	
	comp=N,235nm,0.3s						
AOPR	**Arecibo Observ**	**1.67**	**269⇑**	*e*P	**Pn**	**15 34 45.8**	**+1.0**
AOPR	**Arecibo Observ**	**1.67**	**269**	*e*S	**Sn**	**15 35 07.7**	**-0.8**
GBPR	**Guanica, Bosqu**	**1.83**	**257**		**Pn**	**15 34 48.0**	**+1.4**
GBPR	**Guanica, Bosqu**	**1.83**	**257⇑**	*e*P	**Pn**	**15 34 48.0**	**+1.4**
MLPR	**Magueyes Islan**	**1.99**	**258⇑**	*e*P	**Pn**	**15 34 49.5**	**+1.1**
MLPR	**Magueyes Islan**	**1.99**	**258**	*e*S	**Sn**	**15 35 13.8**	**-1.2**
LSP	**Las Mesas**	**1.99**	**264**		**Pn**	**15 34 49.9**	**+1.4**
LSP					**Sn**	**15 35 15.1**	**-0.1**
LSP	**Las Mesas**	**1.99**	**264⇑**	*e*P	**Pn**	**15 34 49.9**	**+1.4**
LSP	**Las Mesas**	**1.99**	**264**	*e*S	**Sn**	**15 35 15.1**	**-0.1**
AGPR	**Aguadilla, PR**	**2.00**	**273**	Pn	**Pn**	**15 34 48.8**	**+0.1**
AGPR				Sn	**Sn**	**15 35 13.8**	**-1.6**
AGPR				IAML		15 35 17.2	
	comp=N,116nm,0.3s						
AGPR				IAML		15 35 19.0	
	comp=E,101nm,0.3s						
AGPR	**Aguadilla, PR**	**2.00**	**273⇑**	*e*P	**Pn**	**15 34 49.7**	**+1.1**
AGPR	**Aguadilla, PR**	**2.00**	**273**	*e*S	**Sn**	**15 35 14.8**	**-0.7**
AGPR	**Aguadilla, PR**	**2.00**	**273**	*i* P	**Pn**	**15 34 49.6**	**+1.1**
AGPR				*e*S	**Sn**	**15 35 14.7**	**-0.7**
AGPR				IAML		15 35 17.1	
	comp=Z,66nm,1.1s						
CRPR	**Cabo Rojo, PR**	**2.04**	**260**	Pn	**Pn**	**15 34 49.9**	**+0.9**
CRPR				Sn	**Sn**	**15 35 16.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.04**	**260⇓**	*e*P	**Pn**	**15 34 50.4**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.04**	**260**	*e*S	**Sn**	**15 35 14.0**	**-2.1**
CRPR	**Cabo Rojo, PR**	**2.04**	**260**	*i* P	**Pn**	**15 34 50.3**	**+1.2**
CRPR				*e*S	**Sn**	**15 35 15.7**	**-0.5**
CRPR				IAML		15 35 19.3	
	comp=Z,59nm,0.5s						
IDE	**Isla Desecheo**	**2.35**	**270**		**Pn**	**15 34 53.9**	**+1.2**
IDE					**Sn**	**15 35 21.4**	**-1.4**
IDE	**Isla Desecheo**	**2.35**	**270⇓**	*e*P	**Pn**	**15 34 53.9**	**+1.2**
IDE	**Isla Desecheo**	**2.35**	**270**	*e*S	**Sn**	**15 35 21.4**	**-1.4**
ANBD	**Bethesda, Anti**	**3.36**	**113**	*e*S	**Sn**	**15 35 44.3**	**-1.4**
DR12	**Loma Pena Alta**	**4.17**	**276**	Pn	**Pn**	**15 35 16.6**	**+0.4**
DR12				IAML		15 35 55.5	
	comp=E,17nm,3.6s						
DR12				IAML		15 36 16.1	
	comp=N,18nm,2.6s						

*TEH **27** 16:19:09.4, 31°.95N×60°.21E, h9km±16km*
*IDC **27** 16:19:09.7±0.6, 31°.77N×60°.26E, h0km, mb4.0/24, mbtmp4.0/30, ML3.6/6, MS3.7/30, Error ellipse: s-maj=13.2km s-min=11.7km az=155.0*
*THR **27** 16:19:09.5±0.0, 31°.93N×60°.28E, h6km±19km, mb4.6*
*NEIC **27** 16:19:13.8±2.0, 32°.2N±0°.1×60°.19E±0°.10, h10km±1km, mb4.3/41, Error ellipse: s-maj=19.4km s-min=13.9km az=173.0*
*MOS **27** 16:19:13.2±1.8, 32°.02N×60°.31E, h24km, mb4.5/22, Error ellipse: s-maj=6.7km s-min=4.9km az=77.5*
ISC 27 16:19:11.6±0.4, 31°.92N±0°.03×60°.20E±0°.04, h10km, n245, σ1⇑63/219, mb4.3/64, MS3.7/31, 11C-7D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NHDN	**Nehbandan**	**0.54**	**194**	Pg	**Pg**	**16 19 20.8**	**-1.4**
IDAH	**Dahanechah**	**0.87**	**341**	Pg	**Pg**	**16 19 26.0**	**-2.4**
BSRN	**Basiran**	**0.92**	**273**	Pg	**Pn**	**16 19 28.1**	**-2.6**
BSRN	**Basiran**	**0.92**	**273**	*e*Pg	**Pn**	**16 19 28.2**	**-2.5**
BSRN				*e*Sg	**Sn**	**16 19 42.3**	**-1.7**
BSRN				IAML		16 19 48.9	
	comp=Z,15nm,1.0s						
IKOO	**Kooshah**	**1.13**	**297**	Pg	**Pn**	**16 19 31.7**	**-2.1**
IKOO				Sg	**Sn**	**16 19 49.8**	**+0.2**
BAGH	**Bagheran - Bir**	**1.21**	**316**	Pg	**Pn**	**16 19 32.8**	**-2.1**
IMON	**Monand**	**1.35**	**341**	Pg	**Pg**	**16 19 36.0**	**-1.5**
ITEG	**Tejag**	**1.57**	**309**	Pg	**Pg**	**16 19 39.5**	**-2.2**
SHRT	**Shahrakht**	**1.73**	**3**	Pg	**Pb**	**16 19 41.3**	**-2.2**
SHRT	**Shahrakht**	**1.73**	**3**	*e*PnA		16 19 40.9	
SHRT				IAML		16 20 14.2	
	comp=Z,9.4nm,1.0s						
AFRZ	**Afriz**	**1.81**	**327**	Pg	**Pb**	**16 19 43.0**	**-1.9**
ZHSF	**Zahedan**	**2.35**	**168**	*e*PnA		16 19 49.3	
ZHSF				IAML		16 20 37.3	
	comp=Z,2.6nm,1.0s						
KRM1	**Kerman Provinc**	**2.88**	**241**	Pn	**Pn**	**16 19 58.2**	**+0.5**
HRA	**Herat**	**3.00**	**34**	Pn	**Pn**	**16 19 58.7**	**-0.8**
CHMN	**Cheshme madani**	**3.07**	**229**	Pn	**Pn**	**16 20 01.3**	**+0.7**
TKDS	**Koohdasht(Taba**	**3.10**	**304**	Pn	**Pn**	**16 20 01.4**	**+0.7**
TABS	**Tabas**	**3.12**	**304**	*e*PnA		16 20 01.3	
TABS				IAML		16 21 01.6	
	comp=Z,2.4nm,1.0s						
KBAM	**BAM**	**3.16**	**209**	Pn	**Pn**	**16 20 01.7**	**+0.2**
TPRV	**Parvadeh(Tabas**	**3.17**	**291**	Pn	**Pn**	**16 20 02.3**	**+0.6**
ZRDN	**Zarand Kerman**	**3.27**	**254**	Pn	**Pn**	**16 20 04.0**	**+0.8**
KRBR	**Kerman**	**3.53**	**238**	Pn	**Pn**	**16 20 08.3**	**+1.5**
KRBR	**Kerman**	**3.53**	**238**	*e*PnA		16 20 08.1	
KRBR				IAML		16 21 14.9	
	comp=Z,3.9nm,1.0s						
KHGB	**Koh Gabri**	**3.54**	**245**	Pn	**Pn**	**16 20 08.1**	**+1.2**
TBHD	**Torbat heydari**	**3.58**	**347**	Pn	**Pn**	**16 20 07.2**	**-0.2**
TNSJ	**Nastanj**	**3.64**	**305**	Pn	**Pn**	**16 20 08.3**	**+0.1**
NGRK	**Negar Kerman**	**3.75**	**234**	Pn	**Pn**	**16 20 11.5**	**+1.6**
TAPT	**Tabas- Tapeh t**	**3.90**	**320**	Pn	**Pn**	**16 20 11.7**	**-0.1**
IMYA	**Miami**	**4.41**	**359**	Pn	**Pn**	**16 20 19.6**	**+0.7**
KHNJ	**Kahnooj**	**4.51**	**209**	Pn	**Pn**	**16 20 20.8**	**+0.8**
IPAY	**Payeh**	**4.63**	**348**	Pn	**Pn**	**16 20 22.1**	**+0.3**
YZKH	**Yazd**	**4.78**	**277**	*e*PnA		16 20 24.8	
YZKH				IAML		16 21 51.2	
	comp=Z,1.4nm,1.0s						
SRVN	**Saravan**	**4.89**	**156**	Pn	**Pn**	**16 20 25.6**	**+0.2**
SRVN	**Saravan**	**4.89**	**156**	*e*PnA		16 20 26.1	
SRVN				IAML		16 22 14.2	
	comp=Z,0.6nm,1.0s						
SBZV	**Sabzevar**	**4.95**	**335**	Pn	**Pn**	**16 20 26.9**	**+0.7**
SBZV	**Sabzevar**	**4.95**	**335**	*e*PnA		16 20 27.0	
SBZV				IAML		16 20 49.5	
	comp=Z,350nm,1.0s						
SHRO	**Shahrood**	**5.35**	**321**	*e*PnA		16 20 32.4	
SHRO				IAML		16 22 35.5	
	comp=Z,0.2nm,1.0s						
IBND	**Bandar-abas**	**5.47**	**216**	Pn	**Pn**	**16 20 34.6**	**+1.4**
ANAR	**Anarak**	**5.61**	**285**	Pn	**Pn**	**16 20 35.9**	**+0.7**
BNDS	**Bandar-Abbas**	**5.71**	**219**	Pn	**Pn**	**16 20 37.9**	**+1.3**
BNDS	**Bandar-Abbas**	**5.71**	**219**	*e*PnA		16 20 39.3	
BNDS				IAML		16 22 26.1	
	comp=Z,0.5nm,1.0s						
BJRD	**Bojnurd**	**6.21**	**339**	*e*PnA		16 20 43.7	
BJRD				IAML		16 23 03.7	
	comp=Z,0.1nm,1.0s						
IMND	**Minoodasht**	**6.63**	**325**	Pn	**Pn**	**16 20 50.2**	**+1.1**
MRVT	**Maraveh tapeh**	**6.65**	**331**	Pn	**Pn**	**16 20 50.3**	**+0.8**
MRVT	**Maraveh tapeh**	**6.65**	**331**	*e*PnA		16 20 50.4	
MRVT				IAML		16 23 17.4	
	comp=Z,0.1nm,1.0s						
IKIA	**Kiasar**	**6.89**	**310**	Pn	**Pn**	**16 20 54.1**	**+1.2**
IGLO	**Ghaloghah**	**6.98**	**313**	Pn	**Pn**	**16 20 55.6**	**+1.4**
KRSH	**Karshahi**	**7.08**	**289**	Pn	**Pn**	**16 20 57.0**	**+1.5**
ISFB	**Sefidab**	**7.10**	**292**	Pn	**Pn**	**16 20 56.7**	**+0.9**
IALA	**Alasht**	**7.41**	**306**	Pn	**Pn**	**16 21 01.2**	**+1.0**
QAMS	**Qamsar**	**7.63**	**286**	Pn	**Pn**	**16 21 04.1**	**+1.0**
IVRN	**Varamin**	**7.72**	**296**	Pn	**Pn**	**16 21 05.3**	**+1.2**
IDMV	**Damavand**	**7.72**	**300**	Pn	**Pn**	**16 21 05.6**	**+1.2**
DAMV	**Damavand**	**7.79**	**301**	*e*PnA		16 21 06.5	
DAMV				IAML		16 23 11.2	
	comp=Z,0.0nm,1.0s						
IPRN	**Peran**	**7.82**	**306**	Pn	**Pn**	**16 21 06.5**	**+1.0**
KBL	**Kabul**	**7.86**	**68**	Pn	**Pn**	**16 21 06.6**	**+0.4**
KBL	**Kabul**	**7.86**	**68**	Pn	Pn	16 21 09.3	+3.1
KBL	**Kabul**	**7.86**	**68**	P	**Pn**	**16 21 06.6**	**+0.4**
GHVR	**GHOM**	**7.89**	**291**	*e*PnA		16 21 09.1	
GHVR				IAML		16 23 37.3	
	comp=Z,0.3nm,1.0s						
IQOM	**Qom**	**8.17**	**293**	Pn	**Pn**	**16 21 11.5**	**+0.9**
IHSB	**Hasanabad**	**8.22**	**298**	Pn	**Pn**	**16 21 12.2**	**+1.1**
MZPU	**Pul - Mazandar**	**8.45**	**305**	Pn	**Pn**	**16 21 15.0**	**+1.6**
WSAR	**Wadi Sarin**	**8.76**	**190**	Pn	**Pn**	**16 21 15.7**	**-2.7**
WSAR				Sn	**Sn**	**16 22 54.4**	**-2.8**
	baz=39,slow=24,SNR=13						
ASAO	**Ashtian**	**8.92**	**290**	*e*Pn	**Pn**	**16 21 22.9**	**+2.1**
ASAO				IAML		16 24 48.0	
	comp=Z,0.0nm,1.0s						
IRAZ	**Razeghan**	**9.24**	**295**	Pn	**Pn**	**16 21 26.3**	**+1.2**
QABG	**Abgarm-Qazvin**	**9.61**	**296**	Pn	**Pn**	**16 21 30.9**	**+0.7**
SIMJ	**Simiganj**	**9.85**	**45**	Pn	**Pn**	**16 21 32.2**	**-1.2**
CHGR	**Chuyangaron**	**9.94**	**45**	Pn	**Pn**	**16 21 33.2**	**-1.3**
CHGR	**Chuyangaron**	**9.94**	**45**	P	**Pn**	**16 21 33.3**	**-1.3**
GAR	**Garm**	**10.86**	**47**	Pn	**Pn**	**16 21 46.1**	**-1.1**
SNGE	**Sanandaj**	**11.19**	**290**	*e*Pn	**Pn**	**16 21 54.0**	**+2.2**
SNGE				IAML		16 26 17.3	
	comp=Z,0.0nm,1.0s						
BTK	**Batken**	**11.82**	**44**	Pn	**Pn**	**16 21 58.5**	**-1.8**
BTK	**Batken**	**11.82**	**44**	P	**Pn**	**16 21 58.5**	**-1.8**
DRK	**Karamyk**	**12.07**	**48**	Pn	**Pn**	**16 22 04.0**	**+0.1**
DRK	**Karamyk**	**12.07**	**48**	P	**Pn**	**16 22 04.0**	**+0.1**
DHRM	**DHARAMSHALA**	**13.66**	**84**	*e*P	**Pn**	**16 22 25.6**	**0.0**
DHRM				IAmb	IAmb	16 22 40.7	
	comp=Z,15nm,1.1s						
DHRM				*ex*	x	16 25 13.3	
KK31	**Karatay Array**	**13.83**	**33**	Pn	**Pn**	**16 22 25.4**	**-2.3**
KK31	**Karatay Array**	**13.83**	**33**	*e*P	**Pn**	**16 22 25.8**	**-1.9**
KKAR	**Karatay Array**	**13.83**	**33**	Pn	**Pn**	**16 22 24.9**	**-2.8**
KKAR	**Karatay Array**	**13.83**	**33**	Pn	**Pn**	**16 22 26.2**	**-1.5**
KKAR	**Karatay Array**	**13.83**	**33**	P	**Pn**	**16 22 24.9**	**-2.8**
ARSB	**Arslanbob**	**13.90**	**44**	Pn	**Pn**	**16 22 26.1**	**-2.7**
ARSB	**Arslanbob**	**13.90**	**44**	P	**Pn**	**16 22 26.1**	**-2.7**
SMLA	**Simla**	**14.50**	**89**	*e*P	**Pn**	**16 22 35.9**	**-0.9**
SMLA				IAmb	IAmb	16 22 48.9	
	comp=Z,18nm,1.1s						
SMLA				*ex*	x	16 25 58.6	
KSH	**Kashi**	**14.88**	**55**	P	**Pn**	**16 22 38.8**	**-3.3**
KSH				sP	P	16 22 45.0	-2.9
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GNI	**Garni**	**14.95**	**308**	Pn	**Pn**	**16 22 41.8**	**-1.3**
GNI	**Garni**	**14.95**	**308**	Pn	**P**	**16 22 45.2**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=271,slow=6.3,SNR=4.2						
	comp=Z,1.9nm,0.4s						
GNI	**Garni**	**14.95**	**308⇑**	*e*P	**P**	**16 22 49.0**	**+0.2**
KLP	**Kalpa**	**15.37**	**87**	*e*P	**Pn**	**16 22 46.9**	**-2.0**
KLP				IAmb	IAmb	16 22 57.6	
	comp=Z,23nm,1.2s						
AAK	**Ala-Archa**	**15.60**	**43**	Pn	**Pn**	**16 22 49.3**	**-2.4**
AAK				IAmb	IAmb	16 23 17.8	
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**15.60**	**43**	Pn	**Pn**	**16 22 50.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=7.5						
AAK				Sn	**Sn**	**16 25 39.3**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=225,slow=22,SNR=1.5						
AAK				LR	LR	16 30 10.7	
	comp=Z,182nm,20.7s,baz=242,slow=42						
	comp=Z,2.8nm,0.8s						
AAK	**Ala-Archa**	**15.60**	**43⇓**	*e*P	**Pn**	**16 22 50.4**	**-1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GURO	**Guroymak-BITLI**	**16.24**	**299**	Pn	**P**	**16 23 01.0**	**-2.1**
BOOM	**Boomskoye usch**	**16.36**	**45**	Pn	**P**	**16 23 02.1**	**-2.4**
BOOM	**Boomskoye usch**	**16.36**	**45**	P	**P**	**16 23 02.1**	**-2.4**
BOOM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
JOSI	**Joshimath**	**16.61**	**90**	*e*P	**P**	**16 23 05.3**	**-2.1**
JOSI				IAmb	IAmb	16 23 17.6	
	comp=Z,15nm,1.2s						
MARD	**Mardin**	**16.86**	**294**	Pn	**P**	**16 23 08.7**	**-1.3**
KDJ	**Kajisay**	**16.93**	**48**		**P**	**16 23 11.4**	**+0.6**
KDJ	**Kajisay**	**16.93**	**48**	P	**P**	**16 23 11.4**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
TARG	**Taragay, Kyrgy**	**17.13**	**50**	Pn	**P**	**16 23 11.8**	**-1.4**
TARG	**Taragay, Kyrgy**	**17.13**	**50**	P	**P**	**16 23 11.9**	**-1.4**
TARG				pmax	pmax		
	comp=Z,12nm,1.2s						
AB31	**Akbulak array**	**17.32**	**359**	*i* P	**Pn**	**16 23 10.6**	**-2.8**
ABKAR	**Akbulak array**	**17.32**	**359**	Pn	**Pn**	**16 23 10.5**	**-2.9**
PTH	**Pithoragarh**	**17.37**	**93**	*e*P	**Pn**	**16 23 12.4**	**-1.9**
LGTI	**Lohaghat**	**17.42**	**93**	*e*P	**P**	**16 23 14.4**	**-1.6**
NCK	**Nalchik**	**17.46**	**316⇑**	*e*P	**P**	**16 23 18.8**	**+2.3**
BHPL	**Bhopal**	**17.53**	**115**	*e*P	**P**	**16 23 18.8**	**+1.4**
BHPL				IAmb	IAmb	16 23 25.9	
	comp=Z,15nm,1.3s						
WUS	**Wushi**	**17.84**	**53**	Pn	**Pn**	**16 23 15.9**	**-4.1**
KOPT	**Kop Dagi**	**17.86**	**302**		**P**	**16 23 20.5**	**-0.6**
KBZ	**Khabaz**	**18.01**	**316**	P	**P**	**16 23 22.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=8.7						
KBZ				LR	LR	16 31 17.2	
	comp=Z,124nm,21.9s,baz=127,slow=40						
	comp=Z,2.4nm,0.7s						
KBZ	**Khabaz**	**18.01**	**316⇓**	*e*P	**P**	**16 23 23.9**	**+1.5**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SHA1	**Shidzhatmaz**	**18.16**	**315⇑**	*e*P	**P**	**16 23 24.9**	**+0.5**
KVAR	**Kislovodsk Arr**	**18.26**	**316**	P	**P**	**16 23 25.7**	**+0.3**
	baz=274,slow=19						
	comp=Z,2.0nm,0.5s						
KIV	**Kislovodsk**	**18.27**	**316**		**P**	**16 23 25.4**	**-0.1**
KIV	**Kislovodsk**	**18.27**	**316**	*e*P	**P**	**16 23 27.1**	**+1.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,58nm,14.0s						
AKTO	**Aktyubinsk**	**18.57**	**356**	P	**Pn**	**16 23 29.7**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=172,slow=9.0,SNR=13						
AKTO				LR	LR	16 31 18.7	
	comp=Z,173nm,18.5s,baz=16,slow=39						
	comp=Z,4.2nm,0.6s						
OTUK	**Ortayu**	**18.73**	**26**	P	**Pn**	**16 23 31.5**	**+0.7**
PDGK	**Podgornoye**	**19.01**	**48**	P	**P**	**16 23 30.7**	**-2.9**
ASF	**Jabal al Asfar**	**19.75**	**277**	P	**Pn**	**16 23 42.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=119,slow=7.4,SNR=23						
	comp=Z,20nm,0.8s						
SOC	**Sochi**	**19.89**	**312**	*e*P	**Pn**	**16 23 45.9**	**+1.2**
SOC				*e*		16 27 29.8	
SOC				MLR	MLR		
	comp=Z,46nm,12.0s						
TOKA	**Tokat**	**20.87**	**300**	P	**P**	**16 23 52.6**	**-1.3**
TOKA				IAmb	IAmb	16 23 58.6	
	comp=Z,12nm,0.9s						
MMAI	**Mount Meron Ar**	**20.94**	**280**	P	Pn	16 23 55.8	-1.4
	comp=Z,5.3nm,0.9s,baz=89,slow=15,SNR=3.9						
MMAI				LR	LR	16 32 11.7	
	comp=Z,58nm,20.2s,baz=242,slow=37						
	comp=Z,5.3nm,0.9s						
BNN	**Bunyan**	**20.99**	**296**	P	Pn	16 23 55.0	-2.8
EIL	**Elat**	**21.79**	**271**	P	**P**	**16 24 04.4**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=332,slow=14,SNR=3.6						
EIL				LR	LR	16 34 00.2	
	comp=Z,158nm,18.1s,baz=221,slow=41						
	comp=Z,4.9nm,0.8s						
ANN	**Anapa**	**21.92**	**312**	*e*P	**P**	**16 24 06.6**	**+1.6**
ANN				*e**PP	**sP**	**16 24 09.7**	**-0.1**
ANN				*e*		16 24 28.0	
ANN				*e*S	Sn	16 28 10.7	-6.2
ANN				pmax	pmax		
	comp=Z,15nm,0.9s						
BVA0	**Borovoye Array**	**22.35**	**16**	*i* P	**P**	**16 24 09.9**	**+0.3**
BVAR	**Borovoye Array**	**22.35**	**16**	P	**P**	**16 24 10.6**	**+1.0**
	comp=Z,8.9nm,0.8s,baz=194,slow=10,SNR=27						
BVAR				LR	LR	16 33 48.6	
	comp=Z,142nm,18.9s,baz=214,slow=39						
	comp=Z,8.9nm,0.8s						
BRVK

MNK *i* P **P** **16 25 39.7 +0.4**
comp=N,25nm,1.0s
MNK *i* P **P** **16 25 39.7 +0.4**
comp=Z,9.0nm,0.7s,baz=121
MNK *i* PP **PnPn** **16 26 45.1 +0.2**
MNK *i* PPP PPP 16 26 54.8
MNK *i* S **S** **16 30 53.5 +1.7**
MNK *i* SS **SnSn** **16 32 44.6 +2.5**
MNK *i* SSS SSS 16 32 58.8
MNK *i* LQ LQ 16 36 18.6
MNK *i* LR LR 16 39 09.1
MNK *i* LRM MLR 16 40 41.2
comp=N,106nm,17.7s
MNK *i* LRM MLR 16 40 42.6
comp=E,149nm,17.9s
MNK *i* LRM MLR 16 40 50.9
comp=Z,152nm,16.5s
MNK Minsk 32.16 324 *i* P **P** **16 25 39.6 +0.4**
MNK *i* 16 26 45.1
MNK *i* S **S** **16 30 53.5 +1.7**
MNK *i* SS **SnSn** **16 32 44.6 +2.5**
MNK pmax pmax
comp=E,13nm,0.7s
MNK pmax pmax
comp=N,25nm,1.0s
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK MLR MLR
comp=N,106nm,18.0s
MNK MLR MLR
comp=E,149nm,18.0s
MNK MLR MLR
comp=Z,152nm,17.0s
GTA Gaotai 32.84 66 *e*P **P** **16 25 47.5 +1.9**
GTA pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 33.08 312 *e*P **P** **16 25 48.2 +0.7**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 33.08 312 *e*P **P** **16 25 48.2 +0.7**
STHS Stebnicka Huta 33.87 313 *e*P **P** **16 25 54.6 +0.2**
STHS Stebnicka Huta 33.87 313 *e*P **P** **16 25 54.5 +0.2**
PZH PanZhiHua 36.50 88 P P 16 26 20.8 +3.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.5s
VRAC Vranov 36.79 311 LR LR 16 44 20.7
comp=Z,76nm,18.0s,baz=158,slow=41
FINES FINESS Array B 36.90 333 P **P** **16 26 20.6 +0.5**
comp=Z,2.9nm,0.8s,baz=124,slow=9.5,SNR=6.4
FINES LR LR 16 45 10.0
comp=Z,94nm,18.1s,baz=152,slow=42
comp=Z,2.9nm,0.8s
CHTO Chiang Mai 37.16 101 P **P** **16 26 22.9 -0.1**
CHTO Chiang Mai 37.16 101 P **P** **16 26 22.9 -0.1**
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 37.33 102 P **P** **16 26 23.6 -0.7**
comp=Z,1.0nm,0.7s,baz=300,slow=9.0,SNR=11
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 37.33 102 *e*P **P** **16 26 24.7 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 38.24 52 P **P** **16 26 32.2 +0.3**
comp=Z,0.4nm,0.5s,baz=272,slow=8.8,SNR=4.3
SONM LR LR 16 44 41.7
comp=Z,119nm,19.3s,baz=261,slow=40
comp=Z,0.4nm,0.5s
SONM Songino Array 38.24 52 *e*P P 16 26 35.4 +3.5
SONM pmax pmax
comp=Z,1.0nm,0.8s
GEC2 GERESS Array S 38.58 310 P **P** **16 26 35.1 +0.4**
GEC2 IAmb IAmb 16 26 43.8
comp=Z,3.6nm,0.8s
GERES GERESS Array B 38.58 310 P **P** **16 26 34.2 -0.6**
GERES GERESS Array B 38.58 310 P **P** **16 26 35.4 +0.6**
comp=Z,1.8nm,0.8s,baz=94,slow=7.0,SNR=11
comp=Z,1.8nm,0.8s
ULN Ulaanbaatar 38.69 52⇓ *i*P P 16 26 39.0 +3.3
ULN pmax pmax
comp=Z,6.0nm,2.1s
LESA Schwarzleotal 39.09 307 *e*P **P** **16 26 39.4 +0.5**
comp=Z,8.1nm,0.9s
KMBO Kilima Mbogo 39.41 218 P **P** **16 26 41.9 -0.2**
comp=Z,1.0nm,0.7s,baz=38,slow=12,SNR=3.6
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 39.41 218 *e*P **P** **16 26 44.6 +2.5**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 39.44 314 P **P** **16 26 41.9 +0.2**
CLL IAmb IAmb 16 26 58.4
comp=Z,6.0nm,1.0s
CLL Collm 39.44 314 P **P** **16 26 41.9 +0.2**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 39.44 314 *e*P **P** **16 26 43.0 +1.3**
WTTA Wattenberg 39.78 307 *e*P **P** **16 26 45.4 +0.6**
comp=Z,5.7nm,1.0s
WATA Walderalm 39.82 307 *e*P **P** **16 26 46.9 +1.7**
comp=Z,3.4nm,0.6s
SQTA Sankt Quirin 40.06 307 *e*P **P** **16 26 47.6 +0.5**
comp=Z,5.6nm,0.8s
MOTA Moosalm 40.15 307 *i*P **P** **16 26 47.9 +0.1**
comp=Z,3.3nm,0.8s
FETA Feichten 40.38 307 *e*P **P** **16 26 49.7 -0.1**
comp=Z,9.4nm,1.1s
NRIK Noril'sk 40.54 15 P **P** **16 26 52.1 +1.5**
comp=Z,0.7nm,0.3s,baz=215,slow=12,SNR=6.2
NRIK LR LR 16 46 37.1
comp=Z,109nm,19.4s,baz=186,slow=40
comp=Z,0.7nm,0.3s
NRIK Noril'sk 40.54 15⇑ *e*P **P** **16 26 52.9 +2.3**
NRIK pmax pmax
comp=Z,7.0nm,2.0s
DAVA Damuels 40.97 307 *e*P **P** **16 26 54.5 -0.2**
comp=Z,11nm,0.9s
HFS Hagfors 41.54 327 P **P** **16 26 59.1 +0.1**
comp=Z,1.6nm,0.8s,baz=144,slow=13,SNR=4.5
HFS LR LR 16 46 39.1
comp=Z,114nm,18.3s,baz=124,slow=40
comp=Z,1.6nm,0.8s
HHC Hu-ho-hao-te 41.79 63 *e*P **P** **16 27 03.8 +2.3**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,81nm,5.5s
ARCES ARCESS Array B 42.40 343 P **P** **16 27 07.2 +1.3**
comp=Z,4.6nm,1.1s,baz=120,slow=7.2,SNR=5.1
ARCES LR LR 16 46 24.1
comp=Z,122nm,18.6s,baz=154,slow=38
comp=Z,4.6nm,1.1s
ARCES ARCESS Array B 42.40 343 *e*P P 16 27 12.5 +6.6
ARCES pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 43.01 327 P **P** **16 27 10.6 -0.4**
comp=Z,0.8nm,0.7s,baz=112,slow=7.9
NOA NORSAR Array B 43.01 327 P **P** **16 27 12.2 +1.1**
comp=Z,0.6nm,0.6s,baz=110,slow=7.9,SNR=3.9
NOA LR LR 16 47 23.6
comp=Z,131nm,19.2s,baz=140,slow=39
comp=Z,0.6nm,0.6s
ZEA Zeya 51.67 44 *e*P P 16 28 22.0 +3.5
YAK Yakutsk 52.80 34 LR LR 16 52 45.2
comp=Z,101nm,18.9s,baz=250,slow=38
TIXI Tiksi 53.34 22 P **P** **16 28 31.8 +1.2**
TIXI IAmb IAmb 16 28 34.6
comp=Z,2.4nm,0.8s
TIXI Tiksi 53.34 22⇑ *i*P P 16 28 33.2 +2.6
TIXI pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 54.89 64 LR LR 16 54 50.6
comp=Z,83nm,18.6s,baz=270,slow=39
KLR Kul'dur 54.99 49 LR LR 16 54 13.7
comp=Z,152nm,18.6s,baz=240,slow=38
KLR Kul'dur 54.99 49⇓ *e*P P 16 28 47.1 +4.1
KLR pmax pmax
comp=Z,11nm,2.8s
USRK Ussuriysk Ar. 56.17 55 P **P** **16 28 51.0 -0.5**
comp=Z,0.9nm,0.7s,baz=264,slow=14,SNR=3.5
USRK LR LR 16 56 04.3
comp=Z,91nm,20.3s,baz=284,slow=39
comp=Z,0.9nm,0.7s
TORD Torodi Ar. Bea 56.52 265 P **P** **16 28 53.3 -1.1**
comp=Z,2.8nm,0.7s,baz=48,slow=7.1,SNR=8.2
comp=Z,2.8nm,0.7s
JNU Nakatsue 58.52 68 LR LR 16 56 45.7
comp=Z,65nm,21.9s,baz=272,slow=38
SEY Seymchan 63.06 31⇓ *e*P **P** **16 29 40.1 +1.4**
SEY pmax pmax
comp=Z,10.0nm,1.9s
ASAJ Asahikawa 63.51 53 LR LR 16 59 53.7
comp=Z,106nm,20.1s,baz=171,slow=38
DAV Davao City (W) 65.42 97 LR LR 17 02 36.1
comp=Z,44nm,18.6s,baz=252,slow=40
BILL Biilbino 66.49 23⇓ *e*P P 16 30 03.4 +2.4
BILL pmax pmax
comp=Z,5.0nm,1.5s
BOSA Boshof 68.76 213 P **P** **16 30 15.3 -0.7**
comp=Z,2.9nm,0.7s,baz=46,slow=8.1,SNR=8.2
comp=Z,2.9nm,0.7s
B21K Ikpikpuk River 75.63 12 P P 16 30 59.5 +3.2
B21K IAmb IAmb 16 31 04.3
comp=Z,2.7nm,0.9s
C23K Itkillik River 76.10 11 P **P** **16 31 01.3 +2.2**
E18K Tukpahlearik C 76.31 15 P **P** **16 31 02.1 +1.8**
D23K Nanushuk River 76.87 11 P **P** **16 31 05.8 +2.3**
D23K IAmb IAmb 16 31 27.5
comp=Z,3.5nm,1.1s
F17K Baldwin Pennin 76.96 16 P **P** **16 31 06.0 +2.0**
TOLK Toolik Lake Re 77.34 11 P **P** **16 31 06.4 +0.2**
E24K Your Creek 78.03 11 P **P** **16 31 11.4 +1.3**
E24K IAmb IAmb 16 31 18.8
comp=Z,1.6nm,0.8s
E25K Arctic Village 78.42 10 P **P** **16 31 12.4 +0.3**
E25K IAmb IAmb 16 31 31.9
comp=Z,4.4nm,1.4s
BMAR Burnt Mountain 79.20 9 P **P** **16 31 17.3 +0.8**
J16K Anvik River 79.72 17 P **P** **16 31 19.9 +0.5**
J20K Nowinta River 80.47 15 P **P** **16 31 25.0 +1.6**
J20K IAmb IAmb 16 31 27.1
comp=Z,5.8nm,1.4s
ILAR Eielson Array 81.32 11 P **P** **16 31 28.0 +0.1**
comp=Z,0.2nm,0.7s,baz=333,slow=4.6,SNR=4.0
comp=Z,0.2nm,0.7s
CAST Castle Rocks 81.58 14 P **P** **16 31 30.2 +0.9**
CAST IAmb IAmb 16 31 34.5
comp=Z,3.8nm,0.8s
I28M Miner Creek 81.70 8 P **P** **16 31 30.2 +0.2**
I28M IAmb IAmb 16 31 40.2
comp=Z,2.3nm,1.0s
PPLA Purkeypile 82.02 14 P **P** **16 31 33.8 +1.9**
J26L Joseph Creek 82.10 10 P **P** **16 31 31.6 -0.6**
J26L IAmb IAmb 16 31 44.6
comp=Z,4.8nm,1.2s
I30M Mount Dempster 82.32 7 P **P** **16 31 32.6 -0.8**
I30M IAmb IAmb 16 31 37.9
comp=Z,2.3nm,0.9s
SCHQ Schefferville 82.37 332 LR LR 17 10 07.9
comp=Z,69nm,18.2s,baz=290,slow=37
YKA Yellowknife Ar 85.83 358 P **P** **16 31 49.7 -1.3**
comp=Z,0.2nm,0.6s,baz=355,slow=5.3,SNR=7.6
comp=Z,0.2nm,0.6s
KDAK Kodiak Island 86.49 17 LR LR 17 16 18.6
comp=Z,112nm,18.1s,baz=6.4,slow=40
WRA Warramunga Arr 87.69 115 P **P** **16 31 59.4 -1.5**
comp=Z,1.2nm,0.6s,baz=316,slow=4.1,SNR=17
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 87.69 115 *e*P **P** **16 32 02.3 +1.5**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 89.50 118 P **P** **16 32 08.6 -0.8**
comp=Z,1.2nm,0.7s,baz=313,slow=5.2,SNR=23
comp=Z,1.2nm,0.7s
SADO Sadowa 95.18 332 LR LR 17 16 19.0
comp=Z,69nm,18.5s,baz=176,slow=36
BBB Bella Bella 95.94 5 LR LR 17 20 38.0
comp=Z,41nm,19.7s,baz=317,slow=38
STKA Stephens Creek 99.69 121 LR LR 17 20 27.8
comp=Z,78nm,19.9s,baz=198,slow=37

*IDC **27** 16:39:13.5±0.9, 18°.87N×94°.20E, h0km, mb3.9/16, mbtmp3.9/17, ML4.3/1, MS3.0/1, Error ellipse: s-maj=29.7km s-min=15.0km az=46.0*
*BKK **27** 16:39:15.9±0.8, 19°N±5°.5×9°4E±°, h10km, M4.2/26, mB4.7/7, mb4.5/13, Mjma3.7/26, ML4.5/19, MLv4.3/24, Mw(mB)4.0/7*
*NDI **27** 16:39:17.2±2.4, 18°.58N×94°.32E, h60km, ML4.0, MW4.0, mb4.3(NEIC)*
*BJI **27** 16:39:19.2, 18°.99N×94°.20E, h49km, mB4.8/8, mb4.2/16, Ms4.0/2, Ms7.3.8/1*
*NEIC **27** 16:39:22.2±1.7, 18°.98N±0°.09×94°.40E±0°.09, h58km±8km, mb4.3/23, Error ellipse: s-maj=15.9km s-min=9.4km az=218.0*
ISC 27 16:39:18.7±0.6, 18°.85N±0°.07×94°.17E±0°.07, h35km, n81, σ1§12/87, mb4.1/31, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**3.63**	**100**	P	**Pn**	**16 40 12.7**	**+0.2**
CM13	**Chiang Mai Arr**	**4.51**	**95**	P	**Pn**	**16 40 24.4**	**-0.3**
CHTO	**Chiang Mai**	**4.52**	**90**	Pn	**Pn**	**16 40 24.4**	**-0.3**
CHTO	**Chiang Mai**	**4.52**	**90**	P	**Pn**	**16 40 24.8**	**0.0**
CM15	**Chiang Mai Arr**	**4.53**	**94**	P	**Pn**	**16 40 24.8**	**-0.1**
CM31	**Chiang Mai Arr**	**4.54**	**94**	Pn	**Pn**	**16 40 24.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**4.54**	**94**	Pn	**Pn**	**16 40 24.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**4.54**	**94**	Pn	**Pn**	**16 40 24.2**	**-0.9**
	4.2nm,0.3s,baz=271,slow=14,SNR=159						
CMAR				Sn	**Sn**	**16 41 15.9**	**-0.8**
	2.3nm,0.3s,baz=265,slow=31,SNR=4.8						
CMAR				LR	LR	16 42 43.5	
	comp=Z,163nm,19.8s,baz=290,slow=46						
	19nm,0.5s						
CM02	**Chiang Mai Arr**	**4.55**	**95**	P	**Pn**	**16 40 25.0**	**-0.2**
CM05	**Chiang Mai Arr**	**4.55**	**95**	P	**Pn**	**16 40 24.9**	**-0.3**
CM01	**Chiang Mai Arr**	**4.56**	**95**	P	**Pn**	**16 40 25.0**	**-0.3**
CM04	**Chiang Mai Arr**	**4.58**	**95**	P	**Pn**	**16 40 25.3**	**-0.3**
CM09	**Chiang Mai Arr**	**4.59**	**94**	P	**Pn**	**16 40 25.4**	**-0.3**
LAMP	**Lampang**	**5.19**	**93**	P	**Pn**	**16 40 34.1**	**+0.1**
	0.2nm30nm,0.8s						
PAYA	**Payao**	**5.41**	**84**	P	**Pn**	**16 40 37.3**	**+0.2**
	0.3nm828nm71nm,0.7s						
KHLT	**Khaolaem Dam**	**5.85**	**133**	P	**Pn**	**16 40 43.4**	**+0.4**
	0.1nm19nm,0.6s						
IMP	**Imphal**	**5.95**	**358**	*e*P	**Pn**	**16 40 46.4**	**+1.9**
IMP				*e*S	**Sn**	**16 41 51.7**	**+0.2**
CRAI	**Chiangrai**	**6.01**	**76**	Pn	**Pn**	**16 40 45.1**	**-0.2**
CRAI	**Chiangrai**	**6.01**	**76**	P	**Pn**	**16 40 45.4**	**+0.2**
UTHA	**Uthaitani**	**6.01**	**122**	P	**Pn**	**16 40 45.4**	**+0.1**
PHIT	**Phitsanulok**	**6.17**	**105**	P	**Pn**	**16 40 47.6**	**+0.2**
KOHI	**KOHIMA**	**6.83**	**360**	*e*P	**Pn**	**16 40 57.9**	**+1.2**
KOHI				*e*S	**Sn**	**16 42 12.3**	**-1.0**
KOHI				IAML		16 42 16.1	
	comp=N,50nm,0.6s						
KOHI				IAML		16 42 20.7	
	comp=E,48nm,0.3s						
SHL	**Shillong**	**7.01**	**343**	Pn	**Pn**	**16 40 58.8**	**-0.3**
SHL	**Shillong**	**7.01**	**343**	*e*P	**Pn**	**16 40 59.0**	**-0.1**
SHL				*e*S	**Sn**	**16 42 16.2**	**-1.5**
SHL				IAML		16 42 16.7	
	comp=E,43nm,0.5s						
SHL				IAML		16 42 19.2	
	comp=E,101nm,0.4s						
TNCH	**TengChong**	**7.35**	**33**	*e*P	**Pn**	**16 41 06.3**	**+2.5**
TNCH				sP		16 41 20.8	
TNCH				S	**Sn**	**16 42 25.5**	**-0.7**
TNCH				pmax	pmax		
	comp=E,6.0nm,0.3s						
TNCH				pmax	pmax		
	comp=E,68nm,5.8s						
TNCH				LR	LR		
	comp=E,210nm,7.3s						
TNCH				LR	LR		
	comp=E,170nm,5.2s						
NAYO	**Nakonayok**	**8.21**	**122**	P	**Pn**	**16 41 15.6**	**+0.2**
NONG	**Nongkai**	**8.56**	**94**	P	**Pn**	**16 41 21.0**	**+0.8**
TAWA	**Tawang**	**8.95**	**347**	*e*P	**Pn**	**16 41 27.4**	**+1.4**
BOK	**Bokaro**	**9.15**	**304**	*e*P	**Pn**	**16 41 31.7**	**+3.4**
BOK				*e*S	**Sn**	**16 43 05.0**	**-5.2**
BOK				IAML		16 43 08.0	
	comp=N,16nm,0.4s						
BOK				IAML		16 43 08.5	
	comp=E,22nm,0.4s						
GTK	**Tadong**	**9.86**	**330**	*e*P	**Pn**	**16 41 39.3**	**+1.2**
GTK				*e*S	**Sn**	**16 43 24.4**	**-3.3**
GTK				IAML		16 43 30.9	
	comp=N,533nm,0.2s						
GTK				IAML		16 43 31.1	
	comp=E,607nm,0.2s						
PZH	**PanZhiHua**	**10.33**	**41**	P	Pn	16 41 47.8	+3.1
PZH				pmax	pmax		
	comp=E,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=E,130nm,4.5s						
UBPT	**Khong Chiam**	**11.38**	**106**	Pn	**Pn**	**16 42 00.2**	**+1.4**
GTA	**Gaotai**	**21.06**	**12**	*e*P	**P**	**16 43 59.8**	**-0.1**
GTA				pmax	pmax		
	comp=E,3.0nm,0.5s						
NIL	**Nilore**	**23.79**	**312**	P	**P**	**16 44 28.8**	**+0.5**
NIL				IAmb	IAmb	16 44 31.9	
	comp=Z,9.5nm,0.6s						
WMQ	**Urumqi**	**25.48**	**349**	*e*P	**P**	**16 44 44.8**	**+1.1**
WMQ				pP	sP	16 44 59.5	+1.6
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WUS	**Wushi**	**25.68**	**333**	P	**P**	**16 44 46.5**	**+0.9**
KSH	**Kashi**	**25.91**	**326**	P	**P**	**16 44 48.5**	**+0.8**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.51**	**31**	*e*P	**P**	**16 44 53.8**	**+0.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,4.0s						
TARG	**Taragay, Kyrgy**	**26.73**	**332**	P	**P**	**16 44 54.5**	**-0.9**
TARG				IAmb	IAmb	16 44 58.5	
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**27.24**	**310**	P	**P**	**16 45 01.5**	**+1.6**
KBL				IAmb	IAmb	16 45 06.5	
	comp=Z,3.3nm,0.6s						
KDJ	**Kajisay**	**27.33**	**332**	P	**P**	**16 45 01.6**	**+1.1**
MYLDM	**Lahad Datu**	**27.35**	**117**	P	**P**	**16 45 01.3**	**+0.5**
DRK	**Karamyk**	**28.21**	**321**	P	**P**	**16 45 10.1**	**+1.5**
DRK				IAmb	IAmb	16 45 11.1	
	comp=Z,4.0nm,0.6s						
ARSB	**Arslanbob**	**28.79**	**326**	P	**P**	**16 45 12.2**	**-1.4**
ARSB				IAmb	IAmb	16 45 23.2	
	comp=Z,10.0nm,1.5s						
SIMJ	**Simiganj**	**29.43**	**317**	P	**P**	**16 45 19.5**	**+0.3**
MK31	**Makanchi Array**	**29.53**	**343**	P	**P**	**16 45 20.1**	**+0.2**
MKAR	**Makanchi Array**	**29.53**	**343**	P	**P**	**16 45 19.8**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=164,slow=9.0,SNR=12						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**30.58**	**16**	P	**P**	**16 45 29.3**	**0.0**
	comp=Z,0.7nm,0.4s,baz=198,slow=8.5,SNR=5.1						
	comp=Z,0.7nm,0.4s						
KKAR	**Karatay Array**	**31.35**	**326**	P	**P**	**16 45 37.2**	**+1.2**
KURBB	**Kurchatov Arra**	**34.05**	**342**	P	**P**	**16 45 59.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=152,slow=8.5,SNR=6.4						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**34.11**	**342**	P	**P**	**16 46 00.3**	**+0.3**
ZALV	**Zalesovo Beam**	**35.76**	**351**	P	**P**	**16 46 13.4**	**-0.8**
ZALV	**Zalesovo Beam**	**35.76**	**351**	P	**P**	**16 46 13.6**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=176,slow=9.7,SNR=5.9						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**38.79**	**337**	P	**P**	**16 46 39.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=159,slow=5.9,SNR=3.0						
	comp=Z,0.3nm,0.5s						
USRK	**Ussuriysk Ar.**	**40.43**	**43**	P	**P**	**16 46 53.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=249,slow=4.5,SNR=4.1						
	comp=Z,0.5nm,0.7s						
ABKAR	**Akbulak array**	**40.91**	**326**	P	**P**	**16 46 59.2**	**+1.6**
ABKAR				IAmb	IAmb	16 46 60.0	
	comp=Z,3.1nm,0.8s						
SOEI	**Soe**	**41.10**	**131**	P	**P**	**16 46 59.5**	**-0.2**
ARTI	**Arti**	**46.03**	**333**	P	**P**	**16 47 38.8**	**0.0**
ARTI				IAmb	IAmb	16 48 17.7	
	comp=Z,7.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**48.01**	**138**	P	**P**	**16 47 53.2**	**-1.4**
FITZ				IAmb	IAmb	16 48 19.0	
	comp=Z,3.3nm,1.4s						
NRIK	**Noril'sk**	**50.64**	**357**	P	**P**	**16 48 13.5**	**-0.5**
NRIK				IAmb	IAmb	16 48 22.9	
	comp=Z,6.8nm,1.5s						
NRIK	**Noril'sk**	**50.64**	**357**	P	**P**	**16 48 13.6**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=163,slow=17,SNR=4.0						
	comp=Z,1.8nm,0.6s						
WB0	**Warramunga Arr**	**55.04**	**132**	P	**P**	**16 48 46.9**	**-0.4**
WB0				IAmb	IAmb	16 48 58.3	
	comp=Z,3.6nm,1.0s						
WRA	**Warramunga Arr**	**55.12**	**132**	P	**P**	**16 48 46.7**	**-1.2**
WRA	**Warramunga Arr**	**55.12**	**132**	P	**P**	**16 48 47.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=320,slow=7.4,SNR=12						
	comp=Z,0.9nm,0.7s						
WRAB	**Tennant Creek**	**55.12**	**132**	P	**P**	**16 48 47.8**	**0.0**
WRAB				IAmb	IAmb	16 49 15.0	
	comp=Z,5.2nm,1.1s						
WB2	**Warramunga Arr**	**55.13**	**132**	P	**P**	**16 48 47.7**	**-0.2**
WR0	**Warramunga Arr**	**55.27**	**132**	P	**P**	**16 48 48.4**	**-0.5**
TIXI	**Tiksi**	**56.54**	**12**	P	**P**	**16 48 55.8**	**-1.5**
TIXI				IAmb	IAmb	16 49 11.6	
	comp=Z,4.7nm,1.4s						
ASAR	**Alice Springs**	**57.35**	**136**	P	**P**	**16 49 04.1**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=317,slow=7.2,SNR=19						
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**59.29**	**39**	P	**P**	**16 49 17.2**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=224,slow=6.2,SNR=3.0						
	comp=Z,3.4nm,0.9s						
AKASG	**Malin Array Be**	**59.80**	**318**	P	**P**	**16 49 20.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=77,slow=7.0,SNR=6.0						
	comp=Z,0.3nm,0.3s						
BURAR	**Bucovina Array**	**62.18**	**314**	P	**P**	**16 49 37.5**	**+0.8**
FINES	**FINESS Array B**	**63.16**	**330**	P	**P**	**16 49 42.6**	**-0.3**
FINES	**FINESS Array B**	**63.16**	**330**	P	**P**	**16 49 43.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=116,slow=4.4,SNR=4.8						
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**65.05**	**339**	P	**P**	**16 49 55.3**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=316,slow=5.1,SNR=4.2						
	comp=Z,3.3nm,0.9s						
HFS	**Hagfors**	**69.11**	**328**	P	**P**	**16 50 21.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=119,slow=8.4,SNR=1.8						
	comp=Z,0.7nm,0.5s						
GERES	**GERESS Array B**	**69.83**	**316**	P	**P**	**16 50 27.3**	**+1.3**
GERES	**GERESS Array B**	**69.83**	**316**	P	**P**	**16 50 26.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=64,slow=6.1,SNR=6.6						
	comp=Z,1.2nm,0.7s						
BMAR	**Burnt Mountain**	**83.88**	**19**	P	**P**	**16 51 45.4**	**+0.8**
ILAR	**Eielson Array**	**84.62**	**22**	P	**P**	**16 51 46.7**	**-1.7**
ILAR	**Eielson Array**	**84.62**	**22**	P	**P**	**16 51 47.9**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=311,slow=4.7,SNR=6.8						
	comp=Z,0.6nm,0.8s						

*IDC **27** 16:42:24.1±1.4, 25°.64N×141°.08E, h152km±14km, mb3.2/9, mbtmp3.7/12, MS3.7/1, Error ellipse: s-maj=27.2km s-min=13.6km az=84.0*
*JMA **27** 16:42:26.7±0.1, 25°.6N±0°.9×14°1E±°, h143km, MV4.3/10, IOTO ISLANDS REGION*
ISC 27 16:42:24.7±0.8, 25°.67N±0°.09×141°.2E±0°.1, h160km, n18, σ0§67/20, mb3.6/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.33**	**43**	P	**Pn**	**16 42 53.5**	**+0.1**
JHH2				S	**Sn**	**16 43 14.0**	**-1.4**
CBIJ	**Chichi jima**	**1.70**	**33**	P	**Pn**	**16 42 57.8**	**+0.7**
CBIJ				S	**Sn**	**16 43 21.4**	**-0.7**
JCJ	**Chichijima**	**1.70**	**33**	P	**Pn**	**16 42 57.2**	**+0.1**
	439nm,0.4s,baz=239,slow=18,SNR=38						
JCJ				S	**Sn**	**16 43 21.6**	**-0.5**
	298nm,0.3s,baz=274,slow=23,SNR=14						
BSO3	**Boso 3**	**9.12**	**357**	*e*P	**Pn**	**16 44 31.9**	**-0.7**
BSO4	**Boso 4**	**9.32**	**356**	*e*P	**Pn**	**16 44 36.3**	**+0.9**
MJAR	**Matsushiro Arr**	**11.13**	**348**	P	**Pn**	**16 44 58.6**	**-0.7**
	1.0nm,0.4s,baz=251,slow=20,SNR=4.3						
KSRS	**Korea Array**	**16.27**	**319**	P	**P**	**16 46 04.2**	**+0.1**
	0.7nm,0.8s,baz=134,slow=12,SNR=1.7						
ASAJ	**Asahikawa**	**18.44**	**3**	P	**P**	**16 46 27.9**	**-0.1**
	8.5nm,1.0s,baz=220,slow=12,SNR=9.3						
WRA	**Warramunga Arr**	**45.82**	**189**	P	**P**	**16 50 30.6**	**-0.2**
	1.5nm,0.4s,baz=9.8,slow=8.7,SNR=50						
	1.5nm,0.4s						
TIXI	**Tiksi**	**46.53**	**355**	LR	LR	17 12 01.0	
	comp=Z,92nm,20.1s,baz=36,slow=38						
ASAR	**Alice Springs**	**49.54**	**189**	P	**P**	**16 50 59.0**	**-0.4**
	0.2nm,0.4s,baz=15,slow=7.7,SNR=5.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**50.68**	**311**	P	**P**	**16 51 07.9**	**+0.1**
	0.1nm,0.4s,baz=87,slow=8.1,SNR=2.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**53.39**	**315**	P	**P**	**16 51 27.7**	**0.0**
	0.5nm,0.4s,baz=91,slow=8.1,SNR=10						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**57.22**	**180**	P	**P**	**16 51 54.9**	**-0.3**
	0.8nm,0.4s,baz=18,slow=10,SNR=4.4						
	0.8nm,0.4s						
BVAR	**Borovoye Array**	**58.47**	**318**	P	**P**	**16 52 03.8**	**+0.1**
	0.6nm,0.5s,baz=91,slow=6.8,SNR=8.1						

0.6nm,0.5s
ILAR Eielson Array 59.40 28 P P 16 52 11.4 +1.4
0.5nm,0.8s,baz=276,slow=5.3,SNR=5.0
0.5nm,0.8s
YKA Yellowknife Ar 73.83 28 P P 16 53 41.7 +0.3
0.2nm,0.6s,baz=290,slow=5.8,SNR=2.6
0.2nm,0.6s
FINES FINESS Array B 78.81 334 P P 16 54 09.3 -0.2
0.5nm,0.4s,baz=62,slow=6.0,SNR=8.8
0.5nm,0.4s

*SOME **27** 16:45:38.8, 42°.97N×78°.42E, h20km*
*NNC **27** 16:45:38.4±1.0, 42°.96N×78°.49E, h0km, mb2.8, mpv3.3,*
Error ellipse: s-maj=8.7km s-min=4.3km az=168.0
*KRNET **27** 16:45:38.8±0.1, 42°.98N×78°.45E, h23km, mb2.7*
ISC 27 16:45:39.8±0.8, 42°.99N±0°.02×78°.41E±0°.02, h15km±5km, n44, σ1§59/87, 11C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.07**	**356**	P	**Pg**	**16 45 42.4**	**-0.6**
	197nm,0.1s						
SATY				S	**Sg**	**16 45 44.9**	**-0.1**
	1μm,0.1s						
SATY	**Saty**	**0.07**	**356**	*e*P	**Pg**	**16 45 42.4**	**-0.6**
SATY				*e*S	**Sg**	**16 45 44.9**	**-0.1**
ZHN	**Zhinishke**	**0.18**	**5**	P	**Pg**	**16 45 43.5**	**-0.7**
	46nm,0.1s						
ZHN				S	**Sg**	**16 45 46.7**	**-0.4**
	797nm,0.2s						
ZHN	**Zhinishke**	**0.18**	**5**	*e*P	**Pg**	**16 45 43.6**	**-0.7**
ZHN				*e*S	**Sg**	**16 45 46.8**	**-0.4**
ZHN	**Zhinishke**	**0.18**	**5**	*e*P	**Pg**	**16 45 43.5**	**-0.7**
	46nm,0.1s						
ZHN				*e*S	**Sg**	**16 45 46.8**	**-0.4**
	797nm,0.2s						
UZB	**Uzynbulak**	**0.47**	**70**	P	**Pg**	**16 45 47.5**	**-1.8**
	15nm,0.1s						
UZB				S	**Sg**	**16 45 53.6**	**-2.0**
	98nm,0.2s						
UZB	**Uzynbulak**	**0.47**	**70**	*e*P	**Pg**	**16 45 47.5**	**-1.8**
	15nm,0.1s						
UZB				*e*S	**Sg**	**16 45 53.6**	**-2.0**
	98nm,0.2s						
PRZ	**Przheval'sk**	**0.51**	**181**	⇑*e*P	**Pg**	**16 45 48.4**	**-1.5**
PRZ				⇑*e*S	**Sg**	**16 45 54.9**	**-1.8**
ANVS	**Anan'yevo**	**0.59**	**250**	⇑*i*P	**Pg**	**16 45 50.7**	**-0.7**
ANVS				⇑*i*S	**Sg**	**16 45 59.4**	**+0.2**
SHLS	**Shalkode**	**0.79**	**77**	P	**Pn**	**16 45 58.5**	**+2.1**
	12nm,0.2s						
SHLS				S	**Sn**	**16 46 12.9**	**+4.9**
	34nm,0.3s						
SHLS	**Shalkode**	**0.79**	**77**	*e*P	**Pn**	**16 45 58.5**	**+2.1**
SHLS				*e*S	**Sn**	**16 46 12.9**	**+4.9**
SHLS	**Shalkode**	**0.79**	**77**	*e*P	**Pn**	**16 45 58.5**	**+2.1**
	12nm,0.2s						
SHLS				*e*S	**Sn**	**16 46 12.9**	**+4.9**
	34nm,0.3s						
PDGK	**Podgornoye**	**0.86**	**66**	⇓P	**Pg**	**16 45 53.8**	**-2.6**
	1.0nm,0.2s						
PDGK				⇑S	**Sg**	**16 46 04.8**	**-2.9**
	5.8nm,0.3s						
KOTS	**Kotyrbulak**	**0.98**	**285**	*e*P	**Pb**	**16 45 57.7**	**-0.9**
	4.1nm,0.2s						
KOTS				*e*S	**Sb**	**16 46 11.0**	**-0.4**
	93nm,0.2s						
MDOK	**Medeo**	**1.01**	**280**	⇓P	**Pb**	**16 45 57.8**	**-1.3**
	1.4nm,0.3s						
MDOK				Pg	**Pb**	**16 45 58.0**	**-1.1**
	3.8nm,0.2s						
MDOK				S	**Sb**	**16 46 11.5**	**-0.8**
	7.7nm,0.5s						
MDOK				Lg	Lg	16 46 11.8	
	9.8nm,0.4s						
MDOK	**Medeo**	**1.01**	**280**	*e*P	**Pb**	**16 45 58.0**	**-1.1**
MDOK				*e*S	**Sb**	**16 46 11.8**	**-0.5**
TNSS	**Tian-Shan**	**1.08**	**273**	P	**Pb**	**16 45 59.2**	**-1.1**
	7.2nm,0.1s						
TNSS				S	**Sb**	**16 46 13.7**	**-0.6**
	11nm,0.2s						
TNSS	**Tian-Shan**	**1.08**	**273**	*e*P	**Pb**	**16 45 59.2**	**-1.1**
	7.2nm,0.1s						
TNSS				*e*S	**Sb**	**16 46 13.7**	**-0.6**
	11nm,0.2s						
BLB	**Baldybastay**	**1.11**	**2**	P	**Pb**	**16 45 59.5**	**-1.1**
	94nm,0.1s						
BLB				S	**Sb**	**16 46 14.4**	**-0.6**
	25nm,0.1s						
KDJ	**Kajisay**	**1.25**	**227**	⇑*i*P	**Pn**	**16 46 02.5**	**-0.4**
KDJ				⇑*i*S	**Sb**	**16 46 18.6**	**-0.6**
TARG	**Taragay, Kyrgy**	**1.34**	**200**	⇓*i*P	**Pn**	**16 46 03.2**	**-1.1**
TARG				⇓*i*S	**Sb**	**16 46 21.2**	**-0.7**
CHKK	**Chushkaly**	**1.35**	**310**	P	**Pn**	**16 46 04.2**	**+0.1**
	3.6nm,0.2s						
CHKK				S	**Sn**	**16 46 22.2**	**+0.5**
	22nm,0.3s						
CHKK	**Chushkaly**	**1.35**	**310**	*e*P	**Pn**	**16 46 04.2**	**+0.1**
CHKK				*e*S	**Sn**	**16 46 22.3**	**+0.5**
CHKK	**Chushkaly**	**1.35**	**310**	*e*P	**Pn**	**16 46 04.2**	**+0.1**
	3.6nm,0.2s						
CHKK				*e*S	**Sn**	**16 46 22.2**	**+0.5**
	22nm,0.3s						
MTBS	**Maitube**	**1.46**	**276**	P	**Pn**	**16 46 06.2**	**+0.6**
	4.2nm,0.2s						
MTBS				S	**Sb**	**16 46 26.1**	**+1.1**
	12nm,0.1s						
MTBS	**Maitube**	**1.46**	**276**	*e*P	**Pn**	**16 46 06.3**	**+0.6**
MTBS				*e*S	**Sb**	**16 46 26.2**	**+1.1**
MTBS	**Maitube**	**1.46**	**276**	*e*P	**Pn**	**16 46 06.2**	**+0.6**
	4.2nm,0.2s						
MTBS				*e*S	**Sb**	**16 46 26.1**	**+1.1**
	12nm,0.1s						
KNOS	**Konyrlen**	**1.48**	**22**	P	**Pn**	**16 46 05.5**	**-0.4**
	6.8nm,0.1s						
KNOS				S	**Sn**	**16 46 24.7**	**-0.4**
	7.3nm,0.1s						
DJR	**Jarkent**	**1.67**	**36**	P	**Pn**	**16 46 08.4**	**-0.1**
	5.3nm,0.1s						
DJR				S	**Sn**	**16 46 30.4**	**+0.6**
	38nm,0.2s						
DJR	**Jarkent**	**1.67**	**36**	*e*P	**Pn**	**16 46 08.4**	**-0.1**
	5.3nm,0.1s						
DJR				*e*S	**Sn**	**16 46 29.9**	**+0.1**
	38nm,0.2s						
KUU	**Kurty**	**1.76**	**302**	*e*P	**Pb**	**16 46 11.6**	**-0.1**
	0.7nm,0.1s						
KUU				*e*S	**Sb**	**16 46 34.7**	**+1.0**
	38nm,0.2s						
ULHL	**Ulahol**	**1.77**	**246**	⇑*i*P	**Pn**	**16 46 10.8**	**+0.8**
ULHL				⇑*i*S	**Sb**	**16 46 34.0**	**0.0**
KST	**Kastek**	**1.80**	**273**	P	**Pb**	**16 46 12.3**	**-0.2**
	4.7nm,0.2s						
KST				S	**Sb**	**16 46 36.8**	**+1.9**
	13nm,0.3s						
KST	**Kastek**	**1.80**	**273**	*e*P	**Pb**	**16 46 12.3**	**-0.2**
	4.7nm,0.2s						
KST				*e*S	**Sb**	**16 46 36.8**	**+1.9**
	13nm,0.3s						
BOOM	**Boomskoye usch**	**1.89**	**255**	⇑*i*P	**Pn**	**16 46 13.1**	**+1.5**
BOOM				⇑*i*S	**Sb**	**16 46 37.4**	**-0.1**
TDK	**Taldyqorghan**	**2.01**	**360**	*e*P	**Pb**	**16 46 15.9**	**-0.1**
	13nm,0.2s						
TDK				*e*S	**Sb**	**16 46 42.1**	**+1.3**
	26nm,0.2s						
TKM2	**Tokmak 2**	**2.07**	**269**	⇓P	**Pn**	**16 46 16.0**	**+1.9**
	1.0nm,0.3s						
TKM2				⇓S	**Sg**	**16 46 45.8**	**-0.5**
	11nm,0.6s						
TKM2	**Tokmak 2**	**2.07**	**269**	⇓*i*P	**Pn**	**16 46 15.5**	**+1.4**
TKM2				⇓*i*S	**Sb**	**16 46 42.0**	**-0.7**
AAK	**Ala-Archa**	**2.91**	**264**	Pn	**Pb**	**16 46 30.3**	**-1.0**
	0.5nm,0.3s						
AAK				Sn	**Sb**	**16 47 10.1**	**+3.4**
	3.4nm,0.5s						
AAK	**Ala-Archa**	**2.91**	**264**	*i*P	**Pn**	**16 46 27.0**	**+1.4**
AAK				*i*S	**Sn**	**16 47 01.8**	**+1.5**
AML	**Almayashu**	**3.59**	**258**	*i*P	**Pn**	**16 46 36.5**	**+1.3**
AML				*i*S	**Sn**	**16 47 18.5**	**+1.0**
BTLS	**Baital**	**3.76**	**305**	*e*P	**Pb**	**16 46 47.3**	**+1.5**
	0.6nm,0.2s						
BTLS				*e*S	**Sg**	**16 47 36.6**	**-3.8**
	1.0nm,0.2s						
MRKS	**Merke**	**3.82**	**268**	*e*P	**Pb**	**16 46 49.3**	**+2.4**
	0.3nm,0.1s						
MRKS				*e*S	**Sg**	**16 47 39.9**	**-2.6**
	3.5nm,0.3s						
KK31	**Karatay Array**	**5.79**	**274**	⇓Lg	Lg	16 48 43.0	
	0.3nm,0.3s,baz=74,slow=26,SNR=4.1						

*GCG **27** 16:47:47.8±1.6, 14°.16N×91°.70W, h63km±15km, MD3.9*
*MEX **27** 16:47:48.2±0.4, 14°.02N×91°.98W, h6km±21km, MD4.1*
*SNET **27** 16:47:49.4±0.9, 14°.08N×91°.56W, h22km±588km, ML4.0*
ISC 27 16:47:44.6±1.6, 13°.89N±0°.06×91°.91W±0°.04, h32km±12km, n30, σ1§98/56, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.66**	**18**	*e*P	**Pn**	**16 47 58.8**	**+1.0**
RTAL				*e*S	**Sb**	**16 48 07.5**	**+0.7**
RTAL	**Retalhuleu**	**0.66**	**18**	*e*P	**Pb**	**16 47 58.0**	**+0.2**
RTAL				*e*S	**Sb**	**16 48 06.1**	**-0.7**
STG0	**El Palmar, Qui**	**0.76**	**46**	*i*P		16 48 00.8	
STG0				*e*S		16 48 10.6	
STG8	**El Palmar, Qui**	**0.77**	**44**	*e*P		16 48 01.3	
STG8				*i*S		16 48 12.4	
SMCA	**Catarina**	**0.97**	**350**	*e*P		16 48 02.8	
SMCA				*e*S		16 48 14.8	
SMCA	**Catarina**	**0.97**	**350**	*e*P	**Pn**	**16 48 02.8**	**+0.7**
SMCA				*e*S	**Sn**	**16 48 14.8**	**+0.1**
SOKI	**Kika Raxquin**	**1.04**	**28**	*e*P	**Pn**	**16 48 03.7**	**+0.3**
SOKI				*e*S	**Sn**	**16 48 15.5**	**-1.5**
SOKI	**Kika Raxquin**	**1.04**	**28**	*e*P		16 48 03.7	
SOKI				*e*S		16 48 15.5	
QUEO	**Labor Ovalle**	**1.04**	**21**	*i*S	**Sn**	**16 48 16.9**	**0.0**
QUEO	**Labor Ovalle**	**1.04**	**21**	*i*S		16 48 16.9	
THIG		**1.07**	**341**	*e*P	**Pn**	**16 48 04.0**	**+0.6**
THIG				*e*S	**Sn**	**16 48 16.0**	**-1.0**
PATR	**El Naranjo**	**1.26**	**345**	*e*P	**Pn**	**16 48 06.5**	**+0.4**
PATR				*i*S	**Sn**	**16 48 21.2**	**-1.0**
PAVE	**Pavencul**	**1.32**	**349**	*e*P	**Pn**	**16 48 07.7**	**+0.6**
PAVE				*e*S	**Sn**	**16 48 22.7**	**-0.9**
HUEH	**Huehuetenango**	**1.47**	**15**	*e*P	**Pn**	**16 48 10.1**	**+1.0**
HUEH				*i*S	**Sn**	**16 48 26.8**	**-0.5**
NUBE	**Las Nubes**	**2.07**	**89**	*e*P	**Pn**	**16 48 18.5**	**+1.2**
NUBE				*e*S	**Sn**	**16 48 40.1**	**-1.9**
NUBE	**Las Nubes**	**2.07**	**89**	*e*P	**Pn**	**16 48 18.2**	**+1.0**
NUBE				*i*S	**Sn**	**16 48 40.9**	**-1.1**
NUBE	**Las Nubes**	**2.07**	**89**	*e*P		16 48 18.2	
NUBE				*i*S		16 48 40.9	
SLOZ	**Alcaldia de Sa**	**2.07**	**86**	*e*P	**Pn**	**16 48 17.5**	**+0.4**
SLOZ				*e*S	**Sn**	**16 48 40.6**	**-1.2**
PCIG		**2.20**	**325**	*e*P	**Pn**	**16 48 19.6**	**+0.6**
PCIG				*e*S	**Sn**	**16 48 45.3**	**+0.1**
SBLS	**San Blas**	**2.22**	**91**	*e*P	**Pn**	**16 48 21.4**	**+1.9**
SBLS				*e*S	**Sn**	**16 48 45.8**	**-0.1**
SNJE	**San Jose**	**2.23**	**90**	*e*P	**Pn**	**16 48 21.5**	**+1.9**
CCIG	**Comitan**	**2.38**	**355**	*e*P	**Pb**	**16 48 25.4**	**-1.6**
CCIG				*i*S	**Sn**	**16 48 52.5**	**+2.5**
CCIG	**Comitan**	**2.38**	**355**	*i*P	**Pn**	**16 48 23.2**	**+1.5**
CCIG				*e*S	**Sb**	**16 48 54.3**	**-1.9**
CCIG	**Comitan**	**2.38**	**355**	*i*P		16 48 23.2	
CCIG				*e*S		16 48 54.3	
JAYA	**Jayaque - finc**	**2.40**	**95**	*e*P	**Pn**	**16 48 23.0**	**+1.2**
JAYA				*e*S	**Sn**	**16 48 48.7**	**-1.5**
JAYA				IAML		16 48 51.8	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**2.40**	**95**	*e*P	**Pn**	**16 48 23.9**	**+2.1**
JAYA				*i*S	**Sn**	**16 48 50.0**	**-0.2**
JAYA	**Jayaque - finc**	**2.40**	**95**	*e*P		16 48 23.9	
JAYA				*i*S		16 48 50.0	
PMON	**Piamonte**	**2.52**	**94**	*e*P	**Pn**	**16 48 25.0**	**+1.5**
PMON				*e*S	**Sn**	**16 48 53.0**	**-0.2**
TGIG		**3.10**	**338**	*e*P	**Pn**	**16 48 35.0**	**+3.6**
TGIG				*e*S	**Sn**	**16 49 10.1**	**+2.7**
UXUV	**UXUV**	**4.03**	**328**	*e*P	**Pn**	**16 48 46.6**	**+2.5**
UXUV				*e*S	**Sn**	**16 49 30.3**	**0.0**
CMIG	**Matias Romero**	**4.28**	**318**	*e*P	**Pn**	**16 48 50.1**	**+2.5**
CMIG				*e*S	**Sn**	**16 49 37.5**	**+0.9**
HUIG	**Huatulco**	**4.47**	**295**	*e*P	**Pn**	**16 48 51.7**	**+1.5**
HUIG				*e*S	**Sn**	**16 49 36.2**	**-4.9**
NEUV	**Arroyo Zacate**	**5.34**	**316**	*e*P	**Pn**	**16 49 02.7**	**+0.6**
NEUV				*e*S	**Sn**	**16 50 02.5**	**0.0**
YOIG	**Yosondua**	**6.18**	**299**	*e*P	**Pn**	**16 49 18.6**	**+4.6**
TOIG	**Toxpalan**	**6.49**	**311**	*e*P	**Pn**	**16 49 18.1**	**+0.2**
TOIG				*e*S	**Sn**	**16 50 28.0**	**-3.0**
PNIG	**Pinotepa**	**6.50**	**293**	*e*P	**Pn**	**16 49 21.2**	**+3.1**
TXIG	**Tlaxiaco**	**6.56**	**301**	*e*P	**Pn**	**16 49 24.0**	**+4.8**
TXIG				*e*S	**Sn**	**16 50 28.0**	**-5.1**
JAUV	**Jalcomulco**	**7.19**	**320**	*e*P	**Pn**	**16 49 27.4**	**-0.1**
JAUV				*e*S	**Sn**	**16 50 46.4**	**-1.8**

*IDC **27** 16:54:07.7±1.3, 29°.15N×141°.25E, h0km, mb3.6/7,*
mbtmp3.7/13, ML3.5/5, Error ellipse: s-maj=63.9km
s-min=15.2km az=76.0
ISC 27 16:54:08.4±0.8, 29°.24N±0°.08×141°.4E±0°.2, h10km, n16, σ1§94/15, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.25**	**162**	Pn	**Pn**	**16 54 46.0**	**+0.4**
	29nm,0.3s,baz=5.3,slow=21,SNR=14						
JCJ				Sn	**Sn**	**16 55 10.1**	**-3.3**
	173nm,0.3s,baz=89,slow=23,SNR=13						
	68nm,0.3s						
JHJ	**Hachijo jima 2**	**4.11**	**341**	Pn	**Pn**	**16 55 12.3**	**+1.0**
	12nm,0.3s,baz=80,slow=19,SNR=1.7						
JHJ				Sn	**Sn**	**16 55 54.4**	**-5.0**
	23nm,0.3s,baz=72,slow=20,SNR=1.8						
	71nm,0.5s						
MJAR	**Matsushiro Arr**	**7.76**	**341**	Pn	**Pn**	**16 56 03.0**	**+1.5**
	0.3nm,0.3s,baz=161,slow=12,SNR=15						
	1.6nm,0.3s						
KSRS	**Korea Array**	**13.92**	**310**	Pn	**Pn**	**16 57 25.7**	**0.0**
	1.4nm,0.9s,baz=95,slow=14,SNR=2.9						
ASAJ	**Asahikawa**	**14.88**	**3**	Pn	**Pn**	**16 57 39.5**	**+0.6**
	0.3nm,0.3s,baz=275,slow=6.1,SNR=4.8						
	7.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**16.71**	**336**	Pn	**P**	**16 58 03.7**	**-1.3**
	0.1nm,0.3s,baz=205,slow=9.2,SNR=2.4						
	1.0nm,0.7s						
KLR	**Kul'dur**	**21.28**	**342**	P	**P**	**16 58 56.1**	**+1.1**
	1.1nm,0.5s,baz=168,slow=12,SNR=6.5						
	1.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**25.01**	**106**	T	T	17 25 19.1	
	baz=297,slow=75						
H11N1	**WAKE ISLAND Hy**	**25.02**	**107**	T	T	17 25 26.3	
	baz=297,slow=75						
H11N3	**WAKE ISLAND Hy**	**25.03**	**106**	T	T	17 25 32.4	
	baz=297,slow=75						
WRA	**Warramunga Arr**	**49.37**	**189**	P	**P**	**17 02 57.9**	**-0.4**
	1.0nm,0.6s,baz=9.0,slow=8.5,SNR=22						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**51.06**	**313**	P	**P**	**17 03 11.1**	**+0.3**
	0.1nm,0.5s,baz=99,slow=29,SNR=1.5						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**53.09**	**189**	P	**P**	**17 03 26.2**	**+0.1**
	0.3nm,0.5s,baz=0.1,slow=4.6,SNR=8.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**56.01**	**316**	P	**P**	**17 03 47.9**	**+0.7**
	0.5nm,0.6s,baz=83,slow=3.5,SNR=1.8						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**75.73**	**333**	P	**P**	**17 05 54.8**	**+0.8**
	1.5nm,1.0s,baz=82,slow=2.7,SNR=3.6						
	1.5nm,1.0s						
HFS	**Hagfors**	**81.19**	**336**	P	**P**	**17 06 25.1**	**+0.9**
	0.5nm,0.5s,baz=0.0,slow=4.9,SNR=1.5						
	0.5nm,0.5s						

*NDI **27** 17:13:46.4±3.5, 31°.01N×69°.76E, h10km, ML3.8, MW3.7*
*IDC **27** 17:13:46.9±1.0, 30°.94N×69°.96E, h0km, mb3.9/19,*
mbtmp3.9/21, ML2.6/2, MS3.5/5, Error ellipse:
s-maj=20.5km s-min=16.1km az=146.0
*MOS **27** 17:13:48.6±1.2, 31°.13N×70°.09E, h17km, mb4.2/8, Error*
ellipse: s-maj=12.0km s-min=5.1km az=86.3
*NEIC **27** 17:13:50±2.1, 30°.96N±0°.08×70°.1E±0°.1, h24km±5km,*
mb4.2/14, Error ellipse: s-maj=12.6km s-min=11.4km
az=94.0
ISC 27 17:13:49.2±0.4, 30°.87N±0°.04×70°.04E±0°.04, h23km, n106, σ2§01/123, mb4.0/27, MS3.5/4, 4C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.76**	**347**	Pn	**Pn**	**17 14 45.6**	**-0.3**
KBL	**Kabul**	**3.76**	**347**	P	**Pn**	**17 14 45.6**	**-0.3**
NIL	**Nilore**	**3.88**	**44**	Pn	**Pn**	**17 14 47.0**	**-0.5**
NIL	**Nilore**	**3.88**	**44**	P	**Pn**	**17 14 47.0**	**-0.5**
BKNR	**BIKANER**	**4.00**	**134**	*e*S	**Sb**	**17 15 41.9**	**-5.1**
JASL	**Jaisalmer**	**4.00**	**169**	*e*S	**Sn**	**17 15 39.0**	**+3.6**
JASL				IAML		17 16 09.8	
	comp=N,298nm,1.2s						
JASL				IAML		17 16 13.8	
	comp=E,278nm,0.8s						
JMU	**Jammu**	**4.53**	**65**	*e*S	**Sn**	**17 15 49.4**	**+1.2**
JMU				IAML		17 16 11.1	
	comp=N,263nm,0.6s						
JMU				IAML		17 16 11.6	
	comp=E,225nm,0.5s						
THN	**Thein Dam**	**5.08**	**71**	*e*P	**Pn**	**17 15 06.3**	**+2.3**
THN				*e*S	**Sn**	**17 16 04.5**	**+2.6**
THN				IAML		17 16 08.0	
	comp=E,192nm,0.4s						
THN				IAML		17 16 09.3	
	comp=N,137nm,0.5s						
BHK	**Bhakra**	**5.49**	**83**	*e*P	**Pn**	**17 15 11.3**	**+1.7**
BHK				*e*S	**Sn**	**17 16 11.0**	**-1.1**
BHK				IAML		17 16 14.5	
	comp=E,217nm,0.3s						
BHK				IAML		17 16 16.1	
	comp=N,191nm,0.2s						
DHRM	**DHARAMSHALA**	**5.51**	**74**	*e*P	**Pn**	**17 15 12.2**	**+2.0**
DHRM				*e*S	**Sn**	**17 16 14.9**	**+1.9**
DHRM				IAML		17 16 19.5	
	comp=E,263nm,0.7s						
DHRM				IAML		17 16 20.9	
	comp=N,238nm,0.7s						
SMLA	**Simla**	**6.12**	**86**	*e*P	**Pn**	**17 15 20.7**	**+2.5**
SMLA				*e*S	**Sn**	**17 16 29.2**	**+1.6**
SMLA				IAML		17 16 36.0	
	comp=E,185nm,0.4s						
SMLA				IAML		17 16 37.4	
	comp=N,145nm,0.4s						
KUDL	**Kundal**	**6.24**	**114**	*e*P	**Pn**	**17 15 21.4**	**+1.6**
KUDL				*e*S	**Sn**	**17 16 29.2**	**-1.3**
KUDL				IAML		17 16 31.4	
	comp=E,53nm,0.5s						
KUDL				IAML		17 16 32.0	
	comp=N,71nm,0.6s						
NPLP	**NPLP New Delhi**	**6.58**	**108**	*e*P	**Pn**	**17 15 26.4**	**+1.8**
NPLP				*e*S	**Sn**	**17 16 38.7**	**-0.2**
NPLP				IAML		17 16 41.3	
	comp=N,156nm,0.3s						
NPLP				IAML		17 16 42.3	
	comp=E,193nm,0.2s						
NDI	**New Delhi**	**6.60**	**107**	*e*P	**Pn**	**17 15 26.0**	**+1.1**
NDI				*e*S	**Sn**	**17 16 38.3**	**-1.2**
NDI				IAML		17 16 41.2	
	comp=N,110nm,0.4s						
NDI				IAML		17 16 56.7	
	comp=E,68nm,0.5s						
AYAN	**Aya Nagar**	**6.61**	**109**	*e*P	**Pn**	**17 15 27.2**	**+2.3**
AYAN				*e*S	**Sn**	**17 16 39.0**	**-0.5**
SONA	**Sohna**	**6.66**	**111**	*e*P	**Pn**	**17 15 25.9**	**+0.2**
SONA				*e*S	**Sn**	**17 16 39.1**	**-1.8**
SONA				IAML		17 16 43.3	
	comp=E,297nm,0.5s						
SONA				IAML		17 16 43.4	
	comp=N,123nm,0.5s						
DDI	**Dehra Dun**	**6.93**	**92**	*e*P	**Pn**	**17 15 31.8**	**+2.4**
DDI				*e*S	**Sn**	**17 16 48.2**	**+0.7**
KLP	**Kalpa**	**7.06**	**83**	*e*P	**Pn**	**17 15 32.6**	**+1.1**
KLP				*e*S	**Sn**	**17 16 51.4**	**+0.2**
KLP				IAML		17 16 56.1	
	comp=N,98nm,0.9s						
KLP				IAML		17 16 56.5	
	comp=E,146nm,0.7s						
UGON	**Onchagaon**	**7.31**	**108**	*e*S	**Sn**	**17 17 00.2**	**+3.4**
CHGR	**Chuyangaron**	**7.80**	**355**		**Pn**	**17 15 40.8**	**-0.6**
CHGR	**Chuyangaron**	**7.80**	**355**	P	**Pn**	**17 15 40.8**	**-0.6**
SIMJ	**Simiganj**	**7.82**	**354**		**Pn**	**17 15 41.4**	**-0.3**
GAR	**Garm**	**8.12**	**2**		**Pn**	**17 15 45.9**	**+0.2**
JOSI	**Joshimath**	**8.20**	**90**	*e*P	**Pn**	**17 15 48.8**	**+1.8**
JOSI				*e*S	**Sn**	**17 17 18.1**	**-0.9**
JOSI				IAML		17 17 24.6	
	comp=N,85nm,0.6s						
JOSI				IAML		17 17 26.1	
	comp=E,77nm,0.4s						
DRK	**Karamyk**	**8.71**	**9**		**Pn**	**17 15 52.7**	**-1.4**
DRK	**Karamyk**	**8.71**	**9**	P	**Pn**	**17 15 52.7**	**-1.4**
PTH	**Pithoragarh**	**8.90**	**96**	*e*P	**Pn**	**17 15 56.6**	**0.0**
PTH				*e*S	**Sn**	**17 17 31.7**	**-4.5**
PTH				IAML		17 17 37.7	
	comp=E,17nm,0.5s						
PTH				IAML		17 17 39.8	
	comp=N,19nm,0.3s						
LGTI	**Lohaghat**	**8.95**	**97**	*e*P	**Pn**	**17 15 55.0**	**-2.0**
LGTI				*e*S	**Sn**	**17 17 32.9**	**-4.2**
LGTI				IAML		17 17 34.4	
	comp=E,30nm,0.3s						
LGTI				IAML		17 17 35.3	
	comp=N,20nm,0.4s						
BTK	**Batken**	**9.19**	**4**	Pn	**Pn**	**17 15 58.6**	**-1.9**
BTK	**Batken**	**9.19**	**4**	P	**Pn**	**17 15 58.6**	**-1.9**
JHNI	**Jhansi**	**9.23**	**124**	*e*P	**Pn**	**17 16 03.2**	**+2.3**
JHNI				*e*S	**Sn**	**17 17 44.7**	**+0.7**
JHNI				IAML		17 17 46.9	
	comp=N,19nm,0.3s						
KSH	**Kashi**	**9.90**	**28**	P	**Pn**	**17 16 05.8**	**-4.3**
KSH				pmax	pmax		
	comp=Z,17nm,0.7s						
BHPL	**Bhopal**	**10.05**	**137**	*e*P	**Pn**	**17 16 13.4**	**+1.3**
BHPL				IAmb	IAmb	17 16 26.1	
	comp=Z,18nm,0.6s						
BHPL				*e*S	**Sn**	**17 18 03.4**	**-0.9**
ARSB	**Arslanbob**	**10.70**	**12**		**Pn**	**17 16 19.3**	**-1.9**
ARSB	**Arslanbob**	**10.70**	**12**	P	**Pn**	**17 16 19.3**	**-1.9**
ALBI	**Allahabad**	**11.77**	**115**	*e*S	**Sn**	**17 18 40.8**	**-5.5**
KK31	**

comp=Z,1.3nm,0.4s,baz=123,slow=8.1,SNR=5.9
comp=Z,1.3nm,0.4s
BVAR Borovoye Array 22.14 1 P P 17 18 43.3 +0.1
comp=Z,3.2nm,0.7s,baz=162,slow=5.8,SNR=12
comp=Z,3.2nm,0.7s
BRVK Borovoye 22.17 0 *de*P **P 17 18 43.1 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
GNI Garni 22.52 301 P **P 17 18 47.6 +0.1**
GNI IAmb IAmb 17 18 54.0
comp=Z,11nm,0.9s
GNI Garni 22.52 301 P **P 17 18 47.3 -0.2**
comp=Z,2.1nm,0.5s,baz=338,slow=9.8,SNR=6.4
GNI LR LR 17 29 39.2
comp=Z,66nm,19.4s,baz=75,slow=42
comp=Z,2.1nm,0.5s
ZALV Zalesovo Beam 25.41 21 P **P 17 19 15.0 +0.2**
comp=Z,1.3nm,0.5s,baz=215,slow=9.5,SNR=5.5
comp=Z,1.3nm,0.5s
ZALV Zalesovo Beam 25.41 21 *i* P **P 17 19 16.7 +1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
GTA Gaotai 25.70 62 *e*P **P 17 19 21.0 +3.2**
GTA sP sP 17 19 32.3 +4.2
GTA pmax pmax
comp=Z,3.0nm,1.1s
ARTI Arti 26.79 346 P **P 17 19 27.7 +0.4**
comp=Z,2.3nm,0.8s,baz=205,slow=7.5,SNR=3.7
comp=Z,2.3nm,0.8s
ARTI Arti 26.79 346 P **P 17 19 29.0 +1.7**
ARTI 17 20 06.3
ARTI S **S 17 24 01.8 -0.1**
ARTI SS **SnSn 17 25 07.0 +0.3**
CMAR Chiang Mai Arr 28.93 109 P **P 17 19 49.7 +2.9**
comp=Z,0.2nm,0.3s,baz=293,slow=10,SNR=4.2
comp=Z,0.2nm,0.3s
ANN Anapa 29.05 308 *e*P **P 17 19 45.6 -2.0**
ANN *e**PP **sP 17 19 56.7 -1.2**
ANN *e*S **S 17 24 32.4 -5.3**
ANN pmax pmax
comp=Z,40nm,0.9s
BRTR Keskin Array B 30.83 297 P **P 17 20 05.4 +1.8**
comp=Z,1.1nm,0.8s,baz=307,slow=37,SNR=2.5
comp=Z,1.1nm,0.8s
SONM Songino Array 32.45 48 P **P 17 20 20.0 +2.2**
comp=Z,1.3nm,0.8s,baz=252,slow=9.1,SNR=6.7
SONM LR LR 17 35 57.9
comp=Z,112nm,18.5s,baz=234,slow=41
comp=Z,1.3nm,0.8s
SONM Songino Array 32.45 48 P **P 17 20 20.0 +2.2**
OBN Obninsk 33.91 325 ⇑ *e*P **P 17 20 31.7 +1.6**
OBN pmax pmax
comp=Z,31nm,2.0s
HHC Hu-ho-hao-te 34.81 62 *e*P **P 17 20 35.5 -2.9**
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,150nm,5.1s
AKASG Malin Array Be 36.12 315 P **P 17 20 49.4 +0.1**
comp=Z,2.0nm,0.8s,baz=104,slow=7.1,SNR=9.0
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 36.12 315 P **P 17 20 50.0 +0.7**
AKBB IAmb IAmb 17 20 51.8
comp=Z,4.0nm,1.0s
AKBB Malin Array Si 36.12 315 ⇑ *e*P **P 17 20 50.0 +0.7**
AKBB pmax pmax
comp=Z,10.0nm,2.0s
KIEV Kiev 36.12 315 P **P 17 20 50.0 +0.7**
KIEV IAmb IAmb 17 20 51.8
comp=Z,3.6nm,1.0s
KIEV Kiev 36.12 315 P **P 17 20 50.0 +0.7**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
MLR Muntele Rosu 37.13 306 P **P 17 20 59.4 +1.2**
comp=Z,3.4nm,0.9s,baz=125,slow=9.4,SNR=4.4
comp=Z,3.4nm,0.9s
NRIK Noril'sk 39.80 10 P **P 17 21 21.0 +0.9**
comp=Z,0.8nm,0.4s,baz=227,slow=6.9,SNR=4.9
comp=Z,0.8nm,0.4s
NRIK Noril'sk 39.80 10 ⇓ *e*P **P 17 21 22.0 +1.9**
NRIK pmax pmax
comp=Z,6.0nm,2.4s
FINES FINESS Array B 41.83 330 P **P 17 21 37.6 +0.7**
FINES FINESS Array B 41.83 330 P **P 17 21 36.9 -0.1**
comp=Z,1.1nm,0.7s,baz=117,slow=6.6,SNR=4.5
comp=Z,1.1nm,0.7s
GERES GERESS Array B 45.73 310 P **P 17 22 08.1 -0.5**
comp=Z,0.8nm,0.8s,baz=79,slow=6.9,SNR=5.0
comp=Z,0.8nm,0.8s
GERES GERESS Array B 45.73 310 *e*P **P 17 22 10.7 +2.1**
GERES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 46.09 340 P **P 17 22 12.8 +1.7**
comp=Z,3.2nm,0.8s,baz=111,slow=6.6,SNR=7.2
comp=Z,3.2nm,0.8s
ARCES ARCESS Array B 46.09 340 *e*P **P 17 22 14.1 +3.0**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 47.12 325 P **P 17 22 20.2 +1.0**
comp=Z,1.7nm,0.6s,baz=126,slow=9.3,SNR=7.0
comp=Z,1.7nm,0.6s
NC405 NORSAR Array S 48.28 326 P **P 17 22 28.4 +0.2**
NOA NORSAR Array B 48.50 326 LR LR 17 47 24.0
comp=Z,31nm,18.1s,baz=305,slow=42
SENIN Lac Senin/Sane 50.13 307 P **P 17 22 43.4 +0.5**
TIXI Tiksi 51.30 20 ⇓ *e*P **P 17 22 51.1 +0.1**
TIXI pmax pmax
comp=Z,11nm,3.0s
MA2 Magadan 59.34 36 ⇓ *e*P **P 17 23 50.4 +1.3**
MA2 pmax pmax
comp=Z,26nm,3.3s
TORD Torodi Ar. Bea 64.89 271 P **P 17 24 27.8 +0.7**
TORD Torodi Ar. Bea 64.89 271 P **P 17 24 26.8 -0.2**
comp=Z,0.7nm,0.5s,baz=48,slow=6.5,SNR=5.6
comp=Z,0.7nm,0.5s
LBTB Lobatse 69.99 223 LR LR 17 58 34.3
comp=Z,115nm,18.2s,baz=202,slow=38
BOSA Boshof 72.94 220 P **P 17 25 18.0 +1.1**
comp=Z,3.1nm,1.0s,baz=31,slow=5.9,SNR=2.3
comp=Z,3.1nm,1.0s
C23K Itkillik River 75.36 14 P **P 17 25 30.4 0.0**
C23K IAmb IAmb 17 25 33.3
comp=Z,5.6nm,1.4s
YKA Yellowknife Ar 86.89 2 P **P 17 26 32.1 +0.3**
comp=Z,0.8nm,0.9s,baz=350,slow=5.0,SNR=9.8
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 86.89 2 *e*P **P 17 26 31.4 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.9s

NEIC ***27*** *17:17:08.4±0.9, 17°.99S±0°.09×173°.18W±0°.08, h10km±1km, mb4.4/19, Error ellipse: s-maj=17.5km s-min=10.3km az=30.0*
IDC ***27*** *17:17:20.4±4.1, 18°.02S×173°.66W, h94km±36km, mb3.7/12, mbtmp4.1/13, MS3.7/2, Error ellipse: s-maj=25.4km s-min=18.8km az=129.0*
NOU ***27*** *17:17:44.2, 20°.32S×175°.71W, h17km, mb4.7/8, Tonga Islands*

ISC 27 17:17:11.3±0.5, 18°.1S±0°.1×173°.19W±0°.07, h26km, n65, σ1§99/60, mb4.2/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.24**	**108**	Pn	**Pn**		**17 17 59.4**	**-1.1**
NIUE				Sn	**Sn**		**17 18 35.4**	**-2.8**
FUTU	**Fugatoga**	**6.07**	**308**	P	Pb		17 19 17.8	+21
MSVF	**Nonsavu**	**8.35**	**271**		**Pn**		**17 19 09.1**	**-1.8**
MSVF	**Nonsavu**	**8.35**	**271**	P	**Pn**		**17 19 14.5**	**+3.6**
23nm,0.8s,baz=100,slow=12,SNR=13								
MSVF				LR	LR		17 22 06.3	
comp=Z,274nm,18.7s,baz=102,slow=36								
MSVF	**Nonsavu**	**8.35**	**271**	P	Pn		17 19 18.1	+7.2
URZ	**Urewera**	**21.79**	**201**	P	**P**		**17 22 03.6**	**+2.3**
12nm,0.4s,baz=116,slow=3.8,SNR=21								
12nm,0.4s								
URZ	**Urewera**	**21.79**	**201**	P	**P**		**17 22 04.8**	**+3.5**
TOZ	**Tahuroa Road**	**21.92**	**205**	P	**P**		**17 22 02.7**	**0.0**
RTZ	**Ruatahuna**	**22.16**	**201**	P	**P**		**17 22 06.5**	**+1.2**
BKZ	**Black Stump Fm**	**22.82**	**201**	P	**P**		**17 22 12.3**	**0.0**
BKZ	**Black Stump Fm**	**22.82**	**201**	P	**P**		**17 22 15.1**	**+2.8**
BFZ	**Birch Farm**	**24.27**	**200**	P	**P**		**17 22 23.6**	**-2.8**
BFZ	**Birch Farm**	**24.27**	**200**	P	**P**		**17 22 31.2**	**+4.8**
MRZ	**Mangatainoka R**	**24.47**	**201**	P	**P**		**17 22 27.8**	**-0.4**
TUWZ	**Tuamarina**	**25.73**	**203**	P	**P**		**17 22 38.3**	**-1.2**
QRZ	**Quartz Range**	**25.76**	**206**	P	**P**		**17 22 45.8**	**+5.9**
MRNZ	**Matariki Terra**	**26.15**	**204**	P	**P**		**17 22 43.3**	**-0.2**
KHZ	**Kahutara**	**26.73**	**202**	P	P		17 22 56.4	+7.7
RPZ	**Rata Peaks**	**28.78**	**204**	P	P		17 23 14.6	+7.6
BBOO	**Buckleboo**	**47.68**	**242**	P	**P**		**17 25 44.4**	**-1.5**
WR0	**Warramunga Arr**	**49.29**	**259**	P	**P**		**17 25 57.1**	**-1.3**
WR8	**Warramunga Arr**	**49.33**	**259**	P	**P**		**17 25 57.1**	**-1.6**
WB0	**Warramunga Arr**	**49.45**	**259**	P	**P**		**17 25 57.5**	**-2.2**
WB2	**Warramunga Arr**	**49.47**	**259**	P	**P**		**17 25 56.0**	**-3.8**
WRA	**Warramunga Arr**	**49.48**	**259**	P	**P**		**17 25 57.4**	**-2.5**
WRA	**Warramunga Arr**	**49.48**	**259**	P	**P**		**17 25 57.8**	**-2.1**
1.2nm,0.5s,baz=97,slow=7.2,SNR=28								
1.2nm,0.5s								
AS31	**Alice Springs**	**49.52**	**254**	P	**P**		**17 25 58.7**	**-1.5**
AS31				IAmb	IAmb		17 26 06.1	
comp=Z,2.2nm,0.6s								
ASAR	**Alice Springs**	**49.52**	**254**	P	**P**		**17 25 57.5**	**-2.7**
ASAR	**Alice Springs**	**49.52**	**254**	P	**P**		**17 25 58.1**	**-2.0**
comp=Z,2.7nm,0.6s,baz=101,slow=6.7,SNR=33								
comp=Z,2.7nm,0.6s								
MTN	**Manton Dam**	**53.76**	**267**	P	**P**		**17 26 31.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**57.89**	**260**	P	**P**		**17 26 59.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**57.89**	**260**	P	**P**		**17 26 59.6**	**-1.9**
comp=Z,3.3nm,1.0s,baz=37,slow=20,SNR=2.0								
comp=Z,3.3nm,1.0s								
GIRL	**Giralia**	**67.58**	**252**	P	**P**		**17 28 05.6**	**-0.5**
QSPA	**South Pole Qui**	**71.95**	**180**	P	**P**		**17 28 33.7**	**+1.3**
QSPA	**South Pole Qui**	**71.95**	**180**	P	**P**		**17 28 34.6**	**+2.2**
comp=Z,4.3nm,0.9s,baz=78,slow=2.2,SNR=10								
comp=Z,4.3nm,0.9s								
LVA	**Lava Point**	**72.24**	**4**	P	**P**		**17 28 32.6**	**-1.4**
PETK	**Petropavlovsk-**	**75.26**	**342**	P	**P**		**17 28 50.8**	**-0.9**
comp=Z,2.5nm,1.1s,baz=113,slow=8.5,SNR=1.4								
comp=Z,2.5nm,1.1s								
NVAR	**Mina Array Bea**	**76.21**	**41**	P	**P**		**17 29 00.4**	**+2.6**
comp=Z,1.1nm,0.7s,baz=237,slow=8.1,SNR=5.8								
comp=Z,1.1nm,0.7s								
TXAR	**Lajitas Array**	**81.95**	**56**	P	**P**		**17 29 31.8**	**+2.5**
comp=Z,0.5nm,0.9s,baz=237,slow=6.9,SNR=3.9								
comp=Z,0.5nm,0.9s								
PDAR	**Pinedale Array**	**84.14**	**42**	P	**P**		**17 29 42.2**	**+1.7**
comp=Z,1.1nm,0.7s,baz=217,slow=2.4,SNR=5.5								
comp=Z,1.1nm,0.7s								
CCB	**Clear Creek Bu**	**84.78**	**11**	P	**P**		**17 29 42.9**	**+0.1**
CCB				IAmb	IAmb		17 30 02.1	
comp=Z,3.3nm,1.0s								
ILAR	**Eielson Array**	**85.05**	**11**	P	**P**		**17 29 44.5**	**+0.2**
comp=Z,0.6nm,0.7s,baz=230,slow=6.0,SNR=14								
comp=Z,0.6nm,0.7s								
J26L	**Joseph Creek**	**85.45**	**12**	P	**P**		**17 29 46.3**	**-0.1**
L29M	**L29M**	**85.48**	**15**	P	**P**		**17 29 45.7**	**-0.8**
JTS	**Las Juntas de**	**91.49**	**80**	LR	LR		18 04 28.8	
comp=Z,73nm,20.4s,baz=48,slow=31								
TEIG	**Tepich**	**91.54**	**69**	P	**P**		**17 30 18.0**	**+1.7**
comp=Z,0.4nm,0.8s,baz=295,slow=23,SNR=3.7								
comp=Z,0.4nm,0.8s								
YKA	**Yellowknife Ar**	**92.49**	**23**	P	**P**		**17 30 20.4**	**+0.8**
comp=Z,0.1nm,0.5s,baz=250,slow=7.1,SNR=2.1								
comp=Z,0.1nm,0.5s								
BVAR	**Borovoye Array**	**120.13**	**321**	PKP	**PKiKP**		**17 35 59.9**	**+0.1**
comp=Z,1.4nm,0.6s,baz=80,slow=1.4,SNR=10.0								
ARCES	**ARCESS Array B**	**127.31**	**352**	PKP	**PKPdf**		**17 36 12.3**	**-0.7**
comp=Z,2.7nm,0.8s,baz=1.8,slow=5.6,SNR=5.5								
FINES	**FINESS Array B**	**134.62**	**347**	PKP	**PKiKP**		**17 36 27.0**	**-1.4**
comp=Z,0.3nm,0.3s,baz=29,slow=3.2,SNR=2.4								
CLL	**Collm**	**146.52**	**353**	*i* PKPbc	**PKiKP**		**17 36 51.6**	**-1.5**
comp=Z,15nm,1.0s								
CLL				*i* x	x		17 37 03.9	
BRG	**Berggiesshubel**	**146.82**	**352**	*e*P	**PKiKP**		**17 36 52.9**	**-0.8**
BRG				Amp			17 36 53.8	
comp=Z,4.9nm,0.9s								
BRG	**Berggiesshubel**	**146.82**	**352**	P	PKiKP		17 37 06.2	+12
BRG				Amp			17 37 07.7	
comp=Z,4.1nm,1.0s								
DPC	**Dobruska-Polom**	**146.95**	**349**	*e*PKP	**PKiKP**		**17 36 53.6**	**-0.5**
VRAC	**Vranov**	**147.89**	**348**	PKPbc	**PKiKP**		**17 36 54.9**	**-1.1**
comp=Z,1.9nm,0.4s,baz=64,slow=1.8,SNR=3.2								
BRTR	**Keskin Array B**	**148.35**	**318**	PKPbc	**PKPbc**		**17 36 55.5**	**-0.3**
comp=Z,1.7nm,0.7s,baz=116,slow=3.4,SNR=5.6								
KHC	**Kasperske Hory**	**148.58**	**351**	*e*PKP	**PKPab**		**17 36 57.9**	**-1.5**
GERES	**GERESS Array B**	**148.84**	**351**	PKPbc	**PKiKP**		**17 36 57.1**	**-1.0**
comp=Z,1.6nm,0.7s,baz=27,slow=3.6,SNR=13								
LESA	**Schwarzleotal**	**150.37**	**352**	*e*PKP	**PKiKP**		**17 37 01.3**	**-0.1**
comp=Z,4.5nm,1.1s								
MOTA	**Moosalm**	**150.63**	**354**	*e*PKP	**PKiKP**		**17 37 02.9**	**+1.0**
comp=Z,7.2nm,1.2s								
WTTA	**Wattenberg**	**150.66**	**353**	*e*PKP	**PKiKP**		**17 37 03.2**	**+1.2**
comp=Z,7.5nm,0.8s								
SQTA	**Sankt Quirin**	**150.75**	**354**	*e*PKP	**PKiKP**		**17 37 03.5**	**+1.4**
comp=Z,3.6nm,0.7s								
DAVA	**Damuels**	**150.79**	**356**	*e*PKP	**PKiKP**		**17 37 03.9**	**+1.6**
comp=Z,9.0nm,1.1s								
FETA	**Feichten**	**150.99**	**354**	*e*PKP	**PKiKP**		**17 37 04.0**	**+1.3**
comp=Z,5.7nm,0.9s								
DAVOX	**Davos/Dischmat**	**151.30**	**356**	PKPbc	**PKiKP**		**17 37 04.0**	**+0.6**
comp=Z,3.2nm,0.7s,baz=323,slow=6.5,SNR=5.4								

IDC 27 17:33:10.6±3.3, 47°.58N×92°.38W, h0km, mbtmp2.9/3, ML1.8/2, Error ellipse: s-maj=40.3km s-min=18.6km az=75.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.52**	**320**	Pn	Pn		17 34 06.0	-0.6
0.2nm,0.3s,baz=146,slow=11,SNR=1.6								
ULM				Pg	Pb		17 34 14.2	+0.4
0.4nm,0.3s,baz=142,slow=14,SNR=7.2								
ULM				Sn	Sn		17 34 46.5	-2.5
0.5nm,0.3s,baz=158,slow=13,SNR=3.2								
ULM				Lg	Lg		17 34 58.2	
2.8nm,0.3s,baz=55,slow=18,SNR=15								
0.6nm,0.4s								
I10CA	**LAC DU BONNET**	**3.56**	**319**	I	I		17 57 40.0	
0.1nm,0.9s,baz=132,slow=326,SNR=2.7								
PDAR	**Pinedale Array**	**13.04**	**255**	Pn	Pn		17 36 13.9	-3.2
0.2nm,0.6s,baz=66,slow=10,SNR=1.9								
YKA	**Yellowknife Ar**	**19.47**	**328**	P	P		17 37 36.7	-1.9
baz=130,slow=12,SNR=5.3								
0.5nm,1.0s								

IDC 27 17:34:09.5±285.0, 54°.38N×42°.95E, h0km, Error ellipse: s-maj=120.8km s-min=77.3km az=135.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.01**	**308**	I	I		18 01 00.0	
0.2nm,0.8s,baz=126,slow=335,SNR=3.1								
I31KZ	**AKTYUBINSK INF**	**10.04**	**107**	I	I		18 40 00.0	
0.1nm,0.5s,baz=302,slow=336,SNR=2.7								
I46RU	**ZALESOVO INFRA**	**24.26**	**74**	I	I		19 57 40.0	
baz=293,slow=322,SNR=1.7								

NEIC ***27*** *18:00:54.7±1.8, 40°.59N±0°.02×109°.47W±0°.02, h0km±1km, ML3.1/124, Error ellipse: s-maj=3.4km s-min=2.9km az=129.0*
IDC ***27*** *18:01:08.6±1.8, 41°.68N×109°.87W, h0km, mb2.7/2, mbtmp2.9/5, ML2.8/3, Error ellipse: s-maj=27.2km s-min=6.8km az=122.0*

ISC 27 18:00:56.5±0.8, 40°.58N±0°.03×109°.48W±0°.04, h0km, n54, σ1§41/34, Utah

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RDMU	**Red Mountain**	**0.07**	**264**	Pg	**Pg**		**18 00 57.9**	**+0.1**
BSUT	**Blindstream Ca**	**0.98**	**268**	Pg	**Pg**		**18 01 15.0**	**-0.2**
O20A	**White River Ci**	**1.04**	**115**	Pg	**Pb**		**18 01 16.0**	**-1.4**
O20A				IAML			18 01 44.9	
510nm,0.5s								
O20A				IAML			18 01 53.0	
494nm,0.8s								
P18A	**Preston Nutter**	**1.12**	**212**		**Pg**		**18 01 17.6**	**-0.3**
P18A				IAML			18 01 55.8	
comp=N,261nm,0.6s								
TCUT	**Toone Canyon**	**1.56**	**291**		**Pn**		**18 01 24.6**	**-1.2**
SRU	**San Rafael Swe**	**1.67**	**209**		**Pn**		**18 01 26.5**	**-0.7**
SRU				IAML			18 02 10.6	
comp=N,284nm,0.7s								
MPU	**Maple Canyon**	**1.74**	**252**		**Pn**		**18 01 27.3**	**-0.9**
MPU				IAML			18 02 07.1	
comp=N,115nm,0.6s								
TMUT	**Trail Mountain**	**1.85**	**227**	Pn	**Pn**		**18 01 29.8**	**+0.1**
TMUT				IAML			18 02 02.6	
comp=E,255nm,0.8s								
TMUT				IAML			18 02 09.9	
comp=N,238nm,0.7s								
HWUT	**Hardware Ranch**	**1.89**	**304**	Pn	**Pn**		**18 01 29.4**	**-0.7**
HWUT				IAML			18 02 05.8	
comp=N,117nm,0.4s								
HWUT				IAML			18 02 11.2	
comp=N,140nm,0.6s								
PV21	**Cone Mtn., Par**	**2.05**	**169**	Pn	**Pn**		**18 01 31.7**	**-0.7**
PV22	**Blue Mesa, Par**	**2.11**	**165**	Pn	**Pn**		**18 01 32.9**	**-0.3**
Q16A	**Castle Valley**	**2.11**	**219**	Pn	**Pn**		**18 01 33.4**	**+0.1**
Q16A				IAML			18 02 14.3	
comp=N,164nm,0.4s								
Q16A				IAML			18 02 14.8	
comp=E,203nm,0.4s								
PV23	**Carpenter Ridg**	**2.15**	**170**		**Pb**		**18 01 35.5**	**-1.0**
PD31	**Pinedale Array**	**2.19**	**358**		**Pn**		**18 01 33.0**	**-1.4**
PDAR	**Pinedale Array**	**2.19**	**358**		**Pn**		**18 01 32.9**	**-1.4**
PDAR	**Pinedale Array**	**2.19**	**358**	Pg	**Pn**		**18 01 32.8**	**-1.6**
comp=E,2.9nm,0.3s,baz=168,slow=13,SNR=45								
PDAR				Lg	Lg		18 01 43.2	
comp=E,37nm,0.3s,baz=168,slow=15,SNR=17								
PV10	**Paradox Valley**	**2.23**	**171**	Pn	**Pn**		**18 01 34.8**	**0.0**
PV14	**Lion Creek, Pa**	**2.23**	**171**	Pn	**Pn**		**18 01 35.6**	**+0.7**
PV07	**Paradox Valley**	**2.23**	**163**	Pn	**Pn**		**18 01 33.7**	**-1.1**
PV07				IAML			18 02 16.2	
comp=E,159nm,0.4s								
PV11	**David Mesa, Pa**	**2.32**	**168**		**Pn**		**18 01 34.9**	**-1.3**
PV15	**Paradox Valley**	**2.36**	**161**	Pn	**Pn**		**18 01 35.7**	**-1.0**
DUG	**Dugway, Tooele**	**2.58**	**263**	Pg	**Pb**		**18 01 43.5**	**-0.1**
BGU	**Big Grassy Mou**	**2.72**	**278**		**Pn**		**18 01 40.7**	**-0.9**
HVU	**Hansel Valley**	**2.77**	**297**	Pn	**Pn**		**18 01 41.2**	**-1.0**
HVU				IAML			18 02 38.0	
comp=E,101nm,0.8s								
HVU				IAML			18 02 40.7	
comp=N,94nm,0.5s								
MSU	**Marysvale**	**2.94**	**226**		**Pb**		**18 01 49.3**	**-0.5**
MVU	**Marysvale**	**2.96**	**226**		**Pb**		**18 01 49.8**	**-0.5**
ISCO	**Idaho Springs**	**3.06**	**103**	IAML			18 02 45.8	
comp=N,33nm,0.7s								
ISCO				IAML			18 02 48.5	
comp=N,39nm,0.4s								
TPAW	**Teton Pass**	**3.11**	**340**	IAML			18 02 44.3	
comp=N,79nm,0.8s								
LOHW	**Long Hollow**	**3.15**	**345**	IAML			18 02 52.1	
comp=N,55nm,0.7s								
FXWY	**Fox Creek**	**3.27**	**340**	IAML			18 02 52.6	
comp=N,27nm,0.9s								
MTPU	**Mount Pierson**	**3.29**	**221**	IAML			18 02 52.7	
comp=E,32nm,0.7s								
MOOW	**Moose Ponds**	**3.31**	**344**	IAML			18 02 10.2	
comp=E,26nm,0.6s								
Q24A	**Divide**	**3.70**	**114**	IAML			18 02 19.8	
comp=E,32nm,0.4s								
Q24A				IAML			18 03 08.5	
comp=N,32nm,0.3s								
H17A	**Grant Village**	**3.90**	**348**	IAML			18 03 10.2	
comp=N,32nm,0.4s								
H17A				IAML			18 03 13.4	
comp=E,18nm,1.0s								
LKWY	**Lake**	**4.04**	**351**	IAML			18 02 32.3	
comp=E,26nm,0.5s								
YMP	**Mirror Lake Pl**	**4.19**	**353**	IAML			18 03 22.7	
comp=N,23nm,0.7s								
YMP				IAML			18 03 31.2	
comp=E,20nm,0.7s								
YMR	**Madison River**	**4.23**	**345**	IAML			18 03 25.0	
comp=N,35nm,0.9s								
YMR				IAML			18 03 26.0	
comp=E,22nm,1.1s								
YHB	**Horse Butte**	**4.36**	**344**	IAML			18 03 29.5	
comp=N,13nm,0.4s								
ELK	**Elko**	**4.39**	**274**	Pn	**Pb**		**18 02 15.5**	**+1.0**
comp=N,0.3nm,0.3s,baz=84,slow=14,SNR=5.7								
ELK				Sn	**Sb**		**18 03 03.0**	**-5.1**
comp=N,0.3nm,0.3s,baz=239,slow=21,SNR=1.8								
comp=N,0.7nm,0.3s								
KNB	**Kanab**	**4.41**	**217**	IAML			18 03 43.6	
comp=E,16nm,0.7s								
KNB				IAML			18 03 52.9	
comp=N,14nm,1.3s								
YNE	**Yellowstone No**	**4.44**	**355**	IAML			18 02 40.5	
comp=N,14nm,0.6s								
YNE				IAML			18 03 22.9	
comp=E,15nm,0.6s								
YHL	**Hebgen Lake**	**4.45**	**344**	IAML			18 02 36.5	
comp=E,12nm,0.7s								
RLMT	**Red Lodge**	**4.54**	**2**	IAML			18 03 33.8	
comp=E,12nm,0.7s								
RLMT				IAML			18 03 37.6	
comp=E,13nm,0.5s								
LCMT	**Little Creek M**	**4.62**	**221**	IAML			18 03 35.4	
comp=E,8.8nm,0.8s								
LCMT				IAML			18 03 49.1	
comp=N,11nm,0.8s								
HLID	**Hailey**	**4.73**	**311**	IAML			18 03 39.1	
comp=N,9.5nm,0.7s								
MCMT	**McKenzie Canyo**	**4.92**	**331**		**Pb**		**18 02 25.3**	**+1.6**
GCMT	**Greycliff**	**5.21**	**359**		**Pb**		**18 02 27.9**	**-0.6**
T25A	**Trinidad**	**5.24**	**129**	IAML			18 03 54.5	
comp=E,11nm,2.0s								
T25A				IAML			18 04 00.2	
comp=N,8.4nm,1.9s								
BOZ	**Bozeman (W)**	**5.26**	**343**	IAML			18 04 06.2	
comp=N,6.8nm,4.2s								
BOZ				IAML			18 04 44.0	
comp=N,5.8nm,4.6s								
PRN	**Pahroc Range**	**5.38**	**236**		Pb		18 02 26.1	-5.2
PRN				IAML			18 03 13.6	
comp=N,8.6nm,2.9s								
PRN				IAML			18 04 04.1	
comp=E,12nm,2.0s								
ANMO	**Albuquerque**	**6.11**	**156**	Pn	**Pg**		**18 02 54.0**	**+0.5**
comp=E,0.2nm,0.3s,baz=172,slow=15,SNR=1.3								
ANMO				Sn	**Sg**		**18 04 14.5**	**+1.8**
comp=E,0.4nm,0.3s,baz=95,slow=20,SNR=4.4								
comp=E,1.2nm,0.5s								
NVAR	**Mina Array Bea**	**7.16**	**255**	Pn	Pb		18 02 56.3	-5.4
comp=E,0.3nm,0.3s,baz=55,slow=13,SNR=3.8								
comp=E,0.9nm,0.5s								
YKA	**Yellowknife Ar**	**22.16**	**354**	P	**P**		**18 05 54.9**	**+1.2**
comp=E,0.1nm,0.6s,baz=172,slow=9.6,SNR=7.5								
comp=E,0.1nm,0.6s								
ILAR	**Eielson Array**	**32.36**	**331**	P	**P**		**18 07 29.8**	**+2.5**
comp=E,0.2nm,0.7s,baz=144,slow=6.5,SNR=5.5								
comp=E,0.2nm,0.7s								

IDC ***27*** *18:04:27.2±1.0, 43°.49N×105°.25W, h0km, mb3.7/4, mbtmp3.5/10, ML3.1/5, MS2.4/2, Error ellip

GCMT	Greycliff	3.68	304		Pn	18 05 28.2 +1.2
LKWY	Lake	3.74	283		Pn	18 05 28.8 +0.9
LKWY				IAML		18 05 55.4
	comp=E,80nm,0.6s					
OGNE	Ogallala	3.75	139		Pn	18 05 28.5 +0.5
LOHW	Long Hollow	3.84	269	Pn	Pn	18 05 31.0 +1.7
MOOW	Moose Ponds	3.93	271		Pn	18 05 32.3 +1.8
ISCO	Idaho Springs	4.01	183		Pn	18 05 33.1 +1.4
TPAW	Teton Pass	4.10	267	IAML		18 06 55.4
	comp=E,66nm,0.8s					
O20A	White River Ci	4.27	212	IAML		18 06 47.8
	comp=E,58nm,0.8s					
O20A				IAML		18 07 00.4
	comp=E,68nm,2.5s					
YHB	Horse Butte	4.33	285	IAML		18 07 11.3
	comp=E,30nm,0.9s					
YHL	Hebgen Lake	4.34	286	IAML		18 06 54.1
	comp=N,47nm,0.9s					
YHL				IAML		18 06 57.1
	comp=E,39nm,1.1s					
AHID	Auburn Hatcher	4.35	258	IAML		18 06 53.8
	comp=E,58nm,0.7s					
AHID				IAML		18 07 03.9
	comp=E,49nm,1.0s					
RDMU	Red Mountain	4.52	226	IAML		18 06 57.6
	comp=E,38nm,1.4s					
RDMU				IAML		18 07 03.5
	comp=N,38nm,1.1s					
Q24A	Divide	4.84	178	IAML		18 07 05.3
	comp=E,35nm,0.9s					
BOZ	Bozeman (W)	4.84	294	IAML		18 07 07.5
	comp=E,32nm,0.9s					
HWUT	Hardware Ranch	5.10	247	IAML		18 07 24.2
	comp=E,37nm,1.0s					
KSCO	Kaye Shedlock'	5.20	156	IAML		18 07 24.5
	comp=E,22nm,0.7s					
BSUT	Blindstream Ca	5.20	233	IAML		18 07 24.4
	comp=N,18nm,1.6s					
BSUT				IAML		18 07 27.5
	comp=E,20nm,1.7s					
ELK	Elko	7.97	251	Pn	Pn	18 06 25.7 -0.3
	comp=E,0.4nm,0.3s,baz=77,slow=10,SNR=6.0					
ELK				Lg	Lg	18 08 36.0
	comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=1.1					
	comp=E,0.5nm,0.3s					
ANMO	Albuquerque	8.89	186	LR	LR	18 10 13.0
	comp=E,38nm,21.2s,baz=328,slow=40					
ULM	Lac du Bonnet	9.11	42	Pn	Pn	18 06 41.1 -0.3
	comp=E,0.7nm,0.3s,baz=231,slow=11,SNR=7.7					
ULM				Lg	Lg	18 09 14.5
	comp=E,0.4nm,0.3s,baz=125,slow=22,SNR=2.9					
	comp=E,2.6nm,0.4s					
NEW	Newport	9.34	303	Pn	Pn	18 06 46.0 +1.4
	comp=E,0.1nm,0.3s,baz=144,slow=19,SNR=1.8					
NEW				Sn	Sn	18 08 29.8 -0.5
	comp=E,0.1nm,0.3s,baz=90,slow=18,SNR=1.5					
NEW				Lg	Lg	18 09 22.7
	comp=E,0.1nm,0.3s,baz=33,slow=22,SNR=1.8					
	comp=E,1.0nm,0.7s					
NVAR	Mina Array Bea	11.17	246	Pn	Pn	18 07 07.9 -2.0
	comp=E,0.2nm,0.3s,baz=41,slow=14,SNR=2.3					
	comp=E,0.6nm,0.6s					
YKA	Yellowknife Ar	19.49	347	P	Pn	18 08 57.3 -0.9
	comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=5.3					
YKA				Lg	Lg	18 14 47.9
	baz=158,slow=28,SNR=3.8					
	comp=E,0.2nm,0.6s					
ILAR	Eielson Array	31.20	327	P	P	18 10 49.7 +0.4
	comp=E,0.3nm,0.9s,baz=86,slow=5.9,SNR=4.1					
	comp=E,0.3nm,0.9s					
ZALV	Zalesovo Beam	82.23	354	P	P	18 16 50.9 -0.6
	comp=E,0.7nm,0.6s,baz=323,slow=3.9,SNR=3.8					
	comp=E,0.7nm,0.6s					
BVAR	Borovoye Array	83.47	3	P	P	18 16 58.2 +0.3
	comp=E,0.6nm,0.7s,baz=325,slow=2.3,SNR=3.9					
	comp=E,0.6nm,0.7s					
MKAR	Makanchi Array	89.53	355	P	P	18 17 27.8 0.0
	comp=E,0.5nm,0.6s,baz=38,slow=4.6,SNR=6.0					
	comp=E,0.5nm,0.6s					

*NEIC **27** 18:17:40.7±1.1, 35°.138N±0°.006×97°.87W±0°.02, h9km±7km, Error ellipse: s-maj=2.4km s-min=0.9km az=87.0*

NEIC 27 18:17:40.2±1.3, 35°.132N±0°.010×97°.89W±0°.02, h5km±1km, mb_Lg2.8/62, ML2.7/40, ML2.6/27, Error ellipse: s-maj=2.4km s-min=2.1km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.42	72		Pg	18 17 48.5	+0.2
FNO					Sg	18 17 54.7	+1.0
OKCSW	OKLAHOMA CITY	0.46	53	Pg	Pg	18 17 49.0	+0.1
OKCSW				IAML		18 17 56.2	
	comp=E,721nm,0.3s						
OKCSW				IAML		18 18 03.3	
	comp=N,648nm,0.5s						
X34A	Smith Ranch, M	0.53	175		Pg	18 17 50.6	+0.3
X34A				IAML		18 18 00.3	
	comp=N,492nm,0.4s						
X34A				IAML		18 18 10.2	
	comp=E,369nm,0.5s						
OK029	Liberty Lake	0.75	28		Pg	18 17 54.0	-0.6
OK029					Sg	18 18 05.1	+0.8
OK029				IAML		18 18 05.7	
	comp=E,242nm,0.6s						
OK029				IAML		18 18 14.7	
	comp=E,226nm,0.5s						
W35A	Tecumseh	0.83	88		Pg	18 17 55.6	-0.5
W35A					Sg	18 18 07.2	+0.3
W35A				IAML		18 18 07.5	
	comp=E,299nm,0.3s						
WMOK	Wichita Mounta	0.83	242		Pg	18 17 54.1	-2.1
OK031	S. Brethren Rd	1.18	46		Pg	18 18 02.5	-0.4
OK031					Sb	18 18 18.7	-0.1
OK052	Battle Ridge R	1.23	45		Pg	18 18 03.0	-0.8
DEOK	Depew	1.34	58		Pn	18 18 04.5	-1.0
DEOK					Sg	18 18 22.9	-0.3
DEOK				IAML		18 18 26.4	
	comp=N,191nm,0.2s						
DEOK				IAML		18 18 33.7	
	comp=E,146nm,0.5s						
CROK	Carrier	1.37	357		Pn	18 18 05.1	-0.9
CROK					Sn	18 18 24.7	+0.2
QUOK	Quay	1.41	42		Pn	18 18 06.0	-0.5
QUOK					Sg	18 18 25.9	+0.3
WTFS	Witchita Falls	1.44	199		Pn	18 18 05.7	-1.3
OK048	Pawnee Station	1.49	31		Pn	18 18 07.6	-0.1
OK048					Sb	18 18 27.7	0.0
OK038	West end E0370	1.51	333		Pn	18 18 06.9	-1.0
OK038					Sg	18 18 29.3	+0.5
ELIS	Ellis County	1.56	307	IAmb_Lg		18 18 29.9	
	comp=Z,37nm,1.0s						
NOKA	Waynoka	1.72	331		Pn	18 18 10.0	-0.9
NOKA				IAmb_Lg		18 18 36.7	
	comp=Z,64nm,1.0s						
Z35A	Perchaven, San	1.87	164		Pn	18 18 11.5	-1.4
Z35A				IAmb_Lg		18 18 40.5	
	comp=Z,33nm,0.8s						
SMWD	Samnorwood	1.93	270	IAmb_Lg		18 18 44.6	
	comp=Z,39nm,0.8s						
PLPT	Palo Pinto	2.34	189	IAmb_Lg		18 18 59.0	
	comp=Z,26nm,0.8s						
FW07	Weatherford	2.42	178	IAmb_Lg		18 19 01.8	
	comp=Z,24nm,0.8s						
FW16	Waxahatchie	2.77	162	IAmb_Lg		18 19 15.6	
	comp=Z,43nm,0.9s						
Z38A	Mt. Pleasant	3.04	127	IAmb_Lg		18 19 23.9	
	comp=Z,32nm,0.8s						
WHTX	Lake Whitney,	3.15	173	IAmb_Lg		18 19 28.6	
	comp=Z,22nm,0.9s						
237A	Washetta, Mont	3.57	150	IAmb_Lg		18 19 38.1	
	comp=Z,24nm,0.9s						
MIAR	Mount Ida	3.59	98	IAmb_Lg		18 19 40.0	
	comp=Z,25nm,0.9s						
BRDY	Brady	3.95	194	IAmb_Lg		18 19 50.6	
	comp=Z,20nm,0.7s						
WLAR	White Oak Lake	4.20	109	IAmb_Lg		18 20 03.6	
	comp=Z,26nm,0.9s						
UALR	University of	4.57	93	IAmb_Lg		18 20 11.9	
	comp=Z,25nm,0.9s						
WHAR	Wooly Hollow	4.59	86	IAmb_Lg		18 20 17.4	
	comp=Z,21nm,1.0s						
Z41A	Richland Creek	4.61	112	IAmb_Lg		18 20 18.9	
	comp=Z,23nm,0.9s						
FCAR	Ozark Folk Cen	4.76	79	IAmb_Lg		18 20 20.6	
	comp=Z,16nm,0.9s						
JCT	Junction City	4.91	200	IAmb_Lg		18 20 22.5	
	comp=Z,23nm,1.1s						
MGMO	Mountain Grove	4.97	64	IAmb_Lg		18 20 24.2	
	comp=Z,12nm,0.8s						
OZNA	Ozona	5.00	214	IAmb_Lg		18 20 31.1	
	comp=Z,18nm,0.9s						
R40A	Maddies Statio	5.50	53	IAmb_Lg		18 20 41.4	
	comp=Z,8.6nm,0.9s						
MNHN	Monahans	5.56	229	IAmb_Lg		18 20 44.5	
	comp=Z,10nm,1.1s						
P38A	Dawn	5.67	36	IAmb_Lg		18 20 46.1	
	comp=Z,14nm,0.8s						
CCM	Cathedral Cave	6.09	59	IAmb_Lg		18 21 06.7	
	comp=Z,9.3nm,0.8s						
DRIO	Del Rio	6.14	203	IAmb_Lg		18 20 59.7	
	comp=Z,9.4nm,0.8s						
PBMO	Poplar Bluff	6.27	73	IAmb_Lg		18 21 12.0	
	comp=Z,17nm,0.8s						
P40A	Paris	6.39	45	IAmb_Lg		18 21 01.0	
	comp=Z,17nm,0.8s						
OGNE	Ogallala	6.66	332	IAmb_Lg		18 21 18.9	
	comp=Z,17nm,0.9s						
Q24A	Divide	6.95	305	IAmb_Lg		18 21 38.8	
	comp=Z,12nm,1.0s						
CGM3	Cape Girardeau	6.99	70	IAmb_Lg		18 21 26.8	
	comp=Z,7.4nm,0.8s						
ISCO	Idaho Springs	7.71	309	IAmb_Lg		18 21 45.5	
	comp=Z,7.7nm,1.1s						
ECSD	EROS Data Cent	8.65	6	IAmb_Lg		18 22 13.8	
	comp=Z,9.4nm,1.1s						

*NEIC **27** 18:22:56.1±1.5, 66°.31N±0°.02×157°.21W±0°.05, h6km±7km, Error ellipse: s-maj=2.8km s-min=2.6km az=69.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=3.09; $M_{\theta\theta}$=3.08; $M_{\phi\phi}$=0.01; $M_{r\theta}$=0.59; $M_{r\phi}$=-1.18; $M_{\theta\phi}$=0.30; Fault plane solution: M_0=3.37000×10^{14} NP1: ϕ_s=279.50000°, δ=49.79000°, λ=-102.46000°. NP2: ϕ_s=118.39000°, δ=41.79000°, λ=-75.69000°. Principal axes: T 3.5197, Plg4.0000°, Azm18.0000°; N -0.3148, Plg9.0000°, Azm288.0000°; P -3.2049, Plg80.0000°, Azm131.0000°;*

*AEIC **27** 18:22:56.2±1.5, 66°.32N±0°.02×157°.20W±0°.04, h10km±5km, ML3.6, ML3.8/146(NEIC), Mwr3.6/36(NEIC) Error ellipse: s-maj=2.8km s-min=2.1km az=121.0*

*NEIC **27** 18:22:56.2, 66°.33N×157°.29W, h10km*

*IDC **27** 18:22:57.9±0.7, 66°.62N×157°.27W, h0km, mb3.5/11, mbtmp3.6/16, ML3.5/5, Error ellipse: s-maj=21.2km s-min=11.3km az=29.0*

ISC 27 18:22:56.2±1.2, 66°.31N±0°.02×157°.23W±0°.03, h3km±8km, n142, σ0°.93/113, mb3.7/11, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	Purcell Mounta	0.18	162		Pg	18 23 00.2	+0.5
G19K					Sg	18 23 03.3	+1.3
G19K	Purcell Mounta	0.18	162	IAML		18 23 03.5	
	comp=E,94μm,0.3s						
G19K				IAML		18 23 03.5	
	comp=N,58μm,0.6s						
F19K	Shaleruckik Mo	0.56	337		Pg	18 23 06.7	-0.3
F19K	Shaleruckik Mo	0.56	337		Sg	18 23 14.8	+0.4
G18K	Tagagawik	0.72	235		Pg	18 23 09.8	-0.2
G18K	Tagagawik	0.72	235		Sg	18 23 20.1	+0.9
H19K	Roundabout Mou	0.85	158		Pg	18 23 12.3	-0.2
H19K				IAML		18 23 28.7	
	comp=N,3μm,0.3s						
H19K	Roundabout Mou	0.85	158		Sg	18 23 24.0	+0.5
F20K	Avaraart Lake	0.95	38		Pg	18 23 13.7	-0.7
F20K				IAML		18 23 30.4	
	comp=N,4μm,0.5s						
F20K	Avaraart Lake	0.95	38		Sg	18 23 26.5	-0.2
F18K	Selawik	1.02	288		Pg	18 23 15.0	-0.6
F18K					Sg	18 23 29.4	+0.6
E19K	Redstone River	1.15	360		Pg	18 23 17.5	-0.7
E19K	Redstone River	1.15	360	IAML		18 23 35.8	
	comp=E,2μm,0.5s						
E19K				IAML		18 23 36.1	
	comp=N,3μm,0.6s						
H18K	Honhosa River	1.26	202		Pn	18 23 19.2	-1.4
H18K	Honhosa River	1.26	202		Sg	18 23 36.0	-0.5
H20K	Anotleneega Mo	1.27	130		Pn	18 23 19.9	-1.0
G21K	Allakaket	1.51	81		Pn	18 23 23.3	-0.8
GCSA	Galena City Sc	1.58	175		Pn	18 23 24.7	-0.4
F17K	Baldwin Pennin	1.63	276		Pn	18 23 24.8	-0.9
F17K	Baldwin Pennin	1.63	276	IAML		18 23 51.2	
	comp=E,936nm,0.6s						
G17K	Kiwalik Mounta	1.63	241		Pn	18 23 24.6	-1.2
E18K	Tukpahlearik C	1.74	311		Sn	18 23 49.8	0.0
F21K	Alatna River	1.74	57		Pn	18 23 27.0	-0.3
F21K	Alatna River	1.74	57	IAML		18 23 54.3	
	comp=N,1μm,0.6s						
F21K				IAML		18 23 58.0	
	comp=E,1μm,0.7s						
H17K	Granite Mounta	1.78	220		Pn	18 23 26.4	-1.4
H17K	Granite Mounta	1.78	220		Sb	18 23 51.9	-0.2
I20K	Naaghedeneel	1.91	142		Pn	18 23 29.5	0.0
H21K	Melozitna Rive	1.93	108		Pn	18 23 29.2	-0.6
E17K	Hotham Inlet	1.98	295		Pn	18 23 30.0	-0.7
E20K	Nigu River	1.99	11		Pn	18 23 31.6	+0.7
D19K	Kuna River	2.22	351		Pn	18 23 34.3	+0.4
D19K	Kuna River	2.22	351	IAML		18 24 07.7	
	comp=E,457nm,0.8s						
D19K				IAML		18 24 15.6	
	comp=N,705nm,0.9s						
G16K	Koyuk River	2.30	249		Pn	18 23 33.1	-1.9
G16K	Koyuk River	2.30	249	IAML		18 24 10.2	
	comp=N,415nm,0.7s						
F22K	John River	2.32	57		Pn	18 23 35.1	-0.2
D20K	Etivluk River	2.42	5		Pn	18 23 37.0	+0.3
J19K	Poorman	2.43	163		Pn	18 23 36.5	-0.2
J19K				IAML		18 24 13.7	
	comp=N,449nm,0.6s						
J19K				IAML		18 24 13.8	
	comp=E,488nm,0.5s						
I21K	Tanana	2.45	115		Pn	18 23 36.4	-0.6
I21K	Tanana	2.45	115	IAML		18 24 16.1	
	comp=E,553nm,0.4s						
I21K				IAML		18 24 16.7	
	comp=N,478nm,0.4s						
E21K	Killik River	2.48	29		Pn	18 23 37.4	-0.1
E21K	Killik River	2.48	29	IAML		18 24 20.0	
	comp=N,343nm,0.8s						
E21K				IAML		18 24 24.4	
	comp=E,489nm,0.7s						
J20K	Nowinta River	2.51	147		Pn	18 23 38.3	+0.5
J20K				IAML		18 24 21.1	
	comp=N,460nm,0.7s						
H16K	Elim	2.69	233		Pn	18 23 38.5	-1.8
D17K	Noatak River	2.69	304		Pn	18 23 39.8	-0.4
C18K	Utukok River	2.80	329		Pn	18 23 41.2	-0.7
RDOG	Red Dog Mine	2.82	311	Pn	Pn	18 23 38.3	-3.9
I17K	Unalakleet	2.85	213	Pn	Pn	18 23 41.7	-0.8
J18K	Innoko River	2.87	175	Pn	Pn	18 23 42.3	-0.6
J18K				IAML		18 24 38.3	
	comp=N,242nm,0.8s						
G23K	Bananza Creek	2.91	79	Pn	Pn	18 23 42.0	-1.4
G23K				IAML		18 24 32.7	
	comp=E,266nm,0.5s						
G23K				IAML		18 24 33.5	
	comp=N,385nm,1.2s						
COLD	Coldfoot	2.93	69		Pn	18 23 41.1	-2.6
C21K	Knifeblade Rid	3.00	17		Pn	18 23 44.2	-0.4
J17K	VABM Dome	3.04	196		Pn	18 23 44.5	-0.6
J17K				IAML		18 24 36.6	
	comp=N,331nm,1.0s						
J17K				IAML		18 24 40.4	
	comp=E,372nm,1.0s						
F15K	North Star Dit	3.09	262		Pn	18 23 44.8	-1.1
F15K	North Star Dit	3.09	262	IAML		18 24 34.8	
	comp=N,209nm,0.6s						
F15K				IAML		18 24 39.2	
	comp=E,244nm,0.5s						
D22K	Ayikyak River	3.11	32		Pn	18 23 46.3	+0.1
D22K				IAML		18 24 52.9	
	comp=N,370nm,0.7s						
G15K	Niukluk	3.12	248		Pn	18 23 45.8	-0.4
C17K	DeLong Mountai	3.16	316		Pn	18 23 46.4	-0.5
H23K	Yukon River	3.17	95		Pn	18 23 46.4	-0.6
H23K	Yukon River	3.17	95	IAML		18 24 38.8	
	comp=E,296nm,1.0s						
CHUM	Lake Minchumin	3.21	137		Pn	18 23 47.5	+0.1
K20K	Telida	3.26	154		Pn	18 23 48.0	-0.2
J16K	Anvik River	3.37	207	Pn	Pn	18 23 48.9	-0.8
BPAW	Bear Paw Mtn.	3.44	127		Pn	18 23 50.3	-0.4
BPAW				IAML		18 24 49.0	
	comp=E,156nm,1.0s						
E23K	Chandalar	3.44	56		Pn	18 23 50.8	+0.1
E23K	Chandalar	3.44	56	IAML		18 24 47.7	
	comp=E,271nm,0.7s						
E23K				IAML		18 24 50.3	
	comp=N,258nm,0.9s						
I23K	Minto, Yukon-K	3.45	106		Pn	18 23 49.9	-0.8
I23K				IAML		18 24 50.5	
	comp=E,189nm,0.9s						
I23K				IAML		18 24 54.2	
	comp=N,253nm,1.1s						
B21K	Ikpikpuk River	3.46	15		Pn	18 23 50.1	-0.9
B21K	Ikpikpuk River	3.46	15	IAML		18 24 55.7	
	comp=N,204nm,1.0s						
B21K				IAML		18 24 56.0	
	comp=E,236nm,0.9s						
B18K	Kokolik River	3.52	333		Pn	18 23 51.2	-0.5
CAST	Castle Rocks	3.64	141		Pn	18 23 54.2	+0.8
K17K	Iditarod	3.64	188	IAML		18 24 53.1	
	comp=E,211nm,0.9s						
K17K				IAML		18 24 59.2	
	comp=N,182nm,1.0s						
D23K	Nanushuk River	3.65	40		Pn	18 23 53.1	-0.5
TOLK	Toolik Lake Re	3.76	48		Pn	18 23 55.4	+0.3
TOLK				IAML		18 25 01.4	
	comp=E,215nm,1.1s						
TOLK				IAML		18 25 11.2	
	comp=N,211nm,1.0s						
NEA2	Nenana	3.82	113		Pn	18 23 55.6	-0.2
F14K	Arctic Creek	3.83	261		Pn	18 23 55.0	-1.0
E24K	Your Creek	3.83	59		Pn	18 23 55.4	-0.7
E24K				IAML		18 25 03.8	
	comp=N,176nm,0.7s						
E24K				IAML		18 25 07.4	
	comp=E,216nm,0.7s						
H24K	Noodor Dome	3.84	93		Pn	18 23 55.5	-0.6
H24K				IAML		18 25 08.7	
	comp=N,129nm,0.9s						
H24K				IAML		18 25 11.4	
	comp=E,132nm,1.1s						
KTH	Kantishna Hill	3.86	133		Pn	18 23 56.4	0.0
KTH				IAML		18 25 08.4	
	comp=E,138nm,1.1s						
KTH				IAML		18 25 10.8	
	comp=N,153nm,1.1s						
F24K	Squaw Lake	3.87	68		Pn	18 23 55.7	-0.9
F24K	Squaw Lake	3.87	68	IAML		18 25 00.7	
	comp=E,192nm,0.5s						
BWN	Browne	3.91	120		Pn	18 23 57.5	+0.4
BWN				IAML		18 25 08.2	
	comp=E,147nm,1.0s						
BWN				IAML		18 25 17.9	
	comp=N,177nm,0.8s						
G24K	Hadweenzic Riv	3.92	80	Pn	Pn	18 23 55.9	-1.4
L18K	Granite Mounta	4.12	176	IAML		18 25 11.0	
	comp=E,95nm,0.7s						
L18K				IAML		18 25 15.1	
	comp=N,124nm,1.2s						
TRF	Thorofare Moun	4.12	131	IAML		18 25 11.3	
	comp=N,130nm,1.1s						
TRF				IAML		18 25 13.1	
	comp=E,152nm,1.1s						
A19K	Wainwright	4.16	342		Pn	18 24 00.4	-0.1
POKR	Poker Plat Res	4.22	102		Pn	18 24 00.8	-0.5
POKR	Poker Plat Res	4.22	102	IAML		18 25 15.3	
	comp=N,96nm,0.9s						
D24K	Happy Valley	4.28	44		Pn	18 24 01.8	-0.4
D24K	Happy Valley	4.28	44	IAML		18 25 23.6	
	comp=E,139nm,0.8s						
B22K	Teshekpuk Lake	4.28	18		Pn	18 24 02.4	+0.2
B22K	Teshekpuk Lake	4.28	18	IAML		18 25 23.4	
	comp=N,89nm,0.9s						
B22K				IAML		18 25 29.1	
	comp=E,101nm,0.8s						
C23K	Itkillik River	4.32	32		Pn	18 24 02.0	-0.6
C23K	Itkillik River	4.32	32	IAML		18 25 25.2	
	comp=E,117nm,1.0s						
C23K				IAML		18 25 31.7	
	comp=N,123nm,0.8s						
MCK	McKinley	4.37	123		Pn	18 24 03.3	-0.1
K15K	Wolf Creek Mou	4.45	207		Pn	18 24 04.4	-0.1
K15K	Wolf Creek Mou	4.45	207	IAML		18 25 18.6	
	comp=N,96nm,1.1s						
K15K				IAML		18 25 18.7	
	comp=E,98nm,0.9s						
G25K	Bearman Lake	4.47	79		Pn	18 24 04.2	-0.5
J14K	Nanvaranak Lak	4.50	220		Pn	18 24 04.7	-0.5
ILAR	Eielson Array	4.57	105	Pn	Pn	18 24 05.8	-0.4
	comp=E,9.0nm,0.3s,baz=294,slow=14,SNR=738						
ILAR				Sn	Sn	18 24 57.2	-2.5
	comp=E,1.9nm,0.3s,baz=286,slow=17,SNR=4.3						
ILAR				Lg	Lg	18 25 17.2	
	comp=E,6.8nm,0.3s,baz=300,slow=31,SNR=6.1						
	comp=E,29nm,0.5s						
M19K	Big River Lodg	4.60	163	IAML		18 25 27.1	
	comp=N,67nm,0.7s						
M19K				IAML		18 25 29.2	
	comp=E,76nm,0.5s						
H25L	Birch Creek	4.61	85		Pn	18 24 06.2	-0.4
RND	Reindeer	4.61	125		Pn	18 24 06.4	-0.4
C24K	Franklin Bluff	4.68	39		Pn	18 24 06.8	-0.8
C24K	Franklin Bluff	4.68	39	IAML		18 25 40.6	
	comp=N,94nm,1.1s						
HDA	Harding Lake	4.71	109		Pn	18 24 07.5	-0.5
HDA	Harding Lake	4.71	109	IAML		18 25 40.2	
	comp=N,57nm,0.6s						
L16K	Owhat River	4.73	193	IAML		18 25 31.9	
	comp=N,59nm,0.7s						
F25K	Christian Rive	4.73	69		Pn	18 24 07.9	-0.5
F25K	Christian Rive	4.73	69	IAML		18 25 34.2	
	comp=N,98nm,0.7s						
F25K				IAML		18 25 40.3	
	comp=E,82nm,1.0s						
A22K	Sinclair Lake	4.78	9		Pn	18 24 08.3	-0.7
M20K	Styx River	4.80	156	IAML		18 25 08.1	
	comp=E,56nm,1.1s						
FYU	Fort Yukon	4.82	82	IAML		18 25 35.6	
	comp=N,94nm,0.9s						
PRP	Porcupine Dome	4.86	94		Pn	18 24 09.8	-0.5
PRP	Porcupine Dome	4.86	94	IAML		18 25 30.2	
	comp=N,84nm,1.0s						
PRP				IAML		18 25 30.6	
	comp=E,68nm,0.8s						
E25K	Arctic Village	4.88	63	IAML		18 25 38.7	
	comp=E,96nm,0.8s						
M17K	Holitna River	4.94	181		Pn	18 24 11.2	0.0
SKT	Skwentna	5.01	148	IAML		18 25 43.9	
	comp=E,61nm,0.8s						
J25K	Salcha River,	5.23	104	IAML		18 25 54.2	
	comp=N,41nm,0.7s						
M16K	Timber Creek	5.37	189	IAML		18 25 52.7	
	comp=E,36nm,0.9s						
M16K				IAML		18 25 53.5	
	comp=N,49nm,0.8s						
C27K	Jago River	6.07	51		Pn	18 24 26.3	-0.4
RDT	Redoubt	6.15	157		Pn	18 24 28.2	+0.3
RED	Redoubt Volcan	6.25	159		Pn	18 24 28.9	-0.4
I27K	Kandik River	6.42	89		Pn	18 24 30.8	-0.8
KLU	Klutina	6.94	129		Pn	18 24 38.6	-0.1
N25K	Chitina, Valde	7.29	125		Pn	18 24 43.5	0.0
M27K	Edge Creek, AK	7.75	114		Pn	18 24 48.8	-1.1
L29M	L29M

MA2 Magadan 23.94 279 P **P 18 28 11.1 0.0**
comp=N,0.7nm,0.3s,baz=94,slow=10.0,SNR=5.2
comp=N,0.7nm,0.3s

TXAR Lajitas Array 49.05 112 P **P 18 31 45.3 +1.0**
comp=N,0.4nm,0.7s,baz=340,slow=12,SNR=3.3
comp=N,0.4nm,0.7s

SONM Songino Array 49.78 299 P **P 18 31 50.3 +0.5**
comp=N,0.7nm,0.8s,baz=24,slow=8.1,SNR=5.1
comp=N,0.7nm,0.8s

ZALV Zalesovo Beam 51.25 318 P **P 18 32 01.4 +0.8**
comp=N,0.9nm,0.6s,baz=43,slow=6.9,SNR=4.6
comp=N,0.9nm,0.6s

BVAR Borovoye Array 55.63 327 P **P 18 32 32.5 -0.2**
comp=N,0.6nm,0.6s,baz=26,slow=7.1,SNR=4.3
comp=N,0.6nm,0.6s

KURBB Kurchatov Arra 55.92 321 P **P 18 32 36.3 +1.5**
comp=N,0.6nm,0.6s,baz=28,slow=6.9,SNR=5.1
comp=N,0.6nm,0.6s

EKA Eskdalemuir Ar 57.10 17 P **P 18 32 44.5 +1.3**
comp=N,0.7nm,0.6s,baz=345,slow=6.0,SNR=2.7
comp=N,0.7nm,0.6s

MKAR Makanchi Array 58.41 316 P **P 18 32 52.9 +0.4**
comp=N,0.6nm,0.9s,baz=39,slow=4.9,SNR=5.4
comp=N,0.6nm,0.9s

GERES GERESS Array B 64.96 7 P **P 18 33 37.1 +0.3**
comp=N,0.1nm,0.4s,baz=305,slow=7.0,SNR=3.6
comp=N,0.1nm,0.4s

RSNC 27 18:44:49.6±0.0, 7°N±1°×7°3W±°, h147km±2km, M3.3, mb3.8, ML3.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22 191**		P	Pn	18 45 09.5	-0.4
BARC				S	Sn	18 45 24.0	-1.3
BRJC	**Barrancabermej**	**0.62 285**		P	Pn	18 45 11.3	0.0
BRJC				S	Sn	18 45 27.8	+0.1
PAMC	**Pamplona, Colo**	**0.68**	**40**	P	Pn	18 45 12.3	0.0
PAMC				S	Sn	18 45 29.2	-0.3
RUSC	**La Rusia**	**0.91 176**		P	Pn	18 45 13.5	-0.5
RUSC				S	Sn	18 45 31.7	-0.8
PTBC	**PUERTO BERRIO,**	**1.33 258**		P	Pn	18 45 16.3	-1.0
PTBC				S	Sn	18 45 38.0	-0.3
TAMC	**Tame, Arauca**	**1.39 105**		P	Pn	18 45 17.8	0.0
TAMC				S	Sn	18 45 38.7	-0.7
OCAC	**Ocana**	**1.43 353**		P	Pn	18 45 17.8	-0.6
OCAC				S	Sn	18 45 39.6	-0.9
ZARC	**Zaragoza, Cauc**	**1.83 292**		P	Pn	18 45 22.4	-0.2
ZARC				S	Sn	18 45 48.5	+0.5
NORC	**Norcasia**	**2.12 234**		P	Pn	18 45 26.2	+0.2
NORC				S	Sn	18 45 53.1	-0.9
CHIC	**Chingaza**	**2.25 195**		P	Pn	18 45 27.9	0.0
CHIC				S	Sn	18 45 56.7	-0.6
ROSC	**El Rosal**	**2.28 211**		P	Pn	18 45 29.6	+1.3
ROSC				S	Sn	18 45 57.6	-0.5
HELC	**Santa Helena**	**2.45 256**		P	Pn	18 45 30.1	-0.3
HELC				S	Sn	18 46 00.2	-1.5
CVER	**Cruz Verde, Cu**	**2.46 202**		P	Pn	18 45 31.6	+1.1
CVER				S	Sn	18 46 01.9	-0.1
UREC	**San Jos de Ur**	**2.55 292**		P	Pn	18 45 29.8	-1.4
UREC				S	Sn	18 46 01.5	-1.8
GUY2C	**Guyana, Caldas**	**2.72 235**		P	Pn	18 45 34.2	+0.4
GUY2C				S	Sn	18 46 06.7	-1.0
VILC	**Villavicencio,**	**2.74 192**		P	Pn	18 45 33.1	-0.6
VILC				S	Sn	18 46 06.9	-0.8
PTGC	**Puerto Gaitan,**	**2.78 159**		P	Pn	18 45 32.7	-1.4
PTGC				S	Sn	18 46 05.4	-3.1
RECRC	**Villamaria, Ca**	**2.87 230**		P	Pn	18 45 38.3	+2.6
RECRC				S	Sn	18 46 12.6	+1.4
CBOC	**Ciudad Bolivar**	**3.00 252**		P	Pn	18 45 37.6	+0.5
CBOC				S	Sn	18 46 13.7	-0.1
DBBC	**Dabeiba**	**3.06 274**		P	Pn	18 45 37.4	-0.2
DBBC				S	Sn	18 46 12.8	-1.9
ARGC	**Ariguani, Magd**	**3.22 340**		P	Pn	18 45 40.2	+0.5
ARGC				S	Sn	18 46 18.7	+0.2
ANIL	**Santa Ana**	**3.22 224**		P	Pn	18 45 41.2	+1.2
ANIL				S	Sn	18 46 19.7	+0.8
PRAC	**Prado**	**3.53 210**		P	Pn	18 45 43.7	-0.1
PRAC				S	Sn	18 46 25.8	0.0
ORTC	**Ortega, Tolima**	**3.56 216**		P	Pn	18 45 44.6	+0.4
ORTC				S	Sn	18 46 26.0	-0.5
APAC	**Apartado, Choc**	**3.58 288**		P	Pn	18 45 44.0	-0.3
APAC				S	Sn	18 46 25.9	-0.8
PLMC	**San Jos del P**	**3.65 239**		P	Pn	18 45 45.2	-0.2
PLMC				S	Sn	18 46 28.4	-0.2
SJCC	**San Jacinto, C**	**3.67 327**		P	Pn	18 45 43.8	-1.8
SJCC				S	Sn	18 46 25.6	-3.4
URMC	**La Uribe, Meta**	**3.75 199**		P	Pn	18 45 46.8	+0.2
URMC				S	Sn	18 46 30.8	-0.1
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	18 45 50.2	-2.2
CRJC				S	Sn	18 46 36.3	-4.9
YOTC	**Yotoco, Valle**	**4.25 229**		P	Pn	18 45 52.5	-0.7
SMRC	**Santa Marta, M**	**4.46 346**		P	Pn	18 45 54.3	-1.5
SMRC				S	Sn	18 46 42.8	-4.6
MACC	**Macarena, Meta**	**4.69 189**		P	Pn	18 45 57.2	-1.7
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	18 46 00.3	-2.6
URIC				S	Sn	18 46 55.9	-4.1
MALC	**Bahia Malaga**	**5.02 237**		P	Pn	18 46 04.2	+1.0
MALC				S	Sn	18 47 03.6	+3.0
POPC	**Popayan, Colom**	**5.51 220**		P	Pn	18 46 10.1	0.0

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*IDC **27** 18:48:48.3±3.7, 36°.38N×70°.94E, h178km±32km, mb3.4/13, mbtmp4.0/18, Error ellipse: s-maj=25.2km s-min=15.8km az=33.0*
*NNC **27** 18:48:55.0±4.2, 36°.96N×70°.88E, h195km±47km, mb3.2, mpv4.4, Error ellipse: s-maj=38.1km s-min=23.9km az=7.0*
ISC 27 18:48:50.8±1.0, 36°.64N±0°.09×70°.98E±0°.10, h188km, n35, σ1§17/40, mb3.6/12, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.87**	**20**	P	**Pn**	**18 50 17.5**	**+0.9**
SNR=380							
UCH	**Uchtor**	**6.21**	**25**	P	**Pn**	**18 50 22.4**	**+1.4**
SNR=9.3							
EKS2	**Erkin-Say**	**6.39**	**19**	P	**Pn**	**18 50 24.1**	**+1.1**
SNR=93							
KK31	**Karatay Array**	**6.47 357**		P	**Pn**	**18 50 24.4**	**+0.5**
4.6nm,0.2s,baz=186,slow=13,SNR=181							
KK31				⇓S	**Sn**	**18 51 34.3**	**-3.3**
16nm,0.3s,baz=187,slow=24,SNR=14							
AAK	**Ala-Archa**	**6.57**	**23**	P	**Pn**	**18 50 26.7**	**+1.2**
19nm,0.3s,baz=173,slow=5.7,SNR=191							
AAK				S	**Sn**	**18 51 40.0**	**-0.4**
8.8nm,0.4s,baz=318,slow=23,SNR=13							
AAK	**Ala-Archa**	**6.57**	**23**	P	**Pn**	**18 50 26.7**	**+1.2**
SNR=41							
AAK	**Ala-Archa**	**6.57**	**23**	⇓P	**Pn**	**18 50 26.4**	**+0.9**
8.2nm,0.3s							
AAK				⇓S	**Sn**	**18 51 39.9**	**-0.4**
22nm,0.6s							
KBK	**Karagaybulak**	**6.74**	**26**	P	**Pn**	**18 50 29.1**	**+1.4**
SNR=29							
ULHL	**Ulahol**	**6.92**	**34**	P	**Pn**	**18 50 31.2**	**+1.2**
SNR=14							
CHMS	**Chumysh**	**6.98**	**23**	P	**Pn**	**18 50 31.4**	**+0.7**
SNR=16							
USP	**Ospenovka**	**7.15**	**21**	P	**Pn**	**18 50 33.0**	**+0.1**
SNR=22							
TKM2	**Tokmak 2**	**7.21**	**28**	P	**Pn**	**18 50 34.9**	**+1.1**
SNR=82							
TKM2	**Tokmak 2**	**7.21**	**28**	⇑P	**Pn**	**18 50 34.7**	**+0.9**
48nm,0.6s							
TKM2				⇓S	**Sn**	**18 51 54.4**	**-1.0**
15nm,0.8s							
MK31	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**18 51 50.8**	**-0.1**
3.3nm,0.7s,baz=216,slow=11,SNR=30							
MKAR	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**18 51 51.3**	**+0.4**
2.9nm,0.7s,baz=224,slow=10,SNR=29							
AB31	**Akbulak array**	**14.96 331**		⇑P	**Pn**	**18 52 14.1**	**+1.3**
1.2nm,0.5s							
KURBB	**Kurchatov Arra**	**15.00**	**19**	P	**Pn**	**18 52 12.7**	**-0.6**
1.9nm,0.8s,baz=215,slow=8.6,SNR=18							
BVA0	**Borovoye Array**	**16.39 359**		⇑P	**P**	**18 52 30.2**	**+0.6**
2.1nm,0.6s,baz=161,slow=9.4,SNR=24							
BVAR	**Borovoye Array**	**16.39 359**		P	**P**	**18 52 30.3**	**+0.7**
2.8nm,0.5s,baz=164,slow=11,SNR=30							
BVAR				S	**S**	**18 55 28.1**	**-2.9**
0.6nm,0.6s,baz=166,slow=24,SNR=3.4							
AKTO	**Aktyubinsk**	**16.65 330**		P	**P**	**18 52 33.2**	**+0.7**
2.9nm,0.5s,baz=135,slow=6.9,SNR=7.3							
AKTO				S	**S**	**18 55 37.0**	**+0.4**
0.8nm,0.5s,baz=56,slow=13,SNR=4.0							

AKTO	**Aktyubinsk**	**16.65 330**		⇓P	**P**	**18 52 32.8**	**+0.3**
2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**P**	**18 53 07.3**	**+0.8**
5.9nm,0.5s,baz=221,slow=11,SNR=37							
5.9nm,0.5s							
SONM	**Songino Array**	**28.27**	**56**	P	**P**	**18 54 27.4**	**+0.9**
0.2nm,0.5s,baz=280,slow=8.6,SNR=2.5							
0.2nm,0.5s							
AKASG	**Malin Array Be**	**32.85 309**		P	**P**	**18 55 06.5**	**0.0**
0.7nm,0.5s,baz=82,slow=6.9,SNR=3.1							
0.7nm,0.5s							
FINES	**FINESS Array B**	**37.36 326**		P	**P**	**18 55 44.9**	**0.0**
2.1nm,0.9s,baz=111,slow=10,SNR=6.0							
2.1nm,0.9s							
ARCES	**ARCESS Array B**	**41.01 338**		P	**P**	**18 56 14.6**	**-0.5**
3.3nm,0.8s,baz=94,slow=6.3,SNR=6.1							
3.3nm,0.8s							
HFS	**Hagfors**	**42.95 322**		P	**P**	**18 56 30.9**	**+0.1**
1.1nm,0.5s,baz=94,slow=7.6,SNR=5.4							
1.1nm,0.5s							
NB2	**NORSAR Subarra**	**44.26 323**		P	**P**	**18 56 40.7**	**-0.6**
comp=Z,1.0nm,0.7s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.26 323**		P	**P**	**18 56 41.0**	**-0.4**
comp=Z,0.9nm,0.7s,baz=97,slow=7.9,SNR=5.0							
comp=Z,0.9nm,0.7s							
TIXI	**Tiksi**	**45.65**	**22**	P	**P**	**18 56 52.6**	**+0.6**
comp=Z,2.6nm,0.2s,baz=315,slow=11,SNR=1.1							
comp=Z,2.6nm,0.2s							
ILAR	**Eielson Array**	**74.65**	**16**	P	**P**	**19 00 09.6**	**+0.6**
comp=Z,0.2nm,0.4s,baz=246,slow=3.8,SNR=2.3							
comp=Z,0.2nm,0.4s							
BOSA	**Bosnof**	**77.84 220**		P	P	19 00 25.4	-2.1
comp=Z,1.7nm,0.9s,baz=98,slow=7.1,SNR=1.4							
comp=Z,1.7nm,0.9s							
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**19 00 44.6**	**-0.1**
comp=Z,0.3nm,0.5s,baz=349,slow=5.5,SNR=11							
comp=Z,0.3nm,0.5s							
WRA	**Warramunga Arr**	**82.07 122**		P	**P**	**19 00 48.1**	**-2.2**
comp=Z,0.7nm,0.8s,baz=325,slow=5.0,SNR=8.7							
comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**84.34 125**		P	**P**	**19 00 59.9**	**-2.1**
comp=Z,0.7nm,0.6s,baz=310,slow=5.0,SNR=19							
comp=Z,0.7nm,0.6s							

IDC 27 19:17:42.9±9.3, 29°.70S×178°.94E, h588km±98km, mb2.5/2, mbtmp3.8/3, Error ellipse: s-maj=158.6km s-min=41.2km az=20.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.67 190**		P	P	19 19 48.0	0.0
9.7nm,0.5s,baz=30,slow=20,SNR=10							
ASAR	**Alice Springs**	**40.50 268**		P	P	19 24 31.7	-0.5
0.4nm,0.6s,baz=106,slow=7.1,SNR=11							
ASAR				PcP	PcP	19 26 20.1	-0.1
0.2nm,0.8s,baz=108,slow=2.9,SNR=1.7							
0.4nm,0.6s							
WRA	**Warramunga Arr**	**41.42 273**		P	P	19 24 39.8	+0.2
0.3nm,0.3s,baz=112,slow=8.0,SNR=12							
0.3nm,0.3s							
FINES	**FINESS Array B**	**143.55 338**		PKP	PKPbc	19 36 09.8	+0.1
1.9nm,0.9s,baz=38,slow=2.5,SNR=3.8							

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*IDC **27** 19:34:15.6±0.6, 5°.76S×102°.67E, h0km, mb4.3/18, mbtmp4.3/19, ML4.8/1, MS3.4/1, Error ellipse: s-maj=28.5km s-min=12.8km az=54.0*
*NEIC **27** 19:34:17.8±1.7, 5°.75S±0°.06×102°.77E±0°.08, h8km±5km, mb4.6/39, Error ellipse: s-maj=11.3km s-min=8.7km az=71.0*
*DJA **27** 19:34:18.8±0.3, 6°S±3°×10°3E±°, h57km±8km, M4.7/19, mB5.1/3, mb4.8/13, MLv4.6/19, Mw(mB)4.4/3*
ISC 27 19:34:19.0±0.4, 5°.86S±0°.06×102°.72E±0°.06, h21km, n107, σ1§19/101, mb4.5/37, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.50**	**9**		**Pn**	**19 34 45.2**	**+0.4**
MNAI	**Manna**	**1.50**	**9**	P	**Pn**	**19 34 45.0**	**+0.2**
MNAI				S	**Sb**	**19 35 06.2**	**+1.3**
LWLI	**Liwa**	**1.57**	**58**	P	**Pn**	**19 34 45.9**	**0.0**
LWLI				S	**Sb**	**19 35 08.3**	**+1.2**
MDSI	**Maura Dua**	**1.99**	**47**	P	**Pn**	**19 34 52.0**	**+0.5**
KSI	**Kapahiang**	**2.19 357**		P	**Pn**	**19 34 54.6**	**+0.3**
BLSI	**Bandar Lampung**	**2.56**	**79**	P	**Pn**	**19 35 00.4**	**+1.0**
CGJI	**Cibinong**	**3.05 104**		P	**Pn**	**19 35 06.4**	**+0.3**
SBJI	**Serang**	**3.41**	**95**	P	**Pn**	**19 35 10.1**	**-0.9**
PMBI	**Palembang**	**3.56**	**35**	P	**Pn**	**19 35 14.4**	**+1.3**
TNG	**Tangerang**	**3.92**	**95**	P	**Pn**	**19 35 17.6**	**-0.5**
TNG				P	**Pn**	**19 35 17.7**	**-0.4**
SKJI	**Sukabumi**	**3.98 107**		P	**Pn**	**19 35 19.5**	**+0.6**
CNJI	**Cibinong**	**4.62 108**		P	**Pn**	**19 35 27.3**	**-0.3**
LEM	**Lembang**	**4.97 101**		Pn	**Pn**	**19 35 34.7**	**+2.1**
34nm,0.3s,baz=303,slow=15,SNR=33							
LEM				LR	LR	19 37 59.9	
comp=Z,355nm,19.6s,baz=246,slow=44							
105nm,0.4s							
LEM	**Lembang**	**4.97 101**		P	**Pn**	**19 35 35.5**	**+2.9**
SISI	**Saibi**	**5.77 321**		P	**Pn**	**19 35 42.8**	**-0.7**
0.3nm47nm,0.8s							
TPI	**Tanjungpandan**	**5.81**	**58**	P	**Pn**	**19 35 43.2**	**-0.8**
CMJI	**Cimerak**	**6.01 109**		P	**Pn**	**19 35 46.9**	**+0.2**
PBSI	**Pulau Batu**	**7.27 322**		P	**Pn**	**19 36 03.2**	**-0.9**
0.3nm33nm,0.8s							
UGM	**Wanagama**	**8.02 105**			**Pn**	**19 36 14.9**	**+0.6**
UGM	**Wanagama**	**8.02 105**		P	**Pn**	**19 36 14.1**	**-0.3**
72nm,0.7s							
COCO	**West Island**	**8.56 222**		Pn	**Pn**	**19 36 22.9**	**+1.1**
PCJI	**Pacitan**	**8.71 106**		P	**Pn**	**19 36 24.0**	**+0.1**
71nm,0.8s							
GSI	**Gunungsitoli**	**8.77 324**		Pn	**Pn**	**19 36 23.1**	**-1.6**
GSI	**Gunungsitoli**	**8.77 324**		P	**Pn**	**19 36 21.8**	**-2.9**
NGJI	**Ngawi**	**8.82 100**		P	**Pn**	**19 36 27.1**	**+1.8**
26nm,0.5s							
PWJI	**Pagerwojo**	**9.28 104**		P	**Pn**	**19 36 31.3**	**-0.3**
27nm,0.6s							
GMJI	**Gumukmas**	**10.91 103**		P	**Pn**	**19 36 53.6**	**-0.5**
KMMI	**Kalianget**	**11.24**	**97**	P	**Pn**	**19 36 58.9**	**+0.3**
34nm,0.7s							
JAGI	**Jajag, Banyuwa**	**11.64 104**		Pn	**Pn**	**19 37 02.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**11.64 104**		P	**Pn**	**19 37 02.5**	**-1.6**
52nm,0.7s							
KKM	**Kota Kinabalu**	**17.93**	**49**		**Pn**	**19 38 25.6**	**-1.7**
KKM				IAmb	IAmb	19 39 07.5	
comp=Z,54nm,1.2s							
TOLI2	**Tolitoli**	**19.32**	**70**	P	**P**	**19 38 42.8**	**-0.3**
TOLI2				IAmb	IAmb	19 38 56.9	
comp=Z,18nm,0.7s							
MMRI	**Maumere**	**19.56**	**99**	P	**P**	**19 38 44.7**	**-1.0**
MMRI				IAmb	IAmb	19 39 03.7	
comp=Z,49nm,1.1s							
LUWI	**Luwuk**	**20.58**	**77**	P	**P**	**19 38 54.5**	**-2.3**
LUWI				IAmb	IAmb	19 39 22.7	
comp=Z,25nm,0.9s							
UBPT	**Khong Chiam**	**21.18**	**7**	P	**P**	**19 39 01.2**	**-2.0**
SOEI	**Soe**	**21.70 102**		P	**P**	**19 39 06.5**	**-2.4**
SOEI				IAmb	IAmb	19 39 15.2	
comp=Z,28nm,0.8s							
CM31	**Chiang Mai Arr**	**24.44 351**		P	**P**	**19 39 35.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**24.44 351**		P	**P**	**19 39 35.2**	**-1.4**
comp=Z,3.9nm,0.6s,baz=181,slow=9.0,SNR=40							
CMAR				PcP	**PcP**	**19 43 14.2**	**-1.2**
comp=Z,0.5nm,0.8s,baz=167,slow=0.4,SNR=2.6							
comp=Z,3.9nm,0.6s							
CHTO	**Chiang Mai**	**24.79 351**		P	**P**	**19 39 38.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**25.47 121**		P	**P**	**19 39 46.2**	**+0.3**
CRAI	**Chiangrai**	**26.02 355**		P	**P**	**19 39 49.6**	**-1.3**
KNRA	**Kununurra**	**27.35 113**		P	**P**	**19 40 02.2**	**-0.7**
KNRA				IAmb	IAmb	19 40 06.8	
comp=Z,14nm,1.2s							
MTN	**Manton Dam**	**28.86 106**		P	**P**	**19 40 16.1**	**-0.4**
MTN				IAmb	IAmb	19 40 24.4	
comp=Z,20nm,1.2s							
H08S2	**Diego Garcia H**	**30.06 265**		T	T	20 11 59.5	
baz=88,slow=75,SNR=175							
H08S3	**Diego Garcia H**	**30.07 265**		T	T	20 12 00.8	
baz=88,slow=75,SNR=166							
H08S1	**Diego Carcia H**	**30.08 265**		T	T	20 11 57.8	
baz=88,slow=75,SNR=110							
H01W3	**Cape Leeuwin H**	**30.75 161**		T	T	20 13 10.7	
baz=338,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**30.77 161**		T	T	20 12 54.0	
baz=338,slow=76,SNR=25							
H01W1	**Cape Leeuwin H**	**30.77 161**		T	T	20 13 11.2	
baz=338,slow=76,SNR=22							

PZH	**PanZhiHua**	**32.18 358**		P	**P**	**19 40 49.3**	**+3.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,4.5s							
WB0	**Warramunga Arr**	**33.75 117**		P	**P**	**19 40 59.4**	**-0.1**
WB0				IAmb	IAmb	19 40 59.6	
comp=Z,5.0nm,0.9s							
WRA	**Warramunga Arr**	**33.77 117**		P	**P**	**19 40 59.4**	**-0.3**
WRA	**Warramunga Arr**	**33.77 117**		P	**P**	**19 40 59.1**	**-0.6**
comp=Z,2.6nm,0.6s,baz=288,slow=12,SNR=26							
WRA				PcP	**PcP**	**19 43 38.8**	**-0.1**
comp=Z,0.6nm,0.7s,baz=292,slow=1.9,SNR=3.8							
comp=Z,2.6nm,0.6s							
WRAB	**Tennant Creek**	**33.77 117**		P	**P**	**19 40 59.4**	**-0.3**
WRAB				IAmb	IAmb	19 41 01.9	
comp=Z,17nm,1.4s							
WB2	**Warramunga Arr**	**33.78 117**		P	**P**	**19 40 59.4**	**-0.3**
WB2				IAmb	IAmb	19 41 00.2	
comp=Z,4.7nm,0.6s							
WR0	**Warramunga Arr**	**33.95 117**		P	**P**	**19 41 01.1**	**-0.1**
WR0				IAmb	IAmb	19 41 01.9	
comp=Z,4.5nm,0.5s							
AS31	**Alice Springs**	**34.84 124**		P	**P**	**19 41 08.7**	**-0.2**
AS31				IAmb	IAmb	19 41 09.8	
comp=Z,2.3nm,0.5s							
ASAR	**Alice Springs**	**34.84 124**		P	**P**	**19 41 09.2**	**+0.2**
comp=Z,2.9nm,0.4s,baz=305,slow=8.4,SNR=101							
ASAR				PcP	**PcP**	**19 43 42.0**	**0.0**
comp=Z,0.2nm,0.7s,baz=272,slow=2.4,SNR=1.0							
comp=Z,2.9nm,0.4s							
COEN	**Coen**	**40.61 105**		P	**P**	**19 41 56.8**	**-1.0**
BBOO	**Buckleboo**	**41.02 135**		P	**P**	**19 41 60.0**	**-0.9**
BBOO				IAmb	IAmb	19 42 43.5	
comp=Z,23nm,1.5s							
STKA	**Stephens Creek**	**44.59 130**		P	**P**	**19 42 30.1**	**+0.2**
STKA	**Stephens Creek**	**44.59 130**		P	**P**	**19 42 30.6**	**+0.7**
comp=Z,2.8nm,0.6s,baz=306,slow=9.0,SNR=21							
comp=Z,2.8nm,0.6s							
GTA	**Gaotai**	**45.12 357**		*e*P	**P**	**19 42 34.3**	**+0.2**
GTA				sP	sP	19 42 47.0	+4.2
GTA				pmax	pmax		
comp=Z,2.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**47.18**	**9**	*e*P	**P**	**19 42 53.0**	**+2.7**
HHC				pmax	pmax		
comp=Z,12nm,0.6s							
HHC				pmax	pmax		
comp=Z,93nm,4.1s							
KSRS	**Korea Array**	**49.08**	**27**	P	**P**	**19 43 04.3**	**-0.6**
comp=Z,0.7nm,0.5s,baz=232,slow=7.8,SNR=4.5							
comp=Z,0.7nm,0.5s							
KDJ	**Kajisay**	**53.13 336**		P	**P**	**19 43 35.4**	**-0.1**
CN2	**Changchun**	**53.52**	**20**	*e*P	**P**	**19 43 41.8**	**+3.7**
CN2				*e*pP	sP	19 43 49.0	+2.2
SONM	**Songino Array**	**53.56**	**3**	P	**P**	**19 43 38.1**	**-0.3**
SONM	**Songino Array**	**53.56**	**3**	P	**P**	**19 43 38.1**	**-0.3**
comp=Z,2.2nm,0.6s,baz=184,slow=9.7,SNR=20							
comp=Z,2.2nm,0.6s							
TAU	**Tasmania Unive**	**53.90 140**		P	**P**	**19 43 41.0**	**0.0**
ARSB	**Arslanbob**	**54.27 333**		P	**P**	**19 43 43.6**	**-0.3**
ARSB				IAmb	IAmb	19 43 44.4	
comp=Z,4.4nm,0.7s							
MK31	**Makanchi Array**	**55.46 343**		P	**P**	**19 43 51.4**	**-0.9**
MKAR	**Makanchi Array**	**55.46 343**		P	**P**	**19 43 51.3**	**-1.0**
comp=Z,3.1nm,0.6s,baz=146,slow=7.8,SNR=44							
comp=Z,3.1nm,0.6s							
H04N2	**CROZET ISLANDS**	**59.42 219**		T	T	20 48 52.4	
baz=63,slow=75,SNR=1745							
H04N1	**CROZET ISLANDS**	**59.43 219**		T	T	20 48 52.8	
baz=63,slow=75,SNR=1618							
H04N3	**CROZET ISLANDS**	**59.43 219**		T	T	20 48 50.6	
baz=63,slow=75,SNR=1601							
H04S1	**CROZET ISLANDS**	**59.65 218**		T	T	20 49 02.2	
baz=62,slow=76,SNR=81							
H04S3	**CROZET ISLANDS**	**59.66 218**		T	T	20 49 01.9	
baz=62,slow=76,SNR=257							
H04S2	**CROZET ISLANDS**	**59.67 218**		T	T	20 49 03.1	
baz=62,slow=76,SNR=121							
KURBB	**Kurchatov Arra**	**60.00 342**		P	**P**	**19 44 23.1**	**-0.9**
comp=Z,2.2nm,0.8s,baz=161,slow=6.4,SNR=21							
comp=Z,2.2nm,0.8s							
KURK	**Kurchatov**	**60.06 343**		P	**P**	**19 44 23.7**	**-0.6**
KURK				IAmb	IAmb	19 44 24.4	
comp=Z,4.2nm,0.8s							
ZAA0	**Zalesovo Array**	**61.45 348**		P	**P**	**19 44 32.5**	**-1.4**
ZAA0				IAmb	IAmb	19 44 33.5	
comp=Z,4.3nm,0.6s							
ZALV	**Zalesovo Beam**	**61.45 348**		P	**P**	**19 44 32.6**	**-1.2**
ZALV	**Zalesovo Beam**	**61.45 348**		P	**P**	**19 44 32.4**	**-1.4**
comp=Z,4.0nm,0.4s,baz=164,slow=5.6,SNR=24							
comp=Z,4.0nm,0.4s							
BVAR	**Borovoye Array**	**64.72 339**		P	**P**	**19 44 54.5**	**-1.1**
comp=Z,5.1nm,0.6s,baz=143,slow=9.0,SNR=42							
comp=Z,5.1nm,0.6s				

comp=E,392nm,1.0s
BYL IAML 19 54 59.8
comp=N,299nm,0.7s
KNHH Kane Nui o Ham 0.41 37 Pn Pn 19 54 42.7 -1.3
RSD Rainshed 0.44 19 Pn Pn 19 54 41.0 -3.3
STCH Steam Cracks 0.44 41 Pn Pn 19 54 42.1 -2.2
STCH IAML 19 54 51.2
comp=E,307nm,1.5s
MLH Mauna Loa 0.45 6 Pn Pn 19 54 41.7 -2.7
MLH IAML 19 54 55.5
comp=N,366nm,0.8s
MLH IAML 19 54 57.7
comp=E,281nm,0.7s
MWH Mokuaweoweo 0.46 340 Pn Pn 19 54 42.4 -2.6
MWH IAML 19 54 54.9
comp=E,437nm,0.6s
MLOA Mauna Loa Obse 0.50 344 Pn Pn 19 54 43.7 -1.7
JOKA Jonika Flow 0.56 46 Pn Pn 19 54 44.1 -1.6
JOKA Jonika Flow 0.56 46 IAML 19 54 57.1
comp=N,299nm,2.3s

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*BJI **27** 20:09:45.0, 11.˚64N×142.˚66E, h42km, mB5.0/20, mb4.7/61, Ms4.4/18, Ms7 4.2/18*
*MOS **27** 20:09:48.5±0.8, 12.˚04N×142.˚28E, h46km, mb5.0/31, Error ellipse: s-maj=11.9km s-min=5.6km az=113.9*
*NEIC **27** 20:09:50.2±1.3, 12.˚00N±0.˚08×142.˚3E±0.˚1, h35km±2km, mb4.9/141, Error ellipse: s-maj=17.3km s-min=13.5km az=112.0*
*IDC **27** 20:09:52.0±1.8, 12.˚03N×142.˚27E, h60km±16km, mb4.2/29, mbtmp4.5/32, MS3.9/4, Error ellipse: s-maj=12.0km s-min=9.8km az=107.0*
ISC 27 20:09:50.7±0.5, 11.˚98N±0.˚05×142.˚30E±0.˚05, h48km±3km, h48km:pP-P, n212, σ1°58/201, mb4.8/111, MS4.2/17, 11C-11D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.98**	**57**		**Pn**	**20 10 35.6**	**+0.2**
GUMO	**Guam**	**2.98**	**57**	P	**Pn**	**20 10 36.8**	**+1.4**
	153nm,0.3s,baz=240,slow=4.3,SNR=18						
GUMO				S	**Sn**	**20 11 12.0**	**+2.0**
	531nm,0.7s,baz=180,slow=22,SNR=8.0						
JAY	**Jayapura**	**14.48**	**186**	P	**Pn**	**20 13 12.6**	**-0.3**
	14nm,0.9s,baz=338,slow=6.1,SNR=2.3						
JAY				S	**Sn**	**20 15 50.2**	**-2.0**
	14nm,1.1s,baz=192,slow=20,SNR=1.4						
PATS	**Pohnpei**	**16.60**	**106**	Pn	**Pn**	**20 13 40.1**	**-0.1**
PATS				IAmb	IAmb	20 13 43.8	
	comp=Z,176nm,1.2s						
DAV	**Davao City (W)**	**17.19**	**255**	P	**Pn**	**20 13 46.4**	**-1.2**
	comp=Z,137nm,0.4s,baz=54,slow=8.7,SNR=6.9						
TGY	**Tagaytay City**	**20.92**	**278**	P	**P**	**20 14 30.4**	**+1.0**
	comp=Z,83nm,0.3s,baz=335,slow=20,SNR=3.5						
TGY				LR	LR	20 22 01.9	
	comp=Z,267nm,20.9s,baz=100,slow=35						
PMG	**Port Moresby**	**21.78**	**167**	P	**P**	**20 14 40.7**	**+2.1**
	comp=Z,13nm,0.7s,baz=335,slow=9.4,SNR=5.5						
	comp=Z,13nm,0.7s						
YOJ	**Yonaguni jima**	**22.10**	**307**	P	**P**	**20 14 42.3**	**+0.3**
YOJ				IAmb	IAmb	20 14 54.0	
	comp=Z,84nm,1.1s						
YULB	**Yu-li**	**22.97**	**302**	P	**P**	**20 14 51.9**	**+0.7**
SSLB	**Suanglung**	**23.43**	**303**	P	**P**	**20 14 55.5**	**-0.3**
SSLB				IAmb	IAmb	20 14 58.3	
	comp=Z,101nm,1.7s						
JNU	**Nakatsue**	**23.51**	**335**	P	**P**	**20 14 56.4**	**0.0**
JNU				IAmb	IAmb	20 15 06.3	
	comp=Z,54nm,1.3s						
TOLI2	**Tolitoli**	**23.92**	**245**	P	**P**	**20 14 59.3**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**24.39**	**72**	T	T	20 40 41.6	
	baz=258,slow=74						
H11S1	**WAKE ISLAND Hy**	**24.41**	**72**	T	T	20 40 41.6	
	baz=258,slow=74						
H11S2	**WAKE ISLAND Hy**	**24.41**	**72**	T	T	20 40 36.2	
	baz=258						
MYLDM	**Lahad Datu**	**24.47**	**256**	P	**P**	**20 15 06.7**	**+1.3**
MJAR	**Matsushiro Arr**	**24.74**	**352**	P	**P**	**20 15 07.6**	**0.0**
	comp=Z,8.2nm,1.1s,baz=161,slow=6.9,SNR=7.2						
	comp=Z,8.2nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**24.86**	**69**	T	T	20 41 10.4	
	baz=255,slow=75,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**24.87**	**69**	T	T	20 41 11.0	
	baz=255,slow=75,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**24.88**	**69**	T	T	20 41 10.0	
	baz=255,slow=75,SNR=3.5						
COEN	**Coen**	**25.78**	**178**	P	**P**	**20 15 17.4**	**+0.2**
MTN	**Manton Dam**	**27.03**	**205**	P	**P**	**20 15 30.4**	**+1.8**
KSRS	**Korea Array**	**28.46**	**336**	P	**P**	**20 15 39.6**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=155,slow=9.3,SNR=2.6						
	comp=Z,1.2nm,0.7s						
NJ2	**Nanjing**	**29.40**	**317**	*e*P	**P**	**20 15 52.0**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
QIZ	**Qiongzhong**	**32.01**	**287**	S	**S**	**20 21 23.8**	**+2.4**
WB0	**Warramunga Arr**	**32.49**	**194**	P	**P**	**20 16 16.7**	**-0.2**
WR0	**Warramunga Arr**	**32.64**	**194**	P	**P**	**20 16 18.2**	**0.0**
WRAB	**Tennant Creek**	**32.66**	**194⇑**	*e*P	**P**	**20 16 17.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**32.67**	**194**	P	**P**	**20 16 18.3**	**-0.2**
WB2				IAmb	IAmb	20 17 34.5	
	comp=Z,39nm,1.9s						
WRA	**Warramunga Arr**	**32.67**	**194**	P	**P**	**20 16 18.7**	**+0.2**
WRA	**Warramunga Arr**	**32.67**	**194**	P	**P**	**20 16 18.2**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=17,slow=9.8,SNR=12						
	comp=Z,2.7nm,0.9s						
TIA	**Tai'an**	**33.13**	**321**	P	**P**	**20 16 22.8**	**+0.5**
TIA				pP	**pP**	**20 16 32.8**	**-1.5**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**33.31**	**346⇓**	*e*P	**P**	**20 16 24.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**33.31**	**346**	P	**P**	**20 16 24.0**	**+0.2**
	comp=Z,11nm,0.8s,baz=183,slow=9.8,SNR=12						
	comp=Z,11nm,0.8s						
YSS	**Yuzhno-Sakhali**	**34.87**	**1**	*e*P	**P**	**20 16 37.3**	**+0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
CN2	**Changchun**	**34.89**	**338**	*e*P	**P**	**20 16 38.5**	**+1.0**
CN2				*e*PP	**PP**	**20 17 58.3**	**+1.0**
CN2				*e*S	**S**	**20 22 05.0**	**-0.3**
CN2				LR	LR		
	comp=Z,170nm,14.0s						
CN2				LR	LR		
	comp=Z,110nm,14.0s						
CN2				LR	LR		
	comp=Z,230nm,14.0s						
LYN	**LuoYang**	**35.21**	**315**	P	**P**	**20 16 41.5**	**+1.1**
LYN				pmax	pmax		
	comp=Z,37nm,1.1s						
LYN				LR	LR		
	comp=Z,480nm,16.3s						
LYN				LR	LR		
	comp=Z,470nm,17.2s						
LYN				LR	LR		
	comp=Z,730nm,19.3s						
HNS	**HongShan**	**35.38**	**320**	⇓P	**P**	**20 16 42.8**	**+1.0**
HNS				pmax	pmax		
	comp=Z,24nm,1.0s						
ENH	**Enshi**	**35.42**	**306**	P	**P**	**20 16 42.8**	**+0.4**
ENH				pP	**pwP**	**20 16 55.8**	**-2.5**
ENH				sP	**sP**	**20 17 02.6**	**+3.1**
BNX	**BinXian**	**35.96**	**342**	⇓P	**P**	**20 16 47.3**	**+0.6**
BNX				pmax	pmax		
	comp=Z,32nm,0.7s						
BJI	**Beijing**	**36.24**	**325**	P	**P**	**20 16 50.0**	**+0.9**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AS31	**Alice Springs**	**36.36**	**193**	P	**P**	**20 16 51.5**	**+1.1**
ASAR	**Alice Springs**	**36.36**	**193**	P	**P**	**20 16 51.6**	**+1.2**
ASAR	**Alice Springs**	**36.36**	**193**	P	**P**	**20 16 50.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=22,slow=12,SNR=29						
	comp=Z,0.9nm,0.6s						
GYA	**Guiyang**	**36.46**	**298**	P	**P**	**20 16 52.8**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**37.49**	**311**	P	**P**	**20 16 55.3**	**-4.7**
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN				LR	LR		
	comp=N,300nm,17.2s						
XAN				LR	LR		
	comp=E,460nm,19.6s						
XAN				LR	LR		
	comp=Z,570nm,19.2s						
SLVN	**Son La**	**37.85**	**289**	P	**P**	**20 17 03.6**	**+0.4**
KLR	**Kul'dur**	**38.16**	**349***c*eP		**P**	**20 17 05.5**	**+0.2**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT	**XiLinHaoTe**	**39.01**	**330**	*e*P	**P**	**20 17 13.0**	**+0.4**
XLT				pmax	pmax		
	comp=Z,18nm,1.1s						
XLT				pmax	pmax		
	comp=Z,110nm,4.9s						
XLT				LR	LR		
	comp=Z,220nm,16.9s						
XLT				LR	LR		
	comp=Z,320nm,20.4s						
KMI	**Kunming**	**39.56**	**295**	P	**P**	**20 17 16.8**	**-0.9**
KMI				pP	pP	20 17 26.3	-3.5
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI				LR	LR		
	comp=Z,130nm,19.2s						
KMI				LR	LR		
	comp=Z,150nm,14.7s						
KMI				LR	LR		
	comp=Z,160nm,18.4s						
HEH	**HeiHe**	**40.08**	**345**	*e*P	**P**	**20 17 21.0**	**-0.3**
HEH				pmax	pmax		
	comp=Z,25nm,1.1s						
BTO	**Baotou**	**40.22**	**321**	*e*P	**P**	**20 17 24.5**	**+1.7**
BTO				pP	**sP**	**20 17 40.0**	**-0.4**
BTO				PP	**PnPn**	**20 19 02.0**	**+2.0**
BTO				S	**S**	**20 23 28.0**	**+1.4**
BTO				sS	**sS**	**20 23 53.0**	**+6.0**
BTO				SS	**SS**	**20 26 24.8**	**-1.4**
BTO				pmax	pmax		
	comp=Z,52nm,0.9s						
BTO				pmax	pmax		
	comp=Z,270nm,8.1s						
BTO				LR	LR		
	comp=Z,580nm,22.7s						
BTO				LR	LR		
	comp=Z,340nm,15.1s						
BTO				LR	LR		
	comp=Z,540nm,15.0s						
CD2	**Chengdu**	**40.25**	**304**	P	**P**	**20 17 23.3**	**+0.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
PZH	**PanZhiHua**	**40.74**	**297**	P	**P**	**20 17 27.8**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,6.5s						
DZM	**Mont Dzumac**	**41.30**	**145**	*e*LR	LR	20 29 01.0	
	comp=Z,348nm,27.8s						
LZH	**Lanzhou**	**42.13**	**311**	*e*P	**P**	**20 17 43.0**	**+4.4**
LZH				pmax	pmax		
	comp=Z,23nm,0.5s						
LZH				LR	LR		
	comp=Z,230nm,11.0s						
LZH				LR	LR		
	comp=Z,380nm,13.4s						
LZH				LR	LR		
	comp=Z,470nm,14.8s						
CM31	**Chiang Mai Arr**	**42.25**	**284**	P	**P**	**20 17 40.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.25**	**284**	P	**P**	**20 17 40.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.25**	**284**	P	**P**	**20 17 40.5**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=86,slow=6.5,SNR=66						
	comp=Z,7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**42.25**	**284**	*i* P	**P**	**20 17 40.5**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**42.26**	**285**	P	**P**	**20 17 39.9**	**+0.1**
PETK	**Petropavlovsk-**	**42.84**	**14**	P	**P**	**20 17 42.5**	**-1.4**
	comp=Z,3.4nm,0.9s,baz=232,slow=7.1,SNR=1.9						
	comp=Z,3.4nm,0.9s						
TNCH	**TengChong**	**43.31**	**294**	P	**P**	**20 17 49.0**	**+0.7**
TNCH				pP	pP	20 17 59.3	-0.7
TNCH				sP	sP	20 18 02.0	-3.1
TNCH				PP	**PP**	**20 19 33.5**	**+3.8**
TNCH				S	**S**	**20 24 12.0**	**-0.8**
TNCH				sS	sS	20 24 33.5	+0.2
TNCH				SS	**SS**	**20 27 22.8**	**-4.9**
TNCH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,120nm,4.5s						
TNCH				LR	LR		
	comp=Z,120nm,5.4s						
TNCH				LR	LR		
	comp=Z,93nm,4.6s						
TNCH				LR	LR		
	comp=Z,220nm,15.2s						
ZEA	**Zeya**	**43.35**	**347**	*e*P	**P**	**20 17 47.8**	**-0.2**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
STKA	**Stephens Creek**	**43.61**	**181**	P	**P**	**20 17 50.7**	**+0.4**
STKA	**Stephens Creek**	**43.61**	**181**	P	**P**	**20 17 50.7**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=16,slow=9.9,SNR=3.7						
STKA				LR	LR	20 36 47.3	
	comp=Z,115nm,19.6s,baz=96,slow=37						
	comp=Z,1.9nm,0.9s						
STKA	**Stephens Creek**	**43.61**	**181⇓**	*e*P	**P**	**20 17 50.9**	**+0.6**
GSI	**Gunungsitoli**	**45.59**	**260**	P	**P**	**20 18 05.3**	**-1.2**
GSI				IAmb	IAmb	20 18 17.9	
	comp=Z,14nm,0.8s						
MSVF	**Nonsavu**	**46.02**	**129**	P	**P**	**20 18 11.3**	**+1.5**
	comp=Z,4.2nm,0.7s,baz=267,slow=9.7,SNR=6.8						
MSVF				LR	LR	20 37 46.1	
	comp=Z,120nm,19.3s,baz=279,slow=36						
	comp=Z,4.2nm,0.7s						
ULN	**Ulaanbaatar**	**46.33**	**328**	P	**P**	**20 18 11.9**	**-0.1**
ULN	**Ulaanbaatar**	**46.33**	**328⇑**	*i* P	**P**	**20 18 11.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA	**Gaotai**	**46.42**	**314**	P	**P**	**20 18 13.8**	**+1.0**
GTA				pP	pP	20 18 24.5	-0.5
GTA				PcP	**PcP**	**20 19 48.0**	**+0.9**
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				LR	LR		
	comp=Z,130nm,20.4s						
GTA				LR	LR		
	comp=Z,130nm,20.4s						
GTA				LR	LR		
	comp=Z,210nm,20.0s						
SONM	**Songino Array**	**46.66**	**327**	P	**P**	**20 18 14.0**	**-0.6**
SONM	**Songino Array**	**46.66**	**327**	P	**P**	**20 18 15.0**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=148,slow=7.0,SNR=18						
	comp=Z,2.9nm,0.6s						
SONM	**Songino Array**	**46.66**	**327**	P	**P**	**20 18 15.0**	**+0.4**
MA2	**Magadan**	**47.93**	**6⇓**	*e*P	**P**	**20 18 23.8**	**-0.3**
MA2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MA2	**Magadan**	**47.93**	**6**	P	**P**	**20 18 23.6**	**-0.5**
ZAK	**Zakamensk**	**49.83**	**328**	*e*P	**P**	**20 18 38.1**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK	**Yakutsk**	**50.80**	**352**	*e*P	**P**	**20 18 45.1**	**-0.8**
YAK				*e**PP	**pP**	**20 18 55.2**	**-3.2**
YAK				*e*		20 20 02.5	
YAK				*e*		20 20 40.5	
YAK				*e*PPP	PPP	20 21 36.3	
YAK				*e*S	**S**	**20 25 57.1**	**-1.0**
YAK				*e**SS	**sS**	**20 26 15.0**	**-3.7**
YAK				*e*		20 28 33.1	
YAK				*e*SS	**SS**	**20 29 32.9**	**-0.2**
YAK				*e*SSS	SSS	20 30 57.0	
YAK				pmax	pmax		
	comp=Z,36nm,1.2s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,270nm,8.4s						
YAK				pmax	pmax		
	comp=N,84nm,7.6s						
YAK				pmax	pmax		
	comp=E,115nm,6.9s						
YAK				smax	smax		
	comp=N,144nm,5.4s						
YAK				smax	smax		
	comp=E,77nm,5.1s						
YAK	**Yakutsk**	**50.80**	**352**	P	**P**	**20 18 45.7**	**-0.2**
SEY	**Seymchan**	**51.39**	**6**	P	**P**	**20 18 49.7**	**-0.6**
	comp=E,3.0nm,0.9s,baz=182,slow=8.0,SNR=11						
	comp=E,3.0nm,0.9s						
SEY	**Seymchan**	**51.39**	**6⇓**	*i* P	**P**	**20 18 50.5**	**+0.2**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MOY	**Mondy**	**51.75**	**328**	*e*P	**P**	**20 18 53.5**	**+0.1**
MOY				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WMQ	**Urumqi**	**56.46**	**315**	*e*P	**P**	**20 19 23.5**	**-4.3**
WMQ				pmax	pmax		
	comp=Z,31nm,0.9s						
WMQ				LR	LR		
	comp=Z,170nm,21.5s						
BILL	**Bilibino**	**58.17**	**10⇑**	*e*P	**P**	**20 19 38.5**	**-0.9**
BILL				pmax	pmax		
	comp=Z,12nm,2.7s						
ZSN	**Zaisan**	**59.41**	**318**	*e*P	**P**	**20 19 48.2**	**-0.2**
ZSN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZSN	**Zaisan**	**59.41**	**318**	*e*P	**P**	**20 19 48.2**	**-0.2**
	comp=Z,6.4nm,0.9s						
TIXI	**Tiksi**	**60.20**	**355⇓**	*e*P	**P**	**20 19 52.2**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**60.93**	**317**	P	**P**	**20 19 58.9**	**+0.2**
MK31				IAmb	IAmb	20 20 58.1	
	comp=Z,16nm,1.0s						
MK31	**Makanchi Array**	**60.93**	**317***c*	*i* P	**P**	**20 19 59.0**	**+0.2**
MKAR	**Makanchi Array**	**60.93**	**317**	P	**P**	**20 19 59.1**	**+0.4**
	comp=Z,10nm,0.8s,baz=93,slow=8.6,SNR=114						
	comp=Z,10nm,0.8s						
MAKZ	**Makanchi**	**61.14**	**317**	P	**P**	**20 20 00.4**	**+0.2**
MAKZ	**Makanchi**	**61.14**	**317**	P	**P**	**20 20 00.5**	**+0.2**
MAKZ				pP	**pwP**	**20 20 14.6**	**-2.4**
ZALV	**Zalesovo Beam**	**61.49**	**325**	P	**P**	**20 20 01.9**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=105,slow=7.2,SNR=13						
	comp=Z,2.6nm,0.6s						
SHLS	**Shalkode**	**62.13**	**313**	*e*P	**P**	**20 20 04.9**	**-2.2**
SHLS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SHLS	**Shalkode**	**62.13**	**313**	*e*P	**P**	**20 20 04.9**	**-2.2**
	comp=Z,5.1nm,1.0s						
UZB	**Uzynbulak**	**62.45**	**312**	*e*P	**P**	**20 20 08.9**	**-0.3**
UZB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
UZB	**Uzynbulak**	**62.45**	**312**	*e*P	**P**	**20 20 09.0**	**-0.3**
	comp=Z,4.6nm,0.8s						
SATY	**Saty**	**62.88**	**312**	*e*P	**P**	**20 20 12.0**	**-0.1**
SATY	**Saty**	**62.88**	**312**	*e*P	**P**	**20 20 12.0**	**-0.1**
TDK	**Taldyqorghan**	**63.20**	**314**	*e*P	**P**	**20 20 14.1**	**0.0**
TDK				pmax	pmax		
	comp=Z,13nm,1.0s						
TDK	**Taldyqorghan**	**63.20**	**314**	*e*P	**P**	**20 20 14.1**	**0.0**
	comp=Z,13nm,1.0s						
KDJ	**Kajisay**	**63.64**	**311**	IAmb	IAmb	20 21 16.4	
	comp=Z,15nm,0.8s						
MDOK	**Medeo**	**63.88**	**312**	*e*P	**P**	**20 20 18.4**	**-0.3**
MDOK	**Medeo**	**63.88**	**312**	*e*P	**P**	**20 20 18.4**	**-0.3**
TNSS	**Tian-Shan**	**63.93**	**312**	*e*P	**P**	**20 20 18.7**	**-0.7**
TNSS	**Tian-Shan**	**63.93**	**312**	*e*P	**P**	**20 20 18.8**	**-0.7**
AAA	**Alma-Ata**	**63.98**	**312**	*e*P	**P**	**20 20 19.1**	**-0.2**
AAA	**Alma-Ata**	**63.98**	**312**	*e*P	**P**	**20 20 19.2**	**-0.2**
KURK	**Kurchatov**	**64.22**	**321**	P	**P**	**20 20 20.5**	**-0.1**
KURK	**Kurchatov**	**64.22**	**321***c*	*i* P	**P**	**20 20 20.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,28nm,0.8s						
KURK	**Kurchatov**	**64.22**	**321**	P	**P**	**20 20 20.4**	**-0.1**
KSH	**Kashi**	**64.24**	**308**	P	**P**	**20 20 23.8**	**+2.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**64.25**	**321**	P	**P**	**20 20 20.6**	**-0.2**
	comp=Z,16nm,0.7s,baz=104,slow=6.6,SNR=131						
	comp=Z,16nm,0.7s						
KUU	**Kurty**	**64.49**	**313**	*e*P	**P**	**20 20 22.6**	**0.0**
KUU				pmax	pmax		
	comp=Z,15nm,1.0s						
KUU	**Kurty**	**64.49**	**313**	*e*P	**P**	**20 20 22.6**	**0.0**
	comp=Z,15nm,1.0s						
AAK	**Ala-Archa**	**65.67**	**311**	P	**P**	**20 20 30.1**	**-0.3**
AAK	**Ala-Archa**	**65.67**	**311⇑**	*i* P	**P**	**20 20 30.2**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**65.67**	**311**	P	**P**	**20 20 30.2**	**-0.3**
NIL	**Nilore**	**66.07**	**302**	P	**P**	**20 20 32.7**	**-0.3**
NIL	**Nilore**	**66.07**	**302**	P	**P**	**20 20 32.7**	**-0.3**
NIL	**Nilore**	**66.07**	**302**	P	**P**	**20 20 32.9**	**-0.1**
BTLS	**Baital**	**66.27**	**314**	*e*P	**P**	**20 20 33.7**	**-0.3**
BTLS	**Baital**	**66.27**	**314**	*e*P	**P**	**20 20 33.7**	**-0.3**
OHH	**Osh**	**66.77**	**309**	P	**P**	**20 20 37.5**	**+0.1**
NRIK	**Noril'sk**	**66.85**	**342**	IAmb	IAmb	20 21 35.5	
	comp=Z,16nm,1.4s						
NRIK	**Noril'sk**	**66.85**	**342**	P	**P**	**20 20 36.3**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=254,slow=17,SNR=4.7						
	comp=Z,3.4nm,0.7s						
NRIK	**Noril'sk**	**66.85**	**342⇑**	*e*P	**P**	**20 20 36.6**	**-0.6**
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BRZS	**Berezniki**	**67.83**	**319**	*e*P	**P**	**20 20 43.4**	**-0.4**
BRZS	**Berezniki**	**67.83**	**319**	*e*P	**P**	**20 20 43.5**	**-0.4**
BTK	**Batken**	**68.24**	**308**	P	**P**	**20 20 45.3**	**-1.4**
KKAR	**Karatay Array**	**68.63**	**312**	P	**P**	**20 20 48.3**	**-0.7**
IUG	**Iuzhnay**	**68.93**	**311**	*e*P	**P**	**20 20 50.6**	**-0.4**
IUG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
IUG	**Iuzhnay**	**68.93**	**311**	*e*P	**P**	**20 20 50.6**	**-0.4**
	comp=Z,4.9nm,0.7s						
BRLS	**Borolday**	**69.12**	**312**	*e*P	**P**	**20 20 52.1**	**0.0**
BRLS	**Borolday**	**69.12**	**312**	*e*P	**P**	**20 20 52.1**	**0.0**
BPAW	**Bear Paw Mtn.**	**69.20**	**26**	IAmb	IAmb	20 21 51.0	
	comp=Z,17nm,1.5s						
CHM	**Chimkent**	**69.26**	**311**	*e*P	**P**	**20 20 52.4**	**-0.5**
CHM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHM	**Chimkent**	**69.26**	**311**	*e*P	**P**	**20 20 52.5**	**-0.5**
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**69.57**	**302**	P	**P**	**20 20 54.0**	**-1.2**
SIMJ	**Simiganj**	**69.60**	**307**	P	**P**	**20 20 54.7**	**-0.5**
SIMJ	**Simiganj**	**69.60**	**307**	P	**P**	**20 20 55.1**	**-0.2**
BVAR	**Borovoye Array**	**69.64**	**322**	P	**P**	**20 20 55.0**	**-0.1**
	comp=Z,17nm,0.7s,baz=105,slow=8.0,SNR=68						
	comp=Z,17nm,0.7s						
BVAR	**Borovoye Array**	**69.64**	**322**	P	**P**	**20 20 55.0**	**-0.1**
BRVK	**Borovoye**	**69.71**	**322**	P	**P**	**20 20 55.2**	**-0.3**
BRVK	**Borovoye**	**69.71**	**322***c*	*i* P	**P**	**20 20 55.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,17nm,0.8s						
BRVK	**Borovoye**	**69.71**	**322**	P	**P**	**20 20 55.5**	**0.0**
BRVK				pP	**pP**	**20 21 09.3**	**+1.0**
DZET	**Dzherino**	**69.75**	**307**	P	**P**	**20 20 56.1**	**0.0**
E22K	**Anaktuvuk Pass**	**70.07**	**21**	P	**P**	**20 20 57.5**	**0.0**
E22K				IAmb	IAmb	20 21 59.0	
	comp=Z,20nm,1.5s						
WRH	**Wood River Hil**	**70.52**	**26**	IAmb	IAmb	20 22 33.3	
	comp=Z,17nm,1.7s						
CCB	**Clear Creek Bu**	**70.68**	**25**	P	**P**	**20 21 00.5**	**-0.7**
CCB	

comp=Z,18nm,1.8s
TBI Tubuai 75.40 118 *e*LR LR 20 44 43.6
comp=Z,492nm,27.2s
SVE Sverdlovsk 75.51 326 *e*P **P 20 21 30.1 +0.3**
SKAG Skagway 75.90 31 IAmb IAmb 20 21 34.6
comp=Z,22nm,1.6s
ABKAR Akbulak array 76.05 318 P **P 20 21 32.3 -0.8**
WHY Whitehorse 76.14 30 IAmb IAmb 20 22 33.3
comp=Z,15nm,1.2s
ARTI Arti 76.76 325 P **P 20 21 35.7 -1.3**
ARTI Arti 76.76 325*c i*P **P 20 21 36.0 -0.9**
ARTI S **S 20 31 20.9 +0.5**
ARTI pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 76.80 22 P **P 20 21 36.6 -0.3**
comp=Z,3.1nm,0.8s,baz=275,slow=9.2,SNR=6.1
comp=Z,3.1nm,0.8s
P33M Teslin, Yukon 77.16 31 IAmb IAmb 20 22 46.8
comp=Z,17nm,1.9s
DLBC Dease Lake 78.69 32 P **P 20 21 48.0 +0.2**
comp=Z,3.9nm,1.0s,baz=269,slow=8.7,SNR=7.0
comp=Z,3.9nm,1.0s
TAOE Nuku Hiva Isla 79.81 101 *e*LR LR 20 46 47.7
comp=Z,123nm,32.7s
KIRV Kirov 81.38 328⇓*e*P **P 20 22 02.2 +0.1**
SPITS Spitsbergen Ar 85.22 350 LR LR 21 01 03.5
comp=Z,101nm,20.3s,baz=10,slow=36
LON Longmire 85.38 43 IAmb IAmb 20 23 28.3
comp=Z,9.0nm,1.1s
YKA Yellowknife Ar 85.43 27 P **P 20 22 22.6 -0.3**
comp=Z,2.9nm,0.9s,baz=290,slow=5.4,SNR=29
comp=Z,2.9nm,0.9s
B08A Colville Reser 86.64 41 P **P 20 22 29.2 0.0**
RES Resolute Bay 86.68 13 P **P 20 22 29.0 +0.1**
comp=Z,2.4nm,0.8s,baz=322,slow=5.8,SNR=11
comp=Z,2.4nm,0.8s
VRH Novokhopyorsk 87.29 322 *e*P **P 20 22 28.5 -3.8**
VRH pmax pmax
comp=Z,10.0nm,1.0s
I07A Izee 87.57 46 IAmb IAmb 20 23 33.7
comp=Z,14nm,1.2s
ARCES ARCESS Array B 87.83 342 P **P 20 22 33.0 -1.5**
comp=Z,1.5nm,0.6s,baz=47,slow=2.3,SNR=5.9
comp=Z,1.5nm,0.6s
NCK Nalchik 88.07 314⇓*i*P **P 20 22 34.9 -1.3**
NCK pmax pmax
comp=Z,38nm,2.3s
KBZ Khabaz 88.50 314 P **P 20 22 36.2 -2.0**
comp=Z,1.3nm,0.9s,baz=218,slow=3.1,SNR=4.1
comp=Z,1.3nm,0.9s
KBZ Khabaz 88.50 314⇑*e*P **P 20 22 36.4 -1.8**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
LPSR Galich'ya Gora 88.55 324 *e*P **P 20 22 35.0 -3.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 88.59 315 *e*P **P 20 22 38.6 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
VORR Voronezh 88.67 323 *e*P P 20 22 33.5 -5.3
VORR pmax pmax
comp=Z,10.0nm,0.9s
SHA1 Shidzhatmaz 88.67 314⇓*e*P **P 20 22 39.5 +0.2**
PAHR Pah Rah Range 88.74 50 IAmb IAmb 20 22 56.4
comp=Z,13nm,1.1s
VORD Divnogorie 88.83 322 *e*P **P 20 22 36.8 -2.8**
VORD pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 88.83 322 *e*P **P 20 22 35.9 -3.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 89.06 326⇓*e*P **P 20 22 38.0 -2.6**
OBN *e* 20 26 06.7
OBN pmax pmax
comp=Z,10.0nm,1.2s
NVAR Mina Array Bea 89.88 51 P **P 20 22 45.9 +0.8**
comp=Z,8.1nm,0.8s,baz=265,slow=5.8,SNR=32
comp=Z,8.1nm,0.8s
NV11 Mina Array Sit 89.99 51 IAmb IAmb 20 23 45.5
comp=Z,9.9nm,0.9s
HLID Hailey 91.26 45 P **P 20 22 51.3 0.0**
ELK Elko 91.51 48 P **P 20 22 53.4 +0.7**
FINES FINESS Array B 91.54 334 P **P 20 22 49.8 -2.2**
comp=Z,4.1nm,0.8s,baz=65,slow=5.3,SNR=8.4
comp=Z,4.1nm,0.8s
ANN Anapa 91.94 316 *e*P P 20 22 48.3 -5.9
ANN *e*PP **PcP 20 22 57.5 +2.5**
ANN *e*S **SKSac 20 33 17.4 -6.0**
ANN pmax pmax
comp=Z,44nm,0.9s
FXWY Fox Creek 93.56 44 IAmb IAmb 20 23 03.8
comp=Z,4.2nm,0.9s
H17A Grant Village 93.60 43 IAmb IAmb 20 23 06.2
comp=Z,9.0nm,1.0s
YNE Yellowstone No 93.77 43 IAmb IAmb 20 23 08.0
comp=Z,4.2nm,1.1s
MNK Minsk 93.92 328 *i*P **P 20 23 03.0 -0.2**
MNK *i* 20 26 49.9
MNK *i* PPP PPP 20 28 52.5
MNK *i* S **SKSac 20 33 37.7 +3.7**
MNK *i* SS **SS 20 40 36.7 +8.0**
MNK *i* SSS SSS 20 44 15.4
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=Z,115nm,16.0s
KNB Kanab 94.45 51 IAmb IAmb 20 23 08.5
comp=Z,6.4nm,1.1s
PDAR Pinedale Array 94.87 45 P **P 20 23 07.7 -0.4**
comp=Z,0.4nm,0.7s,baz=248,slow=1.6,SNR=3.8
comp=Z,0.4nm,0.7s
ULM Lac du Bonnet 99.97 34 P **Pdif 20 23 28.9 -1.6**
comp=Z,0.6nm,0.3s,baz=337,slow=13,SNR=1.9
comp=Z,0.6nm,0.3s
ULM Lac du Bonnet 99.97 34 P **Pdif 20 23 29.0 -1.6**
CLL Collm 103.21 330 *e*Pdif **Pdif 20 23 46.0 +1.0**
CLL AMS AMS 21 14 00.0
comp=Z,200nm,21.0s
LPAZ La Paz 150.20 102 PKPbc **PKiKP 20 29 38.9 0.0**
comp=Z,6.9nm,0.7s,baz=259,slow=2.0,SNR=18

MOS ***27*** *20:10:47.6±0.9, 12°.18N×142°.22E, h46km, mb5.0/35, Error ellipse: s-maj=11.0km s-min=5.8km az=119.3*
NEIC ***27*** *20:10:49.1±1.6, 12°.2N±0°.1×142°.29E±0°.09, h35km±2km, mb5.0/110, Error ellipse: s-maj=17.9km s-min=15.6km az=167.0*
GCMT ***27*** *20:10:51.1±0.6, 11°.80N±0°.04×142°.25E±0°.03, h37km±1km, MW4.9/50, Moment Tensor Solution. s34,c40; s50,c64; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.74±.18; Mθθ-2.50±.11; Mφφ-0.24±.11; Mrθ0.82±.10; Mφθ-0.17±.09; Mφr0.12±.12; Best double couple: M0=2.75300×10¹⁶ NP1:φs=267.00000°, δ36.00000°, λ92.00000°. NP2: φs=85.00000°, δ54.00000°, λ89.00000°. Principal axes: T 2.8670, Plg81.0000°, Azm349.0000°; N -0.2340, Plg1.0000°, Azm85.0000°; P -2.6390, Plg9.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***27*** *20:10:55.8±4.8, 12°.27N×142°.27E, h100km±42km, mb4.3/26, mbtmp4.6/27, MS3.9/6 Error ellipse: s-maj=19.1km s-min=12.6km az=91.0*
ISC 27 20:10:49.7±0.7, 12°.18N±0°.07×142°.20E±0°.06, h46km±5km, n245, σ1§29/196, mb4.9/123, MS4.0/15, 11C-12D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.95**	**61**	Pn	**Pn**	**20 11 33.8**	**-0.4**
GUMO	**Guam**	**2.95**	**61**	S	**Sn**	**20 12 13.9**	**+5.5**
353nm,0.4s,baz=203,slow=21,SNR=1.6							
GUMO	**Guam**	**2.95**	**61**	P	**Pn**	**20 11 33.8**	**-0.4**
FAKI	**Fak Fak**	**17.97**	**214**	P	**P**	**20 15 02.0**	**+5.6**
JOW	**Kunigami**	**19.59**	**320**	Pn	**Pn**	**20 15 17.5**	**+1.8**
JOW				IAmb	IAmb	20 15 18.7	
comp=Z,182nm,1.7s							
JOW	**Kunigami**	**19.59**	**320**	P	**Pn**	**20 15 16.6**	**+0.9**
comp=Z,33nm,0.6s,baz=123,slow=9.1,SNR=5.9							
TGY	**Tagaytay City**	**20.80**	**278**	P	**P**	**20 15 28.0**	**+0.7**
comp=Z,108nm,0.3s,baz=268,slow=4.0,SNR=3.8							
YULB	**Yu-li**	**22.78**	**302**	P	**P**	**20 15 48.6**	**+0.1**
SSLB	**Suanglung**	**23.23**	**303**		**P**	**20 15 54.4**	**+1.2**
SSLB				IAmb	IAmb	20 15 55.5	
comp=Z,31nm,0.8s							
JNU	**Nakatsue**	**23.28**	**335**	P	**P**	**20 15 55.0**	**+1.5**
JNU				IAmb	IAmb	20 15 57.9	
comp=Z,34nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**24.42**	**72**	T	T	20 41 36.0	
baz=260							
MYLDM	**Lahad Datu**	**24.43**	**256**	P	**P**	**20 16 04.6**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**24.43**	**72**	T	T	20 41 38.3	
baz=260							
H11S2	**WAKE ISLAND Hy**	**24.43**	**72**	T	T	20 41 34.7	
baz=260							
MJAR	**Matsushiro Arr**	**24.52**	**352**	P	**P**	**20 16 05.4**	**+0.5**
comp=Z,7.3nm,0.9s,baz=180,slow=11,SNR=8.0							
MJAR				LR	LR	20 24 42.2	
comp=Z,295nm,21.6s,baz=147,slow=34							
comp=Z,7.3nm,0.9s							
MAJO	**Matsushiro**	**24.52**	**352**	P	**P**	**20 16 05.2**	**+0.3**
MAJO				IAmb	IAmb	20 16 12.2	
comp=Z,54nm,1.6s							
MAJO	**Matsushiro**	**24.52**	**352**⇓	*e*P	**P**	**20 16 06.6**	**+1.7**
MJB9	**Matsu-Tunnel**	**24.52**	**352**	P	**P**	**20 16 06.2**	**+1.3**
MJB9				IAmb	IAmb	20 16 13.1	
comp=Z,51nm,1.5s							
H11N1	**WAKE ISLAND Hy**	**24.87**	**69**	T	T	20 42 10.4	
baz=249							
H11N2	**WAKE ISLAND Hy**	**24.88**	**69**	T	T	20 42 09.4	
baz=249							
H11N3	**WAKE ISLAND Hy**	**24.89**	**69**	T	T	20 42 08.7	
baz=249							
JSD	**Sado**	**25.99**	**353**	P	**P**	**20 16 19.1**	**+0.9**
JSD				IAmb	IAmb	20 16 25.9	
comp=Z,59nm,1.3s							
TJN	**Taejon**	**27.55**	**333**⇓	*e*P	**P**	**20 16 33.1**	**+0.8**
HNR	**Honiara**	**27.79**	**140**	LR	LR	20 27 55.2	
comp=Z,121nm,19.0s,baz=102,slow=37							
KSRS	**Korea Array**	**28.23**	**335**	P	**P**	**20 16 39.2**	**+0.8**
comp=Z,1.2nm,0.5s,baz=136,slow=8.6,SNR=4.1							
comp=Z,1.2nm,0.5s							
NJ2	**Nanjing**	**29.19**	**316**	*e*P	**P**	**20 16 47.8**	**+0.9**
NJ2				pmax	pmax		
comp=Z,14nm,0.5s							
NJ2				LR	LR		
comp=N,490nm,15.9s							
NJ2				LR	LR		
comp=E,750nm,16.8s							
NJ2				LR	LR		
comp=Z,940nm,15.9s							
SBUM	**Sibu**	**31.23**	**254**	P	**P**	**20 17 07.0**	**+1.8**
JKA	**Kamikawa-asahi**	**31.82**	**1**	P	**P**	**20 17 10.4**	**+0.4**
JKA				IAmb	IAmb	20 17 41.4	
comp=Z,64nm,1.7s							
ASAJ	**Asahikawa**	**31.82**	**1**	P	**P**	**20 17 10.4**	**+0.4**
ASAJ				pmax	pmax		
comp=Z,64nm,1.7s							
QIZ	**Qiongzhong**	**31.86**	**286**	P	**P**	**20 17 11.3**	**+0.6**
QIZ				LR	LR		
comp=N,110nm,15.1s							
QIZ				LR	LR		
comp=E,170nm,14.4s							
QIZ				LR	LR		
comp=Z,200nm,17.2s							
WRAB	**Tennant Creek**	**32.84**	**194**⇑	*e*P	**P**	**20 17 16.1**	**-3.1**
WRAB				pmax	pmax		
comp=Z,9.0nm,1.3s							
WRA	**Warramunga Arr**	**32.85**	**194**	P	**P**	**20 17 22.4**	**+3.1**
comp=Z,3.7nm,0.9s,baz=12,slow=8.6,SNR=4.8							
WRA				PcP	**PcP**	**20 20 03.2**	**-0.2**
comp=Z,0.5nm,0.6s,baz=14,slow=3.1,SNR=1.9							
comp=Z,3.7nm,0.9s							
TIA	**Tai'an**	**32.91**	**321**	P	**P**	**20 17 21.0**	**+1.3**
TIA				pmax	pmax		
comp=Z,16nm,1.0s							
USRK	**Ussuriysk Ar.**	**33.09**	**346**	P	**P**	**20 17 22.6**	**+1.4**
comp=Z,16nm,0.7s,baz=170,slow=8.3,SNR=13							
comp=Z,16nm,0.7s							
USA0B	**Ussuriysk Arra**	**33.09**	**346**	P	**P**	**20 17 22.0**	**+0.9**
USA0B				IAmb	IAmb	20 17 23.3	
comp=Z,18nm,0.8s							
USA0B	**Ussuriysk Arra**	**33.09**	**346**⇓	*e*P	**P**	**20 17 21.7**	**+0.5**
LYN	**LuoYang**	**35.00**	**314**	P	**P**	**20 17 39.0**	**+1.2**
LYN				pmax	pmax		
comp=Z,55nm,1.0s							
HNS	**HongShan**	**35.16**	**320**	⇓P	**P**	**20 17 40.8**	**+1.6**
HNS				pmax	pmax		
comp=Z,35nm,1.0s							
ENH	**Enshi**	**35.23**	**306**		**P**	**20 17 40.5**	**+0.6**
ENH				IAmb	IAmb	20 17 41.8	
comp=Z,29nm,0.9s							
ENH	**Enshi**	**35.23**	**306**	P	**P**	**20 17 40.6**	**+0.6**
BJT	**Baijiatuau**	**36.00**	**325**		**P**	**20 17 46.3**	**-0.1**
BJT				IAmb	IAmb	20 17 48.6	
comp=Z,41nm,1.5s							
BJT	**Baijiatuau**	**36.00**	**325**	P	**P**	**20 17 46.3**	**-0.1**
BJT				pmax	pmax		
comp=Z,41nm,1.5s							
BJI	**Beijing**	**36.01**	**325**	P	**P**	**20 17 47.5**	**+1.0**
BJI				pmax	pmax		
comp=Z,8.0nm,1.0s							
BJI				LR	LR		
comp=N,170nm,17.6s							
BJI				LR	LR		
comp=E,120nm,17.6s							
BJI				LR	LR		
comp=Z,220nm,18.3s							
GYA	**Guiyang**	**36.28**	**298**	P	**P**	**20 17 51.0**	**+1.9**
GYA				pmax	pmax		
comp=Z,16nm,0.9s							
AS31	**Alice Springs**	**36.54**	**193**	P	**P**	**20 17 51.2**	**+0.1**
ASAR	**Alice Springs**	**36.54**	**193**	P	**P**	**20 17 50.3**	**-0.9**
ASAR	**Alice Springs**	**36.54**	**193**	P	**P**	**20 17 52.2**	**+1.0**
comp=Z,1.3nm,0.6s,baz=22,slow=10,SNR=5.8							
ASAR				PcP	**PcP**	**20 20 12.6**	**-1.5**
comp=Z,1.0nm,0.9s,baz=51,slow=4.9,SNR=2.9							
comp=Z,1.3nm,0.6s							
TIY	**Taiyuan**	**36.79**	**319**	P	**P**	**20 17 55.5**	**+2.3**
TIY				pmax	pmax		
comp=Z,36nm,0.8s							
SLVN	**Son La**	**37.70**	**289**		**P**	**20 18 01.5**	**+0.4**
KLR	**Kul'dur**	**37.94**	**349**	LR	LR	20 31 02.4	
comp=Z,237nm,21.5s,baz=168,slow=32							
KLR	**Kul'dur**	**37.94**	**349***c i*P		**P**	**20 18 03.6**	**+0.9**
KLR				pmax	pmax		
comp=Z,13nm,0.6s							
HHC	**Hu-ho-hao-te**	**39.21**	**322**	*e*P	**P**	**20 18 15.8**	**+2.1**
HHC				pmax	pmax		
comp=Z,14nm,0.6s							
HHC				pmax	pmax		
comp=Z,110nm,4.4s							
HHC				LR	LR		
comp=N,170nm,17.2s							
HHC				LR	LR		
comp=E,220nm,14.1s							
HHC				LR	LR		
comp=Z,290nm,19.4s							
KMI	**Kunming**	**39.39**	**295**	P	**P**	**20 18 17.3**	**+1.8**
KMI				pmax	pmax		
comp=Z,9.0nm,1.0s							
KMI				LR	LR		
comp=N,130nm,12.5s							
KMI				LR	LR		
comp=E,100nm,14.2s							
KMI				LR	LR		
comp=Z,160nm,18.4s							
HEH	**HeiHe**	**39.86**	**345**	*e*P	**P**	**20 18 19.5**	**+0.8**
HEH				pmax	pmax		
comp=Z,38nm,1.0s							
CD2	**Chengdu**	**40.06**	**304**	P	**P**	**20 18 21.0**	**+0.2**
CD2				pmax	pmax		
comp=Z,50nm,0.7s							
PZH	**PanZhiHua**	**40.56**	**297**	P	**P**	**20 18 25.8**	**+0.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,6.7s							
CRAI	**Chiangrai**	**40.86**	**287**	P	**P**	**20 18 28.2**	**+0.7**
DZM	**Mont Dzumac**	**41.53**	**145**	LR	LR	20 35 12.2	
comp=Z,158nm,19.7s,baz=328,slow=35							
KULM	**Kulim**	**41.59**	**264**	P	**P**	**20 18 33.2**	**-0.4**
CM31	**Chiang Mai Arr**	**42.11**	**284**	P	**P**	**20 18 37.3**	**-0.4**
CM31				IAmb	IAmb	20 18 39.5	
comp=Z,15nm,0.7s							
CMAR	**Chiang Mai Arr**	**42.11**	**284**	P	**P**	**20 18 37.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.11**	**284**	P	**P**	**20 18 38.5**	**+0.8**
comp=Z,10nm,0.6s,baz=86,slow=6.8,SNR=22							
CMAR				PcP	**PcP**	**20 20 32.1**	**+0.2**
comp=Z,1.2nm,0.6s,baz=88,slow=3.4,SNR=6.5							
comp=Z,10nm,0.6s							
CHTO	**Chiang Mai**	**42.12**	**285**	P	**P**	**20 18 38.3**	**+0.4**
CHTO				sP	**pwP**	**20 18 53.5**	**+0.7**
PETK	**Petropavlovsk-**	**42.66**	**14**	P	**P**	**20 18 39.4**	**-2.3**
comp=Z,1.9nm,0.7s,baz=223,slow=5.5,SNR=2.2							
comp=Z,1.9nm,0.7s							
ZEA	**Zeya**	**43.13**	**347**	*e*P	**P**	**20 18 46.3**	**+0.8**
ZEA				*e*		20 19 00.4	
ZEA				pmax	pmax		
comp=N,10.0nm,1.0s							
ZEA				pmax	pmax		
comp=Z,10.0nm,1.2s							
TNCH	**TengChong**	**43.14**	**294**	⇑P	**P**	**20 18 46.8**	**+0.5**
TNCH				pP	pP	20 18 56.3	-1.7
TNCH				PP	**PP**	**20 20 24.0**	**-3.1**
TNCH				S	**S**	**20 25 08.5**	**-1.3**
TNCH				sS	sS	20 25 28.3	-1.3
TNCH				SS	SS	20 28 12.8	-11
TNCH				pmax	pmax		
comp=Z,11nm,1.2s							
TNCH				pmax	pmax		
comp=Z,130nm,3.8s							
TNCH				LR	LR		
comp=N,130nm,3.6s							
TNCH				LR	LR		
comp=E,170nm,5.0s							
TNCH				LR	LR		
comp=Z,220nm,15.3s							
STKA	**Stephens Creek**	**43.81**	**181**	P	**P**	**20 18 51.6**	**+0.4**
comp=Z,3.1nm,0.9s,baz=355,slow=10,SNR=2.9							
comp=Z,3.1nm,0.9s							
PSI	**Prapat**	**43.85**	**261**	P	**P**	**20 18 50.4**	**-1.6**
PSI				pmax	pmax		
comp=Z,14nm,0.9s							
RPSI	**Rantau Prapat**	**43.87**	**261**		**P**	**20 18 50.4**	**-1.6**
ULN	**Ulaanbaatar**	**46.10**	**327**		**P**	**20 19 10.4**	**+0.9**
ULN				IAmb	IAmb	20 19 11.7	
comp=Z,14nm,1.1s							
ULN	**Ulaanbaatar**	**46.10**	**327**⇑	*i*P	**P**	**20 19 10.7**	**+1.2**
ULN				pmax	pmax		
comp=Z,15nm,1.1s							
ULN	**Ulaanbaatar**	**46.10**	**327**	P	**P**	**20 19 10.7**	**+1.2**
ULN				pP	**pP**	**20 19 20.9**	**-0.5**
GTA	**Gaotai**	**46.21**	**314**	P	**P**	**20 19 11.8**	**+1.4**
GTA				pP	pP	20 19 22.5	+0.4
GTA				sP	sP	20 19 27.3	+0.2
GTA				PcP	**PcP**	**20 20 46.3**	**+0.7**
GTA				pmax	pmax		
comp=Z,22nm,0.9s							
GTA				LR	LR		
comp=N,98nm,13.8s							
GTA				LR	LR		
comp=E,140nm,14.2s							
GTA				LR	LR		
comp=Z,160nm,20.7s							
SONM	**Songino Array**	**46.43**	**327**		**P**	**20 19 12.6**	**+0.5**
SONM				IAmb	IAmb	20 19 14.6	
comp=Z,37nm,1.7s							
SONM	**Songino Array**	**46.43**	**327**	P	**P**	**20 19 13.1**	**+1.0**
comp=Z,5.8nm,0.6s,baz=144,slow=7.2,SNR=14							
SONM				PcP	**PcP**	**20 20 45.6**	**-0.7**
comp=Z,2.4nm,1.0s,baz=111,slow=2.4,SNR=3.9							
comp=Z,5.8nm,0.6s							
MA2	**Magadan**	**47.73**	**6**⇓	*i*P	**P**	**20 19 21.5**	**-0.4**
MA2				pmax	pmax		
comp=Z,5.0nm,0.8s							
BRDH	**Bariadhala**	**49.15**	**289**	LR	LR	20 39 02.1	
comp=Z,126nm,21.3s,baz=149,slow=34							
ZAK	**Zakamensk**	**49.60**	**328**	*e*P	**P**	**20 19 36.9**	**+0.4**
ZAK				pmax	pmax		
comp=Z,22nm,1.0s							
YAK	**Yakutsk**	**50.59**	**352**	P	**P**	**20 19 43.3**	**-0.2**
YAK	**Yakutsk**	**50.59**	**352**	*e*P	**P**	**20 19 43.0**	**-0.6**
YAK				pmax	pmax		
comp=Z,50nm,1.3s							
YAK				pmax	pmax		
comp=N,16nm,1.5s							
YAK				pmax	pmax		
comp=E,2.0nm,1.0s							
YAK	**Yakutsk**	**50.59**	**352**	P	**P**	**20 19 43.4**	**-0.2**
SEY	**Seymchan**	**51.19**	**6**	P	**P**	**20 19 48.4**	**+0.2**
comp=E,4.2nm,0.9s,baz=191,slow=7.6,SNR=5.9							
comp=E,4.2nm,0.9s							
SEY	**Seymchan**	**51.19**	**6**⇓	*e*P	**P**	**20 19 48.5**	**+0.4**
SEY				pmax	pmax		
comp=Z,8.0nm,1.1s							
WMQ	**Urumqi**	**56.25**	**315**	*e*P	**P**	**20 20 26.5**	**+0.9**
WMQ				pmax	pmax		
comp=Z,33nm,1.3s							
WMQ				pmax	pmax		
comp=Z,70nm,4.9s							
WMQ				LR	LR		
comp=Z,200nm,21.9s							
WMQ	**Urumqi**	**56.25**	**315**	PcP	**P**	**20 20 26.8**	**+1.2**
BILL	**Bilibino**	**57.99**	**10**⇓	*i*P	**P**	**20 20 36.5**	**-0.9**
BILL				pmax	pmax		
comp=Z,5.0nm,0.8s							
ZSN	**Zaisan**	**59.19**	**318**	*e*P	**P**	**20 20 46.2**	**+0.1**
ZSN				pmax	pmax		
comp=Z,6.0nm,0.6s							
ZSN	**Zaisan**	**59.19**	**318**	*e*P	**P**	**20 20 46.2**	**+0.1**
comp=Z,6.3nm,0.6s							
TIXI	**Tiksi**	**59.98**	**355**⇑	*e*P	**P**	**20 20 50.9**	**-0.2**
TIXI				pmax	pmax		
comp=Z,15nm,2.8s							
MK31	**Makanchi Array**	**60.72**	**317***c i*P		**P**	**20 20 57.0**	**+0.4**
MKAR	**Makanchi Array**	**60.72**	**317**		**P**	**20 20 57.0**	**+0.4**
MKAR	**Makanchi Array**	**60.72**	**317**	P	**P**	**20 20 57.2**	**+0.6**
comp=Z,18nm,0.8s,baz=96,slow=8.2,SNR=35							
comp=Z,18nm,0.8s							
MAKZ	**Makanchi**	**60.93**	**317**	P	**P**	**20 20 58.1**	**0.0**
MAKZ	**Makanchi**	**60.93**	**317**	P	**P**	**20 20 58.1**	**0.0**
MAKZ				pmax	pmax		
comp=Z,26nm,0.8s							
MAKZ	**Makanchi**	**60.93**	**317**	P	**P**	**20 20 58.5**	**+0.4**
ZAA0	**Zalesovo Array**	**61.27**	**325**	P	**P**	**20 20 59.6**	**-0.6**
ZAA0				IAmb	IAmb	20 21 00.4	
comp=Z,5.8nm,0.6s							
ZALV	**Zalesovo Beam**	**61.27**	**325**	P	**P**	**20 20 59.9**	**-0.2**
comp=Z,6.6nm,0.5s,baz=109,slow=7.3,SNR=15							
ZALV				PcP	**PcP**	**20 21 40.6**	**-1.7**
comp=Z,2.5nm,0.7s,baz=82,slow=3.8,SNR=3.9							
comp=Z,6.6nm,0.5s							
ZALV	**Zalesovo Beam**	**61.27**	**325**	P	**P**	**20 21 00.0**	**-0.2**
SHLS	**Shalkode**	**61.92**	**313**	*e*P	**P**	**20 21 02.9**	**-2.1**
SHLS				pmax	pmax		
comp=Z,4.0nm,0.7s							
SHLS	**Shalkode**	**61.92**	**313**	*e*P	**P**	**20 21 02.9**	**-2.1**
comp=Z,4.3nm,0.7s							
UZB	**Uzynbulak**	**62.24**	**312**	*e*P	**P**	**20 21 06.9**	**-0.2**
UZB				pmax	pmax		
comp=Z,5.0nm,0.6s							
UZB	**Uzynbulak**	**62.24**	**312**	*e*P	**P**	**20 21 07.0**	**-0.2**
comp=Z,5.0nm,0.6s							
SATY	**Saty**	**62.67**	**312**	*e*P	**P**	**20 21 09.8**	**-0.2**
SATY				pmax	pmax		
comp=Z,5.0nm,0.9s							
SATY	**Saty**	**62.67**	**312**	*e*P	**P**	**20 21 09.8**	**-0.2**
comp=Z,4.5nm,0.9s							
TDK	**Taldyqorghan**	**62.99**	**314**	*e*P	**P**	**20 21 12.2**	**+0.3**
TDK				pmax	pmax		
comp=Z,9.0nm,0.7s							
TDK	**Taldyqorghan**	**62.99**	**314**	*e*P	**P**	**20 21 12.3**	**+0.3**
comp=Z,8.6nm,0.7s							
MDOK	**Medeo**	**63.67**	**312**	*e*P	**P**	**20 21 16.7**	**+0.1**
MDOK	**Medeo**	**63.67**	**312**	*e*P	**P**	**20 21 16.8**	**+0.1**
TNSS	**Tian-Shan**	**63.73**	**312**	*e*P	**P**	**20 21 17.0**	**-0.3**
TNSS	**Tian-Shan**	**63.73**	**312**	*e*P	**P**	**20 21 17.1**	**-0.3**
AAA	**Alma-Ata**	**63.77**	**312**	*e*P	**P**	**20 21 17.2**	**0.0**
AAA				pmax	pmax		
comp=Z,6.0nm,0.5s							
AAA	**Alma-Ata**	**63.77**	**312**	*e*P	**P**	**20 21 17.3**	**0.0**
comp=Z,6.2nm,0.5s							
CHKK	**Chushkaly**	**63.81**	**313**	*e*P	**P**	**20 21 17.6**	**+0.2**
CHKK	**Chushkaly**	**63.81**	**313**	*e*P	**P**	**20 21 17.6**	**+0.2**
KURK	**Kurchatov**	**64.00**	**321***c i*P		**P**	**20 21 18.5**	**+0.1**
KURK				pmax	pmax		
comp=Z,42nm,0.8s							
KURK	**Kurchatov**	**64.00**	**321**	P	**P**	**20 21 18.2**	**-0.2**
KURBB	**Kurchatov Arra**	**64.03**	**321**	P	**P**	**20 21 18.7**	**+0.1**
comp=Z,26nm,0.6s,baz=107,slow=6.9,SNR=28							
comp=Z,26nm,0.6s							
KSH	**Kashi**	**64.04**	**308**	P	**P**	**20 21 21.0**	**+1.9**

KSH PcP **PcP** **20 21 55.3 +1.2**
KSH pmax pmax
comp=Z,6.0nm,1.1s
ULHL Ulahol 64.14 311 P **P** **20 21 20.1 +0.3**
SNR=5.6
KUU Kurty 64.28 313 *eP* **P** **20 21 20.6 +0.1**
KUU pmax pmax
comp=Z,11nm,1.0s
KUU Kurty 64.28 313 *eP* **P** **20 21 20.6 +0.1**
comp=Z,11nm,1.0s
TKM2 Tokmak 2 64.69 312 P **P** **20 21 23.3 -0.1**
SNR=7.0
KBK Karagaybulak 65.14 311 P **P** **20 21 26.9 +0.6**
SNR=7.5
CHMS Chumysh 65.32 312 P **P** **20 21 27.3 0.0**
SNR=5.3
SGDS Sogindy 65.46 312 *eP* **P** **20 21 27.8 -0.4**
SGDS Sogindy 65.46 312 *eP* **P** **20 21 27.9 -0.4**
AAK Ala-Archa 65.47 311 P **P** **20 21 28.4 0.0**
AAK Ala-Archa 65.47 311*c iP* **P** **20 21 28.2 -0.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 65.47 311 P **P** **20 21 28.4 0.0**
AAK pP **pP** **20 21 39.7 -1.3**
USP Ospenovka 65.53 312 P **P** **20 21 28.6 -0.1**
SNR=6.1
NIL Nilore 65.88 301 P **P** **20 21 31.1 0.0**
NIL IAmb IAmb 20 21 31.9
comp=Z,17nm,0.8s
NIL Nilore 65.88 301 P **P** **20 21 31.1 0.0**
NIL pmax pmax
comp=Z,17nm,0.8s
NIL Nilore 65.88 301 P **P** **20 21 30.8 -0.3**
NIL sP **pwP** **20 21 46.3 -0.2**
EKS2 Erkin-Say 66.00 311 P **P** **20 21 31.9 +0.2**
SNR=5.1
AML Almayashu 66.01 311 P **P** **20 21 32.6 +0.4**
SNR=6.5
BTLS Baital 66.06 314 *eP* **P** **20 21 31.9 0.0**
BTLS pmax pmax
comp=Z,6.0nm,1.3s
BTLS Baital 66.06 314 *eP* **P** **20 21 31.9 0.0**
comp=Z,6.4nm,1.3s
ARSB Arslanbob 66.47 310 IAmb IAmb 20 21 36.0
comp=Z,19nm,1.0s
NRIK Noril'sk 66.62 342 P **P** **20 21 33.5 -1.5**
comp=Z,3.4nm,0.7s,baz=119,slow=9.1,SNR=4.4
comp=Z,3.4nm,0.7s
NRIK Noril'sk 66.62 342⇑*eP* **P** **20 21 34.5 -0.6**
NRIK pmax pmax
comp=Z,13nm,1.5s
DRK Karamyk 67.26 308 IAmb IAmb 20 21 41.4
comp=Z,9.5nm,1.1s
BRZS Berezniki 67.61 319 *eP* **P** **20 21 41.6 -0.1**
BRZS Berezniki 67.61 319 *eP* **P** **20 21 41.6 -0.1**
GAR Garm 68.39 307 P **P** **20 21 46.7 -0.3**
GAR IAmb IAmb 20 21 47.7
comp=Z,30nm,1.1s
KK31 Karatay Array 68.42 312 IAmb IAmb 20 21 47.8
comp=Z,9.1nm,1.0s
KKAR Karatay Array 68.42 312 P **P** **20 21 46.8 -0.2**
KKAR Karatay Array 68.42 312 IAmb IAmb 20 21 47.7
comp=Z,6.4nm,1.1s
KKAR Karatay Array 68.42 312 P **P** **20 21 46.8 -0.2**
IUG Iuzhnay 68.73 311 *eP* **P** **20 21 48.7 -0.3**
IUG pmax pmax
comp=Z,9.0nm,0.7s
IUG Iuzhnay 68.73 311 *eP* **P** **20 21 48.7 -0.3**
comp=Z,8.8nm,0.7s
BRLS Boroldaу 68.91 311 *eP* **P** **20 21 50.3 +0.2**
BRLS Boroldaу 68.91 311 *eP* **P** **20 21 50.3 +0.2**
CHM Chimkent 69.05 311 *eP* **P** **20 21 50.7 -0.2**
CHM Chimkent 69.05 311 *eP* **P** **20 21 50.8 -0.2**
KBL Kabul 69.38 302 P **P** **20 21 51.7 -1.7**
KBL IAmb IAmb 20 21 54.8
comp=Z,7.9nm,0.8s
KBL Kabul 69.38 302 P **P** **20 21 51.7 -1.7**
KBL pmax pmax
comp=Z,8.0nm,0.9s
SIMJ Simiganj 69.40 307 P **P** **20 21 52.6 -0.7**
SIMJ IAmb IAmb 20 21 53.9
comp=Z,15nm,1.1s
SIMJ Simiganj 69.40 307 P **P** **20 21 53.0 -0.3**
SIMJ pP **pP** **20 22 03.6 -2.4**
SIMJ sP **pwP** **20 22 08.4 -0.4**
BVAR Borovoye Array 69.42 322 P **P** **20 21 53.0 0.0**
comp=Z,30nm,0.5s,baz=104,slow=7.6,SNR=35
comp=Z,30nm,0.5s
BRVK Borovoye 69.49 322 P **P** **20 21 53.4 0.0**
BRVK Borovoye 69.49 322*c iP* **P** **20 21 53.2 -0.2**
BRVK pmax pmax
comp=Z,24nm,0.6s
BRVK Borovoye 69.49 322 P **P** **20 21 53.4 0.0**
D23K Nanushuk River 70.56 21 IAmb IAmb 20 22 02.0
comp=Z,8.5nm,1.1s
TOLK Toolik Lake Re 70.86 21 P **P** **20 22 02.0 +0.5**
TOLK IAmb IAmb 20 22 02.7
comp=Z,37nm,1.9s
ILAR Eielson Array 70.94 25 P **P** **20 21 59.9 -2.2**
comp=Z,1.4nm,0.6s,baz=255,slow=5.8,SNR=5.9
comp=Z,1.4nm,0.6s
E24K Your Creek 71.09 22 IAmb IAmb 20 22 04.9
comp=Z,5.3nm,0.9s
D25K Kavik River 72.14 21 IAmb IAmb 20 23 42.3
comp=Z,11nm,0.8s
C27K Jago River 73.13 21 IAmb IAmb 20 23 35.1
comp=Z,107nm,0.6s
DAWY Dawson 74.06 27 P **P** **20 22 20.4 -0.3**
M29M Somme Creek 74.35 28 IAmb IAmb 20 22 25.4
comp=Z,4.7nm,0.8s
SVE Sverdlovsk 75.28 326 *eP* **P** **20 22 28.1 +0.3**
SVE pmax pmax
comp=Z,14nm,1.1s
J30M Hart River 75.42 26 IAmb IAmb 20 22 30.4
comp=Z,6.4nm,1.1s
ABKAR Akbulak array 75.84 318 P **P** **20 22 30.4 -0.7**
ABKAR IAmb IAmb 20 22 31.5
comp=Z,16nm,0.7s
G31M Satah River 76.34 24 IAmb IAmb 20 22 35.2
comp=Z,12nm,0.8s
ARTI Arti 76.54 325 P **P** **20 22 33.9 -1.1**
ARTI IAmb IAmb 20 22 35.1
comp=Z,16nm,1.1s
ARTI Arti 76.54 325*d iP* **P** **20 22 34.4 -0.6**
ARTI 20 25 23.1
ARTI S **S** **20 32 20.6 +3.1**
ARTI SS **SS** **20 37 16.7 +3.9**
ARTI pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 76.65 22 P **P** **20 22 33.7 -1.7**
comp=Z,6.4nm,1.1s,baz=258,slow=5.3,SNR=5.7
comp=Z,6.4nm,1.1s
DLBC Dease Lake 78.56 32 IAmb IAmb 20 22 47.7
comp=Z,9.7nm,1.1s
DLBC Dease Lake 78.56 32 P **P** **20 22 45.8 -0.6**
comp=Z,5.4nm,1.0s,baz=270,slow=7.7,SNR=5.5
comp=Z,5.4nm,1.0s
WTLY Watson Lake, Y 79.05 31 IAmb IAmb 20 22 50.7
comp=Z,10nm,0.9s
A36M Sachs Harbour 79.30 18 P **P** **20 22 49.8 -0.2**
A36M IAmb IAmb 20 22 52.8
comp=Z,10nm,0.8s
KIRV Kirov 81.16 328⇓*iP* **P** **20 23 00.4 +0.2**
GNW Green Mountain 84.44 43 P **P** **20 23 17.8 +0.2**
GNW IAmb IAmb 20 23 18.8
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 85.00 350 P **P** **20 23 18.4 -1.5**
comp=Z,3.2nm,0.6s,baz=80,slow=5.2,SNR=4.9
comp=Z,3.2nm,0.6s
YKA Yellowknife Ar 85.29 27 P **P** **20 23 21.5 0.0**
comp=Z,5.4nm,1.0s,baz=291,slow=5.5,SNR=11
comp=Z,5.4nm,1.0s
H04A Detroit Lake 85.48 45 IAmb IAmb 20 23 24.0
comp=Z,32nm,1.4s
J04A Umpqua Nationa 85.86 47 IAmb IAmb 20 23 25.9
comp=Z,31nm,0.9s
LTY Liberty 85.94 43 IAmb IAmb 20 23 25.6
comp=Z,15nm,0.8s
MXC Moxie City 86.35 43 IAmb IAmb 20 23 27.9
comp=Z,15nm,0.9s
J05D Fort Rock, OR 86.47 47 IAmb IAmb 20 23 29.0
comp=Z,24nm,0.9s
RES Resolute Bay 86.50 13 IAmb IAmb 20 23 28.7
comp=Z,5.1nm,0.8s
RES Resolute Bay 86.50 13 P **P** **20 23 27.6 +0.4**
comp=Z,3.3nm,0.7s,baz=325,slow=4.6,SNR=6.5
comp=Z,3.3nm,0.7s
B08A Colville Reser 86.55 41 P **P** **20 23 27.6 -0.6**
PINE Pine Mountain 86.56 46 IAmb IAmb 20 23 30.0
comp=Z,35nm,0.8s
E07A Sunnyside 86.65 43 IAmb IAmb 20 23 29.5
comp=Z,15nm,0.9s
WAH2 Wahluke Slope 86.79 43 IAmb IAmb 20 23 30.0
comp=Z,26nm,0.7s
HAWA Hanford 86.90 43 IAmb IAmb 20 23 30.6
comp=Z,15nm,0.8s
VRH Novokhopyorsk 87.07 322 *eP* **P** **20 23 26.3 -4.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
E08A Dider Farm, El 87.19 43 IAmb IAmb 20 23 32.0
comp=Z,10nm,0.8s
G08A Pilot Rock 87.57 44 IAmb IAmb 20 23 33.9
comp=Z,7.7nm,0.9s
ARCES ARCESS Array B 87.61 342 P **P** **20 23 31.1 -1.6**
comp=Z,4.4nm,0.8s,baz=60,slow=7.2,SNR=7.7
comp=Z,4.4nm,0.8s
NCK Nalchik 87.86 314⇓*eP* **P** **20 23 32.9 -1.6**
NCK pmax pmax
comp=Z,3.0nm,0.2s
LNOR Lincton Mounta 87.88 44 IAmb IAmb 20 23 35.2
comp=Z,4.5nm,0.7s
NEW Newport 88.00 41 IAmb IAmb 20 23 35.6
comp=Z,7.6nm,0.8s
NEW Newport 88.00 41 LR LR 20 57 33.0
comp=Z,111nm,19.3s,baz=297,slow=32
KBZ Khabaz 88.29 314 P **P** **20 23 34.8 -1.7**
comp=Z,2.3nm,0.8s,baz=5.8,slow=3.3,SNR=4.2
comp=Z,2.3nm,0.8s
KBZ Khabaz 88.29 314⇓*eP* **P** **20 23 38.0 +1.5**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 88.33 324 *eP* **P** **20 23 33.0 -3.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
CMB Columbia Colle 88.34 52 IAmb IAmb 20 23 38.1
comp=Z,7.6nm,1.0s
KIV Kislovodsk 88.38 315 *eP* **P** **20 23 35.1 -2.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,76nm,20.0s
VORR Voronezh 88.44 323 *eP* P 20 23 32.0 -5.1
VORR pmax pmax
comp=Z,10.0nm,0.8s
SHA1 Shidzhatmaz 88.46 314⇓*eP* **P** **20 23 39.3 +1.7**
WVOR Wild Horse Val 88.53 47 IAmb IAmb 20 23 38.6
comp=Z,16nm,0.8s
VSR Storozhevoye 88.61 322 *eP* **P** **20 23 33.5 -4.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 88.81 44 IAmb IAmb 20 23 39.7
comp=Z,16nm,0.8s
OBN Obninsk 88.84 326⇑*eP* **P** **20 23 37.5 -1.3**
OBN pmax pmax
comp=Z,31nm,1.9s
RYN Ryan 89.61 51 IAmb IAmb 20 23 44.0
comp=Z,9.4nm,0.9s
PLID Pearl Lake 89.64 44 IAmb IAmb 20 23 43.6
comp=Z,9.0nm,1.4s
NVAR Mina Array Bea 89.82 51 P **P** **20 23 44.3 +0.1**
NVAR Mina Array Bea 89.82 51 P **P** **20 23 44.5 +0.3**
comp=Z,10nm,0.7s,baz=264,slow=6.1,SNR=19
comp=Z,10nm,0.7s
MFID Camas Ranch 90.24 45 IAmb IAmb 20 23 46.7
comp=Z,14nm,0.9s
GURO Guroymak-BITLI 90.30 309 IAmb IAmb 20 23 45.9
comp=Z,6.3nm,1.0s
DSP Deep Springs 90.36 52 IAmb IAmb 20 23 47.7
comp=Z,8.2nm,0.9s
HLID Hailey 91.18 45 IAmb IAmb 20 23 51.1
comp=Z,6.5nm,0.9s
FINES FINESS Array B 91.32 334 P **P** **20 23 48.0 -2.3**
comp=Z,4.5nm,0.7s,baz=62,slow=4.9,SNR=7.3
comp=Z,4.5nm,0.7s
ELK Elko 91.45 48 IAmb IAmb 20 23 52.5
comp=Z,4.0nm,0.8s
WCT Wildcat Mounta 91.55 52 IAmb IAmb 20 23 53.0
comp=Z,7.8nm,0.9s
GSC Goldstone, Bar 91.83 53 IAmb IAmb 20 23 54.3
comp=Z,16nm,1.1s
DLMT Dillon 91.84 43 IAmb IAmb 20 23 53.8
comp=Z,10nm,1.2s
BOZ Bozeman (W) 92.40 42 IAmb IAmb 20 23 56.3
comp=Z,8.0nm,1.4s
HVU Hansel Valley 92.89 46 IAmb IAmb 20 23 59.1
comp=Z,6.7nm,1.0s
YHL Hebgen Lake 92.95 43 IAmb IAmb 20 24 01.1
comp=Z,19nm,1.1s
YHB Horse Butte 92.98 43 IAmb IAmb 20 24 00.6
comp=Z,8.4nm,0.8s
YMR Madison River 93.16 43 IAmb IAmb 20 24 01.0
comp=Z,13nm,0.7s
V12A Nelson 93.23 53 IAmb IAmb 20 24 01.1
comp=Z,13nm,1.4s
YNR Norris Junctio 93.34 43 IAmb IAmb 20 24 03.0
comp=Z,22nm,1.2s
DUG Dugway, Tooele 93.38 48 IAmb IAmb 20 24 01.0
comp=Z,3.4nm,0.8s
H17A Grant Village 93.52 43 IAmb IAmb 20 24 03.7
comp=Z,10nm,1.1s
MOOW Moose Ponds 93.63 44 IAmb IAmb 20 24 02.9
comp=Z,5.9nm,1.1s
AHID Auburn Hatcher 93.73 45 IAmb IAmb 20 25 11.2
comp=Z,7.8nm,0.4s
HWUT Hardware Ranch 93.80 46 IAmb IAmb 20 24 03.4
comp=Z,12nm,1.4s
RLMT Red Lodge 94.12 42 IAmb IAmb 20 24 05.6
comp=Z,4.5nm,0.7s
PDAR Pinedale Array 94.79 45 P **P** **20 24 06.0 -1.0**
comp=Z,0.5nm,0.8s,baz=261,slow=3.9,SNR=4.3
comp=Z,0.5nm,0.8s
DBIC Dimbokro 142.27 298 PKhKP PKPpre 20 30 12.2
comp=Z,2.1nm,0.5s,baz=55,slow=2.4,SNR=5.4
LPAZ La Paz 150.34 102 PKPbc **PKPbc** **20 30 37.5 -0.2**
comp=Z,8.3nm,0.7s,baz=215,slow=2.9,SNR=8.0

RSNC 27 20:11:41.9±0.0, 11°.12N×73°.70W, h16km±1km, M2.8, mb4.1, ML2.6, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**0.52**	**275**	P		Pg	20 11 51.2	-1.0
SMRC				S		Sg	20 11 58.7	-0.5
CRJC	**Cerrejon, Guaj**	**0.81**	**97**	P		Pb	20 11 56.6	-1.1
CRJC				S		Sb	20 12 08.0	-0.4
ARGC	**Ariguani, Magd**	**1.36**	**203**	P		Pn	20 12 05.3	-1.0
ARGC				S		Sn	20 12 24.1	0.0
URIC	**Uribia, Colomb**	**1.77**	**71**	P		Pn	20 12 10.8	-1.1
URIC				S		Sn	20 12 33.2	-0.9
SJCC	**San Jacinto, C**	**1.90**	**230**	P		Pn	20 12 12.8	-0.9
SJCC				S		Sb	20 12 40.5	+0.8
OCAC	**Ocana**	**2.89**	**172**	P		Pn	20 12 27.2	-0.2
ZARC	**Zaragoza, Cauc**	**3.78**	**198**	P		Pn	20 12 42.0	+2.4
ZARC				S		Sb	20 13 29.0	-5.0
PAMC	**Pamplona, Colo**	**3.88**	**165**	P		Pn	20 12 40.8	-0.6
PAMC				S		Sn	20 13 26.5	-0.5
TAMC	**Tame, Arauca**	**5.02**	**158**	P		Pn	20 12 55.2	-1.5
RUSC	**La Rusia**	**5.23**	**173**	P		Pn	20 13 00.1	+0.2
5.3nm,0.9s								
GUY2C	**Guyana, Caldas**	**6.08**	**196**	P		Pn	20 13 14.1	+2.4

IDC 27 20:24:36.4±2.3, 1°.55N×126°.62E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=183.5km s-min=28.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**161**	P		P	20 29 39.7	+0.3
1.2nm,0.6s,baz=340,slow=11,SNR=12								
1.2nm,0.6s								
ASAR	**Alice Springs**	**26.04**	**165**	P		P	20 30 11.1	-0.5
0.1nm,0.4s,baz=346,slow=11,SNR=1.6								
0.1nm,0.4s								
MKAR	**Makanchi Array**	**59.29**	**326**	P		P	20 34 40.1	+0.1
0.1nm,0.3s,baz=130,slow=6.2,SNR=2.1								
0.1nm,0.3s								

*GUC **27** 20:27:29.0±0.8, 36°.61S×70°.37W, h15km±7km, ML3.6, MS3.7*
*NEIC **27** 20:27:30.9±2.1, 36°.61S±0°.05×70°.54W±0°.03, h10km±2km, mb4.4/6, Error ellipse: s-maj=8.6km s-min=4.3km az=168.0*
*IDC **27** 20:27:40.4±1.7, 36°.43S×70°.22W, h99km±17km, mb3.9/11, mbtmp4.2/15, MS4.0/8, Error ellipse: s-maj=24.4km s-min=11.6km az=93.0*

ISC 27 20:27:29.3±0.5, 36°.57S±0°.03×70°.34W±0°.05, h10km, n83, σ1§89/68, mb4.5/12, MS4.1/6, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BI02	**San Fabin de**	**0.75**	**262**			**Pg**	**20 27 42.4**	**-1.5**
BI02	**San Fabin de**	**0.75**	**262**	⇑*iP*		**Pg**	**20 27 42.4**	**-1.5**
ML02	**Panimavida**	**1.19**	**312**			**Pb**	**20 27 51.3**	**-0.7**
ML02					Sn	**Sg**	**20 28 07.9**	**+0.3**
ML02	**Panimavida**	**1.19**	**312**	*eP*		**Pb**	**20 27 51.2**	**-0.7**
ML02				*eS*		**Sg**	**20 28 07.8**	**+0.3**
ML02				IAML			20 28 09.8	
comp=N,3μm,0.5s								
BO02	**Sierra Bellavi**	**1.81**	**348**	Pn		**Pn**	**20 28 01.7**	**+1.0**
BO02	**Sierra Bellavi**	**1.81**	**348**	⇑*iP*		**Pb**	**20 28 01.9**	**-0.6**
BO02				IAML			20 28 39.6	
comp=E,576nm,0.7s								
GO05	**Hualane**	**2.02**	**320**	⇑*iP*		**Pb**	**20 28 04.8**	**-1.3**
GO05				*eS*		**Sb**	**20 28 32.2**	**+0.8**
GO05				IAML			20 28 36.7	
comp=N,1μm,0.7s								
GO05				IVMs_BB		IVMs_BB	20 28 52.1	
comp=Z,7μm,3.5s								
BO01	**Tunca**	**2.25**	**344**	Pn		**Pb**	**20 28 09.0**	**-1.1**
BO01	**Tunca**	**2.25**	**344**	⇑*iP*		**Pb**	**20 28 09.2**	**-1.0**
BO01				IVMs_BB		IVMs_BB	20 29 13.6	
comp=Z,3μm,2.8s								
BI05	**Punta Hualpn**	**2.30**	**265**	Pn		**Pn**	**20 28 07.5**	**+0.3**
BI05	**Punta Hualpn**	**2.30**	**265**	*eP*		**Pn**	**20 28 08.2**	**+1.0**
BI05				IAML			20 28 44.4	
comp=N,784nm,0.5s								
BO03	**Pichilemu**	**2.45**	**327**	*eP*		**Pn**	**20 28 11.3**	**+1.9**
BO03				IAML			20 28 46.9	
comp=N,239nm,0.5s								
BO03				IVMs_BB		IVMs_BB	20 29 11.8	
comp=Z,5μm,4.9s								
BO04	**La Punta**	**2.58**	**355**	Pn		**Pb**	**20 28 14.3**	**-1.4**
BO04	**La Punta**	**2.58**	**355**	*eP*		**Pb**	**20 28 14.2**	**-1.6**
BO04				IAML			20 28 57.6	
comp=E,159nm,0.7s								
LC01	**Cunco**	**2.62**	**207**	*eP*		**Pb**	**20 28 14.2**	**-2.3**
LMEL	**Las Melosas**	**2.72**	**2**			**Pb**	**20 28 16.5**	**-1.6**
LMEL	**Las Melosas**	**2.72**	**2**	IAML			20 29 03.4	
comp=E,108nm,0.4s								
LMEL				IVMs_BB		IVMs_BB	20 29 25.5	
comp=Z,2μm,6.3s								
MT01	**Popeta**	**2.80**	**344**			**Pb**	**20 28 17.2**	**-2.2**
MT01	**Popeta**	**2.80**	**344**	*eP*		**Pb**	**20 28 17.4**	**-2.0**
MT01				IVMs_BB		IVMs_BB	20 29 20.6	
comp=Z,2μm,5.6s								
MT13	**San Alfonso**	**2.82**	**1**			**Pb**	**20 28 17.9**	**-2.0**
MT13	**San Alfonso**	**2.82**	**1**	IAML			20 29 10.2	
comp=E,139nm,0.8s								
MT12	**Pirque**	**2.83**	**357**	IAML			20 29 08.0	
comp=E,557nm,0.8s								
MT12				IVMs_BB		IVMs_BB	20 29 36.7	
comp=Z,1μm,8.4s								
MT09	**Talagante**	**2.84**	**349**			**Pb**	**20 28 17.8**	**-2.3**
MT09	**Talagante**	**2.84**	**349**	IAML			20 29 09.4	
comp=N,335nm,0.8s								
MT09				IVMs_BB		IVMs_BB	20 29 23.4	
comp=Z,2μm,4.9s								
MT03	**Universidad Ad**	**3.07**	**357**			**Pn**	**20 28 21.3**	**+3.3**
VA05	**Santo Domingo**	**3.09**	**340**			**Pb**	**20 28 21.5**	**-2.8**
MT16	**CCHEN**	**3.14**	**357**			**Pn**	**20 28 22.0**	**+3.2**
MT16	**CCHEN**	**3.14**	**357**	IAML			20 29 27.5	
comp=N,276nm,1.1s								
MT16				IVMs_BB		IVMs_BB	20 29 46.9	
comp=Z,3μm,4.9s								
GO06	**Curarrehue**	**3.14**	**196**	*eP*		**Pb**	**20 28 23.2**	**-2.1**
GO06				IAML			20 29 14.5	
comp=N,47nm,0.3s								
GO06				IVMs_BB		IVMs_BB	20 30 01.3	
comp=Z,2μm,3.5s								
MT04	**Ro Olivares**	**3.16**	**3**	IAML			20 29 29.3	
comp=E,66nm,0.7s								
MT04				IVMs_BB		IVMs_BB	20 29 42.0	
comp=Z,2μm,9.8s								
MT14	**Cerro Calın**	**3.17**	**357**	IAML			20 29 17.1	
comp=E,334nm,0.8s								
MT14				IVMs_BB		IVMs_BB	20 31 05.5	
comp=Z,2μm,5.6s								
MT05	**Renca**	**3.19**	**354**	Pn		**Pn**	**20 28 22.7**	**+3.2**
MT05	**Renca**	**3.19**	**354**	IAML			20 29 21.3	
comp=E,200nm,0.2s								
MT05				IVMs_BB		IVMs_BB	20 29 50.1	
comp=Z,3μm,4.9s								
FCH	**Farellones**	**3.23**	**1**	*eP*		**Pb**	**20 28 24.3**	**-2.8**
FCH				IVMs_BB		IVMs_BB	20 29 48.3	
comp=Z,1μm,4.2s								
LC02	**Puerto Saavedr**	**3.28**	**226**	Pn		**Pb**	**20 28 27.1**	**-0.5**
MT10	**Hacienda Santa**	**3.29**	**357**	IAML			20 29 31.8	
comp=E,230nm,0.7s								
MT10				IVMs_BB		IVMs_BB	20 30 31.5	
comp=Z,2μm,4.2s								
MT02	**Curacav**	**3.37**	**349**			**Pn**	**20 28 25.0**	**+3.1**
MT02	**Curacav**	**3.37**	**349**	IAML			20 29 15.7	
comp=E,55nm,0.4s								
MT02				IVMs_BB		IVMs_BB	20 29 58.1	
comp=Z,2μm,4.2s								
PEL	**Peldehue**	**3.43**	**355**			**Pn**	**20 28 25.9**	**+3.0**
PEL	**Peldehue**	**3.43**	**355**	IAML			20 29 30.5	
comp=E,96nm,0.5s								
PEL				IVMs_BB		IVMs_BB	20 30 03.8	
comp=Z,3μm,4.2s								
LR03	**Panguipulli**	**3.44**	**207**			**Pb**	**20 28 27.3**	**-3.1**
VA03	**San Esteban**	**3.80**	**357**			**Pn**	**20 28 31.1**	**+3.0**
LR05	**Currie**	**3.88**	**199**	Pn		**Pb**	**20 28 34.5**	**-3.4**
LR04	**Corral**	**4.10**	**215**			**Pb**	**20 28 38.1**	**-3.5**
PLCA	**Paso Flores**	**4.16**	**182**	Pn		**Pn**	**20 28 33.4**	**+0.4**
PLCA	**Paso Flores**	**4.16**	**182**	P		**Pb**	**20 28 42.5**	**-0.2**
comp=Z,48nm,0.9s,baz=2.2,slow=14,SNR=30								
PLCA				S		**Sb**	**20 29 34.4**	**+1.4**
comp=Z,20nm,0.6s,baz=319,slow=15,SNR=1.7								
PLCA				LR		LR	20 30 36.8	
comp=Z,912nm,20.8s,baz=351,slow=41								
LL04	**Puerto Octay**	**4.63**	**200**			**Pn**	**20 28 40.3**	**+1.1**
ZON	**Zonda**	**5.20**	**16**	Pn		**Pn**	**20 28 47.5**	**+0.2**
CFA	**Coronel Fontan**	**5.25**	**20**	P		Pn	20 28 53.5	+5.6
comp=Z,16nm,0.6s,baz=207,slow=13,SNR=42								
CO03	**El Pedregal**	**5.72**	**357**	Pn		**Pn**	**20 28 53.3**	**-1.2**
LL02	**Futaleuf**	**6.71**	**189**	Pn		**Pn**	**20 29 07.8**	**-0.2**
TRQA	**Tornquist**	**6.83**	**105**	Pn		**Pn**	**20 29 09.8**	**+0.2**
AC02	**Maricunga**	**9.76**	**6**			**Pn**	**20 29 47.0**	**-3.2**
CPUP	**Villa Florida**	**15.07**	**51**	P		**P**	**20 31 05.5**	**-2.1**
comp=Z,1.2nm,0.5s,baz=230,slow=14,SNR=3.2								
CPUP				LR		LR	20 37 29.0	
comp=Z,568nm,19.8s,baz=226,slow=40								
PB01	**IPOC Station P**	**15.49**	**3**			**Pn**	**20 31 08.2**	**+0.2**
PATCX	**Punta Patache**	**15.69**	**1**	Pn		**Pn**	**20 31 12.7**	**+2.0**
PATCX				IAmb		IAmb	20 31 18.1	
comp=Z,34nm,1.0s								
PB11	**IPOC Station P**	**16.76**	**2**			**P**	**20 31 26.9**	**+0.3**
PB11				IAmb		IAmb	20 31 30.0	
comp=Z,22nm,0.8s								
PB16	**IPOC Station P**	**18.18**	**3**	P		**P**	**20 31 44.2**	**+1.5**
USHA	**Ushuaia**	**18.31**	**176**	P		**P**	**20 31 47.6**	**+4.3**
comp=Z,5.1nm,0.7s,baz=0.0,slow=2.0,SNR=1.4								
LPAZ	**La Paz**	**20.30**	**6**	P		Pn	20 32 08.0	+0.1
LPAZ				IAmb		IAmb	20 32 13.8	
comp=Z,12nm,1.0s								
LPAZ	**La Paz**	**20.30**	**6**	P		Pn	20 32 08.6	+0.6
comp=Z,6.7nm,0.8s,baz=196,slow=7.8,SNR=5.7								
comp=Z,6.7nm,0.8s								
SIV	**San Ignacio**	**22.09**	**24**	P		**P**	**20 32 26.1**	**+1.3**
comp=Z,3.5nm,0.2s,baz=206,slow=11,SNR=6.2								
comp=Z,3.5nm,0.2s								
BDFB	**Brasilia**	**28.79**	**49**	P		**P**	**20 33 27.3**	**-0.3**
comp=Z,1.9nm,0.5s,baz=196,slow=6.9,SNR=3.3								
BDFB				LR		LR	20 46 22.5	
comp=Z,382nm,20.7s,baz=175,slow=39								
comp=Z,1.9nm,0.5s								
RUSC	**La Rusia**	**42.32**	**356**	P		**P**	**20 35 25.2**	**+1.2**
RUSC				IAmb		IAmb	20 35 34.7	
comp=Z,17nm,1.2s								
PCRV	**Puerto La Cruz**	**46.80**	**8**	LR		LR	21 00 23.2	
comp=Z,176nm,20.7s,slow=42								
JTS	**Las Juntas de**	**48.59**	**341**	P		**P**	**20 36 12.7**	**-0.5**
comp=Z,22nm,0.3s,baz=227,slow=17,SNR=6.8								

SNAA Sanae 48.69 157 ⇑P P 20 36 14.4 +1.1
comp=Z,51nm,0.9s
SNAA Sanae 48.69 157 P P 20 36 14.5 +1.1
comp=Z,1.8nm,0.8s,baz=270,slow=8.1,SNR=3.5
comp=Z,1.8nm,0.8s
TROLL Troll, Antarti 50.39 157 ⇑P P 20 36 27.7 +1.2
comp=Z,72nm,0.9s
QSPA South Pole Qui 53.67 180 P P 20 36 52.5 +1.5
comp=Z,4.8nm,1.0s,baz=149,slow=1.9,SNR=6.8
comp=Z,4.8nm,1.0s
CMIG Matias Romero 58.19 332 P P 20 37 23.7 +0.1
comp=Z,2.8nm,0.3s,baz=72,slow=20,SNR=13
comp=Z,2.8nm,0.3s
PPT Papeete 71.25 262 LR LR 21 01 57.0
comp=Z,141nm,19.5s,baz=134,slow=29
BBTS Babate 71.89 55 LR LR 21 09 21.1
comp=Z,139nm,19.3s,baz=110,slow=35
TXAR Lajitas Array 72.65 330 P P 20 38 57.0 -0.2
comp=Z,0.3nm,0.6s,baz=134,slow=8.2,SNR=2.3
comp=Z,0.3nm,0.6s
DBIC Dimbokro 74.73 70 P P 20 39 10.0 +0.3
comp=Z,3.2nm,0.7s,baz=209,slow=10,SNR=6.7
comp=Z,3.2nm,0.7s
RAR Rarotonga 77.24 253 LR LR 21 07 20.0
comp=Z,57nm,18.1s,baz=184,slow=31
TORD Torodi Ar. Bea 83.81 69 P P 20 39 58.4 -0.9
comp=Z,1.0nm,0.3s,baz=264,slow=3.2,SNR=2.0
comp=Z,1.0nm,0.3s
PDAR Pinedale Array 86.68 332 P P 20 40 13.8 +0.5
comp=Z,0.3nm,0.7s,baz=176,slow=5.3,SNR=2.6
comp=Z,0.3nm,0.7s
ULM Lac du Bonnet 89.34 344 P P 20 40 24.1 -1.3
comp=Z,2.7nm,0.8s,baz=188,slow=4.8,SNR=5.6
comp=Z,2.7nm,0.8s
MDT Midelt 92.37 50 LR LR 21 22 01.3
comp=Z,184nm,18.7s,baz=228,slow=35
NRIK Noril'sk 145.02 13 PKP PKiKP 20 47 07.7 -1.9
comp=Z,1.0nm,0.5s,baz=37,slow=3.9,SNR=3.8
BVAR Borovoye Array 148.13 46 PKPbc PKPbc 20 47 13.1 -1.6
comp=Z,0.4nm,0.4s,baz=8.5,slow=2.9,SNR=4.4
KURBB Kurchatov Arra 153.67 48 PKPbc PKPbc 20 47 24.8 -3.1
comp=Z,0.3nm,0.7s,baz=300,slow=2.9,SNR=4.5

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*IDC **27** 20:29:09.6±3.3, 66°.61N×17°.20W, h0km, mb3.2/1,*
mbtmp3.6/7, ML3.1/6, MS3.4/15, Error ellipse:
s-maj=64.2km s-min=22.5km az=151.0
*REY **27** 20:29:11.5, 66°.28N×16°.53W, h6km*
ISC 27 20:29:11.4±0.9, 66°.25N±0°.02×16°.62W±0°.03, h11km±6km,
n58, σ1°.06/76, MS3.3/10, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILEI	**Leirhofn**	**0.17**	**18**	P	**Pg**	**20 29 14.3**	**-0.7**
ILEI				S	**Sg**	**20 29 17.0**	**-0.5**
IGIL	**Gilhagi**	**0.20**	**148**	P	**Pg**	**20 29 15.6**	**0.0**
IGIL				S	**Sg**	**20 29 18.8**	**+0.2**
IDIM	**Dimmadalss**	**0.32**	**204**	P	**Pg**	**20 29 18.1**	**+0.3**
IDIM				S	**Sg**	**20 29 23.2**	**+1.2**
IHED	**Heoinshofoi**	**0.33**	**239**	P	**Pg**	**20 29 18.5**	**+0.6**
IHED				S	**Sg**	**20 29 23.7**	**+1.4**
IGHA	**Grjothals**	**0.41**	**183**	S	**Sg**	**20 29 25.8**	**+1.0**
IGHA				P	**Pg**	**20 29 19.7**	**+0.3**
ISKI	**Skildingahlsh**	**0.42**	**204**	S	**Sg**	**20 29 26.1**	**+1.0**
ISKI				P	**Pg**	**20 29 19.8**	**+0.2**
IGRA	**Granastaoir**	**0.52**	**230**	P	**Pg**	**20 29 21.5**	**+0.1**
IGRA				S	**Sg**	**20 29 29.1**	**+1.0**
IBRE	**Brettingsstaoi**	**0.54**	**257**	S	**Sg**	**20 29 30.2**	**+1.2**
IBRE				P	**Pg**	**20 29 21.9**	**0.0**
IKVO	**Krokottuvotn**	**0.55**	**191**	P	**Pg**	**20 29 21.7**	**-0.3**
IKVO				S	**Sg**	**20 29 29.7**	**+0.4**
IREN	**Reynihlio**	**0.62**	**191**	P	**Pg**	**20 29 22.9**	**-0.4**
IREN				S	**Sg**	**20 29 31.7**	**+0.3**
IGRI	**Grimsey**	**0.63**	**298**	P	**Pg**	**20 29 23.1**	**-0.6**
IGRI				S	**Sg**	**20 29 32.4**	**+0.5**
IGRS	**Grimsstaoir**	**0.65**	**162**	P	**Pg**	**20 29 23.3**	**-0.6**
IGRS				S	**Sg**	**20 29 32.4**	**0.0**
IMEL	**Melhnausar**	**0.68**	**181**	P	**Pg**	**20 29 23.9**	**-0.6**
IMEL				S	**Sg**	**20 29 33.7**	**+0.1**
IHLA	**Hella**	**0.78**	**248**	P	**Pg**	**20 29 25.8**	**-0.7**
IHLA				S	**Sg**	**20 29 36.8**	**+0.1**
ISIG	**Siglufjorour**	**0.94**	**264**	P	**Pg**	**20 29 28.2**	**-1.3**
ISIG				S	**Sg**	**20 29 41.3**	**-0.4**
ISVA	**Svartarkot**	**0.95**	**196**	P	**Pg**	**20 29 28.4**	**-1.3**
ISVA				S	**Sg**	**20 29 41.8**	**-0.3**
IASK	**Askja**	**1.20**	**181**	P	**Pb**	**20 29 32.3**	**-1.9**
IASK				S	**Sb**	**20 29 48.6**	**-1.2**
IMKO	**Mokollar**	**1.28**	**175**	P	**Pn**	**20 29 33.8**	**-1.5**
IMKO				S	**Sb**	**20 29 51.3**	**-0.8**
IADA	**Aoalbol**	**1.31**	**160**	P	**Pn**	**20 29 33.9**	**-1.7**
IADA				S	**Sb**	**20 29 51.3**	**-1.5**
THOR	**Thorvaldshraun**	**1.32**	**181**	P	**Pn**	**20 29 34.2**	**-1.6**
THOR				S	**Sb**	**20 29 52.4**	**-0.8**
IHRN	**Hraun**	**1.43**	**266**	S	**Sn**	**20 29 55.0**	**-1.0**
IHRN				P	**Pn**	**20 29 35.3**	**-1.9**
IURH	**Urdarhals**	**1.45**	**189**	P	**Pn**	**20 29 36.6**	**-1.1**
IURH				S	**Sn**	**20 29 56.0**	**-0.7**
IKRE	**Kreppuhraun**	**1.48**	**176**	P	**Pn**	**20 29 36.7**	**-1.2**
IKRE				S	**Sn**	**20 29 56.6**	**-0.6**
IVSH	**V-Sauoahnukur**	**1.50**	**165**	P	**Pn**	**20 29 37.0**	**-1.2**
IVSH				S	**Sn**	**20 29 56.7**	**-1.1**
IDYN	**Dyngjuhals**	**1.50**	**192**	P	**Pn**	**20 29 37.4**	**-0.9**
IDYN				S	**Sn**	**20 29 57.4**	**-0.5**
IKIS	**Kista**	**1.63**	**194**	P	**Pn**	**20 29 39.3**	**-0.8**
IVON	**Vonarskard**	**1.65**	**197**	P	**Pn**	**20 29 39.5**	**-0.9**
IVON				S	**Sn**	**20 30 01.9**	**+0.3**
IBJK	**Bruarjokull**	**1.79**	**182**	P	**Pn**	**20 29 41.5**	**-0.8**
ISKR	**Skrokkalda**	**1.85**	**204**	P	**Pn**	**20 29 42.7**	**-0.4**
ISKR				S	**Sn**	**20 30 07.3**	**+0.7**
IGRF	**Grimsfjall**	**1.87**	**189**	P	**Pn**	**20 29 43.3**	**-0.2**
ISTE	**Stelbrattur**	**1.88**	**223**	P	**Pn**	**20 29 43.2**	**-0.2**
IHUS	**Husbondi**	**2.01**	**193**	P	**Pn**	**20 29 45.2**	**-0.2**
IJOK	**Jokulheimar**	**2.06**	**200**	P	**Pn**	**20 29 45.9**	**0.0**
IKSK	**Karasker**	**2.10**	**178**	P	**Pn**	**20 29 45.8**	**-0.7**
IHAE	**Haedir**	**2.24**	**184**	P	**Pn**	**20 29 48.4**	**0.0**
IIEY	**Innrieyrar**	**2.26**	**197**	P	**Pn**	**20 29 48.6**	**-0.1**
IKVI	**Kvisker**	**2.28**	**178**	P	**Pn**	**20 29 48.1**	**-0.8**
IFAL	**Falljokull**	**2.31**	**182**	P	**Pn**	**20 29 49.3**	**0.0**
SLET	**Slettubjorg**	**2.32**	**180**	P	**Pn**	**20 29 49.7**	**+0.1**
IKAL	**Kalfafell**	**2.36**	**192**	P	**Pn**	**20 29 50.3**	**+0.4**
BORG	**Borgarnes**	**2.48**	**235**	Pn	**Pn**	**20 29 51.9**	**+0.3**
	25nm,0.3s,baz=24,slow=5.4,SNR=5.8						
BORG				Sn	**Sb**	**20 30 25.3**	**-1.0**
	37nm,0.3s,baz=264,slow=23,SNR=6.8						
BORG				LR	LR	20 30 44.0	
	comp=Z,696nm,18.7s,baz=354,slow=37						
	70nm,0.3s						
SCO	**Scoresbysund**	**4.69**	**338**	*i* P	**Pn**	**20 30 23.0**	**+1.1**
DBG	**Daneborg**	**8.19**	**353**	*e*	**Pn**	**20 31 07.9**	**-2.0**
EKA	**Eskdalemuir Ar**	**12.73**	**143**	Pn	Pn	20 32 17.8	+5.7
	baz=322,slow=14						
	1.4nm,0.8s						
NOA	**NORSAR Array B**	**13.34**	**100**	Pn	**Pn**	**20 32 23.4**	**+3.0**
	baz=305,slow=12,SNR=1.8						
NOA				LR	LR	20 36 49.0	
	comp=Z,97nm,19.9s,baz=295,slow=34						
	0.3nm,0.6s						
HFS	**Hagfors**	**14.86**	**100**	Pn	**Pn**	**20 32 44.1**	**+2.9**
	0.1nm,0.3s,baz=310,slow=11,SNR=1.6						
HFS				LR	LR	20 37 34.8	
	comp=Z,109nm,20.5s,baz=314,slow=33						
	1.0nm,0.7s						
ARCES	**ARCESS Array B**	**15.94**	**59**	Pn	**Pn**	**20 32 54.9**	**-0.4**
	0.2nm,0.3s,baz=288,slow=15,SNR=6.7						
ARCES				LR	LR	20 37 44.1	
	comp=Z,207nm,19.8s,baz=299,slow=32						
	3.0nm,0.9s						
FINES	**FINESS Array B**	**19.11**	**84**	P	**Pn**	**20 33 34.9**	**+0.2**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.8						
FINES				LR	LR	20 39 56.4	
	comp=Z,144nm,20.8s,baz=296,slow=34						
	1.5nm,0.8s						
GERES	**GERESS Array B**	**23.46**	**123**	P	**P**	**20 34 23.6**	**+3.0**
	0.6nm,0.8s,baz=299,slow=9.1,SNR=2.8						
GERES				LR	LR	20 45 14.6	
	comp=Z,96nm,18.3s,baz=318,slow=40						
	0.6nm,0.8s						
DAVOX	**Davos/Dischmat**	**24.04**	**131**	LR	LR	20 43 21.8	
	comp=Z,101nm,19.3s,baz=306,slow=35						
VRAC	**Vranov**	**24.07**	**118**	LR	LR	20 43 53.3	
	comp=Z,77nm,18.5s,baz=319,slow=36						
RES	**Resolute Bay**	**25.41**	**323**	LR	LR	20 43 44.4	
	comp=Z,110nm,21.4s,baz=16,slow=35						
SCHQ	**Schefferville**	**26.40**	**269**	LR	LR	20 44 14.1	
	comp=Z,86nm,21.1s,baz=268,slow=34						
OBN	**Obninsk**	**27.40**	**88**	LR	LR	20 45 06.0	
	comp=Z,88nm,21.4s,baz=356,slow=35						
ESDC	**Sonseca Array**	**27.58**	**159**	LR	LR	20 45 31.5	
	comp=Z,91nm,18.9s,baz=324,slow=35						
AKASG	**Malin Array Be**	**27.74**	**101**	LR	LR	20 45 37.2	
	comp=Z,86nm,20.1s,baz=339,slow=35						
KIRV	**Kirov**	**30.11**	**73**	LR	LR	20 46 28.8	
	comp=Z,112nm,18.6s,baz=11,slow=34						
SADO	**Sadowa**	**39.21**	**269**	LR	LR	20 51 44.5	
	comp=Z,75nm,19.5s,baz=122,slow=35						

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*SKHL **27** 20:30:50.7±0.2, 42°.70N×146°.30E, h29km±3km, mb3.9/4*
*JMA **27** 20:30:51.0±0.3, 42°.7N±0°.9×14°.6E±°, h26km±3km,*
MV2.6/29, OFF NEMURO PENINSULA
ISC 27 20:30:49.3±2.0, 42°.79N±0°.08×146°.21E±0°.06, h15km±10km,
n14, σ0°.65/25, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.67**	**330**	*i* P	**Pn**	**20 31 04.5**	**+0.3**
NEM2				S	**Sn**	**20 31 13.5**	**-0.9**
NMR	**Nemuro--Hokkai**	**0.68**	**329**	*i* P	**Pn**	**20 31 04.6**	**+0.2**
NMR				*e*S	**Sn**	**20 31 14.4**	**-0.3**
JKHN	**Kushirohamanak**	**0.82**	**291**	*i* P	**Pn**	**20 31 07.0**	**+0.6**
JKHN				*e*S	**Sn**	**20 31 18.4**	**+0.2**
AKK	**Akkeshi**	**1.03**	**283**	*e*P	**Pg**	**20 31 09.5**	**+0.3**
AKK				AMB	AMB	20 31 10.7	
	30nm,0.4s						
AKK				*e*S	**Sn**	**20 31 23.4**	**+0.1**
AKK				A	A	20 31 24.4	
	280nm,0.4s						
AKK				A	A	20 31 24.4	
	160nm,0.4s						
JAK	**Akkeshi**	**1.13**	**281**	P	**Pg**	**20 31 11.3**	**+0.2**
JAK				S	**Sg**	**20 31 26.1**	**+0.3**
SHO	**Shikotan**	**1.17**	**23**	*e*P	**Pg**	**20 31 11.7**	**-0.2**
SHO				AMB	AMB	20 31 15.5	
	20nm,0.3s						
SHO				*e*S	**Sg**	**20 31 27.5**	**+0.3**
SHO				A	A	20 31 31.8	
	90nm,0.4s						
SHO				A	A	20 31 31.8	
	30nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.27**	**349**	*e*P	**Pg**	**20 31 13.3**	**-0.5**
YUK				AMB	AMB	20 31 15.3	
	30nm,0.2s						
YUK				*i* S	**Sg**	**20 31 30.5**	**+0.2**
YUK				A	A	20 31 30.9	
	110nm,0.4s						
YUK				A	A	20 31 30.9	
	140nm,0.4s						
JNK	**Nakash**	**1.35**	**307**	P	**Pg**	**20 31 14.7**	**-0.6**
JNK				*e*S	**Sb**	**20 31 31.6**	**+0.3**
JRA	**Rausu**	**1.39**	**326**	P	**Pg**	**20 31 17.5**	**+1.4**
JOB	**Onbets**	**1.75**	**274**	*e*P	**Pb**	**20 31 20.2**	**-0.9**
JAR	**Ashorobuto**	**1.85**	**287**	*e*P	**Pb**	**20 31 21.9**	**-1.1**
JAR				*e*S	**Sn**	**20 31 44.5**	**+0.7**
JTKR	**Abashiri--Toko**	**2.05**	**306**	P	**Pb**	**20 31 25.6**	**-0.6**
JTKR				S	**Sb**	**20 31 51.3**	**-0.2**
JCH	**Churui**	**2.10**	**266**	*e*P	**Pb**	**20 31 26.7**	**-0.4**
JCH				*e*S	**Sb**	**20 31 52.5**	**-0.5**
KUR	**Kuril'sk**	**2.72**	**26**	*e*S	**Sn**	**20 32 06.2**	**+1.1**
KUR				A	A	20 32 06.9	
	10.0nm,0.2s						
KUR				A	A	20 32 06.9	
	20nm,0.2s						

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*UCR **27** 20:41:51.5±0.6, 10°.15N×83°.33W, h9km±2km, MW3.5*
*UPA **27** 20:41:52.2±2.0, 10°.26N×83°.23W, h19km±14km, MW4.1*
ISC 27 20:41:50.9±1.4, 10°.12N±0°.05×83°.30W±0°.04, h11km±10km,
n33, σ1°.35/41, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRES	**Siquirres**	**0.21**	**263**	*e*P	**Pg**	**20 41 56.6**	**+1.4**
RVLA	**Villa Bonita**	**0.29**	**268**	*e*P	**Pg**	**20 41 58.1**	**+1.3**
RVSTA	**Santa Teresita**	**0.38**	**247**	*e*P	**Pg**	**20 41 59.6**	**+1.2**
VERB	**Verbena**	**0.43**	**246**	*e*P	**Pg**	**20 42 00.6**	**+1.2**
VTCV	**VTCV, Calle Va**	**0.45**	**252**	*e*P	**Pg**	**20 42 00.7**	**+1.0**
CVTV	**Tajo**	**0.46**	**255**	*e*P	**Pg**	**20 42 01.2**	**+1.1**
CVTR	**Volcan Turrial**	**0.47**	**258**	*e*P	**Pg**	**20 42 01.0**	**+0.8**
VTR0	**Volcan Turrial**	**0.47**	**257**	*e*P	**Pg**	**20 42 01.1**	**+0.9**
CVTG	**V. Turrialba,**	**0.47**	**273**	*e*P	**Pg**	**20 42 01.2**	**+1.1**
CVTQ	**Turrialba Volc**	**0.48**	**256**	*e*P	**Pg**	**20 42 01.2**	**+0.9**
VTLA	**Turrialba Volc**	**0.49**	**256**	*e*P	**Pg**	**20 42 01.2**	**+0.7**
RAFA	**San Farael, Vo**	**0.53**	**252**	*e*P	**Pg**	**20 42 02.2**	**+0.8**
CVIMO	**Finca Echandi**	**0.65**	**262**	*e*P	**Pg**	**20 42 03.9**	**+0.5**
BUS1	**Rivas**	**0.72**	**218**	*e*P	**Pg**	**20 42 05.1**	**+0.2**
VBV1	**V. Barva**	**0.79**	**270**	*e*P	**Pg**	**20 42 06.0**	**-0.2**
ABE2	**San Pablo**	**0.85**	**241**	*e*P	**Pg**	**20 42 07.0**	**-0.4**
DRK0	**Durika**	**0.85**	**177**	‖,*i*P	**Pb**	**20 42 05.8**	**-2.1**
DRK0				*i* S	**Sg**	**20 42 15.8**	**-2.8**
PISJ	**San Jernim**	**0.95**	**239**	*e*P	**Pb**	**20 42 08.7**	**-0.8**
PICV	**PH. Pirrs**	**1.01**	**241**	*e*P	**Pb**	**20 42 09.6**	**-0.9**
ARE1	**Arenal 1**	**1.44**	**284**	*e*P	**Pn**	**20 42 16.8**	**-0.2**
BRU2	**Volcan**	**1.45**	**156**	‖,*i*P	**Pn**	**20 42 17.9**	**+0.7**
BRU2				*i* S	**Sn**	**20 42 37.2**	**+1.0**
BC3P	**Paso Ancho**	**1.46**	**152**	*e*P	**Pn**	**20 42 18.3**	**+0.9**
BC3P				*e*S	**Sn**	**20 42 36.8**	**+0.1**
LNBQ3	**Los Naranjos,**	**1.57**	**147**	*e*P	Pn	20 42 14.6	-4.3
LNBQ3				*e*S	**Sn**	**20 42 36.0**	**-3.2**
PTAR3	**Potrerillos Ar**	**1.62**	**151**	*e*P	**Pn**	**20 42 21.4**	**+1.9**
PTAR3				*e*S	**Sn**	**20 42 42.9**	**+2.3**
CHGR2	**Aguacate**	**1.63**	**136**	*e*P	**Pn**	**20 42 20.0**	**+0.4**
CHGR2				*i* S	**Sn**	**20 42 41.2**	**+0.5**
JTS	**Las Juntas de**	**1.64**	**276**	‖,*i*P	**Pn**	**20 42 20.2**	**+0.5**
JTS				*e*S	**Sn**	**20 42 41.2**	**+0.3**
JTS	**Las Juntas de**	**1.64**	**276**	*e*P	**Pn**	**20 42 20.3**	**+0.5**
PIRO	**Carate, Puerto**	**1.71**	**181**	*e*P	**Pn**	**20 42 22.7**	**+2.1**
PIRO				*e*S	**Sb**	**20 42 45.9**	**+2.1**
GUAL3	**Gualaca, Chiri**	**1.86**	**148**	*e*P	**Pn**	**20 42 23.2**	**+0.5**
VMAR	**Armenia, Volca**	**1.92**	**291**	*e*P	**Pn**	**20 42 23.9**	**+0.4**
CRIS3	**El Cristo, Coc**	**3.23**	**125**	*e*P	**Pn**	**20 42 40.4**	**-1.2**
BCIP	**Isla Barro Col**	**3.54**	**105**	*e*P	**Pn**	**20 42 46.0**	**+0.1**
BCIP				*e*S	**Sn**	**20 43 26.1**	**-1.6**
ZANG	**Zanguenga, Cho**	**3.58**	**109**	*e*P	**Pg**	**20 43 01.5**	**+2.1**

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*PRE **27** 20:48:13.5±2.3, 51°.24S×38°.35E, h58km±19km*
*IDC **27** 20:49:37.6±0.7, 46°.05S×35°.00E, h0km, mb4.0/11,*
mbtmp4.0/13, ML4.0/2, MS3.9/7, Error ellipse:
s-maj=30.8km s-min=16.3km az=65.0
*NEIC **27** 20:49:38.2±1.8, 46°.18S±0°.04×33°.4E±0°.5, h10km±2km,*
mb4.2/9, Error ellipse: s-maj=57.7km s-min=6.7km
az=90.0
ISC 27 20:49:38.7±0.6, 46°.08S±0°.08×34°.2E±0°.1, h10km, n52,
σ2°.63/42, mb4.1/11, MS3.9/5, Prince Edward Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S3	**CROZET ISLANDS**	**12.20**	**100**	T	T	21 04 17.0	
	baz=268,slow=76,SNR=8.5						
H04S2	**CROZET ISLANDS**	**12.21**	**100**	T	T	21 04 17.9	
	baz=268,slow=76,SNR=8.9						
H04S1	**CROZET ISLANDS**	**12.22**	**100**	T	T	21 04 18.3	
	baz=268,slow=76,SNR=6.7						
GRHM	**Grahamstown, E**	**14.13**	**332**	Pn	**Pn**	**20 52 55.8**	**-3.1**
GRHM	**Grahamstown, E**	**14.13**	**332**	*e*P	**P**	**20 53 02.7**	**-3.9**
SOE	**Somerset East**	**14.92**	**330**	Pn	**Pn**	**20 53 07.9**	**-1.8**
GRAF	**Camdeboo Natio**	**15.69**	**328**	*e*P	**Pn**	**20 53 20.1**	**+0.2**
ROOI	**Rooidraai Farm**	**15.86**	**325**	*e*P	**Pn**	**20 53 22.7**	**+0.6**
KSTD	**Kokstad**	**15.90**	**344**	*e*P	**Pn**	**20 53 22.7**	**-0.1**
BFON	**Badsfontein, M**	**16.42**	**327**	*e*P	**Pn**	**20 53 29.4**	**0.0**
GRAN	**Grantham**	**16.60**	**322**	*e*P	**Pn**	**20 53 32.2**	**+0.6**
BRAK	**Brakfontein**	**16.75**	**324**	*e*P	**P**	**20 53 34.8**	**-0.9**
PMBG	**Pietermaritzbu**	**16.79**	**349**	*e*P	**Pn**	**20 53 33.0**	**-1.0**
SUR	**Sutherland**	**17.15**	**318**	P	**Pn**	**20 53 35.2**	**-3.3**
SUR				IAmb	IAmb	20 54 02.5	
	comp=Z,34nm,1.5s						
SUR	**Sutherland**	**17.15**	**318**	P	**P**	**20 53 41.8**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=150,slow=16,SNR=9.3						
SUR				S	**Sn**	**20 56 41.0**	**-8.3**
	comp=Z,2.3nm,0.6s,baz=23,slow=18,SNR=1.1						
SUR				LR	LR	20 58 32.6	
	comp=Z,396nm,19.0s,baz=172,slow=31						
	comp=Z,2.5nm,0.5s						
FRAZ	**Fraserburg**	**17.25**	**320**	*e*P	**Pn**	**20 53 40.0**	**+0.1**
NWCL	**Newcastle**	**18.62**	**348**	*e*P	**Pn**	**20 53 59.0**	**+2.3**
ALKP	**Alkanpan, Nort**	**18.64**	**326**	*e*P	**Pn**	**20 53 59.4**	**+2.5**
POGA	**Pongola**	**18.80**	**353**		**P**	**20 53 57.2**	**-1.1**
POGA	**Pongola**	**18.80**	**353**	*e*P	**Pn**	**20 54 00.2**	**+1.4**
BOSA	**Boshof**	**18.81**	**335**	P	**P**	**20 53 56.3**	**-2.3**
BOSA	**Boshof**	**18.81**	**335**	P	**Pn**	**20 53 59.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=171,slow=11,SNR=8.7						
BOSA				LR	LR	21 00 10.2	
	comp=Z,182nm,19.3s,baz=189,slow=33						
	comp=Z,4.0nm,0.8s						
BOSA	**Boshof**	**18.81**	**335**	*e*P	**Pn**	**20 54 03.3**	**+4.3**
PRYS	**Parys**	**19.88**	**342**	*e*P	**Pn**	**20 54 16.4**	**+4.6**
HRAO	**HartRAO**	**20.81**	**343**	*e*P	Pn	20 54 28.6	+5.8
LBTB	**Lobatse**	**22.13**	**339**	P	**P**	**20 54 33.1**	**-1.4**
LBTB				IAmb	IAmb	20 54 37.1	
	comp=Z,18nm,1.4s						
LBTB	**Lobatse**	**22.13**	**339**	P	**P**	**20 54 35.6**	**+1.1**
	comp=Z,5.3nm,1.0s,baz=149,slow=7.7,SNR=4.9						
LBTB				LR	LR	21 02 09.0	
	comp=Z,319nm,19.4s,baz=184,slow=34						
	comp=Z,5.3nm,1.0s						
LBTB	**Lobatse**	**22.13**	**339**	*e*P	P	20 54 47.5	+13
MOPA	**Mopani**	**22.62**	**353**	*e*P	P	20 54 51.3	+12
MAW	**Mawson**	**26.20**	**155**	LR	LR	21 02 50.6	
	comp=Z,308nm,19.4s,baz=208,slow=30						
ABPO	**Ambohimpanom**	**29.04**	**26**	IAML		20 55 06.0	
	comp=Z,11nm,0.2s						
SNAA	**Sanae**	**31.05**	**202**	P	**P**	**20 55 52.5**	**-3.9**
SNAA	**Sanae**	**31.05**	**202**	P	**P**	**20 55 58.7**	**+2.3**
	comp=Z,2.3nm,1.0s,baz=21,slow=8.6,SNR=2.7						
	comp=Z,2.3nm,1.0s						
LSZ	**Lusaka**	**31.12**	**349**	P	**P**	**20 55 58.1**	**+0.5**
LSZ	**Lusaka**	**31.12**	**349**	LR	LR	21 07 24.7	
	comp=Z,286nm,18.7s,baz=184,slow=34						
BELA	**Belgrano 2**	**41.00**	**197**	P	**P**	**20 57 20.0**	**-1.3**
QSPA	**South Pole Qui**	**44.14**	**180**	P	**P**	**20 57 45.7**	**-1.6**
QSPA				IAmb	IAmb	20 58 01.2	
	comp=Z,6.1nm,1.2s						
QSPA	**South Pole Qui**	**44.14**	**180**	P	**P**	**20 57 47.7**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=192,slow=2.6,SNR=6.3						
QSPA				LR	LR	21 13 54.3	
	comp=Z,296nm,20.9s,baz=154,slow=33						
	comp=Z,1.4nm,0.7s						
KMBO	**Kilima Mbogo**	**44.84**	**4**	P	**P**	**20 57 54.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=240,slow=16,SNR=1.6						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**52.53**	**167**	P	**P**	**20 58 50.6**	**-0.9**
VNDA				IAmb	IAmb	20 59 16.4	
	comp=Z,1.8nm,1.0s						
VNDA	**Vanda**	**52.53**	**167**	P	**P**	**20 58 51.4**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=219,slow=10,SNR=3.6						
	comp=Z,1.1nm,0.9s						
H10S2	**ASCENSION HYDR**	**55.71**	**296**	T	T	22 00 17.1	
	baz=137,slow=74,SNR=106						
H10S3	**ASCENSION HYDR**	**55.73**	**296**	T	T	22 00 18.3	
	baz=83,slow=74,SNR=162						
DBIC	**Dimbokro**	**63.01**	**315**	P	**P**	**21 00 09.1**	**+3.2**
	comp=Z,3.2nm,1.0s,baz=98,slow=7.1,SNR=2.1						
DBIC				LR	LR	21 24 20.5	
	comp=Z,75nm,19.7s,baz=166,slow=33						
	comp=Z,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.83**	**325**	P	**P**	**21 00 27.2**	**+2.9**
	comp=Z,2.0nm,0.4s,baz=104,slow=6.1,SNR=4.3						
	comp=Z,2.0nm,0.4s						
BDFB	**Brasilia**	**73.57**	**264**	P	**P**	**21 01 16.4**	**+4.1**
	comp=Z,3.6nm,0.9s,baz=103,slow=9.1,SNR=3.6						
	comp=Z,3.6nm,0.9s						
STKA	**Stephens Creek**	**78.43**	**124**	P	**P**	**21 01 38.1**	**-1.6**
	comp=Z,3.0nm,1.1s,baz=276,slow=11,SNR=3.4						
	comp=Z,3.0nm,1.1s						
ASAR	**Alice Springs**	**79.67**	**113**	P	**P**	**21 01 44.7**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=220,slow=6.1,SNR=2.5						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**82.62**	**111**	P	**P**	**21 01 58.8**	**-3.5**
	comp=Z,0.8nm,1.0s,baz=225,slow=5.5,SNR=2.4						
	comp=Z,0.8nm,1.0s						
TXAR	**Lajitas Array**	**143.22**	**258**	PKP	**PKPdf**	**21 09 12.1**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=145,slow=7.0,SNR=4.7						
PDAR	**Pinedale Array**	**154.07**	**276**	PKPab	**PKPab**	**21 09 53.7**	**+1.6**
	comp=Z,0.7nm,0.

ROM ***27*** *20:59:17.8±0.2, 43°.110N±0°.007×13°.96E±0°.01, h7km±1km, ML3.0/200, Error ellipse: s-maj=0.9km s-min=0.6km az=253.0*
PRU ***27*** *20:59:18.3, 43°.03N×14°.21E, h10km*
LDG ***27*** *20:59:18.8±0.9, 43°.43N×14°.34E, h10km, Ml3.2/5, Error ellipse: s-maj=19.5km s-min=9.6km az=84.0*
STR ***27*** *20:59:25.8±1.5, 44°.N±18°×1°.4E±1°.1, h10km, MLv3.3/8, Error ellipse: s-maj=0.0km s-min=0.0km az=6.2, preliminary*
ISC 27 20:59:17.2±0.9, 43°.16N±0°.02×14°.04E±0°.02, h17km±6km, n177, σ2°15/190, 9D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADA	**Capodarco di F**	**0.21**	**280**	⇓P	**Pg**	**20 59 22.2**	**+0.1**
CADA				S	**Sg**	**20 59 25.6**	**+0.2**
CADA				AML	AML		
	comp=E,17950μm,0.2s						
CADA				AML	AML		
	comp=E,18000μm,0.2s						
CADA				AML	AML		
	comp=N,29350μm,0.2s						
CADA				AML	AML		
	comp=E,17958μm,0.2s						
CADA				AML	AML		
	comp=N,29346μm,0.2s						
CIMA	**Civitanova Mar**	**0.31**	**299**	P	**Pb**	**20 59 25.1**	**+0.8**
CIMA				S	**Sb**	**20 59 31.1**	**+2.1**
CIMA				AML	AML		
	comp=E,7390μm,1.0s						
CIMA				AML	AML		
	comp=N,12355μm,0.5s						
CIMA				AML	AML		
	comp=N,12350μm,0.5s						
CIMA				AML	AML		
	comp=N,9985μm,0.2s						
CIMA				AML	AML		
	comp=E,7231μm,0.4s						
MNTT	**Montottone**	**0.34**	**254**	⇓P	**Pg**	**20 59 24.5**	**+0.2**
MNTT				S	**Sg**	**20 59 30.1**	**+0.9**
MNTT				AML	AML		
	comp=N,12750μm,0.4s						
MNTT				AML	AML		
	comp=E,15400μm,1.6s						
MNTT				AML	AML		
	comp=N,12800μm,0.4s						
MNTT				AML	AML		
	comp=E,12350μm,0.6s						
MNTT				AML	AML		
	comp=E,12350μm,1.4s						
MNTT				AML	AML		
	comp=E,12450μm,0.4s						
MNTT				AML	AML		
	comp=N,12782μm,0.4s						
OFFI	**Offida**	**0.34**	**229**	⇓P	**Pg**	**20 59 24.6**	**+0.3**
OFFI				AML	AML		
	comp=E,2740μm,0.3s						
OFFI				AML	AML		
	comp=N,5385μm,1.2s						
OFFI				AML	AML		
	comp=N,5385μm,0.8s						
OFFI				AML	AML		
	comp=N,8767μm,0.7s						
OFFI				AML	AML		
	comp=E,2744μm,0.3s						
TRTR	**Tortoreto Alta**	**0.36**	**195**	P	**Pb**	**20 59 26.4**	**+1.3**
TRTR				AML	AML		
	comp=E,9480μm,1.4s						
TRTR				AML	AML		
	comp=N,10370μm,0.4s						
TRTR				AML	AML		
	comp=E,9480μm,0.6s						
TRTR				AML	AML		
	comp=E,8224μm,0.5s						
TRTR				AML	AML		
	comp=N,10355μm,0.5s						
PP3	**Marolino**	**0.38**	**305**	P	**Pb**	**20 59 26.1**	**+0.6**
MNTP	**Montappone**	**0.42**	**267**	P	**Pg**	**20 59 25.8**	**+0.1**
MNTP				S	**Sg**	**20 59 32.4**	**+0.9**
MNTP				AML	AML		
	comp=E,5245μm,0.7s						
MNTP				AML	AML		
	comp=E,5240μm,0.7s						
MNTP				AML	AML		
	comp=E,5240μm,1.3s						
MNTP				AML	AML		
	comp=N,4360μm,0.1s						
MNTP				AML	AML		
	comp=E,5097μm,0.3s						
MNTP				AML	AML		
	comp=N,4360μm,0.1s						
MF5	**Montefalcone A**	**0.46**	**248**	⇓P	**Pg**	**20 59 26.4**	**-0.1**
MF5				S	**Sg**	**20 59 33.1**	**+0.5**
MF5				AML	AML		
	comp=E,3145μm,0.6s						
MF5				AML	AML		
	comp=E,3130μm,0.6s						
MF5				AML	AML		
	comp=N,2235μm,0.4s						
MF5				AML	AML		
	comp=E,2825μm,0.5s						
MF5				AML	AML		
	comp=N,2230μm,0.4s						
MF5				AML	AML		
	comp=N,2761μm,0.5s						
MF5				AML	AML		
	comp=E,3142μm,0.6s						
SAP2	**Sant'Angelo in**	**0.47**	**263**	AML	AML		
	comp=N,14900μm,0.4s						
SAP2				AML	AML		
	comp=E,2900μm,0.6s						
SAP2				AML	AML		
	comp=E,2895μm,0.6s						
SAP2				AML	AML		
	comp=N,14154μm,0.2s						
SAP2				AML	AML		
	comp=E,2880μm,0.4s						
AOI	**Ancona**	**0.51**	**321**	P	**Pb**	**20 59 28.6**	**+1.0**
AOI				AML	AML		
	comp=N,1264μm,1.2s						
AOI				AML	AML		
	comp=N,1264μm,0.8s						
AOI				AML	AML		
	comp=E,1505μm,0.3s						
AOI				AML	AML		
	comp=N,1224μm,0.2s						
AOI				AML	AML		
	comp=E,1504μm,0.3s						
TRE1	**Treia**	**0.55**	**286**	P	**Pg**	**20 59 28.4**	**+0.2**
MMO1	**Montemonaco**	**0.58**	**244**	⇓P	**Pg**	**20 59 27.8**	**-0.9**
MMO1				S	**Sg**	**20 59 36.0**	**-0.6**
CSP1	**Cessapalombo**	**0.61**	**264**	P	**Pg**	**20 59 28.6**	**-0.8**
CSP1				S	**Sg**	**20 59 37.8**	**+0.2**
CSP1				AML	AML		
	comp=E,1460μm,0.7s						
CSP1				AML	AML		
	comp=E,1455μm,0.7s						
CSP1				AML	AML		
	comp=N,86500μm,1.6s						
CSP1				AML	AML		
	comp=N,87000μm,1.6s						
CSP1				AML	AML		
	comp=N,87000μm,0.4s						
CSP1				AML	AML		
	comp=E,1288μm,0.2s						
MTRA	**Matera**	**0.62**	**230**	⇓P	**Pg**	**20 59 28.3**	**-1.2**
MTRA				S	**Sg**	**20 59 37.0**	**-0.7**
MTRA				AML	AML		
	comp=E,2960μm,0.4s						
MTRA				AML	AML		
	comp=N,2125μm,0.4s						
MTRA				AML	AML		
	comp=E,3050μm,0.4s						
MTRA				AML	AML		
	comp=N,2090μm,0.4s						
MTRA				AML	AML		
	comp=E,2965μm,0.4s						
MTRA				AML	AML		
	comp=N,2124μm,0.4s						
MTRA				AML	AML		
	comp=N,2091μm,0.4s						
MTRA				AML	AML		
	comp=E,2961μm,0.4s						
MTRA				AML	AML		
	comp=E,3046μm,0.4s						
PF6	**Pievefavera**	**0.62**	**269**	P	**Pg**	**20 59 28.6**	**-0.9**
TERO	**Teramo**	**0.62**	**211**	P	**Pg**	**20 59 28.8**	**-0.7**
TERO				S	**Sg**	**20 59 37.6**	**-0.2**
TERO				AML	AML		
	comp=E,678μm,0.2s						
TERO				AML	AML		
	comp=N,392μm,0.3s						
TERO				AML	AML		
	comp=E,1075μm,0.2s						
TERO				AML	AML		
	comp=N,703μm,0.4s						
TERO				AML	AML		
	comp=E,677μm,0.2s						
TERO				AML	AML		
	comp=N,393μm,0.3s						
TERO				AML	AML		
	comp=E,1075μm,0.2s						
TERO				AML	AML		
	comp=N,640μm,0.3s						
SSM1	**San Severino M**	**0.63**	**277**	P	**Pg**	**20 59 29.3**	**-0.4**
CING	**Cingoli**	**0.65**	**290**	P	**Pg**	**20 59 29.9**	**-0.2**
MC2	**Monte Cornacci**	**0.67**	**249**	P	**Pg**	**20 59 29.5**	**-0.9**
MC2				S	**Sg**	**20 59 38.9**	**-0.4**
EL6	**Elcito**	**0.70**	**284**	AML	AML		
	comp=E,2585μm,0.6s						
EL6				AML	AML		
	comp=N,1925μm,0.2s						
FDMO	**Fiordimonte**	**0.71**	**260**	⇓P	**Pg**	**20 59 30.1**	**-1.0**
FDMO				S	**Sg**	**20 59 40.2**	**-0.3**
FDMO				AML	AML		
	comp=E,2355μm,0.2s						
FDMO				AML	AML		
	comp=N,1535μm,0.7s						
FDMO				AML	AML		
	comp=N,1420μm,0.2s						
SMA1	**SAN MARTINO**	**0.74**	**225**	P	**Pg**	**20 59 30.1**	**-1.5**
SMA1				S	**Sg**	**20 59 40.6**	**-0.9**
SMA1				AML	AML		
	comp=E,992μm,0.6s						
SMA1				AML	AML		
	comp=N,1145μm,1.0s						
SMA1				AML	AML		
	comp=E,991μm,0.6s						
SMA1				AML	AML		
	comp=E,846μm,0.4s						
SMA1				AML	AML		
	comp=N,877μm,0.3s						
NRCA	**Norcia**	**0.75**	**245**	P	**Pg**	**20 59 30.6**	**-1.4**
NRCA				S	**Sg**	**20 59 41.4**	**-0.5**
NRCA				AML	AML		
	comp=E,1920μm,0.4s						
NRCA				AML	AML		
	comp=N,1820μm,0.4s						
NRCA				AML	AML		
	comp=N,1960μm,0.4s						
NRCA				AML	AML		
	comp=E,2060μm,0.4s						
NRCA				AML	AML		
	comp=N,1820μm,1.6s						
NRCA				AML	AML		
	comp=N,1960μm,1.6s						
NRCA				AML	AML		
	comp=N,1702μm,0.1s						
NRCA				AML	AML		
	comp=E,1919μm,0.1s						
NRCA				AML	AML		
	comp=N,1835μm,0.1s						
NRCA				AML	AML		
	comp=E,1796μm,0.1s						
CAMP	**Campotosto**	**0.78**	**217**	P	**Pg**	**20 59 30.9**	**-1.4**
CAMP				AML	AML		
	comp=N,562μm,0.7s						
CAMP				AML	AML		
	comp=E,472μm,0.6s						
CAMP				AML	AML		
	comp=N,562μm,1.3s						
CAMP				AML	AML		
	comp=E,466μm,0.4s						
CAMP				AML	AML		
	comp=N,561μm,0.7s						
VCEL	**Villa Celiera**	**0.78**	**191**	P	**Pg**	**20 59 32.7**	**+0.3**
VCEL				AML	AML		
	comp=N,859μm,0.8s						
VCEL				AML	AML		
	comp=N,859μm,1.2s						
VCEL				AML	AML		
	comp=E,920μm,1.1s						
VCEL				AML	AML		
	comp=E,760μm,0.3s						
VCEL				AML	AML		
	comp=N,859μm,0.8s						
GIGS	**Gran Sasso**	**0.79**	**206**	P	**Pg**	**20 59 31.6**	**-1.0**
GIGS				AML	AML		
	comp=E,222μm,0.5s						
GIGS				AML	AML		
	comp=E,222μm,0.5s						
GIGS				AML	AML		
	comp=N,161μm,0.7s						
GIGS				AML	AML		
	comp=E,222μm,0.5s						
GIGS				AML	AML		
	comp=N,150μm,0.3s						
SENI	**Senigallia**	**0.80**	**313**	P	**Pn**	**20 59 34.9**	**+1.2**
SNTG	**Esanatoglia**	**0.81**	**277**	⇓P	**Pg**	**20 59 32.1**	**-0.9**
SNTG				S	**Sg**	**20 59 44.3**	**+0.6**
SNTG				AML	AML		
	comp=E,786μm,0.7s						
SNTG				AML	AML		
	comp=N,1034μm,0.3s						
SNTG				AML	AML		
	comp=E,816μm,0.7s						
SNTG				AML	AML		
	comp=N,1034μm,0.3s						
SNTG				AML	AML		
	comp=E,786μm,0.7s						
SNTG				AML	AML		
	comp=N,1075μm,0.3s						
SNTG				AML	AML		
	comp=E,650μm,0.2s						
SNTG				AML	AML		
	comp=E,671μm,0.2s						
SNTG				AML	AML		
	comp=N,1032μm,0.3s						
SNTG				AML	AML		
	comp=N,1076μm,0.3s						
CESI	**CESI - Serrava**	**0.84**	**260**	⇓P	**Pg**	**20 59 32.5**	**-1.2**
CESI				S	**Sg**	**20 59 44.9**	**+0.1**
CESI				AML	AML		
	comp=E,1215μm,0.2s						
CESI				AML	AML		
	comp=N,1465μm,0.4s						
CESI				AML	AML		
	comp=E,1214μm,0.2s						
CESI				AML	AML		
	comp=N,1467μm,0.4s						
ARVD	**Arcevia**	**0.87**	**293**	P	**Pg**	**20 59 33.8**	**-0.4**
ARVD				AML	AML		
	comp=N,979μm,0.6s						
ARVD				AML	AML		
	comp=E,853μm,0.6s						
ARVD				AML	AML		
	comp=E,713μm,0.2s						
ARVD				AML	AML		
	comp=N,981μm,0.6s						
RM33	**Pellescritta (**	**0.89**	**223**	P	**Pg**	**20 59 32.8**	**-1.7**
RM33				AML	AML		
	comp=E,884μm,0.4s						
RM33				AML	AML		
	comp=N,1056μm,0.4s						
RM33				AML	AML		
	comp=N,1058μm,0.4s						
RM33				AML	AML		
	comp=N,1062μm,0.4s						
RM33				AML	AML		
	comp=E,884μm,0.5s						
RM33				AML	AML		
	comp=E,863μm,0.3s						
RM33				AML	AML		
	comp=E,886μm,0.5s						
RM33				AML	AML		
	comp=N,1058μm,0.4s						
RM33				AML	AML		
	comp=E,865μm,0.3s						
RM33				AML	AML		
	comp=N,1061μm,0.4s						
LNSS	**Leonessa**	**0.92**	**233**	P	**Pg**	**20 59 33.3**	**-1.8**
LNSS				AML	AML		
	comp=E,2020μm,0.3s						
LNSS				AML	AML		
	comp=E,2020μm,1.7s						
LNSS				AML	AML		
	comp=N,1065μm,1.1s						
LNSS				AML	AML		
	comp=E,2018μm,0.3s						
LNSS				AML	AML		
	comp=E,1954μm,0.3s						
LNSS				AML	AML		
	comp=N,1051μm,0.3s						
LNSS				AML	AML		
	comp=N,973μm,0.3s						
FOSV	**Fossato di Vic**	**0.94**	**279**	P	**Pg**	**20 59 34.7**	**-0.9**
FOSV				S	**Sb**	**20 59 48.8**	**+1.4**
FOSV				AML	AML		
	comp=N,1280μm,0.6s						
FOSV				AML	AML		
	comp=E,1332μm,0.4s						
FOSV				AML	AML		
	comp=E,1335μm,0.4s						
FOSV				AML	AML		
	comp=N,1233μm,0.3s						
FAGN	**Fagnano**	**0.95**	**201**	P	**Pg**	**20 59 35.1**	**-0.6**
FAGN				AML	AML		
	comp=N,1230μm,0.4s						
FAGN				AML	AML		
	comp=E,1910μm,0.5s						
SSFR	**Montelago di S**	**0.96**	**287**	P	**Pg**	**20 59 35.3**	**-0.6**
SSFR				S	**Sb**	**20 59 49.8**	**+2.0**
SSFR				AML	AML		
	comp=E,2260μm,1.3s						
SSFR				AML	AML		
	comp=N,2440μm,0.2s						
SSFR				AML	AML		
	comp=N,2125μm,0.2s						
SSFR				AML	AML		
	comp=E,2260μm,0.7s						
SSFR				AML	AML		
	comp=E,2055μm,0.2s						
SSFR				AML	AML		
	comp=N,2440μm,0.2s						
SSFR				AML	AML		
	comp=N,2123μm,0.2s						
SSFR				AML	AML		
	comp=E,2054μm,0.2s						
SSFR				AML	AML		
	comp=E,2126μm,0.2s						
ASSB	**Assisi San Ben**	**1.02**	**264**	P	**Pg**	**20 59 35.5**	**-1.4**
ASSB				S	**Sg**	**20 59 50.4**	**+0.1**
ASSB				AML	AML		
	comp=E,1160μm,1.3s						
ASSB				AML	AML		
	comp=N,1430μm,0.6s						
ASSB				AML	AML		
	comp=N,1430μm,1.4s						
ASSB				AML	AML		
	comp=E,1160μm,0.7s						
ASSB				AML	AML		
	comp=E,1020μm,0.6s						
ASSB				AML	AML		
	comp=N,1099μm,0.5s						
ATCC	**AVT- Casa Cast**	**1.02**	**272**	P	**Pg**	**20 59 35.8**	**-1.2**
ATCC				S	**Sb**	**20 59 51.1**	**+1.4**
ATCC				AML	AML		
	comp=N,1310μm,0.3s						
ATCC				AML	AML		
	comp=E,1224μm,0.6s						
ATCC				AML	AML		
	comp=E,1224μm,1.4s						
ATCC				AML	AML		
	comp=E,1226μm,0.6s						
ATCC				AML	AML		
	comp=N,1310μm,0.3s						
FRON	**Frontone**	**1.02**	**291**	P	**Pg**	**20 59 36.6**	**-0.5**
FRON				S	**Sn**	**20 59 52.4**	**+1.5**
FRON				AML	AML		
	comp=E,1620μm,0.7s						
FRON				AML	AML		
	comp=N,2170μm,0.9s						
FRON				AML	AML		
	comp=N,1981μm,0.5s						
FRON				AML	AML		
	comp=E,1620μm,0.7s						
MPAG	**Monte Paganucc**	**1.04**	**297**	AML	AML		
	comp=N,850μm,1.4s						
MPAG				AML	AML		
	comp=E,1315μm,0.5s						
MPAG				AML	AML		
	comp=N,782μm,1.3s						
MPAG				AML	AML		
	comp=E,1280μm,0.5s						
MPAG				AML	AML		
	comp=N,782μm,0.7s						
MPAG				AML	AML		
	comp=N,850μm,0.6s						
ATFO	**Monte Foce - G**	**1.09**	**282**	P	**Pg**	**20 59 37.5**	**-0.9**
ATFO				AML	AML		
	comp=N,1235μm,0.4s						
ATFO				AML	AML		
	comp=N,1235μm,1.6s						
ATFO				AML	AML		
	comp=E,1430μm,0.5s						
ATFO				AML	AML		
	comp=E,1430μm,0.5s						
ATFO				AML	AML		
	comp=N,1237μm,0.4s						
ARRO	**Arrone**	**1.10**	**239**	P	**Pb**	**20 59 36.8**	**-1.0**
ARRO				AML	AML		
	comp=N,597μm,1.1s						
ARRO				AML	AML		
	comp=E,396μm,0.9s						
ARRO				AML	AML		
	comp=N,596μm,1.1s						
ARRO				AML	AML		
	comp=E,396μm,1.1s						
ARRO				AML	AML		
	comp=N,596μm,0.9s						
ARRO				AML	AML		
	comp=E,387μm,0.3s						
ARRO				AML	AML		
	comp=N,538μm,0.2s						
MURB	**Monte Urbino**	**1.11**	**276**	P	**Pb**	**20 59 37.8**	**-0.3**
MURB				AML	AML		
	comp=E,3310μm,1.0s						
MURB				AML	AML		
	comp=E,3680μm,0.4s						
MURB				AML	AML		
	comp=E,3310μm,1.0s						
MURB				AML	AML		
	comp=N,4665μm,0.8s						
MURB				AML	AML		
	comp=N,4335μm,0.9s						
MURB				AML	AML		
	comp=N,4023μm,0.3s						
MURB				AML	AML		
	comp=N,3743μm,0.4s						
MURB				AML	AML		
	comp=E,3676μm,0.4s						
LPEL	**Lama dei Pelig**	**1.11**	**174**	P	**Pn**	**20 59 39.9**	**+1.8**
LPEL				AML	AML		
	comp=E,602μm,0.8s						
LPEL				AML	AML		
	comp=E,558μm,0.8s						
LPEL				AML	AML		
	comp=N,488μm,0.9s						
LPEL				AML	AML		
	comp=E,602μm,1.2s						
LPEL				AML	AML		
	comp=N,422μm,0.8s						
LPEL				AML	AML		
	comp=E,558μm,1.2s						
FIAM	**Fiamignano**	**1.12**	**218**	AML	AML		
	comp=E,262μm,0.4s						
FIAM				AML	AML		
	comp=E,4460μm,1.6s						
FIAM				AML	AML		
	comp=E,4460μm,0.4s						
FIAM				AML	AML		
	comp=N,489μm,0.5s						
FIAM				AML	AML		
	comp=N,238μm,0.7s						
MOMA	**Monte Martano**	**1.13**	**252**	P	**Pb**	**20 59 37.4**	**-1.0**
MOMA				AML	AML		
	comp=N,942μm,0.5s						
MOMA				AML	AML		
	comp=N,942μm,0.5s						
MOMA				AML	AML		

	comp=N,1008μm,0.5s					
MOMA			AML	AML		
	comp=E,788μm,0.3s					
MOMA			AML	AML		
	comp=E,819μm,0.3s					
MOMA			AML	AML		
	comp=N,944μm,0.5s					
MOMA			AML	AML		
	comp=N,1007μm,0.5s					
MOMA			AML	AML		
	comp=E,788μm,0.3s					
MOMA			AML	AML		
	comp=E,819μm,0.3s					
INTR	**Introdacqua**	**1.15 185**	P	**Pb**	**20 59 39.5 +0.8**	
INTR			AML	AML		
	comp=E,920μm,0.5s					
INTR			AML	AML		
	comp=N,1795μm,0.5s					
INTR			AML	AML		
	comp=E,631μm,0.5s					
INTR			AML	AML		
	comp=N,1825μm,0.5s					
INTR			AML	AML		
	comp=N,1825μm,1.5s					
INTR			AML	AML		
	comp=N,1795μm,1.5s					
PIEI	**Pieia**	**1.16 290**	P	**Pb**	**20 59 38.9 +0.1**	
PIEI			AML	AML		
	comp=E,812μm,0.4s					
PIEI			AML	AML		
	comp=N,630μm,0.3s					
PIEI			AML	AML		
	comp=E,813μm,0.4s					
PIEI			AML	AML		
	comp=N,630μm,0.3s					
CESX	**Cesi**	**1.20 243**	P	**Pn**	**20 59 38.2 -1.1**	
CESX			AML	AML		
	comp=E,622μm,0.5s					
CESX			AML	AML		
	comp=N,648μm,0.4s					
CESX			AML	AML		
	comp=N,648μm,0.4s					
CESX			AML	AML		
	comp=E,621μm,0.5s					
ATVO	**AVT- Monte Val**	**1.21 281**	P	**Pn**	**20 59 39.4 -0.1**	
ATVO			S	**Sn**	**20 59 57.4 +1.9**	
ATVO			AML	AML		
	comp=N,802μm,0.4s					
ATVO			AML	AML		
	comp=E,1083μm,0.6s					
ATVO			AML	AML		
	comp=E,860μm,0.3s					
ATVO			AML	AML		
	comp=N,803μm,0.5s					
PTQR	**Pietraquaria**	**1.23 203**	AML	AML		
	comp=E,256μm,0.5s					
PTQR			AML	AML		
	comp=N,284μm,1.5s					
PTQR			AML	AML		
	comp=N,284μm,0.5s					
ATPI	**Pietralunga -**	**1.23 284**	P	**Pn**	**20 59 40.0 +0.3**	
ATPI			AML	AML		
	comp=N,690μm,1.1s					
ATPI			AML	AML		
	comp=E,838μm,0.4s					
ATPI			AML	AML		
	comp=N,618μm,0.4s					
ATPI			AML	AML		
	comp=E,837μm,0.4s					
ATTE	**AVT- Monte Tez**	**1.23 272**	P	**Pn**	**20 59 39.6 -0.2**	
ATTE			AML	AML		
	comp=E,498μm,0.4s					
ATTE			AML	AML		
	comp=N,464μm,1.0s					
ATTE			AML	AML		
	comp=N,464μm,1.0s					
ATTE			AML	AML		
	comp=N,464μm,1.0s					
ATTE			AML	AML		
	comp=E,497μm,0.4s					
PE3	**Peglio**	**1.25 296**	P	**Pg**	**20 59 41.3 +0.1**	
VVLD	**Villa Vallelon**	**1.32 194**	P	**Pb**	**20 59 42.7 +1.1**	
VVLD			AML	AML		
	comp=N,306μm,0.5s					
VVLD			AML	AML		
	comp=N,306μm,1.5s					
VVLD			AML	AML		
	comp=E,318μm,0.4s					
VVLD			AML	AML		
	comp=N,306μm,0.5s					
VVLD			AML	AML		
	comp=E,318μm,0.4s					
PARC	**Parchiule**	**1.40 291**	P	**Pb**	**20 59 43.4 +0.4**	
PARC			AML	AML		
	comp=E,562μm,0.6s					
PARC			AML	AML		
	comp=N,350μm,1.5s					
PARC			AML	AML		
	comp=N,350μm,0.5s					
PARC			AML	AML		
	comp=N,305μm,0.6s					
PARC			AML	AML		
	comp=E,562μm,0.6s					
MGAB	**Montegabbione**	**1.43 261**	P	**Pn**	**20 59 43.0 +0.6**	
MGAB			AML	AML		
	comp=E,380μm,0.5s					
MGAB			AML	AML		
	comp=N,488μm,0.6s					
MGAB			AML	AML		
	comp=E,456μm,0.6s					
MGAB			AML	AML		
	comp=E,456μm,1.4s					
MGAB			AML	AML		
	comp=E,380μm,1.5s					
MGAB			AML	AML		
	comp=N,518μm,0.4s					
MGAB			AML	AML		
	comp=N,477μm,0.4s					
MGAB			AML	AML		
	comp=E,456μm,0.6s					
MGAB			AML	AML		
	comp=E,380μm,0.5s					
MGAB			AML	AML		
	comp=N,518μm,0.4s					
TRIV	**Trivento**	**1.44 165**	P	**Pg**	**20 59 44.9 -0.1**	
RNI2	**Rionero Sannit**	**1.46 177**	P	**Pg**	**20 59 45.6 +0.3**	
POFI	**Posta Fibreno**	**1.46 190**	P	**Pb**	**20 59 45.0 +1.1**	
POFI			AML	AML		
	comp=E,341nm,0.6s					
POFI			AML	AML		
	comp=N,406μm,0.6s					
POFI			AML	AML		
	comp=N,320nm,0.7s					
POFI			AML	AML		
	comp=E,498μm,0.6s					
POFI			AML	AML		
	comp=E,498μm,0.6s					
POFI			AML	AML		
	comp=E,341nm,0.6s					
POFI			AML	AML		
	comp=N,407μm,0.6s					
POFI			AML	AML		
	comp=N,320nm,0.7s					
MTCE	**Montecelio**	**1.48 221**	P	**Pn**	**20 59 44.7 +1.6**	
MTCE			AML	AML		
	comp=E,532μm,0.7s					
MTCE			AML	AML		
	comp=N,184μm,0.7s					
MTCE			AML	AML		
	comp=E,532μm,1.3s					
MTCE			AML	AML		
	comp=N,183μm,0.7s					
MTCE			AML	AML		
	comp=E,532μm,0.7s					
MIDA	**Miranda**	**1.52 174**	P	**Pb**	**20 59 46.1 +1.1**	
MIDA			AML	AML		
	comp=E,206μm,0.4s					
MIDA			AML	AML		
	comp=N,254μm,0.9s					
MIDA			AML	AML		
	comp=N,217μm,0.4s					
MIDA			AML	AML		
	comp=N,245μm,0.6s					
MIDA			AML	AML		
	comp=E,254μm,0.6s					
MIDA			AML	AML		
	comp=E,206μm,0.4s					
CAFI	**Castiglion Fio**	**1.52 277**	P	**Pb**	**20 59 45.3 +0.3**	
CAFI			AML	AML		
	comp=E,221μm,0.7s					
CAFI			AML	AML		
	comp=N,402μm,0.8s					
CAFI			AML	AML		
	comp=E,221μm,0.7s					
CAFI			AML	AML		
	comp=E,232μm,0.7s					
CAFI			AML	AML		
	comp=N,403μm,0.8s					
CAFI			AML	AML		
	comp=N,397μm,0.8s					
LRP	**Arpino**	**1.55 193**	P	**Pb**	**20 59 46.5 +1.1**	
LRP			AML	AML		
	comp=E,259μm,1.0s					
LRP			AML	AML		
	comp=N,172μm,0.3s					
LRP			AML	AML		
	comp=E,259μm,1.0s					
LRP			AML	AML		
	comp=N,172μm,0.3s					
LRP			AML	AML		
	comp=E,207μm,0.5s					
BRJN	**Brijuni**	**1.76 353**	P	**Pg**	**20 59 49.3 -1.7**	
APRC	**Apricena**	**1.79 141**	P	**Pb**	**20 59 49.6 0.0**	
SGRT	**San Giovanni R**	**1.89 137**	P	**Pb**	**20 59 51.3 0.0**	
LMD	**Lutirano**	**1.93 299**	P	**Pb**	**20 59 52.3 +0.4**	
LMD			AML	AML		
	comp=E,141μm,1.6s					
LMD			AML	AML		
	comp=N,125μm,1.5s					
LMD			AML	AML		
	comp=N,125μm,0.5s					
LMD			AML	AML		
	comp=E,141μm,0.4s					
LMD			AML	AML		
	comp=E,111μm,0.6s					
LMD			AML	AML		
	comp=N,107μm,0.5s					
RUFI	**Rufina**	**1.96 291**	P	**Pb**	**20 59 52.4 -0.1**	
RUFI			AML	AML		
	comp=N,112μm,1.1s					
RUFI			AML	AML		
	comp=N,112μm,0.9s					
RUFI			AML	AML		
	comp=E,98μm,1.0s					
RUFI			AML	AML		
	comp=E,98μm,1.0s					
RUFI			AML	AML		
	comp=N,92μm,0.7s					
MSAG	**Monte S. Angel**	**2.00 136**	P	**Pb**	**20 59 53.1 -0.1**	
A050A	**Klekovaca**	**2.24 53**	*e*Pn	**Pg**	**20 59 58.9 -1.3**	
SKDS	**Skadanscina**	**2.39 360**	*e*Pn	**Pb**	**20 59 57.6 -2.2**	
BOJS	**Bojanci**	**2.50 20**	*e*Pn	**Pb**	**21 00 00.9 -0.8**	
TRI	**Trieste**	**2.56 356**	P	**Pb**	**21 00 00.2 -2.5**	
CEY	**Cerknica**	**2.60 6**	*e*Pn	**Pb**	**21 00 01.6 -1.7**	
STON	**Ston**	**2.70 95**	*e*Pn	**Pb**	**21 00 03.3 -1.8**	
BLY	**Banja Luka**	**2.77 54**	*e*Pn	**Pg**	**21 00 08.0 -2.4**	
A051A	**Mrakovica**	**2.78 47**	*e*Pn	**Pb**	**21 00 06.0 -0.4**	
SABO	**M.te Sabotino**	**2.84 354**	P	**Pb**	**21 00 04.2 -3.3**	
STN3	**Satriano di Lu**	**2.89 155**	AML	AML		
	comp=E,11080μm,0.8s					
STN3			AML	AML		
	comp=N,8380μm,0.7s					
STN3			AML	AML		
	comp=E,11080μm,1.2s					
LJU	**Ljubljana**	**2.91 7**	AML	AML		
	comp=E,422μm,0.6s					
LJU			AML	AML		
	comp=N,541μm,0.5s					
VARN	**Col Varnada, M**	**3.15 335**	P	**Pn**	**21 00 08.1 +2.0**	
VARN			AML	AML		
	comp=E,117μm,0.6s					
VARN			AML	AML		
	comp=N,86μm,1.4s					
VARN			AML	AML		
	comp=N,86μm,0.6s					
VARN			AML	AML		
	comp=N,86μm,0.6s					
VARN			AML	AML		
	comp=E,114μm,0.6s					
VARN			AML	AML		
	comp=N,81μm,0.6s					
VARN			AML	AML		
	comp=E,117μm,0.6s					
CGRP	**Cima Grappa**	**3.16 330**	P	**Pn**	**21 00 08.0 +1.7**	
CGRP			AML	AML		
	comp=E,104μm,0.6s					
CGRP			AML	AML		
	comp=N,68μm,0.6s					
CGRP			AML	AML		
	comp=E,104μm,1.4s					
CGRP			AML	AML		
	comp=N,145μm,0.8s					
CGRP			AML	AML		
	comp=E,138μm,0.8s					
CGRP			AML	AML		
	comp=N,68μm,0.6s					
CGRP			AML	AML		
	comp=E,83μm,0.3s					
GRAM	**Graiana**	**3.17 296**	P	**Pn**	**21 00 09.7 +3.3**	
GRAM			AML	AML		
	comp=N,74μm,0.3s					
GRAM			AML	AML		
	comp=E,52μm,0.5s					
TREB	**Trebinje**	**3.20 96**	*e*Pn	**Pb**	**21 00 10.2 -3.3**	
CIMO	**Cimolais**	**3.35 341**	P	**Pn**	**21 00 11.0 +2.1**	
CIMO			AML	AML		
	comp=E,41μm,0.9s					
CIMO			AML	AML		
	comp=N,55μm,1.3s					
CIMO			AML	AML		
	comp=E,37μm,0.2s					
CIMO			AML	AML		
	comp=E,35μm,0.2s					
CIMO			AML	AML		
	comp=N,51μm,0.2s					
CIMO			AML	AML		
	comp=N,52μm,0.3s					
CTI	**Castel Tesino**	**3.36 330**	P	**Pn**	**21 00 11.1 +2.1**	
CTI			AML	AML		
	comp=E,98μm,0.2s					
CTI			AML	AML		
	comp=N,108μm,1.4s					
CTI			AML	AML		
	comp=E,98μm,1.8s					
CTI			AML	AML		
	comp=N,108μm,0.6s					
CTI			AML	AML		
	comp=N,94μm,0.1s					
CTI			AML	AML		
	comp=E,98μm,0.1s					
OBKA	**Obir**	**3.37 6**	*e*Pn	**Pb**	**21 00 12.8 -3.8**	
	comp=E,6.6nm,0.3s					
OBKA			*e*Sn	**Sg**	**21 01 11.2 +5.7**	
	comp=E,10nm,0.4s					
OBKA	**Obir**	**3.37 6**	*e*Pn	**Pn**	**21 00 11.7 +2.5**	
CLUD	**Cludinico**	**3.40 346**	P	**Pn**	**21 00 11.8 +2.2**	
CLUD			AML	AML		
	comp=E,56μm,0.5s					
CLUD			AML	AML		
	comp=N,41μm,0.8s					
CLUD			AML	AML		
	comp=N,41μm,0.8s					
CLUD			AML	AML		
	comp=N,50μm,0.5s					
CLUD			AML	AML		
	comp=E,56μm,0.5s					
DOSS	**Dosso del Somm**	**3.40 324**	P	**Pn**	**21 00 11.8 +2.1**	
DOSS			AML	AML		
	comp=E,62μm,0.5s					
DOSS			AML	AML		
	comp=E,62μm,1.5s					
DOSS			AML	AML		
	comp=N,52μm,0.5s					
DOSS			AML	AML		
	comp=N,103μm,0.6s					
DOSS			AML	AML		
	comp=N,52μm,0.5s					
ACOM	**Acomizza, Ital**	**3.41 354**	P	**Pb**	**21 00 13.3 -4.0**	
ACOM			AML	AML		
	comp=E,93μm,0.6s					
ACOM			AML	AML		
	comp=E,79μm,0.6s					
ACOM			AML	AML		
	comp=N,72μm,0.8s					
ACOM			AML	AML		
	comp=N,100μm,0.8s					
ACOM			AML	AML		
	comp=E,79μm,1.4s					
ACOM			AML	AML		
	comp=N,100μm,0.8s					
ACOM			AML	AML		
	comp=N,67μm,0.5s					
ACOM			AML	AML		
	comp=E,79μm,0.6s					
ACOM			AML	AML		
	comp=E,93μm,0.6s					
MBAL	**Monte Baldo -**	**3.41 319**	P	**Pn**	**21 00 11.6 +1.9**	
MBAL			AML	AML		
	comp=E,74μm,1.6s					
MBAL			AML	AML		
	comp=N,90μm,0.2s					
MBAL			AML	AML		
	comp=E,74μm,0.4s					
MBAL			AML	AML		
	comp=N,183μm,1.0s					
MBAL			AML	AML		
	comp=E,71μm,0.2s					
MBAL			AML	AML		
	comp=E,157μm,0.6s					
MBAL			AML	AML		
	comp=N,90μm,0.2s					
PANI	**Panarotta**	**3.48 327**	P	**Pn**	**21 00 13.0 +2.2**	
PANI			AML	AML		
	comp=N,48μm,0.4s					
PANI			AML	AML		
	comp=E,52μm,1.1s					
MYKA	**Terra Mystica**	**3.48 356**	*e*Pn	**Pg**	**21 00 26.8 +2.8**	
	comp=E,5.9nm,0.3s					
VARA	**Varagna**	**3.49 321**	P	**Pn**	**21 00 12.7 +1.9**	
VARA			AML	AML		
	comp=E,158μm,0.2s					
VARA			AML	AML		
	comp=N,119μm,0.5s					
VARA			AML	AML		
	comp=N,101μm,0.2s					
VARA			AML	AML		
	comp=E,159μm,0.2s					
LUSI	**Trento, Gardas**	**3.57 323**	P	**Pn**	**21 00 13.8 +1.9**	
LUSI			AML	AML		
	comp=E,57μm,0.4s					
LUSI			AML	AML		
	comp=N,114μm,0.2s					
LUSI			AML	AML		
	comp=N,114μm,0.2s					
LUSI			AML	AML		
	comp=E,57μm,0.4s					
MAGA	**Magasa**	**3.58 318**	P	**Pn**	**21 00 13.6 +1.6**	
MAGA			AML	AML		
	comp=N,176μm,0.5s					
MAGA			AML	AML		
	comp=E,262μm,0.4s					
MAGA			AML	AML		
	comp=E,262μm,0.4s					
MAGA			AML	AML		
	comp=N,176μm,0.5s					
ZIAN	**Ziano**	**3.58 331**	P	**Pn**	**21 00 14.5 +2.4**	
ZIAN			AML	AML		
	comp=E,52μm,0.5s					
ZIAN			AML	AML		
	comp=N,63μm,1.2s					
ZIAN			AML	AML		
	comp=N,63μm,0.8s					
ZIAN			AML	AML		
	comp=E,52μm,1.5s					
ZIAN			AML	AML		
	comp=N,62μm,0.4s					
ZIAN			AML	AML		
	comp=N,78μm,1.0s					
ZIAN			AML	AML		
	comp=E,97μm,0.9s					
SOKA	**Soboth**	**3.59 11**	*e*Pn	**Pb**	**21 00 16.9 -3.4**	
	comp=E,1.0nm,0.3s					
GAGG	**Gaggia**	**3.66 324**	P	**Pn**	**21 00 15.5 +2.3**	
GAGG			AML	AML		
	comp=N,53μm,0.7s					
GAGG			AML	AML		
	comp=E,62μm,1.0s					
GAGG			AML	AML		
	comp=N,53μm,1.3s					
GAGG			AML	AML		
	comp=N,83μm,1.0s					
GAGG			AML	AML		
	comp=N,53μm,0.7s					
GAGG			AML	AML		
	comp=E,100μm,0.9s					
GAGG			AML	AML		
	comp=E,62μm,1.0s					
GORR	**Gorreto**	**3.72 295**	Pn	**Pn**	**21 00 16.0 +2.1**	
RONC	**Roncone**	**3.73 320**	AML	AML		
	comp=E,105μm,0.2s					
RONC			AML	AML		
	comp=N,312μm,1.3s					
RONC			AML	AML		
	comp=N,124μm,0.2s					
RONC			AML	AML		
	comp=N,312μm,0.7s					
RONC			AML	AML		
	comp=E,810μm,1.6s					
RONC			AML	AML		
	comp=N,123μm,0.2s					
RONC			AML	AML		
	comp=E,105μm,0.2s					
ABTA	**Abfaltersbach**	**3.75 344**	*i* Pn	**Pn**	**21 00 17.4 +3.1**	
	comp=E,7.5nm,0.5s,SNR=15					
ABTA			*e*Sn	**Sn**	**21 01 01.4 +3.2**	
	comp=E,3.3nm,0.3s					
PGF	**Pioggiola**	**3.75 262**	*e*Pn	**Pn**	**21 00 17.4 +3.0**	
KOSI	**Kohlern**	**3.81 331**	AML	AML		
	comp=N,102μm,0.3s					
KOSI			AML	AML		
	comp=E,88μm,0.2s					
KOSI			AML	AML		
	comp=E,88μm,0.2s					
KOSI			AML	AML		
	comp=N,102μm,0.3s					
ZONE	**Zone**	**3.83 314**	AML	AML		
	comp=E,68μm,0.2s					
ZONE			AML	AML		
	comp=N,84μm,0.2s					
ZONE			AML	AML		
	comp=N,84μm,1.8s					
ZONE			AML	AML		
	comp=E,68μm,0.2s					
ZONE			AML	AML		
	comp=N,168μm,0.9s					
ZONE			AML	AML		
	comp=N,84μm,0.2s					
MABI	**Malga Bissina**	**3.84 320**	AML	AML		
	comp=E,37μm,0.4s					
MABI			AML	AML		
	comp=E,37μm,1.6s					
MABI			AML	AML		
	comp=N,87μm,0.2s					
MABI			AML	AML		
	comp=N,87μm,0.2s					
MABI			AML	AML		
	comp=E,37μm,0.4s					
APPI	**Appiano**	**3.88 330**	AML	AML		
	comp=N,62μm,0.4s					
APPI			AML	AML		
	comp=N,62μm,1.6s					
APPI			AML	AML		
	comp=E,88μm,1.1s					
APPI			AML	AML		
	comp=E,86μm,0.2s					
APPI			AML	AML		
	comp=N,61μm,0.6s					
OZOL	**Ozolo**	**3.88 328**	AML	AML		
	comp=E,247μm,0.2s					
OZOL			AML	AML		
	comp=N,97μm,0.4s					
OZOL			AML	AML		
	comp=N,97μm,1.6s					
OZOL			AML	AML		
	comp=N,98μm,0.4s					
OZOL			AML	AML		
	comp=E,247μm,0.2s					
RNCA	**Ronca, Sant'Ol**	**3.91 291**	Pn	**Pn**	**21 00 18.7 +2.3**	
RUDO	**Rudo**	**3.91 81**	*e*Pn	**Pb**	**21 00 22.1 -3.7**	
CARE	**Lago del Cares**	**4.04 325**	AML	AML		
	comp=E,247μm,1.4s					
CARE			AML	AML		
	comp=N,576μm,1.6s					

CARE				AML	AML	
	comp=E,45μm,1.2s					
CARE				AML	AML	
	comp=N,32μm,0.4s					
CARE				AML	AML	
	comp=E,45μm,0.8s					
CARE				AML	AML	
	comp=N,576μm,0.4s					
CARE				AML	AML	
	comp=E,45μm,0.3s					
CARE				AML	AML	
	comp=N,32μm,0.4s					
MDI	**Monti di Nese**	**4.06 312**		AML	AML	
	comp=N,45μm,1.8s					
MDI				AML	AML	
	comp=E,62μm,0.3s					
MDI				AML	AML	
	comp=N,45μm,0.2s					
MDI				AML	AML	
	comp=N,45μm,0.2s					
MDI				AML	AML	
	comp=E,129μm,1.0s					
MDI				AML	AML	
	comp=E,62μm,0.3s					
PCP	**Piancastagn**	**4.21 291**		Pn	**Pn**	**21 00 22.4 +1.8**
ARSA	**Arzberg**	**4.23 14**		*e*Pn	**Pb**	**21 00 27.6 -3.5**
	comp=E,0.9nm,0.3s					
MOSI	**Grossmontoni**	**4.25 326**		AML	AML	
	comp=N,73μm,0.5s					
MOSI				AML	AML	
	comp=E,44μm,0.6s					
MOSI				AML	AML	
	comp=E,48μm,0.8s					
MOSI				AML	AML	
	comp=N,73μm,0.5s					
SJES	**Sjenica**	**4.34 87**		*e*Pn	Pb	21 00 27.8 -5.3
LESA	**Schwarzleotal**	**4.37 348**		*e*Pn	**Pn**	**21 00 26.4 +3.4**
	comp=N,6.6nm,0.3s,SNR=16					
ROTM	**Rocchetta Tana**	**4.44 294**		Pn	**Pn**	**21 00 27.2 +3.5**
RORO	**Rocca Rossa**	**4.44 284**		Pn	**Pn**	**21 00 26.8 +3.0**
WTTA	**Wattenberg**	**4.44 338**		*i* Pn	**Pn**	**21 00 27.5 +3.5**
	comp=N,6.4nm,0.2s,SNR=12					
MUGIO	**Muggio**	**4.52 309**		AML	AML	
	comp=E,20μm,0.9s					
MUGIO				AML	AML	
	comp=N,23μm,1.6s					
MUGIO				AML	AML	
	comp=N,23μm,0.4s					
MUGIO				AML	AML	
	comp=N,17μm,0.5s					
MUGIO				AML	AML	
	comp=E,17μm,0.3s					
FETA	**Feichten**	**4.52 330**		*i* Pn	**Pn**	**21 00 28.6 +3.7**
	comp=E,1.4nm,0.2s,SNR=6.5					
WATA	**Walderalm**	**4.53 338**		*i* Pn	**Pn**	**21 00 28.9 +3.8**
	comp=E,7.2nm,0.2s,SNR=9.9					
SQTA	**Sankt Quirin**	**4.53 335**		*i* Pn	**Pn**	**21 00 28.7 +3.6**
	comp=E,8.4nm,0.2s,SNR=7.4					
SQTA				*e*Sn	**Sn**	**21 01 20.4 +3.0**
	comp=E,8.7nm,0.3s					
MGRO	**Montegrosso**	**4.61 283**		Pn	**Pn**	**21 00 29.6 +3.4**
GBOS	**Grotte di Boss**	**4.62 286**		Pn	**Pn**	**21 00 28.7 +2.4**
VARE	**Varese**	**4.64 308**		AML	AML	
	comp=N,39μm,0.2s					
VARE				AML	AML	
	comp=N,39μm,0.2s					
VARE				AML	AML	
	comp=E,50μm,0.2s					
VARE				AML	AML	
	comp=N,39μm,1.8s					
VARE				AML	AML	
	comp=E,50μm,0.2s					
MOTA	**Moosalm**	**4.67 335**		*i* Pn	**Pn**	**21 00 30.8 +3.7**
	comp=E,2.5nm,0.2s					
MOA	**Molln**	**4.70 2**		Pn	**Pn**	**21 00 31.1 +3.8**
	comp=E,0.8nm,0.1s,SNR=4.5					
PIAF	**les Granges de**	**4.76 284**		Pn	**Pn**	**21 00 31.2 +3.0**
SAOF	**Saorge**	**4.78 282**		P	**Pn**	**21 00 31.2 +2.7**
RONA	**Rosalia, Austr**	**4.81 18**		*e*Pn	**Pn**	**21 00 32.5 +3.6**
	comp=E,0.7nm,0.3s					
SBF	**Sospel**	**4.85 281**		*e*Pn	**Pn**	**21 00 32.8 +3.3**
TURF	**col de Turini**	**4.90 282**		Pn	**Pn**	**21 00 34.0 +3.8**
CONA	**Conrad Observa**	**4.94 14**		*e*Pn	**Pn**	**21 00 34.4 +3.7**
	comp=E,0.4nm,0.2s					
STV	**Sant Anna di V**	**4.99 285**		Pn	**Pn**	**21 00 34.3 +2.9**
SPIF	**crte de Spivo**	**5.02 283**		P	**Pn**	**21 00 35.0 +3.2**
DAVA	**Damuels**	**5.07 326**		*i* Pn	**Pn**	**21 00 37.2 +4.7**
	comp=E,1.6nm,0.1s,SNR=4.1					
TRAV	**Traversella**	**5.09 300**		Pn	**Pn**	**21 00 32.6 -0.2**
BHB	**Bricherasio**	**5.17 291**		Pn	**Pn**	**21 00 35.1 +1.3**
CALF	**Calern**	**5.21 279**		Pn	**Pn**	**21 00 37.9 +3.3**
CALF				Sn	**Sb**	**21 01 46.8 -3.5**
CIRO	**Champorcher**	**5.24 300**		Pn	**Pn**	**21 00 34.7 -0.3**
CIRO	**Champorcher**	**5.24 300**		Sn	**Sn**	**21 01 30.7 -4.5**
RSP	**Reno Superiore**	**5.26 295**		Pn	**Pn**	**21 00 35.6 +0.4**
SURF	**Saint Ours**	**5.39 287**		Pn	**Pn**	**21 00 39.0 +2.0**
SURF				Sn	**Sn**	**21 01 41.5 +2.7**
JAUF	**Jausiers**	**5.43 286**		P	**Pn**	**21 00 39.6 +2.2**
MBDF	**Montbardon**	**5.48 289**		*e*Pn	**Pn**	**21 00 39.4 +1.3**
LMR	**La Mourre**	**5.50 274**		*e*Pn	**Pn**	**21 00 40.8 +2.5**
RRL	**Rocca Remolon**	**5.51 291**		Pn	**Pn**	**21 00 40.3 +1.5**
RRL	**Rocca Remolon**	**5.51 291**		Sn	**Sn**	**21 01 39.6 -2.3**
CREF	**Crivoux**	**5.54 287**		Pn	Pn	21 00 44.0 +5.0
DIX	**Grande Dixence**	**5.56 304**		Pn	**Pn**	**21 00 39.0 -0.4**
TRIGF	**Trigance**	**5.59 279**		P	**Pn**	**21 00 43.1 +3.5**
REMY	**Saint-Rhmy-en**	**5.60 301**		P	**Pn**	**21 00 40.4 +0.4**
LPG	**La Plagne**	**5.73 297**		*e*Pn	**Pn**	**21 00 42.0 +0.3**
LPL	**La Plagne**	**5.75 297**		*e*Pn	**Pn**	**21 00 42.3 +0.4**
RSL	**Roselend**	**5.88 298**		Pn	**Pn**	**21 00 44.6 +0.9**
KHC	**Kasperske Hory**	**5.98 357**		*e*PN	**Pn**	**21 00 47.6 +2.6**
KHC				*e*SN	**Sn**	**21 01 55.2 +2.1**
ORIF	**Oris-en-Rattie**	**6.14 289**		*e*Pn	**Pn**	**21 00 49.6 +2.4**
ORIF	**Oris-en-Rattie**	**6.14 289**		Pn	**Pn**	**21 00 49.8 +2.6**
ORIF	**Oris-en-Rattie**	**6.14 289**		Sn	**Sn**	**21 01 59.4 +2.4**
SMRF	**Simiane la Rot**	**6.20 280**		*e*Pn	**Pn**	**21 00 51.3 +3.3**
ZVC	**Zvikov**	**6.28 1**		*e*PN	**Pn**	**21 00 51.6 +2.5**
BRANT	**Les Verrieres**	**6.56 308**		Pn	**Pn**	**21 00 52.7 -0.2**
CABF	**La Chapelle**	**6.62 304**		*e*Pn	**Pn**	**21 00 54.0 +0.2**
CABF				*e*Sn	**Sn**	**21 02 06.9 -1.9**
	comp=E,0.6nm,0.2s					
CHMF	**Charmoille**	**6.63 311**		P	**Pn**	**21 00 54.8 +0.9**
BOUC	**Bouclans**	**6.85 309**		P	**Pn**	**21 00 58.3 +1.4**
HINF	**Hinteralfeld**	**6.87 315**		*e*Pn	**Pn**	**21 00 58.0 +0.8**
HINF				*e*Sn	**Sn**	**21 02 11.3 -3.6**
	comp=E,2.9nm,0.3s					
VIVF	**Saint-Julien-l**	**6.96 287**		*e*Pn	**Pn**	**21 01 00.8 +2.4**
CDF	**Champ du Feu**	**7.07 320**		*e*Pn	**Pn**	**21 01 00.8 +0.9**
CDF				*e*Sn	**Sn**	**21 02 16.7 -3.1**
HAU	**Haudompre**	**7.25 315**		*e*Sn	**Sn**	**21 02 21.7 -2.6**
SMF	**Signal de Mont**	**8.03 299**		*e*Pn	**Pn**	**21 01 13.7 +0.6**
SMF				*e*Sn	**Sn**	**21 02 38.8 -4.7**
	comp=E,4.5nm,0.3s					
LOR	**Lormes**	**8.28 303**		*e*Pn	**Pn**	**21 01 17.0 +0.6**
LOR				*e*Sn	**Sn**	**21 02 43.6 -5.9**
	comp=E,2.8nm,0.3s					
AVF	**Avril sur Loir**	**8.40 299**		*e*Pn	**Pn**	**21 01 18.7 +0.6**
SSF	**Saint Saulge**	**8.41 301**		*e*Pn	**Pn**	**21 01 18.4 +0.2**
SSF				*e*Sn	**Sn**	**21 02 47.4 -5.3**
	comp=E,1.9nm,0.3s					
BGF	**Bois d'Agland**	**8.65 297**		*e*Pn	**Pn**	**21 01 21.6 +0.1**

TAP ***27*** *21:05:24.5, 24°.79N×122°.84E, h126km, ML2.5, D*
JMA ***27*** *21:05:24.5±0.3, 25°.N±4°×122°.9E±0°.8, h127km±3km, MV1.8/13, NW OFF ISHIGAKIJIMA IS*

ISC 27 21:05:23.6±2.1, 24°.69N±0°.09×122°.86E±0°.03, h136km±13km, n38, σ0°.86/63, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.24 162**		*e*P	**Pn**	**21 05 42.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.26 149**		P	**Pn**	**21 05 42.8**	**+0.5**
YOJ				S	**Sn**	**21 05 56.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.26 149**		P	**Pn**	**21 05 42.5**	**+0.2**
EOS2	**EOS2**	**0.63 245**		*e*S	**Sn**	**21 05 59.2**	**-0.2**
EOS3	**EOS3**	**0.64 232**		P	**Pn**	**21 05 44.9**	**+0.9**
EOS3				S	**Sn**	**21 05 59.5**	**+0.1**
EOS4	**EOS4**	**0.75 222**		P	**Pn**	**21 05 45.1**	**+0.6**
EOS4				S	**Sn**	**21 06 00.7**	**+0.2**
IRIF	**Iriomote-Funau**	**0.86 114**		P	**Pn**	**21 05 46.1**	**+0.3**
IRIF				*e*S	**Sn**	**21 06 02.2**	**-0.5**
WFSB	**Wu-fen Shan**	**1.06 292**		*e*P	**Pn**	**21 05 49.5**	**+2.0**
HATJ	**Hateruma jima**	**1.06 126**		S	**Sn**	**21 06 06.2**	**+0.3**
JKRS	**Kuro-shima**	**1.14 113**		P	**Pn**	**21 05 49.2**	**+0.9**
JKRS				S	**Sn**	**21 06 07.2**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.16 274**		*e*P	**Pn**	**21 05 48.4**	**-0.3**
FUSB				*e*S	**Sn**	**21 06 05.7**	**-2.1**
JIJ	**Ishigaki jima**	**1.21 105**		P	**Pn**	**21 05 49.5**	**+0.5**
JIJ				S	**Sn**	**21 06 07.2**	**-1.2**
LATG	**Datong**	**1.23 263**		*e*P	**Pn**	**21 05 50.1**	**+0.8**
LATG				*e*S	**Sn**	**21 06 08.8**	**-0.1**
NWLT	**Wulai**	**1.24 275**		*e*P	**Pn**	**21 05 50.0**	**+0.6**
NWLT				*e*S	**Sn**	**21 06 08.9**	**-0.1**
ETL	**Fush Village**	**1.25 245**		*e*P	**Pn**	**21 05 51.5**	**+2.0**
ETL				*e*S	**Sn**	**21 06 08.7**	**-0.4**
NACB	**Ninganchiao**	**1.26 247**		*e*P	**Pn**	**21 05 48.8**	**-0.8**
NACB				*e*S	**Sn**	**21 06 08.0**	**-1.4**
JISG	**Ishigakijimahi**	**1.32 94**		*e*P	**Pn**	**21 05 50.4**	**+0.2**
JISG				*e*S	**Sn**	**21 06 09.2**	**-1.2**
ETLH	**Xiulin Townshi**	**1.35 250**		*e*P	**Pn**	**21 05 50.7**	**+0.1**
ETLH				*e*S	**Sn**	**21 06 10.2**	**-0.9**
YHNB	**Yeheng**	**1.35 270**		*e*P	**Pn**	**21 05 51.2**	**+0.6**
YHNB				*e*S	**Sn**	**21 06 10.4**	**-0.8**
NSK	**Sanguang**	**1.37 270**		*e*P	**Pn**	**21 05 51.0**	**+0.3**
NSK				S	**Sn**	**21 06 10.4**	**-1.0**
NNSB	**Datong**	**1.37 260**		*e*P	**Pn**	**21 05 51.3**	**+0.4**
NNSB				*e*S	**Sn**	**21 06 11.1**	**-0.5**
TEYL	**Yanliau Villag**	**1.41 235**		*e*S	**Sn**	**21 06 10.6**	**-1.6**
ETM	**Tongmen**	**1.44 240**		*e*P	**Pn**	**21 05 50.5**	**-1.0**
ETM				*e*S	**Sn**	**21 06 11.4**	**-1.3**
LXIB	**Xiulin Townshi**	**1.48 244**		*e*P	**Pn**	**21 05 51.9**	**-0.1**
LXIB				*e*S	**Sn**	**21 06 12.4**	**-1.3**
SHUL	**Shoufeng**	**1.49 233**		*e*P	**Pn**	**21 05 52.4**	**+0.4**
SHUL				*e*S	**Sn**	**21 06 14.1**	**+0.6**
FUSS	**Fushou**	**1.54 254**		P	**Pn**	**21 05 53.7**	**+0.9**
FUSS				*e*S	**Sn**	**21 06 14.4**	**-0.7**
WHF	**Hehuan Shan**	**1.55 250**		*e*P	**Pn**	**21 05 54.1**	**+1.0**
WHF				*e*S	**Sn**	**21 06 15.5**	**-0.1**
NFF	**Wufeng Townshi**	**1.59 268**		*e*S	**Sn**	**21 06 14.9**	**-0.8**
TWT	**Tachien**	**1.60 255**		*e*S	**Sn**	**21 06 15.5**	**-0.6**
WARBT	**Fenglin Townsh**	**1.66 235**		*e*P	**Pn**	**21 05 53.6**	**-0.3**
WARBT				S	**Sn**	**21 06 16.1**	**-1.0**
JTJ	**Tarama**	**1.67 91**		S	**Sn**	**21 06 16.4**	**-0.9**
LIOB	**Emei**	**1.68 269**		*e*S	**Sn**	**21 06 16.6**	**-1.0**
NSTT	**Nanjuang**	**1.70 269**		*e*S	**Sn**	**21 06 16.4**	**-1.3**
OWD	**Renai**	**1.70 245**		*e*S	**Sn**	**21 06 17.3**	**-0.9**
WUSB	**Renai**	**1.74 247**		*e*P	**Pn**	**21 05 56.1**	**+1.2**
WUSB				*i* S	**Sn**	**21 06 18.9**	**+0.1**
HGSD	**Ruisui**	**1.77 228**		*e*P	**Pn**	**21 05 55.7**	**+0.5**
HGSD				*e*S	**Sn**	**21 06 19.6**	**+0.3**
WHP	**Taichung City**	**1.79 257**		*e*P	**Pn**	**21 05 56.2**	**+0.7**
WHP				*e*S	**Sn**	**21 06 20.5**	**+0.5**
VWDT	**VWDT**	**1.83 240**		*e*S	**Sn**	**21 06 20.6**	**+0.2**

ISK ***27*** *21:11:38.5, 38°.78N×38°.15E, h5km, ML2.3/11*
AFAD ***27*** *21:11:39.3, 38°.75N×38°.16E, h7km±2km, ML2.8*

ISC 27 21:11:39.6±1.0, 38°.78N±0°.02×38°.15E±0°.02, h9km±8km, n19, σ1°.01/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.18 305**		P	**Pg**	**21 11 43.8**	**+0.2**
HEKM				S	**Sg**	**21 11 47.3**	**+0.9**
HEKM				*i* AML	AML	21 11 48.0	
	comp=N,3μm,0.3s						
HEKM				*i* AML	AML	21 11 49.0	
	comp=E,3μm,0.5s						
MAYA	**Malatya/Merkez**	**0.50 154**		P	**Pg**	**21 11 49.1**	**-0.2**
MAYA				S	**Sg**	**21 11 55.7**	**-0.2**
AKCD	**Akcadag**	**0.51 201**		P	**Pg**	**21 11 49.3**	**-0.3**
AKCD				S	**Sb**	**21 11 57.2**	**-1.2**
AKCD				*i* AML	AML	21 12 00.0	
	comp=N,965nm,0.5s						
AKCD				*i* AML	AML	21 12 01.0	
	comp=E,667nm,0.2s						
KEMA	**Kemaliye**	**0.56 28**		P	**Pg**	**21 11 50.3**	**-0.2**
KEMA				S	**Sb**	**21 11 59.1**	**-0.7**
DARE	**Darende-Malaty**	**0.56 249**		Pg	**Pg**	**21 11 49.9**	**-0.6**
DARE				Sg	**Sb**	**21 11 59.4**	**-0.4**
CUGUR	**Gurin_SVAS**	**0.69 266**		P	**Pg**	**21 11 52.6**	**-0.4**
CUGUR				S	**Sb**	**21 12 02.9**	**-0.7**
ELZG	**Elazig**	**0.71 113**		P	**Pg**	**21 11 53.0**	**-0.3**
ELZG				S	**Sg**	**21 12 02.6**	**+0.1**
ELZG				*i* AML	AML	21 12 03.0	
	comp=N,472nm,0.2s						
ELZG				*i* AML	AML	21 12 03.0	
	comp=E,444nm,0.3s						
CUKAN	**kangal_SIVAS**	**0.76 316**		P	**Pg**	**21 11 53.9**	**-0.4**
CUKAN				S	**Sg**	**21 12 02.9**	**-1.4**
PTK	**Pertek**	**0.98 83**		Pg	**Pb**	**21 11 58.3**	**-0.5**
PTK				Sg	**Sn**	**21 12 13.1**	**-0.6**
SARI	**SarD1z-Kayseri**	**1.41 255**		Pn	**Pg**	**21 12 05.9**	**-0.7**
SARI				Sn	**Sn**	**21 12 26.7**	**+2.4**
URFA	**Urfa**	**1.43 158**		Pn	**Pg**	**21 12 06.7**	**-0.4**
URFA				Sn	**Sg**	**21 12 27.7**	**+2.0**
SVSK	**Karacayir**	**1.45 322**		Pn	**Pg**	**21 12 06.9**	**-0.5**
SVSK				Sn	**Sg**	**21 12 27.5**	**+1.3**
KMRS	**Kahramanmaras**	**1.61 218**		Pn	**Pg**	**21 12 09.4**	**-1.0**
RSDY	**Resadiye-TOKAT**	**1.74 339**		Pn	**Pb**	**21 12 11.3**	**-0.4**
GAZ	**Gaziantep**	**1.76 205**		Pn	**Pb**	**21 12 11.9**	**-0.2**
BNN	**Bunyan**	**1.80 273**		Pn	**Pb**	**21 12 12.2**	**-0.6**
TOKT	**Tokat**	**1.98 322**		Pn	**Pb**	**21 12 14.8**	**-1.0**
KOZT	**Kozan**	**2.24 236**		Pn	**Pb**	**21 12 18.5**	**-1.8**
CMRD	**Camardi-Nigde**	**2.73 247**		Pn	**Pn**	**21 12 25.1**	**+1.5**

IDC ***27*** *21:36:31.6±0.4, 38°.30N×90°.98E, h0km, mb4.9/41, mbtmp4.9/46, ML4.6/5, MS4.2/67, Error ellipse: s-maj=13.2km s-min=8.4km az=33.0*
BJI ***27*** *21:36:31.6, 38°.28N×90°.89E, h9km, mB5.3/35, mb4.9/76, ML5.0/14, Ms5.0/86, Ms7 4.8/83*
MOS ***27*** *21:36:32.0±1.0, 38°.34N×90°.88E, h13km, mb5.3/66, MS4.3/11, Error ellipse: s-maj=5.1km s-min=3.1km az=133.0*
NEIC ***27*** *21:36:33.7±1.3, 38°.38N±0°.06×91°.00E±0°.04, h10km±1km, mb5.2/177, Mww4.8/7, Error ellipse: s-maj=10.7km s-min=4.9km az=163.0*
GCMT ***27*** *21:36:34.7±0.2, 38°.37N±0°.02×90°.94E±0°.02, h15km±1km, MW4.8/85, Moment Tensor Solution. s18,c19; s85,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mr=2.03±.14; Mθθ=0.88±.08; Mφφ=-1.15±.08; Mrθ=0.63±.16; Mθφ=1.21±.04; Mrφ=-0.26±.14; Best double couple: Mo=2.24000×10^16 NP1:φs327.00000°, δ38.00000°, λ104.00000°. NP2: φs130.00000°, δ54.00000°, λ80.00000°. Principal axes: T 2.1600, Plg78.0000°, Azm1.0000°; N 0.1580, Plg8.0000°, Azm136.0000°; P -2.3200, Plg8.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 21:36:33.6±0.5, 38°.36N±0°.03×90°.91E±0°.03, h11km±2km, h11km:pP-P, n1099, σ1°.33/1151, mb5.1/234, MS4.3/86, 57C-54D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**3.79 124**		Pn	**Pn**	**21 37 32.3**	**+0.1**
GOMU				Pg	**Pb**	**21 37 42.0**	**+1.3**
GOMU				Sn	**Sn**	**21 38 18.3**	**+1.4**
GOMU				Sg	**Sb**	**21 38 29.0**	**+2.3**
GOMU				smax	smax		
	comp=N,4μm,0.7s						
GOMU				smax	smax		
	comp=E,4μm,0.5s						
WMQ	**Urumqi**	**5.97 337**		Pn	**Pn**	**21 38 04.0**	**+2.1**
WMQ				Sn	**Sn**	**21 39 14.3**	**+4.0**
WMQ				smax	smax		
	comp=N,2μm,1.1s						
WMQ				smax	smax		
	comp=E,2μm,1.1s						
GTA	**Gaotai**	**7.02 79**		Pn	**Pn**	**21 38 16.0**	**-0.4**
GTA				Sn	**Sn**	**21 39 43.0**	**+6.7**
GTA				smax	smax		
	comp=N,500nm,0.9s						
GTA				smax	smax		
	comp=E,340nm,1.4s						
GTA				LR	LR		
	comp=N,5μm,10.4s						
GTA				LR	LR		
	comp=E,8μm,12.7s						
GTA				LR	LR		
	comp=Z,8μm,14.3s						
LSA	**Lhasa**	**8.64 179**		Pn	**Pn**	**21 38 40.9**	**+1.9**
LSA	**Lhasa**	**8.64 179**		P	**Pn**	**21 38 43.5**	**+4.5**
LSA				S	Sn	21 40 28.8	+12
LSA				LR	LR		
	comp=N,2μm,4.4s						
LSA				LR	LR		
	comp=Z,2μm,4.4s						
LSA	**Lhasa**	**8.64 179**		P	**Pn**	**21 38 43.4**	**+4.5**
LSA	**Lhasa**	**8.64 179**		P	**Pn**	**21 38 40.9**	**+1.9**
LSA	**Lhasa**	**8.64 179**		P	**Pn**	**21 38 43.5**	**+4.5**
WUS	**Wushi**	**9.44 291**		Pn	**Pn**	**21 38 49.5**	**-0.1**
SHLS	**Shalkode**	**9.92 302**		*e*P	**Pn**	**21 38 52.4**	**-3.7**
SHLS				*e*S	**Sn**	**21 40 40.9**	**-6.5**
SHLS	**Shalkode**	**9.92 302**		*e*P	**Pn**	**21 38 52.4**	**-3.7**
SHLS				*e*S	**Sn**	**21 40 40.9**	**-6.5**
ZSN	**Zaisan**	**10.10 336**		*e*P	**Pn**	**21 38 59.0**	**+0.5**
ZSN				*e*S	**Sn**	**21 40 53.0**	**+1.3**
ZSN	**Zaisan**	**10.10 336**		*e*P	**Pn**	**21 38 59.0**	**+0.5**
ZSN				*e*S	**Sn**	**21 40 53.1**	**+1.3**
UZB	**Uzynbulak**	**10.21 302**		*e*P	**Pn**	**21 38 59.9**	**-0.2**
UZB	**Uzynbulak**	**10.21 302**		*e*P	**Pn**	**21 38 60.0**	**-0.2**
MK31	**Makanchi Array**	**10.55 326**		Pn	**Pn**	**21 39 04.3**	**-0.4**
MK31	**Makanchi Array**	**10.55 326**	*d*	*i* P	**Pn**	**21 39 05.0**	**+0.4**
MKAR	**Makanchi Array**	**10.55 326**		Pn	**Pn**	**21 39 03.8**	**-0.9**
MKAR	**Makanchi Array**	**10.55 326**		Pn	**Pn**	**21 39 04.1**	**-0.5**
	comp=Z,30nm,0.3s,baz=132,slow=13,SNR=622						
MKAR				Sn	**Sn**	**21 41 00.2**	**-2.5**
	comp=Z,5.1nm,0.3s,baz=135,slow=22,SNR=6.3						
MKAR				LR	LR	21 43 38.6	
	comp=Z,303nm,19.2s,baz=155,slow=40						
	comp=Z,55nm,0.4s						
MKAR	**Makanchi Array**	**10.55 326**		*i* P	**Pn**	**21 39 04.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,58nm,0.4s						
LZH	**Lanzhou**	**10.56 98**		*e*P	**Pn**	**21 39 03.3**	**-1.7**
LZH				sP		21 39 17.5	
LZH				S	**Sn**	**21 41 00.8**	**-2.5**
LZH				pmax	pmax		
	comp=Z,73nm,0.8s						
LZH				LR	LR		
	comp=Z,7μm,10.3s						
LZH				LR	LR		
	comp=Z,6μm,9.3s						
LZH				LR	LR		
	comp=Z,5μm,11.0s						
SATY	**Saty**	**10.59 300**		*e*P	**Pn**	**21 39 05.2**	**-0.1**
SATY				*e*S	**Sn**	**21 41 04.3**	**+0.4**
SATY	**Saty**	**10.59 300**		*e*P	**Pn**	**21 39 05.2**	**-0.1**
SATY				*e*S	**Sn**	**21 41 04.4**	**+0.5**
TARG	**Taragay, Kyrgy**	**10.60 293**			**Pn**	**21 39 06.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**10.60 293**		P	**Pn**	**21 39 06.4**	**+0.7**
ZHN	**Zhinishke**	**10.61 301**		*e*P	**Pn**	**21 39 05.2**	**-0.4**
ZHN				*e*S	**Sn**	**21 41 04.3**	**-0.1**
ZHN	**Zhinishke**	**10.61 301**		*e*P	**Pn**	**21 39 05.2**	**-0.4**
ZHN				*e*S	**Sn**	**21 41 04.4**	**0.0**
MAKZ	**Makanchi**	**10.70 325**		Pn	**Pn**	**21 39 06.1**	**-0.6**
MAKZ	**Makanchi**	**10.70 325**		P	**Pn**	**21 39 06.1**	**-0.6**
TAWA	**Tawang**	**10.77 175**		*e*P	**Pn**	**21 39 09.0**	**+0.9**
KDJ	**Kajisay**	**11.15 294**		Pn	**Pn**	**21 39 13.0**	**-0.1**
KDJ	**Kajisay**	**11.15 294**		P	**Pn**	**21 39 13.0**	**-0.1**
GTK	**Tadong**	**11.18 191**		*e*P	**Pn**	**21 39 14.5**	**+1.0**
TDK	**Taldyqorghan**	**11.46 309**		*e*P	**Pn**	**21 39 16.7**	**-0.4**
TDK	**Taldyqorghan**	**11.46 309**		*e*P	**Pn**	**21 39 16.7**	**-0.4**
MDOK	**Medeo**	**11.55 299**		*e*P	**Pn**	**21 39 18.3**	**-0.2**
MDOK				*e*S	**Sn**	**21 41 27.8**	**+0.3**
MDOK	**Medeo**	**11.55 299**		*e*P	**Pn**	**21 39 18.3**	**-0.2**
MDOK				*e*S	**Sn**	**21 41 27.9**	**+0.3**
TNSS	**Tian-Shan**	**11.58 298**		*e*P	**Pn**	**21 39 18.5**	**-0.6**
TNSS	**Tian-Shan**	**11.58 298**		*e*P	**Pn**	**21 39 18.5**	**-0.6**
AAA	**Alma-Ata**	**11.66 299**		*e*P	**Pn**	**21 39 19.7**	**-0.2**
AAA	**Alma-Ata**	**11.66 299**		*e*P	**Pn**	**21 39 19.8**	**-0.2**
KSH	**Kashi**	**11.70 280**		P	Pn	21 39 25.3	+4.8
KSH				sP		21 39 31.0	
KSH				S	**Sn**	**21 41 37.3**	**+6.3**
KSH				pmax	pmax		
	comp=Z,140nm,0.8s						
KSH				LR	LR		
	comp=Z,3μm,11.4s						
KSH				LR	LR		
	comp=Z,4μm,15.2s						
KSH				LR	LR		
	comp=Z,4μm,10.8s						
CHKK	**Chushkaly**	**11.85 302**		*e*P	**Pn**	**21 39 21.6**	**-0.8**
CHKK	**Chushkaly**	**11.85 302**		*e*P	**Pn**	**21 39 21.6**	**-0.8**
ULHL	**Ulahol**	**11.85 294**		P	**Pn**	**21 39 23.1**	**+0.4**
	SNR=84						
BOOM	**Boomskoye usch**	**12.13 295**		Pn	**Pn**	**21 39 25.8**	**-0.6**
BOOM	**Boomskoye usch**	**12.13 295**		P	**Pn**	**21 39 25.8**	**-0.6**
JOSI	**Joshimath**	**12.18 234**		*e*P	**Pn**	**21 39 29.6**	**+2.5**
KUU	**Kurty**	**12.29 301**		*e*P	**Pn**	**21 39 27.8**	**-0.7**
KUU	**Kurty**	**12.29 301**		*e*P	**Pn**	**21 39 27.8**	**-0.7**
KLP	**Kalpa**	**12.42 241**		*e*P	**Pn**	**21 39 31.9**	**+1.4**
PTH	**Pithoragarh**	**12.49 228**		*e*P	**Pn**	**21 39 31.9**	**+0.5**
TKM2	**Tokmak 2**	**12.49 296**		P	**Pn**	**21 39 32.0**	**+0.6**
	SNR=188						
TKM2	**Tokmak 2**	**12.49 296**		P	**P

TNCH S **Sn** **21 42 47.5 +1.0**
TNCH sS S 21 42 51.8 -13
TNCH SS **SnSn** **21 43 02.5 +3.4**
TNCH pmax pmax
comp=Z,15nm,1.1s
TNCH LR LR
comp=Z,2μm,8.3s
TNCH LR LR
comp=Z,1μm,7.6s
TNCH LR LR
comp=Z,2μm,9.9s
ZAK Zakamensk 14.89 32 *e*P **Pn** **21 40 04.4 +0.4**
ZAK pmax pmax
comp=Z,27nm,1.2s
BTO Baotou 14.93 75 *e*P **Pn** **21 40 02.0 -2.5**
BTO PP **PnPn** **21 40 14.5 +2.1**
BTO S **Sn** **21 42 46.5 -3.3**
BTO pmax pmax
comp=Z,25nm,1.1s
BTO pmax pmax
comp=Z,910nm,7.5s
BTO LR LR
comp=Z,5μm,12.9s
BTO LR LR
comp=Z,6μm,15.5s
BTO LR LR
comp=Z,10μm,17.3s
PZH PanZhiHua 14.93 139 P **Pn** **21 40 03.0 -1.7**
PZH S **Sn** **21 42 46.3 -3.9**
PZH SS **S** **21 43 08.5 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,3.7s
PZH LR LR
comp=Z,1μm,11.0s
PZH LR LR
comp=Z,960nm,10.0s
PZH LR LR
comp=Z,2μm,11.6s
JMIU JAMIA UNIVERSI 14.97 233⇓*e*P **Pn** **21 40 03.3 -1.8**
NPLP NPLP New Delhi 15.00 234 *e*P **Pn** **21 40 03.3 -2.2**
LDR Lodi Road 15.01 234⇓*e*P **Pn** **21 40 03.3 -2.3**
NIL Nilore 15.04 257 Pn **Pn** **21 40 05.3 -0.8**
NIL IAmb IAmb 21 40 08.5
comp=Z,158nm,1.1s
NIL Nilore 15.04 257 P **Pn** **21 40 06.0 -0.1**
NIL Nilore 15.04 257 P **Pn** **21 40 05.3 -0.8**
NIL pmax pmax
comp=Z,159nm,1.1s
MOY Mondy 15.07 25 *e*P **Pn** **21 40 07.4 +1.0**
MOY pmax pmax
comp=Z,147nm,2.5s
KURBB Kurchatov Arra 15.08 328 Pn **Pn** **21 40 03.4 -3.1**
comp=Z,1.4nm,0.3s,baz=136,slow=13,SNR=179
KURBB Sn **Sn** **21 42 47.4 -5.9**
baz=117,slow=24
KURBB Lg Lg 21 44 31.5
baz=133,slow=31
KURBB LR LR 21 46 14.6
comp=Z,377nm,19.6s,baz=224,slow=38
comp=Z,26nm,0.8s
ULN Ulaanbaatar 15.11 46 Pn **Pn** **21 40 06.6 -0.4**
ULN Ulaanbaatar 15.11 46 P **Pn** **21 40 07.9 +0.9**
ULN P **Pn** **21 40 07.9 +0.9**
ULN Ulaanbaatar 15.11 46*d i*P **Pn** **21 40 08.0 +0.9**
KURK Kurchatov 15.12 329 **Pn** **21 40 03.5 -3.4**
KURK Kurchatov 15.12 329 P **Pn** **21 40 04.2 -2.7**
KURK Kurchatov 15.12 329 P **Pn** **21 40 03.5 -3.4**
KURK pmax pmax
comp=Z,44nm,0.7s
AYAN Aya Nagar 15.14 233 *e*P **Pn** **21 40 09.0 +1.7**
AYAN IAmb IAmb 21 40 12.6
comp=Z,154nm,1.0s
BOK Bokaro 15.14 198 *e*P **Pn** **21 40 06.4 -1.0**
BOK IAmb IAmb 21 40 15.2
comp=Z,43nm,0.8s
XAN Xi'an 15.16 101⇑P **P** **21 40 12.0 -0.8**
XAN S **Sn** **21 43 01.0 +5.4**
XAN pmax pmax
comp=Z,76nm,0.8s
XAN pmax pmax
comp=Z,260nm,2.6s
XAN LR LR
comp=Z,4μm,13.9s
XAN LR LR
comp=Z,4μm,11.3s
XAN LR LR
comp=Z,4μm,12.9s
RTK Rohtak 15.22 237 *e*P **Pn** **21 40 07.7 -0.8**
SONA Sohna 15.33 233 *e*P **Pn** **21 40 10.0 +0.2**
DZA Taraz 15.54 293 *e*P **Pn** **21 40 12.6 +0.1**
DZA Taraz 15.54 293 *e*P **Pn** **21 40 12.7 +0.1**
BRDH Bariadhala 15.65 178 Pn **P** **21 40 17.1 -1.0**
comp=Z,61nm,0.3s,baz=51,slow=8.9,SNR=5.6
BRDH LR LR 21 48 08.1
comp=Z,816nm,21.0s,baz=358,slow=45
BTK Batken 15.67 282 Pn **Pn** **21 40 14.3 0.0**
BTK Batken 15.67 282 P **Pn** **21 40 14.3 0.0**
BTK pmax pmax
comp=Z,46nm,0.9s
KUDL Kundal 15.78 234 *e*P **Pn** **21 40 13.9 -1.7**
KUDL IAmb IAmb 21 40 20.6
comp=Z,115nm,0.8s
KNTI KHUNTI 16.00 199 *e*P **Pn** **21 40 17.1 -1.5**
HHC Hu-ho-hao-te 16.11 75 *e*P **Pn** **21 40 19.8 -0.2**
HHC pP P 21 40 23.8 +0.5
HHC sP pP 21 40 26.0 -1.4
HHC PP **sP** **21 40 33.5 +4.1**
HHC S **Sn** **21 43 16.5 -2.1**
HHC pmax pmax
comp=Z,100nm,1.2s
HHC pmax pmax
comp=Z,360nm,4.1s
HHC LR LR
comp=Z,1μm,7.2s
HHC LR LR
comp=Z,2μm,14.3s
HHC LR LR
comp=Z,3μm,15.9s
ZAA0 Zalesovo Array 16.14 347 **Pn** **21 40 18.2 -2.0**
ZALV Zalesovo Beam 16.14 347 **Pn** **21 40 17.4 -2.8**
ZALV Zalesovo Beam 16.14 347 Pn **Pn** **21 40 18.5 -1.7**
comp=Z,2.9nm,0.3s,baz=165,slow=12,SNR=112
ZALV LR LR 21 46 55.3
comp=Z,464nm,21.2s,baz=166,slow=38
comp=Z,52nm,0.9s
IUG Iuzhnay 16.38 290 *e*P **Pn** **21 40 23.3 -0.1**
IUG Iuzhnay 16.38 290 *e*P **Pn** **21 40 23.4 -0.1**
KMI Kunming 16.57 139 P **Pn** **21 40 25.8 -0.4**
KMI PP **PnPn** **21 40 38.5 +3.2**
KMI pmax pmax
comp=Z,29nm,1.0s
KMI pmax pmax
comp=Z,140nm,4.7s
KMI LR LR
comp=Z,630nm,6.2s
KMI LR LR
comp=Z,1μm,8.3s
KMI LR LR
comp=Z,820nm,11.5s
JHNI Jhansi 16.58 223 *e*P **Pn** **21 40 25.3 -0.7**
JHNI IAmb IAmb 21 40 29.3
comp=Z,143nm,1.2s
BRLS Borolday 16.64 293 *e*P **P** **21 40 28.1 -1.0**
BRLS Borolday 16.64 293 *e*P **P** **21 40 28.1 -1.0**
CHM Chimkent 16.71 290 *e*P **Pn** **21 40 27.5 -0.1**
CHM Chimkent 16.71 290 *e*P **Pn** **21 40 27.6 -0.1**
IRK Irkutsk 16.72 30 *e*P **P** **21 40 30.0 +0.1**
IRK *e*S **S** **21 43 41.9 -2.4**
IRK pmax pmax
comp=Z,263nm,2.6s
TIY Taiyuan 16.97 86 P **P** **21 40 32.5 -0.3**
TIY PP **PnPn** **21 40 42.0 +1.6**
TIY S **Sn** **21 43 31.0 -8.4**
TIY pmax pmax
comp=Z,160nm,0.8s
TIY LR LR
comp=Z,3μm,9.9s
TIY LR LR
comp=Z,2μm,10.5s
TIY LR LR
comp=Z,3μm,16.7s
SIMJ Simiganj 17.15 278 Pn **Pn** **21 40 33.1 -0.1**
ENH Enshi 17.32 112 Pn **Pn** **21 40 32.8 -2.5**

LYN LuoYang 17.75 96 P **Pn** **21 40 38.0 -2.5**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,470nm,4.5s
LYN LR LR
comp=Z,4μm,12.0s
LYN LR LR
comp=Z,3μm,11.8s
LYN LR LR
comp=Z,6μm,13.7s
GYA Guiyang 17.80 127⇑P **P** **21 40 43.5 +1.4**
GYA sP pP 21 40 46.0 -0.2
GYA S **Sn** **21 43 58.5 -1.2**
GYA sS S 21 44 03.5 -3.2
GYA pmax pmax
comp=Z,100nm,1.0s
GYA LR LR
comp=Z,910nm,10.1s
GYA LR LR
comp=Z,2μm,11.2s
GYA LR LR
comp=Z,1μm,12.2s
BLSP Bilaspur 17.85 207 *e*P **Pn** **21 40 39.5 -2.5**
GUNA GUNA 17.89 224 *e*P **Pn** **21 40 41.2 -1.2**
GUNA IAmb IAmb 21 40 44.8
comp=Z,111nm,1.0s
KBL Kabul 18.00 264 Pn **Pn** **21 40 42.8 -1.1**
KBL Kabul 18.00 264 P **Pn** **21 40 43.8 0.0**
KBL S **Sn** **21 44 07.7 +3.1**
KBL Kabul 18.00 264 P **Pn** **21 40 42.8 -1.1**
KBL pmax pmax
comp=Z,62nm,0.8s
HNS HongShan 18.80 86⇑P **Pn** **21 40 53.8 +0.4**
HNS S **Sn** **21 44 22.3 -1.4**
HNS pmax pmax
comp=Z,110nm,1.1s
HNS pmax pmax
comp=Z,630nm,4.4s
HNS LR LR
comp=Z,2μm,13.0s
HNS LR LR
comp=Z,3μm,10.5s
HNS LR LR
comp=Z,3μm,10.7s
BHPL Bhopal 18.98 221 *e*P **P** **21 40 54.4 -0.6**
BHPL IAmb IAmb 21 40 58.1
comp=Z,53nm,0.8s
NRDN NARMADA NAGAR 19.54 221 *e*P **Pn** **21 41 02.1 -0.4**
NRDN IAmb IAmb 21 41 12.5
comp=Z,48nm,0.8s
BJT Baijiatuau 19.63 77 **P** **21 41 02.4 +0.4**
BJT Baijiatuau 19.63 77 P **P** **21 41 02.4 +0.4**
BJT pmax pmax
comp=Z,96nm,1.2s
BJI Beijing 19.63 77 P **Pn** **21 41 03.0 -0.4**
BJI S **Sn** **21 44 46.5 +2.7**
BJI pmax pmax
comp=Z,36nm,1.2s
BJI pmax pmax
comp=Z,360nm,4.1s
BJI LR LR
comp=Z,830nm,11.5s
BJI LR LR
comp=Z,690nm,17.6s
BJI LR LR
comp=Z,1μm,17.9s
XLT XiLinHaoTe 19.71 66 *e*P **Pn** **21 41 04.8 +0.3**
XLT pP sP 21 41 07.8 -1.3
XLT sP pP 21 41 15.8 +8.6
XLT SS **SnSn** **21 45 09.0 +9.1**
XLT pmax pmax
comp=Z,77nm,1.3s
XLT LR LR
comp=Z,2μm,11.0s
XLT LR LR
comp=Z,2μm,9.5s
CRAI Chiangrai 19.84 153 **P** **21 41 03.3 -1.2**
NGP Nagpur 19.98 214 *e*P **P** **21 41 05.8 -0.1**
NGP IAmb IAmb 21 41 17.2
comp=Z,39nm,1.1s
RAGD RAYAGADA 20.12 201 *e*P **P** **21 41 07.0 -0.5**
RAGD IAmb IAmb 21 41 09.5
comp=Z,71nm,1.2s
JASL Jaisalmer 20.30 242 *e*P **P** **21 41 08.3 -1.1**
JASL IAmb IAmb 21 41 24.1
comp=Z,51nm,0.8s
SLVN Son La 20.33 143 **P** **21 41 09.7 -0.2**
BVAR Borovoye Array 20.40 323 P Pn 21 41 11.6 -0.8
comp=Z,43nm,0.7s,baz=130,slow=11,SNR=141
BVAR LR LR 21 49 12.4
comp=Z,163nm,18.2s,baz=127,slow=37
comp=Z,43nm,0.7s
BRVK Borovoye 20.47 323 **P** **21 41 11.2 +0.2**
BRVK Borovoye 20.47 323 P Pn 21 41 12.7 -0.5
BRVK S **S** **21 44 58.3 -1.6**
BRVK Borovoye 20.47 323*c i*P **P** **21 41 11.8 +0.7**
BRVK pmax pmax
comp=Z,39nm,0.7s
CHTO Chiang Mai 20.70 158 P **P** **21 41 12.6 -1.2**
CHTO Chiang Mai 20.70 158 P Pn 21 41 14.9 -1.2
CHTO S **S** **21 45 05.3 +0.4**
CHTO Chiang Mai 20.70 158 P **P** **21 41 12.6 -1.2**
CHTO pmax pmax
comp=Z,33nm,1.0s
WHN Wuhan 20.80 105⇑P **P** **21 41 15.3 +0.4**
WHN pP **pP** **21 41 18.0 -1.0**
WHN S **S** **21 45 04.8 -2.0**
WHN sS Sn 21 45 09.3 -2.8
WHN pmax pmax
comp=Z,580nm,1.4s
WHN pmax pmax
comp=Z,1μm,3.3s
WHN LR LR
comp=Z,5μm,14.9s
WHN LR LR
comp=Z,7μm,15.6s
WHN LR LR
comp=Z,8μm,14.8s
CIT Chita 20.89 42 *e*P **P** **21 41 15.6 0.0**
CIT *e* 21 41 45.6
CIT *e* 21 41 50.4
CIT *e* 21 45 19.8
CIT *e* 21 45 51.4
CIT pmax pmax
comp=Z,169nm,3.2s
TIA Tai'an 20.94 88 P **P** **21 41 17.0 +0.6**
TIA S Sn 21 45 15.0 -0.4
TIA pmax pmax
comp=Z,610nm,4.2s
TIA LR LR
comp=Z,1μm,12.9s
TIA LR LR
comp=Z,5μm,13.6s
TIA LR LR
comp=Z,8μm,13.6s
CNSH ChangSha 20.98 112 P **P** **21 41 16.0 -0.7**
CNSH S **S** **21 45 06.5 -3.8**
CNSH pmax pmax
comp=Z,30nm,0.9s
CNSH LR LR
comp=Z,3μm,15.0s
CNSH LR LR
comp=Z,3μm,16.0s
CNSH LR LR
comp=Z,2μm,15.9s
GULI GuiLin 20.99 123 P **P** **21 41 17.3 +0.3**
GULI S **S** **21 45 09.8 -0.9**
GULI pmax pmax
comp=Z,40nm,1.1s
GULI LR LR
comp=Z,1μm,10.4s
GULI LR LR
comp=Z,2μm,11.6s
GULI LR LR
comp=Z,1μm,9.8s
CM31 Chiang Mai Arr 21.03 158 **P** **21 41 15.8 -1.6**
CMAR Chiang Mai Arr 21.03 158 P **P** **21 41 16.6 -0.8**
CMAR Chiang Mai Arr 21.03 158 P **P** **21 41 16.4 -1.0**
comp=Z,7.0nm,0.8s,baz=332,slow=10,SNR=56
CMAR PcP **PcP** **21 45 24.4 +0.2**
comp=Z,1.7nm,0.7s,baz=311,slow=2.8,SNR=6.4
CMAR LR LR 21 50 33.1
comp=Z,203nm,19.4s,baz=325,slow=40
comp=Z,7.0nm,0.8s

CMAR Chiang Mai Arr 21.03 158 *i* P **P** **21 41 16.6 -0.8**
CMAR pmax pmax
comp=Z,14nm,0.9s
AKL Akola 21.31 218 *e*P **P** **21 41 20.6 +0.2**
AKL IAmb IAmb 21 41 22.0
comp=Z,124nm,1.2s
VIS Vishakhapatnam 21.61 200 *e*P **P** **21 41 23.6 +0.1**
VIS IAmb IAmb 21 41 27.8
comp=Z,56nm,1.0s
HIA Hailar 23.34 53 P **P** **21 41 41.1 -0.6**
HIA Hailar 23.34 53 P **P** **21 41 41.1 -0.6**
HIA pmax pmax
comp=Z,33nm,1.1s
HRA Herat 23.38 269 P **P** **21 41 43.2 +0.8**
NJ2 Nanjing 23.63 97⇓P **P** **21 41 44.0 -0.7**
NJ2 S **S** **21 46 04.0 +4.9**
NJ2 pmax pmax
comp=Z,86nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,3.5s
NJ2 LR LR
comp=Z,3μm,9.8s
NJ2 LR LR
comp=Z,5μm,11.2s
NJ2 LR LR
comp=Z,6μm,14.0s
DL2 Dalian 23.95 79 P **P** **21 41 48.8 +1.1**
DL2 pmax pmax
comp=Z,87nm,1.2s
DL2 pmax pmax
comp=Z,500nm,4.4s
DL2 LR LR
comp=Z,1μm,15.1s
DL2 LR LR
comp=Z,2μm,14.0s
DL2 LR LR
comp=Z,2μm,15.8s
GZH Guangzhou 24.48 122 P **P** **21 41 50.5 -2.2**
GZH S **S** **21 46 14.5 +1.8**
GZH pmax pmax
comp=Z,49nm,1.3s
GZH LR LR
comp=Z,2μm,11.0s
GZH LR LR
comp=Z,2μm,11.7s
GZH LR LR
comp=Z,2μm,10.9s
BOD Bodaibo 24.62 30 *e*P **P** **21 41 54.3 +0.7**
BOD pmax pmax
comp=Z,110nm,1.1s
ABKAR Akbulak array 24.69 306 P **P** **21 41 55.0 +0.5**
ABKAR Akbulak array 24.69 306 P **P** **21 41 54.7 +0.3**
ABKAR IAmb IAmb 21 42 14.3
comp=Z,27nm,0.8s
SNY Shenyang 25.14 72⇓P **P** **21 41 59.0 +0.5**
SNY S **S** **21 46 24.5 +1.3**
SNY pmax pmax
comp=Z,50nm,1.0s
SNY pmax pmax
comp=Z,430nm,3.9s
SNY LR LR
comp=Z,1μm,6.8s
SNY LR LR
comp=Z,1μm,10.8s
SNY LR LR
comp=Z,2μm,9.8s
DGPR DIGLIPUR 25.15 175 *e*P **P** **21 41 59.4 +0.7**
QIZ Qiongzhong 25.34 134 P **P** **21 41 59.5 -1.0**
QIZ Qiongzhong 25.34 134 P **P** **21 42 00.0 -0.5**
QIZ S **S** **21 46 25.0 -1.6**
QIZ pmax pmax
comp=Z,14nm,0.8s
QIZ LR LR
comp=Z,880nm,11.8s
QIZ LR LR
comp=Z,360nm,7.8s
QIZ LR LR
comp=Z,1μm,10.4s
SSE Sheshan 25.84 97 P **P** **21 42 04.0 -0.9**
SSE S **S** **21 46 35.0 +0.6**
SSE pmax pmax
comp=Z,9.0nm,0.8s
SSE LR LR
comp=Z,470nm,12.9s
SSE LR LR
comp=Z,620nm,12.9s
AKTO Aktyubinsk 26.20 308 LR LR 21 53 09.5
comp=Z,265nm,19.3s,baz=39,slow=38
UBPT Khong Chiam 26.34 147 P **P** **21 42 08.4 -1.2**
CN2 Changchun 26.46 67 *e*P **P** **21 42 10.8 +0.3**
CN2 *e*S **S** **21 46 41.3 -2.8**
CN2 PcS **PcS** **21 49 16.8 +0.4**
CN2 pmax pmax
comp=Z,60nm,1.2s
CN2 LR LR
comp=Z,680nm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
SVE Sverdlovsk 27.19 323⇓*e*P **P** **21 42 18.0 +1.1**
SVE pmax pmax
comp=Z,55nm,1.1s
BNX BinXian 27.89 63⇓P **P** **21 42 24.0 +0.6**
BNX pmax pmax
comp=Z,13nm,0.9s
BNX pmax pmax
comp=Z,260nm,4.1s
BNX LR LR
comp=Z,1μm,6.2s
BNX LR LR
comp=Z,1μm,8.4s
BNX LR LR
comp=Z,2μm,10.4s
ARTI Arti 28.08 321 P **P** **21 42 24.2 -0.7**
ARTI IAmb IAmb 21 42 26.6
comp=Z,94nm,2.0s
ARTI Arti 28.08 321*c i*P **P** **21 42 25.6 +0.7**
ARTI 21 43 13.2
ARTI S **S** **21 47 15.2 +5.9**
ARTI SS **SnSn** **21 48 33.8 +9.5**
ARTI pmax pmax
comp=Z,41nm,2.0s
NGCH Negor - Chabah 28.29 251 P **P** **21 42 29.6 +2.6**
HEH HeiHe 28.41 53 *e*P **P** **21 42 28.5 +0.6**
HEH pmax pmax
comp=Z,14nm,0.8s
HEH LR LR
comp=Z,1μm,8.7s
HEH LR LR
comp=Z,4μm,9.9s
HEH LR LR
comp=Z,5μm,10.1s
TJN Taejon 28.92 83⇑*e*P **P** **21 42 34.0 +1.4**
KSAR Wonju Array Be 29.07 80 P **P** **21 42 32.8 -1.0**
KSAR Wonju Array Be 29.07 80 P **P** **21 42 32.8 -1.0**
KSRS Korea Array 29.09 80 P **P** **21 42 34.0 -0.1**
comp=Z,13nm,0.8s,baz=282,slow=8.9,SNR=18
KSRS LR LR 21 55 16.8
comp=Z,1μm,20.7s,baz=280,slow=39
comp=Z,13nm,0.8s
ZEA Zeya 29.14 46 *e*P **P** **21 42 36.0 +1.6**
ZEA *e* 21 47 28.1
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=E,2μm,13.0s
ZEA MLR MLR
comp=N,900nm,16.0s
ZEA MLR MLR
comp=Z,2μm,13.0s
MDJ Mudanjiang 29.43 65 P **P** **21 42 36.7 -0.4**
MDJ Mudanjiang 29.43 65 P **P** **21 42 37.3 +0.2**
MDJ pmax pmax
comp=Z,28nm,1.4s
PSTR Posyet 30.43 69⇓*e*P **P** **21 42 46.7 +0.8**
SRIT Nakonsritamara 30.66 163 P **P** **21 42 48.0 -0.1**
SRIT IAmb IAmb 21 42 50.4
comp=Z,31nm,1.0s
KLR Kul'dur 31.06 56 LR LR 21 56 19.1
comp=Z,2μm,18.0s,baz=269,slow=38
KLR Kul'dur 31.06 56*c i*P **P** **21 42 51.8 +0.4**
KLR pmax pmax
comp=Z,19nm,0.8s

NRIK Noril'sk 31.09 358 P **P** **21 42 51.4 0.0**
NRIK IAmb IAmb 21 42 52.8
comp=Z,31nm,0.6s
NRIK Noril'sk 31.09 358 P **P** **21 42 51.8 +0.3**
comp=Z,32nm,0.5s,baz=164,slow=6.8,SNR=32
NRIK LR LR 21 56 04.5
comp=Z,893nm,20.7s,baz=176,slow=38
comp=Z,32nm,0.5s
NRIK Noril'sk 31.09 358*c iP* **P** **21 42 51.9 +0.5**
NRIK pmax pmax
comp=Z,23nm,0.6s
USRK Ussuriysk Ar. 31.17 66 P **P** **21 42 52.4 0.0**
comp=Z,4.9nm,0.8s,baz=285,slow=7.2,SNR=6.0
USRK LR LR 21 56 27.0
comp=Z,304nm,19.7s,baz=248,slow=38
comp=Z,4.9nm,0.8s
JLN Jalan Bani Buh 31.45 248 P **P** **21 42 55.5 +0.4**
MASF Masafi 32.04 256 P **P** **21 43 01.7 +1.4**
MASF P **P** **21 43 01.7 +1.4**
MSFE Esma-Masafi 32.05 256 P **P** **21 43 01.9 +1.6**
HOQ Hoqain 32.16 253 P **P** **21 43 03.0 +1.7**
HOQ P **P** **21 43 03.0 +1.7**
UOSS Minazif 32.23 256 P **P** **21 43 03.7 +1.8**
JMDO Jabal Madar 32.28 250 P **P** **21 43 03.6 +1.2**
PALK Pallekele 32.30 199 P **P** **21 43 02.5 -0.1**
PALK Pallekele 32.30 199 P **P** **21 43 03.6 +1.0**
PALK Pallekele 32.30 199 P **P** **21 43 02.5 -0.1**
PALK pmax pmax
comp=Z,10.0nm,1.0s
HATD Hatta, Dubai 32.35 256 P **P** **21 43 05.9 +2.8**
HATD P **P** **21 43 05.9 +2.8**
HATD Hatta, Dubai 32.35 256 P **P** **21 43 06.0 +3.0**
SOHO SOHO 32.43 254 P **P** **21 43 05.2 +1.6**
ASHO Ashiyiah 32.49 255 P **P** **21 43 05.9 +1.6**
ASHO P **P** **21 43 05.9 +1.6**
ASHO Ashiyiah 32.49 255 P **P** **21 43 06.6 +2.4**
NAZ Nazwa, Dubai 32.62 256 P **P** **21 43 06.4 +1.0**
JNU Nakatsue 32.67 87 P **P** **21 43 05.0 -0.7**
JNU IAmb IAmb 21 43 10.5
comp=Z,23nm,0.9s
JNU Nakatsue 32.67 87 LR LR 21 56 57.2
comp=Z,669nm,21.2s,baz=294,slow=38
BSY Bisya 32.73 251 P **P** **21 43 08.4 +2.1**
LKRN Lenkeran, Azer 32.75 284 P **P** **21 43 06.3 0.0**
ARQ Araqi 32.89 253 P **P** **21 43 09.6 +1.8**
ARQ P **P** **21 43 09.6 +1.8**
MAK Makhachkala 32.97 292 *eP* **P** **21 43 03.9 -4.3**
MAK *e* 21 44 17.1
MAK *eS* **S** **21 48 22.1 -4.1**
MAK pmax pmax
comp=Z,25nm,0.4s
MAK MLR MLR
comp=Z,833nm,18.0s
ALNE Al Ain 33.07 255 P **P** **21 43 10.5 +1.2**
ALNE Al Ain 33.07 255 *i P* **P** **21 43 10.9 +1.6**
SNR=7.4
ASUD Al Ashush, Dub 33.07 256 P **P** **21 43 10.0 +0.7**
ASUD P **P** **21 43 10.0 +0.7**
ASUD Al Ashush, Dub 33.07 256 *i P* **P** **21 43 11.2 +1.9**
SNR=7.5
MHTO MHTO 33.22 248 P **P** **21 43 13.0 +2.3**
SNR=8.2
MHTO P **P** **21 43 13.0 +2.3**
SNR=8.2
JOW Kunigami 33.30 99 LR LR 21 57 35.8
comp=Z,356nm,21.8s,baz=280,slow=38
AJN Ajban 33.37 256 P **P** **21 43 12.9 +1.0**
AJN P **P** **21 43 12.9 +1.0**
KIRV Kirov 33.39 321*c iP* **P** **21 43 12.5 +0.8**
SEKA Sheki 33.45 289 P **P** **21 43 11.6 -1.0**
YAK Yakutsk 33.48 32 P **P** **21 43 11.4 -1.0**
YAK IAmb IAmb 21 43 15.5
comp=Z,67nm,1.3s
YAK Yakutsk 33.48 32 LR LR 21 57 33.8
comp=Z,990nm,18.8s,baz=243,slow=38
YAK Yakutsk 33.48 32 *eP* **P** **21 43 12.8 +0.4**
YAK *e*PP* **sP** **21 43 18.7 -0.1**
YAK *e* 21 44 23.8
YAK *e* 21 45 51.5
YAK *eS* **S** **21 48 34.5 +0.8**
YAK *e* 21 53 40.8
YAK pmax pmax
comp=Z,34nm,1.3s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,20nm,1.6s
YAK pmax pmax
comp=Z,142nm,5.2s
YAK pmax pmax
comp=N,247nm,6.6s
YAK pmax pmax
comp=E,194nm,6.9s
YAK smax smax
comp=N,274nm,6.5s
YAK smax smax
comp=E,84nm,6.2s
YAK MLR MLR
comp=Z,1μm,29.0s
YAK MLR MLR
comp=N,468nm,23.0s
YAK MLR MLR
comp=E,847nm,25.0s
MNGR Mingechevir, A 33.61 288 P **P** **21 43 13.6 -0.2**
KULM Kulim 34.09 163 P **P** **21 43 17.2 -1.0**
KULM IAmb IAmb 21 43 19.8
comp=Z,74nm,1.7s
DQM DQM 34.20 247 P **P** **21 43 20.3 +1.1**
GANJ Ganja 34.21 288 P **P** **21 43 18.7 -0.4**
UMZA Um Al Zommool 34.27 253 P **P** **21 43 20.7 +0.9**
UMZA P **P** **21 43 20.7 +0.9**
MZWR Madinat Zayed 34.65 256 P **P** **21 43 24.1 +1.0**
JMN Monobe 34.81 84 P **P** **21 43 23.3 -1.1**
NAX Nakhchivan 35.14 286 P **P** **21 43 26.9 -0.3**
GHWR Ruwais 35.31 257 P **P** **21 43 28.9 +0.2**
MZR Muzera 35.38 255 P **P** **21 43 29.3 -0.1**
MZR Muzera 35.38 255 *i P* **P** **21 43 29.3 -0.1**
SNR=9.9
GNI Garni 35.49 288 P **P** **21 43 30.5 +0.2**
GNI IAmb IAmb 21 43 34.6
comp=Z,30nm,1.1s
GNI Garni 35.49 288 P **P** **21 43 32.3 +1.9**
comp=Z,12nm,0.8s,baz=353,slow=5.0,SNR=15
GNI LR LR 22 01 57.4
comp=Z,243nm,18.5s,baz=76,slow=43
comp=Z,12nm,0.8s
GNI Garni 35.49 288 P **P** **21 43 32.2 +1.9**
GNI P **P** **21 43 32.2 +1.9**
GNI Garni 35.49 288*de*P **P** **21 43 32.8 +2.5**
GNI pmax pmax
comp=Z,28nm,1.1s
NCK Nalchik 35.73 294⇓*iP* **P** **21 43 33.1 +0.9**
NCK pmax pmax
comp=Z,21nm,0.7s
GOF Gofitskoye 35.93 296*ceP* **P** **21 43 34.9 +1.1**
PSI Prapat 36.15 166 LR LR 21 58 50.5
comp=Z,211nm,21.1s,baz=318,slow=37
KBZ Khabaz 36.20 294 P **P** **21 43 36.8 +0.7**
comp=Z,6.4nm,0.8s,baz=120,slow=7.6,SNR=14
KBZ LR LR 22 01 13.8
comp=Z,468nm,18.4s,baz=66,slow=41
comp=Z,6.4nm,0.8s
KBZ Khabaz 36.20 294*ceP* **P** **21 43 36.6 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KVAR Kislovodsk Arr 36.31 295 LR LR 21 59 57.9
comp=Z,305nm,20.0s,baz=290,slow=39
KIV Kislovodsk 36.32 295 P **P** **21 43 37.4 +0.1**
KIV Kislovodsk 36.32 295 P **P** **21 43 37.9 +0.6**
KIV P **P** **21 43 37.9 +0.6**
KIV Kislovodsk 36.32 295 *eP* **P** **21 43 38.0 +0.6**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,300nm,16.0s
KIV Kislovodsk 36.32 295 P **P** **21 43 38.8 +1.5**
KIV Kislovodsk 36.32 295 P **P** **21 43 38.4 +1.1**
comp=Z,13nm,1.1s
KIV pP **pP** **21 43 41.4 -0.5**
comp=Z,13nm,1.1s
SHA1 Shidzhatmaz 36.37 294*c iP* **P** **21 43 38.7 +0.8**
SMRA Abu-Samra 36.48 260 P **P** **21 43 38.8 +0.1**
VRH Novokhopyorsk 36.52 307 *eP* **P** **21 43 39.3 +0.5**
VRH pmax pmax
comp=Z,29nm,0.7s

KARS Kars 36.63 289 P **P** **21 43 40.9 +0.9**
KARS Kars 36.63 289 P **P** **21 43 40.9 +0.9**
KARS pmax pmax
comp=Z,87nm,0.9s
KBD Kabd 36.80 269 P **P** **21 43 42.3 +0.9**
JGF Kuroka 36.90 80 P **P** **21 43 40.2 -2.1**
JGF IAmb IAmb 21 44 54.0
comp=Z,62nm,1.5s
NKL Nikolayevsk 36.95 50 *eP* **P** **21 43 41.9 -0.4**
NKL *eS* **S** **21 49 27.4 +0.3**
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=E,48nm,1.0s
NKL pmax pmax
comp=Z,148nm,1.0s
NKL smax smax
comp=N,175nm,4.1s
NKL smax smax
comp=E,109nm,4.1s
NKL MLR MLR
comp=E,9μm,20.0s
NKL MLR MLR
comp=N,4μm,10.0s
NKL MLR MLR
comp=Z,10μm,22.0s
GEVA Gevas 37.20 285 P **P** **21 43 45.8 +0.9**
GEVA IAmb IAmb 21 43 49.6
comp=Z,38nm,1.3s
MJAR Matsushiro Arr 37.27 78 P **P** **21 43 44.2 -1.1**
comp=Z,5.7nm,0.8s,baz=289,slow=9.0,SNR=9.5
MJAR LR LR 21 59 31.0
comp=Z,259nm,20.2s,baz=298,slow=37
comp=Z,5.7nm,0.8s
GSI Gunungsitoli 37.38 169 P **P** **21 43 45.7 -0.7**
GSI IAmb IAmb 21 43 47.9
comp=Z,48nm,1.4s
GSI Gunungsitoli 37.38 169 P **P** **21 43 47.2 +0.8**
comp=Z,28nm,2.3s
DMTO DMTO 37.50 247 P **P** **21 43 48.8 +1.3**
DOK Doka 37.52 249 P **P** **21 43 47.2 -0.4**
SNR=8.5
DOK P **P** **21 43 47.2 -0.4**
SNR=8.5
GURO Guroymak-BITLI 37.91 286 P **P** **21 43 51.7 +0.7**
VORD Divnogorie 38.05 306 *eP* **P** **21 43 49.8 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 38.10 308 *eP* **P** **21 43 50.8 -1.3**
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 38.13 307 *eP* **P** **21 43 51.0 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
TYV Tymovskoe 38.13 54 *eP* **P** **21 43 53.8 +1.4**
TYV pmax pmax
comp=Z,9.0nm,1.2s
TYV pmax pmax
comp=Z,300nm,3.1s
WHFO Wadi Hawf 38.22 248 P **P** **21 43 53.1 -0.5**
SNR=16
WHFO P **P** **21 43 53.1 -0.5**
SNR=16
LPSR Galich'ya Gora 38.27 309 *eP* **P** **21 43 54.0 +0.4**
LPSR pmax pmax
comp=Z,84nm,0.7s
JTM Tenmabayashi 38.31 70 P **P** **21 43 52.7 -1.4**
YSS Yuzhno-Sakhali 38.46 60 P **P** **21 43 54.9 -0.4**
YSS IAmb IAmb 21 43 58.1
comp=Z,52nm,1.4s
YSS Yuzhno-Sakhali 38.46 60 *eP* **P** **21 43 55.4 +0.1**
YSS *eS* **S** **21 49 48.1 -2.2**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,600nm,14.0s
YSS MLR MLR
comp=E,400nm,16.0s
TIXI Tiksi 38.50 18 P **P** **21 43 54.9 -0.4**
TIXI IAmb IAmb 21 43 57.9
comp=Z,37nm,0.9s
TIXI Tiksi 38.50 18 LR LR 22 00 17.0
comp=Z,1μm,20.9s,baz=250,slow=37
TIXI Tiksi 38.50 18⇑*iP* **P** **21 43 55.3 0.0**
TIXI pmax pmax
comp=Z,39nm,0.9s
SOC Sochi 38.50 295 *eP* P 21 43 44.1 -12
SOC *e*PPP PPP 21 45 42.8
SOC *e*SS SS 21 52 35.8 -4.4
SOC *e*SSS SSS 21 53 01.4
SOC MLR MLR
comp=Z,240nm,17.0s
KOPT Kop Dagi 38.69 289 P **P** **21 43 58.0 +0.4**
ASAJ Asahikawa 38.76 65 LR LR 22 00 45.3
comp=Z,296nm,20.0s,baz=299,slow=38
ASAJ Asahikawa 38.76 65 P **P** **21 43 57.5 -0.3**
ASAJ pmax pmax
comp=Z,57nm,1.2s
JKA Kamikawa-asahi 38.76 65 P **P** **21 43 57.5 -0.3**
JKA IAmb IAmb 21 43 59.6
comp=Z,57nm,1.2s
KLMR Klimovskoe 38.82 322 *eP* **P** **21 43 56.7 -1.4**
KLMR *e* 21 45 26.0
KLMR pmax pmax
comp=Z,52nm,0.7s
KLMR MLR MLR
comp=Z,847nm,18.0s
JMM Marumori 38.86 75 P **P** **21 43 57.5 -1.2**
ABTO Aybut 38.93 248 P **P** **21 43 58.6 -1.0**
SNR=7.6
ABTO P **P** **21 43 58.6 -1.0**
SNR=7.6
BKNI Bangkinang 38.98 164 P **P** **21 43 59.3 -0.6**
MOS Moscow 39.15 314 *eP* **P** **21 44 00.9 0.0**
MOS *e* 21 45 31.5
MOS pmax pmax
comp=Z,128nm,0.7s
MARD Mardin 39.21 285 P **P** **21 44 02.3 +0.4**
MARD IAmb IAmb 21 44 06.2
comp=Z,100nm,1.7s
KKM Kota Kinabalu 39.52 138 P **P** **21 44 04.2 -0.3**
KKM IAmb IAmb 21 44 06.2
comp=Z,42nm,1.0s
ERM Erimo 39.57 68 P **P** **21 44 03.4 -1.2**
ERM IAmb IAmb 21 44 10.2
comp=Z,76nm,1.3s
ERM Erimo 39.57 68 P **P** **21 44 03.4 -1.2**
ERM pmax pmax
comp=Z,76nm,1.3s
OBN Obninsk 39.72 313 P **P** **21 44 05.2 -0.4**
OBN IAmb IAmb 21 44 06.7
comp=Z,31nm,0.6s
OBN Obninsk 39.72 313 P **P** **21 44 05.9 +0.3**
comp=Z,23nm,0.5s,baz=104,slow=4.2,SNR=7.9
OBN LR LR 22 01 11.5
comp=Z,184nm,21.2s,baz=164,slow=37
comp=Z,23nm,0.5s
OBN Obninsk 39.72 313*c iP* **P** **21 44 06.0 +0.3**
OBN *i* 21 44 08.7
OBN *e* 21 45 38.8
OBN pmax pmax
comp=Z,26nm,0.6s
OBN MLR MLR
comp=Z,198nm,16.0s
OBN Obninsk 39.72 313 P **P** **21 44 06.2 +0.5**
comp=Z,42nm,1.1s
OBN pP **pP** **21 44 09.1 -1.2**
comp=Z,42nm,1.1s
ANN Anapa 39.91 297 *eP* **P** **21 44 07.1 -0.3**
ANN *e*PP* **pP** **21 44 10.0 -2.0**
ANN *e* 21 45 38.3
ANN *eS* **S** **21 50 13.6 +1.6**
ANN *e*SS **SS** **21 53 00.6 -7.7**
ANN pmax pmax
comp=Z,25nm,0.6s
SBUM Sibu 40.72 146 P **P** **21 44 13.4 -0.9**
KSM Kuching 40.80 149 P **P** **21 44 14.2 -0.8**
RAYN Ar Rayn 41.25 262 P **P** **21 44 18.1 -0.7**
RAYN Ar Rayn 41.25 262 P **P** **21 44 18.7 -0.1**
RAYN Ar Rayn 41.25 262 P **P** **21 44 18.6 -0.2**
RAYN Ar Rayn 41.25 262 *i* P **P** **21 44 18.9 +0.1**
SNR=10
MYLDM Lahad Datu 41.46 136 P **P** **21 44 21.1 +0.6**

MYLDM IAmb IAmb 21 44 23.7
comp=Z,70nm,1.0s
GAZ Gaziantep 41.96 286 P **P** **21 44 24.8 +0.3**
SIM Simferopol' 42.19 298 *eP* **P** **21 44 27.2 +1.0**
SIM pmax pmax
comp=Z,19nm,1.0s
BNN Bunyan 42.47 289 P **P** **21 44 28.7 0.0**
BNN IAmb IAmb 21 44 33.0
comp=Z,87nm,1.6s
LVZ Lovozero 42.49 332 P **P** **21 44 28.4 0.0**
LVZ IAmb IAmb 21 46 00.3
comp=Z,150nm,1.7s
LVZ Lovozero 42.49 332 P **P** **21 44 28.5 0.0**
LVZ pmax pmax
comp=Z,150nm,1.7s
STKI Sintang 42.55 149 P **P** **21 44 30.1 +0.8**
comp=Z,41nm,1.4s
MA2 Magadan 42.86 40 P **P** **21 44 31.9 +0.4**
MA2 IAmb IAmb 21 44 35.4
comp=Z,73nm,1.1s
MA2 Magadan 42.86 40 LR LR 22 02 55.6
comp=Z,447nm,19.7s,baz=277,slow=37
MA2 Magadan 42.86 40*c iP* **P** **21 44 32.6 +1.1**
MA2 pmax pmax
comp=Z,59nm,1.0s
MA2 Magadan 42.86 40 P **P** **21 44 32.3 +0.8**
comp=Z,891nmcomp=Z,68nm,1.1s
APA Apatity 42.88 332⇓*iP* **P** **21 44 30.9 -0.6**
APA *i* 21 46 11.0
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,1μm,16.0s
JOF Joensuu 42.98 325 *eP* **P** **21 44 33.7 +1.3**
PUL Pulkovo 43.24 320⇓*eP* **P** **21 44 34.9 +0.4**
PUL pmax pmax
comp=Z,57nm,0.9s
ILGA Ilgaz 43.41 292 P **P** **21 44 36.5 +0.1**
ILGA IAmb IAmb 21 44 41.2
comp=Z,51nm,0.9s
KIRS Kirsehir-Merke 43.82 290 ⇑P **P** **21 44 40.2 +0.6**
SEY Seymchan 43.83 35⇑*eP* **P** **21 44 40.6 +1.4**
SEY pmax pmax
comp=Z,57nm,1.3s
BR131 Keskin Array S 43.85 291 P **P** **21 44 40.2 +0.3**
BR131 Keskin Array S 43.85 291*c iP* **P** **21 44 40.2 +0.3**
BRTR Keskin Array B 43.85 291 P **P** **21 44 40.2 +0.3**
comp=Z,13nm,0.8s,baz=94,slow=6.7,SNR=56
BRTR LR LR 22 08 33.8
comp=Z,130nm,18.1s,baz=85,slow=44
comp=Z,13nm,0.8s
BRTR Keskin Array B 43.85 291 *i P* **P** **21 44 40.5 +0.6**
BRTR pmax pmax
comp=Z,14nm,0.9s
BR104 Keskin Array S 43.85 290 P **P** **21 44 40.2 +0.3**
comp=Z,119nmcomp=Z,17nm,0.8s
BR106 Keskin Array S 43.86 291 P **P** **21 44 40.7 +0.7**
comp=Z,134nmcomp=Z,18nm,0.9s
BR105 Keskin Array S 43.86 291 P **P** **21 44 40.7 +0.7**
comp=Z,138nmcomp=Z,18nm,0.8s
BR105 pP **pP** **21 44 43.9 -0.7**
comp=Z,138nmcomp=Z,18nm,0.8s
ASF Jabal al Asfar 44.01 279 P **P** **21 44 41.4 +0.2**
comp=Z,16nm,1.0s,baz=57,slow=6.2,SNR=12
comp=Z,16nm,1.0s
JCJ Chichijima 44.07 89 LR LR 22 03 30.4
comp=Z,395nm,21.1s,baz=295,slow=37
DAV Davao City (W) 44.17 126 P **P** **21 44 41.9 -0.6**
DAV Davao City (W) 44.17 126 P **P** **21 44 41.9 -0.6**
comp=Z,54nm,0.4s,baz=45,slow=10.0,SNR=4.1
DAV LR LR 22 05 51.1
comp=Z,332nm,18.8s,baz=335,slow=40
comp=Z,54nm,0.4s
AK09 Malin Array Si 44.41 307 P **P** **21 44 44.4 +0.4**
AK08 Malin Array Si 44.42 307 P **P** **21 44 44.4 +0.3**
ANTO Ankara 44.42 291 P **P** **21 44 44.1 -0.3**
ANTO IAmb IAmb 21 44 48.3
comp=Z,118nm,2.0s
ANTO Ankara 44.42 291 ⇑P **P** **21 44 45.8 +1.3**
ANTO Ankara 44.42 291 P **P** **21 44 44.1 -0.3**
ANTO pmax pmax
comp=Z,118nm,2.0s
AK03 Malin Array Si 44.43 307 P **P** **21 44 44.3 +0.1**
AK10 Malin Array Si 44.43 307 P **P** **21 44 44.4 +0.2**
AKASG Malin Array Be 44.43 307 P **P** **21 44 44.0 -0.2**
comp=Z,3.4nm,0.3s,baz=84,slow=7.5,SNR=35
AKASG LR LR 22 05 55.3
comp=Z,175nm,21.8s,baz=91,slow=40
comp=Z,3.4nm,0.3s
AKASG Malin Array Be 44.43 307 *i P* **P** **21 44 44.2 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKBB Malin Array Si 44.43 307 P **P** **21 44 43.7 -0.5**
AKBB IAmb IAmb 21 44 46.7
comp=Z,23nm,0.6s
AKBB Malin Array Si 44.43 307⇑*eP* **P** **21 44 44.3 +0.1**
AKBB pmax pmax
comp=Z,18nm,0.6s
AK01 Malin Array Si 44.44 307 P **P** **21 44 44.3 0.0**
KIEV Kiev 44.44 307 P **P** **21 44 43.8 -0.5**
KIEV IAmb IAmb 21 44 46.7
comp=Z,20nm,0.6s
KIEV Kiev 44.44 307 ⇓P **P** **21 44 44.8 +0.4**
KIEV Kiev 44.44 307 P **P** **21 44 44.7 +0.4**
KIEV Kiev 44.44 307 *i P* **P** **21 44 44.4 +0.1**
SNR=19
AK16 Malin Array Si 44.51 307 P **P** **21 44 45.1 +0.3**
AK16 pP **pP** **21 44 48.1 -1.4**
AK17 Malin Array Si 44.54 307 P **P** **21 44 45.1 0.0**
AK17 pP **pP** **21 44 48.1 -1.6**
AK19 Malin Array Si 44.56 307 P **P** **21 44 45.3 +0.1**
MNK Minsk 44.77 312 *i P* **P** **21 44 46.2 -0.6**
comp=E,15nm,1.1s
MNK *i* P **P** **21 44 46.2 -0.6**
comp=N,26nm,0.9s
MNK *i* P **P** **21 44 46.2 -0.6**
comp=Z,38nm,0.9s,baz=84
MNK *i* PP **PcP** **21 46 30.0 +1.2**
MNK *i* PPP PPP 21 47 09.4
MNK *i* S **S** **21 51 23.7 +0.2**
MNK *i* SS **ScS** **21 54 45.9 +1.8**
MNK *i* SSS SSS 21 55 30.3
MNK *i* LQ LQ 22 00 11.9
MNK *i* LR LR 22 03 39.1
MNK *i* LRM MLR 22 05 26.8
comp=N,179nm,15.3s
MNK *i* LRM MLR 22 05 40.4
comp=Z,175nm,16.9s
MNK *i* LRM MLR 22 05 46.7
comp=E,91nm,15.7s
MNK Minsk 44.77 312 *i P* **P** **21 44 46.2 -0.6**
MNK *i* 21 46 29.9
MNK *i* PPP PPP 21 47 09.4
MNK *i* S **S** **21 51 23.6 +0.2**
MNK *i* SS **ScS** **21 54 45.8 +1.8**
MNK *i* SSS SSS 21 55 30.3
MNK pmax pmax
comp=Z,38nm,0.9s
MNK pmax pmax
comp=N,26nm,0.9s
MNK pmax pmax
comp=E,15nm,1.1s
MNK MLR MLR
comp=N,179nm,15.0s
MNK MLR MLR
comp=Z,175nm,17.0s
MNK MLR MLR
comp=E,91nm,16.0s
PURM Purcari 44.77 301 ⇓P **P** **21 44 48.1 +1.1**
MMAI Mount Meron Ar 44.83 281 P **P** **21 44 49.2 +1.4**
comp=E,11nm,0.7s,baz=80,slow=9.5,SNR=14
MMAI LR LR 22 07 09.1
comp=E,239nm,20.4s,baz=57,slow=41
comp=E,11nm,0.7s
VADS Vadso 44.86 335 *eP* **P** **21 44 47.6 +0.3**
VADS IAmb IAmb 21 44 48.9
comp=Z,27nm,0.9s
VSU Vasula 45.11 318*ceP* **P** **21 44 49.3 -0.2**
VSU pmax pmax
comp=Z,74nm,1.2s
VSU Vasula 45.11 318 *eP* **P** **21 44 49.5 +0.1**
IDID Didziasalis 45.34 314 *eP* **P** **21 44 51.8 +0.4**
FIA1 FINESS Array S 45.36 322 P **P** **21 44 51.6 +0.2**
FIA1 IAmb IAmb 21 44 53.2
comp=Z,38nm,0.7s

NACGM Naroch 45.36 313⇓ *i*P P 21 44 52.4 +0.9
comp=Z,3µm,0.9s
FINES FINESS Array B 45.36 322 P **P 21 44 52.0 +0.5**
FINES FINESS Array B 45.36 322 P **P 21 44 51.8 +0.4**
comp=Z,11nm,0.5s,baz=89,slow=7.8,SNR=120
comp=Z,11nm,0.5s
FINES FINESS Array B 45.36 322 *i* P **P 21 44 52.0 +0.5**
FINES pmax pmax
comp=Z,11nm,0.5s
KIS Kishinev 45.38 302 *e*P **P 21 44 52.0 +0.2**
comp=Z,50nm,2.1s
KIS Kishinev 45.38 302 *e*P **P 21 44 52.0 +0.2**
KIS pmax pmax
comp=Z,50nm,2.1s
GHAJ Ghor Haditha 45.40 279 P **P 21 44 52.3 +0.1**
GHAJ IAmb IAmb 21 44 56.4
comp=Z,66nm,1.8s
MILM Milestii Mici 45.40 302⇑ *i*P **P 21 44 52.0 0.0**
comp=Z,260nm,3.1s
MILM *e*L L 22 06 56.0
MILM LRM MLR 22 08 53.0
comp=Z,300nm,14.0s
MILM Milestii Mici 45.40 302⇓ P **P 21 44 52.3 +0.4**
MILM Milestii Mici 45.40 302 P **P 21 44 52.3 +0.4**
MDUB Mudurnu 45.41 292 P **P 21 44 52.9 +0.6**
SORM Soroca 45.45 303⇑ P **P 21 44 52.4 +0.1**
SORM Soroca 45.45 303 P **P 21 44 52.4 +0.1**
ARBE Arbavere 45.45 319 *e*P **P 21 44 52.5 +0.3**
IZAR Zarasai 45.58 314 *e*P **P 21 44 53.8 +0.6**
KEV Kevo 45.59 334 P **P 21 44 53.6 +0.5**
KEV Kevo 45.59 334 P **P 21 44 53.7 +0.5**
KEV pmax pmax
comp=Z,168nm,2.0s
IIGN Ignalina 45.63 314 *e*P **P 21 44 54.4 +0.8**
ISAL Salakas 45.66 314 *e*P **P 21 44 54.6 +0.7**
CSS Mathiatis 45.68 284 P **P 21 44 55.3 +1.0**
CSS IAmb IAmb 21 44 59.3
comp=Z,21nm,1.0s
TLCR 45.80 299⇓ P **P 21 44 55.9 +0.7**
TLCR 45.80 299 P **P 21 44 55.8 +0.7**
KEF Keuruu 45.93 323 *e*P **P 21 44 56.5 +0.6**
ARA0 ARCESS Array S 46.08 334 *e*P **P 21 44 57.5 +0.4**
ARA0 IAmb IAmb 21 44 58.0
comp=Z,24nm,1.1s
ARA0 ARCESS Array S 46.08 334 PN **P 21 44 57.8 +0.8**
ARCES ARCESS Array B 46.08 334 P **P 21 44 57.4 +0.4**
comp=Z,6.9nm,0.7s,baz=93,slow=8.2,SNR=57
ARCES LR LR 22 06 56.0
comp=Z,137nm,18.1s,baz=82,slow=40
comp=Z,6.9nm,0.7s
VLDR Vladesti 46.14 300⇓ P **P 21 44 58.6 +0.7**
TPGR Topolog 46.16 299⇓ P **P 21 44 59.1 +1.1**
MEF Metsahovi 46.22 321 *e*P **P 21 44 58.5 +0.3**
CFR Carcaliu 46.27 299⇓ P **P 21 44 59.1 +0.3**
CFR Carcaliu 46.27 299 P **P 21 44 59.1 +0.3**
BIR Birlad 46.34 301⇑ P **P 21 45 00.1 +0.7**
BIR Birlad 46.34 301 P **P 21 45 00.1 +0.7**
HARR Harsova 46.53 299⇓ P **P 21 45 02.7 +1.1**
HARR Harsova 46.53 299 P **P 21 45 02.0 +1.1**
GHRR 46.54 301⇓ P **P 21 45 02.7 +1.7**
EIL Elat 46.58 277 P **P 21 45 02.3 +0.8**
comp=Z,21nm,0.9s,baz=68,slow=2.3,SNR=17
EIL LR LR 22 08 37.4
comp=Z,172nm,18.0s,baz=69,slow=41
comp=Z,21nm,0.9s
MTSE Matsula 46.62 319 *e*P **P 21 45 02.4 +1.1**
PETR Petresti 46.75 300⇑ P 21 45 09.8 +7.2
ICOR Ion Corvin 46.78 298⇓ P **P 21 45 04.6 +1.8**
HAMF Hammerfest 46.83 335 *e*P **P 21 45 03.6 +0.7**
HAMF IAmb IAmb 21 45 04.6
comp=Z,26nm,0.8s
KTK1 Kautokeino 46.83 333 *e*P **P 21 45 03.8 +0.8**
VSVD Vaisvydziai 46.84 315 *e*P **P 21 45 04.1 +0.9**
ODBI Odobesti 46.85 301⇑ P **P 21 45 05.7 +2.2**
PABE Paberze 46.89 314 P **P 21 45 03.8 +0.2**
PABE Paberze 46.89 314 *e*P **P 21 45 04.0 +0.5**
VAF Ylistaro 46.92 325 *e*P **P 21 45 04.7 +1.0**
TESR Tescani 46.94 302⇑ P **P 21 45 04.6 +0.5**
PRAR RASCA 47.02 303⇓ P **P 21 45 05.6 +0.9**
VRI Vrincioaia 47.05 301⇓ P **P 21 45 06.5 +1.5**
VRI Vrincioaia 47.05 301 P **P 21 45 06.5 +1.5**
PLOR Plostina 47.11 301⇓ P **P 21 45 07.2 +1.6**
PLOR Plostina 47.11 301 P **P 21 45 07.1 +1.6**
PEA0B Petropavlovsk- 47.16 49 P **P 21 45 06.1 +0.3**
PEA0B IAmb IAmb 21 45 07.5
comp=Z,31nm,0.8s
PEA0B Petropavlovsk- 47.16 49 P **P 21 45 06.1 +0.3**
PEA0B pmax pmax
comp=Z,31nm,0.9s
PETK Petropavlovsk- 47.16 49 P **P 21 45 06.0 +0.3**
PETK Petropavlovsk- 47.16 49 P **P 21 45 06.5 +0.8**
comp=Z,15nm,0.6s,baz=276,slow=1.8,SNR=31
PETK LR LR 22 06 13.2
comp=Z,780nm,19.7s,baz=268,slow=38
comp=Z,15nm,0.6s
PETK Petropavlovsk- 47.16 49 P **P 21 45 06.1 +0.3**
COVR Voineasa-Covas 47.41 301⇑ P **P 21 45 09.0 +1.2**
HOPEN Hopen 47.46 343 *e*P **P 21 45 08.5 +0.8**
HOPEN IAmb IAmb 21 45 09.8
comp=Z,22nm,0.8s
NEHR Nehoiu 47.46 300⇑ P **P 21 45 10.0 +1.8**
RAF Rauma 47.46 322 *e*P **P 21 45 08.4 +0.5**
SLIT Slitere, Latvi 47.53 317 *e*P **P 21 45 08.9 +0.4**
SUW Suwalki 47.56 312 *e*P **P 21 45 09.2 +0.3**
SUW Suwalki 47.56 312 P **P 21 45 08.6 -0.2**
SUW IAmb IAmb 21 45 11.8
comp=Z,43nm,1.1s
SUW Suwalki 47.56 312 P **P 21 45 08.6 -0.2**
SUW pmax pmax
comp=Z,43nm,1.1s
SUW Suwalki 47.56 312 *e*P **P 21 45 09.6 +0.8**
BURAR Bucovina Array 47.62 303 P **P 21 45 09.6 +0.1**
BURAR Bucovina Array 47.62 303⇓ P **P 21 45 10.3 +0.8**
BURAR Bucovina Array 47.62 303 P **P 21 45 10.3 +0.8**
BUR08 Bucovina Ar. S 47.62 303 P **P 21 45 10.0 +0.4**
OZUR 47.63 301⇑ P **P 21 45 10.4 +0.9**
MLR Muntele Rosu 47.68 300 P **P 21 45 10.9 +0.8**
MLR IAmb IAmb 21 45 12.7
comp=Z,15nm,1.0s
MLR Muntele Rosu 47.68 300 P **P 21 45 11.0 +1.0**
comp=Z,10nm,0.7s,baz=281,slow=4.3,SNR=20
MLR LR LR 22 09 12.7
comp=Z,298nm,18.6s,baz=60,slow=41
comp=Z,10nm,0.7s
MLR Muntele Rosu 47.68 300⇑ P **P 21 45 11.5 +1.4**
MLR Muntele Rosu 47.68 300 P **P 21 45 10.9 +0.8**
MLR pmax pmax
comp=Z,15nm,1.0s
PET Petropavlovsk 47.74 49 P **P 21 45 09.4 -0.9**
PET Petropavlovsk 47.74 49 *d* *i*P **P 21 45 10.2 0.0**
PET pmax pmax
comp=Z,54nm,1.0s
RAZG Razgrad 47.83 298⇑ P **P 21 45 12.3 +1.2**
JETT Jettan, Norway 47.87 333 *e*P **P 21 45 10.9 -0.1**
JETT IAmb IAmb 21 45 13.8
comp=Z,21nm,0.7s
DOPR Dopca 47.93 301⇓ P **P 21 45 13.7 +1.9**
PBUR Paburge 47.95 315 *e*P **P 21 45 12.1 +0.3**
VOIR 48.30 301⇓ P **P 21 45 15.8 +1.0**
VOIR 48.30 301 P **P 21 45 15.8 +1.0**
ARCR ARCALIA 48.32 303⇓ P **P 21 45 17.0 +2.1**
MTUR Matau 48.35 300⇑ P **P 21 45 16.4 +1.1**
MTUR Matau 48.35 300 P **P 21 45 16.3 +1.1**
TRO Tromso 48.39 334 *e*P **P 21 45 14.1 -0.9**
SMRI Semarang 48.70 154 P **P 21 45 18.2 +0.2**
TNR Turnu Rosu 48.76 301⇓ P **P 21 45 19.8 +1.4**
TNR Turnu Rosu 48.76 301 P **P 21 45 19.7 +1.4**
KOLS Kolonicke sedl 49.20 306 *e*P **P 21 45 22.6 +1.0**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 49.20 306 *e*P **P 21 45 22.6 +1.0**
MARR Marisel-Cluj 49.25 303⇑ P **P 21 45 22.9 +0.8**
SPB2 Spitsbergen Ar 49.61 345 P **P 21 45 24.6 +0.4**
SPA0 Spitsbergen Ar 49.61 345 *e*P **P 21 45 25.2 +0.9**
SPA0 IAmb IAmb 21 45 26.3
comp=Z,41nm,1.2s
SPITS Spitsbergen Ar 49.61 345 P **P 21 45 25.2 +0.9**
comp=Z,4.4nm,0.5s,baz=109,slow=10,SNR=15
SPITS LR LR 22 10 55.3
comp=Z,255nm,18.7s,baz=50,slow=42
comp=Z,4.4nm,0.5s
SPITS Spitsbergen Ar 49.61 345 P **P 21 45 25.0 +0.7**
SPITS pmax pmax
comp=Z,141nm,1.6s

BILL Bilibino 49.65 29 P **P 21 45 25.4 +0.7**
BILL IAmb IAmb 21 45 27.5
comp=Z,17nm,0.7s
BILL Bilibino 49.65 29 *ce*P **P 21 45 26.4 +1.7**
BILL pmax pmax
comp=Z,32nm,1.1s
STHS Stebnicka Huta 49.73 307 *e*P **P 21 45 25.6 0.0**
STHS pmax pmax
comp=Z,12nm,1.0s
STHS Stebnicka Huta 49.73 307 *e*P **P 21 45 25.6 0.0**
STEI Steigen 49.78 331 *e*P **P 21 45 26.2 +0.6**
FAUS Fauske 49.80 331 *e*P **P 21 45 26.5 +0.6**
FAUS IAmb IAmb 21 45 27.0
comp=Z,25nm,0.8s
GZR Gura Zlata 49.84 301⇑ P **P 21 45 28.1 +1.4**
GZR Gura Zlata 49.84 301 P **P 21 45 28.0 +1.4**
KARP Karpathos 50.12 288 *e*P **P 21 45 29.5 +0.7**
SURR Surduc 50.17 302⇓ P **P 21 45 30.9 +1.9**
HERR Herculane 50.24 301⇑ P **P 21 45 30.3 +0.7**
MOR8 Moi Rana 50.25 329 *e*P **P 21 45 28.9 -0.4**
MOR8 IAmb IAmb 21 45 29.4
comp=Z,25nm,0.9s
NIE Niedzica 50.32 307 *e*P **P 21 45 31.7 +1.6**
SIRR Siria 50.33 303⇑ P **P 21 45 31.6 +1.4**
ATD Arta Tunnel 50.39 251 LR LR 22 10 34.0
comp=Z,4.5nm,18.8s,baz=40,slow=40
LOF Lofoten 50.40 332 *e*P **P 21 45 30.4 0.0**
OJC Ojcow 50.42 308 *e*P **P 21 45 31.7 +0.8**
OJC Ojcow 50.42 308 P **P 21 45 31.4 +0.6**
OJC Ojcow 50.42 308 P **P 21 45 31.4 +0.6**
OJC pmax pmax
comp=Z,31nm,0.5s
BZS Buzias 50.56 302⇑ P **P 21 45 32.8 +0.8**
BZS Buzias 50.56 302 P **P 21 45 32.7 +0.8**
VAGH Vaagaholmen 50.65 330 IAmb IAmb 21 45 33.3
comp=Z,41nm,1.1s
VAGH *e*P **P 21 45 33.3 +1.1**
KONS Konsvik 50.74 330 *e*P **P 21 45 33.8 +0.9**
MDVR Moldovita 50.75 301⇓ P **P 21 45 34.8 +1.3**
KAPI Kappang 50.77 142 LR LR 22 09 36.4
comp=Z,90nm,19.5s,baz=294,slow=39
LEIR Leirfjorden 50.79 329 *e*P **P 21 45 33.9 +0.5**
LEIR IAmb IAmb 21 45 34.3
comp=Z,27nm,1.0s
STOK Stokkvaagen 50.80 329 *e*P **P 21 45 33.9 +0.5**
LANS Liptovska Anna 50.92 307 *e*P **P 21 45 37.3 +2.6**
LANS Liptovska Anna 50.92 307 *e*P **P 21 45 37.2 +2.6**
PSZ Piszkesteto 51.00 305 P **P 21 45 35.8 +0.5**
PSZ Piszkesteto 51.00 305 P **P 21 45 35.8 +0.5**
PSZ pmax pmax
comp=Z,14nm,1.2s
PSZ Piszkesteto 51.00 305 *e*P **P 21 45 35.4 +0.1**
BOVS Bovan 51.12 299⇑ P **P 21 45 37.3 +1.1**
GKP Gorka Klasztor 51.18 312 *e*P **P 21 45 37.4 +0.9**
BLEU Blekinge 51.26 316 *i* P **P 21 45 37.2 +0.2**
VAY Valandovo 51.31 296 *i* P **P 21 45 38.2 +0.5**
NSS Namsos 51.50 327 *e*P **P 21 45 38.5 -0.2**
NSS IAmb IAmb 21 45 40.2
comp=Z,103nm,1.5s
HFS Hagfors 51.53 321 P **P 21 45 39.4 +0.4**
comp=Z,17nm,0.6s,baz=96,slow=7.7,SNR=134
comp=Z,17nm,0.6s
STEB Steborice 51.76 308 *e*P **P 21 45 42.0 +1.1**
MAUC Maruska 51.89 307 *e*P **P 21 45 43.3 +1.4**
FRGS Fruska Gora 51.91 302 *e*P **P 21 45 41.1 -1.0**
IDI Anoyia 51.92 288 P **P 21 45 41.8 -0.6**
comp=Z,14nm,0.6s,baz=40,slow=6.8,SNR=20
comp=Z,14nm,0.6s
MORC Moravsky Berou 51.94 308 P **P 21 45 42.8 +0.5**
MORC IAmb IAmb 21 45 44.4
comp=Z,29nm,1.4s
MORC Moravsky Berou 51.94 308 *e*P **P 21 45 43.2 +0.9**
MORC Moravsky Berou 51.94 308⇑ P **P 21 45 43.3 +1.0**
MORC Moravsky Berou 51.94 308 P **P 21 45 42.8 +0.5**
MORC pmax pmax
comp=Z,29nm,1.4s
BSD Bornholm Skovb 52.04 315 *i* P **P 21 45 42.8 -0.1**
SRO Srobarova 52.05 305 *e*P **P 21 45 44.7 +1.7**
SRO Srobarova 52.05 305 *e*P **P 21 45 44.7 +1.7**
JAVC Velka Javorina 52.13 307 *e*P **P 21 45 45.5 +1.7**
DEL Delary 52.27 317 *i* P **P 21 45 44.7 +0.2**
NC405 NORSAR Array S 52.28 323 P **P 21 45 44.9 +0.3**
NC405 IAmb IAmb 21 45 46.0
comp=Z,39nm,1.0s
TEKS Tekeris 52.30 301 *e*P **P 21 45 44.7 -0.3**
KRLC Kraliky 52.33 308 *e*P P 21 45 59.2 +14
MORH Mrgy, Hungar 52.34 303⇑ P **P 21 45 45.7 +0.5**
SMOL Smolenice 52.39 306 *e*P **P 21 45 47.0 +1.3**
KSP Ksiaz 52.40 310 *e*P **P 21 45 46.7 +1.1**
SJES Sjenica 52.44 299⇑ *i*P **P 21 45 46.9 +0.7**
NC602 NORSAR Array S 52.44 322 *e*P **P 21 45 45.7 -0.1**
NC602 IAmb IAmb 21 45 46.7
comp=Z,33nm,1.1s
DPC Dobruska-Polom 52.53 309 *e*P **P 21 45 48.2 +1.5**
DPC Dobruska-Polom 52.53 309 *e*P **P 21 45 48.2 +1.5**
NB2 NORSAR Subarra 52.53 323 P **P 21 45 46.3 -0.2**
comp=Z,5.2nm,0.5s,baz=76,slow=7.4
NB2 NORSAR Subarra 52.53 323 P **P 21 45 46.3 -0.2**
baz=76,slow=7.4
NOA NORSAR Array B 52.53 323 P **P 21 45 46.3 -0.2**
comp=Z,13nm,0.7s,baz=76,slow=7.4,SNR=51
NOA LR LR 22 10 59.3
comp=Z,116nm,19.6s,baz=95,slow=39
comp=Z,13nm,0.7s
OSTC Ostas 52.53 309 *e*P **P 21 45 47.8 +1.1**
OSTC Ostas 52.53 309 *e*P **P 21 45 47.8 +1.1**
MODS Modra-Piesok 52.53 306 *e*P **P 21 45 48.2 +1.5**
MODS pmax pmax
comp=Z,41nm,1.5s
MODS Modra-Piesok 52.53 306 *e*P **P 21 45 48.2 +1.5**
BORU Boraas 52.56 318 *e*P **P 21 45 47.6 +0.9**
BBLS Lazi&#263i 52.62 300⇑ *i*P **P 21 45 47.5 0.0**
CHVC Chvalec 52.62 309 *e*P **P 21 45 48.6 +1.3**
CHVC Chvalec 52.62 309 *e*P **P 21 45 48.6 +1.3**
UPC Upice 52.67 309 *e*P **P 21 45 49.1 +1.4**
UPC AMS AMS 22 13 00.0
comp=Z,300nm,14.1s
UPC Upice 52.67 309 *e*P **P 21 45 49.1 +1.4**
UPC MLR MLR
comp=Z,300nm,14.1s
VRAC Vranov 52.67 308 P **P 21 45 48.6 +0.9**
comp=Z,7.5nm,0.7s,baz=74,slow=8.6,SNR=14
comp=Z,7.5nm,0.7s
VRAC Vranov 52.67 308 *e*P **P 21 45 48.7 +1.0**
VRAC Vranov 52.67 308⇑ P **P 21 45 48.6 +0.9**
LUNU Lund 52.71 316 *i* P **P 21 45 48.2 +0.4**
RUDO Rudo 52.73 300 *e*P **P 21 45 48.2 0.0**
FABU Falkenberg 52.75 318 *i* P **P 21 45 48.7 +0.6**
BJUU Bjuv 52.83 317 *i* P **P 21 45 49.5 +0.8**
HAPS Han Pijesak,Bl 52.85 301⇑ *i*P **P 21 45 49.4 +0.2**
KRUC Moravsky 52.87 307 *e*P **P 21 45 49.9 +0.7**
STRU Stroemstad 53.02 320 *i* P **P 21 45 50.5 +0.4**
OSL Oslo 53.03 322 *e*P **P 21 45 50.5 +0.4**
ONAU Onsala 53.07 318 *i* P **P 21 45 50.5 +0.1**
PDG Podgorica 53.23 299 P **P 21 45 52.2 +0.3**
PDG IAmb IAmb 21 45 54.5
comp=Z,20nm,0.8s
PDG Podgorica 53.23 299⇑ *i*P **P 21 45 52.1 +0.2**
PDG Podgorica 53.23 299⇑ P **P 21 45 52.4 +0.5**
DOMB Dombas 53.30 324 *e*P **P 21 45 52.0 -0.1**
DOMB IAmb IAmb 21 45 53.0
comp=Z,20nm,0.9s
RONA Rosalia, Austr 53.37 306 *e*pP **P 21 45 53.8 +0.9**
comp=Z,7.8nm,0.6s
RUE Ruedersdorf 53.41 312 *e*P **P 21 45 54.2 +1.1**
PVCC Panska Ves 53.54 310 *e*P **P 21 45 55.6 +1.5**
PVCC Panska Ves 53.54 310 *e*P **P 21 45 55.6 +1.5**
BRY Bratogost 53.55 299 *e*P **P 21 45 55.1 +0.7**
GUMO Guam 53.55 102 LR LR 22 08 10.3
comp=Z,81nm,22.0s,baz=46,slow=36
CONA Conrad Observa 53.57 306 *i* pP **P 21 45 55.7 +1.2**
comp=Z,10nm,0.7s,SNR=5.9
GOPC GO Pecny, Ondr 53.60 309 *e*P **P 21 45 55.6 +1.0**
GOPC GO Pecny, Ondr 53.60 309 *e*P **P 21 45 55.6 +1.0**
KONO Kongsberg 53.65 321 *e*P **P 21 45 54.6 -0.1**
KONO Kongsberg 53.65 321 P **P 21 45 54.6 -0.1**
KONO IAmb IAmb 21 45 55.6
comp=Z,17nm,0.8s
KONO Kongsberg 53.65 321 P **P 21 45 54.6 -0.1**
KONO pmax pmax
comp=Z,17nm,0.8s
PRU Pruhonice 53.73 309 *e*P **P 21 45 56.6 +1.2**
PRU Pruhonice 53.73 309 *e*P **P 21 45 56.6 +1.2**

BLY Banja Luka 53.80 302⇑ *i*P **P 21 45 56.3 +0.2**
BRG Berggiesshubel 53.81 310⇑ *i*P **P 21 45 56.9 +0.9**
BRG Amp 21 45 57.5
comp=Z,8.8nm,0.8s
BRG Berggiesshubel 53.81 310 P P 21 46 05.0 +9.0
BRG Amp 21 46 05.3
comp=Z,5.3nm,0.8s
MOL Molde 53.85 325 *e*P **P 21 45 56.7 +0.5**
A051A Mrakovica 53.89 302 *e*P **P 21 45 56.0 -0.8**
SKAR Skarslia 54.00 323 *e*P **P 21 45 58.1 +0.8**
SKAR IAmb IAmb 21 45 59.1
comp=Z,55nm,1.2s
ARSA Arzberg 54.02 305 *e*P **P 21 45 58.2 +0.5**
comp=Z,6.6nm,0.9s
ZVC Zvikov 54.12 308 *e*P **P 21 45 59.6 +1.3**
STON Ston 54.13 300⇑ *i*P **P 21 45 57.7 -0.8**
HSKC Hora Svate Kat 54.20 310 *e*P **P 21 45 59.2 +0.3**
CLL Collm 54.23 311 P **P 21 45 59.2 +0.1**
CLL IAmb IAmb 21 46 00.7
comp=Z,13nm,0.8s
CLL Collm 54.23 311 P **P 21 45 59.2 +0.1**
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 54.23 311 *i* P **P 21 45 59.7 +0.6**
comp=Z,24nm,1.3s
CKRC Cesky Krumlov 54.25 308 *e*P **P 21 46 01.0 +1.7**
CKRC Cesky Krumlov 54.25 308 *e*P **P 21 46 01.0 +1.7**
GROS Grobnik 54.30 305 *i* P **P 21 46 00.2 +0.4**
A050A Klekovaca 54.33 302⇑ *i*P **P 21 46 00.8 +0.7**
SOKA Soboth 54.53 305 *i* P **P 21 46 02.0 +0.5**
comp=Z,10nm,0.6s,SNR=7.0
HOMB Homborsund 54.58 320 *e*P **P 21 46 01.7 +0.2**
HOMB Homborsund 54.58 320 *e*P **P 21 46 01.9 +0.4**
KHC Kasperske Hory 54.60 308 *e*P **P 21 46 02.8 +0.9**
KHC AMS AMS 22 14 10.0
comp=Z,300nm,14.8s
KHC Kasperske Hory 54.60 308 *e*P **P 21 46 02.8 +0.9**
KHC MLR MLR
comp=Z,300nm,14.8s
GEC2 GERESS Array S 54.62 308 P **P 21 46 03.0 +0.8**
GERES GERESS Array B 54.62 308 P **P 21 46 02.7 +0.6**
GERES GERESS Array B 54.62 308 P **P 21 46 02.9 +0.8**
comp=Z,6.2nm,0.7s,baz=67,slow=7.4,SNR=55
comp=Z,6.2nm,0.7s
GERES GERESS Array B 54.62 308 P **P 21 46 02.7 +0.6**
NOR Nord 54.80 350 *i* P **P 21 46 02.0 -0.8**
NOR IAmb IAmb 21 46 03.7
comp=Z,20nm,0.7s
OBKA Obir 54.90 305⇑ *i*P **P 21 46 04.4 +0.2**
ODD1 Odda 55.02 322 *e*P **P 21 46 05.8 +1.1**
BIOA Bad Ischl, Aus 55.06 306 *e*pP **P 21 46 06.2 +0.9**
comp=Z,2.9nm,0.6s
SNART Snartemo 55.21 320 *e*P **P 21 46 06.9 +0.9**
SNART Snartemo 55.21 320 *e*P **P 21 46 06.5 +0.4**
BLS5 Blasjo 55.25 322 *e*P **P 21 46 07.2 +0.8**
FOO Floro 55.26 325 *e*P **P 21 46 06.7 +0.4**
CEY Cerknica 55.26 304 *e*P **P 21 46 05.4 -1.3**
KBA Koelnbreinsper 55.47 306 *e*P **P 21 46 09.1 +0.7**
comp=Z,6.5nm,0.6s
BER Bergen 55.49 323 *e*P **P 21 46 08.4 +0.4**
ASK Askoy 55.52 323 *e*P **P 21 46 08.0 -0.2**
CADS Cadrg 55.53 305 *i* P **P 21 46 08.4 -0.3**
SKDS Skadanscina 55.60 304⇑ *i*P **P 21 46 09.2 0.0**
LESA Schwarzleotal 55.77 306 *i* pP **P 21 46 11.4 +1.0**
comp=Z,22nm,0.8s,SNR=10
GRA1 Grafenberg Arr 55.85 309 P **P 21 46 11.9 +1.0**
GRA1 IAmb IAmb 21 46 13.2
comp=Z,29nm,0.7s
GRF Grafenberg Arr 55.85 309 P **P 21 46 11.9 +1.0**
GRF pmax pmax
comp=Z,29nm,0.7s
GRFO Grafenberg 55.85 309 P **P 21 46 11.9 +1.0**
GRFO IAmb IAmb 21 46 13.1
comp=Z,26nm,0.7s
GRFO Grafenberg 55.85 309 P **P 21 46 11.9 +1.0**
GRFO pmax pmax
comp=Z,26nm,0.7s
ABTA Abfaltersbach 56.12 306 *e*pP **P 21 46 15.0 +2.1**
comp=Z,7.2nm,1.0s
WTTA Wattenberg 56.48 307 *i* P **P 21 46 16.2 +0.6**
comp=Z,26nm,0.7s,SNR=12
WATA Walderalm 56.49 307 *i* P **P 21 46 16.0 +0.4**
comp=Z,8.2nm,0.7s,SNR=7.7
SQTA Sankt Quirin 56.77 307 *i* P **P 21 46 17.9 +0.3**
comp=Z,12nm,0.6s,SNR=8.6
MOTA Moosalm 56.79 307 *e*P **P 21 46 18.0 +0.2**
comp=Z,16nm,0.7s
SHEM Shemya Is, Ala 56.81 46 LR LR 22 12 57.6
comp=Z,293nm,18.1s,baz=294,slow=38
RETA Reutte 56.95 307 *i* pP **P 21 46 19.7 +0.9**
comp=Z,10nm,0.5s,SNR=8.7
FETA Feichten 57.15 307 *e*P **P 21 46 20.8 +0.4**
comp=Z,5.9nm,0.6s
DAVA Damuels 57.58 307 *e*P **P 21 46 23.9 +0.5**
comp=Z,4.0nm,0.4s
FUORN Ofenpass-Fuorn 57.60 306 P **P 21 46 23.5 -0.2**
DAVOX Davos/Dischmat 57.78 307 P **P 21 46 25.2 +0.4**
comp=Z,26nm,0.6s,baz=89,slow=4.2,SNR=64
DAVOX LR LR 22 14 21.5
comp=Z,233nm,19.0s,baz=70,slow=39
comp=Z,26nm,0.6s
BFO Black Forest 58.13 309 P **P 21 46 27.1 +0.1**
BFO IAmb IAmb 21 46 28.6
comp=Z,15nm,0.9s
BFO Black Forest 58.13 309 P **P 21 46 27.1 +0.1**
BFO pmax pmax
comp=Z,15nm,0.9s
TUE Stuetta 58.24 306 P **P 21 46 27.8 -0.2**
TUE IAmb IAmb 21 46 36.6
comp=Z,17nm,0.8s
BTNL Ternell 58.55 312 *d*P **P 21 46 30.1 +0.2**
comp=Z,9.2nm,0.9s
MEM Membach 58.61 312 *d*P **P 21 46 30.4 +0.1**
comp=Z,10.0nm,0.9s
VAE Valguarnera 58.64 295 P **P 21 46 33.8 +3.0**
comp=Z,17nm,0.9s,baz=13,slow=13,SNR=4.3
BSTI Sart Tilman 58.88 312 *d*P **P 21 46 32.2 +0.1**
ECH Echery 58.89 309 P **P 21 46 32.1 -0.2**
ECH Echery 58.89 309 P **P 21 46 32.1 -0.2**
ECH pmax pmax
comp=Z,8.0nm,0.8s
WLF Walferdange 58.91 311 P **P 21 46 32.7 +0.3**
WLF IAmb IAmb 21 46 34.6
comp=Z,51nm,1.7s
WLF Walferdange 58.91 311 *d*P **P 21 46 33.5 +1.1**
comp=Z,10nm,0.9s
WLF Walferdange 58.91 311 P **P 21 46 32.7 +0.3**
WLF pmax pmax
comp=Z,51nm,1.7s
BCLA Clavier 59.10 312 *d*P **P 21 46 34.4 +0.7**
comp=Z,7.3nm,0.9s
BGES Gesves 59.24 312 *d*P **P 21 46 35.2 +0.5**
comp=Z,5.8nm,1.0s
RCHB Rochefort 59.25 312 *d*P **P 21 46 35.6 +0.9**
comp=Z,6.5nm,0.9s
RCHB *d*PcP **PcP 21 47 22.3 -0.7**
GAMB Gambell 59.41 31 P **P 21 46 36.5 +0.8**
baz=295
BMRD Maredsous 59.46 312 *d*P **P 21 46 37.0 +0.8**
comp=Z,8.7nm,0.9s
UCC Uccle 59.49 313 *d*P **P 21 46 36.6 +0.2**
SENIN Lac Senin/Sane 59.57 307 P **P 21 46 37.0 -0.4**
DOU Dourbes 59.65 312 *d*P **P 21 46 38.1 +0.6**
comp=Z,7.9nm,0.9s
C16K Lisburne Hills 59.73 25 P **P 21 46 38.7 +0.9**
C16K IAmb IAmb 21 46 40.1
comp=Z,28nm,1.1s
C16K Lisburne Hills 59.73 25 P **P 21 46 39.0 +1.3**
baz=298
TNA Tin City 60.08 28 P **P 21 46 41.5 +1.2**
baz=297
A19K Wainwright 60.11 22 P **P 21 46 42.6 +2.2**
baz=300
B18K Kokolik River 60.32 23 P **P 21 46 44.3 +2.5**
baz=300,SNR=20
C17K DeLong Mountai 60.34 24 P **P 21 46 43.3 +1.3**
baz=300
BNI Bardonecchia 60.53 306 P **P 21 46 44.0 +0.1**
BNI IAmb IAmb 21 46 47.6
comp=Z,12nm,0.8s
BNI Bardonecchia 60.53 306 P **P 21 46 44.0 +0.1**
BNI pmax pmax
comp=Z,12nm,0.8s
RDOG Red Dog Mine 60.63 24 P **P 21 46 44.7 +0.7**
baz=300

MCD Coleburn Disti 60.66 322 *e*P P 21 46 44.6 +0.3
MCD IAmb IAmb 21 46 45.6
comp=Z,15nm,0.7s
F14K Arctic Creek 60.71 28 P **P 21 46 45.4 +0.8**
baz=298
D17K Noatak River 60.75 25 P **P 21 46 46.1 +1.3**
baz=300,SNR=16
A21K Barrow 60.77 20 P **P 21 46 45.4 +0.6**
baz=304
WACR West Acre 60.78 316 *e*P P 21 46 45.4 +0.2
WACR IAmb IAmb 21 46 46.9
comp=Z,38nm,0.7s
ELMS Elmsett, Ipswi 60.85 315 *e*P P 21 46 46.2 +0.5
ELMS IAmb IAmb 21 46 47.1
comp=Z,24nm,0.6s
C18K Utukok River 60.88 24 P **P 21 46 46.7 +0.9**
baz=301
ELSH Elham, Standar 61.19 314 *e*P P 21 46 48.7 +0.7
ELSH IAmb IAmb 21 46 49.4
comp=Z,45nm,0.6s
F15K North Star Dit 61.21 27 P **P 21 46 49.4 +1.4**
baz=300
EDMD Edmundbyers 61.23 319 *e*P P 21 46 48.4 +0.1
EDMD IAmb IAmb 21 46 49.4
comp=Z,15nm,0.7s
LODK Lodwar 61.28 250 P **P 21 46 49.9 +0.7**
B20K Meade River 61.35 21 P **P 21 46 49.7 +0.9**
B20K Meade River 61.35 21 P **P 21 46 50.6 +1.8**
baz=304
A22K Sinclair Lake 61.39 20 P **P 21 46 50.3 +1.2**
baz=305
ANM Nome 61.51 29 P **P 21 46 51.0 +1.0**
baz=300
EKA Eskdalemuir Ar 61.62 320 P **P 21 46 50.9 0.0**
comp=Z,9.3nm,0.6s,baz=62,slow=6.0,SNR=50
comp=Z,9.3nm,0.6s
ESK Eskdalemuir 61.65 320 P **P 21 46 51.1 0.0**
ESK IAmb IAmb 21 46 52.2
comp=Z,15nm,0.8s
ESK Eskdalemuir 61.65 320 *e*P P 21 46 51.2 +0.2
ESK IAmb IAmb 21 46 52.0
comp=Z,9.6nm,0.7s
ESK Eskdalemuir 61.65 320 P **P 21 46 51.1 0.0**
ESK pmax pmax
comp=Z,15nm,0.9s
E18K Tukpahlearik C 61.71 25 P **P 21 46 52.7 +1.4**
baz=302
SSB Saint Sauveur 61.78 307 P **P 21 46 52.1 -0.1**
SSB Saint Sauveur 61.78 307 P **P 21 46 52.1 -0.1**
SSB pmax pmax
comp=Z,8.0nm,0.9s
G15K Niukluk 61.79 28 P **P 21 46 53.2 +1.3**
baz=300
EUNU Eureka 61.83 359 P **P 21 46 52.5 +0.5**
D19K Kuna River 61.91 23 P **P 21 46 54.0 +1.3**
baz=304
CLF Chambon-Foret 61.93 310 P **P 21 46 52.9 -0.2**
CLF IAmb IAmb 21 46 54.0
comp=Z,23nm,0.8s
F17K Baldwin Pennin 62.02 26 P **P 21 46 54.6 +1.2**
F17K Baldwin Pennin 62.02 26 P **P 21 46 55.3 +1.9**
baz=302,SNR=9.4
NEEM North Greenlan 62.12 351 *i* P **P 21 46 53.8 -0.5**
NEEM IAmb IAmb 21 46 54.9
comp=Z,29nm,0.6s
G16K Koyuk River 62.19 27 P **P 21 46 55.9 +1.4**
baz=302
B22K Teshekpuk Lake 62.20 20 P **P 21 46 55.6 +1.1**
baz=307
D20K Etivluk River 62.25 22 P **P 21 46 56.5 +1.5**
baz=305
NEWG New Galloway 62.26 320 *e*P P 21 46 55.5 +0.3
NEWG IAmb IAmb 21 46 56.7
comp=Z,12nm,0.6s
B21K Ikpikpuk River 62.30 21 P **P 21 46 56.1 +0.9**
B21K Ikpikpuk River 62.30 21 P **P 21 46 56.9 +1.7**
baz=306,SNR=37
LAWE Loch Awe, Argy 62.31 321 *e*P P 21 46 55.7 +0.3
LAWE IAmb IAmb 21 46 57.5
comp=Z,11nm,0.6s
F18K Selawik 62.47 25 P **P 21 46 57.8 +1.4**
baz=303
C21K Knifeblade Rid 62.53 22 P **P 21 46 58.2 +1.5**
baz=306,SNR=30
H16K Elim 62.63 28 P **P 21 46 58.5 +1.0**
baz=302
E20K Nigu River 62.64 23 P **P 21 46 59.2 +1.6**
baz=305
G17K Kiwalik Mounta 62.73 26 P **P 21 46 59.4 +1.2**
baz=303
STRD Stroud 62.74 316 *e*P P 21 46 58.6 +0.2
STRD IAmb IAmb 21 46 59.8
comp=Z,27nm,0.8s
FOEL Foel Wylfa 62.77 317 *e*P P 21 46 59.2 +0.6
FOEL IAmb IAmb 21 46 60.0
comp=Z,25nm,0.6s
HLM1 Long Mynd 62.78 317 *e*P P 21 46 58.9 +0.2
HLM1 IAmb IAmb 21 46 59.9
comp=Z,12nm,0.7s
E19K Redstone River 62.78 24 P **P 21 46 59.8 +1.3**
baz=305
IOMK Kirk Michael 62.84 319 *e*P P 21 46 59.4 +0.4
IOMK IAmb IAmb 21 47 01.3
comp=Z,7.2nm,0.7s
WIM Isle of Man 62.95 319 *e*P P 21 47 00.2 +0.4
F19K Shaleruckik Mo 62.96 24 P **P 21 47 00.4 +0.8**
F19K IAmb IAmb 21 47 01.6
comp=Z,26nm,0.9s
F19K Shaleruckik Mo 62.96 24 P **P 21 47 00.4 +0.8**
baz=305
LLW Llanuwychllyn 63.04 317 *e*P P 21 47 00.6 +0.2
KEST Kesra 63.05 295 P **P 21 47 01.0 +0.1**
comp=Z,8.1nm,0.9s,baz=346,slow=6.4,SNR=5.6
KEST LR LR 22 20 34.0
comp=Z,91nm,18.3s,baz=294,slow=42
comp=Z,8.1nm,0.9s
MONM Monmouth 63.06 316 *e*P P 21 47 00.6 0.0
MONM IAmb IAmb 21 47 02.0
comp=Z,12nm,1.0s
MCH1 Michaelchurch 63.09 316 *e*P P 21 47 00.7 -0.1
MCH1 IAmb IAmb 21 47 01.7
comp=Z,11nm,0.9s
K13K Kusilvak Mount 63.13 31 P **P 21 47 01.6 +0.7**
K13K IAmb IAmb 21 47 03.0
comp=Z,23nm,1.2s
K13K Kusilvak Mount 63.13 31 P **P 21 47 01.6 +0.7**
baz=301
J14K Nanvaranak Lak 63.14 30 P **P 21 47 01.3 +0.4**
baz=302
E21K Killik River 63.19 22 P **P 21 47 02.3 +1.1**
baz=307
G18K Tagagawik 63.20 26 P **P 21 47 02.1 +0.7**
baz=304
WLF1 Llynfaes 63.22 318 *e*P P 21 47 01.6 +0.1
WLF1 IAmb IAmb 21 47 02.7
comp=Z,12nm,0.6s
C23K Itkillik River 63.27 20 P **P 21 47 02.4 +0.7**
baz=309
M11K Mekoryuk 63.30 33 P **P 21 47 03.5 +1.6**
baz=301
D22K Ayikyak River 63.30 21 P **P 21 47 03.5 +1.6**
baz=308
H17K Granite Mounta 63.31 27 P **P 21 47 03.4 +1.4**
baz=304,SNR=12
KIBK Kibwezi 63.31 243 P **P 21 47 02.8 -0.1**
KIBK Kibwezi 63.31 243 P **P 21 47 04.4 +1.5**
F20K Avaraart Lake 63.49 24 P **P 21 47 04.2 +1.0**
baz=306
G19K Purcell Mounta 63.59 25 P **P 21 47 05.0 +1.2**
baz=306
I17K Unalakleet 63.61 28 P **P 21 47 04.6 +0.6**
I17K IAmb IAmb 21 47 06.1
comp=Z,19nm,0.7s
I17K Unalakleet 63.61 28 P **P 21 47 05.1 +1.1**
baz=304,SNR=6.5
P08K Saint George I 63.71 37 P **P 21 47 05.2 +0.4**
baz=300
H18K Honhosa River 63.73 26 P **P 21 47 05.6 +0.8**
baz=305
D23K Nanushuk River 63.81 21 P **P 21 47 06.3 +1.0**
baz=310
C24K Franklin Bluff 63.85 20 P **P 21 47 06.1 +0.6**
C24K IAmb IAmb 21 47 07.1
comp=Z,23nm,0.7s
C24K Franklin Bluff 63.85 20 P **P 21 47 06.6 +1.1**
baz=311
SUMG Summit 63.95 345 P **P 21 47 06.0 -0.6**
SUMG IAmb IAmb 21 47 43.1
comp=Z,23nm,1.6s
SUMG Summit 63.95 345 P **P 21 47 06.0 -0.6**
SUMG pmax pmax
comp=Z,23nm,1.6s
SUMG Summit 63.95 345 *i* P **P 21 47 06.9 +0.3**
SUMG IAmb IAmb 21 47 09.7
comp=Z,8.8nm,0.9s
J16K Anvik River 63.98 28 P **P 21 47 07.7 +1.2**
baz=304,SNR=16
E22K Anaktuvuk Pass 64.02 22 P **P 21 47 07.7 +1.0**
baz=309,SNR=26
RSBS Rosebush, Pemb 64.05 317 *e*P P 21 47 07.1 0.0
RSBS IAmb IAmb 21 47 08.4
comp=Z,8.5nm,1.0s
F21K Alatna River 64.09 23 P **P 21 47 08.6 +1.5**
baz=308,SNR=50
H19K Roundabout Mou 64.16 25 P **P 21 47 08.9 +1.3**
H19K Roundabout Mou 64.16 25 P **P 21 47 08.9 +1.3**
baz=306,SNR=26
K15K Wolf Creek Mou 64.18 30 P **P 21 47 08.8 +1.1**
baz=304,SNR=6.5
D24K Happy Valley 64.19 20 P **P 21 47 08.6 +0.8**
baz=311
L14K Kuka Creek 64.25 31 P **P 21 47 09.4 +1.2**
L14K Kuka Creek 64.25 31 P **P 21 47 09.4 +1.2**
baz=303,SNR=6.0
F22K John River 64.30 22 P **P 21 47 10.2 +1.6**
baz=309
TOLK Toolik Lake Re 64.33 21 P **P 21 47 09.8 +1.0**
TOLK Toolik Lake Re 64.33 21 P **P 21 47 09.7 +1.0**
baz=311,SNR=43
DYA Yadsworthy 64.36 315 *e*P P 21 47 09.1 -0.1
DYA IAmb IAmb 21 47 09.5
comp=Z,9.4nm,0.5s
HTL Hartland 64.39 316 *e*P P 21 47 09.6 +0.2
HTL IAmb IAmb 21 47 10.1
comp=Z,13nm,0.5s
KNRA Kununurra 64.41 139 P **P 21 47 09.6 -0.2**
KNRA IAmb IAmb 21 47 11.0
comp=Z,29nm,0.8s
KNRA Kununurra 64.41 139 P **P 21 47 09.8 +0.1**
comp=Z,43nm,0.9s
GCSA Galena City Sc 64.48 26 P **P 21 47 11.1 +1.4**
baz=306
M13K Dall Lake 64.48 32 P **P 21 47 11.2 +1.5**
baz=303
J17K VABM Dome 64.48 28 P **P 21 47 11.1 +1.3**
baz=305,SNR=9.4
BORG Borgarnes 64.49 334 LR LR 22 17 15.6
comp=Z,105nm,18.2s,baz=354,slow=38
G21K Allakaket 64.52 24 P **P 21 47 10.8 +0.8**
baz=308
L15K Ungalak Mounta 64.54 30 P **P 21 47 11.2 +1.1**
baz=304
C26K Camden Bay 64.69 18 P **P 21 47 12.2 +1.2**
baz=314
E23K Chandalar 64.70 21 P **P 21 47 12.0 +0.8**
baz=311
H20K Anotleneega Mo 64.70 25 P **P 21 47 12.5 +1.3**
baz=308,SNR=42
D25K Kavik River 64.73 19 P **P 21 47 12.2 +0.8**
baz=313
M14K Bethel 64.87 31 P **P 21 47 13.4 +1.2**
baz=304
IWEX Carrickbyrne, 64.92 318 *e*P P 21 47 13.4 +0.6
IWEX IAmb IAmb 21 47 14.5
comp=Z,7.9nm,0.6s
FITZ Fitzroy Crossi 64.93 143 P **P 21 47 13.1 -0.1**
FITZ Fitzroy Crossi 64.93 143 P **P 21 47 13.2 -0.1**
comp=Z,11nm,0.8s,baz=270,slow=2.9,SNR=11
comp=Z,11nm,0.8s
E24K Your Creek 65.00 21 P **P 21 47 14.1 +0.9**
baz=312
COLD Coldfoot 65.07 22 P **P 21 47 14.8 +1.3**
COLD Coldfoot 65.07 22 P **P 21 47 14.8 +1.3**
baz=311,SNR=64
MBWA Marble Bar 65.10 150 P **P 21 47 13.9 -0.3**
MBWA IAmb IAmb 21 47 16.2
comp=Z,13nm,0.9s
MBWA Marble Bar 65.10 150 P **P 21 47 14.4 +0.2**
CEST Esterri de Car 65.15 306 P **P 21 47 14.7 +0.1**
CEST IAmb IAmb 21 47 18.8
comp=Z,16nm,1.1s
K17K Iditarod 65.17 28 P **P 21 47 15.6 +1.3**
baz=306,SNR=11
C27K Jago River 65.19 18 P **P 21 47 15.5 +1.2**
baz=315
I20K Naaghedeneel 65.27 25 P **P 21 47 16.5 +1.7**
baz=308,SNR=9.5
H21K Melozitna Rive 65.28 24 P **P 21 47 16.0 +1.0**
baz=309,SNR=25
J18K Innoko River 65.30 27 P **P 21 47 15.9 +0.8**
baz=307,SNR=21
L16K Owhat River 65.31 30 P **P 21 47 16.5 +1.3**
baz=305,SNR=6.7
KULLO Kullorsuaq 65.36 351 *i* P **P 21 47 14.4 -0.9**
J19K Poorman 65.37 26 P **P 21 47 17.0 +1.5**
baz=308,SNR=18
M15K Kasigluk River 65.42 31 P **P 21 47 17.0 +1.1**
baz=305,SNR=9.1
N14K Kuskokwak Cree 65.45 32 P **P 21 47 17.0 +1.0**
baz=304
G23K Bananza Creek 65.46 22 P **P 21 47 17.2 +1.0**
baz=311
L17K Donlin 65.51 29 P **P 21 47 17.9 +1.4**
baz=306,SNR=15
PSA00 Pilbara Seismi 65.52 150 P **P 21 47 16.5 -0.4**
comp=Z,23nm,1.9s
F24K Squaw Lake 65.55 21 P **P 21 47 17.8 +1.1**
baz=312
H22K Ishtalitna Cre 65.58 24 P **P 21 47 17.9 +1.0**
baz=310,SNR=7.5
J20K Nowinta River 65.77 26 P **P 21 47 19.7 +1.6**
baz=309,SNR=20
E25K Arctic Village 65.78 20 P **P 21 47 19.0 +0.8**
baz=314,SNR=28
I21K Tanana 65.85 24 P **P 21 47 20.2 +1.6**
baz=310
M16K Timber Creek 65.91 30 P **P 21 47 19.9 +0.8**
baz=306,SNR=7.8
NIKH Nikolski High 65.93 41 P **P 21 47 21.0 +1.7**
baz=302
N15K Kwethluk River 65.96 31 P **P 21 47 20.7 +1.3**
baz=306,SNR=5.3
O14K Tigyukauivet M 66.01 32 P **P 21 47 20.8 +1.1**
baz=305
L18K Granite Mounta 66.06 28 P **P 21 47 21.0 +0.9**
baz=307,SNR=6.0
F25K Christian Rive 66.12 20 P **P 21 47 21.9 +1.5**
baz=314
D27M Malcolm River 66.14 18 P **P 21 47 21.4 +0.9**
D27M Malcolm River 66.14 18 P **P 21 47 21.5 +1.0**
baz=317
H23K Yukon River 66.20 23 P **P 21 47 22.7 +1.8**
baz=312
G24K Hadweenzic Riv 66.22 22 P **P 21 47 22.5 +1.5**
baz=313
M17K Holitna River 66.28 29 P **P 21 47 23.2 +1.8**
baz=307,SNR=9.0
K20K Telida 66.31 26 P **P 21 47 23.4 +1.8**
baz=309
N16K Nishlik Lake 66.31 30 P **P 21 47 23.4 +1.7**
baz=306,SNR=9.4
F26K Sheenjek River 66.46 20 P **P 21 47 23.5 +0.9**
baz=315
BMAR Burnt Mountain 66.53 20 P **P 21 47 24.3 +1.3**
G25K Bearman Lake 66.57 21 P **P 21 47 24.9 +1.7**
baz=314
CHUM Lake Minchumin 66.58 26 P **P 21 47 24.9 +1.6**
baz=310,SNR=10
D28M Stokes Point 66.61 17 P **P 21 47 24.4 +1.0**
baz=319
UNV Unalaska Valle 66.65 39 P **P 21 47 24.5 +0.6**
baz=303
O15K Ungalikthiuk R 66.65 32 P **P 21 47 24.7 +0.8**
baz=306
H24K Noodor Dome 66.69 23 P **P 21 47 25.6 +1.5**
baz=313,SNR=25
I23K Minto, Yukon-K 66.71 24 P **P 21 47 25.5 +1.5**
baz=312,SNR=33
L19K White Mountain 66.77 28 P **P 21 47 26.1 +1.5**
baz=309,SNR=12
E27K Coleen River 66.77 19 P **P 21 47 25.4 +0.9**
baz=317
UPNV Upernavik 66.82 350 *i* P **P 21 47 23.9 -0.8**
ICESG Greenland Ices 66.84 343 *i* P **P 21 47 25.4 +0.1**
ICESG IAmb IAmb 21 47 26.6
comp=Z,12nm,0.9s
M18K Stony River 66.84 29 P **P 21 47 26.3 +1.3**
baz=308,SNR=8.7
BPAW Bear Paw Mtn. 66.88 25 P **P 21 47 25.8 +0.6**
BPAW IAmb IAmb 21 47 27.4
comp=Z,29nm,1.2s
BPAW Bear Paw Mtn. 66.88 25 P **P 21 47 26.2 +0.9**
baz=311,SNR=27
N17K Nushagak Hills 66.91 30 P **P 21 47 26.8 +1.3**
baz=308,SNR=6.6
L20K Farewell, AK 66.93 27 P **P 21 47 27.1 +1.4**
baz=309,SNR=12
CAST Castle Rocks 66.96 26 P **P 21 47 26.8 +1.1**
CAST IAmb IAmb 21 47 28.3
comp=Z,24nm,1.0s
CAST Castle Rocks 66.96 26 P **P 21 47 27.1 +1.4**
baz=310,SNR=19
E28M Babbage River 66.97 18 P **P 21 47 26.4 +0.7**
baz=319
H25L Birch Creek 67.00 22 P **P 21 47 26.7 +0.7**
baz=314,SNR=6.5
A36M Sachs Harbour 67.05 11 P **P 21 47 26.2 +0.1**
A36M Sachs Harbour 67.05 11 P **P 21 47 26.8 +0.7**
baz=330,SNR=5.9
G26K Porcupine Rive 67.09 20 P **P 21 47 27.6 +1.1**
baz=316
M19K Big River Lodg 67.11 28 P **P 21 47 28.8 +2.0**
baz=309
O16K Kokwok River B 67.11 31 P **P 21 47 28.0 +1.2**
baz=307,SNR=10
RES Resolute Bay 67.17 2 P **P 21 47 26.7 -0.1**
RES Resolute Bay 67.17 2 P **P 21 47 27.0 +0.1**
comp=Z,2.6nm,0.7s,baz=16,slow=9.7,SNR=15
RES LR LR 22 17 24.2
comp=Z,180nm,19.8s,baz=116,slow=36
comp=Z,2.6nm,0.7s
RES Resolute Bay 67.17 2 P **P 21 47 27.0 +0.1**
NEA2 Nenana 67.17 24 P **P 21 47 28.1 +1.0**
baz=312,SNR=27
PPLA Purkeypile 67.26 26 P **P 21 47 28.7 +0.9**
PPLA Purkeypile 67.26 26 P **P 21 47 29.4 +1.5**
baz=310,SNR=26
N18K Kilae Creek 67.32 29 P **P 21 47 29.9 +1.8**
baz=308,SNR=6.0
POKR Poker Plat Res 67.33 23 P **P 21 47 28.6 +0.6**
POKR Poker Plat Res 67.33 23 P **P 21 47 29.4 +1.3**
baz=314,SNR=12
BWN Browne 67.33 24 P **P 21 47 29.1 +1.0**
COLA College 67.36 23 P **P 21 47 28.9 +0.6**
COLA College 67.36 23 *i* P **P 21 47 29.3 +1.1**
COLA pmax pmax
comp=Z,82nm,0.9s
COLA College 67.36 23 P **P 21 47 29.5 +1.3**
baz=313
MBAR Mbarara 67.39 250 P **P 21 47 28.5 -0.9**
O17K Koliganek Bris 67.41 31 P **P 21 47 29.4 +0.8**
baz=308
P16K Nushagak River 67.50 31 P **P 21 47 30.5 +1.3**
baz=306
E29M Blow River 67.52 18 P **P 21 47 30.5 +1.3**
baz=320
TRF Thorofare Moun 67.54 25 P **P 21 47 29.6 -0.1**
TRF IAmb IAmb 21 47 34.0
comp=Z,27nm,1.6s
TRF Thorofare Moun 67.54 25 P **P 21 47 30.1 +0.4**
baz=312
WRH Wood River Hil 67.57 24 P **P 21 47 29.6 0.0**
WRH IAmb IAmb 21 47 33.6
comp=Z,12nm,0.8s
FALS False Pass 67.57 37 P **P 21 47 30.8 +1.1**
baz=305
M20K Styx River 67.58 27 P **P 21 47 31.6 +1.7**
baz=310,SNR=17
PRP Porcupine Dome 67.62 22 P **P 21 47 31.3 +1.2**
baz=315,SNR=21
ILAR Eielson Array 67.73 23 P **P 21 47 30.5 -0.1**
ILAR Eielson Array 67.73 23 P **P 21 47 30.8 +0.1**
comp=Z,24nm,0.8s,baz=305,slow=5.1,SNR=224
ILAR PP **PP 21 49 59.2 -0.1**
comp=Z,5.1nm,1.1s,baz=315,slow=8.9,SNR=6.5
ILAR LR LR 22 18 57.4
comp=Z,363nm,18.5s,baz=278,slow=38
comp=Z,24nm,0.8s
N19K Bonanza Creek 67.77 29 P **P 21 47 31.4 +0.3**
baz=310
G27K Doyon Strip 67.77 20 P **P 21 47 32.0 +1.1**
baz=318
MCK McKinley 67.80 25 P **P 21 47 31.7 +0.6**
MCK IAmb IAmb 21 47 33.9
comp=Z,9.3nm,0.8s
MCK McKinley 67.80 25 P **P 21 47 31.7 +0.6**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 67.80 25 P **P 21 47 32.0 +0.9**
baz=313,SNR=9.3
HDA Harding Lake 67.97 23 P **P 21 47 31.7 -0.3**
HDA IAmb IAmb 21 47 32.9
comp=Z,20nm,1.0s
HDA Harding Lake 67.97 23 P **P 21 47 31.8 -0.3**
baz=314,SNR=9.0
P17K Kvichak River 68.03 31 P **P 21 47 33.6 +1.0**
baz=309
SKT Skwentna 68.09 27 P **P 21 47 33.4 +0.4**
SKT Skwentna 68.09 27 P **P 21 47 33.6 +0.6**
baz=311,SNR=30
O18K Koktuh Hills 68.10 30 P **P 21 47 34.2 +1.2**
baz=309,SNR=6.3
O19K Port Alsworth 68.23 29 P **P 21 47 34.7 +0.9**
baz=310
H27K Steamboat Moun 68.23 20 P **P 21 47 34.9 +1.1**
baz=318,SNR=13
CUT Chulitna 68.25 26 P **P 21 47 34.8 +0.9**
baz=312
J25K Salcha River, 68.31 23 P **P 21 47 34.2 -0.1**
baz=315,SNR=13
SPCR Spurr Chakacha 68.36 28 P **P 21 47 34.9 +0.1**
baz=311
P18K Big Mountain, 68.39 30 P **P 21 47 35.9 +1.0**
baz=309,SNR=5.5
I26K Coal Creek Min 68.46 21 P **P 21 47 36.2 +1.0**
baz=317
S14K Fog Glacier 68.50 34 P **P 21 47 35.8 +0.1**
baz=307
R16K Pilot Point 68.57 33 P **P 21 47 35.8 -0.1**
baz=308
INK Inuvik 68.59 16 P **P 21 47 36.4 +0.5**
INK IAmb IAmb 21 47 37.5
comp=Z,18nm,0.8s
INK Inuvik 68.59 16 LR LR 22 22 58.1
comp=Z,137nm,18.5s,baz=308,slow=41
INK Inuvik 68.59 16 P **P 21 47 36.4 +0.5**
INK pmax pmax
comp=Z,18nm,0.8s
INK Inuvik 68.59 16 P **P 21 47 36.7 +0.8**
baz=324,SNR=33
F30M Barrier River 68.63 17 P **P 21 47 37.3 +1.1**
baz=322
G29M Pine Creek 68.63 19 P **P 21 47 37.2 +0.9**
baz=320
SDPT Sand Point 68.65 36 P **P 21 47 37.4 +0.9**
baz=307
I27K Kandik River 68.68 21 P **P 21 47 37.7 +1.1**
baz=318,SNR=27
M22K Willow 68.74 27 P **P 21 47 37.5 +0.6**
baz=312
K24K Donnelly Dome 68.76 23 P **P 21 47 37.3 +0.1**
baz=315
J26L Joseph Creek 68.93 22 P **P 21 47 38.8 +0.5**
baz=317,SNR=37
O20K Slope Mountain 68.95 29 P **P 21 47 39.0 +0.7**
baz=311
Q18K Katmai Hardscr 68.95 31 P **P 21 47 38.6 +0.1**
baz=310
CHGN Chignik 68.99 34 P **P 21 47 38.9 +0.3**
baz=308
P19K Oil Pt 69.00 29 P **P 21 47 38.9 +0.3**
baz=311,SNR=6.2
G30M tAoh Zraii Nji 69.02 18 P **P 21 47 39.1 +0.3**
baz=322
H29M Whitestone 69.08 19 P **P 21 47 39.6 +0.5**
baz=320,SNR=28
RIDG Independent Ri 69.10 23 P **P 21 47 39.1 -0.2**
RIDG Independent Ri 69.10 23 P **P 21 47 39.4 +0.2**
baz=316,SNR=53
GHO Glory Hole Cre 69.15 26 P **P 21 47 39.9 +0.3**
SCRK Sand Creek 69.19 23 P **P 21 47 40.0 +0.1**

SCRK Sand Creek 69.19 23 P **P** 21 47 40.3 +0.4
baz=316,SNR=53
PMR Palmer 69.20 26 P **P** 21 47 40.2 +0.4
baz=313,SNR=6.6
F31M Tsiigehtchic 69.24 17 P **P** 21 47 40.0 +0.1
baz=324,SNR=15
I28M Miner Creek 69.26 20 P **P** 21 47 40.8 +0.5
baz=319,SNR=17
Q19K Cape Douglas, 69.31 30 P **P** 21 47 40.1 -0.5
baz=311
SML Sawmill 69.33 26 P **P** 21 47 41.4 +0.7
SML Sawmill 69.33 26 P **P** 21 47 41.7 +1.0
baz=314,SNR=24
RC01 Rabbit Creek A 69.33 27 P **P** 21 47 41.5 +0.8
baz=313,SNR=18
CHNA Chernabura Isl 69.37 36 P **P** 21 47 40.6 -0.3
baz=308
CNBA Chernabura Isl 69.38 36 P **P** 21 47 40.5 -0.5
EPYK Eagle Plains 69.38 19 P **P** 21 47 40.8 -0.1
EPYK IAmb IAmb 21 47 42.1
comp=Z,25nm,1.0s
EPYK Eagle Plains 69.38 19 P **P** 21 47 40.9 -0.1
baz=322,SNR=17
PAX Paxson 69.45 24 P **P** 21 47 41.6 +0.1
baz=316,SNR=12
G31M Satah River 69.54 17 P **P** 21 47 42.0 +0.2
G31M Satah River 69.54 17 P **P** 21 47 42.1 +0.3
baz=324,SNR=55
M23K Glacier View 69.54 26 P **P** 21 47 42.4 +0.4
baz=314,SNR=23
C36M Paulatuk 69.55 13 P **P** 21 47 41.9 +0.1
C36M Paulatuk 69.55 13 P **P** 21 47 41.9 +0.1
baz=331,SNR=40
KNK Knik Glacier 69.56 26 P **P** 21 47 43.1 +1.0
baz=314,SNR=19
SCM Sheep Creek Mo 69.65 25 P **P** 21 47 43.6 +0.9
baz=314,SNR=21
K27K Chicken 69.72 22 P **P** 21 47 44.2 +1.2
baz=318
M24K Tolsona, Glenn 69.84 25 P **P** 21 47 45.3 +1.4
baz=315,SNR=11
R18K Karluk 69.87 31 P **P** 21 47 44.3 +0.3
baz=310
BRSE Bradley Lake S 69.88 28 P **P** 21 47 44.1 0.0
baz=313
HARP HAARP 69.97 24 P **P** 21 47 45.8 +1.2
baz=316,SNR=12
PWL Port Wells 69.99 27 P **P** 21 47 45.4 +0.7
PWL Port Wells 69.99 27 P **P** 21 47 45.4 +0.7
baz=314,SNR=20
ESDC Sonseca Array 70.03 305 P **P** 21 47 45.2 -0.2
ESDC IAmb IAmb 21 47 49.9
comp=Z,32nm,1.2s
ESDC Sonseca Array 70.03 305 P **P** 21 47 45.6 +0.2
comp=Z,7.6nm,0.9s,baz=52,slow=6.1,SNR=42
comp=Z,7.6nm,0.9s
L26K Log Cabin Wild 70.08 23 P **P** 21 47 45.8 +0.5
baz=317
SEW Seward 70.11 28 P **P** 21 47 45.6 +0.2
baz=313
ABPO Ambohimpanom 70.27 224 P **P** 21 47 47.6 +0.5
ABPO IAmb IAmb 21 48 59.2
comp=Z,72nm,1.9s
ABPO Ambohimpanom 70.27 224 P **P** 21 47 47.6 +0.5
ABPO pmax pmax
comp=Z,72nm,2.0s
KLU Klutina 70.37 25 P **P** 21 47 48.1 +1.0
baz=316,SNR=12
I30M Mount Dempster 70.38 19 P **P** 21 47 47.4 +0.2
baz=322,SNR=60
GLI Glacier Island 70.41 26 P **P** 21 47 47.9 +0.6
baz=315,SNR=8.7
H31M Peel River 70.42 18 P **P** 21 47 47.5 +0.1
baz=324,SNR=22
DAWY Dawson 70.47 21 P **P** 21 47 47.9 +0.2
DAWY IAmb IAmb 21 47 51.0
comp=Z,17nm,1.0s
DAWY Dawson 70.47 21 P **P** 21 47 48.2 +0.6
baz=320,SNR=8.2
KDAK Kodiak Island 70.49 31 LR LR 22 21 58.7
comp=Z,631nm,18.5s,baz=154,slow=39
KDAK Kodiak Island 70.49 31 P **P** 21 47 48.3 +0.5
baz=312
J29N Klondike Camp 70.49 20 P **P** 21 47 48.7 +0.9
baz=321
L27K Beaver Creek, 70.52 23 P **P** 21 47 49.5 +1.5
baz=318,SNR=46
BCAR Beaver Creek A 70.53 23 P **P** 21 47 49.3 +1.2
OHAK Old Harbor 70.58 31 P **P** 21 47 48.9 +0.6
baz=311
PBRG Braganca 70.60 308 *e*P **P** 21 47 49.6 +0.7
SII Sitkinak Islan 70.64 32 P **P** 21 47 49.6 +0.7
baz=311
M26K Nabesna, AK 70.65 24 P **P** 21 47 50.1 +1.3
baz=318,SNR=20
FID Port Fidalgo 70.71 26 P **P** 21 47 50.1 +1.0
N25K Chitina, Valde 70.72 25 P **P** 21 47 50.5 +1.2
baz=317,SNR=28
WB0 Warramunga Arr 70.77 137 P **P** 21 47 49.5 -0.5
WB0 IAmb IAmb 21 47 50.6
comp=Z,18nm,0.9s
WRAB Tennant Creek 70.88 137 P **P** 21 47 50.2 -0.4
WRAB IAmb IAmb 21 47 51.5
comp=Z,24nm,1.1s
WRAB Tennant Creek 70.88 137*c iP* **P** 21 47 50.4 -0.2
WRAB pmax pmax
comp=Z,24nm,1.1s
WRA Warramunga Arr 70.88 137 P **P** 21 47 50.4 -0.3
comp=Z,9.7nm,0.9s,baz=336,slow=6.2,SNR=19
comp=Z,9.7nm,0.9s
J30M Hart River 70.90 20 P **P** 21 47 51.0 +0.5
baz=322,SNR=14
P23K Montague Islan 70.92 27 P **P** 21 47 51.7 +1.3
baz=315,SNR=9.2
SFJD Kangerlussuaq 70.95 345 P **P** 21 47 50.0 -0.4
SFJD IAmb IAmb 21 50 03.9
comp=Z,69nm,1.8s
SFJD Kangerlussuaq 70.95 345 LR LR 22 22 20.4
comp=Z,126nm,18.9s,baz=32,slow=39
SFJD Kangerlussuaq 70.95 345 P **P** 21 47 50.0 -0.4
SFJD pmax pmax
comp=Z,69nm,1.8s
HIN Hinchinbrook I 70.95 26 P **P** 21 47 51.8 +1.1
M27K Edge Creek, AK 71.03 23 P **P** 21 47 53.0 +1.7
baz=319,SNR=22
MORW Morawa 71.08 157 P **P** 21 47 51.6 0.0
MORW IAmb IAmb 21 49 55.5
comp=Z,38nm,1.4s
GLB Gilahina Butte 71.10 24 P **P** 21 47 51.9 +0.3
GLB IAmb IAmb 21 47 53.7
comp=Z,21nm,1.2s
EYAK Cordova Ski Ar 71.11 26 P **P** 21 47 53.2 +1.7
baz=316,SNR=11
MVO Moncorvo 71.14 308 *e*P **P** 21 47 52.8 +0.6
K29M Barlow Dome 71.16 21 P **P** 21 47 52.8 +0.9
baz=322,SNR=24
BMRM Bremner River 71.19 25 P **P** 21 47 53.3 +1.2
baz=317,SNR=18
BVCY Beaver Creek 71.30 23 P **P** 21 47 54.2 +1.5
baz=319,SNR=11
COEN Coen 71.40 126 P **P** 21 47 52.7 -1.1
COEN Coen 71.40 126 P **P** 21 47 53.2 -0.7
comp=Z,21nm,1.6s
L29M L29M 71.57 21 P **P** 21 47 55.5 +1.1
baz=321,SNR=18
RAGM Ragged Mountai 71.59 26 P **P** 21 47 55.7 +1.2
YUK3 Moose Creek 71.91 23 P **P** 21 47 58.0 +1.4
baz=320,SNR=7.0
PVIS Viseu 71.93 308 *e*P **P** 21 47 57.8 +0.8
M29M Somme Creek 71.99 22 P **P** 21 47 58.2 +1.2
baz=321,SNR=28
KAIM Kayak Island 72.02 26 P **P** 21 47 58.6 +1.6
baz=317,SNR=7.3
WRKA Warakurna 72.15 145 P **P** 21 47 57.0 -1.3
comp=Z,12nm,0.4s
PMRV Marv??o 72.36 306 *e*P **P** 21 48 00.4 +0.9
YUK8 Steele Glacier 72.50 23 P **P** 21 48 01.1 +0.8
baz=320
MESA MESA 72.65 25 P **P** 21 48 02.6 +1.5
baz=319,SNR=15
O28M Mount Upton 72.77 24 P **P** 21 48 02.9 +1.1
baz=320
YUK4 Talbot Arm 72.80 23 P **P** 21 48 02.6 +0.6
baz=321
VOI Vohitsoka 72.85 223 P **P** 21 48 02.8 +0.2
VOI Vohitsoka 72.85 223 P **P** 21 48 02.9 +0.3
PBAR Barrancos 72.86 305 *e*P **P** 21 48 03.0 +0.6

N30M Aishikik Lake 73.17 22 P **P** 21 48 05.0 +1.0
baz=322,SNR=8.8
YUK6 Outpost Mounta 73.20 23 P **P** 21 48 05.1 +0.7
baz=322
PINM Pinnacle 73.27 24 P **P** 21 48 05.9 +1.4
baz=320,SNR=6.0
EVO Evora 73.28 306 *e*P **P** 21 48 05.5 +0.6
M31M Drury Creek, Y 73.34 20 P **P** 21 48 05.5 +0.6
baz=324
PBEJ Beja 73.48 306 *e*P **P** 21 48 06.5 +0.4
N31M Braeburn, Yuko 73.53 21 P **P** 21 48 06.9 +0.9
baz=323,SNR=18
HYT Haines Junctio 73.55 22 P **P** 21 48 07.2 +0.9
baz=322,SNR=14
FARO Faro, Yukon 73.60 20 P **P** 21 48 07.5 +1.0
baz=325
O29M Mount Kennedy 73.64 23 P **P** 21 48 07.4 +0.6
baz=322
AS31 Alice Springs 73.71 139 P **P** 21 48 07.1 -0.4
AS31 Alice Springs 73.71 139 P **P** 21 48 07.0 -0.5
comp=Z,5.7nm,0.8s
ASAR Alice Springs 73.71 139 P **P** 21 48 07.3 -0.2
ASAR Alice Springs 73.71 139 P **P** 21 48 07.5 -0.1
comp=Z,9.9nm,0.7s,baz=330,slow=6.1,SNR=33
comp=Z,9.9nm,0.7s
MESJ Messejana 73.81 306 *e*P **P** 21 48 09.2 +1.1
MMPY Sheldon Lake, 73.82 19 P **P** 21 48 09.0 +1.3
baz=327,SNR=9.5
MUN Mundaring 73.84 158 P **P** 21 48 08.4 +0.4
comp=Z,31nm,1.0s
PNL Peninsula 73.87 24 P **P** 21 48 09.5 +1.4
baz=321
O30N Mendenhall 74.01 22 P **P** 21 48 09.9 +1.0
baz=323,SNR=8.8
P30M Million Dollar 74.28 23 P **P** 21 48 11.4 +0.9
baz=323
QIS Mount Isa 74.31 133 P **P** 21 48 10.5 -0.5
comp=Z,16nm,1.8s
P29M Windy Craggy 74.43 23 P **P** 21 48 11.9 +0.5
baz=322
WHY Whitehorse 74.46 21 P **P** 21 48 11.6 0.0
WHY Whitehorse 74.46 21 P **P** 21 48 11.5 0.0
baz=324
N32M Quiet Lake 74.56 20 P **P** 21 48 12.1 0.0
baz=326
NRS Narsarsuaq 74.64 340 P **P** 21 48 12.0 -0.4
NRS Narsarsuaq 74.64 340 P **P** 21 48 12.0 -0.4
NRS pmax pmax
comp=Z,132nm,1.6s
NWAO Narrogin (SRO) 75.04 157 P **P** 21 48 13.6 -1.4
NWAO IAmb IAmb 21 48 46.2
comp=Z,56nm,1.4s
NWAO Narrogin (SRO) 75.04 157 LR LR 22 22 25.0
comp=Z,77nm,21.7s,baz=307,slow=37
NWAO Narrogin (SRO) 75.04 157 P **P** 21 48 14.6 -0.4
NWAO Narrogin (SRO) 75.04 157 P **P** 21 48 13.6 -1.4
NWAO pmax pmax
comp=Z,56nm,1.5s
WRGLY Wrigley 75.09 15 P **P** 21 48 16.0 +0.9
baz=333,SNR=5.9
MTSU Mount Surprise 75.26 128 P **P** 21 48 16.9 +0.2
comp=Z,8.3nm,0.9s
SKAG Skagway 75.30 22 P **P** 21 48 17.4 +1.1
baz=324,SNR=19
P33M Teslin, Yukon 75.41 21 P **P** 21 48 17.5 +0.4
baz=326,SNR=16
TGTN Hyland Airport 75.49 18 P **P** 21 48 18.5 +1.0
baz=329
P32M Atlin 75.67 22 P **P** 21 48 19.2 +0.7
baz=325,SNR=7.5
S31K Pelican 76.23 24 P **P** 21 48 22.7 +1.0
baz=324
R32K Eaglecrest 76.51 23 P **P** 21 48 24.0 +0.8
baz=325
Q32M Nakina River 76.61 21 P **P** 21 48 25.0 +0.9
baz=326,SNR=6.7
R33M Jennings River 76.61 21 P **P** 21 48 24.6 +0.6
baz=327,SNR=12
FRB Frobisher Bay 76.93 351 LR LR 22 25 23.1
comp=Z,76nm,18.4s,baz=50,slow=38
S32K Killisnoo 77.16 23 P **P** 21 48 27.8 +0.9
baz=325
SIT Sitka 77.26 24 P **P** 21 48 29.0 +1.6
baz=324
YKA Yellowknife Ar 77.41 12 P **P** 21 48 28.4 +0.2
YKA Yellowknife Ar 77.41 12 P **P** 21 48 28.5 +0.3
comp=Z,7.7nm,0.8s,baz=336,slow=5.4,SNR=98
YKA LR LR 22 25 45.2
comp=Z,114nm,19.9s,baz=304,slow=38
comp=Z,7.7nm,0.8s
DLBC Dease Lake 77.68 21 P **P** 21 48 30.6 +0.6
DLBC Dease Lake 77.68 21 LR LR 22 27 18.3
comp=Z,230nm,18.9s,baz=320,slow=39
DLBC Dease Lake 77.68 21 P **P** 21 48 31.2 +1.2
baz=328,SNR=6.4
S34M Telegraph Cree 77.82 21 P **P** 21 48 32.4 +1.8
baz=327,SNR=13
TOAD Toad River Com 78.58 18 P **P** 21 48 36.2 +1.3
baz=332,SNR=7.6
WRAK Wrangell Islan 78.71 23 P **P** 21 48 37.1 +1.6
baz=327
U33K Whale Pass 78.73 23 P **P** 21 48 36.5 +0.9
baz=326
T35M Bob Quinn 78.86 22 P **P** 21 48 38.5 +2.0
baz=328,SNR=8.3
CRAG Craig 79.27 24 P **P** 21 48 40.1 +1.5
baz=326
LSZ Lusaka 79.29 241 LR LR 22 27 03.1
comp=Z,115nm,18.6s,baz=149,slow=38
LSZ Lusaka 79.29 241 P **P** 21 48 39.9 +0.4
TORD Torodi Ar. Bea 81.36 280 P **P** 21 48 49.6 -1.0
TORD IAmb IAmb 21 48 53.0
comp=Z,21nm,1.4s
TORD Torodi Ar. Bea 81.36 280 P **P** 21 48 50.0 -0.6
comp=Z,6.2nm,0.4s,baz=31,slow=6.9,SNR=11
comp=Z,6.2nm,0.4s
FCC Fort Churchill 83.14 3 P **P** 21 48 57.8 -1.3
FCC Fort Churchill 83.14 3 P **P** 21 48 57.8 -1.3
FCC pmax pmax
comp=Z,10.0nm,1.1s
BBB Bella Bella 83.62 23 LR LR 22 30 40.5
comp=Z,125nm,20.8s,baz=318,slow=39
STKA Stephens Creek 84.32 139 P **P** 21 49 04.0 -1.5
STKA IAmb IAmb 21 49 05.2
comp=Z,24nm,0.8s
STKA Stephens Creek 84.32 139 P **P** 21 49 04.7 -0.8
comp=Z,5.0nm,0.7s,baz=335,slow=7.4,SNR=9.9
STKA LR LR 22 29 40.0
comp=Z,90nm,18.6s,baz=203,slow=38
comp=Z,5.0nm,0.7s
SCHQ Schefferville 85.23 347 P **P** 21 49 09.1 -0.8
SCHQ IAmb IAmb 21 49 23.2
comp=Z,26nm,1.6s
SCHQ Schefferville 85.23 347 P **P** 21 49 08.9 -1.0
comp=Z,4.5nm,0.8s,baz=34,slow=4.6,SNR=8.2
SCHQ LR LR 22 31 18.7
comp=Z,119nm,19.0s,baz=335,slow=38
comp=Z,4.5nm,0.8s
POGA Pongola 85.67 230 P **P** 21 49 11.7 -0.7
POGA IAmb IAmb 21 50 12.6
comp=Z,52nm,1.6s
CMSA Cobar Meteorol 86.25 136 P **P** 21 49 14.9 -0.2
comp=Z,16nm,0.9s
FFC Flin Flon 86.62 7 P **P** 21 49 15.4 -1.4
FFC IAmb IAmb 21 49 17.5
comp=Z,18nm,1.1s
FFC Flin Flon 86.62 7 P **P** 21 49 15.4 -1.4
FFC pmax pmax
comp=Z,19nm,1.2s
LBTB Lobatse 87.83 236 P **P** 21 49 22.2 -0.8
LBTB IAmb IAmb 21 49 25.6
comp=Z,34nm,1.6s
LBTB Lobatse 87.83 236 LR LR 22 28 12.8
comp=Z,122nm,18.1s,baz=169,slow=35
LBTB Lobatse 87.83 236 P **P** 21 49 22.2 -0.8
LBTB pmax pmax
comp=Z,34nm,1.6s
TSUM Tsumeb 89.37 245 LR LR 22 31 52.7
comp=Z,102nm,18.1s,baz=64,slow=37
LTY Liberty 90.21 21 P **P** 21 49 33.9 -0.1
LTY IAmb IAmb 21 49 39.4
comp=Z,53nm,1.9s
NEW Newport 90.22 18 LR LR 22 35 17.4
comp=Z,140nm,18.4s,baz=344,slow=39
C09A Chrisman Ranch 90.36 19 P **P** 21 49 34.8 +0.1
C09A IAmb IAmb 21 49 37.0
comp=Z,23nm,1.1s

DBIC Dimbokro 90.41 279 P **P** 21 49 34.6 -0.8
DBIC IAmb IAmb 21 49 36.7
comp=Z,15nm,0.8s
DBIC Dimbokro 90.41 279 P **P** 21 49 34.7 -0.7
comp=Z,11nm,0.7s,baz=42,slow=5.6,SNR=14
DBIC LR LR 22 37 14.9
comp=Z,150nm,18.1s,baz=106,slow=40
comp=Z,11nm,0.7s
BOSA Boshof 90.55 233 P **P** 21 49 34.4 -1.4
comp=Z,2.7nm,1.0s,baz=34,slow=3.6,SNR=1.8
BOSA LR LR 22 29 24.4
comp=Z,167nm,19.2s,baz=92,slow=35
comp=Z,2.7nm,1.0s
ULM Lac du Bonnet 91.56 4 P **P** 21 49 38.8 -1.3
comp=Z,2.9nm,0.9s,baz=11,slow=6.5,SNR=4.0
ULM LR LR 22 32 20.0
comp=Z,114nm,20.1s,baz=308,slow=36
comp=Z,2.9nm,0.9s
DZM Mont Dzumac 92.79 116 *e*LR LR 22 19 33.7
comp=Z,276nm,26.8s
LMN Caledonia Moun 93.37 343 P **P** 21 49 47.7 -1.0
LMN IAmb IAmb 21 49 48.8
comp=Z,25nm,1.3s
PLID Pearl Lake 93.46 19 P **P** 21 49 48.7 -0.7
PLID IAmb IAmb 21 49 52.3
comp=Z,8.8nm,1.1s
YBH Yreka Blue Hor 94.59 25 LR LR 22 34 11.9
comp=Z,113nm,19.4s,baz=328,slow=37
SUR Sutherland 95.91 233 LR LR 22 32 43.3
comp=Z,161nm,18.1s,baz=144,slow=35
SADO Sadowa 96.76 353 LR LR 22 36 25.1
comp=Z,74nm,18.2s,baz=20,slow=37
PDAR Pinedale Array 97.13 15 LR LR 22 38 27.3
comp=Z,104nm,21.7s,baz=320,slow=38
MSVF Nonsavu 98.61 106 LR LR 22 34 52.6
comp=Z,70nm,19.0s,baz=335,slow=36
NVAR Mina Array Bea 98.99 23 LR LR 22 36 38.7
comp=Z,115nm,20.6s,baz=326,slow=36
VNDA Vanda 123.19 166 PKP **PKPdf** 21 55 27.5 -1.4
comp=Z,1.5nm,0.9s,baz=300,slow=3.3,SNR=4.8
PPT2 Papeete2 123.71 86 *e*LR LR 22 33 46.8
comp=Z,126nm,22.5s
PPT2 *e*LR LR 22 33 47.4
comp=Z,168nm,28.5s
TROLL Troll, Antarti 125.49 202 ⇓PKPdf **PKPdf** 21 55 33.9 +0.2
comp=Z,346nm,0.8s
TAOE Nuku Hiva Isla 125.65 71 *e*LR LR 22 34 40.0
comp=Z,131nm,23.2s
TBI Tubuai 126.92 92 *e*LR LR 22 35 18.9
comp=Z,726nm,28.2s
SNAA Sanae 127.06 203 ⇓PKPdf **PKPdf** 21 55 35.3 -1.3
comp=Z,55nm,0.9s
SNAA Sanae 127.06 203 PKP **PKPdf** 21 55 36.0 -0.6
comp=Z,1.7nm,0.9s,baz=180,slow=5.1,SNR=3.7
SNAA Sanae 127.06 203 PKIKP **PKPdf** 21 55 36.0 -0.6
QSPA South Pole Qui 128.13 180 PKP **PKPdf** 21 55 37.6 -1.2
comp=Z,11nm,1.1s,baz=315,slow=1.8,SNR=8.2
VNA2 Neumayer--Watz 128.39 205 ⇓PKPdf **PKPdf** 21 55 39.4 +0.3
comp=Z,7.3nm,0.7s,baz=51,slow=1.8
VNA1 Neumayer--Stat 128.65 205 ⇓PKPdf **PKiKP** 21 55 41.2 +1.0
comp=Z,6.9nm,0.9s
VNA3 Neumayer Olymp 129.16 204 ⇓PKPdf **PKPdf** 21 55 40.0 -0.5
comp=Z,6.1nm,0.7s
TBTG Tabatinga, AM 141.75 328 *e*P **PKPdf** 21 56 06.5 +0.8
SALV Santo Antonio 143.11 298 *e*P **PKPdf** 21 56 08.8 +0.8
FRTB Fartura 143.21 282 *e*P **PKPdf** 21 56 07.7 -0.4
PTLB Pontes e Lacer 145.13 303 *e*P **PKPdf** 21 56 11.6 +0.1
PTGB Pitanga 145.88 283 *e*P **PKPbc** 21 56 13.3 0.0
BDQN Bodoquena, MS 146.88 293 *e*P **PKPdf** 21 56 15.0 +0.6
MURT Porto Murtinho 148.26 293 *e*P **PKPdf** 21 56 17.0 +0.4
CPUP Villa Florida 150.75 285 PKP **PKPdf** 21 56 20.3 -0.2
comp=Z,6.6nm,1.0s,baz=109,slow=2.3,SNR=5.5
CPUP PKPbc **pPKPdf** 21 56 25.2 -0.3
comp=Z,18nm,0.9s,baz=56,slow=2.1,SNR=26
LPAZ La Paz 151.32 314 PKP **PKPdf** 21 56 22.0 -0.4
comp=Z,3.0nm,0.8s,baz=7.7,slow=7.6,SNR=5.1
LPAZ PKPbc **pPKPdf** 21 56 27.4 0.0
comp=Z,3.0nm,0.8s,baz=8.5,slow=11,SNR=7.1
PB16 IPOC Station P 153.74 314 **PKPbc** 21 56 31.9 -1.8
PB16 **PKPab** 21 56 46.4 0.0

*ISK **27** 21:37:23.7, 34.°69N×32.°65E, h10km, ML3.6/26*
*GRAL **27** 21:37:23.4±0.3, 34.°33N×34.°26E, h346km±22km, MD3.5*
*NIC **27** 21:37:25.4, 34.°79N×32.°74E, h22km±1km, Ml3.0/9*
*GII **27** 21:37:25.4±0.0, 34.°767N±0.°003×32.°667E±0.°001,*
h10km, Mws3.1/8, confirmed
*AFAD **27** 21:37:26.1, 34.°71N×32.°58E, h8km±1km, MW3.6*
*IDC **27** 21:37:28.5±1.6, 34.°60N×32.°54E, h58km±31km, mb3.4/2,*
mbtmp3.5/9, ML3.4/6, Error ellipse: s-maj=19.1km
s-min=10.3km az=63.0

ISC 27 21:37:26.0±0.9, 34.°77N±0.°02×32.°70E±0.°02, h18km±4km,
n131, σ1$32/167, 4C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NATA	**Nata**	**0.11**	**275**	⇑*iP*		**Pg**	**21 37 29.7**	**0.0**
NATA					S	**Sg**	**21 37 33.6**	**+1.4**
NATA					AML	AML	21 37 36.2	
	34nm,0.3s							
NATA					AML	AML	21 37 36.8	
	56nm,0.2s							
APOL	**The Sanctuary**	**0.17**	**126**	⇑*iP*		**Pg**	**21 37 30.3**	**-0.1**
APOL					S	**Sg**	**21 37 34.2**	**+0.8**
APOL					AML	AML	21 37 34.9	
	76nm,0.4s							
APOL					AML	AML	21 37 35.9	
	46nm,0.2s							
LEF	**Lefka**	**0.38**	**24**	Pg		**Pg**	**21 37 33.1**	**-0.8**
LEF				Sg		**Sb**	**21 37 39.6**	**-0.3**
LEF	**Lefka**	**0.38**	**24**	P		**Pb**	**21 37 34.9**	**+0.6**
AKMS	**Akamas**	**0.39**	**310**	⇑*eP*		**Pb**	**21 37 34.2**	**-0.2**
AKMS					S	**Sb**	**21 37 40.7**	**+0.6**
AKMS					AML	AML	21 37 45.2	
	6.0nm,0.3s							
AKMS					AML	AML	21 37 45.3	
	3.9nm,0.2s							
ALFC	**Alefka**	**0.39**	**348**	P		**Pg**	**21 37 33.3**	**-0.9**
ALFC					S	**Sb**	**21 37 40.1**	**-0.1**
ALFC					AML	AML	21 37 45.3	
	6.4nm,0.3s							
ALFC					AML	AML	21 37 46.8	
	6.5nm,0.3s							
ASGA	**Asgata**	**0.45**	**88**	⇑*iP*		**Pb**	**21 37 34.4**	**-1.0**
ASGA					S	**Sg**	**21 37 40.9**	**-0.4**
ASGA					AML	AML	21 37 43.8	
	6.7nm,0.3s							
ASGA					AML	AML	21 37 45.2	
	8.4nm,0.5s							
CSS	**Mathiatis**	**0.55**	**70**	Pg		**Pg**	**21 37 35.8**	**-1.2**
CSS				Sg		**Sb**	**21 37 45.4**	**+0.7**
CSS	**Mathiatis**	**0.55**	**70**	P		**Pg**	**21 37 36.0**	**-1.0**
CSS	**Mathiatis**	**0.55**	**70**	⇓*iP*		**Pg**	**21 37 35.9**	**-1.2**
CSS					S	**Sg**	**21 37 43.0**	**-1.5**
CSS					AML	AML	21 37 47.9	
	5.2nm,0.5s							
CSS					AML	AML	21 37 48.6	
	3.4nm,0.6s							
AKDN	**Akdeniz- Kıbrı**	**0.57**	**23**	Pg		**Pb**	**21 37 37.2**	**-0.2**
AKIN	**Akıncılar- Kıb**	**0.68**	**69**	Pg		**Pb**	**21 37 38.9**	**-0.3**
AKIN				Sg		**Sb**	**21 37 49.6**	**+1.4**
ATHAL	**Athalassa**	**0.68**	**57**	P		**Pb**	**21 37 38.7**	**-0.6**
ATHAL					S	**Sb**	**21 37 48.2**	**-0.2**
ATHAL					AML	AML	21 37 58.1	
	4.7nm,0.5s							
ATHAL					AML	AML	21 37 59.3	
	4.6nm,0.9s							
MVOU	**Mavrovouni**	**0.80**	**72**	P		**Pg**	**21 37 40.0**	**-1.7**
MVOU					S	**Sb**	**21 37 52.5**	**+0.5**
MVOU					AML	AML	21 37 58.3	
	1.5nm,0.7s							
MVOU					AML	AML	21 37 58.9	
	1.9nm,0.4s							
LFK	**Lefkose**	**0.85**	**53**	Pg		**Pg**	**21 37 41.7**	**-0.9**
PARAL	**Paralimni**	**1.12**	**78**	P		**Pn**	**21 37 48.5**	**+1.7**
PARAL					S	**Sg**	**21 38 01.4**	**-1.1**
PARAL					AML	AML	21 38 14.8	
	2.3nm,0.6s							
PARAL					AML	AML	21 38 15.1	
	2.4nm,1.0s							
BOZY	**Bozyazi-Mersin**	**1.35**	**10**	Pn		**Pg**	**21 37 51.0**	**-1.1**
TEKE	**Tekeli-Mersin**	**1.41**	**14**	Pn		**Pn**	**21 37 50.8**	**0.0**
TEKE				Sn		**Sg**	**21 38 11.5**	**-0.1**
EREN	**Erenkoy**	**1.42**	**57**	Pn		**Pn**	**21 37 51.4**	**+0.5**
GAZI	**Gazipasa**	**1.49**	**348**	Pn		**Pb**	**21 37 52.7**	**-0.5**

GAZI				Sn	Sg	21 38 12.8	-1.5
GAZI	**Gazipasa**	**1.49**	**348**	P	Pn	21 37 51.8	-0.1
GAZI				S	Sn	21 38 11.8	+0.7
YORU	**Yoruktepe-Mers**	**1.50**	**22**	Pn	Pn	21 37 52.4	+0.4
AKK1	**Akkuyu-Mersin**	**1.53**	**26**	Pn	Pn	21 37 53.0	+0.6
AKKU	**Akkuyu-Mersin**	**1.55**	**26**	Pn	Pn	21 37 52.4	-0.3
AKKU				Sn	Sg	21 38 14.9	-1.1
OREN	**Orenkoy-Mersin**	**1.56**	**23**	Pn	Pn	21 37 53.0	+0.2
GULN	**MERSIN_Gulnar**	**1.57**	**26**	P	Pn	21 37 52.6	-0.4
GULN				S	Sb	21 38 14.8	+0.8
TISA	**Tisan-Mersin**	**1.60**	**30**	Pn	Pn	21 37 53.6	+0.2
TEPK	**Tepekoy-MERSIN**	**1.61**	**25**	Pn	Pn	21 37 53.6	+0.1
YESI	**Yesilovacik-Me**	**1.62**	**28**	Pn	Pn	21 37 54.3	+0.7
BERE	**Bereket-Mersin**	**1.63**	**15**	Pn	Pn	21 37 53.9	0.0
IKL	**Isikli**	**1.67**	**28**	Pn	Pn	21 37 54.7	+0.4
TEVE	**Tevekalti-Mers**	**1.77**	**20**	Pn	Pn	21 37 56.5	+0.7
ALAN	**Alanya-ANTALYA**	**1.86**	**343**	Pn	Pn	21 37 57.5	+0.5
KEBE	**Keben-Mersin**	**1.87**	**26**	Pn	Pn	21 37 57.1	0.0
ERMK	**Ermenek**	**1.88**	**5**	P	Pb	21 37 59.6	-0.2
ERMK				S	Sb	21 38 24.2	+1.2
SILI	**Silifke-Mersin**	**1.88**	**32**	Pn	Pn	21 37 58.1	+0.9
SLFK	**Silifke-Mersin**	**1.91**	**32**	Pn	Pn	21 37 58.5	+0.9
KIZK	**Mersin**	**2.07**	**34**	Pn	Pn	21 38 00.7	+0.8
KIZK	**Mersin**	**2.07**	**34**	P	Pn	21 38 01.5	+1.7
KIZK				S	Sb	21 38 28.3	-0.2
HDMB	**Hadim**	**2.20**	**356**	Pn	Pn	21 38 02.4	+0.6
MNVG	**Manavgat-Antal**	**2.27**	**333**	Pn	Pn	21 38 03.2	+0.6
KEPZ	**Antalya-Kepez**	**2.31**	**338**	P	Pn	21 38 04.0	+0.9
KEPZ				S	Sb	21 38 34.2	-1.1
KRMN	**Karaman**	**2.44**	**11**	Pn	Pn	21 38 06.0	+1.0
KKBE	**Karaman, Kazim**	**2.45**	**4**	P	Pb	21 38 08.7	-0.9
KKBE				S	Sb	21 38 41.0	+1.4
AKUM	**Antalya-Kumluc**	**2.47**	**310**	P	Pb	21 38 09.5	-0.3
AKUM				S	Sg	21 38 48.4	+3.0
MERS	**Mersin**	**2.56**	**35**	Pn	Pn	21 38 07.9	+1.2
BHL	**Bhannes**	**2.59**	**109**	*e*P	Pn	21 38 08.8	+1.7
HNTI	**Hanita**	**2.66**	**129**	P	Pn	21 38 07.2	-0.7
HNTI	**Hanita**	**2.66**	**129**	P	Pn	21 38 08.0	+0.1
SEYD	**Seydisehir-KON**	**2.72**	**345**	Pn	Pn	21 38 09.8	+0.9
HWQ	**Hawqa**	**2.73**	**99**	*e*P	Pn	21 38 09.8	+0.8
QRWL	**Qaraoun**	**2.76**	**115**	*e*P	Pn	21 38 09.8	+0.4
DED	**Mersin**	**2.77**	**37**	P	Pn	21 38 11.9	+2.4
DED				S	Sn	21 38 46.1	+3.5
SEDI	**Konya, Seydise**	**2.78**	**344**	P	Pb	21 38 13.1	-2.1
SEDI				S	Sb	21 38 48.3	-0.8
ZAHL	**Zahle**	**2.79**	**108**	*e*P	Pn	21 38 09.8	-0.1
MMC1	**Mount Meron ar**	**2.84**	**127**	P	Pn	21 38 10.5	0.0
MMA0B	**Mount Meron ar**	**2.85**	**127**	P	Pn	21 38 10.6	0.0
MMA0B	**Mount Meron ar**	**2.85**	**127**	S	Sn	21 38 45.3	+0.8
MMAI	**Mount Meron Ar**	**2.85**	**127**	P	Pn	21 38 10.6	0.0
	14nm,0.3s,baz=302,slow=13,SNR=66						
MMAI				S	Sn	21 38 44.4	-0.1
	11nm,0.3s,baz=299,slow=29,SNR=17						
	5.9nm,0.3s						
MMB1	**Mount Meron ar**	**2.85**	**127**	P	Pn	21 38 10.5	-0.2
OFRI	**`Ofer**	**2.87**	**138**	P	Pn	21 38 10.5	-0.3
OFRI	**`Ofer**	**2.87**	**138**	S	Sn	21 38 45.1	+0.2
OFRI	**`Ofer**	**2.87**	**138**	P	Pn	21 38 10.5	-0.3
KERG	**Konya-Eregli**	**2.88**	**23**	P	Pn	21 38 14.1	+3.0
KERG				S	Sb	21 38 51.6	-0.3
BEIL	**Beino**	**2.88**	**94**	*e*P	Pn	21 38 11.0	-0.1
BEIL				*e*S	Sn	21 38 45.8	+0.6
RCY	**Rachaya**	**2.89**	**115**	*e*P	Pn	21 38 10.5	-0.8
RCY				*e*S	Sn	21 38 45.7	-0.1
SHBL	**Chebaa**	**2.90**	**118**	*e*P	Pn	21 38 10.8	-0.6
BLGI	**Bet Lehem HaGe**	**2.90**	**134**	P	Pn	21 38 11.4	+0.1
BLGI	**Bet Lehem HaGe**	**2.90**	**134**	S	Sn	21 38 46.3	+0.6
GEM	**Giv'at Ha'Em**	**2.91**	**121**	P	Pn	21 38 12.1	+0.7
GEM	**Giv'at Ha'Em**	**2.91**	**121**	S	Sn	21 38 47.4	+1.4
GEM	**Giv'at Ha'Em**	**2.91**	**121**	P	Pn	21 38 11.7	+0.3
NATI	**Neve Ativ**	**2.94**	**120**	P	Pn	21 38 12.1	+0.4
GULE	**Gulek**	**3.02**	**33**	P	Pn	21 38 16.2	+3.1
GULE				S	Sb	21 38 54.2	-1.8
YESY	**Yesilyurt**	**3.12**	**15**	Pn	Pn	21 38 15.9	+1.5
KARA	**Karaisali**	**3.13**	**37**	Pn	Pn	21 38 16.1	+1.6
KSHT	**Keshet**	**3.14**	**124**	P	Pn	21 38 15.6	+1.0
KSHT	**Keshet**	**3.14**	**124**	S	Sn	21 38 53.4	+1.7
KONT	**Konya--Tatoy**	**3.18**	**355**	P	Pb	21 38 19.2	-2.8
KONT				S	Sb	21 39 00.2	-0.2
MML1	**Mount Malkishu**	**3.25**	**135**	Pn	Pn	21 38 16.0	-0.1
MMLI	**Mount Malkishu**	**3.25**	**135**	P	Pn	21 38 16.0	-0.1
MMLI	**Mount Malkishu**	**3.25**	**135**	S	Sn	21 38 55.7	+1.3
TAHT	**Tahtakopru-Hat**	**3.26**	**60**	Pn	Pn	21 38 17.6	+1.4
CEYT	**Ceyhan**	**3.33**	**47**	Pn	Pn	21 38 18.8	+1.6
QRNJ	**Al-Qirein**	**3.42**	**135**	P	Pn	21 38 19.0	+0.7
CMRD	**Camardi-Nigde**	**3.43**	**32**	Pn	Pn	21 38 20.2	+1.6
HMDT	**Nahal Hemdat**	**3.45**	**136**	P	Pn	21 38 19.5	+0.7
HMDT	**Nahal Hemdat**	**3.45**	**136**	S	Sn	21 39 00.5	+1.4
FETY	**Fethiye**	**3.48**	**303**	P	Pn	21 38 19.9	+0.6
GOLH	**Golhisar**	**3.54**	**315**	P	Pn	21 38 21.6	+1.5
CAEL	**Denizli, Camel**	**3.61**	**312**	P	Pn	21 38 23.1	+2.0
CAEL				S	Sg	21 39 21.8	-0.2
UJAP	**Al Uja**	**3.64**	**140**	Pn	Pn	21 38 21.7	+0.3
UJAP	**Al Uja**	**3.64**	**140**	P	Pn	21 38 23.4	+2.1
SABU	**Mula-Dalaman**	**3.66**	**305**	P	Pn	21 38 21.7	0.0
AMAZ	**Amatzia**	**3.73**	**149**	P	Pn	21 38 23.2	+0.6
AMAZ	**Amatzia**	**3.73**	**149**	S	Sn	21 39 07.6	+1.5
INCE	**Denizli-Bozkur**	**3.87**	**320**	P	Pn	21 38 26.2	+1.5
DNZT	**Denizli-Tavas-**	**3.89**	**311**	P	Pn	21 38 25.6	+0.6
DNZT				S	Sg	21 39 29.3	-1.6
DSI	**Dead Sea**	**3.90**	**144**	P	Pn	21 38 25.6	+0.6
DSI	**Dead Sea**	**3.90**	**144**	S	Sn	21 39 11.6	+1.2
DSI	**Dead Sea**	**3.90**	**144**	P	Pn	21 38 25.9	+0.9
YTIR	**Yattir**	**3.96**	**148**	P	Pn	21 38 26.6	+0.7
YTIR	**Yattir**	**3.96**	**148**	S	Sn	21 39 12.8	+0.9
TAVA	**DENIZLI_Tavas**	**4.08**	**312**	P	Pn	21 38 28.5	+0.9
TAVA				S	Sg	21 39 33.7	-3.2
MSBI	**Mazada**	**4.11**	**146**	P	Pn	21 38 28.8	+1.0
DNIZ	**Denizli-Tavas-**	**4.11**	**315**	P	Pn	21 38 29.7	+1.8
KZIT	**Kziot**	**4.11**	**159**	P	Pn	21 38 28.0	+0.1
KZIT	**Kziot**	**4.11**	**159**	S	Sn	21 39 16.0	+0.4
GHAJ	**Ghor Haditha**	**4.21**	**144**	P	Pn	21 38 31.3	+2.0
LISJ	**El Lisan**	**4.22**	**146**	P	Pn	21 38 31.7	+2.3
MULA	**Mugla, Merkez-**	**4.33**	**306**	P	Pn	21 38 31.4	+0.4
ASF	**Jabal al Asfar**	**4.36**	**125**	P	Pn	21 38 32.7	+1.3
	1.8nm,0.3s,baz=340,slow=8.6,SNR=16						
ASF				S	Sn	21 39 26.7	+4.8
	2.4nm,0.3s,baz=300,slow=7.1,SNR=3.1						
	3.7nm,0.3s						
ASF	**Jabal al Asfar**	**4.36**	**125**	P	Pn	21 38 33.3	+1.9
ESEN	**Aydn-Nazilli**	**4.63**	**312**	P	Pn	21 38 35.4	+0.4
PRNI	**Paran**	**4.82**	**156**	P	Pn	21 38 38.0	+0.4
PRNI	**Paran**	**4.82**	**156**	P	Pn	21 38 38.1	+0.4
KRMI	**Paran Flat**	**4.95**	**159**	P	Pn	21 38 39.9	+0.5
KRMI	**Paran Flat**	**4.95**	**159**	S	Sn	21 39 36.8	+0.6
KRMI	**Paran Flat**	**4.95**	**159**	P	Pn	21 38 42.1	+2.7
BRTR	**Keskin Array B**	**5.00**	**8**	P	Pn	21 38 43.9	+3.6
	0.3nm,0.3s,baz=193,slow=15,SNR=11						
BRTR				S	Sn	21 39 43.1	+5.4
	2.8nm,0.8s,baz=182,slow=25,SNR=6.5						
	1.7nm,0.6s						
HRFI	**Mount Harif**	**5.12**	**157**	P	Pn	21 38 42.3	+0.5
HRFI	**Mount Harif**	**5.12**	**157**	S	Sn	21 39 41.0	+0.6
HRFI	**Mount Harif**	**5.12**	**157**	P	Pn	21 38 42.7	+0.9
MBRI	**Mt Berech**	**5.30**	**159**	P	Pn	21 38 45.2	+0.8
MBRI	**Mt Berech**	**5.30**	**159**	P	Pn	21 38 46.8	+2.4
EIL	**Elat**	**5.43**	**159**	P	Pn	21 38 47.3	+1.3
	2.9nm,0.3s,baz=275,slow=3.4,SNR=23						
EIL				S	Sn	21 39 46.5	-1.6
	12nm,0.4s,baz=75,slow=14,SNR=7.3						
	8.3nm,0.4s						
IDI	**Anoyia**	**6.43**	**277**	P	Pn	21 38 58.6	-1.2
	3.7nm,0.3s,baz=256,slow=1.9,SNR=31						
AKASG	**Malin Array Be**	**16.12**	**352**	P	Pn	21 41 12.8	+1.2
	0.4nm,0.3s,baz=174,slow=10,SNR=4.5						
	0.3nm,0.5s						
GERES	**GERESS Array B**	**19.88**	**321**	P	P	21 41 55.9	-0.4
	baz=138,slow=9.0,SNR=8.7						
	0.2nm,0.3s						
DAVOX	**Davos/Dischmat**	**20.95**	**312**	P	P	21 42 07.5	-0.6
	1.6nm,0.7s,baz=141,slow=17,SNR=3.7						
	1.6nm,0.7s						
FINES	**FINESS Array B**	**27.03**	**353**	P	P	21 43 05.3	-1.4
	0.7nm,0.6s,baz=150,slow=9.6,SNR=3.9						
	0.7nm,0.6s						

*IDC **27** 21:42:01.4±4.0, 1°.80N×127°.76E, h122km±34km, mb3.8/6, mbtmp4.2/8, MS2.7/1, Error ellipse: s-maj=50.7km s-min=12.3km az=69.0*
*NEIC **27** 21:42:03±1.8, 1°.8N±0°.1×127°.5E±0°.1, h131km±6km, mb4.3/14, Error ellipse: s-maj=17.7km s-min=14.2km az=208.0*
*DJA **27** 21:42:04.5±1.0, 2°.N±2°.×12°.7E±°, h26km±10km, M4.6/14, mb4.9/9, mB5.1/6, MLv4.5/14, Mw(mB)4.5/6*

ISC 27 21:42:00.8±0.8, 1.79N±0°.06×127°.53E±0°.07, h112km, n42, σ1§93/47, mb4.2/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**189**	Pn	Pn	21 42 26.4	+3.9
TNTI				Sn	Sn	21 42 41.2	+2.4
TNTI	**Ternate**	**1.03**	**189**	P	Pn	21 42 21.2	-1.2
SGSI	**Sangihe**	**2.75**	**313**	P	Pn	21 42 46.2	+2.7
SGSI				S	Sn	21 43 17.7	+1.3
KMSI	**Cibinong**	**3.75**	**251**	P	Pn	21 42 59.0	+2.2
KMSI				S	Sn	21 43 41.1	+0.9
SANI	**Sanana**	**4.12**	**202**	P	Pn	21 43 02.7	+0.9
NLAI	**Namlea**	**5.02**	**185**	P	Pn	21 43 16.0	+2.1
MSAI	**Masohi**	**5.29**	**165**	P	Pn	21 43 20.6	+3.0
	0.2nm54nm,0.7s						
LUWI	**Luwuk**	**5.53**	**239**	Pn	Pn	21 43 23.2	+2.4
LUWI	**Luwuk**	**5.53**	**239**	P	Pn	21 43 24.2	+3.4
	1.0nm2μm103nm,0.6s						
MRSI	**Marisa**	**5.74**	**257**	P	Pn	21 43 26.4	+2.8
	0.3nm54nm,0.4s						
FAKI	**Fak Fak**	**6.64**	**135**	Pn	Pn	21 43 39.6	+3.6
TOLI2	**Tolitoli**	**6.78**	**264**		Pn	21 43 38.3	+0.6
PCI	**Palu**	**8.14**	**251**	P	Pn	21 43 58.5	+2.2
	0.1nm29nm,0.7s						
TTSI	**Tana Toraja**	**9.08**	**238**	P	Pn	21 44 09.6	+0.6
	734nm88nm,0.6s						
SPSI	**Sidrap Palu**	**9.64**	**234**	P	Pn	21 44 18.4	+1.9
BKSI	**Bulukumba**	**10.23**	**226**	P	Pn	21 44 28.1	+3.5
	54nm,0.6s						
KAPI	**Kappang**	**10.30**	**229**		Pn	21 44 27.6	+2.1
KAPI	**Kappang**	**10.30**	**229**	P	Pn	21 44 28.4	+2.9
	23nm,0.5s,baz=329,slow=2.9,SNR=12						
KAPI				S	Sn	21 46 14.3	-4.8
	14nm,0.4s,baz=169,slow=23,SNR=6.3						
KAPI				LR	LR	21 48 38.0	
	comp=Z,42nm,18.8s,baz=212,slow=38						
JAGI	**Jajag, Banyuwa**	**16.79**	**232**	P	P	21 45 50.4	+0.8
JAGI				IAmb	IAmb	21 45 55.2	
	comp=Z,13nm,0.8s						
UGM	**Wanagama**	**19.51**	**240**	P	P	21 46 19.8	+0.4
FITZ	**Fitzroy Crossi**	**19.85**	**185**	P	P	21 46 22.9	-0.2
FITZ	**Fitzroy Crossi**	**19.85**	**185**	P	P	21 46 22.2	-0.8
	comp=Z,2.2nm,1.0s,baz=14,slow=4.8,SNR=5.2						
COEN	**Coen**	**22.03**	**136**	P	P	21 46 45.8	-0.7
WB0	**Warramunga Arr**	**22.46**	**163**		P	21 46 50.1	-0.8
WB0				IAmb	IAmb	21 46 50.7	
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**22.61**	**163**	P	P	21 46 50.1	-2.3
WRA	**Warramunga Arr**	**22.61**	**163**	P	P	21 46 51.3	-1.0
	comp=Z,12nm,0.5s,baz=344,slow=11,SNR=133						
WRA				S	S	21 50 50.5	-1.5
	comp=Z,0.7nm,0.7s,baz=347,slow=19,SNR=3.1						
	comp=Z,12nm,0.5s						
MYKOM	**Kota Tinggi**	**23.67**	**270**	P	P	21 47 01.7	-0.6
MYKOM				IAmb	IAmb	21 47 25.7	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**26.05**	**167**	P	P	21 47 23.1	-0.8
AS31				IAmb	IAmb	21 47 23.6	
	comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**26.05**	**167**	P	P	21 47 22.9	-1.0
ASAR	**Alice Springs**	**26.05**	**167**	P	P	21 47 23.3	-0.6
	comp=Z,2.8nm,0.5s,baz=349,slow=7.4,SNR=60						
	comp=Z,2.8nm,0.5s						
BBOO	**Buckleboo**	**35.35**	**168**	P	P	21 48 44.0	-1.5
STKA	**Stephens Creek**	**36.05**	**159**	P	P	21 48 51.3	-0.2
STKA	**Stephens Creek**	**36.05**	**159**	P	P	21 48 51.0	-0.6
	comp=Z,5.9nm,0.6s,baz=332,slow=8.6,SNR=17						
	comp=Z,5.9nm,0.6s						
MK31	**Makanchi Array**	**59.59**	**326**	P	P	21 51 52.6	-0.3
MK31				IAmb	IAmb	21 51 58.0	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**59.59**	**326**	P	P	21 51 53.1	+0.2
MKAR	**Makanchi Array**	**59.59**	**326**	P	P	21 51 53.3	+0.4
	comp=Z,0.8nm,0.4s,baz=110,slow=7.8,SNR=9.0						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	P	21 52 21.1	+0.2
	comp=Z,0.9nm,0.6s,baz=126,slow=6.7,SNR=10						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**63.79**	**328**	P	P	21 52 20.7	-0.2
KURK				IAmb	IAmb	21 52 24.9	
	comp=Z,4.4nm,1.1s						
GAR	**Garm**	**63.82**	**313**	P	P	21 52 21.7	+0.2
GAR				IAmb	IAmb	21 52 22.5	
	comp=Z,3.7nm,1.2s						
BTK	**Batken**	**63.84**	**314**	P	P	21 52 21.0	-0.6
BTK				IAmb	IAmb	21 52 24.9	
	comp=Z,6.6nm,1.4s						
BVAR	**Borovoye Array**	**69.37**	**327**	P	P	21 52 56.6	+0.2
	comp=Z,0.3nm,0.5s,baz=148,slow=8.5,SNR=1.6						
	comp=Z,0.3nm,0.5s						
ABKAR	**Akbulak array**	**74.15**	**321**	P	P	21 53 24.0	-1.0

HEL 27 21:44:15.6±0.6, 67°.85N×20°.28E, h0km, ML1.1, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.68**	**72**	PG	Pg	21 44 26.5	-2.1
LANU				SG	Sg	21 44 36.7	-0.6
KIF	**Kilpisjarvi**	**1.18**	**9**	PN	Pn	21 44 39.6	+0.3
KIF				MSG		21 44 52.4	
	comp=Z,2.1nm,0.2s						
KIF				SG	Sg	21 44 52.5	-0.9
HEF	**Hetta**	**1.39**	**64**	MSG		21 44 57.3	
	comp=Z,1.8nm,0.2s						
HEF				SN	Sn	21 45 01.6	+0.4
ERTU	**Ertsjaerv**	**1.50**	**149**	SG	Sg	21 45 01.3	-2.3
KLF	**Kolari**	**1.54**	**112**	SG	Sn	21 45 00.2	-4.8
KLF				MSG		21 45 01.7	
	comp=Z,1.0nm,0.2s						
KTK1	**Kautokeino**	**1.60**	**42**	PN	Pg	21 44 46.3	+0.1
KTK1				SN	Sg	21 45 06.9	-0.1
TRO	**Tromso**	**1.86**	**345**	SG	Sg	21 45 15.4	+0.1
TOF	**Tornio**	**2.38**	**136**	PG	Pg	21 44 58.6	-0.7
TOF				MSG		21 45 26.1	
	comp=Z,0.6nm,0.2s						
TOF				SB	Sb	21 45 27.9	-1.3
ARA0	**ARCESS Array S**	**2.55**	**46**	SG	Sb	21 45 34.6	+0.6
RNF	**Rovaniemi**	**2.55**	**116**	PN	Pn	21 44 58.3	+0.1
RNF				SB	Sn	21 45 31.0	+1.2
BURU	**Burvik**	**3.31**	**172**	PN	Pn	21 45 08.0	-0.5

SDD 27 21:56:11.5±2.6, 18°.72N×69°.50W, h76km±13km, MD2.8, ML2.4, MW2.8, 8C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.13**	**61**	⇓*e*Pg	Pn	21 56 19.1	-3.5
HATOM				⇑*e*Sg	Sn	21 56 28.7	-2.2
HATOM				IAML		21 56 29.4	
	comp=N,107nm,0.1s						
HATOM	**Hato Mayor del**	**0.13**	**61**	*e*Pg	Pn	21 56 19.3	-3.4
HATOM				*e*Sg	Sn	21 56 28.9	-2.0
HATOM				IAML		21 56 29.4	
	comp=N,107nm,0.1s						
MIDR	**Miches**	**0.50**	**59**	⇑*e*Pg	Pn	21 56 21.2	-3.7
MIDR				IAML		21 56 33.9	
	comp=N,39nm,0.4s						
MIDR	**Miches**	**0.50**	**59**	*e*Pg	Pn	21 56 24.9	0.0
MIDR				*e*Sg	Sn	21 56 33.0	-1.8
MIDR				IAML		21 56 33.9	
	comp=N,58nm,0.4s						
DR08	**Loma La Naviza**	**0.55**	**296**	⇑*e*Pg	Pn	21 56 22.1	-3.3
DR08				IAML		21 56 35.6	
	comp=N,1μm,0.1s						
DR08	**Loma La Naviza**	**0.55**	**296**	*e*Pg	Pn	21 56 22.2	-3.2
DR08				*e*Sg	Sn	21 56 34.0	-1.7
DR08				IAML		21 56 35.5	
	comp=N,2μm,0.1s						
SMDR	**Samana, DR**	**0.64**	**28**	*e*Pg	Pn	21 56 26.8	+0.6
SMDR				*e*Sg	Sn	21 56 35.7	-1.4
SMDR				IAML		21 56 39.8	
	comp=N,70nm,0.6s						
NADR	**Nagua**	**0.71**	**332**	*e*Pg	Pn	21 56 27.6	+0.6
NADR				*e*Sg	Sn	21 56 37.8	-0.6
NADR				IAML		21 56 38.9	
	comp=N,329nm,0.3s						
BANI	**BANI**	**0.88**	**248**	*e*Pg	Pn	21 56 27.4	-1.6
BANI				*e*Sg	Sn	21 56 42.2	+0.2
BANI				IAML		21 56 46.9	
	comp=N,94nm,0.3s						
ABDR	**Alto Bandera**	**1.07**	**275**	⇑*e*Pg	Pn	21 56 28.1	-3.5
ABDR				⇓*e*Sg	Sn	21 56 44.3	-2.2
ABDR				IAML		21 56 45.7	
	comp=N,41nm,1.4s						
ABDR	**Alto Bandera**	**1.07**	**275**	*e*Pg	Pn	21 56 30.3	-1.2
ABDR				*e*Sg	Sn	21 56 44.6	-1.9
ABDR				IAML		21 56 45.7	
	comp=N,41nm,1.4s						
SDDR	**Presa de Saban**	**1.71**	**279**	⇑*e*Pg	Pn	21 56 37.2	-2.3
SDDR				⇑*e*Sg	Sn	21 57 02.1	+1.3
SDDR				IAML		21 57 08.7	
	comp=N,13nm,1.8s						
SDDR	**Presa de Saban**	**1.71**	**279**	*e*Pg	Pn	21 56 37.2	-2.3
SDDR				*e*Sg	Sn	21 56 57.4	-3.3
SDDR				IAML		21 57 23.0	
	comp=N,7.6nm,1.5s						
PODR	**Polo**	**1.78**	**252**	*e*Pg	Pn	21 56 38.9	-1.7
PODR				*e*Sg	Sn	21 57 01.7	-0.8
PODR				IAML		21 57 39.1	
	comp=N,18nm,3.4s						
AOPR	**Arecibo Observ**	**2.63**	**98**	*e*Pg	Pn	21 56 49.6	-2.3
AOPR				*e*Sg	Sn	21 57 20.5	-2.4
AOPR				IAML		21 57 39.1	
	comp=N,22nm,0.9s						
CELP	**Cerrillos**	**2.85**	**103**	⇑*e*Pg	Pn	21 56 52.8	-2.0
CELP				⇑*e*Sg	Sn	21 57 28.0	-0.1

IDC 27 21:58:58.4±2.5, 6°.28S×129°.74E, h0km, mb3.1/1, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=156.5km s-min=33.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.30**	**162**	Pn	Pn	22 02 22.5	+0.2
	0.1nm,0.3s,baz=345,slow=12,SNR=7.6						
WRA				Sn	Sn	22 04 50.8	-11
	0.1nm,0.3s,baz=333,slow=23,SNR=2.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**17.75**	**167**	P	Pn	22 03 07.0	-0.1
	0.1nm,0.3s,baz=348,slow=12,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	22 09 56.3	0.0
	0.1nm,0.4s,baz=132,slow=7.6,SNR=1.8						
	0.1nm,0.4s						

*IDC **27** 22:03:50.5±1.6, 43°.13N×13°.60E, h0km, mb3.7/2, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=37.9km s-min=16.0km az=84.0*
*ROM **27** 22:03:51.8±0.1, 43°.101N±0°.005×13°.953E±0°.010, h8km, ML3.1/172, Error ellipse: s-maj=0.7km s-min=0.6km az=62.0*
*LDG **27** 22:03:52.7±0.5, 43°.02N×14°.05E, h10km, Ml3.4/8, Error ellipse: s-maj=9.3km s-min=5.1km az=98.0*
*PRU **27** 22:03:54.5, 43°.22N×14°.14E, h10km*
*STR **27** 22:04:03.5±0.9, 44°.N±7°.×1°.3E±°, h10km, MLv3.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=23.7, preliminary*

ISC 27 22:03:52.9±0.8, 43°.13N±0°.02×13°.93E±0°.02, h17km±5km, n210, σ1§53/254, 1C-14D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADA	**Capodarco di F**	**0.14**	**300**	P	Pg	22 03 56.0	-0.8
CADA				S	Sg	22 03 59.3	-0.2
CADA				AML	AML		
	comp=E,22900μm,0.4s						
CADA				AML	AML		
	comp=N,39500μm,0.2s						
CIMA	**Civitanova Mar**	**0.26**	**314**	⇓P	Pb	22 03 58.8	-0.4
CIMA				S	Sb	22 04 04.8	+1.5
CIMA				AML	AML		
	comp=E,10840μm,0.4s						
CIMA				AML	AML		
	comp=N,15650μm,0.4s						
CIMA				AML	AML		
	comp=E,10845μm,0.4s						
OFFI	**Offida**	**0.26**	**223**	⇓P	Pg	22 03 58.3	-0.3
OFFI				AML	AML		
	comp=E,2845μm,0.6s						
OFFI				AML	AML		
	comp=N,5765μm,0.7s						
OFFI				AML	AML

PF6			S	Sb	22 04 11.5	+0.2
TERO	**Teramo**	**0.56 205**	⇓P	**Pg**	22 04 02.6	-1.3
TERO			S	**Sg**	22 04 11.7	+0.3
TERO			AML	AML		
	comp=N,758μm,0.3s					
TERO			AML	AML		
	comp=E,958μm,0.7s					
SSM1	**San Severino M**	**0.56 281**	P	**Pg**	22 04 03.1	-0.8
PCRO	**Pietralacroce**	**0.56 329**	P	**Pb**	22 04 04.4	+0.2
MDAR	**Monte D'Aria**	**0.58 277**	P	**Pg**	22 04 03.4	-1.0
MC2	**Monte Cornacci**	**0.58 249**	P	**Pg**	22 04 03.2	-1.2
MC2			S	**Sg**	22 04 12.8	+0.6
CING	**Cingoli**	**0.59 295**	⇓P	**Pg**	22 04 03.7	-0.8
CING			S	**Sb**	22 04 13.7	+0.9
FDMO	**Fiordimonte**	**0.62 262**	⇓P	**Pg**	22 04 03.8	-1.3
FDMO			S	**Sg**	22 04 14.1	+0.7
FDMO			AML	AML		
	comp=E,2255μm,0.4s					
FDMO			AML	AML		
	comp=N,1175μm,0.5s					
EL6	**Elcito**	**0.64 289**	⇓P	**Pg**	22 04 04.5	-1.0
EL6			S	**Sb**	22 04 15.2	+1.0
EL6			AML	AML		
	comp=E,1920μm,0.3s					
EL6			AML	AML		
	comp=N,1970μm,1.4s					
EL6			AML	AML		
	comp=E,1925μm,0.3s					
EL6			AML	AML		
	comp=E,1925μm,1.7s					
EL6			AML	AML		
	comp=N,1970μm,0.6s					
GAG1	**Gagliole**	**0.64 280**	P	**Pg**	22 04 04.4	-1.1
GAG1			S	**Sb**	22 04 15.3	+1.0
SMA1	**SAN MARTINO**	**0.66 221**	⇓P	**Pg**	22 04 04.0	-1.8
SMA1			S	**Sg**	22 04 13.7	-0.9
SMA1			AML	AML		
	comp=E,988μm,1.1s					
SMA1			AML	AML		
	comp=E,988μm,0.9s					
SMA1			AML	AML		
	comp=N,1003μm,1.0s					
FEMA	**Monte Fema**	**0.66 256**	P	**Pg**	22 04 04.8	-1.2
FEMA			S	**Sb**	22 04 15.8	+0.7
NRCA	**Norcia**	**0.66 244**	P	**Pg**	22 04 04.4	-1.5
NRCA			S	**Sg**	22 04 15.2	+0.4
NRCA			AML	AML		
	comp=N,1580μm,0.4s					
NRCA			AML	AML		
	comp=E,1980μm,0.1s					
NRCA			AML	AML		
	comp=N,1695μm,0.4s					
NRCA			AML	AML		
	comp=N,1580μm,1.6s					
NRCA			AML	AML		
	comp=N,1695μm,1.6s					
NRCA			AML	AML		
	comp=E,1835μm,0.1s					
MTL1	**Matelica**	**0.68 281**	P	**Pg**	22 04 05.2	-1.1
PIO1	**Pioraco**	**0.69 275**	P	**Pg**	22 04 05.2	-1.2
MML1	**Montelago di S**	**0.70 269**	P	**Pg**	22 04 05.1	-1.5
MML1			S	**Sb**	22 04 16.6	+0.6
CAMP	**Campotosto**	**0.70 213**	P	**Pg**	22 04 04.8	-1.8
CAMP			AML	AML		
	comp=N,668μm,0.5s					
CAMP			AML	AML		
	comp=E,556μm,0.7s					
CAMP			AML	AML		
	comp=N,668μm,1.5s					
SEF1	**Sefro**	**0.72 272**	P	**Pb**	22 04 07.1	+0.2
GIGS	**Gran Sasso**	**0.72 201**	P	**Pg**	22 04 05.2	-1.9
GIGS			AML	AML		
	comp=N,183μm,0.6s					
GIGS			AML	AML		
	comp=N,184μm,0.6s					
GIGS			AML	AML		
	comp=E,263μm,0.5s					
FIU1	**Fiuminata**	**0.73 275**	P	**Pg**	22 04 06.1	-1.1
FIU1			S	**Sb**	22 04 17.6	+0.7
SNTG	**Esanatoglia**	**0.73 281**	P	**Pg**	22 04 05.8	-1.4
SNTG			S	**Sb**	22 04 17.8	+0.8
SNTG			AML	AML		
	comp=E,736μm,0.4s					
SNTG			AML	AML		
	comp=N,967μm,0.5s					
SNTG			AML	AML		
	comp=N,967μm,1.5s					
SNTG			AML	AML		
	comp=N,1025μm,0.5s					
SNTG			AML	AML		
	comp=E,706μm,0.4s					
SNTG			AML	AML		
	comp=E,736μm,0.4s					
VCEL	**Villa Celiera**	**0.73 185**	P	**Pg**	22 04 06.5	-0.8
VCEL			AML	AML		
	comp=E,946μm,0.4s					
VCEL			AML	AML		
	comp=N,898μm,1.0s					
VCEL			AML	AML		
	comp=E,946μm,0.4s					
VCEL			AML	AML		
	comp=E,946μm,1.6s					
VCEL			AML	AML		
	comp=N,899μm,1.0s					
MMUR	**Monte Murano**	**0.75 295**	P	**Pg**	22 04 07.0	-0.5
CESI	**CESI - Serrava**	**0.76 261**	⇓P	**Pg**	22 04 06.3	-1.4
CESI			S	**Sb**	22 04 18.5	+0.8
CESI			AML	AML		
	comp=N,1425μm,0.4s					
CESI			AML	AML		
	comp=E,1136μm,0.3s					
CESI			AML	AML		
	comp=N,1425μm,1.6s					
SENI	**Senigallia**	**0.77 319**	P	**Pn**	22 04 08.7	-0.2
SENI			AML	AML		
	comp=E,9455μm,0.8s					
SENI			AML	AML		
	comp=N,9995μm,0.3s					
SENI			AML	AML		
	comp=E,1915μm,1.1s					
SENI			AML	AML		
	comp=N,1450μm,0.4s					
RM33	**Pellescritta (**	**0.81 221**	P	**Pg**	22 04 06.5	-2.1
RM33			AML	AML		
	comp=E,1054μm,0.3s					
RM33			AML	AML		
	comp=N,1038μm,0.5s					
RM33			AML	AML		
	comp=E,1041μm,0.3s					
RM33			AML	AML		
	comp=N,1000μm,0.5s					
RM33			AML	AML		
	comp=N,1038μm,0.5s					
RM33			AML	AML		
	comp=E,1054μm,0.3s					
ARVD	**Arcevia**	**0.81 298**	P	**Pg**	22 04 07.6	-1.0
ARVD			AML	AML		
	comp=E,918μm,0.5s					
ARVD			AML	AML		
	comp=N,1072μm,0.5s					
LNSS	**Leonessa**	**0.83 232**	P	**Pg**	22 04 07.1	-2.1
LNSS			S	**Sg**	22 04 20.2	+0.1
LNSS			AML	AML		
	comp=E,2185μm,0.3s					
LNSS			AML	AML		
	comp=N,1185μm,0.3s					
LNSS			AML	AML		
	comp=E,2185μm,1.7s					
COR1	**Corinaldo**	**0.84 307**	P	**Pb**	22 04 09.7	+0.7
FOSV	**Fossato di Vic**	**0.87 282**	P	**Pg**	22 04 08.4	-1.4
FOSV			S	**Sb**	22 04 22.5	+1.6
FOSV			AML	AML		
	comp=N,1425μm,0.6s					
FOSV			AML	AML		
	comp=E,1495μm,0.5s					
FOSV			AML	AML		
	comp=N,1425μm,1.4s					
FOSV			AML	AML		
	comp=E,1495μm,1.5s					
GAVE	**Gavelli**	**0.87 241**	P	**Pg**	22 04 07.8	-2.1
GAVE			AML	AML		
	comp=E,1800μm,0.8s					
GAVE			AML	AML		
	comp=N,1735μm,1.6s					
GAVE			AML	AML		
	comp=N,1735μm,0.4s					
GAVE			AML	AML		
	comp=E,1800μm,1.2s					
SSFR	**Montelago di S**	**0.89 291**	P	**Pg**	22 04 09.1	-1.1
SSFR			AML	AML		
	comp=E,2435μm,1.2s					
SSFR			AML	AML		
	comp=N,1715μm,0.2s					
SSFR			AML	AML		
	comp=N,2125μm,0.3s					
SSFR			AML	AML		
	comp=E,2230μm,0.5s					
SSFR			AML	AML		
	comp=E,2435μm,0.8s					
FAGN	**Fagnano**	**0.90 196**	P	**Pg**	22 04 09.2	-1.1
FAGN			AML	AML		
	comp=E,2990μm,0.5s					
FAGN			AML	AML		
	comp=E,2990μm,1.5s					
FAGN			AML	AML		
	comp=N,1440μm,0.3s					
ASSB	**Assisi San Ben**	**0.93 265**	P	**Pg**	22 04 09.1	-1.9
ASSB			S	**Sb**	22 04 24.4	+1.7
ASSB			AML	AML		
	comp=E,1093μm,1.2s					
ASSB			AML	AML		
	comp=N,1590μm,0.5s					
ASSB			AML	AML		
	comp=E,1093μm,0.8s					
ATCC	**AVT- Casa Cast**	**0.94 274**	P	**Pg**	22 04 09.8	-1.4
ATCC			S	**Sb**	22 04 25.1	+2.1
ATCC			AML	AML		
	comp=E,1350μm,0.8s					
ATCC			AML	AML		
	comp=E,1350μm,1.2s					
ATCC			AML	AML		
	comp=N,1404μm,0.4s					
ATSC	**Scheggia e Pas**	**0.95 289**	P	**Pg**	22 04 10.2	-1.1
ATSC			S	**Sb**	22 04 25.3	+1.9
FRON	**Frontone**	**0.96 295**	P	**Pg**	22 04 10.1	-1.4
FRON			S	**Sn**	22 04 26.0	+1.1
FRON			AML	AML		
	comp=N,2610μm,0.9s					
FRON			AML	AML		
	comp=E,2095μm,0.7s					
MPAG	**Monte Paganucc**	**0.99 301**	P	**Pg**	22 04 10.9	-1.1
MPAG			AML	AML		
	comp=E,1714μm,0.5s					
MPAG			AML	AML		
	comp=N,1620μm,1.5s					
MPAG			AML	AML		
	comp=E,1545μm,0.5s					
MPAG			AML	AML		
	comp=N,966μm,1.4s					
MPAG			AML	AML		
	comp=E,1545μm,1.5s					
MPAG			AML	AML		
	comp=E,1714μm,1.5s					
MPAG			AML	AML		
	comp=N,1620μm,0.5s					
MPAG			AML	AML		
	comp=N,966μm,0.6s					
ARRO	**Arrone**	**1.01 238**	P	**Pg**	22 04 10.5	-1.9
ARRO			AML	AML		
	comp=N,496μm,1.1s					
ARRO			AML	AML		
	comp=E,454μm,0.9s					
ARRO			AML	AML		
	comp=N,496μm,0.9s					
ATFO	**Monte Foce - G**	**1.02 284**	P	**Pg**	22 04 11.2	-1.4
ATFO			AML	AML		
	comp=N,1242μm,0.4s					
ATFO			AML	AML		
	comp=E,1695μm,0.7s					
MURB	**Monte Urbino**	**1.03 278**	P	**Pg**	22 04 11.4	-1.6
MURB			AML	AML		
	comp=E,3525μm,0.5s					
MURB			AML	AML		
	comp=E,3660μm,0.4s					
MURB			AML	AML		
	comp=N,4605μm,0.9s					
MURB			AML	AML		
	comp=N,4185μm,0.9s					
FIAM	**Fiamignano**	**1.04 215**	P	**Pb**	22 04 13.3	+0.8
FIAM			AML	AML		
	comp=N,285μm,0.7s					
FIAM			AML	AML		
	comp=E,302μm,0.7s					
MOMA	**Monte Martano**	**1.05 253**	P	**Pg**	22 04 11.0	-2.1
MOMA			AML	AML		
	comp=E,688μm,0.4s					
MOMA			AML	AML		
	comp=N,844μm,0.5s					
MOMA			AML	AML		
	comp=E,702μm,0.4s					
MOMA			AML	AML		
	comp=N,901μm,0.5s					
ATBU	**Serra di Buran**	**1.06 290**	P	**Pg**	22 04 12.3	-1.2
LPEL	**Lama dei Pelig**	**1.09 170**	P	**Pb**	22 04 13.4	0.0
LPEL			AML	AML		
	comp=E,650μm,1.1s					
LPEL			AML	AML		
	comp=N,570μm,1.1s					
LPEL			AML	AML		
	comp=N,570μm,0.9s					
LPEL			AML	AML		
	comp=N,630μm,0.7s					
LPEL			AML	AML		
	comp=E,650μm,0.9s					
LPEL			AML	AML		
	comp=E,638μm,1.2s					
PIEI	**Pieia**	**1.09 292**	⇑P	**Pg**	22 04 12.8	-1.3
PIEI			AML	AML		
	comp=E,700μm,0.4s					
PIEI			AML	AML		
	comp=N,718μm,0.3s					
INTR	**Introdacqua**	**1.11 181**	P	**Pb**	22 04 13.8	+0.1
INTR			AML	AML		
	comp=E,1410μm,0.4s					
INTR			AML	AML		
	comp=N,2635μm,0.4s					
INTR			AML	AML		
	comp=E,938μm,0.4s					
INTR			AML	AML		
	comp=N,2660μm,0.4s					
INTR			AML	AML		
	comp=N,2635μm,1.6s					
INTR			AML	AML		
	comp=E,1410μm,1.6s					
INTR			AML	AML		
	comp=E,938μm,1.6s					
INTR			AML	AML		
	comp=N,2660μm,1.6s					
CESX	**Cesi**	**1.12 243**	P	**Pg**	22 04 12.5	-1.9
ATLO	**AVT- Montelove**	**1.13 280**	P	**Pg**	22 04 12.8	-1.9
ATPC	**Poggio Castell**	**1.13 289**	P	**Pg**	22 04 13.3	-1.4
ATVO	**AVT- Monte Val**	**1.14 284**	⇓P	**Pg**	22 04 13.2	-1.7
ATVO			AML	AML		
	comp=N,887μm,0.5s					
ATVO			AML	AML		
	comp=E,1126μm,0.6s					
ATTE	**AVT- Monte Tez**	**1.15 274**	P	**Pg**	22 04 13.5	-1.7
ATTE			AML	AML		
	comp=N,550μm,0.8s					
ATTE			AML	AML		
	comp=E,583μm,0.7s					
ATPI	**Pietralunga -**	**1.16 287**	P	**Pg**	22 04 13.7	-1.6
ATPI			AML	AML		
	comp=N,710μm,1.1s					
ATPI			AML	AML		
	comp=E,962μm,0.5s					
PTQR	**Pietraquaria**	**1.17 200**	P	**Pn**	22 04 15.8	+1.2
APEC	**Apecchio**	**1.18 292**	P	**Pg**	22 04 14.4	-1.2
PE3	**Peglio**	**1.19 299**	P	**Pg**	22 04 15.0	-0.8
PE3			AML	AML		
	comp=E,2750μm,1.5s					
PE3			AML	AML		
	comp=N,4395μm,0.4s					
PE3			AML	AML		
	comp=E,2750μm,0.5s					
ATMI	**Monte Miggiano**	**1.23 280**	P	**Pg**	22 04 15.6	-1.0
ATMI			AML	AML		
	comp=E,764μm,0.7s					
ATMI			AML	AML		
	comp=N,817μm,0.6s					
VVLD	**Villa Vallelon**	**1.27 190**	P	**Pg**	22 04 16.4	-1.1
VVLD			AML	AML		
	comp=N,438μm,1.2s					
VVLD			AML	AML		
	comp=N,438μm,0.8s					
VVLD			AML	AML		
	comp=E,458μm,0.5s					
FRES	**Fresagrandinar**	**1.27 154**	P	**Pb**	22 04 16.4	-0.1
BADI	**Badiali**	**1.29 288**	P	**Pg**	22 04 15.9	-1.7
ATMC	**Monte Cedrone**	**1.31 285**	P	**Pn**	22 04 16.2	-0.2
PARC	**Parchiule**	**1.34 294**	P	**Pn**	22 04 16.9	+0.1
PARC			AML	AML		
	comp=N,434μm,0.5s					
PARC			AML	AML		
	comp=E,658μm,0.6s					
MGAB	**Montegabbione**	**1.35 262**	P	**Pn**	22 04 17.1	+0.2
MGAB			AML	AML		
	comp=E,488μm,0.5s					
MGAB			AML	AML		
	comp=N,574μm,0.5s					
MGAB			AML	AML		
	comp=N,567μm,0.5s					
MGAB			AML	AML		
	comp=E,530μm,0.5s					
CPGN	**Carpegna, Ital**	**1.35 301**	P	**Pb**	22 04 18.9	+1.1
CERT	**Cerreto**	**1.37 211**	P	**Pn**	22 04 18.1	+0.9
CERT			AML	AML		
	comp=N,376μm,0.8s					
CERT			AML	AML		
	comp=N,376μm,1.2s					
CERT			AML	AML		
	comp=E,459μm,0.6s					
SSP9	**Sansepolcro**	**1.38 290**	P	**Pn**	22 04 17.9	+0.5
GUAR	**Guarcino**	**1.41 199**	P	**Pn**	22 04 18.9	+1.1
MTCE	**Montecelio**	**1.41 219**	P	**Pn**	22 04 18.4	+0.7
POFI	**Posta Fibreno**	**1.42 187**	P	**Pn**	22 04 18.8	+0.9
POFI			AML	AML		
	comp=N,558μm,0.6s					
POFI			AML	AML		
	comp=N,558μm,1.4s					
POFI			AML	AML		
	comp=E,692μm,0.6s					
RNI2	**Rionero Sannit**	**1.43 173**	P	**Pn**	22 04 18.8	+0.7
TRIV	**Trivento**	**1.43 161**	P	**Pn**	22 04 18.7	+0.5
CAFI	**Castiglion Fio**	**1.45 279**	P	**Pn**	22 04 18.9	+0.7
CAFI			AML	AML		
	comp=E,266μm,0.6s					
CAFI			AML	AML		
	comp=E,266μm,1.4s					
CAFI			AML	AML		
	comp=N,482μm,0.8s					
CAFI			AML	AML		
	comp=N,458μm,0.7s					
CAFI			AML	AML		
	comp=E,270μm,1.0s					
RCAV	**Rocca di Cave**	**1.47 210**	P	**Pn**	22 04 18.7	+0.1
LRP	**Arpino**	**1.50 190**	P	**Pn**	22 04 19.7	+0.7
LRP			AML	AML		
	comp=E,310μm,1.0s					
LRP			AML	AML		
	comp=N,216μm,0.5s					
LRP			AML	AML		
	comp=N,216μm,1.5s					
LRP			AML	AML		
	comp=E,310μm,1.0s					
MIDA	**Miranda**	**1.50 171**	P	**Pn**	22 04 19.7	+0.6
MIDA			AML	AML		
	comp=E,276μm,1.4s					
MIDA			AML	AML		
	comp=N,309μm,0.9s					
CERA	**Filignano**	**1.53 177**	P	**Pn**	22 04 20.5	+1.1
CIGN	**Sant'Elia a Pi**	**1.64 153**	P	**Pn**	22 04 20.4	-0.5
GIUL	**Giuliano Di Ro**	**1.64 198**	P	**Pn**	22 04 21.5	+0.5
BSSO	**Busso**	**1.65 162**	P	**Pn**	22 04 21.2	0.0
MELA	**Melanico ??? S**	**1.67 148**	P	**Pn**	22 04 22.3	+0.9
VAGA	**Valle Agricola**	**1.72 172**	P	**Pb**	22 04 23.8	-0.3
VAGA			AML	AML		
	comp=E,145μm,0.4s					
VAGA			AML	AML		
	comp=N,280μm,1.6s					
VAGA			AML	AML		
	comp=N,280μm,0.4s					
VAGA			AML	AML		
	comp=E,145μm,1.6s					
BRJN	**Brijuni**	**1.78 356**	P	**Pn**	22 04 23.1	+0.2
APRC	**Apricena**	**1.82 138**	P	**Pn**	22 04 23.5	+0.1
RUFI	**Rufina**	**1.90 293**	P	**Pn**	22 04 26.2	+1.7
RUFI			AML	AML		
	comp=E,130μm,0.6s					
RUFI			AML	AML		
	comp=N,128μm,0.6s					
RUFI			AML	AML		
	comp=E,130μm,1.4s					
SGRT	**San Giovanni R**	**1.92 135**	P	**Pn**	22 04 25.1	+0.2
SGRT			AML	AML		
	comp=N,361μm,1.2s					
SGRT			AML	AML		
	comp=E,344μm,0.3s					
SGRT			AML	AML		
	comp=N,361μm,0.8s					
MSAG	**Monte S. Angel**	**2.04 133**	P	**Pn**	22 04 26.9	+0.4
A050A	**Klekovaca**	**2.32 53**	*e*Pn	**Pb**	22 04 33.3	-1.0
SKDS	**Skadanscina**	**2.42 1**	*e*Pn	**Pn**	22 04 31.2	-0.5
BOJS	**Bojanci**	**2.56 21**	*e*Pn	**Pn**	22 04 35.3	+1.7
BOJS	**Bojanci**	**2.56 21**	AML	AML		
	comp=N,306μm,1.1s					
BOJS			AML	AML		
	comp=E,362μm,0.5s					
CEY	**Cerknica**	**2.64 8**	*e*Pn	**Pb**	22 04 38.4	-1.3
STON	**Ston**	**2.78 94**	*e*Pn	**Pn**	22 04 36.6	0.0
BLY	**Banja Luka**	**2.86 54**	*e*Pn	**Pn**	22 04 38.9	+1.2
BLY	**Banja Luka**	**2.86 54**	P	**Pb**	22 04 40.4	-3.0
A051A	**Mrakovica**	**2.86 48**	*e*Pn	**Pn**	22 04 38.4	+0.7
CGRP	**Cima Grappa**	**3.15 332**	P	**Pn**	22 04 42.2	+0.4
CGRP			AML	AML		
	comp=N,86μm,0.8s					
CGRP			AML	AML		
	comp=E,125μm,0.6s					
VINO	**Villanova**	**3.16 352**	P	**Pn**	22 04 42.0	+0.1
VINO			AML	AML		
	comp=E,76μm,0.4s					
VINO			AML	AML		
	comp=N,67μm,1.6s					
VINO			AML	AML		
	comp=N,67μm,0.4s					
VINO			AML	AML		
	comp=E,76μm,1.6s					
MPRI	**Monte Prat**	**3.19 348**	P	**Pn**	22 04 42.8	+0.6
MPRI			AML	AML		
	comp=E,111μm,1.1s					
MPRI			AML	AML		
	comp=N,158μm,1.0s					
MPRI			AML	AML		
	comp=E,111μm,0.9s					
TREB	**Trebinje**	**3.27 96**	*e*Pn	**Pn**	22 04 43.9	+0.5
CTI	**Castel Tesino**	**3.34 332**	P	**Pn**	22 04 44.9	+0.5
CTI			AML	AML		
	comp=N,132μm,0.3s					
CTI			AML	AML		
	comp=E,93μm,1.4s					
MORSI	**Morsiglia**	**3.35 269**	Pn	**Pb**	22 04 49.4	-2.3
CIMO	**Cimolais**	**3.36 342**	P	**Pn**	22 04 44.8	+0.3
CIMO			AML	AML		
	comp=N,57μm,1.3s					
CIMO			AML	AML		
	comp=E,34μm,0.2s					
DOSS	**Dosso del Somm**	**3.38 326**	P	**Pn**	22 04 45.6	+0.6
DOSS			AML	AML		
	comp=E,85μm,0.5s					
DOSS			AML	AML		
	comp=N,85μm,0.7s					
OBKA	**Obir**	**3.41 7**	*e*Pn	**Pn**	22 04 46.4	+1.0
	comp=N,0.9nm,0.2s					
OBKA	**Obir**	**3.41 7**	*e*Pn	**Pn**	22 04 45.2	-0.2
CLUD	**Cludinico**	**3.41 348**	P	**Pn**	22 04 45.6	+0.2
CLUD			AML	AML		
	comp=E,78μm,0.5s					
CLUD			AML	AML		
	comp=N,59μm,0.7s					
ACOM	**Acomizza, Ital**	**3.44 355**	P	**Pn**	22 04 47.0	+1.3
ACOM			AML	AML		
	comp=E,89μm,1.0s					
ACOM			AML	AML		
	comp=N,90μm,0.9s					
PANI	**Panarotta**	**3.46 329**	P	**Pn**	22 04 46.8	+0.6
VARA	**Varagna**	**3.46 322**	P	**Pn**	22 04 46.6	+0.4
VARA			AML	AML		
	comp=N,143μm,0.2s					
VARA			AML	AML		

comp=E,151μm,0.2s
MYKA Terra Mystica 3.51 357 *e*Pn **Pn 22 04 47.6 +0.9**
comp=E,1.7nm,0.2s
LUSI Trento, Gardas 3.55 324 P **Pn 22 04 47.6 +0.5**
LUSI AML AML
comp=E,73μm,1.2s
LUSI AML AML
comp=N,140μm,0.3s
LUSI AML AML
comp=E,73μm,0.8s
MAGA Magasa 3.55 319 P **Pn 22 04 47.6 +0.3**
MAGA AML AML
comp=N,235μm,0.3s
MAGA AML AML
comp=E,382μm,0.5s
ZIAN Ziano 3.57 333 P **Pn 22 04 48.3 +0.7**
ZIAN AML AML
comp=N,82μm,0.8s
ZIAN AML AML
comp=E,64μm,0.5s
GAGG Gaggia 3.64 325 P **Pn 22 04 49.5 +0.9**
GAGG AML AML
comp=N,70μm,0.7s
GAGG AML AML
comp=E,89μm,1.0s
GAGG AML AML
comp=N,70μm,1.3s
SOKA Soboth 3.64 12 *e*Pn **Pn 22 04 50.8 +2.3**
comp=N,0.8nm,0.2s
GORR Gorreto 3.66 295 Sn **Sn 22 05 30.0 -1.6**
GORR Gorreto 3.66 295 Pn **Pn 22 04 49.8 +1.0**
PGF Pioggiola 3.67 263 *e*Pn **Pn 22 04 49.7 +0.8**
RONC Roncone 3.70 322 P **Pn 22 04 49.8 +0.3**
RONC AML AML
comp=N,154μm,1.1s
RONC AML AML
comp=N,154μm,0.9s
RONC AML AML
comp=E,137μm,0.7s
ABTA Abfaltersbach 3.76 345 *e*Pn **Pn 22 04 51.2 +1.1**
comp=E,5.2nm,0.2s,SNR=14
ABTA *e*Sn **Sn 22 05 35.4 +1.4**
comp=E,19nm,0.8s
HAPS Han Pijesak,BI 3.77 74 *e*Pn **Pn 22 04 52.3 +1.9**
ZONE Zone 3.79 315 P **Pn 22 04 51.1 +0.5**
ZONE AML AML
comp=E,67μm,1.5s
ZONE AML AML
comp=N,96μm,0.2s
ZONE AML AML
comp=E,67μm,0.5s
KOSI Kohlern 3.80 332 P **Pn 22 04 51.8 +1.0**
KOSI AML AML
comp=E,99μm,0.4s
KOSI AML AML
comp=N,96μm,0.4s
MABI Malga Bissina 3.81 321 P **Pn 22 04 51.6 +0.7**
MABI AML AML
comp=E,52μm,0.4s
MABI AML AML
comp=N,57μm,0.2s
APPI Appiano 3.86 331 AML AML
comp=N,91μm,0.3s
APPI AML AML
comp=E,80μm,0.5s
OZOL Ozolo 3.87 329 AML AML
comp=N,160μm,0.4s
OZOL AML AML
comp=E,214μm,0.4s
OZOL AML AML
comp=E,214μm,1.6s
KBA Koelnbreinsper 3.97 354 *e*Pn **Pn 22 04 55.1 +1.9**
comp=E,1.4nm,0.2s
RUDO Rudo 4.00 81 *e*Pn **Pn 22 04 54.9 +1.5**
MDI Monti di Nese 4.02 313 AML AML
comp=N,35μm,1.3s
MDI AML AML
comp=E,63μm,0.3s
CARE Lago del Cares 4.02 326 AML AML
comp=N,44μm,0.7s
CARE AML AML
comp=E,354μm,1.4s
CARE AML AML
comp=N,566μm,1.6s
CARE AML AML
comp=N,44μm,1.3s
CARE AML AML
comp=E,45μm,0.6s
CARE AML AML
comp=E,354μm,0.6s
CARE AML AML
comp=N,566μm,0.4s
BBLS Lazi&#263i 4.05 78 *e*Pn **Pb 22 05 01.2 -2.6**
PCP Piancastagn 4.14 292 Pn **Pn 22 04 56.3 +0.9**
PCP Piancastagn 4.14 292 Sn **Sn 22 05 42.4 -1.1**
MOSI Grossmontoni 4.24 327 AML AML
comp=E,68μm,0.4s
MOSI AML AML
comp=E,68μm,1.6s
MOSI AML AML
comp=N,99μm,0.7s
ARSA Arzberg 4.28 15 *e*Sn **Sn 22 05 46.5 -0.2**
comp=N,1.9nm,0.5s
TEKS Tekeris 4.30 69 *e*Pn **Pg 22 05 14.6 -0.5**
RORO Rocca Rossa 4.37 285 Sn **Sn 22 05 50.2 +1.3**
RORO Rocca Rossa 4.37 285 Pn **Pn 22 05 01.0 +2.6**
ROTM Rocchetta Tana 4.38 295 Pn **Pn 22 05 00.0 +1.5**
LESA Schwarzleotal 4.39 349 *e*Pn **Pn 22 05 00.1 +1.3**
comp=N,9.4nm,0.4s,SNR=16
LESA *e*Sn **Sn 22 05 46.9 -2.6**
comp=N,5.3nm,0.5s
SJES Sjenica 4.42 86 *e*Pn **Pn 22 05 01.7 +2.4**
WTTA Wattenberg 4.44 339 *i*Pn **Pn 22 05 01.6 +2.0**
comp=N,4.2nm,0.2s,SNR=13
WTTA *e*Sn **Sn 22 05 52.8 +1.7**
comp=N,20nm,0.5s
WTTA Wattenberg 4.44 339 AML AML
comp=E,41μm,0.9s
WTTA AML AML
comp=E,41μm,1.1s
WTTA AML AML
comp=N,62μm,0.5s
WTTA AML AML
comp=N,62μm,1.5s
FETA Feichten 4.51 331 *i*Pn **Pn 22 05 02.5 +2.1**
comp=N,2.6nm,0.4s,SNR=6.2
FETA *e*Sn **Sn 22 05 53.6 +1.1**
comp=N,5.1nm,0.6s
SQTA Sankt Quirin 4.52 336 *i*Pn **Pn 22 05 02.6 +1.9**
comp=N,15nm,0.4s,SNR=31
SQTA *e*Sn **Sn 22 05 52.9 0.0**
comp=N,22nm,0.6s
WATA Walderalm 4.53 339 *i*Pn **Pn 22 05 02.7 +2.0**
comp=N,6.5nm,0.2s,SNR=16
WATA *e*Sn **Sn 22 05 55.8 +2.8**
comp=N,5.2nm,0.3s
MGRO Montegrosso 4.54 284 Sn **Sn 22 05 54.3 +0.9**
MGRO Montegrosso 4.54 284 Pn **Pn 22 05 03.3 +2.4**
GBOS Grotte di Boss 4.55 286 Pn **Pn 22 05 02.7 +1.7**
GBOS Grotte di Boss 4.55 286 Sn **Sn 22 05 53.3 -0.3**
DAVOX Davos/Dischmat 4.65 323 AML AML
comp=E,18μm,0.5s
DAVOX AML AML
comp=N,30μm,0.6s
DAVOX AML AML
comp=E,18μm,1.5s
MOTA Moosalm 4.67 336 *i*Pn **Pn 22 05 04.7 +2.1**
comp=E,2.7nm,0.2s
MOTA *e*Sn **Sn 22 05 59.6 +3.2**
comp=E,9.2nm,0.6s
TUE Stuetta 4.67 317 AML AML
comp=E,25μm,1.6s
TUE AML AML
comp=E,25μm,0.4s
TUE AML AML
comp=N,37μm,0.3s
SAOF Saorge 4.71 283 Pn **Pn 22 05 06.4 +3.3**
SAOF Sn **Sn 22 05 58.4 +1.0**
MOA Molln 4.73 3 *e*Pn **Pn 22 05 05.2 +1.8**
comp=N,1.9nm,0.3s
MOA *e*Sn **Sn 22 05 58.8 +1.0**
comp=N,2.8nm,0.3s
SBF Sospel 4.78 281 *e*Pn **Pn 22 05 06.7 +2.6**
TURF col de Turini 4.83 282 Pn **Pn 22 05 07.7 +2.8**
TURF Sn **Sn 22 06 01.6 +1.2**
RONA Rosalia, Austr 4.87 19 *e*Pn **Pn 22 05 06.4 +1.0**
comp=N,2.0nm,0.4s
RETA Reutte 4.90 334 *i*Pn **Pn 22 05 08.3 +2.5**
comp=N,4.5nm,0.2s,SNR=8.3
RETA *e*Sn **Sn 22 06 04.4 +2.3**
comp=N,1.9nm,0.2s
STV Sant Anna di V 4.92 285 Pn **Pn 22 05 08.5 +2.5**
SPIF crte de Spivo 4.95 283 Pn **Pn 22 05 08.9 +2.4**
SPIF Sn **Sn 22 06 03.8 +0.4**
CONA Conrad Observa 4.99 15 *e*Pn **Pn 22 05 08.4 +1.4**
comp=N,0.9nm,0.3s
TRAV Traversella 5.04 300 Sn **Sn 22 06 02.5 -2.9**
TRAV Traversella 5.04 300 Pn **Pn 22 05 07.8 +0.1**
DAVA Damuels 5.05 327 *e*Pn **Pn 22 05 10.4 +2.5**
comp=N,3.0nm,0.2s,SNR=7.0
DAVA *e*Sn **Sn 22 06 07.1 +1.2**
comp=N,11nm,0.5s
CIRO Champorcher 5.19 301 Sn **Sn 22 06 06.1 -3.4**
CIRO Champorcher 5.19 301 Pn **Pn 22 05 09.8 -0.2**
JAUF Jausiers 5.36 287 Pn **Pn 22 05 14.7 +2.5**
MBDF Montbardon 5.41 290 *e*Pn **Pn 22 05 13.3 +0.4**
LMR La Mourre 5.42 275 *e*Pn **Pn 22 05 14.8 +1.9**
TRIGF Trigance 5.51 279 Pn **Pn 22 05 17.6 +3.4**
DIX Grande Dixence 5.51 305 Pn **Pn 22 05 14.5 +0.1**
LPG La Plagne 5.67 297 *e*Pn **Pn 22 05 15.9 -0.6**
LPL La Plagne 5.69 297 *e*Pn **Pn 22 05 16.3 -0.4**
GERES GERESS Array B 5.72 359 Pn **Pn 22 05 17.3 +0.2**
comp=N,0.1nm,0.3s,baz=173,slow=13,SNR=16
GERES Sn **Sn 22 06 22.5 +0.1**
comp=N,0.1nm,0.3s,baz=177,slow=20,SNR=1.5
comp=N,0.7nm,0.3s
KHC Kasperske Hory 6.01 358 *e*PN **Pn 22 05 20.4 -0.6**
KHC *e*SN **Sn 22 06 27.5 -1.9**
ORIF Oris-en-Rattie 6.07 290 *e*Pn **Pn 22 05 23.5 +1.6**
SMRF Simiane la Rot 6.13 281 *e*Pn **Pn 22 05 25.1 +2.5**
ZVC Zvikov 6.32 2 *e*PN **Pn 22 05 25.9 +0.7**
BRANT Les Verrieres 6.51 308 Sn **Sn 22 06 39.1 -2.7**
BRANT Les Verrieres 6.51 308 Pn **Pn 22 05 28.0 0.0**
CABF La Chapelle 6.57 305 *e*Pn **Pn 22 05 28.9 +0.2**
CABF *e*Sn **Sn 22 06 41.3 -2.0**
comp=N,2.1nm,0.4s
CHMF Charmoille 6.59 311 Pn **Pn 22 05 28.5 -0.5**
CHMF Sn **Sn 22 06 40.0 -3.6**
OG35 Corcelles 6.64 299 Pn **Pn 22 05 30.1 +0.4**
OG35 Sn **Sn 22 06 43.4 -1.6**
BOUC Bouclans 6.81 310 Pn **Pn 22 05 31.4 -0.5**
BOUC Sn **Sn 22 06 45.5 -3.5**
HINF Hinteralfeld 6.83 316 *e*Pn **Pn 22 05 31.5 -0.8**
HINF *e*Sn **Sn 22 06 45.8 -3.9**
comp=N,5.7nm,0.4s
CDF Champ du Feu 7.04 321 *e*Pn **Pn 22 05 35.4 +0.2**
CDF *e*Sn **Sn 22 06 50.1 -4.7**
comp=N,5.1nm,0.4s
HAU Haudompre 7.22 315 *e*Pn **Pn 22 05 37.3 -0.2**
HAU *e*Sn **Sn 22 06 55.4 -3.7**
comp=N,14nm,0.5s
SMF Signal de Mont 7.98 300 *e*Pn **Pn 22 05 47.8 -0.2**
SMF *e*Sn **Sn 22 07 12.9 -4.9**
comp=N,5.5nm,0.4s
LOR Lormes 8.23 304 *e*Pn **Pn 22 05 51.3 -0.1**
LOR *e*Sn **Sn 22 07 19.6 -4.3**
comp=N,3.8nm,0.3s
AVF Avril sur Loir 8.35 300 *e*Pn **Pn 22 05 52.4 -0.6**
SSF Saint Saulge 8.36 302 *e*Pn **Pn 22 05 53.1 0.0**
SSF *e*Sn **Sn 22 07 22.0 -5.0**
comp=N,5.0nm,0.5s
BGF Bois d'Agland 8.59 297 *e*Pn **Pn 22 05 55.6 -0.7**
MMAI Mount Meron Ar 19.64 114 P **Pn 22 08 23.7 +1.5**
comp=N,0.3nm,0.2s,baz=314,slow=11,SNR=5.3
TORD Torodi Ar. Bea 31.68 203 P **P 22 10 14.9 -0.6**
comp=N,0.7nm,0.3s,baz=17,slow=9.1,SNR=1.4
comp=N,0.7nm,0.3s
MKAR Makanchi Array 47.13 61 P **P 22 12 25.2 +1.3**
comp=N,0.3nm,0.6s,baz=298,slow=6.3,SNR=5.3
comp=N,0.3nm,0.6s

*IDC **27** 22:19:01.1±1.0, 31°.59S×178°.46W, h0km, mb4.5/4, mbtmp4.5/5, ML4.0/1, Error ellipse: s-maj=33.9km s-min=25.6km az=71.0*
*WEL **27** 22:19:05.4±0.5, 32°S±5°×17°8W±1°4, h12km, M4.9/9, mB5.4/9, ML5.2/9, MLv4.9/8, Mw(mB)4.8/9, Error ellipse: s-maj=18.8km s-min=3.1km az=108.7, confirmed*
ISC 27 22:19:04.9±0.7, 31°.97S±0°.06×178°.6W±0°.1, h10km, n50, σ2s03/66, mb4.7/7, 5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.76**	**12**	P	**Pn**	**22 19 50.2**	**+1.1**
GLKZ				S	**Sn**	**22 20 20.8**	**-1.8**
RIZ	**Raoul Island**	**2.78**	**12**	S	**Sn**	**22 20 22.6**	**-0.4**
MXZ	**Matakaoa Point**	**6.14**	**204**	S	**Sn**	**22 21 45.3**	**-0.5**
WMGZ	**Waiomatatini S**	**6.33**	**202**	P	**Pn**	**22 20 41.4**	**+3.1**
WMGZ				S	**Sn**	**22 21 50.0**	**-0.7**
PKGZ	**Pakihiroa**	**6.49**	**204**	P	**Pn**	**22 20 42.8**	**+2.4**
PKGZ				S	**Sn**	**22 21 54.0**	**-0.5**
HAZ	**Te Kaha**	**6.50**	**206**	P	**Pn**	**22 20 44.1**	**+3.6**
HAZ				S	**Sn**	**22 21 58.2**	**+3.5**
PUZ	**Puketiti**	**6.61**	**202**	P	**Pn**	**22 20 43.0**	**+0.8**
PUZ				S	**Sn**	**22 21 56.9**	**-0.8**
TWGZ	**Tauwhareparae**	**6.80**	**203**	P	**Pn**	**22 20 46.1**	**+1.4**
TWGZ				S	**Sn**	**22 22 04.1**	**+1.8**
CNGZ	**Carnagh Statio**	**7.01**	**201**	P	**Pn**	**22 20 50.1**	**+2.6**
CNGZ				S	**Sn**	**22 22 06.9**	**-0.4**
TKGZ	**Te Karaka**	**7.08**	**203**	S	**Sn**	**22 22 10.8**	**+1.7**
MWZ	**Matawai**	**7.10**	**206**	P	**Pn**	**22 20 50.2**	**+1.3**
MWZ				S	**Sn**	**22 22 10.0**	**+0.4**
URZ	**Urewera**	**7.20**	**208**	Pn	**Pn**	**22 20 51.7**	**+1.6**
	2.4nm,0.3s,baz=9.3,slow=3.6,SNR=17						
URZ				Sn	**Sn**	**22 22 12.3**	**+0.4**
	9.9nm,0.3s,baz=309,slow=22,SNR=26						
	5.5nm,0.3s						
URZ	**Urewera**	**7.20**	**208**	P	**Pn**	**22 20 51.8**	**+1.6**
URZ				S	**Sn**	**22 22 13.5**	**+1.6**
OUZ	**Omahuta**	**7.28**	**241**	P	Pn	22 21 02.6	+11
RAGZ	**Rawiri**	**7.29**	**206**	S	**Sn**	**22 22 15.2**	**+1.0**
RIGZ	**Rimuhau**	**7.35**	**203**	P	**Pn**	**22 20 52.3**	**0.0**
RIGZ				S	**Sn**	**22 22 16.0**	**+0.2**
WHHZ	**Waihua**	**7.87**	**204**	S	**Sn**	**22 22 29.3**	**+0.9**
NMHZ	**Naumai**	**8.04**	**207**	P	**Pn**	**22 21 03.2**	**+1.5**
NMHZ				S	**Sn**	**22 22 34.1**	**+1.3**
ARHZ	**Aropaoanui**	**8.12**	**205**	P	**Pn**	**22 21 03.9**	**+1.2**
ARHZ				S	**Sn**	**22 22 33.0**	**-1.5**
MCHZ	**McNeill Hill**	**8.38**	**206**	P	**Pn**	**22 21 08.1**	**+1.6**
MCHZ				S	**Sn**	**22 22 40.1**	**-1.1**
CKHZ	**Cape Kidnapper**	**8.44**	**203**	S	**Sn**	**22 22 39.7**	**-2.7**
KWHZ	**Kaweka Forest**	**8.47**	**207**	P	**Pn**	**22 21 07.5**	**-0.2**
KWHZ				S	**Sn**	**22 22 42.1**	**-1.3**
KAHZ	**Kahuranaki**	**8.63**	**204**	P	**Pn**	**22 21 09.7**	**-0.2**
KRHZ	**Kereru**	**8.68**	**207**	P	**Pn**	**22 21 10.2**	**-0.3**
KRHZ				S	**Sn**	**22 22 46.4**	**-2.1**
PXZ	**Pawanui**	**8.85**	**203**	P	**Pn**	**22 21 10.7**	**-2.0**
PXZ				S	**Sn**	**22 22 49.1**	**-3.4**
PNHZ	**Pukenui**	**8.98**	**207**	P	**Pn**	**22 21 14.5**	**-0.2**
PNHZ				S	**Sn**	**22 22 53.2**	**-2.6**
WPHZ	**Waipukurau**	**9.02**	**205**	P	**Pn**	**22 21 15.5**	**+0.3**
WPHZ				S	**Sn**	**22 22 55.3**	**-1.5**
TSZ	**Takapari Road**	**9.20**	**207**	P	**Pn**	**22 21 16.1**	**-1.5**
TSZ				S	**Sn**	**22 22 55.6**	**-5.5**
DVHZ	**Dannevirke**	**9.33**	**206**	P	**Pn**	**22 21 18.2**	**-1.2**
DVHZ				S	**Sn**	**22 23 00.9**	**-3.5**
POWZ	**Post Office Ro**	**9.56**	**207**	P	**Pn**	**22 21 20.9**	**-1.7**
POWZ				S	**Sn**	**22 23 08.0**	**-2.0**
CTZ	**Chatham Island**	**11.85**	**173**	P	**Pn**	**22 21 55.6**	**+1.8**
CTZ				S	**Sn**	**22 24 00.3**	**-5.8**
ASAR	**Alice Springs**	**42.55**	**269**	P	**P**	**22 26 59.8**	**-1.3**
	3.1nm,0.6s,baz=103,slow=7.4,SNR=33						
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**43.68**	**274**	P	**P**	**22 27 08.7**	**-1.5**
	7.3nm,0.5s,baz=114,slow=7.8,SNR=62						
	7.3nm,0.5s						
QSPA	**South Pole Qui**	**58.14**	**180**	P	**P**	**22 28 60.0**	**+1.4**
	4.9nm,0.7s,baz=293,slow=0.6,SNR=26						
	4.9nm,0.7s						
TROLL	**Troll, Antarti**	**76.30**	**180**	⇓P	**P**	**22 30 54.5**	**+0.8**
	comp=Z,51nm,0.7s						
SNAA	**Sanae**	**76.60**	**179**	⇓P	**P**	**22 30 56.0**	**+0.7**
	comp=Z,15nm,0.7s						
SNAA	**Sanae**	**76.60**	**179**	P	**P**	**22 30 54.6**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=208,slow=7.2,SNR=14						
	comp=Z,1.2nm,0.3s						
VNA3	**Neumayer Olymp**	**76.78**	**176**	⇓P	**P**	**22 30 56.0**	**-0.1**
	comp=Z,5.7nm,0.7s						
VNA2	**Neumayer--Watz**	**77.20**	**177**	⇓P	**P**	**22 31 02.4**	**+3.8**
	comp=Z,6.5nm,0.6s,baz=223,slow=7.2						
VNA1	**Neumayer--Stat**	**77.44**	**177**	⇓P	**P**	**22 31 01.8**	**+2.0**
	comp=Z,7.5nm,1.0s						
H03S2	**Juan Fernandez**	**80.02**	**124**	T	T	00 00 09.4	
	baz=235						
H03S1	**Juan Fernandez**	**80.03**	**124**	T	T	00 00 07.0	
	baz=235						
H03S3	**Juan Fernandez**	**80.03**	**124**	T	T	00 00 05.5	
	baz=235						
H03N3	**Juan Fernandez**	**80.22**	**123**	T	T	00 00 13.1	
	baz=240,slow=72,SNR=9.0						
H03N2	**Juan Fernandez**	**80.22**	**123**	T	T	00 00 14.2	
	baz=240,slow=72,SNR=8.3						
H03N1	**Juan Fernandez**	**80.23**	**123**	T	T	00 00 11.6	
	baz=240,slow=72,SNR=16						
BVAR	**Borovoye Array**	**127.17**	**315**	PKP	**PKPdf**	**22 38 06.0**	**-2.9**
	comp=Z,0.2nm,0.4s,baz=294,slow=1.4,SNR=2.0						
FINES	**FINESS Array B**	**146.43**	**339**	PKPbc	**PKPdf**	**22 38 42.0**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=41,slow=3.1,SNR=22						
NOA	**NORSAR Array B**	**150.22**	**350**	PKPbc	**PKPdf**	**22 38 52.5**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=17,slow=2.5,SNR=1.5						
HFS	**Hagfors**	**150.67**	**347**	PKPbc	**PKPdf**	**22 38 52.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=103,slow=4.6,SNR=8.4						

*GCG **27** 22:46:26.8±2.0, 14°.54N×90°.70W, h2km±6km, MD4.1, ML3.4, MW3.8*
*NEIC **27** 22:46:27.6±2.1, 14°.45N±0°.07×90°.69W±0°.05, h6km±6km, mb4.1/6, Error ellipse: s-maj=12.7km s-min=2.9km az=212.0*
*CATAC **27** 22:46:28.1±0.2, 15°N±4°×9°1W±°, h4km±2km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=8.1km s-min=2.5km az=13.4, confirmed*
ISC 27 22:46:28.0±1.1, 14°.53N±0°.04×90°.68W±0°.03, h8km±10km, n53, σ0s89/59, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.15**	**68**	*i*P	**Pg**	**22 46 31.2**	**0.0**
GCG4	**OSOP**	**0.15**	**68**	*i*P		22 46 31.2	
STG0	**El Palmar, Qui**	**0.66**	**261**	*e*P		22 46 44.1	
STG0				*e*S		22 46 56.9	
STG8	**El Palmar, Qui**	**0.66**	**263**	*e*P		22 46 44.6	
STG8				*e*S		22 46 57.6	
SOKI	**Kika Raxquin**	**0.76**	**292**	*e*P	**Pg**	**22 46 42.6**	**-0.1**
SOKI				*e*S	**Sb**	**22 46 53.4**	**-1.1**
SOKI				IAML		22 47 06.3	
	comp=Z,920nm,0.8s						
SOKI	**Kika Raxquin**	**0.76**	**292**	*e*P		22 46 42.6	
SOKI				*e*S		22 46 53.4	
SOKI				IAML		22 47 06.3	
	comp=Z,920nm,0.8s						
QUEO	**Labor Ovalle**	**0.88**	**293**	*e*P	**Pb**	**22 46 45.0**	**-0.7**
QUEO				*i*S	**Sb**	**22 46 57.8**	**0.0**
QUEO				IAML		22 47 06.8	
	comp=Z,2μm,0.4s						
QUEO	**Labor Ovalle**	**0.88**	**293**	*e*P		22 46 45.0	
QUEO				*i*S		22 46 57.8	
QUEO				IAML		22 47 06.8	
	comp=Z,2μm,0.4s						
ESSJ	**San Jos, E**	**0.98**	**170**	*i*P		22 46 40.1	
RTAL	**Retalhuleu**	**0.99**	**270**	Pg	**Pg**	**22 46 46.4**	**-0.5**
RTAL					**Sb**	**22 47 00.7**	**0.0**
RTAL	**Retalhuleu**	**0.99**	**270**	P	**Pg**	**22 46 46.0**	**-1.0**
RTAL	**Retalhuleu**	**0.99**	**270**	S	**Sb**	**22 47 01.0**	**+0.4**
RTAL	**Retalhuleu**	**0.99**	**270**	P	**Pg**	**22 46 46.5**	**-0.5**
NUBE	**Las Nubes**	**1.07**	**126**	S	**Sg**	**22 47 02.9**	**+0.4**
NUBE	**Las Nubes**	**1.07**	**126**	P	**Pg**	**22 46 47.5**	**-1.1**
NUBE	**Las Nubes**	**1.07**	**126**	P	**Pg**	**22 46 47.6**	**-1.0**
NUBE	**Las Nubes**	**1.07**	**126**	*e*P	**Pg**	**22 46 47.1**	**-1.4**
NUBE				*i*S	**Sb**	**22 47 03.2**	**0.0**
NUBE	**Las Nubes**	**1.07**	**126**	*e*P		22 46 47.1	
NUBE				*i*S		22 47 03.2	
HUEH	**Huehuetenango**	**1.12**	**314**	Pg	**Pg**	**22 46 48.6**	**-0.9**
HUEH				Sg	**Sb**	**22 47 05.1**	**+0.5**
MTO3	**Montecristo**	**1.28**	**96**		**Pg**	**22 46 51.3**	**-1.3**
MTO3				Sg	**Sg**	**22 47 08.7**	**-0.5**
MTO3	**Montecristo**	**1.28**	**96**	P	**Pg**	**22 46 51.3**	**-1.3**
MTO3	**Montecristo**	**1.28**	**96**	P	**Pg**	**22 46 51.5**	**-1.1**
ESQI	**Esquipulas**	**1.29**	**89**		**Pg**	**22 46 51.5**	**-1.3**
ESQI	**Esquipulas**	**1.29**	**89**	P	**Pg**	**22 46 51.9**	**-0.9**
ESQI	**Esquipulas**	**1.29**	**89**	S	**Sg**	**22 47 09.6**	**0.0**
ESQI	**Esquipulas**	**1.29**	**89**	P	**Pg**	**22 46 52.0**	**-0.8**
JAYA	**Jayaque - finc**	**1.48**	**126**	P	**Pn**	**22 46 54.8**	**-0.3**
JAYA	**Jayaque - finc**	**1.48**	**126**	S	**Sg**	**22 47 15.5**	**0.0**
JAYA	**Jayaque - finc**	**1.48**	**126**	P	**Pn**	**22 46 54.8**	**-0.3**
JAYA	**Jayaque - finc**	**1.48**	**126**	*e*P	**Pn**	**22 46 54.7**	**-0.3**
JAYA	**Jayaque - finc**	**1.48**	**126**	*e*P		22 46 54.7	
PMON	**Piamonte**	**1.55**	**122**	S	**Sg**	**22 47 19.3**	**+1.4**
PMON	**Piamonte**	**1.55**	**122**	P	**Pn**	**22 46 56.2**	**+0.1**
PMON	**Piamonte**	**1.55**	**122**	P	**Pn**	**22 46 56.4**	**+0.3**
THIG		**1.58**	**284**	*e*S	**Sg**	**22 47 19.6**	**+0.7**
THIG		**1.58**	**284**	*e*S		22 47 19.6	
PAVA	**Las Pavas**	**1.87**	**116**	P	**Pn**	**22 47 01.6**	**+1.1**
PAVA	**Las Pavas**	**1.87**	**116**	P	**Pb**	**22 47 01.8**	**-0.8**
COEG	**Centro de Oper**	**1.96**	**117**	P	**Pb**	**22 47 04.2**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.06**	**113**	P	**Pg**	**22 47 07.8**	**+0.2**
CCIG	**Comitan**	**2.24**	**321**		**Pn**	**22 47 05.3**	**-0.3**
CCIG	**Comitan**	**2.24**	**321**	P	**Pn**	**22 47 06.2**	**+0.6**
CCIG	**Comitan**	**2.24**	**321**	S	**Sg**	**22 47 40.1**	**+0.1**
CCIG	**Comitan**	**2.24**	**321**	P	**Pb**	**22 47 09.1**	**+0.3**
PETF	**Flores**	**2.50**	**18**	Pn	**Pn**	**22 47 09.3**	**+0.3**
PACA	**Pacayal**	**2.52**	**115**	S	**Sg**	**22 47 50.6**	**+1.7**
PACA	**Pacayal**	**2.52**	**115**	P	**Pn**	**22 47 10.1**	**+0.7**
PACA	**Pacayal**	**2.52**	**115**	P	**Pg**	**22 47 18.6**	**+2.4**
CNCH	**Conchagua**	**3.03**	**114**	P	**Pn**	**22 47 14.5**	**-2.0**
CNCH	**Conchagua**	**3.03**	**114**	P	**Pn**	**22 47 14.6**	**-1.8**
TGUH	**Tegucigalpa,Un**	**3.33**	**98**		**Pn**	**22 47 21.0**	**+0.4**
CRIN	**San Cristobal**	**3.97**	**117**	Pn	**Pn**	**22 47 29.0**	**-0.3**
TEIG	**Tepich**	**6.11**	**22**		**Pn**	**22 47 59.5**	**+0.9**
ESPN	**Las Esperanzas**	**6.62**	**110**		**Pn**	**22 48 06.0**	**+0.2**
SOR	**Soroa**	**10.96**	**40**	Pn	**Pn**	**22 49 04.0**	**-1.3**
HNDO	**Hondo**	**16.91**	**333**		**P**	**22 50 28.0**	**+0.8**
TXAR	**Lajitas Array**	**19.01**	**323**	P	**Pn**	**22 50 52.2**	**+1.1**
FLOC	**Florencia**	**19.64**	**130**	P	**P**	**22 50 57.8**	**+0.4**
SGCY	**Sterling City**	**19.77**	**333**		**P**	**22 50 58.7**	**0.0**
SGCY				IAmb	IAmb	22 51 21.6	
	comp=Z,7.3nm,0.5s						
MNHN	**Monahans**	**20.07**	**329**	P	**P**	**22 51 02.4**	**+0.5**
MNHN				IAmb	IAmb	22 51 08.9	
	comp=Z,9.9nm,0.9s						
SDV	**Santo Domingo**	**20.40**	**104**	P	**P**	**22 51 05.4**	**-0.5**
SDV				IAmb	IAmb	22 51 11.3	
	comp=Z,5.7nm,0.8s						
POST	**Post**	**20.91**	**334**	P	**P**	**22 51 10.2**	**-0.9**
POST				IAmb	IAmb	22 51 18.3	
	comp=Z,5.2nm,0.8s						

*IDC **27** 22:56:12.1±1.2, 32°.25N×141°.95E, h0km, mb3.5/4, mbtmp3.4/6, ML2.8/2, MS2.6/2, Error ellipse: s-maj=32.9km s-min=24.0km az=75.0*
*JMA **27** 22:56:13.8±0.5, 32°N±2°×14°2E±°, h0km, MV3.5/25, E OFF HACHIJOJIMA ISLAND*
ISC 27 22:56:12.8±3.7, 32°.49N±0°.07×141°.86E±0°.08, h0km±23km, n19, σ2s06/24, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.82**	**290**	*e*P	**Pn**	**22 56 46.1**	**+0.7**
JHJ2				*e*S	**Sb**	**22 57 09.8**	**-0.6**
JHJ	**Hachijo jima 2**	**1.85**	**290**	Pn	**Pn**	**22 56 46.0**	**+0.3**
	23nm,0.3s,baz=65,slow=21,SNR=2.4						
JHJ				Sn	**Sn**	**22 57 08.0**	**-1.9**
	31nm,0.3s,baz=289,slow=21,SNR=2.2						
BSO1	**Boso 1**	**2.28**	**341**	*e*P	**Pn**	**22 56 52.9**	**+1.8**
BSO1				*e*S	**Sb**	**22 57 22.3**	**-0.6**
BSO2	**Boso 2**	**2.43**	**338**	S	**Sb**	**22 57 27.4**	**-0.3**
BSO3	**Boso 3**	**2.56**	**334**	P	**Pb**	**22 56 58.2**	**-1.2**
BSO3				S	**Sb**	**22 57 30.6**	**-0.9**
BSO4	**Boso 4**	**2.79**	**334**	*e*P	**Pb**	**22 57 01.8**	**-1.7**
BSO4				*e*S	**Sb**	**22 57 36.2**	**-2.1**
JHO	**Hitachi**	**4.25**	**346**	P	**Pn**	**22 57 19.7**	**+1.1**
JRY	**Ryogami san**	**4.28**	**326**	*e*P	**Pn**	**22 57 22.8**	**+3.5**
JRY				*e*S	**Sn**	**22 58 12.6**	**+2.7**
JFK	**Kawauchi**	**4.93**	**351**	*

comp=Z,48nm,19.1s,baz=107,slow=46
JMK Ichinoseki 6.47 356 S **Sn 22 59 00.1 -3.6**
KSRS Korea Array 12.45 297 LR LR 23 03 29.9
comp=Z,29nm,18.2s,baz=55,slow=35
KLR Kul'dur 18.36 339 P **P 23 00 30.1 +1.3**
0.1nm,0.3s,baz=168,slow=10,SNR=3.7
0.9nm,0.7s
SONM Songino Array 30.82 310 P **P 23 02 33.4 +3.1**
0.5nm,0.6s,baz=106,slow=9.1,SNR=2.1
0.5nm,0.6s
WRA Warramunga Arr 52.63 189 P **P 23 05 26.1 -2.6**
1.2nm,0.7s,baz=5.5,slow=7.6,SNR=16
1.2nm,0.7s
ILAR Eielson Array 53.17 30 P **P 23 05 32.5 +0.3**
0.3nm,0.7s,baz=258,slow=6.6,SNR=2.9
0.3nm,0.7s
YKA Yellowknife Ar 67.57 29 P **P 23 07 11.1 +0.4**
0.1nm,0.6s,baz=293,slow=6.9,SNR=3.1
0.1nm,0.6s

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*MOS **27** 22:57:08.9±1.3,38°.37N×90°.73E,h10km,mb4.4/6,Error ellipse: s-maj=7.9km s-min=5.1km az=127.5*
*BJI **27** 22:57:08.9,38°.31N×90°.88E,h9km,mB4.2/1,mb4.4/16, ML4.3/12,Ms4.2/22,Ms7 4.0/22*
*IDC **27** 22:57:09.6±0.8,38°.40N×90°.84E,h0km,mb3.9/17, mbtmp3.9/21,ML3.6/4,MS3.7/1,Error ellipse: s-maj=23.3km s-min=15.0km az=44.0*
*NEIC **27** 22:57:10.7±2.4,38°.38N±0°.08×90°.8E±0°.1,h10km±1km, mb4.2/26,Error ellipse: s-maj=15.6km s-min=13.0km az=66.0*
ISC 27 22:57:10.8±0.4,38°.36N±0°.05×90°.78E±0°.05,h10km,n121, σ1§47/124,mb4.1/23,6C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOMU	**GeErMu**	**3.88**	**123**	Pn	**Pn**	**22 58 09.5**	**-1.3**
GOMU				Sn	**Sn**	**22 58 55.5**	**-1.0**
GOMU				Sg	**Sb**	**22 59 09.0**	**+2.4**
GOMU				smax	smax		
	comp=N,910nm,0.5s						
GOMU				smax	smax		
	comp=E,580nm,0.5s						
WMQ	**Urumqi**	**5.93**	**338**	Pn	**Pn**	**22 58 41.8**	**+3.0**
WMQ				Sn	**Sn**	**22 59 50.3**	**+3.5**
WMQ				smax	smax		
	comp=N,350nm,0.9s						
WMQ				smax	smax		
	comp=E,340nm,1.3s						
GTA	**Gaotai**	**7.13**	**79**	Pn	**Pn**	**22 58 53.8**	**-1.4**
GTA				Pg	**Pb**	**22 59 15.5**	**+0.8**
GTA				smax	smax		
	comp=N,94nm,0.8s						
GTA				smax	smax		
	comp=E,52nm,0.8s						
GTA				LR	LR		
	comp=E,2μm,11.6s						
GTA				LR	LR		
	comp=Z,1μm,14.2s						
LSA	**Lhasa**	**8.64**	**178**	Pn	**Pn**	**22 59 17.5**	**+1.1**
LSA	**Lhasa**	**8.64**	**178**	P	**Pn**	**22 59 17.5**	**+1.1**
WUS	**Wushi**	**9.34**	**291**	Pn	**Pn**	**22 59 26.1**	**+0.5**
SHLS	**Shalkode**	**9.83**	**303**	*e*P	**Pn**	**22 59 30.5**	**-1.8**
UZB	**Uzynbulak**	**10.12**	**302**	*e*P	**Pn**	**22 59 36.3**	**0.0**
MK31	**Makanchi Array**	**10.49**	**326**	Pn	**Pn**	**22 59 40.8**	**-0.4**
MK31	**Makanchi Array**	**10.49**	**326**	P	**Pn**	**22 59 40.8**	**-0.4**
MKAR	**Makanchi Array**	**10.49**	**326**	Pn	**Pn**	**22 59 41.1**	**-0.2**
	2.3nm,0.3s,baz=133,slow=13,SNR=95						
MKAR				Sn	**Sn**	**23 01 36.8**	**-2.0**
	1.3nm,0.3s,baz=137,slow=23,SNR=5.6						
MKAR	**Makanchi Array**	**10.49**	**326**	*i* P	**Pn**	**22 59 41.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TARG	**Taragay, Kyrgy**	**10.50**	**293**		**Pn**	**22 59 43.4**	**+1.6**
TARG	**Taragay, Kyrgy**	**10.50**	**293**	P	**Pn**	**22 59 43.4**	**+1.6**
ZHN	**Zhinishke**	**10.52**	**301**	*e*P	**Pn**	**22 59 42.9**	**+1.2**
MAKZ	**Makanchi**	**10.64**	**325**	Pn	**Pn**	**22 59 43.2**	**-0.1**
MAKZ	**Makanchi**	**10.64**	**325**	P	**Pn**	**22 59 43.2**	**-0.1**
KDJ	**Kajisay**	**11.05**	**294**		**Pn**	**22 59 49.4**	**+0.3**
KDJ	**Kajisay**	**11.05**	**294**	P	**Pn**	**22 59 49.4**	**+0.3**
KSH	**Kashi**	**11.59**	**280**	P	Pn	23 00 02.0	+5.6
KSH				pP		23 00 04.5	
KSH				S	Sn	23 02 16.5	+11
KSH				pmax	pmax		
	comp=Z,25nm,0.8s						
KSH				LR	LR		
	comp=Z,460nm,6.2s						
KSH				LR	LR		
	comp=Z,220nm,9.6s						
ULHL	**Ulahol**	**11.76**	**294**	P	**Pn**	**23 00 00.2**	**+1.4**
	SNR=18						
BOOM	**Boomskoye usch**	**12.04**	**295**		**Pn**	**23 00 02.4**	**-0.1**
BOOM	**Boomskoye usch**	**12.04**	**295**	P	**Pn**	**23 00 02.4**	**-0.1**
TKM2	**Tokmak 2**	**12.40**	**296**	P	**Pn**	**23 00 08.7**	**+1.2**
	SNR=52						
KBK	**Karagaybulak**	**12.79**	**295**	P	**Pn**	**23 00 14.1**	**+1.3**
	SNR=31						
SHL	**Shillong**	**12.79**	**175**	Pn	**Pn**	**23 00 12.6**	**-0.3**
SHL	**Shillong**	**12.79**	**175**	P	**Pn**	**23 00 12.6**	**-0.3**
FRU1	**Bishkek**	**13.05**	**295**	Pn	**Pn**	**23 00 16.6**	**+0.3**
FRU1	**Bishkek**	**13.05**	**295**	P	**Pn**	**23 00 16.6**	**+0.3**
AAK	**Ala-Archa**	**13.11**	**294**	Pn	**Pn**	**23 00 15.5**	**-1.7**
AAK	**Ala-Archa**	**13.11**	**294**	Pn	**Pn**	**23 00 18.4**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=107,slow=13,SNR=9.1						
	comp=Z,1.5nm,0.3s						
AAK	**Ala-Archa**	**13.11**	**294**	P	**Pn**	**23 00 18.4**	**+1.2**
	SNR=9.3						
AAK	**Ala-Archa**	**13.11**	**294**↑	*e*P	**Pn**	**23 00 17.7**	**+0.5**
USP	**Ospenovka**	**13.27**	**297**	P	**Pn**	**23 00 19.2**	**0.0**
	SNR=12						
ARSB	**Arslanbob**	**13.99**	**288**		**Pn**	**23 00 27.4**	**-1.8**
ARSB	**Arslanbob**	**13.99**	**288**	P	**Pn**	**23 00 27.4**	**-1.8**
SONM	**Songino Array**	**14.80**	**45**	Pn	**Pn**	**23 00 38.7**	**-1.5**
SONM	**Songino Array**	**14.80**	**45**	Pn	**Pn**	**23 00 41.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=232,slow=14,SNR=14						
	comp=Z,1.5nm,0.5s						
DRK	**Karamyk**	**14.82**	**280**		**Pn**	**23 00 41.4**	**+0.7**
DRK	**Karamyk**	**14.82**	**280**	P	**Pn**	**23 00 41.4**	**+0.7**
NIL	**Nilore**	**14.94**	**257**		**Pn**	**23 00 42.4**	**+0.3**
NIL	**Nilore**	**14.94**	**257**	P	**Pn**	**23 00 42.4**	**+0.3**
ZAK	**Zakamensk**	**14.95**	**32**	*e*P	**Pn**	**23 00 42.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
PZH	**PanZhiHua**	**15.00**	**139**	P	**P**	**23 00 46.0**	**-2.5**
PZH				S	**Sn**	**23 03 31.3**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				LR	LR		
	comp=Z,140nm,9.8s						
PZH				LR	LR		
	comp=Z,200nm,7.5s						
PZH				LR	LR		
	comp=Z,280nm,9.4s						
KURBB	**Kurchatov Arra**	**15.03**	**329**	Pn	**Pn**	**23 00 40.7**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=138,slow=13,SNR=37						
	comp=Z,6.2nm,0.9s						
KURK	**Kurchatov**	**15.06**	**329**	Pn	**Pn**	**23 00 40.2**	**-3.4**
KURK				IAmb	IAmb	23 00 53.6	
	comp=Z,10nm,0.9s						
KURK	**Kurchatov**	**15.06**	**329**	*c i*P	**Pn**	**23 00 42.4**	**-1.2**
MOY	**Mondy**	**15.12**	**25**	*e*P	**P**	**23 00 47.0**	**-2.7**
MOY				pmax	pmax		
	comp=Z,10.0nm,1.5s						
ULN	**Ulaanbaatar**	**15.19**	**46**	Pn	**Pn**	**23 00 45.0**	**-0.4**
ULN	**Ulaanbaatar**	**15.19**	**46**↑	*e*P	**Pn**	**23 00 45.5**	**+0.1**
XAN	**Xi'an**	**15.27**	**101**	P	**P**	**23 00 49.5**	**-1.8**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				LR	LR		
	comp=Z,460nm,10.8s						
XAN				LR	LR		
	comp=Z,830nm,11.9s						
XAN				LR	LR		
	comp=Z,750nm,9.1s						
BTK	**Batken**	**15.57**	**282**		**Pn**	**23 00 51.5**	**+1.1**
BTK				IAmb	IAmb	23 01 04.0	
	comp=Z,14nm,1.2s						
BTK	**Batken**	**15.57**	**282**	P	**Pn**	**23 00 51.5**	**+1.1**
BTK				pmax	pmax		
	comp=Z,14nm,1.2s						
GAR	**Garm**	**16.00**	**279**	Pn	**Pn**	**23 00 54.2**	**-1.8**
KK31	**Karatay Array**	**16.07**	**294**	Pn	**Pn**	**23 00 54.7**	**-2.1**
KK31	**Karatay Array**	**16.07**	**294**	P	**Pn**	**23 00 54.7**	**-2.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**16.07**	**294**		**Pn**	**23 00 55.3**	**-1.5**
KKAR	**Karatay Array**	**16.07**	**294**	Pn	**Pn**	**23 00 53.9**	**-2.9**
KKAR				IAmb	IAmb	23 01 21.3	
	comp=Z,2.2nm,0.6s						
KKAR	**Karatay Array**	**16.07**	**294**	P	**Pn**	**23 00 55.3**	**-1.5**
ZAA0	**Zalesovo Array**	**16.12**	**347**		**Pn**	**23 00 55.1**	**-2.2**
ZALV	**Zalesovo Beam**	**16.12**	**347**		**Pn**	**23 00 55.5**	**-1.8**
ZALV	**Zalesovo Beam**	**16.12**	**347**	Pn	**Pn**	**23 00 56.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=168,slow=12,SNR=17						
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**16.12**	**347**	*i* P	**Pn**	**23 00 56.0**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**16.21**	**75**	*e*P	**Pn**	**23 00 59.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC				LR	LR		
	comp=Z,450nm,10.3s						
HHC				LR	LR		
	comp=Z,390nm,15.9s						
HHC				LR	LR		
	comp=Z,600nm,15.1s						
KMI	**Kunming**	**16.64**	**139**	P	**P**	**23 01 07.3**	**+0.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				LR	LR		
	comp=Z,150nm,8.9s						
KMI				LR	LR		
	comp=Z,190nm,8.3s						
KMI				LR	LR		
	comp=Z,210nm,9.4s						
IRK	**Irkutsk**	**16.77**	**30**	*e*P	**P**	**23 01 10.4**	**+2.5**
IRK				pmax	pmax		
	comp=Z,21nm,1.4s						
CHGR	**Chuyangaron**	**16.93**	**278**		**Pn**	**23 01 05.8**	**-2.0**
CHGR				IAmb	IAmb	23 01 16.9	
	comp=Z,29nm,1.0s						
CHGR	**Chuyangaron**	**16.93**	**278**	P	**Pn**	**23 01 05.8**	**-2.0**
CHGR				pmax	pmax		
	comp=Z,29nm,1.0s						
SIMJ	**Simiganj**	**17.04**	**278**		**Pn**	**23 01 08.0**	**-1.3**
SIMJ				IAmb	IAmb	23 01 24.7	
	comp=Z,18nm,1.1s						
LYN	**LuoYang**	**17.85**	**96**	P	**P**	**23 01 20.3**	**+0.4**
LYN				pmax	pmax		
	comp=Z,14nm,0.8s						
LYN				LR	LR		
	comp=Z,580nm,12.5s						
LYN				LR	LR		
	comp=Z,620nm,12.4s						
KBL	**Kabul**	**17.89**	**264**	P	**Pn**	**23 01 19.0**	**-1.0**
KBL	**Kabul**	**17.89**	**264**	P	**Pn**	**23 01 19.0**	**-1.0**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BJT	**Baijiatuan**	**19.73**	**77**	P	**P**	**23 01 39.7**	**-0.9**
BJT				IAmb	IAmb	23 01 45.4	
	comp=Z,14nm,1.3s						
BJT	**Baijiatuan**	**19.73**	**77**	P	**P**	**23 01 39.7**	**-0.9**
BJT				pmax	pmax		
	comp=Z,15nm,1.3s						
BVAR	**Borovoye Array**	**20.34**	**323**	P	Pn	23 01 48.6	-0.5
	comp=Z,4.9nm,0.7s,baz=128,slow=11,SNR=20						
	comp=Z,4.9nm,0.7s						
BRVK	**Borovoye**	**20.41**	**323**	P	**P**	**23 01 47.7**	**-0.1**
BRVK				IAmb	IAmb	23 01 54.6	
	comp=Z,5.8nm,0.8s						
BRVK	**Borovoye**	**20.41**	**323**↑	*i* P	Pn	23 01 50.4	+0.5
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.07**	**158**	P	**P**	**23 01 53.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**21.07**	**158**	P	**P**	**23 01 55.5**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=348,slow=9.0,SNR=6.2						
	comp=Z,1.1nm,0.3s						
ABKAR	**Akbulak array**	**24.61**	**306**	P	**P**	**23 02 31.1**	**0.0**
ABKAR				IAmb	IAmb	23 02 47.4	
	comp=Z,5.7nm,0.8s						
ABKAR	**Akbulak array**	**24.61**	**306**	P	**P**	**23 02 31.4**	**+0.3**
SVE	**Sverdlovsk**	**27.12**	**323**	*e*P	**P**	**23 03 00.5**	**+6.7**
ARTI	**Arti**	**28.02**	**321**	P	**P**	**23 03 00.6**	**-1.1**
ARTI				S	**S**	**23 07 46.7**	**+0.8**
ARTI				SS	**SnSn**	**23 09 03.2**	**+3.0**
ZEA	**Zeya**	**29.22**	**46**↑	*e*P	**P**	**23 03 11.2**	**-1.3**
NRIK	**Noril'sk**	**31.09**	**358**	P	**P**	**23 03 28.3**	**-0.5**
NRIK				IAmb	IAmb	23 03 31.8	
	comp=Z,5.9nm,1.4s						
NRIK	**Noril'sk**	**31.09**	**358**	P	**P**	**23 03 28.6**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=174,slow=13,SNR=4.5						
	comp=Z,1.5nm,0.4s						
NRIK	**Noril'sk**	**31.09**	**358**↓	*e*P	**P**	**23 03 29.3**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,11nm,2.3s						
KLR	**Kul'dur**	**31.15**	**56**	P	**P**	**23 03 28.8**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=268,slow=10,SNR=4.7						
	comp=Z,1.3nm,0.7s						
KLR	**Kul'dur**	**31.15**	**56**↑	*e*P	**P**	**23 03 26.6**	**-3.0**
KLR				pmax	pmax		
	comp=Z,9.0nm,2.3s						
KIV	**Kislovodsk**	**36.23**	**295**	*e*P	P	23 04 09.0	-4.9
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLMR	**Klimovskoe**	**38.76**	**322**	*e*P	**P**	**23 04 32.8**	**-2.2**
KLMR				*e*		23 06 32.4	
KLMR				pmax	pmax		
	comp=Z,22nm,1.6s						
BR131	**Keskin Array S**	**43.75**	**290**	P	**P**	**23 05 15.6**	**-0.9**
BR131				IAmb	IAmb	23 05 21.3	
	comp=Z,2.9nm,0.9s						
BR131	**Keskin Array S**	**43.75**	**290**	P	**P**	**23 05 15.6**	**-0.9**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**43.75**	**290**	P	**P**	**23 05 16.1**	**-0.4**
BRTR	**Keskin Array B**	**43.75**	**290**	P	**P**	**23 05 18.3**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=93,slow=8.3,SNR=4.8						
	comp=Z,1.4nm,0.9s						
BRTR	**Keskin Array B**	**43.75**	**290**	P	**P**	**23 05 16.1**	**-0.4**
SEY	**Seymchan**	**43.89**	**35**	*e*P	**P**	**23 05 18.7**	**+1.5**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.2s						
AKASG	**Malin Array Be**	**44.35**	**307**	P	**P**	**23 05 21.6**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=85,slow=7.5,SNR=4.2						
	comp=Z,0.4nm,0.4s						
FIA1	**FINESS Array S**	**45.30**	**322**	P	**P**	**23 05 27.9**	**-0.4**
FINES	**FINESS Array B**	**45.30**	**322**	P	**P**	**23 05 28.3**	**0.0**
FINES	**FINESS Array B**	**45.30**	**322**	P	**P**	**23 05 28.8**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=60,slow=9.1,SNR=17						
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**46.04**	**334**	P	**P**	**23 05 34.4**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=79,slow=9.3,SNR=4.1						
	comp=Z,3.4nm,0.9s						
EIL	**Elat**	**46.48**	**277**	LR	LR	23 29 07.5	
	comp=Z,87nm,19.2s,baz=118,slow=41						
HFS	**Hagfors**	**51.46**	**321**	P	**P**	**23 06 16.3**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=111,slow=8.1,SNR=9.8						
	comp=Z,0.7nm,0.4s						
NB201	**NORSAR Array S**	**52.43**	**323**	P	**P**	**23 06 22.6**	**-0.6**
NB2	**NORSAR Subarra**	**52.47**	**323**	P	**P**	**23 06 23.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=76,slow=7.4						
NOA	**NORSAR Array B**	**52.47**	**323**	P	**P**	**23 06 23.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=77,slow=7.4,SNR=5.5						
	comp=Z,1.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**61.55**	**320**	P	**P**	**23 07 27.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=66,slow=7.8,SNR=4.0						
	comp=Z,1.5nm,0.8s						
E25K	**Arctic Village**	**65.81**	**20**	P	**P**	**23 07 55.4**	**-0.5**
E25K				IAmb	IAmb	23 08 00.1	
	comp=Z,3.1nm,1.5s						
BMAR	**Burnt Mountain**	**66.57**	**20**	P	**P**	**23 08 01.3**	**+0.6**
H24K	**Noodor Dome**	**66.74**	**22**	P	**P**	**23 08 02.0**	**+0.2**
E27K	**Coleen River**	**66.80**	**19**	P	**P**	**23 08 01.7**	**-0.4**
E27K				IAmb	IAmb	23 08 44.6	
	comp=Z,2.8nm,1.2s						
ILAR	**Eielson Array**	**67.78**	**23**	P	**P**	**23 08 08.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=303,slow=4.7,SNR=16						
	comp=Z,1.1nm,0.9s						
ESDC	**Sonseca Array**	**69.95**	**305**	P	**P**	**23 08 22.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=65,slow=5.9,SNR=4.2						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**70.95**	**137**	P	**P**	**23 08 29.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=318,slow=6.4,SNR=2.8						
	comp=Z,0.4nm,0.7s						
K29M	**Barlow Dome**	**71.20**	**20**	P	**P**	**23 08 29.2**	**-0.5**
K29M				IAmb	IAmb	23 08 40.9	
	comp=Z,2.5nm,1.1s						
ASAR	**Alice Springs**	**73.78**	**139**	P	**P**	**23 08 46.5**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=328,slow=6.4,SNR=7.0						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**77.43**	**12**	P	**P**	**23 09 05.8**	**0.0**
	comp=Z,0.3nm,0.8s,baz=332,slow=5.6,SNR=5.0						
	comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**77.43**	**12**	*i* P	**P**	**23 09 08.1**	**+2.3**
TORD	**Torodi Ar. Bea**	**81.26**	**280**	P	**P**	**23 09 26.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**81.26**	**280**	P	**P**	**23 09 27.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=53,slow=4.7,SNR=2.4						
	comp=Z,0.6nm,0.3s						

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*IDC **27** 22:57:51.0±1.1,12°.58N×48°.24E,h0km,mb4.0/14, mbtmp4.0/15,ML2.2/2,MS3.8/4,Error ellipse: s-maj=26.4km s-min=18.2km az=19.0*
*NEIC **27** 22:57:52.2±1.2,12°.61N±0°.08×48°.28E±0°.08,h10km±1km, mb4.5/15,Error ellipse: s-maj=15.9km s-min=10.5km az=217.0*
ISC 27 22:57:51.6±0.6,12°.57N±0°.08×48°.29E±0°.07,h10km,n43, σ1§19/40,mb4.3/21,MS3.8/4,1C,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**5.43**	**260**	Pn	**Pn**	**22 59 13.4**	**+0.7**
	0.4nm,0.3s,baz=67,slow=7.4,SNR=24						
ATD				Sn	**Sn**	**23 00 15.8**	**+0.5**
	0.1nm,0.3s,baz=74,slow=21,SNR=2.0						
	2.0nm,0.6s						
RAYN	**Ar Rayn**	**11.22**	**347**	Pn	**Pn**	**23 00 29.5**	**-2.7**
UOSS	**Minazif**	**14.41**	**30**		**Pn**	**23 01 15.0**	**-0.8**
WSAR	**Wadi Sarin**	**14.46**	**41**	Pn	**Pn**	**23 01 17.7**	**+1.1**
	baz=133,slow=24,SNR=4.0						
MSEY	**Mahe Island**	**18.55**	**157**	P	**P**	**23 02 08.7**	**-0.1**
MSEY				IAmb	IAmb	23 02 15.1	
	comp=Z,17nm,1.1s						
EIL	**Elat**	**21.05**	**326**	P	**P**	**23 02 36.4**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=166,slow=12,SNR=4.7						
EIL				Lg	Lg	23 08 34.4	
	comp=Z,0.1nm,0.3s,baz=88,slow=6.3,SNR=1.8						
	comp=Z,4.6nm,0.8s						
GHAJ	**Ghor Haditha**	**22.03**	**330**	P	**P**	**23 02 46.1**	**-0.3**
GHAJ				IAmb	IAmb	23 02 53.4	
	comp=Z,18nm,1.1s						
ASF	**Jabal al Asfar**	**22.15**	**334**	P	**P**	**23 02 48.7**	**+1.0**
	comp=Z,10nm,1.1s,baz=143,slow=15,SNR=7.6						
ASF				Lg	Lg	23 09 25.5	
	comp=Z,0.1nm,0.3s,baz=261,slow=3.7,SNR=3.1						
	comp=Z,10nm,1.1s						
MMAI	**Mount Meron Ar**	**23.53**	**332**	LR	LR	23 12 38.4	
	comp=Z,424nm,18.1s,baz=162,slow=38						
HRA	**Herat**	**25.16**	**28**	P	**P**	**23 03 16.6**	**-0.8**
HRA				IAmb	IAmb	23 03 23.2	
	comp=Z,8.7nm,1.1s						
MARD	**Mardin**	**25.55**	**346**	P	**P**	**23 03 21.0**	**+0.2**
MARD				IAmb	IAmb	23 03 28.9	
	comp=Z,6.2nm,0.8s						
GEVA	**Gevas**	**26.06**	**351**	P	**P**	**23 03 24.9**	**-0.7**
GEVA				IAmb	IAmb	23 03 48.9	
	comp=Z,10nm,1.0s						
GURO	**Guroymak-BITLI**	**26.47**	**349**	P	**P**	**23 03 29.2**	**+0.1**
GNI	**Garni**	**27.65**	**354**	P	**P**	**23 03 39.7**	**-0.1**
GNI				IAmb	IAmb	23 04 02.9	
	comp=Z,13nm,1.4s						
ELL	**Elmali**	**29.20**	**329**	P	**P**	**23 03 53.5**	**0.0**
BRTR	**Keskin Array B**	**29.99**	**337**	P	**P**	**23 04 00.4**	**-0.2**
BRTR	**Keskin Array B**	**29.99**	**337**	P	**P**	**23 04 01.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=139,slow=11,SNR=5.7						
	comp=Z,0.3nm,0.7s						
ABPO	**Ambohimpanom**	**31.40**	**182**	P	**P**	**23 04 11.2**	**-2.0**
ABPO				IAmb	IAmb	23 04 26.6	
	comp=Z,13nm,1.1s						
ARSB	**Arslanbob**	**35.87**	**32**	P	**P**	**23 04 51.8**	**-0.2**
ABKAR	**Akbulak array**	**37.83**	**12**	P	**P**	**23 05 08.6**	**+0.3**
BURAR	**Bucovina Array**	**39.92**	**336**	P	**P**	**23 05 24.9**	**-1.2**
AKASG	**Malin Array Be**	**41.09**	**342**	P	**P**	**23 05 35.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=148,slow=7.8,SNR=6.2						
	comp=Z,0.3nm,0.3s						
TAM	**Tamanrasset**	**41.87**	**290**	P	**P**	**23 05 42.1**	**-0.4**
LBTB	**Lobatse**	**43.42**	**211**	LR	LR	23 23 05.0	
	comp=Z,150nm,19.3s,baz=236,slow=35						
MK31	**Makanchi Array**	**44.50**	**33**	P	**P**	**23 06 00.6**	**-2.7**
MKAR	**Makanchi Array**	**44.50**	**33**	P	**P**	**23 06 00.9**	**-2.4**
TORD	**Torodi Ar. Bea**	**45.38**	**276**	P	**P**	**23 06 09.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**45.38**	**276**	P	**P**	**23 06 11.3**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=91,slow=7.8,SNR=2.6						
	comp=Z,1.5nm,0.6s						
GERES	**GERESS Array B**	**46.11**	**329**	P	**P**	**23 06 15.5**	**-0.7**
GERES	**GERESS Array B**	**46.11**	**329**	P	**P**	**23 06 16.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=120,slow=7.9,SNR=10						
	comp=Z,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.03**	**76**	P	**P**	**23 06 38.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**49.03**	**76**	P	**P**	**23 06 39.3**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=286,slow=5.7,SNR=8.0						
	comp=Z,1.8nm,0.3s						
ZALV	**Zalesovo Beam**	**50.35**	**27**	P	**P**	**23 06 51.2**	**+2.6**
	comp=Z,1.3nm,0.6s,baz=223,slow=7.9,SNR=1.8						
ZALV				LR	LR	23 32 42.6	
	comp=Z,51nm,18.6s,baz=232,slow=42						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**51.40**	**347**	P	**P**	**23 06 55.8**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=131,slow=7.4,SNR=5.4						
	comp=Z,3.1nm,0.9s						
DBIC	**Dimbokro**	**52.66**	**269**	LR	LR	23 28 22.2	
	comp=Z,77nm,19.4s,baz=164,slow=35						
ESDC	**Sonseca Array**	**53.22**	**310**	P	**P**	**23 07 10.7**	**+0.3**

comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 49.00 76 P **P 23 07 59.0 +0.6**
CMAR Chiang Mai Arr 49.00 76 P **P 23 07 57.3 -1.1**
comp=Z,3.2nm,0.3s,baz=270,slow=8.3,SNR=1.7
CMAR LR LR 23 29 38.8
comp=Z,24nm,18.4s,baz=290,slow=37
comp=Z,3.2nm,0.3s
FINES FINESS Array B 51.40 347 P **P 23 08 17.2 +1.3**
comp=Z,2.1nm,0.9s,baz=132,slow=7.3,SNR=2.7
comp=Z,2.1nm,0.9s
ASAR Alice Springs 90.99 114 LR LR 23 53 01.2
comp=Z,32nm,19.5s,baz=172,slow=36

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*NEIC **27** 22:59:12.6±1.9, 14°.45N±0°.10×90°.76W±0°.02, h11km±12km, ML3.2/14, Error ellipse: s-maj=14.4km s-min=1.7km az=191.0*
*GCG **27** 22:59:12.2±1.3, 14°.55N×90°.73W, h0km±9km, MD3.8*
ISC 27 22:59:12.7±1.1, 14°.57N±0°.08×90.73W±0°.05, h10km, n9, σ1§22/11, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.19**	**84**	*e*P	**Pg**	**22 59 17.0**	**+0.1**
GCG4	**OSOP**	**0.19**	**84**	*e*P		22 59 17.0	
STG0	**El Palmar, Qui**	**0.61**	**257**	*e*P		22 59 29.8	
RTAL	**Retalhuleu**	**0.94**	**268**	Pg	**Pb**	**22 59 31.0**	**0.0**
RTAL				Sg	**Sg**	**22 59 41.4**	**-1.6**
ESSJ	**San Jos, E**	**1.02**	**167**	*e*P		22 59 25.8	
ESSJ				*e*S		22 59 36.5	
HUEH	**Huehuetenango**	**1.06**	**315**		**Pn**	**22 59 34.5**	**+0.6**
HUEH				Sg	**Sb**	**22 59 48.8**	**+1.5**
HUEH				IAML		23 00 04.1	
comp=N,1μm,0.4s							
MTO3	**Montecristo**	**1.34**	**97**	Pn	**Pn**	**22 59 36.9**	**-0.8**
MTO3				IAML		23 00 01.2	
comp=E,196nm,0.7s							
ESQI	**Esquipulas**	**1.34**	**90**	Pn	**Pn**	**22 59 37.4**	**-0.3**
ESQI				IAML		23 00 02.3	
comp=E,289nm,0.7s							
ESQI				IAML		23 00 02.9	
comp=N,272nm,0.9s							
CCIG	**Comitan**	**2.18**	**322**	Pn	**Pb**	**22 59 51.9**	**-0.5**
CCIG				IAML		23 00 32.1	
comp=N,148nm,0.6s							
CCIG				IAML		23 00 35.7	
comp=E,135nm,0.7s							
PETF	**Flores**	**2.48**	**19**	Pn	**Pn**	**22 59 51.5**	**-1.7**
TGUH	**Tegucigalpa,Un**	**3.39**	**98**		**Pn**	**23 00 07.2**	**+1.3**
TGUH				IAML		23 01 08.6	
comp=E,60nm,0.9s							
TGUH				IAML		23 01 16.0	
comp=E,47nm,1.1s							
TEIG	**Tepich**	**6.10**	**22**	Pn	**Pn**	**23 00 44.1**	**+1.2**

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*IDC **27** 23:00:20.6±0.6, 38°.27N×90°.97E, h0km, mb4.0/19, mbtmp4.1/24, ML3.7/5, MS3.9/25, Error ellipse: s-maj=18.6km s-min=12.3km az=42.0*
*MOS **27** 23:00:20.3±1.8, 38°.27N×90°.75E, h10km, mb4.6/15, Error ellipse: s-maj=7.4km s-min=4.8km az=130.8*
*BJI **27** 23:00:20.6, 38°.32N×90°.88E, h9km, mB4.6/10, mb4.4/26, ML4.5/4, Ms4.4/29, Ms7 4.2/29*
*NEIC **27** 23:00:22.1±2.2, 38°.38N±0°.07×91°.0E±0°.1, h10km±1km, mb4.5/53, Error ellipse: s-maj=14.2km s-min=11.7km az=234.0*
ISC 27 23:00:22.5±0.3, 38°.38N±0°.04×90°.94E±0°.04, h10km, n202, σ2§13/197, mb4.3/53, MS3.9/26, 11C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.96**	**337**	P	**Pn**	**23 01 52.8**	**+1.9**
LSA	**Lhasa**	**8.65**	**179**	Pn	**Pn**	**23 02 27.4**	**-0.8**
LSA	**Lhasa**	**8.65**	**179**	P	**Pn**	**23 02 31.8**	**+3.6**
LSA				LR	LR		
comp=N,400nm,5.1s							
LSA				LR	LR		
comp=Z,600nm,5.3s							
LSA	**Lhasa**	**8.65**	**179**	P	**Pn**	**23 02 27.4**	**-0.8**
WUS	**Wushi**	**9.45**	**291**	Pn	**Pn**	**23 02 37.1**	**-1.7**
MK31	**Makanchi Array**	**10.55**	**326**	Pn	**Pn**	**23 02 52.0**	**-1.7**
MK31	**Makanchi Array**	**10.55**	**326**	*de*P	**Pn**	**23 02 54.2**	**+0.5**
MKAR	**Makanchi Array**	**10.55**	**326**	Pn	**Pn**	**23 02 52.2**	**-1.4**
MKAR	**Makanchi Array**	**10.55**	**326**	Pn	**Pn**	**23 02 53.3**	**-0.4**
2.6nm,0.3s,baz=138,slow=14,SNR=20							
MKAR				Sn	**Sn**	**23 04 47.4**	**-4.4**
1.2nm,0.3s,baz=137,slow=23,SNR=8.3							
MKAR				Lg	Lg	23 05 54.4	
0.1nm,0.3s,baz=140,slow=30,SNR=2.6							
MKAR				LR	LR	23 07 26.8	
comp=Z,742nm,20.4s,baz=137,slow=40							
7.7nm,0.4s							
TARG	**Taragay, Kyrgy**	**10.61**	**293**	Pn	**Pn**	**23 02 53.0**	**-1.9**
TARG	**Taragay, Kyrgy**	**10.61**	**293**	P	**Pn**	**23 02 53.0**	**-1.9**
MAKZ	**Makanchi**	**10.70**	**325**	Pn	**Pn**	**23 02 53.8**	**-2.0**
MAKZ	**Makanchi**	**10.70**	**325**	P	**Pn**	**23 02 53.8**	**-2.0**
ANVS	**Anan'yevo**	**11.01**	**298**	P	**Pn**	**23 03 01.1**	**+1.0**
KDJ	**Kajisay**	**11.16**	**294**	Pn	**Pn**	**23 03 00.2**	**-2.0**
KDJ	**Kajisay**	**11.16**	**294**	P	**Pn**	**23 03 00.2**	**-2.0**
KSH	**Kashi**	**11.71**	**280**	P	Pn	23 03 14.5	+4.8
KSH				pmax	pmax		
comp=Z,39nm,0.9s							
KSH				LR	LR		
comp=N,810nm,6.9s							
KSH				LR	LR		
comp=E,880nm,7.9s							
KSH				LR	LR		
comp=Z,780nm,10.7s							
BOOM	**Boomskoye usch**	**12.14**	**295**	Pn	**Pn**	**23 03 12.2**	**-3.4**
BOOM	**Boomskoye usch**	**12.14**	**295**	P	**Pn**	**23 03 12.2**	**-3.4**
JOSI	**Joshimath**	**12.20**	**234**	*e*P	**Pn**	**23 03 20.9**	**+4.5**
JOSI				IAmb	IAmb	23 03 26.2	
comp=Z,20nm,1.0s							
KLP	**Kalpa**	**12.44**	**241**	*e*P	**Pn**	**23 03 22.1**	**+2.2**
KLP				IAmb	IAmb	23 03 29.3	
comp=Z,57nm,1.4s							
PTH	**Pithoragarh**	**12.51**	**228**	*e*P	**Pn**	**23 03 24.2**	**+3.5**
PTH				IAmb	IAmb	23 03 30.7	
comp=Z,20nm,1.5s							
LGTI	**Lohaghat**	**12.56**	**228**	*e*P	**Pn**	**23 03 25.7**	**+4.4**
FRU1	**Bishkek**	**13.16**	**295**		**Pn**	**23 03 26.1**	**-3.3**
FRU1	**Bishkek**	**13.16**	**295**	P	**Pn**	**23 03 26.1**	**-3.3**
ARLS	**Aral**	**13.18**	**291**	P	**Pn**	**23 03 30.2**	**+0.4**
AAK	**Ala-Archa**	**13.21**	**294**	Pn	**Pn**	**23 03 28.2**	**-2.1**
AAK	**Ala-Archa**	**13.21**	**294**	Pn	**Pn**	**23 03 30.5**	**+0.3**
comp=Z,0.5nm,0.3s,baz=117,slow=6.5,SNR=4.6							
AAK				LR	LR	23 09 47.8	
comp=Z,744nm,19.4s,baz=98,slow=43							
comp=Z,9.4nm,1.0s							
AAK	**Ala-Archa**	**13.21**	**294**	*de*P	**Pn**	**23 03 31.0**	**+0.7**
ARSB	**Arslanbob**	**14.10**	**288**	Pn	**Pn**	**23 03 38.1**	**-4.3**
ARSB	**Arslanbob**	**14.10**	**288**	P	**Pn**	**23 03 38.1**	**-4.3**
SONM	**Songino Array**	**14.70**	**45**	Pn	**Pn**	**23 03 47.9**	**-2.7**
SONM	**Songino Array**	**14.70**	**45**	Pn	**Pn**	**23 03 51.6**	**+1.0**
comp=Z,0.6nm,0.3s,baz=236,slow=15,SNR=10							
SONM				Pg	P	23 04 52.4	+56
baz=237,slow=17							
SONM				Lg	Lg	23 08 02.5	
comp=Z,0.4nm,0.3s,baz=224,slow=33,SNR=4.4							
SONM				LR	LR	23 09 47.4	
comp=Z,682nm,19.6s,baz=236,slow=38							
comp=Z,4.1nm,0.6s							
TNCH	**TengChong**	**14.78**	**152**	⇑P	**Pn**	**23 03 50.3**	**-1.5**
TNCH				pP	P	23 03 52.3	-5.5
TNCH				sP		23 03 55.5	
TNCH				PP	**PnPn**	**23 04 00.3**	**+0.6**
TNCH				S	**Sn**	**23 06 33.5**	**-2.2**
TNCH				SS	**S**	**23 06 51.5**	**-2.9**
TNCH				pmax	pmax		
comp=Z,14nm,0.4s							
TNCH				pmax	pmax		
comp=Z,68nm,3.2s							
TNCH				LR	LR		
comp=Z,420nm,5.9s							
TNCH				LR	LR		
comp=Z,440nm,8.9s							
TNCH				LR	LR		
comp=Z,410nm,9.1s							
BTO	**Baotou**	**14.91**	**75**	*e*P	**Pn**	**23 03 52.3**	**-1.0**
BTO				pP	**P**	**23 03 55.5**	**-3.5**
BTO				sP		23 03 59.3	
BTO				PP	**PnPn**	**23 04 04.3**	**+3.1**
BTO				S	**Sn**	**23 06 38.0**	**-0.5**
BTO				SS	**S**	**23 06 54.3**	**-2.4**
BTO				pmax	pmax		
comp=Z,13nm,0.9s							
BTO				pmax	pmax		
comp=Z,290nm,4.7s							
BTO				LR	LR		
comp=Z,1μm,13.2s							
BTO				LR	LR		
comp=Z,1μm,13.0s							
BTO				LR	LR		
comp=Z,2μm,14.3s							
PZH	**PanZhiHua**	**14.93**	**139**	P	**Pn**	**23 03 54.5**	**+0.8**
PZH				S	**Sn**	**23 06 40.5**	**+1.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,60nm,4.7s							
PZH				LR	LR		
comp=Z,350nm,9.0s							
PZH				LR	LR		
comp=Z,400nm,8.0s							
PZH				LR	LR		
comp=Z,450nm,10.8s							
DRK	**Karamyk**	**14.94**	**280**	Pn	**Pn**	**23 03 49.4**	**-4.5**
DRK	**Karamyk**	**14.94**	**280**	P	**Pn**	**23 03 49.4**	**-4.5**
MOY	**Mondy**	**15.05**	**25**	*e*P	**P**	**23 04 04.6**	**+4.0**
MOY				pmax	pmax		
comp=Z,20nm,1.9s							
NIL	**Nilore**	**15.06**	**257**	Pn	**Pn**	**23 03 53.5**	**-1.9**
NIL				IAmb	IAmb	23 04 10.9	
comp=Z,24nm,1.1s							
NIL	**Nilore**	**15.06**	**257**	P	**Pn**	**23 03 53.5**	**-1.9**
NIL				pmax	pmax		
comp=Z,24nm,1.1s							
KURBB	**Kurchatov Arra**	**15.08**	**328**	Pn	**Pn**	**23 03 52.4**	**-3.1**
comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=18							
KURBB				Sn	**Sn**	**23 06 35.1**	**-7.4**
comp=Z,0.2nm,0.3s,baz=231,slow=38,SNR=1.8							
KURBB				Lg	Lg	23 08 16.8	
comp=Z,0.1nm,0.3s,baz=139,slow=30,SNR=4.0							
KURBB				LR	LR	23 10 11.3	
comp=Z,485nm,20.2s,baz=140,slow=39							
comp=Z,18nm,1.2s							
ULN	**Ulaanbaatar**	**15.09**	**46**		**Pn**	**23 03 54.1**	**-1.6**
ULN	**Ulaanbaatar**	**15.09**	**46**	⇓*e*P	**P**	**23 03 58.5**	**-2.6**
ULN				pmax	pmax		
comp=Z,11nm,1.7s							
KURK	**Kurchatov**	**15.12**	**329**	Pn	**Pn**	**23 03 51.4**	**-4.5**
KURK	**Kurchatov**	**15.12**	**329**	*de*P	**Pn**	**23 03 52.8**	**-3.1**
XAN	**Xi'an**	**15.15**	**101**	P	**P**	**23 04 00.8**	**-0.9**
XAN				pmax	pmax		
comp=Z,13nm,0.9s							
XAN				LR	LR		
comp=Z,1μm,12.7s							
XAN				LR	LR		
comp=Z,1μm,9.6s							
XAN				LR	LR		
comp=Z,1μm,12.4s							
BRDH	**Bariadhala**	**15.66**	**178**	Pn	**Pn**	**23 04 02.6**	**-0.6**
comp=Z,34nm,0.3s,baz=254,slow=18,SNR=1.7							
BTK	**Batken**	**15.68**	**282**		**Pn**	**23 04 02.1**	**-1.5**
BTK				IAmb	IAmb	23 04 13.6	
comp=Z,30nm,1.2s							
BTK	**Batken**	**15.68**	**282**	P	**Pn**	**23 04 02.1**	**-1.5**
BTK				pmax	pmax		
comp=Z,30nm,1.3s							
KUDL	**Kundal**	**15.79**	**234**	*e*P	**P**	**23 04 08.9**	**0.0**
KUDL				IAmb	IAmb	23 04 09.2	
comp=Z,15nm,0.9s							
HHC	**Hu-ho-hao-te**	**16.09**	**75**	*e*P	**P**	**23 04 10.8**	**-1.4**
HHC				S	**Sn**	**23 07 06.5**	**-0.8**
HHC				sS	S	23 07 14.0	-6.9
HHC				SS	**SnSn**	**23 07 26.0**	**+6.0**
HHC				pmax	pmax		
comp=Z,18nm,1.2s							
HHC				pmax	pmax		
comp=Z,86nm,4.0s							
GAR	**Garm**	**16.11**	**279**	Pn	**Pn**	**23 04 06.1**	**-3.1**
GAR				IAmb	IAmb	23 04 25.9	
comp=Z,68nm,1.1s							
ZAA0	**Zalesovo Array**	**16.13**	**347**	Pn	**Pn**	**23 04 06.9**	**-2.2**
ZALV	**Zalesovo Beam**	**16.13**	**347**	Pn	**Pn**	**23 04 06.6**	**-2.5**
ZALV	**Zalesovo Beam**	**16.13**	**347**	Pn	**Pn**	**23 04 08.2**	**-1.0**
comp=Z,0.3nm,0.3s,baz=165,slow=12,SNR=10.0							
ZALV				Lg	Lg	23 08 49.6	
comp=Z,0.1nm,0.3s,baz=185,slow=30,SNR=1.5							
ZALV				LR	LR	23 10 53.8	
comp=Z,159nm,21.1s,baz=157,slow=39							
comp=Z,6.1nm,0.9s							
KK31	**Karatay Array**	**16.18**	**293**	Pn	**Pn**	**23 04 07.4**	**-2.4**
KK31	**Karatay Array**	**16.18**	**293**	P	**Pn**	**23 04 07.4**	**-2.4**
KK31				pmax	pmax		
comp=Z,8.0nm,1.0s							
KKAR	**Karatay Array**	**16.18**	**293**	Pn	**Pn**	**23 04 07.5**	**-2.3**
KKAR	**Karatay Array**	**16.18**	**293**	P	**Pn**	**23 04 07.5**	**-2.3**
KMI	**Kunming**	**16.57**	**139**	P	**P**	**23 04 17.5**	**-0.2**
KMI				pmax	pmax		
comp=Z,14nm,0.8s							
KMI				LR	LR		
comp=Z,350nm,8.7s							
KMI				LR	LR		
comp=Z,440nm,7.4s							
KMI				LR	LR		
comp=Z,280nm,9.3s							
JHNI	**Jhansi**	**16.60**	**223**	IAmb	IAmb	23 04 18.1	
comp=Z,19nm,1.2s							
JHNI				*e*P	**P**	**23 04 18.9**	**+1.1**
IRK	**Irkutsk**	**16.70**	**30**	*e*P	**P**	**23 04 21.4**	**+2.6**
IRK				pmax	pmax		
comp=Z,38nm,2.1s							
CHGR	**Chuyangaron**	**17.05**	**278**		**Pn**	**23 04 17.4**	**-3.6**
CHGR	**Chuyangaron**	**17.05**	**278**	P	**Pn**	**23 04 17.4**	**-3.6**
CHGR				pmax	pmax		
comp=Z,122nm,1.4s							
SIMJ	**Simiganj**	**17.16**	**278**	Pn	**Pn**	**23 04 18.7**	**-3.8**
SIMJ				IAmb	IAmb	23 04 36.1	
comp=Z,28nm,1.1s							
ENH	**Enshi**	**17.31**	**112**		**Pn**	**23 04 22.5**	**-1.8**
LYN	**LuoYang**	**17.73**	**96**	P	**P**	**23 04 34.8**	**+4.5**
LYN				pmax	pmax		
comp=Z,30nm,1.2s							
LYN				LR	LR		
comp=Z,2μm,10.8s							
LYN				LR	LR		
comp=Z,830nm,12.5s							
LYN				LR	LR		
comp=Z,1μm,11.7s							
GYA	**Guiyang**	**17.79**	**127**	P	**P**	**23 04 32.3**	**+1.2**
GYA				pmax	pmax		
comp=Z,18nm,1.0s							
GYA				LR	LR		
comp=Z,460nm,11.2s							
KBL	**Kabul**	**18.01**	**264**	Pn	**Pn**	**23 04 30.8**	**-2.4**
KBL	**Kabul**	**18.01**	**264**	P	**Pn**	**23 04 30.8**	**-2.4**
KBL				pmax	pmax		
comp=Z,22nm,1.3s							
HNS	**HongShan**	**18.78**	**86**	⇑P	**Pn**	**23 04 44.0**	**+1.7**
HNS				pmax	pmax		
comp=Z,10.0nm,1.0s							
HNS				LR	LR		
comp=Z,720nm,11.2s							
HNS				LR	LR		
comp=Z,460nm,9.2s							
HNS				LR	LR		
comp=Z,630nm,10.1s							
NRDN	**NARMADA NAGAR**	**19.56**	**221**	*e*P	**Pn**	**23 04 54.8**	**+3.0**
BJT	**Baijiatuau**	**19.61**	**77**	P	**P**	**23 04 50.3**	**-0.6**
BJT	**Baijiatuau**	**19.61**	**77**	P	**P**	**23 04 50.3**	**-0.6**
BJT				pmax	pmax		
comp=Z,13nm,1.1s							
BJI	**Beijing**	**19.61**	**77**	P	**Pn**	**23 04 53.3**	**+1.0**
BJI				S	**Sn**	**23 08 35.5**	**+3.1**
BJI				pmax	pmax		
comp=Z,5.0nm,0.8s							
BJI				LR	LR		
comp=Z,270nm,9.8s							
BJI				LR	LR		
comp=Z,200nm,13.7s							
BJI				LR	LR		
comp=Z,220nm,8.8s							
CRAI	**Chiangrai**	**19.84**	**153**	P	**P**	**23 04 52.6**	**-1.0**
BVAR	**Borovoye Array**	**20.40**	**323**	P	**P**	**23 05 00.1**	**+0.7**
comp=Z,8.1nm,0.7s,baz=128,slow=11,SNR=15							
BVAR				Lg	Lg	23 11 04.8	
baz=90,slow=16,SNR=1.7							
BVAR				LR	LR	23 13 18.3	
comp=Z,401nm,21.2s,baz=128,slow=38							
comp=Z,8.1nm,0.7s							
BRVK	**Borovoye**	**20.47**	**323**		**P**	**23 04 59.7**	**-0.5**
BRVK	**Borovoye**	**20.47**	**323**	⇓*i*P	**P**	**23 05 00.9**	**+0.7**
BRVK				pmax	pmax		
comp=Z,12nm,0.8s							
CHTO	**Chiang Mai**	**20.70**	**158**	P	**P**	**23 05 02.3**	**-0.6**
CHTO	**Chiang Mai**	**20.70**	**158**	P	**P**	**23 05 02.3**	**-0.6**
CHTO				pmax	pmax		
comp=Z,6.0nm,1.2s							
WHN	**Wuhan**	**20.79**	**105**	P	Pn	23 05 06.0	-0.2
WHN				sP	sP	23 05 10.5	+1.3
WHN				S	**S**	**23 08 49.3**	**-6.5**
WHN				LR	LR		
comp=Z,1μm,6.9s							
WHN				LR	LR		
comp=Z,3μm,15.7s							
WHN				LR	LR		
comp=Z,3μm,10.8s							
TIA	**Tai'an**	**20.93**	**88**	P	Pn	23 05 07.5	-0.3
TIA				S	**S**	**23 08 54.3**	**-4.2**
TIA				pmax	pmax		
comp=Z,14nm,1.0s							
TIA				LR	LR		
comp=Z,380nm,14.0s							
TIA				LR	LR		
comp=Z,1μm,13.5s							
TIA				LR	LR		
comp=Z,1μm,12.9s							
CM31	**Chiang Mai Arr**	**21.04**	**158**	P	**P**	**23 05 04.7**	**-1.9**
CMAR	**Chiang Mai Arr**	**21.04**	**158**	P	**P**	**23 05 03.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**21.04**	**158**	P	**P**	**23 05 04.9**	**-1.7**
comp=Z,1.7nm,0.3s,baz=335,slow=10,SNR=12							
CMAR				LR	LR	23 14 00.2	
comp=Z,204nm,19.6s,baz=330,slow=39							
comp=Z,1.7nm,0.3s							
HIA	**Hailar**	**23.32**	**53**	⇑*i*P	**P**	**23 05 33.4**	**+2.8**
HIA				pmax	pmax		
comp=Z,6.0nm,1.0s							
NJ2	**Nanjing**	**23.61**	**97**	*e*P	**P**	**23 05 34.5**	**+0.9**
NJ2				pmax	pmax		
comp=Z,15nm,0.5s							
ABKAR	**Akbulak array**	**24.70**	**306**	P	**P**	**23 05 43.1**	**-0.5**
ABKAR	**Akbulak array**	**24.70**	**306**	P	**P**	**23 05 43.2**	**-0.5**
ABKAR				IAmb	IAmb	23 05 58.8	
comp=Z,14nm,1.1s							
QIZ	**Qiongzhong**	**25.34**	**134**	P	**P**	**23 05 49.0**	**-0.6**
QIZ				pmax	pmax		
comp=Z,160nm,5.7s							
QIZ				LR	LR		
comp=Z,190nm,6.9s							
QIZ				LR	LR		
comp=Z,320nm,8.2s							
QIZ				LR	LR		
comp=Z,190nm,7.6s							
AKTO	**Aktyubinsk**	**26.20**	**308**	LR	LR	23 17 05.2	
comp=Z,378nm,18.7s,baz=83,slow=38							
CN2	**Changchun**	**26.45**	**67**	*e*P	**P**	**23 06 00.0**	**+0.6**
CN2				LR	LR		
comp=Z,210nm,12.0s							
CN2				LR	LR		
comp=Z,310nm,12.0s							
CN2				LR	LR		
comp=Z,380nm,12.0s							
SVE	**Sverdlovsk**	**27.19**	**323**	*e*P	**P**	**23 06 10.1**	**+4.1**
SVE				pmax	pmax		
comp=Z,16nm,1.1s							
ARTI	**Arti**	**28.08**	**321**	LR	LR	23 18 00.8	
comp=Z,271nm,19.9s,baz=144,slow=38							
ARTI	**Arti**	**28.08**	**321**	*d*iP	**P**	**23 06 15.3**	**+1.3**
ARTI						23 07 04.7	
ARTI				S	**S**	**23 11 02.2**	**+3.6**
ARTI				SS	**SnSn**	**23 12 13.2**	**-0.3**
ARTI				pmax	pmax		
comp=Z,8.0nm,2.2s							
KSRS	**Korea Array**	**29.07**	**80**	P	**P**	**23 06 22.2**	**-0.8**
comp=Z,1.0nm,0.5s,baz=285,slow=8.1,SNR=2.4							
KSRS				LR	LR	23 19 05.2	
comp=Z,206nm,20.0s,baz=340,slow=39							
comp=Z,1.0nm,0.5s							
ZEA	**Zeya**	**29.12**	**46**	⇓*e*P	**P**	**23 06 27.0**	**+3.7**
KLR	**Kul'dur**	**31.04**	**56**	P	**P**	**23 06 41.6**	**+1.3**
comp=Z,3.0nm,0.8s,baz=283,slow=7.6,SNR=7.3							
KLR				LR	LR	23 19 59.2	
comp=Z,233nm,19.0s,baz=251,slow=38							
comp=Z,3.0nm,0.8s							
KLR	**Kul'dur**	**31.04**	**56**	⇑*e*P	**P**	**23 06 41.5**	**+1.2**
KLR				pmax	pmax		
comp=Z,4.0nm,0.8s							
NRIK	**Noril'sk**	**31.08**	**358**	P	**P**	**23 06 39.8**	**-0.6**
NRIK				IAmb	IAmb	23 06 50.6	
comp=Z,4.0nm,0.9s							
NRIK	**Noril'sk**	**31.08**	**358**	P	**P**	**23 06 40.3**	**-0.1**
comp=Z,2.1nm,0.5s,baz=122,slow=3.8,SNR=6.4							
comp=Z,2.1nm,0.5s							
NRIK	**Noril'sk**	**31.08**	**358**	⇑*e*P	**P**	**23 06 41.4**	**+1.0**
NRIK				pmax	pmax		
comp=Z,4.0nm,1.3s							
USRK	**Ussuriysk Ar.**	**31.15**	**66**	LR	LR	23 21 39.4	
comp=Z,90nm,19.2s,baz=210,slow=41							
WSAR	**Wadi Sarin**	**31.39**	**251**	P	**P**	**23 06 42.3**	**-1.4**
baz=349,slow=24,SNR=1.6							
JNU	**Nakatsue**	**32.66**	**87**	LR	LR	23 21 18.9	
comp=Z,256nm,18.5s,baz=290,slow=39							
KIRV	**Kirov**	**33.40**	**321**	⇑*i*P	**P**	**23 07 03.3**	**+2.5**
YAK	**Yakutsk**	**33.47**	**32**	LR	LR	23 20 33.8	
comp=Z,85nm,19.2s,baz=240,slow=36							
KBZ	**Khabaz**	**36.21**	**294**	P	**P**	**23 07 26.7**	**+1.4**
comp=Z,1.5nm,0.8s,baz=94,slow=7.8,SNR=3.5							
comp=Z,1.5nm,0.8s							
KBZ	**Khabaz**	**36.21**	**294**	⇓*e*P	**P**	**23 07 26.9**	**+1.6**
KBZ				pmax	pmax		
comp=Z,5.0nm,1.3s							
KIV	**Kislovodsk**	**36.33**	**295**	*e*P	**P**	**23 07 25.9**	**-0.6**
KIV				pmax	pmax		
comp=Z,6.0nm,1.1s							
KIV				MLR	MLR		
comp=Z,131nm,16.0s							
SHA1	**Shidzhatmaz**	**36.38**	**294**	⇓*e*P	**P**	**23 07 29.3**	**+2.2**
TIXI	**Tiksi**	**38.48**	**18**	P	**P**	**23 07 43.7**	**-0.6**
TIXI				IAmb	IAmb	23 07 48.1	
comp=Z,7.6nm,1.1s							
TIXI	**Tiksi**	**38.48**	**18**	LR	LR	23 24 15.6	
comp=Z,132nm,18.4s,baz=237,slow=37							
TIXI	**Tiksi**	**38.48**	**18**	⇑*e*P	**P**	**23 07 44.0**	**-0.2**
TIXI				pmax	pmax		
comp=Z,7.0nm,1.1s							
ASAJ	**Asahikawa**	**38.74**	**65**	LR	LR	23 23 30.2	
comp=Z,95nm,18.2s,baz=35,slow=36							
KLMR	**Klimovskoe**	**38.83**	**322**	*e*P	**P**	**23 07 44.7**	**-2.5**
KLMR				pmax	pmax		
comp=Z,16nm,1.1s							
MOS	**Moscow**	**39.15**	**314**	*e*P	**P**	**23 07 54.1**	**+4.1**
OBN	**Obninsk**	**39.73**	**313**	⇑*e*P	**P**	**23 07 56.8**	**+2.0**
OBN				*e*		23 08 03.0	
OBN				*e*		23 09 24.9	
OBN				pmax	pmax		
comp=Z,10.0nm,0.6s							
OBN				MLR	MLR		
comp=Z,264nm,18.0s							
OBN	**Obninsk**	**39.73**	**313**	P	**P**	**23 07 56.8**	**+2.0**
MA2	**Magadan**	**42.84**	**40**	LR	LR	23 26 53.9	
comp=Z,126nm,18.6s,baz=168,slow=37							
MA2	**Magadan**	**42.84**	**40**	⇓*i*P	**P**	**23 08 22.0**	**+1.6**
MA2				pmax	pmax		
comp=Z,10.0nm,1.9s							
SEY	**Seymchan**	**43.81**	**35**	⇓*i*P	**P**	**23 08 30

VSU	**Vasula**	**45.11 318**	↑ *eP*		**P**	**23 08 39.8**	**+1.2**
VSU			pmax		pmax		
comp=Z,54nm,2.3s							
FINES	**FINESS Array B**	**45.36 322**	P		**P**	**23 08 40.5**	**-0.1**
FINES	**FINESS Array B**	**45.36 322**	P		**P**	**23 08 40.2**	**-0.3**
comp=Z,2.5nm,0.9s,baz=84,slow=8.0,SNR=6.0							
comp=Z,2.5nm,0.9s							
FINES	**FINESS Array B**	**45.36 322**	P		**P**	**23 08 40.5**	**-0.1**
NACGM	**Naroch**	**45.36 313**	*eP*		**P**	**23 08 41.0**	**+0.3**
comp=Z,873nm,1.0s,baz=84							
LUBAR	**Lubar, Ukraine**	**45.49 306**	P		**P**	**23 08 43.4**	**+1.6**
ARCES	**ARCESS Array B**	**46.08 334**	P		**P**	**23 08 46.4**	**+0.2**
comp=Z,2.8nm,0.8s,baz=96,slow=7.4,SNR=3.8							
ARCES			LR		LR	23 30 26.7	
comp=Z,359nm,18.1s,baz=120,slow=39							
comp=Z,2.8nm,0.8s							
RNPP9	**Sopachiv**	**46.40 308**	P		**P**	**23 08 50.5**	**+1.6**
PETK	**Petropavlovsk-**	**47.14 49**	P		**P**	**23 08 53.8**	**-0.9**
PETK	**Petropavlovsk-**	**47.14 49**	LR		LR	23 30 39.6	
comp=Z,218nm,18.8s,baz=258,slow=38							
PETK	**Petropavlovsk-**	**47.14 49**	P		**P**	**23 08 53.8**	**-0.9**
BURAR	**Bucovina Array**	**47.63 303**	P		**P**	**23 08 58.2**	**-0.5**
BURAR	**Bucovina Array**	**47.63 303**	P		**P**	**23 08 58.2**	**-0.5**
BUR08	**Bucovina Ar. S**	**47.63 303**	P		**P**	**23 08 58.1**	**-0.7**
MLR	**Muntele Rosu**	**47.69 300**	LR		LR	23 32 37.6	
comp=Z,201nm,18.6s,baz=96,slow=41							
OJC	**Ojcow**	**50.43 308**	P		**P**	**23 09 19.8**	**-0.2**
OJC			IAmb		IAmb	23 09 22.5	
comp=Z,5.9nm,0.8s							
OJC	**Ojcow**	**50.43 308**	P		**P**	**23 09 19.8**	**-0.2**
OJC			pmax		pmax		
comp=Z,6.0nm,0.8s							
KECS	**Kecovo**	**50.47 306**	*eP*		**P**	**23 09 23.3**	**+3.0**
KECS	**Kecovo**	**50.47 306**	*eP*		**P**	**23 09 23.3**	**+3.0**
KAPI	**Kappang**	**50.77 142**	LR		LR	23 32 45.5	
comp=Z,58nm,18.1s,baz=276,slow=38							
LANS	**Liptovska Anna**	**50.92 307**	*eP*		**P**	**23 09 23.7**	**-0.1**
LANS	**Liptovska Anna**	**50.92 307**	*eP*		**P**	**23 09 23.7**	**-0.1**
HFS	**Hagfors**	**51.53 321**	P		**P**	**23 09 29.5**	**+1.3**
comp=Z,1.7nm,0.5s,baz=91,slow=9.3,SNR=9.6							
comp=Z,1.7nm,0.5s							
IDI	**Anoyia**	**51.93 288**	P		**P**	**23 09 30.9**	**-0.7**
IDI			IAmb		IAmb	23 09 33.4	
comp=Z,6.0nm,0.9s							
NB2	**NORSAR Subarra**	**52.53 323**	P		**P**	**23 09 34.9**	**-0.7**
comp=Z,0.9nm,0.6s,baz=76,slow=7.4							
NOA	**NORSAR Array B**	**52.53 323**	P		**P**	**23 09 35.2**	**-0.4**
comp=Z,3.5nm,0.9s,baz=76,slow=7.5,SNR=9.0							
comp=Z,3.5nm,0.9s							
CONA	**Conrad Observa**	**53.58 306**	*epP*		**P**	**23 09 45.4**	**+1.7**
comp=Z,1.3nm,0.5s							
CLL	**Collm**	**54.24 311**	*ePx*		Px	23 09 52.0	
CLL			AMS		AMS	23 33 00.0	
comp=Z,200nm,18.9s							
SOKA	**Soboth**	**54.54 305**	*epP*		**P**	**23 09 51.1**	**+0.4**
comp=Z,1.2nm,0.6s							
GERES	**GERESS Array B**	**54.63 308**	P		**P**	**23 09 50.7**	**-0.6**
GERES	**GERESS Array B**	**54.63 308**	P		**P**	**23 09 52.2**	**+0.9**
comp=Z,1.7nm,0.8s,baz=66,slow=6.6,SNR=9.8							
comp=Z,1.7nm,0.8s							
LESA	**Schwarzleotal**	**55.77 306**	*epP*		pP	23 10 01.7	-2.1
comp=Z,1.8nm,0.4s							
WTTA	**Wattenberg**	**56.49 307**	*epP*		pP	23 10 06.6	-2.4
comp=Z,1.3nm,0.4s							
WATA	**Walderalm**	**56.50 307**	*epP*		**P**	**23 10 06.5**	**+1.7**
comp=Z,1.1nm,0.4s							
MOTA	**Moosalm**	**56.79 307**	*epP*		pP	23 10 08.8	-2.4
comp=Z,1.9nm,0.5s							
RETA	**Reutte**	**56.95 307**	*epP*		pP	23 10 09.8	-2.4
comp=Z,2.2nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**57.61 306**	P		**P**	**23 10 11.1**	**-1.7**
FUORN			IAmb		IAmb	23 10 31.7	
comp=Z,4.4nm,1.2s							
VAE	**Valguarnera**	**58.65 295**	LR		LR	23 42 03.4	
comp=Z,139nm,19.0s,baz=172,slow=43							
SENIN	**Lac Senin/Sane**	**59.58 307**	P		**P**	**23 10 26.0**	**-0.5**
C18K	**Utukok River**	**60.86 24**	P		**P**	**23 10 34.9**	**+0.2**
C18K			IAmb		IAmb	23 10 52.8	
comp=Z,4.1nm,1.1s							
B20K	**Meade River**	**61.34 21**	P		**P**	**23 10 38.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**61.62 320**	P		**P**	**23 10 39.6**	**-0.4**
comp=Z,2.0nm,0.8s,baz=66,slow=6.5,SNR=5.9							
comp=Z,2.0nm,0.8s							
EUNU	**Eureka**	**61.81 359**	P		**P**	**23 10 41.3**	**+0.2**
B22K	**Teshekpuk Lake**	**62.19 20**			**P**	**23 10 43.6**	**+0.1**
B21K	**Ikpikpuk River**	**62.28 21**			**P**	**23 10 44.1**	**-0.1**
KNRA	**Kununurra**	**64.41 139**	P		**P**	**23 10 58.5**	**-0.3**
E23K	**Chandalar**	**64.68 21**	P		**P**	**23 11 00.7**	**+0.5**
E23K			IAmb		IAmb	23 11 18.8	
comp=Z,5.2nm,1.3s							
E24K	**Your Creek**	**64.99 21**	P		**P**	**23 11 02.5**	**+0.3**
E24K			IAmb		IAmb	23 11 19.8	
comp=Z,4.3nm,1.3s							
COLD	**Coldfoot**	**65.05 22**			**P**	**23 11 02.9**	**+0.4**
E25K	**Arctic Village**	**65.76 20**	P		**P**	**23 11 07.5**	**+0.4**
E25K			IAmb		IAmb	23 11 10.2	
comp=Z,2.7nm,1.1s							
H23K	**Yukon River**	**66.18 23**	P		**P**	**23 11 09.6**	**-0.2**
H23K			IAmb		IAmb	23 11 24.6	
comp=Z,3.3nm,0.8s							
BMAR	**Burnt Mountain**	**66.51 20**	P		**P**	**23 11 11.8**	**-0.2**
BPAW	**Bear Paw Mtn.**	**66.86 25**	P		**P**	**23 11 14.2**	**-0.1**
BPAW			IAmb		IAmb	23 11 21.3	
comp=Z,5.5nm,1.2s							
E29M	**Blow River**	**67.51 18**	P		**P**	**23 11 18.7**	**+0.5**
E29M			IAmb		IAmb	23 11 35.7	
comp=Z,3.3nm,0.9s							
IL31		**67.72 23**			**P**	**23 11 19.7**	**+0.1**
IL31			IAmb		IAmb	23 11 22.1	
comp=Z,2.4nm,0.8s							
ILAR	**Eielson Array**	**67.72 23**	P		**P**	**23 11 19.7**	**0.0**
ILAR	**Eielson Array**	**67.72 23**	P		**P**	**23 11 19.8**	**+0.2**
comp=Z,1.7nm,0.9s,baz=307,slow=5.3,SNR=20							
comp=Z,1.7nm,0.9s							
INK	**Inuvik**	**68.57 16**	P		**P**	**23 11 25.1**	**+0.2**
INK			IAmb		IAmb	23 11 56.5	
comp=Z,5.4nm,1.4s							
INK	**Inuvik**	**68.57 16**	P		**P**	**23 11 25.1**	**+0.2**
INK			pmax		pmax		
comp=Z,5.0nm,1.4s							
RIDG	**Independent Ri**	**69.08 23**			**P**	**23 11 28.0**	**-0.2**
G31M	**Satah River**	**69.52 17**	P		**P**	**23 11 30.7**	**-0.1**
ESDC	**Sonseca Array**	**70.04 305**	P		**P**	**23 11 34.4**	**-0.2**
comp=Z,0.9nm,0.8s,baz=54,slow=6.7,SNR=6.9							
comp=Z,0.9nm,0.8s							
I30M	**Mount Dempster**	**70.36 19**			**P**	**23 11 36.1**	**-0.1**
I30M			IAmb		IAmb	23 11 38.4	
comp=Z,2.6nm,0.8s							
L27K	**Beaver Creek,**	**70.50 23**	P		**P**	**23 11 37.5**	**+0.5**
L27K			IAmb		IAmb	23 11 47.4	
comp=Z,4.6nm,1.2s							
BCAR	**Beaver Creek A**	**70.51 23**	P		**P**	**23 11 36.3**	**-0.8**
N25K	**Chitina, Valde**	**70.71 25**	P		**P**	**23 11 38.3**	**0.0**
N25K			IAmb		IAmb	23 11 48.6	
comp=Z,3.8nm,1.1s							
WRA	**Warramunga Arr**	**70.88 137**	P		**P**	**23 11 38.7**	**-1.0**
comp=Z,0.8nm,0.7s,baz=329,slow=6.1,SNR=5.8							
comp=Z,0.8nm,0.7s							
J30M	**Hart River**	**70.89 20**	P		**P**	**23 11 39.7**	**+0.2**
J30M			IAmb		IAmb	23 11 58.7	
comp=Z,5.3nm,1.4s							
ASAR	**Alice Springs**	**73.71 139**	P		**P**	**23 11 56.1**	**-0.5**
comp=Z,0.8nm,0.6s,baz=327,slow=6.3,SNR=8.4							
comp=Z,0.8nm,0.6s							
YKA	**Yellowknife Ar**	**77.39 12**	P		**P**	**23 12 17.2**	**0.0**
comp=Z,0.5nm,0.8s,baz=333,slow=5.5,SNR=9.3							
comp=Z,0.5nm,0.8s							
STKA	**Stephens Creek**	**84.32 139**	LR		LR	23 54 49.1	
comp=Z,62nm,18.6s,baz=203,slow=39							

NEIC ***27*** *23:12:40.8±1.3, 28°.82N±0°.07×129°.72E±0°.09, h35km±2km, mb4.2/12, Error ellipse: s-maj=14.8km s-min=9.6km az=121.0*

JMA ***27*** *23:12:42.8±0.2, 28°.9N±0°.4×129°.7E±0°.9, h60km±2km, MD3.7/27, MV3.7/27, NEAR AMAMI-OSHIMA ISLAND*

JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.

IDC ***27*** *23:12:43.6±1.5, 28°.81N×129°.69E, h67km±13km, mb3.5/12, mbtmp3.8/15, MS2.8/2, Error ellipse: s-maj=30.5km s-min=9.3km az=114.0*

ISC 27 23:12:42.8±0.8, 28°.82N±0°.03×129°.80E±0°.05, h64km±6km, n62, σ1°14/80, mb4.0/18, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.44 203**		*i* P	**Pn**	**23 12 54.2**	**-0.2**
JAM				S	**Sn**	**23 13 02.4**	**-0.5**
JAM	**Amami Oshima**	**0.44 203**		A	A	23 12 54.2	
comp=N,8.0nm,0.7s,comp=E,6.0nm,0.9s							
JZK	**Kikaishima**	**0.52 163**		P	**Pn**	**23 12 56.2**	**+0.9**
JZK				S	**Sn**	**23 13 07.4**	**+3.0**
JTAJ	**Takarajima**	**0.62 303**		*i* P	**Pn**	**23 12 55.2**	**-1.0**
JTAJ				S	**Sn**	**23 13 04.4**	**-1.8**
JAMN	**Amaminishikomi**	**0.79 224**		*i* P	**Pn**	**23 12 58.2**	**-0.1**
JAMN				S	**Sn**	**23 13 09.9**	**+0.1**
JAMN	**Amaminishikomi**	**0.79 224**		A	A	23 12 58.2	
comp=N,8.0nm,0.4s,comp=E,12nm,0.3s							
JNN	**Nakanoshima**	**1.02 4**		P	**Pn**	**23 13 00.7**	**-0.6**
JNN				S	**Sn**	**23 13 13.8**	**-1.3**
JTK	**Tokunoshima**	**1.27 216**		P	**Pn**	**23 13 05.2**	**+0.7**
JTK				S	**Sn**	**23 13 21.7**	**+1.0**
JYAK	**Yakushimahirau**	**1.55 24**		*eP*	**Pn**	**23 13 08.3**	**+0.1**
JYAK				*eS*	**Sn**	**23 13 26.3**	**-1.0**
JKC	**Kuchinoerabu**	**1.68 12**		P	**Pn**	**23 13 10.1**	**+0.1**
JKC				S	**Sn**	**23 13 29.9**	**-0.6**
JOKE	**Okinoerabujima**	**1.81 217**		*i* P	**Pn**	**23 13 12.8**	**+1.0**
JOKE				*eS*	**Sn**	**23 13 34.7**	**+1.1**
JMTN	**Minamitane**	**1.85 31**		P	**Pn**	**23 13 12.9**	**+0.6**
JMTN				*eS*	**Sn**	**23 13 35.2**	**+0.6**
JTN	**Tanegashima 3**	**2.10 29**		*eP*	**Pn**	**23 13 16.4**	**+0.7**
JYRO	**Yoronjima**	**2.15 214**		*eP*	**Pn**	**23 13 17.0**	**+0.8**
JYRO				S	**Sn**	**23 13 42.4**	**+0.6**
JOW	**Kunigami**	**2.39 215**		Pn	**Pn**	**23 13 19.9**	**+0.2**
JOW				Sn	**Sn**	**23 13 47.3**	**-0.5**
JOW	**Kunigami**	**2.39 215**		P	**Pn**	**23 13 20.2**	**+0.6**
comp=E,79nm,0.2s,baz=90,slow=20,SNR=21							
JOW				S	**Sn**	**23 13 47.8**	**0.0**
comp=E,236nm,0.2s,baz=212,slow=28,SNR=14							
JOW				LR	LR	23 14 29.3	
comp=E,149nm,19.6s,baz=124,slow=45							
JOW	**Kunigami**	**2.39 215**		P	**Pn**	**23 13 20.2**	**+0.6**
JOW				*eS*	**Sn**	**23 13 48.0**	**+0.2**
JIH	**Iheya**	**2.40 223**		*eP*	**Pn**	**23 13 20.2**	**+0.5**
JIH				S	**Sn**	**23 13 48.0**	**0.0**
JNTH	**Nagotoyohara**	**2.78 215**		*eP*	**Pn**	**23 13 25.6**	**+0.8**
JNTH				*eS*	**Sn**	**23 13 57.3**	**+0.1**
JKDJ	**Kitadaitoujima**	**3.15 155**		*eP*	**Pn**	**23 13 30.7**	**+0.8**
JKDJ				*eS*	**Sn**	**23 14 03.5**	**-2.9**
JAGN	**Aguni-jima**	**3.17 226**		*eP*	**Pn**	**23 13 30.9**	**+0.7**
JAGN				*eS*	**Sn**	**23 14 07.0**	**+0.2**
JJT3	**Tamagusuku3**	**3.21 214**		*eP*	**Pn**	**23 13 32.2**	**+1.5**
JJT3				*eS*	**Sn**	**23 14 08.4**	**+0.7**
JMZ	**Minamidaito 2**	**3.24 157**		Pn	**Pn**	**23 13 29.9**	**-1.3**
JMZ	**Minamidaito 2**	**3.24 157**		*eP*	**Pn**	**23 13 31.6**	**+0.3**
JMZ				*eS*	**Sn**	**23 14 05.4**	**-3.3**
JKE	**Kume jima 2**	**3.65 228**		*eS*	**Sn**	**23 14 18.4**	**0.0**
JNU	**Nakatsue**	**4.39 12**			**Pn**	**23 13 47.6**	**+0.6**
JNU	**Nakatsue**	**4.39 12**		P	**Pn**	**23 13 48.8**	**+1.8**
comp=E,8.4nm,0.4s,baz=192,slow=6.7,SNR=13							
JNU				S	**Sn**	**23 14 37.2**	**+0.4**
comp=E,8.5nm,0.6s,baz=239,slow=12,SNR=1.1							
JMN	**Monobe**	**6.02 34**		Pn	**Pn**	**23 14 08.5**	**-0.7**
YOJ	**Yonaguni jima**	**7.46 236**		Pn	**Pn**	**23 14 26.9**	**-2.1**
KSRS	**Korea Array**	**8.76 350**		P	**Pn**	**23 14 49.1**	**+2.5**
comp=E,1.2nm,0.7s,baz=176,slow=15,SNR=2.6							
INU	**Inuyama**	**8.94 41**		Pn	**Pn**	**23 14 50.0**	**+0.9**
JGF	**Kuroka**	**9.31 42**		Pn	**Pn**	**23 14 54.0**	**-0.3**
SSLB	**Suanglung**	**9.38 240**		Pn	**Pn**	**23 14 52.1**	**-3.1**
JCJ	**Chichijima**	**11.09 96**		LR	LR	23 18 58.2	
comp=E,57nm,20.8s,baz=113,slow=34							
SONM	**Songino Array**	**26.24 323**		P	**P**	**23 18 12.0**	**+0.1**
comp=E,0.7nm,0.6s,baz=140,slow=11,SNR=4.4							
comp=E,0.7nm,0.6s							
MK31	**Makanchi Array**	**40.91 309**		P	**P**	**23 20 18.2**	**-0.6**
MKAR	**Makanchi Array**	**40.91 309**		P	**P**	**23 20 18.6**	**-0.2**
MKAR	**Makanchi Array**	**40.91 309**		P	**P**	**23 20 19.4**	**+0.6**
comp=E,0.5nm,0.5s,baz=93,slow=10,SNR=10							
comp=E,0.5nm,0.5s							
ZAA0	**Zalesovo Array**	**41.09 321**		P	**P**	**23 20 19.5**	**-0.6**
ZAA0				IAmb	IAmb	23 20 21.1	
comp=Z,1.8nm,0.5s							
ZALV	**Zalesovo Beam**	**41.09 321**		P	**P**	**23 20 20.4**	**+0.3**
ZALV	**Zalesovo Beam**	**41.09 321**		P	**P**	**23 20 20.1**	**+0.1**
comp=Z,1.8nm,0.4s,baz=104,slow=9.5,SNR=9.6							
comp=Z,1.8nm,0.4s							
KURBB	**Kurchatov Arra**	**43.99 314**		P	**P**	**23 20 44.1**	**+0.4**
comp=Z,0.9nm,0.4s,baz=97,slow=8.9,SNR=16							
comp=Z,0.9nm,0.4s							
KDJ	**Kajisay**	**44.21 302**		P	**P**	**23 20 45.0**	**-0.8**
AAK	**Ala-Archa**	**46.19 303**		P	**P**	**23 21 00.4**	**-1.0**
KKAR	**Karatay Array**	**49.10 304**		P	**P**	**23 21 23.8**	**0.0**
BVAR	**Borovoye Array**	**49.31 317**		P	**P**	**23 21 26.1**	**+0.9**
comp=Z,1.0nm,0.4s,baz=80,slow=9.6,SNR=10							
comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**49.38 317**		P	**P**	**23 21 25.8**	**+0.1**
BRVK				IAmb	IAmb	23 21 26.6	
comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**55.92 312**		P	**P**	**23 22 13.9**	**-0.3**
ABKAR				IAmb	IAmb	23 22 15.0	
comp=Z,1.0nm,0.5s							
ABKAR	**Akbulak array**	**55.92 312**		P	**P**	**23 22 14.0**	**-0.1**
ARTI	**Arti**	**56.35 321**		P	**P**	**23 22 16.7**	**-0.3**
B22K	**Teshekpuk Lake**	**58.73 23**		P	**P**	**23 22 34.6**	**+1.1**
B22K				IAmb	IAmb	23 23 01.5	
comp=Z,3.3nm,1.4s							
KDAK	**Kodiak Island**	**59.62 37**		P	**P**	**23 22 40.5**	**+0.6**
D23K	**Nanushuk River**	**59.68 24**		P	**P**	**23 22 41.2**	**+1.0**
D23K				IAmb	IAmb	23 23 06.0	
comp=Z,3.2nm,1.4s							
ILAR	**Eielson Array**	**61.51 29**		P	**P**	**23 22 54.0**	**+1.3**
comp=Z,0.2nm,0.7s,baz=279,slow=7.3,SNR=4.8							
comp=Z,0.2nm,0.7s							
F25K	**Christian Rive**	**61.66 26**		P	**P**	**23 22 54.7**	**+1.0**
F25K				IAmb	IAmb	23 23 13.9	
comp=Z,1.4nm,0.9s							
BMAR	**Burnt Mountain**	**62.08 26**		P	**P**	**23 22 58.7**	**+2.1**
FINES	**FINESS Array B**	**71.31 330**		P	**P**	**23 23 53.6**	**-1.6**
comp=Z,0.6nm,0.5s,baz=81,slow=8.6,SNR=5.8							
comp=Z,0.6nm,0.5s							
AKASG	**Malin Array Be**	**74.47 320**		P	**P**	**23 24 13.7**	**-0.4**
comp=Z,0.5nm,0.3s,baz=58,slow=6.4,SNR=3.6							
comp=Z,0.5nm,0.3s							
YKA	**Yellowknife Ar**	**75.60 26**		P	**P**	**23 24 22.4**	**+2.0**
comp=Z,0.2nm,0.7s,baz=299,slow=5.9,SNR=4.9							
comp=Z,0.2nm,0.7s							
BRTR	**Keskin Array B**	**76.55 308**		P	**P**	**23 24 26.4**	**0.0**
comp=Z,1.7nm,0.8s,baz=83,slow=6.6,SNR=9.6							
comp=Z,1.7nm,0.8s							
NOA	**NORSAR Array B**	**77.61 334**		P	**P**	**23 24 30.5**	**-1.4**
comp=Z,0.6nm,0.8s,baz=51,slow=5.9,SNR=3.6							
comp=Z,0.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**87.03 335**		P	**P**	**23 25 21.0**	**-0.1**
comp=Z,0.2nm,0.3s,baz=36,slow=5.7,SNR=1.7							
comp=Z,0.2nm,0.3s							

IDC ***27*** *23:37:10.2±0.8, 12°.63N×48°.32E, h0km, mb4.2/25, mbtmp4.3/26, ML2.8/2, MS3.9/55, Error ellipse: s-maj=17.2km s-min=14.5km az=6.0*

NEIC ***27*** *23:37:11.8±1.3, 12°.60N±0°.10×48°.25E±0°.10, h10km±1km, mb4.6/71, Error ellipse: s-maj=17.5km s-min=15.3km az=136.0*

GCMT ***27*** *23:37:13.8±0.4, 12°.69N±0°.02×48°.44E±0°.02, h29km±1km, MW5.0/85, Moment Tensor Solution. s20,c20; s85,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.73±.21; $M_{\theta\theta}$2.97±.14; $M_{\phi\phi}$-2.24±.13; $M_{r\theta}$-1.26±.20; $M_{\theta\phi}$1.90±.14; $M_{r\phi}$0.14±.24; Best double couple: $M_0$3.43700×10^{16} NP1:ϕ_S206.00000°, δ70.00000°, λ-180.00000°. NP2: ϕ_S116.00000°, δ90.00000°, λ-20.00000°. Principal axes: T 3.8810, Plg14.0000°, Azm163.0000°; N -0.8860, Plg70.0000°, Azm296.0000°; P -2.9940, Plg14.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 23:37:11.2±0.5, 12°.57N±0°.07×48°.30E±0°.06, h10km, n193, σ1°02/154, mb4.5/76, MS3.9/56, 1C-4D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.44 260**			**Pn**	**23 38 32.1**	**-0.3**
ATD	**Arta Tunnel**	**5.44 260**		Pn	**Pn**	**23 38 32.9**	**+0.5**
2.9nm,0.3s,baz=73,slow=4.1,SNR=154							
ATD				Sn	**Sn**	**23 39 36.6**	**+1.4**
1.0nm,0.3s,baz=46,slow=23,SNR=10							
ATD				LR	LR	23 40 07.0	
comp=Z,63nm,18.6s,baz=48,slow=32							
RAYN	**Ar Rayn**	**11.21 347**		Pn	Pn	23 39 45.3	-6.4
RAYN	**Ar Rayn**	**11.21 347**		Pn	Pn	23 39 45.9	-5.8
MZR	**Muzera**	**11.48 25**		Pn	**Pn**	**23 39 55.0**	**-0.3**
ALNE	**Al Ain**	**13.43 31**		Pn	Pn	23 40 16.9	-5.0
ASHO	**Ashiyiah**	**14.11 30**		Pn	**Pn**	**23 40 27.0**	**-4.3**
UOSS	**Minazif**	**14.40 30**			**Pn**	**23 40 32.1**	**-3.1**
WSAR	**Wadi Sarin**	**14.45 41**		Pn	**Pn**	**23 40 34.5**	**-1.5**
baz=246,slow=24,SNR=6.8							
MSFE	**Esma-Masafi**	**14.72 29**		Pn	**Pn**	**23 40 39.7**	**0.0**
MDH	**Madha**	**14.74 30**		Pn	**Pn**	**23 40 40.5**	**+0.6**
SHME	**Shamm**	**15.30 28**		Pn	**Pn**	**23 40 43.2**	**-4.3**
KIBK	**Kibwezi**	**17.98 215**			**Pn**	**23 41 19.5**	**-2.1**
MSEY	**Mahe Island**	**18.56 157**		P	**P**	**23 41 28.2**	**-0.2**
MSEY				IAmb	IAmb	23 41 31.8	
comp=Z,34nm,0.8s							
EIL	**Elat**	**21.05 326**		P	**P**	**23 41 55.8**	**+0.3**
comp=Z,11nm,0.9s,baz=117,slow=1.7,SNR=13							
EIL				Lg	Lg	23 47 50.4	
comp=Z,0.1nm,0.3s,baz=221,slow=20,SNR=3.6							
EIL				LR	LR	23 48 54.1	
comp=Z,567nm,20.0s,baz=150,slow=34							
comp=Z,11nm,0.9s							
GHAJ	**Ghor Haditha**	**22.03 330**		P	**P**	**23 42 04.8**	**-1.2**
GHAJ				IAmb	IAmb	23 42 10.9	
comp=Z,30nm,1.0s							
ASF	**Jabal al Asfar**	**22.14 334**		P	**P**	**23 42 08.8**	**+1.5**
comp=Z,23nm,1.0s,baz=153,slow=2.3,SNR=18							
ASF				Lg	Lg	23 48 41.5	
comp=Z,0.1nm,0.3s,baz=239,slow=7.8,SNR=3.4							
comp=Z,23nm,1.0s							
MMAI	**Mount Meron Ar**	**23.52 332**		LR	LR	23 51 58.2	
comp=Z,886nm,18.4s,baz=152,slow=38							
HRA	**Herat**	**25.14 28**		P	**P**	**23 42 36.2**	**-0.6**
HRA				IAmb	IAmb	23 42 42.7	
comp=Z,13nm,1.1s							
MARD	**Mardin**	**25.54 346**		P	**P**	**23 42 39.7**	**-0.7**
MARD				IAmb	IAmb	23 42 43.9	
comp=Z,20nm,1.0s							
GEVA	**Gevas**	**26.06 351**		P	**P**	**23 42 45.1**	**0.0**
GEVA				IAmb	IAmb	23 43 03.4	
comp=Z,17nm,1.0s							
GAZ	**Gaziantep**	**26.44 340**		P	**P**	**23 42 48.6**	**+0.2**
GAZ				IAmb	IAmb	23 43 08.0	
comp=Z,8.3nm,1.0s							
GURO	**Guroymak-BITLI**	**26.47 349**		P	**P**	**23 42 48.6**	**-0.1**
GNI	**Garni**	**27.65 354**		P	**P**	**23 42 59.4**	**0.0**
GNI	**Garni**	**27.65 354**		LR	LR	23 55 27.5	
comp=Z,725nm,20.1s,baz=168,slow=40							
GNI	**Garni**	**27.65 354**		P	**P**	**23 42 59.2**	**-0.1**
KOPT	**Kop Dagi**	**28.19 347**		P	**P**	**23 43 02.5**	**-1.8**
KOPT				IAmb	IAmb	23 43 40.0	
comp=Z,10nm,1.2s							
KARS	**Kars**	**28.32 352**		P	**P**	**23 43 04.3**	**-1.0**
KBL	**Kabul**	**28.86 37**		P	**P**	**23 43 10.1**	**-0.3**
BR131	**Keskin Array S**	**29.99 337**		P	**P**	**23 43 19.5**	**-0.6**
BR131				IAmb	IAmb	23 43 26.0	
comp=Z,10nm,1.4s							
BRTR	**Keskin Array B**	**29.99 337**		P	**P**	**23 43 19.1**	**-1.1**
BRTR	**Keskin Array B**	**29.99 337**		P	**P**	**23 43 21.2**	**+1.0**
comp=Z,1.4nm,0.7s,baz=160,slow=12,SNR=11							
BRTR				LR	LR	23 55 13.1	
comp=Z,188nm,21.5s,baz=156,slow=36							
comp=Z,1.4nm,0.7s							
ANTO	**Ankara**	**30.44 336**		P	**P**	**23 43 23.5**	**-0.6**
ANTO				IAmb	IAmb	23 43 33.2	
comp=Z,15nm,1.2s							
NIL	**Nilore**	**30.94 43**		P	**P**	**23 43 29.0**	**+0.5**
NIL				IAmb	IAmb	23 43 41.0	
comp=Z,6.2nm,0.9s							
OPO	**Ambohidratompo**	**30.96 182**		LR	LR	23 54 10.6	
comp=Z,273nm,21.7s,baz=188,slow=33							
ILGA	**Ilgaz**	**31.12 338**		P	**P**	**23 43 28.4**	**-1.8**
KBZ	**Khabaz**	**31.39 352**		P	**P**	**23 43 33.4**	**+1.1**
comp=

comp=Z,2.2nm,0.7s
RONA Rosalia, Austr 44.05 329 *eP* **P 23 45 20.1 +0.8**
comp=Z,3.3nm,0.6s
MAKZ Makanchi 44.33 33 P **P 23 45 21.4 -0.2**
MAKZ IAmb IAmb 23 45 31.2
comp=Z,5.9nm,0.9s
ARTI Arti 44.41 8 P **P 23 45 21.2 -0.7**
ARTI IAmb IAmb 23 45 23.3
comp=Z,6.7nm,0.8s
CONA Conrad Observa 44.42 329 *eP* **P 23 45 23.5 +1.2**
comp=Z,2.8nm,0.8s
MK31 Makanchi Array 44.49 33 P **P 23 45 22.4 -0.5**
MK31 IAmb IAmb 23 45 32.9
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 44.49 33 P **P 23 45 22.3 -0.6**
MKAR Makanchi Array 44.49 33 P **P 23 45 22.9 +0.1**
comp=Z,2.5nm,0.8s,baz=219,slow=7.9,SNR=24
MKAR LR LR 00 06 18.2
comp=Z,105nm,20.6s,baz=226,slow=39
comp=Z,2.5nm,0.8s
MNK Minsk 44.82 343 *i P* **P 23 45 23.6 -1.7**
comp=E,4.0nm,0.9s
MNK *i P* **P 23 45 23.6 -1.7**
comp=N,10.0nm,1.1s
MNK *i P* **P 23 45 23.6 -1.7**
comp=Z,7.0nm,0.9s,baz=151
MNK *i* PP **PcP 23 47 07.2 +0.2**
MNK *i* PPP PPP 23 47 45.3
MNK *i* S **S 23 52 01.8 -0.7**
MNK *i* SS **SS 23 55 24.6 +1.1**
MNK *i* SSS SSS 23 56 07.5
MNK *i* LQ LQ 00 00 54.3
MNK *i* LR LR 00 04 01.3
MNK *i* LRM MLR 00 05 45.0
comp=N,135nm,17.4s
MNK *i* LRM MLR 00 05 49.4
comp=Z,218nm,20.6s
MNK *i* LRM MLR 00 06 03.7
comp=E,65nm,13.9s
MORC Moravsky Berou 44.88 332 P **P 23 45 25.4 -0.6**
VRAC Vranov 45.00 331 LR LR 00 05 00.5
comp=E,92nm,21.3s,baz=130,slow=37
MOA Molln 45.19 328 *eP* **P 23 45 29.1 +0.8**
comp=E,4.3nm,0.8s
KBA Koelnbreinsper 45.19 326 *eP* **P 23 45 29.4 +0.8**
comp=E,2.7nm,0.8s
KURBB Kurchatov Arra 45.25 27 P **P 23 45 28.5 -0.2**
comp=E,2.3nm,1.0s,baz=228,slow=8.0,SNR=14
KURBB LR LR 00 06 04.9
comp=E,124nm,21.5s,baz=171,slow=38
comp=E,2.3nm,1.0s
KURK Kurchatov 45.35 27 P **P 23 45 29.4 -0.1**
KURK IAmb IAmb 23 45 35.4
comp=Z,5.1nm,0.9s
TORD Torodi Ar. Bea 45.39 276 P **P 23 45 29.7 -0.7**
TORD Torodi Ar. Bea 45.39 276 P **P 23 45 30.7 +0.3**
comp=Z,2.6nm,0.6s,baz=90,slow=7.8,SNR=5.2
comp=Z,2.6nm,0.6s
BIOA Bad Ischl, Aus 45.41 327 P **P 23 45 30.6 +0.4**
comp=Z,4.3nm,0.7s
NACGM Naroch 45.48 343 LQ LQ 00 00 53.9
LESA Schwarzleotal 45.76 326 *eP* **P 23 45 33.3 +0.3**
comp=Z,2.9nm,0.6s
CKRC Cesky Krumlov 45.79 329 *eP* **P 23 45 33.3 +0.2**
DPC Dobruska-Polom 45.84 332 *eP* **P 23 45 34.0 +0.5**
SUW Suwalki 45.87 340 *eP* **P 23 45 33.9 +0.3**
SUW Suwalki 45.87 340 P **P 23 45 33.2 -0.4**
KIRV Kirov 45.93 1 LR LR 00 07 34.9
comp=Z,378nm,21.4s,baz=170,slow=40
WMQ Urumqi 45.94 40 *eP* P 23 45 39.5 +5.0
WMQ pmax pmax
comp=Z,17nm,0.7s
OSTC Ostas 46.04 332 *eP* **P 23 45 35.5 +0.5**
UPC Upice 46.10 332 *eP* **P 23 45 36.0 +0.5**
GEC2 GERESS Array S 46.11 329 P **P 23 45 35.4 -0.3**
GEC2 IAmb IAmb 23 45 36.6
comp=Z,4.6nm,0.8s
GERES GERESS Array B 46.11 329 P **P 23 45 35.1 -0.7**
GERES GERESS Array B 46.11 329 P **P 23 45 35.8 +0.1**
comp=Z,3.3nm,0.8s,baz=134,slow=7.6,SNR=29
GERES LR LR 00 07 44.4
comp=Z,40nm,18.4s,baz=340,slow=40
comp=Z,3.3nm,0.8s
CHVC Chvalec 46.13 332 *eP* **P 23 45 36.2 +0.4**
KSP Ksiaz 46.20 332 *eP* **P 23 45 37.0 +0.7**
WTTA Wattenberg 46.23 326 *eP* **P 23 45 36.8 0.0**
comp=Z,1.0nm,0.5s
ZVC Zvikov 46.25 330 *eP* **P 23 45 36.7 0.0**
WATA Walderalm 46.31 326 *eP* **P 23 45 38.8 +1.4**
comp=Z,1.5nm,0.4s
KHC Kasperske Hory 46.36 329 *eP* **P 23 45 37.3 -0.3**
MOTA Moosalm 46.57 326 *eP* **P 23 45 39.2 -0.3**
comp=Z,1.5nm,0.5s
BOSA Boshof 46.62 208 P **P 23 45 40.4 +0.4**
BOSA IAmb IAmb 23 45 49.7
comp=Z,7.0nm,1.2s
BOSA Boshof 46.62 208 P **P 23 45 41.1 +1.2**
comp=Z,1.6nm,0.6s,baz=17,slow=9.5,SNR=6.2
BOSA LR LR 00 07 13.2
comp=Z,179nm,19.5s,baz=26,slow=39
comp=Z,1.6nm,0.6s
RETA Reutte 46.84 325 *eP* **P 23 45 41.4 -0.1**
comp=Z,0.6nm,0.4s
DAVOX Davos/Dischmat 46.94 324 LR LR 00 06 26.6
comp=Z,114nm,21.7s,baz=130,slow=37
TUE Stuetta 47.08 324 P **P 23 45 43.5 +0.1**
TUE IAmb IAmb 23 46 05.7
comp=Z,3.1nm,0.9s
DAVA Damuels 47.22 325 *eP* **P 23 45 44.0 -0.5**
comp=Z,1.9nm,0.4s
SENIN Lac Senin/Sane 48.22 322 P **P 23 45 51.8 -0.5**
CM31 Chiang Mai Arr 49.02 76 P **P 23 45 57.8 -0.9**
CMAR Chiang Mai Arr 49.02 76 P **P 23 45 58.1 -0.6**
CMAR Chiang Mai Arr 49.02 76 P **P 23 45 58.9 +0.2**
comp=Z,6.2nm,0.7s,baz=275,slow=8.8,SNR=54
CMAR LR LR 00 05 15.1
comp=Z,27nm,21.4s,baz=270,slow=34
comp=Z,6.2nm,0.7s
GSI Gunungsitoli 50.08 99 P **P 23 46 07.3 +0.5**
GSI IAmb IAmb 23 46 09.5
comp=Z,12nm,1.0s
ZAA0 Zalesovo Array 50.34 27 P **P 23 46 07.4 -0.7**
ZALV Zalesovo Beam 50.34 27 P **P 23 46 07.4 -0.7**
ZALV Zalesovo Beam 50.34 27 P **P 23 46 07.2 -1.0**
comp=Z,2.6nm,0.7s,baz=232,slow=7.3,SNR=12
comp=Z,2.6nm,0.7s
CRAI Chiangrai 50.36 74 P **P 23 46 08.9 -0.1**
CRAI IAmb IAmb 23 46 16.9
comp=Z,5.0nm,1.0s
CEST Esterri de Car 50.43 315 P **P 23 46 09.1 -0.1**
CEST IAmb IAmb 23 46 18.6
comp=Z,12nm,1.0s
WLF Walferdange 50.60 326 P **P 23 46 09.7 -0.6**
WLF IAmb IAmb 23 46 22.6
comp=Z,10nm,1.1s
WLF Walferdange 50.60 326 *dP* **P 23 46 09.7 -0.6**
comp=Z,6.1nm,0.9s
PSI Prapat 51.01 97 LR LR 00 04 45.5
comp=Z,120nm,19.1s,baz=244,slow=32
FINES FINESS Array B 51.40 347 P **P 23 46 16.4 +0.4**
comp=Z,9.7nm,0.7s,baz=149,slow=11,SNR=26
FINES LR LR 00 10 08.8
comp=Z,118nm,19.3s,baz=150,slow=38
comp=Z,9.7nm,0.7s
FIA1 FINESS Array S 51.40 347 P **P 23 46 15.8 -0.2**
BCLA Clavier 51.46 326 *dP* **P 23 46 16.0 -0.7**
BGES Gesves 51.56 326 *dP* **P 23 46 17.6 +0.1**
SUR Sutherland 51.86 210 LR LR 00 10 39.1
comp=Z,198nm,18.2s,baz=181,slow=39
PZH PanZhiHua 51.89 66 P **P 23 46 22.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
MDT Midelt 52.23 302 LR LR 00 07 39.5
comp=Z,226nm,18.8s,baz=110,slow=35
GTA Gaotai 52.59 50 *eP* **P 23 46 26.0 +0.5**
GTA pP sP 23 46 29.5 +0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
DBIC Dimbokro 52.67 269 LR LR 00 07 32.3
comp=Z,63nm,20.1s,baz=80,slow=35
ESDC Sonseca Array 53.23 310 P **P 23 46 30.7 +0.6**
comp=Z,1.7nm,0.9s,baz=103,slow=6.2,SNR=9.6
ESDC LR LR 00 08 10.4
comp=Z,54nm,20.3s,baz=118,slow=35
comp=Z,1.7nm,0.9s
HFS Hagfors 53.88 339 P **P 23 46 34.3 -0.1**
comp=Z,4.7nm,0.8s,baz=140,slow=9.7,SNR=9.4
HFS LR LR 00 12 33.5
comp=Z,102nm,19.3s,baz=138,slow=39
comp=Z,4.7nm,0.8s
NB2 NORSAR Subarra 55.39 339 P **P 23 46 44.7 -0.7**
comp=Z,19nm,1.7s,baz=134,slow=7.4
NOA NORSAR Array B 55.39 339 P **P 23 46 44.9 -0.6**
comp=Z,1.9nm,0.8s,baz=133,slow=7.1,SNR=6.6
NOA LR LR 00 13 30.0
comp=Z,98nm,19.3s,baz=130,slow=39
comp=Z,1.9nm,0.8s
EKA Eskdalemuir Ar 58.33 328 P **P 23 47 05.2 -1.1**
comp=Z,1.5nm,0.8s,baz=126,slow=6.9,SNR=7.7
comp=Z,1.5nm,0.8s
KEV Kevo 58.71 351 P **P 23 47 08.8 +0.1**
ARCES ARCESS Array B 58.73 351 P **P 23 47 09.3 +0.3**
ARCES ARCESS Array B 58.73 351 P **P 23 47 09.1 +0.2**
comp=Z,6.5nm,0.8s,baz=72,slow=1.5,SNR=12
ARCES LR LR 00 15 28.2
comp=Z,174nm,18.7s,baz=136,slow=39
comp=Z,6.5nm,0.8s
XAN Xi'an 58.78 58 P **P 23 47 09.5 -0.5**
XAN pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 59.50 42 P **P 23 47 15.4 +0.7**
SONM IAmb IAmb 23 47 22.5
comp=Z,4.5nm,1.0s
SONM Songino Array 59.50 42 P **P 23 47 15.5 +0.7**
comp=Z,2.3nm,0.8s,baz=252,slow=6.6,SNR=13
comp=Z,2.3nm,0.8s
BTO Baotou 60.50 50 *eP* **P 23 47 22.0 +0.2**
BTO PP **PP 23 49 38.0 +2.9**
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,280nm,9.5s
HHC Hu-ho-hao-te 61.70 50 *eP* **P 23 47 31.0 +1.1**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,99nm,5.6s
NRIK Noril'sk 61.93 15 P **P 23 47 30.4 -0.4**
NRIK IAmb IAmb 23 47 37.4
comp=Z,3.7nm,0.9s
NRIK Noril'sk 61.93 15 P **P 23 47 31.0 +0.2**
comp=Z,3.2nm,0.9s,baz=201,slow=8.6,SNR=6.0
NRIK LR LR 00 17 33.5
comp=Z,165nm,19.4s,baz=219,slow=39
comp=Z,3.2nm,0.9s
BBTS Babate 62.86 280 LR LR 00 16 19.0
comp=Z,102nm,19.8s,baz=326,slow=37
NJ2 Nanjing 67.03 60 *eP* **P 23 48 05.5 +0.7**
NJ2 pmax pmax
comp=Z,20nm,0.6s
SPITS Spitsbergen Ar 67.51 353 LR LR 00 19 50.8
comp=Z,110nm,18.5s,baz=144,slow=38
BORG Borgarnes 70.05 335 LR LR 00 20 56.1
comp=Z,36nm,19.9s,baz=95,slow=38
KAPI Kappang 73.10 99 LR LR 00 18 28.4
comp=Z,61nm,19.3s,baz=224,slow=34
BNX BinXian 73.52 46 ⇑P **P 23 48 43.5 -0.9**
BNX pmax pmax
comp=Z,6.0nm,1.7s
KSRS Korea Array 74.28 54 P **P 23 48 48.5 -0.4**
comp=Z,1.1nm,0.6s,baz=274,slow=4.0,SNR=2.4
KSRS LR LR 00 23 01.9
comp=Z,27nm,19.4s,baz=255,slow=37
comp=Z,1.1nm,0.6s
YAK Yakutsk 74.95 29 LR LR 00 26 35.2
comp=Z,70nm,18.1s,baz=268,slow=40
TIXI Tiksi 75.18 19 P **P 23 48 54.7 +1.2**
TIXI IAmb IAmb 23 48 56.3
comp=Z,4.1nm,0.8s
TIXI Tiksi 75.18 19 LR LR 00 28 01.6
comp=Z,108nm,18.1s,baz=340,slow=41
DAV Davao City (W) 76.12 86 LR LR 00 22 06.0
comp=Z,42nm,20.1s,baz=316,slow=35
KLR Kul'dur 76.33 42 LR LR 00 26 15.9
comp=Z,60nm,20.6s,baz=281,slow=39
USRK Ussuriysk Ar. 76.85 47 LR LR 00 27 00.2
comp=Z,58nm,18.1s,baz=277,slow=39
JNU Nakatsue 77.09 59 LR LR 00 24 49.3
comp=Z,57nm,18.9s,baz=311,slow=37
NWAO Narrogin (SRO) 79.74 127 LR LR 00 22 59.2
comp=Z,66nm,18.2s,baz=288,slow=34
MAW Mawson 80.66 174 LR LR 00 20 08.2
comp=Z,172nm,19.5s,baz=218,slow=32
SYO Syowa Base 81.61 183⇓*e*PP PP 23 52 38.2 +2.6
SFJD Kangerlussuaq 81.99 337 LR LR 00 27 55.1
comp=Z,90nm,18.3s,baz=127,slow=37
ASAJ Asahikawa 84.41 46 LR LR 00 33 43.0
comp=Z,55nm,18.8s,baz=124,slow=40
SEY Seymchan 85.20 26 P **P 23 49 48.2 +0.5**
comp=Z,0.7nm,0.3s,baz=194,slow=8.3,SNR=4.0
comp=Z,0.7nm,0.3s
WRA Warramunga Arr 90.56 110 P **P 23 50 14.8 +0.5**
WRA Warramunga Arr 90.56 110 P **P 23 50 15.5 +1.2**
comp=Z,2.2nm,0.7s,baz=296,slow=3.7,SNR=21
comp=Z,2.2nm,0.7s
WB0 Warramunga Arr 90.57 110 P **P 23 50 14.8 +0.5**
WB0 IAmb IAmb 23 50 21.3
comp=Z,4.7nm,0.8s
SNAA Sanae 90.65 194 LR LR 00 26 12.6
comp=Z,147nm,19.1s,baz=292,slow=32
ASAR Alice Springs 91.01 114 P **P 23 50 15.6 -0.8**
ASAR Alice Springs 91.01 114 P **P 23 50 17.2 +0.9**
comp=Z,0.6nm,0.7s,baz=296,slow=4.9,SNR=7.4
comp=Z,0.6nm,0.7s
PETK Petropavlovsk- 91.31 35 LR LR 00 35 14.6
comp=Z,77nm,19.2s,baz=119,slow=38
STKA Stephens Creek 99.29 121 LR LR 00 31 37.9
comp=Z,116nm,18.8s,baz=207,slow=33
TBI Tubuai 160.01 125 *e*LR LR 00 51 21.6
comp=Z,785nm,38.2s
PPT2 Papeete2 162.03 108 *e*LR LR 00 52 14.8
comp=Z,533nm,41.2s

CATAC ***27*** *23:41:04.4±1.0, 12°N±5°×8°9W±°, h1km, M3.7/6, MLv3.7/6, Error ellipse: s-maj=11.5km s-min=8.5km az=18.0, confirmed*
SNET ***27*** *23:41:05.2±1.3, 12°.42N×89°.32W, h26km±49km, ML3.3*
ISC 27 23:41:03.3±3.0, 12°.4N±0°.1×89°.32W±0°.09, h10km, n25, σ0:81/30, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.08**	**360**	*eP*	**Pg**	**23 41 24.3**	**+0.1**
LALI				*eS*	**Sg**	**23 41 39.2**	**+0.9**
LOMA	**Loma Larga**	**1.25**	**7**	*eP*	**Pn**	**23 41 26.3**	**-0.7**
JAYA	**Jayaque - finc**	**1.26**	**354**	*eP*	**Pn**	**23 41 27.3**	**+0.3**
JAYA				*eS*	**Sb**	**23 41 43.4**	**-0.1**
JAYA				IAML		23 41 45.4	
	comp=Z,593nm,0.2s						
JAYA	**Jayaque - finc**	**1.26**	**354**	P	**Pn**	**23 41 26.5**	**-0.5**
JAYA	**Jayaque - finc**	**1.26**	**354**	S	**Sb**	**23 41 42.9**	**-0.6**
PMON	**Piamonte**	**1.31**	**0**	*eP*	**Pn**	**23 41 27.6**	**-0.1**
PMON				*eS*	**Sb**	**23 41 46.0**	**+1.1**
PMON	**Piamonte**	**1.31**	**0**	P	**Pn**	**23 41 27.7**	**0.0**
PMON	**Piamonte**	**1.31**	**0**	S	**Sb**	**23 41 44.6**	**-0.3**
BOQS	**Boqueron**	**1.33**	**2**	*eP*	**Pn**	**23 41 27.6**	**-0.6**
PAVA	**Las Pavas**	**1.36**	**16**	*eP*	**Pn**	**23 41 28.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.42**	**24**	P	**Pn**	**23 41 28.5**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.42**	**24**	S	**Sn**	**23 41 47.1**	**-0.9**
PACA	**Pacayal**	**1.44**	**42**	*eP*	**Pn**	**23 41 29.5**	**-0.1**
PACA	**Pacayal**	**1.44**	**42**	P	**Pn**	**23 41 30.2**	**+0.7**
PACA	**Pacayal**	**1.44**	**42**	S	**Sn**	**23 41 48.0**	**-0.6**
SBLS	**San Blas**	**1.46**	**348**	*eP*	**Pn**	**23 41 30.8**	**+0.8**
SBLS				*eP*	**Pn**	**23 41 30.9**	**+0.8**
BLLM	**Bellamira**	**1.48**	**45**	*eP*	**Pn**	**23 41 30.5**	**+0.4**
SNJE	**San Jose**	**1.49**	**349**	*eP*	**Pn**	**23 41 30.7**	**+0.4**
RTR	**El Retiro**	**1.52**	**348**	*eP*	**Pn**	**23 41 32.0**	**+1.2**
NUBE	**Las Nubes**	**1.56**	**343**	*eP*	**Pn**	**23 41 30.6**	**-0.7**
NUBE				*eS*	**Sn**	**23 41 50.2**	**-1.4**
NUBE	**Las Nubes**	**1.56**	**343**	P	**Pn**	**23 41 30.5**	**-0.7**
LCND	**La Caada**	**1.66**	**57**	*eP*	**Pn**	**23 41 32.7**	**+0.2**
LCND				IAML		23 41 59.3	
	comp=Z,327nm,0.3s						
CNCH	**Conchagua**	**1.69**	**59**	*eP*	**Pn**	**23 41 33.1**	**+0.1**
MTO3	**Montecristo**	**1.99**	**359**	*eP*	**Pn**	**23 41 37.7**	**+0.5**
MTO3	**Montecristo**	**1.99**	**359**	P	**Pn**	**23 41 39.5**	**+2.3**

NEIC ***27*** *23:44:58.7±0.4, 14°.48N±0°.09×90°.68W±0°.03, h10km±1km, ML3.0/10, Error ellipse: s-maj=16.1km s-min=3.9km az=188.0*
GCG ***27*** *23:44:58.1±1.0, 14°.53N×90°.72W, h0km±5km, MD3.8, MW3.3*
ISC 27 23:44:58.4±1.2, 14°.5N±0°.1×90°.71W±0°.04, h10km, n8, σ0:65/11, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.21**	**53**	*i P*	**Pg**	**23 45 02.8**	**-0.2**
GCG4	**OSOP**	**0.21**	**53**	*i P*		23 45 02.8	
STG0	**El Palmar, Qui**	**0.61**	**267**	*i P*		23 45 15.7	
STG0				*i S*		23 45 28.4	
STG8	**El Palmar, Qui**	**0.62**	**269**	*i P*		23 45 16.3	
RTAL	**Retalhuleu**	**0.96**	**274**	Pg	**Pb**	**23 45 17.6**	**+0.5**
RTAL					**Sb**	**23 45 30.4**	**+0.6**
RTAL				IAML		23 45 38.1	
	comp=N,305nm,1.2s						
RTAL				IAML		23 45 39.1	
	comp=E,331nm,0.7s						
HUEH	**Huehuetenango**	**1.15**	**318**	Pn	**Pg**	**23 45 20.2**	**-0.3**
MTO3	**Montecristo**	**1.31**	**92**	Pn	**Pn**	**23 45 22.7**	**-0.2**
MTO3				Sg	**Sb**	**23 45 39.5**	**-0.6**
ESQI	**Esquipulas**	**1.33**	**85**	Pn	**Pn**	**23 45 22.8**	**-0.3**
ESQI				IAML		23 45 27.9	
	comp=E,206nm,0.4s						
ESQI				IAML		23 45 35.6	
	comp=N,249nm,0.1s						
ESQI				Sn	**Sb**	**23 45 41.0**	**+0.4**
CCIG	**Comitan**	**2.28**	**323**	Pn	**Pn**	**23 45 35.1**	**-1.2**
CCIG				IAML		23 46 16.0	
	comp=N,120nm,0.6s						
CCIG				IAML		23 46 19.7	
	comp=E,100nm,0.5s						
PETF	**Flores**	**2.58**	**18**	Pn	**Pn**	**23 45 40.1**	**-0.1**
TEIG	**Tepich**	**6.19**	**22**	Pn	**Pn**	**23 46 30.7**	**+0.8**

FCIAR ***27*** *23:47:23.0, 79°.83N×22°.39E, h10km, station OMEGA has station magnitude of 3.60 station ZFI2 has station magnitude of 3.60*
KOLA ***27*** *23:47:25.4, 79°.75N×21°.25E, h0km, ML2.7, Error ellipse: s-maj=25.0km s-min=15.2km az=110.0, Spitsbergen, Barentz Sea*
NAO ***27*** *23:47:26.8±3.1, 79°.88N×21°.31E, h18km±13km, ML3.4*
BER 27 23:47:27.7±2.6, 80°.02N×21°.37E, h21km±8km, ML2.8, ML3.4(NAO)**, 2D, Confirmed Earthquake, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.05**	**242**	Pn	Pn	23 47 58.8	-1.9
KBS				Pg	Pb	23 48 03.1	-1.0
KBS				Sg	Sb	23 48 29.1	+0.1
KBS	**Kingsbay**	**2.05**	**242**	Pn	Pn	23 47 58.8	-1.9
KBS				Pg	Pb	23 48 03.1	-1.0
KBS				Lg	Lg	23 48 29.1	
KBS	**Kingsbay**	**2.05**	**242**	P	Pn	23 47 58.6	-2.2
KBS				S	Sn	23 48 27.0	+1.4
SPA0	**Spitsbergen Ar**	**2.08**	**210**	Pn	Pn	23 47 58.8	-2.4
	baz=28,slow=12						
SPA0				Pg	Pb	23 48 02.9	-1.7
	baz=26,slow=18						
SPA0				Sn	Sn	23 48 23.3	-3.1
	baz=38,slow=37						
SPA0				Sg	Sb	23 48 29.0	-0.9
	baz=31,slow=22						
SPA0	**Spitsbergen Ar**	**2.08**	**210**	Pn	Pn	23 47 58.8	-2.4
	baz=28,slow=12						
SPA0				Pg	Pb	23 48 02.9	-1.7
	baz=26,slow=18						
SPA0				Sn	Sn	23 48 23.3	-3.1
	baz=38,slow=37						
SPA0				Lg	Lg	23 48 29.0	
	baz=31,slow=22						
SPA0	**Spitsbergen Ar**	**2.08**	**210**	*e*P	Pn	23 47 58.3	-3.0
SPA0				*e*S	Sn	23 48 24.0	-2.4
SPITS	**Spitsbergen Ar**	**2.08**	**210**	P	Pn	23 47 58.5	-2.7
SPITS				S	Sn	23 48 22.5	-3.9
BRBB	**Barentsburg B**	**2.37**	**219**	⇓*i* P	Pn	23 48 03.0	-2.2
BRBB				*e*S	Sn	23 48 30.2	-3.2
BRBB	**Barentsburg B**	**2.37**	**219**	Pn	Pn	23 48 02.9	-2.3
BRBB				Sn	Sn	23 48 30.1	-3.3
BRBB				Lg	Lg	23 48 40.0	
BRBB	**Barentsburg B**	**2.37**	**219**	P	Pn	23 48 02.8	-2.3
BRBB				S	Sn	23 48 29.2	-4.3
BRBA	**Barentsburg A**	**2.39**	**218**	⇓*i* P	Pn	23 48 03.4	-2.1
BRBA				*e*S	Sn	23 48 31.0	-3.1
BRBA				*e*Sg	Sb	23 48 40.4	+1.4
BRBA				IAML		23 48 44.9	
	comp=Z,180nm,0.4s						
BRBA	**Barentsburg A**	**2.39**	**218**	Pn	Pn	23 48 03.3	-2.2
BRBA				Sn	Sn	23 48 31.2	-2.9
BRBA				Lg	Lg	23 48 40.6	
HSPB	**Hornsund (broa**	**3.25**	**204**	*e*P	Pn	23 48 16.3	-1.0
HSPB				*e*Pg	Pb	23 48 23.4	-1.1
HSPB				*e*S	Sn	23 48 50.9	-4.3
HSPB				*e*Sg	Sb	23 49 03.5	+0.1
HSPB				IAML		23 49 07.3	
	comp=Z,96nm,0.5s						
HSPB	**Hornsund (broa**	**3.25**	**204**	Pn	Pn	23 48 16.3	-0.9
HSPB				Pg	Pb	23 48 23.5	-1.0
HSPB				Sn	Sn	23 48 52.6	-2.5
HSPB				Lg	Lg	23 49 03.5	
HOPEN	**Hopen**	**3.60**	**166**	*e*P	Pn	23 48 19.4	-2.7
HOPEN				*e*Pg	Pb	23 48 30.0	-0.5
HOPEN				*e*S	Sn	23 48 59.4	-4.5
HOPEN				*e*Sg	Sb	23 49 14.0	+0.3
HOPEN				IAML		23 49 20.4	
	comp=Z,72nm,0.3s						
HOPEN	**Hopen**	**3.60**	**166**	Pn	Pn	23 48 19.3	-2.8
HOPEN				Pg	Pb	23 48 30.3	-0.3
HOPEN				Sn	Sn	23 48 59.5	-4.4
HOPEN				Lg	Lg	23 49 17.5	
HOPEN	**Hopen**	**3.60**	**166**	*e*P	Pn	23 48 19.3	-2.9
HOPEN				*e*S	Sn	23 48 58.3	-5.6
ZFI2	**Zemlya Franca-**	**4.44**	**67**	*e*P	Pn	23 48 31.9	-1.7
ZFI2				*e*S	Sn	23 49 20.8	-3.7
	comp=Z,59nm,0.9s						
OMEGA	**Omega**	**4.45**	**67**	*e*P	Pn	23 48 31.9	-1.9
OMEGA				*e*S	Sn	23 49 20.8	-4.0
	comp=Z,61nm,0.5s						
BJO1	**Bjornoya**	**5.57**	**187**	*e*Sg	Sb	23 50 18.5	+8.3
HAMF	**Hammerfest**	**9.44**	**175**	*e*P	Pn	23 49 38.9	-3.3
HAMF				*e*S	Sn	23 51 15.6	-12
HAMF				IAML		23 51 24.8	
	comp=Z,7.2nm,0.8s						
HAMF	**Hammerfest**	**9.44**	**175**	Pn	Pn	23 49 39.0	-3.2
HAMF				Sn	Sn	23 51 14.9	-13
VADS	**Vadso**	**10.14**	**164**	*e*P	Pn	23 49 49.3	-2.4
VADS				IAML		23 51 44.2	
	comp=Z,4.9nm,0.5s						
VADS	**Vadso**	**10.14**	**164**	Pn	Pn	23 49 49.4	-2.4
VADS				Sn	Sn	23 51 34.7	-10
VADS	**Vadso**	**10.14**	**164**	P	Pn	23 49 49.5	-2.3
VADS				S	Sn	23 51 34.5	-10
KEV	**Kevo**	**10.41**	**169**	*e*P	Pn	23 49 53.0	-2.4
KEV				*e*S	Sn	23 51 40.3	-11
KEV	**Kevo**	**10.41**	**169**	Pn	Pn	23 49 54.3	-1.1
KEV				Sn	Sn	23 51 42.3	-8.9
DBG	**Daneborg**	**10.58**	**260**	*e*P	Pn	23 49 56.4	-1.3
DBG	**Daneborg**	**10.58**	**260**	Pn	Pn	23 49 57.4	-0.3
ARA0	**ARCESS Array S**	**10.59**	**172**	Pn	Pn	23 49 55.9	-2.1
	baz=359,slow=10						
ARA0				Sn	Sn	23 51 44.0	-12
	baz=0.2,slow=22						
ARA0				IAML		23 51 46.4	
	comp=Z,1.6nm,0.8s						
ARA0	**ARCESS Array S**	**10.59**	**172**	Pn	Pn	23 49 55.9	-2.1
	baz=359,slow=10						
ARA0				Sn	Sn	23 51 44.0	-12
	baz=0.2,slow=22						
ARCES	**ARCESS Array B**	**10.59**	**172**	P	Pn	23 49 55.2	-2.7
ARCES				S	Sn	23 51 44.9	-11
KIF	**Kilpisjarvi**	**11.07**	**181**	*e*P	Pn	23 50 02.0	-2.5
KIF	**Kilpisjarvi**	**11.07**	**181**	Pn	Pn	23 50 01.9	-2.6
KIF				Sn	Sn	23 51 55.0	-12
TERR	**Teriberka**	**11.40**	**155**	S	Sn	23 52 02.2	-13
HEF	**Hetta**	**11.69**	**176**	Pn	Pn	23 50 10.2	-2.7
HEF				Sn	Sn	23 52 11.3	-11
HEF	**Hetta**	**11.69**	**176**	Pn	Pn	23 50 10.2	-2.7

HEF				Sn	Sn	23 52 11.3	-11
APA0	**Apatity Array**	**12.84 160**		Pn	Pn	23 50 23.9	-4.6
	baz=0.3,slow=12						
APA0	**Apatity Array**	**12.84 160**		Pn	Pn	23 50 23.9	-4.6
	baz=0.3,slow=12						
APA0	**Apatity Array**	**12.84 160**		S	Sn	23 52 38.5	-12
KVDA	**Kovda**	**13.74 160**		S	Sn	23 53 00.6	-12
NRA0	**NORESS Array S**	**19.59 194**		P	P	23 51 53.4	-0.6
	baz=9.5,slow=11						
NRA0	**NORESS Array S**	**19.59 194**		P	P	23 51 53.4	-0.6
	baz=9.5,slow=11						
HFS	**Hagfors**	**20.11 191**		P	P	23 51 58.2	-1.4
	baz=14,slow=8.6						
HFS	**Hagfors**	**20.11 191**		P	P	23 51 58.2	-1.4
	baz=14,slow=8.6						

CATAC ***27*** *23:48:48.3±0.5, 12°N±2°×8°9W±°, h9km±3km, M4.3/27, MLv4.3/27, Error ellipse: s-maj=6.7km s-min=2.8km az=51.7, confirmed*
NEIC ***27*** *23:48:48.1±1.7, 12°.52N±0°.06×89°.16W±0°.06, h10km±1km, mb4.6/91, Error ellipse: s-maj=11.9km s-min=8.1km az=229.0*
GCG ***27*** *23:48:50.2±1.0, 12°.47N×89°.52W, h23km±11km, MD4.6*
SNET ***27*** *23:48:52.0±1.1, 12°.61N×89°.18W, h23km±7km, ML4.3*
IDC ***27*** *23:48:52.9±2.3, 12°.61N×89°.06W, h56km±19km, mb3.8/18, mbtmp4.1/22, ML3.6/4, MS3.8/20, Error ellipse: s-maj=22.7km s-min=12.4km az=56.0*
UCR ***27*** *23:49:00.6±1.3, 12°.49N×88°.49W, h20km±23km, MB4.6(NEIC)*
ISC 27 23:48:47.6±0.8,**12°.49N**±0°.03×**89°.21W**±0°.03,**h13**km±4km, **n307**,σ**1**9**51**/298,**mb4.5**/53,**MS3.9**/19,**5C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.00**	**354**	⇑*i* P	**Pn**	**23 49 08.6**	**+1.2**
LALI				*e*S	**Sn**	23 49 22.7	+1.3
LALI	**Alcalda de L**	**1.00**	**354**	P	**Pn**	**23 49 08.8**	**+1.4**
LALI	**Alcalda de L**	**1.00**	**354**	S	**Sn**	**23 49 22.7**	**+1.3**
LALI	**Alcalda de L**	**1.00**	**354**	S	**Sn**	**23 49 23.3**	**+1.9**
LALI	**Alcalda de L**	**1.00**	**354**	P	**Pn**	**23 49 08.9**	**+1.4**
LALI	**Alcalda de L**	**1.00**	**354**	*i* P	**Pn**	**23 49 08.6**	**+1.2**
LALI	**Alcalda de L**	**1.00**	**354**	*i* P		23 49 08.6	
PANCS	**Alcalda de**	**1.12**	**2**	P	**Pn**	**23 49 11.2**	**+2.1**
PANCS	**Alcalda de**	**1.12**	**2**	S	**Sn**	**23 49 27.0**	**+2.6**
PANCS	**Alcalda de**	**1.12**	**2**	P	**Sn**	**23 49 27.2**	**+2.8**
TECO	**Alcaldia de Te**	**1.13**	**22**	*e*P	**Pn**	**23 49 10.5**	**+1.4**
TECO	**Alcaldia de Te**	**1.13**	**22**	P	**Pn**	**23 49 10.8**	**+1.7**
TECO	**Alcaldia de Te**	**1.13**	**22**	S	**Sn**	**23 49 27.4**	**+2.9**
TECO	**Alcaldia de Te**	**1.13**	**22**	S	**Sn**	**23 49 27.1**	**+2.6**
TECO	**Alcaldia de Te**	**1.13**	**22**	P	**Pn**	**23 49 10.7**	**+1.5**
LFRS	**El Faro**	**1.14**	**7**	*e*P	**Pn**	**23 49 10.8**	**+1.3**
LOMA	**Loma Larga**	**1.15**	**2**	*e*P	**Pn**	**23 49 10.8**	**+1.2**
LOMA	**Loma Larga**	**1.15**	**2**	P	**Pn**	**23 49 11.3**	**+1.8**
LOMA	**Loma Larga**	**1.15**	**2**	S	**Sn**	**23 49 28.1**	**+2.8**
LOMA	**Loma Larga**	**1.15**	**2**	P	**Pn**	**23 49 11.4**	**+1.8**
COEG	**Centro de Oper**	**1.17**	**16**	*e*P	**Pn**	**23 49 11.2**	**+1.4**
COEG	**Centro de Oper**	**1.17**	**16**	P	**Pn**	**23 49 11.8**	**+2.0**
COEG	**Centro de Oper**	**1.17**	**16**	S	**Sn**	**23 49 29.4**	**+3.6**
COEG	**Centro de Oper**	**1.17**	**16**	P	**Pn**	**23 49 11.9**	**+2.1**
JAYA	**Jayaque - finc**	**1.19**	**349**	*e*P	**Pn**	**23 49 11.4**	**+1.3**
JAYA	**Jayaque - finc**	**1.19**	**349**	P	**Pn**	**23 49 11.5**	**+1.4**
JAYA	**Jayaque - finc**	**1.19**	**349**	S	**Sn**	**23 49 27.9**	**+1.7**
JAYA	**Jayaque - finc**	**1.19**	**349**	P	**Pn**	**23 49 11.7**	**+1.6**
JAYA	**Jayaque - finc**	**1.19**	**349**	S	**Sn**	**23 49 28.1**	**+1.9**
JAYA	**Jayaque - finc**	**1.19**	**349**	*i* P	**Pn**	**23 49 10.9**	**+0.8**
JAYA				*i* S	**Sn**	**23 49 28.0**	**+1.9**
JAYA	**Jayaque - finc**	**1.19**	**349**	*i* P		23 49 10.9	
JAYA				*i* S		23 49 28.0	
TECA	**Tecapa**	**1.22**	**34**⇑	*e*P	**Pn**	**23 49 12.5**	**+2.0**
PMON	**Piamonte**	**1.22**	**355**	*i* P	**Pg**	**23 49 11.9**	**+0.7**
PMON	**Piamonte**	**1.22**	**355**	P	**Pg**	**23 49 12.1**	**+0.9**
PMON	**Piamonte**	**1.22**	**355**	S	**Sn**	**23 49 30.2**	**+3.2**
PMON	**Piamonte**	**1.22**	**355**	S	**Sn**	**23 49 30.3**	**+3.2**
PMON	**Piamonte**	**1.22**	**355**	P	**Pg**	**23 49 12.1**	**+0.9**
UEES	**Universidad Ev**	**1.22**	**359**	P	**Pg**	**23 49 12.3**	**+1.0**
UEES	**Universidad Ev**	**1.22**	**359**	S	**Sn**	**23 49 30.6**	**+3.6**
UEES	**Universidad Ev**	**1.22**	**359**	S	**Sn**	**23 49 30.5**	**+3.5**
UEES	**Universidad Ev**	**1.22**	**359**	P	**Pg**	**23 49 12.3**	**+1.0**
BOQS	**Boqueron**	**1.24**	**357**	*e*P	**Pg**	**23 49 12.5**	**+0.8**
PAVA	**Las Pavas**	**1.25**	**12**⇑	*e*P	**Pg**	**23 49 12.8**	**+1.1**
PAVA	**Las Pavas**	**1.25**	**12**	P	**Pg**	**23 49 12.8**	**+1.1**
PAVA	**Las Pavas**	**1.25**	**12**	S	**Sn**	**23 49 31.3**	**+3.6**
PAVA	**Las Pavas**	**1.25**	**12**	S	**Sn**	**23 49 31.7**	**+4.0**
PAVA	**Las Pavas**	**1.25**	**12**	P	**Pg**	**23 49 13.0**	**+1.3**
PIC2	**El Picacho**	**1.25**	**358**	*e*P	**Pg**	**23 49 12.8**	**+0.9**
LFU	**La Fuente**	**1.26**	**4**	*e*P	**Pg**	**23 49 12.7**	**+0.8**
LCY	**Lacayo**	**1.29**	**44**	*e*P	**Pg**	**23 49 13.4**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.30**	**21**⇑	*i*P	**Pg**	**23 49 13.5**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.30**	**21**	P	**Pg**	**23 49 13.5**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.30**	**21**	P	**Pg**	**23 49 13.6**	**+0.9**
RANC	**El Ranchito**	**1.30**	**44**	P	**Pg**	**23 49 13.9**	**+1.1**
RANC	**El Ranchito**	**1.30**	**44**	P	**Pg**	**23 49 13.9**	**+1.1**
PACA	**Pacayal**	**1.31**	**41**	*e*P	**Pg**	**23 49 14.1**	**+1.3**
PACA	**Pacayal**	**1.31**	**41**	P	**Pg**	**23 49 14.2**	**+1.3**
PACA	**Pacayal**	**1.31**	**41**	S	**Sn**	**23 49 33.1**	**+4.0**
PACA	**Pacayal**	**1.31**	**41**	P	**Pg**	**23 49 14.6**	**+1.8**
BLLM	**Bellamira**	**1.34**	**45**	*e*P	**Pg**	**23 49 14.2**	**+0.7**
SBLS	**San Blas**	**1.41**	**343**	*e*P	**Pb**	**23 49 14.1**	**+0.2**
SNJE	**San Jose**	**1.43**	**344**	*e*P	**Pn**	**23 49 14.3**	**+0.9**
NUBE	**Las Nubes**	**1.51**	**339**⇑	*i*P	**Pn**	**23 49 15.2**	**+0.6**
NUBE	**Las Nubes**	**1.51**	**339**	P	**Pn**	**23 49 15.2**	**+0.6**
NUBE	**Las Nubes**	**1.51**	**339**	S	**Sb**	**23 49 35.5**	**+0.6**
NUBE	**Las Nubes**	**1.51**	**339**	S	**Sn**	**23 49 35.1**	**+0.8**
NUBE	**Las Nubes**	**1.51**	**339**	P	**Pn**	**23 49 15.2**	**+0.6**
NUBE	**Las Nubes**	**1.51**	**339**	*i* P	**Pn**	**23 49 15.1**	**+0.6**
NUBE				*i* S	**Sn**	**23 49 34.4**	**+0.1**
NUBE	**Las Nubes**	**1.51**	**339**	*i* P		23 49 15.1	
NUBE				*i* S		23 49 34.4	
UNIC	**Universidad Ca**	**1.52**	**348**	S	**Sg**	**23 49 37.5**	**+0.8**
UNIC	**Universidad Ca**	**1.52**	**348**	P	**Sg**	**23 49 18.1**	**+1.2**
LCND	**La Caada**	**1.53**	**57**	*e*P	**Pg**	**23 49 16.7**	**-0.3**
LCND	**La Caada**	**1.53**	**57**	P	**Pg**	**23 49 16.9**	**-0.1**
LCND	**La Caada**	**1.53**	**57**	P	**Pg**	**23 49 16.9**	**-0.1**
CNCH	**Conchagua**	**1.56**	**59**	*e*P	**Pg**	**23 49 17.5**	**0.0**
CNCH	**Conchagua**	**1.56**	**59**	P	**Pg**	**23 49 17.6**	**0.0**
CNCH	**Conchagua**	**1.56**	**59**	P	**Pg**	**23 49 17.7**	**+0.1**
CAHU	**Cacacuatique**	**1.61**	**37**	*e*P	**Pg**	**23 49 18.8**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.63**	**340**	P	**Pg**	**23 49 18.8**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.63**	**340**	S	**Sg**	**23 49 40.7**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.63**	**340**	P	**Pg**	**23 49 19.6**	**+0.6**
CSGN	**Cosiguina Volc**	**1.68**	**73**	P	**Pg**	**23 49 19.2**	**-0.8**
CSGN				S	**Sg**	**23 49 42.1**	**+0.2**
CSGN	**Cosiguina Volc**	**1.68**	**73**	P	**Pb**	**23 49 18.8**	**+0.3**
CSGN	**Cosiguina Volc**	**1.68**	**73**	*e*P	**Pg**	**23 49 19.2**	**-0.8**
LLGN	**La Laguna**	**1.69**	**9**	P	**Pg**	**23 49 19.5**	**-0.6**
LLGN	**La Laguna**	**1.69**	**9**	S	**Sg**	**23 49 42.7**	**-0.7**
LLGN	**La Laguna**	**1.69**	**9**	P	**Pg**	**23 49 19.6**	**-0.5**
POTN	**Potosi Cosigui**	**1.74**	**73**	P	**Pg**	**23 49 20.2**	**-0.9**
POTN				S	**Sg**	**23 49 43.8**	**+0.1**
POTN	**Potosi Cosigui**	**1.74**	**73**	P	**Pg**	**23 49 20.5**	**-0.6**
MTO3	**Montecristo**	**1.91**	**356**		**Pb**	**23 49 21.9**	**-0.6**
MTO3				Sn	**Sn**	**23 49 44.4**	**+0.3**
MTO3	**Montecristo**	**1.91**	**356**	*e*P	**Pb**	**23 49 22.3**	**-0.2**
MTO3	**Montecristo**	**1.91**	**356**	P	**Pb**	**23 49 22.2**	**-0.2**
MTO3	**Montecristo**	**1.91**	**356**	S	**Sg**	**23 49 48.4**	**-0.7**
MTO3	**Montecristo**	**1.91**	**356**	P	**Pb**	**23 49 22.3**	**-0.2**
MTO3	**Montecristo**	**1.91**	**356**	*i* P	**Pb**	**23 49 22.1**	**-0.3**
MTO3	**Montecristo**	**1.91**	**356**	*i* P		23 49 22.1	
ESQI	**Esquipulas**	**2.07**	**356**		**Pb**	**23 49 24.2**	**-0.9**
ESQI	**Esquipulas**	**2.07**	**356**	*e*P	**Pb**	**23 49 24.9**	**-0.2**
ESQI	**Esquipulas**	**2.07**	**356**	P	**Pb**	**23 49 24.5**	**-0.6**
ESQI	**Esquipulas**	**2.07**	**356**	S	**Sg**	**23 49 52.4**	**-1.8**
ESQI	**Esquipulas**	**2.07**	**356**	P	**Pb**	**23 49 25.8**	**+0.7**
CRIN	**San Cristobal**	**2.12**	**84**		**Pn**	**23 49 23.4**	**+0.5**
CRIN	**San Cristobal**	**2.12**	**84**	P	**Pb**	**23 49 25.7**	**-0.2**
CRIN	**San Cristobal**	**2.12**	**84**	S	**Sg**	**23 49 54.0**	**-1.9**
CRIN	**San Cristobal**	**2.12**	**84**	P	**Pb**	**23 49 25.7**	**-0.2**
CRIN	**San Cristobal**	**2.12**	**84**	*e*P	**Pb**	**23 49 25.4**	**-0.6**
HERN	**Volcan Telica**	**2.33**	**87**		**Pn**	**23 49 26.3**	**+0.6**
HERN	**Volcan Telica**	**2.33**	**87**	P	**Pb**	**23 49 27.7**	**-1.8**
HERN	**Volcan Telica**	**2.33**	**87**	S	**Sb**	**23 49 58.1**	**-0.1**
HERN	**Volcan Telica**	**2.33**	**87**	P	**Pb**	**23 49 28.1**	**-1.4**
POLN	**Al Sur del Vol**	**2.35**	**86**	P	**Pb**	**23 49 28.3**	**-1.5**
POLN				S	**Sb**	**23 49 57.7**	**-1.0**
POLN	**Al Sur del Vol**	**2.35**	**86**	P	**Pb**	**23 49 28.1**	**-1.7**
CNGA	**Al SSO del Vol**	**2.45**	**90**	P	**Pn**	**23 49 29.1**	**+1.7**
CNGA	**Al SSO del Vol**	**2.45**	**90**	P	**Pn**	**23 49 29.1**	**+1.7**
TGUH	**Tegucigalpa,Un**	**2.45**	**50**		**Pn**	**23 49 28.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.45**	**50**	P	**Pb**	**23 49 30.3**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.45**	**50**	P	**Pb**	**23 49 29.8**	**-1.8**
TGUH				S	**Sg**	**23 50 03.6**	**-2.9**
CNGN	**Cerro Negro**	**2.45**	**89**		**Pn**	**23 49 28.3**	**+0.9**
CNGN	**Cerro Negro**	**2.45**	**89**	P	**Pb**	**23 49 29.6**	**-2.0**
CNGN	**Cerro Negro**	**2.45**	**89**	S	**Sb**	**23 50 00.8**	**-1.0**
CNGN	**Cerro Negro**	**2.45**	**89**	P	**Pb**	**23 49 29.7**	**-2.0**
COPN	**Copaltepe**	**2.58**	**96**	P	**Pn**	**23 49 31.1**	**+2.0**
COPN	**Copaltepe**	**2.58**	**96**	P	**Pn**	**23 49 31.2**	**+2.1**
COPN	**Copaltepe**	**2.58**	**96**	*e*P	**Pn**	**23 49 30.3**	**+1.2**
MOMN	**Momotombo**	**2.61**	**91**	P	**Pn**	**23 49 31.5**	**+1.9**
MOMN				S	**Sb**	**23 50 04.5**	**-1.8**
MOMN	**Momotombo**	**2.61**	**91**	P	**Pn**	**23 49 31.5**	**+1.9**
STGO	**El Palmar, Qui**	**2.83**	**313**	*i* P		23 49 36.7	
STGO				*i* S		23 50 14.0	
LIMN	**Finca el Limon**	**2.83**	**78**	P	**Pn**	**23 49 34.8**	**+2.1**
LIMN	**Finca el Limon**	**2.83**	**78**	P	**Pn**	**23 49 34.8**	**+2.1**
MGAN	**Managua**	**2.92**	**96**		**Pn**	**23 49 32.7**	**-1.1**
RCVN	**Varillal2**	**3.14**	**69**	P	**Pn**	**23 49 38.9**	**+2.0**
RCVN	**Varillal2**	**3.14**	**69**	P	**Pb**	**23 49 40.2**	**-3.2**
RTAL	**Retalhuleu**	**3.15**	**310**	Pn	**Pn**	**23 49 38.4**	**+1.3**
RCPN	**Sur Rio San Ju**	**3.21**	**71**	P	**Pb**	**23 49 41.3**	**-3.3**
RCPN	**Sur Rio San Ju**	**3.21**	**71**	P	**Pn**	**23 49 41.1**	**+3.2**
MATN	**Matagalpa**	**3.24**	**82**	P	**Pn**	**23 49 40.5**	**+2.3**
MATN	**Matagalpa**	**3.24**	**82**	P	**Pn**	**23 49 40.8**	**+2.5**
BOAB	**BOACO BROADBAN**	**3.46**	**90**	Pn	**Pn**	**23 49 41.5**	**+0.2**
BOAB	**BOACO BROADBAN**	**3.46**	**90**	P	**Pb**	**23 49 49.9**	**+1.0**
BOAB	**BOACO BROADBAN**	**3.46**	**90**	P	**Pn**	**23 49 43.0**	**+1.7**
HUEH	**Huehuetenango**	**3.59**	**322**	Pn	**Pn**	**23 49 44.6**	**+1.4**
LCRUZ	**La Cruz**	**3.77**	**111**	*e*P	**Pb**	**23 49 53.2**	**-1.0**
ACON	**Acoyapa**	**3.98**	**97**	P	**Pn**	**23 49 49.1**	**+0.8**
ACON	**Acoyapa**	**3.98**	**97**	*e*P	**Pn**	**23 49 50.6**	**+2.2**
COLC	**Colonia**	**4.32**	**114**	*e*P	**Pn**	**23 49 56.9**	**+3.7**
VMAR	**Armenia, Volca**	**4.34**	**112**	*e*P	**Pn**	**23 49 56.5**	**+3.1**
CUI	**Cuipilapa**	**4.36**	**114**	*e*P	**Pn**	**23 49 57.2**	**+3.6**
PETF	**Flores**	**4.45**	**352**		**Pn**	**23 49 54.8**	**-0.1**
INDI	**Punta indio, G**	**4.47**	**125**	P	**Pn**	**23 49 58.0**	**+2.9**
JTS	**Las Juntas de**	**4.71**	**117**	Pn	**Pn**	**23 49 58.6**	**+0.2**
JTS	**Las Juntas de**	**4.71**	**117**	P	**Pn**	**23 49 59.6**	**+1.1**
	7.9nm,0.3s,baz=262,slow=15,SNR=10						
JTS				S	**Sn**	**23 50 49.5**	**-3.5**
	20nm,0.4s,baz=298,slow=22,SNR=3.9						
	8.4nm,0.3s						
JTS	**Las Juntas de**	**4.71**	**117**	*e*P	**Pn**	**23 50 00.1**	**+1.7**
CCIG	**Comitan**	**4.72**	**323**	Pn	**Pn**	**23 49 59.2**	**+0.5**
ARE1	**Arenal 1**	**4.84**	**114**	*e*P	**Pn**	**23 50 03.7**	**+3.4**
VARE2	**V. Arenal**	**4.84**	**114**	*e*P	**Pn**	**23 50 03.8**	**+3.5**
SOCE	**Pocosol**	**4.96**	**114**		**Pn**	**23 50 03.5**	**+1.5**
HDC	**Heredia**	**5.58**	**116**	Pn	**Pn**	**23 50 12.1**	**+1.6**
ACOS	**Acosta**	**5.63**	**118**	*e*P	Pn	23 50 16.5	+5.3
PICV	**PH. Pirrs**	**5.68**	**119**	*e*P	Pn	23 50 17.1	+5.3
ABE2	**San Pablo**	**5.77**	**118**	*e*P	Pn	23 50 18.1	+5.0
CVTG	**V. Turrialba,**	**5.82**	**113**	*e*P	**Pn**	**23 50 18.1**	**+4.4**
VICA	**Volcano Irazu**	**5.82**	**115**	*e*P	Pn	23 50 19.2	+5.1
VTLA	**Turrialba Volc**	**5.88**	**114**	*e*P	Pn	23 50 19.4	+4.6
CVTQ	**Turrialba Volc**	**5.88**	**114**	*e*P	Pn	23 50 19.4	+4.5
VTCV	**VTCV, Calle Va**	**5.93**	**114**	*e*P	Pn	23 50 20.3	+5.0
BUS1	**Rivas**	**6.10**	**118**	*e*P	Pn	23 50 22.4	+4.4
BUS1				*e*S	**Sn**	**23 51 26.8**	**-1.2**
DRK0	**Durika**	**6.68**	**118**	*e*P	**Pn**	**23 50 28.0**	**+2.3**
PIRO	**Carate, Puerto**	**7.06**	**125**	*e*P	Pn	23 50 35.1	+4.4
CMIG	**Matias Romero**	**7.15**	**311**	P	**Pn**	**23 50 33.5**	**+1.6**
	1.5nm,0.3s,baz=130,slow=9.0,SNR=8.4						
CMIG				S	**Sn**	**23 51 47.8**	**-5.2**
	16nm,0.7s,baz=48,slow=11,SNR=1.8						
	4.5nm,0.3s						
ALCO	**Alturas Coton,**	**7.18**	**119**	*e*P	**Pn**	**23 50 36.2**	**+3.6**
BRU2	**Volcan**	**7.38**	**119**		**Pn**	**23 50 36.5**	**+1.2**
BRU2	**Volcan**	**7.38**	**119**	*e*P	Pn	23 50 39.9	+4.5
PRVC	**Isla de Provid**	**7.70**	**83**	Pn	**Pn**	**23 50 40.9**	**+1.3**
TEIG	**Tepich**	**7.75**	**7**	Pn	**Pn**	**23 50 42.1**	**+1.9**
TEIG	**Tepich**	**7.75**	**7**	P	**Pn**	**23 50 42.6**	**+2.4**
	0.1nm,0.4s,baz=202,slow=24,SNR=1.4						
TEIG				S	**Sn**	**23 52 08.7**	**+0.8**
	0.1nm,0.5s,baz=152,slow=24,SNR=1.8						
TLIG	**Tlapa**	**10.35**	**300**		**Pn**	**23 51 18.5**	**+2.5**
MOIG	**Morelia**	**13.55**	**303**	Pn	**Pn**	**23 52 01.1**	**+1.3**
ZAIG	**Zacatecas**	**16.32**	**311**	P	**P**	**23 52 41.3**	**+1.5**
ROSC	**El Rosal**	**16.56**	**116**		**P**	**23 52 42.9**	**+0.3**
ROSC	**El Rosal**	**16.56**	**116**	P	**P**	**23 52 42.6**	**0.0**
	2.0nm,0.3s,baz=154,slow=20,SNR=5.0						
	7.1nm,0.4s						
SLOR	**San Lorenzo -**	**16.89**	**140**		**P**	**23 52 48.1**	**+1.6**
HBVL	**Hebbronville**	**17.00**	**330**		**Pn**	**23 52 46.8**	**+1.5**
HBVL				IAmb	IAmb	23 53 26.5	
	comp=Z,42nm,1.5s						
RUSC	**La Rusia**	**17.21**	**111**		**Pn**	**23 52 49.4**	**+1.0**
FLOC	**Florencia**	**17.26**	**128**	P	**P**	**23 52 51.4**	**+1.4**
COHC	**Cochancay**	**17.84**	**146**	P	**Pn**	**23 52 57.0**	**+1.2**
HKT	**Hockley**	**18.43**	**342**	P	**P**	**23 53 03.4**	**+0.6**
SDV	**Santo Domingo**	**18.60**	**99**	P	**P**	**23 53 05.4**	**+0.4**
SDV	**Santo Domingo**	**18.60**	**99**	P	**P**	**23 53 05.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=38,slow=10.0,SNR=4.5						
SDV				LR	LR	00 01 34.5	
	comp=Z,153nm,20.5s,baz=280,slow=41						
	comp=Z,2.3nm,0.3s						
HNVL	**Huntsville, TX**	**19.08**	**343**	P	**P**	**23 53 10.8**	**+0.8**
HNVL				IAmb	IAmb	23 53 41.4	
	comp=Z,45nm,1.4s						
HNDO	**Hondo**	**19.37**	**333**	P	**P**	**23 53 13.3**	**+0.1**
VBMS	**Vicksburg**	**19.68**	**357**	P	**P**	**23 53 17.0**	**+0.5**
VBMS				IAmb	IAmb	23 53 24.7	
	comp=Z,47nm,0.8s						
435B	**Jarrell**	**19.79**	**338**	P	**P**	**23 53 18.5**	**+0.8**
435B				IAmb	IAmb	23 53 19.6	
	comp=Z,44nm,0.8s						
NATX	**Nacogdoches**	**19.83**	**346**	P	**P**	**23 53 19.1**	**+0.9**
NATX				IAmb	IAmb	23 53 20.5	
	comp=Z,28nm,0.8s						
DRIO	**Del Rio**	**19.91**	**330**	P	**P**	**23 53 19.6**	**+0.5**
DR12	**Loma Pena Alta**	**20.09**	**69**	P	**P**	**23 53 21.1**	**-0.1**
JCT	**Junction City**	**20.41**	**333**	P	**P**	**23 53 24.8**	**+0.1**
JCT				IAmb	IAmb	23 53 26.1	
	comp=Z,16nm,0.6s						
BRDY	**Brady**	**20.78**	**336**	P	**P**	**23 53 28.8**	**+0.3**
BRDY				IAmb	IAmb	23 53 29.9	
	comp=Z,34nm,1.0s						
154A	**Montrose**	**20.80**	**15**	P	**P**	**23 53 28.6**	**-0.1**
WHTX	**Lake Whitney,**	**20.84**	**340**	P	**P**	**23 53 29.5**	**+0.3**
Z41A	**Richland Creek**	**20.94**	**352**	P	**P**	**23 53 31.1**	**+0.9**
Z41A				IAmb	IAmb	23 53 36.9	
	comp=Z,35nm,1.1s						
HPIG		**21.10**	**315**	P	**P**	**23 53 33.2**	**+1.0**
FW14	**Alvarado**	**21.13**	**341**	P	**P**	**23 53 32.4**	**+0.1**
FW13	**Cleburne**	**21.17**	**340**	P	**P**	**23 53 32.7**	**0.0**
FW13				IAmb	IAmb	23 53 33.8	
	comp=Z,26nm,0.6s						
OZNA	**Ozona**	**21.40**	**331**	P	**P**	**23 53 35.9**	**+0.6**
WLAR	**White Oak Lake**	**21.40**	**351**		**P**	**23 53 35.3**	**+0.1**
WLAR				IAmb	IAmb	23 53 40.4	
	comp=Z,35nm,1.0s						
Y49A	**Blount Mountai**	**21.43**	**6**	P	**P**	**23 53 36.0**	**+0.5**
Y49A				IAmb	IAmb	23 53 41.7	
	comp=Z,26nm,1.2s						
TXAR	**Lajitas Array**	**21.49**	**323**	P	**P**	**23 53 37.8**	**+1.5**
TXAR	**Lajitas Array**	**21.49**	**323**	P	**P**	**23 53 38.5**	**+2.2**
	comp=Z,5.2nm,0.6s,baz=143,slow=10,SNR=71						
TXAR				PcP	**PcP**	**23 57 39.2**	**0.0**
	comp=Z,0.2nm,0.7s,baz=136,slow=2.1,SNR=1.1						
	comp=Z,5.2nm,0.6s						
Z35A	**Perchaven, San**	**22.01**	**342**	P	**P**	**23 53 41.8**	**0.0**
Z35A				IAmb	IAmb	23 53 59.2	
	comp=Z,22nm,0.9s						
X40A	**Basin Creek Fa**	**22.15**	**352**	P	**P**	**23 53 43.8**	**+0.6**
FPAL	**Fort Paine**	**22.20**	**8**	P	**P**	**23 53 43.1**	**-0.7**
FPAL				IAmb	IAmb	23 53 46.7	
	comp=Z,20nm,1.3s						
ABTX	**Abilene, Hawle**	**22.21**	**336**	P	**P**	**23 53 43.5**	**-0.4**
ABTX				IAmb	IAmb	23 53 58.1	
	comp=Z,16nm,0.8s						
ATAH	**Atahualpa**	**22.26**	**151**	LR	LR	00 02 01.1	
	comp=Z,90nm,19.1s,baz=343,slow=35						
MIAR	**Mount Ida**	**22.32**	**350**	P	**P**	**23 53 44.6**	**-0.4**
MIAR				IAmb	IAmb	23 53 48.8	
	comp=Z,24nm,0.9s						
UALR	**University of**	**22.37**	**353**	P	**P**	**23 53 45.0**	**-0.6**
UALR				IAmb	IAmb	23 53 49.9	
	comp=Z,46nm,1.4s						
CELP	**Cerrillos**	**22.52**	**73**	P	**P**	**23 53 47.3**	**0.0**
CELP				IAmb	IAmb	23 53 48.5	
	comp=Z,25nm,1.2s						
MNHN	**Monahans**	**22.55**	**328**	P	**P**	**23 53 47.6**	**0.0**
MNHN				IAmb	IAmb	23 53 51.0	
	comp=Z,13nm,0.7s						
APMT	**Aspermont**	**23.02**	**336**	P	**P**	**23 53 51.6**	**-0.9**
APMT				IAmb	IAmb	23 53 54.0	
	comp=Z,18nm,0.8s						
CPCT	**Cooper Cave**	**23.25**	**10**	P	**P**	**23 53 55.1**	**+0.2**
CPCT				IAmb	IAmb	23 53 55.9	
	comp=Z,15nm,1.0s						
VHRN	**Van Horn**	**23.33**	**324**	P	**P**	**23 53 56.8**	**+1.0**
X34A	**Smith Ranch, M**	**23.37**	**342**	P	**P**	**23 53 56.7**	**+0.7**
X34A				IAmb	IAmb	23 53 58.5	
	comp=Z,22nm,0.6s						
FCAR	**Ozark Folk Cen**	**23.45**	**354**	P	**P**	**23 53 57.1**	**+0.4**
FCAR				IAmb	IAmb	23 53 59.0	
	comp=Z,28nm,0.9s						
LCAR	**Lake Charles**	**23.55**	**356**	P	**P**	**23 53 57.8**	**+0.1**
LCAR				IAmb	IAmb	23 53 59.5	
	comp=Z,19nm,0.7s						
WVT	**Waverly**	**23.58**	**3**	P	**P**	**23 53 57.8**	**-0.2**
TKL	**Tuckaleechee C**	**23.59**	**11**	P	**P**	**23 53 58.3**	**+0.1**
TKL				IAmb	IAmb	23 53 59.8	
	comp=Z,14nm,0.9s						
TKL	**Tuckaleechee C**	**23.59**	**11**	P	**P**	**23 53 58.1**	**0.0**
	comp=Z,9.8nm,0.7s,baz=185,slow=12,SNR=7.6						
TKL				LR	LR	00 03 45.8	
	comp=Z,131nm,18.8s,baz=200,slow=38						
	comp=Z,9.8nm,0.7s						
W35A	**Tecumseh**	**23.61**	**344**	P	**P**	**23 53 57.8**	**-0.6**
W35A				IAmb	IAmb	23 53 58.9	
	comp=Z,20nm,1.0s						
**KMS

comp=Z,75nm,18.3s,baz=358,slow=39
INK Inuvik 62.66 343 P P 23 59 10.5 -1.1
comp=Z,1.0nm,0.7s,baz=116,slow=7.4,SNR=6.7
comp=Z,1.0nm,0.7s
ILAR Eielson Array 65.30 337 P P 23 59 28.4 -0.6
ILAR Eielson Array 65.30 337 P **P 23 59 28.0 -1.0**
comp=Z,0.6nm,0.8s,baz=163,slow=4.6,SNR=5.4
comp=Z,0.6nm,0.8s
PPT Papeete 66.66 245 LR LR 00 21 59.2
comp=Z,179nm,19.2s,baz=136,slow=30
SUMG Summit 66.99 15 P **P 23 59 38.9 -1.4**
EUNU Eureka 67.60 1 P **P 23 59 42.4 -1.2**
EUNU IAmb IAmb 23 59 52.1
comp=Z,3.8nm,0.9s
B21K Ikpikpuk River 69.90 340 P **P 23 59 58.2 +0.2**
B21K IAmb IAmb 00 00 08.9
comp=Z,7.3nm,1.4s
EKA Eskdalemuir Ar 77.60 36 P **P 00 00 40.8 -2.7**
comp=Z,0.3nm,0.5s,baz=264,slow=5.1,SNR=3.8
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 78.52 52 P **P 00 00 46.3 -2.8**
comp=Z,0.3nm,0.5s,baz=275,slow=5.4,SNR=4.2
ESDC LR LR 00 32 48.8
comp=Z,54nm,18.2s,baz=250,slow=34
comp=Z,0.3nm,0.5s
MDT Midelt 78.86 59 LR LR 00 28 45.6
comp=Z,73nm,21.0s,baz=238,slow=30
NOA NORSAR Array B 84.17 29 LR LR 00 36 12.4
comp=Z,27nm,21.0s,baz=295,slow=34
HFS Hagfors 85.60 29 P **P 00 01 24.5 -1.2**
comp=Z,2.5nm,0.9s,baz=338,slow=3.2,SNR=2.5
HFS LR LR 00 39 31.3
comp=Z,38nm,18.4s,baz=290,slow=36
comp=Z,2.5nm,0.9s
DAVOX Davos/Dischmat 87.13 43 LR LR 00 37 08.3
comp=Z,44nm,18.4s,baz=256,slow=33
TORD Torodi Ar. Bea 88.08 77 P **P 00 01 36.7 -2.0**
TORD Torodi Ar. Bea 88.08 77 P **P 00 01 36.6 -2.0**
comp=Z,0.5nm,0.3s,baz=293,slow=5.7,SNR=1.0
comp=Z,0.5nm,0.3s
VRAC Vranov 90.67 39 LR LR 00 37 35.7
comp=Z,50nm,20.0s,baz=290,slow=32
FINES FINESS Array B 90.69 26 LR LR 00 41 54.4
comp=Z,31nm,19.8s,baz=308,slow=35
AKASG Malin Array Be 97.47 34 LR LR 00 44 48.9
comp=Z,40nm,19.5s,baz=300,slow=34
NRIK Noril'sk 98.35 1 LR LR 00 49 42.1
comp=Z,47nm,18.4s,baz=348,slow=37
YAK Yakutsk 99.73 343 LR LR 00 51 54.0
comp=Z,35nm,21.9s,baz=42,slow=38
KURBB Kurchatov Arra 116.25 9 PKP **PKiKP 00 07 29.6 -1.3**
comp=Z,0.3nm,0.5s,baz=346,slow=1.6,SNR=7.0
SONM Songino Array 118.36 348 PKP **PKPdf 00 07 35.2 -0.1**
comp=Z,0.4nm,0.6s,baz=70,slow=1.7,SNR=2.4
MKAR Makanchi Array 120.50 7 PKP **PKPdf 00 07 38.4 -0.9**
comp=Z,0.2nm,0.5s,baz=311,slow=1.8,SNR=2.5
WRA Warramunga Arr 137.63 254 PKP **PKPdf 00 08 13.6 +1.2**
comp=Z,0.7nm,0.5s,baz=88,slow=2.0,SNR=12
ASAR Alice Springs 137.68 249 PKP **PKPdf 00 08 13.2 +0.8**
comp=Z,0.5nm,0.8s,baz=90,slow=1.8,SNR=4.1
CMAR Chiang Mai Arr 148.22 345 PKPbc **PKPdf 00 08 32.8 +1.7**
comp=Z,2.4nm,0.6s,baz=1.8,slow=3.0,SNR=15

*GUC **27** 23:59:51.7±0.7, 23°.17S×67°.11W, h233km±9km, ML4.1*
*NEIC **27** 23:59:51.9±2.1, 23°.18S±0°.07×66°.9W±0°.1, h220km±7km, mb4.3/7, Error ellipse: s-maj=14.3km s-min=10.5km az=92.0*
*SJA **27** 23:59:52.8±1.0, 23°.07S×66°.83W, h193km±12km, ML3.3, MW3.5*
*IDC **28** 00:00:02.1±2.2, 22°.27S×66°.34W, h270km±21km, mb2.9/3, mbtmp3.7/7, Error ellipse: s-maj=22.8km s-min=20.2km az=30.0*
ISC 27 23:59:51.5±0.7, 23°.14S±0°.05×66°.79W±0°.05, h210km±6km, n62, σ1§08/71, mb3.9/5, 2C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**1.16**	**159**	IAML		00 01 00.4	
	comp=Z,8.3nm,1.2s						
SALTA				*i* P	**Pn**	**00 00 24.8**	**+0.8**
SALTA				*e*S	**S**	**00 00 48.1**	**-1.1**
AF01	**San Pedro de A**	**1.30**	**278**	Pn	**Pn**	**00 00 26.2**	**+1.4**
AF01				Sn	**S**	**00 00 51.1**	**+0.7**
AF01	**San Pedro de A**	**1.30**	**278**	*e*P	**Pn**	**00 00 26.4**	**+1.6**
YJA	**Yavi**	**1.51**	**51**	IAML		00 00 54.2	
	comp=Z,15nm,1.2s						
YJA				*i* P	**Pn**	**00 00 27.6**	**+0.8**
YJA				*e*S	**S**	**00 00 52.9**	**-1.0**
SLA	**San Lorenzo**	**1.97**	**144**	IAML		00 01 05.4	
	comp=Z,24nm,1.6s						
SLA				*i* P	**Pn**	**00 00 32.1**	**+1.5**
SLA				*e*S	**S**	**00 01 01.8**	**+0.9**
PB06	**IPOC Station P**	**2.60**	**279**	*e*P	**Pn**	**00 00 38.0**	**+0.6**
PB06				*e*S	**S**	**00 01 12.2**	**-0.5**
PB06				IAML		00 01 14.5	
	comp=E,298nm,0.2s						
PB06	**IPOC Station P**	**2.60**	**279**	IAML		00 01 13.4	
	comp=Z,120nm,0.4s						
PB06				*i* P	**Pn**	**00 00 38.0**	**+0.6**
PB09	**IPOC Station P**	**2.63**	**300**		**Pn**	**00 00 39.0**	**+1.2**
PB09				Sn	**S**	**00 01 13.1**	**-0.3**
PB09	**IPOC Station P**	**2.63**	**300**	*e*P	**Pn**	**00 00 39.2**	**+1.4**
PB09				*e*S	**S**	**00 01 14.3**	**+0.9**
PB09	**IPOC Station P**	**2.63**	**300**	IAML		00 01 15.4	
	comp=Z,172nm,0.6s						
PB09				*i* P	**Pn**	**00 00 39.2**	**+1.4**
PB03	**IPOC Station P**	**2.95**	**291**	*e*P	**Pn**	**00 00 41.8**	**+0.5**
PB03				*e*S	**S**	**00 01 18.3**	**-1.4**
PB03				IAML		00 01 19.2	
	comp=N,502nm,0.4s						
PB03	**IPOC Station P**	**2.95**	**291**	IAML		00 01 20.1	
	comp=Z,186nm,0.2s						
PB03				*i* P	**Pn**	**00 00 41.8**	**+0.5**
PB05	**IPOC Station P**	**3.16**	**274**		**Pn**	**00 00 44.2**	**+0.4**
PB05				Sn	**S**	**00 01 21.9**	**-2.2**
PB05	**IPOC Station P**	**3.16**	**274**	*i* P	**Pn**	**00 00 44.1**	**+0.4**
PB05				IAML		00 01 27.8	
	comp=E,198nm,0.5s						
PB05	**IPOC Station P**	**3.16**	**274**	IAML		00 01 26.3	
	comp=Z,94nm,0.3s						
PB05				*i* P	**Pn**	**00 00 44.0**	**+0.3**
PB01	**IPOC Station P**	**3.26**	**309**	IAML		00 01 28.6	
	comp=Z,182nm,0.2s						
PB01				*i* P	**Pn**	**00 00 45.6**	**+0.7**
GO02	**Mina Guanaco**	**3.26**	**231**	Pn	**Pn**	**00 00 45.9**	**+0.9**
GO02	**Mina Guanaco**	**3.26**	**231**	*e*P	**Pn**	**00 00 45.6**	**+0.6**
GO02				IAML		00 01 28.1	
	comp=E,224nm,0.6s						
GO02	**Mina Guanaco**	**3.26**	**231**	*i* P	**Pn**	**00 00 45.6**	**+0.6**
PB14	**IPOC Station P**	**3.63**	**245**		**Pn**	**00 00 49.5**	**0.0**
PB14	**IPOC Station P**	**3.63**	**245**	IAML		00 01 33.9	
	comp=Z,76nm,0.2s						
PB14				*i* P	**Pn**	**00 00 49.5**	**0.0**
PB08	**IPOC Station P**	**3.71**	**323**		**Pn**	**00 00 52.3**	**+1.8**
PB08	**IPOC Station P**	**3.71**	**323**	*e*P	**Pn**	**00 00 52.3**	**+1.8**
PATCX	**Punta Patache**	**3.88**	**306**		**Pn**	**00 00 52.7**	**+0.3**
PATCX	**Punta Patache**	**3.88**	**306**	IAML		00 01 42.1	
	comp=Z,108nm,0.5s						
PATCX				*i* P	**Pn**	**00 00 52.5**	**+0.1**
HMBC	**Humberstone**	**4.05**	**314**	*e*P	**Pn**	**00 00 55.0**	**+0.5**
TA01	**Diego Aracena**	**4.06**	**308**		**Pn**	**00 00 55.4**	**+0.9**
TA01	**Diego Aracena**	**4.06**	**308**	IAML		00 01 47.8	
	comp=Z,65nm,0.4s						
TA01				*i* P	**Pn**	**00 00 54.4**	**-0.1**
AC02	**Maricunga**	**4.25**	**210**		**Pn**	**00 00 57.7**	**+0.4**
AC02	**Maricunga**	**4.25**	**210**	IAML		00 02 01.1	
	comp=Z,18nm,0.4s						
AC02				*i* P	**Pn**	**00 00 57.8**	**+0.5**
PB11	**IPOC Station P**	**4.29**	**321**	Pn	**Pn**	**00 00 58.0**	**+0.5**
AC01	**Pan de Azucar**	**4.59**	**228**	Pn	**Pn**	**00 00 60.0**	**-1.0**
AC01	**Pan de Azucar**	**4.59**	**228**	*e*P	**Pn**	**00 00 59.9**	**-1.0**
AC01	**Pan de Azucar**	**4.59**	**228**	IAML		00 01 55.1	
	comp=Z,25nm,0.5s						
AC01				*i* P	**Pn**	**00 01 00.1**	**-0.8**
AC06	**Mina Casimiro**	**5.30**	**217**		**Pn**	**00 01 08.5**	**-1.5**
PB16	**IPOC Station P**	**5.41**	**331**		**Pn**	**00 01 12.9**	**+0.8**
GO03	**Copiapo**	**5.42**	**214**		**Pn**	**00 01 10.6**	**-1.1**
GO03	**Copiapo**	**5.42**	**214**	*i* P	**Pn**	**00 01 10.1**	**-1.6**
PB12	**IPOC Station P**	**5.59**	**323**	Pn	**Pn**	**00 01 13.2**	**-0.6**
AC04	**Llanos de Chal**	**6.36**	**217**		**Pn**	**00 01 21.5**	**-2.0**
LCO	**Las Campanas**	**6.83**	**210**	Pn	**Pn**	**00 01 27.9**	**-1.9**
LPAZ	**La Paz**	**6.93**	**349**	Pn	**Pn**	**00 01 31.3**	**-0.3**
LPAZ	**La Paz**	**6.93**	**349**	P	**Pn**	**00 01 33.0**	**+1.5**

comp=Z,2.2nm,0.4s,baz=154,slow=4.4,SNR=13
LPAZ S **S 00 02 48.8 -2.1**
comp=Z,2.1nm,0.6s,baz=310,slow=21,SNR=5.2
CO01 Juntas del Tor 7.43 203 Pn **Pn 00 01 36.7 -0.9**
SIV San Ignacio 8.92 38 P **Pn 00 01 54.4 -2.3**
comp=Z,3.6nm,0.4s,baz=228,slow=11,SNR=23
SIV S S 00 03 27.2 -10
comp=Z,0.3nm,0.4s,baz=76,slow=23,SNR=1.3
PTLB Pontes e Lacer 10.51 45 Pn **Pn 00 02 17.2 -0.1**
MT02 Curacav 10.79 200 Pn **Pn 00 02 19.6 -1.1**
ITAB Concordia 13.88 110 Pn 00 03 00.1 +0.5
PLTB Pedras Altas 14.51 129 Pn **Pn 00 03 06.2 -1.1**
TRQA Tornquist 15.43 166 P **P 00 03 17.9 -0.7**
PLCA Paso Flores 17.83 189 P Pn 00 04 01.5 +14
comp=Z,1.1nm,0.8s,baz=11,slow=14,SNR=3.0
VAO Valinhos 18.24 93 P **P 00 03 49.3 -0.2**
VAO IAmb IAmb 00 03 51.2
comp=Z,13nm,0.7s
BDFB Brasilia 19.20 71 P **P 00 03 59.6 -0.3**
BDFB IAmb IAmb 00 04 01.8
comp=Z,9.3nm,0.9s
BDFB Brasilia 19.20 71 P **P 00 04 00.8 +0.9**
comp=Z,6.4nm,0.6s,baz=243,slow=12,SNR=9.9
MAL2 Monte Alegre, 24.29 32 P **P 00 04 50.0 +0.1**
BOAV Boa Vista 26.10 14 P **P 00 05 05.5 -0.7**
BOAV IAmb IAmb 00 05 08.2
comp=Z,7.4nm,1.2s
TXAR Lajitas Array 63.09 324 P **P 00 09 58.7 +1.7**
comp=Z,0.1nm,0.4s,baz=147,slow=7.5,SNR=1.5
comp=Z,0.1nm,0.4s
QSPA South Pole Qui 67.06 180 P **P 00 10 23.2 +1.1**
QSPA IAmb IAmb 00 10 46.9
comp=Z,3.8nm,1.4s
TORD Torodi Ar. Bea 76.08 69 P **P 00 11 16.2 -0.2**
TORD IAmb IAmb 00 11 26.5
comp=Z,8.5nm,0.8s
TORD Torodi Ar. Bea 76.08 69 P **P 00 11 15.7 -0.8**
comp=Z,0.5nm,0.3s,baz=248,slow=6.0,SNR=1.9
comp=Z,0.5nm,0.3s
PDAR Pinedale Array 76.51 329 P **P 00 11 19.2 +0.7**
comp=Z,0.4nm,0.9s,baz=176,slow=5.7,SNR=2.7
comp=Z,0.4nm,0.9s
MKAR Makanchi Array 145.73 39 PKP **PKPab 00 19 07.4 +1.0**
comp=Z,0.4nm,0.6s,baz=314,slow=2.7,SNR=5.4

*ISN **28** 00:13:06.1±0.4, 34°.63N×46°.24E, h13km±4km, ML2.9*
*TEH **28** 00:13:06.1, 34°.62N×46°.27E, h8km±50km*
ISC 28 00:13:06.3±1.0, 34°.67N±0°.05×46°.28E±0°.04, h10km±8km, n10, σ0§65/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.09**	**71**	Pg	**Pg**	**00 13 09.0**	**-0.1**
IDHR				Sg	**Sg**	**00 13 11.6**	**+0.5**
IGHG	**Ghaleghazi**	**0.41**	**145**	Pg	**Pg**	**00 13 14.3**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.60**	**254**	Pg	**Pg**	**00 13 17.5**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.64**	**209**	Pg	**Pg**	**00 13 17.9**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.74**	**122**	Pg	**Pg**	**00 13 19.8**	**-0.9**
SNQR	**Sonqor, Kerman**	**1.12**	**80**	Pg	**Pn**	**00 13 28.3**	**0.0**
IBDR	**Badra**	**1.58**	**191**	*e*Pn	**Pb**	**00 13 35.0**	**-0.7**
IBDR				*e*Sn	**Sb**	**00 13 56.0**	**+0.3**
IBDR				AML	AML	00 14 04.5	
	comp=E,121nm,0.6s						
IBDR				AML	AML	00 14 13.6	
	comp=N,104nm,0.5s						
IKRK	**Kirkuk**	**1.75**	**295**	*e*Pn	**Pb**	**00 13 38.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**00 14 01.0**	**+0.3**
IKRK				AML	AML	00 14 08.4	
	comp=E,276nm,0.6s						
IKRK				AML	AML	00 14 09.2	
	comp=N,262nm,0.7s						
BHD	**Baghdad**	**2.11**	**229**	*e*Pn	**Pn**	**00 13 42.0**	**+0.4**
BHD				*e*Sn	**Sn**	**00 14 08.5**	**+0.6**
BHD				AML	AML	00 14 23.5	
	comp=E,143nm,0.5s						
RAFI	**Al-Rafai**	**2.94**	**183**	*e*Pn	**Pn**	**00 13 54.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**00 14 29.0**	**+0.5**

IDC 28 00:25:13.1±12.0, 16°.55S×178°.10W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=548.0km s-min=38.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.18**	**258**	P	P	00 33 31.8	-0.3
	0.3nm,0.6s,baz=96,slow=6.5,SNR=4.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**45.46**	**253**	P	P	00 33 34.3	0.0
	0.5nm,0.5s,baz=76,slow=8.3,SNR=6.0						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**84.50**	**13**	P	P	00 37 47.5	+0.1
	0.2nm,0.6s,baz=214,slow=5.7,SNR=4.5						
	0.2nm,0.6s						

*GCG **28** 00:35:43.6±1.2, 14°.53N×90°.70W, h1km±6km, MD4.1, MW3.4*
*CATAC **28** 00:35:44.7±0.3, 14°N±3°×9°1W±°, h1km, M3.6/7, MLv3.6/7, Error ellipse: s-maj=6.9km s-min=3.1km az=15.6, confirmed*
ISC 28 00:35:44.4±1.5, 14°.49N±0°.08×90°.66W±0°.07, h10km±13km, n14, σ0§67/14, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCG4	**OSOP**	**0.16**	**53**	*e*P	**Pg**	**00 35 47.7**	**-0.4**
GCG4				*i* S	**Sg**	**00 35 51.3**	**+0.7**
GCG4	**OSOP**	**0.16**	**53**	*e*P		00 35 47.7	
GCG4				*i* S		00 35 51.3	
STG0	**El Palmar, Qui**	**0.66**	**264**	*e*P		00 36 00.9	
STG0				*i* S		00 36 13.5	
STG8	**El Palmar, Qui**	**0.67**	**266**	*e*P		00 36 01.4	
NUBE	**Las Nubes**	**1.04**	**124**	P	**Pg**	**00 36 04.1**	**-0.3**
NUBE	**Las Nubes**	**1.04**	**124**	S	**Sg**	**00 36 18.3**	**+0.3**
NUBE	**Las Nubes**	**1.04**	**124**	*e*P	**Pg**	**00 36 04.4**	**-0.1**
NUBE	**Las Nubes**	**1.04**	**124**	*e*P		00 36 04.4	
MTO3	**Montecristo**	**1.26**	**94**	P	**Pg**	**00 36 08.4**	**-0.4**
MTO3	**Montecristo**	**1.26**	**94**	S	**Sg**	**00 36 25.1**	**-0.1**
MTO3	**Montecristo**	**1.26**	**94**	*e*P	**Pg**	**00 36 08.0**	**-0.8**
MTO3	**Montecristo**	**1.26**	**94**	*e*P		00 36 08.0	
ESQI	**Esquipulas**	**1.28**	**87**	P	**Pg**	**00 36 09.0**	**-0.1**
ESQI	**Esquipulas**	**1.28**	**87**	S	**Sg**	**00 36 26.4**	**+0.7**
JAYA	**Jayaque - finc**	**1.44**	**125**	P	**Pn**	**00 36 10.8**	**+0.1**
PMON	**Piamonte**	**1.52**	**121**	P	**Pn**	**00 36 12.7**	**+0.9**
CCIG	**Comitan**	**2.28**	**322**	P	**Pb**	**00 36 25.0**	**-0.8**
CCIG	**Comitan**	**2.28**	**322**	S	**Sg**	**00 36 58.7**	**+1.0**
BLUN	**Bluefields**	**7.15**	**109**	P	Pn	00 37 39.2	+10

RSNC 28 00:37:58.7±0.0, 7°N±1°×7°3W±°, h144km±2km, M2.6, mb3.6, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**192**	P	Pn	00 38 18.1	-0.5
BARC				S	Sn	00 38 32.8	-0.9
BRJC	**Barrancabermej**	**0.62**	**286**	P	Pn	00 38 19.9	-0.2
BRJC				S	Sn	00 38 36.5	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**39**	P	Pn	00 38 21.0	-0.1
PAMC				S	Sn	00 38 37.7	-0.4
RUSC	**La Rusia**	**0.90**	**176**	P	Pn	00 38 22.0	-0.7
RUSC				S	Sn	00 38 40.6	-0.3
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	P	Pn	00 38 25.0	-1.1
PTBC				S	Sn	00 38 45.7	-1.3
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	00 38 26.4	-0.3
TAMC				S	Sn	00 38 47.6	-0.4
OCAC	**Ocana**	**1.44**	**353**	P	Pn	00 38 26.7	-0.7
OCAC				S	Sn	00 38 48.2	-1.1
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	00 38 31.3	-0.3
ZARC				S	Sn	00 38 56.8	0.0
NORC	**Norcasia**	**2.11**	**235**	P	Pn	00 38 34.7	-0.2
NORC				S	Sn	00 39 02.1	-0.6
CHIC	**Chingaza**	**2.23**	**195**	P	Pn	00 38 36.5	-0.2
CHIC				S	Sn	00 39 05.7	-0.2
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	00 38 38.7	+1.5
ROSC				S	Sn	00 39 09.4	+2.7
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	00 38 41.2	+1.8
CVER				S	Sn	00 39 10.1	-0.5
HELC	**Santa Helena**	**2.45**	**256**	P	Pn	00 38 40.5	+1.2
HELC				S	Sn	00 39 10.2	-0.2
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	00 38 39.4	-0.8
UREC				S	Sn	00 39 10.1	-2.1
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	00 38 43.6	+1.0
GUY2C				S	Sn	00 39 16.6	+0.2
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	00 38 43.1	+0.6
VILC				S	Sn	00 39 16.2	-0.1
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn	00 38 41.0	-2.0
PTGC				S	Sn	00 39 14.2	-2.9
RECRC	**Villamaria, Ca**	**2.86**	**230**	P	Pn	00 38 45.6	+1.0
RECRC				S	Sn	00 39 21.1	+1.2
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	00 38 47.0	+1.0
CBOC				S	Sn	00 39 22.5	-0.1
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	00 38 47.1	+0.5
DBBC				S	Sn	00 39 22.0	-1.6
ARGC	**Ariguani, Magd**	**3.23**	**340**	P	Pn	00 38 49.4	+0.6
ARGC				S	Sn	00 39 27.6	0.0
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	00 38 47.8	-1.2
SDV				S	Sn	00 39 26.9	-1.1
PRAC	**Prado**	**3.52**	**210**	P	Pn	00 38 52.6	-0.1
PRAC				S	Sn	00 39 34.4	-0.1
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	00 38 52.8	-0.3
ORTC				S	Sn	00 39 35.8	+0.6
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	00 38 54.1	-0.2
PLMC				S	Sn	00 39 36.6	-0.8
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	00 38 52.4	-2.3
SJCC				S	Sn	00 39 33.8	-4.3
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	00 38 55.7	+0.2
URMC				S	Sn	00 39 39.5	-0.1
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	00 38 58.7	-2.9
CRJC				S	Sn	00 39 46.2	-4.2
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	00 39 08.9	-3.2
URIC				S	Sn	00 40 04.3	-4.9

*IDC **28** 00:56:17.4±1.0, 46°.34S×166°.17E, h0km, mb4.3/4, mbtmp4.2/6, ML3.9/2, MS3.5/4, Error ellipse: s-maj=38.6km s-min=24.8km az=176.0*
*NEIC **28** 00:56:20.9±1.4, 46°.37S±0°.08×165°.97E±0°.07, h19km±3km, mb4.2/9, Error ellipse: s-maj=11.7km s-min=6.5km az=169.0*
*WEL **28** 00:56:20.4±1.0, 46°S±4°×16°6E±°, h5km, M4.4/12, ML4.5/12, MLv4.4/12, Error ellipse: s-maj=7.7km s-min=5.3km az=75.5, confirmed*
*WEL **28** 00:56:20.5, 46°.53S×166°.19E, h22km, ML4.4, Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}1.77; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$-0.88; $M_{r\theta}$1.34; $M_{\theta\phi}$0.82; $M_{\phi r}$0.83; Fault plane solution: $M_0$2.21000×10^{15} NP1: ϕ_s103.00000°, δ60.00000°, λ58.00000°. NP2: ϕ_s335.00000°, δ43.00000°, λ133.00000°. Principal axes: T 2.6619, Plg60.0000°, Azm323.0000°; N -1.7671, Plg28.0000°, Azm120.0000°; P -0.8949, Plg9.0000°, Azm216.0000°; Stations used: PYZ WHZ SYZ WKZ REVERSE FAULTING*
ISC 28 00:56:20.1±1.7, 46°.48S±0°.05×166°.08E±0°.04, h20km±7km, n94, σ1§62/119, mb4.4/9, MS3.7/4, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.52**	**53**		**Pb**	**00 56 31.7**	**+1.0**
PYZ					**Sb**	**00 56 39.6**	**+1.9**
PYZ	**Puysegur Point**	**0.52**	**53**	P	**Pb**	**00 56 31.6**	**+1.0**
PYZ				S	**Sb**	**00 56 39.0**	**+1.3**
RLNS	**Resolution Isl**	**0.90**	**28**	P	**Pb**	**00 56 36.5**	**-0.6**
RLNS				S	**Sb**	**00 56 49.6**	**+0.9**
ORPS	**Orepuki**	**1.18**	**81**	P	**Pb**	**00 56 41.7**	**-0.2**
ORPS				S	**Sg**	**00 56 58.2**	**-0.3**
DCZ	**Deep Cove**	**1.26**	**37**		**Pn**	**00 56 41.4**	**-1.2**
DCZ				Sn	**Sb**	**00 56 58.4**	**-0.7**
DCZ	**Deep Cove**	**1.26**	**37**	P	**Pn**	**00 56 41.6**	**-1.1**
DCZ				S	**Sb**	**00 56 57.7**	**-1.4**
APZ	**The Paps**	**1.36**	**106**	P	**Pb**	**00 56 44.4**	**-0.6**
APZ				S	**Sb**	**00 57 01.5**	**-0.5**
WHZ	**Wether Hill Ro**	**1.42**	**66**		**Pn**	**00 56 45.4**	**+0.5**
WHZ				Sn	**Sb**	**00 57 04.9**	**+1.1**
WHZ	**Wether Hill Ro**	**1.42**	**66**	P	**Pb**	**00 56 45.6**	**-0.4**
WHZ				S	**Sb**	**00 57 04.1**	**+0.4**
MLZ	**Mavora Lakes**	**1.81**	**53**		**Pb**	**00 56 51.7**	**-0.9**
MLZ	**Mavora Lakes**	**1.81**	**53**	P	**Pb**	**00 56 52.1**	**-0.4**
MLZ				S	**Sb**	**00 57 16.2**	**+1.4**
SYZ	**Scrubby Hill**	**2.11**	**93**	P	**Pb**	**00 56 56.1**	**-1.6**
SYZ				S	**Sn**	**00 57 20.8**	**+0.8**
MSZ	**Milford Sound**	**2.22**	**36**	P	**Pn**	**00 56 58.0**	**+2.1**
TUZ	**Tuapeka**	**2.52**	**79**	P	**Pn**	**00 57 00.8**	**+0.9**
TUZ				S	**Sn**	**00 57 31.7**	**+1.6**
EAZ	**Earnscleugh**	**2.58**	**62**	P	**Pn**	**00 57 02.2**	**+1.4**
EAZ				S	**Sn**	**00 57 32.8**	**+1.3**
WKZ	**Wanaka**	**2.64**	**52**	P	**Pb**	**00 57 04.6**	**-2.2**
WKZ				S	**Sb**	**00 57 37.5**	**-1.3**
JCZ	**Jackson Bay**	**3.07**	**39**	P	**Pn**	**00 57 10.2**	**+2.6**
JCZ				S	**Sn**	**00 57 47.5**	**+3.7**
HHSZ	**Highcliff Hill**	**3.19**	**81**	P	**Pn**	**00 57 10.4**	**+1.1**
ODZ	**Otahua Downs**	**3.50**	**67**	Pn	**Pn**	**00 57 13.0**	**-0.4**
ODZ	**Otahua Downs**	**3.50**	**67**	P	**Pn**	**00 57 13.0**	**-0.4**
LBZ	**Lake Benmore**	**3.57**	**56**		**Pn**	**00 57 13.9**	**-0.5**
LBZ	**Lake Benmore**	**3.57**	**56**	P	**Pn**	**00 57 15.3**	**+0.9**
LBZ				S	**Sn**	**00 57 56.4**	**+0.4**
FOZ	**Fox Glacier**	**3.96**	**43**	P	**Pn**	**00 57 22.1**	**+2.3**
FOZ				S	**Sn**	**00 58 07.2**	**+1.5**
TMZ	**Timaru**	**4.05**	**61**	P	**Pn**	**00 57 21.1**	**0.0**
GCSZ	**Gaunt Creek Bo**	**4.37**	**45**	P	**Pn**	**00 57 27.9**	**+2.5**
GCSZ				S	**Sn**	**00 58 16.2**	**+0.4**
ARCZ	**Arundel**	**4.40**	**57**	P	**Pn**	**00 57 26.6**	**+0.7**
ARCZ				S	**Sn**	**00 58 15.0**	**-1.6**
RPZ	**Rata Peaks**	**4.48**	**54**		**Pn**	**00 57 27.4**	**+0.5**
RPZ	**Rata Peaks**	**4.48**	**54**	Pn	**Pn**	**00 57 25.6**	**-1.3**
	7.7nm,0.3s,baz=217,slow=8.2,SNR=7.4						
RPZ				Sn	**Sn**	**00 58 12.2**	**-6.2**
	12nm,0.3s,baz=70,slow=19,SNR=6.4						
RPZ	

TOO	Toolangi	17.66	293			Pn	01 00 24.0 -0.9
STKA	Stephens Creek	23.81	299	P		P	01 01 31.6 0.0
	comp=Z,2.7nm,1.0s,baz=164,slow=9.3,SNR=3.0						
STKA				LR		LR	01 10 00.3
	comp=Z,132nm,18.2s,baz=203,slow=35						
	comp=Z,2.7nm,1.0s						
EIDS	Eidsvold	24.24	325	P		P	01 01 35.5 -0.2
DZM	Mont Dzumac	24.35	1	P		P	01 01 36.5 -0.4
DZM				IAmb		IAmb	01 01 40.6
	comp=Z,17nm,0.9s						
MSVF	Nonsavu	30.33	23	LR		LR	01 13 50.8
	comp=Z,147nm,18.3s,baz=222,slow=35						
AS31	Alice Springs	34.43	300	P		P	01 03 05.7 -0.6
AS31				IAmb		IAmb	01 03 07.2
	comp=Z,1.3nm,0.6s						
ASAR	Alice Springs	34.43	300	P		P	01 03 05.1 -1.2
ASAR	Alice Springs	34.43	300	P		P	01 03 06.5 +0.1
	comp=Z,3.1nm,0.6s,baz=132,slow=8.1,SNR=28						
ASAR				PcP		PcP	01 05 42.0 +0.4
	comp=Z,0.6nm,0.6s,baz=119,slow=4.4,SNR=4.9						
	comp=Z,3.1nm,0.6s						
WB2	Warramunga Arr	37.06	305	P		P	01 03 28.4 -0.5
WB2				IAmb		IAmb	01 03 29.5
	comp=Z,7.3nm,0.8s						
WRA	Warramunga Arr	37.06	305	P		P	01 03 28.1 -0.8
WRA	Warramunga Arr	37.06	305	P		P	01 03 28.7 -0.2
	comp=Z,5.6nm,0.8s,baz=138,slow=7.9,SNR=35						
WRA				PcP		PcP	01 05 48.5 -0.9
	comp=Z,0.9nm,0.8s,baz=139,slow=2.8,SNR=5.3						
	comp=Z,5.6nm,0.8s						
HNR	Honiara	37.29	350	P		P	01 03 29.1 -1.6
	comp=Z,94nm,0.6s,baz=151,slow=7.6,SNR=4.0						
HNR				LR		LR	01 17 58.7
	comp=Z,127nm,18.1s,baz=65,slow=35						
H01W1	Cape Leeuwin H	40.37	268	T		T	01 46 37.2
	baz=123,slow=76,SNR=80						
H01W2	Cape Leeuwin H	40.38	268	T		T	01 46 39.5
	baz=123,slow=76,SNR=60						
H01W3	Cape Leeuwin H	40.38	268	T		T	01 46 38.6
	baz=123,slow=76,SNR=53						
QSPA	South Pole Qui	43.65	180	P		P	01 04 24.8 +1.7
QSPA				IAmb		IAmb	01 04 45.7
	comp=Z,2.2nm,1.1s						
SNAA	Sanae	61.89	184	P		P	01 06 38.6 +1.0
H08S2	Diego Garcia H	86.98	262	T		T	02 44 53.2
	baz=136,slow=76,SNR=16						
H08S1	Diego Carcia H	86.99	262	T		T	02 44 50.4
	baz=136,slow=76,SNR=15						
H08S3	Diego Garcia H	87.00	262	T		T	02 45 02.6
	baz=136,slow=76,SNR=21						
CMAR	Chiang Mai Arr	88.43	299	P		P	01 09 12.1 +1.1
	comp=Z,0.9nm,0.3s,baz=147,slow=3.7,SNR=6.3						
	comp=Z,0.9nm,0.3s						
OPO	Ambohidratompo	95.04	236	LR		LR	01 44 17.4
	comp=Z,666nm,19.2s,baz=190,slow=30						
MKAR	Makanchi Array	118.28	309	PKP		PKPdf	01 15 04.8 -0.4
	comp=Z,0.1nm,0.5s,baz=149,slow=1.6,SNR=2.2						
ZALV	Zalesovo Beam	121.40	317	PKP		PKPdf	01 15 10.0 -1.0
	comp=Z,0.2nm,0.3s,baz=349,slow=1.5,SNR=1.7						
KURBB	Kurchatov Arra	122.57	311	PKP		PKPdf	01 15 13.1 -0.2
	comp=Z,0.7nm,0.7s,baz=115,slow=2.0,SNR=9.8						
YKA	Yellowknife Ar	125.50	34	PKP		PKPdf	01 15 18.4 -0.1
	comp=Z,0.3nm,0.8s,baz=226,slow=2.0,SNR=3.8						
TORD	Torodi Ar. Bea	144.26	207	PKP		PKPdf	01 15 53.9 -1.0
	comp=Z,1.1nm,0.6s,baz=136,slow=1.3,SNR=5.2						
BRTR	Keskin Array B	145.06	276	PKPbc		PKPdf	01 15 55.9 +0.1
	comp=Z,4.8nm,0.9s,baz=150,slow=5.4,SNR=22						
SPITS	Spitsbergen Ar	146.13	349	PKPbc		PKPbc	01 15 57.9 +0.6
	comp=Z,9.1nm,0.8s,baz=96,slow=6.8,SNR=8.9						
ELL	Elmali	146.20	269	PKPbc		PKPbc	01 15 58.9 0.0
ARCES	ARCESS Array B	149.81	334	PKPbc		PKPbc	01 16 07.5 +0.2
ARCES	ARCESS Array B	149.81	334	PKPbc		PKPbc	01 16 07.4 0.0
	comp=Z,1.8nm,0.6s,baz=5.7,slow=2.4,SNR=6.9						
AKASG	Malin Array Be	151.46	294	PKPbc		PKiKP	01 16 12.2 0.0
	comp=Z,1.7nm,0.7s,baz=78,slow=2.6,SNR=6.5						
FINES	FINESS Array B	152.66	318	PKPbc		PKPbc	01 16 14.2 +0.1
FINES	FINESS Array B	152.66	318	PKPbc		PKiKP	01 16 14.9 +0.5
	comp=Z,1.3nm,0.7s,baz=82,slow=4.0,SNR=11						

TXNET 28 01:01:41.8, 31°.6N±0°.8×104°.6W±0°.6, h3km±1km, ML1.6/5, Error ellipse: s-maj=1.2km s-min=0.9km az=157.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.55	57	P	Pg	01 01 52.3	0.0
TPB11				S	Sg	01 01 59.7	+0.2
GDL2	Guadalupe Moun	0.59	17	P	Pg	01 01 53.3	+0.1
PECS	Pecos	0.66	113	P	Pg	01 01 54.6	+0.2
PECS				S	Sg	01 02 03.5	+0.6
MNTX	Cornudas Mount	0.69	276	P	Pg	01 01 55.2	+0.1
MNTX				S	Sg	01 02 04.6	+0.5
CLNB	Carlsbad	0.86	43	P	Pg	01 01 58.3	-0.1
VHRN	Van Horn	0.92	203	P	Pg	01 01 59.3	0.0
VHRN				S	Sg	01 02 11.9	+0.7
TPB01	Permian Basin	0.97	135	P	Pg	01 01 59.9	-0.4
TPB01				S	Sg	01 02 13.0	+0.1
CLN7	Carlsbad 7	1.01	40	P	Pg	01 02 01.0	-0.2
HTMS	Hat Mesa	1.16	43	S	Sn	01 02 21.0	-0.4
TPB05	Hovey Rd	1.28	123	S	Sg	01 02 23.3	+0.3
ALPN	Alpine	1.49	147	P	Pn	01 02 09.3	-0.3
ALPN				S	Sb	01 02 28.5	-1.1
CPRX	Cap Rock	1.52	23	P	Pn	01 02 09.9	0.0
MNHN	Monahans	1.58	100	S	Sg	01 02 32.5	+0.1
ODSA	Odessa	1.79	74	S	Sn	01 02 37.5	+0.5
TMB04	Seminole	2.03	60	S	Sb	01 02 44.9	-0.1

CATAC 28 01:14:32.7±0.6, 12°.N±5°.×8°.7W±°, h55km±5km, M2.9/13, MLv2.9/13, Error ellipse: s-maj=12.4km s-min=4.8km az=34.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.28	16	P	Pn	01 14 43.0	+0.8
SAPS	Ciudad Sandino	0.36	45	P	Pn	01 14 43.7	+0.7
SAPS	Ciudad Sandino	0.36	45	P	Pn	01 14 43.6	+0.7
UNAN	Cigeo UNAN	0.44	63	P	Pn	01 14 45.2	+1.5
UNAN	Cigeo UNAN	0.44	63	P	Pn	01 14 53.7	+10
APQ2	Apoyeque	0.44	50	P	Pn	01 14 44.1	+0.4
APQ2				S	Sn	01 14 53.8	+2.2
APQ2	Apoyeque	0.44	50	P	Pn	01 14 53.4	+10
SABN	Sabanita	0.50	85	P	Pn	01 14 44.5	+0.2
SABN				S	Sn	01 14 54.4	+1.7
SABN	Sabanita	0.50	85	P	Pn	01 14 54.5	+10
MOMN	Momotombo	0.51	14	P	Pn	01 14 45.0	+0.5
MOMN				S	Sn	01 14 54.3	+1.3
MOMN	Momotombo	0.51	14	P	Pn	01 14 44.9	+0.4
NANN	Nandasmo	0.54	87	P	Pn	01 14 46.0	+1.2
NANN	Nandasmo	0.54	87	S	Sn	01 14 55.2	+1.7
NANN	Nandasmo	0.54	87	P	Pn	01 14 45.9	+1.1
MACN	El Madrono	0.55	359	P	Pn	01 14 45.6	+0.7
MACN				S	Sn	01 14 56.2	+2.4
CNGA	Al SSO del Vol	0.58	357	P	Pn	01 14 46.0	+0.7
CNGA				S	Sn	01 14 56.6	+2.2
CNGA	Al SSO del Vol	0.58	357	P	Pn	01 14 56.7	+11
CNGN	Cerro Negro	0.58	357	P	Pn	01 14 45.8	+0.4
CNGN	Cerro Negro	0.58	357	S	Sn	01 14 56.7	+2.1
CNGN	Cerro Negro	0.58	357	P	Pn	01 14 45.9	+0.5
PLRN	Geotermica Pol	0.67	352	P	Pn	01 14 58.1	+12
TELN	Telica	0.70	347	P	Pn	01 14 45.6	-1.3
HERN	Volcan Telica	0.71	347	P	Pn	01 14 45.8	-1.1
HERN	Volcan Telica	0.71	347	P	Pn	01 14 45.9	-1.1
PKGN	Cerro Pekin	0.81	338	P	Pn	01 14 48.8	+0.6
PKGN				S	Sn	01 15 01.3	+1.9
CRIN	San Cristobal	0.87	335	P	Pn	01 14 49.4	+0.4
CRIN	San Cristobal	0.87	335	S	Sn	01 15 02.7	+1.8
BOAB	BOACO BROADBAN	.11	61	P	Pn	01 14 51.7	-0.4
BOAB	BOACO BROADBAN	.11	61	S	Sn	01 15 06.8	+0.3
BOAB	BOACO BROADBAN	.11	61	P	Pn	01 14 51.7	-0.4
LIMN	Finca el Limon	1.18	14	P	Pn	01 14 53.2	+0.1
MATN	Matagalpa	1.24	36	P	Pn	01 14 54.0	0.0
MATN	Matagalpa	1.24	36	P	Pn	01 14 54.0	0.0
RCPN	Sur Rio San Ju	1.70	19	P	Pn	01 15 00.8	+0.6

*NEIC **28** 01:18:54.4±0.4, 19°.08N±0°.05×155°.48W±0°.05, h51km±4km, Error ellipse: s-maj=8.1km s-min=6.6km az=165.0*

HVO 28 01:18:55.8±0.5, 19°.03N±0°.07×155°.47W±0°.03, h42km±5km, Md2.5/4, ML2.3/18(NEIC), Error ellipse: s-maj=10.4km s-min=4.1km az=182.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.22	17		Pn	01 19 02.9	-0.5
KHU	Kahuku	0.26	327		Pn	01 19 02.9	-1.1
KHU				IAML		01 19 07.3	
	comp=E,319nm,3.6s						
HLP	Hilina Pali	0.31	29		Pn	01 19 03.6	-0.8
HLP	Hilina Pali	0.31	29	IAML		01 19 11.3	
	comp=N,381nm,1.1s						
HLP				IAML		01 19 13.3	
	comp=E,298nm,1.9s						
SDHHI	Sand Hill	0.40	24		Pn	01 19 04.2	-1.2
WRMHI	West Rim	0.41	23		Pn	01 19 04.3	-1.2
KKO	Keanakako'i	0.41	27		Pn	01 19 04.4	-1.2
PUH	Pauahi	0.42	34		Pn	01 19 04.4	-1.3
PUH	Pauahi	0.42	34	IAML		01 19 13.7	
	comp=N,204nm,2.0s						
PUH				IAML		01 19 23.8	
	comp=E,230nm,3.9s						
SBLHI	Steaming Bluff	0.44	25		Pn	01 19 04.5	-1.5
MLH	Mauna Loa	0.47	9		Pn	01 19 04.6	-1.9
MLH				IAML		01 19 15.1	
	comp=E,127nm,1.8s						
STCH	Steam Cracks	0.48	42		Pn	01 19 05.1	-1.3
STCH	Steam Cracks	0.48	42	IAML		01 19 22.3	
	comp=N,170nm,4.1s						
JCUZ	Jacuzzi	0.49	44		Pn	01 19 05.4	-1.2
NPOC	North of Pu'u	0.50	43		Pn	01 19 05.3	-1.3
JOKA	Jonika Flow	0.59	47		Pn	01 19 06.4	-1.5
JOKA	Jonika Flow	0.59	47	IAML		01 19 12.4	
	comp=E,140nm,3.9s						
JOKA				IAML		01 19 33.0	
	comp=N,195nm,2.1s						

IDC 28 01:28:08.9±3.4, 11°.53N×127°.27E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=297.2km s-min=30.4km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	35.58	170	P	P	01 35 08.2	-0.1
	0.2nm,0.4s,baz=348,slow=8.0,SNR=2.0						
	0.2nm,0.4s						
MKAR	Makanchi Array	51.63	322	P	P	01 37 17.2	-0.2
	0.4nm,0.7s,baz=116,slow=8.2,SNR=5.4						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	55.61	325	P	P	01 37 46.5	+0.1
	0.2nm,0.4s,baz=121,slow=7.2,SNR=4.9						
	0.2nm,0.4s						
FINES	FINESS Array B	85.25	332	P	P	01 40 47.3	-0.1
	0.5nm,0.7s,baz=90,slow=4.7,SNR=5.1						
	0.5nm,0.7s						

*NEIC **28** 01:32:48.7±1.1, 31°.86S±0°.06×68°.4W±0°.1, h134km±5km, mb4.8/8, Error ellipse: s-maj=15.1km s-min=8.9km az=81.0*

*SJA **28** 01:32:48.2±0.8, 31°.87S×68°.30W, h106km±3km, ML3.5, MW3.5*

ISC 28 01:32:47.1±0.7, 31°.87S±0°.04×68°.31W±0°.04, h124km±6km, n55, σ1°.50/68, mb4.8/4, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	San Juan	0.40	328	eP	Pn	01 33 05.7	+0.6
SJA				eS	Sn	01 33 17.1	-1.6
ZON	Zonda	0.45	316	eP	Pn	01 33 05.9	+0.5
ZON				eS	Sn	01 33 17.1	-2.1
ZON				IAML		01 33 17.5	
	comp=Z,915nm,0.3s						
ZON				eS		01 33 17.6	
RTLS	Leoncito	0.84	275	eP	Pn	01 33 09.0	+0.6
RTLS				eS	Sn	01 33 24.7	+0.1
RTLS				IAML		01 33 26.2	
	comp=Z,1μm,0.4s						
AUSP	Uspallata	0.98	249	eP	Pn	01 33 10.5	+0.9
AUSP				eS	Sn	01 33 26.8	0.0
AVFE	Valle Fertil	1.41	31	eP	Pn	01 33 14.7	+0.7
AVFE				eS	Sn	01 33 34.3	0.0
ACCO	Cerro Coronel	1.43	333	eP	Pn	01 33 16.8	+2.3
ACCO				eS	Sn	01 33 37.7	+2.5
ACHE	Chepes	1.57	64	eP	Pn	01 33 17.1	+1.2
ACHE				eS	Sn	01 33 38.2	+0.5
ACDV	Cuesta del Vie	1.83	337	eP	Pn	01 33 20.6	+1.6
AROD	Rodeo	1.97	329	eP	Pn	01 33 22.4	+1.7
AROD				eS	Sn	01 33 47.5	+1.0
VA03	San Esteban	2.10	244		Pn	01 33 24.2	+2.2
APLL	PUNTA DE LOS L	2.12	47	eP	Pn	01 33 23.6	+1.2
APLL				eS	Sn	01 33 49.9	+0.6
MT08	Bocatoma Ro	2.13	222		Pn	01 33 24.7	+2.1
MRA	San Martin	2.27	105	eP	Pn	01 33 26.0	+1.8
MRA				eS	Sn	01 33 53.6	+0.9
MRA				IAML		01 33 55.5	
	comp=Z,243nm,0.4s						
CO03	El Pedregal	2.28	296	Pn	Pn	01 33 26.2	+1.8
PEL	Peldehue	2.38	237		Pn	01 33 27.2	+1.7
AGUA	GUANDACOL	2.38	356	eP	Pn	01 33 27.2	+1.5
AGUA				eS	Sn	01 33 57.4	+2.1
AGUA				IAML		01 34 00.2	
	comp=Z,158nm,0.2s						
MT16	CCHEN	2.43	230	Pn	Pn	01 33 28.0	+1.8
CO01	Juntas del Tor	2.43	320		Pn	01 33 28.8	+2.4
MT03	Universidad Ad	2.46	228		Pn	01 33 28.1	+1.4
MT13	San Alfonso	2.50	221		Pn	01 33 29.5	+2.3
LMEL	Las Melosas	2.54	218		Pn	01 33 29.7	+2.0
MT05	Renca	2.55	233	Pn	Pn	01 33 29.1	+1.3
ACLC	CERRO LA CRUZ	2.70	26	eP	Pn	01 33 30.9	+1.0
ACLC				eS	Sn	01 34 03.3	+0.6
GO04	Tololo Observa	2.73	308		Pn	01 33 31.3	+1.1
GO04	Tololo Observa	2.73	308	eP	Pn	01 33 31.7	+1.4
GO04				eS	Sn	01 34 05.5	+2.1
GO04				eS		01 34 05.9	
MT02	Curacav	2.76	239		Pn	01 33 31.5	+1.1
BO04	La Punta	2.87	222	Pn	Pn	01 33 33.8	+2.0
MT09	Talagante	2.95	229		Pn	01 33 34.2	+1.2
CO06	Fray Jorge	3.09	292		Pn	01 33 34.5	-0.2
VCA	Vinchina	3.12	2	eP	Pn	01 33 37.2	+1.8
VCA				eS	Sn	01 34 01.6	-11
VCA				IAML		01 34 20.5	
	comp=Z,125nm,0.3s						
MT01	Popeta	3.17	230		Pn	01 33 36.5	+0.7
TCA	Tanti	3.21	81	eP	Pn	01 33 37.9	+1.4
TCA				eS	Sn	01 34 04.1	-10
BO01	Tunca	3.43	222	Pn	Pn	01 33 40.3	+1.1
AC05	El Transito	3.47	330	Pn	Pn	01 33 42.4	+2.5
LCO	Las Campanas	3.52	323		Pn	01 33 42.0	+1.4
BO02	Sierra Bellavi	3.57	215	Pn	Pn	01 33 43.4	+2.2
AC04	Llanos de Chal	4.37	326	Pn	Pn	01 33 52.2	+0.5
GO03	Copiapo	4.58	338	Pn	Pn	01 33 55.8	+1.3
AC06	Mina Casimiro	4.84	338	Pn	Pn	01 33 59.1	+1.1
AC02	Maricunga	5.07	352	Pn	Pn	01 34 03.8	+2.3
BI02	San Fabin de	5.37	206	Pn	Pn	01 34 06.4	+1.2
AC01	Pan de Azucar	6.04	340	Pn	Pn	01 34 14.9	+0.7
GO02	Mina Guanaco	6.78	350	Pn	Pn	01 34 24.8	+0.4
PB14	IPOC Station P	7.45	345	Pn	Pn	01 34 32.0	-1.5
TRQA	Tornquist	8.06	142	Pn	Pn	01 34 42.8	+1.4
PB09	IPOC Station P	10.07	355	Pn	Pn	01 35 08.2	-0.5
LPAZ	La Paz	15.51	1	Pn	Pn	01 36 20.1	+0.4
MACA	Manacapuru-AM	29.45	16	P	P	01 38 38.9	-0.3
MACA				IAmb	IAmb	01 38 40.8	
	comp=Z,18nm,1.3s						
PAYG	Puerto Ayora	37.34	322	P	P	01 39 45.2	-2.4
RUSC	La Rusia	37.83	352	P	P	01 39 52.7	+0.5
RCBR	Riachuelo	39.86	56	P	P	01 40 08.8	+0.1
AOPR	Arecibo Observ	49.95	2	P	P	01 41 29.1	+0.6
AOPR				IAmb	IAmb	01 41 43.9	
	comp=Z,15nm,0.8s						
GRTK	Grand Turk	53.15	357	P	P	01 41 52.6	+0.5
GRTK				IAmb	IAmb	01 42 01.4	
	comp=Z,35nm,0.9s						
QSPA	South Pole Qui	58.36	180	P	P	01 42 29.8	+0.7
QSPA				IAmb	IAmb	01 42 41.0	
	comp=Z,13nm,1.7s						
SYO	Syowa Base	66.68	158	eP	P	01 43 21.2	-2.8

IDC 28 01:33:51.5±1.8, 8°.85N×125°.04E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=212.8km s-min=21.4km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.05	162	P	P	01 40 03.2	+0.7
	0.3nm,0.8s,baz=341,slow=9.0,SNR=0.9						
	0.3nm,0.8s						
ASAR	Alice Springs	33.46	165	P	P	01 40 31.6	-1.0
	0.1nm,0.3s,baz=346,slow=9.2,SNR=2.8						
	0.1nm,0.3s						
MKAR	Makanchi Array	52.43	324	P	P	01 43 06.6	+0.7
	0.8nm,0.7s,baz=121,slow=7.9,SNR=11						
	0.8nm,0.7s						
ZALV	Zalesovo Beam	55.29	332	P	P	01 43 24.7	-2.0
	1.2nm,0.6s,baz=116,slow=6.8,SNR=5.2						
	1.2nm,0.6s						
KURBB	Kurchatov Arra	56.55	326	P	P	01 43 35.4	-0.4
	0.5nm,0.5s,baz=125,slow=6.8,SNR=10						
	0.5nm,0.5s						
BVAR	Borovoye Array	62.14	326	P	P	01 44 15.2	+0.7
	0.7nm,0.8s,baz=131,slow=8.1,SNR=3.6						
	0.7nm,0.8s						
FINES	FINESS Array B	86.55	332	P	P	01 46 37.0	+0.6
	1.8nm,0.9s,baz=59,slow=5.4,SNR=8.8						
	1.8nm,0.9s						

*IDC **28** 01:40:05.8±0.5, 12°.86S×45°.31E, h0km, mb4.1/27, mbtmp4.2/29, ML5.3/2, MS3.8/15, Error ellipse: s-maj=16.5km s-min=12.9km az=90.0*

*NEIC **28** 01:40:08.2±1.8, 12°.83S±0°.08×45°.38E±0°.09, h10km±1km, mb4.6/25, Error ellipse: s-maj=15.2km s-min=13.0km az=96.0*

ISC 28 01:40:06.9±0.3, 12°.98S±0°.05×45°.29E±0°.06, h10km, n121, σ1°.73/118, mb4.5/46, MS3.9/15, 1C-1D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.54	97	P	Pn	01 41 12.9	-2.8
SBV				S	Sn	01 41 59.0	-10
OPO	Ambohidratompo	5.85	162	Pn	Pn	01 41 34.1	+0.2
	9.5nm,0.3s,baz=336,slow=12,SNR=318						
OPO				Sn	Sn	01 42 36.0	-5.1
	26nm,0.3s,baz=247,slow=15,SNR=18						
OPO	Ambohidratompo	5.85	162	P	Pn	01 41 34.8	+0.9
OPO				S	Sn	01 42 36.8	-4.4
FIRM	Firavahana	5.89	165	P	Pn	01 41 35.5	+1.0
FIRM				S	Sn	01 42 37.8	-4.4
ATG	Ambohiby	5.93	172	P	Pn	01 41 36.2	+1.2
ATG				S	Sn	01 42 38.7	-4.4
ABPO	Ambohimpanom	6.29	163	Pn	Pn	01 41 40.0	+0.1
ABPO	Ambohimpanom	6.29	163	P	Pn	01 41 40.3	+0.5
ABPO				S	Sn	01 42 47.3	-4.6
MDSM	Mandiavato	6.30	165	P	Pn	01 41 41.2	+1.2
MDSM				S	Sn	01 42 47.5	-4.6
DGRM	Ambatolahisoa	6.34	170	P	Pn	01 41 41.9	+1.4
DGRM				S	Sn	01 42 49.9	-3.2
AVY	Angavokely	6.37	159	P	Pn	01 41 41.0	0.0
ABM	Ambohimiarambe	7.05	164	P	Pn	01 41 51.2	+0.8
ABM				S	Sn	01 43 06.3	-4.5
VOI	Vohitsoka	8.99	171	Pn	Pn	01 42 18.0	+1.0
KIBK	Kibwezi	12.77	325	Pn	Pn	01 43 04.0	-4.8
MSEY	Mahe Island	13.02	52	Pn	Pn	01 43 06.9	-5.2
KMBO	Kilima Mbogo	14.21	325		Pn	01 43 24.0	-4.7
KMBO	Kilima Mbogo	14.21	325	Pn	Pn	01 43 25.4	-3.2
	2.9nm,0.4s,baz=150,slow=15						
LSZ	Lusaka	16.74	260	Pn	Pn	01 44 01.4	-0.3
LSZ				IAmb	IAmb	01 44 07.5	
	comp=Z,76nm,0.9s						
LSZ	Lusaka	16.74	260	Pn	Pn	01 44 01.6	-0.2
	comp=Z,1.6nm,0.3s,baz=87,slow=12,SNR=40						
LSZ				Sn	Sn	01 46 59.7	-8.2
	comp=Z,1.0nm,0.3s,baz=357,slow=12,SNR=3.3						
LSZ				LR	LR	01 50 22.2	
	comp=Z,367nm,18.3s,baz=114,slow=37						
	comp=Z,38nm,1.0s						
POGA	Pongola	19.12	220	P	Pn	01 44 32.9	+1.9
POGA				IAmb	IAmb	01 44 37.0	
	comp=Z,32nm,1.0s						
MREMI	Moremi	19.46	238	iP	Pn	01 44 36.3	+1.1
KSANE	Kasane	19.98	254	iP	P	01 44 41.1	+1.4
LPHEP	Lephephe	21.12	238	iP	P	01 44 54.4	+2.3
LBTB	Lobatse	22.10	234	P	P	01 45 04.1	+1.5
LBTB				IAmb	IAmb	01 45 07.5	
	comp=Z,34nm,1.1s						
LBTB	Lobatse	22.10	234	P	P	01 45 04.0	+1.4
	comp=Z,16nm,0.9s,baz=48,slow=10.0,SNR=15						
LBTB				S	S	01 49 03.4	-3.0
	comp=Z,2.9nm,1.0s,baz=45,slow=13,SNR=1.8						
LBTB				LR	LR	01 54 01.5	
	comp=Z,264nm,18.4s,baz=63,slow=38						
	comp=Z,16nm,0.9s						
KDWAN	Kaudwane	22.13	239	iP	P	01 45 04.4	+1.5
SKOMA	Sekoma	23.21	237	iP	P	01 45 15.6	+1.2
KGCAE	Kacgae	24.02	243	iP	P	01 45 23.3	+1.0
QNGWA	Qangwa	24.03	251	iP	P	01 45 24.3	+1.9
BOSA	Boshof	24.28	227	P	P	01 45 25.9	+1.3
BOSA				IAmb	IAmb	01 45 36.2	
	comp=Z,12nm,0.9s						
BOSA	Boshof	24.28	227	P	P	01 45 25.5	+0.8
	comp=Z,4.7nm,0.5s,baz=56,slow=10,SNR=18						
BOSA				LR	LR	01 55 29.6	
	comp=Z,286nm,18.3s,baz=74,slow=38						
	comp=Z,4.7nm,0.5s						
GRTLG	Ghanzi	24.43	247	iP	P	01 45 27.9	+1.7
ATD	Arta Tunnel	24.47	354	LR	LR	01 54 08.9	
	comp=Z,4.8nm,20.0s,baz=174,slow=35						
PHPEN	Phepeng	24.51	236	iP	P	01 45 28.5	+1.8
KOOLE	Kule	25.82	244	iP	P	01 45 40.0	+1.3
RAYN

MDT Midelt 65.89 315 LR LR 02 18 57.5
comp=Z,89nm,18.6s,baz=220,slow=35
MODS Modra-Piesok 65.95 340 *eP* **P 01 50 52.9 -0.3**
MODS *e* 01 50 58.8
CONA Conrad Observa 66.06 339 *epP* pP 01 50 58.7 +1.8
comp=Z,3.9nm,1.0s
JAVC Velka Javorina 66.25 340 *eP* **P 01 50 54.7 -0.4**
KBA Koelnbreinsper 66.27 337 *epP* pP 01 51 00.1 +1.6
comp=Z,7.3nm,1.1s
MOA Molln 66.57 338 P **P 01 50 57.9 +0.7**
comp=Z,6.2nm,1.1s
KRUC Moravsky 66.84 340 *eP* **P 01 50 57.2 -1.7**
VRAC Vranov 66.99 340 P **P 01 50 59.4 -0.4**
comp=Z,1.6nm,0.7s,baz=220,slow=3.4,SNR=3.2
VRAC LR LR 02 21 46.4
comp=Z,29nm,19.7s,baz=230,slow=37
comp=Z,1.6nm,0.7s
VRAC Vranov 66.99 340 *eP* **P 01 50 58.9 -0.9**
BBTS Babate 67.08 292 LR LR 02 20 26.8
comp=Z,123nm,18.2s,baz=353,slow=36
MORC Moravsky Berou 67.09 341 P **P 01 51 00.2 -0.3**
MORC Moravsky Berou 67.09 341 *eP* **P 01 50 59.7 -0.8**
WTTA Wattenberg 67.09 336 *eP* **P 01 51 01.1 +0.4**
comp=Z,8.3nm,1.9s
SQTA Sankt Quirin 67.23 336 P **P 01 51 02.1 +0.6**
comp=Z,4.6nm,0.9s
FETA Feichten 67.27 335 *eP* **P 01 51 01.7 -0.1**
comp=Z,6.1nm,0.9s
DAVOX Davos/Dischmat 67.43 334 LR LR 02 21 54.5
comp=Z,47nm,20.3s,baz=260,slow=37
PZH PanZhiHua 67.44 54 P **P 01 51 05.5 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
GEC2 GERESS Array S 67.61 338 P **P 01 51 02.5 -1.4**
GEC2 IAmb IAmb 01 51 10.4
comp=Z,5.0nm,1.1s
GERES GERESS Array B 67.61 338 P **P 01 51 02.9 -1.0**
comp=Z,1.5nm,0.9s,baz=126,slow=6.8,SNR=9.4
comp=Z,1.5nm,0.9s
MAKZ Makanchi 68.00 26 P **P 01 51 05.9 -0.4**
MK31 Makanchi Array 68.12 26 P **P 01 51 06.8 -0.2**
MKAR Makanchi Array 68.12 26 P **P 01 51 06.7 -0.4**
comp=Z,1.1nm,0.8s,baz=220,slow=5.5,SNR=8.0
comp=Z,1.1nm,0.8s
WMQ Urumqi 68.47 32 *eP* **P 01 51 10.0 +0.6**
WMQ pmax pmax
comp=Z,19nm,0.7s
BVAR Borovoye Array 69.19 16 P **P 01 51 13.2 -0.3**
comp=Z,0.8nm,0.7s,baz=193,slow=5.9,SNR=8.4
comp=Z,0.8nm,0.7s
ESDC Sonseca Array 69.56 321 P **P 01 51 16.4 +0.1**
comp=Z,2.6nm,0.9s,baz=126,slow=6.2,SNR=11
ESDC LR LR 02 24 05.2
comp=Z,61nm,18.6s,baz=150,slow=38
comp=Z,2.6nm,0.9s
KURBB Kurchatov Arra 69.68 22 P **P 01 51 16.1 -0.5**
comp=Z,0.5nm,0.6s,baz=222,slow=6.9,SNR=5.4
comp=Z,0.5nm,0.6s
ARTI Arti 69.97 8 P **P 01 51 17.8 -0.5**
ARTI Arti 69.97 8 P **P 01 51 17.4 -0.9**
comp=Z,2.8nm,0.7s,baz=188,slow=5.8,SNR=3.6
comp=Z,2.8nm,0.7s
KIRV Kirov 71.39 2 LR LR 02 24 55.1
comp=Z,54nm,18.1s,baz=266,slow=38
ZALV Zalesovo Beam 74.67 23 P **P 01 51 46.8 +0.3**
ZALV Zalesovo Beam 74.67 23 P **P 01 51 45.8 -0.6**
comp=Z,1.7nm,0.7s,baz=226,slow=6.0,SNR=3.6
comp=Z,1.7nm,0.7s
FINES FINESS Array B 75.73 351 P **P 01 51 51.6 -0.7**
comp=Z,0.8nm,0.6s,baz=151,slow=8.7,SNR=3.7
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 77.11 180 P **P 01 52 02.5 +2.0**
QSPA IAmb IAmb 01 52 03.8
comp=Z,5.8nm,0.9s
QSPA South Pole Qui 77.11 180 P **P 01 52 02.3 +1.8**
comp=Z,5.0nm,0.8s,baz=249,slow=2.5,SNR=15
comp=Z,5.0nm,0.8s
HFS Hagfors 77.15 344 P **P 01 52 00.2 -0.3**
comp=Z,1.7nm,0.8s,baz=156,slow=8.8,SNR=5.3
comp=Z,1.7nm,0.8s
NOA NORSAR Array B 78.58 344 P **P 01 52 08.0 -0.4**
comp=Z,1.2nm,1.1s,baz=148,slow=7.7,SNR=3.4
comp=Z,1.2nm,1.1s
EKA Eskdalemuir Ar 79.26 334 P **P 01 52 12.5 +0.2**
comp=Z,2.4nm,0.9s,baz=144,slow=4.3,SNR=4.5
comp=Z,2.4nm,0.9s
SONM Songino Array 81.24 37 P **P 01 52 23.8 +0.6**
comp=Z,0.4nm,0.6s,baz=219,slow=7.6,SNR=4.2
comp=Z,0.4nm,0.6s
HHC Hu-ho-hao-te 81.25 45 *eP* **P 01 52 24.5 +1.0**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.1s
VNDA Vanda 82.93 169 P **P 01 52 33.0 +1.4**
comp=Z,0.7nm,0.8s,baz=283,slow=6.8,SNR=3.2
comp=Z,0.7nm,0.8s
NJ2 Nanjing 83.32 55 *eP* **P 01 52 35.0 +0.6**
NJ2 pmax pmax
comp=Z,15nm,0.5s
ASAR Alice Springs 83.65 113 P **P 01 52 36.0 -0.4**
ASAR Alice Springs 83.65 113 P **P 01 52 36.7 +0.3**
comp=Z,3.4nm,0.6s,baz=264,slow=4.9,SNR=34
comp=Z,3.4nm,0.6s
AS31 Alice Springs 83.65 113 P **P 01 52 36.4 -0.1**
WRA Warramunga Arr 84.79 109 P **P 01 52 42.9 +0.7**
WRA Warramunga Arr 84.79 109 P **P 01 52 42.9 +0.7**
comp=Z,4.6nm,0.8s,baz=262,slow=3.5,SNR=28
comp=Z,4.6nm,0.8s
WB2 Warramunga Arr 84.80 109 P **P 01 52 42.7 +0.4**
WB2 IAmb IAmb 01 52 44.0
comp=Z,6.0nm,0.8s
XLT XiLinHaoTe 85.55 43 *eP* **P 01 52 45.5 0.0**
XLT pP sP 01 52 50.0 +0.2
XLT sP pP 01 52 52.5 +3.8
XLT pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 88.50 122 P **P 01 53 00.6 +0.4**
comp=Z,1.8nm,0.7s,baz=307,slow=7.3,SNR=3.7
comp=Z,1.8nm,0.7s
ILAR Eielson Array 127.59 7 PKP **PKPdf 01 59 12.4 +0.4**
comp=Z,0.3nm,0.7s,baz=338,slow=2.1,SNR=1.9
YKA Yellowknife Ar 128.51 348 PKP **PKPdf 01 59 14.5 +0.8**
comp=Z,0.3nm,1.0s,baz=10,slow=1.6,SNR=5.3
WHY Whitehorse 132.40 0 PKPdf **PKiKP 01 59 22.9 +0.5**
PDAR Pinedale Array 143.20 328 PKhKP PKPpre 01 59 38.0
comp=Z,0.4nm,0.7s,baz=14,slow=1.2,SNR=5.1
BMO Blue Mountains 144.93 338 PKPdf **PKPab 01 59 43.8 0.0**
S22A 4UR Ranch, Cre 144.99 320 PKPdf **PKPab 01 59 45.0 +0.5**
HWUT Hardware Ranch 145.06 329 PKPbc **PKPbc 01 59 43.5 -1.0**
HVU Hansel Valley 145.53 330 PKPdf 01 59 46.0 0.0
MFID Camas Ranch 145.58 335 PKPdf **PKPdf 01 59 45.0 -0.9**
TXAR Lajitas Array 146.93 304 PKPbc **PKPbc 01 59 50.9 +0.4**
comp=Z,1.1nm,0.8s,baz=108,slow=3.5,SNR=6.6
VHRN Van Horn 147.37 308 PKPbc **PKPbc 01 59 52.0 +0.2**
NVAR Mina Array Bea 150.76 333 PKP **PKPdf 01 59 55.5 +0.8**
comp=Z,1.1nm,0.8s,baz=92,slow=2.6,SNR=5.5
V12A Nelson 151.13 325 PKPbc **PKPbc 02 00 00.4 -0.6**
Y14A Wickenburg 151.28 320 PKPbc **PKPbc 02 00 00.8 -0.5**

NEIC ***28*** *01:49:55±2.0, 35.°124N±0.°008×97.°538W±0.°010, h8km±1km, Error ellipse: s-maj=1.5km s-min=0.8km az=222.0*

NEIC 28 01:49:53.7±1.3, 35.°12N±0.°01×97.°601W±0.°009, h5km±1km, mb_Lg1.8/3, ML2.6/5, ML1.9/33, Error ellipse: s-maj=2.7km s-min=1.8km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.21**	**50**	Pg	Pg	01 49 58.8	+0.9
FNO				IAML		01 50 05.2	
	comp=E,262nm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.31**	**25**	Pg	Pg	01 50 00.3	+0.5
OKCSW				IAML		01 50 07.6	
	comp=N,78nm,0.4s						
OKCSW				IAML		01 50 08.5	
	comp=E,96nm,0.6s						
X34A	**Smith Ranch, M**	**0.55**	**200**		Pg	01 50 04.5	+0.3
X34A					Sg	01 50 12.6	+1.1
X34A				IAML		01 50 13.4	
	comp=N,55nm,0.6s						
W35A	**Tecumseh**	**0.60**	**87**	Pg	Pg	01 50 05.0	-0.1
W35A				Sg	Sg	01 50 13.2	+0.3
OK029	**Liberty Lake**	**0.69**	**10**	Pg	Pg	01 50 06.8	-0.1
OK029				Sg	Sg	01 50 16.8	+1.0
OK029				IAML		01 50 21.8	
	comp=N,30nm,0.2s						
OK031	**S. Brethren Rd**	**1.04**	**37**	Pg	Pg	01 50 12.7	-0.9
WMOK	**Wichita Mounta**	**1.04**	**249**	Pg	Pg	01 50 12.5	-1.2
WMOK	**Wichita Mounta**	**1.04**	**249**	IAmb_Lg		01 50 28.2	
	comp=Z,2.1nm,0.9s						
OK052	**Battle Ridge R**	**1.09**	**36**	Pg	Pg	01 50 14.2	-0.4
DEOK	**Depew**	**1.15**	**51**		Pg	01 50 14.9	-0.9
DEOK				IAML		01 50 35.4	
	comp=E,46nm,0.2s						
QUOK	**Quay**	**1.28**	**34**		Pg	01 50 17.9	-0.3
CROK	**Carrier**	**1.42**	**347**		Pn	01 50 19.7	-0.5
TUL3	**Leonard**	**1.67**	**61**		Pn	01 50 22.6	-1.1
TUL3				IAmb_Lg		01 50 46.6	
	comp=Z,4.7nm,1.0s						
OK032	**Salt Plains WL**	**1.75**	**344**	Pn	Pn	01 50 24.0	-0.7
Z35A	**Perchaven, San**	**1.81**	**171**	Pn	Pn	01 50 24.8	-0.7
KAN17	**Caldwell West**	**1.93**	**356**	IAmb_Lg		01 50 54.3	
	comp=Z,18nm,0.8s						
T35A	**Sooner Cattle**	**2.00**	**26**	Pn	Pn	01 50 28.1	0.0
SMWD	**Samnorwood**	**2.17**	**270**	Pn	Pn	01 50 30.8	+0.3
PLPT	**Palo Pinto**	**2.38**	**195**	Pn	Pn	01 50 33.6	+0.3
MIAR	**Mount Ida**	**3.36**	**99**	Pn	Pn	01 50 46.3	-0.5

IDC ***28*** *02:09:28.4±1.4, 0.°31S×120.°59E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=270.6km s-min=23.3km az=59.0*

DJA ***28*** *02:09:29.7±0.7, 1.°S±4.°×12.°0E±.°, h10km, M3.8/8, MLv3.8/8*

ISC 28 02:09:30.4±1.4, 0.78S±0.°09×119.°9E±0.°1, h13km±7km, n11, σ0.91/12, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.13**	**194**	P	**Pg**	**02 09 33.4**	**-0.5**
PCI				S	**Sg**	**02 09 37.0**	**+0.7**
APSI	**Ampana**	**1.79**	**94**	P	**Pn**	**02 10 01.2**	**+0.3**
TTSI	**Tana Toraja**	**2.25**	**181**	Pg	**Pg**	**02 10 11.9**	**-1.7**
MRSI	**Marisa**	**2.42**	**59**	P	**Pn**	**02 10 09.6**	**-0.1**
LUWI	**Luwuk**	**2.92**	**95**	P	**Pn**	**02 10 17.3**	**+0.8**
SPSI	**Sidrap Palu**	**3.17**	**182**	P	**Pn**	**02 10 20.0**	**+0.1**
BKSI	**Bulukumba**	**4.52**	**177**	P	**Pn**	**02 10 39.8**	**+1.2**
WRA	**Warramunga Arr**	**23.73**	**144**	P	**P**	**02 14 42.2**	**-0.2**
	1.6nm,1.0s,baz=325,slow=10,SNR=7.3						
	1.6nm,1.0s						
ASAR	**Alice Springs**	**26.51**	**150**	P	**P**	**02 15 08.5**	**+0.6**
	0.6nm,0.7s,baz=321,slow=7.5,SNR=6.5						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**37.12**	**149**	P	**P**	**02 16 41.0**	**+0.2**
	1.6nm,0.7s,baz=342,slow=10,SNR=3.5						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**57.68**	**330**	P	**P**	**02 19 20.6**	**-0.1**
	1.0nm,0.7s,baz=130,slow=8.7,SNR=8.9						
	1.0nm,0.7s						

BJI ***28*** *02:16:57.4, 42.°49N×143.°74E, h85km, mB5.0/9, mb5.0/44, Ms4.6/4, Ms7 4.0/3*

MOS ***28*** *02:16:57.6±0.9, 42.°41N×143.°71E, h84km, mb4.7/36, Error ellipse: s-maj=6.8km s-min=5.2km az=103.1*

SKHL ***28*** *02:16:58.4±0.1, 42.°40N×143.°80E, h87km±2km, mb5.8/5, msha6.7/5*

JMA ***28*** *02:16:59.3±0.2, 42.°5N±0.°5×143.°7E±0.°7, h78km±1km, MD4.6/32, MW4.5/32, SE OFF TOKACHI*

JMA Felt II J1 at SE OFF TOKACHI .

NEIC ***28*** *02:16:59.5±1.1, 42.°42N±0.°06×143.°7E±0.°1, h83km±5km, mb4.8/371, Error ellipse: s-maj=13.6km s-min=8.0km az=107.0*

IDC ***28*** *02:16:59.1±1.7, 42.°49N×143.°73E, h80km±15km, mb4.2/28, mbtmp4.6/34, MS3.4/14, Error ellipse: s-maj=12.6km s-min=10.2km az=108.0*

NIED ***28*** *02:16:59.3, 42.°45N×143.°67E, h78km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.91; $M_{\theta\theta}$2.03; $M_{\phi\phi}$-1.12; $M_{r\theta}$3.73; $M_{\theta\phi}$-0.79; $M_{\phi r}$-4.16; Fault plane solution: $M_0$5.91000×10^{15} NP1:ϕ_s64.00000°, δ17.00000°, λ-162.00000°. NP2:ϕ_s318.00000°, δ85.00000°, λ-74.00000°.*

ISC 28 02:16:58.6±0.4, 42.°44N±0.°03×143.°75E±0.°03, h80km±2km, h80km:pP-P, n569, σ1.1s20/450, mb4.8/255, 15C-25D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.34**	**301**	P	**Pn**	**02 17 11.4**	**+0.3**
JCH				S	**Sn**	**02 17 19.9**	**-0.5**
JCH	**Churui**	**0.34**	**301**	A	A	02 17 11.4	
	comp=N,74nm,0.6s,comp=E,61nm,0.4s						
JTHR	**Tokachihiroo**	**0.37**	**246**	*i* P	**Pn**	**02 17 11.6**	**+0.2**
JTHR				S	**Sn**	**02 17 20.3**	**-0.4**
JTHR	**Tokachihiroo**	**0.37**	**246**	A	A	02 17 11.6	
	comp=N,21nm,1.1s,comp=E,49nm,0.8s						
JOB	**Onbets**	**0.46**	**7**	‖P	**Pn**	**02 17 13.0**	**+1.0**
JOB				‖*e*S	**Sn**	**02 17 23.1**	**+1.1**
JOB	**Onbets**	**0.46**	**7**	A	A	02 17 13.0	
	comp=N,69nm,0.3s,comp=E,89nm,1.1s						
JEM	**Erimo**	**0.62**	**226**	P	**Pn**	**02 17 14.6**	**+1.2**
JEM	**Erimo**	**0.62**	**226**	P	**Pn**	**02 17 13.8**	**+0.4**
JEM	**Erimo**	**0.62**	**226**	A	A	02 17 13.8	
	comp=N,11nm,1.1s,comp=E,14nm,1.5s						
ERM	**Erimo**	**0.62**	**226**		**Pn**	**02 17 13.8**	**+0.4**
ERM				Sn	**Sn**	**02 17 24.6**	**+0.2**
ERM	**Erimo**	**0.62**	**226**	P	**Pn**	**02 17 14.7**	**+1.3**
ERM	**Erimo**	**0.62**	**226**	PN	**Pn**	**02 17 13.8**	**+0.4**
ERM						02 17 24.6	
JNBK	**Urakawa-nobuka**	**0.76**	**258**	P	**Pn**	**02 17 15.3**	**+0.4**
JNBK				*e*S	**Sn**	**02 17 27.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.76**	**258**	A	A	02 17 15.3	
	comp=N,65nm,1.3s,comp=E,64nm,0.6s						
JAR	**Ashorobuto**	**0.85**	**1**	‖P	**Pn**	**02 17 16.5**	**+0.6**
JAR				‖S	**Sn**	**02 17 29.6**	**+0.7**
JAR	**Ashorobuto**	**0.85**	**1**	A	A	02 17 16.5	
	comp=N,76nm,0.8s,comp=E,63nm,0.4s						
JAK	**Akkeshi**	**0.89**	**51**	‖P	**Pn**	**02 17 17.0**	**+0.7**
JAK				‖S	**Sn**	**02 17 30.4**	**+0.9**
JAK	**Akkeshi**	**0.89**	**51**	A	A	02 17 17.0	
	comp=N,103nm,0.6s,comp=E,112nm,0.3s						
JSHD	**Hidakashinhida**	**0.95**	**268**	P	**Pn**	**02 17 18.0**	**+0.9**
JSHD	**Hidakashinhida**	**0.95**	**268**	A	A	02 17 18.0	
	comp=N,47nm,2.4s,comp=E,38nm,1.2s						
AKK	**Akkeshi**	**0.98**	**54**	*i* P	**Pn**	**02 17 18.1**	**+0.7**
AKK				*e*S	**Sn**	**02 17 31.9**	**+0.4**
JBT2	**Biratori 2**	**1.08**	**289**	P	**Pn**	**02 17 18.5**	**-0.1**
JBT2				S	**Sn**	**02 17 33.4**	**-0.2**
JBT2	**Biratori 2**	**1.08**	**289**	A	A	02 17 18.5	
	comp=N,9.0nm,1.9s,comp=E,8.0nm,2.0s						
JFR	**Furan**	**1.12**	**310**	P	**Pn**	**02 17 18.6**	**-0.5**
JFR				*e*S	**Sn**	**02 17 34.2**	**-0.3**
JFR	**Furan**	**1.12**	**310**	A	A	02 17 18.6	
	comp=N,19nm,0.6s,comp=E,15nm,0.4s						
JKHN	**Kushirohamanak**	**1.22**	**58**	‖*i*P	**Pn**	**02 17 21.1**	**+0.8**
JKHN				‖S	**Sn**	**02 17 37.3**	**+0.7**
JKHN	**Kushirohamanak**	**1.22**	**58**	A	A	02 17 21.1	
	comp=N,52nm,0.4s,comp=E,62nm,1.0s						
JNK	**Nakash**	**1.34**	**31**	A	A	02 17 23.2	
	comp=N,40nm,0.4s,comp=E,34nm,0.3s						
JIAM	**Iburiatsuma**	**1.37**	**278**	A	A	02 17 22.3	
	comp=N,69nm,0.9s,comp=E,50nm,0.9s						
JTKR	**Abashiri--Toko**	**1.53**	**4**	A	A	02 17 25.4	
	comp=N,16nm,0.6s,comp=E,8.0nm,1.5s						
JMP	**Maruseppu**	**1.59**	**350**	A	A	02 17 25.9	
	comp=N,24nm,1.0s,comp=E,8.0nm,1.1s						
JNSB	**Nemuroshibetsu**	**1.62**	**34**	A	A	02 17 26.9	
	comp=N,38nm,1.3s,comp=E,29nm,1.1s						
NMR	**Nemuro--Hokkai**	**1.72**	**57**	‖*i*PN	**Pn**	**02 17 26.7**	**0.0**
NMR				*i* S	**Sn**	**02 17 46.7**	**-1.4**
NMR	**Nemuro--Hokkai**	**1.72**	**57**	*i* P	**Pn**	**02 17 26.7**	**0.0**
NMR				*i* S	**Sn**	**02 17 46.9**	**-1.2**
NEM2	**Nemuro 2**	**1.73**	**57**	A	A	02 17 28.6	
	comp=N,10.0nm,0.9s,comp=E,7.0nm,0.7s						
JEW	**Eniwo**	**1.75**	**284**	A	A	02 17 27.4	
	comp=N,22nm,1.0s,comp=E,26nm,1.8s						
JRA	**Rausu**	**1.80**	**33**	A	A	02 17 29.3	
	comp=N,40nm,1.1s,comp=E,16nm,0.5s						
JKA	**Kamikawa-asahi**	**1.87**	**334**		**Pn**	**02 17 29.7**	**+0.9**
JKA	**Kamikawa-asahi**	**1.87**	**334**	*e*P	**Pn**	**02 17 30.1**	**+1.3**
ASAJ	**Asahikawa**	**1.87**	**334**	P	**Pn**	**02 17 30.1**	**+1.3**
	comp=E,170nm,0.5s,baz=190,slow=8.3,SNR=47						
ASAJ				S	**Sn**	**02 17 49.6**	**-2.2**
	comp=E,826nm,0.6s,baz=171,slow=11,SNR=12						
JISS	**Ishikarishitsu**	**1.91**	**297**	A	A	02 17 29.7	
	comp=N,22nm,0.7s,comp=E,13nm,1.0s						
JHR	**Hokuryu**	**1.97**	**312**	A	A	02 17 30.7	
	comp=N,6.0nm,0.8s,comp=E,5.0nm,1.6s						
RUSJ	**Misakicho**	**1.99**	**33**	*e*PN	**Pn**	**02 17 31.6**	**+1.3**
RUSJ				*i* S	**Sn**	**02 17 56.4**	**+2.0**
JNB	**Noboribetsu**	**2.01**	**272**	A	A	02 17 31.0	
	comp=N,5.0nm,1.2s,comp=E,6.0nm,0.8s						
JKB	**Kayabe**	**2.10**	**256**	A	A	02 17 32.3	
	comp=N,20nm,1.9s,comp=E,14nm,0.6s						
JAHD	**Aomorihigashid**	**2.15**	**238**	A	A	02 17 33.2	
	comp=N,60nm,0.7s,comp=E,76nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.21**	**43**	*e*PN	**Pn**	**02 17 34.4**	**+1.1**
YUK				*i* S	**Sn**	**02 18 00.1**	**+0.3**
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,466nm,0.2s						
YUK				pmax	pmax		
	comp=E,333nm,0.3s						
YUK				smax	smax		
	comp=N,36μm,0.4s						
YUK				smax	smax		
	comp=E,20μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.21**	**43**	*e*P	**Pn**	**02 17 34.4**	**+1.1**
YUK				AMB	AMB	02 17 35.4	
	comp=E,470nm,0.3s						
YUK				AMB	AMB	02 17 35.4	
	comp=E,330nm,0.3s						
YUK				AMB	AMB	02 17 35.4	
	comp=E,3μm,0.3s						
YUK				*i* S	**Sn**	**02 18 00.3**	**+0.5**
YUK				A	A	02 18 02.0	
	comp=E,3μm,0.5s						
YUK				A	A	02 18 02.0	
	comp=E,20μm,0.5s						
JOT	**Ohata**	**2.28**	**243**	A	A	02 17 34.9	
	comp=N,7.0nm,1.6s,comp=E,5.0nm,0.9s						
JARK	**Aomorirokkasho**	**2.29**	**232**	A	A	02 17 35.1	
	comp=N,11nm,10.0s,comp=E,17nm,0.4s						
JYM2	**Yakumo 2**	**2.53**	**264**	A	A	02 17 38.2	
	comp=N,4.0nm,0.7s,comp=E,4.0nm,4.4s						
JTM	**Tenmabayashi**	**2.61**	**231**	Pn	**Pn**	**02 17 38.4**	**-0.3**
JTM	**Tenmabayashi**	**2.61**	**231**	P	**Pn**	**02 17 38.5**	**-0.1**
JTM	**Tenmabayashi**	**2.61**	**231**	S	**Sn**	**02 18 07.1**	**-2.2**
JTM	**Tenmabayashi**	**2.61**	**231**	A	A	02 17 39.5	
	comp=N,5.0nm,2.1s,comp=E,6.0nm,3.1s						
SHO	**Shikotan**	**2.66**	**57**	*d* PN	**Pn**	**02 17 39.7**	**+0.4**
SHO				*i* S	**Sn**	**02 18 08.6**	**-2.1**
SHO				pmax	pmax		
	comp=N,109nm,0.2s						
SHO				pmax	pmax		
	comp=E,190nm,0.2s						
SHO				pmax	pmax		
	comp=Z,408nm,0.2s						
SHO				pmax	pmax		
	comp=Z,561nm,1.2s						
SHO				smax	smax		
	comp=E,18μm,0.3s						
SHO				smax	smax		
	comp=N,10μm,0.4s						
SHO	**Shikotan**	**2.66**	**57**	*i* P	**Pn**	**02 17 39.7**	**+0.4**
SHO				AMB	AMB	02 17 40.5	
	comp=N,410nm,0.2s						
SHO				AMB	AMB	02 17 40.9	
	comp=N,800nm,1.5s						
SHO				*e*S	**Sn**	**02 18 08.9**	**-1.8**
SHO				A	A	02 18 11.3	
	comp=N,9μm,0.5s						
SHO				A	A	02 18 11.3	
	comp=N,18μm,0.5s						
JKEN	**Kujiedanarisaw**	**2.71**	**215**	A	A	02 17 41.1	
	comp=N,16nm,0.3s,comp=E,14nm,0.3s						
JSI2	**Shiura 2**	**2.86**	**242**	A	A	02 17 42.9	
	comp=N,12nm,0.9s,comp=E,10.0nm,0.8s						
JOM	**Ohasama**	**3.50**	**213**	A	A	02 17 52.1	
	comp=N,7.0nm,0.7s,comp=E,6.0nm,0.3s						
JRG	**Rokugo**	**3.85**	**219**	A	A	02 17 56.9	
	comp=N,4.0nm,0.8s,comp=E,5.0nm,0.7s						
KUR	**Kuril'sk**	**4.08**	**45**	*c i* PN	**Pn**	**02 17 59.8**	**+1.3**
KUR	**Kuril'sk**	**4.08**	**45**	*e*P	**Pn**	**02 17 59.8**	**+1.3**
KUR				AMB	AMB	02 18 01.5	
	comp=E,250nm,0.3s						
KUR				AMB	AMB	02 18 01.5	
	comp=E,140nm,0.3s						
KUR				AMB	AMB	02 18 01.5	
	comp=E,740nm,0.3s						
KUR				*e*S	**Sn**	**02 18 46.0**	**+1.0**
KUR				A	A	02 18 46.7	
	comp=E,3μm,2.0s						
KUR				A	A	02 18 46.7	
	comp=E,2μm,2.0s						
KUR				A	A	02 18 48.5	
	comp=E,1μm,0.3s						
KUR				A	A	02 18 48.5	
	comp=E,2μm,0.3s						
YSS	**Yuzhno-Sakhali**	**4.57**	**351**	Pn	**Pn**	**02 18 06.1**	**+1.0**
YSS	**Yuzhno-Sakhali**	**4.57**	**351**	P	**Pn**	**02 18 07.0**	**+1.8**
YSS	**Yuzhno-Sakhali**	**4.57**	**351**	*e*PN	**Pn**	**02 18 06.1**	**+1.0**
YSS				*e*S	**Sn**	**02 18 56.4**	**-0.5**
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,3.8s						
YSS				smax	smax		
	comp=N,170nm,0.5s						
YSS				smax	smax		
	comp=N,200nm,2.6s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzhno-Sakhali**	**4.57**	**351**	*e*P	**Pn**	**02 18 06.9**	**+1.8**
YSS				AMB	AMB	02 18 07.3	
	comp=Z,120nm,0.3s						
YSS				AMB	AMB	02 18 09.9	
	comp=Z,100nm,3.8s						
YSS				*e*S	**Sn**	**02 18 58.1**	**+1.2**
YSS				A	A	02 18 58.8	
	comp=Z,200nm,0.4s						
YSS				A	A	02 18 58.8	
	comp=Z,100nm,0.4s						
YSS				A	A	02 19 02.1	
	comp=Z,200nm,2.6s						
YSS				A	A	02 19 02.1	
	comp=Z,400nm,2.6s						
JMM	**Marumori**	**5.10**	**207**		**Pn**	**02 18 10.8**	**-1.7**
JMM	**Marumori**	**5.10**	**207**	P	**Pn**	**02 18 11.2**	**-1.3**
JMM	**Marumori**	**5.10**	**207**	S	**Sn**	**02 19 04.4**	**-5.7**
TEY	**Ternei**	**5.79**	**299**	*e*PN	**Pn**	**02 18 23.0**	**+1.1**
TEY	**Ternei**	**5.79**	**299**	*e*P	**Pn**	**02 18 22.7**	**+0.8**
TEY				AMB	AMB	02 18 26.4	
	comp=Z,10.0nm,0.6s						
JSD	**Sado**	**6.08**	**225**	Pn	**Pn**	**02 18 25.4**	**-0.5**
JSD	**Sado**	**6.08**	**225**	P	**Pn**	**02 18 25.9**	**0.0**
JSD	**Sado**	**6.08**	**225**	S	**Sn**	**02 19 32.4**	**-1.7**
MJB9	**Matsu-Tunnel**	**7.29**	**218**	Pn	**Pn**	**02 18 42.2**	**-0.2**
MAJO	**Matsushiro**	**7.29**	**218**	Pn	**Pn**	**02 18 42.1**	**-0.2**
MAJO	**Matsushiro**	**7.29**	**218**	P	**Pn**	**02 18 42.9**	**+0.5**
MAJO	**Matsushiro**	**7.29**	**218**	*c i* PN	**Pn**	**02 18 42.

JWT Wachi 9.67 225 P **Pn 02 19 14.2 -0.6**
JHJ2 Mitsune 9.82 200 P **Pn 02 19 14.4 -2.5**
JHJ Hachijo jima 2 9.82 200 P **Pn 02 19 13.8 -3.2**
comp=Z,64nm,0.3s,baz=249,slow=7.5,SNR=7.0
JHJ S Sn 02 20 55.1 -10
comp=Z,162nm,0.3s,baz=39,slow=23,SNR=9.9
MDJ Mudanjiang 10.51 287 Pn **Pn 02 19 25.7 -0.6**
KLR Kul'dur 10.77 313 P **Pn 02 19 30.5 +0.8**
comp=Z,1.8nm,0.7s,baz=113,slow=16,SNR=7.8
KLR Kul'dur 10.77 313⇑*e*PN **Pn 02 19 30.6 +0.8**
KLR pmax pmax
comp=Z,10.0nm,2.0s
OKH Okha 11.13 357*de*PN Pn 02 19 27.6 -6.9
OKH Okha 11.13 357 *e*P **Pn 02 19 36.0 +1.5**
OKH AMB AMB 02 19 36.9
comp=Z,70nm,0.4s
BNX BinXian 12.21 291 ⇑P **Pn 02 19 49.5 +0.2**
BNX pmax pmax
comp=Z,35nm,1.0s
EKMR Ekimchan 12.86 329 *e*P **Pn 02 19 57.9 -0.2**
EKMR AMB AMB 02 20 05.5
comp=Z,20nm,0.8s
KSRS Korea Array 13.12 253 P **Pn 02 20 01.4 -0.3**
comp=Z,5.4nm,0.9s,baz=65,slow=12,SNR=9.7
KSRS S **Sn 02 22 27.5 +1.8**
comp=Z,9.1nm,0.9s,baz=66,slow=24,SNR=6.7
KSRS LR LR 02 24 38.1
comp=Z,113nm,20.8s,baz=60,slow=35
CN2 Changchun 13.45 282 *e*P **Pn 02 20 04.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HEH HeiHe 13.71 310 *e*P **Pn 02 20 09.0 -0.2**
HEH pmax pmax
comp=Z,12nm,0.9s
JNU Nakatsue 13.78 232 P **Pn 02 20 08.3 -2.0**
comp=Z,24nm,1.2s,baz=60,slow=12,SNR=3.7
PEA0B Petropavlovsk- 14.18 36*ce*P **Pn 02 20 14.5 -0.8**
PETK Petropavlovsk- 14.18 36 P **Pn 02 20 11.4 -3.9**
comp=Z,13nm,0.5s,baz=223,slow=10,SNR=25
SNY Shenyang 14.98 274 ⇑P **Pn 02 20 25.5 -0.3**
SNY pmax pmax
comp=Z,14nm,0.5s
JCJ Chichijima 15.37 185 P **Pn 02 20 31.7 +0.9**
comp=Z,65nm,0.4s,baz=163,slow=19,SNR=5.2
JCJ S Sn 02 23 04.4 -16
comp=Z,52nm,0.5s,baz=256,slow=21,SNR=2.3
ZEA Zeya 15.74 322 *e*P **Pn 02 20 36.6 +1.2**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA Zeya 15.74 322 *e*P **Pn 02 20 35.6 +0.2**
ZEA AMB AMB 02 20 38.4
comp=Z,10.0nm,0.6s
ZEA AMB AMB 02 20 38.4
comp=Z,10.0nm,0.6s
ZEA AMB AMB 02 20 38.4
comp=Z,10.0nm,0.6s
DL2 Dalian 17.14 266 P **Pn 02 20 51.3 -1.6**
DL2 pmax pmax
comp=Z,44nm,0.7s
MA2 Magadan 17.69 12 P **P 02 20 57.4 -1.9**
comp=Z,25nm,0.5s,baz=195,slow=10.0,SNR=37
MA2 LR LR 02 27 15.8
comp=Z,56nm,19.6s,baz=115,slow=35
MA2 Magadan 17.69 12*de*P **P 02 20 57.3 -1.9**
MA2 pmax pmax
comp=Z,35nm,0.7s
HIA Hailar 18.02 300 P **P 02 21 03.0 0.0**
HIA Hailar 18.02 300 P **P 02 21 03.0 0.0**
XLT XiLinHaoTe 20.20 284 *e*P **P 02 21 26.5 -0.4**
XLT pP pP 02 21 41.5 -1.7
XLT PP **PnPn 02 21 48.5 +1.5**
XLT sP sP 02 21 51.8 -1.6
XLT pmax pmax
comp=Z,20nm,0.8s
XLT pmax pmax
comp=Z,180nm,4.2s
BJT Baijiatuau 20.86 273 P **P 02 21 31.9 -1.9**
BJT Baijiatuau 20.86 273 P **P 02 21 31.9 -1.9**
SEY Seymchan 21.14 11 P **P 02 21 34.8 -1.9**
comp=Z,55nm,0.5s,baz=194,slow=7.9,SNR=156
comp=Z,55nm,0.5s
SEY Seymchan 21.14 11⇑*i*P **P 02 21 34.4 -2.3**
SEY pmax pmax
comp=Z,99nm,0.9s
YAK Yakutsk 21.34 342 P **P 02 21 35.7 -3.1**
comp=Z,53nm,0.5s,baz=333,slow=0.3,SNR=9.5
YAK LR LR 02 30 05.4
comp=Z,50nm,20.3s,baz=66,slow=37
YAK Yakutsk 21.34 342 *e*P **P 02 21 35.5 -3.2**
YAK *e*S **S 02 25 28.5 -2.5**
YAK *e* 02 25 37.5
YAK *e**SS **sS 02 25 55.2 -2.4**
YAK *e* 02 32 50.8
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK smax smax
comp=E,118nm,1.6s
YAK smax smax
comp=N,78nm,1.6s
HNS HongShan 22.78 267 ⇑P **P 02 21 55.5 +1.1**
HNS pmax pmax
comp=N,33nm,0.7s
BTO Baotou 25.23 277 *e*P **P 02 22 18.5 +1.5**
BTO pP **pP 02 22 35.5 0.0**
BTO sP **sP 02 22 44.8 -0.1**
BTO PP **PnPn 02 22 59.5 +3.8**
BTO pmax pmax
comp=N,71nm,0.8s
BTO pmax pmax
comp=N,480nm,4.8s
LYN LuoYang 25.62 263 P **P 02 22 20.8 +0.4**
LYN pmax pmax
comp=N,27nm,0.7s
ULN Ulaanbaatar 26.27 295 P **P 02 22 26.1 -0.3**
ULN Ulaanbaatar 26.27 295*de*P **P 02 22 26.5 +0.1**
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 26.27 295 *e*P **P 02 22 26.5 +0.1**
WHN Wuhan 26.32 253 ⇑P **P 02 22 28.3 +1.5**
WHN pmax pmax
comp=Z,170nm,0.7s
SONM Songino Array 26.71 295 P **P 02 22 29.4 -1.0**
SONM Songino Array 26.71 295 P **P 02 22 30.6 +0.3**
comp=Z,8.5nm,0.8s,baz=83,slow=8.2,SNR=50
comp=Z,8.5nm,0.8s
BILL Bilibino 28.33 18 P **P 02 22 42.3 -2.2**
BILL Bilibino 28.33 18⇓*e*P **P 02 22 42.2 -2.2**
BILL pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 28.46 264 P **P 02 22 46.3 +0.3**
XAN pmax pmax
comp=Z,15nm,0.6s
ZAK Zakamensk 28.72 300 *e*P **P 02 22 47.5 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK Zakamensk 28.72 300 *e*P **P 02 22 47.5 -0.7**
ATKA Atka Island 29.75 56 P **P 02 22 57.4 +0.3**
H11N2 WAKE ISLAND Hy 29.91 132 T T 02 54 31.8
baz=324,slow=75
H11N1 WAKE ISLAND Hy 29.92 132 T T 02 54 34.1
baz=324,slow=75
H11N3 WAKE ISLAND Hy 29.93 132 T T 02 54 30.3
baz=324,slow=75
MOY Mondy 30.17 303 *e*P **P 02 23 01.8 +0.8**
MOY pmax pmax
comp=Z,17nm,1.7s
MOY Mondy 30.17 303 *e*P **P 02 23 01.8 +0.8**
TIXI Tiksi 30.19 351 P **P 02 22 57.6 -3.2**
TIXI Tiksi 30.19 351 LR LR 02 35 19.6
comp=Z,67nm,19.3s,baz=190,slow=36
TIXI Tiksi 30.19 351⇓*e*P **P 02 22 57.8 -3.0**
TIXI pmax pmax
comp=Z,17nm,4.1s
H11S1 WAKE ISLAND Hy 30.80 134 T T 02 55 34.3
baz=326,slow=76,SNR=1468
H11S3 WAKE ISLAND Hy 30.80 134 T T 02 55 46.2
baz=326,slow=76,SNR=714
H11S2 WAKE ISLAND Hy 30.82 134 T T 02 55 53.4
baz=326,slow=76,SNR=890
GTA Gaotai 33.06 280 *e*P **P 02 23 27.5 +0.9**
GTA pmax pmax
comp=Z,13nm,0.8s
K13K Kusilvak Mount 35.91 39 P **P 02 23 50.9 +0.2**
K13K IAmb IAmb 02 23 55.2
comp=Z,18nm,1.1s
L14K Kuka Creek 36.77 40 P **P 02 23 59.1 +1.2**
L14K IAmb IAmb 02 24 03.4
comp=Z,13nm,1.1s
M14K Bethel 37.07 41 P **P 02 24 01.9 +1.4**
C16K Lisburne Hills 37.08 29 P **P 02 24 00.9 +0.4**
K15K Wolf Creek Mou 37.41 39 P **P 02 24 04.9 +1.4**
K15K IAmb IAmb 02 24 08.9
comp=Z,9.6nm,0.8s
G16K Koyuk River 37.51 34 P **P 02 24 05.0 +0.8**
G16K IAmb IAmb 02 24 06.8
comp=Z,9.1nm,0.7s
SDPT Sand Point 37.84 50 P **P 02 24 07.1 0.0**
RDOG Red Dog Mine 37.89 29 P **P 02 24 07.9 +0.5**
RDOG IAmb IAmb 02 24 08.9
comp=Z,17nm,1.1s
N15K Kwethluk River 37.96 42 P **P 02 24 09.6 +1.5**
I17K Unalakleet 37.98 36 P **P 02 24 09.4 +1.3**
L16K Owhat River 38.33 40 P **P 02 24 12.1 +0.9**
CHNA Chernabura Isl 38.39 51 P **P 02 24 12.5 +0.8**
H17K Granite Mounta 38.45 35 P **P 02 24 13.3 +1.1**
H17K IAmb IAmb 02 24 16.2
comp=Z,9.6nm,0.8s
M16K Timber Creek 38.55 41 P **P 02 24 13.7 +0.7**
M16K IAmb IAmb 02 24 17.1
comp=Z,8.0nm,0.6s
E18K Tukpahlearik C 38.60 31 P **P 02 24 14.1 +0.7**
E18K IAmb IAmb 02 24 15.5
comp=Z,22nm,1.6s
J17K VABM Dome 38.64 37 P **P 02 24 14.4 +0.6**
J17K IAmb IAmb 02 24 17.1
comp=Z,18nm,0.9s
C18K Utukok River 38.65 29 P **P 02 24 13.6 -0.3**
K17K Iditarod 38.94 38 P **P 02 24 17.6 +1.3**
K17K IAmb IAmb 02 24 21.6
comp=Z,16nm,0.7s
O16K Kokwok River B 38.96 43 P **P 02 24 17.3 +0.9**
O16K IAmb IAmb 02 24 18.7
comp=Z,12nm,0.9s
O16K PcP **PcP 02 26 26.6 +1.3**
G18K Tagagawik 39.10 33 P **P 02 24 18.1 +0.5**
H18K Honhosa River 39.13 35 P **P 02 24 18.4 +0.6**
H18K IAmb IAmb 02 24 19.8
comp=Z,15nm,0.8s
NRIK Noril'sk 39.22 332 P **P 02 24 17.5 -1.0**
NRIK Noril'sk 39.22 332 P **P 02 24 17.2 -1.2**
comp=Z,2.5nm,0.4s,baz=162,slow=4.4,SNR=5.2
comp=Z,2.5nm,0.4s
NRIK Noril'sk 39.22 332*de*P **P 02 24 18.0 -0.5**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
M17K Holitna River 39.30 41 P **P 02 24 20.8 +1.5**
SLVN Son La 39.38 250 P **P 02 24 21.9 +1.4**
SLVN IAmb IAmb 02 24 22.8
comp=Z,11nm,0.9s
N17K Nushagak Hills 39.41 42 P **P 02 24 21.4 +1.2**
N17K IAmb IAmb 02 25 23.4
comp=Z,27nm,1.8s
F19K Shaleruckik Mo 39.59 32 P **P 02 24 21.6 0.0**
F19K IAmb IAmb 02 24 23.7
comp=Z,13nm,0.8s
F19K PcP **PcP 02 26 28.5 +1.4**
L18K Granite Mounta 39.67 39 P **P 02 24 23.9 +1.5**
L18K IAmb IAmb 02 24 25.2
comp=Z,29nm,1.4s
J18K Innoko River 39.71 37 P **P 02 24 23.7 +1.1**
J18K IAmb IAmb 02 24 26.6
comp=Z,8.5nm,0.8s
D19K Kuna River 39.73 29 P **P 02 24 22.6 -0.1**
G19K Purcell Mounta 39.77 33 P **P 02 24 23.4 +0.3**
G19K IAmb IAmb 02 24 25.4
comp=Z,11nm,0.8s
G19K PcP **PcP 02 26 29.6 +1.8**
ZAA0 Zalesovo Array 39.81 308 P **P 02 24 24.6 +0.9**
ZALV Zalesovo Beam 39.81 308 P **P 02 24 24.5 +0.9**
ZALV Zalesovo Beam 39.81 308 P **P 02 24 23.5 -0.2**
comp=Z,2.3nm,0.4s,baz=88,slow=7.9,SNR=12
ZALV ScP **ScP 02 30 09.8 +0.1**
comp=Z,0.8nm,0.6s,baz=88,slow=4.6,SNR=3.7
comp=Z,2.3nm,0.4s
ZALV Zalesovo Beam 39.81 308 *i*P **P 02 24 24.7 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
E19K Redstone River 39.88 31 P **P 02 24 24.5 +0.4**
H19K Roundabout Mou 39.97 34 P **P 02 24 25.9 +1.1**
N18K Kilae Creek 40.05 42 P **P 02 24 26.6 +1.1**
N18K IAmb IAmb 02 24 28.4
comp=Z,28nm,1.4s
J19K Poorman 40.22 37 P **P 02 24 27.8 +0.9**
J19K IAmb IAmb 02 24 28.7
comp=Z,18nm,0.9s
B20K Meade River 40.34 27 P **P 02 24 27.6 -0.2**
F20K Avaraart Lake 40.41 32 P **P 02 24 30.3 +1.9**
F20K IAmb IAmb 02 24 31.8
comp=Z,22nm,1.9s
O18K Koktuh Hills 40.41 43 P **P 02 24 30.2 +1.6**
O18K IAmb IAmb 02 24 33.3
comp=Z,12nm,0.7s
P18K Big Mountain, 40.43 44 P **P 02 24 29.7 +1.0**
ACHA Angle Creek He 40.46 45 P **P 02 24 30.0 +1.0**
ACHA IAmb IAmb 02 24 31.0
comp=Z,9.9nm,0.6s
L19K White Mountain 40.53 39 P **P 02 24 30.8 +1.3**
L19K IAmb IAmb 02 24 34.4
comp=Z,17nm,1.5s
CHIR Chirikof Islan 40.54 49 P **P 02 24 30.5 +0.9**
N19K Bonanza Creek 40.73 41 P **P 02 24 32.9 +1.6**
I20K Naaghedeneel 40.75 35 P **P 02 24 32.5 +1.3**
I20K IAmb IAmb 02 24 34.5
comp=Z,17nm,0.9s
M19K Big River Lodg 40.75 40 P **P 02 24 33.0 +1.7**
O19K Port Alsworth 40.84 42 P **P 02 24 33.4 +1.4**
O19K IAmb IAmb 02 24 36.6
comp=Z,10nm,0.8s
J20K Nowinta River 40.87 36 P **P 02 24 33.8 +1.5**
J20K IAmb IAmb 02 24 34.0
comp=Z,16nm,0.7s
K20K Telida 40.89 38 P **P 02 24 33.0 +0.5**
K20K IAmb IAmb 02 24 34.8
comp=Z,28nm,1.4s
B21K Ikpikpuk River 41.15 28 P **P 02 24 34.6 +0.2**
E21K Killik River 41.23 30 P **P 02 24 36.2 +1.1**
E21K IAmb IAmb 02 24 36.9
comp=Z,25nm,1.3s
G21K Allakaket 41.24 33 P **P 02 24 36.1 +0.8**
G21K IAmb IAmb 02 24 38.2
comp=Z,11nm,0.8s
Q19K Cape Douglas, 41.27 44 P **P 02 24 36.0 +0.3**
F21K Alatna River 41.30 32 P **P 02 24 36.2 +0.4**
M20K Styx River 41.35 40 P **P 02 24 37.1 +0.9**
H21K Melozitna Rive 41.49 34 P **P 02 24 37.9 +0.6**
OHAK Old Harbor 41.65 47 P **P 02 24 39.0 +0.4**
OHAK Old Harbor 41.65 47 P **P 02 24 39.7 +1.1**
B22K Teshekpuk Lake 41.66 27 P **P 02 24 38.5 -0.1**
D22K Ayikyak River 41.74 29 P **P 02 24 39.8 +0.4**
PPLA Purkeypile 41.75 38 P **P 02 24 41.0 +1.4**
CAST Castle Rocks 41.79 37 P **P 02 24 40.0 +0.2**
I21K Tanana 41.82 35 P **P 02 24 40.6 +0.6**
I21K IAmb IAmb 02 24 43.3
comp=Z,9.0nm,0.8s
KDAK Kodiak Island 41.95 46 P **P 02 24 41.3 +0.1**
KDAK Kodiak Island 41.95 46 LR LR 02 42 24.5
comp=Z,71nm,20.7s,baz=65,slow=36
KDAK Kodiak Island 41.95 46*c i*P **P 02 24 41.2 +0.1**
KDAK pmax pmax
comp=Z,48nm,0.8s
KDAK Kodiak Island 41.95 46 P **P 02 24 41.3 +0.1**
KDAK pP **pP 02 24 59.8 -0.5**
KDAK PcP **PcP 02 26 35.6 +0.6**
SYI Shuyak Island 41.96 45 P **P 02 24 41.4 +0.3**
STLK Strandline Lak 41.98 40 P **P 02 24 42.6 +1.1**
E22K Anaktuvuk Pass 42.00 30 P **P 02 24 41.5 0.0**
SKT Skwentna 42.10 40 IAmb IAmb 02 25 27.7
comp=Z,21nm,1.8s
BPAW Bear Paw Mtn. 42.26 36 P **P 02 24 44.6 +1.0**
BPAW IAmb IAmb 02 24 47.9
comp=Z,9.8nm,0.7s
KTH Kantishna Hill 42.30 37 P **P 02 24 45.0 +1.0**
D23K Nanushuk River 42.47 29 IAmb IAmb 02 24 47.8
comp=Z,18nm,0.9s
UBPT Khong Chiam 42.54 242 P **P 02 24 45.8 -0.6**
UBPT IAmb IAmb 02 24 48.8
comp=Z,14nm,1.0s
COLD Coldfoot 42.58 32 IAmb IAmb 02 24 49.9
comp=Z,14nm,1.0s
CRAI Chiangrai 42.58 252 IAmb IAmb 02 24 49.1
comp=Z,36nm,1.4s
TRF Thorofare Moun 42.59 37 IAmb IAmb 02 24 50.7
comp=Z,8.5nm,0.8s
BRLK Bradley Lake 42.60 43 IAmb IAmb 02 24 49.0
comp=Z,17nm,0.8s
G23K Bananza Creek 42.64 32 IAmb IAmb 02 24 50.5
comp=Z,9.4nm,0.8s
E23K Chandalar 42.82 30 IAmb IAmb 02 24 51.4
comp=Z,21nm,0.9s
H23K Yukon River 42.84 34 IAmb IAmb 02 24 52.1
comp=Z,7.9nm,0.6s
SLKM Skilak Lake 42.85 42 IAmb IAmb 02 24 49.5
comp=Z,16nm,1.1s
TOLK Toolik Lake Re 42.86 30 IAmb IAmb 02 24 50.7
comp=Z,13nm,0.7s
I23K Minto, Yukon-K 42.93 35 IAmb IAmb 02 24 50.6
comp=Z,9.4nm,0.5s
MK31 Makanchi Array 42.99 298*d i*P **P 02 24 49.8 0.0**
MKAR Makanchi Array 42.99 298 P **P 02 24 50.0 +0.3**
MKAR Makanchi Array 42.99 298 P **P 02 24 49.9 +0.1**
comp=Z,4.7nm,0.6s,baz=84,slow=9.8,SNR=36
comp=Z,4.7nm,0.6s
MKAR Makanchi Array 42.99 298 P **P 02 24 50.0 +0.3**
RC01 Rabbit Creek A 43.03 41 IAmb IAmb 02 24 51.2
comp=Z,21nm,1.0s
MCK McKinley 43.18 37 IAmb IAmb 02 24 52.7
comp=Z,12nm,0.9s
MAKZ Makanchi 43.19 298 P **P 02 24 51.5 +0.1**
MAKZ IAmb IAmb 02 24 56.8
comp=Z,9.0nm,0.6s
MAKZ Makanchi 43.19 298 P **P 02 24 51.5 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
MAKZ Makanchi 43.19 298 P **P 02 24 51.3 -0.1**
RND Reindeer 43.24 37 IAmb IAmb 02 24 52.9
comp=Z,22nm,1.3s
E24K Your Creek 43.25 30 IAmb IAmb 02 24 54.9
comp=Z,12nm,0.8s
PMR Palmer 43.27 40 P **P 02 24 52.3 +0.6**
PMR IAmb IAmb 02 24 53.0
comp=Z,9.1nm,0.8s
PMR Palmer 43.27 40 P **P 02 24 52.3 +0.6**
PMR pmax pmax
comp=Z,9.0nm,0.8s
GHO Glory Hole Cre 43.35 40 IAmb IAmb 02 24 54.1
comp=Z,19nm,0.7s
F24K Squaw Lake 43.48 31 IAmb IAmb 02 24 57.2
comp=Z,9.6nm,0.8s
WRH Wood River Hil 43.50 36 IAmb IAmb 02 24 57.5
comp=Z,25nm,1.4s
H24K Noodor Dome 43.52 34 IAmb IAmb 02 24 56.3
comp=Z,28nm,1.4s
COLA College 43.58 35 P **P 02 24 55.2 +1.0**
COLA College 43.58 35 P **P 02 24 55.6 +1.4**
COLA College 43.58 35*c i*P **P 02 24 55.1 +0.9**
COLA pmax pmax
comp=Z,23nm,0.7s
COLA College 43.58 35 P **P 02 24 55.2 +1.0**
COLA pP **pP 02 25 13.9 +0.4**
KNK Knik Glacier 43.61 40 IAmb IAmb 02 24 56.9
comp=Z,20nm,1.0s
CCB Clear Creek Bu 43.62 35 IAmb IAmb 02 24 58.2
comp=Z,16nm,1.4s
SML Sawmill 43.62 40 IAmb IAmb 02 24 57.1
comp=Z,23nm,0.9s
G24K Hadweenzic Riv 43.65 32 IAmb IAmb 02 24 59.4
comp=Z,12nm,0.8s
PWL Port Wells 43.73 41 IAmb IAmb 02 24 57.3
comp=Z,16nm,0.9s
IL31 44.00 35 IAmb IAmb 02 24 59.0
comp=Z,14nm,0.8s
ILAR Eielson Array 44.00 35 P **P 02 24 57.8 +0.2**
comp=Z,7.9nm,0.7s,baz=258,slow=5.4,SNR=112
ILAR LR LR 02 43 29.3
comp=Z,25nm,20.0s,baz=153,slow=36
comp=Z,7.9nm,0.7s
HDA Harding Lake 44.00 36 IAmb IAmb 02 24 58.8
comp=Z,12nm,0.6s
SCM Sheep Creek Mo 44.09 40 IAmb IAmb 02 25 00.3
comp=Z,16nm,0.7s
KURK Kurchatov 44.20 304 P **P 02 24 59.4 0.0**
KURK Kurchatov 44.20 304*d i*P **P 02 24 59.2 -0.2**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 44.20 304 P **P 02 24 59.6 +0.3**
KURK pP **pP 02 25 19.4 +0.5**
KURK sP **sP 02 25 28.2 +0.1**
KURBB Kurchatov Arra 44.28 304 P **P 02 25 00.4 +0.4**
comp=Z,6.9nm,0.7s,baz=72,slow=8.7,SNR=31
comp=Z,6.9nm,0.7s
GLI Glacier Island 44.33 41 IAmb IAmb 02 25 01.6
comp=Z,11nm,0.9s
CHTO Chiang Mai 44.52 252 P **P 02 25 02.0 -0.3**
CHTO Chiang Mai 44.52 252 P **P 02 25 02.0 -0.3**
CHTO pmax pmax
comp=Z,21nm,0.7s
CHTO Chiang Mai 44.52 252 P **P 02 25 03.4 +1.1**
FYU Fort Yukon 44.55 33 IAmb IAmb 02 25 08.0
comp=Z,15nm,0.9s
FID Port Fidalgo 44.65 41 IAmb IAmb 02 25 04.4
comp=Z,9.9nm,0.6s
BMAR Burnt Mountain 44.75 31 P **P 02 25 04.8 +1.2**
CMAR Chiang Mai Arr 44.76 252 P **P 02 25 04.7 +0.5**
CMAR Chiang Mai Arr 44.76 252 P **P 02 25 05.2 +1.0**
comp=Z,6.5nm,0.6s,baz=44,slow=7.0,SNR=35
CMAR LR LR 02 45 15.9
comp=Z,34nm,18.2s,baz=50,slow=38
comp=Z,6.5nm,0.6s
CMAR Chiang Mai Arr 44.76 252 *i*P **P 02 25 05.6 +1.4**
CMAR pmax pmax
comp=Z,7.0nm,0.6s
KLU Klutina 44.80 40 IAmb IAmb 02 25 06.2
comp=Z,17nm,0.7s
F26K Sheenjek River 44.90 31 IAmb IAmb 02 25 09.0
comp=Z,13nm,0.6s
DIV Divide 44.93 40 IAmb IAmb 02 25 07.2
comp=Z,19nm,0.9s
RIDG Independent Ri 44.99 37 IAmb IAmb 02 25 08.4
comp=Z,14nm,0.9s
EYAK Cordova Ski Ar 45.03 41 IAmb IAmb 02 25 08.1
comp=Z,18nm,0.9s
EYAK Cordova Ski Ar 45.03 41 P **P 02 25 07.9 +2.1**
DOT Dot Lake 45.35 37 IAmb IAmb 02 25 10.2
comp=Z,8.8nm,0.6s
BMRM Bremner River 45.52 40 IAmb IAmb 02 25 11.9
comp=Z,18nm,1.0s
I26K Coal Creek Min 45.52 34 IAmb IAmb 02 25 11.4
comp=Z,18nm,1.4s
RAGM Ragged Mountai 45.59 41 IAmb IAmb 02 25 13.7
comp=Z,19nm,1.1s
MENT Mentasta 45.60 38 IAmb IAmb 02 25 18.1
comp=Z,18nm,1.3s
L26K Log Cabin Wild 45.76 37 IAmb IAmb 02 25 14.1
comp=Z,20nm,0.8s
HMT Hamilton 45.80 41 IAmb IAmb 02 25 14.4
comp=Z,19nm,1.0s
GLB Gilahina Butte 45.81 40 IAmb IAmb 02 25 17.9
comp=Z,10nm,0.7s
E27K Coleen River 45.82 30 IAmb IAmb 02 25 17.0
comp=Z,5.4nm,0.6s
VRDI Verde Repeater 46.02 40 IAmb IAmb 02 25 16.1
comp=Z,14nm,0.6s
MRSI Marisa 46.15 211 P **P 02 25 17.0 +1.8**
BCAR Beaver Creek A 46.45 37 P **P 02 25 18.7 +1.6**
E28M Babbage River 46.53 29 IAmb IAmb 02 25 21.0
comp=Z,5.9nm,0.7s
WUS Wushi 47.05 291 IAmb IAmb 02 25 23.5
comp=Z,15nm,0.7s
WUS Wushi 47.05 291 P **P 02 25 22.4 +0.3**
E29M Blow River 47.16 30 IAmb IAmb 02 25 27.3
comp=Z,9.8nm,1.1s
G29M Pine Creek 47.35 32 IAmb IAmb 02 25 28.3
comp=Z,21nm,1.1s
I29M Ogilvie Camp, 47.52 34 IAmb IAmb 02 25 27.4
comp=Z,18nm,0.8s
G30M tAoh Zraii Nji 48.04 31 IAmb IAmb 02 25 33.6
comp=Z,17nm,0.9s
K29M Barlow Dome 48.17 36 IAmb IAmb 02 25 32.9
comp=Z,16nm,0.8s

BVAR Borovoye Array 48.41 309 P P 02 25 33.0 +0.7
comp=Z,6.0nm,0.5s,baz=72,slow=9.0,SNR=34
comp=Z,6.0nm,0.5s
BRVK Borovoye 48.46 309 P P 02 25 33.0 +0.3
BRVK Borovoye 48.46 309 *ce*P **P 02 25 34.9 +2.2**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 48.46 309 P P 02 25 33.2 +0.5
J30M Hart River 48.51 35 IAmb IAmb 02 25 35.4
comp=Z,7.4nm,0.7s
BOOM Boomskoye usch 48.76 294 IAmb IAmb 02 25 36.9
comp=Z,9.2nm,0.7s
INK Inuvik 48.77 29 IAmb IAmb 02 25 38.4
comp=Z,9.9nm,0.7s
G31M Satah River 48.80 31 IAmb IAmb 02 25 36.2
comp=Z,10.0nm,0.7s
F31M Tsiigehtchic 48.88 31 IAmb IAmb 02 25 37.9
comp=Z,13nm,0.8s
O30N Mendenhall 49.61 39 IAmb IAmb 02 25 44.1
comp=Z,11nm,0.8s
AAK Ala-Archa 49.67 295 P P 02 25 42.1 -0.1
AAK IAmb IAmb 02 25 51.9
comp=Z,16nm,1.9s
AAK Ala-Archa 49.67 295 ⇓ *i* P **P 02 25 42.4 +0.1**
AAK pmax pmax
comp=Z,7.0nm,1.9s
AAK Ala-Archa 49.67 295 *i* P **P 02 25 42.4 +0.1**
M31M Drury Creek, Y 49.98 37 IAmb IAmb 02 25 46.7
comp=Z,12nm,0.8s
KSH Kashi 50.01 291 P P 02 25 49.0 +4.1
KSH pmax pmax
comp=Z,4.0nm,0.8s
SKAG Skagway 50.37 41 IAmb IAmb 02 25 50.2
comp=Z,19nm,1.3s
A36M Sachs Harbour 50.58 24 IAmb IAmb 02 25 52.6
comp=Z,6.5nm,0.7s
BESE Bessie Mountai 50.89 42 IAmb IAmb 02 25 53.5
comp=Z,9.1nm,0.7s
N32M Quiet Lake 50.89 38 IAmb IAmb 02 25 53.3
comp=Z,15nm,1.0s
P32M Atlin 51.11 40 IAmb IAmb 02 25 55.5
comp=Z,6.5nm,0.9s
JIS Juneau Island 51.23 42 P P 02 25 55.6 +2.1
MMPY Sheldon Lake, 51.23 36 IAmb IAmb 02 25 56.0
comp=Z,7.2nm,0.7s
Q32M Nakina River 52.02 41 IAmb IAmb 02 26 02.9
comp=Z,8.6nm,0.9s
KKAR Karatay Array 52.11 297 P P 02 26 00.2 -0.2
KKAR Karatay Array 52.11 297 P P 02 26 00.2 -0.2
SVE Sverdlovsk 52.38 316 *eP* **P 02 26 04.2 +2.0**
SVE pmax pmax
comp=Z,16nm,0.8s
SVE Sverdlovsk 52.38 316 *eP* **P 02 26 04.2 +2.0**
R33M Jennings River 52.49 40 IAmb IAmb 02 26 05.8
comp=Z,7.5nm,0.7s
CRAG Craig 52.90 45 P P 02 26 07.8 +1.8
S34M Telegraph Cree 52.97 42 IAmb IAmb 02 26 09.8
comp=Z,9.5nm,0.9s
KULM Kulim 53.15 238 P P 02 26 08.6 +0.3
WTLY Watson Lake, Y 53.24 39 IAmb IAmb 02 26 11.0
comp=Z,12nm,0.8s
DLBC Dease Lake 53.31 41 IAmb IAmb 02 26 11.9
comp=Z,8.8nm,0.6s
ARTI Arti 53.70 317 P P 02 26 12.0 +0.1
ARTI IAmb IAmb 02 26 14.1
comp=Z,12nm,0.7s
ARTI Arti 53.70 317 P P 02 26 12.0 +0.1
ARTI pmax pmax
comp=Z,12nm,0.7s
ARTI Arti 53.70 317 P P 02 26 11.9 +0.1
WRGLY Wrigley 54.32 34 IAmb IAmb 02 26 18.8
comp=Z,12nm,0.7s
ALE Alert 54.60 4 P P 02 26 17.7 -0.4
SIMJ Simiganj 55.20 293 P P 02 26 22.9 -0.3
SIMJ Simiganj 55.20 293 P P 02 26 23.0 -0.3
HOPEN Hopen 55.25 345 *eP* **P 02 26 23.1 +0.4**
HOPEN IAmb IAmb 02 26 23.5
comp=Z,36nm,0.9s
SPA0 Spitsbergen Ar 55.58 349 *eP* **P 02 26 25.4 +0.2**
SPA0 IAmb IAmb 02 26 27.4
comp=Z,83nm,1.5s
SPITS Spitsbergen Ar 55.58 349 P P 02 26 24.8 -0.4
comp=Z,2.1nm,0.5s,baz=69,slow=7.9,SNR=16
comp=Z,2.1nm,0.5s
NOR Nord 55.77 357 *i* P **P 02 26 24.8 -1.7**
NOR IAmb IAmb 02 26 30.6
comp=Z,20nm,1.5s
ABKAR Akbulak array 55.93 308 P P 02 26 28.2 +0.1
ABKAR Akbulak array 55.93 308 IAmb IAmb 02 26 32.4
comp=Z,6.4nm,0.5s
COEN Coen 56.12 181 P P 02 26 29.9 +0.2
COEN IAmb IAmb 02 26 31.9
comp=Z,10nm,0.8s
COEN Coen 56.12 181 P P 02 26 29.7 -0.1
PSI Prapat 56.15 238 P P 02 26 30.7 +0.5
PSI pmax pmax
comp=Z,7.0nm,0.6s
RPSI Rantau Prapat 56.24 238 P P 02 26 30.7 +0.1
RPSI IAmb IAmb 02 26 31.9
comp=Z,6.8nm,0.6s
KIRV Kirov 57.08 322 *ce*P **P 02 26 36.2 +0.1**
KBL Kabul 57.27 289 P P 02 26 37.4 -0.7
KBL IAmb IAmb 02 26 38.0
comp=Z,7.8nm,0.7s
KBL Kabul 57.27 289 P P 02 26 37.4 -0.7
KBL pmax pmax
comp=Z,8.0nm,0.7s
VADS Vadso 58.18 338 *eP* **P 02 26 43.9 +0.3**
VADS IAmb IAmb 02 26 44.8
comp=Z,30nm,0.9s
YKA Yellowknife Ar 58.25 32 P P 02 26 45.0 +0.7
YKA Yellowknife Ar 58.25 32 P P 02 26 44.8 +0.5
comp=Z,6.8nm,0.6s,baz=304,slow=7.1,SNR=109
comp=Z,6.8nm,0.6s
APA Apatity 58.52 335 ⇓ *i* P **P 02 26 45.6 -0.5**
APA pmax pmax
comp=Z,5.0nm,0.8s
APA MLR MLR
comp=Z,1μm,14.0s
ARA0 ARCESS Array S 59.59 339 *eP* **P 02 26 53.5 +0.1**
ARCES ARCESS Array B 59.59 339 P P 02 26 53.5 +0.1
comp=Z,2.6nm,0.5s,baz=40,slow=6.3,SNR=17
comp=Z,2.6nm,0.5s
NEEM North Greenlan 60.03 4 *i* P **P 02 26 55.6 -1.1**
NEEM IAmb IAmb 02 26 57.5
comp=Z,15nm,0.7s
MTSU Mount Surprise 60.27 179 P P 02 26 56.7 -2.0
KTK1 Kautokeino 60.54 339 *eP* **P 02 26 59.8 -0.1**
KTK1 IAmb IAmb 02 27 00.2
comp=Z,92nm,1.6s
JETT Jettan, Norway 60.88 340 *eP* **P 02 27 03.0 +0.7**
JETT IAmb IAmb 02 27 04.8
comp=Z,50nm,1.2s
LLLB Lillooet 61.16 46 P P 02 27 05.4 +0.9
LLLB IAmb IAmb 02 27 06.7
comp=Z,14nm,1.2s
TRO Tromso 61.19 341 *eP* **P 02 27 03.5 -0.8**
TRO IAmb IAmb 02 27 06.5
comp=Z,34nm,0.9s
JOF Joensuu 62.06 331 *eP* **P 02 27 10.2 0.0**
HRA Herat 62.07 292 P P 02 27 10.1 -1.0
HRA IAmb IAmb 02 27 12.4
comp=Z,6.0nm,0.7s
KULLO Kullorsuaq 62.42 6 *i* P **P 02 27 10.9 -1.6**
KULLO IAmb IAmb 02 27 12.4
comp=Z,6.6nm,0.6s
WB0 Warramunga Arr 62.50 190 P P 02 27 13.3 -0.3
WB0 IAmb IAmb 02 27 16.7
comp=Z,6.9nm,0.8s
WB2 Warramunga Arr 62.68 190 P P 02 27 14.9 +0.1
WRA Warramunga Arr 62.68 190 P P 02 27 14.8 0.0
WRA Warramunga Arr 62.68 190 P P 02 27 14.6 -0.2
comp=Z,2.6nm,0.5s,baz=7.6,slow=6.9,SNR=51
comp=Z,2.6nm,0.5s
WRA Warramunga Arr 62.68 190 P P 02 27 14.8 0.0
DBG Daneborg 63.04 355 *i* P **P 02 27 17.5 +0.9**
DBG IAmb IAmb 02 27 19.7
comp=Z,24nm,1.6s
LTY Liberty 63.69 49 IAmb IAmb 02 27 24.1
comp=Z,36nm,1.9s
FAUS Fauske 63.77 340 *eP* **P 02 27 21.6 +0.1**
HOOD Mount Hood Mea 64.23 51 IAmb IAmb 02 27 27.6
comp=Z,26nm,1.3s
UPNV Upernavik 64.24 6 *i* P **P 02 27 22.7 -1.8**
UPNV IAmb IAmb 02 27 27.4
comp=Z,8.4nm,0.7s

MXC Moxie City 64.29 50 IAmb IAmb 02 27 27.8
comp=Z,8.4nm,0.7s
E07A Sunnyside 64.55 49 IAmb IAmb 02 27 29.5
comp=Z,11nm,0.9s
WAH2 Wahluke Slope 64.59 49 IAmb IAmb 02 27 28.9
comp=Z,9.8nm,0.6s
C09A Chrisman Ranch 64.70 48 IAmb IAmb 02 27 29.6
comp=Z,8.9nm,0.6s
D08A Wollman Farm, 64.78 49 IAmb IAmb 02 27 30.0
comp=Z,7.6nm,0.6s
KEF Keuruu 64.79 333 *eP* **P 02 27 27.9 -0.4**
OBN Obninsk 64.87 323 *eP* **P 02 27 29.9 +1.1**
OBN *e**PP **pP 02 27 49.5 0.0**
OBN *e* 02 28 02.9
OBN pmax pmax
comp=Z,43nm,2.5s
OBN Obninsk 64.87 323 *eP* **P 02 27 29.9 +1.1**
FINES FINESS Array B 64.88 332 P **P 02 27 28.8 -0.1**
comp=Z,10nm,0.5s,baz=45,slow=7.4,SNR=94
comp=Z,10nm,0.5s
F07A Phinny Hill Vi 64.89 50 IAmb IAmb 02 27 31.8
comp=Z,14nm,0.7s
MOR8 Moi Rana 64.92 340 *eP* **P 02 27 27.8 -1.3**
MOR8 IAmb IAmb 02 27 30.4
comp=Z,18nm,0.8s
NEW Newport 65.05 47 IAmb IAmb 02 27 32.3
comp=Z,9.9nm,0.9s
SUMG Summit 65.27 1 P **P 02 27 32.3 +0.6**
SUMG Summit 65.27 1 P **P 02 27 32.3 +0.6**
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 65.27 1 *i* P **P 02 27 31.0 -0.7**
SUMG IAmb IAmb 02 27 33.4
comp=Z,27nm,1.0s
LEIR Leirfjorden 65.31 340 *eP* **P 02 27 33.1 +1.6**
LEIR IAmb IAmb 02 27 35.8
comp=Z,160nm,1.8s
PINE Pine Mountain 65.53 52 IAmb IAmb 02 27 36.5
comp=Z,12nm,0.8s
ARBE Arbavere 66.31 330 *eP* **P 02 27 37.3 -0.8**
ASAR Alice Springs 66.40 190 P **P 02 27 39.8 +0.7**
comp=Z,1.7nm,0.7s,baz=6.6,slow=5.3,SNR=18
comp=Z,1.7nm,0.7s
UMMG Uummannaq 66.61 6 *i* P **P 02 27 38.8 -1.0**
UMMG IAmb IAmb 02 27 43.0
comp=Z,23nm,1.4s
RAF Rauma 66.65 333 *eP* **P 02 27 40.2 0.0**
VSU Vasula 66.72 329 ‖ *eP* **P 02 27 39.7 -1.0**
VSU pmax pmax
comp=Z,48nm,2.2s
VSU Vasula 66.72 329 *eP* **P 02 27 39.9 -0.8**
NSS Namsos 66.86 339 *eP* **P 02 27 41.7 +0.3**
NSS IAmb IAmb 02 27 43.0
comp=Z,69nm,1.5s
SCO Scoresbysund 66.91 355 *i* P **P 02 27 41.5 -0.2**
HATC Hat Creek Radi 66.99 55 IAmb IAmb 02 27 45.4
comp=Z,14nm,0.8s
PLID Pearl Lake 67.58 49 IAmb IAmb 02 27 48.7
comp=Z,13nm,1.4s
MTSE Matsula 67.62 331 *eP* **P 02 27 46.2 -0.1**
FFC Flin Flon 68.21 35 P **P 02 27 50.9 +0.7**
FFC Flin Flon 68.21 35 P **P 02 27 50.9 +0.7**
FFC pmax pmax
comp=Z,21nm,0.8s
FFC Flin Flon 68.21 35 P **P 02 27 50.8 +0.7**
FFC PcP **PcP 02 28 16.1 +0.6**
BEKR Beckworth 68.23 56 IAmb IAmb 02 27 53.3
comp=Z,9.3nm,0.9s
FCC Fort Churchill 68.37 28 IAmb IAmb 02 27 51.8
comp=Z,8.8nm,0.6s
MFID Camas Ranch 68.72 50 IAmb IAmb 02 28 22.5
comp=Z,15nm,1.7s
KIV Kislovodsk 68.75 310 *eP* **P 02 27 54.4 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 68.75 310 *eP* **P 02 27 54.4 +0.5**
KIV Kislovodsk 68.75 310 P **P 02 27 55.2 +1.3**
comp=Z,7.4nm,0.9s
KIV Kislovodsk 68.75 310 P **P 02 27 55.0 +1.2**
KIV PcP **PcP 02 28 17.9 -0.2**
KIV sP **sP 02 28 23.9 +0.4**
ICESG Greenland Ices 68.76 1 *i* P **P 02 27 53.1 -0.7**
ICESG IAmb IAmb 02 28 00.6
comp=Z,46nm,1.2s
KBZ Khabaz 68.77 310 P **P 02 27 54.2 +0.4**
comp=Z,1.8nm,0.8s,baz=41,slow=3.1,SNR=5.5
comp=Z,1.8nm,0.8s
KBZ Khabaz 68.77 310 ‖ *eP* **P 02 27 54.8 +1.0**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 68.77 310 *eP* **P 02 27 54.8 +1.0**
SLIT Slitere, Latvi 68.96 331 *eP* **P 02 27 54.6 -0.1**
ISAL Salakas 69.00 327 *eP* **P 02 27 55.2 +0.2**
MNK Minsk 69.03 326 *i* P **P 02 27 55.7 +0.4**
MNK *i **PP **pP 02 28 16.5 +0.4**
MNK *i* 02 30 29.5
MNK *i* PPP PPP 02 32 10.9
MNK *i* S **S 02 36 56.3 +2.6**
MNK *i **SS **sS 02 37 32.4 +2.9**
MNK *i* 02 37 49.2
MNK *i* SS **SS 02 41 25.4 +5.5**
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=N,13nm,1.0s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK MLR MLR
comp=Z,102nm,17.0s
MNK MLR MLR
comp=N,56nm,13.0s
MNK MLR MLR
comp=E,57nm,12.0s
EGMT Eagleton 69.06 44 IAmb IAmb 02 27 57.6
comp=Z,22nm,1.2s
IIGN Ignalina 69.11 327 *eP* **P 02 27 56.1 +0.3**
PNTR Pine Nut 69.17 56 IAmb IAmb 02 27 58.8
comp=Z,8.7nm,0.9s
DLMT Dillon 69.28 47 IAmb IAmb 02 27 59.4
comp=Z,8.1nm,0.7s
CMB Columbia Colle 69.34 57 IAmb IAmb 02 28 00.5
comp=Z,12nm,1.3s
DOMB Dombas 69.65 339 *eP* **P 02 27 58.9 -0.2**
DOMB IAmb IAmb 02 27 59.3
comp=Z,14nm,1.1s
BOZ Bozeman (W) 69.66 46 IAmb IAmb 02 28 01.2
comp=Z,8.1nm,0.6s
NB2 NORSAR Subarra 69.89 338 P **P 02 28 00.2 -0.3**
comp=Z,1.3nm,0.4s,baz=34,slow=6.5
NB2 NORSAR Subarra 69.89 338 P **P 02 28 00.2 -0.3**
baz=34,slow=6.5
NOA NORSAR Array B 69.89 338 P **P 02 28 00.3 -0.3**
comp=Z,3.9nm,0.7s,baz=35,slow=6.1,SNR=24
comp=Z,3.9nm,0.7s
PABE Paberze 69.89 328 *eP* **P 02 28 00.6 0.0**
HFS Hagfors 69.90 336 P **P 02 28 00.4 -0.1**
comp=Z,3.9nm,0.4s,baz=50,slow=7.9,SNR=30
comp=Z,3.9nm,0.4s
GNI Garni 69.94 306 ‖ *eP* **P 02 27 59.5 -1.9**
GNI pmax pmax
comp=Z,8.0nm,1.2s
NC602 NORSAR Array S 70.05 337 *eP* **P 02 28 00.9 -0.5**
PBUR Paburge 70.29 330 *eP* **P 02 28 01.7 -1.2**
SFJD Kangerlussuaq 70.34 6 *i* P **P 02 28 02.4 -0.7**
SFJD IAmb IAmb 02 28 03.6
comp=Z,14nm,1.0s
SFJD Kangerlussuaq 70.34 6 P **P 02 28 03.0 -0.1**
LHV Little Huntoon 70.36 56 IAmb IAmb 02 28 07.5
comp=Z,18nm,1.0s
NVAR Mina Array Bea 70.37 56 P **P 02 28 05.1 +1.0**
NVAR Mina Array Bea 70.37 56 P **P 02 28 05.4 +1.3**
comp=Z,4.9nm,0.7s,baz=288,slow=6.7,SNR=26
comp=Z,4.9nm,0.7s
YHB Horse Butte 70.44 47 IAmb IAmb 02 28 06.7
comp=Z,9.2nm,1.0s
AKASG Malin Array Be 71.12 322 P **P 02 28 08.1 0.0**
comp=Z,4.0nm,0.7s,baz=43,slow=6.1,SNR=23
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 71.12 322 P **P 02 28 08.1 0.0**
AKBB IAmb IAmb 02 28 10.2
comp=Z,28nm,1.8s
AKBB Malin Array Si 71.12 322 P **P 02 28 08.1 0.0**
AKBB pmax pmax
comp=Z,28nm,1.8s
AKBB Malin Array Si 71.12 322 P **P 02 28 07.9 -0.2**
AK23 Malin Array Si 71.13 322 P **P 02 28 08.2 +0.1**

AK04 Malin Array Si 71.14 322 P **P 02 28 08.0 -0.2**
AK01 Malin Array Si 71.14 322 P **P 02 28 08.0 -0.2**
KIEV Kiev 71.14 322 P **P 02 28 08.4 +0.2**
KIEV IAmb IAmb 02 28 10.2
comp=Z,25nm,1.8s
KIEV Kiev 71.14 322 P **P 02 28 08.4 +0.2**
KIEV pmax pmax
comp=Z,25nm,1.8s
KIEV Kiev 71.14 322 P **P 02 28 08.0 -0.2**
comp=Z,26nm,1.0s
AK22 Malin Array Si 71.15 322 P **P 02 28 08.1 -0.2**
AK21 Malin Array Si 71.15 322 P **P 02 28 08.0 -0.3**
AK08 Malin Array Si 71.16 322 P **P 02 28 08.1 -0.2**
AK09 Malin Array Si 71.16 322 P **P 02 28 08.0 -0.3**
DSP Deep Springs 71.25 56 IAmb IAmb 02 28 12.6
comp=Z,11nm,1.0s
FXWY Fox Creek 71.26 48 IAmb IAmb 02 28 12.4
comp=Z,14nm,1.4s
MOOW Moose Ponds 71.34 47 IAmb IAmb 02 28 12.9
comp=Z,14nm,1.5s
DGMT Dagmar 71.52 41 IAmb IAmb 02 28 12.3
comp=Z,17nm,0.9s
UOSS Minazif 71.90 287 P **P 02 28 13.6 +0.3**
UOSS sP **sP 02 28 42.8 -0.2**
ODD1 Odda 72.09 339 *eP* **P 02 28 14.1 +0.2**
LUBAR Lubar, Ukraine 72.34 322 P **P 02 28 14.9 -0.6**
SPR3 Spring Creek 3 72.40 53 IAmb IAmb 02 28 19.3
comp=Z,19nm,1.8s
BORG Borgarnes 72.51 353 LR LR 02 59 34.6
comp=Z,57nm,18.0s,baz=196,slow=35
GURO Guroymak-BITLI 72.58 306 P **P 02 28 18.3 +1.0**
CCAC Calif City Air 72.63 58 IAmb IAmb 02 28 19.6
comp=Z,11nm,0.8s
PD31 Pinedale Array 72.64 48 IAmb IAmb 02 28 19.6
comp=Z,17nm,1.6s
PDAR Pinedale Array 72.64 48 P **P 02 28 17.9 +0.2**
PDAR Pinedale Array 72.64 48 P **P 02 28 18.4 +0.7**
comp=Z,2.9nm,0.5s,baz=343,slow=0.5,SNR=46
comp=Z,2.9nm,0.5s
GWY Greenwater Val 72.81 57 P **P 02 28 19.7 +1.0**
GWY IAmb IAmb 02 28 20.8
comp=Z,11nm,0.9s
NUUK Nuuk 73.02 7 *i* P **P 02 28 19.6 +0.5**
NUUK IAmb IAmb 02 28 29.7
comp=Z,199nm,2.1s
STKA Stephens Creek 73.98 182 P **P 02 28 25.7 +0.5**
comp=Z,1.4nm,0.5s,baz=333,slow=7.1,SNR=4.1
comp=Z,1.4nm,0.5s
ULM Lac du Bonnet 74.02 35 IAmb IAmb 02 28 26.2
comp=Z,12nm,1.2s
ULM Lac du Bonnet 74.02 35 P **P 02 28 24.9 -0.5**
comp=Z,4.0nm,0.5s,baz=318,slow=7.6,SNR=9.4
comp=Z,4.0nm,0.5s
RDMU Red Mountain 74.11 49 IAmb IAmb 02 28 28.6
comp=Z,9.9nm,0.8s
SRU San Rafael Swe 74.55 51 IAmb IAmb 02 28 30.9
comp=Z,10nm,1.0s
PFO Pinyon Flats O 74.60 59 LR LR 03 02 52.6
comp=Z,22nm,19.1s,baz=240,slow=37
BUR08 Bucovina Ar. S 75.16 322 P **P 02 28 32.0 -0.2**
BUR08 IAmb IAmb 02 31 15.6
comp=Z,17nm,1.8s
KOLS Kolonicke sedl 75.49 324 *eP* **P 02 28 35.7 +1.8**
KOLS Kolonicke sedl 75.49 324 *eP* **P 02 28 35.7 +1.8**
PV13 Radium Mtn., P 76.17 51 IAmb IAmb 02 28 40.4
comp=Z,8.9nm,0.8s
NRS Narsarsuaq 76.48 5 *i* P **P 02 28 40.4 +1.2**
NRS IAmb IAmb 02 28 42.7
comp=Z,58nm,1.3s
STEB Steborice 76.58 327 *eP* **P 02 28 40.9 +0.9**
BRTR Keskin Array B 76.60 312 P **P 02 28 41.6 +1.1**
comp=Z,0.5nm,0.7s,baz=68,slow=5.6,SNR=1.5
CHVC Chvalec 76.73 329 *eP* **P 02 28 41.8 +0.9**
CHVC Chvalec 76.73 329 *eP* **P 02 28 41.8 +0.9**
MORC Moravsky Berou 76.79 328 *eP* **P 02 28 41.7 +0.4**
DPC Dobruska-Polom 76.82 329 *eP* **P 02 28 42.3 +0.9**
DPC *ex* x 02 28 46.3
DPC Dobruska-Polom 76.82 329 *eP* **P 02 28 42.3 +0.9**
DPC *e**PP **PcP 02 28 46.3 -6.1**
KRLC Kraliky 76.86 328 *eP* **P 02 28 42.4 +0.7**
KRLC *ep*P **PcP 02 28 45.7 -6.8**
KRLC Kraliky 76.86 328 *eP* **P 02 28 42.4 +0.7**
CLL Collm 77.28 331 IAmb IAmb 02 28 44.8
comp=Z,6.0nm,0.6s
CLL Collm 77.28 331 *i* P **P 02 28 43.7 -0.2**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 77.28 331 *i* P **P 02 28 43.7 -0.2**
comp=Z,6.0nm,0.7s
CLL *i* x x 02 28 48.1
CLL *e*PcP **PcP 02 28 54.0 -0.3**
JAVC Velka Javorina 77.47 327 *eP* **P 02 28 46.7 +1.6**
VRAC Vranov 77.54 328 *eP* **P 02 28 43.3 -2.2**
EYMN Ely 77.64 34 P **P 02 28 45.7 -0.3**
EYMN IAmb IAmb 02 28 47.0
comp=Z,14nm,0.9s
HSKC Hora Svate Kat 77.70 330 *eP* **P 02 28 46.9 +0.6**
PRU Pruhonice 77.79 329 *eP* **P 02 28 47.7 +0.9**
PRU Pruhonice 77.79 329 *eP* **P 02 28 47.7 +0.9**
KRUC Moravsky 77.82 328 *eP* **P 02 28 47.5 +0.5**
MODS Modra-Piesok 78.01 327 *eP* **P 02 28 49.8 +1.7**
MODS Modra-Piesok 78.01 327 *eP* **P 02 28 49.8 +1.7**
EKA Eskdalemuir Ar 78.61 341 P **P 02 28 51.5 +0.3**
comp=Z,0.9nm,0.3s,baz=24,slow=5.2,SNR=30
comp=Z,0.9nm,0.3s
E38A The Farm, Brul 78.66 35 IAmb IAmb 02 28 52.6
comp=Z,23nm,1.3s
KHC Kasperske Hory 78.85 329 *eP* **P 02 28 53.6 +0.9**
KHC Kasperske Hory 78.85 329 ⇓ *iP* **P 02 28 53.7 +1.0**
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 78.85 329 P **P 02 28 53.4 +0.7**
comp=Z,7.9nm,0.9s
CONA Conrad Observa 78.94 327 *eP* **P 02 28 54.7 +1.5**
comp=Z,1.0nm,0.5s
TUC Tucson 79.01 56 P **P 02 28 54.6 +0.6**
TUC Tucson 79.01 56 P **P 02 28 54.6 +0.6**
TUC pmax pmax
comp=Z,10.0nm,1.7s
GERES GERESS Array B 79.04 329 P **P 02 28 54.0 +0.2**
comp=Z,1.1nm,0.4s,baz=36,slow=5.8,SNR=14
comp=Z,1.1nm,0.4s
T25A Trinidad 79.38 49 IAmb IAmb 02 28 58.0
comp=Z,8.8nm,0.9s
SCHQ Schefferville 79.64 17 P **P 02 28 57.2 +0.3**
comp=Z,6.6nm,0.9s,baz=13,slow=6.3,SNR=7.4
SCHQ LR LR 03 07 39.2
comp=Z,38nm,18.4s,baz=294,slow=38
comp=Z,6.6nm,0.9s
ANMO Albuquerque 79.77 52 P **P 02 28 58.9 +0.7**
ANMO Albuquerque 79.77 52 LR LR 03 06 07.5
comp=Z,36nm,18.4s,baz=268,slow=37
ANMO Albuquerque 79.77 52 P **P 02 28 58.9 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
DUN6 Lazy B Ranch 79.88 55 IAmb IAmb 02 29 00.8
comp=Z,12nm,0.8s
RAYN Ar Rayn 80.25 293 P **P 02 29 00.9 +0.1**
RAYN IAmb IAmb 02 31 23.0
comp=Z,8.8nm,0.9s
RAYN Ar Rayn 80.25 293 P **P 02 29 00.9 +0.1**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
SOKA Soboth 80.28 327 *eP* **P 02 29 01.4 +0.8**
comp=Z,3.1nm,0.7s
319A Douglas 80.58 56 IAmb IAmb 02 29 04.8
comp=Z,7.0nm,0.8s
LESA Schwarzleotal 80.60 329 *eP* **P 02 29 03.0 +0.7**
comp=Z,1.0nm,0.3s
KBA Koelnbreinsper 80.62 328 *eP* **P 02 29 03.6 +1.0**
comp=Z,1.6nm,0.4s
WTTA Wattenberg 81.13 329 *eP* **P 02 29 04.3 -0.9**
comp=Z,7.3nm,0.7s
MOTA Moosalm 81.26 330 *eP* **P 02 29 06.4 +0.5**
comp=Z,2.4nm,0.4s
RETA Reutte 81.27 330 *eP* **P 02 29 06.4 +0.5**
comp=Z,1.4nm,0.5s
SQTA Sankt Quirin 81.33 329 *eP* **P 02 29 06.6 +0.5**
comp=Z,2.5nm,0.5s
DAVA Damuels 81.76 330 *i* P **P 02 29 08.8 +0.3**
comp=Z,3.5nm,0.5s
SMWD Samnorwood 83.17 48 IAmb IAmb 02 29 47.9
comp=Z,10.0nm,0.7s
P38A Dawn 83.21 41 IAmb IAmb 02 29 17.3
comp=Z,13nm,0.8s
POST Post 83.97 50 IAmb IAmb 02 29 22.0

comp=Z,12nm,0.9s
P40A Paris 84.00 40 IAmb IAmb 02 29 22.2
comp=Z,25nm,1.5s
ODSA Odessa 84.07 51 IAmb IAmb 02 29 22.5
comp=Z,14nm,0.9s
R40A Maddies Statio 84.87 41 IAmb IAmb 02 29 25.5
comp=Z,7.8nm,1.0s
TX31 Lajitas Ar. Si 85.44 54 IAmb IAmb 02 29 29.5
comp=Z,6.1nm,0.8s
TXAR Lajitas Array 85.44 54 P **P 02 29 28.7 +1.1**
TXAR Lajitas Array 85.44 54 P **P 02 29 28.6 +1.0**
comp=Z,3.9nm,0.6s,baz=298,slow=3.3,SNR=49
comp=Z,3.9nm,0.6s
TXAR Lajitas Array 85.44 54 P **P 02 29 28.7 +1.1**
CCM Cathedral Cave 85.55 40 P **P 02 29 28.6 +0.7**
CCM IAmb IAmb 02 29 29.0
comp=Z,8.7nm,0.8s
CCM Cathedral Cave 85.55 40 P **P 02 29 28.6 +0.7**
CCM pmax pmax
comp=Z,9.0nm,0.9s
HPIG 85.95 57 IAmb IAmb 02 29 32.3
comp=Z,5.5nm,0.8s
FCAR Ozark Folk Cen 86.83 42 IAmb IAmb 02 29 35.1
comp=Z,8.0nm,1.0s
PBMO Poplar Bluff 86.96 41 IAmb IAmb 02 29 36.2
comp=Z,11nm,0.8s
MIAR Mount Ida 87.15 44 IAmb IAmb 02 29 37.5
comp=Z,6.3nm,0.9s
DRIO Del Rio 87.17 52 P **P 02 29 36.9 +1.0**
T47A Sharon Grove 88.36 38 P **P 02 29 42.4 +1.0**
TKL Tuckaleechee C 90.96 37 LR LR 03 13 48.5
comp=Z,47nm,18.0s,baz=91,slow=38
ESDC Sonseca Array 93.18 336 P **P 02 30 04.2 +0.2**
comp=Z,0.8nm,0.9s,baz=28,slow=4.0,SNR=4.2
ESDC LR LR 03 16 22.9
comp=Z,39nm,18.9s,baz=155,slow=38
comp=Z,0.8nm,0.9s
BOSA Boshof 129.11 265 PKP **PKPdf 02 35 56.7 -0.7**
comp=Z,1.6nm,0.8s,baz=18,slow=3.2,SNR=1.7
QSPA South Pole Qui 132.18 180 PKP **PKiKP 02 36 02.6 -0.4**
comp=Z,1.9nm,1.1s,baz=12,slow=1.6,SNR=2.4
H03N2 Juan Fernandez 145.46 89 T T 05 19 30.6
baz=300,slow=76,SNR=16
H03N3 Juan Fernandez 145.47 89 T T 05 19 30.5
baz=300,slow=76,SNR=18
H03N1 Juan Fernandez 145.48 89 T T 05 19 32.0
baz=300,slow=76,SNR=24
SNAA Sanae 146.44 198 PKPbc **PKPab 02 36 29.8 -0.5**
comp=Z,5.8nm,0.8s,baz=208,slow=6.9,SNR=17
BDFB Brasilia 151.44 24 PKPbc **PKiKP 02 36 44.2 +0.1**
comp=Z,0.8nm,0.3s,baz=214,slow=2.1,SNR=8.4
PLCA Paso Flores 154.38 98 PKPbc **PKiKP 02 36 49.8 +0.4**
comp=Z,1.1nm,0.8s,baz=263,slow=3.1,SNR=1.9

*SNET **28** 02:19:41.7±1.1, 12°.32N×89°.32W, h9km±16km, ML3.6*
*IDC **28** 02:19:42.9±2.0, 13°.02N×88°.80W, h0km, mb3.9/6, mbtmp3.9/8, ML3.3/2, MS3.2/2, Error ellipse: s-maj=59.9km s-min=27.4km az=36.0*
*GCG **28** 02:19:43.2±1.1, 12°.49N×89°.61W, h0km±30km, MD4.4*
*CATAC **28** 02:19:47.8±0.6, 13°N±10°×8°9W±°, h41km±97km, M3.7/20, MLv3.7/20, Error ellipse: s-maj=22.9km s-min=6.6km az=21.9, confirmed*
ISC 28 02:19:46.2±0.9, 12°.52N±0°.06×89°.20W±0°.05, h40km, n100, σ1§25/102, **mb4.0/6, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.97**	**353**	*eP*	**Pn**	**02 20 03.2**	**-0.3**
LALI				*eS*	**Sn**	**02 20 18.7**	**+2.6**
LALI	**Alcalda de L**	**0.97**	**353**	P	**Pn**	**02 20 03.3**	**-0.3**
LALI	**Alcalda de L**	**0.97**	**353**	S	**Sn**	**02 20 15.1**	**-1.1**
LALI	**Alcalda de L**	**0.97**	**353**	P	**Pn**	**02 20 03.3**	**-0.1**
LALI	**Alcalda de L**	**0.97**	**353**	*eP*	**Pn**	**02 20 02.5**	**-1.0**
LALI				*i* S	**Sn**	**02 20 18.8**	**+2.7**
LALI	**Alcalda de L**	**0.97**	**353**	*eP*		02 20 02.5	
LALI				*i* S		02 20 18.8	
TECO	**Alcaldia de Te**	**1.09**	**22**	P	**Pn**	**02 20 05.3**	**+0.2**
TECO	**Alcaldia de Te**	**1.09**	**22**	S	**Sn**	**02 20 17.7**	**-1.4**
LOMA	**Loma Larga**	**1.12**	**1**	P	**Sn**	**02 20 24.6**	**+4.7**
LOMA	**Loma Larga**	**1.12**	**1**	P	**Pn**	**02 20 05.6**	**-0.1**
LOMA	**Loma Larga**	**1.12**	**1**	S	**Sn**	**02 20 18.8**	**-1.2**
COEG	**Centro de Oper**	**1.14**	**16**	*eP*	**Pn**	**02 20 06.1**	**+0.3**
COEG	**Centro de Oper**	**1.14**	**16**	P	**Sn**	**02 20 20.2**	**-0.1**
COEG	**Centro de Oper**	**1.14**	**16**	P	**Pn**	**02 20 06.0**	**+0.1**
COEG	**Centro de Oper**	**1.14**	**16**	S	**Sn**	**02 20 20.1**	**-0.1**
ITCA	**Escuela Especi**	**1.15**	**356**	P	**Pn**	**02 20 06.2**	**+0.2**
JAYA	**Jayaque - finc**	**1.16**	**348**	*eP*	**Pn**	**02 20 05.9**	**-0.2**
JAYA				IAML		02 20 29.2	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.16**	**348**	P	**Pn**	**02 20 06.0**	**-0.2**
JAYA	**Jayaque - finc**	**1.16**	**348**	P	**Pn**	**02 20 06.0**	**-0.2**
JAYA	**Jayaque - finc**	**1.16**	**348**	S	**Sn**	**02 20 20.1**	**-0.8**
JAYA	**Jayaque - finc**	**1.16**	**348**	*eP*	**Pn**	**02 20 05.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.16**	**348**	*eP*		02 20 05.5	
UTEC	**Universidad Te**	**1.18**	**360**	P	**Pn**	**02 20 06.2**	**-0.2**
UTEC	**Universidad Te**	**1.18**	**360**	S	**Sn**	**02 20 20.3**	**-1.0**
SEMO	**Seminario San**	**1.18**	**359**	P	**Pn**	**02 20 06.3**	**-0.1**
UESV	**Universidad de**	**1.18**	**20**	P	**Pn**	**02 20 06.0**	**-0.3**
TECA	**Tecapa**	**1.19**	**35**	*eP*	**Pn**	**02 20 06.9**	**+0.4**
IGN	**Direccin Gen**	**1.19**	**1**	P	**Pn**	**02 20 06.6**	**+0.1**
UDBS	**Universidad Do**	**1.19**	**2**	P	**Pn**	**02 20 06.3**	**-0.2**
UEES	**Universidad Ev**	**1.20**	**358**	P	**Pn**	**02 20 06.9**	**+0.3**
PMON	**Piamonte**	**1.20**	**354**	*eP*	**Pn**	**02 20 06.2**	**-0.5**
PMON	**Piamonte**	**1.20**	**354**	P	**Pn**	**02 20 06.5**	**-0.1**
PMON	**Piamonte**	**1.20**	**354**	P	**Pn**	**02 20 06.6**	**-0.1**
PMON	**Piamonte**	**1.20**	**354**	S	**Sn**	**02 20 21.2**	**-0.5**
BOQS	**Boqueron**	**1.22**	**356**	*eP*	**Pn**	**02 20 06.9**	**-0.1**
PAVA	**Las Pavas**	**1.22**	**12**	*eP*	**Pn**	**02 20 07.2**	**+0.3**
PAVA	**Las Pavas**	**1.22**	**12**	P	**Pn**	**02 20 07.4**	**+0.5**
PAVA	**Las Pavas**	**1.22**	**12**	S	**Sn**	**02 20 21.5**	**-0.7**
PAVA	**Las Pavas**	**1.22**	**12**	P	**Pn**	**02 20 07.4**	**+0.5**
PQSS	**Presa 15 de Se**	**1.27**	**29**	S	**Sn**	**02 20 24.1**	**+0.8**
PQSS	**Presa 15 de Se**	**1.27**	**29**	P	**Pn**	**02 20 07.9**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.27**	**21**	*eP*	**Pn**	**02 20 07.9**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.27**	**21**	S	**Sn**	**02 20 21.4**	**-1.9**
SCLA	**Alcaldia de Sa**	**1.27**	**21**	S	**Sn**	**02 20 22.0**	**-1.4**
SCLA	**Alcaldia de Sa**	**1.27**	**21**	P	**Pn**	**02 20 08.0**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.27**	**21**	P	**Pn**	**02 20 07.9**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.27**	**21**	S	**Sn**	**02 20 22.4**	**-1.0**
PACA	**Pacayal**	**1.27**	**42**	*eP*	**Pn**	**02 20 08.9**	**+1.2**
PACA	**Pacayal**	**1.27**	**42**	P	**Pn**	**02 20 08.4**	**+0.7**
PACA	**Pacayal**	**1.27**	**42**	P	**Pn**	**02 20 09.1**	**+1.4**
CEDA	**San Andres**	**1.29**	**351**	S	**Sn**	**02 20 28.5**	**+4.4**
CEDA	**San Andres**	**1.29**	**351**	P	**Pn**	**02 20 08.2**	**+0.3**
CEDA	**San Andres**	**1.29**	**351**	S	**Sn**	**02 20 23.1**	**-1.0**
CEDA	**San Andres**	**1.29**	**351**	P	**Pn**	**02 20 08.6**	**+0.7**
CEVE	**Cerro Verde**	**1.37**	**342**	P	**Pn**	**02 20 09.5**	**+0.3**
NUBE	**Las Nubes**	**1.49**	**338**	*eP*	**Pn**	**02 20 09.7**	**-1.1**
NUBE	**Las Nubes**	**1.49**	**338**	P	**Pn**	**02 20 09.8**	**-0.9**
NUBE	**Las Nubes**	**1.49**	**338**	P	**Pn**	**02 20 09.8**	**-0.9**
NUBE	**Las Nubes**	**1.49**	**338**	S	**Sn**	**02 20 29.6**	**+0.6**
NUBE	**Las Nubes**	**1.49**	**338**	P	**Pn**	**02 20 11.3**	**+0.6**
NUBE	**Las Nubes**	**1.49**	**338**	*eP*	**Pn**	**02 20 09.6**	**-1.1**
NUBE	**Las Nubes**	**1.49**	**338**	*eP*		02 20 09.6	
LCND	**La Caada**	**1.50**	**58**	*eP*	**Pn**	**02 20 11.0**	**+0.4**
LCND	**La Caada**	**1.50**	**58**	P	**Pn**	**02 20 11.3**	**+0.6**
LCND	**La Caada**	**1.50**	**58**	P	**Pn**	**02 20 11.1**	**+0.4**
UNIC	**Universidad Ca**	**1.50**	**347**	P	**Pn**	**02 20 10.4**	**-0.3**
CNCH	**Conchagua**	**1.53**	**60**	*eP*	**Pn**	**02 20 12.3**	**+1.1**
CNCH	**Conchagua**	**1.53**	**60**	S	**Sn**	**02 20 30.5**	**+0.5**
CNCH	**Conchagua**	**1.53**	**60**	P	**Pn**	**02 20 12.7**	**+1.5**
CNCH	**Conchagua**	**1.53**	**60**	P	**Pn**	**02 20 11.0**	**-0.2**
CNCH	**Conchagua**	**1.53**	**60**	S	**Sn**	**02 20 32.5**	**+2.6**
CSGN	**Cosiguina Volc**	**1.66**	**74**	P	**Pn**	**02 20 14.3**	**+1.4**
MTO3	**Montecristo**	**1.88**	**355**	P	**Pn**	**02 20 16.0**	**-0.1**
MTO3	**Montecristo**	**1.88**	**355**	P	**Pn**	**02 20 17.4**	**+1.2**
ESQI	**Esquipulas**	**2.04**	**356**	P	**Pn**	**02 20 20.9**	**+2.7**
ESQI	**Esquipulas**	**2.04**	**356**	P	**Pn**	**02 20 21.1**	**+3.0**
ESQI	**Esquipulas**	**2.04**	**356**	P	**Pn**	**02 20 18.2**	**0.0**
CRIN	**San Cristobal**	**2.10**	**85**	P	**Pn**	**02 20 19.9**	**+0.9**
PKGN	**Cerro Pekin**	**2.17**	**86**	P	**Pn**	**02 20 20.4**	**+0.5**
POLN	**Al Sur del Vol**	**2.33**	**86**	P	**Pn**	**02 20 22.3**	**+0.1**
PLRN	**Geotermica Pol**	**2.37**	**88**	P	**Pn**	**02 20 22.7**	**0.0**
PLRN	**Geotermica Pol**	**2.37**	**88**	P	**Pn**	**02 20 22.0**	**-0.7**
PLRN	**Geotermica Pol**	**2.37**	**88**	P	**Pn**	**02 20 23.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.42**	**50**	P	**Pn**	**02 20 24.3**	**+0.8**
ILCN	**San Idelfonso**	**2.44**	**88**	P	**Pn**	**02 20 23.1**	**-0.5**
CNGN	**Cerro Negro**	**2.44**	**90**	P	**Pn**	**02 20 24.8**	**+1.2**
MACN	**El Madrono**	**2.46**	**91**	P	**Pn**	**02 20 23.8**	**-0.1**
MACN	**El Madrono**	**2.46**	**91**	P	**Pn**	**02 20 24.8**	**+0.9**
COPN	**Copaltepe**	**2.57**	**97**	P	**Pn**	**02 20 25.5**	**+0.1**
LIMN	**Finca el Limon**	**2.81**	**79**	P	**Pn**	**02 20 29.1**	**+0.3**
RCPN	**Sur Rio San Ju**	**3.19**	**71**	P	**Pn**	**02 20 35.6**	**+1.6**
INDI	**Punta indio, G**	**4.48**	**126**	P	**Pn**	**02 20 52.0**	**+0.4**
JTS	**Las Juntas de**	**4.71**	**118**	Pn	**Pn**	**02 20 55.6**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=311,slow=19,SNR=4.7						
JTS				Sn	**Sn**	**02 21 44.6**	**-3.7**
	comp=Z,1.4nm,0.3s,baz=343,slow=5.1,SNR=3.8						
	comp=Z,4.5nm,0.3s						
CMIG	**Matias Romero**	**7.14**	**310**	Pn	**Pn**	**02 21 28.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=167,slow=9.3,SNR=7.5						
CMIG				Sn	**Sn**	**02 22 49.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=19,SNR=1.4						
	comp=Z,1.2nm,0.2s						
SDV	**Santo Domingo**	**18.59**	**99**	LR	LR	02 32 37.7	
	comp=Z,72nm,18.1s,baz=266,slow=42						
TXAR	**Lajitas Array**	**21.47**	**323**	P	**P**	**02 24 33.1**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=145,slow=10,SNR=15						
	comp=Z,1.7nm,0.7s						
TKL	**Tuckaleechee C**	**23.56**	**11**	LR	LR	02 34 30.6	
	comp=Z,60nm,18.0s,baz=174,slow=39						
NVAR	**Mina Array Bea**	**36.55**	**320**	P	**P**	**02 26 50.5**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=104,slow=7.4,SNR=1.8						
	comp=Z,0.4nm,0.6s						
ULM	**Lac du Bonnet**	**38.02**	**353**	P	**P**	**02 26 58.6**	**-1.9**
	comp=Z,1.6nm,0.5s,baz=177,slow=6.6,SNR=4.3						
	comp=Z,1.6nm,0.5s						
SCHQ	**Schefferville**	**45.72**	**18**	P	**P**	**02 28 01.6**	**-1.7**
	comp=Z,3.3nm,0.8s,baz=234,slow=6.6,SNR=4.1						
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**53.11**	**346**	P	**P**	**02 28 58.0**	**-1.5**
	comp=Z,1.4nm,1.0s,baz=148,slow=7.8,SNR=6.2						
	comp=Z,1.4nm,1.0s						
KDAK	**Kodiak Island**	**65.41**	**328**	P	**P**	**02 30 24.9**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=108,slow=6.4,SNR=2.0						
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**148.19**	**345**	PKPbc	**PKPbc**	**02 39 29.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=26,slow=2.5,SNR=4.5						

*IDC **28** 02:27:45.3±1.0, 12°.49N×48°.27E, h0km, mb3.8/18, mbtmp3.8/20, ML3.2/2, MS3.5/8, Error ellipse: s-maj=22.4km s-min=16.5km az=174.0*
ISC 28 02:27:47.0±0.8, 12°.5N±0°.1×48°.29E±0°.08, h10km, n27, σ0§83/22, **mb3.8/18, MS3.4/8, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.41**	**260**	Pn	**Pn**	**02 29 08.2**	**+0.3**
	1.2nm,0.3s,baz=217,slow=19,SNR=31						
ATD				Sn	**Sn**	**02 30 11.5**	**+1.2**
	0.3nm,0.3s,baz=51,slow=24,SNR=5.7						
ATD				LR	LR	02 30 40.3	
	comp=Z,6.6nm,20.7s,baz=12,slow=32						
	2.6nm,0.3s						
WSAR	**Wadi Sarin**	**14.51**	**41**	Pn	**Pn**	**02 31 14.0**	**+1.4**
	baz=218,slow=24,SNR=3.8						
KMBO	**Kilima Mbogo**	**17.42**	**220**	P	**Pn**	**02 31 51.1**	**+0.5**
	0.1nm,0.3s,baz=60,slow=11,SNR=3.8						
	0.8nm,0.8s						
EIL	**Elat**	**21.10**	**326**	P	**P**	**02 32 31.7**	**-0.1**
	2.6nm,0.7s,baz=177,slow=18,SNR=3.9						
EIL				LR	LR	02 39 27.9	
	comp=Z,93nm,19.2s,baz=142,slow=33						
	2.6nm,0.7s						
MMAI	**Mount Meron Ar**	**23.57**	**332**	LR	LR	02 41 42.3	
	comp=Z,124nm,18.3s,baz=156,slow=36						
GNI	**Garni**	**27.71**	**354**	LR	LR	02 46 02.7	
	comp=Z,141nm,20.3s,baz=180,slow=40						
BRTR	**Keskin Array B**	**30.04**	**337**	P	**P**	**02 33 57.7**	**+1.3**
	0.4nm,0.8s,baz=139,slow=13,SNR=2.9						
	0.4nm,0.8s						
KBZ	**Khabaz**	**31.46**	**353**	LR	LR	02 47 13.0	
	comp=Z,78nm,18.8s,baz=186,slow=37						
AAK	**Ala-Archa**	**37.65**	**32**	P	**P**	**02 35 03.9**	**+1.4**
	0.7nm,0.4s,baz=207,slow=11,SNR=2.4						
	0.7nm,0.4s						
MLR	**Muntele Rosu**	**37.97**	**334**	LR	LR	02 52 16.4	
	comp=Z,58nm,18.9s,baz=176,slow=39						
AKASG	**Malin Array Be**	**41.15**	**342**	P	**P**	**02 35 30.4**	**-0.9**
	0.9nm,0.8s,baz=155,slow=7.1,SNR=2.0						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**44.11**	**19**	P	**P**	**02 35 55.1**	**-0.4**
	1.3nm,0.7s,baz=190,slow=7.2,SNR=6.8						
BVAR				LR	LR	02 56 18.4	
	comp=Z,38nm,18.9s,baz=232,slow=39						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**44.55**	**33**	P	**P**	**02 35 58.9**	**-0.2**
	0.5nm,0.4s,baz=225,slow=7.8,SNR=8.5						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.31**	**27**	P	**P**	**02 36 04.3**	**-0.8**
	0.8nm,0.7s,baz=226,slow=8.2,SNR=11						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**45.38**	**276**	P	**P**	**02 36 05.4**	**-0.8**
	0.8nm,0.3s,baz=71,slow=4.6,SNR=4.0						
	0.8nm,0.3s						
GERES	**GERESS Array B**	**46.16**	**329**	P	**P**	**02 36 11.6**	**-0.3**
	0.8nm,0.7s,baz=152,slow=9.1,SNR=7.3						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.05**	**76**	P	**P**	**02 36 34.5**	**-0.3**
	1.2nm,0.4s,baz=273,slow=8.8,SNR=13						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**50.40**	**27**	P	**P**	**02 36 44.8**	**+0.3**
	0.9nm,0.6s,baz=232,slow=7.9,SNR=4.2						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**51.45**	**347**	P	**P**	**02 36 51.7**	**-0.5**
	2.0nm,0.7s,baz=128,slow=12,SNR=4.3						
	2.0nm,0.7s						
HFS	**Hagfors**	**53.94**	**339**	LR	LR	03 03 55.6	
	comp=Z,54nm,18.8s,baz=28,slow=40						
NOA	**NORSAR Array B**	**55.45**	**339**	P	**P**	**02 37 21.9**	**+0.3**
	0.7nm,0.8s,baz=133,slow=7.1,SNR=3.2						
	0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**58.38**	**328**	P	**P**	**02 37 41.0**	**-1.4**
	0.4nm,0.6s,baz=133,slow=6.1,SNR=3.5						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**58.80**	**351**	P	**P**	**02 37 44.7**	**-0.5**
	4.4nm,0.9s,baz=128,slow=7.6,SNR=4.3						
	4.4nm,0.9s						
SONM	**Songino Array**	**59.56**	**42**	P	**P**	**02 37 51.6**	**+0.5**
	0.3nm,0.3s,baz=256,slow=6.0,SNR=5.0						
	0.3nm,0.3s						
NRIK	**Noril'sk**	**62.00**	**15**	LR	LR	03 10 24.6	
	comp=Z,55nm,20.5s,baz=199,slow=41						
WRA	**Warramunga Arr**	**90.56**	**110**	P	**P**	**02 40 49.9**	**-0.2**
	1.1nm,0.8s,baz=297,slow=3.5,SNR=7.2						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**91.00**	**114**	P	**P**	**02 40 51.5**	**-0.6**
	0.5nm,0.8s,baz=282,slow=5.2,SNR=3.1						
	0.5nm,0.8s						

*IDC **28** 02:28:47.2±0.6, 46°.27S×166°.01E, h0km, mb4.0/7, mbtmp4.1/9, ML4.0/2, MS3.4/5, Error ellipse: s-maj=23.4km s-min=19.7km az=26.0*
*WEL **28** 02:28:48.5, 46°.49S×165°.93E, h18km, ML4.5, Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr1.86; Mθθ-1.18; Mφφ-0.69; Mrθ1.01; Mθφ0.54; Mφr0.65; Fault plane solution: M0 2.00000×10^15 NP1: φs=97.00000°, δ59.00000°, λ66.00000°. NP2: φs=317.00000°, δ38.00000°, λ123.00000°. Principal axes: T 2.3706, Plg67.0000°, Azm322.0000°; N -1.6229, Plg20.0000°, Azm109.0000°; P -0.7477, Plg11.0000°, Azm204.0000°; Stations used: PYZ APZ WHZ EAZ REVERSE FAULTING*
*WEL **28** 02:28:50.2±1.2, 46°S±5°×16°6E±°, h12km, M4.2/7, ML4.4/7, MLv4.2/7 Error ellipse: s-maj=8.7km s-min=6.5km az=82.9, confirmed*
*NEIC **28** 02:28:52.7±1.9, 46°.48S±0°.09×166°.3E±0°.1, h35km±2km, mb4.5/10, Error ellipse: s-maj=22.9km s-min=3.1km az=130.0*
*NOU **28** 02:28:57.3, 46°.22S×166°.97E, h0km, MLv4.4/8, Off W. Coast of S. Island, N.Z.*
ISC 28 02:28:51.9±0.8, 46°.35S±0°.05×166°.07E±0°.05, h29km±5km, n111, σ1§33/125, **mb4.3**/13, **MS3.3**/3, **1C, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.46**	**67**		**Pb**	**02 29 01.2**	**-0.4**
PYZ					**Sb**	**02 29 08.4**	**+0.1**
PYZ	**Puysegur Point**	**0.46**	**67**	P	**Pb**	**02 29 01.2**	**-0.4**
PYZ	**Puysegur Point**	**0.46**	**67**	P	**Pb**	**02 29 01.1**	**-0.6**
PYZ				S	**Sb**	**02 29 07.7**	**-0.6**
DCZ	**Deep Cove**	**1.16**	**41**		**Pn**	**02 29 11.2**	**-1.0**
DCZ	**Deep Cove**	**1.16**	**41**	P	**Pn**	**02 29 11.0**	**-1.2**
DCZ				S	**Sn**	**02 29 27.1**	**0.0**
ORPS	**Orepuki**	**1.18**	**88**	P	**Pn**	**02 29 11.0**	**-1.4**
ORPS				S	**Sn**	**02 29 27.0**	**-0.5**
WHZ	**Wether Hill Ro**	**1.38**	**71**		**Pn**	**02 29 15.1**	**-0.2**
WHZ	**Wether Hill Ro**	**1.38**	**71**	P	**Pn**	**02 29 15.0**	**-0.2**
WHZ				S	**Sb**	**02 29 35.6**	**+1.2**
APZ	**The Paps**	**1.41**	**111**	P	**Pn**	**02 29 13.9**	**-1.7**
APZ				S	**Sn**	**02 29 34.2**	**+1.0**
MOSS	**Mossburn Schoo**	**1.66**	**66**	P	**Pn**	**02 29 20.2**	**+1.1**
MLZ	**Mavora Lakes**	**1.74**	**56**		**Pn**	**02 29 21.1**	**+1.0**
MLZ	**Mavora Lakes**	**1.74**	**56**	P	**Pn**	**02 29 21.5**	**+1.4**
MLZ				S	**Sb**	**02 29 45.6**	**+1.1**
MSZ	**Milford Sound**	**2.12**	**39**	P	**Pn**	**02 29 26.4**	**+1.0**
SYZ	**Scrubby Hill**	**2.13**	**96**	P	**Pn**	**02 29 25.9**	**+0.4**
SYZ	**Scrubby Hill**	**2.13**	**96**	P	**Pn**	**02 29 25.7**	**+0.2**
SYZ				S	**Sn**	**02 29 52.9**	**+1.9**
TUZ	**Tuapeka**	**2.51**	**82**	P	**Pn**	**02 29 30.5**	**-0.1**
TUZ				S	**Sn**	**02 30 02.4**	**+2.1**
EAZ	**Earnscleugh**	**2.53**	**65**	P	**Pn**	**02 29 31.8**	**+0.9**
EAZ				S	**Sb**	**02 30 04.7**	**-2.5**
WKZ	**Wanaka**	**2.57**	**55**	Pn	**Pn**	**02 29 32.2**	**+0.6**
WKZ	**Wanaka**	**2.57**	**55**	P	**Pn**	**02 29 34.1**	**+2.5**
WKZ				S	**Sb**	**02 30 06.6**	**-1.8**
JCZ	**Jackson Bay**	**2.98**	**41**	P	**Pn**	**02 29 40.0**	**+2.7**
JCZ	**Jackson Bay**	**2.98**	**41**	P	**Pn**	**02 29 39.9**	**+2.7**
HHSZ	**Highcliff Hill**	**3.18**	**83**	P	**Pn**	**02 29 40.8**	**+0.7**
HHSZ				S	**Sn**	**02 30 17.7**	**+0.7**
ODZ	**Otahua Downs**	**3.46**	**69**	Pn	**Pn**	**02 29 42.5**	**-1.4**
ODZ	**Otahua Downs**	**3.46**	**69**	P	**Pn**	**02 29 42.4**	**-1.4**
ODZ	**Otahua Downs**	**3.46**	**69**	P	**Pn**	**02 29 42.5**	**-1.4**
LBZ	**Lake Benmore**	**3.50**	**57**	Pn	**Pn**	**02 29 43.8**	**-0.7**
LBZ	**Lake Benmore**	**3.50**	**57**	P	**Pn**	**02 29 44.4**	**0.0**
LBZ				S	**Sn**	**02 30 26.7**	**+1.9**
FOZ	**Fox Glacier**	**3.87**	**45**		**Pn**	**02 29 51.0**	**+1.6**
FOZ	**Fox Glacier**	**3.87**	**45**	P	**Pn**	**02 29 51.0**	**+1.6**
FOZ				S	**Sn**	**02 30 36.4**	**+2.4**
TMZ	**Timaru**	**4.00**	**62**	P	**Pn**	**02 29 50.7**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**4.29**	**46**	P	**Pn**	**02 29 57.4**	**+2.2**
GCSZ				S	**Sn**	**02 30 46.6**	**+2.4**
ARCZ	**Arundel**	**4.34**	**58**	P	**Pn**	**02 29 55.0**	**-0.9**
ARCZ				S	**Sn**	**02 30 46.1**	**+0.6**
RPZ	**Rata Peaks**	**4.41**	**55**	Pn	**Pn**	**02 29 56.4**	**-0.4**
RPZ	**Rata Peaks**	**4.41**	**55**	Pn	**Pn**	**02 29 56.6**	**-0.2**
	12nm,0.3s,baz=219,slow=6.4,SNR=34						
RPZ				Sn	**Sn**	**02 30 48.2**	**+1.0**
	16nm,0.3s,baz=341,slow=18,SNR=7.3						
RPZ				LR	LR	02 31 20.1	
	comp=Z,329nm,20.8s,baz=154,slow=35						
	23nm,0.3s						
RPZ	**Rata Peaks**	**4.41**	**55**	P	**Pn**	**02 29 56.5**	**-0.4**
RPZ	**Rata Peaks**	**4.41**	**55**	P	**Pn**	**02 29 56.5**	**-0.4**
RPZ				S	**Sn**	**02 30 48.9**	**+1.8**
WVZ	**Waitaha Valley**	**4.67**	**47**	P	**Pn**	**02 30 01.8**	**+1.4**
MHCZ	**Mount Hutt**	**4.81**	**56**	P	**Pn**	**02 30 02.5**	**0.0**
OXZ	**Oxford**	**5.21**	**57**	Pn	**Pn**	**02 30 06.7**	**-1.2**
OXZ	**Oxford**	**5.21**	**57**	P	**Pn**	**02 30 07.3**	**-0.6**
INZ	**Inchbonnie**	**5.28**	**49**	Pn	**Pn**	**02 30 09.0**	**+0.2**
MQZ	**McQueen's Vall**	**5.36**	**63**	Pn	**Pn**	**02 30 09.9**	**-0.1**
MQZ	**McQueen's Vall**	**5.36**	**63**	P	**Pn**	**02 30 10.2**	**+0.3**
LTZ	**Lake Taylor**	**5.69**	**53**	Pn	**Pn**	**02 30 14.0**	**-0.4**
LTZ	**Lake Taylor**	**5.69**	**53**	P	**Pn**	**02 30 13.8**	**-0.7**
GVZ	**Greta Valley S**	**6.01**	**58**	Pn	**Pn**	**02 30 17.3**	**-1.6**

MKAR Makanchi Array 118.20 309 PKP **PKPdf 02 47 34.2 -1.3**
comp=Z,0.2nm,0.5s,baz=129,slow=2.0,SNR=1.8
KURBB Kurchatov Arra 122.48 311 PKP **PKPdf 02 47 42.7 -0.9**
comp=Z,0.6nm,0.2s,baz=105,slow=1.7,SNR=1.8
YKA Yellowknife Ar 125.40 34 PKP **PKPdf 02 47 46.6 -2.1**
comp=Z,0.5nm,0.9s,baz=240,slow=2.4,SNR=3.8
TORD Torodi Ar. Bea 144.37 207 PKP **PKPab 02 48 23.0 -0.6**
comp=Z,1.8nm,0.6s,baz=137,slow=1.4,SNR=6.3
BRTR Keskin Array B 145.04 277 PKP **PKPbc 02 48 25.5 -0.1**
comp=Z,3.6nm,0.8s,baz=139,slow=4.6,SNR=22
SPITS Spitsbergen Ar 146.00 349 PKPbc **PKPdf 02 48 27.4 +0.9**
comp=Z,2.8nm,0.5s,baz=94,slow=4.5,SNR=13
SCHQ Schefferville 146.10 56 PKPbc **PKPdf 02 48 27.0 -0.2**
comp=Z,3.4nm,1.0s,baz=0.0,slow=6.1,SNR=4.0
ARCES ARCESS Array B 149.69 334 PKPbc **PKPbc 02 48 36.8 -0.7**
comp=Z,4.0nm,0.8s,baz=29,slow=2.8,SNR=7.3
AKASG Malin Array Be 151.40 295 PKPbc **PKPbc 02 48 41.5 -0.5**
comp=Z,1.7nm,0.6s,baz=78,slow=2.3,SNR=7.2
AKASG PKPab **sPKPdf 02 48 49.4 +0.8**
comp=Z,1.0nm,0.6s,baz=75,slow=2.2,SNR=4.8
FINES FINESS Array B 152.56 318 PKPbc **PKPbc 02 48 44.1 -0.1**
comp=Z,1.0nm,0.5s,baz=48,slow=2.8,SNR=11
FINES PKPab **pPKPbc 02 48 53.4 -0.3**
comp=Z,1.4nm,0.7s,baz=64,slow=4.4,SNR=5.5

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*NEIC **28** 02:35:10.8±1.2,36°.74N±0°.09×90°.4E±0°.2,h14km±5km, mb4.6/9, Error ellipse: s-maj=21.6km s-min=4.7km az=55.0*
ISC 28 02:35:10.0±0.8,36°.7N±0°.1×90°.3E±0°.2,h10km,n18, σ0s67/15,mb4.7/5,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNLY	**HANLEY**	**10.10**	**251**	*e*P	Pn	02 37 30.3	-5.2
MK31	**Makanchi Array**	**11.75**	**332**	Pn	**Pn**	**02 37 58.1**	**+0.4**
MKAR	**Makanchi Array**	**11.75**	**332**	Pn	**Pn**	**02 37 57.7**	**+0.1**
MAKZ	**Makanchi**	**11.88**	**331**	Pn	**Pn**	**02 37 59.3**	**-0.2**
NIL	**Nilore**	**14.27**	**263**	Pn	**Pn**	**02 38 32.2**	**0.0**
ARTI	**Arti**	**29.11**	**323**	P	**P**	**02 41 10.3**	**-0.4**
ARTI				IAmb	IAmb	02 41 27.6	
comp=Z,3.2nm,0.9s							
SBUM	**Sibu**	**39.60**	**144**	P	**P**	**02 42 43.0**	**+1.3**
FIA1	**FINESS Array S**	**46.41**	**323**	P	**P**	**02 43 36.6**	**+0.2**
KARP	**Karpathos**	**50.18**	**289**	P	**P**	**02 44 06.4**	**+0.5**
IDI	**Anoyia**	**52.00**	**289**	P	**P**	**02 44 18.8**	**-0.8**
IDI				IAmb	IAmb	02 44 25.6	
comp=Z,29nm,1.5s							
UCC	**Uccle**	**60.29**	**313**	P	**P**	**02 45 18.9**	**+0.4**
UCC				IAmb	IAmb	02 45 36.8	
comp=Z,3.7nm,0.9s							
MBWA	**Marble Bar**	**63.88**	**149**	P	**P**	**02 45 42.2**	**-0.6**
WB0	**Warramunga Arr**	**69.88**	**136**	P	**P**	**02 46 20.7**	**-0.5**
WB0	**Warramunga Arr**	**69.88**	**136**	IAmb	IAmb	02 46 23.7	
comp=Z,4.7nm,0.8s							
WB0	**Warramunga Arr**	**69.88**	**136**	P	**P**	**02 46 20.9**	**-0.3**
WRA	**Warramunga Arr**	**69.99**	**136**	P	**P**	**02 46 20.9**	**-1.0**
WR8	**Warramunga Arr**	**70.09**	**136**	IAmb	IAmb	02 46 50.6	
comp=Z,9.6nm,1.4s							
WR8	**Warramunga Arr**	**70.09**	**136**	P	**P**	**02 46 21.8**	**-0.7**

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*IDC **28** 02:36:02.1±2.0,32°.78N×85°.45E,h0km,mb3.3/4, mbtmp3.5/7,ML4.5/1, Error ellipse: s-maj=44.7km s-min=28.1km az=54.0*
ISC 28 02:36:03.4±1.5,32°.8N±0°.2×85°.5E±0°.2,h10km,n8,σ0s80/7, mb3.3/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNLY	**HANLEY**	**5.47**	**272**	*e*S	Pg	02 37 51.6	+3.4
MKAR	**Makanchi Array**	**14.23**	**351**	Pn	**Pn**	**02 39 25.3**	**+0.4**
0.6nm,0.8s,baz=166,slow=13,SNR=1.7							
KURBB	**Kurchatov Arra**	**18.57**	**346**	P	**Pn**	**02 40 21.1**	**+0.6**
1.4nm,0.8s,baz=162,slow=11,SNR=8.1							
CMAR	**Chiang Mai Arr**	**18.70**	**136**	P	**Pn**	**02 40 22.3**	**0.0**
0.6nm,0.3s,baz=314,slow=11,SNR=5.4							
1.1nm,0.3s							
ZALV	**Zalesovo Beam**	**21.19**	**359**	P	**P**	**02 40 48.4**	**-0.4**
0.9nm,0.5s,baz=171,slow=12,SNR=3.9							
0.9nm,0.5s							
SONM	**Songino Array**	**21.85**	**40**	P	**P**	**02 40 56.1**	**0.0**
0.4nm,0.3s,baz=231,slow=12,SNR=4.7							
0.4nm,0.3s							
BVAR	**Borovoye Array**	**22.98**	**336**	P	**P**	**02 41 06.7**	**-1.3**
0.3nm,0.4s,baz=156,slow=11,SNR=1.6							
0.3nm,0.4s							
GERES	**GERESS Array B**	**54.65**	**310**	P	**P**	**02 45 32.8**	**+0.4**
0.5nm,0.7s,baz=79,slow=6.9,SNR=4.0							
0.5nm,0.7s							

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*IDC **28** 02:36:56.3±1.1,32°.28N×141°.82E,h0km,mb3.9/8, mbtmp3.9/11,ML3.4/3,MS3.0/4, Error ellipse: s-maj=36.0km s-min=17.0km az=69.0*
*JMA **28** 02:36:58.0±0.5,32°.N±1°.×14°.2E±°,h21km,MV4.2/13,E OFF HACHIJOJIMA ISLAND*
*NEIC **28** 02:37:09.1±1.4,32°.97N±0°.06×141°.21E±0°.06,h35km±2km, mb4.5/14, Error ellipse: s-maj=13.5km s-min=3.0km az=216.0*
ISC 28 02:37:01.6±0.7,32°.26N±0°.05×141°.72E±0°.08,h31km,n40, σ2s26/43,mb4.2/13,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.81**	**297**	*e*P	**Pn**	**02 37 29.8**	**-0.8**
JHJ2	**Mitsune**	**1.81**	**298**	Pn	**Pn**	**02 37 29.5**	**-1.2**
JHJ2	**Mitsune**	**1.81**	**298**	*e*P	**Pn**	**02 37 30.0**	**-0.7**
JHJ	**Hachijo jima 2**	**1.84**	**298**	Pn	**Pn**	**02 37 29.8**	**-1.3**
76nm,0.3s,baz=316,slow=21,SNR=16							
JHJ				Sn	**Sn**	**02 37 51.2**	**-2.1**
62nm,0.3s,baz=82,slow=20,SNR=3.7							
BSO1	**Boso 1**	**2.46**	**346**	*e*P	**Pn**	**02 37 37.0**	**-2.1**
BSO1				*e*S	**Sn**	**02 38 05.6**	**-2.3**
BSO3	**Boso 3**	**2.73**	**339**	*e*P	**Pn**	**02 37 41.3**	**-1.7**
BSO3				*e*S	**Sn**	**02 38 13.8**	**-1.0**
BSO4	**Boso 4**	**2.95**	**337**	*e*P	**Pn**	**02 37 45.7**	**-0.6**
BSO4				*e*S	**Sn**	**02 38 20.7**	**+0.1**
JAG	**Ashikaga**	**4.55**	**336**	*e*P	**Pn**	**02 38 06.9**	**-1.5**
JAG				*e*S	**Sn**	**02 38 57.8**	**-2.5**
JGF	**Kuroka**	**4.92**	**314**	Pn	**Pn**	**02 38 10.0**	**-3.5**
MJAR	**Matsushiro Arr**	**5.16**	**327**	Pn	**Pn**	**02 38 15.7**	**-1.0**
0.2nm,0.3s,baz=148,slow=10,SNR=6.6							
MJAR				LR	LR	02 40 40.5	
comp=Z,88nm,20.6s,baz=146,slow=43							
2.9nm,0.5s							
CBIJ	**Chichi jima**	**5.17**	**175**	*e*P	**Pn**	**02 38 18.1**	**+1.2**
JCJ	**Chichijima**	**5.17**	**175**	Pn	**Pn**	**02 38 16.0**	**-0.9**
11nm,0.3s,baz=330,slow=16,SNR=1.6							
JCJ				Sn	**Sn**	**02 39 10.6**	**-4.8**
7.5nm,0.3s,baz=291,slow=18,SNR=1.3							
26nm,0.3s							
JMM	**Marumori**	**5.64**	**353**		**Pn**	**02 38 20.1**	**-3.2**
JSD	**Sado**	**6.42**	**335**	Pn	**Pn**	**02 38 29.7**	**-4.3**
JNU	**Nakatsue**	**9.18**	**278**	LR	LR	02 43 07.3	
comp=Z,119nm,18.5s,baz=118,slow=40							
JMZ	**Minamidaito 2**	**11.20**	**238**	Pn	Pn	02 39 45.9	+6.3
KSRS	**Korea Array**	**12.45**	**298**	LR	LR	02 44 32.8	
comp=Z,66nm,19.5s,baz=95,slow=36							
USRK	**Ussuriysk Ar.**	**14.14**	**330**	LR	LR	02 45 12.5	
comp=Z,59nm,18.7s,baz=186,slow=35							
KLR	**Kul'dur**	**18.53**	**339**	P	**P**	**02 41 14.0**	**-1.4**
0.1nm,0.3s,baz=162,slow=11,SNR=4.6							
1.2nm,0.6s							
NACB	**Ninganchiao**	**19.46**	**251**	P	**Pn**	**02 41 31.8**	**+4.6**
NACB				IAmb	IAmb	02 41 33.1	
comp=Z,21nm,1.0s							
SONM	**Songino Array**	**30.87**	**311**	P	**P**	**02 43 16.3**	**+1.1**
comp=Z,1.6nm,0.8s,baz=125,slow=7.9,SNR=7.0							
comp=Z,1.6nm,0.8s							
GAMB	**Gambell**	**42.72**	**28**	P	**P**	**02 44 57.5**	**+2.0**
TNA	**Tin City**	**44.93**	**27**	P	**P**	**02 45 16.6**	**+3.4**
ZALV	**Zalesovo Beam**	**45.41**	**316**	P	**P**	**02 45 16.2**	**-1.0**
comp=Z,0.4nm,0.3s,baz=102,slow=6.2,SNR=4.6							
comp=Z,0.4nm,0.3s							
K15K	**Wolf Creek Mou**	**46.63**	**33**	P	**P**	**02 45 30.0**	**+3.3**
C16K	**Lisburne Hills**	**46.91**	**24**	P	**P**	**02 45 31.4**	**+2.7**
C16K				IAmb	IAmb	02 46 02.3	
comp=Z,11nm,1.4s							
MK31	**Makanchi Array**	**46.99**	**306**	P	**P**	**02 45 29.2**	**-0.6**
MK31				IAmb	IAmb	02 45 45.0	
comp=Z,3.5nm,0.9s							
MKAR	**Makanchi Array**	**46.99**	**306**	P	**P**	**02 45 29.4**	**-0.5**
comp=Z,1.6nm,0.7s,baz=90,slow=10.0,SNR=12							
MKAR				PcP	**PcP**	**02 46 59.3**	**-2.5**
comp=Z,0.6nm,1.0s,baz=111,slow=3.2,SNR=1.3							
comp=Z,1.6nm,0.7s							
KURK Kurchatov	**49.17**	**311**	P	**P**	**02 45 47.1**	**+0.6**
KURK				IAmb	IAmb	02 46 07.3	
comp=Z,3.9nm,0.7s							
KURBB Kurchatov Arra	**49.23**	**311**	P	**P**	**02 45 46.8**	**-0.2**
comp=Z,2.2nm,0.2s,baz=87,slow=7.5,SNR=10.0							
comp=Z,2.2nm,0.2s							
B20K Meade River	**50.24**	**23**	P	**P**	**02 45 56.1**	**+1.7**
B20K				IAmb	IAmb	02 45 57.2	
comp=Z,6.1nm,1.1s							
B21K Ikpikpuk River	**51.01**	**24**	P	**P**	**02 46 04.2**	**+4.0**
B21K				IAmb	IAmb	02 46 10.8	
comp=Z,4.3nm,1.4s							
B22K Teshekpuk Lake	**51.56**	**23**	P	**P**	**02 46 07.8**	**+3.5**
WRA Warramunga Arr	**52.39**	**189**	P	**P**	**02 46 10.4**	**-0.7**
comp=Z,1.5nm,0.7s,baz=5.5,slow=7.6,SNR=12							
comp=Z,1.5nm,0.7s							
BVAR Borovoye Array	**54.04**	**315**	P	**P**	**02 46 22.4**	**-0.5**
comp=Z,1.3nm,0.6s,baz=96,slow=11,SNR=4.4							
comp=Z,1.3nm,0.6s							
ASAR Alice Springs	**56.11**	**189**	P	**P**	**02 46 37.9**	**-0.3**
comp=Z,0.4nm,0.8s,baz=350,slow=8.9,SNR=4.0							
comp=Z,0.4nm,0.8s							
AB31 Akbulak array	**61.27**	**312**	P	**P**	**02 47 13.8**	**0.0**
ABKAR Akbulak array	**61.27**	**312**	P	**P**	**02 47 16.7**	**+2.9**
ABKAR Akbulak array	**61.27**	**312**	P	**P**	**02 47 13.5**	**-0.2**
ABKAR				IAmb	IAmb	02 47 26.7	
comp=Z,2.8nm,1.2s							
YKA Yellowknife Ar	**67.82**	**29**	P	**P**	**02 47 55.9**	**-0.4**
comp=Z,0.3nm,0.9s,baz=304,slow=6.3,SNR=4.2							
comp=Z,0.3nm,0.9s							

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*NEIC **28** 02:54:18.8±1.3,63°.85S±0°.07×173°.0E±0°.1,h10km,n66, σ0s80/36,mb4.6/12,MS4.1/17,1D,Balleny Islands region*
ISC 28 02:54:18.5±0.5,63°.85S±0°.07×173°.0E±0°.1,h10km,n66, σ0s80/36,mb4.6/12,MS4.1/17,1D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA Vanda	**14.17**	**190**			**Pn**	**02 57 38.1**	**-0.7**
VNDA Vanda	**14.17**	**190**		Pn	**Pn**	**02 57 38.6**	**-0.2**
0.6nm,0.3s,baz=32,slow=15,SNR=21							
VNDA				LR	LR	03 01 53.7	
comp=Z,1μm,20.3s,baz=32,slow=32							
2.7nm,0.5s							
SBA Scott Base	**14.20**	**185**		Pn	**Pn**	**02 57 40.4**	**+1.0**
WHZ Wether Hill Ro	**18.22**	**349**			**Pn**	**02 58 30.7**	**-0.5**
RPZ Rata Peaks	**20.20**	**356**		LR	LR	03 05 34.6	
comp=Z,532nm,19.4s,baz=143,slow=33							
MRZ Mangatainoka R	**23.28**	**5**		P	**P**	**02 59 25.4**	**-0.6**
MRZ				IAmb	IAmb	02 59 36.0	
comp=Z,35nm,1.5s							
URZ Urewera	**25.75**	**8**		LR	LR	03 08 47.1	
comp=Z,394nm,19.1s,baz=248,slow=34							
QSPA South Pole Qui	**26.24**	**180**		P	**P**	**02 59 53.0**	**-0.5**
QSPA				IAmb	IAmb	03 00 04.4	
comp=Z,34nm,1.4s							
QSPA South Pole Qui	**26.24**	**180**		P	**P**	**02 59 54.2**	**+0.7**
comp=Z,5.4nm,1.0s,baz=210,slow=1.0,SNR=7.2							
QSPA				LR	LR	03 08 44.9	
comp=Z,589nm,20.1s,baz=60,slow=33							
comp=Z,5.4nm,1.0s							
ARMA Armidale	**36.08**	**328**		P	**P**	**03 01 19.9**	**-0.4**
ARMA				IAmb	IAmb	03 01 34.7	
comp=Z,22nm,1.4s							
BELA Belgrano 2	**37.52**	**171**		P	**P**	**03 01 32.7**	**+0.8**
STKA Stephens Creek	**37.53**	**313**		LR	LR	03 13 37.4	
comp=Z,188nm,20.7s,baz=172,slow=31							
MAW Mawson	**39.67**	**214**		LR	LR	03 18 06.8	
comp=Z,314nm,18.7s,baz=133,slow=36							
EIDS Eidsvold	**41.06**	**329**		P	**P**	**03 02 02.6**	**+0.6**
EIDS				IAmb	IAmb	03 02 14.9	
comp=Z,21nm,1.2s							
DZM Mont Dzumac	**41.99**	**351**		LR	LR	03 17 42.1	
comp=Z,400nm,19.2s,baz=212,slow=33							
SYO Syowa Base	**43.40**	**202**		*e*P	**P**	**03 02 18.1**	**-2.4**
SNAA Sanae	**44.72**	**182**		P	**P**	**03 02 31.3**	**+0.1**
SNAA Sanae	**44.72**	**182**		P	**P**	**03 02 31.5**	**+0.3**
comp=Z,2.8nm,0.9s,baz=176,slow=5.7,SNR=4.5							
SNAA				LR	LR	03 20 29.4	
comp=Z,648nm,18.6s,baz=222,slow=35							
comp=Z,2.8nm,0.9s							
H01W1 Cape Leeuwin H	**45.64**	**280**		T	T	03 51 57.9	
baz=148,slow=76,SNR=13							
H01W2 Cape Leeuwin H	**45.65**	**280**		T	T	03 51 54.4	
baz=148,slow=76,SNR=13							
H01W3 Cape Leeuwin H	**45.66**	**280**		T	T	03 51 53.2	
baz=148,slow=76,SNR=13							
MSVF Nonsavu	**46.21**	**7**		LR	LR	03 19 26.7	
comp=Z,144nm,18.4s,baz=176,slow=33							
RAR Rarotonga	**46.37**	**36**		LR	LR	03 18 36.8	
comp=Z,134nm,18.5s,baz=210,slow=31							
TBI Tubuai	**47.46**	**50**		*e*LR	LR	03 16 02.4	
comp=Z,969nm,26.8s							
TBI				*e*LR	LR	03 16 11.7	
comp=Z,1μm,25.5s							
ASAR Alice Springs	**47.68**	**309**		P	**P**	**03 02 54.7**	**-0.3**
ASAR Alice Springs	**47.68**	**309**		P	**P**	**03 02 55.9**	**+0.9**
comp=Z,3.2nm,0.8s,baz=156,slow=7.6,SNR=30							
comp=Z,3.2nm,0.8s							
AS31 Alice Springs	**47.68**	**309**		P	**P**	**03 02 55.9**	**+0.9**
WR0 Warramunga Arr	**50.90**	**311**		P	**P**	**03 03 19.6**	**+0.1**
WR0				IAmb	IAmb	03 03 34.6	
comp=Z,8.3nm,1.1s							
WR8 Warramunga Arr	**50.91**	**311**		P	**P**	**03 03 19.3**	**-0.4**
WR8				IAmb	IAmb	03 03 30.5	
comp=Z,8.7nm,1.2s							
WB2 Warramunga Arr	**50.97**	**311**		P	**P**	**03 03 20.2**	**+0.1**
WRA Warramunga Arr	**50.98**	**311**		P	**P**	**03 03 20.2**	**0.0**
comp=Z,2.5nm,0.8s,baz=163,slow=6.3,SNR=17							
WRA				LR	LR	03 22 59.9	
comp=Z,224nm,19.0s,baz=184,slow=34							
comp=Z,2.5nm,0.8s							
WB0 Warramunga Arr	**51.12**	**311**		P	**P**	**03 03 21.4**	**+0.1**
WB0				IAmb	IAmb	03 03 21.9	
comp=Z,7.5nm,1.1s							
PPT2 Papeete2	**52.79**	**47**		*e*S	**S**	**03 11 01.8**	**-0.1**
comp=Z,88nm,25.2s							
PPT2				*e*LR	LR	03 18 26.3	
comp=Z,188nm,25.2s							
PPT2				*e*LR	LR	03 18 34.9	
comp=Z,276nm,25.8s							
PPT Papeete	**52.81**	**47**		LR	LR	03 19 49.1	
comp=Z,103nm,19.5s,baz=184,slow=29							
PSA00 Pilbara Seismi	**54.88**	**294**		P	**P**	**03 03 50.5**	**+1.5**
PSA00				IAmb	IAmb	03 03 54.0	
comp=Z,8.2nm,1.0s							
HNR Honiara	**55.12**	**344**		LR	LR	03 23 00.0	
comp=Z,181nm,21.9s,baz=165,slow=31							
KNRA Kununurra	**56.86**	**307**		P	**P**	**03 04 03.7**	**+0.5**
SAUI Saumlaki	**63.16**	**312**		P	**P**	**03 04 44.8**	**-1.6**
TAOE Nuku Hiva Isla	**64.13**	**53**		*e*LR	LR	03 23 40.8	
comp=Z,180nm,29.4s							
H03S2 Juan Fernandez	**67.53**	**121**		T	T	04 19 21.8	
baz=205,slow=74,SNR=28							
H03S1 Juan Fernandez	**67.53**	**121**		T	T	04 19 23.1	
baz=205,slow=74,SNR=35							
H03S3 Juan Fernandez	**67.54**	**121**		T	T	04 19 22.4	
baz=205,slow=74,SNR=32							
H03N3 Juan Fernandez	**67.87**	**121**		T	T	04 19 40.1	
baz=206,slow=73							
H03N2 Juan Fernandez	**67.88**	**121**		T	T	04 19 42.0	
baz=206,slow=73							
H03N1 Juan Fernandez	**67.88**	**121**		T	T	04 19 44.5	
baz=206,slow=73							
PEL Peldehue	**71.17**	**127**		P	**P**	**03 05 37.0**	**-0.1**
SUR Sutherland	**81.59**	**204**		LR	LR	03 40 26.3	
comp=Z,502nm,19.8s,baz=150,slow=34							
BOSA Boshof	**84.39**	**208**		LR	LR	03 41 46.1	
comp=Z,250nm,20.4s,baz=170,slow=34							
LPAZ La Paz	**87.47**	**123**		P	**P**	**03 07 07.1**	**+0.2**
LPAZ				IAmb	IAmb	03 07 08.1	
comp=Z,5.2nm,1.3s							
H08S2 Diego Garcia H	**87.79**	**257**		T	T	04 44 41.8	
baz=153,slow=76,SNR=252							
H08S1 Diego Carcia H	**87.80**	**257**		T	T	04 44 40.2	
baz=153,slow=76,SNR=178							
LBTB Lobatse	**87.80**	**209**		LR	LR	03 43 51.5	
comp=Z,223nm,20.2s,baz=150,slow=34							
H08S3 Diego Garcia H	**87.81**	**257**		T	T	04 44 40.9	
baz=153,slow=76,SNR=264							
TSUM Tsumeb	**95.03**	**203**		LR	LR	03 49 50.7	
comp=Z,335nm,18.2s,baz=156,slow=35							
CMAR Chiang Mai Arr	**99.58**	**292**		LR	LR	03 49 16.2	
comp=Z,16nm,21.9s,baz=215,slow=33							
OK048 Pawnee Station	**122.03**	**72**			**PKPdf**	**03 13 11.3**	**-1.0**
H02S1 DAWSON INLET T	**124.16**	**36**		T	T	05 29 43.3	
SNR=18							
ILAR Eielson Array	**131.67**	**22**		PKP	**PKiKP**	**03 13 31.4**	**+0.6**
comp=Z,0.7nm,0.8s,baz=243,slow=2.6,SNR=7.6							
KURBB Kurchatov Arra	**135.47**	**295**		PKP	**PKiKP**	**03 13 38.1**	**-0.8**
comp=Z,0.2nm,0.4s,baz=150,slow=2.0,SNR=2.5							
YKA Yellowknife Ar	**137.04**	**41**		PKP	**PKPdf**	**03 13 39.9**	**0.0**
comp=Z,0.1nm,0.8s,baz=222,slow=1.4,SNR=2.5							
A36M Sachs Harbour	**141.89**	**26**			PKPpre	03 13 44.2	
KBZ Khabaz	**145.52**	**258**		PKPbc	**PKPab**	**03 13 56.5**	**+0.4**
comp=Z,3.6nm,0.9s,baz=204,slow=3.0,SNR=5.5							
NRIK Noril'sk	**145.64**	**321**			**PKPbc**	**03 13 55.4**	**-0.1**
NRIK Noril'sk	**145.64**	**321**		PKPbc	**PKPab**	**03 13 56.5**	**+0.6**
comp=Z,7.7nm,0.8s,baz=119,slow=3.9,SNR=14							
BRTR Keskin Array B	**146.08**	**244**		PKPbc	**PKPab**	**03 13 59.3**	**+0.7**
comp=Z,1.0nm,0.8s,baz=123,slow=4.6,SNR=5.0							
ARTI Arti	**147.95**	**288**		PKPdf	**PKPdf**	**03 14 00.4**	**+1.0**

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*NEIC **28** 03:03:36.6±1.2,17°.9S±0°.2×178°.0W±0°.1,h628km±9km, mb4.3/29, Error ellipse: s-maj=24.1km s-min=12.4km az=150.0*
*IDC **28** 03:03:40.5±2.9,17°.52S×178°.76W,h631km±20km,mb3.7/3, mbtmp4.6/4, Error ellipse: s-maj=96.2km s-min=28.1km az=141.0*
ISC 28 03:03:34.2±0.8,17°.9S±0°.1×177°.9W±0°.1,h600km,n39, σ1s11/41,mb4.3/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF Nonsavu	**3.85**	**272**		P	**P**	**03 05 02.4**	**+3.6**
19nm,0.7s,baz=89,slow=4.6,SNR=17							
BKZ Black Stump Fm	**21.74**	**192**		P	**P**	**03 07 43.0**	**-0.4**
QRZ Quartz Range	**24.28**	**198**		P	**P**	**03 08 06.8**	**+0.8**
PLWZ Palliser	**24.30**	**193**		P	**P**	**03 08 06.2**	**+0.1**
DSZ Denniston Nort	**25.34**	**198**		P	**P**	**03 08 16.8**	**+1.5**
EIDS Eidsvold	**29.72**	**250**		P	**P**	**03 08 53.3**	**-0.3**
ARMA Armidale	**30.35**	**240**		P	**P**	**03 08 59.8**	**+0.7**
ARMA				IAmb	IAmb	03 09 10.8	
comp=Z,15nm,1.3s							
CAN Canberra	**34.09**	**233**		P	**P**	**03 09 31.1**	**+0.6**
CAN				IAmb	IAmb	03 10 07.5	
comp=Z,14nm,1.4s							
COEN Coen	**37.58**	**270**			**P**	**03 09 59.3**	**-0.2**
STKA Stephens Creek	**39.05**	**241**		P	**P**	**03 10 11.6**	**+0.4**
STKA Stephens Creek	**39.05**	**241**		P	**P**	**03 10 11.5**	**+0.4**
comp=Z,2.6nm,0.3s,baz=70,slow=10,SNR=11							
comp=Z,2.6nm,0.3s							
BBOO Buckleboo	**43.82**	**241**		P	**P**	**03 10 48.6**	**-0.1**
BBOO				IAmb	IAmb	03 10 49.1	
comp=Z,9.6nm,0.9s							
WR8 Warramunga Arr	**44.95**	**259**		P	**P**	**03 10 55.9**	**-1.6**
WB0 Warramunga Arr	**45.07**	**260**			**P**	**03 10 56.7**	**-1.7**
WB0				IAmb	IAmb	03 10 57.7	
comp=Z,6.3nm,0.5s							
WB2 Warramunga Arr	**45.09**	**259**		P	**P**	**03 10 57.3**	**-1.3**
WB2				IAmb	IAmb	03 10 58.0	
comp=Z,6.2nm,0.6s							
WRA Warramunga Arr	**45.10**	**259**		P	**P**	**03 10 56.8**	**-1.9**
WRA Warramunga Arr	**45.10**	**259**		P	**P**	**03 10 57.1**	**-1.5**
comp=Z,3.3nm,0.3s,baz=96,slow=7.5,SNR=102							
WRA				PcP	**PcP**	**03 12 26.3**	**+0.1**
comp=Z,0.3nm,0.3s,baz=89,slow=3.2,SNR=3.2							
comp=Z,3.3nm,0.3s							
AS31 Alice Springs	**45.25**	**254**			**P**	**03 10 59.1**	**-0.7**
AS31				IAmb	IAmb	03 11 00.1	
comp=Z,5.2nm,0.5s							
ASAR Alice Springs	**45.25**	**254**			**P**	**03 10 59.3**	**-0.5**
ASAR Alice Springs	**45.25**	**254**		P	**P**	**03 10 59.1**	**-0.7**
comp=Z,16nm,0.5s,baz=86,slow=8.6,SNR=277							
ASAR				PcP	**PcP**	**03 12 26.9**	**+0.2**
comp=Z,1.2nm,0.6s,baz=110,slow=3.7,SNR=5.9							
comp=Z,16nm,0.5s							
MTN Manton Dam	**49.27**	**268**		P	**P**	**03 11 28.7**	**-1.2**
MTN				IAmb	IAmb	03 11 32.9	
comp=Z,17nm,1.2s							
FORT Forrest	**50.44**	**245**		P	**P**	**03 11 37.3**	**-0.9**
FORT				IAmb	IAmb	03 11 59.5	
comp=Z,20nm,1.0s							
KNRA Kununurra	**50.96**	**264**		P	**P**	**03 11 41.3**	**-0.9**
KNRA				IAmb	IAmb	03 12 03.8	
comp=Z,14nm,1.2s							
FITZ Fitzroy Crossi	**53.50**	**260**		P	**P**	**03 11 59.5**	**-0.7**
PSA00 Pilbara Seismi	**58.37**	**255**		P	**P**	**03 12 32.9**	**-0.8**
PSA00 Pilbara Seismi	**58.37**	**255**		P	**P**	**03 12 32.6**	**-1.1**
PSA00				IAmb	IAmb	03 13 06.6	
comp=Z,16nm,1.2s							
MBWA Marble Bar	**58.54**	**256**		P	**P**	**

UTHA	Uthaitani	6.16	44	P	Pn	03 09 42.9	-1.4
LHMI	Lhok Sumawe	6.17	162	P	Pn	03 09 46.1	+1.7
NAYO	Nakonayok	6.92	62	P	Pn	03 09 52.1	-2.6
MLSI	Meulaboh, Aceh	6.96	168	P	Pn	03 09 55.3	+0.1
	1.5nm5µm330nm,0.9s						
PHIT	Phitsanulok	7.98	40	P	Pn	03 10 10.5	+1.2
KULM	Kulim	8.05	136	Pn	Pn	03 10 07.8	-2.4
CMAR	Chiang Mai Arr	8.21	27	Pn	Pn	03 10 12.3	-0.2
	0.8nm,0.3s,baz=214,slow=15,SNR=30						
CMAR				Lg	Lg	03 12 25.1	
	baz=202,slow=31						
CMAR				LR	LR	03 13 38.6	
	comp=Z,351nm,18.2s,baz=205,slow=40						
	7.1nm,0.7s						
CMAR	Chiang Mai Arr	8.21	27	*i* P	Pn	03 10 12.8	+0.3
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHAI	Chaiyaphum	8.28	54	P	Pn	03 10 12.2	-1.1
CHTO	Chiang Mai	8.53	26	Pn	Pn	03 10 16.1	-0.7
CHTO	Chiang Mai	8.53	26	P	Pn	03 10 16.5	-0.3
CHTO	Chiang Mai	8.53	26	P	Pn	03 10 16.1	-0.7
SNSI	Sinabang, Aceh	8.76	171	P	Pn	03 10 19.9	-0.1
	comp=Z,71nm,0.5s						
PSI	Prapat	9.14	155	Pn	Pn	03 10 26.0	+0.7
	comp=Z,0.8nm,0.3s,baz=351,slow=13,SNR=14						
PSI				LR	LR	03 14 22.2	
	comp=Z,334nm,19.0s,baz=324,slow=40						
	comp=Z,6.0nm,0.6s						
RPSI	Rantau Prapat	9.24	155		Pn	03 10 25.4	-1.1
RPSI	Rantau Prapat	9.24	155		Pn	03 10 26.0	-0.5
GSI	Gunungsitoli	10.09	165	P	Pn	03 10 39.1	+0.9
	comp=Z,22nm,0.9s						
CRAI	Chiangrai	10.41	29	Pn	Pn	03 10 41.3	-1.4
CRAI	Chiangrai	10.41	29	P	Pn	03 10 45.4	+2.7
UBPT	Khong Chiam	10.98	67	Pn	Pn	03 10 48.2	-2.3
BRDH	Bariadhala	11.93	345	Pn	Pn	03 11 02.3	-1.0
	comp=Z,84nm,0.3s,baz=65,slow=9.9,SNR=6.8						
AZL	Aizawl	12.73	350	*e*P	Pn	03 11 10.0	-4.5
DLV	Lat	13.23	85		Pn	03 11 19.7	-1.7
IMP	Imphal	13.66	356	*e*P	Pn	03 11 22.6	-4.6
RAGD	RAYAGADA	13.76	307	*e*P	Pn	03 11 27.0	-1.4
RAGD				IAmb	IAmb	03 11 29.0	
	comp=Z,73nm,0.7s						
RAGD				*e*S	Sn	03 13 58.7	-2.1
TNCH	TengChong	14.22	13	*e*P	Pn	03 11 35.8	+0.9
TNCH				S	Sn	03 14 13.5	+1.3
TNCH				SS	S	03 14 30.3	-2.4
TNCH				pmax	pmax		
	comp=Z,330nm,5.4s						
TNCH				LR	LR		
	comp=Z,1µm,10.6s						
TNCH				LR	LR		
	comp=Z,2µm,7.6s						
TNCH				LR	LR		
	comp=Z,960nm,9.9s						
KOHI	KOHIMA	14.54	357	*e*P	Pn	03 11 32.6	-6.6
PALK	Pallekele	14.63	256		Pn	03 11 40.4	-0.1
PALK	Pallekele	14.63	256	P	P	03 11 47.0	+0.3
PALK				P	P	03 11 47.0	+0.3
PALK				S	S	03 14 34.5	-6.5
PALK				S	S	03 14 34.5	-6.5
PALK	Pallekele	14.63	256	P	Pn	03 11 40.4	-0.1
JHSG	JHARSUGUGA	15.09	316	*e*P	Pn	03 11 44.8	-1.7
JHSG				IAmb	IAmb	03 11 54.2	
	comp=Z,69nm,0.7s						
KMI	Kunming	15.73	27	P	P	03 11 57.3	-1.7
KMI				PP	pwP	03 12 08.0	+0.2
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				LR	LR		
	comp=Z,870nm,10.4s						
KMI				LR	LR		
	comp=Z,1µm,8.9s						
KMI				LR	LR		
	comp=Z,860nm,9.4s						
LKP	Lekhapani	16.14	3	*e*P	Pn	03 11 56.5	-3.6
DIBR	DIBRUGARH	16.25	360	*e*P	P	03 12 05.5	+1.0
QIZ	Qiongzhong	16.32	59	Pn	Pn	03 12 00.8	-1.8
QIZ	Qiongzhong	16.32	59	P	Pn	03 12 01.3	-1.2
QIZ				S	Sn	03 15 00.8	-2.4
QIZ				sS	S	03 15 18.3	+2.8
QIZ				pmax	pmax		
	comp=Z,33nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,230nm,3.5s						
QIZ				LR	LR		
	comp=Z,2µm,8.2s						
QIZ				LR	LR		
	comp=Z,570nm,9.3s						
QIZ				LR	LR		
	comp=Z,2µm,9.0s						
ZIRO	ZIRO	16.35	356	*e*P	Pn	03 11 55.5	-7.4
BLSP	Bilaspur	16.48	313	*e*P	Pn	03 12 03.4	-1.1
BLSP				IAmb	IAmb	03 12 08.7	
	comp=Z,93nm,0.8s						
SALM	Salem	16.49	273	*e*P	P	03 12 08.7	+1.5
PZH	PanZhiHua	16.56	22	P	P	03 12 08.0	-0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,3.5s						
PZH				LR	LR		
	comp=Z,590nm,9.8s						
PZH				LR	LR		
	comp=Z,730nm,9.2s						
PZH				LR	LR		
	comp=Z,690nm,9.2s						
TAWA	Tawang	16.64	350	*e*P	Pn	03 12 05.4	-1.5
HYB	Hyderabad	17.13	293	*e*P	Pn	03 12 12.4	-0.3
GTK	Tadong	17.20	340	*e*P	Pn	03 12 09.9	-3.7
KOD	Kodaikanal	17.27	269	*e*P	P	03 12 19.5	+3.4
KOD				IAmb	IAmb	03 12 21.5	
	comp=Z,88nm,0.9s						
KSM	Kuching	17.96	121	P	Pn	03 12 23.1	-0.1
MDSI	Maura Dua	18.00	149	P	Pn	03 12 21.4	-2.1
NGP	Nagpur	18.27	305	*e*P	P	03 12 27.4	+0.5
NGP				IAmb	IAmb	03 12 30.6	
	comp=Z,35nm,1.0s						
TPI	Tanjungpandan	18.67	137	P	Pn	03 12 31.9	+0.2
	comp=Z,1µmcomp=Z,53nm,1.3s						
GYA	Guiyang	18.80	34	⇓P	Pn	03 12 33.8	+0.5
GYA				S	Sn	03 16 02.0	-1.3
GYA				pmax	pmax		
	comp=Z,40nm,0.7s						
GYA				pmax	pmax		
	comp=Z,170nm,3.5s						
GYA				LR	LR		
	comp=Z,1µm,11.6s						
GYA				LR	LR		
	comp=Z,1µm,9.5s						
GYA				LR	LR		
	comp=Z,810nm,17.8s						
ALBI	Allahabad	18.85	320	*e*P	P	03 12 33.3	+0.1
ALBI				IAmb	IAmb	03 12 40.9	
	comp=Z,157nm,1.2s						
KASI	Kota Agung	19.05	150	P	P	03 12 33.5	-2.0
	comp=Z,23nm,0.7s						
SBUM	Sibu	19.13	116	P	P	03 12 35.3	-1.0
LATR	Latur	19.25	294	*e*P	Pn	03 12 39.2	+0.5
LATR				IAmb	IAmb	03 12 40.3	
	comp=Z,91nm,0.8s						
STKI	Sintang	19.71	123	P	P	03 12 43.4	+0.6
AKL	Akola	19.73	301	*e*P	Pn	03 12 44.1	-0.4
AKL				IAmb	IAmb	03 12 46.2	
	comp=Z,68nm,1.1s						
NRDN	NARMADA NAGAR	20.57	306	*e*P	Pn	03 12 55.3	+1.0
NRDN				IAmb	IAmb	03 13 02.6	
	comp=Z,105nm,0.6s						
KAD	Karad	21.09	289	*e*P	P	03 12 59.5	+1.7
KAD				IAmb	IAmb	03 13 01.2	
	comp=Z,119nm,0.8s						
CD2	Chengdu	21.29	21	P	P	03 12 59.5	-0.3
CD2				S	S	03 16 56.3	+0.7
CD2				pmax	pmax		
	comp=Z,80nm,0.8s						
CD2				LR	LR		
	comp=Z,1µm,10.8s						
GUNA	GUNA	21.50	311	*e*P	P	03 13 03.3	+1.1
GUNA				IAmb	IAmb	03 13 04.8	
	comp=Z,169nm,0.9s						
KKM	Kota Kinabalu	21.56	102	P	P	03 13 02.6	-0.3
KKM				IAmb	IAmb	03 13 16.7	
	comp=Z,172nm,1.0s						
LEM	Lembang	21.81	144	P	P	03 13 07.1	+1.5
	comp=Z,20nm,0.4s,baz=16,slow=16,SNR=5.3						
	comp=Z,20nm,0.4s						
HMDM	Hanimaadhoo	21.99	260	P	P	03 13 09.6	+2.2
HMDM				IAmb	IAmb	03 13 12.1	
	comp=Z,110nm,0.9s						
HMDM	Hanimaadhoo	21.99	260	P	P	03 13 11.4	+4.0
	SNR=8.1						
BOM	Bombay	22.77	292	*e*P	P	03 13 17.4	+1.7
BOM				IAmb	IAmb	03 13 20.0	
	comp=Z,33nm,0.7s						
PTH	Pithoragarh	22.94	325	*e*P	P	03 13 17.3	-0.3
PTH				IAmb	IAmb	03 13 20.1	
	comp=Z,48nm,0.7s						
COCO	West Island	23.24	175	P	P	03 13 19.9	-0.6
COCO	West Island	23.24	175	P	P	03 13 19.9	-0.6
COCO				pmax	pmax		
	comp=Z,121nm,0.9s						
SMRI	Semarang	23.70	139	P	P	03 13 26.1	+0.9
	comp=Z,108nm,0.8s						
SONA	Sohna	23.92	318	*e*P	P	03 13 27.3	+0.2
SONA				IAmb	IAmb	03 13 36.1	
	comp=Z,57nm,0.8s						
XMIS	Christmas Isla	23.93	153	P	P	03 13 26.7	-0.6
XMIS				IAmb	IAmb	03 13 28.0	
	comp=Z,59nm,0.8s						
MYLDM	Lahad Datu	23.98	102	P	P	03 13 25.6	-2.2
MYLDM				IAmb	IAmb	03 13 29.8	
	comp=Z,422nm,1.9s						
AYAN	Aya Nagar	24.05	318	*e*P	P	03 13 28.8	+0.5
JOSI	Joshimath	24.07	326	*e*P	P	03 13 28.4	-0.3
JOSI				IAmb	IAmb	03 13 36.7	
	comp=Z,124nm,0.9s						
NDI	New Delhi	24.13	319	*e*P	P	03 13 28.8	-0.3
NDI				IAmb	IAmb	03 13 30.9	
	comp=Z,92nm,0.7s						
NPLP	NPLP New Delhi	24.13	319	*e*P	P	03 13 28.7	-0.3
KUDL	Kundal	24.25	317	*e*P	P	03 13 29.9	-0.2
KUDL				IAmb	IAmb	03 13 32.2	
	comp=Z,61nm,0.9s						
BHV	Bhavnagar	24.31	299	*e*P	P	03 13 32.9	+2.2
BHV				IAmb	IAmb	03 13 35.8	
	comp=Z,42nm,0.8s						
AJM	Ajmer	24.54	311	*e*P	P	03 13 33.5	+0.6
AJM				IAmb	IAmb	03 13 36.7	
	comp=Z,82nm,1.0s						
NGJI	Ngawi	24.61	138	P	P	03 13 34.7	+1.2
	comp=Z,60nm,1.0s						
GOMU	GeErMu	24.96	360	P	P	03 13 38.0	+1.1
GOMU				pP	pP	03 13 41.5	-0.7
GOMU				sP	pwP	03 13 46.0	-0.2
GOMU				S	S	03 17 59.0	-0.9
GOMU				pmax	pmax		
	comp=Z,28nm,0.8s						
GOMU				LR	LR		
	comp=Z,390nm,9.0s						
GOMU				LR	LR		
	comp=Z,250nm,8.4s						
GOMU				LR	LR		
	comp=Z,350nm,8.2s						
TGY	Tagaytay City	25.46	81	LR	LR	03 23 13.3	
	comp=Z,473nm,18.9s,baz=314,slow=36						
KLP	Kalpa	25.54	325	*e*P	P	03 13 41.8	-0.5
KLP				IAmb	IAmb	03 13 51.7	
	comp=Z,146nm,1.3s						
LZH	Lanzhou	26.10	16	*e*P	P	03 13 45.3	-1.8
LZH				pmax	pmax		
	comp=Z,32nm,0.5s						
LZH				LR	LR		
	comp=Z,500nm,11.0s						
LZH				LR	LR		
	comp=Z,570nm,10.3s						
LZH				LR	LR		
	comp=Z,680nm,12.3s						
HNLY	HANLEY	26.11	328	*e*P	P	03 13 47.0	-0.6
HNLY				IAmb	IAmb	03 13 49.2	
	comp=Z,37nm,0.8s						
XAN	Xi'an	26.11	27	P	P	03 13 45.5	-1.6
XAN				pP	pP	03 13 52.0	-0.4
XAN				PP	PnPn	03 14 31.0	+5.3
XAN				S	S	03 18 17.5	-0.1
XAN				pmax	pmax		
	comp=Z,25nm,0.8s						
XAN				pmax	pmax		
	comp=Z,190nm,3.8s						
XAN				LR	LR		
	comp=Z,1µm,12.4s						
XAN				LR	LR		
	comp=Z,1µm,14.8s						
XAN				LR	LR		
	comp=Z,1µm,11.0s						
GMJI	Gumukmas	26.61	136	P	P	03 13 52.2	+0.6
	comp=Z,30nm,1.5s						
JAGI	Jajag, Banyuwa	27.24	135	P	P	03 13 56.3	-1.0
JAGI				IAmb	IAmb	03 13 58.2	
	comp=Z,39nm,1.1s						
JAGI	Jajag, Banyuwa	27.24	135	P	P	03 13 57.4	+0.1
	comp=Z,34nm,1.1s						
THN	Thein Dam	27.66	323	*e*P	P	03 14 00.5	-0.5
SRBI	Singaraja	27.72	133	P	P	03 14 01.4	-0.2
	comp=Z,55nm,0.9s						
LYN	LuoYang	28.23	32	P	P	03 14 05.8	-0.2
LYN				pmax	pmax		
	comp=Z,32nm,1.2s						
LYN				LR	LR		
	comp=Z,2µm,11.0s						
LYN				LR	LR		
	comp=Z,970nm,9.6s						
LYN				LR	LR		
	comp=Z,1µm,13.1s						
TTSI	Tana Toraja	28.42	118	P	P	03 14 08.1	+0.2
	comp=Z,25nm,1.2s						
GTA	Gaotai	28.49	8	*e*P	P	03 14 09.8	+1.4
GTA				PcP	PcP	03 17 21.0	+0.9
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GTA				LR	LR		
	comp=Z,170nm,15.1s						
GTA				LR	LR		
	comp=Z,160nm,16.3s						
GTA				LR	LR		
	comp=Z,170nm,17.9s						
MRSI	Marisa	28.77	110	P	P	03 14 11.6	+0.6
	comp=Z,63nm,1.2s						
KAPI	Kappang	29.39	122	LR	LR	03 26 03.7	
	comp=Z,188nm,18.2s,baz=266,slow=36						
BKSI	Bulukumba	29.86	122	P	P	03 14 20.3	-0.4
	comp=Z,23nm,1.4s						
NIL	Nilore	29.99	322	P	P	03 14 21.2	-0.6
NIL	Nilore	29.99	322	P	P	03 14 21.2	-0.6
NIL				pmax	pmax		
	comp=Z,19nm,0.8s						
LUWI	Luwuk	30.13	112	P	P	03 14 22.5	-0.7
LUWI				IAmb	IAmb	03 14 26.9	
	comp=Z,64nm,1.0s						
LUWI	Luwuk	30.13	112	P	P	03 14 22.6	-0.5
	comp=Z,65nm,0.9s						
NJ2	Nanjing	30.28	43	⇑P	P	03 14 24.0	-0.2
NJ2				pP	pP	03 14 28.0	-1.6
NJ2				pmax	pmax		
	comp=Z,35nm,0.5s						
KMSI	Cibinong	30.63	108	P	P	03 14 27.3	-0.2
TIY	Taiyuan	30.74	28	S	S	03 19 31.3	+0.8
SSE	Sheshan	31.33	47	P	P	03 14 33.5	-0.1
SSE				S	S	03 19 41.0	+1.3
SSE				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SSE				pmax	pmax		
	comp=Z,95nm,4.5s						
SSE				LR	LR		
	comp=Z,220nm,14.4s						
SSE				LR	LR		
	comp=Z,220nm,14.3s						
HNS	HongShan	31.58	31	⇑P	P	03 14 35.8	+0.1
HNS				pmax	pmax		
	comp=Z,16nm,1.1s						
HNS				LR	LR		
	comp=Z,470nm,13.7s						
HNS				LR	LR		
	comp=Z,730nm,14.7s						
HNS				LR	LR		
	comp=Z,610nm,12.4s						
BTO	Baotou	32.21	22	*e*P	P	03 14 44.3	+3.0
BTO				pP	sP	03 14 49.3	+0.5
BTO				sP	pwP	03 14 51.5	+0.9
BTO				PP	PP	03 15 52.0	-2.3
BTO				sS	sS	03 20 05.8	+3.5
BTO				SS	SnSn	03 21 51.0	+5.9
BTO				pmax	pmax		
	comp=Z,16nm,1.7s						
BTO				pmax	pmax		
	comp=Z,340nm,5.6s						
BTO				LR	LR		
	comp=Z,1µm,9.4s						
BTO				LR	LR		
	comp=Z,1µm,10.5s						
BTO				LR	LR		
	comp=Z,910nm,10.7s						
KSH	Kashi	32.94	332	P	P	03 14 46.3	-1.5
KSH				pmax	pmax		
	comp=Z,47nm,0.7s						
HHC	Hu-ho-hao-te	33.00	23	⇑*i*P	P	03 14 49.0	+0.7
HHC				S	S	03 20 06.5	+0.7
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,100nm,5.0s						
HHC				LR	LR		
	comp=Z,550nm,9.2s						
HHC				LR	LR		
	comp=Z,250nm,12.8s						
HHC				LR	LR		
	comp=Z,570nm,10.7s						
WUS	Wushi	33.02	338	IAmb	IAmb	03 14 50.5	
	comp=Z,44nm,0.9s						
WMQ	Urumqi	33.18	350	*e*P	P	03 14 53.8	+4.1
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
KBL	Kabul	33.22	319	P	P	03 14 50.1	-0.2
KBL	Kabul	33.22	319	P	P	03 14 50.5	+0.2
KBL	Kabul	33.22	319	P	P	03 14 50.1	-0.2
KBL				pmax	pmax		
	comp=Z,15nm,1.0s						
TARG	Taragay, Kyrgy	34.01	337	IAmb	IAmb	03 14 60.0	
	comp=Z,35nm,0.9s						
BJI	Beijing	34.35	29	P	P	03 15 00.5	+0.6
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI				LR	LR		
	comp=Z,250nm,12.1s						
BJI				LR	LR		
	comp=Z,110nm,9.3s						
BJI				LR	LR		
	comp=Z,210nm,13.0s						
KDJ	Kajisay	34.60	336	P	P	03 15 02.0	-0.2
KDJ				IAmb	IAmb	03 15 04.1	
	comp=Z,31nm,1.1s						
KDJ	Kajisay	34.60	336	P	P	03 15 02.0	-0.2
KDJ				pmax	pmax		
	comp=Z,31nm,1.1s						
SHLS	Shalkode	34.65	340	*e*P	P	03 15 01.5	-1.1
SHLS				pmax	pmax		
	comp=Z,32nm,0.8s						
SHLS	Shalkode	34.65	340	*e*P	P	03 15 01.6	-1.1
	comp=Z,32nm,0.8s						
UZB	Uzynbulak	34.79	339	*e*P	P	03 15 03.8	-0.1
UZB				pmax	pmax		
	comp=Z,19nm,0.8s						
UZB	Uzynbulak	34.79	339	*e*P	P	03 15 03.9	0.0
	comp=Z,19nm,0.8s						
JOW	Kunigami	34.98	59	LR	LR	03 32 12.9	
	comp=Z,386nm,18.1s,baz=243,slow=41						
ZHN	Zhinishke	35.02	339	*e*P	P	03 15 05.8	+0.1
ZHN				pmax	pmax		
	comp=Z,19nm,0.9s						
ZHN	Zhinishke	35.02	339	*e*P	P	03 15 05.8	+0.1
	comp=Z,19nm,0.9s						
NGCH	Negor - Chabah	35.02	299	P	P	03 15 09.5	+3.7
ULHL	Ulahol	35.07	335	P	P	03 15 07.0	+0.7
	SNR=11						
GAR	Garm	35.41	326	IAmb	IAmb	03 15 09.6	
	comp=Z,37nm,0.8s						
TNSS	Tian-Shan	35.46	337	*e*P	P	03 15 09.7	-0.2
TNSS	Tian-Shan	35.46	337	*e*P	P	03 15 09.7	-0.2
MDOK	Medeo	35.53	337	*e*P	P	03 15 10.2	+0.1
MDOK	Medeo	35.53	337	*e*P	P	03 15 10.3	+0.1
AAA	Alma-Ata	35.62	337	*e*P	P	03 15 11.1	+0.3
AAA				pmax	pmax		
	comp=Z,51nm,1.0s						
AAA	Alma-Ata	35.62	337	*e*P	P	03 15 11.1	+0.3
	comp=Z,51nm,1.0s						
JLN	Jalan Bani Buh	35.74	292	P	P	03 15 15.0	+2.9
	SNR=18						
JLN				P	P	03 15 15.0	+2.9
	SNR=18						
TKM2	Tokmak 2	35.90	335	P	P	03 15 13.7	+0.3
	SNR=18						
BTK	Batken	35.90	328	IAmb	IAmb	03 15 15.0	
	comp=Z,24nm,0.8s						
BTK	Batken	35.90	328	P	P	03 15 13.5	+0.2
SIMJ	Simiganj	35.91	324	P	P	03 15 12.5	-1.0
SIMJ				IAmb	IAmb	03 15 13.5	
	comp=Z,30nm,0.8s						
AML	Almayashu	36.07	333	P	P	03 15 15.5	+0.4
	SNR=25						
AAK	Ala-Archa	36.13	334	P	P	03 15 15.1	-0.3
AAK	Ala-Archa	36.13	334	P	P	03 15 16.0	+0.7
AAK	Ala-Archa	36.13	334	P	P	03 15 16.2	+0.8
	SNR=11						
AAK	Ala-Archa	36.13	334	*c i*P	P	03 15 15.9	+0.6
WBK	Wadi Bani Khal	36.23	293	P	P	03 15 19.2	+2.9
	SNR=8.1						
WBK				P	P	03 15 19.2	+2.9
	SNR=8.1						
CHMS	Chumysh	36.31	335	P	P	03 15 16.9	+0.1
	SNR=6.2						
KUU	Kurty	36.42	337	*e*P	P	03 15 17.8	+0.2
KUU				pmax	pmax		
	comp=Z,31nm,1.3s						
KUU	Kurty	36.42	337	*e*P	P	03 15 17.8	+0.2
	comp=Z,31nm,1.3s						
DL2	Dalian	36.43	36	P	P	03 15 16.8	-1.0
DL2				S	S	03 21 01.0	+2.6
DL2				pmax	pmax		
	comp=Z,31nm,0.8s						
DL2				pmax	pmax		
	comp=Z,220nm,5.0s						
DL2				LR	LR		
	comp=Z,430nm,21.6s						
DL2				LR	LR		
	comp=Z,470nm,19.8s						
DL2				LR	LR		
	comp=Z,640nm,20.0s						
EKS2	Erkin-Say	36.46	333	P	P	03 15 19.0	+0.8
	SNR=15						
USP	Ospenovka	36.64	335	P	P	03 15 19.9	+0.4
	SNR=17						
TDK	Taldyqorghan	36.64	340	*e*P	P	03 15 19.7	+0.2
TDK	Taldyqorghan	36.64	340	*e*P	P	03 15 19.8	+0.2
SGDS	Sogindy	36.73	335	*e*P	P	03 15 20.4	0.0
SGDS	Sogindy	36.73	335	*e*P	P	03 15 20.4	0.0
MHTO	MHTO	36.84	290	P	P	03 15 23.4	+1.9
	SNR=8.8						
MHTO				P	P	03 15 23.4	+1.9
	SNR=8.8						
JMDO	Jabal Madar	36.97	292	P	P	03 15 24.9	+2.2
DQM	DQM	37.08	288	P	P	03 15 25.8	+2.3
MK31	Makanchi Array	37.14	345	*ce*P	P	03 15 23.9	+0.1
MKAR	Makanchi Array	37.14	345	P	P	03 15 23.6	-0.2
MKAR	Makanchi Array	37.14	345	P	P	03 15 24.3	+0.5
	comp=Z,19nm,0.8s,baz=154,slow=29,SNR=53						
MKAR				LR	LR	03 32 27.9	
	comp=Z,54nm,19.2s,baz=160,slow=39						
	comp=Z,19nm,0.8s						
SMDO	Samad	37.16	294	P	P	03 15 26.8	+2.5
	SNR=11						
SMDO				P	P	03 15 26.8	+2.5
	SNR=11						
BIDO	Bidbid	37.19	294	P	P	03 15 27.0	+2.6
ZSN	Zaisan	37.20	349	*e*P	P	03 15 24.5	+0.3
ZSN	Zaisan	37.20	349	*e*P	P	03 15 24.6	+0.3
MAKZ	Makanchi	37.23	345	P	P	03 15 24.1	-0.4
MAKZ	Makanchi	37.23	345	P	P	03 15 24.1	-0.4
MAKZ				pmax	pmax		
	comp=Z,19nm,0.8s						
XLT	XiLinHaoTe	37.39	25	⇑*i*P	P	03 15 26.5	+0.5
XLT				PcP	PcP	03 17 45.5	+0.8
XLT				S	S	03 21 10.8	-2.3
XLT				pmax	pmax		
	comp=Z,17nm,1.0s						
XLT				pmax	pmax		
	comp=Z,99nm,4.4s						
XLT				LR	LR		
	comp=Z,1µm,15.7s						

XLT LR LR
comp=Z,540nm,11.9s
SONM Songino Array 37.82 13 P **P 03 15 28.5 -1.1**
SONM Songino Array 37.82 13 P **P 03 15 29.8 +0.2**
comp=Z,4.9nm,1.0s,baz=197,slow=8.8,SNR=23
SONM PcP **PcP 03 17 46.2 +0.2**
comp=Z,2.1nm,1.0s,baz=259,slow=1.5,SNR=3.0
SONM LR LR 03 30 50.4
comp=Z,73nm,20.9s,baz=212,slow=36
comp=Z,4.9nm,1.0s
IUG Iuzhnay 37.83 329 *e*P **P 03 15 29.8 0.0**
IUG pmax pmax
comp=Z,19nm,0.6s
IUG Iuzhnay 37.83 329 *e*P **P 03 15 29.8 0.0**
comp=Z,19nm,0.6s
BSY Bisya 37.86 293 P **P 03 15 32.8 +2.6**
BSY P **P 03 15 32.8 +2.6**
HOQ Hoqain 37.93 294 P **P 03 15 32.9 +2.1**
SNR=10.0
HOQ P **P 03 15 32.9 +2.1**
SNR=10.0
ULN Ulaanbaatar 37.99 13 P **P 03 15 30.1 -1.0**
ULN Ulaanbaatar 37.99 13*c i*P **P 03 15 31.2 +0.1**
BTLS Baital 38.28 336 *e*P **P 03 15 33.4 +0.1**
BTLS Baital 38.28 336 *e*P **P 03 15 33.5 +0.1**
KKAR Karatay Array 38.31 331 P **P 03 15 32.6 -1.1**
KKAR Karatay Array 38.31 331 IAmb IAmb 03 15 41.8
comp=Z,5.0nm,0.8s
KKAR Karatay Array 38.31 331 P **P 03 15 32.6 -1.1**
TJN Taejon 38.52 44⇑*e*P **P 03 15 34.7 -0.8**
SOHO SOHO 38.75 295 P **P 03 15 39.5 +1.9**
SOHO P **P 03 15 39.5 +1.9**
UOSS Minazif 39.22 296 P **P 03 15 42.5 +0.9**
HATD Hatta, Dubai 39.26 296 P **P 03 15 44.3 +2.4**
ASHO Ashiyiah 39.29 295 P **P 03 15 44.0 +1.8**
SNR=5.6
DMTO DMTO 39.29 284 P **P 03 15 43.9 +1.7**
MASF Masafi 39.36 297 P **P 03 15 44.9 +2.1**
ALNE Al Ain 39.43 294 P **P 03 15 45.2 +1.9**
KSRS Korea Array 39.48 43 P **P 03 15 42.4 -1.2**
comp=Z,1.4nm,0.8s,baz=240,slow=9.8,SNR=6.9
KSRS LR LR 03 32 12.5
comp=Z,110nm,19.3s,baz=230,slow=37
comp=Z,1.4nm,0.8s
JNU Nakatsue 39.49 51 LR LR 03 34 15.1
comp=Z,139nm,20.2s,baz=219,slow=40
SNY Shenyang 39.50 34⇑P **P 03 15 43.3 -0.3**
SNY pmax pmax
comp=Z,14nm,1.4s
SHME Shamm 39.54 298 P **P 03 15 46.0 +1.8**
SHME P **P 03 15 46.0 +1.8**
ZAK Zakamensk 39.72 8 *e*P **P 03 15 45.7 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.7s
ASUD Al Ashush, Dub 39.92 295 P **P 03 15 49.2 +1.8**
DOK Doka 40.14 286 P **P 03 15 51.2 +2.0**
SNR=8.8
DOK P **P 03 15 51.2 +2.0**
SNR=8.8
MBWA Marble Bar 40.24 143 P **P 03 15 48.8 -1.3**
MBWA IAmb IAmb 03 15 50.5
comp=Z,45nm,1.0s
MBWA Marble Bar 40.24 143 P **P 03 15 48.7 -1.3**
comp=Z,49nm,1.1s
WHFO Wadi Hawf 40.42 285 P **P 03 15 53.3 +1.6**
SNR=7.4
WHFO P **P 03 15 53.3 +1.6**
SNR=7.4
PSA00 Pilbara Seismi 40.63 143 P **P 03 15 52.4 -0.8**
PSA00 Pilbara Seismi 40.63 143 P **P 03 15 52.1 -1.1**
comp=Z,73nm,1.0s
MOY Mondy 40.71 6 *e*P **P 03 15 53.9 +0.2**
ABTO Aybut 40.84 284 P **P 03 15 56.8 +1.7**
SNR=7.1
KURBB Kurchatov Arra 41.64 344 P **P 03 16 01.2 0.0**
comp=Z,16nm,0.8s,baz=164,slow=7.7,SNR=148
KURBB LR LR 03 36 02.7
comp=Z,58nm,21.5s,baz=176,slow=40
comp=Z,16nm,0.8s
KURK Kurchatov 41.70 344 P **P 03 16 01.4 -0.3**
KURK IAmb IAmb 03 16 09.9
comp=Z,56nm,1.1s
KURK Kurchatov 41.70 344 P **P 03 16 02.0 +0.3**
KURK Kurchatov 41.70 344*c i*P **P 03 16 01.6 -0.1**
KURK pmax pmax
comp=Z,64nm,1.2s
CN2 Changchun 41.84 33⇑P **P 03 16 02.8 -0.2**
CN2 *e*S **S 03 22 19.5 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,300nm,11.0s
FITZ Fitzroy Crossi 41.92 134 P **P 03 16 02.4 -1.5**
comp=Z,6.4nm,1.2s
FITZ Fitzroy Crossi 41.92 134 LR LR 03 34 01.7
comp=Z,113nm,20.3s,baz=291,slow=37
BRZS Berezniki 42.90 339 *e*P **P 03 16 11.7 +0.2**
BRZS Berezniki 42.90 339 *e*P **P 03 16 11.7 +0.2**
HIA Hailar 43.21 24 P **P 03 16 12.7 -1.4**
HIA Hailar 43.21 24*ce*P **P 03 16 14.2 +0.2**
HIA pmax pmax
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 43.48 351 P **P 03 16 16.1 0.0**
ZALV Zalesovo Beam 43.48 351 P **P 03 16 16.3 +0.2**
comp=Z,16nm,0.7s,baz=174,slow=8.5,SNR=76
comp=Z,16nm,0.7s
SMRA Abu-Samra 43.97 294 P **P 03 16 20.8 +0.4**
MEEK Meekatharra 43.99 149 P **P 03 16 20.4 -0.2**
comp=Z,60nm,1.1s
BNX BinXian 44.17 33⇓P **P 03 16 20.5 -1.3**
BNX pmax pmax
comp=Z,11nm,0.9s
MDJ Mudanjiang 44.66 35 P **P 03 16 25.5 -0.2**
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MORW Morawa 44.83 154 IAmb IAmb 03 16 28.1
comp=Z,26nm,0.8s
MORW Morawa 44.83 154 P **P 03 16 27.3 +0.1**
comp=Z,40nm,0.9s
USRK Ussuriysk Ar. 45.80 37 P **P 03 16 36.0 +1.3**
comp=Z,3.6nm,0.7s,baz=238,slow=8.3,SNR=5.3
USRK LR LR 03 37 30.2
comp=Z,118nm,18.6s,baz=210,slow=38
comp=Z,3.6nm,0.7s
BVAR Borovoye Array 46.23 340 P **P 03 16 38.0 0.0**
comp=Z,28nm,0.8s,baz=134,slow=8.5,SNR=119
BVAR LR LR 03 39 15.1
comp=Z,60nm,18.4s,baz=148,slow=40
comp=Z,28nm,0.8s
BRVK Borovoye 46.29 340 P **P 03 16 38.9 +0.4**
BRVK Borovoye 46.29 340 P **P 03 16 38.6 +0.1**
BRVK Borovoye 46.29 340*c i*P **P 03 16 38.2 -0.3**
BRVK pmax pmax
comp=Z,60nm,0.8s
MJAR Matsushiro Arr 46.38 50 P **P 03 16 39.4 -0.1**
comp=Z,3.3nm,1.0s,baz=264,slow=5.7,SNR=5.0
MJAR PcP **PcP 03 18 13.8 -0.6**
comp=Z,3.0nm,0.9s,baz=260,slow=3.8,SNR=4.2
MJAR LR LR 03 38 44.9
comp=Z,97nm,18.3s,baz=242,slow=40
comp=Z,3.3nm,1.0s
BLDU Ballidu 46.45 154 P **P 03 16 40.3 +0.2**
comp=Z,41nm,1.8s
HEH HeiHe 47.23 28 *e*P **P 03 16 45.5 -0.4**
HEH pmax pmax
comp=Z,4.0nm,0.8s
MUN Mundaring 47.42 155 P **P 03 16 47.2 -0.5**
comp=Z,59nm,0.9s
KLBR Kellerberrin 47.75 154 P **P 03 16 49.5 -0.7**
comp=Z,76nm,1.0s
ABKAR Abkulak array 47.84 329 P **P 03 16 50.5 -0.2**
ABKAR Abkulak array 47.84 329 IAmb IAmb 03 16 51.6
comp=Z,17nm,1.0s
WRKA Warakurna 48.43 138 P **P 03 16 54.7 -0.9**
comp=Z,40nm,1.3s
RAYN Ar Rayn 48.62 292 P **P 03 16 58.0 +0.8**
RAYN Ar Rayn 48.62 292 P **P 03 16 56.9 -0.3**
RAYN Ar Rayn 48.62 292 P **P 03 16 58.0 +0.8**
RAYN pmax pmax
comp=Z,10.0nm,0.9s

KLR Kul'dur 48.67 31 P **P 03 16 56.6 -0.4**
comp=Z,2.2nm,1.0s,baz=290,slow=7.5,SNR=6.4
KLR LR LR 03 40 22.1
comp=Z,171nm,19.0s,baz=237,slow=40
comp=Z,2.2nm,1.0s
KLR Kul'dur 48.67 31⇑*e*P **P 03 16 58.1 +1.0**
KLR pmax pmax
comp=Z,12nm,1.4s
NWAO Narrogin (SRO) 48.67 155 P **P 03 16 57.7 +0.4**
NWAO IAmb IAmb 03 16 58.7
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 48.67 155 P **P 03 16 57.7 +0.4**
NWAO pmax pmax
comp=Z,33nm,0.9s
BOD Bodaibo 48.80 13 *e*P **P 03 16 57.4 -0.5**
BOD pmax pmax
comp=Z,35nm,1.6s
LKRN Lenkeran, Azer 49.41 312 P **P 03 17 01.6 -1.3**
KMBL Kambalda 49.49 149 P **P 03 17 02.1 -1.5**
comp=Z,53nm,0.8s
WRA Warramunga Arr 49.52 128 P **P 03 17 03.5 -0.6**
WRA Warramunga Arr 49.52 128 P **P 03 17 03.4 -0.7**
comp=Z,32nm,0.7s,baz=305,slow=8.6,SNR=212
WRA PcP **PcP 03 18 25.4 -0.5**
comp=Z,4.9nm,0.7s,baz=317,slow=2.9,SNR=8.9
WRA LR LR 03 41 35.4
comp=Z,107nm,18.4s,baz=220,slow=40
comp=Z,32nm,0.7s
WRAB Tennant Creek 49.52 128 P **P 03 17 03.8 -0.3**
WRAB Tennant Creek 49.52 128*d i*P **P 03 17 03.1 -0.9**
WRAB pmax pmax
comp=Z,39nm,0.7s
ZEA Zeya 49.65 25 *e*P P 03 17 09.4 +4.9
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA MLR MLR
comp=Z,200nm,15.0s
MNGR Mingechevir, A 51.37 314 P **P 03 17 16.3 -1.5**
AS31 Alice Springs 51.40 133 P **P 03 17 17.1 -1.1**
comp=Z,11nm,0.8s
ASAR Alice Springs 51.40 133 P **P 03 17 17.7 -0.5**
comp=Z,25nm,0.8s,baz=311,slow=7.3,SNR=233
ASAR PcP **PcP 03 18 32.6 -0.2**
comp=Z,4.8nm,0.7s,baz=312,slow=4.2,SNR=6.5
ASAR LR LR 03 40 41.4
comp=Z,94nm,18.9s,baz=302,slow=38
comp=Z,25nm,0.8s
SEKA Sheki 51.45 314 P **P 03 17 17.6 -0.9**
GANJ Ganja 51.87 313 P **P 03 17 19.8 -1.7**
FORT Forrest 52.38 144 P **P 03 17 25.5 +0.1**
comp=Z,77nm,1.0s
SVE Sverdlovsk 52.73 337*de*P **P 03 17 28.2 +0.6**
SVE pmax pmax
comp=Z,134nm,1.1s
GNI Garni 52.84 312 P **P 03 17 30.0 +1.1**
GNI Garni 52.84 312 LR LR 03 43 21.5
comp=Z,53nm,19.5s,baz=112,slow=40
GNI Garni 52.84 312 P **P 03 17 30.1 +1.1**
GNI Garni 52.84 312*c i*P **P 03 17 29.8 +0.9**
GNI pmax pmax
comp=Z,98nm,1.1s
GNI Garni 52.84 312 P **P 03 17 29.4 +0.5**
comp=Z,86nm,1.2s
ARTI Arti 53.31 336 P **P 03 17 31.2 -0.7**
ARTI Arti 53.31 336 LR LR 03 43 22.1
comp=Z,33nm,19.0s,baz=139,slow=40
ARTI Arti 53.31 336*c i*P **P 03 17 31.6 -0.3**
ARTI S **S 03 25 04.6 +2.2**
ARTI SS **SS 03 28 37.0 -5.3**
ARTI pmax pmax
comp=Z,39nm,0.8s
YSS Yuzhno-Sakhali 53.71 39 *e*P **P 03 17 34.5 -0.5**
YSS pmax pmax
comp=Z,20nm,1.2s
COEN Coen 53.87 116 P **P 03 17 35.0 -1.6**
comp=Z,10nm,1.4s
QIS Mount Isa 53.99 126 P **P 03 17 36.1 -1.3**
comp=Z,22nm,0.9s
KARS Kars 54.20 312 P **P 03 17 40.7 +1.8**
NCK Nalchik 54.76 316*ce*P **P 03 17 43.4 +0.7**
KBZ Khabaz 55.32 316 P **P 03 17 46.8 +0.1**
comp=Z,6.5nm,0.8s,baz=114,slow=8.5,SNR=14
comp=Z,6.5nm,0.8s
TYV Tymovskoe 55.43 35 *e*P **P 03 17 48.6 +1.2**
TYV pmax pmax
comp=Z,11nm,1.1s
TYV pmax pmax
comp=Z,100nm,4.2s
KIV Kislovodsk 55.54 316 P **P 03 17 48.9 +0.4**
KIV Kislovodsk 55.54 316 P **P 03 17 48.8 +0.4**
KIV Kislovodsk 55.54 316⇑P **P 03 17 49.2 +0.8**
KIV Kislovodsk 55.54 316 *e*P **P 03 17 48.6 +0.2**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,33nm,17.0s
KIV Kislovodsk 55.54 316 P **P 03 17 48.2 -0.2**
comp=Z,476nmcomp=Z,47nm,1.0s
YAK Yakutsk 56.65 19 P **P 03 17 55.1 -0.9**
comp=Z,23nm,0.3s,baz=222,slow=14,SNR=4.6
YAK LR LR 03 44 48.3
comp=Z,142nm,20.2s,baz=226,slow=39
comp=Z,23nm,0.3s
YAK Yakutsk 56.65 19 *e*P **P 03 17 55.0 -0.9**
YAK *e**PP **pP 03 17 58.3 -3.2**
YAK *e* 03 18 53.0
YAK *e* 03 19 58.0
YAK *e*S **S 03 25 47.7 +0.8**
YAK *e* 03 27 45.2
YAK *e*SS **SS 03 29 35.8 +1.2**
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,149nm,3.1s
YAK pmax pmax
comp=N,65nm,4.8s
YAK pmax pmax
comp=E,69nm,4.1s
YAK smax smax
comp=E,133nm,5.1s
YAK smax smax
comp=N,65nm,3.0s
YAK MLR MLR
comp=Z,201nm,18.0s
YAK MLR MLR
comp=N,141nm,18.0s
YAK MLR MLR
comp=E,102nm,18.0s
MTSU Mount Surprise 56.69 120 P **P 03 17 55.8 -1.1**
comp=Z,4.1nm,1.4s
LABN Labinsk 57.09 316 *e*P **P 03 17 58.4 -1.0**
LABN *e*S **S 03 25 52.5 -0.9**
LABN pmax pmax
comp=Z,14nm,0.8s
SOC Sochi 57.47 315 *e*P **P 03 17 59.3 -2.7**
SOC *e* 03 20 05.7
SOC *e*PPP PPP 03 21 26.8
SOC *e*S **S 03 25 56.2 -2.1**
SOC MLR MLR
comp=Z,52nm,15.0s
ERBR Yeremizino-Bor 57.60 317 *e*P **P 03 18 01.5 -1.4**
ERBR *e*S **S 03 25 59.4 -0.6**
ERBR pmax pmax
comp=Z,29nm,0.9s
KIBK Kibwezi 58.21 260 P **P 03 18 08.7 +0.8**
KIBK Kibwezi 58.21 260 P **P 03 18 09.3 +1.5**
NRIK Noril'sk 58.35 357 IAmb IAmb 03 18 15.5
comp=Z,32nm,1.6s
NRIK Noril'sk 58.35 357 P **P 03 18 07.7 -0.1**
comp=Z,2.1nm,0.7s,baz=169,slow=3.7,SNR=6.8
comp=Z,2.1nm,0.7s
KIRV Kirov 58.46 334 LR LR 03 45 43.0
comp=Z,66nm,18.0s,baz=135,slow=38
MMAI Mount Meron Ar 58.59 302 LR LR 03 45 16.1
comp=Z,52nm,19.8s,baz=110,slow=38
EIL Elat 58.62 298 LR LR 03 46 43.5
comp=Z,55nm,18.9s,baz=66,slow=39
BBOO Buckleboo 58.68 140 IAmb IAmb 03 18 11.1
comp=Z,20nm,0.9s
BBOO Buckleboo 58.68 140 P **P 03 18 09.7 -0.9**

comp=Z,29nm,1.2s
KMBO Kilima Mbogo 58.69 262 P **P 03 18 12.1 +0.8**
comp=Z,1.8nm,0.8s,baz=56,slow=5.8,SNR=6.8
KMBO LR LR 03 39 58.3
comp=Z,142nm,20.8s,baz=88,slow=32
comp=Z,1.8nm,0.8s
KMBO Kilima Mbogo 58.69 262 P **P 03 18 13.2 +1.9**
VRH Novokhopyorsk 58.79 324 *e*P **P 03 18 10.2 -0.9**
VRH pmax pmax
comp=Z,44nm,0.8s
TOKA Tokat 58.98 310 IAmb IAmb 03 18 19.7
comp=Z,16nm,1.1s
BNN Bunyan 59.16 309 IAmb IAmb 03 18 22.7
comp=Z,25nm,1.0s
LODK Lodwar 59.58 267 P **P 03 18 18.9 +1.6**
VORD Divnogorie 60.12 323 *e*P **P 03 18 17.4 -2.9**
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 60.29 323 *e*P **P 03 18 19.0 -2.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 60.42 324 *e*P **P 03 18 22.0 -0.4**
VORR pmax pmax
comp=Z,25nm,0.4s
KIRS Kirsehir-Merke 60.69 309⇓P **P 03 18 24.0 -0.6**
QLP Quilpie 60.75 129 P **P 03 18 25.0 0.0**
comp=Z,102nm,1.1s
LPSR Galich'ya Gora 60.92 325 *e*P **P 03 18 25.0 -0.8**
LPSR pmax pmax
comp=Z,29nm,0.9s
BR104 Keskin Array S 61.00 309 P **P 03 18 24.8 -2.0**
comp=Z,157nmcomp=Z,24nm,0.8s
BR131 Keskin Array S 61.01 309 IAmb IAmb 03 18 26.7
comp=Z,21nm,0.8s
BRTR Keskin Array B 61.01 309 P **P 03 18 25.6 -1.2**
BRTR Keskin Array B 61.01 309 P **P 03 18 25.4 -1.5**
comp=Z,16nm,0.7s,baz=122,slow=7.5,SNR=105
comp=Z,16nm,0.7s
BRTR Keskin Array B 61.01 309 *i*P **P 03 18 25.3 -1.5**
BRTR pmax pmax
comp=Z,17nm,0.7s
BR105 Keskin Array S 61.02 309 P **P 03 18 25.2 -1.7**
comp=Z,169nmcomp=Z,26nm,0.8s
BR106 Keskin Array S 61.02 309 P **P 03 18 25.2 -1.7**
comp=Z,154nmcomp=Z,24nm,0.8s
ANTO Ankara 61.67 309 P **P 03 18 30.7 -0.6**
ANTO IAmb IAmb 03 18 31.0
comp=Z,16nm,0.8s
ANTO Ankara 61.67 309 P **P 03 18 29.9 -1.3**
ANTO Ankara 61.67 309⇑P **P 03 18 30.4 -0.8**
ANTO Ankara 61.67 309 P **P 03 18 30.7 -0.6**
ANTO pmax pmax
comp=Z,16nm,0.8s
ANTO Ankara 61.67 309 P **P 03 18 29.4 -1.8**
comp=Z,10nm,0.9s
SIM Simferopol' 61.70 315 *e*P **P 03 18 31.3 0.0**
SIM S **S 03 26 48.2 -4.8**
SIM pmax pmax
comp=Z,35nm,0.8s
SIM smax smax
comp=N,34nm,13.5s
STKA Stephens Creek 61.77 135 P **P 03 18 31.6 -0.2**
STKA Stephens Creek 61.77 135 P **P 03 18 31.2 -0.7**
comp=Z,166nm,0.8s
STKA Stephens Creek 61.77 135 P **P 03 18 31.8 0.0**
comp=Z,23nm,0.7s,baz=311,slow=6.9,SNR=59
STKA LR LR 03 48 03.9
comp=Z,82nm,18.7s,baz=270,slow=39
comp=Z,23nm,0.7s
MOS Moscow 62.78 328 *e*P **P 03 18 36.2 -2.1**
MOS *e* 03 18 44.0
MOS pmax pmax
comp=Z,45nm,0.9s
OBN Obninsk 63.12 327 LR LR 03 51 05.7
comp=Z,54nm,18.6s,baz=144,slow=41
OBN Obninsk 63.12 327 *e*P **P 03 18 40.5 0.0**
OBN *e* 03 18 47.2
OBN *e* 03 19 16.5
OBN *e* 03 20 59.1
OBN *e*PPP PPP 03 22 28.0
OBN pmax pmax
comp=Z,29nm,1.0s
OBN Obninsk 63.12 327 P **P 03 18 39.5 -1.0**
comp=Z,41nm,0.9s
MA2 Magadan 63.50 28 P **P 03 18 42.5 -0.5**
MA2 IAmb IAmb 03 18 50.8
comp=Z,20nm,1.1s
MA2 Magadan 63.50 28 P **P 03 18 42.4 -0.5**
comp=Z,3.1nm,0.3s,baz=241,slow=5.1,SNR=6.1
comp=Z,3.1nm,0.3s
MA2 Magadan 63.50 28*ce*P **P 03 18 42.9 -0.1**
MA2 Magadan 63.50 28 P **P 03 18 42.0 -1.0**
comp=Z,20nm,1.2s
TIXI Tiksi 63.89 11 P **P 03 18 44.6 -0.7**
TIXI Tiksi 63.89 11 P **P 03 18 44.6 -0.7**
comp=Z,4.1nm,0.3s,baz=228,slow=3.6,SNR=16
comp=Z,4.1nm,0.3s
TIXI Tiksi 63.89 11*ce*P **P 03 18 44.3 -1.0**
KLMR Klimovskoe 63.93 333 *e*P **P 03 18 43.6 -2.2**
KLMR pmax pmax
comp=Z,55nm,1.0s
CMSA Cobar Meteorol 64.46 133 P **P 03 18 49.2 -0.5**
comp=Z,85nm,1.1s
ARPS Mount Arapiles 64.86 140 P **P 03 18 52.5 +0.3**
comp=Z,25nm,0.9s
KARP Karpathos 65.62 304 *e*P **P 03 18 56.9 -0.5**
KARP Karpathos 65.62 304 P **P 03 18 56.3 -1.1**
comp=Z,105nm,0.9s
SEY Seymchan 65.63 25 P **P 03 18 55.9 -0.9**
comp=Z,0.7nm,0.4s,baz=173,slow=2.7,SNR=3.6
comp=Z,0.7nm,0.4s
SEY Seymchan 65.63 25 *e*P **P 03 18 54.4 -2.4**
SEY pmax pmax
comp=Z,10.0nm,2.0s
TPGR Topolog 65.66 314⇓P **P 03 18 56.4 -1.0**
MILM Milestii Mici 65.72 317⇓P **P 03 18 56.8 -0.9**
CFR Carcaliu 65.91 315⇓P **P 03 18 58.2 -0.7**
AK09 Malin Array Si 66.12 321 P **P 03 18 58.6 -1.6**
AK10 Malin Array Si 66.14 321 P **P 03 18 58.6 -1.7**
AK08 Malin Array Si 66.14 321 P **P 03 18 58.8 -1.5**
AK07 Malin Array Si 66.15 320 P **P 03 18 59.0 -1.4**
AKASG Malin Array Be 66.17 321 P **P 03 18 59.2 -1.3**
comp=Z,3.6nm,0.8s,baz=86,slow=5.5,SNR=24
AKASG LR LR 03 52 16.0
comp=Z,41nm,18.0s,baz=126,slow=40
comp=Z,3.6nm,0.8s
AKBB Malin Array Si 66.17 321 P **P 03 19 00.5 0.0**
AKBB IAmb IAmb 03 19 07.2
comp=Z,28nm,1.4s
AKBB Malin Array Si 66.17 321 P **P 03 19 00.5 0.0**
AKBB pmax pmax
comp=Z,28nm,1.4s
AKBB Malin Array Si 66.17 321 P **P 03 18 58.9 -1.6**
KIEV Kiev 66.18 321 P **P 03 18 59.3 -1.2**
KIEV IAmb IAmb 03 19 07.2
comp=Z,25nm,1.4s
KIEV Kiev 66.18 321⇓P **P 03 18 59.4 -1.2**
KIEV Kiev 66.18 321 P **P 03 18 59.3 -1.2**
KIEV pmax pmax
comp=Z,25nm,1.4s
KIEV Kiev 66.18 321 P **P 03 18 59.1 -1.5**
comp=Z,42nm,0.8s
SORM Soroca 66.24 318⇑P **P 03 18 60.0 -1.0**
SORM Soroca 66.24 318 P **P 03 18 59.8 -1.2**
comp=Z,23nm,0.9s
MI30 MI30,Zelenitsa 66.83 321 P **P 03 19 03.0 -1.7**
comp=Z,26nm,1.1s
LUBAR Lubar, Ukraine 66.94 320 P **P 03 19 03.9 -1.6**
BISRR Bisoca 66.96 315⇑P **P 03 19 06.5 +0.7**
VRI Vrincioaia 66.99 315⇓P **P 03 19 06.3 +0.4**
VRI Vrincioaia 66.99 315 P **P 03 19 05.5 -0.4**
comp=Z,34nm,0.9s
PLOR Plostina 67.04 315⇓P **P 03 19 06.7 +0.5**
TESR Tescani 67.13 316⇑P **P 03 19 06.0 -0.7**
MI28 Mi28,Pidlybu 67.19 321 P **P 03 19 05.7 -1.3**
IDI Anoyia 67.46 304 IAmb IAmb 03 19 09.4
comp=Z,13nm,0.8s
MLR Muntele Rosu 67.48 315 LR LR 03 52 16.7
comp=Z,74nm,19.0s,baz=60,slow=39
MLR Muntele Rosu 67.48 315⇓P **P 03 19 09.3 +0.1**
KMPD K-Podol'skiy 67.56 318 P **P 03 19 07.4 -2.0**
TOO Toolangi 67.68 139 P **P 03 19 10.1 -0.3**
TOO Toolangi 67.68 139 P **P 03 19 11.0 +0.6**
comp=Z,8.7nm,0.9s
TOO Toolangi 67.68 139 P **P 03 19 10.1 -0.3**
TOO pmax pmax

comp=Z,7.0nm,0.9s
HNR Honiara 67.73 105 LR LR 03 50 59.1
comp=Z,37nm,19.5s,baz=356,slow=38
MNK Minsk 67.77 325 *i* P **P 03 19 09.6 -1.1**
comp=E,10.0nm,0.8s
MNK *i* P **P 03 19 09.6 -1.1**
comp=N,34nm,0.9s
MNK *i* P **P 03 19 09.6 -1.1**
comp=Z,66nm,0.8s,baz=102
MNK *i* PcP **PcP 03 19 36.1 -1.2**
MNK *i* PP **PP 03 21 38.8 -1.3**
MNK *i* PPP PPP 03 23 16.1
MNK *i* S **S 03 28 08.0 +0.6**
MNK *i* ScS **ScS 03 29 08.1 0.0**
MNK *i* SS **SS 03 32 30.3 +1.5**
MNK *i* SSS SSS 03 35 44.8
MNK *i* LQ LQ 03 45 05.7
MNK *i* LR LR 03 47 54.0
MNK *i* LRM MLR 03 51 04.7
comp=Z,108nm,18.1s
MNK *i* LRM MLR 03 51 08.8
comp=E,63nm,13.6s
MNK *i* LRM MLR 03 52 07.9
comp=N,103nm,20.9s
MNK Minsk 67.77 325 *i* P **P 03 19 09.5 -1.1**
MNK *i* 03 19 36.0
MNK *i* 03 21 38.7
MNK *i* PPP PPP 03 23 16.1
MNK *i* S **S 03 28 08.0 +0.6**
MNK *i* 03 29 08.1
MNK *i* SS **SS 03 32 30.2 +1.5**
MNK pmax pmax
comp=Z,66nm,0.8s
MNK pmax pmax
comp=N,34nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK MLR MLR
comp=Z,108nm,18.0s
MNK MLR MLR
comp=E,63nm,14.0s
MNK MLR MLR
comp=N,103nm,21.0s
DOPR Dopca 67.93 315 ⇓P **P 03 19 11.1 -0.7**
VOIR 68.10 315 ⇑P **P 03 19 11.0 -2.0**
BURAR Bucovina Array 68.25 317 P **P 03 19 13.9 0.0**
BURAR Bucovina Array 68.25 317 ⇓P **P 03 19 14.1 +0.1**
ARMA Armidale 68.29 129 IAmb IAmb 03 19 17.0
comp=Z,23nm,0.9s
ARMA Armidale 68.29 129 P **P 03 19 15.8 +1.3**
JOF Joensuu 68.31 334 *e*P **P 03 19 14.1 +0.2**
RNPP5 Staryi Chortor 68.34 321 P **P 03 19 13.0 -1.3**
RNPP9 Sopachiv 68.37 321 P **P 03 19 13.6 -0.9**
IDID Didziasalis 68.59 325 *e*P **P 03 19 15.2 -0.6**
CAN Canberra 68.81 135 P **P 03 19 17.7 +0.2**
CAN IAmb IAmb 03 19 18.9
comp=Z,18nm,1.0s
CAN Canberra 68.81 135 P **P 03 19 17.3 -0.2**
comp=Z,23nm,1.3s
CAN Canberra 68.81 135 P **P 03 19 17.7 +0.2**
CAN pmax pmax
comp=Z,18nm,1.0s
IIGN Ignalina 68.89 325 *e*P **P 03 19 18.1 +0.5**
IZAR Zarasai 68.95 326 *e*P **P 03 19 18.2 +0.2**
ISAL Salakas 68.98 325 *e*P **P 03 19 18.4 +0.2**
CNB Canberra Magne 69.06 135 P **P 03 19 18.7 -0.4**
comp=Z,23nm,1.1s
APA Apatity 69.13 339 ⇓*i*P **P 03 19 16.5 -2.4**
APA *i* 03 19 41.0
APA pmax pmax
comp=Z,12nm,0.7s
APA MLR MLR
comp=Z,1μm,16.0s
VSU Vasula 69.26 329 *e*P **P 03 19 18.9 -0.9**
MARR Marisel-Cluj 69.57 316 ⇓P **P 03 19 22.2 +0.1**
ARBE Arbavere 69.86 329 *e*P **P 03 19 24.1 +0.6**
DRGR 69.86 316 ⇑P **P 03 19 24.2 +0.3**
HERR Herculane 69.91 314 ⇑P **P 03 19 24.0 -0.1**
PABE Paberze 70.18 325 P **P 03 19 25.5 0.0**
PABE Paberze 70.18 325 *e*P **P 03 19 25.8 +0.3**
FINES FINESS Array B 70.26 332 P **P 03 19 25.8 -0.1**
FINES FINESS Array B 70.26 332 P **P 03 19 26.2 +0.2**
comp=Z,9.2nm,0.7s,baz=95,slow=6.4,SNR=38
comp=Z,9.2nm,0.7s
KOLS Kolonicke sedl 70.35 318 *e*P **P 03 19 26.9 +0.1**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 70.35 318 *e*P **P 03 19 26.9 +0.1**
SUW Suwalki 70.40 323 *e*P **P 03 19 26.6 -0.4**
SUW Suwalki 70.40 323 *e*P **P 03 19 27.1 +0.2**
SIRR Siria 70.54 315 ⇑P **P 03 19 28.5 +0.5**
MEF Metsahovi 70.80 330 *e*P **P 03 19 29.8 +0.5**
MTSE Matsula 70.81 328 *e*P **P 03 19 29.6 +0.3**
KEF Keuruu 70.98 332 *e*P **P 03 19 30.7 +0.4**
STHS Stebnicka Huta 71.07 318 *e*P **P 03 19 30.9 -0.3**
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 71.07 318 *e*P **P 03 19 30.8 -0.4**
PBUR Paburge 71.39 325 *e*P **P 03 19 33.2 +0.2**
KECS Kecovo 71.49 317 *e*P **P 03 19 33.8 +0.1**
KECS pmax pmax
comp=Z,24nm,0.6s
KECS Kecovo 71.49 317 *e*P **P 03 19 33.8 +0.1**
BEL Belsk 71.58 321 *e*P **P 03 19 34.1 0.0**
NIE Niedzica 71.69 318 *e*P **P 03 19 35.3 +0.4**
NIE Niedzica 71.69 318 P **P 03 19 35.0 +0.1**
comp=Z,13nm,1.1s
PSZ Piszkesteto 71.85 317 IAmb IAmb 03 19 43.5
comp=Z,18nm,1.0s
PSZ Piszkesteto 71.85 317 *e*P **P 03 19 35.8 -0.2**
OJC Ojcow 72.07 319 *e*P **P 03 19 36.9 -0.3**
OJC Ojcow 72.07 319 P **P 03 19 36.7 -0.5**
comp=Z,46nm,1.0s
VAF Ylistaro 72.16 333 *e*P **P 03 19 37.3 -0.1**
RAF Rauma 72.22 331 *e*P **P 03 19 38.8 +1.0**
ARCES ARCESS Array B 72.52 340 P **P 03 19 39.8 +0.3**
comp=Z,4.5nm,0.7s,baz=79,slow=2.6,SNR=10.0
ARCES LR LR 03 58 02.3
comp=Z,74nm,18.0s,baz=137,slow=41
comp=Z,4.5nm,0.7s
MORH Mrgy, Hungar 72.62 315 ⇑P **P 03 19 40.0 -0.6**
MORH Mrgy, Hungar 72.62 315 P **P 03 19 39.7 -0.8**
comp=Z,15nm,0.8s
BILL Bilibino 72.76 22*ce*P **P 03 19 40.6 -0.4**
BILL pmax pmax
comp=Z,10.0nm,1.7s
SRO Srobarova 72.91 317 *e*P **P 03 19 42.8 +0.6**
SRO pmax pmax
comp=Z,21nm,1.0s
SRO Srobarova 72.91 317 *e*P **P 03 19 42.8 +0.6**
STEB Steborice 73.35 319 *e*P **P 03 19 45.0 +0.2**
STEB *ep*P **pP 03 19 51.2 +0.7**
JAVC Velka Javorina 73.38 318 *e*P **P 03 19 45.6 +0.5**
MPLH Magyarpolny 73.41 316 P **P 03 19 44.7 -0.5**
comp=Z,68nm,1.0s
MORC Moravsky Berou 73.50 319 IAmb IAmb 03 19 53.8
comp=Z,36nm,1.1s
MORC Moravsky Berou 73.50 319 *e*P **P 03 19 45.7 0.0**
MORC Moravsky Berou 73.50 319 ⇑P **P 03 19 46.4 +0.7**
SMOL Smolenice 73.53 317 *e*P **P 03 19 46.4 +0.5**
MODS Modra-Piesok 73.62 317 *e*P **P 03 19 46.1 -0.4**
MODS Modra-Piesok 73.62 317 *e*P **P 03 19 46.1 -0.4**
GKP Gorka Klasztor 73.85 322 *e*P **P 03 19 47.3 -0.3**
GKP Gorka Klasztor 73.85 322 *e*P **P 03 19 47.9 +0.3**
KRLC Kraliky 74.00 319 *e*P **P 03 19 49.0 +0.3**
KRLC Kraliky 74.00 319 *e*P **P 03 19 49.0 +0.3**
VRAC Vranov 74.10 318 *e*P **P 03 19 48.9 -0.3**
KRUC Moravsky 74.22 318 *e*P **P 03 19 49.7 -0.2**
RONA Rosalia, Austr 74.27 317 *i* P **P 03 19 50.1 -0.2**
comp=Z,2.9nm,0.6s,SNR=5.4
RONA *ep*P **pP 03 19 56.8 +0.9**
comp=Z,5.4nm,0.7s
KOGS Kog 74.29 315 *e*P **P 03 19 47.7 -2.6**
DPC Dobruska-Polom 74.30 319 *e*P **P 03 19 50.9 +0.5**
DPC *ep*P **sP 03 19 57.6 -0.6**
DPC Dobruska-Polom 74.30 319 *e*P **P 03 19 50.9 +0.5**
DPC *e**PP **sP 03 19 57.6 -0.6**
DPC Dobruska-Polom 74.30 319 P **P 03 19 50.2 -0.2**
comp=Z,22nm,1.2s
KSP Ksiaz 74.33 320 *e*P **P 03 19 50.8 +0.3**
KSP Ksiaz 74.33 320 P **P 03 19 50.3 -0.2**
comp=Z,42nm,0.9s
OSTC Ostas 74.37 319 *e*P **P 03 19 51.1 +0.3**
OSTC Ostas 74.37 319 *e*P **P 03 19 51.1 +0.3**

CHVC Chvalec 74.48 320 *e*P **P 03 19 52.0 +0.6**
CHVC *ep*P **pP 03 19 57.9 +0.8**
CHVC Chvalec 74.48 320 *e*P **P 03 19 52.0 +0.6**
CHVC *e**PP **pP 03 19 57.9 +0.8**
UPC Upice 74.50 319 *e*P **P 03 19 52.3 +0.8**
UPC Upice 74.50 319 *e*P **P 03 19 52.3 +0.8**
CONA Conrad Observa 74.56 317 *i* P **P 03 19 50.8 -1.3**
comp=Z,3.5nm,0.7s,SNR=7.4
CONA *ep*P **pP 03 19 58.5 +0.7**
comp=Z,4.6nm,0.8s
CEL Celeste 74.68 307 IAmb IAmb 03 20 00.7
comp=Z,44nm,1.0s
CEL Celeste 74.68 307 P **P 03 19 51.9 -1.0**
comp=Z,45nm,1.0s
ARSA Arzberg 74.79 316 *e*P **P 03 19 53.4 +0.1**
comp=Z,4.0nm,0.8s
BLEU Blekinge 74.83 325 *i* P **P 03 19 52.3 -0.9**
SOKA Soboth 75.13 315 *i* P **P 03 19 55.3 -0.1**
comp=Z,6.6nm,0.8s,SNR=9.5
GOPC GO Pecny, Ondr 75.28 319 *e*P **P 03 19 56.6 +0.5**
GOPC GO Pecny, Ondr 75.28 319 *e*P **P 03 19 56.6 +0.5**
BSD Bornholm Skovb 75.29 324 *e*P **P 03 19 56.7 +0.8**
BSD Bornholm Skovb 75.29 324 *i* P **P 03 19 55.0 -0.9**
BSD IAmb IAmb 03 20 02.7
comp=Z,29nm,0.9s
PRU Pruhonice 75.44 319 *e*P **P 03 19 56.5 -0.4**
PRU *ep*P **sP 03 20 04.0 -0.7**
PRU Pruhonice 75.44 319 *e*P **P 03 19 56.5 -0.4**
PRU *e**PP **sP 03 20 04.0 -0.7**
OBKA Obir 75.46 315 *i* P **P 03 19 57.3 0.0**
comp=Z,13nm,0.9s,SNR=10.0
OBKA *ep*P **sP 03 20 04.2 -0.9**
comp=Z,7.9nm,0.7s
CKRC Cesky Krumlov 75.60 318 *e*P **P 03 19 58.2 +0.3**
CKRC *ep*P **pP 03 20 04.4 +0.8**
CKRC Cesky Krumlov 75.60 318 *e*P **P 03 19 58.2 +0.3**
CKRC *e**PP **pP 03 20 04.4 +0.8**
MOA Molln 75.64 317 *e*P **P 03 19 57.8 -0.4**
comp=Z,3.1nm,0.6s
CRNS Crni Vrh 75.67 315 *e*P **P 03 19 58.1 -0.3**
ZVC Zvikov 75.67 318 *e*P **P 03 19 58.8 +0.5**
ZVC *ep*P **sP 03 20 05.1 -1.0**
BRG Berggiesshubel 75.82 320 *i* P **P 03 19 59.7 +0.6**
BRG Amp 03 20 00.4
comp=Z,11nm,0.8s
BRG Berggiesshubel 75.82 320 P P 03 20 06.3 +7.2
BRG Amp 03 20 07.3
comp=Z,26nm,1.0s
DEL Delary 75.91 326 *i* P **P 03 19 58.9 -0.5**
RUE Ruedersdorf 75.92 321 *e*P **P 03 20 00.6 +1.0**
VOJS Vojsko 75.93 315 *i* P **P 03 19 59.5 -0.5**
GEC2 GERESS Array S 76.00 318 IAmb IAmb 03 20 08.1
comp=Z,24nm,0.9s
GERES GERESS Array B 76.00 318 P **P 03 20 00.3 0.0**
comp=Z,14nm,0.7s,baz=86,slow=5.6,SNR=124
comp=Z,14nm,0.7s
BIOA Bad Ischl, Aus 76.06 317 *e*P **P 03 20 00.5 -0.1**
comp=Z,3.5nm,0.5s
KHC Kasperske Hory 76.08 318 *e*P **P 03 20 00.7 0.0**
KHC *ep*P **pP 03 20 07.2 +0.8**
KHC Kasperske Hory 76.08 318 *e*P **P 03 20 00.7 0.0**
KHC *e**PP **pP 03 20 07.2 +0.8**
KHC Kasperske Hory 76.08 318 P **P 03 19 59.6 -1.1**
comp=Z,16nm,1.2s
MYKA Terra Mystica 76.09 315 *e*P **P 03 20 00.6 -0.2**
comp=Z,3.1nm,0.5s
HFS Hagfors 76.10 329 P **P 03 20 00.5 0.0**
comp=Z,5.8nm,0.7s,baz=104,slow=4.7,SNR=13
comp=Z,5.8nm,0.7s
LUNU Lund 76.14 325 *i* P **P 03 20 00.3 -0.5**
KBA Koelnbreinsper 76.28 316 *i* P **P 03 20 01.3 -0.8**
comp=Z,3.5nm,0.8s
KBA *ep*P **pP 03 20 05.9 -1.8**
comp=Z,5.2nm,0.9s
BJUU Bjuv 76.38 325 *i* P **P 03 20 01.4 -0.7**
CLL Collm 76.41 320 IAmb IAmb 03 20 10.2
comp=Z,16nm,1.0s
CLL Collm 76.41 320 *e*P **P 03 20 02.0 -0.4**
CLL *i* 03 20 09.0
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 76.41 320 P **P 03 20 01.5 -0.9**
comp=Z,18nm,1.2s
CLL Collm 76.41 320 *e*P **P 03 20 02.0 -0.4**
comp=Z,9.0nm,1.1s
CLL *i* Pmax 03 20 09.0
comp=Z,20nm,1.1s
BORU Boraas 76.53 327 *i* P **P 03 20 02.4 -0.6**
FABU Falkenberg 76.55 326 *i* P **P 03 20 01.4 -1.7**
LESA Schwarzleotal 76.72 316 *i* P **P 03 20 03.5 -0.9**
comp=Z,7.9nm,0.7s,SNR=12
LESA *ep*P **pP 03 20 10.3 +0.2**
comp=Z,11nm,0.7s
SPITS Spitsbergen Ar 76.85 348 P **P 03 20 05.2 +0.8**
comp=Z,6.9nm,0.8s,baz=109,slow=12,SNR=5.5
SPITS LR LR 03 59 06.3
comp=Z,36nm,19.1s,baz=66,slow=40
comp=Z,6.9nm,0.8s
ABTA Abfaltersbach 76.86 316 *i* P **P 03 20 04.3 -0.9**
comp=Z,5.5nm,0.9s,SNR=7.7
ABTA *ep*P **pP 03 20 11.9 +1.0**
comp=Z,5.7nm,0.7s
ONAU Onsala 76.99 327 *i* P **P 03 20 05.1 -0.5**
TJOU Tjoern 77.14 327 *i* P **P 03 20 06.0 -0.4**
NC602 NORSAR Array S 77.18 330 IAmb IAmb 03 20 14.1
comp=Z,23nm,0.9s
NC303 NORSAR Array S 77.27 330 IAmb IAmb 03 20 15.5
comp=Z,29nm,1.4s
NB2 NORSAR Subarra 77.34 330 P **P 03 20 06.9 -0.7**
comp=Z,37nm,1.2s,baz=90,slow=5.9
NB2 NORSAR Subarra 77.34 330 P **P 03 20 06.9 -0.7**
baz=90,slow=5.9
NOA NORSAR Array B 77.34 330 P **P 03 20 07.2 -0.3**
comp=Z,1.7nm,0.7s,baz=90,slow=5.8,SNR=14
NOA LR LR 03 57 07.2
comp=Z,30nm,20.5s,baz=95,slow=38
comp=Z,1.7nm,0.7s
STRU Stromstad 77.37 328 *i* P **P 03 20 07.2 -0.4**
DZM Mont Dzumac 77.39 116 *e*LR LR 03 43 57.3
comp=Z,171nm,26.9s
WTTA Wattenberg 77.44 316 *i* P **P 03 20 07.6 -1.0**
comp=Z,8.7nm,0.6s,SNR=7.6
WTTA *ep*P **pP 03 20 14.3 0.0**
comp=Z,9.6nm,0.6s
WATA Walderalm 77.47 316 *e*P **P 03 20 07.9 -0.8**
comp=Z,3.8nm,0.6s
GRA1 Grafenberg Arr 77.60 319 IAmb IAmb 03 20 17.6
comp=Z,54nm,1.6s
GRFO Grafenberg 77.60 319 P **P 03 20 09.7 +0.5**
GRFO IAmb IAmb 03 20 17.5
comp=Z,48nm,1.5s
GRFO Grafenberg 77.60 319 P **P 03 20 09.7 +0.5**
GRFO pmax pmax
comp=Z,48nm,1.5s
SQTA Sankt Quirin 77.73 316 *i* P **P 03 20 09.0 -1.1**
comp=Z,11nm,0.7s,SNR=11
SQTA *ep*P **pP 03 20 15.9 +0.1**
comp=Z,11nm,0.6s
MOTA Moosalm 77.79 316 *i* P **P 03 20 09.8 -0.8**
comp=Z,11nm,1.0s
OSSC Osservatorio P 77.93 312 IAmb IAmb 03 20 47.8
comp=Z,61nm,1.6s
RETA Reutte 78.02 316 *i* P **P 03 20 11.2 -0.5**
comp=Z,9.1nm,0.7s,SNR=12
RETA *ep*P **pP 03 20 18.0 +0.6**
comp=Z,9.2nm,0.7s
BOSA Boshof 78.04 237 P **P 03 20 12.3 +0.1**
comp=Z,2.0nm,0.7s,baz=192,slow=4.3,SNR=3.2
comp=Z,2.0nm,0.7s
FETA Feichten 78.07 316 *i* P **P 03 20 11.3 -0.7**
comp=Z,6.0nm,0.7s,SNR=10
FETA *ep*P **pP 03 20 18.4 +0.6**
comp=Z,10nm,0.8s
KONO Kongsberg 78.17 329 P **P 03 20 13.0 +0.9**
KONO IAmb IAmb 03 21 30.2
comp=Z,57nm,1.8s
KONO Kongsberg 78.17 329 P **P 03 20 13.0 +0.9**
KONO pmax pmax
comp=Z,57nm,1.8s
SSRD Sdr. Stenderup 78.31 325 *i* P **P 03 20 10.7 -2.3**
SSRD IAmb IAmb 03 20 12.1
comp=Z,69nm,0.9s
DAVA Damuels 78.63 316 *i* P **P 03 20 14.7 -0.4**
comp=Z,11nm,0.7s
DAVA *ep*P **pP 03 20 21.6 +0.7**
comp=Z,20nm,0.9s

TUE Stuetta 79.05 315 IAmb IAmb 03 20 28.0
comp=Z,22nm,0.8s
TUE Stuetta 79.05 315 P **P 03 20 17.0 -0.6**
comp=Z,119nm,0.8s
KEST Kesra 80.10 305 IAmb IAmb 03 20 31.3
comp=Z,33nm,1.0s
KEST Kesra 80.10 305 P **P 03 20 23.5 +0.1**
comp=Z,22nm,0.8s,baz=157,slow=0.5,SNR=20
comp=Z,22nm,0.8s
BTNL Ternell 80.79 320 *d*P **P 03 20 26.6 -0.1**
comp=Z,7.4nm,1.0s
MEM Membach 80.87 320 *d*PcP **PcP 03 20 33.5 0.0**
comp=Z,10nm,0.9s
WLF Walferdange 80.88 319 *d*PcP **PcP 03 20 34.2 +0.6**
BHOU Houvegnez 80.90 320 *d*P **P 03 20 27.5 +0.3**
comp=Z,7.1nm,1.0s
BHOU *d*PcP **PcP 03 20 34.3 +0.5**
BNI Bardonecchia 81.05 314 IAmb IAmb 03 20 39.0
comp=Z,30nm,0.9s
BSTI Sart Tilman 81.15 320 *d*P **P 03 20 28.6 +0.1**
BSTI *d*PcP **PcP 03 20 35.2 +0.4**
BCLA Clavier 81.34 320 *d*P **P 03 20 29.9 +0.4**
comp=Z,9.2nm,0.9s
RCHB Rochefort 81.42 319 *d*P **P 03 20 29.7 -0.2**
comp=Z,7.1nm,1.0s
RCHB *d*PcP **PcP 03 20 36.3 +0.3**
BGES Gesves 81.48 320 *d*P **P 03 20 29.6 -0.7**
comp=Z,9.9nm,0.9s
BGES *d*PcP **PcP 03 20 37.1 +0.9**
GAMB Gambell 81.56 27 P **P 03 20 30.7 +0.3**
baz=278
BMRD Maredsous 81.69 320 *d*P **P 03 20 32.0 +0.6**
comp=Z,10nm,0.9s
BMRD *d*PcP **PcP 03 20 37.9 +0.7**
DOU Dourbes 81.83 319 *d*P **P 03 20 32.3 +0.2**
comp=Z,11nm,1.0s
DOU *d*PcP **pP 03 20 38.9 +1.0**
TSUM Tsumeb 82.00 249 P **P 03 20 34.0 +0.3**
SSB Saint Sauveur 82.52 315 IAmb IAmb 03 20 43.1
comp=Z,15nm,0.9s
TNA Tin City 82.86 25 P **P 03 20 37.6 +0.4**
baz=281
C16K Lisburne Hills 83.29 22 IAmb IAmb 03 20 47.6
comp=Z,29nm,1.4s
C16K Lisburne Hills 83.29 22 P **P 03 20 39.9 +0.5**
baz=283
SPIA Saint Paul Isl 83.30 33 P **P 03 20 39.7 +0.1**
baz=280
F14K Arctic Creek 83.53 25 P **P 03 20 40.7 +0.1**
baz=282
P08K Saint George I 83.78 34 P **P 03 20 41.4 -0.7**
baz=281
C17K DeLong Mountai 84.02 21 P **P 03 20 43.0 -0.1**
baz=285
ANM Nome 84.13 25 P **P 03 20 43.9 +0.1**
baz=283
F15K North Star Dit 84.16 24 P **P 03 20 44.2 +0.3**
baz=284
D17K Noatak River 84.26 22 P **P 03 20 44.7 +0.3**
baz=285
B18K Kokolik River 84.26 20 P **P 03 20 44.5 +0.1**
baz=286
A19K Wainwright 84.27 19 P **P 03 20 44.5 +0.2**
baz=287
G15K Niukluk 84.58 25 P **P 03 20 46.3 +0.3**
baz=284
C18K Utukok River 84.68 21 IAmb IAmb 03 20 54.2
comp=Z,12nm,0.8s
C18K Utukok River 84.68 21 P **P 03 20 45.9 -0.7**
baz=287
M11K Mekoryuk 84.72 30 P **P 03 20 46.7 0.0**
baz=283
NIKH Nikolski High 84.87 37 P **P 03 20 47.9 +0.2**
baz=282
K13K Kusilvak Mount 85.08 28 P **P 03 20 48.4 -0.2**
baz=284
G16K Koyuk River 85.16 24 P **P 03 20 48.8 -0.2**
baz=286
E18K Tukpahlearik C 85.25 22 IAmb IAmb 03 22 29.9
comp=Z,20nm,1.1s
E18K Tukpahlearik C 85.25 22 P **P 03 20 49.3 0.0**
baz=287
F17K Baldwin Pennin 85.30 23 P **P 03 20 49.8 +0.2**
baz=287
A21K Barrow 85.30 18 P **P 03 20 49.5 0.0**
baz=291
J14K Nanvaranak Lak 85.37 27 P **P 03 20 50.1 +0.1**
baz=285
H16K Elim 85.42 25 P **P 03 20 49.7 -0.6**
baz=286
EKA Eskdalemuir Ar 85.54 325 P **P 03 20 51.2 +0.2**
comp=Z,3.2nm,0.7s,baz=94,slow=5.8,SNR=10
comp=Z,3.2nm,0.7s
B20K Meade River 85.60 19 IAmb IAmb 03 20 59.6
comp=Z,32nm,1.2s
B20K Meade River 85.60 19 P **P 03 20 50.9 -0.1**
baz=290
D19K Kuna River 85.80 21 IAmb IAmb 03 21 00.5
comp=Z,26nm,0.9s
D19K Kuna River 85.80 21 P **P 03 20 51.9 -0.2**
baz=290
G17K Kiwalik Mounta 85.81 24 P **P 03 20 52.4 +0.2**
baz=288
F18K Selawik 85.86 23 P **P 03 20 52.4 +0.1**
baz=288
A22K Sinclair Lake 85.92 18 P **P 03 20 52.7 +0.2**
baz=292
UNV Unalaska Valle 86.06 36 P **P 03 20 52.7 -0.9**
baz=283
M13K Dall Lake 86.08 29 P **P 03 20 53.3 -0.3**
baz=286
L14K Kuka Creek 86.15 28 P **P 03 20 53.6 -0.3**
baz=286
D20K Etivluk River 86.24 20 P **P 03 20 54.1 -0.2**
baz=291
H17K Granite Mounta 86.28 24 P **P 03 20 54.1 -0.5**
baz=288
I17K Unalakleet 86.29 25 P **P 03 20 54.5 0.0**
baz=288
K15K Wolf Creek Mou 86.40 27 P **P 03 20 54.8 -0.3**
baz=287
E19K Redstone River 86.47 22 P **P 03 20 55.7 +0.2**
baz=290
G18K Tagagawik 86.47 23 P **P 03 20 55.7 +0.2**
baz=289
F19K Shaleruckik Mo 86.49 22 P **P 03 20 55.7 +0.2**
baz=290
J16K Anvik River 86.51 26 IAmb IAmb 03 21 04.8
comp=Z,13nm,1.0s
J16K Anvik River 86.51 26 P **P 03 20 55.3 -0.4**
baz=286
E20K Nigu River 86.55 21 P **P 03 20 56.3 +0.4**
baz=291
B21K Ikpikpuk River 86.56 19 IAmb IAmb 03 21 04.3
comp=Z,26nm,1.2s
B21K Ikpikpuk River 86.56 19 P **P 03 20 56.4 +0.6**
baz=293
L15K Ungalak Mounta 86.60 28 P **P 03 20 56.4 +0.3**
baz=287
M14K Bethel 86.65 29 P **P 03 20 55.8 -0.5**
baz=287
B22K Teshekpuk Lake 86.65 18 IAmb IAmb 03 21 04.4
comp=Z,16nm,1.0s
B22K Teshekpuk Lake 86.65 18 P **P 03 20 56.1 -0.1**
baz=294
C21K Knifeblade Rid 86.69 20 P **P 03 20 56.7 +0.3**
baz=293
MSVF Nonsavu 86.83 109*ce*P **P 03 21 00.4 +2.2**
MSVF pmax pmax
comp=Z,9.0nm,1.0s
H18K Honhosa River 86.84 24 P **P 03 20 57.2 0.0**
baz=290
G19K Purcell Mounta 86.99 23 P **P 03 20 58.1 +0.1**
baz=291
N14K Kuskokwak Cree 87.02 29 P **P 03 20 58.1 -0.1**
baz=287
J17K VABM Dome 87.13 26 P **P 03 20 57.9 -0.7**
baz=289
F20K Avaraart Lake 87.17 22 P **P 03 20 58.9 +0.2**
baz=292
E21K Killik River 87.24 20 P **P 03 20 58.7 -0.5**
baz=293
M15K Kasigluk River 87.26 29 P **P 03 20 58.8 -0.6**
baz=288
O14K Tigyukauivet M 87.42 30 P **P 03 20 59.2 -0.9**
baz=287
H19K Roundabout Mou 87.46 23 P **P 03 20 59.8 -0.4**
baz=291

D22K	Ayikyak River baz=295	87.49	20	P	P	03 21 00.2	-0.2
L16K	Owhat River baz=289	87.50	27	P	P	03 21 00.8	+0.3
K17K	Iditarod comp=Z,19nm,1.2s	87.69	26	IAmb	IAmb	03 21 10.6	
K17K	Iditarod baz=290	87.69	26	P	P	03 21 01.1	-0.3
N15K	Kwethluk River baz=288	87.71	29	P	P	03 21 01.1	-0.5
C23K	Itkillik River comp=Z,25nm,1.2s	87.74	18	IAmb	IAmb	03 21 09.9	
C23K	Itkillik River baz=296	87.74	18	P	P	03 21 01.0	-0.5
L17K	Donlin baz=290	87.89	27	P	P	03 21 02.5	+0.1
F21K	Alatna River baz=294	87.90	21	P	P	03 21 02.2	-0.1
M16K	Timber Creek baz=289	87.96	28	P	P	03 21 02.6	-0.1
H20K	Anotleneega Mo baz=293,SNR=6.3	88.08	23	P	P	03 21 03.3	+0.1
E22K	Anaktuvuk Pass comp=Z,8.3nm,0.6s	88.10	20	IAmb	IAmb	03 23 03.3	
E22K	Anaktuvuk Pass baz=295	88.10	20	P	P	03 21 03.1	-0.3
J18K	Innoko River baz=291	88.10	25	P	P	03 21 03.5	+0.1
D23K	Nanushuk River baz=296	88.11	19	P	P	03 21 03.3	0.0
O15K	Ungalikthiuk R baz=288	88.15	30	P	P	03 21 03.1	-0.6
G21K	Allakaket baz=294	88.18	22	P	P	03 21 03.2	-0.5
N16K	Nishlik Lake baz=289	88.23	28	P	P	03 21 03.7	-0.4
F22K	John River baz=295	88.24	21	P	P	03 21 03.9	-0.1
J19K	Poorman comp=Z,12nm,0.7s	88.36	25	IAmb	IAmb	03 22 50.6	
J19K	Poorman baz=292	88.36	25	P	P	03 21 04.4	-0.2
C24K	Franklin Bluff comp=Z,38nm,1.9s	88.38	18	IAmb	IAmb	03 21 14.6	
C24K	Franklin Bluff baz=298	88.38	18	P	P	03 21 04.6	+0.1
I20K	Naaghedeneel baz=293	88.50	24	P	P	03 21 04.7	-0.5
M17K	Holitna River baz=290	88.53	27	P	P	03 21 05.3	-0.1
L18K	Granite Mounta baz=291	88.56	26	P	P	03 21 05.2	-0.3
D24K	Happy Valley comp=Z,25nm,1.6s	88.61	19	IAmb	IAmb	03 21 14.1	
D24K	Happy Valley baz=298	88.61	19	P	P	03 21 05.8	+0.2
TOLK	Toolik Lake Re comp=Z,26nm,1.4s	88.61	19	IAmb	IAmb	03 21 14.2	
TOLK	Toolik Lake Re baz=297	88.61	19	P	P	03 21 05.3	-0.5
SYO	Syowa Base	88.75	197⇑	*es*P	sP	03 21 13.6	-0.3
H21K	Melozitna Rive baz=295	88.80	23	P	P	03 21 06.6	-0.1
O16K	Kokwok River B baz=290	88.85	29	P	P	03 21 06.6	-0.4
E23K	Chandalar baz=297	88.87	20	P	P	03 21 07.0	0.0
J20K	Nowinta River comp=Z,17nm,1.1s	88.88	24	IAmb	IAmb	03 22 59.6	
J20K	Nowinta River baz=293	88.88	24	P	P	03 21 07.6	+0.6
N17K	Nushagak Hills baz=291	88.95	28	P	P	03 21 07.9	+0.5
SDPT	Sand Point baz=288	89.03	34	P	P	03 21 07.5	-0.4
COLD	Coldfoot comp=Z,14nm,0.6s	89.06	21	IAmb	IAmb	03 23 08.9	
COLD	Coldfoot baz=297	89.06	21	P	P	03 21 08.1	+0.3
P16K	Nushagak River baz=290	89.09	30	P	P	03 21 08.5	+0.4
M18K	Stony River baz=292	89.21	27	P	P	03 21 08.7	+0.1
S14K	Fog Glacier baz=289	89.22	33	P	P	03 21 09.0	+0.1
H22K	Ishtalitna Cre baz=296	89.23	22	P	P	03 21 09.6	+0.9
E24K	Your Creek comp=Z,16nm,1.2s	89.24	20	IAmb	IAmb	03 23 47.4	
E24K	Your Creek baz=298	89.24	20	P	P	03 21 09.2	+0.5
K20K	Telida baz=294	89.24	25	P	P	03 21 09.3	+0.5
O17K	Koliganek Bris baz=291	89.26	29	P	P	03 21 09.2	+0.3
D25K	Kavik River comp=Z,18nm,0.9s	89.29	18	IAmb	IAmb	03 21 17.2	
D25K	Kavik River baz=300	89.29	18	P	P	03 21 09.7	+0.8
I21K	Tanana comp=Z,26nm,1.1s	89.31	23	IAmb	IAmb	03 21 18.0	
I21K	Tanana baz=295	89.31	23	P	P	03 21 09.5	+0.5
G23K	Bananza Creek comp=Z,10nm,0.7s	89.35	21	IAmb	IAmb	03 23 05.1	
G23K	Bananza Creek baz=297	89.35	21	P	P	03 21 09.7	+0.5
L19K	White Mountain baz=293	89.38	26	P	P	03 21 09.6	+0.2
C26K	Camden Bay baz=302	89.42	17	P	P	03 21 10.0	+0.5
N18K	Kilae Creek baz=292	89.49	28	P	P	03 21 10.7	+0.7
CHNA	Chernabura Isl baz=289	89.67	34	P	P	03 21 11.2	+0.3
L20K	Farewell, AK baz=294	89.67	26	P	P	03 21 10.5	-0.3
M19K	Big River Lodg baz=293	89.69	26	P	P	03 21 10.8	-0.1
F24K	Squaw Lake comp=Z,8.3nm,0.8s	89.71	20	IAmb	IAmb	03 23 35.9	
F24K	Squaw Lake baz=299	89.71	20	P	P	03 21 11.6	+0.7
CHUM	Lake Minchumin baz=295,SNR=5.6	89.74	24	P	P	03 21 11.6	+0.6
ESDC	Sonseca Array	89.78	310	P	P	03 21 12.5	+0.6
ESDC	Sonseca Array comp=Z,1.8nm,0.9s,baz=56,slow=4.9,SNR=9.7 comp=Z,1.8nm,0.9s	89.78	310	P	P	03 21 12.3	+0.4
P17K	Kvichak River baz=291	89.78	29	P	P	03 21 11.6	+0.3
C27K	Jago River comp=Z,33nm,1.6s	89.93	17	IAmb	IAmb	03 21 20.5	
C27K	Jago River baz=303	89.93	17	P	P	03 21 12.6	+0.7
H23K	Yukon River baz=298	89.94	22	P	P	03 21 12.9	+0.9
CAST	Castle Rocks comp=Z,31nm,1.3s	90.03	24	IAmb	IAmb	03 21 21.0	
CAST	Castle Rocks baz=295,SNR=13	90.03	24	P	P	03 21 12.2	-0.2
N19K	Bonanza Creek baz=293	90.08	27	P	P	03 21 13.2	+0.4
O18K	Koktuh Hills comp=Z,29nm,1.4s	90.12	28	IAmb	IAmb	03 21 14.3	
O18K	Koktuh Hills baz=292	90.12	28	P	P	03 21 13.3	+0.3
E25K	Arctic Village baz=301	90.16	19	P	P	03 21 13.5	+0.5
BPAW	Bear Paw Mtn. baz=296,SNR=13	90.17	24	P	P	03 21 13.7	+0.6
PPLA	Purkeypile baz=295	90.21	25	P	P	03 21 13.9	+0.5
M20K	Styx River baz=294	90.24	26	P	P	03 21 13.7	+0.2
G24K	Hadweenzic Riv comp=Z,12nm,1.1s	90.25	21	IAmb	IAmb	03 21 22.1	
G24K	Hadweenzic Riv baz=299	90.25	21	P	P	03 21 14.0	+0.6
P18K	Big Mountain, baz=292	90.28	29	P	P	03 21 14.3	+0.5
I23K	Minto, Yukon-K comp=Z,36nm,1.4s	90.32	22	IAmb	IAmb	03 23 25.1	
I23K	Minto, Yukon-K baz=298,SNR=5.3	90.32	22	P	P	03 21 13.4	-0.3
O19K	Port Alsworth baz=293	90.39	28	P	P	03 21 14.6	+0.4
F25K	Christian Rive baz=301	90.42	20	P	P	03 21 14.4	+0.2
H24K	Noodor Dome baz=299	90.53	21	P	P	03 21 15.2	+0.4
Q18K	Katmai Hardscr baz=293	90.68	29	P	P	03 21 15.6	-0.1
TORD	Torodi Ar. Bea	90.69	283	P	P	03 21 16.9	+0.5
TORD	Torodi Ar. Bea comp=Z,1.8nm,0.3s,baz=57,slow=5.5,SNR=6.1 comp=Z,1.8nm,0.3s	90.69	283	P	P	03 21 17.5	+1.0
NEA2	Nenana comp=Z,13nm,1.2s	90.69	23	IAmb	IAmb	03 23 34.9	
NEA2	Nenana baz=298	90.69	23	P	P	03 21 14.8	-0.7
G25K	Bearman Lake baz=301	90.69	20	P	P	03 21 16.4	+1.0
URZ	Urewera comp=Z,110nm,18.1s,baz=318,slow=38	90.69	129	LR	LR	04 06 12.0	
TRF	Thorofare Moun baz=297	90.74	24	P	P	03 21 15.9	0.0
F26K	Sheenjek River comp=Z,9.4nm,0.9s	90.85	19	IAmb	IAmb	03 21 24.9	
F26K	Sheenjek River baz=302,SNR=10.0	90.85	19	P	P	03 21 16.3	+0.1
BMAR	Burnt Mountain	90.85	19	P	P	03 21 16.6	+0.3
SKT	Skwentna baz=296,SNR=6.0	90.88	26	P	P	03 21 15.8	-0.7
SPCR	Spurr Chakacha baz=295	90.93	27	P	P	03 21 17.2	+0.5
D27M	Malcolm River comp=Z,8.1nm,0.8s	90.95	17	IAmb	IAmb	03 21 24.7	
D27M	Malcolm River baz=306	90.95	17	P	P	03 21 17.3	+0.6
H25L	Birch Creek baz=301	91.04	21	P	P	03 21 17.6	+0.5
POKR	Poker Plat Res comp=Z,15nm,0.9s	91.05	22	IAmb	IAmb	03 23 44.9	
POKR	Poker Plat Res baz=299	91.05	22	P	P	03 21 17.8	+0.7
P19K	Oil Pt baz=294	91.12	28	P	P	03 21 17.2	-0.4
MCK	McKinley baz=298,SNR=8.9	91.15	24	P	P	03 21 17.2	-0.4
O20K	Slope Mountain baz=295	91.22	28	P	P	03 21 17.0	-1.1
Q19K	Cape Douglas, baz=294	91.22	29	P	P	03 21 17.7	-0.4
CUT	Chulitna baz=297	91.22	25	P	P	03 21 17.3	-0.7
PBRG	Braganca	91.27	313	*e*P	P	03 21 20.8	+2.0
RND	Reindeer comp=Z,27nm,1.4s	91.33	24	IAmb	IAmb	03 21 26.9	
G26K	Porcupine Rive baz=303,SNR=11	91.37	20	P	P	03 21 19.4	+0.9
R18K	Karluk baz=293	91.37	30	P	P	03 21 18.5	-0.2
E27K	Coleen River comp=Z,8.6nm,1.1s	91.37	18	IAmb	IAmb	03 21 26.9	
E27K	Coleen River baz=305	91.37	18	P	P	03 21 19.6	+0.9
ILAR	Eielson Array	91.42	22	P	P	03 21 17.4	-1.5
ILAR	Eielson Array comp=Z,1.5nm,0.7s,baz=296,slow=3.8,SNR=17	91.42	22	P	P	03 21 17.7	-1.2
ILAR	PP comp=Z,0.7nm,0.9s,baz=300,slow=6.7,SNR=4.2 comp=Z,1.5nm,0.7s				PP	03 25 01.3	+5.1
CHIR	Chirikof Islan baz=292	91.45	32	P	P	03 21 19.4	+0.3
D28M	Stokes Point baz=308	91.53	17	P	P	03 21 19.6	+0.4
PRP	Porcupine Dome comp=Z,19nm,1.3s	91.54	21	IAmb	IAmb	03 21 28.1	
PRP	Porcupine Dome baz=301,SNR=7.7	91.54	21	P	P	03 21 19.4	-0.2
HDA	Harding Lake baz=300	91.58	23	P	P	03 21 18.6	-1.1
M22K	Willow baz=297	91.58	26	P	P	03 21 19.7	+0.1
MVO	Moncorvo	91.65	312	*e*P	P	03 21 21.0	+0.5
E28M	Babbage River comp=Z,7.7nm,0.8s	91.75	17	IAmb	IAmb	03 21 28.2	
E28M	Babbage River baz=307	91.75	17	P	P	03 21 21.2	+0.8
HOM	Homer baz=296	91.84	28	P	P	03 21 21.2	+0.3
RC01	Rabbit Creek A baz=297	92.05	26	P	P	03 21 22.1	+0.2
J25K	Salcha River, baz=301	92.06	22	P	P	03 21 21.8	-0.1
PMR	Palmer comp=Z,10nm,1.1s	92.08	26	IAmb	IAmb	03 21 29.9	
PMR	Palmer baz=298	92.08	26	P	P	03 21 21.9	-0.1
OHAK	Old Harbor baz=294	92.09	30	P	P	03 21 22.4	+0.3
G27K	Doyon Strip baz=305,SNR=5.7	92.15	19	P	P	03 21 22.2	0.0
KDAK	Kodiak Island baz=295	92.20	30	P	P	03 21 22.4	-0.2
BRSE	Bradley Lake S baz=296	92.22	28	P	P	03 21 22.4	-0.3
SML	Sawmill baz=299	92.31	25	P	P	03 21 22.8	-0.3
K24K	Donnelly Dome baz=301	92.33	23	P	P	03 21 23.4	+0.2
PCBR	Castelo Branco	92.35	311	*e*P	P	03 21 25.0	+1.3
E29M	Blow River comp=Z,13nm,1.1s	92.36	17	IAmb	IAmb	03 21 31.4	
E29M	Blow River baz=308,SNR=6.7	92.36	17	P	P	03 21 23.3	+0.2
KNK	Knik Glacier comp=Z,19nm,1.2s	92.45	26	IAmb	IAmb	03 21 32.1	
KNK	Knik Glacier baz=298	92.45	26	P	P	03 21 24.5	+0.7
I26K	Coal Creek Min baz=303	92.49	21	P	P	03 21 24.8	+1.0
PBAR	Barrancos	92.49	310	*e*P	P	03 21 28.1	+3.7
H27K	Steamboat Moun baz=305	92.52	20	P	P	03 21 24.6	+0.6
M23K	Glacier View baz=299	92.57	25	P	P	03 21 24.5	+0.2
SEW	Seward baz=298	92.63	27	P	P	03 21 25.2	+0.7
SCM	Sheep Creek Mo baz=299	92.71	25	P	P	03 21 25.5	+0.5
RIDG	Independent Ri comp=Z,9.2nm,1.0s	92.72	23	IAmb	IAmb	03 21 32.5	
RIDG	Independent Ri baz=302	92.72	23	P	P	03 21 25.2	+0.2
PWL	Port Wells baz=298	92.76	26	P	P	03 21 25.3	+0.1
J26L	Joseph Creek comp=Z,9.3nm,1.0s	92.78	22	IAmb	IAmb	03 21 33.4	
J26L	Joseph Creek baz=303	92.78	22	P	P	03 21 25.2	-0.1
I27K	Kandik River baz=305	92.85	20	P	P	03 21 25.6	0.0
PAX	Paxson baz=301	92.88	23	P	P	03 21 25.3	-0.5
A36M	Sachs Harbour comp=Z,15nm,1.1s	92.91	12	IAmb	IAmb	03 21 33.2	
A36M	Sachs Harbour baz=320,SNR=7.4	92.91	12	P	P	03 21 25.6	0.0
SCRK	Sand Creek comp=Z,7.8nm,0.9s	92.92	22	IAmb	IAmb	03 21 33.9	
SCRK	Sand Creek baz=302,SNR=6.0	92.92	22	P	P	03 21 25.5	-0.5
M24K	Tolsona, Glenn baz=300	93.05	24	P	P	03 21 26.8	+0.2
PMTG	Montargil	93.13	311	*e*P	P	03 21 29.3	+2.0
G29M	Pine Creek comp=Z,14nm,1.2s	93.24	18	IAmb	IAmb	03 21 35.3	
G29M	Pine Creek baz=308	93.24	18	P	P	03 21 27.2	-0.1
GLI	Glacier Island baz=300	93.28	26	P	P	03 21 28.0	+0.4
HARP	HAARP baz=301	93.31	24	P	P	03 21 28.0	+0.3
PSBE	So Bento	93.42	311	*e*P	P	03 21 28.4	-0.3
F30M	Barrier River baz=310	93.47	17	P	P	03 21 28.6	+0.3
KLU	Klutina comp=Z,9.4nm,1.2s	93.47	25	IAmb	IAmb	03 21 37.0	
KLU	Klutina baz=301	93.47	25	P	P	03 21 28.2	-0.3
I28M	Miner Creek comp=Z,8.8nm,0.9s	93.51	20	IAmb	IAmb	03 21 36.7	
I28M	Miner Creek baz=306	93.51	20	P	P	03 21 29.0	+0.4
H29M	Whitestone comp=Z,11nm,0.9s	93.56	19	IAmb	IAmb	03 21 36.6	
H29M	Whitestone baz=308	93.56	19	P	P	03 21 29.0	+0.3
MENT	Mentasta comp=Z,10.0nm,1.0s	93.58	23	IAmb	IAmb	03 21 37.8	
P23K	Montague Islan baz=299	93.59	27	P	P	03 21 29.0	0.0
K27K	Chicken comp=Z,23nm,1.5s	93.59	22	IAmb	IAmb	03 21 38.7	
K27K	Chicken baz=304	93.59	22	P	P	03 21 29.0	+0.1
FID	Port Fidalgo comp=Z,11nm,1.1s	93.61	26	IAmb	IAmb	03 21 37.5	
INK	Inuvik comp=Z,14nm,1.4s	93.64	16	IAmb	IAmb	03 21 36.9	
INK	Inuvik baz=312,SNR=5.6	93.64	16	P	P	03 21 29.1	0.0
L26K	Log Cabin Wild comp=Z,19nm,1.4s	93.67	23	IAmb	IAmb	03 21 38.9	
L26K	Log Cabin Wild baz=303	93.67	23	P	P	03 21 29.9	+0.5
G30M	tAoh Zraii Nji comp=Z,13nm,1.1s	93.75	18	IAmb	IAmb	03 21 37.1	
G30M	tAoh Zraii Nji baz=310	93.75	18	P	P	03 21 29.8	+0.1
LIS	Lisbon	93.92	311	*e*P	P	03 21 31.1	+0.2
N25K	Chitina, Valde baz=302	93.95	24	P	P	03 21 30.8	+0.1
EPYK	Eagle Plains comp=Z,9.0nm,0.8s	93.98	18	IAmb	IAmb	03 21 38.1	
EPYK	Eagle Plains baz=309,SNR=5.8	93.98	18	P	P	03 21 30.4	-0.3
EYAK	Cordova Ski Ar baz=301	94.02	26	P	P	03 21 31.1	+0.2
I29M	Ogilvie Camp, baz=308	94.11	20	P	P	03 21 31.3	0.0
PFVI	Vila Bisbo	94.15	309	*e*P	P	03 21 35.9	+3.9
M26K	Nabesna, AK comp=Z,13nm,1.2s	94.15	23	IAmb	IAmb	03 21 40.3	
M26K	Nabesna, AK baz=303	94.15	23	P	P	03 21 31.0	-0.6
F31M	Tsiigehtchic comp=Z,23nm,1.6s	94.17	17	IAmb	IAmb	03 21 39.2	
F31M	Tsiigehtchic baz=312	94.17	17	P	P	03 21 30.9	-0.6
L27K	Beaver Creek, baz=304	94.23	22	P	P	03 21 32.2	+0.2
BCAR	Beaver Creek A	94.24	22	P	P	03 21 32.7	+0.7
BMRM	Bremner River comp=Z,8.1nm,1.0s	94.28	25	IAmb	IAmb	03 21 40.6	
BMRM	Bremner River baz=302	94.28	25	P	P	03 21 32.3	+0.1
G31M	Satah River comp=Z,10nm,1.1s	94.36	17	IAmb	IAmb	03 21 44.0	
G31M	Satah River baz=312	94.36	17	P	P	03 21 32.6	+0.2
DAWY	Dawson comp=Z,9.7nm,1.1s	94.53	21	IAmb	IAmb	03 21 41.2	
DAWY	Dawson baz=307	94.53	21	P	P	03 21 32.7	-0.6
M27K	Edge Creek, AK baz=304	94.61	23	P	P	03 21 33.4	-0.4
J29N	Klondike Camp comp=Z,9.6nm,0.8s	94.70	20	IAmb	IAmb	03 21 42.6	
J29N	Klondike Camp baz=308	94.70	20	P	P	03 21 33.9	-0.2
I30M	Mount Dempster comp=Z,9.1nm,0.9s	94.83	19	IAmb	IAmb	03 21 42.5	
I30M	Mount Dempster baz=310	94.83	19	P	P	03 21 34.0	-0.7
BVCY	Beaver Creek baz=305	94.97	23	P	P	03 21 35.3	0.0
H31M	Peel River comp=Z,18nm,1.2s	95.09	18	IAmb	IAmb	03 21 43.7	
H31M	Peel River baz=312	95.09	18	P	P	03 21 35.5	-0.3
C36M	Paulatuk baz=322,SNR=9.4	95.22	13	P	P	03 21 36.4	+0.1
J30M	Hart River baz=310	95.26	20	P	P	03 21 37.1	+0.4
BGLC	Bering Glacier baz=303	95.29	25	P	P	03 21 37.1	+0.4
K29M	Barlow Dome baz=308	95.32	21	P	P	03 21 37.2	+0.2
L29M	L29M comp=Z,8.7nm,1.0s	95.56	21	IAmb	IAmb	03 21 46.7	
L29M	L29M baz=308	95.56	21	P	P	03 21 38.3	+0.3
MESA	MESA baz=304	95.81	25	P	P	03 21 39.8	+0.4
M29M	Somme Creek baz=308	95.85	22	P	P	03 21 39.2	-0.3
O28M	Mount Upton baz=306	96.19	24	P	P	03 21 40.5	-0.8
YUK4	Talbot Arm baz=307	96.45	23	P	P	03 21 41.8	-0.5
PINM	Pinnacle baz=306	96.56	24	P	P	03 21 42.7	0.0
YUK6	Outpost Mounta baz=307	96.80	23	P	P	03 21 42.9	-1.1
N30M	Aishikik Lake baz=309	96.97	22	P	P	03 21 44.1	-0.4
O29M	Mount Kennedy baz=307	97.11	24	P	P	03 21 44.9	-0.3
PNL	Peninsula baz=306	97.16	25	P	P	03 21 45.3	0.0
HYT	Haines Junctio baz=308	97.21	23	P	Pdif	03 21 45.9	+0.2
N31M	Braeburn, Yuko comp=Z,11nm,1.1s	97.44	22	IAmb	IAmb	03 21 59.1	
N31M	Braeburn, Yuko baz=310	97.44	22	P	P	03 21 46.4	-0.1
M31M	Drury Creek, Y baz=311	97.47	21	P	Pdif	03 21 47.0	+0.3
O30N	Mendenhall baz=310	97.78	23	P	Pdif	03 21 48.2	0.0
FARO	Faro, Yukon baz=312	97.81	21	P	Pdif	03 21 48.4	+0.1
P29M	Windy Craggy baz=308	97.85	24	P	P	03 21 48.4	-0.1
P30M	Million Dollar baz=309	97.86	23	P	P	03 21 48.5	0.0
MMPY	Sheldon Lake, baz=314	98.25	20	P	Pdif	03 21 50.6	+0.4
WHY	Whitehorse baz=311	98.31	22	P	P	03 21 50.5	-0.1
N32M	Quiet Lake baz=312	98.64	21	P	P	03 21 51.4	-0.6
SKAG	Skagway baz=310	98.91	23	P	P	03 21 52.9	-0.3
P33M	Teslin, Yukon baz=312	99.37	22	P	Pdif	03 21 55.4	+0.1
P32M	Atlin baz=312	99.45	23	P	Pdif	03 21 55.5	-0.2
S31K	Pelican baz=309	99.51	25	P	Pdif	03 21 55.8	0.0
SIT	Sitka baz=310	100.46	25	P	Pdif	03 21 59.2	-0.8
S32K	Killisnoo baz=310	100.51	25	P	Pdif	03 22 00.9	+0.7
CRAG	Craig baz=312	102.43	26	P	Pdif	03 22 08.0	-0.9
T35M	Bob Quinn baz=314	102.57	23	P	Pdif	03 22 09.4	-0.2
YKA	Yellowknife Ar comp=Z,0.3nm,0.7s,baz=319,slow=4.5,SNR=3.9	103.08	14	Pdiff	Pdif	03 22 11.4	-0.2
YKA	PP comp=Z,0.8nm,0.9s,baz=333,slow=7.7,SNR=7.8				PP	03 26 26.3	+0.8
V35K	Ketchikan baz=313	103.17	25	P	Pdif	03 22 10.9	-1.3
PLID	Pearl Lake	117.42	24	PKPdf	PKPdf	03 26 59.0	-0.2
TBI	Tubuai comp=Z,473nm,33.8s	117.67	111	*e*LR	LR	04 02 36.9	
NVAR	Mina Array Bea comp=Z,2.3nm,0.8s,baz=282,slow=3.2,SNR=7.0	121.70	30	PKP	PKiKP	03 27 07.8	+0.1
PDAR	Pinedale Array comp=Z,1.7nm,0.8s,baz=61,slow=1.3,SNR=15	121.84	21	PKP	PKPdf	03 27 07.2	-0.6
TAOE	Nuku Hiva Isla comp=Z,68nm,25.6s	125.69	93	*e*LR	LR	04 06 21.5	
ANMO	Albuquerque	129.86	23	PKPdf	PKPdf	03 27 23.0	-0.3
ANMO	Albuquerque	129.86	23	PKIKP	PKPdf	03 27 23.0	-0.3
Q54A	Coxs Mills	130.00	356		PKPdf	03 27 23.5	+0.3
RKT	Rikitea comp=Z,822nm,35.5s	130.98	111	*e*LR	LR	04 08 50.7	
TXAR	Lajitas Array comp=Z,1.4nm,0.8s,baz=21,slow=0.2,SNR=11	135.92	24	PKP	PKPdf	03 27 34.6	-0.1
RIB01	Linhares ES	136.31	254	*e*P	PKiKP	03 27 36.5	-0.6

JANB	Januaria	140.23 260	*eP*	PKiKP		03 27 44.7	-0.6
SDBA	SAO DESIDERIO	140.76 264	*eP*	PKPdf		03 27 45.1	+1.2
BDFB	Brasilia	143.78 259	PKP	PKPdf		03 27 49.2	-0.1
	comp=Z,3.3nm,0.8s,baz=69,slow=2.9,SNR=4.9						
PRPB	Paraiapebas	144.90 275	*eP*	PKPdf		03 27 51.8	+0.6
CPSB	Cacapava Do Su	145.00 232	*eP*	PKPdf		03 27 51.6	+0.7
ITAB	Concordia	145.22 238	*eP*	PKPdf		03 27 52.6	+1.3
LL02	Futaleuf	146.08 197	PKPdf	PKPbc		03 27 52.9	-0.3
TRQA	Tornquist	146.19 214		PKPbc		03 27 53.4	-0.3
TRQA	Tornquist	146.19 214	PKP2	PKPbc		03 27 53.4	-0.3
TBOT	Tacuaremb	146.27 228	*eP*	PKPab		03 27 54.8	-0.1
LL01	San Ignacio de	146.99 197		PKPdf		03 27 54.7	+0.8
SNDB	Serra Nova Dou	146.99 265	*eP*	PKPbc		03 27 56.4	-0.3
ARAG	Araguaiana, MT	147.43 258	*eP*	PKPbc		03 27 56.8	-1.0
PLCA	Paso Flores	147.88 201		PKPbc		03 27 59.4	+0.8
PLCA	Paso Flores	147.88 201	PKPbc	PKPbc		03 27 58.9	+0.4
	comp=Z,8.2nm,0.9s,baz=182,slow=4.9,SNR=12						
PLCA	Paso Flores	147.88 201	*eP*	PKPdf		03 27 56.8	+1.3
LL04	Puerto Octay	148.33 198		PKPab		03 28 02.3	-0.3
RPRD	Ribas do Rio P	148.54 249	*eP*	PKPdf		03 27 58.5	+1.4
AMBA	Amambai (Brazi	149.08 244	*eP*	PKPdf		03 27 59.1	+1.2
SJPY	San Joaquin	149.36 239	*eP*	PKPdf		03 28 00.2	+1.9
CPUP	Villa Florida	149.85 236	PKPbc	PKPbc		03 28 04.1	+0.2
	comp=Z,7.0nm,1.0s,baz=138,slow=3.9,SNR=5.8						
CPUP	Villa Florida	149.85 236	*eP*	PKPdf		03 28 00.8	+1.8
ITTB	Itaituba	150.26 281	*eP*	PKPbc		03 28 02.7	-2.5
AQDB	Aquidauana	150.37 248	*eP*	PKPdf		03 28 01.6	+1.6
NPGB	Novo Progresso	150.47 275	*eP*	PKPdf		03 28 01.9	+1.5
SALV	Santo Antonio	151.14 257	*eP*	PKPdf		03 28 03.4	+2.1
CLDB	Colider	151.35 268	*eP*	PKPdf		03 28 03.9	+2.1
BOAV	Boa Vista	152.20 297		PKPbc		03 28 09.9	+0.1
BOAV	Boa Vista	152.20 297	*eP*	PKPdf		03 28 05.5	+2.5
PTLB	Pontes e Lacer	154.49 257		PKPbc		03 28 13.8	-0.8
CO03	El Pedregal	156.32 212		PKPab		03 28 37.4	+0.9
ROSC	El Rosal	160.91 326	PKPab	PKPab		03 28 56.6	-0.5
	comp=Z,11nm,0.6s,baz=28,slow=24,SNR=5.6						
LPAZ	La Paz	162.84 251	PKP	PKPdf		03 28 16.8	-0.1
	comp=Z,0.8nm,0.7s,baz=36,slow=1.5,SNR=2.2						
LPAZ			PKPab	PKPab		03 29 05.7	-0.3
	comp=Z,2.2nm,1.0s,baz=80,slow=6.8,SNR=4.5						
CZSB	Cruzeiro do Su	167.42 285	PKPab	PKPab		03 29 25.4	-0.1

NEIC ***28*** *03:17:25.3±1.1, 35°.10N±0°.01×97°.59W±0°.01, h8km±8km, Error ellipse: s-maj=1.7km s-min=1.5km az=139.0*

NEIC 28 03:17:24.9±1.1, 35°.091N±0°.009×97°.60W±0°.01, h5km±1km, mb_Lg1.9/5, ML2.0/35, ML1.7/11, Error ellipse: s-maj=2.7km s-min=1.5km az=286.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.23	44		Pg	03 17 30.2	+0.8
FNO					Sg	03 17 31.8	-0.6
FNO				IAML		03 17 37.2	
	comp=E,337nm,0.7s						
OKCSW	OKLAHOMA CITY	0.34	22	Pg	Pg	03 17 31.7	+0.2
OKCSW				Sg	Sg	03 17 34.7	-1.3
OKCSW				IAML		03 17 39.9	
	comp=N,104nm,0.1s						
OK004	Okla Sci Mus	0.44	13		Pg	03 17 33.8	+0.3
OK004					Sg	03 17 40.1	+0.9
X34A	Smith Ranch, M	0.53	202	Pg	Pb	03 17 36.0	-0.6
X34A				Sg	Sg	03 17 41.7	-0.1
X34A				IAML		03 17 45.0	
	comp=N,57nm,0.5s						
ADOK	Arcadia Dam	0.59	18	Pg	Pg	03 17 34.9	-1.3
ADOK				Sg	Sg	03 17 44.5	+0.5
W35A	Tecumseh	0.59	84	Pg	Pg	03 17 35.3	-1.0
W35A				IAmb_Lg		03 17 43.9	
	comp=Z,18nm,1.1s						
W35A				Sg	Sg	03 17 44.2	+0.2
WMOK	Wichita Mounta	1.04	250	Sg	Sg	03 17 57.9	-0.3
WMOK	Wichita Mounta	1.04	250	Pg	Pg	03 17 44.5	-0.3
OK031	S. Brethren Rd	1.06	35	Pg	Pg	03 17 44.5	-0.7
OK052	Battle Ridge R	1.11	35	Pg	Pg	03 17 45.4	-0.7
OK052				Sg	Sg	03 18 00.3	-0.2
DEOK	Depew	1.17	50	Pg	Pg	03 17 46.6	-0.7
DEOK				Sg	Sg	03 18 02.2	-0.2
DEOK				IAML		03 18 07.2	
	comp=E,51nm,0.2s						
DEOK				IAML		03 18 07.4	
	comp=N,49nm,0.2s						
QUOK	Quay	1.30	34		Pn	03 17 48.8	-0.9
OK048	Pawnee Station	1.42	22		Pn	03 17 49.6	-1.8
CROK	Carrier	1.45	347		Pn	03 17 49.9	-1.9
WTFS	Witchita Falls	1.50	209		Pn	03 17 52.4	-0.2
TUL3	Leonard	1.68	60		Pn	03 17 54.4	-0.6
OK032	Salt Plains WL	1.78	344	Pn	Pn	03 17 55.1	-1.3
T35A	Sooner Cattle	2.02	25	Pn	Pn	03 17 59.9	+0.2
SMWD	Samnorwood	2.17	271	Pn	Pn	03 18 00.3	-1.4
SMWD				IAmb_Lg		03 18 32.3	
	comp=Z,5.0nm,0.7s						
PLPT	Palo Pinto	2.35	195	Pn	Pn	03 18 03.2	-1.0
U38A	Gravette	2.94	62	IAmb_Lg		03 19 01.8	
	comp=Z,3.8nm,0.8s						
MIAR	Mount Ida	3.35	98	Pn	Pn	03 18 18.0	+0.1
BRDY	Brady	3.97	198	Pn	Pn	03 18 25.1	-1.5

CATAC ***28*** *03:35:25.7±0.6, 12°.N±4°.×8°.9W±°, h1km, M4.1/36, mb4.3/1, mB5.2/1, MLv4.0/36, Mw(mB)4.5/1, Error ellipse: s-maj=11.1km s-min=3.5km az=47.3, confirmed*

NEIC ***28*** *03:35:27.8±1.7, 12°.42N±0°.08×89°.28W±0°.09, h10km±2km, mb4.4/22, Error ellipse: s-maj=18.6km s-min=9.8km az=229.0*

SNET ***28*** *03:35:28.9±1.1, 12°.40N×89°.44W, h26km±55km, ML3.5*

UCR ***28*** *03:35:28.3±1.1, 12°.71N×89°.37W, h35km±604km, MB4.4(NEIC)*

GCG ***28*** *03:35:29.7±1.6, 12°.43N×89°.58W, h48km±151km, MD4.5*

IDC ***28*** *03:35:30.2±2.8, 12°.47N×89°.23W, h41km±27km, mb3.5/8, mbtmp3.8/11, ML3.1/4, MS3.1/2, Error ellipse: s-maj=35.6km s-min=18.5km az=54.0*

ISC 28 03:35:29.1±0.7, 12°.33N±0°.06×89°.42W±0°.05, h35km, n176, σ1§28/183, mb4.2/18, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.16	5	*eP*	Pn	03 35 48.5	-0.4
LALI				*eS*	Sn	03 36 03.4	-0.1
LALI	Alcalda de L	1.16	5	P	Pn	03 35 48.1	-0.7
LALI	Alcalda de L	1.16	5	P	Pn	03 35 48.8	0.0
LALI	Alcalda de L	1.16	5	S	Sn	03 36 04.7	+1.2
LALI	Alcalda de L	1.16	5	*i* P	Pn	03 35 48.6	-0.2
LALI				*i* S	Sn	03 36 04.1	+0.6
LALI	Alcalda de L	1.16	5	*i* P		03 35 48.6	
LALI				*i* S		03 36 04.1	
JAYA	Jayaque - finc	1.32	359	*eP*	Pn	03 35 50.9	-0.3
JAYA				IAML		03 36 09.1	
	comp=Z,923nm,0.2s						
JAYA	Jayaque - finc	1.32	359	S	Sn	03 36 08.2	+0.5
JAYA	Jayaque - finc	1.32	359	P	Pn	03 35 50.6	-0.6
JAYA	Jayaque - finc	1.32	359	P	Pn	03 35 51.4	+0.2
JAYA	Jayaque - finc	1.32	359	S	Sn	03 36 04.7	-2.9
JAYA	Jayaque - finc	1.32	359	*i* P	Pn	03 35 50.2	-1.0
JAYA				*i* S	Sn	03 36 04.8	-2.9
JAYA	Jayaque - finc	1.32	359	*i* P		03 35 50.2	
JAYA				*i* S		03 36 04.8	
LOMA	Loma Larga	1.33	10	*eP*	Pn	03 35 51.3	-0.1
LOMA	Loma Larga	1.33	10	P	Pn	03 36 00.6	+9.3
LOMA	Loma Larga	1.33	10	P	Pn	03 35 51.6	+0.2
ITCA	Escuela Especi	1.35	6	P	Pn	03 35 52.9	+1.4
TECO	Alcaldia de Te	1.35	27	P	Pn	03 35 57.0	+5.5
PMON	Piamonte	1.38	4	*eP*	Pn	03 35 51.7	-0.3
PMON	Piamonte	1.38	4	S	Sn	03 36 11.1	+1.9
PMON	Piamonte	1.38	4	P	Pn	03 35 51.9	-0.1
PMON	Piamonte	1.38	4	P	Pn	03 35 51.9	-0.1
SEMO	Seminario San	1.38	8	P	Pn	03 35 52.2	+0.2
UTEC	Universidad Te	1.38	9	P	Pn	03 35 52.3	+0.3
COEG	Centro de Oper	1.39	22	*eP*	Pn	03 35 52.1	0.0
COEG	Centro de Oper	1.39	22	P	Pn	03 35 52.5	+0.4
COEG	Centro de Oper	1.39	22	P	Pn	03 35 53.0	+0.9
UEES	Universidad Ev	1.39	7	P	Pn	03 35 52.5	+0.4
IGN	Direccin Gen	1.40	10	P	Pn	03 35 53.1	+0.9
IGN	Direccin Gen	1.40	10	S	Sn	03 36 11.7	+2.1
UDBS	Universidad Do	1.41	10	P	Pn	03 35 52.7	+0.4
BOQS	Boqueron	1.41	5	*eP*	Pn	03 35 52.4	-0.1
UESV	Universidad de	1.44	25	P	Pn	03 35 54.1	+1.3
LFU	La Fuente	1.45	12	*eP*	Pn	03 35 52.8	0.0
PAVA	Las Pavas	1.46	19	*eP*	Pn	03 35 52.7	-0.3
PAVA	Las Pavas	1.46	19	S	Sn	03 36 13.3	+2.3
PAVA	Las Pavas	1.46	19	P	Pn	03 35 52.9	-0.2
PAVA	Las Pavas	1.46	19	P	Pn	03 35 53.2	+0.2
TECA	Tecapa	1.47	37	*eP*	Pn	03 35 53.6	+0.4
CEDA	San Andres	1.47	1	P	Pn	03 35 53.6	+0.4
CEVE	Cerro Verde	1.51	352	P	Pn	03 35 53.6	-0.2
SCLA	Alcaldia de Sa	1.52	26	*eP*	Pn	03 35 53.4	-0.5
SCLA	Alcaldia de Sa	1.52	26	P	Pn	03 35 53.5	-0.4
SCLA	Alcaldia de Sa	1.52	26	P	Pn	03 35 54.6	+0.7
PQSS	Presa 15 de Se	1.54	33	P	Pn	03 35 56.0	+2.0
LCY	Lacayo	1.55	45	*eP*	Pn	03 35 54.8	+0.6
RANC	El Ranchito	1.56	45	*eP*	Pn	03 35 54.7	+0.3
RANC	El Ranchito	1.56	45	P	Pn	03 35 54.9	+0.4
RANC	El Ranchito	1.56	45	P	Pn	03 35 54.8	+0.3
PACA	Pacayal	1.56	43	*eP*	Pn	03 35 55.1	+0.6
PACA	Pacayal	1.56	43	P	Pn	03 35 55.2	+0.7
PACA	Pacayal	1.56	43	P	Pn	03 35 55.6	+1.1
BLLM	Bellamira	1.60	46	*eP*	Pn	03 35 55.2	+0.2
NUBE	Las Nubes	1.61	347	*eP*	Pn	03 35 54.3	-0.8
NUBE	Las Nubes	1.61	347	S	Sn	03 36 14.7	0.0
NUBE	Las Nubes	1.61	347	P	Pn	03 35 54.4	-0.8
NUBE	Las Nubes	1.61	347	P	Pn	03 35 55.1	-0.1
NUBE	Las Nubes	1.61	347	*i* P	Pn	03 35 54.2	-0.8
NUBE				*i* S	Sn	03 36 14.7	0.0
NUBE	Las Nubes	1.61	347	*i* P		03 35 54.2	
NUBE				*i* S		03 36 14.7	
FAME	Alcaldia de Sa	1.62	339	P	Pn	03 35 57.3	+2.1
FAME	Alcaldia de Sa	1.62	339	P	Pn	03 35 55.1	0.0
UNIC	Universidad Ca	1.65	356	P	Pn	03 35 56.3	+0.6
CNRM	Centro Naciona	1.67	47	P	Pn	03 35 56.8	+1.0
SLOZ	Alcaldia de Sa	1.73	348	P	Pn	03 35 58.5	+1.8
SLOZ	Alcaldia de Sa	1.73	348	P	Pn	03 35 58.8	+2.1
LCND	La Caada	1.78	57	*eP*	Pn	03 35 56.8	-0.6
LCND	La Caada	1.78	57	P	Pn	03 35 57.0	-0.4
LCND	La Caada	1.78	57	P	Pn	03 35 56.9	-0.6
CNCH	Conchagua	1.81	58	*eP*	Pn	03 35 59.1	+1.2
CNCH	Conchagua	1.81	58	P	Pn	03 35 59.2	+1.2
CNCH	Conchagua	1.81	58	P	Pn	03 35 59.8	+1.9
CAHU	Cacacuatique	1.86	39	*eP*	Pn	03 35 59.9	+1.3
LLGN	La Laguna	1.88	14	P	Pn	03 36 01.7	+2.8
CSGN	Cosiguina Volc	1.93	70	P	Pn	03 36 00.3	+0.9
CSGN	Cosiguina Volc	1.93	70	P	Pn	03 35 59.5	0.0
CSGN	Cosiguina Volc	1.93	70	P	Pn	03 36 01.4	+2.0
MTO3	Montecristo	2.06	2		Pn	03 36 01.3	-0.2
MTO3	Montecristo	2.06	2	P	Pn	03 36 01.4	-0.1
MTO3	Montecristo	2.06	2	P	Pn	03 36 01.7	+0.3
MTO3	Montecristo	2.06	2	*i* P	Pn	03 36 01.6	+0.1
MTO3	Montecristo	2.06	2	*i* P		03 36 01.6	
ESQI	Esquipulas	2.22	2		Pn	03 36 03.6	+0.1
ESQI	Esquipulas	2.22	2	P	Pn	03 36 05.9	+2.4
POLN	Al Sur del Vol	2.56	83	P	Pn	03 36 07.7	-0.5
PLRN	Geotermica Pol	2.60	84	P	Pn	03 36 07.7	-0.9
PLRN	Geotermica Pol	2.60	84	P	Pn	03 36 07.5	-1.1
CNGA	Al SSO del Vol	2.66	86	P	Pn	03 36 09.3	-0.2
CNGA				S	Pn	03 36 11.5	+2.0
CNGA	Al SSO del Vol	2.66	86	P	Pn	03 36 09.0	-0.5
CNGN	Cerro Negro	2.66	86		Pn	03 36 08.7	-0.8
CNGN	Cerro Negro	2.66	86	P	Pn	03 36 10.9	+1.4
CNGN	Cerro Negro	2.66	86	P	Pn	03 36 09.4	-0.2
ILCN	San Idelfonso	2.67	84	P	Pn	03 36 09.3	-0.3
MACN	El Madrono	2.68	87	P	Pn	03 36 09.4	-0.4
TGUH	Tegucigalpa,Un	2.71	50		Pn	03 36 10.3	+0.1
TGUH	Tegucigalpa,Un	2.71	50	P	Pn	03 36 11.1	+0.9
TGUH	Tegucigalpa,Un	2.71	50	P	Pn	03 36 11.0	+0.8
COPN	Copaltepe	2.77	93	P	Pn	03 36 10.4	-0.5
COPN	Copaltepe	2.77	93	||*iP*	Pn	03 36 10.3	-0.7
COPN				*eS*	Sn	03 36 43.0	-0.1
MOMN	Momotombo	2.81	88	P	Pn	03 36 10.8	-0.8
SAPS	Ciudad Sandino	2.95	93	P	Pn	03 36 12.7	-0.7
LIMN	Finca el Limon	3.07	76	P	Pn	03 36 14.7	-0.4
MGAN	Managua	3.10	93		Pn	03 36 15.5	-0.1
MGAN	Managua	3.10	93	P	Pn	03 36 15.4	-0.2
MGAN	Managua	3.10	93	S	Sn	03 36 50.6	-0.9
WILN	Americas 2	3.16	93	P	Pn	03 36 16.4	0.0
WILN	Americas 2	3.16	93	S	Sn	03 36 51.1	-1.8
MAS3	AI N del Volca	3.18	95	P	Pn	03 36 16.6	-0.1
NANN	Nandasmo	3.25	96	P	Pn	03 36 18.9	+1.3
NANN	Nandasmo	3.25	96	P	Pn	03 36 17.3	-0.2
NANN	Nandasmo	3.25	96	S	Sn	03 36 55.3	+0.2
NADN	Granada	3.36	99	P	Pn	03 36 18.4	-0.7
RCVN	Varilla12	3.38	68	P	Pn	03 36 21.1	+1.6
RCVN	Varilla12	3.38	68	P	Pn	03 36 20.2	+0.6
RCPN	Sur Rio San Ju	3.45	69	P	Pn	03 36 22.3	+1.8
MATN	Matagalpa	3.46	80	P	Pn	03 36 20.2	-0.4
MATN	Matagalpa	3.46	80	P	Pn	03 36 20.5	-0.1
BOAB	BOACO BROADBAN	3.67	88		Pn	03 36 22.5	-0.8
BOAB	BOACO BROADBAN	3.67	88	P	Pn	03 36 23.2	-0.1
BOAB	BOACO BROADBAN	3.67	88	S	Sn	03 37 06.9	+1.5
BOAB	BOACO BROADBAN	3.67	88	P	Pn	03 36 23.9	+0.6
BOAB	BOACO BROADBAN	3.67	88	S	Sn	03 37 04.9	-0.5
JAPN	AI SSO del Vol	3.74	102	P	Pn	03 36 24.6	+0.2
LCRUZ	La Cruz	3.91	108	*eP*	Pn	03 36 27.8	+1.1
ACON	Acoyapa	4.16	94		Pn	03 36 30.1	-0.1
ACON					Sn	03 37 16.6	-1.1
COLC	Colonia	4.45	111	*eP*	Pn	03 36 35.0	+0.9
VMAR	Armenia, Volca	4.48	109	*eP*	Pn	03 36 35.8	+1.2
CUI	Cuipilapa	4.49	111	*eP*	Pn	03 36 35.2	+0.6
INDI	Punta indio, G	4.55	122	P	Pn	03 36 35.9	+0.4
SIUN	Universidad Ur	4.73	73	P	Pn	03 36 38.6	+0.6
JTS	Las Juntas de	4.82	114	Pn	Pn	03 36 40.6	+1.3
JTS	Las Juntas de	4.82	114	P	Pn	03 36 40.1	+0.8
	comp=Z,5.4nm,0.3s,baz=311,slow=20,SNR=8.3						
JTS				S	Sn	03 37 28.3	-5.7
	comp=Z,6.4nm,0.3s,baz=99,slow=22,SNR=6.6						
	comp=Z,11nm,0.3s						
JTS	Las Juntas de	4.82	114	*eP*	Pn	03 36 40.2	+1.0
ARE1	Arenal 1	4.96	111	*eP*	Pn	03 36 42.3	+1.0
VARE2	V. Arenal	4.96	111	*eP*	Pn	03 36 42.3	+1.0
SOCE	Pocosol	5.09	112		Pn	03 36 45.5	+2.6
SOCE	Pocosol	5.09	112	P	Pn	03 36 46.7	+3.7
SOCE	Pocosol	5.09	112	P	Pn	03 36 41.2	-1.7
ACOS	Acosta	5.74	115	*eP*	Pn	03 36 55.1	+3.2
PICV	PH. Pirrs	5.79	117	*eP*	Pn	03 36 54.9	+2.3
PISJ	San Jernim	5.85	117	*eP*	Pn	03 36 55.4	+1.9
ABE2	San Pablo	5.87	116	*eP*	Pn	03 36 55.8	+1.9
VICA	Volcano Irazu	5.94	112	*eP*	Pn	03 36 58.6	+3.6
CVTQ	Turrialba Volc	6.00	112	*eP*	Pn	03 36 58.2	+2.4
BUS1	Rivas	6.21	116	*eP*	Pn	03 37 00.1	+1.3
CMIG	Matias Romero	7.10	313	P	Pn	03 37 10.9	+0.3
	comp=Z,0.8nm,0.3s,baz=147,slow=12,SNR=8.2						
CMIG				S	Sn	03 38 29.4	-0.6
	comp=Z,7.3nm,0.8s,baz=228,slow=10,SNR=2.2						
CMIG				LR	LR	03 40 02.1	
	comp=Z,114nm,18.6s,baz=166,slow=38						
	comp=Z,1.7nm,0.3s						
PIRO	Carate, Puerto	7.14	123	*eP*	Pn	03 37 13.6	+2.5
ALCO	Alturas Coton,	7.29	117	*eP*	Pn	03 37 14.5	+1.2
BRU2	Volcan	7.49	117		Pn	03 37 18.0	+2.0
TEIG	Tepich	7.93	8	P	Pn	03 37 19.0	-2.9
	baz=5.1,slow=23,SNR=3.6						
ROSC	El Rosal	16.67	115	P	Pn	03 39 20.0	-0.5
	comp=Z,0.9nm,0.3s,baz=317,slow=15,SNR=1.3						
	comp=Z,2.8nm,0.3s						
FLOC	Florencia	17.32	127		P	03 39 29.4	0.0
435B	Jarrell	19.86	339	P	P	03 39 57.7	+0.4
435B				IAmb	IAmb	03 40 06.1	
	comp=Z,25nm,0.9s						
BRDY	Brady	20.84	336	P	P	03 40 08.1	+0.2
BRDY				IAmb	IAmb	03 40 16.3	
	comp=Z,12nm,1.1s						
WHTX	Lake Whitney,	20.92	341	P	P	03 40 09.7	+1.0
TXAR	Lajitas Array	21.50	324	P	P	03 40 17.3	+2.2
	comp=Z,0.9nm,0.6s,baz=146,slow=10,SNR=16						
	comp=Z,0.9nm,0.6s						
TX31	Lajitas Ar. Si	21.50	324	P	P	03 40 16.8	+1.8
FW07	Weatherford	21.69	341	P	P	03 40 14.0	-2.9
FW07				IAmb	IAmb	03 40 36.9	
	comp=Z,20nm,1.3s						
PLPT	Palo Pinto	21.96	340	P	P	03 40 21.1	+1.2
PLPT				IAmb	IAmb	03 40 27.5	
	comp=Z,13nm,0.9s						
MIAR	Mount Ida	22.44	351	P	P	03 40 25.4	+0.4
MIAR				IAmb	IAmb	03 40 35.1	
	comp=Z,13nm,0.9s						
MNHN	Monahans	22.58	329	P	P	03 40 27.9	+1.4
APMT	Aspermont	23.08	337	P	P	03 40 33.9	+2.1
FCAR	Ozark Folk Cen	23.59	355	P	P	03 40 38.0	+1.3
FCAR				IAmb	IAmb	03 40 44.5	
	comp=Z,9.4nm,1.1s						
LCAR	Lake Charles	23.69	356	P	P	03 40 38.3	+0.7
DKNS	Dickens	23.70	336	P	P	03 40 39.1	+1.3
DKNS				IAmb	IAmb	03 40 46.6	
	comp=Z,7.3nm,0.6s						
TKL	Tuckaleechee C	23.79	11	P	P	03 40 38.5	-0.1
	comp=Z,11nm,1.1s,baz=207,slow=9.0,SNR=4.4						
TKL				LR	LR	03 49 33.0	
	comp=Z,64nm,19.8s,baz=166,slow=36						
	comp=Z,11nm,1.1s						
WMOK	Wichita Mounta	23.88	341	P	P	03 40 38.5	-1.0
WMOK				IAmb	IAmb	03 41 01.3	
	comp=Z,8.8nm,1.2s						
FNO	Franklin	23.95	344	P	P	03 40 40.4	+0.3
PBMO	Poplar Bluff	24.37	358	P	P	03 40 44.7	+0.8
T42A	Van Buren	24.65	357	P	P	03 40 47.2	+0.7
T42A				IAmb	IAmb	03 40 55.6	
	comp=Z,11nm,1.0s						
SMWD	Samnorwood	24.71	338	P	P	03 40 46.7	-0.4
CCM	Cathedral Cave	25.68	357	P	P	03 40 55.8	0.0
CCM				IAmb	IAmb	03 41 13.6	
	comp=Z,11nm,1.1s						
NVAR	Mina Array Bea	36.55	320	P	P	03 42 32.6	+0.7
	comp=Z,0.6nm,0.8s,baz=136,slow=6.6,SNR=1.7						
	comp=Z,0.6nm,0.8s						
ULM	Lac du Bonnet	38.19	353	P	P	03 42 43.9	-1.3
	comp=Z,1.2nm,0.6s,baz=177,slow=7.8,SNR=3.3						
	comp=Z,1.2nm,0.6s						
SCHQ	Schefferville	45.97	18	P	P	03 43 47.0	-1.6
	comp=Z,1.8nm,0.6s,baz=208,slow=7.0,SNR=6.3						
	comp=Z,1.8nm,0.6s						
YKA	Yellowknife Ar	53.24	346	P	P	03 44 43.4	-0.5
	comp=Z,0.4nm,0.8s,baz=141,slow=7.9,SNR=6.7						
	comp=Z,0.4nm,0.8s						
PLCA	Paso Flores	55.61	163	P	P	03 45 01.9	+0.4
	comp=Z,1.0nm,0.9s,baz=353,slow=8.1,SNR=2.1						
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	65.36	337	P	P	03 46 07.9	+0.2
	comp=Z,0.2nm,0.9s,baz=87,slow=4.0,SNR=1.9						
	comp=Z,0.2nm,0.9s						
G23K	Bananza Creek	67.34	338	P	P	03 46 20.9	+0.6
G23K				IAmb	IAmb	03 47 05.4	
	comp=Z,3.6nm,1.5s						
F19K	Shaleruckik Mo	70.28	337	P	P	03 46 39.7	+1.2
F19K				IAmb	IAmb	03 47 19.4	
	comp=Z,4.4nm,1.4s						
CEST	Esterri de Car	82.27	48	P	P	03 47 45.9	-1.4

IDC ***28*** *03:43:43.6±1.6, 5°.43S×142°.80E, h0km, mb3.6/4, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=41.7km s-min=21.8km az=101.0*

ISC 28 03:43:48.5±1.5, 5°.54S±0°.08×142°.7E±0°.2, h35km, n6, σ2§28/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.61	326	Pn	Pn	03 44 39.6	-2.5
	4.3nm,0.3s,baz=119,slow=19,SNR=5.4						
JAY				Sn	Sn	03 45 25.5	+1.9
	1.6nm,0.3s,baz=27,slow=12,SNR=4.1						
	7.3nm,0.5s						
WRA	Warramunga Arr	16.47	209	Pn	Pn	03 47 36.4	-0.6
	0.2nm,0.3s,baz=29,slow=12,SNR=7.5						
WRA				Sn	Sn	03 50 29.2	-10
	0.1nm,0.3s,baz=35,slow=20,SNR=2.5						
WRA				Lg	Lg	03 52 29.5	
	0.1nm,0.3s,baz=33,slow=31,SNR=4.6						
	0.6nm,0.5s						
ASAR	Alice Springs	19.92	204	P	P	03 48 19.6	+2.3
	3.2nm,0.8s,baz=33,slow=10,SNR=22						
ASAR				S	S	03 51 56.9	-2.9
	0.5nm,0.7s,baz=23,slow=28,SNR=2.7

ARGC S **Sn** **03 49 57.9 +1.2**
ANIL Santa Ana 3.30 225 P **Pn** **03 49 20.5 +1.0**
ANIL S **Sn** **03 50 00.2 +0.6**
PRAC Prado 3.61 210 P **Pn** **03 49 22.8 -0.4**
PRAC S **Sn** **03 50 04.8 -1.4**
APAC Apartado, Choc 3.63 287 P **Pn** **03 49 23.1 -0.3**
APAC S **Sn** **03 50 05.7 -0.8**
ORTC Ortega, Tolima 3.64 217 P **Pn** **03 49 23.6 0.0**
ORTC S **Sn** **03 50 06.6 -0.4**
SJCC San Jacinto, C 3.67 326 P **Pn** **03 49 23.0 -0.9**
SJCC S **Sn** **03 50 04.4 -3.2**
PLMC San Jos del P 3.74 239 P **Pn** **03 49 24.8 -0.1**
PLMC S **Sn** **03 50 07.9 -1.3**
URMC La Uribe, Meta 3.82 200 P **Pn** **03 49 25.8 -0.1**
URMC S **Sn** **03 50 09.3 -1.8**
CRJC Cerrejon, Guaj 4.14 3 P **Pn** **03 49 29.8 -0.3**
CRJC S **Sn** **03 50 17.5 -1.1**
GUVC San Jose del G 4.31 174 P **Pn** **03 49 31.5 -0.8**
GUVC S **Sn** **03 50 20.3 -2.2**
YOTC Yotoco, Valle 4.33 229 P **Pn** **03 49 31.7 -1.0**
YOTC S **Sn** **03 50 23.2 0.0**
SMRC Santa Marta, M 4.42 345 P **Pn** **03 49 34.7 +1.0**
SMRC S **Sn** **03 50 22.3 -2.9**
MACC Macarena, Meta 4.75 189 P **Pn** **03 49 36.4 -1.6**
MACC S **Sn** **03 50 28.3 -4.5**
BETC Betania 4.78 210 P **Pn** **03 49 37.3 -1.1**
BETC S **Sn** **03 50 30.8 -2.7**
URIC Uribia, Colomb 4.93 12 P **Pn** **03 49 39.7 -0.7**
URIC S **Sn** **03 50 36.3 -0.7**
MALC Bahia Malaga 5.10 237 P **Pn** **03 49 43.6 +1.0**
MALC S **Sn** **03 50 40.5 -0.6**
PCRV Puerto La Cruz 8.97 68 P **Pn** **03 50 34.1 -0.1**
19nm,1.2s,baz=230,slow=7.9,SNR=1.7
PCRV S **Sn** **03 52 10.9 -3.1**
9.4nm,1.0s,baz=15,slow=22,SNR=1.4
TXAR Lajitas Array 36.47 312 P **P** **03 55 19.1 +0.9**
0.1nm,0.3s,baz=118,slow=7.0,SNR=1.7
0.1nm,0.3s
ULM Lac du Bonnet 47.27 340 P **P** **03 56 45.3 0.0**
1.1nm,0.5s,baz=141,slow=6.5,SNR=3.0
1.1nm,0.5s
PDAR Pinedale Array 48.07 324 P **P** **03 56 52.5 +0.5**
0.2nm,0.5s,baz=141,slow=7.0,SNR=2.3
0.2nm,0.5s
YKA Yellowknife Ar 63.24 340 P **P** **03 58 40.0 +0.6**
0.4nm,0.6s,baz=137,slow=6.3,SNR=14
0.4nm,0.6s

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*SKHL **28** 03:58:19.7±0.1, 45°.50N×147°.20E, h149km±2km, mb4.3/4, msha5.0/3*
*JMA **28** 03:58:20.0±0.6, 45°.N±2°.×147°.8E±°., h188km, MV3.6/20, NEAR ETOROFU ISLAND*
ISC 28 03:58:14.3±3.6, 45°.42N±0°.08×147°.8E±0°.2, h207km±20km, n16, σ2§42/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.20**	**163**	*eP*	**Pn**	**03 58 42.9**	**+1.5**
KUR				AMB	AMB	03 58 43.6	
	120nm,0.3s						
KUR				AMB	AMB	03 58 45.5	
	700nm,2.0s						
KUR				*e*S	**Sn**	**03 59 00.3**	**-2.1**
KUR				A	A	03 59 01.4	
	120nm,0.2s						
KUR				A	A	03 59 01.4	
	100nm,0.2s						
KUR				A	A	03 59 03.7	
	1μm,3.0s						
KUR				A	A	03 59 03.7	
	1μm,3.0s						
SHO	**Shikotan**	**1.70**	**204**	*eP*	**Pn**	**03 58 52.0**	**+1.6**
SHO				AMB	AMB	03 58 52.4	
	80nm,0.3s						
SHO				AMB	AMB	03 58 55.3	
	300nm,2.0s						
SHO				*e*S	**Sn**	**03 59 16.2**	**-2.2**
SHO				A	A	03 59 18.9	
	110nm,0.3s						
SHO				A	A	03 59 18.9	
	160nm,0.3s						
SHO				A	A	03 59 20.5	
	700nm,3.5s						
SHO				A	A	03 59 20.5	
	400nm,3.5s						
NEM2	**Nemuro 2**	**2.52**	**216**	P	**Pn**	**03 59 00.3**	**+1.5**
NEM2				S	**Sn**	**03 59 31.7**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.53**	**216**	*i* P	**Pn**	**03 59 00.3**	**+1.4**
NMR				*i* S	**Sn**	**03 59 30.8**	**-2.9**
JNK	**Nakash**	**2.86**	**231**	*e*S	**Sn**	**03 59 43.5**	**+3.0**
JKHN	**Kushirohamanak**	**3.00**	**220**	P	**Pn**	**03 59 06.2**	**+1.9**
JKHN				*e*S	**Sn**	**03 59 43.0**	**-0.4**
AKK	**Akkeshi**	**3.20**	**222**	*eP*	**Pn**	**03 59 08.5**	**+1.8**
AKK				AMB	AMB	03 59 09.8	
	10.0nm,0.2s						
AKK				*e*S	**Sn**	**03 59 45.0**	**-2.7**
AKK				A	A	03 59 48.2	
	60nm,0.3s						
AKK				A	A	03 59 48.2	
	100nm,0.3s						
JAK	**Akkeshi**	**3.29**	**224**	*eP*	**Pn**	**03 59 09.7**	**+2.0**
JAK				*e*S	**Sn**	**03 59 48.1**	**-1.3**
JAR	**Ashorobuto**	**3.58**	**235**	*eP*	**Pn**	**03 59 14.2**	**+3.0**
JAR				*e*S	**Sn**	**03 59 57.6**	**+1.9**
YSS	**Yuzhno-Sakhali**	**3.82**	**295**	*eP*	**Pn**	**03 59 13.9**	**0.0**
YSS				AMB	AMB	03 59 15.3	
	200nm,1.0s						
JKK2	**Kamakawa 2**	**3.92**	**248**	*eP*	**Pn**	**03 59 17.6**	**+2.3**
JWK2	**Keihoku**	**4.15**	**271**	*eP*	**Pn**	**03 59 19.5**	**+1.4**
JWK2				*e*S	**Sn**	**04 00 07.2**	**-1.1**
JCH	**Churui**	**4.25**	**230**	*eP*	**Pn**	**03 59 21.5**	**+2.1**
JCH				*e*S	**Sn**	**04 00 08.1**	**-2.5**
JNBK	**Urakawa-nobuka**	**4.81**	**231**	*eP*	**Pn**	**03 59 27.4**	**+1.0**
JNBK				*e*S	**Sn**	**04 00 21.3**	**-2.0**
JEW	**Eniwo**	**5.24**	**243**	*eP*	**Pn**	**03 59 34.7**	**+2.8**
JOT	**Ohata**	**6.36**	**233**	*eP*	**Pn**	**03 59 46.4**	**+0.2**
JOT				*e*S	**Sn**	**04 00 53.0**	**-6.0**

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*IDC **28** 04:01:29.4±1.6, 4°.08N×126°.72E, h0km, mb3.4/6, mbtmp3.5/6, Error ellipse: s-maj=113.6km s-min=19.9km az=68.0*
ISC 28 04:01:34.3±1.6, 4°.1N±0°.3×126°.9E±0°.7, h35km, n6, σ0§48/6, mb3.4/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.11**	**183**	P	**P**	**04 06 26.4**	**-0.4**
	0.7nm,0.5s,baz=10,slow=9.6,SNR=0.9						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**25.01**	**163**	P	**P**	**04 06 54.9**	**-0.3**
	0.7nm,0.6s,baz=341,slow=10,SNR=7.2						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**04 07 26.6**	**+0.5**
	0.2nm,0.5s,baz=340,slow=10,SNR=1.7						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**38.44**	**160**	P	**P**	**04 08 52.6**	**-0.1**
	1.2nm,0.6s,baz=324,slow=14,SNR=3.8						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**04 11 19.2**	**+0.3**
	0.2nm,0.6s,baz=118,slow=8.6,SNR=4.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	**P**	**04 11 47.2**	**-0.4**
	0.1nm,0.3s,baz=127,slow=6.2,SNR=5.7						
	0.1nm,0.3s						

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*ISK **28** 04:19:22.8, 38°.78N×38°.14E, h4km, ML4.2/45*
*AFAD **28** 04:19:22.1, 38°.78N×38°.15E, h17km, MW4.1*
*IDC **28** 04:19:23.1±0.7, 38°.79N×38°.12E, h0km, mb3.8/14, mbtmp3.7/23, ML3.2/8, MS3.2/10, Error ellipse: s-maj=12.3km s-min=8.6km az=161.0*
*MED_RC **28** 04:19:24.0±0.4, 38°.75N×38°.12E, h27km±1km, MW4.3/14, Moment Tensor Solution. Mantle waves: s14,c16; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.07±.57; $M_{\theta\theta}$-2.74±.58; $M_{\phi\phi}$3.81±.59; $M_{r\theta}$0.20±.37; $M_{\theta\phi}$2.43±.30; $M_{\phi r}$-0.27±.47; Best double couple: $M_0$4.10000×10^{15} NP1:ϕ_s243.00000°, δ84.00000°, λ-3.00000°. NP2:ϕ_n333.00000°, δ87.00000°, λ-174.00000°. Principal axes: T 4.6200, Plg2.0000°, Azm108.0000°; N -1.0500, Plg84.0000°, Azm1.0000°; P*

-3.5700, Plg6.0000°, Azm198.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
*NEIC **28** 04:19:25.3±1.8, 38°.72N±0°.05×38°.09E±0°.03, h10km±1km, mb3.9/9 Error ellipse: s-maj=8.2km s-min=3.5km az=13.0*
*MOS **28** 04:19:25.7±1.8, 38°.71N×38°.01E, h22km, mb4.2/9, Error ellipse: s-maj=8.4km s-min=6.6km az=76.3*
ISC 28 04:19:25.1±0.4, 38°.77N±0°.02×38°.14E±0°.02, h10km, n175, σ1§64/193, mb4.0/31, MS3.1/4, 9C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.18**	**308**	P	**Pg**	**04 19 26.8**	**-2.4**
HEKM				S	**Sg**	**04 19 30.3**	**-1.6**
MAYA	**Malatya/Merkez**	**0.50**	**153**	P	**Pg**	**04 19 32.3**	**-2.5**
MAYA				S	**Sg**	**04 19 39.8**	**-1.6**
AKCD	**Akcadag**	**0.50**	**200**	P	**Pg**	**04 19 32.8**	**-2.2**
AKCD				S	**Sg**	**04 19 41.1**	**-0.5**
DARE	**Darende-Malaty**	**0.55**	**249**	Pg	**Pg**	**04 19 33.6**	**-2.3**
KEMA	**Kemaliye**	**0.57**	**29**	P	**Pg**	**04 19 32.8**	**-3.5**
KEMA				S	**Sg**	**04 19 41.9**	**-1.9**
CUGUR	**Gurin_SVAS**	**0.68**	**266**	P	**Pg**	**04 19 35.5**	**-2.9**
CUGUR				S	**Sg**	**04 19 46.3**	**-1.0**
ELZG	**Elazig**	**0.71**	**112**	P	**Pg**	**04 19 36.0**	**-2.9**
ELZG				S	**Sg**	**04 19 46.6**	**-1.7**
CUKAN	**kangal_SIVAS**	**0.76**	**316**	P	**Pg**	**04 19 36.5**	**-3.4**
ELBS	**KAHRAMANMARAS**	**0.91**	**241**	P	**Pg**	**04 19 40.9**	**-1.7**
ELBS				S	**Sg**	**04 19 53.0**	**-1.4**
AZEY	**Adyaman-Merk**	**0.96**	**175**	P	**Pg**	**04 19 41.3**	**-2.4**
AZEY				S	**Sb**	**04 19 56.0**	**-0.7**
PTK	**Pertek**	**0.98**	**82**	Pg	**Pg**	**04 19 40.7**	**-3.4**
KARI	**Adyaman-Kaht**	**1.01**	**151**	P	**Pg**	**04 19 42.0**	**-2.6**
AKCA	**Adyaman/G¶l**	**1.04**	**200**	P	**Pg**	**04 19 42.6**	**-2.5**
AKCA				S	**Sb**	**04 19 57.9**	**-1.0**
TNCL	**Tunceli-Merkez**	**1.15**	**72**	P	**Pb**	**04 19 43.1**	**-4.0**
TNCL				S	**Sg**	**04 19 59.1**	**-3.0**
CUZAR	**Zara_SIVAS**	**1.15**	**346**	P	**Pb**	**04 19 44.5**	**-2.7**
CUAYA	**Sivas-Altinyay**	**1.20**	**295**	P	**Pb**	**04 19 44.1**	**-3.8**
CUAYA				S	**Sb**	**04 20 02.0**	**-1.6**
ATAB	**Bozova**	**1.30**	**175**	P	**Pn**	**04 19 47.3**	**-2.1**
KOVA	**Elazig, Kovanc**	**1.31**	**92**	P	**Pn**	**04 19 45.7**	**-3.9**
HANM	**anlurfa/Hi**	**1.32**	**154**	P	**Pn**	**04 19 48.1**	**-1.6**
HANM				S	**Sg**	**04 20 07.1**	**-0.6**
SCER	**sogukcermik**	**1.34**	**325**	S	**Sb**	**04 20 06.6**	**-1.3**
SARI	**SarD1z-Kayseri**	**1.40**	**256**	Pn	**Pn**	**04 19 49.9**	**-1.0**
SARI				Sn	**Sg**	**04 20 09.7**	**-0.5**
URFA	**Urfa**	**1.43**	**158**	Pn	**Pn**	**04 19 50.3**	**-0.9**
URFA				Sn	**Sg**	**04 20 10.5**	**-0.7**
SUSE	**Susehri**	**1.44**	**2**	P	**Pn**	**04 19 49.5**	**-1.9**
SVSK	**Karacayir**	**1.45**	**323**	Pn	**Pn**	**04 19 50.1**	**-1.3**
SVSK				Sn	**Sb**	**04 20 10.7**	**0.0**
GZT	**Gaziantep**	**1.48**	**198**	P	**Pn**	**04 19 50.8**	**-1.2**
EUZM	**Uzumlu**	**1.53**	**52**	P	**Pn**	**04 19 51.4**	**-1.2**
KAHM	**Kahramanmaras,**	**1.55**	**216**	P	**Pn**	**04 19 51.6**	**-1.2**
KAHM				S	**Sb**	**04 20 13.4**	**-0.2**
KHMN	**Narli-Kahraman**	**1.58**	**210**	Pn	**Pn**	**04 19 52.9**	**-0.4**
KMRS	**Kahramanmaras**	**1.60**	**218**	Pn	**Pn**	**04 19 52.7**	**-0.8**
KMRS				Sn	**Sb**	**04 20 14.7**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**1.61**	**294**	P	**Pn**	**04 19 51.3**	**-2.5**
CUSAR				S	**Sn**	**04 20 14.0**	**-0.7**
KELT	**Kelkit**	**1.62**	**32**	P	**Pn**	**04 19 52.7**	**-1.4**
KELT				S	**Sn**	**04 20 13.9**	**-1.3**
ALUC	**Giresun/Alucra**	**1.65**	**17**	P	**Pn**	**04 19 53.4**	**-0.9**
ALUC				S	**Sb**	**04 20 16.1**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.74**	**339**	Pn	**Pn**	**04 19 54.8**	**-0.7**
RSDY				Sn	**Sn**	**04 20 17.9**	**+0.1**
GAZ	**Gaziantep**	**1.76**	**205**	Pn	**Pn**	**04 19 55.1**	**-0.6**
GAZ				Sn	**Sb**	**04 20 18.4**	**-1.2**
GAZ	**Gaziantep**	**1.76**	**205**	Pn	**Pn**	**04 19 55.0**	**-0.7**
GAZ				Sn	**Sn**	**04 20 16.4**	**-1.8**
DIYA	**Diyarbakir**	**1.77**	**118**	P	**Pn**	**04 19 53.9**	**-2.0**
BNN	**Bunyan**	**1.80**	**273**	Pn	**Pn**	**04 19 55.8**	**-0.5**
BNN				Sn	**Sn**	**04 20 19.3**	**+0.1**
BNN	**Bunyan**	**1.80**	**273**	Pn	**Pn**	**04 19 55.9**	**-0.4**
SAIM	**ADANA**	**1.80**	**245**	P	**Pn**	**04 19 55.5**	**-0.8**
SAIM				S	**Sb**	**04 20 20.7**	**-0.3**
HANI	**Diyarbakir_Han**	**1.80**	**101**	P	**Pn**	**04 19 54.5**	**-1.9**
ANDN	**Andirin**	**1.85**	**231**	P	**Pn**	**04 19 55.8**	**-1.2**
SURC	**SANLIURFA_SURC**	**1.92**	**169**	P	**Pn**	**04 19 56.2**	**-1.8**
GUNE	**Kayseri**	**1.97**	**275**	P	**Pn**	**04 19 57.9**	**-0.8**
TOKT	**Tokat**	**1.98**	**322**	Pn	**Pn**	**04 19 57.8**	**-1.0**
TOKT				Sn	**Sn**	**04 20 23.7**	**0.0**
YEDI	**Yedisu-Bingol**	**1.98**	**70**	Pn	**Pn**	**04 19 58.3**	**-0.6**
BNGB	**Bingl**	**1.99**	**83**	Pn	**Pn**	**04 19 57.8**	**-1.2**
BNGB				Sn	**Sn**	**04 20 24.2**	**+0.1**
TOKA	**Tokat**	**2.02**	**321**		**Pn**	**04 19 58.7**	**-0.5**
ESPY	**Espiye-Giresun**	**2.19**	**12**	Pn	**Pn**	**04 20 01.2**	**-0.5**
KOPT	**Kop Dagi**	**2.21**	**55**	Pn	**Pn**	**04 20 01.9**	**-0.3**
KOZT	**Kozan**	**2.23**	**236**	Pn	**Pn**	**04 20 01.9**	**-0.3**
MAZI	**Mazidag**	**2.24**	**125**	Pn	**Pn**	**04 20 01.7**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**2.24**	**43**	Pn	**Pn**	**04 20 02.7**	**+0.2**
KARO	**Karliova-Bingo**	**2.33**	**76**	Pn	**Pn**	**04 20 03.3**	**-0.4**
YOZ	**Yozgat**	**2.36**	**293**	Pn	**Pn**	**04 20 03.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.48**	**103**	Pn	**Pn**	**04 20 05.1**	**-0.5**
MARD	**Mardin**	**2.54**	**124**	Pn	**Pn**	**04 20 05.5**	**-1.1**
KTUT	**Trabzon**	**2.54**	**29**	Pn	**Pn**	**04 20 06.0**	**-0.5**
CEYT	**Ceyhan**	**2.58**	**228**	Pn	**Pn**	**04 20 07.0**	**0.0**
KOZK	**Kozakli-Nevseh**	**2.59**	**281**	Pn	**Pn**	**04 20 06.9**	**-0.3**
VRTB	**Varto-Mus**	**2.61**	**80**	Pn	**Pn**	**04 20 07.6**	**0.0**
CMRD	**Camardi-Nigde**	**2.72**	**247**	Pn	**Pn**	**04 20 08.8**	**-0.2**
KIZO	**Buyukkizoglu-L**	**2.72**	**322**	Pn	**Pn**	**04 20 08.8**	**-0.2**
KVT	**Kavak**	**2.81**	**326**	Pn	**Pn**	**04 20 09.4**	**-0.8**
NIG	**Nigde**	**2.85**	**258**	Pn	**Pn**	**04 20 10.9**	**0.0**
TAHT	**Tahtakopru-Hat**	**2.85**	**214**	Pn	**Pn**	**04 20 11.0**	**+0.3**
KARA	**Karaisali**	**2.87**	**239**	Pn	**Pn**	**04 20 11.0**	**+0.1**
GURO	**Guroymak-BITLI**	**3.05**	**93**	Pn	**Pn**	**04 20 13.4**	**-0.2**
GURO	**Guroymak-BITLI**	**3.05**	**93**	Pn	**Pn**	**04 20 14.7**	**+1.1**
CORM	**Corum**	**3.06**	**298**	Pn	**Pn**	**04 20 13.7**	**0.0**
CHOM	**Cayeli-Rize**	**3.08**	**40**	Pn	**Pn**	**04 20 13.6**	**-0.2**
GULA	**Gulagac**	**3.09**	**263**	Pn	**Pn**	**04 20 14.3**	**+0.2**
MERS	**Mersin**	**3.44**	**238**	Pn	**Pn**	**04 20 18.9**	**+0.1**
KAMT	**Kaman**	**3.50**	**281**	Pn	**Pn**	**04 20 19.5**	**-0.2**
SERE	**Sereflikochisa**	**3.58**	**274**	Pn	**Pn**	**04 20 21.0**	**+0.2**
YESY	**Yesilyurt**	**3.60**	**255**	Pn	**Pn**	**04 20 21.7**	**+0.6**
BR131	**Keskin Array S**	**3.62**	**287**	Pn	**Pn**	**04 20 21.0**	**-0.5**
BR131	**Keskin Array S**	**3.62**	**287**	Pn	**Pn**	**04 20 20.8**	**-0.7**
BR131	**Keskin Array S**	**3.62**	**287**	*d i* P	**Pn**	**04 20 20.6**	**-0.9**
BRTR	**Keskin Array B**	**3.62**	**287**	Pn	**Pn**	**04 20 20.5**	**-1.0**
BRTR	**Keskin Array B**	**3.62**	**287**	Pn	**Pn**	**04 20 21.0**	**-0.5**
	1.4nm,0.3s,baz=108,slow=12,SNR=103						
BRTR				Lg	Lg	04 21 18.9	
	4.7nm,0.3s,baz=112,slow=29,SNR=5.9						
	19nm,0.8s						
BRTR	**Keskin Array B**	**3.62**	**287**	P	**Pn**	**04 20 20.5**	**-1.0**
DIKM	**Dikmen**	**3.63**	**323**	Pn	**Pn**	**04 20 21.4**	**0.0**
SULT	**Sultanhani-AKS**	**3.67**	**263**	Pn	**Pn**	**04 20 22.4**	**+0.3**
GEVA	**Gevas**	**3.88**	**95**	Pn	**Pn**	**04 20 24.9**	**-0.1**
KIZK	**Mersin**	**3.91**	**235**	Pn	**Pn**	**04 20 26.6**	**+1.3**
AFSR	**Afar-Bala (An**	**4.00**	**281**	Pn	**Pn**	**04 20 27.1**	**+0.5**
KULU	**Kulu**	**4.02**	**276**	Pn	**Pn**	**04 20 27.7**	**+0.9**
ILGA	**Ilgaz**	**4.10**	**305**	Pn	**Pn**	**04 20 28.0**	**0.0**
KARS	**Kars**	**4.24**	**62**	Pn	**Pn**	**04 20 33.3**	**+3.4**
KARS	**Kars**	**4.24**	**62**	P	**Pn**	**04 20 33.3**	**+3.4**
ANTO	**Ankara**	**4.29**	**287**	Pn	**Pn**	**04 20 30.4**	**-0.1**
ANTO	**Ankara**	**4.29**	**287**	P	**Pn**	**04 20 30.4**	**-0.1**
BZK	**Bozkurt**	**4.49**	**317**	Pn	**Pn**	**04 20 34.3**	**+1.1**
SOC	**Sochi**	**4.95**	**13**	*eP*	**Pn**	**04 20 38.8**	**-0.8**
SOC				*e*		04 21 36.3	
SOC				MLR	MLR		
	comp=Z,91nm,10.0s						
GNI	**Garni**	**5.29**	**73**	Pn	**Pn**	**04 20 46.0**	**+1.7**
GNI	**Garni**	**5.29**	**73**	Pn	**Pn**	**04 20 46.6**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=2.3						
GNI				Pg	**Pb**	**04 20 59.5**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=247,slow=18,SNR=10						
GNI				LR	LR	04 23 10.2	
	comp=Z,180nm,18.9s,baz=264,slow=43						
	comp=Z,4.3nm,0.6s						
GNI	**Garni**	**5.29**	**73**	*eP*	**Pn**	**04 20 47.0**	**+2.6**
MDUB	**Mudurnu**	**5.62**	**290**	Pn	**Pn**	**04 20 48.8**	**-0.1**
BORA	**Eskisehir**	**6.06**	**283**		**Pn**	**04 20 55.2**	**+0.3**
KBZ	**Khabaz**	**6.11**	**34**	Pn	**Pn**	**04 20 56.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=233,slow=10,SNR=4.8						
KBZ				LR	LR	04 23 32.4	
	comp=Z,199nm,19.7s,baz=226,slow=41						
	comp=Z,1.1nm,0.8s						
KBZ	**Khabaz**	**6.11**	**34**	*eP*	Pn	04 21 01.4	+5.9
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MMAI	**Mount Meron Ar**	**6.16**	**202**	Pn	**Pn**	**04 20 54.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=1.4						
MMAI				Lg	Lg	04 22 38.0	
	comp=Z,0.9nm,0.3s,baz=58,slow=39,SNR=1.3						
MMAI				LR	LR	04 23 24.5	
	comp=Z,107nm,19.3s,baz=6.5,slow=39						
KIV	**Kislovodsk**	**6.21**	**32**	*eP*	**Pn**	**04 20 59.9**	**+3.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,40nm,10.0s						
KVAR	**Kislovodsk Arr**	**6.21**	**32**	Pn	**Pn**	**04 20 56.8**	**-0.2**
	baz=221,slow=19						
	comp=Z,1.4nm,0.3s						
ASF	**Jabal al Asfar**	**6.66**	**189**	Pn	**Pn**	**04 21 02.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=44,slow=10,SNR=4.6						
ASF				Lg	Lg	04 22 55.3	
	comp=Z,2.6nm,0.3s,baz=33,slow=23,SNR=7.4						
	comp=Z,2.4nm,0.5s						
MAK	**Makhachkala**	**8.24**	**56**	*eP*	**Pn**	**04 21 23.1**	**-1.5**
MAK				*e*S	**Sn**	**04 22 56.6**	**-1.1**
MAK				pmax	pmax		
	comp=Z,64nm,1.2s						
MAK				MLR	MLR		
	comp=Z,165nm,16.0s						
EIL	**Elat**	**9.45**	**197**	Pn	**Pn**	**04 21 41.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=358,slow=19,SNR=1.5						
EIL				Lg	Lg	04 24 25.8	
	comp=Z,0.4nm,0.3s,baz=356,slow=11,SNR=4.6						
EIL				LR	LR	04 25 51.3	
	comp=Z,223nm,18.4s,baz=63,slow=41						
	comp=Z,0.7nm,0.3s						
IDI	**Anoyia**	**11.15**	**256**	Pn	**Pn**	**04 22 08.6**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=344,slow=19,SNR=1.8						
MLR	**Muntele Rosu**	**11.27**	**310**	LR	LR	04 26 33.4	
	comp=Z,169nm,18.5s,baz=140,slow=38						
BURAR	**Bucovina Array**	**12.91**	**317**	Pn	**Pn**	**04 22 28.7**	**0.0**
AKASG	**Malin Array Be**	**13.50**	**335**	Pn	**Pn**	**04 22 35.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=141,slow=12,SNR=4.2						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**13.50**	**335**	*eP*	**Pn**	**04 22 39.8**	**+3.3**
AKBB	**Malin Array Si**	**13.50**	**335**	*eP*	**Pn**	**04 22 36.7**	**+0.2**
PSZ	**Piszkesteto**	**16.09**	**311**	Pn	**Pn**	**04 23 11.0**	**-0.4**
PSZ				IAmb	IAmb	04 23 12.8	
	comp=Z,7.8nm,1.2s						
PSZ	**Piszkesteto**	**16.09**	**311**	P	**Pn**	**04 23 11.0**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
OBN	**Obninsk**	**16.39**	**357**	*eP*	**Pn**	**04 23 14.9**	**-0.1**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIP	**Timpagrande**	**16.64**	**278**	Pn	**Pn**	**04 23 18.4**	**0.0**
MODS	**Modra-Piesok**	**17.86**	**309**	*eP*	**P**	**04 23 39.2**	**+4.9**
MODS	**Modra-Piesok**	**17.86**	**309**	*eP*	**P**	**04 23 39.2**	**+4.9**
AKTO	**Aktyubinsk**	**18.27**	**44**	P	**P**	**04 23 39.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=316,slow=4.9,SNR=4.3						
	comp=Z,0.7nm,0.6s						
VRAC	**Vranov**	**18.67**	**311**	LR	LR	04 32 34.1	
	comp=Z,65nm,18.7s,baz=102,slow=42						
AB31	**Akbulak array**	**18.80**	**49**	P	**Pn**	**04 23 45.1**	**+0.1**
ABKAR	**Akbulak array**	**18.80**	**49**	P	**P**	**04 23 43.4**	**-1.2**
ABKAR	**Akbulak array**	**18.80**	**49**	P	**Pn**	**04 23 45.7**	**+0.7**
ABKAR				IAmb	IAmb	04 24 13.2	
	comp=Z,4.5nm,1.2s						
GERES	**GERESS Array B**	**20.23**	**308**	P	**P**	**04 24 00.2**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=128,slow=8.6,SNR=10						
	comp=Z,1.3nm,0.8s						
GERES	**GERESS Array B**	**20.23**	**308**	*eP*	Pn	04 24 02.9	+0.6
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ABTA	**Abfaltersbach**	**20.37**	**301**	*eP*	Pn	04 24 16.6	+13
	comp=Z,1.6nm,0.5s						
KHC	**Kasperske Hory**	**20.41**	**308**	*eP*	Pn	04 24 04.5	+0.2
KHC	**Kasperske Hory**	**20.41**	**308**	*eP*	Pn	04 24 04.5	+0.2
WTTA	**Wattenberg**	**21.08**	**302**	*eP*	**P**	**04 24 11.3**	**+1.6**
	comp=Z,7.3nm,1.3s						
WATA	**Walderalm**	**21.14**	**302**	*i* P	**P**	**04 24 11.4**	**+1.1**
	comp=Z,11nm,1.1s						
MOTA	**Moosalm**	**21.45**	**302**	*eP*	**P**	**04 24 13.9**	**+0.3**
	comp=Z,4.9nm,0.7s						
CLL	**Collm**	**21.62**	**314**	*eP*	**P**	**04 24 18.0**	**+2.8**
CLL	**Collm**	**21.62**	**314**	*ep*P	**P**	**04 24 18.0**	**+2.8**
	comp=Z,5.0nm,0.9s						
ARTI	**Arti**	**22.15**

comp=Z,70nm,4.8s
HHC Hu-ho-hao-te 54.86 63 *e*P **P 04 28 56.5 +0.7**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,51nm,6.7s
CMAR Chiang Mai Arr 56.07 93 P **P 04 29 04.0 -0.6**
comp=Z,1.0nm,0.3s,baz=310,slow=9.5,SNR=1.3
CMAR LR LR 04 58 47.2
comp=Z,14nm,19.2s,baz=185,slow=42
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 56.07 93 P **P 04 29 04.0 -0.6**
XLT XiLinHaoTe 56.70 58 *e*P P 04 28 59.0 -10
XLT sP pP 04 29 06.0 -6.5
XLT PcP PcP 04 29 55.5 -9.4
XLT pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 65.94 27 *ce*P **P 04 30 14.7 +3.7**
SEY pmax pmax
comp=Z,5.0nm,1.7s
YKA Yellowknife Ar 76.72 347 P **P 04 31 16.3 +0.1**
comp=Z,0.4nm,0.8s,baz=24,slow=5.9,SNR=7.1
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 76.72 347 *e*P **P 04 31 18.3 +2.2**

TXNET 28 04:20:45.0, 31.7N±0.6×104.3W±0.8, h6km±3km, ML1.7/7, Error ellipse: s-maj=1.2km s-min=0.9km az=69.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.37**	**42**	P	Pg	04 20 52.3	0.0
TPB11				S	Sg	04 20 57.1	-0.2
PECS	**Pecos**	**0.49**	**126**	P	Pg	04 20 54.7	+0.2
PECS				S	Sg	04 21 01.1	+0.2
PECS	**Pecos**	**0.49**	**126**	P	Pg	04 20 54.8	+0.3
GDL2	**Guadalupe Moun**	**0.54**	**357**	P	Pg	04 20 55.7	+0.2
TPB12	**Southwest of T**	**0.54**	**144**	P	Pg	04 20 55.7	+0.2
TPB12				S	Sg	04 21 03.0	+0.3
TPB10	**Southeast of T**	**0.61**	**127**	S	Sg	04 21 05.4	+0.5
CLN8	**Carlsbad**	**0.71**	**32**	S	Sg	04 21 08.7	+0.6
TPB01	**Permian Basin**	**0.85**	**147**	P	Pg	04 21 00.6	-0.8
TPB01				S	Sg	04 21 11.8	-0.7
MNTX	**Cornudas Mount**	**0.90**	**273**	P	Pg	04 21 02.3	0.0
MNTX				S	Sg	04 21 14.5	+0.5
TPB03	**Saragosa**	**0.90**	**129**	P	Pg	04 21 02.1	-0.2
TPB03				S	Sg	04 21 14.2	+0.1
HTMS	**Hat Mesa**	**1.00**	**36**	S	Sg	04 21 17.7	+0.3
VHRN	**Van Horn**	**1.04**	**213**	P	Pg	04 21 04.6	-0.3
VHRN				S	Sb	04 21 19.2	-0.2
VHRN	**Van Horn**	**1.04**	**213**	P	Pg	04 21 04.7	-0.2
TPB05	**Hovey Rd**	**1.13**	**130**	S	Sg	04 21 21.0	-0.4
MNHN	**Monahans**	**1.38**	**103**	P	Pn	04 21 10.7	-0.2
MNHN				S	Sb	04 21 29.1	+0.1
MNHN	**Monahans**	**1.38**	**103**	P	Pn	04 21 11.0	+0.2
ALPN	**Alpine**	**1.41**	**155**	P	Pn	04 21 10.4	-1.0
ALPN				S	Sb	04 21 28.7	-1.4
ALPN	**Alpine**	**1.41**	**155**	P	Pn	04 21 10.5	-0.9
CPRX	**Cap Rock**	**1.42**	**16**	P	Pn	04 21 11.3	-0.3
ODSA	**Odessa**	**1.58**	**73**	S	Sn	04 21 34.2	-0.3
TMB04	**Seminole**	**1.83**	**58**	S	Sb	04 21 43.1	+0.8
TMB02	**Rankin**	**2.01**	**103**	S	Sb	04 21 47.9	+0.5
TX31	**Lajitas Ar. Si**	**2.38**	**166**	Pg	Pb	04 21 27.6	-0.8

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*IDC **28** 04:41:42.0±7.4, 38.66N×91.11E, h0km, mbtmp3.5/3, ML3.1/3, Error ellipse: s-maj=75.1km s-min=35.1km az=8.0*

ISC 28 04:41:40.8±5.8, 38.5N±0.5×90.8E±0.2, h10km, n5, σ0$59/6, 4C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**10.34**	**326**	⇑Pn	Pn	04 44 02.3	-6.8
	0.7nm,0.3s,baz=135,slow=13,SNR=37						
MK31				⇑Sn	**Sn**	**04 46 05.3**	**+0.3**
	6.6nm,1.0s,baz=139,slow=24,SNR=6.3						
MKAR	**Makanchi Array**	**10.34**	**326**	Pn	**Pn**	**04 44 09.2**	**0.0**
	0.9nm,0.3s,baz=136,slow=13,SNR=28						
MKAR				Sn	**Sn**	**04 46 04.5**	**-0.5**
	0.2nm,0.3s,baz=136,slow=23,SNR=6.3						
MKAR				Lg	Lg	04 47 12.0	
	baz=141,slow=23,SNR=1.7						
	1.5nm,0.4s						
MAKZ	**Makanchi**	**10.49**	**325**	⇑Pn	Pn	04 43 59.9	-11
	1.4nm,0.6s						
MAKZ				⇑Sn	**Sn**	**04 46 08.6**	**-0.1**
	3.3nm,1.1s						
SONM	**Songino Array**	**14.69**	**46**	Pn	**Pn**	**04 45 08.4**	**-0.2**
	0.1nm,0.3s,baz=241,slow=15,SNR=3.4						
SONM				Lg	Lg	04 49 18.6	
	baz=235,slow=30,SNR=2.5						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**15.94**	**347**	Pn	**Pn**	**04 45 25.8**	**+0.8**
	0.1nm,0.3s,baz=157,slow=16,SNR=1.9						
	0.3nm,0.3s						

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*NEIC **28** 05:00:51.3±0.9, 39.65N±0.03×119.09W±0.03, h10km±2km, Error ellipse: s-maj=5.6km s-min=3.1km az=25.0*

REN 28 05:00:51.3±1.2, 39.60N±0.03×119.10W±0.02, h11km±8km, ML2.1/8, ML1.9/22(NEIC), Error ellipse: s-maj=3.9km s-min=2.2km az=201.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.24**	**297**		Pg	05 00 56.6	+0.2
PAHR					Sg	05 01 00.6	+0.8
PAHR				IAML		05 01 01.0	
	comp=N,348nm,0.4s						
PNTR	**Pine Nut**	**0.64**	**217**		Pb	05 01 04.2	-0.4
MPK	**Martis Peak**	**0.78**	**247**		Pg	05 01 06.3	-0.1
MPK					Sb	05 01 17.6	-0.1
MPK				IAML		05 01 25.9	
	comp=E,52nm,0.6s						
MPK				IAML		05 01 28.3	
	comp=N,45nm,0.8s						
BEKR	**Beckworth**	**1.01**	**286**		Pg	05 01 10.4	-0.3
BEKR					Sb	05 01 24.2	+0.1
BEKR				IAML		05 01 27.5	
	comp=N,47nm,0.5s						
RYN	**Ryan**	**1.07**	**155**		Pg	05 01 11.7	-0.1
WAKR	**Walker**	**1.12**	**194**		Pb	05 01 12.6	-0.2
WAKR				IAML		05 01 33.8	
	comp=E,20nm,0.8s						
WAKR				IAML		05 01 33.9	
	comp=N,20nm,0.6s						
NV09	**Mina Array Sit**	**1.31**	**153**		Pg	05 01 16.3	0.0
NV09					Sg	05 01 34.8	+1.5
NVAR	**Mina Array Bea**	**1.32**	**152**		Pb	05 01 16.4	+0.1
NV08	**Mina Array Sit**	**1.34**	**153**		Pb	05 01 16.5	-0.1
NV11	**Mina Array Sit**	**1.38**	**147**		Pb	05 01 17.1	-0.1
NV11				IAML		05 01 38.8	
	comp=E,12nm,0.7s						
NV11				IAML		05 01 39.5	
	comp=N,11nm,0.6s						
LHV	**Little Huntoon**	**1.42**	**161**		Pg	05 01 18.3	-0.3
LHV					Sg	05 01 38.2	+1.2
LHV				IAML		05 01 46.1	
	comp=E,32nm,1.0s						
AFDM	**Forest Hills D**	**1.59**	**246**	Pn	Pb	05 01 20.7	0.0
Q09A	**Carvers**	**1.68**	**116**	Pn	Pb	05 01 22.7	+0.4

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*ASRS **28** 05:01:51.0±1.4, 53.68N×90.13E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 28 05:01:53.9±4.1, 53.70N×90.15E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=37.1km s-min=26.9km az=84.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.17**	**277**	I	I	05 23 46.4	
	baz=92,slow=333,SNR=8.2						
ZALV	**Zalesovo Beam**	**3.17**	**277**	Pn	Pn	05 02 46.0	+1.0
	0.7nm,0.3s,baz=90,slow=13,SNR=8.5						
ZALV				Sn	Sn	05 03 26.2	+2.8
	0.8nm,0.3s,baz=89,slow=24,SNR=6.1						
	1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**7.78**	**251**	Pn	Pn	05 03 48.0	-0.3
	baz=66,slow=14,SNR=5.0						
KURBB				Sn	Sn	05 05 14.8	-2.3
	baz=56,slow=20,SNR=1.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.55**	**219**	Pn	Pn	05 03 59.8	+0.9
	0.1nm,0.3s,baz=32,slow=13,SNR=1.9						
MKAR				Sn	Sn	05 05 35.2	-0.8
	0.1nm,0.3s,baz=36,slow=27,SNR=2.3						
	0.1nm,0.3s						

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*ASRS **28** 05:04:39.0±1.1, 54.42N×86.84E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 28 05:04:42.0±3.0, 54.42N×86.81E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.5km s-min=17.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**249**	I	I	05 13 00.0	
	baz=70,slow=330,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.27**	**249**	Pg	Pg	05 05 04.7	-1.5
	1.1nm,0.3s,baz=68,slow=8.6,SNR=10						
ZALV				Lg	Lg	05 05 22.3	
	1.1nm,0.3s,baz=63,slow=25,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.33**	**236**	Pn	Pn	05 06 17.4	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=15						
KURBB				Sn	Sn	05 07 29.8	+0.5
	baz=47,slow=46,SNR=1.0						
KURBB				Lg	Lg	05 08 03.1	
	baz=52,slow=32,SNR=1.7						
	2.0nm,0.7s						
MKAR	**Makanchi Array**	**8.16**	**202**	Pn	Pn	05 06 42.5	+0.9
	0.1nm,0.3s,baz=21,slow=14,SNR=2.7						
MKAR				Sn	Sn	05 08 13.8	-0.7
	0.1nm,0.3s,baz=16,slow=27,SNR=1.5						
MKAR				Lg	Lg	05 09 00.6	
	baz=22,slow=31,SNR=2.3						
	0.1nm,0.3s						

IDC 28 05:15:35.3±5.3, 19.36S×174.21W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=201.0km s-min=86.6km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.49**	**244**	P	P	05 23 23.6	-0.8
	1.1nm,0.6s,baz=96,slow=5.8,SNR=3.0						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**48.26**	**255**	P	P	05 24 18.4	-0.1
	1.3nm,0.8s,baz=97,slow=8.5,SNR=11						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**48.30**	**260**	P	P	05 24 19.1	+0.3
	0.7nm,0.7s,baz=96,slow=7.6,SNR=13						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**143.63**	**335**	PKP	PKPdf	05 35 11.2	-0.9
	0.4nm,0.3s,baz=37,slow=3.9,SNR=7.3						

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*ASRS **28** 05:30:09.0±1.5, 54.97N×88.46E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 28 05:30:11.4±7.4, 55.11N×88.73E, h0km, mbtmp2.5/3, ML2.0/3, Error ellipse: s-maj=77.3km s-min=35.2km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.56**	**245**	I	I	05 47 40.0	
	baz=64,slow=316,SNR=3.9						
ZALV	**Zalesovo Beam**	**2.56**	**245**	Pn	Pn	05 30 54.2	+0.2
	0.4nm,0.3s,baz=58,slow=14,SNR=4.3						
ZALV				Sn	Sn	05 31 26.1	+0.2
	1.8nm,0.3s,baz=59,slow=26,SNR=12						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**7.63**	**238**	Pn	Pn	05 32 03.2	-0.5
	baz=54,slow=14,SNR=2.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**9.26**	**209**	Pn	Pn	05 32 26.8	+0.7
	baz=26,slow=13,SNR=2.6						
	0.1nm,0.5s						

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*RSPR **28** 05:36:51.9, 17.98N×68.32W, h74km±2km, MD3.3/22*
*RSNC **28** 05:36:51.0±0.8, 18°N±5'×6°8W±°, h73km±27km, mb3.9, mB4.8, ML2.8, Mw(mB)3.3*
*NEIC **28** 05:36:52.4±0.9, 18.0N±0.1×68.28W±0.06, h65km±15km, ML3.6/36, Md3.3/22(RSPR), Error ellipse: s-maj=20.3km s-min=5.4km az=197.0*
*SDD **28** 05:36:52.5±1.6, 17.80N×68.34W, h50km±18km, MD3.7, ML3.8, MW3.8*
*OSPL **28** 05:36:53.7±2.8, 18.07N×68.28W, h71km±15km, ML3.3*

ISC 28 05:36:52.0±1.2, 18.03N±0.06×68.28W±0.03, h67km±8km, n117, σ1$68/156, 22C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.49**	**349**		**Pn**	**05 37 04.2**	**-0.1**
PCDR					**Sn**	**05 37 13.9**	**+0.5**
PCDR				IAML		05 37 15.6	
	comp=N,4μm,0.7s						
PCDR	**Punta Cana, DR**	**0.49**	**349**	*e*Pg	**Pn**	**05 37 04.5**	**+0.1**
PCDR				*e*Sg	**Sn**	**05 37 14.7**	**+1.2**
PCDR				IAML		05 37 15.5	
	comp=N,3μm,0.4s						
PCDR	**Punta Cana, DR**	**0.49**	**349**	⇑*e*P	**Pn**	**05 37 04.2**	**-0.1**
PCDR	**Punta Cana, DR**	**0.49**	**349**	*e*S	**Sn**	**05 37 14.0**	**+0.5**
PCDR	**Punta Cana, DR**	**0.49**	**349**	*i* P	**Pn**	**05 37 04.3**	**-0.1**
PCDR				*e*S	**Sn**	**05 37 13.9**	**+0.5**
PCDR				IAML		05 37 17.2	
	comp=Z,2μm,0.6s						
SADR	**Isla Saona**	**0.50**	**289**	*e*Pg	**Pn**	**05 37 04.8**	**+0.3**
SADR				*e*Pg	**Pn**	**05 37 04.8**	**+0.3**
SADR				IAML		05 37 21.2	
	comp=N,2μm,0.9s						
SADR	**Isla Saona**	**0.50**	**289**	⇓*e*P	**Pn**	**05 37 04.5**	**0.0**
SADR	**Isla Saona**	**0.50**	**289**	*e*S	**Sn**	**05 37 14.4**	**+0.7**
HIDR	**Higuey Centro**	**0.69**	**323**	⇑*e*P	**Pn**	**05 37 06.1**	**-0.5**
HIDR	**Higuey Centro**	**0.69**	**323**	*e*S	**Sn**	**05 37 16.3**	**-1.0**
IDE	**Isla Desecheo**	**0.84**	**65**		**Pn**	**05 37 08.7**	**+0.3**
IDE					**Sn**	**05 37 22.1**	**+1.6**
IDE	**Isla Desecheo**	**0.84**	**65**	⇑*e*P	**Pn**	**05 37 08.7**	**+0.3**
IDE	**Isla Desecheo**	**0.84**	**65**	*e*S	**Sn**	**05 37 22.1**	**+1.6**
PRSN	**Puerto Rico Se**	**1.10**	**80**		**Pn**	**05 37 12.0**	**+0.4**
PRSN					**Sn**	**05 37 26.6**	**+0.5**
PRSN				IAML		05 37 31.9	
	comp=E,2μm,0.2s						
PRSN	**Puerto Rico Se**	**1.10**	**80**	*e*Pg	**Pn**	**05 37 12.0**	**+0.4**
PRSN				*e*Sg	**Sn**	**05 37 26.6**	**+0.5**
PRSN				IAML		05 37 29.0	
	comp=N,904nm,0.2s						
PRSN	**Puerto Rico Se**	**1.10**	**80**	⇑*e*P	**Pn**	**05 37 12.6**	**+1.1**
PRSN	**Puerto Rico Se**	**1.10**	**80**	*e*S	**Sn**	**05 37 27.3**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.12**	**91**		**Pn**	**05 37 12.1**	**+0.3**
CRPR					**Sn**	**05 37 26.9**	**+0.3**
CRPR				IAML		05 37 28.3	
	comp=N,1μm,0.4s						
CRPR				IAML		05 37 28.3	
	comp=E,947nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.12**	**91**	*e*Pg	**Pn**	**05 37 12.5**	**+0.7**
CRPR				*e*Sg	**Sn**	**05 37 25.9**	**-0.6**
CRPR				IAML		05 37 28.1	
	comp=N,1μm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.12**	**91**	⇑*e*P	**Pn**	**05 37 12.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.12**	**91**	*e*S	**Sn**	**05 37 27.7**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.12**	**91**	*i* P	**Pn**	**05 37 12.2**	**+0.5**
CRPR				*e*S	**Sn**	**05 37 26.6**	**0.0**
CRPR				IAML		05 37 30.1	
	comp=Z,632nm,0.8s						
LSP	**Las Mesas**	**1.15**	**83**		**Pn**	**05 37 12.5**	**+0.3**
LSP					**Sn**	**05 37 28.7**	**+1.4**
LSP	**Las Mesas**	**1.15**	**83**	⇑*e*P	**Pn**	**05 37 12.5**	**+0.3**
LSP	**Las Mesas**	**1.15**	**83**	*e*S	**Sn**	**05 37 28.7**	**+1.4**
MLPR	**Magueyes Islan**	**1.18**	**93**	⇓*e*P	**Pn**	**05 37 12.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.18**	**93**	*e*S	**Sn**	**05 37 29.0**	**+0.9**
AGPR	**Aguadilla, PR**	**1.19**	**69**		**Pn**	**05 37 13.6**	**+0.8**
AGPR				Sn	**Sn**	**05 37 30.0**	**+1.6**
AGPR				IAML		05 37 31.2	
	comp=N,777nm,0.8s						
AGPR				IAML		05 37 32.0	
	comp=E,978nm,0.7s						
AGPR	**Aguadilla, PR**	**1.19**	**69**	*e*Pg	**Pn**	**05 37 13.9**	**+1.1**
AGPR				*e*Sg	**Sn**	**05 37 30.2**	**+1.8**
AGPR				IAML		05 37 31.0	
	comp=N,763nm,0.5s						
AGPR	**Aguadilla, PR**	**1.19**	**69**	⇑*e*P	**Pn**	**05 37 13.9**	**+1.1**
AGPR	**Aguadilla, PR**	**1.19**	**69**	*e*S	**Sn**	**05 37 30.3**	**+1.8**
AGPR	**Aguadilla, PR**	**1.19**	**69**	*i* P	**Pn**	**05 37 13.7**	**+0.8**
AGPR				*e*S	**Sn**	**05 37 29.8**	**+1.4**
AGPR				IAML		05 37 32.4	
	comp=Z,401nm,0.3s						
MIDR	**Miches**	**1.19**	**322**	⇑*e*P	**Pn**	**05 37 11.3**	**-1.5**
MIDR	**Miches**	**1.19**	**322**	*e*S	**Sn**	**05 37 25.5**	**-2.9**
DR12	**Loma Pena Alta**	**1.28**	**306**		**Pn**	**05 37 13.0**	**-1.1**
GBPR	**Guanica, Bosqu**	**1.34**	**92**		**Pn**	**05 37 15.2**	**+0.5**
GBPR					**Sn**	**05 37 32.8**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.34**	**92**	⇓*e*P	**Pn**	**05 37 15.2**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.34**	**92**	*e*S	**Sn**	**05 37 32.8**	**+1.0**
AOPR	**Arecibo Observ**	**1.49**	**78**		**Pn**	**05 37 17.1**	**+0.3**
AOPR					**Sn**	**05 37 35.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.49**	**78**	*e*Pg	**Pn**	**05 37 17.4**	**+0.7**
AOPR				*e*Sg	**Sn**	**05 37 36.4**	**+1.0**
AOPR				IAML		05 37 39.0	
	comp=N,1μm,0.2s						
AOPR	**Arecibo Observ**	**1.49**	**78**	*e*P	**Pn**	**05 37 16.3**	**-0.4**
AOPR	**Arecibo Observ**	**1.49**	**78**	⇑*e*P	**Pn**	**05 37 17.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.49**	**78**	*e*S	**Sn**	**05 37 36.0**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.50**	**81**		**Pn**	**05 37 17.2**	**+0.4**
UUPR					**Sn**	**05 37 36.4**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.50**	**81**	⇑*e*P	**Pn**	**05 37 17.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.50**	**81**	*e*S	**Sn**	**05 37 36.4**	**+0.7**
SMDR	**Samana, DR**	**1.52**	**326**	*e*Sg	**Sn**	**05 37 37.6**	**+1.6**
SMDR				IAML		05 37 38.6	
	comp=N,450nm,0.3s						
SMDR	**Samana, DR**	**1.52**	**326**	⇑*e*P	**Pn**	**05 37 16.8**	**-0.3**
SMDR	**Samana, DR**	**1.52**	**326**	*e*S	**Sn**	**05 37 37.2**	**+1.2**
OBIP	**Obispado Ponce**	**1.59**	**89**		**Pn**	**05 37 17.6**	**-0.5**
OBIP					**Sn**	**05 37 37.8**	**-0.1**
OBIP				IAML		05 37 38.2	
	comp=E,886nm,0.5s						
OBIP	**Obispado Ponce**	**1.59**	**89**	⇑*e*P	**Pn**	**05 37 17.4**	**-0.7**
OBIP	**Obispado Ponce**	**1.59**	**89**	*e*S	**Sn**	**05 37 37.8**	**-0.1**
SDD	**Santo Domingo**	**1.61**	**285**	Pn	**Pn**	**05 37 18.6**	**+0.3**
SDD	**Santo Domingo**	**1.61**	**285**	*i* P	**Pn**	**05 37 18.8**	**+0.5**
CELP	**Cerrillos**	**1.62**	**88**		**Pn**	**05 37 18.8**	**+0.3**
CELP					**Sn**	**05 37 39.5**	**+1.0**
CELP	**Cerrillos**	**1.62**	**88**	*e*Pg	**Pn**	**05 37 19.0**	**+0.5**
CELP				*e*Sg	**Sn**	**05 37 39.3**	**+0.8**
CELP				IAML		05 37 39.9	
	comp=N,1μm,0.2s						
CELP	**Cerrillos**	**1.62**	**88**	⇑*e*P	**Pn**	**05 37 18.8**	**+0.3**
CELP	**Cerrillos**	**1.62**	**88**	*e*S	**Sn**	**05 37 39.3**	**+0.8**
EMPR	**Esperanza - Ma**	**1.72**	**75**		**Pn**	**05 37 20.5**	**+0.7**
EMPR					**Sn**	**05 37 41.6**	**+0.7**
EMPR	**Esperanza - Ma**	**1.72**	**75**	⇑*e*P	**Pn**	**05 37 20.6**	**+0.7**
EMPR	**Esperanza - Ma**	**1.72**	**75**	*e*S	**Sn**	**05 37 42.1**	**+1.2**
ECPR	**Experimental S**	**1.85**	**81**	⇑*e*P	**Pn**	**05 37 21.8**	**+0.3**
ECPR	**Experimental S**	**1.85**	**81**	*e*S	**Sn**	**05 37 45.1**	**+1.1**
NADR	**Nagua**	**1.99**	**312**	*e*Pg	**Pn**	**05 37 24.6**	**+1.2**
NADR				*e*Sg	**Sn**	**05 37 49.2**	**+1.8**
NADR				IAML		05 37 53.5	
	comp=N,3μm,0.3s						
BANI	**BANI**	**2.01**	**281**		**Pn**	**05 37 24.2**	**+0.4**
BANI	**BANI**	**2.01**	**281**	*e*Pg	**Pn**	**05 37 23.4**	**-0.3**
BANI				*e*Sg	**Sn**	**05 37 45.4**	**-2.6**
BANI				IAML		05 38 00.5	
	comp=N,384nm,0.2s						
SJG	**San Juan**	**2.03**	**87**		**Pn**	**05 37 23.8**	**-0.1**
SJG				IAML		05 37 50.9	
	comp=N,383nm,0.2s						
SJG				IAML		05 37 53.2	
	comp=N,365nm,0.5s						
SJG	**San Juan**	**2.03**	**87**	*e*Pg	**Pn**	**05 37 24.1**	**+0.1**
SJG				*e*Sg	**Sn**	**05 37 48.9**	**+0.5**
SJG	**San Juan**	**2.03**	**87**	*e*P	**Pn**	**05 37 24.0**	**+0.1**
SJG	**San Juan**	**2.03**	**87**	⇑*e*P	**Pn**	**05 37 24.1**	**+0.1**
SJG	**San Juan**	**2.03**	**87**	*e*S	**Sn**	**05 37 48.4**	**+0.1**
SJG	**San Juan**	**2.03**	**87**	*i* P	**Pn**	**05 37 23.9**	**-0.1**
SJG				*e*S	**Sn**	**05 37 47.7**	**-0.6**
SJG				IAML		05 37 51.0	
	comp=Z,209nm,0.2s						
IGPR	**InterUniversit**	**2.07**	**92**		**Pn**	**05 37 24.3**	**-0.3**
IGPR					**Sn**	**05 37 48.7**	**-0.7**
IGPR				IAML		05 37 53.0	
	comp=N,368nm,0.3s						
IGPR				IAML		05 37 54.7	
	comp=E,428nm,0.3s						
IGPR	**InterUniversit**	**2.07**	**92**	⇑*e*P	**Pn**	**05 37 24.0**	**-0.6**
IGPR	**InterUniversit**	**2.07**	**92**	*e*S	**Sn**	**05 37 48.7**	**-0.7**
GCPR	**Guaynabo City**	**2.11**	**82**		**Pn**	**05 37 25.2**	**+0.1**
GCPR					**Sn**	**05 37 49.7**	**-0.5**
GCPR				IAML		05 37 51.4	
	comp=E,258nm,0.5s						
GCPR	**Guaynabo City**	**2.11**	**82**	⇑*e*P	**Pn**	**05 37 25.4**	**+0.3**
GCPR	**Guaynabo City**	**2.11**	**82**	*e*S	**Sn**	**05 37 50.0**	**-0.3**
PDPR	**Patillas Dam,**	**2.15**	**90**		**Pn**	**05 37 25.8**	**+0.2**
PDPR	**Patillas Dam,**	**2.15**	**90**	⇑*e*P	**Pn**	**05 37 25.3**	**-0.3**
PDPR	**Patillas Dam,**	**2.15**	**90**	*e*S	**Sn**	**05 37 50.9**	**-0.4**
CADR	**Cabrera**	**2.26**	**316**	*e*Pg	**Pn**	**05 37 28.1**	**+1.0**
CADR				*e*Sg	**Sn**	**05 37 56.0**	**+2.0**
CADR				IAML		05 37 58.1	
	comp=N,674nm,0.2s						
HUMP	**Col San Antoni**	**2.32**	**87**		**Pn**	**05 37 28.2**	**+0.4**
HUMP					**Sn**	**05 37 55.2**	**-0.1**
HUMP				IAML		05 38 00.5	
	comp=N,276nm,0.2s						
HUMP				IAML		05 38 01.6	
	comp=E,361nm,0.2s						
HUMP	**Col San Antoni**	**2.32**	**87**	⇑*e*P	**Pn**	**05 37 28.6**	**+0.8**
HUMP	**Col San Antoni**	**2.32**	**87**	*e*S	**Sn**	**05 37 55.3**	**-0.1**
ABDR	**Alto Bandera**	**2.36**	**290**	*e*Pg	**Pn**	**05 37 28.8**	**0.0**
ABDR				*e*Sg	**Sn**	**05 37 54.8**	**-2.1**
ABDR				IAML		05 38 05.2	
	comp=N,281nm,0.3s						
SC01	**Santiago de lo**	**2.70**	**301**		**Pn**	**05 37 34.9**	**+1.8**
SC01					**Sn**	**05 38 08.7**	**+4.0**
SC01				IAML		05 38 12.2	

GRTK eS **Sn** **05 38 41.0 -4.8**
GRTK IAML 05 38 43.3
comp=Z,30nm,0.8s
MBFL Flemmings, Mon 5.93 102 eP **Pn** **05 38 16.2 -1.1**
MBWH 5.96 102 eP **Pn** **05 38 18.1 +0.4**
MBWH 5.96 102 eS **Sn** **05 39 19.6 -5.0**
MASC Masc 6.01 292 eP **Pn** **05 38 15.3 -3.1**
ANBD Bethesda, Anti 6.29 98 eP **Pn** **05 38 22.0 -0.2**
ANBD Bethesda, Anti 6.29 98 eS **Sn** **05 39 29.0 -3.8**
QMBU Quimbuelo 6.54 290 eP **Pn** **05 38 21.1 -4.5**
QMBU eS Sn 05 39 28.0 -11
GTBY Guantanamo Bay 6.73 287 eP **Pn** **05 38 26.9 -1.3**
DSLB Salisbury 7.06 110 eP **Pn** **05 38 32.3 -0.5**
DSLB Salisbury 7.06 110 e **Sn** **05 39 45.9 -5.8**
RCC Rio Carpintero 7.28 287 eP **Pn** **05 38 31.6 -4.1**
PINC Pinares de May 7.50 290 eP **Pn** **05 38 34.3 -4.5**
GRGR Grenville 8.68 132 P **Pn** **05 38 54.8 -0.1**

*REY **28** 05:48:28.8, 66°.27N×16°.54W, h5km*
*IDC **28** 05:48:29.6±0.9, 66°.09N×16°.52W, h0km, mb3.3/8, mbtmp3.5/14, ML2.8/6, MS3.6/43, Error ellipse: s-maj=22.9km s-min=15.0km az=5.0*
ISC 28 05:48:28.9±1.0, 66°.24N±0°.02×16°.55W±0°.03, h6km±7km, n89, σ1§62/83, mb3.3/8, MS3.6/37, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILEI	**Leirhofn**	**0.17**	**9**	P	**Pg**	**05 48 31.9**	**-0.5**
ILEI				S	**Sg**	**05 48 34.1**	**-0.5**
IGIL	**Gilhagi**	**0.18**	**153**	P	**Pg**	**05 48 32.8**	**+0.3**
IGIL				S	**Sg**	**05 48 35.9**	**+0.9**
IDIM	**Dimmadalss**	**0.32**	**209**	P	**Pg**	**05 48 35.4**	**+0.3**
IDIM				S	**Sg**	**05 48 40.4**	**+1.1**
IHED	**Heoinshofoi**	**0.35**	**243**	P	**Pg**	**05 48 35.6**	**0.0**
IHED				S	**Sg**	**05 48 41.1**	**+0.9**
IGHA	**Grjothals**	**0.40**	**186**	P	**Pg**	**05 48 36.7**	**+0.1**
IGHA				S	**Sg**	**05 48 42.8**	**+1.0**
ISKI	**Skildingahlsh**	**0.42**	**208**	P	**Pg**	**05 48 37.0**	**0.0**
ISKI				S	**Sg**	**05 48 43.2**	**+0.8**
IGRA	**Granastaoir**	**0.53**	**233**	P	**Pg**	**05 48 38.6**	**-0.4**
IGRA				S	**Sg**	**05 48 46.3**	**+0.4**
IKVO	**Krokottuvotn**	**0.54**	**194**	P	**Pg**	**05 48 39.0**	**-0.3**
IKVO				S	**Sg**	**05 48 46.9**	**+0.5**
IBRE	**Brettingsstaoi**	**0.56**	**259**	P	**Pg**	**05 48 39.3**	**-0.4**
IBRE				S	**Sg**	**05 48 47.2**	**+0.2**
IREN	**Reynihlio**	**0.61**	**194**	P	**Pg**	**05 48 40.2**	**-0.4**
IREN				S	**Sg**	**05 48 49.0**	**+0.4**
IGRS	**Grimsstaoir**	**0.63**	**164**	P	**Pg**	**05 48 40.5**	**-0.5**
IGRS				S	**Sg**	**05 48 49.5**	**+0.3**
IGRI	**Grimsey**	**0.66**	**298**	P	**Pg**	**05 48 40.4**	**-1.2**
IGRI				S	**Sg**	**05 48 49.7**	**-0.4**
IMEL	**Melhnausar**	**0.67**	**184**	P	**Pg**	**05 48 41.2**	**-0.6**
IMEL				S	**Sg**	**05 48 50.8**	**+0.3**
IHLA	**Hella**	**0.80**	**249**	P	**Pg**	**05 48 43.1**	**-1.2**
IHLA				S	**Sg**	**05 48 54.2**	**-0.5**
ISVA	**Svartarkot**	**0.95**	**198**	P	**Pg**	**05 48 45.9**	**-1.3**
ISVA				S	**Sg**	**05 48 58.8**	**-0.6**
ISIG	**Siglufjorour**	**0.96**	**265**	P	**Pg**	**05 48 45.1**	**-2.2**
ISIG				S	**Sg**	**05 48 58.1**	**-1.8**
IASK	**Askja**	**1.19**	**182**	P	**Pg**	**05 48 50.0**	**-1.7**
IASK				S	**Sg**	**05 49 06.2**	**-1.0**
IMKO	**Mokollar**	**1.27**	**176**	P	**Pg**	**05 48 51.0**	**-2.2**
IMKO				S	**Sg**	**05 49 08.5**	**-1.1**
IADA	**Aoalbol**	**1.29**	**161**	P	**Pn**	**05 48 51.0**	**-2.4**
IADA				S	**Sg**	**05 49 08.7**	**-1.6**
THOR	**Thorvaldshraun**	**1.31**	**182**	P	**Pn**	**05 48 51.8**	**-1.9**
IURH	**Urdarhals**	**1.45**	**190**	P	**Pn**	**05 48 53.9**	**-1.8**
IHRN	**Hraun**	**1.46**	**267**	S	**Sn**	**05 49 12.0**	**-3.0**
IKRE	**Kreppuhraun**	**1.46**	**177**	P	**Pn**	**05 48 53.9**	**-1.9**
IKRE				S	**Sb**	**05 49 14.0**	**-1.4**
IVSH	**V-Sauoahnukur**	**1.48**	**166**	P	**Pn**	**05 48 54.5**	**-1.6**
IVSH				S	**Sn**	**05 49 14.2**	**-1.5**
IDYN	**Dyngjuhals**	**1.49**	**193**	P	**Pn**	**05 48 54.7**	**-1.6**
IDYN				S	**Sn**	**05 49 14.8**	**-1.3**
IKIS	**Kista**	**1.63**	**195**	P	**Pn**	**05 48 56.9**	**-1.3**
IVON	**Vonarskard**	**1.65**	**198**	P	**Pn**	**05 48 56.8**	**-1.6**
IVON				S	**Sn**	**05 49 18.9**	**-1.0**
IBJK	**Bruarjokull**	**1.78**	**183**	P	**Pn**	**05 48 58.7**	**-1.6**
ISKR	**Skrokkalda**	**1.85**	**205**	P	**Pn**	**05 48 59.8**	**-1.4**
ISTE	**Stelbrattur**	**1.89**	**224**	P	**Pn**	**05 49 00.5**	**-1.1**
IVOT	**Vottur**	**1.99**	**188**	P	**Pn**	**05 49 02.1**	**-1.0**
IHUS	**Husbondi**	**2.01**	**194**	P	**Pn**	**05 49 02.5**	**-0.9**
IJOK	**Jokulheimar**	**2.06**	**201**	P	**Pn**	**05 49 03.3**	**-0.7**
IKSK	**Karasker**	**2.09**	**179**	P	**Pn**	**05 49 03.5**	**-0.9**
IHAE	**Haedir**	**2.23**	**185**	P	**Pn**	**05 49 05.5**	**-0.8**
IIEY	**Innrieyrar**	**2.25**	**198**	P	**Pn**	**05 49 06.0**	**-0.6**
IKVI	**Kvisker**	**2.27**	**179**	P	**Pn**	**05 49 05.7**	**-1.1**
IVAT	**Vatnsfell**	**2.29**	**207**	P	**Pn**	**05 49 06.3**	**-0.8**
IFAL	**Falljokull**	**2.29**	**183**	P	**Pn**	**05 49 06.6**	**-0.5**
SLET	**Slettubjorg**	**2.31**	**181**	P	**Pn**	**05 49 06.8**	**-0.7**
BORG	**Borgarnes**	**2.49**	**235**	Pn	**Pn**	**05 49 09.9**	**0.0**
	1.8nm,0.3s,baz=107,slow=22,SNR=8.7						
BORG				Sn	**Sb**	**05 49 42.7**	**-2.1**
	76nm,0.3s,baz=38,slow=21,SNR=13						
	195nm,0.5s						
SCO	**Scoresbysund**	**4.71**	**337**	eP	**Pn**	**05 49 39.8**	**-0.5**
SCO				*i* S	**Pb**	**05 49 49.2**	**-2.4**
JMIC	**Jan Mayen**	**5.60**	**28**	LR	LR	05 51 26.9	
	comp=Z,191nm,21.6s,baz=80,slow=31						
EKA	**Eskdalemuir Ar**	**12.70**	**143**	Pn	**Pn**	**05 51 33.0**	**+3.2**
	baz=326,slow=13						
NOA	**NORSAR Array B**	**13.31**	**100**	Pn	**Pn**	**05 51 38.1**	**0.0**
	baz=304,slow=14,SNR=3.4						
NOA				Sn	**Sn**	**05 54 03.8**	**-2.4**
	baz=309,slow=24,SNR=3.4						
NOA				LR	LR	05 56 20.1	
	comp=Z,118nm,21.4s,baz=305,slow=35						
	0.4nm,0.6s						
SFJD	**Kangerlussuaq**	**13.45**	**289**	LR	LR	05 56 04.7	
	comp=Z,117nm,21.4s,baz=76,slow=34						
HFS	**Hagfors**	**14.83**	**100**	Pn	**Pn**	**05 51 58.2**	**-0.7**
	0.1nm,0.3s,baz=316,slow=12,SNR=1.5						
HFS				Sn	**Sn**	**05 54 36.2**	**-7.1**
	0.1nm,0.3s,baz=331,slow=24,SNR=1.9						
HFS				LR	LR	05 57 05.3	
	comp=Z,235nm,18.3s,baz=304,slow=35						
	1.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**15.27**	**25**	Pn	**P**	**05 52 07.3**	**-2.2**
	baz=245,slow=17						
	3.3nm,0.8s						
ARCES	**ARCESS Array B**	**15.92**	**59**	Pn	**Pn**	**05 52 13.2**	**0.0**
	0.1nm,0.3s,baz=276,slow=11,SNR=4.6						
ARCES				LR	LR	05 57 01.3	
	comp=Z,309nm,19.5s,baz=280,slow=32						
	10nm,1.1s						
FINES	**FINESS Array B**	**19.09**	**84**	P	**Pn**	**05 52 53.7**	**+1.2**
	0.2nm,0.3s,baz=312,slow=9.5,SNR=4.3						
FINES				LR	LR	05 59 25.9	
	comp=Z,310nm,19.0s,baz=296,slow=34						
	1.9nm,0.7s						
FRB	**Frobisher Bay**	**21.60**	**288**	LR	LR	06 01 07.1	
	comp=Z,97nm,19.8s,baz=88,slow=35						
GERES	**GERESS Array B**	**23.43**	**123**	P	**P**	**05 53 40.2**	**+1.7**
	0.2nm,0.6s,baz=317,slow=9.4,SNR=1.4						
GERES				LR	LR	06 04 51.3	
	comp=Z,145nm,18.8s,baz=326,slow=42						
	0.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**24.01**	**131**	LR	LR	06 03 39.2	
	comp=Z,177nm,20.1s,baz=320,slow=38						
VRAC	**Vranov**	**24.04**	**119**	LR	LR	06 03 13.9	
	comp=Z,105nm,19.5s,baz=327,slow=37						
RES	**Resolute Bay**	**25.43**	**323**	LR	LR	06 03 48.4	
	comp=Z,160nm,20.6s,baz=234,slow=36						
SCHQ	**Schefferville**	**26.43**	**269**	LR	LR	06 03 40.8	
	comp=Z,124nm,18.7s,baz=338,slow=34						
OBN	**Obninsk**	**27.38**	**88**	LR	LR	06 04 00.7	
	comp=Z,101nm,20.1s,baz=354,slow=34						
ESDC	**Sonseca Array**	**27.56**	**159**	P	**P**	**05 54 16.2**	**-0.1**
	0.2nm,0.3s,baz=354,slow=11,SNR=2.5						
ESDC				LR	LR	06 04 59.1	
	comp=Z,163nm,18.1s,baz=332,slow=36						
	0.2nm,0.3s						
AKASG	**Malin Array Be**	**27.71**	**102**	P	**P**	**05 54 18.6**	**+1.1**
	0.1nm,0.3s,baz=324,slow=10,SNR=4.0						
AKASG				LR	LR	06 05 17.3	
	comp=Z,105nm,20.4s,baz=320,slow=36						
	0.1nm,0.3s						
KIRV	**Kirov**	**30.09**	**73**	LR	LR	06 05 48.6	
	comp=Z,165nm,18.8s,baz=318,slow=34						
MLR	**Muntele Rosu**	**30.69**	**111**	LR	LR	06 07 17.7	
	comp=Z,36nm,19.8s,baz=290,slow=37						
VAE	**Valguarnera**	**33.87**	**133**	LR	LR	06 09 38.0	
	comp=Z,138nm,18.3s,baz=124,slow=38						
MDT	**Midelt**	**34.22**	**162**	LR	LR	06 07 57.6	
	comp=Z,142nm,21.3s,baz=350,slow=34						
NRIK	**Noril'sk**	**34.95**	**37**	LR	LR	06 10 08.7	
	comp=Z,22nm,18.2s,baz=327,slow=37						
ARTI	**Arti**	**35.08**	**69**	LR	LR	06 09 02.6	
	comp=Z,232nm,18.1s,baz=332,slow=35						
YKA	**Yellowknife Ar**	**38.43**	**312**	P	**P**	**05 55 52.9**	**+2.2**
	0.3nm,0.9s,baz=44,slow=7.7,SNR=3.7						
YKA				LR	LR	06 11 34.7	
	comp=Z,92nm,19.3s,baz=351,slow=36						
	0.3nm,0.9s						
KBZ	**Khabaz**	**38.83**	**95**	LR	LR	06 12 14.6	
	comp=Z,87nm,18.4s,baz=337,slow=37						
SADO	**Sadowa**	**39.24**	**269**	LR	LR	06 11 10.7	
	comp=Z,96nm,20.0s,baz=24,slow=35						
AKTO	**Aktyubinsk**	**39.48**	**76**	LR	LR	06 11 48.6	
	comp=Z,194nm,18.7s,baz=316,slow=35						
TIXI	**Tiksi**	**40.41**	**16**	LR	LR	06 12 04.6	
	comp=Z,49nm,20.4s,baz=4.0,slow=35						
ULM	**Lac du Bonnet**	**41.48**	**288**	LR	LR	06 13 05.2	
	comp=Z,181nm,19.2s,baz=323,slow=36						
BVAR	**Borovoye Array**	**42.13**	**64**	P	**P**	**05 56 24.7**	**+3.3**
	0.3nm,0.4s,baz=322,slow=9.1,SNR=1.7						
BVAR				LR	LR	06 12 53.5	
	comp=Z,65nm,19.4s,baz=360,slow=35						
	0.3nm,0.4s						
GNI	**Garni**	**42.58**	**96**	LR	LR	06 14 09.9	
	comp=Z,100nm,21.1s,baz=310,slow=36						
ILAR	**Eielson Array**	**44.47**	**332**	P	**P**	**05 56 43.8**	**+3.6**
	0.6nm,1.0s,baz=45,slow=7.7,SNR=2.9						
ILAR				LR	LR	06 17 51.3	
	comp=Z,75nm,18.0s,baz=36,slow=40						
	0.6nm,1.0s						
DLBC	**Dease Lake**	**46.16**	**318**	LR	LR	06 15 51.1	
	comp=Z,118nm,20.2s,baz=32,slow=36						
ZALV	**Zalesovo Beam**	**46.35**	**53**	LR	LR	06 17 27.7	
	comp=Z,60nm,18.1s,baz=14,slow=37						
KURBB	**Kurchatov Arra**	**47.01**	**60**	P	**P**	**05 57 00.5**	**+0.1**
	0.4nm,0.8s,baz=318,slow=7.7,SNR=2.8						
	0.4nm,0.8s						
TKL	**Tuckaleechee C**	**48.83**	**266**	LR	LR	06 16 17.2	
	comp=Z,120nm,20.8s,baz=20,slow=34						
NEW	**Newport**	**50.91**	**302**	LR	LR	06 18 39.2	
	comp=Z,66nm,20.7s,baz=5.0,slow=36						
BBB	**Bella Bella**	**51.04**	**313**	LR	LR	06 20 01.5	
	comp=Z,117nm,18.1s,baz=41,slow=37						
BBTS	**Babate**	**51.53**	**180**	LR	LR	06 17 36.0	
	comp=Z,43nm,18.1s,baz=212,slow=34						
MKAR	**Makanchi Array**	**51.58**	**60**	LR	LR	06 22 00.5	
	comp=Z,68nm,18.1s,baz=328,slow=39						
KDAK	**Kodiak Island**	**51.99**	**332**	LR	LR	06 21 25.3	
	comp=Z,77nm,18.8s,baz=260,slow=38						
AAK	**Ala-Archa**	**52.30**	**69**	LR	LR	06 19 18.2	
	comp=Z,105nm,19.7s,baz=328,slow=35						
PDAR	**Pinedale Array**	**52.92**	**293**	P	**P**	**05 57 47.7**	**+2.0**
	0.5nm,0.9s,baz=27,slow=6.7,SNR=2.5						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**54.44**	**158**	LR	LR	06 20 51.6	
	comp=Z,59nm,18.3s,baz=169,slow=36						
SONM	**Songino Array**	**58.19**	**42**	LR	LR	06 24 54.8	
	comp=Z,76nm,20.3s,baz=298,slow=38						
ANMO	**Albquerque**	**58.54**	**286**	LR	LR	06 23 31.1	
	comp=Z,127nm,18.6s,baz=207,slow=36						
KSRS	**Korea Array**	**73.07**	**29**	LR	LR	06 35 03.3	
	comp=Z,20nm,19.7s,baz=350,slow=38						

*NNC **28** 06:04:39.1±5.6, 54°.29N×87°.19E, h14km±50km, mb3.3, mpv2.9, Error ellipse: s-maj=55.8km s-min=34.6km az=51.0, Suspected Mining explosion.*
*ASRS **28** 06:04:39.0±1.1, 54°.33N×86°.86E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **28** 06:04:41.8±2.8, 54°.33N×86°.98E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.7km s-min=15.3km az=63.0*
ISC 28 06:04:38.4±1.7, 52°.83N±0°.05×86°.31E±0°.10, h0km, n9, σ1§88/15, 9C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**322**	I	I	06 13 15.0	
	baz=74,slow=330,SNR=6.6						
ZAA0	**Zalesovo Array**	**1.43**	**322**	⇓Pn	**Pn**	**06 05 04.9**	**-0.7**
	0.3nm,0.4s						
ZAA0				⇓Sn	**Sb**	**06 05 24.1**	**-0.6**
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**1.43**	**322**	Pg	**Pg**	**06 05 05.0**	**-0.8**
	0.8nm,0.3s,baz=71,slow=17,SNR=13						
ZALV				Lg	Lg	06 05 23.9	
	2.0nm,0.3s,baz=73,slow=26,SNR=12						
KURK	**Kurchatov**	**5.22**	**249**	⇓Pn	**Pb**	**06 06 13.1**	**+2.5**
	0.7nm,0.6s						
KURK				⇑Sn	**Sg**	**06 07 26.8**	**+0.7**
	0.5nm,0.5s						
KURK				⇑Lg	Lg	06 08 00.4	
	2.9nm,1.0s						
KURBB	**Kurchatov Arra**	**5.32**	**248**	Pn	**Pg**	**06 06 17.5**	**-2.7**
	0.1nm,0.3s,baz=54,slow=14,SNR=9.7						
KURBB				Sn	**Sg**	**06 07 30.3**	**+1.2**
	baz=53,slow=22,SNR=4.5						
KURBB				Lg	Lg	06 08 02.5	
	baz=53,slow=29,SNR=1.5						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**5.32**	**248**	⇑Pn	**Pb**	**06 06 14.3**	**+2.2**
	1.7nm,0.6s						
KURBB				⇑Sn	**Sg**	**06 07 28.3**	**-0.8**
	3.4nm,0.7s						
KURBB				⇓Lg	Lg	06 08 02.5	
	5.0nm,0.9s						
MK31	**Makanchi Array**	**6.58**	**205**	⇑Pn	**Pb**	**06 06 35.9**	**+2.2**
	0.3nm,0.6s,baz=144,slow=13,SNR=4.5						
MK31				⇓Sn	**Sg**	**06 08 09.2**	**-0.4**
	0.6nm,0.7s,baz=142,slow=24,SNR=4.8						
MK31				⇑Lg	Lg	06 08 59.2	
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**6.58**	**205**	Pn	**Pg**	**06 06 42.2**	**-2.2**
	0.1nm,0.3s,baz=26,slow=14,SNR=5.2						
MKAR				Sn	**Sg**	**06 08 12.7**	**+3.0**
	0.1nm,0.3s,baz=24,slow=25,SNR=6.8						
MKAR				Lg	Lg	06 08 58.9	
	baz=22,slow=31						
	0.3nm,0.5s						
MAKZ	**Makanchi**	**6.65**	**207**	⇑Pn	**Pb**	**06 06 35.9**	**+1.0**
	2.5nm,0.6s						
MAKZ				⇑Sn	**Sg**	**06 08 11.7**	**-0.1**
	0.8nm,0.6s						
MAKZ				⇑Lg	Lg	06 08 55.8	
	1.8nm,0.8s						

*IDC **28** 06:08:39.3±5.8, 4°.15S×142°.69E, h75km±42km, mb3.5/5, mbtmp3.8/7, ML4.0/2, Error ellipse: s-maj=72.5km s-min=21.8km az=88.0*
ISC 28 06:08:42.6±1.3, 4°.1S±0°.1×142°.4E±0°.2, h100km, n9, σ1§07/10, mb3.7/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.30**	**314**	P	**Pn**	**06 09 19.5**	**+0.4**
	5.2nm,0.3s,baz=138,slow=15,SNR=13						
JAY				S	**Sn**	**06 09 45.5**	**-1.5**
	63nm,0.5s,baz=102,slow=20,SNR=7.7						
	12nm,0.3s						
WRA	**Warramunga Arr**	**17.58**	**206**	P	**P**	**06 12 39.5**	**-1.5**
	1.0nm,0.3s,baz=26,slow=13,SNR=26						
	4.6nm,0.7s						
ASAR	**Alice Springs**	**21.09**	**202**	P	**P**	**06 13 18.6**	**-0.6**
	1.8nm,0.7s,baz=30,slow=11,SNR=18						
	1.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.48**	**228**	P	**P**	**06 13 24.8**	**+1.5**
	2.1nm,0.6s,baz=47,slow=11,SNR=11						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**73.14**	**322**	P	**P**	**06 20 02.8**	**+0.5**
	0.3nm,0.6s,baz=111,slow=7.4,SNR=3.2						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**82.55**	**325**	P	**P**	**06 20 54.7**	**+0.4**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.7						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**85.85**	**180**	P	**P**	**06 21 10.7**	**-0.2**
	1.0nm,0.6s,baz=2.9,slow=16,SNR=6.9						
	1.0nm,0.6s						
LPAZ	**La Paz**	**143.66**	**125**	PKP	**PKPdf**	**06 28 07.0**	**-0.7**
	1.1nm,0.6s,baz=223,slow=2.1,SNR=5.8						
DBIC	**Dimbokro**	**147.28**	**276**	PKPbc	**PKPbc**	**06 28 15.7**	**+0.1**
	1.7nm,0.9s,baz=87,slow=3.9,SNR=3.3						

*NEIC **28** 06:09:30.6±0.8, 19°.2N±0°.2×64°.6W±0°.2, h35km±2km, ML2.2/18, Md2.9/8(RSPR), Error ellipse: s-maj=38.4km s-min=3.9km az=140.0*
*RSPR **28** 06:09:35.1, 19°.12N×64°.70W, h46km±12km, MD2.9/8*
ISC 28 06:09:31.9±2.5, 19°.2N±0°.2×64°.59W±0°.05, h42km, n28, σ0§75/29, 5C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.56**	**230**		**Pn**	**06 09 56.3**	**-0.8**
HUMP					**Sn**	**06 10 16.1**	**0.0**
HUMP				IAML		06 10 19.5	
	comp=E,18nm,0.2s						
HUMP	**Col San Antoni**	**1.56**	**230**	⇑eP	**Pn**	**06 09 57.8**	**+0.7**
HUMP	**Col San Antoni**	**1.56**	**230**	eS	**Sn**	**06 10 16.2**	**0.0**
PDPR	**Patillas Dam,**	**1.77**	**231**	Pn	**Pn**	**06 09 59.7**	**-0.3**
PDPR	**Patillas Dam,**	**1.77**	**231**	⇓eP	**Pn**	**06 10 01.1**	**+1.2**
PDPR	**Patillas Dam,**	**1.77**	**231**	eS	**Sn**	**06 10 21.3**	**+0.1**
SJG	**San Juan**	**1.81**	**235**	Pn	**Pn**	**06 09 60.0**	**-0.5**
SJG				IAML		06 10 31.8	
	comp=E,11nm,0.5s						
IGPR	**InterUniversit**	**1.86**	**231**		**Pn**	**06 10 00.7**	**-0.6**
IGPR				IAML		06 10 29.9	
	comp=E,20nm,0.2s						
IGPR				IAML		06 10 40.2	
	comp=N,22nm,1.7s						
IGPR	**InterUniversit**	**1.86**	**231**	⇓eP	**Pn**	**06 10 02.6**	**+1.3**
IGPR	**InterUniversit**	**1.86**	**231**	eS	**Sn**	**06 10 23.4**	**-0.1**
ECPR	**Experimental S**	**1.87**	**244**	⇓eP	**Pn**	**06 10 01.6**	**+0.1**
ECPR	**Experimental S**	**1.87**	**244**	eS	**Sn**	**06 10 23.3**	**-0.6**
CELP	**Cerrillos**	**2.17**	**241**		**Pn**	**06 10 05.2**	**-0.4**
CELP				IAML		06 10 25.7	
	comp=N,11nm,3.3s						
CELP				IAML		06 10 43.8	
	comp=E,11nm,2.5s						
CELP	**Cerrillos**	**2.17**	**241**	⇑eP	**Pn**	**06 10 06.3**	**+0.8**
CELP	**Cerrillos**	**2.17**	**241**	eS	**Sn**	**06 10 30.9**	**-0.2**
AOPR	**Arecibo Observ**	**2.20**	**249**	Pn	**Pn**	**06 10 04.7**	**-1.3**
AOPR					Pn	06 10 06.0	0.0
AOPR				IAML		06 10 40.1	
	comp=E,23nm,0.4s						
AOPR	**Arecibo Observ**	**2.20**	**249**	⇑eP	**Pn**	**06 10 07.0**	**+1.0**
AOPR	**Arecibo Observ**	**2.20**	**249**	eS	**Sn**	**06 10 32.0**	**0.0**
OBIP	**Obispado Ponce**	**2.21**	**240**		**Pn**	**06 10 04.6**	**-1.4**
OBIP				IAML		06 10 43.3	
	comp=E,14nm,2.8s						
OBIP				IAML		06 11 25.7	
	comp=N,14nm,2.3s						
OBIP	**Obispado Ponce**	**2.21**	**240**	⇑eP	**Pn**	**06 10 06.4**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.21**	**246**	Pn	**Pn**	**06 10 05.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.21**	**246**	⇑eP	**Pn**	**06 10 07.2**	**+1.1**
UUPR	**Utuado, UPR, P**	**2.21**	**246**	eS	**Sn**	**06 10 32.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.65**	**245**		**Pn**	**06 10 11.5**	**-0.6**
CRPR				IAML		06 10 33.9	
	comp=N,14nm,2.8s						
CRPR	**Cabo Rojo, PR**	**2.65**	**245**	⇓eP	**Pn**	**06 10 13.3**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.65**	**245**	eS	**Sn**	**06 10 43.0**	**+0.1**
ANWB	**Willy Bob**	**3.04**	**119**	eP	Pn	06 10 21.8	+4.3
ANBD	**Bethesda, Anti**	**3.41**	**127**	eP	**Pn**	**06 10 22.8**	**+0.3**
ANBD				eS	**Sn**	**06 11 01.1**	**-0.5**

*ASRS **28** 06:30:23.0±0.7, 54°.19N×87°.08E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 28 06:30:23.9±3.3, 54°.20N×87°.43E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.3km s-min=17.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**262**	I	I	06 39 30.0	
	baz=80,slow=333,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.56**	**262**	Pg	Pn	06 30 51.4	-1.5
	0.6nm,0.3s,baz=81,slow=18,SNR=10						
ZALV				Lg	Lg	06 31 14.8	
	1.0nm,0.3s,baz=78,slow=36,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.52**	**240**	Pn	Pn	06 32 01.6	+0.6
	baz=55,slow=14,SNR=5.3						
KURBB				Sn	Sn	06 33 13.8	-2.1
	baz=52,slow=36,SNR=1.5						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**8.11**	**206**	Pn	Pn	06 32 24.4	+1.6
	0.1nm,0.3s,baz=25,slow=14,SNR=2.6						
MKAR				Sn	Sn	06 33 55.0	-0.1
	0.1nm,0.3s,baz=26,slow=28,SNR=7.0						
MKAR				Lg	Lg	06 34 41.1	
	baz=29,slow=30,SNR=1.2						
	0.1nm,0.3s						

*IDC **28** 06:30:28.7±0.7, 2°.22N×126°.66E, h0km, mb4.0/14, mbtmp4.0/14, Error ellipse: s-maj=44.3km s-min=13.4km az=71.0*
*DJA **28** 06:30:34.4±0.3, 2°.N±4°.×12°.7E±°, h10km, M4.2/9, mb4.7/1, MLv4.0/9*
*NEIC **28** 06:30:34.9±1.1, 2°.2N±0°.1×126°.7E±0°.1, h43km±9km, mb4.2/17, Error

comp=Z,2.9nm,0.7s,baz=188,slow=8.7,SNR=3.3
comp=Z,2.9nm,0.7s
SONM Songino Array 48.78 342 P P 06 39 15.1 -0.5
comp=Z,0.5nm,0.5s,baz=152,slow=9.4,SNR=2.9
comp=Z,0.5nm,0.5s
MK31 Makanchi Array 58.82 326 P P 06 40 28.3 -0.7
MKAR Makanchi Array 58.82 326 P P 06 40 28.0 -1.0
MKAR Makanchi Array 58.82 326 P P 06 40 27.9 -1.1
comp=Z,0.5nm,0.5s,baz=121,slow=7.7,SNR=7.8
comp=Z,0.5nm,0.5s
LBZ Lake Benmore 60.41 145 P P 06 40 40.3 +0.3
KURBB Kurchatov Arra 63.04 328 P P 06 40 56.6 -0.9
comp=Z,1.7nm,0.9s,baz=124,slow=6.7,SNR=11
comp=Z,1.7nm,0.9s
KURK Kurchatov 63.04 328 P 06 40 56.1 -1.4
KURK IAmb IAmb 06 40 59.6
comp=Z,2.6nm,0.9s
BVAR Borovoye Array 68.61 327 P P 06 41 32.7 -0.7
comp=Z,0.6nm,0.5s,baz=128,slow=9.6,SNR=4.2
comp=Z,0.6nm,0.5s
NRIK Noril'sk 71.95 346 P P 06 41 53.4 0.0
comp=Z,1.0nm,0.4s,baz=215,slow=9.5,SNR=1.7
comp=Z,1.0nm,0.4s
ABKAR Abkulak array 73.34 321 P P 06 42 01.2 -0.8
AKTO Aktyubinsk 74.86 322 P P 06 42 10.3 -0.7
comp=Z,1.4nm,0.7s,baz=105,slow=1.9,SNR=5.2
comp=Z,1.4nm,0.7s
BRTR Keskin Array B 90.98 310 P P 06 43 35.0 +0.2
comp=Z,0.4nm,0.4s,baz=114,slow=3.5,SNR=2.2
comp=Z,0.4nm,0.4s

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*NCEDC **28** 06:34:14.5±1.2, 38°.78N±0°.01×122°.77W±0°.01, h1km±1km, ML3.0/28, ML2.8/41(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=137.0*
*NEIC **28** 06:34:14.5±2.3, 38°.76N±0°.01×122°.82W±0°.02, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.3km az=53.0*
*IDC **28** 06:34:15.2±2.8, 38°.62N×122°.79W, h0km, mbtmp2.8/5, ML3.0/5, Error ellipse: s-maj=31.3km s-min=11.4km az=48.0*
ISC 28 06:34:14.4±1.0, 38°.76N±0°.02×122°.79W±0°.03, h3km±8km, n78, σ0.97/76, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GGPM	**Geyser Peak**	**0.04**	**280**		**Pg**	**06 34 16.0**	**+0.5**
GDXM	**Geysers**	**0.05**	**359**		**Pg**	**06 34 15.2**	**-0.4**
GDXM	**Geysers**	**0.05**	**359**	IAML		06 34 16.0	
	comp=E,226μm,0.2s						
GDXM				Sg	**Sg**	**06 34 16.0**	**-0.5**
GDXM				IAML		06 34 16.0	
	comp=N,156μm,0.1s						
GAXM	**Alexander Vall**	**0.06**	**147**		**Pg**	**06 34 16.2**	**+0.5**
GBGM	**Boggs Mountain**	**0.11**	**58**		**Pg**	**06 34 16.6**	**0.0**
GSGM	**Seigler Mounta**	**0.13**	**31**		**Pg**	**06 34 17.1**	**+0.1**
GPMM	**Pine Mountain**	**0.15**	**307**		**Pg**	**06 34 17.9**	**+0.5**
NHSM	**Mount Saint He**	**0.17**	**126**		**Pg**	**06 34 18.2**	**+0.4**
GRTM	**Round Top Moun**	**0.20**	**28**		**Pg**	**06 34 18.2**	**-0.2**
NMTM	**Middletown**	**0.28**	**80**		**Pg**	**06 34 19.9**	**+0.1**
MNRC	**McLaughlin Min**	**0.30**	**66**		**Pg**	**06 34 20.7**	**+0.5**
MNRC	**McLaughlin Min**	**0.30**	**66**	IAML		06 34 26.2	
	comp=E,2μm,0.6s						
MNRC				IAML		06 34 29.4	
	comp=N,2μm,0.9s						
GHCM	**House Creek**	**0.35**	**244**		**Pb**	**06 34 22.6**	**-0.7**
OAKV	**Oakville Exper**	**0.44**	**137**		**Pg**	**06 34 23.6**	**+0.7**
CVS	**Carmenet Viney**	**0.49**	**147**		**Pg**	**06 34 24.6**	**+0.8**
CVS	**Carmenet Viney**	**0.49**	**147**	IAML		06 34 32.8	
	comp=N,993nm,0.5s						
CVS				IAML		06 34 35.7	
	comp=E,2μm,0.3s						
QRDG	**Quail Ridge Na**	**0.58**	**118**		**Pg**	**06 34 26.5**	**+0.9**
GWRM	**Wonder Ranch**	**0.60**	**319**		**Pg**	**06 34 26.5**	**+0.6**
MCCM	**Marconi Confer**	**0.62**	**186**		**Pb**	**06 34 27.7**	**-0.1**
MCCM				IAML		06 34 39.4	
	comp=E,517nm,0.7s						
MCCM				IAML		06 34 41.6	
	comp=N,531nm,0.7s						
NGVM		**0.66**	**136**		**Pb**	**06 34 28.1**	**-0.4**
GFC	**Funks Creek**	**0.69**	**35**		**Pb**	**06 34 29.9**	**+0.8**
NADM	**Allendale**	**0.71**	**115**		**Pb**	**06 34 30.0**	**+0.6**
NOLM	**Olema**	**0.72**	**180**		**Pb**	**06 34 29.5**	**-0.1**
NPRM	**Point Reyes**	**0.78**	**193**		**Pb**	**06 34 30.5**	**-0.1**
PINL	**Point Pinole R**	**0.82**	**156**		**Pb**	**06 34 31.3**	**0.0**
DCMP	**DeCamp, Califo**	**0.83**	**329**		**Pb**	**06 34 31.3**	**-0.2**
HERB	**Hercules**	**0.85**	**151**		**Pb**	**06 34 31.6**	**-0.3**
CPMM	**Point Molate**	**0.86**	**159**		**Pg**	**06 34 31.5**	**+0.6**
GTC	**Three Chop Rid**	**0.87**	**317**		**Pg**	**06 34 31.6**	**+0.5**
CPIM	**Pinole Ridge**	**0.89**	**149**		**Pb**	**06 34 32.2**	**-0.3**
OSUM	**Sutter Buttes**	**0.90**	**55**		**Pg**	**06 34 31.2**	**-0.4**
JEPS	**Jepson Natural**	**0.91**	**123**		**Pb**	**06 34 33.4**	**+0.6**
SUTB	**Sutter Butte**	**0.92**	**59**		**Pg**	**06 34 31.2**	**-0.8**
SUTB	**Sutter Butte**	**0.92**	**59**	IAML		06 34 45.5	
	comp=E,288nm,0.5s						
SUTB				IAML		06 34 49.9	
	comp=N,237nm,0.4s						
CTAM	**Taylor**	**0.95**	**140**		**Pb**	**06 34 33.5**	**-0.1**
BRK	**Berkeley--Havi**	**0.98**	**154**		**Pg**	**06 34 33.7**	**+0.6**
VAK	**Adit at Lawren**	**0.98**	**154**		**Pg**	**06 34 33.8**	**+0.6**
BKS	**Berkeley--Byer**	**0.98**	**153**		**Pg**	**06 34 33.6**	**+0.4**
JPRM	**Presidio of Sa**	**0.99**	**165**		**Pg**	**06 34 33.8**	**+0.3**
BDM	**Black Diamond**	**1.08**	**137**		**Pg**	**06 34 35.4**	**+0.2**
BGC	**Bolinger Road**	**1.10**	**148**		**Pg**	**06 34 35.0**	**-0.5**
KCPM	**Cahto Peak**	**1.11**	**327**		**Pb**	**06 34 36.4**	**0.0**
KCPM				IAML		06 35 02.1	
	comp=E,243nm,0.8s						
KCPM				IAML		06 35 13.6	
	comp=N,157nm,1.2s						
JSBM	**San Bruno Moun**	**1.12**	**164**		**Pg**	**06 34 35.7**	**-0.2**
JMGM	**Milagra Ridge**	**1.15**	**167**		**Pg**	**06 34 36.1**	**-0.3**
CSLM	**San Leandro Hi**	**1.16**	**153**		**Pg**	**06 34 36.9**	**+0.2**
SAC	**San Andreas**	**1.21**	**166**		**Pg**	**06 34 36.9**	**-0.8**
SFRE	**Sierra Foothil**	**1.25**	**66**		**Pg**	**06 34 36.2**	**-2.2**
JCHM	**Cahill Ridge**	**1.28**	**165**		**Pg**	**06 34 37.6**	**-1.4**
CNIC	**Niles Canyon**	**1.32**	**150**		**Pg**	**06 34 38.3**	**-1.5**
CVLM	**Vallecito**	**1.36**	**146**		**Pg**	**06 34 39.3**	**-1.1**
JRSC	**Jasper Ridge**	**1.42**	**162**		**Pn**	**06 34 39.0**	**-2.1**
AFDM	**Forest Hills D**	**1.44**	**82**		**Pn**	**06 34 39.2**	**-2.2**
JSFB	**Stanford Teles**	**1.44**	**160**		**Pn**	**06 34 40.6**	**-0.7**
CSTL	**Corral Hollow**	**1.51**	**137**		**Pn**	**06 34 41.1**	**-1.3**
MHC	**Mount Hamilton**	**1.68**	**147**		**Pn**	**06 34 43.6**	**-1.2**
MTOS	**Mt Oso, Westle**	**1.70**	**137**		**Pn**	**06 34 43.5**	**-1.5**
CCOB	**Coe Ranch Numb**	**1.74**	**149**		**Pn**	**06 34 44.8**	**-0.7**
JLAB	**Laurel Hill**	**1.81**	**152**		**Pn**	**06 34 44.8**	**-1.7**
JPLM	**Pleasant Valle**	**1.93**	**157**		**Pb**	**06 34 49.7**	**-0.6**
GHS	**Gilroy Hot Spr**	**1.97**	**147**		**Pn**	**06 34 47.4**	**-1.4**
CMB	**Columbia Colle**	**2.02**	**110**	Pn	**Pn**	**06 34 48.8**	**-0.7**
CMB				IAML		06 35 19.6	
	comp=N,45nm,0.6s						
BEKR	**Beckworth**	**2.19**	**59**		**Pn**	**06 34 51.9**	**+0.1**
SAO	**San Andreas Ge**	**2.26**	**151**		**Pn**	**06 34 51.8**	**-0.9**
HATC	**Hat Creek Radi**	**2.30**	**26**		**Pn**	**06 34 52.0**	**-1.3**
HATC				IAML		06 35 25.6	
	comp=N,61nm,3.5s						
HATC				IAML		06 36 09.2	
	comp=E,69nm,3.7s						
PNTR	**Pine Nut**	**2.51**	**81**	Pn	**Pn**	**06 34 57.0**	**+0.7**
PNTR				IAML		06 36 00.1	
	comp=N,48nm,1.2s						
BBGB	**Big Mountain B**	**2.58**	**147**		**Pn**	**06 34 56.6**	**-0.6**
WAKR	**Walker**	**2.64**	**94**		**Pn**	**06 34 59.3**	**+1.2**
WAKR				IAML		06 35 35.7	
	comp=E,46nm,0.7s						
WAKR				IAML		06 35 37.0	
	comp=N,35nm,0.7s						
PAHR	**Pah Rah Range**	**2.81**	**69**		**Pn**	**06 34 59.9**	**-0.5**
YBH	**Yreka Blue Hor**	**2.97**	**1**	Pn	**Pb**	**06 35 07.6**	**-0.5**
	comp=N,0.4nm,0.3s,baz=176,slow=13,SNR=6.6						
YBH				Lg	Lg	06 35 53.3	
	comp=N,0.2nm,0.3s,baz=176,slow=14,SNR=3.0						
	comp=N,1.0nm,0.4s						
PMPB	**Monarch Peak**	**2.99**	**147**	Pn	**Pn**	**06 35 01.7**	**-1.1**
RYN	**Ryan**	**3.34**	**91**		**Pn**	**06 35 07.7**	**0.0**
RYN				IAML		06 36 04.8	
	comp=E,22nm,1.1s						
RYN				IAML		06 36 04.8	
	comp=N,16nm,0.6s						
NVAR	**Mina Array Bea**	**3.53**	**94**		**Pn**	**06 35 10.9**	**+0.5**
NVAR	**Mina Array Bea**	**3.53**	**94**	Pn	**Pn**	**06 35 10.7**	**+0.3**
	comp=N,0.6nm,0.3s,baz=270,slow=15,SNR=10						
NVAR				Pg	**Pb**	**06 35 17.4**	**-0.3**
	comp=N,2.1nm,0.3s,baz=269,slow=27,SNR=26						
NVAR				Lg	Lg	06 36 05.5	
	comp=N,1.3nm,0.5s						
NV11	**Mina Array Sit**	**3.65**	**94**		**Pn**	**06 35 11.5**	**-0.4**
NV11				IAML		06 36 11.8	
	comp=N,19nm,2.2s						
NV11				IAML		06 36 38.5	
	comp=E,12nm,3.5s						
ISA	**Isabella, Lake**	**4.63**	**131**	Pn	**Pn**	**06 35 25.0**	**-0.3**
ISA				IAML		06 36 42.0	
	comp=E,8.6nm,2.6s						
ISA				IAML		06 37 03.1	
	comp=N,5.4nm,3.0s						
ELK	**Elko**	**6.15**	**69**	Pn	**Pn**	**06 35 48.3**	**+1.9**
	comp=N,0.1nm,0.3s,baz=245,slow=14,SNR=2.3						
	comp=N,0.2nm,0.3s						
PDAR	**Pinedale Array**	**10.81**	**64**	Pn	**Pn**	**06 36 54.3**	**+4.1**
	comp=N,0.1nm,0.3s,baz=251,slow=15,SNR=3.9						
	comp=N,0.4nm,0.8s						
TXAR	**Lajitas Array**	**18.40**	**115**	P	**Pn**	**06 38 30.7**	**+0.1**
	baz=318,slow=8.1,SNR=2.3						
	comp=N,0.4nm,0.9s						

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*KOLA **28** 06:39:02.6, 79°.81N×21°.66E, h0km, ML2.1, Error ellipse: s-maj=26.0km s-min=18.9km az=100.0, Spitsbergen,Barentz Sea*
*BER **28** 06:39:04.2±3.2, 80°.05N×22°.09E, h22km±12km, ML2.1, ML2.5(NAO), Confirmed Earthquake*
*NAO **28** 06:39:04.8±4.0, 79°.88N×21°.53E, h20km±16km, ML2.5*
*FCIAR **28** 06:39:09.0, 80°.19N×22°.64E, h10km, station OMEGA has station magnitude of 3.10 station ZFI2 has station magnitude of 3.00*
ISC 28 06:39:03.3±1.5, 79°.84N±0°.05×22°.29E±0°.04, h14km±10km, n22, σ1.46/50, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.02**	**217**	Pn	**Pn**	**06 39 37.4**	**+0.6**
	baz=38,slow=11						
SPA0				Pg	**Pg**	**06 39 41.4**	**-0.4**
	baz=43,slow=16						
SPA0				Sn	**Sn**	**06 40 01.8**	**0.0**
	baz=36,slow=18						
SPA0				Sg	**Sg**	**06 40 07.9**	**0.0**
	baz=40,slow=28						
SPA0	**Spitsbergen Ar**	**2.02**	**217**	Pn	**Pn**	**06 39 37.4**	**+0.6**
	baz=38,slow=11						
SPA0				Pg	**Pg**	**06 39 41.4**	**-0.4**
	baz=43,slow=16						
SPA0				Sn	**Sn**	**06 40 01.8**	**0.0**
	baz=36,slow=18						
SPA0				Lg	Lg	06 40 07.9	
	baz=40,slow=28						
SPA0	**Spitsbergen Ar**	**2.02**	**217**	*e*P	**Pn**	**06 39 37.3**	**+0.4**
SPA0				*e*S	**Sb**	**06 40 05.9**	**+1.3**
SPITS	**Spitsbergen Ar**	**2.02**	**217**	P	**Pn**	**06 39 37.5**	**+0.6**
SPITS				S	**Sn**	**06 40 02.7**	**+0.9**
KBS	**Kingsbay**	**2.12**	**250**	Pn	**Pn**	**06 39 37.7**	**-0.6**
KBS				Pg	**Pb**	**06 39 41.7**	**+0.3**
KBS				Sg	**Sb**	**06 40 07.8**	**+0.2**
KBS	**Kingsbay**	**2.12**	**250**	Pn	**Pn**	**06 39 37.7**	**-0.6**
KBS				Pg	**Pb**	**06 39 41.7**	**+0.3**
KBS				Lg	Lg	06 40 07.8	
KBS	**Kingsbay**	**2.12**	**250**	P	**Pn**	**06 39 37.4**	**-0.8**
KBS				S	**Sn**	**06 40 04.8**	**+0.4**
KBS	**Kingsbay**	**2.12**	**250**	*i* P	**Pn**	**06 39 37.5**	**-0.8**
KBS				*i* S	**Sn**	**06 40 04.0**	**-0.4**
BRBB	**Barentsburg B**	**2.34**	**226**	*e*P	**Pn**	**06 39 41.7**	**+0.4**
BRBB				*e*S	**Sn**	**06 40 08.9**	**-0.8**
BRBB				*e*Sg	**Sg**	**06 40 18.4**	**+0.1**
BRBB	**Barentsburg B**	**2.34**	**226**	Pn	**Pn**	**06 39 41.6**	**+0.3**
BRBB				Sn	**Sn**	**06 40 08.9**	**-0.8**
BRBB				Lg	Lg	06 40 17.6	
BRBB	**Barentsburg B**	**2.34**	**226**	P	**Pn**	**06 39 41.5**	**+0.2**
BRBB				S	**Sn**	**06 40 09.9**	**+0.2**
BRBA	**Barentsburg A**	**2.37**	**225**	*e*P	**Pn**	**06 39 42.1**	**+0.4**
BRBA				*e*S	**Sn**	**06 40 09.8**	**-0.6**
BRBA				*e*Sg	**Sg**	**06 40 19.6**	**+0.5**
BRBA				IAML		06 40 23.6	
	comp=Z,21nm,0.3s						
BRBA	**Barentsburg A**	**2.37**	**225**	Pn	**Pn**	**06 39 42.0**	**+0.4**
BRBA				Sn	**Sn**	**06 40 09.7**	**-0.7**
BRBA				Lg	Lg	06 40 19.2	
HSPB	**Hornsund (broa**	**3.16**	**209**	*e*P	**Pn**	**06 39 53.8**	**+1.3**
HSPB				*e*Sg	**Sg**	**06 40 43.0**	**-1.4**
HSPB				IAML		06 40 50.5	
	comp=Z,15nm,0.3s						
HSPB	**Hornsund (broa**	**3.16**	**209**	S	**Sn**	**06 40 28.9**	**-1.0**
HOPEN	**Hopen**	**3.39**	**169**	*e*P	**Pn**	**06 39 56.3**	**+0.6**
HOPEN				*e*S	**Sn**	**06 40 38.4**	**+2.8**
HOPEN				*e*Sg	**Sg**	**06 40 52.2**	**+0.3**
HOPEN				IAML		06 40 59.7	
	comp=Z,12nm,0.6s						
HOPEN	**Hopen**	**3.39**	**169**	Pn	**Pn**	**06 39 55.9**	**+0.2**
HOPEN				Sn	**Sn**	**06 40 38.5**	**+2.8**
HOPEN				Lg	Lg	06 40 54.8	
HOPEN	**Hopen**	**3.39**	**169**	*e*P	**Pg**	**06 40 07.4**	**-0.7**
HOPEN				*e*S	**Sg**	**06 40 50.9**	**-1.1**
ZFI2	**Zemlya Franca-**	**4.37**	**65**	*e*P	**Pn**	**06 40 10.4**	**+1.3**
ZFI2				*e*S	**Sn**	**06 40 57.8**	**-1.8**
	comp=Z,15nm,3.0s						
OMEGA	**Omega**	**4.38**	**65**	*e*P	**Pn**	**06 40 10.4**	**+1.2**
OMEGA				*e*S	**Sn**	**06 40 57.8**	**-2.1**
	comp=Z,19nm,3.0s						
ARA0	**ARCESS Array S**	**10.39**	**174**	Pn	**Pn**	**06 41 33.8**	**+2.1**
	baz=358,slow=10						
ARA0				Sn	**Sn**	**06 43 22.9**	**-4.8**
	baz=3.3,slow=22						
ARA0	**ARCESS Array S**	**10.39**	**174**	Pn	**Pn**	**06 41 33.8**	**+2.1**
	baz=358,slow=10						
ARA0				Sn	**Sn**	**06 43 22.9**	**-4.8**
	baz=3.3,slow=22						

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*NEIC **28** 06:44:00.9±1.0, 12°.75S±0°.04×45°.5E±0°.2, h10km±2km, mb4.2/6, Error ellipse: s-maj=27.5km s-min=5.8km az=278.0*
*IDC **28** 06:44:01.9±0.9, 12°.96S×45°.46E, h0km, mb3.8/6, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=31.3km s-min=28.6km az=75.0*
ISC 28 06:44:01.4±0.6, 12°.90S±0°.05×45°.50E±0°.07, h10km, n29, σ2.48/37, mb4.1/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.34**	**98**	P	**Pn**	**06 45 08.7**	**+1.3**
SBV				S	**Sn**	**06 45 54.6**	**-3.5**
OPO	**Ambohidratompo**	**5.87**	**164**	P	**Pn**	**06 45 30.8**	**+2.2**
OPO				S	**Sn**	**06 46 32.9**	**-3.2**
FIRM	**Firavahana**	**5.92**	**167**	P	**Pn**	**06 45 31.6**	**+2.2**
FIRM				S	**Sn**	**06 46 34.0**	**-3.4**
ATG	**Ambohiby**	**5.98**	**174**	P	**Pn**	**06 45 31.8**	**+1.6**
ATG				S	**Sn**	**06 46 36.8**	**-2.1**
ABPO	**Ambohimpanom**	**6.31**	**165**	Pn	**Pn**	**06 45 35.8**	**+1.2**
ABPO	**Ambohimpanom**	**6.31**	**165**	P	**Pn**	**06 45 36.3**	**+1.7**
ABPO				S	**Sn**	**06 46 42.2**	**-4.7**
MDSM	**Mandiavato**	**6.33**	**167**	P	**Pn**	**06 45 37.2**	**+2.3**
MDSM				S	**Sn**	**06 46 43.7**	**-3.7**
AVY	**Angavokely**	**6.37**	**161**	P	**Pn**	**06 45 37.1**	**+1.6**
DGRM	**Ambatolahisoa**	**6.38**	**172**	P	**Pn**	**06 45 37.7**	**+2.0**
DGRM				S	**Sn**	**06 46 45.2**	**-3.6**
ABM	**Ambohimiarambe**	**7.07**	**166**	P	**Pn**	**06 45 47.2**	**+1.9**
ABM				S	**Sn**	**06 47 01.5**	**-4.3**
VOI	**Vohitsoka**	**9.04**	**172**	Pn	**Pn**	**06 46 12.7**	**+0.5**
KIBK	**Kibwezi**	**12.83**	**324**		**Pn**	**06 47 00.4**	**-3.6**
KMBO	**Kilima Mbogo**	**14.27**	**324**	Pn	**Pn**	**06 47 20.6**	**-3.2**
KMBO	**Kilima Mbogo**	**14.27**	**324**	Pn	**Pn**	**06 47 24.9**	**+1.0**
	0.4nm,0.3s,baz=118,slow=17,SNR=1.8						
	1.1nm,0.3s						
LSZ	**Lusaka**	**16.96**	**260**		**Pn**	**06 47 59.0**	**-0.1**
LSZ				IAmb	IAmb	06 48 03.8	
	comp=Z,14nm,0.8s						
LODK	**Lodwar**	**19.09**	**327**	P	**P**	**06 48 21.7**	**-2.7**
LBTB	**Lobatse**	**22.32**	**234**	P	**P**	**06 48 58.9**	**-0.5**
LBTB				IAmb	IAmb	06 49 03.5	
	comp=Z,9.6nm,1.1s						
BOSA	**Boshof**	**24.49**	**227**	P	**P**	**06 49 21.2**	**+0.1**
BOSA				IAmb	IAmb	06 49 49.9	
	comp=Z,8.6nm,1.2s						
BOSA	**Boshof**	**24.49**	**227**	P	**P**	**06 49 21.9**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=58,slow=10,SNR=8.6						
	comp=Z,1.9nm,0.5s						
SUR	**Sutherland**	**29.79**	**225**	P	**P**	**06 50 08.9**	**+0.2**
KK31	**Karatay Array**	**60.25**	**21**	P	**P**	**06 54 07.8**	**-2.1**
KK31				IAmb	IAmb	06 54 18.1	
	comp=Z,1.8nm,1.1s						
KKAR	**Karatay Array**	**60.25**	**21**	P	**P**	**06 54 08.4**	**-1.5**
ABKAR	**Akbulak array**	**63.18**	**11**	P	**P**	**06 54 27.9**	**-1.6**
MKAR	**Makanchi Array**	**67.95**	**26**	P	**P**	**06 55 02.4**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=211,slow=8.1,SNR=1.8						
	comp=Z,0.2nm,0.6s						
ESDC	**Sonseca Array**	**69.63**	**321**	P	**P**	**06 55 14.0**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=115,slow=4.6,SNR=4.7						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**77.20**	**180**	P	**P**	**06 55 57.7**	**+2.3**
	comp=Z,2.1nm,1.1s,baz=262,slow=6.7,SNR=2.7						
	comp=Z,2.1nm,1.1s						
ASAR	**Alice Springs**	**83.49**	**113**	P	**P**	**06 56 32.4**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=259,slow=4.7,SNR=10						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**84.62**	**109**	P	**P**	**06 56 38.3**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=257,slow=3.6,SNR=2.7						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**147.06**	**305**	PKPbc	**PKPab**	**07 03 47.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=119,slow=2.8,SNR=2.8						

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*AEIC **28** 07:09:49.1±1.8, 52°.0N±0°.2×178°.4E±0°.1, h94km±9km, Error ellipse: s-maj=25.5km s-min=9.2km az=190.0*
NEIC 28 07:09:47.9±2.0, 51°.8N±0°.2×178°.47E±0°.08, h104km±16km, mb3.8/29, ML3.4/6, ML3.3(AEIC), Error ellipse: s-maj=27.5km s-min=5.5km az=169.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.66**	**89**		Pn	07 10 16.7	+0.4
GASW					Sn	07 10 38.2	+0.3
GANO	**Gareloi North**	**1.69**	**87**		Pn	07 10 16.9	+0.2
GANE	**Gareloi Northe**	**1.71**	**87**		Pn	07 10 17.1	+0.2
GANE					Sn	07 10 39.8	+0.8
GALAA	**Gareloi Lava P**	**1.71**	**89**		Pn	07 10 17.5	+0.6
TANO	**Tanaga North**	**2.12**	**85**		Pn	07 10 22.3	+0.2
TANO					Sn	07 10 48.8	+0.5
TASE	**Tanaga Southea**	**2.17**	**87**		Pn	07 10 22.9	+0.1
TAFP	**Tanaga Falls P**	**2.21**	**85**		Pn	07 10 23.1	-0.1
TAFP					Sn	07 10 50.3	0.0
KIMD	**Kanaga Island**	**2.67**	**88**		Pn	07 10 29.5	+0.2
KIKV	**Kanaga Island**	**2.71**	**86**		Pn	07 10 29.8	0.0
KIWB	**Kanaga Island**	**2.72**	**86**		Pn	07 10 29.9	0.0
KIRH	**Kanaga Island**	**2.76**	**85**		Pn	07 10 30.5	+0.1
SMY	**Shemya**	**2.85**	**291**		Pn	07 10 30.6	-1.1
SMY					Sn	07 11 03.1	-2.3
SMY	**Shemya**	**2.85**	**291**	IAML		07 12 08.0	
	comp=E,168nm,1.5s						
ADK	**Adak**	**3.01**	**86**	Pn	Pn	07 10 33.6	-0.2
ADK				IAML		07 11 10.3	
	comp=E,76nm,0.8s						
ADAG	**Mount Adagdak**	**3.06**	**84**		Pn	07 10 34.1	-0.3
GSCK	**Great Sitkin C**	**3.33**	**84**		Pn	07 10 37.9	-0.3
GSTR	**Great Sitkin T**	**3.40**	**82**		Pn	07 10 39.0	-0.1
ATKA	**Atka Island**	**4.55**	**82**		Pn	07 10 54.2	-0.3
ATKA	**Atka Island**	**4.55**	**82**	IAML		07 12 03.9	
	comp=E,31nm,1.4s						
ATKA				IAML		07 13 49.8	
	comp=N,28nm,1.1s						
NIKH	**Nikolski High**	**7.85**	**76**		Pn	07 11 38.9	-0.3
OKTU	**Okmok Mt. Tuli**	**8.38**	**74**		Pn	07 11 46.6	+0.2
MREP	**Makushin Rep't**	**9.19**	**71**		Pn	07 11 57.9	+0.5
UNV	**Unalaska Valle**	**9.34**	**71**		Pn	07 11 57.2	-2.1
LVA	**Lava Point**	**9.65**	**70**	Pn	Pn	07 12 04.0	+0.4
ZRO	**Akutan Zero**	**9.68**	**70**		Pn	07 12 04.8	+0.9
PEA0B	**Petropavlovsk-**	**12.74**	**284**	Pn	Pn	07 12 45.9	+0.8
O14K	**Tigyukauivet M**	**13.67**	**49**		P	07 13 00.4	-1.8
N15K	**Kwethluk River**	**14.60**	**46**	P	P	07 13 13.4	+0.8
K15K	**Wolf Creek Mou**	**15.08**	**38**	P	Pn	07 13 16.4	+1.2
O16K	**Kokwok River B**	**15.30**	**50**	P	Pn	07 13 18.9	+1.0
O16K				IAmb	IAmb	07 13 21.2	
	comp=Z,5.4nm,1.1s						
N17K	**Nushagak Hills**	**16.07**	**47**	P	P	07 13 28.6	-0.2
N17K				IAmb	IAmb	07 14 10.9	
	comp=Z,5.9nm,1.3s						
M17K	**Holitna River**	**16.31**	**44**	P	P	07 13 31.1	-0.4
M17K				IAmb	IAmb	07 13 55.7	
	comp=Z,6.0nm,1.1s						
N18K	**Kilae Creek**	**16.72**	**48**	P	P	07 13 36.7	+0.7
N18K				IAmb	IAmb	07 13 39.8	
	comp=Z,9.5nm,1.5s						
O18K	**Koktuh Hills**	**16.77**	**51**	P	P	07 13 37.3	+0.8
O18K				IAmb	IAmb	07 13 40.3	
	comp=Z,5.4nm,0.9s						
N19K	**Bonanza Creek**	**17.41**	**48**	P	Pn	07 13 44.9	+0.9
P19K	**Oil Pt**	**17.68**	**52**	P	Pn	07 13 47.0	-0.2
STLK	**Strandline Lak**	**18.85**	**47**	P	Pn	07 14 00.9	-0.2
J20K	**Nowinta River**	**18.91**	**38**	P	P	07 13 59.1	-0.9
J20K				IAmb	IAmb	07 14 02.1	
	comp=Z,4.5nm,1.3s	

NLC	Nalytchevo	3.55	244	eS	Sn	07 33 57.1	+1.2
SDLR	Sedlovina	3.74	247	eP	Pn	07 33 22.0	+4.1
SDLR				eS	Sn	07 34 02.6	+1.8
AVH	Avacha	3.82	248	eP	Pn	07 33 23.9	+4.9
AVH				eS	Sn	07 34 05.2	+2.5
KRX	Arik	3.83	249	eP	Pn	07 33 23.8	+4.6
KRX				eS	Sn	07 34 04.4	+1.5
KOK	Koryaka	3.87	248	eP	Pn	07 33 24.1	+4.5
KOK				eS	Sn	07 34 05.8	+2.0
DALK	Dalny	3.93	244	eS	Sn	07 34 06.1	+1.0
PET	Petropavlovsk	3.98	245	eS	Sn	07 34 07.3	+0.8
GNL	Ganaly	4.09	256	eP	Pn	07 33 27.4	+4.7
KRMR	Karymshinskiy	4.36	245	eP	Pn	07 33 30.8	+4.6
KRMR				eS	Sn	07 34 16.9	+1.3
OSSR	Ossora	4.48	350	eS	Sn	07 34 18.1	-0.4

IDC 28 07:37:20.1±2.3, 6°.87S×129°.21E, h0km, mb3.3/1, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=88.3km s-min=30.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.69	197	Pn	Pn	07 40 07.9	-0.4
	0.1nm,0.3s,baz=8.7,slow=13,SNR=1.6						
FITZ				Sn	Sn	07 42 05.5	-14
	0.1nm,0.3s,baz=17,slow=11,SNR=1.8						
	1.6nm,0.8s						
WRA	Warramunga Arr	13.92	160	Pn	Pn	07 40 38.7	-0.1
	0.2nm,0.3s,baz=339,slow=13,SNR=13						
WRA				Sn	Sn	07 43 02.0	-12
	0.1nm,0.3s,baz=333,slow=22,SNR=1.2						
	0.3nm,0.4s						
ASAR	Alice Springs	17.30	165	P	Pn	07 41 23.6	+0.4
	0.1nm,0.3s,baz=338,slow=9.8,SNR=7.4						
ASAR				S	Sn	07 44 27.0	-9.5
	0.1nm,0.4s,baz=358,slow=28,SNR=1.7						
	0.2nm,0.5s						
MKAR	Makanchi Array	67.69	327	P	P	07 48 19.3	0.0
	0.2nm,0.5s,baz=120,slow=8.2,SNR=2.1						
	0.2nm,0.5s						

*MDD **28** 07:41:46.7±0.3, 42°.99N×5°.80E, h0km, Mb3.7/11, M_mb2.9/11, Error ellipse: s-maj=3.1km s-min=1.8km az=143.0*
*STR **28** 07:41:47.7±0.6, 43°.N±3°.×°.±°., h0km, MLv2.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=13.9, preliminary*
*ROM **28** 07:41:56.9±0.3, 43°.51N±0°.03×6°.53E±0°.05, h0km, ML1.9/14, Error ellipse: s-maj=5.3km s-min=0.4km az=311.0*

ISC 28 07:41:46.4±1.1, 43°.09N±0°.05×5°.81E±0°.03, h0km, n68, σ0°.79/90, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLAF	Flassans-sur-l	0.43	48	Pg	Pb	07 41 56.3	-0.7
FLAF				Sg	Sb	07 42 02.2	-1.8
LEPF	PUYLOUBIER	0.44	349	Pg	Pg	07 41 55.8	+1.1
LEPF				Sg	Sb	07 42 01.8	-2.4
ARTF	Artigues	0.49	359	Pg	Pb	07 41 57.0	-1.0
ARTF				Sg	Sg	07 42 03.0	+0.7
ARBF	Arbois	0.53	319	Pg	Pg	07 41 57.2	+0.7
ARBF				Sg	Sg	07 42 04.2	+0.8
TRIGF	Trigance	0.79	33	Pg	Pb	07 42 02.6	-0.4
TRIGF				Sg	Sb	07 42 12.3	-1.9
BSTF	la Bastide-des	0.80	351	Pg	Pg	07 42 01.6	-0.1
BSTF				Sg	Sg	07 42 10.9	-1.1
BLAF	les Blancs	0.87	11	Pg	Pb	07 42 04.7	+0.2
BLAF				Sg	Sb	07 42 15.4	-1.3
RUSF	Rustrel	0.88	344	Pg	Pb	07 42 04.2	-0.4
RUSF				Sg	Sb	07 42 16.1	-0.8
MLYF	Mely	0.90	358	Pg	Pb	07 42 05.2	+0.4
MLYF				Sg	Sb	07 42 16.3	-1.1
SAUF	chteau de Sau	0.99	329	Pg	Pb	07 42 06.7	+0.3
SAUF				Sg	Sb	07 42 20.1	+0.1
SALSA	La sagne	1.01	39	Pg	Pb	07 42 06.9	0.0
SALSA				Sg	Sb	07 42 20.0	-0.8
CALF	Calern	1.04	50	Pg	Pb	07 42 07.8	+0.4
CALF				Sg	Sb	07 42 21.7	0.0
EILF	Villa Eilenroc	1.06	64	Pg	Pb	07 42 08.7	+1.1
EILF				Sg	Sb	07 42 22.9	+0.8
EILF	Villa Eilenroc	1.06	64	P	Pn	07 42 09.4	+0.8
OGDI	Digne	1.08	19	Pg	Pb	07 42 08.3	+0.3
OGDI				Sg	Sb	07 42 21.0	-1.6
MVIF	Mont Vial	1.26	50	Pg	Pb	07 42 11.4	+0.2
MVIF				Sg	Sn	07 42 28.6	-0.6
MVIF	Mont Vial	1.26	50	P	Pn	07 42 11.9	+0.5
MON	Monaco	1.34	61	Pg	Pn	07 42 12.9	+0.6
MON				Sg	Sn	07 42 31.1	+0.3
ESCA	l'Escarene	1.35	56	Pg	Pg	07 42 12.5	+0.1
ESCA				Sg	Sn	07 42 31.7	+0.4
ESCA	l'Escarene	1.35	56	P	Pb	07 42 13.0	+0.3
ISO	Isola	1.41	39	Pg	Pn	07 42 14.0	+0.6
ISO				Sg	Sn	07 42 32.7	-0.1
ISO	Isola	1.41	39	P	Pn	07 42 14.3	+0.9
SPIF	crte de Spivo	1.41	47	Pg	Pg	07 42 13.5	0.0
SPIF				Sg	Sn	07 42 33.2	+0.3
BURY	Giardini Botan	1.45	61	Pg	Pg	07 42 14.5	+0.4
BURY	Giardini Botan	1.45	61	P	Pn	07 42 14.4	+0.6
BURY	Giardini Botan	1.45	61	P	Pn	07 42 14.3	+0.6
TURF	col de Turini	1.45	52	Pg	Pb	07 42 14.7	+0.4
TURF				Sg	Sn	07 42 33.9	+0.1
TURF	col de Turini	1.45	52	P	Pn	07 42 14.4	+0.4
OGAG	Argentiere	1.46	21	Pn	Pb	07 42 19.6	+5.1
OGAG				Sn	Sn	07 42 42.7	+8.7
OGAG	Argentiere	1.46	21	P	Pb	07 42 21.3	+6.8
JAUF	Jausiers	1.50	27	Pg	Pb	07 42 15.3	+0.1
JAUF				Sg	Sn	07 42 35.6	+0.6
SAOF	Saorge	1.55	54	Pn	Pn	07 42 16.0	+0.7
SAOF				Sn	Sn	07 42 37.3	+1.1
SAOF	Saorge	1.55	54	P	Pn	07 42 15.9	+0.7
SAOF				AML	AML		
	comp=E,42μm,1.6s						
SAOF				AML	AML		
	comp=N,47μm,0.5s						
SAOF				AML	AML		
	comp=E,34μm,1.4s						
SAOF				AML	AML		
	comp=N,44μm,1.2s						
SAOF				AML	AML		
	comp=E,37μm,0.5s						
SAOF				AML	AML		
	comp=N,47μm,0.5s						
SURF	Saint Ours	1.56	27	Pn	Pb	07 42 16.4	+0.1
SURF				Sn	Sn	07 42 36.4	-0.3
SURF	Saint Ours	1.56	27	P	Pb	07 42 16.5	+0.1
CREF	Crivoux	1.57	22	Pn	Pg	07 42 16.3	-0.1
CREF				Sn	Sn	07 42 36.3	-0.5
STV	Sant Anna di V	1.59	43	Pn	Pb	07 42 16.8	+0.1
STV	Sant Anna di V	1.59	43	Sn	Sn	07 42 38.5	+1.3
STV	Sant Anna di V	1.59	43	P	Pn	07 42 16.4	+0.5
STV	Sant Anna di V	1.59	43	P	Pn	07 42 16.4	+0.5
STV				AML	AML		
	comp=E,33μm,0.6s						
STV				AML	AML		
	comp=N,47μm,0.5s						
STV				AML	AML		
	comp=E,29μm,0.5s						
STV				AML	AML		
	comp=N,42μm,0.3s						
STV				AML	AML		
	comp=E,33μm,0.3s						
ENR	Entracque	1.63	45	Pn	Pn	07 42 16.8	+0.5
ENR	Entracque	1.63	45	P	Pn	07 42 16.9	+0.5
ENR	Entracque	1.63	45	P	Pn	07 42 16.9	+0.5
ENR				AML	AML		
	comp=E,64μm,0.5s						
ENR				AML	AML		
	comp=N,67μm,1.0s						
ENR				AML	AML		
	comp=E,65μm,0.5s						
ENR				AML	AML		
	comp=E,64μm,0.3s						
ENR				AML	AML		
	comp=N,57μm,0.3s						
PIAF	les Granges de	1.66	51	Pn	Pn	07 42 17.4	+0.5
PIAF				Sn	Sg	07 42 39.5	-0.3
PZZ	Stroppo	1.70	33	Pn	Pb	07 42 18.6	0.0
PZZ	Stroppo	1.70	33	Sn	Sn	07 42 39.5	-0.4
PZZ	Stroppo	1.70	33	P	Pb	07 42 18.7	+0.1
PZZ	Stroppo	1.70	33	P	Pb	07 42 18.6	0.0
PZZ				AML	AML		
	comp=N,84μm,0.6s						
PZZ				AML	AML		
	comp=E,90μm,0.6s						
PZZ				AML	AML		
	comp=N,75μm,0.5s						
PZZ				AML	AML		
	comp=E,90μm,0.6s						
PZZ				AML	AML		
	comp=N,83μm,0.6s						
IMI	Imperia	1.72	61	P	Pn	07 42 17.7	+0.1
MGRO	Montegrosso	1.73	56	Sn	Sb	07 42 41.4	-0.2
MGRO	Montegrosso	1.73	56	Pn	Pn	07 42 18.7	+0.8
GBOS	Grotte di Boss	1.87	51	Pn	Pn	07 42 20.3	+0.7
GBOS	Grotte di Boss	1.87	51	P	Pn	07 42 20.4	+0.7
GBOS	Grotte di Boss	1.87	51	P	Pn	07 42 20.4	+0.7
GBOS				AML	AML		
	comp=E,33μm,0.1s						
GBOS				AML	AML		
	comp=N,41μm,0.4s						
RORO	Rocca Rossa	1.93	57	P	Pn	07 42 20.3	-0.1
RORO	Rocca Rossa	1.93	57	P	Pn	07 42 20.3	-0.1
RRL	Rocca Remolon	1.96	21	Pn	Pb	07 42 22.9	-0.1
RRL	Rocca Remolon	1.96	21	Sn	Sn	07 42 46.1	-0.4
RRL	Rocca Remolon	1.96	21	P	Pg	07 42 23.9	0.0
CLAF	Gruissan	1.99	272	Pn	Pn	07 42 23.7	+2.4
BHB	Bricherasio	2.04	30	Pn	Pb	07 42 23.6	-0.7
BHB	Bricherasio	2.04	30	Sn	Sn	07 42 47.9	-0.2
BHB	Bricherasio	2.04	30	P	Pn	07 42 23.2	+1.2
CANO	Canova, Maglio	2.08	57	P	Pn	07 42 22.7	+0.1
QLNO	Quiliano	2.21	55	P	Pn	07 42 25.4	+1.0
PCP	Piancastagn	2.45	53	P	Pn	07 42 28.1	+0.5
SARZ	Sarezzano	2.85	51	AML	AML		
	comp=E,163μm,0.3s						
SARZ				AML	AML		
	comp=E,180μm,0.2s						
SARZ				AML	AML		
	comp=N,242μm,0.2s						
SARZ				AML	AML		
	comp=N,188μm,0.3s						
ETOS	Mallorca	4.01	215	Pn	Pn	07 42 46.9	-2.2
ETOS				Sn	Sn	07 43 29.9	-7.0

IDC 28 08:02:44.2±53.0, 16°.04S×179°.48W, h0km, mb3.8/3, mbtmp3.8/3, MS3.9/2, Error ellipse: s-maj=962.6km s-min=147.4km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.60	244	LR	LR	08 10 07.9	
	comp=Z,656nm,20.2s,baz=299,slow=30						
PPT	Papeete	28.65	97	LR	LR	08 16 30.6	
	comp=Z,226nm,21.5s,baz=258,slow=29						
STKA	Stephens Creek	38.68	239	P	P	08 10 09.9	0.0
	1.3nm,0.4s,baz=63,slow=6.8,SNR=9.7						
	1.3nm,0.4s						
WRA	Warramunga Arr	44.00	258	P	P	08 10 54.1	+0.3
	0.2nm,0.4s,baz=91,slow=7.8,SNR=6.5						
	0.2nm,0.4s						
ASAR	Alice Springs	44.35	252	P	P	08 10 56.0	-0.6
	1.1nm,0.5s,baz=88,slow=8.3,SNR=29						
	1.1nm,0.5s						

*NEIC **28** 08:04:00.3±1.4, 18°.2S±0°.1×178°.4W±0°.1, h590km±6km, mb4.8/153, Error ellipse: s-maj=16.2km s-min=13.6km az=161.0*
*NOU **28** 08:04:00.9, 18°.10S×178°.40W, h595km, mb4.9/91, Fiji Islands Region*
*IDC **28** 08:04:01.3±0.7, 18°.13S×178°.42W, h601km±7km, mb4.1/20, mbtmp5.1/23, Error ellipse: s-maj=11.0km s-min=10.0km az=166.0*
*MOS **28** 08:04:01.0±1.7, 18°.04S×178°.51W, h603km, mb4.9/27, Error ellipse: s-maj=9.7km s-min=8.9km az=114.8*
*GCMT **28** 08:04:03.3±0.4, 18°.18S±0°.04×178°.35W±0°.03, h602km±3km, MW5.2/78, Moment Tensor Solution. s78,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.52±.24; Mθθ-2.82±.50; Mφφ-3.70±.45; Mrθ3.59±.54; Mθφ-1.18±.44; Mφr3.44±.51; Best double couple: M0 7.41800×10^16 NP1:φs214.00000°, δ24.00000°, λ82.00000°. NP2:φs42.00000°, δ66.00000°, λ93.00000°. Principal axes: T 8.4450, Plg69.0000°, Azm319.0000°; N -2.0540, Plg3.0000°, Azm221.0000°; P -6.3910, Plg21.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 28 08:04:00.8±0.4, 18°.18S±0°.04×178°.38W±0°.04, h603km±4km, h605km: pP-P, n943, σ1s02/989, mb4.8/134, 79C-63D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.43	277	P	P	08 05 22.8	0.0
MSVF	Nonsavu	3.43	277	P	P	08 05 23.0	+0.1
	521nm,0.5s,baz=157,slow=4.0,SNR=850						
MSVF				S	S	08 06 30.4	+0.7
	232nm,1.0s,baz=300,slow=22,SNR=13						
MSVF	Nonsavu	3.43	277	P	P	08 05 22.6	-0.3
FUTU	Fugatoga	3.86	4	P	P	08 05 24.2	-1.5
FUTU	Fugatoga	3.86	4	P	P	08 05 24.7	-1.0
NIUE	Niue	8.06	98	P	P	08 05 59.9	-0.9
NIUE	Niue	8.06	98	P	P	08 06 01.2	+0.3
NIUE	Niue	8.06	98	S	S	08 07 40.3	+1.1
NIUE	Niue	8.06	98	P	P	08 06 00.1	-0.8
NIUE				S	S	08 07 42.4	+3.1
GLKZ	Green Lake	11.04	178	P	P	08 06 28.9	-0.9
GLKZ				S	S	08 08 31.9	-0.3
INH	Isangel	11.77	261	P	P	08 06 37.5	+0.2
DVP	Devils Point	12.79	270	P	P	08 06 46.4	-1.1
PINNC	Pines Island,	14.00	249	P	P	08 06 59.1	-0.5
PINNC	Pines Island,	14.00	249	P	P	08 06 59.4	-0.2
OUENC	Ouen Island, N	14.49	251	P	P	08 07 03.5	-0.7
DZM	Mont Dzumac	14.77	252	P	P	08 07 06.4	-0.5
DZM	Mont Dzumac	14.77	252	eP	P	08 07 05.3	-1.6
	138nm,1.2s						
DZM				eS	S	08 09 38.5	-0.2
	95nm,1.2s						
DZM	Mont Dzumac	14.77	252	P	P	08 07 05.8	-1.1
	37nm,0.7s,baz=120,slow=9.5,SNR=46						
DZM				S	S	08 09 36.7	-2.0
	39nm,1.2s,baz=335,slow=11,SNR=3.8						
DZM	Mont Dzumac	14.77	252	P	P	08 07 06.0	-0.9
ONTNC	Ouen Toro	14.81	251	P	P	08 07 06.6	-0.5
KOUNC	Koumac, New Ca	16.52	259	P	P	08 07 24.0	+1.1
RAR	Rarotonga	17.78	103	P	P	08 07 34.1	-0.2
RAR	Rarotonga	17.78	103	P	P	08 07 34.2	-0.1
	78nm,0.9s,baz=252,slow=5.6,SNR=13						
RAR	Rarotonga	17.78	103	P	P	08 07 35.0	+0.7
RAR	Rarotonga	17.78	103	P	P	08 07 34.1	-0.2
OUZ	Omahuta	18.41	201	P	P	08 07 42.4	+2.5
GRZ	Great Barrier	18.80	196	P	P	08 07 45.1	+1.7
WCZ	Waipu Caves	18.82	199	P	P	08 07 46.2	+2.6
HAZ	Te Kaha	19.79	189	P	P	08 07 51.4	-1.0
PUZ	Puketiti	20.03	188	P	P	08 07 53.9	-0.7
TOZ	Tahuroa Road	20.20	194	P	P	08 07 56.8	+0.8
TOZ	Tahuroa Road	20.20	194	P	P	08 07 57.7	+1.7
KMRZ	Kaimai	20.21	193	P	P	08 07 57.7	+1.5
URZ	Urewera	20.39	190	P	P	08 07 55.5	-2.2
	13nm,0.4s,baz=22,slow=2.7,SNR=30						
URZ				S	S	08 11 10.1	+1.2
	3.1nm,0.4s,baz=217,slow=22,SNR=1.9						
URZ	Urewera	20.39	190	P	P	08 07 55.0	-2.7
MWZ	Matawai	20.39	189	P	P	08 07 55.9	-2.0
RTZ	Ruatahuna	20.76	190	P	P	08 08 00.0	-1.1
TLZ	Tolley Road	20.77	194	P	P	08 08 02.9	+1.8
NMHZ	Naumai	21.26	190	P	P	08 08 04.6	-1.0
BKZ	Black Stump Fm	21.38	191	P	P	08 08 04.2	-2.4
TMVZ	Te Maari	21.48	193	P	P	08 08 06.2	-1.5
SNVZ	South Ngauruho	21.57	193	P	P	08 08 07.3	-1.2
KWHZ	Kaweka Forest	21.64	191	P	P	08 08 07.0	-2.0
VRZ	Vera Road	21.70	195	P	P	08 08 10.2	+0.7
PKVZ	Pokaka	21.73	193	P	P	08 08 09.3	-0.5
PXZ	Pawanui	22.16	190	P	P	08 08 12.2	-1.3
WAZ	Wanganui	22.25	194	P	P	08 08 12.5	-1.9
DVHZ	Dannevirke	22.54	191	P	P	08 08 15.5	-1.5
ANWZ	Angora Road	22.64	190	P	P	08 08 16.8	-1.0
BFZ	Birch Farm	22.89	191	P	P	08 08 18.7	-1.4
SAVO	Savo Central	22.99	290	P	P	08 08 21.6	+0.3
MRZ	Mangatainoka R	23.00	192	P	P	08 08 18.1	-2.9
HOWZ	Holdsworth Sta	23.24	192	P	P	08 08 21.3	-1.9
TATA	Tatamba Isabel	23.33	292	P	P	08 08 23.8	-0.5
CAW	Cannon Point	23.53	192	P	P	08 08 24.5	-1.2
PAWZ	Paruwai Farm	23.72	192	P	P	08 08 26.2	-1.3
MSWZ	Moikau Station	23.79	192	P	P	08 08 26.5	-1.5
TCW	Tory Channel	23.80	194	P	P	08 08 27.4	-0.7
SNZO	South Karori	23.80	193	P	P	08 08 26.7	-1.3
BHW	Baring Head	23.86	193	P	P	08 08 27.6	-1.0
QRZ	Quartz Range	23.88	197	P	P	08 08 29.8	+1.0
QRZ	Quartz Range	23.88	197	P	P	08 08 29.5	+0.6
PLWZ	Palliser	23.94	192	P	P	08 08 27.8	-1.5
TKNZ	Takaka Hill	23.96	196	P	P	08 08 29.6	+0.1
NNZ	Nelson	24.02	195	P	P	08 08 29.7	-0.4
TUWZ	Tuamarina	24.09	194	P	P	08 08 29.5	-1.1
MRNZ	Matariki Terra	24.35	196	P	P	08 08 32.2	-0.8
MRNZ	Matariki Terra	24.35	196	P	P	08 08 32.7	-0.3
THZ	Tophouse	24.66	196	P	P	08 08 35.2	-0.5
KHZ	Kahutara	25.12	194	P	P	08 08 38.4	-1.3
GVZ	Greta Valley S	25.76	195	P	P	08 08 44.2	-1.2
LTZ	Lake Taylor	25.77	196	P	P	08 08 44.3	-1.3
LTZ	Lake Taylor	25.77	196	P	P	08 08 44.2	-1.4
INZ	Inchbonnie	25.95	197	P	P	08 08 46.0	-0.9
INZ	Inchbonnie	25.95	197	P	P	08 08 46.5	-0.5
OXZ	Oxford	26.34	196	P	P	08 08 50.1	-0.4
WVZ	Waitaha Valley	26.47	198	P	P	08 08 51.2	-0.4
MQZ	McQueen's Vall	26.55	195	P	P	08 08 51.2	-1.0
RPZ	Rata Peaks	26.97	197	P	P	08 08 54.7	-1.2
FOZ	Fox Glacier	27.17	199	P	P	08 08 56.8	-0.8
PAE	Paea	27.40	93	eP	P	08 08 59.6	-0.4
	47nm,1.3s						
PPT2	Papeete2	27.41	93	eS	S	08 12 51.6	-8.2
	64nm,22.2s						
PPT2				eSS	sS	08 15 45.5	-12
	374nm,26.0s						
PPT2				eSS	SS	08 15 52.4	-12
	283nm,22.8s						
PPT	Papeete	27.41	93	P	P	08 09 01.1	+0.9
	44nm,0.6s,baz=321,slow=1.5,SNR=8.5						
	44nm,0.6s						
PPTF	Pamatai, Papee	27.42	93	P	P	08 09 01.1	+0.8
TBI	Tubuai	27.50	106	eP	P	08 09 02.3	+1.4
	260nm,1.3s						
TBI				eS	S	08 12 59.8	-1.1
	534nm,29.5s						
TBI				eSS	sS	08 15 57.1	-1.1
	1μm,25.2s						
TMZ	Timaru	27.60	197	P	P	08 08 59.9	-1.6
TVO	Taravao	27.70	94	eP	P	08 09 03.4	+0.7
	23nm,0.8s						
LBZ	Lake Benmore	27.83	198	P	P	08 09 01.6	-1.9
JCZ	Jackson Bay	27.98	200	P	P	08 09 04.7	-0.2
JCZ	Jackson Bay	27.98	200	P	P	08 09 04.4	-0.5
ODZ	Otahua Downs	28.31	197	P	P	08 09 06.7	-0.9
WKZ	Wanaka	28.58	199	P	P	08 09 09.4	-0.6
MSZ	Milford Sound	28.80	201	P	P	08 09 11.8	0.0
TW1H	Toowoomba 1 Ha	28.80	246	P	P	08 09 13.4	+1.2
EAZ	Earnscleugh	28.86	198	P	P	08 09 11.8	-0.6
EIDS	Eidsvold	29.20	250	P	P	08 09 15.1	-0.5
EIDS				IAmb	IAmb	08 09 16.4	
	comp=Z,17nm,0.7s						
EIDS	Eidsvold	29.20	250	P	P	08 09 15.8	+0.2
MLZ	Mavora Lakes	29.35	200	P	P	08 09 17.0	+0.4
TUZ	Tuapeka	29.43	197	P	P	08 09 17.4	+0.3
DCZ	Deep Cove	29.75	201	P	P	08 09 20.1	+0.1
ARMA	Armidale	29.83	240	P	P	08 09 21.2	+0.1
ARMA				IAmb	IAmb	08 09 22.8	
	comp=Z,20nm,0.7s						
ARMA	Armidale	29.83	240	P	P	08 09 22.3	+1.2
WHZ	Wether Hill Ro	29.87	199	P	P	08 09 21.0	-0.1
WHZ				IAmb	IAmb	08 09 24.2	
	comp=Z,25nm,1.0s						
WHZ	Wether Hill Ro	29.87	199	P	P	08 09 21.0	-0.1
SYZ	Scrubby Hill	30.10	197	P	P	08 09 23.4	+0.5
APZ	The Paps	30.70	198	P	P	08 09 28.7	+0.5
CNB	Canberra Magne	33.28	233	P	P	08 09 51.5	+1.2
CAN	Canberra	33.56	233	P	P	08 09 52.9	+0.3
CAN				IAmb	IAmb	08 09 54.2	
	comp=Z,19nm,0.6s						
CAN	Canberra	33.56	233	P	P	08 09 53.5	+0.9
CAN	Canberra	33.56	233	P	P	08 09 52.9	+0.3
CAN				pmax	pmax		
	comp=Z,19nm,0.6s						
CAN	Canberra	33.56	233	P	P	08 09 53.4	+0.8
PMG	Port Moresby	34.53	280	P	P	08 10 01.1	+0.2
	comp=Z,13nm,0.6s,baz=62,slow=9.2,SNR=6.5						
	comp=Z,13nm,0.6s						
PMG	Port Moresby	34.53	280	P	P	08 10 01.1	+0.2
CMSA	Cobar Meteorol	35.04	241	P	P	08 10 05.4	+0.5
QLP	Quilpie	35.46	250	P	P	08 10 08.7	+0.3
TOO	Toolangi	37.02	231	P	P	08 10 21.3	+0.2
TOO				IAmb	IAmb	08 10 22.9	
	comp=Z,12nm,0.7s						
TOO	Toolangi	37.02	231	P	P	08 10 21.3	+0.2
TOO				pmax	pmax		
	comp=Z,12nm,0.7s						
COEN	Coen	37.13	271	P	P	08 10 22.4	+0.1
COEN				IAmb	IAmb	08 10 42.2	
	comp=Z,16nm,0.8s						
COEN	Coen	37.13	271	P	P	08 10 22.8	+0.5
CORO	Coronation Par	37.47	224	P	P	08 10 26.3	+1.7
MOO	Moorlands	37.91	223	P	P	08 10 28.6	+0.4
TAOE	Nuku Hiva Isla	38.24	81	P	P	08 10 31.8	+0.4
TAOE	Nuku Hiva Isla	38.24	81	P	P	08 10 32.2	+0.8
STKA	Stephens Creek	38.52	241	P	P	08 10 33.9	+0.6
STKA	Stephens Creek	38.52	241	P	P	08 10 34.1	+0.8
	comp=Z,21nm,0.6s,baz=88,slow=9.0,SNR=45						
STKA				PcP	PcP	08 12 31.3	+1.2
	comp=Z,2.7nm,0.6s,baz=77,slow=2.6,SNR=4.1						
	comp=Z,21nm,0.6s						
STKA	Stephens Creek	38.52	241	P	P	08 10 34.3	+1.0
STKA	Stephens Creek	38.52	241	i P	P	08 10 32.6	-0.7
INKA	Innaminka	38.67	248	P	P	08 10 35.8	+1.3
ARPS	Mount Arapiles	39.51	234	P	P	08 10 41.8	+0.7
RKT	Rikitea	40.80	105	eP	P	08 10 53.1	+1.5
	comp=Z,72nm,0.9s						
RKT				eSS	sS	08 19 34.6	+5.1
	comp=Z,889nm,29.2s						
HTT	Hallett	41.03	240	P	P	08 10 53.9	+0.6
LCRK	Leigh Creek	41.16	244	P	P	08 10 54.7	+0.4
WHYH	Whyalla	42.07	241	P	P	08 11 02.1	+0.7
OOD	Oodnadatta	43.14	249	P	P	08 11 10.8	+0.9
BBOO	Buckleboo	43.30	241	P	P	08 11 11.5	+0.5
BBOO				IAmb	IAmb	08 11 12.2	
	comp=Z,34nm,0.

ASAR S **S** **08 17 15.3 -1.4**
comp=Z,6.2nm,1.1s,baz=92,slow=15,SNR=22
ASAR PKiKP **PKiKP** **08 19 47.1 -1.0**
comp=Z,0.4nm,0.5s,baz=85,slow=1.4,SNR=2.3
comp=Z,54nm,0.7s
KDU Kakadu 47.58 269 P **P** **08 11 43.4 -0.3**
GUMO Guam 48.07 309 P **P** **08 11 47.4 +0.1**
GUMO Guam 48.07 309 P **P** **08 11 47.4 +0.1**
GUMO pmax pmax
comp=Z,190nm,0.9s
GUMO Guam 48.07 309 P **P** **08 11 47.4 +0.1**
GUMO pP **pP** **08 13 32.0 -3.1**
MTN Manton Dam 48.82 269 P **P** **08 11 51.9 -1.1**
MTN IAmb IAmb 08 11 53.5
comp=Z,30nm,0.9s
MTN Manton Dam 48.82 269 P **P** **08 11 52.2 -0.7**
WRKA Warakurna 49.79 252 P **P** **08 11 59.7 -0.3**
FORT Forrest 49.91 245 P **P** **08 12 00.5 -0.2**
FORT Forrest 49.91 245 P **P** **08 12 00.3 -0.4**
KNRA Kununurra 50.49 264 P **P** **08 12 04.3 -0.8**
KNRA IAmb IAmb 08 12 05.6
comp=Z,32nm,1.0s
FITZ Fitzroy Crossi 53.01 261 P **P** **08 12 22.7 -0.5**
SOEI Soe 56.10 270 P **P** **08 12 45.5 +0.6**
SOEI Soe 56.10 270 P **P** **08 12 45.8 +0.9**
TNTI Ternate 56.55 283 P **P** **08 12 47.4 -0.5**
TNTI IAmb IAmb 08 12 48.9
comp=Z,76nm,1.0s
TNTI Ternate 56.55 283 P **P** **08 12 48.3 +0.4**
SANI Sanana 56.81 280 P **P** **08 12 49.3 -0.4**
PSA00 Pilbara Seismi 57.87 256 P **P** **08 12 55.6 -1.1**
PSA00 IAmb IAmb 08 12 57.2
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 57.87 256 P **P** **08 12 55.9 -0.9**
PSA00 IAmb IAmb 08 12 57.2
comp=Z,12nm,0.9s
PSA00 Pilbara Seismi 57.87 256 P **P** **08 12 56.4 -0.3**
MBWA Marble Bar 58.03 256 P **P** **08 12 57.0 -0.8**
MBWA Marble Bar 58.03 256 P **P** **08 12 57.5 -0.3**
MBWA Marble Bar 58.03 256 P **P** **08 12 57.1 -0.8**
KLBR Kellerberrin 58.73 244 P **P** **08 13 02.6 +0.2**
VNDA Vanda 60.17 185 P **P** **08 13 12.1 +1.0**
VNDA Vanda 60.17 185 P **P** **08 13 12.3 +1.2**
comp=Z,3.5nm,0.7s,baz=351,slow=6.5,SNR=11
comp=Z,3.5nm,0.7s
VNDA Vanda 60.17 185 P **P** **08 13 12.1 +1.0**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 60.17 185 P **P** **08 13 12.3 +1.2**
LUWI Luwuk 60.18 280 P **P** **08 13 12.3 +0.1**
LUWI IAmb IAmb 08 13 13.7
comp=Z,98nm,1.1s
LUWI Luwuk 60.18 280 P **P** **08 13 12.9 +0.7**
MORW Morawa 60.40 246 P **P** **08 13 12.7 -0.8**
KAPI Kappang 61.74 274 P **P** **08 13 21.9 -0.5**
KAPI Kappang 61.74 274 *i* P **P** **08 13 21.0 -1.4**
KAPI pmax pmax
comp=Z,22nm,1.1s
PLAI Plampang 62.52 269 P **P** **08 13 27.5 0.0**
TOLI2 Tolitoli 62.79 281 P **P** **08 13 30.3 +1.1**
GIRL Giralia 62.84 253 P **P** **08 13 29.4 0.0**
CCD Concordia, Ant 64.61 194 P **P** **08 13 41.0 +0.8**
CCD PcP **PcP** **08 14 08.4 +0.6**
CCD pP **pP** **08 15 37.3 -1.1**
JHJ2 Mitsune 64.78 322 P **P** **08 13 41.1 -0.2**
CASY Casey 65.90 205 P **P** **08 13 48.3 +0.5**
JAGI Jajag, Banyuwa 66.06 269 P **P** **08 13 48.9 -0.9**
JAGI Jajag, Banyuwa 66.06 269 P **P** **08 13 48.8 -1.0**
MYLDM Lahad Datu 66.40 284 **P** **08 13 52.5 +0.6**
MYLDM IAmb IAmb 08 13 55.7
comp=Z,57nm,1.2s
MYLDM Lahad Datu 66.40 284 P **P** **08 13 52.8 +0.9**
JGF Kuroka 67.97 322 P **P** **08 14 00.1 -0.9**
JGF Kuroka 67.97 322 P **P** **08 14 01.4 +0.3**
INU Inuyama 67.99 322 P **P** **08 14 01.4 +0.2**
MJAR Matsushiro Arr 68.14 323 P **P** **08 14 01.7 -0.4**
comp=Z,26nm,0.8s,baz=157,slow=5.8,SNR=43
comp=Z,26nm,0.8s
MAJO Matsushiro 68.14 323 P **P** **08 14 01.5 -0.6**
MAJO IAmb IAmb 08 14 02.6
comp=Z,32nm,0.7s
MAJO Matsushiro 68.14 323 P **P** **08 14 02.1 0.0**
MAJO Matsushiro 68.14 323 *i* P **P** **08 14 01.7 -0.4**
MAJO pmax pmax
comp=Z,30nm,0.7s
MAJO Matsushiro 68.14 323 P **P** **08 14 01.8 -0.4**
MJB9 Matsu-Tunnel 68.15 323 **P** **08 14 02.6 +0.5**
MJB9 IAmb IAmb 08 14 03.6
comp=Z,31nm,0.7s
JMN Monobe 68.81 319 P **P** **08 14 06.6 +0.4**
JMN IAmb IAmb 08 14 08.4
comp=Z,44nm,0.9s
JMN Monobe 68.81 319 P **P** **08 14 07.3 +1.1**
KKM Kota Kinabalu 68.83 284 P **P** **08 14 06.1 -0.8**
KKM IAmb IAmb 08 14 07.9
comp=Z,24nm,0.8s
JSD Sado 69.18 325 P **P** **08 14 08.5 +0.3**
ATKA Atka Island 70.18 3 P **P** **08 14 12.9 -0.9**
ATKA Atka Island 70.18 3 P **P** **08 14 13.2 -0.6**
JNU Nakatsue 70.36 316 P **P** **08 14 16.7 +1.3**
JNU IAmb IAmb 08 15 25.7
comp=Z,76nm,1.7s
JNU Nakatsue 70.36 316 P **P** **08 14 15.8 +0.4**
YOJ Yonaguni jima 71.12 305 P **P** **08 14 19.5 -0.5**
YOJ Yonaguni jima 71.12 305 P **P** **08 14 19.5 -0.5**
YOJ pmax pmax
comp=Z,165nm,1.3s
SBUM Sibu 71.27 279 P **P** **08 14 21.6 +0.5**
SBUM Sibu 71.27 279 P **P** **08 14 21.7 +0.5**
NIKH Nikolski High 71.34 6 P **P** **08 14 19.4 -1.2**
baz=190
JKA Kamikawa-asahi 71.53 331 P **P** **08 14 22.6 +0.7**
ASAJ Asahikawa 71.53 331 P **P** **08 14 22.7 +0.8**
ASAJ pmax pmax
comp=Z,257nm,1.8s
QSPA South Pole Qui 71.87 180 **P** **08 14 24.8 +1.0**
QSPA IAmb IAmb 08 14 26.2
comp=Z,32nm,0.9s
QSPA South Pole Qui 71.87 180 P **P** **08 14 25.0 +1.2**
comp=Z,36nm,1.0s,baz=22,slow=1.1,SNR=98
comp=Z,36nm,1.0s
QSPA South Pole Qui 71.87 180 P **P** **08 14 25.0 +1.2**
QSPA pP **pP** **08 16 25.2 -0.8**
YULB Yu-li 71.94 303 P **P** **08 14 23.8 -0.9**
YULB IAmb IAmb 08 15 23.9
comp=Z,38nm,1.3s
NACB Ninganchiao 72.09 304 P **P** **08 14 24.8 -0.8**
NACB Ninganchiao 72.09 304 P **P** **08 14 26.5 +0.9**
SSLB Suanglung 72.41 303 P **P** **08 14 26.0 -1.5**
SSLB Suanglung 72.41 303 P **P** **08 14 26.7 -0.8**
TPUB Ta-pu 72.43 302 P **P** **08 14 27.1 -0.5**
UNV Unalaska Valle 72.46 7 P **P** **08 14 25.8 -1.2**
UNV Unalaska Valle 72.46 7 P **P** **08 14 26.2 -0.8**
UNV Unalaska Valle 72.46 7 P **P** **08 14 25.9 -1.2**
baz=192
YHNB Yeheng 72.51 304 P **P** **08 14 28.5 +0.4**
BBJI Bungbulang 72.52 268 P **P** **08 14 28.2 -0.2**
KSM Kuching 72.75 277 P **P** **08 14 29.3 -0.4**
YSS Yuzhno-Sakhali 73.67 333 P **P** **08 14 35.0 +0.9**
YSS Yuzhno-Sakhali 73.67 333 *e*P **P** **08 14 35.1 +0.9**
YSS *e* 08 14 53.8
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,200nm,3.2s
FALS False Pass 73.86 9 P **P** **08 14 33.8 -1.1**
baz=195
PEA0B Petropavlovsk- 73.95 345 P **P** **08 14 35.2 -0.4**
PEA0B Petropavlovsk- 73.95 345 *ce*P **P** **08 14 34.6 -1.0**
PETK Petropavlovsk- 73.95 345 P **P** **08 14 35.0 -0.6**
comp=Z,37nm,0.8s,baz=108,slow=7.0,SNR=35
comp=Z,37nm,0.8s
CHNA Chernabura Isl 74.47 11 P **P** **08 14 37.7 -0.7**
baz=198
SDPT Sand Point 74.81 10 P **P** **08 14 39.2 -1.0**
SDPT Sand Point 74.81 10 P **P** **08 14 39.1 -1.2**
baz=198
P08K Saint George I 74.86 5 P **P** **08 14 39.6 -1.0**
baz=189
KSRS Korea Array 74.92 318 P **P** **08 14 41.8 +0.4**
comp=Z,6.5nm,0.9s,baz=130,slow=6.3,SNR=23
comp=Z,6.5nm,0.9s
SPIA Saint Paul Isl 75.38 5 P **P** **08 14 42.9 -0.6**
baz=188

S14K Fog Glacier 75.86 11 P **P** **08 14 45.5 -0.8**
baz=198
CHGN Chignik 76.08 11 P **P** **08 14 46.7 -0.6**
baz=200
CHIR Chirikof Islan 76.19 13 P **P** **08 14 47.3 -0.7**
baz=202
PSTR Posyet 76.48 324 *i* P **P** **08 14 50.1 +0.3**
SAO San Andreas Ge 76.60 44 P **P** **08 14 51.4 +0.7**
SAO IAmb IAmb 08 14 53.0
comp=Z,33nm,0.9s
SAO San Andreas Ge 76.60 44 P **P** **08 14 51.4 +0.7**
SAO pmax pmax
comp=Z,33nm,1.0s
PMPB Monarch Peak 76.72 45 P **P** **08 14 52.0 +0.6**
PMPB IAmb IAmb 08 14 53.8
comp=Z,29nm,1.0s
BBGB Big Mountain B 76.77 44 P **P** **08 14 51.3 -0.4**
BBGB IAmb IAmb 08 14 54.5
comp=Z,77nm,1.3s
TYV Tymovskoe 76.79 336 *e*P **P** **08 14 51.5 +0.2**
TYV pmax pmax
comp=Z,46nm,1.3s
TYV pmax pmax
comp=Z,700nm,5.5s
USA0B Ussuriysk Arra 76.86 326 *i* P **P** **08 14 52.1 +0.3**
USRK Ussuriysk Ar. 76.86 326 P **P** **08 14 52.8 +1.0**
comp=Z,8.8nm,0.7s,baz=116,slow=4.4,SNR=15
comp=Z,8.8nm,0.7s
BCW Bitter Crk WRg 76.95 46 P **P** **08 14 53.9 +1.2**
BCW IAmb IAmb 08 14 55.2
comp=Z,32nm,0.9s
SII Sitkinak Islan 77.18 13 P **P** **08 14 53.6 +0.2**
SII Sitkinak Islan 77.18 13 P **P** **08 14 53.7 +0.3**
SII Sitkinak Islan 77.18 13 P **P** **08 14 53.1 -0.3**
baz=204
KMRM Mail Ridge 77.21 40 P **P** **08 14 54.4 +0.4**
PASC Pasadena Art C 77.39 47 P **P** **08 14 54.9 -0.1**
R16K Pilot Point 77.43 11 P **P** **08 14 54.1 -0.5**
baz=200
CBX Cerro Bola 77.50 50 P **P** **08 14 56.9 +1.1**
ELS Elsinore Mount 77.64 48 P **P** **08 14 57.1 +0.7**
TKX Tecate 77.67 50 P **P** **08 14 57.6 +1.0**
VTX Valle De La Tr 77.68 51 P **P** **08 14 57.0 +0.3**
VTX IAmb IAmb 08 14 59.2
comp=Z,31nm,1.1s
O02D Mt. Diablo Mer 77.74 40 P **P** **08 14 58.2 +1.3**
O02D IAmb IAmb 08 14 59.6
comp=Z,44nm,1.2s
ISA Isabella, Lake 77.99 46 **P** **08 14 58.4 +0.1**
ISA IAmb IAmb 08 15 00.5
comp=Z,30nm,1.0s
ISA Isabella, Lake 77.99 46 P **P** **08 14 58.4 +0.1**
ISA pmax pmax
comp=Z,30nm,1.0s
OHAK Old Harbor 77.99 14 P **P** **08 14 57.5 -0.2**
OHAK Old Harbor 77.99 14 P **P** **08 14 57.5 -0.2**
baz=204,SNR=11
CMB Columbia Colle 78.02 43 **P** **08 14 58.9 +0.5**
CMB IAmb IAmb 08 15 00.2
comp=Z,26nm,1.0s
CMB Columbia Colle 78.02 43 P **P** **08 14 58.9 +0.5**
CMB pmax pmax
comp=Z,26nm,1.0s
CCAC Calif City Air 78.03 47 P **P** **08 14 59.0 +0.6**
R18K Karluk 78.05 13 P **P** **08 14 57.5 -0.4**
baz=203,SNR=7.4
DLV Lat 78.10 287 P **P** **08 14 58.7 -0.8**
DLV Lat 78.10 287 P **P** **08 15 00.5 +1.0**
NJ2 Nanjing 78.13 310 ⇓P **P** **08 15 00.3 +1.3**
NJ2 PcP PcP 08 15 18.8 +13
NJ2 pmax pmax
comp=Z,70nm,0.6s
AFDM Forest Hills D 78.16 42 P **P** **08 14 59.6 +0.5**
ORV Oroville 78.18 41 P **P** **08 14 59.6 +0.5**
ORV Oroville 78.18 41 P **P** **08 14 59.6 +0.5**
ORV pmax pmax
comp=Z,23nm,1.1s
YUH Yuha Desert 78.21 50 P **P** **08 15 00.4 +1.0**
O14K Tigyukauivet M 78.42 9 P **P** **08 14 59.0 -0.9**
O14K IAmb IAmb 08 17 08.5
comp=Z,40nm,1.5s
O14K Tigyukauivet M 78.42 9 P **P** **08 14 59.1 -0.8**
baz=197
MDJ Mudanjiang 78.42 325 P **P** **08 15 01.0 +0.7**
MDJ S **SKSac** **08 24 14.5 -3.6**
MDJ pmax pmax
comp=Z,90nm,0.9s
MDJ Mudanjiang 78.42 325 P **P** **08 15 01.2 +0.9**
ACHA Angle Creek He 78.47 12 P **P** **08 14 59.6 -0.7**
O15K Ungalikthiuk R 78.57 10 P **P** **08 14 59.8 -0.9**
baz=198
Q16K King Salmon 78.64 11 P **P** **08 15 00.7 -0.3**
baz=201
KDAK Kodiak Island 78.66 14 P **P** **08 15 00.9 -0.3**
KDAK Kodiak Island 78.66 14 *i* P **P** **08 14 59.7 -1.5**
KDAK pmax pmax
comp=Z,111nm,1.5s
KDAK Kodiak Island 78.66 14 P **P** **08 15 00.9 -0.3**
baz=205
SLBS Sierra La Lagu 78.67 60 P **P** **08 15 03.5 +1.3**
P16K Nushagak River 78.73 11 P **P** **08 15 01.0 -0.6**
baz=200
K02D Willamette Mer 78.74 38 P **P** **08 15 03.1 +0.9**
WAKR Walker 78.90 43 P **P** **08 15 03.3 0.0**
WAKR IAmb IAmb 08 15 05.6
comp=Z,38nm,1.0s
M11K Mekoryuk 78.91 6 P **P** **08 15 02.5 +0.1**
baz=192
HATC Hat Creek Radi 78.94 40 P **P** **08 15 04.7 +1.5**
HATC IAmb IAmb 08 15 05.5
comp=Z,51nm,0.9s
Q18K Katmai Hardscr 78.94 12 P **P** **08 15 02.2 -0.7**
baz=203
MYKOM Kota Tinggi 78.95 276 P **P** **08 15 04.6 +0.8**
N14K Kuskokwak Cree 79.01 8 P **P** **08 15 03.1 +0.2**
baz=196,SNR=20
BEKR Beckworth 79.08 42 P **P** **08 15 04.3 +0.2**
PNTR Pine Nut 79.12 43 P **P** **08 15 05.1 +0.7**
PNTR IAmb IAmb 08 15 06.6
comp=Z,58nm,1.0s
P17K Kvichak River 79.17 11 P **P** **08 15 03.3 -0.6**
baz=201
DSP Deep Springs 79.25 45 P **P** **08 15 05.6 +0.8**
O16K Kokwok River B 79.25 10 P **P** **08 15 03.3 -0.9**
O16K IAmb IAmb 08 15 04.1
comp=Z,23nm,0.7s
O16K Kokwok River B 79.25 10 P **P** **08 15 03.0 -1.3**
baz=200,SNR=14
M13K Dall Lake 79.26 8 P **P** **08 15 04.6 +0.3**
M13K IAmb IAmb 08 15 05.4
comp=Z,64nm,1.3s
M13K Dall Lake 79.26 8 P **P** **08 15 04.6 +0.3**
baz=194
LHV Little Huntoon 79.37 44 P **P** **08 15 06.4 +1.0**
LHV IAmb IAmb 08 15 08.0
comp=Z,37nm,1.0s
Q20K Shuyak Island 79.45 13 P **P** **08 15 05.2 -0.2**
baz=205,SNR=6.2
SYI Shuyak Island 79.45 13 P **P** **08 15 04.8 -0.5**
SYI IAmb IAmb 08 15 06.4
comp=Z,43nm,0.9s
GRAC Grapevine Rang 79.46 45 P **P** **08 15 06.6 +0.6**
GRAC IAmb IAmb 08 15 08.4
comp=Z,24nm,0.8s
N15K Kwethluk River 79.47 9 P **P** **08 15 05.9 +0.4**
N15K IAmb IAmb 08 15 06.8
comp=Z,57nm,1.2s
N15K Kwethluk River 79.47 9 P **P** **08 15 05.5 +0.1**
baz=198,SNR=14
Q19K Cape Douglas, 79.48 13 P **P** **08 15 05.0 -0.5**
baz=204,SNR=7.6
PIX Pinacate 79.49 52 P **P** **08 15 06.9 +0.7**
GWY Greenwater Val 79.50 46 P **P** **08 15 07.0 +0.6**
I03D Drain, OR 79.53 37 P **P** **08 15 06.4 +0.3**
I03D IAmb IAmb 08 15 08.1
comp=Z,42nm,1.0s
RYN Ryan 79.57 44 P **P** **08 15 07.6 +0.9**
P18K Big Mountain, 79.58 12 P **P** **08 15 05.3 -0.8**
baz=202
O17K Koliganek Bris 79.59 11 P **P** **08 15 05.3 -0.7**
baz=200
NVAR Mina Array Bea 79.60 44 P **P** **08 15 07.6 +0.7**
NVAR Mina Array Bea 79.60 44 P **P** **08 15 08.1 +1.1**
comp=Z,14nm,0.8s,baz=233,slow=5.3,SNR=75
comp=Z,14nm,0.8s

PAHR Pah Rah Range 79.61 42 P **P** **08 15 07.3 +0.4**
PAHR IAmb IAmb 08 15 08.9
comp=Z,35nm,1.2s
GMN Gold Mountain 79.69 45 P **P** **08 15 08.2 +0.8**
M14K Bethel 79.77 8 P **P** **08 15 06.9 0.0**
baz=196
BLYC Blythe 79.78 49 P **P** **08 15 08.3 +0.6**
MZP Montezuma Peak 79.82 45 P **P** **08 15 08.4 +0.2**
113A Mohawk Valley, 79.84 51 P **P** **08 15 08.9 +0.9**
WCT Wildcat Mounta 79.85 46 P **P** **08 15 08.4 +0.3**
M15K Kasigluk River 79.89 9 P **P** **08 15 07.8 +0.2**
baz=197,SNR=12
N16K Nishlik Lake 79.97 10 P **P** **08 15 08.4 +0.3**
baz=199,SNR=18
J04A Umpqua Nationa 79.98 38 P **P** **08 15 08.9 +0.1**
O18K Koktuh Hills 80.02 12 P **P** **08 15 07.2 -1.1**
O18K Koktuh Hills 80.02 12 P **P** **08 15 07.9 -0.4**
baz=202,SNR=55
BUCK Buck Mountain 80.05 37 P **P** **08 15 09.5 +0.6**
BUCK IAmb IAmb 08 15 11.1
comp=Z,50nm,1.0s
I04A Tendick Farm, 80.13 38 P **P** **08 15 09.6 +0.2**
I04A IAmb IAmb 08 15 11.0
comp=Z,24nm,0.9s
TPNV Topopah Spring 80.19 46 P **P** **08 15 10.7 +0.7**
TPNV Topopah Spring 80.19 46 P **P** **08 15 10.7 +0.7**
TPNV pmax pmax
comp=Z,18nm,1.0s
P19K Oil Pt 80.22 13 P **P** **08 15 09.3 -0.1**
baz=204,SNR=7.3
L14K Kuka Creek 80.24 8 P **P** **08 15 09.8 +0.4**
baz=195,SNR=7.2
N17K Nushagak Hills 80.28 10 P **P** **08 15 09.3 -0.3**
baz=200,SNR=11
BNX BinXian 80.33 325 ⇓P **P** **08 15 10.8 +0.5**
BNX pmax pmax
comp=Z,70nm,0.9s
KLR Kul'dur 80.36 329 *ce*P **P** **08 15 11.2 +0.9**
KLR pmax pmax
comp=Z,24nm,1.3s
M16K Timber Creek 80.46 9 P **P** **08 15 11.5 +0.9**
baz=199,SNR=43
O19K Port Alsworth 80.50 12 P **P** **08 15 10.1 -0.7**
baz=203,SNR=55
J05D Fort Rock, OR 80.52 38 P **P** **08 15 12.4 +0.9**
HOM Homer 80.57 13 P **P** **08 15 10.8 -0.3**
baz=206
K13K Kusilvak Mount 80.59 7 P **P** **08 15 11.5 +0.3**
baz=193,SNR=5.4
N18K Kilae Creek 80.66 11 P **P** **08 15 11.1 -0.5**
baz=202,SNR=11
SHPR Sheep Range 80.71 47 P **P** **08 15 13.6 +0.9**
L15K Ungalak Mounta 80.72 8 P **P** **08 15 12.0 +0.1**
baz=196,SNR=13
O20K Slope Mountain 80.74 13 P **P** **08 15 11.7 -0.5**
baz=205,SNR=5.8
WHN Wuhan 80.79 306 P **P** **08 15 13.5 +0.5**
BRSE Bradley Lake S 80.85 14 P **P** **08 15 12.4 -0.3**
baz=206,SNR=16
L16K Owhat River 81.04 9 P **P** **08 15 13.8 +0.3**
baz=198
N19K Bonanza Creek 81.04 12 P **P** **08 15 13.1 -0.6**
baz=203,SNR=18
M17K Holitna River 81.06 10 P **P** **08 15 14.5 +0.8**
baz=200,SNR=42
I05D Terrebonne, OR 81.08 38 P **P** **08 15 14.8 +0.6**
I05D IAmb IAmb 08 15 16.3
comp=Z,36nm,1.0s
K15K Wolf Creek Mou 81.31 8 P **P** **08 15 15.8 +0.8**
baz=196,SNR=54
R11B Troy Canyon, C 81.37 45 P **P** **08 15 16.4 +0.3**
M18K Stony River 81.42 11 P **P** **08 15 15.5 0.0**
baz=202,SNR=14
TIA Tai'an 81.45 312 P **P** **08 15 16.5 +0.2**
TIA pmax pmax
comp=Z,24nm,1.0s
MA2 Magadan 81.47 345 P **P** **08 15 15.5 -0.3**
MA2 Magadan 81.47 345 *ce*P **P** **08 15 15.1 -0.7**
MA2 pmax pmax
comp=Z,91nm,2.5s
MA2 Magadan 81.47 345 P **P** **08 15 13.8 -2.0**
comp=Z,45nm,1.1s
SEW Seward 81.47 14 P **P** **08 15 15.2 -0.6**
baz=208
J14K Nanvaranak Lak 81.51 7 P **P** **08 15 16.0 +0.2**
baz=194,SNR=7.0
WVOR Wild Horse Val 81.60 40 P **P** **08 15 17.5 +0.5**
WVOR IAmb IAmb 08 15 19.1
comp=Z,42nm,1.0s
WVOR Wild Horse Val 81.60 40 P **P** **08 15 17.5 +0.5**
WVOR pmax pmax
comp=Z,43nm,1.0s
L17K Donlin 81.62 9 P **P** **08 15 17.5 +1.0**
baz=199,SNR=29
O22K Cooper Landing 81.74 14 P **P** **08 15 16.5 -0.6**
baz=207,SNR=8.4
TUC Tucson 81.85 52 P **P** **08 15 20.0 +1.5**
TUC IAmb IAmb 08 15 21.5
comp=Z,29nm,1.1s
TUC Tucson 81.85 52 P **P** **08 15 20.0 +1.5**
TUC pmax pmax
comp=Z,29nm,1.1s
SPCR Spurr Chakacha 81.85 12 P **P** **08 15 16.6 -1.2**
baz=205,SNR=9.5
GAMB Gambell 81.86 3 P **P** **08 15 18.2 +0.6**
baz=186
P23K Montague Islan 81.87 15 P **P** **08 15 17.2 -0.6**
baz=210,SNR=7.3
BELA Belgrano 2 81.89 173 P **P** **08 15 18.2 +0.4**
BELA IAmb IAmb 08 15 19.3
comp=Z,33nm,0.8s
L18K Granite Mounta 81.96 10 P **P** **08 15 18.5 +0.3**
baz=201,SNR=34
M19K Big River Lodg 82.07 11 P **P** **08 15 18.3 -0.5**
baz=203
K17K Iditarod 82.17 9 P **P** **08 15 19.8 +0.5**
baz=199,SNR=15
L19K White Mountain 82.24 11 P **P** **08 15 20.0 +0.3**
baz=202,SNR=34
RC01 Rabbit Creek A 82.28 14 P **P** **08 15 19.5 -0.4**
baz=207,SNR=8.9
M20K Styx River 82.29 12 P **P** **08 15 19.0 -1.0**
baz=204,SNR=12
J16K Anvik River 82.39 8 P **P** **08 15 20.7 +0.3**
J16K IAmb IAmb 08 15 22.0
comp=Z,39nm,0.9s
J16K Anvik River 82.39 8 P **P** **08 15 21.0 +0.6**
baz=197,SNR=18
PWL Port Wells 82.40 14 P **P** **08 15 19.9 -0.6**
baz=209,SNR=23
D05A Enumclaw 82.41 35 P **P** **08 15 21.9 +1.0**
CBB Campbell River 82.43 31 P **P** **08 15 21.3 +0.4**
CBB IAmb IAmb 08 15 22.7
comp=Z,34nm,1.1s
SPR3 Spring Creek 3 82.54 45 P **P** **08 15 22.4 +0.3**
SPR3 IAmb IAmb 08 15 23.7
comp=Z,22nm,1.0s
319A Douglas 82.57 54 P **P** **08 15 23.8 +1.7**
319A IAmb IAmb 08 15 25.3
comp=Z,35nm,0.9s
KAIM Kayak Island 82.58 16 P **P** **08 15 21.6 +0.2**
baz=212,SNR=7.7
PSUT Pine Spring 82.63 46 P **P** **08 15 23.0 +0.6**
L20K Farewell, AK 82.69 11 P **P** **08 15 21.5 -0.4**
baz=203,SNR=31
SKT Skwentna 82.69 12 P **P** **08 15 20.7 -1.3**
baz=206,SNR=8.7
J17K VABM Dome 82.70 9 P **P** **08 15 22.7 +0.8**
baz=198,SNR=17
GLI Glacier Island 82.71 15 P **P** **08 15 21.5 -0.5**
baz=210,SNR=30
CRAG Craig 82.75 24 P **P** **08 15 22.9 +0.6**
CRAG Craig 82.75 24 P **P** **08 15 22.7 +0.3**
baz=223
EYAK Cordova Ski Ar 82.76 16 P **P** **08 15 21.9 -0.3**
EYAK Cordova Ski Ar 82.76 16 P **P** **08 15 22.0 -0.3**
baz=211,SNR=12
M22K Willow 82.79 13 P **P** **08 15 21.9 -0.5**
baz=207,SNR=29
F07A Phinny Hill Vi 82.80 37 P **P** **08 15 23.4 +0.6**
F07A IAmb IAmb 08 15 24.6
comp=Z,20nm,0.8s
KNK Knik Glacier 82.86 14 P **P** **08 15 22.4 -0.4**
baz=208,SNR=18
PMR Palmer 82.86 14 P **P** **08 15 21.7 -1.0**
PMR Palmer 82.86 14 P **P** **08 15 22.1 -0.7**

PMR **Palmer** **82.86** **14** P **P** **08 15 21.7 -1.0**
PMR pmax pmax
comp=Z,90nm,1.4s
PMR **Palmer** **82.86** **14** P **P** **08 15 22.0 -0.7**
baz=208,SNR=26
I17K **Unalakleet** **82.95** **8** P **P** **08 15 23.5 +0.4**
baz=197
G08A **Pilot Rock** **83.01** **38** P **P** **08 15 24.3 +0.3**
G08A IAmb IAmb 08 15 26.0
comp=Z,26nm,0.9s
ANM **Nome** **83.09** **6** P **P** **08 15 24.2 +0.3**
baz=192
SIT **Sitka** **83.12** **22** P **P** **08 15 24.5 +0.4**
baz=221
J18K **Innoko River** **83.12** **10** P **P** **08 15 24.1 +0.1**
baz=201,SNR=52
HEH **HeiHe** **83.16** **328** *e*P **P** **08 15 24.5 0.0**
HEH pmax pmax
comp=Z,34nm,1.5s
U33K **Whale Pass** **83.23** **24** P **P** **08 15 25.1 +0.5**
baz=223,SNR=6.2
SML **Sawmill** **83.23** **14** P **P** **08 15 24.2 -0.4**
baz=209,SNR=10.0
V35K **Ketchikan** **83.25** **25** P **P** **08 15 25.2 +0.4**
baz=224
HAWA **Hanford** **83.31** **37** P **P** **08 15 25.4 0.0**
HAWA IAmb IAmb 08 15 27.4
comp=Z,35nm,0.9s
CUT **Chulitna** **83.34** **13** P **P** **08 15 24.4 -0.7**
baz=207,SNR=36
M23K **Glacier View** **83.36** **14** P **P** **08 15 24.6 -0.7**
baz=209,SNR=12
PPLA **Purkeypile** **83.39** **12** P **P** **08 15 24.2 -1.3**
PPLA **Purkeypile** **83.39** **12** P **P** **08 15 25.1 -0.5**
baz=205,SNR=5.8
BMRM **Bremner River** **83.41** **16** P **P** **08 15 25.4 -0.2**
BMRM **Bremner River** **83.41** **16** P **P** **08 15 25.6 0.0**
baz=212,SNR=21
WAX **Waxell Ridge** **83.45** **17** P **P** **08 15 25.9 +0.1**
K20K **Telida** **83.47** **11** P **P** **08 15 25.6 -0.2**
baz=203
MESA **MESA** **83.47** **17** P **P** **08 15 26.5 +0.5**
baz=215,SNR=23
SCM **Sheep Creek Mo** **83.49** **14** P **P** **08 15 25.6 -0.4**
baz=210,SNR=35
H16K **Elim** **83.49** **7** P **P** **08 15 26.0 +0.2**
baz=195,SNR=11
S31K **Pelican** **83.50** **21** P **P** **08 15 26.5 +0.5**
baz=220,SNR=6.4
KLU **Klutina** **83.53** **15** P **P** **08 15 25.8 -0.4**
baz=211,SNR=13
G15K **Niukluk** **83.64** **6** P **P** **08 15 26.6 +0.1**
baz=194
S32K **Killisnoo** **83.70** **22** P **P** **08 15 27.4 +0.5**
baz=221
HNS **HongShan** **83.72** **313** ⇑P **P** **08 15 28.3 +0.7**
HNS pmax pmax
comp=Z,31nm,1.3s
WRAK **Wrangell Islan** **83.75** **24** P **P** **08 15 27.7 +0.4**
WRAK IAmb IAmb 08 15 29.0
comp=Z,30nm,0.9s
WRAK **Wrangell Islan** **83.75** **24** P **P** **08 15 27.9 +0.6**
baz=223,SNR=10
J19K **Poorman** **83.80** **10** P **P** **08 15 27.5 +0.2**
baz=202,SNR=19
T33K **Petersburg** **83.81** **23** P **P** **08 15 28.1 +0.6**
baz=223
PNL **Peninsula** **83.81** **19** P **P** **08 15 27.5 0.0**
PNL **Peninsula** **83.81** **19** P **P** **08 15 27.5 0.0**
baz=217,SNR=9.5
MFID **Camas Ranch** **83.86** **41** P **P** **08 15 28.7 +0.4**
MFID IAmb IAmb 08 15 30.3
comp=Z,28nm,1.1s
TNA **Tin City** **83.86** **4** P **P** **08 15 28.0 +0.4**
baz=190,SNR=7.7
CAST **Castle Rocks** **83.89** **12** P **P** **08 15 26.3 -1.6**
baz=205,SNR=89
PCA **Pinnacle** **83.90** **18** P **P** **08 15 27.7 -0.3**
PCA IAmb IAmb 08 15 29.0
comp=Z,33nm,1.0s
PINM **Pinnacle** **83.90** **18** P **P** **08 15 27.9 -0.2**
baz=216,SNR=11
F14K **Arctic Creek** **83.90** **5** P **P** **08 15 28.2 +0.3**
baz=192
PSI **Prapat** **83.93** **275** P **P** **08 15 28.9 -0.5**
N25K **Chitina, Valde** **83.96** **16** P **P** **08 15 28.2 -0.1**
baz=212,SNR=27
BJT **Baijiatuau** **83.99** **315** P **P** **08 15 29.7 +0.8**
M24K **Tolsona, Glenn** **84.00** **15** P **P** **08 15 28.6 +0.1**
baz=211,SNR=12
R31K **City Hall, Gus** **84.01** **21** P **P** **08 15 28.6 +0.1**
baz=220
SEY **Seymchan** **84.05** **347** *ce*P **P** **08 15 28.3 -0.3**
SEY pmax pmax
comp=Z,92nm,1.3s
H17K **Granite Mounta** **84.06** **8** P **P** **08 15 28.7 +0.1**
baz=198,SNR=6.7
G16K **Koyuk River** **84.21** **7** P **P** **08 15 28.8 -0.6**
G16K IAmb IAmb 08 15 30.5
comp=Z,27nm,1.2s
G16K **Koyuk River** **84.21** **7** P **P** **08 15 29.7 +0.4**
baz=195,SNR=8.0
J20K **Nowinta River** **84.21** **10** P **P** **08 15 29.3 -0.1**
baz=203,SNR=29
CHUM **Lake Minchumin** **84.27** **11** P **P** **08 15 28.7 -1.0**
baz=205,SNR=32
TRF **Thorofare Moun** **84.27** **12** P **P** **08 15 29.0 -0.9**
baz=207,SNR=82
F15K **North Star Dit** **84.28** **6** P **P** **08 15 29.5 -0.1**
baz=193
P29M **Windy Craggy** **84.30** **19** P **P** **08 15 30.3 +0.3**
baz=218,SNR=22
U35K **Hyder** **84.30** **25** P **P** **08 15 30.1 +0.2**
baz=226
GCSA **Galena City Sc** **84.30** **9** P **P** **08 15 29.4 -0.3**
baz=200
JIS **Juneau Island** **84.37** **22** P **P** **08 15 31.1 +0.8**
ENH **Enshi** **84.45** **304** P **P** **08 15 32.8 +1.4**
O28M **Mount Upton** **84.46** **18** P **P** **08 15 30.6 -0.5**
baz=216,SNR=31
H18K **Honhosa River** **84.47** **8** P **P** **08 15 30.1 -0.5**
baz=199
HARP **HAARP** **84.49** **15** P **P** **08 15 30.9 +0.1**
baz=212,SNR=26
G17K **Kiwalik Mounta** **84.51** **7** P **P** **08 15 30.5 -0.3**
baz=197,SNR=8.2
O29M **Mount Kennedy** **84.57** **19** P **P** **08 15 31.5 +0.1**
baz=218,SNR=13
BPAW **Bear Paw Mtn.** **84.72** **12** P **P** **08 15 31.9 0.0**
baz=206,SNR=9.3
I20K **Naaghedeneel** **84.73** **10** P **P** **08 15 31.8 -0.1**
baz=203,SNR=11
GSI **Gunungsitoli** **84.74** **273** P **P** **08 15 34.3 +1.1**
MCK **McKinley** **84.80** **13** P **P** **08 15 31.4 -0.9**
baz=208,SNR=35
PAX **Paxson** **84.91** **14** P **P** **08 15 32.1 -0.8**
baz=211,SNR=16
P30M **Million Dollar** **84.93** **19** P **P** **08 15 33.7 +0.7**
baz=219
SKAG **Skagway** **84.95** **20** P **P** **08 15 33.9 +0.9**
SKAG **Skagway** **84.95** **20** P **P** **08 15 34.0 +0.9**
baz=221,SNR=14
T35M **Bob Quinn** **84.96** **24** P **P** **08 15 33.9 +0.7**
baz=225,SNR=7.8
YUK8 **Steele Glacier** **85.00** **18** P **P** **08 15 33.7 +0.1**
baz=216,SNR=33
M26K **Nabesna, AK** **85.04** **16** P **P** **08 15 33.4 -0.2**
baz=214,SNR=59
H19K **Roundabout Mou** **85.10** **9** P **P** **08 15 33.7 +0.1**
baz=201,SNR=11
NONG **Nongkai** **85.12** **291** P **P** **08 15 35.6 +0.8**
G18K **Tagagawik** **85.14** **8** P **P** **08 15 33.4 -0.4**
baz=199
YUK6 **Outpost Mounta** **85.14** **18** P **P** **08 15 33.9 -0.4**
baz=218,SNR=9.1
SRIT **Nakonsritamara** **85.15** **281** P **P** **08 15 37.0 +1.9**
GYA **Guiyang** **85.19** **300** ⇓P **P** **08 15 36.5 +1.3**
GYA pmax pmax
comp=Z,36nm,0.6s
YUK3 **Moose Creek** **85.20** **17** P **P** **08 15 34.5 0.0**
baz=216,SNR=61
S34M **Telegraph Cree** **85.29** **23** P **P** **08 15 35.5 +0.8**
S34M **Telegraph Cree** **85.29** **23** P **P** **08 15 35.5 +0.8**
baz=224,SNR=33
M27K **Edge Creek, AK** **85.29** **16** P **P** **08 15 35.5 +0.6**
baz=214,SNR=43
HYT **Haines Junctio** **85.31** **19** P **P** **08 15 35.2 +0.2**
baz=219,SNR=20
MENT **Mentasta** **85.31** **15** P **P** **08 15 35.0 +0.2**
MENT IAmb IAmb 08 15 35.8
comp=Z,22nm,1.0s
MENT **Mentasta** **85.31** **15** P **P** **08 15 34.8 0.0**
H20K **Anotleneega Mo** **85.31** **10** P **P** **08 15 34.8 +0.1**
baz=202,SNR=14
F17K **Baldwin Pennin** **85.34** **7** P **P** **08 15 35.0 +0.2**
F17K IAmb IAmb 08 17 08.5
comp=Z,14nm,0.7s
F17K **Baldwin Pennin** **85.34** **7** P **P** **08 15 34.6 -0.2**
baz=196,SNR=6.0
YUK4 **Talbot Arm** **85.37** **18** P **P** **08 15 36.1 +0.7**
baz=218,SNR=12
ZEA **Zeya** **85.44** **331** *e*P **P** **08 15 36.1 +0.5**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.0s
NAYO **Nakonayok** **85.46** **287** P **P** **08 15 38.4 +1.9**
TIY **Taiyuan** **85.47** **312** P **P** **08 15 37.5 +1.3**
TIY pmax pmax
comp=Z,50nm,0.9s
L26K **Log Cabin Wild** **85.47** **15** P **P** **08 15 35.6 0.0**
baz=213,SNR=16
I21K **Tanana** **85.51** **11** P **P** **08 15 34.8 -0.8**
baz=205
NEA2 **Nenana** **85.54** **12** P **P** **08 15 34.8 -1.0**
NEA2 IAmb IAmb 08 15 35.6
comp=Z,46nm,1.8s
NEA2 **Nenana** **85.54** **12** P **P** **08 15 34.6 -1.2**
baz=208,SNR=9.4
K24K **Donnelly Dome** **85.55** **14** P **P** **08 15 35.8 -0.1**
baz=211,SNR=30
P32M **Atlin** **85.59** **21** P **P** **08 15 36.4 +0.2**
P32M IAmb IAmb 08 15 37.9
comp=Z,21nm,0.9s
P32M **Atlin** **85.59** **21** P **P** **08 15 36.6 +0.4**
baz=222,SNR=14
BVCY **Beaver Creek** **85.61** **17** P **P** **08 15 36.3 +0.1**
baz=216,SNR=22
SLVN **Son La** **85.62** **294** P **P** **08 15 38.7 +1.4**
P18A **Preston Nutter** **85.62** **46** P **P** **08 15 38.2 +1.0**
Q32M **Nakina River** **85.63** **22** P **P** **08 15 36.8 +0.2**
baz=223,SNR=17
WRH **Wood River Hil** **85.63** **13** P **P** **08 15 35.1 -1.1**
VHRN **Van Horn** **85.65** **56** P **P** **08 15 38.4 +1.1**
HWUT **Hardware Ranch** **85.67** **44** P **P** **08 15 38.2 +0.9**
O30N **Mendenhall** **85.70** **19** P **P** **08 15 37.2 +0.5**
baz=220,SNR=28
RIDG **Independent Ri** **85.71** **14** P **P** **08 15 36.2 -0.5**
RIDG **Independent Ri** **85.71** **14** P **P** **08 15 36.3 -0.5**
baz=212,SNR=27
NEW **Newport** **85.72** **36** P **P** **08 15 36.6 -0.5**
NEW IAmb IAmb 08 15 38.3
comp=Z,13nm,0.9s
NEW **Newport** **85.72** **36** P **P** **08 15 36.6 -0.5**
NEW pmax pmax
comp=Z,13nm,0.9s
MVCO **Mesa Verde** **85.74** **49** P **P** **08 15 38.1 +0.4**
H21K **Melozitna Rive** **85.80** **10** P **P** **08 15 36.8 -0.3**
baz=204,SNR=14
HDA **Harding Lake** **85.82** **13** P **P** **08 15 36.4 -0.7**
HDA IAmb IAmb 08 15 37.4
comp=Z,24nm,0.7s
HDA **Harding Lake** **85.82** **13** P **P** **08 15 36.0 -1.1**
baz=210,SNR=32
DOT **Dot Lake** **85.82** **15** P **P** **08 15 37.1 -0.1**
DOT IAmb IAmb 08 15 38.0
comp=Z,31nm,1.0s
L27K **Beaver Creek,** **85.89** **16** P **P** **08 15 37.4 -0.1**
L27K IAmb IAmb 08 15 38.6
comp=Z,13nm,1.1s
L27K **Beaver Creek,** **85.89** **16** P **P** **08 15 37.6 0.0**
baz=215,SNR=13
E17K **Hotham Inlet** **85.90** **6** P **P** **08 15 37.0 -0.4**
baz=196
N30M **Aishikik Lake** **85.93** **19** P **P** **08 15 37.8 0.0**
baz=219,SNR=10
XLT **XiLinHaoTe** **85.97** **319** ⇑*i*P **P** **08 15 38.5 0.0**
XLT sP sP 08 18 43.5 -4.3
XLT PP **PP** **08 19 11.8 +1.5**
XLT pmax pmax
comp=Z,34nm,1.2s
I23K **Minto, Yukon-K** **85.97** **12** P **P** **08 15 36.9 -0.9**
baz=208,SNR=18
WHY **Whitehorse** **86.00** **20** P **P** **08 15 38.0 -0.2**
WHY **Whitehorse** **86.00** **20** P **P** **08 15 38.5 +0.2**
baz=221,SNR=18
COLA **College** **86.03** **13** P **P** **08 15 37.0 -1.1**
COLA **College** **86.03** **13** P **P** **08 15 35.5 -2.6**
COLA pmax pmax
comp=Z,49nm,0.9s
COLA **College** **86.03** **13** P **P** **08 15 37.1 -1.0**
baz=209
DLBC **Dease Lake** **86.07** **23** P **P** **08 15 38.8 +0.3**
baz=225,SNR=17
SCRK **Sand Creek** **86.12** **14** P **P** **08 15 38.5 -0.2**
baz=212,SNR=20
TX31 **Lajitas Ar. Si** **86.12** **58** P **P** **08 15 40.5 +1.0**
TXAR **Lajitas Array** **86.12** **58** P **P** **08 15 41.8 +2.3**
comp=Z,22nm,0.9s,baz=221,slow=5.6,SNR=196
TXAR PKKPbc **PKKPbc** **08 33 35.4 +0.4**
comp=Z,0.4nm,0.9s,baz=53,slow=4.0,SNR=5.0
comp=Z,22nm,0.9s
F19K **Shaleruckik Mo** **86.15** **8** P **P** **08 15 38.1 -0.5**
baz=200,SNR=15
ILAR **Eielson Array** **86.15** **13** P **P** **08 15 38.1 -0.5**
comp=Z,8.4nm,0.4s,baz=219,slow=5.1,SNR=193
ILAR PP **PP** **08 19 10.8 -0.3**
comp=Z,2.1nm,1.0s,baz=204,slow=6.1,SNR=3.5
ILAR PKiKP **PKiKP** **08 20 41.6 -0.2**
comp=Z,0.5nm,1.0s,baz=202,slow=1.9,SNR=4.1
ILAR PKKP **PKKPdf** **08 33 30.1 +0.8**
comp=Z,0.2nm,0.5s,baz=358,slow=2.1,SNR=4.3
comp=Z,8.4nm,0.4s
ANMO **Albuquerque** **86.25** **52** *ce*P **P** **08 15 38.7 -1.4**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
H22K **Ishtalitna Cre** **86.27** **11** P **P** **08 15 38.8 -0.4**
baz=206,SNR=26
M29M **Somme Creek** **86.30** **17** P **P** **08 15 39.6 +0.1**
baz=218,SNR=26
POKR **Poker Plat Res** **86.33** **13** P **P** **08 15 38.3 -1.2**
baz=209,SNR=6.5
J25K **Salcha River,** **86.34** **14** P **P** **08 15 39.0 -0.7**
baz=211,SNR=36
N31M **Braeburn, Yuko** **86.35** **19** P **P** **08 15 39.9 +0.2**
baz=220,SNR=19
P33M **Teslin, Yukon** **86.35** **21** P **P** **08 15 40.1 +0.2**
baz=223,SNR=11
E18K **Tukpahlearik C** **86.36** **7** P **P** **08 15 39.4 -0.2**
baz=197,SNR=19
D17K **Noatak River** **86.37** **6** P **P** **08 15 39.2 -0.4**
baz=195
R33M **Jennings River** **86.41** **22** P **P** **08 15 40.8 +0.6**
baz=224,SNR=19
XAN **Xi'an** **86.45** **307** ⇑P **P** **08 15 42.0 +1.1**
XAN pmax pmax
comp=Z,99nm,1.2s
G21K **Allakaket** **86.47** **10** P **P** **08 15 40.0 -0.2**
baz=204
H23K **Yukon River** **86.54** **11** P **P** **08 15 41.2 +0.7**
baz=207
HIA **Hailar** **86.61** **325** P **P** **08 15 41.6 +0.4**
K27K **Chicken** **86.63** **15** P **P** **08 15 41.1 +0.2**
baz=214
F20K **Avaraart Lake** **86.63** **9** P **P** **08 15 40.8 -0.1**
baz=202
J26L **Joseph Creek** **86.66** **14** P **P** **08 15 41.3 +0.1**
baz=213,SNR=53
BILL **Bilibino** **86.71** **354** *ce*P **P** **08 15 41.6 +0.4**
BILL pmax pmax
comp=Z,32nm,1.7s
RDOG **Red Dog Mine** **86.73** **6** P **P** **08 15 41.1 -0.2**
baz=195
C16K **Lisburne Hills** **86.73** **5** P **P** **08 15 40.7 -0.6**
baz=192
E19K **Redstone River** **86.81** **8** P **P** **08 15 41.6 -0.1**
baz=200
H24K **Noodor Dome** **86.88** **12** P **P** **08 15 42.1 0.0**
baz=209
L29M **L29M** **86.92** **17** P **P** **08 15 42.9 +0.4**
baz=218,SNR=45
N32M **Quiet Lake** **86.96** **20** P **P** **08 15 43.1 +0.4**
baz=223
PRP **Porcupine Dome** **87.08** **13** P **P** **08 15 42.6 -0.7**
baz=211,SNR=19
C17K **DeLong Mountai** **87.12** **6** P **P** **08 15 42.8 -0.4**
baz=194
F21K **Alatna River** **87.13** **9** P **P** **08 15 43.0 -0.3**
baz=204
O20A **White River Ci** **87.22** **46** P **P** **08 15 45.2 +0.6**
O20A IAmb IAmb 08 15 46.6
comp=Z,20nm,1.2s
G23K **Bananza Creek** **87.25** **11** P **P** **08 15 43.7 -0.1**
baz=207
M31M **Drury Creek, Y** **87.32** **19** P **P** **08 15 44.2 -0.1**
baz=221,SNR=13
DAWY **Dawson** **87.34** **16** P **P** **08 15 44.2 -0.2**
baz=217,SNR=30
I26K **Coal Creek Min** **87.43** **14** P **P** **08 15 44.8 +0.1**
baz=213
C18K **Utukok River** **87.48** **6** P **P** **08 15 44.4 -0.5**
baz=196
HHC **Hu-ho-hao-te** **87.48** **314** ⇓*i*P **P** **08 15 47.3 +1.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,120nm,7.6s
SRDT **SRDT** **87.48** **286** P **P** **08 15 48.1 +2.0**
PDAR **Pinedale Array** **87.53** **43** P **P** **08 15 46.5 +0.5**
comp=Z,12nm,0.8s,baz=218,slow=3.2,SNR=97
PDAR PKKP **PKKPdf** **08 33 27.0 +0.6**
comp=Z,0.3nm,0.6s,baz=351,slow=1.6,SNR=4.0
comp=Z,12nm,0.8s
F22K **John River** **87.60** **10** P **P** **08 15 45.1 -0.3**
baz=205
H25L **Birch Creek** **87.67** **13** P **P** **08 15 44.8 -0.9**
baz=211,SNR=5.7
FARO **Faro, Yukon** **87.67** **19** P **P** **08 15 46.1 +0.2**
baz=222,SNR=14
K29M **Barlow Dome** **87.67** **17** P **P** **08 15 46.2 +0.2**
baz=218,SNR=29
COLD **Coldfoot** **87.68** **11** P **P** **08 15 46.1 +0.3**
COLD **Coldfoot** **87.68** **11** P **P** **08 15 45.6 -0.2**
baz=207,SNR=50
D19K **Kuna River** **87.68** **7** P **P** **08 15 45.5 -0.3**
baz=199,SNR=8.7
WTLY **Watson Lake, Y** **87.69** **22** P **P** **08 15 46.4 +0.3**
baz=226,SNR=13
E20K **Nigu River** **87.70** **8** P **P** **08 15 46.0 +0.1**
baz=201
G24K **Hadweenzic Riv** **87.71** **12** P **P** **08 15 45.7 -0.3**
baz=209
MAYO **Mayo, Yukon** **87.94** **18** P **P** **08 15 47.7 +0.6**
baz=220,SNR=28
J29N **Klondike Camp** **87.96** **16** P **P** **08 15 47.6 +0.3**
baz=218,SNR=16
KMI **Kunming** **87.98** **297** P **P** **08 15 50.0 +1.5**
KMI pP pP 08 18 01.3 +3.5
KMI pmax pmax
comp=Z,26nm,1.4s
G25K **Bearman Lake** **88.04** **12** P **P** **08 15 47.3 -0.2**
baz=210
I27K **Kandik River** **88.04** **14** P **P** **08 15 47.4 -0.3**
baz=215,SNR=13
D20K **Etivluk River** **88.07** **8** P **P** **08 15 47.7 0.0**
baz=201
B18K **Kokolik River** **88.11** **6** P **P** **08 15 47.9 +0.1**
baz=196
E21K **Killik River** **88.18** **9** P **P** **08 15 47.4 -0.8**
baz=203
TOAD **Toad River Com** **88.20** **25** P **P** **08 15 48.6 +0.2**
baz=230,SNR=44
I28M **Miner Creek** **88.32** **15** P **P** **08 15 48.7 -0.3**
baz=216,SNR=19
F24K **Squaw Lake** **88.35** **11** P **P** **08 15 49.0 0.0**
baz=209,SNR=27
BTO **Baotou** **88.43** **314** *e*P **P** **08 15 52.0 +1.9**
BTO pmax pmax
comp=Z,32nm,0.9s
BTO pmax pmax
comp=Z,310nm,5.4s
E23K **Chandalar** **88.52** **10** P **P** **08 15 49.8 -0.1**
baz=207
J30M **Hart River** **88.57** **17** P **P** **08 15 50.3 +0.1**
baz=220,SNR=10
H27K **Steamboat Moun** **88.58** **14** P **P** **08 15 50.2 +0.1**
baz=215,SNR=21
I29M **Ogilvie Camp,** **88.66** **16** P **P** **08 15 50.4 -0.1**
baz=218,SNR=24
G26K **Porcupine Rive** **88.68** **13** P **P** **08 15 50.6 +0.2**
baz=213,SNR=42
C21K **Knifeblade Rid** **88.73** **8** P **P** **08 15 50.8 +0.1**
baz=202,SNR=27
E24K **Your Creek** **88.73** **11** P **P** **08 15 50.7 -0.1**
baz=208
OZNA **Ozona** **88.76** **57** P **P** **08 15 52.0 +0.2**
D22K **Ayikyak River** **88.77** **9** P **P** **08 15 51.3 +0.3**
baz=204
F25K **Christian Rive** **88.85** **12** P **P** **08 15 51.5 +0.2**
F25K IAmb IAmb 08 15 52.7
comp=Z,16nm,1.0s
F25K **Christian Rive** **88.85** **12** P **P** **08 15 51.7 +0.4**
baz=211
ELIB **Princess Elisa** **88.89** **187** *d*P **P** **08 15 52.0 +0.3**
comp=Z,28nm,0.8s
ELIB *dx* x 08 16 10.5
SYO **Syowa Base** **88.89** **193** ⇓*e*P **P** **08 15 51.0 -0.6**
SYO **Syowa Base** **88.89** **193** ⇓*e*PcP **P** **08 15 52.0 +0.4**
A19K **Wainwright** **88.99** **6** P **P** **08 15 51.8 0.0**
baz=196
CMAR **Chiang Mai Arr** **89.00** **290** P **P** **08 15 54.9 +1.8**
comp=Z,6.0nm,0.4s,baz=109,slow=2.8,SNR=81
comp=Z,6.0nm,0.4s
CMAR **Chiang Mai Arr** **89.00** **290** *i*P **P** **08 15 54.9 +1.8**
CMAR pmax pmax
comp=Z,16nm,0.9s
G27K **Doyon Strip** **89.03** **14** P **P** **08 15 52.0 -0.2**
baz=215,SNR=12
TOLK **Toolik Lake Re** **89.05** **10** P **P** **08 15 52.1 -0.2**
baz=207
I30M **Mount Dempster** **89.06** **16** P **P** **08 15 52.3 -0.2**
baz=220,SNR=29
CHTO **Chiang Mai** **89.12** **290** P **P** **08 15 54.9 +1.3**
D23K **Nanushuk River** **89.16** **10** P **P** **08 15 52.9 +0.2**
baz=206,SNR=35
B21K **Ikpikpuk River** **89.18** **8** P **P** **08 15 52.1 -0.6**
baz=202
B20K **Meade River** **89.22** **7** P **P** **08 15 53.0 +0.1**
baz=200
F26K **Sheenjek River** **89.23** **12** P **P** **08 15 53.6 +0.5**
baz=212,SNR=20
PZH **PanZhiHua** **89.31** **298** P **P** **08 15 55.5 +1.0**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,120nm,4.7s
E25K **Arctic Village** **89.32** **12** P **P** **08 15 53.7 +0.2**
baz=211,SNR=20
H29M **Whitestone** **89.33** **15** P **P** **08 15 53.4 -0.1**
baz=218,SNR=44
KOTAN **Kotaneelee Air** **89.48** **24** P **P** **08 15 54.3 -0.1**
baz=230
D24K **Happy Valley** **89.63** **10** P **P** **08 15 54.4 -0.4**
baz=208
YAK **Yakutsk** **89.84** **338** *e*P **P** **08 15 55.5 -0.4**
YAK *e**PP **pP** **08 18 05.1 -0.9**
YAK *e* 08 19 39.1
YAK *e*S **SKSac** **08 25 28.6 -0.5**
YAK *e* 08 25 56.6
YAK *e*SS **SS** **08 32 19.9 +5.3**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,173nm,3.9s
YAK pmax pmax
comp=E,69nm,3.9s
YAK pmax pmax
comp=N,78nm,4.1s
YAK smax smax
comp=E,118nm,5.1s
YAK smax smax
comp=N,72nm,4.3s
EPYK **Eagle Plains** **89.86** **16** P **P** **08 15 55.3 -0.7**
baz=219
C23K **Itkillik River** **89.95** **9** P **P** **08 15 56.4 0.0**
baz=206,SNR=33
G29M **Pine Creek** **89.96** **15** P **P** **08 15 55.9 -0.5**

baz=218,SNR=20
B22K Teshekpuk Lake 90.01 8 P P 08 15 56.4 -0.2
baz=204
TROLL Troll, Antarti 90.03 180 ⇑P P 08 15 57.5 +0.4
comp=Z,1μm,0.8s
H31M Peel River 90.05 17 P P 08 15 56.4 -0.5
baz=221,SNR=16
C24K Franklin Bluff 90.16 10 P P 08 15 57.5 +0.3
baz=208
E27K Coleen River 90.18 13 P P 08 15 57.5 0.0
E27K IAmb IAmb 08 15 58.8
comp=Z,24nm,1.4s
E27K Coleen River 90.18 13 P P 08 15 57.5 0.0
baz=215
D25K Kavik River 90.20 11 P P 08 15 56.7 -0.9
baz=210
SNAA Sanae 90.32 179 ⇑P P 08 15 58.0 -0.3
comp=Z,175nm,0.8s
SNAA Sanae 90.32 179 P P 08 15 58.3 0.0
comp=Z,7.7nm,0.8s,baz=217,slow=4.6,SNR=21
comp=Z,7.7nm,0.8s
SNAA Sanae 90.32 179 *ce*P **P 08 15 59.1 +0.8**
SNAA pmax pmax
comp=Z,26nm,1.5s
A22K Sinclair Lake 90.42 7 P P 08 15 58.1 -0.3
baz=202
G30M tAoh Zraii Nji 90.46 15 P P 08 15 58.3 -0.5
baz=220,SNR=78
VNA3 Neumayer Olymp 90.47 176 ⇑P P 08 15 59.4 +0.5
comp=Z,27nm,0.6s
VNA2 Neumayer--Watz 90.90 177 ⇑P P 08 16 01.3 +0.4
comp=Z,18nm,0.7s,baz=179,slow=3.5
G31M Satah River 90.91 16 P P 08 16 00.3 -0.4
baz=221,SNR=53
C27K Jago River 90.96 11 P P 08 16 00.9 0.0
baz=213,SNR=28
E28M Babbage River 90.96 13 P P 08 16 01.1 0.0
baz=217,SNR=35
C26K Camden Bay 90.98 11 P P 08 16 01.5 +0.5
baz=212
F30M Barrier River 91.05 15 P P 08 16 00.8 -0.7
baz=220
LZH Lanzhou 91.08 308 *e*P **P 08 16 03.3 +0.8**
LZH pP PcP 08 16 21.8 +19
LZH pmax pmax
comp=Z,40nm,1.4s
PLCA Paso Flores 91.12 134 P P 08 16 03.5 +0.8
comp=Z,1.7nm,0.8s,baz=211,slow=5.2,SNR=3.5
comp=Z,1.7nm,0.8s
VNA1 Neumayer--Stat 91.13 177 ⇑P P 08 16 03.0 +1.1
comp=Z,31nm,0.9s
E29M Blow River 91.16 14 P P 08 16 01.4 -0.5
baz=218
D27M Malcolm River 91.18 13 P P 08 16 02.1 0.0
baz=215,SNR=22
F31M Tsiigehtchic 91.44 16 P P 08 16 02.8 -0.4
baz=222,SNR=56
WRGLY Wrigley 91.67 22 P P 08 16 04.5 +0.1
baz=231
D28M Stokes Point 91.72 13 P P 08 16 04.0 -0.4
baz=217
INK Inuvik 92.14 15 P P 08 16 05.5 -0.9
baz=222,SNR=35
EFI East Falkland 93.22 147 *i*P **P 08 16 12.0 +0.1**
EFI pmax pmax
comp=Z,52nm,1.6s
ULN Ulaanbaatar 93.38 319 *ce*P **P 08 16 12.9 +0.1**
ULN pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 93.78 319 P P 08 16 14.4 -0.1
comp=Z,2.1nm,0.7s,baz=121,slow=4.0,SNR=14
comp=Z,2.1nm,0.7s
YKA Yellowknife Ar 94.57 25 P P 08 16 17.3 -0.3
comp=Z,5.3nm,0.9s,baz=243,slow=4.7,SNR=56
YKA PP **PP 08 20 14.1 -2.5**
comp=Z,0.6nm,1.0s,baz=243,slow=8.2,SNR=4.7
YKA PKiKP **PKiKP 08 20 55.9 -0.2**
comp=Z,0.2nm,0.7s,baz=254,slow=1.7,SNR=5.3
comp=Z,5.3nm,0.9s
GTA Gaotai 95.23 310 *e*P **P 08 16 22.3 +0.9**
GTA pP PcP 08 16 40.5 +19
GTA pmax pmax
comp=Z,8.0nm,1.0s
C36M Paulatuk 95.35 17 P P 08 16 20.3 -0.6
baz=231,SNR=10
TIXI Tiksi 96.43 345 *ce*P **P 08 16 25.0 -0.8**
TIXI pmax pmax
comp=Z,21nm,3.7s
A36M Sachs Harbour 96.74 15 P P 08 16 27.0 -0.1
baz=230
NRIK Noril'sk 108.29 338 PKiKP **PKiKP 08 21 20.6 -0.2**
comp=Z,0.6nm,0.3s,baz=145,slow=1.9,SNR=3.9
MKAR Makanchi Array 109.34 314 Pdiff **Pdif 08 17 24.1 +0.2**
comp=Z,0.5nm,0.7s,baz=108,slow=4.7,SNR=4.1
MKAR PKKPbc **PKiKP 08 21 23.1 -0.4**
comp=Z,2.2nm,0.5s,baz=149,slow=0.6,SNR=24
MKAR PKKPbc **PKKPbc 08 32 31.6 -0.2**
comp=Z,0.7nm,0.7s,baz=270,slow=2.4,SNR=6.5
KURK Kurchatov 112.05 318 PKiKP **PKiKP 08 21 27.8 -0.6**
KURK PP **PP 08 22 20.8 -3.9**
KURBB Kurchatov Arra 112.10 318 PKiKP **PKiKP 08 21 27.8 -0.7**
comp=Z,3.6nm,0.7s,baz=93,slow=1.9,SNR=46
KURBB PP **PP 08 22 20.8 -4.3**
comp=Z,1.7nm,1.1s,baz=95,slow=6.7,SNR=5.6
KURBB PKKPbc **PKKPbc 08 32 23.0 -0.1**
comp=Z,0.6nm,0.7s,baz=269,slow=3.7,SNR=7.5
AAK Ala-Archa 114.58 309 PKiKP PKPdf 08 21 33.1 -0.7
comp=Z,2.2nm,0.8s,baz=132,slow=11,SNR=5.0
NEEM North Greenlan 115.39 11 *i*P **PKPdf 08 21 32.8 -1.7**
UPNV Upernavik 116.56 16 *i*P **PKPdf 08 21 36.0 -0.5**
SCHQ Schefferville 117.06 37 PKP **PKPdf 08 21 37.7 -0.3**
comp=Z,1.5nm,0.8s,baz=320,slow=5.5,SNR=5.4
BVAR Borovoye Array 117.07 321 PKP **PKPdf 08 21 37.5 -0.6**
comp=Z,8.0nm,0.5s,baz=84,slow=0.7,SNR=35
NUUG Nuugaatsiaq 117.94 17 *i*P **PKPdf 08 21 37.9 -1.3**
UMMG Uummannaq 118.66 18 *i*P **PKPdf 08 21 40.1 -0.5**
SPITS Spitsbergen Ar 119.54 357 PKP **PKPdf 08 21 42.1 -0.1**
comp=Z,12nm,0.8s,baz=37,slow=2.0,SNR=11
SFJD Kangerlussuaq 120.93 21 *i*P **PKPdf 08 21 43.2 -1.9**
SUMG Summit 120.99 13 *i*P **PKPdf 08 21 42.4 -3.2**
NUUK Nuuk 121.83 24 *i*P **PKPdf 08 21 45.9 -0.9**
DBG Daneborg 122.59 7 *i*P **PKPdf 08 21 46.5 -1.6**
ICESG Greenland Ices 123.09 16 *i*P **PKPdf 08 21 47.9 -1.7**
ARTI Arti 123.20 326 PKP **PKPdf 08 21 49.6 -0.1**
comp=Z,12nm,0.6s,baz=108,slow=1.6,SNR=19
ARTI Arti 123.20 326 *i*PKIKP **PKiKP 08 21 50.0 0.0**
ARTI 08 23 42.2
ARTI 08 28 04.9
ARTI SS SS 08 39 38.7 -1.4
AKTO Aktyubinsk 125.09 319 PKP **PKPdf 08 21 53.4 -0.1**
comp=Z,6.9nm,0.8s,baz=28,slow=0.9,SNR=21
SCO Scoresbysund 125.80 10 *i*P **PKPdf 08 21 54.0 -0.3**
ARCES ARCESS Array B 126.59 350 PKP **PKPdf 08 21 56.0 +0.1**
comp=Z,10.0nm,0.6s,baz=38,slow=2.0,SNR=40
KIRV Kirov 126.78 331 PKP **PKiKP 08 21 56.8 -0.3**
comp=Z,13nm,0.8s,baz=220,slow=1.5,SNR=7.5
BOSA Boshof 128.17 207 PKP **PKiKP 08 22 00.8 -0.2**
comp=Z,3.9nm,0.8s,baz=132,slow=3.1,SNR=5.4
KLMR Klimovskoe 129.62 337 *e*PKIKP **PKPdf 08 21 59.5 -2.3**
KLMR pmax pmax
comp=Z,33nm,1.2s
FINES FINESS Array B 133.46 344 PKhKP PKPpre 08 21 53.9
comp=Z,0.5nm,0.4s,baz=7.6,slow=4.2,SNR=4.3
FINES PKP **PKPdf 08 22 09.7 +0.6**
comp=Z,5.7nm,0.5s,baz=49,slow=1.6,SNR=7.6
VRH Novokhopyorsk 134.31 326 *e*PKIKP **PKPdf 08 22 11.1 +0.2**
VRH pmax pmax
comp=Z,19nm,0.5s
OBN Obninsk 134.55 332 *e*PKIKP **PKPdf 08 22 10.9 -0.3**
OBN *e* 08 24 29.3
OBN *e* 08 24 54.6
OBN *e*PPP PPP 08 27 55.6
OBN pmax pmax
comp=Z,8.0nm,0.7s
LPSR Galich'ya Gora 134.99 328 *e*PKIKP **PKPdf 08 22 12.0 -0.2**
LPSR pmax pmax
comp=Z,19nm,1.2s
VORR Voronezh 135.38 327 *e*PKIKP **PKPdf 08 22 13.4 +0.5**
VORR pmax pmax
comp=Z,68nm,0.5s
VSR Storozhevoye 135.66 327 *e*PKIKP **PKPdf 08 22 12.1 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 135.73 326 *e*PKIKP **PKPdf 08 22 11.4 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 136.65 353 PKP PKPpre 08 22 04.9
comp=Z,0.9nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 136.65 353 PKP **PKPdf 08 22 15.2 +0.2**
comp=Z,2.8nm,0.6s,baz=14,slow=4.0,SNR=9.8
GNI Garni 136.98 310 PKP **PKPdf 08 22 16.4 -0.1**
comp=Z,2.7nm,0.4s,baz=156,slow=3.9,SNR=3.8
KBZ Khabaz 137.02 315 PKP **PKiKP 08 22 17.5 -0.7**
comp=Z,2.7nm,0.8s,baz=152,slow=4.3,SNR=5.8
HFS Hagfors 137.21 351 PKhKP PKPpre 08 22 05.5
comp=Z,2.9nm,0.4s,baz=64,slow=3.4,SNR=17
HFS PKP **PKPdf 08 22 16.2 +0.1**
comp=Z,4.3nm,0.6s,baz=41,slow=1.9,SNR=6.4
MNK Minsk 138.52 337 *i*PKP **PKiKP 08 22 21.5 +0.6**
comp=E,24nm,0.7s
MNK *i*PKP **PKiKP 08 22 21.5 +0.6**
comp=N,10.0nm,0.5s
MNK *i*PKP **PKiKP 08 22 21.5 +0.6**
comp=Z,8.0nm,0.4s,baz=39
MNK *i*pPKP **pPKPdf 08 24 40.2 +2.3**
MNK *i*PP **PP 08 25 21.2 +4.0**
MNK *i*PPP PPP 08 28 30.1
MNK *i*SKS **SKSdf 08 28 35.5 +2.9**
MNK *i*SKKS **SKKSdf 08 38 07.2 +0.1**
MNK *i*SS **SS 08 42 49.9 +6.1**
MNK *i*SSS SSS 08 48 18.6
MNK *i*LR LR 09 22 16.2
MNK *i*LRM MLR 09 24 45.3
comp=E,425nm,23.0s
MNK *i*LRM MLR 09 25 05.4
comp=Z,44nm,13.1s
MNK *i*LRM MLR 09 25 51.3
comp=N,743nm,22.1s
MNK Minsk 138.52 337 *i*PKIKP **PKiKP 08 22 21.5 +0.6**
MNK *i* 08 24 40.2
MNK *i* 08 25 21.1
MNK *i*PPP PPP 08 28 30.1
MNK *i* 08 28 35.4
MNK *i*SS SS 08 42 49.9 +6.1
MNK pmax pmax
comp=N,10.0nm,0.5s
MNK pmax pmax
comp=Z,8.0nm,0.4s
MNK pmax pmax
comp=E,24nm,0.7s
MNK MLR MLR
comp=E,425nm,23.0s
MNK MLR MLR
comp=Z,44nm,13.0s
MNK MLR MLR
comp=N,743nm,22.0s
BORU Boraas 139.75 351 *i*P PKPpre 08 22 13.5
KMBO Kilima Mbogo 140.04 245 PKhKP PKPpre 08 22 17.6
comp=N,1.3nm,0.3s,baz=69,slow=6.6,SNR=4.8
FABU Falkenberg 140.36 350 *i*P PKPpre 08 22 15.1
BLEU Blekinge 140.46 348 *i*P PKPpre 08 22 14.9
SUW Suwalki 140.55 340 *e*PKP PKPpre 08 22 18.6
DEL Delary 140.68 349 *i*P PKPpre 08 22 16.0
AKASG Malin Array Be 140.81 332 PKhKP PKPpre 08 22 17.1
comp=N,6.8nm,0.4s,baz=44,slow=4.2,SNR=67
AKASG PKP **PKiKP 08 22 24.6 -1.1**
comp=N,2.9nm,0.4s,baz=43,slow=3.1,SNR=8.7
KIEV Kiev 140.83 332 ⇑P PKPpre 08 22 17.1
BJUU Bjuv 141.20 350 *i*P PKPpre 08 22 17.3
LAWE Loch Awe, Argy 141.62 6 *e*P PKPpre 08 22 19.4
BSD Bornholm Skovb 141.76 348 *i*P PKPpre 08 22 17.9
SIM Simferopol' 141.98 322 *e*PKIKP **PKPdf 08 22 22.8 -2.4**
SIM pmax pmax
comp=Z,52nm,1.1s
EKA Eskdalemuir Ar 142.74 5 PKhKP PKPpre 08 22 23.1
comp=Z,2.8nm,0.5s,baz=342,slow=3.0,SNR=15
NEWG New Galloway 142.86 6 *e*P **PKPdf 08 22 23.0 -3.4**
GKP Gorka Klasztor 142.93 344 *e*PKP **PKPdf 08 22 25.0 -1.5**
SORM Soroca 143.04 330 ⇑P PKPab 08 22 24.5 -0.3
GAL1 Galloway 143.06 6 *e*P PKPab 08 22 23.5 -1.1
BEL Belsk 143.17 340 *e*PKP PKPbc 08 22 26.2 +0.7
EDMD Edmundbyers 143.32 3 *e*P PKPab 08 22 24.0 -1.7
KESW Keswick, Cumbr 143.48 5 *e*P PKPab 08 22 25.2 -1.1
KMPD K-Podol'skiy 143.60 332 PKP PKPab 08 22 26.0 -0.9
BZK Bozkurt 143.65 318 ⇓P **PKPdf 08 22 28.2 0.0**
MILM Milestii Mici 143.66 328 ⇑P PKPab 08 22 27.2 0.0
MILM Milestii Mici 143.66 328 ⇑PKIKP PKPab 08 22 27.2 0.0
IOMK Kirk Michael 143.68 6 *e*P PKPbc 08 22 26.4 -0.6
ILTH Belurgan, Co L 143.70 8 *e*P PKPbc 08 22 26.2 -0.8
WIM Isle of Man 143.78 6 *e*P PKPbc 08 22 26.7 -0.6
GDLE Glaisdale, N Y 143.78 2 *e*P PKPbc 08 22 26.7 -0.6
LODK Lodwar 143.86 250 PKPdf PKPbc 08 22 28.9 0.0
HPK Haverah Park 144.21 3 *e*P PKPbc 08 22 28.4 -0.2
ILGA Ilgaz 144.29 316 PKPdf 08 22 29.8 +0.1
WPS Cemaes, Angles 144.53 6 *e*P **PKPdf 08 22 29.1 -0.2**
WME Myndd Eilian 144.56 6 *e*P PKPbc 08 22 30.0 +0.3
WLF1 Llynfaes 144.65 6 *e*P **PKPdf 08 22 28.6 -0.9**
LBWR Ladybower, Pea 144.75 3 *e*P **PKPdf 08 22 29.9 +0.1**
VLDR Vladesti 144.76 327 ⇑P **PKPab 08 22 31.8 +0.3**
TLCR 144.81 326 ⇑P **PKPab 08 22 31.4 -0.3**
TLCR 144.81 326 ⇑PKIKP **PKPab 08 22 31.4 -0.3**
BURAR Bucovina Array 144.87 332 ⇑P **PKPab 08 22 32.1 +0.1**
BURAR Bucovina Array 144.87 332 ⇑PKIKP **PKPab 08 22 32.1 +0.1**
OJC Ojcow 144.88 340 *e*PKP PKPbc 08 22 30.8 0.0
SCTR Scanteiesti 144.92 327 ⇓P **PKPab 08 22 32.5 +0.4**
TATR Tatarca 144.94 327 ⇑P **PKPab 08 22 32.5 +0.3**
GHRR 144.95 328 ⇓P **PKPab 08 22 32.6 +0.4**
BRTR Keskin Array B 144.99 315 PKPdf **PKPdf 08 22 29.7 -1.1**
BRTR Keskin Array B 144.99 315 PKP PKPbc 08 22 31.8 0.0
comp=Z,20nm,0.8s,baz=134,slow=3.6,SNR=68
BRTR Keskin Array B 144.99 315 PKIKP **PKPdf 08 22 29.7 -1.1**
TESR Tescani 145.01 329 ⇑P **PKPbc 08 22 31.6 +0.3**
STHS Stebnicka Huta 145.05 337 *e*PKIKP **PKPbc 08 22 31.8 +0.4**
STHS Stebnicka Huta 145.05 337 *e*PKP **PKPbc 08 22 31.8 +0.4**
STHS *e* 08 22 50.2
KOLS Kolonicke sedl 145.06 336 *e*PKIKP **PKPab 08 22 32.4 -0.2**
KOLS Kolonicke sedl 145.06 336 *e*PKP **PKPab 08 22 32.4 -0.2**
KOLS *e* 08 22 51.2
NEGRR Negrea 145.07 327 ⇓P **PKPab 08 22 32.8 +0.1**
KIRS Kirsehir-Merke 145.08 313 ⇑P **PKPbc 08 22 31.7 -0.2**
IZVR Izvoarele 145.12 327 ⇓P **PKPab 08 22 32.6 -0.3**
COSR Cosmesti PH 145.14 328 ⇑P **PKPab 08 22 33.6 +0.7**
FOEL Foel Wylfa 145.16 5 *e*P **PKPbc 08 22 31.4 -0.2**
CFR Carcaliu 145.18 326 ⇓P **PKPab 08 22 32.5 -0.6**
TPGR Topolog 145.24 326 ⇑P **PKPab 08 22 33.3 -0.1**
IWEX Carrickbyrne, 145.25 9 *e*P **PKPbc 08 22 31.8 0.0**
ONER Baraj Valea Uz 145.26 329 ⇑P **PKPab 08 22 33.0 -0.5**
ODBI Odobesti 145.33 328 ⇑P **PKPab 08 22 34.1 +0.4**
ASF Jabal al Asfar 145.34 301 PKPbc **PKPab 08 22 33.8 -0.6**
comp=Z,27nm,0.9s,baz=126,slow=1.7,SNR=25
KSP Ksiaz 145.38 344 *e*PKP **PKPbc 08 22 32.3 +0.1**
NIE Niedzica 145.39 338 *e*PKP **PKPbc 08 22 32.6 +0.2**
VRI Vrincioaia 145.43 328 ⇑P **PKPbc 08 22 32.3 -0.3**
VRI Vrincioaia 145.43 328 ⇑PKIKP **PKPbc 08 22 32.3 -0.3**
PLOR Plostina 145.47 329 ⇓P **PKPbc 08 22 33.0 +0.2**
PLOR Plostina 145.47 329 ⇓PKIKP **PKPbc 08 22 33.0 +0.2**
ANTO Ankara 145.49 315 ⇑P **PKPdf 08 22 31.9 +0.4**
ANTO Ankara 145.49 315 ⇑PKIKP **PKPdf 08 22 31.9 +0.4**
TIRR Tirgusor 145.51 325 ⇓P **PKPbc 08 22 33.1 +0.3**
TIRR Tirgusor 145.51 325 ⇓PKIKP **PKPbc 08 22 33.1 +0.3**
WACR West Acre 145.52 1 *e*P **PKPbc 08 22 32.0 -0.5**
BMR Baia Mare 145.57 334 ⇑P **PKPab 08 22 33.8 -0.8**
HARR Harsova 145.61 326 ⇓P **PKPab 08 22 34.1 -0.7**
ARCR ARCALIA 145.65 332 ⇓P **PKPab 08 22 34.5 -0.5**
OSTC Ostas 145.66 343 ⇑*e*PKP **PKPbc 08 22 33.9 +0.8**
OSTC *e*PKPAB PKiKP 08 22 53.0 +17
OSTC Ostas 145.66 343 *e*PKP2 **PKPbc 08 22 33.9 +0.8**
MFTR Murfatlar 145.68 325 ⇓P **PKPbc 08 22 34.1 +0.8**
COVR Voineasa-Covas 145.70 329 ⇑P **PKPbc 08 22 34.0 +0.6**
OZUR 145.72 330 ⇑P **PKPab 08 22 34.8 -0.5**
CLL Collm 145.74 347 PKPdf **PKPbc 08 22 32.4 -0.9**
CLL Collm 145.74 347 ⇓*i*PKP2 **PKPbc 08 22 33.8 +0.6**
CLL pmax pmax
comp=Z,142nm,0.7s
CLL Collm 145.74 347 *e*PKPdf **PKPdf 08 22 32.0 +0.5**
CLL ⇓*i*PKPbc **PKPbc 08 22 33.8 +0.6**
comp=Z,142nm,0.7s
OKC Ostrava-Krasne 145.74 341 ⇑*e*PKP **PKPbc 08 22 34.2 +0.9**
OKC Ostrava-Krasne 145.74 341 *e*PKP2 **PKPbc 08 22 34.2 +0.9**
UPC Upice 145.76 344 ⇑*e*PKP **PKPbc 08 22 34.2 +0.8**
UPC Upice 145.76 344 *e*PKP2 **PKPbc 08 22 34.2 +0.8**
STEB Steborice 145.77 341 *e*PKPAB PKiKP 08 22 52.8 +17
DPC Dobruska-Polom 145.82 343 ⇑*e*PKP **PKPab 08 22 34.6 -0.9**
DPC *e*PKPAB PKiKP 08 22 53.0 +17
DPC Dobruska-Polom 145.82 343 *e*PKP2 **PKPab 08 22 34.6 -0.9**
MANR Mangalia 145.82 324 ⇓P **PKPab 08 22 34.8 -0.9**
RSBS Rosebush, Pemb 145.93 7 *e*P **PKPdf 08 22 31.7 -0.1**
KRLC Kraliky 145.94 342 ⇑*e*PKP **PKPbc 08 22 34.6 +0.7**
KRLC Kraliky 145.94 342 *e*PKP2 **PKPbc 08 22 34.6 +0.7**
BRG Berggiesshubel 145.94 346 *e*PKP **PKPdf 08 22 32.5 +0.7**
BRG Amp 08 22 33.4
comp=Z,11nm,1.0s
BRG Berggiesshubel 145.94 346 P **PKPbc 08 22 34.6 +0.8**
BRG Amp 08 22 35.4
comp=Z,53nm,0.8s
MORC Moravsky Berou 145.98 341 *e*PKP **PKPbc 08 22 34.1 0.0**
MORC Moravsky Berou 145.98 341 ⇑P **PKPbc 08 22 33.8 -0.3**
MORC Moravsky Berou 145.98 341 ⇑PKIKP **PKPbc 08 22 33.8 -0.3**
DOPR Dopca 146.01 330 ⇓P **PKPab 08 22 35.5 -0.9**
ISR Istrita 146.04 328 ⇓P **PKPbc 08 22 35.3 +0.9**
ISR Istrita 146.04 328 ⇓PKP2 **PKPbc 08 22 35.3 +0.9**
MCH1 Michaelchurch 146.06 5 *e*P **PKPbc 08 22 33.5 -0.6**
MLR Muntele Rosu 146.08 329 PKPbc **PKPbc 08 22 34.8 +0.2**
comp=Z,18nm,0.6s,baz=24,slow=2.1,SNR=23
MLR Muntele Rosu 146.08 329 ⇑P **PKPbc 08 22 34.4 -0.2**
MLR Muntele Rosu 146.08 329 ⇑PKIKP **PKPbc 08 22 34.4 -0.2**
KECS Kecovo 146.11 337 *e*PKP2 **PKPbc 08 22 35.0 +0.6**
KECS Kecovo 146.11 337 *e*PKP **PKPbc 08 22 35.0 +0.6**
KECS *e* 08 22 53.7
MONM Monmouth 146.23 5 *e*P **PKPdf 08 22 33.4 +1.1**
CBBR Cluj-Babes-Bol 146.25 332 ⇑P **PKiKP 08 22 36.2 -0.9**
CJR Cluj-Napoca 146.27 332 ⇑P **PKPbc 08 22 35.7 +0.7**
CJR Cluj-Napoca 146.27 332 ⇑PKP2 **PKPbc 08 22 35.7 +0.7**
HSKC Hora Svate Kat 146.30 346 ⇑*e*PKP **PKPbc 08 22 35.5 +0.6**
MMAI Mount Meron Ar 146.31 303 PKPbc **PKPbc 08 22 36.5 +1.0**
comp=Z,16nm,0.4s,baz=75,slow=4.4,SNR=30
MARR Marisel-Cluj 146.51 333 ⇓P **PKPbc 08 22 36.5 +0.8**
VOIR 146.56 329 ⇑P **PKPbc 08 22 35.8 0.0**
VOIR 146.56 329 ⇑PKIKP **PKPbc 08 22 35.8 0.0**
DRGR 146.59 333 ⇓P **PKPbc 08 22 36.5 +0.6**
DRGR 146.59 333 ⇓PKP2 **PKPbc 08 22 36.5 +0.6**
PRU Pruhonice 146.62 345 ⇑*e*PKP **PKPbc 08 22 36.5 +0.8**
PRU *e*PKPAB PKPab 08 22 54.5 +16
PRU Pruhonice 146.62 345 *e*PKP2 **PKPbc 08 22 36.5 +0.8**
GOPC GO Pecny, Ondr 146.62 344 ⇑*e*PKP **PKPbc 08 22 36.5 +0.7**
GOPC *e*PKPAB PKPab 08 22 55.2 +16
GOPC GO Pecny, Ondr 146.62 344 *e*PKP2 **PKPbc 08 22 36.5 +0.7**
VRAC Vranov 146.68 342 PKPbc **PKPbc 08 22 36.8 +0.9**
comp=Z,20nm,0.9s,baz=30,slow=2.0,SNR=20
VRAC Vranov 146.68 342 *e*PKP **PKPbc 08 22 36.1 +0.2**
VRAC Vranov 146.68 342 ⇓P **PKPbc 08 22 36.2 +0.2**
VRAC Vranov 146.68 342 ⇓PKP2 **PKPbc 08 22 36.2 +0.3**
JAVC Velka Javorina 146.75 341 *e*PKP **PKiKP 08 22 37.5 -0.6**
PSZ Piszkesteto 146.80 337 ⇑P **PKPbc 08 22 37.0 +0.6**
PSZ Piszkesteto 146.80 337 ⇑PKP2 **PKPbc 08 22 37.0 +0.6**
ARR Arges 146.81 330 ⇑P **PKPbc 08 22 37.4 +0.9**
NKC Novy Kostel 146.87 347 ⇑*e*PKP **PKiKP 08 22 37.4 -0.9**
NKC *e*PKPAB PKPab 08 22 55.7 +16
NKC Novy Kostel 146.87 347 *e*PKP2 **PKiKP 08 22 37.4 -0.9**
HTL Hartland 146.90 7 *e*P **PKPbc 08 22 36.1 -0.3**
KRUC Moravsky 146.96 342 *e*PKP **PKPbc 08 22 36.6 -0.1**
ELSH Elham, Standar 147.11 1 *e*P **PKPbc 08 22 37.0 +0.1**
RAZG Razgrad 147.12 326 ⇑P **PKPbc 08 22 37.5 +0.2**
SMOL Smolenice 147.13 341 *e*PKP2 **PKiKP 08 22 38.8 -0.1**
ZVC Zvikov 147.21 345 ⇑*e*PKP **PKPbc 08 22 38.0 +0.7**
MODS Modra-Piesok 147.30 341 *e*PKP2 **PKiKP 08 22 38.6 -0.6**
MODS Modra-Piesok 147.30 341 *e*PKP **PKiKP 08 22 38.6 -0.6**
MODS *e* 08 22 57.9
UCC Uccle 147.38 357 *d*PKP **PKPbc 08 22 38.0 +0.3**
UCC *dx* x 08 22 56.4
SIRR Siria 147.45 334 ⇓P **PKiKP 08 22 39.0 -0.6**
MEM Membach 147.46 355 *d*PKPdf **PKPdf 08 22 34.8 +0.4**
MEM *d*PKP **PKPbc 08 22 38.0 +0.1**
BTNL Ternell 147.47 355 *d*PKPdf **PKPdf 08 22 34.7 +0.2**
BTNL *d*PKP **PKPbc 08 22 38.1 +0.1**
BTNL *dx* x 08 22 56.5
DYA Yadsworthy 147.52 7 *e*P **PKPbc 08 22 37.3 -0.8**
BSTI Sart Tilman 147.52 355 *d*PKP **PKPbc 08 22 38.6 +0.5**
BSTI *dx* x 08 22 57.3
EIL Elat 147.57 297 PKPbc **PKPbc 08 22 39.1 +0.3**
comp=Z,30nm,1.0s,baz=17,slow=1.6,SNR=19
CCA1 Carnmenellis 147.60 8 *e*P **PKPbc 08 22 37.6 -0.6**
GRA1 Grafenberg Arr 147.63 348 PKPbc 08 22 38.0 -0.4
GRF Grafenberg Arr 147.63 348 PKiKP **PKPbc 08 22 38.0 -0.4**
GRFO Grafenberg 147.63 348 PKPbc 08 22 38.1 -0.3
GRFO Grafenberg 147.63 348 PKiKP **PKPbc 08 22 38.1 -0.3**
KHC Kasperske Hory 147.65 345 ⇑*e*PKP **PKiKP 08 22 39.2 -0.8**
KHC *e*PKPAB PKPab 08 22 57.8 +15
KHC Kasperske Hory 147.65 345 *e*PKP2 **PKiKP 08 22 39.2 -0.8**
GZR Gura Zlata 147.65 332 ⇑P **PKPbc 08 22 38.5 -0.2**
GZR Gura Zlata 147.65 332 ⇑PKIKP **PKPbc 08 22 38.5 -0.2**
SURR Surduc 147.66 333 ⇓P **PKPbc 08 22 38.9 +0.3**
BCLA Clavier 147.70 356 *d*PKP **PKPbc 08 22 38.9 +0.4**
BCLA *d*PKPab **PKPab 08 22 42.9 -0.1**
BHOU Houvegnez 147.71 355 *d*PKPdf **PKPdf 08 22 35.6 +0.8**
BHOU *d*PKP **PKPbc 08 22 39.2 +0.6**
BHOU *d*PKPab **PKPab 08 22 42.8 -0.3**
BHOU *dx* x 08 22 57.8
CKRC Cesky Krumlov 147.75 344 ⇑*e*PKP **PKiKP 08 22 39.5 -0.7**
CKRC Cesky Krumlov 147.75 344 *e*PKP2 **PKiKP 08 22 39.5 -0.7**
BGES Gesves 147.75 356 *d*PKP **PKPbc 08 22 38.9 +0.2**
BGES *d*PKPab **PKPab 08 22 42.9 -0.3**
BMRD Maredsous 147.86 356 *d*PKPdf **PKPdf 08 22 36.0 +0.9**
BMRD *d*PKP **PKPbc 08 22 39.4 +0.5**
BMRD *d*PKPab **PKPab 08 22 43.3 -0.4**
BMRD *dx* x 08 22 57.8
GERES GERESS Array B 147.88 345 PKPbc **PKPbc 08 22 39.3 +0.1**
comp=Z,27nm,0.7s,baz=46,slow=3.9,SNR=123
RCHB Rochefort 147.97 356 *d*PKPdf **PKPdf 08 22 35.9 +0.7**
RCHB *d*PKP **PKPbc 08 22 39.5 +0.3**
RCHB *dx* x 08 22 58.4
BZS Buzias 147.99 333 ⇑P **PKiKP 08 22 40.2 -0.5**
BZS Buzias 147.99 333 ⇑PKP2 **PKiKP 08 22 40.2 -0.5**
DOU Dourbes 148.07 356 *d*PKP **PKPbc 08 22 40.0 +0.5**
CONA Conrad Observa 148.13 342 *e*PKP **PKPdf 08 22 36.3 +0.6**
comp=Z,9.9nm,1.6s
CONA *i*PKP **PKPbc 08 22 40.4 +0.5**
comp=Z,100nm,1.0s,SNR=24
RONA Rosalia, Austr 148.20 341 *i*PKP **PKPbc 08 22 40.4 +0.5**
comp=Z,87nm,1.2s,SNR=19
HERR Herculane 148.21 331 ⇓P **PKPbc 08 22 40.4 +0.4**
BAND Balkesir-Ban 148.25 320 ⇑P **PKPbc 08 22 39.9 -0.4**
WLF Walferdange 148.38 354 *d*PKP **PKiKP 08 22 41.4 0.0**
WLF *dx* x 08 23 00.0
MOA Molln 148.66 344 *i*PKP **PKPbc 08 22 41.3 +0.3**
comp=Z,117nm,1.5s,SNR=9.7
MORH Mrgy, Hungar 148.69 337 ⇓P **PKPbc 08 22 40.4 -0.7**
ARSA Arzberg 148.84 342 *i*PKP **PKPbc 08 22 41.5 0.0**
comp=Z,812nm,0.0s,SNR=7.0
JSA Saint Aubin 148.92 5 *e*P **PKPbc 08 22 41.5 0.0**
BIOA Bad Ischl, Aus 148.97 344 *e*PKP **PKPdf 08 22 37.2 +0.2**
comp=Z,1.9nm,0.5s
BIOA *i*PKP **PKPbc 08 22 41.8 0.0**
comp=Z,61nm,1.1s,SNR=11
FRGS Fruska Gora 149.12 335 ⇑*i*P **PKPbc 08 22 41.9 -0.3**
LESA Schwarzleotal 149.46 345 *e*PKP **PKPdf 08 22 37.9 +0.1**
comp=Z,9.2nm,1.0s
LESA *i*PKP **PKPbc 08 22 42.9 -0.2**
comp=Z,44nm,1.0s,SNR=9.3
BOVS Bovan 149.49 331 ⇑P **PKPbc 08 22 43.1 0.0**
SOKA Soboth 149.50 342 *i*PKP **PKPbc 08 22 42.6 -0.5**
comp=Z,63nm,1.0s,SNR=13
KBA Koelnbreinsper 149.61 344 *e*PKP **PKPdf 08 22 38.2 0.0**
comp=Z,9.0nm,1.7s
KBA *i*PKP **PKPbc 08 22 43.0 -0.6**
comp=Z,27nm,0.6s,SNR=12
TEKS Tekeris 149.73 334 *e*P **PKPbc 08 22 43.4 -0.3**
WATA Walderalm 149.80 346 *e*PKP **PKPdf 08 22 38.8 +0.4**
comp=Z,11nm,1.4s
WATA *i*PKP **PKPbc 08 22 43.7 -0.3**
comp=Z,73nm,0.9s,SNR=13
OBKA Obir 149.80 342 *e*P **PKPbc 08 22 43.2 -0.7**
RETA Reutte 149.83 348 *i*PKP **PKPbc 08 22 44.1 +0.2**
comp=Z,47nm,0.9s,SNR=7.1
RETA *e*PKP **PKPab 08 22 51.9 -0.1**
comp=Z,18nm,0.8s
WTTA Wattenberg 149.85 346 *e*PKP **PKPdf 08 22 38.6 +0.1**
comp=Z,11nm,1.1s
WTTA *i*PKP **PKPbc 08 22 44.1 0.0**
comp=Z,111nm,0.8s,SNR=18
MOTA Moosalm 149.89 347 *e*PKP **PKPdf 08 22 38.7 +0.1**
comp=Z,14nm,1.2s
MOTA *i*PK

ABTA Abfaltersbach 150.13 345 *i* PKP **PKPdf 08 22 38.5 -0.4**
comp=Z,17nm,1.0s
ABTA *i* PKP **PKPbc 08 22 44.0 -0.6**
comp=Z,115nm,1.0s,SNR=12
DAVA Damuels 150.19 349 *i* PKiKP **PKiKP 08 22 45.4 0.0**
comp=Z,90nm,1.2s,SNR=21
LJU Ljubljana 150.22 342 *i* PKPbc **PKPbc 08 22 44.6 -0.2**
LJU *i* 08 23 03.6
CRNS Crni Vrh 150.27 342 *i* ePKPbc **PKPbc 08 22 44.2 -0.7**
CRNS 08 23 03.3
FETA Feichten 150.28 347 *e*PKP **PKPdf 08 22 39.0 -0.2**
comp=Z,16nm,0.9s
FETA *e*PKP **PKPbc 08 22 45.1 0.0**
comp=Z,71nm,1.0s
BBLS Lazi&#263i 150.33 333⇑ *i* P **PKPbc 08 22 45.3 +0.1**
A051A Mrakovica 150.35 338⇑ *i* P **PKPbc 08 22 44.6 -0.6**
BLY Banja Luka 150.48 337⇑ *i* P **PKPbc 08 22 45.4 0.0**
BOJS Bojanci 150.49 340 *e*PKPbc **PKiKP 08 22 45.7 -0.2**
BOJS Bojanci 150.49 340 *e*P **PKiKP 08 22 45.7 -0.2**
CEY Cerknica 150.53 342⇑ *i* P **PKPbc 08 22 44.9 -0.7**
RUDO Rudo 150.55 333 *e*P **PKPbc 08 22 44.7 -0.9**
SJES Sjenica 150.57 332 *e*P **PKiKP 08 22 46.1 -0.2**
DAVOX Davos/Dischmat 150.68 348 PKP **PKPdf 08 22 39.6 -0.2**
comp=Z,6.1nm,0.7s,baz=280,slow=1.9,SNR=7.7
DAVOX PKPbc **PKiKP 08 22 46.8 +0.3**
comp=Z,50nm,0.7s,baz=7.3,slow=0.1,SNR=56
FUORN Ofenpass-Fuorn 150.75 348 PKPbc 08 22 46.1 -0.2
VAY Valandovo 150.78 327 *i* P **PKPbc 08 22 45.9 -0.3**
SKDS Skadanscina 150.83 342 *e*P **PKPbc 08 22 45.2 -1.0**
A050A Klekovaca 150.95 338⇑ *i* P **PKPbc 08 22 46.2 -0.4**
CTI Castel Tesino 150.99 346 PKPbc 08 22 45.9 -0.8
CTI Castel Tesino 150.99 346 PKIKP **PKPbc 08 22 45.9 -0.8**
BRY Bratogost 151.49 333 *e*P **PKPbc 08 22 46.9 -1.1**
PDG Podgorica 151.55 332⇑ *i* P **PKPbc 08 22 47.3 -0.6**
TREB Trebinje 151.72 333 *e*P **PKPbc 08 22 47.5 -0.8**
DRME Dracevica, Mon 151.78 332 *e*P **PKPbc 08 22 48.2 -0.2**
OHR Ohrid 151.84 328 *i* P **PKiKP 08 22 49.0 +0.1**
STON Ston 151.86 334 *e*P **PKPbc 08 22 47.3 -1.2**
IDI Anoyia 153.23 314 PKPbc **PKiKP 08 22 52.1 +0.1**
comp=Z,6.6nm,0.5s,baz=308,slow=9.7,SNR=8.2
PBRG Braganca 155.39 15 *e*PKPab **PKPab 08 23 15.9 0.0**
PBRG *i* tx tx 08 23 35.3
POLO Lamas de Olo 155.52 17 *e*PKPdf **PKPdf 08 22 47.8 +1.0**
POLO *e*PKPab **PKPab 08 23 17.0 +0.5**
POLO *i* tx tx 08 23 35.2
PVRL Vila Real 155.63 17 *e*PKPab **PKPab 08 23 17.7 +0.8**
MVO Moncorvo 155.92 16 *e*PKPdf **PKPdf 08 22 48.5 +1.2**
MVO *e*PKPab **PKPab 08 23 19.0 +0.9**
MVO *i* tx tx 08 23 37.0
PVIS Viseu 156.10 18 *e*PKPab **PKPab 08 23 19.5 +0.5**
PVIS *i* tx tx 08 23 39.0
PCAS Casmilo, Conde 156.52 20 *e*PKPab **PKPab 08 23 21.0 +0.3**
PCBR Castelo Branco 157.03 18 *e*PKPdf **PKPdf 08 22 50.2 +1.6**
PCBR *e*PKPab **PKPab 08 23 24.1 +1.2**
PMRV Marv??o 157.43 18 *e*PKPdf **PKPdf 08 22 49.6 +0.5**
PMRV *e*PKPab **PKPab 08 23 24.7 0.0**
PESTR Estremoz 157.88 19 *e*PKPab **PKPab 08 23 26.7 0.0**
ESDC Sonseca Array 158.04 12 PKP **PKPdf 08 22 49.8 -0.2**
comp=Z,1.4nm,0.9s,baz=358,slow=3.4,SNR=6.1
ESDC PKPab **PKPab 08 23 27.4 0.0**
comp=Z,5.6nm,0.9s,baz=344,slow=5.1,SNR=16
PBAR Barrancos 158.69 19 *e*PKPab **PKPab 08 23 29.9 -0.3**
PBDV Barranco-do-Ve 159.24 22 *e*PKPdf **PKPdf 08 22 48.0 -3.4**
PBDV *e*PKPab **PKPab 08 23 32.6 0.0**
KEST Kesra 161.23 340 PKPab **PKPab 08 23 40.8 -0.7**
comp=Z,7.9nm,0.8s,baz=134,slow=2.1,SNR=3.8
DBIC Dimbokro 166.93 150 PKP **PKPdf 08 22 58.7 -0.5**
comp=Z,4.7nm,0.7s,baz=122,slow=1.5,SNR=6.2
TORD Torodi Ar. Bea 174.99 181 PKPdf **PKPdf 08 23 02.1 -1.2**
TORD Torodi Ar. Bea 174.99 181 PKP **PKPdf 08 23 02.8 -0.5**
comp=Z,4.1nm,0.9s,baz=135,slow=0.3,SNR=17
TORD PP **PP 08 28 34.5 +0.3**
comp=Z,1.5nm,0.9s,baz=160,slow=1.8,SNR=5.5

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*NEIC **28** 08:04:17.3±1.6, 17°.9S±0°.1×178°.5W±0°.1, h559km±8km, mb4.7/31, Error ellipse: s-maj=21.3km s-min=14.2km az=167.0*
*IDC **28** 08:04:20.3±1.2, 18°.18S×178°.46W, h606km±13km, mb3.9/20, mbtmp4.9/23, Error ellipse: s-maj=13.1km s-min=9.7km az=161.0*
ISC 28 08:04:19.3±0.3, 18°.12S±0°.09×178°.42W±0°.06, h600km, n97, σ0°86/100, mb4.6/36, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.38**	**276**	P	**P**	08 05 35.1	-5.8
MSVF	**Nonsavu**	**3.38**	**276**	P	**P**	**08 05 41.7**	**+0.8**
	494nm,0.6s,baz=123,slow=22,SNR=14						
FUTU	**Fugatoga**	**3.80**	**4**	P	P	08 05 35.3	-8.3
NIUE	**Niue**	**8.11**	**98**	P	**P**	**08 06 16.9**	**-2.8**
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**08 07 24.2**	**-1.2**
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**08 07 24.9**	**-0.5**
	30nm,0.7s,baz=100,slow=21,SNR=7.1						
ONTNC	**Ouen Toro**	**14.79**	**251**	P	**P**	**08 07 23.6**	**-2.0**
RAR	**Rarotonga**	**17.83**	**103**	P	**P**	**08 07 53.3**	**-0.1**
RAR	**Rarotonga**	**17.83**	**103**	P	**P**	**08 07 53.5**	**0.0**
	60nm,0.9s,baz=241,slow=7.4,SNR=6.2						
PPT	**Papeete**	**27.45**	**93**	P	**P**	**08 09 19.4**	**+0.2**
	32nm,0.4s,baz=44,slow=2.5,SNR=5.8						
PPTF	**Pamatai, Papee**	**27.46**	**93**	P	**P**	**08 09 19.3**	**-0.1**
PPTF				IAmb	IAmb	08 09 22.7	
	comp=Z,37nm,0.7s						
ARMA	**Armidale**	**29.82**	**240**	P	**P**	**08 09 41.2**	**+1.5**
ARMA				IAmb	IAmb	08 09 56.7	
	comp=Z,24nm,1.4s						
TOO	**Toolangi**	**37.03**	**231**	P	**P**	**08 10 40.3**	**+0.4**
TAOE	**Nuku Hiva Isla**	**38.27**	**81**	P	**P**	**08 10 50.2**	**-0.2**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**08 10 52.6**	**+0.6**
	comp=Z,5.5nm,0.5s,baz=45,slow=9.7,SNR=3.8						
STKA				PcP	**PcP**	**08 12 49.4**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=75,slow=2.0,SNR=2.6						
	comp=Z,5.5nm,0.5s						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**08 11 40.6**	**+0.8**
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**08 11 40.0**	**+0.2**
	comp=Z,3.3nm,0.4s,baz=96,slow=6.9,SNR=11						
WRA				PcP	**PcP**	**08 13 09.8**	**+0.3**
	comp=Z,3.9nm,0.4s,baz=89,slow=3.7,SNR=6.8						
WRA				S	**S**	**08 17 31.7**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=98,slow=13,SNR=3.0						
WRA				PKiKP	**PKiKP**	**08 20 05.8**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=98,slow=1.5,SNR=4.5						
	comp=Z,3.3nm,0.4s						
AS31	**Alice Springs**	**44.72**	**254**	P	**P**	**08 11 41.5**	**+0.7**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**08 11 41.2**	**+0.4**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**08 11 41.1**	**+0.2**
	comp=Z,24nm,0.5s,baz=89,slow=8.2,SNR=5.8						
ASAR				PcP	**PcP**	**08 13 10.2**	**+0.2**
	comp=Z,8.3nm,0.5s,baz=102,slow=4.0,SNR=8.7						
ASAR				S	**S**	**08 17 34.2**	**-1.1**
	comp=Z,4.8nm,1.0s,baz=95,slow=13,SNR=5.8						
ASAR				PKiKP	**PKiKP**	**08 20 05.7**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=95,slow=1.2,SNR=1.8						
	comp=Z,24nm,0.5s						
GUMO	**Guam**	**48.00**	**309**	P	**P**	**08 12 05.5**	**0.0**
FORT	**Forrest**	**49.91**	**245**	P	**P**	**08 12 18.7**	**-0.7**
FORT				IAmb	IAmb	08 12 19.7	
	comp=Z,35nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.98**	**261**	P	**P**	**08 12 41.7**	**0.0**
PSA00	**Pilbara Seismi**	**57.84**	**256**	P	**P**	**08 13 14.6**	**-0.7**
PSA00				IAmb	IAmb	08 13 15.8	
	comp=Z,19nm,0.8s						
VNDA	**Vanda**	**60.23**	**185**	P	**P**	**08 13 31.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=23,slow=13,SNR=1.5						
	comp=Z,0.8nm,0.5s						
MORW	**Morawa**	**60.38**	**246**	P	**P**	**08 13 31.5**	**-0.7**
GIRL	**Giralia**	**62.82**	**253**	P	**P**	**08 13 49.2**	**+1.2**
JHJ2	**Mitsune**	**64.70**	**322**	P	**P**	**08 13 59.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**66.02**	**269**	P	**P**	**08 14 06.6**	**-1.8**
JAGI				IAmb	IAmb	08 14 08.8	
	comp=Z,26nm,0.8s						
JGF	**Kuroka**	**67.90**	**322**	P	**P**	**08 14 18.9**	**-0.5**
JGF				IAmb	IAmb	08 14 25.9	
	comp=Z,39nm,1.5s						
MJAR	**Matsushiro Arr**	**68.07**	**323**	P	**P**	**08 14 20.2**	**-0.2**
	comp=Z,17nm,0.7s,baz=156,slow=5.6,SNR=12						
	comp=Z,17nm,0.7s						
YOJ	**Yonaguni jima**	**71.06**	**305**	P	**P**	**08 14 38.0**	**-0.3**
JKA	**Kamikawa-asahi**	**71.46**	**331**	P	**P**	**08 14 41.3**	**+1.0**
JKA				IAmb	IAmb	08 14 59.0	
	comp=Z,26nm,1.1s						
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**08 14 43.1**	**+0.1**
	comp=Z,8.7nm,0.6s,baz=180,slow=0.3,SNR=6.4						
	comp=Z,8.7nm,0.6s						
SSLB	**Suanglung**	**72.34**	**303**	P	**P**	**08 14 44.9**	**-1.0**
UNV	**Unalaska Valle**	**72.40**	**7**	P	**P**	**08 14 43.8**	**-1.7**
UNV				IAmb	IAmb	08 14 45.3	
	comp=Z,27nm,0.7s						
PETK	**Petropavlovsk-**	**73.88**	**345**	P	**P**	**08 14 53.4**	**-0.6**
PETK	**Petropavlovsk-**	**73.88**	**345**	P	**P**	**08 14 54.1**	**+0.1**
	comp=Z,18nm,0.6s,baz=108,slow=6.9,SNR=14						
	comp=Z,18nm,0.6s						
KSRS	**Korea Array**	**74.85**	**318**	P	**P**	**08 15 01.1**	**+1.3**
	comp=Z,3.9nm,0.8s,baz=128,slow=6.2,SNR=8.2						
	comp=Z,3.9nm,0.8s						
SAO	**San Andreas Ge**	**76.59**	**44**	P	**P**	**08 15 09.4**	**+0.1**
SAO				IAmb	IAmb	08 15 11.6	
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**76.78**	**326**	P	**P**	**08 15 12.3**	**+2.1**
	comp=Z,5.4nm,0.6s,baz=124,slow=5.0,SNR=8.6						
	comp=Z,5.4nm,0.6s						
CBX	**Cerro Bola**	**77.49**	**50**	P	**P**	**08 15 15.3**	**+0.8**
CBX				IAmb	IAmb	08 15 28.7	
	comp=Z,20nm,1.1s						
OHAK	**Old Harbor**	**77.94**	**14**	P	**P**	**08 15 16.1**	**-0.1**
OHAK				IAmb	IAmb	08 15 17.2	
	comp=Z,18nm,0.8s						
ACHA	**Angle Creek He**	**78.42**	**12**	P	**P**	**08 15 18.7**	**-0.1**
BEKR	**Beckworth**	**79.06**	**42**	P	**P**	**08 15 22.7**	**-0.1**
M13K	**Dall Lake**	**79.20**	**8**	P	**P**	**08 15 22.4**	**-0.3**
M13K				IAmb	IAmb	08 15 27.3	
	comp=Z,30nm,1.1s						
BBOR	**Butler Butte**	**79.41**	**38**	P	**P**	**08 15 25.4**	**+0.8**
N15K	**Kwethluk River**	**79.42**	**9**	P	**P**	**08 15 23.9**	**-0.1**
N15K				IAmb	IAmb	08 15 25.5	
	comp=Z,17nm,0.7s						
I02E	**Swisshome, OR**	**79.47**	**37**	P	**P**	**08 15 25.5**	**+0.9**
I02E				IAmb	IAmb	08 15 35.2	
	comp=Z,70nm,1.2s						
NVAR	**Mina Array Bea**	**79.59**	**44**	P	**P**	**08 15 27.0**	**+1.4**
	comp=Z,7.9nm,0.7s,baz=224,slow=8.5,SNR=15						
	comp=Z,7.9nm,0.7s						
MAW	**Mawson**	**83.66**	**200**	P	**P**	**08 15 45.8**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=101,slow=21,SNR=1.5						
	comp=Z,7.2nm,0.8s						
ILAR	**Eielson Array**	**86.10**	**13**	P	**P**	**08 15 56.6**	**-0.7**
	comp=Z,6.3nm,0.4s,baz=344,slow=4.8,SNR=5.8						
ILAR				PKiKP	**PKiKP**	**08 20 59.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=231,slow=3.7,SNR=2.1						
	comp=Z,6.3nm,0.4s						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**08 16 00.2**	**+1.9**
	comp=Z,9.5nm,0.7s,baz=213,slow=6.3,SNR=19						
	comp=Z,9.5nm,0.7s						
PDAR	**Pinedale Array**	**87.52**	**43**	P	**P**	**08 16 05.2**	**+0.5**
	comp=Z,6.0nm,0.6s,baz=208,slow=3.2,SNR=17						
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.94**	**290**	P	**P**	**08 16 13.4**	**+1.8**
	comp=Z,4.0nm,0.3s,baz=107,slow=2.5,SNR=10						
	comp=Z,4.0nm,0.3s						
SYO	**Syowa Base**	**88.94**	**193⇑**	*e*P	**P**	**08 16 12.3**	**+1.7**
B22K	**Teshekpuk Lake**	**89.95**	**8**	P	**P**	**08 16 15.0**	**0.0**
B22K				IAmb	IAmb	08 16 16.6	
	comp=Z,13nm,0.9s						
SNAA	**Sanae**	**90.39**	**179**	P	**P**	**08 16 17.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=199,slow=7.4,SNR=13						
	comp=Z,2.4nm,0.5s						
APMT	**Aspermont**	**90.44**	**55**	P	**P**	**08 16 18.6**	**+0.3**
APMT				IAmb	IAmb	08 16 19.6	
	comp=Z,7.9nm,0.7s						
PLCA	**Paso Flores**	**91.19**	**134**	P	**P**	**08 16 23.3**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=239,slow=5.5,SNR=3.4						
	comp=Z,1.2nm,0.9s						
SONM	**Songino Array**	**93.70**	**319**	P	**P**	**08 16 33.9**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=130,slow=5.6,SNR=6.3						
	comp=Z,1.9nm,0.5s						
YKA	**Yellowknife Ar**	**94.53**	**25**	P	**P**	**08 16 36.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=244,slow=4.7,SNR=13						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**109.27**	**314**	PKiKP	**PKiKP**	**08 21 41.3**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=107,slow=2.1,SNR=13						
KURBB	**Kurchatov Arra**	**112.03**	**318**	PKiKP	**PKiKP**	**08 21 46.2**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=92,slow=1.8,SNR=12						
AAK	**Ala-Archa**	**114.51**	**309**	PKiKP	PKPdf	08 21 52.3	-0.2
	comp=Z,0.7nm,0.4s,baz=50,slow=5.8,SNR=3.9						
BVAR	**Borovoye Array**	**117.00**	**321**	PKP	**PKPdf**	**08 21 56.3**	**-0.5**
	comp=Z,4.6nm,0.4s,baz=90,slow=2.0,SNR=11						
SCHQ	**Schefferville**	**117.04**	**37**	PKP	**PKPdf**	**08 21 56.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=98,slow=12,SNR=1.4						
SPITS	**Spitsbergen Ar**	**119.48**	**357**	PKP	**PKPdf**	**08 22 00.7**	**-0.2**
	comp=Z,6.2nm,0.6s,baz=78,slow=5.2,SNR=8.4						
ARTI	**Arti**	**123.13**	**326**	PKP	**PKPdf**	**08 22 08.3**	**-0.1**
	comp=Z,7.4nm,0.5s,baz=100,slow=0.6,SNR=7.6						
AKTO	**Aktyubinsk**	**125.02**	**319**	PKP	**PKPdf**	**08 22 12.0**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=258,slow=2.8,SNR=8.0						
ARCES	**ARCESS Array B**	**126.52**	**350**	PKP	**PKPdf**	**08 22 14.4**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=28,slow=1.6,SNR=13						
KIRV	**Kirov**	**126.71**	**331**	PKP	**PKPdf**	**08 22 15.2**	**0.0**
	comp=Z,12nm,0.6s,baz=241,slow=2.5,SNR=2.8						
FINES	**FINESS Array B**	**133.39**	**344**	PKP	**PKPdf**	**08 22 27.6**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=32,slow=7.5,SNR=5.9						
NOA	**NORSAR Array B**	**136.58**	**353**	PKP	**PKPdf**	**08 22 33.6**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=14,slow=4.1,SNR=5.7						
KBZ	**Khabaz**	**136.95**	**315**	PKP	**PKPdf**	**08 22 35.2**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=138,slow=5.2,SNR=4.2						
HFS	**Hagfors**	**137.14**	**351**	PKP	**PKPdf**	**08 22 35.4**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=29,slow=3.3,SNR=4.0						
VSVD	**Vaisvydziai**	**138.59**	**341**	*e*P	**PKiKP**	**08 22 40.7**	**+0.8**
AKASG	**Malin Array Be**	**140.74**	**332**	PKhKP	PKPpre	08 22 35.6	
	comp=Z,6.1nm,0.4s,baz=43,slow=4.0,SNR=16						
AKASG				PKP	**PKiKP**	**08 22 43.4**	**-1.1**
	comp=Z,3.7nm,0.5s,baz=42,slow=4.0,SNR=4.7						
EKA	**Eskdalemuir Ar**	**142.68**	**4**	PKhKP	PKPpre	08 22 41.5	
	comp=Z,3.7nm,0.6s,baz=306,slow=3.0,SNR=8.1						
BURAR	**Bucovina Array**	**144.79**	**332**	PKPbc	**PKPab**	**08 22 50.5**	**0.0**
OJC	**Ojcow**	**144.81**	**340**		PKPbc	08 22 49.5	+0.1
BRTR	**Keskin Array B**	**144.92**	**315**	PKP	**PKPdf**	**08 22 49.8**	**+0.2**
	comp=Z,12nm,0.8s,baz=85,slow=2.0,SNR=11						
ASF	**Jabal al Asfar**	**145.27**	**301**	PKPbc	**PKPdf**	**08 22 50.0**	**-0.2**
	comp=Z,14nm,0.7s,baz=138,slow=0.7,SNR=8.6						
CLL	**Collm**	**145.67**	**347**	PKPdf	**PKPbc**	**08 22 51.9**	**+0.1**
CLL	**Collm**	**145.67**	**347⇑**	*i* PKPbc	**PKPbc**	**08 22 52.3**	**+0.4**
	comp=Z,87nm,0.7s						
BRG	**Berggiesshubel**	**145.87**	**346**	*i* P	**PKPbc**	**08 22 53.1**	**+0.6**
BRG				Amp		08 22 53.9	
	comp=Z,33nm,0.7s						
BRG				pPKP	pPKPab	08 24 52.8	-15
BRG				Amp		08 24 57.9	
	comp=Z,5.3nm,1.0s						
MLR	**Muntele Rosu**	**146.01**	**329**	PKPbc	**PKPbc**	**08 22 53.2**	**0.0**
	comp=Z,25nm,0.8s,baz=324,slow=8.5,SNR=7.0						
MMAI	**Mount Meron Ar**	**146.25**	**303**	PKPbc	**PKPbc**	**08 22 54.9**	**+0.7**
	comp=Z,14nm,0.5s,baz=72,slow=5.4,SNR=13						
VRAC	**Vranov**	**146.61**	**342**	PKPbc	**PKPbc**	**08 22 55.0**	**+0.5**
	comp=Z,12nm,0.7s,baz=65,slow=3.5,SNR=6.6						
BORA	**Eskisehir**	**146.96**	**317**		**PKPbc**	**08 22 55.5**	**-0.4**
EIL	**Elat**	**147.51**	**297**	PKPbc	**PKPbc**	**08 22 57.2**	**-0.3**
	comp=Z,8.4nm,0.7s,baz=84,slow=5.2,SNR=4.1						
GERES	**GERESS Array B**	**147.81**	**345**	PKPbc	**PKPbc**	**08 22 58.2**	**+0.4**
	comp=Z,18nm,0.6s,baz=25,slow=3.4,SNR=19						
DAVOX	**Davos/Dischmat**	**150.61**	**348**	PKPbc	**PKiKP**	**08 23 05.2**	**+0.1**
	comp=Z,37nm,0.6s,baz=225,slow=2.6,SNR=14						
IDI	**Anoyia**	**153.16**	**314**	PKPbc	**PKiKP**	**08 23 11.8**	**+1.1**
	comp=Z,12nm,0.8s,baz=24,slow=12,SNR=4.2						
ESDC	**Sonseca Array**	**157.99**	**11**	PKPab	**PKPab**	**08 23 46.0**	**0.0**
	comp=Z,3.9nm,0.9s,baz=346,slow=4.5,SNR=6.9						
DBIC	**Dimbokro**	**167.00**	**150**	PKP	**PKPdf**	**08 23 17.4**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=263,slow=0.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**175.05**	**181**	PKP	**PKPdf**	**08 23 21.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=173,slow=1.6,SNR=8.0						

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*SJA **28** 08:09:49.7±1.2, 31°.53S×72°.53W, h35km, ML3.6, MW3.4*
*GUC **28** 08:09:55.7±0.8, 31°.62S×71°.84W, h30km±4km, ML3.2*
ISC 28 08:09:51.4±2.0, 31°.63S±0°.04×72°.3W±0°.1, h8km±14km, n31, σ2°03/46, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.11**	**31**	*e*P	**Pg**	**08 10 12.6**	**-0.1**
CO06				*e*S	**Sg**	**08 10 25.6**	**-1.4**
CO06				IAML		08 10 29.4	
	comp=E,947nm,0.3s						
CO03	**El Pedregal**	**1.59**	**61**	*e*P	Pn	08 10 17.6	-2.3
CO03				*e*S	Sg	08 10 33.6	-8.8
CO03				IAML		08 10 39.2	
	comp=E,712nm,0.1s						
ROCH	**El Roble**	**1.73**	**141**	*e*P	**Pn**	**08 10 22.1**	**+0.1**
ROCH				*e*S	**Sn**	**08 10 42.2**	**-2.3**
ROCH				IAML		08 10 47.3	
	comp=N,798nm,0.4s						
ROC1	**El Roble**	**1.73**	**141**	*i* P	**Pn**	**08 10 22.2**	**+0.2**
ROC1				*e*S	**Sn**	**08 10 41.7**	**-2.8**
VA03	**San Esteban**	**1.87**	**128**	*e*P	**Pn**	**08 10 23.8**	**0.0**
VA03				*e*S	**Sn**	**08 10 45.0**	**-2.7**
VA03	**San Esteban**	**1.87**	**128**	*i* P	**Pn**	**08 10 23.6**	**-0.2**
VA03				*e*S	**Sn**	**08 10 44.8**	**-2.8**
VA03				IAML		08 10 46.2	
	comp=Z,635nm,0.3s						
GO04	**Tololo Observa**	**1.94**	**42**	*e*P	**Pn**	**08 10 24.2**	**-0.7**
GO04				*e*S	**Sn**	**08 10 47.5**	**-2.1**
PEL	**Peldehue**	**2.04**	**138**	*e*P	**Pn**	**08 10 26.3**	**+0.2**
PEL				*e*S	**Sn**	**08 10 50.2**	**-1.7**
PEL				IAML		08 10 53.4	
	comp=N,464nm,0.2s						
PEL	**Peldehue**	**2.04**	**138**	*i* P	**Pn**	**08 10 26.4**	**+0.3**
PEL				*e*S	**Sn**	**08 10 50.1**	**-1.8**
VA05	**Santo Domingo**	**2.11**	**164**	*e*P	**Pn**	**08 10 28.9**	**+1.9**
MT14	**Cerro Cal¡n**	**2.31**	**140**	*e*P	**Pn**	**08 10 31.6**	**+1.7**
FCH	**Farellones**	**2.40**	**136**	*e*P	**Pn**	**08 10 31.7**	**+0.4**
CO01	**Juntas del Tor**	**2.51**	**50**	*e*P	**Pn**	**08 10 32.6**	**-0.1**
CO01				*e*S	**Sn**	**08 11 00.6**	**-3.1**
CO01				IAML		08 11 04.6	
	comp=E,206nm,0.2s						
AUSP	**Uspallata**	**2.55**	**104**	*i* P	**Pn**	**08 10 34.1**	**+0.8**
AUSP				*e*S	**Sn**	**08 11 02.1**	**-2.6**
RTLS	**Leoncito**	**2.56**	**95**	*i* P	**Pn**	**08 10 33.9**	**+0.3**
RTLS				*e*S	**Sn**	**08 11 01.9**	**-3.3**
RTLS				IAML		08 11 03.6	
	comp=Z,633nm,0.6s						
MT13	**San Alfonso**	**2.71**	**142**	*e*P	**Pn**	**08 10 36.9**	**+1.5**
BO04	**La Punta**	**2.75**	**149**	*e*P	**Pn**	**08 10 37.3**	**+1.4**
BO04				*e*S	**Sn**	**08 11 09.3**	**-0.2**
BO04				IAML		08 11 17.9	
	comp=E,211nm,0.3s						
AROD	**Rodeo**	**2.83**	**60**	*i* P	**Pn**	**08 10 38.4**	**+1.2**
AROD				*e*S	**Sn**	**08 11 10.8**	**-0.9**
ACCO	**Cerro Coronel**	**2.96**	**70**	*i* P	**Pn**	**08 10 41.4**	**+2.4**
ACCO				*e*S	**Sn**	**08 11 15.6**	**+0.7**
ACDV	**Cuesta del Vie**	**3.09**	**63**	*i* P	**Pn**	**08 10 42.8**	**+2.1**
ACDV				*e*S	**Sn**	**08 11 19.4**	**+1.4**
ACDV				IAML		08 11 27.2	
	comp=Z,64nm,0.8s						
ASAL	**Salagasta**	**3.09**	**109**	*i* P	**Pn**	**08 10 42.8**	**+2.1**
ASAL				*e*S	**Sn**	**08 11 21.4**	**+3.5**
ASAL				IAML		08 11 29.2	
	comp=Z,76nm,0.4s						
ARCO	**CERRO ARCO**	**3.10**	**114**	*i* P	**Pn**	**08 10 44.0**	**+3.2**
ARCO				IAML		08 11 30.9	
	comp=Z,80nm,0.6s						
AAGR	**Agrelo**	**3.28**	**117**	*i* P	**Pn**	**08 10 46.0**	**+2.7**
AAGR				*e*S	**Sn**	**08 11 25.2**	**+2.8**
AAGR				IAML		08 11 35.2	
	comp=Z,78nm,0.6s						
AC05	**El Transito**	**3.29**	**33**	*e*P	**Pn**	**08 10 44.9**	**+1.6**
BO02	**Sierra Bellavi**	**3.41**	**158**	*e*P	**Pn**	**08 10 46.8**	**+1.9**
AGUA	**GUANDACOL**	**3.92**	**58**	*i* P	**Pn**	**08 10 54.8**	**+2.8**
AGUA				IAML		08 11 55.7	
	comp=Z,80nm,0.5s						
AVFE	**Valle Fertil**	**4.26**	**78**	*i* P	**Pn**	**08 10 56.6**	**-0.1**
AVFE				IAML		08 11 57.7	
	comp=Z,72nm,0.7s						
VCA	**Vinchina**	**4.57**	**52**	*i* P	**Pn**	**08 11 03.7**	**+2.8**
VCA				IA

0.1nm,0.3s,baz=22,slow=25,SNR=3.3
MKAR Lg Lg 08 24 26.0
0.1nm,0.3s,baz=20,slow=31,SNR=2.1

*NEIC **28** 08:40:04.8±1.6, 66°.25N±0°.02×157°.17W±0°.07, h10km±1km, Error ellipse: s-maj=5.0km s-min=2.8km az=294.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=0.13; Mθθ=0.93; Mφφ=-0.80; Mrθ=0.38; Mθφ=-1.27; Mφr=0.21; Fault plane solution: M0=1.60000×10^15 NP1:φs=72.09000°, δ=80.40000°, λ=170.62000°. NP2:φs=163.67000°, δ=80.76000°, λ=9.73000°. Principal axes: T 1.7026, Plg13.0000°, Azm28.0000°; N -0.2329, Plg77.0000°, Azm207.0000°; P -1.4698, Plg0.0000°, Azm298.0000°;*
*NEIC **28** 08:40:04.5, 66°.25N×157°.32W, h10km*
*AEIC **28** 08:40:04.2±1.6, 66°.25N±0°.02×157°.19W±0°.06, h6km±5km, ML4.1, mb4.1/8(NEIC), ML4.3/130(NEIC), Mwr4.1/29(NEIC), Error ellipse: s-maj=3.7km s-min=2.4km az=130.0*
*IDC **28** 08:40:05.3±0.6, 66°.50N×157°.27W, h0km, mb3.7/15, mbtmp3.7/20, ML3.8/5, MS3.3/17, Error ellipse: s-maj=17.2km s-min=9.9km az=25.0*

ISC 28 08:40:04.6±0.9, 66°.27N±0°.03×157°.16W±0°.03, h9km±6km, n223, σ1§08/212, mb3.9/18, MS3.3/15, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.13**	**166**		**Pg**	**08 40 06.9**	**-0.6**
G19K					**Sg**	**08 40 08.9**	**-0.6**
G19K	**Purcell Mounta**	**0.13**	**166**	IAML		08 40 09.3	
	comp=E,710μm,0.3s						
G19K				IAML		08 40 09.3	
	comp=N,629μm,0.2s						
F19K	**Shaleruckik Mo**	**0.62**	**337**		**Pg**	**08 40 16.0**	**-0.6**
F19K					**Sg**	**08 40 25.2**	**+0.5**
G18K	**Tagagawik**	**0.71**	**239**		**Pg**	**08 40 17.4**	**-0.9**
G18K					**Sg**	**08 40 28.0**	**+0.4**
G18K	**Tagagawik**	**0.71**	**239**	IAML		08 40 30.2	
	comp=E,11μm,0.5s						
G18K				IAML		08 40 30.5	
	comp=N,15μm,0.8s						
H19K	**Roundabout Mou**	**0.80**	**158**		**Pg**	**08 40 18.7**	**-1.2**
H19K				IAML		08 40 36.1	
	comp=E,12μm,0.3s						
H19K	**Roundabout Mou**	**0.80**	**158**		**Sg**	**08 40 29.7**	**-0.5**
F20K	**Avaraart Lake**	**0.97**	**35**		**Pb**	**08 40 22.5**	**-1.1**
F20K				IAML		08 40 40.0	
	comp=N,6μm,0.7s						
F20K				IAML		08 40 40.1	
	comp=E,8μm,0.6s						
F20K	**Avaraart Lake**	**0.97**	**35**		**Sb**	**08 40 36.5**	**-0.1**
E19K	**Redstone River**	**1.20**	**359**		**Pn**	**08 40 26.8**	**-0.7**
E19K	**Redstone River**	**1.20**	**359**	IAML		08 40 45.4	
	comp=N,7μm,0.3s						
E19K				IAML		08 40 45.8	
	comp=E,7μm,0.7s						
H20K	**Anotleneega Mo**	**1.22**	**129**		**Pn**	**08 40 26.3**	**-1.5**
H18K	**Honhosa River**	**1.22**	**205**		**Sb**	**08 40 42.8**	**-1.0**
H18K	**Honhosa River**	**1.22**	**205**		**Pn**	**08 40 26.0**	**-1.9**
H18K				IAML		08 40 48.8	
	comp=N,5μm,0.4s						
G21K	**Allakaket**	**1.49**	**79**		**Pn**	**08 40 31.2**	**-0.4**
G21K					**Sb**	**08 40 52.0**	**+0.5**
GCSA	**Galena City Sc**	**1.53**	**175**		**Pn**	**08 40 31.5**	**-0.6**
GCSA					**Sb**	**08 40 52.4**	**-0.2**
G17K	**Kiwalik Mounta**	**1.63**	**243**		**Pn**	**08 40 32.3**	**-1.1**
G17K					**Sb**	**08 40 54.8**	**-0.6**
F17K	**Baldwin Pennin**	**1.66**	**278**		**Pn**	**08 40 33.2**	**-0.7**
F17K	**Baldwin Pennin**	**1.66**	**278**	IAML		08 41 01.5	
	comp=N,4μm,0.7s						
F21K	**Alatna River**	**1.75**	**55**		**Pn**	**08 40 34.8**	**-0.3**
F21K	**Alatna River**	**1.75**	**55**	IAML		08 41 03.5	
	comp=E,2μm,0.6s						
F21K				IAML		08 41 05.2	
	comp=N,3μm,0.7s						
H17K	**Granite Mounta**	**1.76**	**222**		**Pn**	**08 40 33.7**	**-1.6**
H17K				IAML		08 41 01.2	
	comp=N,3μm,0.5s						
H17K	**Granite Mounta**	**1.76**	**222**		**Sb**	**08 40 57.9**	**-1.2**
E18K	**Tukpahlearik C**	**1.79**	**312**		**Pn**	**08 40 35.6**	**-0.1**
E18K					**Sb**	**08 40 59.4**	**-0.7**
E18K	**Tukpahlearik C**	**1.79**	**312**	IAML		08 41 02.5	
	comp=N,3μm,0.8s						
I20K	**Naaghedeneel**	**1.85**	**142**		**Pn**	**08 40 36.3**	**-0.2**
H21K	**Melozitna Rive**	**1.89**	**107**		**Pn**	**08 40 37.9**	**+0.9**
H21K				IAML		08 41 05.2	
	comp=N,2μm,0.6s						
E17K	**Hotham Inlet**	**2.03**	**296**		**Pn**	**08 40 39.2**	**+0.2**
E20K	**Nigu River**	**2.04**	**10**		**Pn**	**08 40 40.5**	**+1.3**
D19K	**Kuna River**	**2.27**	**351**		**Pn**	**08 40 43.3**	**+1.0**
D19K	**Kuna River**	**2.27**	**351**	IAML		08 41 18.7	
	comp=E,1μm,1.0s						
G16K	**Koyuk River**	**2.31**	**250**		**Pn**	**08 40 41.4**	**-1.4**
G16K	**Koyuk River**	**2.31**	**250**	IAML		08 41 19.0	
	comp=E,2μm,0.6s						
G16K				IAML		08 41 19.6	
	comp=N,2μm,0.8s						
F22K	**John River**	**2.33**	**55**		**Pn**	**08 40 43.0**	**-0.1**
J19K	**Poorman**	**2.37**	**163**		**Pn**	**08 40 43.6**	**-0.1**
H22K	**Ishtalitna Cre**	**2.39**	**96**		**Pn**	**08 40 43.6**	**-0.3**
I21K	**Tanana**	**2.40**	**115**		**Pn**	**08 40 43.9**	**-0.2**
I21K	**Tanana**	**2.40**	**115**	IAML		08 41 20.5	
	comp=N,2μm,0.5s						
I21K				IAML		08 41 22.9	
	comp=E,2μm,0.4s						
J20K	**Nowinta River**	**2.45**	**147**		**Pn**	**08 40 45.0**	**+0.2**
D20K	**Etivluk River**	**2.47**	**5**		**Pn**	**08 40 45.9**	**+0.8**
E21K	**Killik River**	**2.51**	**28**		**Pn**	**08 40 46.1**	**+0.5**
H16K	**Elim**	**2.68**	**235**		**Pn**	**08 40 46.4**	**-1.5**
J18K	**Innoko River**	**2.82**	**176**	Pn	**Pn**	**08 40 48.9**	**-0.9**
COLD	**Coldfoot**	**2.93**	**68**		**Pn**	**08 40 50.3**	**-1.0**
J17K	**VABM Dome**	**3.00**	**197**		**Pn**	**08 40 51.5**	**-0.8**
J17K				IAML		08 41 43.2	
	comp=N,801nm,0.8s						
J17K				IAML		08 41 46.0	
	comp=E,893nm,1.4s						
C21K	**Knifeblade Rid**	**3.04**	**16**		**Pn**	**08 40 53.0**	**+0.1**
D22K	**Ayikyak River**	**3.14**	**31**		**Pn**	**08 40 55.2**	**+0.9**
D22K	**Ayikyak River**	**3.14**	**31**	IAML		08 41 54.9	
	comp=N,941nm,1.6s						
D22K				IAML		08 41 56.1	
	comp=E,862nm,1.1s						
CHUM	**Lake Minchumin**	**3.15**	**137**		**Pn**	**08 40 54.6**	**+0.2**
K20K	**Telida**	**3.21**	**154**		**Pn**	**08 40 55.4**	**+0.3**
C17K	**DeLong Mountai**	**3.21**	**316**		**Pn**	**08 40 55.7**	**+0.4**
J16K	**Anvik River**	**3.34**	**208**		**Pn**	**08 40 56.6**	**-0.3**
J16K				IAML		08 41 54.2	
	comp=N,830nm,1.0s						
J16K				IAML		08 41 54.7	
	comp=E,763nm,0.9s						
BPAW	**Bear Paw Mtn.**	**3.39**	**127**		**Pn**	**08 40 58.2**	**+0.5**
I23K	**Minto, Yukon-K**	**3.41**	**106**		**Pn**	**08 40 58.0**	**0.0**
I23K				IAML		08 41 57.3	
	comp=E,766nm,0.6s						
I23K				IAML		08 41 59.0	
	comp=N,871nm,0.6s						
E23K	**Chandalar**	**3.45**	**55**		**Pn**	**08 40 58.3**	**-0.3**
E23K				IAML		08 42 00.3	
	comp=N,709nm,1.2s						
E23K				IAML		08 42 02.4	
	comp=E,762nm,0.9s						
B21K	**Ikpikpuk River**	**3.51**	**15**	Pn	**Pn**	**08 40 58.3**	**-1.0**
B21K				IAML		08 42 00.9	
	comp=N,533nm,1.0s						
B21K				IAML		08 42 23.6	
	comp=E,562nm,1.2s						
B18K	**Kokolik River**	**3.58**	**333**		**Pn**	**08 41 00.5**	**+0.3**
CAST	**Castle Rocks**	**3.59**	**140**		**Pn**	**08 41 00.4**	**0.0**
CAST				IAML		08 42 06.1	
	comp=E,446nm,1.3s						
K17K	**Iditarod**	**3.60**	**188**	Pn	**Pn**	**08 40 59.4**	**-1.2**
K17K				IAML		08 42 11.9	
	comp=E,496nm,0.8s						
K17K				IAML		08 42 13.9	
	comp=N,662nm,1.1s						
D23K	**Nanushuk River**	**3.67**	**39**	Pn	**Pn**	**08 41 01.2**	**-0.4**
D23K				IAML		08 42 16.0	
	comp=N,684nm,1.6s						
D23K				IAML		08 42 17.6	
	comp=E,492nm,1.3s						
B20K	**Meade River**	**3.76**	**0**		**Pn**	**08 41 03.2**	**+0.5**
B20K	**Meade River**	**3.76**	**0**	IAML		08 42 33.1	
	comp=N,386nm,1.7s						
B20K				IAML		08 42 38.5	
	comp=E,582nm,1.6s						
C16K	**Lisburne Hills**	**3.76**	**306**	Pn	**Pn**	**08 41 02.2**	**-0.6**
TOLK	**Toolik Lake Re**	**3.77**	**47**	Pn	**Pn**	**08 41 02.5**	**-0.5**
NEA2	**Nenana**	**3.77**	**113**		**Pn**	**08 41 02.6**	**-0.4**
KTH	**Kantishna Hill**	**3.80**	**133**		**Pn**	**08 41 03.5**	**0.0**
KTH				IAML		08 42 17.2	
	comp=N,554nm,1.3s						
H24K	**Noodor Dome**	**3.81**	**92**		**Pn**	**08 41 03.2**	**-0.3**
H24K				IAML		08 42 11.2	
	comp=N,606nm,1.3s						
ANM	**Nome**	**3.83**	**247**		**Pn**	**08 41 03.5**	**-0.2**
E24K	**Your Creek**	**3.84**	**58**		**Pn**	**08 41 03.5**	**-0.4**
E24K				IAML		08 42 11.3	
	comp=E,525nm,0.6s						
E24K				IAML		08 42 23.9	
	comp=N,460nm,0.7s						
F14K	**Arctic Creek**	**3.85**	**262**		**Pn**	**08 41 03.0**	**-0.9**
BWN	**Browne**	**3.86**	**119**		**Pn**	**08 41 04.9**	**+0.7**
G24K	**Hadweenzic Riv**	**3.91**	**79**	Pn	**Pn**	**08 41 04.4**	**-0.4**
PPLA	**Purkeypile**	**4.00**	**145**		**Pn**	**08 41 06.5**	**+0.3**
L20K	**Farewell, AK**	**4.06**	**158**		**Pn**	**08 41 07.5**	**+0.6**
L18K	**Granite Mounta**	**4.07**	**177**	Pn	**Pn**	**08 41 07.3**	**+0.3**
L18K				IAML		08 42 13.6	
	comp=N,363nm,1.3s						
L18K				IAML		08 42 22.2	
	comp=E,296nm,1.6s						
TRF	**Thorofare Moun**	**4.07**	**131**	Pn	**Pn**	**08 41 07.5**	**+0.3**
TRF				IAML		08 42 21.4	
	comp=N,352nm,1.7s						
TRF				IAML		08 42 26.2	
	comp=E,355nm,1.6s						
I53US	**FAIRBANKS INFR**	**4.11**	**106**	I	I	09 02 20.0	
	baz=293,slow=327,SNR=0.7						
COLA	**College**	**4.11**	**106**		**Pn**	**08 41 07.4**	**-0.2**
L17K	**Donlin**	**4.18**	**187**		**Pn**	**08 41 08.2**	**-0.3**
POKR	**Poker Plat Res**	**4.18**	**102**		**Pn**	**08 41 08.3**	**-0.2**
POKR				IAML		08 42 18.1	
	comp=E,430nm,1.0s						
WRH	**Wood River Hil**	**4.20**	**111**		**Pn**	**08 41 08.0**	**-0.8**
WRH				IAML		08 42 20.0	
	comp=E,277nm,1.0s						
WRH				IAML		08 42 21.5	
	comp=N,290nm,1.4s						
L19K	**White Mountain**	**4.22**	**165**		**Pn**	**08 41 09.2**	**0.0**
L19K				IAML		08 42 26.0	
	comp=N,388nm,1.1s						
L19K				IAML		08 42 28.0	
	comp=E,450nm,1.6s						
CCB	**Clear Creek Bu**	**4.23**	**108**	Pn	**Pn**	**08 41 08.8**	**-0.4**
MCK	**McKinley**	**4.32**	**122**		**Pn**	**08 41 10.2**	**-0.2**
C23K	**Itkillik River**	**4.35**	**31**	Pn	**Pn**	**08 41 10.3**	**-0.5**
C23K				IAML		08 42 59.6	
	comp=E,257nm,1.9s						
C23K				IAML		08 43 00.2	
	comp=N,248nm,1.9s						
K15K	**Wolf Creek Mou**	**4.42**	**208**	Pn	**Pn**	**08 41 11.4**	**-0.3**
K15K				IAML		08 42 31.8	
	comp=E,292nm,1.4s						
K15K				IAML		08 42 33.8	
	comp=N,276nm,1.3s						
G25K	**Bearman Lake**	**4.46**	**78**		**Pn**	**08 41 12.4**	**+0.1**
TNA	**Tin City**	**4.47**	**266**	Pn	**Pn**	**08 41 11.5**	**-1.0**
J14K	**Nanvaranak Lak**	**4.48**	**221**	Pn	**Pn**	**08 41 11.7**	**-0.9**
J14K				IAML		08 42 32.2	
	comp=N,302nm,0.8s						
J14K				IAML		08 42 38.8	
	comp=E,384nm,1.2s						
IL31		**4.53**	**105**	Pn	**Pn**	**08 41 13.0**	**-0.3**
ILAR	**Eielson Array**	**4.53**	**105**		**Pn**	**08 41 13.2**	**-0.2**
ILAR	**Eielson Array**	**4.53**	**105**	Pn	**Pn**	**08 41 13.3**	**0.0**
	comp=E,11nm,0.3s,baz=289,slow=13,SNR=321						
ILAR				Sn	**Sn**	**08 42 04.4**	**-1.6**
	comp=E,19nm,0.3s,baz=291,slow=23,SNR=10						
ILAR				Lg	Lg	08 42 23.7	
	comp=E,35nm,0.3s,baz=301,slow=31,SNR=12						
	comp=E,47nm,0.7s						
RND	**Reindeer**	**4.56**	**125**		**Pn**	**08 41 13.8**	**0.0**
HDA	**Harding Lake**	**4.67**	**109**		**Pn**	**08 41 14.0**	**-1.2**
HDA				IAML		08 42 34.5	
	comp=E,189nm,0.5s						
HDA				IAML		08 42 40.1	
	comp=N,282nm,1.0s						
F25K	**Christian Rive**	**4.72**	**68**		**Pn**	**08 41 15.4**	**-0.6**
F25K				IAML		08 42 40.5	
	comp=N,293nm,1.4s						
M20K	**Styx River**	**4.74**	**156**		**Pn**	**08 41 16.9**	**+0.6**
M20K				IAML		08 42 50.6	
	comp=E,206nm,1.5s						
FYU	**Fort Yukon**	**4.80**	**81**	Pn	**Pn**	**08 41 16.8**	**-0.2**
M18K	**Stony River**	**4.83**	**172**		**Pn**	**08 41 17.5**	**+0.1**
PRP	**Porcupine Dome**	**4.83**	**94**		**Pn**	**08 41 17.5**	**-0.1**
E25K	**Arctic Village**	**4.88**	**62**	Pn	**Pn**	**08 41 17.6**	**-0.6**
E25K				IAML		08 42 49.1	
	comp=E,238nm,0.9s						
M17K	**Holitna River**	**4.89**	**182**		**Pn**	**08 41 18.2**	**0.0**
CUT	**Chulitna**	**4.90**	**139**		**Pn**	**08 41 19.5**	**+1.2**
SKT	**Skwentna**	**4.96**	**148**	Pn	**Pn**	**08 41 20.1**	**+0.9**
SKT				IAML		08 42 49.0	
	comp=E,193nm,1.2s						
SKT				IAML		08 42 58.2	
	comp=N,150nm,1.8s						
L15K	**Ungalak Mounta**	**4.98**	**204**		**Pn**	**08 41 19.7**	**+0.2**
A21K	**Barrow**	**5.09**	**2**		**Pn**	**08 41 20.4**	**-0.5**
BMAR	**Burnt Mountain**	**5.10**	**71**	Pn	**Pn**	**08 41 19.9**	**-1.3**
J25K	**Salcha River,**	**5.19**	**103**		**Pn**	**08 41 22.5**	**0.0**
J25K				IAML		08 42 50.0	
	comp=E,163nm,0.5s						
M16K	**Timber Creek**	**5.32**	**189**	Pn	**Pn**	**08 41 23.5**	**-0.8**
M16K				IAML		08 43 02.3	
	comp=N,124nm,0.9s						
STLK	**Strandline Lak**	**5.33**	**151**		**Pn**	**08 41 24.5**	**+0.1**
K24K	**Donnelly Dome**	**5.42**	**112**		**Pn**	**08 41 25.3**	**-0.2**
K13K	**Kusilvak Mount**	**5.45**	**221**		**Pn**	**08 41 24.6**	**-1.3**
SPBG	**Spurr Blockage**	**5.46**	**155**		**Pn**	**08 41 27.0**	**+0.9**
M22K	**Willow**	**5.48**	**142**		**Pn**	**08 41 27.1**	**+0.8**
L14K	**Kuka Creek**	**5.51**	**209**		**Pn**	**08 41 26.7**	**-0.1**
CKL	**Chakachamna La**	**5.52**	**155**		**Pn**	**08 41 28.0**	**+1.0**
N19K	**Bonanza Creek**	**5.60**	**166**		**Pn**	**08 41 28.1**	**-0.1**
N18K	**Kilae Creek**	**5.64**	**174**	Pn	**Pn**	**08 41 28.5**	**0.0**
N17K	**Nushagak Hills**	**5.76**	**180**		**Pn**	**08 41 30.6**	**+0.4**
GHO	**Glory Hole Cre**	**5.78**	**137**		**Pn**	**08 41 31.1**	**+0.6**
RIDG	**Independent Ri**	**5.80**	**110**	Pn	**Pn**	**08 41 31.0**	**+0.1**
M15K	**Kasigluk River**	**5.81**	**197**		**Pn**	**08 41 31.0**	**+0.1**
N16K	**Nishlik Lake**	**5.86**	**188**		**Pn**	**08 41 31.0**	**-0.6**
C26K	**Camden Bay**	**5.86**	**46**		**Pn**	**08 41 32.1**	**+0.5**
PMR	**Palmer**	**5.87**	**139**	Pn	**Pn**	**08 41 32.7**	**+0.9**
SML	**Sawmill**	**5.92**	**135**		**Pn**	**08 41 32.5**	**+0.1**
J26L	**Joseph Creek**	**5.95**	**101**	Pn	**Pn**	**08 41 33.6**	**+0.7**
PAX	**Paxson**	**6.01**	**118**		**Pn**	**08 41 33.3**	**-0.5**
SCRK	**Sand Creek**	**6.01**	**106**	Pn	**Pn**	**08 41 33.3**	**-0.5**
DFR	**Drift River**	**6.04**	**159**		**Pn**	**08 41 34.8**	**+0.7**
RDT	**Redoubt**	**6.10**	**157**		**Pn**	**08 41 34.8**	**-0.2**
DOT	**Dot Lake**	**6.15**	**109**	Pn	**Pn**	**08 41 35.3**	**-0.3**
RC01	**Rabbit Creek A**	**6.15**	**144**	Pn	**Pn**	**08 41 36.3**	**+0.7**
RED	**Redoubt Volcan**	**6.19**	**159**		**Pn**	**08 41 35.8**	**-0.4**
SCM	**Sheep Creek Mo**	**6.19**	**131**		**Pn**	**08 41 36.6**	**+0.3**
KNK	**Knik Glacier**	**6.20**	**138**		**Pn**	**08 41 37.8**	**+1.5**
O19K	**Port Alsworth**	**6.23**	**167**	Pn	**Pn**	**08 41 36.8**	**+0.2**
N15K	**Kwethluk River**	**6.26**	**194**	Pn	**Pn**	**08 41 35.8**	**-1.3**
H27K	**Steamboat Moun**	**6.32**	**83**		**Pn**	**08 41 38.5**	**+0.7**
M24K	**Tolsona, Glenn**	**6.35**	**126**	Pn	**Pn**	**08 41 39.6**	**+1.2**
I27K	**Kandik River**	**6.39**	**89**		**Pn**	**08 41 38.4**	**-0.6**
HARP	**HAARP**	**6.50**	**121**		**Pn**	**08 41 41.6**	**+1.3**
O18K	**Koktuh Hills**	**6.50**	**171**	Pn	**Pn**	**08 41 40.1**	**-0.2**
M13K	**Dall Lake**	**6.50**	**208**		**Pn**	**08 41 40.9**	**+0.7**
O20K	**Slope Mountain**	**6.54**	**160**		**Pn**	**08 41 41.4**	**+0.4**
ILSW	**Iliamna Southw**	**6.56**	**162**		**Pn**	**08 41 42.7**	**+1.4**
SLKM	**Skilak Lake**	**6.56**	**148**	Pn	**Pn**	**08 41 42.2**	**+1.0**
MENT	**Mentasta**	**6.67**	**114**		**Pn**	**08 41 43.1**	**+0.3**
PWL	**Port Wells**	**6.70**	**140**		**Pn**	**08 41 44.0**	**+0.9**
O16K	**Kokwok River B**	**6.71**	**184**	Pn	**Pn**	**08 41 43.0**	**-0.3**
L26K	**Log Cabin Wild**	**6.76**	**112**		**Pn**	**08 41 43.4**	**-0.5**
D27M	**Malcolm River**	**6.83**	**57**	Pn	**Pn**	**08 41 45.2**	**+0.4**
P19K	**Oil Pt**	**6.87**	**163**		**Pn**	**08 41 43.7**	**-1.9**
KLU	**Klutina**	**6.89**	**129**		**Pn**	**08 41 46.5**	**+0.7**
GLI	**Glacier Island**	**7.02**	**136**		**Pn**	**08 41 48.6**	**+1.1**
WACK	**Wrangell Chich**	**7.06**	**121**		**Pn**	**08 41 48.6**	**+0.3**
SEW	**Seward**	**7.09**	**147**	Pn	**Pn**	**08 41 49.1**	**+0.6**
I28M	**Miner Creek**	**7.11**	**89**	Pn	**Pn**	**08 41 48.7**	**-0.1**
BRLK	**Bradley Lake**	**7.12**	**153**	Pn	**Pn**	**08 41 47.3**	**-1.5**
E28M	**Babbage River**	**7.17**	**63**	Pn	**Pn**	**08 41 49.9**	**+0.4**
DIV	**Divide**	**7.21**	**130**		**Pn**	**08 41 50.3**	**+0.1**
N25K	**Chitina, Valde**	**7.24**	**124**	Pn	**Pn**	**08 41 51.7**	**+1.2**
M26K	**Nabesna, AK**	**7.26**	**116**		**Pn**	**08 41 50.2**	**-0.6**
FID	**Port Fidalgo**	**7.30**	**134**		**Pn**	**08 41 50.6**	**-0.8**
L27K	**Beaver Creek,**	**7.32**	**109**		**Pn**	**08 41 50.8**	**-0.8**
H29M	**Whitestone**	**7.58**	**82**		**Pn**	**08 41 55.0**	**-0.2**
HIN	**Hinchinbrook I**	**7.58**	**136**		**Pn**	**08 41 56.0**	**+0.8**
GLB	**Gilahina Butte**	**7.62**	**123**	Pn	**Pn**	**08 41 57.4**	**+1.7**
EYAK	**Cordova Ski Ar**	**7.68**	**133**		**Pn**	**08 41 57.1**	**+0.6**
M27K	**Edge Creek, AK**	**7.70**	**113**		**Pn**	**08 41 56.9**	**0.0**
BMRM	**Bremner River**	**7.71**	**128**	Pn	**Pn**	**08 41 56.3**	**-0.6**
I29M	**Ogilvie Camp,**	**7.79**	**88**	Pn	**Pn**	**08 41 59.0**	**+0.9**
DAWY	**Dawson**	**7.79**	**98**	Pn	**Pn**	**08 41 58.2**	**+0.1**
VRDI	**Verde Repeater**	**7.89**	**123**	Pn	**Pn**	**08 42 01.1**	**+1.5**
BVCY	**Beaver Creek**	**8.05**	**111**		**Pn**	**08 42 01.2**	**-0.5**
HMT	**Hamilton**	**8.30**	**130**		**Pn**	**08 42 06.6**	**+1.6**
G30M	**tAoh Zraii Nji**	**8.35**	**76**	Pn	**Pn**	**08 42 05.1**	**-0.6**
BALM	**Baldy**	**8.41**	**122**		**Pn**	**08 42 05.2**	**-1.4**
YUK2	**White River**	**8.44**	**115**		**Pn**	**08 42 06.8**	**-0.3**
I30M	**Mount Dempster**	**8.61**	**87**	Pn	**Pn**	**08 42 08.9**	**-0.4**
WAX	**Waxell Ridge**	**8.66**	**126**		**Pn**	**08 42 11.0**	**+0.9**
L29M	**L29M**	**8.73**	**102**		**Pn**	**08 42 10.9**	**-0.1**
KDAK	**Kodiak Island**	**8.78**	**164**	Pn	**Pn**	**08 42 13.1**	**+1.5**
	comp=N,0.8nm,0.3s,baz=222,slow=5.0,SNR=11						
KDAK				LR	LR	08 46 02.5	
	comp=N,134nm,18.8s,baz=231,slow=40						
	comp=N,7.5nm,1.1s						
J30M	**Hart River**	**8.83**	**91**		**Pn**	**08 42 11.8**	**-0.6**
F31M	**Tsiigehtchic**	**9.28**	**72**	Pn	**Pn**	**08 42 18.1**	**-0.3**
H31M	**Peel River**	**9.28**	**82**	Pn	**Pn**	**08 42 17.6**	**-0.8**
INK	**Inuvik**	**9.34**	**67**	Pn	**Pn**	**08 42 19.4**	**+0.1**
INK	**Inuvik**	**9.34**	**67**	Pn	**Pn**	**08 42 19.6**	**+0.4**
	comp=N,0.3nm,0.3s,baz=278,slow=13,SNR=28						
INK				Sn	**Sn**	**08 43 59.3**	**-5.0**
	comp=N,0.6nm,0.3s,baz=169,slow=29,SNR=3.7						
INK				Lg	Lg	08 44 58.6	
	comp=N,0.3nm,0.3s,baz=186,slow=31,SNR=3.9						
	comp=N,0.9nm,0.4s						
O28M	**Mount Upton**	**9.35**	**118**		**Pn**	**08 42 20.4**	**+0.7**
DLBC	**Dease Lake**	**14.72**	**109**	Pn	**Pn**	**08 43 36.0**	**+3.1**
	comp=N,0.4nm,0.3s,baz=338,slow=5.3,SNR=11						
DLBC				Lg	Lg	08 47 48.8	
	comp=N,0.1nm,0.3s,baz=30,slow=25,SNR=7.2						
DLBC				LR	LR	08 49 35.9	
	comp=N,172nm,21.1s,baz=281,slow=38						
	comp=N,0.6nm,0.4s						
T35M	**Bob Quinn**	**15.68**	**113**	Pn	**Pn**	**08 43 46.0**	**+0.6**
T35M				IAmb	IAmb	08 43 57.6	
	comp=Z,13nm,1.3s						
V35K	**Ketchikan**	**16.44**	**119**		**Pn**	**08 43 56.8**	**+1.5**
V35K				IAmb	IAmb	08 44 22.7	
	comp=Z,12nm,1.1s						
YKA	**Yellowknife Ar**	**18.50**	**82**	P	**Pn**	**08 44 21.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=302,slow=12,SNR=19						
	comp=Z,0.6nm,0.6s						
BBB	**Bella Bella**	**20.21**	**120**	LR	LR	08 52 44.6	
	comp=Z,122nm,20.2s,baz=298,slow=37						
RES	**Resolute Bay**	**21.31**	**40**	P	**P**	**08 44 50.5**	**-0.7**
RES	**Resolute Bay**	**21.31**	**40**	P	**P**	**08 44 52.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=249,slow=14,SNR=7.4						
RES				S	**S**	**08 48 39.5**	**-8.0**
	comp=Z,1.2nm,0.7s,baz=200,slow=20,SNR=4.5						
RES				LR	LR	08 54 58.6	
	comp=Z,49nm,20.5s,baz=358,slow=42						
	comp=Z,0.6nm,0.8s						
SEY	**Seymchan**	**21.41**	**285**	P	**P**	**08 44 53.7**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=81,slow=8.3,SNR=14						
	comp=Z,1.4nm,0.6s						
EUNU	**Eureka**	**22.53**	**25**	P	**P**	**08 45 03.7**	**-0.6**
MA2	**Magadan**	**23.97**	**279**	P	**P**	**08 45 19.1**	**+0.2**
	comp=Z,1.4nm,0.2s,baz=106,slow=11,SNR=3.6						
MA2				LR	LR	08 53 59.9	
	comp=Z,44nm,21.9s,baz=306,slow=35						
	comp=Z,1.4nm,0.2s						
PET	**Petropavlovsk**	**25.30**	**260**	P	**P**	**08 45 29.3**	**-1.7**
TIXI	**Tiksi**	**25.48**	**315**	LR	LR	08 57 38.2	
	comp=Z,63nm,18.8s,baz=102,slow=42						
F03A	**Seaside**	**27.11**	**122**	P	**P**	**08 45 46.8**	**-0.7**
NEW	**Newport**	**27.45**	**111**	LR	LR	08 58 00.7	
	comp=Z,77nm,20.6s,baz=328,slow

KURK	**Kurchatov**	**1.79**	**101**	⇓Pn	**Pn**	**08 42 03.0**	**-0.6**
	9.0nm,0.8s						
KURK				⇑Sn	**Sg**	**08 42 30.6**	**+1.6**
	10nm,0.8s						
OTUK	**Ortayu**	**3.64**	**220**	⇓Pg	**Pb**	**08 42 35.3**	**-1.4**
	0.8nm,0.7s						
OTUK				⇓Lg	Lg	08 43 28.6	
	5.1nm,0.7s						
BVA0	**Borovoye Array**	**3.90**	**302**	Pg	**Pn**	**08 42 32.2**	**-0.3**
	1.8nm,0.9s,baz=234,slow=39,SNR=5.8						
BVA0				⇑Lg	Lg	08 43 21.4	
	3.0nm,0.7s,baz=113,slow=24,SNR=5.7						
BVAR	**Borovoye Array**	**3.90**	**302**	Pn	**Pn**	**08 42 32.6**	**0.0**
	baz=115,slow=15,SNR=5.6						
BVAR				Pg	**Pb**	**08 42 40.3**	**-0.7**
	baz=117,slow=19,SNR=4.2						
BVAR				Sn	**Sn**	**08 43 19.5**	**+0.5**
	0.1nm,0.3s,baz=116,slow=32,SNR=7.6						
	1.0nm,0.6s						
BRVK	**Borovoye**	**3.97**	**302**	⇓Pg	**Pn**	**08 42 34.8**	**+1.2**
	0.9nm,0.5s						
BRVK				⇓Lg	Lg	08 43 21.2	
	3.1nm,0.6s						
MK31	**Makanchi Array**	**6.03**	**133**	⇑Lg	Lg	08 44 56.0	
	2.0nm,0.7s,baz=342,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**6.03**	**133**	Pg	**Pb**	**08 43 16.3**	**-1.1**
	0.1nm,0.3s,baz=322,slow=17,SNR=2.4						
MKAR				Sn	**Sn**	**08 44 11.4**	**-0.2**
	0.1nm,0.3s,baz=320,slow=27,SNR=2.3						
MKAR				Lg	Lg	08 44 44.5	
	0.1nm,0.3s,baz=318,slow=30,SNR=8.7						
ZALV	**Zalesovo Beam**	**6.18**	**59**	Pn	**Pn**	**08 43 02.9**	**-1.0**
	0.2nm,0.3s,baz=247,slow=14,SNR=4.7						
ZALV				Sn	**Sn**	**08 44 14.1**	**-1.2**
	0.1nm,0.3s,baz=243,slow=25,SNR=2.0						
ZALV				Lg	Lg	08 44 43.8	
	0.2nm,0.3s,baz=247,slow=31,SNR=1.3						
	1.0nm,0.7s						
I46RU	**ZALESOVO INFRA**	**6.18**	**59**	I	I	09 19 10.0	
	baz=249,slow=330,SNR=3.1						

*ATH **28** 08:45:27.9, 38°.92N×20°.55E, h16km±2km, ML3.0/12, Manual Solution by S.Koutrakis First location: 2019/03/28 08:46:17, This location: 2019/03/28 09:17:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*

*THE **28** 08:45:29.6, 38°.91N×20°.69E, h11km±2km, ML2.8/4, Error ellipse: s-maj=2.8km s-min=1.2km az=210.0*

ISC 28 08:45:28.7±0.9, 38°.91N±0°.02×20°.64E±0°.04, h16km±5km, n22, σ0s80/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.08**	**169**	P	**Pg**	**08 45 31.6**	**-0.3**
TSLK				S	**Sg**	**08 45 34.4**	**+0.5**
LKD2	**Lefkada island**	**0.12**	**172**	P	**Pg**	**08 45 32.1**	**-0.2**
LKD2				S	**Sb**	**08 45 35.4**	**+0.2**
	7μm,0.4s						
LKD2	**Lefkada island**	**0.12**	**172**	P	**Pg**	**08 45 32.1**	**-0.2**
LKD2				S	**Sb**	**08 45 35.2**	**0.0**
NYDR	**Nydri-Lefkada**	**0.20**	**166**	P	**Pg**	**08 45 33.2**	**-0.1**
NYDR				S	**Sb**	**08 45 37.4**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.23**	**192**	P	**Pg**	**08 45 33.6**	**-0.2**
DRAG				S	**Sg**	**08 45 37.5**	**+0.1**
SMHA	**Samh**	**0.65**	**179**	P	**Pg**	**08 45 40.5**	**-1.0**
SMHA				S	**Sg**	**08 45 50.1**	**-0.1**
IGT	**Igoumenitsa**	**0.67**	**339**	P	**Pg**	**08 45 40.2**	**-1.6**
JAN	**Janina**	**0.77**	**12**	P	**Pg**	**08 45 43.2**	**-0.5**
JAN				S	**Sn**	**08 45 55.6**	**-0.6**
	1μm,0.6s						
JAN	**Janina**	**0.77**	**12**	P	**Pg**	**08 45 43.1**	**-0.6**
JAN				S	**Sb**	**08 45 54.3**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.79**	**183**	P	**Pg**	**08 45 43.2**	**-0.9**
EVR	**Evrytania**	**0.92**	**89**	P	**Pg**	**08 45 46.3**	**-0.2**
EVR	**Evrytania**	**0.92**	**89**	P	**Pg**	**08 45 46.3**	**-0.2**
EVR				S	**Sn**	**08 46 00.5**	**+0.6**
KEK	**Kerkira**	**1.03**	**321**	P	**Pg**	**08 45 48.6**	**-0.1**
KEK				S	**Sn**	**08 46 05.8**	**+3.0**
	368nm,0.4s						
RLS	**Riolos of Patr**	**1.07**	**142**	P	**Pb**	**08 45 48.2**	**-0.6**
EFP	**Efpalio**	**1.10**	**115**	P	**Pb**	**08 45 48.8**	**-0.6**
EFP				S	**Sn**	**08 46 05.6**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.17**	**84**	P	**Pn**	**08 45 50.3**	**-0.2**
KPRO	**Kipourio**	**1.19**	**28**	P	**Pn**	**08 45 50.0**	**-0.8**
THL	**Klokotos Trika**	**1.26**	**58**	P	**Pn**	**08 45 51.6**	**0.0**
THL				S	**Sg**	**08 46 09.8**	**+0.5**
	352nm,0.8s						
THL	**Klokotos Trika**	**1.26**	**58**	P	**Pn**	**08 45 51.7**	**+0.1**
DRO	**Drossia**	**1.27**	**138**	P	**Pn**	**08 45 51.5**	**-0.4**
NEST	**Nestorio**	**1.54**	**12**	P	**Pn**	**08 45 56.1**	**+0.5**
GUR	**Goura**	**1.65**	**125**	P	**Pn**	**08 45 57.8**	**+0.7**

*IDC **28** 08:45:54.2±1.4, 20°.36S×169°.06E, h0km, mb4.2/4, mbtmp4.2/5, ML3.7/1, MS3.0/3, Error ellipse: s-maj=37.2km s-min=28.8km az=142.0*

*NOU **28** 08:45:56.1, 20°.31S×168°.95E, h0km, MLv4.1/12, Loyalty Islands*

*NEIC **28** 08:45:56.4±1.2, 20°.3S±0°.1×169°.05E±0°.10, h10km±1km, mb4.4/10, Error ellipse: s-maj=23.8km s-min=9.2km az=325.0*

ISC 28 08:45:56.0±0.7, 20°.33S±0°.06×169°.02E±0°.10, h10km, n35, σ0s87/34, mb4.4/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.81**	**17**	P	**Pb**	**08 46 11.8**	**-0.4**
INH	**Isangel**	**0.81**	**17**	S	**Sb**	**08 46 22.9**	**-0.3**
MARNC	**Mare, Loyalty**	**1.47**	**219**	P	**Pn**	**08 46 22.6**	**0.0**
MARNC	**Mare, Loyalty**	**1.47**	**219**	S	**Sn**	**08 46 40.9**	**-1.1**
YATNC	**Mamie plateau,**	**2.63**	**229**	P	**Pn**	**08 46 38.5**	**0.0**
DVP	**Devils Point**	**2.70**	**343**	P	**Pn**	**08 46 39.8**	**+0.3**
PINNC	**Pines Island,**	**2.71**	**212**	Pn	**Pn**	**08 46 40.7**	**+1.2**
PINNC	**Pines Island,**	**2.71**	**212**	P	**Pn**	**08 46 40.8**	**+1.2**
OUENC	**Ouen Island, N**	**2.91**	**224**	P	**Pn**	**08 46 43.8**	**+1.5**
DZM	**Mont Dzumac**	**2.96**	**234**		**Pn**	**08 46 43.9**	**+0.8**
DZM	**Mont Dzumac**	**2.96**	**234**	Pn	**Pn**	**08 46 44.0**	**+0.8**
	11nm,0.3s,baz=118,slow=17,SNR=199						
DZM				LR	LR	08 47 01.5	
	comp=Z,89nm,21.7s,baz=44,slow=23						
DZM				Sn	**Sn**	**08 47 18.3**	**-0.6**
	39nm,0.3s,baz=118,slow=22,SNR=9.1						
	39nm,0.4s						
DZM	**Mont Dzumac**	**2.96**	**234**	P	**Pn**	**08 46 43.9**	**+0.8**
ONTNC	**Ouen Toro**	**3.10**	**230**		**Pn**	**08 46 45.7**	**+0.7**
ONTNC	**Ouen Toro**	**3.10**	**230**	P	**Pn**	**08 46 46.6**	**+1.6**
KOUNC	**Koumac, New Ca**	**4.44**	**266**	P	**Pn**	**08 47 04.6**	**+1.2**
MSVF	**Nonsavu**	**8.93**	**75**	LR	LR	08 50 53.1	
	comp=Z,201nm,19.7s,baz=297,slow=34						
EIDS	**Eidsvold**	**17.27**	**250**		**P**	**08 49 58.5**	**-0.3**
RTZ	**Ruatahuna**	**19.48**	**161**	P	**P**	**08 50 23.4**	**+0.1**
RTZ				IAmb	IAmb	08 50 29.5	
	comp=Z,21nm,1.1s						
BKZ	**Black Stump Fm**	**19.85**	**163**	P	**P**	**08 50 27.4**	**+0.2**
BKZ				IAmb	IAmb	08 51 09.3	
	comp=Z,34nm,1.5s						
RPZ	**Rata Peaks**	**23.39**	**176**	LR	LR	08 59 37.2	
	comp=Z,54nm,18.9s,baz=144,slow=35						
WR8	**Warramunga Arr**	**32.37**	**265**	P	**P**	**08 52 25.7**	**-0.3**
WR8				IAmb	IAmb	08 52 59.2	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**32.53**	**265**	P	**P**	**08 52 26.9**	**-0.5**
WRA	**Warramunga Arr**	**32.53**	**265**	P	**P**	**08 52 26.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=98,slow=9.2,SNR=15						
	comp=Z,1.3nm,0.6s						
AS31	**Alice Springs**	**32.67**	**258**	P	**P**	**08 52 28.5**	**-0.2**
AS31				IAmb	IAmb	08 52 29.8	
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	**32.68**	**258**	P	**P**	**08 52 28.1**	**-0.6**
ASAR	**Alice Springs**	**32.68**	**258**	P	**P**	**08 52 29.1**	**+0.4**
	comp=Z,6.6nm,0.6s,baz=86,slow=9.1,SNR=132						
	comp=Z,6.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.94**	**266**	P	**P**	**08 53 39.2**	**+0.2**
PSA00	**Pilbara Seismi**	**45.78**	**259**	P	**P**	**08 54 18.1**	**-0.1**
QSPA	**South Pole Qui**	**69.73**	**180**	P	**P**	**08 57 05.8**	**-0.3**
QSPA				IAmb	IAmb	08 57 36.4	
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**69.73**	**180**	P	**P**	**08 57 05.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=47,slow=1.4,SNR=8.3						
	comp=Z,1.6nm,0.7s						
BELA	**Belgrano 2**	**81.04**	**175**	P	**P**	**08 58 09.5**	**-1.2**
BELA				IAmb	IAmb	08 58 19.5	
	comp=Z,3.8nm,1.1s						
M17K	**Holitna River**	**85.78**	**15**	P	**P**	**08 58 37.6**	**+2.5**
SONM	**Songino Array**	**87.96**	**323**	P	**P**	**08 58 46.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=124,slow=5.1,SNR=3.0						
	comp=Z,0.7nm,0.8s						
FINES	**FINESS Array B**	**131.50**	**337**	PKP	**PKPdf**	**09 05 08.0**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=72,slow=1.6,SNR=6.2						
GERES	**GERESS Array B**	**145.34**	**331**	PKPbc	**PKPbc**	**09 05 33.2**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=27,slow=1.5,SNR=4.5						

*SNET **28** 08:47:03.0±1.3, 12°.59N×89°.57W, h35km±181km, ML2.9*

CATAC 28 08:46:55.1±7.8, 12°N±35°×8°9W±1°5, h21km±53km, M3.5/7, MLv3.5/7, Error ellipse: s-maj=78.3km s-min=18.6km az=19.5, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.58**	**1**	*eP*	Pn	08 47 22.1	0.0
JAYA				*eS*	Sn	08 47 34.9	-7.0
JAYA				IAML		08 47 43.0	
	comp=Z,346nm,0.2s						
JAYA	**Jayaque - finc**	**1.58**	**1**	P	Pn	08 47 22.4	+0.4
JAYA	**Jayaque - finc**	**1.58**	**1**	P	Pn	08 47 22.2	+0.2
PMON	**Piamonte**	**1.65**	**6**	*eP*	Pn	08 47 22.8	-0.1
PMON	**Piamonte**	**1.65**	**6**	P	Pn	08 47 23.2	+0.3
PMON	**Piamonte**	**1.65**	**6**	P	Pn	08 47 23.2	+0.3
COEG	**Centro de Oper**	**1.65**	**21**	*eP*	Pb	08 47 23.9	-0.9
COEG				IAML		08 47 45.0	
	comp=Z,170nm,0.3s						
COEG	**Centro de Oper**	**1.65**	**21**	P	Pn	08 47 22.1	-0.9
COEG	**Centro de Oper**	**1.65**	**21**	Pn	Sn	08 47 47.8	+4.1
COEG	**Centro de Oper**	**1.65**	**21**	P	Pn	08 47 22.1	-0.9
UEES	**Universidad Ev**	**1.66**	**8**	*eP*	Pn	08 47 23.5	+0.5
UEES				*eS*	Sn	08 47 39.4	-4.4
BOQS	**Boqueron**	**1.67**	**7**	*eP*	Pn	08 47 22.8	-0.5
PAVA	**Las Pavas**	**1.72**	**18**	P	Pn	08 47 23.7	-0.3
PAVA	**Las Pavas**	**1.72**	**18**	Pn	Sn	08 47 43.9	-1.5
PAVA	**Las Pavas**	**1.72**	**18**	P	Pb	08 47 26.1	0.0
SCLA	**Alcaldia de Sa**	**1.79**	**24**	*eP*	Pn	08 47 25.8	+1.1
SCLA	**Alcaldia de Sa**	**1.79**	**24**	P	Pn	08 47 24.9	+0.2
SCLA	**Alcaldia de Sa**	**1.79**	**24**	P	Pn	08 47 23.7	-1.1
NUBE	**Las Nubes**	**1.85**	**351**	*eP*	Pn	08 47 24.7	-1.0
NUBE	**Las Nubes**	**1.85**	**351**	P	Pn	08 47 24.9	-0.8
NUBE	**Las Nubes**	**1.85**	**351**	Pn	Sn	08 47 48.9	+0.4
NUBE	**Las Nubes**	**1.85**	**351**	P	Pn	08 47 24.8	-1.0
SLOZ	**Alcaldia de Sa**	**1.97**	**352**	*eP*	Pn	08 47 26.9	-0.4
SLOZ	**Alcaldia de Sa**	**1.97**	**352**	P	Pn	08 47 27.3	0.0
SLOZ	**Alcaldia de Sa**	**1.97**	**352**	Pn	Sn	08 47 52.9	+1.5
SLOZ	**Alcaldia de Sa**	**1.97**	**352**	P	Pn	08 47 27.1	-0.2
LCND	**La Caada**	**1.99**	**51**	P	Pn	08 47 27.5	0.0
LCND	**La Caada**	**1.99**	**51**	P	Pn	08 47 27.7	+0.2
ESQI	**Esquipulas**	**2.48**	**3**	P	Pn	08 47 34.7	+0.3
ESQI	**Esquipulas**	**2.48**	**3**	P	Pn	08 47 34.6	+0.1

WEL 28 08:56:05.0±1.3, 34°S±8°×17°8E±2°1, h12km, M3.5/5, ML3.9/9, MLv3.5/5, Error ellipse: s-maj=27.5km s-min=9.1km az=102.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**3.85**	**186**	P	Pn	08 57 05.4	+1.3
HAZ				S	Sn	08 57 52.7	+3.4
WMGZ	**Waiomatatini S**	**3.90**	**178**	P	Pn	08 57 04.8	0.0
WMGZ				S	Sn	08 57 51.7	+1.3
PKGZ	**Pakihiroa**	**3.94**	**182**	P	Pn	08 57 05.8	+0.4
PKGZ				S	Sn	08 57 54.2	+2.6
RUGZ	**Raukumara Rang**	**4.07**	**187**	P	Pn	08 57 08.2	+1.0
PUZ	**Puketiti**	**4.15**	**180**	P	Pn	08 57 07.3	-0.9
PUZ				S	Sn	08 57 56.3	-0.3
TWGZ	**Tauwhareparae**	**4.26**	**183**	P	Pn	08 57 09.3	-0.4
TWGZ				S	Sn	08 57 59.7	+0.3
URZ	**Urewera**	**4.43**	**192**	P	Pn	08 57 13.1	+1.0
MWZ	**Matawai**	**4.45**	**187**	P	Pn	08 57 12.6	+0.2
TKGZ	**Te Karaka**	**4.53**	**184**	P	Pn	08 57 12.1	-1.3
CNGZ	**Carnagh Statio**	**4.56**	**181**	P	Pn	08 57 12.3	-1.5
RIGZ	**Rimuhau**	**4.80**	**185**	P	Pn	08 57 16.2	-0.9
RIGZ				S	Sn	08 58 11.8	-0.9
RTZ	**Ruatahuna**	**4.80**	**192**	P	Pn	08 57 17.7	+0.4
RTZ				S	Sn	08 58 13.0	+0.1
SNGZ	**Shannon Statio**	**4.91**	**188**	P	Pn	08 57 18.6	-0.1
SNGZ				S	Sn	08 58 15.9	+0.4
PRGZ	**Paritu Road**	**5.01**	**183**	P	Pn	08 57 19.8	-0.2
MTHZ	**Maungataniwha**	**5.06**	**193**	P	Pn	08 57 21.7	+1.0
MTHZ				S	Sn	08 58 22.5	+3.4
RAHZ	**Arahi**	**5.08**	**190**	P	Pn	08 57 21.1	+0.1
RAHZ				S	Sn	08 58 20.4	+0.8
BKZ	**Black Stump Fm**	**5.43**	**195**	P	Pn	08 57 23.2	-2.6
BKZ				S	Sn	08 58 29.0	+0.7
TMVZ	**Te Maari**	**5.58**	**201**	P	Pn	08 57 30.1	+2.1
OTVZ	**Oturere**	**5.64**	**201**	P	Pn	08 57 30.8	+2.0
SNVZ	**South Ngauruho**	**5.67**	**201**	P	Pn	08 57 31.0	+1.8
MOVZ	**Moawhango**	**5.84**	**199**	P	Pn	08 57 31.7	+0.2
PNHZ	**Pukenui**	**6.21**	**195**	P	Pn	08 57 34.1	-2.5
PNHZ				S	Sn	08 58 46.0	-1.4
BFZ	**Birch Farm**	**6.94**	**193**	P	Pn	08 57 43.2	-3.4
MRZ	**Mangatainoka R**	**7.06**	**197**	P	Pn	08 57 44.4	-3.9
TIWZ	**Tintock**	**7.11**	**195**	P	Pn	08 57 44.9	-3.9
HOWZ	**Holdsworth Sta**	**7.30**	**197**	P	Pn	08 57 48.0	-3.5
KIW	**Kapiti Island**	**7.43**	**200**	P	Pn	08 57 49.7	-3.5
CAW	**Cannon Point**	**7.61**	**199**	P	Pn	08 57 51.5	-4.3
MSWZ	**Moikau Station**	**7.86**	**197**	P	Pn	08 57 54.4	-4.8
TUWZ	**Tuamarina**	**8.24**	**203**	P	Pn	08 58 01.2	-3.2
TKNZ	**Takaka Hill**	**8.26**	**209**	P	Pn	08 58 05.8	+1.2

*NNC **28** 08:59:38.1±0.7, 50°.89N×73°.82E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=6.9km s-min=5.1km az=148.0, Suspected Mining explosion.*

*IDC **28** 08:59:40.7±0.7, 50°.83N×73°.48E, h0km, mbtmp3.4/7, ML3.1/7, Error ellipse: s-maj=11.7km s-min=6.9km az=30.0*

ISC 28 08:59:39.6±0.8, 50°.85N±0°.05×73°.55E±0°.04, h0km, n25, σ1s55/34, 14C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.03**	**213**	P	**Pb**	**09 00 00.6**	**+0.3**
BRZS							
	6.3nm,0.3s						
BRZS				P	**Pn**	**09 00 00.4**	**+2.8**
	18nm,0.2s						
BRZS				S	**Sn**	**09 00 15.5**	**-1.0**
	45nm,0.4s						
BRZS				S	**Sb**	**09 00 15.8**	**+1.3**
	24nm,0.2s						
OTUK	**Ortayu**	**2.72**	**197**	Pg	**Pb**	**09 00 29.6**	**+0.4**
	6.5nm,0.4s						
OTUK				Pg	**Pg**	**09 00 30.5**	**-1.3**
	6.1nm,0.4s						
OTUK				Lg	Lg	09 01 05.1	
	24nm,0.5s						
OTUK				Lg	Lg	09 01 05.1	
	24nm,0.4s						
OTUK	**Ortayu**	**2.72**	**197**	Pg	**Pn**	**09 00 27.1**	**+2.5**
	8.5nm,0.5s						
OTUK				Lg	Lg	09 01 05.2	
	72nm,0.8s						
BVA0	**Borovoye Array**	**2.93**	**319**	⇑Pg	**Pb**	**09 00 32.3**	**-0.4**
	7.1nm,0.6s,baz=132,slow=18,SNR=26						
BVA0				⇑Lg	Lg	09 01 13.8	
	55nm,0.9s,baz=125,slow=26,SNR=17						
BVAR	**Borovoye Array**	**2.93**	**319**	Pn	**Pn**	**09 00 28.5**	**+1.1**
	0.7nm,0.3s,baz=134,slow=17,SNR=9.9						
BVAR				Lg	Lg	09 01 11.6	
	0.4nm,0.3s,baz=138,slow=33,SNR=5.3						
	1.8nm,0.3s						
BRVK	**Borovoye**	**3.00**	**319**	⇓Pg	**Pb**	**09 00 34.0**	**+0.2**
	6.9nm,0.5s						
BRVK				⇑Lg	Lg	09 01 14.7	
	45nm,0.8s						
KURBB	**Kurchatov Arra**	**3.17**	**92**	Pn	**Pn**	**09 00 31.8**	**+1.0**
	0.5nm,0.3s,baz=279,slow=14,SNR=81						
KURBB				Lg	Lg	09 01 17.3	
	1.2nm,0.3s,baz=279,slow=30,SNR=13						
	7.4nm,0.6s						
KURBB	**Kurchatov Arra**	**3.17**	**92**	⇑Pg	**Pn**	**09 00 31.4**	**+0.6**
	26nm,0.5s						
KURBB				⇑Lg	Lg	09 01 15.2	
	121nm,0.8s						
KURK	**Kurchatov**	**3.22**	**90**	⇑Pg	**Pn**	**09 00 31.9**	**+0.5**
	7.4nm,0.5s						
KURK				⇓Lg	Lg	09 01 17.1	
	42nm,0.7s						
SEM	**Semipalatinsk**	**4.29**	**93**	Pg	**Pb**	**09 00 53.7**	**-2.3**
	15nm,0.4s						
SEM				Pg	Pg	09 00 57.7	-4.1
	3.9nm,0.1s						
SEM				Lg	Lg	09 01 46.3	
	16nm,0.6s						
SEM				Lg	Lg	09 01 50.9	
	5.6nm,0.1s						
BTLS	**Baital**	**5.82**	**177**	Pg	**Pb**	**09 01 23.4**	**+1.4**
	1.3nm,0.3s						
BTLS				Pg	Pg	09 01 25.4	-5.8
	1.3nm,0.2s						
BTLS				Lg	Lg	09 02 36.5	
	4.0nm,0.3s						
BTLS				Lg	Lg	09 02 41.4	
	8.1nm,0.5s						
MAKZ	**Makanchi**	**6.88**	**123**	⇑Pg	**Pb**	**09 01 39.0**	**-1.0**
	3.6nm,0.6s						
MAKZ				⇑Lg	Lg	09 03 11.8	
	15nm,0.8s						
MK31	**Makanchi Array**	**7.05**	**122**	⇑Pn	Pn	09 01 19.1	-5.1
	0.5nm,0.5s,baz=299,slow=11,SNR=9.8						
MK31				⇓Pg	**Pb**	**09 01 45.1**	**+2.1**
	1.0nm,0.4s,baz=291,slow=12,SNR=4.5						
MK31				⇓Lg	Lg	09 03 18.1	
	9.4nm,0.7s,baz=322,slow=27,SNR=6.9						
MKAR	**Makanchi Array**	**7.05**	**122**	Pn	**Pn**	**09 01 25.4**	**+1.3**
	0.2nm,0.3s,baz=307,slow=14,SNR=9.3						
MKAR				Pg	**Pb**	**09 01 43.1**	**+0.1**
	0.6nm,0.3s,baz=312,slow=11,SNR=7.9						
MKAR				Sn	**Sn**	**09 02 45.9**	**+0.9**
	0.5nm,0.3s,baz=308,slow=25,SNR=3.7						
MKAR				Lg	Lg	09 03 24.1	
	1.2nm,0.3s,baz=308,slow=31,SNR=9.0						
	0.3nm,0.4s						
I46RU	**ZALESOVO INFRA**	**7.56**	**61**	I	I	09 43 40.0	
	baz=252,slow=323,SNR=0.8						
ZALV	**Zalesovo Beam**	**7.56**	**61**	Pn	**Pn**	**09 01 31.9**	**+0.8**
	0.4nm,0.3s,baz=249,slow=14,SNR=6.4						
ZALV				Sn	**Sn**	**09 02 59.0**	**+1.7**
	0.6nm,0.3s,baz=249,slow=25,SNR=4.7						
ZALV				Lg	Lg	09 03 41.5	
	0.3nm,0.3s,baz=250,slow=26,SNR=4.0						
	1.1nm,0.4s						
CHMS	**Chumysh**	**7.90**	**174**	⇓Pn	**Pn**	**09 01 34.7**	**-1.0**
	2.0nm,0.5s						
CHMS				⇓Lg	Lg	09 03 51.9	
	16nm,0.8s						
KK31	**Karatay Array**	**8.02**	**196**	Pn	**Pn**	**09 01 38.4**	**+0.9**
	0.6nm,0.5s,baz=9.0,slow=13,SNR=7.8						
KK31				⇑Lg	Lg	09 03 59.2	
	4.9nm,0.7s,baz=14,slow=28,SNR=4.2						
TKM2	**Tokmak 2**	**8.05**	**169**	⇑Pn	**Pn**	**09 01 37.3**	**-0.7**
	1.0nm,0.6s						
TKM2				⇓Lg	Lg	09 03 53.0	
	41nm,0.8s						
AAK	**Ala-Archa**	**8.24**	**175**	Pn	**Pn**	**09 01 40.4**	**-0.1**
	0.7nm,0.3s,baz=232,slow=0.3,SNR=7.0						
AAK				Sn	**Sn**	**09 03 12.4**	**-2.0**
	0.2nm,0.3s,baz=295,slow=22,SNR=1.8						
AAK				Lg	Lg	09 04 03.0	
	0.6nm,0.3s,baz=230,slow=22,SNR=6.6						
	1.2nm,0.3s						
AAK	**Ala-Archa**	**8.24**	**175**	Pn	**Pn**	**09 01 39.9**	**-0.6**
	0.8nm,0.5s						
AAK				Lg	Lg	09 04 02.8	
	11nm,0.8s						
AB31	**Akbulak array**	**8.90**	**265**	⇑Pn	**Pn**	**09 01 50.3**	**+0.9**
	0.5nm,0.5s,baz=79,slow=8.9,SNR=20						
AB31				⇓Lg	Lg	09 04 25.6	
	1.7nm,0.7s						
AKTO	**Aktyubinsk**	**9.88**	**274**	Pn	**Pn**	**09 02 01.9**	**-0.9**
	0.9nm,0.3s,baz=88,slow=7.4,SNR=9.9						
AKTO				Sn	**Sn**	**09 03 49.7**	**-4.7**
	0.1nm,0.3s,baz=222,slow=7.7,SNR=1.4						
AKTO				Lg	Lg	09 04 53.1	
	0.1nm,0.3s,baz=219,slow=14,SNR=3.9						
	2.2nm,0.4s						
AKTO	**Aktyubinsk**	**9.88**	**274**	⇑Pn	**Pn**	**09 02 02.7**	**-0.1**
	1.0nm,0.5s						
AKTO				⇑Lg	Lg	09 04 58.7	
	3.4nm,1.2s						
ARTI	**Arti**	**10.57**	**308**	Pn	**Pn**	**09 02 13.0**	**+0.8**
	0.6nm,0.3s,baz=114,slow=10.0,SNR=1.9						
ARTI				Sn	**Sn**	**09 04 13.1**	**+2.0**
	0.3nm,0.3s,baz=262,slow=18,SNR=1.5						
ARTI				Lg	Lg	09 05 14.8	
	0.8nm,0.3s,baz=315,slow=21,SNR=3.9						
	2.2nm,0.5s						

*VKMS **28** 09:00:01.0, 52°.31N×35°.41E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDG **28** 09:00:05.0, 52°.28N×35°.43E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, G

PLK1	Peulik 1	1.27 259		Pn	09 05 01.7 +0.2
PLK1				Sn	09 05 18.5 0.0
AUCH	Augustine Cone	1.37 18		Pn	09 05 03.2 +0.3
AU22	Augustine Moun	1.39 20		Pn	09 05 03.5 +0.4
Q16K	King Salmon	1.40 297		Pn	09 05 03.0 -0.1
PLBL	Peulik Blue Cr	1.41 256		Pn	09 05 03.9 +0.5
P18K	Big Mountain,	1.42 340		Pn	09 05 03.1 -0.4
P18K			IAML		09 05 20.9
	comp=E,1µm,0.8s				
SII	Sitkinak Islan	1.51 178	Pn	Pn	09 05 04.7 0.0
SII	Sitkinak Islan	1.51 178	P	Pn	09 05 04.7 0.0
SII	Sitkinak Islan	1.51 178	S	Sn	09 05 23.8 -0.2
P17K	Kvichak River	1.60 316		Pn	09 05 05.9 +0.1
P19K	Oil Pt	1.68 18		Pn	09 05 07.2 +0.4
P19K			IAML		09 05 38.6
	comp=N,796nm,0.5s				
P19K			IAML		09 05 38.6
	comp=E,892nm,0.5s				
R16K	Pilot Point	1.84 256		Sn	09 05 30.9 -0.6
R16K	Pilot Point	1.84 256		Pn	09 05 08.6 -0.2
R16K			IAML		09 05 31.6
	comp=E,681nm,0.7s				
R16K			IAML		09 05 32.5
	comp=N,815nm,0.8s				
O18K	Koktuh Hills	1.86 345	Pn	Pn	09 05 08.8 -0.3
O18K			IAML		09 05 31.5
	comp=E,836nm,0.9s				
O18K			IAML		09 05 32.4
	comp=N,548nm,1.0s				
ILSW	Iliamna Southw	2.01 16		Pn	09 05 11.6 +0.4
HOM	Homer	2.10 39		Pn	09 05 13.2 +0.9
HOM			IAML		09 05 42.6
	comp=E,666nm,0.6s				
O19K	Port Alsworth	2.13 359	Pn	Pn	09 05 12.8 +0.1
CNPM	China Poot	2.15 46		Sn	09 05 38.5 -0.5
CNPM	China Poot	2.15 46	Pn	Pn	09 05 13.4 +0.3
CNPM			IAML		09 05 39.5
	comp=N,445nm,0.6s				
CNPM			IAML		09 05 50.5
	comp=E,343nm,0.7s				
P16K	Nushagak River	2.17 298		Pn	09 05 13.7 +0.4
O17K	Koliganek Bris	2.25 321		Pn	09 05 14.5 +0.2
ANNE	Aniakchak Nort	2.35 242		Pn	09 05 16.1 +0.4
CHIR	Chirikof Islan	2.37 199	Pn	Pn	09 05 15.7 -0.2
CHIR			IAML		09 06 05.5
	comp=E,263nm,0.7s				
CHIR			IAML		09 06 05.0
	comp=N,390nm,0.8s				
CHIR	Chirikof Islan	2.37 199	P	Pn	09 05 15.5 -0.4
CHIR	Chirikof Islan	2.37 199	S	Sn	09 05 44.1 0.0
ANNW	Aniakchak Nort	2.40 244		Pn	09 05 16.8 +0.5
BRLK	Bradley Lake	2.45 44	Pn	Pn	09 05 16.3 -0.6
BRLK			IAML		09 05 44.6
	comp=N,529nm,0.6s				
BRLK			IAML		09 05 44.9
	comp=E,490nm,0.6s				
O16K	Kokwok River B	2.51 309	Pn	Pn	09 05 17.9 +0.2
ANPB	Aniakchak Plen	2.51 241		Pn	09 05 19.4 +1.5
N18K	Kilae Creek	2.75 343	IAML		09 06 06.8
	comp=E,215nm,0.7s				
N19K	Bonanza Creek	2.76 358	IAML		09 06 05.6
	comp=E,352nm,0.9s				
CHGN	Chignik	2.87 234	Pn	Pn	09 05 23.0 +0.5
CHGN			IAML		09 05 59.9
	comp=N,266nm,0.3s				
CHGN			IAML		09 06 02.0
	comp=E,312nm,0.4s				
SLKM	Skilak Lake	3.21 39	Pn	Pn	09 05 26.9 -0.4
SLKM			IAML		09 06 05.3
	comp=E,115nm,0.6s				
SLKM			IAML		09 06 22.0
	comp=N,129nm,0.7s				
SEW	Seward	3.22 49	Pn	Pn	09 05 26.3 -1.0
SPCR	Spurr Chakacha	3.31 18		Pn	09 05 29.1 +0.4
SPBG	Spurr Blockage	3.34 16		Pn	09 05 29.9 +0.8
VNFG	Fog Glacier, M	3.38 240		Pn	09 05 30.5 +0.9
STLK	Strandline Lak	3.66 19		Pn	09 05 33.7 +0.4
FIS	Fire Island	3.71 32		Pn	09 05 35.2 +1.2
FIS			IAML		09 06 45.3
	comp=N,132nm,0.6s				
FIS			IAML		09 06 48.7
	comp=E,138nm,0.8s				
RC01	Rabbit Creek A	3.81 35	IAML		09 06 20.8
	comp=N,68nm,0.4s				
RC01			IAML		09 06 21.8
	comp=E,80nm,0.4s				
M19K	Big River Lodg	3.85 359	IAML		09 06 47.9
	comp=E,70nm,0.8s				
PWL	Port Wells	4.12 45	IAML		09 06 25.8
	comp=E,119nm,0.5s				
PWL			IAML		09 06 32.3
	comp=N,106nm,0.8s				
L19K	White Mountain	4.14 356		Pn	09 05 40.3 +0.5
L19K			IAML		09 06 40.8
	comp=N,98nm,0.8s				
L19K			IAML		09 06 52.2
	comp=E,75nm,1.2s				
L18K	Granite Mounta	4.34 345	IAML		09 06 32.6
	comp=N,82nm,0.8s				
L18K			IAML		09 06 55.9
	comp=E,56nm,1.4s				
SDPT	Sand Point	4.37 234	Pn	Pn	09 05 42.9 0.0
SDPT			IAML		09 06 53.4
	comp=E,107nm,1.0s				
SDPT	Sand Point	4.37 234	P	Pn	09 05 43.4 +0.5
CHNA	Chernabura Isl	4.38 225	P	Pn	09 05 42.4 -0.7
PMR	Palmer	4.38 34	Pn	Pn	09 05 42.5 -0.6
PMR	Palmer	4.38 34	P	Pn	09 05 42.1 -1.0
PMR	Palmer	4.38 34	S	Sn	09 06 30.5 -2.4
CNBA	Chernabura Isl	4.39 224	Pn	Pn	09 05 42.0 -1.2
CNBA			IAML		09 06 47.3
	comp=E,119nm,0.6s				
CNBA			IAML		09 06 51.4
	comp=N,112nm,0.7s				
KNK	Knik Glacier	4.46 39	IAML		09 06 32.6
	comp=N,54nm,0.6s				
KNK			IAML		09 06 33.1
	comp=E,84nm,0.8s				
L16K	Owhat River	4.50 327	IAML		09 06 35.6
	comp=E,53nm,0.7s				
GHO	Glory Hole Cre	4.59 34	IAML		09 06 36.6
	comp=N,64nm,0.7s				
GHO			IAML		09 06 50.2
	comp=E,69nm,1.1s				
GLI	Glacier Island	4.62 49	IAML		09 06 35.8
	comp=N,70nm,0.4s				
M14K	Bethel	4.76 308	IAML		09 07 14.0
	comp=E,49nm,1.4s				
M14K			IAML		09 07 14.6
	comp=N,66nm,1.4s				
SML	Sawmill	4.79 36	IAML		09 06 59.2
	comp=N,40nm,0.9s				
SML			IAML		09 07 18.7
	comp=E,40nm,0.9s				
FID	Port Fidalgo	4.80 53	IAML		09 06 41.2
	comp=E,84nm,0.5s				
PPLA	Purkeypile	4.95 11	Pn	Pn	09 05 52.4 +1.4
PS4A	Pavlof South-4	4.99 240		Pn	09 05 52.2 +0.9
EYAK	Cordova Ski Ar	5.03 57	P	Pn	09 05 51.3 -0.5
K17K	Iditarod	5.07 339		Pn	09 05 53.2 +0.8
K17K	Iditarod	5.07 339	IAML		09 06 49.8
	comp=E,68nm,1.1s				
K17K			IAML		09 07 03.7
	comp=N,51nm,1.2s				
SCM	Sheep Creek Mo	5.14 40	IAML		09 07 34.8
	comp=N,44nm,1.1s				
M13K	Dall Lake	5.22 301	IAML		09 07 52.8
	comp=E,27nm,1.3s				
K20K	Telida	5.31 1	IAML		09 06 57.2
	comp=N,23nm,0.8s				
L14K	Kuka Creek	5.38 311		Pn	09 05 57.5 +1.0
L14K			IAML		09 07 30.7
	comp=E,42nm,1.2s				
L14K			IAML		09 07 36.7
	comp=N,41nm,1.2s				
J18K	Innoko River	5.55 349		Pn	09 05 59.7 +0.8
K15K	Wolf Creek Mou	5.57 323		Pn	09 06 00.3 +1.1
J17K	VABM Dome	5.84 338		Pn	09 06 03.7 +0.8
FALS	False Pass	6.00 241		Pn	09 06 06.0 +0.9
FALS	False Pass	6.00 241	P	Pn	09 06 06.0 +0.9
FALS	False Pass	6.00 241	S	Sn	09 07 15.1 +2.7
J16K	Anvik River	6.08 332		Pn	09 06 06.5 +0.3
J20K	Nowinta River	6.13 1		Pn	09 06 07.7 +0.8
MCK	McKinley	6.25 22		Pn	09 06 08.8 +0.2
SNH	Sunshine Point	6.26 65	Pn	Pn	09 06 09.2 +0.5
BPAW	Bear Paw Mtn.	6.26 13		Pn	09 06 09.2 +0.6
HARP	HAARP	6.28 42		Pn	09 06 09.4 +0.4
J14K	Nanvaranak Lak	6.57 320		Pn	09 06 14.0 +1.3
I20K	Naaghedeneel	6.75 359		Pn	09 06 16.6 +1.2
SAMH	Samovar Hills	7.25 68		Pn	09 06 22.9 +0.7
CCB	Clear Creek Bu	7.29 22		Pn	09 06 21.3 -1.4
H18K	Honhosa River	7.37 346		Pn	09 06 24.7 +0.9
COLA	College	7.49 22		Pn	09 06 24.0 -1.3
COLA	College	7.49 22	P	Pn	09 06 25.4 +0.1
COLA	College	7.49 22	S	Sn	09 07 46.3 -2.2
M27K	Edge Creek, AK	7.52 50		Pn	09 06 26.0 +0.1
YUK2	White River	7.71 55		Pn	09 06 28.6 +0.2
J25K	Salcha River,	7.83 29		Pn	09 06 29.5 -0.6
PNL	Peninsula	7.88 72	P	Pn	09 06 30.5 -0.2
BCAR	Beaver Creek A	7.93 46	Pn	Pn	09 06 31.6 +0.2
O29M	Mount Kennedy	8.36 68		Pn	09 06 38.1 +0.7
YUK6	Outpost Mounta	8.59 64		Pn	09 06 40.5 0.0
P29M	Windy Craggy	8.71 73		Pn	09 06 42.1 0.0
SIT	Sitka	10.23 88	P	Pn	09 07 03.6 +0.9
JIS	Juneau Island	10.51 80	P	Pn	09 07 07.3 +0.9
CRAG	Craig	11.88 94	P	Pn	09 07 24.8 -0.3

GCG ***28*** *09:08:33.7±1.6, 15°.70N×95°.09W, h86km±44km, MD4.5*
MEX ***28*** *09:08:36.1±0.8, 15°.52N×94°.94W, h22km±22km, MD4.3*
ISC 28 09:08:32.0±1.4,**15°.46N**±0°.06×**94°.98W**±0°.03,**h15km**±10km,
n53, σ2.9**04**/76,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.13	286	eP	Pg	09 08 54.1	+0.2
HUIG				eS	Sg	09 09 07.3	-1.3
HUIG	Huatulco	1.13	286	i P	Pg	09 08 54.0	+0.2
HUIG				i S	Sg	09 09 07.3	-1.3
HUIG	Huatulco	1.13	286	i P		09 08 54.0	
HUIG				i S		09 09 07.3	
PANG	Puerto Angel	1.46	278	i P	Pn	09 08 58.6	+0.8
PANG				i S	Sb	09 09 15.2	-1.9
CMIG	Matias Romero	1.62	3	eP	Pn	09 08 59.7	-0.4
CMIG				eS	Sn	09 09 17.6	-3.1
PCIG		1.71	82	eP	Pn	09 09 01.1	-0.2
PCIG				eS	Sn	09 09 20.2	-2.7
UXUV	UXUV	2.01	23	eP	Pn	09 09 05.7	+0.2
UXUV				eS	Sn	09 09 27.7	-2.7
PEIG	Puerto Escondi	2.15	285	eP	Pn	09 09 08.5	+1.1
PEIG				eS	Sn	09 09 31.6	-2.3
TGIG		2.21	53	eP	Pn	09 09 08.2	0.0
TGIG				eS	Sn	09 09 33.9	-1.5
TGIG		2.21	53	i P	Pn	09 09 08.2	0.0
TGIG				i S	Sn	09 09 35.4	0.0
TGIG		2.21	53	i P		09 09 08.2	
TGIG				i S		09 09 35.4	
TGBT	Tuxtla Gutierr	2.24	54	eP	Pn	09 09 08.7	+0.2
TGBT				eS	Sn	09 09 35.8	-0.1
OXLC	Oaxaca	2.30	314	eP	Pn	09 09 11.2	+1.6
OXLC				eS	Sn	09 09 37.9	+0.2
OXBJ	Oaxaca	2.31	314	eP	Pn	09 09 11.7	+1.9
OXBJ				eS	Sn	09 09 37.4	-0.7
VHO	Vista Hermosa	2.33	314	eP	Pn	09 09 11.4	+1.5
VHO				eS	Sn	09 09 38.2	-0.2
NEUV	Arroyo Zacate	2.37	341	eP	Pn	09 09 10.9	+0.5
NEUV				eS	Sn	09 09 37.7	-1.6
TUIG	Tuzandepetl	2.61	12	eP	Pn	09 09 14.3	+0.6
PATR	El Naranjo	2.67	97	eP	Pn	09 09 15.1	+0.4
PATR				eS	Sn	09 09 44.5	-2.5
THIG		2.68	102	eP	Pn	09 09 15.4	+0.9
THIG				eS	Sn	09 09 45.4	-1.3
PAVE	Pavencul	2.72	95	eP	Pn	09 09 16.4	+1.1
PAVE				eS	Sn	09 09 46.4	-1.7
YOIG	Yosondua	2.83	300	eP	Pn	09 09 18.6	+1.7
YOIG				eS	Sn	09 09 50.0	-0.9
CCIG	Comitan	2.85	73	eP	Pn	09 09 18.7	+1.5
CCIG				eS	Sn	09 09 53.6	+2.3
CCIG	Comitan	2.85	73	i P	Pn	09 09 18.7	+1.5
CCIG				i S	Sn	09 09 55.2	+3.8
CCIG	Comitan	2.85	73	i P		09 09 18.7	
CCIG				i S		09 09 55.2	
PMUV	Sontecomapan	3.07	357	eP	Pn	09 09 19.5	-0.6
PMUV				eS	Sn	09 09 51.4	-5.2
PNIG	Pinotepa	3.17	287	eP	Pn	09 09 23.0	+1.6
PNIG				eS	Sn	09 09 55.9	-3.1
TXIG	Tlaxiaco	3.22	304	eP	Pn	09 09 25.3	+3.0
TXIG				eS	Sn	09 10 00.7	+0.2
TOIG	Toxpalan	3.29	323	eP	Pn	09 09 26.4	+3.2
TOIG				eS	Sn	09 10 02.9	+0.7
RTAL	Retalhuleu	3.31	106	eP	Pn	09 09 27.8	+4.5
RTAL				eS	Sn	09 10 02.7	+0.3
HUEH	Huehuetenango	3.36	92	eP	Pn	09 09 23.5	-0.7
HUEH				eS	Sn	09 10 02.7	-1.2
HUEH	Huehuetenango	3.36	92	i P	Pn	09 09 26.0	+1.9
HUEH	Huehuetenango	3.36	92	i P		09 09 26.0	
HLIG	Huajuapan de L	3.59	311	eP	Pn	09 09 29.1	+1.8
HLIG				eS	Sn	09 10 09.6	0.0
TPIG	Tehuac#an	3.72	323	eP	Pn	09 09 30.5	+1.4
TPIG				eS	Sn	09 10 13.6	+0.8
FTIG	Fresnillo de T	3.88	309	eP	Pn	09 09 33.9	+2.7
MGIG	Malinaltepec	3.93	297	eP	Pn	09 09 35.3	+3.3
MGIG				eS	Sn	09 10 16.3	-1.6
TLIG	Tlapa	4.03	302	eP	Pn	09 09 35.8	+2.5
TLIG				eS	Sn	09 10 19.8	-0.5
CRIG	Cruz Grande	4.19	288	eP	Pn	09 09 37.4	+2.0
CRIG				eS	Sn	09 10 20.2	-3.8
POHV	Veracruz	4.21	329	eP	Pn	09 09 37.3	+1.1
JAUV	Jalcomulco	4.26	336	eP	Pn	09 09 36.0	-0.4
JAUV				eS	Sn	09 10 23.1	-2.7
LVIG	Laguna Verde	4.46	342	eS	Sn	09 10 29.2	-1.4
PBCV	Popocatepetl	4.90	316	eP	Pn	09 09 49.2	+3.8
PBCV				eS	Sn	09 10 43.5	+1.4
PBXN	Popocatepetl	4.98	316	eP	Pn	09 09 47.6	+0.9
PBXN				eP		09 09 50.4	
PBXN				eS	Sn	09 10 44.5	+0.1
PPM	Popocatepetl	5.00	316	eP	Pn	09 09 50.0	+2.9
PPM				eS	Sn	09 10 46.6	+1.8
SCIG	Sabancuy	5.03	46	eP	Pn	09 09 46.7	-0.2
SCIG				eS	Sn	09 10 39.0	-5.8
MEIG	Mezcala	5.08	300	eP	Pn	09 09 49.3	+1.6
MEIG				eS	Sn	09 10 46.3	+0.1
PETF	Flores	5.12	73	eP	Pn	09 09 47.8	-0.4
PETF				eS	Sn	09 10 44.7	-2.4
PETF	Flores	5.12	73	i P	Pn	09 09 49.2	+1.0
PETF	Flores	5.12	73	i P		09 09 49.2	
YAIG	Yautepec	5.17	311	eP	Pn	09 09 52.3	+3.3
YAIG				eS	Sn	09 10 46.4	-2.1
PLIG	Platanillo	5.22	305	eP	Pn	09 09 48.4	-1.2
PLIG				eS	Sn	09 10 44.4	-5.3
CXUV	Coxquihui	5.30	332	eP	Pn	09 09 51.5	+0.7
CXUV				eS	Sn	09 10 49.1	-2.6
CAIG	El Cayaco	5.32	288	eP	Pn	09 09 53.3	+2.4
CAIG				eS	Sn	09 10 47.1	-4.9
MAVM	Malinalco, Edo	5.54	309	e	Pn	09 09 44.1	-10
MAVM				e		09 10 40.8	
COVM	Coyoacan	5.55	315	eS	Sn	09 10 56.3	-1.9
PBVM	Pinon	5.57	316	eP	Pn	09 09 56.5	+2.1
PBVM				eS	Sn	09 10 58.1	0.0
AOVM	Tlapan	5.61	313	eP	Pn	09 09 58.2	+2.8
AOVM				eS	Sn	09 11 01.3	+1.4
ARIG	Puente Sto Nin	5.85	299	eP	Pn	09 10 02.2	+3.9
ARIG				eS	Sn	09 11 02.3	-3.0

MOS ***28*** *09:10:03.5±0.8, 6°.40S×143°.48E, h9km, mb5.2/30, Error ellipse: s-maj=11.3km s-min=6.0km az=119.5*
IDC ***28*** *09:10:03.5±0.6, 6°.43S×143°.51E, h0km, mb4.7/15, mbtmp4.7/19, ML2.8/2, MS4.1/40, Error ellipse: s-maj=19.7km s-min=10.2km az=98.0*
BJI ***28*** *09:10:04.2, 6°.40S×143°.85E, h25km, mB5.2/18, mb4.9/60, Ms4.6/10, Ms7 4.4/9*
NEIC ***28*** *09:10:05.9±2.5, 6°.43S±0°.07×143°.32E±0°.06, h10km±1km, mb5.2/213, Error ellipse: s-maj=11.8km s-min=9.2km az=27.0*
GCMT ***28*** *09:10:06.8±0.2, 6°.55S±0°.02×143°.14E±0°.02, h13km±1km, MW5.0/96, Moment Tensor Solution. s42,c48; s96,c131; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.45±.13; Mθθ-1.36±.09; Mφφ-1.09±.09; Mrθ1.51±.24; Mrφ1.14±.05; Mθφ-2.33±.29; Best double couple: Mo3.67500×10^16 NP1:φs302.00000°, δ22.00000°, λ70.00000°. NP2: φs143.00000°, δ70.00000°, λ98.00000°. Principal axes: T 3.7600, Plg65.0000°, Azm65.0000°; N -0.1700, Plg7.0000°, Azm320.0000°; P -3.5900, Plg24.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***28*** *09:10:07.4±0.9, 7°.5±3°×14°.3E±°, h24km±6km, M5.0/47, mb4.9/47, mB5.4/24, MLv5.7/6, Mw(mB)4.8/24, MwMwp5.0/3, Mwp5.3/3*
ISC 28 09:10:05.6±0.3,**6°.48S**±0°.04×**143°.35E**±0°.04,**h10km**,**n640,**
σ1.9**37**/523,**mb5.2**/172,**MS4.1**/40,**15C-1D**,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	Tabubil	2.43	300	P	Pn	09 10 45.3	-0.2
MMPI	Merauke	3.54	236	P	Pn	09 10 59.6	-1.1
MMPI				Pg	Pg	09 11 12.4	-1.1
JAY	Jayapura	4.74	326	Pn	Pn	09 11 17.4	+0.2
	2.3nm,0.3s,baz=161,slow=8.6,SNR=11						
JAY				Sn	Sn	09 12 14.8	+2.6
	4.1nm,0.3s,baz=136,slow=13,SNR=1.8						
JAY				LR	LR	09 12 58.0	
	comp=Z,1µm,19.4s,baz=98,slow=36 40nm,0.8s						
JAY	Jayapura	4.74	326	P	Pn	09 11 17.9	+0.7
PMG	Port Moresby	4.77	128	Pn	Pn	09 11 16.9	-0.7
PMG	Port Moresby	4.77	128	Pn	Pn	09 11 15.1	-2.5
	8.4nm,0.3s,baz=314,slow=9.8,SNR=29						
PMG				Sn	Sn	09 12 11.1	-1.9
	6.8nm,0.3s,baz=195,slow=21,SNR=5.7 110nm,0.7s						
PMG	Port Moresby	4.77	128	P	Pn	09 11 16.9	-0.7
GENI	Genyem	4.99	320	P	Pn	09 11 21.7	+1.0
SMPI	Sarmi	6.42	314	P	Pn	09 11 40.0	-0.3
	1.4nm3µm163nm,1.5s						
COEN	Coen	7.43	181	Pn	Pn	09 11 56.0	+1.7
COEN	Coen	7.43	181	P	Pn	09 11 55.8	+1.5
	comp=Z,0.0nmcomp=Z,50nm,1.0s						
RABL	Rabaul	9.07	76	Pn	Pn	09 12 17.8	+1.0
FAKI	Fak Fak	11.61	287		Pn	09 12 49.8	-1.7
FAKI	Fak Fak	11.61	287	P	Pn	09 12 50.6	-1.0
FAKI	Fak Fak	11.61	287	S	Sn	09 14 58.8	-2.6
FAKI	Fak Fak	11.61	287	P	Pn	09 12 49.3	-2.3
	comp=Z,57nm,0.8s						
MTSU	Mount Surprise	11.62	175	P	Pn	09 12 52.3	+0.5
	comp=Z,16nm,1.0s						
SAUI	Saumlaki	12.04	262	Pn	Pn	09 12 55.9	-1.6
SAUI	Saumlaki	12.04	262	P	Pn	09 12 56.4	-1.1
KDU	Kakadu	12.37	239	P	Pn	09 12 59.1	-2.8
KDU	Kakadu	12.37	239	P	Pn	09 12 59.5	-2.4
MTN	Manton Dam	13.60	241	Pn	Pn	09 13 15.7	-3.0
MTN	Manton Dam	13.60	241	P	Pn	09 13 15.7	-3.0
DRS	Darwin Rock St	13.62	243	P	Pn	09 13 17.9	-1.2
QIS	Mount Isa	14.46	194	P	Pn	09 13 30.0	-0.6
	comp=Z,41nm,1.0s						
WB0	Warramunga Arr	15.82	213	Pn	Pn	09 13 45.6	-3.0
WR0	Warramunga Arr	15.90	212		Pn	09 13 46.3	-3.4
WRAB	Tennant Creek	15.98	212		Pn	09 13 47.0	-3.7
WRAB	Tennant Creek	15.98	212	i P	Pn	09 13 46.3	-4.4
WB2	Warramunga Arr	15.98	212	Pn	Pn	09 13 47.5	-3.3
WRA	Warramunga Arr	15.99	212	Pn	Pn	09 13 46.9	-4.0
WRA	Warramunga Arr	15.99	212	Pn	Pn	09 13 47.7	-3.1
	comp=Z,1.7nm,0.3s,baz=34,slow=13,SNR=62						
WRA				Sn	Sn	09 16 53.2	+4.9
	comp=Z,0.6nm,0.3s,baz=37,slow=20,SNR=4.8						
WRA				Lg	Lg	09 18 34.1	
	comp=Z,1.4nm,0.3s,baz=30,slow=29,SNR=8.4						
WRA				LR	LR	09 20 57.3	
	comp=Z,2µm,18.9s,baz=20,slow=41						
WRA	Warramunga Arr	15.99	212	P	Pn	09 13 46.9	-4.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TATA	Tatamba Isabel	16.43	98	P	P	09 14 03.2	+3.9
NLAI	Namlea	16.50	280	P	Pn	09 13 57.8	+0.4
	comp=Z,995nmcomp=Z,60nm,1.0s						
HNR	Honiara	16.70	101	P	Pn	09 14 00.7	+0.7
HNR				IAmb	IAmb	09 14 08.1	
	comp=Z,307nm,1.1s						
HNR	Honiara	16.70	101	Pn	Pn	09 13 57.6	-2.4
	comp=Z,17nm,0.3s,baz=196,slow=6.4,SNR=9.2						
KNRA	Kununurra	16.97	236	Pn	Pn	09 14 00.4	-2.9
KNRA	Kununurra	16.97	236	P	Pn	09 14 00.4	-2.9
SANI	Sanana	17.86	284	P	P	09 14 14.3	-0.8
	comp=Z,1µmcomp=Z,68nm,1.1s						
SOEI	Soe	19.16	259	P	Pn	09 14 29.6	-0.9
SOEI	Soe	19.16	259	P	P	09 14 29.3	-0.3
AS01	Alice Springs	19.33	207	P	Pn	09 14 32.5	+0.2
AS31	Alice Springs	19.35	207		Pn	09 14 32.5	-0.1
AS31	Alice Springs	19.35	207	P	Pn	09 14 33.2	+0.6
	comp=Z,41nm,0.8s						
ASAR	Alice Springs	19.35	207	P	Pn	09 14 32.4	-0.2
ASAR	Alice Springs	19.35	207	P	Pn	09 14 32.6	0.0
	comp=Z,104nm,0.8s,baz=40,slow=9.5,SNR=220						
ASAR				S	S	09 18 12.5	+1.8
	comp=Z,11nm,0.8s,baz=22,slow=25,SNR=5.9						
ASAR				Lg	Lg	09 20 11.4	
	comp=Z,0.2nm,0.3s,baz=42,slow=16,SNR=4.1						
ASAR				LR	LR	09 22 37.5	
	comp=Z,2µm,20.8s,baz=34,slow=39						
PATS	Pohnpei	19.95	49	P	Pn	09 14 53.3	+14
GUMO	Guam	19.99	4	LR	LR	09 22 09.3	
	comp=Z,520nm,18.9s,baz=192,slow=36						
QLP	Quilpie	20.01	178	P	Pn	09 14 41.0	+0.6
	comp=Z,211nm,0.9s						
QLP	Quilpie	20.01	178	P	Pn	09 14 42.4	+2.0
EIDS	Eidsvold	20.19	159	P	Pn	09 14 42.7	+0.2
EIDS	Eidsvold	20.19	159	P	Pn	09 14 44.8	+2.3
FITZ	Fitzroy Crossi	20.77	235	P	P	09 14 47.0	0.0
FITZ	Fitzroy Crossi	20.77	235	P	P	09 14 47.6	+0.6
	comp=Z,23nm,1.1s						
FITZ	Fitzroy Crossi	20.77	235	P	P	09 14 47.1	0.0
	comp=Z,27nm,0.6s,baz=64,slow=11,SNR=41						
FITZ				S	Sn	09 18 43.9	-0.3
	comp=Z,31nm,1.0s,baz=137,slow=13,SNR=3.4						
FITZ				Lg	Lg	09 20 56.6	
	comp=Z,0.4nm,0.3s,baz=169,slow=18,SNR=4.5						
FITZ				LR	LR	09 23 36.8	
	comp=Z,2µm,21.8s,baz=59,slow=39 comp=Z,27nm,0.6s						
FITZ	Fitzroy Crossi	20.77	235	P	P	09 14 46.8	-0.2
LUWI	Luwuk	21.22	284	P	P	09 14 53.4	+1.5
LUWI				IAmb	IAmb	09 15 06.7	
	comp=Z,119nm,1.0s						
LUWI	Luwuk	21.22	284	P	P	09 14 51.5	-0.4
	comp=Z,2µmcomp=Z,127nm,1.0s						
INKA	Innaminka	21.29	186	P	P	09 14 54.8	+2.3
EDFI	Ende, Flores	21

comp=Z,57nm,0.9s
STKA Stephens Creek 25.32 183 P **P 09 15 32.9 +0.2**
comp=Z,5.3nm,0.7s,baz=347,slow=4.7,SNR=8.5
STKA LR LR 09 26 52.5
comp=Z,1µm,18.3s,baz=358,slow=40
comp=Z,5.3nm,0.7s
STKA Stephens Creek 25.32 183 P **P 09 15 35.9 +3.2**
BBOO Buckleboo 27.06 194 P **P 09 15 50.6 +2.2**
BBOO Buckleboo 27.06 194 P **P 09 15 52.0 +3.5**
BBOO Buckleboo 27.06 194 P **P 09 15 51.2 +2.7**
MBWA Marble Bar 27.12 235 P **P 09 15 49.1 +0.1**
HTT Hallett 27.13 188 P **P 09 15 52.1 +3.0**
DZM Mont Dzumac 27.16 127 *e*LR LR 09 22 46.0
comp=Z,1µm,24.0s
DZM Mont Dzumac 27.16 127 LR LR 09 24 12.7
comp=Z,142nm,20.6s,baz=290,slow=31
PSA00 Pilbara Seismi 27.23 234 P **P 09 15 49.3 -0.8**
comp=Z,27nm,0.8s
MYLDM Lahad Datu 27.37 294 P **P 09 15 51.3 -0.1**
MYLDM IAmb IAmb 09 16 13.0
comp=Z,49nm,1.1s
FORT Forrest 28.11 209 P **P 09 15 57.9 0.0**
FORT IAmb IAmb 09 16 57.3
comp=Z,58nm,0.9s
FORT Forrest 28.11 209 P **P 09 15 59.2 +1.4**
comp=Z,74nm,0.7s
JAGI Jajag, Banyuwa 29.01 264 P **P 09 16 03.9 -2.1**
ARPS Mount Arapiles 30.18 182 P **P 09 16 17.8 +1.7**
comp=Z,17nm,0.8s
MEEK Meekatharra 30.93 227 P **P 09 16 25.5 +2.5**
KMBL Kambalda 31.89 216 P **P 09 16 30.4 -0.9**
comp=Z,35nm,1.1s
JCJ Chichijima 33.39 358 LR LR 09 29 44.6
comp=Z,127nm,21.2s,baz=276,slow=35
LEM Lembang 35.48 267 LR LR 09 35 51.6
comp=Z,316nm,19.2s,baz=172,slow=43
MSVF Nonsavu 35.66 111 LR LR 09 30 55.6
comp=Z,742nm,20.2s,baz=286,slow=35
MSVF Nonsavu 35.66 111 *i* P **P 09 17 03.2 -1.2**
MSVF pmax pmax
comp=Z,47nm,1.9s
NWAO Narrogin (SRO) 35.80 219 LR LR 09 32 35.1
comp=Z,1µm,18.3s,baz=34,slow=38
JOW Kunigami 36.19 337 LR LR 09 30 31.2
comp=Z,219nm,19.3s,baz=176,slow=34
MDSI Maura Dua 39.03 271 P **P 09 17 31.7 -1.3**
comp=Z,6.3nm,0.7s
JHJ Hachijo jima 2 39.52 355 LR LR 09 30 52.1
comp=Z,337nm,21.8s,baz=119,slow=32
JNU Nakatsue 41.12 344 LR LR 09 33 06.4
comp=Z,143nm,20.9s,baz=164,slow=34
QIZ Qiongzhong 41.62 308 P **P 09 17 52.0 -2.3**
QIZ S **S 09 24 14.3 +3.3**
QIZ LR LR
comp=Z,180nm,13.5s
QIZ LR LR
comp=Z,160nm,15.4s
QIZ LR LR
comp=Z,160nm,15.1s
MJAR Matsushiro Arr 43.06 354 P **P 09 18 03.8 -2.0**
comp=Z,7.1nm,1.0s,baz=183,slow=9.0,SNR=10
comp=Z,7.1nm,1.0s
MAJO Matsushiro 43.06 354 P **P 09 18 05.1 -0.7**
MAJO Matsushiro 43.06 354 *i* P **P 09 18 04.5 -1.3**
MAJO pmax pmax
comp=Z,64nm,2.8s
PPI Padang Panjang 43.26 276 P **P 09 18 07.1 -0.7**
comp=Z,28nm,1.0s
JCZ Jackson Bay 43.58 153 P **P 09 18 13.0 +2.9**
OTVZ Oturere 43.67 143 P **P 09 18 15.0 +4.0**
SNVZ South Ngauruho 43.67 143 P **P 09 18 15.2 +4.2**
THZ Tophouse 43.86 148 P **P 09 18 15.3 +3.0**
URZ Urewera 43.99 141 LR LR 09 38 46.0
comp=Z,318nm,18.0s,baz=34,slow=39
URZ Urewera 43.99 141 P **P 09 18 17.1 +3.7**
HAZ Te Kaha 44.12 140 P P 09 18 19.5 +5.2
RTZ Ruatahuna 44.13 141 P **P 09 18 16.1 +1.5**
RTZ IAmb IAmb 09 18 18.9
comp=Z,31nm,0.9s
RTZ Ruatahuna 44.13 141 P **P 09 18 17.6 +3.1**
BKZ Black Stump Fm 44.17 142 P **P 09 18 16.5 +1.6**
BKZ IAmb IAmb 09 18 19.0
comp=Z,25nm,0.9s
BKZ Black Stump Fm 44.17 142 P **P 09 18 15.9 +1.0**
RUGZ Raukumara Rang 44.17 140 P **P 09 18 18.9 +3.9**
MNSI Mandailing Nat 44.27 278 P P 09 18 23.3 +7.3
MWZ Matawai 44.30 141 P **P 09 18 19.6 +3.7**
MLZ Mavora Lakes 44.31 155 P **P 09 18 18.7 +2.8**
RPZ Rata Peaks 44.35 151 P **P 09 18 16.9 +0.7**
RPZ IAmb IAmb 09 18 23.5
comp=Z,68nm,1.3s
RPZ Rata Peaks 44.35 151 P **P 09 18 18.3 +2.1**
LBZ Lake Benmore 44.45 152 P **P 09 18 19.6 +2.6**
PUZ Puketiti 44.61 140 P **P 09 18 21.3 +3.0**
KHZ Kahutara 44.66 148 P **P 09 18 20.1 +1.5**
GVZ Greta Valley S 44.79 149 P **P 09 18 23.1 +3.5**
TMZ Timaru 44.83 152 P **P 09 18 21.9 +1.9**
NJ2 Nanjing 44.87 330 *e*P **P 09 18 21.5 +1.1**
NJ2 pmax pmax
comp=Z,24nm,0.5s
MQZ McQueen's Vall 45.13 150 P **P 09 18 23.9 +1.6**
RPSI Rantau Prapat 45.27 280 P **P 09 18 22.2 -1.7**
PSI Prapat 45.30 280 LR LR 09 39 51.2
comp=Z,143nm,18.9s,baz=142,slow=39
PSI Prapat 45.30 280 P **P 09 18 22.2 -2.1**
PSI pmax pmax
comp=Z,16nm,0.8s
TUZ Tuapeka 45.42 154 P **P 09 18 26.9 +2.3**
KSAR Wonju Array Be 46.02 343 P **P 09 18 27.9 -1.5**
KSAR Wonju Array Be 46.02 343 P **P 09 18 27.9 -1.5**
KSRS Korea Array 46.02 343 P **P 09 18 29.2 -0.2**
comp=Z,15nm,1.0s,baz=161,slow=8.7,SNR=31
KSRS LR LR 09 36 17.0
comp=Z,149nm,20.0s,baz=170,slow=34
comp=Z,15nm,1.0s
KS19 Wonju Array Si 46.08 343 IAmb IAmb 09 18 32.3
comp=Z,36nm,1.2s
GSI Gunungsitoli 46.34 278 P P 09 18 39.3 +6.9
TIA Tai'an 49.08 332 P **P 09 18 53.0 -0.3**
TIA pmax pmax
comp=Z,6.0nm,0.6s
LYN LuoYang 50.16 327 *e*P **P 09 19 01.5 0.0**
LYN pmax pmax
comp=Z,36nm,1.1s
CMAR Chiang Mai Arr 50.31 300 P **P 09 19 02.2 -0.7**
CMAR Chiang Mai Arr 50.31 300 P **P 09 19 03.8 +0.8**
comp=Z,2.2nm,0.6s,baz=126,slow=6.4,SNR=16
CMAR LR LR 09 41 15.1
comp=Z,52nm,20.9s,baz=135,slow=37
comp=Z,2.2nm,0.6s
ASAJ Asahikawa 50.36 359 LR LR 09 39 11.2
comp=Z,75nm,21.7s,baz=183,slow=35
ASAJ Asahikawa 50.36 359 P **P 09 19 02.8 -0.1**
ASAJ pmax pmax
comp=Z,84nm,1.4s
JKA Kamikawa-asahi 50.36 359 P **P 09 19 02.8 -0.1**
CHTO Chiang Mai 50.46 301 P **P 09 19 01.9 -2.2**
CHTO Chiang Mai 50.46 301 P **P 09 19 01.9 -2.2**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
HNS HongShan 51.19 331 ⇑P **P 09 19 09.0 -0.2**
HNS S **S 09 26 27.5 -0.1**
HNS pmax pmax
comp=Z,12nm,1.5s
HNS LR LR
comp=Z,160nm,11.3s
HNS LR LR
comp=Z,200nm,10.6s
HNS LR LR
comp=Z,170nm,17.9s
USRK Ussuriysk Ar. 51.47 350 P **P 09 19 10.6 -0.6**
comp=Z,18nm,0.9s,baz=171,slow=9.0,SNR=14
USRK LR LR 09 39 13.2
comp=Z,139nm,19.6s,baz=172,slow=34
comp=Z,18nm,0.9s
XAN Xi'an 51.81 323 P **P 09 19 14.0 -0.1**
XAN pmax pmax
comp=Z,26nm,1.2s
XAN pmax pmax
comp=Z,320nm,4.6s
XAN LR LR
comp=Z,230nm,18.0s
XAN LR LR
comp=Z,260nm,15.8s
XAN LR LR
comp=Z,230nm,17.3s

PZH PanZhiHua 51.97 311 P **P 09 19 17.5 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,4.3s
MDJ Mudanjiang 52.35 348 P **P 09 19 17.0 -0.7**
MDJ pmax pmax
comp=Z,17nm,1.0s
BJI Beijing 52.63 334 P **P 09 19 19.5 -0.5**
BJI pmax pmax
comp=Z,6.0nm,0.9s
CD2 Chengdu 53.06 317 P **P 09 19 24.0 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
YSS Yuzhno-Sakhali 53.20 359 *i* P **P 09 19 21.9 -2.1**
YSS pmax pmax
comp=Z,40nm,1.1s
BNX BinXian 53.90 346 ⇑P **P 09 19 28.3 -0.9**
BNX pmax pmax
comp=Z,42nm,1.1s
HHC Hu-ho-hao-te 55.40 331 *e*P **P 09 19 42.0 +1.6**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,77nm,5.9s
XLT XiLinHaoTe 55.87 336 *e*P **P 09 19 46.8 +3.2**
XLT sP sP 09 19 55.5 +7.1
XLT PcP **PcP 09 20 45.5 +3.1**
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,120nm,5.1s
BTO Baotou 55.98 330 *e*P **P 09 19 46.5 +2.0**
BTO pP **sP 09 19 51.3 +2.0**
BTO sP **pP 09 19 53.5 +5.5**
BTO PP **PP 09 21 53.5 +4.0**
BTO pmax pmax
comp=Z,30nm,1.1s
BTO pmax pmax
comp=Z,310nm,7.4s
LZH Lanzhou 56.27 322 *e*P **P 09 19 47.5 +0.8**
LZH pP sP 09 19 52.5 +1.0
LZH sP pP 09 19 54.8 +4.6
LZH pmax pmax
comp=Z,28nm,0.8s
KLR Kul'dur 56.39 351 LR LR 09 39 42.9
comp=Z,161nm,21.4s,baz=182,slow=32
KLR Kul'dur 56.39 351 *ce*P **P 09 19 47.0 -0.1**
KLR pmax pmax
comp=Z,38nm,1.7s
RAR Rarotonga 56.85 111 LR LR 09 42 49.8
comp=Z,132nm,19.4s,baz=279,slow=35
TYV Tymovskoe 57.11 359 *e*P **P 09 19 52.0 -0.2**
TYV *e*S **S 09 27 44.7 -2.5**
TYV pmax pmax
comp=Z,24nm,1.0s
TYV pmax pmax
comp=Z,400nm,3.8s
TYV smax smax
comp=N,600nm,6.7s
TYV smax smax
comp=E,600nm,6.7s
HEH HeiHe 58.17 348 *e*P **P 09 19 59.0 -0.6**
HEH pmax pmax
comp=E,18nm,1.5s
BRDH Bariadhala 58.27 302 LR LR 09 47 15.9
comp=E,54nm,18.5s,baz=142,slow=38
SHL Shillong 59.26 305 IAmb IAmb 09 20 13.3
comp=Z,40nm,1.6s
PETK Petropavlovsk- 60.59 10 P **P 09 20 14.8 -1.6**
comp=Z,16nm,0.9s,baz=184,slow=8.9,SNR=9.1
PETK LR LR 09 45 31.6
comp=Z,127nm,19.8s,baz=198,slow=35
comp=Z,16nm,0.9s
GTA Gaotai 60.84 322 *e*P **P 09 20 20.0 +1.5**
GTA pP sP 09 20 23.0 -0.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
ZEA Zeya 61.51 349 *e*P **P 09 20 22.5 -0.1**
ZEA pmax pmax
comp=N,30nm,1.2s
ZEA pmax pmax
comp=Z,30nm,0.9s
ULN Ulaanbaatar 62.84 333 P **P 09 20 31.2 -0.7**
ULN Ulaanbaatar 62.84 333 *ce*P **P 09 20 32.5 +0.6**
ULN pmax pmax
comp=Z,15nm,1.7s
SONM Songino Array 63.11 333 P **P 09 20 33.8 +0.1**
SONM Songino Array 63.11 333 P **P 09 20 34.1 +0.5**
comp=Z,2.5nm,0.8s,baz=160,slow=5.7,SNR=12
comp=Z,2.5nm,0.8s
SONM Songino Array 63.11 333 P **P 09 20 33.8 +0.1**
SONM pmax pmax
comp=Z,21nm,1.8s
CASY Casey 63.87 194 P **P 09 20 39.0 +0.8**
SHEM Shemya Is, Ala 64.51 20 LR LR 09 45 15.2
comp=Z,426nm,19.6s,baz=289,slow=33
MA2 Magadan 66.11 4 P **P 09 20 52.2 -0.5**
MA2 Magadan 66.11 4 LR LR 09 46 29.6
comp=Z,46nm,21.6s,baz=158,slow=33
MA2 Magadan 66.11 4 *ce*P **P 09 20 53.0 +0.2**
MA2 pmax pmax
comp=Z,41nm,1.7s
MA2 Magadan 66.11 4 P **P 09 20 51.5 -1.3**
comp=Z,27nm,1.3s
MA2 pP **pP 09 20 56.2 -0.2**
comp=Z,27nm,1.3s
PPT Papeete 66.25 106 LR LR 09 45 41.9
comp=Z,91nm,21.8s,baz=263,slow=32
PPT2 Papeete2 66.25 106 *e*S **S 09 29 41.8 -2.6**
comp=Z,62nm,22.8s
PPT2 *e*LQ LQ 09 38 02.0
comp=Z,559nm,29.8s
PPT2 *e*LR LR 09 40 48.0
comp=Z,170nm,26.2s
PPT2 *e*LR LR 09 40 52.4
comp=Z,187nm,22.8s
ZAK Zakamensk 66.37 333 *e*P **P 09 20 54.2 -0.6**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
TBI Tubuai 66.54 113 *e*SS SS 09 34 04.3 -0.5
TBI *e*LQ LQ 09 38 09.9
comp=Z,1µm,33.0s
TBI *e*LR LR 09 40 58.1
comp=Z,946nm,31.5s
MOY Mondy 68.30 333 *e*P **P 09 21 07.5 +0.4**
MOY pmax pmax
comp=Z,34nm,3.3s
YAK Yakutsk 69.12 353 LR LR 09 50 14.3
comp=Z,80nm,19.5s,baz=164,slow=35
SEY Seymchan 69.56 4 *ce*P **P 09 21 14.4 0.0**
SEY pmax pmax
comp=Z,23nm,1.7s
DGAR Diego Garcia 70.31 264 *ce*P **P 09 21 19.7 -0.4**
DGAR pmax pmax
comp=Z,42nm,1.0s
WMQ Urumqi 70.82 321 *e*P **P 09 21 23.5 +0.8**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=Z,660nm,24.2s
WMQ LR LR
comp=Z,570nm,19.3s
NIKH Nikolski High 71.67 28 P **P 09 21 28.6 +1.1**
baz=231
VNDA Vanda 71.68 176 P **P 09 21 27.9 +0.7**
VNDA Vanda 71.68 176 P **P 09 21 27.1 -0.2**
comp=Z,1.7nm,0.8s,baz=329,slow=5.8,SNR=4.2
VNDA LR LR 09 52 29.7
comp=Z,197nm,18.4s,baz=348,slow=36
comp=Z,1.7nm,0.8s
VNDA Vanda 71.68 176 P **P 09 21 27.9 +0.7**
VNDA pmax pmax
comp=Z,15nm,1.3s
UNV Unalaska Valle 73.32 28 P **P 09 21 38.5 +1.2**
baz=233
P08K Saint George I 73.70 25 P **P 09 21 40.3 +0.8**
baz=229
SPIA Saint Paul Isl 73.79 24 P **P 09 21 40.8 +0.8**
baz=229
ZSN Zaisan 74.32 323 *e*P **P 09 21 43.1 -0.3**
ZSN Zaisan 74.32 323 *e*P **P 09 21 43.1 -0.3**
WUS Wushi 75.30 315 IAmb IAmb 09 21 55.0
comp=Z,47nm,1.8s
FALS False Pass 75.38 29 P **P 09 21 50.0 +0.7**
baz=235
MK31 Makanchi Array 75.58 322 *ce*P **P 09 21 51.1 +0.3**
MKAR Makanchi Array 75.58 322 P **P 09 21 50.6 -0.1**
MKAR Makanchi Array 75.58 322 P **P 09 21 50.8 +0.1**
comp=Z,9.3nm,0.9s,baz=116,slow=6.1,SNR=23
comp=Z,9.3nm,0.9s
MKAR Makanchi Array 75.58 322 *i* P **P 09 21 50.7 -0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
TAOE Nuku Hiva Isla 75.74 97 *e*LR LR 09 45 11.0
comp=Z,106nm,22.4s
MAKZ Makanchi 75.78 322 P **P 09 21 51.5 -0.4**
MAKZ IAmb IAmb 09 21 57.6
comp=Z,31nm,1.3s
MAKZ Makanchi 75.78 322 P **P 09 21 51.5 -0.4**
MAKZ pmax pmax
comp=Z,31nm,1.3s
SHLS Shalkode 75.89 317 *e*P **P 09 21 50.5 -2.2**
SHLS Shalkode 75.89 317 *e*P **P 09 21 50.6 -2.2**
BILL Bilibino 76.09 9 P **P 09 21 52.0 -1.2**
BILL IAmb IAmb 09 22 10.0
comp=Z,37nm,2.0s
BILL Bilibino 76.09 9 *ce*P **P 09 21 53.5 +0.3**
BILL pmax pmax
comp=Z,12nm,1.7s
UZB Uzynbulak 76.19 317 *e*P **P 09 21 54.1 -0.3**
UZB pmax pmax
comp=Z,19nm,1.7s
UZB Uzynbulak 76.19 317 *e*P **P 09 21 54.1 -0.3**
comp=Z,19nm,1.7s
SATY Saty 76.57 317 *e*P **P 09 21 56.2 -0.4**
SATY Saty 76.57 317 *e*P **P 09 21 56.2 -0.4**
KSH Kashi 77.01 313 P **P 09 22 00.8 +1.6**
KSH pmax pmax
comp=Z,10.0nm,1.4s
SDPT Sand Point 77.06 29 P **P 09 21 59.3 +0.4**
baz=238
KDJ Kajisay 77.07 316 P **P 09 22 00.0 +0.5**
CHNA Chernabura Isl 77.22 30 P **P 09 22 00.1 +0.3**
baz=239
NIL Niiore 77.27 306 P **P 09 22 01.4 +0.8**
M11K Mekoryuk 77.47 23 P **P 09 22 00.4 -0.6**
baz=232
ZALV Zalesovo Beam 77.51 329 P **P 09 22 00.5 -1.0**
comp=Z,2.1nm,0.6s,baz=109,slow=4.9,SNR=5.5
ZALV LR LR 09 57 54.1
comp=Z,53nm,19.1s,baz=93,slow=37
comp=Z,2.1nm,0.6s
MDOK Medeo 77.53 317 *e*P **P 09 22 01.4 -0.6**
MDOK Medeo 77.53 317 *e*P **P 09 22 01.5 -0.6**
TNSS Tian-Shan 77.56 317 *e*P **P 09 22 01.5 -1.0**
TNSS Tian-Shan 77.56 317 *e*P **P 09 22 01.6 -1.0**
GAMB Gambell 77.76 19 P **P 09 22 02.8 +0.2**
baz=226
S14K Fog Glacier 78.00 29 P **P 09 22 04.4 +0.1**
baz=239
BOOM Boomskoye usch 78.06 316 IAmb IAmb 09 22 10.2
comp=Z,41nm,1.8s
BOOM Boomskoye usch 78.06 316 P **P 09 22 05.5 +0.5**
KUU Kurty 78.28 317 *e*P **P 09 22 05.9 -0.1**
KUU pmax pmax
comp=Z,38nm,1.6s
KUU Kurty 78.28 317 *e*P **P 09 22 05.9 -0.1**
comp=Z,38nm,1.6s
CHGN Chignik 78.55 29 P **P 09 22 07.4 +0.3**
baz=240
TIXI Tiksi 78.55 355 P **P 09 22 06.9 0.0**
TIXI Tiksi 78.55 355 *ce*P **P 09 22 07.1 +0.2**
TIXI pmax pmax
comp=Z,17nm,2.5s
M13K Dall Lake 78.62 24 P **P 09 22 07.6 +0.1**
baz=234
O14K Tigyukauivet M 78.82 26 IAmb IAmb 09 22 11.6
comp=Z,28nm,1.0s
O14K Tigyukauivet M 78.82 26 P **P 09 22 09.0 +0.4**
baz=237
ARLS Aral 78.97 315 P **P 09 22 11.1 +1.0**
K13K Kusilvak Mount 79.01 22 IAmb IAmb 09 22 15.9
comp=Z,54nm,1.7s
K13K Kusilvak Mount 79.01 22 P **P 09 22 09.9 +0.4**
baz=233
N14K Kuskokwak Cree 79.02 25 P **P 09 22 10.0 +0.3**
baz=236
AAK Ala-Archa 79.11 316 P **P 09 22 10.3 -0.5**
AAK Ala-Archa 79.11 316 *ce*P **P 09 22 11.4 +0.6**
AAK pmax pmax
comp=Z,16nm,1.7s
M14K Bethel 79.37 24 IAmb IAmb 09 22 14.8
comp=Z,22nm,0.9s
M14K Bethel 79.37 24 P **P 09 22 11.5 -0.1**
baz=236
O15K Ungalikthiuk R 79.40 26 P **P 09 22 12.8 +1.0**
baz=238
L14K Kuka Creek 79.42 23 IAmb IAmb 09 22 15.0
comp=Z,24nm,0.9s
L14K Kuka Creek 79.42 23 P **P 09 22 12.2 +0.4**
baz=235
KURK Kurchatov 79.44 324 P **P 09 22 11.9 -0.3**
KURK Kurchatov 79.44 324 *ce*P **P 09 22 12.2 0.0**
KURK pmax pmax
comp=Z,20nm,1.7s
KURBB Kurchatov Arra 79.46 324 P **P 09 22 11.8 -0.5**
comp=Z,4.7nm,0.9s,baz=117,slow=4.8,SNR=17
comp=Z,4.7nm,0.9s
R16K Pilot Point 79.59 28 P **P 09 22 13.1 +0.3**
baz=240
CHIR Chirikof Islan 79.68 30 P **P 09 22 14.4 +1.0**
baz=242
N15K Kwethluk River 79.82 25 IAmb IAmb 09 22 16.7
comp=Z,30nm,1.2s
N15K Kwethluk River 79.82 25 P **P 09 22 14.5 +0.4**
baz=238
RKT Rikitea 79.86 112 *e*LR LR 09 47 04.1
comp=Z,486nm,28.5s
M15K Kasigluk River 79.86 24 P **P 09 22 13.8 -0.5**
baz=237
J14K Nanvaranak Lak 79.91 22 IAmb IAmb 09 22 18.3
comp=Z,55nm,1.6s
J14K Nanvaranak Lak 79.91 22 P **P 09 22 14.7 +0.3**
baz=234
L15K Ungalak Mounta 80.09 23 P **P 09 22 15.5 +0.1**
baz=236
P16K Nushagak River 80.14 27 P **P 09 22 15.7 -0.1**
baz=240
TNA Tin City 80.17 19 P **P 09 22 16.1 +0.3**
baz=229
BTLS Baital 80.21 318 *e*P **P 09 22 16.3 -0.2**
BTLS Baital 80.21 318 *e*P **P 09 22 16.3 -0.2**
ANM Nome 80.37 20 P **P 09 22 16.7 -0.2**
baz=232
O16K Kokwok River B 80.38 26 IAmb IAmb 09 22 19.2
comp=Z,30nm,1.2s
O16K Kokwok River B 80.38 26 P **P 09 22 16.9 -0.2**
baz=239,SNR=6.8
MAW Mawson 80.41 203 LR LR 09 54 56.9
comp=Z,139nm,20.0s,baz=68,slow=34
K15K Wolf Creek Mou 80.42 23 IAmb IAmb 09 22 20.6
comp=Z,21nm,0.9s
K15K Wolf Creek Mou 80.42 23 P **P 09 22 17.0 -0.3**
baz=236,SNR=9.1
N16K Nishlik Lake 80.54 25 P **P 09 22 17.9 -0.1**
baz=239,SNR=8.9
Q16K King Salmon 80.56 27 P **P 09 22 18.4 +0.4**
baz=241
F14K Arctic Creek 80.62 19 P **P 09 22 18.1 -0.1**
baz=231
ARK Arkit 80.63 314 P **P 09 22 19.2 +0.2**
M16K Timber Creek 80.75 25 IAmb IAmb 09 22 22.3
comp=Z,35nm,1.1s
M16K Timber Creek 80.75 25 P **P 09 22 18.9 -0.2**
baz=238,SNR=15
L16K Owhat River 80.91 24 IAmb IAmb 09 22 22.2
comp=Z,29nm,1.2s
L16K Owhat River 80.91 24 P **P 09 22 19.3 -0.5**
baz=238
O17K Koliganek Bris 80.91 26 P **P 09 22 19.7 -0.2**
baz=240
P17K Kvichak River 80.91 27 P **P 09 22 19.9 0.0**
baz=241
BTK Batken 80.96 312 P **P 09 22 20.6 -0.2**
R18K Karluk 81.06 29 P **P 09 22 20.6 -0.1**
baz=243
G15K Niukluk 81.08 20 P **P 09 22 20.7 0.0**
baz=233
TRKS Terek-Say 81.14 314 P **P 09 22 22.3 +0.5**
N17K Nushagak Hills 81.24 26 IAmb IAmb 09 22 24.6
comp=Z,22nm,1.2s

N17K	Nushagak Hills	81.24	26	P	P	09 22 21.5	-0.2
	baz=240,SNR=8.5						
Q18K	Katmai Hardscr	81.30	28	P	P	09 22 21.7	-0.5
	baz=242						
F15K	North Star Dit	81.31	19	IAmb	IAmb	09 22 24.5	
	comp=Z,24nm,1.2s						
F15K	North Star Dit	81.31	19	P	P	09 22 21.5	-0.5
	baz=232						
J16K	Anvik River	81.32	22	IAmb	IAmb	09 22 25.1	
	comp=Z,28nm,1.2s						
J16K	Anvik River	81.32	22	P	P	09 22 21.8	-0.3
	baz=237,SNR=8.9						
OHAK	Old Harbor	81.47	29	P	P	09 22 22.2	-0.7
	baz=244						
H16K	Elim	81.50	21	P	P	09 22 22.5	-0.4
	baz=235						
P18K	Big Mountain,	81.55	27	P	P	09 22 22.9	-0.5
	baz=242						
M17K	Holitna River	81.58	25	IAmb	IAmb	09 22 29.2	
	comp=Z,20nm,0.9s						
M17K	Holitna River	81.58	25	P	P	09 22 23.3	-0.1
	baz=240,SNR=9.2						
L17K	Donlin	81.60	24	P	P	09 22 23.0	-0.6
	baz=239,SNR=5.6						
I17K	Unalakleet	81.62	22	IAmb	IAmb	09 22 27.2	
	comp=Z,31nm,1.1s						
I17K	Unalakleet	81.62	22	P	P	09 22 23.7	+0.1
	baz=236						
O18K	Koktuh Hills	81.78	27	P	P	09 22 24.5	-0.1
	baz=242						
N18K	Kilae Creek	81.88	26	P	P	09 22 25.0	-0.1
	baz=241						
G16K	Koyuk River	81.89	20	IAmb	IAmb	09 22 27.6	
	comp=Z,22nm,1.1s						
G16K	Koyuk River	81.89	20	P	P	09 22 24.9	-0.1
	baz=235						
K17K	Iditarod	81.91	23	IAmb	IAmb	09 22 28.5	
	comp=Z,32nm,1.1s						
K17K	Iditarod	81.91	23	P	P	09 22 25.1	-0.1
	baz=239,SNR=17						
SIMJ	Simiganj	81.93	310	P	P	09 22 25.1	-0.9
J17K	VABM Dome	81.96	23	IAmb	IAmb	09 22 31.6	
	comp=Z,46nm,1.5s						
J17K	VABM Dome	81.96	23	P	P	09 22 25.2	-0.2
	baz=238						
KK31	Karatay Array	82.04	315	P	P	09 22 25.7	-0.6
KK31	Karatay Array	82.04	315	P	P	09 22 25.7	-0.6
KK31				pmax	pmax		
	comp=Z,12nm,1.2s						
KKAR	Karatay Array	82.04	315	P	P	09 22 25.5	-0.9
KKAR	Karatay Array	82.04	315	IAmb	IAmb	09 22 31.8	
	comp=Z,7.6nm,1.2s						
KKAR	Karatay Array	82.04	315	P	P	09 22 25.5	-0.9
KDAK	Kodiak Island	82.06	29	P	P	09 22 25.4	-0.6
KDAK				IAmb	IAmb	09 22 28.1	
	comp=Z,33nm,1.2s						
KDAK	Kodiak Island	82.06	29	LR	LR	09 51 36.0	
	comp=Z,122nm,21.7s,baz=94,slow=30						
KDAK	Kodiak Island	82.06	29	P	P	09 22 25.4	-0.6
KDAK				pmax	pmax		
	comp=Z,33nm,1.2s						
KDAK	Kodiak Island	82.06	29	P	P	09 22 25.5	-0.5
	baz=244						
Q19K	Cape Douglas,	82.06	28	P	P	09 22 25.8	-0.3
	baz=244						
DZET	Dzherino	82.11	311	P	P	09 22 25.5	-1.4
IUG	Iuzhnay	82.11	314	*e*P	P	09 22 26.2	-0.6
IUG				pmax	pmax		
	comp=Z,15nm,1.4s						
IUG	Iuzhnay	82.11	314	*e*P	P	09 22 26.3	-0.6
	comp=Z,15nm,1.4s						
M18K	Stony River	82.30	25	P	P	09 22 27.2	0.0
	baz=241,SNR=8.7						
L18K	Granite Mounta	82.30	24	IAmb	IAmb	09 22 30.6	
	comp=Z,21nm,1.1s						
L18K	Granite Mounta	82.30	24	P	P	09 22 27.2	0.0
	baz=240,SNR=12						
O19K	Port Alsworth	82.33	27	P	P	09 22 26.8	-0.6
	baz=243						
H17K	Granite Mounta	82.49	21	IAmb	IAmb	09 22 30.8	
	comp=Z,27nm,1.1s						
H17K	Granite Mounta	82.49	21	P	P	09 22 27.8	-0.3
	baz=237,SNR=15						
BRLS	Boroldoy	82.49	315	*e*P	P	09 22 28.3	-0.4
BRLS	Boroldoy	82.49	315	*e*P	P	09 22 28.3	-0.4
Q20K	Shuyak Island	82.51	28	P	P	09 22 28.2	-0.2
	baz=245						
G17K	Kiwalik Mounta	82.54	20	P	P	09 22 28.1	-0.3
	baz=236						
N19K	Bonanza Creek	82.55	26	IAmb	IAmb	09 22 31.4	
	comp=Z,24nm,1.1s						
N19K	Bonanza Creek	82.55	26	P	P	09 22 27.9	-0.7
	baz=242,SNR=14						
P19K	Oil Pt	82.58	27	IAmb	IAmb	09 22 30.9	
	comp=Z,16nm,0.8s						
P19K	Oil Pt	82.58	27	P	P	09 22 28.6	-0.2
	baz=244						
C16K	Lisburne Hills	82.69	17	IAmb	IAmb	09 22 33.0	
	comp=Z,46nm,1.8s						
C16K	Lisburne Hills	82.69	17	P	P	09 22 28.6	-0.5
	baz=232						
BRZS	Berezniki	82.72	322	*e*P	P	09 22 29.2	-0.5
BRZS	Berezniki	82.72	322	*e*P	P	09 22 29.3	-0.5
F17K	Baldwin Pennin	82.87	19	IAmb	IAmb	09 22 38.1	
	comp=Z,13nm,0.9s						
F17K	Baldwin Pennin	82.87	19	P	P	09 22 29.8	-0.3
	baz=236						
J18K	Innoko River	82.91	23	P	P	09 22 30.5	+0.1
	baz=240,SNR=9.0						
D17K	Noatak River	83.01	18	P	P	09 22 30.7	-0.2
	baz=234						
L19K	White Mountain	83.03	25	IAmb	IAmb	09 22 33.5	
	comp=Z,20nm,1.2s						
L19K	White Mountain	83.03	25	P	P	09 22 30.8	-0.3
	baz=242,SNR=11						
O20K	Slope Mountain	83.04	27	P	P	09 22 31.3	+0.1
	baz=244						
E17K	Hotham Inlet	83.05	19	P	P	09 22 30.6	-0.4
	baz=235						
M19K	Big River Lodg	83.09	25	P	P	09 22 31.1	-0.3
	baz=242						
H18K	Honhosa River	83.16	21	IAmb	IAmb	09 22 33.6	
	comp=Z,28nm,1.4s						
H18K	Honhosa River	83.16	21	P	P	09 22 31.5	-0.1
	baz=238,SNR=7.1						
RDOG	Red Dog Mine	83.28	18	IAmb	IAmb	09 22 34.7	
	comp=Z,20nm,1.0s						
RDOG	Red Dog Mine	83.28	18	P	P	09 22 31.9	-0.3
	baz=234						
HOM	Homer	83.31	28	P	P	09 22 32.0	-0.5
	baz=245						
CNPM	China Poot	83.44	28	IAmb	IAmb	09 22 34.9	
	comp=Z,19nm,1.1s						
C17K	DeLong Mountai	83.45	17	P	P	09 22 32.5	-0.6
	baz=234						
G18K	Tagagawik	83.45	21	IAmb	IAmb	09 22 35.7	
	comp=Z,19nm,1.1s						
G18K	Tagagawik	83.45	21	P	P	09 22 32.6	-0.6
	baz=238						
GCSA	Galena City Sc	83.49	22	P	P	09 22 32.8	-0.5
	baz=240,SNR=20						
QSPA	South Pole Qui	83.49	180	P	P	09 22 33.1	-0.5
QSPA	South Pole Qui	83.49	180	P	P	09 22 34.2	+0.6
	comp=Z,32nm,1.2s,baz=328,slow=1.9,SNR=18						
QSPA				LR	LR	10 00 33.3	
	comp=Z,514nm,18.0s,baz=15,slow=36						
	comp=Z,32nm,1.2s						
L20K	Farewell, AK	83.57	25	P	P	09 22 33.4	-0.4
	baz=243,SNR=14						
J19K	Poorman	83.59	23	IAmb	IAmb	09 22 37.0	
	comp=Z,19nm,1.1s						
J19K	Poorman	83.59	23	P	P	09 22 33.4	-0.5
	baz=241,SNR=17						
M20K	Styx River	83.62	25	IAmb	IAmb	09 22 36.9	
	comp=Z,23nm,1.0s						
M20K	Styx River	83.62	25	P	P	09 22 33.5	-0.6
	baz=244,SNR=19						
E18K	Tukpahlearik C	83.63	19	IAmb	IAmb	09 22 36.5	
	comp=Z,15nm,1.1s						
E18K	Tukpahlearik C	83.63	19	P	P	09 22 33.4	-0.7
	baz=236						
BRSE	Bradley Lake S	83.76	28	P	P	09 22 34.6	-0.3
	baz=246						
K20K	Telida	83.90	24	IAmb	IAmb	09 22 38.0	
	comp=Z,22nm,1.1s						
K20K	Telida	83.90	24	P	P	09 22 34.9	-0.7
	baz=243,SNR=12						
CAPN	Captain Cook N	84.00	27	P	P	09 22 35.1	-0.8
	baz=246						
H19K	Roundabout Mou	84.04	21	IAmb	IAmb	09 22 39.2	
	comp=Z,21nm,1.0s						
H19K	Roundabout Mou	84.04	21	P	P	09 22 35.4	-0.8
	baz=240,SNR=16						
C18K	Utukok River	84.14	18	IAmb	IAmb	09 22 38.8	
	comp=Z,25nm,1.3s						
C18K	Utukok River	84.14	18	P	P	09 22 36.6	-0.1
	baz=235						
F19K	Shaleruckik Mo	84.25	20	P	P	09 22 36.8	-0.3
	baz=239						
J20K	Nowinta River	84.25	23	P	P	09 22 37.0	-0.3
	baz=242,SNR=15						
SKT	Skwentna	84.34	26	P	P	09 22 37.0	-0.8
	baz=245						
B18K	Kokolik River	84.38	17	P	P	09 22 36.9	-0.9
	baz=235						
I20K	Naaghedeneel	84.42	22	IAmb	IAmb	09 22 41.2	
	comp=Z,23nm,1.0s						
I20K	Naaghedeneel	84.42	22	P	P	09 22 37.5	-0.6
	baz=242						
PPLA	Purkeypile	84.46	25	P	P	09 22 37.7	-0.8
PPLA	Purkeypile	84.46	25	P	P	09 22 37.2	-1.3
	baz=244						
SEW	Seward	84.50	28	IAmb	IAmb	09 22 43.6	
	comp=Z,23nm,1.1s						
SEW	Seward	84.50	28	P	P	09 22 37.6	-1.0
	baz=247,SNR=7.6						
H20K	Anotleneega Mo	84.60	22	P	P	09 22 38.4	-0.6
	baz=242,SNR=7.9						
NRIK	Noril'sk	84.63	343	IAmb	IAmb	09 22 44.4	
	comp=Z,22nm,1.1s						
NRIK	Noril'sk	84.63	343	LR	LR	09 58 41.6	
	comp=Z,122nm,21.3s,baz=128,slow=34						
NRIK	Noril'sk	84.63	343	*ce*P	P	09 22 38.7	-0.4
NRIK				pmax	pmax		
	comp=Z,26nm,1.0s						
CAST	Castle Rocks	84.73	24	P	P	09 22 38.4	-1.3
CAST				IAmb	IAmb	09 22 41.1	
	comp=Z,18nm,1.1s						
CAST	Castle Rocks	84.73	24	P	P	09 22 39.0	-0.7
	baz=244,SNR=14						
E19K	Redstone River	84.75	19	P	P	09 22 39.1	-0.6
	baz=239,SNR=14						
RC01	Rabbit Creek A	84.76	27	P	P	09 22 38.2	-1.7
	baz=247,SNR=10						
CHUM	Lake Minchumin	84.84	24	P	P	09 22 39.5	-0.7
	baz=244,SNR=35						
M22K	Willow	84.86	26	P	P	09 22 39.0	-1.3
	baz=246						
D19K	Kuna River	85.01	18	IAmb	IAmb	09 22 43.2	
	comp=Z,25nm,1.1s						
D19K	Kuna River	85.01	18	P	P	09 22 40.2	-0.9
	baz=238						
BVAR	Borovoye Array	85.03	325	P	P	09 22 41.4	0.0
	comp=Z,11nm,0.8s,baz=112,slow=6.6,SNR=22						
	comp=Z,11nm,0.8s						
A19K	Wainwright	85.07	16	P	P	09 22 40.5	-0.8
	baz=235						
BRVK	Borovoye	85.10	325	P	P	09 22 41.7	-0.1
BRVK				IAmb	IAmb	09 22 47.4	
	comp=Z,20nm,1.1s						
BRVK	Borovoye	85.10	325	*ce*P	P	09 22 42.0	+0.2
BRVK				pmax	pmax		
	comp=Z,33nm,1.7s						
PMR	Palmer	85.22	26	IAmb	IAmb	09 22 43.9	
	comp=Z,17nm,1.0s						
PMR	Palmer	85.22	26	P	P	09 22 40.4	-1.8
	baz=247,SNR=14						
KTH	Kantishna Hill	85.26	24	IAmb	IAmb	09 22 43.9	
	comp=Z,22nm,1.0s						
PWL	Port Wells	85.30	27	P	P	09 22 41.4	-1.2
	baz=248,SNR=14						
GHO	Glory Hole Cre	85.39	26	IAmb	IAmb	09 22 48.4	
	comp=Z,11nm,0.8s						
P23K	Montague Islan	85.41	28	P	P	09 22 42.3	-0.8
	baz=249						
H21K	Melozitna Rive	85.44	22	P	P	09 22 42.1	-1.1
	baz=244						
KNK	Knik Glacier	85.45	27	P	P	09 22 42.2	-1.2
	baz=248,SNR=11						
BPAW	Bear Paw Mtn.	85.46	24	P	P	09 22 42.6	-0.8
BPAW				IAmb	IAmb	09 22 44.6	
	comp=Z,21nm,1.3s						
BPAW	Bear Paw Mtn.	85.46	24	P	P	09 22 42.6	-0.8
	baz=245,SNR=8.5						
TRF	Thorofare Moun	85.47	24	P	P	09 22 42.6	-1.0
	baz=246						
E20K	Nigu River	85.50	19	P	P	09 22 42.5	-1.0
	baz=240						
I21K	Tanana	85.54	22	IAmb	IAmb	09 22 46.7	
	comp=Z,17nm,1.2s						
I21K	Tanana	85.54	22	P	P	09 22 43.2	-0.5
	baz=244						
G21K	Allakaket	85.57	21	P	P	09 22 43.0	-0.9
	baz=243						
D20K	Etivluk River	85.59	18	P	P	09 22 42.7	-1.2
	baz=240						
SML	Sawmill	85.66	26	P	P	09 22 43.1	-1.4
	baz=248,SNR=17						
GLI	Glacier Island	85.87	27	IAmb	IAmb	09 22 52.3	
	comp=Z,13nm,0.7s						
GLI	Glacier Island	85.87	27	P	P	09 22 44.4	-1.0
	baz=249,SNR=11						
F21K	Alatna River	85.91	20	P	P	09 22 44.9	-0.7
	baz=243						
M23K	Glacier View	85.92	26	P	P	09 22 44.4	-1.3
	baz=248,SNR=5.2						
HIN	Hinchinbrook I	85.97	28	IAmb	IAmb	09 22 48.3	
	comp=Z,22nm,1.0s						
H22K	Ishtalitna Cre	86.07	22	P	P	09 22 46.0	-0.4
	baz=245						
B20K	Meade River	86.09	17	P	P	09 22 46.0	-0.3
	baz=239						
FID	Port Fidalgo	86.11	28	IAmb	IAmb	09 22 48.1	
	comp=Z,25nm,1.2s						
SCM	Sheep Creek Mo	86.11	26	IAmb	IAmb	09 22 49.1	
	comp=Z,27nm,1.0s						
SCM	Sheep Creek Mo	86.11	26	P	P	09 22 45.3	-1.4
	baz=249,SNR=9.7						
MCK	McKinley	86.14	24	IAmb	IAmb	09 22 48.3	
	comp=Z,26nm,1.0s						
MCK	McKinley	86.14	24	P	P	09 22 45.3	-1.5
	baz=247,SNR=13						
E21K	Killik River	86.31	19	IAmb	IAmb	09 22 51.0	
	comp=Z,19nm,0.9s						
E21K	Killik River	86.31	19	P	P	09 22 46.6	-0.9
	baz=242						
EYAK	Cordova Ski Ar	86.38	28	IAmb	IAmb	09 22 53.9	
	comp=Z,34nm,1.8s						
EYAK	Cordova Ski Ar	86.38	28	P	P	09 22 47.0	-0.9
	baz=250						
C21K	Knifeblade Rid	86.39	18	P	P	09 22 47.0	-0.9
	baz=242						
NEA2	Nenana	86.42	24	IAmb	IAmb	09 22 49.8	
	comp=Z,14nm,1.1s						
NEA2	Nenana	86.42	24	P	P	09 22 46.5	-1.6
	baz=247,SNR=12						
F22K	John River	86.48	20	P	P	09 22 48.2	-0.2
	baz=244						
I23K	Minto, Yukon-K	86.53	23	P	P	09 22 47.6	-1.0
	baz=247,SNR=6.3						
KLU	Klutina	86.62	27	IAmb	IAmb	09 22 51.2	
	comp=Z,23nm,1.2s						
KLU	Klutina	86.62	27	P	P	09 22 48.6	-0.6
	baz=250,SNR=17						
B21K	Ikpikpuk River	86.66	18	P	P	09 22 48.4	-0.7
	baz=242						
M24K	Tolsona, Glenn	86.72	26	IAmb	IAmb	09 22 52.4	
	comp=Z,23nm,1.1s						
M24K	Tolsona, Glenn	86.72	26	P	P	09 22 48.9	-0.8
	baz=250						
H23K	Yukon River	86.73	22	IAmb	IAmb	09 22 54.6	
	comp=Z,33nm,1.8s						
H23K	Yukon River	86.73	22	P	P	09 22 48.8	-0.8
	baz=247						
KAIM	Kayak Island	86.80	29	P	P	09 22 49.0	-1.0
	baz=252						
RAGM	Ragged Mountai	86.82	28	P	P	09 22 49.8	-0.4
E22K	Anaktuvuk Pass	86.89	20	P	P	09 22 49.9	-0.5
	baz=244						
G23K	Bananza Creek	86.91	21	P	P	09 22 49.5	-1.0
	baz=246						
A21K	Barrow	86.92	16	P	P	09 22 49.5	-0.8
	baz=240						
D22K	Ayikyak River	86.93	19	P	P	09 22 49.8	-0.7
	baz=244						
CCB	Clear Creek Bu	86.95	24	IAmb	IAmb	09 22 51.9	
	comp=Z,21nm,1.1s						
HMT	Hamilton	87.00	28	IAmb	IAmb	09 22 53.1	
	comp=Z,24nm,1.1s						
COLA	College	87.02	23	P	P	09 22 49.0	-1.9
COLA				IAmb	IAmb	09 22 52.2	
	comp=Z,18nm,1.1s						
COLA	College	87.02	23	*i*P	P	09 22 49.2	-1.8
COLA				pmax	pmax		
	comp=Z,19nm,1.1s						
COLA	College	87.02	23	P	P	09 22 50.3	-0.7
	baz=248						
BMRM	Bremner River	87.05	28	P	P	09 22 50.6	-0.7
	baz=251,SNR=15						
COLD	Coldfoot	87.06	21	IAmb	IAmb	09 22 57.2	
	comp=Z,14nm,1.2s						
COLD	Coldfoot	87.06	21	P	P	09 22 51.1	-0.1
	baz=246,SNR=12						
HDA	Harding Lake	87.21	24	IAmb	IAmb	09 22 54.4	
	comp=Z,23nm,1.6s						
HDA	Harding Lake	87.21	24	P	P	09 22 51.6	-0.4
	baz=249						
A22K	Sinclair Lake	87.22	17	P	P	09 22 51.5	-0.4
	baz=241						
N25K	Chitina, Valde	87.25	27	IAmb	IAmb	09 22 55.2	
	comp=Z,26nm,1.6s						
N25K	Chitina, Valde	87.25	27	P	P	09 22 51.9	-0.4
	baz=251,SNR=8.1						
HARP	HAARP	87.27	26	P	P	09 22 51.7	-0.6
	baz=251						
POKR	Poker Plat Res	87.27	23	P	P	09 22 51.5	-0.7
	baz=248						
PAX	Paxson	87.32	26	IAmb	IAmb	09 22 55.9	
	comp=Z,22nm,1.6s						
PAX	Paxson	87.32	26	P	P	09 22 52.0	-0.7
	baz=250,SNR=6.7						
IL31		87.36	24	IAmb	IAmb	09 22 53.5	
	comp=Z,13nm,1.0s						
ILAR	Eielson Array	87.36	24	P	P	09 22 50.2	-2.5
ILAR	Eielson Array	87.36	24	P	P	09 22 50.6	-2.1
	comp=Z,7.3nm,0.9s,baz=257,slow=4.8,SNR=30						
	comp=Z,7.3nm,0.9s						
B22K	Teshekpuk Lake	87.36	18	P	P	09 22 51.9	-0.6
	baz=243						
H24K	Noodor Dome	87.37	23	P	P	09 22 52.4	-0.3
	baz=248,SNR=8.1						
K24K	Donnelly Dome	87.47	25	P	P	09 22 52.7	-0.6
	baz=250						
GLB	Gilahina Butte	87.56	27	IAmb	IAmb	09 22 56.2	
	comp=Z,17nm,1.0s						
E23K	Chandalar	87.60	20	P	P	09 22 53.5	-0.4
	baz=246						
D23K	Nanushuk River	87.62	19	P	P	09 22 54.3	+0.4
	baz=245						
VRDI	Verde Repeater	87.66	28	IAmb	IAmb	09 22 56.2	
	comp=Z,13nm,1.2s						
G24K	Hadweenzic Riv	87.84	22	P	P	09 22 54.6	-0.4
	baz=248						
RIDG	Independent Ri	87.84	25	P	P	09 22 54.2	-0.9
	baz=251,SNR=16						
TOLK	Toolik Lake Re	87.85	20	P	P	09 22 54.6	-0.4
TOLK	Toolik Lake Re	87.85	20	P	P	09 22 54.2	-0.9
	baz=246,SNR=19						
J25K	Salcha River,	87.92	24	P	P	09 22 54.1	-1.3
	baz=250,SNR=28						
F24K	Squaw Lake	88.00	21	P	P	09 22 55.4	-0.3
	baz=248,SNR=35						
E24K	Your Creek	88.00	20	P	P	09 22 55.4	-0.4
	baz=247						
C23K	Itkillik River	88.01	18	P	P	09 22 54.9	-0.8
	baz=245						
MESA	MESA	88.05	29	P	P	09 22 55.6	-0.8
	baz=254						
PRP	Porcupine Dome	88.16	23	P	P	09 22 56.1	-0.6
	baz=250						
M26K	Nabesna, AK	88.22	27	P	P	09 22 56.2	-0.8
	baz=253						
L26K	Log Cabin Wild	88.26	26	P	P	09 22 56.2	-0.8
	baz=252,SNR=14						
SCRK	Sand Creek	88.28	25	IAmb	IAmb	09 23 00.6	
	comp=Z,20nm,1.6s						
SCRK	Sand Creek	88.28	25	P	P	09 22 56.2	-1.1
	baz=252						
D24K	Happy Valley	88.31	19	P	P	09 22 57.2	+0.1
	baz=247						
H25L	Birch Creek	88.31	22	P	P	09 22 56.6	-0.5
	baz=250						
G25K	Bearman Lake	88.37	22	P	P	09 22 56.6	-0.8
	baz=250						
C24K	Franklin Bluff	88.57	19	P	P	09 22 57.8	-0.5
	baz=247						
J26L	Joseph Creek	88.62	24	IAmb	IAmb	09 23 00.3	
	comp=Z,23nm,1.4s						
J26L	Joseph Creek	88.62	24	P	P	09 22 57.8	-1.0
	baz=252,SNR=16						
M27K	Edge Creek, AK	88.71	27	P	P	09 22 58.9	-0.5
	baz=254,SNR=19						
F25K	Christian Rive	88.83	21	P	P	09 22 59.2	-0.5
	baz=250						
PINM	Pinnacle	88.85	29	P	P	09 22 58.4	-1.5
	baz=255						
SYO	Syowa Base	88.89	200⇑	*e*PcP	P	09 23 03.0	+3.1
L27K	Beaver Creek,	88.93	26	IAmb	IAmb	09 23 02.5	
	comp=Z,18nm,1.2s						
L27K	Beaver Creek,	88.93	26	P	P	09 22 59.5	-0.8
	baz=254,SNR=18						
BCAR	Beaver Creek A	88.95	26	P	P	09 22 59.5	-0.8
I26K	Coal Creek Min	89.03	24	P	P	09 22 59.7	-0.9
	baz=252						
E25K	Arctic Village	89.04	21	IAmb	IAmb	09 23 06.1	
	comp=Z,19nm,1.2s						
E25K	Arctic Village	89.04	21	P	P	09 23 00.2	-0.5
	baz=250,SNR=13						
O28M	Mount Upton	89.05	29	P	P	09 23 00.3	-0.9
	baz=255						
K27K	Chicken	89.10	25	P	P	09 23 00.6	-0.4
	baz=253,SNR=23						
BMAR	Burnt Mountain	89.16	22	P	P	09 23 00.9	-0.3
PNL	Peninsula	89.16	30	P	P	09 23 00.4	-0.9
	baz=256						
D25K	Kavik River	89.18	20	P	P	09 23 00.9	-0.4
	baz=249						
BVCY	Beaver Creek	89.18	27	P	P	09 23 01.3	-0.1
	baz=255,SNR=9.4						
YUK3	Moose Creek	89.19	27	P	P	09 23 01.3	-0.5
	baz=255,SNR=13						
G26K	Porcupine Rive	89.30	22	P	P	09 23 01.7	-0.1
	baz=252,SNR=31						
YUK8	Steele Glacier	89.39	28	P	P	09 23 02.2	-0.5
	baz=256						
F26K	Sheenjek River	89.40	21	P	P	09 23 02.2	-0.1
	baz=252,SNR=26						
O29M	Mount Kennedy	89.71	29	P	P	09 23 03.7	-0.4
	baz=257						
I27K	Kandik River	89.74	24	P	P	09 23 04.0	0.0
	baz=254,SNR=20						
C26K	Camden Bay	89.86	19	P	P	09 23 04.7	+0.3
	baz=251						
YUK4	Talbot Arm	89.92	28	P	P	09 23 04.9	-0.3
	baz=257,SNR=9.3						
H27K	Steamboat Moun	89.95	23	P	P	09 23 04.4	-0.5
	baz=254,SNR=27						
YUK6	Outpost Mounta	89.96	29	P	P	09 23 04.8	-0.6
	baz=257						
P29M	Windy Craggy	89.97	30	P	P	09 23 04.8	-0.4
	baz=257						
G27K	Doyon Strip	90.06	22	IAmb	IAmb	09 23 06.8	
	comp=Z,29nm,1.9s						
G27K	Doyon Strip	90.06	22	P	P	09 23 05.6	+0.2
	baz=254,SNR=11						
C27K	Jago River	90.17	20	P	P	09 23 05.4	-0.4
	baz=252						
DAWY	Dawson	90.25	25	P	P	09 23 06.0	-0.4
DAWY	Dawson	90.25	25	P	P	09 23 05.9	-0.4
	baz=256,SNR=13						
M29M	Somme Creek	90.27	27	IAmb	IAmb	09 23 12.4	
	comp=Z,29nm,1.8s						
M29M	Somme Creek	90.27	27	P	P	09 23 06.5	-0.1

P30M	Million Dollar	90.46	30	P	P	09 23 06.9	-0.5
baz=258							
E27K	Coleen River	90.47	21	IAmb	IAmb	09 23 12.7	
comp=Z,17nm,1.2s							
E27K	Coleen River	90.47	21	P	P	09 23 07.2	-0.2
baz=254,SNR=14							
L29M	L29M	90.57	26	IAmb	IAmb	09 23 10.9	
comp=Z,14nm,1.0s							
L29M	L29M	90.57	26	P	P	09 23 07.7	-0.3
baz=257,SNR=15							
N30M	Aishikik Lake	90.68	28	P	P	09 23 08.3	-0.2
baz=258							
SIT	Sitka	90.69	33	P	P	09 23 08.4	-0.1
baz=259							
R31K	City Hall, Gus	90.73	31	P	P	09 23 08.3	-0.3
baz=259							
J29N	Klondike Camp	90.84	25	IAmb	IAmb	09 23 15.2	
comp=Z,24nm,1.6s							
J29N	Klondike Camp	90.84	25	P	P	09 23 08.8	-0.4
baz=257							
D27M	Malcolm River	90.98	20	P	P	09 23 09.8	0.0
baz=254							
K29M	Barlow Dome	91.00	26	IAmb	IAmb	09 23 12.9	
comp=Z,9.8nm,1.0s							
K29M	Barlow Dome	91.00	26	P	P	09 23 09.4	-0.6
baz=258,SNR=11							
I29M	Ogilvie Camp,	91.01	24	IAmb	IAmb	09 23 15.2	
comp=Z,26nm,1.4s							
I29M	Ogilvie Camp,	91.01	24	P	P	09 23 09.3	-0.6
baz=257,SNR=13							
O30N	Mendenhall	91.01	29	P	P	09 23 06.6	-3.4
O30N	Mendenhall	91.01	29	P	P	09 23 09.7	-0.3
baz=259							
SKAG	Skagway	91.14	30	IAmb	IAmb	09 23 20.2	
comp=Z,28nm,1.7s							
SKAG	Skagway	91.14	30	P	P	09 23 10.2	-0.3
baz=259							
S32K	Killisnoo	91.16	32	P	P	09 23 09.9	-0.8
baz=260							
H29M	Whitestone	91.18	23	IAmb	IAmb	09 23 54.9	
comp=Z,35nm,1.9s							
H29M	Whitestone	91.18	23	P	P	09 23 10.2	-0.4
baz=257							
N31M	Braeburn, Yuko	91.30	28	P	P	09 23 10.7	-0.6
baz=259							
E28M	Babbage River	91.32	21	IAmb	IAmb	09 23 17.2	
comp=Z,18nm,1.8s							
E28M	Babbage River	91.32	21	P	P	09 23 10.4	-0.8
baz=256							
R32K	Eaglecrest	91.34	32	P	P	09 23 10.7	-0.9
baz=260							
G29M	Pine Creek	91.47	23	P	P	09 23 11.1	-0.9
baz=257							
WHY	Whitehorse	91.58	29	P	P	09 23 11.7	-1.0
baz=260							
CRAG	Craig	91.63	34	P	P	09 23 11.9	-1.0
baz=261							
MAYO	Mayo, Yukon	91.66	26	IAmb	IAmb	09 23 51.9	
comp=Z,8.7nm,0.6s							
MAYO	Mayo, Yukon	91.66	26	P	P	09 23 12.1	-0.8
baz=259							
J30M	Hart River	91.66	25	P	P	09 23 12.3	-0.7
baz=259,SNR=16							
U33K	Whale Pass	91.73	34	P	P	09 23 12.9	-0.4
baz=261							
D28M	Stokes Point	91.77	20	P	P	09 23 12.7	-0.6
baz=256							
I30M	Mount Dempster	91.77	25	IAmb	IAmb	09 23 18.8	
comp=Z,26nm,1.7s							
I30M	Mount Dempster	91.77	25	P	P	09 23 13.1	-0.5
baz=259,SNR=11							
E29M	Blow River	91.85	21	P	P	09 23 13.3	-0.4
baz=257							
EPYK	Eagle Plains	91.87	23	P	P	09 23 13.6	-0.3
baz=258							
P32M	Atlin	91.97	30	P	P	09 23 13.9	-0.6
baz=261							
M31M	Drury Creek, Y	92.08	28	P	P	09 23 14.5	-0.4
baz=260							
G30M	tAoh Zraii Nji	92.18	23	IAmb	IAmb	09 23 20.0	
comp=Z,21nm,1.4s							
G30M	tAoh Zraii Nji	92.18	23	P	P	09 23 14.5	-0.8
baz=259							
WRAK	Wrangell Islan	92.20	34	P	P	09 23 14.9	-0.6
baz=262							
V35K	Ketchikan	92.46	35	P	P	09 23 16.3	-0.4
baz=262							
F30M	Barrier River	92.47	22	P	P	09 23 16.3	-0.3
baz=259							
P33M	Teslin, Yukon	92.51	30	P	P	09 23 16.5	-0.5
baz=262							
ARTI	Arti	92.56	326	LR	LR	10 06 29.8	
comp=Z,68nm,20.4s,baz=70,slow=37							
FARO	Faro, Yukon	92.57	28	IAmb	IAmb	09 23 21.3	
comp=Z,17nm,1.7s							
FARO	Faro, Yukon	92.57	28	P	P	09 23 17.1	-0.1
baz=261							
Q32M	Nakina River	92.61	31	P	P	09 23 17.3	-0.4
baz=262							
H31M	Peel River	92.71	24	P	P	09 23 17.7	-0.1
baz=260							
ELIB	Princess Elisa	92.78	196	dP	P	09 23 18.7	+0.5
comp=Z,6.9nm,1.2s							
G31M	Satah River	92.93	23	P	P	09 23 18.4	-0.3
baz=261							
S34M	Telegraph Cree	93.06	32	P	P	09 23 18.8	-0.7
baz=263							
F31M	Tsiigehtchic	93.22	23	IAmb	IAmb	09 23 21.7	
comp=Z,12nm,1.3s							
F31M	Tsiigehtchic	93.22	23	P	P	09 23 19.4	-0.5
baz=261							
R33M	Jennings River	93.33	31	P	P	09 23 20.4	-0.5
baz=263							
T35M	Bob Quinn	93.42	33	P	P	09 23 21.0	-0.2
baz=264							
U35K	Hyder	93.42	34	P	P	09 23 20.7	-0.5
baz=264							
INK	Inuvik	93.43	22	IAmb	IAmb	09 23 25.3	
comp=Z,12nm,1.4s							
INK	Inuvik	93.43	22	LR	LR	10 05 11.2	
comp=Z,154nm,18.3s,baz=240,slow=35							
INK	Inuvik	93.43	22	P	P	09 23 20.8	-0.2
baz=261							
DLBC	Dease Lake	93.70	32	P	P	09 23 22.3	-0.3
baz=264							
BBB	Bella Bella	94.17	38	LR	LR	09 57 18.5	
comp=Z,97nm,21.5s,baz=284,slow=30							
TOAD	Toad River Com	96.23	32	P	P	09 23 34.0	-0.1
baz=268							
A36M	Sachs Harbour	96.55	18	P	P	09 23 34.7	-0.4
baz=269							
KOTAN	Kotaneelee Air	96.87	30	P	P	09 23 36.3	-0.6
baz=269							
C36M	Paulatuk	96.93	21	P	P	09 23 36.4	-0.5
baz=270							
YBH	Yreka Blue Hor	97.21	49	LR	LR	09 58 18.5	
comp=Z,160nm,21.9s,baz=289,slow=30							
KIRV	Kirov	97.53	328	LR	LR	10 09 36.1	
comp=Z,59nm,20.4s,baz=82,slow=37							
NVAR	Mina Array Bea	100.53	52	P	Pdif	09 23 53.7	-0.4
comp=Z,0.6nm,1.0s,baz=262,slow=4.5,SNR=4.3							
YKA	Yellowknife Ar	101.28	28	P	Pdif	09 23 54.7	-1.8
comp=Z,0.5nm,0.9s,baz=277,slow=5.1,SNR=7.8							
OBN	Obninsk	104.86	325	*i* P	Pdif	09 24 11.9	-0.7
OBN				*e*		09 28 29.0	
OBN				pmax	pmax		
comp=Z,4.0nm,0.6s							
MNK	Minsk	109.89	326	*i* P	Pdif	09 24 32.6	-2.4
MNK				*i*		09 29 07.9	
MNK				*i* PPP	PPP	09 31 26.9	
MNK				*i*		09 35 46.4	
MNK				*i* PS	PS	09 38 37.6	-0.7
MNK				*i* SS	SS	09 44 35.6	+1.8
MNK				*i* SSS	SSS	09 48 42.2	
MNK				pmax	pmax		
comp=Z,4.0nm,0.5s							
MNK				pmax	pmax		
comp=E,14nm,0.7s							
MNK				pmax	pmax		
comp=N,9.0nm,0.6s							
CROK	Carrier	116.78	52		PKPdf	09 28 49.5	-1.4
MODS	Modra-Piesok	118.27	322	*e*PKIKP	PKiKP	09 28 56.6	+3.1
MODS	Modra-Piesok	118.27	322	*e*PKP	PKiKP	09 28 56.6	+3.1
GERES	GERESS Array B	120.19	324	PKP	PKiKP	09 28 57.1	-0.2
comp=N,0.2nm,0.2s,baz=82,slow=1.7,SNR=1.9							
PLCA	Paso Flores	123.64	149	PKP	PKPdf	09 29 03.5	-0.7
comp=N,1.7nm,0.9s,baz=63,slow=1.7,SNR=3.5							
LPAZ	La Paz	141.51	126	PKP	PKPdf	09 29 36.8	-2.2
comp=N,2.1nm,0.9s,baz=5.2,slow=4.8,SNR=5.9							
TORD	Torodi Ar. Bea	141.67	283		PKPdf	09 29 35.2	-3.3
TORD	Torodi Ar. Bea	141.67	283	PKP	PKPdf	09 29 36.4	-2.1
comp=N,1.0nm,0.8s,baz=72,slow=1.8,SNR=4.6							
CPUP	Villa Florida	141.71	149	PKP	PKPdf	09 29 36.3	-2.0
comp=N,1.5nm,0.9s,baz=194,slow=5.4,SNR=2.8							
RUSC	La Rusia	143.78	89	PKPab		09 29 39.0	-0.7
TBTG	Tabatinga, AM	145.15	107		PKPbc	09 29 42.0	-2.2
SDV	Santo Domingo	146.25	84		PKPdf	09 29 44.4	-2.4
DBIC	Dimbokro	148.41	272	PKPab	PKPbc	09 29 53.6	0.0
DBIC	Dimbokro	148.41	272	PKPbc	PKPbc	09 29 53.4	-0.3
comp=N,16nm,0.9s,baz=117,slow=3.4,SNR=13							
DBIC	Dimbokro	148.41	272	PKP2	PKPbc	09 29 53.6	0.0
CELP	Cerrillos	148.63	66	PKPdf	PKPdf	09 29 50.0	-0.4
PTLB	Pontes e Lacer	148.84	135	PKPdf	PKPdf	09 29 48.7	-2.1
PDPR	Patillas Dam,	149.15	66	PKPdf	PKPdf	09 29 49.5	-1.7
HUMP	Col San Antoni	149.27	65		PKPdf	09 29 51.5	+0.2

GCG ***28*** *09:12:25.8±0.7, 12°.59N×90°.50W, h3km±16km, MD3.9*
SNET ***28*** *09:12:27.8±0.8, 12°.43N×90°.17W, h29km±194km, ML3.2*
CATAC 28 09:12:30.2±7.1, 13°N±49°×9°0W±3°0, h10km, M3.0/7, MLv3.0/7, 1C, Error ellipse: s-maj=120.0km s-min=23.1km az=30.5, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	1.16	29	*e*P	Pb	09 12 51.8	-0.6
JAYA	Jayaque - finc	1.16	29	*e*P	Pb	09 12 51.7	-0.7
JAYA				*i* S	Sn	09 13 13.6	+4.9
JAYA	Jayaque - finc	1.16	29	*e*P		09 12 51.7	
JAYA				*i* S		09 13 13.6	
SBLS	San Blas	1.26	18	*e*P	Pn	09 12 53.0	-1.2
PMON	Piamonte	1.28	32	*e*P	Pn	09 12 53.3	-0.9
PMON	Piamonte	1.28	32	P	Pn	09 12 53.5	-0.7
PMON	Piamonte	1.28	32	P	Pn	09 12 53.4	-0.8
PMON	Piamonte	1.28	32	Pn	Sb	09 13 16.9	+6.0
NUBE	Las Nubes	1.29	10	⇑*e*P	Pn	09 12 52.9	-1.5
NUBE	Las Nubes	1.29	10	P	Pn	09 12 53.1	-1.3
NUBE	Las Nubes	1.29	10	P	Pn	09 12 53.3	-1.1
NUBE	Las Nubes	1.29	10	Pn	Sb	09 13 14.2	+2.9
NUBE	Las Nubes	1.29	10	*e*P	Pn	09 12 52.9	-1.5
NUBE				*i* S	Sn	09 13 14.2	+2.5
NUBE	Las Nubes	1.29	10	*e*P		09 12 52.9	
NUBE				*i* S		09 13 14.2	
LOMA	Loma Larga	1.30	39	*e*P	Pn	09 12 53.9	-0.7
LOMA				IAML		09 12 54.6	
comp=Z,428nm,0.3s							
UEES	Universidad Ev	1.32	35	*e*P	Pn	09 12 54.0	-0.8
UEES				IAML		09 12 54.8	
comp=Z,235nm,0.4s							
UEES				*e*S	Sg	09 13 14.5	+1.7
SLOZ	Alcaldia de Sa	1.41	9	*e*P	Pn	09 12 54.9	-1.0
UNIC	Universidad Ca	1.42	19	P	Pn	09 12 55.8	-0.4
UNIC	Universidad Ca	1.42	19	P	Pn	09 12 55.5	-0.6
COEG	Centro de Oper	1.48	48	*e*P	Pn	09 12 55.8	-1.2
COEG	Centro de Oper	1.48	48	P	Pn	09 12 56.3	-0.8
COEG	Centro de Oper	1.48	48	P	Pn	09 12 56.4	-0.6
PAVA	Las Pavas	1.51	44	*e*P	Pn	09 12 57.1	-0.3
PAVA				IAML		09 12 57.9	
comp=Z,232nm,0.3s							
PAVA	Las Pavas	1.51	44	P	Pn	09 12 57.3	-0.1
PAVA	Las Pavas	1.51	44	P	Pn	09 12 57.4	0.0
PAVA	Las Pavas	1.51	44	Pn	Sb	09 13 23.0	+5.4
PAVA	Las Pavas	1.51	44	S	Sg	09 13 23.1	+4.4
SCLA	Alcaldia de Sa	1.65	50	*e*P	Pn	09 12 58.8	-0.5
SCLA	Alcaldia de Sa	1.65	50	P	Pn	09 12 58.9	-0.4
SCLA	Alcaldia de Sa	1.65	50	P	Pn	09 12 58.7	-0.6
MTO3	Montecristo	1.87	20	*e*P	Pn	09 12 02.0	-0.5
MTO3	Montecristo	1.87	20	*e*P		09 13 02.0	
ESQI	Esquipulas	2.03	19	P	Pn	09 13 04.5	0.0
ESQI	Esquipulas	2.03	19	P	Pn	09 13 04.9	+0.4
STG0	El Palmar, Qui	2.20	324	*e*P		09 13 05.9	
STG0				*e*S		09 13 36.4	
STG8	El Palmar, Qui	2.23	325	*e*S		09 13 37.4	

BEO ***28*** *09:12:53.7±3.1, 37°.07N×22°.06E, h74km±1km, ML3.9/12*
IDC ***28*** *09:13:00.2±0.6, 38°.06N×21°.98E, h0km, mb4.1/21, mbtmp4.0/31, ML3.0/6, MS3.5/11, Error ellipse: s-maj=12.2km s-min=11.7km az=55.0*
UPSL ***28*** *09:13:01.1, 38°.00N×21°.94E, h10km, Mw4.0, Moment Tensor Solution. s7 Moment tensor: Mrr-0.01; Mθθ-0.19; Mφφ0.20; Mrθ-1.08; Mrφ0.76; Mθφ-0.11; Fault plane solution: NP1:φs173.00000°, δ36.00000°, λ-179.00000°. NP2:φs83.00000°, δ90.00000°, λ-54.00000°.*
ATH ***28*** *09:13:01.1, 38°.00N×21°.94E, h10km, Mw4.0, Moment Tensor Solution. s7 Moment tensor: Mrr4.05; Mθθ-4.36; Mφφ0.31; Mrθ-5.56; Mθφ8.22; Mφr-1.99; Fault plane solution: NP1:φs269.00000°, δ73.00000°, λ39.00000°. NP2:φs166.00000°, δ53.00000°, λ159.00000°.*
THE ***28*** *09:13:01.2, 38°.00N×21°.94E, h6km±1km, ML4.1/17 Error ellipse: s-maj=1.3km s-min=0.5km az=304.0*
NEIC ***28*** *09:13:02.4±2.8, 37°.93N±0°.05×21°.97E±0°.08, h10km±1km, mb4.5/6, Error ellipse: s-maj=10.8km s-min=7.8km az=249.0*
NAO ***28*** *09:13:03.0, 38°.00N×21°.94E, h10km, mb4.1*
ISC 28 09:13:01.4±0.8, 38°.01N±0°.02×21°.94E±0°.01, h9km±5km, n215, σ1§19/264, mb4.1/23, MS4.1/7, 5C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	Kalavryta, Ach	0.17	77	P	Pg	09 13 05.2	+0.2
KLV				S	Sg	09 13 07.6	+0.1
107μm,0.3s							
KLV	Kalavryta, Ach	0.17	77	P	Pg	09 13 05.2	+0.2
KLV				S	Sg	09 13 07.5	+0.1
DRO	Drossia	0.19	254	P	Pg	09 13 05.2	-0.1
DRO				S	Sg	09 13 07.7	-0.3
278μm,0.7s							
DRO	Drossia	0.19	254	P	Pg	09 13 05.4	+0.1
DRO				S	Sg	09 13 08.2	+0.2
UPR	University Cam	0.30	336	P	Pg	09 13 07.5	+0.1
UPR				S	Sg	09 13 11.8	+0.3
UPR	University Cam	0.30	336	P	Pg	09 13 07.7	+0.3
UPR				S	Sg	09 13 11.5	0.0
GUR	Goura	0.32	102	P	Pg	09 13 07.5	-0.3
GUR				S	Sg	09 13 11.8	-0.4
84μm,0.3s							
GUR	Goura	0.32	102	P	Pg	09 13 07.5	-0.3
GUR				S	Sg	09 13 11.9	-0.3
RLS	Riolos of Patr	0.38	278	P	Pg	09 13 08.3	-0.5
RLS				S	Sg	09 13 14.0	+0.2
44μm,0.4s							
RLS	Riolos of Patr	0.38	278	P	Pg	09 13 08.3	-0.5
RLS				S	Sg	09 13 13.9	+0.2
KALE	Kalithea	0.41	22	P	Pg	09 13 09.5	0.0
KALE				S	Sg	09 13 14.6	-0.4
26μm,0.2s							
KALE	Kalithea	0.41	22	P	Pg	09 13 09.6	0.0
KALE				S	Sg	09 13 14.8	-0.2
SERG	Sergoula	0.42	13	P	Pg	09 13 09.7	+0.1
SERG				S	Sg	09 13 15.7	+0.6
EFP	Efpalio	0.42	356	P	Pg	09 13 09.7	+0.1
EFP				S	Sg	09 13 15.2	0.0
31μm,0.3s							
EFP	Efpalio	0.42	356	P	Pg	09 13 09.8	+0.1
EFP				S	Sg	09 13 14.7	-0.5
YRMI	Loutra Irminis	0.48	282	P	Pg	09 13 09.7	-1.0
YRMI				S	Sg	09 13 17.1	+0.2
AXS	Araxos	0.48	293	P	Pg	09 13 10.1	+0.7
AXS				S	Sg	09 13 17.8	+0.7
AMT	Artemida-Makis	0.51	201	P	Pg	09 13 11.0	-0.3
AMT				S	Sg	09 13 18.5	+0.6
ZARO	Zacharo	0.57	204	P	Pg	09 13 12.3	-0.1
ANX	Ano Chora	0.59	358	P	Pg	09 13 12.4	-0.4
ANX				S	Sg	09 13 21.3	+0.8
35μm,0.4s							
ANX	Ano Chora	0.59	358	P	Pg	09 13 12.8	0.0
ANX				S	Sg	09 13 21.1	+0.6
KIAA	Kiato	0.64	89	P	Pg	09 13 14.0	+0.3
KIAA				S	Sb	09 13 23.0	-0.7
DLFA	Delphi	0.64	43	P	Pg	09 13 13.2	-0.6
DLFA				S	Sg	09 13 22.8	+0.5
CLEM	Kyllini,Ilia,G	0.65	260	P	Pg	09 13 13.8	-0.1
CLEM				S	Sg	09 13 23.0	+0.6
PVO	Paravola	0.69	332	P	Pg	09 13 14.5	-0.2
PVO				S	Sg	09 13 24.4	+0.6
VLX	Vlachokerasia	0.72	151	P	Pg	09 13 14.6	-0.8
VLX				S	Sb	09 13 25.9	-0.5
LTK	Loutraki	0.81	88	P	Pg	09 13 16.2	-0.7
ITM	Ithomi	0.82	181	P	Pg	09 13 16.2	-1.1
ITM				S	Sg	09 13 28.5	+0.5
10μm,0.4s							
ITM	Ithomi	0.82	181		Pg	09 13 16.3	-0.9
ITM	Ithomi	0.82	181	P	Pg	09 13 16.4	-0.8
ITM				S	Sb	09 13 28.9	-0.2
KYPS	Kipseli, Zakin	0.90	258	P	Pg	09 13 18.8	+0.1
EVR	Evrytania	0.92	354	P	Pb	09 13 19.3	-0.2
EVR				S	Sb	09 13 32.1	+0.3
LTHK	Lithakia	0.92	252	P	Pg	09 13 18.7	-0.4
LTHK				S	Sb	09 13 32.0	+0.1
14μm,0.5s							
LTHK	Lithakia	0.92	252	P	Pg	09 13 18.8	-0.4
RTZL	Ratzakli, Kefa	0.93	275	P	Pg	09 13 18.7	-0.5
AXAR	Agios Charalam	0.95	36	P	Pg	09 13 18.4	-1.2
AXAR				S	Sb	09 13 33.2	+0.5
24μm,0.4s							
AXAR	Agios Charalam	0.95	36	P	Pg	09 13 18.6	-0.9
KRI1	kERI	0.95	249	P	Pg	09 13 19.3	-0.4
ORTH	Orthonies,Zaky	1.00	261	P	Pg	09 13 20.0	-0.5
MAKR	Makrakomi, Fth	1.02	8	P	Pb	09 13 21.2	0.0
MAKR				S	Sb	09 13 34.9	+0.1
SMHA	Samh	1.05	284	P	Pg	09 13 19.9	-1.7
SMHA				S	Sb	09 13 35.7	+0.2
LKR	Lokris	1.05	52	P	Pg	09 13 20.2	-1.4
LKR				S	Sb	09 13 35.5	-0.2
15μm,0.4s							
LKR	Lokris	1.05	52	P	Pg	09 13 20.4	-1.2
LKR				S	Sb	09 13 36.0	+0.4
VIL2	Platees	1.07	78	P	Pn	09 13 22.5	-0.1
PSDA	Pessada-Kefalo	1.08	276	P	Pg	09 13 20.8	-1.3
VLS	Valsamata	1.08	280	P	Pg	09 13 20.7	-1.4
VLS	Valsamata	1.08	280	P	Pg	09 13 21.0	-1.1
VLS				S	Sb	09 13 36.6	+0.1
VILL	Villia	1.09	81	P	Pb	09 13 22.3	-0.2
KRND	KRANIDI	1.14	123	P	Pb	09 13 22.0	-1.3
KRND	KRANIDI	1.14	123	P	Pb	09 13 22.2	-1.1
FSK	Fiskardo	1.18	293	P	Pb	09 13 22.2	-1.7
FSK				S	Sn	09 13 41.3	+1.1
5μm,0.4s							
FSK	Fiskardo	1.18	293	P	Pb	09 13 22.7	-1.2
EVGI	Lefkada island	1.18	302	P	Pb	09 13 22.6	-1.4
EVGI	Lefkada island	1.18	302	P	Pb	09 13 22.7	-1.4
MET5	Makryloggos,Me	1.19	108	P	Pb	09 13 23.2	-0.8
MTHA	Methoni	1.20	189	P	Pb	09 13 24.1	-0.2
NYDR	Nydri-Lefkada	1.21	306	P	Pb	09 13 22.9	-1.5
MET4	Agioi Theodoro	1.22	108	P	Pb	09 13 23.9	-0.7
DMLN	Damoulianata-K	1.26	281	P	Pn	09 13 24.1	-1.1
DRAG	Dragano-Lefkad	1.27	303	P	Pn	09 13 24.4	-1.0
LKD2	Lefkada island	1.28	308	P	Pn	09 13 24.4	-1.1
TSLK	Tsoukalades, L	1.30	309	P	Pn	09 13 24.9	-0.9
ATH	Athens Observa	1.40	91	P	Pn	09 13 26.8	-0.4
ATH				S	Sb	09 13 45.2	-0.6
8μm,0.9s							
ATH	Athens Observa	1.40	91	P	Pn	09 13 27.0	-0.1
NOAC	Athens-Thissio	1.40	91	P	Pn	09 13 27.1	-0.1
TETR	Tetrakomo, Epi	1.44	339	P	Pb	09 13 28.3	-0.1
VLY	Voula,Athens	1.47	95	P	Pn	09 13 27.8	-0.3
VLI	Veliai	1.51	148	P	Pn	09 13 28.6	0.0
VLI	Veliai	1.51	148	P	Pn	09 13 28.9	+0.2
PTL	Penteli	1.52	88	P	Pn	09 13 28.6	-0.2
PTL				S	Sn	09 13 48.2	-0.5
4μm,0.6s							
PTL	Penteli	1.52	88	P	Pn	09 13 28.6	-0.2
THL	Klokotos Trika	1.56	2	P	Pb	09 13 30.1	-0.3
DION	Dionisos Attik	1.57	87	P	Pn	09 13 29.5	0.0
DION				S	Sb	09 13 50.9	+0.2
4μm,0.7s							
DION	Dionisos Attik	1.57	87	P	Pn	09 13 29.5	0.0
NEO	Neokhori	1.64	37	P	Pn	09 13 30.3	-0.2
XOR	Xorichti	1.67	35	P	Pn	09 13 30.8	-0.1
XOR	Xorichti	1.67	35	P	Pn	09 13 30.9	0.0
KYMI	Kymi, Euboea I	1.81	69	P	Pn	09 13 32.6	-0.2
KYMI				S	Sn	09 13 55.7	-0.2
3μm,0.6s							
AOS	Alonnisos	1.91	52	P	Pn	09 13 33.4	-0.8
KARY	Karystos	1.97	88	P	Pn	09 13 35.1	+0.1
KARY				S	Sn	09 13 59.4	-0.4
2μm,0.6s							
LIT	Litokhoron	2.13	11		Pn	09 13 37.9	+0.6
KEK	Kerkira	2.39	316		Pb	09 13 43.6	-0.9
FNA	Florina	2.81	351		Pn	09 13 49.0	+2.4
FNA	Florina	2.81	351	*e*Pn	Pn	09 13 48.5	+1.9
FNA				*e*Sn	Sb	09 14 25.8	-0.5
APE	Apeiranthos	3.00	107	P	Pn	09 13 49.1	-0.1
APE	Apeiranthos	3.00	107	⇑P	Pn	09 13 48.9	-0.3
OHR	Ohrid	3.23	344	*i* Pn	Pb	09 13 56.6	-2.3
OHR	Ohrid	3.23	344	*e*Pn	Pn	09 13 53.7	+1.4
OHR				*e*Sn	Sb	09 14 35.5	-2.8
VAY	Valandovo	3.35	8	*i* Pn	Pn	09 13 56.2	+2.3
VAY	Valandovo	3.35	8	*e*Pn	Pn	09 13 54.4	+0.5
SRS	Serrai	3.36	22	*e*Pn	Pn	09 13 54.1	0.0
SCTE	Santa Cesarea	3.40	308	Pn	Pn	09 13 55.4	+0.8
IDI	Anoyia	3.60	138	Pn	Pn	09 13 57.6	+0.1
IDI	Anoyia	3.60	138	Pn	Pn	09 13 57.4	-0.1
9.9nm,0.3s,baz=317,slow=16,SNR=38							
IDI				Sn	Sn	09 14 42.0	+1.8
13nm,0.3s,baz=240,slow=17,SNR=4.2							
66nm,0.5s							
TIR	Tirane	3.70	335		Pb	09 14 04.0	-3.0
TIR	Tirane	3.70	335	⇓P	Pn	09 14 01.1	+2.3
TIR	Tirane	3.70	335	*e*Pn	Pn	09 14 00.3	+1.5
RDO	Rodhopi	4.19	40	Pn	Pn	09 14 05.4	-0.1
TIP	Timpagrande	4.23	288		Pn	09 14 08.0	+1.9
TIP	Timpagrande	4.23	288	⇓P	Pn	09 14 06.7	+0.6
ALN	Alexandroupoli	4.29	46		Pn	09 14 07.6	+0.7
BOSS	Bosilegrad	4.50	5	*e*Pn	P

BLY	**Banja Luka**	**7.63**	**334**	*e*Pn	**Pn**	**09 14 52.1**	**-0.6**
A050A	**Klekovaca**	**7.64**	**330**	*e*Pn	**Pn**	**09 14 52.7**	**-0.3**
VOIR		**7.78**	**16**	⇓P	**Pn**	**09 14 56.0**	**+1.1**
CAMP	**Campotosto**	**7.94**	**307**	Pn	**Pn**	**09 14 58.9**	**+1.9**
A051A	**Mrakovica**	**7.95**	**333**	*e*Pn	**Pn**	**09 14 55.1**	**-2.1**
MLR	**Muntele Rosu**	**8.05**	**21**	Pn	**Pn**	**09 15 00.8**	**+2.1**
MLR	**Muntele Rosu**	**8.05**	**21**	Pn	**Pn**	**09 14 58.2**	**-0.4**
	1.8nm,0.4s,baz=17,slow=12,SNR=5.3						
MLR				LR	LR	09 18 30.6	
	comp=Z,113nm,19.1s,baz=206,slow=41						
MLR	**Muntele Rosu**	**8.05**	**21**	⇑P	**Pn**	**09 15 00.4**	**+1.7**
FDMO	**Fiordimonte**	**8.41**	**309**		**Pn**	**09 15 05.6**	**+2.2**
PLOR	**Plostina**	**8.59**	**23**	⇑P	**Pn**	**09 15 08.5**	**+2.6**
VRI	**Vrincioaia**	**8.62**	**23**	⇓P	**Pn**	**09 15 08.9**	**+2.6**
BOJS	**Bojanci**	**9.00**	**328**	*e*Pn	**Pn**	**09 15 11.3**	**-0.2**
BR131	**Keskin Array S**	**9.29**	**76**		**Pn**	**09 15 17.3**	**+1.7**
BRTR	**Keskin Array B**	**9.29**	**76**	Pn	**Pn**	**09 15 17.9**	**+2.3**
	0.5nm,0.3s,baz=261,slow=13,SNR=11						
	4.0nm,0.6s						
CEY	**Cerknica**	**9.54**	**326**	*e*Pn	**Pn**	**09 15 17.2**	**-1.7**
SKDS	**Skadanscina**	**9.58**	**324**	*e*Pn	**Pn**	**09 15 18.5**	**-0.9**
PSZ	**Piszkesteto**	**10.02**	**352**	⇓P	**Pn**	**09 15 28.4**	**+2.8**
SABO	**M.te Sabotino**	**10.10**	**325**	Pn	**Pn**	**09 15 25.6**	**-1.0**
OBKA	**Obir**	**10.11**	**330**	*e*Pn	**Pn**	**09 15 27.9**	**+1.2**
KEST	**Kesra**	**10.34**	**261**	Pn	**Pn**	**09 15 30.4**	**+0.4**
	0.2nm,0.3s,baz=16,slow=12,SNR=1.4						
	2.4nm,0.8s						
PRED	**Cave del Predi**	**10.46**	**326**	Pn	**Pn**	**09 15 32.2**	**+0.5**
CONA	**Conrad Observa**	**10.87**	**338**	*e*Pn	**Pn**	**09 15 38.7**	**+1.6**
	1.7nm,0.7s						
MODS	**Modra-Piesok**	**10.90**	**343**	*e*PN	**Pn**	**09 15 38.7**	**+1.1**
MODS				*e*		09 26 03.6	
MODS				*e*		09 26 26.1	
MODS				*e*		09 26 40.7	
MODS				*e*		09 27 09.8	
VRAC	**Vranov**	**11.94**	**343**	LR	LR	09 22 10.8	
	comp=Z,92nm,18.6s,baz=158,slow=46						
WTTA	**Wattenberg**	**11.96**	**324**	*i* Pn	**Pn**	**09 15 53.2**	**+1.1**
	2.7nm,0.4s						
WTTA				*e*Sn	**Sn**	**09 18 05.0**	**-0.7**
	9.1nm,0.7s						
WATA	**Walderalm**	**12.04**	**324**	*e*Pn	**Pn**	**09 15 53.8**	**+0.6**
	6.4nm,0.4s						
WATA				*e*Sn	**Sn**	**09 18 04.7**	**-2.9**
	6.5nm,0.5s						
MMAI	**Mount Meron Ar**	**12.04**	**110**	Pn	**Pn**	**09 15 53.0**	**-0.3**
	0.8nm,0.3s,baz=302,slow=16,SNR=4.4						
MOTA	**Moosalm**	**12.26**	**323**	*e*Pn	**Pn**	**09 15 59.8**	**+3.5**
	1.8nm,0.2s						
MOTA				*e*Sn	**Sn**	**09 18 12.0**	**-1.2**
	7.3nm,0.6s						
GERES	**GERESS Array B**	**12.37**	**334**	Pn	**Pn**	**09 15 58.2**	**+0.5**
	baz=157,slow=15,SNR=2.4						
GERES				Sn	**Sn**	**09 18 14.0**	**-1.7**
	baz=146,slow=25						
	0.3nm,0.3s						
DAVOX	**Davos/Dischmat**	**12.49**	**318**	Pn	**Pn**	**09 15 59.5**	**+0.1**
	0.2nm,0.3s,baz=178,slow=22,SNR=1.7						
DAVOX				Sn	**Sn**	**09 18 18.4**	**-0.4**
	0.4nm,0.3s,baz=156,slow=23,SNR=4.7						
DAVOX				LR	LR	09 22 00.1	
	comp=Z,155nm,18.4s,baz=80,slow=43						
	1.1nm,0.5s						
TUE	**Stuetta**	**12.58**	**316**	Pn	**Pn**	**09 16 03.5**	**+2.8**
EIL	**Elat**	**13.63**	**124**	Pn	**Pn**	**09 16 14.4**	**-0.5**
	1.9nm,0.4s,baz=338,slow=2.6,SNR=4.4						
AKASG	**Malin Array Be**	**13.71**	**20**	Pn	**Pn**	**09 16 15.3**	**-0.6**
	0.5nm,0.3s,baz=210,slow=13,SNR=1.5						
AKASG				LR	LR	09 21 39.5	
	comp=Z,84nm,18.5s,baz=200,slow=38						
	0.2nm,0.3s						
GRA1	**Grafenberg Arr**	**13.99**	**330**	P	**P**	**09 16 25.7**	**-2.1**
GRFO	**Grafenberg**	**13.99**	**330**	P	**P**	**09 16 25.9**	**-1.9**
ESDC	**Sonseca Array**	**20.23**	**283**	P	**P**	**09 17 37.4**	**+0.6**
	2.2nm,0.7s,baz=74,slow=11,SNR=11						
	2.2nm,0.7s						
HFS	**Hagfors**	**22.76**	**349**	P	**P**	**09 18 03.0**	**-0.8**
	4.3nm,0.7s,baz=163,slow=11,SNR=16						
	4.3nm,0.7s						
FINES	**FINESS Array B**	**23.60**	**5**	P	**P**	**09 18 11.4**	**-0.9**
	0.9nm,0.4s,baz=187,slow=8.4,SNR=8.9						
FINES				LR	LR	09 28 38.4	
	comp=Z,105nm,18.7s,baz=180,slow=40						
	0.9nm,0.4s						
NB2	**NORSAR Subarra**	**24.02**	**347**	P	**P**	**09 18 15.4**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**24.02**	**347**	P	**P**	**09 18 15.8**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=160,slow=10,SNR=12						
NOA				LR	LR	09 30 27.4	
	comp=Z,14nm,18.9s,baz=350,slow=44						
	comp=Z,3.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**24.22**	**324**	P	**P**	**09 18 18.4**	**+0.2**
	comp=Z,12nm,0.8s,baz=124,slow=9.4,SNR=18						
	comp=Z,12nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.62**	**221**	P	**P**	**09 19 16.6**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=29,slow=10.0,SNR=11						
	comp=Z,1.6nm,0.7s						
ARCES	**ARCESS Array B**	**31.65**	**2**	P	**P**	**09 19 24.4**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=58,slow=23,SNR=1.3						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**36.37**	**50**	P	**P**	**09 20 06.1**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=266,slow=8.3,SNR=6.0						
	comp=Z,1.3nm,0.6s						
DBIC	**Dimbokro**	**39.54**	**225**	P	**P**	**09 20 33.4**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=25,slow=5.5,SNR=3.2						
	comp=Z,2.9nm,0.7s						
SPITS	**Spitsbergen Ar**	**40.35**	**358**	P	**P**	**09 20 38.7**	**-0.2**
	comp=Z,11nm,1.0s,baz=169,slow=10,SNR=1.8						
	comp=Z,11nm,1.0s						
KURBB	**Kurchatov Arra**	**41.43**	**53**	P	**P**	**09 20 48.1**	**0.0**
	comp=Z,2.4nm,0.5s,baz=278,slow=9.0,SNR=17						
	comp=Z,2.4nm,0.5s						
KURK	**Kurchatov**	**41.48**	**53**	P	**P**	**09 20 48.4**	**-0.1**
MKAR	**Makanchi Array**	**44.44**	**59**	P	**P**	**09 21 12.4**	**-0.1**
MKAR	**Makanchi Array**	**44.44**	**59**	P	**P**	**09 21 12.2**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=278,slow=6.9,SNR=20						
	comp=Z,2.8nm,0.5s						
ZAA0	**Zalesovo Array**	**44.97**	**48**	IAmb	IAmb	09 21 19.3	
	comp=Z,6.2nm,0.5s						
ZALV	**Zalesovo Beam**	**44.97**	**48**	P	**P**	**09 21 16.0**	**-0.7**
ZALV	**Zalesovo Beam**	**44.97**	**48**	P	**P**	**09 21 15.8**	**-0.8**
	comp=Z,6.0nm,0.4s,baz=271,slow=8.0,SNR=18						
	comp=Z,6.0nm,0.4s						
EUNU	**Eureka**	**55.90**	**349**	P	**P**	**09 22 40.3**	**+1.2**
EUNU				IAmb	IAmb	09 22 55.2	
	comp=Z,3.3nm,1.4s						
SCHQ	**Schefferville**	**59.34**	**318**	P	**P**	**09 23 03.8**	**+0.2**
SCHQ				IAmb	IAmb	09 23 19.3	
	comp=Z,5.0nm,1.1s						
SCHQ	**Schefferville**	**59.34**	**318**	P	**P**	**09 23 03.9**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=46,slow=3.0,SNR=6.4						
	comp=Z,1.4nm,0.6s						
ILON	**Igloolik, Nuna**	**59.55**	**336**	P	**P**	**09 23 05.4**	**+0.7**
ILON				IAmb	IAmb	09 23 34.4	
	comp=Z,6.8nm,1.5s						
SONM	**Songino Array**	**59.70**	**51**	LR	LR	09 51 08.7	
	comp=Z,155nm,19.3s,baz=58,slow=38						
BOSA	**Boshof**	**66.34**	**177**	P	**P**	**09 23 51.0**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=334,slow=3.4,SNR=3.6						
	comp=Z,1.3nm,0.6s						
YKA	**Yellowknife Ar**	**73.93**	**341**	P	**P**	**09 24 36.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=31,slow=4.8,SNR=7.1						
	comp=Z,0.4nm,0.8s						
ULM	**Lac du Bonnet**	**76.50**	**324**	P	**P**	**09 24 52.1**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=85,slow=5.9,SNR=4.3						
	comp=Z,2.6nm,0.9s						
ULM	**Lac du Bonnet**	**76.50**	**324**	P	**P**	**09 24 52.1**	**+0.5**
ILAR	**Eielson Array**	**77.18**	**355**	P	**P**	**09 24 55.1**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=11,slow=5.8,SNR=2.2						
	comp=Z,0.5nm,0.9s						
KSRS	**Korea Array**	**78.57**	**51**	P	**P**	**09 25 03.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=300,slow=4.4,SNR=1.9						
	comp=Z,0.5nm,0.5s						
NEW	**Newport**	**86.71**	**334**	LR	LR	10 09 10.6	
	comp=Z,89nm,21.2s,baz=274,slow=39						
PDAR	**Pinedale Array**	**88.31**	**327**	P	**P**	**09 25 54.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=66,slow=5.0,SNR=5.4						
PDAR				LR	LR	10 06 21.2	
	comp=Z,76nm,19.9s,baz=278,slow=36						
	comp=Z,0.4nm,0.6s						
ANMO	**Albuquerque**	**93.06**	**320**	LR	LR	10 07 52.6	
	comp=Z,70nm,19.5s,baz=82,slow=35						
TXAR	**Lajitas Array**	**95.90**	**314**	P	**P**	**09 26 29.1**	**+0.2**
	comp=Z,0.3nm,1.0s,baz=54,slow=6.4,SNR=4.0						
TXAR				LR	LR	10 10 31.6	
	comp=Z,72nm,19.7s,baz=276,slow=36						
	comp=Z,0.3nm,1.0s						
ASAR	**Alice Springs**	**121.04**	**97**	PKP	**PKPdf**	**09 31 54.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=310,slow=1.8,SNR=1.6						
QSPA	**South Pole Qui**	**127.86**	**180**	PKP	**PKPdf**	**09 32 06.1**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=131,slow=3.2,SNR=3.1						

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*ROM **28** 09:22:26.6±0.2, 43°.062N±0°.006×14°.01E±0°.01, h6km, ML3.2/126, Error ellipse: s-maj=1.1km s-min=0.5km az=73.0*

*PRU **28** 09:22:30.5, 43°.19N×14°.05E, h10km*

ISC 28 09:22:27.3±1.0, 43°.09N±0°.02×13°.99E±0°.02, h11km±7km, n98, σ1.22/116, 3C-16D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADA	**Capodarco di F**	**0.20**	**302**	⇑P	**Pg**	**09 22 31.9**	**+0.4**
CADA				S	**Sg**	**09 22 35.2**	**+0.8**
CADA				AML	AML		
	comp=N,66550μm,0.2s						
CADA				AML	AML		
	comp=N,66500μm,0.2s						
CADA				AML	AML		
	comp=E,42000μm,0.2s						
OFFI	**Offida**	**0.27**	**235**	⇓P	**Pb**	**09 22 34.3**	**+0.1**
OFFI				AML	AML		
	comp=E,2910μm,0.9s						
OFFI				AML	AML		
	comp=N,5270μm,0.7s						
OFFI				AML	AML		
	comp=N,5025μm,0.7s						
TRTR	**Tortoreto Alta**	**0.29**	**191**	AML	AML		
	comp=E,11800μm,1.5s						
TRTR				AML	AML		
	comp=N,9425μm,0.7s						
MNTT	**Montottone**	**0.29**	**265**	AML	AML		
	comp=E,21450μm,0.4s						
MNTT				AML	AML		
	comp=N,16700μm,0.4s						
MNTT				AML	AML		
	comp=E,21500μm,1.6s						
MNTT				AML	AML		
	comp=E,12300μm,0.6s						
MNTT				AML	AML		
	comp=N,16650μm,0.4s						
CIMA	**Civitanova Mar**	**0.32**	**313**	P	**Pb**	**09 22 34.7**	**-0.2**
CIMA				S	**Sb**	**09 22 40.4**	**+0.3**
CIMA				AML	AML		
	comp=E,17700μm,1.0s						
CIMA				AML	AML		
	comp=N,23000μm,0.4s						
CIMA				AML	AML		
	comp=E,17650μm,1.0s						
CIMA				AML	AML		
	comp=N,22950μm,0.4s						
MNTP	**Montappone**	**0.38**	**277**	P	**Pb**	**09 22 35.5**	**-0.6**
PP3	**Marolino**	**0.40**	**316**	P	**Pb**	**09 22 36.0**	**-0.4**
PP3				S	**Sb**	**09 22 43.2**	**+0.7**
MF5	**Montefalcone A**	**0.40**	**256**	⇓P	**Pb**	**09 22 36.0**	**-0.3**
MF5				AML	AML		
	comp=E,4140μm,0.6s						
MF5				AML	AML		
	comp=E,2920μm,1.4s						
MF5				AML	AML		
	comp=N,3410μm,0.4s						
MF5				AML	AML		
	comp=E,4005μm,0.5s						
SAP2	**Sant'Angelo in**	**0.43**	**271**	AML	AML		
	comp=E,3730μm,0.7s						
SAP2				AML	AML		
	comp=E,3735μm,0.7s						
SAP2				AML	AML		
	comp=N,19600μm,0.4s						
GUMA	**Gualdo di Mace**	**0.48**	**267**	⇓P	**Pb**	**09 22 37.1**	**-0.7**
GUMA				AML	AML		
	comp=N,6500μm,0.4s						
GUMA				AML	AML		
	comp=E,6740μm,0.4s						
GUMA				AML	AML		
	comp=E,5245μm,1.5s						
GUMA				AML	AML		
	comp=N,6495μm,0.4s						
GUMA				AML	AML		
	comp=E,6745μm,0.4s						
GUMA				AML	AML		
	comp=N,5770μm,0.6s						
GUMA				AML	AML		
	comp=E,5385μm,0.9s						
GUMA				AML	AML		
	comp=E,6740μm,1.6s						
GUMA				AML	AML		
	comp=N,6495μm,1.6s						
MMO1	**Montemonaco**	**0.52**	**249**	⇓P	**Pb**	**09 22 37.5**	**-0.9**
MMO1				S	**Sb**	**09 22 44.6**	**-1.5**
AOI	**Ancona**	**0.54**	**329**	P	**Pb**	**09 22 38.6**	**-0.2**
AOI				S	**Sb**	**09 22 47.0**	**+0.4**
AOI				AML	AML		
	comp=N,2475μm,1.1s						
AOI				AML	AML		
	comp=E,2530μm,0.4s						
AOI				AML	AML		
	comp=N,2475μm,0.9s						
AOI				AML	AML		
	comp=E,2530μm,1.6s						
TRE1	**Treia**	**0.54**	**294**	P	**Pb**	**09 22 37.7**	**-1.1**
TRE1				S	**Sb**	**09 22 45.9**	**-0.7**
TERO	**Teramo**	**0.55**	**211**	⇓P	**Pb**	**09 22 38.4**	**-0.5**
TERO				S	**Sb**	**09 22 47.5**	**+0.8**
TERO				AML	AML		
	comp=N,412μm,0.5s						
TERO				AML	AML		
	comp=E,988μm,0.9s						
TERO				AML	AML		
	comp=E,660μm,0.9s						
TERO				AML	AML		
	comp=N,791μm,0.8s						
TERO				AML	AML		
	comp=E,660μm,1.1s						
TERO				AML	AML		
	comp=E,988μm,1.1s						
MTRA	**Matera**	**0.55**	**233**	⇓P	**Pb**	**09 22 38.0**	**-0.9**
MTRA				S	**Sb**	**09 22 46.5**	**-0.3**
MTRA				AML	AML		
	comp=N,1785μm,0.4s						
MTRA				AML	AML		
	comp=E,3395μm,0.5s						
MTRA				AML	AML		
	comp=N,1805μm,0.4s						
MTRA				AML	AML		
	comp=E,3385μm,0.5s						
CSP1	**Cessapalombo**	**0.57**	**270**	⇓P	**Pb**	**09 22 38.3**	**-1.1**
CSP1				S	**Sb**	**09 22 47.4**	**-0.2**
CSP1				AML	AML		
	comp=E,1590μm,0.5s						
CSP1				AML	AML		
	comp=N,1710μm,0.5s						
CSP1				AML	AML		
	comp=N,1705μm,0.5s						
PF6	**Pievefavera**	**0.59**	**276**	P	**Pb**	**09 22 38.3**	**-1.2**
PF6				S	**Sb**	**09 22 47.2**	**-0.6**
MC2	**Monte Cornacci**	**0.61**	**253**	⇓P	**Pb**	**09 22 39.1**	**-0.9**
MC2				S	**Sb**	**09 22 48.5**	**-0.3**
PCRO	**Pietralacroce**	**0.62**	**327**	P	**Pn**	**09 22 40.8**	**-1.1**
PCRO				S	**Sn**	**09 22 50.0**	**-1.8**
MDAR	**Monte D'Aria**	**0.63**	**280**	P	**Pb**	**09 22 39.4**	**-0.9**
FDMO	**Fiordimonte**	**0.66**	**266**	⇓P	**Pb**	**09 22 39.8**	**-1.1**
FDMO				S	**Sb**	**09 22 50.0**	**-0.1**
FDMO				AML	AML		
	comp=N,1255μm,0.6s						
FDMO				AML	AML		
	comp=E,1850μm,0.7s						
SMA1	**SAN MARTINO**	**0.67**	**227**	P	**Pb**	**09 22 39.9**	**-1.0**
SMA1				AML	AML		
	comp=E,1315μm,0.4s						
SMA1				AML	AML		
	comp=N,1220μm,1.0s						
GAG1	**Gagliole**	**0.69**	**283**	P	**Pb**	**09 22 40.4**	**-0.9**
EL6	**Elcito**	**0.69**	**291**	P	**Pb**	**09 22 40.4**	**-1.0**
EL6				S	**Sb**	**09 22 51.0**	**0.0**
EL6				AML	AML		
	comp=E,2740μm,0.2s						
EL6				AML	AML		
	comp=N,3115μm,1.5s						
EL6				AML	AML		
	comp=E,2745μm,0.2s						
EL6				AML	AML		
	comp=N,3115μm,0.5s						
NRCA	**Norcia**	**0.69**	**249**	⇓P	**Pg**	**09 22 40.2**	**-0.5**
NRCA				S	**Sb**	**09 22 50.3**	**-0.6**
NRCA				AML	AML		
	comp=E,1740μm,0.1s						
NRCA				AML	AML		
	comp=N,1295μm,0.4s						
CAMP	**Campotosto**	**0.70**	**218**	P	**Pg**	**09 22 40.5**	**-0.3**
CAMP				AML	AML		
	comp=N,716μm,0.9s						
CAMP				AML	AML		
	comp=E,571μm,0.4s						
CAMP				AML	AML		
	comp=N,716μm,1.1s						
VCEL	**Villa Celiera**	**0.70**	**189**	P	**Pb**	**09 22 41.8**	**+0.2**
VCEL				AML	AML		
	comp=E,1080μm,1.1s						
VCEL				AML	AML		
	comp=N,1110μm,0.7s						
VCEL				AML	AML		
	comp=N,1110μm,1.3s						
GIGS	**Gran Sasso**	**0.71**	**206**	P	**Pb**	**09 22 41.2**	**-0.4**
GIGS				AML	AML		
	comp=E,230μm,0.6s						
GIGS				AML	AML		
	comp=N,164μm,0.3s						
GIGS				AML	AML		
	comp=E,230μm,0.6s						
MML1	**Montelago di S**	**0.75**	**272**	⇓P	**Pg**	**09 22 41.2**	**-0.5**
MML1				S	**Sb**	**09 22 52.5**	**0.0**
SNTG	**Esanatoglia**	**0.79**	**282**	⇓P	**Pg**	**09 22 41.8**	**-0.6**
SNTG				S	**Sb**	**09 22 54.0**	**+0.4**
SNTG				AML	AML		
	comp=E,870μm,0.6s						
SNTG				AML	AML		
	comp=N,1170μm,0.5s						
SNTG				AML	AML		
	comp=E,870μm,0.6s						
SNTG				AML	AML		
	comp=N,1070μm,0.4s						
SNTG				AML	AML		
	comp=E,854μm,0.6s						
SNTG				AML	AML		
	comp=N,1170μm,1.5s						
CESI	**CESI - Serrava**	**0.80**	**264**	⇓P	**Pb**	**09 22 42.2**	**-1.0**
CESI				S	**Sb**	**09 22 53.7**	**-0.3**
CESI				AML	AML		
	comp=E,868μm,1.1s						
CESI				AML	AML		
	comp=N,1440μm,0.5s						
RM33	**Pellescritta (**	**0.81**	**225**	P	**Pb**	**09 22 43.0**	**-0.4**
RM33				AML	AML		
	comp=N,958μm,0.3s						
RM33				AML	AML		
	comp=E,1012μm,1.1s						
RM33				AML	AML		
	comp=N,943μm,0.3s						
RM33				AML	AML		
	comp=E,1098μm,1.2s						
RM33				AML	AML		
	comp=E,1012μm,0.9s						
SENI	**Senigallia**	**0.83**	**318**	P	**Pn**	**09 22 44.7**	**-0.1**
SENI				AML	AML		
	comp=E,10590μm,0.3s						
SENI				AML	AML		
	comp=N,13650μm,0.4s						
SENI				AML	AML		
	comp=E,2755μm,1.4s						
SENI				AML	AML		
	comp=N,2040μm,0.7s						
SENI				AML	AML		
	comp=E,10630μm,0.3s						
SENI				AML	AML		
	comp=E,2760μm,1.4s						
SENI				AML	AML		
	comp=E,10630μm,1.7s						
SENI				AML	AML		
	comp=N,13650μm,1.6s						
SENI				AML	AML		
	comp=E,2760μm,0.6s						
LNSS	**Leonessa**	**0.85**	**235**	P	**Pg**	**09 22 43.0**	**-0.7**
LNSS				AML	AML		
	comp=E,1280μm,0.3s						
LNSS				AML	AML		
	comp=N,977μm,1.3s						
ARVD	**Arcevia**	**0.87**	**298**	P	**Pb**	**09 22 43.6**	**-0.7**
ARVD				AML	AML		
	comp=N,1615μm,0.7s						
ARVD				AML	AML		
	comp=E,1260μm,0.6s						
COR1	**Corinaldo**	**0.90**	**307**	P	**Pn**	**09 22 46.0**	**+0.1**
FOSV	**Fossato di Vic**	**0.92**	**283**	P	**Pg**	**09 22 44.2**	**-0.8**
FOSV				S	**Sn**	**09 22 58.6**	**-0.8**
FOSV				AML	AML		
	comp=E,1785μm,0.4s						
FOSV				AML	AML		
	comp=N,82600μm,0.6s						
FOSV				AML	AML		
	comp=E,1785μm,1.6s						
SSFR	**Montelago di S**	**0.95**	**292**	P	**Pb**	**09 22 45.0**	**-0.7**
SSFR				S	**Sn**	**09 22 59.4**	**-0.7**
SSFR				AML	AML		
	comp=E,3425μm,0.3s						
SSFR				AML	AML		
	comp=N,2695μm,0.6s						
SSFR				AML	AML		
	comp=E,3335μm,0.3s						
SSFR				AML	AML		
	comp=E,3425μm,0.3s						
SSFR				AML	AML		
	comp=N,2340μm,0.2s						
SSFR				AML	AML		
	comp=N,2695μm,1.4s						
ASSB	**Assisi San Ben**	**0.98**	**268**	⇓P	**Pg**	**09 22 45.1**	**-1.0**
ASSB				S	**Sn**	**09 23 00.0**	**-0.8**
ASSB				AML	AML		
	comp=E,1138μm,1.3s						
ASSB				AML	AML		
	comp=N,1825μm,0.8s						
ASSB				AML	AML		
	comp=E,1138μm,0.7s						
ASSB				AML	AML		
	comp=N,1825μm,1.2s						
ATCC	**AVT- Casa Cast**	**0.99**	**276**	P	**Pg**	**09 22 45.5**	**-0.9**
ATCC				S	**Sn**	**09 23 00.3**	**-0.8**
ATCC				AML	AML		
	comp=E,1650μm,0.5s						
ATCC				AML	AML		
	comp=N,1615μm,0.5s						
FRON	**Frontone**	**1.02**	**295**	⇑P	**Pb**	**09 22 46.3**	**-0.6**
FRON				S	**Sn**	**09 23 02.2**	**+0.4**
FRON				AML	AML		
	comp=E,2770μm,0.6s						
FRON				AML	AML		
	comp=N,3785μm,0.8s						
ARRO	**Arrone**	**1.03**	**241**	P	**Pn**	**09 22 47.3**	**-0.4**
ARRO				AML	AML		
	comp=E,464μm,1.4s						
ARRO				AML	AML		
	comp=N,476μm,1.6s						
ARRO				AML	AML		
	comp=N,476μm,0.4s						
FIAM	**Fiamignano**	**1.04**	**218**	AML	AML		
	comp=N,298μm,0.8s						
FIAM				AML	AML		
	comp=E,322μm,0.7s						
MPAG	**Monte Paganucc**	**1.05**	**301**	AML	AML		
	comp=E,2235μm,0.5s						
MPAG				AML	AML		
	comp=E,2030μm,0.4s						
MPAG				AML	AML		
	comp=N,1636μm,0.9s						
MPAG				AML	AML		
	comp=N,1344μm,0.7s						
MPAG				AML	AML		
	comp=E,2235μm,1.5s						
MPAG				AML	AML		
	comp=E,2030μm,1.6s						
MPAG				AML	AML		
	comp=N,1344μm,1.3s						
LPEL	**Lama dei Pelig**	**1.05**	**172**	AML	AML		
	comp=E,700μm,0.4s						
LPEL				AML	AML		
	comp=N,592μm,0.9s						
LPEL				AML	AML		
	comp=N,592μm,1.1s						
ATFO	**Monte Foce - G**	**1.07**	**285**	P	**Pb**	**09 22 47.2**	**-0.7**
ATFO				S	**Sn**	**09 23 03.0**	**-0.2**
ATFO				AML	AML		

	comp=E,2190μm,0.6s					
ATFO			AML	AML		
	comp=N,1510μm,0.4s					
INTR	**Introdacqua**	**1.08 183**	AML	AML		
	comp=N,1775μm,1.6s					
INTR			AML	AML		
	comp=E,1089μm,0.4s					
INTR			AML	AML		
	comp=N,1730μm,0.4s					
INTR			AML	AML		
	comp=E,750μm,0.4s					
INTR			AML	AML		
	comp=N,1775μm,0.4s					
MOMA	**Monte Martano**	**1.08 255**	P	**Pg**	**09 22 47.3**	**-0.8**
MOMA			S	**Sn**	**09 23 03.7**	**+0.3**
MOMA			AML	AML		
	comp=E,940μm,0.8s					
MOMA			AML	AML		
	comp=N,882μm,0.6s					
MOMA			AML	AML		
	comp=E,987μm,0.8s					
MOMA			AML	AML		
	comp=N,962μm,0.6s					
MOMA			AML	AML		
	comp=E,987μm,1.2s					
MOMA			AML	AML		
	comp=E,940μm,1.2s					
MURB	**Monte Urbino**	**1.09 280**	⇓P	**Pb**	**09 22 47.3**	**-0.8**
MURB			S	**Sn**	**09 23 04.5**	**+1.0**
MURB			AML	AML		
	comp=E,4225μm,0.4s					
MURB			AML	AML		
	comp=N,5305μm,0.9s					
MURB			AML	AML		
	comp=E,4045μm,0.4s					
MURB			AML	AML		
	comp=N,5080μm,0.9s					
CESX	**Cesi**	**1.14 246**	P	**Pn**	**09 22 49.2**	**0.0**
CESX			AML	AML		
	comp=E,660μm,0.8s					
CESX			AML	AML		
	comp=N,866μm,0.7s					
NARO	**Abbazia di Nar**	**1.15 297**	P	**Pn**	**09 22 48.9**	**-0.4**
NARO			S	**Sn**	**09 23 05.8**	**+0.8**
NARO			AML	AML		
	comp=E,782μm,1.4s					
NARO			AML	AML		
	comp=N,584μm,0.7s					
NARO			AML	AML		
	comp=E,782μm,0.6s					
PIEI	**Pieia**	**1.15 293**	⇑P	**Pn**	**09 22 48.7**	**-0.6**
PIEI			S	**Sn**	**09 23 06.1**	**+1.0**
PIEI			AML	AML		
	comp=N,886μm,0.2s					
PIEI			AML	AML		
	comp=E,1055μm,0.4s					
PTQR	**Pietraquaria**	**1.15 202**	AML	AML		
	comp=E,310μm,0.7s					
PTQR			AML	AML		
	comp=N,341μm,0.9s					
ATVO	**AVT- Monte Val**	**1.19 285**	⇓P	**Pb**	**09 22 49.1**	**-0.8**
ATVO			S	**Sn**	**09 23 07.0**	**+0.9**
ATVO			AML	AML		
	comp=E,1320μm,0.6s					
ATVO			AML	AML		
	comp=N,1112μm,0.5s					
ATVO			AML	AML		
	comp=E,1320μm,1.4s					
ATPI	**Pietralunga -**	**1.21 288**	P	**Pn**	**09 22 49.5**	**-0.7**
ATPI			S	**Sn**	**09 23 07.9**	**+1.2**
ATPI			AML	AML		
	comp=E,1260μm,0.5s					
ATPI			AML	AML		
	comp=N,845μm,0.6s					
APEC	**Apecchio**	**1.24 293**	P	**Pg**	**09 22 50.4**	**-0.6**
APEC			S	**Sn**	**09 23 08.0**	**+0.8**
APEC			AML	AML		
	comp=E,1240μm,1.2s					
APEC			AML	AML		
	comp=N,2170μm,0.7s					
APEC			AML	AML		
	comp=N,1625μm,0.6s					
APEC			AML	AML		
	comp=N,1625μm,1.4s					
APEC			AML	AML		
	comp=E,1395μm,0.5s					
APEC			AML	AML		
	comp=E,1240μm,0.8s					
APEC			AML	AML		
	comp=N,2170μm,1.3s					
PE3	**Peglio**	**1.25 300**	P	**Pg**	**09 22 51.3**	**+0.1**
PE3			AML	AML		
	comp=N,5835μm,0.4s					
PE3			AML	AML		
	comp=E,3475μm,0.5s					
PE3			AML	AML		
	comp=N,5835μm,1.6s					
VVLD	**Villa Vallelon**	**1.25 193**	AML	AML		
	comp=N,438μm,1.3s					
VVLD			AML	AML		
	comp=E,310μm,0.6s					
VVLD			AML	AML		
	comp=E,310μm,1.4s					
ATMI	**Monte Miggiano**	**1.28 282**	P	**Pg**	**09 22 52.5**	**+0.6**
ATMI			AML	AML		
	comp=E,1220μm,0.7s					
ATMI			AML	AML		
	comp=N,1037μm,0.7s					
ATMI			AML	AML		
	comp=N,1037μm,1.3s					
BADI	**Badiali**	**1.34 289**	P	**Pg**	**09 22 52.0**	**-1.0**
BADI			AML	AML		
	comp=E,610μm,1.3s					
BADI			AML	AML		
	comp=N,662μm,0.4s					
BADI			AML	AML		
	comp=E,610μm,0.7s					
CERT	**Cerreto**	**1.36 214**	AML	AML		
	comp=N,431μm,0.7s					
CERT			AML	AML		
	comp=E,436μm,0.6s					
GUAR	**Guarcino**	**1.39 201**	AML	AML		
	comp=N,495μm,0.7s					
GUAR			AML	AML		
	comp=E,366μm,0.5s					
PARC	**Parchiule**	**1.39 294**	P	**Pb**	**09 22 52.6**	**-0.7**
PARC			AML	AML		
	comp=N,588μm,1.0s					
PARC			AML	AML		
	comp=E,842μm,0.6s					
MIDA	**Miranda**	**1.46 172**	P	**Pg**	**09 22 54.6**	**-0.7**
MIDA			AML	AML		
	comp=N,294μm,0.7s					
MIDA			AML	AML		
	comp=E,318μm,1.0s					
LRP	**Arpino**	**1.47 192**	AML	AML		
	comp=E,300μm,1.0s					
LRP			AML	AML		
	comp=N,208μm,1.0s					
LRP			AML	AML		
	comp=N,208μm,1.0s					
CERA	**Filignano**	**1.49 179**	AML	AML		
	comp=E,571μm,1.0s					
CERA			AML	AML		
	comp=N,600μm,0.5s					
CERA			AML	AML		
	comp=N,614μm,0.6s					
CERA			AML	AML		
	comp=E,571μm,1.0s					
CERA			AML	AML		
	comp=N,614μm,1.4s					
CERA			AML	AML		
	comp=E,580μm,1.0s					
CERA			AML	AML		
	comp=N,600μm,1.5s					
CAFI	**Castiglion Fio**	**1.50 280**	P	**Pg**	**09 22 54.8**	**-1.2**
CAFI			AML	AML		
	comp=E,340μm,0.6s					
CAFI			AML	AML		
	comp=N,568μm,0.7s					
CAFI			AML	AML		
	comp=E,340μm,1.4s					
SACS	**San Casciano d**	**1.55 262**	P	**Pg**	**09 22 56.1**	**-0.8**
SACS			AML	AML		
	comp=E,212μm,0.7s					
SACS			AML	AML		
	comp=N,254μm,0.7s					
VAGA	**Valle Agricola**	**1.68 174**	AML	AML		
	comp=N,262μm,0.7s					
VAGA			AML	AML		
	comp=E,150μm,1.0s					
ASQU	**Asqua**	**1.75 295**	P	**Pg**	**09 22 59.9**	**-1.0**
ASQU			AML	AML		
	comp=E,266μm,0.6s					
ASQU			AML	AML		
	comp=N,267μm,0.7s					
APRC	**Apricena**	**1.76 139**	P	**Pb**	**09 22 59.0**	**-0.5**
APRC			AML	AML		
	comp=E,336μm,1.2s					
APRC			AML	AML		
	comp=N,325μm,0.6s					
APRC			AML	AML		
	comp=E,336μm,0.8s					
BRJN	**Brijuni**	**1.82 355**	P	**Pb**	**09 22 59.1**	**-1.5**
VITU	**Vitulano (BN)**	**1.96 166**	AML	AML		
	comp=E,160μm,0.4s					
VITU			AML	AML		
	comp=N,174μm,0.5s					
A050A	**Klekovaca**	**2.31 52**	*e*Pn	**Pb**	**09 23 09.2**	**+0.3**
FNVD	**Fontana Vidola**	**2.34 298**	AML	AML		
	comp=E,220μm,1.0s					
FNVD			AML	AML		
	comp=N,305μm,0.8s					
SKDS	**Skadanscina**	**2.46 0**	*e*Pn	**Pn**	**09 23 07.3**	**0.0**
MCRV	**Calabrutti - M**	**2.47 159**	AML	AML		
	comp=N,73μm,0.6s					
MCRV			AML	AML		
	comp=E,84μm,0.7s					
CEY	**Cerknica**	**2.67 7**	*e*Pn	**Pg**	**09 23 15.9**	**-2.5**
STON	**Ston**	**2.73 93**	*e*Pn	**Pn**	**09 23 12.5**	**+1.5**
BLY	**Banja Luka**	**2.84 53**	*e*Pn	**Pg**	**09 23 19.1**	**-2.6**
A051A	**Mrakovica**	**2.85 47**	*e*Pn	**Pb**	**09 23 15.5**	**-2.6**
TREB	**Trebinje**	**3.23 95**	*e*Pn	**Pb**	**09 23 22.7**	**-1.8**
OBKA	**Obir**	**3.44 6**	*i* Pn	**Pn**	**09 23 22.2**	**+1.3**
	comp=E,9.0nm,0.5s					
OBKA	**Obir**	**3.44 6**	*e*Pn	**Pb**	**09 23 26.2**	**-2.1**
SOKA	**Soboth**	**3.66 11**	Pg	**Pg**	**09 23 38.3**	**+0.9**
	comp=E,2.2nm,0.3s					
ABTA	**Abfaltersbach**	**3.81 345**	*e*Pn	**Pn**	**09 23 27.3**	**+1.5**
	comp=E,5.7nm,0.2s					
ABTA			*i* Sn	**Sn**	**09 24 11.1**	**+0.5**
	comp=E,18nm,0.5s					
DRME	**Dracevica, Mon**	**3.94 101**	*e*Pn	**Pn**	**09 23 30.1**	**+2.5**
KBA	**Koelnbreinsper**	**4.01 354**	*e*Pn	**Pn**	**09 23 30.3**	**+1.5**
	comp=E,1.4nm,0.5s					
LESA	**Schwarzleotal**	**4.43 348**	*e*Pn	**Pn**	**09 23 36.2**	**+1.7**
	comp=E,9.1nm,0.3s,SNR=9.8					
LESA			*e*Sn	**Sn**	**09 24 28.9**	**+2.9**
	comp=E,16nm,0.3s					
WTTA	**Wattenberg**	**4.49 339**	*i* Pn	**Pn**	**09 23 37.5**	**+2.1**
	comp=E,3.1nm,0.2s,SNR=7.2					
WTTA			*e*Sn	**Sn**	**09 24 31.0**	**+3.3**
	comp=E,14nm,0.4s					
FETA	**Feichten**	**4.56 331**	*i* Pn	**Pn**	**09 23 38.5**	**+2.2**
	comp=E,2.6nm,0.4s					
SQTA	**Sankt Quirin**	**4.58 336**	*i* Pn	**Pn**	**09 23 38.8**	**+2.3**
	comp=E,21nm,0.4s,SNR=9.1					
WATA	**Walderalm**	**4.58 339**	*e*Pn	**Pn**	**09 23 38.8**	**+2.3**
	comp=E,7.5nm,0.2s,SNR=7.2					
MOTA	**Moosalm**	**4.72 335**	*i* Pn	**Pn**	**09 23 40.7**	**+2.2**
	comp=E,2.4nm,0.2s					
RETA	**Reutte**	**4.95 334**	*e*Pn	**Pn**	**09 23 44.8**	**+3.3**
	comp=E,3.0nm,0.2s					
CONA	**Conrad Observa**	**5.01 15**	*e*Pn	**Pn**	**09 23 44.4**	**+1.9**
	comp=E,1.7nm,0.4s					
DAVA	**Damuels**	**5.10 327**	*i* Pn	**Pn**	**09 23 46.9**	**+3.1**
	comp=E,2.9nm,0.3s					
KHC	**Kasperske Hory**	**6.05 357**	*e*PN	**Pn**	**09 23 57.4**	**+0.8**
KHC			*e*SN	**Sn**	**09 25 04.3**	**-1.5**

*NEIC **28** 09:26:51.8±0.5, 19°.37N±0°.02×154°.79W±0°.03, h5^{km}±2^{km}, Error ellipse: s-maj=4.7km s-min=3.0km az=294.0*

HVO 28 09:26:52.6±1.1, 19°.42N±0°.02×154°.86W±0°.03, h2^{km}±7^{km}, ML2.4/26, ML2.5/36(NEIC), Error ellipse: s-maj=4.4km s-min=1.8km az=108.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.13 275**			Pg	09 26 55.9	+0.7
JOKA					Sg	09 26 58.5	+1.5
JOKA	**Jonika Flow**	**0.13 275**		IAML		09 26 58.9	
	comp=N,1μm,0.4s						
JOKA				IAML		09 26 59.5	
	comp=E,734nm,0.4s						
JCUZ	**Jacuzzi**	**0.23 260**			Pg	09 26 57.6	+0.7
JCUZ					Sg	09 27 01.4	+1.4
NPOC	**North of Pu'u**	**0.23 263**			Pg	09 26 57.5	+0.5
NPOC					Sg	09 27 01.8	+1.6
STCH	**Steam Cracks**	**0.25 262**			Pg	09 26 57.8	+0.4
STCH					Sg	09 27 02.4	+1.8
STCH	**Steam Cracks**	**0.25 262**		IAML		09 27 03.2	
	comp=N,512nm,0.2s						
STCH				IAML		09 27 03.4	
	comp=E,958nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.29 262**			Pg	09 26 58.7	+0.5
PUH	**Pauahi**	**0.34 262**			Pg	09 26 59.4	+0.3
PUH					Sg	09 27 04.8	+1.3
PUH	**Pauahi**	**0.34 262**		IAML		09 27 05.2	
	comp=E,788nm,0.2s						
PUH				IAML		09 27 05.7	
	comp=N,596nm,0.4s						
BYL	**Byron's Ledge**	**0.38 268**			Pg	09 27 00.2	+0.4
BYL					Sg	09 27 05.8	+1.2
BYL	**Byron's Ledge**	**0.38 268**		IAML		09 27 06.2	
	comp=N,273nm,0.7s						
BYL				IAML		09 27 11.0	
	comp=E,332nm,0.3s						
HATHI	**Halema'uma'u T**	**0.38 270**			Pg	09 26 59.9	+0.1
HATHI					Sg	09 27 05.5	+0.8
HATHI	**Halema'uma'u T**	**0.38 270**		IAML		09 27 06.2	
	comp=N,601nm,0.3s						
HATHI				IAML		09 27 07.4	
	comp=E,377nm,0.3s						
KKO	**Keanakako'i**	**0.38 266**			Pg	09 27 00.1	+0.2
KKO					Sg	09 27 06.1	+1.2
SBLHI	**Steaming Bluff**	**0.38 271**			Pg	09 27 00.0	+0.1
SBLHI					Sg	09 27 06.1	+1.2
RIM	**Rim**	**0.39 266**			Pg	09 27 00.5	+0.4
RIM					Sg	09 27 06.3	+1.2
UWB	**Uwekahuna Bluf**	**0.39 270**			Pg	09 27 00.4	+0.3
UWB					Sg	09 27 06.3	+1.1
RSD	**Rainshed**	**0.39 276**			Pg	09 27 00.5	+0.3
RSD					Sg	09 27 06.7	+1.4
OBL	**Observatory Le**	**0.40 269**			Pg	09 27 00.6	+0.4
OBL					Sg	09 27 06.7	+1.3
UWE	**Uwekahuna**	**0.41 270**			Pg	09 27 00.7	+0.3
UWE					Sg	09 27 07.0	+1.4
UWE	**Uwekahuna**	**0.41 270**		IAML		09 27 08.3	
	comp=E,439nm,0.3s						
UWE				IAML		09 27 12.5	
	comp=N,526nm,1.4s						
SDHHI	**Sand Hill**	**0.41 265**			Pg	09 27 01.1	+0.6
SDHHI					Sg	09 27 06.8	+1.1
WRMHI	**West Rim**	**0.41 268**			Pg	09 27 00.9	+0.4
WRMHI					Sg	09 27 07.0	+1.2
HLP	**Hilina Pali**	**0.44 253**			Pg	09 27 01.5	+0.5
HLP					Sg	09 27 08.0	+1.3
HLP	**Hilina Pali**	**0.44 253**		IAML		09 27 08.6	
	comp=N,595nm,0.3s						
HLP				IAML		09 27 08.6	
	comp=E,479nm,0.3s						
MLH	**Mauna Loa**	**0.50 278**			Pg	09 27 02.3	+0.2
MLH					Sg	09 27 09.6	+0.9
MLH	**Mauna Loa**	**0.50 278**		IAML		09 27 10.1	
	comp=E,235nm,0.8s						
MLH				IAML		09 27 14.4	
	comp=N,279nm,0.3s						
HTC	**Hot Caves**	**0.54 250**			Pg	09 27 02.9	0.0
HMH	**Humu'ula Sheep**	**0.61 287**			Pg	09 27 04.1	-0.2
HMH					Sg	09 27 13.1	+0.8
POHA	**Pohakuloa**	**0.71 298**			Pg	09 27 05.7	-0.6
KHU	**Kahuku**	**0.73 256**		IAML		09 27 16.6	
	comp=E,196nm,2.2s						
HUH	**Hualalai**	**0.95 286**		Pn	Pb	09 27 11.8	-0.2
HPAH	**Hawaii Prepara**	**0.99 308**			Pb	09 27 13.0	+0.5
HPAH				IAML		09 27 24.4	
	comp=N,102nm,4.4s						
HPAH				IAML		09 27 34.9	
	comp=E,93nm,1.6s						

AFAD 28 09:30:30.0, 37°.46N×29°.41E, h24^{km}±8^{km}, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.25 152**		P	Pb	09 30 37.2	+0.8
GOLH				S	Sn	09 30 42.7	-0.8
GOLH				*i* AML	AML	09 30 43.0	
	comp=N,44nm,0.2s						
GOLH				*i* AML	AML	09 30 43.0	
	comp=E,53nm,0.1s						
INCE	**Denizli-Bozkur**	**0.28 27**		P	Pb	09 30 37.3	+0.6
INCE				S	Sb	09 30 42.3	+0.9
INCE				*i* AML	AML	09 30 43.0	
	comp=N,32nm,0.4s						
INCE				*i* AML	AML	09 30 43.0	
	comp=E,34nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.34 299**		P	Pn	09 30 38.9	-0.7
DNIZ				S	Sn	09 30 44.9	-0.8
DNIZ				*i* AML	AML	09 30 45.0	
	comp=N,83nm,0.2s						
DNIZ				*i* AML	AML	09 30 45.0	
	comp=E,138nm,0.2s						
DNZT	**Denizli-Tavas-**	**0.36 240**		P	Pb	09 30 38.3	+0.4
DNZT				S	Sn	09 30 45.2	-0.9
TAVA	**DENIZLI_Tavas**	**0.40 271**		P	Pn	09 30 39.7	-0.7
TAVA				S	Sn	09 30 46.5	-0.6

ISK 28 09:31:16.4, 37°.16N×28°.15E, h0^{km}, ML1.4/7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.11 101**		Pg	Pg	09 31 19.1	+0.7
YER				Sg	Sg	09 31 21.1	+1.3
MLSB	**Milas**	**0.33 295**		Pg	Pg	09 31 23.9	+1.1
MLSB				Sg	Sb	09 31 29.1	-2.0
TURN	**Turunc**	**0.39 169**		Pg	Pg	09 31 24.9	+1.1
DALY	**Dalyan (Mula)**	**0.52 130**		Pg	Pb	09 31 27.5	-1.0
DALY				Sg	Sb	09 31 35.7	-0.9
AYDN	**Tasoluk**	**0.55 337**		P	Pg	09 31 26.4	-0.6
AYDN				S	Sg	09 31 33.6	-0.4
DAT	**Datca**	**0.63 227**		Pg	Pb	09 31 29.5	-0.8
BODT	**Bodrum**	**0.68 262**		Pg	Pb	09 31 30.4	-0.7
BODT				Sg	Sb	09 31 40.7	-0.4
YAZI	**Mula-Dat§a-**	**0.73 230**		P	Pb	09 31 32.1	+0.1
YAZI				S	Sn	09 31 46.6	+0.7
AYDB	**Zeytinkoy-Aydi**	**0.82 345**		Pg	Pb	09 31 33.2	-0.4

NNC 28 09:34:41.3±12.0, 37°.14N×70°.29E, h0^{km}, mb3.9, mpv3.5, 4C-2D, Error ellipse: s-maj=96.4km s-min=86.1km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.96 2**		⇑P	Pn	09 36 12.7	+1.9
	3.1nm,0.3s,baz=196,slow=15,SNR=64						
KK31				⇑S	Sn	09 37 22.2	+2.3
	0.6nm,0.3s,baz=186,slow=21,SNR=4.7						
AAK	**Ala-Archa**	**6.37 29**		⇑P	Pn	09 36 17.0	+0.4
	1.0nm,0.4s						
AAK				⇑S	Sn	09 37 30.9	+0.7
	2.1nm,0.5s						
TKM2	**Tokmak 2**	**7.07 34**		⇓P	Pn	09 36 24.6	-1.5
	2.4nm,0.6s						
TKM2				⇓S	Sn	09 37 46.4	-0.9
	0.7nm,0.6s						

IDC 28 09:39:43.5±10.0, 31°.35S×176°.77W, h0^{km}, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=482.7km s-min=58.6km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.12 267**		P	P	09 47 54.0	+0.1
	0.2nm,0.5s,baz=112,slow=7.9,SNR=5.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**45.19 272**		P	P	09 48 02.2	-0.2
	0.8nm,0.7s,baz=114,slow=7.9,SNR=18						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**146.40 340**		PKPbc	PKPdf	09 59 24.8	+0.4
	1.6nm,0.8s,baz=51,slow=1.7,SNR=5.4						

*IDC **28** 09:39:51.8±5.0, 25°.10S×68°.66W, h81^{km}±43^{km}, mb3.4/4, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=45.3km s-min=29.2km az=86.0*

*GUC **28** 09:39:53.9±0.8, 25°.11S×69°.11W, h110^{km}±4^{km}, ML3.7*

*SJA **28** 09:39:53.3±1.1, 25°.10S×68°.98W, h80^{km}, ML3.4, MW3.6*

ISC 28 09:39:54.2±0.8, 25°.10S±0°.04×69°.10W±0°.05, h105^{km}±7^{km}, n38, σ1°.03/48, mb3.7/4, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.45 262**		*i* P	**Pn**	**09 40 10.1**	**-0.3**
GO02				*e*S	**Sn**	**09 40 22.7**	**0.0**
GO02				IAML		09 40 24.2	
GO02	**Mina Guanaco**	**0.45 262**		*i* P	**Pn**	**09 40 10.2**	**-0.3**
GO02				*e*S	**Sn**	**09 40 22.8**	**+0.1**
PB14	**IPOC Station P**	**1.27 292**		*e*P	**Pn**	**09 40 18.6**	**+0.3**
PB14				*e*S	**Sn**	**09 40 37.6**	**+1.0**
PB14	**IPOC Station P**	**1.27 292**		*i* P	**Pn**	**09 40 18.7**	**+0.3**
PB14				*e*S	**Sn**	**09 40 37.7**	**+1.0**
PB14				IAML		09 40 39.0	
	comp=Z,692nm,0.4s						
AC01	**Pan de Azucar**	**1.71 232**		*e*P	**Pn**	**09 40 23.2**	**-0.1**
AC01				*e*S	**Sn**	**09 40 45.3**	**-0.1**
AC01				IAML		09 40 53.2	
	comp=E,517nm,0.3s						
AC01	**Pan de Azucar**	**1.71 232**		*i* P	**Pn**	**09 40 22.4**	**-0.8**
AC01				IAML		09 40 47.7	
	comp=Z,269nm,0.3s						
AC02	**Maricunga**	**1.73 181**		*e*P	**Pn**	**09 40 23.9**	**-0.1**
AC02				*e*S	**Sn**	**09 40 47.0**	**+0.4**
AC02				IAML		09 40 50.1	
	comp=E,593nm,0.2s						
AC02	**Maricunga**	**1.73 181**		*i* P	**Pn**	**09 40 24.0**	**0.0**
AC02				*i* P		09 40 24.1	
AC02				*e*S	**Sn**	**09 40 46.8**	**+0.2**
AC02				*e*S		09 40 47.1	
AC02				IAML		09 40 49.9	
	comp=Z,240nm,0.5s						
AF01	**San Pedro de A**	**2.30 22**		*e*P	**Pn**	**09 40 31.6**	**+0.5**
AF01				*e*S	**Sn**	**09 41 00.5**	**+1.1**
AF01	**San Pedro de A**	**2.30 22**		*i* P	**Pn**	**09 40 31.3**	**+0.1**
AF01				*e*S	**Sn**	**09 40 59.8**	**+0.4**
AF01				IAML		09 41 04.9	
	comp=Z,552nm,0.4s						
PB06	**IPOC Station P**	**2.42 350**		*i* P	**Pn**	**09 40 32.8**	**+0.2**
PB06				*e*S	**Sn**	**09 41 02.7**	**+0.7**
PB06				IAML		09 41 06.3	
	comp=E,483nm,0.4s						
PB06	**IPOC Station P**	**2.42 350**		*i* P	**Pn**	**09 40 32.9**	**+0.2**
PB06				IAML		09 41 10.3	
	comp=Z,269nm,0.3s						
PB05	**IPOC Station P**	**2.46 336**	⇑	*i* P	**Pn**	**09 40 33.0**	**0.0**
PB05	**IPOC Station P**	**2.46 336**		*i* P	**Pn**	**09 40 32.4**	**-0.6**
PB05				IAML		09 41 13.7	
	comp=Z,161nm,0.3s						
AC06	**Mina Casimiro**	**2.51 206**		*e*P	**Pn**	**09 40 33.7**	**+0.1**
AC06				*e*S	**Sn**	**09 41 07.2**	**+3.3**
GO03	**Copiapo**	**2.68 202**		*e*P	**Pn**	**09 40 35.0**	**-0.9**
GO03	**Copiapo**	**2.68 202**		*i* P	**Pn**	**09 40 34.5**	**-1.4**
FSA	**Cafayete**	**2.99 110**		*i* P	**Pn**	**09 40 39.6**	**-0.5**
PB09	**IPOC Station P**	**3.29 358**		*e*P	**Pn**	**09 40 44.4**	**+0.3**
PB09	**IPOC Station P**	**3.29 358**		*i* P	**Pn**	**09 40 43.9**	**-0.3**
PB09				IAML		09 41 32.9	
	comp=Z,131nm,0.4s						
AC04	**Llanos de Chal**	**3.56 209**		*i* P	**Pn**	**09 40 46.0**	**-1.5**
AC04				IAML		09 41 44.2	
	comp=Z,126nm,0.5s						
VCA	**Vinchina**	**3.71 168**		*i* P	**Pn**	**09 40 49.8**	**+0.2**
VCA				IAML		09 41 41.7	
	comp=Z,15nm,0.9s						
AC05	**El Transito**	**3.86 195**		*e*P	**Pn**	**09 40 50.8**	**-1.0**
AC05	**El Transito**	**3.86 195**		*i* P	**Pn**	**09 40 50.7**	**-1.0**
AC05				IAML		09 41 43.5	
	comp=Z,73nm,0.8s						
PB01	**IPOC Station P**	**4.05 355**		*i* P	**Pn**	**09 40 53.2**	**-1.1**
PB01				IAML		09 41 55.2	
	comp=Z,117nm,0.3s						
LCO	**Las Campanas**	**4.15 200**		*i* P	**Pn**	**09 40 53.4**	**-2.3**

LCO				IAML		09 41 55.3	
	comp=Z,131nm,0.2s						
ACLC	**CERRO LA CRUZ**	**4.71 157**	*i* P		**Pn**	**09 41 02.6**	**-0.6**
ACLC				IAML		09 41 57.7	
	comp=Z,4.3nm,0.4s						
CO01	**Juntas del Tor**	**4.94 190**	*i* P		**Pn**	**09 41 06.0**	**-0.3**
CO01				IAML		09 42 15.3	
	comp=Z,12nm,0.8s						
PB08	**IPOC Station P**	**4.94 359**	*i* P		**Pn**	**09 41 04.9**	**-1.6**
PB08				IAML		09 42 28.5	
	comp=Z,24nm,0.2s						
ACDV	**Cuesta del Vie**	**5.05 180**	*i* P		**Pn**	**09 41 07.8**	**0.0**
ACDV				IAML		09 42 39.5	
	comp=Z,9.8nm,1.8s						
AROD	**Rodeo**	**5.06 184**	*i* P		**Pn**	**09 41 08.4**	**+0.4**
LPAZ	**La Paz**	**8.82 6**	P		**Pn**	**09 41 57.0**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=1.6						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**63.49 326**	P		**P**	**09 50 14.5**	**+1.1**
	comp=Z,0.1nm,0.7s,baz=147,slow=7.5,SNR=1.7						
	comp=Z,0.1nm,0.7s						
QSPA	**South Pole Qui**	**65.11 180**	P		**P**	**09 50 23.7**	**+0.2**
	comp=Z,1.6nm,1.0s,baz=339,slow=1.8,SNR=7.5						
	comp=Z,1.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**78.75 70**	P		**P**	**09 51 43.4**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=261,slow=4.8,SNR=7.4						
	comp=Z,0.7nm,0.5s						
YKA	**Yellowknife Ar**	**94.51 341**	P		**P**	**09 53 02.8**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=136,slow=4.5,SNR=5.2						
	comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**144.39 36**	PKP		PKPbc	09 59 17.2	+0.7
	comp=Z,0.5nm,0.5s,baz=281,slow=1.2,SNR=5.7						
MKAR	**Makanchi Array**	**148.59 39**	PKPbc		**PKPbc**	**09 59 29.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=305,slow=2.9,SNR=7.6						

IDC 28 09:52:39.9±8.0, 6°.83S×128°.22E, h340km±94km, mb2.9/2, mbtmp4.0/5, Error ellipse: s-maj=65.4km s-min=35.7km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.48 192**		P	Pn	09 55 15.4	-0.1
	3.3nm,0.3s,baz=11,slow=12,SNR=30						
FITZ				S	S	09 57 21.9	-2.1
	1.5nm,0.8s,baz=16,slow=23,SNR=1.3						
WRA	**Warramunga Arr**	**14.32 156**		P	P	09 55 47.1	-0.6
	1.5nm,0.5s,baz=336,slow=10,SNR=58						
WRA				S	S	09 58 24.6	+1.1
	0.3nm,0.8s,baz=334,slow=19,SNR=1.6						
ASAR	**Alice Springs**	**17.61 163**		P	P	09 56 23.5	+0.2
	6.7nm,0.5s,baz=344,slow=12,SNR=193						
MKAR	**Makanchi Array**	**67.12 328**		P	P	10 02 57.8	0.0
	0.2nm,0.5s,baz=122,slow=7.9,SNR=2.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.45 329**		P	P	10 03 23.9	0.0
	0.5nm,0.7s,baz=125,slow=5.8,SNR=2.5						
	0.5nm,0.7s						

*IDC **28** 09:55:36.3±1.2, 43°.13N×13°.77E, h0km, mb3.8/6, mbtmp3.7/10, ML2.8/4, Error ellipse: s-maj=27.7km s-min=14.1km az=90.0*
*MOS **28** 09:55:37.8±0.9, 43°.20N×14°.04E, h13km, mb4.4/4, Error ellipse: s-maj=12.3km s-min=8.0km az=77.2*
*PDG **28** 09:55:37.1±0.9, 43°.14N×13°.95E, h7km±1km, ML3.7/6, Error ellipse: s-maj=1.0km s-min=1.5km az=0.0*
*ROM **28** 09:55:37.6±0.1, 43°.104N±0°.005×13°.946E±0°.010, h8km, ML3.6/290, Error ellipse: s-maj=0.7km s-min=0.5km az=249.0*
*BEO **28** 09:55:38.4±0.9, 42°.85N×13°.96E, h0km, ML3.6/10*
*PRU **28** 09:55:41.2, 43°.28N×14°.16E, h10km*
ISC 28 09:55:38.3±0.8, 43°.11N±0°.02×13°.92E±0°.02, h14km±5km, n219, σ1§26/264, mb4.1/11, 13C-37D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CADA	**Capodarco di F**	**0.14 306**		⇓*e*P	**Pg**	**09 55 41.7**	**-0.2**
CADA				S	**Sg**	**09 55 45.1**	**+0.7**
CADA				AML	AML		
	comp=N,52810μm,0.3s						
MNTT	**Montottone**	**0.24 259**		AML	AML		
	comp=N,50050μm,0.4s						
MNTT				AML	AML		
	comp=E,68300μm,1.6s						
MNTT				AML	AML		
	comp=E,51200μm,0.5s						
MNTT				AML	AML		
	comp=N,48450μm,0.3s						
OFFI	**Offida**	**0.24 225**		⇓P	**Pg**	**09 55 44.1**	**+0.6**
OFFI				AML	AML		
	comp=E,45000μm,0.5s						
OFFI				AML	AML		
	comp=E,31650μm,1.3s						
OFFI				AML	AML		
	comp=N,31700μm,0.4s						
OFFI				AML	AML		
	comp=E,44993μm,0.5s						
OFFI				AML	AML		
	comp=N,32507μm,0.4s						
CIMA	**Civitanova Mar**	**0.27 317**		⇓P	**Pb**	**09 55 44.5**	**-0.4**
CIMA				S	**Sb**	**09 55 50.6**	**+1.2**
CIMA				AML	AML		
	comp=E,24300μm,1.1s						
CIMA				AML	AML		
	comp=N,30400μm,0.6s						
CIMA				AML	AML		
	comp=E,24250μm,1.1s						
CIMA				AML	AML		
	comp=N,30400μm,0.6s						
CIMA				AML	AML		
	comp=E,17990μm,0.6s						
CIMA				AML	AML		
	comp=N,25253μm,0.4s						
TRTR	**Tortoreto Alta**	**0.30 181**		⇑P	**Pb**	**09 55 45.8**	**+0.3**
TRTR				AML	AML		
	comp=E,78000μm,1.0s						
TRTR				AML	AML		
	comp=N,83600μm,0.7s						
TRTR				AML	AML		
	comp=E,67800μm,0.4s						
TRTR				AML	AML		
	comp=N,83620μm,0.7s						
MNTP	**Montappone**	**0.33 275**		P	**Pg**	**09 55 45.4**	**+0.3**
MNTP				S	**Sb**	**09 55 52.0**	**+0.8**
MNTP				AML	AML		
	comp=E,17250μm,0.5s						
MNTP				AML	AML		
	comp=E,14900μm,0.5s						
MNTP				AML	AML		
	comp=N,12400μm,1.2s						
MNTP				AML	AML		
	comp=E,14900μm,0.8s						
MNTP				AML	AML		
	comp=N,9648μm,0.4s						
MNTP				AML	AML		
	comp=N,12235μm,0.5s						
MNTP				AML	AML		
	comp=E,21088μm,0.8s						
PP3	**Marolino**	**0.35 320**		P	**Pb**	**09 55 46.0**	**-0.3**
MF5	**Montefalcone A**	**0.36 250**		⇓P	**Pg**	**09 55 45.9**	**+0.4**
MF5				AML	AML		
	comp=E,22450μm,0.5s						
MF5				AML	AML		
	comp=N,12800μm,1.2s						
MF5				AML	AML		
	comp=E,12450μm,0.3s						
MF5				AML	AML		
	comp=N,10500μm,0.4s						
MF5				AML	AML		
	comp=E,12430μm,0.3s						
MF5				AML	AML		
	comp=N,10530μm,0.4s						
MF5				AML	AML		
	comp=E,24962μm,0.6s						
MF5				AML	AML		
	comp=N,12215μm,0.5s						
SAP2	**Sant'Angelo in**	**0.38 268**		AML	AML		
	comp=E,10405μm,0.5s						
SAP2				AML	AML		
	comp=E,10400μm,0.5s						
SAP2				AML	AML		
	comp=N,51650μm,0.4s						
SAP2				AML	AML		
	comp=E,10395μm,0.5s						
SAP2				AML	AML		
	comp=E,10400μm,0.5s						
SAP2				AML	AML		
	comp=N,51644μm,0.4s						
GUMA	**Gualdo di Mace**	**0.43 264**		P	**Pg**	**09 55 46.8**	**-0.1**
GUMA				S	**Sb**	**09 55 54.6**	**+0.5**
GUMA				AML	AML		
	comp=E,21800μm,0.4s						
GUMA				AML	AML		
	comp=N,25000μm,0.3s						
GUMA				AML	AML		
	comp=E,29150μm,0.4s						
GUMA				AML	AML		
	comp=N,22500μm,0.4s						
GUMA				AML	AML		
	comp=N,22529μm,0.4s						
GUMA				AML	AML		
	comp=E,21803μm,0.4s						
GUMA				AML	AML		
	comp=E,29152μm,0.4s						
GUMA				AML	AML		
	comp=N,24967μm,0.3s						
MMO1	**Montemonaco**	**0.48 244**		⇓P	**Pg**	**09 55 47.3**	**-0.5**
MMO1				S	**Sg**	**09 55 54.5**	**+0.2**
TRE1	**Treia**	**0.49 295**		P	**Pg**	**09 55 47.9**	**0.0**
AOI	**Ancona**	**0.50 332**		P	**Pg**	**09 55 48.3**	**+0.2**
AOI				AML	AML		
	comp=E,2380μm,0.5s						
AOI				AML	AML		
	comp=N,2970μm,0.3s						
AOI				AML	AML		
	comp=E,2378μm,0.5s						
AOI				AML	AML		
	comp=E,2378μm,1.5s						
AOI				AML	AML		
	comp=N,2971μm,0.3s						
MTRA	**Matera**	**0.52 228**		⇓P	**Pg**	**09 55 47.8**	**-0.8**
MTRA				S	**Sg**	**09 55 56.2**	**+0.7**
MTRA				AML	AML		
	comp=N,11350μm,0.4s						
MTRA				AML	AML		
	comp=N,11390μm,0.4s						
MTRA				AML	AML		
	comp=E,18300μm,0.4s						
MTRA				AML	AML		
	comp=E,18200μm,0.5s						
MTRA				AML	AML		
	comp=E,17714μm,0.5s						
MTRA				AML	AML		
	comp=E,17703μm,0.5s						
MTRA				AML	AML		
	comp=E,17703μm,1.5s						
MTRA				AML	AML		
	comp=E,17714μm,1.5s						
MTRA				AML	AML		
	comp=N,10316μm,0.4s						
MTRA				AML	AML		
	comp=N,10341μm,0.4s						
CSP1	**Cessapalombo**	**0.53 268**		⇓P	**Pg**	**09 55 48.1**	**-0.5**
PF6	**Pievefavera**	**0.53 274**		⇓P	**Pg**	**09 55 48.1**	**-0.6**
PF6				S	**Sb**	**09 55 57.2**	**+0.2**
TERO	**Teramo**	**0.54 206**		⇓P	**Pg**	**09 55 48.2**	**-0.6**
TERO				S	**Sb**	**09 55 57.2**	**0.0**
TERO				AML	AML		
	comp=E,3425μm,0.8s						
TERO				AML	AML		
	comp=N,2095μm,0.6s						
TERO				AML	AML		
	comp=E,3425μm,0.8s						
TERO				AML	AML		
	comp=E,5960μm,0.8s						
TERO				AML	AML		
	comp=N,4065μm,0.3s						
TERO				AML	AML		
	comp=E,3192μm,0.3s						
TERO				AML	AML		
	comp=E,5701μm,0.2s						
TERO				AML	AML		
	comp=N,2942μm,0.5s						
TERO				AML	AML		
	comp=E,3192μm,1.7s						
TERO				AML	AML		
	comp=N,1791μm,0.3s						
SSM1	**San Severino M**	**0.56 283**		P	**Pg**	**09 55 49.0**	**-0.1**
MC2	**Monte Cornacci**	**0.57 250**		⇓P	**Pg**	**09 55 48.9**	**-0.6**
MC2				S	**Sb**	**09 55 58.6**	**+0.3**
PCRO	**Pietralacroce**	**0.57 330**		P	**Pb**	**09 55 50.4**	**+0.2**
MDAR	**Monte D'Aria**	**0.57 279**		P	**Pg**	**09 55 49.0**	**-0.5**
CING	**Cingoli**	**0.59 297**		⇓P	**Pg**	**09 55 49.5**	**-0.4**
CING				S	**Sb**	**09 55 59.2**	**+0.4**
FDMO	**Fiordimonte**	**0.61 263**		⇓P	**Pg**	**09 55 49.5**	**-0.7**
FDMO				S	**Sb**	**09 55 59.5**	**+0.1**
FDMO				AML	AML		
	comp=E,6815μm,0.6s						
FDMO				AML	AML		
	comp=N,3470μm,1.0s						
FDMO				AML	AML		
	comp=N,3446μm,0.5s						
FDMO				AML	AML		
	comp=E,6819μm,0.6s						
GAG1	**Gagliole**	**0.64 282**		P	**Pg**	**09 55 50.3**	**-0.4**
EL6	**Elcito**	**0.64 290**		⇓P	**Pg**	**09 55 50.2**	**-0.5**
EL6				S	**Sb**	**09 56 00.8**	**+0.7**
EL6				AML	AML		
	comp=E,5325μm,0.4s						
EL6				AML	AML		
	comp=N,6235μm,0.7s						
EL6				AML	AML		
	comp=E,5324μm,0.4s						
EL6				AML	AML		
	comp=N,6050μm,0.4s						
EL6				AML	AML		
	comp=E,5325μm,1.6s						
SMA1	**SAN MARTINO**	**0.64 222**		P	**Pg**	**09 55 49.7**	**-1.1**
SMA1				AML	AML		
	comp=E,5810μm,0.3s						
SMA1				AML	AML		
	comp=N,5740μm,1.6s						
SMA1				AML	AML		
	comp=N,5735μm,1.6s						
SMA1				AML	AML		
	comp=E,5809μm,0.3s						
SMA1				AML	AML		
	comp=N,5269μm,0.4s						
SMA1				AML	AML		
	comp=E,5809μm,1.7s						
NRCA	**Norcia**	**0.65 245**		⇓P	**Pg**	**09 55 50.0**	**-1.0**
NRCA				S	**Sb**	**09 56 00.7**	**+0.2**
NRCA				AML	AML		
	comp=E,5640μm,1.4s						
NRCA				AML	AML		
	comp=N,4395μm,0.9s						
NRCA				AML	AML		
	comp=E,6095μm,1.4s						
NRCA				AML	AML		
	comp=N,4690μm,0.9s						
NRCA				AML	AML		
	comp=E,5306μm,0.2s						
NRCA				AML	AML		
	comp=N,4127μm,0.1s						
NRCA				AML	AML		
	comp=E,5141μm,0.1s						
NRCA				AML	AML		
	comp=N,3748μm,0.1s						
NRCA				AML	AML		
	comp=N,3748μm,1.9s						
NRCA				AML	AML		
	comp=N,4127μm,1.9s						
FEMA	**Monte Fema**	**0.66 257**		P	**Pg**	**09 55 50.3**	**-0.8**
FEMA				S	**Sb**	**09 56 01.3**	**+0.7**
FEMA				AML	AML		
	comp=E,7100μm,0.6s						
FEMA				AML	AML		
	comp=N,6790μm,0.5s						
FEMA				AML	AML		
	comp=E,7100μm,0.7s						
FEMA				AML	AML		
	comp=N,6790μm,0.5s						
FEMA				AML	AML		
	comp=N,6790μm,0.5s						
FEMA				AML	AML		
	comp=E,6957μm,0.4s						
MTL1	**Matelica**	**0.68 283**		P	**Pg**	**09 55 51.2**	**-0.3**
CAMP	**Campotosto**	**0.69 213**		⇓P	**Pg**	**09 55 50.4**	**-1.3**
CAMP				AML	AML		
	comp=E,3230μm,0.6s						
CAMP				AML	AML		
	comp=N,3425μm,0.7s						
CAMP				AML	AML		
	comp=E,3229μm,0.6s						
CAMP				AML	AML		
	comp=N,3427μm,0.7s						
CAMP				AML	AML		
	comp=E,3229μm,1.4s						
PIO1	**Pioraco**	**0.69 276**		P	**Pg**	**09 55 50.9**	**-0.8**
MML1	**Montelago di S**	**0.69 271**		⇓P	**Pg**	**09 55 51.0**	**-0.8**
MML1				S	**Sb**	**09 56 02.3**	**+0.6**
GIGS	**Gran Sasso**	**0.71 202**		P	**Pg**	**09 55 50.6**	**-1.5**
GIGS				AML	AML		
	comp=E,1315μm,0.5s						
GIGS				AML	AML		
	comp=N,1145μm,1.5s						
GIGS				AML	AML		
	comp=E,1315μm,0.5s						
GIGS				AML	AML		
	comp=N,1096μm,0.4s						
GIGS				AML	AML		
	comp=E,1315μm,1.5s						
SEF1	**Sefro**	**0.71 273**		P	**Pg**	**09 55 51.4**	**-0.7**
VCEL	**Villa Celiera**	**0.72 185**		P	**Pg**	**09 55 51.7**	**-0.5**
VCEL				AML	AML		
	comp=E,5670μm,0.6s						
VCEL				AML	AML		
	comp=N,6470μm,0.4s						
VCEL				AML	AML		
	comp=N,6465μm,0.4s						
VCEL				AML	AML		
	comp=N,6467μm,0.4s						
VCEL				AML	AML		
	comp=E,5669μm,0.6s						
VCEL				AML	AML		
	comp=N,6467μm,1.6s						
SNTG	**Esanatoglia**	**0.73 282**		⇓P	**Pg**	**09 55 51.6**	**-0.9**
SNTG				S	**Sb**	**09 56 03.4**	**+0.6**
SNTG				AML	AML		
	comp=E,2210μm,0.7s						
SNTG				AML	AML		
	comp=N,3305μm,0.6s						
SNTG				AML	AML		
	comp=N,3395μm,0.6s						
SNTG				AML	AML		
	comp=E,2210μm,0.7s						
SNTG				AML	AML		
	comp=E,2280μm,0.7s						
SNTG				AML	AML		
	comp=E,2148μm,0.5s						
SNTG				AML	AML		
	comp=N,3395μm,0.6s						
SNTG				AML	AML		
	comp=E,2121μm,0.5s						
SNTG				AML	AML		
	comp=N,3303μm,0.6s						
CESI	**CESI - Serrava**	**0.75 262**		⇓P	**Pg**	**09 55 51.9**	**-0.9**
CESI				AML	AML		
	comp=E,4085μm,0.3s						
CESI				AML	AML		
	comp=N,5205μm,0.4s						
CESI				AML	AML		
	comp=N,5207μm,0.4s						
CESI				AML	AML		
	comp=E,4085μm,0.3s						
SENI	**Senigallia**	**0.78 320**		P	**Pn**	**09 55 54.4**	**-0.4**
RM33	**Pellescritta (**	**0.79 221**		⇓P	**Pg**	**09 55 52.2**	**-1.5**
RM33				AML	AML		
	comp=N,5430μm,0.4s						
RM33				AML	AML		
	comp=N,5335μm,0.4s						
RM33				AML	AML		
	comp=E,6080μm,1.2s						
RM33				AML	AML		
	comp=N,5435μm,0.4s						
RM33				AML	AML		
	comp=E,6105μm,1.2s						
RM33				AML	AML		
	comp=E,5962μm,0.2s						
RM33				AML	AML		
	comp=N,5334μm,0.4s						
RM33				AML	AML		
	comp=E,6049μm,0.2s						
RM33				AML	AML		
	comp=N,5433μm,0.4s						
RM33				AML	AML		
	comp=E,5962μm,1.8s						
RM33				AML	AML		
	comp=N,5433μm,1.6s						
RM33				AML	AML		
	comp=E,6049μm,1.8s						
ARVD	**Arcevia**	**0.81 299**		⇓P	**Pg**	**09 55 53.3**	**-0.7**
ARVD				S	**Sb**	**09 56 06.0**	**+0.9**
ARVD				AML	AML		
	comp=E,3475μm,0.7s						
ARVD				AML	AML		
	comp=N,4115μm,0.6s						
ARVD				AML	AML		
	comp=N,4112μm,0.6s						
ARVD				AML	AML		
	comp=E,3472μm,0.7s						
LNSS	**Leonessa**	**0.82 232**		⇓P	**Pg**	**09 55 52.7**	**-1.5**
LNSS				AML	AML		
	comp=E,5870μm,0.9s						
LNSS				AML	AML		
	comp=N,5405μm,0.3s						
LNSS				AML	AML		
	comp=N,5805μm,0.4s						
LNSS				AML	AML		
	comp=E,5855μm,0.9s						
LNSS				AML	AML		
	comp=N,5395μm,0.3s						
LNSS				AML	AML		
	comp=E,5935μm,0.9s						
LNSS				AML	AML		
	comp=N,5806μm,0.4s						
LNSS				AML	AML		
	comp=N,5397μm,0.3s						
LNSS				AML	AML		
	comp=E,5857μm,0.4s						
LNSS				AML	AML		
	comp=E,5792μm,0.4s						
AQU	**L'Aquila**	**0.85 207**		P	**Pn**	**09 55 56.5**	**+0.6**
COR1	**Corinaldo**	**0.85 308**		P	**Pg**	**09 55 54.1**	**-0.6**
FOSV	**Fossato di Vic**	**0.87 283**		⇓P	**Pg**	**09 55 54.0**	**-1.1**
FOSV				S	**Sn**	**09 56 08.1**	**-0.5**
FOSV				AML	AML		
	comp=N,5955μm,0.4s						
FOSV				AML	AML		
	comp=E,5180μm,0.5s						
FOSV				AML	AML		
	comp=N,5957μm,0.4s						
FOSV				AML	AML		
	comp=E,5180μm,0.5s						
FAGN	**Fagnano**	**0.88 197**		P	**Pg**	**09 55 54.8**	**-0.5**
FAGN				AML	AML		
	comp=E,19100μm,0.4s						
FAGN				AML	AML		
	comp=N,10450μm,0.3s						
FAGN				AML	AML		
	comp=N,10444μm,0.3s						
FAGN				AML	AML		
	comp=E,19090μm,0.4s						
FAGN				AML	AML		
	comp=N,10444μm,1.7s						
SSFR	**Montelago di S**	**0.89 292**		P	**Pg**	**09 55 54.8**	**-0.8**
SSFR				S	**Sn**	**09 56 09.3**	**0.0**
SSFR				AML	AML		
	comp=E,7855μm,0.4s						
SSFR				AML	AML		
	comp=N,7180μm,0.6s						
SSFR				AML	AML		
	comp=E,8075μm,0.5s						
SSFR				AML	AML		
	comp=N,5100μm,0.3s						
SSFR				AML	AML		
	comp=N,5103μm,0.3s						
SSFR				AML	AML		
	comp=N,6377μm,0.3s						
SSFR				AML	AML		
	comp=E,8075μm,0.5s						
SSFR				AML	AML		
	comp=E,7855μm,0.5s						
ASSB	**Assisi San Ben**	**0.93 266**		⇓P	**Pg**	**09 55 54.9**	**-1.3**
ASSB				S	**Sb**	**09 56 09.5**	**+1.1**
ASSB				AML	AML		
	comp=E,4474μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.94 275**		⇓P	**Pg**	**09 55 55.3**	**-1.1**
ATCC				S	**Sn**	**09 56 10.8**	**+0.4**

ATCC			AML	AML		
	comp=E,6475µm,0.5s					
ATCC			AML	AML		
	comp=N,5950µm,0.5s					
ATCC			AML	AML		
	comp=E,6478µm,0.5s					
ATCC			AML	AML		
	comp=N,5954µm,0.5s					
ATCC			AML	AML		
	comp=E,6478µm,1.5s					
FRON	**Frontone**	**0.96 295**	P	**Pg**	**09 55 55.9**	**-0.9**
FRON			S	**Sn**	**09 56 11.6**	**+0.6**
FRON			AML	AML		
	comp=E,6455µm,0.7s					
FRON			AML	AML		
	comp=N,10115µm,0.6s					
FRON			AML	AML		
	comp=E,6455µm,0.7s					
FRON			AML	AML		
	comp=N,10113µm,0.6s					
MPAG	**Monte Paganucc**	**0.99 302**	P	**Pb**	**09 55 56.6**	**-0.7**
MPAG			AML	AML		
	comp=E,5440µm,0.6s					
MPAG			AML	AML		
	comp=N,3595µm,1.5s					
MPAG			AML	AML		
	comp=E,5615µm,0.6s					
MPAG			AML	AML		
	comp=N,3635µm,0.7s					
MPAG			AML	AML		
	comp=E,5437µm,0.6s					
MPAG			AML	AML		
	comp=N,3264µm,0.7s					
MPAG			AML	AML		
	comp=N,3635µm,0.7s					
MPAG			AML	AML		
	comp=E,5616µm,0.6s					
MPAG			AML	AML		
	comp=N,3264µm,1.3s					
MPAG			AML	AML		
	comp=E,5437µm,1.4s					
MPAG			AML	AML		
	comp=N,3635µm,1.3s					
ATFO	**Monte Foce - G**	**1.02 285**	⇓P	**Pb**	**09 55 56.8**	**-0.9**
ATFO			S	**Sn**	**09 56 12.9**	**+0.5**
ATFO			AML	AML		
	comp=E,7325µm,0.7s					
ATFO			AML	AML		
	comp=N,5705µm,0.5s					
ATFO			AML	AML		
	comp=E,7322µm,0.7s					
ATFO			AML	AML		
	comp=N,5708µm,0.5s					
ATFO			AML	AML		
	comp=E,7322µm,1.3s					
FIAM	**Fiamignano**	**1.03 215**	P	**Pb**	**09 55 57.3**	**-0.7**
FIAM			AML	AML		
	comp=E,1630µm,0.5s					
FIAM			AML	AML		
	comp=N,1380µm,0.8s					
FIAM			AML	AML		
	comp=E,3597µm,0.9s					
FIAM			AML	AML		
	comp=N,2633µm,0.8s					
FIAM			AML	AML		
	comp=E,1633µm,0.5s					
FIAM			AML	AML		
	comp=N,1378µm,0.8s					
FIAM			AML	AML		
	comp=E,3597µm,1.1s					
FIAM			AML	AML		
	comp=N,2633µm,1.2s					
FIAM			AML	AML		
	comp=N,1378µm,1.2s					
MURB	**Monte Urbino**	**1.03 279**	⇓P	**Pb**	**09 55 57.1**	**-0.9**
MURB			AML	AML		
	comp=E,11380µm,0.4s					
MURB			AML	AML		
	comp=N,12145µm,0.9s					
MURB			AML	AML		
	comp=E,11275µm,0.4s					
MURB			AML	AML		
	comp=E,11375µm,0.4s					
MURB			AML	AML		
	comp=N,12140µm,0.9s					
MURB			AML	AML		
	comp=N,12700µm,0.9s					
MURB			AML	AML		
	comp=E,11274µm,0.4s					
MURB			AML	AML		
	comp=N,11606µm,0.5s					
MURB			AML	AML		
	comp=N,11771µm,0.5s					
MURB			AML	AML		
	comp=E,11398µm,0.4s					
MOMA	**Monte Martano**	**1.04 253**	P	**Pb**	**09 55 56.6**	**-1.4**
MOMA			AML	AML		
	comp=E,3740µm,0.4s					
MOMA			AML	AML		
	comp=N,4800µm,0.5s					
MOMA			AML	AML		
	comp=E,3985µm,0.4s					
MOMA			AML	AML		
	comp=N,4970µm,0.5s					
MOMA			AML	AML		
	comp=E,3743µm,0.4s					
MOMA			AML	AML		
	comp=E,3981µm,0.4s					
MOMA			AML	AML		
	comp=N,4970µm,0.5s					
MOMA			AML	AML		
	comp=N,4802µm,0.5s					
LPEL	**Lama dei Pelig**	**1.08 170**	P	**Pn**	**09 55 59.4**	**+0.3**
LPEL			AML	AML		
	comp=E,4395µm,1.0s					
LPEL			AML	AML		
	comp=N,3385µm,0.7s					
LPEL			AML	AML		
	comp=E,4650µm,1.1s					
LPEL			AML	AML		
	comp=N,3520µm,0.7s					
LPEL			AML	AML		
	comp=E,4416µm,0.3s					
LPEL			AML	AML		
	comp=N,2970µm,0.3s					
LPEL			AML	AML		
	comp=N,2846µm,0.4s					
LPEL			AML	AML		
	comp=E,4273µm,0.3s					
PIEI	**Pieia**	**1.10 293**	⇓P	**Pb**	**09 55 58.1**	**-0.9**
PIEI			AML	AML		
	comp=E,2055µm,0.4s					
PIEI			AML	AML		
	comp=N,1615µm,1.2s					
PIEI			AML	AML		
	comp=E,2057µm,0.4s					
PIEI			AML	AML		
	comp=N,1579µm,0.4s					
INTR	**Introdacqua**	**1.10 181**	P	**Pb**	**09 55 59.1**	**0.0**
INTR			AML	AML		
	comp=E,8370µm,0.5s					
INTR			AML	AML		
	comp=N,15550µm,0.4s					
INTR			AML	AML		
	comp=E,5595µm,0.5s					
INTR			AML	AML		
	comp=N,15450µm,0.4s					
INTR			AML	AML		
	comp=E,5597µm,0.5s					
INTR			AML	AML		
	comp=N,15435µm,0.4s					
INTR			AML	AML		
	comp=E,8368µm,0.5s					
INTR			AML	AML		
	comp=E,5597µm,1.5s					
INTR			AML	AML		
	comp=N,15539µm,0.4s					
INTR			AML	AML		
	comp=E,8368µm,1.5s					
NARO	**Abbazia di Nar**	**1.10 298**	P	**Pb**	**09 55 58.5**	**-0.6**
NARO			AML	AML		
	comp=E,1540µm,0.4s					
NARO			AML	AML		
	comp=N,1465µm,0.8s					
NARO			AML	AML		
	comp=E,1542µm,0.4s					
NARO			AML	AML		
	comp=N,1464µm,0.8s					
CESX	**Cesi**	**1.10 244**	P	**Pb**	**09 55 57.4**	**-1.8**
CESX			AML	AML		
	comp=E,2655µm,0.5s					
CESX			AML	AML		
	comp=N,3170µm,0.4s					
CESX			AML	AML		
	comp=E,2654µm,0.5s					
CESX			AML	AML		
	comp=N,3172µm,0.4s					
CESX			AML	AML		
	comp=E,2654µm,1.5s					
CESX			AML	AML		
	comp=N,3172µm,1.6s					
ATVO	**AVT- Monte Val**	**1.14 284**	⇓P	**Pb**	**09 55 58.9**	**-0.9**
ATVO			AML	AML		
	comp=E,3305µm,0.7s					
ATVO			AML	AML		
	comp=N,3120µm,0.5s					
ATVO			AML	AML		
	comp=E,3305µm,0.7s					
ATVO			AML	AML		
	comp=N,3121µm,0.5s					
ATVO			AML	AML		
	comp=E,3305µm,1.3s					
ATTE	**AVT- Monte Tez**	**1.15 275**	P	**Pb**	**09 55 59.1**	**-0.9**
ATTE			AML	AML		
	comp=E,2000µm,0.8s					
ATTE			AML	AML		
	comp=N,2665µm,0.8s					
ATTE			AML	AML		
	comp=N,2666µm,0.8s					
ATTE			AML	AML		
	comp=E,1995µm,0.8s					
PTQR	**Pietraquaria**	**1.15 200**	P	**Pg**	**09 56 01.3**	**+0.8**
PTQR			AML	AML		
	comp=E,1985µm,0.5s					
PTQR			AML	AML		
	comp=N,2040µm,0.5s					
PTQR			AML	AML		
	comp=E,1982µm,0.5s					
PTQR			AML	AML		
	comp=N,2039µm,0.5s					
PTQR			AML	AML		
	comp=N,2039µm,1.5s					
APEC	**Apecchio**	**1.18 293**	P	**Pn**	**09 56 00.2**	**-0.2**
APEC			AML	AML		
	comp=E,2770µm,0.6s					
APEC			AML	AML		
	comp=N,5260µm,0.7s					
APEC			AML	AML		
	comp=E,3830µm,0.6s					
APEC			AML	AML		
	comp=N,4320µm,0.7s					
APEC			AML	AML		
	comp=E,2767µm,0.6s					
APEC			AML	AML		
	comp=N,5261µm,0.7s					
APEC			AML	AML		
	comp=E,3828µm,0.6s					
APEC			AML	AML		
	comp=N,5261µm,1.3s					
APEC			AML	AML		
	comp=N,4316µm,0.7s					
PE3	**Peglio**	**1.19 300**	P	**Pg**	**09 56 01.2**	**0.0**
PE3			AML	AML		
	comp=E,9940µm,0.5s					
PE3			AML	AML		
	comp=N,13350µm,0.6s					
PE3			AML	AML		
	comp=N,13345µm,0.6s					
PE3			AML	AML		
	comp=E,9937µm,0.5s					
PE3			AML	AML		
	comp=N,13345µm,1.4s					
ATMI	**Monte Miggiano**	**1.23 281**	P	**Pn**	**09 56 01.1**	**0.0**
ATMI			AML	AML		
	comp=E,4140µm,0.7s					
ATMI			AML	AML		
	comp=N,3195µm,0.4s					
ATMI			AML	AML		
	comp=N,3193µm,0.4s					
ATMI			AML	AML		
	comp=E,4140µm,0.7s					
VVLD	**Villa Vallelon**	**1.26 190**	P	**Pb**	**09 56 02.1**	**+0.3**
VVLD			AML	AML		
	comp=E,2345µm,0.4s					
VVLD			AML	AML		
	comp=N,2470µm,1.2s					
VVLD			AML	AML		
	comp=N,2121µm,0.6s					
VVLD			AML	AML		
	comp=E,2348µm,0.4s					
FRES	**Fresagrandinar**	**1.26 154**	P	**Pb**	**09 56 02.2**	**+0.3**
BADI	**Badiali**	**1.29 289**	P	**Pn**	**09 56 01.7**	**-0.2**
BADI			AML	AML		
	comp=E,1495µm,0.7s					
BADI			AML	AML		
	comp=N,2065µm,0.6s					
BADI			AML	AML		
	comp=N,2065µm,0.6s					
BADI			AML	AML		
	comp=E,1495µm,0.7s					
PARC	**Parchiule**	**1.34 294**	P	**Pn**	**09 56 02.9**	**+0.2**
PARC			AML	AML		
	comp=E,2275µm,0.6s					
PARC			AML	AML		
	comp=N,1400µm,0.7s					
PARC			AML	AML		
	comp=E,2279µm,0.6s					
PARC			AML	AML		
	comp=N,1400µm,0.7s					
PARC			AML	AML		
	comp=N,1400µm,1.3s					
PARC			AML	AML		
	comp=E,2279µm,1.4s					
MGAB	**Montegabbione**	**1.34 262**	P	**Pn**	**09 56 02.8**	**+0.1**
MGAB			AML	AML		
	comp=E,2105µm,0.6s					
MGAB			AML	AML		
	comp=N,2750µm,0.7s					
MGAB			AML	AML		
	comp=E,2305µm,0.6s					
MGAB			AML	AML		
	comp=N,2655µm,0.7s					
MGAB			AML	AML		
	comp=E,2303µm,0.6s					
MGAB			AML	AML		
	comp=N,2657µm,0.7s					
MGAB			AML	AML		
	comp=N,2750µm,0.7s					
MGAB			AML	AML		
	comp=E,2104µm,0.6s					
MGAB			AML	AML		
	comp=N,2750µm,1.3s					
MGAB			AML	AML		
	comp=N,2657µm,1.3s					
CERT	**Cerreto**	**1.35 211**	P	**Pb**	**09 56 03.5**	**+0.1**
CERT			AML	AML		
	comp=E,2055µm,0.4s					
CERT			AML	AML		
	comp=N,2040µm,0.9s					
CERT			AML	AML		
	comp=E,2054µm,0.4s					
CERT			AML	AML		
	comp=N,2039µm,0.9s					
SSP9	**Sansepolcro**	**1.39 290**	P	**Pg**	**09 56 04.8**	**-0.1**
SSP9			AML	AML		
	comp=E,1650µm,1.0s					
SSP9			AML	AML		
	comp=N,1465µm,1.5s					
SSP9			AML	AML		
	comp=E,1652µm,1.0s					
SSP9			AML	AML		
	comp=N,1468µm,1.9s					
GUAR	**Guarcino**	**1.39 199**	P	**Pg**	**09 56 04.8**	**-0.2**
GUAR			AML	AML		
	comp=E,2030µm,0.5s					
GUAR			AML	AML		
	comp=N,3380µm,0.5s					
GUAR			AML	AML		
	comp=E,2028µm,0.5s					
GUAR			AML	AML		
	comp=N,3380µm,0.5s					
GUAR			AML	AML		
	comp=E,2028µm,1.5s					
GUAR			AML	AML		
	comp=N,3380µm,1.5s					
MTCE	**Montecelio**	**1.39 219**	P	**Pb**	**09 56 04.0**	**-0.1**
MTCE			AML	AML		
	comp=E,2990µm,0.7s					
MTCE			AML	AML		
	comp=N,1340µm,0.6s					
MTCE			AML	AML		
	comp=E,2987µm,0.7s					
MTCE			AML	AML		
	comp=N,1340µm,0.6s					
POFI	**Posta Fibreno**	**1.40 186**	P	**Pn**	**09 56 04.0**	**+0.5**
POFI			AML	AML		
	comp=E,3µm,0.5s					
POFI			AML	AML		
	comp=N,2µm,0.7s					
POFI			AML	AML		
	comp=E,3650µm,0.5s					
POFI			AML	AML		
	comp=N,3085µm,0.7s					
POFI			AML	AML		
	comp=E,3652µm,0.5s					
POFI			AML	AML		
	comp=N,2µm,0.7s					
POFI			AML	AML		
	comp=E,3µm,0.5s					
POFI			AML	AML		
	comp=N,3087µm,0.7s					
RNI2	**Rionero Sannit**	**1.42 173**	P	**Pb**	**09 56 05.1**	**+0.5**
RNI2			AML	AML		
	comp=E,2960µm,1.1s					
RNI2			AML	AML		
	comp=N,2235µm,0.9s					
RNI2			AML	AML		
	comp=E,3005µm,0.9s					
RNI2			AML	AML		
	comp=N,2250µm,0.9s					
RNI2			AML	AML		
	comp=E,2898µm,0.9s					
RNI2			AML	AML		
	comp=E,3007µm,0.9s					
RNI2			AML	AML		
	comp=N,2230µm,0.4s					
RNI2			AML	AML		
	comp=N,2184µm,0.6s					
TRIV	**Trivento**	**1.42 161**	⇑P	**Pb**	**09 56 04.6**	**+0.1**
TRIV			AML	AML		
	comp=E,1785µm,0.7s					
TRIV			AML	AML		
	comp=N,1850µm,0.7s					
TRIV			AML	AML		
	comp=E,1800µm,0.7s					
TRIV			AML	AML		
	comp=N,1925µm,0.7s					
TRIV			AML	AML		
	comp=N,1852µm,0.7s					
TRIV			AML	AML		
	comp=E,1800µm,0.7s					
TRIV			AML	AML		
	comp=N,1927µm,0.7s					
TRIV			AML	AML		
	comp=E,1782µm,0.7s					
CAFI	**Castiglion Fio**	**1.45 279**	P	**Pn**	**09 56 04.7**	**+0.6**
CAFI			AML	AML		
	comp=E,1048µm,1.2s					
CAFI			AML	AML		
	comp=N,1660µm,0.7s					
CAFI			AML	AML		
	comp=E,1039µm,1.0s					
CAFI			AML	AML		
	comp=N,1740µm,0.8s					
CAFI			AML	AML		
	comp=N,1660µm,0.7s					
CAFI			AML	AML		
	comp=E,1041µm,1.0s					
CAFI			AML	AML		
	comp=N,1744µm,0.8s					
CAFI			AML	AML		
	comp=E,1041µm,1.0s					
CAFI			AML	AML		
	comp=N,1744µm,1.2s					
CAFI			AML	AML		
	comp=N,1660µm,1.3s					
CAFI			AML	AML		
	comp=E,1045µm,0.6s					
LRP	**Arpino**	**1.48 190**	P	**Pb**	**09 56 05.6**	**0.0**
LRP			AML	AML		
	comp=E,2250µm,0.5s					
LRP			AML	AML		
	comp=N,1235µm,1.1s					
LRP			AML	AML		
	comp=N,1130µm,0.5s					
LRP			AML	AML		
	comp=E,2250µm,0.5s					
MIDA	**Miranda**	**1.49 170**	P	**Pb**	**09 56 05.4**	**-0.3**
MIDA			AML	AML		
	comp=E,1805µm,0.7s					
MIDA			AML	AML		
	comp=N,1515µm,0.6s					
MIDA			AML	AML		
	comp=E,1545µm,0.6s					
MIDA			AML	AML		
	comp=N,1790µm,0.7s					
MIDA			AML	AML		
	comp=E,1806µm,0.7s					
MIDA			AML	AML		
	comp=N,1513µm,0.6s					
MIDA			AML	AML		
	comp=N,1787µm,0.7s					
MIDA			AML	AML		
	comp=E,1543µm,0.6s					
SACS	**San Casciano d**	**1.50 261**	⇓P	**Pb**	**09 56 05.9**	**-0.1**
SACS			AML	AML		
	comp=E,733µm,0.8s					
SACS			AML	AML		
	comp=N,1125µm,0.8s					
SACS			AML	AML		
	comp=E,747µm,0.8s					
SACS			AML	AML		
	comp=N,1036µm,0.8s					
SACS			AML	AML		
	comp=E,747µm,0.8s					
SACS			AML	AML		
	comp=E,733µm,0.8s					
SACS			AML	AML		
	comp=N,1125µm,0.8s					
SACS			AML	AML		
	comp=N,1038µm,0.8s					
SACS			AML	AML		
	comp=E,733µm,1.2s					
SACS			AML	AML		
	comp=E,747µm,1.2s					
CERA	**Filignano**	**1.51 177**	P	**Pb**	**09 56 06.0**	**-0.2**
CERA			AML	AML		
	comp=E,3255µm,0.6s					
CERA			AML	AML		
	comp=N,3555µm,0.7s					
CERA			AML	AML		
	comp=E,3315µm,0.6s					
CERA			AML	AML		
	comp=N,3675µm,0.7s					
CERA			AML	AML		
	comp=E,3255µm,0.6s					
CERA			AML	AML		
	comp=N,3556µm,0.7s					
CERA			AML	AML		
	comp=N,3673µm,0.7s					
CERA			AML	AML		
	comp=N,3673µm,1.3s					
CERA			AML	AML		
	comp=N,3556µm,1.3s					
CERA			AML	AML		
	comp=E,3313µm,0.6s					
CIGN	**Sant'Elia a Pi**	**1.63 153**	P	**Pn**	**09 56 07.3**	**+0.8**
CIGN			AML	AML		
	comp=E,928µm,0.9s					
CIGN			AML	AML		
	comp=N,1080µm,0.5s					
CIGN			AML	AML		
	comp=E,926µm,0.9s					
CIGN			AML	AML		
	comp=N,1078µm,0.5s					
CIGN			AML	AML		
	comp=E,926µm,1.1s					
GIUL	**Giuliano Di Ro**	**1.63 198**	P	**Pn**	**09 56 07.2**	**+0.7**
GIUL			AML	AML		
	comp=E,934µm,0.5s					
GIUL			AML	AML		
	comp=N,783µm,0.6s					
GIUL			AML	AML		
	comp=E,934µm,0.5s					

GIUL			AML	AML		
	comp=N,783µm,0.6s					
MELA	**Melanico ??? S**	**1.66 147**	P	**Pn**	**09 56 07.2**	**+0.2**
MELA			AML	AML		
	comp=E,3820µm,0.5s					
MELA			AML	AML		
	comp=N,3405µm,0.5s					
MELA			AML	AML		
	comp=E,3915µm,0.5s					
MELA			AML	AML		
	comp=N,3390µm,0.5s					
MELA			AML	AML		
	comp=N,3403µm,0.5s					
MELA			AML	AML		
	comp=E,3817µm,0.5s					
MELA			AML	AML		
	comp=N,3390µm,0.5s					
MELA			AML	AML		
	comp=E,3914µm,0.5s					
ASQU	**Asqua**	**1.70 295**	P	**Pb**	**09 56 09.5**	**+0.2**
ASQU			AML	AML		
	comp=E,724µm,0.9s					
ASQU			AML	AML		
	comp=N,690µm,0.7s					
ASQU			AML	AML		
	comp=E,724µm,0.9s					
ASQU			AML	AML		
	comp=E,724µm,1.1s					
ASQU			AML	AML		
	comp=N,690µm,0.7s					
VAGA	**Valle Agricola**	**1.71 172**	P	**Pb**	**09 56 09.5**	**0.0**
VAGA			AML	AML		
	comp=E,897µm,0.4s					
VAGA			AML	AML		
	comp=N,1310µm,1.6s					
VAGA			AML	AML		
	comp=E,941µm,0.4s					
VAGA			AML	AML		
	comp=N,1370µm,1.6s					
VAGA			AML	AML		
	comp=E,939µm,0.4s					
VAGA			AML	AML		
	comp=N,1308µm,0.4s					
VAGA			AML	AML		
	comp=N,1258µm,0.4s					
VAGA			AML	AML		
	comp=E,895µm,0.4s					
VAGA			AML	AML		
	comp=N,1258µm,1.6s					
VAGA			AML	AML		
	comp=N,1308µm,1.6s					
TOLF	**Tolfa**	**1.76 234**	P	**Pn**	**09 56 08.9**	**+0.5**
TOLF			AML	AML		
	comp=E,430µm,0.5s					
TOLF			AML	AML		
	comp=N,362µm,0.6s					
TOLF			AML	AML		
	comp=E,430µm,0.5s					
TOLF			AML	AML		
	comp=N,362µm,0.6s					
LATB	**Latina**	**1.76 204**	P	**Pn**	**09 56 08.6**	**+0.2**
LATB			AML	AML		
	comp=E,274µm,1.0s					
LATB			AML	AML		
	comp=N,229µm,0.7s					
LATB			AML	AML		
	comp=E,274µm,1.0s					
LATB			AML	AML		
	comp=E,274µm,1.0s					
LATB			AML	AML		
	comp=N,229µm,0.7s					
BRJN	**Brijuni**	**1.80 356**	P	**Pn**	**09 56 08.6**	**-0.3**
APRC	**Apricena**	**1.81 138**	P	**Pn**	**09 56 09.2**	**+0.1**
APRC			AML	AML		
	comp=E,1525µm,1.2s					
APRC			AML	AML		
	comp=N,1750µm,0.5s					
APRC			AML	AML		
	comp=N,1389µm,0.6s					
APRC			AML	AML		
	comp=E,1476µm,0.3s					
APRC			AML	AML		
	comp=N,1751µm,0.5s					
APRC			AML	AML		
	comp=E,1442µm,0.4s					
APRC			AML	AML		
	comp=E,1476µm,1.7s					
LMD	**Lutirano**	**1.88 302**	P	**Pb**	**09 56 11.9**	**-0.4**
LMD			AML	AML		
	comp=E,583µm,0.6s					
LMD			AML	AML		
	comp=N,427µm,1.1s					
LMD			AML	AML		
	comp=N,427µm,1.1s					
LMD			AML	AML		
	comp=E,583µm,0.6s					
RUFI	**Rufina**	**1.90 293**	⇓P	**Pb**	**09 56 12.0**	**-0.7**
RUFI			AML	AML		
	comp=E,438µm,0.8s					
RUFI			AML	AML		
	comp=N,417µm,0.8s					
RUFI			AML	AML		
	comp=E,439µm,0.8s					
RUFI			AML	AML		
	comp=N,417µm,0.8s					
RUFI			AML	AML		
	comp=E,439µm,1.2s					
PIGN	**Pignataro Magg**	**1.92 174**	P	**Pb**	**09 56 12.0**	**-1.0**
PIGN			AML	AML		
	comp=E,390µm,0.7s					
PIGN			AML	AML		
	comp=N,468µm,1.4s					
PIGN			AML	AML		
	comp=E,380µm,0.6s					
PIGN			AML	AML		
	comp=N,436µm,0.8s					
PIGN			AML	AML		
	comp=E,390µm,0.7s					
PIGN			AML	AML		
	comp=E,381µm,0.6s					
PIGN			AML	AML		
	comp=N,436µm,0.8s					
PIGN			AML	AML		
	comp=N,416µm,0.8s					
CSNT	**Castellina Chi**	**1.95 282**	P	**Pn**	**09 56 12.3**	**+1.3**
CSNT			AML	AML		
	comp=E,236µm,0.9s					
CSNT			AML	AML		
	comp=N,309µm,1.6s					
CSNT			AML	AML		
	comp=N,289µm,0.7s					
CSNT			AML	AML		
	comp=E,236µm,0.9s					
MSAG	**Monte S. Angel**	**2.03 133**	⇑P	**Pn**	**09 56 12.4**	**+0.3**
MSAG			AML	AML		
	comp=E,1635µm,0.5s					
MSAG			AML	AML		
	comp=N,4115µm,0.5s					
MSAG			AML	AML		
	comp=E,636µm,0.5s					
MSAG			AML	AML		
	comp=N,1690µm,0.5s					
MSAG			AML	AML		
	comp=E,1634µm,0.5s					
MSAG			AML	AML		
	comp=N,4117µm,0.5s					
MSAG			AML	AML		
	comp=E,637µm,0.5s					
MSAG			AML	AML		
	comp=N,1694µm,0.5s					
PAOL	**Paolisi**	**2.13 167**	AML	AML		
	comp=N,379µm,0.5s					
PAOL			AML	AML		
	comp=E,303µm,0.7s					
PAOL			AML	AML		
	comp=N,446µm,1.0s					
PAOL			AML	AML		
	comp=E,304µm,0.5s					
PAOL			AML	AML		
	comp=N,379µm,0.5s					
PAOL			AML	AML		
	comp=N,325µm,0.6s					
PAOL			AML	AML		
	comp=E,304µm,0.5s					
PAOL			AML	AML		
	comp=E,289µm,0.5s					
SGTA	**Sant Agata di**	**2.25 151**	AML	AML		
	comp=E,650µm,0.8s					
SGTA			AML	AML		
	comp=E,720µm,0.6s					
SGTA			AML	AML		
	comp=N,562µm,0.5s					
SGTA			AML	AML		
	comp=E,700µm,0.5s					
SGTA			AML	AML		
	comp=N,553µm,0.5s					
SGTA			AML	AML		
	comp=E,656µm,0.5s					
SGTA			AML	AML		
	comp=N,553µm,0.5s					
SGTA			AML	AML		
	comp=E,656µm,1.5s					
SGTA			AML	AML		
	comp=N,562µm,0.5s					
A050A	**Klekovaca**	**2.33 53**	*e*Pn	**Pb**	**09 56 18.4**	**-1.8**
SNAL	**S. Angelo Dei**	**2.38 156**	P	**Pn**	**09 56 17.5**	**+0.5**
SNAL			AML	AML		
	comp=E,588µm,0.7s					
SNAL			AML	AML		
	comp=N,633µm,0.8s					
SNAL			AML	AML		
	comp=E,594µm,0.7s					
SNAL			AML	AML		
	comp=N,626µm,0.7s					
SNAL			AML	AML		
	comp=N,633µm,0.8s					
SNAL			AML	AML		
	comp=E,594µm,0.7s					
SNAL			AML	AML		
	comp=N,626µm,0.7s					
SNAL			AML	AML		
	comp=N,633µm,1.2s					
SNAL			AML	AML		
	comp=N,626µm,1.3s					
SNAL			AML	AML		
	comp=E,588µm,0.7s					
SKDS	**Skadanscina**	**2.44 2**	*e*Pn	**Pn**	**09 56 17.5**	**-0.2**
BOJS	**Bojanci**	**2.58 21**	*e*Pn	**Pn**	**09 56 20.3**	**+0.7**
BOJS	**Bojanci**	**2.58 21**	AML	AML		
	comp=N,689µm,1.2s					
BOJS			AML	AML		
	comp=E,972µm,0.6s					
BOJS			AML	AML		
	comp=N,740µm,1.1s					
BOJS			AML	AML		
	comp=N,689µm,0.8s					
BOJS			AML	AML		
	comp=E,972µm,0.6s					
MRVN	**Minervino Murg**	**2.66 140**	P	**Pn**	**09 56 20.6**	**-0.2**
MRVN			AML	AML		
	comp=E,358µm,0.6s					
MRVN			AML	AML		
	comp=N,280µm,0.5s					
MRVN			AML	AML		
	comp=E,357µm,0.6s					
MRVN			AML	AML		
	comp=N,279µm,0.5s					
MRVN			AML	AML		
	comp=E,357µm,1.4s					
STON	**Ston**	**2.78 94**	*e*Pn	**Pn**	**09 56 22.5**	**+0.1**
STON	**Ston**	**2.78 94**	*e*Pn	**Pn**	**09 56 22.8**	**+0.4**
STON			*e*Sn	**Sn**	**09 56 56.0**	**+0.2**
STON	**Ston**	**2.78 94**	AML	AML		
	comp=E,130µm,0.4s					
STON			AML	AML		
	comp=E,148µm,1.3s					
STON			AML	AML		
	comp=N,196µm,1.2s					
STON			AML	AML		
	comp=N,182µm,0.5s					
BLY	**Banja Luka**	**2.87 54**	*e*Pn	**Pn**	**09 56 22.4**	**-1.2**
BLY	**Banja Luka**	**2.87 54**	*e*Pn	**Pb**	**09 56 28.3**	**-1.0**
BLY			*e*Sn	**Sb**	**09 57 05.5**	**+1.2**
BLY	**Banja Luka**	**2.87 54**	P	**Pn**	**09 56 25.9**	**+2.3**
A051A	**Mrakovica**	**2.87 48**	*e*Pn	**Pn**	**09 56 23.4**	**-0.3**
SABO	**M.te Sabotino**	**2.88 356**	P	**Pn**	**09 56 23.8**	**0.0**
SABO			AML	AML		
	comp=E,2450µm,0.6s					
SABO			AML	AML		
	comp=N,2670µm,0.7s					
SABO			AML	AML		
	comp=E,588µm,0.6s					
SABO			AML	AML		
	comp=N,744µm,0.7s					
SABO			AML	AML		
	comp=E,588µm,0.6s					
SABO			AML	AML		
	comp=E,2449µm,0.6s					
SABO			AML	AML		
	comp=N,2669µm,0.7s					
SABO			AML	AML		
	comp=N,743µm,0.7s					
SABO			AML	AML		
	comp=E,2449µm,1.4s					
SABO			AML	AML		
	comp=E,588µm,1.4s					
AMUR	**Altamura**	**2.97 137**	P	**Pn**	**09 56 25.1**	**0.0**
AMUR			AML	AML		
	comp=E,369µm,0.5s					
AMUR			AML	AML		
	comp=N,415µm,0.8s					
AMUR			AML	AML		
	comp=N,370µm,0.6s					
AMUR			AML	AML		
	comp=E,369µm,0.5s					
CGRP	**Cima Grappa**	**3.16 332**	P	**Pn**	**09 56 28.1**	**+0.4**
CGRP			AML	AML		
	comp=E,424µm,0.7s					
CGRP			AML	AML		
	comp=N,302µm,0.7s					
CGRP			AML	AML		
	comp=E,434µm,0.7s					
CGRP			AML	AML		
	comp=N,297µm,1.3s					
CGRP			AML	AML		
	comp=E,357µm,0.6s					
CGRP			AML	AML		
	comp=N,283µm,0.7s					
CGRP			AML	AML		
	comp=E,403µm,0.6s					
CGRP			AML	AML		
	comp=N,283µm,1.3s					
CGRP			AML	AML		
	comp=N,302µm,0.7s					
CGRP			AML	AML		
	comp=E,403µm,1.4s					
VARN	**Col Varnada, M**	**3.16 336**	P	**Pn**	**09 56 27.7**	**0.0**
VARN			AML	AML		
	comp=E,528µm,0.7s					
VARN			AML	AML		
	comp=N,416µm,0.7s					
VARN			AML	AML		
	comp=E,528µm,0.7s					
VARN			AML	AML		
	comp=N,302µm,0.6s					
VARN			AML	AML		
	comp=N,307µm,0.6s					
VARN			AML	AML		
	comp=E,549µm,0.7s					
VINO	**Villanova**	**3.18 352**	P	**Pn**	**09 56 27.8**	**-0.1**
VINO			AML	AML		
	comp=E,208µm,0.8s					
VINO			AML	AML		
	comp=N,202µm,0.6s					
VINO			AML	AML		
	comp=E,208µm,0.8s					
VINO			AML	AML		
	comp=E,208µm,1.2s					
VINO			AML	AML		
	comp=N,203µm,0.6s					
DST2	**Trieste**	**3.21 348**	⇑P	**Pn**	**09 56 28.9**	**+0.5**
DST2			AML	AML		
	comp=E,823µm,0.7s					
DST2			AML	AML		
	comp=N,655µm,0.6s					
DST2			AML	AML		
	comp=E,745µm,0.9s					
DST2			AML	AML		
	comp=N,403µm,0.7s					
DST2			AML	AML		
	comp=N,403µm,1.3s					
DST2			AML	AML		
	comp=E,823µm,0.7s					
TREB	**Trebinje**	**3.28 95**	*e*Pn	**Pn**	**09 56 30.2**	**+1.0**
TREB	**Trebinje**	**3.28 95**	*e*Pn	**Pn**	**09 56 29.9**	**+0.7**
NOCI	**Noci**	**3.30 134**	P	**Pn**	**09 56 29.6**	**+0.1**
NOCI			AML	AML		
	comp=E,386µm,0.3s					
NOCI			AML	AML		
	comp=N,376µm,0.3s					
NOCI			AML	AML		
	comp=E,385µm,0.3s					
NOCI			AML	AML		
	comp=N,375µm,0.3s					
CTI	**Castel Tesino**	**3.36 332**	P	**Pn**	**09 56 30.6**	**+0.2**
CTI			AML	AML		
	comp=E,110µm,0.8s					
CTI			AML	AML		
	comp=N,120µm,0.6s					
CTI			AML	AML		
	comp=E,102µm,0.2s					
CTI			AML	AML		
	comp=N,113µm,0.4s					
CTI			AML	AML		
	comp=N,113µm,1.6s					
CTI			AML	AML		
	comp=E,102µm,1.8s					
CIMO	**Cimolais**	**3.37 342**	⇑P	**Pn**	**09 56 30.5**	**0.0**
CIMO			AML	AML		
	comp=E,76µm,1.5s					
CIMO			AML	AML		
	comp=N,92µm,0.8s					
CIMO			AML	AML		
	comp=E,77µm,0.7s					
CIMO			AML	AML		
	comp=N,94µm,0.7s					
CIMO			AML	AML		
	comp=E,70µm,0.5s					
CIMO			AML	AML		
	comp=N,79µm,0.7s					
CIMO			AML	AML		
	comp=E,73µm,0.7s					
CIMO			AML	AML		
	comp=N,85µm,0.4s					
DOSS	**Dosso del Somm**	**3.39 326**	P	**Pn**	**09 56 31.4**	**+0.5**
DOSS			AML	AML		
	comp=E,304µm,0.6s					
DOSS			AML	AML		
	comp=N,292µm,0.6s					
DOSS			AML	AML		
	comp=E,286µm,0.6s					
DOSS			AML	AML		
	comp=N,285µm,0.6s					
DOSS			AML	AML		
	comp=E,304µm,0.6s					
DOSS			AML	AML		
	comp=N,292µm,0.6s					
DOSS			AML	AML		
	comp=E,285µm,0.6s					
DOSS			AML	AML		
	comp=N,285µm,0.6s					
DOSS			AML	AML		
	comp=E,304µm,1.4s					
DOSS			AML	AML		
	comp=N,285µm,1.4s					
DOSS			AML	AML		
	comp=E,285µm,1.4s					
DOSS			AML	AML		
	comp=N,292µm,1.4s					
MBAL	**Monte Baldo -**	**3.39 321**	⇓P	**Pn**	**09 56 31.2**	**+0.2**
MBAL			AML	AML		
	comp=E,143µm,0.8s					
MBAL			AML	AML		
	comp=N,120µm,0.9s					
MBAL			AML	AML		
	comp=E,157µm,0.8s					
MBAL			AML	AML		
	comp=N,182µm,0.7s					
MBAL			AML	AML		
	comp=N,95µm,0.4s					
MBAL			AML	AML		
	comp=N,182µm,1.3s					
MBAL			AML	AML		
	comp=E,180µm,0.8s					
MBAL			AML	AML		
	comp=E,137µm,0.6s					
BRY	**Bratogost**	**3.39 92**	*e*Pn	**Pn**	**09 56 31.4**	**+0.4**
BRY	**Bratogost**	**3.39 92**	⇑*i*Pn	**Pb**	**09 56 36.0**	**-2.3**
BRY			*i*Sn	**Sb**	**09 57 15.2**	**-4.3**
CLUD	**Cludinico**	**3.43 348**	⇑P	**Pn**	**09 56 31.2**	**-0.1**
CLUD			AML	AML		
	comp=E,245µm,0.8s					
CLUD			AML	AML		
	comp=N,238µm,0.8s					
CLUD			AML	AML		
	comp=E,243µm,0.8s					
CLUD			AML	AML		
	comp=N,237µm,0.7s					
CLUD			AML	AML		
	comp=E,245µm,0.8s					
CLUD			AML	AML		
	comp=N,238µm,0.8s					
CLUD			AML	AML		
	comp=E,243µm,0.8s					
CLUD			AML	AML		
	comp=E,243µm,1.2s					
CLUD			AML	AML		
	comp=E,245µm,1.2s					
CLUD			AML	AML		
	comp=N,237µm,0.7s					
OBKA	**Obir**	**3.43 7**	*e*Pn	**Pn**	**09 56 32.1**	**+0.7**
	comp=N,12nm,0.4s					
OBKA	**Obir**	**3.43 7**	*e*Pn	**Pn**	**09 56 31.5**	**+0.1**
ACOM	**Acomizza, Ital**	**3.45 355**	P	**Pn**	**09 56 32.9**	**+1.1**
ACOM			AML	AML		
	comp=E,312µm,0.9s					
ACOM			AML	AML		
	comp=N,330µm,0.7s					
ACOM			AML	AML		
	comp=E,321µm,0.9s					
ACOM			AML	AML		
	comp=N,316µm,0.7s					
ACOM			AML	AML		
	comp=E,321µm,0.9s					
ACOM			AML	AML		
	comp=E,312µm,0.9s					
ACOM			AML	AML		
	comp=N,316µm,0.7s					
ACOM			AML	AML		
	comp=N,331µm,0.7s					
PANI	**Panarotta**	**3.47 329**	⇓P	**Pn**	**09 56 32.6**	**+0.5**
PANI			AML	AML		
	comp=E,137µm,0.5s					
PANI			AML	AML		
	comp=N,146µm,0.5s					
PANI			AML	AML		
	comp=E,137µm,0.5s					
PANI			AML	AML		
	comp=N,146µm,0.5s					
PANI			AML	AML		
	comp=E,137µm,1.5s					
VARA	**Varagna**	**3.47 322**	⇓P	**Pn**	**09 56 32.4**	**+0.3**
VARA			AML	AML		
	comp=E,302µm,0.3s					
VARA			AML	AML		
	comp=N,466µm,0.6s					
VARA			AML	AML		
	comp=E,730µm,5.4s					
VARA			AML	AML		
	comp=N,1487µm,6.0s					
VARA			AML	AML		
	comp=N,466µm,0.6s					
VARA			AML	AML		
	comp=E,302µm,0.3s					
ZOU	**Zoufplan**	**3.51 349**	P	**Pn**	**09 56 32.9**	**+0.3**
ZOU			AML	AML		
	comp=E,192µm,0.8s					
ZOU			AML	AML		
	comp=N,198µm,1.4s					
ZOU			AML	AML		
	comp=E,174µm,0.7s					
ZOU			AML	AML		
	comp=N,188µm,1.4s					
ZOU			AML	AML		
	comp=E,173µm,0.7s					
ZOU			AML	AML		
	comp=N,188µm,1.4s					
ZOU			AML	AML		
	comp=N,198µm,1.4s					
ZOU			AML	AML		
	comp=E,192µm,0.8s					
ZOU			AML	AML		
	comp=N,188µm,0.6s					

ZOU				AML	AML	
	comp=N,198μm,0.6s					
MYKA	**Terra Mystica**	**3.52 357**	*i* Pn		**Pn**	**09 56 34.0 +1.2**
	comp=N,8.2nm,0.5s					
LUSI	**Trento, Gardas**	**3.56 324**	P		**Pn**	**09 56 33.4 +0.3**
LUSI				AML	AML	
	comp=E,186μm,0.8s					
LUSI				AML	AML	
	comp=N,235μm,0.9s					
LUSI				AML	AML	
	comp=E,185μm,0.8s					
LUSI				AML	AML	
	comp=N,203μm,0.6s					
LUSI				AML	AML	
	comp=E,185μm,1.2s					
LUSI				AML	AML	
	comp=N,203μm,1.4s					
ZIAN	**Ziano**	**3.58 333**	P		**Pn**	**09 56 34.0 +0.5**
ZIAN				AML	AML	
	comp=E,148μm,0.6s					
ZIAN				AML	AML	
	comp=N,228μm,0.5s					
ZIAN				AML	AML	
	comp=N,228μm,0.5s					
ZIAN				AML	AML	
	comp=N,352μm,5.3s					
ZIAN				AML	AML	
	comp=E,220μm,0.5s					
ZIAN				AML	AML	
	comp=E,149μm,0.6s					
GAGG	**Gaggia**	**3.65 326**	⇓P		**Pn**	**09 56 35.2 +0.8**
GAGG				AML	AML	
	comp=E,201μm,0.9s					
GAGG				AML	AML	
	comp=N,351μm,0.9s					
GAGG				AML	AML	
	comp=E,342μm,0.8s					
GAGG				AML	AML	
	comp=N,201μm,0.9s					
GAGG				AML	AML	
	comp=E,201μm,0.9s					
GAGG				AML	AML	
	comp=E,342μm,0.8s					
GAGG				AML	AML	
	comp=N,201μm,0.9s					
GAGG				AML	AML	
	comp=E,201μm,1.1s					
GAGG				AML	AML	
	comp=E,342μm,1.2s					
GAGG				AML	AML	
	comp=N,351μm,0.9s					
GAGG				AML	AML	
	comp=N,201μm,1.1s					
SOKA	**Soboth**	**3.65 12**	*e*Pn		**Pn**	**09 56 35.5 +1.0**
	comp=N,2.8nm,0.5s					
SOKA				Sn	**Sg**	**09 57 37.5 +1.9**
	comp=N,15nm,0.6s					
CEME	**Cevo**	**3.72 97**	⇑*i*Pn		**Pn**	**09 56 36.5 +1.1**
CEME			*i* Sn		**Sn**	**09 57 21.3 +2.3**
BUM	**Brajici-Budva**	**3.75 101**	*e*Pn		**Pn**	**09 56 36.8 +1.0**
BUM			*i* Sn		**Sn**	**09 57 22.3 +2.4**
ABTA	**Abfaltersbach**	**3.77 345**	*i* Pn		**Pn**	**09 56 37.2 +1.0**
	comp=N,31nm,0.6s,SNR=7.7					
ABTA			*e*Sn		**Sn**	**09 57 20.6 +0.2**
	comp=N,49nm,0.6s					
ZONE	**Zone**	**3.80 316**	AML		AML	
	comp=N,109μm,0.3s					
ZONE				AML	AML	
	comp=E,104μm,0.4s					
ZONE				AML	AML	
	comp=N,133μm,1.3s					
ZONE				AML	AML	
	comp=E,104μm,0.4s					
ZONE				AML	AML	
	comp=E,120μm,0.9s					
ZONE				AML	AML	
	comp=N,228μm,1.1s					
ZONE				AML	AML	
	comp=N,228μm,0.9s					
KOSI	**Kohlern**	**3.81 333**	⇑P		**Pn**	**09 56 37.5 +0.7**
KOSI				AML	AML	
	comp=E,280μm,0.6s					
KOSI				AML	AML	
	comp=N,232μm,0.5s					
KOSI				AML	AML	
	comp=E,280μm,0.6s					
KOSI				AML	AML	
	comp=N,233μm,0.5s					
KOSI				AML	AML	
	comp=N,233μm,1.5s					
KOSI				AML	AML	
	comp=E,280μm,1.4s					
MABI	**Malga Bissina**	**3.82 322**	P		**Pn**	**09 56 37.3 +0.5**
MABI				AML	AML	
	comp=E,125μm,0.4s					
MABI				AML	AML	
	comp=N,124μm,0.3s					
MABI				AML	AML	
	comp=E,125μm,0.4s					
MABI				AML	AML	
	comp=N,124μm,0.3s					
APPI	**Appiano**	**3.88 331**	⇑P		**Pn**	**09 56 38.2 +0.7**
APPI				AML	AML	
	comp=E,216μm,0.5s					
APPI				AML	AML	
	comp=N,257μm,0.6s					
APPI				AML	AML	
	comp=E,216μm,0.5s					
APPI				AML	AML	
	comp=N,257μm,0.6s					
OZOL	**Ozolo**	**3.88 329**	⇑P		**Pn**	**09 56 38.3 +0.7**
OZOL				AML	AML	
	comp=E,764μm,1.5s					
OZOL				AML	AML	
	comp=N,409μm,0.5s					
OZOL				AML	AML	
	comp=E,543μm,0.5s					
OZOL				AML	AML	
	comp=N,240μm,0.5s					
OZOL				AML	AML	
	comp=E,543μm,0.5s					
OZOL				AML	AML	
	comp=N,240μm,0.5s					
OZOL				AML	AML	
	comp=E,667μm,1.0s					
OZOL				AML	AML	
	comp=N,409μm,0.5s					
OZOL				AML	AML	
	comp=N,240μm,1.5s					
BRES	**Bressanone**	**3.91 337**	⇑P		**Pn**	**09 56 39.2 +1.0**
BRES				AML	AML	
	comp=E,148μm,0.9s					
BRES				AML	AML	
	comp=N,202μm,0.3s					
BRES				AML	AML	
	comp=E,143μm,0.4s					
BRES				AML	AML	
	comp=N,202μm,0.3s					
PDG	**Podgorica**	**3.99 98**	*e*Pn		**Pn**	**09 56 40.5 +1.6**
KBA	**Koelnbreinsper**	**3.99 354**	*i* Pn		**Pn**	**09 56 40.5 +1.3**
	comp=N,3.4nm,0.2s,SNR=4.8					
DRME	**Dracevica, Mon**	**3.99 102**	*e*Pn		**Pn**	**09 56 40.2 +1.2**
DRME	**Dracevica, Mon**	**3.99 102**	⇑*i*Pn		**Pn**	**09 56 39.8 +0.8**
DRME			*i* Sn		**Sn**	**09 57 27.4 +1.8**
RUDO	**Rudo**	**4.01 81**	*e*Pn		**Pn**	**09 56 41.1 +1.8**
MDI	**Monti di Nese**	**4.02 313**	⇓P		**Pn**	**09 56 39.8 +0.2**
MDI				AML	AML	
	comp=E,105μm,0.4s					
MDI				AML	AML	
	comp=N,107μm,1.2s					
MDI				AML	AML	
	comp=N,88μm,0.3s					
MDI				AML	AML	
	comp=E,85μm,0.3s					
MDI				AML	AML	
	comp=N,222μm,0.7s					
MDI				AML	AML	
	comp=E,169μm,0.8s					
CARE	**Lago del Cares**	**4.03 326**	P		**Pn**	**09 56 40.9 +1.0**
CARE				AML	AML	
	comp=E,335μm,1.6s					
CARE				AML	AML	
	comp=N,341μm,1.3s					
CARE				AML	AML	
	comp=E,158μm,0.6s					
CARE				AML	AML	
	comp=N,107μm,0.6s					
CARE				AML	AML	
	comp=E,157μm,0.6s					
CARE				AML	AML	
	comp=N,107μm,0.6s					
CARE				AML	AML	
	comp=E,335μm,1.6s					
CARE				AML	AML	
	comp=N,341μm,1.3s					
CARE				AML	AML	
	comp=N,107μm,1.4s					
BBLS	**Lazi&#263i**	**4.06 77**	*e*Pn		**Pn**	**09 56 39.9 -0.2**
BBLS	**Lazi&#263i**	**4.06 77**	*e*Pn		**Pn**	**09 56 41.0 +0.9**
KOME	**Kolasin**	**4.11 92**	⇓*i*Pn		**Pn**	**09 56 42.6 +1.8**
KOME			*i* Sn		**Sn**	**09 57 31.6 +2.8**
ROSI	**Rosskopf**	**4.21 336**	P		**Pn**	**09 56 43.5 +1.2**
ROSI				AML	AML	
	comp=E,330μm,0.5s					
ROSI				AML	AML	
	comp=N,347μm,0.5s					
ROSI				AML	AML	
	comp=E,330μm,0.5s					
ROSI				AML	AML	
	comp=N,347μm,0.5s					
MOSI	**Grossmontoni**	**4.25 327**	P		**Pn**	**09 56 44.6 +1.9**
IVA	**Berane**	**4.39 91**	⇓*i*Pn		**Pn**	**09 56 45.8 +1.2**
IVA			*i* Sn		**Sn**	**09 57 37.7 +2.1**
LESA	**Schwarzleotal**	**4.40 349**	*i* Pn		**Pn**	**09 56 45.9 +1.1**
	comp=N,22nm,0.4s,SNR=13					
LESA			*e*Sn		**Sn**	**09 57 38.5 +2.6**
	comp=N,27nm,0.5s					
SJES	**Sjenica**	**4.43 86**	*e*Pn		**Pn**	**09 56 47.2 +2.1**
SJES	**Sjenica**	**4.43 86**	*e*Pn		**Pn**	**09 56 47.3 +2.1**
SJES			*e*Sn		**Sn**	**09 57 38.3 +1.7**
WTTA	**Wattenberg**	**4.46 340**	*i* Pn		**Pn**	**09 56 47.5 +1.9**
	comp=N,9.0nm,0.2s,SNR=8.0					
WTTA			*e*Sn		**Sn**	**09 57 41.6 +4.3**
	comp=N,71nm,0.5s					
WTTA	**Wattenberg**	**4.46 340**	P		**Pn**	**09 56 47.0 +1.4**
MUGIO	**Muggio**	**4.48 311**	P		**Pn**	**09 56 45.7 -0.1**
MUGIO				AML	AML	
	comp=E,58μm,0.6s					
MUGIO				AML	AML	
	comp=N,51μm,0.6s					
MUGIO				AML	AML	
	comp=E,58μm,0.7s					
MUGIO				AML	AML	
	comp=N,51μm,0.7s					
FETA	**Feichten**	**4.52 331**	*i* Pn		**Pn**	**09 56 48.2 +1.8**
	comp=N,8.4nm,0.5s,SNR=8.3					
FETA			*i* Sn		**Sn**	**09 57 39.3 +0.5**
	comp=N,11nm,0.5s					
SQTA	**Sankt Quirin**	**4.54 336**	*i* Pn		**Pn**	**09 56 48.6 +2.0**
	comp=N,27nm,0.4s,SNR=8.8					
SQTA			*i* Sn		**Sn**	**09 57 40.1 +0.9**
	comp=N,84nm,0.7s					
WATA	**Walderalm**	**4.54 339**	*i* Pn		**Pn**	**09 56 48.9 +2.2**
	comp=N,8.8nm,0.2s,SNR=4.7					
WATA			*i* Sn		**Sn**	**09 57 41.8 +2.5**
	comp=N,36nm,0.6s					
VARE	**Varese**	**4.60 309**	AML		AML	
	comp=E,88μm,0.9s					
VARE				AML	AML	
	comp=N,107μm,0.6s					
VARE				AML	AML	
	comp=E,88μm,0.8s					
VARE				AML	AML	
	comp=N,107μm,0.6s					
DAVOX	**Davos/Dischmat**	**4.66 323**	Pn		**Pn**	**09 56 50.9 +2.5**
	comp=N,6.1nm,0.3s,baz=137,slow=15,SNR=26					
DAVOX			Sn		**Sn**	**09 57 43.1 +0.7**
	comp=N,4.3nm,0.3s,baz=344,slow=20,SNR=8.9					
DAVOX	**Davos/Dischmat**	**4.66 323**	P		**Pn**	**09 56 50.8 +2.4**
DAVOX				AML	AML	
	comp=E,56μm,1.6s					
DAVOX				AML	AML	
	comp=N,92μm,0.6s					
DAVOX				AML	AML	
	comp=E,53μm,0.7s					
DAVOX				AML	AML	
	comp=N,91μm,0.6s					
DAVOX				AML	AML	
	comp=N,91μm,1.4s					
DAVOX				AML	AML	
	comp=E,53μm,1.3s					
MOTA	**Moosalm**	**4.68 336**	*i* Pn		**Pn**	**09 56 50.6 +2.0**
	comp=E,5.3nm,0.4s					
MOTA			*i* Sn		**Sn**	**09 57 45.5 +2.7**
	comp=E,36nm,0.6s					
TUE	**Stuetta**	**4.68 318**	P		**Pn**	**09 56 49.8 +1.1**
TUE				AML	AML	
	comp=E,53μm,0.7s					
TUE				AML	AML	
	comp=N,87μm,0.5s					
TUE				AML	AML	
	comp=E,70μm,0.7s					
TUE				AML	AML	
	comp=N,113μm,0.5s					
TUE				AML	AML	
	comp=N,113μm,0.5s					
TUE				AML	AML	
	comp=E,53μm,0.7s					
TUE				AML	AML	
	comp=N,87μm,0.5s					
TUE				AML	AML	
	comp=E,71μm,0.7s					
TUE				AML	AML	
	comp=N,113μm,1.5s					
TUE				AML	AML	
	comp=N,87μm,1.5s					
FRGS	**Fruska Gora**	**4.71 62**	*e*Pn		Pb	09 56 54.8 -5.8
FRGS	**Fruska Gora**	**4.71 62**	*e*Pn		**Pn**	**09 56 50.6 +1.7**
SAOF	**Saorge**	**4.71 283**	P		**Pn**	**09 56 51.3 +2.4**
MOA	**Molln**	**4.75 3**	*e*Pn		**Pn**	**09 56 51.0 +1.5**
	comp=N,3.4nm,0.3s					
MOA			*e*Sn		**Sn**	**09 57 46.7 +2.5**
	comp=N,7.3nm,0.4s					
TRUS	**Trudelj**	**4.83 74**	*e*Pn		**Pn**	**09 56 51.3 +0.7**
RONA	**Rosalia, Austr**	**4.88 19**	*e*Pn		**Pn**	**09 56 52.3 +0.9**
	comp=N,2.3nm,0.3s					
RETA	**Reutte**	**4.91 334**	*e*Pn		**Pn**	**09 56 53.9 +2.1**
	comp=N,2.2nm,0.2s					
RETA			*e*Sn		**Sn**	**09 57 52.4 +3.9**
	comp=N,8.3nm,0.4s					
GRUS	**Gruza**	**5.00 79**	*e*Pn		**Pn**	**09 56 53.5 +0.5**
CONA	**Conrad Observa**	**5.01 15**	*i* Pn		**Pn**	**09 56 53.9 +0.8**
	comp=N,5.8nm,0.5s,SNR=6.2					
FUSIO	**Fusio**	**5.02 314**	P		**Pn**	**09 56 53.7 +0.4**
DAVA	**Damuels**	**5.06 327**	*i* Pn		**Pn**	**09 56 56.7 +2.8**
	comp=N,12nm,0.5s,SNR=5.4					
DAVA			*i* Sn		**Sn**	**09 57 53.1 +1.0**
	comp=N,43nm,0.6s					
GOCS	**Kraljevo Serbi**	**5.09 83**	*e*Pn		**Pn**	**09 56 55.1 +0.8**
PZZ	**Stroppo**	**5.12 288**	P		**Pn**	**09 56 57.1 +2.4**
MMK	**Mattmark**	**5.17 307**	P		**Pn**	**09 56 56.5 +1.0**
OHR	**Ohrid**	**5.49 109**	*i* Pn		**Pn**	**09 57 01.5 +1.8**
OHR			*i* Sn		**Sn**	**09 58 03.7 +1.0**
GERES	**GERESS Array B**	**5.74 359**	Pn		**Pn**	**09 57 03.0 -0.1**
	comp=N,0.1nm,0.3s,baz=173,slow=14,SNR=14					
GERES			Sn		**Sn**	**09 58 08.2 -0.6**
	comp=N,0.2nm,0.3s,baz=178,slow=25,SNR=6.6					
	comp=N,1.6nm,0.3s					
BARS	**Barje**	**5.80 90**	*e*Pn		**Pn**	**09 57 04.8 +0.9**
BARS			*e*Sn		**Sn**	**09 58 09.7 -0.6**
FNA	**Florina**	**6.03 110**	*e*Pn		**Pn**	**09 57 07.7 +0.7**
FNA			*e*Sn		**Sn**	**09 58 12.7 -3.2**
KHC	**Kasperske Hory**	**6.03 358**	*e*PN		**Pn**	**09 57 06.9 -0.1**
KHC	**Kasperske Hory**	**6.03 358**	*e*P		**Pn**	**09 57 06.9 -0.1**
ZAGS	**Zajecar**	**6.09 81**	*e*Pn		**Pn**	**09 57 08.7 +0.8**
ZAPS	**Zavoj**	**6.37 86**	*e*Pn		**Pn**	**09 57 12.7 +0.9**
SRS	**Serrai**	**7.46 102**	*e*Pn		**Pn**	**09 57 27.7 +1.0**
KEST	**Kesra**	**8.17 207**	Pn		**Pn**	**09 57 36.7 +0.2**
	comp=N,0.7nm,0.3s,baz=54,slow=2.9,SNR=5.5					
	comp=N,1.9nm,0.8s					
AKASG	**Malin Array Be**	**12.91 49**	Sn		**Sn**	**10 01 08.5 +3.9**
	comp=N,0.2nm,0.3s,baz=238,slow=24,SNR=1.2					
MNK	**Minsk**	**14.62 34**	*i* P		**Pn**	**09 59 00.9 -3.6**
	comp=E,12nm,0.6s					
MNK			*i* P		**Pn**	**09 59 00.9 -3.6**
	comp=N,14nm,0.8s					
MNK			*i* P		**Pn**	**09 59 00.9 -3.6**
	comp=Z,4.0nm,0.5s,baz=225					
MNK			*i* PP		**P**	**09 59 08.9 -2.0**
MNK			*i* PPP		PPP	09 59 16.5
MNK			*i* S		**Sn**	**10 01 43.4 -2.7**
MNK			*i* SS		**SnSn**	**10 01 57.2 -1.4**
MNK			*i* SSS		SSS	10 02 09.8
MNK			*i* LQ		LQ	10 03 17.4
MNK			*i* LR		LR	10 04 23.9
MNK			*i* LRM		MLR	10 06 34.0
	comp=N,225nm,21.4s					
MNK			*i* LRM		MLR	10 06 43.7
	comp=E,363nm,24.0s					
MNK			*i* LRM		MLR	10 06 56.3
	comp=Z,76nm,17.6s					
MNK	**Minsk**	**14.62 34**	*i* P		**Pn**	**09 59 00.9 -3.6**
MNK			*i* S		**Sn**	**10 01 43.4 -2.7**
MNK			pmax		pmax	
	comp=Z,4.0nm,0.5s					
MNK			pmax		pmax	
	comp=N,14nm,0.8s					
MNK			pmax		pmax	
	comp=E,12nm,0.6s					
MNK			MLR		MLR	
	comp=N,225nm,21.0s					
MNK			MLR		MLR	
	comp=E,363nm,24.0s					
MNK			MLR		MLR	
	comp=Z,76nm,18.0s					
VSU	**Vasula**	**17.32 23**	*i* P		**P**	**09 59 40.3 -0.5**
NOA	**NORSAR Array B**	**18.03 356**	P		**Pn**	**09 59 48.4 +0.1**
	baz=187,slow=11,SNR=3.7					
	comp=Z,0.7nm,0.7s					
SOC	**Sochi**	**18.75 80**	*e*P		**Pn**	**09 59 57.5 +0.4**
SOC			*e*			10 03 29.5
SOC			MLR		MLR	
	comp=Z,96nm,14.0s					
OBN	**Obninsk**	**18.98 43**	*e*P		**Pn**	**10 00 00.7 +0.9**
OBN			pmax		pmax	
	comp=Z,3.0nm,1.0s					
FINES	**FINESS Array B**	**19.75 17**	P		**P**	**10 00 07.7 +0.3**
	comp=Z,0.2nm,0.3s,baz=185,slow=11,SNR=5.3					
	comp=Z,3.2nm,0.9s					
KBZ	**Khabaz**	**21.02 78**	P		**P**	**10 00 22.5 +1.2**
	comp=Z,1.9nm,0.8s,baz=280,slow=9.1,SNR=3.8					
	comp=Z,1.9nm,0.8s					
KBZ	**Khabaz**	**21.02 78**	*i* P		**P**	**10 00 22.6 +1.2**
KBZ			pmax		pmax	
	comp=Z,5.0nm,1.4s					
ARTI	**Arti**	**31.06 49**	*i* P		**P**	**10 01 54.6 -1.0**
ARTI			pmax		pmax	
	comp=Z,7.0nm,1.6s					
TORD	**Torodi Ar. Bea**	**31.67 203**	P		**P**	**10 02 00.6 -0.6**
	comp=Z,0.9nm,0.4s,baz=12,slow=9.0,SNR=5.2					
	comp=Z,0.9nm,0.4s					
BRVK	**Borovoye**	**38.02 55**	*i* P		**P**	**10 02 56.8 +1.0**
BRVK			pmax		pmax	
	comp=Z,3.0nm,0.7s					
BVAR	**Borovoye Array**	**38.09 55**	P		**P**	**10 02 57.2 +0.8**
	comp=Z,1.3nm,0.7s,baz=280,slow=8.3,SNR=6.5					
	comp=Z,1.3nm,0.7s					
AAK	**Ala-Archa**	**43.52 69**	*i* P		**P**	**10 03 41.6 +0.1**
AAK			pmax		pmax	
	comp=Z,6.0nm,2.0s					
ZALV	**Zalesovo Beam**	**46.30 51**	P		**P**	**10 04 03.7 +0.4**
	comp=Z,0.4nm,0.4s,baz=269,slow=8.6,SNR=1.8					
	comp=Z,0.4nm,0.4s					
MK31	**Makanchi Array**	**47.14 61**	*i* P		**P**	**10 04 10.2 +0.2**
MKAR	**Makanchi Array**	**47.14 61**	P		**P**	**10 04 10.8 +0.9**
	comp=Z,1.0nm,0.6s,baz=290,slow=6.2,SNR=15					
	comp=Z,1.0nm,0.6s					
TIXI	**Tiksi**	**56.77 20**	*i* P		**P**	**10 05 21.3 0.0**
TIXI			pmax		pmax	
	comp=Z,5.0nm,1.7s					
SONM	**Songino Array**	**61.19 50**	P		**P**	**10 05 53.3 +0.7**
	comp=Z,0.5nm,0.3s,baz=302,slow=6.4,SNR=3.3					
	comp=Z,0.5nm,0.3s					
BILL	**Bilibino**	**67.24 11**	*i* P		**P**	**10 06 32.3 +0.6**
BILL			pmax		pmax	
	comp=Z,5.0nm,1.8s					

*JMA **28** 10:07:37.3±0.2,25°.1N±0°.7×123°.5E±0°.3,h23km,MV2.8/9, NW OFF ISHIGAKIJIMA IS*
*IDC **28** 10:07:40.2±3.4,23°.81N×120°.71E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=299.0km s-min=21.2km az=62.0*

ISC 28 10:07:36.8±1.2,25°.06N±0°.07×123°.48E±0°.04,h10km,n12, σ1§11/17,mb3.5/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**216**	*e*P	**Pg**	**10 07 50.9**	**0.0**
YOJ				*e*S	**Sg**	**10 08 00.1**	**-0.3**
IRIF	**Iriomote-Funau**	**0.75**	**163**	P	**Pg**	**10 07 51.3**	**0.0**
IRIF				*e*S	**Sg**	**10 08 01.7**	**+0.6**
JYNG	**Yonagunijimaku**	**0.78**	**219**	P	**Pg**	**10 07 51.8**	**0.0**
JYNG				*e*S	**Sg**	**10 08 01.8**	**0.0**
JISG	**Ishigakijimahi**	**0.89**	**122**	P	**Pg**	**10 07 53.9**	**+0.1**
JISG				*e*S	**Sg**	**10 08 05.5**	**+0.2**
JIJ	**Ishigaki jima**	**0.92**	**139**	P	**Pg**	**10 07 53.9**	**-0.5**
JIJ				*e*S	**Sg**	**10 08 05.4**	**-0.9**
JKRS	**Kuro-shima**	**0.95**	**149**	*e*S	**Sg**	**10 08 07.2**	**-0.1**
HATJ	**Hateruma jima**	**1.04**	**164**	*e*P	**Pg**	**10 07 56.3**	**-0.5**
MKAR	**Makanchi Array**	**39.20**	**314**	P	**P**	**10 15 01.7**	**-3.3**
	0.6nm,0.8s,baz=120,slow=8.8,SNR=6.3						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**40.68**	**325**	P	**P**	**10 15 19.0**	**+1.8**
	0.8nm,0.5s,baz=138,slow=5.2,SNR=2.7						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**42.82**	**319**	P	**P**	**10 15 34.9**	**+0.2**
	0.8nm,0.8s,baz=111,slow=8.4,SNR=4.3						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**45.96**	**166**	P	**P**	**10 16 00.9**	**+0.8**
	0.5nm,0.8s,baz=346,slow=7.9,SNR=6.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**49.48**	**167**	P	**P**	**10 16 28.2**	**+0.8**
	0.5nm,0.9s,baz=346,slow=8.3,SNR=4.1						
	0.5nm,0.9s						

HEL 28 10:08:50.8±0.5,60°.94N×29°.44E,h0km,ML1.4, Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.54**	**334**	PG	Pg	10 09 00.6	-0.5
RUF				SG	Sg	10 09 07.4	-0.7
RUF				MSG		10 09 08.2	
	comp=Z,4.9nm,0.2s						
VJF	**Virojoki**	**1.01**	**247**	PG	Pg	10 09 08.8	-1.3
VJF				MSG		10 09 21.7	
	comp=Z,7.2nm,0.2s						
VJF				SB	Sg	10 09 23.8	+0.6
FIA0	**FINESS Array S**	**1.70**	**289**	PG	Pn	10 09 20.5	-1.2
FIA0				MSG		10 09 41.6	
	comp=Z,2.0nm,0.2s						
FIA0				SG	Sn	10 09 43.8	-0.4
PVF	**Pernaja**	**1.80**	**259**	PG	Pn	10 09 20.3	-2.7
PVF				MSG		10 09 44.5	
	comp=Z,2.0nm,0.2s						
PVF				SN	Sb	10 09 47.8	+0.1
KAF	**Kangasniemi**	**1.91**	**309**	PG	Pb	10 09 25.5	-0.9
	baz=123						
KAF				MSG		10 09 47.6	
	comp=Z,1.7nm,0.2s						
KAF				SG	Sn	10 09 49.9	+0.8
JOF	**Joensuu**	**2.17**	**23**	PG	Pb	10 09 29.9	-1.0
JOF				SG	Sb	10 09 57.6	-0.7
SUF	**Sumiainen**	**2.37**	**320**	PG	Pb	10 09 33.7	-0.6
SUF				MSG		10 10 00.8	
	comp=Z,0.7nm,0.2s						
SUF				SG	Sb	10 10 03.8	-0.2
NIF	**Nilsia**	**2.57**	**343**	PG	Pb	10 09 36.0	-1.8
NIF				SG	Sb	10 10 08.9	-1.0
MTSE	**Matsula**	**3.61**	**234**	SG	Sb	10 10 39.7	-0.1
VAF	**Ylistaro**	**3.82**	**306**	PN	Pn	10 09 51.2	+0.4

*CATAC **28** 10:09:15.0±0.8,13°N±4°×9°0W±°,h20km±5km,M3.8/18, MLv3.8/18,Error ellipse: s-maj=9.4km s-min=7.0km az=2.8, confirmed*
*SNET **28** 10:09:15.0±0.9,13°.00N×89°.58W,h30km±3km,ML3.8*
*GCG **28** 10:09:16.0±0.7,13°.02N×89°.67W,h24km±6km,MD4.0*

ISC 28 10:09:14.7±2.0,12°.97N±0°.08×89°.59W±0°.06,h26km±13km, n85,σ0§47/92,14D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.58**	**27**	⇓*i*P	**Pn**	**10 09 27.1**	**-0.1**
LALI				*e*S	**Sn**	**10 09 35.0**	**-1.0**
LALI	**Alcalda de L**	**0.58**	**27**	P	**Pn**	**10 09 27.2**	**-0.1**

LALI	**Alcalda de L**	**0.58**	**27**	⇓*iP*	**Pn**	**10 09 27.2**	**-0.1**
LALI				*eS*	**Sn**	**10 09 35.0**	**-1.0**
LALI	**Alcalda de L**	**0.58**	**27**	⇓*iP*		10 09 27.2	
LALI				*eS*		10 09 35.0	
JAYA	**Jayaque - finc**	**0.70**	**11**	*eP*	**Pn**	**10 09 28.8**	**-0.2**
JAYA				*eS*	**Sn**	**10 09 38.9**	**-0.2**
JAYA	**Jayaque - finc**	**0.70**	**11**	P	**Pn**	**10 09 28.8**	**-0.2**
JAYA	**Jayaque - finc**	**0.70**	**11**	⇓*eP*	**Pn**	**10 09 28.8**	**-0.2**
JAYA				*eS*	**Sn**	**10 09 38.9**	**-0.2**
JAYA	**Jayaque - finc**	**0.70**	**11**	⇓*eP*		10 09 28.8	
JAYA				*eS*		10 09 38.9	
PANCS	**Alcalda de**	**0.76**	**32**	*eP*	**Pn**	**10 09 29.4**	**-0.3**
PANCS	**Alcalda de**	**0.76**	**32**	S	**Sn**	**10 09 40.2**	**-0.1**
PANCS	**Alcalda de**	**0.76**	**32**	P	**Pn**	**10 09 29.4**	**-0.3**
ITCA	**Escuela Especi**	**0.77**	**23**	*eP*	**Pn**	**10 09 29.8**	**-0.1**
ITCA	**Escuela Especi**	**0.77**	**23**	S	**Sn**	**10 09 40.9**	**+0.2**
ITCA	**Escuela Especi**	**0.77**	**23**	P	**Pn**	**10 09 29.9**	**0.0**
LOMA	**Loma Larga**	**0.79**	**31**	*eP*	**Pn**	**10 09 30.1**	**-0.1**
LOMA	**Loma Larga**	**0.79**	**31**	P	**Pn**	**10 09 30.2**	**-0.1**
PMON	**Piamonte**	**0.79**	**20**	*eP*	**Pn**	**10 09 30.1**	**-0.2**
PMON	**Piamonte**	**0.79**	**20**	P	**Pn**	**10 09 30.3**	**0.0**
SEMO	**Seminario San**	**0.82**	**26**	P	**Sn**	**10 09 43.1**	**+1.2**
UEES	**Universidad Ev**	**0.82**	**25**	⇓*iP*	**Pn**	**10 09 30.6**	**0.0**
UEES	**Universidad Ev**	**0.82**	**25**	P	**Pn**	**10 09 30.7**	**0.0**
BOQS	**Boqueron**	**0.82**	**22**	*eP*	**Pn**	**10 09 30.9**	**+0.1**
UTEC	**Universidad Te**	**0.82**	**27**	P	**Pn**	**10 09 30.7**	**0.0**
LFRS	**El Faro**	**0.83**	**38**	*eP*	**Pb**	**10 09 30.5**	**-0.1**
PIC2	**El Picacho**	**0.84**	**23**	*eP*	**Pn**	**10 09 31.4**	**+0.4**
UESS	**Universidad de**	**0.84**	**27**	*eP*	**Pn**	**10 09 30.9**	**0.0**
IGN	**Direccin Gen**	**0.85**	**29**	S	**Sn**	**10 09 43.3**	**+0.6**
IGN	**Direccin Gen**	**0.85**	**29**	P	**Pn**	**10 09 31.1**	**0.0**
CEDA	**San Andres**	**0.85**	**13**	*eP*	**Pn**	**10 09 31.2**	**+0.1**
CEDA	**San Andres**	**0.85**	**13**	P	**Sn**	**10 09 42.8**	**0.0**
CEVE	**Cerro Verde**	**0.86**	**358**	*eP*	**Pn**	**10 09 31.4**	**+0.1**
CEVE	**Cerro Verde**	**0.86**	**358**	P	**Sn**	**10 09 44.6**	**+1.4**
UDBS	**Universidad Do**	**0.86**	**30**	*eP*	**Pn**	**10 09 31.2**	**+0.1**
UDBS	**Universidad Do**	**0.86**	**30**	S	**Sn**	**10 09 43.8**	**+0.9**
UDBS	**Universidad Do**	**0.86**	**30**	P	**Pn**	**10 09 31.3**	**+0.1**
SBLS	**San Blas**	**0.87**	**358**	⇓*iP*	**Pn**	**10 09 31.7**	**+0.2**
LFU	**La Fuente**	**0.91**	**31**	*eP*	**Pn**	**10 09 32.1**	**+0.3**
COEG	**Centro de Oper**	**0.95**	**47**	⇓*iP*	**Pb**	**10 09 32.2**	**-0.3**
COEG	**Centro de Oper**	**0.95**	**47**	P	**Pb**	**10 09 32.2**	**-0.3**
NUBE	**Las Nubes**	**0.95**	**349**	⇓*eP*	**Pn**	**10 09 32.5**	**+0.1**
NUBE				*eS*	**Sb**	**10 09 44.8**	**0.0**
NUBE	**Las Nubes**	**0.95**	**349**	S	**Sn**	**10 09 45.4**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**349**	P	**Pn**	**10 09 32.5**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**349**	*eP*	**Pn**	**10 09 32.5**	**+0.1**
NUBE				*i* S	**Sn**	**10 09 45.3**	**0.0**
NUBE	**Las Nubes**	**0.95**	**349**	*eP*		10 09 32.5	
NUBE				*i* S		10 09 45.3	
TECO	**Alcaldia de Te**	**0.97**	**54**	⇓*eP*	**Pn**	**10 09 32.2**	**-0.4**
TECO	**Alcaldia de Te**	**0.97**	**54**	S	**Sn**	**10 09 45.5**	**-0.2**
TECO	**Alcaldia de Te**	**0.97**	**54**	P	**Pn**	**10 09 32.3**	**-0.4**
SNVI	**San Vicente**	**0.97**	**49**	*eP*	**Pn**	**10 09 32.6**	**-0.2**
PAVA	**Las Pavas**	**0.98**	**40**	⇓*eP*	**Pb**	**10 09 33.1**	**+0.1**
PAVA	**Las Pavas**	**0.98**	**40**	P	**Pb**	**10 09 33.2**	**+0.1**
UNIC	**Universidad Ca**	**1.01**	**2**	*eP*	**Pb**	**10 09 33.6**	**0.0**
UNIC	**Universidad Ca**	**1.01**	**2**	P	**Pb**	**10 09 33.8**	**+0.2**
UESV	**Universidad de**	**1.03**	**49**	⇓*iP*	**Pn**	**10 09 33.4**	**-0.1**
UESV	**Universidad de**	**1.03**	**49**	S	**Sn**	**10 09 47.0**	**0.0**
UESV	**Universidad de**	**1.03**	**49**	P	**Pn**	**10 09 33.4**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.07**	**350**	⇓*eP*	**Pb**	**10 09 34.5**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.07**	**350**	P	**Pb**	**10 09 34.6**	**0.0**
SCLA	**Alcaldia de Sa**	**1.11**	**49**	⇓*eP*	**Pb**	**10 09 35.0**	**-0.3**
SCLA				*eS*	**Sn**	**10 09 49.1**	**0.0**
SCLA	**Alcaldia de Sa**	**1.11**	**49**	S	**Sb**	**10 09 50.3**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.11**	**49**	P	**Pb**	**10 09 35.0**	**-0.3**
TECA	**Tecapa**	**1.18**	**63**	*eP*	**Pn**	**10 09 35.6**	**-0.1**
PQSS	**Presa 15 de Se**	**1.20**	**57**	*eP*	**Pn**	**10 09 35.8**	**+0.1**
PQSS	**Presa 15 de Se**	**1.20**	**57**	S	**Sb**	**10 09 51.7**	**-0.1**
PQSS	**Presa 15 de Se**	**1.20**	**57**	P	**Pn**	**10 09 35.9**	**+0.1**
PACA	**Pacayal**	**1.33**	**68**	*eP*	**Pn**	**10 09 38.1**	**+0.4**
PACA	**Pacayal**	**1.33**	**68**	S	**Sn**	**10 09 54.7**	**0.0**
PACA	**Pacayal**	**1.33**	**68**	P	**Pn**	**10 09 38.3**	**+0.6**
LLGN	**La Laguna**	**1.35**	**28**	*eP*	**Pb**	**10 09 38.8**	**-0.5**
LLGN	**La Laguna**	**1.35**	**28**	P	**Pb**	**10 09 38.8**	**-0.5**
RANC	**El Ranchito**	**1.35**	**70**	*eP*	**Pn**	**10 09 38.1**	**+0.2**
RANC	**El Ranchito**	**1.35**	**70**	P	**Pn**	**10 09 38.4**	**+0.4**
BLLM	**Bellamira**	**1.40**	**70**	*eP*	**Pn**	**10 09 39.0**	**+0.4**
MTO3	**Montecristo**	**1.44**	**9**	*eP*	**Pb**	**10 09 40.3**	**-0.7**
MTO3	**Montecristo**	**1.44**	**9**	P	**Pb**	**10 09 40.4**	**-0.6**
MTO3	**Montecristo**	**1.44**	**9**	*eP*	**Pb**	**10 09 40.3**	**-0.7**
MTO3	**Montecristo**	**1.44**	**9**	*eP*		10 09 40.3	
CAHU	**Cacacuatique**	**1.56**	**59**	*eP*	**Pn**	**10 09 41.7**	**+0.7**
ESQI	**Esquipulas**	**1.60**	**9**	*eP*	**Pb**	**10 09 42.6**	**-1.1**
ESQI	**Esquipulas**	**1.60**	**9**	P	**Pb**	**10 09 42.7**	**-1.0**
LCND	**La Caada**	**1.69**	**78**	*eP*	**Pn**	**10 09 42.6**	**0.0**
LCND	**La Caada**	**1.69**	**78**	P	**Pn**	**10 09 42.8**	**+0.3**
CNCH	**Conchagua**	**1.74**	**80**	P	**Pn**	**10 09 44.0**	**+0.7**
CSGN	**Cosiguina Volc**	**1.98**	**89**	P	**Pn**	**10 09 45.5**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.50**	**64**	P	**Pn**	**10 09 54.9**	**+1.0**
POLN	**Al Sur del Vol**	**2.73**	**96**	P	**Pn**	**10 09 56.4**	**-0.4**
COPN	**Copaltepe**	**3.03**	**105**	P	**Pn**	**10 10 01.6**	**+0.6**
LIMN	**Finca el Limon**	**3.14**	**88**	P	**Pn**	**10 10 02.8**	**+0.1**
RCVN	**Varillal2**	**3.36**	**79**	P	**Pn**	**10 10 06.2**	**+0.5**
MATN	**Matagalpa**	**3.57**	**90**	P	**Pn**	**10 10 08.4**	**-0.1**

EST 28 10:09:42.8±0.1, 59°.20N×27°.82E, h0km, ML1.3(HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.18**	**9**	*eP*	Pg	10 09 46.0	-0.3
EE04				*eS*	Sg	10 09 48.4	-0.2
EE03	**Tooma soojaam,**	**0.86**	**249**	*eP*	Pg	10 09 58.6	-0.7
EE03				*eSB*	Sg	10 10 10.6	+0.1
VSU	**Vasula**	**0.93**	**218**	*eP*	Pg	10 09 58.9	-1.6
VSU				*eS*	Sg	10 10 10.7	-1.9
ARBE	**Arbavere**	**0.97**	**285**	*ePB*	Pg	10 10 01.1	-0.3
ARBE				*eS*	Sg	10 10 13.0	-0.9
VJF	**Virojoki**	**1.35**	**354**	*eP*	Pg	10 10 06.4	-2.3
VJF				*eS*	Sg	10 10 25.1	-1.2
EE07	**Piusa Caves, O**	**1.37**	**188**	*eS*	Sg	10 10 25.2	-1.6
EE08	**Sarghaua, Vand**	**1.44**	**249**	*eS*	Sg	10 10 27.0	-2.1
EE02	**Kiisa, Saku**	**1.61**	**271**	*eP*	Pn	10 10 12.0	-0.3
EE02				*eS*	Sn	10 10 31.7	-2.1
PVF	**Pernaja**	**1.68**	**325**	*ePN*	Pn	10 10 13.5	+0.2
PVF				*eS*	Sn	10 10 34.0	-1.5
HEL1	**Helsinki**	**1.79**	**305**	*eSG*	Sn	10 10 37.5	-0.7
MEF	**Metsahovi**	**2.02**	**302**	*ePG*	Pn	10 10 19.1	+1.1
MEF				*eSB*	Sn	10 10 43.8	0.0
MEF				MSG		10 10 45.7	
	comp=Z,1.6nm,0.2s						
NUR	**Nurmijarvi**	**2.07**	**311**	*ePG*	Pb	10 10 20.3	-0.9
NUR				*eSG*	Sn	10 10 46.2	+0.9
NUR				MSG		10 10 48.2	
	comp=Z,1.0nm,0.1s						
FIA0	**FINESS Array S**	**2.42**	**340**	*ePB*	Pn	10 10 24.9	+1.4
FIA0				*eSG*	Sb	10 10 56.5	-0.8
FIA0				MSG		10 10 58.4	
	comp=Z,0.7nm,0.1s						
FIA1	**FINESS Array S**	**2.42**	**340**	*ePB*	Pn	10 10 24.9	+1.4
FIA1				*eSG*	Sb	10 10 56.5	-0.9
FIA1				MSG		10 10 58.2	
	comp=Z,0.9nm,0.1s						
JOF	**Joensuu**	**4.10**	**23**	*eP*	Pn	10 10 46.9	+0.2

IDC 28 10:23:43.4±257.0, 7°.10S×116°.14E, h0km, Error ellipse: s-maj=151.6km s-min=116.7km az=143.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I06AU	**Cocos Islands**	**19.69**	**254**	I	I	12 20 25.0	
	0.3nm,1.4s,baz=80,slow=311,SNR=16						
I07AU	**WARRAMUNGA IN**	**21.78**	**128**	I	I	12 27 30.0	
	baz=301,slow=325,SNR=6.6						
I39PW	**PALAU INFRASON**	**23.42**	**52**	I	I	12 47 10.0	
	0.2nm,1.0s,baz=229,slow=316,SNR=11						
I04AU	**SHANNON INFRAS**	**27.36**	**180**	I	I	13 15 10.0	
	baz=358,slow=340,SNR=6.0						
I52GB	**DIEGO GARCIA I**	**43.29**	**267**	I	I	14 46 10.0	
	baz=96,slow=296,SNR=26						

*NEIC **28** 10:24:04.0±1.3, 66°.24N±0°.01×157°.17W±0°.05, h11km±4km, Error ellipse: s-maj=3.0km s-min=1.8km az=107.0*

AEIC 28 10:24:03.0±1.6, 66°.23N±0°.02×157°.15W±0°.03, h3km±6km, ML3.3, ML3.6/140(NEIC), **Error ellipse: s-maj=2.7km s-min=1.8km az=203.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.09**	**164**		Pg	10 24 07.5	+2.7
G19K	**Purcell Mounta**	**0.09**	**164**	IAML		10 24 07.9	
	comp=N,80μm,0.2s						
G19K				IAML		10 24 08.1	
	comp=E,104μm,0.3s						
F19K	**Shaleruckik Mo**	**0.65**	**338**		Pg	10 24 15.2	-0.3
F19K					Sg	10 24 24.4	+0.4
F19K	**Shaleruckik Mo**	**0.65**	**338**	IAML		10 24 29.5	
	comp=E,2μm,0.6s						
G18K	**Tagagawik**	**0.70**	**242**		Pg	10 24 16.6	+0.1
G18K					Sg	10 24 26.6	+1.1
G18K	**Tagagawik**	**0.70**	**242**	IAML		10 24 29.3	
	comp=N,2μm,0.8s						
G18K				IAML		10 24 29.3	
	comp=E,2μm,0.8s						
H19K	**Roundabout Mou**	**0.76**	**158**		Sg	10 24 28.5	+1.1
F20K	**Avaraart Lake**	**1.00**	**34**		Pg	10 24 21.7	-0.4
F20K					Sg	10 24 35.7	+0.7
F20K	**Avaraart Lake**	**1.00**	**34**	IAML		10 24 38.7	
	comp=E,2μm,0.7s						
F20K				IAML		10 24 41.8	
	comp=N,1μm,0.7s						
H20K	**Anotleneega Mo**	**1.19**	**127**		Pg	10 24 25.3	-0.5
H18K	**Honhosa River**	**1.20**	**205**		Pg	10 24 25.1	-0.7
H18K				IAML		10 24 45.9	
	comp=N,826nm,0.8s						
H18K				IAML		10 24 46.3	
	comp=E,923nm,0.4s						
H18K	**Honhosa River**	**1.20**	**205**		Sb	10 24 41.7	-0.4
E19K	**Redstone River**	**1.23**	**358**		Pg	10 24 25.7	-0.8
E19K				IAML		10 24 45.2	
	comp=E,1μm,0.7s						
E19K	**Redstone River**	**1.23**	**358**		Sb	10 24 43.5	+0.3
G21K	**Allakaket**	**1.50**	**77**		Pn	10 24 30.2	-0.5
GCSA	**Galena City Sc**	**1.50**	**176**		Pn	10 24 30.7	0.0
GCSA					Sg	10 24 51.1	+0.1
G17K	**Kiwalik Mounta**	**1.62**	**245**		Pn	10 24 31.5	-0.9
F17K	**Baldwin Pennin**	**1.67**	**279**		Pn	10 24 32.1	-1.0
F17K	**Baldwin Pennin**	**1.67**	**279**	IAML		10 24 58.3	
	comp=N,802nm,1.0s						
H17K	**Granite Mounta**	**1.73**	**223**		Sb	10 24 58.0	+0.4
H17K	**Granite Mounta**	**1.73**	**223**		Pn	10 24 33.5	-0.6
H17K				IAML		10 24 59.1	
	comp=E,657nm,0.9s						
H17K				IAML		10 24 59.9	
	comp=N,438nm,0.5s						
F21K	**Alatna River**	**1.76**	**54**		Pn	10 24 34.2	-0.3
F21K				IAML		10 25 02.7	
	comp=N,479nm,0.7s						
F21K				IAML		10 25 03.7	
	comp=E,537nm,0.9s						
E18K	**Tukpahlearik C**	**1.82**	**313**		Pn	10 24 35.1	-0.1
E18K				IAML		10 25 01.1	
	comp=E,434nm,0.6s						
E18K				IAML		10 25 01.1	
	comp=N,662nm,0.8s						
I20K	**Naaghedeneel**	**1.82**	**141**		Pn	10 24 35.3	+0.1
H21K	**Melozitna Rive**	**1.87**	**106**		Pb	10 24 36.9	-0.9
H21K				IAML		10 25 03.1	
	comp=E,535nm,0.3s						
H21K				IAML		10 25 05.1	
	comp=N,343nm,1.0s						
E17K	**Hotham Inlet**	**2.05**	**297**		Pn	10 24 38.2	-0.2
E20K	**Nigu River**	**2.07**	**10**		Pn	10 24 39.5	+0.8
D19K	**Kuna River**	**2.30**	**351**		Pn	10 24 42.2	+0.3
D19K				IAML		10 25 17.2	
	comp=E,357nm,0.8s						
D19K				IAML		10 25 19.4	
	comp=N,318nm,0.8s						
G16K	**Koyuk River**	**2.30**	**251**		Pn	10 24 40.4	-1.4
G16K				IAML		10 25 18.3	
	comp=N,419nm,0.8s						
G16K				IAML		10 25 20.9	
	comp=E,285nm,0.8s						
J19K	**Poorman**	**2.34**	**163**		Pn	10 24 42.7	+0.4
J19K				IAML		10 25 17.7	
	comp=N,215nm,0.8s						
F22K	**John River**	**2.34**	**55**		Pn	10 24 42.4	0.0
I21K	**Tanana**	**2.38**	**114**		Pn	10 24 43.2	+0.3
I21K	**Tanana**	**2.38**	**114**	IAML		10 25 22.5	
	comp=E,288nm,0.7s						
I21K				IAML		10 25 26.2	
	comp=N,292nm,1.2s						
J20K	**Nowinta River**	**2.42**	**147**	Pn	Pn	10 24 43.6	+0.2
D20K	**Etivluk River**	**2.50**	**4**		Pn	10 24 45.3	+0.7
E21K	**Killik River**	**2.54**	**28**		Pn	10 24 45.2	+0.1
E21K	**Killik River**	**2.54**	**28**	IAML		10 25 31.1	
	comp=N,179nm,0.9s						
H16K	**Elim**	**2.66**	**235**		Pn	10 24 45.5	-1.2
D17K	**Noatak River**	**2.76**	**305**		Pn	10 24 47.6	-0.5
J18K	**Innoko River**	**2.78**	**176**	Pn	Pn	10 24 48.8	+0.3
I17K	**Unalakleet**	**2.79**	**214**		Pn	10 24 48.8	+0.3
I17K				IAML		10 25 38.9	
	comp=N,244nm,0.8s						
E22K	**Anaktuvuk Pass**	**2.82**	**45**		Pn	10 24 49.5	+0.4
E22K	**Anaktuvuk Pass**	**2.82**	**45**	IAML		10 25 39.9	
	comp=N,159nm,0.9s						
C18K	**Utukok River**	**2.89**	**329**		Pn	10 24 49.2	-0.8
G23K	**Bananza Creek**	**2.90**	**77**	Pn	Pn	10 24 50.2	+0.1
G23K				IAML		10 25 39.9	
	comp=E,178nm,0.9s						
COLD	**Coldfoot**	**2.93**	**67**		Pn	10 24 49.7	-0.8
J17K	**VABM Dome**	**2.96**	**197**		Pn	10 24 51.0	+0.1
J17K				IAML		10 25 44.8	
	comp=E,165nm,1.4s						
C21K	**Knifeblade Rid**	**3.07**	**16**		Pn	10 24 52.0	-0.4
F15K	**North Star Dit**	**3.11**	**264**	Pn	Pn	10 24 53.5	+0.5
F15K				IAML		10 25 43.8	
	comp=N,170nm,1.4s						
F15K				IAML		10 25 50.7	
	comp=E,133nm,1.1s						
CHUM	**Lake Minchumin**	**3.12**	**137**		Pn	10 24 53.7	+0.6
H23K	**Yukon River**	**3.13**	**94**	IAML		10 25 46.1	
	comp=E,185nm,0.6s						
D22K	**Ayikyak River**	**3.16**	**31**		Pn	10 24 54.1	+0.5
D22K				IAML		10 25 52.9	
	comp=N,167nm,1.5s						
D22K				IAML		10 25 55.2	
	comp=E,198nm,0.9s						
K20K	**Telida**	**3.17**	**154**		Pn	10 24 54.7	+0.9
J16K	**Anvik River**	**3.31**	**208**		Pn	10 24 55.8	+0.1
J16K				IAML		10 25 53.0	
	comp=E,116nm,1.4s						
J16K				IAML		10 25 53.1	
	comp=N,138nm,1.1s						
BPAW	**Bear Paw Mtn.**	**3.37**	**127**		Pn	10 24 57.3	+0.8
I23K	**Minto, Yukon-K**	**3.40**	**105**		Pn	10 24 57.4	+0.5
I23K				IAML		10 25 55.6	
	comp=E,124nm,0.9s						
I23K				IAML		10 25 57.4	
	comp=N,133nm,1.1s						
E23K	**Chandalar**	**3.46**	**55**	IAML		10 26 03.4	
	comp=N,124nm,0.8s						
B21K	**Ikpikpuk River**	**3.54**	**15**	IAML		10 26 05.8	
	comp=N,146nm,1.0s						
CAST	**Castle Rocks**	**3.56**	**140**		Pn	10 25 00.1	+1.0
K17K	**Iditarod**	**3.56**	**189**	Pn	Pn	10 24 58.5	-0.7
K17K				IAML		10 26 12.8	
	comp=N,91nm,1.2s						
D23K	**Nanushuk River**	**3.70**	**39**		Pn	10 25 01.3	+0.3
D23K				IAML		10 26 09.3	
	comp=E,122nm,1.3s						
NEA2	**Nenana**	**3.76**	**112**		Pn	10 25 01.8	0.0
KTH	**Kantishna Hill**	**3.78**	**133**		Pn	10 25 02.8	+0.7
KTH				IAML		10 26 11.2	
	comp=N,72nm,1.2s						
C16K	**Lisburne Hills**	**3.79**	**307**		Pn	10 25 02.3	+0.1
C16K				IAML		10 26 07.1	
	comp=E,66nm,1.3s						
B20K	**Meade River**	**3.79**	**360**		Pn	10 25 02.3	0.0
B20K				IAML		10 26 31.8	
	comp=N,109nm,1.5s						
H24K	**Noodor Dome**	**3.80**	**92**	IAML		10 26 14.8	
	comp=E,109nm,0.9s						
BWN	**Browne**	**3.84**	**119**		Pn	10 25 03.8	+0.8
BWN				IAML		10 26 17.9	
	comp=E,103nm,1.2s						
BWN				IAML		10 26 23.3	
	comp=N,102nm,0.9s						
E24K	**Your Creek**	**3.85**	**57**	IAML		10 26 09.7	
	comp=E,116nm,0.9s						
F24K	**Squaw Lake**	**3.88**	**66**	IAML		10 26 10.2	
	comp=E,104nm,0.5s						
PPLA	**Purkeypile**	**3.97**	**145**		Pn	10 25 06.0	+1.0
TRF	**Thorofare Moun**	**4.04**	**130**		Pn	10 25 06.8	+0.9
TRF				IAML		10 26 13.5	
	comp=E,57nm,1.5s						
TRF				IAML		10 26 25.0	
	comp=N,59nm,1.2s						
COLA	**College**	**4.10**	**105**		Pn	10 25 06.7	+0.2
POKR	**Poker Plat Res**	**4.17**	**101**	IAML		10 26 18.7	
	comp=E,73nm,0.9s						
WRH	**Wood River Hil**	**4.18**	**111**		Pn	10 25 08.0	+0.3
WRH				IAML		10 26 18.3	
	comp=E,44nm,1.0s						
L19K	**White Mountain**	**4.19**	**165**	IAML		10 26 24.9	
	comp=N,56nm,1.4s						
L19K				IAML		10 26 28.4	
	comp=E,57nm,1.2s						
CCB	**Clear Creek Bu**	**4.21**	**108**	IAML		10 26 19.2	
	comp=N,45nm,1.2s						
D24K	**Happy Valley**	**4.32**	**43**		Pn	10 25 09.0	-0.5
B22K	**Teshekpuk Lake**	**4.35**	**17**	Pn	Pn	10 25 08.7	-1.2
B22K				IAML		10 26 28.1	
	comp=N,60nm,0.9s						
B22K				IAML		10 26 36.2	
	comp=E,73nm,1.4s						
C23K	**Itkillik River**	**4.37**	**31**	Pn	Pn	10 25 09.7	-0.6
C23K				IAML		10 26 35.1	
	comp=N,66nm,0.8s						
C23K				IAML		10 26 41.1	
	comp=E,55nm,0.9s						
M19K	**Big River Lodg**	**4.51**	**163**	IAML		10 26 28.6	
	comp=E,36nm,1.3s						
ILAR	**Eielson Array**	**4.52**	**104**		Pn	10 25 12.2	0.0
HDA	**Harding Lake**	**4.65**	**108**	IAML		10 26 38.5	
	comp=N,49nm,0.9s						
C24K	**Franklin Bluff**	**4.73**	**38**		Pn	10 25 14.4	-0.8
C24K				IAML		10 26 54.4	
	comp=N,59nm,1.4s						
F25K	**Christian Rive**	**4.73**	**68**	IAML		10 26 37.2	
	comp=N,59nm,1.1s						
PRP	**Porcupine Dome**	**4.82**	**93**		Pn	10 25 16.7	+0.1
PRP				IAML		10 26 39.1	
	comp=N,55nm,1.0s						
SKT	**Skwentna**	**4.93**	**147**	IAML		10 26 58.0	
	comp=E,30nm,1.1s						
D25K	**Kavik River**	**5.13**	**48**	IAML		10 26 52.2	
	comp=N,40nm,1.2s						
J25K	**Salcha River,**	**5.18**	**103**		Pn	10 25 21.2	-0.2
J25K	**Salcha River,**	**5.18**	**103**	IAML		10 26 46.5	
	comp=E,27nm,1.2s						
J25K				IAML		10 26 51.7	
	comp=N,41nm,1.1s						
PMR	**Palmer**	**5.84**	**139**	Pn	Pn	10 25 31.3	+0.9
DAWY	**Dawson**	**7.78**	**98**		Pn	10 25 57.3	+0.2

*NNC **28** 10:24:56.6±4.6, 53°.65N×91°.29E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=34.2km s-min=26.5km az=57.0, Suspected Mining explosion.*

*ASRS **28** 10:24:59.0±1.0, 53°.71N×91°.09E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **28** 10:25:05.8±3.6, 53°.56N×90°.74E, h0km, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=28.4km s-min=24.0km az=65.0*

ISC 28 10:24:53.1±4.2, 53°.9N±0°.1×91°.4E±0°.2, h0km, n9, σ1s39/11, 11C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.92**	**274**	I	I	10 50 30.0	
	baz=93,slow=331,SNR=5.6						
ZAA0	**Zalesovo Array**	**3.92**	**274**	⇑Pg	**Pg**	**10 26 07.0**	**-1.1**
	0.6nm,0.8s						
ZAA0				⇑Lg	Lg	10 26 57.4	
	2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**3.92**	**274**	Pn	**Pb**	**10 26 03.9**	**+0.9**
	0.5nm,0.3s,baz=94,slow=15,SNR=7.4						
ZALV				Lg	Lg	10 26 57.7	
	0.6nm,0.3s,baz=99,slow=27,SNR=5.5						
	0.9nm,0.4s						
KURK	**Kurchatov**	**8.47**	**253**	⇑Pn	**Pn**	**10 26 58.3**	**+1.4**
	1.3nm,0.8s						
KURK				⇓Sn	**Sn**	**10 28 34.1**	**+1.0**
	2.4nm,0.8s						
KURK				⇑Lg	Lg	10 29 20.7	
	6.6nm,1.4s						
KURBB	**Kurchatov Arra**	**8.56**	**253**	Pn	Pn	10 27 03.5	+5.4
	0.1nm,0.3s,baz=64,slow=15,SNR=4.6						
KURBB				Sn	**Sn**	**10 28 33.6**	**-1.7**
	baz=66,slow=25						
KURBB				Lg	Lg	10 29 24.1	
	baz=64,slow=30						
	0.7nm,0.6s						
**KURB

MRZ	Mangatainoka R	14.21	207	P		Pn	10 33 09.7	-2.5
DZM	Mont Dzumac	17.03	287	LR		LR	10 38 31.2	
	comp=Z,199nm,19.2s,baz=34,slow=32							
PPT	Papeete	26.50	72	LR		LR	10 45 22.5	
	comp=Z,73nm,18.5s,baz=216,slow=35							
HNR	Honiara	29.35	305	LR		LR	10 46 26.7	
	comp=Z,64nm,19.2s,baz=192,slow=35							
ASAR	Alice Springs	45.02	264	P		P	10 38 06.2	-0.9
	1.2nm,0.7s,baz=93,slow=7.3,SNR=17							
ASAR				PcP		PcP	10 39 48.7	+0.7
	0.4nm,0.8s,baz=107,slow=3.8,SNR=2.2							
	1.2nm,0.7s							
WRA	Warramunga Arr	45.82	269	P		P	10 38 11.3	-2.1
	2.0nm,0.7s,baz=109,slow=7.6,SNR=16							
	2.0nm,0.7s							
VNDA	Vanda	50.43	186	LR		LR	10 58 07.3	
	comp=Z,39nm,19.6s,baz=183,slow=33							
QSPA	South Pole Qui	61.88	180	P		P	10 40 16.2	+5.9
	2.4nm,0.9s,baz=21,slow=2.0,SNR=6.1							
	2.4nm,0.9s							
KSRS	Korea Array	83.86	318	P		P	10 42 20.9	+0.2
	0.7nm,0.5s,baz=137,slow=6.2,SNR=4.5							
	0.7nm,0.5s							
NVAR	Mina Array Bea	85.46	42	P		P	10 42 31.3	+2.2
	0.4nm,0.7s,baz=217,slow=7.1,SNR=4.0							
	0.4nm,0.7s							
TXAR	Lajitas Array	89.74	56	P		P	10 42 54.3	+4.5
	0.4nm,0.9s,baz=294,slow=3.4,SNR=1.6							
	0.4nm,0.9s							
KBZ	Khabaz	145.28	307	PKP		PKPdf	10 49 29.7	+0.9
	1.7nm,0.8s,baz=72,slow=2.9,SNR=3.9							
NOA	NORSAR Array B	146.83	354	PKPbc		PKPab	10 49 32.8	-1.3
	1.0nm,0.9s,baz=12,slow=2.8,SNR=2.3							
HFS	Hagfors	147.42	351	PKPbc		PKPbc	10 49 33.9	-0.5
	1.9nm,0.7s,baz=85,slow=3.2,SNR=3.4							
AKASG	Malin Array Be	150.54	327	PKPbc		PKiKP	10 49 43.2	-0.2
	0.7nm,0.5s,baz=37,slow=3.1,SNR=6.0							

*NEIC **28** 10:47:38.5±1.3, 18°.3S±0°.1×178°.1W±0°.2, h599km±10km, mb4.2/33, Error ellipse: s-maj=21.5km s-min=16.5km az=108.0*
*IDC **28** 10:47:41.3±1.1, 18°.14S×178°.45W, h612km±11km, mb3.4/13, mbtmp4.3/14, Error ellipse: s-maj=20.5km s-min=14.8km az=136.0*

ISC 28 10:47:39.2±0.6, 18°.3S±0°.1×178°.2W±0°.1, h600km, n65, σ19°02/61, mb4.2/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.61	278	P	P	10 49 01.8	-0.3
MSVF	Nonsavu	3.61	278	P	P	10 49 02.3	+0.1
	21nm,0.7s,baz=112,slow=2.8,SNR=29						
MSVF				S	S	10 50 11.7	+2.0
	9.9nm,0.9s,baz=353,slow=20,SNR=7.3						
FUTU	Fugatoga	3.92	1	P	P	10 49 02.6	-1.6
AFI	Afiamalu	7.53	56	P	P	10 49 31.2	-3.1
URZ	Urewera	20.36	191	P	P	10 51 34.3	-1.7
	5.7nm,0.5s,baz=58,slow=2.4,SNR=6.0						
MRZ	Mangatainoka R	22.97	192	P	P	10 51 58.4	-1.0
FOZ	Fox Glacier	27.17	199	P	P	10 52 36.1	0.0
STKA	Stephens Creek	38.65	242	P	P	10 54 12.5	-0.4
STKA	Stephens Creek	38.65	242	P	P	10 54 12.3	-0.5
	2.2nm,0.5s,baz=88,slow=6.6,SNR=7.7						
	2.2nm,0.5s						
STKA	Stephens Creek	38.65	242	P	P	10 54 13.0	+0.1
JAY	Jayapura	43.19	286	P	P	10 54 48.5	-0.6
	12nm,0.7s,baz=192,slow=4.3,SNR=5.7						
	12nm,0.7s						
BBOO	Buckleboo	43.42	241	P	P	10 54 49.0	-1.6
BBOO				IAmb	IAmb	10 55 24.1	
	comp=Z,10nm,1.1s						
AS31	Alice Springs	44.89	255	P	P	10 55 00.9	-1.1
ASAR	Alice Springs	44.89	255	P	P	10 55 00.8	-1.2
ASAR	Alice Springs	44.89	255	P	P	10 55 01.5	-0.6
	comp=Z,12nm,0.6s,baz=87,slow=8.6,SNR=61						
	comp=Z,12nm,0.6s						
MJAR	Matsushiro Arr	68.30	323	P	P	10 57 40.6	-1.0
	comp=Z,3.0nm,0.7s,baz=151,slow=5.8,SNR=5.3						
	comp=Z,3.0nm,0.7s						
QSPA	South Pole Qui	71.81	180	P	P	10 58 01.6	-0.5
QSPA	South Pole Qui	71.81	180	P	P	10 58 03.6	+1.5
	comp=Z,2.2nm,0.8s,baz=320,slow=0.5,SNR=10						
	comp=Z,2.2nm,0.8s						
PETK	Petropavlovsk-	74.06	345	P	P	10 58 14.8	0.0
	comp=Z,3.0nm,0.6s,baz=96,slow=5.8,SNR=8.7						
	comp=Z,3.0nm,0.6s						
KSRS	Korea Array	75.08	318	P	P	10 58 21.3	+0.4
	comp=Z,0.7nm,0.6s,baz=131,slow=7.6,SNR=4.2						
	comp=Z,0.7nm,0.6s						
NVAR	Mina Array Bea	79.53	44	P	P	10 58 47.2	+2.0
	comp=Z,1.3nm,0.7s,baz=224,slow=8.6,SNR=14						
	comp=Z,1.3nm,0.7s						
O18K	Koktuh Hills	80.04	12	P	P	10 58 47.0	-0.1
O18K				IAmb	IAmb	10 58 47.9	
	comp=Z,11nm,0.9s						
J05D	Fort Rock, OR	80.46	38	P	P	10 58 48.2	-1.6
J05D				IAmb	IAmb	10 58 52.3	
	comp=Z,6.9nm,0.8s						
O19K	Port Alsworth	80.53	12	P	P	10 58 49.5	-0.1
O19K				IAmb	IAmb	10 58 50.1	
	comp=Z,8.9nm,0.8s						
GLI	Glacier Island	82.73	15	P	P	10 59 00.7	-0.1
GLI				IAmb	IAmb	10 59 01.3	
	comp=Z,6.1nm,0.6s						
GHO	Glory Hole Cre	83.09	14	P	P	10 59 02.6	-0.1
CUT	Chulitna	83.36	13	P	P	10 59 03.7	-0.2
CUT				IAmb	IAmb	10 59 04.3	
	comp=Z,12nm,1.0s						
PPLA	Purkeypile	83.42	12	P	P	10 59 03.1	-1.3
PPLA				IAmb	IAmb	10 59 42.1	
	comp=Z,10nm,1.5s						
BMRM	Bremner River	83.42	16	P	P	10 59 04.3	0.0
SCM	Sheep Creek Mo	83.50	14	P	P	10 59 05.0	+0.2
CAST	Castle Rocks	83.92	11	P	P	10 59 05.3	-1.4
CAST				IAmb	IAmb	10 59 06.5	
	comp=Z,5.8nm,0.8s						
GLB	Gilahina Butte	84.03	16	IAmb	IAmb	10 59 08.1	
	comp=Z,3.9nm,0.6s						
KTH	Kantishna Hill	84.26	12	IAmb	IAmb	10 59 07.7	
	comp=Z,5.4nm,1.0s						
RND	Reindeer	84.55	13	IAmb	IAmb	10 59 10.5	
	comp=Z,6.1nm,0.8s						
M27K	Edge Creek, AK	85.31	16	IAmb	IAmb	10 59 15.2	
	comp=Z,6.4nm,1.1s						
CCB	Clear Creek Bu	85.87	13	P	P	10 59 15.6	-0.4
CCB				IAmb	IAmb	10 59 16.0	
	comp=Z,2.9nm,0.5s						
TXAR	Lajitas Array	86.01	58	P	P	10 59 20.5	+2.9
	comp=Z,1.8nm,0.7s,baz=219,slow=6.1,SNR=26						
	comp=Z,1.8nm,0.7s						
IL31		86.17	13	P	P	10 59 17.0	-0.4
ILAR	Eielson Array	86.17	13	P	P	10 59 16.8	-0.6
	comp=Z,1.0nm,0.4s,baz=220,slow=5.0,SNR=35						
	comp=Z,1.0nm,0.4s						
J25K	Salcha River,	86.36	14	IAmb	IAmb	10 59 19.0	
	comp=Z,7.7nm,1.4s						
M30M	Minto, Yukon	86.89	18	IAmb	IAmb	10 59 21.8	
	comp=Z,2.9nm,0.7s						
L29M	L29M	86.93	17	P	P	10 59 22.2	+1.1
L29M				IAmb	IAmb	10 59 23.0	
	comp=Z,5.1nm,1.1s						
PDAR	Pinedale Array	87.46	43	P	P	10 59 25.6	+1.3
	comp=Z,1.1nm,0.6s,baz=215,slow=3.9,SNR=14						
	comp=Z,1.1nm,0.6s						
COLD	Coldfoot	87.71	11	IAmb	IAmb	10 59 26.3	
	comp=Z,4.4nm,1.2s						
CMAR	Chiang Mai Arr	89.19	290	P	P	10 59 33.7	+1.1
	comp=Z,0.4nm,0.3s,baz=123,slow=2.9,SNR=7.2						
	comp=Z,0.4nm,0.3s						
G30M	tAoh Zraii Nji	90.47	15	P	P	10 59 37.3	-0.2
G31M	Satah River	90.93	16	P	P	10 59 39.8	+0.3
YKA	Yellowknife Ar	94.55	25	P	P	10 59 56.5	+0.3
	comp=Z,0.3nm,0.6s,baz=244,slow=4.7,SNR=6.9						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	126.68	350	PKP	PKPdf	11 05 34.7	0.0
	comp=Z,0.6nm,0.5s,baz=343,slow=1.3,SNR=4.4						
FINES	FINESS Array B	133.56	344	PKP	PKiKP	11 05 49.1	-0.2
	comp=Z,1.5nm,0.8s,baz=59,slow=5.6,SNR=1.9						
BRTR	Keskin Array B	145.16	315	PKP	PKPbc	11 06 10.9	0.0
	comp=Z,1.2nm,0.6s,baz=109,slow=2.3,SNR=6.4						
OSTC	Ostas	145.77	344	*e*PKP	PKPab	11 06 13.1	-0.9
STEB	Steborice	145.88	342	*e*PKP	PKPbc	11 06 13.1	+0.7
DPC	Dobruska-Polom	145.93	343	*e*PKP	PKPbc	11 06 12.6	0.0
MMAI	Mount Meron Ar	146.49	303	PKPbc	PKPbc	11 06 15.5	+0.8
	comp=Z,1.9nm,0.4s,baz=85,slow=4.5,SNR=2.2						
ZVC	Zvikov	147.32	345	*e*PKP	PKiKP	11 06 17.4	-0.5
KHC	Kasperske Hory	147.75	345	*e*PKP	PKPbc	11 06 16.4	-1.1
GERES	GERESS Array B	147.99	345	PKPbc	PKPbc	11 06 18.2	0.0
	comp=Z,2.8nm,0.7s,baz=22,slow=3.1,SNR=19						
CONA	Conrad Observa	148.24	342	*e*PKP	PKiKP	11 06 20.1	+0.1
	comp=Z,8.8nm,1.5s						
RONA	Rosalia, Austr	148.32	341	*e*PKP	PKiKP	11 06 20.2	+0.1
	comp=Z,7.5nm,1.1s						
WATA	Walderalm	149.90	347	*e*PKP	PKiKP	11 06 23.2	-0.3
	comp=Z,5.8nm,0.8s						
WTTA	Wattenberg	149.95	347	*e*PKP	PKiKP	11 06 23.5	-0.1
	comp=Z,14nm,1.2s						
SQTA	Sankt Quirin	150.09	347	*e*PKP	PKiKP	11 06 23.8	0.0
	comp=Z,2.8nm,0.5s						
ABTA	Abfaltersbach	150.23	345	*e*PKP	PKPdf	11 06 19.5	+1.7
	comp=Z,1.0nm,0.3s						
ABTA				*e*PKP	PKiKP	11 06 23.7	-0.4
	comp=Z,3.5nm,0.5s						
ABTA				*e*PKP	PKPab	11 06 32.1	-0.3
	comp=Z,1.7nm,0.6s						
ESDC	Sonseca Array	158.07	12	PKPab	PKPab	11 07 06.4	+0.3
	comp=Z,0.7nm,0.6s,baz=10,slow=3.9,SNR=3.5						

*IDC **28** 10:48:24.3±1.8, 6°.12S×130°.28E, h0km, mb4.2/4, mbtmp4.3/7, ML4.5/3, MS2.8/2, Error ellipse: s-maj=79.6km s-min=24.0km az=75.0*
*NEIC **28** 10:48:38.9±2.9, 6°.53S±0°.10×130°.0E±0°.1, h147km±16km, mb4.0/3, Error ellipse: s-maj=17.5km s-min=13.5km az=73.0.*

ISC 28 10:48:40.1±0.7, 6°.62S±0°.06×130°.02E±0°.08, h150km, n51, σ29°19/49, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.85	137		Pn	10 49 13.6	+0.1
SAUI	Saumlaki	1.85	137	P	Pn	10 49 13.7	+0.2
FAKI	Fak Fak	4.29	31	Pn	Pn	10 49 41.7	-2.5
DRS	Darwin Rock St	5.84	172	P	Pn	10 50 03.5	-1.1
DRS	Darwin Rock St	5.84	172	S	Sn	10 51 06.2	-4.6
MTN	Manton Dam	6.28	170	Pn	Pn	10 50 10.2	-0.3
MTN	Manton Dam	6.28	170	P	Pn	10 50 09.3	-1.2
MTN	Manton Dam	6.28	170	S	Sn	10 51 17.3	-4.1
KDU	Kakadu	6.49	158	P	Pn	10 50 12.0	-1.4
SOEI	Soe	6.49	241	Pn	Pn	10 50 13.5	-0.1
SOEI	Soe	6.49	241	P	Pn	10 50 13.4	-0.1
KNRA	Kununurra	9.09	188		Pn	10 50 46.2	-1.7
TOLI2	Tolitoli	12.00	309	P	P	10 51 30.9	-2.2
FITZ	Fitzroy Crossi	12.18	200	Pn	Pn	10 51 25.6	-3.1
	2.8nm,0.3s,baz=31,slow=10,SNR=51						
FITZ				Sn	Sn	10 53 31.2	-12
	5.4nm,0.3s,baz=108,slow=17,SNR=11						
	7.7nm,0.4s						
PLAI	Plampang	12.33	259	P	Pn	10 51 31.6	+0.8
WB0	Warramunga Arr	13.74	162		Pn	10 51 46.0	-2.8
WRAB	Tennant Creek	13.88	163		Pn	10 51 49.6	-1.0
WRA	Warramunga Arr	13.89	163		Pn	10 51 47.5	-3.2
WRA	Warramunga Arr	13.89	163	Pn	Pn	10 51 48.1	-2.6
	2.0nm,0.3s,baz=336,slow=14,SNR=67						
WRA				Sn	Sn	10 54 10.6	-14
	4.7nm,0.3s,baz=333,slow=23,SNR=12						
	3.0nm,0.4s						
WB2	Warramunga Arr	13.89	163		Pn	10 51 47.8	-2.9
WR8	Warramunga Arr	13.95	162	Pn	Pn	10 51 50.1	-1.3
WR0	Warramunga Arr	13.97	162		Pn	10 51 50.0	-1.7
COEN	Coen	14.85	120		P	10 52 04.5	-0.2
COEN	Coen	14.85	120	P	P	10 52 04.5	-0.2
QIS	Mount Isa	16.68	147	P	Pn	10 52 27.0	+1.8
AS31	Alice Springs	17.35	168	Pn	Pn	10 52 33.9	+0.6
AS31				IAmb	IAmb	10 52 35.0	
	comp=Z,2.0nm,0.7s						
ASAR	Alice Springs	17.35	168	P	Pn	10 52 34.5	+1.2
	comp=Z,1.0nm,0.3s,baz=351,slow=12,SNR=84						
ASAR				S	S	10 55 40.4	-5.2
	comp=Z,1.6nm,0.4s,baz=353,slow=28,SNR=6.6						
	comp=Z,2.5nm,0.4s						
AS01	Alice Springs	17.36	168	P	Pn	10 52 34.5	+1.1
MBWA	Marble Bar	17.55	214	Pn	Pn	10 52 35.2	-0.5
MBWA				IAmb	IAmb	10 52 38.5	
	comp=Z,9.2nm,1.0s						
MBWA	Marble Bar	17.55	214	P	Pn	10 52 36.4	+0.7
PSA00	Pilbara Seismi	17.83	212	Pn	Pn	10 52 38.7	-0.3
PSA00				IAmb	IAmb	10 52 39.2	
	comp=Z,7.1nm,0.7s						
PSA00	Pilbara Seismi	17.83	212	P	Pn	10 52 39.6	+0.7
MTSU	Mount Surprise	18.03	131	P	Pn	10 52 43.8	+2.4
WRKA	Warakurna	18.39	185	P	Pn	10 52 45.3	-0.2
BULU	Kimbe	20.21	88	P	Pn	10 53 09.2	+2.2
OOD	Oodnadatta	21.73	166	P	P	10 53 20.8	+1.2
TGY	Tagaytay City	22.48	336	LR	LR	11 04 10.2	
	comp=Z,8.0nm,19.4s,baz=180,slow=43						
MEEK	Meekatharra	22.68	207	P	P	10 53 30.1	+1.1
INKA	Innaminka	23.34	155	P	P	10 53 38.3	+3.3
QLP	Quilpie	24.03	147	P	P	10 53 44.6	+3.3
FORT	Forrest	24.10	184	P	P	10 53 44.6	+2.7
LCRK	Leigh Creek	24.92	163	P	P	10 53 52.5	+3.2
BBOO	Buckleboo	26.66	169	P	P	10 54 08.5	+3.5
HTT	Hallett	27.93	164	P	P	10 54 19.4	+3.1
NWAO	Narrogin (SRO)	28.75	203	P	P	10 54 24.4	+0.8
CMSA	Cobar Meteorol	28.80	151	P	P	10 54 26.6	+2.6
CMAR	Chiang Mai Arr	39.51	310	P	P	10 55 56.8	+0.4
	comp=Z,0.8nm,0.4s,baz=130,slow=7.0,SNR=8.0						
	comp=Z,0.8nm,0.4s						
KLR	Kul'dur	55.64	1	LR	LR	11 21 31.7	
	comp=Z,30nm,21.3s,baz=164,slow=36						
MKAR	Makanchi Array	67.92	327	P	P	10 59 23.7	+1.1
	comp=Z,3.4nm,0.5s,baz=119,slow=8.1,SNR=42						
	comp=Z,3.4nm,0.5s						
ZALV	Zalesovo Beam	71.25	334	P	P	10 59 43.0	+0.2
	comp=Z,0.4nm,0.3s,baz=162,slow=5.6,SNR=3.6						
	comp=Z,0.4nm,0.3s						
KURBB	Kurchatov Arra	72.20	328	P	P	10 59 48.1	-0.4
	comp=Z,0.8nm,0.3s,baz=129,slow=4.6,SNR=2.1						
	comp=Z,0.8nm,0.3s						

STR 28 11:00:14.3±0.3, 48°N±2°×°±°, h0km, MLv1.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=11.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAFF	Xaffevillers	0.18	275	Pg	Pg	11 00 17.5	-0.1
XAFF				Sg	Sg	11 00 20.2	+0.3
ECH	Echery	0.25	134	Pg	Pg	11 00 18.9	-0.2
ECH				Sg	Sg	11 00 23.0	+0.6
ECH	Echery	0.25	134	Pg	Pg	11 00 19.0	-0.1
ECH				Sg	Sg	11 00 23.0	+0.6
WLS	Welschbruch	0.31	86	Pg	Pg	11 00 19.8	-0.4
WLS				Sg	Sg	11 00 24.4	+0.1
HOHE	HOHENGOEFT	0.48	56	Pg	Pg	11 00 23.7	+0.2
HOHE				Sg	Sg	11 00 29.8	+0.2
WALT	Westhalten	0.50	148	Pg	Pg	11 00 24.4	+0.6
WALT				Sg	Sg	11 00 30.9	+0.6
CIEL	Dossenheim-sur	0.54	36	Pg	Pg	11 00 24.9	+0.2
CIEL				Sg	Sg	11 00 32.2	+0.4
ETNF	Estrennes	0.58	257	Pg	Pg	11 00 25.2	-0.1
ETNF	Estrennes	0.58	257	Sg	Sg	11 00 33.4	+0.6
VOEL	Voellerdingen	0.60	15	Pg	Pg	11 00 25.8	+0.2
VOEL				Sg	Sg	11 00 34.0	+0.6
VOGT	Vogtsburg - To	0.61	120	Sg	Sg	11 00 34.3	+0.4
VOGT	Vogtsburg - To	0.61	120	Pg	Pg	11 00 26.3	+0.3
MANO	Manonville	0.77	305	Pg	Pg	11 00 29.2	+0.1
MANO				Sg	Sg	11 00 39.7	+0.6
KIZ	Kirchzarten	0.82	122	Pg	Pg	11 00 30.1	+0.2
KIZ	Kirchzarten	0.82	122	Sg	Sg	11 00 41.7	+1.2
OPP	Oppenau	0.87	83	Pg	Pg	11 00 30.9	-0.1
OPP	Oppenau	0.87	83	Sg	Sg	11 00 43.1	+0.8
BOURR	Bourrignon	1.03	167	Sg	Sg	11 00 47.6	+0.4
BOURR	Bourrignon	1.03	167	Pg	Pg	11 00 34.0	+0.1
CHMF	Charmoille	1.16	188	Pg	Pg	11 00 35.8	-0.6
CHMF				Sg	Sg	11 00 51.8	+0.4

*WEL **28** 11:06:02.3±1.2, 46°.5±7°.7×16°.6E±°, h12km, M3.7/7, ML3.9/9, MLv3.7/7, Error ellipse: s-maj=9.3km s-min=9.1km az=158.7, confirmed*
*NOU **28** 11:06:09.2, 46°.07S×166°.93E, h0km, MLv4.0/7, Off W. Coast of S. Island, N.Z.*

ISC 28 11:06:04.8±2.9, 46°.22S±0°.08×166°.2E±0°.1, h29km±13km, n28, σ0°97/35, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.37	81	P	Pb	11 06 13.1	0.0
PYZ	Puysegur Point	0.37	81	P	Pb	11 06 13.2	0.0
PYZ				S	Sn	11 06 20.3	-0.1
DCZ	Deep Cove	1.03	43	P	Pn	11 06 22.0	-1.2
DCZ				S	Sb	11 06 36.3	-0.8
WHZ	Wether Hill Ro	1.29	76	P	Pn	11 06 27.4	+0.5
WHZ				S	Sb	11 06 45.4	+0.8
APZ	The Paps	1.40	116	P	Pn	11 06 28.3	-0.2
MLZ	Mavora Lakes	1.62	59	P	Pb	11 06 33.0	-1.0
MLZ				S	Sb	11 06 55.5	+1.5
MSZ	Milford Sound	1.99	39	P	Pn	11 06 36.5	+0.1
SYZ	Scrubby Hill	2.09	100	P	Pn	11 06 38.2	+0.4
SYZ	Scrubby Hill	2.09	100	P	Pn	11 06 38.6	+0.8
SYZ				S	Sb	11 07 07.3	-0.1
EAZ	Earnscleugh	2.42	67	P	Pn	11 06 44.3	+1.9
EAZ				S	Sb	11 07 16.5	-0.5
TUZ	Tuapeka	2.43	85	P	Pn	11 06 43.7	+1.2
TUZ				S	Sb	11 07 15.7	-1.6
WKZ	Wanaka	2.45	56	P	Pn	11 06 44.9	+2.1
JCZ	Jackson Bay	2.84	42	P	Pn	11 06 50.1	+1.8
JCZ	Jackson Bay	2.84	42	P	Pn	11 06 50.1	+1.8
HHSZ	Highcliff Hill	3.11	85	P	Pn	11 06 52.8	+1.0
ODZ	Otahua Downs	3.36	71	P	Pn	11 06 54.9	-0.4
ODZ	Otahua Downs	3.36	71	P	Pn	11 06 55.4	+0.1
LBZ	Lake Benmore	3.38	59	P	Pn	11 06 56.3	+0.7
FOZ	Fox Glacier	3.74	45	P	Pn	11 07 00.9	+0.4
TMZ	Timaru	3.88	63	P	Pn	11 07 02.6	+0.1
RPZ	Rata Peaks	4.28	56	P	Pn	11 07 08.3	+0.3
RPZ	Rata Peaks	4.28	56	P	Pn	11 07 08.0	0.0
WVZ	Waitaha Valley	4.54	48	P	Pn	11 07 12.1	+0.7
OXZ	Oxford	5.09	57	P	Pn	11 07 18.7	-0.4
INZ	Inchbonnie	5.15	49	P	Pn	11 07 19.9	0.0
MOZ	McQueen's Vall	5.25	64	P	Pn	11 07 21.6	+0.4
KHZ	Kahutara	6.52	57	P	Pn	11 07 38.5	-0.2
QRZ	Quartz Range	7.11	43	P	Pn	11 07 47.4	+0.6

AFAD 28 11:06:46.5, 38°.78N×38°.13E, h7km±4km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	Malatya_Hekimh	0.17	306	P	Pg	11 06 50.6	+0.6
HEKM				S	Sg	11 06 53.8	+1.3
HEKM				*i* AML	AML	11 06 56.0	
	comp=N,1μm,0.6s						
HEKM				*i* AML	AML	11 06 56.0	
	comp=E,968nm,0.5s						
AKCD	Akcadag	0.51	199	P	Pg	11 06 56.4	0.0
AKCD				S	Sb	11 07 05.0	-0.7
AKCD				*i* AML	AML	11 07 06.0	
	comp=E,309nm,0.5s						
AKCD				*i* AML	AML	11 07 08.0	
	comp=N,446nm,0.2s						
KEMA	Kemaliye	0.56	30	P	Pg	11 06 57.1	-0.3
KEMA				S	Sb	11 07 06.2	-0.8
KEMA				*i* AML	AML	11 07 07.0	
	comp=N,68nm,0.3s						
KEMA				*i* AML	AML	11 07 08.0	
	comp=E,84nm,0.3s						
CUGUR	Gurin_SVAS	0.68	265	P	Pn	11 07 04.0	+1.4
CUGUR				S	Sb	11 07 09.5	-0.9
CUGUR				*i* AML	AML	11 07 17.0	
	comp=N,99nm,0.5s						
CUGUR				*i* AML	AML	11 07 18.0	
	comp=E,150nm,0.3s						
ELZG	Elazig	0.72	113	P	Pg	11 07 00.2	-0.2
ELZG				S	Sb	11 07 11.3	-0.5
ELZG				*i* AML	AML	11 07 12.0	
	comp=N,186nm,0.3s						
ELZG				*i* AML	AML	11 07 16.0	
	comp=E,96nm,0.4s						
CUKAN	kangal_SIVAS	0.74	316	P	Pg	11 07 00.2	-0.7
CUKAN				S	Sg	11 07 11.3	+0.8
CUKAN				*i* AML	AML	11 07 19.0	
	comp=E,32nm,0.2s						
ELBS	KAHRAMANMARAS	0.91	240	P	Pg	11 06 59.0	-5.0
ELBS				S	Sg	11 07 15.5	-0.2
ELBS				*i* AML	AML	11 07 19.0	
	comp=E,70nm,0.6s						
ELBS				*i* AML	AML	11 07 21.0	
	comp=N,58nm,0.5s						
AZEY	Adyaman-Merk	0.97	175	P	Pn	11 07 07.6	+0.9
AZEY				S	Sn	11 07 19.9	-0.9
AZEY				*i* AML	AML	11 07 24.0	
	comp=E,40nm,0.5s						
AZEY				*i* AML	AML	11 07 25.0	
	comp=N,22nm,0.4s						
NARI	Adyaman-Kaht	1.02	151	P	Pn	11 07 08.6	+1.3
NARI				S	Sn	11 07 22.1	+0.1
AKCA	Adyaman/G¶l	1.05	200	P	Pg	11 07 05.9	-0.7
AKCA				S	Sn	11 07 22.7	+0.1
AKCA				*i* AML	AML	11 07 25.0	
	comp=N,36nm,0.4s						
AKCA				*i* AML	AML	11 07 26.0	
	comp=E,28nm,0.7s						
TNCL	Tunceli-Merkez	1.15	73	P	Pn	11 07 10.1	+1.0
TNCL				S	Sb	11 07 24.1	+0.2

BOYA *i* AML AML 11 07 45.0
comp=N,240nm,0.4s
BOYA *i* AML AML 11 07 48.0
comp=E,241nm,0.5s
YOZ Yozgat 1.07 188 Pg **Pg 11 07 26.8 -0.6**
YOZG Bozok Univ. Me 1.07 211 P **Pg 11 07 26.8 -0.6**
YOZG S **Sg 11 07 41.4 +0.1**
YOZG *i* AML AML 11 07 46.0
comp=E,713nm,0.4s
YOZG *i* AML AML 11 07 47.0
comp=N,825nm,0.4s
SUNG orum-Sungurl 1.09 242 P **Pg 11 07 27.3 -0.5**
SUNG S **Sn 11 07 44.2 +0.2**
SUNG *i* AML AML 11 07 54.0
comp=N,616nm,0.5s
SUNG *i* AML AML 11 07 54.0
comp=E,604nm,0.4s
TOS Tosya 1.18 287 Pn **Pn 11 07 30.0 +0.2**
YENC ankr-Yen 1.27 269 P **Pb 11 07 31.2 +0.2**
YENC S **Sn 11 07 49.3 +0.9**
YENC *i* AML AML 11 07 50.0
comp=N,2μm,0.4s
YENC *i* AML AML 11 07 52.0
comp=E,1μm,0.6s
SINO SINOP_Merkez 1.33 350 P **Pg 11 07 32.4 +0.1**
SINO S **Sn 11 07 50.1 +0.3**
SINO *i* AML AML 11 07 52.0
comp=N,995nm,0.5s
SINO *i* AML AML 11 07 52.0
comp=E,905nm,0.3s
SNOP Sinop 1.33 350 Pn **Pg 11 07 32.9 +0.6**
SVSK Karacayir 1.38 124 Pn **Pg 11 07 32.8 -0.4**
CDAG Cicekdag 1.39 219 P **Pn 11 07 32.0 -0.7**
CDAG S **Sb 11 07 51.2 0.0**
CDAG *i* AML AML 11 07 56.0
comp=N,437nm,0.4s
CDAG *i* AML AML 11 07 59.0
comp=E,542nm,0.4s
SIRC Yozgat 1.40 192 P **Pn 11 07 32.2 -0.6**
SIRC S **Sn 11 07 51.6 +0.1**
SIRC *i* AML AML 11 07 54.0
comp=N,524nm,0.3s
SIRC *i* AML AML 11 07 54.0
comp=E,727nm,0.5s
CUSAR Sarkisla-SIVAS 1.40 156 P **Pg 11 07 33.3 -0.4**
CUSAR S **Sn 11 07 54.1 +2.4**
CUSAR *i* AML AML 11 07 55.0
comp=E,230nm,0.5s
CUSAR *i* AML AML 11 07 59.0
comp=N,228nm,0.5s
ILGA Ilgaz 1.41 285 P **Pn 11 07 32.9 -0.1**
ILGA S **Sn 11 07 52.2 +0.3**
ILGA *i* AML AML 11 07 56.0
comp=N,538nm,0.4s
ILGA *i* AML AML 11 07 56.0
comp=E,609nm,0.3s
DELI KIRIKKALE 1.41 240 P **Pn 11 07 32.5 -0.5**
DELI S **Sb 11 07 51.1 -0.5**
DELI *i* AML AML 11 07 55.0
comp=N,360nm,0.3s
DELI *i* AML AML 11 07 55.0
comp=E,280nm,0.3s
RSDY Resadiye-TOKAT 1.42 102 Pn **Pb 11 07 32.9 -0.6**
RSDY Sn **Sn 11 07 53.4 +1.4**
CANT Cankiri 1.44 267 Pn **Pb 11 07 33.8 -0.2**
KMON Kastamonu 1.47 298 Pn **Pg 11 07 35.1 +0.2**
SCER sogukcermik 1.50 124 S **Sg 11 07 56.1 +1.3**
SCER sogukcermik 1.50 124 P **Pb 11 07 34.2 -0.7**
KOZK Kozakli-Nevseh 1.57 199 Pn **Pb 11 07 36.1 -0.2**
ELDT Eldivan 1.60 263 P **Pn 11 07 36.1 +0.4**
ELDT S **Sn 11 07 57.0 +0.3**
ELDT *i* AML AML 11 08 00.0
comp=E,756nm,0.4s
ELDT *i* AML AML 11 08 04.0
comp=N,474nm,0.7s
SEYI Kastamonu-Seyd 1.63 305 P **Pb 11 07 37.3 +0.1**
SEYI S **Sg 11 08 00.1 +1.0**
SEYI *i* AML AML 11 08 02.0
comp=N,210nm,0.5s
SEYI *i* AML AML 11 08 05.0
comp=E,215nm,0.3s
AKPI Kirsehir/Akpin 1.67 225 P **Pn 11 07 36.9 +0.3**
AKPI S **Sg 11 07 60.0 -0.5**
AKPI *i* AML AML 11 08 03.0
comp=N,163nm,0.5s
AKPI *i* AML AML 11 08 03.0
comp=E,124nm,0.4s
GOKD Ankara-Kalecik 1.68 249 P **Pb 11 07 37.5 -0.5**
GOKD S **Sg 11 08 01.0 +0.3**
GOKD *i* AML AML 11 08 04.0
comp=N,718nm,0.3s
GOKD *i* AML AML 11 08 04.0
comp=E,792nm,0.4s
BZK Bozkurt 1.69 318 Pn **Pb 11 07 38.2 0.0**
MCUR KIREHR 1.72 206 P **Pn 11 07 37.5 +0.3**
MCUR S **Sg 11 08 01.2 -0.8**
MCUR *i* AML AML 11 08 04.0
comp=E,169nm,0.5s
MCUR *i* AML AML 11 08 05.0
comp=N,108nm,0.3s
CUAYA Sivas-Altinyay 1.72 146 P **Pb 11 07 38.6 -0.2**
CUAYA S **Sg 11 08 03.1 +1.0**
CUAYA *i* AML AML 11 08 05.0
comp=N,261nm,0.9s
CUAYA *i* AML AML 11 08 05.0
comp=E,325nm,0.5s
CUAYA Sivas-Altinyay 1.72 146 S **Sg 11 08 03.6 +1.5**
CUAYA Sivas-Altinyay 1.72 146 P **Pg 11 07 39.1 -0.7**
BR131 Keskin Array S 1.74 236 Pn **Pb 11 07 38.2 -0.9**
BRTR Keskin Array B 1.74 236 Pn **Pn 11 07 38.1 +0.6**
38nm,0.3s,baz=61,slow=14,SNR=464
BRTR Sn **Sb 11 08 01.4 +0.2**
42nm,0.3s,baz=61,slow=26,SNR=22
PELI Kastamonı-Ara 1.77 290 P **Pb 11 07 38.9 -0.7**
PELI S **Sb 11 08 01.6 -0.4**
PELI *i* AML AML 11 08 06.0
comp=N,196nm,0.4s
PELI *i* AML AML 11 08 08.0
comp=E,152nm,0.5s
KESK Krkkale-Ke 1.83 235 P **Pb 11 07 39.7 -0.9**
KESK S **Sg 11 08 06.4 +0.9**
KESK *i* AML AML 11 08 09.0
comp=E,548nm,0.5s
KESK *i* AML AML 11 08 11.0
comp=N,398nm,0.4s
BNN Bunyan 1.87 172 Pn **Pb 11 07 40.4 -0.9**
CUZAR Zara_SIVAS 1.91 115 S **Sg 11 08 06.6 -1.5**
CUZAR Zara_SIVAS 1.91 115 P **Pb 11 07 41.0 -1.0**
KAMT Kaman 1.92 227 Pn **Pb 11 07 41.3 -0.9**
AVNS Nevsehir-Avano 1.96 195 P **Pb 11 07 42.8 -0.2**
AVNS S **Sg 11 08 10.1 +0.2**
KIRS Kirsehir-Merke 1.99 218 P **Pb 11 07 42.4 -1.0**
KIRS S **Sg 11 08 10.6 -0.2**
KIRS *i* AML AML 11 08 12.0
comp=N,88nm,0.6s
KIRS *i* AML AML 11 08 14.0
comp=E,202nm,0.4s
BBAL Bala 2.17 238 P **Pn 11 07 44.1 +0.7**
BBAL S **Sb 11 08 14.8 +1.2**
BBAL *i* AML AML 11 08 18.0
comp=E,233nm,0.6s
BBAL *i* AML AML 11 08 19.0
comp=N,252nm,0.6s
ANTO Ankara 2.24 249 Pn **Pn 11 07 45.9 +1.5**
KBUK KARABUK-Merkez 2.25 285 P **Pn 11 07 44.9 +0.4**
KBUK S **Sn 11 08 12.1 -0.4**
KBUK *i* AML AML 11 08 20.0
comp=N,74nm,0.8s
DERS Karabk-Eskip 2.25 275 P **Pb 11 07 46.6 -1.2**
DERS S **Sb 11 08 15.3 -0.7**
DERS *i* AML AML 11 08 24.0
comp=E,98nm,0.7s
DERS *i* AML AML 11 08 26.0
comp=N,109nm,0.6s
LOD Lodumlu 2.25 250 Pn **Pb 11 07 46.3 -1.6**
AFSR Afar-Bala (An 2.26 237 Pn **Pb 11 07 46.8 -1.1**
SERE Sereflikochisa 2.31 221 Pn **Pb 11 07 47.3 -1.5**
KURC Kurucasile-Bar 2.38 300 Pn **Pb 11 07 48.1 -1.8**
SARI SarD1z-Kayseri 2.40 163 Pn **Pn 11 07 47.8 +1.1**
ESPY Espiye-Giresun 2.45 84 Pn **Pn 11 07 48.5 +1.3**
KKUL Konya-Kulu 2.52 233 P **Pb 11 07 52.4 +0.1**
KKUL S **Sg 11 08 27.6 0.0**
KKUL *i* AML AML 11 08 32.0
comp=E,170nm,0.5s
KKUL *i* AML AML 11 08 34.0
comp=N,166nm,0.6s
KULU Kulu 2.55 230 Pn **Pn 11 07 50.5 +1.9**
GULA Gulagac 2.56 203 Pn **Pn 11 07 49.8 +1.1**
BCAM Yenicaga 2.62 274 P **Pb 11 07 54.0 -0.1**
BCAM S **Sn 11 08 21.8 0.0**
DARE Darende-Malaty 2.62 144 Pn **Pn 11 07 50.9 +1.3**
BTIN Bartın 2.63 292 P **Pg 11 07 56.2 -0.9**
BTIN *i* AML AML 11 08 41.0
comp=N,108nm,0.5s
BTIN *i* AML AML 11 08 52.0
comp=E,92nm,0.8s
YUVA Yuva-Kibriscik 2.93 265 Pn **Pn 11 07 55.9 +2.0**
CHBY Cihanbeyli 2.93 225 Pn **Pn 11 07 55.8 +1.9**
SULT Sultanhani-AKS 2.94 212 Pn **Pn 11 07 55.9 +1.9**
CMRD Camardi-Nigde 3.07 188 Pn **Pn 11 07 57.5 +1.7**
YESY Yesilyurt 3.23 206 Pn **Pn 11 08 00.2 +2.2**
KOZT Kozan 3.23 176 Pn **Pn 11 07 59.6 +1.7**
MDUB Mudurnu 3.29 267 Pn **Pn 11 08 00.9 +2.0**
BAYT Aydıntepe-Bayb 3.54 94 Pn **Pn 11 08 04.2 +1.9**
YAL Yalta 3.91 346 *e*S **Sn 11 08 54.0 +0.7**
YAL Sm 11 08 56.9
comp=N,10.0nm,0.3s
YAL Sm 11 08 56.9
comp=E,17nm,0.4s
SEV Sevastopol' 4.07 341 *e*S **Sn 11 08 58.2 +0.9**
SEV Sm 11 09 01.9
comp=N,9.0nm,0.4s,comp=E,6.0nm,0.4s
SUDU Sudak 4.20 355 *e*S **Sn 11 09 00.8 +0.3**
SUDU Sm 11 09 05.7
comp=N,26nm,0.5s
SUDU Sm 11 09 05.7
comp=E,24nm,0.5s
KBZ Khabaz 6.26 59 Pn **Pn 11 08 39.1 -0.4**
comp=E,0.2nm,0.3s,baz=270,slow=14,SNR=4.3
comp=E,1.9nm,0.7s
MMAI Mount Meron Ar 7.68 181 Pn **Pn 11 08 59.4 +0.3**
comp=E,1.8nm,0.3s,baz=359,slow=12,SNR=2.6
comp=E,0.8nm,0.3s
YKA Yellowknife Ar 74.38 346 P **P 11 18 44.0 -0.8**
comp=E,0.1nm,0.6s,baz=25,slow=5.7,SNR=4.6
comp=E,0.1nm,0.6s

MOS ***28*** *11:07:55.0±1.2, 31.°15N×141.°07E, h30km, mb4.9/23, Error ellipse: s-maj=10.4km s-min=5.2km az=100.8*
IDC ***28*** *11:07:58.2±1.2, 31.°08N×140.°91E, h40km±10km, mb4.2/31, mbtmp4.5/36, ML4.4/5, MS3.4/20, Error ellipse: s-maj=15.4km s-min=6.8km az=70.0*
JMA ***28*** *11:07:59.4±0.3, 32.°N±1.°×14.°1E±.°, h0km, MV5.1/39, NEAR TORISHIMA IS*
NIED ***28*** *11:07:59.4, 31.°56N×141.°14E, h0km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}2.34; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-2.85; $M_{r\theta}$1.91; $M_{\theta\phi}$-1.55; $M_{\phi r}$-2.30; Fault plane solution: $M_0$4.24000×10^15 NP1:ϕ_s50.00000°, δ41.00000°, λ147.00000°. NP2:ϕ_s167.00000°, δ69.00000°, λ54.00000°.*
NEIC ***28*** *11:07:59.1±3.0, 31.°23N±0.°06×141.°31E±0.°10, h35km±1km, mb4.7/257 Error ellipse: s-maj=14.4km s-min=9.8km az=80.0*
ISC 28 11:07:58.0±0.3, 31.°18N±0.°04×141.°23E±0.°06, h35km, n577, σ1s44/462, mb4.7/173, MS3.6/18, 6C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.79**	**316**	P	**Pn**	**11 08 27.2**	**+0.7**
JAOM	**Aogashimamukai**	**1.79**	**316**	A	A	11 08 27.2	
comp=N,17nm,0.6s,comp=E,16nm,3.1s							
JHCJ	**Hachijojimakas**	**2.25**	**328**	⇓P	**Pn**	**11 08 33.4**	**+0.6**
JHCJ				⇓*e*S	**Sn**	**11 08 57.3**	**-1.9**
JHJ2	**Mitsune**	**2.27**	**328**	Pn	**Pn**	**11 08 34.0**	**+0.9**
JHJ2	**Mitsune**	**2.27**	**328**	P	**Pn**	**11 08 33.8**	**+0.8**
JHJ2	**Mitsune**	**2.27**	**328**	P	**Pn**	**11 08 33.8**	**+0.8**
JHJ2				*e*S	**Sn**	**11 08 58.9**	**-0.9**
JHJ	**Hachijo jima 2**	**2.29**	**328**	P	**Pn**	**11 08 33.9**	**+0.5**
comp=E,416nm,0.3s,baz=104,slow=17,SNR=207							
JHJ				S	**Sn**	**11 08 59.4**	**-0.9**
comp=E,2μm,0.3s,baz=29,slow=23,SNR=10							
comp=E,856nm,0.3s							
JMYK	**Miyake Tsubota**	**3.21**	**334**	P	**Pn**	**11 08 47.7**	**+1.8**
JMYK				*e*S	**Sn**	**11 09 23.0**	**+0.1**
BSO1	**Boso 1**	**3.47**	**357**	P	**Pn**	**11 08 49.9**	**+0.8**
CBIJ	**Chichi jima**	**4.15**	**168**	P	**Pn**	**11 09 00.3**	**+1.4**
JCJ	**Chichijima**	**4.15**	**168**		**Pn**	**11 09 00.3**	**+1.4**
JCJ	**Chichijima**	**4.15**	**168**	P	**Pn**	**11 08 59.5**	**+0.6**
comp=E,24nm,0.3s,baz=308,slow=18,SNR=16							
JCJ				S	**Sn**	**11 09 44.8**	**-1.5**
comp=E,218nm,0.4s,baz=274,slow=23,SNR=8.7							
comp=E,91nm,0.3s							
JCJ	**Chichijima**	**4.15**	**168**	P	**Pn**	**11 09 00.5**	**+1.5**
JSG	**Sagara**	**4.33**	**324**		**Pn**	**11 09 02.9**	**+1.6**
JSG	**Sagara**	**4.33**	**324**	P	**Pn**	**11 09 03.0**	**+1.7**
JYT	**Yasato**	**5.11**	**351**	P	**Pn**	**11 09 13.8**	**+1.7**
JKN2	**Miekihoku**	**5.18**	**307**	P	**Pn**	**11 09 14.6**	**+1.6**
JRY	**Ryogami san**	**5.20**	**339**	P	**Pn**	**11 09 15.9**	**+2.5**
JTNC	**Tanabenakahech**	**5.43**	**300**	P	**Pn**	**11 09 18.0**	**+1.5**
JAG	**Ashikaga**	**5.44**	**345**	P	**Pn**	**11 09 17.9**	**+1.3**
INU	**Inuyama**	**5.46**	**321**		**Pn**	**11 09 18.9**	**+2.0**
INU	**Inuyama**	**5.46**	**321**	P	**Pn**	**11 09 20.4**	**+3.6**
JGF	**Kuroka**	**5.47**	**325**		**Pn**	**11 09 19.1**	**+2.0**
JGF	**Kuroka**	**5.47**	**325**	P	**Pn**	**11 09 20.7**	**+3.6**
MJAR	**Matsushiro Arr**	**5.91**	**336**	P	**Pn**	**11 09 25.7**	**+2.6**
comp=E,27nm,0.6s,baz=162,slow=13,SNR=64							
MJAR				S	**Sn**	**11 10 31.1**	**+1.4**
comp=E,23nm,0.6s,baz=90,slow=26,SNR=4.0							
MAJO	**Matsushiro**	**5.91**	**336**		**Pn**	**11 09 25.1**	**+2.0**
MAJO	**Matsushiro**	**5.91**	**336**	P	**Pn**	**11 09 26.0**	**+2.9**
MAJO	**Matsushiro**	**5.91**	**336**	*i* P	**Pn**	**11 09 26.9**	**+3.8**
MJB9	**Matsu-Tunnel**	**5.92**	**336**		**Pn**	**11 09 25.4**	**+2.2**
JMM	**Marumori**	**6.68**	**357**		**Pn**	**11 09 34.1**	**+0.5**
JMM	**Marumori**	**6.68**	**357**	P	**Pn**	**11 09 33.8**	**+0.2**
JMN	**Monobe**	**6.72**	**294**	Pn	**Pn**	**11 09 37.5**	**+3.3**
JMN	**Monobe**	**6.72**	**294**	P	**Pn**	**11 09 36.1**	**+1.9**
JSD	**Sado**	**7.27**	**341**		**Pn**	**11 09 43.5**	**+1.8**
JSD	**Sado**	**7.27**	**341**	P	**Pn**	**11 09 43.6**	**+1.9**
JTO	**Tosashimizu**	**7.35**	**285**	*e*P	**Pn**	**11 09 45.1**	**+2.2**
JMK	**Ichinoseki**	**7.75**	**360**	P	**Pn**	**11 09 48.8**	**+0.5**
JMK				*e*S	**Sn**	**11 11 08.9**	**-6.0**
JNU	**Nakatsue**	**8.99**	**285**	Pn	**Pn**	**11 10 08.4**	**+2.9**
JNU	**Nakatsue**	**8.99**	**285**	P	**Pn**	**11 10 05.6**	**+0.2**
comp=E,21nm,0.8s,baz=103,slow=9.0,SNR=12							
JNU				LR	LR	11 13 19.8	
comp=E,295nm,21.7s,baz=108,slow=37							
JNU	**Nakatsue**	**8.99**	**285**	P	**Pn**	**11 10 08.5**	**+3.1**
JTM	**Tenmabayashi**	**9.59**	**359**	P	**Pn**	**11 10 13.6**	**+0.1**
ERM	**Erimo**	**10.93**	**8**	Pn	**Pn**	**11 10 31.8**	**0.0**
ERM	**Erimo**	**10.93**	**8**	P	**Pn**	**11 10 32.4**	**+0.6**
ERM	**Erimo**	**10.93**	**8**	*i* P	**Pn**	**11 10 31.4**	**-0.4**
JEM	**Erimo**	**10.93**	**8**	P	**Pn**	**11 10 32.4**	**+0.6**
JOW	**Kunigami**	**12.14**	**252**	Pn	**Pn**	**11 10 51.7**	**+3.1**
JOW	**Kunigami**	**12.14**	**252**	LR	LR	11 14 58.7	
comp=E,132nm,19.9s,baz=97,slow=36							
JOW	**Kunigami**	**12.14**	**252**	P	Pn	11 10 52.8	+4.3
KSRS	**Korea Array**	**12.65**	**303**	P	**Pn**	**11 10 58.0**	**+2.6**
comp=E,5.2nm,0.8s,baz=112,slow=14,SNR=12							
KSRS				LR	LR	11 15 25.6	
comp=E,118nm,21.6s,baz=120,slow=36							
KSAR	**Wonju Array Be**	**12.68**	**303**	Pn	**Pn**	**11 10 57.3**	**+1.5**
KSAR	**Wonju Array Be**	**12.68**	**303**	P	**Pn**	**11 10 57.3**	**+1.5**
ASAJ	**Asahikawa**	**12.96**	**4**	P	**Pn**	**11 10 58.1**	**-1.5**
comp=E,7.4nm,0.5s,baz=216,slow=11,SNR=24							
ASAJ	**Asahikawa**	**12.96**	**4**	P	**Pn**	**11 10 58.9**	**-0.7**
JKA	**Kamikawa-asahi**	**12.96**	**4**	Pn	**Pn**	**11 10 58.9**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**13.34**	**15**	*e*P	**Pn**	**11 11 04.8**	**0.0**
YUK				*i* S	Sn	11 13 21.0	-11
YUK				pmax	pmax		
comp=N,30nm,0.2s							
YUK				pmax	pmax		
comp=E,15nm,0.2s							
YUK				pmax	pmax		
comp=Z,26nm,0.2s							
SHO	**Shikotan**	**13.42**	**18**	P	**Pn**	**11 11 04.4**	**-1.5**
SHO				pmax	pmax		
comp=Z,5.0nm,0.2s							
SHO				pmax	pmax		
comp=N,3.0nm,0.1s							
INCN	**Inchon**	**13.60**	**301**		**Pn**	**11 11 09.1**	**+0.7**
INCN	**Inchon**	**13.60**	**301**	P	**Pn**	**11 11 09.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**14.90**	**333**	P	**Pn**	**11 11 26.8**	**+0.8**
comp=N,0.2nm,0.3s,baz=144,slow=8.7,SNR=2.2							
USRK				LR	LR	11 16 46.3	
comp=N,54nm,20.4s,baz=170,slow=36							
comp=N,2.9nm,0.7s							
YSS	**Yuzhno-Sakhali**	**15.80**	**4**	Pn	**Pn**	**11 11 38.8**	**+1.1**
YSS	**Yuzhno-Sakhali**	**15.80**	**4**	*e*P	**Pn**	**11 11 37.8**	**+0.1**
YSS				pmax	pmax		
comp=Z,10.0nm,0.7s							
MDJ	**Mudanjiang**	**16.24**	**329**	P	**P**	**11 11 44.3**	**-1.8**
MDJ				pmax	pmax		
comp=Z,11nm,1.1s							
GUMO	**Guam**	**17.82**	**168**	P	**P**	**11 12 06.8**	**+3.0**
GUMO	**Guam**	**17.82**	**168**	P	**Pn**	**11 12 03.7**	**+0.4**
comp=Z,8.5nm,0.3s,baz=359,slow=17,SNR=4.6							
comp=Z,72nm,0.6s							
GUMO	**Guam**	**17.82**	**168**	P	**P**	**11 12 05.7**	**+1.9**
BNX	**BinXian**	**18.09**	**327**	⇓P	**P**	**11 12 06.8**	**+0.2**
BNX				pmax	pmax		
comp=Z,10.0nm,0.7s							
YHNB	**Yeheng**	**18.70**	**255**	P	**Pn**	**11 12 15.9**	**+1.8**
NACB	**Ninganchiao**	**18.73**	**253**	P	**Pn**	**11 12 14.6**	**+0.3**
NJ2	**Nanjing**	**19.08**	**278**	*e*P	**Pn**	**11 12 19.3**	**+0.8**
NJ2				pmax	pmax		
comp=Z,22nm,0.5s							
YULB	**Yu-li**	**19.32**	**251**	P	**P**	**11 12 19.3**	**-1.0**
YULB	**Yu-li**	**19.32**	**251**	P	**Pn**	**11 12 21.5**	**-0.1**
KLR	**Kul'dur**	**19.40**	**341**	P	**P**	**11 12 20.4**	**-0.6**
comp=Z,0.7nm,0.3s,baz=164,slow=7.8,SNR=8.1							
comp=Z,2.1nm,0.4s							
KLR	**Kul'dur**	**19.40**	**341**	*i* P	**Pn**	**11 12 22.2**	**-0.1**
KLR				pmax	pmax		
comp=Z,3.0nm,0.6s							
SSLB	**Suanglung**	**19.42**	**253**	P	**P**	**11 12 21.0**	**-0.4**
SSLB	**Suanglung**	**19.42**	**253**	P	**Pn**	**11 12 21.9**	**-0.9**
TYV	**Tymovskoe**	**19.70**	**3**	*e*P	**Pn**	**11 12 26.3**	**+0.6**
TYV				pmax	pmax		
comp=Z,200nm,4.7s							
TYV				pmax	pmax		
comp=Z,19nm,1.0s							
TPUB	**Ta-pu**	**19.91**	**252**	P	**Pn**	**11 12 29.0**	**+0.5**
TIA	**Tai'an**	**20.66**	**291**	P	**P**	**11 12 35.0**	**+0.2**
TIA				pmax	pmax		
comp=Z,5.0nm,0.5s							
WHN	**Wuhan**	**23.07**	**275**	P	**P**	**11 13 03.5**	**+3.0**
XLT	**XiLinHaoTe**	**23.54**	**310**	*e*P	**P**	**11 13 03.8**	**-1.3**
XLT				pP	pP	11 13 08.0	-6.0
XLT				pmax	pmax		
comp=Z,12nm,0.7s							
HIA	**Hailar**	**24.27**	**324**	P	**P**	**11 13 11.6**	**-0.2**
HIA				IAmb	IAmb	11 13 11.8	
comp=Z,15nm,0.7s							
HIA	**Hailar**	**24.27**	**324**	P	**P**	**11 13 11.6**	**-0.2**
HIA				pmax	pmax		
comp=Z,15nm,0.7s							
ZEA	**Zeya**	**24.70**	**340**	*e*P	**P**	**11 13 16.7**	**+1.0**
ZEA				*e*		11 13 32.4	
ZEA				pmax	pmax		
comp=N,10.0nm,0.5s							
ZEA				pmax	pmax		
comp=Z,20nm,0.7s							
PETK	**Petropavlovsk-**	**24.97**	**24**	P	**P**	**11 13 18.6**	**+0.5**
comp=Z,2.7nm,0.6s,baz=174,slow=4.7,SNR=4.2							
comp=Z,2.7nm,0.6s							
TGY	**Tagaytay City**	**25.22**	**232**	LR	LR	11 22 40.4	
comp=Z,29nm,19.5s,baz=238,slow=35							
H11N2	**WAKE ISLAND Hy**	**25.76**	**110**	T	T	11 41 31.1	
baz=308,slow=74							
H11N1	**WAKE ISLAND Hy**	**25.76**	**110**	T	T	11 42 22.4	
baz=308							
HHC	**Hu-ho-hao-te**	**25.76**	**300**	*e*P	**P**	**11 13 28.8**	**+3.2**
HHC				sP	sP	11 13 45.5	+6.9
HHC				pmax	pmax		
comp=Z,14nm,0.7s							
HHC				pmax	pmax		
comp=Z,36nm,5.9s							
H11N3	**WAKE ISLAND Hy**	**25.78**	**110**	T	T	11 41 18.0	
baz=308,slow=74							
H11S3	**WAKE ISLAND Hy**	**26.25**	**113**	T	T	11 42 36.3	
baz=304,slow=75,SNR=211							
H11S1	**WAKE ISLAND Hy**	**26.25**	**113**	T	T	11 42 36.1	
baz=304,slow=75,SNR=228							
H11S2	**WAKE ISLAND Hy**	**26.27**	**113**	T	T	11 42 39.4	
baz=304,slow=75,SNR=176							
MA2	**Magadan**	**29.12**	**10**	*c i*P	**P**	**11 13 54.8**	**-0.5**
MA2				pmax	pmax		
comp=Z,43nm,4.6s							
MA2	**Magadan**	**29.12**	**10**	P	**P**	**11 13 55.7**	**+0.4**
comp=Z,11nm,2.1s							
ULN	**Ulaanbaatar**	**30.87**	**313**	P	**P**	**11 14 10.7**	**-0.4**
ULN	**Ulaanbaatar**	**30.87**	**313**	*c i*P	**P**	**11 14 09.6**	**-1.6**
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s							
SONM	**Songino Array**	**31.28**	**312**	P	**P**	**11 14 13.1**	**-1.6**
comp=Z,2.5nm,0.6s,baz=122,slow=9.8,SNR=12							
comp=Z,2.5nm,0.6s							
SEY	**Seymchan**	**32.56**	**9**	*i* P	**P**	**11 14 24.8**	**-0.8**
SEY				pmax	pmax		
comp=Z,7.0nm,1.0s							
PZH	**PanZhiHua**	**34.78**	**272**	P	**P**	**11 14 49.3**	**+3.8**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,120nm,5.2s							
BILL	**Bilibino**	**39.70**	**14**	P	**P**	**11 15 26.9**	**+0.4**
BILL	**Bilibino**	**39.70**	**14**	*c i*P	**P**	**11 15 27.4**	**+0.9**
BILL				pmax	pmax		
comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**40.19**	**262**	P	**P**	**11 15 28.1**	**-3.1**
comp=Z,0.5nm,0.4s,baz=45,slow=7.5,SNR=5.4							
CMAR				LR	LR	11 32 49.2	
comp=Z,29nm,18.2s,baz=60,slow=37							
comp=Z,0.5nm,0.4s							
TIXI	**Tiksi**	**41.08**	**354**	P	**P**	**11 15 37.4**	**-0.4**
TIXI	**Tiksi**	**41.08**	**354**	*c i*P	**P**	**11 15 36.3**	**-1.5**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.6s							
KAPI	**Kappang**	**41.43**	**213**	LR	LR	11 36 29.5	
comp=Z,20nm,18.0s,baz=359,slow=42							
NIKH	**Nikolski High**	**41.92**	**44**	P	**P**	**11 15 44.3**	**-0.7**
baz=259							
SPIA	**Saint Paul Isl**	**42.16**	**37**	P	**P**	**11 15 46.6**	**-0.3**
baz=253							
P08K	**Saint George I**	**42.37**	**38**	P	**P**	**11 15 48.0**	**-0.6**
baz=254							
UNV	**Unalaska Valle**	**43.46**	**43**	P	**P**	**11 15 57.8**	**+0.4**
baz=260							
WMQ	**Urumqi**	**43.60**	**302**	*e*P	P	11 16 04.5	+5.6
WMQ				pP	pwP	11 16 10.0	-2.1
WMQ				pmax	pmax		
comp=Z,16nm,0.7s							
GAMB	**Gambell**	**43.87**	**28**	P	**P**	**11 16 00.7**	**+0.1**
baz=245							
HNR	**Honiara**	**44.19**	**153**	LR	LR	11 32 28.3	
comp=Z,40nm,21.1s,baz=56,slow=33							
M11K	**Mekoryuk**	**45.10**	**34**	P	**P**	**11 16 09.8**	**-0.6**
baz=254							
FALS	**False Pass**	**45.41**	**42**	P	**P**	**11 16 12.4**	**-0.6**
baz=262							
ZALV	**Zalesovo Beam**	**45.91**	**317**	P	**P**	**11 16 15.6**	**-1.4**
ZALV	**Zalesovo Beam**	**45.91**	**317**	P	**P**	**11 16 15.2**	**-1.9**
comp=Z,1.8nm,0.4s,baz=105,slow=7.6,SNR=7.0							
ZALV				PcP	**PcP**	**11 17 52.5**	**-1.0**
comp=Z,3.2nm,0.5s,baz=104,slow=3.3,SNR=8.4							
ZALV				LR	LR	11 36 31.1	
comp=Z,47nm,18.1s,baz=82,slow=37							
comp=Z,1.8nm,0.4s							
TNA	**Tin City**	**46.08**	**27**	P	**P**	**11 16 18.7**	**+0.5**
baz=247							
K13K	**Kusilvak Mount**	**46.25**	**32**	P	**P**	**11 16 20.5**	**+1.0**
baz=254							
M13K	**Dall Lake**	**46.47**	**34**	P	**P**	**11 16 22.8**	**+1.5**
baz=257							
F14K	**Arctic Creek**	**46.67**	**27**	P	**P**	**11 16 23.8**	**+1.0**
baz=249							
ANM	**Nome**	**46.73**	**28**	P	**P**	**11 16 24.3**	**+0.9**
baz=251							
J14K	**Nanvaranak Lak**	**46.97**	**31**	P	**P**	**11 16 26.0**	**+0.9**
baz=254							
L14K	**Kuka Creek**	**47.01**	**33**	P	**P**	**11 16 26.3**	**+0.8**
baz=256

MKAR	Makanchi Array	47.30	307	P	P	11 16 26.0	-2.1
MKAR	Makanchi Array	47.30	307	P	P	11 16 25.9	-2.3
	comp=Z,3.4nm,0.6s,baz=89,slow=8.5,SNR=18						
MKAR				ScP	ScP	11 21 46.0	-4.1
	comp=Z,0.9nm,0.7s,baz=76,slow=5.1,SNR=7.1						
MKAR				LR	LR	11 36 41.8	
	comp=Z,47nm,19.5s,baz=64,slow=37						
	comp=Z,3.4nm,0.6s						
MKAR	Makanchi Array	47.30	307	P	P	11 16 26.0	-2.1
F15K	North Star Dit	47.40	27	P	P	11 16 29.3	+0.8
	baz=250						
G15K	Niukluk	47.41	28	P	P	11 16 30.2	+1.6
	baz=252						
MAKZ	Makanchi	47.52	307	P	P	11 16 26.8	-3.0
MAKZ	Makanchi	47.52	307	P	P	11 16 26.8	-3.0
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHNA	Chernabura Isl	47.60	42	P	P	11 16 30.4	+0.2
	baz=265						
CNBA	Chernabura Isl	47.60	42	P	P	11 16 30.3	0.0
L15K	Ungalak Mounta	47.64	33	P	P	11 16 30.0	-0.5
	baz=257						
S14K	Fog Glacier	47.76	40	P	P	11 16 32.1	+0.5
	baz=264						
K15K	Wolf Creek Mou	47.76	32	P	P	11 16 32.1	+0.7
	baz=257						
M15K	Kasigluk River	47.82	34	P	P	11 16 32.7	+0.9
	baz=259						
O15K	Ungalikthiuk R	47.99	36	P	P	11 16 34.4	+1.3
	baz=261						
N15K	Kwethluk River	48.01	35	P	P	11 16 34.9	+1.5
N15K	Kwethluk River	48.01	35	P	P	11 16 34.7	+1.3
	baz=260,SNR=5.8						
H16K	Elim	48.05	29	P	P	11 16 34.8	+1.2
	baz=254						
C16K	Lisburne Hills	48.06	24	IAmb	IAmb	11 16 35.9	
	comp=Z,8.4nm,0.8s						
C16K	Lisburne Hills	48.06	24	P	P	11 16 34.2	+0.5
	baz=248						
G16K	Koyuk River	48.21	28	P	P	11 16 35.1	+0.3
	baz=253						
CHGN	Chignik	48.39	40	P	P	11 16 36.9	+0.6
	baz=265						
J16K	Anvik River	48.40	31	P	P	11 16 36.7	+0.4
	baz=257						
I17K	Unalakleet	48.50	30	P	P	11 16 38.1	+1.1
	baz=256						
NRIK	Noril'sk	48.56	338	P	P	11 16 38.5	+1.0
NRIK				IAmb	IAmb	11 16 45.3	
	comp=Z,4.7nm,0.6s						
NRIK	Noril'sk	48.56	338	P	P	11 16 37.7	+0.2
	comp=Z,4.9nm,0.4s,baz=119,slow=7.3,SNR=5.6						
	comp=Z,4.9nm,0.4s						
NRIK	Noril'sk	48.56	338	*i* P	P	11 16 34.4	-3.1
L16K	Owhat River	48.59	33	P	P	11 16 39.1	+1.3
	baz=259						
D17K	Noatak River	48.66	25	P	P	11 16 39.7	+1.5
	baz=250						
M16K	Timber Creek	48.71	34	P	P	11 16 39.7	+1.0
	baz=260						
N16K	Nishlik Lake	48.71	35	P	P	11 16 38.9	+0.1
	baz=261						
RDOG	Red Dog Mine	48.84	24	P	P	11 16 40.1	+0.5
	baz=250						
C17K	DeLong Mountai	48.89	24	P	P	11 16 41.1	+1.1
	baz=250						
P16K	Nushagak River	48.90	37	P	P	11 16 41.4	+1.2
	baz=263						
E17K	Hotham Inlet	48.92	26	P	P	11 16 41.3	+1.0
	baz=252						
O16K	Kokwok River B	48.92	36	P	P	11 16 41.8	+1.5
O16K				IAmb	IAmb	11 16 43.1	
	comp=Z,5.6nm,0.8s						
O16K	Kokwok River B	48.92	36	P	P	11 16 41.6	+1.3
	baz=262						
G17K	Kiwalik Mounta	48.93	28	P	P	11 16 41.4	+1.1
	baz=255						
F17K	Baldwin Pennin	48.95	27	P	P	11 16 41.8	+1.4
	baz=253,SNR=7.1						
H17K	Granite Mounta	49.09	29	IAmb	IAmb	11 16 44.4	
	comp=Z,6.6nm,0.9s						
H17K	Granite Mounta	49.09	29	P	P	11 16 42.8	+1.3
	baz=256,SNR=5.4						
J17K	VABM Dome	49.10	31	P	P	11 16 43.1	+1.5
	baz=258,SNR=8.6						
L17K	Donlin	49.21	33	P	P	11 16 44.0	+1.4
	baz=260						
K17K	Iditarod	49.31	32	P	P	11 16 44.9	+1.6
	baz=260,SNR=8.7						
O17K	Koliganek Bris	49.45	36	P	P	11 16 45.8	+1.4
	baz=263						
E18K	Tukpahlearik C	49.47	26	P	P	11 16 45.7	+1.2
	baz=253						
N17K	Nushagak Hills	49.50	35	P	P	11 16 46.7	+2.0
	baz=262						
M17K	Holitna River	49.50	34	P	P	11 16 46.0	+1.3
	baz=261						
Q16K	King Salmon	49.55	37	P	P	11 16 46.6	+1.4
	baz=264						
KURK	Kurchatov	49.59	312	P	P	11 16 43.9	-1.7
KURK	Kurchatov	49.59	312	*c i* P	P	11 16 43.0	-2.6
KURK				pmax	pmax		
	comp=Z,13nm,0.7s						
F18K	Selawik	49.61	27	P	P	11 16 46.5	+1.0
	baz=255						
C18K	Utukok River	49.63	24	IAmb	IAmb	11 16 48.1	
	comp=Z,7.5nm,0.8s						
C18K	Utukok River	49.63	24	P	P	11 16 47.4	+1.6
	baz=252,SNR=5.6						
KURBB	Kurchatov Arra	49.65	312	P	P	11 16 43.7	-2.3
	comp=Z,7.3nm,0.7s,baz=90,slow=7.5,SNR=19						
KURBB				LR	LR	11 38 35.0	
	comp=Z,66nm,18.9s,baz=170,slow=37						
	comp=Z,7.3nm,0.7s						
B18K	Kokolik River	49.66	23	P	P	11 16 47.6	+1.8
	baz=250						
P17K	Kvichak River	49.72	37	P	P	11 16 47.3	+0.9
	baz=264						
H18K	Honhosa River	49.78	29	P	P	11 16 48.1	+1.3
	baz=257,SNR=9.8						
G18K	Tagagawik	49.83	28	IAmb	IAmb	11 16 49.2	
	comp=Z,7.5nm,0.8s						
G18K	Tagagawik	49.83	28	P	P	11 16 48.8	+1.6
	baz=256						
L18K	Granite Mounta	49.97	33	IAmb	IAmb	11 16 51.8	
	comp=Z,8.2nm,1.3s						
L18K	Granite Mounta	49.97	33	P	P	11 16 50.0	+1.7
	baz=261						
N18K	Kilae Creek	50.15	35	P	P	11 16 51.6	+1.8
	baz=264						
J18K	Innoko River	50.16	31	P	P	11 16 51.1	+1.3
	baz=260						
M18K	Stony River	50.28	34	P	P	11 16 52.0	+1.3
	baz=263						
GCSA	Galena City Sc	50.31	29	P	P	11 16 52.0	+1.2
	baz=259						
P18K	Big Mountain,	50.35	37	P	P	11 16 52.2	+0.8
	baz=265						
F19K	Shaleruckik Mo	50.39	27	P	P	11 16 52.7	+1.3
	baz=257						
O18K	Koktuh Hills	50.40	36	P	P	11 16 52.9	+1.2
	baz=265						
Q18K	Katmai Hardscr	50.41	37	P	P	11 16 52.6	+0.7
	baz=266						
H19K	Roundabout Mou	50.64	28	P	P	11 16 54.8	+1.5
	baz=259,SNR=9.5						
R18K	Karluk	50.64	39	P	P	11 16 54.3	+0.9
	baz=267						
D19K	Kuna River	50.67	25	P	P	11 16 54.9	+1.3
	baz=255						
J19K	Poorman	50.72	31	IAmb	IAmb	11 16 56.4	
	comp=Z,9.0nm,0.8s						
J19K	Poorman	50.72	31	P	P	11 16 55.3	+1.3
	baz=261,SNR=8.8						
E19K	Redstone River	50.74	26	P	P	11 16 55.3	+1.2
	baz=257						
SII	Sitkinak Islan	50.75	40	P	P	11 16 54.8	+0.5
	baz=268						
L19K	White Mountain	50.82	33	P	P	11 16 56.6	+1.8
	baz=263						
N19K	Bonanza Creek	50.85	35	P	P	11 16 56.2	+1.0
	baz=265						
O19K	Port Alsworth	50.88	36	P	P	11 16 56.7	+1.5
	baz=265						
M19K	Big River Lodg	51.00	33	P	P	11 16 57.8	+1.6
	baz=264						
WB0	Warramunga Arr	51.08	188	P	P	11 16 55.5	-1.6
WB0				IAmb	IAmb	11 17 21.8	
	comp=Z,8.2nm,1.1s						
Q19K	Cape Douglas,	51.14	37	P	P	11 16 57.5	+0.3
	baz=267						
F20K	Avaraart Lake	51.22	27	IAmb	IAmb	11 16 59.7	
	comp=Z,3.8nm,0.6s						
F20K	Avaraart Lake	51.22	27	P	P	11 16 59.2	+1.6
	baz=258						
WRA	Warramunga Arr	51.26	188	P	P	11 16 56.8	-1.7
WRA	Warramunga Arr	51.26	188	P	P	11 16 56.5	-2.0
	comp=Z,1.8nm,0.4s,baz=5.1,slow=7.6,SNR=64						
	comp=Z,1.8nm,0.4s						
WRA	Warramunga Arr	51.26	188	P	P	11 16 56.8	-1.7
D20K	Etivluk River	51.26	24	P	P	11 16 59.2	+1.2
	baz=256,SNR=6.0						
OHAK	Old Harbor	51.26	39	P	P	11 16 58.8	+0.7
OHAK				IAmb	IAmb	11 17 29.2	
	comp=Z,9.5nm,1.0s						
OHAK	Old Harbor	51.26	39	P	P	11 16 59.0	+0.9
	baz=269						
H20K	Anotleneega Mo	51.28	29	P	P	11 16 59.5	+1.3
	baz=260,SNR=5.6						
L20K	Farewell, AK	51.30	33	P	P	11 16 59.7	+1.2
	baz=264						
E20K	Nigu River	51.31	25	P	P	11 16 59.4	+1.0
	baz=257						
K20K	Telida	51.32	31	P	P	11 16 59.9	+1.4
	baz=263,SNR=11						
I20K	Naaghedeneel	51.34	30	P	P	11 16 59.9	+1.4
	baz=261						
P19K	Oil Pt	51.39	36	P	P	11 16 59.7	+0.6
	baz=267						
J20K	Nowinta River	51.39	30	P	P	11 17 00.1	+1.1
	baz=262,SNR=11						
B20K	Meade River	51.40	23	IAmb	IAmb	11 17 02.4	
	comp=Z,7.5nm,0.8s						
B20K	Meade River	51.40	23	P	P	11 17 00.6	+1.6
	baz=255						
M20K	Styx River	51.60	33	P	P	11 17 02.2	+1.5
	baz=265						
KDAK	Kodiak Island	51.65	39	P	P	11 17 01.9	+0.8
KDAK	Kodiak Island	51.65	39	*i* P	P	11 17 01.3	+0.3
KDAK	Kodiak Island	51.65	39	P	P	11 17 02.2	+1.2
	baz=269						
O20K	Slope Mountain	51.72	36	P	P	11 17 02.7	+1.1
	baz=267						
Q20K	Shuyak Island	51.77	38	P	P	11 17 03.1	+1.2
	baz=268						
SPCR	Spurr Chakacha	51.99	34	P	P	11 17 04.7	+1.1
	baz=266						
G21K	Allakaket	51.99	28	IAmb	IAmb	11 17 06.0	
	comp=Z,7.5nm,0.8s						
G21K	Allakaket	51.99	28	P	P	11 17 04.6	+1.1
	baz=261						
C21K	Knifeblade Rid	52.01	24	P	P	11 17 04.1	+0.5
	baz=258						
F21K	Alatna River	52.12	27	P	P	11 17 05.5	+1.1
	baz=260						
PPLA	Purkeypile	52.12	32	P	P	11 17 06.7	+2.1
PPLA				IAmb	IAmb	11 17 07.2	
	comp=Z,5.4nm,0.5s						
PPLA	Purkeypile	52.12	32	P	P	11 17 04.8	+0.2
	baz=265						
E21K	Killik River	52.15	25	IAmb	IAmb	11 17 06.8	
	comp=Z,7.7nm,0.8s						
E21K	Killik River	52.15	25	P	P	11 17 05.8	+1.1
	baz=255						
H21K	Melozitna Rive	52.15	29	IAmb	IAmb	11 17 07.5	
	comp=Z,13nm,1.1s						
H21K	Melozitna Rive	52.15	29	P	P	11 17 05.9	+1.2
	baz=262,SNR=14						
CHUM	Lake Minchumin	52.16	31	P	P	11 17 06.1	+1.4
	baz=264,SNR=5.6						
B21K	Ikpikpuk River	52.16	24	IAmb	IAmb	11 17 06.8	
	comp=Z,7.6nm,0.6s						
B21K	Ikpikpuk River	52.16	24	P	P	11 17 06.1	+1.5
	baz=258						
CAST	Castle Rocks	52.21	32	P	P	11 17 07.3	+2.1
CAST				IAmb	IAmb	11 17 08.1	
	comp=Z,7.1nm,0.8s						
CAST	Castle Rocks	52.21	32	P	P	11 17 06.2	+1.0
	baz=265,SNR=9.8						
SKT	Skwentna	52.36	33	IAmb	IAmb	11 17 08.5	
	comp=Z,9.2nm,1.2s						
SKT	Skwentna	52.36	33	P	P	11 17 06.9	+0.7
	baz=266						
A22K	Sinclair Lake	52.36	22	P	P	11 17 07.7	+1.6
	baz=256						
I21K	Tanana	52.44	29	IAmb	IAmb	11 17 10.4	
	comp=Z,12nm,1.2s						
I21K	Tanana	52.44	29	P	P	11 17 08.5	+1.7
	baz=264						
CAPN	Captain Cook N	52.48	35	P	P	11 17 07.6	+0.5
	baz=268						
BRSE	Bradley Lake S	52.65	36	P	P	11 17 09.3	+0.8
	baz=269						
F22K	John River	52.66	26	P	P	11 17 10.0	+1.6
	baz=262						
D22K	Ayikyak River	52.69	25	IAmb	IAmb	11 17 10.9	
	comp=Z,5.3nm,0.7s						
D22K	Ayikyak River	52.69	25	P	P	11 17 10.4	+1.7
	baz=260						
B22K	Teshekpuk Lake	52.72	23	P	P	11 17 10.5	+1.7
	baz=258						
BPAW	Bear Paw Mtn.	52.76	31	P	P	11 17 10.7	+1.5
BPAW	Bear Paw Mtn.	52.76	31	P	P	11 17 11.0	+1.8
	baz=265						
H22K	Ishtalitna Cre	52.77	28	P	P	11 17 10.8	+1.5
	baz=264,SNR=9.8						
E22K	Anaktuvuk Pass	52.89	26	IAmb	IAmb	11 17 12.6	
	comp=Z,9.3nm,0.9s						
E22K	Anaktuvuk Pass	52.89	26	P	P	11 17 11.2	+1.0
	baz=261						
SLKM	Skilak Lake	52.93	35	IAmb	IAmb	11 17 12.2	
	comp=Z,9.2nm,1.1s						
CUT	Chulitna	52.97	33	P	P	11 17 11.7	+1.0
	baz=267						
M22K	Willow	53.02	34	P	P	11 17 11.3	+0.3
	baz=268						
TRF	Thorofare Moun	53.02	32	P	P	11 17 12.6	+1.3
	baz=266						
O22K	Cooper Landing	53.17	35	P	P	11 17 12.4	+0.1
	baz=269						
RC01	Rabbit Creek A	53.18	35	P	P	11 17 13.0	+0.7
	baz=269						
SEW	Seward	53.31	36	IAmb	IAmb	11 17 17.7	
	comp=Z,7.1nm,0.9s						
SEW	Seward	53.31	36	P	P	11 17 14.0	+0.8
	baz=270						
AAK	Ala-Archa	53.31	302	LR	LR	11 40 43.3	
	comp=Z,60nm,20.0s,baz=68,slow=37						
COLD	Coldfoot	53.38	27	P	P	11 17 14.6	+0.9
	baz=264						
G23K	Bananza Creek	53.40	27	IAmb	IAmb	11 17 16.6	
	comp=Z,8.3nm,1.1s						
G23K	Bananza Creek	53.40	27	P	P	11 17 15.0	+1.1
	baz=264						
D23K	Nanushuk River	53.42	25	IAmb	IAmb	11 17 16.9	
	comp=Z,5.3nm,0.8s						
D23K	Nanushuk River	53.42	25	P	P	11 17 15.1	+1.1
	baz=262						
PMR	Palmer	53.48	34	P	P	11 17 15.4	+0.9
PMR				IAmb	IAmb	11 17 34.8	
	comp=Z,10nm,1.3s						
PMR	Palmer	53.48	34	P	P	11 17 15.4	+0.9
PMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PMR	Palmer	53.48	34	P	P	11 17 15.5	+1.1
	baz=269						
H23K	Yukon River	53.51	29	P	P	11 17 16.5	+1.7
	baz=265						
I23K	Minto, Yukon-K	53.54	29	P	P	11 17 16.3	+1.5
	baz=266						
C23K	Itkillik River	53.57	24	P	P	11 17 16.3	+1.2
	baz=261						
NEA2	Nenana	53.62	30	P	P	11 17 16.8	+1.3
	baz=267,SNR=14						
MCK	McKinley	53.64	31	P	P	11 17 16.3	+0.6
	baz=267						
E23K	Chandalar	53.70	26	IAmb	IAmb	11 17 18.9	
	comp=Z,9.6nm,1.1s						
E23K	Chandalar	53.70	26	P	P	11 17 17.0	+0.8
	baz=264						
TOLK	Toolik Lake Re	53.78	25	P	P	11 17 18.1	+1.4
TOLK				IAmb	IAmb	11 17 19.2	
	comp=Z,11nm,1.1s						
TOLK	Toolik Lake Re	53.78	25	P	P	11 17 17.6	+0.9
	baz=263,SNR=10.0						
KNK	Knik Glacier	53.80	34	IAmb	IAmb	11 17 19.9	
	comp=Z,11nm,1.0s						
KNK	Knik Glacier	53.80	34	P	P	11 17 18.0	+1.1
	baz=270,SNR=6.4						
PWL	Port Wells	53.86	35	IAmb	IAmb	11 17 19.4	
	comp=Z,13nm,1.2s						
PWL	Port Wells	53.86	35	P	P	11 17 18.0	+0.6
	baz=270,SNR=5.6						
SML	Sawmill	53.87	34	IAmb	IAmb	11 17 19.4	
	comp=Z,11nm,1.2s						
SML	Sawmill	53.87	34	P	P	11 17 18.6	+1.2
	baz=269						
D24K	Happy Valley	54.11	25	P	P	11 17 20.0	+1.0
	baz=264,SNR=23						
E24K	Your Creek	54.12	26	IAmb	IAmb	11 17 22.7	
	comp=Z,9.7nm,1.3s						
E24K	Your Creek	54.12	26	P	P	11 17 20.6	+1.4
	baz=265						
M23K	Glacier View	54.15	34	P	P	11 17 20.8	+1.3
	baz=270						
COLA	College	54.16	30	P	P	11 17 19.7	+0.3
COLA	College	54.16	30	*c i* P	P	11 17 20.0	+0.6
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COLA	College	54.16	30	P	P	11 17 20.6	+1.2
	baz=268						
H24K	Noodor Dome	54.20	29	IAmb	IAmb	11 17 22.6	
	comp=Z,7.8nm,1.1s						
H24K	Noodor Dome	54.20	29	P	P	11 17 21.5	+1.7
	baz=267,SNR=6.9						
C24K	Franklin Bluff	54.22	24	P	P	11 17 20.9	+1.1
	baz=263						
F24K	Squaw Lake	54.30	27	IAmb	IAmb	11 17 23.1	
	comp=Z,5.1nm,0.7s						
F24K	Squaw Lake	54.30	27	P	P	11 17 22.0	+1.5
	baz=266,SNR=11						
P23K	Montague Islan	54.34	36	P	P	11 17 22.6	+1.8
	baz=272						
SCM	Sheep Creek Mo	54.34	34	P	P	11 17 22.6	+1.7
	baz=270,SNR=7.5						
POKR	Poker Plat Res	54.35	30	P	P	11 17 21.9	+1.1
	baz=268						
G24K	Hadweenzic Riv	54.41	28	P	P	11 17 22.6	+1.3
	baz=267						
GLI	Glacier Island	54.47	35	IAmb	IAmb	11 17 23.6	
	comp=Z,12nm,1.2s						
GLI	Glacier Island	54.47	35	P	P	11 17 23.1	+1.3
	baz=271						
BVAR	Borovoye Array	54.52	316	P	P	11 17 20.8	-1.4
	comp=Z,2.5nm,0.3s,baz=94,slow=8.9,SNR=13						
	comp=Z,2.5nm,0.3s						
HDA	Harding Lake	54.54	30	IAmb	IAmb	11 17 23.4	
	comp=Z,7.0nm,0.9s						
HDA	Harding Lake	54.54	30	P	P	11 17 22.6	+0.4
	baz=269,SNR=11						
IL31		54.57	30	IAmb	IAmb	11 17 23.8	
	comp=Z,6.2nm,0.8s						
ILAR	Eielson Array	54.57	30	P	P	11 17 22.5	0.0
ILAR	Eielson Array	54.57	30	P	P	11 17 22.7	+0.3
	comp=Z,3.8nm,0.7s,baz=267,slow=6.1,SNR=43						
	comp=Z,3.8nm,0.7s						
BRVK	Borovoye	54.58	316	*i* P	P	11 17 21.7	-1.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
M24K	Tolsona, Glenn	54.88	33	P	P	11 17 25.9	+1.0
	baz=271						
G25K	Bearman Lake	54.96	28	P	P	11 17 26.8	+1.6
	baz=268						
AS31	Alice Springs	54.98	188	P	P	11 17 25.0	-0.9
ASAR	Alice Springs	54.98	188	P	P	11 17 24.1	-1.8
	comp=Z,0.6nm,0.4s,baz=19,slow=12,SNR=11						
	comp=Z,0.6nm,0.4s						
D25K	Kavik River	54.99	24	IAmb	IAmb	11 17 27.8	
	comp=Z,12nm,1.4s						
D25K	Kavik River	54.99	24	P	P	11 17 26.7	+1.2
	baz=266						
KLU	Klutina	55.02	34	IAmb	IAmb	11 17 28.9	
	comp=Z,8.8nm,1.1s						
KLU	Klutina	55.02	34	P	P	11 17 27.4	+1.6
	baz=272,SNR=5.9						
K24K	Donnelly Dome	55.04	31	P	P	11 17 27.0	+1.1
	baz=270						
H25L	Birch Creek	55.05	28	P	P	11 17 27.0	+1.1
	baz=269						
DIV	Divide	55.10	34	IAmb	IAmb	11 17 29.6	
	comp=Z,11nm,1.1s						
EYAK	Cordova Ski Ar	55.14	35	P	P	11 17 28.0	+1.5
	baz=272						
PRP	Porcupine Dome	55.16	29	P	P	11 17 28.2	+1.3
	baz=269						
F25K	Christian Rive	55.17	27	IAmb	IAmb	11 17 30.1	
	comp=Z,7.7nm,0.9s						
F25K	Christian Rive	55.17	27	P	P	11 17 28.7	+1.9
	baz=268						
PAX	Paxson	55.19	32	P	P	11 17 27.9	+0.8
	baz=271						
E25K	Arctic Village	55.22	26	IAmb	IAmb	11 17 30.3	
	comp=Z,11nm,1.1s						
E25K	Arctic Village	55.22	26	P	P	11 17 29.0	+1.9
	baz=267,SNR=18						
J25K	Salcha River,	55.22	30	P	P	11 17 28.1	+0.8
	baz=270						
FYU	Fort Yukon	55.30	28	IAmb	IAmb	11 17 31.9	
	comp=Z,7.6nm,1.0s						
HARP	HAARP	55.35	33	P	P	11 17 29.2	+1.1
	baz=272,SNR=5.6						
RIDG	Independent Ri	55.46	31	P	P	11 17 30.1	+1.2
	baz=271						
C26K	Camden Bay	55.54	24	P	P	11 17 31.1	+1.8
	baz=267						
BMAR	Burnt Mountain	55.57	27	P	P	11 17 30.4	+0.7
N25K	Chitina, Valde	55.65	34	P	P	11 17 31.9	+1.5
	baz=273						
BMRM	Bremner River	55.68	35	IAmb	IAmb	11 17 33.8	
	comp=Z,11nm,1.0s						
BMRM	Bremner River	55.68	35	P	P	11 17 31.6	+1.0
	baz=273,SNR=6.3						
F26K	Sheenjek River	55.74	26	IAmb	IAmb	11 17 34.2	
	comp=Z,8.6nm,0.8s						
F26K	Sheenjek River	55.74	26	P	P	11 17 32.3	+1.4
	baz=269,SNR=15						
DOT	Dot Lake	55.81	31	IAmb	IAmb	11 17 35.1	
	comp=Z,4.9nm,0.7s						
SCRK	Sand Creek	55.83	31	IAmb	IAmb	11 17 33.4	
	comp=Z,7.0nm,1.0s						
SCRK	Sand Creek	55.83	31	P	P	11 17 33.0	+1.3
	baz=272,SNR=11						
KAIM	Kayak Island	55.84	36	P	P	11 17 33.2	+1.5
	baz=274						
G26K	Porcupine Rive	55.88	27	P	P	11 17 33.5	+1.7
	baz=270,SNR=6.4						
C27K	Jago River	55.95	24	IAmb	IAmb	11 17 34.9	
	comp=Z,5.4nm,0.7s						
C27K	Jago River	55.95	24	P	P	11 17 33.8	+1.5
	baz=268						
J26L	Joseph Creek	56.00	30	IAmb	IAmb	11 17 34.3	
	comp=Z,8.1nm,0.7s						
J26L	Joseph Creek	56.00	30	P	P	11 17 33.1	+0.2
	baz=272,SNR=16						
GLB	Gilahina Butte	56.03	34	IAmb	IAmb	11 17 36.4	
	comp=Z,7.7nm,1.1s						
KKAR	Karatay Array	56.08	304	P	P	11 17 31.7	-2.0
KKAR	Karatay Array	56.08	304	IAmb	IAmb	11 17 37.2	
	comp=Z,1.8nm,0.7s						
KKAR	Karatay Array	56.08	304	P	P	11 17 31.7	-2.0
I26K	Coal Creek Min	56.15	29	P	P	11 17 35.1	+1.3
	baz=272						
L26K	Log Cabin Wild	56.16	32	IAmb	IAmb	11 17 36.8	
	comp=Z,6.1nm,0.8s						
L26K	Log Cabin Wild	56.16	32	P	P	11 17 35.2	+1.3
	baz=273,SNR=9.0						
M26K	Nabesna, AK	56.36	33	IAmb	IAmb	11 17 38.2	
	comp=Z,8.3nm,1.1s						
M26K	Nabesna, AK	56.36	33	P	P	11 17 37.3	+1.9
	baz=274,SNR=6.4						
WAX	Waxell Ridge	56.58	35	IAmb	IAmb	11 17 42.7	
	comp=Z,13nm,1.2s						
K27K	Chicken	56.67	31	P	P	11 17 39.1	+1.6
	baz=273						
E27K	Coleen River	56.

L27K	Beaver Creek,	56.85	32	IAmb	IAmb	11 17 41.7
	comp=Z,6.9nm,0.9s					
L27K	Beaver Creek,	56.85	32	P	P	11 17 40.4 +1.5
	baz=274,SNR=10					
BCAR	Beaver Creek A	56.87	32	P	P	11 17 40.6 +1.6
M27K	Edge Creek, AK	56.88	33	IAmb	IAmb	11 17 41.9
	comp=Z,7.4nm,0.9s					
M27K	Edge Creek, AK	56.88	33	P	P	11 17 40.9 +1.7
	baz=275,SNR=9.0					
D27M	Malcolm River	56.91	25	IAmb	IAmb	11 17 42.0
	comp=Z,7.3nm,1.1s					
D27M	Malcolm River	56.91	25	P	P	11 17 40.8 +1.5
	baz=271					
MESA	MESA	57.05	35	P	P	11 17 42.0 +1.5
	baz=276					
BVCY	Beaver Creek	57.35	33	P	P	11 17 43.7 +1.3
	baz=276,SNR=5.2					
E28M	Babbage River	57.45	25	IAmb	IAmb	11 17 45.4
	comp=Z,5.5nm,0.7s					
E28M	Babbage River	57.45	25	P	P	11 17 44.4 +1.4
	baz=273					
I28M	Miner Creek	57.49	29	IAmb	IAmb	11 17 45.9
	comp=Z,8.1nm,0.8s					
I28M	Miner Creek	57.49	29	P	P	11 17 45.0 +1.6
	baz=274,SNR=12					
YUK3	Moose Creek	57.60	33	P	P	11 17 45.7 +1.3
	baz=276,SNR=6.6					
D28M	Stokes Point	57.70	24	P	P	11 17 46.0 +1.3
	baz=273					
DAWY	Dawson	57.85	31	P	P	11 17 47.5 +1.6
	baz=276					
O28M	Mount Upton	57.85	35	P	P	11 17 47.6 +1.4
	baz=277					
PINM	Pinnacle	57.90	35	P	P	11 17 48.1 +1.7
	baz=278					
YUK8	Steele Glacier	57.99	34	P	P	11 17 48.7 +1.5
	baz=277					
E29M	Blow River	58.07	26	IAmb	IAmb	11 17 50.0
	comp=Z,5.0nm,0.8s					
E29M	Blow River	58.07	26	P	P	11 17 49.0 +1.7
	baz=274,SNR=8.4					
H29M	Whitestone	58.07	28	IAmb	IAmb	11 17 50.2
	comp=Z,8.7nm,1.1s					
H29M	Whitestone	58.07	28	P	P	11 17 49.5 +2.1
	baz=275,SNR=5.8					
G29M	Pine Creek	58.14	27	P	P	11 17 49.4 +1.5
	baz=275					
I29M	Ogilvie Camp,	58.18	29	IAmb	IAmb	11 17 50.6
	comp=Z,7.8nm,0.9s					
I29M	Ogilvie Camp,	58.18	29	P	P	11 17 49.7 +1.5
	baz=276,SNR=8.0					
DZM	Mont Dzumac	58.21	152	*e*LR	LR	11 34 51.4
	comp=Z,91nm,23.7s					
J29N	Klondike Camp	58.32	30	IAmb	IAmb	11 17 53.1
	comp=Z,6.0nm,0.8s					
J29N	Klondike Camp	58.32	30	P	P	11 17 50.9 +1.7
	baz=276,SNR=7.1					
M29M	Somme Creek	58.45	33	P	P	11 17 52.6 +2.4
	baz=278,SNR=28					
YUK4	Talbot Arm	58.52	34	P	P	11 17 53.0 +2.2
	baz=278,SNR=14					
L29M	L29M	58.52	32	P	P	11 17 53.0 +2.4
	baz=277,SNR=18					
K29M	Barlow Dome	58.69	31	IAmb	IAmb	11 17 54.7
	comp=Z,7.6nm,0.8s					
K29M	Barlow Dome	58.69	31	P	P	11 17 54.0 +2.1
	baz=277,SNR=11					
O29M	Mount Kennedy	58.70	35	P	P	11 17 54.0 +2.0
	baz=279,SNR=9.3					
YUK6	Outpost Mounta	58.71	34	P	P	11 17 53.8 +1.6
	baz=278					
EPYK	Eagle Plains	58.72	28	P	P	11 17 53.5 +1.6
	baz=277,SNR=21					
G30M	tAoh Zrail Nji	58.84	27	P	P	11 17 54.0 +1.2
	baz=277					
F30M	Barrier River	58.94	26	P	P	11 17 55.2 +1.9
	baz=277					
I30M	Mount Dempster	59.00	29	IAmb	IAmb	11 17 57.1
	comp=Z,6.9nm,0.7s					
I30M	Mount Dempster	59.00	29	P	P	11 17 55.6 +1.5
	baz=278,SNR=14					
J30M	Hart River	59.11	30	IAmb	IAmb	11 17 57.3
	comp=Z,5.4nm,1.1s					
J30M	Hart River	59.11	30	P	P	11 17 56.5 +1.7
	baz=278,SNR=7.3					
HYT	Haines Junctio	59.14	34	IAmb	IAmb	11 18 00.4
	comp=Z,5.5nm,0.9s					
HYT	Haines Junctio	59.14	34	P	P	11 17 57.0 +1.9
	baz=279,SNR=8.4					
M30M	Minto, Yukon	59.20	32	IAmb	IAmb	11 17 58.3
	comp=Z,4.3nm,0.8s					
M30M	Minto, Yukon	59.20	32	P	P	11 17 57.0 +1.7
	baz=279					
P29M	Windy Craggy	59.23	36	IAmb	IAmb	11 17 58.8
	comp=Z,9.5nm,1.1s					
P29M	Windy Craggy	59.23	36	P	P	11 17 57.8 +2.2
	baz=280					
N30M	Aishikik Lake	59.24	34	P	P	11 17 56.6 +1.0
	baz=279					
MAYO	Mayo, Yukon	59.45	31	IAmb	IAmb	11 17 59.8
	comp=Z,9.1nm,1.0s					
MAYO	Mayo, Yukon	59.45	31	P	P	11 17 58.5 +1.5
	baz=279					
P30M	Million Dollar	59.53	35	P	P	11 17 59.3 +1.6
	baz=280					
G31M	Satah River	59.61	27	P	P	11 17 59.0 +1.0
	baz=278,SNR=13					
INK	Inuvik	59.69	25	P	P	11 17 59.4 +0.9
INK				IAmb	IAmb	11 18 00.0
	comp=Z,4.5nm,0.7s					
INK	Inuvik	59.69	25	P	P	11 17 59.4 +0.9
INK				pmax	pmax	
	comp=Z,5.0nm,0.7s					
INK	Inuvik	59.69	25	P	P	11 17 59.4 +0.9
	baz=278,SNR=7.2					
F31M	Tsiigehtchic	59.74	26	P	P	11 17 59.5 +0.7
	baz=279					
H31M	Peel River	59.76	28	P	P	11 18 00.2 +1.1
	baz=279,SNR=11					
O30N	Mendenhall	59.84	34	P	P	11 18 01.2 +1.4
	baz=280					
N31M	Braeburn, Yuko	59.85	33	P	P	11 18 01.2 +1.3
	baz=280					
PLBC	Pleasant Camp	59.95	36	P	P	11 18 01.0 +0.6
	baz=281					
M31M	Drury Creek, Y	60.37	32	P	P	11 18 04.7 +1.4
	baz=281,SNR=10					
WHY	Whitehorse	60.44	34	IAmb	IAmb	11 18 10.8
	comp=Z,5.6nm,1.0s					
WHY	Whitehorse	60.44	34	P	P	11 18 05.7 +1.7
	baz=282					
SKAG	Skagway	60.47	36	P	P	11 18 06.1 +2.1
	baz=282					
ARTI	Arti	60.83	321	P	P	11 18 05.4 -1.1
ARTI	Arti	60.83	321	P	P	11 18 05.4 -1.1
	comp=Z,8.7nm,0.4s,baz=94,slow=3.1,SNR=8.4					
	comp=Z,8.7nm,0.4s					
FARO	Faro, Yukon	60.84	32	P	P	11 18 08.0 +1.5
	baz=282,SNR=8.9					
SIT	Sitka	60.99	38	P	P	11 18 08.0 +0.5
	baz=283					
P32M	Atlin	61.24	35	P	P	11 18 10.8 +1.4
	baz=283					
S32K	Killisnoo	61.29	38	P	P	11 18 11.0 +1.4
	baz=284					
P33M	Teslin, Yukon	61.54	35	P	P	11 18 12.2 +0.8
	baz=283					
ABKAR	Akbulak array	61.69	313	P	P	11 18 11.1 -1.4
ABKAR				IAmb	IAmb	11 18 14.8
	comp=Z,7.1nm,0.8s					
ABKAR	Akbulak array	61.69	313	P	P	11 18 11.0 -1.4
A36M	Sachs Harbour	61.76	21	P	P	11 18 13.2 +0.7
A36M	Sachs Harbour	61.76	21	P	P	11 18 13.6 +1.1
	baz=284,SNR=16					
Q32M	Nakina River	62.11	36	P	P	11 18 17.1 +1.7
	baz=284					
U33K	Whale Pass	62.41	39	P	P	11 18 18.8 +1.7
	baz=285					
AKTO	Aktyubinsk	62.56	314	P	P	11 18 16.9 -1.4
	comp=Z,6.9nm,0.7s,baz=78,slow=8.3,SNR=24					
	comp=Z,6.9nm,0.7s					
AKTO	Aktyubinsk	62.56	314	P	P	11 18 17.0 -1.4
CRAG	Craig	62.58	40	P	P	11 18 20.0 +1.7
	baz=286					
R33M	Jennings River	62.65	35	P	P	11 18 20.7 +1.8
	baz=285					
STKA	Stephens Creek	62.71	180	P	P	11 18 18.1 -1.2
	comp=Z,2.4nm,0.5s,baz=352,slow=7.3,SNR=6.9					
	comp=Z,2.4nm,0.5s					
WRAK	Wrangell Islan	62.74	39	P	P	11 18 20.5 +1.1
	baz=286					
C36M	Paulatuk	62.82	23	P	P	11 18 20.2 +0.6
C36M	Paulatuk	62.82	23	P	P	11 18 20.2 +0.6
	baz=286,SNR=22					
S34M	Telegraph Cree	62.97	37	IAmb	IAmb	11 18 24.2
	comp=Z,5.7nm,0.8s					
S34M	Telegraph Cree	62.97	37	P	P	11 18 23.0 +2.1
	baz=286,SNR=5.3					
DLBC	Dease Lake	63.38	36	IAmb	IAmb	11 18 27.0
	comp=Z,5.8nm,1.0s					
DLBC	Dease Lake	63.38	36	P	P	11 18 26.2 +2.5
	baz=287					
V35K	Ketchikan	63.44	40	P	P	11 18 26.2 +2.1
	baz=287					
T35M	Bob Quinn	63.69	38	P	P	11 18 27.2 +1.5
	baz=287,SNR=6.2					
KIRV	Kirov	64.88	325	P	P	11 18 33.0 -0.3
	comp=Z,16nm,0.6s,baz=75,slow=11,SNR=5.9					
KIRV				LR	LR	11 50 02.5
	comp=Z,32nm,19.4s,baz=29,slow=39					
	comp=Z,16nm,0.6s					
KIRV	Kirov	64.88	325	*i* P	P	11 18 32.0 -1.4
WRGLY	Wrigley	64.95	30	P	P	11 18 35.7 +1.9
	baz=290,SNR=5.4					
TOAD	Toad River Com	65.63	35	P	P	11 18 40.2 +1.9
	baz=290,SNR=8.9					
EUNU	Eureka	65.99	8	IAmb	IAmb	11 18 41.8
	comp=Z,4.6nm,0.7s					
SPITS	Spitsbergen Ar	66.23	349	P	P	11 18 41.9 0.0
	comp=Z,8.9nm,0.9s,baz=96,slow=6.8,SNR=5.4					
	comp=Z,8.9nm,0.9s					
RES	Resolute Bay	68.30	14	P	P	11 18 55.4 +0.4
RES				IAmb	IAmb	11 18 56.1
	comp=Z,7.7nm,0.8s					
RES	Resolute Bay	68.30	14	P	P	11 18 55.4 +0.4
RES				pmax	pmax	
	comp=Z,8.0nm,0.8s					
YKA	Yellowknife Ar	68.97	29	P	P	11 18 59.7 +0.4
	comp=Z,5.2nm,0.8s,baz=298,slow=6.7,SNR=77					
	comp=Z,5.2nm,0.8s					
ARCES	ARCESS Array B	69.43	340	P	P	11 19 01.7 -0.5
	comp=Z,1.5nm,0.6s,baz=61,slow=7.0,SNR=10					
ARCES				LR	LR	11 54 28.4
	comp=Z,50nm,18.3s,baz=222,slow=40					
	comp=Z,1.5nm,0.6s					
OBN	Obninsk	72.72	324	*i* P	P	11 19 21.5 -0.8
OBN				*e*		11 19 39.5
OBN				*e*		11 22 06.5
OBN				*e*PPP	PPP	11 23 50.4
OBN				pmax	pmax	
	comp=Z,28nm,1.4s					
OBN				MLR	MLR	
	comp=Z,78nm,15.0s					
B08A	Colville Reser	73.13	43	IAmb	IAmb	11 19 27.3
	comp=Z,8.8nm,1.1s					
I04A	Tendick Farm,	73.35	49	IAmb	IAmb	11 19 28.5
	comp=Z,9.2nm,0.7s					
MXC	Moxie City	73.39	45	IAmb	IAmb	11 19 29.2
	comp=Z,7.5nm,0.9s					
E07A	Sunnyside	73.67	45	IAmb	IAmb	11 19 51.1
	comp=Z,15nm,1.5s					
F07A	Phinny Hill Vi	73.93	46	IAmb	IAmb	11 19 32.5
	comp=Z,8.5nm,0.8s					
FINES	FINESS Array B	73.94	333	P	P	11 19 28.7 -0.6
	comp=Z,2.3nm,0.4s,baz=72,slow=5.7,SNR=17					
	comp=Z,2.3nm,0.4s					
C09A	Chrisman Ranch	74.02	44	IAmb	IAmb	11 19 32.5
	comp=Z,15nm,1.4s					
NEW	Newport	74.47	43	P	P	11 19 33.0 +0.2
NEW				IAmb	IAmb	11 19 35.2
	comp=Z,6.8nm,0.9s					
NEW	Newport	74.47	43	P	P	11 19 33.0 +0.2
NEW				pmax	pmax	
	comp=Z,7.0nm,0.9s					
KBZ	Khabaz	74.65	312	P	P	11 19 33.1 -0.7
	comp=Z,5.2nm,0.7s,baz=90,slow=4.5,SNR=12					
	comp=Z,5.2nm,0.7s					
KBZ	Khabaz	74.65	312	*i* P	P	11 19 32.5 -1.3
KBZ				pmax	pmax	
	comp=Z,6.0nm,0.8s					
KIV	Kislovodsk	74.67	312	*e*P	P	11 19 31.3 -2.8
KIV				pmax	pmax	
	comp=Z,9.0nm,1.0s					
BMO	Blue Mountains	76.06	46	P	P	11 19 42.3 +0.3
BMO				IAmb	IAmb	11 19 44.1
	comp=Z,5.8nm,0.9s					
BMO	Blue Mountains	76.06	46	P	P	11 19 42.3 +0.3
BMO				pmax	pmax	
	comp=Z,6.0nm,0.9s					
BEKR	Beckworth	76.56	52	IAmb	IAmb	11 19 47.4
	comp=Z,8.3nm,0.9s					
MNK	Minsk	77.27	327	*i* P	P	11 19 47.1 -1.5
MNK				*i*		11 19 57.1
MNK				*i*		11 22 41.8
MNK				*i* PPP	PPP	11 24 29.4
MNK				*i* S	S	11 29 36.4 +0.6
MNK				*i*		11 30 02.6
MNK				*i* SS	SS	11 34 36.6 +3.4
MNK				pmax	pmax	
	comp=N,19nm,0.6s					
MNK				pmax	pmax	
	comp=Z,8.0nm,0.6s					
MNK				pmax	pmax	
	comp=E,22nm,0.7s					
MNK				MLR	MLR	
	comp=Z,65nm,18.0s					
MNK				MLR	MLR	
	comp=E,2μm,27.0s					
MNK				MLR	MLR	
	comp=N,1μm,25.0s					
CMB	Columbia Colle	77.44	53	IAmb	IAmb	11 19 52.3
	comp=Z,8.7nm,0.9s					
MFID	Camas Ranch	77.70	47	IAmb	IAmb	11 19 54.1
	comp=Z,8.9nm,1.1s					
WAKR	Walker	77.85	52	IAmb	IAmb	11 19 55.1
	comp=Z,7.9nm,0.9s					
LHV	Little Huntoon	78.61	52	IAmb	IAmb	11 19 59.5
	comp=Z,13nm,1.1s					
DLMT	Dillon	78.63	44	IAmb	IAmb	11 19 58.9
	comp=Z,14nm,1.4s					
NVAR	Mina Array Bea	78.66	52	P	P	11 19 58.2 +1.3
	comp=Z,5.7nm,0.7s,baz=288,slow=5.8,SNR=54					
	comp=Z,5.7nm,0.7s					
FFC	Flin Flon	78.72	32	P	P	11 19 57.0 +0.4
FFC	Flin Flon	78.72	32	P	P	11 19 57.0 +0.4
FFC				pmax	pmax	
	comp=Z,11nm,0.7s					
EGMT	Eagleton	78.79	40	IAmb	IAmb	11 19 59.3
	comp=Z,6.2nm,0.9s					
AK03	Malin Array Si	78.84	323	P	P	11 19 56.0 -1.3
AKASG	Malin Array Be	78.85	323	P	P	11 19 56.5 -0.9
	comp=Z,1.4nm,0.3s,baz=49,slow=5.8,SNR=15					
AKASG				LR	LR	11 55 33.8
	comp=Z,35nm,19.1s,baz=1.0,slow=36					
	comp=Z,1.4nm,0.3s					
AKBB	Malin Array Si	78.85	323	IAmb	IAmb	11 20 00.3
	comp=Z,6.8nm,0.8s					
AKBB	Malin Array Si	78.85	323	*i* P	P	11 19 56.0 -1.4
AKBB				pmax	pmax	
	comp=Z,8.0nm,0.8s					
AKBB	Malin Array Si	78.85	323	P	P	11 19 55.8 -1.6
AKBB				pP	pwP	11 20 12.6 +1.4
AK01	Malin Array Si	78.86	323	P	P	11 19 56.2 -1.3
KIEV	Kiev	78.87	323	P	P	11 19 57.0 -0.5
KIEV				IAmb	IAmb	11 20 00.3
	comp=Z,6.1nm,0.8s					
KIEV	Kiev	78.87	323	P	P	11 19 57.0 -0.5
KIEV				pmax	pmax	
	comp=Z,6.0nm,0.8s					
KIEV	Kiev	78.87	323	P	P	11 19 56.3 -1.2
	comp=Z,31nm,1.1s					
KIEV				pP	pwP	11 20 13.9 +2.6
	comp=Z,31nm,1.1s					
AK04	Malin Array Si	78.87	323	P	P	11 19 56.5 -1.0
AK09	Malin Array Si	78.87	323	P	P	11 19 56.6 -0.9
AK02	Malin Array Si	78.89	323	P	P	11 19 56.9 -0.7
AK14	Malin Array Si	78.95	323	P	P	11 19 57.2 -0.8
NC405	NORSAR Array S	79.31	338	P	P	11 19 59.4 -0.3
HFS	Hagfors	79.36	336	P	P	11 19 59.1 -0.9
	comp=Z,7.6nm,0.8s,baz=103,slow=3.2,SNR=15					
HFS				LR	LR	11 55 50.1
	comp=Z,30nm,19.7s,baz=354,slow=36					
	comp=Z,7.6nm,0.8s					
DSP	Deep Springs	79.43	53	IAmb	IAmb	11 20 03.7
	comp=Z,6.3nm,0.9s					
ELK	Elko	79.48	49	LR	LR	11 47 38.4
	comp=Z,32nm,20.7s,baz=312,slow=30					
NB2	NORSAR Subarra	79.53	338	P	P	11 19 59.8 -1.2
	comp=Z,2.3nm,0.6s,baz=43,slow=5.6					
NOA	NORSAR Array B	79.53	338	P	P	11 20 00.3 -0.6
	comp=Z,5.2nm,0.8s,baz=42,slow=5.4,SNR=16					
NOA				LR	LR	11 57 29.3
	comp=Z,18nm,19.9s,baz=255,slow=37					
	comp=Z,5.2nm,0.8s					
LUBAR	Lubar, Ukraine	80.07	323	P	P	11 20 03.3 -0.8
LUBAR				pP	pwP	11 20 18.6 +0.7
RLMT	Red Lodge	80.72	43	IAmb	IAmb	11 20 10.5
	comp=Z,5.8nm,0.9s					
S11A	Rachel	80.79	52	IAmb	IAmb	11 20 10.4
	comp=Z,7.6nm,0.9s					
GWY	Greenwater Val	80.94	53	IAmb	IAmb	11 20 11.3
	comp=Z,11nm,0.8s					
SPR3	Spring Creek 3	81.00	50	IAmb	IAmb	11 20 12.7
	comp=Z,11nm,1.5s					
GSC	Goldstone, Bar	81.31	54	IAmb	IAmb	11 20 13.9
	comp=Z,6.7nm,1.0s					
DUG	Dugway, Tooele	81.33	48	IAmb	IAmb	11 20 13.8
	comp=Z,11nm,1.1s					
HWUT	Hardware Ranch	81.33	46	IAmb	IAmb	11 20 14.0
	comp=Z,9.9nm,1.1s					
PRN	Pahroc Range	81.38	51	IAmb	IAmb	11 20 14.1
	comp=Z,8.1nm,1.0s					
LAO	LASA Array	81.52	40	IAmb	IAmb	11 20 14.2
	comp=Z,10nm,0.8s					
DGMT	Dagmar	81.53	38	IAmb	IAmb	11 20 13.9
	comp=Z,12nm,1.1s					
PDAR	Pinedale Array	81.90	45	P	P	11 20 14.8 +0.5
PDAR	Pinedale Array	81.90	45	P	P	11 20 15.0 +0.7
	comp=Z,1.4nm,0.6s,baz=301,slow=1.5,SNR=18					
	comp=Z,1.4nm,0.6s					
PPT2	Papeete2	82.20	116	*e*LR	LR	11 45 59.3
	comp=Z,86nm,23.8s					
PPT2				*e*LR	LR	11 45 59.4
	comp=Z,42nm,23.2s					
V12A	Nelson	82.43	53	IAmb	IAmb	11 20 19.4
	comp=Z,4.5nm,0.8s					
PFO	Pinyon Flats O	82.45	55	P	P	11 20 18.1 +0.9
PFO				IAmb	IAmb	11 20 19.2
	comp=Z,10.0nm,1.0s					
PFO	Pinyon Flats O	82.45	55	P	P	11 20 18.1 +0.9
PFO				pmax	pmax	
	comp=Z,10.0nm,1.0s					
BR131	Keskin Array S	82.64	312	IAmb	IAmb	11 20 18.6
	comp=Z,3.6nm,0.7s					
BRTR	Keskin Array B	82.64	312	P	P	11 20 17.7 -0.4
	comp=Z,2.3nm,0.7s,baz=109,slow=4.8,SNR=12					
	comp=Z,2.3nm,0.7s					
BR104	Keskin Array S	82.65	312	P	P	11 20 17.7 -0.4
	comp=Z,3.9nm,0.7s					
BR106	Keskin Array S	82.65	312	P	P	11 20 17.7 -0.4
	comp=Z,3.8nm,0.8s					
RAYN	Ar Rayn	82.77	293	P	P	11 20 18.8 -0.1
RAYN	Ar Rayn	82.77	293	P	P	11 20 18.8 -0.1
RAYN				pmax	pmax	
	comp=Z,8.0nm,0.6s					
KNB	Kanab	83.09	51	IAmb	IAmb	11 20 24.8
	comp=Z,7.4nm,1.0s					
Q16A	Castle Valley	83.10	49	IAmb	IAmb	11 20 23.8
	comp=Z,4.7nm,0.7s					
P18A	Preston Nutter	83.28	48	IAmb	IAmb	11 20 25.0
	comp=Z,4.5nm,0.8s					
SRU	San Rafael Swe	83.40	48	IAmb	IAmb	11 20 25.5
	comp=Z,5.6nm,0.7s					
MLR	Muntele Rosu	83.76	320	P	P	11 20 23.7 0.0
	comp=Z,1.7nm,0.4s,baz=56,slow=11,SNR=3.8					
	comp=Z,1.7nm,0.4s					
U15A	North Rim	83.77	51	IAmb	IAmb	11 20 27.9
	comp=Z,3.9nm,0.8s					
K22A	Casper	83.78	43	IAmb	IAmb	11 20 25.2
	comp=Z,5.1nm,0.7s					
Y14A	Wickenburg	84.68	53	IAmb	IAmb	11 20 30.7
	comp=Z,6.8nm,0.8s					
113A	Mohawk Valley,	84.80	55	IAmb	IAmb	11 20 31.2
	comp=Z,7.0nm,0.9s					
WUAZ	Wupatki	84.90	51	IAmb	IAmb	11 20 32.1
	comp=Z,7.7nm,0.9s					
TAOE	Nuku Hiva Isla	84.93	103	*e*LR	LR	11 47 14.3
	comp=Z,152nm,27.0s					
TBI	Tubuai	85.68	120	*e*LR	LR	11 47 14.4
	comp=Z,455nm,34.0s					
CLL	Collm	86.09	330	*e*P	P	11 20 35.0 -0.1
CLL	Collm	86.09	330	*e*P	P	11 20 35.0 -0.1
GERES	GERESS Array B	87.60	328	P	P	11 20 40.9 -1.9
	comp=Z,0.2nm,0.3s,baz=28,slow=6.0,SNR=4.3					
	comp=Z,0.2nm,0.3s					
T25A	Trinidad	88.44	47	IAmb	IAmb	11 20 49.1
	comp=Z,4.8nm,0.9s					
ANMO	Albuquerque	88.48	49	LR	LR	11 53 55.8
	comp=Z,36nm,20.6s,baz=106,slow=31					
EKA	Eskdalemuir Ar	88.59	341	P	P	11 20 45.9 -1.2
	comp=Z,0.7nm,0.5s,baz=43,slow=6.5,SNR=4.0					
	comp=Z,0.7nm,0.5s					
DAVOX	Davos/Dischmat	90.86	329	P	P	11 20 57.4 -0.7
	comp=Z,1.7nm,0.6s,baz=18,slow=6.4,SNR=4.2					
	comp=Z,1.7nm,0.6s					
SCHQ	Schefferville	91.00	16	P	P	11 20 58.3 -0.1
	comp=Z,1.4nm,0.8s,baz=315,slow=10.0,SNR=1.8					
	comp=Z,1.4nm,0.8s					
VHRN	Van Horn	92.01	52	IAmb	IAmb	11 21 06.0
	comp=Z,3.5nm,0.8s					
LPIG	La Paz	92.22	60	LR	LR	11 52 55.9
	comp=Z,25nm,21.2s,baz=250,slow=29					
ALPN	Alpine	93.17	52	IAmb	IAmb	11 21 11.2
	comp=Z,3.8nm,0.8s					
TXAR	Lajitas Array	93.81	52	P	P	11 21 13.3 +1.3
TXAR	Lajitas Array	93.81	52	P	P	11 21 13.4 +1.5
	comp=Z,11nm,0.7s,baz=299,slow=3.0,SNR=142					
H03N2	Juan Fernandez	146.12	105	T	T	14 12 30.5
	baz=281,slow=75,SNR=6.0					
H03N3	Juan Fernandez	146.13	105	T	T	14 12 31.6
	baz=281,slow=75,SNR=3.0					
H03N1	Juan Fernandez	146.14	105	T	T	14 12 31.8
	baz=281,slow=75,SNR=4.1					
LPAZ	La Paz	149.42	68	PKP	PKPdf	11 27 40.3 -0.1
	comp=Z,4.7nm,0.6s,baz=206,slow=3.4,SNR=3.7					
LPAZ				PKPbc	PKPbc	11 27 45.7 +0.9
	comp=Z,5.7nm,0.7s,baz=8.1,slow=5.6,SNR=9.0					
PLCA	Paso Flores	152.69	119	PKP	PKPdf	11 27 45.0 +1.0
	comp=Z,3.2nm,0.8s,baz=241,slow=2.0,SNR=9.6					
PLCA				PKPbc	PKPbc	11 27 51.5 +0.4
	comp=Z,3.2nm,0.8s,baz=266,slow=3.1,SNR=5.3					

JMA 28 11:09:45.0±0.1, 32°.0N±0°.2×130°.4E±0°.2, h8km, MV-0.3/11, NW KAGOSHIMA PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	Okuchi	0.22	42	*e*P	Pg	11 09 49.6	+0.2

*TEH **28** 11:15:09.0, 34°.59N×46°.11E, h8km±75km*
*ISN **28** 11:15:10.2±1.2, 34°.59N×46°.15E, h29km±25km, ML2.5*
ISC 28 11:15:09.3±1.0, 34°.57N±0°.05×46°.14E±0°.04, h10km, n10, σ0°.38/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.24	58	Pg	Pg	11 15 14.1	-0.1
IGHG	Ghaleghazi	0.43	124	Pg	Pb	11 15 18.7	-0.4
KGS1	Ghasr-e-Shirin	0.46	262	Pg	Pg	11 15 17.8	-0.5
GLG1	Gilan-e-Gharb	0.50	203	Pg	Pg	11 15 18.9	-0.1
KCHF	Cheshme Sefid,	0.80	112	Pg	Pb	11 15 25.3	-0.1
SNQR	Sonqor, Kerman	1.26	77	Pg	Pg	11 15 33.8	+0.4
IBDR

*THE **28** 11:21:20.3, 37°.99N×21°.94E, h0km±2km, ML3.9/7, Error ellipse: s-maj=2.4km s-min=0.6km az=204.0*
*UPSL **28** 11:21:20.0, 38°.00N×21°.94E, h10km, Mw3.6, Moment Tensor Solution. s8 Moment tensor: Mrr-0.38; Mθθ 1.12; Mφφ-0.74; Mrθ-0.15; Mθφ3.44; Mrφ0.76; Fault plane solution: NP1:φs 188.00000°, δ85.00000°, λ-168.00000°. NP2:φs97.00000°, δ78.00000°, λ-6.00000°.*
*ATH **28** 11:21:20.0, 38°.00N×21°.94E, h10km±2km, ML3.8/18, Manual Solution by F.Xalaris First location: 2019/03/28 11:22:08, This location: 2019/03/28 11:32:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*NEIC **28** 11:21:21.2±2.0, 37°.96N±0°.04×22°.02E±0°.07, h10km±2km, mb4.2/4, Error ellipse: s-maj=10.0km s-min=7.4km az=284.0*

ISC 28 11:21:20.5±0.8, 38°.00N±0°.02×21°.94E±0°.02, h10km±5km, n120, σ1§14/132, mb3.9/14, 8C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.17**	**76**	P	**Pg**	**11 21 24.2**	**-0.1**
KLV				S	**Sg**	**11 21 26.6**	**-0.3**
	60μm,0.2s						
KLV	**Kalavryta, Ach**	**0.17**	**76**	P	**Pg**	**11 21 24.1**	**-0.1**
KLV				S	**Sg**	**11 21 26.6**	**-0.3**
DRO	**Drossia**	**0.18**	**255**	P	**Pg**	**11 21 24.3**	**-0.1**
DRO				S	**Sg**	**11 21 27.5**	**+0.4**
	61μm,0.5s						
DRO	**Drossia**	**0.18**	**255**	P	**Pg**	**11 21 24.3**	**-0.1**
DRO				S	**Sg**	**11 21 26.8**	**-0.3**
PATC	**Patra C**	**0.30**	**333**	P	**Pg**	**11 21 26.6**	**0.0**
UPR	**University Cam**	**0.31**	**337**	P	**Pg**	**11 21 26.8**	**+0.2**
UPR	**University Cam**	**0.31**	**337**	P	**Pg**	**11 21 26.6**	**0.0**
GUR	**Goura**	**0.33**	**101**	P	**Pg**	**11 21 26.7**	**-0.4**
GUR				S	**Sg**	**11 21 30.9**	**-0.6**
	51μm,0.4s						
GUR	**Goura**	**0.33**	**101**	P	**Pg**	**11 21 26.6**	**-0.5**
GUR				S	**Sg**	**11 21 30.8**	**-0.6**
RLS	**Riolos of Patr**	**0.38**	**279**	P	**Pg**	**11 21 27.4**	**-0.5**
RLS				S	**Sg**	**11 21 33.5**	**+0.6**
	21μm,0.4s						
RLS	**Riolos of Patr**	**0.38**	**279**	P	**Pg**	**11 21 27.3**	**-0.6**
RLS				S	**Sg**	**11 21 32.8**	**-0.1**
KALE	**Kalithea**	**0.42**	**22**	P	**Pg**	**11 21 28.6**	**-0.2**
KALE				S	**Sg**	**11 21 35.0**	**+0.6**
	22μm,0.2s						
KALE	**Kalithea**	**0.42**	**22**	P	**Pg**	**11 21 28.5**	**-0.2**
KALE				S	**Sg**	**11 21 34.4**	**0.0**
SERG	**Sergoula**	**0.42**	**13**	P	**Pg**	**11 21 28.5**	**-0.4**
SERG				S	**Sg**	**11 21 34.5**	**+0.1**
EFP	**Efpalio**	**0.43**	**357**	P	**Pg**	**11 21 28.9**	**0.0**
EFP	**Efpalio**	**0.43**	**357**	P	**Pg**	**11 21 28.8**	**-0.1**
AMT	**Artemida-Makis**	**0.50**	**201**	P	**Pg**	**11 21 30.3**	**0.0**
AMT				S	**Sg**	**11 21 37.3**	**+0.5**
LCHA	**Lechaina**	**0.54**	**263**	P	**Pg**	**11 21 30.7**	**-0.1**
ZARO	**Zacharo**	**0.56**	**204**	P	**Pg**	**11 21 31.4**	**0.0**
ANX	**Ano Chora**	**0.59**	**359**	P	**Pg**	**11 21 31.5**	**-0.5**
ANX				S	**Sb**	**11 21 41.3**	**-0.3**
	28μm,0.4s						
ANX	**Ano Chora**	**0.59**	**359**	P	**Pg**	**11 21 31.5**	**-0.5**
DLFA	**Delphi**	**0.65**	**43**	P	**Pg**	**11 21 32.2**	**-0.9**
PVO	**Paravola**	**0.69**	**332**	P	**Pg**	**11 21 33.5**	**-0.5**
LTK	**Loutraki**	**0.81**	**88**	P	**Pg**	**11 21 35.2**	**-1.0**
ITM	**Ithomi**	**0.82**	**181**	P	**Pg**	**11 21 35.5**	**-0.8**
ITM	**Ithomi**	**0.82**	**181**		**Pg**	**11 21 35.5**	**-0.8**
ITM	**Ithomi**	**0.82**	**181**	P	**Pg**	**11 21 35.4**	**-0.8**
AST1	**Astakos**	**0.86**	**309**	P	**Pb**	**11 21 36.9**	**-0.6**
LTHK	**Lithakia**	**0.92**	**252**	P	**Pg**	**11 21 37.7**	**-0.4**
LTHK	**Lithakia**	**0.92**	**252**	P	**Pg**	**11 21 37.5**	**-0.6**
EVR	**Evrytania**	**0.92**	**354**	P	**Pb**	**11 21 38.5**	**-0.2**
EVR	**Evrytania**	**0.92**	**354**	P	**Pb**	**11 21 38.2**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.92**	**275**	P	**Pg**	**11 21 37.8**	**-0.4**
AXAR	**Agios Charalam**	**0.95**	**36**	P	**Pg**	**11 21 37.7**	**-1.2**
AXAR	**Agios Charalam**	**0.95**	**36**	P	**Pg**	**11 21 37.6**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.02**	**9**	P	**Pg**	**11 21 39.7**	**-0.4**
MAKR				S	**Sn**	**11 21 55.5**	**0.0**
	20μm,0.8s						
MAKR	**Makrakomi, Fth**	**1.02**	**9**	P	**Pg**	**11 21 39.8**	**-0.4**
LKR	**Lokris**	**1.06**	**52**	P	**Pg**	**11 21 39.5**	**-1.4**
VIL2	**Platees**	**1.07**	**78**	P	**Pn**	**11 21 41.4**	**-0.3**
PSDA	**Pessada-Kefalo**	**1.07**	**276**	P	**Pg**	**11 21 39.9**	**-1.3**
VLS	**Valsamata**	**1.08**	**280**	P	**Pg**	**11 21 39.9**	**-1.3**
VILL	**Villia**	**1.10**	**81**	P	**Pn**	**11 21 41.5**	**-0.5**
KRND	**KRANIDI**	**1.14**	**122**	P	**Pb**	**11 21 41.3**	**-1.1**
KRND	**KRANIDI**	**1.14**	**122**	P	**Pb**	**11 21 41.3**	**-1.1**
FSK	**Fiskardo**	**1.18**	**293**	P	**Pb**	**11 21 41.8**	**-1.1**
FSK	**Fiskardo**	**1.18**	**293**	P	**Pb**	**11 21 41.8**	**-1.1**
EVGI	**Lefkada island**	**1.18**	**302**	P	**Pb**	**11 21 41.9**	**-1.2**
EVGI	**Lefkada island**	**1.18**	**302**	P	**Pb**	**11 21 41.9**	**-1.2**
MET5	**Makryloggos,Me**	**1.19**	**108**	P	**Pb**	**11 21 42.5**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.21**	**307**	P	**Pn**	**11 21 42.7**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.21**	**307**	P	**Pn**	**11 21 41.9**	**-1.5**
MET4	**Agioi Theodoro**	**1.22**	**108**	P	**Pb**	**11 21 43.1**	**-0.6**
DMLN	**Damoulianata-K**	**1.25**	**281**	P	**Pn**	**11 21 43.4**	**-0.8**
DMLN	**Damoulianata-K**	**1.25**	**281**	P	**Pn**	**11 21 43.1**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.27**	**303**	P	**Pn**	**11 21 44.0**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.27**	**303**	P	**Pn**	**11 21 43.7**	**-0.7**
LKD2	**Lefkada island**	**1.28**	**308**	P	**Pn**	**11 21 43.6**	**-0.9**
LKD2	**Lefkada island**	**1.28**	**308**	P	**Pn**	**11 21 43.4**	**-1.1**
TSLK	**Tsoukalades, L**	**1.30**	**310**	P	**Pn**	**11 21 44.1**	**-0.7**
ATH	**Athens Observa**	**1.41**	**91**	P	**Pb**	**11 21 46.1**	**-0.8**
NOAC	**Athens-Thissio**	**1.41**	**91**	P	**Pb**	**11 21 46.3**	**-0.5**
VLI	**Veliai**	**1.51**	**148**	P	**Pb**	**11 21 48.2**	**-0.4**
LIT	**Litokhoron**	**2.14**	**11**		**Pn**	**11 21 56.8**	**+0.5**
KEK	**Kerkira**	**2.39**	**316**		**Pb**	**11 22 02.9**	**-0.7**
HORT	**Hortiatis**	**2.75**	**19**	P	**Pn**	**11 22 04.6**	**-0.2**
FNA	**Florina**	**2.81**	**351**		**Pb**	**11 22 08.1**	**-2.8**
APE	**Apeiranthos**	**3.00**	**107**	⇑P	**Pn**	**11 22 08.6**	**+0.4**
OHR	**Ohrid**	**3.23**	**345**	*i* Pn	**Pb**	**11 22 14.9**	**-3.1**
VAY	**Valandovo**	**3.35**	**8**	*i* Pn	**Pn**	**11 22 15.4**	**+2.5**
THAS	**Thassos island**	**3.38**	**39**	P	**Pn**	**11 22 12.7**	**-0.7**
SCTE	**Santa Cesarea**	**3.40**	**309**	Pn	**Pn**	**11 22 14.6**	**+0.9**
IDI	**Anoyia**	**3.60**	**138**		**Pn**	**11 22 16.6**	**+0.2**
IDI	**Anoyia**	**3.60**	**138**	Pn	**Pn**	**11 22 16.5**	**+0.1**
	19nm,0.4s,baz=322,slow=16,SNR=16						
IDI				Sn	**Sn**	**11 22 58.5**	**-0.6**
	6.6nm,0.3s,baz=332,slow=21,SNR=2.3						
TIR	**Tirane**	**3.71**	**335**	Pn	**Pn**	**11 22 19.7**	**+1.9**
RDO	**Rodhopi**	**4.20**	**40**	Pn	**Pn**	**11 22 25.0**	**+0.4**
TIP	**Timpagrande**	**4.22**	**288**	Pn	**Pn**	**11 22 26.7**	**+1.7**
TIP	**Timpagrande**	**4.22**	**288**	⇑P	**Pn**	**11 22 26.6**	**+1.5**
ALN	**Alexandroupoli**	**4.30**	**46**	Pn	**Pn**	**11 22 25.5**	**-0.5**
CEL	**Celeste**	**4.77**	**275**	Pn	**Pn**	**11 22 33.8**	**+1.3**
KARP	**Karpathos**	**4.86**	**119**		**Pn**	**11 22 35.7**	**+2.0**
CUC	**Castrocucco**	**5.17**	**295**		**Pn**	**11 22 40.8**	**+2.9**
BOVS	**Bovan**	**5.63**	**358**	⇑P	**Pn**	**11 22 47.0**	**+2.7**
SGRT	**San Giovanni R**	**6.06**	**310**	Pn	**Pn**	**11 22 51.0**	**+0.7**
RAFF	**Raffo Rosso**	**6.06**	**265**	Pn	**Pn**	**11 22 51.6**	**+1.4**
HERR	**Herculane**	**6.88**	**3**	⇓P	**Pn**	**11 23 04.9**	**+3.4**
INTR	**Introdacqua**	**7.35**	**306**		**Pn**	**11 23 10.8**	**+2.8**
VOIR		**7.79**	**16**	⇑P	**Pn**	**11 23 15.3**	**+1.4**
CAMP	**Campotosto**	**7.94**	**307**	Pn	**Pn**	**11 23 17.6**	**+1.6**
MLR	**Muntele Rosu**	**8.06**	**21**	Pn	**Pn**	**11 23 17.0**	**-0.7**
	0.5nm,0.3s,baz=217,slow=4.9,SNR=3.3 1.9nm,0.5s						
MLR	**Muntele Rosu**	**8.06**	**21**	⇑P	**Pn**	**11 23 20.0**	**+2.2**
NRCA	**Norcia**	**8.28**	**308**		**Pn**	**11 23 22.9**	**+2.1**
FDMO	**Fiordimonte**	**8.41**	**310**	Pn	**Pn**	**11 23 24.8**	**+2.4**
PLOR	**Plostina**	**8.59**	**23**	⇑P	**Pn**	**11 23 25.4**	**+0.5**
VRI	**Vrincioaia**	**8.63**	**23**	⇑P	**Pn**	**11 23 28.4**	**+3.0**
BR131	**Keskin Array S**	**9.29**	**76**	Pn	**Pn**	**11 23 36.7**	**+2.0**
BRTR	**Keskin Array B**	**9.29**	**76**	Pn	**Pn**	**11 23 36.0**	**+1.4**
	0.4nm,0.3s,baz=259,slow=13,SNR=9.3 1.1nm,0.4s						
KIRS	**Kirsehir-Merke**	**9.45**	**79**	⇑P	**Pn**	**11 23 39.2**	**+2.4**
GERES	**GERESS Array B**	**12.37**	**334**	Pn	**Pn**	**11 24 18.4**	**+1.6**
	baz=149,slow=14,SNR=2.7 0.3nm,0.3s						
DAVOX	**Davos/Dischmat**	**12.49**	**318**	LR	LR	11 30 29.6	
	comp=Z,78nm,18.0s,baz=96,slow=44						
ESDC	**Sonseca Array**	**20.23**	**283**	P	Pn	11 25 56.9	-0.8
	0.4nm,0.5s,baz=83,slow=10,SNR=4.5 0.4nm,0.5s						
HFS	**Hagfors**	**22.77**	**349**	P	**P**	**11 26 22.6**	**-0.2**
	2.6nm,0.6s,baz=157,slow=13,SNR=7.4 2.6nm,0.6s						
FINES	**FINESS Array B**	**23.61**	**5**	P	**P**	**11 26 30.8**	**-0.6**
	2.1nm,0.9s,baz=176,slow=12,SNR=4.3 2.1nm,0.9s						
NC405	**NORSAR Array S**	**24.01**	**348**	P	**P**	**11 26 36.7**	**+1.5**
NB201	**NORSAR Array S**	**24.02**	**347**	P	**P**	**11 26 36.0**	**+0.7**
NB201				IAmb	IAmb	11 27 05.9	
	comp=Z,4.5nm,1.1s						
NB2	**NORSAR Subarra**	**24.02**	**347**	P	**P**	**11 26 34.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**24.02**	**347**	P	**P**	**11 26 34.8**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=152,slow=11,SNR=4.5 comp=Z,0.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.22**	**324**	P	**P**	**11 26 37.0**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=128,slow=9.6,SNR=7.0 comp=Z,2.3nm,0.7s						
ARCES	**ARCESS Array B**	**31.65**	**2**	P	**P**	**11 27 43.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=187,slow=9.1,SNR=0.9 comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**36.38**	**50**	P	**P**	**11 28 24.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=265,slow=5.5,SNR=4.4 comp=Z,0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**40.35**	**358**	P	**P**	**11 28 58.0**	**+0.1**
	comp=Z,15nm,1.1s,baz=160,slow=9.0,SNR=1.9 comp=Z,15nm,1.1s						
KURBB	**Kurchatov Arra**	**41.44**	**53**	P	**P**	**11 29 07.2**	**0.0**
	comp=Z,0.8nm,0.3s,baz=278,slow=8.6,SNR=4.9 comp=Z,0.8nm,0.3s						
MK31	**Makanchi Array**	**44.44**	**59**	P	**P**	**11 29 31.3**	**-0.3**
MKAR	**Makanchi Array**	**44.44**	**59**	P	**P**	**11 29 31.4**	**-0.2**
MKAR	**Makanchi Array**	**44.44**	**59**	P	**P**	**11 29 30.9**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=271,slow=7.2,SNR=12 comp=Z,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**44.98**	**48**	P	**P**	**11 29 34.5**	**-1.2**
ZALV	**Zalesovo Beam**	**44.98**	**48**	P	**P**	**11 29 34.6**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=281,slow=9.5,SNR=7.4 comp=Z,2.3nm,0.6s						
SCHQ	**Schefferville**	**59.34**	**318**	P	**P**	**11 31 22.4**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=76,slow=8.3,SNR=3.0 comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**59.70**	**51**	P	**P**	**11 31 24.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=264,slow=7.0,SNR=2.0 comp=Z,0.4nm,0.4s						
E29M	**Blow River**	**72.86**	**352**	P	**P**	**11 32 50.2**	**+1.1**
E29M				IAmb	IAmb	11 32 58.4	
	comp=Z,4.1nm,1.2s						
TKL	**Tuckaleechee C**	**79.54**	**307**	LR	LR	12 06 22.1	
	comp=Z,14nm,20.8s,baz=47,slow=34						

*CATAC **28** 11:27:28.0±0.7, 13°.N±5°.×9°.1W±°, h1km, M3.5/5, MLv3.5/5, Error ellipse: s-maj=12.2km s-min=5.2km az=29.4, confirmed*
*IDC **28** 11:27:40.2±9.8, 14°.70N×90°.73W, h0km, mb3.5/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=193.7km s-min=37.1km az=5.0*

ISC 28 11:27:30.4±1.5, 13°.1N±0°.1×91°.16W±0°.05, h10km, n33, σ1§98/32, mb3.4/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.32**	**57**	P	**Pg**	**11 27 55.8**	**+0.1**
NUBE	**Las Nubes**	**1.55**	**60**	S	**Sg**	**11 28 26.8**	**+6.6**
NUBE	**Las Nubes**	**1.55**	**60**	P	**Pn**	**11 27 58.2**	**+0.1**
NUBE	**Las Nubes**	**1.55**	**60**	S	Sn	11 28 02.4	-16
NUBE	**Las Nubes**	**1.55**	**60**	P	**Pb**	**11 27 58.3**	**-0.9**
SLOZ	**Alcaldia de Sa**	**1.61**	**56**	P	**Pn**	**11 27 58.6**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.61**	**56**	S	Sn	11 28 01.9	-18
SLOZ	**Alcaldia de Sa**	**1.61**	**56**	P	**Pb**	**11 27 59.2**	**-1.0**
JAYA	**Jayaque - finc**	**1.74**	**72**	P	**Pn**	**11 28 00.5**	**-0.4**
JAYA	**Jayaque - finc**	**1.74**	**72**	P	**Pb**	**11 28 01.7**	**-0.8**
JAYA	**Jayaque - finc**	**1.74**	**72**	P	**Pn**	**11 28 01.1**	**+0.3**
JAYA	**Jayaque - finc**	**1.74**	**72**	S	**Sg**	**11 28 25.8**	**-0.7**
UNIC	**Universidad Ca**	**1.78**	**61**	P	**Pn**	**11 28 01.4**	**+0.1**
UNIC	**Universidad Ca**	**1.78**	**61**	S	**Sg**	**11 28 29.6**	**+1.9**
UNIC	**Universidad Ca**	**1.78**	**61**	P	**Pb**	**11 28 02.3**	**-0.9**
PMON	**Piamonte**	**1.89**	**72**	P	**Pb**	**11 28 03.8**	**-1.2**
LOMA	**Loma Larga**	**2.00**	**75**	P	**Pn**	**11 28 04.3**	**-0.1**
MTO3	**Montecristo**	**2.15**	**54**	P	**Pn**	**11 28 06.7**	**+0.1**
MTO3	**Montecristo**	**2.15**	**54**	P	**Pb**	**11 28 08.4**	**-1.2**
MTO3	**Montecristo**	**2.15**	**54**	P	**Pb**	**11 28 08.1**	**-1.5**
ESQI	**Esquipulas**	**2.27**	**51**	P	**Pb**	**11 28 10.1**	**-1.4**
COEG	**Centro de Oper**	**2.27**	**77**	P	**Pn**	**11 28 08.5**	**+0.5**
TECO	**Alcaldia de Te**	**2.35**	**80**	P	**Pn**	**11 28 09.1**	**0.0**
UESV	**Universidad de**	**2.36**	**77**	P	**Pn**	**11 28 09.9**	**+0.6**
SCLA	**Alcaldia de Sa**	**2.43**	**76**	P	**Pn**	**11 28 11.2**	**+0.9**
PQSS	**Presa 15 de Se**	**2.58**	**79**	P	**Pn**	**11 28 12.4**	**+0.2**
PQSS	**Presa 15 de Se**	**2.58**	**79**	S	**Sb**	**11 28 46.7**	**-1.7**
PACA	**Pacayal**	**2.78**	**83**	S	**Sb**	**11 28 52.0**	**-2.5**
CMIG	**Matias Romero**	**5.33**	**318**	Pn	**Pn**	**11 28 50.8**	**+0.7**
	0.2nm,0.3s,baz=150,slow=9.9,SNR=1.4						
CMIG				Sn	**Sn**	**11 29 46.6**	**-5.1**
	0.1nm,0.3s,baz=105,slow=6.6,SNR=1.3 1.1nm,0.5s						
TXAR	**Lajitas Array**	**19.87**	**326**	P	**P**	**11 32 03.0**	**+1.1**
	0.1nm,0.3s,baz=146,slow=10,SNR=7.8 0.5nm,0.6s						
NVAR	**Mina Array Bea**	**34.86**	**321**	P	**P**	**11 34 25.8**	**+3.6**
	0.3nm,0.6s,baz=123,slow=5.6,SNR=2.8 0.3nm,0.6s						
SCHQ	**Schefferville**	**45.76**	**19**	P	**P**	**11 35 50.0**	**-1.8**
	1.4nm,0.5s,baz=217,slow=7.2,SNR=5.0 1.4nm,0.5s						
YKA	**Yellowknife Ar**	**52.06**	**346**	P	**P**	**11 36 40.6**	**+0.5**
	0.2nm,0.6s,baz=153,slow=7.7,SNR=5.6 0.2nm,0.6s						

IDC 28 11:31:35.5±2.5, 58°.98S×147°.03E, h0km, mb3.9/2, mbtmp3.7/3, ML3.4/1, MS3.7/16, Error ellipse: s-maj=292.1km s-min=30.2km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.29**	**170**	P	P	11 36 01.5	0.0
	0.1nm,0.3s,baz=343,slow=12,SNR=4.0						
VNDA				LR	LR	11 42 12.4	
	comp=Z,190nm,20.3s,baz=340,slow=33 0.9nm,0.7s						
QSPA	**South Pole Qui**	**31.12**	**180**	LR	LR	11 50 11.5	
	comp=Z,228nm,18.1s,baz=20,slow=36						
H01W1	**Cape Leeuwin H**	**32.36**	**304**	T	T	12 13 21.0	
	baz=146,slow=75,SNR=46						
H01W2	**Cape Leeuwin H**	**32.37**	**303**	T	T	12 13 16.6	
	baz=146,slow=75,SNR=63						
H01W3	**Cape Leeuwin H**	**32.38**	**304**	T	T	12 13 23.1	
	baz=146,slow=75,SNR=53						
NWAO	**Narrogin (SRO)**	**32.78**	**309**	LR	LR	11 48 20.8	
	comp=Z,151nm,19.6s,baz=245,slow=31						
MAW	**Mawson**	**35.87**	**221**	LR	LR	11 53 32.1	
	comp=Z,137nm,18.5s,baz=103,slow=37						
ASAR	**Alice Springs**	**36.49**	**340**	P	P	11 38 42.8	+0.4
	1.2nm,0.8s,baz=164,slow=10.0,SNR=14 1.2nm,0.8s						
WRA	**Warramunga Arr**	**40.06**	**341**	P	P	11 39 11.7	-0.6
	1.6nm,0.8s,baz=170,slow=7.4,SNR=12 1.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**43.71**	**330**	LR	LR	11 57 06.7	
	comp=Z,50nm,19.7s,baz=193,slow=35						
MSVF	**Nonsavu**	**47.00**	**42**	LR	LR	11 54 48.9	
	comp=Z,140nm,21.9s,baz=150,slow=30						
SNAA	**Sanae**	**47.95**	**192**	LR	LR	11 59 11.8	
	comp=Z,154nm,18.1s,baz=250,slow=34						
HNR	**Honiara**	**50.41**	**17**	LR	LR	11 56 13.9	
	comp=Z,72nm,21.2s,baz=98,slow=29						
H04S2	**CROZET ISLANDS**	**53.82**	**238**	T	T	12 41 10.7	
	baz=140,slow=75,SNR=9.3						
H04S1	**CROZET ISLANDS**	**53.82**	**238**	T	T	12 41 13.5	
	baz=140,slow=75,SNR=10.0						
H04S3	**CROZET ISLANDS**	**53.84**	**238**	T	T	12 41 12.2	
	baz=140,slow=75,SNR=11						
KAPI	**Kappang**	**57.80**	**327**	LR	LR	12 05 17.9	
	comp=Z,30nm,18.8s,baz=166,slow=35						
LEM	**Lembang**	**60.11**	**313**	LR	LR	12 04 45.8	
	comp=Z,46nm,19.9s,baz=120,slow=33						
PPT	**Papeete**	**61.45**	**76**	LR	LR	12 03 26.9	
	comp=Z,42nm,18.8s,baz=120,slow=31						
H08S2	**Diego Garcia H**	**75.53**	**279**	T	T	13 07 38.2	
	baz=148,slow=76,SNR=29						
H08S1	**Diego Garcia H**	**75.53**	**279**	T	T	13 07 39.4	
	baz=148,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**75.55**	**279**	T	T	13 07 38.2	
	baz=148,slow=76,SNR=33						
H03S1	**Juan Fernandez**	**79.95**	**143**	T	T	13 11 49.3	
	baz=201,slow=74,SNR=16						
H03S2	**Juan Fernandez**	**79.95**	**143**	T	T	13 11 50.0	
	baz=201,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**79.97**	**143**	T	T	13 11 53.3	
	baz=201,slow=74,SNR=16						
BOSA	**Boshof**	**80.34**	**229**	LR	LR	12 17 07.6	
	comp=Z,29nm,19.2s,baz=203,slow=34						
LBTB	**Lobatse**	**83.42**	**231**	LR	LR	12 14 33.7	
	comp=Z,56nm,19.6s,baz=166,slow=31						
CMAR	**Chiang Mai Arr**	**86.61**	**315**	LR	LR	12 21 17.6	
	comp=Z,20nm,20.0s,baz=215,slow=34						
TSUM	**Tsumeb**	**91.79**	**227**	LR	LR	12 24 51.6	
	comp=Z,38nm,18.1s,baz=322,slow=35						
MJAR	**Matsushiro Arr**	**95.45**	**353**	LR	LR	12 27 31.8	
	comp=Z,13nm,18.5s,baz=80,slow=35						

ATH 28 12:14:56.6, 37°.99N×21°.98E, h14km±2km, ML1.6/8, Manual Solution by F.Xalaris First location: 2019/03/28 12:15:55, This location: 2020/09/08 08:29:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV1	**Kalavrita**	**0.11**	**69**	P	Pg	12 15 00.0	+0.1
KLV1				S	Sg	12 15 02.4	+0.2
KLV	**Kalavrita, Ach**	**0.15**	**69**	P	Pg	12 15 00.6	+0.2
KLV				S	Sg	12 15 03.0	+0.1
DRO	**Drossia**	**0.21**	**259**	P	Pg	12 15 00.8	-0.6
DRO				S	Sg	12 15 03.7	-0.9
GUR	**Goura**	**0.29**	**101**	P	Pg	12 15 03.1	+0.3
GUR				S	Sg	12 15 07.1	+0.1
KALE	**Kalithea**	**0.42**	**18**	P	Pg	12 15 05.1	+0.1
KALE				S	Sg	12 15 11.3	+0.6
SERG	**Sergoula**	**0.42**	**8**	P	Pg	12 15 05.3	+0.2
EFP	**Efpalio**	**0.44**	**353**	P	Pg	12 15 05.3	0.0
AMT	**Artemida-Makis**	**0.51**	**205**	P	Pg	12 15 06.7	+0.1
AMT				S	Sg	12 15 13.6	+0.2
YRMI	**Loutra Irminis**	**0.51**	**283**	P	Pg	12 15 06.7	+0.1
AXS	**Araxos**	**0.52**	**293**	P	Pg	12 15 06.5	-0.3
ANX	**Ano Chora**	**0.60**	**356**	P	Pg	12 15 08.2	-0.3

BEO 28 12:16:25.2±0.2, 44°.41N×21°.91E, h0km, ML1.6/10, 10C-3D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.17**	**270**	*e*Pg	Pg	12 16 26.4	-2.0
KUBS				*e*Sg	Sg	12 16 28.4	-2.2
BORS2	**Bor- Borsko je**	**0.33**	**167**	*e*Pg	Pg	12 16 29.2	-2.3
BORS2				*e*Sg	Sg	12 16 36.2	+0.4
HERR	**Herculane**	**0.59**	**37**	⇑P	Pg	12 16 35.2	-1.4
HERR				⇑S	Sg	12 16 44.0	-0.2
ZAGS	**Zajecar**	**0.64**	**159**	*e*Pg	Pg	12 16 36.0	-1.5
ZAGS				*e*Sg	Sg	12 16 45.1	-0.7
BOVS	**Bovan**	**0.79**	**191**	⇓P	Pg	12 16 38.9	-1.5
BOVS				⇑S	Sg	12 16 50.0	-0.6
BOVS	**Bovan**	**0.79**	**191**	*e*Pg	Pg	12 16 39.1	-1.2
BOVS				*e*Sg	Sg	12 16 51.0	+0.4
VRSS	**Vrsac**	**0.82**	**330**	*e*Pg	Pg	12 16 40.3	-0.7
VRSS				*e*Sg	Sg	12 16 52.4	+0.7
BLKB	**Belogradchik**	**0.96**	**145**	⇓S	Sg	12 16 55.5	-0.6
GRUS	**Gruza**	**1.01**	**239**	*e*Pg	Pg	12 16 44.7	+0.2
GRUS				*e*Sg	Sg	12 16 57.4	-0.1
GOCS	**Kraljevo Serbi**	**1.13**	**222**	*e*Pg	Pg	12 16 46.9	0.0
GOCS				*e*Sg	Sb	12 17 02.9	-0.1
GZR	**Gura Zlata**	**1.16**	**32**	⇑P	Pg	12 16 45.7	-1.7
GZR				⇑S	Sg	12 17 01.8	-0.6
GZR	**Gura Zlata**	**1.16**	**32**	*e*Pg	Pg	12

TXNET 28 12:20:23.5, 31.2N±0.7×103.5W±0.5, h4km±1km, ML1.6/6, Error ellipse: s-maj=1.1km s-min=0.8km az=16.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.08**	**199**	P	Pg	12 20 25.4	0.0
TPB03				S	Sg	12 20 27.0	+0.5
TPB04	**Verhalen**	**0.18**	**82**	P	Pg	12 20 27.6	+0.4
TPB16	**Coyonosa**	**0.20**	**100**	P	Pg	12 20 28.1	+0.6
TPB16				S	Sg	12 20 31.5	+1.4
TPB16	**Coyonosa**	**0.20**	**100**	P	Sg	12 20 28.0	+0.5
TPB16				S	Sg	12 20 31.5	+1.4
TPB10	**Southeast of T**	**0.26**	**298**	P	Pg	12 20 29.2	+0.5
TPB10				S	Sb	12 20 34.1	-1.7
TPB05	**Hovey Rd**	**0.28**	**150**	P	Pg	12 20 30.0	+1.1
TPB05				S	Sb	12 20 34.4	-1.7
TPB01	**Permian Basin**	**0.34**	**230**	P	Pg	12 20 30.7	+0.6
TPB01				S	Sb	12 20 36.4	-1.5
PECS	**Pecos**	**0.39**	**303**	P	Pg	12 20 31.9	+0.8
PECS				S	Sb	12 20 38.2	-1.3
TPB12	**Southwest of T**	**0.41**	**277**	P	Pg	12 20 32.1	+0.6
TPB12				S	Sb	12 20 38.7	-1.4
TPB07	**Mentone**	**0.45**	**339**	S	Sb	12 20 39.8	-1.3
TPB06	**Permian Basin**	**0.54**	**25**	S	Sb	12 20 42.3	-1.3
MNHN	**Monahans**	**0.64**	**74**	S	Sg	12 20 44.7	+0.4
ALPN	**Alpine**	**0.80**	**190**	P	Pg	12 20 38.7	-0.1
ALPN				S	Sg	12 20 49.6	+0.5
HTMS	**Hat Mesa**	**1.31**	**354**	S	Sn	12 21 07.6	+0.7
VHRN	**Van Horn**	**1.34**	**254**	P	Pg	12 20 49.3	0.0
VHRN				S	Sn	12 21 08.6	+1.1
SAND	**Sanderson**	**1.68**	**135**	P	Pb	12 20 55.2	+0.2
SAND				S	Sg	12 21 17.1	-0.4
MNTX	**Cornudas Mount**	**1.71**	**289**	P	Pb	12 20 55.4	-0.1
MNTX				S	Sg	12 21 18.8	+0.3
TX31	**Lajitas Ar. Si**	**1.83**	**185**	P	Pb	12 20 56.9	-0.7
TX31				S	Sb	12 21 21.5	+0.6

*IDC **28** 12:34:00.3±1.2, 5.50S×146.34E, h0km, mb3.5/5, mbtmp3.5/7, ML2.7/2, Error ellipse: s-maj=43.7km s-min=22.9km az=106.0*

ISC 28 12:34:05.5±1.1, 5.6S±0.1×146.4E±0.2, h35km, n7, σ0.9 67/9, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.86**	**168**	Pn	**Pn**	**12 35 03.1**	**+0.7**
	5.9nm,0.3s,baz=0.0,slow=12,SNR=20						
PMG				Sn	**Sn**	**12 35 45.7**	**-0.8**
	7.1nm,0.3s,baz=299,slow=22,SNR=9.2						
WRA	**Warramunga Arr**	**18.43**	**218**	P	**P**	**12 38 17.8**	**-0.2**
	0.1nm,0.3s,baz=43,slow=11,SNR=5.1						
WRA				PcP	**PcP**	**12 42 49.0**	**+0.9**
	0.5nm,0.6s,baz=24,slow=1.7,SNR=12						
ASAR	**Alice Springs**	**21.59**	**212**	P	**P**	**12 38 52.4**	**-0.1**
	0.3nm,0.6s,baz=45,slow=8.1,SNR=4.8						
FITZ	**Fitzroy Crossi**	**23.73**	**237**	P	**P**	**12 39 14.5**	**-0.2**
	1.5nm,0.6s,baz=54,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**76.79**	**321**	P	**P**	**12 45 53.6**	**-0.1**
	0.1nm,0.4s,baz=118,slow=6.2,SNR=2.0						
ZALV	**Zalesovo Beam**	**78.34**	**328**	P	**P**	**12 46 02.4**	**+0.3**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=1.7						
ILAR	**Eielson Array**	**85.38**	**23**	P	**P**	**12 46 38.3**	**-0.7**
	0.6nm,1.0s,baz=246,slow=5.7,SNR=5.6						

TXNET 28 12:51:00.4, 31.2N±0.7×103.5W±0.6, h5km±1km, ML2.1/10, Error ellipse: s-maj=1.1km s-min=0.9km az=3.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.08**	**201**	P	Pg	12 51 02.4	+0.2
TPB03				S	Sg	12 51 04.0	+0.5
TPB04	**Verhalen**	**0.18**	**82**	P	Pg	12 51 04.6	+0.6
TPB04				S	Sg	12 51 07.6	+1.1
TPB16	**Coyonosa**	**0.20**	**100**	P	Pg	12 51 05.0	+0.7
TPB16				S	Sg	12 51 09.1	+2.2
TPB16	**Coyonosa**	**0.20**	**100**	P	Pg	12 51 05.0	+0.7
TPB16				S	Sg	12 51 09.1	+2.2
PCOS	**Crockett Middl**	**0.25**	**354**	S	Sg	12 51 10.5	+1.9
TPB10	**Southeast of T**	**0.27**	**297**	P	Pb	12 51 06.9	-0.8
TPB10				S	Sb	12 51 11.5	-1.1
TPB05	**Hovey Rd**	**0.28**	**151**	P	Pb	12 51 07.0	-0.9
TPB05				S	Sb	12 51 11.4	-1.4
TPB01	**Permian Basin**	**0.34**	**230**	P	Pg	12 51 07.6	+0.7
TPB01				S	Sb	12 51 13.3	-1.4
PECS	**Pecos**	**0.39**	**302**	P	Pb	12 51 09.1	-0.8
PECS				S	Sb	12 51 15.0	-1.2
TPB12	**Southwest of T**	**0.41**	**277**	P	Pg	12 51 09.0	+0.7
TPB12				S	Sb	12 51 15.4	-1.4
TPB07	**Mentone**	**0.45**	**339**	S	Sg	12 51 16.0	+1.1
TPB06	**Permian Basin**	**0.53**	**25**	P	Pg	12 51 11.3	+0.6
TPB06				S	Sb	12 51 19.3	-1.0
TPB08	**Permian Basin**	**0.56**	**119**	S	Sb	12 51 20.5	-0.6
MNHN	**Monahans**	**0.64**	**74**	P	Pg	12 51 12.7	0.0
MNHN				S	Sg	12 51 21.7	+0.7
ALPN	**Alpine**	**0.80**	**190**	P	Pg	12 51 15.6	0.0
ALPN				S	Sg	12 51 26.5	+0.5
TPB11	**China Draw**	**0.91**	**329**	S	Sb	12 51 30.6	-0.5
CLNB	**Carlsbad**	**1.15**	**343**	S	Sn	12 51 40.5	+1.0
NM01	**Eunice**	**1.19**	**3**	S	Sb	12 51 39.9	+0.6
TMB02	**Rankin**	**1.24**	**88**	P	Pg	12 51 23.9	-0.2
TMB02				S	Sn	12 51 41.2	-0.3
ODSA	**Odessa**	**1.24**	**39**	P	Pg	12 51 23.4	-0.9
ODSA				S	Sb	12 51 40.7	-0.1
CLN7	**Carlsbad 7**	**1.28**	**347**	P	Pn	12 51 25.1	+0.1
HTMS	**Hat Mesa**	**1.31**	**354**	S	Sn	12 51 44.6	+1.0
VHRN	**Van Horn**	**1.35**	**254**	P	Pb	12 51 26.1	-0.1
VHRN				S	Sn	12 51 44.5	+0.2
SAND	**Sanderson**	**1.68**	**135**	P	Pb	12 51 31.5	-0.3
SAND				S	Sg	12 51 54.9	+0.6
TMB04	**Seminole**	**1.69**	**30**	P	Pb	12 51 31.4	-0.6
TMB04				S	Sg	12 51 54.8	+0.2
MNTX	**Cornudas Mount**	**1.71**	**289**	P	Pb	12 51 32.3	0.0
MNTX				S	Sg	12 51 55.6	+0.2
TX31	**Lajitas Ar. Si**	**1.83**	**185**	P	Pb	12 51 33.9	-0.5
TX31				S	Sg	12 51 58.8	-0.3
CPRX	**Cap Rock**	**1.89**	**350**	P	Pb	12 51 35.4	-0.1
TMB05	**Klondike**	**2.01**	**43**	P	Pb	12 51 36.9	-0.5
TMB05				S	Sg	12 52 03.9	-1.0
OZNA	**Ozona**	**2.03**	**96**	P	Pb	12 51 37.1	-0.7
OZNA				S	Sb	12 52 04.3	+0.8
SGCY	**Sterling City**	**2.15**	**69**	P	Pn	12 51 37.9	+1.0
SGCY				S	Sb	12 52 07.0	+0.3
POST	**Post**	**2.54**	**41**	P	Pg	12 52 19.0	+30
SN08	**Arah**	**2.62**	**51**	S	Sb	12 52 21.5	+1.2

*THE **28** 13:01:37.2, 41.15N×23.34E, h7km, ML2.4/4, Error ellipse: s-maj=0.9km s-min=0.3km az=188.0*

*ATH **28** 13:01:37.4, 41.15N×23.33E, h6km±1km, ML2.5/12, Manual Solution by G.Panopoulou First location: 2019/03/28 13:02:32, This location: 2020/10/03 12:16:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

*SKO **28** 13:01:37.9, 41.15N×23.35E, h0km, ML2.3*

*SOF **28** 13:01:37.8, 41.16N±0.01×23.34E, h10km±1km, MD2.8/7*

ISC 28 13:01:37.2±0.9, 41.16N±0.02×23.36E±0.01, h11km±6km, n57, σ0.50/103, 3C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.18**	**104**	P	**Pg**	**13 01 41.2**	**+0.1**
SRS				S	**Sg**	**13 01 44.3**	**+0.5**
	598nm,0.1s						
SRS	**Serrai**	**0.18**	**104**	*i* Pg	**Pg**	**13 01 41.2**	**+0.1**
SRS				*i* Sg	**Sg**	**13 01 44.0**	**+0.2**
SRS	**Serrai**	**0.18**	**104**	P	**Pg**	**13 01 41.3**	**+0.2**
SRS				S	**Sg**	**13 01 44.0**	**+0.2**
SOH	**Sokhos**	**0.34**	**181**	P	**Pg**	**13 01 43.8**	**-0.2**
SOH				S	**Sg**	**13 01 48.6**	**+0.1**
	2μm,0.3s						
SOH	**Sokhos**	**0.34**	**181**	P	**Pg**	**13 01 43.8**	**-0.2**
SOH				S	**Sg**	**13 01 48.6**	**+0.1**
KNT	**Kendrikon**	**0.35**	**270**	P	**Pg**	**13 01 43.7**	**-0.4**
KNT				S	**Sg**	**13 01 48.4**	**-0.4**
	1μm,0.2s						
KNT	**Kendrikon**	**0.35**	**270**	*i* Pg	**Pg**	**13 01 43.7**	**-0.4**
KNT				*i* Sg	**Sg**	**13 01 48.3**	**-0.5**
KNT	**Kendrikon**	**0.35**	**270**	P	**Pg**	**13 01 43.9**	**-0.3**
KNT				S	**Sg**	**13 01 48.3**	**-0.5**
MMB	**Musomishta**	**0.48**	**37**	⇑*i* Pg	**Pb**	**13 01 47.0**	**-0.8**
MMB				Sg	**Sb**	**13 01 54.0**	**-1.0**
MMB	**Musomishta**	**0.48**	**37**	*i* Pg	**Pb**	**13 01 47.0**	**-0.8**
MMB				*i* Sg	**Sb**	**13 01 54.4**	**-0.6**
STCV	**Stivos**	**0.51**	**185**	P	**Pg**	**13 01 47.2**	**0.0**
STCV				S	**Sg**	**13 01 53.7**	**-0.3**
STEV	**Stivos**	**0.52**	**185**	P	**Pg**	**13 01 47.3**	**0.0**
STEV				S	**Sg**	**13 01 54.2**	**+0.1**
KOKK	**Kokkinochori,**	**0.59**	**125**	P	**Pg**	**13 01 48.6**	**-0.1**
KOKK	**Kokkinochori,**	**0.59**	**125**	P	**Pg**	**13 01 48.9**	**+0.2**
KOKK				S	**Sg**	**13 01 57.2**	**+0.6**
HORT	**Hortiatis**	**0.60**	**199**	P	**Pg**	**13 01 48.3**	**-0.5**
HORT				S	**Sg**	**13 01 56.7**	**0.0**
	790nm,0.1s						
HORT	**Hortiatis**	**0.60**	**199**	P	**Pg**	**13 01 48.6**	**-0.2**
HORT				S	**Sg**	**13 01 56.5**	**-0.1**
THE	**Thessaloniki**	**0.61**	**210**	P	**Pg**	**13 01 48.6**	**-0.4**
THE				S	**Sg**	**13 01 56.2**	**-0.7**
THE	**Thessaloniki**	**0.61**	**210**	*i* Pg	**Pg**	**13 01 48.6**	**-0.4**
THE				*i* Sg	**Sg**	**13 01 56.2**	**-0.7**
THE	**Thessaloniki**	**0.61**	**210**	P	**Pg**	**13 01 48.6**	**-0.4**
THE				S	**Sg**	**13 01 56.3**	**-0.7**
VAY	**Valandovo**	**0.62**	**285**	*i* Pg	**Pg**	**13 01 49.5**	**+0.3**
VAY				*i* Sg	**Sg**	**13 01 57.7**	**+0.4**
VAY				*e*Lg	Lg	13 01 58.3	
	comp=N,105nm,0.5s						
VAY				*e*Lg	Lg	13 01 59.8	
	comp=E,81nm,0.4s						
SHTA	**Agia Triada**	**0.63**	**209**	P	**Pg**	**13 01 49.1**	**-0.3**
SHTA				S	**Sg**	**13 01 56.5**	**-1.1**
KKB	**Krupnik**	**0.70**	**346**	⇑*i* Pg	**Pg**	**13 01 50.8**	**0.0**
KKB				Sg	**Sb**	**13 02 00.9**	**-0.3**
KKB	**Krupnik**	**0.70**	**346**	*i* Pg	**Pg**	**13 01 50.7**	**0.0**
KKB				*i* Sg	**Sb**	**13 02 01.2**	**0.0**
GRG	**Griva**	**0.75**	**254**	P	**Pg**	**13 01 51.1**	**-0.6**
GRG				S	**Sg**	**13 02 01.6**	**0.0**
GRG	**Griva**	**0.75**	**254**	*i* Pg	**Pb**	**13 01 52.6**	**+0.3**
GRG				*i* Sg	**Sg**	**13 02 01.9**	**+0.3**
GRG	**Griva**	**0.75**	**254**	P	**Pb**	**13 01 52.4**	**0.0**
GRG				S	**Sg**	**13 02 01.6**	**0.0**
PLG	**Polygyros**	**0.79**	**175**	P	**Pg**	**13 01 51.6**	**-0.9**
PLG				S	**Sg**	**13 02 02.7**	**0.0**
KVLA	**Kavala**	**0.81**	**106**	P	**Pb**	**13 01 53.5**	**+0.2**
KVLA				S	**Sb**	**13 02 04.2**	**-0.1**
KAVA	**Kavala**	**0.89**	**100**	P	**Pg**	**13 01 54.2**	**-0.1**
KAVA	**Kavala**	**0.89**	**100**	P	**Pn**	**13 01 55.5**	**-0.2**
KAVA				S	**Sb**	**13 02 06.7**	**+0.1**
OUR	**Ouranopolis**	**0.95**	**150**	P	**Pg**	**13 01 55.1**	**-0.4**
OUR	**Ouranopolis**	**0.95**	**150**	P	**Pg**	**13 01 55.3**	**-0.2**
OUR				S	**Sb**	**13 02 08.5**	**+0.1**
THS1	**Thassos, Thass**	**1.01**	**114**	P	**Pb**	**13 01 56.8**	**0.0**
RZN	**Rozhen**	**1.17**	**62**	*i* P	**Pn**	**13 01 59.7**	**0.0**
RZN				S	**Sn**	**13 02 15.7**	**0.0**
THAS	**Thassos island**	**1.17**	**118**	P	**Pb**	**13 01 59.2**	**-0.3**
THAS	**Thassos island**	**1.17**	**118**	P	**Pb**	**13 01 59.3**	**-0.2**
THAS				S	**Sg**	**13 02 15.0**	**+0.1**
LIT	**Litokhoron**	**1.25**	**212**	P	**Pn**	**13 02 00.1**	**-0.6**
LIT	**Litokhoron**	**1.25**	**212**	*i* Pg	**Pn**	**13 02 00.2**	**-0.4**
LIT	**Litokhoron**	**1.25**	**212**	P	**Pn**	**13 02 00.2**	**-0.4**
LIT				S	**Sg**	**13 02 17.6**	**+0.2**
PAIG	**Paliouri**	**1.26**	**169**	P	**Pn**	**13 02 00.1**	**-0.7**
PAIG	**Paliouri**	**1.26**	**169**	P	**Pn**	**13 02 00.5**	**-0.2**
PAIG				S	**Sg**	**13 02 17.6**	**0.0**
PLNA	**Plana**	**1.31**	**2**	*i* P	**Pg**	**13 02 02.2**	**-0.3**
PLNA				Sg	**Sn**	**13 02 19.9**	**+0.6**
VTS	**Vitosha**	**1.46**	**356**	⇑*i* P	**Pg**	**13 02 05.1**	**-0.1**
VTS				S	**Sg**	**13 02 23.7**	**-0.4**
KZN	**Kozani**	**1.48**	**235**	P	**Pb**	**13 02 05.2**	**+0.4**
KZN				S	**Sn**	**13 02 23.2**	**-0.1**
PGB	**Panagyurishte**	**1.48**	**24**	P	**Pg**	**13 02 05.3**	**-0.3**
PGB				Sg	**Sg**	**13 02 27.1**	**+2.2**
FNA	**Florina**	**1.55**	**257**	P	**Pn**	**13 02 05.1**	**+0.3**
FNA				S	**Sb**	**13 02 26.4**	**+0.8**
KDZ	**Kurdzhali**	**1.56**	**72**	*i* P	**Pg**	**13 02 06.7**	**-0.5**
KDZ				S	**Sg**	**13 02 27.0**	**-0.4**
RDO	**Rodhopi**	**1.65**	**90**	P	**Pn**	**13 02 05.8**	**-0.3**
RDO	**Rodhopi**	**1.65**	**90**	P	**Pb**	**13 02 07.1**	**-0.4**
RDO				S	**Sb**	**13 02 28.3**	**0.0**
SMTH	**Samothraki Isl**	**1.79**	**112**	P	**Pb**	**13 02 09.5**	**-0.5**
SMTH				S	**Sb**	**13 02 32.7**	**+0.2**
XOR	**Xorichti**	**1.80**	**184**	P	**Pn**	**13 02 08.6**	**+0.3**
XOR				S	**Sn**	**13 02 31.1**	**0.0**
THL	**Klokotos Trika**	**1.90**	**213**	P	**Pn**	**13 02 09.9**	**+0.3**
THL				S	**Sn**	**13 02 34.5**	**+1.0**
NEST	**Nestorio**	**1.91**	**248**	P	**Pn**	**13 02 10.4**	**+0.7**
NEST				S	**Sn**	**13 02 34.5**	**+0.6**
KPRO	**Kipourio**	**1.94**	**232**	P	**Pn**	**13 02 10.8**	**+0.5**
KPRO				S	**Sn**	**13 02 34.5**	**-0.2**
ALN	**Alexandroupoli**	**2.05**	**97**	P	**Pn**	**13 02 12.2**	**+0.5**
MPEP	**Malo Peshtene**	**2.21**	**7**	P	**Pg**	**13 02 19.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.34**	**204**	P	**Pn**	**13 02 16.7**	**+0.9**
MAKR				S	**Sn**	**13 02 45.6**	**+1.0**

TXNET 28 13:13:23.9, 31.6N±0.8×104.6W±0.8, h3km±2km, ML1.8/6, Error ellipse: s-maj=1.3km s-min=1.2km az=25.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**57**	P	Pg	13 13 34.7	+0.2
TPB11				S	Sg	13 13 41.7	+0.1
GDL2	**Guadalupe Moun**	**0.59**	**17**	P	Pg	13 13 35.4	0.0
PECS	**Pecos**	**0.66**	**113**	P	Pg	13 13 36.9	+0.4
PECS				S	Sg	13 13 45.7	+0.6
TPB12	**Southwest of T**	**0.67**	**128**	P	Pg	13 13 36.9	+0.1
TPB12				S	Sg	13 13 46.0	+0.5
MNTX	**Cornudas Mount**	**0.69**	**276**	P	Pg	13 13 37.4	+0.2
MNTX				S	Sg	13 13 46.7	+0.6
TPB10	**Southeast of T**	**0.78**	**116**	S	Sg	13 13 49.5	+0.5
CLNB	**Carlsbad**	**0.86**	**43**	P	Pb	13 13 41.2	-0.4
VHRN	**Van Horn**	**0.91**	**203**	P	Pg	13 13 41.4	0.0
VHRN				S	Sb	13 13 54.1	-0.8
PCOS	**Crockett Middl**	**0.94**	**103**	P	Pg	13 13 42.3	+0.4
TPB01	**Permian Basin**	**0.96**	**135**	P	Pg	13 13 42.0	-0.4
TPB01				S	Sg	13 13 55.3	+0.4
HTMS	**Hat Mesa**	**1.16**	**43**	S	Sb	13 14 02.5	+0.5
ALPN	**Alpine**	**1.49**	**147**	P	Pn	13 13 51.3	-0.4
ALPN				S	Sb	13 14 10.9	-0.7
CPRX	**Cap Rock**	**1.52**	**23**	P	Pn	13 13 52.2	+0.2
MNHN	**Monahans**	**1.58**	**100**	P	Pb	13 13 53.3	-0.4
MNHN				S	Sg	13 14 14.8	+0.3
ODSA	**Odessa**	**1.79**	**74**	S	Sb	13 14 20.5	+0.3
TMB04	**Seminole**	**2.03**	**60**	P	Pn	13 14 00.2	+1.1
TMB04				S	Sb	13 14 27.3	+0.2
TMB02	**Rankin**	**2.21**	**101**	P	Pb	13 14 03.4	-1.1
TMB02				S	Sb	13 14 32.4	0.0
TX31	**Lajitas Ar. Si**	**2.42**	**161**	P	Pb	13 14 08.0	-0.1

*SDD **28** 13:13:26.8±1.6, 18.75N×71.63W, h15km±16km, MD2.5, ML2.3, MW2.6*

*OSPL **28** 13:13:27.2±1.7, 18.69N×71.61W, h18km±11km, ML2.0*

ISC 28 13:13:26.5±1.1, 18.69N±0.03×71.62W±0.03, h19km±3km, n13, σ0.83/25, 6C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONE3	**El Aguacate, B**	**0.17**	**119**	*i* P	**Pg**	**13 13 30.7**	**-0.6**
LONE3				*e*S	**Sg**	**13 13 34.6**	**+0.1**
LONE3				IAML		13 13 35.2	
	comp=Z,252nm,0.3s						
NEDR	**Neiba UASD**	**0.28**	**137**	⇓*e*Pg	**Pg**	**13 13 31.8**	**-1.0**
NEDR				⇓*e*Sg	**Sg**	**13 13 37.9**	**+0.9**
NEDR				IAML		13 13 39.9	
	comp=N,290nm,0.3s						
JIDR	**Jimani**	**0.29**	**228**	⇑*e*Pg	**Pg**	**13 13 32.7**	**-0.4**
JIDR				⇑*e*Sg	**Sg**	**13 13 38.4**	**+0.9**
JIDR				IAML		13 13 38.7	
	comp=N,2μm,0.2s						
LODU1	**El Espartillar**	**0.36**	**158**	*i* P	**Pg**	**13 13 33.7**	**-0.4**
LODU1				*e*S	**Sg**	**13 13 38.9**	**-0.4**
LODU1				IAML		13 13 40.2	
	comp=Z,220nm,0.7s						
SDDR	**Presa de Saban**	**0.43**	**47**	⇑*e*Pg	**Pg**	**13 13 34.7**	**-0.7**
SDDR				*e*Pg	**Pb**	**13 13 34.8**	**-0.8**
SDDR				IAML		13 13 51.4	
	comp=N,47nm,0.7s						
SDDR	**Presa de Saban**	**0.43**	**47**	*i* P	**Pg**	**13 13 34.9**	**-0.5**
SDDR				*e*S	**Sb**	**13 13 41.7**	**-0.1**
SDDR				IAML		13 13 45.5	
	comp=Z,36nm,0.4s						
PODR	**Polo**	**0.61**	**148**	⇑*e*Pg	**Pg**	**13 13 38.0**	**-0.7**
PODR				*e*Sg	**Sg**	**13 13 47.6**	**+0.6**
PODR				IAML		13 13 47.6	
	comp=N,133nm,0.1s						
PODR	**Polo**	**0.61**	**148**	*i* P	**Pg**	**13 13 37.9**	**-0.9**
PODR				*e*S	**Sg**	**13 13 47.4**	**+0.4**
PAPH	**Port-au-Prince**	**0.67**	**256**	*i* P	**Pg**	**13 13 38.8**	**-0.9**
PAPH				*e*S	**Sg**	**13 13 49.0**	**+0.4**
PAPH				IAML		13 13 52.8	
	comp=Z,87nm,0.5s						
LOBH	**Bahia de las A**	**0.82**	**181**	*i* P	**Pb**	**13 13 41.4**	**-0.8**
LOBH				IAML		13 13 59.4	
	comp=Z,25nm,1.5s						
LOVI	**El Cajuil, Ovi**	**0.92**	**165**	*i* P	**Pb**	**13 13 43.0**	**-0.8**
LOVI				*e*S	**Sb**	**13 13 56.0**	**+0.5**
LOVI				IAML		13 14 11.5	
	comp=Z,53nm,0.9s						
BANI	**BANI**	**1.23**	**104**	⇑*e*Pg	**Pn**	**13 13 48.9**	**0.0**
BANI				⇑*e*Sg	**Sb**	**13 14 05.5**	**+0.7**
BANI				IAML		13 14 09.7	
	comp=N,71nm,0.6s						
HATOM	**Hato Mayor del**	**2.12**	**87**	*e*Pg	**Pn**	**13 14 03.2**	**+2.1**
HATOM				*e*Sg	**Sb**	**13 14 29.9**	**-0.5**
HATOM				IAML		13 14 32.9	
	comp=N,15nm,1.8s						

TXNET 28 13:14:37.0, 31.6N±0.7×104.6W±0.8, h3km±1km, ML1.9/7, Error ellipse: s-maj=1.2km s-min=1.0km az=67.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**57**	P	Pg	13 14 47.3	-0.1
TPB11				S	Sg	13 14 54.6	+0.1
GDL2	**Guadalupe Moun**	**0.59**	**17**	P	Pg	13 14 48.4	+0.2
PECS	**Pecos**	**0.66**	**114**	P	Pg	13 14 50.0	+0.4
PECS				S	Sg	13 14 58.7	+0.5
TPB12	**Southwest of T**	**0.68**	**129**	P	Pg	13 14 50.3	+0.4
TPB12				S	Sg	13 14 59.1	+0.4
MNTX	**Cornudas Mount**	**0.69**	**275**	P	Pb	13 14 51.0	-0.7
MNTX				S	Sg	13 14 59.6	+0.4
TPB10	**Southeast of T**	**0.78**	**117**	P	Pg	13 14 52.4	+0.5
TPB10				S	Sg	13 15 03.1	+0.9
CLNB	**Carlsbad**	**0.86**	**43**	P	Pg	13 14 53.4	0.0
CLNB				S	Sg	13 15 05.5	+0.9
VHRN	**Van Horn**	**0.92**	**203**	P	Pg	13 14 54.6	0.0
VHRN				S	Sg	13 15 07.3	+0.8
TPB01	**Permian Basin**	**0.97**	**136**	P	Pg	13 14 55.0	-0.5
TPB01				S	Sg	13 15 08.3	+0.2
CLN7	**Carlsbad 7**	**1.01**	**40**	P	Pg	13 14 56.0	-0.3
TPB03	**Saragosa**	**1.06**	**121**	S	Sb	13 15 11.9	-0.4
TPB16	**Coyonosa**	**1.24**	**114**	S	Sb	13 15 17.6	+0.1
TPB05	**Hovey Rd**	**1.29**	**124**	P	Pg	13 15 00.9	-0.7
TPB05				S	Sg	13 15 18.2	-0.1
ALPN	**Alpine**	**1.49**	**147**	P	Pn	13 15 04.6	-0.2
ALPN				S	Sb	13 15 23.8	-1.1
CPRX	**Cap Rock**	**1.51**	**23**	P	Pn	13 15 05.0	-0.1
MNHN	**Monahans**	**1.57**	**100**	P	Pn	13 15 05.6	-0.2
MNHN				S	Sg	13 15 27.7	+0.1
ODSA	**Odessa**	**1.79**	**74**	P	Pb	13 15 10.1	-0.2
ODSA				S	Sb	13 15 32.7	-0.5
TMB04	**Seminole**	**2.02**	**60**	P	Pb	13 15 13.3	-1.1
TMB04				S	Sb	13 15 40.5	+0.5
TMB02	**Rankin**	**2.21**	**101**	S	Sb	13 15 44.8	-0.6

TXNET 28 13:26:32.6, 31.2N±0.7×103.5W±0.6, h5km±1km, ML2.0/8, 1D, Error ellipse: s-maj=1.1km s-min=0.9km az=176.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.08**	**207**	P	Pg	13 26 34.5	+0.1
TPB03				S	Sg	13 26 36.2	+0.6
TPB04	**Verhalen**	**0.18**	**79**	P	Pg	13 26 36.8	+0.6
TPB04				S	Sg	13 26 39.6	+1.0
TPB16	**Coyonosa**	**0.19**	**98**	P	Pg	13 26 37.2	+0.8
TPB16				S	Sg	13 26 40.3	+1.4
TPB16	**Coyonosa**	**0.19**	**98**	P	Pg	13 26 37.2	+0.8
TPB16				S	Sg	13 26 40.2	+1.2
PCOS	**Crockett Middl**	**0.26**	**353**	S	Sg	13 26 42.8	+1.7
TPB05	**Hovey Rd**	**0.27**	**151**	P	Pb	13 26 39.0	-0.9
TPB05				S	Sb	13 26 43.5	-1.4
TPB10	**Southeast of T**	**0.27**	**298**	P	Pb	13 26 39.3	-0.8
TPB10				S	Sb	13 26 43.8	-1.3
TPB01	**Permian Basin**	**0.34**	**232**	P	Pg	13 26 39.8	+0.6
TPB01	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**8.63**	**298**	I	I	15 11 40.0	
	baz=99,slow=327,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**24.81**	**98**	I	I	16 53 24.4	
	baz=326,slow=331,SNR=1.1						
I53US	**FAIRBANKS INFR**	**48.97**	**5**	I	I	19 27 00.0	
	baz=352,slow=327,SNR=1.4						

*IDC **28** 14:24:53.0±1.1, 0°.57N×121°.18E, h0km, mb3.7/5, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=134.2km s-min=18.5km az=65.0*
*DJA **28** 14:25:04.4±0.9, 0°N±3°×12°1E±°, h19km±9km, M4.1/13, mb4.3/5, MLv4.0/13*
ISC 28 14:24:59.7±1.0, 0°.54N±0°.08×120°.56E±0°.06, h35km, n15, σ3$59/18, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.38**	**92**	P	**Pn**	**14 25 26.0**	**+3.5**
MRSI				S	**Sn**	**14 25 42.9**	**+3.4**
PCI	**Palu**	**1.61**	**207**	P	**Pn**	**14 25 29.4**	**+3.7**
PCI				S	**Sn**	**14 25 49.6**	**+4.4**
APSI	**Ampana**	**1.80**	**143**	P	**Pn**	**14 25 30.8**	**+2.5**
LUWI	**Luwuk**	**2.71**	**125**	P	**Pn**	**14 25 42.9**	**+2.1**
KMSI	**Cibinong**	**3.42**	**89**	P	**Pn**	**14 25 54.6**	**+4.0**
KMSI				S	**Sn**	**14 26 33.3**	**+3.4**
TTSI	**Tana Toraja**	**3.63**	**192**	P	**Pn**	**14 25 57.2**	**+3.6**
SPSI	**Sidrap Palu**	**4.54**	**190**	P	**Pn**	**14 26 08.7**	**+2.7**
BKSI	**Bulukumba**	**5.84**	**184**	P	**Pn**	**14 26 26.9**	**+3.1**
NLAI	**Namlea**	**7.53**	**120**	P	**Pn**	**14 26 49.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**19.18**	**165**	P	**P**	**14 29 17.9**	**-2.6**
	0.7nm,0.3s,baz=357,slow=11,SNR=23 4.5nm,0.6s						
WRA	**Warramunga Arr**	**24.42**	**147**	P	**P**	**14 30 10.2**	**-5.1**
	1.3nm,0.9s,baz=323,slow=10,SNR=9.9 1.3nm,0.9s						
ASAR	**Alice Springs**	**27.33**	**153**	P	**P**	**14 30 37.6**	**-3.9**
	0.6nm,0.6s,baz=323,slow=8.4,SNR=20 0.6nm,0.6s						
STKA	**Stephens Creek**	**37.89**	**150**	P	**P**	**14 32 09.8**	**-3.9**
	1.0nm,0.5s,baz=335,slow=14,SNR=3.1 1.0nm,0.5s						
SONM	**Songino Array**	**48.69**	**347**	P	**P**	**14 33 40.5**	**-0.3**
	0.5nm,0.6s,baz=151,slow=6.9,SNR=3.2 0.5nm,0.6s						
MKAR	**Makanchi Array**	**56.90**	**329**	P	**P**	**14 34 41.4**	**+0.1**
	0.5nm,0.4s,baz=129,slow=8.2,SNR=14 0.5nm,0.4s						

*KRSC **28** 14:28:19.2±0.7, 56°.17N×160°.84E, h171km±5km, Ml4.2*
*IDC **28** 14:28:21.7±1.6, 56°.16N×160°.53E, h178km±15km, mb3.5/21, mbtmp4.0/24, MS2.9/2, Error ellipse: s-maj=12.2km s-min=10.9km az=154.0*
ISC 28 14:28:20.5±0.6, 56°.11N±0°.05×160°.74E±0°.05, h171km±4km, n66, σ0$82/83, mb3.8/20, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIRR	**Tsirk**	**0.01**	**61**	*e*P	**Pn**	**14 28 43.1**	**-0.2**
LGNR	**Loginova**	**0.04**	**222**	*e*P	**Pn**	**14 28 43.5**	**0.0**
LGNR				*e*S	**Sn**	**14 29 01.8**	**+0.8**
ZLN	**Zelenaya**	**0.10**	**158**	*e*P	**Pn**	**14 28 43.3**	**-0.1**
KRSR	**Krestovskiy**	**0.14**	**318**	*e*P	**Pn**	**14 28 42.7**	**-0.6**
KRSR				*e*S	**Sn**	**14 29 00.6**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**0.17**	**188**	*e*P	**Pn**	**14 28 43.4**	**0.0**
BZGR				*e*S	**Sn**	**14 29 01.5**	**+0.6**
BZWR	**Bezymyannyi-We**	**0.20**	**222**	*e*P	**Pn**	**14 28 43.1**	**-0.5**
KLY	**Klyuchi**	**0.21**	**347**	*e*P	**Pn**	**14 28 42.8**	**-0.5**
KLY				*e*S	**Sn**	**14 29 00.7**	**-0.1**
KIRR	**Kirishev**	**0.27**	**234**	*e*P	**Pn**	**14 28 43.0**	**-0.6**
KIRR				*e*S	**Sn**	**14 29 01.0**	**-0.4**
KPT	**Kopyto**	**0.32**	**243**	*e*P	**Pn**	**14 28 43.3**	**-0.5**
KPT				*e*S	**Sn**	**14 29 01.0**	**-0.4**
KMNR	**Kamenistaya**	**0.45**	**218**	*e*P	**Pn**	**14 28 44.2**	**0.0**
KMNR				*e*S	**Sn**	**14 29 03.1**	**+0.8**
KOZ	**Kozyrevsk**	**0.49**	**264**	*e*P	**Pn**	**14 28 43.8**	**-0.4**
KOZ				*e*S	**Sn**	**14 29 02.0**	**-0.3**
BDR	**Baidarnaya**	**0.53**	**30**	*e*S	**Sn**	**14 29 03.3**	**+0.4**
SRKR	**Sorokina**	**0.59**	**24**	*e*P	**Pn**	**14 28 44.6**	**-0.1**
SRKR				*e*S	**Sn**	**14 29 03.5**	**+0.1**
SRDR	**Sredinnyy**	**0.61**	**290**	*e*P	**Pn**	**14 28 44.2**	**-0.6**
SRDR				*e*S	**Sn**	**14 29 03.2**	**-0.3**
SMKR	**Semkarok**	**0.62**	**41**	*e*P	**Pn**	**14 28 44.4**	**-0.5**
SMKR				*e*S	**Sn**	**14 29 03.9**	**+0.2**
TUMD	**Tumrok D**	**0.93**	**192**	*e*P	**Pn**	**14 28 46.9**	**+0.1**
TUMD				*e*S	**Sn**	**14 29 07.1**	**+0.1**
KBG	**Krutoberegovo**	**1.11**	**82**	*e*P	**Pn**	**14 28 47.3**	**-0.8**
KBG				*e*S	**Sn**	**14 29 08.3**	**-1.0**
ESO	**Esso**	**1.16**	**262**	*e*P	**Pn**	**14 28 48.5**	**-0.1**
KBTR	**Krutoberegovo**	**1.17**	**84**	*e*P	**Pn**	**14 28 47.9**	**-0.7**
KBTR				*e*S	**Sn**	**14 29 09.1**	**-1.2**
MKZ	**Mys Kozlova**	**1.66**	**160**	*e*S	**Sn**	**14 29 17.8**	**-0.7**
GNL	**Ganaly**	**2.91**	**215**	*e*P	**Pn**	**14 29 08.4**	**+0.6**
KRX	**Arik**	**3.01**	**205**	*e*P	**Pn**	**14 29 10.1**	**+1.1**
PALN	**Palana**	**3.01**	**352**	*e*P	**Pn**	**14 29 08.6**	**-0.2**
SDLR	**Sedlovina**	**3.04**	**202**	*e*P	**Pn**	**14 29 10.4**	**+1.1**
KRER	**Koryakskii**	**3.04**	**203**	*e*P	**Pn**	**14 29 11.2**	**+1.8**
KOK	**Koryaka**	**3.08**	**204**	*e*P	**Pn**	**14 29 10.3**	**+0.5**
AVH	**Avacha**	**3.08**	**203**	*e*P	**Pn**	**14 29 11.5**	**+1.7**
BKI	**Bering**	**3.10**	**105**	*e*S	**Sn**	**14 29 45.9**	**-2.4**
UGLR	**Uglovaya**	**3.11**	**202**	*e*P	**Pn**	**14 29 11.4**	**+1.2**
INSR	**Institute**	**3.29**	**203**	*e*P	**Pn**	**14 29 13.2**	**+0.8**
DALK	**Dalny**	**3.30**	**201**	*e*P	**Pn**	**14 29 12.4**	**0.0**
DALK				*e*S	**Sn**	**14 29 52.5**	**-0.2**
PET	**Petropavlovsk**	**3.32**	**202**	*e*P	**Pn**	**14 29 13.2**	**+0.5**
PET				*e*S	**Sn**	**14 29 52.5**	**-0.8**
OSSR	**Ossora**	**3.38**	**21**	*e*P	**Pn**	**14 29 13.4**	**+0.1**
PETK	**Petropavlovsk-**	**3.49**	**212**	P	**Pn**	**14 29 14.9**	**+0.1**
	46nm,0.7s,baz=64,slow=17,SNR=57						
KRMR	**Karymshinskiy**	**3.62**	**206**	*e*P	**Pn**	**14 29 17.0**	**+0.5**
APC	**Apacha**	**3.81**	**215**	*e*P	**Pn**	**14 29 20.5**	**+1.6**
GRL	**Gorelyy**	**3.89**	**205**	*e*P	**Pn**	**14 29 21.4**	**+1.4**
TILK	**Tilichiki**	**5.20**	**31**	*e*P	**Pn**	**14 29 37.6**	**+0.9**
MA2	**Magadan**	**6.35**	**307**	P	**Pn**	**14 29 51.3**	**-0.6**
	3.4nm,0.7s,baz=118,slow=11,SNR=7.1						
KMSK	**Kamenskaya**	**6.96**	**21**	*e*P	**Pn**	**14 30 01.2**	**+1.3**
SEY	**Seymchan**	**8.05**	**332**	P	**Pn**	**14 30 14.7**	**+0.5**
	0.7nm,0.5s,baz=126,slow=12,SNR=4.7						
KLR	**Kul'dur**	**18.78**	**261**	P	**Pn**	**14 32 27.7**	**-1.3**
	1.8nm,0.7s,baz=69,slow=7.8,SNR=5.4						
KLR				LR	LR	14 41 08.5	
	comp=Z,34nm,20.7s,baz=25,slow=41						
TIXI	**Tiksi**	**20.54**	**332**	P	**P**	**14 32 46.0**	**+0.8**
	6.7nm,0.5s,baz=136,slow=8.1,SNR=34 6.7nm,0.5s						
ILAR	**Eielson Array**	**26.49**	**50**	P	**P**	**14 33 41.9**	**+0.4**
	0.6nm,0.6s,baz=262,slow=7.7,SNR=18 0.6nm,0.6s						
SONM	**Songino Array**	**33.68**	**279**	P	**P**	**14 34 45.3**	**+0.2**
	1.3nm,0.6s,baz=62,slow=8.3,SNR=10.0						
SONM				PcP	**PcP**	**14 37 19.7**	**-1.0**
	0.1nm,0.3s,baz=117,slow=1.7,SNR=3.9 1.3nm,0.6s						
YKA	**Yellowknife Ar**	**40.72**	**45**	P	**P**	**14 35 44.7**	**+0.7**
	0.5nm,0.6s,baz=302,slow=8.4,SNR=8.4						
YKA				PcP	**PcP**	**14 37 41.6**	**-0.1**
	0.4nm,0.8s,baz=310,slow=4.1,SNR=5.4 0.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**44.22**	**350**	P	**P**	**14 36 12.2**	**+0.3**
	12nm,0.9s,baz=58,slow=7.0,SNR=11 12nm,0.9s						
KURBB	**Kurchatov Arra**	**46.61**	**300**	P	**P**	**14 36 29.8**	**-1.2**
	1.1nm,0.7s,baz=54,slow=7.9,SNR=7.8 1.1nm,0.7s						
MKAR	**Makanchi Array**	**47.24**	**294**	P	**P**	**14 36 35.4**	**-0.6**
	1.4nm,0.8s,baz=60,slow=7.7,SNR=14 1.4nm,0.8s						
BVAR	**Borovoye Array**	**48.84**	**307**	P	**P**	**14 36 47.2**	**-1.0**
	0.8nm,0.5s,baz=45,slow=7.7,SNR=6.1 0.8nm,0.5s						
ARCES	**ARCESS Array B**	**50.54**	**341**	LR	LR	15 01 04.9	
	comp=Z,14nm,18.9s,baz=258,slow=39						
NVAR	**Mina Array Bea**	**54.42**	**73**	P	**P**	**14 37 32.1**	**+2.1**
	0.4nm,0.5s,baz=317,slow=8.1,SNR=3.0 0.4nm,0.5s						
PDAR	**Pinedale Array**	**55.77**	**63**	P	**P**	**14 37 41.0**	**+1.4**
	0.4nm,0.5s,baz=322,slow=2.6,SNR=7.2 0.4nm,0.5s						
FINES	**FINESS Array B**	**57.50**	**336**	P	**P**	**14 37 50.7**	**-0.5**
	1.3nm,0.5s,baz=29,slow=8.8,SNR=16 1.3nm,0.5s						
NB2	**NORSAR Subarra**	**60.74**	**344**	P	**P**	**14 38 13.1**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=19,slow=6.9						
NOA	**NORSAR Array B**	**60.74**	**344**	P	**P**	**14 38 13.2**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=19,slow=6.9,SNR=6.0 comp=Z,1.7nm,0.7s						
HFS	**Hagfors**	**61.19**	**342**	P	**P**	**14 38 15.8**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=46,slow=6.4,SNR=9.8 comp=Z,1.4nm,0.5s						
SCHQ	**Schefferville**	**62.81**	**29**	P	**P**	**14 38 27.1**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=338,slow=5.3,SNR=5.7 comp=Z,2.1nm,0.6s						
AKASG	**Malin Array Be**	**66.22**	**329**	P	**P**	**14 38 48.5**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=28,slow=6.9,SNR=5.6 comp=Z,1.1nm,0.4s						
KBZ	**Khabaz**	**67.61**	**316**	P	**P**	**14 38 58.4**	**0.0**
	comp=Z,3.6nm,0.9s,baz=198,slow=1.9,SNR=6.2 comp=Z,3.6nm,0.9s						
EKA	**Eskdalemuir Ar**	**68.14**	**350**	P	**P**	**14 39 01.3**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=28,slow=5.1,SNR=2.0 comp=Z,1.1nm,0.6s						
TXAR	**Lajitas Array**	**69.14**	**68**	P	**P**	**14 39 09.8**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=212,slow=2.9,SNR=7.7 comp=Z,0.8nm,0.6s						
BRTR	**Keskin Array B**	**74.53**	**320**	P	**P**	**14 39 40.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=46,slow=5.3,SNR=3.8 comp=Z,1.1nm,0.8s						
WRA	**Warramunga Arr**	**78.98**	**205**	P	**P**	**14 40 05.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=18,slow=5.9,SNR=11 comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**82.67**	**205**	P	**P**	**14 40 25.1**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=15,slow=4.7,SNR=14 comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**145.86**	**180**	PKPbc	**PKPbc**	**14 47 38.0**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=296,slow=0.6,SNR=33						

IDC 28 14:31:55.4±8.2, 13°.90N×143°.34E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=343.8km s-min=29.9km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.78**	**195**	P	P	14 38 47.7	-0.1
	0.4nm,0.8s,baz=14,slow=8.5,SNR=5.2 0.4nm,0.8s						
MKAR	**Makanchi Array**	**60.24**	**316**	P	P	14 42 06.2	+0.7
	0.4nm,0.5s,baz=99,slow=7.4,SNR=5.7 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**60.51**	**325**	P	P	14 42 07.6	+0.4
	0.6nm,0.4s,baz=104,slow=11,SNR=2.1 0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.43**	**320**	P	P	14 42 26.8	-0.1
	0.9nm,0.5s,baz=104,slow=6.9,SNR=10.0 0.9nm,0.5s						
BVAR	**Borovoye Array**	**68.76**	**322**	P	P	14 43 00.3	-0.9
	0.8nm,0.4s,baz=101,slow=7.7,SNR=4.6 0.8nm,0.4s						

*AEIC **28** 14:45:51.0±0.5, 54°.89N±0°.06×161°.53W±0°.05, h87km±7km, Error ellipse: s-maj=8.7km s-min=2.9km az=157.0*
NEIC 28 14:45:50.3±0.4, 54°.89N±0°.07×161°.54W±0°.06, h89km±10km, mLE2.7/14, mL2.5(AEIC), Error ellipse: s-maj=10.9km s-min=4.4km az=167.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**0.47**	**334**		Pn	14 46 04.8	0.0
HAG					Sn	14 46 15.9	+0.4
PS4A	**Pavlof South-4**	**0.49**	**338**		Pn	14 46 04.7	-0.1
PS4A					Sn	14 46 15.7	+0.1
PVV	**Pavlof Volcano**	**0.50**	**344**		Pn	14 46 04.9	0.0
PS1A	**Pavlof South-1**	**0.54**	**348**		Pn	14 46 05.2	-0.1
PS1A					Sn	14 46 16.4	0.0
SDPT	**Sand Point**	**0.76**	**53**		Pn	14 46 07.2	-0.1
SDPT					Sn	14 46 20.0	0.0
SDPT	**Sand Point**	**0.76**	**53**	IAML		14 46 20.4	
	comp=N,118nm,0.6s						
FALS	**False Pass**	**1.08**	**269**		Pn	14 46 10.5	-0.4
FALS					Sn	14 46 26.1	-0.2
CNBA	**Chernabura Isl**	**1.13**	**93**		Pn	14 46 11.4	0.0
CNBA					Sn	14 46 27.1	-0.2
ISLZ	**Isanotski Laza**	**1.27**	**263**		Pn	14 46 12.9	-0.2
ISLZ					Sn	14 46 30.2	-0.1
ISNN	**Isanotski Nort**	**1.29**	**268**		Pn	14 46 13.5	+0.1
ISNN					Sn	14 46 31.7	+0.9
VNFG	**Fog Glacier, M**	**1.79**	**38**		Pn	14 46 19.9	0.0
WESE	**West Dahl East**	**1.82**	**258**		Pn	14 46 20.4	+0.3
WEBT	**Westdahl Beart**	**1.89**	**262**		Pn	14 46 21.1	+0.1
VNHG	**Veniaminof 1**	**1.90**	**44**		Pn	14 46 21.3	+0.2
CHGN	**Chignik**	**2.27**	**50**		Pn	14 46 25.5	-0.4
CHGN	**Chignik**	**2.27**	**50**	IAML		14 47 24.5	
	comp=N,43nm,0.1s						
AKSA	**Akutan Strait**	**2.54**	**254**		Pn	14 46 29.8	+0.3
AHB	**Akutan Harbor**	**2.61**	**254**		Pn	14 46 30.6	0.0
ZRO	**Akutan Zero**	**2.71**	**255**		Pn	14 46 31.7	-0.1
UNV	**Unalaska Valle**	**3.09**	**252**		Pn	14 46 36.5	-0.4
MREP	**Makushin Rep't**	**3.23**	**253**		Pn	14 46 38.5	-0.5
CHIR	**Chirikof Islan**	**3.50**	**72**		Pn	14 46 41.7	-0.9
CHIR	**Chirikof Islan**	**3.50**	**72**	IAML		14 48 44.6	
	comp=E,20nm,1.2s						
CHIR				IAML		14 48 55.4	
	comp=N,13nm,1.1s						
PLBL	**Peulik Blue Cr**	**3.85**	**41**		Pn	14 46 46.7	-0.6
OKTU	**Okmok Mt. Tuli**	**4.11**	**251**		Pn	14 46 50.8	0.0
O14K	**Tigyukauivet M**	**4.37**	**2**	Pn	Pn	14 46 52.5	-1.8
O14K				IAML		14 48 00.9	
	comp=N,6.1nm,1.1s						
O14K				IAML		14 48 27.6	
	comp=E,4.2nm,1.1s						
P16K	**Nushagak River**	**4.58**	**24**		Pn	14 46 56.1	-1.0
OHAK	**Old Harbor**	**5.18**	**60**		Pn	14 47 03.2	-2.0
OHAK	**Old Harbor**	**5.18**	**60**	IAML		14 48 15.8	
	comp=E,5.9nm,1.1s						
OHAK				IAML		14 50 04.6	
	comp=N,5.4nm,1.1s						
KDAK	**Kodiak Island**	**5.76**	**56**		Pn	14 47 11.2	-2.0

IDC 28 14:51:55.7±2.8, 17°.67S×178°.76W, h610km±21km, mb2.6/4, mbtmp3.5/5, Error ellipse: s-maj=103.9km s-min=24.0km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.04**	**268**	P	P	14 53 15.9	-0.1
	5.1nm,0.5s,baz=91,slow=22,SNR=9.1						
WRA	**Warramunga Arr**	**44.35**	**259**	P	P	14 59 13.6	-0.2
	0.2nm,0.7s,baz=92,slow=8.4,SNR=2.1						
WRA				PcP	PcP	15 00 43.8	-0.4
	0.1nm,0.3s,baz=92,slow=3.2,SNR=1.1 0.2nm,0.7s						
ASAR	**Alice Springs**	**44.54**	**254**	P	P	14 59 15.3	+0.1
	0.8nm,0.7s,baz=90,slow=8.7,SNR=17						
ASAR				PcP	PcP	15 00 44.5	-0.4
	0.2nm,0.4s,baz=102,slow=3.9,SNR=7.8 0.8nm,0.7s						
ILAR	**Eielson Array**	**85.73**	**13**	P	P	15 03 30.9	-0.1
	0.3nm,0.5s,baz=224,slow=4.7,SNR=11 0.3nm,0.5s						
PDAR	**Pinedale Array**	**87.41**	**44**	P	P	15 03 39.8	+0.1
	0.3nm,0.6s,baz=233,slow=11,SNR=3.9 0.3nm,0.6s						

*MOS **28** 14:55:26.7±0.9, 38°.51N×134°.92E, h365km, mb4.6/39, Error ellipse: s-maj=7.2km s-min=4.9km az=108.1*
*BJI **28** 14:55:28.1, 38°.48N×135°.05E, h398km, mB4.8/20, mb5.1/72*
*JMA **28** 14:55:28.2±0.2, 38°N±1°×13°5E±°, h399km±2km, MV4.4/36, SEA OF JAPAN*
*IDC **28** 14:55:28.8±0.6, 38°.48N×135°.00E, h376km±6km, mb4.0/34, mbtmp4.7/40, Error ellipse: s-maj=8.4km s-min=7.6km az=68.0*
*NIED **28** 14:55:28.2, 38°.43N×135°.22E, h399km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.17; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-0.14; $M_{r\theta}$0.19; $M_{\theta\phi}$0.23; $M_{\phi r}$-1.18; Fault plane solution: $M_0$1.23000×10^{16} NP1: ϕ_s285.00000°, δ10.00000°, λ25.00000°. NP2: ϕ_s171.00000°, δ86.00000°, λ99.00000°.*
*NEIC **28** 14:55:29.1±1.5, 38°.52N±0°.07×135°.14E±0°.07, h379km±7km, mb4.6/393 Error ellipse: s-maj=12.1km s-min=4.9km az=141.0*
ISC 28 14:55:28.5±0.4, 38°.50N±0°.04×135°.09E±0°.04, h375km±4km, n785, σ1$42/675, mb4.6/255, 26C-9D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.58**	**114**	P	**Pn**	**14 56 21.4**	**+1.8**
JHG				S	**S**	**14 57 02.6**	**+2.0**
JJH	**Hakui**	**2.06**	**139**	*e*P	**Pn**	**14 56 24.0**	**+1.5**
JJH				*e*S	**S**	**14 57 07.6**	**+1.5**
JSZ	**Suzu**	**2.08**	**120**	P	**Pn**	**14 56 24.1**	**+1.5**
JSZ				*e*S	**S**	**14 57 08.0**	**+1.8**
JKG	**Kaga**	**2.42**	**156**	P	**Pn**	**14 56 26.5**	**+1.3**
JKG				S	**S**	**14 57 12.2**	**+1.4**
JSD	**Sado**	**2.53**	**99**	Pn	**Pn**	**14 56 26.9**	**+1.0**
JSD	**Sado**	**2.53**	**99**	P	**Pn**	**14 56 26.9**	**+1.0**
JSD	**Sado**	**2.53**	**99**	*i* P	**Pn**	**14 56 27.1**	**+1.2**
JOI	**OKI**	**2.65**	**214**	P	**Pn**	**14 56 28.1**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.15**	**127**	Pn	**Pn**	**14 56 32.5**	**+1.3**
MAJO	**Matsushiro**	**3.15**	**127**		**Pn**	**14 56 31.6**	**+0.5**
MAJO	**Matsushiro**	**3.15**	**127**	P	**Pn**	**14 56 31.4**	**+0.3**
MAJO	**Matsushiro**	**3.15**	**127**	*i* P	**Pn**	**14 56 31.5**	**+0.3**
MAT	**Matsushiro**	**3.15**	**127**	*i* P	**Pn**	**14 56 31.8**	**+0.6**
MAT				S	**S**	**14 57 22.3**	**+0.7**
MJAR	**Matsushiro Arr**	**3.15**	**127**	P	**Pn**	**14 56 32.1**	**+1.0**
	340nm,0.8s,baz=312,slow=10,SNR=486						
MJAR				S	**S**	**14 57 23.5**	**+1.7**
	26nm,0.9s,baz=253,slow=18,SNR=4.1						
JYTA	**Yamagatataniai**	**3.18**	**155**	P	**Pn**	**14 56 32.1**	**+0.7**
JYTA				*e*S	**S**	**14 57 22.5**	**+0.3**
JGF	**Kuroka**	**3.41**	**147**	Pn	**Pn**	**14 56 34.1**	**+0.6**
JGF	**Kuroka**	**3.41**	**147**	P	**Pn**	**14 56 34.4**	**+0.9**
INU	**Inuyama**	**3.50**	**153**		**Pn**	**14 56 34.9**	**+0.6**
INU	**Inuyama**	**3.50**	**153**	P	**Pn**	**14 56 34.7**	**+0.4**
JHS	**Saijyo**	**3.83**	**205**	*i* P	**Pn**	**14 56 39.1**	**+1.5**
JRY	**Ryogami san**	**3.92**	**128**	P	**Pn**	**14 56 38.0**	**-0.3**
JIE	**Ise**	**4.30**	**162**	*i* P	**Pn**	**14 56 43.4**	**+1.3**
JMM	**Marumori**	**4.54**	**96**		**Pn**	**14 56 44.4**	**0.0**
JMM	**Marumori**	**4.54**	**96**	P	**Pn**	**14 56 44.7**	**+0.3**
JOD2	**Odawara 2**	**4.55**	**134**	P	**Pn**	**14 56 44.7**	**0.0**
JTNC	**Tanabenakahech**	**4.69**	**175**	P	**Pn**	**14 56 46.2**	**+0.1**
JTNC				S	**S**	**14 57 46.6**	**-2.3**
JMK	**Ichinoseki**	**4.81**	**83**	*i* P	**Pn**	**14 56 47.4**	**+0.2**
JMN	**Monobe**	**4.86**	**192**	Pn	**Pn**	**14 56 49.1**	**+1.1**
JMN	**Monobe**	**4.86**	**192**	P	**Pn**	**14 56 49.2**	**+1.3**
JOSM	**Okushiri--Mats**	**4.90**	**42**	P	**Pn**	**14 56 49.5**	**+1.4**
MSHR	**Mys Shultsa**	**5.06**	**325**	*e*P	**Pn**	**14 56 50.9**	**+1.1**
JTM	**Tenmabayashi**	**5.15**	**62**	Pn	**Pn**	**14 56 51.2**	**+0.5**
JTM	**Tenmabayashi**	**5.15**	**62**	P	**Pn**	**14 56 51.4**	**+0.6**
VLA	**Vladivostok**	**5.22**	**333**	*i* P	**Pn**	**14 56 53.7**	**+2.2**
PSTR	**Posyet**	**5.28**	**323**	*i* P	**Pn**	**14 56 53.6**	**+1.5**
JOT	**Ohata**	**5.41**	**56**	P	**Pn**	**14 56 54.5**	**+0.9**
KSRS	**Korea Array**	**5.76**	**262**	P	**Pn**	**14 56 59.9**	**+2.4**
	372nm,0.7s,baz=76,slow=12,SNR=1056						
KSRS				S	**S**	**14 58 10.5**	**+0.7**
	29nm,1.1s,baz=78,slow=20,SNR=6.2						
KS19	**Wonju Array Si**	**5.79**	**262**		**Pn**	**14 56 59.0**	**+1.1**
KSAR	**Wonju Array Be**	**5.79**	**262**	Pn	**Pn**	**14 56 59.6**	**+1.7**
KSAR	**Wonju Array Be**	**5.79**	**262**	P	**Pn**	**14 56 59.6**	**+1.7**
JTO	**Tosashimizu**	**5.92**	**199**	P	**Pn**	**14 57 00.7**	**+1.3**
JTU	**Tsushima**	**6.06**	**231**	P	**Pn**	**14 57 01.5**	**+0.6**
JTU	**Tsushima**	**6.06**	**231**	P	**Pn**	**14 57 01.7**	**+0.8**
BSO1	**Boso 1**	**6.09**	**127**	*i* P	**Pn**	**14 56 59.7**	**-1.0**
BSO1				S	**S**	**14 58 12.1**	**-3.6**
USA0B	**Ussuriysk Arra**	**6.16**	**339**	*i* P	**Pn**	**14 57 03.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**6.16**	**339**	Pn	**Pn**	**14 57 03.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**6.16**	**339**	P	**Pn**	**14 57 03.7**	**+1.9**
	29nm,0.5s,baz=150,slow=10,SNR=66						
USRK	**Ussuriysk Ar.**	**6.16**	**339**	P	**Pn**	**14 57 03.4**	**+1.6**
JNU	**Nakatsue**	**6.36**	**214**	Pn	**Pn**	**14 57 05.2**	**+0.8**
JNU	**Nakatsue**	**6.36**	**214**	P	**Pn**	**14 57 05.6**	**+1.2**
	125nm,0.8s,baz=3.3,slow=3.3,SNR=91						
JNU	**Nakatsue**	**6.36**	**214**	P	**Pn**	**14 57 05.2**	**+0.8**
TJN	**Taejon**	**6.50**	**253**	Pn	**P**	**14 57 06.9**	**+0.1**
TJN	**Taejon**	**6.50**	**253**	P	**P**	**14 57 07.7**	**+0.9**
TJN	**Taejon**	**6.50**	**253**	*i* P	**P**	**14 57 07.0**	**+0.1**
JHJ	**Hachijo jima 2**	**6.58**	**143**	P	**Pn**	**14 57 06.2**	**-0.6**
	43nm,0.3s,baz=340,slow=19,SNR=16						
JHJ	

comp=E,14nm,0.4s,baz=167,slow=8.7,SNR=72
KLR S **S** **14 59 58.8 -1.5**
comp=E,8.7nm,1.0s,baz=211,slow=21,SNR=6.8
KLR Kul'dur 11.00 348 *i* P **P** **14 57 58.0 +0.2**
KLR pmax pmax
comp=Z,31nm,1.3s
JCJ Chichijima 12.83 150 P **P** **14 58 16.1 -2.2**
comp=Z,40nm,0.3s,baz=275,slow=23,SNR=13
JCJ S S 15 00 27.2 -12
comp=Z,66nm,0.3s,baz=284,slow=19,SNR=11
JCJ Chichijima 12.83 150 P **P** **14 58 18.0 -0.3**
HEH HeiHe 12.96 338 *e*P **P** **14 58 20.0 +0.6**
HEH pmax pmax
comp=Z,12nm,1.2s
TYV Tymovskoe 13.47 21 *e*P **Pn** **14 58 27.2 +0.3**
TYV *e*S **S** **15 00 49.4 -1.8**
TYV pmax pmax
comp=Z,24nm,0.8s
TYV pmax pmax
comp=Z,500nm,5.0s
TYV smax smax
comp=E,7.0nm,1.6s
TYV smax smax
comp=N,200nm,5.3s
TYV smax smax
comp=E,400nm,5.3s
TIA Tai'an 14.48 266 P **P** **14 58 36.8 +0.6**
TIA pmax pmax
comp=E,190nm,0.7s
NJ2 Nanjing 14.73 249 ⇑P **Pn** **14 58 40.5 -1.0**
BJI Beijing 14.74 282 P **P** **14 58 39.0 0.0**
BJI S **S** **15 01 13.5 -3.4**
BJI pmax pmax
comp=E,16nm,0.7s
BJT Baijiatuau 14.74 282 P **P** **14 58 38.9 -0.2**
BJT Baijiatuau 14.74 282 P **P** **14 58 38.9 -0.2**
XLT XiLinHaoTe 15.29 297 ⇓*i*P **P** **14 58 45.5 +0.4**
XLT S **S** **15 01 24.0 -3.9**
XLT pmax pmax
comp=E,220nm,0.7s
XLT pmax pmax
comp=E,110nm,4.9s
HIA Hailar 15.41 319 P **P** **14 58 46.7 +0.5**
HIA Hailar 15.41 319 P **P** **14 58 46.7 +0.5**
HIA pmax pmax
comp=Z,55nm,0.7s
HNS HongShan 16.12 272 ⇓P **P** **14 58 53.5 -0.5**
HNS pmax pmax
comp=Z,140nm,1.1s
ZEA Zeya 16.17 343 *e*P **P** **14 58 54.0 -0.3**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
TIY Taiyuan 17.85 275 P **P** **14 59 12.3 -0.3**
TIY pmax pmax
comp=Z,67nm,0.6s
YHNB Yeheng 18.04 224 P **P** **14 59 13.0 -1.8**
YHNB Yeheng 18.04 224 P **P** **14 59 14.7 -0.1**
HHC Hu-ho-hao-te 18.26 285 *e*P **P** **14 59 17.5 +0.6**
HHC pmax pmax
comp=Z,57nm,0.7s
LYN LuoYang 18.59 265 P **P** **14 59 18.5 -2.0**
LYN pmax pmax
comp=Z,180nm,0.8s
WHN Wuhan 18.82 251 ⇓P **P** **14 59 23.8 +0.9**
SSLB Suanglung 18.98 223 P **P** **14 59 24.3 -0.3**
YULB Yu-li 19.11 222 P **P** **14 59 26.0 0.0**
BTO Baotou 19.43 284 *e*P **P** **14 59 30.0 +0.8**
BTO pmax pmax
comp=Z,130nm,1.1s
BTO pmax pmax
comp=Z,200nm,7.9s
TPUB Ta-pu 19.54 223 P **P** **14 59 27.5 -2.9**
TPUB IAmb IAmb 14 59 35.9
comp=Z,36nm,1.1s
TWGBT Beinan 19.70 222 P **P** **14 59 33.0 +1.1**
TWG Pinlang 19.70 222 P **P** **14 59 30.2 -1.7**
CIT Chita 20.22 319 *e*P **P** **14 59 35.2 -1.3**
CIT *e*S **S** **15 02 59.8 +0.7**
CIT *e* 15 03 27.6
CIT pmax pmax
comp=Z,106nm,1.7s
PEA0B Petropavlovsk- 21.36 40 P **P** **14 59 46.8 0.0**
PEA0B IAmb IAmb 15 00 25.4
comp=Z,34nm,1.1s
PEA0B Petropavlovsk- 21.36 40 P **P** **14 59 46.8 0.0**
PEA0B pmax pmax
comp=Z,34nm,1.1s
PETK Petropavlovsk- 21.36 40 P **P** **14 59 47.0 +0.2**
comp=Z,7.6nm,0.8s,baz=218,slow=11,SNR=17
comp=Z,7.6nm,0.8s
XAN Xi'an 21.54 266 ⇓P **P** **14 59 47.5 -1.2**
XAN pmax pmax
comp=Z,170nm,0.6s
XAN pmax pmax
comp=Z,470nm,3.6s
PET Petropavlovsk 21.80 41 P **P** **14 59 51.3 +0.6**
PET Petropavlovsk 21.80 41 P **P** **14 59 52.0 +1.3**
PET Petropavlovsk 21.80 41 *e*P **P** **14 59 52.1 +1.3**
PET pmax pmax
comp=Z,79nm,0.8s
ULN Ulaanbaatar 22.39 304 P **P** **14 59 56.1 -0.3**
ULN IAmb IAmb 14 59 57.4
comp=Z,42nm,1.1s
ULN Ulaanbaatar 22.39 304*ce*P **P** **14 59 56.3 -0.1**
ULN pmax pmax
comp=Z,65nm,1.7s
SONM Songino Array 22.81 303 P **P** **15 00 00.2 0.0**
SONM IAmb IAmb 15 00 01.3
comp=Z,49nm,1.2s
SONM Songino Array 22.81 303 P **P** **15 00 00.3 0.0**
comp=Z,20nm,0.6s,baz=114,slow=9.5,SNR=101
SONM ScP **ScP** **15 06 39.1 -0.7**
comp=Z,0.9nm,0.6s,baz=116,slow=2.9,SNR=4.5
comp=Z,20nm,0.6s
MA2 Magadan 23.35 20 P **P** **15 00 05.1 +0.3**
comp=Z,8.1nm,0.6s,baz=208,slow=9.0,SNR=13
comp=Z,8.1nm,0.6s
MA2 Magadan 23.35 20*ce*P **P** **15 00 05.9 +1.2**
MA2 pmax pmax
comp=Z,24nm,1.7s
MA2 Magadan 23.35 20 P **P** **15 00 05.5 +0.8**
comp=Z,16nm,1.1s
YAK Yakutsk 23.80 354 P **P** **15 00 08.3 -0.5**
comp=Z,8.2nm,0.4s,baz=318,slow=3.7,SNR=4.4
YAK ScP **ScP** **15 06 41.3 -0.6**
comp=Z,5.4nm,0.4s,baz=18,slow=3.3,SNR=5.5
comp=Z,8.2nm,0.4s
YAK Yakutsk 23.80 354 *e*P **P** **15 00 09.0 +0.3**
YAK *e* 15 03 40.2
YAK *e*S **S** **15 03 57.1 +1.1**
YAK *e* 15 10 26.0
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK smax smax
comp=N,126nm,2.7s
YAK smax smax
comp=E,10.0nm,0.9s
LZH Lanzhou 24.92 274 *e*P **P** **15 00 18.5 -0.9**
LZH pmax pmax
comp=E,43nm,0.6s
ZAK Zakamensk 25.43 308 *e*P **P** **15 00 22.8 -0.9**
ZAK pmax pmax
comp=Z,13nm,0.9s
SEY Seymchan 26.62 18 P **P** **15 00 34.7 +0.8**
comp=Z,4.8nm,0.5s,baz=216,slow=8.8,SNR=57
SEY ScP **ScP** **15 06 49.9 -0.2**
comp=Z,1.3nm,0.7s,baz=176,slow=3.7,SNR=4.9
comp=Z,4.8nm,0.5s
SEY Seymchan 26.62 18*ce*P **P** **15 00 35.1 +1.2**
SEY pmax pmax
comp=Z,10.0nm,1.7s
MOY Mondy 27.17 310 *e*P **P** **15 00 38.5 -0.6**
MOY pmax pmax
comp=Z,13nm,1.1s
GTA Gaotai 27.35 283 P **P** **15 00 40.5 -0.3**
GTA pP PP 15 01 56.5 +4.6
GTA S **S** **15 04 51.0 -1.7**
GTA ScP **ScP** **15 06 53.5 +0.5**
GTA ScS **ScS** **15 10 45.5 +0.2**
GTA pmax pmax
comp=Z,24nm,1.0s
KMI Kunming 30.39 254 P **P** **15 01 07.8 0.0**
KMI pmax pmax
comp=Z,27nm,0.8s
PZH PanZhiHua 30.40 257 P **P** **15 01 06.5 -1.3**
PZH pmax pmax
comp=Z,40nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.5s
GOMU GeErMu 31.93 279 P **P** **15 01 20.0 -1.2**
GOMU pmax pmax
comp=Z,48nm,0.5s
TIXI Tiksi 33.38 356 P **P** **15 01 32.4 -0.3**
TIXI IAmb IAmb 15 01 33.3
comp=Z,18nm,0.6s
TIXI Tiksi 33.38 356*ce*P **P** **15 01 32.6 -0.1**
TIXI pmax pmax
comp=Z,16nm,0.6s
BILL Bilibino 34.22 20 P **P** **15 01 40.9 +0.9**
BILL IAmb IAmb 15 01 42.1
comp=Z,24nm,0.5s
BILL Bilibino 34.22 20*ce*P **P** **15 01 41.0 +1.1**
BILL pmax pmax
comp=Z,55nm,1.7s
DLV Lat 35.51 229 P **P** **15 01 52.5 +0.8**
WMQ Urumqi 35.69 294 ⇑P **P** **15 01 54.0 +1.2**
WMQ pmax pmax
comp=Z,33nm,0.7s
CHTO Chiang Mai 36.98 248 P **P** **15 02 03.9 +0.1**
CHTO IAmb IAmb 15 02 05.1
comp=Z,30nm,0.7s
CHTO Chiang Mai 36.98 248 P **P** **15 02 04.5 +0.7**
CHTO Chiang Mai 36.98 248 P **P** **15 02 03.9 +0.1**
CHTO pmax pmax
comp=Z,30nm,0.7s
CM31 Chiang Mai Arr 37.20 248 P **P** **15 02 06.0 +0.3**
CMAR Chiang Mai Arr 37.20 248 P **P** **15 02 06.0 +0.3**
CMAR Chiang Mai Arr 37.20 248 P **P** **15 02 06.1 +0.4**
comp=Z,9.7nm,0.6s,baz=44,slow=7.8,SNR=100
CMAR ScP **ScP** **15 07 26.7 -0.3**
comp=Z,1.6nm,0.6s,baz=14,slow=2.8,SNR=10
comp=Z,9.7nm,0.6s
ZAA0 Zalesovo Array 37.21 311 P **P** **15 02 03.8 -1.4**
ZALV Zalesovo Beam 37.21 311 P **P** **15 02 03.4 -1.8**
ZALV Zalesovo Beam 37.21 311 P **P** **15 02 04.6 -0.6**
comp=Z,9.3nm,0.8s,baz=96,slow=7.4,SNR=36
ZALV ScP **ScP** **15 07 25.0 -1.5**
comp=Z,6.7nm,0.8s,baz=99,slow=4.7,SNR=20
comp=Z,9.3nm,0.8s
ATKA Atka Island 37.40 52 P **P** **15 02 07.5 +0.6**
MK31 Makanchi Array 39.07 300*ce*P **P** **15 02 20.4 -0.4**
MKAR Makanchi Array 39.07 300 P **P** **15 02 20.2 -0.6**
MKAR Makanchi Array 39.07 300 P **P** **15 02 20.3 -0.5**
comp=Z,16nm,0.6s,baz=89,slow=10,SNR=189
MKAR ScP **ScP** **15 07 33.0 -0.7**
comp=Z,3.0nm,0.7s,baz=79,slow=5.1,SNR=14
comp=Z,16nm,0.6s
MKAR Makanchi Array 39.07 300 *i* P **P** **15 02 20.2 -0.6**
MKAR pmax pmax
comp=Z,16nm,0.6s
MAKZ Makanchi 39.28 300 P **P** **15 02 22.0 -0.5**
MAKZ IAmb IAmb 15 02 23.1
comp=Z,21nm,0.8s
MAKZ Makanchi 39.28 300 P **P** **15 02 22.0 -0.5**
MAKZ pmax pmax
comp=Z,21nm,0.8s
NRIK Noril'sk 39.87 336 P **P** **15 02 26.9 0.0**
NRIK IAmb IAmb 15 02 28.5
comp=Z,18nm,0.7s
NRIK Noril'sk 39.87 336 P **P** **15 02 27.4 +0.5**
comp=Z,16nm,0.5s,baz=114,slow=8.3,SNR=31
NRIK ScP **ScP** **15 07 35.8 -0.6**
comp=Z,1.2nm,0.3s,baz=128,slow=6.7,SNR=3.5
comp=Z,16nm,0.5s
NRIK Noril'sk 39.87 336*ce*P **P** **15 02 26.6 -0.2**
NRIK pmax pmax
comp=Z,33nm,1.3s
GAMB Gambell 40.17 33 P **P** **15 02 28.8 -0.5**
GAMB Gambell 40.17 33 P **P** **15 02 30.5 +1.2**
baz=257
NIKH Nikolski High 40.65 50 P **P** **15 02 33.1 -0.3**
baz=272
KURK Kurchatov 41.06 306 P **P** **15 02 36.0 -0.8**
KURK Kurchatov 41.06 306*ce*P **P** **15 02 36.1 -0.7**
KURK pmax pmax
comp=Z,62nm,1.3s
KURBB Kurchatov Arra 41.12 306 P **P** **15 02 36.5 -0.7**
comp=Z,16nm,0.5s,baz=85,slow=8.4,SNR=149
KURBB ScP **ScP** **15 07 40.4 -1.3**
comp=Z,1.9nm,0.6s,baz=90,slow=3.9,SNR=11
comp=Z,16nm,0.5s
KURBB Kurchatov Arra 41.12 306 P **P** **15 02 35.9 -1.4**
FAKI Fak Fak 41.29 184 P **P** **15 02 39.3 +0.2**
PDGK Podgornoye 41.64 295 P **P** **15 02 40.7 -1.1**
UNV Unalaska Valle 42.02 49 P **P** **15 02 44.7 +0.3**
baz=273
TNA Tin City 42.13 31 IAmb IAmb 15 02 47.7
comp=Z,26nm,1.0s
TNA Tin City 42.13 31 P **P** **15 02 46.7 +1.6**
baz=259
M11K Mekoryuk 42.23 39 P **P** **15 02 48.3 +2.3**
baz=266
F14K Arctic Creek 42.77 32 P **P** **15 02 52.3 +2.1**
baz=260
ANM Nome 43.03 33 P **P** **15 02 54.2 +1.8**
ANM IAmb IAmb 15 02 55.4
comp=Z,22nm,0.8s
ANM Nome 43.03 33 P **P** **15 02 54.2 +1.8**
ANM pmax pmax
comp=Z,22nm,0.8s
ANM Nome 43.03 33 P **P** **15 02 54.4 +2.1**
baz=262
K13K Kusilvak Mount 43.09 37 IAmb IAmb 15 02 55.7
comp=Z,35nm,1.1s
K13K Kusilvak Mount 43.09 37 P **P** **15 02 54.6 +1.8**
baz=266,SNR=10.0
TARG Taragay, Kyrgy 43.24 293 IAmb IAmb 15 02 56.4
comp=Z,28nm,0.8s
KSM Kuching 43.28 218 P **P** **15 02 54.7 -0.2**
KSM IAmb IAmb 15 02 56.5
comp=Z,22nm,0.8s
F15K North Star Dit 43.50 31 IAmb IAmb 15 02 58.8
comp=Z,29nm,0.7s
F15K North Star Dit 43.50 31 P **P** **15 02 57.9 +1.9**
baz=262
M13K Dall Lake 43.64 39 IAmb IAmb 15 03 00.5
comp=Z,32nm,0.8s
M13K Dall Lake 43.64 39 P **P** **15 02 59.6 +2.5**
baz=269
G15K Niukluk 43.66 33 P **P** **15 02 59.2 +2.0**
baz=263,SNR=16
J14K Nanvaranak Lak 43.66 36 P **P** **15 02 58.9 +1.7**
baz=266,SNR=6.5
C16K Lisburne Hills 43.67 28 IAmb IAmb 15 02 59.3
comp=Z,28nm,0.9s
C16K Lisburne Hills 43.67 28 P **P** **15 02 58.2 +1.0**
baz=258,SNR=14
FALS False Pass 43.75 47 P **P** **15 02 59.9 +1.8**
baz=274
L14K Kuka Creek 43.99 38 IAmb IAmb 15 03 03.2
comp=Z,33nm,0.9s
L14K Kuka Creek 43.99 38 P **P** **15 03 01.8 +1.9**
baz=268,SNR=12
M14K Bethel 44.34 39 IAmb IAmb 15 03 05.6
comp=Z,38nm,0.8s
M14K Bethel 44.34 39 P **P** **15 03 04.6 +2.0**
baz=270,SNR=12
BOOM Boomskoye usch 44.38 295 PcP **PcP** **15 04 40.5 +0.6**
H16K Elim 44.39 33 P **P** **15 03 04.7 +1.8**
baz=265,SNR=15
D17K Noatak River 44.41 29 P **P** **15 03 04.7 +1.6**
baz=261,SNR=26
G16K Koyuk River 44.41 32 P **P** **15 03 04.7 +1.6**
baz=264
N14K Kuskokwak Cree 44.47 40 P **P** **15 03 05.6 +1.9**
baz=271,SNR=5.4
C17K DeLong Mountai 44.50 28 P **P** **15 03 05.2 +1.4**
baz=260
TKM2 Tokmak 2 44.51 295 P **P** **15 03 05.2 +0.7**
SNR=34
TKM2 Tokmak 2 44.51 295 P **P** **15 03 04.4 -0.1**
RDOG Red Dog Mine 44.53 28 P **P** **15 03 04.5 +0.5**
RDOG IAmb IAmb 15 03 06.2
comp=Z,22nm,0.5s
RDOG Red Dog Mine 44.53 28 P **P** **15 03 05.3 +1.2**
baz=261,SNR=19
K15K Wolf Creek Mou 44.57 37 IAmb IAmb 15 03 07.7
comp=Z,34nm,1.1s
K15K Wolf Creek Mou 44.57 37 P **P** **15 03 06.6 +2.2**
baz=268,SNR=9.5
L15K Ungalak Mounta 44.58 37 P **P** **15 03 05.2 +0.7**
baz=269
O14K Tigyukauivet M 44.70 41 P **P** **15 03 06.6 +1.1**
baz=272
E17K Hotham Inlet 44.80 30 P **P** **15 03 07.7 +1.5**
baz=263
M15K Kasigluk River 44.96 39 P **P** **15 03 09.3 +1.8**
baz=271,SNR=21
F17K Baldwin Pennin 44.96 31 IAmb IAmb 15 03 10.2
comp=Z,30nm,0.7s
F17K Baldwin Pennin 44.96 31 P **P** **15 03 09.3 +1.9**
baz=264
I17K Unalakleet 45.01 34 IAmb IAmb 15 03 10.4
comp=Z,17nm,0.7s
I17K Unalakleet 45.01 34 P **P** **15 03 09.8 +2.0**
baz=267,SNR=8.5
J16K Anvik River 45.03 35 P **P** **15 03 10.0 +2.0**
baz=268,SNR=8.5
KBK Karagaybulak 45.04 295 P **P** **15 03 09.2 +0.6**
SNR=28
CHMS Chumysh 45.08 296 P **P** **15 03 08.9 +0.1**
SNR=7.7
G17K Kiwalik Mounta 45.12 32 P **P** **15 03 10.4 +1.7**
baz=266
B18K Kokolik River 45.13 26 P **P** **15 03 10.7 +2.0**
baz=261
USP Ospenovka 45.19 296 P **P** **15 03 09.8 +0.1**
SNR=22
KSH Kashi 45.22 291 P **P** **15 03 14.0 +4.0**
KSH pmax pmax
comp=Z,17nm,0.8s
C18K Utukok River 45.24 28 IAmb IAmb 15 03 11.8
comp=Z,34nm,0.8s
C18K Utukok River 45.24 28 P **P** **15 03 10.9 +1.3**
baz=262
N15K Kwethluk River 45.27 40 P **P** **15 03 11.8 +1.9**
baz=272,SNR=17
E18K Tukpahlearik C 45.31 29 IAmb IAmb 15 03 13.0
comp=Z,35nm,0.8s
E18K Tukpahlearik C 45.31 29 P **P** **15 03 12.1 +1.9**
baz=264
AAK Ala-Archa 45.36 295 P **P** **15 03 10.2 -1.0**
AAK Ala-Archa 45.36 295 P **P** **15 03 11.3 +0.2**
SNR=21
AAK Ala-Archa 45.36 295*ce*P **P** **15 03 11.1 0.0**
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 45.36 295 *i* P **P** **15 03 10.9 -0.2**
SNR=25
H17K Granite Mounta 45.40 33 P **P** **15 03 12.8 +1.9**
baz=267,SNR=11
O15K Ungalikthiuk R 45.44 41 P **P** **15 03 12.8 +1.5**
baz=273,SNR=6.0
KULM Kulim 45.48 232 P **P** **15 03 11.8 -0.4**
KULM IAmb IAmb 15 03 13.9
comp=Z,30nm,1.1s
KULM Kulim 45.48 232 P **P** **15 03 13.3 +1.2**
A19K Wainwright 45.52 25 P **P** **15 03 12.7 +1.1**
baz=261
L16K Owhat River 45.54 37 IAmb IAmb 15 03 14.4
comp=Z,43nm,1.5s
L16K Owhat River 45.54 37 P **P** **15 03 13.5 +1.6**
baz=271,SNR=12
KAPI Kappang 45.57 202 *i* P **P** **15 03 12.7 -0.1**
KAPI pmax pmax
comp=Z,14nm,0.9s
F18K Selawik 45.61 31 P **P** **15 03 14.4 +1.9**
baz=266,SNR=25
J17K VABM Dome 45.72 35 IAmb IAmb 15 03 16.5
comp=Z,34nm,0.9s
J17K VABM Dome 45.72 35 P **P** **15 03 15.5 +2.2**
baz=269,SNR=22
M16K Timber Creek 45.80 38 IAmb IAmb 15 03 16.7
comp=Z,28nm,1.1s
M16K Timber Creek 45.80 38 P **P** **15 03 15.8 +1.7**
baz=272,SNR=10
BVAR Borovoye Array 45.85 310 P **P** **15 03 14.0 -0.5**
comp=Z,4.1nm,0.3s,baz=97,slow=7.8,SNR=32
BVAR ScP **ScP** **15 08 00.2 -0.8**
comp=Z,4.3nm,0.7s,baz=87,slow=4.8,SNR=12
comp=Z,4.1nm,0.3s
EKS2 Erkin-Say 45.86 296 P **P** **15 03 15.1 +0.1**
SNR=17
BRVK Borovoye 45.91 310 P **P** **15 03 12.7 -2.2**
BRVK Borovoye 45.91 310*ce*P **P** **15 03 14.9 -0.1**
BRVK pmax pmax
comp=Z,12nm,1.3s
N16K Nishlik Lake 45.91 39 P **P** **15 03 16.9 +2.0**
baz=272,SNR=8.7
CHNA Chernabura Isl 45.96 47 P **P** **15 03 16.1 +0.8**
CHNA Chernabura Isl 45.96 47 P **P** **15 03 16.1 +0.8**
baz=277
G18K Tagagawik 45.97 32 IAmb IAmb 15 03 17.7
comp=Z,26nm,0.8s
G18K Tagagawik 45.97 32 P **P** **15 03 16.9 +1.6**
baz=267,SNR=36
H18K Honhosa River 46.07 33 IAmb IAmb 15 03 18.5
comp=Z,28nm,0.8s
H18K Honhosa River 46.07 33 P **P** **15 03 17.6 +1.6**
baz=268,SNR=27
K17K Iditarod 46.07 36 P **P** **15 03 18.0 +1.9**
baz=271,SNR=29
AML Almayashu 46.08 295 P **P** **15 03 17.7 +0.8**
SNR=69
L17K Donlin 46.09 37 P **P** **15 03 18.6 +2.4**
baz=271,SNR=16
O16K Kokwok River B 46.30 40 P **P** **15 03 18.5 +0.6**
O16K IAmb IAmb 15 03 20.5
comp=Z,22nm,0.9s
O16K Kokwok River B 46.30 40 P **P** **15 03 19.6 +1.8**
baz=274,SNR=11
D19K Kuna River 46.35 28 IAmb IAmb 15 03 20.6
comp=Z,34nm,0.7s
D19K Kuna River 46.35 28 P **P** **15 03 19.5 +1.3**
baz=265
F19K Shaleruckik Mo 46.37 30 P **P** **15 03 19.4 +1.1**
baz=267
P16K Nushagak River 46.40 41 P **P** **15 03 20.6 +2.0**
baz=274
M17K Holitna River 46.52 38 IAmb IAmb 15 03 22.8
comp=Z,26nm,0.9s
M17K Holitna River 46.52 38 P **P** **15 03 21.4 +1.9**
baz=273,SNR=10.0
E19K Redstone River 46.62 29 IAmb IAmb 15 03 22.6
comp=Z,20nm,0.7s
E19K Redstone River 46.62 29 P **P** **15 03 21.8 +1.6**
baz=267
G19K Purcell Mounta 46.62 31 IAmb IAmb 15 03 22.4
comp=Z,17nm,0.7s
G19K Purcell Mounta 46.62 31 P **P** **15 03 21.5 +1.3**
baz=268
GCSA Galena City Sc 46.69 33 P **P** **15 03 21.9 +1.1**
baz=270,SNR=7.8
N17K Nushagak Hills 46.69 39 IAmb IAmb 15 03 23.9
comp=Z,24nm,0.9s
N17K Nushagak Hills 46.69 39 P **P** **15 03 23.0 +2.1**
baz=274,SNR=10
J18K Innoko River 46.78 35 P **P** **15 03 23.0 +1.5**
baz=271,SNR=10
O17K Koliganek Bris 46.79 40 P **P** **15 03 23.4 +1.8**
baz=275
B20K Meade River 46.82 26 P **P** **15 03 22.9 +1.2**
B20K Meade River 46.82 26 P **P** **15 03 23.1 +1.4**
baz=265
ARSB Arslanbob 46.83 294 IAmb IAmb 15 03 24.0
comp=Z,27nm,0.7s
L18K Granite Mounta 46.84 37 P **P** **15 03 23.9 +2.0**
baz=273,SNR=13
H19K Roundabout Mou 46.88 32 P **P** **15 03 24.1 +1.9**
baz=270,SNR=84
D20K Etivluk River 46.92 28 P **P** **15 03 24.0 +1.5**
baz=267
E20K Nigu River 47.05 28 P **P** **15 03 25.2 +1.7**
baz=267,SNR=47
Q16K King Salmon 47.12 41 P **P** **15 03 25.5 +1.4**
baz=276
A21K Barrow 47.13 24 P **P** **15 03 25.4 +1.4**
baz=264
P17K Kvichak River 47.18 41 P **P** **15 03 26.3 +1.8**
baz=276
F20K Avaraart Lake 47.19 30 P **P** **15 03 25.6 +1.1**
baz=269
J19K Poorman 47.25 34 IAmb IAmb 15 03 27.6
comp=Z,39nm,1.1s
J19K Poorman 47.25 34 P **P** **15 03 26.4 +1.3**
baz=272,SNR=30
M18K Stony River 47.29 38 P **P** **15 03 27.4 +2.0**

baz=274,SNR=8.2
N18K Kilae Creek 47.32 39 IAmb IAmb 15 03 28.8
comp=Z,24nm,1.0s
N18K Kilae Creek 47.32 39 P P 15 03 27.9 +2.2
baz=275,SNR=12
H20K Anotleneega Mo 47.53 32 P P 15 03 28.9 +1.7
baz=271,SNR=28
C21K Knifeblade Rid 47.60 27 P P 15 03 29.5 +1.9
baz=268
A22K Sinclair Lake 47.63 25 P P 15 03 29.1 +1.3
baz=266
B21K Ikpikpuk River 47.68 26 IAmb IAmb 15 03 30.9
comp=Z,67nm,1.4s
B21K Ikpikpuk River 47.68 26 P P 15 03 30.0 +1.8
baz=268
L19K White Mountain 47.70 37 P P 15 03 30.2 +1.6
baz=274,SNR=8.0
I20K Naaghedeneel 47.72 33 P P 15 03 30.8 +2.2
baz=272
O18K Koktuh Hills 47.73 40 P P 15 03 30.8 +1.9
baz=276,SNR=13
P18K Big Mountain, 47.77 40 IAmb IAmb 15 03 31.5
comp=Z,20nm,0.6s
P18K Big Mountain, 47.77 40 P P 15 03 30.5 +1.3
baz=276,SNR=7.7
E21K Killik River 47.88 28 IAmb IAmb 15 03 32.0
comp=Z,25nm,0.8s
E21K Killik River 47.88 28 P P 15 03 31.2 +1.3
baz=269
J20K Nowinta River 47.89 34 IAmb IAmb 15 03 32.9
comp=Z,30nm,0.8s
J20K Nowinta River 47.89 34 P P 15 03 31.8 +1.9
baz=273,SNR=35
M19K Big River Lodg 47.94 37 P P 15 03 32.3 +2.0
baz=275
K20K Telida 47.98 35 IAmb IAmb 15 03 33.6
comp=Z,25nm,0.7s
K20K Telida 47.98 35 P P 15 03 32.8 +2.1
baz=274,SNR=21
Q18K Katmai Hardscr 47.98 41 P P 15 03 31.5 +0.7
baz=277
N19K Bonanza Creek 47.99 38 P P 15 03 32.7 +1.8
baz=276,SNR=5.0
KK31 Karatay Array 48.03 297 IAmb IAmb 15 03 32.3
comp=Z,25nm,1.0s
KK31 Karatay Array 48.03 297 *i* P P 15 03 30.9 -0.5
KKAR Karatay Array 48.03 297 P P 15 03 30.5 -0.8
KKAR Karatay Array 48.03 297 IAmb IAmb 15 03 32.3
comp=Z,15nm,0.9s
KKAR Karatay Array 48.03 297 P P 15 03 30.5 -0.8
CHIR Chirikof Islan 48.06 45 P P 15 03 31.9 +0.6
CHIR Chirikof Islan 48.06 45 P P 15 03 32.3 +1.0
baz=279
F21K Alatna River 48.06 30 P P 15 03 32.7 +1.4
baz=271
G21K Allakaket 48.07 31 IAmb IAmb 15 03 33.9
comp=Z,31nm,0.8s
G21K Allakaket 48.07 31 P P 15 03 32.8 +1.6
baz=272
B22K Teshekpuk Lake 48.12 26 IAmb IAmb 15 03 33.9
comp=Z,32nm,0.8s
B22K Teshekpuk Lake 48.12 26 P P 15 03 32.7 +1.2
baz=268
L20K Farewell, AK 48.13 36 P P 15 03 33.8 +2.0
baz=275,SNR=23
O19K Port Alsworth 48.14 39 IAmb IAmb 15 03 34.5
comp=Z,27nm,0.8s
O19K Port Alsworth 48.14 39 P P 15 03 33.4 +1.5
baz=276,SNR=11
DRK Karamyk 48.28 292 IAmb IAmb 15 03 35.0
comp=Z,28nm,0.7s
D22K Ayikyak River 48.35 28 IAmb IAmb 15 03 36.0
comp=Z,42nm,0.9s
D22K Ayikyak River 48.35 28 P P 15 03 35.1 +1.7
baz=270,SNR=38
H21K Melozitna Rive 48.39 32 P P 15 03 35.2 +1.5
baz=273,SNR=24
M20K Styx River 48.53 37 P P 15 03 36.9 +2.0
baz=276
F22K John River 48.56 29 P P 15 03 36.8 +1.8
baz=272
Q19K Cape Douglas, 48.64 41 P P 15 03 36.2 +0.4
baz=278,SNR=5.7
E22K Anaktuvuk Pass 48.68 29 IAmb IAmb 15 03 38.5
comp=Z,26nm,0.8s
E22K Anaktuvuk Pass 48.68 29 P P 15 03 37.4 +1.5
baz=272
CHUM Lake Minchumin 48.72 34 P P 15 03 38.4 +2.2
baz=275,SNR=23
SII Sitkinak Islan 48.73 44 P P 15 03 38.2 +1.9
baz=280
P19K Oil Pt 48.75 40 IAmb IAmb 15 03 38.9
comp=Z,25nm,0.6s
P19K Oil Pt 48.75 40 P P 15 03 38.3 +1.7
baz=278
I21K Tanana 48.76 32 IAmb IAmb 15 03 39.5
comp=Z,22nm,0.9s
I21K Tanana 48.76 32 P P 15 03 38.6 +2.1
baz=274
CAST Castle Rocks 48.86 35 IAmb IAmb 15 03 40.2
comp=Z,26nm,0.6s
CAST Castle Rocks 48.86 35 P P 15 03 39.4 +2.1
baz=276,SNR=41
PPLA Purkeypile 48.87 35 IAmb IAmb 15 03 40.2
comp=Z,22nm,0.6s
PPLA Purkeypile 48.87 35 P P 15 03 39.6 +2.1
baz=276,SNR=12
H22K Ishtalitna Cre 48.96 31 P P 15 03 40.1 +2.1
baz=274,SNR=23
O20K Slope Mountain 49.00 39 P P 15 03 40.1 +1.7
baz=278,SNR=7.6
SPCR Spurr Chakacha 49.05 38 P P 15 03 40.7 +1.9
baz=277,SNR=8.1
D23K Nanushuk River 49.07 27 P P 15 03 40.3 +1.5
baz=272,SNR=14
C23K Itkillik River 49.07 26 IAmb IAmb 15 03 41.3
comp=Z,28nm,1.2s
C23K Itkillik River 49.07 26 P P 15 03 40.3 +1.5
baz=271
OHAK Old Harbor 49.10 43 P P 15 03 40.0 +0.9
OHAK Old Harbor 49.10 43 P P 15 03 39.6 +0.5
baz=280
SKT Skwentna 49.27 37 P P 15 03 41.1 +0.7
baz=277
BPAW Bear Paw Mtn. 49.28 34 P P 15 03 42.1 +1.6
baz=276,SNR=17
Q20K Shuyak Island 49.34 41 P P 15 03 41.2 +0.3
baz=279
SYI Shuyak Island 49.34 41 P P 15 03 40.2 -0.6
COLD Coldfoot 49.34 30 P P 15 03 42.2 +1.4
baz=274,SNR=22
KDAK Kodiak Island 49.38 42 P P 15 03 41.0 -0.2
KDAK IAmb IAmb 15 03 42.7
comp=Z,34nm,1.1s
KDAK Kodiak Island 49.38 42 P P 15 03 41.0 -0.2
KDAK pmax pmax
comp=Z,34nm,1.1s
KDAK Kodiak Island 49.38 42 P P 15 03 41.6 +0.5
baz=280
NIL Nilore 49.40 284 P P 15 03 41.8 0.0
NIL Nilore 49.40 284 P P 15 03 41.8 0.0
NIL pmax pmax
comp=Z,87nm,0.8s
G23K Bananza Creek 49.45 30 P P 15 03 43.0 +1.4
baz=274
TOLK Toolik Lake Re 49.49 28 P P 15 03 43.3 +1.3
baz=273,SNR=12
E23K Chandalar 49.51 29 IAmb IAmb 15 03 44.9
comp=Z,21nm,0.9s
E23K Chandalar 49.51 29 P P 15 03 43.5 +1.3
baz=274
CAPN Captain Cook N 49.62 38 P P 15 03 44.3 +1.4
baz=278
TRF Thorofare Moun 49.66 35 P P 15 03 44.5 +1.1
baz=277,SNR=16
H23K Yukon River 49.72 31 P P 15 03 45.9 +2.2
baz=276,SNR=81
D24K Happy Valley 49.73 27 IAmb IAmb 15 03 46.0
comp=Z,28nm,0.7s
D24K Happy Valley 49.73 27 P P 15 03 45.2 +1.5
baz=273
C24K Franklin Bluff 49.74 26 IAmb IAmb 15 03 45.9
comp=Z,26nm,0.8s
C24K Franklin Bluff 49.74 26 P P 15 03 44.7 +0.9
baz=273,SNR=25
PLAI Plampang 49.77 203 P P 15 03 44.7 +0.1
CUT Chulitna 49.80 36 P P 15 03 45.7 +1.4
baz=278,SNR=12

I23K Minto, Yukon-K 49.87 32 P P 15 03 46.4 +1.7
baz=276,SNR=12
BRLK Bradley Lake 49.91 39 IAmb IAmb 15 03 48.1
comp=Z,40nm,0.9s
E24K Your Creek 49.93 28 P P 15 03 46.2 +1.0
E24K IAmb IAmb 15 03 47.9
comp=Z,38nm,1.4s
E24K Your Creek 49.93 28 P P 15 03 46.7 +1.5
baz=275
M22K Willow 49.97 37 IAmb IAmb 15 03 51.0
comp=Z,18nm,0.8s
M22K Willow 49.97 37 P P 15 03 46.3 +0.8
baz=279
BRSE Bradley Lake S 49.99 40 P P 15 03 46.9 +1.1
baz=280,SNR=12
NEA2 Nenana 50.05 33 IAmb IAmb 15 03 48.8
comp=Z,55nm,1.4s
NEA2 Nenana 50.05 33 P P 15 03 47.7 +1.6
baz=277,SNR=12
F24K Squaw Lake 50.21 29 P P 15 03 48.7 +1.4
baz=276
MCK McKinley 50.22 34 IAmb IAmb 15 03 49.6
comp=Z,22nm,0.8s
MCK McKinley 50.22 34 P P 15 03 48.7 +1.2
baz=278,SNR=27
RC01 Rabbit Creek A 50.25 38 IAmb IAmb 15 03 50.1
comp=Z,32nm,1.3s
RC01 Rabbit Creek A 50.25 38 P P 15 03 48.2 +0.5
baz=279,SNR=8.9
RND Reindeer 50.31 35 IAmb IAmb 15 03 50.6
comp=Z,30nm,0.9s
O22K Cooper Landing 50.36 38 IAmb IAmb 15 03 50.2
comp=Z,30nm,0.7s
O22K Cooper Landing 50.36 38 P P 15 03 49.4 +1.0
baz=280
H24K Noodor Dome 50.40 31 IAmb IAmb 15 03 52.0
comp=Z,22nm,0.8s
H24K Noodor Dome 50.40 31 P P 15 03 51.0 +2.3
baz=277,SNR=29
G24K Hadweenzic Riv 50.46 30 IAmb IAmb 15 03 51.7
comp=Z,18nm,0.6s
G24K Hadweenzic Riv 50.46 30 P P 15 03 51.0 +1.9
baz=277
PMR Palmer 50.46 37 IAmb IAmb 15 03 50.7
comp=Z,16nm,0.7s
PMR Palmer 50.46 37 P P 15 03 49.9 +0.7
baz=280,SNR=13
GSI Gunungsitoli 50.49 232 P P 15 03 48.6 -1.4
GSI Gunungsitoli 50.49 232 P P 15 03 50.3 +0.2
comp=Z,37nm,1.2s
GHO Glory Hole Cre 50.53 37 IAmb IAmb 15 03 53.3
comp=Z,26nm,0.7s
COLA College 50.53 33 *i* P P 15 03 50.7 +1.0
COLA pmax pmax
comp=Z,38nm,1.5s
COLA College 50.53 33 P P 15 03 51.3 +1.7
baz=276
SEW Seward 50.56 39 IAmb IAmb 15 03 51.4
comp=Z,27nm,0.8s
SEW Seward 50.56 39 P P 15 03 50.5 +0.6
baz=280,SNR=18
D25K Kavik River 50.59 27 P P 15 03 51.4 +1.3
baz=276
SIMJ Simiganj 50.60 292 P P 15 03 50.6 -0.2
POKR Poker Plat Res 50.68 32 P P 15 03 52.7 +1.9
baz=275,SNR=51
SVE Sverdlovsk 50.70 317 *ce* P P 15 03 51.4 +0.4
SVE pmax pmax
comp=Z,55nm,0.9s
SML Sawmill 50.80 37 IAmb IAmb 15 03 54.3
comp=Z,32nm,0.7s
SML Sawmill 50.80 37 P P 15 03 52.9 +1.2
baz=280,SNR=24
KNK Knik Glacier 50.81 37 IAmb IAmb 15 03 53.8
comp=Z,33nm,0.8s
KNK Knik Glacier 50.81 37 P P 15 03 53.0 +1.2
baz=280,SNR=19
ILAR Eielson Array 50.96 33 P P 15 03 53.3 +0.5
ILAR PcP PcP 15 05 02.8 -0.1
ILAR Eielson Array 50.96 33 P P 15 03 53.5 +0.7
comp=Z,8.0nm,0.7s,baz=263,slow=5.3,SNR=166
ILAR ScP ScP 15 08 22.4 -0.1
comp=Z,0.5nm,0.8s,baz=301,slow=5.3,SNR=4.7
comp=Z,8.0nm,0.7s
PWL Port Wells 50.97 38 IAmb IAmb 15 03 55.0
comp=Z,22nm,0.6s
PWL Port Wells 50.97 38 P P 15 03 53.5 +0.5
baz=281,SNR=12
HDA Harding Lake 50.99 33 P P 15 03 53.8 +0.7
baz=279,SNR=45
G25K Bearman Lake 50.99 30 P P 15 03 55.3 +2.3
baz=278
E25K Arctic Village 51.02 28 P P 15 03 55.1 +1.9
baz=277,SNR=9.1
C26K Camden Bay 51.03 26 P P 15 03 55.1 +1.8
baz=276
F25K Christian Rive 51.05 29 P P 15 03 55.7 +2.1
baz=278
M23K Glacier View 51.08 37 P P 15 03 54.7 +0.9
baz=280,SNR=15
H25L Birch Creek 51.17 31 P P 15 03 56.6 +2.2
baz=278,SNR=26
MTN Manton Dam 51.20 185 P P 15 03 53.8 -1.4
MTN Manton Dam 51.20 185 P P 15 03 55.9 +0.7
SCM Sheep Creek Mo 51.26 36 P P 15 03 56.7 +1.5
baz=281,SNR=31
FYU Fort Yukon 51.36 30 IAmb IAmb 15 03 59.0
comp=Z,30nm,0.7s
PRP Porcupine Dome 51.41 32 IAmb IAmb 15 03 59.0
comp=Z,24nm,0.8s
PRP Porcupine Dome 51.41 32 P P 15 03 57.8 +1.5
baz=279,SNR=36
MDSI Maura Dua 51.47 221 P P 15 03 57.2 0.0
comp=Z,28nm,1.1s
BMAR Burnt Mountain 51.48 29 P P 15 03 58.9 +2.2
BMAR PcP 15 05 07.0 +2.1
C27K Jago River 51.49 26 IAmb IAmb 15 03 59.4
comp=Z,19nm,0.8s
C27K Jago River 51.49 26 P P 15 03 58.5 +1.9
baz=278
GLI Glacier Island 51.56 38 IAmb IAmb 15 03 59.1
comp=Z,20nm,0.8s
GLI Glacier Island 51.56 38 P P 15 03 58.2 +0.9
baz=282,SNR=13
P23K Montague Islan 51.59 39 P P 15 03 58.6 +1.1
baz=282,SNR=8.9
K24K Donnelly Dome 51.60 34 P P 15 03 58.3 +0.7
baz=280,SNR=20
F26K Sheenjek River 51.61 29 IAmb IAmb 15 04 00.9
comp=Z,30nm,1.0s
F26K Sheenjek River 51.61 29 P P 15 03 60.0 +2.4
baz=279
J25K Salcha River, 51.63 33 P P 15 03 58.2 +0.4
baz=280,SNR=6.5
M24K Tolsona, Glenn 51.74 36 IAmb IAmb 15 04 01.1
comp=Z,21nm,0.7s
M24K Tolsona, Glenn 51.74 36 P P 15 04 00.6 +1.9
baz=282,SNR=11
G26K Porcupine Rive 51.87 30 P P 15 04 01.6 +2.2
baz=280
FID Port Fidalgo 51.88 38 IAmb IAmb 15 04 01.5
comp=Z,29nm,0.6s
PAX Paxson 51.89 35 P P 15 04 00.8 +1.0
baz=281,SNR=15
KLU Klutina 51.99 37 IAmb IAmb 15 04 02.8
comp=Z,36nm,1.2s
KLU Klutina 51.99 37 P P 15 04 01.7 +1.2
baz=282,SNR=19
ARTI Arti 52.01 317 P P 15 04 00.5 -0.2
ARTI Arti 52.01 317 *di* P P 15 04 00.4 -0.2
ARTI *PP pP 15 05 14.1 -2.4
ARTI 15 06 00.9
ARTI SS SS 15 14 31.9 -4.8
ARTI pmax pmax
comp=Z,39nm,0.5s
RIDG Independent Ri 52.02 34 P P 15 04 01.1 +0.5
baz=281,SNR=20
DIV Divide 52.14 37 IAmb IAmb 15 04 03.9
comp=Z,21nm,0.7s
HARP HAARP 52.15 35 P P 15 04 03.3 +1.7
baz=282,SNR=16
KBL Kabul 52.21 287 P P 15 04 01.4 -1.3
KBL IAmb IAmb 15 04 03.2
comp=Z,32nm,0.9s
KBL Kabul 52.21 287 P P 15 04 01.4 -1.3
KBL pmax pmax
comp=Z,32nm,1.0s

EYAK Cordova Ski Ar 52.27 38 P P 15 04 04.1 +1.6
baz=283,SNR=5.6
SCRK Sand Creek 52.34 33 P P 15 04 03.8 +0.7
baz=282,SNR=71
J26L Joseph Creek 52.41 33 P P 15 04 03.8 +0.2
baz=282,SNR=8.6
I26K Coal Creek Min 52.42 32 P P 15 04 04.1 +0.6
baz=282
E27K Coleen River 52.47 28 P P 15 04 05.8 +1.9
baz=281
D27M Malcolm River 52.51 27 IAmb IAmb 15 04 06.3
comp=Z,15nm,0.6s
D27M Malcolm River 52.51 27 P P 15 04 05.8 +1.7
baz=280
N25K Chitina, Valde 52.58 36 P P 15 04 06.5 +1.6
baz=283,SNR=16
MENT Mentasta 52.68 35 P P 15 04 07.9 +2.4
G27K Doyon Strip 52.72 30 P P 15 04 07.6 +1.9
baz=282
COEN Coen 52.72 170 P P 15 04 07.1 +0.9
COEN Coen 52.72 170 P P 15 04 06.7 +0.4
BMRM Bremner River 52.73 37 IAmb IAmb 15 04 08.3
comp=Z,23nm,0.8s
BMRM Bremner River 52.73 37 P P 15 04 07.2 +1.3
baz=284,SNR=18
L26K Log Cabin Wild 52.83 34 IAmb IAmb 15 04 09.2
comp=Z,20nm,0.8s
L26K Log Cabin Wild 52.83 34 P P 15 04 08.3 +1.8
baz=283,SNR=15
RAGM Ragged Mountai 52.83 38 IAmb IAmb 15 04 09.6
comp=Z,50nm,1.5s
H27K Steamboat Moun 52.89 30 P P 15 04 09.2 +2.3
baz=282,SNR=27
I27K Kandik River 52.99 31 P P 15 04 09.9 +2.2
baz=283,SNR=33
HMT Hamilton 53.04 38 IAmb IAmb 15 04 10.7
comp=Z,21nm,0.7s
KAIM Kayak Island 53.07 38 P P 15 04 09.9 +1.6
baz=284
AB31 Akbulak array 53.12 308 *i* P P 15 04 08.5 -0.3
M26K Nabesna, AK 53.13 35 P P 15 04 10.6 +1.8
M26K Nabesna, AK 53.13 35 P P 15 04 10.6 +1.8
baz=284,SNR=58
E28M Babbage River 53.14 27 P P 15 04 10.4 +1.7
baz=282
K27K Chicken 53.15 33 P P 15 04 10.4 +1.6
baz=283
VRDI Verde Repeater 53.21 37 IAmb IAmb 15 04 12.0
comp=Z,24nm,1.0s
D28M Stokes Point 53.27 26 P P 15 04 11.2 +1.7
baz=282,SNR=12
L27K Beaver Creek, 53.49 34 P P 15 04 13.5 +2.2
baz=284,SNR=114
BCAR Beaver Creek A 53.51 34 P P 15 04 12.3 +0.8
M27K Edge Creek, AK 53.65 35 IAmb IAmb 15 04 15.3
comp=Z,32nm,0.8s
M27K Edge Creek, AK 53.65 35 P P 15 04 14.4 +1.8
baz=285,SNR=37
WAX Waxell Ridge 53.69 38 IAmb IAmb 15 04 15.5
comp=Z,52nm,1.4s
I28M Miner Creek 53.70 31 P P 15 04 15.1 +2.2
baz=284,SNR=61
SNH Sunshine Point 53.77 38 IAmb IAmb 15 04 16.7
comp=Z,24nm,0.8s
E29M Blow River 53.77 27 IAmb IAmb 15 04 16.0
comp=Z,16nm,0.7s
E29M Blow River 53.77 27 P P 15 04 14.8 +1.6
baz=284
AKTO Aktyubinsk 53.93 310 P P 15 04 14.1 -0.5
comp=Z,26nm,0.7s,baz=64,slow=4.9,SNR=50
comp=Z,26nm,0.7s
BVCY Beaver Creek 54.09 35 P P 15 04 17.4 +1.8
baz=286,SNR=16
G29M Pine Creek 54.09 29 P P 15 04 17.3 +1.8
baz=285
H29M Whitestone 54.14 30 IAmb IAmb 15 04 18.8
comp=Z,22nm,0.8s
H29M Whitestone 54.14 30 P P 15 04 18.0 +2.2
baz=285,SNR=28
MESA MESA 54.20 38 IAmb IAmb 15 04 19.1
comp=Z,31nm,1.2s
MESA MESA 54.20 38 P P 15 04 18.0 +1.4
baz=286
YAH Yahtse 54.24 37 IAmb IAmb 15 04 19.3
comp=Z,17nm,0.7s
DAWY Dawson 54.29 33 P P 15 04 18.3 +1.3
baz=286,SNR=9.0
I29M Ogilvie Camp, 54.39 31 P P 15 04 19.1 +1.4
baz=286,SNR=13
YUK3 Moose Creek 54.45 36 P P 15 04 19.8 +1.5
baz=286,SNR=10
J29N Klondike Camp 54.67 32 IAmb IAmb 15 04 22.8
comp=Z,18nm,0.7s
J29N Klondike Camp 54.67 32 P P 15 04 21.8 +2.0
baz=286,SNR=12
EPYK Eagle Plains 54.74 30 P P 15 04 21.8 +1.6
baz=286,SNR=57
F30M Barrier River 54.74 28 P P 15 04 22.0 +1.9
baz=286
G30M tAoh Zraii Nji 54.76 29 P P 15 04 21.7 +1.4
baz=286
O28M Mount Upton 54.86 37 P P 15 04 23.0 +1.6
baz=287,SNR=8.2
YUK8 Steele Glacier 54.91 36 P P 15 04 23.3 +1.6
baz=287,SNR=9.5
PCA Pinnacle 55.03 38 IAmb IAmb 15 04 24.8
comp=Z,22nm,1.1s
PINM Pinnacle 55.03 38 P P 15 04 23.8 +1.4
baz=288
L29M L29M 55.10 34 IAmb IAmb 15 04 26.2
comp=Z,20nm,0.8s
L29M L29M 55.10 34 P P 15 04 25.0 +2.2
baz=287,SNR=24
K29M Barlow Dome 55.14 33 IAmb IAmb 15 04 26.1
comp=Z,36nm,1.2s
K29M Barlow Dome 55.14 33 P P 15 04 25.1 +2.0
baz=287,SNR=27
M29M Somme Creek 55.15 34 IAmb IAmb 15 04 26.6
comp=Z,25nm,0.7s
M29M Somme Creek 55.15 34 P P 15 04 25.6 +2.4
baz=287,SNR=48
I30M Mount Dempster 55.20 31 P P 15 04 25.6 +2.0
baz=287,SNR=126
INK Inuvik 55.36 27 IAmb IAmb 15 04 26.4
comp=Z,24nm,1.1s
INK Inuvik 55.36 27 P P 15 04 25.5 +1.1
baz=288,SNR=24
BCPM Bancas Point 55.37 38 IAmb IAmb 15 04 27.4
comp=Z,36nm,0.8s
YUK4 Talbot Arm 55.40 36 P P 15 04 27.0 +1.8
baz=288,SNR=32
J30M Hart River 55.42 32 IAmb IAmb 15 04 27.8
comp=Z,18nm,0.7s
J30M Hart River 55.42 32 P P 15 04 26.9 +1.8
baz=288,SNR=34
G31M Satah River 55.51 29 IAmb IAmb 15 04 27.2
comp=Z,17nm,0.8s
G31M Satah River 55.51 29 P P 15 04 26.1 +0.6
baz=288,SNR=18
F31M Tsiigehtchic 55.55 28 IAmb IAmb 15 04 27.6
comp=Z,30nm,1.3s
F31M Tsiigehtchic 55.55 28 P P 15 04 26.6 +0.8
baz=288,SNR=6.8
PNL Peninsula 55.58 38 P P 15 04 28.3 +2.1
PNL Peninsula 55.58 38 P P 15 04 27.9 +1.8
baz=288,SNR=8.8
YUK6 Outpost Mounta 55.66 36 P P 15 04 29.3 +2.4
baz=288,SNR=21
O29M Mount Kennedy 55.77 37 P P 15 04 30.1 +2.5
baz=289,SNR=32
H31M Peel River 55.83 30 P P 15 04 29.2 +1.4
baz=288,SNR=39
M30M Minto, Yukon 55.85 34 IAmb IAmb 15 04 31.2
comp=Z,15nm,0.7s
M30M Minto, Yukon 55.85 34 P P 15 04 30.3 +2.2
baz=289,SNR=26
MAYO Mayo, Yukon 55.91 33 P P 15 04 29.9 +1.5
baz=289
KIRV Kirov 56.01 321 *i* P P 15 04 28.9 -0.2
N30M Aishikik Lake 56.08 35 P P 15 04 31.5 +1.8
baz=289,SNR=10
HYT Haines Junctio 56.09 36 P P 15 04 32.3 +2.3
baz=289,SNR=44
P29M Windy Craggy 56.38 38 P P 15 04 34.2 +2.3
baz=290
P30M Million Dollar 56.59 37 P P 15 04 35.3 +2.1
baz=290
N31M Braeburn, Yuko 56.66 35 P P 15 04 35.3 +1.6

N31M IAmb IAmb 15 04 36.9
comp=Z,34nm,0.9s
N31M Braeburn, Yuko 56.66 35 P **P 15 04 35.8 +2.1**
baz=290,SNR=12
A36M Sachs Harbour 56.76 22 P **P 15 04 35.2 +1.1**
baz=292,SNR=41
O30N Mendenhall 56.77 36 P **P 15 04 36.2 +1.7**
baz=290,SNR=8.5
M31M Drury Creek, Y 57.03 34 P **P 15 04 38.0 +1.7**
baz=291,SNR=15
PLBC Pleasant Camp 57.10 37 P **P 15 04 38.8 +2.1**
baz=291
HRA Herat 57.33 290 IAmb IAmb 15 04 40.5
comp=Z,20nm,0.8s
WHY Whitehorse 57.36 36 P **P 15 04 40.7 +2.0**
baz=291,SNR=23
FARO Faro, Yukon 57.47 34 P **P 15 04 41.3 +1.9**
baz=292,SNR=48
SKAG Skagway 57.59 37 IAmb IAmb 15 04 43.3
comp=Z,19nm,0.8s
SKAG Skagway 57.59 37 P **P 15 04 42.2 +2.1**
baz=292,SNR=10
S31K Pelican 57.71 39 P **P 15 04 42.8 +1.8**
baz=292
R31K City Hall, Gus 57.78 38 P **P 15 04 43.1 +1.6**
baz=292
PALK Pallekele 57.91 252 P **P 15 04 43.4 +0.3**
PALK Pallekele 57.91 252 P **P 15 04 43.4 +0.3**
PALK pmax pmax
comp=Z,10.0nm,0.8s
WB0 Warramunga Arr 57.96 181 P **P 15 04 42.9 -0.2**
N32M Quiet Lake 57.99 35 P **P 15 04 44.4 +1.4**
baz=292
WB2 Warramunga Arr 58.13 181 P **P 15 04 43.9 -0.4**
WRA Warramunga Arr 58.13 181 P **P 15 04 43.8 -0.5**
WRA Warramunga Arr 58.13 181 P **P 15 04 44.2 -0.1**
comp=Z,2.1nm,0.5s,baz=356,slow=7.6,SNR=44
comp=Z,2.1nm,0.5s
WR0 Warramunga Arr 58.15 181 P **P 15 04 44.1 -0.3**
BESE Bessie Mountai 58.15 38 IAmb IAmb 15 04 46.9
comp=Z,19nm,0.8s
C36M Paulatuk 58.18 24 P **P 15 04 44.8 +0.8**
baz=295,SNR=26
P32M Atlin 58.30 37 IAmb IAmb 15 04 48.0
comp=Z,15nm,0.8s
P32M Atlin 58.30 37 P **P 15 04 47.1 +2.0**
baz=293,SNR=13
R32K Eaglecrest 58.43 38 IAmb IAmb 15 04 49.0
comp=Z,16nm,0.8s
R32K Eaglecrest 58.43 38 P **P 15 04 47.9 +2.0**
baz=293,SNR=7.1
P33M Teslin, Yukon 58.48 36 IAmb IAmb 15 04 49.2
comp=Z,31nm,0.8s
P33M Teslin, Yukon 58.48 36 P **P 15 04 48.1 +1.8**
baz=293,SNR=37
SIT Sitka 58.51 40 P **P 15 04 47.7 +1.3**
SIT IAmb IAmb 15 04 49.3
comp=Z,19nm,0.7s
SIT Sitka 58.51 40 P **P 15 04 49.1 +2.7**
SIT Sitka 58.51 40 P **P 15 04 47.7 +1.3**
SIT pmax pmax
comp=Z,19nm,0.7s
SIT Sitka 58.51 40 P **P 15 04 48.6 +2.1**
baz=293
S32K Killisnoo 58.72 39 P **P 15 04 49.4 +1.5**
baz=293
QIS Mount Isa 58.89 175 P **P 15 04 49.8 +0.3**
Q32M Nakina River 59.24 37 P **P 15 04 53.4 +1.7**
baz=294,SNR=9.4
R33M Jennings River 59.67 36 P **P 15 04 56.2 +1.7**
baz=295,SNR=12
KLMR Klimovskoe 59.79 326 *e*P **P 15 04 52.1 -2.9**
KLMR pmax pmax
comp=Z,57nm,1.7s
U33K Whale Pass 60.01 40 P **P 15 04 58.4 +1.8**
baz=295,SNR=6.5
S34M Telegraph Cree 60.22 38 P **P 15 05 00.1 +2.1**
baz=296,SNR=7.5
WRAK Wrangell Islan 60.27 40 P **P 15 05 00.1 +1.8**
baz=296
CRAG Craig 60.29 41 P **P 15 05 00.9 +2.4**
CRAG Craig 60.29 41 P **P 15 05 00.3 +1.8**
baz=296
WTLY Watson Lake, Y 60.35 35 P **P 15 05 00.6 +1.7**
baz=296,SNR=10
DLBC Dease Lake 60.52 37 P **P 15 05 01.2 +1.0**
DLBC IAmb IAmb 15 05 03.4
comp=Z,20nm,1.1s
DLBC Dease Lake 60.52 37 P **P 15 05 02.1 +2.0**
baz=296,SNR=9.3
ARCES ARCESS Array B 60.81 338 P **P 15 05 02.1 +0.4**
comp=Z,4.0nm,0.7s,baz=52,slow=7.6,SNR=12
comp=Z,4.0nm,0.7s
T35M Bob Quinn 61.06 39 IAmb IAmb 15 05 07.1
comp=Z,12nm,0.7s
T35M Bob Quinn 61.06 39 P **P 15 05 06.3 +2.6**
baz=297,SNR=9.9
V35K Ketchikan 61.12 41 P **P 15 05 05.4 +1.3**
baz=297
WRGLY Wrigley 61.17 30 P **P 15 05 05.8 +1.5**
baz=299,SNR=7.3
DIB Dawson Inlet, 61.63 43 P **P 15 05 06.3 -1.1**
DIB IAmb IAmb 15 05 11.1
comp=Z,22nm,1.2s
AS01 Alice Springs 61.84 181 P **P 15 05 09.9 +0.7**
ASAR Alice Springs 61.84 181 P **P 15 05 08.9 -0.3**
comp=Z,1.1nm,0.6s,baz=353,slow=5.5,SNR=23
comp=Z,1.1nm,0.6s
ASAR Alice Springs 61.84 181 P **P 15 05 09.0 -0.3**
RES Resolute Bay 62.38 13 P **P 15 05 12.3 +0.2**
RES IAmb IAmb 15 05 13.4
comp=Z,15nm,0.8s
RES Resolute Bay 62.38 13 P **P 15 05 12.3 +0.2**
RES pmax pmax
comp=Z,15nm,0.9s
KOTAN Kotaneelee Air 62.44 34 P **P 15 05 13.9 +1.2**
baz=300
TOAD Toad River Com 62.55 35 P **P 15 05 15.0 +1.5**
baz=299,SNR=9.0
VRH Novokhopyorsk 63.08 315 *e*P **P 15 05 14.7 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
WRKA Warakurna 63.52 187 P **P 15 05 20.3 +0.1**
OBN Obninsk 63.86 321 *e*P **P 15 05 21.3 -0.7**
OBN *e* 15 05 53.5
OBN *e**PP **pwP 15 06 45.6 -0.3**
OBN *e* 15 07 44.9
OBN *e*PPP PPP 15 09 27.2
OBN pmax pmax
comp=Z,115nm,4.4s
LPSR Galich'ya Gora 63.91 318 *e*P **P 15 05 21.0 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 64.22 317 *e*P **P 15 05 22.8 -1.6**
VORR pmax pmax
comp=Z,10.0nm,0.8s
NEEM North Greenlan 64.27 1 *e*P **P 15 05 25.4 +0.8**
NEEM IAmb IAmb 15 05 25.8
comp=Z,18nm,0.6s
VSR Storozhevoye 64.47 316 *e*P **P 15 05 24.5 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 65.00 29 P **P 15 05 29.6 +0.5**
YKA Yellowknife Ar 65.00 29 P **P 15 05 29.9 +0.8**
comp=Z,4.9nm,0.7s,baz=305,slow=6.8,SNR=79
YKA PcP **PcP 15 05 59.5 +0.9**
comp=Z,1.3nm,0.8s,baz=302,slow=4.0,SNR=5.3
comp=Z,4.9nm,0.7s
FINES FINESS Array B 65.11 330 P **P 15 05 30.1 +0.1**
comp=Z,8.8nm,0.5s,baz=76,slow=5.6,SNR=58
comp=Z,8.8nm,0.5s
OOD Oodnadatta 65.95 179 P **P 15 05 36.3 +0.8**
SHME Shamm 66.05 285 *i* P **P 15 05 36.7 +0.2**
SNR=31
KBZ Khabaz 66.10 308 P **P 15 05 36.5 +0.1**
comp=Z,10.0nm,0.7s,baz=40,slow=4.3,SNR=24
comp=Z,10.0nm,0.7s
KBZ Khabaz 66.10 308 *i* P **P 15 05 35.2 -1.2**
KBZ pmax pmax
comp=Z,14nm,0.9s
INKA Innaminka 66.10 175 P **P 15 05 37.3 +0.8**
KIV Kislovodsk 66.11 308 P **P 15 05 37.3 +0.7**
KIV Kislovodsk 66.11 308 *e*P **P 15 05 36.5 -0.2**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,32nm,17.0s
KIV Kislovodsk 66.11 308 *i* P **P 15 05 36.8 +0.1**
SNR=9.0
KIV Kislovodsk 66.11 308 P **P 15 05 37.0 +0.3**
comp=Z,43nm,1.0s
SHA1 Shidzhatmaz 66.24 308 *i* P **P 15 05 37.5 -0.2**
MSFE Esma-Masafi 66.40 284 P **P 15 05 39.1 +0.3**
UOSS Minazif 66.59 284 P **P 15 05 39.7 -0.2**
UOSS Minazif 66.59 284 P **P 15 05 39.9 0.0**
HATD Hatta, Dubai 66.71 284 *i* P **P 15 05 40.9 +0.2**
SNR=13
GNI Garni 66.77 303 *i* P **P 15 05 40.0 -1.0**
GNI pmax pmax
comp=Z,25nm,1.3s
GNI Garni 66.77 303 P **P 15 05 41.7 +0.8**
GNI Garni 66.77 303 P **P 15 05 41.9 +0.9**
comp=Z,23nm,0.9s
SOHO SOHO 66.78 283 P **P 15 05 41.2 +0.1**
ASHO Ashiyiah 66.84 284 *i* P **P 15 05 41.5 0.0**
SNR=6.5
FAQ Al Faqa, Dubai 67.17 284 P **P 15 05 43.1 -0.4**
ALNE Al Ain 67.42 283 *i* P **P 15 05 44.9 -0.2**
SNR=14
ASUD Al Ashush, Dub 67.43 284 *i* P **P 15 05 45.4 +0.3**
SNR=12
MNK Minsk 68.40 323 *i* P **P 15 05 49.2 -1.3**
MNK *i* *PP **pP 15 07 12.2 0.0**
MNK *i* 15 08 26.1
MNK *i* PPP PPP 15 10 09.8
MNK *i* S **S 15 14 20.5 -0.3**
MNK *i* SS **SS 15 18 55.9 +4.0**
MNK pmax pmax
comp=E,14nm,1.1s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.9s
LLLB Lilloet 68.59 42 P **P 15 05 53.0 +1.2**
LLLB IAmb IAmb 15 05 53.9
comp=Z,11nm,0.9s
UPNV Upernavik 68.74 4 *e*P **P 15 05 53.3 +1.0**
SUMG Summit 69.13 358 P **P 15 05 55.9 +0.7**
SUMG IAmb IAmb 15 05 57.4
comp=Z,16nm,0.8s
SUMG Summit 69.13 358 P **P 15 05 55.9 +0.7**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 69.13 358 *i* P **P 15 05 56.7 +1.5**
MZR Muzera 69.74 284 *i* P **P 15 05 58.7 -0.6**
SNR=11
AK03 Malin Array Si 69.99 319 P **P 15 05 59.8 -0.5**
AKASG Malin Array Be 70.00 319 P **P 15 06 00.2 -0.1**
comp=Z,4.3nm,0.4s,baz=52,slow=6.3,SNR=35
comp=Z,4.3nm,0.4s
AKBB Malin Array Si 70.00 319 *i* P **P 15 05 59.3 -1.0**
AKBB pmax pmax
comp=Z,12nm,0.7s
AKBB Malin Array Si 70.00 319 P **P 15 06 00.1 -0.2**
AK01 Malin Array Si 70.02 319 P **P 15 06 00.1 -0.3**
KIEV Kiev 70.02 319 P **P 15 05 59.5 -0.9**
KIEV IAmb IAmb 15 06 00.6
comp=Z,11nm,0.7s
KIEV Kiev 70.02 319 ⇑P **P 15 06 00.5 0.0**
KIEV Kiev 70.02 319 P **P 15 06 00.4 0.0**
KIEV Kiev 70.02 319 *i* P **P 15 05 60.0 -0.4**
SNR=7.9
KIEV Kiev 70.02 319 P **P 15 05 59.7 -0.7**
AK23 Malin Array Si 70.02 319 P **P 15 06 00.1 -0.3**
AK04 Malin Array Si 70.02 319 P **P 15 06 00.3 -0.1**
AK09 Malin Array Si 70.02 319 P **P 15 06 00.3 -0.2**
AK08 Malin Array Si 70.03 319 P **P 15 06 00.3 -0.2**
SCO Scoresbysund 70.06 352 *e*P **P 15 06 01.7 +1.3**
STKA Stephens Creek 70.28 174 P **P 15 06 02.5 +0.4**
comp=Z,1.8nm,0.6s,baz=348,slow=2.4,SNR=5.3
comp=Z,1.8nm,0.6s
CMSA Cobar Meteorol 70.37 170 P **P 15 06 04.0 +1.3**
HFS Hagfors 70.61 333 P **P 15 06 03.9 +0.1**
comp=Z,5.0nm,0.5s,baz=76,slow=6.3,SNR=29
comp=Z,5.0nm,0.5s
NB2 NORSAR Subarra 70.81 335 P **P 15 06 04.9 -0.2**
comp=Z,1.6nm,0.5s,baz=43,slow=5.9
NOA NORSAR Array B 70.81 335 P **P 15 06 05.2 +0.2**
comp=Z,2.4nm,0.6s,baz=43,slow=5.9,SNR=14
comp=Z,2.4nm,0.6s
LUBAR Lubar, Ukraine 71.22 319 P **P 15 06 07.4 -0.3**
RNPP9 Sopachiv 71.24 321 P **P 15 06 06.9 -0.8**
B08A Colville Reser 71.25 43 IAmb IAmb 15 06 10.0
comp=Z,12nm,1.1s
RNPP5 Staryi Chortor 71.36 321 P **P 15 06 09.3 +0.9**
H04A Detroit Lake 71.87 47 IAmb IAmb 15 06 13.8
comp=Z,14nm,0.8s
SORM Soroca 72.01 318 ⇑P **P 15 06 12.1 -0.3**
SORM Soroca 72.01 318 P **P 15 06 12.0 -0.3**
E07A Sunnyside 72.06 44 IAmb IAmb 15 06 15.1
comp=Z,8.1nm,0.7s
NDNU Novodnistrovsk 72.24 318 P **P 15 06 13.8 +0.1**
D08A Wollman Farm, 72.26 44 IAmb IAmb 15 06 15.9
comp=Z,9.7nm,0.9s
HAWA Hanford 72.34 44 IAmb IAmb 15 06 16.6
comp=Z,9.5nm,0.8s
E08A Dider Farm, El 72.53 44 IAmb IAmb 15 06 17.2
comp=Z,9.2nm,0.7s
I05D Terrebonne, OR 72.56 47 IAmb IAmb 15 06 17.6
comp=Z,17nm,0.9s
KMPD K-Podol'skiy 72.73 319 P **P 15 06 15.8 -0.7**
KMPD P **P 15 06 15.6 -0.9**
E09A Wood Farm, Sta 73.02 44 IAmb IAmb 15 06 20.6
comp=Z,19nm,1.1s
J05D Fort Rock, OR 73.26 48 IAmb IAmb 15 06 22.6
comp=Z,17nm,0.8s
KSV Kosov 73.61 319 P **P 15 06 20.9 -0.8**
CFR Carcaliu 73.96 315 ⇑P **P 15 06 23.6 -0.1**
CFR Carcaliu 73.96 315 P **P 15 06 23.6 -0.1**
BURAR Bucovina Array 73.98 319 ⇑P **P 15 06 24.6 +0.7**
BURAR Bucovina Array 73.98 319 P **P 15 06 24.6 +0.7**
TPGR Topolog 74.00 315 ⇑P **P 15 06 24.6 +0.6**
BR131 Keskin Array S 74.07 308 IAmb IAmb 15 06 26.8
comp=Z,10nm,1.0s
BRTR Keskin Array B 74.07 308 P **P 15 06 24.6 -0.1**
BRTR Keskin Array B 74.07 308 P **P 15 06 24.8 +0.1**
comp=Z,6.1nm,0.9s,baz=101,slow=5.2,SNR=23
comp=Z,6.1nm,0.9s
BRTR Keskin Array B 74.07 308 *i* P **P 15 06 25.2 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BR106 Keskin Array S 74.08 308 P **P 15 06 25.1 +0.4**
comp=Z,59nmcomp=Z,7.8nm,1.1s
BR104 Keskin Array S 74.08 308 P **P 15 06 25.1 +0.4**
comp=Z,97nmcomp=Z,11nm,1.0s
BR105 Keskin Array S 74.09 308 P **P 15 06 25.1 +0.3**
comp=Z,90nmcomp=Z,11nm,1.1s
KIRS Kirsehir-Merke 74.25 308 ⇑P **P 15 06 24.9 -0.8**
VRI Vrincioaia 74.29 316 ⇓P **P 15 06 25.9 +0.3**
VRI Vrincioaia 74.29 316 P **P 15 06 25.9 +0.3**
PLOR Plostina 74.34 316 ⇓P **P 15 06 27.0 +1.0**
PLOR Plostina 74.34 316 P **P 15 06 26.9 +1.0**
SPBR Spulber 74.36 316 P **P 15 06 26.7 +0.7**
BMO Blue Mountains 74.52 45 IAmb IAmb 15 06 29.3
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 74.61 321 *e*P **P 15 06 27.3 -0.1**
KOLS Kolonicke sedl 74.61 321 *e*P **P 15 06 27.3 -0.1**
STHS Stebnicka Huta 74.80 322 *e*P **P 15 06 27.5 -0.9**
STHS Stebnicka Huta 74.80 322 *e*P **P 15 06 27.5 -0.9**
J08A Circle Bar Ran 74.80 46 IAmb IAmb 15 06 31.3
comp=Z,20nm,1.1s
FCC Fort Churchill 74.83 24 IAmb IAmb 15 06 30.0
comp=Z,13nm,0.8s
DOPR Dopca 74.95 317 ⇑P **P 15 06 29.3 -0.1**
OJC Ojcow 74.95 323 IAmb IAmb 15 06 30.9
comp=Z,14nm,0.8s
FFC Flin Flon 75.08 30 P **P 15 06 29.4 -0.5**
FFC Flin Flon 75.08 30 P **P 15 06 29.4 -0.5**
FFC pmax pmax
comp=Z,16nm,0.8s
NIE Niedzica 75.25 322 P **P 15 06 32.3 +1.3**
comp=Z,6.2nm,1.0s
ORV Oroville 75.37 51 IAmb IAmb 15 06 33.5
comp=Z,13nm,1.2s
RAYN Ar Rayn 75.45 289 P **P 15 06 33.0 +0.4**
RAYN Ar Rayn 75.45 289 *i* P **P 15 06 32.5 -0.1**
SNR=16
KECS Kecovo 75.80 321 *e*P **P 15 06 35.4 +1.3**
KECS Kecovo 75.80 321 *e*P **P 15 06 35.4 +1.3**
BEKR Beckworth 75.87 50 IAmb IAmb 15 06 37.0
comp=Z,13nm,0.9s
AFDM Forest Hills D 76.07 51 IAmb IAmb 15 06 37.9
comp=Z,13nm,1.2s
KSP Ksiaz 76.13 325 P **P 15 06 37.0 +1.1**
comp=Z,6.6nm,1.1s
MORC Moravsky Berou 76.31 324 ⇑P **P 15 06 37.1 +0.1**
MORC Moravsky Berou 76.31 324 P **P 15 06 37.1 +0.1**
KRLC Kraliky 76.45 324 *e*P **P 15 06 38.4 +0.7**
KRLC Kraliky 76.45 324 *e*P **P 15 06 38.4 +0.7**
DPC Dobruska-Polom 76.47 325 *e*P **P 15 06 38.8 +1.0**
DPC Dobruska-Polom 76.47 325 *e*P **P 15 06 38.8 +1.0**
PAHR Pah Rah Range 76.56 50 IAmb IAmb 15 06 40.9
comp=Z,15nm,1.0s
GZR Gura Zlata 76.71 318 ⇑P **P 15 06 40.1 +0.8**
GZR Gura Zlata 76.71 318 P **P 15 06 40.1 +0.8**
PNTR Pine Nut 76.82 50 IAmb IAmb 15 06 42.7
comp=Z,10nm,0.8s
HLID Hailey 76.94 44 IAmb IAmb 15 06 43.4
comp=Z,8.7nm,1.1s
MMAI Mount Meron Ar 76.99 302 P **P 15 06 41.8 +0.8**
comp=Z,2.0nm,0.5s,baz=69,slow=9.6,SNR=2.4
comp=Z,2.0nm,0.5s
CMB Columbia Colle 77.00 52 IAmb IAmb 15 06 43.2
comp=Z,13nm,0.8s
BOZ Bozeman (W) 77.07 41 IAmb IAmb 15 06 43.6
comp=Z,11nm,0.7s
CLL Collm 77.24 327 P **P 15 06 40.7 -1.3**
CLL Collm 77.24 327 *i* P **P 15 06 42.2 +0.2**
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 77.24 327 *i* P **P 15 06 42.2 +0.2**
comp=Z,11nm,0.7s
CLL *i* PcP **PcP 15 06 51.7 +0.7**
CLL *e*PP **PP 15 09 40.0 -1.3**
WAKR Walker 77.28 51 IAmb IAmb 15 06 45.4
comp=Z,8.5nm,0.8s
RYN Ryan 77.76 50 IAmb IAmb 15 06 47.8
comp=Z,9.4nm,0.9s
NVAR Mina Array Bea 78.02 50 P **P 15 06 48.6 +1.8**
comp=Z,6.1nm,0.7s,baz=295,slow=4.9,SNR=24
comp=Z,6.1nm,0.7s
YMR Madison River 78.05 42 IAmb IAmb 15 06 49.5
comp=Z,11nm,0.9s
ZVC Zvikov 78.08 325 *e*P **P 15 06 47.7 +1.1**
YNE Yellowstone No 78.31 41 IAmb IAmb 15 06 51.1
comp=Z,12nm,1.4s
RONA Rosalia, Austr 78.36 323 *e*P **P 15 06 49.5 +1.3**
comp=Z,2.3nm,0.5s
CONA Conrad Observa 78.40 323 *e*P **P 15 06 50.1 +1.5**
comp=Z,0.3nm,0.2s
LKWY Lake 78.41 42 IAmb IAmb 15 06 52.9
comp=Z,16nm,1.1s
YMP Mirror Lake Pl 78.42 41 IAmb IAmb 15 06 51.8
comp=Z,12nm,1.2s
KHC Kasperske Hory 78.58 325 *e*P **P 15 06 50.8 +1.4**
KHC Kasperske Hory 78.58 325 *e*P **P 15 06 50.8 +1.4**
RLMT Red Lodge 78.61 41 IAmb IAmb 15 06 52.9
comp=Z,7.8nm,0.8s
GERES GERESS Array B 78.73 325 P **P 15 06 50.8 +0.4**
comp=Z,1.2nm,0.7s,baz=34,slow=5.0,SNR=7.9
comp=Z,1.2nm,0.7s
HVU Hansel Valley 79.03 45 IAmb IAmb 15 06 54.6
comp=Z,9.1nm,1.1s
R11B Troy Canyon, C 79.69 49 IAmb IAmb 15 06 58.3
comp=Z,18nm,1.4s
EKA Eskdalemuir Ar 79.97 337 P **P 15 06 56.5 -0.2**
comp=Z,1.6nm,0.6s,baz=40,slow=4.7,SNR=7.7
comp=Z,1.6nm,0.6s
DUG Dugway, Tooele 80.07 46 IAmb IAmb 15 07 00.3
comp=Z,12nm,1.1s
WCT Wildcat Mounta 80.09 51 IAmb IAmb 15 07 00.1
comp=Z,20nm,1.5s
PD31 Pinedale Array 80.09 42 IAmb IAmb 15 06 59.6
comp=Z,10nm,0.8s
PDAR Pinedale Array 80.09 42 P **P 15 06 58.3 +0.4**
PDAR Pinedale Array 80.09 42 P **P 15 06 58.6 +0.7**
comp=Z,8.2nm,0.8s,baz=317,slow=1.4,SNR=68
comp=Z,8.2nm,0.8s
KBA Koelnbreinsper 80.19 324 *e*P **P 15 06 59.4 +1.1**
comp=Z,3.4nm,0.7s
TPNV Topopah Spring 80.22 50 IAmb IAmb 15 07 00.9
comp=Z,18nm,1.1s
LESA Schwarzleotal 80.24 324 *e*P **P 15 06 59.4 +1.0**
comp=Z,1.0nm,0.2s
PSUT Pine Spring 80.59 48 IAmb IAmb 15 07 02.8
comp=Z,8.5nm,0.8s
ULM Lac du Bonnet 80.91 30 P **P 15 07 01.9 +0.3**
comp=Z,14nm,0.6s,baz=318,slow=6.1,SNR=32
comp=Z,14nm,0.6s
GSC Goldstone, Bar 80.95 52 IAmb IAmb 15 07 04.5
comp=Z,14nm,1.1s
BSUT Blindstream Ca 80.98 45 IAmb IAmb 15 07 07.4
comp=Z,9.1nm,1.1s
DAVOX Davos/Dischmat 81.99 325 P **P 15 07 06.9 -0.8**
comp=Z,2.2nm,0.7s,baz=0.3,slow=12,SNR=4.0
comp=Z,2.2nm,0.7s
SRU San Rafael Swe 82.10 46 IAmb IAmb 15 07 10.5
comp=Z,13nm,1.1s
IDI Anoyia 82.25 309 P **P 15 07 08.0 -1.0**
comp=Z,5.8nm,0.6s,baz=62,slow=7.1,SNR=6.3
comp=Z,5.8nm,0.6s
TUE Stuetta 82.46 326 P **P 15 07 09.8 -0.3**
W13A Hualapai Mount 82.88 50 IAmb IAmb 15 07 14.7
comp=Z,12nm,1.1s
YUH Yuha Desert 83.25 53 IAmb IAmb 15 07 15.5
comp=Z,6.0nm,0.8s
PV11 David Mesa, Pa 83.59 45 IAmb IAmb 15 07 18.4
comp=Z,21nm,1.4s
PV07 Paradox Valley 83.62 45 IAmb IAmb 15 07 18.3
comp=Z,6.3nm,0.8s
PV13 Radium Mtn., P 83.72 45 IAmb IAmb 15 07 19.1
comp=Z,21nm,1.3s
PV15 Paradox Valley 83.78 45 IAmb IAmb 15 07 19.2
comp=Z,9.8nm,0.8s
WUAZ Wupatki 84.09 49 IAmb IAmb 15 07 21.2
comp=Z,14nm,0.8s
EYMN Ely 84.47 29 IAmb IAmb 15 07 21.2
comp=Z,9.9nm,0.8s
MVCO Mesa Verde 84.57 46 IAmb IAmb 15 07 23.2
comp=Z,8.6nm,0.9s
X16A Lo Mia Camp, P 84.81 50 IAmb IAmb 15 07 24.8
comp=Z,7.1nm,1.0s
S22A 4UR Ranch, Cre 85.12 45 IAmb IAmb 15 07 26.3
comp=Z,7.8nm,1.1s
SCHQ Schefferville 85.15 13 IAmb IAmb 15 07 24.7
comp=Z,7.3nm,0.8s
SCHQ Schefferville 85.15 13 P **P 15 07 23.5 +0.3**
comp=Z,7.6nm,0.7s,baz=354,slow=6.1,SNR=14
comp=Z,7.6nm,0.7s
X18A Snowflake 85.62 49 IAmb IAmb 15 07 28.4
comp=Z,8.8nm,1.2s
T25A Trinidad 86.88 44 IAmb IAmb 15 07 34.0
comp=Z,9.6nm,1.0s
VHRN Van Horn 91.21 48 IAmb IAmb 15 07 54.7
comp=Z,9.4nm,1.1s
DKNS Dickens 91.36 44 IAmb IAmb 15 07 55.8
comp=Z,7.7nm,0.7s
POST Post 91.50 45 IAmb IAmb 15 07 55.3
comp=Z,11nm,1.0s
R40A Maddies Statio 92.05 35 IAmb IAmb 15 07 56.9
comp=Z,5.7nm,0.7s
TX31 Lajitas Ar. Si 93.05 48 IAmb IAmb 15 08 02.5
comp=Z,4.7nm,0.8s
TXAR Lajitas Array 93.05 48 P **P 15 08 01.9 +1.1**
comp=Z,3.6nm,0.7s,baz=298,slow=3.5,SNR=32
comp=Z,3.6nm,0.7s
QSPA South Pole Qui 128.24 180 PKP **PKPdf 15 13 49.8 0.0**
comp=Z,1.0nm,0.5s,baz=212,slow=1.1,SNR=6.8

MOS ***28*** *15:05:30.7±1.4,24°.61S×69°.97W,h44km,mb5.8/35,Error ellipse: s-maj=11.0km s-min=5.9km az=98.0*
NEIC ***28*** *15:05:31.7±2.3,24°.60S±0°.05×70°.10W±0°.07,h46km±3km, mb5.7/469,Mww5.4/20,Error ellipse: s-maj=9.1km s-min=6.7km az=94.0*
SJA ***28*** *15:05:31.0±1.3,24°.57S×70°.35W,h70km±11km,ML5.6, MW5.4*
RSNC ***28*** *15:05:32.4±3.1,25°S±10°×7°0W±1°0,h59km±14km,M5.2, mB5.7,mb5.6,Mw(mB)5.4,MwMwp5.1,Mwp5.3*
NEIC ***28*** *15:05:32.7,24°.74S×70°.00W,h50km,Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr1.05; Mθθ0.14; Mφφ-1.19; Mrθ0.18; Mφθ-0.11; Mφr-0.99; Fault plane solution: M0 1.51000×10^17 NP1:φs16.95000°, δ25.55000°,λ110.91000°. NP2:φs173.99000°,δ66.24000°, λ80.31000°. Principal axes: T 1.4533, Plg67.0000°, Azm66.0000°; N 0.1078, Plg9.0000°, Azm178.0000°; P -1.5611, Plg21.0000°, Azm271.0000°;*

*GUC **28** 15:05:32.9±0.8, 24°.60S×70°.12W, h61km±5km, ML5.5*
*NEIC **28** 15:05:32.7, 24°.54S×70°.08W, h50km*
*IDC **28** 15:05:33.7±0.3, 24°.52S×69°.90W, h56km±2km, mb5.1/33, mbtmp5.4/38, MS4.3/46, Error ellipse: s-maj=11.8km s-min=7.4km az=68.0*
*VAO **28** 15:05:34.1±0.3, 24°.52S×69°.86W, h59km, mb5.8*
*GCMT **28** 15:05:37.7±0.1, 24°.62S±0°.01×70°.29W±0°.01, h73km±1km, MW5.4/129, Moment Tensor Solution. s117,c206; s129,c218; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.84±.02; $M_{\theta\theta}$0.41±.02; $M_{\phi\phi}$-1.25±.02; $M_{r\theta}$0.21±.01; $M_{\theta\phi}$0.22±.02; $M_{\phi r}$-0.98±.02; Best double couple: $M_0$1.45600×10^{17} NP1:ϕ_s0.00000°, δ24.00000°, λ101.00000°. NP2:ϕ_s168.00000°, δ67.00000°, λ85.00000°. Principal axes: T 1.2380, Plg68.0000°, Azm69.0000°; N 0.4350, Plg5.0000°, Azm170.0000°; P -1.6740, Plg22.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 15:05:32.5±0.2, 24°.61S±0°.02×70°.18W±0°.03, h55km±1km, h55km:pP-P, n1009, σ1°.43/936, mb5.6/265, MS4.4/43, 34C-19D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.20**	**264**		**Pn**	**15 05 42.5**	**+0.7**
PB14				Sn	**Sn**	**15 05 50.7**	**+2.1**
PB14	**IPOC Station P**	**0.20**	**264**	⇓*iP*	**Pn**	**15 05 43.0**	**+1.2**
PB14				*eS*	**Sn**	**15 05 50.4**	**+1.8**
PB14	**IPOC Station P**	**0.20**	**264**	*eP*	**Pn**	**15 05 43.3**	**+1.4**
PB14				*eS*	**Sn**	**15 05 50.6**	**+2.1**
PB14				IAML		15 05 52.8	
	comp=Z,123μm,0.8s						
GO02	**Mina Guanaco**	**0.77**	**136**		**Pn**	**15 05 48.1**	**+0.4**
GO02	**Mina Guanaco**	**0.77**	**136**	⇑*iP*	**Pn**	**15 05 48.1**	**+0.4**
GO02				*eS*	**Sn**	**15 05 59.4**	**+0.6**
GO02	**Mina Guanaco**	**0.77**	**136**	*eP*	**Pn**	**15 05 48.1**	**+0.4**
GO02				*eS*	**Sn**	**15 05 60.0**	**+1.2**
AC01	**Pan de Azucar**	**1.58**	**194**		**Pn**	**15 05 59.7**	**+1.5**
AC01	**Pan de Azucar**	**1.58**	**194**	⇓*iP*	**Pn**	**15 05 59.6**	**+1.5**
AC01				IAML		15 06 25.1	
	comp=E,44μm,0.6s						
AC01	**Pan de Azucar**	**1.58**	**194**	*eP*	**Pn**	**15 05 59.7**	**+1.5**
AC01				*eS*	**Sn**	**15 06 13.8**	**-3.7**
AC01				IAML		15 06 25.0	
	comp=Z,31μm,0.8s						
PB05	**IPOC Station P**	**1.75**	**359**		**Pn**	**15 06 00.6**	**0.0**
PB05	**IPOC Station P**	**1.75**	**359**	⇓*iP*	**Pn**	**15 06 00.7**	**+0.1**
PB05				*eS*	**Sn**	**15 06 23.0**	**+1.2**
PB05				IAML		15 06 32.9	
	comp=E,63μm,0.5s						
PB05	**IPOC Station P**	**1.75**	**359**	*eP*	**Pn**	**15 06 01.2**	**+0.6**
PB05				*eS*	**Sn**	**15 06 22.4**	**+0.6**
PB05				IAML		15 06 30.6	
	comp=Z,37μm,1.2s						
PB06	**IPOC Station P**	**1.97**	**17**	⇑*eP*	**Pn**	**15 06 04.6**	**+0.9**
PB06				IAML		15 06 35.8	
	comp=E,76μm,0.2s						
PB06	**IPOC Station P**	**1.97**	**17**	*eP*	**Pn**	**15 06 04.7**	**+1.0**
PB06				*eS*	**Sn**	**15 06 28.9**	**+1.5**
PB06				IAML		15 06 33.0	
	comp=Z,59μm,0.5s						
AC02	**Maricunga**	**2.42**	**157**	Pn	**Pn**	**15 06 12.4**	**+2.4**
AC02	**Maricunga**	**2.42**	**157**	⇓*iP*	**Pn**	**15 06 12.7**	**+2.6**
AC02				IAML		15 06 47.7	
	comp=E,24μm,0.2s						
AC02	**Maricunga**	**2.42**	**157**	*eP*	**Pn**	**15 06 11.0**	**+0.9**
AC02				IAML		15 06 51.0	
	comp=Z,15μm,0.7s						
AF01	**San Pedro de A**	**2.47**	**49**		**Pn**	**15 06 12.4**	**+1.9**
AF01	**San Pedro de A**	**2.47**	**49**	*eP*	**Pn**	**15 06 11.6**	**+1.0**
AF01	**San Pedro de A**	**2.47**	**49**	*eP*	**Pn**	**15 06 12.6**	**+2.0**
AF01				*eS*	**Sn**	**15 06 42.9**	**+3.2**
AF01				IAML		15 07 16.9	
	comp=Z,86μm,0.7s						
PB03	**IPOC Station P**	**2.58**	**9**	⇑*iP*	**Pn**	**15 06 12.0**	**+0.1**
PB03				IAML		15 06 55.2	
	comp=E,36μm,0.4s						
PB03	**IPOC Station P**	**2.58**	**9**	*eP*	**Pn**	**15 06 12.1**	**+0.1**
PB03				*eS*	**Sn**	**15 06 43.6**	**+1.4**
PB03				IAML		15 06 51.0	
	comp=Z,41μm,0.6s						
AC06	**Mina Casimiro**	**2.74**	**183**		**Pn**	**15 06 15.3**	**+1.2**
AC06	**Mina Casimiro**	**2.74**	**183**	*eP*	**Pn**	**15 06 15.2**	**+1.1**
AC06				IAML		15 07 05.4	
	comp=E,17μm,0.6s						
PB09	**IPOC Station P**	**2.93**	**17**		**Pn**	**15 06 17.9**	**+1.2**
PB09	**IPOC Station P**	**2.93**	**17**	⇑*iP*	**Pn**	**15 06 18.0**	**+1.2**
GO03	**Copiapo**	**2.98**	**181**		**Pn**	**15 06 18.4**	**+1.1**
GO03	**Copiapo**	**2.98**	**181**	⇓*iP*	**Pn**	**15 06 18.5**	**+1.1**
GO03				IAML		15 07 13.7	
	comp=E,14μm,0.7s						
GO03	**Copiapo**	**2.98**	**181**	*eP*	**Pn**	**15 06 18.4**	**+1.1**
GO03				*eS*	**Sn**	**15 06 55.0**	**+3.2**
PB01	**IPOC Station P**	**3.60**	**10**		**Pn**	**15 06 25.8**	**-0.2**
PB01	**IPOC Station P**	**3.60**	**10**	⇑*iP*	**Pn**	**15 06 25.9**	**-0.1**
AC04	**Llanos de Chal**	**3.67**	**192**	Pn	**Pn**	**15 06 25.8**	**-0.9**
AC04	**Llanos de Chal**	**3.67**	**192**	⇓*iP*	**Pn**	**15 06 25.9**	**-0.9**
AC04	**Llanos de Chal**	**3.67**	**192**	*eP*	**Pn**	**15 06 25.9**	**-0.9**
AC04				*eS*	**Sn**	**15 07 08.9**	**+0.1**
AC04				IAML		15 07 45.5	
	comp=Z,7μm,0.8s						
PATCX	**Punta Patache**	**3.77**	**0**		**Pn**	**15 06 26.6**	**-1.6**
PATCX	**Punta Patache**	**3.77**	**0**	⇑*iP*	**Pn**	**15 06 27.1**	**-1.2**
PATCX	**Punta Patache**	**3.77**	**0**	*eP*	**Pn**	**15 06 27.0**	**-1.2**
PATCX				*eS*	**Sn**	**15 07 17.4**	**+6.0**
PATCX				IAML		15 07 51.4	
	comp=Z,11μm,0.9s						
TA01	**Diego Aracena**	**4.02**	**0**	Pn	**Pn**	**15 06 30.0**	**-1.5**
TA01	**Diego Aracena**	**4.02**	**0**	⇑*iP*	**Pn**	**15 06 30.0**	**-1.5**
TA01	**Diego Aracena**	**4.02**	**0**	*eP*	**Pn**	**15 06 30.1**	**-1.5**
TA01				IAML		15 07 34.6	
	comp=Z,16μm,0.8s						
FSA	**Cafayete**	**4.09**	**112**	*eP*	**Pn**	**15 06 35.4**	**+2.8**
AC05	**El Transito**	**4.21**	**181**	Pn	**Pn**	**15 06 35.5**	**+1.2**
AC05	**El Transito**	**4.21**	**181**	⇓*iP*	**Pn**	**15 06 35.5**	**+1.2**
AC05	**El Transito**	**4.21**	**181**	*eP*	**Pn**	**15 06 35.5**	**+1.2**
AC05				*eS*	Sn	15 07 36.9	+15
AC05				IAML		15 07 44.8	
	comp=Z,8μm,1.0s						
SLA	**San Lorenzo**	**4.26**	**93**	*eP*	**Pn**	**15 06 38.3**	**+3.3**
SLA				IAML		15 07 51.2	
	comp=Z,1μm,2.8s						
HMBC	**Humberstone**	**4.32**	**4**		**Pn**	**15 06 34.4**	**-1.3**
HMBC	**Humberstone**	**4.32**	**4**	⇑*iP*	**Pn**	**15 06 34.5**	**-1.2**
HMBC	**Humberstone**	**4.32**	**4**	*eP*	**Pn**	**15 06 34.6**	**-1.1**
HMBC				*eS*	Sn	15 07 35.4	+10
HMBC				IAML		15 07 59.4	
	comp=Z,14μm,0.4s						
TA02	**Huaiquique**	**4.32**	**1**	Pn	**Pn**	**15 06 34.0**	**-1.6**
TA02	**Huaiquique**	**4.32**	**1**	*eP*	**Pn**	**15 06 36.0**	**+0.4**
TA02				IAML		15 07 53.7	
	comp=Z,8μm,1.1s						
LCO	**Las Campanas**	**4.41**	**186**		**Pn**	**15 06 37.1**	**0.0**
LCO	**Las Campanas**	**4.41**	**186**	*iP*	**Pn**	**15 06 36.3**	**-0.9**
LCO	**Las Campanas**	**4.41**	**186**	*eP*	**Pn**	**15 06 37.6**	**+0.4**
LCO				IAML		15 07 51.1	
	comp=Z,14μm,0.8s						
LCO	**Las Campanas**	**4.41**	**186**	P	**Pn**	**15 06 37.2**	**0.0**
VCA	**Vinchina**	**4.48**	**157**	*eP*	**Pn**	**15 06 41.4**	**+3.4**
VCA				IAML		15 07 47.9	
	comp=Z,9μm,0.8s						
PB08	**IPOC Station P**	**4.54**	**12**		**Pn**	**15 06 38.7**	**-0.4**
PB08	**IPOC Station P**	**4.54**	**12**	*eP*	**Pn**	**15 06 39.0**	**-0.1**
PB08				*eS*	Sn	15 07 48.1	+17
PB08				IAML		15 07 58.5	
	comp=Z,10μm,0.7s						
AZAP	**Zapla**	**4.68**	**86**	*eP*	**Pn**	**15 06 43.2**	**+2.4**
AZAP				IAML		15 07 48.5	
	comp=Z,3μm,1.0s						
PB11	**IPOC Station P**	**4.85**	**6**	Pn	**Pn**	**15 06 41.5**	**-1.7**
PB11	**IPOC Station P**	**4.85**	**6**	*eP*	**Pn**	**15 06 41.4**	**-1.7**
PB11				IAML		15 08 01.1	
	comp=Z,11μm,1.0s						
YJA	**Yavi**	**4.92**	**62**	*eP*	**Pn**	**15 06 47.9**	**+3.5**
YJA				IAML		15 07 52.8	
	comp=Z,370nm,2.4s						
AGUA	**GUANDACOL**	**5.09**	**163**	*eP*	**Pn**	**15 06 49.4**	**+3.0**
AGUA				IAML		15 07 59.5	
	comp=Z,11μm,1.1s						
CO01	**Juntas del Tor**	**5.35**	**179**	Pn	**Pn**	**15 06 50.2**	**+0.1**
GO04	**Tololo Observa**	**5.57**	**186**		**Pn**	**15 06 52.6**	**-0.4**
PB12	**IPOC Station P**	**5.96**	**359**	Pn	**Pn**	**15 06 56.2**	**-2.2**
CO06	**Fray Jorge**	**6.18**	**192**		**Pn**	**15 06 59.0**	**-2.1**
AP01	**Chacalluta**	**6.21**	**359**	Pn	**Pn**	**15 07 00.2**	**-1.4**
CO03	**El Pedregal**	**6.22**	**184**	Pn	**Pn**	**15 07 01.2**	**-0.6**
PB16	**IPOC Station P**	**6.27**	**6**		**Pn**	**15 07 01.5**	**-1.5**
PB18	**Visviri**	**7.01**	**6**		**Pn**	**15 07 13.7**	**+0.6**
ZON	**Zonda**	**7.04**	**169**	Pn	**Pn**	**15 07 13.4**	**+0.4**
ZON	**Zonda**	**7.04**	**169**	P	**Pn**	**15 07 13.4**	**+0.4**
CFA	**Coronel Fontan**	**7.18**	**167**	P	**Pn**	**15 07 15.7**	**+0.8**
	comp=Z,96nm,0.5s,baz=340,slow=13,SNR=124						
CFA				S	**Sn**	**15 08 36.8**	**+1.7**
	comp=Z,119nm,0.5s,baz=42,slow=20,SNR=1.6						
CFA				LR	LR	15 10 30.8	
	comp=Z,1μm,19.6s,baz=346,slow=41						
VA03	**San Esteban**	**8.13**	**182**		**Pn**	**15 07 27.2**	**-0.8**
VA01	**Torpederas**	**8.48**	**188**	Pn	**Pn**	**15 07 28.2**	**-4.5**
LPAZ	**La Paz**	**8.50**	**13**	Pn	**Pn**	**15 07 33.4**	**-0.1**
LPAZ	**La Paz**	**8.50**	**13**	P	**Pn**	**15 07 33.9**	**+0.4**
	comp=Z,104nm,0.5s,baz=192,slow=8.5,SNR=273						
LPAZ				LR	LR	15 10 42.0	
	comp=Z,2μm,19.7s,baz=208,slow=37						
LPAZ	**La Paz**	**8.50**	**13**	*eP*	**Pn**	**15 07 34.2**	**+0.7**
PEL	**Peldehue**	**8.52**	**183**		**Pn**	**15 07 31.4**	**-1.8**
PEL	**Peldehue**	**8.52**	**183**	P	**Pn**	**15 07 31.4**	**-1.8**
MT02	**Curacav**	**8.66**	**185**		**Pn**	**15 07 32.3**	**-2.9**
MT05	**Renca**	**8.77**	**183**	Pn	**Pn**	**15 07 34.7**	**-1.9**
MT16	**CCHEN**	**8.79**	**182**		**Pn**	**15 07 36.3**	**-0.8**
MT08	**Bocatoma Ro**	**8.81**	**179**		**Pn**	**15 07 36.6**	**-0.8**
MT03	**Universidad Ad**	**8.86**	**182**		**Pn**	**15 07 36.8**	**-1.2**
VA05	**Santo Domingo**	**9.11**	**188**		**Pn**	**15 07 37.5**	**-3.6**
MT13	**San Alfonso**	**9.11**	**181**		**Pn**	**15 07 40.1**	**-1.2**
MT09	**Talagante**	**9.16**	**184**		**Pn**	**15 07 39.3**	**-2.8**
LMEL	**Las Melosas**	**9.21**	**180**		**Pn**	**15 07 41.9**	**-0.9**
MT01	**Popeta**	**9.27**	**186**		**Pn**	**15 07 40.4**	**-3.1**
BO04	**La Punta**	**9.36**	**182**	Pn	**Pn**	**15 07 41.8**	**-2.9**
BO01	**Tunca**	**9.78**	**184**	Pn	**Pn**	**15 07 47.2**	**-3.3**
BO02	**Sierra Bellavi**	**10.16**	**183**	Pn	**Pn**	**15 07 52.8**	**-3.0**
ML02	**Panimavida**	**11.17**	**185**	Pn	**Pn**	**15 08 06.3**	**-3.1**
H03N1	**Juan Fernandez**	**11.65**	**219**	P	**Pn**	**15 08 14.0**	**-1.7**
	baz=109,slow=15,SNR=179						
H03N1				T	T	15 19 13.4	
	baz=46,slow=72,SNR=143						
H03N2	**Juan Fernandez**	**11.66**	**219**	P	**Pn**	**15 08 14.9**	**-0.9**
	baz=109,slow=15,SNR=164						
H03N2				T	T	15 19 20.9	
	baz=46,slow=72,SNR=193						
H03N3	**Juan Fernandez**	**11.67**	**219**	P	**Pn**	**15 08 15.0**	**-1.0**
	baz=109,slow=15,SNR=209						
H03N3				T	T	15 19 14.4	
	baz=46,slow=72,SNR=130						
CPUP	**Villa Florida**	**11.74**	**101**		**Pn**	**15 08 14.5**	**-2.7**
CPUP	**Villa Florida**	**11.74**	**101**	P	**Pn**	**15 08 15.6**	**-1.7**
	comp=Z,30nm,0.8s,baz=273,slow=11,SNR=28						
CPUP				LR	LR	15 13 16.2	
	comp=Z,4μm,18.5s,baz=282,slow=40						
CPUP	**Villa Florida**	**11.74**	**101**	*eP*	**Pn**	**15 08 14.5**	**-2.7**
VA04	**Juan Fernndez**	**11.75**	**218**		**Pn**	**15 08 15.7**	**-1.7**
I41PY	**VILLA FLORIDA**	**11.76**	**101**	I	I	16 17 20.0	
	baz=274,slow=319,SNR=1.4						
H03S3	**Juan Fernandez**	**11.93**	**218**	P	**Pn**	**15 08 17.3**	**-2.3**
	baz=32,slow=20,SNR=188						
MURT	**Porto Murtinho**	**11.94**	**78**	*eP*	**Pn**	**15 08 17.1**	**-2.9**
H03S1	**Juan Fernandez**	**11.94**	**218**	P	**Pn**	**15 08 17.3**	**-2.4**
	baz=32,slow=20,SNR=124						
H03S2	**Juan Fernandez**	**11.95**	**218**	P	**Pn**	**15 08 17.4**	**-2.4**
	baz=32,slow=20,SNR=143						
BI02	**San Fabin de**	**12.05**	**184**	Pn	**Pn**	**15 08 18.5**	**-3.1**
SIV	**San Ignacio**	**12.10**	**47**	P	**Pn**	**15 08 18.3**	**-4.0**
	comp=Z,131nm,0.4s,baz=238,slow=9.7,SNR=236						
SIV				S	Sn	15 10 22.2	-14
	comp=Z,110nm,0.8s,baz=228,slow=15,SNR=3.6						
SJPY	**San Joaquin**	**12.80**	**95**	*eP*	**Pn**	**15 08 29.4**	**-2.3**
BDQN	**Bodoquena, MS**	**13.08**	**74**	*eP*	**Pn**	**15 08 32.8**	**-2.8**
PTLB	**Pontes e Lacer**	**13.80**	**51**	Pn	**Pn**	**15 08 41.2**	**-4.2**
AQDB	**Aquidauana**	**14.00**	**76**	Pn	**Pn**	**15 08 44.9**	**-3.2**
AQDB	**Aquidauana**	**14.00**	**76**	*eP*	**Pn**	**15 08 45.4**	**-2.7**
AMBA	**Amambai (Brazi**	**14.01**	**86**	*eP*	**Pn**	**15 08 44.9**	**-3.4**
NNA	**Nana**	**14.05**	**332**		**Pn**	**15 08 47.3**	**-1.5**
NNA	**Nana**	**14.05**	**332**	P	**Pn**	**15 08 50.5**	**+1.7**
	comp=Z,4.9nm,0.4s,baz=154,slow=13,SNR=3.6						
NNA				S	**Sn**	**15 11 19.4**	**-3.8**
	comp=Z,28nm,0.6s,baz=238,slow=12,SNR=2.5						
NNA				LR	LR	15 13 40.4	
	comp=Z,1μm,21.4s,baz=160,slow=34						
NNA	**Nana**	**14.05**	**332**	*ceP*	**Pn**	**15 08 51.8**	**+3.0**
NNA				pmax	pmax		
	comp=Z,34nm,0.7s						
TBOT	**Tacuaremb**	**14.40**	**122**	*eP*	**Pn**	**15 08 51.5**	**-1.9**
VILB	**Vilhena**	**14.95**	**41**	Pn	**Pn**	**15 08 57.3**	**-3.3**
VILB	**Vilhena**	**14.95**	**41**	*eP*	**Pn**	**15 08 57.4**	**-3.1**
LR03	**Panguipulli**	**15.09**	**186**	Pn	**Pn**	**15 09 01.2**	**-1.1**
LR03				IAmb	IAmb	15 09 05.9	
	comp=Z,94nm,0.2s						
TRQA	**Tornquist**	**15.12**	**154**	Pn	**Pn**	**15 09 00.1**	**-2.6**
TRQA	**Tornquist**	**15.12**	**154**	P	**Pn**	**15 09 00.1**	**-2.6**
TRQA				pmax	pmax		
	comp=Z,280nm,1.0s						
LR04	**Corral**	**15.47**	**189**		**Pn**	**15 09 06.1**	**-1.1**
LR05	**Currie**	**15.65**	**185**	Pn	**Pn**	**15 09 08.2**	**-1.3**
RPRD	**Ribas do Rio P**	**15.77**	**78**	*eP*	**Pn**	**15 09 09.3**	**-1.8**
CPSB	**Cacapava Do Su**	**15.93**	**115**	*eP*	**Pn**	**15 09 10.5**	**-2.6**
PLCA	**Paso Flores**	**16.08**	**181**	Pn	**Pn**	**15 09 13.5**	**-1.5**
PLCA	**Paso Flores**	**16.08**	**181**	P	**Pn**	**15 09 14.6**	**-0.4**
	comp=Z,52nm,1.0s,baz=2.0,slow=13,SNR=23						
PLCA				LR	LR	15 15 42.8	
	comp=Z,3μm,21.0s,baz=359,slow=38						
PLCA	**Paso Flores**	**16.08**	**181**	P	**Pn**	**15 09 13.5**	**-1.5**
PLCA				pmax	pmax		
	comp=Z,105nm,1.3s						
SALV	**Santo Antonio**	**16.11**	**60**	*eP*	**Pn**	**15 09 12.1**	**-3.3**
PLTB	**Pedras Altas**	**16.25**	**120**	Pn	**Pn**	**15 09 14.5**	**-2.7**
PLTB	**Pedras Altas**	**16.25**	**120**	*eP*	**Pn**	**15 09 14.5**	**-2.7**
PTGB	**Pitanga**	**16.47**	**94**	*eP*	**Pn**	**15 09 18.1**	**-2.0**
LL03	**Petrohue**	**16.59**	**186**	Pn	**Pn**	**15 09 21.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**16.95**	**351**	P	**Pn**	**15 09 25.4**	**-0.6**
CZSB				IAmb	IAmb	15 09 32.8	
	comp=Z,465nm,0.9s						
CZSB	**Cruzeiro do Su**	**16.95**	**351**	*eP*	**Pn**	**15 09 26.3**	**+0.3**
LL05	**Los Muermos**	**16.98**	**189**	P	**Pn**	**15 09 24.9**	**-1.2**
C2SB	**Chapadao do Su**	**17.13**	**74**	*eP*	**Pn**	**15 09 26.8**	**-1.3**
LDASE	**Londrina, Braz**	**17.46**	**90**	*eP*	**Pn**	**15 09 30.0**	**-2.3**
LL06	**Loncomilla**	**17.79**	**188**	P	**Pn**	**15 09 33.9**	**-2.2**
LL01	**San Ignacio de**	**17.82**	**185**	P	**Pn**	**15 09 35.2**	**-1.3**
CNLB	**Canela**	**17.86**	**109**	*eP*	**Pn**	**15 09 34.5**	**-2.6**
LL07	**Hotel Espejo d**	**18.38**	**188**	P	**P**	**15 09 42.0**	**-0.7**
LL02	**Futaleuf**	**18.59**	**184**	P	**P**	**15 09 44.0**	**-1.0**
GO07	**Milladeo Hill,**	**18.68**	**188**	P	**P**	**15 09 44.8**	**-1.3**
GO07				IAmb	IAmb	15 09 51.7	
	comp=Z,186nm,0.5s						
FRTB	**Fartura**	**18.89**	**90**	*eP*	**P**	**15 09 46.1**	**-2.4**
ITRB	**Iturama**	**18.99**	**79**	*eP*	**P**	**15 09 48.4**	**-1.3**
ATAH	**Atahualpa**	**19.07**	**334**	P	**Pn**	**15 09 55.9**	**+3.7**
	comp=Z,21nm,0.9s,baz=135,slow=6.3,SNR=9.1						
TER01	**Tubaro-SC**	**19.23**	**106**	*eP*	**P**	**15 09 51.0**	**-1.2**
MAJ01	**Sao Joao Batis**	**19.23**	**103**	*eP*	**P**	**15 09 51.2**	**-1.0**
CLDB	**Colider**	**19.32**	**48**	*eP*	**P**	**15 09 50.9**	**-2.4**
ARAG	**Araguaiana, MT**	**19.37**	**66**	*eP*	**P**	**15 09 51.4**	**-2.5**
AY01	**Puyuhuapi**	**19.87**	**185**	P	**P**	**15 09 58.3**	**-0.7**
BB19B	**Bebedouro**	**20.26**	**84**	*eP*	**P**	**15 10 01.3**	**-2.3**
TBTG	**Tabatinga, AM**	**20.30**	**1**	P	**P**	**15 10 02.3**	**-1.6**
TBTG				IAmb	IAmb	15 10 10.0	
	comp=Z,378nm,0.7s						
TBTG	**Tabatinga, AM**	**20.30**	**1**	*eP*	**P**	**15 10 04.3**	**+0.4**
COYC	**Coyhaique**	**20.98**	**184**	P	**P**	**15 10 11.5**	**+0.5**
VAO	**Valinhos**	**21.30**	**90**	P	**P**	**15 10 12.3**	**-2.5**
VAO				IAmb	IAmb	15 10 33.7	
	comp=Z,369nm,0.8s						
VAO	**Valinhos**	**21.30**	**90**	*eP*	**P**	**15 10 12.6**	**-2.1**
IPMB	**Ipameri, GO**	**21.49**	**76**	*eP*	**P**	**15 10 14.0**	**-2.9**
TEFE	**Tefe**	**21.65**	**15**	*eP*	**P**	**15 10 17.9**	**-0.5**
SNDB	**Serra Nova Dou**	**21.86**	**58**	*eP*	**P**	**15 10 17.6**	**-3.1**
PARB	**Paraibuna**	**22.47**	**92**	*eP*	**P**	**15 10 24.5**	**-2.9**
NPGB	**Novo Progresso**	**22.51**	**42**	*eP*	**P**	**15 10 25.1**	**-2.6**
BDFB	**Brasilia**	**22.62**	**71**	P	**P**	**15 10 25.9**	**-3.1**
BDFB				IAmb	IAmb	15 10 29.9	
	comp=Z,323nm,0.8s						
BDFB	**Brasilia**	**22.62**	**71**	P	**P**	**15 10 25.9**	**-3.1**
	comp=Z,251nm,0.6s,baz=238,slow=12,SNR=106						
BDFB				LR	LR	15 20 15.5	
	comp=Z,2μm,21.1s,baz=247,slow=40						
	comp=Z,251nm,0.6s						
AY03	**Cochrane**	**22.68**	**184**	P	**P**	**15 10 29.5**	**+0.3**
PMNB	**Patos De Minas**	**22.88**	**79**	*eP*	**P**	**15 10 28.9**	**-2.7**
MACA	**Manacapuru-AM**	**23.21**	**25**	P	**P**	**15 10 33.4**	**-1.4**
MACA	**Manacapuru-AM**	**23.21**	**25**	*eP*	**P**	**15 10 33.7**	**-1.1**
MAN01	**Angra dos Reis**	**24.05**	**91**	*eP*	**P**	**15 10 41.8**	**-0.9**
ITTB	**Itaituba**	**24.46**	**37**	*eP*	**P**	**15 10 45.4**	**-1.0**
VAS01	**Vassouras-RJ**	**24.63**	**90**	*eP*	**P**	**15 10 46.7**	**-1.3**
DIAM	**Diamantina, MG**	**25.44**	**81**	*eP*	**P**	**15 10 54.5**	**-1.0**
DUB01	**Friburgo-RJ**	**25.64**	**90**	*eP*	**P**	**15 10 56.2**	**-0.9**
OTAV	**Otavalo**	**25.96**	**341**	*eP*	**P**	**15 11 01.4**	**+0.9**
JANB	**Januaria**	**26.09**	**73**	*eP*	**P**	**15 10 59.5**	**-1.7**
CAM01	**Campos-RJ**	**26.34**	**90**	*eP*	**P**	**15 11 02.3**	**-1.1**
PRPB	**Parauapebas**	**26.79**	**50**	*eP*	**P**	**15 11 06.2**	**-1.3**
SDBA	**SAO DESIDERIO**	**26.81**	**68**	*eP*	**P**	**15 11 05.8**	**-2.0**
MG05	**Puerto Natales**	**27.09**	**183**	P	**P**	**15 11 09.6**	**-0.2**
MAL2	**Monte Alegre,**	**27.26**	**37**	P	**P**	**15 11 09.2**	**-2.5**
ALF01	**Guarapari-ES**	**27.46**	**88**	*eP*	**P**	**15 11 12.5**	**-1.0**
SJMB	**Sao Joao De Ma**	**27.55**	**83**	*eP*	**P**	**15 11 13.1**	**-1.3**
RIB01	**Linhares ES**	**28.09**	**85**	*eP*	**P**	**15 11 17.8**	**-1.4**
MG02	**Cerro Sombrero**	**28.14**	**179**	P	**P**	**15 11 18.8**	**-0.5**
MG02				IAmb	IAmb	15 11 42.6	
	comp=Z,223nm,0.9s						
MG04	**Isla Riesco**	**28.23**	**182**	P	**P**	**15 11 19.4**	**-0.6**
BOAV	**Boa Vista**	**28.43**	**21**	P	**P**	**15 11 21.4**	**-0.7**
BOAV				IAmb	IAmb	15 11 23.1	
	comp=Z,173nm,0.9s						
BOAV	**Boa Vista**	**28.43**	**21**	*eP*	**P**	**15 11 22.1**	**-0.1**
EFI	**East Falkland**	**28.58**	**164**	P	**P**	**15 11 22.4**	**-0.8**
EFI				PcP	**PcP**	**15 14 34.6**	**+1.5**
EFI	**East Falkland**	**28.58**	**164**	*i P*	**P**	**15 11 21.4**	**-1.7**
EFI				pmax	pmax		
	comp=Z,36nm,1.5s						
MG03	**Isla Dawson**	**29.20**	**180**	P	**P**	**15 11 29.2**	**+0.6**
GUA01	**Guaratinga, BA**	**29.49**	**80**	*eP*	**P**	**15 11 30.6**	**-1.0**
ROSC	**El Rosal**	**29.55**	**352**	P	**P**	**15 11 34.2**	**+1.7**
ROSC				IAmb	IAmb	15 11 59.1	
	comp=Z,144nm,1.1s						
ROSC	**El Rosal**	**29.55**	**352**	P	**P**	**15 11 32.4**	**-0.1**
	comp=Z,54nm,0.6s,baz=170,slow=7.5,SNR=11						
ROSC				LR	LR	15 24 07.1	
	comp=Z,854nm,20.4s,baz=189,slow=38						
	comp=Z,54nm,0.6s						
ROSC	**El Rosal**	**29.55**	**352**	P	**P**	**15 11 34.2**	**+1.7**
ROSC				pmax	pmax		
	comp=Z,144nm,1.2s						
CMC01	**Camacan, BA**	**30.19**	**78**	*eP*	**P**	**15 11 36.5**	**-1.3**
MG01	**Puerto William**	**30.35**	**177**	P	**P**	**15 11 39.5**	**+0.8**
TMAB	**Tom-Au,PA,Br**	**30.71**	**47**	*eP*	**P**	**15 11 42.3**	**-0.1**
SDV	**Santo Domingo**	**33.29**	**359**	P	**P**	**15 12 03.6**	**-1.6**
SDV	**Santo Domingo**	**33.29**	**359**

DWPF PcP **PcP** **15 15 53.2 -0.6**
H10N3 ASCENSION HYDR 55.63 82 P **P** **15 15 03.7 +0.8**
baz=238,slow=9.0,SNR=2.4
H10N1 ASCENSION HYDR 55.65 83 P **P** **15 15 03.8 +0.9**
baz=238,slow=9.0,SNR=4.4
H10N2 ASCENSION HYDR 55.65 82 P **P** **15 15 03.2 +0.2**
baz=238,slow=9.0,SNR=4.1
ASCN Ascension 55.72 83 P **P** **15 15 02.1 -1.7**
BELA Belgrano 2 55.86 171 P **P** **15 15 04.2 +0.3**
BELA IAmb IAmb 15 15 06.3
comp=Z,80nm,1.0s
BBSR BB Station 56.90 6 P **P** **15 15 10.8 -1.0**
BBSR BB Station 56.90 6 P **P** **15 15 11.9 +0.1**
BBSR pP **pP** **15 15 27.1 -0.3**
TIGA Tifton 57.19 346 P **P** **15 15 13.0 -0.8**
TIGA IAmb IAmb 15 15 14.9
comp=Z,80nm,1.0s
VNA3 Neumayer Olymp 57.54 161 ⇑P **P** **15 15 16.3 +0.4**
comp=Z,49nm,0.8s
VNA3 ⇑sP **pP** **15 15 34.2 +2.6**
comp=Z,38nm,0.8s
BRAL Brewton 57.76 343 P **P** **15 15 17.5 -0.3**
VNA1 Neumayer--Stat 57.78 160 ⇑P **P** **15 15 18.1 +0.5**
comp=Z,51nm,1.0s
VNA2 Neumayer--Watz 58.14 160 ⇑P **P** **15 15 20.6 +0.5**
comp=Z,43nm,0.9s,baz=288,slow=8.0
VNA2 ⇑sP **pP** **15 15 38.4 +2.6**
comp=Z,36nm,0.6s,baz=282,slow=6.1
250A Grady 58.33 344 IAmb IAmb 15 15 22.9
comp=Z,82nm,0.9s
152A Waverly Hall 58.62 346 IAmb IAmb 15 15 24.7
comp=Z,72nm,0.9s
RKT Rikitea 58.76 257 *e*S **S** **15 23 28.8 +2.3**
RKT comp=Z,2μm,33.8s *e*SS **SS** **15 27 18.5 -1.8**
RKT comp=Z,2μm,32.8s *e*LR LR 15 32 45.8
RKT comp=Z,15μm,30.2s
GOGA Godfrey 59.07 347 IAmb IAmb 15 15 27.8
comp=Z,43nm,1.0s
JSC Jenkinsville 59.50 349 IAmb IAmb 15 15 53.0
comp=Z,65nm,0.7s
LRAL Lakeview Retre 59.52 344 P **P** **15 15 29.2 -0.9**
LRAL IAmb IAmb 15 15 46.1
comp=Z,52nm,0.9s
HKT Hockley 59.57 334 P **P** **15 15 30.7 +0.3**
HKT IAmb IAmb 15 15 48.1
comp=Z,67nm,1.4s
HKT Hockley 59.57 334 *i*P **P** **15 15 30.5 +0.1**
HKT pmax pmax
comp=Z,31nm,1.1s
HKT Hockley 59.57 334 P **P** **15 15 31.8 +1.4**
HKT pP **pP** **15 15 47.0 +0.8**
Y52A Lilburn 59.63 347 IAmb IAmb 15 15 31.7
comp=Z,58nm,0.9s
SNAA Sanae 59.75 160 P **P** **15 15 31.4 0.0**
SNAA Sanae 59.75 160 ⇑P **P** **15 15 31.8 +0.5**
comp=Z,1μm,1.0s
SNAA ⇑sP **pP** **15 15 47.9 +0.9**
comp=Z,670nm,0.6s
SNAA Sanae 59.75 160 P **P** **15 15 31.5 +0.2**
comp=Z,63nm,1.0s,baz=284,slow=5.3,SNR=56
SNAA pP **pP** **15 15 46.7 -0.3**
comp=Z,34nm,0.8s,baz=252,slow=6.1,SNR=9.5
SNAA LR LR 15 39 33.6
comp=Z,231nm,21.4s,baz=300,slow=34
comp=Z,63nm,1.0s
SNAA Sanae 59.75 160 *ce*P **P** **15 15 31.9 +0.5**
SNAA pmax pmax
comp=Z,174nm,1.7s
PAULI Pauline 60.12 349 IAmb IAmb 15 15 35.7
comp=Z,81nm,1.0s
KMSC Kings Mountain 60.35 349 IAmb IAmb 15 15 37.3
comp=Z,69nm,1.0s
SHEL Horse Pasture 60.60 95 P **P** **15 15 37.7 -0.3**
SHEL Horse Pasture 60.60 95 P **P** **15 15 37.7 -0.3**
SHEL pmax pmax
comp=Z,121nm,0.8s
SHEL Horse Pasture 60.60 95 P **P** **15 15 38.6 +0.7**
SHEL sP **sP** **15 16 00.8 +0.6**
SHEL PcP **PcP** **15 16 21.5 -0.5**
FPAL Fort Paine 60.62 345 IAmb IAmb 15 15 54.2
comp=Z,40nm,1.0s
NATX Nacogdoches 60.74 336 IAmb IAmb 15 15 56.2
comp=Z,70nm,0.8s
W52A Murphy 60.79 347 IAmb IAmb 15 15 55.3
comp=Z,82nm,1.1s
X48A Hartselle 60.88 344 P **P** **15 15 38.6 -0.7**
435B Jarrell 61.01 333 IAmb IAmb 15 15 42.5
comp=Z,39nm,0.8s
V53A Saluda 61.13 348 IAmb IAmb 15 16 04.0
comp=Z,51nm,0.7s
DRIO Del Rio 61.16 330 IAmb IAmb 15 15 59.4
comp=Z,53nm,1.0s
CPCT Cooper Cave 61.25 347 IAmb IAmb 15 15 43.1
comp=Z,70nm,0.9s
TKL Tuckaleechee C 61.30 347 P **P** **15 15 42.4 +0.2**
comp=Z,58nm,0.8s,baz=170,slow=7.9,SNR=4.3
TKL pP **pP** **15 15 57.8 -0.2**
comp=Z,54nm,0.9s,baz=156,slow=8.8,SNR=7.4
comp=Z,58nm,0.8s
U56A King 61.39 351 P **P** **15 15 42.4 -0.4**
TROLL Troll, Antarti 61.47 160 ⇑P **P** **15 15 43.9 +0.7**
comp=Z,2μm,0.6s
TROLL ⇑sP **pP** **15 15 59.2 +0.3**
comp=Z,1μm,0.5s
SLBS Sierra La Lagu 61.57 318 P **P** **15 15 45.6 +1.3**
T59A Double "B" Far 61.64 353 IAmb IAmb 15 16 08.0
comp=Z,65nm,0.9s
PLAL Pickwick Lake 61.64 343 IAmb IAmb 15 16 00.3
comp=Z,102nm,1.1s
T57A Hurt 61.87 352 IAmb IAmb 15 16 09.4
comp=Z,62nm,0.8s
WLAR White Oak Lake 61.94 338 P **P** **15 15 47.1 +0.6**
WHTX Lake Whitney, 62.02 334 IAmb IAmb 15 16 04.3
comp=Z,62nm,0.9s
BRDY Brady 62.04 332 IAmb IAmb 15 16 04.4
comp=Z,46nm,0.9s
LPIG La Paz 62.10 318 P **P** **15 15 50.4 +2.6**
comp=Z,24nm,0.4s,baz=153,slow=6.8,SNR=1.2
LPIG LR LR 15 37 01.0
comp=Z,49nm,18.6s,baz=130,slow=30
comp=Z,24nm,0.4s
TZTN Tazewell 62.12 348 P **P** **15 15 47.0 -0.7**
TZTN IAmb IAmb 15 16 04.0
comp=Z,48nm,1.1s
Z38A Mt. Pleasant 62.21 337 IAmb IAmb 15 16 05.8
comp=Z,54nm,0.8s
BLA Blacksburg 62.24 351 IAmb IAmb 15 16 13.2
comp=Z,54nm,0.8s
CLTN Cedars of Leba 62.27 345 IAmb IAmb 15 16 11.5
comp=Z,46nm,0.8s
RCRC Randolf Colleg 62.30 352 P **P** **15 15 47.3 -1.5**
SAND Sanderson 62.31 329 IAmb IAmb 15 16 07.2
comp=Z,66nm,0.9s
FW13 Cleburne 62.33 334 IAmb IAmb 15 16 06.2
comp=Z,49nm,0.7s
TXAR Lajitas Array 62.54 327 P **P** **15 15 51.9 +1.1**
TXAR Lajitas Array 62.54 327 P **P** **15 15 52.5 +1.7**
comp=Z,7.2nm,0.7s,baz=148,slow=8.1,SNR=38
TXAR pP **pP** **15 16 07.9 +1.2**
comp=Z,12nm,0.7s,baz=148,slow=8.1,SNR=16
TXAR LR LR 15 39 02.6
comp=Z,120nm,21.3s,baz=136,slow=32
TXAR PKP2bc 15 45 01.1
comp=Z,0.8nm,0.9s,baz=319,slow=3.6,SNR=3.5
comp=Z,7.2nm,0.7s
U49A Red Boiling Sp 62.55 346 IAmb IAmb 15 16 13.1
comp=Z,46nm,0.7s
R58B Mineral 62.66 353 IAmb IAmb 15 15 53.4
comp=Z,66nm,0.9s
OZNA Ozona 62.67 330 IAmb IAmb 15 16 18.3
comp=Z,34nm,0.8s
WVT Waverly 62.67 344 P **P** **15 15 50.3 -1.0**
WVT Waverly 62.67 344 P **P** **15 15 50.3 -1.0**
WVT pmax pmax
comp=Z,108nm,0.7s
WVT Waverly 62.67 344 P **P** **15 15 51.0 -0.4**
WVT pP **pP** **15 16 06.2 -1.0**
WVT sP **sP** **15 16 12.8 -0.8**
WVT PcP **PcP** **15 16 28.4 -1.3**
UALR University of 62.69 340 IAmb IAmb 15 16 08.3
comp=Z,62nm,1.0s
T50A Nancy 62.83 347 P **P** **15 15 52.2 -0.3**
T50A IAmb IAmb 15 16 14.9
comp=Z,42nm,0.8s
MIAR Mount Ida 62.88 338 IAmb IAmb 15 16 09.8
comp=Z,72nm,0.9s
S54A Dingess, Beckl 62.95 350 IAmb IAmb 15 16 16.1
comp=Z,71nm,0.8s
PLPT Palo Pinto 63.09 334 P **P** **15 15 54.6 +0.4**
PLPT IAmb IAmb 15 16 11.5
comp=Z,72nm,1.2s
WHAR Wooly Hollow 63.14 340 P **P** **15 15 54.1 -0.4**
WHAR IAmb IAmb 15 16 11.3
comp=Z,70nm,0.9s
S51A Beattyville 63.19 348 P **P** **15 15 53.5 -1.2**
S51A IAmb IAmb 15 16 17.4
comp=Z,43nm,0.8s
LCAR Lake Charles 63.52 341 P **P** **15 15 56.9 -0.1**
LCAR IAmb IAmb 15 16 13.4
comp=Z,63nm,0.9s
Q56A Snyder Ridge, 63.87 352 IAmb IAmb 15 16 23.4
comp=Z,79nm,0.8s
PBMO Poplar Bluff 63.97 342 P **P** **15 15 59.9 0.0**
WTFS Witchita Falls 63.98 334 IAmb IAmb 15 16 17.3
comp=Z,56nm,0.8s
R49A Shelbyville 64.13 347 IAmb IAmb 15 16 23.3
comp=Z,43nm,0.8s
SSFO Shawnee State 64.14 349 IAmb IAmb 15 16 23.6
comp=Z,38nm,0.7s
P57A Homestead Farm 64.17 353 IAmb IAmb 15 16 03.6
comp=Z,64nm,0.9s
Q52A Bidwell 64.24 350 IAmb IAmb 15 16 24.4
comp=Z,47nm,0.8s
CGM3 Cape Girardeau 64.25 343 IAmb IAmb 15 16 24.6
comp=Z,44nm,0.8s
WCI Wyandotte Cave 64.31 346 P **P** **15 16 01.5 -0.6**
WCI Wyandotte Cave 64.31 346 P **P** **15 16 01.5 -0.6**
WCI pmax pmax
comp=Z,105nm,0.7s
WCI Wyandotte Cave 64.31 346 P **P** **15 16 01.5 -0.6**
WCI pP **pP** **15 16 16.8 -1.2**
WCI sP **sP** **15 16 23.5 -0.9**
WCI PcP **PcP** **15 16 35.5 -0.9**
PECS Pecos 64.32 328 IAmb IAmb 15 16 27.4
comp=Z,52nm,0.6s
NVL N'lazarevskaya 64.37 159 *eP* **P** **15 16 01.9 -0.3**
NVL *e**PP **pP** **15 16 19.4 +1.3**
NVL *eS* **S** **15 24 37.0 +0.9**
NVL pmax pmax
comp=Z,138nm,1.0s
USIN University of 64.37 345 IAmb IAmb 15 16 18.9
comp=Z,94nm,1.0s
VHRN Van Horn 64.38 327 IAmb IAmb 15 16 21.0
comp=Z,62nm,0.9s
X34A Smith Ranch, M 64.47 335 IAmb IAmb 15 16 20.6
comp=Z,73nm,0.9s
Q51A Peebles 64.49 349 P **P** **15 16 02.8 -0.5**
Q51A IAmb IAmb 15 16 25.9
comp=Z,56nm,1.0s
MCWV Mont Chateau 64.56 352 P **P** **15 16 04.3 +0.5**
MCWV IAmb IAmb 15 16 27.3
comp=Z,55nm,0.8s
HHAR Hobbs 64.58 339 IAmb IAmb 15 16 20.9
comp=Z,56nm,0.9s
W35A Tecumseh 64.59 336 IAmb IAmb 15 16 20.3
comp=Z,92nm,1.4s
P53A Whipple 64.61 350 IAmb IAmb 15 16 27.2
comp=Z,64nm,0.8s
POST Post 64.65 331 IAmb IAmb 15 16 29.6
comp=Z,54nm,0.7s
MBO M'Bour 64.80 59 P **P** **15 16 04.5 -1.3**
MGMO Mountain Grove 64.86 341 P **P** **15 16 05.5 -0.2**
MGMO IAmb IAmb 15 16 22.6
comp=Z,92nm,0.9s
P52A Corning 64.87 350 IAmb IAmb 15 16 06.6
comp=Z,69nm,0.8s
U38A Gravette 64.87 339 IAmb IAmb 15 16 22.6
comp=Z,44nm,0.8s
P51A Williamsport 64.88 349 IAmb IAmb 15 16 28.3
comp=Z,56nm,0.7s
DKNS Dickens 64.91 332 P **P** **15 16 06.8 +0.5**
DKNS IAmb IAmb 15 16 23.5
comp=Z,50nm,0.8s
WMOK Wichita Mounta 64.96 334 P **P** **15 16 06.3 -0.2**
WMOK Wichita Mounta 64.96 334 P **P** **15 16 06.3 -0.2**
WMOK pmax pmax
comp=Z,13nm,0.8s
DEOK Depew 65.07 337 IAmb IAmb 15 16 24.0
comp=Z,90nm,1.0s
BRNJ Basking Ridge 65.08 356 IAmb IAmb 15 16 30.9
comp=Z,66nm,0.8s
FVM French Village 65.10 342 P **P** **15 16 07.5 +0.2**
FVM French Village 65.10 342 P **P** **15 16 07.5 +0.2**
FVM pmax pmax
comp=Z,165nm,0.7s
HTMS Hat Mesa 65.12 329 P **P** **15 16 09.0 +1.3**
O54A Avella 65.15 351 IAmb IAmb 15 16 30.4
comp=Z,36nm,0.7s
OLIL Olney 65.21 345 IAmb IAmb 15 16 30.1
comp=Z,68nm,0.8s
BLO Bloomington 65.26 346 P **P** **15 16 07.7 -0.6**
BLO IAmb IAmb 15 16 30.5
comp=Z,63nm,0.7s
BLO Bloomington 65.26 346 P **P** **15 16 07.7 -0.6**
BLO pmax pmax
comp=Z,63nm,0.7s
BBTS Babate 65.29 59 LR LR 15 45 28.3
comp=Z,197nm,18.6s,baz=119,slow=37
SSPA Standing Stone 65.30 354 P **P** **15 16 09.2 +0.7**
SSPA pP **pP** **15 16 24.3 -0.2**
SSPA sP **sP** **15 16 31.1 +0.2**
P48A Milroy 65.31 347 P **P** **15 16 06.4 -2.2**
O53A New Philadelph 65.33 351 IAmb IAmb 15 16 31.6
comp=Z,40nm,0.8s
OK029 Liberty Lake 65.38 336 IAmb IAmb 15 16 25.8
comp=Z,96nm,0.9s
CCM Cathedral Cave 65.39 342 P **P** **15 16 08.8 -0.4**
CCM Cathedral Cave 65.39 342 P **P** **15 16 08.8 -0.4**
CCM pmax pmax
comp=Z,97nm,0.8s
QUOK Quay 65.44 337 IAmb IAmb 15 16 26.5
comp=Z,85nm,0.8s
Q44A Meyer Farm, Va 65.59 344 IAmb IAmb 15 16 26.8
comp=Z,80nm,1.0s
ACSO Alum Creek Sta 65.60 349 P **P** **15 16 09.8 -0.6**
QSPA South Pole Qui 65.60 180 P **P** **15 16 11.4 +0.9**
QSPA South Pole Qui 65.60 180 P **P** **15 16 11.9 +1.5**
comp=Z,57nm,0.8s,baz=158,slow=1.1,SNR=141
QSPA pP **pP** **15 16 27.3 +1.0**
comp=Z,128nm,0.8s,baz=165,slow=2.0,SNR=29
QSPA PKPPKP P'P'df 15 44 41.7 -11
comp=Z,4.6nm,1.0s,baz=293,slow=2.8,SNR=4.2
QSPA LR LR 15 45 01.1
comp=Z,188nm,19.0s,baz=161,slow=36
comp=Z,57nm,0.8s
QSPA South Pole Qui 65.60 180 P **P** **15 16 12.0 +1.5**
QSPA pP **pP** **15 16 27.4 +1.0**
QSPA sP **sP** **15 16 34.2 +1.3**
O49A Covington 65.80 348 IAmb IAmb 15 16 34.2
comp=Z,69nm,0.9s
N53A Lisbon 65.83 351 IAmb IAmb 15 16 14.3
comp=Z,57nm,1.0s
P46A Rosedale 65.84 346 IAmb IAmb 15 16 34.1
comp=Z,70nm,0.8s
EPT El Paso 65.94 326 IAmb IAmb 15 16 38.0
comp=Z,46nm,0.9s
O48B Farmland 66.02 348 IAmb IAmb 15 16 35.4
comp=Z,95nm,1.3s
KSPA Keystone Colle 66.03 355 IAmb IAmb 15 16 37.1
comp=Z,40nm,0.8s
T35A Sooner Cattle 66.03 337 IAmb IAmb 15 16 30.5
comp=Z,90nm,1.0s
UCCT U. Connecticut 66.09 358 IAmb IAmb 15 16 37.1
comp=Z,42nm,0.8s
L64A Middleborough 66.21 359 IAmb IAmb 15 16 16.2
comp=Z,54nm,0.8s
ELIS Ellis County 66.37 334 IAmb IAmb 15 16 33.2
comp=Z,100nm,1.0s
N49A Columbus Grove 66.48 348 P **P** **15 16 15.9 -0.2**
ALLY Alegheny Colle 66.56 352 P **P** **15 16 16.2 -0.4**
ALLY IAmb IAmb 15 16 39.8
comp=Z,73nm,0.8s
M52A Chesterland 66.62 351 IAmb IAmb 15 16 39.9
comp=Z,72nm,0.8s
WES Weston 66.66 359 IAmb IAmb 15 16 41.0
comp=Z,44nm,0.8s
NOKA Waynoka 66.68 335 IAmb IAmb 15 16 34.9
comp=Z,69nm,1.2s
BINY Binghamton 66.69 355 IAmb IAmb 15 16 41.3
comp=Z,45nm,0.8s
N47A Urbana 66.73 347 IAmb IAmb 15 16 40.5
comp=Z,42nm,0.7s
M50A Fremont 66.75 350 IAmb IAmb 15 16 40.4
comp=Z,55nm,0.9s
L56A Greenwood 66.76 354 IAmb IAmb 15 16 41.5
comp=Z,39nm,0.8s
L61B Northampton 66.76 358 IAmb IAmb 15 16 41.6
comp=Z,68nm,0.9s
HRV Adam Dziewonsk 66.79 359 P **P** **15 16 18.4 +0.3**
HRV IAmb IAmb 15 16 42.1
comp=Z,85nm,0.8s
HRV Adam Dziewonsk 66.79 359 P **P** **15 16 18.4 +0.3**
HRV pmax pmax
comp=Z,85nm,0.8s
HRV Adam Dziewonsk 66.79 359 P **P** **15 16 19.1 +1.1**
HRV pP **pP** **15 16 35.1 +1.1**
HRV sP **sP** **15 16 41.2 +0.7**
HDIL Hopedale 67.22 344 IAmb IAmb 15 16 43.2
comp=Z,73nm,0.7s
K57A Scipio Center 67.25 355 IAmb IAmb 15 16 44.4
comp=Z,46nm,0.8s
P38A Dawn 67.52 341 IAmb IAmb 15 16 40.6
comp=Z,83nm,0.8s
J61A Chester 67.65 358 IAmb IAmb 15 16 47.9
comp=Z,80nm,0.8s
ACCN Adirondack Com 67.73 357 IAmb IAmb 15 16 48.1
comp=Z,41nm,0.9s
J59A Piesco 67.85 357 IAmb IAmb 15 16 48.7
comp=Z,48nm,0.9s
MEDO Medina 67.86 353 IAmb IAmb 15 16 26.4
comp=Z,50nm,1.0s
J57A Williamstown 67.89 355 IAmb IAmb 15 16 48.4
comp=Z,55nm,0.8s
ELIB Princess Elisa 67.92 160 *dP* **P** **15 16 25.8 +0.7**
comp=Z,52nm,0.6s
HNH Hanover 68.00 358 P **P** **15 16 26.4 +0.8**
HNH IAmb IAmb 15 16 50.3
comp=Z,68nm,0.9s
KSU1 Kansas State U 68.03 338 IAmb IAmb 15 16 42.7
comp=Z,54nm,0.9s
TAOE Nuku Hiva Isla 68.19 270 *eP* **P** **15 16 27.2 -0.5**
TAOE comp=Z,49nm,25.3s *eS* **S** **15 25 22.3 -2.1**
TAOE comp=Z,181nm,27.2s *e*SS **SS** **15 29 46.1 -2.0**
TAOE comp=Z,166nm,37.3s *e*LR LR 15 37 06.7
TAOE comp=Z,707nm,25.7s
I63A Otisfield 68.32 360 IAmb IAmb 15 16 52.3
comp=Z,73nm,1.0s
L44A Lake County Fo 68.44 346 IAmb IAmb 15 16 50.9
comp=Z,103nm,1.0s
ANMO Albuquerque 68.49 329 P **P** **15 16 30.8 +1.6**
ANMO IAmb IAmb 15 16 55.1
comp=Z,46nm,0.8s
ANMO Albuquerque 68.49 329 P **P** **15 16 31.7 +2.5**
ANMO comp=Z,17nm,0.7s,baz=308,slow=6.7,SNR=34 pP **pP** **15 16 46.3 +1.1**
comp=Z,20nm,0.7s,baz=307,slow=8.2,SNR=8.3
ANMO LR LR 15 42 59.1
comp=Z,171nm,21.9s,baz=302,slow=33
comp=Z,17nm,0.7s
ANMO Albuquerque 68.49 329 *ce*P **P** **15 16 30.4 +1.2**
ANMO pmax pmax
comp=Z,11nm,0.6s
PECO Prince Edward 68.49 355 IAmb IAmb 15 16 52.1
comp=Z,56nm,0.8s
TUC Tucson 68.59 324 P **P** **15 16 31.6 +1.8**
TUC IAmb IAmb 15 16 48.8
comp=Z,72nm,1.1s
TUC Tucson 68.59 324 P **P** **15 16 31.6 +1.8**
TUC pmax pmax
comp=Z,72nm,1.1s
TUC Tucson 68.59 324 P **P** **15 16 32.1 +2.3**
TUC pP **pP** **15 16 47.4 +1.5**
TUC sP **PcP** **15 16 54.6 +0.1**
L42A Oliver, Polo 68.68 345 IAmb IAmb 15 16 53.5
comp=Z,41nm,0.6s
WVL Waterville 68.83 0 P **P** **15 16 30.2 -0.6**
WVL IAmb IAmb 15 16 55.2
comp=Z,66nm,0.9s
J47A Sunmer 68.84 349 IAmb IAmb 15 16 53.5
comp=Z,94nm,0.9s
DELO Deloro Mine 69.12 354 IAmb IAmb 15 16 56.0
comp=Z,132nm,1.7s
HAL Halifax 69.17 5 P **P** **15 16 32.7 -0.2**
HAL IAmb IAmb 15 16 56.9
comp=Z,52nm,0.8s
HAL Halifax 69.17 5 P **P** **15 16 32.7 -0.2**
HAL pmax pmax
comp=Z,52nm,0.8s
FRNY Flat Rock 69.17 357 IAmb IAmb 15 16 56.9
comp=Z,57nm,0.8s
WBO Williamsburg 69.42 356 IAmb IAmb 15 16 58.2
comp=Z,72nm,0.8s
GGN Saint George 69.45 3 IAmb IAmb 15 16 58.9
comp=Z,51nm,0.9s
SADO Sadowa 69.52 353 IAmb IAmb 15 16 58.2
comp=Z,77nm,0.8s
SADO Sadowa 69.52 353 P **P** **15 16 35.4 +0.2**
comp=Z,54nm,0.7s,baz=190,slow=5.1,SNR=32
SADO pP **pP** **15 16 51.3 +0.2**
comp=Z,36nm,0.9s,baz=194,slow=5.9,SNR=6.6
SADO LR LR 15 48 16.9
comp=Z,222nm,21.1s,baz=228,slow=37
comp=Z,54nm,0.7s
SCIA State Center 69.53 342 IAmb IAmb 15 16 53.3
comp=Z,70nm,0.8s
PKME Peaks-Kenny Pk 69.54 1 P **P** **15 16 35.8 +0.6**
PKME IAmb IAmb 15 16 59.3
comp=Z,77nm,0.7s
JFWS Jewell Farm 69.68 344 IAmb IAmb 15 16 53.0
comp=Z,90nm,0.8s
MNTQ Montreal, Queb 69.84 357 P **P** **15 16 37.5 +0.4**
MNTQ IAmb IAmb 15 17 01.0
comp=Z,89nm,0.9s
F64A Sherman 70.15 1 P **P** **15 16 39.2 +0.2**
F64A IAmb IAmb 15 17 03.1
comp=Z,78nm,0.6s
LMN Caledonia Moun 70.29 4 IAmb IAmb 15 17 03.5
comp=Z,43nm,0.7s
I42A Draeger Farm, 70.30 346 IAmb IAmb 15 17 03.0
comp=Z,56nm,0.7s
SDCO Great Sand Dun 70.34 331 IAmb IAmb 15 16 59.6
comp=Z,118nm,1.1s
H43A Windswept, Lux 70.60 347 IAmb IAmb 15 17 04.6
comp=Z,77nm,0.7s
TRQ Mont Tremblant 70.60 357 IAmb IAmb 15 17 05.3
comp=Z,66nm,0.8s
VTX Valle De La Tr 70.73 320 P **P** **15 16 43.5 +0.6**
VTX IAmb IAmb 15 17 02.2
comp=Z,95nm,1.6s
DBIC Dimbokro 70.75 73 P **P** **15 16 43.0 -0.3**
DBIC Dimbokro 70.75 73 P **P** **15 16 43.2 -0.1**
comp=Z,109nm,0.8s,baz=223,slow=6.0,SNR=143
DBIC pP **pP** **15 16 58.6 -0.8**
comp=Z,88nm,0.8s,baz=223,slow=5.3,SNR=11
DBIC LR LR 15 45 20.4
comp=Z,830nm,21.7s,baz=226,slow=34
comp=Z,109nm,0.8s
E62A Clayton Lake 70.89 0 P **P** **15 16 44.3 +0.8**
E62A IAmb IAmb 15 17 07.7
comp=Z,54nm,0.7s
Q24A Divide 71.20 332 IAmb IAmb 15 17 04.6
comp=Z,91nm,0.9s
MVCO Mesa Verde 71.29 328 IAmb IAmb 15 17 12.8
comp=Z,76nm,0.8s
D62A Allapoint, All 71.36 1 IAmb IAmb 15 17 10.7
comp=Z,66nm,0.7s
TBI Tubuai 71.41 252 *e*S **S** **15 25 56.5 -5.2**
comp=Z,2μm,34.5s
TBI Tubuai 71.41 252 *e*LR LR 15 38 32.7
comp=Z,1μm,25.5s
TBI *e*LR LR 15 38 37.0
comp=Z,3μm,26.0s
I37A Lemond, Waseca 71.53 343 IAmb IAmb 15 17 04.3
comp=Z,84nm,0.9s
OGNE Ogallala 71.62 335 IAmb IAmb 15 17 06.3
comp=Z,84nm,1.0s
E46A Sault Ste Mari 71.79 350 IAmb IAmb 15 17 11.7
comp=Z,82nm,0.8s
PV13 Radium Mtn., P 72.20 329 P **P** **15 16 53.5 +1.6**
PV13 IAmb IAmb 15 17 18.2
comp=Z,49nm,0.8s
ECSD EROS Data Cent 72.21 340 IAmb IAmb 15 17 08.8
comp=Z,62nm,0.9s
BRIGG Briggsdale 72.21 333 IAmb IAmb 15 17 10.8
comp=Z,100nm,0.8s

SPMN	**Marine on St.**	72.49	343		IAmb	IAmb	15 17 09.8	
	comp=Z,80nm,1.1s							
VLDQ	**Val d'Or**	72.68	355		IAmb	IAmb	15 16 55.8	
	comp=Z,68nm,1.0s							
PFO	**Pinyon Flats O**	72.73	321		P	P	15 16 57.4	+2.5
	comp=Z,7.2nm,0.9s,baz=160,slow=3.2,SNR=7.5							
PFO					pP	PcP	15 17 13.1	+1.0
	comp=Z,25nm,1.0s,baz=131,slow=6.0,SNR=12							
PFO					LR	LR	15 42 40.8	
	comp=Z,166nm,21.6s,baz=73,slow=31							
	comp=Z,7.2nm,0.9s							
PPT2	**Papeete2**	73.49	258		*e*P	P	15 16 59.5	-0.3
	comp=Z,72nm,27.8s							
PPT2	**Papeete2**	73.49	258		*e*PP	PP	15 19 39.9	-4.2
	comp=Z,58nm,35.8s							
PPT2					*e*S	S	15 26 22.2	-3.6
	comp=Z,425nm,28.8s							
PPT2					*e*SS	SS	15 30 47.0	-22
	comp=Z,136nm,26.0s							
PPT2					*e*LR	LR	15 39 32.8	
	comp=Z,3μm,29.8s							
PPT2					*e*LR	LR	15 39 37.7	
	comp=Z,2μm,31.8s							
O20A	**White River Ci**	73.52	330		IAmb	IAmb	15 17 26.0	
	comp=Z,88nm,0.8s							
SUSD	**Miller**	73.59	339		IAmb	IAmb	15 17 24.4	
	comp=Z,101nm,0.8s							
VNDA	**Vanda**	73.60	190		P	P	15 17 01.0	+1.6
VNDA	**Vanda**	73.60	190		P	P	15 17 01.2	+1.8
	comp=Z,13nm,0.9s,baz=137,slow=5.3,SNR=43							
VNDA					pP	pP	15 17 17.2	+1.7
	comp=Z,20nm,0.9s,baz=128,slow=6.7,SNR=13							
VNDA					LR	LR	15 47 26.8	
	comp=Z,192nm,19.1s,baz=144,slow=34							
	comp=Z,13nm,0.9s							
MACI	**Morro de la Ar**	73.70	48		P	P	15 16 59.9	-1.0
MACI					IAmb	IAmb	15 17 04.2	
	comp=Z,77nm,0.9s							
SRU	**San Rafael Swe**	73.76	328		IAmb	IAmb	15 17 26.8	
	comp=Z,52nm,0.7s							
ICQ	**Pointe Anglais**	73.84	2		P	P	15 17 01.7	+0.7
ICQ					IAmb	IAmb	15 17 24.5	
	comp=Z,59nm,0.8s							
CALA	**Caldeira**	73.90	33		*e*P	P	15 17 03.0	+1.3
CALA					*i* Amb		15 17 19.5	
	comp=Z,117nm,1.6s							
PCAN	**Candelaria**	73.92	33		*e*P	P	15 17 02.7	+0.9
PCAN					*i* Amb		15 17 23.1	
	comp=Z,100nm,1.2s							
PCED	**Cedros**	73.94	33		*e*P	P	15 17 03.7	+1.9
PCED					*i* Amb		15 17 08.2	
	comp=Z,161nm,1.4s							
PICO	**Pico**	73.97	33		*e*P	P	15 17 03.5	+1.4
PICO					*i* Amb		15 17 04.3	
	comp=Z,139nm,0.8s							
SYO	**Syowa Base**	74.02	159	⇑	*i*P	P	15 17 02.8	+0.9
SYO	**Syowa Base**	74.02	159	⇓	*e*pP	pP	15 17 12.8	-5.3
PPNO	**Prainha do Nor**	74.03	33		*e*P	P	15 17 03.7	+1.3
PID	**Ribeirinha**	74.08	33		*e*P	P	15 17 04.7	+2.0
PID					*i* Amb		15 17 04.9	
	comp=Z,118nm,1.0s							
ROSA	**Rosais**	74.23	33		*e*P	P	15 17 04.4	+0.8
ROSA					*i* Amb		15 17 06.6	
	comp=Z,136nm,0.9s							
PMAN	**Manadas**	74.24	33		*e*P	P	15 17 03.2	-0.4
PMAN					*i* Amb		15 17 05.9	
	comp=Z,152nm,1.1s							
ACRG	**Accra**	74.35	76		P	P	15 17 03.7	-1.1
DRLN	**Deer Lake**	74.39	9		IAmb	IAmb	15 17 05.8	
	comp=Z,101nm,0.8s							
RDMU	**Red Mountain**	74.48	330		IAmb	IAmb	15 17 23.8	
	comp=Z,108nm,1.5s							
PSMN	**Pico do Norte,**	74.57	36		*e*P	P	15 17 04.0	-1.5
PSMN					*i* Amb		15 17 04.8	
	comp=Z,226nm,1.5s							
PSBA	**Serra de Santa**	74.73	33		*e*P	P	15 17 07.5	+1.0
PSBA					*i* Amb		15 17 11.4	
	comp=Z,164nm,1.2s							
PSCM	**Serra do Cume**	74.78	34		*e*P	P	15 17 08.0	+1.3
PSCM					*i* Amb		15 17 11.8	
	comp=Z,110nm,0.6s							
PAGU	**Agualva, Azore**	74.80	34		*e*P	P	15 17 08.3	+1.5
PAGU					*i* Amb		15 17 13.9	
	comp=Z,141nm,1.1s							
K22A	**Casper**	74.85	333		IAmb	IAmb	15 17 25.9	
	comp=Z,68nm,1.1s							
BART	**Pico Bartolome**	75.09	35		*e*P	P	15 17 09.7	+1.0
BART					*i* Amb		15 17 10.4	
	comp=Z,42nm,0.7s							
GRAC	**Grapevine Rang**	75.69	323		P	P	15 17 13.4	+1.3
HWUT	**Hardware Ranch**	76.22	329		IAmb	IAmb	15 17 40.6	
	comp=Z,46nm,0.8s							
PDAR	**Pinedale Array**	76.23	331		P	P	15 17 15.6	+0.3
PDAR	**Pinedale Array**	76.23	331		P	P	15 17 16.6	+1.3
	comp=Z,6.5nm,0.7s,baz=134,slow=7.5,SNR=40							
PDAR					pP	pP	15 17 32.2	+0.7
	comp=Z,10nm,0.8s,baz=137,slow=8.0,SNR=11							
PDAR					LR	LR	15 53 24.2	
	comp=Z,49nm,18.5s,baz=138,slow=38							
	comp=Z,6.5nm,0.7s							
BGU	**Big Grassy Mou**	76.38	328		IAmb	IAmb	15 17 34.9	
	comp=Z,118nm,1.9s							
AHID	**Auburn Hatcher**	76.92	330		IAmb	IAmb	15 17 45.0	
	comp=Z,64nm,0.8s							
NVAR	**Mina Array Bea**	77.24	323		P	P	15 17 23.3	+2.3
	comp=Z,6.6nm,0.8s,baz=152,slow=6.2,SNR=42							
	comp=Z,6.6nm,0.8s							
SNOW	**Snow King Moun**	77.31	331		IAmb	IAmb	15 17 47.6	
	comp=Z,71nm,0.8s							
ELK	**Elko**	77.33	327		P	P	15 17 23.6	+2.1
	comp=Z,17nm,0.8s,baz=136,slow=2.6,SNR=84							
ELK					pP	pP	15 17 39.1	+1.4
	comp=Z,20nm,0.9s,baz=134,slow=3.6,SNR=11							
	comp=Z,17nm,0.8s							
LOHW	**Long Hollow**	77.37	331		IAmb	IAmb	15 17 47.7	
	comp=Z,38nm,0.7s							
TPAW	**Teton Pass**	77.42	331		IAmb	IAmb	15 17 47.2	
	comp=Z,56nm,0.9s							
RYN	**Ryan**	77.50	323		IAmb	IAmb	15 17 41.7	
	comp=Z,105nm,2.0s							
MOOW	**Moose Ponds**	77.54	331		P	P	15 17 23.9	+1.4
ULM	**Lac du Bonnet**	77.93	343		IAmb	IAmb	15 17 47.7	
	comp=Z,35nm,0.6s							
ULM	**Lac du Bonnet**	77.93	343		P	P	15 17 24.7	+0.4
	comp=Z,24nm,0.6s,baz=153,slow=5.8,SNR=56							
ULM					pP	pP	15 17 40.4	-0.2
	comp=Z,14nm,0.5s,baz=152,slow=6.7,SNR=6.2							
ULM					PKKPbc	PKKPbc	15 36 25.1	-2.6
	comp=Z,1.9nm,0.6s,baz=27,slow=3.5,SNR=5.8							
ULM					LR	LR	15 54 40.0	
	comp=Z,102nm,18.2s,baz=150,slow=38							
	comp=Z,24nm,0.6s							
RLMT	**Red Lodge**	78.01	333		IAmb	IAmb	15 17 44.0	
	comp=Z,99nm,1.4s							
SUR	**Sutherland**	78.03	120		P	P	15 17 26.6	+0.9
SUR					IAmb	IAmb	15 17 28.2	
	comp=Z,75nm,0.9s							
SUR	**Sutherland**	78.03	120		LR	LR	15 47 10.2	
	comp=Z,279nm,19.6s,baz=240,slow=32							
SUR	**Sutherland**	78.03	120		P	P	15 17 27.0	+1.3
YMP	**Mirror Lake Pl**	78.07	332		IAmb	IAmb	15 18 02.1	
	comp=Z,91nm,1.0s							
LAO	**LASA Array**	78.09	336		IAmb	IAmb	15 17 28.1	
	comp=Z,60nm,0.9s							
YNE	**Yellowstone No**	78.22	332		IAmb	IAmb	15 17 53.2	
	comp=Z,106nm,1.0s							
WIN	**Windhoek**	78.59	110		P	P	15 17 28.6	-0.4
WIN					IAmb	IAmb	15 17 30.7	
	comp=Z,55nm,1.0s							
WIN	**Windhoek**	78.59	110		P	P	15 17 28.6	-0.4
WIN					pmax	pmax		
	comp=Z,55nm,1.0s							
DGMT	**Dagmar**	78.87	338		IAmb	IAmb	15 17 32.5	
	comp=Z,93nm,0.9s							
HLID	**Hailey**	79.06	329		IAmb	IAmb	15 17 57.3	
	comp=Z,69nm,0.9s							
AFDM	**Forest Hills D**	79.08	322		IAmb	IAmb	15 17 49.8	
	comp=Z,121nm,1.8s							
SCHQ	**Schefferville**	79.16	2		P	P	15 17 30.6	-0.4
SCHQ	**Schefferville**	79.16	2		P	P	15 17 31.4	+0.4
	comp=Z,30nm,0.8s,baz=200,slow=4.8,SNR=49							
SCHQ					pP	pP	15 17 47.5	+0.1
	comp=Z,23nm,0.8s,baz=346,slow=5.0,SNR=7.4							
SCHQ					LR	LR	15 53 11.2	
	comp=Z,182nm,21.8s,baz=246,slow=36							
	comp=Z,30nm,0.8s							
TORD	**Torodi Ar. Bea**	79.50	70		P	P	15 17 32.9	-0.8
TORD	**Torodi Ar. Bea**	79.50	70		P	P	15 17 33.5	-0.2
	comp=Z,127nm,0.6s,baz=274,slow=5.0,SNR=342							
TORD					pP	pP	15 17 49.6	-0.3
	comp=Z,87nm,0.7s,baz=270,slow=4.6,SNR=9.0							
TORD					LR	LR	15 50 54.1	
	comp=Z,587nm,21.6s,baz=229,slow=34							
	comp=Z,127nm,0.6s							
DLMT	**Dillon**	79.62	331		IAmb	IAmb	15 17 59.9	
	comp=Z,56nm,0.9s							
TSUM	**Tsumeb**	80.28	107		P	P	15 17 38.0	-0.1
TSUM					IAmb	IAmb	15 17 39.9	
	comp=Z,111nm,0.8s							
TSUM	**Tsumeb**	80.28	107		P	P	15 17 38.9	+0.8
	comp=Z,122nm,0.8s,baz=237,slow=4.9,SNR=129							
TSUM					LR	LR	15 49 00.6	
	comp=Z,203nm,21.7s,baz=310,slow=33							
	comp=Z,122nm,0.8s							
J08A	**Circle Bar Ran**	80.88	327		IAmb	IAmb	15 18 00.8	
	comp=Z,102nm,1.5s							
PLID	**Pearl Lake**	80.96	329		IAmb	IAmb	15 17 44.2	
	comp=Z,77nm,0.9s							
KOOLE	**Kule**	81.07	111		*i* P	P	15 17 42.8	+0.5
RAR	**Rarotonga**	81.08	251		LR	LR	15 47 01.4	
	comp=Z,169nm,18.4s,baz=112,slow=31							
BMO	**Blue Mountains**	81.40	328		IAmb	IAmb	15 18 02.3	
	comp=Z,92nm,1.6s							
SOE	**Somerset East**	81.61	122		P	P	15 17 44.8	-0.1
MAW	**Mawson**	81.70	164		P	P	15 17 45.1	+0.5
MAW	**Mawson**	81.70	164		P	P	15 17 46.1	+1.5
	comp=Z,28nm,0.9s							
MAW	**Mawson**	81.70	164		P	P	15 17 45.8	+1.2
	comp=Z,100nm,0.9s,baz=234,slow=7.4,SNR=16							
MAW					LR	LR	15 55 21.5	
	comp=Z,112nm,20.9s,baz=221,slow=37							
	comp=Z,100nm,0.9s							
KMPM	**Mount Pierce**	81.86	321		P	P	15 17 45.6	-0.2
KMPM					IAmb	IAmb	15 18 12.2	
	comp=Z,69nm,0.9s							
YBH	**Yreka Blue Hor**	81.96	323		P	P	15 17 47.1	+0.8
YBH	**Yreka Blue Hor**	81.96	323		P	P	15 17 47.1	+0.8
	comp=Z,9.2nm,0.7s,baz=84,slow=5.2,SNR=17							
YBH					pP	pP	15 18 03.0	+0.2
	comp=Z,8.1nm,0.7s,baz=265,slow=3.7,SNR=5.4							
YBH					LR	LR	15 49 53.4	
	comp=Z,98nm,21.4s,baz=140,slow=32							
	comp=Z,9.2nm,0.7s							
YBH	**Yreka Blue Hor**	81.96	323		P	P	15 17 47.2	+0.8
YBH					pmax	pmax		
	comp=Z,20nm,0.9s							
GRHM	**Grahamstown, E**	82.01	123		P	P	15 17 46.9	-0.1
GRHM					IAmb	IAmb	15 18 18.8	
	comp=Z,112nm,1.0s							
K04D	**Chiloquin, OR**	82.06	324		P	P	15 17 48.9	+1.9
K04D					IAmb	IAmb	15 18 12.2	
	comp=Z,55nm,0.9s							
F10A	**Beach Ranch, E**	82.19	329		IAmb	IAmb	15 18 17.3	
	comp=Z,49nm,0.8s							
J05D	**Fort Rock, OR**	82.24	325		IAmb	IAmb	15 18 07.2	
	comp=Z,89nm,1.5s							
PINE	**Pine Mountain**	82.45	326		IAmb	IAmb	15 18 15.2	
	comp=Z,46nm,0.8s							
GRTLG	**Ghanzi**	82.57	110		*i* P	P	15 17 50.6	+0.4
L02F	**Cave Junction**	82.69	323		IAmb	IAmb	15 18 16.0	
	comp=Z,54nm,0.9s							
KGCAE	**Kacgae**	82.83	112		*i* P	P	15 17 51.8	+0.3
AVE	**Averroes**	82.96	49		P	P	15 17 52.5	+0.8
BOSA	**Boshof**	83.03	118		P	P	15 17 52.2	-0.3
BOSA	**Boshof**	83.03	118		P	P	15 17 52.5	+0.1
	comp=Z,72nm,0.9s,baz=260,slow=4.0,SNR=46							
BOSA					LR	LR	15 50 47.2	
	comp=Z,134nm,21.9s,baz=244,slow=33							
	comp=Z,72nm,0.9s							
K02D	**Willamette Mer**	83.13	323		IAmb	IAmb	15 18 11.9	
	comp=Z,137nm,1.5s							
DBO	**Dodson Butte**	83.19	324		IAmb	IAmb	15 18 12.1	
	comp=Z,130nm,1.6s							
I04A	**Tendick Farm,**	83.21	325		IAmb	IAmb	15 18 11.4	
	comp=Z,106nm,1.8s							
QNGWA	**Qangwa**	83.27	108		*i* P	P	15 17 54.2	+0.4
HAWA	**Hanford**	83.59	328		IAmb	IAmb	15 18 13.8	
	comp=Z,100nm,1.6s							
FFC	**Flin Flon**	83.60	342		P	P	15 17 53.9	-0.5
FFC	**Flin Flon**	83.60	342		P	P	15 17 53.9	-0.5
FFC					pmax	pmax		
	comp=Z,28nm,1.0s							
SKOMA	**Sekoma**	83.61	114		*i* P	P	15 17 55.9	+0.4
BUCK	**Buck Mountain**	83.79	325		IAmb	IAmb	15 18 21.3	
	comp=Z,61nm,0.8s							
NEW	**Newport**	83.85	331		P	P	15 17 56.6	+0.7
	comp=Z,14nm,0.9s,baz=122,slow=5.2,SNR=8.6							
NEW					pP	pP	15 18 12.7	+0.3
	comp=Z,5.3nm,0.6s,baz=141,slow=7.5,SNR=3.1							
NEW					LR	LR	15 58 33.5	
	comp=Z,60nm,18.2s,baz=137,slow=38							
	comp=Z,14nm,0.9s							
C09A	**Chrisman Ranch**	84.03	330		IAmb	IAmb	15 17 59.5	
	comp=Z,46nm,0.9s							
MORF	**Marmelete**	84.48	45		P	P	15 17 58.8	-0.7
MORF					IAmb	IAmb	15 18 02.3	
	comp=Z,73nm,1.0s							
MORF	**Marmelete**	84.48	45		*e*P	P	15 18 01.0	+1.6
MORF					IAmb	IAmb	15 18 02.0	
	comp=Z,108nm,1.2s							
MORF	**Marmelete**	84.48	45		*e*P	P	15 17 58.4	-1.1
MORF					*i* Amb		15 18 01.9	
	comp=Z,99nm,1.2s							
MORF	**Marmelete**	84.48	45		P	P	15 17 58.8	-0.7
MORF					pmax	pmax		
	comp=Z,73nm,1.0s							
PTEO	**Sao Teotonio**	84.58	45		*e*P	P	15 18 01.6	+1.7
PTEO					*i* Amb		15 18 03.1	
	comp=Z,226nm,1.1s							
MDT	**Midelt**	84.63	50		P	P	15 17 60.0	-0.4
	comp=Z,51nm,0.9s,baz=257,slow=4.5,SNR=36							
MDT					LR	LR	15 56 47.9	
	comp=Z,110nm,18.0s,baz=240,slow=36							
	comp=Z,51nm,0.9s							
KDWAN	**Kaudwane**	84.68	113		*i* P	P	15 18 01.6	+0.7
LBTB	**Lobatse**	84.78	115		P	P	15 18 00.3	-1.1
LBTB	**Lobatse**	84.78	115		LR	LR	15 51 18.4	
	comp=Z,195nm,21.2s,baz=244,slow=32							
LBTB	**Lobatse**	84.78	115		P	P	15 18 00.3	-1.1
LBTB					pmax	pmax		
	comp=Z,76nm,0.8s							
PBDV	**Barranco-do-Ve**	84.91	45		*e*P	P	15 18 03.2	+1.6
PBDV					*i* Amb		15 18 34.4	
	comp=Z,245nm,1.4s							
PCVE	**Castro Verde**	85.07	45		*e*P	P	15 18 03.5	+1.2
PCVE					*i* Amb		15 18 05.2	
	comp=Z,121nm,1.1s							
MESJ	**Messejana**	85.08	45		P	P	15 18 02.5	+0.2
MESJ	**Messejana**	85.08	45		*e*P	P	15 18 04.0	+1.6
MESJ					IAmb	IAmb	15 18 05.3	
	comp=Z,123nm,1.0s							
MESJ	**Messejana**	85.08	45		*e*P	P	15 18 04.1	+1.7
MESJ					*i* Amb		15 18 05.3	
	comp=Z,152nm,1.1s							
MESJ	**Messejana**	85.08	45		P	P	15 18 02.5	+0.2
MESJ					pmax	pmax		
	comp=Z,105nm,0.9s							
PVAQ	**Vaqueiros**	85.14	45		P	P	15 18 02.9	+0.2
PVAQ	**Vaqueiros**	85.14	45		*e*P	P	15 18 04.5	+1.8
PVAQ					*i* Amb		15 18 35.4	
	comp=Z,147nm,1.7s							
FCC	**Fort Churchill**	85.39	348		IAmb	IAmb	15 18 27.5	
	comp=Z,34nm,0.7s							
PBEJ	**Beja**	85.42	45		*e*P	P	15 18 05.4	+1.4
PBEJ					*i* Amb		15 18 29.0	
	comp=Z,118nm,1.2s							
EVO	**Evora**	85.62	44		*e*P	P	15 18 06.0	+0.9
EVO					*i* Amb		15 18 08.5	
	comp=Z,72nm,1.4s							
LPHEP	**Lephephe**	85.69	114		*i* P	P	15 18 06.4	+0.3
PSBE	**Se Bonto**	85.71	43		*e*P	P	15 18 07.2	+1.7
PSBE					*i* Amb		15 18 30.5	
	comp=Z,120nm,1.1s							
PMTG	**Montargil**	85.80	44		*e*P	P	15 18 06.9	+0.9
PMTG					*i* Amb		15 18 31.3	
	comp=Z,124nm,1.2s							
PBAR	**Barrancos**	86.03	45		*e*P	P	15 18 08.6	+1.5
PBAR					*i* Amb		15 18 09.1	
	comp=Z,75nm,1.0s							
PBAR					*e*pP	pP	15 18 24.5	+0.9
PESTR	**Estremoz**	86.08	44		P	P	15 18 07.2	-0.2
PESTR					IAmb	IAmb	15 18 32.1	
	comp=Z,81nm,1.1s							
PESTR	**Estremoz**	86.08	44		*e*P	P	15 18 08.7	+1.4
PESTR					*e*pP	pP	15 18 25.1	+1.3
PESTR					*i* Amb		15 18 32.2	
	comp=Z,96nm,1.2s							
PCAS	**Casmilo, Conde**	86.22	43		*e*P	P	15 18 08.4	+0.4
PCAS					*e*pP	pP	15 18 25.6	+1.2
PCAS					*i* Amb		15 18 28.4	
	comp=Z,59nm,1.4s							
COI	**Coimbra**	86.36	43		P	P	15 18 08.6	-0.1
COI	**Coimbra**	86.36	43		P	P	15 18 08.6	-0.1
COI					pmax	pmax		
	comp=Z,76nm,1.0s							
NLWA	**Neilton Lookou**	86.42	327		IAmb	IAmb	15 18 27.8	
	comp=Z,52nm,1.4s							
PMRV	**Marv??o**	86.54	44		*e*P	P	15 18 10.0	+0.4
PMRV					*e*pP	pP	15 18 27.1	+1.0
PMRV					*i* Amb		15 18 34.3	
	comp=Z,53nm,1.1s							
PCBR	**Castelo Branco**	86.72	43		*e*P	P	15 18 11.2	+0.7
PCBR					*i* Amb		15 18 34.7	
	comp=Z,48nm,1.2s							
A04D	**Lummi Island**	86.76	328		IAmb	IAmb	15 18 12.9	
	comp=Z,44nm,0.9s							
PVIS	**Viseu**	86.98	42		*e*P	P	15 18 11.8	+0.1
MTE	**Manteigas**	87.01	43		*e*P	P	15 18 13.0	+1.1
MTE					*i* Amb		15 18 14.6	
	comp=Z,42nm,1.8s							
PGC	**Sidney**	87.07	328		IAmb	IAmb	15 18 37.2	
	comp=Z,42nm,0.8s							
TAM	**Tamanrasset**	87.25	64		P	P	15 18 12.3	-1.3
TAM	**Tamanrasset**	87.25	64		P	P	15 18 12.3	-1.3
TAM					pmax	pmax		
	comp=Z,17nm,0.8s							
KSANE	**Kasane**	87.42	108		*i* P	P	15 18 16.1	+1.5
PVRL	**Vila Real**	87.42	42		*e*P	P	15 18 14.3	+0.4
PVRL					*i* Amb		15 18 16.4	
	comp=Z,30nm,1.0s							
POLO	**Lamas de Olo**	87.43	42		*e*P	P	15 18 14.5	+0.6
POLO					*i* Amb		15 18 46.9	
	comp=Z,16nm,1.4s							
PCAB	**Cabril**	87.49	42		*e*P	P	15 18 14.8	+0.7
PCAB					*i* Amb		15 18 31.2	
	comp=Z,40nm,1.1s							
PGAV	**Gavieira, Arco**	87.49	41		*e*P	P	15 18 14.9	+0.7
PGAV					*i* Amb		15 18 47.1	
	comp=Z,46nm,2.1s							
LLLB	**Lillooet**	87.69	330		IAmb	IAmb	15 18 16.7	
	comp=Z,30nm,0.9s							
MVO	**Moncorvo**	87.78	42		*e*P	P	15 18 16.3	+0.7
MVO					*i* Amb		15 18 19.5	
	comp=Z,30nm,2.5s							
MVO					*e*pP	pP	15 18 32.8	+0.7
FRB	**Frobisher Bay**	88.06	1		LR	LR	15 57 39.1	
	comp=Z,145nm,22.0s,baz=182,slow=36							
PBRG	**Braganca**	88.32	42		*e*P	P	15 18 18.4	+0.3
PBRG					*i* Amb		15 18 22.2	
	comp=Z,23nm,1.3s							
PBRG					*e*pP	pP	15 18 35.4	+0.8
PAB	**San Pablo**	88.54	45		P	P	15 18 18.6	-0.7
PAB	**San Pablo**	88.54	45		P	P	15 18 18.6	-0.7
PAB					pmax	pmax		
	comp=Z,20nm,0.9s							
ESDC	**Sonseca Array**	88.86	45		P	P	15 18 20.5	-0.2
ESDC	**Sonseca Array**	88.86	45		P	P	15 18 21.2	+0.5
	comp=Z,10nm,0.8s,baz=258,slow=4.2,SNR=53							
ESDC					pP	pP	15 18 36.4	-0.9
	comp=Z,5.8nm,0.8s,baz=245,slow=5.1,SNR=6.2							
ESDC					LR	LR	15 56 22.2	
	comp=Z,192nm,18.9s,baz=218,slow=34							
	comp=Z,10nm,0.8s							
CBB	**Campbell River**	88.93	328		IAmb	IAmb	15 18 45.9	
	comp=Z,21nm,0.8s							
CASY	**Casey**	89.40	180		P	P	15 18 23.5	+0.6
LSZ	**Lusaka**	91.12	107		LR	LR	15 56 32.1	
	comp=Z,363nm,19.4s,baz=256,slow=34							
URZ	**Urewera**	91.22	227		LR	LR	15 50 06.2	
	comp=Z,304nm,21.9s,baz=221,slow=29							
RPZ	**Rata Peaks**	91.86	219		LR	LR	15 49 46.0	
	comp=Z,258nm,21.6s,baz=130,slow=29							
SFJD	**Kangerlussuaq**	92.50	8		LR	LR	16 00 27.4	
	comp=Z,75nm,21.6s,baz=196,slow=36							
YKA	**Yellowknife Ar**	93.72	341		P	P	15 18 42.8	+0.1
YKA	**Yellowknife Ar**	93.72	341		P	P	15 18 43.3	+0.6
	comp=Z,24nm,0.7s,baz=143,slow=4.4,SNR=367							
YKA					pP	pP	15 18 59.6	+0.3
	comp=Z,16nm,0.7s,baz=144,slow=4.2,SNR=15							
YKA					LR	LR	16 04 57.6	
	comp=Z,90nm,19.0s,baz=162,slow=38							
	comp=Z,24nm,0.7s							
CEST	**Esterri de Car**	93.74	45		IAmb	IAmb	15 18 47.4	
	comp=Z,18nm,0.9s							
IGLA	**Glengowla, Co**	93.78	32		P	P	15 18 43.3	+0.2
ILULI	**Ilulissat**	94.57	7		*e*P	P	15 18 46.6	+0.2
ILULI					IAmb	IAmb	15 18 48.1	
	comp=Z,59nm,1.0s							
TOAD	**Toad River Com**	94.74	335		P	P	15 18 48.8	+1.3
	baz=132							
DSB	**Dublin**	95.14	33		P	P	15 18 49.3	-0.1
KOTAN	**Kotaneelee Air**	95.15	336		P	P	15 18 51.0	+1.7
	baz=132							
V35K	**Ketchikan**	95.22	330		P	P	15 18 50.1	+0.4
	baz=127							
ILTH	**Belurgan, Co

BMRD	Maredsous	99.56	39	*d*P		Pdif	15 19	09.5	+0.1
	comp=Z,14nm,0.9s								
BMRD				*d*pP		pP	15 19	26.6	+0.4
RCHB	Rochefort	99.76	39	*d*Pdif		Pdif	15 19	09.7	-0.6
BGES	Gesves	99.78	39	*d*Pdif		Pdif	15 19	10.7	+0.2
BCLA	Clavier	99.92	39	*d*Pdif		Pdif	15 19	11.0	0.0
FARO	Faro, Yukon	99.98	335	P		Pdif	15 19	12.4	+1.3
	baz=124,SNR=18								
WLF	Walferdange	100.08	40	*d*Pdif		Pdif	15 19	12.6	+0.8
O30N	Mendenhall	100.28	333	P		Pdif	15 19	12.8	+0.4
	baz=122								
P30M	Million Dollar	100.30	332	P		Pdif	15 19	13.0	+0.4
	baz=122								
BHOU	Houvegnez	100.30	39	*d*Pdif		Pdif	15 19	13.1	+0.4
P29M	Windy Craggy	100.37	331	P		Pdif	15 19	14.0	+1.1
	baz=121								
M31M	Drury Creek, Y	100.37	335	P		Pdif	15 19	14.2	+1.4
	baz=124,SNR=7.0								
MEM	Membach	100.41	39	*d*Pdif		Pdif	15 19	13.1	-0.1
N31M	Braeburn, Yuko	100.53	334	P		Pdif	15 19	14.8	+1.2
	baz=122								
N30M	Aishikik Lake	101.05	333	P		Pdif	15 19	16.5	+0.6
	baz=121								
O29M	Mount Kennedy	101.08	332	P		Pdif	15 19	16.3	+0.2
	baz=120								
DAVOX	Davos/Dischmat	101.12	44	P		Pdif	15 19	16.8	+0.1
	comp=Z,6.3nm,0.9s,baz=282,slow=3.0,SNR=9.9								
YUK6	Outpost Mounta	101.32	332	P		Pdif	15 19	16.7	-0.6
	baz=120								
C36M	Paulatuk	101.35	343	P		Pdif	15 19	17.7	+0.8
	baz=131								
M30M	Minto, Yukon	101.52	334	P		Pdif	15 19	19.1	+1.2
	baz=122								
YUK4	Talbot Arm	101.64	333	P		Pdif	15 19	19.8	+1.1
	baz=120								
PINM	Pinnacle	101.70	331	P		Pdif	15 19	19.8	+0.9
	baz=119								
FETA	Feichten	101.75	44	*e*Pdif		Pdif	15 19	20.4	+0.9
	comp=Z,9.7nm,1.1s								
MOTA	Moosalm	102.11	43	*e*Pdif		Pdif	15 19	21.7	+0.6
	comp=Z,14nm,1.3s								
M29M	Somme Creek	102.12	334	P		Pdif	15 19	22.0	+1.3
	baz=120,SNR=6.3								
SQTA	Sankt Quirin	102.13	44	*e*Pdif		Pdif	15 19	21.7	+0.6
	comp=Z,18nm,1.0s								
L29M	L29M	102.32	334	P		Pdif	15 19	22.7	+1.2
	baz=120,SNR=18								
H31M	Peel River	102.34	338	Pdif		Pdif	15 19	21.8	+0.3
H31M	Peel River	102.34	338	P		Pdif	15 19	22.7	+1.2
	baz=123,SNR=8.6								
J30M	Hart River	102.39	336	P		Pdif	15 19	23.3	+1.4
	baz=122,SNR=8.3								
WATA	Walderalm	102.40	44	Pdiff		Pdif	15 19	23.3	+0.9
	comp=Z,9.0nm,0.7s								
WTTA	Wattenberg	102.41	44	Pdiff		Pdif	15 19	23.4	+1.0
	comp=Z,16nm,1.0s								
K29M	Barlow Dome	102.46	335	P		Pdif	15 19	22.9	+0.8
	baz=121,SNR=14								
NEEM	North Greenlan	102.47	4	*e*P		Pdif	15 19	22.8	+0.6
MESA	MESA	102.49	331	P		Pdif	15 19	22.0	-0.5
	baz=118								
YUK3	Moose Creek	102.61	333	P		Pdif	15 19	23.9	+0.9
	baz=118								
I30M	Mount Dempster	102.75	337	P		Pdif	15 19	24.1	+0.7
	baz=121,SNR=10								
G31M	Satah River	102.93	339	P		Pdif	15 19	24.4	+0.4
	baz=123								
J29N	Klondike Camp	103.03	336	P		Pdif	15 19	24.8	+0.2
	baz=120								
F31M	Tsiigehtchic	103.04	339	P		Pdif	15 19	25.3	+0.8
	baz=123								
BGLC	Bering Glacier	103.06	331	P		Pdif	15 19	25.4	+0.7
	baz=117								
BVCY	Beaver Creek	103.08	333	P		Pdif	15 19	26.2	+1.4
	baz=118								
LESA	Schwarzleotal	103.13	44	*e*Pdif		Pdif	15 19	26.2	+0.7
	comp=Z,5.2nm,1.1s								
DAWY	Dawson	103.29	335	P		Pdif	15 19	26.6	+0.9
	baz=119								
A36M	Sachs Harbour	103.38	345	P		Pdif	15 19	26.6	+0.7
	baz=130								
INK	Inuvik	103.45	340	P		Pdif	15 19	26.7	+0.5
	baz=123								
EPYK	Eagle Plains	103.47	338	P		Pdif	15 19	27.2	+0.7
	baz=121								
M27K	Edge Creek, AK	103.47	333	P		Pdif	15 19	27.3	+0.6
	baz=117								
KAIM	Kayak Island	103.48	330	P		Pdif	15 19	26.6	0.0
	baz=116								
I29M	Ogilvie Camp,	103.52	336	P		Pdif	15 19	27.6	+0.8
	baz=120,SNR=9.7								
G30M	tAoh Zraii Nji	103.61	338	P		Pdif	15 19	27.6	+0.5
	baz=121								
BCAR	Beaver Creek A	103.76	334	Pdif		Pdif	15 19	27.5	-0.4
L27K	Beaver Creek,	103.77	334	P		Pdif	15 19	29.2	+1.2
	baz=117								
F30M	Barrier River	103.80	339	P		Pdif	15 19	28.9	+1.0
	baz=121								
M26K	Nabesna, AK	103.95	333	P		Pdif	15 19	29.2	+0.5
	baz=116								
H29M	Whitestone	103.97	337	P		Pdif	15 19	29.4	+0.7
	baz=119,SNR=5.1								
BMRM	Bremner River	104.02	331	P		Pdif	15 19	29.6	+0.6
	baz=115								
I28M	Miner Creek	104.16	336	P		Pdif	15 19	30.0	+0.4
	baz=118								
G29M	Pine Creek	104.19	338	P		Pdif	15 19	30.3	+0.6
	baz=120								
GERES	GERESS Array B	104.29	43	Pdiff		Pdif	15 19	30.2	-0.4
	comp=Z,1.0nm,0.8s,baz=222,slow=3.6,SNR=5.4								
GERES				PKiKP		PKiKP	15 23	47.9	+0.9
	comp=Z,1.2nm,0.7s,baz=186,slow=1.3,SNR=5.2								
N25K	Chitina, Valde	104.29	332	P		Pdif	15 19	30.2	-0.2
	baz=115								
K27K	Chicken	104.31	334	P		Pdif	15 19	30.9	+0.7
	baz=117								
KLU	Klutina	104.82	331	P		Pdif	15 19	33.3	+0.6
	baz=114								
I27K	Kandik River	104.85	336	P		Pdif	15 19	33.6	+1.0
	baz=117,SNR=5.8								
HARP	HAARP	104.86	332	P		Pdif	15 19	34.4	+1.6
	baz=114								
E29M	Blow River	104.88	339	P		Pdif	15 19	33.4	+0.8
	baz=119								
P23K	Montague Islan	104.88	330	P		Pdif	15 19	33.9	+1.1
	baz=113								
SCRK	Sand Creek	105.05	334	P		Pdif	15 19	34.7	+1.0
	baz=115								
GLI	Glacier Island	105.09	330	P		Pdif	15 19	35.7	+1.9
	baz=113								
H27K	Steamboat Moun	105.10	337	P		Pdif	15 19	34.7	+1.0
	baz=117,SNR=5.4								
J26L	Joseph Creek	105.11	335	P		Pdif	15 19	34.9	+1.0
	baz=115								
M24K	Tolsona, Glenn	105.18	332	P		Pdif	15 19	34.3	+0.1
	baz=114								
PAX	Paxson	105.23	333	P		Pdif	15 19	35.2	+0.7
	baz=114								
RIDG	Independent Ri	105.29	334	P		Pdif	15 19	35.4	+0.7
	baz=114								
I26K	Coal Creek Min	105.30	335	P		Pdif	15 19	33.9	-0.6
	baz=116								
G27K	Doyon Strip	105.41	337	P		Pdif	15 19	35.6	+0.5
	baz=116								
E28M	Babbage River	105.51	339	P		Pdif	15 19	35.1	-0.4
	baz=118								
SCM	Sheep Creek Mo	105.57	331	P		Pdif	15 19	36.5	+0.5
	baz=113								
D28M	Stokes Point	105.60	340	P		Pdif	15 19	36.3	+0.5
	baz=118								
PWL	Port Wells	105.64	330	P		Pdif	15 19	37.4	+1.2
	baz=112								
M23K	Glacier View	105.73	331	P		Pdif	15 19	39.2	+2.6
	baz=112								
J25K	Salcha River,	105.86	334	P		Pdif	15 19	38.3	+1.0
	baz=114								
KNK	Knik Glacier	105.91	331	P		Pdif	15 19	38.3	+0.8
	baz=112								
E27K	Coleen River	106.00	338	P		Pdif	15 19	38.1	+0.4
	baz=116								
SML	Sawmill	106.00	331	P		Pdif	15 19	38.1	+0.2
	baz=112								
G26K	Porcupine Rive	106.23	337	P		Pdif	15 19	39.8	+1.1
	baz=114								
D27M	Malcolm River	106.26	339	P		Pdif	15 19	39.5	+0.6
	baz=116								
PRP	Porcupine Dome	106.28	335	P		Pdif	15 19	40.2	+1.1
	baz=113								
BRSE	Bradley Lake S	106.35	329	P		Pdif	15 19	39.8	+0.4
	baz=111								
HDA	Harding Lake	106.41	334	P		Pdif	15 19	41.1	+1.6
	baz=112								
ILAR	Eielson Array	106.52	334	Pdiff		Pdif	15 19	40.8	+0.7
	comp=Z,0.7nm,0.8s,baz=158,slow=4.5,SNR=11								
ILAR				PKiKP		PKiKP	15 23	53.3	+2.7
	comp=Z,0.9nm,0.8s,baz=119,slow=4.0,SNR=6.2								
ILAR				PP		PP	15 24	06.8	+1.0
	comp=Z,1.7nm,1.0s,baz=107,slow=8.6,SNR=4.1								
ILAR				PKKPbc		PKKPbc	15 35	10.4	-2.3
	comp=Z,1.2nm,0.8s,baz=313,slow=4.6,SNR=10								
KDAK	Kodiak Island	106.57	326	P		Pdif	15 19	40.9	+0.5
	baz=110								
F26K	Sheenjek River	106.66	337	P		Pdif	15 19	41.7	+1.1
	baz=114								
H25L	Birch Creek	106.69	336	P		Pdif	15 19	42.2	+1.4
	baz=113								
POKR	Poker Plat Res	106.87	334	P		Pdif	15 19	42.8	+1.2
	baz=112								
G25K	Bearman Lake	106.99	336	P		Pdif	15 19	43.5	+1.4
	baz=112								
F25K	Christian Rive	107.15	337	P		Pdif	15 19	44.1	+1.2
	baz=113								
C27K	Jago River	107.31	339	P		Pdif	15 19	44.8	+1.3
	baz=114								
H24K	Noodor Dome	107.31	335	P		Pdif	15 19	44.9	+1.3
	baz=111								
E25K	Arctic Village	107.33	338	P		Pdif	15 19	44.5	+0.9
	baz=113								
TRF	Thorofare Moun	107.44	332	P		Pdif	15 19	45.5	+1.1
	baz=110								
G24K	Hadweenzic Riv	107.47	336	P		Pdif	15 19	46.0	+1.8
	baz=111								
Q19K	Cape Douglas,	107.47	327	P		Pdif	15 19	44.7	+0.3
	baz=108								
SKT	Skwentna	107.48	331	P		Pdif	15 19	45.0	+0.6
	baz=109								
P19K	Oil Pt	107.50	328	P		Pdif	15 19	45.1	+0.5
	baz=109								
I23K	Minto, Yukon-K	107.64	334	P		Pdif	15 19	46.6	+1.6
	baz=110								
C26K	Camden Bay	107.81	340	P		Pdif	15 19	46.4	+0.8
	baz=113								
F24K	Squaw Lake	107.92	337	P		Pdif	15 19	47.5	+1.2
	baz=111								
BPAW	Bear Paw Mtn.	107.95	333	P		Pdif	15 19	47.8	+1.4
	baz=109								
H23K	Yukon River	107.95	335	P		Pdif	15 19	46.9	+0.5
	baz=110								
DZM	Mont Dzumac	108.05	235	*e*SS		SS	15 39	24.4	-2.2
	comp=Z,144nm,24.9s								
DZM	Mont Dzumac	108.05	235	*e*LR		LR	15 55	33.7	
	comp=Z,621nm,29.9s								
HFS	Hagfors	108.05	32	PP		PP	15 24	14.6	-2.6
	comp=Z,5.8nm,0.8s,baz=258,slow=7.4,SNR=5.5								
D25K	Kavik River	108.05	339	P		Pdif	15 19	47.7	+0.8
	baz=112								
Q18K	Katmai Hardscr	108.06	327	P		Pdif	15 19	49.4	+2.2
	baz=108								
PPLA	Purkeypile	108.07	332	P		Pdif	15 19	47.6	+0.5
	baz=108								
CAST	Castle Rocks	108.19	332	P		Pdif	15 19	48.1	+0.6
	baz=108								
E24K	Your Creek	108.33	337	P		Pdif	15 19	48.7	+0.6
	baz=110								
G23K	Bananza Creek	108.43	336	P		Pdif	15 19	48.8	+0.3
	baz=109								
KECS	Kecovo	108.43	45	*e*PP		PP	15 24	21.1	+0.8
COLD	Coldfoot	108.66	336	P		Pdif	15 19	50.0	+0.5
	baz=109								
C24K	Franklin Bluff	108.96	339	P		Pdif	15 19	52.5	+1.7
	baz=109								
L19K	White Mountain	109.03	330	P		Pdif	15 19	53.0	+1.7
	baz=106								
N18K	Kilae Creek	109.08	329	P		Pdif	15 19	53.6	+2.0
	baz=106								
E22K	Anaktuvuk Pass	109.53	337	P		Pdif	15 19	54.4	+0.9
	baz=107								
C23K	Itkillik River	109.63	339	P		Pdif	15 19	54.1	+0.3
	baz=108								
N17K	Nushagak Hills	109.66	328	P		Pdif	15 19	54.9	+0.8
	baz=105								
GCSA	Galena City Sc	110.58	333	P		Pdif	15 19	58.6	+0.6
	baz=104								
H19K	Roundabout Mou	110.59	334	P		Pdif	15 19	58.4	+0.3
	baz=104								
B22K	Teshekpuk Lake	110.69	339	P		Pdif	15 19	58.6	+0.1
	baz=105								
C21K	Knifeblade Rid	110.85	338	P		Pdif	15 19	58.7	-0.6
	baz=104								
B21K	Ikpikpuk River	110.91	338	P		Pdif	15 20	00.4	+1.0
	baz=104								
L16K	Owhat River	111.02	329	P		Pdif	15 20	02.0	+1.9
	baz=103								
E20K	Nigu River	111.14	337	P		Pdif	15 20	02.0	+1.4
	baz=103								
G18K	Tagagawik	111.57	334	P		Pdif	15 20	04.2	+1.7
	baz=102								
M13K	Dall Lake	112.61	328	P		Pdif	15 20	09.0	+1.9
	baz=100								
F17K	Baldwin Pennin	112.70	334	P		Pdif	15 20	09.7	+2.2
	baz=99								
G16K	Koyuk River	112.98	333	P		Pdif	15 20	10.0	+1.2
	baz=99								
C18K	Utukok River	113.03	337	P		Pdif	15 20	10.6	+1.6
	baz=98								
VSU	Vasula	114.20	35	*c i* PKIKP		PKiKP	15 24	05.3	+0.1
VSU				pmax		pmax			
	comp=Z,30nm,1.7s								
FINES	FINESS Array B	114.26	32	PKiKP		PKpdf	15 24	05.2	0.0
	comp=Z,2.2nm,0.7s,baz=121,slow=0.8,SNR=5.0								
MNK	Minsk	114.26	39	*i* PKIKP		PKiKP	15 24	05.8	+0.4
MNK				*i*			15 24	23.4	
MNK				*i*			15 25	01.4	
MNK				*i* PPP		PPP	15 27	26.1	
MNK				*i*			15 31	12.6	
MNK				*i* PS		PS	15 34	39.9	-0.1
MNK				*i* SS		SS	15 40	49.3	0.0
MNK				*i* SSS		SSS	15 45	04.1	
MNK				pmax		pmax			
	comp=E,23nm,0.9s								
MNK				pmax		pmax			
	comp=Z,27nm,0.8s								
MNK				pmax		pmax			
	comp=N,6.0nm,0.6s								
MNK				MLR		MLR			
	comp=Z,126nm,17.0s								
MNK				MLR		MLR			
	comp=N,103nm,15.0s								
MNK				MLR		MLR			
	comp=E,189nm,21.0s								
KIEV	Kiev	114.46	44	*i* PKPdf		PKPdf	15 24	05.6	-0.3
	SNR=8.4								
AKASG	Malin Array Be	114.47	44	PKP		PKPdf	15 24	05.7	-0.3
	comp=E,7.0nm,0.7s,baz=268,slow=2.9,SNR=22								
AKASG				pPKP		pPKiKP	15 24	23.1	-0.1
	comp=E,1.5nm,0.5s,baz=273,slow=2.7,SNR=2.9								
AKBB	Malin Array Si	114.47	44	*c i* PKIKP		PKiKP	15 24	06.1	+0.2
ARCES	ARCESS Array B	114.79	23	PKP		PKPdf	15 24	06.3	+0.2
	comp=E,18nm,1.2s,baz=305,slow=4.3,SNR=6.1								
ARCES				PKKPbc		PKKPbc	15 34	45.2	-0.4
	comp=E,4.1nm,1.0s,baz=48,slow=1.8,SNR=4.2								
ANTO	Ankara	114.94	56	P		PKiKP	15 24	08.5	+1.1
BRTR	Keskin Array B	115.55	56			PKPdf	15 24	07.7	-0.9
BRTR	Keskin Array B	115.55	56	PKP		PKiKP	15 24	08.8	+0.2
	comp=E,4.6nm,0.8s,baz=191,slow=2.6,SNR=20								
BRTR				pPKP		pPKiKP	15 24	25.8	-0.1
	comp=E,1.9nm,0.7s,baz=248,slow=1.3,SNR=3.8								
BRTR				PKKP		PKKPdf	15 35	05.0	-2.4
	comp=E,1.7nm,0.8s,baz=98,slow=4.6,SNR=7.6								
STKA	Stephens Creek	116.15	210	PKP		PKPdf	15 24	10.9	+1.0
	comp=E,0.6nm,0.3s,baz=168,slow=14,SNR=2.8								
STKA				PKKPbc		PKKPbc	15 34	39.2	-0.9
	comp=E,5.5nm,0.8s,baz=321,slow=5.3,SNR=9.1								
BNN	Bunyan	117.06	57	PKPdf		PKPdf	15 24	10.4	-1.1
LVZ	Lovozero	118.13	25	*c i* PKIKP		PKiKP	15 24	15.4	+2.8
LVZ				pmax		pmax			
	comp=Z,31nm,1.7s								
OBN	Obninsk	119.32	39	*i* PKIKP		PKiKP	15 24	15.7	+0.5
OBN				*e*			15 24	32.6	
OBN				pmax		pmax			
	comp=Z,44nm,1.7s								
LPSR	Galich'ya Gora	120.66	42	*e*PKIKP		PKiKP	15 24	18.3	+0.4
LPSR				pmax		pmax			
	comp=Z,66nm,0.8s								
KLMR	Klimovskoe	120.75	32	*e*PKIKP		PKPdf	15 24	17.5	-0.2
KLMR				*e*			15 24	34.2	
KLMR				pmax		pmax			
	comp=Z,32nm,0.9s								
VSR	Storozhevoye	120.77	44	*e*PKIKP		PKPdf	15 24	16.8	-1.3
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VORR	Voronezh	120.81	43	*e*PKIKP		PKPdf	15 24	18.0	-0.1
VORR				pmax		pmax			
	comp=Z,39nm,0.4s								
VORD	Divnogorie	120.84	44	*e*PKIKP		PKPdf	15 24	17.1	-1.1
VORD				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ERBR	Yeremizino-Bor	121.37	50	*i* PKIKP		PKiKP	15 24	19.6	+0.1
ERBR				*e*			15 31	13.2	
ERBR				pmax		pmax			
	comp=Z,23nm,0.9s								
RAYN	Ar Rayn	121.77	77	PKPdf		PKiKP	15 24	21.3	+0.2
RAYN	Ar Rayn	121.77	77	P		PKiKP	15 24	22.0	+0.9
RAYN	Ar Rayn	121.77	77	PKIKP		PKiKP	15 24	21.3	+0.2
RAYN	Ar Rayn	121.77	77	*i* PKiKP		PKiKP	15 24	21.8	+0.8
	SNR=14								
VRH	Novokhopyorsk	122.38	44	*e*PKIKP		PKiKP	15 24	21.4	+0.1
VRH				pmax		pmax			
	comp=Z,21nm,0.6s								
KIV	Kislovodsk	122.81	52	PKPdf		PKPdf	15 24	22.1	-0.3
KIV	Kislovodsk	122.81	52	P		PKiKP	15 24	23.2	+0.6
KIV	Kislovodsk	122.81	52	*i* PKiKP		PKiKP	15 24	22.7	+0.1
KIV				pmax		pmax			
	comp=Z,27nm,1.0s								
KIV	Kislovodsk	122.81	52	*i* PKiKP		PKiKP	15 24	22.8	+0.3
	SNR=5.8								
KIV	Kislovodsk	122.81	52	PKP		PKPdf	15 24	22.1	-0.3
KBZ	Khabaz	122.95	53	PKP		PKiKP	15 24	23.3	+0.6
	comp=Z,25nm,0.9s,baz=209,slow=2.9,SNR=46								
KBZ	Khabaz	122.95	53	*ce*PKIKP		PKiKP	15 24	23.6	+0.9
GNI	Garni	124.05	57	PKPdf		PKPdf	15 24	24.6	-0.3
GNI	Garni	124.05	57	P		PKiKP	15 24	26.2	+0.9
GNI	Garni	124.05	57	*ce*PKIKP		PKiKP	15 24	26.6	+1.3
GNI				pmax		pmax			
	comp=Z,13nm,0.8s								
GNI	Garni	124.05	57	PKiKP		PKiKP	15 24	25.9	+0.6
GNI	Garni	124.05	57	PKP		PKPdf	15 24	24.7	-0.3
BILL	Bilibino	124.95	338	PKPdf		PKPdf	15 24	25.4	-0.3
BILL	Bilibino	124.95	338	*ce*PKIKP		PKiKP	15 24	27.3	+1.3
BILL				pmax		pmax			
	comp=Z,22nm,2.5s								
KIRV	Kirov	126.03	34	*ce*PKIKP		PKiKP	15 24	28.9	+0.6
ASAR	Alice Springs	126.63	208	PKPdf		PKPdf	15 24	29.4	-1.0
ASAR				PP		PP	15 26	30.8	+5.0
ASAR	Alice Springs	126.63	208	PKP		PKiKP	15 24	30.6	-0.2
	comp=Z,13nm,0.8s,baz=130,slow=1.8,SNR=98								
ASAR				pPKP		pPKPdf	15 24	47.6	-0.1
	comp=Z,12nm,0.8s,baz=130,slow=1.5,SNR=12								
ASAR				PP		PP	15 26	31.6	+5.7
	comp=Z,5.4nm,1.1s,baz=144,slow=5.2,SNR=7.1								
ASAR				PKKPab		PKKPbc	15 33	60.0	-1.0
	comp=Z,0.5nm,0.8s,baz=341,slow=3.4,SNR=9.4								
ASAR				PKKP		PKKPdf	15 34	44.4	-0.5
	comp=Z,0.8nm,1.1s,baz=344,slow=1.3,SNR=6.6								
SMRA	Abu-Samra	126.78	77	P		PKiKP	15 24	31.0	+0.1
SAKB	Bahrain	126.79	75	P		PKiKP	15 24	30.8	-0.1
ABTO	Aybut	127.04	86	P		PKiKP	15 24	32.1	+0.4
H11S2	WAKE ISLAND Hyl	27.04	275	T		T	17 44	17.6	
	baz=108,slow=75,SNR=1332								
H11S1	WAKE ISLAND Hyl	27.05	275	T		T	17 44	15.3	
	baz=108,slow=75,SNR=1758								
H11S3	WAKE ISLAND Hyl	27.06	275	T		T	17 44	20.5	
	baz=108,slow=75,SNR=301								
TRNA	Turayna	127.12	77	P		PKiKP	15 24	31.8	+0.3
H11N3	WAKE ISLAND Hyl	27.21	277	T		T	17 44	28.6	
	baz=106,slow=75,SNR=234								
H11N1	WAKE ISLAND Hyl	27.23	277	T		T	17 44	28.9	
	baz=106,slow=75,SNR=303								
H11N2	WAKE ISLAND Hyl	27.23	277	T		T	17 44	28.3	
	baz=106,slow=75,SNR=181								
SLWR	Sila	127.39	78	P		PKiKP	15 24	32.2	0.0
WHFO	Wadi Hawf	127.64	86	P		PKPdf	15 24	32.5	+0.2
DOK	Doka	128.17	85	P		PKiKP	15 24	33.6	-0.2
DMTO	DMTO	128.65	86	P		PKiKP	15 24	34.8	0.0
MZR	Muzera	128.74	79	P		PKiKP	15 24	35.3	+0.4
MZR	Muzera	128.74	79	*i* PKiKP		PKiKP	15 24	35.0	+0.1
	SNR=16								
WRA	Warramunga Arr	129.69	210	PKPdf		PKPdf	15 24	36.0	-0.2
WRA	Warramunga Arr	129.69	210	PKP		PKiKP	15 24	37.0	-0.1
	comp=Z,18nm,0.9s,baz=158,slow=1.6,SNR=82								
WRA				pPKP		pPKPdf	15 24	53.2	-0.3
	comp=Z,13nm,0.9s,baz=154,slow=1.7,SNR=10								
WB0	Warramunga Arr	129.82	211	PKPpre		PKPpre	15 24	19.9	
WB0				PKPdf		PKPdf	15 24	34.4	-2.0
UMZA	Um Al Zommool	130.18	80	P		P

MA2	**Magadan**	**134.94**	**332**	*e*PKIKP	**PKiKP**	**15 24 46.6**	**+0.3**
MA2				pmax	pmax		
comp=Z,11nm,1.0s							
BRVK	**Borovoye**	**138.93**	**36**		PKPpre	15 24 43.4	
BRVK	**Borovoye**	**138.93**	**36**	P	**PKiKP**	**15 24 53.9**	**-0.7**
BRVK	**Borovoye**	**138.93**	**36**	PKHKP	PKPpre	15 24 43.4	
BVA0	**Borovoye Array**	**139.00**	**36**	*i* PKHKP	PKPpre	15 24 45.5	
BVAR	**Borovoye Array**	**139.00**	**36**	PKhKP	PKPpre	15 24 43.5	
comp=Z,5.4nm,0.7s,baz=330,slow=5.1,SNR=14							
BVAR				PKP	**PKPdf**	**15 24 52.8**	**+0.3**
comp=Z,20nm,0.8s,baz=295,slow=2.6,SNR=46							
YAK	**Yakutsk**	**140.24**	**345**		PKPpre	15 24 46.8	
YAK				PKPdf	**PKPdf**	**15 24 52.2**	**-2.3**
YAK	**Yakutsk**	**140.24**	**345**	*e*PKIKP	**PKPdf**	**15 24 52.1**	**-2.4**
YAK				*e*		15 25 08.3	
YAK				*e*		15 27 50.7	
YAK				pmax	pmax		
comp=Z,41nm,1.1s							
YAK				pmax	pmax		
comp=N,3.0nm,1.2s							
YAK				pmax	pmax		
comp=E,2.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,238nm,4.6s							
YAK				pmax	pmax		
comp=N,190nm,4.6s							
YAK				pmax	pmax		
comp=E,63nm,4.5s							
SIMJ	**Simiganj**	**142.84**	**58**		PKPpre	15 24 55.2	
KKAR	**Karatay Array**	**142.92**	**50**		PKPpre	15 24 55.4	
KKAR	**Karatay Array**	**142.92**	**50**	PKHKP	PKPpre	15 24 55.4	
KBL	**Kabul**	**143.39**	**65**	PKPdf	PKPab	15 24 58.0	+0.5
KBL	**Kabul**	**143.39**	**65**	PKIKP	PKPab	15 24 58.0	+0.5
TYV	**Tymovskoe**	**143.61**	**325**	*e*PKIKP	PKPbc	15 24 59.3	+0.9
TYV				pmax	pmax		
comp=Z,400nm,5.0s							
TYV				pmax	pmax		
comp=Z,20nm,0.9s							
KURK	**Kurchatov**	**144.55**	**35**	PKPdf	PKPbc	15 25 01.6	+0.3
KURK	**Kurchatov**	**144.55**	**35**	P	**PKPdf**	**15 25 02.6**	**+0.1**
KURK	**Kurchatov**	**144.55**	**35**	PKIKP	**PKPdf**	**15 25 02.3**	**-0.2**
KURK						15 25 19.3	
KURBB	**Kurchatov Arra**	**144.56**	**35**	PKP	**PKPdf**	**15 25 02.3**	**-0.2**
comp=Z,115nm,0.8s,baz=302,slow=3.5,SNR=673							
KURBB				pPKP	**pPKPdf**	**15 25 19.2**	**-0.6**
comp=Z,20nm,0.5s,baz=307,slow=3.6,SNR=5.2							
KURBB	**Kurchatov Arra**	**144.56**	**35**	PKIKP	PKPbc	15 25 01.7	+0.4
RKPI	**Ransiki, Papua**	**144.89**	**226**	PKP	**PKPdf**	**15 25 05.7**	**+1.4**
UGL	**Uglegorsk**	**144.90**	**322**	*e*PKIKP	**PKPdf**	**15 25 04.4**	**+1.3**
UGL				*e*		15 25 21.1	
ARSB	**Arslanbob**	**145.19**	**52**		**PKPbc**	**15 25 02.5**	**-1.4**
ARSB	**Arslanbob**	**145.19**	**52**	PKP2	**PKPbc**	**15 25 02.5**	**-1.4**
ZALV	**Zalesovo Beam**	**145.25**	**26**	PKPbc	**PKPdf**	**15 25 04.5**	**+0.8**
comp=Z,357nm,0.8s,baz=309,slow=4.6,SNR=1197							
ZALV				pPKP	**pPKPdf**	**15 25 21.2**	**+0.3**
comp=Z,163nm,0.8s,baz=315,slow=3.9,SNR=10							
EKS2	**Erkin-Say**	**145.34**	**50**	P	**PKPab**	**15 25 06.0**	**+1.6**
SNR=10							
AML	**Almayashu**	**145.45**	**51**	P	**PKPab**	**15 25 06.4**	**+1.1**
SNR=144							
YSS	**Yuzhno-Sakhali**	**145.59**	**319**	*e*PKP2	**PKPab**	**15 25 05.9**	**+0.9**
YSS				pmax	pmax		
comp=Z,60nm,0.9s							
USP	**Ospenovka**	**145.62**	**48**	P	**PKPab**	**15 25 06.3**	**+0.9**
SNR=5.6							
AAK	**Ala-Archa**	**145.84**	**49**	P	**PKPab**	**15 25 07.4**	**+1.0**
SNR=183							
AAK	**Ala-Archa**	**145.84**	**49**	PKIKP	**PKPdf**	**15 25 04.8**	**-0.4**
AAK	**Ala-Archa**	**145.84**	**49**	*i* PKPab	**PKPab**	**15 25 07.4**	**+1.0**
SNR=206							
CHMS	**Chumysh**	**145.89**	**49**	P	**PKPab**	**15 25 06.9**	**+0.5**
SNR=101							
UCH	**Uchtor**	**146.00**	**50**	P	**PKPab**	**15 25 08.6**	**+1.2**
SNR=17							
KBK	**Karagaybulak**	**146.15**	**49**	P	**PKPab**	**15 25 07.8**	**+0.2**
SNR=84							
TKM2	**Tokmak 2**	**146.50**	**48**	P	**PKPbc**	**15 25 07.9**	**0.0**
SNR=115							
TKM2	**Tokmak 2**	**146.50**	**48**	PKP2	**PKPbc**	**15 25 07.4**	**-0.5**
AAI	**Ambon**	**146.68**	**215**	PKP	**PKPab**	**15 25 10.1**	**0.0**
BOD	**Bodaibo**	**146.68**	**356**	*e*PKIKP	**PKPdf**	**15 25 06.3**	**+0.4**
BOD				pmax	pmax		
comp=Z,89nm,1.3s							
BOOM	**Boomskoye usch**	**146.89**	**49**		**PKPdf**	**15 25 07.8**	**+0.8**
BOOM	**Boomskoye usch**	**146.89**	**49**	PKP2	**PKPdf**	**15 25 07.8**	**+0.8**
NIL	**Nilore**	**146.95**	**66**		**PKPdf**	**15 25 08.0**	**+0.8**
NIL	**Nilore**	**146.95**	**66**	P	**PKPdf**	**15 25 08.1**	**+0.8**
NIL	**Nilore**	**146.95**	**66**	PKP2	**PKPdf**	**15 25 08.0**	**+0.8**
JKA	**Kamikawa-asahi**	**146.97**	**314**		**PKPbc**	**15 25 08.7**	**-0.3**
ASAJ	**Asahikawa**	**146.98**	**314**	PKP2	**PKPbc**	**15 25 08.7**	**-0.2**
ULHL	**Ulahol**	**147.19**	**49**	P	**PKPbc**	**15 25 09.8**	**-0.1**
SNR=73							
PALK	**Pallekele**	**147.25**	**117**		**PKPdf**	**15 25 09.1**	**+0.8**
PALK	**Pallekele**	**147.25**	**117**	P	**PKPbc**	**15 25 09.6**	**-1.0**
PALK	**Pallekele**	**147.25**	**117**	PKIKP	**PKPdf**	**15 25 09.1**	**+0.8**
UGM	**Wanagama**	**147.67**	**181**	PKP	**PKiKP**	**15 25 13.2**	**-0.6**
YOGI	**Yogyakarta**	**147.77**	**181**	PKP	**PKiKP**	**15 25 13.8**	**-0.2**
KDJ	**Kajisay**	**147.88**	**49**		**PKPdf**	**15 25 09.5**	**+0.8**
KDJ	**Kajisay**	**147.88**	**49**	PKIKP	**PKPdf**	**15 25 09.5**	**+0.8**
KSH	**Kashi**	**147.91**	**54**	PKPbc	**PKPdf**	**15 25 10.0**	**+1.2**
KSH				sPKP		15 25 26.3	
ZEA	**Zeya**	**148.10**	**340**	*e*PKIKP	**PKPdf**	**15 25 09.9**	**+1.5**
ZEA				*e*		15 25 29.7	
ZEA				pmax	pmax		
comp=Z,30nm,0.9s							
ZEA				pmax	pmax		
comp=Z,200nm,3.0s							
MK31	**Makanchi Array**	**148.81**	**38**	*i* PKIKP	**PKPdf**	**15 25 10.6**	**+0.7**
MKAR	**Makanchi Array**	**148.81**	**38**	PKPdf	**PKPdf**	**15 25 09.6**	**-0.3**
MKAR				PKPbc	**PKPbc**	**15 25 14.2**	**+0.4**
MKAR	**Makanchi Array**	**148.81**	**38**	PKPbc	**PKiKP**	**15 25 14.7**	**-0.4**
comp=Z,91nm,0.7s,baz=300,slow=1.5,SNR=78							
MKAR				pPKPbc	**pPKPbc**	**15 25 31.8**	**+0.8**
comp=Z,53nm,0.7s,baz=322,slow=2.8,SNR=9.8							
MKAR	**Makanchi Array**	**148.81**	**38**	PKIKP	**PKPdf**	**15 25 09.6**	**-0.3**
MKAR						15 25 14.2	
PDGK	**Podgornoye**	**148.92**	**46**	PKIKP	**PKPdf**	**15 25 09.5**	**-0.8**
KAPI	**Kappang**	**149.01**	**200**		**PKPbc**	**15 25 14.2**	**-1.0**
KAPI	**Kappang**	**149.01**	**200**	PKIKP	**PKPbc**	**15 25 14.2**	**-1.0**
WUS	**Wushi**	**149.65**	**49**		**PKPdf**	**15 25 09.3**	**-2.2**
WUS				PKPbc	**PKPbc**	**15 25 14.9**	**-1.3**
HYB	**Hyderabad**	**150.00**	**98**	*e*PKiKP	**PKPbc**	**15 25 17.9**	**+0.3**
HYB				*e*PKPab	**PKPab**	**15 25 22.8**	**-0.7**
KLR	**Kul'dur**	**150.02**	**331**	*e*PKIKP	**PKPdf**	**15 25 10.5**	**-1.2**
KLR				pmax	pmax		
comp=Z,36nm,0.8s							
TEY	**Ternei**	**150.24**	**320**	*e*PKIKP	**PKiKP**	**15 25 18.1**	**0.0**
MNAI	**Manna**	**150.44**	**166**		**PKPbc**	**15 25 16.2**	**-2.6**
HEH	**HeiHe**	**150.98**	**336**	*e*PKPbc	**PKiKP**	**15 25 19.3**	**-0.2**
IRK	**Irkutsk**	**152.08**	**7**	*e*PKIKP	**PKPdf**	**15 25 15.0**	**+0.2**
IRK				pmax	pmax		
comp=Z,98nm,0.9s							
MOY	**Mondy**	**152.15**	**12**	*e*PKIKP	**PKPdf**	**15 25 16.9**	**+1.9**
MOY				pmax	pmax		
comp=Z,85nm,1.7s							
CIT	**Chita**	**152.48**	**355**	*e*PKIKP	**PKPdf**	**15 25 17.2**	**+1.8**
CIT				*e*		15 25 34.4	
CIT				*e*		15 32 38.4	
CIT				pmax	pmax		
comp=Z,111nm,2.5s							
MJAR	**Matsushiro Arr**	**152.92**	**303**	PKPbc	**PKiKP**	**15 25 24.6**	**+0.7**
comp=Z,17nm,0.8s,baz=98,slow=1.5,SNR=30							
MJAR				pPKPbc	**pPKPbc**	**15 25 41.0**	**0.0**
comp=Z,31nm,0.8s,baz=93,slow=1.4,SNR=16							
MAJO	**Matsushiro**	**152.92**	**303**	PKPdf	**PKPdf**	**15 25 14.8**	**-1.6**
MAJO	**Matsushiro**	**152.92**	**303**	PKIKP	**PKPdf**	**15 25 14.9**	**-1.6**
USRK	**Ussuriysk Ar.**	**153.38**	**323**	PKP	**PKPdf**	**15 25 18.8**	**+2.0**
comp=Z,2.6nm,0.7s,baz=45,slow=0.8,SNR=4.4							
USRK				PKPbc	**PKiKP**	**15 25 9.1**	**+1.3**
comp=Z,20nm,0.8s,baz=354,slow=1.3,SNR=17							
USRK				pPKPbc	**pPKPbc**	**15 25 41.4**	**-0.3**
comp=Z,56nm,0.9s,baz=341,slow=1.1,SNR=18							
WMQ	**Urumqi**	**153.65**	**38**	*e*PKPbc	**PKPdf**	**15 25 16.0**	**-1.4**
WMQ				LR	LR		
comp=Z,240nm,23.7s							
ZAK	**Zakamensk**	**153.77**	**9**	*e*PKIKP	**PKPdf**	**15 25 18.2**	**+0.8**
ZAK				pmax	pmax		
comp=Z,9.0nm,1.0s							
HIA	**Hailar**	**154.19**	**345**		**PKPdf**	**15 25 18.2**	**+0.3**
HIA	**Hailar**	**154.19**	**345**	PKIKP	**PKPdf**	**15 25 18.2**	**+0.3**
MDJ	**Mudanjiang**	**154.37**	**326**	PKPbc	**PKPdf**	**15 25 18.0**	**-0.3**
BNX	**BinXian**	**154.59**	**330**	PKPbc	**PKPdf**	**15 25 19.0**	**+0.5**
SONM	**Songino Array**	**156.66**	**6**	PKP	**PKPdf**	**15 25 22.9**	**+1.4**
comp=Z,9.6nm,0.9s,baz=308,slow=0.4,SNR=47							
SONM				PKPbc	**pPKPdf**	**15 25 32.0**	**-6.8**
comp=Z,1.9nm,0.5s,baz=305,slow=2.5,SNR=6.9							
SONM				pPKP	**sPKPdf**	**15 25 40.3**	**-4.6**
comp=Z,12nm,1.0s,baz=50,slow=0.2,SNR=11							
SONM				PKPab	**PKPab**	**15 25 51.6**	**+0.9**
comp=Z,14nm,0.8s,baz=329,slow=3.5,SNR=13							
ULN	**Ulaanbaatar**	**156.68**	**5**	P	**PKPdf**	**15 25 23.3**	**+1.7**
CN2	**Changchun**	**156.97**	**330**	*e*PKP	**PKPdf**	**15 25 24.0**	**+2.2**
KSRS	**Korea Array**	**159.93**	**314**	PKP	**PKPdf**	**15 25 27.1**	**+1.5**
comp=Z,10nm,0.8s,baz=91,slow=1.3,SNR=32							
KSRS				pPKP	**pPKPdf**	**15 25 44.1**	**+1.3**
comp=Z,12nm,0.9s,baz=82,slow=1.2,SNR=12							
KSRS				PKPab	**PKPab**	**15 26 07.5**	**+2.4**
comp=Z,12nm,0.8s,baz=61,slow=4.2,SNR=14							
KSRS				pPKPab	**pPKPab**	**15 26 23.2**	**+1.4**
comp=Z,25nm,0.9s,baz=64,slow=4.7,SNR=11							
XLT	**XiLinHaoTe**	**160.08**	**347**	*e*PKP	**PKPdf**	**15 25 23.5**	**-2.1**
XLT				pPKP	pPKPdf	15 25 37.0	-6.0
XLT				sPKP		15 25 43.5	
XLT				PKPab	**PKPab**	**15 26 07.0**	**+1.4**
DL2	**Dalian**	**162.59**	**328**	PKP	**PKPdf**	**15 25 29.0**	**+0.7**
DL2				sPKP		15 25 44.0	
LSA	**Lhasa**	**162.63**	**69**	PKP	**PKPdf**	**15 25 31.0**	**+1.7**
LSA	**Lhasa**	**162.63**	**69**	*i* PKPdf	**PKPdf**	**15 25 30.9**	**+1.6**
SNR=7.2							
GOMU	**GeErMu**	**162.68**	**45**	PKP	**PKPdf**	**15 25 30.8**	**+1.8**
GOMU				SS	SS	15 50 21.8	+0.7
GOMU				LR	LR		
comp=Z,280nm,17.7s							
GOMU				LR	LR		
comp=Z,270nm,17.9s							
GOMU				LR	LR		
comp=Z,590nm,17.1s							
GTA	**Gaotai**	**163.00**	**27**	PKP	**PKPdf**	**15 25 30.3**	**+1.4**
GTA				pPKP	pPKPdf	15 25 47.0	+0.8
GTA				PKPab	**PKPab**	**15 26 19.0**	**+0.4**
GTA				LR	LR		
comp=Z,130nm,18.3s							
GTA				LR	LR		
comp=Z,190nm,19.9s							
GTA				LR	LR		
comp=Z,150nm,21.5s							
HHC	**Hu-ho-hao-te**	**163.74**	**355**	*e*PKP	**PKPdf**	**15 25 31.0**	**+1.5**
BTO	**Baotou**	**164.04**	**359**	*e*PKP	**PKPdf**	**15 25 31.5**	**+1.7**
BTO				PP	**PP**	**15 30 12.0**	**+4.1**
BTO				SS	SS	15 50 40.0	+7.3
BTO				AMB	AMB		
comp=Z,610nm,5.6s							
BTO				LR	LR		
comp=Z,400nm,19.8s							
BTO				LR	LR		
comp=Z,430nm,20.4s							
HNS	**HongShan**	**166.58**	**343**	⇑PKP	**PKPdf**	**15 25 33.5**	**+1.7**
HNS				pPKP	**pPKPdf**	**15 25 51.0**	**+1.8**
HNS				PKPab	**PKPab**	**15 26 35.3**	**+1.2**
TIA	**Tai'an**	**166.83**	**333**	PKP	**PKPdf**	**15 25 33.5**	**+1.4**
LZH	**Lanzhou**	**167.45**	**23**	*e*PKP	**PKPdf**	**15 25 35.0**	**+2.2**
LZH				pPKP	pPKPdf	15 25 51.3	+1.1
LZH				LR	LR		
comp=Z,240nm,16.1s							
LZH				LR	LR		
comp=Z,260nm,14.1s							
LZH				LR	LR		
comp=Z,430nm,18.2s							
CMAR	**Chiang Mai Arr**	**168.18**	**119**	PKPdf	**PKPdf**	**15 25 32.4**	**-1.2**
CMAR					**PKPab**	**15 26 40.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**168.18**	**119**	PKP	**PKPdf**	**15 25 34.5**	**+0.9**
comp=Z,5.4nm,0.8s,baz=277,slow=2.3,SNR=48							
CMAR				pPKP	**pPKPdf**	**15 25 52.6**	**+1.7**
comp=Z,4.9nm,0.8s,baz=252,slow=2.3,SNR=6.1							
CMAR				PKPab	**PKPab**	**15 26 41.8**	**-0.1**
comp=Z,6.1nm,0.8s,baz=249,slow=4.6,SNR=13							
CMAR				PP	**PP**	**15 30 30.2**	**-0.6**
comp=Z,2.0nm,0.9s,baz=256,slow=5.0,SNR=5.5							
CHTO	**Chiang Mai**	**168.37**	**118**	PKPdf	**PKPdf**	**15 25 31.9**	**-1.8**
CHTO				PKPab	**PKPab**	**15 26 41.2**	**-1.6**
CHTO	**Chiang Mai**	**168.37**	**118**	P	**PKPdf**	**15 25 34.4**	**+0.7**
CHTO	**Chiang Mai**	**168.37**	**118**	PKP2	**PKPab**	**15 26 41.2**	**-1.6**
CHTO						16 25 31.9	
NJ2	**Nanjing**	**169.12**	**315**	*e*PKP	**PKPdf**	**15 25 33.0**	**-0.8**
TNCH	**TengChong**	**169.73**	**85**	PKP	**PKPdf**	**15 25 33.0**	**-1.6**
TNCH				sPKP		15 25 53.0	
TNCH				PKPab	**PKPab**	**15 26 49.3**	**+0.3**
TNCH				PP	**PP**	**15 30 39.8**	**+0.4**
TNCH				AMB	AMB		
comp=Z,150nm,4.9s							
LYN	**LuoYang**	**169.83**	**348**	PKP	**PKPdf**	**15 25 35.5**	**+1.4**
LYN				sPKP		15 25 53.0	
LYN				PKPab	**PKPab**	**15 26 49.5**	**+0.9**
LYN				LR	LR		
comp=Z,400nm,16.5s							
LYN				LR	LR		
comp=Z,340nm,15.8s							
LYN				LR	LR		
comp=Z,520nm,18.2s							
XAN	**Xi'an**	**170.57**	**5**	PKP	**PKPdf**	**15 25 35.8**	**+1.1**
XAN				sPKP		15 25 53.3	
XAN				PKPab	**PKPab**	**15 26 51.5**	**-0.4**
XAN				PP	**PP**	**15 30 42.8**	**+1.6**
XAN				SS	SS	15 51 42.5	+4.2
XAN				AMB	AMB		
comp=Z,250nm,10.6s							
XAN				LR	LR		
comp=Z,330nm,19.9s							
XAN				LR	LR		
comp=Z,320nm,22.0s							
XAN				LR	LR		
comp=Z,370nm,19.4s							
CD2	**Chengdu**	**171.74**	**39**	PKP	**PKPdf**	**15 25 33.5**	**-1.9**
PZH	**PanZhiHua**	**172.47**	**74**	PKP	**PKPdf**	**15 25 36.3**	**+0.4**
PZH				PKPab	**PKPab**	**15 27 01.0**	**0.0**
PZH				PP	**PP**	**15 30 57.8**	**+5.0**
PZH				AMB	AMB		
comp=Z,150nm,5.1s							
WHN	**Wuhan**	**172.85**	**327**	PKP	**PKPdf**	**15 25 37.5**	**+1.7**
KMI	**Kunming**	**173.55**	**84**	⇑PKP	**PKPdf**	**15 25 37.5**	**+1.0**
KMI				pPKP	pPKPdf	15 25 55.3	+1.4
QIZ	**Qiongzhong**	**174.45**	**180**	PKP	**PKPdf**	**15 25 34.5**	**-2.2**
QIZ				PP	**PP**	**15 31 04.0**	**+3.8**
QIZ				SS	SS	15 52 19.5	+3.5
QIZ				AMB	AMB		
comp=Z,130nm,9.8s							
QIZ				LR	LR		
comp=Z,130nm,15.7s							
QIZ				LR	LR		
comp=Z,210nm,22.6s							
QIZ				LR	LR		
comp=Z,280nm,24.7s							
GYA	**Guiyang**	**176.61**	**56**	⇓PKP	**PKPdf**	**15 25 38.5**	**+1.3**
GYA				PP	**PP**	**15 31 10.3**	**-2.0**
GYA				AMB	AMB		
comp=Z,160nm,5.3s							
GYA				LR	LR		
comp=Z,220nm,6.4s							
GYA				LR	LR		
comp=Z,140nm,3.9s							
GYA				LR	LR		
comp=Z,110nm,8.7s							

TXNET 28 15:12:59.2, 31°.2N±0°.8×103°.5W±0°.6, h5km±1km, ML1.9/6, Error ellipse: s-maj=1.2km s-min=0.9km az=6.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.07**	**200**	P	Pg	15 13 01.1	+0.2
TPB03				S	Sg	15 13 02.8	+0.8
TPB04	**Verhalen**	**0.19**	**79**	P	Pg	15 13 03.3	+0.3
TPB04				S	Sg	15 13 06.6	+1.1
TPB16	**Coyonosa**	**0.20**	**97**	P	Pg	15 13 03.9	+0.6
TPB16				S	Sg	15 13 07.7	+1.8
PCOS	**Crockett Middl**	**0.26**	**355**	S	Sg	15 13 09.4	+1.7
TPB10	**Southeast of T**	**0.27**	**300**	P	Pb	15 13 05.8	-0.8
TPB10				S	Sb	15 13 10.1	-1.4
TPB05	**Hovey Rd**	**0.27**	**149**	P	Pb	15 13 05.6	-1.0
TPB05				S	Sb	15 13 10.1	-1.4
TPB01	**Permian Basin**	**0.33**	**231**	P	Pg	15 13 06.3	+0.7
TPB01				S	Sb	15 13 12.2	-1.0
PECS	**Pecos**	**0.39**	**304**	S	Sb	15 13 13.8	-1.4
TPB12	**Southwest of T**	**0.41**	**279**	P	Pg	15 13 07.9	+0.8
TPB12				S	Sb	15 13 14.1	-1.5
TPB07	**Mentone**	**0.46**	**340**	S	Sb	15 13 15.9	-1.1
TPB06	**Permian Basin**	**0.55**	**25**	S	Sb	15 13 18.6	-0.9
TPB08	**Permian Basin**	**0.56**	**117**	S	Sb	15 13 19.4	-0.5
MNHN	**Monahans**	**0.65**	**73**	P	Pg	15 13 11.9	+0.1
MNHN				S	Sg	15 13 20.3	+0.1
ALPN	**Alpine**	**0.78**	**190**	P	Pg	15 13 14.3	0.0
ALPN				S	Sg	15 13 25.2	+0.7
TPB11	**China Draw**	**0.91**	**329**	S	Sb	15 13 29.6	-0.5
ODSA	**Odessa**	**1.25**	**39**	P	Pg	15 13 22.2	-1.1
ODSA				S	Sg	15 13 39.2	-0.4
VHRN	**Van Horn**	**1.34**	**255**	P	Pn	15 13 24.6	-0.1
VHRN				S	Sb	15 13 42.5	+0.1
SAND	**Sanderson**	**1.67**	**135**	P	Pb	15 13 30.6	0.0
SAND				S	Sg	15 13 53.1	+0.1
MNTX	**Cornudas Mount**	**1.71**	**289**	P	Pb	15 13 31.2	0.0
MNTX				S	Sg	15 13 54.2	-0.1
TX31	**Lajitas Ar. Si**	**1.82**	**185**	P	Pb	15 13 32.6	-0.4
TX31				S	Sg	15 13 57.0	-0.6
OZNA	**Ozona**	**2.04**	**96**	P	Pb	15 13 35.7	-1.1
OZNA				S	Sb	15 14 02.7	+0.2

PRU 28 15:15:17.5, 51°.53N×16°.06E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.94**	**180**	*e*PG	Pg	15 15 34.8	-0.7
CHVC				*e*SG	Sg	15 15 48.6	+0.8
UPC	**Upice**	**1.02**	**182**	*e*PG	Pg	15 15 35.8	-1.3
UPC				*e*SG	Sg	15 15 51.0	+0.6
comp=Z,6.3nm,0.4s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*SG	Sg	15 15 54.5	-1.3
PVCC	**Panska Ves**	**1.38**	**224**	*e*PG	Pg	15 15 43.6	-0.2
PVCC				*e*SG	Sg	15 16 01.7	+0.1
comp=Z,13nm,0.2s							
BRG	**Berggiesshubel**	**1.48**	**245**	Pg	Pn	15 15 44.2	-1.2
BRG				Sg	Sg	15 16 04.4	-0.8
BRG				Amp		15 16 05.6	
comp=Z,3.3nm,0.3s							
KRLC	**Kraliky**	**1.53**	**162**	*e*PG	Pn	15 15 45.2	-0.9
KRLC				*e*SG	Sg	15 16 05.4	-1.1
HSKC	**Hora Svate Kat**	**1.90**	**242**	*e*SG	Sn	15 16 16.3	+0.5

*ISN **28** 15:14:42.3±1.2, 34°.57N×46°.12E, h19km±55km, ML2.6*
*TEH **28** 15:15:41.9, 34°.59N×46°.12E, h8km±47km*
ISC 28 15:15:41.9±1.1, 34°.60N±0°.05×46°.11E±0°.04, h10km, n7, σ0°.34/9, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.25**	**67**	Pg	**Pg**	**15 15 47.5**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.44**	**257**	Pg	**Pg**	**15 15 50.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.47**	**126**	Pg	**Pg**	**15 15 51.3**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.52**	**199**	Pg	**Pg**	**15 15 52.1**	**+0.1**
KCHF	**Cheshme Sefid,**	**0.84**	**113**	Pg	**Pg**	**15 15 57.9**	**-0.1**
IBDR	**Badra**	**1.50**	**186**	*e*Pn	**Pn**	**15 16 09.0**	**+0.2**
baz=6.0							
IBDR				*e*Sn	**Sg**	**15 16 30.0**	**0.0**
IBDR				AML	AML	15 16 38.3	
comp=N,2.3nm,0.6s							
IKRK	**Kirkuk**	**1.66**	**299**	*e*Pg	**Pb**	**15 16 12.0**	**-0.5**
IKRK				*e*Sg	**Sg**	**15 16 35.0**	**-0.1**

*NOU **28** 15:15:46.3, 38°.82S×176°.11E, h93km, MLv3.7/14, North Island, New Zealand*
*WEL **28** 15:15:46.9±0.9, 39°.5S±5°×17°.6E±°, h85km±7km, M3.3/85, ML2.9/18, MLv3.3/85, Error ellipse: s-maj=8.2km s-min=5.8km az=130.7, confirmed*
ISC 28 15:15:45.4±1.4, 38°.74S±0°.03×176°.07E±0°.03, h107km±6km, n146, σ1°.01/153, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.12**	**310**	P	**Pn**	**15 16 00.7**	**+0.4**
HATZ	**Hinemaiaia**	**0.15**	**175**	P	**Pn**	**15 16 00.5**	**+0.2**
HATZ				S	**Sn**	**15 16 10.1**	**-1.3**
WPRZ	**Whakapapatarin**	**0.23**	**17**	P	**Pn**	**15 16 00.7**	**+0.2**
WPRZ				S	**Sn**	**15 16 11.3**	**-0.5**
WATZ	**Wairara**	**0.27**	**277**	P	**Pn**	**15 16 01.0**	**+0.4**
WATZ				S	**Sn**	**15 16 11.6**	**-0.5**
ALRZ	**Allen Road**	**0.28**	**50**	P	**Pn**	**15 16 00.8**	**+0.1**
ALRZ				S	**Sn**	**15 16 11.5**	**-0.6**
MRHZ	**Matea Rd**	**0.28**	**109**	P	**Pn**	**15 16 00.9**	**+0.2**
MRHZ				S	**Sn**	**15 16 11.2**	**-1.1**
RITZ	**Rihia Road**	**0.29**	**216**	P	**Pn**	**15 16 01.6**	**+0.9**
RITZ				S	**Sn**	**15 16 12.5**	**+0.2**
KUTZ	**Kaahu Road**	**0.32**	**322**	P	**Pn**	**15 16 01.2**	**+0.4**
PRRZ	**Plateau Road**	**0.35**	**46**	P	**Pn**	**15 16 01.0**	**0.0**
KATZ	**Kakaramea**	**0.38**	**232**	P	**Pn**	**15 16 02.0**	**+0.7**
GRRZ	**Galatos Road**	**0.39**	**4**	P	**Pn**	**15 16 01.6**	**+0.

OHWZ	Ohakea	1.57	202	P	Pn	15 16 15.4	+2.6
PRHZ	Porangahau	1.58	164	P	Pn	15 16 14.0	+1.1
TWGZ	Tauwhareparae	1.60	70	P	Pn	15 16 14.3	+1.1
PREZ	Palmer Road	1.61	248	P	Pn	15 16 15.6	+2.3
NEZ	North Egmont	1.63	250	P	Pn	15 16 15.6	+2.0
POWZ	Post Office Ro	1.66	188	P	Pn	15 16 14.9	+1.0
HAZ	Te Kaha	1.67	54	P	Pn	15 16 14.0	0.0
CNGZ	Carnagh Statio	1.69	82	P	Pn	15 16 15.4	+1.1
KHEZ	Kahui Hut	1.70	250	P	Pn	15 16 15.9	+1.5
KHEZ	Kahui Hut	1.70	250	P	Pn	15 16 16.4	+2.0
ANWZ	Angora Road	1.74	170	P	Pn	15 16 16.0	+1.1
MKAZ	Moumakai	1.79	336	P	Pn	15 16 16.3	+0.8
NBEZ	Newall Road No	1.80	252	P	Pn	15 16 17.5	+1.9
PKGZ	Pakihiroa	1.81	62	P	Pn	15 16 16.7	+0.9
PRWZ	Pori Road	1.81	182	P	Pn	15 16 16.9	+1.1
NMEZ	Namu Road	1.84	248	P	Pn	15 16 17.9	+1.9
PUZ	Puketiti	1.84	69	P	Pn	15 16 17.4	+1.2
BFZ	Birch Farm	1.94	176	P	Pn	15 16 17.6	+0.2
BFZ	Birch Farm	1.94	176	S	Sn	15 16 41.4	-0.5
BFZ	Birch Farm	1.94	176	P	Pn	15 16 17.9	+0.5
MRZ	Mangatainoka R	1.95	191	P	Pn	15 16 18.0	+0.4
ETAZ	East Tamaki Re	2.00	333	P	Pn	15 16 19.1	+0.8
AWAZ	Awhitu Peninsu	2.02	326	P	Pn	15 16 19.5	+1.0
TIWZ	Tintock	2.04	184	P	Pn	15 16 19.2	+0.5
WMGZ	Waiomatatini S	2.06	64	P	Pn	15 16 19.7	+0.8
WIAZ	Waiheke Island	2.08	339	P	Pn	15 16 20.1	+0.8
MXZ	Matakaoa Point	2.12	57	P	Pn	15 16 21.1	+1.4
MXZ	Matakaoa Point	2.12	57	P	Pn	15 16 21.1	+1.4
EPAZ	Eden Park BICE	2.14	330	P	Pn	15 16 20.7	+0.7
WTAZ	Waiatarua	2.16	326	P	Pn	15 16 21.5	+1.2
CPWZ	Castlepoint	2.17	177	P	Pn	15 16 21.4	+1.1
HBAZ	Herne Bay Bore	2.17	330	P	Pn	15 16 21.1	+0.8
MBAZ	Motutapu North	2.18	334	P	Pn	15 16 21.3	+0.8
OGWZ	Otaki Gorge	2.19	198	P	Pn	15 16 21.4	+0.8
HOWZ	Holdsworth Sta	2.19	191	P	Pn	15 16 20.7	0.0
KIW	Kapiti Island	2.30	203	P	Pn	15 16 22.2	+0.2
RVAZ	Riverhead Bore	2.30	329	P	Pn	15 16 22.8	+0.8
TMWZ	Te Maipa	2.37	183	P	Pn	15 16 23.0	0.0
MTW	Mount Morrison	2.45	190	P	Pn	15 16 23.7	-0.3
CAW	Cannon Point	2.49	198	P	Pn	15 16 24.4	-0.1
GRZ	Great Barrier	2.54	349	P	Pn	15 16 25.9	+0.8
DUWZ	D'Urville Isla	2.64	218	P	Pn	15 16 26.5	0.0
TRWZ	Traveller	2.67	186	P	Pn	15 16 26.6	-0.2
PAWZ	Paruwai Farm	2.68	190	P	Pn	15 16 26.5	-0.6
WEL	Wellington	2.73	201	P	Pn	15 16 27.4	-0.2
MSWZ	Moikau Station	2.74	193	P	Pn	15 16 27.1	-0.7
SNZO	South Karori	2.77	202	P	Pn	15 16 27.5	-0.7
BHW	Baring Head	2.82	199	P	Pn	15 16 28.1	-0.7
TCW	Tory Channel	2.83	209	P	Pn	15 16 28.4	-0.5
PLWZ	Palliser	2.89	192	P	Pn	15 16 29.1	-0.8
WCZ	Waipu Caves	3.12	333	P	Pn	15 16 33.9	+1.1
TUWZ	Tuamarina	3.14	211	P	Pn	15 16 32.9	-0.2
NNZ	Nelson	3.22	219	P	Pn	15 16 33.9	-0.3
TKNZ	Takaka Hill	3.31	225	P	Pn	15 16 35.3	-0.1
BSWZ	Blackbirch Sta	3.41	209	P	Pn	15 16 36.7	-0.1
QRZ	Quartz Range	3.43	232	P	Pn	15 16 36.6	-0.4
QRZ	Quartz Range	3.43	232	S	Sn	15 17 16.8	-0.1
QRZ	Quartz Range	3.43	232	P	Pn	15 16 36.6	-0.4
MRNZ	Matariki Terra	3.68	223	P	Pn	15 16 39.4	-0.9
THZ	Tophouse	3.87	218	P	Pn	15 16 42.2	-0.8
KHZ	Kahutara	4.15	207	P	Pn	15 16 44.8	-1.7
KHZ	Kahutara	4.15	207	P	Pn	15 16 44.9	-1.6
DSZ	Denniston Nort	4.43	226	P	Pn	15 16 49.4	-1.1
INZ	Inchbonnie	5.31	220	P	Pn	15 17 01.9	-0.4
CTZ	Chatham Island	7.43	135	P	Pn	15 17 31.1	+0.1

*IDC **28** 15:38:17.2±5.2, 1°.85N×125°.24E, h64^{km}±48^{km}, mb4.1/13, mbtmp4.4/14, ML4.4/1, Error ellipse: s-maj=45.1km s-min=11.4km az=75.0*

*NEIC **28** 15:38:21.9±2.2, 2°.06N±0°.07×125°.94E±0°.06, h102^{km}±6^{km}, mb4.7/53, Error ellipse: s-maj=10.9km s-min=8.4km az=204.0*

*DJA **28** 15:38:24.8±0.2, 2°N±2°×12°6E±°, h70^{km}±6^{km}, M4.9/19, mb5.0/19, mB5.4/9, MLv4.8/19, Mw(mB)4.9/9*

ISC 28 15:38:21.1±0.3, 2°.09N±0°.04×126°.01E±0°.05, h100^{km}, n166, σ1§53/169, mb4.6/40, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.66	343	P	Pn	15 38 52.4	+3.1
SGSI				S	Sn	15 39 14.5	+3.7
TNTI	Ternate	1.88	134	Pn	Pn	15 38 53.8	+1.7
TNTI				Sn	Sn	15 39 18.4	+2.5
TNTI	Ternate	1.88	134	P	Pn	15 38 54.8	+2.7
TNTI	Ternate	1.88	134	P	Pn	15 38 54.8	+2.7
KMSI	Cibinong	2.53	233	P	Pn	15 39 04.4	+3.8
SANI	Sanana	4.11	180	P	Pn	15 39 22.2	+0.4
MRSI	Marisa	4.38	249	P	Pn	15 39 29.4	+4.0
LUWI	Luwuk	4.49	226	Pn	Pn	15 39 25.8	-1.1
LUWI				Sn	Sn	15 40 17.6	-0.5
LUWI	Luwuk	4.49	226	P	Pn	15 39 30.8	+3.8
LUWI	Luwuk	4.49	226	P	Pn	15 39 30.7	+3.8
APSI	Ampana	5.29	236	P	Pn	15 39 41.7	+4.0
	0.8nm2μm95nm,0.8s						
TOLI2	Tolitoli	5.32	260	Pn	Pn	15 39 39.8	+1.6
TOLI2	Tolitoli	5.32	260	P	Pn	15 39 40.1	+1.9
NLAI	Namlea	5.40	168	P	Pn	15 39 40.5	+1.2
	3.2nm21μm389nm,0.6s						
SWI	Sorong	6.01	119	P	Pn	15 39 49.8	+2.3
	0.2nm1μm65nm,0.8s						
MSAI	Masohi	6.14	152	P	Pn	15 39 52.5	+3.2
AAI	Ambon	6.14	159	P	Pn	15 39 51.3	+2.0
BNDI	Bandanaira	7.63	149	P	Pn	15 40 11.0	+1.4
BNDI	Bandanaira	7.63	149	P	Pn	15 40 10.6	+1.0
	298nm,1.4s						
FAKI	Fak Fak	7.98	129	Pn	Pn	15 40 15.9	+1.6
FAKI	Fak Fak	7.98	129	P	Pn	15 40 15.4	+1.1
FAKI	Fak Fak	7.98	129	P	Pn	15 40 17.1	+2.8
MYLDM	Lahad Datu	8.10	292		Pn	15 40 16.7	+0.7
BBSI	Bau Bau	8.28	205	P	Pn	15 40 20.5	+2.1
BSSI	Bau Bau, Buton	9.87	214	P	Pn	15 40 42.6	+2.6
KKM	Kota Kinabalu	10.53	292	Pn	Pn	15 40 48.8	-0.4
KKM	Kota Kinabalu	10.53	292	P	Pn	15 40 51.3	+2.1
SAUI	Saumlaki	11.31	152	Pn	Pn	15 41 00.3	+0.7
EDFI	Ende, Flores	11.60	202	P	Pn	15 41 19.3	+16
SOEI	Soe	11.90	188	Pn	Pn	15 41 04.2	-3.4
WSI	Waingapu	13.00	206	P	P	15 41 26.6	-2.0
	2μm158nm,0.6s						
BASI	Baing, Sumba	13.37	204	P	P	15 41 31.9	-0.9
	1μm79nm,0.7s						
WBSI	Waikabubak, Su	13.39	209	P	P	15 41 32.6	-0.5
	85nm,0.7s						
PLAI	Plampang	13.60	217	P	Pn	15 41 32.2	+2.2
PLAI	Plampang	13.60	217	P	P	15 41 35.8	+0.4
	1μm183nm,0.8s						
SBUM	Sibu	13.79	272		P	15 41 40.3	+2.9
SRBI	Singaraja	14.77	227	P	P	15 41 50.7	+2.3
	42nm,1.1s						
DRS	Darwin Rock St	15.22	162	P	Pn	15 41 51.2	+0.5
MTN	Manton Dam	15.68	161	Pn	Pn	15 41 55.1	-1.4
JAGI	Jajag, Banyuwa	15.81	228	P	P	15 41 59.0	-0.9
JAGI				IAmb	IAmb	15 42 05.5	
	comp=Z,21nm,0.6s						
JAGI	Jajag, Banyuwa	15.81	228	P	P	15 42 00.6	+0.7
JAGI	Jajag, Banyuwa	15.81	228	P	P	15 42 05.1	+5.2
	comp=Z,37nm,0.6s						
GMJI	Gumukmas	16.22	230	P	P	15 42 09.3	+4.8
KNRA	Kununurra	17.86	171	P	P	15 42 21.7	-0.9
KNRA				IAmb	IAmb	15 42 23.8	
	comp=Z,23nm,0.8s						
UGM	Wanagama	18.37	237	P	P	15 42 25.2	-3.0
UGM				IAmb	IAmb	15 42 44.8	
	comp=Z,40nm,1.2s						
UGM	Wanagama	18.37	237	P	Pn	15 42 30.1	+0.7
FITZ	Fitzroy Crossi	20.07	181	P	P	15 42 45.0	-1.6
FITZ	Fitzroy Crossi	20.07	181	P	P	15 42 43.6	-3.0
	comp=Z,0.8nm,0.3s,baz=12,slow=9.9,SNR=20						
	comp=Z,3.4nm,0.5s						
TWGBT	Beinan	21.15	347	P	P	15 42 56.5	-1.7
YULB	Yu-li	21.66	348	P	P	15 43 02.1	-1.6
TPUB	Ta-pu	21.72	347	P	P	15 43 02.5	-1.8
SSLB	Suanglung	22.12	348	P	P	15 43 07.7	-0.8
YHNB	Yeheng	22.89	349	P	P	15 43 15.0	-1.5
TATO	Taipei	23.17	350	P	P	15 43 18.9	-0.1
WB0	Warramunga Arr	23.23	160	P	P	15 43 18.4	-1.3
WB0				IAmb	IAmb	15 43 20.6	
	comp=Z,25nm,0.5s						
WB0					S	15 47 25.1	+1.1
COEN	Coen	23.32	134	P	P	15 43 19.5	-1.0
COEN	Coen	23.32	134	P	P	15 43 19.3	-1.2
WRAB	Tennant Creek	23.37	160	P	P	15 43 19.9	-1.0
WRAB				IAmb	IAmb	15 43 22.0	
	comp=Z,23nm,0.9s						
WRA	Warramunga Arr	23.37	160	P	P	15 43 18.8	-2.2
WRA	Warramunga Arr	23.37	160	P	P	15 43 20.2	-0.8
	comp=Z,16nm,0.6s,baz=336,slow=10,SNR=124						
WRA				PcP	PcP	15 47 04.9	-0.1
	comp=Z,1.9nm,0.5s,baz=326,slow=2.3,SNR=9.4						
	comp=Z,16nm,0.6s						
WB2	Warramunga Arr	23.38	160	P	P	15 43 19.9	-1.1
WB2				IAmb	IAmb	15 43 22.1	
	comp=Z,27nm,0.7s						
WB1	Warramunga Ar.	23.39	160	P	P	15 43 20.4	-0.8
KNMB	Chin-men Tao	23.43	342	P	P	15 43 21.0	-0.5
KNMB				IAmb	IAmb	15 43 49.0	
	comp=Z,34nm,0.8s						
WR0	Warramunga Arr	23.46	159	P	P	15 43 20.5	-1.3
MBWA	Marble Bar	23.91	195	P	P	15 43 24.9	-1.0
MBWA				IAmb	IAmb	15 43 26.3	
	comp=Z,27nm,1.0s						
MBWA	Marble Bar	23.91	195	P	P	15 43 25.7	-0.1
MNAI	Manna	23.92	254	P	P	15 43 24.6	-1.4
PSA00	Pilbara Seismi	24.28	194	P	P	15 43 29.1	-0.1
PSA00	Pilbara Seismi	24.28	194	P	P	15 43 29.0	-0.2
PSA00	Pilbara Seismi	24.28	194	P	P	15 43 29.2	+0.1
JOW	Kunigami	24.70	5	P	P	15 43 33.3	+0.4
JOW				IAmb	IAmb	15 44 13.4	
	comp=Z,77nm,1.4s						
QIS	Mount Isa	26.16	150	P	P	15 43 46.3	+0.1
AS31	Alice Springs	26.73	164	P	P	15 43 50.6	-0.8
ASAR	Alice Springs	26.73	164	P	P	15 43 50.3	-1.1
ASAR	Alice Springs	26.73	164	P	P	15 43 50.8	-0.6
	comp=Z,2.3nm,0.4s,baz=339,slow=7.3,SNR=202						
ASAR				PcP	PcP	15 47 12.4	-0.1
	comp=Z,3.7nm,0.4s,baz=349,slow=2.2,SNR=30						
	comp=Z,2.3nm,0.4s						
AS01	Alice Springs	26.74	164	P	P	15 43 51.4	-0.1
MTSU	Mount Surprise	27.00	139	P	P	15 43 53.6	-0.2
WRKA	Warakurna	27.06	175	P	P	15 43 54.4	+0.1
GIRL	Giralia	27.14	204	P	P	15 43 55.2	+0.2
GIRL	Giralia	27.14	204	P	P	15 43 55.7	+0.7
SLVN	Son La	28.80	313	P	P	15 44 09.7	-0.2
MEEK	Meekatharra	29.44	194	P	P	15 44 15.3	-0.2
CMAR	Chiang Mai Arr	31.12	303	P	P	15 44 31.2	+0.8
	comp=Z,0.8nm,0.7s,baz=117,slow=7.3,SNR=7.0						
OOD	Oodnadatta	31.14	163	P	P	15 44 30.2	-0.2
JNU	Nakatsue	31.20	8	P	P	15 44 30.5	-0.5
JNU				IAmb	IAmb	15 44 58.5	
	comp=Z,18nm,1.4s						
JMN	Monobe	32.32	12	P	P	15 44 41.5	+0.7
FORT	Forrest	32.74	177	P	P	15 44 44.1	-0.3
FORT	Forrest	32.74	177	P	P	15 44 45.5	+1.1
INKA	Innaminka	32.87	155	P	P	15 44 45.2	-0.4
BLDU	Ballidu	33.71	195	P	P	15 44 52.7	-0.2
LCRK	Leigh Creek	34.39	161	P	P	15 44 59.4	+0.7
JGF	Kuroka	34.97	16	P	P	15 45 04.2	+0.5
MUN	Mundaring	35.14	195	P	P	15 45 05.2	0.0
KSRS	Korea Array	35.24	3	P	P	15 45 07.2	+1.3
	comp=Z,1.8nm,0.8s,baz=182,slow=10,SNR=5.6						
	comp=Z,1.8nm,0.8s						
XAN	Xi'an	35.57	335	P	P	15 45 07.8	-1.1
XAN				pmax	pmax		
	comp=Z,18nm,0.6s						
NWAO	Narrogin (SRO)	35.80	193	P	P	15 45 09.8	-1.0
NWAO	Narrogin (SRO)	35.80	193	P	P	15 45 11.5	+0.6
BBOO	Buckleboo	35.99	166	P	P	15 45 11.9	-0.6
BBOO	Buckleboo	35.99	166	P	P	15 45 12.2	-0.2
MJAR	Matsushiro Arr	36.09	17	P	P	15 45 18.2	+4.9
	comp=Z,1.3nm,0.7s,baz=181,slow=10,SNR=4.5						
	comp=Z,1.3nm,0.7s						
EIDS	Eidsvold	36.54	140	P	P	15 45 16.8	-0.4
EIDS				IAmb	IAmb	15 45 42.3	
	comp=Z,10nm,1.1s						
STKA	Stephens Creek	36.88	158	P	P	15 45 18.7	-1.3
STKA	Stephens Creek	36.88	158	P	P	15 45 20.1	+0.1
	comp=Z,9.8nm,0.8s,baz=331,slow=9.5,SNR=15						
	comp=Z,9.8nm,0.8s						
STKA	Stephens Creek	36.88	158	P	P	15 45 19.9	-0.1
HTT	Hallett	37.37	162	P	P	15 45 25.1	+0.9
CMSA	Cobar Meteorol	38.32	152	P	P	15 45 32.0	-0.1
ARMA	Armidale	40.52	145	P	P	15 45 51.2	+0.5
ARMA				IAmb	IAmb	15 45 52.3	
	comp=Z,17nm,0.8s						
ARMA	Armidale	40.52	145	P	P	15 45 50.2	-0.4
ARPS	Mount Arapiles	41.37	161	P	P	15 45 58.0	+0.6
XLT	XiLinHaoTe	42.56	349	eP	P	15 46 12.0	+5.0
XLT				pP	pP	15 46 26.5	-3.1
XLT				sP	pwP	15 46 34.5	+1.8
XLT				pmax	pmax		
	comp=Z,12nm,1.1s						
CAN	Canberra	42.99	152	P	P	15 46 11.2	+0.6
CAN				IAmb	IAmb	15 46 14.2	
	comp=Z,20nm,1.3s						
CAN	Canberra	42.99	152	P	P	15 46 10.5	-0.1
CNB	Canberra Magne	43.16	152	P	P	15 46 12.3	+0.3
TOO	Toolangi	43.40	157	P	P	15 46 13.8	0.0
TOO				IAmb	IAmb	15 46 47.1	
	comp=Z,11nm,1.4s						
HEH	HeiHe	48.00	1	eP	P	15 46 49.5	-0.3
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	48.62	342	P	P	15 46 55.0	+0.1
SONM	Songino Array	48.62	342	P	P	15 46 54.2	-0.6
	comp=Z,2.7nm,0.9s,baz=160,slow=8.1,SNR=12						
	comp=Z,2.7nm,0.9s						
MK31	Makanchi Array	58.50	326	P	P	15 48 05.3	-1.6
MK31				IAmb	IAmb	15 48 07.5	
	comp=Z,3.3nm,0.5s						
MKAR	Makanchi Array	58.50	326	P	P	15 48 05.2	-1.7
MKAR	Makanchi Array	58.50	326	P	P	15 48 05.6	-1.3
	comp=Z,4.8nm,0.4s,baz=121,slow=7.5,SNR=94						
	comp=Z,4.8nm,0.4s						
MAKZ	Makanchi	58.68	326	P	P	15 48 07.0	-1.2
MAKZ				IAmb	IAmb	15 48 08.7	
	comp=Z,5.1nm,0.5s						
LBZ	Lake Benmore	60.75	145	P	P	15 48 21.7	-0.6
RPZ	Rata Peaks	60.85	144	P	P	15 48 22.3	-0.7
LTZ	Lake Taylor	61.04	143	P	P	15 48 25.1	+0.7
LTZ				IAmb	IAmb	15 48 46.7	
	comp=Z,7.4nm,1.0s						
TUWZ	Tuamarina	61.34	140	P	P	15 48 26.5	+0.2
KHZ	Kahutara	61.62	142	P	P	15 48 27.3	-0.9
ZALV	Zalesovo Beam	61.72	334	P	P	15 48 27.1	-1.6
	comp=Z,0.7nm,0.4s,baz=137,slow=8.5,SNR=4.0						
	comp=Z,0.7nm,0.4s						
GAR	Garm	62.51	313	P	P	15 48 32.4	-2.1
GAR				IAmb	IAmb	15 48 36.5	
	comp=Z,5.3nm,0.7s						
KURBB	Kurchatov Arra	62.73	328	P	P	15 48 34.4	-1.1
	comp=Z,3.9nm,0.5s,baz=129,slow=6.2,SNR=44						
	comp=Z,3.9nm,0.5s						
KURK	Kurchatov	62.74	328		P	15 48 34.1	-1.5
KURK				IAmb	IAmb	15 48 37.8	
	comp=Z,7.4nm,0.8s						
KKAR	Karatay Array	63.95	318	P	P	15 48 43.1	-0.6
BVAR	Borovoye Array	68.30	328	P	P	15 49 10.2	-1.2
	comp=Z,0.8nm,0.4s,baz=40,slow=7.9,SNR=6.3						
	comp=Z,0.8nm,0.4s						
CASY	Casey	69.12	187	P	P	15 49 15.9	-0.2
CASY				IAmb	IAmb	15 49 23.7	
	comp=Z,25nm,1.5s						
NRIK	Noril'sk	71.84	347	P	P	15 49 32.4	-0.2
NRIK	Noril'sk	71.84	347	P	P	15 49 32.9	+0.3
	comp=Z,2.8nm,0.6s,baz=132,slow=7.8,SNR=7.7						
	comp=Z,2.8nm,0.6s						
AB31	Akbulak array	72.97	321	P	P	15 49 37.9	-1.8
ABKAR	Akbulak array	72.97	321	P	P	15 49 38.0	-1.7
ABKAR	Akbulak array	72.97	321	P	P	15 49 37.9	-1.8
UNV	Unalaska Valle	75.17	34	P	P	15 49 53.5	+1.1
M14K	Bethel	79.45	28	P	P	15 50 17.6	+1.4
M14K				IAmb	IAmb	15 50 35.9	
	comp=Z,8.0nm,1.1s						
L16K	Owhat River	80.85	28	P	P	15 50 24.8	+1.1
L16K				IAmb	IAmb	15 50 49.0	
	comp=Z,8.5nm,1.4s						
VNDA	Vanda	81.90	173	P	P	15 50 28.9	0.0
VNDA	Vanda	81.90	173	P	P	15 50 29.0	0.0
	comp=Z,2.6nm,0.6s,baz=319,slow=6.5,SNR=17						
	comp=Z,2.6nm,0.6s						
H19K	Roundabout Mou	82.95	24	P	P	15 50 35.6	+1.0
H19K				IAmb	IAmb	15 50 37.2	
	comp=Z,5.4nm,0.8s						
E19K	Redstone River	83.01	22	P	P	15 50 36.2	+1.2
E19K				IAmb	IAmb	15 50 37.4	
	comp=Z,5.1nm,0.9s						
CNPM	China Poot	84.52	31	P	P	15 50 43.3	+0.5
CNPM				IAmb	IAmb	15 51 00.7	
	comp=Z,14nm,1.2s						
BRLK	Bradley Lake	84.72	30	P	P	15 50 44.2	+0.3
BRLK				IAmb	IAmb	15 51 18.4	
	comp=Z,11nm,1.2s						
COLD	Coldfoot	85.67	23	P	P	15 50 49.6	+1.2
BMAR	Burnt Mountain	87.86	23	P	P	15 51 00.0	+0.9
C27K	Jago River	88.15	21	P	P	15 51 01.1	+0.8
SYO	Syowa Base	90.65	201	eP	P	15 51 12.6	+0.6
QSPA	South Pole Qui	92.01	180	P	P	15 51 18.5	0.0
QSPA				IAmb	IAmb	15 51 37.8	
	comp=Z,4.6nm,1.2s						
QSPA	South Pole Qui	92.01	180	P	P	15 51 18.6	0.0
	comp=Z,1.5nm,0.7s,baz=194,slow=0.8,SNR=11						
	comp=Z,1.5nm,0.7s						
TORD	Torodi Ar. Bea	122.73	287	PKP	PKPdf	15 57 05.0	-1.3
	comp=Z,0.7nm,0.7s,baz=53,slow=3.7,SNR=3.8						
MT01	Popeta	144.50	155		PKPab	15 57 44.6	-0.3
BO04	La Punta	144.67	156		PKPab	15 57 45.4	-0.2
LMEL	Las Melosas	144.95	156	PKPdf	PKPbc	15 57 46.6	-0.2
MT13	San Alfonso	145.01	156	PKPdf	PKPab	15 57 46.9	0.0
MT02	Curacav	145.07	154		PKPdf	15 57 47.1	-0.3
PEL	Peldehue	145.37	155	PKPdf	PKPdf	15 57 46.7	-1.3
MT08	Bocatoma Ro	145.38	156		PKPdf	15 57 46.6	-1.7
VA03	San Esteban	145.75	155	PKPbc	PKPab	15 57 49.4	-0.3
CO03	El Pedregal	147.33	153	PKPbc	PKPbc	15 57 53.5	-0.4
CO01	Juntas del Tor	148.33	153		PKPbc	15 57 56.7	-0.1
AC05	El Transito	149.20	151	PKPbc	PKPbc	15 57 59.1	+0.2
GO02	Mina Guanaco	152.57	148	PKPbc	PKiKP	15 58 07.5	+0.2

*NEIC **28** 15:39:56.4±1.8, 2°.84S±0°.06×76°.68W±0°.07, h107^{km}±5^{km}, mb4.6/178, Error ellipse: s-maj=10.7km s-min=8.2km az=87.0*

*VAO **28** 15:39:57.9±0.4, 2°.88S×76°.69W, h100^{km}, mb4.8*

*IDC **28** 15:39:57.8±0.5, 2°.84S×76°.74W, h119^{km}±4^{km}, mb4.1/21, mbtmp4.5/26, MS3.0/3, Error ellipse: s-maj=16.1km s-min=9.2km az=66.0*

*IGQ **28** 15:39:58.7±0.8, 3°S±4°×7°7W±1°, h81^{km}±24^{km}, MLv4.9/17*

*RSNC **28** 15:39:58.6±0.5, 3°S±4°×7°7W±°, h123^{km}±39^{km}, M4.7, mb5.1, mB5.4, ML4.1, Mw(mB)4.6*

ISC 28 15:39:56.8±0.4, 2°.87S±0°.04×76°.79W±0°.05, h113^{km}±3^{km}, h113^{km}:pP-P, n313, σ1§35/285, mb4.6/94, 3C, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	San Juan Bosco	1.73	261	P	Pn	15 40 24.5	-2.2
BOSC				S	Sn	15 40 44.7	-4.8
PUYO	Puyo, Santa Ro	1.84	318	P	Pn	15 40 28.0	-0.1
PUYO				S	Sn	15 40 51.5	-0.5
AZOG	Ecuador-Azogue	2.06	273	P	Pn	15 40 30.7	-0.3
AZOG				S	Sn	15 40 55.6	-1.5
ARDO	Archidona, Ten	2.12	331	P	Pn	15 40 31.7	+0.1
ARRY	Arrayan	2.15	309	P	Pn	15 40 31.5	-0.6
ARRY				S	Sn	15 40 56.9	-2.3
BULB	Ulba Tungurahu	2.16	311	P	Pn	15 40 31.8	-0.5
BULB				S	Sn	15 40 57.7	-1.6
POND	Pondoa	2.20	311	P	Pn	15 40 32.4	-0.4
BBIL	Ulba Tungurahu	2.21	310	P	Pn	15 40 32.6	-0.3
JUI6	Juive	2.21	310	P	Pn	15 40 32.4	-0.5
BIL2	Estacion Bilba	2.22	309	P	Pn	15 40 33.3	+0.4
IGUA	Igualata	2.30	306	P	Pn	15 40 34.7	+0.4
PIAT	Ana Tenorio	2.37	322	P	Pn	15 40 34.9	-0.2
PIAT				S	Sn	15 41 02.8	-1.6
PIAT	Ana Tenorio	2.37	322	P	Pn	15 40 34.9	-0.2
PIAT				S	Sn	15 41 02.8	-1.6
TAMH	Tambohuasha Ch	2.39	303	P	Pn	15 40 36.4	+1.0
JSCH	Cashca Tororas	2.47	298	P	Pn	15 40 36.3	0.0
CHSH	Refugio Sur-Vo	2.49	303	P	Pn	15 40 37.2	+0.5
COHC	Cochancay	2.50	279		Pn	15 40 39.3	+3.0
COHC	Cochancay	2.50	279	P	Pn	15 40 39.3	+3.0
COHC				S	Sn	15 41 07.7	+1.1
COHC	Cochancay	2.50

370nm34nm,0.8s
YOTC Yotoco, Valle 6.82 4 P Pn 15 41 35.9 +1.4
370nm34nm,0.8s
ORTC Ortega, Tolima 6.91 13 P Pn 15 41 36.6 +1.0
3µm155nm,0.9s
ORTC Ortega, Tolima 6.91 13 P Pn 15 41 36.6 +1.0
3µm155nm,0.9s
TBTG Tabatinga, AM 6.99 101 Pn 15 41 36.6 +0.1
TBTG Tabatinga, AM 6.99 101 P Pn 15 41 36.7 +0.1
7µm616nm,0.9s
TBTG Tabatinga, AM 6.99 101 *eP* **Pn 15 41 37.5 +0.9**
TBTG Tabatinga, AM 6.99 101 P Pn 15 41 36.7 +0.1
7µm616nm,0.9s
VILC Villavicencio, 7.59 24 P Pn 15 41 47.0 +2.1
8µm280nm,0.6s
VILC Villavicencio, 7.59 24 P Pn 15 41 47.0 +2.1
8µm280nm,0.6s
PLMC San Jos del P 7.74 4 P Pn 15 41 47.1 +0.2
830nm57nm,1.0s
PLMC San Jos del P 7.74 4 P Pn 15 41 47.1 +0.2
830nm57nm,1.0s
CVER Cruz Verde, Cu 7.83 20 P Pn 15 41 50.9 +2.5
3µm167nm,0.6s
CVER Cruz Verde, Cu 7.83 20 P Pn 15 41 50.9 +2.5
3µm167nm,0.6s
ROSC El Rosal 8.04 18 P Pn 15 41 54.3 +3.0
21nm,0.6s,baz=182,slow=23,SNR=5.4
CHIC Chingaza 8.05 22 P Pn 15 41 53.2 +1.8
1µm144nm,0.8s
CHIC Chingaza 8.05 22 P Pn 15 41 53.2 +1.8
1µm144nm,0.8s
GUY2C Guyana, Caldas 8.16 10 P Pn 15 41 56.1 +3.1
910nm81nm,1.4s
GUY2C Guyana, Caldas 8.16 10 P Pn 15 41 56.1 +3.1
910nm81nm,1.4s
PTGC Puerto Gaitan, 8.42 34 P Pn 15 41 56.1 0.0
4µm384nm,0.7s
PTGC Puerto Gaitan, 8.42 34 P Pn 15 41 56.1 0.0
4µm384nm,0.7s
CBOC Ciudad Bolivar 8.71 5 P Pn 15 42 01.9 +1.8
7µm49nm,0.6s
CBOC Ciudad Bolivar 8.71 5 P Pn 15 42 01.9 +1.8
7µm49nm,0.6s
NNA Nana 9.06 180 Pn Pn 15 42 05.5 +0.7
NNA Nana 9.06 180 P Pn 15 42 05.0 +0.3
7.8nm,0.3s,baz=352,slow=4.4,SNR=8.7
NNA S Sn 15 43 35.7 -9.3
16nm,0.3s,baz=301,slow=14,SNR=7.1
RUSC La Rusia 9.46 23 Pn 15 42 12.0 +1.5
RUSC La Rusia 9.46 23 P Pn 15 42 11.4 +0.9
1µm126nm,1.1s
RUSC La Rusia 9.46 23 P Pn 15 42 11.4 +0.9
1µm126nm,1.1s
PTBC PUERTO BERRIO, 9.63 14 P Pn 15 42 13.7 +1.2
362nm13nm,0.7s
PTBC PUERTO BERRIO, 9.63 14 P Pn 15 42 13.7 +1.2
362nm13nm,0.7s
SGC2 Sao Gabriel da 10.17 75 P Pn 15 42 18.0 -1.8
2µm215nm,0.6s
SGC2 Sao Gabriel da 10.17 75 P Pn 15 42 18.0 -1.8
2µm215nm,0.6s
ZARC Zaragoza, Cauc 10.47 11 P Pn 15 42 24.5 +0.7
37nm,0.8s
ZARC Zaragoza, Cauc 10.47 11 P Pn 15 42 24.5 +0.7
37nm,0.8s
UREC San Jos de Ur 10.62 7 P Pn 15 42 28.4 +2.5
16nm,0.8s
UREC San Jos de Ur 10.62 7 P Pn 15 42 28.4 +2.5
16nm,0.8s
PAMC Pamplona, Colo 10.93 22 P Pn 15 42 31.6 +1.1
5µm33nm,0.7s
PAMC Pamplona, Colo 10.93 22 P Pn 15 42 31.6 +1.1
5µm33nm,0.7s
TEFE Tefe 12.15 93 *eP* **Pn 15 42 45.9 -0.3**
SDV Santo Domingo 13.19 28 Pn 15 43 00.8 +0.8
SDV Santo Domingo 13.19 28 P Pn 15 43 01.1 +1.0
9.8nm,0.4s,baz=34,slow=11,SNR=17
SDV LR LR 15 49 39.5
comp=Z,77nm,21.1s,baz=102,slow=44
SDV Santo Domingo 13.19 28 P Pn 15 43 00.9 +0.8
SDV Santo Domingo 13.19 28 *eP* **Pn 15 43 01.6 +1.5**
SDV Santo Domingo 13.19 28 P Pn 15 43 00.9 +0.8
BAUV El Baul 14.62 37 P Pn 15 43 17.1 -1.2
LPAZ La Paz 15.82 148 P Pn 15 43 33.8 -0.1
LPAZ La Paz 15.82 148 P Pn 15 43 34.4 +0.4
6.4nm,0.8s,baz=336,slow=13,SNR=18
LPAZ LR LR 15 51 02.5
comp=Z,67nm,20.8s,baz=56,slow=42
LPAZ La Paz 15.82 148 *eP* **Pn 15 43 35.1 +1.2**
MACA Manacapuru-AM 16.08 91 Pn 15 43 33.8 -2.9
MACA Manacapuru-AM 16.08 91 *eP* **P 15 43 38.4 +0.6**
PB18 Visviri 16.29 154 P Pn 15 43 41.1 +1.5
PB18 IAmb IAmb 15 44 14.8
comp=Z,41nm,1.0s
PB12 IPOC Station P 16.88 158 Pn 15 43 44.7 -1.7
ACON Acoyapa 16.93 331 P Pn 15 43 46.2 -0.8
PB16 IPOC Station P 16.95 156 P Pn 15 43 46.0 -1.7
BOAV Boa Vista 17.08 72 P Pn 15 43 45.2 -3.6
BOAV Boa Vista 17.08 72 *eP* **Pn 15 43 48.0 -0.9**
PCRV Puerto La Cruz 17.73 43 P P 15 43 55.7 -0.3
comp=Z,4.4nm,0.5s,baz=198,slow=9.6,SNR=1.9
PB11 IPOC Station P 18.18 158 P P 15 44 00.3 -0.7
PB11 IAmb IAmb 15 44 10.6
comp=Z,32nm,0.8s
HMBC Humberstone 18.57 159 P P 15 44 04.3 -0.9
HMBC IAmb IAmb 15 44 11.8
comp=Z,39nm,1.4s
PB08 IPOC Station P 18.71 157 P P 15 44 05.4 -1.7
TA01 Diego Aracena 18.73 160 P P 15 44 06.0 -0.8
TA01 IAmb IAmb 15 44 10.2
comp=Z,25nm,0.8s
VILB Vilhena 19.23 122 *eP* **P 15 44 13.2 +0.9**
PB01 IPOC Station P 19.41 159 P P 15 44 15.7 +1.3
PB09 IPOC Station P 20.19 159 P P 15 44 23.5 +0.6
PB09 IAmb IAmb 15 44 26.2
comp=Z,30nm,1.0s
SIV San Ignacio 20.23 131 P P 15 44 24.2 +1.0
comp=Z,15nm,0.8s,baz=317,slow=11,SNR=60
comp=Z,15nm,0.8s
PB05 IPOC Station P 20.87 163 P P 15 44 30.2 +0.1
PB05 IAmb IAmb 15 44 35.0
comp=Z,38nm,1.2s
ITTB Itaituba 21.06 95 *eP* **P 15 44 32.9 +0.7**
PTLB Pontes e Lacer 21.42 127 P P 15 44 35.5 -0.3
PTLB Pontes e Lacer 21.42 127 *eP* **P 15 44 36.6 +0.8**
PDRB Porto dos Gac 21.69 115 *eP* **P 15 44 40.8 +1.9**
NPGB Novo Progresso 21.74 102 *eP* **P 15 44 40.0 +0.6**
CLDB Colider 22.29 112 *eP* **P 15 44 46.6 +1.4**
SJG San Juan 23.34 26 P P 15 44 53.8 -1.4
SJG IAmb IAmb 15 44 55.9
comp=Z,27nm,0.6s
SALV Santo Antonio 24.47 123 *eP* **P 15 45 07.8 +2.3**
BDQN Bodoquena, MS 26.21 133 *eP* **P 15 45 23.7 +2.5**
MURT Porto Murtinho 26.39 137 *eP* **P 15 45 24.1 +1.3**
SNDB Serra Nova Dou 26.82 111 *eP* **P 15 45 27.9 +1.1**
AQDB Aquidauana 27.00 132 *eP* **P 15 45 29.6 +1.3**
PRPB Paraupebas 27.08 98 *eP* **P 15 45 30.9 +1.7**
SJPY San Joaquin 29.68 140 *eP* **P 15 45 52.5 +0.3**
CPUP Villa Florida 29.88 143 P P 15 45 53.5 -0.4
comp=Z,2.7nm,0.8s,baz=332,slow=10,SNR=4.9
comp=Z,2.7nm,0.8s
BDFB Brasilia 31.05 116 P P 15 46 04.4 0.0
comp=Z,2.7nm,0.5s,baz=262,slow=12,SNR=4.3
comp=Z,2.7nm,0.5s
MT09 Talagante 31.22 171 IAmb IAmb 15 46 08.7
comp=Z,26nm,1.4s
MT13 San Alfonso 31.31 170 P P 15 46 07.0 +0.4
LMEL Las Melosas 31.43 169 IAmb IAmb 15 46 11.1
comp=Z,14nm,1.0s
BO04 La Punta 31.49 170 P P 15 46 08.2 +0.2
BO04 IAmb IAmb 15 46 11.5
comp=Z,18nm,0.9s
IPMB Ipameri, GO 31.78 120 *eP* **P 15 46 11.7 +0.8**
PTGB Pitanga 32.25 135 *eP* **P 15 46 15.5 +0.7**
PMNB Patos De Minas 33.55 120 *eP* **P 15 46 27.5 +1.2**
JANB Januaria 34.22 113 *eP* **P 15 46 32.4 +0.3**
TRQA Tornquist 37.55 161 P P 15 46 59.6 -0.6
PLCA Paso Flores 38.11 172 P 15 47 05.1 +0.2
PLCA Paso Flores 38.11 172 P P 15 47 05.5 +0.6
comp=Z,7.4nm,1.0s,baz=348,slow=10,SNR=14
PLCA PcP **PcP 15 49 18.4 +0.8**
comp=Z,2.4nm,0.9s,baz=345,slow=7.0,SNR=2.9
comp=Z,7.4nm,1.0s
PLCA Paso Flores 38.11 172 *eP* **P 15 47 06.5 +1.6**
HNDO Hondo 38.75 328 P P 15 47 10.2 -0.1
CAM01 Campos-RJ 38.98 122 *eP* **P 15 47 13.2 +0.9**

NBAN Anadia - AL 40.80 101 *eP* **P 15 47 29.8 +2.2**
LCAR Lake Charles 41.00 342 IAmb IAmb 15 47 28.4
comp=Z,12nm,0.9s
TXAR Lajitas Array 41.09 323 P P 15 47 30.4 +0.6
comp=Z,1.1nm,0.7s,baz=140,slow=6.0,SNR=6.2
TXAR pP **pP 15 47 58.5 +2.9**
comp=Z,1.7nm,0.7s,baz=136,slow=10,SNR=6.0
TXAR PcP **PcP 15 49 28.3 +0.9**
comp=Z,2.3nm,0.7s,baz=146,slow=7.4,SNR=8.9
comp=Z,1.1nm,0.7s
FCAR Ozark Folk Cen 41.14 341 P P 15 47 28.5 -1.5
FCAR IAmb IAmb 15 47 29.3
comp=Z,7.6nm,0.7s
ALPN Alpine 41.84 324 P P 15 47 35.5 -0.4
ALPN IAmb IAmb 15 48 05.9
comp=Z,9.0nm,0.9s
HHAR Hobbs 42.11 339 P P 15 47 36.3 -1.6
HHAR IAmb IAmb 15 47 37.7
comp=Z,15nm,1.1s
APMT Aspermont 42.21 330 IAmb IAmb 15 47 40.4
comp=Z,16nm,0.9s
W35A Tecumseh 42.26 335 P P 15 47 38.1 -1.0
FVM French Village 42.57 344 P P 15 47 39.8 -1.7
POST Post 42.70 329 IAmb IAmb 15 48 12.1
comp=Z,12nm,0.8s
CCM Cathedral Cave 42.87 343 P P 15 47 42.1 -1.8
CCM IAmb IAmb 15 47 43.1
comp=Z,10nm,0.7s
VHRN Van Horn 42.93 323 pP **pP 15 48 11.7 +0.9**
VHRN IAmb IAmb 15 48 14.3
comp=Z,9.3nm,0.8s
SMWD Samnorwood 43.72 332 P P 15 47 50.9 -0.1
N47A Urbana 44.29 350 P P 15 47 53.5 -1.9
P38A Dawn 45.00 342 IAmb IAmb 15 48 00.3
comp=Z,7.9nm,0.6s
RTBA Rita Blanca 45.99 331 IAmb IAmb 15 48 10.4
comp=Z,6.9nm,0.5s
DUN6 Lazy B Ranch 46.66 322 P P 15 48 14.6 +0.2
ANMO Albuquerque 46.80 326 P P 15 48 14.5 -0.9
ANMO PcP **PcP 15 49 46.1 -0.9**
T25A Trinidad 47.37 330 IAmb IAmb 15 48 22.1
comp=Z,9.8nm,0.8s
SDCO Great Sand Dun 48.39 329 P P 15 48 28.1 +0.3
SDCO pP **pP 15 48 53.7 -0.7**
SDCO IAmb IAmb 15 48 58.1
comp=Z,14nm,1.1s
X16A Lo Mia Camp, P 49.37 322 IAmb IAmb 15 49 06.2
comp=Z,8.8nm,1.4s
ECSD EROS Data Cent 49.70 341 IAmb IAmb 15 48 36.5
comp=Z,4.2nm,0.6s
E38A The Farm, Brul 50.96 347 P P 15 48 45.2 -1.5
SRU San Rafael Swe 52.05 327 IAmb IAmb 15 49 25.4
comp=Z,6.9nm,1.0s
PSUT Pine Spring 53.55 324 P P 15 49 06.6 +0.3
PSUT IAmb IAmb 15 49 07.9
comp=Z,6.1nm,1.2s
TPNV Topopah Spring 53.99 321 IAmb IAmb 15 49 41.6
comp=Z,4.8nm,0.9s
DUG Dugway, Tooele 54.07 326 IAmb IAmb 15 49 40.8
comp=Z,8.9nm,1.1s
WCT Wildcat Mounta 54.13 321 IAmb IAmb 15 49 12.7
comp=Z,6.5nm,1.3s
SPR3 Spring Creek 3 54.13 324 P P 15 49 10.7 0.0
SPR3 IAmb IAmb 15 49 41.5
comp=Z,4.4nm,0.9s
PD31 Pinedale Array 54.21 331 PcP **PcP 15 50 13.6 -0.6**
PDAR Pinedale Array 54.21 331 P P 15 49 11.2 +0.1
comp=Z,1.2nm,0.6s,baz=125,slow=9.0,SNR=15
PDAR pP **pP 15 49 39.8 +1.6**
comp=Z,0.6nm,0.6s,baz=134,slow=8.5,SNR=2.5
PDAR PcP **PcP 15 50 13.9 -0.2**
comp=Z,1.1nm,0.4s,baz=128,slow=6.6,SNR=12
comp=Z,1.2nm,0.6s
HWUT Hardware Ranch 54.39 328 IAmb IAmb 15 49 13.4
comp=Z,14nm,1.4s
ULM Lac du Bonnet 55.40 345 P P 15 49 17.9 -1.4
comp=Z,6.8nm,0.5s,baz=157,slow=8.0,SNR=26
comp=Z,6.8nm,0.5s
MOOW Moose Ponds 55.52 331 P P 15 49 20.6 0.0
YNE Yellowstone No 56.10 332 IAmb IAmb 15 49 26.7
comp=Z,3.7nm,0.6s
NVAR Mina Array Bea 56.18 321 P P 15 49 26.2 +0.9
comp=Z,1.3nm,0.6s,baz=121,slow=6.3,SNR=7.1
comp=Z,1.3nm,0.6s
YMR Madison River 56.31 331 IAmb IAmb 15 49 28.2
comp=Z,5.1nm,0.9s
YHB Horse Butte 56.48 331 IAmb IAmb 15 49 30.0
comp=Z,5.9nm,0.8s
YHL Hebgen Lake 56.55 331 P P 15 49 28.7 +0.8
BOZ Bozeman (W) 57.31 332 IAmb IAmb 15 49 34.5
comp=Z,6.1nm,0.8s
SCHQ Schefferville 58.09 7 P P 15 49 37.4 -0.8
SCHQ IAmb IAmb 15 49 39.1
comp=Z,7.4nm,0.8s
SCHQ Schefferville 58.09 7 P P 15 49 38.5 +0.3
comp=Z,6.3nm,0.7s,baz=209,slow=6.0,SNR=9.0
comp=Z,6.3nm,0.7s
EGMT Eagleton 58.29 335 IAmb IAmb 15 49 41.0
comp=Z,8.1nm,1.2s
WVOR Wild Horse Val 58.85 325 IAmb IAmb 15 49 45.2
comp=Z,5.8nm,1.0s
PLID Pearl Lake 59.13 329 IAmb IAmb 15 49 47.3
comp=Z,7.4nm,1.4s
MSO Missoula 59.31 331 IAmb IAmb 15 49 48.5
comp=Z,7.2nm,1.0s
F10A Beach Ranch, E 60.36 329 P P 15 49 53.9 -0.3
F10A IAmb IAmb 15 50 01.7
comp=Z,4.7nm,0.9s
I07A Izee 60.37 326 P P 15 49 53.9 -0.4
I07A IAmb IAmb 15 49 56.7
comp=Z,6.0nm,1.0s
G08A Pilot Rock 60.84 327 P P 15 49 57.5 +0.1
G08A IAmb IAmb 15 49 59.1
comp=Z,6.4nm,0.9s
FCC Fort Churchill 62.97 350 IAmb IAmb 15 50 11.0
comp=Z,5.1nm,0.7s
B08A Colville Reser 63.02 330 P P 15 50 11.9 0.0
BBB Bella Bella 69.81 329 P P 15 50 55.3 +0.4
comp=Z,3.9nm,0.8s,baz=69,slow=6.7,SNR=4.4
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 71.20 342 P P 15 51 02.6 -0.6
comp=Z,1.9nm,0.7s,baz=143,slow=5.8,SNR=29
comp=Z,1.9nm,0.7s
DBIC Dimbokro 72.42 82 P P 15 51 10.9 -0.7
DBIC IAmb IAmb 15 51 12.9
comp=Z,11nm,0.9s
DBIC Dimbokro 72.42 82 P P 15 51 11.9 +0.4
comp=Z,6.9nm,0.6s,baz=252,slow=4.2,SNR=11
comp=Z,6.9nm,0.6s
DLBC Dease Lake 74.21 334 IAmb IAmb 15 51 23.2
comp=Z,8.1nm,1.0s
DLBC Dease Lake 74.21 334 P P 15 51 21.7 +0.5
comp=Z,3.8nm,0.8s,baz=226,slow=2.5,SNR=10
comp=Z,3.8nm,0.8s
WRGLY Wrigley 74.57 340 IAmb IAmb 15 51 25.3
comp=Z,14nm,1.3s
ICESG Greenland Ices 76.15 13 *eP* **P 15 51 32.5 +0.1**
ESDC Sonseca Array 78.70 49 P P 15 51 47.0 +0.1
comp=Z,1.7nm,1.0s,baz=265,slow=6.1,SNR=7.1
comp=Z,1.7nm,1.0s
N30M Aishikik Lake 78.81 335 P P 15 51 46.9 -0.2
TORD Torodi Ar. Bea 79.45 76 P P 15 51 50.7 -0.8
TORD Torodi Ar. Bea 79.45 76 P P 15 51 51.3 -0.2
comp=Z,2.4nm,0.5s,baz=285,slow=5.9,SNR=28
TORD pP **pP 15 52 21.2 +0.9**
comp=Z,0.8nm,0.4s,baz=266,slow=4.5,SNR=2.5
comp=Z,2.4nm,0.5s
M29M Somme Creek 79.84 335 IAmb IAmb 15 51 54.8
comp=Z,12nm,1.4s
H31M Peel River 79.89 339 IAmb IAmb 15 51 54.6
comp=Z,8.8nm,1.0s
L29M L29M 80.01 336 IAmb IAmb 15 51 55.2
comp=Z,7.0nm,0.8s
VNA3 Neumayer Olymp 80.06 162 ⇑P **P 15 51 54.7 +1.1**
comp=Z,9.4nm,0.8s
I30M Mount Dempster 80.33 338 P P 15 51 55.6 +0.3
I30M IAmb IAmb 15 51 57.0
comp=Z,7.4nm,0.7s
I30M pP **pP 15 52 23.0 -1.2**
G31M Satah River 80.45 340 IAmb IAmb 15 51 56.7
comp=Z,8.2nm,0.6s
F31M Tsiigehtchic 80.55 341 IAmb IAmb 15 51 57.2
comp=Z,6.5nm,0.7s
VNA2 Neumayer--Watz 80.65 162 ⇑P **P 15 51 57.8 +1.1**
comp=Z,6.5nm,0.7s,baz=315,slow=8.0
INK Inuvik 80.94 342 IAmb IAmb 15 51 59.8
comp=Z,13nm,1.1s

INK Inuvik 80.94 342 P P 15 51 58.5 +0.3
comp=Z,6.1nm,0.8s,baz=101,slow=4.3,SNR=22
comp=Z,6.1nm,0.8s
NEEM North Greenlan 81.47 6 *eP* **P 15 52 01.5 +0.1**
VRDI Verde Repeater 81.50 333 P 15 52 02.0 +0.3
G29M Pine Creek 81.73 340 IAmb IAmb 15 52 03.7
comp=Z,7.4nm,0.7s
I28M Miner Creek 81.76 338 IAmb IAmb 15 52 04.3
comp=Z,7.2nm,0.9s
K27K Chicken 82.00 336 P P 15 52 04.2 +0.2
K27K IAmb IAmb 15 52 06.2
comp=Z,10nm,0.9s
SNAA Sanae 82.27 162 P P 15 52 05.7 +0.3
SNAA IAmb IAmb 15 52 06.7
comp=Z,8.6nm,0.9s
SNAA Sanae 82.27 162 P P 15 52 06.2 +0.8
comp=Z,8.0nm,0.9s,baz=296,slow=7.5,SNR=8.2
comp=Z,8.0nm,0.9s
E29M Blow River 82.38 341 IAmb IAmb 15 52 07.8
comp=Z,11nm,1.1s
G27K Doyon Strip 82.97 339 P P 15 52 08.6 -0.5
PAX Paxson 83.01 335 IAmb IAmb 15 52 10.3
comp=Z,5.2nm,0.8s
M24K Tolsona, Glenn 83.02 334 P P 15 52 09.6 +0.1
M24K pP **pP 15 52 36.6 -1.9**
RIDG Independent Ri 83.02 335 IAmb IAmb 15 52 10.8
comp=Z,5.3nm,0.9s
EKA Eskdalemuir Ar 83.11 34 P P 15 52 09.8 -0.1
comp=Z,1.3nm,0.6s,baz=258,slow=3.9,SNR=5.7
comp=Z,1.3nm,0.6s
D27M Malcolm River 83.76 341 IAmb IAmb 15 52 14.6
comp=Z,5.6nm,0.8s
SML Sawmill 83.89 333 IAmb IAmb 15 52 14.9
comp=Z,7.4nm,0.9s
TROLL Troll, Antarti 83.98 162 ⇑P **P 15 52 14.9 +0.6**
comp=Z,341nm,0.7s
HDA Harding Lake 84.12 336 IAmb IAmb 15 52 15.6
comp=Z,4.1nm,0.7s
GHO Glory Hole Cre 84.15 333 P P 15 52 14.8 -0.4
GHO IAmb IAmb 15 52 16.2
comp=Z,7.6nm,0.9s
ILAR Eielson Array 84.22 336 P P 15 52 15.4 +0.1
comp=Z,1.6nm,0.8s,baz=122,slow=3.8,SNR=14
ILAR pP **pP 15 52 46.0 +1.5**
comp=Z,1.6nm,0.8s,baz=129,slow=4.1,SNR=8.0
ILAR PP **PP 15 55 29.7 -1.6**
comp=Z,0.6nm,0.8s,baz=116,slow=6.7,SNR=5.1
comp=Z,1.6nm,0.8s
SLKM Skilak Lake 84.39 332 IAmb IAmb 15 52 16.9
comp=Z,7.0nm,0.9s
C27K Jago River 84.81 341 IAmb IAmb 15 52 19.9
comp=Z,9.0nm,1.2s
NEA2 Nenana 85.05 336 IAmb IAmb 15 52 20.6
comp=Z,7.4nm,0.9s
SKT Skwentna 85.40 333 P P 15 52 21.1 -0.3
KTH Kantishna Hill 85.54 334 IAmb IAmb 15 52 23.0
comp=Z,6.6nm,0.9s
D25K Kavik River 85.57 340 IAmb IAmb 15 52 23.6
comp=Z,11nm,1.4s
BPAW Bear Paw Mtn. 85.71 335 IAmb IAmb 15 52 23.8
comp=Z,9.4nm,0.9s
PPLA Purkeypile 85.92 334 P P 15 52 23.4 -0.7
PPLA IAmb IAmb 15 52 25.0
comp=Z,6.5nm,0.8s
PPLA pP **pP 15 52 51.8 -1.6**
CAST Castle Rocks 86.01 334 IAmb IAmb 15 52 25.0
comp=Z,7.2nm,0.8s
COLD Coldfoot 86.26 338 IAmb IAmb 15 52 27.7
comp=Z,7.7nm,1.3s
D24K Happy Valley 86.34 340 P P 15 52 25.4 -0.4
D24K IAmb IAmb 15 52 28.0
comp=Z,6.5nm,1.2s
I21K Tanana 86.41 336 IAmb IAmb 15 52 27.0
comp=Z,10nm,1.3s
C24K Franklin Bluff 86.47 341 P P 15 52 26.4 -0.1
C24K pP **pP 15 52 53.7 -2.1**
D23K Nanushuk River 86.92 340 IAmb IAmb 15 52 30.8
comp=Z,8.8nm,0.8s
L19K White Mountain 86.96 333 IAmb IAmb 15 52 30.3
comp=Z,7.5nm,1.1s
E22K Anaktuvuk Pass 87.10 339 IAmb IAmb 15 52 30.9
comp=Z,3.7nm,0.8s
N18K Kilae Creek 87.15 331 IAmb IAmb 15 52 30.7
comp=Z,8.9nm,1.1s
QSPA South Pole Qui 87.20 180 P P 15 52 30.7 +0.3
QSPA **pP 15 52 57.7 -1.9**
QSPA South Pole Qui 87.20 180 P P 15 52 31.1 +0.8
comp=Z,7.9nm,0.9s,baz=155,slow=2.3,SNR=11
comp=Z,7.9nm,0.9s
F21K Alatna River 87.50 338 IAmb IAmb 15 52 33.2
comp=Z,6.5nm,0.9s
H19K Roundabout Mou 88.31 336 IAmb IAmb 15 52 37.1
comp=Z,7.3nm,0.8s
B21K Ikpikpuk River 88.44 340 P 15 52 35.9 0.0
G18K Tagagawik 89.27 336 P P 15 52 40.6 +0.7
G18K IAmb IAmb 15 52 41.8
comp=Z,5.6nm,0.8s
G18K pP **pP 15 53 07.8 -1.6**
ARCES ARCESS Array B 96.97 20 P P 15 53 15.1 -0.2
comp=Z,8.0nm,1.0s,baz=334,slow=4.4,SNR=3.7
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 123.13 23 PKP **PKPdf 15 58 40.4 +0.2**
comp=Z,1.3nm,0.6s,baz=277,slow=1.8,SNR=8.1
ZALV Zalesovo Beam 126.89 13 PKP **PKPdf 15 58 47.4 +0.1**
comp=Z,2.7nm,0.5s,baz=247,slow=3.4,SNR=18
ZALV pPKP **pPKPdf 15 59 19.1 +1.0**
comp=Z,2.5nm,0.9s,baz=274,slow=4.0,SNR=3.0
KURBB Kurchatov Arra 128.05 20 PKP **PKPdf 15 58 50.4 +0.7**
comp=Z,3.3nm,0.7s,baz=317,slow=2.5,SNR=40
STKA Stephens Creek 129.79 223 PKP **PKPdf 15 58 53.5 0.0**
comp=Z,1.0nm,0.5s,baz=110,slow=6.3,SNR=3.6
MKAR Makanchi Array 132.62 19 PKP **PKPdf 15 58 58.6 +0.1**
comp=Z,0.9nm,0.5s,baz=309,slow=2.4,SNR=22
MJAR Matsushiro Arr 133.50 320 PKP **PKPdf 15 59 00.4 -0.1**
comp=Z,1.0nm,0.5s,baz=213,slow=1.8,SNR=4.6
SONM Songino Array 135.12 357 PKP **PKPdf 15 59 03.6 +0.3**
comp=Z,1.5nm,0.8s,baz=252,slow=1.3,SNR=9.7
SONM pPKP **pPKPdf 15 59 34.0 -0.1**
comp=Z,1.1nm,0.8s,baz=302,slow=1.5,SNR=3.7
KSRS Korea Array 138.78 330 PKP **PKPdf 15 59 10.3 +0.2**
comp=Z,1.6nm,0.7s,baz=11,slow=1.9,SNR=4.9
KSRS pPKP **pPKPdf 15 59 42.6 +1.7**
comp=Z,2.4nm,0.8s,baz=326,slow=1.2,SNR=5.0
ASAR Alice Springs 140.14 227 PKhKP PKPpre 15 59 05.5
comp=Z,0.6nm,0.5s,baz=125,slow=3.4,SNR=20
ASAR PKP **PKPdf 15 59 12.8 -0.3**
comp=Z,1.5nm,0.6s,baz=120,slow=2.4,SNR=16
HHC Hu-ho-hao-te 141.45 350 *eP* **PKPdf 15 59 17.3 +2.2**
WRA Warramunga Arr 141.95 232 PKhKP PKPpre 15 59 10.3
comp=Z,2.0nm,0.7s,baz=122,slow=2.7,SNR=18
LZH Lanzhou 146.94 359 *eP* **PKPbc 15 59 28.3 +1.4**
LZH sP pPKPbc 15 59 57.0 -0.4
LZH pmax pmax
comp=Z,21nm,0.8s
NJ2 Nanjing 147.46 335 *eP* **PKPdf 15 59 24.3 -1.3**
NJ2 pmax pmax
comp=Z,20nm,0.5s
FITZ Fitzroy Crossi 149.63 226 PKPbc **PKPbc 15 59 33.9 -0.3**
comp=Z,8.8nm,1.0s,baz=158,slow=3.8,SNR=8.0
PZH PanZhiHua 156.46 3 PKP **PKPdf 15 59 37.5 -1.9**
CMAR Chiang Mai Arr 163.95 15 PKP **PKPdf 15 59 47.6 -0.1**
comp=Z,0.7nm,0.3s,baz=276,slow=2.4,SNR=4.7
CMAR pPKP **pPKPdf 16 00 20.5 +1.8**
comp=Z,0.5nm,0.3s,baz=286,slow=2.3,SNR=1.7
CMAR PKPab **PKPab 16 00 40.8 0.0**
comp=Z,1.8nm,0.6s,baz=332,slow=5.8,SNR=9.5

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*IDC **28** 15:39:53.9±1.0, 54°.74N×160°.78W, h0km, mb4.0/21, mbtmp4.0/24, ML3.8/3, MS3.5/4, Error ellipse: s-maj=27.5km s-min=13.4km az=1.0*
*ANF **28** 15:39:56.1±0.4, 54°.50N×160°.57W, h12km±3km, ML4.4/18, Error ellipse: s-maj=2.4km s-min=1.4km az=62.0*
*AEIC **28** 15:39:56.0±2.1, 54°.61N±0°.04×160°.67W±0°.05, h23km±5km, Error ellipse: s-maj=6.0km s-min=4.2km az=190.0*
*NEIC **28** 15:39:57.8±1.8, 54°.61N±0°.06×160°.55W±0°.05, h29km±6km, mb4.0/33, ML4.1/26, ML4.0(AEIC), Error ellipse: s-maj=9.2km s-min=3.7km az=163.0*
ISC 28 15:39:56.6±1.1, 54°.54N±0°.05×160°.54W±0°.03, h21km±4km, n422, σ1§06/438, mb4.2/28, MS3.5/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.62**	**63**		**Pb**	**15 40 09.0**	**+0.3**
CHNA	**Chernabura Isl**	**0.62**	**62**	P	**Pb**	**15 40 08.9**	**+0.1**
CHNA	**Chernabura Isl**	**0.62**	**62**	S	**Sb**	**15 40 11.8**	**-5.3**

CHNA	Chernabura Isl	0.62	62	P		Pb	15 40 09.1 +0.4
	baz=235,SNR=75						
CHNA				S		Sb	15 40 17.4 +0.3
	baz=235						
SDPT	Sand Point	0.81	2			Pb	15 40 11.2 -0.7
SDPT						Sb	15 40 21.6 -0.7
SDPT				IAML			15 40 22.6
	comp=N,6µm,0.7s						
SDPT				IAML			15 40 29.7
	comp=E,7µm,1.0s						
SDPT	Sand Point	0.81	2	P		Pb	15 40 11.5 -0.4
	baz=181,SNR=140						
SDPT				S		Sb	15 40 21.7 -0.7
	baz=181						
PVV	Pavlof Volcano	1.10	320			Pn	15 40 15.7 -1.1
PVV						Sb	15 40 29.6 -1.2
HAG	Hague Volcano	1.11	315			Pn	15 40 15.6 -1.2
HAG						Sb	15 40 30.1 -0.9
PS4A	Pavlof South-4	1.11	317			Pn	15 40 15.8 -1.0
PS4A						Sb	15 40 30.0 -1.0
PS1A	Pavlof South-1	1.12	322			Pn	15 40 16.2 -0.9
PS1A						Sb	15 40 30.2 -1.2
FALS	False Pass	1.70	282			Sn	15 40 45.5 -0.5
FALS	False Pass	1.70	282			Pn	15 40 24.3 -0.6
FALS	False Pass	1.70	282	P		Pn	15 40 24.7 -0.3
	baz=102,SNR=121						
FALS				S		Sn	15 40 46.0 -0.1
	baz=102						
VNWF	Veniaminof 8	1.71	19			Pn	15 40 25.9 +0.8
VNSS	Veniaminof 8	1.80	20			Pn	15 40 27.3 +0.9
S14K	Fog Glacier	1.83	17	P		Pn	15 40 28.1 +1.2
	baz=197,SNR=58						
VNFG	Fog Glacier, M	1.83	17			Pn	15 40 27.9 +1.0
ISLZ	Isanotski Laza	1.85	277			Pn	15 40 26.8 -0.3
ISLZ						Sn	15 40 50.7 +0.8
VNNF	Veniaminof 3	1.88	21			Pn	15 40 28.6 +1.1
ISNN	Isanotski Nort	1.90	280			Pn	15 40 28.3 +0.5
SSLS	Shishaldin Sou	2.02	276			Pn	15 40 30.1 +0.7
CHGN	Chignik	2.14	34			Pn	15 40 31.5 +0.5
CHGN				IAML			15 41 02.8
	comp=E,2µm,1.0s						
CHGN				IAML			15 41 03.9
	comp=N,2µm,0.8s						
CHGN	Chignik	2.14	34	P		Pn	15 40 31.9 +0.9
	baz=214,SNR=51						
CHGN				S		Sb	15 40 59.8 -0.7
	baz=214						
WEBT	Westdahl Beart	2.46	273			Sn	15 41 05.3 +0.6
WECS	Westdahl Cape	2.47	271			Pn	15 40 36.5 +0.9
ANPB	Aniakchak Plen	2.60	29			Pn	15 40 38.6 +1.2
CHIR	Chirikof Islan	3.10	64	Pn		Pn	15 40 44.8 +0.6
CHIR				IAML			15 41 40.9
	comp=N,426nm,0.9s						
CHIR				IAML			15 41 41.7
	comp=E,580nm,0.9s						
CHIR	Chirikof Islan	3.10	64	P		Pn	15 40 44.7 +0.6
CHIR	Chirikof Islan	3.10	64	P		Pn	15 40 44.7 +0.6
	baz=246						
CHIR				S		Sn	15 41 20.5 0.0
	baz=246						
AKGG	Akutan Green G	3.21	266			Pn	15 40 47.0 +1.3
AKMO	Akutan Morgan	3.24	264			Pn	15 40 47.3 +1.2
LVA	Lava Point	3.24	265	Pn		Pn	15 40 47.7 +1.5
LVA				IAML			15 41 45.1
	comp=E,417nm,0.5s						
AKRB	Akutan Reef Bi	3.27	265			Pn	15 40 47.9 +1.4
R16K	Pilot Point	3.46	28			Pn	15 40 50.0 +0.9
R16K				IAML			15 41 38.8
	comp=E,634nm,0.9s						
R16K				IAML			15 41 54.3
	comp=N,434nm,0.9s						
UNV	Unalaska Valle	3.58	261	Pn		Pn	15 40 51.3 +0.6
UNV	Unalaska Valle	3.58	261	P		Pn	15 40 51.1 +0.5
	baz=78,SNR=7.4						
UNV				S		Sn	15 41 31.5 -0.8
	baz=78						
MREP	Makushin Rep't	3.72	261			Pn	15 40 53.5 +0.8
PLBL	Peulik Blue Cr	3.79	32			Pn	15 40 55.2 +1.5
PLK1	Peulik 1	3.94	32			Pn	15 40 57.5 +1.8
SII	Sitkinak Islan	4.13	58	Pn		Pn	15 40 59.0 +0.6
SII	Sitkinak Islan	4.13	58	P		Pn	15 40 58.8 +0.4
SII	Sitkinak Islan	4.13	58	P		Pn	15 40 59.0 +0.6
	baz=242						
R18K	Karluk	4.56	46			Pn	15 41 04.8 +0.5
R18K				IAML			15 42 26.4
	comp=E,253nm,0.6s						
R18K	Karluk	4.56	46	P		Pn	15 41 05.1 +0.9
	baz=230						
OKTU	Okmok Mt. Tuli	4.58	258			Pn	15 41 06.1 +1.5
O15K	Ungalikthiuk R	4.66	5	P		Pn	15 41 06.5 +0.8
	baz=185,SNR=31						
O15K				S		Sn	15 41 59.7 +0.6
	baz=185						
Q16K	King Salmon	4.67	26			Pn	15 41 07.1 +1.4
Q16K	King Salmon	4.67	26	P		Pn	15 41 07.1 +1.4
	baz=208,SNR=28						
ACHA	Angle Creek He	4.68	36	Pn		Pn	15 41 07.2 +1.3
P16K	Nushagak River	4.71	16			Pn	15 41 07.7 +1.4
P16K	Nushagak River	4.71	16	P		Pn	15 41 07.9 +1.6
	baz=198						
O14K	Tigyukauivet M	4.74	355	Pn		Pn	15 41 07.3 +0.7
O14K				IAML			15 42 42.4
	comp=E,124nm,0.8s						
O14K				IAML			15 42 42.5
	comp=N,196nm,0.9s						
O14K	Tigyukauivet M	4.74	355	P		Pn	15 41 07.4 +0.7
	baz=175,SNR=17						
O14K				S		Sn	15 42 01.2 +0.3
	baz=175						
OKSP	Okmok Steeple	4.76	257			Pn	15 41 07.9 +0.8
OHAK	Old Harbor	4.88	54	Pn		Pn	15 41 08.5 -0.1
OHAK				IAML			15 42 31.0
	comp=N,145nm,1.1s						
OHAK	Old Harbor	4.88	54	P		Pn	15 41 08.6 -0.1
OHAK	Old Harbor	4.88	54	P		Pn	15 41 08.8 +0.2
	baz=239,SNR=6.2						
KAHC	Katmai Hardscr	5.12	34			Pn	15 41 13.5 +1.4
Q18K	Katmai Hardscr	5.12	34	P		Pn	15 41 13.4 +1.4
	baz=218,SNR=23						
KAHG	Katmai Hook Gl	5.17	38			Pn	15 41 13.9 +1.3
P17K	Kvichak River	5.18	24			Pn	15 41 14.0 +1.3
P17K	Kvichak River	5.18	24	P		Pn	15 41 13.7 +1.0
	baz=207						
NIKH	Nikolski High	5.18	256			Pn	15 41 13.2 +0.4
NIKH	Nikolski High	5.18	256	P		Pn	15 41 12.5 -0.3
	baz=70						
NIKH				S		Sn	15 42 10.1 -1.7
	baz=70						
O16K	Kokwok River B	5.24	14	Pn		Pn	15 41 14.1 +0.6
O16K				IAML			15 42 52.7
	comp=E,72nm,0.7s						
O16K	Kokwok River B	5.24	14	P		Pn	15 41 14.3 +0.8
	baz=195,SNR=28						
N14K	Kuskokwak Cree	5.43	354			Pn	15 41 16.6 +0.4
N14K	Kuskokwak Cree	5.43	354	P		Pn	15 41 16.8 +0.6
	baz=173,SNR=90						
N14K				S		Sn	15 42 18.4 +0.5
	baz=173						
KDAK	Kodiak Island	5.50	51	Pn		Pn	15 41 17.4 +0.3
KDAK	Kodiak Island	5.50	51	Pn		Pn	15 41 17.1 0.0
	comp=E,1.0nm,0.3s,baz=121,slow=12,SNR=64						
KDAK				Sn		Sn	15 42 18.9 -0.8
	comp=E,1.8nm,0.3s,baz=141,slow=20,SNR=1.4						
KDAK				Lg		Lg	15 42 39.2
	comp=E,3.0nm,0.3s,baz=218,slow=17,SNR=4.9						
	comp=E,8.6nm,0.5s						
KDAK	Kodiak Island	5.50	51	P		Pn	15 41 17.2 0.0
	baz=236						
P08K	Saint George I	5.51	296	Pn		Pn	15 41 16.5 -0.8
O17K	Koliganek Bris	5.57	18	P		Pn	15 41 19.1 +1.0
	baz=201,SNR=14						
N15K	Kwethluk River	5.65	2	Pn		Pn	15 41 18.8 -0.3
N15K	Kwethluk River	5.65	2	P		Pn	15 41 19.8 +0.7
	baz=182,SNR=26						
N15K				S		Sn	15 42 25.6 +2.3
	baz=182						
P18K	Big Mountain,	5.66	29	Pn		Pn	15 41 19.6 +0.2
P18K	Big Mountain,	5.66	29	P		Pn	15 41 20.2 +0.8
	baz=212,SNR=8.7						
P18K				S		Sn	15 42 26.6 +2.9
	baz=212						
Q19K	Cape Douglas,	5.80	38			Pn	15 41 22.0 +0.6
Q19K	Cape Douglas,	5.80	38	P		Pn	15 41 22.2 +0.9
	baz=223						
N16K	Nishlik Lake	6.02	8			Pn	15 41 25.3 +0.9
N16K	Nishlik Lake	6.02	8	P		Pn	15 41 26.0 +1.7
	baz=190,SNR=69						
N16K				S		Sn	15 42 34.9 +2.3
	baz=190						
O18K	Koktuh Hills	6.06	26			Pn	15 41 25.2 +0.3
O18K	Koktuh Hills	6.06	26	P		Pn	15 41 26.5 +1.6
	baz=210,SNR=25						
O18K				S		Sn	15 42 35.0 +1.5
	baz=210						
Q20K	Shuyak Island	6.07	45	P		Pn	15 41 26.4 +1.4
	baz=231						
SPIA	Saint Paul Isl	6.07	300			Pn	15 41 25.0 0.0
SPIA	Saint Paul Isl	6.07	300	P		Pn	15 41 25.5 +0.5
	baz=112						
SYI	Shuyak Island	6.07	45	Pn		Pn	15 41 25.3 +0.3
M13K	Dall Lake	6.08	347	Pn		Pn	15 41 24.9 -0.1
M13K	Dall Lake	6.08	347	P		Pn	15 41 25.9 +0.9
	baz=164,SNR=17						
M13K				S		Sn	15 42 35.3 +1.5
	baz=164						
M15K	Kasigluk River	6.17	359	P		Pn	15 41 26.6 +0.2
	baz=179,SNR=14						
M15K				S		Sn	15 42 36.4 +0.2
	baz=179						
N17K	Nushagak Hills	6.26	15			Pn	15 41 27.8 +0.2
N17K	Nushagak Hills	6.26	15	P		Pn	15 41 28.4 +0.8
	baz=198,SNR=12						
M14K	Bethel	6.27	354	Pn		Pn	15 41 27.4 -0.3
M14K	Bethel	6.27	354	P		Pn	15 41 28.0 +0.3
	baz=172,SNR=66						
M14K				S		Sn	15 42 38.5 -0.1
	baz=172						
P19K	Oil Pt	6.48	35	Pn		Pn	15 41 31.4 +0.8
M16K	Timber Creek	6.55	7	Pn		Pn	15 41 32.0 +0.4
M16K	Timber Creek	6.55	7	P		Pn	15 41 32.5 +0.9
	baz=188,SNR=14						
M16K				S		Sn	15 42 47.4 +1.9
	baz=188						
O19K	Port Alsworth	6.59	28	Pn		Pn	15 41 33.4 +1.4
O19K	Port Alsworth	6.59	28	P		Pn	15 41 33.6 +1.6
	baz=213						
M11K	Mekoryuk	6.61	335	Pn		Pn	15 41 32.1 -0.2
M11K	Mekoryuk	6.61	335	P		Pn	15 41 32.8 +0.6
	baz=150						
M11K				S		Sn	15 42 45.9 -0.9
	baz=150						
N18K	Kilae Creek	6.64	20			Pn	15 41 33.5 +0.7
N18K	Kilae Creek	6.64	20	P		Pn	15 41 34.7 +1.9
	baz=204,SNR=14						
ILSW	Iliamna Southw	6.77	33			Pn	15 41 35.2 +0.6
ILS	Iliamna Low So	6.77	34			Pn	15 41 36.1 +1.4
L14K	Kuka Creek	6.91	351			Pn	15 41 36.7 +0.2
L14K	Kuka Creek	6.91	351	P		Pn	15 41 37.2 +0.8
	baz=170,SNR=58						
L14K				S		Sn	15 42 53.2 -1.1
	baz=170						
O20K	Slope Mountain	7.01	34	P		Pn	15 41 39.6 +1.7
	baz=220						
HOM	Homer	7.05	40	Pn		Pn	15 41 38.7 +0.3
HOM	Homer	7.05	40	P		Pn	15 41 38.9 +0.6
	baz=227						
M17K	Holitna River	7.07	12			Pn	15 41 39.1 +0.5
M17K	Holitna River	7.07	12	P		Pn	15 41 39.2 +0.5
	baz=194,SNR=10						
M17K				S		Sn	15 43 00.4 +2.0
	baz=194						
N19K	Bonanza Creek	7.07	25			Pn	15 41 39.6 +0.8
N19K	Bonanza Creek	7.07	25	P		Pn	15 41 40.4 +1.6
	baz=209,SNR=24						
N19K				S		Sn	15 43 00.9 +2.4
	baz=209						
CNPM	China Poot	7.12	42			Pn	15 41 39.3 0.0
L15K	Ungalak Mounta	7.17	356			Pn	15 41 40.8 +0.7
L15K	Ungalak Mounta	7.17	356	P		Pn	15 41 40.7 +0.7
	baz=175						
L16K	Owhat River	7.21	4			Pn	15 41 40.6 0.0
L16K	Owhat River	7.21	4	P		Pn	15 41 41.7 +1.1
	baz=185,SNR=11						
L16K				S		Sn	15 43 02.4 +0.7
	baz=185						
RED	Redoubt Volcan	7.22	32			Pn	15 41 41.9 +1.1
NCT	North Crescent	7.29	31			Pn	15 41 43.4 +1.7
DFR	Drift River	7.38	32			Pn	15 41 45.1 +2.1
M18K	Stony River	7.40	18	P		Pn	15 41 44.5 +1.3
	baz=201,SNR=23						
M18K				S		Sn	15 43 07.2 +0.8
	baz=201						
BRLK	Bradley Lake	7.41	41	Pn		Pn	15 41 43.2 -0.2
BRSE	Bradley Lake S	7.45	42	P		Pn	15 41 43.7 -0.2
	baz=229,SNR=5.2						
RDT	Redoubt	7.46	33			Pn	15 41 45.3 +1.2
L17K	Donlin	7.70	8	P		Pn	15 41 47.5 +0.1
	baz=190,SNR=12						
K13K	Kusilvak Mount	7.72	345			Pn	15 41 47.0 -0.5
K13K	Kusilvak Mount	7.72	345	P		Pn	15 41 48.7 +1.1
	baz=162,SNR=56						
K15K	Wolf Creek Mou	7.79	357			Pn	15 41 48.2 -0.4
K15K	Wolf Creek Mou	7.79	357	P		Pn	15 41 49.4 +0.9
	baz=176,SNR=7.2						
L18K	Granite Mounta	7.96	13			Pn	15 41 50.4 -0.5
L18K	Granite Mounta	7.96	13	P		Pn	15 41 52.2 +1.3
	baz=196,SNR=12						
SPCR	Spurr Chakacha	8.01	30	P		Pn	15 41 53.4 +1.8
	baz=217						
M19K	Big River Lodg	8.06	21			Pn	15 41 51.0 -1.2
M19K	Big River Lodg	8.06	21	P		Pn	15 41 53.9 +1.6
	baz=206						
SLKM	Skilak Lake	8.15	39			Pn	15 41 52.8 -0.7
SEW	Seward	8.18	43	Pn		Pn	15 41 53.8 -0.1
SEW	Seward	8.18	43	P		Pn	15 41 55.0 +1.2
	baz=231						
L19K	White Mountain	8.22	19			Pn	15 41 54.2 -0.2
L19K	White Mountain	8.22	19	P		Pn	15 41 55.9 +1.5
	baz=203,SNR=11						
K17K	Iditarod	8.28	7			Pn	15 41 54.9 -0.3
K17K	Iditarod	8.28	7	P		Pn	15 41 56.0 +0.8
	baz=189,SNR=8.8						
O22K	Cooper Landing	8.32	40			Pn	15 41 55.7 -0.1
O22K	Cooper Landing	8.32	40	P		Pn	15 41 56.9 +1.2
	baz=229						
M20K	Styx River	8.33	25			Pn	15 41 55.8 -0.2
M20K	Styx River	8.33	25	P		Pn	15 41 57.5 +1.5
	baz=211						
STLK	Strandline Lak	8.36	30			Pn	15 41 55.9 -0.5
J14K	Nanvaranak Lak	8.38	350	Pn		Pn	15 41 56.3 -0.3
J14K	Nanvaranak Lak	8.38	350	P		Pn	15 41 57.1 +0.6
	baz=168,SNR=31						
ATKA	Atka Island	8.50	260	Pn		Pn	15 41 57.8 -0.5
L20K	Farewell, AK	8.68	21			Pn	15 42 02.7 +1.9
L20K	Farewell, AK	8.68	21	P		Pn	15 42 02.1 +1.3
	baz=206,SNR=15						
RC01	Rabbit Creek A	8.72	37	Pn		Pn	15 42 01.7 +0.3
RC01	Rabbit Creek A	8.72	37	P		Pn	15 42 02.1 +0.8
	baz=226						
J16K	Anvik River	8.77	360	Pn		Pn	15 42 01.9 -0.1
J16K	Anvik River	8.77	360	P		Pn	15 42 02.8 +0.8
	baz=180,SNR=25						
SKT	Skwentna	8.83	29	Pn		Pn	15 42 02.4 -0.4
SKT	Skwentna	8.83	29	P		Pn	15 42 03.5 +0.7
	baz=216						
J17K	VABM Dome	8.91	4			Pn	15 42 03.0 -0.9
J17K	VABM Dome	8.91	4	P		Pn	15 42 04.5 +0.6
	baz=185,SNR=6.5						
P23K	Montague Islan	8.96	47			Pn	15 42 04.9 +0.2
P23K	Montague Islan	8.96	47	P		Pn	15 42 05.4 +0.8
	baz=238						
M22K	Willow	9.08	33			Pn	15 42 05.3 -0.9
M22K	Willow	9.08	33	P		Pn	15 42 06.6 +0.5
	baz=221,SNR=24						
PWL	Port Wells	9.09	41	P		Pn	15 42 06.9 +0.6
	baz=231						
PWL				S		Sn	15 43 46.2 -1.6
	baz=231						
J18K	Innoko River	9.16	11			Pn	15 42 06.9 -0.4
J18K	Innoko River	9.16	11	P		Pn	15 42 08.0 +0.6
	baz=194						
I17K	Unalakleet	9.37	360			Pn	15 42 08.4 -1.8
I17K	Unalakleet	9.37	360	P		Pn	15 42 10.5 +0.3
	baz=179,SNR=5.4						
KNK	Knik Glacier	9.40	38			Pn	15 42 10.1 -0.5
KNK	Knik Glacier	9.40	38	P		Pn	15 42 11.1 +0.5
	baz=228						
PPLA	Purkeypile	9.43	24	P		Pn	15 42 12.0 +0.9
	baz=211						
K20K	Telida	9.44	18			Pn	15 42 11.3 +0.1
K20K	Telida	9.44	18	P		Pn	15 42 12.6 +1.4
	baz=203,SNR=9.0						
GHO	Glory Hole Cre	9.48	36			Pn	15 42 11.1 -0.7
CUT	Chulitna	9.53	30	P		Pn	15 42 13.9 +1.6
	baz=218						
HIN	Hinchinbrook I	9.56	46			Pn	15 42 12.2 -0.6
GLI	Glacier Island	9.58	43			Pn	15 42 13.0 -0.1
GLI	Glacier Island	9.58	43			Sn	15 43 58.3 -1.7
GLI	Glacier Island	9.58	43	P		Pn	15 42 13.4 +0.3
	baz=234						
SML	Sawmill	9.71	37	P		Pn	15 42 15.7 +0.8
	baz=226						
FID	Port Fidalgo	9.76	45			Pn	15 42 14.2 -1.3
J19K	Poorman	9.80	13			Pn	15 42 15.2 -0.9
J19K	Poorman	9.80	13	P		Pn	15 42 17.7 +1.6
	baz=197,SNR=9.7						
CAST	Castle Rocks	9.90	23	P		Pn	15 42 19.0 +1.6
	baz=210						
M23K	Glacier View	9.91	38	P		Pn	15 42 18.2 +0.6
	baz=228						
EYAK	Cordova Ski Ar	9.96	47			Pn	15 42 17.6 -0.6
EYAK	Cordova Ski Ar	9.96	47	P		Pn	15 42 18.0 -0.2
EYAK	Cordova Ski Ar	9.96	47	P		Pn	15 42 18.0 -0.2
	baz=239,SNR=5.9						
ADK	Adak	10.04	261	Pn		Pn	15 42 19.2 -0.2
SCM	Sheep Creek Mo	10.08	38			Pn	15 42 17.9 -2.1
SCM	Sheep Creek Mo	10.08	38	P		Pn	15 42 20.2 +0.2
	baz=229						
H16K	Elim	10.16	356	P		Pn	15 42 21.9 +0.9
	baz=174						
J20K	Nowinta River	10.19	16	P		Pn	15 42 22.9 +1.5
	baz=201,SNR=8.8						
KAIM	Kayak Island	10.25	52	P		Pn	15 42 23.0 +0.7
	baz=245						
CHUM	Lake Minchumin	10.26	21	P		Pn	15 42 23.2 +0.8
	baz=208						
ANM	Nome	10.34	348	Pn		Pn	15 42 22.7 -0.8
ANM	Nome	10.34	348	P		Pn	15 42 24.2 +0.7
	baz=164						
TRF	Thorofare Moun	10.36	26	P		Pn	15 42 24.7 +0.7
	baz=215,SNR=12						
GCSA	Galena City Sc	10.40	9	P		Pn	15 42 25.6 +1.4
	baz=192						
KLU	Klutina	10.40	42			Pn	15 42 23.8 -0.6
KLU	Klutina	10.40	42	P		Pn	15 42 24.6 +0.3
	baz=234,SNR=16						
H17K	Granite Mounta	10.43	1	P		Pn	15 42 25.1 +0.4
	baz=182,SNR=7.6						
G15K	Niukluk	10.63	352	P		Pn	15 42 28.3 +0.9
	baz=169						
BMRM	Bremner River	10.65	46	Pn		Pn	15 42 27.3 -0.5
BMRM	Bremner River	10.65	46	P		Pn	15 42 28.0 +0.2
	baz=240,SNR=9.8						
M24K	Tolsona, Glenn	10.68	39	Pn		Pn	15 42 29.3 +1.2
M24K	Tolsona, Glenn	10.68	39	P		Pn	15 42 28.7 +0.5
	baz=231						
H18K	Honhosa River	10.70	5			Pn	15 42 29.8 +1.4
H18K	Honhosa River	10.70	5	P		Pn	15 42 29.8 +1.4
	baz=187						
I20K	Naaghedeneel	10.72	14	P		Pn	15 42 30.1 +1.4
	baz=199						
BPAW	Bear Paw Mtn.	10.74	23	P		Pn	15 42 31.1 +2.2
	baz=211,SNR=6.0						
BERG	Berg Lake	10.78	50			Pn	15 42 29.2 -0.3
GAMB	Gambell	10.87	333	P		Pn	15 42 31.7 +1.1
	baz=143						
G16K	Koyuk River	10.92	356			Pn	15 42 32.0 +0.6
MCK	McKinley	10.95	28	Pn		Pn	15 42 31.3 -0.6
MCK	McKinley	10.95	28	P		Pn	15 42 32.8 +1.0
	baz=218						
N25K	Chitina, Valde	10.99	44	P		Pn	15 42 33.4 +0.9
	baz=237						
G17K	Kiwalik Mounta	10.99	360	P		Pn	15 42 33.5 +1.1
	baz=180						
WAX	Waxell Ridge	11.18	51	Pn		Pn	15 42 35.9 +0.8
H19K	Roundabout Mou	11.21	9	P		Pn	15 42 37.0 +1.8
	baz=192						
GLB	Gilahina Butte	11.22	45	Pn		Pn	15 42 35.4 -0.3
HARP	HAARP	11.23	39	P		Pn	15 42 36.7 +1.0
	baz=232						
VRDI	Verde Repeater	11.27	47	Pn		Pn	15 42 37.3 +1.0
F14K	Arctic Creek	11.34	348	P		Pn	15 42 38.4 +1.4
	baz=163						
H20K	Anotleneega Mo	11.34	12	P		Pn	15 42 38.6 +1.5
	baz=197,SNR=7.4						
F15K	North Star Dit	11.38	351	Pn		Pn	15 42 38.7 +1.0
F15K	North Star Dit	11.38	351	P		Pn	15 42 39.0 +1.3
	baz=168,SNR=11						
G18K	Tagagawik	11.43	4	P		Pn	15 42 39.6 +1.3
	baz=185						
PAX	Paxson	11.48	37	P		Pn	15 42 40.2 +1.1
	baz=229						
MESA	MESA	11.49	53	P		Pn	15 42 39.5 +0.1
	baz=248						
NEA2	Nenana	11.61	25	P		Pn	15 42 42.0 +1.2
	baz=215						
TNA	Tin City	11.64	345	Pn		Pn	15 42 41.5 +0.3
TNA	Tin City	11.64	345	P		Pn	15 42 41.6 +0.4
	baz=158						
G19K	Purcell Mounta	11.76	7	P		Pn	15 42 43.2 +0.3
	baz=190						
WRH	Wood River Hil	11.77	27	Pn		Pn	15 42 40.7 -2.2
H21K	Melozitna Rive	11.78	16			Pn	15 42 43.7 +0.5
H21K	Melozitna Rive	11.78	16	P		Pn	15 42 44.6 +1.4
	baz=202						
K24K	Donnelly Dome	11.94	33	P		Pn	15 42 45.5 +0.1
	baz=226						
F17K	Baldwin Pennin	11.95	359	P		Pn	15 42 46.3 +0.9
	baz=178						
I23K	Minto, Yukon-K	12.00	23	Pn		Pn	15 42 43.8 -2.3
I23K	Minto, Yukon-K	12.00	23	P		Pn	15 42 46.9 +0.8
	baz=213						
M26K	Nabesna, AK	12.06	42	P		Pn	15 42 47.8 +0.8
	baz=237						
F18K	Selawik	12.11	2	P		Pn	15 42 48.5 +0.9
	baz=182						
RIDG	Independent Ri	12.20	35	P		Pn	15 42 50.1 +1.1
	baz=228						
H22K	Ishtalitna Cre	12.24	18	P		Pn	15 42 51.0 +1.6
	baz=206,SNR=6.1						
PCA	Pinnacle	12.26	55	Pn		Pn	15 42 48.5 -1.3
PINM	Pinnacle	12.27	55	P		Pn	15 42 49.8 0.0
	baz=252						
L26K	Log Cabin Wild	12.28	39	P		Pn	15 42 50.8 +0.8
	baz=234						
IL31		12.33	28	Pn		Pn	15 42 47.9 -2.6
ILAR	Eielson Array	12.33	28	Pn		Pn	15 42 49.0 -1.6
ILAR	Eielson Array	12.33	28	Pn		Pn	15 42 47.8 -2.8
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=9.7						
ILAR				LR		LR

baz=188
O29M Mount Kennedy 13.13 55 P Pn 15 43 03.5 +1.9
baz=253,SNR=11
J26L Joseph Creek 13.13 34 P Pn 15 43 02.7 +1.0
baz=228
F21K Alatna River 13.16 12 P Pn 15 43 03.7 +1.7
baz=198
G23K Bananza Creek 13.22 18 P Pn 15 43 04.5 +1.7
baz=208
D17K Noatak River 13.26 356 P Pn 15 43 04.6 +1.3
baz=173
PRP Porcupine Dome 13.27 28 P Pn 15 43 03.9 +0.3
baz=221
K27K Chicken 13.34 37 Pn Pn 15 43 04.1 -0.3
K27K Chicken 13.34 37 P Pn 15 43 04.9 +0.6
baz=233
P29M Windy Craggy 13.37 58 P Pn 15 43 05.9 +1.0
baz=257
YUK6 Outpost Mounta 13.42 53 P Pn 15 43 06.5 +0.8
baz=251
F22K John River 13.60 14 P Pn 15 43 08.9 +0.9
baz=201
COLD Coldfoot 13.65 17 P Pn 15 43 09.9 +1.3
baz=206
G24K Hadweenzic Riv 13.73 22 P Pn 15 43 10.4 +0.7
baz=213
H25L Birch Creek 13.77 26 P Pn 15 43 10.6 +0.4
baz=218
HYT Haines Junctio 13.78 54 P Pn 15 43 11.2 +0.6
baz=253
P30M Million Dollar 13.86 57 P Pn 15 43 12.4 +0.8
baz=256
S31K Pelican 13.91 66 Pn Pn 15 43 11.7 -0.5
S31K Pelican 13.91 66 P Pn 15 43 12.6 +0.4
baz=266
E20K Nigu River 13.91 7 P Pn 15 43 13.3 +1.1
baz=190
M29M Somme Creek 13.93 47 Pn 15 43 11.0 -1.6
M29M Somme Creek 13.93 47 P Pn 15 43 12.8 +0.2
baz=245
C16K Lisburne Hills 13.96 353 P Pn 15 43 13.9 +1.0
baz=168
C17K DeLong Mountai 14.04 356 P Pn 15 43 15.1 +1.2
baz=174
D19K Kuna River 14.05 4 P Pn 15 43 14.6 +0.5
baz=186
G25K Bearman Lake 14.10 24 P Pn 15 43 16.0 +1.3
baz=216
C18K Utukok River 14.16 359 Pn Pn 15 43 16.0 +0.4
C18K Utukok River 14.16 359 P Pn 15 43 16.9 +1.3
baz=178
E22K Anaktuvuk Pass 14.24 13 P Pn 15 43 17.7 +0.9
baz=201
DAWY Dawson 14.33 40 P Pn 15 43 19.0 +1.0
baz=238
F24K Squaw Lake 14.34 20 P Pn 15 43 18.8 +0.7
baz=211
L29M L29M 14.36 44 P Pn 15 43 19.2 +0.9
baz=243
I27K Kandik River 14.48 33 P Pn 15 43 21.2 +1.1
baz=229
E23K Chandalar 14.50 17 P Pn 15 43 21.7 +1.4
baz=206
SKAG Skagway 14.54 60 P Pn 15 43 21.9 +1.1
baz=261
M30M Minto, Yukon 14.69 47 P Pn 15 43 24.1 +1.2
baz=247
E24K Your Creek 14.71 18 Pn Pn 15 43 22.4 -0.8
E24K Your Creek 14.71 18 P Pn 15 43 24.3 +1.2
baz=208
S32K Killisnoo 14.78 68 P Pn 15 43 25.2 +1.2
baz=269
G26K Porcupine Rive 14.82 26 P Pn 15 43 24.9 +0.4
baz=221
R32K Eaglecrest 14.84 65 P Pn 15 43 25.2 +0.4
baz=266
D22K Ayikyak River 14.84 11 P Pn 15 43 26.2 +1.3
baz=198
F25K Christian Rive 14.88 23 P Pn 15 43 27.0 +1.6
baz=215
C21K Knifeblade Rid 14.90 8 P Pn 15 43 26.9 +1.3
baz=193
I28M Miner Creek 14.93 35 Pn Pn 15 43 24.0 -2.2
I28M Miner Creek 14.93 35 P Pn 15 43 27.0 +0.9
baz=232
H27K Steamboat Moun 14.93 31 P Pn 15 43 27.5 +1.4
baz=227
K29M Barlow Dome 14.94 42 P Pn 15 43 27.0 +0.7
baz=242
J29N Klondike Camp 14.97 40 P Pn 15 43 27.7 +1.0
baz=239
TOLK Toolik Lake Re 15.04 16 P Pn 15 43 29.0 +1.5
baz=205,SNR=6.3
D23K Nanushuk River 15.17 14 Pn Pn 15 43 28.5 -0.7
D23K IAmb IAmb 15 43 40.7
comp=Z,4.5nm,0.8s
D23K Nanushuk River 15.17 14 P Pn 15 43 29.5 +0.2
baz=202
G27K Doyon Strip 15.29 29 P Pn 15 43 31.1 +0.2
baz=225
F26K Sheenjek River 15.30 24 P Pn 15 43 32.3 +1.2
baz=218
E25K Arctic Village 15.32 21 P Pn 15 43 32.6 +1.3
baz=214
B21K Ikpikpuk River 15.37 8 IAmb IAmb 15 43 43.6
comp=Z,4.3nm,0.8s
B21K Ikpikpuk River 15.37 8 P Pn 15 43 33.5 +1.6
baz=193
P32M Atlin 15.38 60 P Pn 15 43 32.7 +0.6
baz=262
I29M Ogilvie Camp, 15.43 37 IAmb IAmb 15 44 11.1
comp=Z,7.2nm,0.9s
I29M Ogilvie Camp, 15.43 37 P Pn 15 43 33.0 +0.3
baz=236
B20K Meade River 15.60 4 P Pn 15 43 36.4 +1.6
baz=187
M31M Drury Creek, Y 15.62 50 Pn Pn 15 43 35.6 +0.4
M31M IAmb IAmb 15 43 56.9
comp=Z,7.4nm,0.8s
M31M Drury Creek, Y 15.62 50 P Pn 15 43 36.0 +0.9
baz=252
J30M Hart River 15.74 41 Pn Pn 15 43 37.3 +0.4
J30M IAmb IAmb 15 43 48.2
comp=Z,14nm,0.7s
J30M Hart River 15.74 41 P Pn 15 43 37.2 +0.4
baz=241,SNR=21
H29M Whitestone 15.91 34 P Pn 15 43 39.8 +1.0
baz=233,SNR=9.1
P33M Teslin, Yukon 15.91 58 P Pn 15 43 39.4 +0.5
baz=261
C23K Itkillik River 15.99 13 Pn Pn 15 43 39.1 -0.8
C23K IAmb IAmb 15 43 55.5
comp=Z,9.1nm,0.8s
C23K Itkillik River 15.99 13 P Pn 15 43 40.0 +0.1
baz=201
I30M Mount Dempster 16.04 39 Pn Pn 15 43 41.2 +0.5
I30M Mount Dempster 16.04 39 P Pn 15 43 41.8 +1.1
baz=239,SNR=36
Q32M Nakina River 16.05 63 P Pn 15 43 41.3 +0.4
baz=266
FARO Faro, Yukon 16.09 51 P Pn 15 43 42.1 +0.8
baz=254
C24K Franklin Bluff 16.15 15 IAmb IAmb 15 43 43.0
comp=Z,9.6nm,0.7s
C24K Franklin Bluff 16.15 15 P Pn 15 43 42.0 +0.1
baz=205
B22K Teshekpuk Lake 16.17 9 Pn Pn 15 43 42.6 +0.4
B22K IAmb IAmb 15 43 56.2
comp=Z,6.7nm,0.8s
B22K Teshekpuk Lake 16.17 9 P Pn 15 43 42.8 +0.6
baz=195
D25K Kavik River 16.18 18 P Pn 15 43 43.2 +0.9
baz=211
G29M Pine Creek 16.44 32 IAmb IAmb 15 43 51.9
comp=Z,12nm,0.9s
G29M Pine Creek 16.44 32 P Pn 15 43 46.8 +1.1
baz=232
EPYK Eagle Plains 16.54 35 IAmb IAmb 15 44 00.9
comp=Z,12nm,0.6s
EPYK Eagle Plains 16.54 35 P Pn 15 43 48.0 +1.1
baz=236,SNR=11
S34M Telegraph Cree 16.63 66 P Pn 15 43 48.5 +0.4
baz=271
C26K Camden Bay 16.96 19 P Pn 15 43 52.3 +0.2
baz=212
G30M tAoh Zraii Nji 17.05 34 IAmb IAmb 15 43 57.7
comp=Z,6.7nm,0.6s
G30M tAoh Zraii Nji 17.05 34 P Pn 15 43 54.0 +0.6
baz=235
H31M Peel River 17.07 38 Pn 15 43 52.7 -0.9
H31M IAmb IAmb 15 44 20.2
comp=Z,11nm,0.8s
H31M Peel River 17.07 38 P Pn 15 43 54.3 +0.7
baz=241,SNR=9.7
MMPY Sheldon Lake, 17.13 50 P P 15 43 55.5 -0.6
baz=255
DLBC Dease Lake 17.21 65 Pn Pn 15 43 56.0 +0.5
comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=2.1
comp=Z,0.9nm,0.5s
D27M Malcolm River 17.25 24 P P 15 43 56.7 -0.6
baz=221
E29M Blow River 17.43 28 Pn 15 43 58.1 +0.1
F30M Barrier River 17.56 32 P Pn 15 43 59.6 0.0
baz=234
G31M Satah River 17.66 35 Pn 15 43 59.7 -1.2
G31M IAmb IAmb 15 44 07.2
comp=Z,4.7nm,0.6s
G31M Satah River 17.66 35 P Pn 15 44 00.9 +0.1
baz=238
F31M Tsiigehtchic 18.11 34 P P 15 44 07.0 +0.3
baz=237
INK Inuvik 18.66 32 P P 15 44 10.6 -2.0
INK Inuvik 18.66 32 P P 15 44 12.5 -0.2
comp=Z,0.3nm,0.3s,baz=239,slow=14,SNR=13
comp=Z,3.5nm,0.8s
INK Inuvik 18.66 32 P Pn 15 44 13.5 +0.5
baz=236
TOAD Toad River Com 19.70 63 P Pn 15 44 26.1 +0.4
baz=272
WRGLY Wrigley 20.75 50 P P 15 44 36.2 +0.6
baz=262
C36M Paulatuk 22.17 34 P P 15 44 49.4 -1.3
C36M IAmb IAmb 15 45 11.2
comp=Z,4.8nm,1.1s
C36M Paulatuk 22.17 34 P P 15 44 49.9 -0.7
baz=246
A36M Sachs Harbour 23.02 27 P P 15 44 58.4 -1.3
baz=239
PET Petropavlovsk 23.93 283 P P 15 45 07.6 -1.1
PEA0B Petropavlovsk- 24.44 284 P P 15 45 12.5 -1.0
PETK Petropavlovsk- 24.44 284 P P 15 45 11.2 -2.2
PETK Petropavlovsk- 24.44 284 P P 15 45 11.9 -1.5
comp=Z,6.5nm,0.5s,baz=79,slow=12,SNR=28
comp=Z,6.5nm,0.5s
YKA Yellowknife Ar 24.77 53 P P 15 45 16.8 +0.4
comp=Z,0.5nm,0.7s,baz=256,slow=8.0,SNR=9.7
comp=Z,0.5nm,0.7s
MA2 Magadan 26.45 301 P P 15 45 29.9 -1.7
MA2 IAmb IAmb 15 45 56.2
comp=Z,5.5nm,1.1s
NVAR Mina Array Bea 32.66 102 P P 15 46 30.0 +2.8
comp=Z,1.1nm,0.9s,baz=308,slow=8.4,SNR=2.8
comp=Z,1.1nm,0.9s
EUNU Eureka 34.10 17 P P 15 46 38.6 -0.5
EUNU IAmb IAmb 15 46 48.3
comp=Z,2.9nm,1.2s
PDAR Pinedale Array 34.92 88 P P 15 46 47.9 +1.1
comp=Z,0.2nm,0.6s,baz=292,slow=11,SNR=2.7
comp=Z,0.2nm,0.6s
YAK Yakutsk 35.74 311 P P 15 46 50.9 -2.4
YAK Yakutsk 35.74 311 LR LR 16 02 15.7
comp=Z,83nm,19.9s,baz=65,slow=38
ILON Igloolik, Nuna 36.83 35 P P 15 47 02.7 +0.2
ILON IAmb IAmb 15 47 13.9
comp=Z,3.8nm,1.0s
PFO Pinyon Flats O 37.15 106 LR LR 15 59 31.3
comp=Z,77nm,20.0s,baz=258,slow=32
ULM Lac du Bonnet 38.45 69 P P 15 47 16.8 +0.4
comp=Z,1.0nm,0.5s,baz=318,slow=11,SNR=3.2
comp=Z,1.0nm,0.5s
ANMO Albuquerque 41.91 95 P P 15 47 44.6 -0.9
EYMN Ely 42.12 69 P P 15 47 47.3 +0.4
H11N2 WAKE ISLAND Hy 42.66 228 T T 16 32 58.6
baz=27,slow=76,SNR=21
H11N3 WAKE ISLAND Hy 42.67 228 T T 16 32 55.0
baz=27,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 42.68 228 T T 16 32 54.5
baz=27,slow=76,SNR=12
H11S1 WAKE ISLAND Hy 43.83 228 T T 16 34 20.7
baz=26,slow=76,SNR=16
H11S2 WAKE ISLAND Hy 43.84 228 T T 16 34 25.4
baz=26,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 43.85 228 T T 16 34 21.8
baz=26,slow=76,SNR=11
MJB9 Matsu-Tunnel 44.97 272 P P 15 48 11.9 +1.9
MAJO Matsushiro 44.97 272 P P 15 48 10.9 +0.9
TXAR Lajitas Array 47.61 98 P P 15 48 32.1 +1.2
comp=Z,2.3nm,0.7s,baz=309,slow=6.2,SNR=9.3
comp=Z,2.3nm,0.7s
KSRS Korea Array 50.29 281 P P 15 48 50.8 -0.3
comp=Z,1.4nm,0.6s,baz=41,slow=7.1,SNR=7.1
comp=Z,1.4nm,0.6s
SONM Songino Array 54.58 304 P P 15 49 22.4 -0.7
comp=Z,2.1nm,0.6s,baz=51,slow=6.4,SNR=13
comp=Z,2.1nm,0.6s
ARCES ARCESS Array B 56.15 357 P P 15 49 32.6 -1.3
comp=Z,3.9nm,0.9s,baz=4.3,slow=4.9,SNR=5.7
comp=Z,3.9nm,0.9s
HHC Hu-ho-hao-te 56.93 295 eP P 15 49 41.0 +1.0
HHC pmax pmax
comp=Z,11nm,0.8s
GTA Gaotai 64.01 302 eP P 15 50 27.0 -1.4
GTA sP pP 15 50 35.3 +0.2
GTA pmax pmax
comp=Z,4.0nm,1.0s
KURBB Kurchatov Arra 64.17 323 P P 15 50 28.2 -0.9
comp=Z,0.7nm,0.7s,baz=30,slow=5.9,SNR=4.6
comp=Z,0.7nm,0.7s
FINES FINESS Array B 64.24 356 P P 15 50 28.4 -1.0
comp=Z,3.5nm,0.9s,baz=22,slow=6.2,SNR=9.9
comp=Z,3.5nm,0.9s
NB2 NORSAR Subarra 64.58 4 P P 15 50 31.0 -0.6
comp=Z,12nm,1.4s,baz=354,slow=6.5
NOA NORSAR Array B 64.58 4 P P 15 50 31.3 -0.4
comp=Z,1.6nm,0.9s,baz=355,slow=6.5,SNR=4.9
comp=Z,1.6nm,0.9s
BVAR Borovoye Array 64.80 329 P P 15 50 32.2 -0.9
comp=Z,2.8nm,0.6s,baz=37,slow=6.9,SNR=10
comp=Z,2.8nm,0.6s
ARTI Arti 64.96 337 LR LR 16 20 00.7
comp=Z,136nm,21.5s,baz=290,slow=37
HFS Hagfors 65.58 3 P P 15 50 37.3 -0.8
comp=Z,2.1nm,0.7s,baz=94,slow=1.9,SNR=5.1
comp=Z,2.1nm,0.7s
MKAR Makanchi Array 65.94 318 P P 15 50 39.1 -1.6
comp=Z,1.1nm,0.5s,baz=44,slow=5.7,SNR=8.5
comp=Z,1.1nm,0.5s
EKA Eskdalemuir Ar 68.92 14 P P 15 50 58.6 -0.8
comp=Z,0.8nm,0.6s,baz=347,slow=5.8,SNR=2.5
comp=Z,0.8nm,0.6s
KSH Kashi 74.55 318 P P 15 51 37.8 +4.2
KSH PKP 15 59 07.0
KSH pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 74.81 354 P P 15 51 33.9 -0.9
comp=Z,2.3nm,0.6s,baz=12,slow=6.1,SNR=7.4
comp=Z,2.3nm,0.6s
KBZ Khabaz 80.08 343 P P 15 52 05.2 +0.8
comp=Z,2.0nm,0.9s,baz=22,slow=8.7,SNR=3.7
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 81.10 289 P P 15 52 10.4 +0.2
comp=Z,2.4nm,0.7s,baz=16,slow=5.4,SNR=18
comp=Z,2.4nm,0.7s
ESDC Sonseca Array 84.02 18 P P 15 52 25.8 +0.6
comp=Z,1.2nm,0.8s,baz=333,slow=5.3,SNR=6.3
comp=Z,1.2nm,0.8s
BRTR Keskin Array B 85.32 349 P P 15 52 32.1 +0.3
comp=Z,0.4nm,0.6s,baz=14,slow=5.6,SNR=2.0
comp=Z,0.4nm,0.6s

*NEIC **28** 15:40:20.2±1.4, 18°.3S±0°.2×178°.1W±0°.1, h539km±15km, mb4.4/15, Error ellipse: s-maj=31.4km s-min=20.4km az=181.0*
*IDC **28** 15:40:23.6±2.3, 17°.94S×178°.49W, h562km±20km, mb3.4/7, mbtmp4.3/9, Error ellipse: s-maj=80.6km s-min=18.2km az=149.0*
ISC 28 15:40:21.8±0.8, 18°.3S±0°.2×178°.3W±0°.1, h550km, n31, σ0°82/29, mb4.3/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.56	279	P	P	15 41 41.9	+1.3
MSVF	Nonsavu	3.56	279	P	P	15 41 42.0	+1.3
	16nm,0.6s,baz=109,slow=23,SNR=19						
AFI	Afiamalu	7.62	56	P	P	15 42 11.3	-4.7
NIUE	Niue	7.93	97	P	P	15 42 14.9	-4.0
PINNC	Pines Island,	14.06	250	P	P	15 43 21.1	-0.5
DZM	Mont Dzumac	14.84	253	P	P	15 43 28.6	-1.1
DZM				IAmb	IAmb	15 43 29.0	
	comp=Z,22nm,1.1s						
DZM	Mont Dzumac	14.84	253	P	P	15 43 28.7	-1.1
	comp=Z,12nm,0.9s,baz=53,slow=10,SNR=3.7						
ONTNC	Ouen Toro	14.88	252	P	P	15 43 29.8	-0.3
EIDS	Eidsvold	29.27	251	P	P	15 45 40.2	+0.2
EIDS				IAmb	IAmb	15 46 06.5	
	comp=Z,29nm,1.5s						
WHZ	Wether Hill Ro	29.79	200	P	P	15 45 43.5	-0.7
WHZ				IAmb	IAmb	15 46 12.9	
	comp=Z,30nm,1.5s						
ARMA	Armidale	29.86	241	P	P	15 45 45.8	+0.5
COEN	Coen	37.25	271	P	P	15 46 48.1	+0.6
COEN				IAmb	IAmb	15 46 48.6	
	comp=Z,18nm,1.4s						
STKA	Stephens Creek	38.56	242	P	P	15 46 57.8	-0.1
STKA	Stephens Creek	38.56	242	P	P	15 46 58.7	+0.8
	comp=Z,5.6nm,0.6s,baz=72,slow=5.0,SNR=7.3						
	comp=Z,5.6nm,0.6s						
BBOO	Buckleboo	43.34	241	P	P	15 47 35.7	-0.1
BBOO				IAmb	IAmb	15 47 41.5	
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	44.70	260	P	P	15 47 45.1	-1.4
WRA	Warramunga Arr	44.70	260	P	P	15 47 45.9	-0.6
	comp=Z,3.0nm,0.3s,baz=94,slow=7.2,SNR=38						
	comp=Z,3.0nm,0.3s						
AS31	Alice Springs	44.82	255		P	15 47 47.2	-0.2
AS31				IAmb	IAmb	15 47 48.4	
	comp=Z,9.3nm,0.6s						
ASAR	Alice Springs	44.82	255		P	15 47 46.9	-0.6
ASAR	Alice Springs	44.82	255	P	P	15 47 47.5	+0.1
	comp=Z,20nm,0.5s,baz=88,slow=8.9,SNR=153						
	comp=Z,20nm,0.5s						
MTN	Manton Dam	48.93	269	P	P	15 48 16.8	-1.7
MTN				IAmb	IAmb	15 48 48.0	
	comp=Z,11nm,1.1s						
KNRA	Kununurra	50.59	265	P	P	15 48 30.6	0.0
FITZ	Fitzroy Crossi	53.10	261	P	P	15 48 48.5	-0.2
FITZ	Fitzroy Crossi	53.10	261	P	P	15 48 48.5	-0.2
	comp=Z,2.1nm,0.6s,baz=136,slow=5.7,SNR=8.6						
	comp=Z,2.1nm,0.6s						
MBWA	Marble Bar	58.11	256	P	P	15 49 22.7	-0.7
MBWA				IAmb	IAmb	15 49 38.1	
	comp=Z,14nm,1.2s						
TOLI2	Tolitoli	62.93	281	P	P	15 49 56.0	+0.7
BELA	Belgrano 2	81.74	173		P	15 51 43.5	+0.8
BELA				IAmb	IAmb	15 52 15.2	
	comp=Z,5.6nm,1.1s						
TXAR	Lajitas Array	86.09	58	P	P	15 52 05.8	+0.7
	comp=Z,0.8nm,0.8s,baz=224,slow=6.7,SNR=5.1						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	86.25	13	P	P	15 52 03.8	-1.2
	comp=Z,0.2nm,0.5s,baz=216,slow=4.4,SNR=5.6						
	comp=Z,0.2nm,0.5s						
PDAR	Pinedale Array	87.55	43	P	P	15 52 11.5	-0.4
	comp=Z,0.5nm,0.8s,baz=284,slow=6.7,SNR=3.3						
	comp=Z,0.5nm,0.8s						
GERES	GERESS Array B	148.04	345	PKPbc	PKPbc	15 59 05.5	-0.3
	comp=Z,0.3nm,0.5s,baz=312,slow=3.5,SNR=3.5						

*NAO **28** 15:48:11.5±4.8, 79°.92N×21°.16E, h18km±21km, ML2.6*
*BER **28** 15:48:12.2±3.5, 80°.21N×20°.25E, h23km±13km, ML2.0, ML2.6(NAO), Confirmed Earthquake*
*FCIAR **28** 15:48:16.0, 79°.97N×18°.35E, h10km, station OMEGA has station magnitude of 3.20 station ZFI2 has station magnitude of 3.20*
ISC 28 15:48:12.2±1.5, 79°.95N±0°.05×20°.46E±0°.04, h13km±11km, n14, σ1°10/35, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.88	241	Pn	Pn	15 48 43.0	-1.0
KBS				Pg	Pg	15 48 47.2	-0.9
KBS				Sg	Sb	15 49 10.9	+1.3
KBS	Kingsbay	1.88	241	Pn	Pn	15 48 43.0	-1.0
KBS				Pg	Pg	15 48 47.2	-0.9
KBS				Lg	Lg	15 49 10.9	
SPA0	Spitsbergen Ar	1.94	206	Pn	Pn	15 48 44.8	-0.1
	baz=40,slow=18						
SPA0				Pg	Pg	15 48 48.9	-0.5
	baz=25,slow=18						
SPA0				Sg	Sg	15 49 15.8	+1.2
	baz=27,slow=37						
SPA0	Spitsbergen Ar	1.94	206	Pn	Pn	15 48 44.8	-0.1
	baz=40,slow=18						
SPA0				Pg	Pg	15 48 48.9	-0.5
	baz=25,slow=18						
SPA0				Lg	Lg	15 49 15.8	
	baz=27,slow=37						
SPA0	Spitsbergen Ar	1.94	206	eP	Pb	15 48 48.1	+0.6
SPA0				eS	Sn	15 49 11.7	+2.6
BRBB	Barentsburg B	2.22	216	Pn	Pn	15 48 48.7	+0.1
BRBB				Pg	Pg	15 48 53.7	-0.9
BRBB				Sn	Sn	15 49 15.2	-0.6
BRBB				Sg	Sg	15 49 25.0	+1.8
BRBB	Barentsburg B	2.22	216	Pn	Pn	15 48 48.7	+0.1
BRBB				Pg	Pg	15 48 53.7	-0.9
BRBB				Sn	Sn	15 49 15.2	-0.6
BRBB				Lg	Lg	15 49 25.0	
BRBA	Barentsburg A	2.25	215	eP	Pn	15 48 49.3	+0.3
BRBA				ePg	Pg	15 48 54.3	-0.8
BRBA				eS	Sn	15 49 15.7	-0.8
BRBA				eSg	Sg	15 49 24.7	+0.5
BRBA				IAML		15 49 29.0	
	comp=Z,16nm,0.9s						
HSPB	Hornsund (broa	3.12	201	ePg	Pg	15 49 10.6	-1.3
HSPB				eSg	Sg	15 49 51.8	-0.5
HSPB				IAML		15 50 03.9	
	comp=Z,7.5nm,0.6s						
HOPEN	Hopen	3.58	163	ePg	Pb	15 49 16.6	+1.3
HOPEN				eS	Sn	15 49 49.6	+0.2
HOPEN				eSg	Sg	15 50 08.0	+1.0
HOPEN				IAML		15 50 10.4	
	comp=Z,9.0nm,0.6s						
HOPEN	Hopen	3.58	163	eP	Pn	15 49 04.8	-2.5
HOPEN				eS	Sn	15 49 48.3	-1.1
ZFI2	Zemlya Franca-	4.61	66	eP	Pn	15 49 21.0	-0.5
ZFI2				eS	Sn	15 50 16.0	+1.2
	comp=Z,15nm,2.9s						
OMEGA	Omega	4.62	66	eP	Pn	15 49 21.0	-0.6
OMEGA				eS	Sn	15 50 16.0	+0.9
	comp=Z,15nm,3.5s						
SUMG	Summit	14.97	273	i P	P	15 51 48.0	-1.1

*KRNET **28** 16:04:14.5±0.1, 41°.23N×71°.22E, h26km, mb2.9*
*SOME **28** 16:04:15.1, 41°.28N×71°.27E, h5km*
*ISU **28** 16:04:15, 41°.30N×71°.34E, h25km*
*NNC **28** 16:04:17.2±3.1, 41°.26N×71°.22E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=26.9km s-min=10.7km az=15.0*
ISC 28 16:04:15.5±0.9, 41°.27N±0°.02×71°.27E±0°.02, h12km±6km, n40, σ1°53/76, 27C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNS	Kasansay	0.22	119	P	Pg	16 04 21.0	+0.8
KSNS				S	Sb	16 04 25.5	+2.1
TRKS	Terek-Say	0.28	340	↑iP	Pg	16 04 20.4	-1.0
TRKS				↑iS	Sg	16 04 24.2	-1.1
ARK	Arkit	0.75	44	↑iP	Pb	16 04 29.7	-0.9
ARK				↑iS	Sb	16 04 40.6	-0.2
MINT	Mingtut	0.83	196	P	Pb	16 04 32.1	+0.2
MINT				S	Sb	16 04 44.6	+1.6
FRG	Fergana	0.97	156	P	Pg	16 04 33.4	-0.9
FRG				S	Sg	16 04 48.2	+1.3
CHMG	Chimgan	0.99	287	P	Pb	16 04 34.6	-0.1
CHMG				S	Sn	16 04 49.5	+0.1
CHMI	Chimion	1.01	169	P	Pg	16 04 35.0	0.0
CHMI				S	Sb	16 04 49.9	+1.5
BTK	Batken	1.25	196	↓eP	Pg	16 04 36.5	-3.1
BTK				↓eS	Sg	16 04 52.8	-3.1
IUG	Iuzhnay	1.28	314	P	Pn	16 04 39.3	-0.1
	54nm,0.1s						
IUG				S	Sn	16 04 59.9	+3.4
	103nm,0.2s						
ARSB	Arslanbob	1.29	87	↓iP	Pg	16 04 38.9	-1.5
ARSB				↓iS	Sg	16 04 56.6	-0.6
TGS	TashGRES	1.32	277	P	Pn	16 04 42.8	+2.9
TGS				S	Sn	16 05 03.9	+6.4

OHH	**Osh**	**1.37**	**122**	⇑*iP*	**Pn**	**16 04 39.7**	**-0.8**
OHH				⇑*iS*	**Sg**	**16 04 58.1**	**-1.5**
MNAS	**Manas**	**1.53**	**37**	⇓*iP*	**Pb**	**16 04 43.2**	**-0.8**
MNAS				⇓*iS*	**Sn**	**16 05 04.1**	**+1.3**
NZBK	**Nazarbek**	**1.62**	**269**	P	**Pg**	**16 04 46.2**	**-0.4**
NZBK				S	**Sg**	**16 05 09.4**	**+1.7**
DRK	**Karamyk**	**1.83**	**167**	⇑*eP*	**Pn**	**16 04 46.4**	**-0.7**
DRK				⇑*eS*	**Sn**	**16 05 09.8**	**-0.5**
KK31	**Karatay Array**	**1.92**	**343**	⇑Pn	**Pg**	**16 04 50.4**	**-1.9**
	6.3nm,0.6s,baz=172,slow=13,SNR=27						
KK31				Sn	**Sg**	**16 05 17.1**	**-0.2**
	11nm,0.3s,baz=177,slow=28,SNR=14						
KKAR	**Karatay Array**	**1.92**	**343**	⇑*iP*	**Pn**	**16 04 48.6**	**+0.5**
KKAR				⇑*iS*	**Sb**	**16 05 13.3**	**-1.2**
SALK	**Salom-Alik**	**1.97**	**100**	⇓*iP*	**Pn**	**16 04 49.3**	**+0.4**
SALK				⇓*iS*	**Sn**	**16 05 14.6**	**+1.0**
AML	**Almayashu**	**2.01**	**64**	⇓*iP*	**Pn**	**16 04 50.5**	**+0.8**
AML				⇓*iS*	**Sn**	**16 05 16.5**	**+1.5**
BRLS	**Borolday**	**2.06**	**329**	Pg	**Pb**	**16 04 50.9**	**-2.0**
	4.2nm,0.1s						
BRLS				Lg	Lg	16 05 17.3	
	18nm,0.2s						
BRLS	**Borolday**	**2.06**	**329**	*e*P	**Pb**	**16 04 50.9**	**-2.0**
	4.2nm,0.1s						
BRLS				*e*S	**Sn**	**16 05 16.3**	**+0.6**
	18nm,0.2s						
MRKS	**Merke**	**2.08**	**44**	Pg	**Pg**	**16 04 53.7**	**-1.7**
	1.3nm,0.3s						
MRKS				Lg	Lg	16 05 23.0	
	17nm,0.3s						
MRKS	**Merke**	**2.08**	**44**	*e*P	**Pg**	**16 04 53.7**	**-1.7**
	1.3nm,0.3s						
MRKS				*e*S	**Sg**	**16 05 21.3**	**-1.0**
	17nm,0.3s						
SFK	**Sufi-Kurgan**	**2.11**	**126**	⇓*iP*	**Pn**	**16 04 51.1**	**+0.2**
SFK				⇓*iS*	**Sn**	**16 05 17.6**	**+0.4**
EKS2	**Erkin-Say**	**2.33**	**52**	⇓*iP*	**Pn**	**16 04 54.7**	**+0.8**
EKS2				⇓*iS*	**Sn**	**16 05 23.9**	**+1.3**
ARLS	**Aral**	**2.37**	**74**	⇑*iP*	**Pn**	**16 04 55.1**	**+0.7**
ARLS				⇑*iS*	**Sn**	**16 05 24.7**	**+1.2**
GAR	**Garm**	**2.38**	**198**	⇓*iP*	**Pn**	**16 04 54.0**	**-0.5**
GAR				⇓*iS*	**Sn**	**16 05 22.8**	**-0.8**
UCH	**Uchtor**	**2.61**	**67**	⇑*iP*	**Pn**	**16 04 58.8**	**+0.8**
UCH				⇑*iS*	**Sn**	**16 05 30.8**	**+0.9**
AAK	**Ala-Archa**	**2.77**	**59**	Pn	**Pb**	**16 05 06.2**	**+1.1**
	1.3nm,0.3s						
AAK				Lg	Lg	16 05 44.0	
	2.0nm,0.5s						
AAK	**Ala-Archa**	**2.77**	**59**	⇑*iP*	**Pn**	**16 05 00.8**	**+0.9**
AAK				⇑*iS*	**Sn**	**16 05 34.3**	**+0.9**
BXML	**Bakhmal**	**2.93**	**238**	P	**Pb**	**16 05 07.2**	**-0.6**
BXML				S	**Sg**	**16 05 49.0**	**-0.6**
FRU1	**Bishkek**	**2.94**	**57**	⇑*iP*	**Pn**	**16 05 03.1**	**+0.9**
FRU1				⇑*iS*	**Sn**	**16 05 38.5**	**+1.0**
CHGR	**Chuyangaron**	**3.07**	**213**	⇓*iP*	**Pn**	**16 05 03.6**	**-0.3**
CHGR				⇓*iS*	**Sn**	**16 05 39.3**	**-1.3**
KBK	**Karagaybulak**	**3.08**	**62**	⇑*eP*	**Pn**	**16 05 05.0**	**+0.9**
KBK				⇑*iS*	**Sn**	**16 05 41.7**	**+0.7**
CHMS	**Chumysh**	**3.12**	**55**	⇓*iP*	**Pn**	**16 05 05.5**	**+0.9**
CHMS				⇓*iS*	**Sn**	**16 05 42.5**	**+0.7**
USP	**Ospenovka**	**3.12**	**49**	⇑*iP*	**Pn**	**16 05 05.7**	**+1.0**
USP				⇑*iS*	**Sn**	**16 05 42.8**	**+0.9**
TKM2	**Tokmak 2**	**3.62**	**61**	⇑Pg	**Pg**	**16 05 24.5**	**-0.4**
	0.5nm,0.4s						
TKM2				⇑Lg	Lg	16 06 13.9	
	2.0nm,0.6s						
TKM2	**Tokmak 2**	**3.62**	**61**	⇑*iP*	**Pn**	**16 05 12.6**	**+0.9**
TKM2				⇑*iS*	**Sn**	**16 05 55.0**	**+0.5**
BOOM	**Boomskoye usch**	**3.70**	**69**	⇓*iP*	**Pn**	**16 05 13.7**	**+1.0**
BOOM				⇓*iS*	**Sn**	**16 05 56.6**	**+0.3**
KST	**Kastek**	**3.92**	**61**	*e*P	**Pb**	**16 05 27.1**	**+2.5**
	0.4nm,0.1s						
KST				*e*S	**Sg**	**16 06 18.2**	**-3.1**
	4.3nm,0.4s						

BJI ***28*** *16:18:09.5, 11°.84N×142°.43E, h53km, mB5.0/17, mb5.1/69, Ms4.4/12, Ms7 4.2/13*
MOS ***28*** *16:18:10.1±0.8, 12°.00N×142°.22E, h46km, mb5.1/44, Error ellipse: s-maj=9.5km s-min=5.1km az=117.3*
NEIC ***28*** *16:18:12.4±1.7, 12°.05N±0°.08×142°.21E±0°.09, h44km±5km, mb5.0/264, Error ellipse: s-maj=12.9km s-min=11.7km az=134.0*
IDC ***28*** *16:18:13.8±1.9, 12°.07N×142°.24E, h61km±16km, mb4.5/29, mbtmp4.7/31, MS3.8/42, Error ellipse: s-maj=11.9km s-min=11.2km az=125.0*
DJA ***28*** *16:18:13.7±0.7, 12°N±5°×14°2E±°, h62km±8km, M4.8/17, mb4.9/17, mB5.6/4, MLv4.6/1, Mw(mB)5.1/4*
ISC 28 16:18:13.0±0.4, 11°.99N±0°.04×142°.21E±0°.05, h54km±3km, h54km:pP-P, n667, σ0°.96/603, mb5.0/208, MS4.0/46, 16C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.04**	**58**			**Pn**	**16 18 58.2**	**-0.5**
GUMO					Sn	**Sn**	**16 19 33.4**	**-0.5**
GUMO	**Guam**	**3.04**	**58**		P	**Pn**	**16 18 57.2**	**-1.5**
	510nm,0.6s,baz=223,slow=2.5,SNR=44							
GUMO					S	**Sn**	**16 19 34.3**	**+0.4**
	482nm,0.5s,baz=180,slow=20,SNR=11							
GUMO					LR	LR	16 20 07.7	
	comp=Z,811nm,19.8s,baz=213,slow=38							
GUMO	**Guam**	**3.04**	**58**		P	**Pn**	**16 18 58.3**	**-0.4**
GUMO	**Guam**	**3.04**	**58**		P	**Pn**	**16 18 58.2**	**-0.5**
GUMO							16 19 33.4	
SMPI	**Sarmi**	**14.31**	**194**		P	**Pn**	**16 21 33.4**	**+0.6**
	30nm,1.1s							
JAY	**Jayapura**	**14.48**	**186**		LR	LR	16 26 49.9	
	comp=Z,279nm,19.3s,baz=347,slow=35							
JCJ	**Chichijima**	**15.03**	**360**		LR	LR	16 26 10.1	
	comp=Z,388nm,21.5s,baz=71,slow=32							
JCJ	**Chichijima**	**15.03**	**360**		P	**Pn**	**16 21 43.2**	**+1.1**
DAV	**Davao City (W)**	**17.11**	**255**		LR	LR	16 28 11.8	
	comp=Z,105nm,19.5s,baz=70,slow=35							
JMZ	**Minamidaito 2**	**17.23**	**325**			**Pn**	**16 22 09.5**	**-0.4**
FAKI	**Fak Fak**	**17.81**	**214**		P	**Pn**	**16 22 16.4**	**-0.8**
FAKI	**Fak Fak**	**17.81**	**214**		P	**P**	**16 22 19.3**	**+2.0**
RABL	**Rabaul**	**18.87**	**148**		P	**P**	**16 22 28.8**	**-0.2**
RABL					IAmb	IAmb	16 22 42.5	
	comp=Z,79nm,1.4s							
JOW	**Kunigami**	**19.74**	**320**		P	**P**	**16 22 35.8**	**-2.6**
JOW					IAmb	IAmb	16 22 43.1	
	comp=Z,255nm,1.8s							
JOW	**Kunigami**	**19.74**	**320**		P	**P**	**16 22 37.7**	**-0.7**
	comp=Z,24nm,0.6s,baz=142,slow=11,SNR=15							
JOW					LR	LR	16 28 39.1	
	comp=Z,276nm,21.4s,baz=93,slow=32							
JOW	**Kunigami**	**19.74**	**320**		P	**Pn**	**16 22 40.7**	**+0.4**
MSAI	**Masohi**	**20.16**	**222**		P	Pn	16 22 59.5	+14
TGY	**Tagaytay City**	**20.83**	**278**		P	**P**	**16 22 50.0**	**-0.3**
	comp=Z,74nm,0.3s,baz=61,slow=1.9,SNR=6.7							
TGY					LR	LR	16 29 36.9	
	comp=Z,245nm,21.5s,baz=72,slow=33							
	comp=Z,74nm,0.3s							
JHJ	**Hachijo jima 2**	**21.15**	**354**		LR	LR	16 29 37.6	
	comp=Z,402nm,19.1s,baz=164,slow=32							
SANI	**Sanana**	**21.31**	**230**		P	**P**	**16 22 56.4**	**+0.9**
PMG	**Port Moresby**	**21.81**	**167**		P	**P**	**16 22 59.2**	**-1.5**
PMG					IAmb	IAmb	16 23 10.8	
	comp=Z,29nm,0.9s							
PMG	**Port Moresby**	**21.81**	**167**		P	**P**	**16 22 57.7**	**-3.0**
	comp=Z,24nm,0.9s,baz=340,slow=8.7,SNR=7.5							
PMG	**Port Moresby**	**21.81**	**167**		P	**P**	**16 22 59.2**	**-1.5**
PMG					pmax	pmax		
	comp=Z,29nm,0.9s							
YOJ	**Yonaguni jima**	**22.02**	**307**		P	**P**	**16 23 01.6**	**-1.4**
YOJ	**Yonaguni jima**	**22.02**	**307**		P	**P**	**16 23 04.2**	**+1.2**
YOJ	**Yonaguni jima**	**22.02**	**307**		P	**P**	**16 23 01.6**	**-1.4**
YOJ					pmax	pmax		
	comp=Z,122nm,1.0s							
TWG	**Pinlang**	**22.84**	**301**		P	**P**	**16 23 09.8**	**-1.9**
YULB	**Yu-li**	**22.89**	**303**		P	**P**	**16 23 10.4**	**-1.8**
YULB	**Yu-li**	**22.89**	**303**		P	**P**	**16 23 13.6**	**+1.3**
JMN	**Monobe**	**22.94**	**342**		P	**P**	**16 23 09.9**	**-2.8**
JMN					IAmb	IAmb	16 23 19.1	
	comp=Z,81nm,1.6s							
JMN	**Monobe**	**22.94**	**342**		P	**P**	**16 23 14.7**	**+2.0**
NACB	**Ninganchiao**	**23.00**	**305**		P	**P**	**16 23 11.8**	**-1.6**
NACB	**Ninganchiao**	**23.00**	**305**		P	**P**	**16 23 14.6**	**+1.2**
MRSI	**Marisa**	**23.14**	**242**		P	**P**	**16 23 15.4**	**+0.6**
	comp=Z,31nm,0.7s							
LUWI	**Luwuk**	**23.24**	**237**		P	**P**	**16 23 14.8**	**-1.1**
LUWI	**Luwuk**	**23.24**	**237**		P	**P**	**16 23 15.2**	**-0.6**
LUWI	**Luwuk**	**23.24**	**237**		P	**P**	**16 23 15.7**	**-0.1**
	comp=Z,1μmcomp=Z,153nm,0.9s							
SSLB	**Suanglung**	**23.35**	**303**		P	**P**	**16 23 16.1**	**-0.7**
SSLB					IAmb	IAmb	16 23 20.1	
	comp=Z,165nm,1.8s							
SSLB	**Suanglung**	**23.35**	**303**		P	**P**	**16 23 17.7**	**+0.9**
TPUB	**Ta-pu**	**23.41**	**302**		P	**P**	**16 23 16.7**	**-0.7**
TPUB	**Ta-pu**	**23.41**	**302**		P	**P**	**16 23 18.7**	**+1.4**
YHNB	**Yeheng**	**23.42**	**305**		P	**P**	**16 23 16.7**	**-0.8**
YHNB					IAmb	IAmb	16 23 31.3	
	comp=Z,37nm,1.2s							
YHNB	**Yeheng**	**23.42**	**305**		P	**P**	**16 23 18.3**	**+0.8**
JNU	**Nakatsue**	**23.46**	**336**		P	**P**	**16 23 18.1**	**+0.3**
JNU					IAmb	IAmb	16 23 21.3	
	comp=Z,46nm,0.9s							
JNU	**Nakatsue**	**23.46**	**336**		LR	LR	16 31 16.0	
	comp=Z,205nm,19.9s,baz=146,slow=33							
JNU	**Nakatsue**	**23.46**	**336**		P	**P**	**16 23 19.6**	**+1.8**
INU	**Inuyama**	**23.73**	**349**		P	**P**	**16 23 19.8**	**-0.4**
TOLI2	**Tolitoli**	**23.84**	**245**		P	**P**	**16 23 20.6**	**-0.8**
TOLI2	**Tolitoli**	**23.84**	**245**		P	**P**	**16 23 22.6**	**+1.2**
JGF	**Kuroka**	**23.92**	**350**		P	**P**	**16 23 20.3**	**-1.6**
JGF					IAmb	IAmb	16 23 35.4	
	comp=Z,42nm,1.6s							
JGF	**Kuroka**	**23.92**	**350**		P	**P**	**16 23 21.9**	**-0.1**
MYLDM	**Lahad Datu**	**24.39**	**256**		P	**P**	**16 23 25.8**	**-0.6**
MYLDM					IAmb	IAmb	16 23 55.6	
	comp=Z,36nm,1.1s							
MYLDM	**Lahad Datu**	**24.39**	**256**		P	**P**	**16 23 28.5**	**+2.1**
H11S3	**WAKE ISLAND Hy**	**24.47**	**72**		T	T	16 49 09.9	
	baz=258,slow=76,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**24.49**	**72**		T	T	16 49 08.1	
	baz=258,slow=76,SNR=5.4							
H11S2	**WAKE ISLAND Hy**	**24.49**	**72**		T	T	16 49 16.2	
	baz=258,slow=76,SNR=5.5							
MJAR	**Matsushiro Arr**	**24.72**	**352**		P	**P**	**16 23 27.5**	**-1.7**
	comp=Z,7.5nm,0.7s,baz=168,slow=8.1,SNR=16							
MJAR					LR	LR	16 32 06.9	
	comp=Z,243nm,20.7s,baz=149,slow=34							
	comp=Z,7.5nm,0.7s							
MAJO	**Matsushiro**	**24.72**	**352**		P	**P**	**16 23 28.3**	**-0.9**
MAJO					IAmb	IAmb	16 23 31.0	
	comp=Z,13nm,0.6s							
MAJO	**Matsushiro**	**24.72**	**352**		P	**P**	**16 23 28.5**	**-0.7**
MAJO	**Matsushiro**	**24.72**	**352**	*i*	P	**P**	**16 23 25.9**	**-3.3**
MAJO					pmax	pmax		
	comp=Z,62nm,2.9s							
MJB9	**Matsu-Tunnel**	**24.72**	**352**		P	**P**	**16 23 28.3**	**-0.9**
H11N1	**WAKE ISLAND Hy**	**24.93**	**69**		T	T	16 49 36.7	
	baz=255,slow=75,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**24.94**	**69**		T	T	16 49 33.3	
	baz=255,slow=75,SNR=4.9							
H11N3	**WAKE ISLAND Hy**	**24.95**	**69**		T	T	16 49 38.4	
	baz=255,slow=75,SNR=4.6							
JTU	**Tsushima**	**25.29**	**335**		P	**P**	**16 23 36.3**	**+1.9**
COEN	**Coen**	**25.79**	**178**		P	**P**	**16 23 37.7**	**-1.4**
COEN	**Coen**	**25.79**	**178**		P	**P**	**16 23 39.3**	**+0.2**
JMM	**Marumori**	**25.80**	**357**		P	**P**	**16 23 36.9**	**-2.1**
JMM					IAmb	IAmb	16 23 56.0	
	comp=Z,33nm,0.9s							
JMM	**Marumori**	**25.80**	**357**		P	**P**	**16 23 38.2**	**-0.8**
JSD	**Sado**	**26.18**	**353**		P	**P**	**16 23 41.0**	**-1.5**
JSD					IAmb	IAmb	16 23 43.3	
	comp=Z,54nm,1.4s							
JSD	**Sado**	**26.18**	**353**		P	**P**	**16 23 43.3**	**+0.9**
KKM	**Kota Kinabalu**	**26.33**	**259**		P	**P**	**16 23 42.6**	**-1.6**
TATA	**Tatamba Isabel**	**26.75**	**138**		P	**P**	**16 23 50.3**	**+2.5**
MTN	**Manton Dam**	**27.00**	**204**		P	**P**	**16 23 50.6**	**+0.6**
HNR	**Honiara**	**27.63**	**140**		LR	LR	16 35 39.1	
	comp=Z,88nm,18.6s,baz=358,slow=38							
TJN	**Taejon**	**27.73**	**334**	*i*	P	**P**	**16 23 57.3**	**+0.9**
SOEI	**Soe**	**28.01**	**220**		P	**P**	**16 23 59.2**	**0.0**
KSRS	**Korea Array**	**28.41**	**336**		P	**P**	**16 24 02.0**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=143,slow=8.8,SNR=11							
KSRS					LR	LR	16 35 23.0	
	comp=Z,124nm,18.6s,baz=145,slow=36							
	comp=Z,2.6nm,0.7s							
KS19	**Wonju Array Si**	**28.48**	**336**		P	**P**	**16 24 02.4**	**-0.6**
KS19					IAmb	IAmb	16 24 27.5	
	comp=Z,89nm,1.9s							
JTM	**Tenmabayashi**	**28.71**	**358**		P	**P**	**16 24 04.5**	**-0.5**
NJ2	**Nanjing**	**29.33**	**317**	*e*P		**P**	**16 24 12.8**	**+2.1**
NJ2					pmax	pmax		
	comp=Z,22nm,0.5s							
KNRA	**Kununurra**	**30.54**	**206**		P	**P**	**16 24 21.1**	**-0.4**
WHN	**Wuhan**	**31.72**	**310**		P	**P**	**16 24 33.5**	**+1.7**
QIZ	**Qiongzhong**	**31.93**	**287**		P	**P**	**16 24 30.5**	**-3.3**
QIZ					PP	**PnPn**	**16 25 42.0**	**+1.7**
QIZ					S	**S**	**16 29 37.5**	**-3.9**
QIZ					pmax	pmax		
	comp=Z,17nm,1.6s							
QIZ					LR	LR		
	comp=Z,160nm,13.7s							
QIZ					LR	LR		
	comp=Z,210nm,18.5s							
QIZ					LR	LR		
	comp=Z,280nm,22.0s							
ASAJ	**Asahikawa**	**32.02**	**1**		LR	LR	16 36 48.3	
	comp=Z,113nm,21.9s,baz=194,slow=35							
ASAJ	**Asahikawa**	**32.02**	**1**		P	**P**	**16 24 32.9**	**-1.3**
ASAJ					pmax	pmax		
	comp=Z,48nm,1.4s							
JKA	**Kamikawa-asahi**	**32.02**	**1**		P	**P**	**16 24 32.9**	**-1.3**
JKA					IAmb	IAmb	16 24 37.3	
	comp=Z,48nm,1.4s							
QIS	**Mount Isa**	**32.44**	**185**		P	**P**	**16 24 39.2**	**+1.0**
DL2	**Dalian**	**32.46**	**329**		P	**P**	**16 24 39.0**	**+0.8**
DL2					S	**S**	**16 29 49.3**	**+0.1**
DL2					pmax	pmax		
	comp=Z,25nm,0.9s							
DL2					pmax	pmax		
	comp=Z,150nm,5.7s							
DL2					LR	LR		
	comp=Z,270nm,16.9s							
DL2					LR	LR		
	comp=Z,310nm,15.5s							
DL2					LR	LR		
	comp=Z,290nm,16.2s							
WB0	**Warramunga Arr**	**32.48**	**194**		P	**P**	**16 24 38.3**	**-0.2**
WB0					IAmb	IAmb	16 24 56.0	
	comp=Z,35nm,1.9s							
WRAB	**Tennant Creek**	**32.65**	**194**		P	**P**	**16 24 39.7**	**-0.3**
WRAB	**Tennant Creek**	**32.65**	**194**	*i*	P	**P**	**16 24 39.5**	**-0.5**
WRAB					pmax	pmax		
	comp=Z,9.0nm,1.3s							
WRA	**Warramunga Arr**	**32.66**	**194**		P	**P**	**16 24 40.1**	**0.0**
	comp=Z,2.6nm,0.7s,baz=16,slow=9.7,SNR=26							
WRA					PcP	**PcP**	**16 27 26.3**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=358,slow=2.8,SNR=2.8							
WRA					LR	LR	16 38 12.7	
	comp=Z,130nm,21.0s,baz=43,slow=37							
	comp=Z,2.6nm,0.7s							
TIA	**Tai'an**	**33.07**	**321**		P	**P**	**16 24 44.5**	**+1.0**
TIA					pmax	pmax		
	comp=Z,13nm,1.0s							
USA0B	**Ussuriysk Arra**	**33.29**	**347**		P	**P**	**16 24 46.0**	**+0.7**
USA0B					IAmb	IAmb	16 24 47.0	
	comp=Z,27nm,0.8s							
USA0B	**Ussuriysk Arra**	**33.29**	**347**	*i*	P	**P**	**16 24 45.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**33.29**	**347**		P	**P**	**16 24 45.6**	**+0.3**
	comp=Z,21nm,0.6s,baz=181,slow=9.1,SNR=121							
	comp=Z,21nm,0.6s							
FITZ	**Fitzroy Crossi**	**34.07**	**209**		P	**P**	**16 24 51.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**34.07**	**209**		LR	LR	16 38 27.6	
	comp=Z,65nm,20.2s,baz=83,slow=36							
JAGI	**Jajag, Banyuwa**	**34.51**	**235**		P	**P**	**16 24 55.1**	**-1.2**
JAGI					IAmb	IAmb	16 26 08.2	
	comp=Z,18nm,1.2s							
CN2	**Changchun**	**34.85**	**339**	*e*P		**P**	**16 25 01.0**	**+2.1**
CN2				*e*pP		pwP	16 25 16.0	+0.4
CN2				*e*S		**S**	**16 30 27.8**	**+1.8**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
CN2					pmax	pmax		
	comp=Z,100nm,5.0s							
HNS	**HongShan**	**35.32**	**320**	⇑P		**P**	**16 25 04.3**	**+1.3**
HNS					pmax	pmax		
	comp=Z,40nm,1.1s							
ENH	**Enshi**	**35.35**	**306**		P	**P**	**16 25 02.8**	**-0.7**
ENH	**Enshi**	**35.35**	**306**		P	**P**	**16 25 04.6**	**+1.2**
ENH	**Enshi**	**35.35**	**306**		P	**P**	**16 25 04.3**	**+0.9**
ENH					pP	**pP**	**16 25 17.1**	**+0.6**
ENH					PcP	**PcP**	**16 27 33.5**	**+0.7**
BNX	**BinXian**	**35.92**	**342**	⇓P		**P**	**16 25 09.0**	**+0.9**
BNX					pmax	pmax		
	comp=Z,87nm,0.6s							
BJT	**Baijiatuau**	**36.17**	**325**		P	**P**	**16 25 10.2**	**-0.1**
BJT					IAmb	IAmb	16 25 13.0	
	comp=Z,56nm,1.5s							
BJT	**Baijiatuau**	**36.17**	**325**		P	**P**	**16 25 10.2**	**-0.1**
BJT					pmax	pmax		
	comp=Z,56nm,1.5s							
BJT	**Baijiatuau**	**36.17**	**325**		P	**P**	**16 25 11.2**	**+1.0**
BJI	**Beijing**	**36.18**	**325**		P	**P**	**16 25 11.3**	**+1.0**
BJI					pmax	pmax		
	comp=Z,9.0nm,0.7s							
AS01	**Alice Springs**	**36.34**	**193**		P	**P**	**16 25 12.9**	**+1.0**
AS31	**Alice Springs**	**36.35**	**193**		P	**P**	**16 25 12.6**	**+0.6**
ASAR	**Alice Springs**	**36.35**	**193**		P	**P**	**16 25 12.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=18,slow=12,SNR=47							
ASAR					PcP	**PcP**	**16 27 37.1**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=25,slow=3.5,SNR=5.2							
ASAR					LR	LR	16 40 27.3	
	comp=Z,88nm,19.8s,baz=3.5,slow=37							
	comp=Z,1.3nm,0.5s							
GYA	**Guiyang**	**36.38**	**299**	⇓P		**P**	**16 25 14.5**	**+2.1**
GYA					pmax	pmax		
	comp=Z,15nm,0.8s							
TIY	**Taiyuan**	**36.94**	**319**		P	**P**	**16 25 18.8**	**+1.8**
TIY					pmax	pmax		
	comp=Z,38nm,1.0s							
XAN	**Xi'an**	**37.42**	**311**		P	**P**	**16 25 21.5**	**+0.4**
XAN					pmax	pmax		
	comp=Z,24nm,0.8s							
SLVN	**Son La**	**37.77**	**289**		P	**P**	**16 25 24.7**	**+0.5**
SLVN					IAmb	IAmb	16 25 29.3	
	comp=Z,7.7nm,0.6s							
KLR	**Kul'dur**	**38.13**	**349**	*ce*P		**P**	**16 25 27.4**	**+0.6**
KLR					pmax	pmax		
	comp=Z,22nm,0.6s							
TYV	**Tymovskoe**	**38.77**	**0**	*e*P		**P**	**16 25 31.9**	**-0.2**
TYV					pmax	pmax		
	comp=Z,9.0nm,0.7s							
TYV					pmax	pmax		
	comp=Z,300nm,4.3s							
XLT	**XiLinHaoTe**	**38.96**	**330**	⇑*iP*		**P**	**16 25 34.5**	**+0.6**
XLT					PP	**PnPn**	**16 27 10.5**	**+3.7**
XLT					pmax	pmax		
	comp=Z,34nm,1.0s							
WRKA	**Warakurna**	**39.22**	**200**		P	**P**	**16 25 37.0**	**+0.8**
HHC	**Hu-ho-hao-te**	**39.37**	**322**	*e*P		**P**	**16 25 38.5**	**+1.0**
HHC					pmax	pmax		
	comp=Z,16nm,1.0s							
HHC					pmax	pmax		
	comp=Z,52nm,5.9s							
HHC					LR	LR		
	comp=Z,190nm,11.8s							
HHC					LR	LR		
	comp=Z,210nm,15.1s							
HHC					LR	LR		
	comp=Z,370nm,16.0s							
KMI	**Kunming**	**39.48**	**295**		P	**P**	**16 25 40.5**	**+1.8**
KMI					pmax	pmax		
	comp=Z,10.0nm,1.1s							
KMI					LR	LR		
	comp=Z,140nm,24.3s							
KMI					LR	LR		
	comp=Z,140nm,29.6s							
OOD	**Oodnadatta**	**40.05**	**189**		P	**P**	**16 25 44.0**	**+1.0**
HEH	**HeiHe**	**40.05**	**345**	*e*P		**P**	**16 25 43.0**	**+0.2**
HEH					pmax	pmax		
	comp=Z,61nm,1.1s							
BTO	**Baotou**	**40.16**	**321**	⇓*iP*		**P**	**16 25 47.0**	**+3.0**
BTO					pP	**pwP**	**16 26 02.0**	**+1.4**
BTO					pmax	pmax		
	comp=Z,97nm,1.0s							
BTO					pmax	pmax		
	comp=Z,290nm,5.5s							
CD2	**Chengdu**	**40.18**	**304**		P	**P**	**16 25 44.8**	**+0.6**
CD2					pmax	pmax		
	comp=Z,50nm,0.5s							
PZH	**PanZhiHua**	**40.66**	**297**		P	**P**	**16 25 49.5**	**+1.2**
PZH					pmax	pmax		
	comp=Z,20nm,0.6s							
PZH					pmax	pmax		
	comp=Z,140nm,5.5s							
CRAI	**Chiangrai**	**40.93**	**287**		P	**P**	**16 25 50.1**	**-0.4**
CRAI					PcP	**PcP**	**16 27 51.3**	**+1.1**
DZM	**Mont Dzumac**	**41.36**	**145**		P	**P**	**16 25 53.9**	**-0.2**
DZM					IAmb	IAmb	16 26 25.3	
	comp=Z,42nm,1.5s							
DZM	**Mont Dzumac**	**41.36**	**145**	*e*S		**S**	**16 32 05.6**	**+0.5**
	comp=Z,92nm,30.6s							
DZM				*e*SS		**SS**	**16 35 10.0**	**-0.8**
	comp=Z,73nm,25.4s							
DZM				*e*LR		LR	16 37 21.7	
	comp=Z,220n

comp=Z,42nm,0.9s
BBOO Buckleboo 44.93 187 P **P 16 26 22.8 +0.2**
BBOO IAmb IAmb 16 26 30.3
comp=Z,14nm,0.9s
BBOO Buckleboo 44.93 187 P **P 16 26 23.3 +0.7**
PTPS Port Pirie 45.08 185 P **P 16 26 24.8 +1.0**
GSI Gunungsitoli 45.51 260 P **P 16 26 26.4 -1.2**
GSI IAmb IAmb 16 26 27.6
comp=Z,20nm,0.5s
GSI PcP **PcP 16 28 06.8 +1.0**
GSI Gunungsitoli 45.51 260 P **P 16 26 27.2 -0.4**
MSVF Nonsavu 46.09 129 P **P 16 26 31.3 -0.8**
MSVF IAmb IAmb 16 26 42.4
comp=Z,60nm,1.6s
MSVF Nonsavu 46.09 129 LR LR 16 47 37.5
comp=Z,84nm,18.1s,baz=305,slow=38
MSVF Nonsavu 46.09 129 P **P 16 26 33.1 +1.0**
MSVF Nonsavu 46.09 129 *i* P **P 16 26 33.1 +1.0**
MSVF pmax pmax
comp=Z,31nm,1.2s
ULN Ulaanbaatar 46.27 328 P **P 16 26 33.6 +0.4**
ULN IAmb IAmb 16 26 35.4
comp=Z,17nm,1.0s
ULN Ulaanbaatar 46.27 328 *ce*P **P 16 26 33.3 0.0**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 46.27 328 P **P 16 26 34.5 +1.2**
GTA Gaotai 46.35 314 P **P 16 26 35.5 +1.5**
GTA pP pP 16 26 46.3 -1.3
GTA PcP **PcP 16 28 09.5 +1.1**
GTA pmax pmax
comp=Z,27nm,0.7s
GTA LR LR
comp=Z,180nm,21.5s
GTA LR LR
comp=Z,170nm,18.7s
GTA LR LR
comp=Z,150nm,21.5s
SONM Songino Array 46.60 327 P **P 16 26 36.7 +0.9**
comp=Z,8.6nm,0.5s,baz=138,slow=6.2,SNR=48
SONM PcP **PcP 16 28 08.9 -0.2**
comp=Z,2.0nm,0.7s,baz=136,slow=3.7,SNR=3.7
SONM LR LR 16 46 43.3
comp=Z,160nm,20.5s,baz=121,slow=37
comp=Z,8.6nm,0.5s
MA2 Magadan 47.93 6 P **P 16 26 45.0 -0.7**
MA2 IAmb IAmb 16 26 46.0
comp=Z,7.0nm,0.7s
MA2 Magadan 47.93 6 LR LR 16 45 30.2
comp=Z,100nm,21.4s,baz=226,slow=34
MA2 Magadan 47.93 6 *ce*P **P 16 26 45.4 -0.4**
MA2 pmax pmax
comp=Z,11nm,1.7s
MA2 Magadan 47.93 6 P **P 16 26 45.2 -0.6**
comp=Z,12nm,1.1s
MA2 Magadan 47.93 6 P **P 16 26 45.2 -0.6**
MA2 pP **pP 16 26 58.1 -1.1**
MA2 sP **pwP 16 27 03.6 +0.3**
MA2 PcP **PcP 16 28 13.7 +0.3**
SMY Shemya 48.01 26 P **P 16 26 47.9 +1.4**
BLDU Ballidu 48.94 209 P **P 16 26 55.1 +1.1**
SHL Shillong 49.25 293 P **P 16 26 56.5 -0.2**
SHL IAmb IAmb 16 26 57.5
comp=Z,8.2nm,0.7s
SHL Shillong 49.25 293 P **P 16 26 56.5 -0.2**
SHL pmax pmax
comp=Z,8.0nm,0.7s
ZAK Zakamensk 49.77 328 *e*P **P 16 27 00.7 +0.5**
ZAK pmax pmax
comp=Z,26nm,1.0s
LSA Lhasa 50.45 299 P **P 16 27 05.9 -0.2**
LSA IAmb IAmb 16 27 10.6
comp=Z,7.3nm,0.6s
LSA Lhasa 50.45 299 P **P 16 27 05.9 -0.2**
LSA pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 50.78 352 P **P 16 27 06.6 -0.8**
YAK Yakutsk 50.78 352 LR LR 16 47 05.4
comp=Z,157nm,20.3s,baz=202,slow=34
YAK Yakutsk 50.78 352 *e*P **P 16 27 07.1 -0.4**
YAK *e**PP **pP 16 27 20.2 -0.9**
YAK *e* 16 28 23.1
YAK *e* 16 29 06.3
YAK *e*S **S 16 34 19.5 +0.4**
YAK *e**SS **sS 16 34 42.4 +0.7**
YAK *e* 16 36 54.7
YAK *e*SS **SS 16 37 56.5 +2.4**
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,211nm,4.3s
YAK pmax pmax
comp=N,102nm,4.0s
YAK pmax pmax
comp=E,70nm,4.2s
YAK smax smax
comp=N,118nm,4.3s
YAK smax smax
comp=E,63nm,4.7s
YAK Yakutsk 50.78 352 P **P 16 27 06.9 -0.6**
YAK pP **pP 16 27 20.3 -0.9**
YAK sP **pwP 16 27 25.6 +1.0**
SEY Seymchan 51.39 6 *ce*P **P 16 27 12.3 +0.3**
SEY pmax pmax
comp=Z,9.0nm,1.0s
MOY Mondy 51.70 328 *e*P **P 16 27 15.6 +0.9**
MOY pmax pmax
comp=Z,16nm,1.2s
WMQ Urumqi 56.39 315 ⇑P **P 16 27 50.3 +1.3**
WMQ PcP **PcP 16 28 49.3 +3.7**
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ LR LR
comp=Z,140nm,21.3s
SPIA Saint Paul Isl 57.81 28 P **P 16 27 59.0 +0.4**
baz=238
UNV Unalaska Valle 58.07 33 P **P 16 28 00.8 +0.3**
baz=244
BILL Bilibino 58.18 10 P **P 16 27 59.6 -1.5**
BILL IAmb IAmb 16 28 01.3
comp=Z,7.5nm,1.0s
BILL Bilibino 58.18 10 *ce*P **P 16 28 00.5 -0.6**
BILL pmax pmax
comp=Z,14nm,1.7s
BILL Bilibino 58.18 10 P **P 16 28 00.0 -1.1**
ZSN Zaisan 59.34 318 *e*P **P 16 28 09.7 +0.2**
ZSN pmax pmax
comp=Z,7.0nm,0.5s
ZSN Zaisan 59.34 318 *e*P **P 16 28 09.8 +0.2**
comp=Z,6.7nm,0.5s
TIXI Tiksi 60.18 355 P **P 16 28 13.8 -1.0**
TIXI IAmb IAmb 16 28 16.6
comp=Z,5.5nm,0.6s
TIXI Tiksi 60.18 355 *ce*P **P 16 28 14.4 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 60.18 355 P **P 16 28 13.6 -1.2**
MK31 Makanchi Array 60.87 317 *ce*P **P 16 28 20.7 +0.7**
MKAR Makanchi Array 60.87 317 P **P 16 28 20.9 +0.9**
comp=Z,26nm,0.7s,baz=94,slow=8.5,SNR=269
MKAR LR LR 16 55 35.1
comp=Z,116nm,20.0s,baz=106,slow=37
comp=Z,26nm,0.7s
GAMB Gambell 60.90 21 P **P 16 28 19.6 -0.2**
baz=234
MAKZ Makanchi 61.08 317 P **P 16 28 22.1 +0.6**
MAKZ Makanchi 61.08 317 P **P 16 28 22.1 +0.6**
MAKZ pmax pmax
comp=Z,33nm,0.8s
MAKZ Makanchi 61.08 317 P **P 16 28 22.2 +0.8**
MAKZ pP **pP 16 28 34.6 -0.6**
ZALV Zalesovo Beam 61.44 325 P **P 16 28 23.7 0.0**
comp=Z,11nm,0.4s,baz=110,slow=7.4,SNR=62
ZALV LR LR 16 55 25.5
comp=Z,92nm,19.8s,baz=164,slow=36
comp=Z,11nm,0.4s
SHLS Shalkode 62.06 313 *e*P **P 16 28 26.3 -2.0**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
SHLS Shalkode 62.06 313 *e*P **P 16 28 26.4 -2.0**
comp=Z,5.7nm,0.6s

CHNA Chernabura Isl 62.19 34 P **P 16 28 29.3 +0.6**
UZB Uzynbulak 62.38 313 *e*P **P 16 28 30.3 -0.1**
UZB pmax pmax
comp=Z,7.0nm,0.7s
UZB Uzynbulak 62.38 313 *e*P **P 16 28 30.3 -0.1**
comp=Z,6.9nm,0.7s
M13K Dall Lake 62.52 27 P **P 16 28 31.2 +0.5**
baz=244
K13K Kusilvak Mount 62.65 25 P **P 16 28 31.2 -0.4**
baz=242
SATY Saty 62.81 312 *e*P **P 16 28 33.3 +0.1**
SATY pmax pmax
comp=Z,7.0nm,0.7s
SATY Saty 62.81 312 *e*P **P 16 28 33.4 +0.1**
comp=Z,6.6nm,0.7s
O14K Tigyukauivet M 62.98 29 P **P 16 28 34.1 +0.2**
baz=246
N14K Kuskokwak Cree 63.06 28 P **P 16 28 34.8 +0.4**
baz=246
TDK Taldyqorghan 63.14 314 *e*P **P 16 28 35.4 +0.2**
TDK pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 63.14 314 *e*P **P 16 28 35.5 +0.2**
comp=Z,9.9nm,0.7s
L14K Kuka Creek 63.22 26 P **P 16 28 35.7 +0.2**
baz=244
TNA Tin City 63.26 21 P **P 16 28 35.8 +0.2**
baz=237
M14K Bethel 63.28 27 P **P 16 28 35.5 -0.3**
M14K IAmb IAmb 16 28 37.6
comp=Z,17nm,1.1s
M14K Bethel 63.28 27 P **P 16 28 36.2 +0.3**
baz=245
CHGN Chignik 63.31 32 P **P 16 28 36.0 -0.1**
baz=250
J14K Nanvaranak Lak 63.49 25 P **P 16 28 37.2 +0.1**
baz=242
KDJ Kajisay 63.57 311 P **P 16 28 39.2 +0.8**
KDJ IAmb IAmb 16 28 40.1
comp=Z,20nm,0.8s
KDJ Kajisay 63.57 311 P **P 16 28 39.2 +0.8**
KDJ pmax pmax
comp=Z,20nm,0.8s
O15K Ungalikthiuk R 63.63 29 P **P 16 28 38.0 -0.2**
baz=248
F14K Arctic Creek 63.77 21 P **P 16 28 38.8 -0.3**
baz=238
MDOK Medeo 63.81 312 *e*P **P 16 28 40.0 +0.1**
MDOK Medeo 63.81 312 *e*P **P 16 28 40.0 +0.1**
M15K Kasigluk River 63.83 27 P **P 16 28 39.1 -0.4**
baz=246
TNSS Tian-Shan 63.86 312 *e*P **P 16 28 40.3 -0.3**
TNSS Tian-Shan 63.86 312 *e*P **P 16 28 40.3 -0.3**
L15K Ungalak Mounta 63.88 26 P **P 16 28 39.2 -0.6**
baz=245
N15K Kwethluk River 63.89 28 P **P 16 28 39.9 0.0**
baz=247
AAA Alma-Ata 63.91 312 *e*P **P 16 28 40.5 0.0**
AAA pmax pmax
comp=Z,28nm,1.3s
AAA Alma-Ata 63.91 312 *e*P **P 16 28 40.6 0.0**
comp=Z,28nm,1.3s
CHKK Chushkaly 63.95 313 *e*P **P 16 28 40.7 0.0**
CHKK Chushkaly 63.95 313 *e*P **P 16 28 40.7 0.0**
K15K Wolf Creek Mou 64.12 26 P **P 16 28 41.3 -0.1**
baz=245
KURK Kurchatov 64.16 321 P **P 16 28 42.0 +0.2**
KURK Kurchatov 64.16 321 *ce*P **P 16 28 42.1 +0.2**
KURK pmax pmax
comp=Z,87nm,1.3s
KURK Kurchatov 64.16 321 P **P 16 28 42.2 +0.4**
KURK sP **sP 16 29 01.0 -0.3**
KSH Kashi 64.17 308 P **P 16 28 45.3 +3.0**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KURBB Kurchatov Arra 64.19 321 P **P 16 28 42.3 +0.3**
comp=Z,43nm,0.6s,baz=107,slow=6.9,SNR=281
comp=Z,43nm,0.6s
KUU Kurty 64.42 313 *e*P **P 16 28 43.8 +0.1**
KUU pmax pmax
comp=Z,17nm,1.1s
KUU Kurty 64.42 313 *e*P **P 16 28 43.9 +0.1**
comp=Z,17nm,1.1s
P16K Nushagak River 64.46 30 P **P 16 28 43.2 -0.4**
baz=250
F15K North Star Dit 64.49 22 P **P 16 28 43.4 -0.4**
baz=240
BOOM Boomskoye usch 64.53 311 P **P 16 28 43.6 -1.1**
BOOM PcP **PcP 16 29 18.2 -0.2**
BOOM IAmb IAmb 16 29 19.4
comp=Z,7.1nm,0.8s
BOOM Boomskoye usch 64.53 311 P **P 16 28 43.6 -1.1**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
O16K Kokwok River B 64.61 29 P **P 16 28 44.0 -0.7**
baz=249
N16K Nishlik Lake 64.61 28 P **P 16 28 44.0 -0.7**
baz=248
CHIR Chirikof Islan 64.65 34 P **P 16 28 46.6 +1.6**
CHIR Chirikof Islan 64.65 34 P **P 16 28 44.4 -0.5**
baz=253
M16K Timber Creek 64.73 27 P **P 16 28 45.0 -0.4**
baz=248
L16K Owhat River 64.77 27 P **P 16 28 45.1 -0.5**
baz=247
TKM2 Tokmak 2 64.83 312 P **P 16 28 47.3 +0.6**
SNR=11
H16K Elim 64.88 23 P **P 16 28 46.1 -0.2**
baz=243
J16K Anvik River 64.93 25 P **P 16 28 46.3 -0.4**
baz=245
Q16K King Salmon 65.00 30 P **P 16 28 46.6 -0.6**
baz=251
O17K Koliganek Bris 65.15 29 P **P 16 28 48.3 +0.2**
baz=250,SNR=6.2
I17K Unalakleet 65.15 24 P **P 16 28 48.4 +0.4**
baz=245
KBK Karagaybulak 65.27 311 P **P 16 28 50.3 +0.7**
SNR=12
N17K Nushagak Hills 65.36 28 P **P 16 28 49.3 -0.2**
baz=250
L17K Donlin 65.45 26 P **P 16 28 49.9 -0.2**
baz=248
CHMS Chumysh 65.46 312 P **P 16 28 50.8 +0.3**
SNR=8.1
M17K Holitna River 65.56 27 P **P 16 28 50.8 0.0**
baz=249
C16K Lisburne Hills 65.57 19 P **P 16 28 50.3 -0.4**
baz=238
SGDS Sogindy 65.60 312 *e*P **P 16 28 51.3 -0.1**
SGDS Sogindy 65.60 312 *e*P **P 16 28 51.4 -0.1**
AAK Ala-Archa 65.60 311 P **P 16 28 52.0 +0.4**
SNR=8.4
AAK Ala-Archa 65.60 311 *ce*P **P 16 28 52.3 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 65.60 311 P **P 16 28 52.1 +0.4**
AAK PcP **PcP 16 29 22.8 -0.1**
J17K VABM Dome 65.61 25 P **P 16 28 50.8 -0.2**
J17K VABM Dome 65.61 25 P **P 16 28 51.2 +0.2**
baz=247
SII Sitkinak Islan 65.63 33 P **P 16 28 50.7 -0.6**
baz=254
K17K Iditarod 65.67 26 P **P 16 28 51.6 +0.2**
K17K IAmb IAmb 16 28 54.8
comp=Z,7.9nm,1.0s
K17K Iditarod 65.67 26 P **P 16 28 51.4 -0.1**
baz=248
USP Ospenovka 65.67 312 P **P 16 28 52.3 +0.4**
SNR=7.4
R18K Karluk 65.77 32 P **P 16 28 52.3 +0.2**
baz=254
Q18K Katmai Hardscr 65.80 31 P **P 16 28 52.3 -0.2**
baz=252
G17K Kiwalik Mounta 65.86 23 P **P 16 28 52.8 +0.1**
baz=244
H17K Granite Mounta 65.90 23 P **P 16 28 52.6 -0.3**
H17K Granite Mounta 65.90 23 P **P 16 28 53.0 +0.1**
baz=245
P18K Big Mountain, 65.92 30 P **P 16 28 52.9 -0.3**
baz=252
NIL Nilore 65.99 302 P **P 16 28 54.9 +0.8**
D17K Noatak River 66.02 20 P **P 16 28 53.7 +0.1**
baz=241,SNR=7.5
F17K Baldwin Pennin 66.06 22 P **P 16 28 53.9 +0.1**
baz=243
O18K Koktuh Hills 66.08 29 P **P 16 28 54.2 0.0**

baz=252
EKS2 Erkin-Say 66.13 311 P **P 16 28 55.7 +0.7**
SNR=9.8
AML Almayashu 66.14 311 P **P 16 28 56.5 +1.1**
SNR=19
E17K Hotham Inlet 66.15 21 P **P 16 28 54.6 +0.2**
baz=242
L18K Granite Mounta 66.18 27 P **P 16 28 55.0 +0.3**
baz=249
BTLS Baital 66.20 314 *e*P **P 16 28 55.4 +0.2**
BTLS Baital 66.20 314 *e*P **P 16 28 55.5 +0.2**
RDOG Red Dog Mine 66.25 20 P **P 16 28 55.4 +0.3**
baz=241
OHAK Old Harbor 66.28 32 P **P 16 28 57.0 +1.6**
OHAK Old Harbor 66.28 32 P **P 16 28 55.4 -0.1**
baz=255
M18K Stony River 66.32 28 P **P 16 28 54.8 -0.8**
baz=250
C17K DeLong Mountai 66.37 19 P **P 16 28 54.9 -1.0**
baz=240
Q19K Cape Douglas, 66.56 31 P **P 16 28 56.2 -1.1**
baz=254
H18K Honhosa River 66.59 23 P **P 16 28 56.8 -0.5**
baz=247
ARSB Arslanbob 66.60 310 IAmb IAmb 16 28 59.6
comp=Z,22nm,1.0s
O19K Port Alsworth 66.61 29 P **P 16 28 57.6 +0.1**
baz=252
J18K Innoko River 66.61 25 P **P 16 28 57.4 -0.1**
baz=249
F18K Selawik 66.71 22 P **P 16 28 58.0 +0.1**
baz=245
N19K Bonanza Creek 66.72 28 P **P 16 28 58.3 0.0**
baz=252
E18K Tukpahlearik C 66.73 21 IAmb IAmb 16 28 59.3
comp=Z,7.2nm,0.7s
E18K Tukpahlearik C 66.73 21 P **P 16 28 58.3 +0.1**
baz=244
G18K Tagagawik 66.78 23 P **P 16 28 58.4 -0.1**
baz=246
KDAK Kodiak Island 66.80 32 LR LR 16 53 50.5
comp=Z,52nm,21.8s,baz=97,slow=32
KDAK Kodiak Island 66.80 32 P **P 16 28 59.1 +0.4**
baz=255
NRIK Noril'sk 66.81 342 P **P 16 28 58.3 -0.4**
comp=Z,6.1nm,0.6s,baz=110,slow=7.1,SNR=23
NRIK LR LR 16 57 40.5
comp=Z,108nm,20.8s,baz=162,slow=36
comp=Z,6.1nm,0.6s
NRIK Noril'sk 66.81 342 *ce*P **P 16 28 58.0 -0.6**
NRIK pmax pmax
comp=Z,16nm,1.4s
L19K White Mountain 66.98 27 P **P 16 29 00.2 +0.3**
baz=251
C18K Utukok River 67.09 19 P **P 16 29 00.5 0.0**
baz=242
M19K Big River Lodg 67.10 27 P **P 16 29 00.5 -0.1**
baz=252
Q20K Shuyak Island 67.11 31 P **P 16 29 00.4 -0.3**
baz=255
B18K Kokolik River 67.23 19 P **P 16 29 01.5 +0.2**
baz=242
J19K Poorman 67.26 25 P **P 16 29 01.3 -0.3**
baz=250
O20K Slope Mountain 67.39 30 P **P 16 29 01.9 -0.6**
baz=254
G19K Purcell Mounta 67.47 23 P **P 16 29 02.8 0.0**
baz=248
H19K Roundabout Mou 67.48 23 P **P 16 29 03.2 +0.3**
baz=248
F19K Shaleruckik Mo 67.48 22 P **P 16 29 02.9 0.0**
baz=246
L20K Farewell, AK 67.50 27 P **P 16 29 03.3 +0.1**
baz=252
M20K Styx River 67.66 28 P **P 16 29 03.7 -0.6**
baz=253
K20K Telida 67.70 26 P **P 16 29 04.4 0.0**
baz=252
BRZS Berezniki 67.76 319 *e*P **P 16 29 05.3 +0.3**
BRZS Berezniki 67.76 319 *e*P **P 16 29 05.3 +0.3**
SPCR Spurr Chakacha 67.89 28 P **P 16 29 05.3 -0.4**
baz=254
CNPM China Poot 67.92 30 P **P 16 29 04.7 -1.1**
CNPM IAmb IAmb 16 29 06.1
comp=Z,8.4nm,0.6s
E19K Redstone River 67.92 21 IAmb IAmb 16 29 06.7
comp=Z,6.7nm,0.8s
E19K Redstone River 67.92 21 P **P 16 29 06.0 +0.2**
baz=247,SNR=14
J20K Nowinta River 67.93 25 IAmb IAmb 16 29 08.6
comp=Z,27nm,1.8s
J20K Nowinta River 67.93 25 P **P 16 29 06.3 +0.5**
baz=251,SNR=5.5
I20K Naaghedeneel 68.00 24 IAmb IAmb 16 29 07.5
comp=Z,18nm,1.1s
I20K Naaghedeneel 68.00 24 P **P 16 29 06.7 +0.5**
baz=250,SNR=5.4
D19K Kuna River 68.04 20 IAmb IAmb 16 29 07.3
comp=Z,5.9nm,0.6s
D19K Kuna River 68.04 20 P **P 16 29 06.3 -0.2**
baz=246
H20K Anotlenegga Mo 68.08 24 P **P 16 29 06.9 +0.1**
baz=250,SNR=7.1
BRLK Bradley Lake 68.15 30 P **P 16 29 06.1 -1.2**
BRLK IAmb IAmb 16 31 07.0
comp=Z,29nm,1.0s
BRSE Bradley Lake S 68.21 30 P **P 16 29 07.2 -0.5**
baz=256
CAPN Captain Cook N 68.27 29 P **P 16 29 07.8 -0.1**
baz=255
F20K Avaraart Lake 68.31 22 P **P 16 29 08.0 -0.1**
baz=248
PPLA Purkeypile 68.37 27 P **P 16 29 08.0 -0.8**
baz=253
SKT Skwentna 68.41 28 P **P 16 29 08.0 -0.9**
baz=254
KKAR Karatay Array 68.56 312 P **P 16 29 09.8 -0.4**
KKAR Karatay Array 68.56 312 P **P 16 29 09.8 -0.4**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
CAST Castle Rocks 68.57 26 P **P 16 29 09.0 -0.8**
baz=253,SNR=8.7
E20K Nigu River 68.60 21 P **P 16 29 09.8 -0.2**
baz=248
CHUM Lake Minchumin 68.61 26 P **P 16 29 10.1 0.0**
baz=253
D20K Etivluk River 68.63 20 P **P 16 29 10.7 +0.6**
baz=247
SLKM Skilak Lake 68.65 29 IAmb IAmb 16 29 11.0
comp=Z,12nm,1.1s
IUG Iuzhnay 68.86 311 *e*P **P 16 29 12.3 +0.1**
IUG pmax pmax
comp=Z,15nm,1.3s
IUG Iuzhnay 68.86 311 *e*P **P 16 29 12.3 +0.1**
comp=Z,15nm,1.3s
SEW Seward 68.93 30 P **P 16 29 11.6 -0.5**
baz=257
H21K Melozitna Rive 68.94 24 P **P 16 29 11.7 -0.5**
baz=252,SNR=5.8
G21K Allakaket 68.95 23 P **P 16 29 11.9 -0.3**
baz=251
B20K Meade River 68.97 19 P **P 16 29 12.0 -0.2**
baz=246
RC01 Rabbit Creek A 69.02 29 IAmb IAmb 16 29 12.0
comp=Z,27nm,1.6s
RC01 Rabbit Creek A 69.02 29 P **P 16 29 11.6 -1.1**
baz=256
BRLS Borolday 69.05 312 *e*P **P 16 29 13.9 +0.6**
BRLS Borolday 69.05 312 *e*P **P 16 29 13.9 +0.6**
I21K Tanana 69.13 24 P **P 16 29 13.1 -0.2**
baz=253
F21K Alatna River 69.19 22 P **P 16 29 12.9 -0.8**
baz=251
BPAW Bear Paw Mtn. 69.23 26 P **P 16 29 13.8 -0.2**
baz=254
TRF Thorofare Moun 69.36 26 IAmb IAmb 16 30 11.0
comp=Z,15nm,1.6s
TRF Thorofare Moun 69.36 26 P **P 16 29 14.0 -0.9**
baz=255
C21K Knifebiade Rid 69.41 20 P **P 16 29 14.4 -0.6**
baz=249
PMR Palmer 69.42 28 P **P 16 29 14.4 -0.7**
baz=257
SIMJ Simiganj 69.53 307 P **P 16 29 16.8 +0.3**
SIMJ PcP **PcP 16 29 39.4 0.0**
H22K Ishtalitna Cre 69.58 24 P **P 16 29 16.2 +0.1**
baz=253
BVAR Borovoye Array 69.58 322 P **P 16 29 16.4 0.0**

comp=Z,61nm,0.5s,baz=104,slow=7.7,SNR=335
BVAR LR LR 17 01 07.8
comp=Z,158nm,20.1s,baz=82,slow=37
PWL Port Wells 69.64 29 IAmb IAmb 16 29 16.2
comp=Z,11nm,0.5s
PWL Port Wells 69.64 29 P **P 16 29 15.9 -0.6**
baz=258,SNR=15
B21K Ikpikpuk River 69.64 19 P **P 16 29 15.8 -0.5**
baz=249
BRVK Borovoye 69.65 322 P **P 16 29 16.8 +0.1**
BRVK Borovoye 69.65 322 *ce*P **P 16 29 17.3 +0.6**
BRVK pmax pmax
comp=Z,39nm,0.6s
BRVK Borovoye 69.65 322 P **P 16 29 17.1 +0.4**
A21K Barrow 69.68 18 P **P 16 29 16.9 +0.4**
baz=246
KNK Knik Glacier 69.70 29 IAmb IAmb 16 29 27.4
comp=Z,24nm,1.7s
KNK Knik Glacier 69.70 29 P **P 16 29 16.3 -0.6**
baz=257,SNR=5.1
F22K John River 69.76 22 P **P 16 29 17.5 +0.4**
baz=252
SML Sawmill 69.84 28 IAmb IAmb 16 29 17.5
comp=Z,19nm,1.4s
SML Sawmill 69.84 28 P **P 16 29 17.2 -0.6**
baz=257,SNR=5.2
P23K Montague Islan 69.91 30 P **P 16 29 17.5 -0.7**
baz=259
RND Reindeer 69.97 27 IAmb IAmb 16 30 06.7
comp=Z,17nm,1.7s
MCK McKinley 70.01 26 IAmb IAmb 16 29 19.6
comp=Z,17nm,1.6s
MCK McKinley 70.01 26 P **P 16 29 18.2 -0.5**
baz=256
D22K Ayikyak River 70.03 20 P **P 16 29 19.1 +0.3**
baz=251
A22K Sinclair Lake 70.04 18 P **P 16 29 18.5 -0.3**
baz=248
E22K Anaktuvuk Pass 70.09 21 P **P 16 29 18.9 -0.3**
E22K IAmb IAmb 16 29 22.6
comp=Z,6.8nm,0.6s
E22K Anaktuvuk Pass 70.09 21 P **P 16 29 19.7 +0.4**
baz=252
M23K Glacier View 70.12 28 P **P 16 29 19.1 -0.4**
baz=258
NEA2 Nenana 70.16 25 P **P 16 29 19.3 -0.4**
baz=256
I23K Minto, Yukon-K 70.18 25 IAmb IAmb 16 29 21.5
comp=Z,15nm,1.3s
I23K Minto, Yukon-K 70.18 25 P **P 16 29 20.0 +0.3**
baz=255,SNR=6.6
GLI Glacier Island 70.23 29 P **P 16 29 20.4 +0.2**
baz=259
B22K Teshekpuk Lake 70.28 19 P **P 16 29 20.8 +0.6**
baz=250
H23K Yukon River 70.28 24 P **P 16 29 20.5 +0.1**
baz=255
SCM Sheep Creek Mo 70.31 28 IAmb IAmb 16 29 21.4
comp=Z,13nm,1.1s
SCM Sheep Creek Mo 70.31 28 P **P 16 29 20.3 -0.4**
baz=258
G23K Bananza Creek 70.33 23 P **P 16 29 20.7 0.0**
baz=254
COLD Coldfoot 70.41 22 P **P 16 29 21.6 +0.5**
baz=254,SNR=8.3
CCB Clear Creek Bu 70.71 25 IAmb IAmb 16 29 23.3
comp=Z,18nm,1.6s
D23K Nanushuk River 70.74 21 P **P 16 29 23.2 +0.1**
baz=253
EYAK Cordova Ski Ar 70.82 30 P **P 16 29 24.1 +0.4**
baz=260
E23K Chandalar 70.86 22 P **P 16 29 24.4 +0.5**
baz=254
M24K Tolsona, Glenn 70.90 28 P **P 16 29 24.3 0.0**
baz=259
KLU Klutina 70.91 29 P **P 16 29 24.1 -0.2**
baz=260
H24K Noodor Dome 70.95 24 P **P 16 29 23.3 -1.2**
H24K IAmb IAmb 16 29 26.3
comp=Z,15nm,1.4s
H24K Noodor Dome 70.95 24 P **P 16 29 24.4 -0.1**
baz=256,SNR=8.6
POKR Poker Plat Res 70.97 25 P **P 16 29 24.3 -0.3**
baz=257
HDA Harding Lake 71.02 26 P **P 16 29 24.6 -0.3**
baz=258
C23K Itkillik River 71.03 20 P **P 16 29 25.3 +0.5**
baz=252
TOLK Toolik Lake Re 71.03 21 IAmb IAmb 16 29 27.1
comp=Z,8.5nm,0.9s
TOLK Toolik Lake Re 71.03 21 P **P 16 29 25.4 +0.4**
baz=254,SNR=8.6
ILAR Eielson Array 71.12 25 P **P 16 29 23.6 -1.9**
comp=Z,3.2nm,0.5s,baz=246,slow=6.1,SNR=100
ILAR LR LR 16 59 41.8
comp=Z,93nm,19.8s,baz=258,slow=35
comp=Z,3.2nm,0.5s
E24K Your Creek 71.27 22 P **P 16 29 26.9 +0.5**
baz=255
G24K Hadweenzic Riv 71.31 23 P **P 16 29 26.9 +0.3**
baz=256
F24K Squaw Lake 71.35 22 P **P 16 29 27.1 +0.2**
baz=256
PAX Paxson 71.38 27 P **P 16 29 26.8 -0.4**
baz=260,SNR=8.7
K24K Donnelly Dome 71.40 26 P **P 16 29 27.5 +0.3**
baz=259,SNR=5.5
HARP HAARP 71.42 28 P **P 16 29 27.3 0.0**
baz=260
D24K Happy Valley 71.44 21 IAmb IAmb 16 29 29.6
comp=Z,12nm,0.6s
D24K Happy Valley 71.44 21 P **P 16 29 27.9 +0.6**
baz=254,SNR=25
BMRM Bremner River 71.45 30 IAmb IAmb 16 29 29.1
comp=Z,22nm,1.4s
BMRM Bremner River 71.45 30 P **P 16 29 27.7 +0.1**
baz=261,SNR=5.8
N25K Chitina, Valde 71.55 29 P **P 16 29 28.1 -0.1**
baz=261
C24K Franklin Bluff 71.63 20 P **P 16 29 28.8 +0.3**
baz=254
J25K Salcha River, 71.73 26 P **P 16 29 27.4 -1.8**
J25K Salcha River, 71.73 26 P **P 16 29 28.4 -0.8**
baz=259,SNR=6.2
RIDG Independent Ri 71.79 27 IAmb IAmb 16 29 30.6
comp=Z,15nm,1.2s
RIDG Independent Ri 71.79 27 P **P 16 29 28.9 -0.7**
baz=260,SNR=15
PRP Porcupine Dome 71.83 25 P **P 16 29 29.7 -0.2**
baz=259
G25K Bearman Lake 71.86 23 P **P 16 29 30.4 +0.6**
baz=258
H25L Birch Creek 71.87 24 P **P 16 29 29.9 0.0**
baz=258
GLB Gilahina Butte 71.90 29 IAmb IAmb 16 29 31.7
comp=Z,12nm,1.3s
BGLC Bering Glacier 71.97 30 P **P 16 29 30.6 0.0**
baz=263
DOT Dot Lake 72.12 27 IAmb IAmb 16 29 33.2
comp=Z,17nm,1.5s
FYU Fort Yukon 72.16 24 IAmb IAmb 16 29 33.8
comp=Z,25nm,1.3s
MENT Mentasta 72.16 28 P **P 16 29 31.2 -0.6**
F25K Christian Rive 72.21 23 P **P 16 29 32.2 +0.1**
baz=258
SCRK Sand Creek 72.21 26 P **P 16 29 31.8 -0.4**
baz=261,SNR=7.2
D25K Kavik River 72.32 21 P **P 16 29 32.9 +0.2**
baz=257
L26K Log Cabin Wild 72.34 27 P **P 16 29 33.0 +0.1**
baz=262,SNR=5.5
E25K Arctic Village 72.35 22 P **P 16 29 33.4 +0.6**
baz=258,SNR=7.7
M26K Nabesna, AK 72.42 28 P **P 16 29 33.3 -0.1**
baz=262
J26L Joseph Creek 72.47 26 P **P 16 29 33.6 -0.1**
baz=261,SNR=8.3
MESA MESA 72.64 31 P **P 16 29 35.1 +0.1**
baz=264
I26K Coal Creek Min 72.77 25 P **P 16 29 34.0 -1.4**
baz=261
F26K Sheenjek River 72.79 23 P **P 16 29 36.2 +0.7**
baz=259,SNR=13
G26K Porcupine Rive 72.79 23 P **P 16 29 36.3 +0.9**
baz=260,SNR=7.0
M27K Edge Creek, AK 72.93 28 P **P 16 29 36.6 +0.1**
baz=263
C26K Camden Bay 72.95 20 P **P 16 29 36.6 +0.3**
baz=258
L27K Beaver Creek, 73.04 28 P **P 16 29 36.7 -0.4**
L27K Beaver Creek, 73.04 28 P **P 16 29 36.8 -0.2**
baz=263
K27K Chicken 73.05 26 P **P 16 29 37.1 +0.1**
baz=262
C27K Jago River 73.31 21 P **P 16 29 38.4 0.0**
baz=259
BVCY Beaver Creek 73.40 28 P **P 16 29 39.1 -0.1**
baz=264
I27K Kandik River 73.45 25 P **P 16 29 39.9 +0.4**
baz=262
PPT2 Papeete2 73.48 113 *e*LR LR 16 51 53.5
comp=Z,112nm,31.0s
PPT2 *e*LR LR 16 52 15.8
comp=Z,128nm,30.2s
PINM Pinnacle 73.48 31 P **P 16 29 39.7 -0.1**
baz=265
YUK3 Moose Creek 73.53 29 P **P 16 29 40.3 +0.1**
baz=265
O28M Mount Upton 73.57 30 P **P 16 29 40.3 -0.2**
baz=265
H27K Steamboat Moun 73.57 24 P **P 16 29 40.0 -0.1**
baz=262,SNR=17
G27K Doyon Strip 73.60 24 P **P 16 29 40.2 -0.1**
baz=262
YUK8 Steele Glacier 73.82 29 P **P 16 29 41.1 -0.9**
baz=265
E27K Coleen River 73.82 22 P **P 16 29 41.9 +0.4**
baz=262
PNL Peninsula 73.88 31 P **P 16 29 42.0 0.0**
baz=266
I28M Miner Creek 74.13 25 P **P 16 29 43.5 0.0**
baz=264,SNR=6.4
D27M Malcolm River 74.20 21 P **P 16 29 44.6 +0.8**
baz=262,SNR=8.0
DAWY Dawson 74.23 27 P **P 16 29 44.3 +0.3**
baz=265,SNR=6.2
O29M Mount Kennedy 74.33 31 P **P 16 29 44.4 -0.4**
baz=267
YUK4 Talbot Arm 74.36 29 P **P 16 29 45.9 +0.9**
baz=266
YUK6 Outpost Mounta 74.47 30 P **P 16 29 46.0 +0.3**
baz=267
M29M Somme Creek 74.52 28 IAmb IAmb 16 29 47.5
comp=Z,26nm,1.6s
M29M Somme Creek 74.52 28 P **P 16 29 45.9 +0.1**
baz=266,SNR=6.1
E28M Babbage River 74.63 22 IAmb IAmb 16 29 48.6
comp=Z,13nm,1.1s
E28M Babbage River 74.63 22 P **P 16 29 46.9 +0.7**
baz=263
L29M L29M 74.72 28 IAmb IAmb 16 29 49.2
comp=Z,21nm,1.4s
L29M L29M 74.72 28 P **P 16 29 47.3 +0.4**
baz=266,SNR=14
J29N Klondike Camp 74.77 26 IAmb IAmb 16 29 48.8
comp=Z,22nm,1.5s
J29N Klondike Camp 74.77 26 P **P 16 29 48.0 +0.8**
baz=266
I29M Ogilvie Camp, 74.80 25 P **P 16 29 47.6 +0.3**
baz=266,SNR=6.1
H29M Whitestone 74.84 24 IAmb IAmb 16 31 38.2
comp=Z,23nm,1.9s
H29M Whitestone 74.84 24 P **P 16 29 48.0 +0.6**
baz=265
HYT Haines Junctio 74.89 30 P **P 16 29 48.4 +0.4**
baz=267
D28M Stokes Point 75.00 21 P **P 16 29 48.7 +0.5**
baz=264
K29M Barlow Dome 75.03 27 P **P 16 29 48.9 +0.2**
K29M Barlow Dome 75.03 27 P **P 16 29 49.4 +0.6**
baz=267,SNR=13
G29M Pine Creek 75.04 24 P **P 16 29 49.1 +0.4**
baz=265
N30M Aishikik Lake 75.11 29 P **P 16 29 48.9 -0.3**
baz=268
P30M Million Dollar 75.13 31 P **P 16 29 49.5 +0.2**
baz=268
E29M Blow River 75.21 22 P **P 16 29 49.1 -0.4**
baz=265
M30M Minto, Yukon 75.30 28 IAmb IAmb 16 29 51.8
comp=Z,19nm,1.6s
M30M Minto, Yukon 75.30 28 P **P 16 29 50.5 +0.3**
baz=268
PLBC Pleasant Camp 75.41 31 P **P 16 29 51.2 +0.3**
baz=269
SVE Sverdlovsk 75.45 326 *e*P **P 16 29 51.2 +0.1**
SVE pmax pmax
comp=Z,18nm,1.1s
TBI Tubuai 75.48 118 *e*LR LR 16 53 11.3
comp=Z,338nm,28.5s
EPYK Eagle Plains 75.52 24 P **P 16 29 51.4 -0.1**
baz=267,SNR=6.9
J30M Hart River 75.59 26 P **P 16 29 51.8 -0.2**
baz=268,SNR=7.9
I30M Mount Dempster 75.60 25 P **P 16 29 52.2 +0.1**
baz=267
MAYO Mayo, Yukon 75.75 27 P **P 16 29 52.8 0.0**
baz=268
G30M tAoh Zraii Nji 75.75 24 IAmb IAmb 16 29 54.7
comp=Z,13nm,1.0s
G30M tAoh Zraii Nji 75.75 24 P **P 16 29 53.5 +0.7**
baz=267
SKAG Skagway 75.94 31 P **P 16 29 54.6 +0.8**
baz=270
F30M Barrier River 75.95 23 P **P 16 29 54.2 +0.3**
baz=267
WHY Whitehorse 76.17 30 IAmb IAmb 16 29 56.9
comp=Z,28nm,1.4s
WHY Whitehorse 76.17 30 P **P 16 29 55.7 +0.4**
baz=270
S32K Killisnoo 76.34 34 P **P 16 29 56.4 +0.2**
baz=271
R32K Eaglecrest 76.36 33 P **P 16 29 56.4 0.0**
baz=271
M31M Drury Creek, Y 76.41 29 P **P 16 29 56.8 +0.3**
baz=270
H31M Peel River 76.47 25 IAmb IAmb 16 29 57.9
comp=Z,23nm,1.6s
H31M Peel River 76.47 25 P **P 16 29 57.2 +0.4**
baz=269,SNR=8.3
G31M Satah River 76.52 24 IAmb IAmb 16 29 58.4
comp=Z,18nm,1.0s
G31M Satah River 76.52 24 P **P 16 29 57.2 +0.3**
baz=269,SNR=14
ARTI Arti 76.70 325 P **P 16 29 57.2 -1.1**
ARTI IAmb IAmb 16 29 58.8
comp=Z,24nm,1.2s
ARTI Arti 76.70 325 LR LR 17 07 06.0
comp=Z,87nm,19.3s,baz=64,slow=38
ARTI Arti 76.70 325 *d i*P **P 16 29 58.0 -0.3**
ARTI 16 32 46.9
ARTI S **S 16 39 42.1 +1.1**
ARTI SS **SS 16 44 37.1 -0.1**
ARTI pmax pmax
comp=Z,18nm,1.1s
F31M Tsiigehtchic 76.73 23 P **P 16 29 58.6 +0.4**
baz=269
P32M Atlin 76.76 31 P **P 16 29 58.8 +0.2**
baz=271
INK Inuvik 76.83 22 IAmb IAmb 16 29 59.7
comp=Z,8.4nm,1.0s
INK Inuvik 76.83 22 P **P 16 29 57.5 -1.2**
comp=Z,5.2nm,0.9s,baz=265,slow=6.7,SNR=18
comp=Z,5.2nm,0.9s
INK Inuvik 76.83 22 P **P 16 29 59.0 +0.3**
baz=269,SNR=8.5
FARO Faro, Yukon 76.90 29 P **P 16 29 59.5 +0.2**
baz=271
N32M Quiet Lake 77.04 30 P **P 16 30 00.3 +0.1**
baz=271
AKTO Aktyubinsk 77.18 319 LR LR 17 05 49.1
comp=Z,114nm,19.5s,baz=88,slow=37
P33M Teslin, Yukon 77.20 31 P **P 16 30 01.2 +0.1**
baz=272
CRAG Craig 77.21 36 P **P 16 30 01.3 +0.2**
baz=272
Q32M Nakina River 77.52 32 P **P 16 30 03.2 +0.1**
baz=272
WRAK Wrangell Islan 77.60 35 P **P 16 30 03.3 0.0**
baz=273
MMPY Sheldon Lake, 77.86 28 IAmb IAmb 16 30 06.4
comp=Z,13nm,1.5s
MMPY Sheldon Lake, 77.86 28 P **P 16 30 05.3 +0.6**
baz=272,SNR=5.6
V35K Ketchikan 78.08 36 P **P 16 30 05.9 0.0**
baz=274
R33M Jennings River 78.17 31 P **P 16 30 06.7 +0.1**
baz=273,SNR=7.5
S34M Telegraph Cree 78.18 33 IAmb IAmb 16 30 08.7
comp=Z,12nm,1.3s
S34M Telegraph Cree 78.18 33 P **P 16 30 06.1 -0.3**
baz=274
T35M Bob Quinn 78.72 34 IAmb IAmb 16 30 11.2
comp=Z,10nm,1.1s
T35M Bob Quinn 78.72 34 P **P 16 30 09.8 +0.3**
baz=275
DLBC Dease Lake 78.72 32 IAmb IAmb 16 30 11.3
comp=Z,12nm,1.1s
DLBC Dease Lake 78.72 32 P **P 16 30 09.7 +0.1**
comp=Z,6.2nm,1.0s,baz=269,slow=4.4,SNR=9.7
comp=Z,6.2nm,1.0s
DLBC Dease Lake 78.72 32 P **P 16 30 10.5 +0.9**
baz=274,SNR=7.4
WTLY Watson Lake, Y 79.21 31 P **P 16 30 12.8 +0.6**
baz=275
TGTN Hyland Airport 79.34 29 P **P 16 30 12.8 -0.1**
baz=275,SNR=8.5
A36M Sachs Harbour 79.48 18 IAmb IAmb 16 30 16.4
comp=Z,13nm,0.8s
A36M Sachs Harbour 79.48 18 P **P 16 30 13.6 +0.3**
baz=276
TAOE Nuku Hiva Isla 79.90 101 *e*LR LR 16 55 14.8
comp=Z,65nm,25.8s
C36M Paulatuk 80.19 21 P **P 16 30 17.2 0.0**
baz=278
BBB Bella Bella 80.45 39 LR LR 16 58 05.2
comp=Z,69nm,20.3s,baz=295,slow=30
TOAD Toad River Com 81.17 32 P **P 16 30 22.8 +0.1**
baz=278
KIRV Kirov 81.33 328 LR LR 17 09 00.9
comp=Z,58nm,18.2s,baz=79,slow=38
KIRV Kirov 81.33 328 *ce*P **P 16 30 24.1 +0.6**
WRGLY Wrigley 81.34 27 P **P 16 30 24.1 +0.6**
baz=279
KOTAN Kotaneelee Air 81.56 30 P **P 16 30 25.2 +0.4**
baz=279,SNR=6.9
LLLB Lilloet 84.56 40 IAmb IAmb 16 30 42.7
comp=Z,12nm,1.3s
SPITS Spitsbergen Ar 85.20 350 P **P 16 30 42.8 -0.3**
comp=Z,4.5nm,0.5s,baz=82,slow=6.8,SNR=15
comp=Z,4.5nm,0.5s
LON Longmire 85.43 43 IAmb IAmb 16 30 46.6
comp=Z,9.3nm,1.1s
YKA Yellowknife Ar 85.46 27 P **P 16 30 44.4 -0.3**
comp=Z,3.4nm,0.6s,baz=289,slow=5.4,SNR=48
comp=Z,3.4nm,0.6s
H04A Detroit Lake 85.62 45 P **P 16 30 46.0 +0.1**
KLMR Klimovskoe 85.72 331 *e*P P 16 30 39.2 -6.8
KLMR pmax pmax
comp=Z,22nm,1.9s
YBH Yreka Blue Hor 85.87 48 IAmb IAmb 16 30 49.1
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 85.87 48 P **P 16 30 47.4 +0.1**
comp=Z,8.6nm,0.7s,baz=239,slow=2.0,SNR=11
YBH LR LR 17 09 13.3
comp=Z,29nm,18.8s,baz=338,slow=36
comp=Z,8.6nm,0.7s
APA Apatity 86.02 339 ⇓ *i*P **P 16 30 47.6 +0.3**
APA pmax pmax
comp=Z,7.0nm,1.0s
PNT Penticton 86.27 40 P P 16 31 00.1 +11
PNT pmax pmax
comp=Z,18nm,0.9s
G06A Carlson Farm, 86.57 45 IAmb IAmb 16 30 51.3
comp=Z,6.7nm,0.8s
RES Resolute Bay 86.69 13 P **P 16 30 49.9 -0.6**
RES IAmb IAmb 16 30 52.3
comp=Z,4.7nm,0.6s
RES Resolute Bay 86.69 13 P **P 16 30 49.9 -0.6**
RES pmax pmax
comp=Z,5.0nm,0.6s
VRH Novokhopyorsk 87.23 322 *e*P **P 16 30 51.2 -2.4**
VRH pmax pmax
comp=Z,18nm,0.4s
I07A Izee 87.63 46 IAmb IAmb 16 30 57.2
comp=Z,18nm,1.2s
G08A Pilot Rock 87.70 44 IAmb IAmb 16 30 57.5
comp=Z,12nm,0.9s
ARCES ARCESS Array B 87.79 342 P **P 16 30 55.1 -0.9**
comp=Z,3.6nm,0.5s,baz=70,slow=7.7,SNR=38
ARCES LR LR 17 15 02.9
comp=Z,64nm,18.9s,baz=102,slow=39
comp=Z,3.6nm,0.5s
GNI Garni 87.99 310 LR LR 17 14 24.1
comp=Z,60nm,19.2s,baz=64,slow=38
GNI Garni 87.99 310 *i* P **P 16 30 57.9 +0.2**
GNI pmax pmax
comp=Z,12nm,1.3s
LNOR Lincton Mounta 88.01 44 IAmb IAmb 16 30 58.8
comp=Z,7.8nm,0.6s
NEW Newport 88.14 41 IAmb IAmb 16 30 59.3
comp=Z,9.7nm,0.6s
NEW Newport 88.14 41 P **P 16 30 57.6 -0.5**
comp=Z,7.1nm,0.5s,baz=268,slow=3.8,SNR=12
comp=Z,7.1nm,0.5s
RKT Rikitea 88.16 114 *e*LR LR 16 59 03.0
comp=Z,3μm,36.8s
KBZ Khabaz 88.43 314 P **P 16 30 58.2 -1.2**
comp=Z,3.4nm,0.8s,baz=124,slow=1.5,SNR=6.9
KBZ LR LR 17 14 15.1
comp=Z,68nm,19.8s,baz=50,slow=38
comp=Z,3.4nm,0.8s
KBZ Khabaz 88.43 314 *ce*P **P 16 30 58.3 -1.2**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 88.45 52 IAmb IAmb 16 31 01.3
comp=Z,9.2nm,0.8s
LPSR Galich'ya Gora 88.49 324 *e*P **P 16 30 57.6 -1.9**
LPSR pmax pmax
comp=Z,32nm,0.7s
KVAR Kislovodsk Arr 88.52 315 LR LR 17 13 29.5
comp=Z,46nm,20.4s,baz=251,slow=38
KIV Kislovodsk 88.52 315 *e*P **P 16 30 59.2 -0.9**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,60nm,20.0s
VORR Voronezh 88.61 323 *e*P **P 16 30 58.7 -1.4**
VORR pmax pmax
comp=Z,43nm,0.4s
F10A Beach Ranch, E 88.69 43 IAmb IAmb 16 31 02.6
comp=Z,7.4nm,0.6s
VORD Divnogorie 88.77 322 *e*P **P 16 30 57.0 -3.9**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 88.77 322 *e*P **P 16 30 56.7 -4.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
PNTR Pine Nut 88.79 50 P **P 16 31 00.1 -1.6**
OBN Obninsk 89.01 326 *e*P **P 16 31 01.0 -0.9**
OBN *e**PP **pP 16 31 15.4 -1.1**
OBN *e**SP **sP 16 31 22.0 -0.1**
OBN *e* 16 34 31.4
OBN *e*PPP PPP 16 36 29.3
OBN pmax pmax
comp=Z,11nm,1.1s
WAKR Walker 89.06 51 P **P 16 31 03.1 +0.2**
WAKR IAmb IAmb 16 31 04.8
comp=Z,6.7nm,0.9s
ERBR Yeremizino-Bor 89.55 317 *e*P **P 16 31 02.5 -2.2**
ERBR *e* 16 41 39.4
ERBR pmax pmax
comp=Z,18nm,0.9s
RYN Ryan 89.72 51 IAmb IAmb 16 31 07.7
comp=Z,14nm,0.9s
PLID Pearl Lake 89.77 44 IAmb IAmb 16 31 07.3
comp=Z,4.9nm,0.7s
LHV Little Huntoon 89.83 51 IAmb IAmb 16 31 08.4
comp=Z,12nm,0.8s
NVAR Mina Array Bea 89.94 51 P **P 16 31 07.5 +0.5**
NVAR Mina Array Bea 89.94 51 P **P 16 31 07.0 -0.1**
comp=Z,17nm,0.7s,baz=265,slow=5.7,SNR=94
NV11 Mina Array Sit 90.05 51 IAmb IAmb 16 31 09.2
comp=Z,12nm,0.8s
GURO Guroymak-BITLI 90.43 309 IAmb IAmb 16 31 09.6
comp=Z,7.0nm,0.6s
DSP Deep Springs 90.47 52 IAmb IAmb 16 31 11.4
comp=Z,9.5nm,0.8s
MZP Montezuma Peak 90.83 51 IAmb IAmb 16 31 12.9
comp=Z,6.6nm,0.8s
GMN Gold Mountain 91.04 52 P **P 16 31 12.0 -0.1**
GMN IAmb IAmb 16 31 13.8
comp=Z,8.1nm,0.8s

HLID	Hailey	91.31	45	IAmb	IAmb	16 31 14.7	
	comp=Z,9.4nm,0.9s						
FINES	FINESS Array B	91.50	334	P	P	16 31 11.7	-1.8
	comp=Z,6.3nm,0.4s,baz=62,slow=4.8,SNR=79						
FINES				LR	LR	17 15 04.1	
	comp=Z,87nm,18.6s,baz=42,slow=37						
	comp=Z,6.3nm,0.4s						
ELK	Elko	91.57	48	IAmb	IAmb	16 31 16.1	
	comp=Z,5.8nm,0.8s						
WCT	Wildcat Mounta	91.66	52	IAmb	IAmb	16 31 16.6	
	comp=Z,11nm,0.9s						
MARD	Mardin	91.72	309	P	P	16 31 14.0	-1.2
GWY	Greenwater Val	91.80	53	IAmb	IAmb	16 31 17.8	
	comp=Z,10nm,1.0s						
DLMT	Dillon	91.97	43	IAmb	IAmb	16 31 18.8	
	comp=Z,15nm,1.4s						
R11B	Troy Canyon, C	92.02	50	IAmb	IAmb	16 31 18.4	
	comp=Z,8.6nm,1.4s						
BOZ	Bozeman (W)	92.54	42	IAmb	IAmb	16 31 22.4	
	comp=Z,7.6nm,1.3s						
PFO	Pinyon Flats O	92.68	55	LR	LR	17 06 56.0	
	comp=Z,62nm,20.2s,baz=238,slow=32						
HVU	Hansel Valley	93.02	46	IAmb	IAmb	16 31 22.8	
	comp=Z,8.9nm,1.0s						
PSUT	Pine Spring	93.26	50	P	P	16 31 22.1	-0.3
PSUT				IAmb	IAmb	16 31 23.7	
	comp=Z,5.7nm,0.8s						
V12A	Nelson	93.34	53	IAmb	IAmb	16 31 25.2	
	comp=Z,14nm,1.2s						
YUH	Yuha Desert	93.38	56	IAmb	IAmb	16 31 24.8	
	comp=Z,11nm,1.1s						
DUG	Dugway, Tooele	93.50	48	IAmb	IAmb	16 31 24.6	
	comp=Z,5.7nm,0.8s						
FXWY	Fox Creek	93.61	44	IAmb	IAmb	16 31 25.5	
	comp=Z,4.6nm,0.8s						
MOOW	Moose Ponds	93.77	44	IAmb	IAmb	16 31 26.6	
	comp=Z,7.7nm,1.1s						
YNE	Yellowstone No	93.82	43	IAmb	IAmb	16 31 38.5	
	comp=Z,4.5nm,0.8s						
AHID	Auburn Hatcher	93.86	45	IAmb	IAmb	16 31 27.4	
	comp=Z,8.5nm,0.8s						
MNK	Minsk	93.87	328	*i* P	P	16 31 22.5	-2.0
MNK				*i* *PP	pP	16 31 37.2	-1.9
MNK				*i*		16 35 08.6	
MNK				*i* PPP	PPP	16 37 09.4	
MNK				*i* S	SKSac	16 41 52.6	-2.1
MNK				*i* *SS	SKKSac	16 42 18.7	+3.6
MNK				*i* SS	SS	16 48 50.2	+1.0
MNK				*i* SSS	SSS	16 52 31.5	
MNK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,21nm,0.9s						
MNK				pmax	pmax		
	comp=E,18nm,0.8s						
MNK				MLR	MLR		
	comp=N,86nm,15.0s						
MNK				MLR	MLR		
	comp=E,63nm,10.0s						
MNK				MLR	MLR		
	comp=Z,132nm,16.0s						
LOHW	Long Hollow	93.91	44	IAmb	IAmb	16 31 27.8	
	comp=Z,3.1nm,0.8s						
HWUT	Hardware Ranch	93.93	46	IAmb	IAmb	16 31 26.4	
	comp=Z,7.1nm,0.8s						
RLMT	Red Lodge	94.26	42	P	P	16 31 27.3	+0.4
RLMT				IAmb	IAmb	16 31 28.9	
	comp=Z,14nm,1.3s						
AKASG	Malin Array Be	94.80	324	P	P	16 31 27.0	-1.9
	comp=Z,0.5nm,0.4s,baz=67,slow=3.6,SNR=5.1						
AKASG				LR	LR	17 16 40.8	
	comp=Z,102nm,19.4s,baz=63,slow=37						
	comp=Z,0.5nm,0.4s						
AKBB	Malin Array Si	94.80	324	P	P	16 31 29.0	+0.1
AK08	Malin Array Si	94.82	324	P	P	16 31 29.2	+0.3
KIEV	Kiev	94.82	324	P	P	16 31 29.1	+0.2
	comp=Z,17nm,1.8s						
PD31	Pinedale Array	94.92	45	IAmb	IAmb	16 33 48.6	
	comp=Z,13nm,2.0s						
PDAR	Pinedale Array	94.92	45	P	P	16 31 29.0	-1.0
	comp=Z,0.8nm,0.6s,baz=2.3,slow=1.0,SNR=17						
	comp=Z,0.8nm,0.6s						
MI28	Mi28,Pidlybu	95.59	325	P	P	16 31 32.2	-0.3
BRTR	Keskin Array B	96.26	313	P	P	16 31 35.2	-0.8
	comp=Z,0.7nm,0.8s,baz=63,slow=6.6,SNR=4.0						
BRTR				LR	LR	17 19 03.0	
	comp=Z,24nm,21.7s,baz=340,slow=38						
	comp=Z,0.7nm,0.8s						
BR106	Keskin Array S	96.27	313	P	P	16 31 35.8	-0.2
BR105	Keskin Array S	96.28	313	P	P	16 31 35.8	-0.3
RNPP9	Sopachiv	96.36	326	P	P	16 31 36.2	+0.2
HFS	Hagfors	97.26	337	P	P	16 31 37.8	-2.1
	comp=Z,0.6nm,0.4s,baz=98,slow=3.0,SNR=6.0						
HFS				LR	LR	17 17 54.3	
	comp=Z,57nm,19.9s,baz=0.5,slow=37						
	comp=Z,0.6nm,0.4s						
NOA	NORSAR Array B	97.59	338	P	P	16 31 39.0	-2.4
	comp=Z,1.3nm,0.9s,baz=56,slow=4.4,SNR=2.6						
NOA				LR	LR	17 18 34.8	
	comp=Z,42nm,19.6s,baz=5.0,slow=37						
	comp=Z,1.3nm,0.9s						
NOA	NORSAR Array B	97.59	338	P	P	16 31 39.0	-2.4
MLR	Muntele Rosu	99.09	320	LR	LR	17 19 31.7	
	comp=Z,39nm,20.6s,baz=52,slow=37						
SYO	Syowa Base	105.63	201‖	*e*Pdiff	Pdif	16 32 17.0	+0.2
PLCA	Paso Flores	139.41	141	PKP	PKPdf	16 37 32.6	-2.1
	comp=Z,1.6nm,0.7s,baz=243,slow=2.7,SNR=4.5						
DBIC	Dimbokro	142.37	298	PKhKP	PKPpre	16 37 36.3	
	comp=Z,2.8nm,0.5s,baz=35,slow=2.3,SNR=8.8						
CO03	El Pedregal	144.28	127	PKPdf	PKPbc	16 37 42.2	+0.2
AUSP	Uspallata	144.68	130	*i* P	PKPdf	16 37 44.3	-0.3
AAGR	Agrelo	144.68	132	*i* P	PKPab	16 37 42.8	-0.3
ASAL	Salagasta	144.91	131	*i* P	PKPdf	16 37 45.0	+0.3
RTLS	Leoncito	144.94	129	*i* P	PKPdf	16 37 45.7	+0.6
CZSB	Cruzeiro do Su	145.36	86		PKPbc	16 37 44.6	-1.2
AC05	El Transito	145.40	124		PKPbc	16 37 45.1	-0.6
ACDV	Cuesta del Vie	145.79	127	*i* P	PKPab	16 37 48.5	+1.1
CFA	Coronel Fontan	145.83	130	PKPbc	PKPbc	16 37 46.6	-0.3
	comp=Z,4.5nm,0.7s,baz=242,slow=3.5,SNR=4.9						
AGUA	GUANDACOL	146.57	126	*i* P	PKPab	16 37 50.7	+0.3
PB14	IPOC Station P	146.68	117		PKPbc	16 37 50.1	+0.1
VCA	Vinchina	147.11	125	*i* P	PKPab	16 37 52.1	-0.4
GO02	Mina Guanaco	147.23	118	PKPdf	PKPdf	16 37 46.4	-2.7
GO02					PKPbc	16 37 51.8	+0.3
PB05	IPOC Station P	147.31	114	PKPdf	PKPdf	16 37 46.5	-2.7
PB05				PKPab	PKPbc	16 37 51.5	0.0
APLL	PUNTA DE LOS L	147.69	129	*i* P	PKPbc	16 37 52.7	+0.4
ACLC	CERRO LA CRUZ	147.81	127	*i* P	PKPbc	16 37 53.3	+0.5
PB11	IPOC Station P	148.43	108		PKPbc	16 37 53.6	-1.1
CYA	Choya	149.15	126	*i* P	PKiKP	16 37 57.0	-0.3
FSA	Cafayete	149.97	122	*i* P	PKPbc	16 37 58.7	+0.3
LPAZ	La Paz	150.29	102	PKPbc	PKiKP	16 38 01.3	+0.6
	comp=Z,14nm,0.6s,baz=277,slow=2.0,SNR=44						

RSNC 28 16:37:10.8±0.0, 7°N±1°×7°3W±°, h151km±2km, M2.7, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.21	192	P	Pn	16 37 31.0	-0.6
BARC				S	Sn	16 37 45.0	-2.4
BRJC	Barrancabermej	0.62	286	P	Pn	16 37 33.2	+0.3
BRJC				S	Sn	16 37 49.8	0.0
PAMC	Pamplona, Colo	0.69	39	P	Pn	16 37 33.8	-0.2
PAMC				S	Sn	16 37 50.9	-0.7
RUSC	La Rusia	0.90	176	PKPdf	Pn	16 37 34.7	-0.8
RUSC	La Rusia	0.90	176	P	Pn	16 37 34.9	-0.6
RUSC				S	Sn	16 37 54.1	-0.2
PTBC	PUERTO BERRIO,	1.33	259	P	Pn	16 37 37.8	-1.0
PTBC				S	Sn	16 37 59.0	-1.1
TAMC	Tame, Arauca	1.39	105	P	Pn	16 37 39.1	-0.2
TAMC				S	Sn	16 38 00.8	-0.3
OCAC	Ocana	1.44	353	P	Pn	16 37 39.1	-0.9
OCAC				S	Sn	16 38 02.6	+0.2
ZARC	Zaragoza, Cauc	1.84	292	P	Pn	16 37 43.6	-0.6
ZARC				S	Sn	16 38 09.6	-0.1
NORC	Norcasia	2.11	235	P	Pn	16 37 47.0	-0.4
NORC				S	Sn	16 38 15.3	-0.2
CHIC	Chingaza	2.23	195	P	Pn	16 37 49.0	-0.2
CHIC				S	Sn	16 38 18.2	-0.5
ROSC	El Rosal	2.27	211	P	Pn	16 37 50.2	+0.5
ROSC				S	Sn	16 38 22.2	+2.7
HELC	Santa Helena	2.45	256	P	Pn	16 37 52.9	+1.2
HELC				S	Sn	16 38 22.3	-0.9
UREC	San Jos de Ur	2.56	292	P	Pn	16 37 51.1	-1.6
UREC				S	Sn	16 38 21.9	-3.1
GUY2C	Guyana, Caldas	2.71	235	P	Pn	16 37 56.2	+1.1
GUY2C				S	Sn	16 38 31.7	+2.6
VILC	Villavicencio,	2.73	192	P	Pn	16 37 54.6	-0.4
PTGC	Puerto Gaitan,	2.77	159	P	Pn	16 37 54.0	-1.4
PTGC				S	Sn	16 38 27.2	-2.6
ARGC	Ariguani, Magd	3.23	340	P	Pn	16 38 00.2	-1.0
ARGC				S	Sn	16 38 39.2	-1.0
SDV	Santo Domingo	3.23	50	P	Pn	16 37 59.7	-1.7
PRAC	Prado	3.52	210	P	Pn	16 38 04.7	-0.3
PRAC				S	Sn	16 38 46.9	-0.1
ORTC	Ortega, Tolima	3.56	216	P	Pn	16 38 05.3	-0.1
ORTC				S	Sn	16 38 48.5	+0.7
APAC	Apartado, Choc	3.58	288	P	Pn	16 38 04.4	-1.3
PLMC	San Jos del P	3.65	239	P	Pn	16 38 06.6	0.0
PLMC				S	Sn	16 38 49.8	-0.1
SJCC	San Jacinto, C	3.68	327	P	Pn	16 38 04.7	-2.3
SJCC				S	Sn	16 38 46.5	-4.1
URMC	La Uribe, Meta	3.74	199	P	Pn	16 38 07.6	-0.2
CRJC	Cerrejon, Guaj	4.20	3	P	Pn	16 38 10.8	-3.0
CRJC				S	Sn	16 38 58.3	-4.6

AZER ***28*** *16:38:42.6, 38°.28N×45°.37E, h2km, ml4.1*
IDC ***28*** *16:38:43.9±1.2, 38°.26N×45°.39E, h0km, mb3.6/7, mbtmp3.5/10, ML2.8/3, MS2.8/1, Error ellipse: s-maj=19.3km s-min=12.8km az=46.0*
ISK ***28*** *16:38:43.3, 38°.31N×45°.84E, h5km, ML3.7/10*
NSSP ***28*** *16:38:46.0, 38°.50N×45°.43E, h6km, Ms4.0*
TEH ***28*** *16:38:45.0, 38°.31N×45°.53E, h6km±29km*
THR ***28*** *16:38:46.1±0.0, 38°.38N×45°.55E, h5km±19km, mb4.1*
ISC 28 16:38:46.5±0.6, 38°.36N±0°.02×45°.53E±0°.02, h10km, n111, σ1968/155, mb3.5/6, 3C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.10	141	Pg	Pg	16 38 47.1	-2.3
IMRD	Marand	0.37	21	Pg	Pg	16 38 53.6	-0.4
IAZR	Azarshahr	0.77	153	Pg	Pg	16 38 59.2	-2.2
NAX	Nakhchivan	0.81	358	Pg	Pb	16 39 01.7	-1.1
NAX	Nakhchivan	0.81	358	P	Pb	16 39 01.7	-1.1
NAX				S	Sn	16 39 13.9	-2.3
SBZ	Shahbuz	1.03	1	Pg	Pg	16 39 05.3	-1.1
SBZ	Shahbuz	1.03	1	P	Pg	16 39 05.3	-1.1
SBZ				S	Sn	16 39 20.6	-1.2
EGVZ	Egvard	1.17	42‖	*i* P	Pb	16 39 07.2	-1.7
EGVZ			‖	*i* S	Sb	16 39 22.9	-1.2
IHRS	Heris	1.19	92	Pg	Pb	16 39 07.4	-1.8
IHRS				Sg	Sb	16 39 24.6	-0.2
MAKU	Maku	1.19	326	Pg	Pg	16 39 07.6	-1.8
MAKU	Maku	1.19	326	*e*Pg	Pg	16 39 07.8	-1.7
VAYK	Vayk	1.33	356	*i* P	Pn	16 39 10.4	-0.9
VAYK				*i* S	Sb	16 39 27.4	-1.5
HYR	Heyderabad	1.45	339	P	Pb	16 39 12.7	-1.0
HYR				S	Sg	16 39 33.3	0.0
MAHB	Mahabad	1.60	175	Pg	Pn	16 39 14.4	-0.7
VANB	Van	1.70	278	Pn	Pg	16 39 18.1	-1.0
VANB				Sn	Sg	16 39 43.9	+2.7
IHSH	Hashtrud	1.73	127	Pg	Pn	16 39 15.7	-1.3
AYRK	Ayrk	1.76	6‖	*i* P	Pb	16 39 17.8	-1.3
AYRK			‖	*i* S	Sb	16 39 40.6	-0.7
ISRB	Sarab	1.77	107	Pg	Pn	16 39 17.3	-0.1
NRKZ	NAREK	1.77	338	*e*P	Pb	16 39 18.1	-1.0
NRKZ				*e*S	Sg	16 39 40.9	-2.5
QRD	Qoradiz	1.77	51	P	Pn	16 39 17.8	+0.5
QRD				S	Sb	16 39 41.6	+0.2
IGDI	IGDIR	1.88	323	P	Pb	16 39 20.4	-0.6
IGDI				S	Sg	16 39 47.0	0.0
GNI	Garni	1.89	341	Pn	Pb	16 39 20.0	-1.2
GNI				Sn	Sg	16 39 46.7	-0.5
GNI	Garni	1.89	341	*e*P	Pb	16 39 20.5	-0.7
GNI				*e*S	Sg	16 39 44.9	-2.3
GNI	Garni	1.89	341	Pg	Pb	16 39 19.8	-1.3
	119nm,0.3s,baz=186,slow=3.0,SNR=290						
GNI				Lg	Lg	16 39 47.6	
	133nm,0.3s,baz=297,slow=22,SNR=9.3						
CUKT	Cukurca	1.89	234	Pn	Pb	16 39 20.5	-0.7
CUKT				Sn	Sg	16 39 47.8	+0.5
TASB	TASBURUN-IGDIR	1.91	329	Pn	Pb	16 39 20.0	-1.4
KAPZ	Kaputan	2.06	342‖	*i* P	Pb	16 39 23.8	-0.3
KAPZ			‖	*i* S	Sg	16 39 50.8	-1.9
BLQ	Beylaqan	2.08	49	P	Pb	16 39 23.3	-1.0
BLQ				S	Sb	16 39 51.1	+0.8
METS	Metsamor	2.11	328	*e*P	Pb	16 39 23.0	-1.9
METS				*e*S	Sb	16 39 49.1	-2.1
AGDM	Agdam	2.13	35	P	Pb	16 39 24.1	-1.2
AGDM				S	Sg	16 39 53.6	-1.3
SRSL	SARDASHT	2.15	182	IAML		16 39 56.4	
	comp=Z,2.3nm,1.0s						
YRD	Yardimli	2.19	75	P	Pn	16 39 24.6	+1.4
YRD				S	Sb	16 39 54.1	+0.5
SDS1	Sardasht. Az.	2.21	181	Pn	Pn	16 39 23.8	+0.4
ARUZ	Aruch	2.22	330	*e*P	Pb	16 39 25.3	-1.5
ARUZ				*e*S	Sb	16 39 53.3	-1.1
LRK	Lerik	2.22	82	P	Pn	16 39 24.8	+1.3
LRK				S	Sb	16 39 55.4	+1.0
BRDA	Brd	2.29	33	P	Pb	16 39 27.8	-0.1
BRDA				S	Sg	16 40 00.1	+0.1
AGRB	Hanur-Agry	2.32	302	Pn	Pb	16 39 27.5	-1.1
AGRB				Sn	Sg	16 39 59.8	-1.4
GANJ	Ganja	2.36	15	P	Pb	16 39 28.4	-0.7
GANJ				S	Sg	16 40 00.4	-2.0
GDB	GEDABAY	2.36	4	P	Pb	16 39 26.7	-2.6
GDB				S	Sg	16 40 00.4	-2.0
GLBA	Clilabad	2.40	68	P	Pb	16 39 28.2	-1.6
GLBA				S	Sb	16 40 01.6	+2.1
MLAZ	Malazgirt-MUS	2.46	289	Pn	Pb	16 39 29.8	-1.1
ZRD	Zardab	2.54	40	P	Pb	16 39 31.7	-0.4
ZRD				S	Sb	16 40 03.4	0.0
LSVT	Lusahovit	2.56	354	*e*P	Pb	16 39 31.9	-0.8
LSVT				*e*S	Sg	16 40 05.1	-3.8
ASTR	Astara	2.56	85	P	Pn	16 39 29.6	+1.4
ASTR				S	Sb	16 40 06.6	+2.4
LKRN	Lenkeran, Azer	2.57	81	P	Pn	16 39 30.3	+2.1
LKRN				S	Sb	16 40 07.4	+3.1
GAS1	Astara - Iran	2.60	88	Pn	Pn	16 39 29.5	+0.9
MNGR	Mingechevir, A	2.69	26	P	Pb	16 39 34.7	0.0
MNGR				S	Sg	16 40 12.2	-0.7
QZX	Qazax, Azerbai	2.69	357	P	Pb	16 39 33.1	-1.8
QZX				S	Sg	16 40 10.7	-2.4
SAAT	Saatly	2.70	55	P	Pb	16 39 32.7	-2.2
SAAT				S	Sb	16 40 06.4	-1.7
KMOZ	Kamo	2.74	334	*e*P	Pb	16 39 34.3	-1.5
KMOZ				*e*S	Sb	16 40 09.2	-0.3
GURO	Guroymak-BITLI	2.75	275	Pn	Pb	16 39 33.9	-2.1
SRTK	Saratovka	2.86	341	*e*P	Pb	16 39 36.1	-1.6
SRTK				*e*S	Sb	16 40 12.4	-0.4
KDMR	Kurdemir	2.87	45	P	Pb	16 39 37.5	-0.3
KDMR				S	Sb	16 40 15.2	+2.1
VSHL	Vashlovani	2.94	13	P	Pg	16 39 40.6	-2.3
VSHL				S	Sg	16 40 22.2	+1.2
DGRG	David-gareji	3.08	358	P	Pb	16 39 42.0	+0.5
DGRG				S	Sg	16 40 25.6	-0.1
SEKA	Sheki	3.12	24	P	Pb	16 39 40.9	-1.2
SEKA				S	Sg	16 40 23.0	-3.6
QBL	Gabala	3.13	34	P	Pb	16 39 40.1	-2.2
QBL				S	Sb	16 40 20.8	+0.2
ALIB	&Aumlli-Bayram	3.13	58	P	Pn	16 39 37.1	+1.2
ALIB				S	Sb	16 40 21.0	+0.4
KZRT	Kazreti	3.14	344	P	Pb	16 39 43.3	+0.8
IML	Ismayilli	3.17	39	P	Pb	16 39 40.8	-2.2
IML				S	Sb	16 40 23.2	+1.4
KOPR	Koprukoy-ERZUR	3.29	301	Pn	Pb	16 39 41.4	-3.7
TRLG	Trialeti	3.36	341	P	Pb	16 39 46.3	0.0
ZKTA	Zakatala	3.38	14	P	Pb	16 39 46.7	+0.2
ZKTA				S	Sg	16 40 32.1	-2.8
PQL	Pirkuli	3.38	43	P	Pn	16 39 42.2	+2.7
PQL				S	Sb	16 40 27.0	-0.9
GBS	Qobustan	3.42	50	P	Pb	16 39 43.5	-3.6
GBS				S	Sn	16 40 23.6	+3.1
XNQ	Khinaliq	3.45	35	P	Pn	16 39 41.3	+0.8
XNQ				S	Sg	16 40 35.0	-2.4
LGD	Lagodekhi	3.51	9	P	Pn	16 39 43.5	+2.4
LGD				S	Sg	16 40 37.1	-2.1
SNGE	Sanandaj	3.58	155	IAML		16 40 44.8	
	comp=Z,0.3nm,1.0s						
ATGJ	Altiaghaj	3.62	45	P	Pn	16 39 45.6	+2.8
ATGJ				S	Sn	16 40 29.3	+3.6
SIZA	Siyzn	3.75	43	P	Pn	16 39 45.8	+1.3
SIZA				S	Sb	16 40 38.0	-0.5
QUBA	Quba, Azerbaij	3.76	36	P	Pn	16 39 45.7	+1.2
QUBA				S	Sb	16 40 38.5	-0.1
JIR1	Jirandeh	3.77	115	Pn	Pn	16 39 45.5	+0.5
QSAR	Qusar	3.78	33	P	Pn	16 39 47.7	+2.7
BNGB	Bingl	3.85	281	Pn	Pb	16 39 49.6	-5.0
KGS1	Ghasr-e-Shirin	3.85	179	Pn	Pn	16 39 47.0	+1.2
SNQR	Sonqor, Kerman	3.88	154	Pn	Pn	16 39 46.9	+0.4
HGHA	Hamedan- Ghaye	3.92	136	Pn	Pn	16 39 47.2	+0.3
CHRG	Chargali	3.99	354	P	Pb	16 39 56.4	-0.5
ALIG	Mtskhetisjvari	4.00	339	P	Pb	16 39 56.5	-0.7
MAZI	Mazidag	4.12	259	Pn	Pn	16 39 53.4	+3.7
QABG	Abgarm-Qazvin	4.18	128	Pn	Pn	16 39 51.3	+0.7
IGZV	Ghazvin	4.22	116	Pn	Pn	16 39 51.5	+0.3
GLG1	Gilan-e-Gharb	4.25	176	Pn	Pn	16 39 52.4	+1.0
SHTL	Shatili	4.30	356	P	Pb	16 40 01.4	-0.8
MTEO	Meteo	4.38	350	P	Pb	16 40 05.9	+2.1
MTEO				S	Sg	16 41 11.0	+3.8
TKB	Tkibuli	4.43	335	P	Pb	16 40 06.3	+1.9
GARIG	Gari	4.52	340	P	Pb	16 40 07.0	+1.0
GARIG				S	Sg	16 41 14.7	+3.1
IRAZ	Razeghan	4.60	129	Pn	Pn	16 39 57.5	+1.2
KLST	Kelardasht - M	4.77	111	Pn	Pn	16 39 59.5	+0.8
MZPU	Pul - Mazandar	5.17	110	Pn	Pn	16 40 05.4	+1.2
IKFM	Kafar-mosalman	5.18	158	Pn	Pn	16 40 05.5	+1.4
ASAO	Ashtian	5.25	135	IAML		16 41 44.5	
	comp=Z,0.0nm,1.0s						
KBZ	Khabaz	5.72	340	Pn	Pn	16 40 15.4	+4.0
	comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=5.3						
	comp=Z,2.3nm,0.8s						
IPRN	Peran	5.82	109	Pn	Pn	16 40 14.0	+0.9
DAMV	Damavand	5.83	116	IAML		16 40 26.4	
	comp=Z,0.0nm,1.0s						
KHMZ	Khomeyn	5.84	141	*e*Pn	Pn	16 40 17.2	+3.8
KHMZ				IAML		16 41 30.0	
	comp=Z,0.0nm,1.0s						
IALA	Alasht	6.24	109	Pn	Pn	16 40 19.7	+0.8
MRVT	Maraveh tapeh	8.36	92	IAML		16 42 26.0	
	comp=Z,0.0nm,1.0s						
BRTR	Keskin Array B	9.36	282	Pn	Pn	16 41 00.5	-1.0
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=2.6						
	comp=Z,0.5nm,0.7s						
SBZV	Sabzevar	9.81	98	*e*Pn	Pn	16 41 09.2	+1.3
MMAI	Mount Meron Ar	9.81	240	LR	LR	16 45 21.4	
	comp=Z,67nm,21.7s,baz=114,slow=41						
AKTO	Aktyubinsk	14.98	32	Pn	Pn	16 42 19.9	+1.7
	comp=Z,0.3nm,0.3s,baz=205,slow=9.7,SNR=4.0						
AKASG	Malin Array Be	16.90	322	Pn	Pn	16 42 41.9	-1.2
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=5.0						
	comp=Z,0.3nm,0.4s						
ARTI	Arti	19.96	21	P	P	16 43 18.8	+0.1
	comp=Z,2.4nm,0.6s,baz=183,slow=8.0,SNR=4.2						
	comp=Z,2.4nm,0.6s						
BVAR	Borovoye Array	22.56	41	P	P	16 43 47.4	+0.7
	comp=Z,1.3nm,0.8s,baz=263,slow=12,SNR=4.5						
	comp=Z,1.3nm,0.8s						
MODS	Modra-Piesok	22.73	305	*e*PN	P	16 43 52.9	+4.3
GERES	GERESS Array B	25.15	305	P	P	16 44 11.1	-0.7
	comp=Z,0.6nm,0.7s,baz=102,slow=9.7,SNR=7.8						
	comp=Z,0.6nm,0.7s						
FINES	FINESS Array B	26.07	339	P	P	16 44 21.1	+1.2
	comp=Z,0.7nm,0.7s,baz=105,slow=4.5,SNR=3.7						
	comp=Z,0.7nm,0.7s						
KURBB	Kurchatov Arra	26.31	52	P	P	16 44 23.1	+0.9
	comp=Z,0.9nm,0.6s,baz=260,slow=9.2,SNR=8.8						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	28.14	61	P	P	16 44 38.2	-0.5
	comp=Z,0.3nm,0.6s,baz=255,slow=6.7,SNR=4.6						
	comp=Z,0.3nm,0.6s						
CMAR	Chiang Mai Arr	50.26	98	P	P	16 47 42.3	-0.9
	comp=Z,0.9nm,0.6s,baz=299,slow=7.9,SNR=10						
	comp=Z,0.9nm,0.6s						

IDC ***28*** *16:41:00.7±0.9, 49°.49S×124°.87E, h0km, mb4.0/7, mbtmp4.1/7, MS3.8/9, Error ellipse: s-maj=45.4km s-min=17.5km az=100.0*
NEIC ***28*** *16:41:02.3±0.8, 49°.55S±0°.09×124°.8E±0°.4, h10km±1km, mb4.4/11, Error ellipse: s-maj=43.1km s-min=8.8km az=287.0*
ISC 28 16:41:02.1±0.7, 49°.52S±0°.10×124°.8E±0°.2, h10km, n29, σ0970/21, mb4.2/9, MS3.7/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.58	328	T	T	17 02 06.1	
	baz=154,slow=75,SNR=14						
H01W2	Cape Lee

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.50**	**63**	P	Pg	16 48 55.2	0.0
TPB11				S	Sg	16 49 01.9	+0.2
GDL2	**Guadalupe Moun**	**0.52**	**18**	P	Pg	16 48 55.9	+0.3
PECS	**Pecos**	**0.68**	**120**	P	Pg	16 48 59.0	+0.2
PECS				S	Sg	16 49 08.4	+0.8
MNTX	**Cornudas Mount**	**0.70**	**269**	Pn	Pg	16 48 59.2	0.0
MNTX				S	Sg	16 49 09.0	+0.7
TPB12	**Southwest of T**	**0.71**	**134**	P	Pg	16 48 59.5	+0.2
TPB12				S	Sg	16 49 08.9	+0.3
CLNB	**Carlsbad**	**0.80**	**46**	P	Pn	16 49 11.8	+7.9
VHRN	**Van Horn**	**0.99**	**202**	P	Pg	16 49 04.6	-0.1
VHRN				S	Sg	16 49 18.3	+0.7
HTMS	**Hat Mesa**	**1.09**	**46**	S	Sg	16 49 21.0	+0.2
TPB05	**Hovey Rd**	**1.31**	**126**	S	Sg	16 49 27.9	-0.1
CPRX	**Cap Rock**	**1.44**	**24**	P	Pn	16 49 12.6	-0.2
ALPN	**Alpine**	**1.55**	**149**	P	Pn	16 49 14.0	-0.2
ALPN				S	Sn	16 49 34.9	0.0
MNHN	**Monahans**	**1.58**	**103**	P	Pn	16 49 14.8	+0.2
MNHN				S	Sg	16 49 37.1	+0.8
TPB08	**Permian Basin**	**1.63**	**120**	S	Sg	16 49 40.2	+2.1
ODSA	**Odessa**	**1.75**	**76**	S	Sb	16 49 41.1	+0.1
TMB02	**Rankin**	**2.21**	**103**	S	Sb	16 49 54.7	+0.6
TMB05	**Klondike**	**2.46**	**68**	S	Sb	16 49 59.5	-1.9
TX31	**Lajitas Ar. Si**	**2.49**	**162**	Pg	Pb	16 49 30.9	-0.2

*IDC **28** 16:53:43.5±1.3, 48.°44N×86.°55E, h0km, mb3.5/5, mbtmp3.5/9, ML2.7/4, Error ellipse: s-maj=16.0km s-min=11.1km az=135.0*
*NNC **28** 16:53:46.0±2.7, 48.°45N×86.°43E, h7km±12km, mb3.4, mpv3.1, Error ellipse: s-maj=22.3km s-min=10.9km az=109.0*
*SOME **28** 16:53:45.2, 47.°88N×86.°72E, h5km*
*ASRS **28** 16:53:47.6±0.3, 49.°N±2.°×8.°6E±.°, h10km, MLh3.9/13, Error ellipse: s-maj=6.1km s-min=2.5km az=128.1, confirmed*
ISC 28 16:53:46.6±0.8, 48.°48N±0.°04×86.°45E±0.°04, h10km, n33, σ2.°08/64, mb3.4/4, 11C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**1.38**	**27**	Pg	**Pg**	**16 54 14.4**	**+1.2**
DGZ				Sg	**Sg**	**16 54 34.6**	**+3.6**
ZSN	**Zaisan**	**1.48**	**227**	*e*P	**Pn**	**16 54 11.3**	**-2.0**
ZSN	282nm,0.3s			*e*S	**Sn**	**16 54 30.8**	**-2.0**
	304nm,0.3s						
CHBI	**Chibit, Altay**	**1.96**	**20**	Pg	**Pg**	**16 54 25.4**	**+1.2**
CHBI				Sg	**Sg**	**16 54 51.7**	**+2.2**
AKAR	**Aktash**	**1.99**	**22**	Pg	**Pg**	**16 54 26.4**	**+1.6**
AKAR				Sg	**Sg**	**16 54 53.1**	**+2.4**
CUR	**Chagan-Uzun**	**2.04**	**37**	Pg	**Pg**	**16 54 26.5**	**+0.8**
CUR				Sg	**Sg**	**16 54 53.5**	**+1.3**
ULGR	**Ulagan, Altay**	**2.36**	**24**	Pg	**Pg**	**16 54 34.7**	**+2.9**
ULGR				Sg	**Sg**	**16 55 04.8**	**+2.4**
UKR	**Ust'-Kan**	**2.69**	**337**	Pn	**Pb**	**16 54 33.6**	**-1.3**
UKR				Pg	**Pg**	**16 54 40.1**	**+1.9**
UKR				Sg	**Sg**	**16 55 13.5**	**+0.5**
ELDR	**Elanda**	**2.75**	**355**	Pn	**Pb**	**16 54 34.9**	**-1.0**
ELDR				Pg	**Pg**	**16 54 40.1**	**+0.8**
ELDR				Sg	**Sg**	**16 55 15.5**	**+0.5**
MK31	**Makanchi Array**	**3.28**	**241**	⇓Pn	**Pn**	**16 54 37.5**	**-0.6**
MK31	0.9nm,0.2s,baz=72,slow=17,SNR=392			⇑Pg	**Pb**	**16 54 45.8**	**+0.9**
MK31	16nm,0.3s,baz=76,slow=17,SNR=23			Sn	**Sn**	**16 55 18.7**	**+1.5**
MK31	28nm,0.6s,baz=60,slow=26,SNR=5.5			⇑Lg	Lg	16 55 27.6	
	43nm,0.6s,baz=68,slow=35,SNR=6.1						
MKAR	**Makanchi Array**	**3.28**	**241**	Pn	**Pn**	**16 54 38.2**	**+0.2**
MKAR	1.4nm,0.3s,baz=43,slow=16,SNR=43			Sn	**Sn**	**16 55 17.9**	**+0.7**
MKAR	11nm,0.3s,baz=54,slow=26,SNR=13			Lg	Lg	16 55 29.2	
MKAR	14nm,0.3s,baz=48,slow=27,SNR=7.5						
	1.9nm,0.2s						
MKAR	**Makanchi Array**	**3.28**	**241**	Pn	**Pn**	**16 54 38.6**	**+0.5**
MKAR				Pg	**Pb**	**16 54 45.6**	**+0.7**
MKAR				S	**Sn**	**16 55 18.3**	**+1.1**
ARTR	**Artybash**	**3.37**	**9**	Pg	**Pg**	**16 54 50.4**	**-0.7**
ARTR				Sg	**Sg**	**16 55 34.1**	**-0.6**
YALR	**Yailyu, Altay**	**3.38**	**12**	Pn	**Pn**	**16 54 43.7**	**+4.3**
YALR				Pg	**Pg**	**16 54 51.6**	**+0.3**
YALR				Sg	**Sg**	**16 55 34.7**	**-0.3**
MAKZ	**Makanchi**	**3.46**	**243**	⇓Pn	**Pn**	**16 54 40.2**	**-0.3**
MAKZ	0.3nm,0.3s			⇑Pg	**Pb**	**16 54 48.3**	**+0.4**
MAKZ	11nm,0.4s			⇓Lg	Lg	16 55 33.0	
MAKZ	24nm,0.7s						
MAKZ	**Makanchi**	**3.46**	**243**	Pn	**Pn**	**16 54 41.2**	**+0.7**
MAKZ				Pg	**Pb**	**16 54 48.2**	**+0.3**
MAKZ				S	**Sn**	**16 55 22.2**	**+0.7**
GALT	**Gorno-Altaysk,**	**3.50**	**355**	Pg	**Pg**	**16 54 53.6**	**0.0**
GALT				Sg	**Sg**	**16 55 39.8**	**+0.8**
TEL	**Teeli**	**3.52**	**42**	Pg	**Pg**	**16 54 55.3**	**+1.4**
TEL				Sg	**Sg**	**16 55 41.2**	**+1.7**
TASR	**Tashtagol**	**4.38**	**11**	Sg	**Sg**	**16 56 05.3**	**-1.9**
SEM	**Semipalatinsk**	**4.48**	**298**	*e*P	**Pg**	**16 55 16.9**	**+4.4**
SEM	4.0nm,0.2s			*e*S	Sg	16 56 22.8	+12
	21nm,0.4s						
ELT	**Eltsovka**	**4.79**	**358**	Pn	**Pn**	**16 55 01.8**	**+3.1**
ELT				S	**Sn**	**16 55 57.9**	**+3.6**
KURK	**Kurchatov**	**5.56**	**297**	⇑Pn	**Pn**	**16 55 09.1**	**-0.3**
KURK	0.6nm,0.5s			⇑Sn	**Sn**	**16 56 13.3**	**0.0**
KURK	5.7nm,0.3s			⇑Lg	Lg	16 56 45.3	
KURK	15nm,0.5s						
ZAA0	**Zalesovo Array**	**5.57**	**350**	⇑Pn	**Pn**	**16 55 11.6**	**+2.1**
ZAA0	0.3nm,0.6s			⇑Sn	**Sn**	**16 56 14.6**	**+1.1**
ZAA0	1.0nm,0.3s			⇓Lg	Lg	16 56 43.9	
	2.9nm,0.5s						
ZALV	**Zalesovo Beam**	**5.57**	**350**	Pn	**Pn**	**16 55 10.4**	**+0.9**
ZALV	1.0nm,0.3s,baz=169,slow=13,SNR=13			Sn	**Sn**	**16 56 15.4**	**+1.9**
ZALV	3.3nm,0.3s,baz=164,slow=25,SNR=14			Lg	Lg	16 56 43.4	
	2.3nm,0.3s,baz=165,slow=31,SNR=7.0						
	2.4nm,0.3s						
KURBB	**Kurchatov Arra**	**5.58**	**296**	Pn	**Pn**	**16 55 10.0**	**+0.3**
KURBB	0.1nm,0.3s,baz=104,slow=15,SNR=9.0			Sn	**Sn**	**16 56 13.1**	**-0.8**
KURBB	0.8nm,0.3s,baz=118,slow=16,SNR=9.5			Lg	Lg	16 56 43.1	
	0.7nm,0.3s,baz=102,slow=33,SNR=10						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**5.58**	**296**	⇑Pn	**Pn**	**16 55 10.1**	**+0.4**
KURBB	0.6nm,0.3s			⇓Sn	**Sn**	**16 56 12.7**	**-1.1**
KURBB	6.2nm,0.4s			⇑Lg	Lg	16 56 47.4	
	43nm,0.5s						
DJR	**Jarkent**	**6.20**	**230**	*e*P	**Pb**	**16 55 35.8**	**+1.2**
DJR	2.0nm,0.3s			*e*S	**Sb**	**16 56 55.5**	**+6.6**
	10nm,0.7s						
PDGK	**Podgornoye**	**7.08**	**226**	⇓Pn	**Pn**	**16 55 26.7**	**-3.7**
PDGK	1.9nm,0.5s			⇑Lg	Lg	16 57 27.8	
	14nm,0.8s						
BVAR	**Borovoye Array**	**11.14**	**300**	Pn	**Pn**	**16 56 24.8**	**-1.1**
BVAR	baz=118,slow=13,SNR=2.1			Sn	**Sn**	**16 58 24.4**	**-6.0**
	baz=102,slow=22,SNR=3.1						
	0.5nm,0.3s						
NRIK	**Noril'sk**	**20.93**	**1**	P	**P**	**16 58 28.6**	**-0.5**
	0.9nm,0.3s,baz=162,slow=9.0,SNR=5.8						
	0.9nm,0.3s						
HFS	**Hagfors**	**41.84**	**314**	P	**P**	**17 01 34.3**	**-2.0**
	3.7nm,1.0s,baz=69,slow=8.1,SNR=6.3						
	3.7nm,1.0s						
NOA	**NORSAR Array B**	**42.72**	**316**	P	**P**	**17 01 41.4**	**-2.1**
	0.3nm,0.4s,baz=85,slow=8.0,SNR=1.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**59.72**	**23**	P	**P**	**17 03 49.1**	**-1.8**
	0.2nm,0.6s,baz=310,slow=4.0,SNR=2.3						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**68.11**	**10**	P	**P**	**17 04 43.7**	**-2.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.2nm,0.7s,baz=65,slow=7.7,SNR=3.0						
	0.2nm,0.7s						

*IDC **28** 17:11:07.7±0.8, 51.°58N×16.°00E, h0km, mbtmp3.2/7, ML2.9/7, Error ellipse: s-maj=13.0km s-min=8.0km az=110.0*
*IPEC **28** 17:11:07.1±0.2, 51.°64N×16.°09E, h1km, ML2.6/5, Error ellipse: s-maj=3.2km s-min=1.5km az=71.0*
*PRU **28** 17:11:09.9, 51.°54N×16.°00E, h0km*
*VIE **28** 17:11:09.4, 51.°72N×15.°99E, h0km, ML2.6/3, Suspected Mining induced.*
ISC 28 17:11:06.1±0.7, 51.°69N±0.°03×16.°02E±0.°02, h0km, n53, σ1.°20/102, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.86**	**169**	*e*Pg	**Pg**	**17 11 23.0**	**+0.4**
KSP				*e*Sg	**Sg**	**17 11 33.5**	**-0.3**
CHVC	**Chvalec**	**1.10**	**179**	*e*PG	**Pg**	**17 11 27.5**	**+0.3**
CHVC				*e*SG	**Sg**	**17 11 40.9**	**-0.5**
OSTC	**Ostas**	**1.14**	**174**	*e*PG	**Pb**	**17 11 28.6**	**0.0**
OSTC				*e*SG	**Sg**	**17 11 42.3**	**-0.4**
	comp=Z,90nm,0.5s						
UPC	**Upice**	**1.18**	**180**	*e*PG	**Pg**	**17 11 28.7**	**0.0**
UPC				*e*SG	**Sg**	**17 11 43.0**	**-1.0**
DPC	**Dobruska-Polom**	**1.35**	**172**	*e*PG	**Pg**	**17 11 31.6**	**-0.4**
DPC				*e*SG	**Sg**	**17 11 48.3**	**-1.2**
	comp=Z,47nm,0.4s						
PVCC	**Panska Ves**	**1.48**	**219**	*e*PG	**Pb**	**17 11 34.8**	**+0.4**
PVCC				*e*SG	**Sg**	**17 11 53.7**	**+0.2**
	comp=Z,194nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**239**	Pn	**Pn**	**17 11 34.7**	**-0.1**
BRG				Pg	**Pg**	**17 11 36.0**	**+0.5**
BRG				Sg	**Sn**	**17 11 56.0**	**+0.6**
BRG				Amp		17 11 56.9	
	comp=Z,76nm,0.4s						
PIVO	**Bartosovice**	**1.54**	**167**	*e*Pn	**Pn**	**17 11 34.8**	**0.0**
PIVO	baz=349			*e*Sg	**Sg**	**17 11 53.3**	**-2.2**
	comp=Z,76nm,0.4s,baz=349						
KRLC	**Kraliky**	**1.69**	**163**	*e*PG	**Pn**	**17 11 36.9**	**+0.1**
KRLC				*e*SG	**Sn**	**17 11 58.4**	**-0.7**
	comp=Z,84nm,0.6s						
CLL	**Collm**	**1.93**	**260**	*i* Pn	**Pn**	**17 11 40.2**	**+0.2**
CLL				*i* Pg	**Pg**	**17 11 43.1**	**+0.2**
CLL				*i* x	x	17 11 47.2	
CLL				*e*x	x	17 12 07.0	
CLL				*e*Sg	**Sg**	**17 12 09.0**	**+1.1**
	comp=Z,34nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.94**	**204**	*e*PG	**Pn**	**17 11 41.3**	**+1.0**
PRU	**Pruhonice**	**1.94**	**209**	*e*PN	**Pn**	**17 11 40.4**	**+0.1**
PRU				*e*PG	**Pb**	**17 11 42.4**	**+0.1**
PRU				*e*SG	**Sb**	**17 12 06.9**	**-0.2**
	comp=Z,54nm,0.5s						
HSKC	**Hora Svate Kat**	**1.96**	**237**	*e*PN	**Pn**	**17 11 41.2**	**+0.7**
HSKC				*e*PG	**Pb**	**17 11 42.9**	**+0.3**
HSKC				*e*SG	**Sb**	**17 12 08.5**	**+1.0**
STEB	**Steborice**	**2.08**	**147**	*e*PN	**Pn**	**17 11 42.1**	**-0.1**
STEB				*e*PG	**Pb**	**17 11 45.0**	**+0.4**
STEB				*e*SG	**Sg**	**17 12 12.4**	**-0.4**
MORC	**Moravsky Berou**	**2.15**	**153**	*e*Pn	**Pn**	**17 11 42.8**	**-0.3**
MORC	baz=334			*e*Sg	**Sb**	**17 12 12.3**	**-0.6**
	comp=Z,38nm,0.6s,baz=334						
OKC	**Ostrava-Krasne**	**2.29**	**143**	*e*SG	**Sg**	**17 12 19.5**	**-0.2**
	comp=Z,65nm,0.5s						
VRAC	**Vranov**	**2.41**	**171**	Pn	**Pn**	**17 11 47.0**	**+0.2**
	comp=Z,3.7nm,0.3s,baz=352,slow=10,SNR=24						
VRAC				Sn	**Sn**	**17 12 15.3**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=339,slow=7.5,SNR=3.7						
VRAC				Lg	Lg	17 12 21.0	
	comp=Z,6.5nm,0.3s,baz=11,slow=10,SNR=8.8						
	comp=Z,7.8nm,0.3s						
VRAC	**Vranov**	**2.41**	**171**	*e*Pn	**Pn**	**17 11 46.9**	**+0.2**
VRAC	baz=352			*e*Sg	**Sb**	**17 12 20.9**	**+0.3**
	comp=Z,40nm,0.8s,baz=352						
TREC	**Trest**	**2.42**	**188**	*e*SG	**Sb**	**17 12 21.9**	**+1.0**
KRUC	**Moravsky**	**2.64**	**175**	*e*Pn	**Pn**	**17 11 50.1**	**+0.2**
KRUC	baz=356			*e*Sg	**Sb**	**17 12 28.1**	**+0.9**
	comp=Z,27nm,0.7s,baz=356						
NKC	**Novy Kostel**	**2.69**	**239**	*e*PN	**Pn**	**17 11 51.5**	**+0.9**
NKC				*e*PG	**Pg**	**17 11 57.4**	**-0.2**
NKC				*e*SG	**Sg**	**17 12 32.9**	**+0.5**
	comp=Z,95nm,0.4s						
OJC	**Ojcow**	**2.81**	**120**	*e*Pg	**Pg**	**17 12 00.4**	**+0.6**
OJC				*e*Sg	**Sg**	**17 12 35.8**	**-0.3**
KHC	**Kasperske Hory**	**3.00**	**212**	*e*PN	**Pn**	**17 11 55.1**	**+0.2**
KHC				*e*PG	**Pb**	**17 12 01.4**	**+1.0**
KHC				*e*SG	**Sb**	**17 12 40.4**	**+2.9**
	comp=Z,17nm,0.4s						
JAVC	**Velka Javorina**	**3.02**	**159**	*e*Pn	**Pn**	**17 11 55.4**	**+0.2**
	baz=341						
CKRC	**Cesky Krumlov**	**3.08**	**202**	*e*PN	**Pn**	**17 11 56.8**	**+0.9**
CKRC				*e*PG	**Pb**	**17 12 02.9**	**+1.3**
GERES	**GERESS Array B**	**3.21**	**208**	Pn	**Pn**	**17 11 57.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=26						
GERES				Pg	**Pb**	**17 12 04.9**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=30,slow=17,SNR=31						
GERES				Lg	Lg	17 12 45.5	
	comp=Z,0.8nm,0.3s,baz=24,slow=24,SNR=8.2						
	comp=Z,2.2nm,0.4s						
MODS	**Modra-Piesok**	**3.42**	**166**	*e*PN	**Pn**	**17 12 02.0**	**+1.4**
MODS				*e*PG	**Pg**	**17 12 10.3**	**-1.2**
MODS				*e*SG	**Sg**	**17 12 55.7**	**-0.1**
BSD	**Bornholm Skovb**	**3.50**	**350**	*i* P	**Pn**	**17 12 02.9**	**+1.3**
BSD				*e*S	**Sn**	**17 12 41.4**	**-2.2**
BSD				IAML		17 13 06.6	
	comp=Z,8.0nm,0.9s						
NIE	**Niedzica**	**3.55**	**128**	*e*Pg	**Pg**	**17 12 13.9**	**-0.1**
NIE				*e*Sg	**Sg**	**17 13 01.3**	**+1.3**
CONA	**Conrad Observa**	**3.77**	**182**	*i* Pn	**Pn**	**17 12 06.3**	**+0.8**
	comp=Z,1.1nm,0.1s,SNR=7.0						
CONA				*i* Pg	**Pg**	**17 12 17.0**	**-1.2**
	comp=Z,8.1nm,0.4s						
CONA				*e*Sg	**Sg**	**17 13 05.8**	**-1.2**
	comp=Z,17nm,0.4s						
RONA	**Rosalia, Austr**	**4.00**	**177**	*e*Pn	**Pn**	**17 12 09.4**	**+0.8**
	comp=Z,1.4nm,0.3s						
RONA				*e*Sg	**Sg**	**17 13 11.5**	**-2.9**
	comp=Z,9.6nm,0.4s						
MOA	**Molln**	**4.01**	**197**	*i* Pn	**Pn**	**17 12 09.2**	**+0.5**
	comp=Z,7.4nm,0.3s,SNR=16						
MOA				*e*Sg	**Sg**	**17 13 12.8**	**-1.9**
	comp=Z,7.1nm,0.3s						
STHS	**Stebnicka Huta**	**4.03**	**122**	*e*PN	**Pn**	**17 12 09.8**	**+0.8**
STHS				*e*PG	**Pg**	**17 12 23.1**	**-0.2**
STHS				*e*SG	**Sg**	**17 13 18.6**	**+3.1**
LUNU	**Lund**	**4.24**	**340**	*e*P	**Pn**	**17 12 12.8**	**+1.0**
LUNU				*e*S	**Sn**	**17 12 59.5**	**-2.4**
BIOA	**Bad Ischl, Aus**	**4.29**	**202**	*i* Pn	**Pn**	**17 12 14.6**	**+2.0**
	comp=Z,2.6nm,0.2s						
BIOA				*e*Pg	**Pg**	**17 12 30.0**	**+1.8**
	comp=Z,9.8nm,0.4s						
BIOA				*e*Sg	**Sg**	**17 13 22.3**	**-1.5**
	comp=Z,23nm,0.5s						
ARSA	**Arzberg**	**4.46**	**184**	*e*Pn	**Pn**	**17 12 16.9**	**+2.0**
	comp=Z,1.0nm,0.2s						
ARSA				*e*Sg	**Sg**	**17 13 27.8**	**-1.3**
	comp=Z,12nm,0.6s						
BLEU	**Blekinge**	**4.63**	**359**	*e*S	**Sn**	**17 13 09.6**	**-1.9**
BJUU	**Bjuv**	**4.74**	**339**	*e*P	**Pn**	**17 12 18.7**	**0.0**
BJUU				*e*S	**Sn**	**17 13 11.4**	**-2.9**
LESA	**Schwarzleotal**	**4.79**	**208**	*e*Pn	**Pn**	**17 12 20.2**	**+0.6**
	comp=Z,1.0nm,0.2s						
KOLS	**Kolonicke sedl**	**4.86**	**122**	*e*PN	**Pn**	**17 12 20.0**	**-0.4**
KOLS				*e*PG	**Pg**	**17 12 42.5**	**+3.3**
KBA	**Koelnbreinsper**	**4.94**	**202**	*e*Pn	**Pn**	**17 12 22.5**	**+0.9**
	comp=Z,4.2nm,0.4s						
KBA				*e*Sg	**Sg**	**17 13 42.4**	**-2.1**
	comp=Z,8.7nm,0.5s						
DEL	**Delary**	**4.96**	**346**	*i* P	**Pn**	**17 12 22.0**	**+0.4**
DEL				*e*S	**Sn**	**17 13 18.1**	**-1.5**
WTTA	**Wattenberg**	**5.27**	**215**	*e*Pn	**Pn**	**17 12 27.7**	**+1.5**
	comp=Z,0.6nm,0.2s						
WTTA				*e*Sg	**Sg**	**17 13 53.9**	**-1.4**
	comp=Z,8.2nm,0.6s						
OBKA	**Obir**	**5.27**	**191**	*e*Pn	**Pg**	**17 12 46.9**	**-0.2**
	comp=Z,1.1nm,0.3s						
OBKA				Sg	**Sg**	**17 13 55.7**	**+0.3**
	comp=Z,4.4nm,0.6s						
MOTA	**Moosalm**	**5.40**	**218**	*e*Pn	**Pn**	**17 12 28.6**	**+0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.7nm,0.2s						
MOTA				*e*Sg	**Sg**	**17 13 59.2**	**-0.2**
	comp=Z,5.8nm,0.6s						
SQTA	**Sankt Quirin**	**5.46**	**217**	*i* Pn	**Pn**	**17 12 30.8**	**+2.1**
	comp=Z,1.4nm,0.2s						
FETA	**Feichten**	**5.81**	**219**	*e*Pn	Pb	17 12 43.0	-5.4
	comp=Z,1.5nm,0.5s						
DAVA	**Damuels**	**5.95**	**225**	*e*Pn	**Pn**	**17 12 36.4**	**+0.8**
	comp=Z,1.6nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.35**	**222**	Pn	**Pn**	**17 12 40.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=34,slow=11,SNR=2.8						
DAVOX				Lg	Lg	17 14 26.7	
	comp=Z,0.3nm,0.3s,baz=15,slow=22,SNR=3.7						
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**8.36**	**92**	Pn	**Pn**	**17 13 05.9**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=280,slow=12,SNR=6.0						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**8.56**	**352**	Pn	**Pn**	**17 13 11.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=26,SNR=1.7						
	comp=Z,0.6nm,0.3s						
FINES	**FINESS Array B**	**11.22**	**26**	Pn	**Pn**	**17 13 46.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=13,SNR=5.7						
	comp=Z,1.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**11.98**	**295**	Pn	**Pn**	**17 13 58.1**	**+0.2**
	baz=100,slow=14						
	comp=Z,0.2nm,0.3s						

IDC 28 17:12:21.5±2.2, 1.°98N×125.°63E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=186.2km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**159**	P	P	17 17 31.9	-0.4
	0.4nm,0.7s,baz=337,slow=10,SNR=7.5						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**26.73**	**163**	P	P	17 18 03.2	+0.2
	0.3nm,0.7s,baz=345,slow=7.7,SNR=5.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**58.38**	**326**	P	P	17 22 18.9	+0.1
	0.1nm,0.4s,baz=128,slow=7.1,SNR=2.0						
	0.1nm,0.4s						

*IDC **28** 17:42:10.0±5.6, 37.°97N×72.°48E, h121km±44km, mb3.5/6, mbtmp3.9/11, MS3.8/1, Error ellipse: s-maj=45.5km s-min=25.6km az=31.0*
*NNC **28** 17:42:14.0±3.7, 38.°41N×72.°34E, h209km±45km, mb2.6, mpv3.7, Error ellipse: s-maj=36.3km s-min=22.3km az=10.0*
ISC 28 17:42:14.2±1.2, 38.°32N±0.°10×72.°18E±0.°08, h150km, n27, σ1.°95/34, mb3.7/6, 5C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.98**	**16**	P	**Pn**	**17 43 13.6**	**-0.9**
	SNR=76						
UCH	**Uchtor**	**4.29**	**24**	P	**Pn**	**17 43 18.0**	**-0.6**
	SNR=5.2						
EKS2	**Erkin-Say**	**4.50**	**15**	P	**Pn**	**17 43 21.0**	**-0.1**
	SNR=74						
AAK	**Ala-Archa**	**4.66**	**22**	P	**Pn**	**17 43 22.8**	**-0.4**
	16nm,0.3s,baz=151,slow=5.3,SNR=116						
AAK				S	**Sn**	**17 44 18.1**	**+1.2**
	23nm,0.3s,baz=150,slow=20,SNR=47						
AAK	**Ala-Archa**	**4.66**	**22**	P	**Pn**	**17 43 22.7**	**-0.5**
	SNR=36						
AAK	**Ala-Archa**	**4.66**	**22**	⇓P	**Pn**	**17 43 22.6**	**-0.5**
	6.1nm,0.3s						
AAK				⇑S	**Sn**	**17 44 17.8**	**+0.9**
	69nm,0.7s						
KBK	**Karagaybulak**	**4.81**	**25**	P	**Pn**	**17 43 25.0**	**-0.2**
	SNR=12						
KK31	**Karatay Array**	**4.94**	**346**	⇓P	**Pn**	**17 43 26.6**	**-0.2**
	4.0nm,0.2s,baz=153,slow=11,SNR=118						
KK31				⇓S	**Sn**	**17 44 25.6**	**+2.1**
	12nm,0.4s,baz=162,slow=22,SNR=11						
ULHL	**Ulahol**	**5.00**	**37**	P	**Pn**	**17 43 25.4**	**-2.3**
	SNR=13						
CHMS	**Chumysh**	**5.06**	**22**	P	**Pn**	**17 43 27.9**	**-0.5**
	SNR=15						
CHMS	**Chumysh**	**5.06**	**22**	⇓P	**Pn**	**17 43 27.3**	**-1.1**
	6.5nm,0.3s						
CHMS				⇓S	**Sn**	**17 44 26.6**	**+0.3**
	23nm,0.8s						
USP	**Ospenovka**	**5.24**	**19**	P	**Pn**	**17 43 30.1**	**-0.7**
	SNR=7.4						
TKM2	**Tokmak 2**	**5.28**	**28**	⇑P	**Pn**	**17 43 30.1**	**-1.3**
	1.3nm,0.3s						
TKM2				⇓S	**Sn**	**17 44 32.8**	**+1.1**
	20nm,0.6s						
MKAR	**Makanchi Array**	**11.27**	**38**	P	**Pn**	**17 44 49.6**	**-1.2**
	0.7nm,0.7s,baz=222,slow=14,SNR=7.5						
KURBB	**Kurchatov Arra**	**13.10**	**18**	P	**P**	**17 45 19.7**	**+0.6**
	0.4nm,0.3s,baz=207,slow=10,SNR=6.0						
AB31	**Akbulak array**	**14.04**	**325**	⇑P	**Pn**	**17 45 25.6**	**-0.7**
	1.1nm,0.4s						
AB31				⇑S	**Sn**	**17 47 55.8**	**-6.0**
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**14.76**	**356**	P	**Pn**	**17 45 35.7**	**+0.3**
	1.3nm,0.5s,baz=164,slow=9.4,SNR=8.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.53**	**66**	*eP*		17 43 39.2	
PEIG	**Puerto Escondi**	**2.61**	**287**	*eP*	**Pn**	**17 43 36.9**	**+1.2**
PEIG				*eS*	**Sn**	**17 44 04.5**	**-3.1**
NEUV	**Arroyo Zacate**	**2.72**	**334**	*eP*	**Pn**	**17 43 39.1**	**+1.8**
NEUV				*eS*	**Sn**	**17 44 11.5**	**+1.3**
VHO	**Vista Hermosa**	**2.77**	**311**	*eP*	**Pb**	**17 43 42.5**	**-0.6**
VHO				*eS*	**Sn**	**17 44 13.7**	**+1.9**
STG8	**El Palmar, Qui**	**3.19**	**104**	*eP*		17 43 42.8	
STG0	**El Palmar, Qui**	**3.21**	**105**	*eP*		17 43 41.8	
YOIG	**Yosondua**	**3.29**	**299**	*eP*	**Pn**	**17 43 48.9**	**+3.6**
PMUV	**Sontecomapan**	**3.31**	**351**	*eP*	**Pn**	**17 43 46.9**	**+1.4**
PMUV				*eS*	**Sn**	**17 44 23.3**	**-1.7**
PNIG	**Pinotepa**	**3.62**	**289**	*eP*	**Pn**	**17 43 52.4**	**+2.7**
PNIG				*eS*	**Sn**	**17 44 28.2**	**-4.4**
TXIG	**Tlaxiaco**	**3.67**	**303**	*eP*	**Pn**	**17 43 53.6**	**+3.0**
TXIG				*eS*	**Sn**	**17 44 31.2**	**-3.0**
TOIG	**Toxpalan**	**3.71**	**320**	*eP*	**Pb**	**17 43 55.8**	**-3.4**
TOIG				*eS*	**Sn**	**17 44 37.8**	**+2.9**
HLIG	**Huajuapan de L**	**4.03**	**310**	*eP*	**Pn**	**17 43 58.4**	**+2.9**
HLIG				*eS*	**Sn**	**17 44 45.0**	**+1.9**
FTIG	**Fresnillo de T**	**4.33**	**308**	*eP*	Pn	17 44 04.4	+4.9
FTIG				*eS*	**Sn**	**17 44 51.8**	**+1.6**
MGIG	**Malinaltepec**	**4.39**	**297**	*eP*	**Pn**	**17 44 04.1**	**+3.7**
MGIG				*eS*	**Sn**	**17 44 51.1**	**-0.6**
POHV	**Veracruz**	**4.60**	**326**	*eP*	**Pn**	**17 44 07.0**	**+3.5**
JAUV	**Jalcomulco**	**4.62**	**333**	*eP*	**Pn**	**17 44 04.3**	**+0.9**
JAUV				*eS*	**Sn**	**17 44 55.0**	**-2.2**
CXUV	**Coxquihui**	**5.68**	**330**	*eP*	**Pn**	**17 44 14.0**	**-4.0**

*NEIC **28** 17:52:20.6±1.9, 66°.23N±0°.02×157°.10W±0°.06, h11km±3km, Error ellipse: s-maj=3.8km s-min=2.7km az=81.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.00; Mθθ=1.66; Mφφ=-1.66; Mrθ=1.04; Mrφ=-2.99; Mθφ=-0.97; Fault plane solution: M0=3.70000×10^14^ NP1:φs=73.70000°, δ=72.15000°, λ=169.81000°. NP2:φs=166.86000°, δ=80.30000°, λ=18.12000°. Principal axes: T 3.9171, Plg=20.0000°, Azm=31.0000°; N -0.4688, Plg=70.0000°, Azm=194.0000°; P -3.4483, Plg=6.0000°, Azm=299.0000°;*

*NEIC **28** 17:52:20.7, 66°.24N×157°.18W, h13km*

AEIC 28 17:52:20.4±1.2, 66°.26N±0°.02×157°.22W±0°.05, h7km±6km, ML3.4, ML3.6/136(NEIC), Mwr3.6/59(NEIC), Error ellipse: s-maj=3.2km s-min=2.4km az=66.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.13**	**156**		Pg	17 52 23.1	-0.1
G19K				Sg	Sg	17 52 24.6	-0.5
F19K	**Shaleruckik Mo**	**0.61**	**339**		Pg	17 52 32.6	+0.3
F19K	comp=N,2μm,0.8s			IAML		17 52 47.0	
F19K	comp=E,3μm,0.6s			IAML		17 52 47.0	
F19K	**Shaleruckik Mo**	**0.61**	**339**		Sb	17 52 41.9	-0.4
G18K	**Tagagawik**	**0.69**	**238**		Pg	17 52 33.9	+0.2
G18K	comp=N,3μm,0.9s			IAML		17 52 46.6	
G18K	comp=E,2μm,0.9s			IAML		17 52 46.7	
G18K	**Tagagawik**	**0.69**	**238**		Sb	17 52 43.7	-0.8
H19K	**Roundabout Mou**	**0.80**	**156**	Pg	Pg	17 52 35.2	-0.6
H19K	comp=E,2μm,0.3s			IAML		17 52 52.2	
H19K	**Roundabout Mou**	**0.80**	**156**		Sg	17 52 45.9	-0.3
F20K	**Avaraart Lake**	**0.99**	**36**		Pg	17 52 38.9	-0.5
F20K	comp=N,2μm,0.8s			IAML		17 52 59.1	
F20K	**Avaraart Lake**	**0.99**	**36**		Sb	17 52 53.4	+0.4
F18K	**Selawik**	**1.04**	**290**		Pg	17 52 40.2	-0.1
F18K					Sb	17 52 55.0	+0.7
E19K	**Redstone River**	**1.20**	**360**		Pg	17 52 43.3	-0.1
E19K					Sb	17 52 59.1	-0.1
H18K	**Honhosa River**	**1.21**	**204**		Pg	17 52 42.3	-1.3
H18K	comp=E,1μm,0.4s			IAML		17 53 03.9	
H18K	comp=N,926nm,0.4s			IAML		17 53 04.7	
H18K	**Honhosa River**	**1.21**	**204**		Sg	17 52 58.6	-0.7
H20K	**Anotleneega Mo**	**1.23**	**128**		Pb	17 52 42.6	-1.4
G21K	**Allakaket**	**1.52**	**79**		Sb	17 53 08.2	0.0
G21K	**Allakaket**	**1.52**	**79**		Pn	17 52 47.5	-0.4
GCSA	**Galena City Sc**	**1.53**	**175**		Pn	17 52 48.1	0.0
G17K	**Kiwalik Mounta**	**1.60**	**243**		Pn	17 52 48.7	-0.4
G17K					Sb	17 53 11.3	+0.5
H17K	**Granite Mounta**	**1.74**	**221**		Pn	17 52 50.7	-0.3
H17K	comp=E,818nm,0.8s			IAML		17 53 16.3	
H17K	comp=N,458nm,0.6s			IAML		17 53 21.5	
F21K	**Alatna River**	**1.77**	**55**		Sg	17 53 16.6	-0.6
F21K	**Alatna River**	**1.77**	**55**		Pn	17 52 51.0	-0.4
F21K	comp=N,896nm,0.8s			IAML		17 53 21.2	
I20K	**Naaghedeneel**	**1.86**	**141**		Pn	17 52 52.7	+0.1
H21K	**Melozitna Rive**	**1.91**	**107**		Sb	17 53 19.3	-0.2
H21K	**Melozitna Rive**	**1.91**	**107**		Pn	17 52 52.6	-0.7
H21K	comp=N,388nm,0.7s			IAML		17 53 20.8	
H21K	comp=E,592nm,0.4s			IAML		17 53 21.2	
E17K	**Hotham Inlet**	**2.01**	**296**		Pn	17 52 55.4	+0.7
E20K	**Nigu River**	**2.04**	**11**		Pb	17 52 56.8	-1.0
D19K	**Kuna River**	**2.27**	**352**		Pn	17 52 59.7	+1.4
D19K	**Kuna River**	**2.27**	**352**	IAML		17 53 40.0	
D19K	comp=N,515nm,0.8s			IAML		17 53 45.3	
G16K	**Koyuk River**	**2.29**	**250**		Pn	17 52 57.5	-1.0
G16K	comp=N,557nm,0.9s			IAML		17 53 35.6	
G16K	comp=E,399nm,0.9s			IAML		17 53 38.1	
F22K	**John River**	**2.35**	**56**		Pn	17 52 59.7	+0.3
J19K	**Poorman**	**2.38**	**163**		Pn	17 52 59.7	0.0
J19K	comp=E,276nm,1.2s			IAML		17 53 35.3	
H22K	**Ishtalitna Cre**	**2.41**	**96**		Pn	17 53 00.1	-0.1
I21K	**Tanana**	**2.42**	**114**		Pn	17 53 00.1	-0.2
I21K	**Tanana**	**2.42**	**114**	IAML		17 53 42.7	
I21K	comp=N,329nm,1.1s			IAML		17 53 42.8	
J20K	**Nowinta River**	**2.46**	**147**	Pn	Pn	17 53 00.9	0.0
D20K	**Etivluk River**	**2.47**	**5**		Pn	17 53 02.4	+1.3
H16K	**Elim**	**2.66**	**234**		Pn	17 53 02.6	-0.9
D17K	**Noatak River**	**2.72**	**305**		Pn	17 53 05.1	+0.7
I17K	**Unalakleet**	**2.80**	**213**		Pn	17 53 05.5	0.0
I17K	comp=N,272nm,1.0s			IAML		17 53 54.7	
I17K	comp=E,338nm,0.9s			IAML		17 53 54.8	
J18K	**Innoko River**	**2.82**	**175**	Pn	Pn	17 53 05.5	-0.2
E22K	**Anaktuvuk Pass**	**2.82**	**46**		Pn	17 53 06.5	+0.6
E22K	comp=E,172nm,1.0s			IAML		17 53 54.6	
E22K	comp=N,318nm,0.8s			IAML		17 53 57.2	
G23K	**Bananza Creek**	**2.92**	**78**		Pn	17 53 06.4	-0.8
G23K	comp=E,222nm,0.8s			IAML		17 53 57.1	
COLD	**Coldfoot**	**2.95**	**68**		Pn	17 53 07.5	-0.1
J17K	**VABM Dome**	**2.98**	**196**		Pn	17 53 08.1	0.0
C21K	**Knifeblade Rid**	**3.05**	**17**		Pn	17 53 09.7	+0.7
G15K	**Niukluk**	**3.10**	**249**		Pn	17 53 09.2	-0.4
D22K	**Ayikyak River**	**3.15**	**31**		Pn	17 53 11.4	+1.0
D22K	**Ayikyak River**	**3.15**	**31**	IAML		17 54 08.2	
H23K	**Yukon River**	**3.16**	**94**		Pn	17 53 11.3	+0.8
H23K	**Yukon River**	**3.16**	**94**	IAML		17 54 01.9	
H23K	comp=E,219nm,0.7s			IAML		17 54 12.4	
H23K	comp=N,228nm,1.1s			IAML		17 54 22.8	
CHUM	**Lake Minchumin**	**3.17**	**137**		Pn	17 53 11.8	+1.3
J16K	**Anvik River**	**3.32**	**207**	IAML		17 54 10.9	
J16K	comp=E,152nm,0.9s			IAML		17 54 22.8	
I23K	**Minto, Yukon-K**	**3.44**	**105**	IAML		17 54 12.9	
I23K	comp=N,115nm,0.8s			IAML		17 54 14.6	
B21K	**Ikpikpuk River**	**3.52**	**15**	IAML		17 54 17.3	
K17K	**Iditarod**	**3.59**	**188**		Pn	17 53 16.1	-0.3
K17K	**Iditarod**	**3.59**	**188**	IAML		17 54 51.3	
C16K	**Lisburne Hills**	**3.75**	**306**	IAML		17 54 33.9	
B20K	**Meade River**	**3.76**	**0**	IAML		17 54 30.0	
NEA2	**Nenana**	**3.79**	**112**	IAML		17 54 29.8	
H24K	**Noodor Dome**	**3.83**	**92**	IAML		17 54 27.2	
H24K	comp=E,132nm,0.9s			IAML		17 54 32.1	
E24K	**Your Creek**	**3.86**	**58**	IAML		17 54 27.0	
BWN	**Browne**	**3.88**	**119**	IAML		17 54 33.6	
BWN	comp=N,146nm,0.9s			IAML		17 54 40.5	
F24K	**Squaw Lake**	**3.89**	**67**	IAML		17 54 27.9	
L18K	**Granite Mounta**	**4.07**	**176**	IAML		17 54 45.4	
TRF	**Thorofare Moun**	**4.09**	**130**	IAML		17 54 34.3	
TRF	comp=N,56nm,1.1s			IAML		17 54 35.3	
POKR	**Poker Plat Res**	**4.21**	**101**	IAML		17 54 35.4	
WRH	**Wood River Hil**	**4.22**	**111**	IAML		17 54 35.6	
CCB	**Clear Creek Bu**	**4.25**	**108**	IAML		17 54 36.5	
CCB	comp=E,57nm,1.0s			IAML		17 54 42.8	
B22K	**Teshekpuk Lake**	**4.33**	**17**	IAML		17 54 48.7	
B22K	comp=E,106nm,1.1s			IAML		17 54 57.0	
C23K	**Itkillik River**	**4.36**	**32**	IAML		17 54 52.8	
C23K	comp=E,91nm,0.9s			IAML		17 54 58.5	
K15K	**Wolf Creek Mou**	**4.41**	**207**	IAML		17 54 57.3	
K15K	comp=N,42nm,1.1s			IAML		17 54 57.8	
J14K	**Nanvaranak Lak**	**4.46**	**221**	IAML		17 54 54.2	
J14K	comp=N,75nm,0.9s			IAML		17 55 00.0	
F25K	**Christian Rive**	**4.75**	**68**	IAML		17 54 54.5	
M20K	**Styx River**	**4.75**	**156**	IAML		17 54 55.2	
M17K	**Holitna River**	**4.88**	**181**	IAML		17 55 12.8	
M17K	comp=E,47nm,1.1s			IAML		17 55 13.8	
E25K	**Arctic Village**	**4.90**	**62**	IAML		17 55 05.2	
D25K	**Kavik River**	**5.13**	**48**	IAML		17 55 07.6	
M16K	**Timber Creek**	**5.32**	**189**	IAML		17 55 23.2	
KLU	**Klutina**	**6.91**	**129**		Pn	17 54 03.3	+1.4

*NEIC **28** 17:53:15.0±1.2, 66°.24N±0°.01×157°.16W±0°.04, h7km±4km, Error ellipse: s-maj=2.5km s-min=1.9km az=84.0*

AEIC 28 17:53:15.4±1.1, 66°.24N±0°.01×157°.19W±0°.04, h7km±4km, ML3.2, ML3.4/30(NEIC), Error ellipse: s-maj=2.2km s-min=2.0km az=77.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.10**	**155**		Pg	17 53 17.8	+0.1
G19K				Sg	Sg	17 53 19.5	+0.1
F19K	**Shaleruckik Mo**	**0.64**	**339**		Sg	17 53 36.7	+0.5
F19K	**Shaleruckik Mo**	**0.64**	**339**	Pg	Pg	17 53 25.8	-2.0
G18K	**Tagagawik**	**0.69**	**241**		Pg	17 53 28.3	-0.3
G18K					Sb	17 53 38.6	-0.8
G18K	**Tagagawik**	**0.69**	**241**	IAML		17 53 41.3	
H19K	**Roundabout Mou**	**0.77**	**156**		Pg	17 53 29.9	-0.3
H19K					Sg	17 53 40.5	+0.2
H19K	**Roundabout Mou**	**0.77**	**156**	IAML		17 53 47.1	
F20K	**Avaraart Lake**	**1.00**	**35**		Pg	17 53 34.5	-0.2
F20K					Sg	17 53 47.4	-0.3
F20K	**Avaraart Lake**	**1.00**	**35**	IAML		17 53 50.9	
F20K	comp=N,949nm,0.7s			IAML		17 53 51.0	
F18K	**Selawik**	**1.05**	**291**		Pg	17 53 35.3	-0.3
F18K					Sb	17 53 50.1	+0.2
H18K	**Honhosa River**	**1.19**	**205**		Pg	17 53 37.9	-0.3
H18K					Sb	17 53 53.9	0.0
H18K	**Honhosa River**	**1.19**	**205**	IAML		17 53 58.0	
H18K	comp=E,716nm,0.3s			IAML		17 53 59.1	
H20K	**Anotleneega Mo**	**1.21**	**127**		Pg	17 53 38.1	-0.4
E19K	**Redstone River**	**1.23**	**359**		Pb	17 53 38.5	-0.5
E19K	**Redstone River**	**1.23**	**359**	IAML		17 53 57.2	
GCSA	**Galena City Sc**	**1.50**	**175**		Pn	17 53 42.2	-0.5
GCSA					Sb	17 54 02.9	+0.1
G21K	**Allakaket**	**1.51**	**78**		Pn	17 53 42.2	-0.7
G17K	**Kiwalik Mounta**	**1.60**	**244**		Pn	17 53 43.5	-0.6
F17K	**Baldwin Pennin**	**1.65**	**279**		Pn	17 53 44.2	-0.6
F17K	**Baldwin Pennin**	**1.65**	**279**	IAML		17 54 11.8	
F17K	comp=E,538nm,0.8s			IAML		17 54 12.4	
H17K	**Granite Mounta**	**1.73**	**222**		Pn	17 53 45.5	-0.4
H17K	**Granite Mounta**	**1.73**	**222**	IAML		17 54 11.1	
E18K	**Tukpahlearik C**	**1.80**	**313**		Pb	17 53 48.5	-0.1
E18K				IAML		17 54 13.4	
E18K	comp=E,304nm,0.5s			IAML		17 54 13.4	
H21K	**Melozitna Rive**	**1.89**	**106**	Pn	Pn	17 53 49.1	+1.0
H21K				IAML		17 54 15.9	
H21K	comp=E,481nm,0.5s			IAML		17 54 15.9	
CCB	**Clear Creek Bu**	**4.23**	**108**	Pn	Pn	17 54 20.2	0.0
SKT	**Skwentna**	**4.94**	**147**	Pn	Pn	17 54 31.2	+1.2
SKT				IAML		17 55 15.2	
SKT	comp=E,32nm,1.1s			IAML		17 55 16.4	
J25K	**Salcha River,**	**5.20**	**103**		Pn	17 54 32.5	-1.1
N17K	**Nushagak Hills**	**5.73**	**180**	Pn	Pn	17 54 41.2	+0.4

*KRNET **28** 17:59:24.1±0.1, 39°.69N×71°.30E, h16km, mb4.0*
*SOME **28** 17:59:25.7, 39°.80N×71°.42E, h5km*
*NNC **28** 17:59:27.8±1.9, 39°.87N×71°.38E, h9km±8km, mb4.0, mpv3.8, Error ellipse: s-maj=14.4km s-min=6.0km az=12.0*
*ISU **28** 17:59:27, 39°.70N×71°.41E, h30km*

ISC 28 17:59:23.9±0.8, 39.69N±0°.03×71°.33E±0°.02, h0km±6km, n70, σ2=06/111, 35C-29D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.42**	**119**	⇑*iP*	**Pg**	**17 59 32.8**	**+0.9**
DRK				⇑*iS*	**Sg**	**17 59 38.9**	**+1.6**
BTK	**Batken**	**0.54**	**313**	⇑*iP*	**Pg**	**17 59 34.2**	**-0.2**
BTK				⇑*iS*	**Sg**	**17 59 41.4**	**0.0**
CHMI	**Chimion**	**0.60**	**14**	P	**Pb**	**17 59 39.0**	**+1.7**
CHMI				S	**Sb**	**17 59 47.6**	**+1.2**
FRG	**Fergana**	**0.77**	**27**	P	**Pb**	**17 59 41.6**	**+1.4**
FRG				S	**Sb**	**17 59 52.3**	**+1.1**
MINT	**Mingtut**	**0.83**	**341**	P	**Pn**	**17 59 43.4**	**+0.6**
MINT				S	**Sn**	**17 59 55.6**	**-0.1**
GAR	**Garm**	**1.04**	**229**	⇓*iP*	**Pg**	**17 59 43.4**	**-0.5**
GAR				⇓*iS*	**Sb**	**17 59 57.4**	**-1.8**
OHH	**Osh**	**1.39**	**53**	⇑*iP*	**Pn**	**17 59 50.2**	**-0.5**
OHH				⇑*iS*	**Sn**	**18 00 09.1**	**-0.7**
KSNS	**Kasansay**	**1.48**	**6**	P	**Pg**	**17 59 54.4**	**+2.1**
KSNS				S	**Sg**	**18 00 15.4**	**+4.0**
SFK	**Sufi-Kurgan**	**1.70**	**78**	⇑*iP*	**Pn**	**17 59 55.9**	**+0.8**
SFK				⇑*iS*	**Sb**	**18 00 18.9**	**+0.6**
TRKS	**Terek-Say**	**1.85**	**356**	⇑*iP*	**Pn**	**17 59 56.6**	**-0.4**
TRKS				⇑*iS*	**Sn**	**18 00 20.2**	**-1.0**
ARSB	**Arslanbob**	**2.06**	**37**	⇑*iP*	**Pn**	**18 00 00.0**	**0.0**
ARSB				⇑*iS*	**Sn**	**18 00 27.7**	**+1.2**
CHMG	**Chimgan**	**2.12**	**332**	P	**Pb**	**18 00 04.3**	**+1.1**
CHMG				S	**Sg**	**18 00 33.8**	**+1.8**
ARK	**Arkit**	**2.16**	**13**	⇓*iP*	**Pn**	**18 00 02.3**	**+1.0**
ARK				⇓*iS*	**Sn**	**18 00 30.1**	**+1.2**
TGS	**TashGRES**	**2.22**	**322**	P	**Pg**	**18 00 06.7**	**+0.3**
TGS				S	**Sg**	**18 00 38.3**	**+3.1**
SALK	**Salom-Alik**	**2.25**	**57**	⇑*iP*	**Pn**	**18 00 03.1**	**+0.6**
SALK				⇑*iS*	**Sn**	**18 00 32.4**	**+1.4**
TAS	**Tashkent**	**2.26**	**317**	P	**Pb**	**18 00 06.6**	**+1.0**
TAS				S	**Sg**	**18 00 38.0**	**+1.5**
NZBK	**Nazarbek**	**2.28**	**313**	P	**Pg**	**18 00 08.0**	**+0.3**
NZBK				S	**Sg**	**18 00 40.4**	**+3.1**
PSK	**Pskem**	**2.35**	**342**	P	**Pb**	**18 00 07.7**	**+0.4**
PSK				S	**Sg**	**18 00 39.9**	**+0.3**
BXML	**Bakhmal**	**2.55**	**271**	P	**Pg**	**18 00 14.0**	**+1.2**
BXML				S	**Sg**	**18 00 51.5**	**+5.7**
IUG	**Iuzhnay**	**2.65**	**339**	Pg	**Pb**	**18 00 13.6**	**+1.3**
IUG	146nm,0.1s			Lg	Lg	18 00 48.8	
MNAS	**Manas**	**2.94**	**17**	⇓*iP*	**Pn**	**18 00 13.0**	**+1.1**
MNAS				⇓*iS*	**Sn**	**18 00 48.7**	**+0.7**
AML	**Almayashu**	**3.03**	**35**	P	**Pn**	**18 00 14.3**	**+0.9**
AML	**Almayashu**	**3.03**	**35**	⇑*iP*	**Pn**	**18 00 14.4**	**+0.9**
AML				⇑*iS*	**Sn**	**18 00 51.3**	**+0.7**
ARLS	**Aral**	**3.14**	**45**	⇓*iP*	**Pn**	**18 00 15.9**	**+1.1**
ARLS				⇓*iS*	**Sn**	**18 00 53.7**	**+0.6**
MRKS	**Merke**	**3.37**	**24**	Pg	**Pb**	**18 00 26.6**	**+2.0**
MRKS				Lg	Lg	18 01 10.5	
MRKS	**Merke**	**3.37**	**24**	*eP*	**Pb**	**18 00 26.6**	**+2.0**
MRKS				*eS*	**Sb**	**18 01 10.5**	**+4.2**
AGL	**Agalyk**	**3.44**	**269**	P	**Pb**	**18 00 23.8**	**-2.0**
AGL				S	**Sb**	**18 01 09.7**	**+1.5**
KK31	**Karatay Array**	**3.47**	**350**	⇓Pn	**Pn**	**18 00 20.5**	**+1.3**
KK31	1.7nm,0.2s,baz=175,slow=13,SNR=113			⇑Pg	**Pb**	**18 00 28.4**	**+2.1**
KK31	7.2nm,0.3s,baz=170,slow=12,SNR=40			⇑Lg	Lg	18 01 12.4	
KKAR	**Karatay Array**	**3.47**	**350**	⇑*iP*	**Pn**	**18 00 20.0**	**+0.8**
KKAR				⇑*iS*	**Sn**	**18 01 00.8**	**-0.2**
EKS2	**Erkin-Say**	**3.50**	**31**	P	**Pn**	**18 00 20.9**	**+1.2**
EKS2	**Erkin-Say**	**3.50**	**31**	⇑*iP*	**Pn**	**18 00 20.9**	**+1.2**
EKS2				⇑*iS*	**Sn**	**18 01 02.2**	**+0.4**
UCH	**Uchtor**	**3.50**	**42**	⇑*iP*	**Pn**	**18 00 21.0**	**+1.0**
UCH				⇑*iS*	**Sn**	**18 01 02.6**	**+0.3**
BRLS	**Boroldaу**	**3.53**	**342**	Pg	**Pb**	**18 00 25.7**	**-1.4**
BRLS				Lg	Lg	18 01 09.2	
BRLS	**Boroldaу**	**3.53**	**342**	*eP*	**Pb**	**18 00 25.7**	**-1.4**
BRLS				*eS*	**Sb**	**18 01 09.2**	**-1.3**
AAK	**Ala-Archa**	**3.79**	**38**	P	**Pn**	**18 00 25.5**	**+1.7**
AAK	**Ala-Archa**	**3.79**	**38**	⇓Pn	**Pn**	**18 00 25.1**	**+1.4**
AAK				⇑Pg	**Pb**	**18 00 34.9**	**+3.1**
AAK				⇑Lg	Lg	18 01 24.0	
AAK	**Ala-Archa**	**3.79**	**38**	⇑*iP*	**Pn**	**18 00 24.9**	**+1.1**
AAK				⇑*iS*	**Sn**	**18 01 09.4**	**+0.3**
FRU1	**Bishkek**	**3.99**	**37**	⇑*iP*	**Pn**	**18 00 27.8**	**+1.4**
FRU1				⇑*iS*	**Sn**	**18 01 14.2**	**+0.3**
PKMR	**Pachkamar**	**4.01**	**255**	P	**Pb**	**18 00 32.0**	**-3.4**
PKMR				S	**Sb**	**18 01 25.7**	**+1.2**
KBK	**Karagaybulak**	**4.03**	**41**	P	**Pn**	**18 00 29.7**	**+2.6**
KBK	**Karagaybulak**	**4.03**	**41**	⇓*iP*	**Pn**	**18 00 28.3**	**+1.3**
KBK				⇓*iS*	**Sn**	**18 01 15.1**	**+0.1**
CHMS	**Chumysh**	**4.19**	**37**	P	**Pn**	**18 00 30.9**	**+1.8**
CHMS	**Chumysh**	**4.19**	**37**	⇓Pn	**Pn**	**18 00 30.1**	**+0.9**
CHMS				⇓Lg	Lg	18 01 34.7	
CHMS	**Chumysh**	**4.19**	**37**	⇓*iP*	**Pn**	**18 00 30.6**	**+1.5**
CHMS				⇓*iS*	**Sn**	**18 01 18.7**	**-0.1**
USP	**Ospenovka**	**4.30**	**33**	P	**Pn**	**18 00 32.0**	**+1.4**
USP	**Ospenovka**	**4.30**	**33**	⇓*iP*	**Pn**	**18 00 31.7**	**+1.1**
USP				⇓*iS*	**Sn**	**18 01 21.1**	**-0.3**
BOOM	**Boomskoye usch**	**4.47**	**50**	⇓*iP*	**Pn**	**18 00 34.4**	**+1.4**
BOOM				⇓*iS*	**Sn**	**18 01 25.7**	**-0.1**
ULHL	**Ulahol**	**4.51**	**54**	⇓*iP*	**Pn**	**18 00 35.0**	**+1.3**
ULHL				⇓*iS*	**Sn**	**18 01 26.7**	**-0.2**
TKM2	**Tokmak 2**	**4.56**	**43**	P	**Pn**	**18 00 36.1**	**+1.8**
TKM2	**Tokmak 2**	**4.56**	**43**	⇓Pn	**Pn**	**18 00 35.7**	**+1.4**
TKM2	16nm,0.4s			⇑Lg	Lg	18 01 47.2	
TKM2	**Tokmak 2**	**4.56**	**43**	⇓*iP*	**Pn**	**18 00 35.7**	**+1.4**
TKM2				⇓*iS*	**Sn**	**18 01 27.8**	**-0.2**
KST	**Kastek**	**4.84**	**45**	Pg	**Pb**	**18 00 51.7**	**+2.1**
KST	3.6nm,0.4s			Lg	Lg	18 01 55.5	
KST	**Kastek**	**4.84**	**45**	*eP*	**Pb**	**18 00 51.7**	**+2.1**
KST	3.6nm,0.4s			*eS*	**Sb**	**18 01 55.5**	**+7.1**
KDJ	**Kajisay**	**5.06**	**59**	⇓*eP*	**Pn**	**18 00 42.7**	**+1.5**
KDJ				⇓*iS*	**Sn**	**18 01 39.9**	**-0.5**
MTBS	**Maitube**	**5.15**	**46**	*eP*	Pb	18 00 58.8	+3.9
MTBS	1.7nm,0.1s			*eS*	**Sg**	**18 02 06.6**	**-2.7**
TNSS	**Tian-Shan**	**5.39**	**50**	Pg	**Pb**	**18 01 02.5**	**+3.4**
TNSS	2.0nm,0.1s			Lg	Lg	18 02 11.9	
TNSS	**Tian-Shan**	**5.39**	**50**	*eP*	**Pb**	**18 01 02.5**	**+3.4**
TNSS	2.0nm,0.1s			*eS*	Sb	18 02 11.9	+7.4
MDOK	**Medeo**	**5.53**	**49**	Pg	Pb	18 01 04.9	+3.6
MDOK	2.4nm,0.5s			Lg	Lg	18 02 16.9	
ANVS	**Anan'yevo**	**5.69**	**55**	⇓*iP*	**Pn**	**18 00 51.3**	**+1.5**
ANVS				⇓*iS*	**Sn**	**18 01 54.6**	**-1.3**
BTLS	**Baital**	**5.72**	**20**	*eP*	**Pg**	**18 01 10.8**	**-2.7**
BTLS	8.0nm,0.4s			*eS*	**Sg**	**18 02 26.2**	**-1.3**
CHKK	**Chushkaly**	**5.93**	**44**	Pg	Pb	18 01 13.0	+4.8
CHKK	1.2nm,0.1s			Lg	Lg	18 02 30.1	
CHKK	**Chushkaly**	**5.93**	**44**	*eP*	Pb	18 01 13.0	+4.8
CHKK	1.2nm,0.1s			*eS*	**Sg**	**18 02 30.1**	**-4.3**
SATY	**Saty**	**6.30**	**55**	Pg	Pb	18 01 20.8	+6.3
SATY	2.2nm,0.4s			Lg	Lg	18 02 43.3	
UZB	**Uzynbulak**	**6.74**	**57**	Pg	Pb	18 01 27.5	+5.6
UZB	4.4nm,0.3s			Lg	Lg	18 02 54.7	
UZB	**Uzynbulak**	**6.74**	**57**	*eP*	Pb	18 01 27.5	+5.6
UZB	4.4nm,0.3s			*eS*	**Sg**	**18 02 54.7**	**-5.5**
DJR	**Jarkent**	**7.82**	**51**	Pg	Pb	18 01 47.6	+7.2

0.7nm,0.2s
DJR Lg Lg 18 03 29.2
3.4nm,1.2s
DJR Jarkent 7.82 51 *e*P Pb 18 01 47.6 +7.2
0.7nm,0.2s
DJR *e*S **Sg 18 03 29.2 -5.8**
3.4nm,1.2s
AB31 Akbulak array 12.54 323 ⇑Pn **Pn 18 02 19.8 -3.7**
0.5nm,0.5s
AB31 ⇑Sn **Sn 18 04 41.8 -2.0**
1.4nm,0.6s
AKTO Aktyubinsk 14.26 323 ⇑Pn **Pn 18 02 47.0 0.0**
0.5nm,0.7s
AKTO ⇑Sn **Sn 18 05 22.4 -3.4**
1.1nm,0.8s

*IDC **28** 18:02:14.5±2.1,3˚.86N×126˚.48E,h0km,mb3.3/4, mbtmp3.3/4,MS2.7/1,Error ellipse: s-maj=204.3km s-min=23.0km az=66.0*
*DJA **28** 18:02:20.0±0.5,4˚N±5˚×12˚7E±˚,h35km±5km,M3.8/9, mb3.6/3,MLv3.9/9*
ISC 28 18:02:20.8±1.4,3˚.9N±0˚.1×126˚.6E±0˚.1,h45km,n8,σ0ˢ85/8, mb3.2/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.06**	**257**	P	**Pn**	**18 02 39.3**	**+0.1**
SGSI				S	**Sn**	**18 02 53.4**	**+0.7**
TNTI	**Ternate**	**3.24**	**166**	P	**Pn**	**18 03 10.3**	**+1.2**
SANI	**Sanana**	**5.97**	**185**	P	**Pn**	**18 03 46.3**	**-0.3**
0.1nm5.5nm,1.1s							
WRA	**Warramunga Arr**	**24.93**	**162**	P	**P**	**18 07 39.5**	**-0.4**
0.2nm,0.4s,baz=343,slow=9.4,SNR=6.2							
0.2nm,0.4s							
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**18 08 09.7**	**-1.1**
0.3nm,0.7s,baz=342,slow=6.9,SNR=9.1							
0.3nm,0.7s							
MJAR	**Matsushiro Arr**	**34.18**	**17**	LR	LR	18 27 39.9	
comp=Z,11nm,18.1s,baz=22,slow=44							
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**18 12 03.8**	**-0.2**
0.1nm,0.3s,baz=122,slow=7.3,SNR=4.7							
0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	**P**	**18 12 33.4**	**+0.6**
0.1nm,0.4s,baz=124,slow=5.7,SNR=2.2							
0.1nm,0.4s							

*SDD **28** 18:05:12.4±3.0,20˚.18N×65˚.82W,h15km±31km,MD3.6, ML3.6,MW4.1*
*IDC **28** 18:05:14.2±1.8,19˚.56N×65˚.43W,h0km,mb3.6/5, mbtmp3.8/7,ML3.2/2,MS3.1/1,Error ellipse: s-maj=45.0km s-min=21.4km az=102.0*
*NEIC **28** 18:05:15.7±1.3,19˚.49N±0˚.05×65˚.32W±0˚.07,h10km±2km, ML3.5/26,Md3.2/15(RSPR),Error ellipse: s-maj=12.3km s-min=6.6km az=128.0*
*RSPR **28** 18:05:17.2,19˚.59N×65˚.21W,h11km±2km,MD3.2/15*
ISC 28 18:05:15.8±0.9,19˚.63N±0˚.05×65˚.40W±0˚.06,h16km,n91, σ2ˢ18/98,mb3.6/5,17C-6D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.46**	**206**		**Pn**	**18 05 40.4**	**-1.1**
GCPR	**Guaynabo City**	**1.46**	**206**	⇓*e*P	**Pn**	**18 05 40.9**	**-0.7**
GCPR	**Guaynabo City**	**1.46**	**206**	*e*S	**Sn**	**18 05 59.7**	**-0.6**
HUMP	**Col San Antoni**	**1.54**	**196**		**Sn**	**18 06 01.2**	**-1.0**
HUMP	**Col San Antoni**	**1.54**	**196**		**Pn**	**18 05 41.2**	**-1.3**
HUMP				IAML		18 06 09.4	
comp=E,496nm,0.3s							
HUMP	**Col San Antoni**	**1.54**	**196**	⇑*e*P	**Pn**	**18 05 41.6**	**-0.9**
HUMP	**Col San Antoni**	**1.54**	**196**	*e*S	**Sn**	**18 06 01.2**	**-1.0**
EMPR	**Esperanza - Ma**	**1.56**	**223**		**Sn**	**18 06 03.5**	**+0.6**
EMPR	**Esperanza - Ma**	**1.56**	**223**		**Pn**	**18 05 43.0**	**+0.1**
EMPR	**Esperanza - Ma**	**1.56**	**223**	⇑*e*P	**Pn**	**18 05 43.4**	**+0.5**
EMPR	**Esperanza - Ma**	**1.56**	**223**	*e*S	**Sn**	**18 06 03.5**	**+0.6**
ECPR	**Experimental S**	**1.59**	**215**	⇓*e*P	**Pn**	**18 05 43.3**	**+0.1**
ECPR	**Experimental S**	**1.59**	**215**	*e*S	**Sn**	**18 06 03.8**	**+0.4**
SJG	**San Juan**	**1.66**	**205**		**Pn**	**18 05 43.6**	**-0.7**
SJG				IAML		18 06 14.3	
comp=E,387nm,0.6s							
SJG	**San Juan**	**1.66**	**205**	Pn	**Pn**	**18 05 43.1**	**-1.2**
comp=E,55nm,0.3s,baz=50,slow=8.4,SNR=69							
SJG				Sn	**Sn**	**18 06 02.3**	**-3.0**
comp=E,40nm,0.3s,baz=85,slow=12,SNR=7.3							
SJG				LR	LR	18 06 57.0	
comp=E,788nm,18.8s,baz=10.0,slow=64							
SJG	**San Juan**	**1.66**	**205**	*e*P	**Pn**	**18 05 43.6**	**-0.7**
SJG	**San Juan**	**1.66**	**205**	⇑*e*P	**Pn**	**18 05 44.0**	**-0.3**
SJG	**San Juan**	**1.66**	**205**	*e*S	**Sn**	**18 06 04.9**	**-0.4**
PDPR	**Patillas Dam,**	**1.70**	**200**		**Pn**	**18 05 43.8**	**-1.0**
PDPR				IAML		18 06 22.1	
comp=E,417nm,1.2s							
PDPR	**Patillas Dam,**	**1.70**	**200**	⇓*e*P	**Pn**	**18 05 44.2**	**-0.7**
PDPR	**Patillas Dam,**	**1.70**	**200**	*e*S	**Sn**	**18 06 04.2**	**-2.1**
IGPR	**InterUniversit**	**1.78**	**202**		**Sn**	**18 06 07.8**	**-0.5**
IGPR	**InterUniversit**	**1.78**	**202**		**Pn**	**18 05 44.9**	**-1.0**
IGPR				IAML		18 06 13.8	
comp=E,940nm,0.3s							
IGPR				IAML		18 06 18.8	
comp=N,647nm,0.3s							
IGPR	**InterUniversit**	**1.78**	**202**	⇓*e*P	**Pn**	**18 05 45.4**	**-0.5**
IGPR	**InterUniversit**	**1.78**	**202**	*e*S	**Sn**	**18 06 07.8**	**-0.5**
AOPR	**Arecibo Observ**	**1.80**	**225**		**Sn**	**18 06 10.1**	**+1.2**
AOPR	**Arecibo Observ**	**1.80**	**225**		**Pn**	**18 05 46.3**	**0.0**
AOPR	**Arecibo Observ**	**1.80**	**225**	*i* P	**Pn**	**18 05 46.5**	**+0.3**
AOPR				⇑*e*Sg	**Sb**	**18 06 12.6**	**+1.7**
AOPR				IAML		18 06 12.8	
comp=N,1μm,0.3s							
AOPR				IAML		18 06 15.2	
comp=E,2μm,0.3s							
AOPR	**Arecibo Observ**	**1.80**	**225**	*e*P	**Pn**	**18 05 46.2**	**0.0**
AOPR	**Arecibo Observ**	**1.80**	**225**	⇓*e*P	**Pn**	**18 05 47.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.80**	**225**	*e*S	**Sn**	**18 06 10.1**	**+1.2**
CELP	**Cerrillos**	**1.90**	**216**		**Sn**	**18 06 12.1**	**+0.8**
CELP	**Cerrillos**	**1.90**	**216**		**Pn**	**18 05 47.5**	**-0.1**
CELP				IAML		18 06 20.4	
comp=N,372nm,1.2s							
CELP	**Cerrillos**	**1.90**	**216**	*i* P	**Pn**	**18 05 47.7**	**0.0**
CELP				IAML		18 06 22.2	
comp=N,254nm,0.6s							
CELP				IAML		18 06 30.8	
comp=E,223nm,0.5s							
CELP	**Cerrillos**	**1.90**	**216**	⇑*e*P	**Pn**	**18 05 47.8**	**+0.2**
CELP	**Cerrillos**	**1.90**	**216**	*e*S	**Sn**	**18 06 12.1**	**+0.8**
OBIP	**Obispado Ponce**	**1.94**	**216**		**Sn**	**18 06 12.5**	**+0.2**
OBIP	**Obispado Ponce**	**1.94**	**216**		**Pn**	**18 05 47.4**	**-0.8**
OBIP				IAML		18 06 20.8	
comp=E,393nm,0.7s							
OBIP				IAML		18 06 23.9	
comp=N,386nm,0.9s							
OBIP	**Obispado Ponce**	**1.94**	**216**	⇑*e*P	**Pn**	**18 05 47.9**	**-0.3**
OBIP	**Obispado Ponce**	**1.94**	**216**	*e*S	**Sn**	**18 06 12.5**	**+0.2**
AGPR	**Aguadilla, PR**	**1.98**	**235**		**Pn**	**18 05 48.8**	**+0.1**
AGPR				IAML		18 06 37.4	
comp=E,404nm,1.2s							
AGPR				IAML		18 06 46.6	
comp=N,414nm,2.5s							
AGPR	**Aguadilla, PR**	**1.98**	**235**	⇑*e*P	**Pn**	**18 05 49.5**	**+0.7**
AGPR	**Aguadilla, PR**	**1.98**	**235**	*e*S	**Sn**	**18 06 14.7**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.16**	**221**		**Pn**	**18 05 52.0**	**+0.9**
GBPR	**Guanica, Bosqu**	**2.16**	**221**	⇑*e*P	**Pn**	**18 05 52.0**	**+0.9**
GBPR	**Guanica, Bosqu**	**2.16**	**221**	*e*S	**Sb**	**18 06 20.0**	**-1.0**
PRSN	**Puerto Rico Se**	**2.16**	**230**		**Pn**	**18 05 52.0**	**+0.8**
PRSN				IAML		18 06 28.6	
comp=E,574nm,0.3s							
MLPR	**Magueyes Islan**	**2.27**	**224**	*e*Pg	**Pn**	**18 05 53.2**	**+0.7**
MLPR				IAML		18 06 35.6	
comp=N,65nm,1.9s							
MLPR	**Magueyes Islan**	**2.27**	**224**	⇓*e*P	**Pn**	**18 05 53.5**	**+0.9**
MLPR	**Magueyes Islan**	**2.27**	**224**	*e*S	**Sn**	**18 06 21.7**	**+1.5**
CRPR	**Cabo Rojo, PR**	**2.28**	**225**		**Pn**	**18 05 53.2**	**+0.4**
CRPR				IAML		18 06 32.0	
comp=E,208nm,1.2s							
CRPR				IAML		18 06 43.4	
comp=N,234nm,1.4s							
CRPR	**Cabo Rojo, PR**	**2.28**	**225**	*e*Pg	**Pn**	**18 05 53.8**	**+1.0**
CRPR				IAML		18 06 45.1	
comp=N,190nm,0.8s							
CRPR	**Cabo Rojo, PR**	**2.28**	**225**	⇓*e*P	**Pn**	**18 05 54.0**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.28**	**225**	*e*S	**Sn**	**18 06 22.1**	**+1.5**
IDE	**Isla Desecheo**	**2.31**	**238**		**Pn**	**18 05 54.7**	**+1.4**
IDE	**Isla Desecheo**	**2.31**	**238**	⇑*e*P	**Pn**	**18 05 54.7**	**+1.4**
IDE	**Isla Desecheo**	**2.31**	**238**	*e*S	**Sn**	**18 06 23.4**	**+2.0**

PCDR	**Punta Cana, DR**	**3.03**	**249**		**Pn**	**18 06 04.6**	**+1.5**
PCDR				IAML		18 07 47.8	
comp=E,140nm,1.9s							
PCDR	**Punta Cana, DR**	**3.03**	**249**	IAML		18 06 41.8	
comp=E,71nm,0.8s							
PCDR	**Punta Cana, DR**	**3.03**	**249**	⇑*e*P	**Pn**	**18 06 05.1**	**+2.1**
PCDR	**Punta Cana, DR**	**3.03**	**249**	*e*S	**Sn**	**18 06 40.2**	**+1.2**
HIDR	**Higuey Centro**	**3.30**	**252**	⇓*e*P	**Pn**	**18 06 09.0**	**+2.2**
HIDR	**Higuey Centro**	**3.30**	**252**	*e*S	**Sn**	**18 06 47.3**	**+1.6**
SADR	**Isla Saona**	**3.50**	**246**	⇓*e*Pg	**Pn**	**18 06 10.8**	**+1.2**
SADR				*e*Sg	**Sn**	**18 06 55.1**	**+4.4**
SADR				IAML		18 07 10.1	
comp=N,415nm,0.8s							
SMDR	**Samana, DR**	**3.59**	**265**	⇑*e*P	**Pn**	**18 06 12.5**	**+1.8**
ANBD	**Bethesda, Anti**	**4.30**	**126**	*e*P	**Pn**	**18 06 17.7**	**-3.0**
BANI	**BANI**	**4.84**	**256**	Pn	**Pn**	**18 06 30.1**	**+1.8**
ABD	**La Joyeuse, An**	**4.87**	**129**	⇑*e*P	**Pn**	**18 06 26.2**	**-2.2**
ABD	**La Joyeuse, An**	**4.87**	**129**	*e*S	**Sn**	**18 07 20.1**	**-4.3**
SDDR	**Presa de Saban**	**5.59**	**264**		**Pn**	**18 06 40.4**	**+2.0**
SDDR	**Presa de Saban**	**5.59**	**264**	*e*P	**Pn**	**18 06 41.8**	**+3.3**
SDDR				*e*S	**Sn**	**18 07 44.5**	**+2.0**
SDDR				IVMs_BB	IVMs_BB	18 08 33.4	
comp=N,582nm,2.9s							
SDDR				IVMs_BB	IVMs_BB	18 08 45.4	
comp=N,595nm,3.2s							
SDDR	**Presa de Saban**	**5.59**	**264**	*e*Pg	**Pn**	**18 06 41.6**	**+3.1**
SDDR				IAML		18 08 28.0	
comp=N,61nm,1.6s							
SDDR	**Presa de Saban**	**5.59**	**264**	*e*P	**Pn**	**18 06 41.9**	**+3.5**
SDDR	**Presa de Saban**	**5.59**	**264**	⇑*e*P	**Pn**	**18 06 41.0**	**+2.6**
MASC	**Masc**	**8.32**	**275**	*e*P	**Pn**	**18 07 15.3**	**-0.6**
MASC				*e*S	**Sn**	**18 08 44.0**	**-5.5**
QMBU	**Quimbuelo**	**8.87**	**275**	*e*P	**Pn**	**18 07 21.9**	**-1.5**
QMBU				⇓*e*S	**Sn**	**18 08 55.4**	**-7.7**
NMDO	**Nuevo Mundo**	**9.05**	**278**	Pn	**Pn**	**18 07 25.4**	**-0.4**
NMDO	**Nuevo Mundo**	**9.05**	**278**	*e*P	**Pn**	**18 07 24.0**	**-1.8**
NMDO				*e*S	**Sn**	**18 09 01.0**	**-6.5**
GTBY	**Guantanamo Bay**	**9.14**	**274**	*e*P	**Pn**	**18 07 26.4**	**-0.8**
GTBY				*e*S	**Sn**	**18 09 02.9**	**-6.9**
RCC	**Rio Carpintero**	**9.70**	**274**	*e*P	**Pn**	**18 07 32.5**	**-2.2**
RCC				*e*S	**Sn**	**18 09 15.6**	**-7.8**
SDV	**Santo Domingo**	**11.82**	**206**	Pn	**Pn**	**18 08 04.0**	**0.0**
comp=N,0.7nm,0.3s,baz=59,slow=8.4,SNR=6.8							
comp=N,2.2nm,0.5s							
RUSC	**La Rusia**	**15.56**	**210**	Pn	**Pn**	**18 08 54.4**	**-0.7**
ROSC	**El Rosal**	**17.07**	**212**	Pn	**P**	**18 09 15.0**	**-1.1**
comp=N,2.4nm,0.3s,baz=17,slow=20,SNR=2.5							
comp=N,12nm,0.5s							
BOAV	**Boa Vista**	**17.78**	**164**	Pn	**Pn**	**18 09 19.7**	**-3.0**
MDP	**Montagnes des**	**19.05**	**138**	LR	LR	18 18 12.6	
comp=N,55nm,19.6s,baz=298,slow=41							
TXAR	**Lajitas Array**	**36.00**	**293**	P	**P**	**18 12 18.1**	**+1.7**
comp=N,0.2nm,0.4s,baz=106,slow=5.2,SNR=4.3							
comp=N,0.2nm,0.4s							
SDCO	**Great Sand Dun**	**39.18**	**306**	P	**P**	**18 12 43.7**	**+0.2**
PDAR	**Pinedale Array**	**43.62**	**312**	P	**P**	**18 13 21.1**	**+1.3**
comp=N,0.2nm,0.5s,baz=115,slow=6.2,SNR=2.4							
comp=N,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**49.21**	**304**	P	**P**	**18 14 03.5**	**-0.3**
comp=N,0.3nm,0.5s,baz=94,slow=8.7,SNR=2.0							
comp=N,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**54.43**	**334**	P	**P**	**18 14 43.1**	**+1.1**
comp=N,1.0nm,1.0s,baz=123,slow=6.4,SNR=6.6							
comp=N,1.0nm,1.0s							
FINES	**FINESS Array B**	**73.67**	**30**	P	**P**	**18 16 50.2**	**+1.7**
comp=N,1.3nm,0.8s,baz=297,slow=4.4,SNR=1.5							
comp=N,1.3nm,0.8s							

*IDC **28** 18:08:01.6±1.3,1˚.38N×126˚.79E,h0km,mb3.6/6, mbtmp3.7/7,ML3.5/1,Error ellipse: s-maj=108.0km s-min=17.5km az=70.0*
*DJA **28** 18:08:09.3±1.6,2˚N±3˚×12˚7E±˚,h20km±15km,M3.9/11, mb3.8/1,MLv3.9/11*
ISC 28 18:08:03.4±1.0,1˚.68N±0˚.10×127˚.2E±0˚.1,h10km,n13, σ2ˢ34/13,mb3.8/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**171**	P	**Pn**	**18 08 25.9**	**+3.6**
SGSI	**Sangihe**	**2.61**	**320**	P	**Pb**	**18 08 50.3**	**0.0**
KMSI	**Cibinong**	**3.42**	**251**	P	**Pn**	**18 08 59.1**	**+2.3**
SANI	**Sanana**	**3.90**	**198**	P	**Pn**	**18 09 04.7**	**+1.2**
NLAI	**Namlea**	**4.89**	**181**	P	**Pn**	**18 09 19.7**	**+2.7**
LUWI	**Luwuk**	**5.20**	**239**	P	**Pn**	**18 09 23.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**19.71**	**184**	P	**P**	**18 12 30.6**	**-2.6**
0.1nm,0.3s,baz=16,slow=7.4,SNR=1.8							
2.5nm,0.9s							
WRA	**Warramunga Arr**	**22.60**	**162**	P	**P**	**18 13 01.1**	**-3.3**
0.6nm,0.3s,baz=338,slow=11,SNR=20							
0.6nm,0.3s							
ASAR	**Alice Springs**	**26.02**	**166**	P	**P**	**18 13 35.6**	**-1.3**
0.4nm,0.5s,baz=339,slow=7.3,SNR=12							
0.4nm,0.5s							
SONM	**Songino Array**	**49.38**	**342**	P	**P**	**18 16 54.8**	**+1.5**
0.3nm,0.3s,baz=169,slow=8.5,SNR=2.0							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**59.51**	**326**	P	**P**	**18 18 07.5**	**+0.6**
0.8nm,0.6s,baz=123,slow=7.6,SNR=9.9							
0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**63.72**	**328**	P	**P**	**18 18 35.3**	**+0.1**
0.6nm,0.6s,baz=127,slow=6.3,SNR=9.0							
0.6nm,0.6s							
BVAR	**Borovoye Array**	**69.29**	**327**	P	**P**	**18 19 09.0**	**-1.8**
0.5nm,0.7s,baz=108,slow=4.7,SNR=3.1							
0.5nm,0.7s							

*KRNET **28** 18:10:13.8±0.1,40˚.80N×70˚.85E,h12km,mb2.7*
*SOME **28** 18:10:15.1,40˚.88N×71˚.00E,h10km*
*ISU **28** 18:10:15,40˚.76N×70˚.77E,h16km*
*NNC **28** 18:10:16.0±6.7,40˚.82N×71˚.32E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=54.9km s-min=23.0km az=21.0*
ISC 28 18:10:13.3±1.2,40˚.83N±0˚.02×70˚.83E±0˚.03,h4km±12km, n20,σ1ˢ05/32,17C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINT	**Mingtut**	**0.38**	**163**	P	Pg	18 10 15.0	-5.6
TRKS	**Terek-Say**	**0.74**	**18**	⇓*i*P	**Pg**	**18 10 27.5**	**-0.1**
TRKS				⇓*i*S	**Sg**	**18 10 37.2**	**0.0**
BTK	**Batken**	**0.77**	**181**	⇑*i*P	**Pg**	**18 10 27.9**	**-0.1**
BTK				⇑*i*S	**Sg**	**18 10 38.1**	**+0.1**
CHMI	**Chimion**	**0.77**	**136**	P	Pg	18 10 15.0	-13
FRG	**Fergana**	**0.86**	**122**	P	Pg	18 10 15.0	-15
CHMG	**Chimgan**	**0.95**	**320**	P	**Pn**	**18 10 33.7**	**+0.1**
CHMG				S	**Sn**	**18 10 47.3**	**-0.5**
ARK	**Arkit**	**1.29**	**41**	⇑*i*P	**Pg**	**18 10 38.7**	**+0.6**
ARK				⇑*i*S	**Sn**	**18 10 56.5**	**+0.3**
OHH	**Osh**	**1.52**	**101**	⇑*i*P	**Pb**	**18 10 41.8**	**-0.3**
OHH				⇑*i*S	**Sg**	**18 11 02.0**	**-0.1**
DRK	**Karamyk**	**1.54**	**151**	⇑*i*P	**Pb**	**18 10 42.1**	**-0.5**
DRK				⇑*i*S	**Sg**	**18 11 02.4**	**-0.3**
ARSB	**Arslanbob**	**1.70**	**72**	⇑*e*P	**Pb**	**18 10 45.0**	**-0.3**
ARSB				⇑*e*S	**Sg**	**18 11 08.5**	**+0.5**
MNAS	**Manas**	**2.08**	**37**	⇑*e*P	**Pb**	**18 10 51.7**	**-0.1**
MNAS				⇑*e*S	**Sg**	**18 11 19.6**	**-0.6**
SFK	**Sufi-Kurgan**	**2.20**	**111**	⇓*e*P	**Pb**	**18 10 52.8**	**-1.0**
SFK				⇓*e*S	**Sb**	**18 11 21.5**	**0.0**
SALK	**Salom-Alik**	**2.27**	**88**	⇑*e*P	**Pb**	**18 10 54.0**	**-1.0**
SALK				⇑*e*S	**Sb**	**18 11 23.3**	**-0.2**
KK31	**Karatay Array**	**2.29**	**354**	⇓Pn	**Pg**	**18 10 56.6**	**-0.6**
1.5nm,0.2s,baz=169,slow=11,SNR=21							
KK31				⇑Sn	**Sg**	**18 11 26.6**	**-0.2**
4.7nm,0.3s,baz=177,slow=29,SNR=15							
BRLS	**Borolday**	**2.32**	**342**	*e*P	**Pb**	**18 10 54.8**	**-1.0**
4.4nm,0.1s							
BRLS				*e*S	**Sb**	**18 11 24.4**	**-0.4**
22nm,0.2s							
BXML	**Bakhmal**	**2.42**	**243**	P	**Pg**	**18 10 59.4**	**-0.4**
BXML				S	**Sg**	**18 11 33.5**	**+2.3**
MRKS	**Merke**	**2.62**	**42**	*e*P	**Pb**	**18 11 02.0**	**+1.1**
2.3nm,0.3s							
MRKS				*e*S	**Sg**	**18 11 37.7**	**0.0**
19nm,0.3s							
ARLS	**Aral**	**2.83**	**67**	⇓*e*P	**Pb**	**18 11 02.1**	**-2.4**
ARLS				⇓*e*S	**Sb**	**18 11 37.1**	**-2.4**
AAK	**Ala-Archa**	**3.29**	**55**	Pg	**Pn**	**18 11 07.8**	**+2.0**
0.5nm,0.5s							
AAK				Lg	Lg	18 11 52.3	
1.8nm,0.6s							
TKM2	**Tokmak 2**	**4.13**	**58**	⇑Pg	**Pb**	**18 11 28.5**	**+1.8**
0.7nm,0.5s							
TKM2				⇑Lg	Lg	18 12 17.2	
1.3nm,0.5s							

*IDC **28** 18:42:06.8±1.0,12˚.84N×145˚.86E,h94km±6km,mb3.5/10, mbtmp3.8/10,Error ellipse: s-maj=29.6km s-min=18.3km az=92.0*
ISC 28 18:42:07.7±0.9,12˚.9N±0˚.1×145˚.8E±0˚.2,h100km,n11, σ0ˢ67/15,mb3.7/10,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.48**	**199**	P	**P**	**18 48 45.7**	**-0.6**
0.4nm,0.9s,baz=12,slow=7.9,SNR=1.1							
WRA				pP	**pP**	**18 49 08.1**	**+1.4**
0.7nm,0.9s,baz=21,slow=8.9,SNR=3.1							
0.4nm,0.9s							
ASAR	**Alice Springs**	**38.11**	**198**	P	**P**	**18 49 16.0**	**-1.1**
0.3nm,0.8s,baz=19,slow=8.7,SNR=1.6							
0.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**45.36**	**283**	P	**P**	**18 50 16.8**	**+0.4**
1.1nm,0.7s,baz=83,slow=6.4,SNR=11							
1.1nm,0.7s							
SONM	**Songino Array**	**47.85**	**325**	P	**P**	**18 50 35.2**	**-0.4**
0.4nm,0.5s,baz=134,slow=8.3,SNR=2.4							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**62.65**	**316**	P	**P**	**18 52 21.9**	**+0.1**
1.6nm,0.5s,baz=90,slow=8.7,SNR=28							
MKAR				pP	**pP**	**18 52 45.5**	**0.0**
0.5nm,0.5s,baz=84,slow=8.7,SNR=4.2							
1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**62.75**	**324**	P	**P**	**18 52 22.2**	**0.0**
0.4nm,0.4s,baz=122,slow=7.3,SNR=2.1							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**65.77**	**320**	P	**P**	**18 52 41.8**	**-0.2**
1.4nm,0.6s,baz=104,slow=6.8,SNR=22							
KURBB				pP	**pP**	**18 53 05.6**	**-0.1**
0.9nm,0.6s,baz=104,slow=6.5,SNR=5.2							
1.4nm,0.6s							
BVAR	**Borovoye Array**	**71.06**	**322**	P	**P**	**18 53 14.6**	**-0.4**
2.2nm,0.4s,baz=105,slow=7.7,SNR=22							
2.2nm,0.4s							
INK	**Inuvik**	**74.70**	**22**	P	**P**	**18 53 35.8**	**-0.4**
0.9nm,0.7s,baz=265,slow=4.6,SNR=4.7							
0.9nm,0.7s							
YKA	**Yellowknife Ar**	**83.10**	**27**	P	**P**	**18 54 22.1**	**0.0**
0.1nm,0.5s,baz=287,slow=5.4,SNR=2.7							
YKA				pP	**pP**	**18 54 46.4**	**+0.9**
0.2nm,0.6s,baz=283,slow=4.8,SNR=2.5							
0.1nm,0.5s							
DBIC	**Dimbokro**	**144.98**	**302**	PKPbc	**PKPdf**	**19 01 34.7**	**+0.4**
0.7nm,0.4s,baz=102,slow=4.2,SNR=3.9							

*IDC **28** 18:57:18.2±0.8,55˚.29N×164˚.37E,h0km,mb3.7/12, mbtmp3.8/16,ML0.7/1,MS3.2/6,Error ellipse: s-maj=19.1km s-min=14.6km az=11.0*
*KRSC **28** 18:57:20.0±1.4,55˚.25N×164˚.42E,h60km±26km,Ml4.7*
*MOS **28** 18:57:21.5±0.8,55˚.30N×164˚.51E,h42km,mb4.4/8,Error ellipse: s-maj=6.2km s-min=5.6km az=74.5*
*NEIC **28** 18:57:22.0±2.1,55˚.4N±0˚.1×163˚.97E±0˚.06,h10km±1km, mb4.2/24,Error ellipse: s-maj=19.9km s-min=5.4km az=188.0*
ISC 28 18:57:22.1±0.4,55˚.31N±0˚.04×164˚.35E±0˚.04,h22km,n148, σ1ˢ51/161,mb4.2/28,MS3.4/4,6C,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.93**	**96**	PN	**Pb**	**18 57 36.9**	**-2.6**
BKI				S	**Sb**	**18 57 48.2**	**-3.2**
BKI	**Bering**	**0.93**	**96**	*e*P	**Pb**	**18 57 36.9**	**-2.6**
BKI				*e*S	**Sb**	**18 57 48.2**	**-3.2**
KBTR	**Krutoberegovo**	**1.25**	**317**	PN	**Pn**	**18 57 42.5**	**-1.7**
KBTR				S	**Sn**	**18 57 58.8**	**-1.6**
KBTR	**Krutoberegovo**	**1.25**	**317**	*e*P	**Pn**	**18 57 42.6**	**-1.7**
KBTR				*e*S	**Sn**	**18 57 58.8**	**-1.6**
KBG	**Krutoberegovo**	**1.33**	**316**	PN	**Pn**	**18 57 43.7**	**-1.6**
KBG	**Krutoberegovo**	**1.33**	**316**	*e*P	**Pn**	**18 57 43.8**	**-1.6**
MKZ	**Mys Kozlova**	**1.69**	**245**	PN	**Pn**	**18 57 49.6**	**-0.6**
MKZ				S	**Sn**	**18 58 09.7**	**-1.4**
MKZ	**Mys Kozlova**	**1.69**	**245**	*e*P	**Pn**	**18 57 49.7**	**-0.6**
MKZ				*e*S	**Sn**	**18 58 09.8**	**-1.4**
SMKR	**Semk

4.7nm,0.3s,baz=93,slow=17,SNR=8.9
RUS Russkaya 4.50 233 *e*S **Sn 18 59 16.5 -3.8**
GRL Gorelyy 4.62 236 PN **Pn 18 58 31.6 +1.0**
GRL Gorelyy 4.62 236 *e*P **Pn 18 58 31.7 +1.0**
GRL *e*S **Sn 18 59 23.6 -0.1**
APC Apacha 4.86 244 PN **Pn 18 58 35.7 +2.0**
APC Apacha 4.86 244 *e*P **Pn 18 58 35.8 +2.0**
TILK Tilichiki 5.24 10 PN **Pn 18 58 40.1 +1.1**
TILK Tilichiki 5.24 10 *e*P **Pn 18 58 40.1 +1.1**
PAU Pauzhetka 5.93 233 PN **Pn 18 58 48.9 +0.5**
PAU Pauzhetka 5.93 233 *e*P **Pn 18 58 49.0 +0.5**
SKR Severo-Kuril's 6.79 230 *e*PN **Pn 18 59 02.0 +1.7**
SKR pmax pmax
comp=Z,142nm,0.4s
MA2 Magadan 8.48 306 Pn **Pn 18 59 24.6 +1.2**
comp=Z,1.8nm,0.4s,baz=90,slow=9.2,SNR=6.7
MA2 LR LR 19 03 05.6
comp=Z,47nm,19.9s,baz=100,slow=41
SEY Seymchan 9.80 326 Pn **Pn 18 59 41.6 +0.2**
baz=146,slow=12,SNR=4.5
comp=Z,0.4nm,0.4s
BILL Bilibino 12.81 3 *i* PN **Pn 19 00 22.5 -0.1**
K13K Kusilvak Mount 17.32 55 P 19 01 25.8 +2.4
M14K Bethel 18.50 59 P **Pn 19 01 40.1 +3.5**
M14K IAmb IAmb 19 01 53.0
comp=Z,21nm,1.4s
YAK Yakutsk 19.05 305 P **P 19 01 41.7 -0.7**
YAK IAmb IAmb 19 01 45.1
comp=Z,16nm,0.7s
YAK Yakutsk 19.05 305 P **P 19 01 41.3 -1.1**
comp=Z,11nm,0.4s,baz=41,slow=5.8,SNR=7.6
YAK LR LR 19 09 15.6
comp=Z,61nm,18.2s,baz=130,slow=38
YAK Yakutsk 19.05 305 *e*P **P 19 01 41.7 -0.7**
YAK *e*S **Sn 19 05 12.8 -3.0**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,192nm,4.5s
YAK pmax pmax
comp=E,126nm,4.1s
YAK smax smax
comp=E,136nm,4.5s
YAK smax smax
comp=N,67nm,4.3s
ERM Erimo 19.21 235 P **P 19 01 44.2 0.0**
ERM Erimo 19.21 235 *i* P **P 19 01 43.9 -0.3**
N15K Kwethluk River 19.42 61 Pn **Pn 19 01 52.1 +4.3**
N15K IAmb IAmb 19 02 01.3
comp=Z,12nm,1.1s
M16K Timber Creek 19.97 58 P **Pn 19 01 54.2 -0.1**
M17K Holitna River 20.71 57 P Pn 19 02 04.2 +1.3
M17K IAmb IAmb 19 02 19.8
comp=Z,11nm,0.8s
KLR Kul'dur 20.72 267 LR LR 19 11 33.0
comp=Z,57nm,18.9s,baz=62,slow=41
ZEA Zeya 21.43 281 *i* P **P 19 02 06.5 -1.8**
N18K Kilae Creek 21.49 59 P **P 19 02 11.4 +2.5**
TIXI Tiksi 22.23 331 P 19 02 17.1 +0.3
TIXI Tiksi 22.23 331 P **P 19 02 16.9 +0.1**
comp=Z,1.1nm,0.3s,baz=114,slow=9.8,SNR=8.7
comp=Z,1.1nm,0.3s
TIXI Tiksi 22.23 331 *ce*P **P 19 02 15.7 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
D22K Ayikyak River 23.61 38 P **P 19 02 33.5 +2.4**
TRF Thorofare Moun 24.01 52 P **P 19 02 35.5 +0.4**
TRF IAmb IAmb 19 02 42.9
comp=Z,8.0nm,0.9s
VLA Vladivostok 24.22 253 *i* P **P 19 02 36.0 -0.9**
VLA pmax pmax
comp=Z,36nm,1.4s
G24K Hadweenzic Riv 25.26 44 P **P 19 02 48.9 +2.8**
G24K IAmb IAmb 19 02 52.6
comp=Z,3.9nm,0.8s
ILAR Eielson Array 25.47 49 P **P 19 02 47.1 -1.0**
comp=Z,0.6nm,0.8s,baz=273,slow=8.0,SNR=5.8
comp=Z,0.6nm,0.8s
H29M Whitestone 28.92 45 P **P 19 03 22.2 +3.1**
H29M IAmb IAmb 19 03 25.9
comp=Z,7.6nm,1.5s
I30M Mount Dempster 29.87 47 P **P 19 03 30.4 +2.8**
I30M IAmb IAmb 19 03 50.8
comp=Z,5.9nm,1.5s
F31M Tsiigehtchic 30.59 42 P **P 19 03 36.5 +2.8**
XLT XiLinHaoTe 32.65 270 *e*P **P 19 03 49.0 -3.2**
XLT pP sP 19 04 00.5 +1.4
XLT PcP PP 19 05 35.0 +29
XLT pmax pmax
comp=Z,4.0nm,0.9s
XLT pmax pmax
comp=Z,120nm,5.7s
H11N2 WAKE ISLAND Hy 35.57 176 T T 19 42 16.1
baz=358,slow=76,SNR=45
NRIK Noril'sk 35.58 324 *ce*P **P 19 04 16.9 -0.3**
NRIK pmax pmax
comp=Z,6.0nm,1.6s
H11N3 WAKE ISLAND Hy 35.58 176 T T 19 42 14.4
baz=358,slow=76,SNR=59
H11N1 WAKE ISLAND Hy 35.59 176 T T 19 42 15.2
baz=358,slow=76,SNR=68
SONM Songino Array 35.84 283 P **P 19 04 19.5 -0.4**
comp=Z,1.3nm,0.6s,baz=64,slow=7.8,SNR=10
comp=Z,1.3nm,0.6s
H11S1 WAKE ISLAND Hy 36.78 176 T T 19 43 44.1
baz=359,slow=76,SNR=10
H11S3 WAKE ISLAND Hy 36.79 176 T T 19 43 45.6
baz=359,slow=76,SNR=4.5
H11S2 WAKE ISLAND Hy 36.80 176 T T 19 43 45.6
baz=359,slow=76,SNR=8.5
HHC Hu-ho-hao-te 37.17 270 *e*P **P 19 04 30.5 -0.8**
HHC pmax pmax
comp=Z,13nm,0.6s
YKA Yellowknife Ar 39.83 46 P **P 19 04 52.9 -0.3**
comp=Z,0.2nm,0.6s,baz=302,slow=8.4,SNR=5.6
comp=Z,0.2nm,0.6s
CLRS Cowichan Lake 42.65 68 P **P 19 05 18.7 +2.2**
KURK Kurchatov 48.67 302 P **P 19 06 02.7 -1.4**
KURK IAmb IAmb 19 06 18.4
comp=Z,2.7nm,0.8s
KURK Kurchatov 48.67 302 *ce*P **P 19 06 03.9 -0.2**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arr 48.78 302 P **P 19 06 03.6 -1.3**
comp=Z,1.7nm,0.6s,baz=54,slow=7.9,SNR=16
comp=Z,1.7nm,0.6s
MK31 Makanchi Array 49.43 296 *ce*P **P 19 06 09.7 -0.3**
MKAR Makanchi Array 49.43 296 P **P 19 06 08.9 -1.0**
comp=Z,0.5nm,0.7s,baz=59,slow=7.3,SNR=7.8
MKAR LR LR 19 26 56.5
comp=Z,32nm,18.6s,baz=96,slow=36
comp=Z,0.5nm,0.7s
MKAR Makanchi Array 49.43 296 P **P 19 06 09.0 -1.0**
FCC Fort Churchill 50.17 42 P **P 19 06 17.1 +1.7**
FCC IAmb IAmb 19 06 30.8
comp=Z,3.9nm,1.3s
FCC Fort Churchill 50.17 42 P **P 19 06 17.1 +1.7**
FCC pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 50.95 309 P **P 19 06 20.4 -1.0**
comp=Z,1.0nm,0.6s,baz=64,slow=10,SNR=4.7
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 52.68 74 P **P 19 06 34.7 -0.1**
comp=Z,0.4nm,0.6s,baz=314,slow=6.4,SNR=2.5
comp=Z,0.4nm,0.6s
PZH PanZhiHua 53.14 264 P **P 19 06 39.0 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
SFJD Kangerlussuaq 55.23 16 LR LR 19 32 00.0
comp=Z,35nm,19.3s,baz=84,slow=38
BOOM Boomskoye usch 55.68 296 P **P 19 06 55.4 -1.1**
BOOM IAmb IAmb 19 07 38.7
comp=Z,3.3nm,1.2s
BOOM Boomskoye usch 55.68 296 P **P 19 06 55.4 -1.1**
BOOM pmax pmax
comp=Z,3.0nm,1.2s
K22A Casper 55.92 63 pwP 19 07 16.4 +6.2
AAK Ala-Archa 56.31 298 LR LR 19 34 11.2
comp=Z,38nm,18.2s,baz=32,slow=39
AAK Ala-Archa 56.31 298 *ce*P **P 19 07 00.4 -0.6**
AAK pmax pmax
comp=Z,3.0nm,1.7s
KKAR Karatay Array 57.96 300 pwP 19 07 26.4 +1.3
ABKAR Abkulak array 58.23 312 P **P 19 07 13.9 -0.3**
ABKAR IAmb IAmb 19 07 14.7
comp=Z,2.0nm,0.8s
BTK Batken 60.08 298 P **P 19 07 26.8 -0.5**
BTK Batken 60.08 298 P **P 19 07 26.8 -0.5**
BTK pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 61.05 261 P **P 19 07 35.1 +1.0**
comp=Z,0.6nm,0.3s,baz=14,slow=6.3,SNR=6.3
comp=Z,0.6nm,0.3s
OBN Obninsk 61.95 329 *e*P **P 19 07 37.8 -1.8**
OBN *e* 19 08 18.9
OBN *e* 19 09 57.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
KAN05 Bluff City Nor 64.47 61 P **P 19 07 59.7 +3.1**
ELIS Ellis County 64.49 63 P **P 19 07 58.5 +1.6**
TXAR Lajitas Array 67.50 71 P **P 19 08 16.2 -0.2**
comp=Z,0.4nm,0.6s,baz=293,slow=6.4,SNR=3.5
comp=Z,0.4nm,0.6s
M50A Fremont 67.96 49 P **P 19 08 21.3 +2.3**
WRA Warramunga Arr 79.19 209 P **P 19 09 23.5 -1.5**
comp=Z,0.9nm,0.8s,baz=21,slow=5.5,SNR=4.7
comp=Z,0.9nm,0.8s
ASAR Alice Springs 82.85 208 P **P 19 09 44.5 0.0**
comp=Z,1.2nm,0.7s,baz=14,slow=5.5,SNR=18
comp=Z,1.2nm,0.7s

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*IDC **28** 19:11:55.1±2.2,36.°36N×141.°32E,h0km,mb3.5/4, mbtmp3.5/6,ML3.0/2,MS2.3/1,Error ellipse: s-maj=36.6km s-min=27.2km az=176.0*
*NIED **28** 19:12:00.5,36.°21N×140.°94E,h39km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.07; $M_{\theta\theta}$0.35; $M_{\phi\phi}$0.72; $M_{r\theta}$0.25; $M_{\theta\phi}$0.90; $M_{r\phi}$0.95; Fault plane solution: $M_0$1.62000×10^{14} NP1:ϕ_s61.00000°, δ31.00000°,λ-55.00000°. NP2:ϕ_s202.00000°,δ65.00000°, λ-109.00000°.*
*JMA **28** 19:12:00.5±0.1,36.°2N±0.°3×140.°9E±0.°8,h39km±1km, MV3.5/38,E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 28 19:12:01.2±1.3,**36.°26N**±0.°04×**140.°95E**±0.°07,**h32**km±8km, **n17**,σ1$**08**/24,**mb3.4**/4,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.30**	**285**	*i* P	**Pb**	**19 12 08.9**	**0.0**
JHYU				S	**Sn**	**19 12 14.3**	**-0.6**
JIHU	**Itakohorinouch**	**0.46**	**229**	P	**Pb**	**19 12 10.8**	**-0.2**
JIHU				S	**Sb**	**19 12 17.7**	**0.0**
JHO	**Hitachi**	**0.46**	**318**	*i* P	**Pb**	**19 12 11.0**	**-0.1**
JHO				S	**Sb**	**19 12 18.2**	**+0.2**
JYT	**Yasato**	**0.61**	**267**	*i* P	**Pn**	**19 12 12.6**	**-1.0**
JYT				S	**Sn**	**19 12 20.9**	**-1.5**
ONAJ	**Iwakimizuishiy**	**0.84**	**352**	*i* P	**Pn**	**19 12 16.5**	**-0.5**
ONAJ				S	**Sn**	**19 12 27.6**	**-0.7**
JFK	**Kawauchi**	**1.10**	**357**	*i* P	**Pn**	**19 12 19.9**	**-0.6**
JFK				S	**Sn**	**19 12 33.6**	**-1.0**
JAG	**Ashikaga**	**1.22**	**278**	*i* P	**Pn**	**19 12 21.5**	**-0.5**
JAG				S	**Sn**	**19 12 36.5**	**-1.0**
JOTO	**OTAMA OYAMA**	**1.39**	**339**	*i* P	**Pn**	**19 12 25.4**	**+1.0**
JOTO				S	**Sn**	**19 12 43.2**	**+1.6**
MJAR	**Matsushiro Arr**	**2.23**	**278**	Pn	**Pn**	**19 12 36.2**	**+0.2**
2.6nm,0.3s,baz=93,slow=9.1,SNR=85							
MJAR				Sn	**Sn**	**19 13 05.8**	**+3.4**
1.3nm,0.3s,baz=93,slow=15,SNR=6.8							
MJAR				Lg	Lg	19 13 14.5	
1.1nm,0.3s,baz=156,slow=42,SNR=1.9							
MJAR				LR	LR	19 13 42.1	
comp=Z,69nm,21.1s,baz=20,slow=42							
13nm,0.3s							
JHJ	**Hachijo jima 2**	**3.28**	**197**	Pn	**Pn**	**19 12 50.6**	**+0.2**
5.3nm,0.3s,baz=86,slow=22,SNR=1.8							
JHJ				Sn	**Sn**	**19 13 28.8**	**+0.5**
6.7nm,0.3s,baz=78,slow=20,SNR=2.0							
60nm,0.6s							
SONM	**Songino Array**	**27.92**	**305**	P	**P**	**19 17 48.9**	**+0.4**
0.5nm,0.7s,baz=107,slow=9.5,SNR=2.3							
0.5nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	19 47 56.8	
baz=314,slow=76,SNR=43							
H11S3	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	19 47 56.5	
baz=314,slow=76,SNR=28							
H11S2	**WAKE ISLAND Hy**	**28.78**	**121**	T	T	19 48 00.3	
baz=314,slow=76,SNR=32							
ZALV	**Zalesovo Beam**	**42.16**	**313**	P	**P**	**19 19 50.2**	**-0.3**
0.4nm,0.4s,baz=90,slow=13,SNR=2.3							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**44.22**	**303**	P	**P**	**19 20 06.8**	**-0.5**
0.2nm,0.7s,baz=82,slow=9.6,SNR=2.8							
0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**46.19**	**309**	P	**P**	**19 20 23.1**	**+0.3**
0.4nm,0.4s,baz=84,slow=7.9,SNR=9.4							
0.4nm,0.4s							

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*AEIC **28** 19:23:47.1±1.2,53.°96N±0.°05×163.°65W±0.°02,h15km±4km, Error ellipse: s-maj=6.7km s-min=1.2km az=172.0*
NEIC 28 19:23:45.4±1.0,**53.°93N**±0.°05×**163.°64W**±0.°08, **h19**km±11km,**ML2.5/6**,**ML2.5**(AEIC),**Error ellipse: s-maj=9.5km s-min=3.8km az=140.0,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.78**	**315**		Pg	19 24 00.8	+0.2
ISLZ	**Isanotski Laza**	**0.80**	**357**		Pb	19 24 00.5	-0.1
ISLZ					Sb	19 24 10.9	-0.1
SSLW	**Shishaldin Wes**	**0.89**	**342**		Pb	19 24 02.3	+0.1
WECS	**Westdahl Cape**	**0.90**	**313**		Pb	19 24 02.5	+0.2
ISNN	**Isanotski Nort**	**0.91**	**355**		Pg	19 24 02.9	-0.2
ISNN					Sg	19 24 15.2	+0.1
WEBT	**Westdahl Beart**	**0.93**	**316**		Pb	19 24 02.9	+0.1
FALS	**False Pass**	**0.94**	**8**		Pb	19 24 02.5	-0.5
FALS					Sb	19 24 14.6	-0.4
AKSA	**Akutan Strait**	**1.23**	**280**		Pn	19 24 07.3	-0.1
AKSA					Sb	19 24 23.3	-0.1
AHB	**Akutan Harbor**	**1.29**	**279**		Pn	19 24 08.6	+0.2
AKBBA	**Akutan Broad B**	**1.36**	**278**		Pn	19 24 09.2	-0.1
AKV	**Akutan Volcano**	**1.38**	**279**		Pn	19 24 09.9	+0.3
ZRO	**Akutan Zero**	**1.39**	**278**		Pn	19 24 09.8	+0.1
ZRO					Sn	19 24 27.1	-0.3
LVA	**Lava Point**	**1.43**	**280**	Pn	Pn	19 24 09.1	-1.2
LVA				IAML		19 24 35.1	
comp=E,53nm,0.7s							
AKRB	**Akutan Reef Bi**	**1.45**	**279**		Pn	19 24 10.6	+0.1
UNV	**Unalaska Valle**	**1.70**	**268**	Pn	Pn	19 24 14.6	+0.7
UNV	**Unalaska Valle**	**1.70**	**268**		Sb	19 24 36.3	-0.4
HAG	**Hague Volcano**	**1.72**	**35**		Pn	19 24 14.6	+0.3
PS4A	**Pavlof South-4**	**1.76**	**35**		Pn	19 24 15.2	+0.4
MTBL	**Makushin Table**	**1.79**	**272**		Pn	19 24 15.7	+0.4
MREP	**Makushin Rep't**	**1.84**	**268**		Pn	19 24 16.2	+0.3
PS1A	**Pavlof South-1**	**1.86**	**36**		Pn	19 24 16.4	+0.3
SDPT	**Sand Point**	**2.33**	**51**		Pn	19 24 22.9	+0.4
SDPT	**Sand Point**	**2.33**	**51**	IAML		19 24 55.2	
comp=E,28nm,1.0s							
SDPT				IAML		19 25 00.5	
comp=N,36nm,0.9s							
CNBA	**Chernabura Isl**	**2.53**	**68**		Pn	19 24 25.4	0.0
CNBA	**Chernabura Isl**	**2.53**	**68**	IAML		19 25 09.2	
comp=N,13nm,1.1s							
OKRE	**Okmok R'deer P**	**2.72**	**263**		Pn	19 24 28.7	+0.7
O14K	**Tigyukauivet M**	**5.50**	**13**	Pn	Pn	19 25 07.9	+1.9
N15K	**Kwethluk River**	**6.55**	**16**	Pn	Pn	19 25 18.9	-1.6
M14K	**Bethel**	**6.90**	**7**	Pn	Pn	19 25 26.6	+1.3

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*INMG **28** 19:36:26.8±1.4,38.°01N×0.°44W,h12km±2km,ML2.8,Error ellipse: s-maj=3.2km s-min=1.5km az=123.0, #DIST_RANGE: REGIONAL #IPMA_REGION: S Alicante (ESP)*
*SFS **28** 19:36:26.5,38.°13N×0.°44W,h0km,mb3.7/6,ML3.7/19, ML3.7/19,MLv3.6/19*
*MDD **28** 19:36:26.6±0.3,38.°03N×0.°45W,h4km±1km,mb_Lg3.1/97, Error ellipse: s-maj=2.1km s-min=1.2km az=136.0*
*CNRM **28** 19:36:27.6,38.°11N×0.°63W,h27km,ML3.4*
ISC 28 19:36:26.3±1.0,**38.°07N**±0.°02×**0.°51W**±0.°02,**h19**km±2km, **n97**,σ1$**45**/180,**3C-1D,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRV	**Los Montesinos**	**0.20**	**257**	⇑Pg	**Pb**	**19 36 31.4**	**+0.6**
ETRV				Sg	**Sg**	**19 36 35.1**	**+0.3**
ETRV				*i* Vmb_Lg		19 36 36.0	
EXTPC	**Torre Pacheco**	**0.48**	**228**	Pg	**Pg**	**19 36 35.9**	**-0.1**
EXTPC				Sg	**Sg**	**19 36 42.9**	**+0.4**
AFON	**Font Roja**	**0.60**	**358**	⇓Pg	**Pb**	**19 36 38.9**	**+0.6**
AFON				Sg	**Sb**	**19 36 47.9**	**+1.6**
AFON				*i* Vmb_Lg		19 36 51.1	
CART	**Cartagena**	**0.61**	**219**	P	**Pg**	**19 36 38.8**	**+0.3**
CART				S	**Sb**	**19 36 48.1**	**+1.5**
CART	**Cartagena**	**0.61**	**219**	P	**Pg**	**19 36 38.6**	**0.0**
EMUR	**La Murta**	**0.62**	**249**	P	**Pg**	**19 36 38.5**	**-0.1**
EMUR				S	**Sn**	**19 36 49.7**	**+0.1**
EMUR	**La Murta**	**0.62**	**249**	Pg	**Pg**	**19 36 38.6**	**-0.1**
EMUR				Sg	**Sn**	**19 36 49.2**	**-0.4**
EMUR				*i* Vmb_Lg		19 36 51.8	
EBEN2	**Beniarda presa**	**0.66**	**23**	Pg	**Pb**	**19 36 39.8**	**+0.5**
EBEN2				Sg	**Sb**	**19 36 48.7**	**+0.6**
EBEN2				*i* Vmb_Lg		19 36 52.0	
EXAHM	**Alhama Murcia,**	**0.76**	**253**	Pg	**Pb**	**19 36 41.3**	**+0.3**
EXAHM				Sg	**Sb**	**19 36 52.4**	**+1.4**
EXMAZ	**Mazarron**	**0.78**	**233**	Pg	**Pb**	**19 36 42.2**	**+0.9**
EXMAZ				Sg	**Sg**	**19 36 51.8**	**-0.2**
EXBUL	**Bullas, Murcia**	**0.91**	**269**	Pg	**Pb**	**19 36 44.0**	**+0.5**
EXBUL				Sg	**Sn**	**19 36 57.8**	**+1.1**
EZAR	**Zarzadilla de**	**0.95**	**259**	Pg	**Pb**	**19 36 45.0**	**+0.7**
EZAR				Sg	**Sn**	**19 36 58.2**	**+0.3**
EZAR				*i* Vmb_Lg		19 37 00.9	
TLOR	**Lorca, Murcia**	**1.02**	**247**	P	**Pn**	**19 36 47.5**	**+1.9**
TLOR				S	**Sn**	**19 37 01.3**	**+1.9**
TLOR	**Lorca, Murcia**	**1.02**	**247**	Pg	**Pb**	**19 36 45.6**	**+0.2**
TLOR				Sg	**Sn**	**19 36 59.9**	**+0.5**
ELOR	**Lorca, Murcia**	**1.06**	**247**	Pg	**Pn**	**19 36 47.0**	**+0.7**
ELOR				Sg	**Sg**	**19 37 00.7**	**-0.2**
ELOR				*i* Vmb_Lg		19 37 07.1	
EVIV	**Cofrentes, Val**	**1.29**	**339**	⇑Pg	**Pb**	**19 36 50.4**	**+0.4**
EVIV				Sg	**Sg**	**19 37 08.1**	**-0.1**
EVIV				*i* Vmb_Lg		19 37 14.4	
ECHE	**Chera**	**1.56**	**347**	P	**Pn**	**19 36 54.0**	**+0.8**
ECHE				S	**Sb**	**19 37 14.7**	**+0.5**
ECHE	**Chera**	**1.56**	**347**	⇑Pn	**Pn**	**19 36 54.3**	**+1.1**
ECHE				Pg	**Pg**	**19 36 57.4**	**+1.0**
ECHE				Sn	**Sb**	**19 37 14.4**	**+0.2**
ECHE				*i* Vmb_Lg		19 37 21.6	
ENIJ	**Nijar**	**1.73**	**231**	P	**Pn**	**19 36 56.9**	**+1.3**
ENIJ				S	**Sg**	**19 37 21.9**	**-0.3**
ENIJ	**Nijar**	**1.73**	**231**	Pn	**Pn**	**19 36 56.4**	**+0.9**
ENIJ				Sn	**Sn**	**19 37 17.0**	**-0.1**
ENIJ				*i* Vmb_Lg		19 37 26.4	
EIBI	**Ibiza**	**1.74**	**56**	P	**Pn**	**19 36 55.6**	**-0.1**
EIBI				S	**Sn**	**19 37 16.4**	**-1.0**
EIBI	**Ibiza**	**1.74**	**56**	Pn	**Pn**	**19 36 55.8**	**+0.2**
EIBI				Sn	**Sn**	**19 37 16.6**	**-0.8**
EIBI				*i* Vmb_Lg		19 37 21.7	
EQES	**Quesada**	**2.04**	**263**	Pn	**Pb**	**19 37 01.9**	**-1.0**
EQES				Sn	**Sb**	**19 37 28.8**	**+1.0**
EQES				*i* Vmb_Lg		19 37 30.0	
ECOL	**Islas Columbre**	**2.06**	**27**	Pn	**Pn**	**19 37 00.1**	**+0.2**
ECOL				Sn	**Sn**	**19 37 24.9**	**-0.1**
EBER	**Berja**	**2.22**	**239**	P	**Pn**	**19 37 03.9**	**+1.6**
EBER	**Berja**	**2.22**	**239**	Pn	**Pn**	**19 37 04.0**	**+1.6**
EBER				Sn	**Sn**	**19 37 29.3**	**0.0**
EBER				*i* Vmb_Lg		19 38 01.5	
EMOS	**Mosqueruela**	**2.29**	**1**	Pn	**Pn**	**19 37 04.7**	**+1.3**
EMOS				Sn	**Sn**	**19 37 32.3**	**+1.1**
EMOS				*i* Vmb_Lg		19 37 55.3	
E0803	**Jimena (Jaen)**	**2.35**	**265**	Pn	**Pn**	**19 37 05.2**	**+1.2**
E0803				Sn	**Sb**	**19 37 35.3**	**-1.5**
E0901	**Celadas (Terue**	**2.46**	**349**	Pn	**Pn**	**19 37 07.8**	**+2.3**
E0901				Pg	**Pg**	**19 37 13.3**	**-0.2**
E0901				Sn	**Sn**	**19 37 37.1**	**+2.0**
E0901				Sg	**Sg**	**19 37 47.0**	**+1.6**
E0901				*i* Vmb_Lg		19 37 56.0	
EQUE	**Quentar**	**2.48**	**251**	Pn	**Pn**	**19 37 07.5**	**+1.7**
EQUE				Sn	**Sn**	**19 37 38.7**	**+3.1**
EQUE				*i* Vmb_Lg		19 37 45.4	
EQTA	**Presa de Quent**	**2.48**	**251**	P	**Pb**	**19 37 09.5**	**-0.8**
EQTA				S	**Sb**	**19 37 39.7**	**-0.8**
PSIM	**Granatula de C**	**2.66**	**287**	Pn	**Pn**	**19 37 09.6**	**+1.4**
PSIM				Pg	**Pg**	**19 37 15.7**	**-1.6**
PSIM				Sn	**Sn**	**19 37 40.5**	**+0.6**
PSIM				Sg	**Sg**	**19 37 50.2**	**-1.6**
ELGU	**Los Guajares,**	**2.75**	**245**	P	**Pn**	**19 37 12.0**	**+2.5**
ELGU				S	**Sn**	**19 37 46.1**	**+6.8**
ELGU	**Los Guajares,**	**2.75**	**245**	Pn	**Pn**	**19 37 11.8**	**+2.3**
ELGU				Sn	**Sn**	**19 37 44.4**	**+2.1**
ELGU				*i* Vmb_Lg		19 37 52.5	
ETOR	**Torete**	**3.00**	**337**	Pn	**Pn**	**19 37 14.7**	**+1.8**
ETOR				Pg	**Pg**	**19 37 24.1**	**+0.3**
ETOR				Sn	**Sn**	**19 37 48.7**	**+0.3**
ETOR				Sg	**Sg**	**19 38 04.0**	**+1.3**
ETOR				*i* Vmb_Lg		19 38 06.4	
EGOR	**Sierra Gorda,**	**3.01**	**253**	P	**Pn**	**19 37 16.4**	**+3.3**
EGOR				S	**Sb**	**19 37 54.2**	**-1.8**
EGOR	**Sierra Gorda,**	**3.01**	**253**	Pn	**Pn**	**19 37 13.9**	**+0.7**
EGOR				Sn	**Sn**	**19 37 50.9**	**+2.1**
EGOR				*i* Vmb_Lg		19 38 02.5	
UCM	**Universidad Co**	**3.08**	**317**	P	**Pn**	**19 37 14.8**	**+0.7**
ETOS	**Mallorca**	**3.10**	**56**	P	**Pn**	**19 37 14.6**	**+0.3**
ETOS				S	**Sn**	**19 37 49.8**	**-1.2**
ETOS	**Mallorca**	**3.10**	**56**	Pn	**Pn**	**19 37 15.0**	**+0.7**
ETOS				Sn	**Sn**	**19 37 49.5**	**-1.6**
ETOS				*i* Vmb_Lg		19 38 08.8	
ESBB	**Sonseca Array**	**3.13**	**302**	Pn	**Pn**	**19 37 15.9**	**+1.1**
ESBB				Pg	**Pg**	**19 37 24.5**	**-1.9**
ESBB				Sg	**Sg**	**19 38 05.3**	**-1.8**
ESDC	**Sonseca Array**	**3.13**	**302**	Pn	**Pn**	**19 37 15.9**	**+1.1**
ESDC				Pg	**Pg**	**19 37 25.1**	**-1.3**
ESDC				Sn	**Sn**	**19 37 52.7**	**+0.9**
ESDC				Sg	**Sg**	**19 38 05.4**	**-1.7**
ESDC				*i* Vmb_Lg		19 38 11.2	
EADA	**Adamuz**	**3.21**	**273**	P	**Pn**	**19 37 16.0**	**+0.2**
EADA	**Adamuz**	**3.21**	**273**	Pn	**Pn**	**19 37 16.3**	**+0.5**
EADA				Sn	**Sn**	**19 37 54.1**	**+0.6**
EADA				Sg	**Sg**	**19 38 07.2**	**-2.2**
EADA				*i* Vmb_Lg		19 38 11.5	
PAB	**San Pablo**	**3.34**	**297**	Pn	**Pn**	**19 37 18.7**	**+1.1**
PAB				Sn	**Sn**	**19 37 58.8**	**+1.9**
PAB				Sg	**Sg**	**19 38 12.8**	**-0.8**
PAB				*i* Vmb_Lg		19 38 25.5	
GOG	**Mont Gurugu**	**3.47**	**216**	P	**Pn**	**19 37 19.5**	**+0.1**
GOG	**Mont Gurugu**	**3.47**	**216**	S	**Sn**	**19 38 00.2**	**+0.1**
EPOB	**Poblet**	**3.50**	**20**	Pn	**Pn**	**19 37 20.4**	**+0.5**
EPOB				Sn	**Sn**	**19 37 59.6**	**-1.3**
EPOB				*i* Vmb_Lg		19 38 27.2	
TAF	**Taforalt**	**3.59**	**206**	P	**Pn**	**19 37 22.2**	**+1.1**
ESAC	**San Caprasio**	**3.65**	**1**	Pn	**Pn**	**19 37 22.1**	**+0.2**
ESAC				Pg	**Pg**	**19 37 35.2**	**-1.2**
ESAC				Sg	**Sg**	**19 38 22.9**	**-0.7**
ESAC				*i* Vmb_Lg		19 38 32.0	
GUD	**Guadarrama**	**3.82**	**314**	Pn	**Pn**	**19 37 25.7**	**+1.4**
GUD				Pg	**Pb**	**19 37 35.1**	**+1.9**
GUD				Sn	**Sn**	**19 38 10.9**	**+2.2**
GUD				Sg	**Sg**	**19 38 27.7**	**-1.2**
GUD				*i* Vmb_Lg		19 38 36.5	
ECAB	**El Cabril**	**3.87**	**272**	P	**Pn**	**19 37 25.5**	**+0.6**
ECAB				S	**Sn**	**19 38 10.3**	**+0.5**
ECAB	**El C

EPLA			*i* Vmb_Lg			19 39 03.0
EARA	**Aranguren**	**4.77 351**	Pn	**Pn**		**19 37 39.2 +1.9**
EARA			*i* Vmb_Lg			19 39 11.1
EMIN	**Mina Concepcio**	**4.88 268**	S	**Sn**		**19 38 33.5 -1.2**
EMIN	**Mina Concepcio**	**4.88 268**	Sn	**Sn**		**19 38 32.6 -2.1**
EMIN			*i* Vmb_Lg			19 39 04.2
EJON	**La Jonquera**	**5.09 30**	P	**Pn**		**19 37 43.3 +1.6**
PBAR	**Barrancos**	**5.15 273**	*e*Pn	**Pn**		**19 37 44.0 +1.6**
PBAR			*e*Sn	**Sn**		**19 38 41.4 +0.2**
PBAR			*i* AML	AML		19 39 22.0
PBAR			*i* AML	AML		19 39 23.1
PBAR			*i* AML	AML		19 39 29.8
PBAR	**Barrancos**	**5.15 273**	P	**Pn**		**19 37 43.0 +0.6**
PBAR			S	**Sn**		**19 38 40.7 -0.6**
EBAD	**Badajoz**	**5.15 280**	P	**Pn**		**19 37 43.3 +0.8**
EBAD			S	**Sn**		**19 38 43.3 +1.9**
EBAD	**Badajoz**	**5.15 280**	Pn	**Pn**		**19 37 41.3 -1.2**
EBAD			Sn	**Sn**		**19 38 39.7 -1.7**
EBAD			*i* Vmb_Lg			19 39 14.2
EALK	**Alkurruntz**	**5.20 352**	Pn	**Pn**		**19 37 44.1 +0.9**
EALK			Sn	**Sn**		**19 38 43.2 +0.4**
EALK			*i* Vmb_Lg			19 39 13.0
EGRO	**El Granado**	**5.54 267**	P	**Pn**		**19 37 47.7 -0.2**
EGRO			S	**Sn**		**19 38 50.2 -0.9**
EGRO	**El Granado**	**5.54 267**	Sn	**Sn**		**19 38 49.5 -1.6**
EGRO			*i* Vmb_Lg			19 39 27.3
PESTR	**Estremoz**	**5.61 280**	*e*Sn	**Sn**		**19 38 53.1 +0.4**
PESTR			*i* AML	AML		19 39 44.8
PESTR	**Estremoz**	**5.61 280**	P	**Pn**		**19 37 49.9 +1.1**
PESTR			S	**Sn**		**19 38 51.6 -1.1**
ELAN	**Lanestosa**	**5.62 338**	Pn	**Pn**		**19 37 51.3 +2.4**
ELAN			Sn	**Sn**		**19 38 52.2 -0.7**
ELAN			*i* Vmb_Lg			19 39 31.5
PVAQ	**Vaqueiros**	**5.75 266**	*e*Pn	**Pn**		**19 37 51.0 +0.3**
PVAQ			*e*Sn	**Sn**		**19 38 55.2 -0.9**
PVAQ			*i* AML	AML		19 38 57.8
PVAQ	**Vaqueiros**	**5.75 266**	P	**Pn**		**19 37 50.5 -0.1**
PVAQ	**Vaqueiros**	**5.75 266**	P	**Pn**		**19 37 49.7 -0.9**
MVO	**Moncorvo**	**5.91 304**	*e*Pn	**Pn**		**19 37 54.5 +1.7**
MVO			*e*Sn	**Sn**		**19 39 01.5 +1.5**
MVO			*e*Sg	**Sg**		**19 39 34.1 -1.7**
MVO			*i* AML	AML		19 39 44.8
MVO			*i* AML	AML		19 39 45.6
MVO			*i* AML	AML		19 39 46.8
EVO	**Evora**	**5.92 277**	*e*Sn	**Sn**		**19 38 59.3 -0.9**
EVO			*e*Sg	**Sg**		**19 39 31.9 -4.3**
MTE	**Manteigas**	**5.93 295**	*e*Sg	**Sg**		**19 39 32.1 -4.6**
MTE			*i* AML	AML		19 39 42.3
MTE			*i* AML	AML		19 39 42.9
PBDV	**Barranco-do-Ve**	**5.94 264**	*e*Pn	**Pn**		**19 37 54.8 +1.5**
PBDV			*e*Sn	**Sn**		**19 39 01.0 +0.1**
PCVE	**Castro Verde**	**5.97 268**	*e*Pn	**Pn**		**19 37 55.2 +1.5**
PCVE	**Castro Verde**	**5.97 268**	P	**Pn**		**19 37 54.3 +0.6**
PBRG	**Braganca**	**6.07 310**	*e*Pn	**Pn**		**19 37 57.2 +2.1**
PMTG	**Montargil**	**6.12 282**	*e*Pn	**Pn**		**19 37 58.6 +2.7**
ECAL	**Calabor**	**6.15 311**	P	**Pn**		**19 37 57.5 +1.2**
ECAL	**Calabor**	**6.15 311**	Pn	**Pn**		**19 37 57.2 +1.0**
ECAL			*i* Vmb_Lg			19 39 47.3
MDT	**Midelt**	**6.21 214**	P	**Pn**		**19 37 58.0 +0.8**
MD31	**MD31**	**6.24 215**	P	**Pn**		**19 37 57.9 +0.4**
PVIS	**Viseu**	**6.30 297**	*e*Pn	**Pn**		**19 37 59.3 +1.0**
PVIS			*e*Sg	**Sg**		**19 39 44.7 -3.7**
EARI	**Arriondas**	**6.33 327**	Pn	**Pn**		**19 37 59.9 +1.2**
EARI			*i* Vmb_Lg			19 40 14.9
MORF	**Marmelete**	**6.50 266**	*e*Pn	**Pn**		**19 38 02.5 +1.4**
MORF			*e*Sn	**Sn**		**19 39 14.2 -0.4**
MORF			*i* AML	AML		19 39 16.8
MORF			*i* AML	AML		19 39 21.6
MORF			*i* AML	AML		19 39 24.4
POLO	**Lamas de Olo**	**6.51 303**	*e*Pn	**Pn**		**19 38 03.3 +2.1**
PCAS	**Casmilo, Conde**	**6.52 290**	*e*Pn	**Pn**		**19 38 03.2 +1.9**
PCAS			*e*Sn	**Sn**		**19 39 15.4 +0.2**
PCAS			*i* AML	AML		19 40 02.0
ELOB	**Lobios**	**6.93 306**	Pn	**Pn**		**19 38 07.2 +0.2**
ELOB			*i* Vmb_Lg			19 40 18.2
PGAV	**Gavieira, Arco**	**7.11 306**	*e*Pn	**Pn**		**19 38 11.5 +2.0**

*IDC **28** 19:53:11.4±0.7,26°.95N×125°.69E,h0km,mb3.8/13,*
mbtmp3.8/14,ML3.2/1,MS3.3/10,Error ellipse:
s-maj=19.9km s-min=12.4km az=32.0
*JMA **28** 19:53:13.9±0.5,27°.N±1°.×125°.8E±0°.9,h25km±4km,*
MV3.3/17,NW OFF OKINAWAJIMA IS
ISC 28 19:53:16.2±0.6,26°.77N±0°.07×125°.78E±0°.06,h35km,n35,
σ1°49/34,mb3.8/13,MS3.1/7,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.00**	**116**	P	**Pn**	**19 53 31.6**	**-2.2**
JKE				*e*S	**Sn**	**19 53 44.5**	**-2.2**
JAGN	**Aguni-jima**	**1.32**	**98**	P	**Pn**	**19 53 36.2**	**-1.8**
JAGN				*e*S	**Sn**	**19 53 52.2**	**-2.2**
JJT3	**Tamagusuku3**	**1.90**	**109**	*e*P	**Pn**	**19 53 46.4**	**+0.4**
JIKM	**Ikemajima**	**1.90**	**195**	*e*P	**Pn**	**19 53 46.3**	**+0.2**
JIH	**Iheya**	**1.97**	**82**	P	**Pn**	**19 53 45.6**	**-1.4**
JIRB	**Irabujima**	**2.01**	**196**	*e*P	**Pn**	**19 53 47.7**	**+0.1**
JNTH	**Nagotoyohara**	**2.02**	**97**	P	**Pn**	**19 53 47.0**	**-0.8**
JOW	**Kunigami**	**2.23**	**88**	Pn	**Pn**	**19 53 49.7**	**-0.9**
JOW	10nm,0.3s,baz=280,slow=12,SNR=31			Sn	**Sn**	**19 54 19.3**	**+2.4**
JOW	19nm,0.3s,baz=185,slow=12,SNR=4.0			Lg	Lg	19 54 26.1	
JOW	**Kunigami**	**2.23**	**88**	P	**Pn**	**19 53 49.7**	**-0.9**
JYRO	**Yoronjima**	**2.40**	**83**	P	**Pn**	**19 53 52.0**	**-0.9**
JISG	**Ishigakijimahi**	**2.55**	**212**	*e*P	**Pn**	**19 53 55.9**	**+0.9**
JOKE	**Okinoerabujima**	**2.56**	**76**	P	**Pn**	**19 53 54.1**	**-1.0**
JTK	**Tokunoshima**	**3.00**	**70**	*e*P	**Pn**	**19 54 00.9**	**-0.3**
JAMN	**Amaminishikomi**	**3.35**	**63**	*e*P	**Pn**	**19 54 06.1**	**+0.1**
JAM	**Amami Oshima**	**3.77**	**63**	*e*P	**Pn**	**19 54 11.3**	**-0.4**
JNU	**Nakatsue**	**7.72**	**34**	Pn	**Pn**	**19 55 08.7**	**+2.6**
JNU	0.6nm,0.3s,baz=302,slow=5.5,SNR=9.3			LR	LR	19 58 32.7	
KSRS	**Korea Array**	**10.80**	**9**	Pn	**Pn**	**19 55 48.6**	**+0.3**
KSRS	0.3nm,0.3s,baz=199,slow=14,SNR=7.7			LR	LR	20 00 12.9	
MJAR	**Matsushiro Arr**	**14.37**	**44**	LR	LR	20 02 28.3	
USRK	**Ussuriysk Ar.**	**18.10**	**14**	P	**P**	**19 57 27.2**	**+2.4**
KLR	**Kul'dur**	**22.89**	**10**	P	**P**	**19 58 16.0**	**-0.7**
KLR	3.0nm,0.9s,baz=223,slow=7.8,SNR=11			LR	LR	20 06 44.5	
SONM	**Songino Array**	**25.94**	**329**	P	**P**	**19 58 44.0**	**-1.3**
SONM	0.9nm,0.7s,baz=151,slow=9.4,SNR=7.9			LR	LR	20 08 43.4	
KAPI	**Kappang**	**32.13**	**191**	LR	LR	20 12 29.2	
MKAR	**Makanchi Array**	**39.54**	**312**	P	**P**	**20 00 42.5**	**-1.3**
ZALV	**Zalesovo Beam**	**40.50**	**323**	P	**P**	**20 00 49.0**	**-2.4**
KURBB	**Kurchatov Arra**	**42.95**	**317**	P	**P**	**20 01 10.8**	**-0.9**
WRA	**Warramunga Arr**	**47.17**	**169**	P	**P**	**20 01 46.9**	**+1.5**
BVAR	**Borovoye Array**	**48.41**	**318**	P	**P**	**20 01 53.6**	**-1.1**
BVAR	1.0nm,0.6s,baz=102,slow=7.0,SNR=7.7			LR	LR	20 21 18.8	
ASAR	**Alice Springs**	**50.75**	**170**	P	**P**	**20 02 15.0**	**+2.1**
ARTI	**Arti**	**55.70**	**322**	LR	LR	20 29 27.6	
STKA	**Stephens Creek**	**60.24**	**165**	P	**P**	**20 03 23.1**	**+2.2**
ARCES	**ARCESS Array B**	**68.70**	**338**	LR	LR	20 38 20.5	
FINES	**FINESS Array B**	**71.31**	**330**	P	**P**	**20 04 30.3**	**-1.5**
	1.9nm,0.9s,baz=67,slow=6.9,SNR=3.7						
AKASG	**Malin Array Be**	**73.69**	**319**	P	**P**	**20 04 46.4**	**+0.1**
AKASG	0.5nm,0.4s,baz=72,slow=6.7,SNR=2.4			LR	LR	20 38 27.0	
BRTR	**Keskin Array B**	**74.96**	**307**	P	**P**	**20 04 54.2**	**+0.1**
YKA	**Yellowknife Ar**	**78.95**	**24**	P	**P**	**20 05 15.4**	**-0.5**

*SJA **28** 19:55:43.9±0.7,31°.37S×71°.81W,h31km±4km,ML3.3,*
MW3.5
*GUC **28** 19:55:47.0±0.9,31°.44S×71°.43W,h48km±5km,ML3.3*
ISC 28 19:55:45.2±1.5,31°.43S±0°.03×71°.72W±0°.06,h7km±12km,
n59,σ2°13/50,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.76**	**51**	*i*P	**Pg**	**19 56 01.7**	**+2.0**
CO06				*e*S	**Sg**	**19 56 12.8**	**+3.2**
CO03	**El Pedregal**	**1.06**	**57**	*i*P	Pg	19 56 03.5	-2.1
CO03				*e*S	**Sg**	**19 56 15.4**	**-3.9**
CO03				IAML		19 56 16.4	
CO03	**El Pedregal**	**1.06**	**57**	*e*P	Pg	19 56 03.5	-2.1
CO03				*e*S	**Sg**	**19 56 15.6**	**-3.8**
CO03				IAML		19 56 17.1	
GO04	**Tololo Observa**	**1.48**	**32**	*e*P	Pn	19 56 10.7	-1.9
GO04				*e*S	**Sg**	**19 56 28.3**	**-4.6**
GO04	**Tololo Observa**	**1.48**	**32**	*e*P	Pn	19 56 10.7	-1.9
GO04				*e*S	**Sg**	**19 56 30.6**	**-2.2**
VA01	**Torpederas**	**1.59**	**178**	*e*P	Pn	19 56 10.8	-3.0
ROCH	**El Roble**	**1.65**	**159**	*i*P	Pn	19 56 13.7	-1.2
ROCH				*e*S	**Sn**	**19 56 33.8**	**-2.7**
ROC1	**El Roble**	**1.65**	**159**	*e*P	Pn	19 56 13.6	-1.3
ROC1				*e*S	**Sn**	**19 56 34.7**	**-1.8**
VA03	**San Esteban**	**1.66**	**144**	*e*P	Pn	19 56 12.6	-2.3
VA03				*e*S	**Sn**	**19 56 31.9**	**-4.5**
VA03				IAML		19 56 36.7	
VA03	**San Esteban**	**1.66**	**144**	*e*P	Pn	19 56 12.8	-2.1
VA03				*e*S	**Sn**	**19 56 33.9**	**-2.6**
VA03				IAML		19 56 36.6	
MT02	**Curacav**	**1.89**	**165**	*e*P	Pn	19 56 16.8	-1.2
MT02				IAML		19 56 43.0	
MT02	**Curacav**	**1.89**	**165**	*e*P	Pn	19 56 16.6	-1.4
MT02				*e*S	**Sn**	**19 56 41.8**	**-0.3**
MT02				IAML		19 56 43.2	
PEL	**Peldehue**	**1.92**	**153**	*e*P	Pn	19 56 16.9	-1.6
PEL				*e*S	**Sn**	**19 56 40.0**	**-2.9**
PEL				IAML		19 56 41.8	
PEL	**Peldehue**	**1.92**	**153**	*e*P	Pn	19 56 17.2	-1.2
PEL				*e*S	**Sn**	**19 56 44.6**	**+1.8**
CO01	**Juntas del Tor**	**2.01**	**44**	*e*P	Pn	19 56 18.5	-1.4
CO01	**Juntas del Tor**	**2.01**	**44**	*e*P	Pn	19 56 18.6	-1.4
CO01				*e*S	**Sn**	**19 56 42.1**	**-3.4**
CO01				IAML		19 56 44.4	
MT10	**Hacienda Santa**	**2.09**	**152**	*e*P	Pn	19 56 19.5	-1.4
MT10				IAML		19 56 54.8	
RTLS	**Leoncito**	**2.10**	**101**	*e*P	Pn	19 56 18.2	-2.9
RTLS				IAML		19 56 52.3	
MT05	**Renca**	**2.12**	**157**	IAML		19 57 01.4	
MT05	**Renca**	**2.12**	**157**	*e*P	**Pn**	**19 56 20.7**	**-0.5**
MT05				*e*S	**Sn**	**19 56 48.4**	**+0.5**
MT05				IAML		19 56 57.4	
MT14	**Cerro Calı̣n**	**2.20**	**153**	*e*P	Pn	19 56 20.9	-1.4
MT14				IAML		19 57 00.7	
VA05	**Santo Domingo**	**2.22**	**178**	IAML		19 56 55.2	
MT16	**CCHEN**	**2.23**	**153**	*e*P	Pn	19 56 21.5	-1.2
MT16				IAML		19 56 59.8	
FCH	**Farellones**	**2.25**	**148**	*e*P	Pn	19 56 21.8	-1.4
FCH				IAML		19 56 56.5	
MT03	**Universidad Ad**	**2.30**	**154**	*e*P	Pn	19 56 22.5	-1.2
MT03	**Universidad Ad**	**2.30**	**154**	*e*P	**Pn**	**19 56 23.8**	**+0.1**
MT03				*e*S	**Sn**	**19 56 53.1**	**+0.8**
MT03				IAML		19 57 00.4	
AROD	**Rodeo**	**2.31**	**57**	*e*P	**Pn**	**19 56 23.9**	**-0.1**
AROD				*e*S	**Sn**	**19 56 52.6**	**-0.2**
DOCA	**Reserva Natura**	**2.31**	**79**	*e*P	**Pn**	**19 56 23.6**	**-0.5**
DOCA				*e*S	**Sn**	**19 56 53.2**	**+0.3**
DOCA				IAML		19 56 56.5	
MT04	**Ro Olivares**	**2.38**	**146**	*e*P	Pn	19 56 23.9	-1.0
MT04				IAML		19 57 00.7	
MT04	**Ro Olivares**	**2.38**	**146**	*e*P	**Pn**	**19 56 25.1**	**+0.2**
MT04				*e*S	**Sn**	**19 56 53.5**	**-1.1**
MT04				*e*S		19 56 55.2	
MT04				IAML		19 56 59.0	
MT15	**Las Vizcachas**	**2.39**	**155**	IAML		19 57 02.6	
MT09	**Talagante**	**2.42**	**165**	*e*P	Pn	19 56 24.6	-0.8
MT09				IAML		19 57 04.2	
ACCO	**Cerro Coronel**	**2.43**	**70**	*e*P	**Pn**	**19 56 26.5**	**+0.8**
ACCO				*e*S	**Sn**	**19 56 57.6**	**+1.8**
MT01	**Popeta**	**2.46**	**171**	*e*P	Pn	19 56 24.9	-0.9
MT01				IAML		19 57 01.6	
MT01	**Popeta**	**2.46**	**171**	*e*P	Pn	19 56 25.1	-0.6
MT01				*e*S	**Sn**	**19 56 53.5**	**-2.7**
MT01				IAML		19 57 03.5	
MT08	**Bocatoma Ro**	**2.47**	**145**	*e*P	Pn	19 56 24.6	-1.5
MT08				IAML		19 57 01.2	
MT08	**Bocatoma Ro**	**2.47**	**145**	*e*P	**Pn**	**19 56 26.4**	**+0.3**
MT08				*e*S	**Sn**	**19 56 58.4**	**+1.6**
MT08				IAML		19 57 00.0	
MT12	**Pirque**	**2.50**	**157**	*e*P	Pn	19 56 25.4	-1.0
MT12				IAML		19 57 06.4	
ACDV	**Cuesta del Vie**	**2.56**	**61**	*e*P	**Pn**	**19 56 28.4**	**+1.0**
ACDV				*e*S	**Sn**	**19 56 58.4**	**-0.6**
ACDV				IAML		19 57 02.4	
LCO	**Las Campanas**	**2.57**	**20**	*e*P	Pn	19 56 26.7	-0.8
LCO	**Las Campanas**	**2.57**	**20**	*e*P	Pn	19 56 26.4	-1.1
LCO				*e*S	**Sn**	**19 56 58.4**	**-0.8**
LCO				IAML		19 57 10.4	
MT13	**San Alfonso**	**2.60**	**153**	IAML		19 57 06.0	
MT13	**San Alfonso**	**2.60**	**153**	*e*P	**Pn**	**19 56 27.8**	**-0.1**
MT13				*e*S	**Sn**	**19 57 00.4**	**+0.5**
MT13				IAML		19 57 06.2	
SJA	**San Juan**	**2.70**	**93**	*e*P	**Pn**	**19 56 33.1**	**+4.0**
ASAL	**Salagasta**	**2.71**	**116**	*e*P	**Pn**	**19 56 29.5**	**+0.2**
ASAL				*e*S	**Sn**	**19 57 03.8**	**+1.4**
BO04	**La Punta**	**2.72**	**160**	*e*P	Pn	19 56 28.5	-0.9
BO04				IAML		19 57 11.9	
LMEL	**Las Melosas**	**2.73**	**152**	*e*P	Pn	19 56 29.0	-0.6
LMEL				IAML		19 57 06.9	
LMEL	**Las Melosas**	**2.73**	**152**	*e*P	**Pn**	**19 56 29.6**	**0.0**
LMEL				*e*S	**Sn**	**19 57 03.4**	**+0.4**
ARCO	**CERRO ARCO**	**2.75**	**121**	*e*P	**Pn**	**19 56 30.9**	**+1.0**
ARCO				*e*S	**Sb**	**19 57 10.5**	**+1.6**
ARCO				IAML		19 57 13.3	
	comp=Z,70nm,0.6s						
RTLL	**Cerro Villicun**	**2.78**	**89**	*e*P	**Pn**	**19 56 29.8**	**-0.4**
RTLL				*e*S	**Sn**	**19 57 04.1**	**+0.1**
AC05	**El Transito**	**2.87**	**26**	*e*P	Pn	19 56 30.7	-0.9
AC05				IAML		19 57 06.0	
	comp=E,142nm,0.2s						
AC05	**El Transito**	**2.87**	**26**	*e*P	**Pn**	**19 56 31.2**	**-0.4**
AC05				*e*S	**Sn**	**19 57 04.5**	**-2.0**
AC05				IAML		19 57 21.5	
	comp=Z,59nm,0.7s						
AAGR	**Agrelo**	**2.95**	**125**	*e*P	**Pn**	**19 56 33.1**	**+0.5**
AAGR				*e*S	**Sn**	**19 57 14.2**	**+5.7**
CFA	**Coronel Fontan**	**2.98**	**94**	*e*P	**Pn**	**19 56 32.6**	**-0.4**
BO01	**Tunca**	**3.00**	**170**	*e*P	**Pn**	**19 56 32.9**	**-0.3**
AGUA	**GUANDACOL**	**3.39**	**56**	*e*P	**Pn**	**19 56 39.6**	**+0.8**
GO03	**Copiapo**	**4.04**	**19**	*e*P	Pn	19 56 46.8	-0.7
VCA	**Vinchina**	**4.06**	**49**	IAML		19 57 50.2	
	comp=Z,93nm,0.3s						
ACLC	**CERRO LA CRUZ**	**4.58**	**65**	IAML		19 57 50.3	
	comp=Z,44nm,0.4s						

HEL 28 20:14:26.2±0.3,67°.86N×20°.12E,h0km,ML1.2,
Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**74**	PG	Pg	20 14 39.4	-0.9
LANU				SG	Sg	20 14 48.8	-0.9
KIF	**Kilpisjarvi**	**1.18**	**12**	PN	Pn	20 14 50.2	+0.3
KIF				MSG		20 15 03.0	
	comp=Z,1.4nm,0.2s						
KIF				SB	Sg	20 15 04.4	+0.4
PAJU	**Pajala**	**1.43**	**125**	PG	Pn	20 14 51.0	-2.3
	baz=303						
PAJU				SG	Sg	20 15 10.7	-1.3
HEF	**Hetta**	**1.44**	**66**	PG	Pn	20 14 51.6	-1.9
HEF				MSG		20 15 09.5	
	comp=Z,1.0nm,0.2s						
HEF				SN	Sn	20 15 14.2	+1.2
ERTU	**Ertsjaerv**	**1.54**	**147**	PG	Pn	20 14 54.0	-0.9
ERTU				SG	Sn	20 15 14.0	-1.5
KLF	**Kolari**	**1.60**	**111**	PG	Pn	20 14 55.6	-0.2
KLF				MSG		20 15 14.2	
	comp=Z,0.9nm,0.2s						
KLF				SG	Sn	20 15 15.7	-1.4
KTK1	**Kautokeino**	**1.64**	**43**	SN	Sg	20 15 18.5	-0.1
KALU	**Kalix**	**2.38**	**146**	PB	Pn	20 15 07.2	+0.8
TOF	**Tornio**	**2.44**	**135**	PG	Pb	20 15 09.7	-1.1
TOF				SN	Sn	20 15 34.9	-2.7
TOF				MSG		20 15 38.2	
	comp=Z,0.9nm,0.2s						
ARA0	**ARCESS Array S**	**2.59**	**47**	SG	Sb	20 15 44.7	-1.1
RNF	**Rovaniemi**	**2.61**	**116**	SB	Sb	20 15 44.6	-1.8
KEV	**Kevo**	**3.15**	**50**	PG	Pb	20 15 21.9	-1.0
KEV				MSG		20 15 58.4	
	comp=Z,0.9nm,0.2s						
KEV				SG	Sb	20 16 01.4	-0.3
KEV	**Kevo**	**3.15**	**50**	PN	Pb	20 15 21.9	-1.0
KEV				SN	Sb	20 16 01.4	-0.3
OLKF	**Oulanka, Finla**	**3.94**	**109**	PG	Pb	20 15 36.7	+0.2
KU6	**Riekki**	**4.26**	**111**	PB	Pb	20 15 38.1	-3.8
HUSU	**Husum**	**4.55**	**185**	SN	Sn	20 16 29.5	-0.2

HEL 28 20:14:28.6±0.1,67°.56N×34°.01E,h0km,ML1.2,
Suspected explosion,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.42**	**35**	PG	Pg	20 14 36.3	-0.3
	baz=225						
LVZ				SG	Sg	20 14 41.6	-0.4
VRF	**Varrio**	**1.69**	**279**	PG	Pn	20 14 59.0	-0.3
VRF				MSG		20 15 19.1	
	comp=Z,1.4nm,0.2s						
VRF				SG	Sn	20 15 19.5	-2.3
OLKF	**Oulanka, Finla**	**2.20**	**238**	MSG		20 15 33.6	
	comp=Z,1.3nm,0.2s						
KU6	**Riekki**	**2.24**	**229**	PG	Pb	20 15 08.8	-1.2
	baz=47						
KU6				MSG		20 15 34.9	
	comp=Z,0.8nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.33**	**296**	SB	Sn	20 15 36.9	-0.6
MSF	**Maaselka**	**2.57**	**232**	PG	Pb	20 15 14.7	-0.8
	baz=56						
MSF				SG	Sb	20 15 49.2	+1.5
ARA0	**ARCESS Array S**	**3.70**	**306**	PN	Pn	20 15 25.7	-1.3
	baz=118						
OUL	**Oulu**	**4.11**	**237**	SB	Sb	20 16 30.0	-1.7
TOF	**Tornio**	**4.11**	**253**	PG	Pb	20 15 40.8	-0.9
KALU	**Kalix**	**4.56**	**253**	PN	Pn	20 15 38.6	-0.1

*GII **28** 20:14:56.8±0.0,37°.481N±0°.001×29°.383E±0°.001,h7km,*
Mws3.5,confirmed
*IDC **28** 20:14:58.0±1.1,37°.50N×29°.51E,h0km,mb3.7/3,*
mbtmp3.7/11,ML3.3/6,Error ellipse: s-maj=17.9km
s-min=16.7km az=153.0
*ISK **28** 20:14:58.7,37°.49N×29°.37E,h5km,ML3.3/31*
*AFAD **28** 20:14:58.8,37°.46N×29°.38E,h7km±2km,ML3.3*
ISC 28 20:14:58.9±0.9,37°.48N±0°.02×29°.42E±0°.02,h11km±6km,
n118,σ1°06/144,mb3.4/3,4C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.10**	**263**	Pg	**Pg**	**20 15 01.1**	**-0.6**
INCE	**Denizli-Bozkur**	**0.26**	**28**	P	**Pg**	**20 15 04.7**	**+0.4**
INCE				S	**Sg**	**20 15 09.3**	**+1.4**
INCE				*i* AML	AML	20 15 10.0	
	comp=E,6μm,0.3s						
GOLH	**Golhisar**	**0.27**	**156**	P	**Pg**	**20 15 04.3**	**-0.2**
GOLH				S	**Sb**	**20 15 08.9**	**-1.5**
GOLH				*i* AML	AML	20 15 10.0	
	comp=E,8μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.34**	**295**	P	**Pg**	**20 15 05.1**	**-0.6**
DNIZ				S	**Sg**	**20 15 10.6**	**+0.3**
DNIZ				*i* AML	AML	20 15 11.0	
	comp=E,3μm,0.3s						
CAEL	**Denizli, Camel**	**0.37**	**193**	P	**Pg**	**20 15 05.7**	**-0.7**
DNZT	**Denizli-Tavas-**	**0.38**	**237**	P	**Pg**	**20 15 06.0**	**-0.4**
DNZT				P	**Pb**	**20 15 06.2**	**-1.4**
DNZT				S	**Sg**	**20 15 10.9**	**-0.6**
DNZT				*i* AML	AML	20 15 11.0	
	comp=N,2μm,0.6s						
DNZT				*i* AML	AML	20 15 11.0	
	comp=N,2μm,0.6s						
DNZT				S	**Sb**	**20 15 11.2**	**-2.3**
TAVA	**DENIZLI_Tavas**	**0.41**	**268**	P	**Pg**	**20 15 06.8**	**-0.2**
CAME	**Cameli-Denizli**	**0.55**	**190**	Pg	**Pg**	**20 15 08.7**	**-0.9**
BRDR	**BURDUR-Merkez**	**0.55**	**67**	P	**Pb**	**20 15 10.3**	**-0.3**
BRDR				S	**Sb**	**20 15 18.9**	**+0.3**
BRDR				*i* AML	AML	20 15 22.0	
	comp=E,3μm,0.5s						
BRDR				*i* AML	AML	20 15 26.0	
	comp=N,2μm,0.5s						
KNIK	**Mula-Seydike**	**0.65**	**169**	P	**Pg**	**20 15 11.0**	**-0.5**
BASM	**Basmaki-Afyon**	**0.66**	**49**	Pg	**Pb**	**20 15 11.6**	**-0.9**
BASM				Sg	**Sn**	**20 15 22.1**	**-2.6**
SABU	**Mula-Dalaman**	**0.75**	**209**	P	**Pg**	**20 15 13.5**	**+0.1**
SABU				S	**Sg**	**20 15 22.8**	**-0.5**
SABU				*i* AML	AML	20 15 25.0	
	comp=E,956nm,0.3s						
ELL	**Elmali**	**0.83**	**152**	Pg	**Pg**	**20 15 14.3**	**-0.7**
PASA	**Karahalli, USA**	**0.86**	**3**	P	**Pb**	**20 15 14.6**	**-1.4**
KORT	**Korkueli**	**0.88**	**123**	Pg	**Pn**	**20 15 16.7**	**-0.7**
KORT				Sg	**Sn**	**20 15 30.1**	**-0.2**
KORT	**Korkueli**	**0.88**	**123**	P	**Pn**	**20 15 17.2**	**-0.2**
FETY	**Fethiye**	**0.89**	**198**	Pg	**Pg**	**20 15 15.7**	**-0.4**
FETY	**Fethiye**	**0.89**	**198**	P	**Pg**	**20 15 15.8**	**-0.2**
DALY	**Dal

ISP	**Isparta**	**0.94 68**	Pg	**Pn**	**20 15 17.7**	**-0.4**
ISP			Sg	**Sn**	**20 15 31.8**	**+0.3**
ISP	**Isparta**	**0.94 68**	P	**Pg**	**20 15 15.3**	**-1.7**
ISP			S	**Sn**	**20 15 29.5**	**-2.0**
KZIL	**AFYON_Kizioren**	**0.96 36**	P	**Pn**	**20 15 17.1**	**-1.4**
YER	**Yerkesik**	**0.97 249**	Pg	**Pg**	**20 15 17.1**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.02 298**	Pg	**Pg**	**20 15 17.9**	**-0.6**
NAZL			Sg	**Sb**	**20 15 32.2**	**+0.3**
IZZE	**Mula-Seydike**	**1.06 189**	P	**Pn**	**20 15 19.4**	**-0.2**
KIRA	**zmir-Kiraz**	**1.08 312**	P	**Pg**	**20 15 18.9**	**-0.8**
KIRA			S	**Sb**	**20 15 34.3**	**+0.6**
KIRA			*i* AML	AML	20 15 37.0	
	comp=N,515nm,0.2s					
KIRA			*i* AML	AML	20 15 37.0	
	comp=E,568nm,0.3s					
ANTB	**Antalya**	**1.14 120**	Pn	**Pn**	**20 15 22.3**	**+1.5**
ANTB			Sn	**Sn**	**20 15 38.5**	**+2.1**
TURN	**Turunc**	**1.18 233**	Pn	**Pg**	**20 15 21.3**	**-0.2**
TURN			Sn	**Sb**	**20 15 37.3**	**+0.8**
TURN	**Turunc**	**1.18 233**	P	**Pn**	**20 15 21.5**	**+0.3**
KULA	**Kula-Manisa**	**1.19 330**	Pn	**Pn**	**20 15 21.3**	**-0.3**
AYDN	**Tasoluk**	**1.24 279**	P	**Pn**	**20 15 22.5**	**+0.3**
AKAS	**Kas**	**1.26 173**	Pn	**Pn**	**20 15 23.4**	**+0.9**
AKAS	**Kas**	**1.26 173**	P	**Pn**	**20 15 23.2**	**+0.7**
KEMT	**Kemer-ANTALYA**	**1.26 134**	Pn	**Pn**	**20 15 24.1**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**1.30 291**	Pn	**Pn**	**20 15 23.1**	**0.0**
AYDB			Sn	**Sn**	**20 15 41.0**	**+0.5**
DEMR	**Demre-Antalya**	**1.30 163**	Pn	**Pg**	**20 15 24.9**	**+0.9**
MLSB	**Milas**	**1.32 262**	Pn	**Pb**	**20 15 23.8**	**0.0**
ODEM	**Odemis-Izmir**	**1.33 307**	Pn	**Pn**	**20 15 23.3**	**-0.1**
ODEM			Sn	**Sn**	**20 15 42.1**	**+1.0**
IZMR	**zmir-demi**	**1.33 300**	P	**Pn**	**20 15 23.3**	**-0.1**
IZMR			S	**Sn**	**20 15 42.1**	**+0.9**
SHUT	**Suhut-Afyon**	**1.39 40**	Pn	**Pg**	**20 15 25.3**	**-0.3**
SHAP	**Saphane-Kutahy**	**1.54 354**	Pn	**Pg**	**20 15 27.4**	**-1.2**
GEDZ	**Gediz**	**1.56 360**	Pn	**Pg**	**20 15 27.3**	**-1.5**
SIMA	**Simav-Kutahya**	**1.63 348**	Pn	**Pb**	**20 15 28.2**	**-0.9**
ARG	**Arkhangelos**	**1.64 220**	Pn	**Pb**	**20 15 28.9**	**-0.2**
DAT	**Datca**	**1.66 243**	Pn	**Pn**	**20 15 28.9**	**+0.9**
GOMA	**Golmarmara-Man**	**1.70 316**	Pn	**Pb**	**20 15 29.8**	**-0.4**
GORD	**Gordes-Manisa**	**1.73 326**	Pn	**Pn**	**20 15 29.3**	**+0.4**
BODT	**Bodrum**	**1.74 257**	Pn	**Pb**	**20 15 30.3**	**-0.5**
YAZI	**Mula-Dat$a-**	**1.77 244**	P	**Pb**	**20 15 31.1**	**-0.2**
SEYD	**Seydisehir-KON**	**1.92 92**	Pn	**Pg**	**20 15 33.7**	**-2.1**
TVSB	**Tavsanli**	**1.96 1**	Pn	**Pb**	**20 15 32.7**	**-2.0**
BLCB	**Balcova**	**2.09 296**	Pn	**Pn**	**20 15 34.7**	**+0.9**
APE	**Apeiranthos**	**3.13 264**	P	**Pn**	**20 15 45.8**	**-2.4**
APE	**Apeiranthos**	**3.13 264**	S	**Sn**	**20 16 23.6**	**-2.0**
ANTO	**Ankara**	**3.55 47**	⇑P	**Pn**	**20 15 56.0**	**+2.0**
KIRS	**Kirsehir-Merke**	**3.90 64**	⇓P	**Pn**	**20 16 00.3**	**+1.5**
BRTR	**Keskin Array B**	**3.99 55**	Pn	**Pn**	**20 16 01.9**	**+1.8**
	1.4nm,0.3s,baz=237,slow=17,SNR=40					
BRTR			Sn	**Sn**	**20 16 48.6**	**+1.7**
	1.0nm,0.3s,baz=233,slow=28,SNR=9.4					
	6.1nm,0.6s					
CSS	**Mathiatis**	**4.04 127**	P	**Pn**	**20 15 59.9**	**-0.8**
CSS	**Mathiatis**	**4.04 127**	S	**Sn**	**20 16 47.6**	**-0.4**
IDI	**Anoyia**	**4.26 240**	Pn	**Pn**	**20 16 06.0**	**+2.2**
	4.5nm,0.3s,baz=309,slow=3.4,SNR=14					
IDI			Sn	**Sn**	**20 16 53.5**	**-0.1**
	1.4nm,0.3s,baz=210,slow=6.3,SNR=1.9					
MMA0B	**Mount Meron ar**	**6.62 131**	P	**Pn**	**20 16 35.4**	**-0.7**
MMA0B	**Mount Meron ar**	**6.62 131**	S	**Sn**	**20 17 50.9**	**-0.7**
MMAI	**Mount Meron Ar**	**6.62 131**	Pn	**Pn**	**20 16 37.2**	**+1.0**
	6.3nm,0.3s,baz=318,slow=12,SNR=88					
MMAI			Sn	**Sn**	**20 17 50.6**	**-1.0**
	6.0nm,0.3s,baz=313,slow=27,SNR=6.3					
GEM	**Giv'at Ha'Em**	**6.65 128**	P	**Pn**	**20 16 35.6**	**-0.9**
GEM	**Giv'at Ha'Em**	**6.65 128**	S	**Sn**	**20 17 51.6**	**-0.6**
NATI	**Neve Ativ**	**6.66 127**	P	**Pn**	**20 16 36.1**	**-0.5**
NATI	**Neve Ativ**	**6.66 127**	S	**Sn**	**20 17 52.1**	**-0.3**
OFRI	**`Ofer**	**6.66 135**	P	**Pn**	**20 16 35.9**	**-0.8**
OFRI	**`Ofer**	**6.66 135**	S	**Sn**	**20 17 52.4**	**-0.2**
BLGI	**Bet Lehem HaGe**	**6.69 133**	P	**Pn**	**20 16 35.8**	**-1.3**
BLGI	**Bet Lehem HaGe**	**6.69 133**	S	**Sn**	**20 17 52.6**	**-0.7**
KSHT	**Keshet**	**6.89 129**	P	**Pn**	**20 16 39.3**	**-0.6**
KSHT	**Keshet**	**6.89 129**	S	**Sn**	**20 17 58.2**	**-0.2**
TIRR	**Tirgusor**	**7.01 354**	⇑P	**Pn**	**20 16 43.1**	**+1.7**
MMLI	**Mount Malkishu**	**7.04 134**	P	**Pn**	**20 16 40.9**	**-1.0**
MMLI	**Mount Malkishu**	**7.04 134**	S	**Sn**	**20 18 01.4**	**-0.6**
SALP	**Salfit**	**7.19 137**	P	**Pn**	**20 16 43.0**	**-0.9**
SALP	**Salfit**	**7.19 137**	S	**Sn**	**20 18 05.4**	**-0.2**
HMDT	**Nahal Hemdat**	**7.24 134**	P	**Pn**	**20 16 43.5**	**-1.1**
HMDT	**Nahal Hemdat**	**7.24 134**	S	**Sn**	**20 18 06.9**	**+0.2**
TPGR	**Topolog**	**7.40 354**	⇑P	**Pn**	**20 16 48.5**	**+1.6**
DSI	**Dead Sea**	**7.68 138**	P	**Pn**	**20 16 49.6**	**-1.1**
DSI	**Dead Sea**	**7.68 138**	S	**Sn**	**20 18 17.4**	**-0.2**
YTIR	**Yattir**	**7.71 141**	P	**Pn**	**20 16 50.1**	**-1.0**
YTIR	**Yattir**	**7.71 141**	S	**Sn**	**20 18 17.7**	**-0.8**
KZIT	**Kziot**	**7.75 146**	P	**Pn**	**20 16 50.6**	**-1.0**
KZIT	**Kziot**	**7.75 146**	S	**Sn**	**20 18 18.7**	**-0.6**
CFR	**Carcaliu**	**7.75 353**	⇓P	**Pn**	**20 16 53.0**	**+1.4**
MSBI	**Mazada**	**7.87 140**	P	**Pn**	**20 16 52.0**	**-1.2**
MSBI	**Mazada**	**7.87 140**	S	**Sn**	**20 18 22.2**	**-0.1**
GHAJ	**Ghor Haditha**	**7.99 139**	P	**Pn**	**20 16 53.6**	**-1.2**
GHAJ	**Ghor Haditha**	**7.99 139**	S	**Sn**	**20 18 24.7**	**-0.4**
ASF	**Jabal al Asfar**	**8.11 129**	Pn	**Pn**	**20 16 57.8**	**+1.1**
	0.5nm,0.3s,baz=339,slow=14,SNR=7.5					
	1.3nm,0.3s					
MLR	**Muntele Rosu**	**8.41 343**	Pn	**Pn**	**20 17 01.7**	**+0.9**
	0.4nm,0.3s,baz=164,slow=18,SNR=4.2					
	2.0nm,0.5s					
MLR	**Muntele Rosu**	**8.41 343**	⇓P	**Pn**	**20 17 02.4**	**+1.6**
PRNI	**Paran**	**8.49 145**	P	**Pn**	**20 17 00.8**	**-1.0**
PRNI	**Paran**	**8.49 145**	S	**Sn**	**20 18 37.2**	**-0.4**
SPBR	**Spulber**	**8.50 347**	⇑P	**Pn**	**20 17 04.1**	**+2.2**
KRMI	**Paran Flat**	**8.57 147**	P	**Pn**	**20 17 01.9**	**-1.0**
KRMI	**Paran Flat**	**8.57 147**	S	**Sn**	**20 18 38.7**	**-0.9**
VOIR		**8.60 339**	⇓P	**Pn**	**20 17 05.1**	**+1.8**
VRI	**Vrincioaia**	**8.61 347**	⇓P	**Pn**	**20 17 05.5**	**+2.0**
HRFI	**Mount Harif**	**8.77 146**	P	**Pn**	**20 17 04.7**	**-1.0**
HRFI	**Mount Harif**	**8.77 146**	S	**Sn**	**20 18 44.2**	**-0.4**
MBRI	**Mt Berech**	**8.93 148**	P	**Pn**	**20 17 07.1**	**-0.8**
MBRI	**Mt Berech**	**8.93 148**	S	**Sn**	**20 18 47.9**	**-0.6**
EIL	**Elat**	**9.05 148**	Pn	**Pn**	**20 17 09.8**	**+0.3**
	1.0nm,0.3s,baz=197,slow=5.8,SNR=9.0					
	3.3nm,0.4s					
EIL	**Elat**	**9.05 148**	P	**Pn**	**20 17 08.4**	**-1.2**
EIL	**Elat**	**9.05 148**	S	**Sn**	**20 18 50.7**	**-0.7**
KVAR	**Kislovodsk Arr**	**11.96 53**	Pn	**Pn**	**20 17 52.0**	**+2.6**
	baz=28,slow=21					
	1.6nm,0.7s					
GERES	**GERESS Array B**	**16.10 320**	Pn	**P**	**20 18 49.5**	**+1.0**
	baz=134,slow=13,SNR=4.9					
	0.8nm,0.9s					
TORD	**Torodi Ar. Bea**	**34.63 233**	P	**P**	**20 21 48.6**	**+0.4**
	3.2nm,0.4s,baz=36,slow=9.2,SNR=1.4					
	3.2nm,0.4s					
KURBB	**Kurchatov Arra**	**36.98 53**	P	**P**	**20 22 08.2**	**+0.1**
	0.2nm,0.3s,baz=264,slow=9.2,SNR=5.6					
	0.2nm,0.3s					
MKAR	**Makanchi Array**	**39.63 59**	P	**P**	**20 22 30.4**	**0.0**
	0.2nm,0.5s,baz=289,slow=7.3,SNR=3.6					
	0.2nm,0.5s					

GII ***28*** *20:29:30.9±0.0, 36.°405N±0.°003×31.°512E±0.°001, h80km, Mws2.6, confirmed*
ATH ***28*** *20:29:30.8, 36.°45N×31.°56E, h17km±4km, ML2.5/3, Manual Solution by A.Agalos First location: 2019/03/28 20:31:09, This location: 2019/03/28 21:09:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*
ISK ***28*** *20:29:31.1, 36.°43N×31.°49E, h95km, ML2.5/32*
NIC ***28*** *20:29:32.7, 36.°48N×31.°72E, h34km±40km, Ml2.3/7*
ISC 28 20:29:31.1±1.3, 36.°40N±0.°04×31.°51E±0.°03, h100km±8km, n85, σ0§76/102, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVG	**Manavgat-Antal**	**0.40**	**350**	Pg	**Pn**	**20 29 45.9**	**-0.2**
MNVG				Sg	**Sn**	**20 29 56.9**	**-0.5**
ALAN	**Alanya-ANTALYA**	**0.45**	**70**	Pg	**Pn**	**20 29 46.6**	**+0.1**
ALAN				Sg	**Sn**	**20 29 57.9**	**-0.1**
GAZI	**Gazipasa**	**0.68**	**104**	Pg	**Pn**	**20 29 48.9**	**+0.6**
GAZI				Sg	**Sn**	**20 30 01.4**	**+0.2**
KEMT	**Kemer-ANTALYA**	**0.79**	**285**	Pg	**Pn**	**20 29 49.6**	**+0.3**
ANTB	**Antalya**	**0.84**	**306**	Pg	**Pn**	**20 29 49.9**	**+0.1**
HDMB	**Hadim**	**0.97**	**54**	Pg	**Pn**	**20 29 51.7**	**+0.4**
HDMB				Sg	**Sn**	**20 30 06.4**	**-0.2**
SEYD	**Seydisehir-KON**	**1.03**	**15**	Pg	**Pn**	**20 29 52.0**	**0.0**
KORT	**Korkueli**	**1.10**	**303**	Pn	**Pn**	**20 29 53.2**	**+0.5**
BOZY	**Bozyazi-Mersin**	**1.23**	**104**	Pn	**Pn**	**20 29 54.7**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.33**	**101**	Pn	**Pn**	**20 29 55.8**	**+0.6**
ELL	**Elmali**	**1.33**	**285**	Pn	**Pn**	**20 29 56.1**	**+0.7**
ELL	**Elmali**	**1.33**	**285**	P	**Pn**	**20 29 56.5**	**+1.1**
ELL				S	**Sn**	**20 30 15.7**	**+1.9**
ELL	**Elmali**	**1.33**	**285**	P	**Pn**	**20 29 55.9**	**+0.5**
ELL				S	**Sn**	**20 30 13.9**	**+0.1**
BERE	**Bereket-Mersin**	**1.39**	**92**	Pn	**Pn**	**20 29 56.9**	**+0.8**
ALFC	**Alefka**	**1.53**	**144**	P	**Pn**	**20 29 57.7**	**-0.1**
ALFC				S	**Sn**	**20 30 16.1**	**-1.8**
ALFC				AML	AML	20 30 20.0	
	0.2nm,0.1s						
ALFC				AML	AML	20 30 21.1	
	0.2nm,0.2s						
ALFC	**Alefka**	**1.53**	**144**	P	**Pn**	**20 29 57.6**	**-0.1**
ALFC				S	**Sn**	**20 30 17.0**	**-0.9**
AKMS	**Akamas**	**1.54**	**154**	P	**Pn**	**20 29 58.5**	**+0.7**
AKMS				S	**Sn**	**20 30 17.5**	**-0.6**
AKMS				AML	AML	20 30 20.6	
	0.3nm,0.3s						
AKMS				AML	AML	20 30 20.8	
	0.2nm,0.3s						
AKMS	**Akamas**	**1.54**	**154**	P	**Pn**	**20 29 58.2**	**+0.4**
AKMS				S	**Sn**	**20 30 18.5**	**+0.4**
AKAS	**Kas**	**1.54**	**264**	Pn	**Pn**	**20 29 58.1**	**+0.1**
YORU	**Yoruktepe-Mers**	**1.56**	**99**	Pn	**Pn**	**20 29 58.8**	**+0.8**
TEVE	**Tevekalti-Mers**	**1.56**	**88**	Pn	**Pn**	**20 29 59.4**	**+1.3**
KSL	**Kastellorizon**	**1.57**	**261**	P	**Pn**	**20 29 58.5**	**+0.3**
KSL				S	**Sn**	**20 30 19.0**	**+0.3**
KSL	**Kastellorizon**	**1.57**	**261**	P	**Pn**	**20 29 58.2**	**0.0**
KSL				S	**Sn**	**20 30 18.3**	**-0.5**
KRMN	**Karaman**	**1.61**	**61**	Pn	**Pn**	**20 29 59.1**	**+0.4**
ISP	**Isparta**	**1.62**	**331**	P	**Pn**	**20 29 57.9**	**-1.0**
ISP	**Isparta**	**1.62**	**331**	S	**Sn**	**20 30 18.5**	**-1.5**
ISP	**Isparta**	**1.62**	**331**	P	**Pn**	**20 29 58.8**	**-0.1**
AKDN	**Akdeniz- Kıbrı**	**1.62**	**132**	Pn	**Pn**	**20 29 59.9**	**+1.1**
AKK1	**Akkuyu-Mersin**	**1.67**	**98**	Pn	**Pn**	**20 30 00.5**	**+1.2**
AKKU	**Akkuyu-Mersin**	**1.67**	**98**	Pn	**Pn**	**20 30 00.6**	**+1.2**
KONT	**Konya--Tatoy**	**1.68**	**24**	Pn	**Pn**	**20 29 59.4**	**-0.2**
LEF	**Lefka**	**1.71**	**138**	Pn	**Pn**	**20 30 00.6**	**+0.7**
IKL	**Isikli**	**1.77**	**95**	Pn	**Pn**	**20 30 01.8**	**+1.2**
TISA	**Tisan-Mersin**	**1.77**	**97**	Pn	**Pn**	**20 30 01.8**	**+1.1**
KEBE	**Keben-Mersin**	**1.78**	**88**	Pn	**Pn**	**20 30 02.5**	**+1.6**
NATA	**Nata**	**1.84**	**152**	P	**Pn**	**20 30 02.7**	**+1.1**
NATA				S	**Sn**	**20 30 25.3**	**+0.5**
NATA				AML	AML	20 30 33.3	
	0.2nm,0.3s						
NATA				AML	AML	20 30 33.6	
	0.1nm,0.3s						
NATA	**Nata**	**1.84**	**152**	P	**Pn**	**20 30 02.5**	**+0.9**
SILI	**Silifke-Mersin**	**1.95**	**90**	Pn	**Pn**	**20 30 04.3**	**+1.3**
LFK	**Lefkose**	**1.99**	**124**	Pn	**Pn**	**20 30 04.3**	**+0.7**
APOL	**The Sanctuary**	**2.05**	**147**	P	**Pn**	**20 30 04.5**	**+0.2**
APOL				S	**Sn**	**20 30 28.9**	**-0.8**
APOL				AML	AML	20 30 37.0	
	0.1nm,0.3s						
APOL				AML	AML	20 30 37.4	
CSS	**Mathiatis**	**2.07**	**134**	Pn	**Pn**	**20 30 04.9**	**+0.4**
CSS	**Mathiatis**	**2.07**	**134**	P	**Pn**	**20 30 04.3**	**-0.2**
CSS	**Mathiatis**	**2.07**	**134**	S	**Sn**	**20 30 29.3**	**-0.8**
CSS	**Mathiatis**	**2.07**	**134**	P	**Pn**	**20 30 04.6**	**+0.1**
CSS				S	**Sn**	**20 30 28.7**	**-1.4**
CSS				AML	AML	20 30 34.2	
CSS				AML	AML	20 30 35.8	
CSS	**Mathiatis**	**2.07**	**134**	P	**Pn**	**20 30 04.5**	**+0.1**
KIZK	**Mersin**	**2.13**	**87**	Pn	**Pn**	**20 30 06.7**	**+1.4**
ASGA	**Asgata**	**2.15**	**138**	P	**Pn**	**20 30 06.9**	**+1.3**
ASGA				S	**Sn**	**20 30 30.6**	**-1.4**
ASGA				AML	AML	20 30 42.3	
ASGA				AML	AML	20 30 42.9	
ASGA	**Asgata**	**2.15**	**138**	P	**Pn**	**20 30 06.4**	**+0.9**
MVOU	**Mavrovouni**	**2.22**	**128**	P	**Pn**	**20 30 06.1**	**-0.4**
MVOU				S	**Sn**	**20 30 32.0**	**-1.5**
MVOU				AML	AML	20 30 32.5	
	0.1nm,0.3s						
MVOU				AML	AML	20 30 39.7	
MVOU	**Mavrovouni**	**2.22**	**128**	P	**Pn**	**20 30 06.0**	**-0.4**
YESY	**Yesilyurt**	**2.26**	**52**	Pn	**Pn**	**20 30 07.7**	**+0.6**
EREN	**Erenkoy**	**2.33**	**111**	Pn	**Pn**	**20 30 08.9**	**+1.0**
MERS	**Mersin**	**2.47**	**78**	Pn	**Pn**	**20 30 11.3**	**+1.5**
ARG	**Arkhangelos**	**2.74**	**267**	P	**Pn**	**20 30 13.2**	**0.0**
KARP	**Karpathos**	**3.62**	**258**	P	**Pn**	**20 30 25.9**	**+0.7**
HNTI	**Hanita**	**4.48**	**137**	P	**Pn**	**20 30 36.3**	**-0.4**
HNTI	**Hanita**	**4.48**	**137**	S	**Sn**	**20 31 27.5**	**-0.3**
MMA0B	**Mount Meron ar**	**4.66**	**135**	P	**Pn**	**20 30 39.1**	**-0.2**
MMA0B	**Mount Meron ar**	**4.66**	**135**	S	**Sn**	**20 31 31.6**	**-0.6**
GEM	**Giv'at Ha'Em**	**4.67**	**132**	P	**Pn**	**20 30 39.4**	**0.0**
GEM	**Giv'at Ha'Em**	**4.67**	**132**	S	**Sn**	**20 31 31.9**	**-0.5**
NATI	**Neve Ativ**	**4.68**	**131**	P	**Pn**	**20 30 39.4**	**-0.1**
NATI	**Neve Ativ**	**4.68**	**131**	S	**Sn**	**20 31 32.5**	**-0.1**
OFRI	**`Ofer**	**4.74**	**142**	P	**Pn**	**20 30 40.1**	**-0.2**
OFRI	**`Ofer**	**4.74**	**142**	S	**Sn**	**20 31 33.3**	**-0.9**
KSHT	**Keshet**	**4.92**	**133**	P	**Pn**	**20 30 42.6**	**-0.2**
KSHT	**Keshet**	**4.92**	**133**	S	**Sn**	**20 31 38.1**	**-0.4**
MMLI	**Mount Malkishu**	**5.11**	**140**	P	**Pn**	**20 30 45.8**	**+0.5**
MMLI	**Mount Malkishu**	**5.11**	**140**	S	**Sn**	**20 31 43.2**	**+0.1**
SALP	**Salfit**	**5.29**	**144**	P	**Pn**	**20 30 48.3**	**+0.6**
SALP	**Salfit**	**5.29**	**144**	S	**Sn**	**20 31 46.9**	**-0.6**
HMDT	**Nahal Hemdat**	**5.31**	**140**	P	**Pn**	**20 30 48.3**	**+0.4**
HMDT	**Nahal Hemdat**	**5.31**	**140**	S	**Sn**	**20 31 47.6**	**-0.3**
DSI	**Dead Sea**	**5.80**	**145**	P	**Pn**	**20 30 53.8**	**-0.7**
DSI	**Dead Sea**	**5.80**	**145**	S	**Sn**	**20 32 00.2**	**+0.4**
YTIR	**Yattir**	**5.86**	**148**	P	**Pn**	**20 30 55.8**	**+0.4**
YTIR	**Yattir**	**5.86**	**148**	S	**Sn**	**20 32 02.2**	**+0.9**
KZIT	**Kziot**	**5.99**	**155**	P	**Pn**	**20 30 57.3**	**+0.1**
KZIT	**Kziot**	**5.99**	**155**	S	**Sn**	**20 32 03.7**	**-0.8**
MSBI	**Mazada**	**6.00**	**147**	P	**Pn**	**20 30 57.6**	**+0.2**
MSBI	**Mazada**	**6.00**	**147**	S	**Sn**	**20 32 04.4**	**-0.3**
PRNI	**Paran**	**6.71**	**153**	P	**Pn**	**20 31 06.6**	**-0.4**
PRNI	**Paran**	**6.71**	**153**	S	**Sn**	**20 32 22.3**	**+0.3**
MBRI	**Mt Berech**	**7.18**	**156**	P	**Pn**	**20 31 13.4**	**-0.2**
MBRI	**Mt Berech**	**7.18**	**156**	S	**Sn**	**20 32 33.9**	**+0.3**

JMA ***28*** *20:38:48.8±0.4, 37.°0N±0.°8×14.°2E±.°, h16km±4km, MD4.4/40, MV4.6/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
NIED ***28*** *20:38:48.8, 36.°97N×142.°39E, h16km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.80; Mθθ0.23; Mφφ2.57; Mrθ-0.52; Mθφ1.05; Mφr2.12; Fault plane solution: M0 3.62000×10^15 NP1:φs38.00000°, δ32.00000°, λ-58.00000°. NP2:φs182.00000°, δ64.00000°, λ-108.00000°.*
IDC ***28*** *20:38:50.0±0.6, 36.°97N×142.°33E, h0km, mb4.1/18, mbtmp4.2/26, ML3.8/8, MS3.6/19 Error ellipse: s-maj=14.7km s-min=12.9km az=141.0*
BJI ***28*** *20:38:51.0, 36.°88N×141.°99E, h8km, mB4.8/11, mb4.5/46, Ms4.3/17, Ms7 4.1/17*
MOS ***28*** *20:38:52.9±1.1, 37.°34N×142.°19E, h20km, mb4.5/19, Error ellipse: s-maj=8.8km s-min=5.6km az=90.5*
NEIC ***28*** *20:38:54.6±1.8, 37.°15N±0.°08×142.°17E±0.°09, h22km±5km, mb4.6/117, Error ellipse: s-maj=12.8km s-min=9.2km az=142.0*
ISC 28 20:38:52.0±0.8, 37.°04N±0.°04×142.°23E±0.°04, h15km±4km, n421, σ1§49/372, mb4.6/93, MS3.7/17, 8C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.14**	**287**	*i* P	**Pb**	**20 39 11.7**	**-1.8**
JFK				*e*S	**Sg**	**20 39 28.9**	**+0.1**
JFK	**Kawauchi**	**1.14**	**287**	A	A	20 39 11.7	
	comp=N,9.0nm,1.1s,comp=E,7.0nm,1.2s						
ONAJ	**Iwakimizuishiy**	**1.15**	**274**	*i* P	**Pb**	**20 39 11.7**	**-2.0**
JMST	**Minamisoumatoc**	**1.27**	**303**	P	**Pn**	**20 39 14.1**	**-1.3**
JMST				*e*S	**Sg**	**20 39 32.4**	**-0.8**
JMST	**Minamisoumatoc**	**1.27**	**303**	A	A	20 39 14.1	
	comp=N,16nm,0.7s,comp=E,11nm,1.1s						
JFFD	**Fukushimafurud**	**1.34**	**273**	*i* P	**Pn**	**20 39 14.5**	**-1.8**
JFFD				*e*S	**Sg**	**20 39 33.5**	**-1.7**
JMM	**Marumori**	**1.42**	**306**		**Pn**	**20 39 15.9**	**-1.3**
JMM	**Marumori**	**1.42**	**306**	*i* P	**Pn**	**20 39 16.0**	**-1.3**
JMM				*e*S	**Sg**	**20 39 36.1**	**-1.6**
JMM	**Marumori**	**1.42**	**306**	A	A	20 39 16.0	
	comp=N,9.0nm,0.5s,comp=E,6.0nm,3.3s						
JIO	**Ouri**	**1.58**	**334**	*i* P	**Pn**	**20 39 18.3**	**-1.3**
JIO				*e*S	**Sn**	**20 39 39.6**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.60**	**290**	*i* P	**Pb**	**20 39 19.6**	**-1.9**
JOTO	**OTAMA OYAMA**	**1.60**	**290**	A	A	20 39 19.6	
	comp=N,16nm,1.4s,comp=E,20nm,0.8s						
JOU	**Okura**	**1.82**	**317**	P	**Pn**	**20 39 22.7**	**-0.2**
JFY	**Yanaizu**	**2.05**	**281**	P	**Pn**	**20 39 26.0**	**-0.1**
JMK	**Ichinoseki**	**2.07**	**338**	P	**Pn**	**20 39 25.8**	**-0.6**
JAG	**Ashikaga**	**2.31**	**256**	P	**Pn**	**20 39 28.9**	**-0.8**
JYK	**Kaneyama**	**2.39**	**322**	P	**Pn**	**20 39 30.6**	**-0.1**
JNS	**Sasagawa**	**2.45**	**289**	P	**Pb**	**20 39 32.8**	**-3.0**
JOM	**Ohasama**	**2.54**	**343**	P	**Pn**	**20 39 33.0**	**+0.1**
BSO1	**Boso 1**	**2.59**	**204**	P	**Pn**	**20 39 33.0**	**0.0**
JAW	**Awa shima**	**2.76**	**302**	P	**Pn**	**20 39 37.3**	**+1.5**
JRY	**Ryogami san**	**2.87**	**250**	*i* P	**Pn**	**20 39 36.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.27**	**263**	Pn	**Pn**	**20 39 43.4**	**+0.6**
	comp=E,4.9nm,0.3s,baz=81,slow=15,SNR=145						
MJAR				Sn	**Sb**	**20 40 25.8**	**-3.7**
	comp=E,2.5nm,0.3s,baz=193,slow=32,SNR=4.5						
MJAR				LR	LR	20 41 18.0	
	comp=E,1μm,19.0s,baz=87,slow=44						
	comp=E,35nm,0.3s						
MAJO	**Matsushiro**	**3.27**	**263**		**Pn**	**20 39 43.5**	**+0.7**
MAJO	**Matsushiro**	**3.27**	**263**	P	**Pn**	**20 39 44.4**	**+1.6**
MAJO	**Matsushiro**	**3.27**	**263**	*i* P	**Pn**	**20 39 43.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**3.27**	**263**		Pb	20 39 44.9	-5.0
JSD	**Sado**	**3.31**	**289**		**Pn**	**20 39 43.7**	**+0.3**
JSD	**Sado**	**3.31**	**289**	P	**Pn**	**20 39 44.7**	**+1.3**
JTM	**Tenmabayashi**	**3.85**	**347**		**Pn**	**20 39 51.0**	**+0.1**
JGF	**Kuroka**	**4.19**	**251**		**Pn**	**20 39 57.3**	**+1.8**
JGF	**Kuroka**	**4.19**	**251**	P	**Pn**	**20 39 57.1**	**+1.6**
JHJ2	**Mitsune**	**4.39**	**208**	Pn	**Pn**	**20 39 57.7**	**-0.5**
JHJ	**Hachijo jima 2**	**4.39**	**208**	Pn	**Pn**	**20 39 57.6**	**-0.6**
	comp=E,24nm,0.3s,baz=338,slow=22,SNR=25						
JHJ				Sn	**Sn**	**20 40 45.8**	**-3.4**
	comp=E,49nm,0.3s,baz=78,slow=23,SNR=6.4						
JHJ				LR	LR	20 41 54.3	
	comp=E,454nm,19.2s,baz=156,slow=42						
	comp=E,58nm,0.3s						
INU	**Inuyama**	**4.54**	**250**		**Pn**	**20 40 02.5**	**+2.2**
INU	**Inuyama**	**4.54**	**250**	P	**Pn**	**20 40 02.8**	**+2.5**
ERM	**Erimo**	**5.02**	**8**	Pn	**Pn**	**20 40 06.2**	**-0.6**
ERM	**Erimo**	**5.02**	**8**	P	**Pn**	**20 40 06.3**	**-0.6**
ERM	**Erimo**	**5.02**	**8**	*i* P	**Pn**	**20 40 05.5**	**-1.4**
JEM	**Erimo**	**5.03**	**

comp=Z,13nm,0.8s
LYN LuoYang 24.23 273 P P 20 44 10.0 +1.7
LYN pmax pmax
comp=Z,20nm,0.6s
YAK Yakutsk 26.22 347 P P 20 44 25.9 -0.1
YAK IAmb IAmb 20 45 09.7
comp=Z,10nm,0.8s
YAK Yakutsk 26.22 347 *e*P **P 20 44 26.0 -0.1**
YAK *e**PP **sP 20 44 30.3 -1.3**
YAK *e* 20 45 02.6
YAK *e* 20 47 51.3
YAK *e*S **S 20 48 57.6 +0.1**
YAK *e**SS **sS 20 49 07.4 +3.4**
YAK *e*SS **SnSn 20 49 55.6 -1.0**
YAK *e* 20 55 25.5
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=Z,84nm,3.8s
YAK smax smax
comp=E,90nm,4.3s
YAK smax smax
comp=N,89nm,3.2s
SEY Seymchan 26.67 10*ce*P **P 20 44 30.4 +0.3**
SEY pmax pmax
comp=Z,18nm,1.3s
XAN Xi'an 27.20 274 P **P 20 44 34.5 -0.8**
XAN pmax pmax
comp=Z,17nm,0.6s
H11N2 WAKE ISLAND Hy 27.59 122 T T 21 13 36.8
baz=314
H11N1 WAKE ISLAND Hy 27.60 122 T T 21 13 35.2
baz=314
H11N3 WAKE ISLAND Hy 27.61 122 T T 21 13 35.9
baz=314
ULN Ulaanbaatar 27.90 304 *i* P **P 20 44 41.0 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.1s
ENH Enshi 27.99 266 P **P 20 44 41.5 -0.8**
ENH IAmb IAmb 20 44 42.9
comp=Z,14nm,0.9s
H11S1 WAKE ISLAND Hy 28.31 124 T T 21 14 27.4
baz=316
H11S3 WAKE ISLAND Hy 28.31 124 T T 21 14 35.3
baz=316
H11S2 WAKE ISLAND Hy 28.33 124 T T 21 14 25.6
baz=316
SONM Songino Array 28.33 304 P **P 20 44 46.6 +1.3**
comp=Z,1.5nm,0.6s,baz=105,slow=9.3,SNR=14
SONM LR LR 20 56 25.9
comp=Z,65nm,18.1s,baz=61,slow=37
comp=Z,1.5nm,0.6s
ZAK Zakamensk 30.78 308 *e*P **P 20 45 07.4 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
DAV Davao City (W) 33.47 211 LR LR 20 59 01.9
comp=Z,57nm,19.0s,baz=307,slow=36
BILL Bilibino 33.84 16 P **P 20 45 33.4 -0.1**
BILL IAmb IAmb 20 45 34.8
comp=Z,5.8nm,0.9s
BILL Bilibino 33.84 16*ce*P **P 20 45 32.5 -1.0**
BILL pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 35.37 353 LR LR 21 03 10.8
comp=Z,86nm,18.0s,baz=183,slow=41
PZH PanZhiHua 35.76 265 P **P 20 45 52.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
P08K Saint George I 37.39 43 P **P 20 46 04.5 +0.4**
baz=260
GOMU GeErMu 37.76 283 P **P 20 46 08.5 +0.6**
GOMU pP sP 20 46 11.8 -1.5
GOMU sP pwP 20 46 16.5 +2.5
GOMU pmax pmax
comp=Z,13nm,1.1s
GAMB Gambell 38.38 31 P **P 20 46 13.0 +0.7**
baz=248
UNV Unalaska Valle 38.76 48 P **P 20 46 15.9 +0.3**
baz=266
M11K Mekoryuk 39.86 37 P **P 20 46 25.3 +0.6**
baz=258
CRAI Chiangrai 40.02 257 P **P 20 46 27.9 +1.3**
TNA Tin City 40.53 29 P **P 20 46 31.0 +0.7**
baz=250
K13K Kusilvak Mount 40.92 35 P **P 20 46 33.8 +0.3**
baz=258
F14K Arctic Creek 41.13 30 P **P 20 46 35.6 +0.4**
baz=252
M13K Dall Lake 41.26 38 P **P 20 46 37.3 +1.0**
baz=261
J14K Nanvaranak Lak 41.60 34 P **P 20 46 39.7 +0.6**
baz=258
L14K Kuka Creek 41.73 36 P **P 20 46 40.1 -0.1**
baz=260
F15K North Star Dit 41.87 30 P **P 20 46 41.2 -0.1**
baz=254
G15K Niukluk 41.92 31 P **P 20 46 41.6 -0.1**
baz=255
CHTO Chiang Mai 41.93 256 P **P 20 46 43.2 +0.8**
CHTO Chiang Mai 41.93 256 P **P 20 46 43.2 +0.8**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
M14K Bethel 41.99 37 IAmb IAmb 20 46 45.1
comp=Z,14nm,0.9s
M14K Bethel 41.99 37 P **P 20 46 43.2 +1.0**
baz=262
N14K Kuskokwak Cree 42.01 39 P **P 20 46 43.1 +0.6**
baz=263
CMAR Chiang Mai Arr 42.13 256 P **P 20 46 45.0 +0.9**
comp=Z,0.4nm,0.4s,baz=51,slow=6.3,SNR=6.8
CMAR LR LR 21 06 48.9
comp=Z,93nm,18.6s,baz=60,slow=40
comp=Z,0.4nm,0.4s
CMAR Chiang Mai Arr 42.13 256 *i* P **P 20 46 46.0 +2.0**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
O14K Tigyukauivet M 42.15 40 P **P 20 46 44.1 +0.5**
baz=264
SDPT Sand Point 42.33 46 P **P 20 46 45.2 +0.1**
baz=269
L15K Ungalak Mounta 42.35 36 P **P 20 46 45.7 +0.5**
baz=261
ZAA0 Zalesovo Array 42.40 312 P **P 20 46 43.1 -2.6**
ZALV Zalesovo Beam 42.40 312 P **P 20 46 46.3 +0.5**
ZALV Zalesovo Beam 42.40 312 P **P 20 46 46.7 +0.9**
comp=Z,2.3nm,0.6s,baz=92,slow=7.7,SNR=12
ZALV LR LR 21 05 13.6
comp=Z,92nm,18.2s,baz=336,slow=37
comp=Z,2.3nm,0.6s
ZALV Zalesovo Beam 42.40 312 P **P 20 46 46.3 +0.5**
C16K Lisburne Hills 42.41 26 IAmb IAmb 20 46 47.7
comp=Z,8.6nm,0.8s
C16K Lisburne Hills 42.41 26 P **P 20 46 46.2 +0.6**
baz=250
K15K Wolf Creek Mou 42.43 35 P **P 20 46 47.4 +1.5**
baz=260
H16K Elim 42.58 32 P **P 20 46 47.9 +0.8**
baz=257
M15K Kasigluk River 42.60 38 P **P 20 46 48.2 +0.9**
baz=263
N15K Kwethluk River 42.83 38 P **P 20 46 49.2 0.0**
baz=264
CHNA Chernabura Isl 42.84 46 P **P 20 46 50.6 +1.3**
baz=270
S14K Fog Glacier 42.87 44 P **P 20 46 49.8 +0.1**
baz=269
O15K Ungalikthiuk R 42.88 40 P **P 20 46 50.9 +1.4**
baz=266
J16K Anvik River 43.02 34 P **P 20 46 51.5 +0.8**
baz=260
D17K Noatak River 43.04 27 P **P 20 46 51.7 +0.9**
baz=253
I17K Unalakleet 43.09 33 P **P 20 46 52.2 +1.0**
baz=260
RDOG Red Dog Mine 43.21 27 P **P 20 46 53.2 +1.1**
baz=253
C17K DeLong Mountai 43.24 26 P **P 20 46 52.8 +0.4**
baz=252
L16K Owhat River 43.31 36 P **P 20 46 54.3 +1.2**
baz=263
E17K Hotham Inlet 43.34 28 P **P 20 46 54.2 +1.0**
baz=255
F17K Baldwin Pennin 43.40 29 P **P 20 46 54.2 +0.6**
baz=256
G17K Kiwalik Mounta 43.42 31 P **P 20 46 54.8 +0.9**
baz=258
M16K Timber Creek 43.48 37 IAmb IAmb 20 46 57.0
comp=Z,16nm,1.3s
M16K Timber Creek 43.48 37 P **P 20 46 55.1 +0.6**
baz=264
N16K Nishlik Lake 43.52 38 P **P 20 46 55.7 +1.0**
baz=265,SNR=5.3
NRIK Noril'sk 43.54 335*ce*P **P 20 46 55.8 +1.0**
NRIK pmax pmax
comp=Z,3.0nm,1.5s
H17K Granite Mounta 43.62 32 P **P 20 46 55.9 +0.4**
baz=259
J17K VABM Dome 43.72 34 P **P 20 46 57.6 +1.3**
baz=262
O16K Kokwok River B 43.79 39 P **P 20 46 57.7 +0.8**
baz=267
E18K Tukpahlearik C 43.88 28 P **P 20 46 58.4 +0.9**
baz=256
L17K Donlin 43.91 36 P **P 20 46 58.5 +0.6**
baz=264
K17K Iditarod 43.98 35 IAmb IAmb 20 47 01.4
comp=Z,6.9nm,0.8s
K17K Iditarod 43.98 35 P **P 20 46 59.2 +0.7**
baz=263
B18K Kokolik River 43.98 25 P **P 20 46 59.2 +0.9**
baz=253
C18K Utukok River 43.99 26 P **P 20 46 58.9 +0.4**
baz=254
F18K Selawik 44.06 29 P **P 20 46 60.0 +1.0**
baz=258
M17K Holitna River 44.25 37 IAmb IAmb 20 47 03.6
comp=Z,9.5nm,0.9s
M17K Holitna River 44.25 37 P **P 20 47 01.6 +1.0**
baz=265,SNR=5.1
H18K Honhosa River 44.30 31 P **P 20 47 02.3 +1.3**
baz=261
N17K Nushagak Hills 44.30 38 IAmb IAmb 20 47 04.2
comp=Z,8.3nm,1.1s
N17K Nushagak Hills 44.30 38 P **P 20 47 02.1 +1.1**
baz=266
O17K Koliganek Bris 44.31 39 P **P 20 47 01.8 +0.8**
baz=267
G18K Tagagawik 44.31 30 P **P 20 47 01.9 +0.8**
baz=260
P17K Kvichak River 44.62 40 P **P 20 47 04.2 +0.7**
baz=268
L18K Granite Mounta 44.67 36 P **P 20 47 04.7 +0.7**
baz=265
MK31 Makanchi Array 44.67 302 *i* P **P 20 47 04.9 +0.7**
MKAR Makanchi Array 44.67 302 P **P 20 47 05.1 +0.8**
MKAR Makanchi Array 44.67 302 P **P 20 47 04.8 +0.5**
comp=Z,2.1nm,0.7s,baz=88,slow=10.0,SNR=18
MKAR LR LR 21 07 21.2
comp=Z,70nm,18.4s,baz=14,slow=38
comp=Z,2.1nm,0.7s
MKAR Makanchi Array 44.67 302 P **P 20 47 05.1 +0.8**
J18K Innoko River 44.78 34 P **P 20 47 05.9 +1.0**
baz=264
F19K Shaleruckik Mo 44.84 29 P **P 20 47 06.5 +1.3**
baz=260
MAKZ Makanchi 44.88 302 P **P 20 47 06.5 +0.6**
MAKZ Makanchi 44.88 302 P **P 20 47 06.5 +0.6**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
N18K Kilae Creek 44.95 38 IAmb IAmb 20 47 09.4
comp=Z,13nm,1.2s
N18K Kilae Creek 44.95 38 P **P 20 47 07.2 +0.9**
baz=267,SNR=5.5
G19K Purcell Mounta 44.99 30 P **P 20 47 07.9 +1.5**
baz=261
M18K Stony River 45.03 37 P **P 20 47 08.1 +1.3**
baz=267
D19K Kuna River 45.05 27 P **P 20 47 07.8 +0.9**
baz=258
H19K Roundabout Mou 45.15 31 IAmb IAmb 20 47 10.3
comp=Z,12nm,1.0s
H19K Roundabout Mou 45.15 31 P **P 20 47 08.5 +0.8**
baz=262,SNR=9.6
E19K Redstone River 45.16 28 P **P 20 47 08.5 +0.7**
baz=259
P18K Big Mountain, 45.24 40 P **P 20 47 09.2 +0.6**
baz=269
O18K Koktuh Hills 45.26 39 P **P 20 47 10.1 +1.4**
baz=263
J19K Poorman 45.32 33 IAmb IAmb 20 47 11.3
comp=Z,8.5nm,1.1s
J19K Poorman 45.32 33 P **P 20 47 10.2 +1.1**
baz=264,SNR=6.2
Q18K Katmai Hardscr 45.35 41 P **P 20 47 10.4 +0.8**
baz=270
L19K White Mountain 45.53 36 IAmb IAmb 20 47 13.5
comp=Z,9.7nm,1.3s
L19K White Mountain 45.53 36 P **P 20 47 11.7 +0.9**
baz=267
D20K Etivluk River 45.63 27 P **P 20 47 12.4 +0.9**
baz=259
BRDH Bariadhala 45.65 266 LR LR 21 09 04.9
comp=Z,144nm,18.4s,baz=104,slow=40
N19K Bonanza Creek 45.65 38 P **P 20 47 12.9 +1.1**
baz=269
R18K Karluk 45.66 42 P **P 20 47 13.1 +1.2**
baz=272
F20K Avaraart Lake 45.67 29 P **P 20 47 12.7 +1.0**
baz=261
E20K Nigu River 45.70 27 P **P 20 47 13.2 +1.1**
baz=260
O19K Port Alsworth 45.71 39 P **P 20 47 13.3 +1.1**
baz=269
B20K Meade River 45.72 25 P **P 20 47 13.2 +1.1**
baz=257
M19K Big River Lodg 45.73 36 P **P 20 47 14.0 +1.6**
baz=268
H20K Anotleneega Mo 45.80 31 P **P 20 47 14.7 +1.8**
baz=264
I20K Naaghedeneel 45.89 32 P **P 20 47 14.9 +1.3**
baz=265
K20K Telida 45.96 34 P **P 20 47 16.3 +2.2**
baz=266
J20K Nowinta River 45.98 33 IAmb IAmb 20 47 17.0
comp=Z,8.6nm,1.1s
J20K Nowinta River 45.98 33 P **P 20 47 15.7 +1.4**
baz=266,SNR=6.5
L20K Farewell, AK 46.00 35 P **P 20 47 16.2 +1.7**
baz=268,SNR=5.2
A21K Barrow 46.20 23 P **P 20 47 16.8 +0.9**
baz=256
OHAK Old Harbor 46.31 43 P **P 20 47 18.5 +1.6**
baz=273
M20K Styx River 46.33 36 P **P 20 47 18.6 +1.4**
baz=269
C21K Knifeblade Rid 46.36 26 P **P 20 47 18.7 +1.5**
baz=260
KURK Kurchatov 46.45 308 P **P 20 47 19.0 +0.9**
KURK Kurchatov 46.45 308*ce*P **P 20 47 18.5 +0.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s
G21K Allakaket 46.47 30 P **P 20 47 19.6 +1.5**
baz=264
B21K Ikpikpuk River 46.50 26 P **P 20 47 19.3 +1.0**
baz=260
KURBB Kurchatov Arra 46.52 308 P **P 20 47 19.5 +0.7**
comp=Z,5.6nm,0.7s,baz=83,slow=8.1,SNR=20
KURBB LR LR 21 08 14.7
comp=Z,52nm,18.8s,baz=166,slow=38
comp=Z,5.6nm,0.7s
E21K Killik River 46.54 27 P **P 20 47 19.4 +0.8**
baz=262
F21K Alatna River 46.56 29 P **P 20 47 19.9 +1.0**
baz=263
A22K Sinclair Lake 46.65 24 P **P 20 47 19.4 -0.1**
baz=258
KDAK Kodiak Island 46.66 42 P **P 20 47 20.8 +1.1**
baz=273
H21K Melozitna Rive 46.67 31 P **P 20 47 21.2 +1.5**
baz=265
Q20K Shuyak Island 46.72 41 P **P 20 47 21.1 +1.0**
baz=272
SPCR Spurr Chakacha 46.76 37 P **P 20 47 21.7 +1.2**
baz=270
CHUM Lake Minchumin 46.77 34 P **P 20 47 21.9 +1.4**
baz=268
PPLA Purkeypile 46.79 35 P **P 20 47 22.1 +1.2**
PPLA Purkeypile 46.79 35 P **P 20 47 20.2 -0.6**
baz=269
CAST Castle Rocks 46.85 34 P **P 20 47 21.9 +0.6**
baz=268
B22K Teshekpuk Lake 47.03 25 P **P 20 47 24.0 +1.5**
baz=260
D22K Ayikyak River 47.07 27 P **P 20 47 24.0 +1.2**
baz=262
SKT Skwentna 47.08 36 P **P 20 47 23.0 0.0**
baz=270
F22K John River 47.09 29 P **P 20 47 23.6 +0.5**
baz=264
H22K Ishtalitna Cre 47.28 31 P **P 20 47 25.2 +0.8**
baz=266
E22K Anaktuvuk Pass 47.30 28 IAmb IAmb 20 47 27.1
comp=Z,6.1nm,0.9s
E22K Anaktuvuk Pass 47.30 28 P **P 20 47 25.2 +0.6**
baz=264,SNR=7.6
BPAW Bear Paw Mtn. 47.36 33 P **P 20 47 26.2 +1.1**
BPAW IAmb IAmb 20 47 28.5
comp=Z,6.1nm,1.2s
BPAW Bear Paw Mtn. 47.36 33 P **P 20 47 25.9 +0.7**
baz=269
KTH Kantishna Hill 47.38 34 P **P 20 47 26.1 +0.7**
BRSE Bradley Lake S 47.52 39 P **P 20 47 26.4 0.0**
baz=273
TRF Thorofare Moun 47.66 34 IAmb IAmb 20 47 47.0
comp=Z,6.9nm,1.4s
TRF Thorofare Moun 47.66 34 P **P 20 47 28.0 +0.3**
baz=270
M22K Willow 47.76 36 P **P 20 47 29.2 +1.1**
baz=272
D23K Nanushuk River 47.80 27 P **P 20 47 29.9 +1.4**
baz=264
G23K Bananza Creek 47.87 30 P **P 20 47 30.1 +0.9**
baz=267
C23K Itkillik River 47.91 26 P **P 20 47 29.7 +0.3**
baz=264,SNR=10
RC01 Rabbit Creek A 47.96 37 IAmb IAmb 20 47 31.3
comp=Z,7.0nm,0.9s
RC01 Rabbit Creek A 47.96 37 P **P 20 47 30.5 +0.7**
baz=272
H23K Yukon River 48.03 31 IAmb IAmb 20 47 33.3
comp=Z,6.6nm,0.9s
H23K Yukon River 48.03 31 P **P 20 47 30.7 +0.4**
baz=268,SNR=7.0
I23K Minto, Yukon-K 48.09 32 P **P 20 47 31.6 +0.9**
baz=269
E23K Chandalar 48.11 28 P **P 20 47 31.7 +0.7**
baz=266,SNR=12
SEW Seward 48.15 39 P **P 20 47 31.9 +0.6**
baz=274
TOLK Toolik Lake Re 48.17 27 IAmb IAmb 20 47 33.9
comp=Z,7.6nm,1.0s
TOLK Toolik Lake Re 48.17 27 P **P 20 47 32.1 +0.7**
baz=266,SNR=5.2
NEA2 Nenana 48.20 33 P **P 20 47 32.6 +0.9**
baz=270,SNR=8.2
PMR Palmer 48.23 37 P **P 20 47 32.4 +0.5**
baz=272
MCK McKinley 48.27 34 P **P 20 47 32.0 -0.2**
baz=271
RND Reindeer 48.31 34 IAmb IAmb 20 47 34.0
comp=Z,7.0nm,1.0s
GHO Glory Hole Cre 48.32 36 IAmb IAmb 20 47 34.5
comp=Z,9.2nm,1.0s
D24K Happy Valley 48.48 26 P **P 20 47 34.6 +0.9**
baz=266
E24K Your Creek 48.54 28 P **P 20 47 35.5 +1.3**
baz=267
KNK Knik Glacier 48.56 37 P **P 20 47 35.2 +0.7**
baz=273
C24K Franklin Bluff 48.56 26 P **P 20 47 35.7 +1.4**
baz=266
SML Sawmill 48.60 36 IAmb IAmb 20 47 36.7
comp=Z,8.2nm,0.9s
SML Sawmill 48.60 36 P **P 20 47 35.4 +0.6**
baz=273
PWL Port Wells 48.66 38 IAmb IAmb 20 47 36.6
comp=Z,6.3nm,0.9s
PWL Port Wells 48.66 38 P **P 20 47 36.1 +0.9**
baz=274
H24K Noodor Dome 48.71 31 IAmb IAmb 20 47 38.5
comp=Z,8.0nm,1.2s
H24K Noodor Dome 48.71 31 P **P 20 47 36.3 +0.7**
baz=270
COLA College 48.73 32 *i* P **P 20 47 36.3 +0.7**
COLA pmax pmax
comp=Z,6.0nm,1.2s
F24K Squaw Lake 48.74 29 P **P 20 47 37.1 +1.3**
baz=268
G24K Hadweenzic Riv 48.88 30 IAmb IAmb 20 47 39.9
comp=Z,9.3nm,1.2s
G24K Hadweenzic Riv 48.88 30 P **P 20 47 38.2 +1.3**
baz=269
M23K Glacier View 48.89 36 P **P 20 47 38.3 +1.3**
baz=274
POKR Poker Plat Res 48.90 32 P **P 20 47 38.1 +1.1**
baz=271
SCM Sheep Creek Mo 49.08 36 P **P 20 47 38.8 +0.3**
baz=274
HDA Harding Lake 49.13 33 IAmb IAmb 20 47 40.0
comp=Z,6.3nm,0.9s
HDA Harding Lake 49.13 33 P **P 20 47 39.6 +0.8**
baz=272,SNR=6.3
IL31 49.14 32 IAmb IAmb 20 47 40.4
comp=Z,5.8nm,0.8s
ILAR Eielson Array 49.14 32 P **P 20 47 39.2 +0.3**
comp=Z,3.6nm,0.8s,baz=266,slow=6.4,SNR=35
comp=Z,3.6nm,0.8s
P23K Montague Islan 49.18 39 P **P 20 47 40.3 +1.0**
baz=275
GLI Glacier Island 49.26 38 P **P 20 47 40.6 +0.8**
baz=275
D25K Kavik River 49.36 26 P **P 20 47 41.3 +0.8**
baz=268
G25K Bearman Lake 49.43 30 P **P 20 47 42.4 +1.4**
baz=271
H25L Birch Creek 49.55 30 P **P 20 47 43.6 +1.7**
baz=271
M24K Tolsona, Glenn 49.60 36 P **P 20 47 43.4 +0.9**
baz=275
F25K Christian Rive 49.60 29 IAmb IAmb 20 47 45.5
comp=Z,4.9nm,0.9s
F25K Christian Rive 49.60 29 P **P 20 47 43.3 +0.9**
baz=270,SNR=5.7
E25K Arctic Village 49.63 28 P **P 20 47 44.0 +1.4**
baz=270,SNR=5.2
K24K Donnelly Dome 49.67 34 P **P 20 47 43.9 +0.9**
baz=274
PRP Porcupine Dome 49.69 31 P **P 20 47 44.0 +0.8**
baz=272
KLU Klutina 49.77 37 IAmb IAmb 20 47 46.0
comp=Z,13nm,1.3s
KLU Klutina 49.77 37 P **P 20 47 45.0 +1.2**
baz=275
PAX Paxson 49.86 35 P **P 20 47 45.8 +1.3**
baz=274
DIV Divide 49.88 37 IAmb IAmb 20 47 47.0
comp=Z,9.8nm,1.1s
C26K Camden Bay 49.89 26 P **P 20 47 46.7 +2.3**
baz=269,SNR=8.2
EYAK Cordova Ski Ar 49.95 38 P **P 20 47 46.4 +1.4**
baz=276
HARP HAARP 50.05 35 P **P 20 47 46.7 +0.8**
baz=275
RIDG Independent Ri 50.08 34 P **P 20 47 47.1 +1.0**
baz=274
F26K Sheenjek River 50.17 28 P **P 20 47 47.9 +1.1**
baz=272
C27K Jago River 50.30 26 P **P 20 47 48.3 +0.6**
baz=270
G26K Porcupine Rive 50.34 29 P **P 20 47 49.1 +1.2**
baz=273
N25K Chitina, Valde 50.39 36 P **P 20 47 49.7 +1.2**
baz=276
SCRK Sand Creek 50.45 33 IAmb IAmb 20 47 50.5
comp=Z,7.5nm,1.0s
SCRK Sand Creek 50.45 33 P **P 20 47 49.9 +1.0**
baz=275,SNR=7.0
BMRM Bremner River 50.46 37 IAmb IAmb 20 47 51.3
comp=Z,8.8nm,1.0s
BMRM Bremner River 50.46 37 P **P 20 47 50.7 +1.7**
baz=277
J26L Joseph Creek 50.59 33 P **P 20 47 50.2 +0.3**
baz=275
KAIM Kayak Island 50.68 39 P **P 20 47 52.2 +1.6**
baz=278
L26K Log Cabin Wild 50.82 35 P **P 20 47 53.3 +1.6**
baz=276
KSH Kashi 51.00 294 P P 20 48 01.0 +7.5
KSH pmax pmax
comp=Z,4.0nm,1.0s
M26K Nabesna, AK 51.05 35 P **P 20 47 55.4 +1.9**

baz=277
BVAR Borovoye Array 51.06 312 P **P 20 47 53.9 +0.4**
comp=Z,0.5nm,0.6s,baz=46,slow=8.3,SNR=2.3
comp=Z,0.5nm,0.6s
AAK Ala-Archa 51.06 299 LR LR 21 10 47.3
comp=Z,136nm,19.0s,baz=68,slow=38
AAK Ala-Archa 51.06 299 *i* P **P 20 47 53.5 -0.5**
AAK pmax pmax
comp=Z,15nm,4.2s
E27K Coleen River 51.12 28 P **P 20 47 55.4 +1.6**
baz=274
G27K Doyon Strip 51.19 30 P **P 20 47 55.9 +1.5**
baz=275
K27K Chicken 51.28 33 P **P 20 47 56.5 +1.4**
baz=276
D27M Malcolm River 51.28 26 P **P 20 47 56.8 +1.7**
baz=273
H27K Steamboat Moun 51.29 30 P **P 20 47 57.0 +1.8**
baz=275,SNR=7.3
I27K Kandik River 51.31 31 P **P 20 47 57.5 +2.1**
baz=276
L27K Beaver Creek, 51.50 34 IAmb IAmb 20 47 59.6
comp=Z,6.9nm,1.1s
L27K Beaver Creek, 51.50 34 P **P 20 47 58.7 +1.9**
baz=278
BCAR Beaver Creek A 51.52 34 P **P 20 47 58.4 +1.4**
M27K Edge Creek, AK 51.57 35 P **P 20 47 59.3 +1.8**
baz=278
E28M Babbage River 51.85 27 IAmb IAmb 20 48 02.2
comp=Z,8.5nm,1.2s
E28M Babbage River 51.85 27 P **P 20 48 01.1 +1.8**
baz=275,SNR=6.0
I28M Miner Creek 52.02 31 P **P 20 48 02.1 +1.4**
baz=277,SNR=6.5
BVCY Beaver Creek 52.03 35 P **P 20 48 02.4 +1.6**
baz=279
YUK3 Moose Creek 52.32 36 P **P 20 48 04.2 +1.0**
baz=280
DAWY Dawson 52.44 33 P **P 20 48 05.7 +1.9**
baz=279
E29M Blow River 52.47 27 P **P 20 48 05.5 +1.6**
baz=277
H29M Whitestone 52.56 30 IAmb IAmb 20 48 15.6
comp=Z,10nm,1.3s
H29M Whitestone 52.56 30 P **P 20 48 06.0 +1.4**
baz=278
G29M Pine Creek 52.60 29 P **P 20 48 06.3 +1.3**
baz=278,SNR=9.8
O28M Mount Upton 52.62 37 P **P 20 48 06.2 +0.7**
baz=281
I29M Ogilvie Camp, 52.71 31 IAmb IAmb 20 48 08.2
comp=Z,14nm,1.2s
I29M Ogilvie Camp, 52.71 31 P **P 20 48 07.5 +1.8**
baz=279,SNR=10.0
J29N Klondike Camp 52.89 32 P **P 20 48 08.8 +1.6**
baz=279
M29M Somme Creek 53.13 35 P **P 20 48 09.7 +0.7**
baz=281,SNR=5.6
L29M L29M 53.16 34 IAmb IAmb 20 48 12.4
comp=Z,7.5nm,0.8s
L29M L29M 53.16 34 P **P 20 48 10.9 +1.8**
baz=280,SNR=6.8
EPYK Eagle Plains 53.20 30 P **P 20 48 10.8 +1.4**
baz=279,SNR=6.4
YUK4 Talbot Arm 53.26 36 P **P 20 48 11.6 +1.6**
baz=281
K29M Barlow Dome 53.30 33 P **P 20 48 11.5 +1.3**
baz=280,SNR=8.0
G30M tAoh Zraii Nji 53.30 29 P **P 20 48 10.8 +0.7**
baz=279,SNR=18
F30M Barrier River 53.36 28 P **P 20 48 11.6 +1.1**
baz=279,SNR=10
YUK6 Outpost Mounta 53.47 37 P **P 20 48 13.2 +1.5**
baz=282
O29M Mount Kennedy 53.50 37 P **P 20 48 13.1 +1.3**
baz=282,SNR=5.8
I30M Mount Dempster 53.53 31 P **P 20 48 13.2 +1.3**
baz=280,SNR=17
J30M Hart River 53.67 32 P **P 20 48 14.5 +1.5**
baz=281
M30M Minto, Yukon 53.86 34 P **P 20 48 15.7 +1.4**
baz=282
HYT Haines Junctio 53.91 37 IAmb IAmb 20 48 18.8
comp=Z,11nm,1.0s
HYT Haines Junctio 53.91 37 P **P 20 48 16.5 +1.8**
baz=283,SNR=6.9
N30M Aishikik Lake 53.96 36 P **P 20 48 16.5 +1.4**
baz=283
P29M Windy Craggy 54.06 38 IAmb IAmb 20 48 19.0
comp=Z,8.6nm,0.9s
P29M Windy Craggy 54.06 38 P **P 20 48 17.3 +1.6**
baz=283
G31M Satah River 54.06 29 P **P 20 48 16.8 +1.2**
baz=281,SNR=8.3
INK Inuvik 54.09 27 IAmb IAmb 20 48 17.4
comp=Z,4.9nm,0.8s
INK Inuvik 54.09 27 P **P 20 48 17.1 +1.4**
baz=281,SNR=7.0
F31M Tsiigehtchic 54.17 28 P **P 20 48 17.8 +1.5**
baz=281
H31M Peel River 54.25 30 P **P 20 48 18.5 +1.4**
baz=282,SNR=16
P30M Million Dollar 54.33 37 P **P 20 48 18.7 +1.0**
baz=284
N31M Braeburn, Yuko 54.57 36 IAmb IAmb 20 48 25.7
comp=Z,8.6nm,1.1s
N31M Braeburn, Yuko 54.57 36 P **P 20 48 21.5 +2.0**
baz=284
O30N Mendenhall 54.59 37 P **P 20 48 21.4 +1.8**
baz=285
PLBC Pleasant Camp 54.78 38 P **P 20 48 22.4 +1.5**
baz=285
M31M Drury Creek, Y 55.04 35 P **P 20 48 24.8 +2.0**
baz=284
WHY Whitehorse 55.20 37 P **P 20 48 25.8 +1.7**
baz=285
S31K Pelican 55.23 40 P **P 20 48 25.8 +1.6**
baz=286
GAR Garm 55.29 296 IAmb IAmb 20 48 36.3
comp=Z,8.3nm,0.9s
FARO Faro, Yukon 55.51 34 P **P 20 48 27.8 +1.6**
baz=285
N32M Quiet Lake 55.91 36 P **P 20 48 30.9 +1.7**
baz=286
SIT Sitka 55.96 41 P **P 20 48 31.5 +2.1**
baz=287
A36M Sachs Harbour 56.01 22 IAmb IAmb 20 48 32.2
comp=Z,7.5nm,0.8s
A36M Sachs Harbour 56.01 22 P **P 20 48 31.6 +2.0**
baz=286,SNR=7.1
P32M Atlin 56.05 38 P **P 20 48 31.9 +1.8**
baz=286
P33M Teslin, Yukon 56.30 37 IAmb IAmb 20 48 35.5
comp=Z,8.5nm,1.1s
P33M Teslin, Yukon 56.30 37 P **P 20 48 34.0 +2.0**
baz=287,SNR=6.3
MMPY Sheldon Lake, 56.34 34 P **P 20 48 33.4 +1.3**
baz=286
ARTI Arti 56.90 319 P **P 20 48 36.3 +0.1**
ARTI IAmb IAmb 20 48 46.6
comp=Z,6.3nm,0.8s
ARTI Arti 56.90 319 *d i* P **P 20 48 36.7 +0.5**
ARTI 20 49 36.9
ARTI S **S 20 56 32.3 +3.1**
ARTI SS **SS 21 00 15.7 -1.3**
ARTI pmax pmax
comp=Z,51nm,4.9s
Q32M Nakina River 56.94 38 P **P 20 48 38.0 +1.3**
baz=288
WR0 Warramunga Arr 57.15 189 P **P 20 48 37.7 -0.5**
C36M Paulatuk 57.15 25 P **P 20 48 38.8 +1.1**
baz=288,SNR=9.2
WRA Warramunga Arr 57.16 189 P **P 20 48 37.6 -0.7**
comp=Z,1.9nm,0.6s,baz=7.8,slow=7.1,SNR=27
comp=Z,1.9nm,0.6s
U33K Whale Pass 57.41 41 P **P 20 48 41.3 +1.6**
baz=289
R33M Jennings River 57.44 37 P **P 20 48 41.9 +1.8**
baz=289
S34M Telegraph Cree 57.84 39 P **P 20 48 44.8 +1.9**
baz=290
TGTN Hyland Airport 58.01 34 P **P 20 48 46.1 +2.1**
baz=290
DLBC Dease Lake 58.22 38 P **P 20 48 47.2 +1.7**
baz=290
T35M Bob Quinn 58.61 40 P **P 20 48 50.9 +2.7**
baz=291
TOAD Toad River Com 60.40 37 P **P 20 49 02.4 +1.9**
baz=293
ASAR Alice Springs 60.88 189 P **P 20 49 04.2 0.0**
comp=Z,1.2nm,0.6s,baz=16,slow=7.5,SNR=20
comp=Z,1.2nm,0.6s
RES Resolute Bay 62.44 15 P **P 20 49 14.4 +0.4**
RES Resolute Bay 62.44 15 P **P 20 49 14.4 +0.4**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 63.48 30 P **P 20 49 21.6 +0.5**
comp=Z,1.6nm,0.9s,baz=301,slow=6.9,SNR=13
comp=Z,1.6nm,0.9s
YKA Yellowknife Ar 63.48 30 *ce* P **P 20 49 21.7 +0.6**
YKA pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 68.49 324 *e* P **P 20 49 52.6 -0.8**
OBN *e* 20 50 19.6
OBN *e* 20 52 24.4
OBN *e* PPP PPP 20 54 02.2
OBN pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 69.12 333 P **P 20 49 57.3 +0.1**
comp=Z,2.0nm,0.7s,baz=29,slow=9.8,SNR=4.3
comp=Z,2.0nm,0.7s
PINE Pine Mountain 69.84 50 P **P 20 50 03.8 +1.5**
KBZ Khabaz 71.40 311 P **P 20 50 12.8 +1.2**
comp=Z,0.9nm,0.8s,baz=137,slow=2.7,SNR=4.2
comp=Z,0.9nm,0.8s
KIV Kislovodsk 71.40 311 *e* P **P 20 50 11.3 -0.4**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,52nm,18.0s
PLID Pearl Lake 72.08 47 P **P 20 50 16.5 +0.6**
BEKR Beckworth 72.33 53 IAmb IAmb 20 50 19.4
comp=Z,4.9nm,0.9s
FFC Flin Flon 73.35 33 P **P 20 50 23.1 +0.1**
FFC Flin Flon 73.35 33 P **P 20 50 23.1 +0.1**
FFC pmax pmax
comp=Z,4.0nm,0.9s
DLMT Dillon 73.88 45 IAmb IAmb 20 50 28.5
comp=Z,6.6nm,0.8s
HLID Hailey 73.89 47 P **P 20 50 27.3 +0.7**
BOZ Bozeman (W) 74.28 44 IAmb IAmb 20 50 30.8
comp=Z,4.8nm,0.9s
HFS Hagfors 74.36 336 LR LR 21 29 30.2
comp=Z,104nm,18.7s,baz=349,slow=41
NOA NORSAR Array B 74.44 338 P **P 20 50 29.9 +0.5**
comp=Z,1.0nm,0.9s,baz=50,slow=5.4,SNR=1.1
comp=Z,1.0nm,0.9s
NVAR Mina Array Bea 74.46 54 P **P 20 50 31.2 +1.1**
comp=Z,2.2nm,0.6s,baz=280,slow=7.0,SNR=13
comp=Z,2.2nm,0.6s
AKASG Malin Array Be 74.70 323 P **P 20 50 30.6 -0.3**
comp=Z,0.5nm,0.5s,baz=48,slow=6.2,SNR=4.9
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 74.70 323 *i* P **P 20 50 32.7 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
H17A Grant Village 75.61 45 IAmb IAmb 20 50 40.6
comp=Z,7.1nm,0.8s
R11B Troy Canyon, C 76.24 52 IAmb IAmb 20 50 42.5
comp=Z,5.7nm,1.2s
PDAR Pinedale Array 77.20 46 P **P 20 50 46.2 +0.5**
comp=Z,1.1nm,0.6s,baz=284,slow=3.8,SNR=8.2
comp=Z,1.1nm,0.6s
PFO Pinyon Flats O 78.49 57 LR LR 21 17 09.6
comp=Z,62nm,20.5s,baz=224,slow=29
KNB Kanab 78.79 52 IAmb IAmb 20 50 57.5
comp=Z,10nm,1.3s
KOLS Kolonicke sedl 79.20 324 *e* P **P 20 50 58.9 +2.5**
KOLS Kolonicke sedl 79.20 324 *e* P **P 20 50 58.9 +2.5**
BRTR Keskin Array B 79.34 312 P **P 20 50 59.3 +1.8**
comp=Z,0.2nm,0.4s,baz=60,slow=5.8,SNR=2.1
comp=Z,0.2nm,0.4s
X16A Lo Mia Camp, P 81.29 53 IAmb IAmb 20 51 10.7
comp=Z,7.4nm,1.2s
ANMO Albuquerque 84.08 50 P **P 20 51 23.1 +0.4**
ANMO IAmb IAmb 20 51 25.8
comp=Z,5.0nm,1.0s
ANMO Albuquerque 84.08 50 *ce* P **P 20 51 24.9 +2.2**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
SCHQ Schefferville 85.15 16 LR LR 21 32 26.6
comp=Z,28nm,18.5s,baz=286,slow=38
TX31 Lajitas Ar. Si 89.60 53 IAmb IAmb 20 51 53.2
comp=Z,5.3nm,1.2s
TXAR Lajitas Array 89.60 53 P **P 20 51 49.9 +0.3**
comp=Z,1.6nm,0.8s,baz=290,slow=3.6,SNR=11
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 126.78 180 PKP **PKiKP 20 57 53.6 -1.0**
comp=Z,3.1nm,1.1s,baz=126,slow=21,SNR=3.2
LPAZ La Paz 146.12 61 PKPbc **PKPab 20 58 32.3 -1.2**
comp=Z,4.3nm,0.8s,baz=328,slow=2.2,SNR=13
SIV San Ignacio 150.58 51 PKPbc **PKiKP 20 58 44.0 -0.6**
comp=Z,3.0nm,0.8s,baz=288,slow=2.3,SNR=2.7

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*IDC **28** 20:42:48.9±3.5, 36°.88N×142°.63E, h0km, mb3.7/3,*
mbtmp3.8/7, ML3.2/4, Error ellipse: s-maj=58.0km
s-min=25.7km az=114.0
*JMA **28** 20:42:50.6±0.7, 37°.N±2°.×14°2E±°, h19km, MV3.7/33, E*
OFF FUKUSHIMA PREF
ISC 28 20:42:51.6±1.7, 36°.97N±0°.06×142°.4E±0°.1, h9km, n20,
σ1§47/24, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.26**	**289**	P	**Pn**	**20 43 13.4**	**-2.0**
ONAJ	**Iwakimizuishiy**	**1.26**	**277**	P	**Pn**	**20 43 13.5**	**-2.0**
JMST	**Minamisoumatoc**	**1.40**	**303**	*e*S	**Sn**	**20 43 34.0**	**-1.9**
JFFD	**Fukushimafurud**	**1.45**	**275**	P	**Pn**	**20 43 16.2**	**-1.8**
JMM	**Marumori**	**1.54**	**306**	P	**Pn**	**20 43 17.8**	**-1.5**
JIO	**Ouri**	**1.69**	**332**	P	**Pn**	**20 43 20.0**	**-1.3**
JIO				S	**Sn**	**20 43 41.3**	**-1.8**
JOTO	**OTAMA OYAMA**	**1.73**	**291**	P	**Pn**	**20 43 21.2**	**-0.6**
JOU	**Okura**	**1.94**	**316**	*e*P	**Pn**	**20 43 24.5**	**-0.3**
JOU				S	**Sn**	**20 43 49.6**	**+0.2**
JFY	**Yanaizu**	**2.17**	**282**	P	**Pn**	**20 43 29.3**	**+1.3**
JMK	**Ichinoseki**	**2.18**	**336**	P	**Pn**	**20 43 28.9**	**+0.9**
JYS	**Shirataka**	**2.21**	**305**	*e*P	**Pn**	**20 43 29.1**	**+0.5**
JAG	**Ashikaga**	**2.40**	**258**	P	**Pn**	**20 43 30.9**	**-0.2**
JYK	**Kaneyama**	**2.51**	**321**	P	**Pn**	**20 43 32.4**	**-0.2**
MJAR	**Matsushiro Arr**	**3.37**	**264**	Pn	**Pn**	**20 43 46.3**	**+1.9**
	1.0nm,0.3s,baz=88,slow=15,SNR=7.0						
MJAR				Sn	**Sn**	**20 44 27.8**	**+3.3**
	0.4nm,0.3s,baz=142,slow=27,SNR=2.0						
	9.4nm,0.4s						
JHJ	**Hachijo jima 2**	**4.39**	**210**	Pn	**Pn**	**20 43 58.1**	**-0.3**
	4.7nm,0.3s,baz=250,slow=17,SNR=1.5						
JHJ				Sn	**Sn**	**20 44 47.8**	**-1.9**
	14nm,0.3s,baz=66,slow=22,SNR=2.0						
	115nm,0.9s						
ASAJ	**Asahikawa**	**7.14**	**1**	Pn	**Pn**	**20 44 35.9**	**-0.3**
	0.6nm,0.3s,baz=16,slow=21,SNR=1.3						
	1.8nm,0.4s						
JNU	**Nakatsue**	**10.17**	**251**	Pn	**Pn**	**20 45 18.8**	**+0.9**
	0.1nm,0.3s,baz=106,slow=2.8,SNR=1.7						
	2.8nm,0.7s						
SONM	**Songino Array**	**28.45**	**304**	P	**P**	**20 48 47.0**	**0.0**
	0.4nm,0.7s,baz=99,slow=8.9,SNR=3.0						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**44.80**	**302**	P	**P**	**20 51 05.5**	**-0.2**
	0.1nm,0.5s,baz=79,slow=7.5,SNR=1.8						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**46.64**	**308**	P	**P**	**20 51 20.7**	**+0.6**
	1.4nm,0.2s,baz=83,slow=7.7,SNR=1.5						
	1.4nm,0.2s						

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*IDC **28** 20:42:57.5±0.7, 6°.79N×72°.98W, h155km±10km, mb3.3/3,*
mbtmp3.9/6, MS3.7/1, Error ellipse: s-maj=34.2km
s-min=7.5km az=132.0
*RSNC **28** 20:42:58.8±0.0, 7°N±1°×7°3W±°, h151km±2km, M3.6, mb3.9,*
mB5.0, ML3.3, Mw(mB)4.3
ISC 28 20:42:57.8±0.8, 6°.87N±0°.03×73°.11W±0°.03, h156km±5km,
n46, σ1§25/79, mb3.6/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**194**	P	**Pn**	**20 43 19.1**	**-0.3**
BARC				S	**Sn**	**20 43 34.5**	**-1.3**
PAMC	**Pamplona, Colo**	**0.62**	**41**	P	**Pn**	**20 43 21.9**	**+0.8**
PAMC				S	**Sn**	**20 43 39.0**	**+0.1**
BRJC	**Barrancabermej**	**0.63**	**279**	P	**Pn**	**20 43 20.8**	**+0.2**
BRJC				S	**Sn**	**20 43 37.8**	**-0.1**
RUSC	**La Rusia**	**0.97**	**178**	P	**Pn**	**20 43 23.0**	**-0.5**
RUSC				S	**Sn**	**20 43 41.9**	**-1.3**
PTBC	**PUERTO BERRIO,**	**1.37**	**256**	P	**Pn**	**20 43 25.5**	**-1.1**
PTBC				S	**Sn**	**20 43 46.5**	**-2.1**
OCAC	**Ocana**	**1.37**	**351**	P	**Pn**	**20 43 27.6**	**+0.8**
OCAC				S	**Sn**	**20 43 49.4**	**+0.4**
TAMC	**Tame, Arauca**	**1.38**	**108**	P	**Pn**	**20 43 27.5**	**+0.8**
TAMC				S	**Sn**	**20 43 48.9**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**20 43 31.4**	**-0.1**
ZARC				S	**Sn**	**20 43 56.8**	**-0.6**
NORC	**Norcasia**	**2.17**	**233**	P	**Pn**	**20 43 34.8**	**-0.6**
NORC				S	**Sn**	**20 44 02.6**	**-1.8**
CHIC	**Chingaza**	**2.31**	**195**	P	**Pn**	**20 43 37.0**	**-0.4**
CHIC				S	**Sn**	**20 44 06.2**	**-1.7**
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**20 43 38.9**	**+1.1**
	186nm,0.3s,baz=306,slow=14,SNR=68						
ROSC				S	**Sn**	**20 44 08.3**	**-0.3**
	286nm,0.3s,baz=128,slow=19,SNR=11						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**20 43 38.6**	**+0.8**
ROSC				S	**Sn**	**20 44 09.3**	**+0.7**
HELC	**Santa Helena**	**2.49**	**254**	P	**Pn**	**20 43 39.7**	**+0.2**
HELC				S	**Sn**	**20 44 10.0**	**-1.6**
CVER	**Cruz Verde, Cu**	**2.52**	**202**	P	**Pn**	**20 43 40.4**	**+0.4**
CVER				S	**Sn**	**20 44 11.9**	**-0.6**
UREC	**San Jos de Ur**	**2.55**	**290**	P	**Pn**	**20 43 38.7**	**-1.2**
UREC				S	**Sn**	**20 44 11.9**	**-0.5**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**20 43 43.7**	**+0.6**
GUY2C				S	**Sn**	**20 44 17.9**	**-0.1**
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**20 43 42.4**	**-0.7**
VILC				S	**Sn**	**20 44 18.2**	**0.0**
PTGC	**Puerto Gaitan,**	**2.83**	**160**	P	**Pn**	**20 43 42.0**	**-1.3**
PTGC				S	**Sn**	**20 44 15.4**	**-3.2**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**20 43 46.6**	**+1.6**
RECRC				S	**Sn**	**20 44 23.1**	**+1.6**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**20 43 46.5**	**+0.3**
CBOC				S	**Sn**	**20 44 22.4**	**-1.3**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**20 43 46.4**	**-0.1**
DBBC				S	**Sn**	**20 44 21.0**	**-3.1**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**20 43 48.5**	**+0.7**
	35nm,0.3s,baz=222,slow=12,SNR=101						
SDV				S	**Sn**	**20 44 24.8**	**-1.7**
	85nm,0.5s,baz=59,slow=23,SNR=37						
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**20 43 48.4**	**+0.7**
SDV				S	**Sn**	**20 44 25.8**	**-0.7**
ARGC	**Ariguani, Magd**	**3.17**	**339**	P	**Pn**	**20 43 48.7**	**+1.1**
ARGC				S	**Sn**	**20 44 27.5**	**+1.2**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**20 43 49.9**	**+0.6**
ANIL				S	**Sn**	**20 44 29.3**	**+0.1**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**20 43 52.7**	**-0.2**
APAC				S	**Sn**	**20 44 34.3**	**-1.4**
PRAC	**Prado**	**3.60**	**209**	P	**Pn**	**20 43 52.4**	**-0.7**
PRAC				S	**Sn**	**20 44 34.8**	**-1.3**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**20 43 53.3**	**-0.2**
ORTC				S	**Sn**	**20 44 35.8**	**-1.0**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**20 43 52.7**	**-0.9**
SJCC				S	**Sn**	**20 44 34.0**	**-2.9**
PLMC	**San Jos del P**	**3.71**	**238**	P	**Pn**	**20 43 54.1**	**-0.4**
PLMC				S	**Sn**	**20 44 37.7**	**-0.9**
URMC	**La Uribe, Meta**	**3.81**	**199**	P	**Pn**	**20 43 56.0**	**+0.1**
URMC				S	**Sn**	**20 44 39.5**	**-1.6**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**20 43 59.4**	**-0.6**
CRJC				S	**Sn**	**20 44 45.6**	**-2.9**
YOTC	**Yotoco, Valle**	**4.31**	**228**	P	**Pn**	**20 44 01.6**	**-0.8**
SMRC	**Santa Marta, M**	**4.40**	**346**	P	**Pn**	**20 44 04.3**	**+0.8**
SMRC				S	**Sn**	**20 44 51.3**	**-3.5**
MACC	**Macarena, Meta**	**4.75**	**189**	P	**Pn**	**20 44 06.3**	**-1.8**
URIC	**Uribia, Colomb**	**4.93**	**13**	P	**Pn**	**20 44 09.5**	**-0.9**
URIC				S	**Sn**	**20 45 04.9**	**-2.2**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**20 44 19.3**	**+0.1**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**20 45 04.7**	**0.0**
	4.0nm,0.4s,baz=128,slow=5.4,SNR=1.3						
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**20 49 49.2**	**+1.4**
	0.2nm,0.5s,baz=123,slow=5.9,SNR=2.0						
	0.2nm,0.5s						
PLCA	**Paso Flores**	**47.43**	**177**	LR	LR	21 10 44.1	
	comp=Z,81nm,21.7s,baz=146,slow=35						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**20 51 22.5**	**+1.0**
	2.7nm,0.7s,baz=214,slow=6.4,SNR=4.2						
	2.7nm,0.7s						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**20 53 09.3**	**+0.1**
	0.5nm,0.6s,baz=135,slow=6.8,SNR=9.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**21 01 34.0**	**-0.4**
	0.1nm,0.4s,baz=339,slow=2.0,SNR=1.6						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**21 02 27.7**	**-1.0**
	0.3nm,0.5s,baz=94,slow=2.0,SNR=2.5						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**21 02 30.9**	**-0.7**
	0.2nm,0.4s,baz=108,slow=2.7,SNR=7.6						
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKPbc	**PKPbc**	**21 02 39.8**	**+0.8**
	0.7nm,0.3s,baz=318,slow=0.9,SNR=1.8						

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*JMA **28** 20:47:34.1±0.6, 37°N±2°×14°2E±°, h18km, MV3.6/23, E*
OFF FUKUSHIMA PREF
*IDC **28** 20:47:35.9±2.4, 36°.75N×142°.47E, h0km, mb3.3/3,*
mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=51.2km
s-min=34.5km az=49.0
ISC 28 20:47:38.0±1.5, 36°.89N±0°.07×141°.94E±0°.09, h10km, n20,
σ1§88/17, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.94**	**284**	P	**Pn**	**20 47 56.9**	**-0.4**
ONAJ				S	**Sn**	**20 48 14.0**	**+3.2**
JFK	**Kawauchi**	**0.97**	**300**	P	**Pb**	**20 47 56.9**	**-0.1**
JFFD	**Fukushimafurud**	**1.12**	**281**	P	**Pn**	**20 47 59.6**	**-0.1**
JMST	**Minamisoumatoc**	**1.18**	**315**	S	**Sn**	**20 48 17.6**	**+0.9**
JMM	**Marumori**	**1.34**	**317**	P	**Pn**	**20 48 01.3**	**-1.4**
JOTO	**OTAMA OYAMA**	**1.44**	**298**	P	**Pb**	**20 48 04.7**	**-0.3**
JIO	**Ouri**	**1.63**	**344**	S	**Sn**	**20 48 24.9**	**-2.9**
JOU	**Okura**	**1.79**	**326**	P	**Pn**	**20 48 08.1**	**-0.9**
JOU				S	**Sb**	**20 48 33.1**	**-0.2**
JAG	**Ashikaga**	**2.05**	**258**	P	**Pb**	**20 48 14.4**	**-0.9**
JYK	**Kaneyama**	**2.38**	**329**	P	**Pn**	**20 48 17.8**	**+0.7**
MJAR	**Matsushiro Arr**	**3.01**	**265**	Pn	**Pb**	**20 48 30.2**	**-1.5**
	0.4nm,0.3s,baz=87,slow=15,SNR=16						
MJAR				Sn	**Sg**	**20 49 12.4**	**-2.4**
	0.1nm,0.3s,baz=92,slow=17,SNR=4.4						
	3.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.71**	**121**	T	T	21 22 19.3	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.72**	**121**	T	T	21 22 23.7	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	21 22 18.1	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	21 23 19.6	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	21 23 19.2	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	21 23 26.8	
	baz=316						
MKAR	**Makanchi Array**	**44.55**	**302**	P	**P**	**20 55 53.4**	**+3.5**
	0.3nm,0.7s,baz=93,slow=7.3,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.42**	**308**	P	**P**	**20 56 06.6**	**+2.0**
	0.2nm,0.3s,baz=73,slow=8.9,SNR=1.6						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**56.98**	**189**	P	**P**	**20 57 22.7**	**-1.0**
	0.4nm,0.8s,baz=6.0,slow=6.9,SNR=1.9						
	0.4nm,0.8s						

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*SJA **28** 21:00:44.3±0.8, 24°.72S×71°.39W, h9km±4km, ML4.1,*
MW3.7
*IDC **28** 21:00:47.8±0.6, 24°.75S×70°.77W, h0km, mb4.2/11,*
mbtmp4.1/15, ML4.1/4, MS3.4/4, Error ellipse:
s-maj=23.8km s-min=17.1km az=91.0
*GUC **28** 21:00:50.9±0.8, 24°.82S×70°.85W, h36km±2km, ML4.2*
*NEIC **28** 21:00:51.5±2.1, 24°.74S±0°.04×70°.93W±0°.06, h35km±2km,*
mb4.2/5, Error ellipse: s-maj=11.0km s-min=3.8km
az=122.0
ISC 28 21:00:51.3±1.3, 24°.79S±0°.02×70°.82W±0°.05, h25km±9km,
n96, σ1§65/116, mb4.4/13, 8C-3D, Near coast of northern
Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.41**	**68**		**Pn**	**21 01 01.4**	**-0.5**
PB14					**Sn**	**21 01 07.4**	**-1.6**
PB14	**IPOC Station P**	**0.41**	**68**	*e* P	**Pn**	**21 01 01.3**	**-0.6**
PB14				*e*S	**Sn**	**21 01 08.1**	**-0.8**
PB14				IAML		21 01 08.7	
	comp=N,30μm,0.2s						

PB14	IPOC Station P	0.41	68	eP		Pn	21 01 01.6	-0.3
PB14				eS		Sn	21 01 08.2	-0.8
PB14				IAML			21 01 15.3	
	comp=Z,4μm,0.4s							
GO02	Mina Guanaco	1.18	109	Pn		Pb	21 01 13.3	+0.1
GO02				Sn		Sn	21 01 28.9	+0.9
GO02	Mina Guanaco	1.18	109⇓	eP		Pb	21 01 13.3	+0.1
GO02				eS		Sn	21 01 29.0	+1.1
GO02				IAML			21 01 32.4	
	comp=E,14μm,0.5s							
GO02	Mina Guanaco	1.18	109	eP		Pb	21 01 13.5	+0.2
GO02				eS		Sn	21 01 29.4	+1.4
AC01	Pan de Azucar	1.37	172	Pn		Pn	21 01 14.9	-0.1
AC01				Sn		Sn	21 01 31.8	-0.4
AC01	Pan de Azucar	1.37	172⇑	eP		Pn	21 01 14.8	-0.1
AC01				eS		Sn	21 01 31.9	-0.4
AC01				IAML			21 01 39.3	
	comp=E,5μm,0.3s							
AC01	Pan de Azucar	1.37	172	eP		Pn	21 01 14.8	-0.1
AC01				eS		Sb	21 01 36.1	+2.6
AC01				IAML			21 01 40.3	
	comp=Z,1μm,0.7s							
PB05	IPOC Station P	2.00	17	Pn		Pn	21 01 23.4	-0.3
PB05	IPOC Station P	2.00	17	eP		Pn	21 01 23.4	-0.3
PB05				eS		Sn	21 01 47.2	-0.8
PB05				IAML			21 02 05.0	
	comp=E,1μm,0.5s							
PB05	IPOC Station P	2.00	17	eP		Pn	21 01 23.3	-0.4
PB05				eS		Sb	21 02 01.5	+10
PB05				IAML			21 02 06.1	
	comp=Z,663nm,0.7s							
PB06	IPOC Station P	2.37	29	eP		Pn	21 01 29.0	+0.3
PB06				eS		Sn	21 01 59.6	+2.6
PB06				IAML			21 02 10.2	
	comp=E,962nm,0.6s							
PB06				IAML			21 02 14.8	
	comp=N,894nm,0.5s							
PB06	IPOC Station P	2.37	29	eP		Pn	21 01 29.3	+0.6
PB06				eS		Sb	21 02 02.4	+0.2
PB06				IAML			21 02 25.6	
	comp=Z,760nm,0.6s							
AC02	Maricunga	2.55	144	Pn		Pb	21 01 34.7	-2.0
AC02	Maricunga	2.55	144⇑	eP		Pb	21 01 34.5	-2.2
AC02				eS		Sb	21 02 04.2	-3.6
AC02	Maricunga	2.55	144	eP		Pb	21 01 34.5	-2.2
AC02				eS		Sb	21 02 05.1	-2.7
AC02				IAML			21 02 18.5	
	comp=Z,866nm,0.3s							
AC06	Mina Casimiro	2.60	171	Pn		Pn	21 01 32.5	+0.7
AC06	Mina Casimiro	2.60	171	eP		Pn	21 01 32.3	+0.6
AC06				eS		Sn	21 02 02.9	+0.4
AC06				IAML			21 02 22.7	
	comp=E,1μm,0.6s							
GO03	Copiapo	2.85	169			Pn	21 01 35.9	+0.6
GO03	Copiapo	2.85	169⇑	eP		Pn	21 01 35.9	+0.6
GO03				eS		Sn	21 02 10.0	+1.2
GO03				IAML			21 02 27.4	
	comp=E,808nm,0.2s							
GO03	Copiapo	2.85	169	eP		Pn	21 01 35.8	+0.6
GO03				eS		Sb	21 02 13.4	-2.6
PB03	IPOC Station P	2.90	20⇓	eP		Pn	21 01 35.8	-0.2
PB03				eS		Sn	21 02 13.5	+3.4
PB03				IAML			21 02 28.4	
	comp=E,630nm,0.4s							
PB03	IPOC Station P	2.90	20	eP		Pn	21 01 35.6	-0.3
PB03				eS		Sb	21 02 15.4	-2.1
PB03				IAML			21 02 24.9	
	comp=Z,560nm,0.5s							
AF01	San Pedro de A	3.03	54			Pn	21 01 38.8	+0.8
AF01	San Pedro de A	3.03	54	eP		Pb	21 01 43.9	-0.9
AF01				eS		Sn	21 02 16.5	+2.9
PB09	IPOC Station P	3.31	26			Pn	21 01 42.2	+0.5
PB09	IPOC Station P	3.31	26⇓	eP		Pn	21 01 42.9	+1.2
PB09				IAML			21 02 45.8	
	comp=N,636nm,0.5s							
PB09	IPOC Station P	3.31	26	eP		Pn	21 01 42.2	+0.5
PB09				eS		Sn	21 02 22.5	+2.2
PB09				IAML			21 02 47.3	
	comp=Z,684nm,1.3s							
AC04	Llanos de Chal	3.41	184			Pn	21 01 41.4	-1.5
AC04	Llanos de Chal	3.41	184	eP		Pn	21 01 41.3	-1.6
AC04				eS		Sb	21 02 37.9	+5.7
AC04				IAML			21 02 46.9	
	comp=Z,266nm,0.8s							
PB01	IPOC Station P	3.92	19			Pn	21 01 49.8	-0.2
PB01	IPOC Station P	3.92	19	eP		Pn	21 01 49.7	-0.4
PB01				eS		Sn	21 02 35.7	+0.4
PB01				IAML			21 03 05.0	
	comp=Z,197nm,1.0s							
PATCX	Punta Patache	3.99	9			Pn	21 01 49.7	-1.3
PATCX	Punta Patache	3.99	9	eP		Pn	21 01 49.6	-1.4
PATCX				eS		Sb	21 02 49.9	+0.9
PATCX				IAML			21 03 12.5	
	comp=Z,171nm,0.8s							
AC05	El Transito	4.07	173	Pn		Pn	21 01 52.1	+0.1
AC05	El Transito	4.07	173	eP		Pn	21 01 52.0	0.0
AC05				eS		Sb	21 02 52.9	+1.8
AC05				IAML			21 03 04.1	
	comp=Z,381nm,1.1s							
LCO	Las Campanas	4.21	179	Pn		Pn	21 01 52.9	-1.3
LCO	Las Campanas	4.21	179	eP		Pn	21 01 53.4	-0.8
LCO				eS		Sb	21 02 59.4	+4.0
LCO				IAML			21 03 07.5	
	comp=Z,564nm,0.9s							
TA01	Diego Aracena	4.24	8			Pn	21 01 53.7	-0.6
TA01	Diego Aracena	4.24	8	eP		Pn	21 01 52.5	-1.8
TA01				eS		Sb	21 02 56.9	+0.9
TA01				IAML			21 03 28.7	
	comp=Z,158nm,0.8s							
TA02	Huaiquique	4.54	8			Pn	21 01 57.5	-0.9
HMBC	Humberstone	4.57	11			Pn	21 01 57.9	-1.0
HMBC	Humberstone	4.57	11	eP		Pn	21 01 58.2	-0.8
HMBC				eS		Sn	21 02 52.4	+1.1
HMBC				IAML			21 03 25.7	
	comp=Z,189nm,0.5s							
VCA	Vinchina	4.58	150	eP		Pn	21 02 03.0	+3.9
VCA				eS		Sb	21 03 13.4	+7.5
VCA				IAML			21 03 30.5	
	comp=Z,161nm,1.7s							
PB08	IPOC Station P	4.87	19			Pn	21 02 03.3	-0.1
PB11	IPOC Station P	5.12	12			Pn	21 02 05.6	-0.9
PB11	IPOC Station P	5.12	12	eP		Pn	21 02 04.9	-1.6
PB11				eS		Sb	21 03 25.4	+4.1
PB11				IAML			21 03 41.0	
	comp=Z,152nm,0.8s							
CO01	Juntas del Tor	5.21	173			Pn	21 02 07.5	-0.4
GO04	Tololo Observa	5.37	180			Pn	21 02 08.9	-1.1
CO06	Fray Jorge	5.91	187			Pn	21 02 16.1	-1.1
CO03	El Pedregal	6.03	179	Pn		Pn	21 02 18.0	-1.1
PB12	IPOC Station P	6.16	4			Pn	21 02 19.4	-1.3
VA03	San Esteban	7.95	178	Pn		Pn	21 02 45.1	-0.3
MT08	Bocatoma Ro	8.66	176			Pn	21 02 54.0	-1.2
LPAZ	La Paz	8.82	17			Pn	21 02 57.6	-0.2
LPAZ	La Paz	8.82	17	Pn		Pn	21 02 57.3	-0.5
	comp=Z,0.4nm,0.3s,baz=179,slow=7.9,SNR=5.8							
LPAZ				LR		LR	21 06 48.1	
	comp=Z,186nm,20.7s,baz=222,slow=41							
	comp=Z,1.5nm,0.4s							
H03N1	Juan Fernandez	11.15	217	T		T	21 15 17.5	
	baz=44,slow=72,SNR=1269							
H03N2	Juan Fernandez	11.16	218	T		T	21 15 03.4	
	baz=44,slow=72,SNR=735							
H03N3	Juan Fernandez	11.17	217	T		T	21 15 02.3	
	baz=44,slow=72,SNR=643							
CPUP	Villa Florida	12.28	100	Pn		Pn	21 03 43.9	-0.7
	comp=Z,0.2nm,0.3s,baz=53,slow=6.2,SNR=2.9							
CPUP				LR		LR	21 09 10.9	
	comp=Z,164nm,19.7s,baz=218,slow=41							
	comp=Z,0.7nm,0.4s							
SIV	San Ignacio	12.65	48	Pn		Pn	21 03 49.7	0.0
	comp=Z,0.2nm,0.3s,baz=221,slow=9.2,SNR=19							
	comp=Z,3.9nm,0.6s							
TRQA	Tornquist	15.22	152	P		P	21 04 27.6	-1.8
TRQA				IAmb		IAmb	21 04 30.7	
	comp=Z,12nm,0.7s							
LR05	Currie	15.43	183	P		Pn	21 04 29.0	+1.6
LR05				IAmb		IAmb	21 04 33.8	
	comp=Z,38nm,1.4s							
PLCA	Paso Flores	15.91	179	P		P	21 04 35.5	-1.5
PLCA				IAmb		IAmb	21 04 39.1	
	comp=Z,19nm,1.3s							
PLCA	Paso Flores	15.91	179	Pn		Pn	21 04 33.4	-0.1
	comp=Z,0.3nm,0.3s,baz=4.1,slow=14,SNR=8.0							
	comp=Z,11nm,1.3s							
LL04	Puerto Octay	16.14	184	P		P	21 04 37.9	-1.5
BDFB	Brasilia	23.23	71	P		P	21 05 55.0	-1.8
	comp=Z,2.3nm,0.4s,baz=243,slow=16,SNR=4.0							
BDFB				LR		LR	21 16 11.6	
	comp=Z,90nm,18.3s,baz=166,slow=40							
	comp=Z,2.3nm,0.4s							
MDP	Montagnes des	34.58	33	LR		LR	21 21 39.3	
	comp=Z,86nm,21.1s,baz=184,slow=36							
VNA3	Neumayer Olymp	57.57	160	⇑P		P	21 10 39.3	+0.8
	comp=Z,8.2nm,0.8s							
VNA2	Neumayer--Watz	58.17	160	⇑P		P	21 10 43.5	+0.8
	comp=Z,7.8nm,0.6s,baz=282,slow=11							
SNAA	Sanae	59.78	160	⇑P		P	21 10 54.6	+0.7
	comp=Z,78nm,0.4s							
SNAA	Sanae	59.78	160	P		P	21 10 54.6	+0.7
	comp=Z,3.8nm,0.5s,baz=286,slow=7.6,SNR=30							
	comp=Z,3.8nm,0.5s							
TROLL	Troll, Antarti	61.50	160	⇑P		P	21 11 06.5	+0.8
	comp=Z,199nm,0.6s							
CLTN	Cedars of Leba	62.30	346	P		P	21 11 07.8	-3.4
TXAR	Lajitas Array	62.38	328	P		P	21 11 13.0	+0.9
	comp=Z,0.5nm,0.9s,baz=133,slow=9.7,SNR=2.8							
	comp=Z,0.5nm,0.9s							
QSPA	South Pole Qui	65.42	180	P		P	21 11 33.0	+1.2
	comp=Z,1.4nm,0.4s,baz=329,slow=1.9,SNR=35							
	comp=Z,1.4nm,0.4s							
DBIC	Dimbokro	71.36	73	P		P	21 12 09.3	-0.2
	comp=Z,3.2nm,0.9s,baz=226,slow=2.2,SNR=3.5							
	comp=Z,3.2nm,0.9s							
VNDA	Vanda	73.32	190	P		P	21 12 20.9	+0.7
	comp=Z,0.6nm,0.3s,baz=110,slow=2.9,SNR=4.3							
	comp=Z,0.6nm,0.3s							
PDAR	Pinedale Array	76.11	332	P		P	21 12 37.6	+0.6
	comp=Z,0.2nm,0.5s,baz=144,slow=5.7,SNR=4.0							
	comp=Z,0.2nm,0.5s							
ULM	Lac du Bonnet	77.94	344	P		P	21 12 46.8	0.0
	comp=Z,1.3nm,0.3s,baz=178,slow=7.0,SNR=3.8							
	comp=Z,1.3nm,0.3s							
TORD	Torodi Ar. Bea	80.11	71	P		P	21 12 59.5	-0.1
	comp=Z,2.7nm,0.3s,baz=265,slow=4.7,SNR=2.2							
	comp=Z,2.7nm,0.3s							
BOSA	Boshof	83.45	118	P		P	21 13 17.8	+0.5
	comp=Z,3.5nm,0.9s,baz=295,slow=1.3,SNR=3.1							
	comp=Z,3.5nm,0.9s							
YKA	Yellowknife Ar	93.70	341	P		P	21 14 04.5	-0.7
	comp=Z,0.5nm,0.7s,baz=145,slow=4.4,SNR=10							
	comp=Z,0.5nm,0.7s							
ASAR	Alice Springs	126.20	208	PKP		PKPdf	21 19 52.4	0.0
	comp=Z,1.0nm,0.4s,baz=126,slow=1.7,SNR=18							
H11S2	WAKE ISLAND Hyd	26.48	275	T		T	23 39 27.1	
	baz=108,slow=75,SNR=78							
H11S1	WAKE ISLAND Hyd	26.49	275	T		T	23 39 26.5	
	baz=108,slow=75,SNR=30							
H11S3	WAKE ISLAND Hyd	26.50	275	T		T	23 39 28.4	
	baz=108,slow=75,SNR=31							
H11N3	WAKE ISLAND Hyd	26.65	277	T		T	23 39 39.2	
	baz=107							
H11N1	WAKE ISLAND Hyd	26.67	277	T		T	23 39 46.1	
	baz=107							
H11N2	WAKE ISLAND Hyd	26.67	277	T		T	23 39 40.3	
	baz=107							
WRA	Warramunga Arr	129.24	211	PKP		PKPdf	21 19 58.0	-0.1
	comp=Z,1.1nm,0.6s,baz=153,slow=1.8,SNR=14							
BVAR	Borovoye Array	139.48	36	PKP		PKPdf	21 20 16.4	+0.2
	comp=Z,0.3nm,0.5s,baz=248,slow=2.3,SNR=2.5							
KURBB	Kurchatov Arra	145.03	35	PKP		PKPdf	21 20 26.5	+0.4
	comp=Z,3.4nm,0.8s,baz=306,slow=3.6,SNR=24							
ZALV	Zalesovo Beam	145.66	26	PKPbc		PKPab	21 20 28.3	+0.6
	comp=Z,3.7nm,0.7s,baz=308,slow=4.9,SNR=18							
MKAR	Makanchi Array	149.31	37	PKPbc		PKPbc	21 20 38.3	+0.5
	comp=Z,1.8nm,0.6s,baz=312,slow=2.7,SNR=25							

*IDC **28** 21:11:02.9±0.7, 52°.25S×16°.88E, h0km, mb4.2/10, mbtmp4.2/10, MS3.7/7, Error ellipse: s-maj=33.6km s-min=17.4km az=82.0*
*NEIC **28** 21:11:04.7±2.2, 52°.31S±0°.05×16°.8E±0°.4, h10km±1km, mb4.6/10, Error ellipse: s-maj=45.0km s-min=6.2km az=98.0*

ISC 28 21:11:04.2±0.6, 52°.34S±0°.09×16°.8E±0°.2, h10km, n37, σ1°.08/26, mb4.4/10, MS3.6/7, 1C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SYO	Syowa Base	19.88	156⇑	eP	P	21 15 32.0	-3.2
SUR	Sutherland	20.17	10	P	P	21 15 39.4	+0.7
SUR	Sutherland	20.17	10	P	Pn	21 15 41.0	+0.4
	9.0nm,0.9s,baz=168,slow=12,SNR=6.1						
SUR				LR	LR	21 21 35.1	
	comp=Z,222nm,20.2s,baz=188,slow=32						
GRHM	Grahamstown, E	20.29	24		P	21 15 40.8	+0.9
GRHM				IAmb	IAmb	21 16 06.0	
	comp=Z,69nm,1.5s						
SOE	Somerset East	20.63	21		Pn	21 15 48.3	+2.3
SOE				IAmb	IAmb	21 16 23.4	
	comp=Z,26nm,1.2s						
SNAA	Sanae	21.25	197	P	P	21 15 50.8	+0.7
SNAA				IAmb	IAmb	21 16 04.2	
	comp=Z,37nm,1.2s						
SNAA	Sanae	21.25	197	P	P	21 15 51.5	+1.4
	comp=Z,19nm,0.9s,baz=25,slow=8.7,SNR=26						
SNAA				LR	LR	21 22 12.6	
	comp=Z,162nm,19.8s,baz=78,slow=31						
	comp=Z,19nm,0.9s						
H04S2	CROZET ISLANDS	23.26	90	T	T	21 40 21.7	
	baz=243,slow=75,SNR=14						
H04S3	CROZET ISLANDS	23.27	90	T	T	21 40 23.6	
	baz=243,slow=75,SNR=14						
H04S1	CROZET ISLANDS	23.28	90	T	T	21 40 23.2	
	baz=243,slow=75,SNR=14						
BOSA	Boshof	24.53	18	P	P	21 16 23.6	-0.3
BOSA				IAmb	IAmb	21 16 37.1	
	comp=Z,24nm,1.3s						
BOSA	Boshof	24.53	18	P	P	21 16 22.4	-1.5
	comp=Z,4.4nm,0.9s,baz=210,slow=11,SNR=4.7						
BOSA				LR	LR	21 24 41.5	
	comp=Z,191nm,18.4s,baz=192,slow=34						
	comp=Z,4.4nm,0.9s						
LBTB	Lobatse	28.10	17	LR	LR	21 27 08.1	
	comp=Z,135nm,18.5s,baz=182,slow=34						
TSUM	Tsumeb	33.08	1	LR	LR	21 29 46.5	
	comp=Z,89nm,18.5s,baz=164,slow=34						
QSPA	South Pole Qui	37.89	180	P	P	21 18 22.2	+1.2
QSPA				IAmb	IAmb	21 18 28.8	
	comp=Z,14nm,1.2s						
QSPA	South Pole Qui	37.89	180	P	P	21 18 22.0	+0.9
	comp=Z,1.9nm,0.8s,baz=234,slow=2.5,SNR=9.8						
	comp=Z,1.9nm,0.8s						
LSZ	Lusaka	38.08	18	LR	LR	21 32 06.0	
	comp=Z,172nm,20.2s,baz=184,slow=33						
VNDA	Vanda	48.60	170	P	P	21 19 47.2	+0.1
VNDA				IAmb	IAmb	21 19 55.5	
	comp=Z,7.1nm,1.2s						
VNDA	Vanda	48.60	170	P	P	21 19 46.8	-0.3
	comp=Z,1.8nm,0.8s,baz=214,slow=4.8,SNR=6.5						
	comp=Z,1.8nm,0.8s						
H10S2	ASCENSION HYDR	50.25	318	T	T	22 14 11.8	
	baz=154,slow=74,SNR=12						
H10S3	ASCENSION HYDR	50.26	318	T	T	22 14 15.2	
	baz=66,slow=74,SNR=14						
KMBO	Kilima Mbogo	53.84	26	LR	LR	21 41 10.5	
	comp=Z,94nm,20.6s,baz=317,slow=34						
DBIC	Dimbokro	61.61	335	P	P	21 21 20.9	-0.9
DBIC	Dimbokro	61.61	335	P	P	21 21 20.9	-0.9
	comp=Z,5.7nm,0.8s,baz=142,slow=7.5,SNR=9.9						
	comp=Z,5.7nm,0.8s						
TORD	Torodi Ar. Bea	66.51	344	P	P	21 21 53.8	-0.1
TORD	Torodi Ar. Bea	66.51	344	P	P	21 21 53.6	-0.3
	comp=Z,2.4nm,0.3s,baz=170,slow=5.6,SNR=1.7						
	comp=Z,2.4nm,0.3s						
LPAZ	La Paz	74.18	264	P	P	21 22 41.6	-0.2
	comp=Z,0.4nm,0.4s,baz=180,slow=7.1,SNR=1.8						
	comp=Z,0.4nm,0.4s						
BOAV	Boa Vista	84.14	282	P	P	21 23 33.8	-1.6
ASAR	Alice Springs	86.64	125	P	P	21 23 48.9	+0.9
ASAR	Alice Springs	86.64	125	P	P	21 23 48.7	+0.7
	comp=Z,1.9nm,0.8s,baz=208,slow=4.6,SNR=12						
	comp=Z,1.9nm,0.8s						
WRA	Warramunga Arr	89.97	124	P	P	21 24 04.3	+0.4
	comp=Z,0.5nm,0.8s,baz=204,slow=2.9,SNR=5.7						
	comp=Z,0.5nm,0.8s						
ESDC	Sonseca Array	93.40	344	P	P	21 24 20.5	+1.4
	comp=Z,0.2nm,0.3s,baz=166,slow=5.6,SNR=1.9						
	comp=Z,0.2nm,0.3s						
PDAR	Pinedale Array	143.31	277	PKhKP	PKPpre	21 30 31.2	
	comp=Z,0.3nm,0.6s,baz=131,slow=6.8,SNR=4.0						
PDAR				PKP	PKPdf	21 30 38.6	+0.4
	comp=Z,0.9nm,1.0s,baz=190,slow=2.9,SNR=4.6						
ELK	Elko	145.62	270	PKPbc	PKPab	21 30 43.3	+0.4
	comp=Z,3.2nm,0.8s,baz=72,slow=2.0,SNR=9.0						
NVAR	Mina Array Bea	146.09	264	PKPbc	PKPab	21 30 45.0	+0.3
	comp=Z,4.6nm,0.8s,baz=146,slow=4.6,SNR=18						
YKA	Yellowknife Ar	152.58	311	PKPbc	PKPbc	21 30 59.5	+0.1
	comp=Z,1.4nm,1.0s,baz=87,slow=1.7,SNR=9.8						
ILAR	Eielson Array	164.97	332	PKPab	PKPab	21 32 04.0	+0.3
	comp=Z,0.5nm,0.9s,baz=50,slow=5.8,SNR=4.3						

*AFAD **28** 22:03:40.6, 37°.44N×29°.38E, h7km±2km, ML3.3*
*ISK **28** 22:03:40.0, 37°.44N×29°.42E, h10km, ML3.4/18*
*IDC **28** 22:03:40.9±1.4, 37°.51N×29°.49E, h0km, mb3.4/3, mbtmp3.4/10, ML3.3/6, Error ellipse: s-maj=22.1km s-min=17.1km az=48.0*

ISC 28 22:03:41.1±0.9, 37°.43N±0°.02×29°.41E±0°.02, h8km±6km, n53, σ1°.18/66, mb3.4/3, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.09	294	Pg	Pg	22 03 43.1	-0.4
APMY				Sg	Sg	22 03 45.1	-0.1
GOLH	Golhisar	0.23	148	P	Pg	22 03 44.7	-1.1
GOLH				i AML	AML	22 03 50.0	
	comp=N,5μm,0.4s						
GOLH				i AML	AML	22 03 50.0	
	comp=E,5μm,0.2s						
GOLH				S	Sg	22 03 50.2	+1.3
INCE	Denizli-Bozkur	0.30	26	P	Pg	22 03 46.8	-0.4
INCE				S	Sb	22 03 52.1	-2.0
INCE				i AML	AML	22 03 53.0	
	comp=N,1μm,0.2s						
INCE				i AML	AML	22 03 53.0	
	comp=E,7μm,0.3s						
CAEL	Denizli, Camel	0.32	193	P	Pg	22 03 47.2	-0.3
DNZT	Denizli-Tavas-	0.34	243	P	Pg	22 03 47.3	-0.6
DNZT				P	Pg	22 03 47.3	-0.6
DNIZ	Denizli-Tavas-	0.35	303	P	Pg	22 03 47.4	-0.6
TAVA	DENIZLI_Tavas	0.40	275	P	Pg	22 03 48.5	-0.4
TAVA				S	Sg	22 03 54.0	-0.1
CAME	Cameli-Denizli	0.50	190	Pg	Pg	22 03 49.9	-0.9
CAME				Sg	Sb	22 03 58.2	-1.4
BRDR	BURDUR-Merkez	0.58	63	P	Pg	22 03 51.9	-0.5
KNIK	Mula-Seydike	0.60	167	P	Pg	22 03 51.7	-1.0
BASM	Basmaki-Afyon	0.70	46	Pg	Pg	22 03 53.3	-1.4
SABU	Mula-Dalaman	0.70	210	P	Pg	22 03 54.0	-0.7
SABU				S	Sb	22 04 05.1	-0.4
ELL	Elmali	0.79	150	Pg	Pg	22 03 55.5	-0.9
FETY	Fethiye	0.84	198	Pg	Pg	22 03 56.6	-0.6
FETY	Fethiye	0.84	198	P	Pb	22 03 57.5	-0.4
DALY	Dalyan (Mula)	0.86	225	Pg	Pg	22 03 57.2	-0.5
DALY				Sg	Sb	22 04 09.8	-0.2
KORT	Korkueli	0.87	120	Pg	Pb	22 03 57.6	-0.9
KORT	Korkueli	0.87	120	P	Pn	22 03 58.8	-0.9
MULA	Mugla, Merkez-	0.89	259	P	Pg	22 03 57.6	-0.6
PASA	Karahalli, USA	0.91	4	P	Pg	22 03 58.0	-0.7
ESEN	Aydn-Nazilli	0.92	294	P	Pg	22 03 58.1	-0.6
ESEN				S	Sg	22 04 10.1	-0.6
ESEN				i AML	AML	22 04 14.0	
	comp=N,1μm,0.9s						
ESEN				i AML	AML	22 04 14.0	
	comp=E,636nm,0.9s						
BCK	Bucak	0.94	88	Pg	Pg	22 03 58.5	-0.7
YER	Yerkesik	0.95	252	Pg	Pg	22 03 58.6	-0.7
ISP	Isparta	0.96	66	Pg	Pg	22 03 58.9	-0.8
IZZE	Mula-Seydike	1.01	188	P	Pg	22 03 59.6	-0.8
NAZL	Nazilli-Aydin	1.03	301	Pg	Pg	22 04 00.3	-0.6
KIRA	zmir-Kiraz	1.10	314	P	Pg	22 04 00.8	-1.6
KIRA				S	Sb	22 04 17.2	+0.1
KIRA				i AML	AML	22 04 19.0	
	comp=N,527nm,0.3s						
KIRA				i AML	AML	22 04 19.0	
	comp=E,619nm,0.4s						
ANTB	Antalya	1.13	118	Pn	Pg	22 04 02.0	-0.8
TURN	Turunc	1.14	235	Pn	Pg	22 04 02.2	-0.8
TURN	Turunc	1.14	235	P	Pg	22 04 01.6	-1.4
AKAS	Kas	1.21	172	Pn	Pg	22 04 03.5	-0.8
AKAS	Kas	1.21	172	P	Pn	22 04 04.3	-0.2
KULA	Kula-Manisa	1.23	331	Pn	Pg	22 04 03.9	-0.8
AYDN	Tasoluk	1.24	281	P	Pn	22 04 04.8	0.0
AYDN				S	Sg	22 04 19.8	-1.2
AYDN				i AML	AML	22 04 29.0	
	comp=E,574nm,0.6s						
AYDB	Zeytinkoy-Aydi	1.31	293	Pn	Pn	22 04 04.9	-0.9
MLSB	Milas	1.31	264	Pn	Pn	22 04 05.0	-0.7
ODEM	Odemis-Izmir	1.35	309	Pn	Pn	22 04 05.6	-0.7
ANTO	Ankara	3.59	46	⇑P	Pn	22 04 38.5	+1.3
BRTR	Keskin Array B	4.03	54	Pn	Pn	22 04 44.0	+0.8
	0.9nm,0.3s,baz=239,slow=17,SNR=28						
BRTR				Sn	Sn	22 05 30.8	+0.2
	0.4nm,0.3s,baz=236,slow=28,SNR=7.9						
	4.3nm,0.6s						
IDI	Anoyia	4.23	241	Pn	Pn	22 04

*IPGP **28** 22:06:49.0, 50.°52N×159.°94E, h8km, Mw6.2, Fault plane solution: NP1:ϕs50.00000°, δ41.00000°, λ-83.00000°. NP2:ϕs221.00000°, δ49.00000°, λ-96.00000°.*

*NEIC **28** 22:06:49.4, 50.°50N×159.°96E, h9km*

*NEIC **28** 22:06:49.4±1.6, 50.°50N±0.°05×159.°94E±0.°08, h9km±1km, mb6.3/1167, Ms_20 5.8/920, Mwb6.1/104, Mww6.2/64, Error ellipse: s-maj=10.1km s-min=6.3km az=230.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=1.62; Mθθ0.98; Mϕϕ0.64; Mrθ0.11; Mθϕ0.86; Mϕr0.62; Fault plane solution: M0 1.77000×10¹⁸ NP1: ϕs217.53000°, δ54.57000°, λ-105.72000°. NP2: ϕs63.43000°, δ38.34000°, λ-69.16000°. Principal axes: T 1.7534, Plg8.0000°, Azm319.0000°; N 0.0271, Plg13.0000°, Azm227.0000°; P -1.7805, Plg75.0000°, Azm81.0000°;*

*NEIC **28** 22:06:49.4, 50.°52N×160.°00E, h18km, Moment Tensor Solution. Duration: 6s4 Moment tensor: Scale 10¹⁸Nm; Mrr=2.22; Mθθ1.05; Mϕϕ1.17; Mrθ1.47; Mθϕ0.82; Mϕr0.79; Fault plane solution: M0 2.66000×10¹⁸ NP1:ϕs35.39000°, δ26.74000°, λ-106.50000°. NP2:ϕs233.74000°, δ64.45000°, λ-81.86000°. Principal axes: T 2.4801, Plg19.0000°, Azm318.0000°; N 0.3573, Plg7.0000°, Azm50.0000°; P -2.8374, Plg69.0000°, Azm160.0000°;*

*GCMT **28** 22:06:52.4±0.0, 50.°42N×160.°11E, h12km, MW6.2/178, Moment Tensor Solution. s159,c355; s178,c748; Duration: 3s1 Moment tensor: Scale 10¹⁸Nm; Mrr=2.37±.01; Mθθ1.27±.01; Mϕϕ1.09±.01; Mrθ0.60±.03; Mθϕ1.40±.01; Mϕr0.34±.03; Best double couple: M0 2.57200×10¹⁸ NP1:ϕs42.00000°, δ38.00000°, λ-97.00000°. NP2:ϕs231.00000°, δ53.00000°, λ-85.00000°. Principal axes: T 2.6730, Plg8.0000°, Azm317.0000°; N -0.2110, Plg4.0000°, Azm48.0000°; P -2.4720, Plg81.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

ISC 28 22:06:49.4±0.3, 50.°42N±0.°02×160.°02E±0.°02, h15km±1km, h14km:pP-P, n2796, σ1s53/2823, mb6.2/835, MS5.8/614, 143C-109D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.85**	**319**	PN		**Pn**	**22 07 18.8**	**-1.8**
KDTR				S		**Sn**	**22 07 41.3**	**-2.4**
KDTR	**Khodutka, Kamc**	**1.85**	**319**	*e*P		**P**	**22 07 18.8**	**-1.8**
KDTR				*e*S		**Sn**	**22 07 41.3**	**-2.4**
RUS	**Russkaya**	**2.23**	**335**	PN		**Pn**	**22 07 23.8**	**-1.9**
RUS				S		**Sn**	**22 07 50.3**	**-2.6**
RUS	**Russkaya**	**2.23**	**335**	*e*P		**Pn**	**22 07 23.9**	**-1.9**
RUS				*e*S		**Sn**	**22 07 50.4**	**-2.6**
PAU	**Pauzhetka**	**2.29**	**299**	PN		**Pn**	**22 07 25.8**	**-0.7**
PAU				S		**Sn**	**22 07 54.2**	**-0.2**
PAU	**Pauzhetka**	**2.29**	**299**	*e*P		**Pn**	**22 07 25.9**	**-0.7**
PAU				*e*S		**Sn**	**22 07 54.2**	**-0.2**
GRL	**Gorelyy**	**2.46**	**331**	PN		**Pn**	**22 07 28.0**	**-1.0**
GRL	**Gorelyy**	**2.46**	**331**	*e*P		**Pn**	**22 07 28.1**	**-1.0**
SKR	**Severo-Kuril's**	**2.50**	**278**	PN		**Pn**	**22 07 28.2**	**-1.3**
SKR				S		**Sn**	**22 07 56.7**	**-3.1**
SKR	**Severo-Kuril's**	**2.50**	**278**	*e*P		**Pn**	**22 07 28.2**	**-1.3**
SKR				*e*S		**Sn**	**22 07 56.7**	**-3.1**
SPN	**Mys Shipunski**	**2.68**	**0**	PN		**Pn**	**22 07 30.2**	**-1.8**
SPN	**Mys Shipunski**	**2.68**	**0**	*e*P		**Pn**	**22 07 30.3**	**-1.8**
SPN				*e*S		**Sn**	**22 08 00.4**	**-3.8**
KRMR	**Karymshinskiy**	**2.69**	**335**	PN		**Pn**	**22 07 30.9**	**-1.1**
KRMR	**Karymshinskiy**	**2.69**	**335**	*e*P		**Pn**	**22 07 31.0**	**-1.1**
DALK	**Dalny**	**2.73**	**344**	PN		**Pn**	**22 07 31.1**	**-1.5**
DALK				S		**Sn**	**22 08 01.9**	**-3.5**
DALK	**Dalny**	**2.73**	**344**	*e*P		**Pn**	**22 07 31.2**	**-1.5**
DALK				*e*S		**Sn**	**22 08 02.0**	**-3.5**
PET	**Petropavlovsk**	**2.74**	**342**			**Pn**	**22 07 31.7**	**-1.1**
PET				Sn		**Sn**	**22 08 02.9**	**-2.7**
PET	**Petropavlovsk**	**2.74**	**342**	P		**Pn**	**22 07 31.8**	**-1.0**
PET	**Petropavlovsk**	**2.74**	**342**	S		**Sn**	**22 08 05.7**	**0.0**
PET	**Petropavlovsk**	**2.74**	**342**	*a i*PN		**Pn**	**22 07 31.4**	**-1.4**
PET				*e*S		**Sn**	**22 08 03.0**	**-2.7**
PET	comp=Z,5μm,0.4s			pmax		pmax		
PET	comp=E,21μm,0.5s			smax		smax		
PET	comp=N,34μm,0.6s			smax		smax		
PET	comp=Z,282μm,10.0s			MLR		MLR		
PET	comp=Z,342μm,12.0s			MLR		MLR		
PET	**Petropavlovsk**	**2.74**	**342**	⇑P		**Pn**	**22 07 31.1**	**-1.7**
PET	**Petropavlovsk**	**2.74**	**342**	*e*P		**Pn**	**22 07 31.3**	**-1.5**
PET				*e*S		**Sn**	**22 08 02.7**	**-3.0**
PET	**Petropavlovsk**	**2.74**	**342**	P		**Pn**	**22 07 31.3**	**-1.5**
NLC	**Nalytchevo**	**2.79**	**352**	*e*S		**Sn**	**22 08 05.1**	**-1.7**
INSR	**Institute**	**2.79**	**342**	PN		**Pn**	**22 07 32.1**	**-1.4**
INSR				S		**Sn**	**22 08 04.4**	**-2.5**
INSR	**Institute**	**2.79**	**342**	*e*P		**Pn**	**22 07 32.2**	**-1.4**
INSR				*e*S		**Sn**	**22 08 04.4**	**-2.5**
UGLR	**Uglovaya**	**2.89**	**346**	PN		**Pn**	**22 07 34.0**	**-0.9**
UGLR	**Uglovaya**	**2.89**	**346**	*e*P		**Pn**	**22 07 34.1**	**-0.9**
SDLR	**Sedlovina**	**2.95**	**347**	PN		**Pn**	**22 07 34.0**	**-1.7**
SDLR	**Sedlovina**	**2.95**	**347**	*e*P		**Pn**	**22 07 34.1**	**-1.7**
AVH	**Avacha**	**2.96**	**345**	PN		**Pn**	**22 07 35.2**	**-0.7**
AVH	**Avacha**	**2.96**	**345**	*e*P		**Pn**	**22 07 35.2**	**-0.7**
KRER	**Koryakskii**	**2.99**	**345**	PN		**Pn**	**22 07 36.2**	**-0.2**
KRER	**Koryakskii**	**2.99**	**345**	*e*P		**Pn**	**22 07 36.2**	**-0.2**
KOK	**Koryaka**	**3.00**	**344**	PN		**Pn**	**22 07 35.5**	**-0.9**
KOK	**Koryaka**	**3.00**	**344**	*e*P		**Pn**	**22 07 35.6**	**-0.9**
I44RU	**PETROPAVLOVSK-**	**3.05**	**333**	Pn		**Pn**	**22 07 36.8**	**-0.3**
I44RU	baz=116,slow=17			I		I	22 25 10.0	
PEA0B	**Petropavlovsk-**	**3.05**	**333**	Pn		**Pn**	**22 07 36.1**	**-1.1**
PEA0B	baz=153,slow=341,SNR=0.7			Sn		**Sn**	**22 08 11.4**	**-2.0**
PEA0B	**Petropavlovsk-**	**3.05**	**333**	*ce*PN		**Pn**	**22 07 36.8**	**-0.3**
PETK	**Petropavlovsk-**	**3.05**	**333**	Pn		**Pn**	**22 07 35.9**	**-1.3**
PETK	**Petropavlovsk-**	**3.05**	**333**	Pn		**Pn**	**22 07 36.7**	**-0.4**
PETK	comp=Z,4μm,0.6s,baz=326,slow=23,SNR=4.4			Sn		**Sn**	**22 08 12.1**	**-1.3**
	comp=Z,1μm,0.3s,baz=37,slow=15,SNR=11							
KRX	**Arik**	**3.06**	**344**	PN		**Pn**	**22 07 36.1**	**-1.3**
KRX	**Arik**	**3.06**	**344**	*e*P		**Pn**	**22 07 36.1**	**-1.3**
APC	**Apacha**	**3.08**	**326**	PN		**Pn**	**22 07 37.0**	**-0.4**
APC	**Apacha**	**3.08**	**326**	*e*P		**Pn**	**22 07 37.0**	**-0.4**
GNL	**Ganaly**	**3.52**	**339**	PN		**Pn**	**22 07 43.0**	**-0.6**
GNL	**Ganaly**	**3.52**	**339**	*e*P		**Pn**	**22 07 43.0**	**-0.6**
KII	**Karymskiy**	**3.64**	**355**	PN		**Pn**	**22 07 45.1**	**-0.1**
KII	**Karymskiy**	**3.64**	**355**	*e*P		**Pn**	**22 07 45.1**	**-0.1**
MKZ	**Mys Kozlova**	**4.27**	**13**	PN		**Pn**	**22 07 52.1**	**-1.7**
MKZ	**Mys Kozlova**	**4.27**	**13**	*e*P		**Pn**	**22 07 52.1**	**-1.7**
TUMD	**Tumrok D**	**4.80**	**3**	PN		**Pn**	**22 08 00.0**	**-1.0**
TUMD	**Tumrok D**	**4.80**	**3**	*e*P		**Pn**	**22 08 00.1**	**-1.0**
TUMD				*e*S		**Sn**	**22 08 52.8**	**-3.5**
KMNR	**Kamenistaya**	**5.35**	**1**	PN		**Pn**	**22 08 09.4**	**+0.8**
KMNR	**Kamenistaya**	**5.35**	**1**	*e*P		**Pn**	**22 08 09.5**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**5.54**	**4**	PN		**Pn**	**22 08 12.2**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**5.54**	**4**	*e*P		**Pn**	**22 08 12.2**	**+0.8**
BZGR				*e*S		**Sn**	**22 09 11.0**	**-3.9**
KIRR	**Kirishev**	**5.55**	**2**	PN		**Pn**	**22 08 12.2**	**+0.8**
KIRR	**Kirishev**	**5.55**	**2**	*e*P		**Pn**	**22 08 12.3**	**+0.8**
KIRR				*e*S		**Sn**	**22 09 12.5**	**-2.5**
KPT	**Kopyto**	**5.56**	**1**	PN		**Pn**	**22 08 12.0**	**+0.5**
KPT	**Kopyto**	**5.56**	**1**	*e*P		**Pn**	**22 08 12.0**	**+0.5**
BZWR	**Bezymyannyi-We**	**5.56**	**3**	PN		**Pn**	**22 08 12.6**	**+0.9**
BZWR	**Bezymyannyi-We**	**5.56**	**3**	*e*P		**Pn**	**22 08 12.7**	**+0.9**
ESO	**Esso**	**5.57**	**352**	PN		**Pn**	**22 08 11.8**	**+0.2**
ESO	**Esso**	**5.57**	**352**	*e*P		**Pn**	**22 08 11.9**	**+0.2**
ZLN	**Zelenaya**	**5.63**	**4**	PN		**Pn**	**22 08 13.3**	**+0.8**
ZLN	**Zelenaya**	**5.63**	**4**	*e*P		**Pn**	**22 08 13.4**	**+0.8**
KOZ	**Kozyrevsk**	**5.65**	**359**	PN		**Pn**	**22 08 13.7**	**+1.0**
KOZ	**Kozyrevsk**	**5.65**	**359**	*e*P		**Pn**	**22 08 13.7**	**+1.0**
LGNR	**Loginova**	**5.69**	**4**	PN		**Pn**	**22 08 14.7**	**+1.2**
LGNR	**Loginova**	**5.69**	**4**	*e*P		**Pn**	**22 08 14.7**	**+1.2**
CIRR	**Tsirk**	**5.72**	**4**	PN		**Pn**	**22 08 14.9**	**+1.0**
CIRR	**Tsirk**	**5.72**	**4**	*e*P		**Pn**	**22 08 14.9**	**+1.0**
KRSR	**Krestovskiy**	**5.82**	**3**	PN		**Pn**	**22 08 15.5**	**+0.4**
KRSR	**Krestovskiy**	**5.82**	**3**	*e*P		**Pn**	**22 08 15.6**	**+0.4**
SRDR	**Sredinnyy**	**5.91**	**358**	PN		**Pn**	**22 08 16.9**	**+0.5**
SRDR	**Sredinnyy**	**5.91**	**358**	*e*P		**Pn**	**22 08 16.9**	**+0.5**
KLY	**Klyuchi**	**5.92**	**3**	PN		**Pn**	**22 08 17.5**	**+1.1**
KLY	**Klyuchi**	**5.92**	**3**	*e*P		**Pn**	**22 08 17.5**	**+1.1**
KLY				*e*S		**Sn**	**22 09 21.7**	**-2.2**
BKI	**Bering**	**6.00**	**35**	PN		**Pn**	**22 08 15.7**	**-1.7**
BKI	**Bering**	**6.00**	**35**	*e*P		**Pn**	**22 08 15.8**	**-1.7**
BKI				*e*S		**Sn**	**22 09 17.3**	**-8.5**
KBTR	**Krutoberegovo**	**6.04**	**15**	PN		**Pn**	**22 08 16.6**	**-1.4**
KBTR	**Krutoberegovo**	**6.04**	**15**	*e*P		**Pn**	**22 08 16.7**	**-1.4**
KBTR				*e*S		**Sn**	**22 09 22.3**	**-4.5**
KBG	**Krutoberegovo**	**6.06**	**14**	PN		**Pn**	**22 08 17.5**	**-0.8**
KBG	**Krutoberegovo**	**6.06**	**14**	*e*P		**Pn**	**22 08 17.6**	**-0.8**
KBG				*e*S		**Sn**	**22 09 23.9**	**-3.5**
SMKR	**Semkarok**	**6.23**	**7**	PN		**Pn**	**22 08 21.2**	**+0.4**
SMKR	**Semkarok**	**6.23**	**7**	*e*P		**Pn**	**22 08 21.2**	**+0.4**
PALN	**Palana**	**8.69**	**360**	PN		**Pn**	**22 08 54.2**	**-0.1**
PALN	**Palana**	**8.69**	**360**	*e*P		**Pn**	**22 08 54.3**	**-0.1**
OSSR	**Ossora**	**9.02**	**10**	PN		**Pn**	**22 08 57.8**	**-1.1**
OSSR	**Ossora**	**9.02**	**10**	*e*P		**Pn**	**22 08 57.8**	**-1.1**
SHEM	**Shemya Is, Ala**	**9.07**	**70**	Pn		**Pn**	**22 08 59.7**	**+0.1**
SHEM	comp=Z,2μm,0.6s,baz=279,slow=1.1,SNR=60			Sn		Sn	22 10 30.9	-10
	comp=Z,510nm,0.3s,baz=308,slow=18,SNR=13							
SHEM				LR		LR	22 12 08.1	
	comp=Z,24μm,19.0s,baz=268,slow=35							
SMY	**Shemya**	**9.07**	**70**			**Pn**	**22 08 59.6**	**0.0**
SMY				Sn		**Sn**	**22 10 33.1**	**-8.2**
KUR	**Kuril'sk**	**9.68**	**242**	*e*PN		**Pn**	**22 09 07.1**	**-0.9**
KUR	comp=Z,12μm,6.2s			pmax		pmax		
KUR	comp=N,531nm,0.6s			pmax		pmax		
KUR	comp=E,319nm,0.6s			pmax		pmax		
KUR	comp=Z,1μm,0.6s			pmax		pmax		
KUR	comp=Z,38μm,16.0s			MLR		MLR		
KUR	**Kuril'sk**	**9.68**	**242**	*e*P		**Pn**	**22 09 07.7**	**-0.3**
MA2	**Magadan**	**10.59**	**334**	PN		**Pn**	**22 09 19.3**	**-1.1**
MA2	**Magadan**	**10.59**	**334**	Pn		**Pn**	**22 09 20.8**	**+0.4**
MA2	comp=Z,5.8nm,0.3s,baz=133,slow=9.4,SNR=67			Sn		**Sn**	**22 11 19.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=111,slow=15,SNR=0.6							
MA2				LR		LR	22 13 57.7	
	comp=Z,65μm,18.7s,baz=140,slow=41							
	comp=Z,87nm,0.7s							
MA2	**Magadan**	**10.59**	**334**	P		**Pn**	**22 09 19.7**	**-0.7**
MA2	**Magadan**	**10.59**	**334**	*ce*PN		**Pn**	**22 09 20.0**	**-0.5**
MA2	comp=Z,392nm,1.7s			pmax		pmax		
MA2	**Magadan**	**10.59**	**334**	⇑P		**Pn**	**22 09 20.0**	**-0.5**
MA2	**Magadan**	**10.59**	**334**	P		**Pn**	**22 09 19.9**	**-0.5**
	comp=Z,15μmcomp=Z,175nm,0.7s							
TILK	**Tilichiki**	**10.63**	**17**	PN		**Pn**	**22 09 21.2**	**+0.3**
TILK	**Tilichiki**	**10.63**	**17**	*e*P		**Pn**	**22 09 21.2**	**+0.3**
OKH	**Okha**	**10.99**	**293**	*c i*PN		**Pn**	**22 09 25.4**	**-0.5**
OKH	comp=Z,12μm,9.5s			pmax		pmax		
OKH	comp=N,102μm,14.0s			MLR		MLR		
OKH	comp=Z,89μm,15.0s			MLR		MLR		
OKH	comp=E,127μm,15.0s			MLR		MLR		
TYV	**Tymovskoe**	**11.04**	**279**	*e*PN		**Pn**	**22 09 29.4**	**+2.8**
TYV	comp=Z,450nm,1.3s			pmax		pmax		
TYV	comp=Z,20μm,5.0s			pmax		pmax		
TYV	comp=E,148μm,15.0s			MLR		MLR		
TYV	comp=Z,141μm,16.0s			MLR		MLR		
TYV	**Tymovskoe**	**11.04**	**279**	*e*P		**Pn**	**22 09 29.1**	**+2.5**
SHO	**Shikotan**	**11.11**	**239**	*e*PN		**Pn**	**22 09 23.3**	**-4.3**
SHO	comp=Z,450nm,1.1s			pmax		pmax		
SHO	comp=Z,314nm,0.6s			pmax		pmax		
SHO	comp=N,102nm,0.3s			pmax		pmax		
SHO	comp=E,58nm,0.4s			pmax		pmax		
SHO	comp=Z,5μm,11.0s			MLR		MLR		
YUK	**Yuzh-Kuril'sk**	**11.54**	**242**	*e*PN		**Pn**	**22 09 31.2**	**-2.3**
YUK	comp=Z,1μm,0.8s			pmax		pmax		
YUK	comp=N,170nm,0.5s			pmax		pmax		
YUK	comp=E,128nm,0.4s			pmax		pmax		
YUK	comp=Z,3μm,1.3s			pmax		pmax		
UGL	**Uglegorsk**	**11.70**	**270**	⇓*e*PN		**Pn**	**22 09 38.3**	**+2.7**
UGL	comp=Z,699nm,0.8s			pmax		pmax		
UGL	comp=Z,29μm,9.8s			MLR		MLR		
UGL	comp=Z,122μm,14.0s			MLR		MLR		
UGL	comp=N,36μm,8.0s			MLR		MLR		
UGL	comp=E,123μm,13.0s			MLR		MLR		
RUSJ	**Misakicho**	**11.85**	**243**	*e*PN		**Pn**	**22 09 38.6**	**+0.9**
YSS	**Yuzhno-Sakhali**	**11.93**	**260**			**Pn**	**22 09 39.4**	**+0.7**
YSS	**Yuzhno-Sakhali**	**11.93**	**260**	P		**Pn**	**22 09 40.5**	**+1.7**
YSS	**Yuzhno-Sakhali**	**11.93**	**260**	S		**Sn**	**22 11 53.7**	**+2.3**
YSS	**Yuzhno-Sakhali**	**11.93**	**260**	⇑*e*PN		**Pn**	**22 09 40.9**	**+2.2**
YSS	comp=Z,270nm,1.1s			pmax		pmax		
YSS	comp=Z,7μm,6.4s			pmax		pmax		
YSS	comp=N,4μm,8.3s			pmax		pmax		
YSS	comp=E,6μm,6.0s			pmax		pmax		
YSS	comp=Z,36μm,15.0s			MLR		MLR		
YSS	comp=N,58μm,14.0s			MLR		MLR		
YSS	comp=E,24μm,18.0s			MLR		MLR		
YSS	**Yuzhno-Sakhali**	**11.93**	**260**	⇑P		**Pn**	**22 09 40.4**	**+1.7**
NMR	**Nemuro--Hokkai**	**12.04**	**240**	*e*PN		Pn	22 09 35.2	-5.2
NKL	**Nikolayevsk**	**12.28**	**290**	*e*PN		**Pn**	**22 09 40.3**	**-3.2**
NKL	comp=N,341nm,0.8s			pmax		pmax		
NKL	comp=E,648nm,1.0s			pmax		pmax		
NKL	comp=Z,1μm,1.0s			pmax		pmax		
NKL	comp=N,173μm,14.0s			MLR		MLR		
NKL	comp=E,264μm,15.0s			MLR		MLR		
NKL	comp=Z,235μm,15.0s			MLR		MLR		
KMSK	**Kamenskaya**	**12.54**	**13**	PN		**Pn**	**22 09 47.6**	**+0.5**
KMSK	**Kamenskaya**	**12.54**	**13**	*e*P		**Pn**	**22 09 47.6**	**+0.5**
SEY	**Seymchan**	**13.21**	**345**	Pn		**Pn**	**22 09 57.7**	**+1.5**
SEY	comp=Z,2.8nm,0.3s,baz=145,slow=12,SNR=138			Sn		**Sn**	**22 12 20.7**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=192,slow=5.9,SNR=1.2							
SEY				LR		LR	22 15 26.7	
	comp=Z,80μm,20.5s,baz=156,slow=40							
SEY				PKiKP		**PKiKP**	**22 23 22.8**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=149,slow=5.9,SNR=4.8							
	comp=Z,39nm,0.7s							
JKA	**Kamikawa-asahi**	**13.39**	**249**			**Pn**	**22 09 57.7**	**-1.1**
ASAJ	**Asahikawa**	**13.39**	**249**	Pn		**Pn**	**22 09 58.2**	**-0.6**
ASAJ	comp=Z,9.9nm,0.3s,baz=82,slow=15,SNR=67			Sn		**Sn**	**22 12 24.6**	**-2.7**
	baz=254,slow=24							
ASAJ				LR		LR	22 15 17.5	
	comp=Z,18μm,18.2s,baz=58,slow=38							
	comp=Z,203nm,0.7s							
JEM	**Erimo**	**14.36**	**241**	P		**Pn**	**22 10 09.8**	**-2.2**
ERM	**Erimo**	**14.36**	**241**			**Pn**	**22 10 09.8**	**-2.2**
ERM	**Erimo**	**14.36**	**241**	P		**Pn**	**22 10 09.8**	**-2.2**
ERM	**Erimo**	**14.36**	**241**	*ce*P		**Pn**	**22 10 10.8**	**-1.2**
ERM	comp=Z,181nm,1.3s			pmax		pmax		
ERM	**Erimo**	**14.36**	**241**	⇑P		**Pn**	**22 10 08.3**	**-3.7**
KIWB	**Kanaga Island**	**14.39**	**75**			**Pn**	**22 10 12.4**	**-0.1**
ADK	**Adak**	**14.68**	**75**	Pn		**Pn**	**22 10 15.7**	**-0.6**
ADK	**Adak**	**14.68**	**75**	P		**Pn**	**22 10 15.8**	**-0.6**
GSTR	**Great Sitkin T**	**15.05**	**74**			**P**	**22 10 26.6**	**-0.1**
ATKA	**Atka Island**	**16.19**	**74**	P		**P**	**22 10 38.9**	**-0.4**
ATKA	**Atka Island**	**16.19**	**74**	P		**Pn**	**22 10 37.1**	**+0.9**
ATKA	**Atka Island**	**16.19**	**74**	⇑P		**P**	**22 10 39.2**	**0.0**
JTM	**Tenmabayashi**	**16.35**	**241**	P		**Pn**	**22 10 37.6**	**-0.6**
JTM	**Tenmabayashi**	**16.35**	**241**	⇓P		**Pn**	**22 10 31.5**	**-6.7**
TEY	**Ternei**	**16.62**	**260**	⇑*e*P		**Pn**	**22 10 41.3**	**-0.3**
TEY							22 13 37.5	
TEY	comp=N,40nm,1.4s			pmax		pmax		
TEY	comp=Z,50nm,1.5s			pmax		pmax		
TEY	comp=E,40nm,1.3s			pmax		pmax		
TEY	comp=N,70nm,1.0s			pmax		pmax		
TEY	comp=E,270nm,1.0s			pmax		pmax		
TEY	comp=Z,290nm,1.0s			pmax		pmax		
TEY	comp=Z,10μm,10.0s			pmax		pmax		
TEY	comp=E,10μm,18.0s			pmax		pmax		
TEY	comp=N,4μm,15.8s			MLR		MLR		
TEY	comp=E,9μm,11.0s			MLR		MLR		
TEY	comp=N,12μm,14.0s			MLR		MLR		
TEY	comp=Z,19μm,14.0s			MLR		MLR		
BILL	**Bilibino**	**17.94**	**8**	P		**Pn**	**22 10 57.5**	**-0.5**
BILL	**Bilibino**	**17.94**	**8**	*ce*P		**Pn**	**22 10 57.7**	**-0.3**
BILL	comp=Z,775nm,1.3s			pmax		pmax		
KLR	**Kul'dur**	**18.24**	**277**	P		**P**	**22 11 01.9**	**-0.1**
KLR	comp=Z,7.0nm,0.3s,baz=74,slow=12,SNR=110			S		**Sn**	**22 14 24.1**	**-0.8**
	comp=Z,23nm,1.2s,baz=252,slow=21,SNR=1.0							
KLR				LR		LR	22 18 23.7	
	comp=Z,38μm,19.3s,baz=82,slow=38							
	comp=Z,72nm,0.6s							
KLR	**Kul'dur**	**18.24**	**277**	*ce*P		**P**	**22 11 02.8**	**+0.9**
KLR	comp=Z,505nm,2.5s			pmax		pmax		
KLR	comp=Z,61μm,14.0s			MLR		MLR		
JMM	**Marumori**	**18.58**	**235**	P		**P**	**22 11 04.1**	**-1.7**
JMM	**Marumori**	**18.58**	**235**	P		**Pn**	**22 11 06.7**	**+0.7**
JMM	**Marumori**	**18.58**	**235**	⇑P		**P**	**22 11 04.0**	**-1.7**
SPIA	**Saint Paul Isl**	**18.71**	**57**			**P**	**22 11 05.5**	**-1.5**
SPIA	comp=Z,3μm,1.9s			IAmb		IAmb	22 11 10.5	
SPIA	**Saint Paul Isl**	**18.71**	**57**	P		**Pn**	**22 11 08.4**	**+1.0**
SPIA	baz=262			S		**S**	**22 14 40.3**	**+0.9**
	baz=262							
P08K	**Saint George I**	**19.02**	**59**	P		**P**	**22 11 09.9**	**-0.4**
P08K	**Saint George I**	**19.02**	**59**	P		**Pn**	**22 11 11.6**	**+0.5**
P08K	baz=264			S		**S**	**22 14 45.4**	**-0.2**
	baz=264							
NIKH	**Nikolski High**	**19.38**	**70**	P		**P**	**22 11 14.5**	**+0.1**
NIKH	**Nikolski High**	**19.38**	**70**	P		**Pn**	**22 11 16.9**	**+1.3**
NIKH	**Nikolski High**	**19.38**	**70**	P		**Pn**	**22 11 15.1**	**-0.5**
NIKH	baz=275,SNR=10			S		**Sn**	**22 14 48.5**	**-4.1**
	baz=275							
JSD	**Sado**	**19.82**	**240**	P		**P**	**22 11 18.9**	**-0.4**
JSD	**Sado**	**19.82**	**240**	P		**Pn**	**22 11 20.2**	**-0.7**
JSD	**Sado**	**19.82**	**240**	⇑P		**P**	**22 11 19.3**	**0.0**
JSD	**Sado**	**19.82**	**240**	S		**S**	**22 14 58.1**	**-4.0**
USA0B	**Ussuriysk Arra**	**19.93**	**263**	P		**P**	**22 11 18.6**	**-1.9**
USA0B	**Ussuriysk Arra**	**19.93**	**263**	*i* P		**P**	**22 11 18.8**	**-1.6**
USRK	**Ussuriysk Ar.**	**19.93**	**263**	P		**P**	**22 11 18.6**	**-1.8**
USRK	**Ussuriysk Ar.**	**19.93**	**263**	P		**P**	**22 11 19.2**	**-1.2**
USRK	comp=Z,1.5nm,0.3s,baz=69,slow=10,SNR=49			LR		LR	22 19 27.1	
	comp=Z,26μm,19.4s,baz=60,slow=38							
	comp=Z,68nm,0.8s							
GAMB	**Gambell**	**20.13**	**38**	P		**P**	**22 11 21.9**	**-0.6**
GAMB	**Gambell**	**20.13**	**38**	P		Pn	22 11 23.6	-0.7
GAMB	baz=242,SNR=82			S		**S**	**22 15 08.8**	**+0.9**
	baz=242							
YAK	**Yakutsk**	**20.26**	**317**	P		**P**	**22 11 20.9**	**-3.0**
YAK	comp=Z,2μm,0.7s			IAmb		IAmb	22 11 23.0	
YAK	**Yakutsk**	**20.26**	**317**	IAMs_20		IAMs_20	22 18 53.1	
	comp=Z,48μm,22.0s							
YAK	**Yakutsk**	**20.26**	**317**	P		**P**	**22 11 21.7**	**-2.2**
	comp=Z,1μm,0.6s,baz=100,slow=3.9,SNR=337							
YAK				LR		LR	22 19 11.0	
	comp=Z,46μm,22.0s,baz=114,slow=37							
	comp=Z,1μm,0.6s							
YAK	**Yakutsk**	**20.26**	**317**	*e*P		**P**	**22 11 20.7**	**-3.2**
YAK				*e**PP		**sP**	**22 11 29.6**	**+2.1**
YAK				*e*			22 11 37.1	
YAK				*e*S		**S**	**22 15 05.5**	**-4.9**
YAK				*e*			22 15 35.1	
YAK				*e*			22 22 54.5	
YAK	comp=Z,1μm,0.9s			pmax		pmax		
YAK	comp=N,57nm,0.9s			pmax		pmax		
YAK	comp=E,445nm,1.1s			pmax		pmax		
YAK	comp=Z,1μm,1.3s			pmax		pmax		
YAK	comp=E,564nm,1.4s			pmax		pmax		
YAK	comp=N,450nm,1.4s			pmax		pmax		
YAK	comp=N,8μm,4.0s			smax		smax		
YAK	comp=E,4μm,3.9s			smax		smax		
YAK	comp=Z,102μm,15.0s			MLR		MLR		
YAK	comp=N,26μm,15.0s			MLR		MLR		
YAK	comp=E,73μm,14.0s			MLR		MLR		
YAK	**Yakutsk**	**20.26**	**317**	⇑P		**P**	**22 11 20.8**	**-3.0**
ZEA	**Zeya**

comp=Z,32µm,18.9s
HEH LR LR
comp=Z,132µm,13.8s
MJB9 Matsu-Tunnel 20.94 237 P 22 11 32.2 +0.7
MJB9 IAmb IAmb 22 11 38.8
comp=Z,740nm,0.8s
MAJO Matsushiro 20.94 237 P 22 11 31.0 -0.5
MAJO IAmb IAmb 22 11 37.9
comp=Z,768nm,0.8s
MAJO Matsushiro 20.94 237 P **P 22 11 32.2 +0.7**
MAJO Matsushiro 20.94 237 *i* P **P 22 11 31.4 -0.1**
MAJO pmax pmax
comp=Z,783nm,0.8s
MAJO MLR MLR
comp=Z,14µm,18.0s
MAJO Matsushiro 20.94 237 ⇓P **P 22 11 31.3 -0.3**
MAT Matsushiro 20.94 237 P **P 22 11 31.2 -0.3**
MJAR Matsushiro Arr 20.94 237 P **P 22 11 31.3 -0.3**
comp=Z,262nm,1.1s,baz=30,slow=8.4,SNR=157
MJAR PcP **PcP 22 15 37.5 -1.4**
comp=Z,13nm,0.7s,baz=76,slow=1.9,SNR=4.2
MJAR LR LR 22 21 47.7
comp=Z,14µm,18.7s,baz=38,slow=43
MJAR P3KPbc 22 45 26.5
comp=Z,0.4nm,0.3s,baz=206,slow=3.6,SNR=1.5
comp=Z,262nm,1.1s
LVA Lava Point 20.97 67 P **P 22 11 32.5 +0.8**
LVA IAMs_20 IAMs_20 22 18 53.7
comp=Z,31µm,18.0s
MSHR Mys Shultsa 21.26 260 *i* P **P 22 11 36.0 +1.1**
MDJ Mudanjiang 21.26 266 IAMs_20 IAMs_20 22 20 41.3
comp=Z,37µm,19.0s
MDJ Mudanjiang 21.26 266 P **P 22 11 33.5 -1.4**
MDJ S **S 22 15 24.0 -6.6**
MDJ PcP **PcP 22 15 37.3 -1.9**
MDJ pmax pmax
comp=Z,100nm,1.4s
MDJ pmax pmax
comp=Z,8µm,9.5s
MDJ LR LR
comp=Z,31µm,16.5s
MDJ LR LR
comp=Z,35µm,17.8s
MDJ LR LR
comp=Z,49µm,18.6s
M11K Mekoryuk 21.38 49 P **P 22 11 36.3 +0.3**
M11K Mekoryuk 21.38 49 P **P 22 11 37.3 +1.3**
baz=258,SNR=22
M11K S Sn 22 15 36.7 -3.6
baz=258
JGN Niukaw 21.66 238 P **P 22 11 39.3 0.0**
JGF Kuroka 22.10 237 IAmb IAmb 22 11 48.3
comp=Z,988nm,1.1s
JGF Kuroka 22.10 237 P **P 22 11 45.1 +1.1**
JGF Kuroka 22.10 237 ⇓P **P 22 11 44.2 +0.2**
JGF Kuroka 22.10 237 P **P 22 11 44.5 +0.5**
BNX BinXian 22.18 270 ⇑P **P 22 11 43.3 -1.4**
BNX pP **pP 22 11 46.0 -1.1**
BNX sP **sP 22 11 47.5 -0.6**
BNX S **S 22 15 46.3 -2.1**
BNX sS **sS 22 15 52.8 +0.5**
BNX pmax pmax
comp=Z,200nm,1.1s
BNX pmax pmax
comp=Z,5µm,8.1s
BNX LR LR
comp=Z,126µm,18.4s
BNX LR LR
comp=Z,54µm,19.0s
BNX LR LR
comp=Z,85µm,15.2s
JSG Sagara 22.38 234 P **P 22 11 47.7 +0.7**
JSG IAmb IAmb 22 11 55.7
comp=Z,2µm,1.2s
JSG Sagara 22.38 234 ⇓P **P 22 11 49.0 +2.1**
TNA Tin City 22.41 35 P **P 22 11 47.5 +0.5**
TNA IAmb IAmb 22 11 52.4
comp=Z,617nm,0.9s
TNA Tin City 22.41 35 P **P 22 11 48.2 +1.2**
baz=243,SNR=150
TNA S **S 22 15 52.6 +0.4**
baz=243
FALS False Pass 22.45 64 P **P 22 11 47.6 +0.1**
FALS False Pass 22.45 64 P **P 22 11 47.7 +0.2**
baz=274,SNR=15
FALS S **S 22 15 53.0 -0.3**
baz=274
K13K Kusilvak Mount 22.47 46 P **P 22 11 47.6 -0.1**
K13K IAMs_20 IAMs_20 22 20 27.5
comp=Z,32µm,18.0s
K13K Kusilvak Mount 22.47 46 P **P 22 11 48.4 +0.6**
baz=256,SNR=55
K13K S **S 22 15 52.9 -0.7**
baz=256
INU Inuyama 22.47 237 P **P 22 11 47.1 -0.8**
INU IAmb IAmb 22 11 52.0
comp=Z,587nm,0.9s
INU Inuyama 22.47 237 P **P 22 11 48.6 +0.6**
INU Inuyama 22.47 237 ⇑P **P 22 11 47.3 -0.7**
M13K Dall Lake 22.77 50 P **P 22 11 51.5 +0.6**
M13K IAmb IAmb 22 11 56.9
comp=Z,663nm,1.0s
M13K Dall Lake 22.77 50 P **P 22 11 52.0 +1.1**
baz=261,SNR=126
M13K S **S 22 15 59.6 +0.6**
baz=261
JHJ2 Mitsune 22.82 228 P **P 22 11 52.3 +0.7**
JHJ2 IAmb IAmb 22 11 55.3
comp=Z,1µm,1.1s
JHJ2 Mitsune 22.82 228 ⇑P **P 22 11 53.7 +2.1**
JHJ2 Mitsune 22.82 228 P **P 22 11 53.3 +1.7**
F14K Arctic Creek 22.96 36 P **P 22 11 53.5 +0.6**
baz=246,SNR=159
F14K S **S 22 16 04.3 +2.0**
baz=246
ANM Nome 22.98 39 P **P 22 11 53.6 +0.5**
ANM Nome 22.98 39 P **P 22 11 53.6 +0.5**
ANM pmax pmax
comp=Z,10µm,2.0s
ANM Nome 22.98 39 P **P 22 11 54.2 +1.1**
baz=249,SNR=182
ANM S **S 22 16 05.1 +2.4**
baz=249
J14K Nanvaranak Lak 23.18 44 IAmb IAmb 22 11 58.5
comp=Z,824nm,1.2s
J14K Nanvaranak Lak 23.18 44 P **P 22 11 55.5 +0.5**
baz=255,SNR=172
J14K S **S 22 16 06.7 +0.7**
baz=255
L14K Kuka Creek 23.26 48 IAmb IAmb 22 11 59.8
comp=Z,608nm,0.9s
L14K IAMs_20 IAMs_20 22 20 42.4
comp=Z,24µm,19.0s
L14K Kuka Creek 23.26 48 P **P 22 11 56.9 +1.0**
baz=259,SNR=293
L14K S **S 22 16 11.6 +4.3**
baz=259
JWT Wachi 23.40 239 P **P 22 11 57.4 -0.2**
M14K Bethel 23.50 49 P **P 22 11 59.1 +0.8**
baz=261,SNR=209
M14K S **S 22 16 15.3 +4.0**
baz=261
N14K Kuskokwak Cree 23.52 51 P **P 22 11 59.3 +0.7**
baz=264,SNR=184
N14K S **S 22 16 13.8 +2.2**
baz=264
G15K Niukluk 23.67 38 P **P 22 12 00.8 +0.9**
baz=249
G15K S **S 22 16 16.3 +2.4**
baz=249
O14K Tigyukauivet M 23.67 53 IAmb IAmb 22 12 02.9
comp=Z,712nm,1.2s
O14K Tigyukauivet M 23.67 53 P **P 22 12 01.1 +1.1**
baz=265,SNR=47
O14K S **S 22 16 17.1 +3.1**
baz=265
F15K North Star Dit 23.70 37 P **P 22 12 01.6 +1.3**
baz=247
F15K S **S 22 16 15.5 +1.0**
baz=247
L15K Ungalak Mounta 23.88 47 P **P 22 12 03.1 +1.1**
baz=260,SNR=239
L15K S **S 22 16 19.5 +2.1**
baz=260
K15K Wolf Creek Mou 23.98 46 IAmb IAmb 22 12 06.4
comp=Z,1µm,1.3s
K15K IAMs_20 IAMs_20 22 21 24.5
comp=Z,27µm,18.0s
K15K Wolf Creek Mou 23.98 46 P **P 22 12 04.4 +1.4**
baz=258,SNR=189
K15K S **S 22 16 21.6 +2.6**
baz=258
SDPT Sand Point 24.10 63 P **P 22 12 03.0 -1.1**
SDPT Sand Point 24.10 63 P **P 22 12 03.8 -0.3**
SDPT Sand Point 24.10 63 P **P 22 12 01.7 -2.4**
baz=275,SNR=7.4
SDPT S **S 22 16 25.2 +4.2**
baz=275
M15K Kasigluk River 24.11 50 P **P 22 12 05.5 +1.3**
baz=263,SNR=583
M15K S **S 22 16 24.0 +2.9**
baz=263
H16K Elim 24.28 40 P **P 22 12 06.5 +0.9**
baz=252,SNR=202
H16K S **S 22 16 26.5 +2.8**
baz=252
CN2 Changchun 24.28 268 ⇓P **P 22 12 04.3 -1.6**
CN2 *es*P sP 22 12 11.0 +1.4
CN2 *e*S **S 22 16 19.3 -4.8**
CN2 pmax pmax
comp=Z,6µm,6.0s
CN2 LR LR
comp=Z,16µm,16.0s
CN2 LR LR
comp=Z,18µm,16.0s
CN2 LR LR
comp=Z,17µm,15.0s
JAD Aida 24.33 240 P **P 22 12 06.4 -0.1**
N15K Kwethluk River 24.35 51 IAmb IAmb 22 12 09.6
comp=Z,626nm,0.9s
N15K Kwethluk River 24.35 51 P **P 22 12 07.6 +1.2**
baz=264,SNR=258
N15K S **S 22 16 26.7 +1.8**
baz=264
O15K Ungalikthiuk R 24.40 53 P **P 22 12 07.8 +0.9**
baz=267,SNR=147
O15K S **S 22 16 26.1 +0.3**
baz=267
G16K Koyuk River 24.47 38 P **P 22 12 08.2 +0.7**
baz=251
G16K S **S 22 16 31.1 +4.3**
baz=251
S14K Fog Glacier 24.55 60 P **P 22 12 08.0 -0.3**
baz=274,SNR=8.6
S14K S **S 22 16 31.6 +3.1**
baz=274
C16K Lisburne Hills 24.59 31 IAmb IAmb 22 12 12.2
comp=Z,721nm,0.9s
C16K Lisburne Hills 24.59 31 P **P 22 12 08.6 +0.1**
baz=241,SNR=499
C16K S **S 22 16 29.2 +0.7**
baz=241
J16K Anvik River 24.61 44 IAmb IAmb 22 12 22.7
comp=Z,1µm,1.9s
J16K IAMs_20 IAMs_20 22 22 22.0
comp=Z,22µm,18.0s
J16K Anvik River 24.61 44 P **P 22 12 10.5 +1.8**
baz=257,SNR=183
J16K S **S 22 16 31.3 +2.2**
baz=257
CHNA Chernabura Isl 24.66 64 P **P 22 12 08.0 -1.2**
CHNA Chernabura Isl 24.66 64 P **P 22 12 08.2 -0.9**
baz=277,SNR=33
CHNA S **S 22 16 32.0 +2.1**
baz=277
I17K Unalakleet 24.72 42 P **P 22 12 10.1 +0.5**
I17K IAmb IAmb 22 12 14.5
comp=Z,869nm,1.4s
I17K Unalakleet 24.72 42 P **P 22 12 11.0 +1.3**
baz=256,SNR=201
I17K S **S 22 16 34.5 +3.8**
baz=256
L16K Owhat River 24.84 47 IAMs_20 IAMs_20 22 21 51.1
comp=Z,22µm,18.0s
L16K Owhat River 24.84 47 P **P 22 12 11.7 +0.9**
baz=262,SNR=141
L16K S **S 22 16 35.1 +2.4**
baz=262
JHS Saijyo 24.88 242 P **P 22 12 12.3 +0.9**
M16K Timber Creek 24.99 49 IAmb IAmb 22 12 16.6
comp=Z,1µm,1.1s
M16K Timber Creek 24.99 49 P **P 22 12 13.2 +1.0**
baz=264,SNR=470
M16K S **S 22 16 36.5 +1.3**
baz=264
HHU Hamhung 25.00 258 P **P 22 12 13.6 +1.1**
N16K Nishlik Lake 25.03 50 P **P 22 12 13.6 +1.0**
baz=265
N16K S **S 22 16 36.9 +1.0**
baz=265
D17K Noatak River 25.08 33 P **P 22 12 13.8 +0.8**
baz=245,SNR=357
D17K S **S 22 16 37.2 +0.6**
baz=245
G17K Kiwalik Mounta 25.18 38 P **P 22 12 14.9 +1.1**
baz=252
G17K S **S 22 16 38.1 -0.1**
baz=252
CHGN Chignik 25.18 60 P **P 22 12 13.6 -0.3**
CHGN IAMs_20 IAMs_20 22 21 29.1
comp=Z,22µm,20.0s
CHGN Chignik 25.18 60 P **P 22 12 14.7 +0.7**
baz=274
CHGN S **S 22 16 41.3 +3.0**
baz=274
F17K Baldwin Pennin 25.26 36 IAmb IAmb 22 12 19.5
comp=Z,858nm,0.9s
F17K Baldwin Pennin 25.26 36 P **P 22 12 15.5 +1.0**
baz=250
F17K S **S 22 16 41.7 +2.3**
baz=250
E17K Hotham Inlet 25.28 35 P **P 22 12 16.1 +1.4**
baz=248
E17K S **S 22 16 40.1 +0.4**
baz=248
RDOG Red Dog Mine 25.30 32 P **P 22 12 15.0 +0.2**
RDOG IAmb IAmb 22 12 19.4
comp=Z,722nm,0.9s
RDOG Red Dog Mine 25.30 32 P **P 22 12 15.5 +0.6**
baz=245,SNR=172
RDOG S **S 22 16 40.8 +0.8**
baz=245
J17K VABM Dome 25.31 44 P **P 22 12 15.8 +0.7**
J17K IAmb IAmb 22 12 19.5
comp=Z,550nm,1.0s
J17K IAMs_20 IAMs_20 22 22 26.4
comp=Z,22µm,18.0s
J17K VABM Dome 25.31 44 P **P 22 12 16.3 +1.2**
baz=259,SNR=234
J17K S **S 22 16 43.9 +3.7**
baz=259
O16K Kokwok River B 25.31 53 IAmb IAmb 22 12 19.4
comp=Z,530nm,1.2s
O16K Kokwok River B 25.31 53 P **P 22 12 15.8 +0.8**
baz=268,SNR=165
O16K S **S 22 16 38.3 -2.0**
baz=268
H17K Granite Mounta 25.32 40 P **P 22 12 16.4 +1.3**
baz=254,SNR=420
H17K S **S 22 16 37.7 -2.8**
baz=254
P16K Nushagak River 25.34 54 P **P 22 12 16.6 +1.2**
baz=269,SNR=88
P16K S **S 22 16 43.2 +2.4**
baz=269
C17K DeLong Mountai 25.39 31 P **P 22 12 16.6 +0.9**
baz=244
C17K S **S 22 16 42.8 +1.3**
baz=244
JMN Monobe 25.39 239 IAmb IAmb 22 12 39.2
comp=Z,477nm,1.2s
JMN Monobe 25.39 239 P **P 22 12 17.2 +1.1**
JMN Monobe 25.39 239 ⇓P **P 22 12 17.2 +1.1**
JMN Monobe 25.39 239 P **P 22 12 17.4 +1.3**
L17K Donlin 25.45 47 P **P 22 12 17.4 +1.1**
baz=262,SNR=221
L17K S **S 22 16 45.2 +2.7**
baz=262
TIXI Tiksi 25.52 338 P **P 22 12 16.5 -0.3**
TIXI Tiksi 25.52 338 LR LR 22 23 27.4
comp=Z,40µm,18.6s,baz=141,slow=39
TIXI Tiksi 25.52 338 *ce*P **P 22 12 16.3 -0.5**
TIXI pmax pmax
comp=Z,1µm,0.8s
TIXI Tiksi 25.52 338 ⇑P **P 22 12 16.3 -0.5**
K17K Iditarod 25.53 45 IAmb IAmb 22 12 22.1
comp=Z,627nm,1.0s
K17K IAMs_20 IAMs_20 22 22 15.4
comp=Z,24µm,18.0s
K17K Iditarod 25.53 45 P **P 22 12 18.3 +1.2**
baz=261,SNR=289
K17K S **S 22 16 44.3 +0.4**
baz=261
R16K Pilot Point 25.57 57 P **P 22 12 18.2 +0.7**
R16K IAMs_20 IAMs_20 22 22 33.2
comp=Z,30µm,18.0s
R16K Pilot Point 25.57 57 P **P 22 12 17.4 -0.1**
baz=272,SNR=5.5
R16K S **S 22 16 44.8 +0.3**
baz=272
M17K Holitna River 25.76 48 IAmb IAmb 22 12 24.7
comp=Z,705nm,0.8s
M17K Holitna River 25.76 48 P **P 22 12 20.5 +1.4**
baz=264,SNR=507
M17K S **S 22 16 49.8 +2.3**
baz=264
HIA Hailar 25.78 283 IAMs_20 IAMs_20 22 23 10.1
comp=Z,19µm,18.0s
N17K Nushagak Hills 25.82 50 IAmb IAmb 22 12 23.0
comp=Z,326nm,0.8s
N17K IAMs_20 IAMs_20 22 21 55.2
comp=Z,20µm,19.0s
N17K Nushagak Hills 25.82 50 P **P 22 12 20.8 +1.1**
baz=266,SNR=316
N17K S **S 22 16 49.7 +1.4**
baz=266
O17K Koliganek Bris 25.82 52 P **P 22 12 20.8 +1.1**
baz=268,SNR=262
O17K S **S 22 16 49.3 +0.8**
baz=268
E18K Tukpahlearik C 25.85 34 P **P 22 12 20.9 +1.0**
baz=249
E18K S **S 22 16 49.3 +0.6**
baz=249
F18K Selawik 25.91 36 P **P 22 12 21.4 +1.0**
baz=252,SNR=597
F18K S **S 22 16 49.3 -0.4**
baz=252
H18K Honhosa River 26.01 40 IAmb IAmb 22 12 24.3
comp=Z,433nm,0.9s
H18K IAMs_20 IAMs_20 22 23 06.0
comp=Z,19µm,19.0s
H18K Honhosa River 26.01 40 P **P 22 12 22.4 +1.0**
baz=256
H18K S **S 22 16 51.4 0.0**
baz=256
Q16K King Salmon 26.04 55 P **P 22 12 22.6 +1.0**
baz=271,SNR=56
Q16K S **S 22 16 54.1 +2.3**
baz=271
G18K Tagagawik 26.09 38 IAmb IAmb 22 12 24.9
comp=Z,325nm,0.8s
G18K Tagagawik 26.09 38 P **P 22 12 22.5 +0.4**
baz=254,SNR=345
G18K S **S 22 16 51.5 -1.1**
baz=254
C18K Utukok River 26.12 31 P **P 22 12 22.9 +0.5**
baz=246
C18K S **S 22 16 51.7 -1.5**
baz=246
P17K Kvichak River 26.15 54 P **P 22 12 23.3 +0.6**
baz=270,SNR=146
P17K S **S 22 16 55.1 +1.5**
baz=270
L18K Granite Mounta 26.21 47 IAmb IAmb 22 12 26.6
comp=Z,1µm,1.9s
L18K IAMs_20 IAMs_20 22 22 43.6
comp=Z,23µm,19.0s
L18K Granite Mounta 26.21 47 P **P 22 12 24.5 +1.3**
baz=264
L18K S **S 22 16 56.7 +2.2**
baz=264
B18K Kokolik River 26.24 30 P **P 22 12 24.5 +1.1**
baz=244,SNR=87
B18K S **S 22 16 55.0 +0.2**
baz=244
KSRS Korea Array 26.27 253 P **P 22 12 24.9 +1.0**
comp=Z,240nm,1.1s,baz=55,slow=8.4,SNR=148
KSRS PcP **PcP 22 15 50.1 +0.1**
comp=Z,70nm,1.1s,baz=16,slow=1.3,SNR=12
KSRS LR LR 22 22 31.0
comp=Z,15µm,19.2s,baz=55,slow=36
comp=Z,240nm,1.1s
KS19 Wonju Array Si 26.28 253 P **P 22 12 24.9 +0.9**
KSAR Wonju Array Be 26.30 253 P **P 22 12 24.8 +0.5**
KSAR **PcP 22 15 51.0 +0.9**
KSAR Wonju Array Be 26.30 253 P **P 22 12 24.8 +0.5**
J18K Innoko River 26.37 44 IAMs_20 IAMs_20 22 23 36.4
comp=Z,22µm,19.0s
J18K Innoko River 26.37 44 P **P 22 12 25.2 +0.6**
baz=261,SNR=179
J18K S **S 22 16 57.5 +0.5**
baz=261
SNY Shenyang 26.46 265 ⇓P **P 22 12 26.0 +0.4**
SNY S **S 22 16 59.5 +0.8**
SNY pmax pmax
comp=Z,110nm,1.3s
SNY pmax pmax
comp=Z,9µm,8.0s
SNY LR LR
comp=Z,27µm,14.1s
SNY LR LR
comp=Z,43µm,15.3s
SNY LR LR
comp=Z,38µm,15.5s
N18K Kilae Creek 26.46 50 IAmb IAmb 22 12 29.5
comp=Z,613nm,0.8s
N18K IAMs_20 IAMs_20 22 22 44.3
comp=Z,20µm,18.0s
N18K Kilae Creek 26.46 50 P **P 22 12 26.9 +1.3**
baz=267,SNR=406
N18K S **S 22 17 01.9 +3.3**
baz=267
GCSA Galena City Sc 26.53 41 P **P 22 12 26.1 +0.1**
baz=258,SNR=23
GCSA S **S 22 17 01.8 +2.3**
baz=258
M18K Stony River 26.55 48 P **P 22 12 27.2 +1.0**
baz=266,SNR=152
M18K S **S 22 17 02.0 +2.2**
baz=266
PYAG Pyongyang 26.63 258 P **P 22 12 28.7 +1.5**
PYAG S **S 22 17 04.0 +2.6**
PYAG AmB
comp=Z,16µm,5.0s
PYAG AMS AMS
comp=Z,34µm,14.1s
F19K Shaleruckik Mo 26.70 36 P **P 22 12 28.0 +0.5**
baz=253
F19K S **S 22 17 02.1 0.0**
baz=253
P18K Big Mountain, 26.77 53 P **P 22 12 29.1 +0.7**
baz=271,SNR=168
P18K S **S 22 17 05.2 +1.8**
baz=271
G19K Purcell Mounta 26.77 38 IAmb IAmb 22 12 31.1
comp=Z,366nm,0.8s
G19K Purcell Mounta 26.77 38 P **P 22 12 28.7 +0.4**
baz=255
G19K S **S 22 17 05.1 +1.7**
baz=255
O18K Koktuh Hills 26.78 52 P **P 22 12 29.4 +1.0**
baz=270,SNR=86
O18K S **S 22 17 06.5 +2.9**
baz=270
CHIR Chirikof Islan 26.79 61 P **P 22 12 28.3 -0.2**
CHIR IAmb IAmb 22 12 30.8
comp=Z,609nm,1.0s
CHIR IAMs_20 IAMs_20 22 22 11.6
comp=Z,18µm,18.0s
CHIR Chirikof Islan 26.79 61 P **P 22 12 28.8 +0.3**
CHIR Chirikof Islan 26.79 61 P **P 22 12 28.5 0.0**
baz=277,SNR=15
CHIR S **S 22 17 05.0 +1.2**
baz=277
SUJ Sinuiju 26.81 261 P **P 22 12 30.0 +1.2**
SUJ AmB
comp=Z,13µm,4.6s
SUJ AMS AMS
comp=Z,15µm,18.2s
A19K Wainwright 26.84 28 P **P 22 12 29.8 +1.0**

baz=243
A19K S **S** **22 17 05.1 +0.7**
baz=243
H19K Roundabout Mou 26.88 39 IAmb IAmb 22 12 32.5
comp=Z,736nm,0.8s
H19K Roundabout Mou 26.88 39 P **P** **22 12 30.0 +0.8**
baz=257,SNR=859
H19K S **S** **22 17 07.2 +2.2**
baz=257
Q18K Katmai Hardscr 26.90 55 P **P** **22 12 29.2 -0.4**
baz=272,SNR=77
Q18K S **S** **22 17 06.4 +0.8**
baz=272
J19K Poorman 26.93 43 P **P** **22 12 30.1 +0.4**
baz=261,SNR=308
J19K S **S** **22 17 07.7 +1.8**
baz=261
JCJ Chichijima 26.99 217 P **P** **22 12 30.2 -0.3**
JCJ IAmb IAmb 22 12 32.8
comp=Z,1μm,1.1s
JCJ Chichijima 26.99 217 LR LR 22 20 49.0
comp=Z,4μm,19.9s,baz=7.0,slow=31
JCJ Chichijima 26.99 217 ⇓P **P** **22 12 31.3 +0.8**
INCN Inchon 27.05 254 P **P** **22 12 31.9 +0.9**
INCN Inchon 27.05 254 P **P** **22 12 32.8 +1.8**
INCN P **P** **22 12 32.8 +1.8**
INCN Inchon 27.05 254 P **P** **22 12 31.9 +0.9**
INCN pmax pmax
comp=Z,458nm,1.3s
INCN Inchon 27.05 254 ⇓P **P** **22 12 32.5 +1.5**
L19K White Mountain 27.06 47 IAMs_20 IAMs_20 22 23 29.8
comp=Z,21μm,18.0s
L19K White Mountain 27.06 47 P **P** **22 12 31.9 +1.0**
baz=265,SNR=171
L19K S **S** **22 17 07.8 -0.2**
baz=265
E19K Redstone River 27.09 35 P **P** **22 12 30.8 -0.3**
E19K IAmb IAmb 22 12 35.4
comp=Z,527nm,1.0s
E19K Redstone River 27.09 35 P **P** **22 12 31.9 +0.9**
baz=253
E19K S **S** **22 17 10.2 +1.9**
baz=253
D19K Kuna River 27.11 33 P **P** **22 12 31.7 +0.4**
baz=250
D19K S **S** **22 17 08.6 -0.1**
baz=250
N19K Bonanza Creek 27.16 50 P **P** **22 12 32.9 +1.0**
baz=268,SNR=151
N19K S **S** **22 17 08.7 -1.0**
baz=268
O19K Port Alsworth 27.23 51 P **P** **22 12 33.1 +0.8**
O19K Port Alsworth 27.23 51 P **P** **22 12 33.2 +0.8**
baz=270,SNR=16
O19K S **S** **22 17 11.1 +0.5**
baz=270
R18K Karluk 27.25 57 P **P** **22 12 31.0 -1.6**
baz=275
R18K S **S** **22 17 10.2 -0.8**
baz=275
M19K Big River Lodg 27.25 48 IAmb IAmb 22 12 35.6
comp=Z,858nm,2.0s
M19K IAMs_20 IAMs_20 22 23 28.1
comp=Z,20μm,18.0s
M19K Big River Lodg 27.25 48 P **P** **22 12 33.6 +0.9**
baz=266,SNR=112
M19K S **S** **22 17 11.3 +0.2**
baz=266
HJU Haeju 27.26 256 P **P** **22 12 32.5 -0.4**
HJU S **S** **22 17 13.8 +2.4**
HJU AmB
comp=Z,16μm,6.4s
HJU AMS AMS
comp=Z,16μm,15.0s
TJN Taejon 27.31 252 P **P** **22 12 34.1 +0.8**
TJN Taejon 27.31 252 *i* P **P** **22 12 33.9 +0.6**
JTU Tsushima 27.36 246 P **P** **22 12 34.9 +1.1**
JTU Tsushima 27.36 246 ⇑P **P** **22 12 34.4 +0.6**
BOD Bodaibo 27.50 303 *e*P **P** **22 12 33.4 -1.4**
BOD pmax pmax
comp=Z,583nm,1.8s
SII Sitkinak Islan 27.50 59 P **P** **22 12 34.5 -0.4**
SII IAMs_20 IAMs_20 22 23 14.2
comp=Z,28μm,20.0s
SII Sitkinak Islan 27.50 59 P **P** **22 12 35.4 +0.5**
SII Sitkinak Islan 27.50 59 P **P** **22 12 34.3 -0.6**
baz=277,SNR=13
SII S **S** **22 17 13.6 -1.4**
baz=277
H20K Anotleneega Mo 27.51 40 P **P** **22 12 35.4 +0.5**
baz=259,SNR=459
H20K S **S** **22 17 13.4 -1.6**
baz=259
JNU Nakatsue 27.52 242 P **P** **22 12 35.3 0.0**
JNU IAmb IAmb 22 13 15.2
comp=Z,413nm,1.1s
JNU Nakatsue 27.52 242 LR LR 22 23 07.3
comp=Z,8μm,21.3s,baz=39,slow=36
JNU Nakatsue 27.52 242 P **P** **22 12 36.5 +1.2**
JNU Nakatsue 27.52 242 ⇑P **P** **22 12 35.9 +0.6**
JNU Nakatsue 27.52 242 P **P** **22 12 35.6 +0.3**
K20K Telida 27.53 44 IAmb IAmb 22 12 38.8
comp=Z,314nm,0.8s
K20K IAMs_20 IAMs_20 22 23 20.2
comp=Z,21μm,18.0s
K20K Telida 27.53 44 P **P** **22 12 35.9 +0.8**
baz=264
K20K S **S** **22 17 14.8 -0.6**
baz=264
F20K Avaraart Lake 27.53 36 P **P** **22 12 35.5 +0.4**
baz=255
F20K S **S** **22 17 14.8 -0.5**
baz=255
L20K Farewell, AK 27.54 46 P **P** **22 12 36.0 +0.8**
baz=266,SNR=128
L20K S **S** **22 17 15.5 0.0**
baz=266
I20K Naaghedeneel 27.55 41 IAmb IAmb 22 13 19.7
comp=Z,328nm,0.9s
I20K Naaghedeneel 27.55 41 P **P** **22 12 36.1 +0.8**
baz=261,SNR=121
I20K S **S** **22 17 16.1 +0.5**
baz=261
Q19K Cape Douglas, 27.59 54 P **P** **22 12 35.2 -0.5**
baz=273,SNR=8.0
Q19K S **S** **22 17 15.5 -1.0**
baz=273
J20K Nowinta River 27.60 43 IAmb IAmb 22 12 39.2
comp=Z,425nm,1.0s
J20K Nowinta River 27.60 43 P **P** **22 12 35.9 +0.2**
baz=262,SNR=434
J20K S **S** **22 17 14.9 -1.6**
baz=262
D20K Etivluk River 27.70 33 P **P** **22 12 37.0 +0.4**
baz=251
D20K S **S** **22 17 18.5 +0.5**
baz=251
E20K Nigu River 27.71 34 P **P** **22 12 36.9 +0.2**
baz=252
E20K S **S** **22 17 15.1 -3.0**
baz=252
P19K Oil Pt 27.78 53 P **P** **22 12 37.8 +0.4**
P19K Oil Pt 27.78 53 P **P** **22 12 38.3 +0.9**
baz=272,SNR=11
P19K S **S** **22 17 20.0 +0.6**
baz=272
ILSW Iliamna Southw 27.82 52 IAMs_20 IAMs_20 22 25 20.2
comp=Z,17μm,18.0s
M20K Styx River 27.85 48 P **P** **22 12 37.8 -0.2**
M20K IAMs_20 IAMs_20 22 23 47.8
comp=Z,18μm,19.0s
M20K Styx River 27.85 48 P **P** **22 12 39.5 +1.4**
baz=268,SNR=133
M20K S **S** **22 17 19.4 -1.1**
baz=268
OHAK Old Harbor 27.91 58 P **P** **22 12 38.1 -0.5**
OHAK Old Harbor 27.91 58 P **P** **22 12 38.0 -0.5**
baz=276,SNR=47
OHAK S **S** **22 17 20.2 -1.3**
baz=276
B20K Meade River 27.98 30 P **P** **22 12 39.5 +0.5**
baz=248,SNR=99
B20K S **S** **22 17 21.5 -0.7**
baz=248
MIDW Midway 28.04 134 P **P** **22 12 41.7 +1.8**
MIDW IAmb IAmb 22 12 45.7
comp=Z,1μm,1.7s
MIDW IAMs_20 IAMs_20 22 20 34.0
comp=Z,32μm,22.0s
O20K Slope Mountain 28.08 52 P **P** **22 12 40.4 +0.3**
baz=271,SNR=33
O20K S **S** **22 17 23.2 -0.9**
baz=271
KDAK Kodiak Island 28.23 56 P **P** **22 12 40.2 -1.2**
KDAK IAmb IAmb 22 12 44.8
comp=Z,501nm,1.6s
KDAK Kodiak Island 28.23 56 IAMs_20 IAMs_20 22 23 32.5
comp=Z,21μm,20.0s
KDAK Kodiak Island 28.23 56 *i* P **P** **22 12 39.7 -1.7**
KDAK pmax pmax
comp=Z,327nm,1.5s
KDAK MLR MLR
comp=Z,23μm,18.0s
KDAK Kodiak Island 28.23 56 ⇑P **P** **22 12 40.5 -0.9**
KDAK Kodiak Island 28.23 56 P **P** **22 12 40.7 -0.7**
baz=276
KDAK S **S** **22 17 25.9 -0.6**
baz=276
Q20K Shuyak Island 28.26 55 P **P** **22 12 41.2 -0.5**
baz=274,SNR=22
Q20K S **S** **22 17 27.2 +0.3**
baz=274
G21K Allakaket 28.27 38 P **P** **22 12 41.4 -0.3**
G21K Allakaket 28.27 38 P **P** **22 12 42.4 +0.7**
baz=258
G21K S **S** **22 17 25.3 -1.6**
baz=258
SYI Shuyak Island 28.27 55 P **P** **22 12 40.4 -1.3**
SPCR Spurr Chakacha 28.27 49 P **P** **22 12 42.9 +1.1**
baz=270,SNR=52
SPCR S **S** **22 17 27.8 +0.6**
baz=270
PPLA Purkeypile 28.34 46 P **P** **22 12 43.1 +0.6**
PPLA Purkeypile 28.34 46 P **P** **22 12 43.8 +1.3**
baz=267,SNR=212
PPLA S **S** **22 17 28.4 0.0**
baz=267
CHUM Lake Minchumin 28.37 44 P **P** **22 12 43.3 +0.8**
baz=265,SNR=97
CHUM S **S** **22 17 30.3 +1.9**
baz=265
H21K Melozitna Rive 28.39 40 IAmb IAmb 22 12 46.1
comp=Z,670nm,0.8s
H21K Melozitna Rive 28.39 40 P **P** **22 12 43.6 +0.8**
baz=261,SNR=1000
H21K S **S** **22 17 28.2 -0.7**
baz=261
F21K Alatna River 28.43 36 P **P** **22 12 42.6 -0.4**
F21K Alatna River 28.43 36 P **P** **22 12 43.8 +0.7**
baz=257
F21K S **S** **22 17 26.7 -2.7**
baz=257
CAST Castle Rocks 28.43 45 IAMs_20 IAMs_20 22 24 14.9
comp=Z,20μm,18.0s
CAST Castle Rocks 28.43 45 P **P** **22 12 44.2 +1.1**
baz=266,SNR=227
CAST S **S** **22 17 30.3 +0.8**
baz=266
C21K Knifeblade Rid 28.47 32 P **P** **22 12 44.0 +0.6**
baz=252
C21K S **S** **22 17 28.2 -1.8**
baz=252
E21K Killik River 28.55 34 IAmb IAmb 22 12 48.0
comp=Z,352nm,1.1s
E21K Killik River 28.55 34 P **P** **22 12 44.1 0.0**
baz=254,SNR=97
E21K S **S** **22 17 28.9 -2.4**
baz=254
HOM Homer 28.59 52 P **P** **22 12 44.9 +0.3**
HOM IAmb IAmb 22 12 48.0
comp=Z,522nm,0.8s
HOM Homer 28.59 52 P **P** **22 12 44.3 -0.2**
baz=273,SNR=15
HOM S **S** **22 17 31.2 -0.8**
baz=273
SKT Skwentna 28.61 48 P **P** **22 12 45.1 +0.4**
SKT IAMs_20 IAMs_20 22 24 02.9
comp=Z,21μm,19.0s
SKT Skwentna 28.61 48 P **P** **22 12 45.5 +0.8**
baz=269,SNR=128
SKT S **S** **22 17 34.2 +1.8**
baz=269
A21K Barrow 28.66 27 P **P** **22 12 45.3 +0.3**
baz=246,SNR=18
A21K S **S** **22 17 32.2 -0.7**
baz=246
B21K Ikpikpuk River 28.67 31 IAmb IAmb 22 12 48.5
comp=Z,428nm,0.9s
B21K Ikpikpuk River 28.67 31 P **P** **22 12 46.1 +1.0**
baz=252
B21K S **S** **22 17 35.2 +2.0**
baz=252
CIT Chita 28.77 291 *e*P **P** **22 12 46.2 -0.1**
CIT *e* 22 12 56.2
CIT *e* 22 13 32.6
CIT *e* 22 13 48.6
CIT *e* 22 15 57.2
CIT *e*S **S** **22 17 33.4 -1.7**
CIT *e* 22 18 54.2
CIT *e* 22 19 22.6
CIT pmax pmax
comp=Z,849nm,3.1s
CAPN Captain Cook N 28.79 50 P **P** **22 12 47.8 +1.5**
CAPN IAmb IAmb 22 12 51.2
comp=Z,376nm,0.8s
CAPN IAMs_20 IAMs_20 22 23 57.8
comp=Z,18μm,19.0s
CAPN Captain Cook N 28.79 50 P **P** **22 12 47.7 +1.5**
baz=271,SNR=6.6
CAPN S **S** **22 17 37.0 +1.9**
baz=271
KTH Kantishna Hill 28.96 44 IAmb IAmb 22 12 51.7
comp=Z,499nm,1.1s
KTH IAMs_20 IAMs_20 22 24 31.9
comp=Z,24μm,18.0s
BPAW Bear Paw Mtn. 28.97 43 IAMs_20 IAMs_20 22 24 15.1
comp=Z,19μm,18.0s
BPAW Bear Paw Mtn. 28.97 43 P **P** **22 12 48.8 +0.8**
baz=266,SNR=282
BPAW S **S** **22 17 39.1 +1.1**
baz=266
F22K John River 28.98 36 P **P** **22 12 48.7 +0.7**
baz=258
F22K S **S** **22 17 36.8 -1.3**
baz=258
H22K Ishtalitna Cre 29.01 39 P **P** **22 12 49.4 +1.2**
baz=262,SNR=357
H22K S **S** **22 17 38.8 +0.2**
baz=262
A22K Sinclair Lake 29.03 29 P **P** **22 12 48.9 +0.6**
baz=249
A22K S **S** **22 17 36.6 -2.1**
baz=249
BRSE Bradley Lake S 29.04 52 P **P** **22 12 47.9 -0.7**
baz=274,SNR=66
D22K Ayikyak River 29.12 33 P **P** **22 12 49.6 +0.4**
baz=255
D22K S **S** **22 17 39.7 -0.6**
baz=255
CUT Chulitna 29.21 47 IAmb IAmb 22 12 52.7
comp=Z,285nm,0.8s
CUT IAMs_20 IAMs_20 22 24 21.8
comp=Z,18μm,19.0s
CUT Chulitna 29.21 47 P **P** **22 12 49.7 -0.3**
baz=269,SNR=88
CUT S **S** **22 17 41.3 -0.4**
baz=269
TRF Thorofare Moun 29.23 45 IAmb IAmb 22 12 53.9
comp=Z,328nm,0.8s
TRF IAMs_20 IAMs_20 22 24 50.3
comp=Z,21μm,18.0s
TRF Thorofare Moun 29.23 45 P **P** **22 12 51.0 +0.6**
baz=267,SNR=382
TRF S **S** **22 17 40.9 -1.6**
baz=267
FIS Fire Island 29.24 49 IAMs_20 IAMs_20 22 25 58.6
comp=Z,19μm,18.0s
E22K Anaktuvuk Pass 29.25 35 IAmb IAmb 22 12 54.7
comp=Z,376nm,0.9s
E22K Anaktuvuk Pass 29.25 35 P **P** **22 12 51.0 +0.6**
baz=257,SNR=527
E22K S **S** **22 17 42.0 -0.4**
baz=257
SLKM Skilak Lake 29.26 51 IAMs_20 IAMs_20 22 24 15.2
comp=Z,18μm,20.0s
M22K Willow 29.28 48 P **P** **22 12 50.1 -0.5**
baz=270,SNR=17
B22K Teshekpuk Lake 29.29 30 IAmb IAmb 22 12 54.2
comp=Z,363nm,1.0s
B22K Teshekpuk Lake 29.29 30 P **P** **22 12 50.8 +0.1**
baz=252,SNR=259
B22K S **S** **22 17 44.7 +1.8**
baz=252
DL2 Dalian 29.31 262 P **P** **22 12 51.3 +0.1**
DL2 PcP **PcP** **22 15 57.3 -0.1**
DL2 S **S** **22 17 43.5 -0.3**
DL2 pmax pmax
comp=Z,190nm,1.4s
DL2 pmax pmax
comp=Z,6μm,8.4s
DL2 LR LR
comp=Z,49μm,18.0s
DL2 LR LR
comp=Z,55μm,18.9s
DL2 LR LR
comp=Z,40μm,13.9s
RC01 Rabbit Creek A 29.47 49 IAMs_20 IAMs_20 22 24 42.8
comp=Z,17μm,19.0s
RC01 Rabbit Creek A 29.47 49 P **P** **22 12 51.6 -0.8**
baz=272,SNR=40
RC01 S **S** **22 17 47.1 +1.1**
baz=272
O22K Cooper Landing 29.50 51 IAmb IAmb 22 13 03.9
comp=Z,429nm,0.7s
O22K IAMs_20 IAMs_20 22 24 22.7
comp=Z,22μm,20.0s
O22K Cooper Landing 29.50 51 P **P** **22 12 52.3 -0.4**
baz=273,SNR=10
O22K S **S** **22 17 45.6 -0.7**
baz=273
BWN Browne 29.64 43 IAMs_20 IAMs_20 22 24 55.8
comp=Z,18μm,18.0s
SEW Seward 29.66 51 P **P** **22 12 53.7 -0.4**
baz=274,SNR=20
SEW S **S** **22 17 47.0 -1.8**
baz=274
G23K Bananza Creek 29.67 38 P **P** **22 12 54.5 +0.4**
baz=262
G23K S **S** **22 17 47.5 -1.5**
baz=262
COLD Coldfoot 29.68 37 P **P** **22 12 54.5 +0.3**
baz=261,SNR=181
COLD S **S** **22 17 48.1 -0.9**
baz=261
H23K Yukon River 29.75 40 P **P** **22 12 55.7 +0.9**
baz=264
H23K S **S** **22 17 49.9 -0.3**
baz=264
PMR Palmer 29.75 48 P **P** **22 12 54.7 -0.1**
PMR Palmer 29.75 48 P **P** **22 12 54.7 -0.1**
PMR pmax pmax
comp=Z,103nm,0.8s
PMR MLR MLR
comp=Z,12μm,20.0s
PMR Palmer 29.75 48 P **P** **22 12 54.1 -0.7**
baz=272,SNR=21
PMR S **S** **22 17 49.5 -0.7**
baz=272
I23K Minto, Yukon-K 29.76 41 P **P** **22 12 54.9 +0.1**
I23K IAmb IAmb 22 12 57.7
comp=Z,293nm,0.8s
I23K Minto, Yukon-K 29.76 41 P **P** **22 12 55.5 +0.6**
baz=265,SNR=141
I23K S **S** **22 17 50.0 -0.2**
baz=265
NEA2 Nenana 29.84 42 IAmb IAmb 22 12 59.1
comp=Z,467nm,0.8s
NEA2 IAMs_20 IAMs_20 22 26 30.0
comp=Z,16μm,19.0s
NEA2 Nenana 29.84 42 P **P** **22 12 56.1 +0.5**
baz=266,SNR=554
NEA2 S **S** **22 17 51.3 -0.3**
baz=266
D23K Nanushuk River 29.84 33 IAmb IAmb 22 13 00.1
comp=Z,336nm,1.1s
D23K IAMs_20 IAMs_20 22 25 29.7
comp=Z,16μm,18.0s
D23K Nanushuk River 29.84 33 P **P** **22 12 56.5 +0.9**
baz=257
D23K S **S** **22 17 49.5 -2.0**
baz=257
GHO Glory Hole Cre 29.84 48 IAMs_20 IAMs_20 22 26 08.5
comp=Z,16μm,19.0s
MCK McKinley 29.85 44 IAmb IAmb 22 12 59.7
comp=Z,417nm,1.0s
MCK McKinley 29.85 44 P **P** **22 12 56.0 +0.2**
baz=268,SNR=366
MCK S **S** **22 17 51.5 -0.4**
baz=268
RND Reindeer 29.88 45 IAmb IAmb 22 12 59.2
comp=Z,467nm,0.8s
RND IAMs_20 IAMs_20 22 25 10.2
comp=Z,24μm,18.0s
E23K Chandalar 30.04 35 IAmb IAmb 22 13 01.4
comp=Z,520nm,1.0s
E23K Chandalar 30.04 35 P **P** **22 12 58.2 +0.7**
baz=260
E23K S **S** **22 17 53.1 -1.9**
baz=260
C23K Itkillik River 30.07 32 IAmb IAmb 22 13 01.9
comp=Z,394nm,1.2s
C23K Itkillik River 30.07 32 P **P** **22 12 58.4 +0.8**
baz=256
C23K S **S** **22 17 55.6 +0.5**
baz=256
KNK Knik Glacier 30.08 49 IAmb IAmb 22 12 59.8
comp=Z,417nm,0.8s
KNK IAMs_20 IAMs_20 22 25 20.8
comp=Z,21μm,19.0s
KNK Knik Glacier 30.08 49 P **P** **22 12 57.8 0.0**
baz=272,SNR=275
KNK S **S** **22 17 54.7 -0.8**
baz=272
SML Sawmill 30.12 48 IAMs_20 IAMs_20 22 26 27.0
comp=Z,15μm,18.0s
SML Sawmill 30.12 48 P **P** **22 12 58.2 0.0**
baz=272,SNR=1000
SML S **S** **22 17 55.7 -0.6**
baz=272
PWL Port Wells 30.17 50 IAmb IAmb 22 13 00.1
comp=Z,240nm,0.8s
PWL IAMs_20 IAMs_20 22 24 54.2
comp=Z,22μm,20.0s
PWL Port Wells 30.17 50 P **P** **22 12 58.3 -0.3**
baz=274,SNR=100
PWL S **S** **22 17 56.1 -0.8**
baz=274
TOLK Toolik Lake Re 30.17 34 IAmb IAmb 22 13 01.2
comp=Z,256nm,0.8s
TOLK Toolik Lake Re 30.17 34 P **P** **22 12 59.0 +0.5**
baz=259,SNR=310
TOLK S **S** **22 17 57.6 +0.8**
baz=259
XLT XiLinHaoTe 30.22 275 *e*P **P** **22 12 58.5 -0.8**
XLT pP sP 22 13 03.5 +0.5
XLT sP pwP 22 13 07.0 -2.8
XLT PP **PnPn** **22 13 57.3 +0.5**
XLT PcP **PcP** **22 16 00.8 +1.0**
XLT S **S** **22 17 56.0 -2.2**
XLT sS sS 22 18 02.5 +0.5
XLT pmax pmax
comp=Z,140nm,0.8s
XLT pmax pmax
comp=Z,6μm,7.7s
XLT LR LR
comp=Z,7μm,19.6s
XLT LR LR
comp=Z,32μm,19.6s
XLT LR LR
comp=Z,86μm,16.2s
WRH Wood River Hil 30.25 43 IAmb IAmb 22 13 02.7
comp=Z,352nm,0.8s
WRH IAMs_20 IAMs_20 22 25 32.0
comp=Z,15μm,18.0s
COLA College 30.38 42 P **P** **22 13 00.8 +0.5**
COLA College 30.38 42 IAMs_20 IAMs_20 22 27 05.1
comp=Z,19μm,18.0s
COLA College 30.38 42 P **P** **22 13 01.4 +1.1**
COLA College 30.38 42 *i* P **P** **22 13 00.6 +0.3**
COLA pmax pmax
comp=Z,1μm,0.8s
COLA MLR MLR

	comp=Z,19µm,18.0s						
COLA	College	30.38	42	⇓P	P	22 13 00.5	+0.3
COLA	College	30.38	42	P	P	22 13 01.2	+0.9
COLA	baz=267			S	S	22 18 00.0	+0.1
CCB	baz=267 Clear Creek Bu	30.39	42	IAmb	IAmb	22 13 03.5	
CCB	comp=Z,326nm,0.9s			IAMs_20	IAMs_20	22 26 55.5	
M23K	comp=Z,16µm,18.0s Glacier View	30.41	48	P	P	22 13 00.8	0.0
M23K	baz=272,SNR=276			S	S	22 18 00.5	-0.2
H24K	baz=272 Noodor Dome	30.43	40	P	P	22 13 01.8	+1.0
H24K	baz=265,SNR=282			S	S	22 18 01.1	+0.2
E24K	baz=265 Your Creek	30.46	35	IAmb	IAmb	22 13 05.8	
E24K	comp=Z,550nm,1.0s Your Creek	30.46	35	P	P	22 13 02.2	+1.0
E24K	baz=261,SNR=832			S	S	22 18 02.5	+1.1
D24K	baz=261 Happy Valley	30.54	33	IAmb	IAmb	22 13 04.2	
D24K	comp=Z,290nm,0.8s Happy Valley	30.54	33	P	P	22 13 02.2	+0.5
D24K	baz=259,SNR=333			S	S	22 18 03.1	+0.7
POKR	baz=259 Poker Plat Res	30.57	41	P	P	22 13 02.2	+0.2
POKR	comp=Z,19µm,18.0s			IAMs_20	IAMs_20	22 26 00.3	
POKR	Poker Plat Res	30.57	41	P	P	22 13 03.2	+1.1
POKR	baz=267,SNR=210			S	S	22 18 04.1	+1.0
SCM	baz=267 Sheep Creek Mo	30.60	48	IAmb	IAmb	22 13 06.7	
SCM	comp=Z,346nm,0.8s Sheep Creek Mo	30.60	48	P	P	22 13 02.7	+0.3
SCM	baz=273,SNR=184			S	S	22 18 03.9	+0.1
F24K	baz=273 Squaw Lake	30.61	37	P	P	22 13 02.7	+0.3
F24K	baz=263,SNR=396			S	S	22 18 03.8	+0.1
G24K	baz=263 Hadweenzic Riv	30.67	38	P	P	22 13 03.1	+0.2
G24K	comp=Z,17µm,19.0s			IAMs_20	IAMs_20	22 26 27.9	
G24K	Hadweenzic Riv	30.67	38	P	P	22 13 03.9	+1.0
G24K	baz=264			S	S	22 18 06.1	+1.4
C24K	baz=264 Franklin Bluff	30.69	32	IAmb	IAmb	22 13 05.5	
C24K	comp=Z,249nm,0.9s			IAMs_20	IAMs_20	22 26 47.1	
C24K	comp=Z,17µm,19.0s Franklin Bluff	30.69	32	P	P	22 13 03.7	+0.7
C24K	baz=258			S	S	22 18 03.9	-0.9
P23K	baz=258 Montague Islan	30.70	51	P	P	22 13 03.4	+0.1
P23K	baz=276,SNR=74			S	S	22 18 05.3	+0.2
HDA	baz=276 Harding Lake	30.75	43	IAMs_20	IAMs_20	22 25 56.1	
HDA	comp=Z,17µm,18.0s Harding Lake	30.75	43	P	P	22 13 03.2	-0.4
HDA	baz=269,SNR=139			S	S	22 18 03.4	-2.5
GLI	baz=269 Glacier Island	30.77	50	IAmb	IAmb	22 13 05.5	
GLI	comp=Z,218nm,0.8s Glacier Island	30.77	50	P	P	22 13 03.5	-0.4
GLI	baz=275,SNR=96			S	S	22 18 07.1	+0.8
IL31	baz=275	30.78	42	IAmb	IAmb	22 13 06.6	
ILAR	comp=Z,288nm,1.1s Eielson Array	30.78	42	P	P	22 13 03.1	-0.8
ILAR	Eielson Array	30.78	42	P	P	22 13 04.2	+0.3
ILAR	comp=Z,136nm,0.8s,baz=247,slow=8.1,SNR=456			PcP	PcP	22 16 00.5	-0.3
ILAR	comp=Z,5.5nm,0.5s,baz=260,slow=4.0,SNR=5.6			LR	LR	22 27 18.0	
ILAR	comp=Z,14µm,18.3s,baz=260,slow=40			P3KPbc		22 44 47.5	
ILAR	comp=Z,3.9nm,0.9s,baz=106,slow=2.6,SNR=23			P3KP		22 46 02.2	
ILAR	comp=Z,1.2nm,0.9s,baz=172,slow=2.8,SNR=4.7 Eielson Array	30.78	42	P	P	22 13 03.1	-0.8
FID	comp=Z,136nm,0.8s Port Fidalgo	31.08	50	IAMs_20	IAMs_20	22 25 22.9	
HIN	comp=Z,18µm,19.0s Hinchinbrook I	31.11	51	IAmb	IAmb	22 13 09.0	
HIN	comp=Z,244nm,0.8s			IAMs_20	IAMs_20	22 25 42.0	
H11N2	comp=Z,20µm,19.0s WAKE ISLAND Hy	31.11	167	T	T	22 45 55.0	
H11N3	baz=352,slow=76,SNR=172 WAKE ISLAND Hy	31.12	167	T	T	22 45 56.0	
H11N1	baz=352,slow=76,SNR=218 WAKE ISLAND Hy	31.12	167	T	T	22 45 56.2	
M24K	baz=352,slow=76,SNR=236 Tolsona, Glenn	31.13	47	IAmb	IAmb	22 13 10.0	
M24K	comp=Z,341nm,0.8s			IAMs_20	IAMs_20	22 25 41.5	
M24K	comp=Z,17µm,20.0s Tolsona, Glenn	31.13	47	P	P	22 13 08.0	+0.9
M24K	baz=273,SNR=146			S	S	22 18 13.7	+1.7
G25K	baz=273 Bearman Lake	31.22	38	P	P	22 13 08.6	+0.9
K24K	baz=266 Donnelly Dome	31.26	44	P	P	22 13 07.9	-0.3
K24K	baz=271,SNR=198			S	S	22 18 11.3	-2.6
KLU	baz=271 Klutina	31.29	48	IAmb	IAmb	22 13 10.9	
KLU	comp=Z,225nm,0.8s			IAMs_20	IAMs_20	22 25 41.8	
KLU	comp=Z,16µm,20.0s Klutina	31.29	48	P	P	22 13 08.8	+0.3
KLU	baz=274,SNR=217			S	S	22 18 13.9	-0.6
H25L	baz=274 Birch Creek	31.30	39	P	P	22 13 09.6	+1.1
H25L	baz=267,SNR=443			S	S	22 18 16.8	+2.4
PRP	baz=267 Porcupine Dome	31.39	41	IAmb	IAmb	22 13 12.7	
PRP	comp=Z,596nm,0.8s			IAMs_20	IAMs_20	22 26 33.8	
PRP	comp=Z,15µm,19.0s Porcupine Dome	31.39	41	P	P	22 13 10.0	+0.6
PRP	baz=268,SNR=737			S	S	22 18 17.0	+0.9
DIV	baz=268 Divide	31.39	49	IAmb	IAmb	22 13 11.7	
PAX	comp=Z,354nm,0.8s Paxson	31.42	46	P	P	22 13 09.2	-0.4
PAX	Paxson	31.42	46	P	P	22 13 09.3	-0.4
PAX	comp=Z,125nm,0.9s			pmax	pmax		
PAX	Paxson	31.42	46	P	P	22 13 09.6	0.0
PAX	baz=272,SNR=154			S	S	22 18 15.0	-1.5
D25K	baz=272 Kavik River	31.42	33	P	P	22 13 10.1	+0.5
D25K	baz=261,SNR=756			S	S	22 18 15.5	-0.9
J25K	baz=261 Salcha River,	31.43	42	IAmb	IAmb	22 13 11.4	
J25K	comp=Z,299nm,0.8s			IAMs_20	IAMs_20	22 27 29.2	
J25K	comp=Z,15µm,18.0s Salcha River,	31.43	42	P	P	22 13 08.9	-0.8
J25K	baz=270,SNR=577			S	S	22 18 14.0	-2.7
EYAK	baz=270 Cordova Ski Ar	31.46	50	P	P	22 13 10.4	+0.5
EYAK	Cordova Ski Ar	31.46	50	P	P	22 13 10.3	+0.5
EYAK	baz=276,SNR=87			S	S	22 18 17.2	+0.2
F25K	baz=276 Christian Rive	31.47	37	P	P	22 13 10.4	+0.4
F25K				IAmb	IAmb	22 13 13.3	
	comp=Z,239nm,0.9s						
F25K	Christian Rive	31.47	37	P	P	22 13 10.9	+0.9
F25K	baz=265			S	S	22 18 19.4	+2.2
FYU	baz=265 Fort Yukon	31.55	39	P	P	22 13 11.2	+0.5
E25K	Arctic Village	31.55	36	P	P	22 13 11.0	+0.3
E25K				IAmb	IAmb	22 13 14.0	
E25K	comp=Z,254nm,0.8s Arctic Village	31.55	36	P	P	22 13 11.8	+1.0
E25K	baz=264,SNR=501			S	S	22 18 20.1	+1.6
HARP	baz=264 HAARP	31.59	47	P	P	22 13 11.9	+0.8
HARP	baz=274,SNR=123			S	S	22 18 22.9	+3.8
RIDG	baz=274 Independent Ri	31.67	44	IAmb	IAmb	22 13 14.7	
RIDG	comp=Z,478nm,1.0s			IAMs_20	IAMs_20	22 26 26.6	
RIDG	comp=Z,18µm,19.0s Independent Ri	31.67	44	P	P	22 13 11.3	-0.6
RIDG	baz=272,SNR=359			S	S	22 18 20.1	-0.3
BMAR	baz=272 Burnt Mountain	31.87	37	P	P	22 13 13.9	+0.4
N25K	Chitina, Valde	31.91	48	IAmb	IAmb	22 13 17.6	
N25K	comp=Z,233nm,0.8s			IAMs_20	IAMs_20	22 26 29.2	
N25K	comp=Z,17µm,19.0s Chitina, Valde	31.91	48	P	P	22 13 14.6	+0.6
N25K	baz=275,SNR=346			S	S	22 18 24.0	-0.3
BMRM	baz=275 Bremner River	31.97	49	IAmb	IAmb	22 13 17.1	
BMRM	comp=Z,238nm,0.9s Bremner River	31.97	49	P	P	22 13 14.9	+0.4
BMRM	baz=276,SNR=111			S	S	22 18 26.8	+1.6
RAGM	baz=276 Ragged Mountai	32.01	50	IAmb	IAmb	22 13 17.6	
RAGM	comp=Z,1µm,2.0s			IAMs_20	IAMs_20	22 27 19.9	
C26K	comp=Z,16µm,18.0s Camden Bay	32.02	32	P	P	22 13 15.8	+1.0
C26K	baz=262			S	S	22 18 24.2	-1.4
DOT	baz=262 Dot Lake	32.02	44	IAmb	IAmb	22 13 16.6	
SCRK	comp=Z,194nm,0.8s Sand Creek	32.05	44	IAmb	IAmb	22 13 17.6	
SCRK	comp=Z,300nm,0.9s			IAMs_20	IAMs_20	22 26 36.4	
SCRK	comp=Z,15µm,18.0s Sand Creek	32.05	44	P	P	22 13 14.9	-0.3
SCRK	baz=272,SNR=326			S	S	22 18 25.6	-0.7
F26K	baz=272 Sheenjek River	32.05	37	P	P	22 13 15.7	+0.6
F26K	Sheenjek River	32.05	37	P	P	22 13 16.2	+1.1
F26K	baz=266			S	S	22 18 30.2	+4.0
BJI	baz=266 Beijing	32.14	268	P	P	22 13 17.0	+0.9
BJI				PcP	PcP	22 16 05.0	+0.2
BJI				S	S	22 18 27.8	-0.2
BJI				pmax	pmax		
BJI	comp=Z,27nm,1.4s			pmax	pmax		
BJI	comp=Z,3µm,5.5s			LR	LR		
BJI	comp=Z,7µm,13.4s			LR	LR		
BJI	comp=Z,6µm,14.1s			LR	LR		
BJI	comp=Z,11µm,13.5s			P	P	22 13 17.3	+1.4
G26K	Porcupine Rive	32.15	38	S	S	22 18 29.3	+1.7
G26K	baz=268			P	P	22 13 17.0	+0.7
BJT	baz=268 Baijiatuau	32.16	268		PcP	22 16 05.4	+0.5
BJT				IAMs_20	IAMs_20	22 25 54.6	
BJT	Baijiatuau	32.16	268	P	P	22 13 17.0	+0.7
BJT	comp=Z,22µm,21.0s					22 16 05.4	
BJT	Baijiatuau	32.16	268	pmax	pmax		
BJT	comp=Z,74nm,1.0s			MLR	MLR		
KAIM	comp=Z,22µm,21.0s Kayak Island	32.20	51	P	P	22 13 16.8	+0.4
KAIM				IAmb	IAmb	22 13 19.7	
KAIM	comp=Z,433nm,0.8s Kayak Island	32.20	51	P	P	22 13 17.5	+1.1
KAIM	baz=278,SNR=48			S	S	22 18 31.7	+3.1
J26L	baz=278 Joseph Creek	32.21	43	P	P	22 13 15.5	-1.1
J26L	Joseph Creek	32.21	43	P	P	22 13 15.8	-0.9
J26L	baz=272,SNR=216			S	S	22 18 27.1	-1.8
MENT	baz=272 Mentasta	32.22	46	P	P	22 13 16.7	+0.1
MENT				IAMs_20	IAMs_20	22 27 11.1	
HMT	comp=Z,16µm,19.0s Hamilton	32.22	50	P	P	22 13 16.8	+0.2
HMT				IAmb	IAmb	22 13 19.5	
H11S1	comp=Z,241nm,0.9s WAKE ISLAND Hy	32.28	168	T	T	22 47 21.5	
H11S3	baz=352 WAKE ISLAND Hy	32.30	168	T	T	22 47 15.9	
H11S2	baz=352 WAKE ISLAND Hy	32.30	168	T	T	22 47 16.4	
GLB	baz=352 Gilahina Butte	32.30	48	IAmb	IAmb	22 13 20.2	
GLB	comp=Z,313nm,1.3s			IAMs_20	IAMs_20	22 26 58.6	
I26K	comp=Z,20µm,19.0s Coal Creek Min	32.37	41	IAMs_20	IAMs_20	22 27 06.0	
I26K	comp=Z,14µm,19.0s Coal Creek Min	32.37	41	P	P	22 13 16.8	-1.1
I26K	baz=271			S	S	22 18 29.1	-2.2
L26K	baz=271 Log Cabin Wild	32.38	45	P	P	22 13 18.6	+0.5
L26K				IAMs_20	IAMs_20	22 27 07.4	
L26K	comp=Z,21µm,18.0s Log Cabin Wild	32.38	45	P	P	22 13 18.7	+0.7
L26K	baz=274,SNR=123			S	S	22 18 32.0	+0.6
C27K	baz=274 Jago River	32.40	33	P	P	22 13 18.4	+0.3
C27K				IAmb	IAmb	22 13 23.3	
C27K	comp=Z,399nm,0.9s			IAMs_20	IAMs_20	22 28 01.1	
C27K	comp=Z,20µm,21.0s Jago River	32.40	33	P	P	22 13 19.0	+0.9
C27K	baz=263			S	S	22 18 30.3	-1.2
BERG	baz=263 Berg Lake	32.49	50	P	P	22 13 18.8	-0.2
BERG				IAMs_20	IAMs_20	22 27 06.6	
SUCK	comp=Z,15µm,18.0s Suckling Hills	32.49	51	P	P	22 13 20.2	+1.1
SUCK				IAMs_20	IAMs_20	22 26 01.7	
VRDI	comp=Z,15µm,19.0s Verde Repeater	32.50	49	IAmb	IAmb	22 13 21.9	
VRDI	comp=Z,199nm,0.8s			IAMs_20	IAMs_20	22 26 30.8	
M26K	comp=Z,16µm,19.0s Nabesna, AK	32.59	46	IAmb	IAmb	22 13 23.2	
M26K	comp=Z,293nm,1.1s			IAMs_20	IAMs_20	22 26 38.1	
M26K	comp=Z,16µm,18.0s Nabesna, AK	32.59	46	P	P	22 13 21.6	+1.6
M26K	baz=275,SNR=213			S	S	22 18 34.5	-0.3
BGLC	baz=275 Bering Glacier	32.73	51	P	P	22 13 22.6	+1.5
BGLC	baz=279			S	S	22 18 39.2	+2.4
K27K	baz=279 Chicken	32.88	43	P	P	22 13 23.5	+1.2
K27K	baz=274			S	S	22 18 40.4	+1.2
WAX	baz=274 Waxell Ridge	32.90	50	IAmb	IAmb	22 13 25.7	
	comp=Z,256nm,0.8s						
WAX				IAMs_20	IAMs_20	22 26 45.3	
SNH	comp=Z,17µm,21.0s Sunshine Point	32.94	51	P	P	22 13 24.4	+1.4
SNH				IAmb	IAmb	22 13 26.5	
SNH	comp=Z,258nm,1.0s			IAMs_20	IAMs_20	22 27 48.6	
G27K	comp=Z,16µm,19.0s Doyon Strip	32.98	38	IAmb	IAmb	22 13 26.7	
G27K	comp=Z,203nm,0.9s			IAMs_20	IAMs_20	22 27 59.0	
G27K	comp=Z,13µm,19.0s Doyon Strip	32.98	38	P	P	22 13 24.4	+1.1
G27K	baz=270			S	S	22 18 42.4	+1.6
I27K	baz=270 Kandik River	33.01	40	P	P	22 13 23.1	-0.4
I27K	baz=272,SNR=242			S	S	22 18 40.3	-0.9
H27K	baz=272 Steamboat Moun	33.04	39	P	P	22 13 24.7	+0.9
H27K	baz=271,SNR=588			S	S	22 18 43.4	+1.8
E27K	baz=271 Coleen River	33.04	36	IAmb	IAmb	22 13 27.5	
E27K	comp=Z,246nm,1.0s Coleen River	33.04	36	P	P	22 13 24.8	+1.1
E27K	baz=268			S	S	22 18 42.8	+1.2
L27K	baz=268 Beaver Creek,	33.07	45	IAmb	IAmb	22 13 28.3	
L27K	comp=Z,451nm,0.8s			IAMs_20	IAMs_20	22 27 02.6	
L27K	comp=Z,21µm,18.0s Beaver Creek,	33.07	45	P	P	22 13 25.1	+1.1
L27K	baz=275,SNR=780			S	S	22 18 42.6	+0.5
BCAR	baz=275 Beaver Creek A	33.09	45	P	P	22 13 25.2	+0.9
M27K	Edge Creek, AK	33.12	46	IAmb	IAmb	22 13 29.0	
M27K	comp=Z,179nm,0.8s			IAMs_20	IAMs_20	22 26 44.9	
M27K	comp=Z,15µm,19.0s Edge Creek, AK	33.12	46	P	P	22 13 26.1	+1.4
M27K	baz=276,SNR=253			S	S	22 18 45.3	+2.3
D27M	baz=276 Malcolm River	33.33	34	IAmb	IAmb	22 13 30.0	
D27M	comp=Z,444nm,1.0s Malcolm River	33.33	34	P	P	22 13 27.4	+1.1
D27M	baz=267			S	S	22 18 48.2	+2.1
MESA	baz=267 MESA	33.38	50	P	P	22 13 27.5	+0.5
MESA				IAmb	IAmb	22 13 30.3	
MESA	comp=Z,285nm,0.8s			IAMs_20	IAMs_20	22 29 31.2	
MESA	comp=Z,18µm,18.0s MESA	33.38	50	P	P	22 13 28.3	+1.3
MESA	baz=280,SNR=72			S	S	22 18 46.6	-0.8
YAH	baz=280 Yahtse	33.45	50	IAMs_20	IAMs_20	22 27 13.0	
BVCY	comp=Z,22µm,19.0s Beaver Creek	33.58	46	P	P	22 13 29.9	+1.3
BVCY	baz=277,SNR=177			S	S	22 18 51.7	+1.6
I28M	baz=277 Miner Creek	33.72	41	IAmb	IAmb	22 13 32.9	
I28M	comp=Z,431nm,0.9s			IAMs_20	IAMs_20	22 28 06.5	
I28M	comp=Z,18µm,19.0s Miner Creek	33.72	41	P	P	22 13 30.3	+0.5
I28M	baz=273,SNR=464			S	S	22 18 52.2	-0.1
JOW	baz=273 Kunigami	33.78	238	P	P	22 13 30.5	0.0
JOW				IAmb	IAmb	22 13 33.0	
JOW	comp=Z,246nm,0.9s				PcP	22 16 09.5	-0.1
JOW	Kunigami	33.78	238	LR	LR	22 27 52.0	
JOW	comp=Z,8µm,21.8s,baz=41,slow=38						
JOW	Kunigami	33.78	238	P	P	22 13 31.9	+1.3
JOW	Kunigami	33.78	238	⇑P	P	22 13 30.8	+0.2
TIA	Tai'an	33.79	262	P	P	22 13 31.0	+0.4
TIA				PP	PP	22 14 47.5	+0.5
TIA				PcP	PcP	22 16 10.3	+0.8
TIA				S	S	22 18 57.8	+4.0
TIA				pmax	pmax		
TIA	comp=Z,280nm,1.2s			pmax	pmax		
TIA	comp=Z,7µm,5.3s			LR	LR		
TIA	comp=Z,28µm,17.3s			LR	LR		
TIA	comp=Z,18µm,15.1s			LR	LR		
TIA	comp=Z,36µm,15.1s						
E28M	Babbage River	33.82	35	IAmb	IAmb	22 13 34.3	
E28M	comp=Z,402nm,1.2s			IAMs_20	IAMs_20	22 28 54.8	
E28M	comp=Z,16µm,19.0s Babbage River	33.82	35	P	P	22 13 31.5	+1.0
E28M	baz=269			S	S	22 18 54.7	+1.1
YUK3	baz=269 Moose Creek	33.85	47	P	P	22 13 31.9	+0.8
YUK3	baz=278,SNR=558			S	S	22 18 55.2	+0.5
DAWY	baz=278 Dawson	34.06	43	IAmb	IAmb	22 13 37.4	
DAWY	comp=Z,348nm,0.8s			IAMs_20	IAMs_20	22 27 51.6	
DAWY	comp=Z,14µm,18.0s Dawson	34.06	43	P	P	22 13 33.6	+0.9
DAWY	baz=276,SNR=337			S	S	22 18 58.6	+1.1
D28M	baz=276 Stokes Point	34.12	34	P	P	22 13 33.8	+0.7
D28M	baz=269			S	S	22 18 59.1	+0.9
O28M	baz=269 Mount Upton	34.14	49	P	P	22 13 34.5	+0.8
O28M	baz=280,SNR=376			S	S	22 18 59.4	+0.2
ULN	baz=280 Ulaanbaatar	34.14	287	P	P	22 13 33.1	-0.6
ULN	Ulaanbaatar	34.14	287	IAMs_20	IAMs_20	22 27 51.0	
ULN	comp=Z,21µm,22.0s Ulaanbaatar	34.14	287	P	P	22 13 34.5	+0.8
ULN				S	S	22 18 54.3	-4.9
ULN	Ulaanbaatar	34.14	287 *ce*	P	P	22 13 33.1	-0.6
ULN	comp=Z,64nm,1.3s			pmax	pmax		
ULN	comp=Z,36µm,14.0s			MLR	MLR		
ULN	Ulaanbaatar	34.14	287	⇑P	P	22 13 33.5	-0.2
IRK	Irkutsk	34.15	295	*e*P	P	22 13 32.5	-1.1
IRK				*e*S	S	22 18 52.0	-7.1
IRK				pmax	pmax		
PCA	comp=Z,634nm,3.0s Pinnacle	34.23	50	IAmb	IAmb	22 13 37.4	
PINM	comp=Z,379nm,0.8s Pinnacle	34.23	50	P	P	22 13 35.1	+0.8
PINM	baz=281,SNR=177			S	S	22 19 01.4	+1.1
YUK8	baz=281 Steele Glacier	34.26	48	P	P	22 13 35.4	+0.7
YUK8	baz=280,SNR=131			S	S	22 19 03.9	+2.8
H29M	baz=280 Whitestone	34.32	39	IAmb	IAmb	22 13 38.2	
H29M	comp=Z,396nm,0.9s Whitestone	34.32	39	P	P	22 13 36.1	+1.3
H29M	baz=274,SNR=332			S	S	22 19 00.2	-1.1
I29M	baz=274 Ogilvie Camp,	34.40	41	P	P	22 13 36.4	+0.7
I29M				IAmb	IAmb	22 13 38.7	
I29M	comp=Z,215nm,0.8s			IAMs_20	IAMs_20	22 29 48.6	
I29M	comp=Z,16µm,18.0s Ogilvie Camp,	34.40	41	P	P	22 13 36.2	+0.5
I29M	baz=275,SNR=212			S	S	22 19 01.6	-1.2
G29M	baz=275 Pine Creek	34.42	38	P	P	22 13 37.7	+1.9

baz=273
G29M S **S** **22 19 03.4 +0.5**
baz=273
E29M Blow River 34.42 35 IAmb IAmb 22 13 41.0
comp=Z,555nm,1.1s
E29M Blow River 34.42 35 P **P** **22 13 37.3 +1.6**
baz=271
E29M S **S** **22 19 04.0 +1.1**
baz=271
J29N Klondike Camp 34.53 42 P **P** **22 13 37.5 +0.8**
baz=276,SNR=33
J29N S **S** **22 19 05.0 +0.2**
baz=276
SONM Songino Array 34.55 287 P **P** **22 13 37.4 +0.2**
SONM Songino Array 34.55 287 P **P** **22 13 36.8 -0.5**
comp=Z,15nm,0.6s,baz=73,slow=7.5,SNR=62
SONM PcP **PcP** **22 16 11.5 -0.2**
comp=Z,42nm,0.9s,baz=122,slow=1.2,SNR=11
SONM PKiKP **PKiKP** **22 23 34.3 0.0**
comp=Z,1.3nm,0.7s,baz=146,slow=2.4,SNR=2.7
SONM P3KPbc 22 44 33.6
comp=Z,0.8nm,1.0s,baz=194,slow=3.1,SNR=6.1
SONM P3KP 22 45 55.5
comp=Z,0.4nm,0.6s,baz=215,slow=1.8,SNR=1.5
comp=Z,15nm,0.6s
SONM Songino Array 34.55 287 *i*P **PKiKP** **22 23 34.3 0.0**
BCPM Bancas Point 34.56 50 P **P** **22 13 36.7 -0.4**
BCPM IAmb IAmb 22 13 39.7
comp=Z,356nm,0.8s
BCPM IAMs_20 IAMs_20 22 27 59.4
comp=Z,17μm,19.0s
HNS HongShan 34.60 266 ⇑P **P** **22 13 38.3 +0.7**
HNS PP **PP** **22 14 58.0 +2.1**
HNS PcP **PcP** **22 16 13.0 +1.2**
HNS S **S** **22 19 07.8 +1.6**
HNS pmax pmax
comp=Z,1μm,1.1s
HNS pmax pmax
comp=Z,8μm,6.0s
HNS LR LR
comp=Z,27μm,19.1s
HNS LR LR
comp=Z,32μm,18.0s
HNS LR LR
comp=Z,41μm,13.8s
HHC Hu-ho-hao-te 34.65 273 ⇑*i*P **P** **22 13 40.5 +2.4**
HHC pP sP 22 13 44.8 +3.0
HHC S **S** **22 19 05.5 -1.7**
HHC pmax pmax
comp=Z,52nm,1.1s
HHC pmax pmax
comp=Z,4μm,7.6s
HHC LR LR
comp=Z,27μm,15.0s
HHC LR LR
comp=Z,45μm,14.7s
HHC LR LR
comp=Z,55μm,15.2s
SSE Sheshan 34.67 251 P **P** **22 13 39.5 +1.3**
SSE S **S** **22 19 08.0 +0.7**
SSE pmax pmax
comp=Z,94nm,1.4s
SSE pmax pmax
comp=Z,3μm,6.2s
SSE LR LR
comp=Z,3μm,13.7s
SSE LR LR
comp=Z,7μm,13.4s
M29M Somme Creek 34.68 46 IAmb IAmb 22 13 41.4
comp=Z,966nm,1.9s
M29M IAMs_20 IAMs_20 22 28 45.3
comp=Z,17μm,19.0s
M29M Somme Creek 34.68 46 P **P** **22 13 39.8 +1.6**
baz=279,SNR=296
M29M S **S** **22 19 08.1 +0.8**
baz=279
L29M L29M 34.73 45 IAmb IAmb 22 13 42.9
comp=Z,581nm,1.0s
L29M IAMs_20 IAMs_20 22 28 21.6
comp=Z,20μm,19.0s
L29M L29M 34.73 45 P **P** **22 13 40.4 +1.8**
baz=278,SNR=656
L29M S **S** **22 19 10.2 +2.3**
baz=278
PNL Peninsula 34.74 51 P **P** **22 13 39.4 +0.8**
PNL Peninsula 34.74 51 P **P** **22 13 39.1 +0.5**
baz=282,SNR=34
PNL S **S** **22 19 10.3 +2.3**
baz=282
YUK4 Talbot Arm 34.78 48 P **P** **22 13 40.2 +1.1**
baz=280,SNR=222
YUK4 S **S** **22 19 07.5 -1.5**
baz=280
K29M Barlow Dome 34.90 43 IAmb IAmb 22 13 43.9
comp=Z,346nm,1.1s
K29M IAMs_20 IAMs_20 22 28 19.0
comp=Z,17μm,18.0s
K29M Barlow Dome 34.90 43 P **P** **22 13 41.0 +0.9**
baz=278,SNR=427
K29M S **S** **22 19 11.7 +1.0**
baz=278
EPYK Eagle Plains 34.97 39 P **P** **22 13 41.6 +1.1**
baz=275,SNR=891
EPYK S **S** **22 19 11.6 +0.1**
baz=275
YUK6 Outpost Mounta 34.99 49 P **P** **22 13 42.0 +1.0**
baz=281,SNR=132
YUK6 S **S** **22 19 13.6 +1.4**
baz=281
O29M Mount Kennedy 35.01 50 P **P** **22 13 42.1 +1.1**
baz=282,SNR=60
O29M S **S** **22 19 14.4 +2.0**
baz=282
G30M tAoh Zraii Nji 35.12 38 IAmb IAmb 22 13 45.3
comp=Z,398nm,0.9s
G30M tAoh Zraii Nji 35.12 38 P **P** **22 13 42.7 +0.8**
baz=274
G30M S **S** **22 19 15.2 +1.4**
baz=274
I30M Mount Dempster 35.22 41 IAmb IAmb 22 13 46.1
comp=Z,244nm,0.9s
I30M IAMs_20 IAMs_20 22 29 03.3
comp=Z,15μm,18.0s
I30M Mount Dempster 35.22 41 P **P** **22 13 43.5 +0.6**
baz=277,SNR=392
I30M S **S** **22 19 13.8 -1.8**
baz=277
F30M Barrier River 35.25 37 P **P** **22 13 44.6 +1.8**
baz=274
F30M S **S** **22 19 15.1 -0.5**
baz=274
J30M Hart River 35.32 42 P **P** **22 13 44.5 +0.8**
baz=278,SNR=116
J30M S **S** **22 19 15.2 -1.9**
baz=278
ZAK Zakamensk 35.41 292 *e*P **P** **22 13 44.7 +0.2**
ZAK *e* 22 16 14.2
ZAK *e* 22 19 15.2
ZAK pmax pmax
comp=Z,108nm,2.0s
HYT Haines Junctio 35.42 49 IAmb IAmb 22 13 48.0
comp=Z,340nm,0.8s
HYT IAMs_20 IAMs_20 22 28 16.0
comp=Z,18μm,19.0s
HYT Haines Junctio 35.42 49 P **P** **22 13 45.7 +1.1**
baz=282,SNR=385
HYT S **S** **22 19 17.8 -0.9**
baz=282
M30M Minto, Yukon 35.42 45 IAMs_20 IAMs_20 22 29 18.9
comp=Z,21μm,19.0s
M30M Minto, Yukon 35.42 45 P **P** **22 13 46.2 +1.7**
baz=280,SNR=128
M30M S **S** **22 19 18.1 -0.4**
baz=280
NJ2 Nanjing 35.43 255 ⇑P **P** **22 13 45.3 +0.6**
NJ2 PP **PnPn** **22 15 02.5 -0.8**
NJ2 PcP **PcP** **22 16 14.5 +0.2**
NJ2 S **S** **22 19 22.5 +3.5**
NJ2 ScS **ScS** **22 24 00.5 -3.4**
NJ2 pmax pmax
comp=Z,330nm,1.4s
NJ2 pmax pmax
comp=Z,14μm,8.9s
NJ2 LR LR
comp=Z,81μm,14.0s
NJ2 LR LR
comp=Z,36μm,13.8s
NJ2 LR LR
comp=Z,79μm,15.3s
N30M Aishikik Lake 35.49 47 P **P** **22 13 46.0 +0.9**
baz=281,SNR=83
N30M S **S** **22 19 21.4 +1.7**
baz=281
P29M Windy Craggy 35.57 51 IAmb IAmb 22 13 48.9
comp=Z,639nm,1.9s
P29M IAMs_20 IAMs_20 22 28 40.1
comp=Z,16μm,19.0s
P29M Windy Craggy 35.57 51 P **P** **22 13 46.9 +1.2**
baz=284,SNR=68
P29M S **S** **22 19 22.1 +1.3**
baz=284
MAYO Mayo, Yukon 35.66 44 P **P** **22 13 47.7 +1.3**
MAYO Mayo, Yukon 35.66 44 P **P** **22 13 47.7 +1.3**
baz=279,SNR=42
MAYO S **S** **22 19 22.3 +0.3**
baz=279
BTO Baotou 35.77 274 *e*P **P** **22 13 49.0 +1.2**
BTO pP **sP** **22 13 54.0 +2.6**
BTO sP **pwP** **22 13 56.3 -2.0**
BTO PP **PP** **22 15 09.8 +0.9**
BTO sS sS 22 19 37.0 +8.9
BTO SS **SnSn** **22 21 44.3 -2.1**
BTO pmax pmax
comp=Z,110nm,1.5s
BTO pmax pmax
comp=Z,13μm,5.8s
BTO LR LR
comp=Z,163μm,15.4s
P30M Million Dollar 35.84 50 P **P** **22 13 49.7 +1.6**
baz=283
P30M S **S** **22 19 25.5 +0.5**
baz=283
TIY Taiyuan 35.87 268 P **P** **22 13 50.0 +1.4**
TIY S **S** **22 19 27.5 +1.6**
TIY pmax pmax
comp=Z,380nm,1.5s
TIY pmax pmax
comp=Z,7μm,7.6s
TIY LR LR
comp=Z,28μm,23.4s
TIY LR LR
comp=Z,14μm,21.3s
TIY LR LR
comp=Z,19μm,20.6s
G31M Satah River 35.89 38 P **P** **22 13 49.3 +0.9**
baz=276,SNR=342
G31M S **S** **22 19 26.5 +1.1**
baz=276
H31M Peel River 35.99 40 IAmb IAmb 22 13 52.9
comp=Z,486nm,1.0s
H31M Peel River 35.99 40 P **P** **22 13 50.3 +0.9**
baz=278,SNR=434
H31M S **S** **22 19 26.7 -0.5**
baz=278
F31M Tsiigehtchic 36.04 37 IAmb IAmb 22 13 53.1
comp=Z,509nm,1.0s
F31M Tsiigehtchic 36.04 37 P **P** **22 13 50.5 +0.9**
baz=276,SNR=410
F31M S **S** **22 19 26.7 -1.1**
baz=276
INK Inuvik 36.05 35 IAmb IAmb 22 13 53.5
comp=Z,360nm,1.0s
INK Inuvik 36.05 35 P **P** **22 13 50.9 +1.2**
baz=275,SNR=399
INK S **S** **22 19 27.4 -0.3**
baz=275
N31M Braeburn, Yuko 36.10 47 IAMs_20 IAMs_20 22 30 39.9
comp=Z,14μm,18.0s
N31M Braeburn, Yuko 36.10 47 P **P** **22 13 52.1 +1.8**
baz=282,SNR=79
N31M S **S** **22 19 30.7 +1.8**
baz=282
O30N Mendenhall 36.11 48 IAMs_20 IAMs_20 22 28 47.3
comp=Z,14μm,19.0s
O30N Mendenhall 36.11 48 P **P** **22 13 52.1 +1.7**
baz=283,SNR=108
O30N S **S** **22 19 30.4 +1.3**
baz=283
PLBC Pleasant Camp 36.29 51 P **P** **22 13 53.4 +1.5**
baz=285,SNR=6.0
M31M Drury Creek, Y 36.59 46 IAmb IAmb 22 13 59.0
comp=Z,433nm,1.1s
M31M IAMs_20 IAMs_20 22 30 12.8
comp=Z,13μm,20.0s
M31M Drury Creek, Y 36.59 46 P **P** **22 13 56.5 +2.0**
baz=282,SNR=422
M31M S **S** **22 19 36.4 0.0**
baz=282
WHY Whitehorse 36.72 48 IAmb IAmb 22 14 00.5
comp=Z,318nm,0.8s
WHY IAMs_20 IAMs_20 22 29 05.2
comp=Z,20μm,19.0s
WHY Whitehorse 36.72 48 P **P** **22 13 57.6 +1.9**
baz=284,SNR=215
WHY S **S** **22 19 39.3 +0.8**
baz=284
S31K Pelican 36.76 53 P **P** **22 13 57.1 +1.3**
S31K Pelican 36.76 53 P **P** **22 13 57.3 +1.5**
baz=287,SNR=14
S31K S **S** **22 19 39.4 +0.5**
baz=287
SKAG Skagway 36.80 50 P **P** **22 13 57.6 +1.4**
SKAG IAmb IAmb 22 14 00.2
comp=Z,398nm,0.8s
SKAG IAMs_20 IAMs_20 22 29 28.6
comp=Z,11μm,19.0s
SKAG Skagway 36.80 50 P **P** **22 13 58.4 +2.2**
SKAG Skagway 36.80 50 ⇓P **P** **22 13 57.7 +1.5**
SKAG Skagway 36.80 50 P **P** **22 13 57.9 +1.7**
baz=285,SNR=126
SKAG S **S** **22 19 41.2 +1.7**
baz=285
R31K City Hall, Gus 36.88 52 P **P** **22 13 58.3 +1.5**
baz=286
R31K S **S** **22 19 44.1 +3.4**
baz=286
JMJ Miyako jima 2 37.01 239 P **P** **22 14 00.7 +2.4**
FARO Faro, Yukon 37.06 46 P **P** **22 13 59.5 +1.0**
FARO **P** **22 13 59.6 +1.0**
FARO IAMs_20 IAMs_20 22 30 18.3
comp=Z,15μm,18.0s
FARO Faro, Yukon 37.06 46 P **P** **22 14 00.1 +1.6**
baz=283,SNR=202
FARO S **S** **22 19 43.3 -0.3**
baz=283
BESE Bessie Mountai 37.28 52 P **P** **22 14 01.7 +1.3**
N32M Quiet Lake 37.45 47 P **P** **22 14 03.2 +1.4**
baz=285
N32M S **S** **22 19 50.0 +0.5**
baz=285
SIT Sitka 37.50 54 P **P** **22 14 03.3 +1.2**
SIT Sitka 37.50 54 P **P** **22 14 03.3 +1.2**
SIT pmax pmax
comp=Z,178nm,0.9s
SIT Sitka 37.50 54 P **P** **22 14 04.4 +2.3**
baz=288
SIT S **S** **22 19 52.0 +1.9**
baz=288
R32K Eaglecrest 37.54 52 P **P** **22 14 03.3 +0.8**
R32K Eaglecrest 37.54 52 P **P** **22 14 04.3 +1.8**
baz=287,SNR=33
P32M Atlin 37.56 50 P **P** **22 14 03.5 +0.7**
P32M IAMs_20 IAMs_20 22 29 52.6
comp=Z,20μm,19.0s
P32M Atlin 37.56 50 P **P** **22 14 04.0 +1.3**
baz=286,SNR=39
P32M S **S** **22 19 50.9 -0.2**
baz=286
JIS Juneau Island 37.61 52 P **P** **22 14 04.5 +1.5**
S32K Killisnoo 37.76 53 P **P** **22 14 06.2 +1.9**
baz=288,SNR=35
S32K S **S** **22 19 55.3 +1.3**
baz=288
LYN LuoYang 37.79 264 P **P** **22 14 05.5 +0.6**
LYN pP sP 22 14 10.8 +2.2
LYN S **S** **22 19 51.5 -3.5**
LYN sS sS 22 19 59.8 +0.5
LYN pmax pmax
comp=Z,290nm,1.6s
LYN LR LR
comp=Z,58μm,16.5s
LYN LR LR
comp=Z,54μm,16.8s
LYN LR LR
comp=Z,40μm,17.5s
P33M Teslin, Yukon 37.82 49 IAMs_20 IAMs_20 22 29 41.5
comp=Z,13μm,19.0s
P33M Teslin, Yukon 37.82 49 P **P** **22 14 06.8 +1.8**
baz=286,SNR=162
P33M S **S** **22 19 55.8 +0.6**
baz=286
MMPY Sheldon Lake, 37.92 45 IAmb IAmb 22 14 10.3
comp=Z,502nm,0.9s
MMPY IAMs_20 IAMs_20 22 30 02.7
comp=Z,17μm,18.0s
MMPY Sheldon Lake, 37.92 45 P **P** **22 14 07.6 +1.9**
baz=284,SNR=673
MMPY S **S** **22 19 56.9 +0.3**
baz=284
NRIK Noril'sk 38.09 327 P **P** **22 14 06.6 -0.5**
NRIK Noril'sk 38.09 327 P **P** **22 14 06.4 -0.7**
comp=Z,38nm,1.0s,baz=93,slow=9.6,SNR=32
NRIK PP **PnPn** **22 15 34.8 -0.6**
comp=Z,42nm,0.9s,baz=93,slow=5.0,SNR=9.3
NRIK LR LR 22 30 58.2
comp=Z,29μm,19.8s,baz=70,slow=38
comp=Z,38nm,1.0s
NRIK Noril'sk 38.09 327 *ce*P **P** **22 14 06.6 -0.5**
NRIK pmax pmax
comp=Z,299nm,2.5s
Q32M Nakina River 38.45 50 P **P** **22 14 11.6 +1.1**
Q32M IAmb IAmb 22 14 14.9
comp=Z,1μm,1.9s
Q32M Nakina River 38.45 50 P **P** **22 14 12.8 +2.4**
baz=288,SNR=81
Q32M S **S** **22 20 06.3 +1.3**
baz=288
A36M Sachs Harbour 38.47 29 P **P** **22 14 11.3 +1.1**
baz=277,SNR=104
A36M S **S** **22 20 04.3 -0.3**
baz=277
YOJ Yonaguni jima 38.56 242 **PcP** **22 16 23.2 -0.6**
YOJ Yonaguni jima 38.56 242 P **P** **22 14 11.5 +0.1**
GUMO Guam 38.75 204 LR LR 22 32 25.0
comp=Z,6μm,18.1s,baz=32,slow=40
T33K Petersburg 38.81 54 P **P** **22 14 15.5 +2.3**
baz=290
R33M Jennings River 38.95 49 P **P** **22 14 16.6 +2.1**
baz=288,SNR=251
R33M S **S** **22 20 13.2 +0.7**
baz=288
U33K Whale Pass 38.96 55 P **P** **22 14 16.9 +2.4**
baz=291,SNR=28
U33K S **S** **22 20 14.1 +1.8**
baz=291
TATO Taipei 39.02 244 P **P** **22 14 17.2 +1.9**
CRAG Craig 39.19 56 P **P** **22 14 17.0 +0.6**
CRAG IAMs_20 IAMs_20 22 31 34.2
comp=Z,12μm,18.0s
CRAG Craig 39.19 56 P **P** **22 14 18.5 +2.1**
CRAG Craig 39.19 56 ⇓P **P** **22 14 18.8 +2.4**
CRAG Craig 39.19 56 P **P** **22 14 18.8 +2.4**
baz=292,SNR=13
CRAG S **S** **22 20 16.4 +0.6**
baz=292
WHN Wuhan 39.26 257 ⇑P **P** **22 14 17.3 +0.1**
WHN PcP **PcP** **22 16 27.5 +1.5**
WHN S **S** **22 20 13.3 -3.9**
WHN pmax pmax
comp=Z,490nm,1.1s
WHN pmax pmax
comp=Z,14μm,6.1s
WHN LR LR
comp=Z,39μm,12.9s
WHN LR LR
comp=Z,52μm,14.3s
WHN LR LR
comp=Z,71μm,13.6s
WRAK Wrangell Islan 39.26 54 P **P** **22 14 19.1 +2.2**
baz=291,SNR=7.7
WRAK S **S** **22 20 17.6 +0.9**
baz=291
C36M Paulatuk 39.30 33 IAmb IAmb 22 14 20.7
comp=Z,646nm,0.9s
C36M Paulatuk 39.30 33 P **P** **22 14 18.2 +1.1**
baz=282,SNR=582
C36M S **S** **22 20 15.6 -1.4**
baz=282
YHNB Yeheng 39.32 244 P **P** **22 14 19.4 +1.5**
YHNB Yeheng 39.32 244 P **P** **22 14 19.0 +1.1**
S34M Telegraph Cree 39.36 52 P **P** **22 14 19.0 +1.2**
S34M Telegraph Cree 39.36 52 P **P** **22 14 20.1 +2.3**
baz=290,SNR=77
S34M S **S** **22 20 19.6 +1.4**
baz=290
TGTN Hyland Airport 39.57 46 P **P** **22 14 21.2 +1.6**
baz=288,SNR=195
TGTN S **S** **22 20 19.0 -2.5**
baz=288
NACB Ninganchiao 39.58 243 P **P** **22 14 20.7 +0.7**
NACB Ninganchiao 39.58 243 P **P** **22 14 21.7 +1.7**
DLBC Dease Lake 39.73 51 IAMs_20 IAMs_20 22 31 13.1
comp=Z,14μm,18.0s
DLBC Dease Lake 39.73 51 P **P** **22 14 22.9 +1.9**
comp=Z,99nm,0.8s,baz=303,slow=12,SNR=183
DLBC LR LR 22 31 32.9
comp=Z,11μm,18.8s,baz=298,slow=37
comp=Z,99nm,0.8s
DLBC Dease Lake 39.73 51 ⇓P **P** **22 14 22.9 +1.9**
DLBC Dease Lake 39.73 51 P **P** **22 14 23.5 +2.5**
baz=290,SNR=120
DLBC S **S** **22 20 21.7 -2.3**
baz=290
WTLY Watson Lake, Y 39.77 48 IAmb IAmb 22 14 25.7
comp=Z,328nm,0.8s
WTLY IAMs_20 IAMs_20 22 33 47.9
comp=Z,9μm,18.0s
WTLY Watson Lake, Y 39.77 48 P **P** **22 14 23.0 +1.8**
baz=289,SNR=397
WTLY S **S** **22 20 22.0 -2.5**
baz=289
V35K Ketchikan 40.04 56 P **P** **22 14 24.9 +1.4**
V35K IAMs_20 IAMs_20 22 29 56.7
comp=Z,13μm,20.0s
V35K Ketchikan 40.04 56 P **P** **22 14 25.5 +2.0**
baz=293,SNR=24
V35K S **S** **22 20 27.1 -1.4**
baz=293
T35M Bob Quinn 40.13 53 P **P** **22 14 26.0 +1.7**
T35M Bob Quinn 40.13 53 P **P** **22 14 27.1 +2.8**
baz=292,SNR=148
T35M S **S** **22 20 28.1 -1.9**
baz=292
SSLB Suanglung 40.25 243 P **P** **22 14 25.5 -0.1**
SSLB Suanglung 40.25 243 P **P** **22 14 26.8 +1.2**
YULB Yu-li 40.36 243 P **P** **22 14 25.9 -0.6**
YULB Yu-li 40.36 243 P **P** **22 14 28.1 +1.6**
XAN Xi'an 40.37 266 ⇑P **P** **22 14 27.0 +0.4**
XAN pP sP 22 14 30.5 +0.2
XAN PP **PnPn** **22 16 02.8 -0.4**
XAN PcP **PcP** **22 16 30.0 +0.4**
XAN S **S** **22 20 36.0 +1.9**
XAN ScS **ScS** **22 24 31.0 -1.2**
XAN pmax pmax
comp=Z,330nm,1.3s
XAN pmax pmax
comp=Z,10μm,6.4s
XAN LR LR
comp=Z,33μm,17.7s
XAN LR LR
comp=Z,46μm,18.4s
XAN LR LR
comp=Z,47μm,18.2s
DIB Dawson Inlet, 40.42 59 P **P** **22 14 27.5 +0.8**
DIB IAMs_20 IAMs_20 22 28 34.0
comp=Z,11μm,21.0s
U35K Hyder 40.65 54 P **P** **22 14 31.0 +2.5**
U35K IAMs_20 IAMs_20 22 30 38.7
comp=Z,10μm,18.0s
U35K Hyder 40.65 54 P **P** **22 14 30.9 +2.4**
baz=293
U35K S **S** **22 20 33.4 -4.2**
baz=293
MOBC Moresby Island 40.73 59 P **P** **22 14 30.0 +0.7**
MOBC IAMs_20 IAMs_20 22 28 42.1
comp=Z,12μm,20.0s
QZH Quanzhou 40.73 247 ⇓*i*P **P** **22 14 30.5 +1.0**
QZH PP **PP** **22 16 04.8 +1.4**
QZH S **S** **22 20 41.5 +2.1**
QZH pmax pmax
comp=Z,200nm,1.3s

QZH pmax pmax
comp=Z,6µm,8.5s
QZH LR LR
comp=Z,7µm,13.1s
QZH LR LR
comp=Z,11µm,12.9s
QZH LR LR
comp=Z,9µm,13.1s
TPUB Ta-pu 40.81 243 P **P** **22 14 30.2 -0.1**
TWGBT Beinan 40.94 242 P **P** **22 14 32.2 +1.0**
WRGLY Wrigley 41.16 42 P **P** **22 14 32.8 +0.2**
WRGLY **pP** **22 14 33.9 -1.5**
WRGLY IAmb IAmb 22 14 52.6
comp=E,749nm,0.8s
WRGLY IAMs_20 IAMs_20 22 31 51.4
comp=Z,10µm,19.0s
WRGLY Wrigley 41.16 42 P **P** **22 14 34.8 +2.1**
baz=289,SNR=257
WRGLY S **S** **22 20 43.4 -1.7**
baz=289
RUBB Prince Rupert 41.17 57 P **P** **22 14 31.4 -1.3**
KNMB Chin-men Tao 41.22 247 P **P** **22 14 33.6 +0.1**
HG4B Hotspring 41.52 60 P **P** **22 14 36.8 +1.0**
GRNB Grenville Isla 41.52 57 P **P** **22 14 36.8 +1.1**
GRNB IAmb IAmb 22 14 40.5
comp=Z,307nm,0.8s
JOHN Johnston Islan 41.55 133 P **P** **22 14 37.1 +0.8**
JOHN IAmb IAmb 22 14 39.3
comp=Z,751nm,1.4s
JOHN Johnston Islan 41.55 133 IAMs_20 IAMs_20 22 27 38.0
comp=Z,17µm,20.0s
CNSH ChangSha 41.79 256 P **P** **22 14 35.5 -2.7**
CNSH pmax pmax
comp=Z,270nm,1.1s
CNSH pmax pmax
comp=Z,5µm,6.7s
CNSH LR LR
comp=Z,18µm,14.4s
CNSH LR LR
comp=Z,15µm,14.3s
CNSH LR LR
comp=Z,16µm,15.0s
TOAD Toad River Com 41.92 49 P **P** **22 14 41.2 +2.2**
baz=293,SNR=375
TOAD S **S** **22 20 56.1 -0.3**
baz=293
KOTAN Kotaneelee Air 41.99 47 P **P** **22 14 41.4 +1.9**
baz=292,SNR=109
KOTAN S **S** **22 20 57.2 -0.2**
baz=292
LZH Lanzhou 42.34 272 ⇓P **P** **22 14 44.3 +1.5**
LZH sP pwP 22 14 52.3 -1.1
LZH PP **PP** **22 16 22.5 +1.7**
LZH PcP **PcP** **22 16 37.5 +1.4**
LZH S **S** **22 21 05.3 +1.9**
LZH pmax pmax
comp=Z,340nm,1.2s
LZH pmax pmax
comp=Z,10µm,5.2s
LZH LR LR
comp=Z,76µm,16.8s
LZH LR LR
comp=Z,58µm,15.5s
LZH LR LR
comp=Z,39µm,15.5s
KEKH Kekaha 42.34 117 P **P** **22 14 43.7 +1.0**
KEKH IAmb IAmb 22 14 46.0
comp=Z,796nm,1.4s
KEKH IAMs_20 IAMs_20 22 27 08.5
comp=Z,12µm,22.0s
ENH Enshi 42.50 261 IAmb IAmb 22 14 46.4
comp=Z,446nm,1.2s
ENH IAMs_20 IAMs_20 22 32 26.6
comp=Z,15µm,18.0s
GTA Gaotai 42.92 279 P **P** **22 14 47.3 -0.2**
GTA PcP **PcP** **22 16 40.0 +2.0**
GTA S **S** **22 21 09.8 -2.1**
GTA sS sS 22 21 18.3 +2.3
GTA pmax pmax
comp=Z,170nm,1.3s
GTA pmax pmax
comp=Z,5µm,8.4s
GTA LR LR
comp=Z,27µm,16.3s
GTA LR LR
comp=Z,32µm,14.7s
GTA LR LR
comp=Z,32µm,15.5s
BBB Bella Bella 43.26 59 P **P** **22 14 50.5 +0.7**
BBB Bella Bella 43.26 59 LR LR 22 32 32.6
comp=Z,6µm,18.1s,baz=288,slow=36
BBB Bella Bella 43.26 59 ⇓P **P** **22 14 50.8 +1.0**
KIP Kipapa 43.76 116 P **P** **22 14 55.9 +1.7**
KIP IAmb IAmb 22 14 58.6
comp=Z,963nm,1.1s
KIP Kipapa 43.76 116 *ce*P **P** **22 14 54.9 +0.7**
KIP pmax pmax
comp=Z,380nm,1.3s
HON Honolulu 43.84 116 P **P** **22 14 57.1 +2.2**
HON IAmb IAmb 22 15 02.3
comp=Z,447nm,1.0s
HON Honolulu 43.84 116 P **P** **22 14 57.1 +2.2**
HON pmax pmax
comp=Z,447nm,1.0s
HOLB Holberg 43.98 61 P **P** **22 14 56.7 +0.9**
DHH Diamond Head 44.00 116 P **P** **22 14 57.1 +0.9**
DHH Diamond Head 44.00 116 P **P** **22 14 57.1 +0.9**
ZALV Zalesovo Beam 44.23 305 P **P** **22 14 56.1 -1.5**
ZALV Zalesovo Beam 44.23 305 P **P** **22 14 57.3 -0.4**
comp=Z,44nm,0.6s,baz=61,slow=6.9,SNR=166
ZALV PcP **PcP** **22 16 41.7 -0.3**
comp=Z,73nm,0.9s,baz=41,slow=4.7,SNR=7.1
ZALV PKiKP **PKiKP** **22 23 41.7 -0.5**
comp=Z,4.3nm,0.9s,baz=99,slow=1.0,SNR=3.7
ZALV LR LR 22 34 19.7
comp=Z,14µm,18.9s,baz=72,slow=38
comp=Z,44nm,0.6s
ZALV Zalesovo Beam 44.23 305 *i* P **P** **22 14 56.2 -1.5**
ZALV pmax pmax
comp=Z,44nm,0.6s
EUNU Eureka 44.56 13 P **P** **22 15 00.5 +0.4**
EUNU IAmb IAmb 22 15 03.6
comp=Z,696nm,0.9s
EUNU Eureka 44.56 13 ⇑P **P** **22 15 00.8 +0.7**
KHLH Kahului Airpor 45.09 115 P **P** **22 15 06.2 +1.4**
YKAW3 Yellowknife Wh 45.16 41 P **P** **22 15 05.6 +0.6**
YKAW3 IAmb IAmb 22 15 08.7
comp=Z,298nm,1.1s
YKA Yellowknife Ar 45.19 41 P **P** **22 15 05.5 +0.3**
YKA Yellowknife Ar 45.19 41 P **P** **22 15 05.7 +0.5**
comp=Z,184nm,0.8s,baz=297,slow=8.1,SNR=584
YKA PKiKP **PKiKP** **22 23 42.5 -0.3**
comp=Z,1.0nm,0.7s,baz=263,slow=1.5,SNR=3.4
YKA LR LR 22 35 49.4
comp=Z,8µm,19.8s,baz=286,slow=38
YKA P3KP 22 45 35.3
comp=Z,0.1nm,0.3s,baz=174,slow=0.6,SNR=1.9
YKA PKP2ab 22 47 45.0
comp=Z,0.8nm,1.0s,baz=122,slow=4.8,SNR=4.7
comp=Z,184nm,0.8s
YKA Yellowknife Ar 45.19 41 *i* P **P** **22 15 05.6 +0.4**
YKA pmax pmax
comp=Z,182nm,0.8s
YKAW1 Yellowknife Wh 45.25 41 P **P** **22 15 06.4 +0.8**
YKAW1 IAmb IAmb 22 15 09.4
comp=Z,247nm,0.9s
GZH Guangzhou 45.26 251 P **P** **22 15 01.8 -4.4**
GZH PcP **PcP** **22 16 49.0 +3.0**
GZH S **S** **22 21 38.8 -7.1**
GZH pmax pmax
comp=Z,150nm,1.3s
GZH LR LR
comp=Z,18µm,13.3s
GZH LR LR
comp=Z,15µm,13.2s
GZH LR LR
comp=Z,28µm,13.3s
HLK Haleakala 45.30 114 P **P** **22 15 08.0 +1.2**
HLK IAmb IAmb 22 15 11.2
comp=Z,557nm,1.1s
HKC Hong Kong Obse 45.36 249 ⇑P **P** **22 15 09.0 +2.0**
HKPS Hong Kong Po S 45.40 249 P **P** **22 15 07.3 0.0**
HKPS Hong Kong Po S 45.40 249 **P** **22 15 07.4 0.0**
HKPS IAMs_20 IAMs_20 22 35 45.3
comp=Z,8µm,19.0s
GULI GuiLin 45.45 255 P **P** **22 15 08.8 +1.0**
GULI S **S** **22 21 51.3 +2.6**
GULI pmax pmax
comp=Z,100nm,1.9s
GULI LR LR
comp=Z,14µm,14.3s
GULI LR LR
comp=Z,12µm,14.2s
GULI LR LR
comp=Z,17µm,14.9s
CD2 Chengdu 45.71 267 P **P** **22 15 10.3 +0.5**
CD2 pP sP 22 15 13.3 -0.2
CD2 S **S** **22 21 53.5 +1.0**
CD2 pmax pmax
comp=Z,480nm,0.9s
CD2 pmax pmax
comp=Z,8µm,5.9s
CD2 LR LR
comp=Z,21µm,19.0s
CD2 LR LR
comp=Z,16µm,14.9s
CBB Campbell River 45.82 60 P **P** **22 15 11.7 +1.3**
RES Resolute Bay 45.83 21 P **P** **22 15 10.6 +0.5**
RES IAmb IAmb 22 15 13.2
comp=Z,200nm,0.8s
RES Resolute Bay 45.83 21 LR LR 22 38 22.8
comp=Z,2µm,18.4s,baz=302,slow=41
RES Resolute Bay 45.83 21 P **P** **22 15 10.6 +0.5**
RES pmax pmax
comp=Z,200nm,0.9s
RES Resolute Bay 45.83 21 ⇑P **P** **22 15 09.8 -0.3**
MCO Taipa Grande 45.86 249 P **P** **22 15 12.0 +1.0**
MHA Mahukona 45.94 115 P **P** **22 15 13.0 +1.4**
MHA Mahukona 45.94 115 P **P** **22 15 13.0 +1.4**
HPAH Hawaii Prepara 46.19 115 P **P** **22 15 14.6 +1.0**
OZB Mount Ozzard 46.30 61 P **P** **22 15 15.2 +1.0**
OZB Mount Ozzard 46.30 61 ⇓P **P** **22 15 15.6 +1.4**
HUH Hualalai 46.38 115 P **P** **22 15 16.9 +1.5**
HUH IAmb IAmb 22 16 02.3
comp=Z,857nm,1.8s
POHA Pohakuloa 46.50 115 P **P** **22 15 17.4 +1.2**
POHA Pohakuloa 46.50 115 **P** **22 15 17.6 +1.3**
POHA Pohakuloa 46.50 115 ⇑P **P** **22 15 17.8 +1.5**
MLOA Mauna Loa Obse 46.64 115 P **P** **22 15 18.2 +0.5**
MLOA IAmb IAmb 22 16 45.4
comp=Z,187nm,1.1s
HMH Humu'ula Sheep 46.65 115 P **P** **22 15 19.0 +1.5**
MWH Mokuaweoweo 46.67 115 P **P** **22 15 19.2 +1.2**
MLH Mauna Loa 46.79 115 P **P** **22 15 19.4 +0.8**
MLH IAMs_20 IAMs_20 22 30 36.1
comp=Z,9µm,21.0s
KHU Kahuku 46.85 115 P **P** **22 15 19.7 +0.7**
KHU IAMs_20 IAMs_20 22 29 04.7
comp=Z,13µm,22.0s
KHU Kahuku 46.85 115 P **P** **22 15 19.7 +0.7**
KHU pmax pmax
comp=Z,883nm,1.1s
KHU MLR MLR
comp=Z,13µm,22.0s
SHB Sechelt 46.87 60 ⇑P **P** **22 15 19.4 +0.6**
RSD Rainshed 46.87 115 P **P** **22 15 19.4 +0.2**
UWE Uwekahuna 46.90 115 P **P** **22 15 19.7 +0.3**
UWE IAMs_20 IAMs_20 22 30 07.0
comp=Z,10µm,21.0s
HATHI Halema'uma'u T 46.92 115 P **P** **22 15 20.6 +1.2**
HATHI IAMs_20 IAMs_20 22 29 37.4
comp=Z,12µm,22.0s
BYL Byron's Ledge 46.92 115 P **P** **22 15 20.9 +1.4**
BYL IAmb IAmb 22 15 22.8
comp=Z,619nm,1.3s
GYA Guiyang 46.93 260 ⇓P **P** **22 15 19.5 0.0**
GYA S **S** **22 22 10.3 +0.1**
GYA pmax pmax
comp=Z,24nm,0.7s
GYA pmax pmax
comp=Z,7µm,7.4s
GYA LR LR
comp=Z,24µm,16.6s
GYA LR LR
comp=Z,16µm,16.3s
GYA LR LR
comp=Z,8µm,21.7s
PUH Pauahi 46.98 115 P **P** **22 15 20.7 +0.8**
PUH IAmb IAmb 22 15 23.8
comp=Z,494nm,1.0s
PUH IAMs_20 IAMs_20 22 29 45.2
comp=Z,11µm,22.0s
HLP Hilina Pali 46.99 115 P **P** **22 15 20.9 +1.0**
HLP IAMs_20 IAMs_20 22 29 45.4
comp=Z,13µm,20.0s
JOKA Jonika Flow 47.06 114 P **P** **22 15 22.0 +1.6**
JOKA IAMs_20 IAMs_20 22 30 13.2
comp=Z,9µm,19.0s
CLRS Cowichan Lake 47.14 61 IAmb IAmb 22 15 24.5
comp=Z,246nm,0.9s
C03A Quillayute Air 47.37 62 P **P** **22 15 23.6 +1.2**
LLLB Lillooet 47.43 58 IAmb IAmb 22 15 26.5
comp=Z,242nm,1.0s
LLLB IAMs_20 IAMs_20 22 33 40.2
comp=Z,8µm,19.0s
ZSN Zaisan 47.49 297 *e*P **P** **22 15 23.5 0.0**
ZSN *e*S **S** **22 22 18.6 +1.1**
ZSN pmax pmax
comp=Z,196nm,1.3s
ZSN Zaisan 47.49 297 *e*P **P** **22 15 23.6 0.0**
comp=Z,196nm,1.3s
ZSN *e*S **S** **22 22 18.6 +1.1**
PGC Sidney 47.61 61 IAmb IAmb 22 15 27.3
comp=Z,166nm,0.9s
WMQ Urumqi 47.86 292 P **P** **22 15 27.5 +1.0**
WMQ PcS **PcS** **22 20 52.0 +1.5**
WMQ S **S** **22 22 24.0 +1.0**
WMQ SS **SS** **22 25 48.3 -2.8**
WMQ pmax pmax
comp=Z,140nm,1.5s
WMQ pmax pmax
comp=Z,10µm,5.5s
WMQ LR LR
comp=Z,47µm,15.9s
WMQ LR LR
comp=Z,19µm,14.7s
WMQ LR LR
comp=Z,18µm,24.3s
A04D Lummi Island 47.99 60 IAmb IAmb 22 15 31.2
comp=Z,207nm,0.8s
GOMU GeErMu 48.02 279 P **P** **22 15 28.3 +0.1**
GOMU pP sP 22 15 32.0 +0.1
GOMU sP pwP 22 15 36.3 -2.5
GOMU S **S** **22 22 22.5 -3.4**
GOMU pmax pmax
comp=Z,23nm,0.6s
NLWA Neilton Lookou 48.06 62 IAmb IAmb 22 15 32.2
comp=Z,279nm,0.8s
NLWA Neilton Lookou 48.06 62 ⇓P **P** **22 15 29.1 +1.1**
WISH Wishkah 48.27 63 IAmb IAmb 22 15 34.1
comp=Z,216nm,0.9s
SEM Semipalatinsk 48.44 303 *e*P **P** **22 15 30.3 -0.8**
SEM *e*S **S** **22 22 31.6 +0.3**
SEM Semipalatinsk 48.44 303 *e*P **P** **22 15 30.4 -0.8**
SEM *e*S **S** **22 22 31.7 +0.3**
SEM LR LR 22 38 10.1
RADR Rader Ridge 48.64 64 P **P** **22 15 34.1 +1.6**
RADR IAmb IAmb 22 15 36.1
comp=Z,363nm,1.3s
E03A Lebam 48.71 63 P **P** **22 15 34.2 +1.3**
E03A IAmb IAmb 22 15 36.9
comp=Z,199nm,0.9s
F03A Seaside 49.06 64 IAmb IAmb 22 15 39.7
comp=Z,260nm,0.9s
KURK Kurchatov 49.15 304 P **P** **22 15 36.1 -0.1**
KURK IAmb IAmb 22 15 38.1
comp=Z,366nm,0.7s
KURK Kurchatov 49.15 304 IAMs_20 IAMs_20 22 36 33.1
comp=Z,12µm,20.0s
KURK Kurchatov 49.15 304 P **P** **22 15 36.3 +0.1**
KURK S **S** **22 22 36.5 -4.2**
KURK Kurchatov 49.15 304 *ce*P **P** **22 15 36.2 +0.1**
KURK pmax pmax
comp=Z,290nm,0.6s
KURK MLR MLR
comp=Z,14µm,15.0s
D05A Enumclaw 49.24 62 IAmb IAmb 22 15 41.1
comp=Z,306nm,0.8s
KURBB Kurchatov Arra 49.24 304 P **P** **22 15 36.5 -0.5**
comp=Z,188nm,0.6s,baz=63,slow=7.8,SNR=511
KURBB PcP **PcP** **22 16 59.7 0.0**
comp=Z,87nm,0.7s,baz=60,slow=3.6,SNR=7.5
KURBB S S 22 22 33.0 -9.1
comp=Z,6.6nm,0.9s,baz=44,slow=19,SNR=6.9
KURBB PKiKP **PKiKP** **22 23 46.7 -0.5**
comp=Z,1.1nm,0.5s,baz=3.5,slow=3.1,SNR=1.7
KURBB LR LR 22 36 49.3
comp=Z,11µm,20.8s,baz=60,slow=37
KURBB P3KP 22 45 27.4
comp=Z,0.2nm,0.3s,baz=276,slow=0.8,SNR=1.7
KURBB PKP2ab 22 47 24.9
comp=Z,1.8nm,1.1s,baz=238,slow=4.3,SNR=5.7
KURBB P4KPbc 22 53 11.0
comp=Z,0.8nm,0.8s,baz=65,slow=3.5,SNR=5.3
comp=Z,188nm,0.6s
F04D Rainier, OR 49.29 63 P **P** **22 15 38.2 +0.8**
F04D IAmb IAmb 22 15 41.1
comp=Z,250nm,0.8s
MK31 Makanchi Array 49.32 298 IAmb IAmb 22 15 43.9
comp=Z,248nm,1.4s
MK31 Makanchi Array 49.32 298 *ce*P **P** **22 15 37.4 -0.2**
MKAR Makanchi Array 49.32 298 P **P** **22 15 37.4 -0.2**
MKAR Makanchi Array 49.32 298 P **P** **22 15 36.9 -0.8**
comp=Z,49nm,0.6s,baz=56,slow=6.8,SNR=208
MKAR S **S** **22 22 41.7 -1.6**
comp=Z,10nm,1.0s,baz=52,slow=16,SNR=4.8
MKAR LR LR 22 37 04.8
comp=Z,21µm,21.3s,baz=38,slow=37
MKAR P3KP 22 45 28.1
comp=Z,0.8nm,1.1s,baz=171,slow=4.0,SNR=3.0
MKAR P4KPbc 22 53 11.6
comp=Z,0.7nm,1.0s,baz=57,slow=5.3,SNR=4.6
comp=Z,49nm,0.6s
HEBO Mount Hebo 49.35 65 P **P** **22 15 38.9 +0.9**
HEBO IAmb IAmb 22 15 42.1
comp=Z,211nm,0.9s
MAKZ Makanchi 49.48 298 P **P** **22 15 38.4 -0.5**
MAKZ IAmb IAmb 22 15 45.4
comp=Z,645nm,1.8s
MAKZ Makanchi 49.48 298 P **P** **22 15 38.4 -0.5**
MAKZ pmax pmax
comp=Z,645nm,1.8s
MAKZ MLR MLR
comp=Z,20µm,22.0s
KBS Kingsbay 49.52 352 P **P** **22 15 39.1 +0.4**
KBS IAmb IAmb 22 15 49.1
comp=Z,730nm,1.9s
KBS IAMs_20 IAMs_20 22 36 56.3
comp=Z,8µm,19.0s
KBS Kingsbay 49.52 352 P **P** **22 15 39.1 +0.4**
KBS pmax pmax
comp=Z,730nm,1.9s
KBS MLR MLR
comp=Z,8µm,19.0s
KBS Kingsbay 49.52 352 *e*P **P** **22 15 38.5 -0.2**
KBS *e*S **S** **22 22 48.1 +2.8**
KBS Kingsbay 49.52 352 ⇑P **P** **22 15 40.0 +1.3**
TULEG Thule 49.56 13 P **P** **22 15 39.3 +0.3**
TULEG IAMs_20 IAMs_20 22 37 02.8
comp=Z,10µm,20.0s
TULEG Thule 49.56 13 *i* P **P** **22 15 38.1 -0.9**
TULEG IAmb IAmb 22 15 43.0
comp=Z,95nm,0.8s
TULEG *e*S **S** **22 22 43.1 -2.8**
TULEG Thule 49.56 13 ⇓P **P** **22 15 39.6 +0.6**
G03D McMinnville, O 49.64 65 P **P** **22 15 41.2 +1.1**
G03D IAmb IAmb 22 15 43.4
comp=Z,230nm,1.2s
SPA0 Spitsbergen Ar 49.77 351 *e*P **P** **22 15 40.8 +0.2**
SPA0 IVmB_BB 22 15 43.1
comp=Z,3µm,1.5s
SPA0 *e*PP **PP** **22 17 35.9 +1.1**
SPA0 *e*S **S** **22 22 48.2 -0.7**
SPA0 IVMs_BB IVMs_BB 22 37 34.6
comp=Z,4µm,21.8s
SPITS Spitsbergen Ar 49.77 351 P **P** **22 15 40.4 -0.3**
comp=Z,58nm,0.5s,baz=55,slow=6.2,SNR=90
SPITS LR LR 22 37 38.2
comp=Z,11µm,20.0s,baz=360,slow=37
comp=Z,58nm,0.5s
SPB2 Spitsbergen Ar 49.77 351 P **P** **22 15 40.9 +0.3**
SPB2 IAmb IAmb 22 15 50.2
comp=Z,1µm,1.9s
I02E Swisshome, OR 49.94 66 P **P** **22 15 43.2 +0.9**
I02E IAmb IAmb 22 15 46.5
comp=Z,224nm,0.9s
COR Corvallis 49.98 65 P **P** **22 15 43.5 +0.9**
COR Corvallis 49.98 65 P **P** **22 15 43.5 +0.9**
COR pmax pmax
comp=Z,189nm,1.0s
COR MLR MLR
comp=Z,5µm,18.0s
COR Corvallis 49.98 65 ⇓P **P** **22 15 44.7 +2.0**
PZH PanZhiHua 50.02 264 P **P** **22 15 43.5 +0.2**
PZH ScP **ScP** **22 20 59.5 +1.4**
PZH S **S** **22 22 53.8 +0.1**
PZH pmax pmax
comp=Z,260nm,1.4s
PZH pmax pmax
comp=Z,6µm,6.5s
PZH LR LR
comp=Z,14µm,18.4s
PZH LR LR
comp=Z,22µm,19.8s
PZH LR LR
comp=Z,20µm,18.1s
B08A Colville Reser 50.05 59 IAmb IAmb 22 15 46.0
comp=Z,254nm,1.0s
B08A IAMs_20 IAMs_20 22 38 32.8
comp=Z,7µm,19.0s
G04A Mulino 50.10 64 IAmb IAmb 22 15 47.2
comp=Z,258nm,0.8s
HOPEN Hopen 50.14 348 *e*P **P** **22 15 44.0 +0.6**
HOPEN IVmB_BB 22 15 48.6
comp=Z,4µm,2.9s
HOPEN *e*PP **PP** **22 17 39.5 +1.3**
HOPEN *e*S **S** **22 22 51.7 -2.3**
HOPEN *i* 22 31 46.7
HOPEN IVMs_BB IVMs_BB 22 42 51.6
comp=Z,5µm,15.3s
H04D Lebanon 50.34 65 P **P** **22 15 46.4 +1.0**
KMI Kunming 50.36 262 P **P** **22 15 46.3 +0.3**
KMI PP **PP** **22 17 45.0 +3.6**
KMI S **S** **22 22 58.0 -0.7**
KMI SS **SS** **22 26 28.5 -3.7**
KMI pmax pmax
comp=Z,150nm,1.6s
KMI pmax pmax
comp=Z,6µm,6.0s
KMI LR LR
comp=Z,22µm,16.5s
KMI LR LR
comp=Z,15µm,15.9s
KMI LR LR
comp=Z,16µm,13.2s
BUCK Buck Mountain 50.39 65 IAmb IAmb 22 15 49.8
comp=Z,1µm,2.0s
J01E Myrtle Point 50.45 67 IAMs_20 IAMs_20 22 31 46.8
comp=Z,7µm,18.0s
QIZ Qiongzhong 50.46 250 IAMs_20 IAMs_20 22 39 34.3
comp=Z,7µm,18.0s
QIZ Qiongzhong 50.46 250 P **P** **22 15 48.3 +1.8**
QIZ PP **PP** **22 17 44.5 +2.4**
QIZ pmax pmax
comp=Z,170nm,1.2s
QIZ pmax pmax
comp=Z,4µm,3.9s
QIZ LR LR
comp=Z,10µm,13.7s
QIZ LR LR
comp=Z,7µm,11.3s
QIZ LR LR
comp=Z,13µm,13.7s
HOOD Mount Hood Mea 50.50 64 IAmb IAmb 22 15 50.6
comp=Z,404nm,1.0s
MXC Moxie City 50.54 62 IAmb IAmb 22 15 50.0
comp=Z,732nm,1.9s
H04A Detroit Lake 50.57 65 IAmb IAmb 22 15 50.9
comp=Z,239nm,1.0s
E07A Sunnyside 50.80 61 IAmb IAmb 22 15 51.9
comp=Z,309nm,1.1s
KBO Bosley Butte 50.84 68 P **P** **22 15 51.0 +1.7**
KBO IAmb IAmb 22 15 53.3
comp=Z,763nm,1.6s
KBO IAMs_20 IAMs_20 22 34 39.3
comp=Z,7µm,19.0s
K02D Willamette Mer 50.88 67 P **P** **22 15 50.6 +1.0**

K02D IAmb IAmb 22 15 53.3
comp=Z,681nm,2.0s
HSPB Hornsund (broa 50.89 350 *e*P **P 22 15 49.4 +0.3**
HSPB *e*S **S 22 23 07.5 +3.1**
HSPB *e*L L 22 32 52.8
comp=Z,12μm,32.1s
HSPB Hornsund (broa 50.89 350 *e*P **P 22 15 49.9 +0.8**
NEEM North Greenlan 50.94 8 *i* P **P 22 15 49.8 0.0**
NEEM IAmb IAmb 22 15 52.0
comp=Z,355nm,1.1s
NEEM *e*PP **PP 22 17 51.1 +5.4**
NEEM *e*S **S 22 23 05.1 -0.6**
HAWA Hanford 51.08 61 ⇓P **P 22 15 51.4 +0.4**
F07A Phinny Hill Vi 51.15 62 IAmb IAmb 22 15 55.1
comp=Z,332nm,0.8s
L02F Cave Junction 51.28 68 IAMs_20 IAMs_20 22 35 24.0
comp=Z,8μm,18.0s
NEW Newport 51.32 58 IAmb IAmb 22 15 55.4
comp=Z,292nm,1.2s
NEW Newport 51.32 58 LR LR 22 38 15.0
comp=Z,2μm,19.9s,baz=310,slow=37
NEW P4KPbc 22 53 20.1
comp=Z,0.6nm,0.4s,baz=246,slow=2.7,SNR=4.2
NEW Newport 51.32 58 ⇓P **P 22 15 52.8 +0.1**
J04A Umpqua Nationa 51.47 66 IAmb IAmb 22 15 58.4
comp=Z,423nm,0.9s
KRPM Rodgers 51.60 69 P **P 22 15 56.6 +1.6**
KRPM IAmb IAmb 22 15 59.1
comp=Z,1μm,1.9s
E09A Wood Farm, Sta 51.78 60 IAmb IAmb 22 15 59.5
comp=Z,255nm,1.0s
JCC Jacoby Creek, 51.80 70 P **P 22 15 56.9 +0.5**
JCC IAmb IAmb 22 16 00.5
comp=Z,1μm,1.9s
DAV Davao City (W) 51.86 226 P **P 22 15 58.1 +0.9**
DAV IAmb IAmb 22 15 59.7
comp=Z,850nm,1.4s
DAV Davao City (W) 51.86 226 P **P 22 15 58.0 +0.9**
KHMM Horse Mountain 51.95 69 IAmb IAmb 22 16 01.9
comp=Z,320nm,1.2s
J05D Fort Rock, OR 51.95 65 IAmb IAmb 22 16 02.2
comp=Z,276nm,0.9s
L04D Klamath Falls 51.97 67 IAmb IAmb 22 16 02.1
comp=Z,409nm,0.9s
KMPM Mount Pierce 52.00 70 P **P 22 15 59.6 +1.6**
KMPM IAmb IAmb 22 16 02.9
comp=Z,248nm,0.9s
YBH Yreka Blue Hor 52.03 68 LR LR 22 36 00.7
comp=Z,5μm,18.7s,baz=306,slow=34
YBH P3KP 22 45 20.7
comp=Z,5.0nm,0.5s,baz=146,slow=13,SNR=3.7
BVAR Borovoye Array 52.05 310 P **P 22 15 57.6 -0.5**
comp=Z,242nm,0.6s,baz=57,slow=8.6,SNR=674
BVAR PcP **PcP 22 17 10.2 +0.2**
comp=Z,56nm,0.7s,baz=53,slow=3.3,SNR=4.1
BVAR S **S 22 23 18.6 -2.3**
comp=Z,12nm,0.9s,baz=57,slow=14,SNR=5.8
BVAR LR LR 22 39 26.9
comp=Z,20μm,21.6s,baz=51,slow=38
BVAR P3KP 22 45 21.3
comp=Z,0.5nm,0.8s,baz=186,slow=1.4,SNR=1.9
BVAR PKPPKP **P'P'df 22 46 33.5 -5.3**
comp=Z,5.2nm,1.1s,baz=222,slow=4.0,SNR=4.1
BVAR P4KPbc 22 53 24.0
comp=Z,3.7nm,0.7s,baz=71,slow=4.7,SNR=17
comp=Z,242nm,0.6s
K04D Chiloquin, OR 52.05 66 P **P 22 15 59.7 +1.3**
BRVK Borovoye 52.08 310 P **P 22 15 58.1 -0.2**
BRVK IAmb IAmb 22 15 59.9
comp=Z,269nm,0.7s
BRVK Borovoye 52.08 310 P **P 22 15 58.3 0.0**
BRVK S **S 22 23 15.7 -5.7**
BRVK Borovoye 52.08 310 *ce*P **P 22 15 58.0 -0.3**
BRVK pmax pmax
comp=Z,205nm,0.6s
BRVK MLR MLR
comp=Z,20μm,20.0s
ILON Igloolik, Nuna 52.28 23 P **P 22 16 00.5 +0.9**
KMRM Mail Ridge 52.36 70 P **P 22 16 02.2 +1.5**
KMRM IAmb IAmb 22 16 05.1
comp=Z,257nm,1.2s
SLVN Son La 52.38 258 IAMs_20 IAMs_20 22 38 30.8
comp=Z,9μm,20.0s
SLVN Son La 52.38 258 P **P 22 16 01.7 +0.7**
I07A Izee 52.47 64 P **P 22 16 02.0 +0.5**
TDK Taldyqorghan 52.56 298 *e*P **P 22 16 02.0 0.0**
TDK *e*S **S 22 23 29.6 +1.3**
TDK pmax pmax
comp=Z,343nm,0.9s
TDK MLR MLR
comp=Z,10μm,14.0s
TDK Taldyqorghan 52.56 298 *e*P **P 22 16 02.1 0.0**
comp=Z,342nm,0.9s
TDK *e*S **S 22 23 29.6 +1.3**
TDK LR LR 22 40 54.5
comp=Z,10μm,13.6s
F10A Beach Ranch, E 52.62 61 IAmb IAmb 22 16 04.2
comp=Z,498nm,1.9s
BJO1 Bjornoya 52.65 348 *e*P **P 22 16 02.9 +0.6**
BJO1 IVmBBB 22 16 03.7
comp=Z,4μm,2.5s
BJO1 *e*PP **PP 22 18 05.0 +4.1**
BJO1 *e*S **S 22 23 29.7 +1.0**
BJO1 *i* 22 33 00.4
BJO1 IVMs_BB IVMs_BB 22 46 09.0
comp=Z,7μm,11.1s
KCPM Cahto Peak 52.77 70 P **P 22 16 05.6 +1.8**
KCPM IAmb IAmb 22 16 07.7
comp=Z,753nm,1.8s
KULLO Kullorsuaq 52.82 12 *i* P **P 22 16 02.9 -0.6**
KULLO IAmb IAmb 22 16 05.8
comp=Z,252nm,1.0s
SHLS Shalkode 53.08 295 *e*P **P 22 16 04.1 -1.9**
SHLS *e*S **S 22 23 33.2 -2.4**
SHLS Shalkode 53.08 295 *e*P **P 22 16 04.2 -1.9**
SHLS *e*S **S 22 23 33.3 -2.4**
TNCH TengChong 53.11 265 P **P 22 16 07.5 +1.0**
TNCH PcP **PcP 22 17 15.5 +0.8**
TNCH S **S 22 23 36.3 -0.2**
TNCH pmax pmax
comp=Z,400nm,1.4s
TNCH pmax pmax
comp=Z,6μm,3.5s
TNCH LR LR
comp=Z,14μm,16.6s
TNCH LR LR
comp=Z,11μm,15.3s
TNCH LR LR
comp=Z,17μm,20.6s
BMO Blue Mountains 53.25 62 ⇓P **P 22 16 07.8 +0.6**
HATC Hat Creek Radi 53.34 68 IAmb IAmb 22 16 13.2
comp=Z,210nm,0.9s
UZB Uzynbulak 53.34 296 *e*P **P 22 16 07.9 -0.1**
UZB *e*S **S 22 23 40.2 +1.0**
UZB pmax pmax
comp=Z,334nm,1.8s
UZB Uzynbulak 53.34 296 *e*P **P 22 16 08.0 -0.1**
comp=Z,334nm,1.8s
UZB *e*S **S 22 23 40.3 +1.0**
MANU Manus Island 53.38 196 IAMs_20 IAMs_20 22 42 13.9
comp=Z,7μm,18.0s
ZHN Zhinishke 53.67 296 *e*P **P 22 16 10.3 0.0**
ZHN pmax pmax
comp=Z,293nm,1.9s
ZHN Zhinishke 53.67 296 *e*P **P 22 16 10.4 0.0**
comp=Z,293nm,1.9s
SATY Saty 53.75 296 *e*P **P 22 16 10.8 -0.2**
SATY *e*S **S 22 23 45.8 +1.1**
SATY pmax pmax
comp=Z,502nm,2.3s
SATY Saty 53.75 296 *e*P **P 22 16 10.9 -0.1**
comp=Z,502nm,2.3s
SATY *e*S **S 22 23 45.9 +1.1**
GDXM Geysers 53.80 71 P **P 22 16 12.9 +1.6**
GDXM IAmb IAmb 22 16 15.2
comp=Z,1μm,2.0s
GDXM IAMs_20 IAMs_20 22 36 37.8
comp=Z,9μm,18.0s
MSO Missoula 53.90 58 IAmb IAmb 22 16 14.8
comp=Z,549nm,1.4s
WVOR Wild Horse Val 53.98 65 IAmb IAmb 22 16 16.9
comp=Z,255nm,0.8s
WVOR Wild Horse Val 53.98 65 ⇓P **P 22 16 13.7 +1.0**
CHKK Chushkaly 54.07 298 *e*P **P 22 16 12.5 -0.6**
CHKK Chushkaly 54.07 298 *e*P **P 22 16 12.6 -0.6**
ORV Oroville 54.10 69 IAmb IAmb 22 16 16.9
comp=Z,158nm,0.8s
MCCM Marconi Confer 54.17 71 P **P 22 16 14.7 +0.8**
MCCM IAmb IAmb 22 16 17.0
comp=Z,190nm,1.1s
SVE Sverdlovsk 54.22 318 *ce*P **P 22 16 14.5 +0.5**
SVE *e* 22 18 15.6
SVE *e*S **S 22 23 50.0 -0.3**
SVE *e*SS **SKiKP 22 27 26.6 +2.3**
SVE pmax pmax
comp=Z,337nm,1.4s
SVE pmax pmax
comp=Z,3μm,8.8s
SVE MLR MLR
comp=Z,25μm,15.0s
SVE MLR MLR
comp=E,21μm,16.0s
KUU Kurty 54.41 298 *e*P **P 22 16 15.2 -0.4**
KUU pmax pmax
comp=Z,370nm,2.0s
KUU MLR MLR
comp=Z,16μm,14.0s
KUU Kurty 54.41 298 *e*P **P 22 16 15.2 -0.4**
comp=Z,370nm,2.0s
KUU LR LR 22 41 40.4
comp=Z,16μm,13.6s
WUS Wushi 54.44 294 IAmb IAmb 22 16 20.1
comp=Z,288nm,1.0s
MDOK Medeo 54.47 297 *e*P **P 22 16 16.0 -0.2**
MDOK *e*S **S 22 23 55.0 +0.6**
MDOK MLR MLR
comp=Z,19μm,13.0s
MDOK Medeo 54.47 297 *e*P **P 22 16 16.1 -0.2**
MDOK *e*S **S 22 23 55.1 +0.6**
MDOK LR LR 22 42 06.9
comp=Z,19μm,13.3s
AAA Alma-Ata 54.51 297 *e*P **P 22 16 16.4 0.0**
AAA pmax pmax
comp=Z,158nm,0.9s
AAA MLR MLR
comp=Z,27μm,14.0s
AAA Alma-Ata 54.51 297 *e*P **P 22 16 16.5 0.0**
comp=Z,158nm,0.9s
AAA LR LR 22 42 26.4
comp=Z,27μm,13.6s
UPNV Upernavik 54.55 12 *i* P **P 22 16 15.0 -1.2**
UPNV IAmb IAmb 22 16 19.9
comp=Z,109nm,0.9s
VADS Vadso 54.57 341 *e*P **P 22 16 15.2 -1.1**
VADS IVmBBB 22 16 17.4
comp=Z,3μm,3.9s
VADS *e*PP **PP 22 18 25.1 +6.9**
VADS *e*S **S 22 23 55.8 +1.0**
VADS *i* 22 31 57.3
VADS IVMs_BB IVMs_BB 22 43 09.1
comp=Z,6μm,17.6s
LSA Lhasa 54.58 275 P **P 22 16 19.0 +1.4**
LSA S **S 22 23 57.5 +0.6**
LSA pmax pmax
comp=Z,58nm,1.0s
LSA LR LR
comp=Z,15μm,15.8s
LSA LR LR
comp=Z,25μm,14.1s
LSA Lhasa 54.58 275 P **P 22 16 18.1 +0.5**
BEKR Beckworth 54.59 68 IAmb IAmb 22 16 21.1
comp=Z,192nm,0.9s
TNSS Tian-Shan 54.60 297 *e*P **P 22 16 16.9 -0.6**
TNSS Tian-Shan 54.60 297 *e*P **P 22 16 17.0 -0.6**
AFDM Forest Hills D 54.81 70 IAmb IAmb 22 16 21.9
comp=Z,770nm,2.0s
RABL Rabaul 54.82 190 P **P 22 16 19.5 +0.7**
RABL IAmb IAmb 22 16 21.1
comp=Z,399nm,1.0s
TARG Taragay, Kyrgy 54.93 295 P **P 22 16 20.1 +0.2**
TARG Taragay, Kyrgy 54.93 295 P **P 22 16 20.1 +0.2**
FFC Flin Flon 54.94 45 P **P 22 16 19.5 +0.2**
FFC IAmb IAmb 22 16 22.8
comp=Z,274nm,0.8s
FFC Flin Flon 54.94 45 P **P 22 16 19.5 +0.2**
FFC pmax pmax
comp=Z,274nm,0.9s
FFC MLR MLR
comp=Z,12μm,18.0s
BTLS Baital 54.98 300 *e*P **P 22 16 19.2 -0.4**
BTLS pmax pmax
comp=Z,195nm,1.6s
BTLS Baital 54.98 300 *e*P **P 22 16 19.3 -0.4**
comp=Z,195nm,1.6s
MFID Camas Ranch 54.98 62 IAmb IAmb 22 16 23.2
comp=Z,255nm,1.1s
KDJ Kajisay 55.04 296 IAmb IAmb 22 16 24.4
comp=Z,399nm,0.8s
MPK Martis Peak 55.15 69 P **P 22 16 22.8 +1.4**
MPK IAmb IAmb 22 16 25.6
comp=Z,263nm,0.9s
LVZ Lovozero 55.16 338 P **P 22 16 20.1 -0.6**
LVZ IAmb IAmb 22 16 44.3
comp=Z,348nm,1.5s
LVZ Lovozero 55.16 338 *ce*P **P 22 16 20.7 0.0**
LVZ pmax pmax
comp=Z,117nm,1.0s
LVZ MLR MLR
comp=Z,26μm,19.0s
LVZ Lovozero 55.16 338 P **P 22 16 20.0 -0.7**
comp=Z,7μmcomp=Z,124nm,1.0s
HAMF Hammerfest 55.23 344 *e*P **P 22 16 21.0 -0.1**
HAMF IVmBBB 22 16 21.8
comp=Z,4μm,3.8s
HAMF *e*S **S 22 24 03.8 +0.3**
HAMF *i* 22 32 06.6
HAMF IVMs_BB IVMs_BB 22 40 44.5
comp=Z,5μm,4.5s
JAY Jayapura 55.28 204 LR LR 22 39 01.9
comp=Z,3μm,19.0s,baz=9.5,slow=35
JAY Jayapura 55.28 204 P **P 22 16 22.6 +0.5**
NONG Nongkai 55.29 256 P **P 22 16 24.0 +1.8**
BAKI Biak 55.34 210 P **P 22 16 24.7 +2.2**
KEV Kevo 55.34 342 P **P 22 16 21.8 -0.1**
KEV Kevo 55.34 342 P **P 22 16 21.8 -0.1**
KEV pmax pmax
comp=Z,83nm,1.1s
KEV MLR MLR
comp=Z,17μm,20.0s
KEV Kevo 55.34 342 ⇓P **P 22 16 21.6 -0.4**
EGMT Eagleton 55.39 55 IAmb IAmb 22 16 26.2
comp=Z,586nm,1.1s
EGMT IAMs_20 IAMs_20 22 41 17.5
comp=Z,9μm,18.0s
CRAI Chiangrai 55.41 260 P **P 22 16 24.1 +1.0**
CRAI IAmb IAmb 22 16 26.0
comp=Z,330nm,1.5s
TKM2 Tokmak 2 55.45 297 P **P 22 16 23.6 +0.2**
SNR=138
ARTI Arti 55.45 319 P **P 22 16 22.2 -0.8**
ARTI IAmb IAmb 22 16 25.5
comp=Z,349nm,1.1s
ARTI Arti 55.45 319 LR LR 22 41 59.0
comp=Z,16μm,21.1s,baz=38,slow=38
ARTI Arti 55.45 319 *c i*P **P 22 16 22.6 -0.4**
ARTI 22 17 21.4
ARTI 22 18 22.1
ARTI PPP PPP 22 19 37.0
ARTI S **S 22 24 08.9 +1.9**
ARTI 22 26 05.9
ARTI SS **SS 22 27 46.2 -4.8**
ARTI pmax pmax
comp=Z,404nm,1.2s
ARTI MLR MLR
comp=Z,28μm,16.0s
GENI Genyem 55.49 204 P **P 22 16 24.9 +1.3**
comp=Z,9μmcomp=Z,8μmcomp=Z,320nm,1.8s
ULHL Ulahol 55.51 296 P **P 22 16 24.1 +0.3**
SNR=99
BOOM Boomskoye usch 55.52 297 P **P 22 16 24.5 +0.6**
BOOM IAmb IAmb 22 16 29.2
comp=Z,272nm,0.8s
BOOM Boomskoye usch 55.52 297 P **P 22 16 24.5 +0.6**
BOOM pmax pmax
comp=Z,272nm,0.8s
PNTR Pine Nut 55.54 69 P **P 22 16 25.3 +1.2**
PNTR IAmb IAmb 22 16 27.9
comp=Z,344nm,0.8s
DBG Daneborg 55.56 0 *i* P **P 22 16 23.6 +0.1**
DBG IAmb IAmb 22 16 31.2
comp=Z,73nm,0.8s
TAWA Tawang 55.57 273 *e*P **P 22 16 26.1 +1.5**
TAWA IAmb IAmb 22 16 31.6
comp=Z,212nm,0.7s
TAWA *e*S **S 22 24 10.9 +0.9**
TAWA IAMs_20 IAMs_20 22 34 11.4
comp=Z,2μm,15.4s
FCC Fort Churchill 55.62 37 IAmb IAmb 22 16 27.3
comp=Z,224nm,0.8s
FCC IAMs_20 IAMs_20 22 42 08.2
comp=Z,6μm,19.0s
SGDS Sogindy 55.65 298 *e*P **P 22 16 24.6 -0.1**
SGDS pmax pmax
comp=Z,399nm,2.0s
SGDS Sogindy 55.65 298 *e*P **P 22 16 24.7 -0.1**
comp=Z,399nm,2.0s
HLID Hailey 55.68 61 IAmb IAmb 22 16 28.5
comp=Z,351nm,1.3s
APA Apatity 55.71 338 ⇓*i*P **P 22 16 22.1 -2.5**
APA *i* 22 17 20.4
APA *i* 22 18 36.0
APA *i* S **S 22 24 04.0 -6.1**
APA pmax pmax
comp=Z,56nm,1.2s
APA MLR MLR
comp=Z,24μm,17.0s
CMB Columbia Colle 55.75 70 IAmb IAmb 22 16 28.9
comp=Z,803nm,1.9s
ARA0 ARCESS Array S 55.82 342 *e*P **P 22 16 25.9 +0.4**
ARA0 IVmBBB 22 16 26.6
comp=Z,2μm,2.9s
ARA0 *e*S **S 22 24 07.8 -3.7**
ARA0 *i* 22 32 13.3
ARA0 IVMs_BB IVMs_BB 22 39 45.8
comp=Z,4μm,4.6s
ARCES ARCESS Array B 55.82 342 P **P 22 16 25.1 -0.3**
comp=Z,52nm,0.7s,baz=41,slow=6.6,SNR=76
ARCES LR LR 22 45 44.5
comp=Z,13μm,18.9s,baz=29,slow=42
ARCES PKPPKP **P'P'df 22 46 27.5 -7.4**
comp=Z,7.1nm,0.8s,baz=219,slow=1.2,SNR=4.2
comp=Z,52nm,0.7s
USP Ospenovka 55.84 298 P **P 22 16 26.4 +0.4**
SNR=204
CHMS Chumysh 55.87 298 P **P 22 16 26.4 +0.1**
SNR=119
BOZ Bozeman (W) 55.93 58 IAmb IAmb 22 16 30.0
comp=Z,496nm,1.2s
BOZ Bozeman (W) 55.93 58 ⇓P **P 22 16 27.3 +0.6**
KBK Karagaybulak 55.98 298 P **P 22 16 27.6 +0.4**
SNR=129
UBPT Khong Chiam 55.99 252 P **P 22 16 28.2 +0.9**
WAKR Walker 56.01 69 IAmb IAmb 22 16 31.3
comp=Z,223nm,0.9s
NUUG Nuugaatsiaq 56.08 12 *i* P **P 22 16 26.4 -0.7**
NUUG IAmb IAmb 22 16 28.3
comp=Z,29nm,0.8s
IMP Imphal 56.17 269 *e*P **P 22 16 29.0 +0.4**
IMP IAmb IAmb 22 16 33.4
comp=Z,275nm,0.9s
IMP *e*S **S 22 24 16.6 -0.9**
AAK Ala-Archa 56.25 298 P **P 22 16 29.2 +0.2**
AAK IAmb IAmb 22 16 33.6
comp=Z,412nm,1.1s
AAK Ala-Archa 56.25 298 LR LR 22 41 37.6
comp=Z,21μm,18.1s,baz=57,slow=37
AAK Ala-Archa 56.25 298 P **P 22 16 29.4 +0.3**
AAK S **S 22 24 14.3 -4.0**
AAK Ala-Archa 56.25 298 P **P 22 16 29.2 +0.2**
SNR=408
AAK Ala-Archa 56.25 298 *ce*P **P 22 16 29.3 +0.2**
AAK pmax pmax
comp=Z,311nm,0.8s
AAK MLR MLR
comp=Z,19μm,18.0s
AAK Ala-Archa 56.25 298 *i* P **P 22 16 28.8 -0.3**
SNR=564
BBGB Big Mountain B 56.30 72 P **P 22 16 31.1 +1.6**
BBGB IAmb IAmb 22 16 35.6
comp=Z,155nm,0.8s
BBGB IAMs_20 IAMs_20 22 34 04.1
comp=Z,6μm,20.0s
RYN Ryan 56.48 68 IAmb IAmb 22 16 34.3
comp=Z,216nm,1.0s
UCH Uchtor 56.50 297 P **P 22 16 34.7 +3.4**
SNR=14
SUMG Summit 56.62 7 IAmb IAmb 22 16 45.2
comp=Z,228nm,0.8s
SUMG IAMs_20 IAMs_20 22 41 12.1
comp=Z,9μm,19.0s
SUMG Summit 56.62 7 P **P 22 16 31.9 +0.3**
SUMG Summit 56.62 7 *i* P **P 22 16 32.0 +0.4**
SUMG IAmb IAmb 22 16 35.0
comp=Z,270nm,1.1s
EKS2 Erkin-Say 56.64 298 P **P 22 16 32.0 +0.2**
SNR=422
PMPB Monarch Peak 56.68 72 P **P 22 16 33.1 +1.0**
KTK1 Kautokeino 56.70 343 *e*P **P 22 16 31.6 0.0**
KTK1 *e*S **S 22 24 24.3 +1.1**
KTK1 IVMs_BB IVMs_BB 22 35 43.1
comp=Z,3μm,6.1s
TNTI Ternate 56.71 220 P **P 22 16 33.0 +0.6**
TNTI IAmb IAmb 22 16 34.7
comp=Z,804nm,1.8s
TNTI Ternate 56.71 220 P **P 22 16 33.4 +1.0**
comp=Z,5μmcomp=Z,230nm,1.7s
NVAR Mina Array Bea 56.73 68 P **P 22 16 33.6 +0.9**
NVAR Mina Array Bea 56.73 68 P **P 22 16 33.8 +1.1**
comp=Z,102nm,0.8s,baz=294,slow=7.5,SNR=208
NVAR LR LR 22 40 42.9
comp=Z,2μm,18.0s,baz=304,slow=36
NVAR PKPPKP **P'P'df 22 46 27.0 -3.5**
comp=Z,2.5nm,0.8s,baz=138,slow=5.1,SNR=4.9
NVAR P4KPbc 22 53 42.8
comp=Z,0.7nm,0.5s,baz=292,slow=4.5,SNR=4.4
comp=Z,102nm,0.8s
JETT Jettan, Norway 56.74 344 *e*P **P 22 16 32.5 +0.5**
JETT IVmB_BB 22 16 37.3
comp=Z,6μm,12.9s
JETT *e*S **S 22 24 24.2 +0.4**
JETT *i* 22 32 35.1
JETT IVMs_BB IVMs_BB 22 44 34.4
comp=Z,5μm,6.4s
DLV Lat 56.81 246 IAMs_20 IAMs_20 22 41 58.8
comp=Z,6μm,18.0s
NV11 Mina Array Sit 56.82 68 IAmb IAmb 22 16 36.8
comp=Z,217nm,1.1s
MYLDM Lahad Datu 56.91 232 IAmb IAmb 22 16 38.1
comp=Z,614nm,1.3s
TRO Tromso 56.93 345 *e*P **P 22 16 33.4 +0.1**
TRO IVmBBB 22 16 34.5
comp=Z,3μm,2.7s
TRO *e*S **S 22 24 25.2 -0.9**
TRO *i* 22 32 31.1
TRO IVMs_BB IVMs_BB 22 41 04.2
comp=Z,6μm,17.7s
SHL Shillong 56.97 271 IAmb IAmb 22 16 39.5
comp=Z,410nm,0.9s
SHL Shillong 56.97 271 P **P 22 16 35.4 +1.0**
SNR=184
SHL Shillong 56.97 271 *e*P **P 22 16 34.4 0.0**
SHL IAmb IAmb 22 16 39.2
comp=Z,342nm,0.9s
YNM Yellowstone No 56.99 58 P **P 22 16 36.3 +1.9**
YNM IAmb IAmb 22 16 38.4
comp=Z,992nm,1.9s
YNR Norris Junctio 57.01 58 P **P 22 16 36.0 +1.4**
YNR IAmb IAmb 22 16 39.3
comp=Z,745nm,1.5s
UMMG Uummannaq 57.01 12 *i* P **P 22 16 33.4 -0.5**
UMMG IAmb IAmb 22 16 37.5
comp=Z,180nm,1.4s
ELK Elko 57.02 64 LR LR 22 39 52.5
comp=Z,4μm,19.0s,baz=312,slow=35
ELK PKPPKP 22 46 25.7
comp=Z,1.3nm,0.8s,baz=98,slow=1.4,SNR=4.3
AML Almayashu 57.03 298 P **P 22 16 35.1 +0.1**
SNR=186
YFT Old Faithful 57.09 59 P **P 22 16 36.7 +1.6**
YFT IAmb IAmb 22 16 41.9
comp=Z,425nm,0.9s
Q09A Carvers 57.13 67 IAmb IAmb 22 16 39.2
comp=Z,334nm,1.0s
Q09A IAMs_20 IAMs_20 22 38 58.8
comp=Z,6μm,18.0s
YNE Yellowstone No 57.18 58 IAmb IAmb 22 16 39.9
comp=Z,312nm,1.0s

LKWY	**Lake**	**57.26**	**58**	P	**P**	**22 16 38.0**	**+1.7**
LKWY				IAmb	IAmb	22 16 43.2	
	comp=Z,296nm,1.0s						
LKWY				IAMs_20	IAMs_20	22 44 51.2	
	comp=Z,7μm,19.0s						
LKWY	**Lake**	**57.26**	**58**	P	**P**	**22 16 38.0**	**+1.7**
LKWY				pmax	pmax		
	comp=Z,296nm,1.0s						
LKWY				MLR	MLR		
	comp=Z,7μm,19.0s						
H17A	**Grant Village**	**57.27**	**58**	P	**P**	**22 16 37.7**	**+1.3**
YMP	**Mirror Lake Pl**	**57.27**	**58**	P	**P**	**22 16 37.5**	**+1.0**
KKM	**Kota Kinabalu**	**57.35**	**235**	P	**P**	**22 16 37.3**	**+0.2**
KKM				IAmb	IAmb	22 16 40.3	
	comp=Z,304nm,1.2s						
CHTO	**Chiang Mai**	**57.35**	**260**	P	**P**	**22 16 37.7**	**+0.7**
CHTO				IAmb	IAmb	22 16 58.4	
	comp=Z,894nm,1.9s						
CHTO				IAMs_20	IAMs_20	22 41 16.4	
	comp=Z,10μm,20.0s						
CHTO	**Chiang Mai**	**57.35**	**260**	P	**P**	**22 16 37.8**	**+0.7**
CHTO				S	**S**	**22 24 32.7**	**-0.4**
CHTO	**Chiang Mai**	**57.35**	**260**	P	**P**	**22 16 37.4**	**+0.4**
CHTO	**Chiang Mai**	**57.35**	**260**	P	**P**	**22 16 37.7**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,894nm,1.9s						
CHTO				MLR	MLR		
	comp=Z,10μm,20.0s						
KSH	**Kashi**	**57.42**	**294**	P	**P**	**22 16 41.3**	**+3.9**
KSH				PP	**PP**	**22 18 47.3**	**+2.8**
KSH				S	**S**	**22 24 40.0**	**+6.2**
KSH				pmax	pmax		
	comp=Z,540nm,1.0s						
KSH				pmax	pmax		
	comp=Z,7μm,5.5s						
KSH				LR	LR		
	comp=Z,16μm,14.8s						
KSH				LR	LR		
	comp=Z,31μm,14.4s						
KSH				LR	LR		
	comp=Z,28μm,26.8s						
RLMT	**Red Lodge**	**57.51**	**57**	IAMs_20	IAMs_20	22 43 11.7	
	comp=Z,6μm,18.0s						
FXWY	**Fox Creek**	**57.52**	**59**	IAmb	IAmb	22 16 42.1	
	comp=Z,242nm,1.2s						
KIRV	**Kirov**	**57.53**	**324**	LR	LR	22 43 46.6	
	comp=Z,35μm,20.6s,baz=27,slow=39						
KIRV	**Kirov**	**57.53**	**324**	*ce*P	**P**	**22 16 37.7**	**+0.1**
MOOW	**Moose Ponds**	**57.60**	**59**	IAmb	IAmb	22 16 42.6	
	comp=Z,405nm,1.4s						
CM31	**Chiang Mai Arr**	**57.62**	**260**	P	**P**	**22 16 39.7**	**+0.9**
CM31				IAmb	IAmb	22 17 00.8	
	comp=Z,698nm,1.8s						
CMAR	**Chiang Mai Arr**	**57.62**	**260**	P	**P**	**22 16 39.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**57.62**	**260**	P	**P**	**22 16 39.9**	**+1.0**
	comp=Z,37nm,0.8s,baz=30,slow=6.9,SNR=96						
CMAR				PcP	**PcP**	**22 17 32.8**	**+0.8**
	comp=Z,57nm,0.9s,baz=34,slow=5.0,SNR=5.5						
CMAR				LR	LR	22 41 47.5	
	comp=Z,7μm,21.3s,baz=45,slow=36						
CMAR				PKPPKP	**P'P'df**	**22 46 24.9**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=244,slow=3.9,SNR=6.2						
CMAR				P4KPbc		22 53 49.8	
	comp=Z,1.2nm,0.3s,baz=43,slow=4.6,SNR=10.0						
	comp=Z,37nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.62**	**260**	P	**P**	**22 16 39.7**	**+0.8**
DSP	**Deep Springs**	**57.63**	**69**	IAmb	IAmb	22 16 42.7	
	comp=Z,916nm,1.9s						
HVU	**Hansel Valley**	**57.76**	**62**	IAmb	IAmb	22 16 43.4	
	comp=Z,328nm,1.4s						
SNOW	**Snow King Moun**	**57.78**	**59**	P	**P**	**22 16 41.5**	**+1.4**
GTK	**Tadong**	**57.84**	**275**	*e*P	**P**	**22 16 41.9**	**+1.4**
GTK				IAmb	IAmb	22 16 49.9	
	comp=Z,251nm,0.6s						
GTK				*e*S	**S**	**22 24 34.2**	**-5.4**
GTK				IAMs_20	IAMs_20	22 35 20.6	
	comp=Z,3μm,21.4s						
DGMT	**Dagmar**	**57.94**	**51**	IAMs_20	IAMs_20	22 40 51.7	
	comp=Z,11μm,20.0s						
LAO	**LASA Array**	**58.08**	**54**	IAMs_20	IAMs_20	22 41 15.8	
	comp=Z,9μm,19.0s						
GMN	**Gold Mountain**	**58.10**	**69**	P	**P**	**22 16 43.2**	**+0.9**
BGU	**Big Grassy Mou**	**58.17**	**63**	IAmb	IAmb	22 17 47.0	
	comp=Z,348nm,2.0s						
KK31	**Karatay Array**	**58.17**	**300**	IAmb	IAmb	22 16 46.0	
	comp=Z,210nm,0.9s						
KKAR	**Karatay Array**	**58.17**	**300**	P	**P**	**22 16 41.8**	**-0.7**
KKAR	**Karatay Array**	**58.17**	**300**	IAmb	IAmb	22 16 45.9	
	comp=Z,134nm,0.9s						
KKAR	**Karatay Array**	**58.17**	**300**	P	**P**	**22 16 41.8**	**-0.7**
GRAC	**Grapevine Rang**	**58.24**	**69**	P	**P**	**22 16 44.6**	**+1.5**
GRAC				IAmb	IAmb	22 16 46.8	
	comp=Z,330nm,1.2s						
FAKI	**Fak Fak**	**58.24**	**213**	P	**P**	**22 16 42.8**	**-0.3**
FAKI				IAmb	IAmb	22 16 45.4	
	comp=Z,338nm,1.0s						
FAKI	**Fak Fak**	**58.24**	**213**	P	**P**	**22 16 43.9**	**+0.8**
JPG	**JALPAIGURI**	**58.31**	**274**	*e*P	**P**	**22 16 45.0**	**+1.4**
BCW	**Bitter Crk WRg**	**58.37**	**72**	P	**P**	**22 16 45.6**	**+1.4**
BCW				IAMs_20	IAMs_20	22 34 06.0	
	comp=Z,6μm,18.0s						
R11B	**Troy Canyon, C**	**58.40**	**67**	IAmb	IAmb	22 16 47.5	
	comp=Z,178nm,1.1s						
ILULI	**Ilulissat**	**58.50**	**12**	P	**P**	**22 16 44.3**	**0.0**
ILULI				IAMs_20	IAMs_20	22 45 25.9	
	comp=Z,8μm,18.0s						
ILULI	**Ilulissat**	**58.50**	**12**	P	**P**	**22 16 44.3**	**0.0**
ILULI				pmax	pmax		
	comp=Z,100nm,0.8s						
ILULI				MLR	MLR		
	comp=Z,8μm,18.0s						
ILULI	**Ilulissat**	**58.50**	**12**	*i* P	**P**	**22 16 43.9**	**-0.4**
ILULI				IAmb	IAmb	22 16 46.0	
	comp=Z,143nm,0.9s						
HWUT	**Hardware Ranch**	**58.55**	**61**	IAmb	IAmb	22 16 49.0	
	comp=Z,447nm,1.3s						
TATA	**Tatamba Isabel**	**58.56**	**180**	P	**P**	**22 16 46.5**	**+1.2**
AGT	**Agartala**	**58.57**	**270**	*e*P	**P**	**22 16 48.1**	**+2.7**
AGT				IAmb	IAmb	22 16 50.1	
	comp=Z,369nm,1.0s						
AGT				*e*S	**S**	**22 24 51.8**	**+3.0**
AGT				IAMs_20	IAMs_20	22 34 43.0	
	comp=Z,5μm,18.8s						
JNW	**Jan Mayen West**	**58.57**	**356**	*e*P	**P**	**22 16 45.8**	**+1.0**
JNW				IVmB_BB		22 16 47.9	
	comp=Z,4μm,1.2s						
JNW				*e*S	**S**	**22 24 52.0**	**+4.3**
JNW				IVMs_BB	IVMs_BB	22 34 44.6	
	comp=Z,15μm,4.3s						
BRLS	**Borolday**	**58.59**	**301**	*e*P	**P**	**22 16 46.8**	**+1.4**
BRLS	**Borolday**	**58.59**	**301**	*e*P	**P**	**22 16 46.8**	**+1.4**
JNE	**Jan Mayen East**	**58.61**	**356**	*e*P	**P**	**22 16 47.6**	**+2.6**
JNE				*e*S	**S**	**22 24 51.4**	**+3.3**
JNE				IVMs_BB	IVMs_BB	22 35 56.1	
	comp=Z,11μm,4.0s						
JMIC	**Jan Mayen**	**58.62**	**356**	*e*P	**P**	**22 16 46.9**	**+1.8**
JMIC				*e*S	**S**	**22 24 51.7**	**+3.4**
JMIC				IVMs_BB	IVMs_BB	22 39 32.7	
	comp=Z,13μm,3.9s						
JMIC	**Jan Mayen**	**58.62**	**356**	LR	LR	22 40 30.1	
	comp=Z,2μm,20.2s,baz=28,slow=35						
JMI	**Jan Mayen**	**58.69**	**356**	*e*P	**P**	**22 16 43.6**	**-2.0**
SPR3	**Spring Creek 3**	**58.70**	**65**	IAmb	IAmb	22 16 50.6	
	comp=Z,305nm,1.1s						
SPR3				IAMs_20	IAMs_20	22 39 40.0	
	comp=Z,5μm,19.0s						
S11A	**Rachel**	**58.77**	**67**	IAmb	IAmb	22 16 52.0	
	comp=Z,245nm,0.9s						
S11A				IAMs_20	IAMs_20	22 40 09.0	
	comp=Z,5μm,19.0s						
DUG	**Dugway, Tooele**	**58.78**	**63**	IAmb	IAmb	22 16 50.5	
	comp=Z,376nm,1.2s						
BW06	**Boulder Array**	**58.90**	**59**	P	**P**	**22 16 48.3**	**+0.4**
BW06				IAmb	IAmb	22 16 51.8	
	comp=Z,369nm,1.0s						
PDAR	**Pinedale Array**	**58.90**	**59**	P	**P**	**22 16 48.3**	**+0.5**
PDAR	**Pinedale Array**	**58.90**	**59**	P	**P**	**22 16 48.6**	**+0.8**
	comp=Z,194nm,0.9s,baz=300,slow=2.6,SNR=581						
PDAR				LR	LR	22 42 15.8	
	comp=Z,1μm,19.9s,baz=312,slow=36						
PDAR				PKPPKP	**P'P'df**	**22 46 22.3**	**-5.7**
	comp=Z,1.7nm,0.9s,baz=239,slow=0.6,SNR=6.4						
	comp=Z,194nm,0.9s						
ALEG	**Aligegeo Malai**	**58.93**	**179**	P	**P**	**22 16 49.8**	**+1.9**
TCUT	**Toone Canyon**	**58.96**	**62**	IAmb	IAmb	22 16 51.9	
	comp=Z,389nm,1.2s						
TCUT				IAMs_20	IAMs_20	22 44 32.7	
	comp=Z,5μm,18.0s						
STEI	**Steigen**	**59.06**	**345**	*e*P	**P**	**22 16 48.0**	**-0.2**
STEI				*e*S	**S**	**22 24 56.1**	**+2.1**
STEI				*i*		22 32 54.0	
STEI				IVMs_BB	IVMs_BB	22 38 53.2	
	comp=Z,6μm,5.3s						
IUG	**Iuzhnay**	**59.07**	**300**	*e*P	**P**	**22 16 48.9**	**0.0**
IUG				pmax	pmax		
	comp=Z,139nm,0.7s						
IUG	**Iuzhnay**	**59.07**	**300**	*e*P	**P**	**22 16 48.9**	**0.0**
	comp=Z,139nm,0.7s						
CCAC	**Calif City Air**	**59.08**	**71**	IAmb	IAmb	22 16 51.8	
	comp=Z,544nm,1.9s						
CCAC				IAMs_20	IAMs_20	22 36 04.6	
	comp=Z,5μm,21.0s						
LOF	**Lofoten**	**59.15**	**346**	*e*P	**P**	**22 16 49.2**	**+0.4**
LOF				IVmB_BB		22 16 54.3	
	comp=Z,2μm,1.6s						
LOF				*e*S	**S**	**22 24 55.1**	**-0.1**
LOF				IVMs_BB	IVMs_BB	22 52 20.5	
	comp=Z,8μm,5.7s						
BRDH	**Bariadhala**	**59.18**	**269**	LR	LR	22 43 48.7	
	comp=Z,6μm,18.3s,baz=44,slow=38						
GWY	**Greenwater Val**	**59.20**	**69**	IAmb	IAmb	22 16 53.0	
	comp=Z,368nm,1.4s						
KLMR	**Klimovskoe**	**59.25**	**331**	*e*P	**P**	**22 16 47.2**	**-2.4**
KLMR				*e*		22 17 34.6	
KLMR				*e*		22 18 58.0	
KLMR				S	**S**	**22 24 57.6**	**+0.9**
KLMR						22 26 30.8	
KLMR				SS	**SS**	**22 28 50.5**	**+0.2**
KLMR				pmax	pmax		
	comp=Z,572nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,24μm,15.0s						
PSUT	**Pine Spring**	**59.28**	**66**	P	**P**	**22 16 51.0**	**+0.4**
PSUT				IAmb	IAmb	22 16 53.9	
	comp=Z,250nm,1.3s						
PSUT				IAMs_20	IAMs_20	22 40 32.5	
	comp=Z,5μm,18.0s						
SAVO	**Savo Central**	**59.32**	**180**	P	**P**	**22 16 52.5**	**+1.9**
TOLI2	**Tolitoli**	**59.33**	**227**	IAmb	IAmb	22 16 52.7	
	comp=Z,179nm,1.2s						
PRN	**Pahroc Range**	**59.34**	**67**	IAMs_20	IAMs_20	22 40 37.1	
	comp=Z,5μm,18.0s						
SCO	**Scoresbysund**	**59.40**	**1**	IAMs_20	IAMs_20	22 40 12.2	
	comp=Z,7μm,22.0s						
SCO	**Scoresbysund**	**59.40**	**1**	*i* P	**P**	**22 16 50.0**	**-0.5**
SCO				IAmb	IAmb	22 16 53.4	
	comp=Z,29nm,0.8s						
SNCC	**San Nicolas Is**	**59.45**	**74**	P	**P**	**22 16 52.9**	**+1.4**
AB31	**Akbulak array**	**59.51**	**312**	P	**P**	**22 16 51.6**	**-0.1**
AB31				IAmb	IAmb	22 16 55.1	
	comp=Z,203nm,1.1s						
ABKAR	**Akbulak array**	**59.51**	**312**	P	**P**	**22 16 51.0**	**-0.7**
ABKAR	**Akbulak array**	**59.51**	**312**	IAmb	IAmb	22 16 55.1	
	comp=Z,204nm,1.1s						
FAUS	**Fauske**	**59.55**	**345**	*e*P	**P**	**22 16 51.4**	**-0.2**
FAUS				IVmB_BB		22 16 54.0	
	comp=Z,7μm,3.9s						
FAUS				*e*S	**S**	**22 25 01.3**	**+0.9**
FAUS				*i*		22 33 27.2	
FAUS				IVMs_BB	IVMs_BB	22 49 56.9	
	comp=Z,7μm,6.4s						
MPU	**Maple Canyon**	**59.57**	**63**	IAmb	IAmb	22 16 56.0	
	comp=Z,338nm,1.2s						
HNR	**Honiara**	**59.60**	**180**	P	**P**	**22 16 53.8**	**+1.3**
HNR				IAmb	IAmb	22 17 02.2	
	comp=Z,531nm,1.3s						
HNR				IAMs_20	IAMs_20	22 43 18.5	
	comp=Z,9μm,19.0s						
HNR	**Honiara**	**59.60**	**180**	LR	LR	22 42 34.8	
	comp=Z,6μm,18.5s,baz=6.0,slow=36						
HNR	**Honiara**	**59.60**	**180**	P	**P**	**22 16 53.8**	**+1.3**
HNR				pmax	pmax		
	comp=Z,531nm,1.3s						
HNR				MLR	MLR		
	comp=Z,9μm,19.0s						
AKTO	**Aktyubinsk**	**59.61**	**314**	LR	LR	22 44 24.7	
	comp=Z,19μm,20.4s,baz=45,slow=38						
GSC	**Goldstone, Bar**	**59.71**	**70**	P	**P**	**22 16 54.5**	**+1.2**
GSC				IAmb	IAmb	22 16 56.4	
	comp=Z,198nm,1.2s						
GSC	**Goldstone, Bar**	**59.71**	**70**	P	**P**	**22 16 54.5**	**+1.2**
GSC				pmax	pmax		
	comp=Z,198nm,1.2s						
GSC				MLR	MLR		
	comp=Z,4μm,22.0s						
BSUT	**Blindstream Ca**	**59.72**	**62**	IAmb	IAmb	22 17 05.6	
	comp=Z,197nm,1.2s						
SANI	**Sanana**	**59.84**	**220**	P	**P**	**22 16 52.0**	**-2.2**
SANI	**Sanana**	**59.84**	**220**	P	**P**	**22 16 54.7**	**+0.5**
ICESG	**Greenland Ices**	**59.92**	**8**	*i* P	**P**	**22 16 54.4**	**-0.2**
ICESG				IAmb	IAmb	22 16 56.4	
	comp=Z,222nm,0.8s						
JOF	**Joensuu**	**59.98**	**336**	*e*P	**P**	**22 16 54.8**	**+0.2**
FRB	**Frobisher Bay**	**59.99**	**23**	LR	LR	22 45 56.3	
	comp=Z,6μm,19.2s,baz=344,slow=39						
TCRU	**Three Creeks R**	**60.05**	**65**	IAmb	IAmb	22 16 59.6	
	comp=Z,199nm,1.1s						
TCRU				IAMs_20	IAMs_20	22 37 32.7	
	comp=Z,5μm,20.0s						
XMAS	**Kiritimati**	**60.11**	**129**	P	**P**	**22 16 57.7**	**+1.6**
XMAS				IAmb	IAmb	22 16 59.0	
	comp=Z,294nm,1.2s						
XMAS	**Kiritimati**	**60.11**	**129**	IAMs_20	IAMs_20	22 35 27.7	
	comp=Z,7μm,19.0s						
MVU	**Marysvale**	**60.26**	**65**	P	**P**	**22 16 59.0**	**+1.8**
MSU	**Marysvale**	**60.27**	**65**	P	**P**	**22 16 57.9**	**+0.6**
MSU	**Marysvale**	**60.27**	**65**	P	**P**	**22 16 57.9**	**+0.6**
TMUT	**Trail Mountain**	**60.30**	**63**	P	**P**	**22 16 58.0**	**+0.4**
TMUT				IAmb	IAmb	22 17 00.9	
	comp=Z,222nm,1.1s						
LUWI	**Luwuk**	**60.31**	**224**	P	**P**	**22 16 55.1**	**-2.5**
ELS	**Elsinore Mount**	**60.46**	**72**	IAmb	IAmb	22 17 01.3	
	comp=Z,286nm,1.2s						
VAGH	**Vaagaholmen**	**60.47**	**346**	*e*P	**P**	**22 17 00.1**	**+2.2**
VAGH				*e*S	**S**	**22 25 13.1**	**+0.8**
VAGH				*i*		22 34 05.3	
Q16A	**Castle Valley**	**60.58**	**64**	IAmb	IAmb	22 17 02.8	
	comp=Z,249nm,1.1s						
MTPU	**Mount Pierson**	**60.59**	**65**	P	**P**	**22 17 01.2**	**+1.6**
MTPU				IAmb	IAmb	22 17 03.5	
	comp=Z,217nm,1.1s						
MTPU				IAMs_20	IAMs_20	22 41 36.9	
	comp=Z,5μm,18.0s						
V12A	**Nelson**	**60.59**	**69**	IAmb	IAmb	22 17 02.8	
	comp=Z,252nm,1.3s						
SRDT	**SRDT**	**60.60**	**256**	P	**P**	**22 17 00.1**	**+0.6**
P18A	**Preston Nutter**	**60.62**	**62**	IAmb	IAmb	22 17 03.3	
	comp=Z,631nm,1.5s						
PMG	**Port Moresby**	**60.62**	**195**	P	**P**	**22 16 59.7**	**+0.2**
PMG				IAmb	IAmb	22 17 01.8	
	comp=Z,195nm,1.1s						
PMG				IAMs_20	IAMs_20	22 45 55.2	
	comp=Z,6μm,19.0s						
PMG	**Port Moresby**	**60.62**	**195**	P	**P**	**22 16 59.7**	**+0.2**
PMG				pmax	pmax		
	comp=Z,195nm,1.2s						
PMG				MLR	MLR		
	comp=Z,6μm,19.0s						
MDND	**Maddock**	**60.63**	**49**	IAMs_20	IAMs_20	22 44 17.6	
	comp=Z,10μm,19.0s						
SFJD	**Kangerlussuaq**	**60.63**	**13**	P	**P**	**22 16 58.9**	**-0.1**
SFJD	**Kangerlussuaq**	**60.63**	**13**	IAMs_20	IAMs_20	22 48 09.1	
	comp=Z,7μm,18.0s						
SFJD	**Kangerlussuaq**	**60.63**	**13**	LR	LR	22 45 14.6	
	comp=Z,3μm,18.3s,baz=347,slow=38						
SFJD	**Kangerlussuaq**	**60.63**	**13**	P	**P**	**22 16 58.9**	**-0.1**
SFJD				pmax	pmax		
	comp=Z,76nm,0.9s						
SFJD				MLR	MLR		
	comp=Z,7μm,18.0s						
SFJD	**Kangerlussuaq**	**60.63**	**13**	*i* P	**P**	**22 16 59.0**	**0.0**
SFJD				IAmb	IAmb	22 17 00.1	
	comp=Z,73nm,0.8s						
LCMT	**Little Creek M**	**60.67**	**66**	IAmb	IAmb	22 17 04.2	
	comp=Z,157nm,0.9s						
ULM	**Lac du Bonnet**	**60.71**	**46**	IAmb	IAmb	22 17 02.5	
	comp=Z,351nm,1.1s						
ULM	**Lac du Bonnet**	**60.71**	**46**	P	**P**	**22 17 00.1**	**+0.3**
	comp=Z,155nm,0.8s,baz=311,slow=7.0,SNR=216						
ULM				LR	LR	22 45 01.8	
	comp=Z,6μm,18.2s,baz=332,slow=38						
	comp=Z,155nm,0.8s						
MOR8	**Moi Rana**	**60.79**	**345**	*e*P	**P**	**22 16 59.3**	**-0.9**
MOR8				IVmBBB		22 17 00.1	
	comp=Z,3μm,2.9s						
MOR8				*e*S	**S**	**22 25 13.9**	**-2.6**
MOR8				*e*SS	**SS**	**22 29 21.4**	**+7.1**
MOR8				*i*		22 34 00.9	
MOR8				IVMsBB		22 37 39.9	
	comp=Z,5μm,4.7s						
STOK	**Stokkvaagen**	**60.88**	**345**	*e*P	**P**	**22 17 01.2**	**+0.5**
STOK				*e*S	**S**	**22 25 19.6**	**+2.1**
PKCU	**Pink Cliffs**	**60.92**	**66**	P	**P**	**22 17 03.2**	**+1.3**
PKCU				IAmb	IAmb	22 17 07.3	
	comp=Z,625nm,1.8s						
LEIR	**Leirfjorden**	**61.07**	**345**	*e*P	**P**	**22 17 02.1**	**+0.1**
LEIR				IVmBBB		22 17 02.9	
	comp=Z,4μm,3.6s						
LEIR				*e*S	**S**	**22 25 20.3**	**+0.4**
LEIR				IVMs_BB	IVMs_BB	22 38 07.8	
	comp=Z,5μm,4.6s						
PFO	**Pinyon Flats O**	**61.07**	**71**	P	**P**	**22 17 03.6**	**+0.9**
PFO				IAmb	IAmb	22 17 05.5	
	comp=Z,618nm,2.0s						
PFO	**Pinyon Flats O**	**61.07**	**71**	IAMs_20	IAMs_20	22 37 22.4	
	comp=Z,5μm,22.0s						
PFO	**Pinyon Flats O**	**61.07**	**71**	LR	LR	22 38 08.8	
	comp=Z,3μm,21.8s,baz=292,slow=31						
PFO	**Pinyon Flats O**	**61.07**	**71**	P	**P**	**22 17 03.6**	**+0.9**
PFO				pmax	pmax		
	comp=Z,618nm,2.0s						
PFO				MLR	MLR		
	comp=Z,5μm,22.0s						
JOSI	**Joshimath**	**61.30**	**284**	*e*P	**P**	**22 17 04.4**	**0.0**
JOSI				IAmb	IAmb	22 17 13.8	
	comp=Z,265nm,0.5s						
KLP	**Kalpa**	**61.43**	**286**	*e*P	**P**	**22 17 04.7**	**-0.7**
KLP				IAmb	IAmb	22 17 09.6	
	comp=Z,329nm,1.0s						
TJX	**Tijuana**	**61.47**	**73**	P	**P**	**22 17 06.4**	**+1.1**
PTH	**Pithoragarh**	**61.59**	**283**	*e*P	**P**	**22 17 05.8**	**-0.6**
PTH				IAmb	IAmb	22 17 13.2	
	comp=Z,197nm,1.0s						
W13A	**Hualapai Mount**	**61.59**	**68**	IAmb	IAmb	22 17 09.4	
	comp=Z,196nm,1.3s						
U15A	**North Rim**	**61.62**	**66**	IAmb	IAmb	22 17 10.2	
	comp=Z,392nm,1.4s						
U15A				IAMs_20	IAMs_20	22 39 11.5	
	comp=Z,5μm,19.0s						
LGTI	**Lohaghat**	**61.64**	**283**	*e*P	**P**	**22 17 06.8**	**+0.4**
LGTI				IAmb	IAmb	22 17 11.5	
	comp=Z,150nm,0.9s						
SRNI	**Srinagar**	**61.73**	**290**	*e*P	**P**	**22 17 08.3**	**+1.3**
SRNI				IAmb	IAmb	22 17 12.2	
	comp=Z,500nm,0.8s						
CBX	**Cerro Bola**	**61.84**	**73**	P	**P**	**22 17 08.2**	**+0.3**
CBX				IAmb	IAmb	22 17 10.9	
	comp=Z,312nm,1.3s						
VAF	**Ylistaro**	**61.98**	**340**	*e*P	**P**	**22 17 08.2**	**-0.1**
SIMJ	**Simiganj**	**62.01**	**298**	P	**P**	**22 17 08.6**	**-0.4**
BOK	**Bokaro**	**62.06**	**274**	*e*P	**P**	**22 17 10.1**	**+0.8**
BOK				IAmb	IAmb	22 17 14.3	
	comp=Z,154nm,1.0s						
BOK				IAMs_20	IAMs_20	22 33 47.6	
	comp=Z,4μm,22.6s						
YUH	**Yuha Desert**	**62.06**	**72**	P	**P**	**22 17 09.4**	**+0.2**
YUH				IAmb	IAmb	22 17 11.9	
	comp=Z,172nm,1.3s						
EPLO	**Experimental L**	**62.09**	**45**	P	**P**	**22 17 09.5**	**+0.3**
EPLO				IAmb	IAmb	22 17 12.1	
	comp=Z,258nm,0.8s						
AGMN	**Agassiz Nation**	**62.10**	**47**	IAmb	IAmb	22 17 12.5	
	comp=Z,328nm,1.0s						
AGMN				IAMs_20	IAMs_20	22 44 22.3	
	comp=Z,6μm,20.0s						
DHRM	**DHARAMSHALA**	**62.13**	**288**	*e*P	**P**	**22 17 09.7**	**-0.3**
DHRM				IAmb	IAmb	22 17 14.2	
	comp=Z,766nm,0.7s						
DHRM				IAMs_20	IAMs_20	22 33 34.9	
	comp=Z,4μm,19.4s						
BLYC	**Blythe**	**62.14**	**70**	IAmb	IAmb	22 17 12.9	
	comp=Z,257nm,1.2s						
BLYC				IAMs_20	IAMs_20	22 36 50.6	
	comp=Z,5μm,19.0s						
CCX	**Cicese**	**62.15**	**73**	P	**P**	**22 17 10.4**	**+0.6**
PV14	**Lion Creek, Pa**	**62.17**	**63**	P	**P**	**22 17 10.1**	**-0.1**
PV22	**Blue Mesa, Par**	**62.20**	**62**	P	**P**	**22 17 11.5**	**+1.2**
PV04	**Paradox Valley**	**62.23**	**63**	P	**P**	**22 17 11.3**	**+0.8**
PV20	**West Nyswonger**	**62.23**	**63**	P	**P**	**22 17 11.9**	**+1.3**
KEF	**Keuruu**	**62.23**	**338**	*e*P	**P**	**22 17 09.6**	**-0.3**
PV19	**Morning Glory**	**62.24**	**63**	P	**P**	**22 17 11.5**	**+0.9**
PV17	**East Wray Mesa**	**62.27**	**63**	P	**P**	**22 17 11.6**	**+0.7**
PV16	**Nyswonger Mesa**	**62.28**	**63**	P	**P**	**22 17 12.1**	**+1.2**
PV18	**Skein Mesa, Pa**	**62.33**	**63**		**P**	**22 17 11.8**	**+0.6**
PV05	**Paradox Valley**	**62.33**	**63**	P	**P**	**22 17 12.1**	**+0.8**
PV12	**Saucer Basin,**	**62.34**	**63**	P	**P**	**22 17 11.6**	**+0.3**
PV03	**Paradox Valley**	**62.35**	**63**	P	**P**	**22 17 12.3**	**+0.9**
SMLA	**Simla**	**62.38**	**286**	*e*P	**P**	**22 17 10.5**	**-0.9**
SMLA				IAmb	IAmb	22 17 13.5	
	comp=Z,656nm,0.8s						
DDI	**Dehra Dun**	**62.39**	**285**	*e*P	**P**	**22 17 11.2**	**-0.4**
DDI				IAmb	IAmb	22 17 13.8	
	comp=Z,545nm,1.0s						
GLA	**Glamis**	**62.44**	**71**	IAMs_20	IAMs_20	22 38 17.6	
	comp=Z,5μm,20.0s						
PV02	**Paradox Valley**	**62.45**	**63**	P	**P**	**22 17 13.1**	**+1.0**
SBUM	**Sibu**	**62.49**	**237**	P	**P**	**22 17 13.4**	**+1.2**
ESJX	**Sierra Juarez**	**62.49**	**72**	IAmb	IAmb	22 17 15.3

comp=Z,4µm,18.0s
SAUI Saumlaki 63.28 212 P **P 22 17 19.1 +1.6**
TTSI Tana Toraja 63.43 226 P **P 22 17 18.6 +0.2**
ISOG Isortoq, Green 63.44 9 *i* P **P 22 17 16.9 -1.0**
ISOG IAmb IAmb 22 17 19.0
comp=Z,145nm,0.8s
ANGG Ammassalik, Gr 63.50 8 IAmb IAmb 22 17 30.6
comp=Z,457nm,1.9s
ANGG IAMs_20 IAMs_20 22 45 12.8
comp=Z,10µm,21.0s
ANGG Ammassalik, Gr 63.50 8 *i* P **P 22 17 17.6 -0.6**
FRKB FARRUKHABAD 63.50 282 *e*P **P 22 17 18.1 -0.8**
X16A Lo Mia Camp, P 63.52 67 P **P 22 17 20.0 +0.9**
X16A IAmb IAmb 22 17 22.8
comp=Z,241nm,1.3s
ALBI Allahabad 63.57 278 *e*P **P 22 17 18.3 -1.0**
ALBI IAmb IAmb 22 17 22.7
comp=Z,232nm,0.9s
ALBI IAMs_20 IAMs_20 22 34 13.7
comp=Z,3µm,19.1s
F33A 5 Mile Ranch, 63.65 49 IAMs_20 IAMs_20 22 46 26.7
comp=Z,9µm,19.0s
SFX San Felipe 63.83 72 IAmb IAmb 22 17 23.7
comp=Z,287nm,1.5s
GNR GANAUR 63.87 285 *e*P **P 22 17 21.1 -0.2**
MOS Moscow 63.89 328 *e*P **P 22 17 19.5 -1.5**
MOS *e* 22 19 39.7
MOS *e*PPP PPP 22 21 09.9
MOS *e*S **S 22 25 54.0 -1.7**
MOS *e*SS **SS 22 29 57.3 -5.7**
MOS pmax pmax
comp=Z,434nm,1.7s
MOS pmax pmax
comp=N,289nm,1.5s
MOS smax smax
comp=N,7µm,5.5s
MOS smax smax
comp=E,9µm,5.3s
UGON Onchagaon 63.89 283 *e*P **P 22 17 19.4 -2.1**
UGON IAmb IAmb 22 17 21.7
comp=Z,785nm,0.8s
Q24A Divide 63.94 60 IAmb IAmb 22 17 25.2
comp=Z,594nm,1.9s
RAF Rauma 63.96 339 *e*P **P 22 17 20.8 -0.6**
MEF Metsahovi 64.04 337 *e*P **P 22 17 21.5 -0.4**
NDI New Delhi 64.06 284 *e*P **P 22 17 22.1 -0.5**
JMIU JAMIA UNIVERSI 64.09 284 *e*P **P 22 17 22.8 0.0**
NPLP NPLP New Delhi 64.12 284 *e*P **P 22 17 22.5 -0.5**
NPLP IAmb IAmb 22 17 26.2
comp=Z,118nm,0.9s
OGNE Ogallala 64.23 56 IAMs_20 IAMs_20 22 47 10.5
comp=Z,6µm,19.0s
BHGR Bahadurgarh 64.23 284 *e*P **P 22 17 23.4 -0.3**
AYAN Aya Nagar 64.26 284 *e*P **P 22 17 23.6 -0.3**
SPSI Sidrap Palu 64.26 226 P **P 22 17 24.1 +0.2**
comp=Z,7µmcomp=Z,7µmcomp=Z,335nm,1.5s
K30B Basset 64.26 54 IAMs_20 IAMs_20 22 45 11.2
comp=Z,5µm,20.0s
PIX Pinacate 64.31 71 IAmb IAmb 22 17 26.9
comp=Z,310nm,1.4s
ARBE Arbavere 64.31 336 *e*P **P 22 17 23.7 0.0**
X18A Snowflake 64.31 66 IAmb IAmb 22 17 27.9
comp=Z,372nm,1.3s
KSM Kuching 64.33 238 IAmb IAmb 22 17 28.0
comp=Z,336nm,1.2s
EYMN Ely 64.36 45 IAmb IAmb 22 17 27.2
comp=Z,258nm,0.9s
EYMN Ely 64.36 45 IAMs_20 IAMs_20 22 47 02.1
comp=Z,7µm,19.0s
BBSI Bau Bau 64.37 222 P **P 22 17 28.1 +3.4**
comp=Z,8µmcomp=Z,10µmcomp=Z,221nm,1.3s
BNDA BANDA 64.38 280 *e*P **P 22 17 23.9 -0.8**
SONA Sohna 64.45 284 *e*P **P 22 17 24.8 -0.4**
SONA IAmb IAmb 22 17 27.9
comp=Z,162nm,0.9s
SDCO Great Sand Dun 64.60 61 IAmb IAmb 22 17 29.7
comp=Z,330nm,1.2s
OBN Obninsk 64.75 328 P **P 22 17 25.9 -0.7**
OBN IAmb IAmb 22 17 30.3
comp=Z,273nm,1.1s
OBN Obninsk 64.75 328 P **P 22 17 26.0 -0.7**
comp=Z,119nm,0.9s,baz=169,slow=0.9,SNR=19
OBN LR LR 22 49 36.1
comp=Z,9µm,18.9s,baz=28,slow=40
comp=Z,119nm,0.9s
OBN Obninsk 64.75 328 *de*P **P 22 17 25.4 -1.3**
OBN *e**PP **pP 22 17 29.6 +0.2**
OBN *e* 22 17 54.3
OBN *e* 22 19 50.5
OBN *e*PPP PPP 22 21 22.4
OBN *e*S **S 22 26 07.0 +0.7**
OBN *e*SS **SS 22 30 18.5 +2.1**
OBN pmax pmax
comp=Z,462nm,1.7s
OBN Obninsk 64.75 328 P **P 22 17 25.9 -0.7**
comp=Z,7µmcomp=Z,254nm,1.4s
SRIT Nakonsritamara 64.76 252 P **P 22 17 28.2 +0.9**
SRIT IAmb IAmb 22 17 30.9
comp=Z,197nm,1.0s
SRIT Nakonsritamara 64.76 252 P **P 22 17 28.8 +1.5**
TBO Thunder Bay 64.77 43 P **P 22 17 26.8 -0.1**
TBO IAmb IAmb 22 17 28.9
comp=Z,154nm,0.9s
KUQ Kuujjuuaa 64.78 26 P **P 22 17 26.3 -0.5**
KUQ IAmb IAmb 22 17 27.1
comp=Z,303nm,1.9s
KBU Kabul Universi 64.83 294 P **P 22 17 25.8 -2.0**
KBL Kabul 64.86 294 P **P 22 17 26.7 -1.3**
KBL Kabul 64.86 294 S **S 22 26 06.2 -2.6**
KBL Kabul 64.86 294 P **P 22 17 26.7 -1.3**
KBL pmax pmax
comp=Z,308nm,0.8s
STKI Sintang 64.89 236 P **P 22 17 29.4 +1.3**
comp=Z,9µmcomp=Z,11µmcomp=Z,306nm,1.3s
KUDL Kundal 64.89 284 *e*P **P 22 17 27.0 -1.0**
KUDL IAmb IAmb 22 17 34.9
comp=Z,437nm,1.2s
VSU Vasula 64.95 335 *ce*P **P 22 17 27.3 -0.6**
VSU pmax pmax
comp=Z,318nm,1.3s
VSU Vasula 64.95 335 *e*P **P 22 17 27.3 -0.6**
BORG Borgarnes 65.17 1 LR LR 22 46 26.1
comp=Z,2µm,19.4s,baz=1.6,slow=36
KAPI Kappang 65.20 225 P **P 22 17 30.6 +0.6**
KAPI IAmb IAmb 22 17 33.0
comp=Z,492nm,1.6s
KAPI Kappang 65.20 225 P **P 22 17 31.3 +1.2**
KAPI P **P 22 17 31.3 +1.2**
KAPI S **S 22 26 17.7 +5.0**
KAPI S **S 22 26 17.7 +5.0**
KAPI Kappang 65.20 225 P **P 22 17 30.6 +0.6**
KAPI pmax pmax
comp=Z,493nm,1.6s
SRGN SRI GANGA NAGA 65.23 287 *e*P **P 22 17 30.1 -0.1**
SRGN IAmb IAmb 22 17 36.8
comp=Z,653nm,1.1s
MOL Molde 65.26 346 *e*P **P 22 17 30.7 +0.8**
MOL *e*S **S 22 26 07.4 -4.9**
BKSI Bulukumba 65.30 225 P **P 22 17 31.3 +0.6**
comp=Z,5µmcomp=Z,148nm,1.4s
E38A The Farm, Brul 65.33 46 IAMs_20 IAMs_20 22 49 05.8
comp=Z,4µm,20.0s
DGPR DIGLIPUR 65.38 261 *e*P **P 22 17 31.7 +0.5**
DGPR IAmb IAmb 22 17 44.0
comp=Z,259nm,0.5s
TUC Tucson 65.39 69 P **P 22 17 32.0 +0.7**
TUC IAmb IAmb 22 17 34.4
comp=Z,165nm,1.2s
TUC Tucson 65.39 69 P **P 22 17 32.0 +0.7**
TUC pmax pmax
comp=Z,165nm,1.2s
TUC MLR MLR
comp=Z,3µm,18.0s
MTSE Matsula 65.50 337 *e*P **P 22 17 32.0 +0.5**
DOMB Dombas 65.52 345 *e*P **P 22 17 31.2 -0.4**
DOMB IVMs_BB IVMs_BB 22 46 17.8
comp=Z,6µm,5.3s
BLSP Bilaspur 65.65 276 *e*P **P 22 17 32.5 -0.5**
BLSP IAmb IAmb 22 17 36.8
comp=Z,92nm,0.9s
SPMN Marine on St. 65.78 48 IAMs_20 IAMs_20 22 47 33.7
comp=Z,6µm,18.0s
COEN Coen 65.78 198 P **P 22 17 33.5 -0.3**
COEN IAMs_20 IAMs_20 22 41 46.6
comp=Z,6µm,20.0s
COEN Coen 65.78 198 P **P 22 17 33.6 -0.1**
comp=Z,0.0nmcomp=Z,162nm,1.3s
COEN Coen 65.78 198 P **P 22 17 34.9 +1.1**
BSSI Bau Bau, Buton 65.86 224 P **P 22 17 35.0 +0.6**
comp=Z,8µmcomp=Z,472nm,1.5s
NC303 NORSAR Array S 65.90 344 IAmb IAmb 22 17 54.1
comp=Z,546nm,1.9s
BGNE Belgrade 65.93 54 IAMs_20 IAMs_20 22 46 13.4
comp=Z,7µm,20.0s
NC405 NORSAR Array S 65.94 344 IAmb IAmb 22 17 44.5
comp=Z,146nm,1.0s
LPSR Galich'ya Gora 65.94 325 *e*P **P 22 17 33.9 -0.5**
LPSR *e*S S 22 26 11.4 -10
LPSR pmax pmax
comp=Z,390nm,1.0s
LPSR smax smax
comp=N,2µm,6.6s
LPSR MLR MLR
comp=Z,21µm,15.0s
NC204 NORSAR Array S 65.96 344 IAmb IAmb 22 17 44.6
comp=Z,148nm,1.1s
VRH Novokhopyorsk 66.00 323 *e*P **P 22 17 33.4 -1.4**
VRH *e*S **S 22 26 13.3 -8.5**
VRH pmax pmax
comp=Z,340nm,0.7s
VRH smax smax
comp=N,3µm,6.5s
VRH MLR MLR
comp=Z,20µm,15.0s
ANMO Albuquerque 66.05 64 P **P 22 17 36.4 +0.7**
ANMO IAmb IAmb 22 17 38.9
comp=Z,222nm,1.3s
ANMO Albuquerque 66.05 64 P **P 22 17 36.8 +1.1**
ANMO IAmb IAmb 22 17 38.9
comp=Z,223nm,1.3s
ANMO Albuquerque 66.05 64 P **P 22 17 36.3 +0.7**
ANMO IAmb IAmb 22 17 38.9
comp=Z,240nm,1.4s
ANMO Albuquerque 66.05 64 LR LR 22 45 09.6
comp=Z,2µm,18.5s,baz=124,slow=35
ANMO PKPPKP 22 46 09.8
comp=Z,3.1nm,1.1s,baz=80,slow=6.1,SNR=11
ANMO Albuquerque 66.05 64 *ce*P **P 22 17 36.2 +0.5**
ANMO pmax pmax
comp=Z,200nm,2.5s
ANMO MLR MLR
comp=Z,1µm,17.0s
NB201 NORSAR Array S 66.08 344 IAmb IAmb 22 17 45.4
comp=Z,227nm,1.2s
NB2 NORSAR Subarra 66.10 344 P **P 22 17 34.8 -0.6**
comp=Z,1µm,2.5s,baz=21,slow=6.5
NB2 P'P' 22 45 59.3
comp=Z,66nm,1.7s,baz=256,slow=4.4
NB2 NORSAR Subarra 66.10 344 P **P 22 17 34.8 -0.6**
baz=21,slow=6.5
NOA NORSAR Array B 66.10 344 P **P 22 17 34.9 -0.5**
comp=Z,36nm,0.7s,baz=20,slow=6.5,SNR=134
NOA PKPPKP P'P'df 22 46 09.3 -8.9
comp=Z,9.6nm,1.1s,baz=196,slow=3.0,SNR=7.5
NOA LR LR 22 50 07.9
comp=Z,6µm,19.5s,baz=20,slow=39
comp=Z,36nm,0.7s
NC602 NORSAR Array S 66.33 344 *e*P **P 22 17 37.3 +0.5**
NC602 IVmBBB 22 17 37.8
comp=Z,4µm,4.6s
NC602 *e*S **S 22 26 26.6 +1.2**
NC602 *i* 22 36 21.6
NC602 IVMs_BB IVMs_BB 22 41 09.8
comp=Z,5µm,5.7s
NC602 NORSAR Array S 66.33 344 IAmb IAmb 22 17 56.4
comp=Z,243nm,1.6s
NAO01 NORSAR Array S 66.34 344 IAmb IAmb 22 17 56.7
comp=Z,167nm,1.4s
I37A Lemond, Waseca 66.39 49 IAMs_20 IAMs_20 22 46 10.0
comp=Z,7µm,19.0s
Y22D IRIS PASSCAL I 66.40 65 P **P 22 17 39.5 +1.6**
Y22D IAmb IAmb 22 17 41.8
comp=Z,416nm,1.1s
Y22D IAMs_20 IAMs_20 22 45 05.9
comp=Z,6µm,18.0s
Y22D IRIS PASSCAL I 66.40 65 P **P 22 17 39.9 +2.0**
baz=316
HFS Hagfors 66.48 342 P **P 22 17 37.3 -0.5**
comp=Z,35nm,0.6s,baz=45,slow=4.4,SNR=93
HFS PKPPKP P'P'df 22 46 08.5 -8.9
comp=Z,6.4nm,0.9s,baz=128,slow=2.4,SNR=5.1
HFS LR LR 22 50 40.7
comp=Z,20µm,20.6s,baz=22,slow=40
comp=Z,35nm,0.6s
VORR Voronezh 66.59 324 *e*P **P 22 17 37.9 -0.7**
VORR *e*S **S 22 26 20.0 -8.8**
VORR pmax pmax
comp=Z,140nm,1.1s
VORR smax smax
comp=N,910nm,5.4s
VORR MLR MLR
comp=Z,21µm,14.0s
PBA Port Blair 66.65 260 P **P 22 17 39.9 +0.4**
PBA IAmb IAmb 22 18 09.3
comp=Z,197nm,0.9s
PBA IAMs_20 IAMs_20 22 46 50.7
comp=Z,9µm,22.0s
PBA Port Blair 66.65 260 P **P 22 17 40.4 +0.9**
SNR=13
PBA Port Blair 66.65 260 *e*P **P 22 17 40.1 +0.6**
PBA IAmb IAmb 22 18 03.6
comp=Z,143nm,0.9s
KULM Kulim 66.74 249 IAmb IAmb 22 17 43.2
comp=Z,178nm,1.1s
KULM IAMs_20 IAMs_20 22 51 26.9
comp=Z,5µm,18.0s
KULM Kulim 66.74 249 P **P 22 17 41.9 +1.9**
HYA Hoyanger 66.80 347 *e*P **P 22 17 40.3 +0.5**
HYA IVmBBB 22 17 41.7
comp=Z,2µm,2.8s
HYA *e*S **S 22 26 33.9 +2.8**
HYA IVMs_BB IVMs_BB 22 50 51.1
comp=Z,5µm,5.1s
COWI Conover 66.82 45 IAmb IAmb 22 17 42.2
comp=Z,323nm,1.2s
COWI IAMs_20 IAMs_20 22 48 37.0
comp=Z,8µm,18.0s
SLIT Slitere, Latvi 66.84 337 *e*P **P 22 17 40.1 0.0**
RAGD RAYAGADA 66.90 273 *e*P **P 22 17 41.5 +0.4**
RAGD IAmb IAmb 22 17 52.9
comp=Z,147nm,0.9s
NRS Narsarsuaq 66.91 13 *i* P **P 22 17 40.0 -0.5**
NRS IAmb IAmb 22 17 41.7
comp=Z,65nm,1.0s
SKAR Skarslia 66.93 345 *e*P **P 22 17 40.4 -0.3**
SKAR IVmBBB 22 17 41.9
comp=Z,4µm,4.8s
SKAR *e*S **S 22 26 34.2 +1.3**
SKAR *e*SS **SS 22 30 49.2 -0.9**
SKAR *i* 22 36 27.6
SKAR IVMs_BB IVMs_BB 22 45 15.6
comp=Z,6µm,5.5s
G40A Rib Lake 66.96 46 IAmb IAmb 22 17 43.8
comp=Z,225nm,0.9s
BKNR BIKANER 66.96 286 *e*P **P 22 17 40.7 -0.7**
VSR Storozhevoye 66.97 324 *e*P **P 22 17 39.6 -1.4**
VSR pmax pmax
comp=Z,270nm,1.0s
VSR MLR MLR
comp=Z,32µm,17.0s
CBKS Cedar Bluff 66.99 57 IAMs_20 IAMs_20 22 48 39.6
comp=Z,7µm,19.0s
SUE Sulen 67.11 347 *e*P **P 22 17 41.1 -0.6**
SUE IVmBBB 22 17 47.0
comp=Z,4µm,3.4s
SUE *e*S **S 22 26 35.9 +1.1**
SUE *i* 22 39 42.1
SUE IVMs_BB IVMs_BB 22 45 51.7
comp=Z,9µm,5.4s
VORD Divnogorie 67.12 324 *e*P **P 22 17 41.3 -0.7**
VORD *e*S **S 22 26 29.5 -5.8**
VORD pmax pmax
comp=Z,180nm,0.7s
VORD smax smax
comp=N,800nm,5.6s
VORD MLR MLR
comp=Z,18µm,16.0s
OSL Oslo 67.22 344 *e*P **P 22 17 42.9 +0.4**
OSL *e*S **S 22 26 37.4 +1.1**
FUTU Fugatoga 67.25 157 IAMs_20 IAMs_20 22 41 32.3
comp=Z,5µm,20.0s
KDU Kakadu 67.31 209 P **P 22 17 43.1 -0.4**
comp=Z,0.0nmcomp=Z,570nm,0.9s
KDU Kakadu 67.31 209 P **P 22 17 43.5 0.0**
MMRI Maumere 67.34 221 P **P 22 17 44.1 +0.3**
comp=Z,8µmcomp=Z,9µmcomp=Z,437nm,1.6s
IZAR Zarasai 67.43 334 *e*P **P 22 17 44.2 +0.3**
SOEI Soe 67.52 219 P **P 22 17 43.7 -1.4**
SOEI Soe 67.52 219 P **P 22 17 45.2 +0.2**
comp=Z,6µmcomp=Z,7µmcomp=Z,374nm,1.0s
F42A Maple Grove Fa 67.53 45 IAmb IAmb 22 17 47.0
comp=Z,272nm,1.1s
F42A IAMs_20 IAMs_20 22 49 17.8
comp=Z,6µm,19.0s
ASK Askoy 67.60 347 *e*P **P 22 17 44.7 -0.1**
ASK IVmBBB 22 17 46.5
comp=Z,3µm,1.9s
ASK *e*S **S 22 26 42.0 +1.3**
ASK IVMs_BB IVMs_BB 22 45 15.1
comp=Z,6µm,5.3s
ISAL Salakas 67.62 334 *e*P **P 22 17 45.6 +0.5**
HSIG 67.64 71 IAmb IAmb 22 17 48.4
comp=Z,402nm,1.5s
IDID Didziasalis 67.67 333 *e*P **P 22 17 44.6 -0.8**
BER Bergen 67.67 347 *e*P **P 22 17 44.2 -1.1**
BER IVmBBB 22 17 47.0
comp=Z,3µm,2.3s
BER *e*S **S 22 26 46.1 +4.5**
BER *i* 22 34 28.6
BER IVMs_BB IVMs_BB 22 45 04.6
comp=Z,5µm,4.4s
EDFI Ende, Flores 67.67 222 P **P 22 17 44.8 -1.2**
comp=Z,6µmcomp=Z,8µmcomp=Z,279nm,1.4s
MYKOM Kota Tinggi 67.68 244 IAmb IAmb 22 17 48.7
comp=Z,226nm,1.5s
MYKOM IAMs_20 IAMs_20 22 51 54.2
comp=Z,4µm,18.0s
KONO Kongsberg 67.69 344 *e*P **P 22 17 44.9 -0.5**
KONO IVmB_BB 22 17 47.2
comp=Z,4µm,3.9s
KONO *e*S **S 22 26 42.5 +0.6**
KONO *e*SS **SS 22 31 00.3 -1.4**
KONO *i* 22 39 57.5
KONO IVMs_BB IVMs_BB 22 49 09.9
comp=Z,4µm,6.0s
KONO Kongsberg 67.69 344 P **P 22 17 46.1 +0.7**
KONO Kongsberg 67.69 344 *ce*P **P 22 17 46.7 +1.3**
KONO pmax pmax
comp=Z,74nm,1.3s
IIGN Ignalina 67.79 334 *e*P **P 22 17 46.4 +0.3**
I40A Norwalk 67.81 47 IAMs_20 IAMs_20 22 48 47.5
comp=Z,8µm,19.0s
R32A Long Quarter, 67.82 56 IAmb IAmb 22 17 48.7
comp=Z,260nm,0.8s
BHPL Bhopal 67.83 280 *e*P **P 22 17 46.2 -0.7**
BHPL IAmb IAmb 22 17 48.8
comp=Z,182nm,0.7s
BHPL IAMs_20 IAMs_20 22 35 00.3
comp=Z,3µm,20.0s
VSVD Vaisvydziai 67.87 335 *e*P **P 22 17 47.1 +0.5**
MTN Manton Dam 67.88 211 P **P 22 17 47.1 0.0**
comp=Z,0.0nmcomp=Z,589nm,1.1s
ODD1 Odda 67.93 346 *e*P **P 22 17 47.0 -0.1**
ODD1 IVmBBB 22 17 48.9
comp=Z,3µm,4.0s
ODD1 *e*S **S 22 26 46.4 +1.5**
ODD1 *e*SS **SS 22 31 04.4 -1.1**
ODD1 IVMs_BB IVMs_BB 22 46 23.4
comp=Z,6µm,5.0s
MNK Minsk 68.03 332 *e*P **P 22 17 48.0 +0.3**
SCHQ Schefferville 68.05 27 IAmb IAmb 22 17 50.1
comp=Z,138nm,1.1s
SCHQ Schefferville 68.05 27 P **P 22 17 47.8 0.0**
comp=Z,53nm,0.7s,baz=333,slow=5.9,SNR=35
SCHQ PKPPKP P'P'df 22 46 05.4 -9.1
comp=Z,47nm,1.0s,baz=116,slow=3.7,SNR=19
SCHQ LR LR 22 52 27.1
comp=Z,4µm,18.2s,baz=340,slow=40
comp=Z,53nm,0.7s
SCIA State Center 68.05 50 IAMs_20 IAMs_20 22 46 17.2
comp=Z,9µm,21.0s
SRIG Santa Rosalia 68.08 73 IAmb IAmb 22 17 51.0
comp=Z,150nm,1.0s
VIS Vishakhapatnam 68.11 272 *e*P **P 22 17 48.5 -0.1**
PABE Paberze 68.28 335 *e*P **P 22 17 48.9 -0.3**
NGP Nagpur 68.32 277 *e*P **P 22 17 49.2 -0.9**
NGP IAmb IAmb 22 17 51.8
comp=Z,117nm,0.6s
PBUR Paburge 68.36 336 *e*P **P 22 17 49.9 +0.2**
NRDN NARMADA NAGAR 68.37 280 *e*P **P 22 17 53.9 +3.6**
NRDN IAmb IAmb 22 17 57.0
comp=Z,517nm,1.6s
BLS5 Blasjo 68.42 346 *e*P **P 22 17 49.6 -0.5**
BLS5 IVmB_BB 22 17 52.4
comp=Z,2µm,3.9s
BLS5 *e*S **S 22 26 50.6 -0.1**
BLS5 *e*SS **SS 22 31 23.9 +11**
BLS5 *i* 22 39 36.9
BLS5 IVMs_BB IVMs_BB 22 46 08.7
comp=Z,4µm,5.7s
I42A Draeger Farm, 68.61 46 IAMs_20 IAMs_20 22 51 08.5
comp=Z,4µm,19.0s
AFI Afiamalu 68.67 150 IAMs_20 IAMs_20 22 39 03.7
comp=Z,5µm,21.0s
H43A Windswept, Lux 68.69 45 IAMs_20 IAMs_20 22 49 35.5
comp=Z,7µm,19.0s
JFWS Jewell Farm 68.73 48 IAmb IAmb 22 17 53.8
comp=Z,286nm,0.8s
JFWS Jewell Farm 68.73 48 IAMs_20 IAMs_20 22 47 54.8
comp=Z,8µm,19.0s
E46A Sault Ste Mari 68.74 42 IAmb IAmb 22 17 54.3
comp=Z,186nm,0.9s
E46A IAMs_20 IAMs_20 22 48 25.6
comp=Z,6µm,19.0s
KMY Karmoy 68.81 346 *e*P **P 22 17 52.9 +0.5**
KMY IVmBBB 22 17 54.3
comp=Z,3µm,2.5s
KMY *e*PP **PP 22 20 24.7 +1.0**
KMY *e*S **S 22 26 56.6 +1.4**
KMY *e*SS **SS 22 31 20.1 +1.1**
KMY *i* 22 40 27.7
KMY IVMs_BB IVMs_BB 22 46 06.3
comp=Z,4µm,5.1s
MSTX Muleshoe 68.85 62 IAMs_20 IAMs_20 22 50 47.5
comp=Z,5µm,18.0s
HRA Herat 68.87 299 P **P 22 17 54.0 +0.4**
L40A Anamosa 68.91 49 IAMs_20 IAMs_20 22 46 47.7
comp=Z,7µm,20.0s
LHMI Lhok Sumawe 69.02 252 P **P 22 17 56.7 +2.3**
LHMI Lhok Sumawe 69.02 252 P **P 22 17 57.0 +2.6**
comp=Z,338nm,0.8s
NOKA Waynoka 69.02 58 IAMs_20 IAMs_20 22 49 45.5
comp=Z,6µm,21.0s
KHAM Kharkiv 69.04 325 P **P 22 17 54.5 +0.4**
WSI Waingapu 69.09 222 P **P 22 17 54.2 -0.5**
comp=Z,6µmcomp=Z,10µmcomp=Z,656nm,1.5s
ELIS Ellis County 69.17 58 IAmb IAmb 22 17 58.4
comp=Z,378nm,1.0s
HOMB Homborsund 69.18 344 *e*P **P 22 17 54.9 +0.1**
HOMB IVmB_BB 22 17 56.2
comp=Z,2µm,4.1s
HOMB *e*S **S 22 27 03.4 +3.8**
HOMB *e*SS **SS 22 31 29.9 +5.2**
HOMB *i* 22 37 32.5
HOMB IVMs_BB IVMs_BB 22 54 50.3
comp=Z,6µm,13.4s
HOMB Homborsund 69.18 344 *i* P **P 22 17 55.0 +0.2**
JASL Jaisalmer 69.21 287 *e*P **P 22 17 55.4 -0.1**
JASL IAmb IAmb 22 18 00.5
comp=Z,312nm,1.0s
OK038 West end E0370 69.24 58 IAMs_20 IAMs_20 22 50 05.2
comp=Z,5µm,18.0s
OK032 Salt Plains WL 69.28 57 IAmb IAmb 22 17 58.2
comp=Z,332nm,0.9s
KAN14 Manchester OK 69.30 57 IAmb IAmb 22 17 58.0
comp=Z,262nm,0.9s
TPI Tanjungpandan 69.30 238 P **P 22 17 56.9 +0.8**
comp=Z,6µmcomp=Z,5µmcomp=Z,238nm,1.4s
SNART Snartemo 69.33 345 *e*P **P 22 17 57.1 +1.4**
SNART *e*S **S 22 27 03.9 +2.5**
SNART Snartemo 69.33 345 *i* P **P 22 17 56.5 +0.8**
TSI Tuntungan 69.41 250 P **P 22 17 58.3 +1.5**
comp=Z,6µmcomp=Z,6µmcomp=Z,228nm,1.4s
PLAI Plampang 69.46 225 P **P 22 17 56.8 -0.2**
PLAI Plampang 69.46 225 P **P 22 17 55.6 -1.4**
comp=Z,5µmcomp=Z,6µmcomp=Z,355nm,1.3s
WBSI Waikabubak, Su 69.46 223 P **P 22 17 55.6 -1.5**

comp=Z,5µmcomp=Z,6µmcomp=Z,199nm,1.3s
BASI Baing, Sumba 69.47 222 P P 22 17 56.4 -0.6
CMBY CAMPBELL BAY 69.48 256 *e*P **P 22 17 57.0 -0.2**
CMBY IAmb IAmb 22 18 12.2
comp=Z,286nm,1.0s
P38A Dawn 69.61 52 IAMs_20 IAMs_20 22 50 39.7
comp=Z,6µm,19.0s
MTSU Mount Surprise 69.65 196 P **P 22 17 58.1 0.0**
comp=Z,55nm,1.1s
MSVF Nonsavu 69.69 162 P **P 22 17 59.6 +1.1**
MSVF IAmb IAmb 22 18 02.2
comp=Z,312nm,1.2s
MSVF Nonsavu 69.69 162 IAMs_20 IAMs_20 22 40 14.4
comp=Z,7µm,22.0s
MSVF Nonsavu 69.69 162 LR LR 22 42 11.2
comp=Z,1µm,21.3s,baz=344,slow=30
MSVF Nonsavu 69.69 162 P **P 22 18 01.3 +2.9**
MSVF Nonsavu 69.69 162 P **P 22 17 59.6 +1.1**
MSVF pmax pmax
comp=Z,312nm,1.2s
MSVF MLR MLR
comp=Z,6µm,22.0s
L42A Oliver, Polo 69.70 48 IAMs_20 IAMs_20 22 48 12.6
comp=Z,6µm,20.0s
KMMI Kalianget 69.70 230 P **P 22 18 00.2 +1.7**
comp=Z,11µmcomp=Z,295nm,1.9s
I45A Fountain 69.72 45 IAMs_20 IAMs_20 22 49 31.7
comp=Z,7µm,19.0s
PSI Prapat 69.75 249 PKPPKP 22 46 01.2
comp=Z,7.2nm,0.9s,baz=213,slow=8.6,SNR=8.2
PSI Prapat 69.75 249 P **P 22 18 00.4 +1.3**
OVD Ostervraa, Den 69.78 343 *i* P **P 22 17 58.7 +0.2**
OVD IAmb IAmb 22 18 00.9
comp=Z,229nm,0.7s
K43A Burlington 69.79 47 IAMs_20 IAMs_20 22 50 16.9
comp=Z,5µm,19.0s
SUW Suwalki 69.81 335 *e*P **P 22 17 58.2 -0.6**
SUW *e*S **S 22 27 06.4 -0.8**
SUW *e*L L 22 46 03.9
comp=Z,12µm,28.3s
SUW Suwalki 69.81 335 IAmb IAmb 22 18 25.3
comp=Z,295nm,1.1s
SUW Suwalki 69.81 335 *e*P **P 22 17 58.7 -0.1**
BSI Banda Aceh 69.82 254 P **P 22 17 59.5 +0.1**
RPSI Rantau Prapat 69.83 249 IAMs_20 IAMs_20 22 51 44.0
comp=Z,5µm,20.0s
DEL Delary 69.84 341 *i* P **P 22 17 58.6 -0.3**
VHRN Van Horn 69.91 66 IAmb IAmb 22 18 02.9
comp=Z,240nm,1.1s
AKL Akola 69.94 278 *e*P **P 22 17 59.8 -0.2**
AKL IAmb IAmb 22 18 04.5
comp=Z,85nm,0.8s
PLTM Poltava 69.99 326 P **P 22 18 00.0 +0.1**
MAK Makhachkala 69.99 314 *e*P **P 22 17 57.7 -2.4**
MAK *e* 22 20 34.3
MAK *e*S **S 22 27 08.1 -1.6**
MAK pmax pmax
comp=Z,192nm,0.9s
MAK pmax pmax
comp=Z,6µm,6.1s
MAK MLR MLR
comp=Z,26µm,15.0s
MAK MLR MLR
comp=N,39µm,15.0s
MAK MLR MLR
comp=E,30µm,16.0s
SRBI Singaraja 70.00 228 P **P 22 18 01.1 +0.7**
comp=E,9µmcomp=E,8µmcomp=E,238nm,1.4s
T35A Sooner Cattle 70.11 56 IAmb IAmb 22 18 03.1
comp=Z,216nm,0.9s
MLSI Meulaboh, Aceh 70.11 252 P **P 22 18 00.8 -0.3**
comp=Z,6µmcomp=Z,6µmcomp=Z,225nm,1.0s
DKNS Dickens 70.11 61 IAmb IAmb 22 18 03.7
comp=Z,313nm,1.0s
N41A Harden Midland 70.12 50 IAMs_20 IAMs_20 22 51 41.9
comp=Z,7µm,18.0s
VLDQ Val d'Or 70.12 37 IAmb IAmb 22 18 00.9
comp=Z,504nm,1.6s
VLDQ IAMs_20 IAMs_20 22 53 25.0
comp=Z,6µm,19.0s
PECS Pecos 70.13 65 IAmb IAmb 22 18 04.0
comp=Z,352nm,1.3s
ABJI Asem Bagus 70.22 229 P **P 22 18 02.6 +0.9**
comp=Z,9µmcomp=Z,261nm,1.6s
GOET G??ttrup 70.22 344 *i* P **P 22 18 03.0 +1.8**
GOET IAmb IAmb 22 18 04.3
comp=Z,260nm,0.8s
POST Post 70.23 62 IAmb IAmb 22 18 05.1
comp=Z,347nm,0.8s
OK051 E0350 and S346 70.24 56 IAmb IAmb 22 18 03.5
comp=Z,217nm,1.0s
OK048 Pawnee Station 70.25 57 IAmb IAmb 22 18 03.6
comp=Z,333nm,1.1s
OK048 IAMs_20 IAMs_20 22 50 44.9
comp=Z,6µm,21.0s
GRJI Gresik 70.32 231 P **P 22 18 04.6 +2.3**
comp=Z,8µmcomp=Z,9µmcomp=Z,193nm,2.1s
GOF Gofitskoye 70.33 318 *d i* P **P 22 18 02.1 0.0**
GOF *e*S **S 22 27 15.4 +1.7**
ODSA Odessa 70.33 63 IAmb IAmb 22 18 05.7
comp=Z,313nm,0.9s
L44A Lake County Fo 70.39 47 IAmb IAmb 22 18 04.9
comp=Z,287nm,0.9s
L44A IAMs_20 IAMs_20 22 50 44.9
comp=Z,6µm,19.0s
P40A Paris 70.43 51 IAMs_20 IAMs_20 22 48 51.2
comp=Z,7µm,20.0s
OK029 Liberty Lake 70.44 57 IAMs_20 IAMs_20 22 50 57.0
comp=Z,7µm,18.0s
BKNI Bangkinang 70.49 245 IAMs_20 IAMs_20 22 52 37.6
comp=Z,5µm,18.0s
BKNI Bangkinang 70.49 245 P **P 22 18 03.8 +0.4**
BKNI Bangkinang 70.49 245 P **P 22 18 05.0 +1.6**
WMOK Wichita Mounta 70.51 59 IAmb IAmb 22 18 06.5
comp=Z,321nm,0.8s
TBJI Tambak Boyo 70.55 232 P **P 22 18 05.6 +1.9**
comp=Z,8µmcomp=Z,10µmcomp=Z,211nm,2.0s
SN07 Snyder 07 70.56 62 P **P 22 18 03.9 +0.1**
VJD Vijayawada 70.71 273 *e*P **P 22 18 05.2 +0.4**
VJD IAmb IAmb 22 18 17.1
comp=Z,122nm,1.1s
SN05 Snyder 5 70.72 62 IAmb IAmb 22 18 07.2
comp=Z,307nm,0.9s
MUD Monsted U'grnd 70.78 343 *i* P **P 22 18 04.9 +0.2**
MUD IAmb IAmb 22 18 06.7
comp=Z,48nm,0.7s
MNHN Monahans 70.79 64 IAmb IAmb 22 18 07.8
comp=Z,317nm,0.9s
JAGI Jajag, Banyuwa 70.84 229 P **P 22 18 03.7 -1.8**
AK03 Malin Array Si 70.87 329 P **P 22 18 04.3 -1.0**
AK23 Malin Array Si 70.87 329 P **P 22 18 04.3 -1.0**
BSD Bornholm Skovb 70.87 340 *e*P **P 22 18 05.2 0.0**
BSD Bornholm Skovb 70.87 340 *i* P **P 22 18 06.3 +1.1**
BSD IAmb IAmb 22 18 07.6
comp=Z,45nm,0.7s
BSD *i* P **pP 22 18 08.0 -0.1**
AK21 Malin Array Si 70.88 330 P **P 22 18 04.3 -1.1**
ERBR Yeremizino-Bor 70.88 320 *e*P **P 22 18 02.5 -3.0**
ERBR *e* 22 20 41.4
ERBR *e*S **S 22 27 19.4 -0.7**
ERBR *e* 22 28 09.1
ERBR pmax pmax
comp=N,1µm,4.5s
ERBR pmax pmax
comp=Z,5µm,3.4s
ERBR pmax pmax
comp=N,40nm,0.8s
ERBR pmax pmax
comp=Z,300nm,0.9s
ERBR pmax pmax
comp=E,24nm,0.9s
ERBR MLR MLR
comp=E,15µm,15.0s
ERBR MLR MLR
comp=Z,17µm,15.0s
ERBR MLR MLR
comp=N,38µm,15.0s
AK22 Malin Array Si 70.89 329 P **P 22 18 04.3 -1.1**
AK04 Malin Array Si 70.89 329 P **P 22 18 04.3 -1.1**
AKASG Malin Array Be 70.89 329 P **P 22 18 04.4 -1.0**
AKASG IAmb IAmb 22 18 07.0
comp=Z,158nm,0.8s
AKASG Malin Array Be 70.89 329 P **P 22 18 04.3 -1.0**
comp=Z,104nm,0.6s,baz=31,slow=6.2,SNR=236
AKASG S **S 22 27 19.3 -0.6**
comp=Z,0.2nm,0.4s,baz=32,slow=13,SNR=6.4
AKASG PKP2ab 22 45 55.9
comp=Z,6.2nm,1.0s,baz=219,slow=3.7,SNR=12
AKASG LR LR 22 54 58.0
comp=Z,14µm,18.1s,baz=20,slow=41
comp=Z,104nm,0.6s
AKBB Malin Array Si 70.89 329 IAmb IAmb 22 18 06.9
comp=Z,146nm,0.8s
AKBB Malin Array Si 70.89 329 *ce*P **P 22 18 04.6 -0.8**
AKBB pmax pmax
comp=Z,167nm,0.8s
AKBB MLR MLR
comp=Z,16µm,16.0s
AKBB Malin Array Si 70.89 329 P **P 22 18 04.3 -1.1**
KIEV Kiev 70.90 329 P **P 22 18 04.5 -1.0**
KIEV IAmb IAmb 22 18 06.9
comp=Z,130nm,0.8s
KIEV Kiev 70.90 329 ⇑P **P 22 18 04.9 -0.5**
KIEV Kiev 70.90 329 P **P 22 18 04.5 -1.0**
KIEV pmax pmax
comp=Z,131nm,0.8s
KIEV MLR MLR
comp=Z,16µm,19.0s
KIEV Kiev 70.90 329 *i* P **P 22 18 04.4 -1.1**
SNR=7.2
KIEV Kiev 70.90 329 P **P 22 18 04.3 -1.1**
comp=Z,18µmcomp=Z,723nm,0.8s
AK01 Malin Array Si 70.90 329 P **P 22 18 04.4 -1.1**
DEOK Depew 70.92 57 IAMs_20 IAMs_20 22 51 10.6
comp=Z,5µm,20.0s
AK18 Malin Array Si 70.92 329 P **P 22 18 04.5 -1.1**
AK20 Malin Array Si 70.92 330 P **P 22 18 04.5 -1.1**
AK11 Malin Array Si 70.93 329 P **P 22 18 04.6 -1.0**
AK15 Malin Array Si 70.93 329 P **P 22 18 04.6 -1.0**
AK02 Malin Array Si 70.93 329 P **P 22 18 04.6 -1.1**
AK08 Malin Array Si 70.94 329 P **P 22 18 04.6 -1.1**
AK19 Malin Array Si 70.94 330 P **P 22 18 04.6 -1.1**
AK09 Malin Array Si 70.94 329 P **P 22 18 04.7 -1.0**
AK16 Malin Array Si 70.95 329 P **P 22 18 04.7 -1.1**
AK17 Malin Array Si 70.96 329 P **P 22 18 04.8 -1.0**
AK12 Malin Array Si 70.96 329 P **P 22 18 04.8 -1.0**
AK05 Malin Array Si 70.96 329 P **P 22 18 04.8 -1.1**
MNSI Mandailing Nat 70.97 247 P **P 22 18 05.7 -0.6**
AK10 Malin Array Si 70.97 329 P **P 22 18 04.8 -1.1**
AK14 Malin Array Si 70.99 329 P **P 22 18 04.9 -1.1**
ALPN Alpine 70.99 65 IAmb IAmb 22 18 09.1
comp=Z,265nm,1.2s
AK06 Malin Array Si 71.00 329 P **P 22 18 05.0 -1.1**
HDIL Hopedale 71.00 49 IAMs_20 IAMs_20 22 52 43.9
comp=Z,6µm,19.0s
GMJI Gumukmas 71.02 229 P **P 22 18 06.2 -0.3**
AK13 Malin Array Si 71.02 329 P **P 22 18 05.1 -1.1**
AK07 Malin Array Si 71.02 329 P **P 22 18 05.2 -1.0**
PMBI Palembang 71.02 240 P **P 22 18 09.5 +2.8**
MI28 Mi28,Pidlybu 71.19 330 P **P 22 18 06.8 -0.4**
NGJI Ngawi 71.22 232 P **P 22 18 09.5 +1.7**
comp=Z,10µmcomp=Z,248nm,1.5s
TUL3 Leonard 71.24 56 IAMs_20 IAMs_20 22 48 26.2
comp=Z,4µm,20.0s
LLD Lille Linde 71.25 341 *i* P **P 22 18 08.1 +0.7**
LLD IAmb IAmb 22 18 09.8
comp=Z,150nm,0.8s
R40A Maddies Statio 71.27 52 IAMs_20 IAMs_20 22 48 44.4
comp=Z,5µm,20.0s
L46A Eue Claire 71.27 46 IAmb IAmb 22 18 10.3
comp=Z,321nm,0.8s
L46A IAMs_20 IAMs_20 22 53 04.1
comp=Z,6µm,19.0s
I49A Point Hope 71.30 43 IAmb IAmb 22 18 10.7
comp=Z,188nm,0.8s
KNRA Kununurra 71.32 212 IAmb IAmb 22 18 10.5
comp=Z,289nm,0.9s
KNRA Kununurra 71.32 212 P **P 22 18 08.2 -0.1**
comp=Z,0.0nmcomp=Z,332nm,0.9s
RNPP9 Sopachiv 71.32 332 P **P 22 18 07.5 -0.5**
NCK Nalchik 71.34 317 *i* P **P 22 18 07.9 -0.4**
NCK pmax pmax
comp=Z,288nm,0.8s
NCK MLR MLR
comp=Z,26µm,19.0s
KVAR Kislovodsk Arr 71.36 317 LR LR 22 52 53.0
comp=Z,7µm,20.1s,baz=270,slow=39
KIV Kislovodsk 71.37 317 P **P 22 18 08.2 -0.4**
KIV IAmb IAmb 22 18 23.1
comp=Z,255nm,0.8s
KIV Kislovodsk 71.37 317 P **P 22 18 09.1 +0.6**
KIV S **S 22 27 25.6 -0.4**
KIV Kislovodsk 71.37 317 ⇑P **P 22 18 10.2 +1.6**
KIV Kislovodsk 71.37 317 *e*P **P 22 18 08.5 -0.1**
KIV *e* 22 18 28.4
KIV *e* 22 20 45.6
KIV *e*PPP PPP 22 22 26.9
KIV *e*S **S 22 27 27.1 +1.2**
KIV *e*SS **SS 22 32 00.0 +0.7**
KIV pmax pmax
comp=Z,1µm,4.0s
KIV pmax pmax
comp=Z,242nm,1.0s
KIV Kislovodsk 71.37 317 *i* P **P 22 18 07.7 -0.9**
SNR=41
KIV Kislovodsk 71.37 317 P **P 22 18 08.9 +0.3**
comp=Z,6µmcomp=Z,263nm,0.7s
HYB Hyderabad 71.38 275 *e*P **P 22 18 09.3 +0.4**
HYB IVmB_BB 22 18 12.3
comp=Z,4µm,3.8s
HYB *e*PP **PP 22 20 46.7 -0.4**
HYB *e*S **S 22 27 27.8 +1.2**
RNPP2 Kostyukhnivka 71.39 332 P **P 22 18 08.7 +0.2**
RNPP8 Varash 71.40 332 P **P 22 18 07.8 -0.7**
WTFS Witchita Falls 71.41 59 IAmb IAmb 22 18 11.7
comp=Z,334nm,0.9s
KBZ Khabaz 71.46 317 P **P 22 18 09.2 +0.3**
comp=Z,221nm,0.8s,baz=73,slow=1.5,SNR=242
KBZ PKP2ab 22 45 52.6
comp=Z,3.3nm,1.0s,baz=241,slow=7.7,SNR=4.4
KBZ LR LR 22 53 59.3
comp=Z,8µm,18.8s,baz=21,slow=40
comp=Z,221nm,0.8s
SMRI Semarang 71.46 233 IAmb IAmb 22 18 12.1
comp=Z,190nm,1.1s
SMRI Semarang 71.46 233 P **P 22 18 10.8 +1.5**
comp=Z,99nm,1.0s
RNPP5 Staryi Chortor 71.48 332 P **P 22 18 08.5 -0.5**
PPI Padang Panjang 71.50 245 P **P 22 18 10.7 +1.2**
SHA1 Shidzhatmaz 71.55 317 *i* P **P 22 18 09.5 -0.4**
U38A Gravette 71.58 55 IAmb IAmb 22 18 12.2
comp=Z,267nm,0.8s
P43A Skaggs, Pawnee 71.59 50 IAmb IAmb 22 18 12.4
comp=Z,391nm,1.0s
P43A IAMs_20 IAMs_20 22 48 39.0
comp=Z,6µm,20.0s
LPIG La Paz 71.61 74 LR LR 22 46 23.1
comp=Z,2µm,18.1s,baz=310,slow=33
SNSI Sinabang, Aceh 71.62 251 P **P 22 18 11.2 +0.9**
comp=Z,540nm,1.4s
SSRD Sdr. Stenderup 71.62 343 *i* P **P 22 18 09.9 +0.2**
SSRD IAmb IAmb 22 18 11.9
comp=Z,45nm,0.8s
LABN Labinsk 71.65 319 *e*P **P 22 18 10.9 +0.8**
LABN *e* 22 20 48.3
LABN *e*PPP PPP 22 22 34.0
LABN *i* S **S 22 27 31.9 +2.9**
LABN *e* 22 28 12.4
LABN pmax pmax
comp=Z,4µm,3.5s
LABN pmax pmax
comp=N,896nm,3.3s
LABN pmax pmax
comp=Z,314nm,0.9s
LABN pmax pmax
comp=N,12nm,1.0s
LABN pmax pmax
comp=E,40nm,1.0s
LABN pmax pmax
comp=E,289nm,1.7s
TX31 Lajitas Ar. Si 71.75 66 IAmb IAmb 22 18 13.9
comp=Z,439nm,1.1s
TXAR Lajitas Array 71.75 66 P **P 22 18 11.2 +0.1**
TXAR Lajitas Array 71.75 66 P **P 22 18 11.6 +0.5**
comp=Z,249nm,0.8s,baz=301,slow=4.5,SNR=541
TXAR PKPPKP P'P'df 22 45 56.3 -9.2
comp=Z,5.3nm,1.0s,baz=143,slow=3.8,SNR=12
TXAR LR LR 22 48 29.5
comp=Z,1µm,19.4s,baz=318,slow=35
comp=Z,249nm,0.8s
TXAR Lajitas Array 71.75 66 P **P 22 18 11.2 +0.1**
GSI Gunungsitoli 71.75 249 IAmb IAmb 22 18 28.8
comp=Z,173nm,1.0s
GSI IAMs_20 IAMs_20 22 50 32.6
comp=Z,5µm,19.0s
GSI Gunungsitoli 71.75 249 P **P 22 18 12.8 +1.7**
GSI Gunungsitoli 71.75 249 P **P 22 18 12.4 +1.3**
comp=Z,9µmcomp=Z,227nm,0.9s
RGN Rugen 71.75 340 IAmb IAmb 22 18 50.0
comp=Z,208nm,1.0s
KPL Plockton 71.96 352 *e*P **P 22 18 11.7 0.0**
CCM Cathedral Cave 71.96 52 P **P 22 18 11.4 -0.7**
CCM IAmb IAmb 22 18 14.5
comp=Z,324nm,0.9s
CCM IAMs_20 IAMs_20 22 49 17.8
comp=Z,6µm,21.0s
CCM Cathedral Cave 71.96 52 P **P 22 18 11.4 -0.7**
CCM pmax pmax
comp=Z,324nm,0.9s
CCM MLR MLR
comp=Z,6µm,21.0s
R9F13 Warsaw-Wawer 71.97 335 *e*P **P 22 18 12.2 +0.3**
comp=Z,4.7nm,0.6s
R9F13 *e*PP **PP 22 20 50.8 -0.2**
R9F13 *e*S S 22 26 18.0 -74
R9F13 *e*SKS S 22 26 57.5 -35
R9F13 *e*SS SS 22 30 19.5 -108
SLM Saint Louis 72.02 51 IAmb IAmb 22 18 15.1
comp=Z,381nm,0.9s
GKP Gorka Klasztor 72.03 338 *e*P **P 22 18 12.1 -0.1**
GKP *e*L L 22 48 35.8
comp=Z,15µm,27.4s
GKP Gorka Klasztor 72.03 338 *e*P **P 22 18 12.4 +0.2**
OZNA Ozona 72.03 63 IAmb IAmb 22 18 15.8
comp=Z,153nm,0.8s
LUBAR Lubar, Ukraine 72.04 330 P **P 22 18 11.4 -1.0**
PCJI Pacitan 72.07 232 P **P 22 18 12.7 -0.2**
comp=Z,5µmcomp=Z,4µmcomp=Z,63nm,0.9s
MGMO Mountain Grove 72.14 53 IAmb IAmb 22 18 14.6
comp=Z,335nm,1.1s
SLBS Sierra La Lagu 72.14 74 P **P 22 18 15.0 +1.5**
SLBS IAmb IAmb 22 18 16.8
comp=Z,281nm,1.5s
SLBS Sierra La Lagu 72.14 74 IAMs_20 IAMs_20 22 46 19.8
comp=Z,4µm,18.0s
UGM Wanagama 72.16 232 IAmb IAmb 22 18 14.6
comp=Z,498nm,1.3s
UGM Wanagama 72.16 232 P **P 22 18 13.2 -0.3**
UGM Wanagama 72.16 232 P **P 22 18 13.1 -0.4**
comp=Z,4µmcomp=Z,5µmcomp=Z,314nm,1.2s
SFIN Lafayette 72.18 48 IAmb IAmb 22 18 15.8
comp=Z,285nm,0.9s
SFIN IAMs_20 IAMs_20 22 50 02.2
comp=Z,7µm,19.0s
SAND Sanderson 72.18 65 IAmb IAmb 22 18 16.2
comp=Z,303nm,1.2s
SADO Sadowa 72.19 40 IAmb IAmb 22 18 14.4
comp=Z,352nm,1.9s
SADO IAMs_20 IAMs_20 22 51 08.7
comp=Z,4µm,19.0s
YOGI Yogyakarta 72.19 233 P **P 22 18 14.0 +0.3**
comp=Z,3µmcomp=Z,207nm,1.4s
AAM Ann Arbor 72.24 44 IAmb IAmb 22 18 16.7
comp=Z,316nm,0.9s
AAM IAMs_20 IAMs_20 22 51 18.5
comp=Z,6µm,18.0s
K50A Casco 72.32 43 IAmb IAmb 22 18 16.3
comp=Z,367nm,1.2s
HPIG 72.34 69 P **P 22 18 14.9 +0.1**
HPIG IAmb IAmb 22 18 17.5
comp=Z,187nm,1.0s
DZM Mont Dzumac 72.39 174 IAmb IAmb 22 18 18.5
comp=Z,369nm,1.3s
DZM IAMs_20 IAMs_20 22 42 53.5
comp=Z,6µm,21.0s
DZM Mont Dzumac 72.39 174 *e*P **P 22 18 15.4 +0.7**
comp=Z,611nm,1.4s
DZM Mont Dzumac 72.39 174 *e*PP **PP 22 20 56.5 +0.4**
comp=Z,351nm,24.5s
DZM *e*S **S 22 27 32.7 -5.1**
comp=Z,3µm,23.6s
DZM *e*SS **SS 22 32 07.9 -9.0**
comp=Z,3µm,29.2s
DZM *e*LQ LQ 22 37 08.5
comp=Z,13µm,27.4s
DZM *e*LR LR 22 40 22.6
comp=Z,17µm,30.9s
DZM Mont Dzumac 72.39 174 LR LR 22 44 36.9
comp=Z,4µm,21.9s,baz=7.5,slow=31
DZM Mont Dzumac 72.39 174 P **P 22 18 17.1 +2.4**
Z35A Perchaven, San 72.40 59 IAmb IAmb 22 18 17.2
comp=Z,290nm,0.9s
Q44A Meyer Farm, Va 72.41 50 IAMs_20 IAMs_20 22 49 13.5
comp=Z,7µm,20.0s
BEL Belsk 72.41 335 *e*P **P 22 18 15.1 +0.5**
BEL *e*S **S 22 27 38.8 +1.3**
BEL *e*L L 22 46 31.1
comp=Z,36µm,29.2s
YATNC Mamie plateau, 72.41 173 P **P 22 18 17.8 +3.0**
PBSI Pulau Batu 72.41 248 P **P 22 18 16.2 +1.1**
comp=Z,9µmcomp=Z,106nm,0.9s
N47A Urbana 72.44 46 IAMs_20 IAMs_20 22 53 41.1
comp=Z,5µm,18.0s
FW06 Azle 72.50 59 IAmb IAmb 22 18 17.7
comp=Z,307nm,0.9s
ICQ Pointe Anglais 72.53 30 IAMs_20 IAMs_20 22 54 32.8
comp=Z,5µm,20.0s
LDAQ Lac Daran 72.53 33 IAMs_20 IAMs_20 22 53 31.2
comp=Z,4µm,18.0s
FW07 Weatherford 72.58 60 IAmb IAmb 22 18 18.2
comp=Z,516nm,1.3s
ONTNC Ouen Toro 72.63 174 IAmb IAmb 22 18 19.7
comp=Z,311nm,1.3s
ONTNC IAMs_20 IAMs_20 22 42 49.7
comp=Z,5µm,21.0s
MDSI Maura Dua 72.64 240 P **P 22 18 15.2 -1.2**
comp=Z,6µmcomp=Z,6µmcomp=Z,129nm,1.3s
BHUJ Bhuj 72.66 286 *e*P **P 22 18 16.8 +0.3**
P46A Rosedale 72.73 48 IAMs_20 IAMs_20 22 49 56.7
comp=Z,6µm,20.0s
OUENC Ouen Island, N 72.77 173 P **P 22 18 20.5 +3.7**
BLSI Bandar Lampung 72.79 238 P **P 22 18 17.3 +0.1**
comp=Z,5µmcomp=Z,171nm,1.1s
TRQ Mont Tremblant 72.80 36 IAMs_20 IAMs_20 22 51 22.6
comp=Z,4µm,20.0s
T42A Van Buren 72.83 52 IAmb IAmb 22 18 18.9
comp=Z,281nm,1.1s
T42A IAMs_20 IAMs_20 22 49 21.9
comp=Z,5µm,20.0s
KSI Kapahiang 72.84 242 P **P 22 18 17.5 -0.1**
comp=Z,5µmcomp=Z,155nm,1.2s
ANN Anapa 72.87 321 *d i* P **P 22 18 16.1 -1.3**
ANN *i* 22 20 58.0
ANN *i* PPP PPP 22 22 40.7
ANN *e*S **S 22 27 41.4 -1.5**
ANN *i* 22 28 21.7
ANN *e*SS **SS 22 32 27.6 +5.6**
ANN pmax pmax
comp=N,22nm,0.9s
ANN pmax pmax
comp=Z,74nm,1.0s
ANN pmax pmax
comp=E,20nm,1.1s
ANN pmax pmax
comp=Z,6µm,9.0s
ANN pmax pmax
comp=N,2µm,9.7s
ANN pmax pmax
comp=E,84nm,1.0s
VSLR Vesyoloye 72.90 319 *i* P **P 22 18 17.1 -0.5**
VSLR pmax pmax
comp=Z,454nm,0.7s
QIS Mount Isa 72.93 200 P **P 22 18 17.1 -0.8**
comp=Z,0.0nmcomp=Z,163nm,1.7s
QIS Mount Isa 72.93 200 P **P 22 18 17.0 -0.9**
SOC Sochi 72.93 319 *e*P **P 22 18 16.6 -1.2**
SOC *e* 22 20 58.1
SOC *e*PPP PPP 22 22 42.7
SOC *e*S **S 22 27 44.3 +0.6**
SOC *e*SS **SS 22 32 25.6 +2.6**
SOC pmax pmax
comp=Z,215nm,0.7s
SBJI Serang 72.94 237 P **P 22 18 18.2 +0.1**
comp=Z,7µmcomp=Z,247nm,1.2s
SISI Saibi 72.96 246 P **P 22 18 18.7 +0.4**
comp=Z,7µmcomp=Z,170nm,1.1s
LAWE Loch Awe, Argy 73.00 352 *e*P **P 22 18 18.0 0.0**

LAWE IAmb IAmb 22 18 20.1
comp=Z,64nm,0.8s
PINNC Pines Island, 73.00 173 IAmb IAmb 22 18 22.5
comp=Z,295nm,1.2s
PINNC IAMs_20 IAMs_20 22 44 10.7
comp=Z,7μm,20.0s
DELO Deloro Mine 73.01 39 IAmb IAmb 22 18 19.7
comp=Z,646nm,2.0s
DELO IAMs_20 IAMs_20 22 55 48.5
comp=Z,5μm,19.0s
FW13 Cleburne 73.04 60 IAmb IAmb 22 18 21.7
comp=Z,182nm,0.8s
ESY Stoneypath 73.05 350 *e*P **P 22 18 18.2 -0.1**
HORU Horodok 73.08 330 P **P 22 18 18.3 -0.3**
N49A Columbus Grove 73.11 45 IAMs_20 IAMs_20 22 52 38.5
comp=Z,5μm,20.0s
CMJI Cimerak 73.11 234 P **P 22 18 17.8 -1.3**
comp=Z,89nm,1.0s
JCT Junction City 73.12 63 IAmb IAmb 22 18 22.2
comp=Z,441nm,0.9s
JCT IAMs_20 IAMs_20 22 49 17.6
comp=Z,4μm,19.0s
BAL3X Bal3x, Balta 73.14 328 P **P 22 18 18.2 -0.8**
LWLI Liwa 73.15 240 P **P 22 18 18.3 -1.2**
comp=Z,4μmcomp=Z,4μmcomp=Z,367nm,0.9s
FCAR Ozark Folk Cen 73.18 54 IAmb IAmb 22 18 21.5
comp=Z,325nm,0.8s
FCAR IAMs_20 IAMs_20 22 52 05.3
comp=Z,7μm,19.0s
O48B Farmland 73.19 47 IAmb IAmb 22 18 21.9
comp=Z,350nm,0.8s
O48B IAMs_20 IAMs_20 22 52 28.7
comp=Z,5μm,19.0s
LMQ La Malbaie 73.21 33 IAmb IAmb 22 18 21.3
comp=Z,238nm,1.3s
LMQ IAMs_20 IAMs_20 22 55 31.1
comp=Z,7μm,19.0s
MNAI Manna 73.22 241 P **P 22 18 19.3 -0.6**
MNAI IAmb IAmb 22 18 37.3
comp=Z,192nm,0.9s
MNAI IAMs_20 IAMs_20 22 55 41.2
comp=Z,4μm,20.0s
FW16 Waxahatchie 73.24 59 IAmb IAmb 22 18 22.1
comp=Z,519nm,1.4s
M50A Fremont 73.24 44 IAmb IAmb 22 18 22.9
comp=Z,133nm,0.8s
M50A IAMs_20 IAMs_20 22 51 30.8
comp=Z,7μm,18.0s
S44A Carbondale 73.24 51 IAMs_20 IAMs_20 22 50 57.1
comp=Z,7μm,19.0s
SIUC Southern Illin 73.24 51 IAMs_20 IAMs_20 22 50 57.5
comp=Z,7μm,19.0s
LVV L'vov 73.29 332 P **P 22 18 20.1 +0.3**
NDNU Novodnistrovsk 73.32 329 P **P 22 18 19.3 -0.7**
CGM3 Cape Girardeau 73.34 51 IAmb IAmb 22 18 22.2
comp=Z,330nm,1.2s
PGBU Glenifferbraes 73.35 351 *e*P **P 22 18 20.2 +0.1**
PBMO Poplar Bluff 73.36 52 IAMs_20 IAMs_20 22 48 28.9
comp=Z,6μm,22.0s
SORM Soroca 73.39 329 ⇓P **P 22 18 19.5 -0.9**
SORM Soroca 73.39 329 P **P 22 18 19.3 -1.1**
SORM Soroca 73.39 329 P **P 22 18 19.3 -1.1**
comp=Z,5μmcomp=Z,260nm,0.8s
CNJI Cibinong 73.40 236 P **P 22 18 19.7 -1.1**
BLO Bloomington 73.40 48 IAmb IAmb 22 18 22.6
comp=Z,317nm,0.8s
BLO IAMs_20 IAMs_20 22 50 18.6
comp=Z,6μm,20.0s
DRIO Del Rio 73.45 64 IAmb IAmb 22 18 23.4
comp=Z,530nm,1.2s
SKJI Sukabumi 73.45 236 P **P 22 18 20.4 -0.7**
comp=Z,5μmcomp=Z,5μmcomp=Z,190nm,1.1s
GNI Garni 73.48 314 P **P 22 18 22.3 +1.0**
GNI IAmb IAmb 22 18 32.0
comp=Z,249nm,0.9s
GNI Garni 73.48 314 LR LR 22 54 13.1
comp=Z,13μm,20.8s,baz=50,slow=39
GNI Garni 73.48 314 P **P 22 18 22.5 +1.2**
GNI P **P 22 18 22.5 +1.2**
GNI S **S 22 27 50.0 -0.4**
GNI S **S 22 27 50.0 -0.4**
GNI Garni 73.48 314 *c*e P **P 22 18 22.6 +1.2**
GNI pmax pmax
comp=Z,507nm,1.7s
GNI MLR MLR
comp=Z,13μm,20.0s
GNI Garni 73.48 314 P **P 22 18 21.5 +0.1**
TREL Terrell 73.49 59 IAmb IAmb 22 18 24.1
comp=Z,274nm,0.8s
POO Poona 73.54 279 *e*P **P 22 18 21.3 -0.5**
POO IAmb IAmb 22 18 24.3
comp=Z,297nm,1.3s
WBO Williamsburg 73.54 37 IAmb IAmb 22 18 22.3
comp=Z,638nm,2.0s
WBO IAMs_20 IAMs_20 22 56 26.3
comp=Z,6μm,18.0s
RUE Ruedersdorf 73.57 339 *e*P **P 22 18 21.8 +0.4**
WR0 Warramunga Arr 73.60 205 IAmb IAmb 22 18 23.7
comp=Z,466nm,1.1s
O49A Covington 73.62 46 IAmb IAmb 22 18 24.4
comp=Z,227nm,0.9s
WRAB Tennant Creek 73.62 205 P **P 22 18 21.7 -0.3**
WRAB Tennant Creek 73.62 205 *i* P **P 22 18 19.7 -2.3**
WRAB pmax pmax
comp=Z,864nm,1.1s
WRAB MLR MLR
comp=Z,3μm,18.0s
WB2 Warramunga Arr 73.63 205 P **P 22 18 21.7 -0.3**
WRA Warramunga Arr 73.64 205 P **P 22 18 21.5 -0.6**
WRA Warramunga Arr 73.64 205 P **P 22 18 21.5 -0.6**
comp=Z,484nm,1.1s,baz=20,slow=6.3,SNR=193
WRA PKPPKP **P'P'df 22 45 54.2 +2.5**
comp=Z,1.1nm,0.8s,baz=207,slow=2.2,SNR=5.7
WRA LR LR 22 51 50.5
comp=Z,2μm,18.9s,baz=21,slow=37
comp=Z,484nm,1.1s
KMPD K-Podol'skiy 73.64 330 P **pP 22 18 21.0 -3.6**
KMPD P **P 22 18 20.4 -1.5**
EKA Eskdalemuir Ar 73.68 350 P **P 22 18 21.9 -0.1**
comp=Z,49nm,0.6s,baz=18,slow=5.3,SNR=131
comp=Z,49nm,0.6s
Z38A Mt. Pleasant 73.69 57 IAMs_20 IAMs_20 22 52 57.0
comp=Z,7μm,19.0s
P48A Milroy 73.69 47 IAmb IAmb 22 18 24.6
comp=Z,345nm,0.9s
ESK Eskdalemuir 73.70 350 P **P 22 18 22.4 +0.2**
ESK IAMs_20 IAMs_20 22 56 52.2
comp=Z,4μm,19.0s
ESK Eskdalemuir 73.70 350 *e*P **P 22 18 22.2 +0.1**
ESK IAmb IAmb 22 18 24.4
comp=Z,67nm,0.8s
ESK Eskdalemuir 73.70 350 P **P 22 18 22.4 +0.2**
ESK pmax pmax
comp=Z,165nm,1.2s
ESK MLR MLR
comp=Z,4μm,19.0s
PECO Prince Edward 73.75 39 IAMs_20 IAMs_20 22 57 08.9
comp=Z,5μm,18.0s
MNTQ Montreal, Queb 73.76 36 IAMs_20 IAMs_20 22 51 52.8
comp=Z,5μm,20.0s
MEDO Medina 73.79 41 IAmb IAmb 22 18 24.5
comp=Z,841nm,1.6s
PARMO Parma 73.79 52 P **P 22 18 23.2 +0.3**
PARMO IAMs_20 IAMs_20 22 50 13.2
comp=Z,6μm,20.0s
KARS Kars 73.86 315 P **P 22 18 23.7 +0.2**
KARS Kars 73.86 315 P **P 22 18 23.7 +0.2**
KARS MLR MLR
comp=Z,35μm,18.0s
M52A Chesterland 73.87 43 IAmb IAmb 22 18 26.3
comp=Z,475nm,1.0s
X40A Basin Creek Fa 73.89 55 IAmb IAmb 22 18 25.3
comp=Z,174nm,0.9s
N51A Ashland 73.92 44 IAmb IAmb 22 18 26.2
comp=Z,433nm,0.9s
N51A IAMs_20 IAMs_20 22 52 02.1
comp=Z,7μm,18.0s
UALR University of 73.93 55 IAmb IAmb 22 18 25.8
comp=Z,178nm,1.1s
J55A Hilton 73.97 40 IAMs_20 IAMs_20 22 57 00.9
comp=Z,4μm,20.0s
ERPA Erie 74.00 42 IAMs_20 IAMs_20 22 51 54.7
comp=Z,5μm,19.0s
NEWG New Galloway 74.01 351 *e*P **P 22 18 23.9 0.0**
PVMO Portageville 74.01 52 IAMs_20 IAMs_20 22 50 30.1
comp=Z,6μm,20.0s
EDMD Edmundbyers 74.04 349 *e*P **P 22 18 24.1 0.0**
EDMD IAmb IAmb 22 18 25.1
comp=Z,537nm,2.2s
CHRU Chernivtsi 74.04 330 P **P 22 18 22.6 -1.7**
comp=Z,3μmcomp=Z,215nm,0.8s
SIM Simferopol' 74.05 323 *e*P **P 22 18 24.1 -0.3**
SIM *e* 22 21 11.1
SIM *e*S **S 22 27 55.3 -1.0**
SIM pmax pmax
comp=Z,173nm,0.8s
SIM pmax pmax
comp=Z,454nm,6.2s
SIM smax smax
comp=E,819nm,16.6s
SIM MLR MLR
comp=Z,19μm,18.0s
D62A Allapoint, All 74.05 32 IAMs_20 IAMs_20 22 55 16.4
comp=Z,5μm,20.0s
STNU Starunia 74.12 331 P **P 22 18 24.4 -0.3**
LONY Lake Ozonia 74.13 37 IAMs_20 IAMs_20 22 55 56.8
comp=Z,7μm,18.0s
435B Jarrell 74.14 61 IAmb IAmb 22 18 27.7
comp=Z,332nm,1.1s
OJC Ojcow 74.14 335 *e*P **P 22 18 25.3 +0.5**
OJC *e*S **S 22 27 57.7 +0.6**
OJC *e*L L 22 48 25.3
comp=Z,10μm,28.3s
OJC Ojcow 74.14 335 IAmb IAmb 22 18 45.2
comp=Z,683nm,2.0s
OJC Ojcow 74.14 335 P **P 22 18 25.1 +0.3**
comp=Z,5μmcomp=Z,142nm,1.5s
HICK Hickman 74.15 52 IAMs_20 IAMs_20 22 52 28.7
comp=Z,6μm,18.0s
PEBM Pemiscott Bayo 74.16 52 IAMs_20 IAMs_20 22 49 15.2
comp=Z,5μm,21.0s
237A Washetta, Mont 74.20 59 IAmb IAmb 22 18 28.3
comp=Z,306nm,0.9s
GNAR Gosnell 74.20 52 IAMs_20 IAMs_20 22 50 14.1
comp=Z,5μm,20.0s
ACSO Alum Creek Sta 74.20 45 IAMs_20 IAMs_20 22 52 37.5
comp=Z,7μm,18.0s
KIS Kishinev 74.22 328 ⇓*i*P **P 22 18 24.5 -0.8**
comp=Z,460nm,1.6s
KIS Kishinev 74.22 328 *e*PcP PcP 22 18 50.0 +10
KIS Kishinev 74.22 328 *e*PP PP 22 21 15.0 +4.7
KIS *i* S **SKiKP 22 27 54.0 +2.2**
comp=Z,2μm,10.4s
KIS Kishinev 74.22 328 ⇑P **P 22 18 25.4 +0.1**
KIS Kishinev 74.22 328 *i* P **P 22 18 24.5 -0.8**
KIS *e* 22 21 15.0
KIS *i* S **SKiKP 22 27 54.0 +2.2**
KIS *e*PS **PnS 22 28 42.0 +10**
KIS pmax pmax
comp=Z,460nm,1.6s
KIS smax smax
comp=N,2μm,10.4s
KIS smax smax
comp=E,2μm,9.8s
KIS MLR MLR
comp=Z,11μm,13.5s
KIS MLR MLR
comp=N,8μm,15.5s
KIS Kishinev 74.22 328 P **P 22 18 24.7 -0.6**
comp=N,3μmcomp=N,141nm,0.7s
CLGH Cloghs, Cushen 74.23 352 *e*P **P 22 18 25.4 +0.2**
KAD Karad 74.24 278 *e*P **P 22 18 25.3 -0.6**
KAD IAmb IAmb 22 18 29.0
comp=Z,150nm,0.7s
WCI Wyandotte Cave 74.26 49 P **P 22 18 25.5 -0.2**
WCI Wyandotte Cave 74.26 49 IAMs_20 IAMs_20 22 54 55.3
comp=Z,7μm,19.0s
WCI Wyandotte Cave 74.26 49 P **P 22 18 25.5 -0.2**
WCI pmax pmax
comp=Z,725nm,0.9s
WCI MLR MLR
comp=Z,7μm,19.0s
PURM Purcari 74.26 327 ⇑P **P 22 18 25.1 -0.4**
PURM Purcari 74.26 327 P **P 22 18 25.0 -0.5**
comp=Z,6μmcomp=Z,444nm,0.9s
E62A Clayton Lake 74.29 33 IAMs_20 IAMs_20 22 56 03.7
comp=Z,6μm,18.0s
MILM Milestii Mici 74.29 328 *i* P **P 22 18 24.4 -1.3**
comp=Z,3μm,4.7s
MILM Milestii Mici 74.29 328 *e*PP PP 22 21 13.0 +2.1
MILM *i* S **SKiKP 22 27 54.0 +2.1**
comp=Z,4μm,6.9s
MILM *e*L L 22 44 04.0
MILM LRM MLR 22 56 04.0
comp=Z,9μm,15.0s
MILM Milestii Mici 74.29 328 ⇓P **P 22 18 26.2 +0.5**
MILM Milestii Mici 74.29 328 *d*/*i*P **P 22 18 24.4 -1.3**
MILM *e* 22 21 13.0
MILM *i* S **SKiKP 22 27 54.0 +2.1**
MILM pmax pmax
comp=Z,3μm,4.7s
MILM smax smax
comp=N,4μm,6.9s
MILM smax smax
comp=E,3μm,8.0s
MILM MLR MLR
comp=Z,11μm,13.6s
MILM MLR MLR
comp=N,9μm,15.0s
MILM MLR MLR
comp=E,8μm,14.0s
KSV Kosov 74.30 331 P **P 22 18 23.8 -2.0**
GAL1 Galloway 74.31 351 *e*P **P 22 18 24.9 -0.8**
GAL1 IAmb IAmb 22 18 27.8
comp=Z,80nm,0.9s
ALLY Alegheny Colle 74.31 42 IAMs_20 IAMs_20 22 51 56.1
comp=Z,7μm,19.0s
FRNY Flat Rock 74.33 37 IAMs_20 IAMs_20 22 52 29.1
comp=Z,5μm,20.0s
GLAT Glass 74.33 52 IAMs_20 IAMs_20 22 50 40.5
comp=Z,6μm,21.0s
LNXT Lenox 74.36 52 IAMs_20 IAMs_20 22 50 21.3
comp=Z,6μm,19.0s
IDGL Inch Island, C 74.36 353 *e*P **P 22 18 26.4 +0.4**
IDGL IAmb IAmb 22 18 28.4
comp=Z,128nm,0.8s
IDGL Inch Island, C 74.36 353 P **P 22 18 26.8 +0.8**
KESW Keswick, Cumbr 74.41 350 *e*P **P 22 18 26.6 +0.3**
KESW IAmb IAmb 22 18 28.8
comp=Z,139nm,0.7s
STHS Stebnicka Huta 74.46 333 *e*P **P 22 18 26.6 -0.1**
STHS pmax pmax
comp=Z,123nm,0.8s
STHS Stebnicka Huta 74.46 333 *e*P **P 22 18 26.6 -0.1**
IASR Iasi 74.48 329 ⇑P **P 22 18 27.4 +0.6**
KSP Ksiaz 74.49 337 *e*P **P 22 18 27.3 +0.5**
KSP *e*S **SKiKP 22 27 49.2 -2.9**
KSP *e*L L 22 48 19.0
comp=Z,12μm,31.1s
KSP Ksiaz 74.49 337 P **P 22 18 26.5 -0.3**
comp=Z,3μmcomp=Z,71nm,0.9s
HALT Halls 74.59 52 IAMs_20 IAMs_20 22 50 27.3
comp=Z,5μm,20.0s
J57A Williamstown 74.59 39 IAmb IAmb 22 18 28.9
comp=Z,637nm,1.7s
J57A IAMs_20 IAMs_20 22 53 32.0
comp=Z,4μm,18.0s
KOLS Kolonicke sedl 74.60 333 *e*P **P 22 18 27.7 +0.2**
KOLS pmax pmax
comp=Z,163nm,0.7s
KOLS Kolonicke sedl 74.60 333 *e*P **P 22 18 27.7 +0.2**
MEZ Mezhgor'ye 74.60 332 P **P 22 18 26.6 -0.9**
FITZ Fitzroy Crossi 74.64 214 P **P 22 18 28.2 +0.2**
comp=Z,0.0nmcomp=Z,152nm,1.1s
FITZ Fitzroy Crossi 74.64 214 LR LR 22 47 35.4
comp=Z,995nm,21.1s,baz=23,slow=33
FITZ Fitzroy Crossi 74.64 214 P **P 22 18 28.7 +0.7**
NIE Niedzica 74.73 334 *e*P **P 22 18 29.4 +1.1**
NIE *e*S **S 22 28 06.0 +2.2**
NIE *e*L L 22 49 21.0
comp=Z,9μm,29.1s
NIE Niedzica 74.73 334 P **P 22 18 28.7 +0.4**
comp=Z,2μmcomp=Z,69nm,2.2s
R49A Shelbyville 74.74 48 IAmb IAmb 22 18 31.0
comp=Z,432nm,1.1s
PRAR RASCA 74.77 329 ⇑P **P 22 18 28.8 +0.3**
OSTC Ostas 74.77 337 *e*P **P 22 18 28.8 +0.3**
OSTC *e*S **S 22 28 05.8 +1.6**
OSTC AMS AMS 22 57 50.0
comp=Z,26μm,15.0s
OSTC Ostas 74.77 337 *e*P **P 22 18 28.8 +0.3**
OSTC *e*S **S 22 28 05.8 +1.6**
OSTC MLR MLR
comp=Z,26μm,15.0s
P51A Williamsport 74.77 46 IAmb IAmb 22 18 31.2
comp=Z,148nm,0.8s
P51A IAMs_20 IAMs_20 22 55 03.6
comp=Z,4μm,19.0s
CHVC Chvalec 74.78 337 *e*P **P 22 18 28.8 +0.2**
CHVC AMS AMS 22 58 10.0
comp=Z,24μm,14.6s
CHVC Chvalec 74.78 337 *e*P **P 22 18 28.8 +0.2**
CHVC MLR MLR
comp=Z,24μm,14.6s
HDBT Hernando Brdge 74.81 53 P **P 22 18 30.2 +1.3**
O52A Adamsville 74.81 44 IAMs_20 IAMs_20 22 52 47.8
comp=Z,6μm,19.0s
CLL Collm 74.84 339 ⇓*i*P **P 22 18 28.3 -0.5**
CLL *i* 22 18 32.3
CLL *e*S **S 22 28 04.0 -0.9**
CLL pmax pmax
comp=Z,370nm,2.0s
CLL MLR MLR
comp=Z,14μm,20.9s
CLL Collm 74.84 339 P **P 22 18 28.4 -0.4**
comp=Z,3μmcomp=Z,90nm,1.1s
HPK Haverah Park 74.86 349 *e*P **P 22 18 29.2 +0.4**
HPK IAmb IAmb 22 18 31.3
comp=Z,175nm,0.7s
UZHM Uzhgorod 74.87 332 P **P 22 18 28.9 -0.1**
UPC Upice 74.87 337 *e*P **P 22 18 29.6 +0.6**
UPC *e*S **S 22 28 03.1 -2.2**
UPC AMS AMS 22 58 10.0
comp=Z,26μm,14.7s
UPC Upice 74.87 337 *e*P **P 22 18 29.6 +0.6**
UPC *e*S **S 22 28 03.1 -2.2**
UPC MLR MLR
comp=Z,26μm,14.7s
BURAR Bucovina Array 74.87 330 P **P 22 18 28.9 -0.3**
BURAR Bucovina Array 74.87 330 ⇑P **P 22 18 29.1 -0.2**
BURAR Bucovina Array 74.87 330 P **P 22 18 29.0 -0.2**
BATG Bathurst New B 74.88 31 P **P 22 18 29.4 +0.2**
CCAR Cane Creek 74.89 55 IAmb IAmb 22 18 31.2
comp=Z,337nm,0.9s
IOMK Kirk Michael 74.89 351 *e*P **P 22 18 29.0 -0.1**
IOMK IAmb IAmb 22 18 30.6
comp=Z,28nm,0.8s
MET Memphis--Engin 74.90 53 IAMs_20 IAMs_20 22 53 01.7
comp=Z,6μm,18.0s
MUKU Mukachevo 74.91 332 P **P 22 18 29.0 -0.2**
BRIU Brid 74.91 332 P **P 22 18 29.3 0.0**
HOLU Holmets 74.93 332 P **P 22 18 29.4 0.0**
DPC Dobruska-Polom 74.93 337 *e*P **P 22 18 30.0 +0.5**
DPC AMS AMS 22 58 00.0
comp=Z,25μm,15.1s
DPC Dobruska-Polom 74.93 337 *e*P **P 22 18 30.0 +0.5**
DPC MLR MLR
comp=Z,25μm,15.1s
DPC Dobruska-Polom 74.93 337 P **P 22 18 29.8 +0.3**
comp=Z,4μmcomp=Z,107nm,1.4s
OKC Ostrava-Krasne 74.93 336 *e*P **P 22 18 29.9 +0.5**
OKC AMS AMS 22 56 00.0
comp=Z,18μm,16.2s
OKC Ostrava-Krasne 74.93 336 *e*P **P 22 18 29.9 +0.5**
OKC MLR MLR
comp=Z,18μm,16.2s
K57A Scipio Center 74.94 40 IAMs_20 IAMs_20 22 57 29.5
comp=Z,5μm,18.0s
STEB Steborice 74.94 336 *e*P **P 22 18 29.8 +0.3**
L56A Greenwood 75.01 41 IAMs_20 IAMs_20 22 56 48.3
comp=Z,5μm,20.0s
NATX Nacogdoches 75.01 58 IAMs_20 IAMs_20 22 53 43.1
comp=Z,4μm,19.0s
Q51A Peebles 75.01 46 IAmb IAmb 22 18 32.7
comp=Z,185nm,0.8s
Q51A IAMs_20 IAMs_20 22 50 50.2
comp=Z,4μm,19.0s
WIM Isle of Man 75.01 351 *e*P **P 22 18 29.3 -0.5**
BRG Berggiesshubel 75.03 339 ⇑*i*P **P 22 18 29.9 0.0**
BRG Amp 22 18 32.2
comp=Z,21nm,0.9s
BRG Berggiesshubel 75.03 339 P P 22 18 37.4 +7.5
BRG Amp 22 18 38.8
comp=Z,94nm,1.3s
BRG ⇑PP **PcP 22 18 44.7 +1.1**
BRG Amp 22 18 45.6
comp=Z,28nm,0.9s
BRG PP **PP 22 21 14.8 -2.3**
BRG Amp 22 21 20.7
comp=Z,18nm,1.1s
BRG Berggiesshubel 75.03 339 S **S 22 28 11.0 +4.0**
BRG Berggiesshubel 75.03 339 SS SS 22 32 54.0 -0.4
KORU Korolevo 75.03 332 P **P 22 18 30.0 0.0**
KRLC Kraliky 75.07 336 *e*P **P 22 18 30.5 +0.2**
KRLC *e*S **S 22 28 06.6 -1.0**
KRLC AMS AMS 22 57 50.0
comp=Z,24μm,15.1s
KRLC Kraliky 75.07 336 *e*P **P 22 18 30.5 +0.2**
KRLC *e*S **S 22 28 06.6 -1.0**
KRLC MLR MLR
comp=Z,24μm,15.1s
P52A Corning 75.07 45 IAmb IAmb 22 18 32.0
comp=Z,196nm,1.0s
VT1 Waterbury 75.07 36 IAMs_20 IAMs_20 22 53 12.0
comp=Z,4μm,21.0s
BERU Beregovo 75.11 332 P **P 22 18 30.6 +0.1**
G62A West of Eustis 75.14 34 IAmb IAmb 22 18 33.1
comp=Z,254nm,1.0s
G62A IAMs_20 IAMs_20 22 56 11.2
comp=Z,5μm,20.0s
TRSU Trosnyk 75.14 332 P **P 22 18 31.2 +0.6**
MORC Moravsky Berou 75.15 336 *e*P **P 22 18 30.5 -0.2**
MORC *e*PP **PP 22 21 19.3 +1.1**
MORC *e*S **S 22 28 11.0 +2.5**
MORC Moravsky Berou 75.15 336 ⇑P **P 22 18 31.5 +0.8**
MORC Moravsky Berou 75.15 336 P **P 22 18 31.3 +0.6**
WVT Waverly 75.17 51 P **P 22 18 30.9 -0.1**
WVT IAmb IAmb 22 18 33.9
comp=Z,174nm,0.8s
WVT Waverly 75.17 51 P **P 22 18 30.9 -0.1**
LMK Market Rasen 75.18 348 *e*P **P 22 18 30.7 0.0**
PVCC Panska Ves 75.20 338 *e*P **P 22 18 31.4 +0.5**
PVCC *e*S **S 22 28 07.3 -1.6**
PVCC AMS AMS 22 58 50.0
comp=Z,25μm,15.0s
PVCC Panska Ves 75.20 338 *e*P **P 22 18 31.4 +0.5**
PVCC *e*S **S 22 28 07.3 -1.6**
PVCC MLR MLR
comp=Z,25μm,15.0s
BIR Birlad 75.26 328 ⇓P **P 22 18 33.0 +1.6**
BIR Birlad 75.26 328 P **P 22 18 33.0 +1.6**
ILTH Belurgan, Co L 75.29 352 P **P 22 18 31.5 +0.1**
RICC Richard 75.30 338 *e*P **P 22 18 32.0 +0.5**
RICC AMS AMS 22 59 30.0
comp=Z,21μm,14.5s
SSFO Shawnee State 75.34 46 IAmb IAmb 22 18 34.9
comp=Z,496nm,1.0s
BMR Baia Mare 75.36 331 ⇑P **P 22 18 32.5 +0.6**
BMR Baia Mare 75.36 331 P **P 22 18 32.4 +0.6**
TESR Tescani 75.38 329 ⇑P **P 22 18 31.8 -0.3**
TESR Tescani 75.38 329 P **P 22 18 31.4 -0.6**
HSKC Hora Svate Kat 75.39 339 *e*P **P 22 18 32.4 +0.3**
HSKC *e*S **S 22 28 12.7 +1.5**
HSKC AMS AMS 22 56 50.0
comp=Z,24μm,16.2s
O54A Avella 75.41 43 IAmb IAmb 22 18 34.4
comp=Z,558nm,1.4s
LBWR Ladybower, Pea 75.41 349 *e*P **P 22 18 32.3 +0.2**
LBWR IAmb IAmb 22 18 34.5
comp=Z,138nm,0.8s
MAUC Maruska 75.45 336 *e*P **P 22 18 32.8 +0.4**
H62A Milan 75.46 35 IAmb IAmb 22 18 34.8
comp=Z,220nm,0.9s
H62A IAMs_20 IAMs_20 22 57 44.9
comp=Z,6μm,18.0s
VLDR Vladesti 75.47 328 ⇓P **P 22 18 32.5 0.0**
735A Kenedy 75.48 62 IAMs_20 IAMs_20 22 50 07.0
comp=Z,4μm,20.0s
VARL Varlezi 75.51 328 ⇑P **P 22 18 33.0 +0.2**
KOPT Kop Dagi 75.51 316 IAmb IAmb 22 18 39.0
comp=Z,230nm,0.8s
GHRR 75.52 328 ⇑P **P 22 18 33.7 +0.9**
GHRR 75.52 328 P **P 22 18 33.1 +0.3**
KECS Kecovo 75.52 334 *e*P **P 22 18 33.1 +0.3**
KECS pmax pmax
comp=Z,82nm,0.8s
KECS Kecovo 75.52 334 *e*P **P 22 18 33.1 +0.3**

P53A Whipple 75.53 45 IAmb IAmb 22 18 35.0
comp=Z,593nm,1.7s
PKME Peaks-Kenny Pk 75.54 34 IAms_20 IAms_20 22 56 20.9
comp=Z,5µm,21.0s
Q52A Bidwell 75.56 45 IAms_20 IAms_20 22 53 01.3
comp=Z,5µm,18.0s
BINY Binghamton 75.60 39 IAmb IAmb 22 18 34.1
comp=Z,504nm,1.8s
BINY IAms_20 IAms_20 22 58 22.0
comp=Z,4µm,19.0s
ARCR ARCALIA 75.61 330 ⇑P **P 22 18 34.3 +0.9**
ONER Baraj Valea Uz 75.61 329 ⇓P **P 22 18 34.0 +0.6**
DRLN Deer Lake 75.62 24 IAms_20 IAms_20 22 54 48.3
comp=Z,6µm,20.0s
SCTR Scanteiesti 75.65 327 ⇑P **P 22 18 33.8 +0.2**
PRA Prague 75.66 338 *e*S **S 22 28 14.8 +0.8**
PRA AMS AMS 22 59 00.0
comp=Z,30µm,14.7s
CEI Carei 75.66 332 ⇑P **P 22 18 34.7 +1.0**
CEI Carei 75.66 332 P **P 22 18 34.6 +1.0**
TATR Tatarca 75.70 327 ⇑P **P 22 18 34.1 +0.3**
PRU Pruhonice 75.71 338 *e*P **P 22 18 34.2 +0.3**
PRU AMS AMS 22 59 00.0
comp=Z,29µm,15.1s
PRU Pruhonice 75.71 338 *e*P **P 22 18 34.2 +0.3**
PRU MLR MLR
comp=Z,29µm,15.1s
WME Myndd Eilian 75.72 350 *e*P **P 22 18 33.7 -0.1**
GOPC GÖ Pecny, Ondr 75.72 338 *e*P **P 22 18 34.4 +0.5**
GOPC AMS AMS 22 59 10.0
comp=Z,29µm,15.1s
GOPC GÖ Pecny, Ondr 75.72 338 *e*P **P 22 18 34.4 +0.5**
GOPC MLR MLR
comp=Z,29µm,15.1s
COSR Cosmesti PH 75.73 328 ⇑P **P 22 18 34.9 +0.9**
WPS Cemaes, Angles 75.73 351 *e*P **P 22 18 33.7 -0.2**
WPS IAmb IAmb 22 18 34.7
comp=Z,52nm,0.9s
GEVA Gevas 75.74 314 IAmb IAmb 22 18 37.3
comp=Z,326nm,1.7s
GIUM Giurgiulesti 75.74 327 ⇑P **P 22 18 35.7 +1.6**
HKT Hockley 75.75 60 P **P 22 18 35.2 +0.9**
HKT IAmb IAmb 22 18 37.2
comp=Z,363nm,1.3s
HKT Hockley 75.75 60 *i* P **P 22 18 34.5 +0.2**
HKT pmax pmax
comp=Z,341nm,1.3s
HKT MLR MLR
comp=Z,6µm,17.0s
WACR West Acre 75.76 347 *e*P **P 22 18 33.6 -0.5**
WACR IAmb IAmb 22 18 35.8
comp=Z,81nm,0.9s
PANC Panciu 75.77 328 ⇓P **P 22 18 34.7 +0.4**
STNC Stoke 75.78 349 *e*P **P 22 18 34.4 +0.2**
HNH Hanover 75.78 36 IAms_20 IAms_20 22 53 32.5
comp=Z,5µm,20.0s
TLCR 75.79 327 ⇑P **P 22 18 34.2 -0.2**
TLCR 75.79 327 P **P 22 18 34.2 -0.2**
NEGRR Negrea 75.81 327 ⇑P **P 22 18 35.5 +1.0**
GOA Goa 75.82 277 *e*P **P 22 18 35.4 +0.4**
GOA IAmb IAmb 22 18 46.9
comp=Z,160nm,0.9s
VRAC Vranov 75.83 336 P **P 22 18 35.3 +0.7**
comp=Z,71nm,0.7s,baz=39,slow=4.9,SNR=60
VRAC LR LR 22 56 17.7
comp=Z,15µm,19.5s,baz=18,slow=39
comp=Z,71nm,0.7s
VRAC Vranov 75.83 336 *e*P **P 22 18 35.3 +0.7**
VRAC *e*PP **PP 22 21 25.1 +1.2**
VRAC *e*S **S 22 28 17.4 +1.5**
VRAC Vranov 75.83 336 ⇑P **P 22 18 35.3 +0.7**
WLF1 Llynfaes 75.83 350 *e*P **P 22 18 34.5 +0.1**
TUDR 75.83 328 ⇓P **P 22 18 35.4 +0.8**
GISR Galati 75.84 327 ⇓P **P 22 18 36.4 +1.8**
IZVR Izvoarele 75.84 328 ⇑P **P 22 18 36.0 +1.4**
SCHL Schela 75.86 327 ⇑P **P 22 18 35.2 +0.4**
EIDS Eidsvold 75.87 188 IAmb IAmb 22 18 37.8
comp=Z,485nm,1.7s
EIDS IAms_20 IAms_20 22 47 22.1
comp=Z,5µm,20.0s
EIDS Eidsvold 75.87 188 P **P 22 18 35.3 +0.4**
comp=Z,0.0nmcomp=Z,184nm,1.9s
EIDS Eidsvold 75.87 188 P **P 22 18 36.1 +1.2**
U49A Red Boiling Sp 75.87 49 IAmb IAmb 22 18 37.8
comp=Z,269nm,0.9s
SCHLR Schela 75.89 327 ⇑P **P 22 18 35.1 +0.2**
ODBI Odobesti 75.89 328 ⇑P **P 22 18 37.1 +2.1**
VRI Vrincioaia 75.92 328 ⇑P **P 22 18 35.1 0.0**
VRI Vrincioaia 75.92 328 P **P 22 18 35.1 0.0**
T50A Nancy 75.92 48 IAmb IAmb 22 18 37.6
comp=Z,354nm,0.8s
T50A IAms_20 IAms_20 22 51 46.2
comp=Z,6µm,20.0s
CLTN Cedars of Leba 75.94 50 IAmb IAmb 22 18 38.4
comp=Z,197nm,0.9s
CLTN IAms_20 IAms_20 22 52 22.9
comp=Z,4µm,18.0s
PLAL Pickwick Lake 75.95 52 IAmb IAmb 22 18 38.0
comp=Z,272nm,0.9s
PLAL IAms_20 IAms_20 22 51 19.4
comp=Z,6µm,19.0s
YLL Llanberis 75.95 350 *e*P **P 22 18 35.2 +0.1**
JAVC Velka Javorina 75.95 335 *e*P **P 22 18 36.6 +1.2**
JAVC *e*PP **PP 22 21 27.7 +2.7**
JAVC *e*S **S 22 28 22.0 +4.5**
PLOR Plostina 75.95 328 ⇓P **P 22 18 35.9 +0.5**
PLOR Plostina 75.95 328 P **P 22 18 35.1 -0.3**
NKC Novy Kostel 75.97 339 *e*P **P 22 18 36.0 +0.6**
NKC AMS AMS 22 57 20.0
comp=Z,15µm,15.3s
NKC Novy Kostel 75.97 339 *e*P **P 22 18 36.0 +0.6**
NKC MLR MLR
comp=Z,15µm,15.3s
V48A Smith Brothers 75.98 50 IAmb IAmb 22 18 38.4
comp=Z,236nm,0.9s
V48A IAms_20 IAms_20 22 52 31.9
comp=Z,6µm,19.0s
J61A Chester 75.99 37 IAms_20 IAms_20 22 53 29.0
comp=Z,5µm,20.0s
MESR Meseseni 75.99 331 ⇓P **P 22 18 36.6 +1.0**
L59A Walton 75.99 39 IAmb IAmb 22 18 37.1
comp=Z,240nm,1.1s
L59A IAms_20 IAms_20 22 53 11.2
comp=Z,4µm,20.0s
CWF Charnwood Fore 76.01 348 *e*P **P 22 18 36.0 +0.5**
S51A Beattyville 76.01 47 IAmb IAmb 22 18 38.0
comp=Z,258nm,0.9s
WVL Waterville 76.02 34 IAmb IAmb 22 18 37.9
comp=Z,160nm,1.0s
WVL IAms_20 IAms_20 22 56 54.4
comp=Z,5µm,20.0s
143A Socs Landing, 76.03 55 P **P 22 18 37.2 +1.3**
OZUR 76.03 329 ⇑P **P 22 18 37.1 +1.3**
CFR Carcaliu 76.04 327 ⇑P **P 22 18 35.5 -0.3**
CFR Carcaliu 76.04 327 P **P 22 18 35.5 -0.3**
TGMR Targu Mures 76.05 330 ⇓P **P 22 18 37.2 +1.3**
DSB Dublin 76.07 352 IAmb IAmb 22 18 38.6
comp=Z,138nm,0.8s
DSB IAms_20 IAms_20 22 58 18.8
comp=Z,6µm,19.0s
DSB Dublin 76.07 352 P **P 22 18 33.7 -2.1**
DSB Dublin 76.07 352 P **P 22 18 36.2 +0.3**
MCWV Mont Chateau 76.07 43 IAmb IAmb 22 18 38.6
comp=Z,696nm,1.6s
TRY Troy 76.08 38 IAmb IAmb 22 18 36.5
comp=Z,400nm,2.0s
TRY IAms_20 IAms_20 22 53 45.5
comp=Z,5µm,19.0s
Y45A Yeager Farm, C 76.08 53 IAms_20 IAms_20 22 54 41.1
comp=Z,6µm,18.0s
FOEL Foel Wylfa 76.09 350 *e*P **P 22 18 36.4 +0.3**
FOEL IAmb IAmb 22 18 38.5
comp=Z,136nm,0.8s
KRUC Moravsky 76.10 336 *e*P **P 22 18 36.3 +0.2**
KRUC *e*PP **PP 22 21 26.8 +0.6**
KRUC *e*S **S 22 28 22.0 +3.0**
COVR Voineasa-Covas 76.11 329 ⇑P **P 22 18 36.9 +0.6**
SSPA Standing Stone 76.11 42 P **P 22 18 36.2 -0.1**
SSPA IAmb IAmb 22 18 38.3
comp=Z,653nm,1.6s
TREC Trest 76.12 337 *e*P **P 22 18 36.7 +0.5**
TREC AMS AMS 22 58 40.0
comp=Z,27µm,15.0s
TREC Trest 76.12 337 *e*P **P 22 18 36.7 +0.5**
TREC MLR MLR
comp=Z,27µm,15.0s
I63A Otisfield 76.12 35 IAmb IAmb 22 18 38.9
comp=Z,225nm,1.1s
I63A IAms_20 IAms_20 22 58 13.4
comp=Z,6µm,18.0s
JURR Jurilovca 76.14 326 ⇓P **P 22 18 36.7 +0.4**
CBBR Cluj-Babes-Bol 76.15 331 ⇓P **P 22 18 37.9 +1.5**
IGLA Glengowla, Co 76.15 353 *e*P **P 22 18 36.3 0.0**
IGLA IAmb IAmb 22 18 37.2
comp=Z,106nm,0.9s
IGLA Glengowla, Co 76.15 353 P **P 22 18 36.5 +0.2**
CJR Cluj-Napoca 76.18 331 ⇑P **P 22 18 37.2 +0.5**
CJR Cluj-Napoca 76.18 331 P **P 22 18 37.2 +0.5**
LLW Llanuwychllyn 76.19 350 *e*P **P 22 18 36.8 +0.2**
G65A Princeton 76.20 33 IAms_20 IAms_20 22 57 31.2
comp=Z,6µm,18.0s
PSZ Piszkesteto 76.20 334 ⇑P **P 22 18 37.7 +0.9**
PSZ Piszkesteto 76.20 334 P **P 22 18 37.7 +0.9**
PSZ Piszkesteto 76.20 334 *e*P **P 22 18 37.6 +0.9**
TPGR Topolog 76.22 327 ⇓P **P 22 18 36.7 -0.2**
KSPA Keystone Colle 76.23 40 IAmb IAmb 22 18 37.4
comp=Z,482nm,1.8s
KSPA IAms_20 IAms_20 22 51 27.6
comp=Z,4µm,20.0s
NGCH Negor - Chabah 76.23 293 P **P 22 18 37.2 0.0**
SNR=5.4
NGCH S **S 22 28 23.2 +2.2**
GRER 76.26 328 ⇑P **P 22 18 39.1 +2.0**
DOPR Dopca 76.27 329 ⇑P **P 22 18 37.7 +0.6**
ZVC Zvikov 76.30 338 *e*P **P 22 18 37.5 +0.2**
ZVC AMS AMS 22 59 30.0
comp=Z,34µm,15.1s
ELMS Elmsett, Ipswi 76.33 347 *e*P **P 22 18 37.5 +0.2**
SMOL Smolenice 76.34 335 *e*P **P 22 18 38.6 +1.1**
SMOL pmax pmax
comp=Z,186nm,2.0s
HBVL Hebbronville 76.35 64 P **P 22 18 39.5 +1.7**
MARR Marisel-Cluj 76.36 331 ⇑P **P 22 18 37.9 +0.1**
DIKM Dikmen 76.38 321 ⇑P **P 22 18 38.6 +0.8**
DRGR 76.39 331 ⇓P **P 22 18 37.9 0.0**
DRGR 76.39 331 P **P 22 18 37.9 0.0**
BORR Bors 76.40 332 ⇓P **P 22 18 39.2 +1.3**
HLM1 Long Mynd 76.42 349 *e*P **P 22 18 38.1 +0.2**
HLM1 IAmb IAmb 22 18 40.6
comp=Z,70nm,0.7s
KVTX Kingsville 76.43 63 P **P 22 18 39.6 +1.3**
N58A Sunbury 76.44 41 IAmb IAmb 22 18 39.8
comp=Z,224nm,1.2s
N58A IAms_20 IAms_20 22 53 48.2
comp=Z,5µm,19.0s
MDB Medias 76.44 330 ⇑P **P 22 18 40.1 +2.0**
MDB Medias 76.44 330 P **P 22 18 40.1 +2.0**
NEHR Nehoiu 76.45 328 ⇓P **P 22 18 39.8 +1.6**
MODS Modra-Piesok 76.50 335 *e*P **P 22 18 39.6 +1.1**
MODS pmax pmax
comp=Z,857nm,2.1s
MODS Modra-Piesok 76.50 335 *e*P **P 22 18 39.6 +1.1**
MLR Muntele Rosu 76.51 329 IAmb IAmb 22 18 41.8
comp=Z,152nm,0.7s
MLR Muntele Rosu 76.51 329 LR LR 22 56 20.2
comp=Z,11µm,18.7s,baz=28,slow=39
MLR Muntele Rosu 76.51 329 ⇑P **P 22 18 39.4 +0.8**
MLR Muntele Rosu 76.51 329 P **P 22 18 39.4 +0.8**
GGN Saint George 76.52 32 IAms_20 IAms_20 22 57 01.6
comp=Z,6µm,18.0s
HARR Harsova 76.53 327 ⇓P **P 22 18 38.9 +0.3**
HARR Harsova 76.53 327 P **P 22 18 38.9 +0.3**
TIRR Tirgusor 76.57 327 IAmb IAmb 22 18 41.4
comp=Z,127nm,0.7s
TIRR Tirgusor 76.57 327 ⇑P **P 22 18 38.8 -0.1**
TIRR Tirgusor 76.57 327 P **P 22 18 38.7 -0.1**
441A DeHidder 76.59 58 IAmb IAmb 22 18 41.5
comp=Z,279nm,0.8s
BZK Bozkurt 76.62 322 P **P 22 18 38.5 -0.7**
BZK IAmb IAmb 22 18 56.4
comp=Z,248nm,0.8s
BZK Bozkurt 76.62 322 ⇓P **P 22 18 39.9 +0.8**
TLBR Topalu 76.62 327 ⇑P **P 22 18 39.1 0.0**
ISR Istrita 76.63 328 ⇑P **P 22 18 40.4 +1.1**
ISR Istrita 76.63 328 P **P 22 18 40.4 +1.1**
K62A Royalston 76.69 37 P **P 22 18 39.6 0.0**
K62A IAmb IAmb 22 18 41.5
comp=Z,419nm,1.9s
K62A IAms_20 IAms_20 22 53 39.6
comp=Z,5µm,20.0s
L61B Northampton 76.70 37 IAms_20 IAms_20 22 57 32.9
comp=Z,5µm,18.0s
KHC Kasperske Hory 76.74 338 *e*P **P 22 18 40.1 +0.3**
KHC *e*x x 22 19 00.0
KHC *e*S **S 22 28 25.5 -0.5**
KHC AMS AMS 22 59 40.0
comp=Z,31µm,15.1s
KHC Kasperske Hory 76.74 338 *e*P **P 22 18 40.1 +0.3**
KHC *e*S **S 22 28 25.5 -0.5**
KHC MLR MLR
comp=Z,31µm,15.1s
SRO Srobarova 76.74 335 *e*P **P 22 18 40.5 +0.8**
SRO pmax pmax
comp=Z,97nm,0.8s
SRO Srobarova 76.74 335 *e*P **P 22 18 40.5 +0.8**
TSCT Constanta Port 76.74 326 ⇑P **P 22 18 41.0 +1.2**
GRFO Grafenberg 76.75 340 P **P 22 18 40.7 +0.9**
GRFO Grafenberg 76.75 340 P **P 22 18 40.7 +0.9**
GRFO pmax pmax
comp=Z,89nm,0.8s
GRFO MLR MLR
comp=Z,13µm,22.0s
CVDA Cernavoda 76.81 327 ⇓P **P 22 18 41.1 +1.0**
MFTR Murfatlar 76.81 326 ⇓P **P 22 18 40.6 +0.4**
AMRR Amara 76.81 327 ⇓P **P 22 18 40.4 +0.2**
AMRR Amara 76.81 327 P **P 22 18 40.4 +0.2**
BEBN Eben Emael 76.82 344 *d*P **P 22 18 41.0 +0.9**
EFOR EFORIE 76.82 326 ⇑P **P 22 18 41.5 +1.2**
XMIS Christmas Isla 76.84 235 IAmb IAmb 22 18 42.4
comp=Z,205nm,1.3s
CKRC Cesky Krumlov 76.85 338 *e*P **P 22 18 40.5 +0.1**
CKRC *e*S **S 22 28 27.6 +0.4**
CKRC AMS AMS 22 58 30.0
comp=Z,26µm,15.5s
CKRC Cesky Krumlov 76.85 338 *e*P **P 22 18 40.5 +0.1**
CKRC *e*S **S 22 28 27.6 +0.4**
CKRC MLR MLR
comp=Z,26µm,15.5s
VOIR 76.85 329 ⇑P **P 22 18 41.1 +0.5**
VOIR 76.85 329 P **P 22 18 41.0 +0.5**
Q56A Snyder Ridge, 76.87 43 IAmb IAmb 22 18 42.9
comp=Z,551nm,1.7s
MALK Mahakanadarawa 76.88 267 P **P 22 18 40.1 -0.8**
X48A Hartselle 76.89 51 IAmb IAmb 22 18 42.4
comp=Z,194nm,1.1s
X48A IAms_20 IAms_20 22 54 10.2
comp=Z,6µm,18.0s
TNR Turnu Rosu 76.91 330 ⇑P **P 22 18 42.0 +1.2**
TNR Turnu Rosu 76.91 330 P **P 22 18 42.0 +1.2**
TZTN Tazewell 76.92 48 IAmb IAmb 22 18 43.4
comp=Z,303nm,1.0s
BTNL Ternell 76.94 343 *d*P **P 22 18 41.0 +0.2**
comp=Z,83nm,0.9s
MEM Membach 76.94 343 *d*P **P 22 18 40.8 0.0**
comp=Z,128nm,0.8s
S54A Dingess, Beckl 76.94 46 IAmb IAmb 22 18 43.3
comp=Z,176nm,0.9s
S54A IAms_20 IAms_20 22 56 27.9
comp=Z,4µm,20.0s
MCH1 Michaelchurch 76.95 349 *e*P **P 22 18 40.9 +0.1**
MCH1 IAmb IAmb 22 18 48.2
comp=Z,118nm,0.8s
IWEX Carrickbyrne, 76.97 352 *e*P **P 22 18 41.5 +0.5**
IWEX IAmb IAmb 22 18 43.8
comp=Z,111nm,0.9s
IWEX Carrickbyrne, 76.97 352 P **P 22 18 41.6 +0.6**
GERES GERESS Array B 76.97 338 P **P 22 18 41.1 -0.1**
comp=Z,39nm,0.7s,baz=32,slow=4.8,SNR=184
GERES PKiKP **PKiKP 22 24 22.7 -0.4**
comp=Z,0.9nm,0.7s,baz=49,slow=4.6,SNR=2.2
GERES PKKPbc **PKKPbc 22 37 46.7 -0.5**
comp=Z,1.6nm,0.8s,baz=191,slow=2.7,SNR=8.5
GERES PKPPKP **P'P'df 22 45 52.1 -6.7**
comp=Z,1.9nm,1.1s,baz=225,slow=1.2,SNR=4.0
GERES LR LR 22 57 02.7
comp=Z,14µm,19.6s,baz=22,slow=39
comp=Z,39nm,0.7s
PLAR PLOIESTI 76.99 328 ⇓P **P 22 18 41.5 +0.3**
KSCT Kent School, K 77.00 38 IAmb IAmb 22 18 42.6
comp=Z,382nm,1.3s
P57A Homestead Farm 77.02 42 IAmb IAmb 22 18 43.6
comp=Z,659nm,1.9s
MTUR Matau 77.03 329 ⇓P **P 22 18 42.3 +0.7**
MTUR Matau 77.03 329 P **P 22 18 42.2 +0.7**
BSTI Sart Tilman 77.04 344 *d*P **P 22 18 41.8 +0.4**
comp=Z,23nm,0.9s
BSTI *d*PP **PP 22 21 38.9 +5.0**
UCC Uccle 77.05 344 *d*P **P 22 18 41.2 -0.2**
ARR Arges 77.05 329 ⇑P **P 22 18 42.6 +1.0**
STRD Stroud 77.06 349 *e*P **P 22 18 41.7 +0.3**
MANR Mangalia 77.06 326 ⇑P **P 22 18 42.0 +0.3**
TSMN Mangalia Port- 77.07 326 ⇑P **P 22 18 42.9 +1.2**
MONM Monmouth 77.08 349 *e*P **P 22 18 41.9 +0.3**
MONM IAmb IAmb 22 18 44.3
comp=Z,90nm,0.8s
ICOR Ion Corvin 77.08 327 ⇑P **P 22 18 42.5 +0.8**
HRV Adam Dziewonsk 77.08 36 P **P 22 18 42.1 +0.3**
HRV Adam Dziewonsk 77.08 36 IAms_20 IAms_20 22 54 11.0
comp=Z,6µm,20.0s
HRV Adam Dziewonsk 77.08 36 P **P 22 18 42.1 +0.3**
HRV pmax pmax
comp=Z,133nm,1.1s
HRV MLR MLR
comp=Z,6µm,20.0s
CIDE Kastamonu/Cide 77.10 322 ⇑P **P 22 18 42.5 +0.6**
MNGI Mangalore 77.10 275 *e*P **P 22 18 41.8 -0.4**
MNGI IAmb IAmb 22 18 54.9
comp=Z,60nm,0.9s
ODNJ Ogdensburg 77.10 39 IAmb IAmb 22 18 43.2
comp=Z,432nm,1.9s
ODNJ IAms_20 IAms_20 22 58 53.6
comp=Z,5µm,19.0s
LEHL Lehliu 77.11 328 ⇑P **P 22 18 42.0 +0.1**
SULR 77.12 328 ⇑P **P 22 18 42.6 +0.7**
DEV Deva 77.14 331 ⇓P **P 22 18 43.5 +1.4**
DEV Deva 77.14 331 P **P 22 18 43.4 +1.4**
W50A Signal Mountai 77.15 50 IAmb IAmb 22 18 44.4
comp=Z,265nm,0.9s
W50A IAms_20 IAms_20 22 51 18.9
comp=Z,5µm,20.0s
SIRR Siria 77.17 332 ⇑P **P 22 18 42.4 +0.1**
BHOU Houvegnez 77.18 343 *d*P **P 22 18 42.6 +0.4**
comp=Z,70nm,0.8s
RSBS Rosebush, Pemb 77.19 350 *e*P **P 22 18 42.1 -0.1**
RSBS IAmb IAmb 22 18 49.8
comp=Z,86nm,0.7s
LUPA Lehigh Univers 77.20 40 IAmb IAmb 22 18 44.1
comp=Z,400nm,1.6s
LUPA IAms_20 IAms_20 22 56 27.2
comp=Z,4µm,18.0s
TRNY Table Rock, Ra 77.20 39 IAmb IAmb 22 18 44.0
comp=Z,412nm,1.7s
TRNY IAms_20 IAms_20 22 58 30.3
comp=Z,5µm,19.0s
RMQ Roma 77.21 190 P **P 22 18 44.1 +1.6**
comp=Z,85nm,1.5s
ELSH Elham, Standar 77.22 347 *e*P **P 22 18 43.1 +0.7**
ELSH IAmb IAmb 22 18 51.7
comp=Z,174nm,0.8s
BCLA Clavier 77.25 344 *d*P **P 22 18 42.4 -0.2**
comp=Z,60nm,1.0s
BCLA *d*PP **PP 22 21 41.9 +6.2**
BCLA *d*S **S 22 28 33.4 +2.0**
LOT Lotru 77.25 330 ⇓P **P 22 18 42.6 -0.2**
SWN1 Swindon 77.27 348 *e*P **P 22 18 43.5 +0.8**
CICN Ciocanesti 77.28 327 ⇑P **P 22 18 43.3 +0.5**
WES Weston 77.28 36 IAms_20 IAms_20 22 54 38.1
comp=Z,6µm,20.0s
CONA Conrad Observa 77.29 336 *i* pP **P 22 18 44.0 +1.0**
comp=Z,42nm,0.7s,SNR=34
CONA *e*PP **PP 22 21 33.3 -3.0**
comp=Z,28nm,1.7s
AS01 Alice Springs 77.29 204 P **P 22 18 43.6 +0.6**
MVL Millersville 77.29 41 IAmb IAmb 22 18 44.8
comp=Z,511nm,2.0s
MVL IAms_20 IAms_20 22 58 08.9
comp=Z,4µm,20.0s
AS31 Alice Springs 77.30 204 P **P 22 18 43.3 +0.2**
comp=Z,0.0nmcomp=Z,70nm,1.0s
146A Union 77.30 54 IAms_20 IAms_20 22 54 21.4
comp=Z,7µm,19.0s
ASAR Alice Springs 77.30 204 P **P 22 18 43.1 0.0**
ASAR Alice Springs 77.30 204 P **P 22 18 43.3 +0.2**
comp=Z,160nm,0.9s,baz=15,slow=4.9,SNR=229
ASAR PKKPbc **PKKPbc 22 37 48.8 +0.4**
comp=Z,1.2nm,0.7s,baz=188,slow=1.4,SNR=8.5
ASAR PKPPKP **P'P'df 22 45 51.7 +6.5**
comp=Z,1.5nm,1.0s,baz=211,slow=2.2,SNR=5.4
ASAR LR LR 22 55 35.6
comp=Z,2µm,18.2s,baz=22,slow=38
comp=Z,160nm,0.9s
ASAR Alice Springs 77.30 204 P **P 22 18 43.1 0.0**
ZAIG Zacatecas 77.31 70 IAmb IAmb 22 18 47.5
comp=Z,203nm,1.0s
BGES Gesves 77.32 344 *d*P **P 22 18 42.8 -0.2**
comp=Z,49nm,0.9s
BGES *d*S **S 22 28 29.6 -2.6**
CPCT Cooper Cave 77.33 49 IAmb IAmb 22 18 46.0
comp=Z,187nm,0.9s
INCR INCERC-Sediu C 77.36 328 ⇑P **P 22 18 43.9 +0.6**
Z47A Carrollton 77.36 53 IAms_20 IAms_20 22 54 34.9
comp=Z,5µm,18.0s
PSN Preselentsi 77.38 326 P **P 22 18 43.2 -0.2**
RONA Rosalia, Austr 77.38 336 *i* pP pP 22 18 44.8 -1.4
comp=Z,96nm,1.1s,SNR=39
STFAR Stefanesti-Arg 77.39 329 ⇑P **P 22 18 44.1 +0.6**
WOL Wolverton 77.39 348 *e*P **P 22 18 43.4 +0.1**
UCCT U. Connecticut 77.44 37 IAms_20 IAms_20 22 54 01.4
comp=Z,5µm,19.0s
PAL Palisades 77.45 39 IAmb IAmb 22 18 45.4
comp=Z,800nm,1.8s
PAL IAms_20 IAms_20 22 58 19.7
comp=Z,4µm,19.0s
KOD Kodaikanal 77.45 271 *e*P **P 22 18 44.1 -0.5**
KOD IAmb IAmb 22 18 47.8
comp=Z,68nm,1.1s
BMRD Maredsous 77.45 344 *d*P **P 22 18 43.6 -0.1**
comp=Z,69nm,1.1s
BRNJ Basking Ridge 77.45 39 IAmb IAmb 22 18 45.7
comp=Z,839nm,1.9s
BUC1 Bucharest 77.49 328 ⇓P **P 22 18 45.2 +1.2**
BUC1 Bucharest 77.49 328 P **P 22 18 45.1 +1.2**
SURR Surduc 77.50 331 ⇑P **P 22 18 44.0 0.0**
ILGA Ilgaz 77.50 321 IAmb IAmb 22 18 49.9
comp=Z,454nm,1.0s
RCHB Rochefort 77.51 344 *d*P **P 22 18 43.9 -0.1**
comp=Z,33nm,1.1s
RCHB *d*S **S 22 28 37.4 +3.1**
TKL Tuckaleechee C 77.52 48 LR LR 22 53 30.4
comp=Z,7µm,20.8s,baz=332,slow=36
FPAL Fort Paine 77.53 50 IAmb IAmb 22 18 47.0
comp=Z,159nm,0.8s
FPAL IAms_20 IAms_20 22 53 11.1
comp=Z,4µm,19.0s
WSPT Westport, CT 77.54 38 IAmb IAmb 22 18 44.6
comp=Z,411nm,1.9s
SDMD Soldier's Deli 77.58 42 IAmb IAmb 22 18 46.5
comp=Z,444nm,1.9s
MARD Mardin 77.60 315 IAmb IAmb 22 18 47.8
comp=Z,244nm,0.7s
CPNY Central Park 77.61 39 IAmb IAmb 22 18 46.4
comp=Z,172nm,1.0s
HMNX Herstmonceux 77.61 347 *e*P **P 22 18 45.3 +0.7**
HMNX IAmb IAmb 22 18 50.6
comp=Z,116nm,0.8s
SGRR Singureni 77.61 328 ⇑P **P 22 18 43.8 -0.9**
GZR Gura Zlata 77.62 331 ⇑P **P 22 18 44.8 0.0**
GZR Gura Zlata 77.62 331 P **P 22 18 44.8 0.0**
PALK Pallekele 77.63 266 P **P 22 18 45.2 0.0**
PALK Pallekele 77.63 266 IAms_20 IAms_20 22 55 42.1
comp=Z,6µm,19.0s
PALK Pallekele 77.63 266 LR LR 22 55 53.1
comp=Z,3µm,20.8s,baz=27,slow=38
PALK Pallekele 77.63 266 P **P 22 18 45.6 +0.4**
PALK P **P 22 18 45.6 +0.4**
PALK P **P 22 18 45.7 +0.4**
PALK P **P 22 18 45.7 +0.4**
PALK S **S 22 28 35.4 -1.2**
PALK S **S 22 28 35.4 -1.2**
PALK Pallekele 77.63 266 P **P 22 18 45.2 0.0**
PALK pmax pmax
comp=Z,95nm,1.0s
PALK MLR MLR
comp=Z,6µm,19.0s
Y49A Blount Mountai 77.68 51 IAmb IAmb 22 18 47.0

comp=Z,191nm,1.0s
HUMR Humele 77.68 329 ⇓P **P 22 18 44.3 -0.7**
DOU Dourbes 77.68 344 *d*P **P 22 18 44.8 -0.2**
comp=Z,37nm,0.9s
DOU *d*PP **PP 22 21 43.5 +4.1**
DOU *d*S **S 22 28 35.1 -1.1**
VAL Valentia 77.68 354 P **P 22 18 43.5 -1.4**
VAL Valentia 77.68 354 P **P 22 18 45.5 +0.6**
N62A Caumsett State 77.69 39 IAMs_20 IAMs_20 22 54 23.0
comp=Z,5μm,20.0s
U54A Nelsons Funny 77.75 47 IAMs_20 IAMs_20 22 55 30.4
comp=Z,6μm,18.0s
MOA Molln 77.76 337 *i* pP **P 22 18 46.2 +0.6**
comp=Z,45nm,0.8s,SNR=25
BZS Buzias 77.77 332 ⇑P **P 22 18 45.2 -0.5**
BZS Buzias 77.77 332 P **P 22 18 45.1 -0.5**
TIM Timisoara 77.79 332 ⇑P **P 22 18 45.8 +0.1**
TIM Timisoara 77.79 332 P **P 22 18 45.7 +0.1**
WLF Walferdange 77.81 343 P **P 22 18 44.9 -0.8**
WLF Walferdange 77.81 343 *d*P **P 22 18 45.3 -0.5**
comp=Z,44nm,0.9s
BLA Blacksburg 77.82 45 IAMs_20 IAMs_20 22 54 03.3
comp=Z,5μm,21.0s
M63A Gales Ferry 77.84 37 IAmb IAmb 22 18 47.5
comp=Z,167nm,1.0s
M63A IAMs_20 IAMs_20 22 54 14.1
comp=Z,5μm,20.0s
L64A Middleborough 77.85 36 IAmb IAmb 22 18 48.0
comp=Z,185nm,1.0s
L64A IAMs_20 IAMs_20 22 54 54.1
comp=Z,6μm,20.0s
X51A Calhoun 77.88 50 IAmb IAmb 22 18 48.5
comp=Z,728nm,1.6s
X51A IAMs_20 IAMs_20 22 53 51.3
comp=Z,5μm,19.0s
W52A Murphy 77.91 49 IAmb IAmb 22 18 48.7
comp=Z,275nm,1.2s
QLP Quilpie 77.93 194 P **P 22 18 46.5 +0.1**
comp=Z,0.0nmcomp=Z,531nm,1.5s
QLP Quilpie 77.93 194 P **P 22 18 48.5 +2.0**
COPA Copaceanca 77.95 329 ⇑P **P 22 18 46.7 +0.2**
V53A Saluda 77.97 48 IAmb IAmb 22 18 49.2
comp=Z,240nm,1.1s
V53A IAMs_20 IAMs_20 22 55 27.5
comp=Z,7μm,19.0s
GBN Guysborough 77.98 29 IAMs_20 IAMs_20 22 56 39.0
comp=Z,5μm,18.0s
ARSA Arzberg 78.00 336 *e*pP **P 22 18 47.9 +1.0**
comp=Z,101nm,1.4s,SNR=22
ARSA *e*PP **PP 22 21 37.9 -4.3**
comp=Z,27nm,1.6s
NEF NEVSHA 78.01 327 P **P 22 18 46.7 -0.3**
RAZG Razgrad 78.01 327 ⇑P **P 22 18 46.5 -0.4**
LRAL Lakeview Retre 78.04 52 IAmb IAmb 22 18 47.9
comp=Z,525nm,1.9s
LRAL IAMs_20 IAMs_20 22 52 42.6
comp=Z,6μm,20.0s
PRD Provadia 78.05 327 *e*P **P 22 18 46.8 -0.4**
STU Stuttgart 78.06 341 *e*P **P 22 18 47.7 +0.6**
BIOA Bad Ischl, Aus 78.06 338 *e*pP **P 22 18 48.3 +1.1**
comp=Z,48nm,0.9s,SNR=23
346A Big Creek Wild 78.07 55 IAmb IAmb 22 18 51.1
comp=Z,411nm,0.9s
346A IAMs_20 IAMs_20 22 55 22.9
comp=Z,5μm,20.0s
HTL Hartland 78.10 350 *e*P **P 22 18 47.6 +0.3**
HTL IAmb IAmb 22 18 54.0
comp=Z,119nm,0.8s
MORH Mrgy, Hungar 78.11 334 ⇑P **P 22 18 47.9 +0.5**
BANR Banloc 78.13 332 ⇓P **P 22 18 48.6 +1.0**
SRE Strehaia 78.14 330 ⇑P **P 22 18 48.3 +0.6**
SRE Strehaia 78.14 330 P **P 22 18 48.2 +0.6**
HERR Herculane 78.19 331 ⇑P **P 22 18 47.5 -0.4**
M65A Busby, Falmout 78.24 36 IAMs_20 IAMs_20 22 55 05.6
comp=Z,6μm,19.0s
M65A Busby, Falmout 78.24 36 P **P 22 18 48.1 -0.1**
baz=330
RMGR Halanga-Turnu 78.30 330 ⇑P **P 22 18 49.7 +1.2**
R58B Mineral 78.34 43 IAmb IAmb 22 18 51.1
comp=Z,325nm,1.5s
VLAD Vladila 78.34 329 ⇑P **P 22 18 48.9 +0.1**
DJES Djerdap 78.35 331 ⇑P **P 22 18 50.1 +1.3**
CBN Corbin Frederi 78.36 43 IAmb IAmb 22 18 51.1
comp=Z,503nm,1.4s
CBN IAMs_20 IAMs_20 22 54 39.1
comp=Z,6μm,18.0s
TAOE Nuku Hiva Isla 78.45 119 P **P 22 18 50.2 +0.4**
TAOE IAmb IAmb 22 18 51.1
comp=Z,207nm,1.2s
TAOE Nuku Hiva Isla 78.45 119 *e*PKP2 **P 22 18 49.2 -0.6**
comp=Z,463nm,1.3s
TAOE Nuku Hiva Isla 78.45 119 *e*PP **PP 22 21 45.4 -2.0**
comp=Z,425nm,27.3s
TAOE *e*S **S 22 28 47.1 +1.7**
comp=Z,5μm,27.5s
TAOE Nuku Hiva Isla 78.45 119 *e*LQ LQ 22 39 47.7
comp=Z,2μm,26.8s
TAOE *e*LR LR 22 42 53.3
comp=Z,16μm,28.9s
BNN Bunyan 78.48 319 IAmb IAmb 22 18 53.6
comp=Z,232nm,0.8s
LESA Schwarzleotal 78.55 338 *e*pP **P 22 18 50.7 +0.8**
comp=Z,72nm,0.7s,SNR=34
SBD Saint Breward 78.55 350 *e*P **P 22 18 49.8 +0.1**
U56A King 78.55 46 IAmb IAmb 22 18 52.2
comp=Z,869nm,1.9s
U56A IAMs_20 IAMs_20 22 57 27.6
comp=Z,5μm,18.0s
KOGS Kog 78.55 335 *i* P **P 22 18 49.8 -0.1**
KOGS *e*PP **PP 22 21 49.5 +2.8**
KOGS *e*S **S 22 28 47.3 +1.7**
PUNG Punghina 78.57 330 ⇑P **P 22 18 50.2 +0.3**
V55A Taylorsville 78.57 47 IAmb IAmb 22 18 52.4
comp=Z,192nm,1.2s
DYA Yadsworthy 78.59 350 *e*P **P 22 18 50.1 +0.1**
DYA IAmb IAmb 22 18 52.3
comp=Z,117nm,0.7s
SHME Shamm 78.60 297 P **P 22 18 49.7 -0.8**
SNR=25
SHME P **P 22 18 49.7 -0.8**
SNR=25
SHME S **S 22 28 45.0 -1.8**
SHME S **S 22 28 45.0 -1.8**
SHME Shamm 78.60 297 *i* P **P 22 18 49.3 -1.2**
SNR=25
SOKA Soboth 78.66 336 *i* pP **P 22 18 51.3 +0.7**
comp=Z,144nm,1.2s,SNR=39
BRTR Keskin Array B 78.66 321 P **P 22 18 50.2 -0.6**
comp=Z,38nm,0.7s,baz=44,slow=3.8,SNR=75
BRTR PP **PP 22 21 48.8 +0.7**
comp=Z,11nm,1.0s,baz=38,slow=5.0,SNR=4.6
BRTR PKKPbc **PKKPbc 22 37 44.2 +0.7**
comp=Z,2.3nm,0.9s,baz=187,slow=4.1,SNR=6.8
BRTR LR LR 22 57 45.3
comp=Z,4μm,20.6s,baz=14,slow=39
comp=Z,38nm,0.7s
BRTR Keskin Array B 78.66 321 *i* P **P 22 18 50.2 -0.6**
BRTR pmax pmax
comp=Z,39nm,0.7s
BFO Black Forest 78.66 341 P **P 22 18 50.7 +0.2**
BFO Black Forest 78.66 341 P **P 22 18 50.7 +0.2**
BFO pmax pmax
comp=Z,273nm,2.0s
BFO MLR MLR
comp=Z,10μm,20.0s
BAIL Bailesti 78.67 330 ⇓P **P 22 18 50.6 +0.1**
PERS Pernice 78.67 336 *i* P **P 22 18 50.7 0.0**
PERS *e*PP **PP 22 21 50.0 +2.2**
PERS *e*S **S 22 28 48.6 +1.5**
KBA Koelnbreinsper 78.71 337 *i* pP **P 22 18 52.1 +1.1**
comp=Z,236nm,0.7s,SNR=92
FRGS Fruska Gora 78.73 333 ⇓*i*P **P 22 18 50.4 -0.5**
GROS Grobnik 78.74 336 *i* P **P 22 18 50.9 -0.1**
Y52A Lilburn 78.83 50 IAmb IAmb 22 18 53.9
comp=Z,161nm,0.9s
Y52A IAMs_20 IAMs_20 22 52 11.5
comp=Z,6μm,22.0s
ANTO Ankara 78.88 321 P **P 22 18 52.3 +0.4**
ANTO Ankara 78.88 321 P **P 22 18 51.5 -0.4**
ANTO P **P 22 18 51.5 -0.4**
ANTO S **S 22 28 46.6 -2.9**
ANTO S **S 22 28 46.6 -2.9**
ANTO Ankara 78.88 321 ⇑P **P 22 18 52.4 +0.5**
ANTO Ankara 78.88 321 P **P 22 18 52.3 +0.4**
ANTO pmax pmax
comp=Z,63nm,0.8s
ANTO MLR MLR
comp=Z,9μm,18.0s
WATA Walderalm 78.89 339 *i* pP **P 22 18 52.7 +0.8**
comp=Z,126nm,1.3s,SNR=54
WATA *e*PP **PP 22 21 45.7 -4.0**
comp=Z,34nm,1.4s
VALD Valchedram 78.93 329 P **P 22 18 52.4 +0.4**
RETA Reutte 78.93 339 *i* pP **P 22 18 52.7 +0.6**
comp=Z,64nm,2.1s,SNR=20
OBKA Obir 78.94 336 *e*pP **P 22 18 52.7 +0.5**
comp=Z,54nm,0.7s,SNR=15
OBKA *e*PP **PP 22 21 45.6 -4.5**
comp=Z,26nm,1.1s
OBKA Obir 78.94 336 ⇓*i*P **P 22 18 52.0 -0.1**
WTTA Wattenberg 78.94 339 *e*pP **P 22 18 53.0 +0.7**
comp=Z,147nm,1.2s,SNR=46
WTTA *e*PP **PP 22 21 47.1 -3.1**
comp=Z,34nm,1.2s
CCA1 Carnmenellis 78.98 350 *e*P **P 22 18 52.2 +0.1**
CCA1 IAmb IAmb 22 18 57.6
comp=Z,91nm,0.8s
MOTA Moosalm 78.99 339 *e*pP **P 22 18 53.2 +0.7**
comp=Z,109nm,1.2s
KIRS Kirsehir-Merke 79.05 320 ⇓P **P 22 18 53.5 +0.6**
MYKA Terra Mystica 79.05 337 *i* pP **P 22 18 53.6 +0.8**
comp=Z,39nm,0.9s,SNR=12
TRD Trivandrum 79.08 270 *e*P **P 22 18 53.6 +0.4**
SQTA Sankt Quirin 79.08 339 *i* pP **P 22 18 53.9 +0.9**
comp=Z,98nm,1.0s,SNR=40
MDH Madha 79.09 296 P **P 22 18 52.5 -0.7**
SNR=24
MDH S **S 22 28 50.1 -1.9**
MDH Madha 79.09 296 *i* P **P 22 18 51.5 -1.7**
SNR=23
KMSC Kings Mountain 79.10 47 IAmb IAmb 22 18 55.0
comp=Z,268nm,1.2s
MASF Masafi 79.11 297 P **P 22 18 53.0 -0.4**
SNR=22
MASF S **S 22 28 49.4 -2.9**
R61A Willards 79.12 41 IAMs_20 IAMs_20 22 57 05.2
comp=Z,4μm,19.0s
MSFE Esma-Masafi 79.12 297 *i* P **P 22 18 52.1 -1.3**
SNR=28
MPEP Malo Peshtene 79.13 329 P **P 22 18 53.0 -0.1**
ABTA Abfaltersbach 79.22 338 *i* pP **P 22 18 54.1 +0.5**
comp=Z,53nm,0.9s,SNR=23
ABTA *e*PP **PP 22 21 51.0 -1.4**
comp=Z,18nm,1.1s
250A Grady 79.25 52 IAMs_20 IAMs_20 22 53 09.9
comp=Z,4μm,21.0s
UMQ Umm Al-Quwin 79.28 297 P **P 22 18 55.1 +1.0**
UMQ P **P 22 18 55.1 +1.0**
UMQ S **S 22 28 54.7 +0.8**
UMQ S **S 22 28 54.7 +0.8**
UMQ Umm Al-Quwin 79.28 297 *i* P **P 22 18 54.4 +0.3**
SNR=8.9
ISK Istanbul-Kandi 79.28 324 P **P 22 18 50.7 -3.3**
T59A Double "B" Far 79.30 43 IAmb IAmb 22 18 56.4
comp=Z,566nm,1.8s
GAZ Gaziantep 79.31 317 IAMs_20 IAMs_20 22 55 56.4
comp=Z,7μm,22.0s
WSAR Wadi Sarin 79.32 293 LR LR 22 57 58.9
comp=Z,66nm,20.8s,baz=78,slow=39
WSAR Wadi Sarin 79.32 293 P **P 22 18 54.2 -0.2**
WSAR S **S 22 28 55.5 +0.9**
DAVA Damuels 79.32 340 *i* pP **P 22 18 55.1 +0.8**
comp=Z,47nm,0.7s,SNR=19
TEKS Tekeris 79.37 332 *e*P **P 22 18 53.3 -1.1**
LJU Ljubljana 79.38 336 *e*P **P 22 18 54.7 +0.3**
FETA Feichten 79.38 339 *i* pP **P 22 18 55.5 +0.9**
comp=Z,53nm,0.9s,SNR=20
BIDO Bidbid 79.40 294 P **P 22 18 55.1 +0.2**
SNR=15
BIDO P **P 22 18 55.1 +0.2**
SNR=15
BIDO S **S 22 28 56.3 +1.0**
BIDO S **S 22 28 56.3 +1.0**
UOSS Minazif 79.41 296 P **P 22 18 53.6 -1.4**
UOSS IAmb IAmb 22 19 14.1
comp=Z,430nm,1.4s
UOSS Minazif 79.41 296 P **P 22 18 54.0 -1.0**
UOSS S **S 22 28 51.9 -3.6**
UOSS Minazif 79.41 296 *i* P **P 22 18 52.9 -2.1**
SNR=40
NFK Norfolk Island 79.42 173 P **P 22 18 54.9 +0.3**
comp=Z,168nm,1.2s
EDRB Edirne 79.44 326 P **P 22 18 50.2 -4.6**
152A Waverly Hall 79.47 51 IAmb IAmb 22 18 57.0
comp=Z,470nm,1.3s
GOGA Godfrey 79.49 50 IAMs_20 IAMs_20 22 57 36.9
comp=Z,6μm,18.0s
BRAL Brewton 79.50 53 IAMs_20 IAMs_20 22 56 04.5
comp=Z,5μm,18.0s
PMOR Pomariorio Ree 79.51 129 *e*P **P 22 18 54.7 -0.6**
comp=Z,496nm,1.2s
PMOR Pomariorio Ree 79.51 129 *e*PP **PP 22 21 53.3 -2.8**
comp=Z,2μm,24.4s
PMOR *e*S **S 22 28 54.0 -2.3**
comp=Z,4μm,24.3s
PMOR Pomariorio Ree 79.51 129 *e*LR LR 22 43 36.6
comp=Z,20μm,22.8s
S61A Accomac 79.53 42 IAMs_20 IAMs_20 22 55 09.0
comp=Z,5μm,19.0s
BOVS Bovan 79.53 331 ⇑P **P 22 18 54.6 -0.7**
HATD Hatta, Dubai 79.55 296 P **P 22 18 55.4 -0.3**
SNR=47
HATD P **P 22 18 55.4 -0.3**
SNR=47
HATD S **S 22 28 56.2 -0.7**
HATD S **S 22 28 56.2 -0.7**
HATD Hatta, Dubai 79.55 296 *i* P **P 22 18 54.2 -1.5**
SNR=44
V58A Windy Hill, Pi 79.58 45 IAmb IAmb 22 18 58.0
comp=Z,996nm,1.8s
V58A IAMs_20 IAMs_20 22 56 37.0
comp=Z,4μm,19.0s
WBK Wadi Bani Khal 79.60 293 P **P 22 18 56.1 +0.1**
SNR=18
WBK P **P 22 18 56.1 +0.1**
SNR=18
WBK S **S 22 28 59.0 +1.5**
WBK S **S 22 28 59.0 +1.5**
JSA Saint Aubin 79.60 348 *e*P **P 22 18 55.8 +0.2**
JSA IAmb IAmb 22 18 58.4
comp=Z,112nm,0.9s
DOB Doboj 79.62 333 *e*P **P 22 18 57.4 +1.7**
MBWA Marble Bar 79.65 218 P **P 22 18 56.1 0.0**
MBWA IAmb IAmb 22 18 58.2
comp=Z,370nm,1.1s
MBWA Marble Bar 79.65 218 P **P 22 18 55.5 -0.5**
comp=Z,0.0nmcomp=Z,338nm,1.4s
MBWA Marble Bar 79.65 218 P **P 22 18 56.4 +0.4**
MBWA P **P 22 18 56.4 +0.4**
MBWA S **S 22 29 00.7 +3.0**
MBWA S **S 22 29 00.7 +3.0**
MBWA Marble Bar 79.65 218 P **P 22 18 55.9 -0.2**
RAR Rarotonga 79.67 142 LR LR 22 53 55.1
comp=Z,2μm,18.2s,baz=330,slow=35
DIM Dimitrovgrad 79.67 327 *e*P **P 22 18 56.1 0.0**
CEY Cerknica 79.69 336 ⇓*i*P **P 22 18 56.3 +0.1**
BOJS Bojanci 79.69 336 ⇓*i*P **P 22 18 55.9 -0.2**
JLN Jalan Bani Buh 79.69 292 P **P 22 18 56.5 0.0**
SNR=22
JLN P **P 22 18 56.5 0.0**
SNR=22
JLN S **S 22 28 56.3 -2.1**
JLN S **S 22 28 56.3 -2.1**
NAZ Nazwa, Dubai 79.69 297 P **P 22 18 56.4 -0.1**
SNR=24
NAZ P **P 22 18 56.4 -0.1**
SNR=24
NAZ S **S 22 28 55.0 -3.4**
NAZ S **S 22 28 55.0 -3.4**
NAZ Nazwa, Dubai 79.69 297 *i* P **P 22 18 54.6 -1.9**
SNR=28
A051A Mrakovica 79.70 334 *e*P **P 22 18 55.8 -0.5**
ASHO Ashiyiah 79.70 296 P **P 22 18 56.3 -0.3**
SNR=60
ASHO S **S 22 28 57.9 -0.7**
ASHO Ashiyiah 79.70 296 *i* P **P 22 18 54.8 -1.8**
SNR=42
W57A Gilead 79.71 46 IAmb IAmb 22 18 58.4
comp=Z,247nm,1.3s
W57A IAMs_20 IAMs_20 22 54 49.4
comp=Z,4μm,20.0s
SMDO Samad 79.80 294 P **P 22 18 57.0 -0.2**
SNR=33
SMDO P **P 22 18 57.0 -0.2**
SNR=33
SMDO S **S 22 29 00.9 +1.1**
SMDO S **S 22 29 00.9 +1.1**
DAVOX Davos/Dischmat 79.80 340 LR LR 22 59 01.0
comp=Z,11μm,19.5s,baz=7.5,slow=39
HOQ Hoqain 79.83 295 P **P 22 18 56.3 -1.0**
SNR=32
HOQ P **P 22 18 56.3 -1.0**
SNR=32
HOQ S **S 22 28 58.6 -1.3**
HOQ S **S 22 28 58.6 -1.3**
JSC Jenkinsville 79.84 48 IAMs_20 IAMs_20 22 56 25.9
comp=Z,7μm,20.0s
VAH Vaihoa 79.84 129 *e*P **P 22 18 57.8 +0.6**
comp=Z,338nm,1.2s
VAH Vaihoa 79.84 129 *e*S **S 22 28 58.3 -1.5**
comp=Z,5μm,25.3s
VAH Vaihoa 79.84 129 *e*LR LR 22 43 45.5
comp=Z,20μm,22.8s
SOHO SOHO 79.85 296 P **P 22 18 57.1 -0.3**
SOHO P **P 22 18 57.1 -0.3**
SOHO S **S 22 28 59.5 -0.6**
SOHO S **S 22 28 59.5 -0.6**
SOHO SOHO 79.85 296 *i* P **P 22 18 55.6 -1.7**
SNR=19
BLY Banja Luka 79.86 334 ⇓*i*P **P 22 18 56.1 -1.0**
PLD Plovdiv 79.87 328 P **P 22 18 57.3 +0.1**
FAQ Al Faqa, Dubai 79.92 297 P **P 22 18 57.5 -0.3**
SNR=21
FAQ P **P 22 18 57.5 -0.3**
SNR=21
FAQ S **S 22 28 57.9 -3.0**
FAQ S **S 22 28 57.9 -3.0**
FAQ Al Faqa, Dubai 79.92 297 *i* P **P 22 18 56.6 -1.2**
SNR=22
TRAN Tran 79.95 330 P **P 22 18 57.0 -0.7**
VTS Vitosha 79.95 329 P **P 22 18 57.4 -0.4**
HAPS Han Pijesak,Bl 79.96 333 *e*P **P 22 18 58.1 +0.3**
SKDS Skadanscina 79.97 336 ⇓*i*P **P 22 18 56.6 -1.1**
PSA00 Pilbara Seismi 79.98 218 P **P 22 18 57.8 -0.1**
PSA00 Pilbara Seismi 79.98 218 IAmb IAmb 22 19 00.0
comp=Z,322nm,1.2s
PSA00 Pilbara Seismi 79.98 218 P **P 22 18 57.6 -0.3**
comp=Z,299nm,1.4s
PLNA Plana 80.02 329 P **P 22 18 58.2 +0.1**
BBLS Lazi&#263i 80.03 332 ⇓*i*P **P 22 18 57.7 -0.4**
CLF Chambon-Foret 80.08 345 IAmb IAmb 22 19 12.1
comp=Z,321nm,1.2s
KDZ Kurdzhali 80.12 327 P **P 22 18 58.8 +0.2**
JRQG Juriquilla Cam 80.16 70 IAmb IAmb 22 19 02.6
comp=Z,447nm,1.8s
ASUD Al Ashush, Dub 80.16 297 P **P 22 18 59.0 0.0**
SNR=13
ASUD S **S 22 29 01.1 -2.3**
ASUD Al Ashush, Dub 80.16 297 *i* P **P 22 18 58.1 -1.0**
SNR=12
WRKA Warakurna 80.21 209 P **P 22 18 59.0 0.0**
comp=Z,0.0nmcomp=Z,546nm,1.1s
WRKA Warakurna 80.21 209 P **P 22 18 59.6 +0.6**
RUDO Rudo 80.26 332 *e*P **P 22 18 58.3 -1.0**
RZN Rozhen 80.28 328 P **P 22 18 59.2 -0.4**
A050A Klekovaca 80.29 334 *e*P **P 22 18 58.6 -0.9**
JMDO Jabal Madar 80.30 293 P **P 22 18 59.5 -0.2**
SNR=44
JMDO P **P 22 18 59.5 -0.2**
SNR=44
JMDO S **S 22 29 03.2 -1.7**
JMDO S **S 22 29 03.2 -1.7**
154A Montrose 80.31 50 IAmb IAmb 22 19 02.8
comp=Z,734nm,1.2s
154A IAMs_20 IAMs_20 22 55 06.7
comp=Z,5μm,18.0s
352A Blakely 80.33 52 IAmb IAmb 22 19 02.3
comp=Z,437nm,0.9s
352A IAMs_20 IAMs_20 22 54 02.7
comp=Z,5μm,21.0s
ALNE Al Ain 80.36 296 P **P 22 18 59.4 -0.7**
SNR=44
ALNE S **S 22 29 02.3 -3.3**
ALNE Al Ain 80.36 296 *i* P **P 22 18 58.7 -1.4**
SNR=46
SJES Sjenica 80.41 332 ⇓*i*P **P 22 18 59.8 -0.4**
AJN Ajban 80.41 297 P **P 22 18 60.0 -0.4**
SNR=6.9
AJN S **S 22 29 01.7 -4.2**
AJN Ajban 80.41 297 *i* P **P 22 18 58.8 -1.5**
SNR=8.4
W59A Clinton 80.41 45 IAmb IAmb 22 19 02.6
comp=Z,756nm,1.7s
W59A IAMs_20 IAMs_20 22 59 31.8
comp=Z,5μm,18.0s
ARQ Araqi 80.47 295 P **P 22 19 00.5 -0.2**
SNR=30
ARQ S **S 22 29 05.3 -1.4**
RDO Rodhopi 80.48 327 P **P 22 18 58.5 -2.0**
MOIG Morelia 80.49 71 IAmb IAmb 22 19 04.4
comp=Z,946nm,1.7s
MOIG IAMs_20 IAMs_20 22 52 34.7
comp=Z,3μm,20.0s
X58A Rowland 80.51 46 IAmb IAmb 22 19 02.9
comp=Z,1μm,2.0s
X58A IAMs_20 IAMs_20 22 55 23.5
comp=Z,4μm,19.0s
PLE Pijevlja 80.52 332 ⇓*i*P **P 22 19 00.5 -0.3**
BSY Bisya 80.54 294 P **P 22 19 00.9 -0.2**
SNR=40
BSY P **P 22 19 00.9 -0.2**
SNR=40
BSY S **S 22 29 07.3 -0.1**
BSY S **S 22 29 07.3 -0.1**
451A Vernon 80.61 53 IAMs_20 IAMs_20 22 54 03.9
comp=Z,5μm,20.0s
CAVK Edirne/Enez-Ca 80.67 326 ⇑P **P 22 19 00.9 -0.6**
KKB Krupnik 80.69 329 P **P 22 19 01.3 -0.3**
V61A Roper 80.72 43 IAmb IAmb 22 19 04.0
comp=Z,879nm,1.6s
TEOL Teolo 80.72 338 IAmb IAmb 22 19 04.2
comp=Z,166nm,0.8s
MMB Musomishta 80.74 328 *e*P **P 22 19 01.5 -0.4**
SENIN Lac Senin/Sane 80.75 341 IAmb IAmb 22 19 12.9
comp=Z,184nm,0.9s
KBD Kabd 80.78 305 P **P 22 19 01.7 -0.6**
KBD S **S 22 29 07.2 -2.5**
UPM Unac-Piva 80.78 332 *e*P **P 22 19 01.5 -0.8**
IVA Berane 80.78 331 ⇓*i*P **P 22 19 01.1 -1.1**
OOD Oodnadatta 80.80 202 P **P 22 19 03.3 +1.2**
ARMA Armidale 80.83 187 IAmb IAmb 22 19 05.6
comp=Z,446nm,1.2s
ARMA IAMs_20 IAMs_20 22 48 54.5
comp=Z,5μm,19.0s
ARMA Armidale 80.83 187 P **P 22 19 02.8 +0.5**
comp=Z,0.0nmcomp=Z,294nm,1.3s
ARMA Armidale 80.83 187 P **P 22 19 04.3 +2.0**
PPT Papeete 80.89 132 P **P 22 19 03.8 +1.0**
comp=Z,451nm,1.0s,baz=352,slow=3.9,SNR=36
PPT LR LR 22 47 19.7
comp=Z,3μm,21.1s,baz=298,slow=30
comp=Z,451nm,1.0s
PPT2 Papeete2 80.91 132 *e*PKP2 **P 22 19 04.0 +1.0**
comp=Z,567nm,1.2s
PPT2 Papeete2 80.91 132 *e*PP **PP 22 22 04.9 -2.9**
comp=Z,324nm,23.5s
PPT2 *e*S **S 22 29 05.2 -5.9**
comp=Z,4μm,30.2s
PPT2 *e*SS **SS 22 34 23.4 -2.3**
comp=Z,2μm,23.5s
PPT2 *e*LR LR 22 44 02.9
comp=Z,17μm,32.8s
PPT2 *e*LR LR 22 44 10.6
comp=Z,13μm,23.8s
PPTF Pamatai, Papee 80.91 132 IAmb IAmb 22 19 06.8
comp=Z,538nm,1.0s
KOME Kolasin 80.92 332 ⇓*i*P **P 22 19 02.3 -0.6**
PAE Paea 80.97 132 *e*PKP2 **P 22 19 04.1 +0.9**
comp=Z,260nm,1.2s
PAE Paea 80.97 132 *e*PP **PP 22 22 01.9 -6.3**
comp=Z,312nm,26.6s
PAE *e*S **S 22 29 09.8 -1.8**
comp=Z,612nm,26.3s
PAE *e*SS **SS 22 34 20.5 -5.9**
comp=Z,313nm,22.4s
PAE *e*LR LR 22 44 15.3
comp=Z,2μm,23.0s
SMTH Samothraki Isl 81.08 327 P **P 22 19 03.7 -0.1**

BRY	Bratogost	81.17 332	eP	P	P	22 19 03.8	-0.5
BRY	Bratogost	81.17 332	⇓iP	P	P	22 19 03.0	-1.3
NKME	Niksic	81.17 332	⇓iP	P	P	22 19 03.0	-1.2
SRS	Serrai	81.18 328	P	P	P	22 18 59.8	-4.4
TVO	Taravao	81.23 132	ePKP2	P	P	22 19 04.4	-0.3
	comp=Z,200nm,1.3s						
TVO	Taravao	81.23 132	eS	S	S	22 29 15.4	+1.0
	comp=Z,1μm,28.4s						
TVO	Taravao	81.23 132	eLR	LR	LR	22 44 23.5	
	comp=Z,3μm,23.2s						
THAS	Thassos island	81.25 327	P	P	P	22 19 03.1	-1.5
KOKK	Kokkinochori,	81.31 328	P	P	P	22 19 03.4	-1.5
VAY	Valandovo	81.34 329	iP	P	P	22 19 05.0	0.0
KNT	Kendrikon	81.37 329	P	P	P	22 19 03.1	-2.2
CEME	Cevo	81.38 332	⇓iP	P	P	22 19 04.1	-1.2
PDG	Podgorica	81.38 332	IAmb	IAmb	IAmb	22 19 08.1	
	comp=Z,152nm,0.8s						
PDG	Podgorica	81.38 332	⇓iP	P	P	22 19 03.7	-1.5
PDG	Podgorica	81.38 332	⇓P	P	P	22 19 05.3	0.0
PDG	Podgorica	81.38 332	⇓iP	P	P	22 19 04.4	-0.8
TREB	Trebinje	81.39 332	eP	P	P	22 19 04.2	-1.1
MHTO	MHTO	81.44 292	P	P	P	22 19 05.8	-0.1
	SNR=77						
MHTO			P	P	P	22 19 05.8	-0.1
	SNR=77						
MHTO			S	S	S	22 29 15.5	-1.3
MHTO			S	S	S	22 29 15.5	-1.3
STON	Ston	81.44 333	eP	P	P	22 19 03.3	-2.2
CSU	Charleston Sou	81.47 47	P	P	P	22 19 06.4	+0.6
Y60A	Bolivia	81.48 46	P	P	P	22 19 06.5	+0.6
Y60A			IAmb	IAmb	IAmb	22 19 08.6	
	comp=Z,253nm,1.0s						
Y60A			IAMs_20	IAMs_20	IAMs_20	23 01 25.2	
	comp=Z,4μm,18.0s						
SOH	Sokhos	81.52 328	P	P	P	22 19 07.0	+0.9
ISP	Isparta	81.54 322	P	P	P	22 19 05.8	-0.5
ISP	Isparta	81.54 322	P	P	P	22 19 05.8	-0.5
ISP			pmax	pmax			
	comp=Z,71nm,0.7s						
ISP			MLR	MLR			
	comp=Z,10μm,21.0s						
LHI	Lord Howe Isla	81.58 181	P	P	P	22 19 08.0	+1.8
LHI			IAmb	IAmb	IAmb	22 19 09.3	
	comp=Z,226nm,1.1s						
LHI	Lord Howe Isla	81.58 181	P	P	P	22 19 07.1	+1.0
	comp=Z,240nm,1.3s						
HCY	Herceg Novi	81.59 332	eP	P	P	22 19 05.0	-1.4
HCY	Herceg Novi	81.59 332	⇓iP	P	P	22 19 04.7	-1.7
BUM	Brajici-Budva	81.61 332	⇓iP	P	P	22 19 05.3	-1.3
553A	Crawfordville	81.62 52	IAmb	IAmb	IAmb	22 19 09.7	
	comp=Z,368nm,1.0s						
553A			IAMs_20	IAMs_20	IAMs_20	22 54 53.6	
	comp=Z,4μm,20.0s						
DRME	Dracevica, Mon	81.62 332	eP	P	P	22 19 06.1	-0.5
DRME	Dracevica, Mon	81.62 332	⇓iP	P	P	22 19 06.1	-0.5
SHMA	Al-Shehemyia	81.65 301	P	P	P	22 19 06.6	-0.3
SHMA			S	S	S	22 29 15.6	-3.3
MZWR	Madinat Zayed	81.66 297	P	P	P	22 19 06.3	-0.7
MZWR			P	P	P	22 19 06.3	-0.7
MZWR			S	S	S	22 29 14.9	-4.1
MZWR			S	S	S	22 29 14.9	-4.1
GRG	Griva	81.72 329	P	P	P	22 19 05.5	-1.6
UMZA	Um Al Zommool	81.74 296	P	P	P	22 19 07.3	-0.2
UMZA			P	P	P	22 19 07.3	-0.2
UMZA			S	S	S	22 29 16.6	-3.3
UMZA			S	S	S	22 29 16.6	-3.3
OUR	Ouranopolis	81.75 328	P	P	P	22 19 07.8	+0.6
SAKB	Bahrain	81.79 301	P	P	P	22 19 07.3	-0.4
SAKB			S	S	S	22 29 17.5	-2.8
HORT	Hortiatis	81.81 328	P	P	P	22 19 04.7	-3.0
ULC	Ulcinj	81.81 332	⇓iP	P	P	22 19 06.8	-0.8
THE	Thessaloniki	81.82 328	P	P	P	22 19 06.2	-1.4
ZCCA	Zocca	81.84 338	P	P	P	22 19 08.8	+1.1
ZCCA			IAmb	IAmb	IAmb	22 19 43.7	
	comp=Z,553nm,1.6s						
257A	Skidaway Islan	81.84 49	P	P	P	22 19 08.6	+0.7
PLG	Polygyros	81.89 328	P	P	P	22 19 04.7	-3.4
PRK	Paraskevi	81.90 325	P	P	P	22 19 05.5	-2.6
BEIL	Beino	81.96 316	eP	P	P	22 19 08.4	-0.2
UNM	Universidad Na	81.97 70	P	P	P	22 19 09.9	+0.8
UNM			IAmb	IAmb	IAmb	22 19 11.1	
	comp=Z,158nm,0.6s						
UNM			IAMs_20	IAMs_20	IAMs_20	22 53 59.7	
	comp=Z,3μm,20.0s						
UNM	Universidad Na	81.97 70	P	P	P	22 19 09.9	+0.8
UNM			pmax	pmax			
	comp=Z,158nm,0.6s						
UNM			MLR	MLR			
	comp=Z,3μm,20.0s						
GHWR	Ruwais	82.07 298	P	P	P	22 19 08.8	-0.4
GHWR			P	P	P	22 19 08.8	-0.4
GHWR			S	S	S	22 29 19.5	-3.8
GHWR			S	S	S	22 29 19.5	-3.8
OHR	Ohrid	82.10 330	iP	P	P	22 19 09.5	+0.3
FKH	Fakeheh	82.11 316	eP	P	P	22 19 09.4	0.0
BNI	Bardonecchia	82.13 341	P	P	P	22 19 09.7	+0.3
BNI	Bardonecchia	82.13 341	P	P	P	22 19 09.7	+0.3
BNI			pmax	pmax			
	comp=Z,88nm,1.2s						
BNI			MLR	MLR			
	comp=Z,13μm,21.0s						
VLC	Villacollemand	82.16 338	P	P	P	22 19 07.8	-1.6
TIR	Tirane	82.18 331	IAmb	IAmb	IAmb	22 19 11.4	
	comp=Z,172nm,0.7s						
FNA	Florina	82.21 330	P	P	P	22 19 07.8	-2.0
PAIG	Paliouri	82.21 328	P	P	P	22 19 07.5	-2.2
HWQ	Hawqa	82.29 316	eP	P	P	22 19 09.7	-0.7
SSB	Saint Sauveur	82.33 343	IAmb	IAmb	IAmb	22 19 12.4	
	comp=Z,415nm,1.9s						
456A	Hilliard	82.39 50	P	P	P	22 19 11.7	+1.0
456A			IAMs_20	IAMs_20	IAMs_20	22 56 28.6	
	comp=Z,6μm,19.0s						
TRNA	Turayna	82.40 300	P	P	P	22 19 10.5	-0.4
TRNA			S	S	S	22 29 26.4	-0.2
GUMA	Gualdo di Mace	82.46 336	P	P	P	22 19 10.7	-0.3
GUMA			IAmb	IAmb	IAmb	22 19 15.2	
	comp=Z,187nm,0.7s						
MZR	Muzera	82.48 297	P	P	P	22 19 10.3	-1.0
	SNR=20						
MZR			P	P	P	22 19 10.3	-1.0
	SNR=20						
MZR			S	S	S	22 29 24.5	-3.1
MZR			S	S	S	22 29 24.5	-3.1
MZR	Muzera	82.48 297	iP	P	P	22 19 09.8	-1.6
	SNR=56						
DQM	DQM	82.51 292	P	P	P	22 19 11.5	0.0
	SNR=8.0						
DQM			S	S	S	22 29 24.7	-3.1
KZN	Kozani	82.51 329	P	P	P	22 19 10.9	-0.5
FDMO	Fiordimonte	82.55 336	P	P	P	22 19 11.7	+0.3
CMSA	Cobar Meteorol	82.58 192	P	P	P	22 19 10.9	-0.5
	comp=Z,0.0nmcomp=Z,281nm,1.3s						
CMSA	Cobar Meteorol	82.58 192	P	P	P	22 19 12.7	+1.3
SMRA	Abu-Samra	82.61 300	P	P	P	22 19 11.0	-0.9
	SNR=9.3						
SMRA			S	S	S	22 29 25.4	-3.2
NEST	Nestorio	82.65 330	P	P	P	22 19 06.8	-5.3
SLWR	Sila	82.66 299	S	S	S	22 29 26.1	-3.1
ZAHL	Zahle	82.67 316	eP	P	P	22 19 12.1	-0.2
ELL	Elmali	82.71 322	IAmb	IAmb	IAmb	22 19 37.4	
	comp=Z,254nm,0.8s						
NRCA	Norcia	82.73 336	P	P	P	22 19 12.8	+0.4
BHL	Bhannes	82.74 316	eP	P	P	22 19 12.3	-0.4
LCRK	Leigh Creek	82.80 199	P	P	P	22 19 13.7	+1.1
HMDM	Hanimaadhoo	82.81 272	P	P	P	22 19 13.8	+0.6
HMDM			IAmb	IAmb	IAmb	22 19 15.9	
	comp=Z,305nm,1.2s						
HMDM			IAMs_20	IAMs_20	IAMs_20	23 02 28.1	
	comp=Z,6μm,20.0s						
HMDM	Hanimaadhoo	82.81 272	P	P	P	22 19 14.3	+1.2
	SNR=8.0						
CSS	Mathiatis	82.84 318	P	P	P	22 19 12.2	-0.9
CSS			IAmb	IAmb	IAmb	22 19 14.9	
	comp=Z,108nm,0.8s						
CAMP	Campotosto	82.94 336	IAmb	IAmb	IAmb	22 19 18.1	
	comp=Z,147nm,0.7s						
KPRO	Kipourio	82.96 329	P	P	P	22 19 10.1	-3.6
QRWL	Qaraoun	83.02 316	eP	P	P	22 19 14.0	-0.2
COCO	West Island	83.06 242	P	P	P	22 19 15.2	+0.9
COCO	West Island	83.06 242	P	P	P	22 19 15.2	+0.9
COCO			pmax	pmax			
	comp=Z,677nm,1.5s						
CESX	Cesi	83.08 336	IAmb	IAmb	IAmb	22 19 17.6	
	comp=Z,112nm,0.8s						
AQU	L'Aquila	83.11 336	P	P	P	22 19 14.0	-0.4
SHBL	Chebaa	83.17 316	eP	P	P	22 19 14.9	0.0
GIRL	Giralia	83.23 222	P	P	P	22 19 16.5	+1.5
GIRL	Giralia	83.23 222	P	P	P	22 19 16.1	+1.1
	comp=Z,0.0nmcomp=Z,596nm,1.4s						
GIRL	Giralia	83.23 222	P	P	P	22 19 17.3	+2.3
656A	Willston	83.24 51	P	P	P	22 19 15.9	+0.7
INTR	Introdacqua	83.30 335	IAmb	IAmb	IAmb	22 19 18.6	
	comp=Z,104nm,0.7s						
CASP	Castiglione de	83.34 338	P	P	P	22 19 15.0	-0.5
CASP			IAmb	IAmb	IAmb	22 19 17.5	
	comp=Z,276nm,1.8s						
KSL	Kastellorizon	83.36 322	P	P	P	22 19 13.0	-2.7
JAN	Janina	83.40 329	P	P	P	22 19 13.5	-2.4
STKA	Stephens Creek	83.55 196	P	P	P	22 19 16.5	0.0
	comp=Z,1μm,1.6s						
STKA	Stephens Creek	83.55 196	P	P	P	22 19 16.4	0.0
	comp=Z,104nm,0.9s,baz=352,slow=6.9,SNR=74						
	comp=Z,104nm,0.9s						
STKA	Stephens Creek	83.55 196	P	P	P	22 19 18.1	+1.7
MMAI	Mount Meron Ar	83.60 316	P	P	P	22 19 17.0	-0.1
	comp=Z,58nm,0.6s,baz=40,slow=6.6,SNR=110						
MMAI			LR	LR	LR	23 01 36.4	
	comp=Z,6μm,18.9s,baz=357,slow=39						
	comp=Z,58nm,0.6s						
ASF	Jabal al Asfar	83.64 314	LR	LR	LR	23 00 35.5	
	comp=Z,11μm,20.9s,baz=47,slow=39						
MGCD	Mangrove Creek	83.64 188	P	P	P	22 19 18.4	+1.5
	comp=Z,194nm,1.0s						
IGT	Igoumenitsa	83.68 330	P	P	P	22 19 15.8	-1.5
KEK	Kerkira	83.69 330	P	P	P	22 19 16.1	-1.3
KEK	Kerkira	83.69 330	P	P	P	22 19 17.6	+0.3
TLIG	Tlapa	83.70 70	P	P	P	22 19 18.5	+0.6
TLIG			IAmb	IAmb	IAmb	22 19 21.4	
	comp=Z,229nm,1.2s						
EVR	Evrytania	83.75 328	P	P	P	22 19 19.2	+1.4
MATE	Matera	83.77 333	⇑P	P	P	22 19 18.6	+0.9
SCTE	Santa Cesarea	83.78 331	P	P	P	22 19 18.1	+0.3
SCTE			IAmb	IAmb	IAmb	22 19 21.2	
	comp=Z,240nm,0.8s						
ARG	Arkhangelos	83.87 323	P	P	P	22 19 16.3	-2.1
ARG	Arkhangelos	83.87 323	P	P	P	22 19 17.9	-0.4
ARG			IAmb	IAmb	IAmb	22 19 51.4	
	comp=Z,219nm,1.2s						
ARG			IAMs_20	IAMs_20	IAMs_20	23 02 28.1	
	comp=Z,5μm,20.0s						
ARG	Arkhangelos	83.87 323	P	P	P	22 19 17.9	-0.4
ARG			pmax	pmax			
	comp=Z,219nm,1.2s						
ARG			MLR	MLR			
	comp=Z,5μm,20.0s						
ATH	Athens Observa	83.95 327	P	P	P	22 19 15.0	-3.7
ANX	Ano Chora	84.01 328	P	P	P	22 19 15.8	-3.3
PAOL	Paolisi	84.03 334	P	P	P	22 19 18.8	-0.3
PAOL			IAmb	IAmb	IAmb	22 19 20.0	
	comp=Z,360nm,2.0s						
EFP	Efpalio	84.16 328	P	P	P	22 19 19.9	+0.1
RIV	Riverview	84.25 187	P	P	P	22 19 21.3	+1.4
	comp=Z,264nm,1.1s						
EVGI	Lefkada island	84.40 329	P	P	P	22 19 18.9	-2.1
KLV	Kalavryta, Ach	84.43 328	P	P	P	22 19 19.4	-1.8
GUR	Goura	84.46 328	P	P	P	22 19 18.4	-3.0
FSK	Fiskardo	84.58 329	P	P	P	22 19 18.9	-3.0
CUC	Castrocucco	84.64 333	P	P	P	22 19 21.0	-1.3
DRO	Drossia	84.66 328	P	P	P	22 19 20.7	-1.6
DWPF	Disney Wildern	84.82 51	P	P	P	22 19 23.8	+0.6
VLS	Valsamata	84.83 329	P	P	P	22 19 19.9	-3.3
KARP	Karpathos	84.83 323	P	P	P	22 19 19.7	-3.6
KARP	Karpathos	84.83 323	P	P	P	22 19 21.6	-1.6
KARP			IAmb	IAmb	IAmb	22 19 25.6	
	comp=Z,190nm,0.9s						
KARP	Karpathos	84.83 323	eP	P	P	22 19 22.4	-0.9
PSDA	Pessada-Kefalo	84.89 329	P	P	P	22 19 21.0	-2.4
GHAJ	Ghor Haditha	84.97 315	P	P	P	22 19 23.9	-0.1
GHAJ			IAmb	IAmb	IAmb	22 19 26.1	
	comp=Z,101nm,0.8s						
MEEK	Meekatharra	85.03 216	P	P	P	22 19 24.1	0.0
MEEK	Meekatharra	85.03 216	P	P	P	22 19 25.1	+1.0
TIP	Timpagrande	85.11 332	P	P	P	22 19 23.9	-0.8
TIP			IAmb	IAmb	IAmb	22 19 27.2	
	comp=Z,404nm,1.6s						
TIP	Timpagrande	85.11 332	⇑P	P	P	22 19 25.9	+1.2
LTHK	Lithakia	85.17 329	P	P	P	22 19 25.1	+0.2
ITM	Ithomi	85.28 328	P	P	P	22 19 22.8	-2.7
ITM	Ithomi	85.28 328	P	P	P	22 19 24.5	-1.0
ITM			IAmb	IAmb	IAmb	22 19 36.8	
	comp=Z,108nm,0.7s						
EJON	La Jonquera	85.38 343	P	P	P	22 19 25.4	-0.5
CEST	Esterri de Car	85.52 344	P	P	P	22 19 26.3	-0.5
DOK	Doka	85.54 294	P	P	P	22 19 25.7	-1.3
	SNR=21						
DOK			P	P	P	22 19 25.7	-1.3
	SNR=21						
BBOO	Buckleboo	85.54 200	P	P	P	22 19 26.5	0.0
BBOO					pP	22 19 26.6	-2.8
BBOO	Buckleboo	85.54 200	P	P	P	22 19 26.4	0.0
BBOO	Buckleboo	85.54 200	P	P	P	22 19 27.7	+1.2
HTT	Hallett	85.55 198	P	P	P	22 19 28.9	+2.3
FORT	Forrest	85.66 207	P	P	P	22 19 27.3	+0.2
FORT	Forrest	85.66 207	P	P	P	22 19 27.4	+0.3
FORT	Forrest	85.66 207	P	P	P	22 19 29.4	+2.3
DMTO	DMTO	85.76 293	P	P	P	22 19 26.8	-1.3
DMTO			P	P	P	22 19 26.8	-1.3
CNB	Canberra Magne	85.88 189	P	P	P	22 19 29.8	+1.6
IDI	Anoyia	85.92 325	P	P	P	22 19 27.6	-1.1
IDI			IAmb	IAmb	IAmb	22 19 29.6	
	comp=Z,148nm,0.6s						
IDI	Anoyia	85.92 325	P	P	P	22 19 27.1	-1.6
CAN	Canberra	85.92 189	P	P	P	22 19 28.8	+0.4
CAN			IAmb	IAmb	IAmb	22 19 31.4	
	comp=Z,153nm,1.2s						
CAN			IAMs_20	IAMs_20	IAMs_20	22 52 08.4	
	comp=Z,4μm,22.0s						
CAN	Canberra	85.92 189	P	P	P	22 19 29.9	+1.6
CAN	Canberra	85.92 189	P	P	P	22 19 28.8	+0.4
CAN			pmax	pmax			
	comp=Z,153nm,1.2s						
CAN			MLR	MLR			
	comp=Z,4μm,22.0s						
TBI	Tubuai	85.93 135	eP	P	P	22 19 29.4	+0.8
	comp=Z,562nm,1.1s						
TBI	Tubuai	85.93 135	ePP	PP	PP	22 22 49.5	+0.6
	comp=Z,2μm,25.8s						
TBI			eS	S	S	22 30 04.7	+3.1
	comp=Z,18μm,25.8s						
TBI			eSS	SS	SS	22 35 40.4	+0.4
	comp=Z,6μm,24.8s						
TBI	Tubuai	85.93 135	eLR	LR	LR	22 46 15.2	
	comp=Z,64μm,31.8s						
TBI			eLR	LR	LR	22 46 19.0	
	comp=Z,15μm,33.5s						
OUZ	Omahuta	86.11 169	IAMs_20	IAMs_20	IAMs_20	22 50 33.8	
	comp=Z,6μm,21.0s						
CEL	Celeste	86.22 332	P	P	P	22 19 29.4	-0.7
060A	Indiantown	86.24 51	P	P	P	22 19 29.6	-0.7
CMIG	Matias Romero	86.26 68	LR	LR	LR	22 58 49.4	
	comp=Z,1μm,18.8s,baz=318,slow=36						
WHFO	Wadi Hawf	86.30 294	P	P	P	22 19 29.5	-1.3
	SNR=16						
WHFO			P	P	P	22 19 29.5	-1.3
	SNR=16						
RBK	Rabkut	86.37 293	P	P	P	22 19 30.8	-0.4
	SNR=8.2						
RBK			P	P	P	22 19 30.8	-0.4
	SNR=8.2						
RAYN	Ar Rayn	86.48 303	P	P	P	22 19 30.6	-1.1
RAYN	Ar Rayn	86.48 303	P	P	P	22 19 31.2	-0.5
RAYN	Ar Rayn	86.48 303	P	P	P	22 19 30.6	-1.1
RAYN			pmax	pmax			
	comp=Z,90nm,0.9s						
RAYN			MLR	MLR			
	comp=Z,7μm,19.0s						
RAYN	Ar Rayn	86.48 303	iP	P	P	22 19 30.3	-1.4
	SNR=102						
EIL	Elat	86.64 314	LR	LR	LR	23 02 30.4	
	comp=Z,9μm,21.0s,baz=34,slow=39						
VSL	Villasalto	86.82 338	P	P	P	22 19 33.6	+0.6
061Z	Ochoppi	86.94 52	P	P	P	22 19 34.0	+0.3
061Z			IAMs_20	IAMs_20	IAMs_20	23 00 24.3	
	comp=Z,5μm,19.0s						
ABTO	Aybut	87.02 294	P	P	P	22 19 33.4	-1.0
	SNR=24						
ABTO			P	P	P	22 19 33.4	-1.0
	SNR=24						
ECAL	Calabor	87.29 350	P	P	P	22 19 34.7	-0.7
VAE	Valguarnera	87.38 333	LR	LR	LR	23 03 16.0	
	comp=Z,10μm,19.6s,baz=2.5,slow=39						
PGAV	Gavieira, Arco	87.42 351	eP	P	P	22 19 36.5	+0.4
PGAV			i Amb			22 19 53.6	
	comp=Z,158nm,1.4s						
PGAV			ePP	PP	PP	22 23 05.6	+6.0
PGAV			eS	S	S	22 30 18.8	+2.6
PGAV			eLQ	LQ	LQ	22 44 48.9	
PGAV			eLR	LR	LR	22 49 16.8	
PGAV			i AMs_20			23 04 29.9	
	comp=Z,3μm,18.0s						
PBRG	Braganca	87.43 350	eP	P	P	22 19 35.4	-0.6
PBRG			i Amb			22 19 39.1	
	comp=Z,103nm,1.8s						
MAHO	Mahon	87.57 342	P	P	P	22 19 34.1	-2.5
TEIG	Tepich	87.59 61	P	P	P	22 19 37.5	+0.4
TEIG			IAmb	IAmb	IAmb	22 19 39.5	
	comp=Z,390nm,1.4s						
TEIG			IAMs_20	IAMs_20	IAMs_20	23 03 47.7	
	comp=Z,4μm,19.0s						
MILA	Mila	87.63 189	P	P	P	22 19 37.9	+1.2
PCAB	Cabril	87.65 351	eP	P	P	22 19 37.4	+0.4
PCAB			i Amb			22 19 52.7	
	comp=Z,136nm,1.5s						
KAAM	Kaadhehdhoo	87.72 268	P	P	P	22 19 37.6	-0.1
KAAM			IAmb	IAmb	IAmb	22 19 40.3	
	comp=Z,314nm,1.4s						
KAAM			IAMs_20	IAMs_20	IAMs_20	22 59 12.5	
	comp=Z,4μm,21.0s						
POLO	Lamas de Olo	87.96 351	eP	P	P	22 19 38.5	-0.1
POLO			i Amb			22 19 51.2	
	comp=Z,86nm,1.3s						
ETOS	Mallorca	87.98 343	P	P	P	22 19 36.9	-1.8
PVRL	Vila Real	88.05 351	eP	P	P	22 19 38.9	-0.1
PVRL			i Amb			22 19 42.1	
	comp=Z,211nm,1.8s						
MVO	Moncorvo	88.09 350	eP	P	P	22 19 39.3	+0.1
MVO			i Amb			22 19 41.7	
	comp=Z,116nm,1.1s						
MVO			ePP	PP	PP	22 23 14.7	+10
MVO			eS	S	S	22 30 24.9	+2.4
MVO			eLQ	LQ	LQ	22 44 57.2	
MVO			eLR	LR	LR	22 49 26.3	
MVO			i AMs_20			23 07 08.9	
	comp=Z,3μm,18.0s						
KMBL	Kambalda	88.15 212	P	P	P	22 19 39.1	-0.2
KMBL	Kambalda	88.15 212	P	P	P	22 19 40.2	+1.0
MORW	Morawa	88.20 217	P	P	P	22 19 39.9	+0.4
MORW	Morawa	88.20 217	P	P	P	22 19 40.5	+1.0
ARPS	Mount Arapiles	88.29 195	P	P	P	22 19 40.4	+0.7
ARPS	Mount Arapiles	88.29 195	P	P	P	22 19 41.8	+2.1
SOR	Soroa	88.38 55	IAmb	IAmb	IAmb	22 19 43.3	
	comp=Z,182nm,1.3s						
CCIG	Comitan	88.51 66	IAmb	IAmb	IAmb	22 19 43.6	
	comp=Z,261nm,1.9s						
TOO	Toolangi	88.55 192	IAmb	IAmb	IAmb	22 19 44.4	
	comp=Z,142nm,1.2s						
TOO	Toolangi	88.55 192	P	P	P	22 19 42.5	+1.5
PVIS	Viseu	88.62 351	eP	P	P	22 19 41.7	0.0
ECHE	Chera	88.82 345	P	P	P	22 19 40.0	-2.7
TOZ	Tahuroa Road	88.83 168	IAmb	IAmb	IAmb	22 19 46.5	
	comp=Z,240nm,1.1s						
TOZ			IAMs_20	IAMs_20	IAMs_20	22 50 19.9	
	comp=Z,4μm,22.0s						
WDD	Wied Dalam	88.87 333	P	P	P	22 19 43.0	+0.2
WDD			IAMs_20	IAMs_20	IAMs_20	23 07 01.8	
	comp=Z,4μm,18.0s						
MTE	Manteigas	88.90 351	IAMs_20	IAMs_20	IAMs_20	23 04 55.3	
	comp=Z,4μm,20.0s						
MTE	Manteigas	88.90 351	eP	P	P	22 19 42.9	-0.2
MTE			i Amb			22 19 46.7	
	comp=Z,96nm,1.2s						
MTE			ePP	PP	PP	22 23 20.6	+9.2
MTE			eS	S	S	22 30 32.2	+1.9
MTE			eLQ	LQ	LQ	22 45 08.5	
MTE			eLR	LR	LR	22 49 44.0	
MTE			i AMs_20			23 05 37.2	
	comp=Z,3μm,20.0s						
MTE	Manteigas	88.90 351	eP	P	P	22 19 42.2	-0.8
EIBI	Ibiza	88.97 344	P	P	P	22 19 42.2	-1.1
COI	Coimbra	89.18 351	IAmb	IAmb	IAmb	22 19 47.7	
	comp=Z,98nm,0.8s						
COI			IAMs_20	IAMs_20	IAMs_20	23 06 36.6	
	comp=Z,4μm,18.0s						
COI	Coimbra	89.18 351	eP	P	P	22 19 44.4	+0.2
COI			i Amb			22 19 47.8	
	comp=Z,148nm,0.9s						
ESBB	Sonseca Array	89.18 348	IAmb	IAmb	IAmb	22 19 46.2	
	comp=Z,450nm,1.9s						
ESDC	Sonseca Array	89.19 348	P	P	P	22 19 43.7	-0.6
ESDC	Sonseca Array	89.19 348	P	P	P	22 19 43.8	-0.6
	comp=Z,64nm,0.8s,baz=0.8,slow=4.1,SNR=178						
ESDC			PP	PP	PP	22 23 12.9	-0.8
	comp=Z,3.3nm,1.0s,baz=11,slow=5.2,SNR=2.3						
ESDC			PKKPbc	PKKPbc	PKKPbc	22 37 19.2	0.0
	comp=Z,5.2nm,0.9s,baz=205,slow=1.7,SNR=20						
ESDC			PKPPKP	P'P'df	P'P'df	22 45 29.6	-6.5
	comp=Z,2.3nm,1.1s,baz=255,slow=1.6,SNR=6.9						
ESDC			LR	LR	LR	23 06 40.3	
	comp=Z,7μm,18.1s,baz=19,slow=40						
	comp=Z,64nm,0.8s						
BLDU	Ballidu	89.33 216	P	P	P	22 19 44.4	-0.3
BLDU	Ballidu	89.33 216	P	P	P	22 19 46.8	+2.0
PETF	Flores	89.33 64	IAmb	IAmb	IAmb	22 19 46.8	
	comp=Z,197nm,1.7s						
PCAS	Casmilo, Conde	89.34 351	eP	P	P	22 19 45.0	-0.1
PCAS			i Amb			22 19 47.1	
	comp=Z,131nm,2.4s						
PAB	San Pablo	89.36 348	P	P	P	22 19 44.9	-0.4
PAB			IAmb	IAmb	IAmb	22 19 47.0	
	comp=Z,244nm,1.9s						
PAB	San Pablo	89.36 348	P	P	P	22 19 44.9	-0.4
PAB			pmax	pmax			
	comp=Z,244nm,1.9s						
PAB			MLR	MLR			
	comp=Z,6μm,18.0s						
PCBR	Castelo Branco	89.45 350	eP	P	P	22 19 45.1	-0.4
PCBR			i Amb			22 19 50.8	
	comp=Z,70nm,1.1s						
HIZ	Hauiti	89.52 168	P	P	P	22 19 47.4	+2.0
URZ	Urewera

LIS IAMs_20 IAMs_20 23 03 18.9
comp=E,9µm,24.2s
LIS Lisbon 90.73 352 *eP* **P 22 19 52.1 +0.6**
MUN Mundaring 90.73 216 P **P 22 19 50.9 -0.4**
CART Cartagena 90.78 345 P **P 22 19 51.0 -0.8**
EVO Evora 90.80 351 *eP* **P 22 19 51.4 -0.5**
EVO *i* Amb 22 19 54.0
comp=E,59nm,2.1s
EVO Evora 90.80 351 P **P 22 19 51.0 -0.8**
SET Setif 90.89 340 P **P 22 19 53.0 +0.6**
PBAR Barrancos 91.05 350 *eP* **P 22 19 53.1 +0.1**
PBAR *i* Amb 22 19 55.3
comp=E,100nm,1.1s
NWAO Narrogin (SRO) 91.20 215 P **P 22 19 53.7 +0.2**
NWAO IAmb IAmb 22 19 55.4
comp=Z,280nm,1.2s
NWAO IAMs_20 IAMs_20 23 06 14.2
comp=Z,4µm,19.0s
NWAO Narrogin (SRO) 91.20 215 LR LR 23 05 40.2
comp=Z,2µm,18.0s,baz=20,slow=39
NWAO Narrogin (SRO) 91.20 215 P **P 22 19 53.9 +0.5**
NWAO P **P 22 19 53.9 +0.5**
NWAO Narrogin (SRO) 91.20 215 P **P 22 19 54.6 +1.1**
NWAO Narrogin (SRO) 91.20 215 P **P 22 19 53.7 +0.2**
NWAO pmax pmax
comp=Z,280nm,1.3s
NWAO MLR MLR
comp=Z,4µm,19.0s
PBEJ Beja 91.28 350 *eP* **P 22 19 54.6 +0.5**
PBEJ *i* Amb 22 19 56.0
comp=Z,70nm,1.2s
MESJ Messejana 91.51 351 P **P 22 19 55.2 +0.1**
MESJ IAMs_20 IAMs_20 23 08 02.2
comp=Z,5µm,19.0s
MESJ Messejana 91.51 351 *eP* **P 22 19 55.7 +0.6**
MESJ *ePP* **PP 22 23 33.8 +1.8**
MESJ *eSKSac* **SKSac 22 30 28.3 +1.2**
MESJ *eSS* **SS 22 37 02.6 +4.2**
MESJ IAMs_20 IAMs_20 23 11 10.9
comp=Z,9µm,13.2s
MESJ Messejana 91.51 351 *eP* **P 22 19 55.2 +0.1**
MESJ *i* Amb 22 20 12.7
comp=Z,56nm,1.8s
MESJ Messejana 91.51 351 P **P 22 19 55.2 +0.1**
MESJ pmax pmax
comp=Z,61nm,1.5s
MESJ MLR MLR
comp=Z,5µm,19.0s
ESQI Esquipulas 91.51 65 P **P 22 19 55.1 -0.4**
ESQI IAmb IAmb 22 19 57.6
comp=Z,200nm,1.3s
QRZ Quartz Range 91.53 171 P **P 22 19 55.1 +0.3**
QRZ IAmb IAmb 22 20 14.0
comp=Z,316nm,1.7s
QRZ IAMs_20 IAMs_20 22 49 37.2
comp=Z,5µm,20.0s
GLAD Gladstone 91.63 189 P **P 22 19 56.8 +1.6**
PCVE Castro Verde 91.69 351 *eP* **P 22 19 56.3 +0.3**
PCVE *i* Amb 22 19 58.4
comp=Z,94nm,1.2s
MRZ Mangatainoka R 91.72 168 IAmb IAmb 22 19 56.8
comp=Z,283nm,1.4s
TKNZ Takaka Hill 91.78 170 P **P 22 19 56.6 +0.7**
BFZ Birch Farm 91.83 168 P **P 22 19 57.2 +1.0**
BFZ IAmb IAmb 22 19 57.8
comp=Z,170nm,1.6s
PTEO Sao Teotonio 91.85 351 *eP* **P 22 19 57.4 +0.7**
PVAQ Vaqueiros 91.88 350 IAMs_20 IAMs_20 23 07 51.2
comp=Z,4µm,19.0s
PVAQ Vaqueiros 91.88 350 *eP* **P 22 19 57.0 +0.1**
PVAQ *i* Amb 22 19 58.9
comp=Z,78nm,1.3s
PVAQ *ePP* **PP 22 23 41.4 +6.4**
PVAQ *eLR* LR 22 51 17.6
PVAQ *i* AMs_20 23 10 15.7
comp=Z,6µm,16.0s
NNZ Nelson 92.01 170 IAMs_20 IAMs_20 22 52 41.9
comp=Z,6µm,21.0s
PBDV Barranco-do-Ve 92.07 350 *eP* **P 22 19 58.3 +0.5**
PBDV *i* Amb 22 19 59.8
comp=Z,127nm,1.4s
MORF Marmelete 92.08 351 *eP* **P 22 19 58.3 +0.5**
MORF *ePP* **PP 22 23 38.2 +1.6**
MORF *eSKSac* **SKSac 22 30 31.7 +1.2**
MORF *eSS* **SS 22 37 11.0 +4.3**
MORF IAMs_20 IAMs_20 23 12 09.0
comp=Z,11µm,16.3s
MORF Marmelete 92.08 351 *eP* **P 22 19 58.9 +1.0**
EMAL Malaga-Limoner 92.11 348 P **P 22 19 57.0 -0.9**
TUWZ Tuamarina 92.28 170 P **P 22 19 59.4 +1.2**
DSZ Denniston Nort 92.36 171 IAMs_20 IAMs_20 23 00 18.3
comp=Z,5µm,20.0s
BHW Baring Head 92.37 169 IAMs_20 IAMs_20 22 57 02.5
comp=Z,4µm,20.0s
THZ Tophouse 92.49 170 IAMs_20 IAMs_20 22 53 35.8
comp=Z,5µm,22.0s
TGUH Tegucigalpa,Un 93.10 64 P **P 22 20 02.5 -0.5**
MOO Moorlands 93.16 189 P **P 22 20 04.3 +2.1**
MOO Moorlands 93.16 189 P **P 22 20 05.8 +3.5**
KHZ Kahutara 93.21 170 IAMs_20 IAMs_20 22 55 07.7
comp=Z,5µm,20.0s
INZ Inchbonnie 93.30 172 P **P 22 20 03.5 +0.6**
LTZ Lake Taylor 93.44 171 IAMs_20 IAMs_20 22 52 42.7
comp=Z,4µm,22.0s
TAU Tasmania Unive 93.61 189 P **P 22 20 06.0 +1.7**
TAU IAmb IAmb 22 20 07.5
comp=Z,186nm,1.3s
TAU Tasmania Unive 93.61 189 P **P 22 20 05.7 +1.4**
TAU Tasmania Unive 93.61 189 P **P 22 20 06.0 +1.7**
TAU pmax pmax
comp=Z,186nm,1.3s
OXZ Oxford 93.95 171 IAMs_20 IAMs_20 22 52 58.4
comp=Z,5µm,22.0s
DGAR Diego Garcia 94.11 263 P **P 22 20 07.5 +0.2**
DGAR IAmb IAmb 22 20 09.0
comp=Z,80nm,0.8s
DGAR Diego Garcia 94.11 263 P **P 22 20 07.8 +0.4**
DGAR P **P 22 20 07.8 +0.4**
DGAR Diego Garcia 94.11 263 *ceP* **P 22 20 08.0 +0.6**
DGAR pmax pmax
comp=Z,208nm,1.7s
CHIV Chivirico 94.11 52 IAmb IAmb 22 20 09.6
comp=Z,63nm,1.2s
CHIV IAMs_20 IAMs_20 23 03 46.3
comp=Z,5µm,20.0s
RPZ Rata Peaks 94.25 172 LR LR 22 55 57.9
comp=Z,3µm,21.2s,baz=360,slow=31
H08S3 Diego Garcia H 94.25 263 P **P 22 20 08.5 +0.8**
baz=5.4,slow=9.3,SNR=4.8
H08S2 Diego Garcia H 94.26 263 P **P 22 20 07.9 +0.2**
baz=5.4,slow=9.3,SNR=8.5
H08S1 Diego Garcia H 94.27 263 P **P 22 20 08.9 +1.1**
baz=5.4,slow=9.3,SNR=5.0
NMDO Nuevo Mundo 94.33 50 IAmb IAmb 22 20 12.1
comp=Z,58nm,0.9s
NMDO IAMs_20 IAMs_20 23 03 12.9
comp=Z,5µm,20.0s
MQZ McQueen's Vall 94.39 171 IAMs_20 IAMs_20 23 02 35.0
comp=Z,3µm,19.0s
GTBY Guantanamo Bay 94.80 51 IAMs_20 IAMs_20 23 03 08.5
comp=Z,4µm,20.0s
LBZ Lake Benmore 94.84 173 P **P 22 20 11.2 +1.2**
MTDJ Mount Denham 95.00 54 IAMs_20 IAMs_20 23 11 27.9
comp=Z,3µm,19.0s
WKZ Wanaka 95.19 174 P **P 22 20 13.4 +1.9**
WKZ IAmb IAmb 22 20 14.4
comp=Z,145nm,1.6s
BOAB BOACO BROADBAND 95.31 63 IAmb IAmb 22 20 13.9
comp=Z,290nm,1.8s
BOAB BOACO BROADBAND 95.31 63 P **P 22 20 09.8 -3.2**
GRTK Grand Turk 95.36 47 P **P 22 20 14.0 +0.9**
GRTK IAmb IAmb 22 20 15.6
comp=Z,230nm,1.2s
ODZ Otahua Downs 95.53 172 IAMs_20 IAMs_20 22 54 43.1
comp=Z,5µm,21.0s
MLZ Mavora Lakes 95.67 174 P **P 22 20 13.8 +0.1**
MLZ IAmb IAmb 22 23 54.6
comp=Z,147nm,2.0s
DCZ Deep Cove 95.70 175 P **P 22 20 15.1 +1.3**
DCZ IAMs_20 IAMs_20 22 56 02.6
comp=Z,4µm,22.0s
AVE Averroes 95.91 349 IAmb IAmb 22 20 17.3
comp=Z,294nm,1.9s
AVE IAMs_20 IAMs_20 23 07 22.7
comp=Z,3µm,20.0s

AVE Averroes 95.91 349 P **P 22 20 13.5 -2.0**
MDT Midelt 96.02 347 PKKPbc PKKPbc 22 37 01.1 -0.7
comp=Z,5.1nm,0.8s,baz=188,slow=4.2,SNR=8.1
MDT LR LR 23 11 39.3
comp=Z,3µm,18.8s,baz=34,slow=41
ESPN Las Esperanzas 96.30 62 P **P 22 20 17.8 +0.4**
PYZ Puysegur Point 96.38 175 IAMs_20 IAMs_20 22 56 22.5
comp=Z,4µm,22.0s
PMPST Porto Santo, M 96.80 357 *eP* **P 22 20 19.6 +0.1**
PMOZ Porto Moniz, M 97.08 358 *ePP* PP 22 24 26.3 +11
PMOZ *eS* SKKSac 22 31 11.6 -13
PMAR Madeira 97.17 357 *eP* Pdif 22 20 22.2 +0.7
SC01 Santiago de lo 97.34 47 P Pdif 22 20 23.1 +0.9
JTS Las Juntas de 97.46 64 LR LR 23 08 01.3
comp=Z,755nm,18.8s,baz=318,slow=38
SDDR Presa de Saban 97.46 48 IAMs_20 IAMs_20 23 11 27.8
comp=Z,4µm,20.0s
ATD Arta Tunnel 97.68 298 LR LR 23 08 42.8
comp=Z,307nm,20.5s,baz=41,slow=38
BANI BANI 98.41 48 P Pdif 22 20 27.4 +0.2
BANI IAmb IAmb 22 20 28.9
comp=Z,81nm,1.5s
LCR2 La Lucha 2 98.45 64 P **P 22 20 26.4 -1.0**
DR12 Loma Pena Alta 98.53 47 P Pdif 22 20 28.0 +0.4
DR12 IAmb IAmb 22 20 30.2
comp=Z,70nm,1.2s
AGPR Aguadilla, PR 99.85 45 IAMs_20 IAMs_20 23 10 40.6
comp=Z,3µm,20.0s
BRU2 Volcan 99.97 63 Pdif **Pdif 22 20 33.2 -1.0**
EMPR Esperanza - Ma 100.10 44 IAMs_20 IAMs_20 23 12 26.3
comp=Z,2µm,19.0s
AOPR Arecibo Observ 100.11 45 Pdif **Pdif 22 20 33.7 -0.9**
CRPR Cabo Rojo, PR 100.25 45 IAMs_20 IAMs_20 23 08 31.3
comp=Z,2µm,20.0s
CELP Cerrillos 100.43 45 Pdif **Pdif 22 20 36.1 +0.1**
CELP IAMs_20 IAMs_20 23 11 15.0
comp=Z,3µm,19.0s
GCPR Guaynabo City 100.45 44 IAMs_20 IAMs_20 23 08 06.4
comp=Z,4µm,19.0s
OBIP Obispado Ponce 100.45 45 Pdif **Pdif 22 20 34.8 -1.3**
OBIP IAMs_20 IAMs_20 23 11 13.5
comp=Z,3µm,19.0s
SJG San Juan 100.59 44 Pdif **Pdif 22 20 36.7 0.0**
SJG San Juan 100.59 44 IAMs_20 IAMs_20 23 11 53.3
comp=Z,2µm,20.0s
HUMP Col San Antoni 100.70 44 Pdif **Pdif 22 20 37.3 +0.1**
HUMP IAMs_20 IAMs_20 23 08 34.1
comp=Z,3µm,19.0s
PDPR Patillas Dam, 100.73 44 IAMs_20 IAMs_20 23 12 03.9
comp=Z,2µm,20.0s
IGPR InterUniversit 100.74 44 IAMs_20 IAMs_20 23 12 53.2
comp=Z,2µm,18.0s
MACI Morro de la Ar 101.62 357 IAMs_20 IAMs_20 23 14 05.0
comp=Z,3µm,19.0s
SMRT St. Maarten 101.99 42 IAMs_20 IAMs_20 23 12 46.9
comp=Z,3µm,20.0s
SABA Saba 102.30 42 Pdif **Pdif 22 20 43.8 -0.5**
SABA IAMs_20 IAMs_20 23 12 59.2
comp=Z,3µm,19.0s
SEUS St. Eustatius 102.52 42 IAMs_20 IAMs_20 23 13 22.1
comp=Z,3µm,20.0s
SMRC Santa Marta, M 102.65 55 Pdif **Pdif 22 20 44.2 -1.7**
ANWB Willy Bob 102.87 41 IAMs_20 IAMs_20 23 12 01.2
comp=Z,3µm,22.0s
TAM Tamanrasset 103.69 336 Pdif **Pdif 22 20 49.3 -1.4**
ABD La Joyeuse, An 104.06 41 IAMs_20 IAMs_20 23 10 16.8
comp=Z,2µm,20.0s
GDHS Morne Mazeau, 104.13 41 IAMs_20 IAMs_20 23 13 02.2
comp=Z,3µm,19.0s
GDSD La Dsirade Is 104.38 41 IAMs_20 IAMs_20 23 09 25.3
comp=Z,3µm,21.0s
TDBA Terre de Bas, 104.56 41 IAMs_20 IAMs_20 23 13 12.9
comp=Z,4µm,20.0s
MAGL Barre de l'ile 104.62 41 IAMs_20 IAMs_20 23 11 24.6
comp=Z,4µm,21.0s
SVN Savane Anatole 105.66 41 IAMs_20 IAMs_20 23 12 52.2
comp=Z,3µm,20.0s
FDF Fort de France 105.76 41 IAMs_20 IAMs_20 23 12 44.9
comp=Z,3µm,20.0s
ILAM Ilet Lapin Mar 105.84 41 IAMs_20 IAMs_20 23 13 18.0
comp=Z,3µm,21.0s
BIM Bigot 105.99 41 IAMs_20 IAMs_20 23 13 01.0
comp=Z,4µm,20.0s
MPOM Morne Pois Mar 106.14 41 IAMs_20 IAMs_20 23 13 13.9
comp=Z,4µm,20.0s
SDV Santo Domingo 106.43 53 IAMs_20 IAMs_20 23 13 36.9
comp=Z,3µm,19.0s
SDV Santo Domingo 106.43 53 PP **PP 22 25 26.9 -0.1**
comp=Z,8.6nm,0.7s,baz=339,slow=5.5,SNR=6.2
GRGR Grenville 107.86 43 IAMs_20 IAMs_20 23 12 30.8
comp=Z,3µm,20.0s
ROSC El Rosal 107.89 58 PP **PP 22 25 38.8 +0.8**
comp=Z,17nm,0.7s,baz=8.9,slow=14,SNR=7.3
LODK Lodwar 108.52 300 IAMs_20 IAMs_20 23 12 50.6
comp=Z,4µm,22.0s
KMBO Kilima Mbogo 111.17 296 PKiKP **PKiKP 22 25 22.9 0.0**
comp=Z,3.7nm,0.9s,baz=28,slow=4.7,SNR=7.4
KMBO PP **PP 22 26 00.9 -0.9**
comp=Z,3.4nm,1.0s,baz=61,slow=5.5,SNR=5.3
KMBO PKKPbc **PKKPbc 22 36 16.4 -0.5**
comp=Z,4.5nm,0.9s,baz=76,slow=1.9,SNR=12
KIBK Kibwezi 111.69 294 PKP **PKiKP 22 25 22.4 -1.4**
TORD Torodi Ar. Bea 113.91 337 PKiKP **PKiKP 22 25 28.3 +0.5**
comp=Z,6.1nm,0.6s,baz=8.3,slow=3.6,SNR=5.5
TORD PP **PP 22 26 20.0 -0.4**
comp=Z,8.2nm,0.9s,baz=7.3,slow=8.4,SNR=4.8
TORD PKKPbc **PKKPbc 22 36 07.4 -0.2**
comp=Z,8.9nm,0.7s,baz=254,slow=1.2,SNR=7.2
SACV Santiago Islan 114.82 4 IAMs_20 IAMs_20 23 11 24.8
comp=Z,2µm,19.0s
TBTG Tabatinga, AM 117.80 60 IAMs_20 IAMs_20 23 22 44.3
comp=Z,2µm,20.0s
ABPO Ambohimpanom 118.91 275 **PKiKP 22 25 38.0 +0.5**
ABPO Ambohimpanom 118.91 275 PKiKP **PKiKP 22 25 38.0 +0.5**
NNA Nana 120.05 71 PKP **PKPdf 22 25 39.6 0.0**
comp=Z,7.1nm,0.3s,baz=286,slow=1.5,SNR=2.8
TEFE Tefe 120.06 54 *eP* **PKiKP 22 25 39.8 0.0**
VOI Vohitsoka 121.29 273 P **PKPdf 22 25 41.6 -0.3**
DBIC Dimbokro 121.65 342 **PKPdf 22 25 42.2 -0.5**
DBIC Dimbokro 121.65 342 PKP **PKPdf 22 25 42.0 -0.8**
comp=Z,62nm,0.7s,baz=8.3,slow=2.2,SNR=86
DBIC PP **PP 22 27 13.4 -0.6**
comp=Z,7.9nm,0.8s,baz=15,slow=8.9,SNR=2.1
DBIC PKKPbc **PKKPbc 22 35 39.1 -0.9**
comp=Z,10nm,0.8s,baz=169,slow=5.1,SNR=11
DBIC SKKPbc SKKPbc 22 39 25.2 +0.8
comp=Z,14nm,1.0s,baz=168,slow=5.4,SNR=6.8
DBIC Dimbokro 121.65 342 PKiKP **PKPdf 22 25 42.0 -0.8**
MACA Manacapuru-AM 121.76 50 IAMs_20 IAMs_20 23 20 03.0
comp=Z,2µm,19.0s
MACA Manacapuru-AM 121.76 50 *eP* **PKPdf 22 25 42.7 -0.2**
CASY Casey 122.33 201 IAMs_20 IAMs_20 23 11 18.0
comp=Z,2µm,22.0s
MAL2 Monte Alegre, 123.75 43 IAMs_20 IAMs_20 23 25 32.1
comp=Z,2µm,20.0s
ITTB Itaituba 125.15 45 *eP* **PKiKP 22 25 50.0 +0.1**
TMAB Tom-Au,PA,Br 126.53 36 *eP* **PKiKP 22 25 53.3 +0.7**
VNDA Vanda 127.67 179 **PKPdf 22 25 52.2 -0.1**
VNDA Vanda 127.67 179 PKP **PKPdf 22 25 51.9 -0.4**
comp=Z,11nm,0.8s,baz=325,slow=4.7,SNR=21
NPGB Novo Progresso 127.69 47 PKP **PKPdf 22 25 53.8 -0.5**
NPGB Novo Progresso 127.69 47 *eP* **PKPdf 22 25 53.9 -0.5**
LSZ Lusaka 127.81 294 **PKPdf 22 25 54.8 +0.2**
LSZ Lusaka 127.81 294 P **PKPdf 22 25 54.8 +0.2**
LSZ Lusaka 127.81 294 PKiKP **PKPdf 22 25 54.8 +0.2**
LSZ MLR MLR
comp=Z,6µm,21.0s
SBA Scott Base 128.07 178 **PKPdf 22 25 52.8 -0.3**
SBA Scott Base 128.07 178 PKiKP **PKPdf 22 25 52.8 -0.3**
LPAZ La Paz 128.62 66 PKP **PKiKP 22 25 57.0 -0.3**
comp=Z,18nm,0.8s,baz=14,slow=6.1,SNR=30
LPAZ PP **PP 22 27 59.4 -2.9**
comp=Z,9.0nm,0.9s,baz=336,slow=6.9,SNR=3.7
PB12 IPOC Station P 129.12 70 IAMs_20 IAMs_20 23 34 05.4
comp=Z,2µm,21.0s
PRPB Parauapebas 129.33 40 PKP **PKPdf 22 25 57.1 -0.3**
PRPB Parauapebas 129.33 40 *eP* **PKPdf 22 25 57.4 -0.1**
VILB Vilhena 130.34 56 IAMs_20 IAMs_20 23 25 52.2
comp=Z,3µm,21.0s
VILB Vilhena 130.34 56 PKP **PKiKP 22 25 59.8 -0.3**
VILB Vilhena 130.34 56 *eP* **PKPdf 22 25 59.7 +0.4**
PAL01 Palmeiras do T 130.66 37 PKP **PKiKP 22 26 00.9 +0.1**
CLDB Colider 130.81 49 PKP **PKPdf 22 26 00.3 +0.1**
CLDB Colider 130.81 49 *eP* **PKPdf 22 26 00.3 +0.1**
PDRB Porto dos Gac 130.99 51 PKP **PKPdf 22 26 00.7 +0.2**
PDRB Porto dos Gac 130.99 51 *eP* **PKiKP 22 26 01.5 0.0**

NBPB Pedra_Branca-C 132.34 27 PKP **PKPdf 22 26 03.6 +0.4**
NBPB Pedra_Branca-C 132.34 27 *eP* **PKPdf 22 26 03.6 +0.4**
SIV San Ignacio 132.39 59 PKhKP PKPpre 22 25 44.4
comp=Z,4.2nm,0.8s,baz=327,slow=2.3,SNR=10
SIV PKP **PKPdf 22 26 02.4 -0.7**
comp=Z,22nm,0.9s,baz=327,slow=1.3,SNR=35
SIV PP **PP 22 28 23.0 -2.9**
comp=Z,24nm,0.8s,baz=326,slow=5.5,SNR=3.0
PTLB Pontes e Lacer 132.98 56 PKP **PKPdf 22 26 04.7 +0.5**
PTLB Pontes e Lacer 132.98 56 *eP* **PKiKP 22 26 05.2 -0.2**
LAJE UHE Lajeado 133.39 40 PKP **PKiKP 22 26 06.1 -0.2**
RCBR Riachuelo 133.59 22 **PKiKP 22 26 06.3 -0.5**
RCBR Riachuelo 133.59 22 IAMs_20 IAMs_20 23 29 09.8
comp=Z,1µm,18.0s
RCBR Riachuelo 133.59 22 PKIKP **PKiKP 22 26 06.3 -0.5**
RCBR MLR MLR
comp=Z,2µm,18.0s
RCBR Riachuelo 133.59 22 PKP **PKiKP 22 26 06.4 -0.5**
RCBR Riachuelo 133.59 22 *eP* **PKiKP 22 26 07.0 +0.2**
AF01 San Pedro de A 133.71 72 **PKiKP 22 26 07.0 -0.1**
SNDB Serra Nova Dou 133.88 45 PKP **PKPdf 22 26 06.5 +0.5**
SNDB Serra Nova Dou 133.88 45 *eP* **PKPdf 22 26 06.4 +0.4**
H03N2 Juan Fernandez 134.22 92 T T 00 55 05.8
baz=313,slow=77,SNR=331
H03N1 Juan Fernandez 134.24 92 T T 00 55 07.2
baz=313,slow=77,SNR=388
H03N3 Juan Fernandez 134.24 92 T T 00 55 06.6
baz=313,slow=77,SNR=364
GO02 Mina Guanaco 134.48 75 PKPdf **PKPdf 22 26 07.7 +0.5**
AC01 Pan de Azucar 134.56 77 IAMs_20 IAMs_20 23 12 16.3
comp=Z,2µm,22.0s
SALV Santo Antonio 135.16 53 PKP **PKiKP 22 26 09.4 -0.4**
SALV Santo Antonio 135.16 53 *eP* **PKiKP 22 26 09.1 -0.7**
NBCA Caruaru-PE 135.87 23 *eP* **PKPdf 22 26 10.1 +0.3**
AC02 Maricunga 135.97 77 PKPdf **PKiKP 22 26 11.4 -0.4**
AC02 IAMs_20 IAMs_20 23 19 08.5
comp=Z,2µm,19.0s
SSV2 Sao Salvador 136.01 42 PKP **PKPdf 22 26 10.4 +0.4**
CAN3 Cana Brava 136.20 42 PKP **PKPdf 22 26 10.7 +0.4**
LCO Las Campanas 136.52 80 PKPpre 22 25 59.4
LCO PKPdf **PKiKP 22 26 12.1 -0.5**
LCO Las Campanas 136.52 80 PKHKP PKPpre 22 25 59.4
LCO 22 26 12.1
AC05 El Transito 136.66 80 PKPdf **PKiKP 22 26 13.1 +0.4**
LBTB Lobatse 136.84 289 PKPdf **PKiKP 22 26 12.6 -0.6**
LBTB Lobatse 136.84 289 PKhKP PKPpre 22 26 00.7
comp=Z,13nm,0.8s,baz=58,slow=3.1,SNR=13
LBTB PKP **PKPdf 22 26 11.9 +0.5**
comp=Z,29nm,0.9s,baz=91,slow=2.3,SNR=14
LBTB PP **PP 22 28 55.5 +1.1**
comp=Z,11nm,0.8s,baz=35,slow=6.9,SNR=5.1
ARAG Araguaiana, MT 136.90 48 PKP **PKPdf 22 26 12.4 +0.9**
ARAG Araguaiana, MT 136.90 48 *eP* **PKiKP 22 26 12.6 -0.7**
TSUM Tsumeb 136.93 302 PKPpre 22 26 04.7
TSUM PKPdf **PKiKP 22 26 13.0 -0.5**
SDBA SAO DESIDERIO 136.96 37 PKP **PKPdf 22 26 12.4 +0.6**
SDBA SAO DESIDERIO 136.96 37 *eP* **PKPdf 22 26 12.6 +0.9**
CO06 Fray Jorge 137.06 83 PKPdf **PKPdf 22 26 12.1 +0.7**
NBAN Anadia - AL 137.19 24 PKP **PKPdf 22 26 12.1 -0.1**
NBAN Anadia - AL 137.19 24 *eP* **PKPdf 22 26 12.4 +0.2**
GO04 Tololo Observa 137.25 81 PKPdf **PKPdf 22 26 12.3 +0.2**
ASCN Ascension 137.39 352 PKPpre PKPpre 22 26 01.5
ASCN PKPdf **PKPdf 22 26 12.7 +0.1**
FSA Cafayete 137.39 73 *i P* PKPpre 22 26 01.3
MAW Mawson 137.77 214 PKhKP PKPpre 22 26 04.4
comp=Z,19nm,0.8s,baz=346,slow=2.3,SNR=1.9
MAW PKP **PKPdf 22 26 11.3 -0.2**
comp=Z,36nm,1.1s,baz=272,slow=8.3,SNR=2.7
CO03 El Pedregal 137.77 82 PKPdf **PKPdf 22 26 13.6 +0.7**
AROD Rodeo 138.09 80 *i P* PKPpre 22 26 03.1
AGUA GUANDACOL 138.24 79 *i P* PKPpre 22 26 04.3
BDQN Bodoquena, MS 138.37 58 *eP* **PKPdf 22 26 14.8 +0.7**
BDFB Brasilia 138.58 43 PKPpre 22 26 07.0
BDFB PKPdf **PKPdf 22 26 15.7 +0.9**
BDFB Brasilia 138.58 43 PKhKP PKPpre 22 26 07.7
comp=Z,10nm,0.9s,baz=16,slow=2.4,SNR=8.6
BDFB PKP **PKPdf 22 26 15.3 +0.5**
comp=Z,26nm,1.0s,baz=34,slow=0.7,SNR=12
BDFB PP **PP 22 29 04.4 -0.5**
comp=Z,8.0nm,0.8s,baz=339,slow=14,SNR=3.8
BDFB Brasilia 138.58 43 PKHKP PKPpre 22 26 07.0
BDFB 22 26 15.7
VA01 Torpederas 138.61 85 IAMs_20 IAMs_20 23 23 16.5
comp=Z,2µm,20.0s
ACCO Cerro Coronel 138.63 80 *i P* PKPpre 22 26 06.4
MURT Porto Murtinho 138.88 60 *eP* **PKiKP 22 26 16.4 -0.9**
AQDB Aquidauana 138.96 56 PKPdf **PKiKP 22 26 16.7 -0.7**
AQDB Aquidauana 138.96 56 PKP **PKPdf 22 26 15.6 +0.4**
AQDB Aquidauana 138.96 56 *eP* **PKPdf 22 26 16.0 +0.8**
ROC1 El Roble 138.98 85 *i P* PKPpre 22 26 05.3
C2SB Chapadao do Su 139.02 52 *eP* **PKPdf 22 26 14.4 -0.9**
VA05 Santo Domingo 139.04 86 PKPpre PKPpre 22 26 08.0
VA05 **PKPdf 22 26 15.3 +0.4**
MT02 Curacav 139.09 85 PKPdf **PKiKP 22 26 16.9 -0.5**
VA03 San Esteban 139.14 84 PKPdf **PKiKP 22 26 16.8 -0.7**
ACLC CERRO LA CRUZ 139.16 77 *i P* PKPpre 22 26 06.6
CYA Choya 139.18 75 *i P* PKPpre 22 26 05.3
RTLS Leoncito 139.30 82 *i P* PKPpre 22 26 07.0
PEL Peldehue 139.30 85 PKPdf **PKiKP 22 26 17.0 -0.8**
PEL Peldehue 139.30 85 PKIKP **PKiKP 22 26 17.0 -0.8**
MT01 Popeta 139.41 86 PKPdf **PKiKP 22 26 17.1 -0.9**
MT05 Renca 139.43 85 PKPpre PKPpre 22 26 08.8
MT05 **PKPdf 22 26 16.3 +0.5**
MT05 IAMs_20 IAMs_20 23 19 03.0
comp=Z,2µm,20.0s
ZON Zonda 139.52 81 PKPdf **PKPdf 22 26 17.1 +1.1**
ZON IAMs_20 IAMs_20 23 18 52.1
comp=Z,3µm,21.0s
ZON Zonda 139.52 81 PKIKP **PKPdf 22 26 17.1 +1.1**
ZON MLR MLR
comp=Z,3µm,21.0s
AUSP Uspallata 139.52 83 *i P* PKPpre 22 26 07.5
MT16 CCHEN 139.59 85 PKPdf **PKiKP 22 26 17.4 -1.1**
MT16 IAMs_20 IAMs_20 23 19 03.3
comp=Z,2µm,18.0s
JANB Januaria 139.60 38 PKP **PKPdf 22 26 16.9 +0.3**
JANB Januaria 139.60 38 *eP* **PKPdf 22 26 15.6 -1.0**
BOSA Boshof 139.66 285 PKPdf **PKPdf 22 26 16.8 +0.3**
BOSA Boshof 139.66 285 PKhKP PKPpre 22 26 07.7
comp=Z,9.3nm,0.9s,baz=13,slow=2.9,SNR=10
BOSA PKP **PKPdf 22 26 16.1 -0.3**
comp=Z,8.7nm,0.7s,baz=76,slow=3.5,SNR=12
BOSA PP **PP 22 29 09.5 -2.6**
comp=Z,19nm,1.1s,baz=48,slow=5.8,SNR=4.8
CFA Coronel Fontan 139.84 81 PKhKP PKPpre 22 26 08.0
comp=Z,9.7nm,0.8s,baz=307,slow=3.1,SNR=22
CFA PKP **PKPdf 22 26 16.9 +0.3**
comp=Z,26nm,0.8s,baz=280,slow=2.9,SNR=21
CFA PP **PP 22 29 12.8 -0.3**
comp=Z,2.4nm,0.9s,baz=307,slow=4.2,SNR=5.5
BO01 Tunca 139.85 86 PKPdf **PKiKP 22 26 17.9 -1.0**
BO04 La Punta 139.89 86 PKPdf **PKPdf 22 26 17.6 +1.0**
MT08 Bocatoma Ro 139.92 84 PKPdf **PKiKP 22 26 19.2 -0.1**
MT08 IAMs_20 IAMs_20 23 17 26.1
comp=Z,3µm,21.0s
MT13 San Alfonso 139.94 85 PKPdf **PKiKP 22 26 19.1 -0.1**
RPRD Ribas do Rio P 140.01 54 *eP* **PKPdf 22 26 17.0 -0.1**
LMEL Las Melosas 140.06 85 PKPdf **PKiKP 22 26 19.2 -0.3**
LMEL IAMs_20 IAMs_20 23 19 36.8
comp=Z,4µm,20.0s
APLL PUNTA DE LOS L 140.09 78 *i P* PKPpre 22 26 07.4
ASAL Salagasta 140.12 82 *i P* PKPpre 22 26 08.7
QSPA South Pole Qui 140.16 180 IAMs_20 IAMs_20 23 37 38.9
comp=Z,2µm,19.0s
QSPA South Pole Qui 140.16 180 PKhKP PKPpre 22 26 05.6
comp=Z,16nm,0.7s,baz=348,slow=0.6,SNR=52
QSPA PP **PP 22 29 14.6 +0.1**
comp=Z,20nm,1.1s,baz=283,slow=6.3,SNR=3.3
BO02 Sierra Bellavi 140.29 87 PKPdf **PKiKP 22 26 18.9 -0.9**
BO02 IAMs_20 IAMs_20 23 21 43.1
comp=Z,2µm,18.0s
AAGR Agrelo 140.44 83 *i P* PKPpre 22 26 09.4
ITU3 Corumbazu 140.46 46 PKP **PKPdf 22 26 18.1 0.0**
ML02 Panimavida 140.49 88 PKPdf **PKiKP 22 26 19.2 -0.9**
IPMB Ipameri, GO 140.56 45 PKP **PKPdf 22 26 18.5 +0.2**
IPMB Ipameri, GO 140.56 45 *eP* **PKPdf 22 26 19.4 +1.1**
ITRB Iturama 141.04 49 PKP **PKPdf 22 26 19.8 +0.8**
ITRB Iturama 141.04 49 *eP* **PKPdf 22 26 20.4 +1.3**
BI02 San Fabin de 141.13 89 *i P* **PKPdf 22 26 14.1 -4.7**
AMBA Amambai (Brazi 141.33 58 *eP* **PKPdf 22 26 19.6 +0.1**
JQT1 Jequitai-MG 141.56 39 PKP **PKPdf 22 26 17.1 -2.9**
CMC01 Camacan, BA 141.62 31 PKP **PKPdf 22 26 16.3 -3.9**
CMC01 Camacan, BA 141.62 31 *eP* **PKPdf 22 26 21.3 +1.2**

PMNB	Patos De Minas	141.84	43	eP		PKPdf	22 26 20.9	+0.3
TCA	Tanti	141.94	77	i P		PKPdf	22 26 14.0	-6.5
MRA	San Martin	141.97	79	i P		PKPdf	22 26 13.6	-6.9
CANA	Caviahue	142.00	91	i P		PKPdf	22 26 15.7	-4.7
GRHM	Grahamstown, E	142.15	279			PKPpre	22 26 17.2	
SJPY	San Joaquin	142.36	61	eP		PKPdf	22 26 18.2	-3.1
GUA01	Guaratinga, BA	142.66	32		PKP	PKPdf	22 26 19.5	-2.5
GUA01	Guaratinga, BA	142.66	32	eP		PKPdf	22 26 22.5	+0.5
CPUP	Villa Florida	142.70	64		PKhKP	PKPpre	22 26 17.8	
	comp=Z,25nm,0.8s,baz=327,slow=3.5,SNR=21							
DIAM	Diamantina, MG	142.78	39		PKP	PKPdf	22 26 20.5	-1.9
DIAM	Diamantina, MG	142.78	39	eP		PKPdf	22 26 20.9	-1.4
BB19B	Bebedouro	143.08	48	eP	PKP	PKPdf	22 26 21.5	-1.2
BB19B	Bebedouro	143.08	48	eP		PKPdf	22 26 21.9	-0.8
PLCA	Paso Flores	143.94	94		PKP	PKPbc	22 26 21.8	+0.3
	comp=Z,56nm,0.9s,baz=300,slow=3.7,SNR=52							
PLCA					PP	PP	22 29 39.0	+0.9
	comp=Z,8.0nm,1.0s,baz=317,slow=10.0,SNR=2.6							
SJMB	Sao Joao De Ma	144.12	36		PKP	PKPbc	22 26 22.5	0.0
SJMB	Sao Joao De Ma	144.12	36	eP		PKPbc	22 26 23.3	+0.8
PTGB	Pitanga	144.34	56		PKP	PKPab	22 26 22.9	0.0
PTGB	Pitanga	144.34	56	eP		PKPdf	22 26 24.1	-0.8
FRTB	Fartura	144.50	51		PKP	PKPbc	22 26 24.1	+0.4
FRTB	Fartura	144.50	51	eP		PKPbc	22 26 23.8	+0.1
RIB01	Linhares ES	144.97	35		PKP	PKPab	22 26 24.0	-1.2
SUR	Sutherland	145.03	285			PKPab	22 26 25.5	+0.1
SUR	Sutherland	145.03	285		PKP	PKPbc	22 26 25.0	-0.3
	comp=Z,140nm,0.9s,baz=352,slow=1.6,SNR=50							
SUR					PP	PP	22 29 44.8	+0.1
	comp=Z,17nm,1.2s,baz=126,slow=11,SNR=1.6							
SUR	Sutherland	145.03	285		P	PKPbc	22 26 25.1	-0.3
VABB	Valinhos	145.47	48		PKP	PKPab	22 26 27.3	+0.2
VAO	Valinhos	145.48	48			PKPbc	22 26 26.9	0.0
VAO					IAMs_20	IAMs_20	23 34 54.4	
	comp=Z,2μm,20.0s							
VAO	Valinhos	145.48	48	eP		PKPdf	22 26 25.8	-1.1
AY03	Cochrane	145.82	106			PKPdf	22 26 26.6	+0.1
ITAB	Concordia	146.32	59			PKPbc	22 26 28.7	-0.5
ITAB	Concordia	146.32	59		PKP	PKPab	22 26 29.8	-0.3
ITAB	Concordia	146.32	59	eP		PKPbc	22 26 28.8	-0.5
PARB	Paraibuna	146.39	46		PKP	PKPbc	22 26 29.9	+0.2
PARB	Paraibuna	146.39	46	eP		PKPdf	22 26 29.0	+0.6
VAS01	Vassouras-RJ	146.43	42		PKP	PKPab	22 26 30.9	+0.2
VAS01	Vassouras-RJ	146.43	42	eP		PKPbc	22 26 29.1	-0.7
SYO	Syowa Base	146.49	214	⇑	iPKPdf	PKPbc	22 26 28.2	-0.3
SYO	Syowa Base	146.49	214	⇑	iPKPbc	PKiKP	22 26 30.6	-0.7
DUB01	Friburgo-RJ	146.71	40		PKP	PKPbc	22 26 30.8	+0.2
DUB01	Friburgo-RJ	146.71	40	eP		PKPdf	22 26 29.3	+0.4
MAN01	Angra dos Reis	146.72	43		PKP	PKPbc	22 26 30.5	-0.2
MAN01	Angra dos Reis	146.72	43	eP		PKPdf	22 26 29.4	+0.5
CAM01	Campos-RJ	146.77	39		PKP	PKPbc	22 26 31.3	+0.6
CAM01	Campos-RJ	146.77	39	eP		PKPdf	22 26 29.8	+0.9
TBOT	Tacuaremb	147.48	69	eP		PKPdf	22 26 30.5	+0.6
TRQA	Tornquist	147.90	84			PKPdf	22 26 31.1	+0.7
TRQA	Tornquist	147.90	84		PKP2	PKPdf	22 26 31.1	+0.7
TRQA	Tornquist	147.90	84		PKP	PKPbc	22 26 32.1	-1.3
CPSB	Cacapava Do Su	148.01	64		PKP	PKPdf	22 26 32.2	+1.4
CPSB	Cacapava Do Su	148.01	64	eP		PKPdf	22 26 31.9	+1.1
CNLB	Canela	148.64	59		PKP	PKPbc	22 26 36.0	+0.3
CNLB	Canela	148.64	59	eP		PKPdf	22 26 32.8	+0.9
PLTB	Pedras Altas	148.91	66		PKP	PKPbc	22 26 34.8	-1.5
PLTB	Pedras Altas	148.91	66	eP		PKPdf	22 26 32.3	0.0
TER01	Tubaro-SC	148.96	56		PKP	PKPdf	22 26 33.0	+0.5
TER01	Tubaro-SC	148.96	56	eP		PKPdf	22 26 33.3	+0.8
ELIB	Princess Elisa	151.09	206	dPKPdf		PKPdf	22 26 33.5	-1.1
ELIB				dPKiKP		PKiKP	22 26 41.6	+0.6
ELIB				dPKP		PKPab	22 26 49.5	+1.2
SMAI	San Martin Ant	151.13	145			PKPbc	22 26 40.1	-0.3
BELA	Belgrano 2	151.90	173		IAMs_20	IAMs_20	23 50 41.0	
	comp=Z,2μm,22.0s							
NVL	N'lazarevskaya	154.87	204	ePKIKP		PKPbc	22 26 48.4	-0.2
NVL				eSSS		SSS	22 56 22.9	
NVL				pmax		pmax		
	comp=Z,375nm,1.3s							
TROLL	Troll, Antarti	156.10	197	⇑P		PKPab	22 27 10.0	+0.6
	comp=Z,8μm,0.8s							
TROLL				⇑PP		PP	22 30 47.9	+0.5
	comp=Z,119μm,5.3s							
EFI	East Falkland	156.20	108		PKPdf	PKPdf	22 26 45.1	+2.9
EFI						PKPab	22 27 10.6	+0.3
EFI	East Falkland	156.20	108		PKIKP	PKPdf	22 26 45.1	+2.9
EFI					MLR	MLR		
	comp=Z,6μm,20.0s							
SNAA	Sanae	157.30	194		PKPab	PKPab	22 27 15.0	+0.4
SNAA	Sanae	157.30	194	⇑P		PKPab	22 27 14.5	-0.1
	comp=Z,2μm,1.0s							
SNAA				⇑PP		PP	22 30 53.5	-0.4
	comp=Z,87μm,5.5s							
SNAA	Sanae	157.30	194		PKP	PKPdf	22 26 42.7	-0.5
	comp=Z,7.5nm,1.1s,baz=188,slow=2.0,SNR=6.7							
SNAA					PKPab	PKPab	22 27 14.3	-0.3
	comp=Z,165nm,1.1s,baz=129,slow=2.3,SNR=17							
SNAA					PP	PP	22 30 54.1	+0.2
	comp=Z,6.5nm,1.0s,baz=143,slow=9.5,SNR=4.8							
VNA3	Neumayer Olymp	158.58	189	⇑P		PKPab	22 27 18.9	-1.1
	comp=Z,256nm,0.7s							
VNA2	Neumayer--Watz	158.62	191	⇑P		PKPab	22 27 19.3	-0.9
	comp=Z,207nm,0.7s,baz=159,slow=4.4							
VNA2				⇑PP		PP	22 31 01.1	+0.1
	comp=Z,201μm,0.0s,baz=159,slow=3.7							
VNA1	Neumayer--Stat	158.98	191	⇑P		PKPab	22 27 21.5	-0.2
	comp=Z,233nm,1.1s							

TXNET 28 22:06:59.4, 31°.6N±0°.9×103°.2W±0°.9, h6km±2km, ML1.6/7, Error ellipse: s-maj=1.4km s-min=1.3km az=30.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	Permian Basin	0.10	12	P	Pg	22 07 02.1	+0.4
TPB06				S	Sg	22 07 04.0	+0.8
PCOS	Crockett Middl	0.27	239	S	Sb	22 07 10.6	-0.8
TPB04	Verhalen	0.36	183	P	Pg	22 07 07.1	+0.7
TPB04				S	Sg	22 07 12.4	+1.3
TPB16	Coyonosa	0.42	181	P	Pg	22 07 08.4	+0.8
TPB16				S	Sb	22 07 14.6	-1.3
MNHN	Monahans	0.46	116	P	Pg	22 07 08.7	+0.4
MNHN				S	Sb	22 07 15.8	-1.3
TPB10	Southeast of T	0.51	239	P	Pb	22 07 10.1	-0.7
TPB10				S	Sb	22 07 17.8	-0.7
PECS	Pecos	0.56	252	P	Pg	22 07 10.6	+0.4
PECS				S	Sg	22 07 18.5	+1.0
TPB05	Hovey Rd	0.63	186	P	Pg	22 07 12.1	+0.6
TPB05				S	Sb	22 07 20.9	-1.0
TPB12	Southwest of T	0.69	242	S	Sb	22 07 23.2	-0.7
TPB08	Permian Basin	0.71	156	S	Sb	22 07 24.0	-0.4
TPB01	Permian Basin	0.76	218	P	Pb	22 07 15.1	+0.1
TPB01				S	Sb	22 07 25.2	-0.4
ODSA	Odessa	0.82	46	S	Sb	22 07 26.9	-0.6
TMB02	Rankin	1.09	108	P	Pn	22 07 21.2	0.0
TMB02				S	Sb	22 07 35.3	+0.1
TMB04	Seminole	1.25	31	S	Sn	22 07 40.8	+0.1
TMB05	Klondike	1.59	47	S	Sg	22 07 51.3	+0.7
VHRN	Van Horn	1.67	244	P	Pb	22 07 30.3	-0.4
VHRN				S	Sg	22 07 52.9	-0.3
MNTX	Cornudas Mount	1.83	275	S	Sg	22 07 57.9	-0.3
SGCY	Sterling City	1.84	78	S	Sg	22 07 58.6	0.0
SAND	Sanderson	1.86	148	P	Pb	22 07 33.8	0.0
SAND				S	Sg	22 07 58.7	-0.4
OZNA	Ozona	1.92	108	S	Sg	22 08 00.5	-0.5
TX31	Lajitas Ar. Si	2.24	190	P	Pb	22 07 38.7	-1.5
TX31				S	Sb	22 08 08.7	+0.5

*IDC **28** 22:16:50.4±0.8, 50°.45N×160°.04E, h0km, mb4.0/16, mbtmp4.0/18, ML2.9/2, Error ellipse: s-maj=19.5km s-min=16.1km az=145.0*
*KRSC **28** 22:16:52.4±1.9, 50°.52N×159°.95E, h53km±38km, Ml4.2*
*MOS **28** 22:16:52.3±1.1, 50°.46N×159°.95E, h24km, mb4.8/4, Error ellipse: s-maj=14.9km s-min=5.4km az=103.2*
*NEIC **28** 22:16:53.9±2.3, 50°.6N±0°.1×159°.8E±0°.2, h10km±2km, mb4.4/21, Error ellipse: s-maj=22.5km s-min=19.5km az=226.0*

ISC 28 22:16:51.9±0.6, 50°.47N±0°.06×159°.94E±0°.05, h10km, n88, σ1§31/97, mb4.3/30, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.79	320	PN	Pn	22 17 19.9	-2.9
KDTR				S	Sn	22 17 44.2	-1.3
RUS	Russkaya	2.16	336	PN	Pn	22 17 27.6	-0.3
RUS				S	Sn	22 17 53.0	-1.8
RUS	Russkaya	2.16	336	eP	Pn	22 17 27.7	-0.3
RUS				eS	Sn	22 17 53.1	-1.8
PAU	Pauzhetka	2.22	298	PN	Pn	22 17 29.8	+1.1
PAU	Pauzhetka	2.22	298	eP	Pn	22 17 29.9	+1.1
GRL	Gorelyy	2.39	331	PN	Pn	22 17 32.2	+1.0
GRL	Gorelyy	2.39	331	eP	Pn	22 17 32.2	+1.0
SKR	Severo-Kuril's	2.45	277	PN	Pn	22 17 32.1	+0.2
SKR				S	Sn	22 18 00.0	-1.8
SKR	Severo-Kuril's	2.45	277	eP	Pn	22 17 32.1	+0.2
SKR				eS	Sn	22 18 00.0	-1.8
KRMR	Karymshinskiy	2.62	335	PN	Pn	22 17 34.4	+0.2
KRMR				S	Sn	22 18 06.2	+0.1
KRMR	Karymshinskiy	2.62	335	eP	Pn	22 17 34.5	+0.2
KRMR				eS	Sn	22 18 06.2	+0.1
SPN	Mys Shipunski	2.64	1	PN	Pn	22 17 34.1	-0.3
SPN				S	Sn	22 18 03.9	-2.5
SPN	Mys Shipunski	2.64	1	eP	Pn	22 17 34.1	-0.3
SPN				eS	Sn	22 18 04.0	-2.5
DALK	Dalny	2.67	344	PN	Pn	22 17 34.8	-0.1
DALK				S	Sn	22 18 06.6	-0.7
DALK	Dalny	2.67	344	eP	Pn	22 17 34.8	-0.1
DALK				eS	Sn	22 18 06.7	-0.7
PET	Petropavlovsk	2.68	343	Pn	Pn	22 17 34.0	-1.1
PET	Petropavlovsk	2.68	343	ePN	Pn	22 17 34.4	-0.7
PET				eS	Sn	22 18 05.9	-1.7
PET				smax	smax		
	comp=N,219nm,0.6s						
PET				smax	smax		
	comp=E,149nm,0.6s						
SDLR	Sedlovina	2.89	347	PN	Pn	22 17 38.5	+0.5
SDLR	Sedlovina	2.89	347	eP	Pn	22 17 38.6	+0.5
AVH	Avacha	2.90	346	PN	Pn	22 17 39.5	+1.4
AVH	Avacha	2.90	346	eP	Pn	22 17 39.6	+1.4
KOK	Koryaka	2.94	345	PN	Pn	22 17 39.6	+0.8
KOK	Koryaka	2.94	345	eP	Pn	22 17 39.6	+0.8
PEA0B	Petropavlovsk-	2.99	333	Pn	Pn	22 17 39.9	+0.5
PEA0B	Petropavlovsk-	2.99	333	PN	Pn	22 17 39.9	+0.5
PETK	Petropavlovsk-	2.99	333	Pn	Pn	22 17 39.7	+0.4
PETK	Petropavlovsk-	2.99	333	Pn	Pn	22 17 39.9	+0.6
	comp=E,5.5nm,0.3s,baz=140,slow=16,SNR=11						
PETK				Sn	Sn	22 18 17.3	+2.1
	comp=E,4.7nm,0.3s,baz=262,slow=31,SNR=4.6						
	comp=E,44nm,0.7s						
PETK	Petropavlovsk-	2.99	333	Pn	Pn	22 17 39.7	+0.4
KRX	Arik	3.01	345	PN	Pn	22 17 39.9	+0.2
KRX	Arik	3.01	345	eP	Pn	22 17 39.9	+0.2
GNL	Ganaly	3.46	340	PN	Pn	22 17 47.5	+1.6
GNL	Ganaly	3.46	340	eP	Pn	22 17 47.5	+1.6
KII	Karymskiy	3.59	355	eS	Sn	22 18 29.1	-1.0
TUMD	Tumrok D	4.75	3	eS	Sn	22 18 56.0	-2.7
YSS	Yuzhno-Sakhali	11.88	259	ePN	Pn	22 19 38.0	-3.3
KIWB	Kanaga Island	14.43	76	Pn	P	22 20 21.1	-1.8
USRK	Ussuriysk Ar.	19.88	262	P	P	22 21 24.4	+1.2
	comp=E,0.1nm,0.3s,baz=66,slow=14,SNR=2.8						
	comp=E,1.3nm,0.7s						
MJAR	Matsushiro Arr	20.93	237	P	P	22 21 36.6	+2.1
	comp=E,1.0nm,0.5s,baz=48,slow=7.2,SNR=5.1						
	comp=E,1.0nm,0.5s						
TNA	Tin City	22.40	36	P	P	22 21 51.7	+1.7
TNA				IAmb	IAmb	22 22 14.6	
	comp=Z,17nm,1.2s						
M13K	Dall Lake	22.78	50	P	P	22 21 54.2	0.0
M13K				IAmb	IAmb	22 22 30.7	
	comp=Z,20nm,1.3s						
ANM	Nome	22.98	39	P	P	22 21 58.2	+2.0
ANM	Nome	22.98	39	P	P	22 21 58.2	+2.0
ANM				pmax	pmax		
	comp=Z,20nm,1.1s						
C16K	Lisburne Hills	24.57	31	P	P	22 22 13.3	+1.8
C16K				IAmb	IAmb	22 22 13.8	
	comp=Z,6.0nm,0.9s						
M16K	Timber Creek	25.00	49	P	P	22 22 16.2	+0.7
M16K				IAmb	IAmb	22 22 52.2	
	comp=Z,12nm,1.4s						
F17K	Baldwin Pennin	25.25	36	P	P	22 22 19.1	+1.4
RDOG	Red Dog Mine	25.28	32	P	P	22 22 20.0	+2.0
H17K	Granite Mounta	25.32	40	P	P	22 22 19.4	+1.0
H17K				IAmb	IAmb	22 22 49.8	
	comp=Z,12nm,1.4s						
TIXI	Tiksi	25.46	338	P	P	22 22 20.8	+1.3
TIXI	Tiksi	25.46	338	P	P	22 22 20.8	+1.3
TIXI				pmax	pmax		
	comp=Z,18nm,0.8s						
M17K	Holitna River	25.77	49	P	P	22 22 22.8	+0.3
M17K				IAmb	IAmb	22 22 34.4	
	comp=Z,11nm,1.2s						
N17K	Nushagak Hills	25.82	51	P	P	22 22 23.6	+0.7
N17K				IAmb	IAmb	22 22 36.7	
	comp=Z,9.2nm,1.3s						
H18K	Honhosa River	26.01	40	P	P	22 22 25.1	+0.4
H18K				IAmb	IAmb	22 22 32.7	
	comp=Z,14nm,1.4s						
G18K	Tagagawik	26.08	38	P	P	22 22 26.1	+0.8
C18K	Utukok River	26.11	31	P	P	22 22 26.9	+1.3
C18K				IAmb	IAmb	22 22 41.6	
	comp=Z,10nm,1.4s						
KSRS	Korea Array	26.24	253	P	P	22 22 28.0	+1.1
	comp=Z,1.7nm,0.8s,baz=51,slow=9.9,SNR=4.3						
	comp=Z,1.7nm,0.8s						
N18K	Kilae Creek	26.47	50	P	P	22 22 30.7	+1.8
F19K	Shaleruckik Mo	26.69	36	P	P	22 22 31.8	+1.1
P18K	Big Mountain,	26.78	53	P	P	22 22 31.7	+0.1
P18K				IAmb	IAmb	22 22 33.7	
	comp=Z,14nm,1.4s						
H19K	Roundabout Mou	26.88	39	P	P	22 22 32.7	+0.4
N19K	Bonanza Creek	27.17	50	P	P	22 22 36.0	+0.7
G21K	Allakaket	28.26	38	P	P	22 22 45.7	+0.9
G21K				IAmb	IAmb	22 22 47.0	
	comp=Z,5.3nm,1.1s						
ILAR	Eielson Array	30.78	42	P	P	22 23 05.8	-1.4
	comp=Z,1.1nm,0.8s,baz=245,slow=7.6,SNR=5.6						
	comp=Z,1.1nm,0.8s						
H11N2	WAKE ISLAND Hy	31.16	167	T	T	22 55 51.1	
	baz=352						
H11N3	WAKE ISLAND Hy	31.18	167	T	T	22 55 54.3	
	baz=352						
H11N1	WAKE ISLAND Hy	31.18	167	T	T	22 55 53.9	
	baz=352						
ZALV	Zalesovo Beam	44.16	305	P	P	22 25 01.7	+1.4
	comp=Z,1.4nm,0.7s,baz=64,slow=6.6,SNR=1.9						
	comp=Z,1.4nm,0.7s						
YKA	Yellowknife Ar	45.19	41	P	P	22 25 08.0	-0.5
	comp=Z,1.3nm,0.9s,baz=295,slow=8.3,SNR=3.7						
	comp=Z,1.3nm,0.9s						
YKA	Yellowknife Ar	45.19	41	P	P	22 25 08.0	-0.5
KURK	Kurchatov	49.08	304	P	P	22 25 40.5	+1.5
KURBB	Kurchatov Arra	49.18	304	P	P	22 25 40.5	+0.8
	comp=Z,1.7nm,0.5s,baz=61,slow=7.6,SNR=4.1						
	comp=Z,1.7nm,0.5s						
MKAR	Makanchi Array	49.25	298	P	P	22 25 39.4	-1.0
	comp=Z,2.6nm,0.8s,baz=59,slow=6.5,SNR=6.7						
	comp=Z,2.6nm,0.8s						
BVAR	Borovoye Array	51.98	310	P	P	22 26 00.8	0.0
	comp=Z,3.9nm,0.7s,baz=57,slow=6.7,SNR=8.0						
	comp=Z,3.9nm,0.7s						
ARTI	Arti	55.39	319	d iP	P	22 26 23.7	-2.1
ARTI						22 28 24.9	
ARTI				S	S	22 34 10.3	+0.5
ARTI				SS	SS	22 37 55.8	+2.2
ARTI				pmax	pmax		
	comp=Z,18nm,1.2s						
ARCES	ARCESS Array B	55.76	342	P	P	22 26 29.6	+1.3
	comp=Z,2.2nm,0.9s,baz=18,slow=6.5,SNR=1.1						
	comp=Z,2.2nm,0.9s						
WAKR	Walker	56.04	69	P	P	22 26 37.4	+6.4
PDAR	Pinedale Array	58.92	59	P	P	22 26 52.2	+1.0
	comp=Z,1.1nm,0.9s,baz=306,slow=7.5,SNR=3.6						
	comp=Z,1.1nm,0.9s						
FINES	FINESS Array B	62.50	337	P	P	22 27 15.3	+0.3
	comp=Z,1.5nm,0.9s,baz=46,slow=8.3,SNR=1.1						
	comp=Z,1.5nm,0.9s						
OBN	Obninsk	64.69	328	eP	P	22 27 28.2	-1.3
OBN				e		22 27 59.4	
OBN				e		22 29 49.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	Malin Array Be	70.82	329	P	P	22 28 08.4	+0.1
	comp=Z,1.6nm,0.8s,baz=28,slow=8.6,SNR=1.3						
	comp=Z,1.6nm,0.8s						
TXAR	Lajitas Array	71.77	66	P	P	22 28 14.9	+0.4
	comp=Z,1.2nm,0.6s,baz=294,slow=4.6,SNR=9.6						
	comp=Z,1.2nm,0.6s						
TXAR	Lajitas Array	71.77	66	P	P	22 28 15.0	+0.4
WRA	Warramunga Arr	73.66	205	P	P	22 28 24.3	-1.2
	comp=Z,2.1nm,0.9s,baz=16,slow=5.9,SNR=10						
	comp=Z,2.1nm,0.9s						
GERES	GERESS Array B	76.91	338	P	P	22 28 44.8	+0.6
	comp=Z,0.2nm,0.3s,baz=25,slow=7.6,SNR=2.2						
	comp=Z,0.2nm,0.3s						
ASAR	Alice Springs	77.32	204	P	P	22 28 47.4	+0.9
	comp=Z,0.9nm,0.7s,baz=11,slow=5.0,SNR=4.3						
	comp=Z,0.9nm,0.7s						
H03N2	Juan Fernandez	134.27	91	T	T	01 05 04.0	
	baz=313						
H03N1	Juan Fernandez	134.29	91	T	T	01 05 06.1	
	baz=313						
H03N3	Juan Fernandez	134.29	91	T	T	01 05 05.2	
	baz=313						

KRSC 28 22:27:20.3±2.2, 50°.48N×159°.97E, h60km±38km, Ml3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.79	319	eS	Sn	22 28 12.6	+2.1
RUS	Russkaya	2.16	336	eS	Sn	22 28 21.3	+1.7
PAU	Pauzhetka	2.23	298	eS	Sn	22 28 24.2	+3.0
GRL	Gorelyy	2.40	331	eP	Pn	22 28 00.5	+3.3
GRL				eS	Sn	22 28 29.6	+4.2
SKR	Severo-Kuril's	2.47	276	eP	Pn	22 28 00.3	+2.3
SKR				eS	Sn	22 28 28.4	+1.5
KRMR	Karymshinskiy	2.62	335	eP	Pn	22 28 02.4	+2.3
KRMR				eS	Sn	22 28 34.1	+3.3
SPN	Mys Shipunski	2.63	1	eS	Sn	22 28 31.9	+1.0
PET	Petropavlovsk	2.68	343	eS	Sn	22 28 34.6	+2.4
SDLR	Sedlovina	2.89	347	eP	Pn	22 28 07.1	+3.2
AVH	Avacha	2.90	345	eP	Pn	22 28 07.9	+3.9
KOK	Koryaka	2.94	344	eP	Pn	22 28 08.3	+3.7
KRX	Arik	3.00	345	eP	Pn	22 28 08.5	+3.0
GNL	Ganaly	3.46	340	i P	Pn	22 28 15.1	+3.4
TUMD	Tumrok D	4.74	3	i P	Pn	22 28 32.2	+3.0
TUMD				i S	Sn	22 29 24.3	+1.5
KMNR	Kamenistaya	5.29	2	i P	Pn	22 28 41.2	+4.5

*NEIC **28** 22:27:22.6±1.3, 14°.48N±0°.10×90°.65W±0°.03, h10km±2km, ML2.8/10, Error ellipse: s-maj=16.4km s-min=4.7km az=181.0*
*GCG **28** 22:27:22.8±2.9, 14°.53N×90°.72W, h10km±7km, MD3.6*

ISC 28 22:27:22.2±1.6, 14°.46N±0°.09×90°.68W±0°.03, h7km±12km, n10, σ0§53/14, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	OSOP	0.19	47	eP	Pg	22 27 26.2	+0.1
GCG4				i S	Sg	22 27 29.0	+0.2
GCG4	OSOP	0.19	47	eP		22 27 26.2	
GCG4				i S		22 27 29.0	
PS001	Antigua, Sacat	0.27	121	eP		22 27 26.0	
PS001				e		22 27 26.0	
	baz=252,slow=16						
PS001				eS		22 27 28.8	
STG0	El Palmar, Qui	0.64	267	eP		22 27 39.4	
STG8	El Palmar, Qui	0.65	270	eP		22 27 39.9	
SOKI	Kika Raxquin	0.79	297	eP	Pg	22 27 37.7	+0.3
SOKI	Kika Raxquin	0.79	297	eP		22 27 37.7	
RTAL	Retalhuleu	0.99	274	Pg	Pg	22 27 41.3	+0.1
RTAL				Sg	Sb	22 27 55.0	+0.1
RTAL				IAML		22 27 56.6	
	comp=E,260nm,0.2s						
RTAL				IAML		22 27 56.9	
	comp=N,375nm,0.5s						
HUEH	Huehuetenango	1.17	317	Pn	Pg	22 27 44.2	-0.5
MTO3	Montecristo	1.28	92	Pn	Pn	22 27 46.3	-0.4
MTO3				Sn	Sb	22 28 04.0	+0.6
MTO3	Montecristo	1.28	92	eP	Pn	22 27 46.8	+0.2
MTO3	Montecristo	1.28	92	eP		22 27 46.8	
ESQI	Esquipulas	1.30	85	Pn	Pn	22 27 47.0	+0.2
ESQI				Sn	Sb	22 28 03.5	-0.4
ESQI				IAML		22 28 08.8	
	comp=N,123nm,0.9s						
ESQI				IAML		22 28 12.6	
	comp=E,128nm,0.6s						
CCIG	Comitan	2.30	322	Pn	Pn	22 28 00.7	0.0
CCIG				IAML		22 28 37.3	
	comp=E,62nm,0.5s						
CCIG				IAML		22 28 38.7	
	comp=N,97nm,0.5s						
PETF	Flores	2.57	18	Pn	Pb	22 28 07.9	-0.7
TEIG	Tepich	6.18	21	Pn	Pn	22 28 55.0	+1.1

IDC 28 22:32:45.5±1.9, 1°.75N×126°.63E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=180.7km s-min=23.6km az=66.0, Northern Molucca Sea

UNCR pmax pmax
comp=Z,76nm,0.4s
HNZR Khunzah 0.69 127 *e*PG **Pb 22 33 14.0 +0.1**
HNZR *e*S **Sb 22 33 24.2 +1.0**
XNZR Khunzakh 0.70 129 *e*Pg **Pb 22 33 14.1 +0.2**
comp=Z,92nm,0.2s
XNZR *e*Sg **Sb 22 33 24.3 +0.9**
comp=Z,553nm,0.6s
KRNR Karanay 0.71 102 *e*Pg **Pb 22 33 13.6 -0.4**
comp=Z,56nm,0.4s
KRNR *e*Sg **Sb 22 33 24.2 +0.6**
comp=Z,450nm,0.5s
KRNR Karanay 0.71 102 *e*PG **Pb 22 33 13.6 -0.4**
KRNR *e*S **Sb 22 33 24.2 +0.6**
KMGR Komgaron 0.81 276 *e*Pg **Pb 22 33 16.2 +0.4**
KMGR *e*Sg **Sn 22 33 28.6 0.0**
KMGR Komgaron 0.81 276 *e*PG **Pb 22 33 16.2 +0.4**
KMGR *e*S **Sn 22 33 28.6 0.0**
ARKR Arakani 0.84 116 *e*PG **Pb 22 33 16.1 -0.3**
ARKR *e*S **Sn 22 33 28.4 -1.0**
ARKR pmax pmax
comp=Z,34nm,0.3s
BUJR Buynaksk 0.85 100 *e*Pg **Pn 22 33 17.5 +0.1**
comp=Z,95nm,0.4s
BUJR *e*Sg **Sn 22 33 30.8 +1.2**
comp=Z,1μm,0.4s
BUJR Buynaksk 0.85 100 *e*PG **Pn 22 33 17.4 +0.1**
BUJR *e*S **Sn 22 33 30.7 +1.2**
BUJR pmax pmax
comp=Z,95nm,0.4s
GNBR Gunib 0.94 128 *e*Pg **Pn 22 33 18.6 -0.1**
comp=Z,127nm,0.2s
GNBR *e*Sg **Sn 22 33 32.5 +0.6**
comp=Z,645nm,0.6s
GNBR Gunib 0.94 128 *e*PG **Pn 22 33 18.5 -0.1**
GNBR *e*S **Sn 22 33 32.4 +0.6**
GNBR pmax pmax
comp=Z,127nm,0.2s
VLKR Vladikavkaz 0.95 274 *e*Pg **Pn 22 33 18.7 -0.1**
VLKR *e*Sg **Sn 22 33 33.4 +1.4**
VLKR Vladikavkaz 0.95 274 *e*PG **Pn 22 33 18.7 -0.1**
VLKR *e*S **Sn 22 33 33.4 +1.4**
CHRG Chargali 1.01 230 P **Pb 22 33 19.0 -0.2**
CHRG S **Sg 22 33 32.4 -0.4**
MTEO Meteo 1.10 255 P **Pn 22 33 21.6 +0.4**
MTEO S **Sb 22 33 36.0 +0.9**
MTEO Meteo 1.10 255 *e*PG **Pn 22 33 21.5 +0.4**
MTEO *e*S **Sb 22 33 36.0 +0.9**
BTKR Batakoyurt 1.11 291 *e*Pg **Pg 22 33 21.9 +0.3**
BTKR *e*Sg **Sn 22 33 38.6 +2.6**
BTKR Batakoyurt 1.11 291 *e*PG **Pg 22 33 21.9 +0.3**
BTKR *e*S **Sn 22 33 38.6 +2.6**
MAK Makhachkala 1.13 90 *e*Pg **Pg 22 33 22.2 +0.3**
MAK *e*Sg **Sn 22 33 39.7 +3.5**
MAK Makhachkala 1.13 90 *e*PG **Pg 22 33 22.2 +0.3**
MAK *e*S **Sn 22 33 39.7 +3.5**
KANR Karaman 1.14 79 *e*PG **Pg 22 33 22.6 +0.6**
KANR *e*S **Sn 22 33 39.8 +3.4**
TRKR Terskaya 1.17 310 *e*Pg **Pg 22 33 22.1 -0.5**
TRKR *e*Sg **Sn 22 33 38.6 +1.3**
TRKR Terskaya 1.17 310 *e*PG **Pg 22 33 22.3 -0.3**
TRKR *e*S **Sn 22 33 39.3 +2.0**
KMKR Kumukh 1.19 135 *e*Pg **Pg 22 33 22.9 -0.2**
KMKR *e*Sg **Sn 22 33 39.7 +1.6**
KMKR Kumukh 1.19 135 *e*PG **Pg 22 33 22.9 -0.2**
KMKR *e*S **Sn 22 33 39.7 +1.6**
LACR Lac 1.24 263 *e*Pg **Pn 22 33 22.0 -0.8**
LACR *e*Sg **Sb 22 33 39.0 +0.2**
LACR Lac 1.24 263 *e*PG **Pn 22 33 22.0 -0.8**
LACR *e*S **Sb 22 33 39.0 +0.2**
ARNR Ardon 1.25 280 *e*Pg **Pb 22 33 23.3 0.0**
ARNR *e*Sg **Sg 22 33 41.4 +0.9**
ARNR Ardon 1.25 280 *e*PG **Pb 22 33 23.3 0.0**
ARNR *e*S **Sg 22 33 41.4 +0.9**
SGKR Sergokala 1.35 112 *e*Pg **Pg 22 33 24.9 -1.2**
comp=Z,15nm,0.4s
SGKR *e*Sg **Sg 22 33 43.9 +0.2**
comp=Z,41nm,0.7s
SGKR Sergokala 1.35 112 *e*PG **Pg 22 33 24.9 -1.2**
SGKR *e*S **Sg 22 33 43.9 +0.2**
KORR Kora 1.40 275 *e*Pg **Pn 22 33 25.0 +0.1**
KORR *e*Sg **Sg 22 33 44.5 -0.7**
KORR Kora 1.40 275 *e*PG **Pn 22 33 25.0 +0.1**
KORR *e*S **Sg 22 33 44.5 -0.7**
STDR Stavd-Durt 1.45 286 *e*Pg **Pg 22 33 26.9 -1.0**
STDR *e*Sg **Sg 22 33 48.2 +1.4**
STDR Stavd-Durt 1.45 286 *e*PG **Pg 22 33 26.9 -1.0**
STDR *e*S **Sg 22 33 48.2 +1.4**
PRTR Priterechnaya 1.45 303 *e*Pg **Pg 22 33 27.1 -1.0**
PRTR *e*Sg **Sg 22 33 48.1 +1.2**
PRTR Priterechnaya 1.45 303 *e*PG **Pg 22 33 27.0 -1.0**
PRTR *e*S **Sg 22 33 48.1 +1.2**
URKR Urkarakh 1.48 123 *e*Pg **Pg 22 33 27.5 -1.0**
comp=Z,31nm,0.4s
URKR *e*Sg **Sg 22 33 48.5 +0.8**
comp=Z,168nm,0.6s
URKR Urkarakh 1.48 123 *e*PG **Pg 22 33 27.5 -1.0**
URKR *e*S **Sg 22 33 48.5 +0.8**
TBLG Delisi 1.54 217 P **Pg 22 33 29.4 -0.4**
TBLG Delisi 1.54 217 *e*Pg **Pg 22 33 29.4 -0.4**
TBLG Delisi 1.54 217 *e*PN **Pg 22 33 29.4 -0.4**
DGRG David-gareji 1.59 196 P **Pg 22 33 30.9 +0.2**
DGRG David-gareji 1.59 196 *e*PN **Pg 22 33 30.9 +0.2**
LSNR Lesken 1.60 281 *e*Pg **Pb 22 33 29.2 0.0**
LSNR *e*Sg **Sg 22 33 51.7 +0.1**
LSNR Lesken 1.60 281 *e*PG **Pb 22 33 29.2 0.0**
LSNR *e*S **Sg 22 33 51.7 +0.1**
DIGR Digorskoe uzhe 1.75 268 *e*Pg **Pn 22 33 30.5 +0.5**
DIGR *e*Sg **Sb 22 33 53.8 0.0**
DIGR Digorskoe uzhe 1.75 268 *e*PN **Pn 22 33 30.5 +0.5**
VSHL Vashlovani 1.78 169 P **Pg 22 33 33.5 -0.7**
VSHL S **Sg 22 34 01.2 +3.8**
NCK Nalchik 1.81 287 *e*Pg **Pb 22 33 32.3 -0.5**
NCK *e*Sg **Sb 22 33 56.4 +1.2**
NCK Nalchik 1.81 287 *e*PN **Pb 22 33 32.3 -0.5**
NCK *e*S **Sb 22 33 56.4 +1.2**
GARIG Gari 1.88 259 P **Pn 22 33 32.1 +0.6**
GARIG S **Sb 22 33 58.4 +1.2**
ALIG Mtskhetisjvari 1.92 244 P **Pb 22 33 33.6 -1.2**
ALIG S **Sb 22 33 59.1 +0.6**
ALIG Mtskhetisjvari 1.92 244 *e*Pg **Pb 22 33 33.6 -1.2**
ALIG *e*Sg **Sb 22 33 59.1 +0.6**
ALIG Mtskhetisjvari 1.92 244 *e*PN **Pb 22 33 33.6 -1.2**
DRN Derbent 1.99 118 *e*Pg **Pb 22 33 34.9 -0.9**
comp=Z,37nm,0.7s
DRN *e*Sg **Sg 22 34 02.5 -1.5**
comp=Z,108nm,0.3s
DRN Derbent 1.99 118 *e*PN **Pb 22 33 34.9 -0.9**
AKT Akhty 1.99 138 *i* Pg **Pb 22 33 35.4 -0.5**
comp=Z,31nm,0.2s
AKT *e*Sg **Sg 22 34 01.9 -2.2**
comp=Z,57nm,0.4s
AKT Akhty 1.99 138 *i* PN **Pb 22 33 35.4 -0.5**
TRLG Trialeti 2.00 225 P **Pb 22 33 35.1 -1.0**
TRLG Trialeti 2.00 225 *e*Pg **Pb 22 33 35.1 -1.0**
TRLG Trialeti 2.00 225 *e*PN **Pb 22 33 35.1 -1.0**
KSMR Kasumkent 2.11 130 *e*Pg **Pb 22 33 37.3 -0.7**
comp=Z,19nm,0.2s
KSMR *e*Sg **Sg 22 34 06.7 -1.3**
comp=Z,182nm,0.5s
KSMR Kasumkent 2.11 130 *e*PN **Pb 22 33 37.3 -0.7**
KSMR *e*S **Sg 22 34 06.7 -1.3**
KSMR pmax pmax
comp=Z,19nm,0.2s
TKB Tkibuli 2.28 255 P **Pn 22 33 37.9 +0.8**
TKB S **Sg 22 34 12.1 -1.3**
TKB Tkibuli 2.28 255 *e*Pn **Pn 22 33 37.9 +0.8**
TKB Tkibuli 2.28 255 *e*PN **Pn 22 33 37.9 +0.8**
PYA1 Pyatigorsk 2.35 298 *e*Pn **Pn 22 33 36.9 -1.1**
PYA1 *e*Sn **Sn 22 34 05.1 -1.5**
PYA1 Pyatigorsk 2.35 298 *i* PN **Pn 22 33 36.9 -1.1**
KBZ Khabaz 2.36 290 Pn **Pn 22 33 37.0 -1.1**
comp=Z,0.6nm,0.3s,baz=138,slow=12,SNR=29
KBZ Lg Lg 22 34 09.6
comp=Z,4.6nm,0.3s,baz=328,slow=7.8,SNR=6.5
comp=Z,3.4nm,0.4s
KBZ Khabaz 2.36 290 *e*Pn **Pn 22 33 36.9 -1.1**
KBZ *e*Sn **Sn 22 34 08.8 +2.2**
NEUR Neytrino 2.41 278 *i* PN **Pn 22 33 35.8 -3.1**
SHA1 Shidzhatmaz 2.53 289 *e*Pn **Pn 22 33 39.7 -0.9**
SHA1 *e*Sn **Sn 22 34 12.0 +0.8**
SHA1 Shidzhatmaz 2.53 289 *e*PN **Pn 22 33 41.5 +0.8**
SHA1 *e*S **Sb 22 34 16.1 -0.1**
KVAR Kislovodsk Arr 2.57 293 Pn **Pn 22 33 39.9 -1.2**
baz=288,slow=23
KVAR Lg Lg 22 34 15.3
baz=350,slow=20
comp=Z,1.7nm,0.3s
KIV Kislovodsk 2.58 293 *e*Pn **Pn 22 33 40.2 -1.0**
KIV *e*Sn **Sn 22 34 14.0 +1.7**
KIV Kislovodsk 2.58 293 *e*PN **Pn 22 33 40.2 -1.0**
KIV *e*S **Sn 22 34 14.0 +1.7**
GOF Gofitskoye 2.96 316 *e*Pn **Pn 22 33 46.6 +0.2**
GOF *e*Sn **Sn 22 34 23.3 +1.8**
GOF Gofitskoye 2.96 316 *e*PN **Pn 22 33 46.6 +0.2**
GOF *e*S **Sn 22 34 23.3 +1.8**
GNI Garni 2.97 198 Pg **Pb 22 33 52.0 -0.8**
comp=Z,1.8nm,0.3s,baz=17,slow=7.3,SNR=13
GNI Lg Lg 22 34 30.3
comp=Z,1.9nm,0.3s,baz=256,slow=19,SNR=4.0
GNI Garni 2.97 198 *i* PN **Pn 22 33 49.4 +2.7**
AKTO Aktyubinsk 11.13 44 ⇑Pn **Pn 22 35 37.0 -1.3**
comp=Z,0.1nm,0.3s
AKTO ⇓Sn Sn 22 37 33.0 -9.3
comp=Z,0.9nm,0.7s
AKTO Aktyubinsk 11.13 44 P **Pn 22 35 37.1 -1.3**
AB31 Akbulak array 11.54 52 ⇑Pn **Pn 22 35 43.2 -0.8**
comp=Z,0.1nm,0.3s,baz=242,slow=12
AB31 ⇑Sn Sn 22 37 40.9 -12
comp=Z,0.9nm,0.7s,baz=235,slow=23
AB31 Akbulak array 11.54 52 P **Pn 22 35 43.2 -0.8**
OBN Obninsk 13.60 336 *e*P **Pn 22 36 11.0 -1.1**
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 21.98 334 P **P 22 37 52.6 -0.4**
comp=Z,2.3nm,0.9s,baz=138,slow=8.2,SNR=1.8
comp=Z,2.3nm,0.9s
MKAR Makanchi Array 25.87 69 P **P 22 38 31.7 +0.9**
comp=Z,0.1nm,0.5s,baz=261,slow=7.9,SNR=1.6
comp=Z,0.1nm,0.5s

TXNET 28 22:34:22.6,31°.2N±0°.6×103°.5W±0°.6, h5km±1km, ML2.2/8, 1D, Error ellipse: s-maj=1.0km s-min=0.9km az=47.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.10**	**197**	P	Pg	22 34 25.1	+0.4
TPB03				S	Sg	22 34 27.2	+1.0
TPB04	**Verhalen**	**0.18**	**88**	P	Pg	22 34 26.0	-0.1
TPB04				S	Sg	22 34 29.2	+0.6
TPB16	**Coyonosa**	**0.20**	**105**	P	Pg	22 34 27.2	+0.6
TPB16				S	Sg	22 34 30.5	+1.2
TPB16	**Coyonosa**	**0.20**	**105**	P	Pg	22 34 27.2	+0.6
TPB16				S	Sg	22 34 30.5	+1.2
PCOS	**Crockett Middl**	**0.23**	**353**	P	Pg	22 34 27.8	+0.7
PCOS				S	Sg	22 34 31.7	+1.6
TPB10	**Southeast of T**	**0.26**	**294**	P	Pg	22 34 28.2	+0.6
TPB10				S	Sg	22 34 32.4	+1.4
TPB05	**Hovey Rd**	**0.29**	**153**	⇓P	Pg	22 34 29.0	+0.8
TPB05				S	Sb	22 34 34.1	-1.4
TPB01	**Permian Basin**	**0.35**	**228**	P	Pg	22 34 30.0	+0.6
TPB01				S	Sg	22 34 35.5	+1.5
PECS	**Pecos**	**0.38**	**300**	P	Pg	22 34 30.3	+0.3
PECS				S	Sg	22 34 36.4	+1.3
TPB12	**Southwest of T**	**0.41**	**275**	P	Pg	22 34 31.0	+0.4
TPB12				S	Sb	22 34 37.6	-1.4
TPB07	**Mentone**	**0.43**	**338**	S	Sb	22 34 38.2	-1.3
TPB06	**Permian Basin**	**0.52**	**26**	P	Pg	22 34 33.1	+0.5
TPB06				S	Sb	22 34 41.4	-0.6
TPB08	**Permian Basin**	**0.57**	**120**	S	Sb	22 34 42.5	-1.0
MNHN	**Monahans**	**0.64**	**75**	P	Pg	22 34 34.0	-0.8
MNHN				S	Sg	22 34 42.9	-0.2
ALPN	**Alpine**	**0.81**	**190**	P	Pg	22 34 37.9	-0.3
ALPN				S	Sg	22 34 49.3	+0.5
TPB11	**China Draw**	**0.89**	**328**	P	Pg	22 34 39.3	-0.3
TPB11				S	Sg	22 34 51.7	+0.4
CLNB	**Carlsbad**	**1.13**	**343**	P	Pb	22 34 44.7	0.0
NM01	**Eunice**	**1.17**	**3**	S	Sn	22 35 02.7	+0.5
ODSA	**Odessa**	**1.23**	**40**	P	Pg	22 34 44.6	-1.6
ODSA				S	Sg	22 35 01.1	-1.0
TMB02	**Rankin**	**1.24**	**89**	P	Pg	22 34 45.3	-1.0
TMB02				S	Sg	22 35 01.3	-1.0
CLN7	**Carlsbad 7**	**1.26**	**347**	P	Pg	22 34 46.1	-0.7
HTMS	**Hat Mesa**	**1.30**	**354**	S	Sn	22 35 06.3	+1.1
VHRN	**Van Horn**	**1.35**	**254**	P	Pn	22 34 47.9	-0.3
VHRN				S	Sb	22 35 06.1	+0.1
TMB04	**Seminole**	**1.67**	**30**	P	Pn	22 34 52.5	0.0
TMB04				S	Sb	22 35 14.9	-0.3
SAND	**Sanderson**	**1.69**	**136**	P	Pb	22 34 53.5	-0.7
SAND				S	Sg	22 35 17.0	+0.1
MNTX	**Cornudas Mount**	**1.71**	**288**	P	Pn	22 34 53.7	+0.7
MNTX				S	Sb	22 35 16.8	+0.6
CPRX	**Cap Rock**	**1.88**	**350**	P	Pb	22 34 56.6	-0.7
TMB05	**Klondike**	**2.00**	**43**	S	Sb	22 35 23.9	-0.7
OZNA	**Ozona**	**2.04**	**97**	P	Pn	22 34 58.7	+1.1
OZNA				S	Sb	22 35 25.2	-0.5
SGCY	**Sterling City**	**2.14**	**69**	S	Sb	22 35 27.6	-1.0

IDC 28 22:40:48.0±7.9, 22°.87N×144°.91E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=316.3km s-min=25.6km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.79**	**194**	P	P	22 48 55.5	-0.1
	0.2nm,0.4s,baz=17,slow=8.2,SNR=7.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**47.48**	**194**	P	P	22 49 24.7	-0.1
	0.3nm,0.6s,baz=17,slow=9.7,SNR=1.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.09**	**312**	P	P	22 50 21.1	-0.7
	0.1nm,0.4s,baz=88,slow=6.4,SNR=2.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**57.77**	**316**	P	P	22 50 40.3	-0.5
	0.2nm,0.5s,baz=95,slow=8.1,SNR=4.2						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**62.82**	**319**	P	P	22 51 16.4	+0.9
	0.4nm,0.4s,baz=90,slow=5.9,SNR=4.1						
	0.4nm,0.4s						

*SJA **28** 22:47:38.7±1.0, 31°.12S×68°.90W, h104km±2km, ML3.5, MW3.5*
*IDC **28** 22:47:39.4±2.5, 31°.29S×68°.86W, h109km±18km, mbtmp3.8/1, Error ellipse: s-maj=74.1km s-min=40.3km az=101.0*
ISC 28 22:47:39.4±0.8, 31°.14S±0°.02×68°.91W±0°.03, h108km±5km, n48, σ1°58/87, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOCA	**Reserva Natura**	**0.24**	**321**	*e*P	**Pn**	**22 47 54.4**	**-0.8**
DOCA				*e*S	**Sn**	**22 48 06.7**	**-0.2**
DOCA				IAML		22 48 07.2	
	comp=Z,1μm,0.6s						
RTLL	**Cerro Villicun**	**0.42**	**117**	*e*P	**Pn**	**22 47 55.0**	**-0.6**
RTLL				*e*S	**Sn**	**22 48 06.6**	**-1.1**
ZON	**Zonda**	**0.45**	**154**	*e*P	**Pn**	**22 47 55.4**	**-0.4**
ZON				*e*S	**Sn**	**22 48 07.9**	**-0.2**
ZON				IAML		22 48 08.7	
	comp=Z,1μm,0.2s						
ZON				IAML		22 48 08.7	
	comp=Z,1μm,0.2s						
SJA	**San Juan**	**0.49**	**143**	*e*P	**Pn**	**22 47 56.0**	**0.0**
SJA				*e*S	**Sn**	**22 48 07.2**	**-1.3**
SJA				IAML		22 48 09.7	
	comp=Z,1μm,0.3s						
ACCO	**Cerro Coronel**	**0.56**	**346**	*e*P	**Pn**	**22 47 58.0**	**+1.1**
ACCO				*e*S	**Sn**	**22 48 09.9**	**-0.1**
RTLS	**Leoncito**	**0.74**	**207**	*e*P	**Pn**	**22 47 58.0**	**-0.2**
RTLS				*e*S	**Sn**	**22 48 12.3**	**-0.1**
RTLS				IAML		22 48 13.0	
	comp=Z,6μm,0.2s						
CFA	**Coronel Fontan**	**0.74**	**129**	P	**Pn**	**22 47 57.8**	**-0.1**
	comp=Z,250nm,0.3s,baz=308,slow=19,SNR=1869						
CFA				S	**Sn**	**22 48 11.7**	**-0.3**
	comp=Z,171nm,0.3s,baz=237,slow=12,SNR=11						
CFA	**Coronel Fontan**	**0.74**	**129**	*e*P	**Pn**	**22 47 57.6**	**-0.3**
CFA				*e*S	**Sn**	**22 48 12.1**	**+0.2**
ACDV	**Cuesta del Vie**	**0.98**	**349**	*e*P	**Pn**	**22 48 00.5**	**0.0**
ACDV				IAML		22 48 18.2	
	comp=Z,458nm,0.3s						
AROD	**Rodeo**	**1.08**	**333**	*e*P	**Pn**	**22 48 01.9**	**+0.3**
AROD				*e*S	**Sn**	**22 48 19.0**	**+0.5**
ASAL	**Salagasta**	**1.45**	**178**	*e*P	**Pn**	**22 48 06.0**	**+0.4**
ASAL				*e*S	**Sn**	**22 48 26.2**	**+0.8**
CO01	**Juntas del Tor**	**1.54**	**318**	*e*P	**Pn**	**22 48 07.8**	**+0.9**
CO01				*e*S	**Sn**	**22 48 27.8**	**+0.1**
CO01				IAML		22 48 29.5	
	comp=Z,198nm,0.5s						
CO03	**El Pedregal**	**1.56**	**281**	*e*P	**Pn**	**22 48 07.5**	**+0.6**
CO03				*e*S	**Sn**	**22 48 28.4**	**+0.6**
CO03				IAML		22 48 29.6	
	comp=Z,400nm,0.4s						
AGUA	**GUANDACOL**	**1.68**	**12**	*e*P	**Pn**	**22 48 09.2**	**+0.7**
AGUA				*e*S	**Sn**	**22 48 33.7**	**+3.1**
AGUA				IAML		22 48 34.8	
	comp=Z,272nm,0.3s						
ARCO	**CERRO ARCO**	**1.70**	**181**	*e*P	**Pn**	**22 48 09.1**	**+0.4**
ARCO				*e*S	**Sn**	**22 48 31.9**	**+1.0**
ARCO				IAML		22 48 34.9	
	comp=Z,417nm,0.2s						
GO04	**Tololo Observa**	**1.89**	**300**	*e*P	**Pn**	**22 48 11.1**	**-0.1**
GO04				*e*S	**Sn**	**22 48 35.9**	**+0.5**
AAGR	**Agrelo**	**1.94**	**178**	*e*P	**Pn**	**22 48 12.3**	**+0.6**
AAGR				*e*S	**Sn**	**22 48 37.0**	**+0.6**
AAGR				IAML		22 48 39.5	
	comp=Z,481nm,0.4s						
VA03	**San Esteban**	**2.14**	**220**	*e*P	**Pn**	**22 48 14.8**	**+0.6**
VA03				*e*S	**Sn**	**22 48 43.2**	**+2.4**
VA03				IAML		22 48 47.3	
	comp=Z,395nm,0.2s						
APLL	**PUNTA DE LOS L**	**2.18**	**71**	*e*P	**Pn**	**22 48 14.8**	**+0.1**
APLL				*e*S	**Sn**	**22 48 39.4**	**-2.2**
AVIZ	**Vizcacheras**	**2.35**	**172**	*e*P	**Pn**	**22 48 17.5**	**+0.6**
AVIZ				*e*S	**Sn**	**22 48 45.5**	**-0.2**
ACLC	**CERRO LA CRUZ**	**2.40**	**45**	*e*P	**Pn**	**22 48 17.9**	**+0.2**
ACLC				*e*S	Sn	22 48 35.6	-11
ACLC				IAML		22 48 51.4	
	comp=Z,117nm,0.3s						
VCA	**Vinchina**	**2.47**	**14**	*e*P	**Pn**	**22 48 19.4**	**+0.9**
VCA				*e*S	**Sn**	**22 48 51.8**	**+3.2**
VCA				IAML		22 48 58.0	
	comp=Z,152nm,0.4s						
MT08	**Bocatoma Ro**	**2.48**	**202**	*e*P	**Pn**	**22 48 14.8**	**-4.0**
MT08				*e*P		22 48 20.1	
MT08				*e*S	**Sn**	**22 48 48.6**	**-0.3**
MT08				IAML		22 48 56.7	
	comp=Z,92nm,0.2s						
MT04	**Ro Olivares**	**2.49**	**204**	*e*P	**Pn**	**22 48 21.1**	**+2.2**
MT04				*e*S	**Sn**	**22 48 48.8**	**-0.3**
MT04				IAML		22 49 02.5	
	comp=Z,115nm,0.4s						
PEL	**Peldehue**	**2.50**	**217**	*e*P	**Pn**	**22 48 19.1**	**+0.2**
PEL				*e*S	**Sn**	**22 48 50.5**	**+1.4**
ROC1	**El Roble**	**2.56**	**224**	*e*P	**Pn**	**22 48 19.0**	**-0.8**
ROC1				*e*S	**Sn**	**22 48 51.0**	**+0.2**
AC05	**El Transito**	**2.58**	**332**	*e*P	**Pn**	**22 48 20.9**	**+0.9**
AC05				*e*S	**Sn**	**22 48 52.4**	**+1.3**
AC05				IAML		22 48 55.9	
	comp=Z,142nm,0.2s						
LCO	**Las Campanas**	**2.63**	**323**	*e*P	**Pn**	**22 48 20.3**	**-0.4**
LCO				*e*S	**Sn**	**22 48 52.5**	**+0.1**
LCO				IAML		22 48 54.5	
	comp=Z,351nm,0.2s						
MT03	**Universidad Ad**	**2.71**	**210**	*e*P	**Pn**	**22 48 22.6**	**+0.9**
MT03				*e*S	**Sn**	**22 48 56.2**	**+2.1**
MT03				IAML		22 49 00.4	
	comp=Z,272nm,0.3s						
MT05	**Renca**	**2.73**	**214**	*e*P	**Pn**	**22 48 22.1**	**+0.2**
MT05				*e*S	**Sn**	**22 48 55.7**	**+1.2**
MT05				IAML		22 48 57.4	
	comp=Z,211nm,0.3s						
MT02	**Curacav**	**2.84**	**221**	*e*P	**Pn**	**22 48 22.2**	**-1.0**
MT02				*e*S	**Sn**	**22 48 51.0**	**-5.9**
MT02				*e*S		22 48 55.8	
MT02				IAML		22 48 59.0	
	comp=Z,92nm,0.2s						
MT13	**San Alfonso**	**2.85**	**204**	*e*P	**Pn**	**22 48 24.4**	**+0.9**
MT13				*e*S	**Sn**	**22 48 56.6**	**-0.7**
MT13				IAML		22 49 08.5	
	comp=Z,78nm,0.1s						
LMEL	**Las Melosas**	**2.92**	**202**	*e*P	**Pn**	**22 48 25.4**	**+1.0**
LMEL				*e*S	**Sn**	**22 49 05.9**	**+6.9**
VA01	**Torpederas**	**2.99**	**230**	*e*P	**Pn**	**22 48 23.1**	**-2.1**
VA01				IAML		22 49 07.1	
	comp=Z,65nm,0.2s						
MRA	**San Martin**	**3.00**	**116**	*e*P	**Pn**	**22 48 25.9**	**+0.4**
MRA				*e*S	**Sn**	**22 49 00.8**	**-0.2**
MRA				IAML		22 49 01.8	
	comp=Z,174nm,0.7s						
MT01	**Popeta**	**3.36**	**215**	*e*P	**Pn**	**22 48 28.5**	**-1.6**
MT01				IAML		22 49 14.4	
	comp=Z,64nm,0.6s						
AC04	**Llanos de Chal**	**3.48**	**327**	*e*P	**Pn**	**22 48 29.0**	**-2.7**
AC04				IAML		22 49 18.8	
	comp=Z,72nm,0.7s						
TCA	**Tanti**	**3.70**	**94**	*e*P	**Pn**	**22 48 34.9**	**+0.2**
TCA				*e*S	Sn	22 49 03.4	-14
TCA				IAML		22 49 40.4	
	comp=Z,40nm,0.5s						
GO03	**Copiapo**	**3.72**	**342**	*e*P	**Pn**	**22 48 34.6**	**-0.4**
GO03				*e*S	**Sn**	**22 49 17.2**	**-0.8**
BO01	**Tunca**	**3.73**	**209**	*e*P	**Pn**	**22 48 33.8**	**-1.3**
BO01				*e*S	**Sn**	**22 49 17.8**	**-0.3**
BO01				IAML		22 49 24.0	
	comp=Z,51nm,0.6s						
CYA	**Choya**	**3.81**	**46**	*e*P	**Pn**	**22 48 35.6**	**-0.6**
CYA				*e*S	**Sn**	**22 49 19.2**	**-1.0**
CYA				IAML		22 49 20.4	
	comp=Z,45nm,0.5s						
BO02	**Sierra Bellavi**	**3.97**	**203**	*e*P	**Pn**	**22 48 37.8**	**-0.6**
BO02				*e*S	**Sn**	**22 49 26.6**	**+2.5**
BO02				IAML		22 49 33.1	
	comp=Z,61nm,0.6s						
AC02	**Maricunga**	**4.29**	**357**	*e*P	**Pn**	**22 48 44.2**	**+1.1**
AC02				*e*S	**Sn**	**22 49 33.2**	**+0.8**
AC02				IAML		22 49 35.8	
	comp=Z,36nm,0.8s						
AC01	**Pan de Azucar**	**5.19**	**343**	*e*P	**Pn**	**22 48 53.8**	**-1.0**
AC01				*e*S	**Sn**	**22 49 49.9**	**-3.6**
AC01				IAML		22 50 02.5	
	comp=Z,24nm,0.5s						
LPAZ	**La Paz**	**14.80**	**3**	P	**Pn**	**22 51 05.3**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=207,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**124.52**	**207**	PKP	**PKPdf**	**23 06 25.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=160,slow=1.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**150.40**	**32**	PKPbc	**PKiKP**	**23 07 18.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=337,slow=3.4,SNR=4.9						
MKAR	**Makanchi Array**	**152.89**	**47**	PKPbc	**PKiKP**	**23 07 23.4**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=298,slow=2.6,SNR=3.6						
MKAR				PKPab	**PKPab**	**23 07 35.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=302,slow=3.2,SNR=2.7						

*NEIC **28** 22:59:04.1±1.7, 38°.48N±0°.01×113°.36W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.6km az=214.0*
UUSS 28 22:59:04.7±1.4, 38°.47N±0°.02×113°.33W±0°.02, h5km±4km, ML2.5/6, ML2.6/120(NEIC), Error ellipse: s-maj=2.5km s-min=2.2km az=194.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSUT	**Pine Spring**	**0

PKCU IAML 22 59 51.9
comp=N,117nm,0.8s
PKCU IAML 22 59 52.7
comp=E,179nm,0.3s
LCMT Little Creek M 1.46 177 Pb 22 59 32.5 +0.1
LCMT IAML 22 59 54.2
comp=E,140nm,0.2s
LCMT IAML 22 59 55.0
comp=N,109nm,0.2s
KNB Kanab 1.51 164 Pn 22 59 32.8 +0.3
MMU Miners Mountai 1.62 99 Pb 22 59 35.3 +0.1
PRN Pahroc Range 1.73 233 Pn 22 59 35.2 -0.3
Q16A Castle Valley 1.75 75 Pn 22 59 35.0 -0.8
DUG Dugway, Tooele 1.77 13 Pn 22 59 35.5 -0.6
R11B Troy Canyon, C 1.78 267 Pn 22 59 36.0 -0.3
R11B Troy Canyon, C 1.78 267 IAML 23 00 03.6
comp=E,95nm,0.3s
R11B IAML 23 00 06.0
comp=N,61nm,0.5s
TMUT Trail Mountain 1.85 63 Pb 22 59 38.6 -0.6
TMUT IAML 23 00 07.7
comp=E,44nm,0.5s
TMUT IAML 23 00 08.0
comp=N,47nm,0.7s
MPU Maple Canyon 2.03 40 Pn Pn 22 59 39.6 -0.1
S11A Rachel 2.08 247 Pn 22 59 41.3 +0.9
U15A North Rim 2.20 158 Pn 22 59 42.8 +0.7
U15A IAML 23 00 16.1
comp=E,44nm,0.9s
U15A IAML 23 00 17.9
comp=N,38nm,0.8s
SRU San Rafael Swe 2.28 73 Pn 22 59 42.9 -0.3
SRU IAML 23 00 18.5
comp=N,21nm,0.8s
SRU IAML 23 00 19.3
comp=E,33nm,1.0s
SHPR Sheep Range 2.44 217 Pn 22 59 45.9 +0.5
BGU Big Grassy Mou 2.46 5 Pn 22 59 45.3 -0.3
P18A Preston Nutter 2.66 63 Pb 22 59 54.2 +1.1
P18A IAML 23 00 31.3
comp=E,16nm,1.0s
ELK Elko 2.71 328 Pn 22 59 48.9 -0.2
TPNV Topopah Spring 2.77 238 Pn 22 59 50.6 +0.7
TPNV IAML 23 00 53.7
comp=E,26nm,1.5s
TPNV IAML 23 00 53.9
comp=E,34nm,0.6s
BSUT Blindstream Ca 2.86 43 Pn 22 59 52.1 +0.8
V12A Nelson 3.00 204 Pn 22 59 53.0 +0.1
V12A IAML 23 00 52.6
comp=E,13nm,3.0s
Q09A Carvers 3.04 278 Pn 22 59 54.1 +0.5
WCT Wildcat Mounta 3.11 238 Pn 22 59 54.5 0.0
WCT IAML 23 00 52.8
comp=N,17nm,1.7s
WCT IAML 23 00 53.4
comp=E,20nm,0.9s
MZP Montezuma Peak 3.29 258 Pn 22 59 56.6 -0.5
MZP IAML 23 00 49.7
comp=N,11nm,0.8s
MZP IAML 23 00 55.1
comp=E,12nm,0.6s
GMN Gold Mountain 3.32 251 Pn 22 59 58.2 +0.6
GMN IAML 23 00 54.6
comp=E,13nm,0.5s
GMN IAML 23 00 58.2
comp=N,23nm,0.7s
HVU Hansel Valley 3.33 7 Pn 22 59 57.2 -0.4
HVU IAML 23 01 03.9
comp=E,13nm,0.9s
HVU IAML 23 01 11.2
comp=N,14nm,0.9s
WUAZ Wupatki 3.34 151 Pg 23 00 08.0 -0.7
PV10 Paradox Valley 3.37 90 Pg Pg 23 00 07.4 -1.9
W13A Hualapai Mount 3.40 188 Pn 22 59 58.4 -0.2
HWUT Hardware Ranch 3.41 23 Pn Pn 22 59 57.8 -0.9
HWUT IAML 23 01 02.7
comp=N,8.8nm,2.6s
PV11 David Mesa, Pa 3.50 91 Pn 22 59 59.6 -0.4
GWY Greenwater Val 3.51 230 Pn 22 59 59.8 -0.2
GWY IAML 23 01 03.0
comp=N,20nm,1.5s
PV13 Radium Mtn., P 3.56 94 Pg 23 00 11.2 -1.7
PV13 IAML 23 01 00.5
comp=N,21nm,0.6s
PV07 Paradox Valley 3.67 89 IAML 23 01 25.2
comp=E,17nm,5.0s
NV11 Mina Array Sit 3.79 271 IAML 23 01 12.9
comp=N,12nm,2.1s
NV11 IAML 23 01 25.9
comp=E,10nm,4.0s
PV15 Paradox Valley 3.81 90 Pg Pg 23 00 16.4 -1.3
PV15 IAML 23 01 08.6
comp=E,16nm,1.0s
PV15 IAML 23 01 23.8
comp=N,12nm,2.2s
DSP Deep Springs 3.83 255 Pn Pn 23 00 04.5 +0.2
DSP IAML 23 01 15.4
comp=N,11nm,2.7s
DSP IAML 23 01 23.7
comp=E,10nm,2.2s
NVAR Mina Array Bea 3.91 271 Pb 23 00 16.7 +2.5
MVCO Mesa Verde 4.03 107 Pn 23 00 06.4 -0.8
MVCO IAML 23 01 23.6
comp=E,12nm,3.0s
MVCO IAML 23 01 24.4
comp=E,12nm,1.6s
RYN Ryan 4.08 274 Pn 23 00 07.3 -0.5
RYN IAML 23 01 24.6
comp=N,12nm,1.2s
X16A Lo Mia Camp, P 4.32 159 IAML 23 01 27.7
comp=E,6.3nm,4.0s
X16A IAML 23 02 04.0
comp=N,6.6nm,4.3s
X18A Snowflake 4.78 144 Pg 23 00 33.8 -2.5
X18A IAML 23 01 38.5
comp=N,8.7nm,1.0s
WAKR Walker 4.79 272 Pg 23 00 35.2 -1.4
WAKR IAML 23 01 11.6
comp=E,7.8nm,4.7s
PAHR Pah Rah Range 4.87 287 Pn Pn 23 00 19.1 +0.3
PAHR IAML 23 02 28.7
comp=N,7.0nm,2.8s
HLID Hailey 5.15 351 IAML 23 01 02.7
comp=N,6.4nm,4.6s
HLID IAML 23 02 23.3
comp=N,2.7nm,3.0s
113A Mohawk Valley, 5.70 184 Pn Pn 23 00 29.2 -0.8

*MOS **28** 23:04:52.3±1.0,29°.57N×140°.97E,h63km,mb4.8/28,Error ellipse: s-maj=10.6km s-min=5.4km az=111.0*
*NEIC **28** 23:04:55.9±2.0,29°.52N±0°.07×141°.1E±0°.1,h74km±7km, mb4.6/130,Error ellipse: s-maj=13.8km s-min=9.6km az=77.0*
*IDC **28** 23:04:55.4±0.4,29°.49N×140°.91E,h78km±3km,mb4.0/26, mbtmp4.3/33,Error ellipse: s-maj=13.3km s-min=6.8km az=66.0*
ISC 28 23:04:54.2±0.3,**29°.57N**±0°.04×**141°.09E**±0°.06,**h67**km,**n315**, σ1**s23**/336,**mb4.5**/125,**37C-14D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.65**	**158**	Pn	**Pn**	**23 05 34.4**	**-0.2**
JCJ				Sn	**Sn**	**23 06 04.8**	**-0.7**
JCJ	**Chichijima**	**2.65**	**158**	P	**Pn**	**23 05 34.2**	**-0.4**
	142nm,0.3s,baz=83,slow=23,SNR=32						
JCJ				S	**Sn**	**23 06 05.6**	**0.0**
	735nm,0.3s,baz=291,slow=22,SNR=12						
JHJ2	**Mitsune**	**3.70**	**343**	Pn	**Pn**	**23 05 49.6**	**+0.8**
JHJ	**Hachijo jima 2**	**3.71**	**343**	P	**Pn**	**23 05 49.6**	**+0.5**
	46nm,0.3s,baz=115,slow=22,SNR=8.0						
JHJ				S	**Sn**	**23 06 27.6**	**-4.0**
	253nm,0.5s,baz=114,slow=21,SNR=8.5						
INU	**Inuyama**	**6.71**	**330**	Pn	**Pn**	**23 06 32.3**	**+2.2**
JGF	**Kuroka**	**6.79**	**333**	Pn	**Pn**	**23 06 33.9**	**+2.6**
MJAR	**Matsushiro Arr**	**7.36**	**342**	P	**Pn**	**23 06 39.0**	**0.0**
	3.8nm,0.4s,baz=166,slow=12,SNR=12						
MAJO	**Matsushiro**	**7.36**	**342**	Pn	**Pn**	**23 06 40.2**	**+1.1**
MAJO	**Matsushiro**	**7.36**	**342**	*i* P	**Pn**	**23 06 40.4**	**+1.4**
MJB9	**Matsu-Tunnel**	**7.37**	**342**	Pn	**Pn**	**23 06 40.6**	**+1.5**
JMN	**Monobe**	**7.41**	**306**	Pn	**Pn**	**23 06 42.6**	**+2.8**
JMM	**Marumori**	**8.28**	**358**		**Pn**	**23 06 49.5**	**-2.0**
JSD	**Sado**	**8.77**	**345**	Pn	**Pn**	**23 06 57.0**	**-1.2**
JNU	**Nakatsue**	**9.42**	**295**	Pn	**Pn**	**23 07 10.2**	**+3.0**
JNU	**Nakatsue**	**9.42**	**295**	P	**Pn**	**23 07 08.0**	**+0.8**
	3.1nm,0.4s,baz=93,slow=7.0,SNR=7.4						
JMZ	**Minamidaito 2**	**9.51**	**249**	Pn	Pn	23 07 13.3	+5.0
JTM	**Tenmabayashi**	**11.19**	**360**	Pn	**Pn**	**23 07 31.7**	**+0.4**
JOW	**Kunigami**	**11.63**	**260**	Pn	Pn	23 07 41.4	+4.1
JOW	**Kunigami**	**11.63**	**260**	P	**Pn**	**23 07 34.4**	**-2.9**
	12nm,0.8s,baz=172,slow=5.3,SNR=1.9						
ERM	**Erimo**	**12.53**	**7**	Pn	**Pn**	**23 07 48.2**	**-1.4**
ERM	**Erimo**	**12.53**	**7**	P	**Pn**	**23 07 48.2**	**-1.4**
KSRS	**Korea Array**	**13.50**	**309**	P	**Pn**	**23 08 03.2**	**+0.6**
	0.6nm,0.5s,baz=122,slow=13,SNR=1.6						
SHO	**Shikotan**	**14.99**	**16**	P	Pn	23 08 12.1	-10
USRK	**Ussuriysk Ar.**	**16.30**	**336**	P	**Pn**	**23 08 38.7**	**-0.1**
	6.4nm,0.7s,baz=137,slow=10,SNR=8.7						
YOJ	**Yonaguni jima**	**16.89**	**257**		**P**	**23 08 49.5**	**+2.3**
YOJ	**Yonaguni jima**	**16.89**	**257**	P	**P**	**23 08 49.6**	**+2.3**
YOJ				pmax	pmax		
	comp=Z,121nm,1.3s						
NACB	**Ninganchiao**	**18.20**	**257**	P	**Pn**	**23 09 02.1**	**-0.1**
NACB				IAmb	IAmb	23 09 10.8	
	comp=Z,18nm,0.7s						
YHNB	**Yeheng**	**18.21**	**259**	P	**Pn**	**23 09 04.3**	**+1.8**
YULB	**Yu-li**	**18.74**	**255**	P	**Pn**	**23 09 09.2**	**+0.3**
SSLB	**Suanglung**	**18.88**	**257**	P	**Pn**	**23 09 10.6**	**0.0**
SSLB				IAmb	IAmb	23 09 18.5	
	comp=Z,30nm,1.1s						
TWG	**Pinlang**	**19.17**	**254**	P	**Pn**	**23 09 14.2**	**+0.3**
TWG				IAmb	IAmb	23 09 21.4	
	comp=Z,74nm,1.5s						
NJ2	**Nanjing**	**19.26**	**283**	*e*P	**Pn**	**23 09 15.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
BNX	**BinXian**	**19.40**	**330**	⇓P	**P**	**23 09 13.8**	**-0.9**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**20.89**	**343**	P	**P**	**23 09 30.0**	**-0.8**
	comp=Z,7.5nm,0.7s,baz=164,slow=9.8,SNR=30						
	comp=Z,7.5nm,0.7s						
KLR	**Kul'dur**	**20.89**	**343**	*e*P	**P**	**23 09 29.5**	**-1.3**
KLR				pmax	pmax		
	comp=Z,12nm,1.1s						
HEH	**HeiHe**	**23.10**	**337**	*e*P	**P**	**23 09 54.5**	**+0.3**
HEH				pmax	pmax		
	comp=Z,20nm,0.7s						
XLT	**XiLinHaoTe**	**24.50**	**313**	*e*P	**P**	**23 10 09.5**	**+2.3**
XLT				sP	sP	23 10 31.8	+1.9
XLT				PP	**PnPn**	**23 10 50.0**	**+8.5**
XLT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**25.37**	**107**	T	T	23 36 52.9	
	baz=297,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**25.37**	**107**	T	T	23 37 17.9	
	baz=297,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**25.39**	**107**	T	T	23 37 18.8	
	baz=297,slow=75,SNR=11						
ZEA	**Zeya**	**26.18**	**341**	*e*P	**P**	**23 10 22.8**	**+0.6**
ZEA				pmax	pmax		
	comp=N,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.50**	**303**	*e*P	**P**	**23 10 28.8**	**+3.4**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
XAN	**Xi'an**	**27.63**	**288**	P	**P**	**23 10 35.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MA2	**Magadan**	**30.72**	**10**	*ce*P	**P**	**23 11 02.2**	**-0.4**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**31.89**	**314**	*i* P	**P**	**23 11 12.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,3.1s						
SONM	**Songino Array**	**32.29**	**314**	P	**P**	**23 11 15.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=128,slow=8.3,SNR=5.3						
SONM				PcP	**PcP**	**23 14 03.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=118,slow=1.8,SNR=8.9						
	comp=Z,0.8nm,0.6s						
SEY	**Seymchan**	**34.17**	**9**	*ce*P	**P**	**23 11 32.3**	**-0.4**
SEY				pmax	pmax		
	comp=Z,7.0nm,2.5s						
PZH	**PanZhiHua**	**34.75**	**275**	P	**P**	**23 11 40.0**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CRAI	**Chiangrai**	**37.92**	**265**	P	**P**	**23 12 05.9**	**+0.6**
CRAI				IAmb	IAmb	23 12 06.8	
	comp=Z,7.4nm,0.8s						
CHTO	**Chiang Mai**	**39.72**	**264**	P	**P**	**23 12 20.0**	**-0.3**
CHTO	**Chiang Mai**	**39.72**	**264**	P	**P**	**23 12 20.0**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,13nm,0.7s						
CM31	**Chiang Mai Arr**	**39.86**	**264**	P	**P**	**23 12 22.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**39.86**	**264**	P	**P**	**23 12 22.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**39.86**	**264**	P	**P**	**23 12 21.3**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=60,slow=6.1,SNR=22						
	comp=Z,3.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.86**	**264**	P	**P**	**23 12 22.0**	**+0.5**
BILL	**Bilibino**	**41.28**	**14**	*ce*P	**P**	**23 12 33.8**	**+1.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TIXI	**Tiksi**	**42.66**	**354**	*ce*P	**P**	**23 12 43.9**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
SRIT	**Nakonsritamara**	**44.09**	**250**	P	**P**	**23 12 54.9**	**-1.1**
KULM	**Kulim**	**45.15**	**246**	P	**P**	**23 13 04.1**	**-0.3**
KULM				IAmb	IAmb	23 13 06.1	
	comp=Z,9.6nm,0.7s						
ZALV	**Zalesovo Beam**	**47.00**	**318**	P	**P**	**23 13 17.3**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=102,slow=6.6,SNR=4.2						
ZALV				PcP	**PcP**	**23 14 49.8**	**0.0**
	comp=Z,2.1nm,0.5s,baz=107,slow=3.6,SNR=9.1						
	comp=Z,0.8nm,0.4s						
PSI	**Prapat**	**48.02**	**244**	P	**P**	**23 13 26.6**	**-0.5**
PSI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
RPSI	**Rantau Prapat**	**48.09**	**244**	P	**P**	**23 13 26.6**	**-0.9**
RPSI				IAmb	IAmb	23 13 30.4	
	comp=Z,9.6nm,0.9s						
MK31	**Makanchi Array**	**48.18**	**308**	P	**P**	**23 13 26.3**	**-1.5**
MK31	**Makanchi Array**	**48.18**	**308**	*ce*P	**P**	**23 13 27.4**	**-0.4**
MKAR	**Makanchi Array**	**48.18**	**308**	P	**P**	**23 13 25.8**	**-2.1**
MKAR	**Makanchi Array**	**48.18**	**308**	P	**P**	**23 13 26.1**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=91,slow=9.9,SNR=20						
MKAR				PcP	**PcP**	**23 14 54.6**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=77,slow=5.4,SNR=12						
MKAR				ScP	**ScP**	**23 18 39.9**	**-3.1**
	comp=Z,0.4nm,0.8s,baz=98,slow=5.1,SNR=3.5						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**48.18**	**308**	*i* P	**P**	**23 13 27.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WB0	**Warramunga Arr**	**49.47**	**188**	P	**P**	**23 13 37.2**	**-0.7**
WRA	**Warramunga Arr**	**49.65**	**188**	P	**P**	**23 13 38.2**	**-1.0**
WRA	**Warramunga Arr**	**49.65**	**188**	P	**P**	**23 13 38.8**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=5.0,slow=7.7,SNR=47						
WRA				pP	**pwP**	**23 13 59.0**	**-1.4**
	comp=Z,2.7nm,0.5s,baz=9.8,slow=8.3,SNR=6.0						
WRA				PcP	**PcP**	**23 15 00.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=2.0,slow=3.9,SNR=4.8						
	comp=Z,3.6nm,0.6s						
NRIK	**Noril'sk**	**50.00**	**338**	P	**P**	**23 13 40.9**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=120,slow=10,SNR=10						
	comp=Z,3.5nm,0.5s						
NRIK	**Noril'sk**	**50.00**	**338**	*ce*P	**P**	**23 13 40.8**	**-0.5**
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
J17K	**VABM Dome**	**50.54**	**30**	P	**P**	**23 13 46.9**	**+1.3**
J17K				IAmb	IAmb	23 13 48.6	
	comp=Z,7.9nm,1.1s						
KURK	**Kurchatov**	**50.58**	**313**	P	**P**	**23 13 44.2**	**-1.8**
KURK	**Kurchatov**	**50.58**	**313**	P	**P**	**23 13 45.2**	**-0.8**
KURK						23 15 01.6	
KURBB	**Kurchatov Arra**	**50.64**	**313**	P	**P**	**23 13 45.2**	**-1.2**
	comp=Z,2.0nm,0.4s,baz=90,slow=6.9,SNR=24						
KURBB				PcP	**PcP**	**23 15 01.6**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=102,slow=3.7,SNR=4.3						
	comp=Z,2.0nm,0.4s						
K17K	**Ilditarod**	**50.75**	**31**	P	**P**	**23 13 48.2**	**+1.2**
K17K				IAmb	IAmb	23 13 52.5	
	comp=Z,9.3nm,1.4s						
N17K	**Nushagak Hills**	**50.89**	**34**	P	**P**	**23 13 49.3**	**+1.1**
N17K				IAmb	IAmb	23 14 18.7	
	comp=Z,7.8nm,1.4s						
M17K	**Holitna River**	**50.91**	**33**	P	**P**	**23 13 49.7**	**+1.4**
M17K				IAmb	IAmb	23 13 51.8	
	comp=Z,5.2nm,0.9s						
C18K	**Utukok River**	**51.15**	**23**	P	**P**	**23 13 50.2**	**+0.1**
C18K				IAmb	IAmb	23 14 12.6	
	comp=Z,9.2nm,1.4s						
H18K	**Honhosa River**	**51.25**	**28**	P	**P**	**23 13 51.3**	**+0.5**
H18K				IAmb	IAmb	23 14 19.1	
	comp=Z,10nm,1.5s						
G18K	**Tagagawik**	**51.31**	**27**	P	**P**	**23 13 52.8**	**+1.5**
L18K	**Granite Mounta**	**51.39**	**32**	P	**P**	**23 13 53.5**	**+1.6**
L18K				IAmb	IAmb	23 13 54.7	
	comp=Z,4.0nm,1.0s						
P18K	**Big Mountain,**	**51.72**	**36**	P	**P**	**23 13 55.0**	**+0.5**
P18K				IAmb	IAmb	23 13 56.6	
	comp=Z,5.8nm,0.9s						
O18K	**Koktuh Hills**	**51.78**	**35**	P	**P**	**23 13 56.5**	**+1.7**
O18K				IAmb	IAmb	23 13 57.0	
	comp=Z,9.5nm,1.2s						
F19K	**Shaleruckik Mo**	**51.88**	**26**	P	**P**	**23 13 56.8**	**+1.3**
H19K	**Roundabout Mou**	**52.11**	**28**	P	**P**	**23 13 59.0**	**+1.9**
J19K	**Poorman**	**52.17**	**30**	P	**P**	**23 13 58.5**	**+0.8**
KDJ	**Kajisay**	**52.18**	**302**	P	**P**	**23 13 57.5**	**-0.9**
KDJ	**Kajisay**	**52.18**	**302**	P	**P**	**23 13 57.5**	**-0.9**
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
L19K	**White Mountain**	**52.24**	**32**	P	**P**	**23 13 57.8**	**-0.4**
L19K				IAmb	IAmb	23 14 32.4	
	comp=Z,5.5nm,1.2s						
E19K	**Redstone River**	**52.24**	**25**	P	**P**	**23 13 59.3**	**+1.1**
E19K				IAmb	IAmb	23 14 00.5	
	comp=Z,3.3nm,0.8s						
N19K	**Bonanza Creek**	**52.25**	**34**	P	**P**	**23 13 58.3**	**-0.1**
N19K				IAmb	IAmb	23 14 38.6	
	comp=Z,11nm,1.5s						
M19K	**Big River Lodg**	**52.42**	**33**	P	**P**	**23 14 01.3**	**+1.7**
M19K				IAmb	IAmb	23 14 30.4	
	comp=Z,7.1nm,1.3s						
F20K	**Avaraart Lake**	**52.72**	**26**	P	**P**	**23 14 03.2**	**+1.6**
K20K	**Telida**	**52.76**	**31**	P	**P**	**23 14 03.5**	**+1.5**
K20K				IAmb	IAmb	23 14 05.0	
	comp=Z,4.3nm,0.8s						
J20K	**Nowinta River**	**52.84**	**30**	P	**P**	**23 14 04.5**	**+1.9**
J20K				IAmb	IAmb	23 14 05.0	
	comp=Z,3.5nm,0.8s						
B20K	**Meade River**	**52.93**	**22**	P	**P**	**23 14 04.0**	**+0.8**
B20K				IAmb	IAmb	23 14 24.1	
	comp=Z,12nm,1.5s						
KDAK	**Kodiak Island**	**52.99**	**38**	P	**P**	**23 14 04.5**	**+0.7**
KDAK	**Kodiak Island**	**52.99**	**38**	P	**P**	**23 14 04.5**	**+0.7**
KDAK				pmax	pmax		
	comp=Z,31nm,1.5s						
M20K	**Styx River**	**53.01**	**33**	P	**P**	**23 14 05.1**	**+1.1**
BOOM	**Boomskoye usch**	**53.04**	**303**	P	**P**	**23 14 04.8**	**+0.1**
BOOM	**Boomskoye usch**	**53.04**	**303**	P	**P**	**23 14 04.8**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SYI	**Shuyak Island**	**53.13**	**37**	P	**P**	**23 14 06.2**	**+1.4**
ASAR	**Alice Springs**	**53.38**	**188**	P	**P**	**23 14 06.4**	**-0.6**
ASAR	**Alice Springs**	**53.38**	**188**	P	**P**	**23 14 05.9**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=355,slow=5.0,SNR=12						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**53.38**	**188**	P	**P**	**23 14 06.4**	**-0.6**
KSH	**Kashi**	**53.51**	**299**	P	**P**	**23 14 10.8**	**+2.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PPLA	**Purkeypile**	**53.55**	**32**	P	**P**	**23 14 09.5**	**+1.4**
CAST	**Castle Rocks**	**53.65**	**31**	P	**P**	**23 14 10.5**	**+1.9**
B21K	**Ikpikpuk River**	**53.69**	**23**	P	**P**	**23 14 09.8**	**+1.1**
B21K				IAmb	IAmb	23 14 10.6	
	comp=Z,3.3nm,0.8s						
CNPM	**China Poot**	**53.77**	**36**	P	**P**	**23 14 09.9**	**+0.4**
CNPM				IAmb	IAmb	23 14 32.8	
	comp=Z,9.0nm,1.0s						
SKT	**Skwentna**	**53.77**	**33**	P	**P**	**23 14 10.7**	**+1.1**
AAK	**Ala-Archa**	**54.08**	**303**	P	**P**	**23 14 11.3**	**-0.9**
AAK	**Ala-Archa**	**54.08**	**303**	P	**P**	**23 14 10.7**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=139,slow=4.7,SNR=12						
	comp=Z,1.6nm,0.6s						
AAK	**Ala-Archa**	**54.08**	**303**	*ce*P	**P**	**23 14 11.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BPAW	**Bear Paw Mtn.**	**54.21**	**30**	P	**P**	**23 14 13.1**	**+0.5**
D22K	**Ayikyak River**	**54.21**	**24**	P	**P**	**23 14 13.6**	**+1.0**
B22K	**Teshekpuk Lake**	**54.25**	**22**	P	**P**	**23 14 13.6**	**+0.8**
B22K				IAmb	IAmb	23 14 40.6	
	comp=Z,7.0nm,1.4s						
E22K	**Anaktuvuk Pass**	**54.39**	**25**	P	**P**	**23 14 15.8**	**+1.8**
TRF	**Thorofare Moun**	**54.46**	**31**	P	**P**	**23 14 16.1**	**+1.4**
TRF				IAmb	IAmb	23 14 17.1	
	comp=Z,9.1nm,1.4s						
MBWA	**Marble Bar**	**54.47**	**205**	P	**P**	**23 14 14.8**	**-0.2**
PSA00	**Pilbara Seismi**	**54.81**	**204**		**P**	**23 14 17.5**	**+0.1**
PSA00				IAmb	IAmb	23 14 18.8	
	comp=Z,3.4nm,0.8s						
PSA00	**Pilbara Seismi**	**54.81**	**204**	P	**P**	**23 14 17.5**	**+0.1**
PSA00				IAmb	IAmb	23 14 50.8	
	comp=Z,21nm,1.4s						
G23K	**Bananza Creek**	**54.88**	**27**	P	**P**	**23 14 19.1**	**+1.5**
G23K				IAmb	IAmb	23 14 20.2	
	comp=Z,3.5nm,0.8s						
D23K	**Nanushuk River**	**54.94**	**24**	P	**P**	**23 14 20.0**	**+2.2**
D23K				IAmb	IAmb	23 14 20.8	
	comp=Z,4.3nm,0.9s						
C23K	**Itkillik River**	**55.10**	**23**	P	**P**	**23 14 20.2**	**+1.2**
C23K				IAmb	IAmb	23 14 20.8	
	comp=Z,3.6nm,0.8s						
RND	**Reindeer**	**55.10**	**31**	P	**P**	**23 14 20.3**	**+1.1**
RND				IAmb	IAmb	23 14 58.4	
	comp=Z,4.1nm,1.0s						
RND	**Reindeer**	**55.10**	**31**	P	**P**	**23 14 20.3**	**+1.1**
RND				pmax	pmax		
	comp=Z,4.0nm,1.0s						
E23K	**Chandalar**	**55.20**	**25**	P	**P**	**23 14 21.3**	**+1.5**
KNK	**Knik Glacier**	**55.21**	**34**	P	**P**	**23 14 21.6**	**+1.7**
KNK				IAmb	IAmb	23 14 33.6	
	comp=Z,7.5nm,1.0s						
ARSB	**Arslanbob**	**55.42**	**302**	P	**P**	**23 14 21.7**	**-0.2**
ARSB				IAmb	IAmb	23 15 05.1	
	comp=Z,4.4nm,1.0s						
ARSB	**Arslanbob**	**55.42**	**302**	P	**P**	**23 14 21.7**	**-0.2**
ARSB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**55.59**	**316**	P	**P**	**23 14 22.2**	**-0.5**
	comp=Z,4.3nm,0.4s,baz=92,slow=7.4,SNR=32						
BVAR				pP	**pwP**	**23 14 43.1**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=98,slow=9.7,SNR=2.6						
BVAR				PcP	**PcP**	**23 15 22.0**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=106,slow=3.3,SNR=4.5						
	comp=Z,4.3nm,0.4s						
D24K	**Happy Valley**	**55.62**	**24**	P	**P**	**23 14 24.2**	**+1.5**
D24K				IAmb	IAmb	23 14 25.2	
	comp=Z,7.2nm,0.8s						
E24K	**Your Creek**	**55.62**	**25**	P	**P**	**23 14 24.8**	**+1.9**
BRVK	**Borovoye**	**55.65**	**316**	P	**P**	**23 14 23.9**	**+0.8**
BRVK				IAmb	IAmb	23 14 24.2	
	comp=Z,3.3nm,0.7s						
BRVK	**Borovoye**	**55.65**	**316**	*ce*P	**P**	**23 14 23.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
H24K	**Noodor Dome**	**55.67**	**28**	P	**P**	**23 14 25.4**	**+2.2**
SCM	**Sheep Creek Mo**	**55.75**	**33**	P	**P**	**23 14 25.8**	**+1.9**
SCM				IAmb	IAmb	23 14 48.7	
	comp=Z,7.5nm,0.9s			

BMAR Burnt Mountain 57.06 26 P **P** **23 14 34.8 +1.7**
F26K Sheenjek River 57.24 26 P **P** **23 14 35.8 +1.5**
F26K IAmb IAmb 23 14 37.1
comp=Z,3.1nm,0.7s
DOT Dot Lake 57.25 31 P **P** **23 14 35.3 +0.9**
DOT IAmb IAmb 23 14 45.5
comp=Z,4.7nm,1.5s
SCRK Sand Creek 57.28 30 P **P** **23 14 35.7 +0.9**
GAR Garm 57.91 300 P **P** **23 14 38.6 -1.0**
CHGR Chuyangaron 58.87 300 P **P** **23 14 45.7 -0.6**
CHGR Chuyangaron 58.87 300 P **P** **23 14 45.7 -0.6**
CHGR pmax pmax
comp=Z,19nm,0.8s
I28M Miner Creek 58.96 29 P **P** **23 14 48.0 +1.5**
E28M Babbage River 58.96 25 P **P** **23 14 48.1 +1.9**
E28M IAmb IAmb 23 14 48.7
comp=Z,2.2nm,0.7s
M29M Somme Creek 59.88 32 P **P** **23 14 52.9 +0.1**
M29M IAmb IAmb 23 14 55.5
comp=Z,3.4nm,0.9s
L29M L29M 59.95 31 P **P** **23 14 51.7 -1.6**
L29M IAmb IAmb 23 14 56.7
comp=Z,5.3nm,0.9s
KBL Kabul 60.08 295 P **P** **23 14 54.5 -0.3**
KBL Kabul 60.08 295 P **P** **23 14 54.5 -0.3**
KBL pmax pmax
comp=Z,15nm,0.7s
K29M Barlow Dome 60.14 30 P **P** **23 14 55.4 +0.8**
EPYK Eagle Plains 60.20 27 P **P** **23 14 55.5 +0.6**
I30M Mount Dempster 60.47 29 P **P** **23 14 57.9 +1.1**
G31M Satah River 61.10 27 P **P** **23 15 01.9 +1.0**
STKA Stephens Creek 61.11 180 P **P** **23 15 00.8 -0.5**
comp=Z,2.9nm,1.0s,baz=5.2,slow=11,SNR=3.1
comp=Z,2.9nm,1.0s
INK Inuvik 61.20 25 P **P** **23 15 02.2 +0.7**
INK Inuvik 61.20 25 P **P** **23 15 02.2 +0.7**
INK pmax pmax
comp=Z,2.0nm,1.0s
H31M Peel River 61.23 28 P **P** **23 15 03.4 +1.5**
H31M IAmb IAmb 23 15 04.3
comp=Z,3.9nm,0.8s
F31M Tsiigehtchic 61.23 26 P **P** **23 15 02.6 +0.8**
F31M IAmb IAmb 23 15 24.0
comp=Z,6.8nm,1.4s
M31M Drury Creek, Y 61.79 32 P **P** **23 15 07.7 +2.0**
M31M IAmb IAmb 23 15 08.2
comp=Z,4.9nm,0.8s
ARTI Arti 61.99 321 P **P** **23 15 06.7 -0.4**
ARTI Arti 61.99 321 *c iP* **P** **23 15 06.6 -0.5**
ARTI S **S** **23 23 30.0 +3.7**
ARTI SS **SS** **23 27 26.2 -3.0**
ARTI pmax pmax
comp=Z,18nm,0.6s
ABKAR Akbulak array 62.69 313 P **P** **23 15 11.2 -0.7**
ABKAR Akbulak array 62.69 313 P **P** **23 15 11.4 -0.5**
ABKAR IAmb IAmb 23 15 11.9
comp=Z,6.9nm,0.6s
MMPY Sheldon Lake, 63.14 31 P **P** **23 15 16.6 +1.9**
KIRV Kirov 66.12 325 *ce*P **P** **23 15 34.7 +0.6**
EUNU Eureka 67.59 8 P **P** **23 15 43.4 +0.1**
SPB2 Spitsbergen Ar 67.78 349 P **P** **23 15 44.9 +0.4**
SPITS Spitsbergen Ar 67.78 349 P **P** **23 15 45.2 +0.8**
comp=Z,6.0nm,0.8s,baz=94,slow=5.0,SNR=7.6
comp=Z,6.0nm,0.8s
SPITS Spitsbergen Ar 67.78 349 P **P** **23 15 45.7 +1.3**
SPITS pmax pmax
comp=Z,92nm,1.5s
RES Resolute Bay 69.89 14 P **P** **23 15 58.2 +0.7**
RES Resolute Bay 69.89 14 P **P** **23 15 58.2 +0.7**
RES pmax pmax
comp=Z,2.0nm,0.8s
KEV Kevo 70.33 340 P **P** **23 16 00.4 +0.1**
KEV Kevo 70.33 340 P **P** **23 16 00.4 +0.1**
KEV pmax pmax
comp=Z,29nm,1.2s
YKA Yellowknife Ar 70.44 29 P **P** **23 16 01.5 +0.5**
comp=Z,1.0nm,0.7s,baz=294,slow=6.4,SNR=14
YKA pP **PcP** **23 16 22.2 +0.2**
comp=Z,0.4nm,0.8s,baz=291,slow=5.9,SNR=2.6
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 70.90 340 P **P** **23 16 04.4 +0.6**
ARCES ARCESS Array B 70.90 340 P **P** **23 16 03.3 -0.4**
comp=Z,4.2nm,0.7s,baz=74,slow=7.3,SNR=11
comp=Z,4.2nm,0.7s
ARCES ARCESS Array B 70.90 340 P **P** **23 16 04.4 +0.6**
ARCES pmax pmax
comp=Z,34nm,1.4s
VRH Novokhopyorsk 73.00 320 *e*P **P** **23 16 14.0 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 73.91 322 *e*P **P** **23 16 20.1 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 73.96 325 *e*P **P** **23 16 21.5 -0.6**
OBN *e* 23 16 35.2
OBN *e* 23 19 11.1
OBN *e*PPP PPP 23 20 53.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
LTY Liberty 74.07 45 P **P** **23 16 24.1 +0.9**
LTY IAmb IAmb 23 16 57.7
comp=Z,10nm,1.5s
B08A Colville Reser 74.39 43 P **P** **23 16 26.0 +1.1**
B08A IAmb IAmb 23 16 27.3
comp=Z,5.5nm,0.8s
VSR Storozhevoye 74.42 320 *e*P **P** **23 16 23.0 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
FIA1 FINESS Array S 75.31 333 P **P** **23 16 30.1 +0.3**
FINES FINESS Array B 75.31 333 P **P** **23 16 30.1 +0.2**
comp=Z,6.4nm,0.4s,baz=62,slow=5.4,SNR=87
FINES pP **pwP** **23 16 50.5 -1.3**
comp=Z,2.4nm,0.6s,baz=51,slow=6.4,SNR=2.0
comp=Z,6.4nm,0.4s
PINE Pine Mountain 75.46 48 P **P** **23 16 33.5 +2.2**
PINE IAmb IAmb 23 16 34.5
comp=Z,8.8nm,0.8s
J05D Fort Rock, OR 75.50 48 P **P** **23 16 32.8 +1.3**
J05D IAmb IAmb 23 16 34.1
comp=Z,3.5nm,0.7s
KCPM Cahto Peak 75.53 53 P **P** **23 16 33.0 +1.2**
KBZ Khabaz 75.63 312 P **P** **23 16 32.1 +0.1**
comp=Z,5.9nm,0.8s,baz=80,slow=4.5,SNR=12
comp=Z,5.9nm,0.8s
KBZ Khabaz 75.63 312 *ce*P **P** **23 16 31.3 -0.7**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 75.66 312 P **P** **23 16 31.4 -0.9**
KIV IAmb IAmb 23 16 36.2
comp=Z,6.5nm,0.9s
KIV Kislovodsk 75.66 312 *e*P **P** **23 16 33.6 +1.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 75.74 42 P **P** **23 16 32.6 -0.1**
NEW Newport 75.74 42 P **P** **23 16 32.6 -0.1**
NEW pmax pmax
comp=Z,4.0nm,0.9s
O02D Mt. Diablo Mer 75.86 52 P **P** **23 16 35.2 +1.7**
O02D IAmb IAmb 23 16 41.0
comp=Z,12nm,1.2s
J08A Circle Bar Ran 77.25 47 P **P** **23 16 43.0 +1.6**
BMO Blue Mountains 77.27 46 P **P** **23 16 42.7 +1.3**
BMO IAmb IAmb 23 16 43.9
comp=Z,3.4nm,0.7s
BMO Blue Mountains 77.27 46 P **P** **23 16 42.7 +1.3**
BMO pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 78.13 360 *i* P **P** **23 16 47.0 +0.9**
MFID Camas Ranch 78.90 46 P **P** **23 16 52.1 +1.5**
MFID IAmb IAmb 23 16 53.2
comp=Z,3.8nm,0.8s
LRM Limekiln Ridge 79.73 43 P **P** **23 16 56.2 +1.0**
NVAR Mina Array Bea 79.75 52 P **P** **23 16 57.2 +1.8**
comp=Z,1.4nm,0.5s,baz=297,slow=5.5,SNR=7.8
NVAR pP **pwP** **23 17 17.0 -0.7**
comp=Z,1.2nm,0.5s,baz=297,slow=5.1,SNR=4.1
comp=Z,1.4nm,0.5s
PABE Paberze 79.76 329 P **P** **23 16 55.1 +0.4**
AKASG Malin Array Be 80.06 323 P **P** **23 16 56.1 -0.4**
comp=Z,1.7nm,0.5s,baz=53,slow=5.5,SNR=4.2
AKASG pP **pwP** **23 17 17.2 -1.5**
comp=Z,0.4nm,0.3s,baz=53,slow=5.3,SNR=2.5
comp=Z,1.7nm,0.5s
AKBB Malin Array Si 80.06 323 *ce*P **P** **23 16 55.0 -1.5**
AKBB pmax pmax
comp=Z,29nm,2.0s
AKBB Malin Array Si 80.06 323 P **P** **23 16 57.2 +0.7**
AK09 Malin Array Si 80.08 323 P **P** **23 16 56.0 -0.6**
MARD Mardin 80.09 307 P **P** **23 16 56.9 -0.2**
MARD IAmb IAmb 23 16 59.2
comp=Z,3.6nm,0.6s
AK22 Malin Array Si 80.11 323 P **P** **23 16 56.8 0.0**
AK21 Malin Array Si 80.11 323 P **P** **23 16 56.9 +0.1**
AK15 Malin Array Si 80.12 323 P **P** **23 16 56.9 +0.1**
AK05 Malin Array Si 80.12 323 P **P** **23 16 56.9 +0.1**
BOZ Bozeman (W) 80.33 43 P **P** **23 16 58.8 +0.5**
BOZ Bozeman (W) 80.33 43 P **P** **23 16 58.8 +0.5**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
HFS Hagfors 80.78 336 P **P** **23 17 00.1 -0.1**
comp=Z,4.1nm,0.5s,baz=100,slow=4.5,SNR=29
HFS pP **pwP** **23 17 21.3 -1.1**
comp=Z,1.6nm,0.6s,baz=97,slow=6.0,SNR=1.8
comp=Z,4.1nm,0.5s
NB2 NORSAR Subarra 80.96 338 P **P** **23 17 01.4 +0.1**
comp=Z,1.6nm,0.6s,baz=43,slow=5.3
NOA NORSAR Array B 80.96 338 P **P** **23 17 01.3 +0.1**
comp=Z,3.2nm,0.8s,baz=42,slow=5.3,SNR=9.7
NOA pP **pwP** **23 17 23.1 -0.3**
comp=Z,1.0nm,0.7s,baz=42,slow=5.2,SNR=1.9
comp=Z,3.2nm,0.8s
LUBAR Lubar, Ukraine 81.28 323 P **P** **23 17 02.6 -0.5**
ICESG Greenland Ices 81.63 0 *i P* **P** **23 17 06.0 +1.0**
RLMT Red Lodge 81.99 42 P **P** **23 17 08.7 +1.5**
RLMT IAmb IAmb 23 17 32.4
comp=Z,9.9nm,1.5s
SORM Soroca 82.01 321 ⇑P **P** **23 17 07.1 +0.2**
SORM Soroca 82.01 321 ⇑P **P** **23 17 07.1 +0.2**
NDNU Novodnistrovsk 82.27 322 P **P** **23 17 08.0 -0.3**
HORU Horodok 82.40 323 P **P** **23 17 08.7 -0.3**
MILM Milestii Mici 82.47 320 ⇑P **P** **23 17 09.3 -0.1**
MILM Milestii Mici 82.47 320 ⇑P **P** **23 17 09.3 -0.1**
KMPD K-Podol'skiy 82.77 323 P **P** **23 17 10.6 -0.3**
PDAR Pinedale Array 83.13 44 P **P** **23 17 14.7 +1.5**
comp=Z,0.3nm,0.4s,baz=179,slow=0.9,SNR=7.9
PDAR pP **pwP** **23 17 35.2 -0.4**
comp=Z,0.4nm,0.6s,baz=269,slow=2.0,SNR=3.7
comp=Z,0.3nm,0.4s
RAYN Ar Rayn 83.28 293 ⇓P **P** **23 17 14.1 0.0**
TLCR 83.48 319 ⇑P **P** **23 17 14.9 +0.3**
TLCR 83.48 319 ⇑P **P** **23 17 14.9 +0.3**
VLDR Vladesti 83.51 320 ⇑P **P** **23 17 15.3 +0.5**
VARL Varlezi 83.61 320 ⇓P **P** **23 17 15.6 +0.4**
BR131 Keskin Array S 83.62 312 P **P** **23 17 15.9 +0.2**
BR131 Keskin Array S 83.62 312 P **P** **23 17 15.9 +0.2**
BR131 pmax pmax
comp=Z,10.0nm,0.9s
BRTR Keskin Array B 83.62 312 P **P** **23 17 15.8 +0.1**
comp=Z,6.6nm,0.8s,baz=95,slow=3.6,SNR=36
BRTR pP **pwP** **23 17 36.4 -1.3**
comp=Z,2.8nm,0.8s,baz=99,slow=4.1,SNR=4.2
comp=Z,6.6nm,0.8s
BR104 Keskin Array S 83.63 312 P **P** **23 17 15.3 -0.4**
comp=Z,71nmcomp=Z,9.7nm,0.9s
BR106 Keskin Array S 83.63 312 P **P** **23 17 15.3 -0.4**
comp=Z,59nmcomp=Z,7.1nm,0.8s
BR105 Keskin Array S 83.64 312 P **P** **23 17 15.7 -0.1**
comp=Z,76nmcomp=Z,10nm,0.8s
JURR Jurilovca 83.69 318 ⇓P **P** **23 17 16.3 +0.6**
KIRS Kirsehir-Merke 83.77 312 ⇑P **P** **23 17 16.4 +0.1**
MSU Marysvale 83.82 49 P **P** **23 17 16.7 -0.1**
MSU Marysvale 83.82 49 P **P** **23 17 16.7 -0.1**
CFR Carcaliu 83.87 319 ⇑P **P** **23 17 16.8 +0.2**
CFR Carcaliu 83.87 319 ⇑P **P** **23 17 16.8 +0.2**
TPGR Topolog 83.90 319 ⇑P **P** **23 17 17.2 +0.4**
TESR Tescani 83.91 321 ⇓P **P** **23 17 17.1 +0.3**
TESR Tescani 83.91 321 P **P** **23 17 16.6 -0.2**
comp=Z,14nm,1.4s
BUR08 Bucovina Ar. S 84.00 322 P **P** **23 17 17.4 0.0**
BUR08 IAmb IAmb 23 17 18.7
comp=Z,8.8nm,1.4s
BURAR Bucovina Array 84.01 322 P **P** **23 17 18.0 +0.5**
BURAR Bucovina Array 84.01 322 ⇓P **P** **23 17 18.0 +0.5**
BURAR Bucovina Array 84.01 322 ⇓P **P** **23 17 18.0 +0.5**
ANTO Ankara 84.09 313 ⇑P **P** **23 17 17.3 -0.7**
ANTO Ankara 84.09 313 ⇑P **P** **23 17 17.3 -0.7**
ODBI Odobesti 84.13 320 ⇑P **P** **23 17 18.6 +0.6**
TIRR Tirgusor 84.14 318 ⇓P **P** **23 17 17.8 -0.2**
TIRR Tirgusor 84.14 318 ⇓P **P** **23 17 17.8 -0.2**
VRI Vrincioaia 84.25 320 ⇑P **P** **23 17 19.2 +0.6**
VRI Vrincioaia 84.25 320 ⇑P **P** **23 17 19.2 +0.6**
VRI Vrincioaia 84.25 320 P **P** **23 17 18.6 0.0**
HARR Harsova 84.28 319 ⇑P **P** **23 17 19.0 +0.3**
HARR Harsova 84.28 319 ⇑P **P** **23 17 19.0 +0.3**
PLOR Plostina 84.31 320 ⇓P **P** **23 17 19.2 +0.3**
SPBR Spulber 84.31 320 ⇓P **P** **23 17 18.3 -0.6**
RDMU Red Mountain 84.36 46 P **P** **23 17 17.3 -2.2**
RDMU IAmb IAmb 23 17 44.5
comp=Z,7.3nm,1.1s
P18A Preston Nutter 84.46 47 P **P** **23 17 21.7 +1.5**
P18A IAmb IAmb 23 17 45.6
comp=Z,3.2nm,0.7s
SRU San Rafael Swe 84.57 48 P **P** **23 17 20.1 -0.4**
SRU IAmb IAmb 23 17 44.7
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 84.57 48 P **P** **23 17 20.2 -0.4**
SRU pmax pmax
comp=Z,4.0nm,0.7s
OZUR 84.64 321 ⇓P **P** **23 17 21.3 +0.7**
ICOR Ion Corvin 84.69 318 ⇓P **P** **23 17 21.4 +0.6**
BRIU Brid 84.71 324 P **P** **23 17 20.3 -0.5**
MLR Muntele Rosu 84.92 320 P **P** **23 17 22.2 +0.1**
MLR IAmb IAmb 23 18 00.6
comp=Z,7.5nm,1.4s
MLR Muntele Rosu 84.92 320 ⇑P **P** **23 17 22.6 +0.5**
MLR Muntele Rosu 84.92 320 ⇑P **P** **23 17 22.6 +0.5**
BORG Borgarnes 85.00 353 *i* P **P** **23 17 22.0 +0.1**
ARR Arges 85.72 321 ⇑P **P** **23 17 26.5 +0.5**
PV23 Carpenter Ridg 85.92 48 P **P** **23 17 27.8 +0.4**
PV13 Radium Mtn., P 86.21 48 P **P** **23 17 29.6 +0.9**
PV13 IAmb IAmb 23 17 52.8
comp=Z,3.3nm,0.8s
CSS Mathiatis 86.46 308 P **P** **23 17 29.6 -0.2**
VLAD Vladila 86.70 320 ⇑P **P** **23 17 29.9 -0.9**
SURR Surduc 86.84 322 ⇑P **P** **23 17 31.2 -0.2**
VRAC Vranov 87.23 327 ⇑P **P** **23 17 31.5 -1.8**
VRAC Vranov 87.23 327 ⇑P **P** **23 17 31.5 -1.8**
CLL Collm 87.43 330 *e*P **P** **23 17 34.0 -0.1**
CLL Collm 87.43 330 *e*P **P** **23 17 34.0 -0.1**
MORH Mrgy, Hungar 88.35 324 ⇓P **P** **23 17 37.3 -1.4**
GERES GERESS Array B 88.90 328 P **P** **23 17 40.8 -0.5**
comp=Z,1.0nm,0.7s,baz=36,slow=5.0,SNR=11
comp=Z,1.0nm,0.7s
KBA Koelnbreinsper 90.35 327 *e*PcP **P** **23 17 48.7 +0.4**
comp=Z,1.6nm,0.6s
LESA Schwarzleotal 90.41 328 *e*P **P** **23 17 48.2 -0.1**
comp=Z,2.1nm,0.5s
ABTA Abfaltersbach 90.98 327 *e*P **P** **23 17 50.1 -0.9**
comp=Z,1.3nm,0.5s
WATA Walderalm 90.98 328 *e*PcP **P** **23 17 51.1 0.0**
comp=Z,0.7nm,0.3s
MOTA Moosalm 91.19 329 *e*P **P** **23 17 51.4 -0.7**
comp=Z,0.5nm,0.3s
RETA Reutte 91.24 329 *e*P **P** **23 17 52.1 -0.1**
comp=Z,0.9nm,0.5s
FETA Feichten 91.60 329 *e*P **P** **23 17 53.8 -0.2**
comp=Z,1.1nm,0.6s
DAVA Damuels 91.78 329 *e*P **P** **23 17 53.7 -1.2**
comp=Z,1.2nm,0.3s
FUORN Ofenpass-Fuorn 92.11 329 P **P** **23 17 55.8 -0.7**
TXAR Lajitas Array 94.88 52 P **P** **23 18 11.0 +1.6**
comp=Z,0.4nm,0.5s,baz=294,slow=2.4,SNR=4.8
TXAR pP **pwP** **23 18 30.9 -1.1**
comp=Z,0.5nm,0.5s,baz=326,slow=4.3,SNR=3.3
comp=Z,0.4nm,0.5s
QSPA South Pole Qui 119.33 180 PKP **PKPdf** **23 23 35.1 0.0**
comp=Z,1.7nm,0.5s,baz=224,slow=0.5,SNR=27
QSPA pPKP **sPKPdf** **23 23 57.0 -2.7**
comp=Z,0.9nm,0.4s,baz=281,slow=1.9,SNR=2.2
LPAZ La Paz 150.12 70 PKPbc **PKPbc** **23 24 39.8 +1.0**
comp=Z,0.5nm,0.3s,baz=308,slow=10,SNR=5.1
LPAZ pPKPbc **sPKPdf** **23 24 59.8 +1.4**
comp=Z,1.7nm,0.8s,baz=18,slow=6.8,SNR=3.2
PLCA Paso Flores 151.98 122 PKPbc **PKiKP** **23 24 43.3 +1.2**
comp=Z,2.1nm,0.5s,baz=222,slow=2.3,SNR=11
PLCA pPKPbc **sPKPbc** **23 25 04.7 -1.7**
comp=Z,1.2nm,0.6s,baz=285,slow=13,SNR=2.7
CPUP Villa Florida 163.41 83 PKP **PKPdf** **23 24 49.9 +0.2**
comp=Z,1.2nm,0.3s,baz=335,slow=1.2,SNR=3.0

*DMN **28** 23:10:56.7±0.0, 28°.84N×87°.22E, h10km, Ml5.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **28** 23:11:00.2±0.6, 28°.57N×87°.07E, h0km, mb3.9/22, mbtmp3.9/25, ML3.5/2, Error ellipse: s-maj=21.5km s-min=12.9km az=46.0*
ISC 28 23:11:01.4±3.2, 28°.67N±0°.06×87°.16E±0°.04, h5km±21km, n64, σ1.9±11/72, mb4.0/25, 12C-10D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**1.35**	**236**	Pg	**Pn**	**23 11 25.5**	**-1.9**
baz=232,slow=0.0							
GUN				Sg	**Sn**	**23 11 44.5**	**-1.4**
3μm,0.4s,baz=232,slow=0.0							
RAMN	**Ramite**	**1.78**	**196**	Pg	**Pn**	**23 11 33.4**	**+0.3**
baz=196,slow=0.0							
RAMN				Sg	**Sb**	**23 11 58.3**	**+0.8**
4μm,0.7s,baz=196,slow=0.0							
ODAN	**Odare**	**1.81**	**173**	Sg	**Sb**	**23 11 59.7**	**+1.3**
5μm,0.5s,baz=175,slow=0.0							
KKN	**Kakani**	**1.87**	**243**	Pg	**Pn**	**23 11 33.9**	**-0.5**
baz=239,slow=0.0							
KKN	**Kakani**	**1.87**	**243**	Pg	**Pn**	**23 11 34.2**	**-0.1**
baz=239,slow=0.0							
KKN				Sg	**Sb**	**23 11 59.8**	**-0.3**
5μm,0.5s,baz=239,slow=0.0							
KKN				Sg	**Sn**	**23 12 00.2**	**+1.7**
11μm,0.8s,baz=239,slow=0.0							
PKI	**Pulchoki**	**1.89**	**235**	Pg	**Pn**	**23 11 35.7**	**+1.0**
baz=232,slow=0.0							
PKI				Sg	**Sb**	**23 12 01.4**	**+0.7**
5μm,0.8s,baz=232,slow=0.0							
PKIN	**Phulchoki**	**1.90**	**235**	Pg	**Pn**	**23 11 35.8**	**+1.1**
baz=232,slow=0.0							
PKIN				Sg	**Sb**	**23 12 01.4**	**+0.6**
4μm,0.5s,baz=232,slow=0.0							
DMN	**Daman**	**2.09**	**240**	Pg	**Pn**	**23 11 38.8**	**+1.3**
baz=237,slow=0.0							
DMN				Sg	**Sb**	**23 12 06.9**	**+0.4**
2μm,0.7s,baz=237,slow=0.0							
LSA	**Lhasa**	**3.64**	**73**	Pg	**Pb**	**23 12 04.8**	**-1.8**
LSA				Sg	**Sn**	**23 12 44.0**	**+1.4**
LSA				smax	smax		
comp=N,40nm,0.8s							
BRDH	**Bariadhala**	**7.21**	**145**	Pn	**Pn**	**23 12 46.5**	**-1.0**
comp=N,60nm,0.3s,baz=259,slow=20,SNR=2.1							
PZH	**PanZhiHua**	**13.12**	**96**	P	**Pn**	**23 14 12.0**	**+3.4**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**14.82**	**131**	Pn	**Pn**	**23 14 30.0**	**-1.9**
comp=Z,0.6nm,0.3s,baz=299,slow=13,SNR=5.4							
AAK	**Ala-Archa**	**17.30**	**327**	P	**Pn**	**23 15 04.3**	**+0.4**
comp=Z,0.1nm,0.3s,baz=141,slow=19,SNR=4.8							
comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**18.49**	**349**	P	**Pn**	**23 15 18.8**	**+0.3**
comp=Z,0.2nm,0.3s,baz=170,slow=10,SNR=9.6							
comp=Z,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**22.88**	**346**	P	**P**	**23 16 05.8**	**0.0**
comp=Z,2.1nm,0.7s,baz=167,slow=9.5,SNR=15							
comp=Z,2.1nm,0.7s							
SONM	**Songino Array**	**24.26**	**33**	P	**P**	**23 16 20.7**	**+1.1**
comp=Z,1.0nm,0.7s,baz=220,slow=9.9,SNR=7.7							
comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**25.32**	**357**	P	**P**	**23 16 29.6**	**+0.7**
comp=Z,1.0nm,0.5s,baz=177,slow=7.4,SNR=5.2							
comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**27.30**	**338**	P	**P**	**23 16 47.4**	**+0.4**
comp=Z,0.8nm,0.5s,baz=146,slow=10,SNR=3.0							
comp=Z,0.8nm,0.5s							
KSRS	**Korea Array**	**35.05**	**65**	P	**P**	**23 17 55.0**	**-0.3**
comp=Z,0.6nm,0.3s,baz=264,slow=8.8,SNR=1.8							
comp=Z,0.6nm,0.3s							
KBZ	**Khabaz**	**38.28**	**305**	P	**P**	**23 18 23.1**	**+0.4**
comp=Z,0.9nm,0.7s,baz=63,slow=6.8,SNR=1.7							
comp=Z,0.9nm,0.7s							
KLR	**Kul'dur**	**39.59**	**46**	P	**P**	**23 18 35.5**	**+1.8**
comp=Z,1.7nm,0.9s,baz=265,slow=10,SNR=4.2							
comp=Z,1.7nm,0.9s							
NRIK	**Noril'sk**	**40.71**	**0**	P	**P**	**23 18 43.0**	**+0.3**
comp=Z,1.8nm,0.6s,baz=159,slow=7.0,SNR=4.9							
comp=Z,1.8nm,0.6s							
BRTR	**Keskin Array B**	**45.03**	**299**	P	**P**	**23 19 17.0**	**-1.3**
comp=Z,0.7nm,0.7s,baz=126,slow=8.7,SNR=4.4							
comp=Z,0.7nm,0.7s							
PURM	**Purcari**	**47.69**	**308**	⇑P	**P**	**23 19 39.4**	**+0.5**
AKASG	**Malin Array Be**	**48.32**	**314**	P	**P**	**23 19 43.6**	**-0.1**
comp=Z,0.9nm,0.4s,baz=84,slow=6.9,SNR=7.7							
comp=Z,0.9nm,0.4s							
KIEV	**Kiev**	**48.33**	**314**	⇑P	**P**	**23 19 43.1**	**-0.7**
MILM	**Milestii Mici**	**48.42**	**309**	⇓P	**P**	**23 19 44.6**	**0.0**
TPGR	**Topolog**	**48.71**	**306**	⇓P	**P**	**23 19 47.5**	**+0.6**
VLDR	**Vladesti**	**48.93**	**307**	⇓P	**P**	**23 19 49.4**	**+0.9**
ICOR	**Ion Corvin**	**49.18**	**305**	⇓P	**P**	**23 19 52.5**	**+2.0**
VRI	**Vrincioaia**	**49.88**	**307**	⇑P	**P**	**23 19 57.7**	**+1.9**
TESR	**Tescani**	**49.91**	**308**	⇑P	**P**	**23 19 56.2**	**+0.1**
PLOR	**Plostina**	**49.93**	**307**	⇑P	**P**	**23 19 56.8**	**+0.6**
ONER	**Baraj Valea Uz**	**50.09**	**308**	⇓P	**P**	**23 19 58.5**	**+1.1**
NEHR	**Nehoiu**	**50.20**	**307**	⇑P	**P**	**23 19 59.5**	**+1.2**
MLR	**Muntele Rosu**	**50.44**	**307**	⇑P	**P**	**23 20 01.9**	**+1.7**
OZUR		**50.52**	**308**	⇓P	**P**	**23 20 02.6**	**+1.8**
DOPR	**Dopca**	**50.81**	**308**	⇓P	**P**	**23 20 04.5**	**+1.6**
BURAR	**Bucovina Array**	**50.87**	**310**	⇑P	**P**	**23 20 03.9**	**+0.5**
VOIR		**51.07**	**307**	⇓P	**P**	**23 20 05.1**	**+0.2**
ARR	**Arges**	**51.37**	**307**	⇑P	**P**	**23 20 07.6**	**+0.5**
FINES	**FINESS Array B**	**51.48**	**327**	P	**P**	**23 20 07.5**	**-0.1**
comp=Z,1.7nm,0.7s,baz=117,slow=8.0,SNR=8.3							
comp=Z,1.7nm,0.7s							
MARR	**Marisel-Cluj**	**52.34**	**309**	⇑P	**P**	**23 20 15.6**	**+1.2**
GZR	**Gura Zlata**	**52.67**	**307**	⇑P	**P**	**23 20 17.6**	**+0.8**
SURR	**Surduc**	**53.10**	**307**	⇓P	**P**	**23 20 21.4**	**+1.5**
ARCES	**ARCESS Array B**	**53.59**	**337**	P	**P**	**23 20 22.3**	**-0.9**
comp=Z,1.6nm,0.6s,baz=100,slow=6.3,SNR=5.8							
comp=Z,1.6nm,0.6s							
MORH	**Mrgy, Hungar**	**55.46**	**308**	⇑P	**P**	**23 20 37.5**	**+0.4**
VRAC	**Vranov**	**56.48**	**312**	⇓P	**P**	**23 20 45.2**	**+0.8**
HFS	**Hagfors**	**57.43**	**325**	P	**P**	**23 20 50.3**	**-0.6**
comp=Z,2.1nm,0.4s,baz=95,slow=8.9,SNR=12							
comp=Z,2.1nm,0.4s							
GERES	**GERESS Array B**	**58.42**	**312**	P	**P**	**23 20 58.0**	**-0.2**
comp=Z,1.1nm,0.7s,baz=83,slow=5.5,SNR=8.7							
comp=Z,1.1nm,0.7s							
NB2	**NORSAR Subarra**	**58.61**	**326**	P	**P**	**23 20 59.2**	**-0.1**
comp=Z,0.9nm,0.6s,baz=85,slow=6.9							
NOA	**NORSAR Array B**	**58.61**	**326**	P	**P**	**23 20 58.2**	**-1.0**
comp=Z,1.2nm,0.7s,baz=86,slow=6.8,SNR=6.1							
comp=Z,1.2nm,0.7s							
LESA	**Schwarzleotal**	**59.33**	**310**	*e*P	**P**	**23 21 05.1**	**+0.5**
comp=Z,0.8nm,0.4s							
WTTA	**Wattenberg**	**60.06**	**310**	*e*P	**P**	**23 21 09.6**	**-0.1**
comp=Z,1.7nm,0.5s							
SQTA	**Sankt Quirin**	**60.35**	**310**	*e*P	**P**	**23 21 11.6**	**0.0**
comp=Z,1.7nm,0.4s							
WRA	**Warramunga Arr**	**66.42**	**131**	P	**P**	**23 21 51.7**	**-0.2**
comp=Z,1.1nm,0.5s,baz=326,slow=6.7,SNR=45							
comp=Z,1.1nm,0.5s							
EKA	**Eskdalemuir Ar**	**67.11**	**322**	P	**P**	**23 21 56.6**	**+0.7**
comp=Z,1.8nm,0.8s,baz=69,slow=6.3,SNR=2.3							
comp=Z,1.8nm,0.8s							
ASAR	**Alice Springs**	**68.80**	**134**	P	**P**	**23 22 06.8**	**-0.2**
comp=Z,1.9nm,0.6s,baz=317,slow=6.6,SNR=20							
comp=Z,1.9nm,0.6s							
ESDC	**Sonseca Array**	**73.13**	**306**	P	**P**	**23 22 33.6**	**+0.5**
comp=Z,0.8nm,0.8s,baz=51,slow=6.4,SNR=5.2							
comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**77.88**	**21**	P	**P**	**23 22 58.6**	**-1.3**
comp=Z,0.3nm,0.8s,baz=288,slow=2.5,SNR=4.5							
comp=Z,0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**79.89**	**279**	P	**P**	**23 23 10.3**	**-1.5**
comp=Z,2.7nm,0.4s,baz=46,slow=6.1,SNR=2.1	

ISC 28 23:19:42.1±2.3, 50.4N±0.1×160.05E±0.09, h35km, n57, σ1°39/41, mb3.6/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.89**	**320**	PN	**Pn**	**23 20 11.3**	**-0.5**
KDTR				S	**Sn**	**23 20 32.7**	**-1.7**
KDTR	**Khodutka, Kamc**	**1.89**	**320**	*eP*	**Pn**	**23 20 11.3**	**-0.5**
KDTR				*eS*	**Sn**	**23 20 32.8**	**-1.7**
RUS	**Russkaya**	**2.27**	**336**	PN	**Pn**	**23 20 16.6**	**-0.3**
RUS				S	**Sn**	**23 20 41.6**	**-2.0**
RUS	**Russkaya**	**2.27**	**336**	*eP*	**Pn**	**23 20 16.6**	**-0.3**
RUS				*eS*	**Sn**	**23 20 41.7**	**-2.0**
PAU	**Pauzhetka**	**2.32**	**299**	PN	**Pn**	**23 20 17.1**	**-0.5**
PAU				S	**Sn**	**23 20 44.2**	**-0.6**
PAU	**Pauzhetka**	**2.32**	**299**	*eP*	**Pn**	**23 20 17.1**	**-0.5**
PAU				*eS*	**Sn**	**23 20 44.3**	**-0.6**
GRL	**Gorelyy**	**2.50**	**331**	PN	Pn	23 20 20.5	+0.2
GRL				S	**Sn**	**23 20 49.5**	**0.0**
GRL	**Gorelyy**	**2.50**	**331**	*eP*	Pn	23 20 20.5	+0.2
GRL				*eS*	**Sn**	**23 20 49.6**	**0.0**
SKR	**Severo-Kuril's**	**2.52**	**278**	*e*PN	**Pn**	**23 20 20.1**	**-0.4**
SKR				*eS*	**Sn**	**23 20 48.3**	**-1.7**
SKR	comp=Z,131nm,0.3s			pmax	pmax		
SKR	comp=N,444nm,0.6s			smax	smax		
SKR	comp=E,582nm,0.4s			smax	smax		
SKR	**Severo-Kuril's**	**2.52**	**278**	*eP*	**Pn**	**23 20 20.4**	**-0.1**
SKR				*eS*	**Sn**	**23 20 48.7**	**-1.3**
SPN	**Mys Shipunski**	**2.72**	**360**	*eS*	**Sn**	**23 20 52.4**	**-2.4**
KRMR	**Karymshinskiy**	**2.73**	**335**	*eS*	**Sn**	**23 20 54.2**	**-0.8**
DALK	**Dalny**	**2.77**	**344**	PN	**Pn**	**23 20 23.8**	**-0.1**
DALK				S	**Sn**	**23 20 53.5**	**-2.6**
DALK	**Dalny**	**2.77**	**344**	*eP*	**Pn**	**23 20 23.9**	**-0.1**
DALK				*eS*	**Sn**	**23 20 53.6**	**-2.6**
PET	**Petropavlovsk**	**2.78**	**342**	*i* PN	**Pn**	**23 20 23.5**	**-0.6**
PET	**Petropavlovsk**	**2.78**	**342**	*eS*	**Sn**	**23 20 54.9**	**-1.4**
NLC	**Nalytchevo**	**2.83**	**351**	*eS*	**Sn**	**23 20 57.4**	**0.0**
AVH	**Avacha**	**3.00**	**345**	*eS*	**Sn**	**23 21 03.4**	**+1.6**
KOK	**Koryaka**	**3.04**	**344**	PN	Pn	23 20 28.8	+1.1
KOK	**Koryaka**	**3.04**	**344**	*eP*	Pn	23 20 28.8	+1.1
PEA0B	**Petropavlovsk-**	**3.09**	**333**	PN	Pn	23 20 29.0	+0.6
PEA0B				S	**Sn**	**23 21 05.9**	**+1.8**
PETK	**Petropavlovsk-**	**3.09**	**333**	Pn	Pn	23 20 29.1	+0.8
PETK	comp=E,1.6nm,0.3s,baz=117,slow=19,SNR=14			Sn	**Sn**	**23 21 06.1**	**+2.0**
	comp=E,2.2nm,0.3s,baz=140,slow=16,SNR=4.9						
	comp=E,5.9nm,0.5s						
KRX	**Arik**	**3.10**	**344**	PN	Pn	23 20 28.8	+0.2
KRX	**Arik**	**3.10**	**344**	*eP*	Pn	23 20 28.8	+0.2
APC	**Apacha**	**3.12**	**326**	PN	Pn	23 20 29.2	+0.6
APC				S	**Sn**	**23 21 06.1**	**+1.5**
APC	**Apacha**	**3.12**	**326**	*eP*	Pn	23 20 29.2	+0.6
APC				*eS*	**Sn**	**23 21 06.1**	**+1.5**
GNL	**Ganaly**	**3.56**	**339**	PN	Pn	23 20 36.1	+1.2
GNL				S	**Sn**	**23 21 16.5**	**+0.7**
GNL	**Ganaly**	**3.56**	**339**	*eP*	Pn	23 20 36.1	+1.2
GNL				*eS*	**Sn**	**23 21 16.5**	**+0.7**
KII	**Karymskiy**	**3.68**	**354**	*eS*	**Sn**	**23 21 18.8**	**-1.7**
TUMD	**Tumrok D**	**4.83**	**2**	PN	**Pn**	**23 20 52.5**	**+0.3**
TUMD	**Tumrok D**	**4.83**	**2**	*eP*	**Pn**	**23 20 52.5**	**+0.3**
TUMD				*eS*	**Sn**	**23 21 44.3**	**-2.7**
KMNR	**Kamenistaya**	**5.38**	**1**	PN	Pn	23 21 02.1	+2.2
KMNR	**Kamenistaya**	**5.38**	**1**	*eP*	Pn	23 21 02.1	+2.2
BZGR	**Bezymyannyi-Gr**	**5.58**	**4**	PN	Pn	23 21 03.9	+1.3
BZGR	**Bezymyannyi-Gr**	**5.58**	**4**	*eP*	Pn	23 21 04.0	+1.3
KBTR	**Krutoberegovo**	**6.07**	**15**	PN	**Pn**	**23 21 09.0**	**-0.1**
KBTR	**Krutoberegovo**	**6.07**	**15**	*eP*	**Pn**	**23 21 09.1**	**-0.1**
TIXI	**Tiksi**	**25.56**	**338**	*i* P	**P**	**23 25 09.5**	**+2.4**
TIXI	comp=Z,2.0nm,0.8s			pmax	pmax		
ILAR	**Eielson Array**	**30.80**	**42**	P	P	23 25 56.0	+2.0
	comp=Z,0.4nm,0.5s,baz=248,slow=7.8,SNR=8.2						
	comp=Z,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**31.07**	**167**	T	T	23 58 44.6	
	baz=352,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**31.08**	**167**	T	T	23 58 44.6	
	baz=352,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**31.08**	**167**	T	T	23 58 48.2	
	baz=352,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**32.24**	**168**	T	T	00 00 15.1	
	baz=352,slow=76,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**32.26**	**168**	T	T	00 00 13.1	
	baz=352,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**32.26**	**168**	T	T	00 00 14.0	
	baz=352,slow=76,SNR=4.9						
YKA	**Yellowknife Ar**	**45.21**	**41**	P	P	23 27 57.7	+2.5
	comp=Z,0.3nm,0.7s,baz=293,slow=8.2,SNR=3.6						
	comp=Z,0.3nm,0.7s						
KURK	**Kurchatov**	**49.18**	**304**	P	P	23 28 28.8	+2.6
KURBB	**Kurchatov Arra**	**49.28**	**304**	P	P	23 28 28.8	+1.8
	comp=Z,0.5nm,0.7s,baz=45,slow=9.3,SNR=2.2						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**49.35**	**298**	P	P	23 28 30.2	+2.6
	comp=Z,0.2nm,0.7s,baz=50,slow=5.5,SNR=2.5						
	comp=Z,0.2nm,0.7s						
BVAR	**Borovoye Array**	**52.08**	**310**	P	P	23 28 50.4	+2.3
	comp=Z,0.6nm,0.8s,baz=52,slow=9.3,SNR=2.1						
	comp=Z,0.6nm,0.8s						
ARTI	**Arti**	**55.49**	**319**	*i* P	P	23 29 14.9	+1.9
ARTI	comp=Z,43nm,5.3s			pmax	pmax		
PDAR	**Pinedale Array**	**58.90**	**59**	P	P	23 29 41.0	+3.4
	comp=Z,0.3nm,0.6s,baz=314,slow=7.8,SNR=2.7						
	comp=Z,0.3nm,0.6s						
OBN	**Obninsk**	**64.79**	**328**	*eP*	P	23 30 19.4	+2.8
OBN				*e*		23 30 51.3	
OBN				*e*		23 32 40.8	
OBN	comp=Z,4.0nm,1.0s			pmax	pmax		
TXAR	**Lajitas Array**	**71.75**	**66**	P	P	23 31 04.0	+3.2
	comp=Z,0.5nm,0.5s,baz=321,slow=3.2,SNR=4.4						
	comp=Z,0.5nm,0.5s						
H03N2	**Juan Fernandez**	**134.21**	**92**	T	T	02 07 51.6	
	baz=313,slow=77,SNR=5.4						
H03N1	**Juan Fernandez**	**134.22**	**92**	T	T	02 07 52.9	
	baz=313,slow=77,SNR=7.4						
H03N3	**Juan Fernandez**	**134.22**	**92**	T	T	02 07 52.2	
	baz=313,slow=77,SNR=9.1						

*AFAD **28** 23:32:18.8, 38.79N×38.16E, h7km±2km, ML2.8*
*ISK **28** 23:32:18.3, 38.75N×38.17E, h2km, ML2.6/13*

ISC 28 23:32:19.0±1.0, 38.78N±0.03×38.16E±0.03, h8km±9km, n24, σ0°84/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.19**	**303**	P	**Pg**	**23 32 23.0**	**+0.1**
HEKM				S	**Sg**	**23 32 26.2**	**+0.7**
HEKM				*i* AML	AML	23 32 27.0	
	comp=E,7μm,0.3s						
MAYA	**Malatya/Merkez**	**0.50**	**155**	P	**Pb**	**23 32 29.2**	**-0.9**
MAYA				S	**Sg**	**23 32 35.6**	**+0.5**
MAYA				*i* AML	AML	23 32 37.0	
	comp=N,356nm,0.5s						
MAYA				*i* AML	AML	23 32 39.0	
	comp=E,337nm,0.4s						
AKCD	**Akcadag**	**0.52**	**201**	P	**Pb**	**23 32 29.3**	**-1.1**
AKCD				S	**Sb**	**23 32 37.9**	**-0.2**
AKCD				*i* AML	AML	23 32 39.0	
	comp=E,820nm,0.4s						
AKCD				*i* AML	AML	23 32 40.0	
	comp=N,817nm,0.4s						
DARE	**Darende-Malaty**	**0.57**	**249**	Pg	**Pg**	**23 32 30.1**	**+0.1**
DARE				Sg	**Sb**	**23 32 38.6**	**-1.0**
CUGUR	**Gurin_SVAS**	**0.69**	**266**	P	**Pg**	**23 32 32.2**	**-0.2**
CUGUR				S	**Sg**	**23 32 40.8**	**-0.6**
CUGUR				*i* AML	AML	23 32 45.0	
	comp=E,332nm,0.5s						
ELZG	**Elazig**	**0.70**	**113**	P	**Pg**	**23 32 32.4**	**-0.1**
ELZG				S	**Sb**	**23 32 42.5**	**-1.1**
ELZG				*i* AML	AML	23 32 44.0	
	comp=E,933nm,0.3s						
ELZG				*i* AML	AML	23 32 45.0	
	comp=N,760nm,0.3s						
CUKAN	**kangal_SIVAS**	**0.76**	**315**	P	**Pg**	**23 32 32.4**	**-1.3**
AZEY	**Adyaman-Merk**	**0.97**	**176**	P	**Pb**	**23 32 38.0**	**-0.1**
PTK	**Pertek**	**0.97**	**83**	Pg	**Pg**	**23 32 37.3**	**-0.4**
PTK				Sg	**Sb**	**23 32 51.9**	**+0.6**
NARI	**Adyaman-Kaht**	**1.01**	**152**	P	**Pn**	**23 32 40.2**	**+0.6**
NARI				S	**Sn**	**23 32 53.5**	**-0.5**
AKCA	**Adyaman/G¶l**	**1.05**	**201**	P	**Pb**	**23 32 38.9**	**-0.6**
AKCA				S	**Sn**	**23 32 54.7**	**-0.3**
AKCA				*i* AML	AML	23 32 59.0	
	comp=E,182nm,0.8s						
CUZAR	**Zara_SIVAS**	**1.15**	**345**	P	**Pg**	**23 32 40.7**	**-0.4**
CUAYA	**Sivas-Altinyay**	**1.20**	**294**	P	**Pg**	**23 32 41.4**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.41**	**255**	Pn	**Pb**	**23 32 45.6**	**-0.1**
SARI				Sn	**Sn**	**23 33 05.7**	**+1.6**
URFA	**Urfa**	**1.43**	**158**	Pn	**Pg**	**23 32 46.3**	**-0.2**
SVSK	**Karacayir**	**1.45**	**322**	Pn	**Pg**	**23 32 46.6**	**-0.2**
SVSK				Sn	**Sg**	**23 33 07.2**	**+1.5**
KMRS	**Kahramanmaras**	**1.61**	**218**	Pn	**Pg**	**23 32 49.9**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.74**	**339**	Pn	**Pb**	**23 32 51.4**	**+0.1**
BNN	**Bunyan**	**1.81**	**273**	Pn	**Pb**	**23 32 51.5**	**-1.0**
YEDI	**Yedisu-Bingol**	**1.97**	**70**	Pn	**Pn**	**23 32 53.8**	**+0.9**
BNGB	**Bingl**	**1.98**	**83**	Pn	**Pn**	**23 32 53.8**	**+0.8**
TOKT	**Tokat**	**1.98**	**322**	Pn	**Pb**	**23 32 54.2**	**-1.2**
ESPY	**Espiye-Giresun**	**2.18**	**11**	Pn	**Pb**	**23 32 57.2**	**-1.6**
BAYT	**Aydıntepe-Bayb**	**2.23**	**43**	Pn	**Pn**	**23 32 57.6**	**+1.2**

IDC 28 23:34:06.0±2.6, 49.98S×140.30E, h0km, mb3.6/3, mbtmp3.6/3, MS4.4/1, Error ellipse: s-maj=235.3km s-min=26.3km az=84.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**18.11**	**4**	LR	LR	23 44 26.5	
	comp=Z,1μm,18.2s,baz=284,slow=34						
ASAR	**Alice Springs**	**26.74**	**347**	P	P	23 39 47.2	0.0
	0.6nm,0.9s,baz=171,slow=7.9,SNR=2.6						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**30.35**	**349**	P	P	23 40 19.3	0.0
	0.8nm,0.8s,baz=174,slow=8.1,SNR=5.9						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**40.13**	**180**	P	P	23 41 43.2	-0.1
	0.9nm,0.8s,baz=313,slow=14,SNR=5.7						
	0.9nm,0.8s						
H04S1	**CROZET ISLANDS**	**55.40**	**236**	T	T	00 43 14.5	
	baz=128,slow=75,SNR=6.0						
H04S2	**CROZET ISLANDS**	**55.40**	**236**	T	T	00 43 16.0	
	baz=128,slow=75,SNR=6.7						
H04S3	**CROZET ISLANDS**	**55.42**	**236**	T	T	00 43 25.3	
	baz=128,slow=75,SNR=6.5						
H08S2	**Diego Garcia H**	**69.96**	**282**	T	T	01 01 01.1	
	baz=142,slow=75						
H08S1	**Diego Carcia H**	**69.97**	**282**	T	T	01 01 43.9	
	baz=142						
H08S3	**Diego Garcia H**	**69.98**	**282**	T	T	01 01 07.9	
	baz=142,slow=75						
H03S1	**Juan Fernandez**	**89.60**	**148**	T	T	01 27 02.4	
	baz=201						
H03S2	**Juan Fernandez**	**89.60**	**148**	T	T	01 27 03.9	
	baz=201						
H03S3	**Juan Fernandez**	**89.61**	**148**	T	T	01 27 06.4	
	baz=201						
GERES	**GERESS Array B**	**145.85**	**289**	PKPbc	PKPdf	23 53 45.6	-0.2
	0.8nm,1.0s,baz=113,slow=2.2,SNR=2.6						

*IDC **28** 23:50:54.4±1.6, 6.12N×127.70E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=117.6km s-min=16.3km az=72.0*

ISC 28 23:50:59.0±1.8, 6.1N±0.3×127.8E±0.9, h35km, n7, σ1°23/7, mb3.8/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.14**	**185**	P	**P**	**23 56 12.9**	**+0.9**
	0.9nm,0.3s,baz=8.6,slow=10,SNR=8.6						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**26.67**	**166**	P	**P**	**23 56 36.7**	**+1.8**
	0.4nm,0.5s,baz=344,slow=8.9,SNR=12						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**30.18**	**169**	P	**P**	**23 57 05.2**	**-1.1**
	0.5nm,0.3s,baz=343,slow=9.1,SNR=14						
	0.5nm,0.3s						
SONM	**Songino Array**	**45.43**	**340**	P	**P**	**23 59 14.4**	**-0.2**
	0.2nm,0.3s,baz=148,slow=9.2,SNR=2.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**56.26**	**324**	P	**P**	**00 00 36.8**	**+0.7**
	1.3nm,0.6s,baz=123,slow=8.3,SNR=19						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**60.36**	**326**	P	**P**	**00 01 04.7**	**+0.1**
	1.4nm,0.7s,baz=124,slow=6.1,SNR=17						
	1.4nm,0.7s						
BVAR	**Borovoye Array**	**65.95**	**326**	P	**P**	**00 01 41.3**	**-0.3**
	1.1nm,0.7s,baz=98,slow=6.0,SNR=8.3						
	1.1nm,0.7s						

IDC 29 00:02:13.0±10.0, 57.23S×93.27E, h0km, Error ellipse: s-maj=27.7km s-min=10.0km az=164.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**26.41**	**41**	H	H	00 35 20.0	
	baz=206,slow=76,SNR=119						
H01W1	**Cape Leeuwin H**	**26.42**	**41**	H	H	00 35 20.0	
	baz=206,slow=76,SNR=124						
H01W3	**Cape Leeuwin H**	**26.42**	**41**	H	H	00 35 20.0	
	baz=206,slow=76,SNR=139						
H04S1	**CROZET ISLANDS**	**27.07**	**275**	H	H	00 36 29.2	
	baz=127,slow=75,SNR=40						
H04S2	**CROZET ISLANDS**	**27.07**	**275**	H	H	00 36 34.1	
	baz=127,slow=75,SNR=76						
H04S3	**CROZET ISLANDS**	**27.09**	**275**	H	H	00 36 32.4	
	baz=127,slow=75,SNR=38						
H08S2	**Diego Garcia H**	**52.05**	**334**	H	H	01 07 15.7	
	baz=166,slow=76,SNR=24						
H08S1	**Diego Carcia H**	**52.06**	**333**	H	H	01 07 16.1	
	baz=166,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**52.07**	**334**	H	H	01 07 17.1	
	baz=166,slow=76,SNR=23						

IDC 29 00:19:07.9±1.4, 16.43S×178.06E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=39.3km s-min=21.3km az=90.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.30**	**180**	Pn	Pn	00 19 34.0	+0.5
	58nm,0.3s,baz=354,slow=10,SNR=98						
MSVF				Sn	Sn	00 19 51.9	+0.3
	385nm,0.3s,baz=228,slow=21,SNR=12						
H11S2	**WAKE ISLAND Hy**	**36.45**	**342**	T	T	01 04 33.8	
	baz=162,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**36.46**	**342**	T	T	01 04 33.8	
	baz=162,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**36.47**	**342**	T	T	01 04 34.8	
	baz=162,slow=76,SNR=15						
WRA	**Warramunga Arr**	**41.60**	**258**	P	P	00 26 57.0	-1.0
	0.3nm,0.6s,baz=93,slow=8.6,SNR=4.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**41.97**	**253**	P	P	00 27 01.4	+0.4
	0.9nm,0.7s,baz=86,slow=8.7,SNR=9.5						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**85.25**	**14**	P	P	00 31 45.5	-0.5
	0.4nm,0.8s,baz=232,slow=5.4,SNR=5.2						
	0.4nm,0.8s						
GERES	**GERESS Array B**	**145.23**	**342**	PKPbc	PKPbc	00 38 47.1	-0.2
	0.7nm,0.9s,baz=352,slow=5.1,SNR=5.0						

TRN 29 00:19:54.1, 12.85N×60.62W, h25km, MD3.6, South-east of St. Vincent and the Grenadines., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVOC	**Richmond Hill,**	**0.66**	**297**	*eP*	Pn	00 20 08.9	+1.1
SVOC				*eS*	Sn	00 20 18.8	+1.5
SVT	**Saint Vincent**	**0.68**	**298**	*eP*	Pn	00 20 09.1	+0.9
SVT				*eS*	Sn	00 20 18.9	+0.9
SVB	**Belmont**	**0.74**	**304**	*eP*	Pn	00 20 10.0	+1.0
SVB				*eS*	Sn	00 20 21.0	+1.5
GCMP	**Grenada, Carri**	**0.86**	**245**	*eP*	Pn	00 20 11.7	+1.0
GCMP				*eS*	Sn	00 20 24.7	+2.2
SLAC	**Saint Lucia, A**	**1.07**	**346**	*eP*	Pb	00 20 13.9	-0.1
SLAC				*eS*	Sn	00 20 28.1	+0.5
SLBI	**Saint Lucia, B**	**1.21**	**344**	*eP*	Pn	00 20 15.7	+0.2
SLBI				*eS*	Sb	00 20 31.8	+0.1
GRGR	**Grenville**	**1.23**	**235**	*eP*	Pb	00 20 16.9	+0.1
GRGR				*eS*	Sb	00 20 34.2	+1.9
GRFF	**Grenada Fort F**	**1.35**	**234**	*eP*	Pb	00 20 18.4	-0.3
GRFF				*eS*	Sb	00 20 36.6	+1.0
TOSP	**Speyside**	**1.55**	**177**	*eP*	Pn	00 20 20.8	+0.7
BIM	**Bigot**	**1.71**	**345**	*eP*	Pn	00 20 23.3	+0.9
ILAM	**Ilet Lapin Mar**	**1.93**	**353**	*eP*	Pn	00 20 26.1	+0.7
ILAM				*eS*	Sn	00 20 49.5	+0.8
SVN	**Savane Anatole**	**2.05**	**345**	*eP*	Pn	00 20 28.8	+1.8
SVN				*eS*	Sn	00 20 53.2	+1.4
TRN	**Trinidad (W)**	**2.32**	**199**	*eP*	Pn	00 20 30.7	0.0
DSLB	**Salisbury**	**2.69**	**343**	*eP*	Pn	00 20 37.6	+1.8
DSLB				*eS*	Sn	00 21 09.6	+2.1
TBG	**Guadaloupe-3**	**3.14**	**342**	*eP*	Pn	00 20 44.4	+2.3
TBG				*eS*	Sn	00 21 21.1	+2.3
MAGL	**Barre de l'ile**	**3.15**	**348**	*eP*	Pn	00 20 43.0	+0.9
MAGL				*eS*	Sn	00 21 19.5	+0.6
MBFL	**Flemmings, Mon**	**4.17**	**339**	*eP*	Pn	00 20 58.8	+2.7
ANBD	**Bethesda, Anti**	**4.32**	**345**	*eP*	Pn	00 20 59.8	+1.6
SKI	**Saint Kitts**	**4.90**	**336**	*eP*	Pn	00 21 08.5	+2.2
ANWB	**Willy Bob**	**4.92**	**347**	*eP*	Pn	00 21 07.9	+1.4

*IDC **29** 00:33:40.8±1.2, 3.45N×126.67E, h0km, mb3.5/6, mbtmp3.6/6, Error ellipse: s-maj=79.2km s-min=19.3km az=74.0*
*DJA **29** 00:33:46.3±1.0, 3°N±10°×12°7E±°, h28km±18km, M3.7/6, mb3.9/1, MLv3.6/6*

ISC 29 00:33:47.6±1.1, 3.4N±0.1×126.6E±0.1, h53km, n8, σ0°57/9, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.13**	**284**	P	**Pn**	**00 34 06.9**	**-0.3**
SGSI				S	**Sn**	**00 34 21.7**	**0.0**
TNTI	**Ternate**	**2.73**	**164**	P	**Pn**	**00 34 29.0**	**0.0**
FITZ	**Fitzroy Crossi**	**21.41**	**183**	P	**P**	**00 38 30.9**	**-0.2**
	2.6nm,1.0s,baz=8.5,slow=10.0,SNR=1.3						
	2.6nm,1.0s						
WRA	**Warramunga Arr**	**24.42**	**162**	P	**P**	**00 39 00.7**	**-0.7**
	0.5nm,0.4s,baz=340,slow=9.3,SNR=5.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**27.84**	**166**	P	**P**	**00 39 32.3**	**0.0**
	0.4nm,0.8s,baz=345,slow=8.8,SNR=2.2						
	0.4nm,0.8s						
KSRS	**Korea Array**	**33.89**	**2**	P	**P**	**00 40 24.8**	**-0.5**
	1.3nm,0.8s,baz=190,slow=9.2,SNR=2.2						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**00 43 34.1**	**+0.9**
	0.2nm,0.4s,baz=124,slow=7.7,SNR=6.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.95**	**328**	P	**P**	**00 44 02.4**	**+0.5**
	0.4nm,0.7s,baz=129,slow=6.5,SNR=6.3						
	0.4nm,0.7s						

*IDC **29** 00:36:43.0±1.4, 50.43N×159.97E, h0km, mb3.4/6, mbtmp3.5/7, ML2.4/1, Error ellipse: s-maj=40.1km s-min=23.0km az=172.0*
*KRSC **29** 00:36:45.1±1.5, 50.53N×159.96E, h66km±31km, Ml4.0*

ISC 29 00:36:48.1±1.0, 50.51N±0.08×159.92E±0.07, h35km, n33, σ0°83/35, mb3.5/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.75**	**319**	*eP*	**Pn**	**00 37 15.0**	**-0.8**
KDTR				*eS*	**Sn**	**00 37 36.7**	**-0.1**
RUS	**Russkaya**	**2.12**	**336**	*eP*	**Pn**	**00 37 19.9**	**-1.1**
RUS				*eS*	**Sn**	**00 37 46.1**	**0.0**
PAU	**Pauzhetka**	**2.19**	**297**	*eP*	**Pn**	**00 37 21.4**	**-0.5**
PAU				*eS*	**Sn**	**00 37 48.1**	**+0.3**
GRL	**Gorelyy**	**2.35**	**331**	*eP*	**Pn**	**00 37 24.3**	**+0.1**
SKR	**Severo-Kuril's**	**2.43**	**276**	*eP*	**Pn**	**00 37 24.4**	**-0.9**
SKR				*eS*	**Sn**	**00 37 53.0**	**-0.7**
KRMR	**Karymshinskiy**	**2.58**	**335**	*eP*	**Pn**	**00 37 26.6**	**-0.7**
KRMR				*eS*	**Sn**	**00 37 58.5**	**+1.1**
SPN	**Mys Shipunski**	**2.60**	**1**	*eS*	**Sn**	**00 37 55.8**	**-2.0**
DALK	**Dalny**	**2.63**	**344**	*eP*	**Pn**	**00 37 27.0**	**-1.0**
PET	**Petropavlovsk**	**2.64**	**343**	*eS*	**Sn**	**00 37 58.4**	**-0.5**
UGLR	**Uglovaya**	**2.79**	**346**	*eP*	**Pn**	**00 37 30.1**	**-0.2**
SDLR	**Sedlovina**	**2.85**	**347**	*eP*	**Pn**	**00 37 30.9**	**-0.2**
AVH	**Avacha**	**2.86**	**346**	*eP*	**Pn**	**00 37 31.6**	**+0.3**
KOK	**Koryaka**	**2.90**	**345**	*eP*	**Pn**	**00 37 31.9**	**+0.1**
PETK	**Petropavlovsk-**	**2.95**	**333**	Pn	**Pn**	**00 37 31.9**	**-0.5**
	2.6nm,0.3s,baz=136,slow=16,SNR=22						
PETK				Sn	**Sn**	**00 38 06.8**	**+0.2**
	3.0nm,0.3s,baz=120,slow=18,SNR=6.2						
	7.9nm,0.5s						
KRX	**Arik**	**2.96**	**345**	*eP*	**Pn**	**00 37 32.3**	**-0.5**
APC	**Apacha**	**2.97**	**326**	*eP*	**Pn**	**00 37 32.9**	**+0.3**
GNL	**Ganaly**	**3.42**	**340**	*eP*	**Pn**	**00 37 39.6**	**+0.6**
KII	**Karymskiy**	**3.55**	**355**	*eP*	**Pn**	**00 37 40.8**	**+0.1**
KII				*eS*	**Sn**	**00 38 20.6**	**-0.8**
TUMD	**Tumrok D**	**4.71**	**3**	*eP*	**Pn**	**00 37 56.2**	**-0.5**
TUMD				*eS*	**Sn**	**00 38 48.2**	**-1.8**
KMNR	**Kamenistaya**	**5.26**	**2**	*eP*	**Pn**	**00 38 05.6**	**+1.3**
KBTR	**Krutoberegovo**	**5.97**	**16**	*eP*	**Pn**	**00 38 13.2**	**-0.7**
MJAR	**Matsushiro Arr**	**20.93**	**236**	P	**P**	**00 41 26.4**	**-1.3**
	1.4nm,0.5s,baz=23,slow=9.6,SNR=2.4						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**30.76**	**42**	P	**P**	**00 42 59.5**	**-0.2**
	0.3nm,0.5s,baz=260,slow=7.7,SNR=4.8						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**31.20**	**167**	T	T	01 15 44.6	
	baz=352,slow=76,SNR=13						
H11N3	**WA

1.4nm,0.5s,baz=140,slow=5.5,SNR=8.3
1.4nm,0.5s
KURBB **Kurchatov Arra** 72.22 329 P P 00 48 42.0 -1.3
1.5nm,0.5s,baz=126,slow=4.9,SNR=20
1.5nm,0.5s
BVAR **Borovoye Array** 77.75 328 P P 00 49 13.3 -1.8
0.6nm,0.5s,baz=101,slow=7.6,SNR=4.9
0.6nm,0.5s
QSPA **South Pole Qui** 82.30 180 P P 00 49 40.1 +0.7
0.7nm,0.5s,baz=244,slow=0.9,SNR=5.4
0.7nm,0.5s

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*IDC **29** 00:38:47.4±1.0,50.°57N×159.°89E,h0km,mb3.6/8,*
mbtmp3.5/9,ML2.4/1,MS4.2/1,Error ellipse: s-maj=27.4km
s-min=21.1km az=2.0
*KRSC **29** 00:38:49.1±2.0,50.°52N×159.°94E,h61km±35km,Ml4.0*
ISC 29 00:38:52.2±0.9,50.°50N±0.°07×159.°89E±0.°07,h35km,n28,
σ1§08/29,mb3.6/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.74**	**320**	*e*P	**Pn**	**00 39 19.1**	**-0.7**
KDTR				*e*S	**Sn**	**00 39 40.4**	**-0.3**
RUS	**Russkaya**	**2.12**	**337**	*e*S	**Sn**	**00 39 49.2**	**-0.8**
GRL	**Gorelyy**	**2.34**	**332**	*e*P	**Pn**	**00 39 28.8**	**+0.5**
SKR	**Severo-Kuril's**	**2.41**	**276**	*e*P	**Pn**	**00 39 28.0**	**-1.0**
SKR				*e*S	**Sn**	**00 39 55.7**	**-1.6**
KRMR	**Karymshinskiy**	**2.58**	**336**	*e*S	**Sn**	**00 40 02.1**	**+0.7**
SPN	**Mys Shipunski**	**2.60**	**2**	*e*S	**Sn**	**00 40 00.3**	**-1.7**
DALK	**Dalny**	**2.63**	**345**	*e*P	**Pn**	**00 39 32.3**	**+0.2**
DALK				*e*S	**Sn**	**00 40 01.8**	**-0.9**
PET	**Petropavlovsk**	**2.64**	**344**	*e*P	**Pn**	**00 39 32.1**	**-0.1**
PET				*e*S	**Sn**	**00 40 02.1**	**-0.8**
SDLR	**Sedlovina**	**2.85**	**348**	*e*P	**Pn**	**00 39 35.2**	**0.0**
PETK	**Petropavlovsk-**	**2.94**	**333**	Pn	**Pn**	**00 39 36.5**	**+0.1**
	2.8nm,0.3s,baz=142,slow=16,SNR=5.9						
PETK				Sn	**Sn**	**00 40 11.8**	**+1.3**
	3.5nm,0.3s,baz=164,slow=22,SNR=5.7						
	7.2nm,0.5s						
APC	**Apacha**	**2.96**	**326**	*e*P	**Pn**	**00 39 37.6**	**+1.0**
APC				*e*S	**Sn**	**00 40 13.4**	**+2.5**
KII	**Karymskiy**	**3.55**	**356**	*e*P	**Pn**	**00 39 45.3**	**+0.5**
KII				*e*S	**Sn**	**00 40 25.1**	**-0.5**
TUMD	**Tumrok D**	**4.72**	**4**	*e*P	**Pn**	**00 40 00.6**	**-0.2**
TUMD				*e*S	**Sn**	**00 40 52.2**	**-2.1**
ILAR	**Eielson Array**	**30.78**	**42**	P	**P**	**00 45 02.4**	**-1.6**
	0.4nm,0.4s,baz=272,slow=8.4,SNR=4.8						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**31.20**	**167**	T	T	01 17 49.4	
	baz=352,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**31.22**	**167**	T	T	01 17 50.6	
	baz=352,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**31.22**	**167**	T	T	01 17 52.3	
	baz=352,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**32.38**	**168**	T	T	01 19 15.5	
	baz=352,slow=74						
H11S3	**WAKE ISLAND Hy**	**32.39**	**168**	T	T	01 19 17.1	
	baz=352,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.40**	**168**	T	T	01 19 20.5	
	baz=352						
SONM	**Songino Array**	**34.45**	**287**	LR	LR	01 02 07.2	
	comp=Z,314nm,18.2s,baz=266,slow=41						
YKA	**Yellowknife Ar**	**45.19**	**41**	P	**P**	**00 47 05.5**	**+0.4**
	0.3nm,0.8s,baz=292,slow=7.9,SNR=3.5						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**49.13**	**304**	P	**P**	**00 47 35.6**	**-0.4**
	0.4nm,0.4s,baz=64,slow=7.4,SNR=6.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**49.20**	**298**	P	**P**	**00 47 36.0**	**-0.7**
	0.2nm,0.5s,baz=57,slow=6.6,SNR=4.8						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**56.78**	**68**	P	**P**	**00 48 32.8**	**0.0**
	0.3nm,0.5s,baz=303,slow=4.5,SNR=2.5						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**58.93**	**59**	P	**P**	**00 48 48.6**	**+0.8**
	0.5nm,0.8s,baz=333,slow=1.7,SNR=5.2						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**71.79**	**66**	P	**P**	**00 50 11.8**	**+0.7**
	0.6nm,0.5s,baz=319,slow=6.5,SNR=8.9						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**73.67**	**205**	P	**P**	**00 50 23.6**	**+1.5**
	0.5nm,0.7s,baz=25,slow=8.8,SNR=4.8						
	0.5nm,0.7s						

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*NEIC **29** 00:51:44.8±1.3,5.°6S±0.°1×154.°3E±0.°1,h145km±8km,*
mb4.1/130,Error ellipse: s-maj=20.8km s-min=14.4km
az=48.0
*IDC **29** 00:51:45.1±2.1,5.°67S×154.°46E,h170km±18km,mb3.7/15,*
mbtmp4.2/16,MS4.1/1,Error ellipse: s-maj=19.3km
s-min=10.4km az=119.0
ISC 29 00:51:44.1±0.6,5.°60S±0.°07×154.°34E±0.°08,h150km,n159,
σ1§45/159,mb4.1/78,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.58**	**303**	Pn	**Pn**	**00 52 26.3**	**0.0**
RABL				Sn	**Sn**	**00 52 59.6**	**+0.9**
PMG	**Port Moresby**	**8.06**	**242**	P	**Pn**	**00 53 40.1**	**+1.8**
	15nm,0.5s,baz=44,slow=14,SNR=5.8						
PMG				S	**Sn**	**00 55 10.4**	**+2.2**
	78nm,0.8s,baz=62,slow=17,SNR=7.1						
COEN	**Coen**	**13.78**	**232**		**P**	**00 54 55.5**	**-1.4**
EIDS	**Eidsvold**	**19.90**	**189**	P	**P**	**00 56 04.0**	**0.0**
DZM	**Mont Dzumac**	**20.13**	**146**	P	**P**	**00 56 03.8**	**-2.8**
DZM				IAmb	IAmb	00 56 07.7	
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	**20.13**	**146**	P	**P**	**00 56 04.3**	**-2.3**
	comp=Z,7.7nm,1.0s,baz=315,slow=19,SNR=5.9						
	comp=Z,7.7nm,1.0s						
WR0	**Warramunga Arr**	**23.97**	**232**	P	**P**	**00 56 45.6**	**+0.8**
WR0				IAmb	IAmb	00 56 47.5	
	comp=Z,4.1nm,0.7s						
WB0	**Warramunga Arr**	**23.98**	**232**	P	**P**	**00 56 45.1**	**+0.2**
WB0				IAmb	IAmb	00 57 13.6	
	comp=Z,6.8nm,1.1s						
MTN	**Manton Dam**	**24.00**	**251**	P	**P**	**00 56 45.8**	**+0.7**
WB2	**Warramunga Arr**	**24.11**	**232**	P	**P**	**00 56 46.9**	**+0.9**
WB2				IAmb	IAmb	00 56 56.6	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**24.12**	**232**	P	**P**	**00 56 46.3**	**+0.2**
WRA	**Warramunga Arr**	**24.12**	**232**	P	**P**	**00 56 47.0**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=55,slow=9.5,SNR=28						
WRA				S	**S**	**01 00 52.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=58,slow=14,SNR=2.1						
	comp=Z,3.3nm,0.8s						
ARMA	**Armidale**	**24.82**	**186**	P	**P**	**00 56 52.3**	**-0.2**
AS31	**Alice Springs**	**26.64**	**226**	P	**P**	**00 57 08.2**	**-0.8**
ASAR	**Alice Springs**	**26.64**	**226**	P	**P**	**00 57 08.5**	**-0.5**
ASAR	**Alice Springs**	**26.64**	**226**	P	**P**	**00 57 08.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=49,slow=9.1,SNR=11						
ASAR				S	**S**	**01 01 30.5**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=54,slow=16,SNR=3.2						
	comp=Z,0.8nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.86**	**27**	T	T	01 25 47.6	
	baz=207,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**26.86**	**27**	T	T	01 25 50.3	
	baz=207,slow=76,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**26.88**	**27**	T	T	01 25 49.1	
	baz=207,slow=76,SNR=5.9						
STKA	**Stephens Creek**	**28.74**	**203**	P	**P**	**00 57 27.8**	**+0.4**
STKA	**Stephens Creek**	**28.74**	**203**	P	**P**	**00 57 26.2**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=46,slow=13,SNR=7.3						
	comp=Z,2.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.65**	**244**	P	**P**	**00 57 44.0**	**-0.6**
BBOO	**Buckleboo**	**31.99**	**210**	P	**P**	**00 57 55.8**	**-0.4**
LTZ	**Lake Taylor**	**40.29**	**159**	P	**P**	**00 59 09.3**	**+2.8**
JNU	**Nakatsue**	**44.48**	**332**	LR	LR	01 14 40.6	
	comp=Z,215nm,21.3s,baz=12,slow=31						
KSRS	**Korea Array**	**49.41**	**332**	P	**P**	**01 00 18.4**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=146,slow=7.1,SNR=9.0						
	comp=Z,2.2nm,0.6s						
PETK	**Petropavlovsk-**	**58.55**	**2**	P	**P**	**01 01 22.3**	**-2.4**
	comp=Z,3.8nm,0.4s,baz=217,slow=7.3,SNR=4.2						
	comp=Z,3.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**59.60**	**295**	P	**P**	**01 01 33.0**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=110,slow=4.9,SNR=16						
	comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**67.82**	**327**	P	**P**	**01 02 26.7**	**+0.7**
SONM				IAmb	IAmb	01 02 29.3	
	comp=Z,2.7nm,1.2s						
SONM	**Songino Array**	**67.82**	**327**	P	**P**	**01 02 26.1**	**0.0**
	comp=Z,1.8nm,0.7s,baz=140,slow=6.1,SNR=10						
	comp=Z,1.8nm,0.7s						
O14K	**Tigyukauivet M**	**73.61**	**22**	P	**P**	**01 03 01.9**	**+1.2**
M13K	**Dall Lake**	**73.67**	**20**	P	**P**	**01 03 02.7**	**+1.7**
M13K				IAmb	IAmb	01 03 26.6	
	comp=Z,3.8nm,1.2s						
K13K	**Kusilvak Mount**	**74.34**	**19**	P	**P**	**01 03 06.2**	**+1.3**
K13K				IAmb	IAmb	01 03 28.8	
	comp=Z,8.5nm,1.3s						
M14K	**Bethel**	**74.40**	**21**	P	**P**	**01 03 06.9**	**+1.7**
L14K	**Kuka Creek**	**74.57**	**20**	P	**P**	**01 03 07.6**	**+1.4**
L14K				IAmb	IAmb	01 03 08.6	
	comp=Z,4.2nm,0.9s						
N15K	**Kwethluk River**	**74.67**	**22**	P	**P**	**01 03 07.7**	**+0.9**
ACHA	**Angle Creek He**	**75.28**	**25**	P	**P**	**01 03 12.1**	**+1.6**
ACHA				IAmb	IAmb	01 03 12.3	
	comp=Z,3.3nm,0.8s						
J14K	**Nanvaranak Lak**	**75.29**	**19**	P	**P**	**01 03 12.7**	**+2.5**
K15K	**Wolf Creek Mou**	**75.63**	**20**	P	**P**	**01 03 13.9**	**+1.7**
M16K	**Timber Creek**	**75.66**	**21**	P	**P**	**01 03 13.9**	**+1.5**
M16K				IAmb	IAmb	01 03 15.1	
	comp=Z,4.5nm,0.9s						
L16K	**Owhat River**	**75.93**	**21**	P	**P**	**01 03 15.4**	**+1.4**
L16K				IAmb	IAmb	01 03 48.0	
	comp=Z,6.7nm,1.4s						
N17K	**Nushagak Hills**	**75.99**	**22**	P	**P**	**01 03 16.8**	**+2.5**
N17K				IAmb	IAmb	01 03 17.9	
	comp=Z,3.6nm,0.8s						
P18K	**Big Mountain,**	**76.05**	**24**	P	**P**	**01 03 15.9**	**+1.1**
O18K	**Koktuh Hills**	**76.34**	**24**	P	**P**	**01 03 16.9**	**+0.5**
Q19K	**Cape Douglas,**	**76.42**	**25**	P	**P**	**01 03 17.5**	**+0.6**
M17K	**Holitna River**	**76.46**	**22**	P	**P**	**01 03 18.8**	**+1.8**
N18K	**Kilae Creek**	**76.58**	**23**	P	**P**	**01 03 20.2**	**+2.5**
N18K				IAmb	IAmb	01 04 02.7	
	comp=Z,4.8nm,1.2s						
J16K	**Anvik River**	**76.63**	**19**	P	**P**	**01 03 19.6**	**+1.8**
N19K	**Bonanza Creek**	**77.21**	**23**	P	**P**	**01 03 22.6**	**+1.3**
N19K				IAmb	IAmb	01 03 32.0	
	comp=Z,4.9nm,1.2s						
L18K	**Granite Mounta**	**77.26**	**21**	P	**P**	**01 03 23.6**	**+2.1**
L18K				IAmb	IAmb	01 03 38.8	
	comp=Z,7.3nm,1.4s						
G16K	**Koyuk River**	**77.57**	**17**	P	**P**	**01 03 24.6**	**+1.5**
G16K				IAmb	IAmb	01 03 26.3	
	comp=Z,3.6nm,0.8s						
CNPM	**China Poot**	**77.78**	**25**	P	**P**	**01 03 25.6**	**+1.2**
L19K	**White Mountain**	**77.91**	**22**	P	**P**	**01 03 26.9**	**+1.8**
L19K				IAmb	IAmb	01 03 30.9	
	comp=Z,7.5nm,1.4s						
M19K	**Big River Lodg**	**77.91**	**22**	P	**P**	**01 03 27.2**	**+2.1**
M19K				IAmb	IAmb	01 03 27.3	
	comp=Z,7.8nm,1.5s						
H17K	**Granite Mounta**	**77.99**	**18**	P	**P**	**01 03 26.6**	**+1.2**
H17K				IAmb	IAmb	01 03 28.6	
	comp=Z,3.0nm,0.7s						
J18K	**Innoko River**	**78.05**	**20**	P	**P**	**01 03 27.6**	**+1.7**
BRLK	**Bradley Lake**	**78.06**	**25**	P	**P**	**01 03 27.2**	**+1.3**
BRLK				IAmb	IAmb	01 04 10.2	
	comp=Z,7.1nm,1.1s						
M20K	**Styx River**	**78.38**	**23**	P	**P**	**01 03 28.6**	**+0.9**
M20K				IAmb	IAmb	01 04 06.4	
	comp=Z,6.6nm,1.3s						
H18K	**Honhosa River**	**78.62**	**18**	P	**P**	**01 03 29.4**	**+0.5**
F17K	**Baldwin Pennin**	**78.64**	**17**	P	**P**	**01 03 30.6**	**+1.7**
SLKM	**Skilak Lake**	**78.75**	**25**	P	**P**	**01 03 31.2**	**+1.5**
SLKM				IAmb	IAmb	01 03 32.2	
	comp=Z,3.5nm,0.6s						
J19K	**Poorman**	**78.77**	**20**	P	**P**	**01 03 30.9**	**+1.2**
J19K				IAmb	IAmb	01 03 38.4	
	comp=Z,3.9nm,1.3s						
C16K	**Lisburne Hills**	**78.90**	**14**	P	**P**	**01 03 33.6**	**+3.3**
K20K	**Telida**	**78.92**	**21**	P	**P**	**01 03 32.7**	**+2.1**
G18K	**Tagagawik**	**79.03**	**18**	P	**P**	**01 03 32.3**	**+1.2**
J20K	**Nowinta River**	**79.39**	**20**	P	**P**	**01 03 34.9**	**+1.8**
J20K				IAmb	IAmb	01 03 36.8	
	comp=Z,3.4nm,0.8s						
H19K	**Roundabout Mou**	**79.47**	**19**	P	**P**	**01 03 35.2**	**+1.7**
H19K				IAmb	IAmb	01 03 36.5	
	comp=Z,2.7nm,0.7s						
E18K	**Tukpahlearik C**	**79.51**	**16**	P	**P**	**01 03 35.1**	**+1.4**
E18K				IAmb	IAmb	01 03 50.1	
	comp=Z,6.8nm,1.4s						
CAST	**Castle Rocks**	**79.67**	**22**	P	**P**	**01 03 36.1**	**+1.4**
CAST				IAmb	IAmb	01 04 13.7	
	comp=Z,7.5nm,1.5s						
PWL	**Port Wells**	**79.72**	**25**	P	**P**	**01 03 35.7**	**+0.7**
F19K	**Shaleruckik Mo**	**79.92**	**17**	P	**P**	**01 03 36.6**	**+0.7**
F19K				IAmb	IAmb	01 04 10.6	
	comp=Z,5.1nm,1.4s						
KTH	**Kantishna Hill**	**80.18**	**22**	P	**P**	**01 03 37.8**	**+0.4**
KTH				IAmb	IAmb	01 03 51.4	
	comp=Z,5.9nm,1.4s						
C18K	**Utukok River**	**80.22**	**15**	P	**P**	**01 03 38.5**	**+0.9**
C18K				IAmb	IAmb	01 03 46.6	
	comp=Z,5.0nm,1.2s						
SML	**Sawmill**	**80.22**	**24**	P	**P**	**01 03 38.6**	**+0.9**
SML				IAmb	IAmb	01 03 39.4	
	comp=Z,2.1nm,0.6s						
GLI	**Glacier Island**	**80.25**	**25**	P	**P**	**01 03 38.8**	**+1.0**
GLI				IAmb	IAmb	01 03 39.5	
	comp=Z,4.7nm,0.7s						
HIN	**Hinchinbrook I**	**80.26**	**26**	P	**P**	**01 03 39.1**	**+1.2**
TRF	**Thorofare Moun**	**80.35**	**22**	P	**P**	**01 03 39.3**	**+0.8**
FID	**Port Fidalgo**	**80.44**	**25**	P	**P**	**01 03 39.9**	**+1.1**
FID				IAmb	IAmb	01 04 06.4	
	comp=Z,7.3nm,1.3s						
BPAW	**Bear Paw Mtn.**	**80.46**	**21**	P	**P**	**01 03 39.9**	**+1.0**
BPAW				IAmb	IAmb	01 03 40.3	
	comp=Z,4.0nm,1.4s						
E19K	**Redstone River**	**80.49**	**17**	P	**P**	**01 03 40.6**	**+1.7**
E19K				IAmb	IAmb	01 03 41.5	
	comp=Z,3.3nm,0.6s						
F20K	**Avaraart Lake**	**80.67**	**18**	P	**P**	**01 03 40.9**	**+1.0**
H21K	**Melozitna Rive**	**80.74**	**20**	P	**P**	**01 03 41.3**	**+0.9**
H21K				IAmb	IAmb	01 03 46.6	
	comp=Z,4.6nm,1.4s						
RND	**Reindeer**	**80.87**	**22**	P	**P**	**01 03 41.8**	**+0.6**
RND				IAmb	IAmb	01 03 42.9	
	comp=Z,2.4nm,0.7s						
D19K	**Kuna River**	**80.93**	**16**	P	**P**	**01 03 42.4**	**+1.0**
D19K				IAmb	IAmb	01 03 52.1	
	comp=Z,4.9nm,1.3s						
G21K	**Allakaket**	**81.03**	**19**	P	**P**	**01 03 43.0**	**+1.2**
G21K				IAmb	IAmb	01 03 44.7	
	comp=Z,2.1nm,0.7s						
M24K	**Tolsona, Glenn**	**81.25**	**24**	P	**P**	**01 03 44.6**	**+1.4**
F21K	**Alatna River**	**81.47**	**18**	P	**P**	**01 03 44.9**	**+0.7**
I23K	**Minto, Yukon-K**	**81.63**	**21**	P	**P**	**01 03 46.3**	**+1.3**
N25K	**Chitina, Valde**	**81.66**	**25**	P	**P**	**01 03 46.6**	**+1.3**
WRH	**Wood River Hil**	**81.72**	**22**	P	**P**	**01 03 45.7**	**+0.2**
GLB	**Gilahina Butte**	**81.92**	**25**	P	**P**	**01 03 47.5**	**+0.9**
GLB				IAmb	IAmb	01 04 03.3	
	comp=Z,4.6nm,1.3s						
CCB	**Clear Creek Bu**	**81.92**	**22**	P	**P**	**01 03 46.5**	**-0.1**
MK31	**Makanchi Array**	**81.93**	**319**	P	**P**	**01 03 47.6**	**+0.5**
MKAR	**Makanchi Array**	**81.93**	**319**	P	**P**	**01 03 47.3**	**+0.2**
MKAR	**Makanchi Array**	**81.93**	**319**	P	**P**	**01 03 47.0**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=102,slow=6.4,SNR=18						
	comp=Z,1.3nm,0.6s						
HDA	**Harding Lake**	**82.11**	**22**	P	**P**	**01 03 48.3**	**+0.7**
HDA				IAmb	IAmb	01 04 17.6	
	comp=Z,6.1nm,1.5s						
MAKZ	**Makanchi**	**82.14**	**319**	P	**P**	**01 03 48.5**	**+0.4**
MAKZ				IAmb	IAmb	01 03 50.0	
	comp=Z,1.8nm,0.7s						
B20K	**Meade River**	**82.19**	**15**	P	**P**	**01 03 49.0**	**+1.1**
G23K	**Bananza Creek**	**82.27**	**19**	P	**P**	**01 03 50.0**	**+1.5**
IL31		**82.32**	**22**	P	**P**	**01 03 48.4**	**-0.2**
ILAR	**Eielson Array**	**82.32**	**22**	P	**P**	**01 03 48.5**	**-0.1**
ILAR	**Eielson Array**	**82.32**	**22**	P	**P**	**01 03 48.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=245,slow=5.6,SNR=31						
	comp=Z,1.2nm,0.6s						
IL03	**Eielson Array**	**82.34**	**22**	P	**P**	**01 03 49.0**	**+0.3**
H24K	**Noodor Dome**	**82.53**	**21**	P	**P**	**01 03 50.5**	**+0.8**
E22K	**Anaktuvuk Pass**	**82.53**	**18**	P	**P**	**01 03 51.0**	**+1.2**
RIDG	**Independent Ri**	**82.58**	**23**	P	**P**	**01 03 50.2**	**+0.1**
RIDG				IAmb	IAmb	01 03 52.0	
	comp=Z,2.6nm,1.0s						
B21K	**Ikpikpuk River**	**82.62**	**16**	P	**P**	**01 03 51.2**	**+1.1**
B21K				IAmb	IAmb	01 04 09.6	
	comp=Z,4.9nm,1.4s						
ZALV	**Zalesovo Beam**	**82.67**	**326**	P	**P**	**01 03 49.1**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=121,slow=6.2,SNR=6.7						
	comp=Z,1.2nm,0.5s						
D22K	**Ayikyak River**	**82.71**	**17**	P	**P**	**01 03 52.5**	**+1.9**
D22K				IAmb	IAmb	01 03 52.8	
	comp=Z,2.3nm,0.7s						
J25K	**Salcha River,**	**82.81**	**22**	P	**P**	**01 03 52.0**	**+0.8**
DOT	**Dot Lake**	**82.85**	**23**	P	**P**	**01 03 52.9**	**+1.5**
DOT				IAmb	IAmb	01 03 54.0	
	comp=Z,2.2nm,0.7s						
SCRK	**Sand Creek**	**83.03**	**23**	P	**P**	**01 03 53.7**	**+1.2**
SCRK				IAmb	IAmb	01 04 05.7	
	comp=Z,5.0nm,1.4s						
G24K	**Hadweenzic Riv**	**83.12**	**20**	P	**P**	**01 03 53.8**	**+1.0**
G24K				IAmb	IAmb	01 04 34.7	
	comp=Z,4.5nm,1.4s						
M27K	**Edge Creek, AK**	**83.15**	**25**	P	**P**	**01 03 55.2**	**+2.0**
E23K	**Chandalar**	**83.16**	**18**	P	**P**	**01 03 55.2**	**+2.2**
D23K	**Nanushuk River**	**83.35**	**17**	P	**P**	**01 03 55.8**	**+1.9**
B22K	**Teshekpuk Lake**	**83.39**	**16**	P	**P**	**01 03 54.4**	**+0.4**
F24K	**Squaw Lake**	**83.42**	**19**	P	**P**	**01 03 56.2**	**+1.9**
F24K				IAmb	IAmb	01 03 56.7	
	comp=Z,2.3nm,0.9s						
J26L	**Joseph Creek**	**83.44**	**23**	P	**P**	**01 03 55.8**	**+1.3**
L27K	**Beaver Creek,**	**83.48**	**24**	P	**P**	**01 03 57.1**	**+2.5**
L27K				IAmb	IAmb	01 04 34.6	
	comp=Z,5.1nm,1.4s						
BCAR	**Beaver Creek A**	**83.50**	**24**	P	**P**	**01 03 56.8**	**+2.0**
K27K	**Chicken**	**83.80**	**23**	P	**P**	**01 03 57.8**	**+1.5**
K27K				IAmb	IAmb	01 04 37.7	
	comp=Z,3.0nm,1.2s						
C23K	**Itkillik River**	**83.87**	**17**	P	**P**	**01 03 58.4**	**+1.9**
I26K	**Coal Creek Min**	**83.97**	**22**	P	**P**	**01 03 57.4**	**+0.3**
I26K				IAmb	IAmb	01 04 12.1	
	comp=Z,5.7nm,1.4s						
F25K	**Christian Rive**	**84.19**	**19**	P	**P**	**01 03 59.6**	**+1.4**
C24K	**Franklin Bluff**	**84.36**	**17**	P	**P**	**01 03 59.7**	**+0.8**
HYT	**Haines Junctio**	**84.44**	**27**	P	**P**	**01 04 01.4**	**+1.7**
HYT				IAmb	IAmb	01 04 03.5	
	comp=Z,3.7nm,0.9s						
BMAR	**Burnt Mountain**	**84.47**	**20**	P	**P**	**01 04 01.2**	**+1.5**
M29M	**Somme Creek**	**84.63**	**26**	P	**P**	**01 04 02.8**	**+2.1**
F26K	**Sheenjek River**	**84.74**	**20**	P	**P**	**01 04 03.0**	**+2.0**
D25K	**Kavik River**	**84.84**	**18**	P	**P**	**01 04 02.5**	**+1.0**
D25K				IAmb	IAmb	01 04 14.7	
	comp=Z,3.3nm,1.3s						
L29M	**L29M**	**85.03**	**25**	P	**P**	**01 04 04.3**	**+1.7**
L29M				IAmb	IAmb	01 04 43.7	
	comp=Z,2.7nm,1.1s						
G27K	**Doyon Strip**	**85.19**	**21**	P	**P**	**01 04 04.5**	**+1.3**
I28M	**Miner Creek**	**85.24**	**22**	P	**P**	**01 04 05.0**	**+1.4**
I28M				IAmb	IAmb	01 04 22.2	
	comp=Z,3.6nm,1.3s						
KURK	**Kurchatov**	**85.34**	**322**	P	**P**	**01 04 03.8**	**-0.5**
KURK				IAmb	IAmb	01 04 42.1	
	comp=Z,3.5nm,1.5s						
KURBB	**Kurchatov Arra**	**85.37**	**322**	P	**P**	**01 04 03.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=99,slow=4.7,SNR=18						
	comp=Z,0.5nm,0.5s						
K29M	**Barlow Dome**	**85.56**	**24**	P	**P**	**01 04 07.3**	**+2.1**
K29M				IAmb	IAmb	01 04 33.4	
	comp=Z,3.6nm,1.4s						
C27K	**Jago River**	**85.81**	**18**	P	**P**	**01 04 07.5**	**+1.3**
E27K	**Coleen River**	**85.83**	**20**	P	**P**	**01 04 08.1**	**+1.7**
E27K				IAmb	IAmb	01 04 09.1	
	comp=Z,2.1nm,0.7s						
GRNB	**Grenville Isla**	**86.13**	**35**	P	**P**	**01 04 10.7**	**+2.6**
H29M	**Whitestone**	**86.15**	**22**	P	**P**	**01 04 10.1**	**+2.1**
J30M	**Hart River**	**86.32**	**24**	P	**P**	**01 04 11.0**	**+2.1**
J30M				IAmb	IAmb	01 04 12.9	
	comp=Z,2.2nm,0.8s						
M31M	**Drury Creek, Y**	**86.32**	**26**	P	**P**	**01 04 11.2**	**+2.3**
D27M	**Malcolm River**	**86.50**	**19**	P	**P**	**01 04 11.8**	**+2.1**
D27M				IAmb	IAmb	01 04 55.6	
	comp=Z,4.4nm,1.5s						
I30M	**Mount Dempster**	**86.53**	**23**	P	**P**	**01 04 10.8**	**+0.8**
G29M	**Pine Creek**	**86.55**	**21**	P	**P**	**01 04 11.3**	**+1.4**
G29M				IAmb	IAmb	01 04 21.9	
	comp=Z,2.1nm,0.9s						
N32M	**Quiet Lake**	**86.57**	**28**	P	**P**	**01 04 11.9**	**+1.7**
S34M	**Telegraph Cree**	**86.57**	**31**	P	**P**	**01 04 12.9**	**+2.7**
S34M				IAmb	IAmb	01 04 14.6	
	comp=Z,2.6nm,0.9s						
E28M	**Babbage River**	**86.69**	**20**	P	**P**	**01 04 12.6**	**+2.0**
EPYK	**Eagle Plains**	**86.82**	**22**	P	**P**	**01 04 12.8**	**+1.5**
E29M	**Blow River**	**87.16**	**20**	P	**P**	**01 04 14.3**	**+1

comp=Z,236nm,0.3s
PB06 IPOC Station P 1.54 206 ⇑ *i* P **Pn 00 56 40.0 +0.2**
PB06 *i* S **Sn 00 57 01.2 +0.4**
PB06 IAML 00 57 01.9
comp=E,672nm,0.4s
PB06 IPOC Station P 1.54 206 *i* P **Pn 00 56 39.6 -0.2**
PB06 *e*S **Sn 00 57 01.9 +1.1**
PB06 IAML 00 57 02.2
comp=Z,301nm,0.3s
TA02 Huaiquique 1.59 311 *e*P **Pn 00 56 39.9 -0.4**
TA02 *i* S **Sn 00 57 01.9 +0.2**
TA02 IAML 00 57 05.9
comp=E,1μm,0.1s
TA02 Huaiquique 1.59 311 *i* P **Pn 00 56 39.9 -0.4**
TA02 IAML 00 57 04.8
comp=Z,474nm,0.3s
PB11 IPOC Station P 1.73 334 ⇑ *i* P **Pn 00 56 42.4 +0.3**
PB11 *i* S **Sn 00 57 05.0 +0.1**
PB11 IAML 00 57 07.3
comp=E,1μm,0.2s
PB11 IPOC Station P 1.73 334 *i* P **Pn 00 56 41.7 -0.4**
PB11 IAML 00 57 07.1
comp=Z,483nm,0.4s
PB05 IPOC Station P 1.98 219 *e*P **Pn 00 56 45.1 -0.1**
PB05 *i* S **Sn 00 57 09.0 -1.4**
PB05 IAML 00 57 16.4
comp=E,187nm,0.4s
PB05 IPOC Station P 1.98 219 *i* P **Pn 00 56 44.8 -0.3**
PB05 IAML 00 57 18.6
comp=Z,69nm,0.3s
PB12 IPOC Station P 3.03 332 *i* P **Pn 00 56 57.6 -1.2**
PB12 IAML 00 57 39.4
comp=Z,116nm,0.6s
PB14 IPOC Station P 3.59 203 *i* P **Pn 00 57 07.9 +1.5**
PB14 IAML 00 58 18.7
comp=Z,24nm,0.4s
GO02 Mina Guanaco 3.89 190 *i* P **Pn 00 57 09.2 -1.2**

ROM 29 00:58:48.7±0.1, 37°.676N±0°.007×15°.142E±0°.009, h7km, ML1.9/8, 1C, Error ellipse: s-maj=0.8km s-min=0.6km az=137.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIC	**Nicolosi**	**0.10**	**245**	P	Pg	00 58 51.5	+0.4
ENIC				AML	AML		
	comp=E,802μm,0.8s						
ENIC				AML	AML		
	comp=N,1095μm,0.3s						
ENIC				AML	AML		
	comp=E,649μm,0.3s						
ENIC				AML	AML		
	comp=E,649μm,1.7s						
ENIC				AML	AML		
	comp=N,1094μm,0.3s						
ENIC				AML	AML		
	comp=E,891μm,0.4s						
ESLN	**Serra La Nave**	**0.13**	**277**	P	Pg	00 58 51.4	-0.2
ESLN				S	Sg	00 58 54.4	+0.7
ESLN				AML	AML		
	comp=E,987μm,1.1s						
ESLN				AML	AML		
	comp=N,736μm,1.1s						
ESLN				AML	AML		
	comp=N,706μm,0.4s						
ESLN				AML	AML		
	comp=E,812μm,0.4s						
ESLN				AML	AML		
	comp=N,773μm,0.4s						
EMCN	**Etna Monte Con**	**0.14**	**323**	P	Pg	00 58 51.8	0.0
EPOZ	**Pozzillo**	**0.17**	**196**	⇑P	Pg	00 58 50.0	-2.1
EPOZ				S	Sg	00 58 52.1	-2.4
EPOZ				AML	AML		
	comp=N,17672μm,0.3s						
EPOZ				AML	AML		
	comp=E,18027μm,0.4s						
ECTS	**Castiglione**	**0.21**	**355**	P	Pg	00 58 53.4	+0.5
ECTS				AML	AML		
	comp=E,524μm,0.4s						
ECTS				AML	AML		
	comp=N,582μm,0.9s						
ECTS				AML	AML		
	comp=N,507μm,0.6s						
ECTS				AML	AML		
	comp=E,525μm,0.4s						
EMSG	**Monte Spagnolo**	**0.21**	**314**	P	Pg	00 58 53.8	+0.8
ESML	**S. M. di Licod**	**0.22**	**255**	P	Pg	00 58 54.0	+1.0
EPZF	**Pizzo Felice**	**0.27**	**303**	P	Pb	00 58 55.3	-0.6
AIO	**Antillo**	**0.30**	**14**	P	Pg	00 58 55.5	+0.9
AIO				AML	AML		
	comp=E,189μm,0.5s						
AIO				AML	AML		
	comp=N,402μm,0.4s						
AIO				AML	AML		
	comp=N,401μm,0.4s						
AIO				AML	AML		
	comp=E,189μm,0.5s						
NOV	**Novara**	**0.35**	**359**	P	Pb	00 58 56.6	-0.7
HAGA	**Augusta**	**0.39**	**178**	P	Pb	00 58 57.3	-0.5
HLNI	**Lentini**	**0.39**	**213**	P	Pg	00 58 57.0	+0.7
MUCR	**Ucria**	**0.42**	**330**	P	Pb	00 58 58.3	-0.2

ROM 29 00:59:03.2±0.2, 37°.68N±0°.02×15°.14E±0°.01, h3km, ML2.1/6, Error ellipse: s-maj=1.9km s-min=1.2km az=21.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVRN	**Santa Venerina**	**0.01**	**343**	P	Pg	00 59 02.8	-1.1
EVRN				S	Sg	00 59 03.5	-0.9
ENIC	**Nicolosi**	**0.10**	**242**	P	Pg	00 59 06.1	+0.8
ESLN	**Serra La Nave**	**0.13**	**275**	P	Pg	00 59 05.7	-0.2
ESLN				S	Sg	00 59 08.7	+1.1
ESLN				AML	AML		
	comp=E,1311μm,0.5s						
ESLN				AML	AML		
	comp=N,1047μm,0.7s						
ESLN				AML	AML		
	comp=N,1186μm,0.6s						
ESLN				AML	AML		
	comp=N,1691μm,0.6s						
ESLN				AML	AML		
	comp=E,2235μm,0.6s						
EMCN	**Etna Monte Con**	**0.14**	**323**	P	Pg	00 59 06.2	+0.2
EPIT	**Pozzo Pitarron**	**0.14**	**334**	P	Pg	00 59 07.0	+0.9
EPIT				S	Sg	00 59 09.1	+1.0
EPOZ	**Pozzillo**	**0.17**	**195**	P	Pg	00 59 04.2	-2.4
EPOZ				S	Sg	00 59 06.1	-2.7
EPOZ				AML	AML		
	comp=E,41186μm,0.3s						
EPOZ				AML	AML		
	comp=N,59638μm,0.3s						
EPOZ				AML	AML		
	comp=N,59638μm,1.7s						
EPOZ				AML	AML		
	comp=E,41186μm,1.7s						
ECTS	**Castiglione**	**0.20**	**356**	P	Pg	00 59 07.6	+0.5
ECTS				AML	AML		
	comp=E,1450μm,0.3s						
ECTS				AML	AML		
	comp=N,1170μm,0.7s						
ECTS				AML	AML		
	comp=N,1170μm,0.7s						
ECTS				AML	AML		
	comp=E,1448μm,0.3s						
EMSG	**Monte Spagnolo**	**0.20**	**313**	P	Pg	00 59 08.3	+1.1
EPZF	**Pizzo Felice**	**0.27**	**303**	P	Pb	00 59 10.2	-0.4
AIO	**Antillo**	**0.30**	**14**	P	Pg	00 59 10.0	+1.0
AIO				AML	AML		
	comp=E,348μm,1.0s						
AIO				AML	AML		
	comp=N,402μm,0.4s						
AIO				AML	AML		
	comp=E,312μm,0.3s						
AIO				AML	AML		
	comp=N,401μm,0.4s						
AIO				AML	AML		
	comp=N,401μm,1.6s						

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*SJA **29** 01:07:16.3±1.0, 31°.70S×71°.46W, h26km±4km, ML3.5, MW3.7*
*GUC **29** 01:07:19.6±0.7, 31°.54S×71°.35W, h49km±6km, ML3.5*

ISC 29 01:07:18.1±1.4, 31°.72S±0°.02×71°.53W±0°.06, h27km±16km, n41, σ1°.48/59, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.05**	**355**	*e*P	**Pb**	**01 07 37.3**	**-0.2**
CO06				*e*S	**Sn**	**01 07 50.1**	**-0.6**
CO06				IAML		01 07 55.4	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.14**	**39**	⇓*i*P	**Pn**	**01 07 37.1**	**-1.2**
CO03				*e*S	**Sn**	**01 07 51.0**	**-2.0**
CO03				IAML		01 07 51.8	
	comp=E,3μm,0.4s						
CO03	**El Pedregal**	**1.14**	**39**	*i*P	**Pn**	**01 07 37.0**	**-1.2**
CO03				*i*S	**Sn**	**01 07 51.1**	**-1.9**
CO03				IAML		01 07 51.7	
	comp=Z,941nm,0.4s						
VA01	**Torpederas**	**1.30**	**184**	*e*P	**Pb**	**01 07 42.2**	**+0.3**
VA01	**Torpederas**	**1.30**	**184**	*i*P	**Pb**	**01 07 40.9**	**-0.9**
VA01				*i*S	**Sb**	**01 07 59.5**	**+1.3**
VA01				IAML		01 08 01.2	
	comp=Z,442nm,0.3s						
ROCH	**El Roble**	**1.32**	**161**	*e*P	**Pn**	**01 07 40.9**	**0.0**
ROCH				*e*S	**Sn**	**01 07 58.3**	**+0.5**
VA03	**San Esteban**	**1.33**	**142**	*e*P	**Pn**	**01 07 39.7**	**-1.2**
VA03	**San Esteban**	**1.33**	**142**	⇓*i*P	**Pn**	**01 07 39.5**	**-1.4**
VA03				*i*S	**Sn**	**01 07 57.1**	**-0.6**
VA03				IAML		01 07 59.0	
	comp=Z,891nm,0.7s						
PEL	**Peldehue**	**1.59**	**154**	*e*P	**Pn**	**01 07 43.7**	**-0.8**
PEL				*e*S	**Sn**	**01 07 56.2**	**-7.9**
PEL	**Peldehue**	**1.59**	**154**	*i*P	**Pn**	**01 07 43.6**	**-0.8**
GO04	**Tololo Observa**	**1.67**	**22**	*i*P	**Pb**	**01 07 46.4**	**-1.8**
MT10	**Hacienda Santa**	**1.76**	**152**	*e*P	**Pn**	**01 07 45.9**	**-1.0**
MT05	**Renca**	**1.79**	**158**	*i*P	**Pn**	**01 07 46.8**	**-0.5**
MT05				IAML		01 08 13.5	
	comp=Z,569nm,0.3s						
RTLS	**Leoncito**	**1.90**	**93**	*i*P	**Pn**	**01 07 48.5**	**-0.5**
RTLS				*i*S	**Sn**	**01 08 11.2**	**-1.0**
RTLS				IAML		01 08 17.9	
	comp=Z,467nm,0.5s						
VA05	**Santo Domingo**	**1.93**	**182**	*e*P	**Pn**	**01 07 49.5**	**+0.4**
MT03	**Universidad Ad**	**1.96**	**154**	*e*P	**Pn**	**01 07 49.5**	**-0.2**
MT03	**Universidad Ad**	**1.96**	**154**	*i*P	**Pn**	**01 07 49.5**	**-0.2**
MT03				*i*S	Sn	01 08 02.7	-11
MT03				IAML		01 08 04.8	
	comp=Z,810nm,0.3s						
MT09	**Talagante**	**2.10**	**168**	*e*P	**Pn**	**01 07 52.0**	**+0.4**
CO01	**Juntas del Tor**	**2.13**	**36**	*e*P	**Pn**	**01 07 52.0**	**-0.1**
CO01				*e*S	**Sn**	**01 08 17.4**	**-0.3**
CO01				IAML		01 08 19.4	
	comp=N,531nm,0.3s						
CO01	**Juntas del Tor**	**2.13**	**36**	*i*P	**Pn**	**01 07 52.0**	**-0.1**
CO01				*i*S	**Sn**	**01 08 18.2**	**+0.5**
CO01				IAML		01 08 20.3	
	comp=Z,334nm,0.2s						
MT08	**Bocatoma Ro**	**2.14**	**144**	*e*P	**Pn**	**01 07 52.9**	**+0.7**
MT08	**Bocatoma Ro**	**2.14**	**144**	*i*P	**Pn**	**01 07 52.7**	**+0.5**
MT08				IAML		01 08 30.1	
	comp=Z,142nm,0.8s						
MT12	**Pirque**	**2.17**	**158**	*e*P	**Pn**	**01 07 51.8**	**-0.6**
DOCA	**Reserva Natura**	**2.23**	**70**	*i*P	**Pn**	**01 07 53.7**	**+0.1**
DOCA				*i*S	**Sn**	**01 08 21.4**	**+1.0**
DOCA				IAML		01 08 25.9	
	comp=Z,187nm,1.4s						
AROD	**Rodeo**	**2.35**	**49**	*i*P	**Pn**	**01 07 56.2**	**+1.0**
AROD				*i*S	**Sn**	**01 08 24.4**	**+1.2**
BO04	**La Punta**	**2.39**	**161**	*e*P	**Pn**	**01 07 55.4**	**-0.1**
ACCO	**Cerro Coronel**	**2.39**	**62**	*i*P	**Pn**	**01 07 57.7**	**+1.9**
ACCO				*i*S	**Sn**	**01 08 26.1**	**+1.7**
LMEL	**Las Melosas**	**2.40**	**153**	*i*P	**Pn**	**01 07 56.3**	**+0.7**
ZON	**Zonda**	**2.44**	**87**	*i*P	**Pn**	**01 07 56.1**	**0.0**
ZON				*i*S	**Sn**	**01 08 25.8**	**+0.7**
ZON				IAML		01 08 27.9	
	comp=Z,133nm,0.5s						
ARCO	**CERRO ARCO**	**2.46**	**118**	*i*P	**Pn**	**01 07 57.9**	**+1.3**
ARCO				*i*S	**Sn**	**01 08 26.6**	**+0.7**
ARCO				IAML		01 08 36.3	
	comp=Z,209nm,0.5s						
AAGR	**Agrelo**	**2.66**	**122**	*i*P	**Pn**	**01 07 59.5**	**+0.3**
AAGR				IAML		01 08 51.2	
	comp=Z,132nm,0.8s						
BO01	**Tunca**	**2.69**	**172**	*e*P	**Pn**	**01 08 00.2**	**+0.7**
BO01	**Tunca**	**2.69**	**172**	*i*P	**Pn**	**01 08 00.4**	**+0.9**
BO01				*i*S	**Sn**	**01 08 33.7**	**+2.5**
BO01				IAML		01 08 43.8	
	comp=Z,131nm,0.3s						
CFA	**Coronel Fontan**	**2.81**	**88**	*i*P	**Pn**	**01 08 01.4**	**+0.2**
CFA				*i*S	**Sn**	**01 08 34.7**	**+0.5**
AC05	**El Transito**	**3.07**	**21**	*e*P	**Pn**	**01 08 05.5**	**+0.5**
AC05	**El Transito**	**3.07**	**21**	*i*P	**Pn**	**01 08 05.4**	**+0.5**
AC05				*i*S	**Sn**	**01 08 41.3**	**+0.5**
AC05				IAML		01 08 57.8	
	comp=Z,166nm,0.6s						
BO02	**Sierra Bellavi**	**3.13**	**169**	*e*P	**Pn**	**01 08 07.0**	**+1.3**
BO02	**Sierra Bellavi**	**3.13**	**169**	*i*P	**Pn**	**01 08 07.0**	**+1.3**
BO02				IAML		01 08 59.9	
	comp=Z,201nm,0.5s						
AC04	**Llanos de Chal**	**3.53**	**7**	*e*P	**Pn**	**01 08 10.8**	**-0.3**
VCA	**Vinchina**	**4.14**	**45**	*e*P	**Pn**	**01 08 21.4**	**+1.8**
VCA	**Vinchina**	**4.14**	**45**	*i*P	**Pn**	**01 08 21.3**	**+1.7**
VCA				IAML		01 09 27.1	
	comp=Z,177nm,0.6s						

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*KRSC **29** 01:29:34.6±1.8, 50°.50N×160°.05E, h61km±37km, Ml4.4*
*NEIC **29** 01:29:35.8±0.8, 50°.5N±0°.1×159°.8E±0°.2, h10km±2km, mb4.3/38, Error ellipse: s-maj=22.8km s-min=18.8km az=232.0*
*MOS **29** 01:29:37.2±0.9, 50°.53N×159°.97E, h40km, mb4.3/8, Error ellipse: s-maj=11.5km s-min=4.5km az=101.7*
*IDC **29** 01:29:39.9±2.9, 50°.51N×159°.77E, h47km±25km, mb3.7/20, mbtmp3.9/22, ML3.1/2, Error ellipse: s-maj=20.4km s-min=14.0km az=167.0*

ISC 29 01:29:38.3±0.6, 50°.44N±0°.06×159°.93E±0°.05, h35km, n134, σ1°.26/140, mb4.2/46, 10C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.80**	**320**	PN	**Pn**	**01 30 05.4**	**-1.3**
KDTR				S	**Sn**	**01 30 26.7**	**-1.6**
KDTR	**Khodutka, Kamc**	**1.80**	**320**	*e*P	**Pn**	**01 30 05.5**	**-1.3**
KDTR				*e*S	**Sn**	**01 30 26.7**	**-1.6**
RUS	**Russkaya**	**2.18**	**337**	PN	**Pn**	**01 30 10.4**	**-1.6**
RUS				S	**Sn**	**01 30 35.6**	**-2.1**
RUS	**Russkaya**	**2.18**	**337**	*e*P	**Pn**	**01 30 10.5**	**-1.6**
RUS				*e*S	**Sn**	**01 30 35.6**	**-2.1**
PAU	**Pauzhetka**	**2.23**	**299**	PN	**Pn**	**01 30 12.0**	**-0.6**
PAU	**Pauzhetka**	**2.23**	**299**	*e*P	**Pn**	**01 30 12.1**	**-0.6**
GRL	**Gorelyy**	**2.41**	**332**	PN	**Pn**	**01 30 14.7**	**-0.5**
GRL	**Gorelyy**	**2.41**	**332**	*e*P	**Pn**	**01 30 14.8**	**-0.5**
SKR	**Severo-Kuril's**	**2.45**	**277**	⇑*i*PN	**Pn**	**01 30 14.5**	**-1.1**
SKR				*e*S	**Sn**	**01 30 42.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,291nm,0.4s						
SKR				smax	smax		
	comp=E,2μm,0.9s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR	**Severo-Kuril's**	**2.45**	**277**	*e*P	**Pn**	**01 30 14.4**	**-1.3**
SKR				*e*S	**Sn**	**01 30 42.0**	**-2.2**
KRMR	**Karymshinskiy**	**2.64**	**336**	PN	**Pn**	**01 30 17.3**	**-1.0**
KRMR				S	**Sn**	**01 30 48.4**	**-0.6**
KRMR	**Karymshinskiy**	**2.64**	**336**	*e*P	**Pn**	**01 30 17.3**	**-1.0**
KRMR				*e*S	**Sn**	**01 30 48.5**	**-0.6**
SPN	**Mys Shipunski**	**2.66**	**1**	*e*S	**Sn**	**01 30 46.7**	**-2.8**
DALK	**Dalny**	**2.69**	**345**	PN	**Pn**	**01 30 17.6**	**-1.4**
DALK				S	**Sn**	**01 30 48.0**	**-2.3**
DALK	**Dalny**	**2.69**	**345**	*e*P	**Pn**	**01 30 17.7**	**-1.4**
DALK				*e*S	**Sn**	**01 30 48.1**	**-2.3**
PET	**Petropavlovsk**	**2.71**	**343**	Pn	**Pn**	**01 30 18.1**	**-1.1**
PET	**Petropavlovsk**	**2.71**	**343**	*e*PN	**Pn**	**01 30 18.1**	**-1.1**
PET				*e*S	**Sn**	**01 30 48.5**	**-2.1**
PET				smax	smax		
	comp=N,370nm,0.5s						
PET				smax	smax		
	comp=E,167nm,0.5s						
UGLR	**Uglovaya**	**2.85**	**346**	PN	**Pn**	**01 30 20.6**	**-0.8**
UGLR	**Uglovaya**	**2.85**	**346**	*e*P	**Pn**	**01 30 20.6**	**-0.8**
SDLR	**Sedlovina**	**2.91**	**347**	PN	**Pn**	**01 30 21.5**	**-0.6**
SDLR	**Sedlovina**	**2.91**	**347**	*e*P	**Pn**	**01 30 21.6**	**-0.6**
AVH	**Avacha**	**2.92**	**346**	PN	**Pn**	**01 30 22.0**	**-0.2**
AVH	**Avacha**	**2.92**	**346**	*e*P	**Pn**	**01 30 22.1**	**-0.2**
KOK	**Koryaka**	**2.96**	**345**	PN	**Pn**	**01 30 22.6**	**-0.3**
KOK	**Koryaka**	**2.96**	**345**	*e*P	**Pn**	**01 30 22.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**3.01**	**333**	Pn	**Pn**	**01 30 23.4**	**0.0**
PEA0B	**Petropavlovsk-**	**3.01**	**333**	PN	**Pn**	**01 30 23.2**	**-0.2**
PEA0B				S	**Sn**	**01 30 58.6**	**+0.4**
PETK	**Petropavlovsk-**	**3.01**	**333**	Pn	**Pn**	**01 30 22.6**	**-0.8**
PETK	**Petropavlovsk-**	**3.01**	**333**	P	**Pn**	**01 30 22.9**	**-0.5**
	comp=E,6.0nm,0.3s,baz=139,slow=16,SNR=57						
PETK				S	**Sn**	**01 30 57.8**	**-0.4**
	comp=E,16nm,0.3s,baz=102,slow=16,SNR=8.0						
	comp=E,22nm,0.6s						
APC	**Apacha**	**3.03**	**326**	PN	**Pn**	**01 30 23.4**	**-0.2**
APC				S	**Sn**	**01 31 00.8**	**+2.2**
APC	**Apacha**	**3.03**	**326**	*e*P	**Pn**	**01 30 23.4**	**-0.2**
APC				*e*S	**Sn**	**01 31 00.8**	**+2.2**
KRX	**Arik**	**3.03**	**345**	PN	**Pn**	**01 30 22.9**	**-0.9**
KRX	**Arik**	**3.03**	**345**	*e*P	**Pn**	**01 30 22.9**	**-0.9**
GNL	**Ganaly**	**3.48**	**340**	PN	**Pn**	**01 30 29.8**	**-0.2**
GNL				S	**Sn**	**01 31 09.9**	**0.0**
GNL	**Ganaly**	**3.48**	**340**	*e*P	**Pn**	**01 30 29.8**	**-0.2**
GNL				*e*S	**Sn**	**01 31 10.0**	**0.0**
KII	**Karymskiy**	**3.61**	**355**	PN	**Pn**	**01 30 31.6**	**-0.1**
KII				S	**Sn**	**01 31 11.4**	**-1.7**
KII	**Karymskiy**	**3.61**	**355**	*e*P	**Pn**	**01 30 31.6**	**-0.1**
KII				*e*S	**Sn**	**01 31 11.5**	**-1.7**
TUMD	**Tumrok D**	**4.78**	**3**	PN	**Pn**	**01 30 47.0**	**-0.6**
TUMD	**Tumrok D**	**4.78**	**3**	*e*P	**Pn**	**01 30 47.1**	**-0.6**
TUMD				*e*S	**Sn**	**01 31 38.7**	**-3.1**
BKI	**Bering**	**6.01**	**35**	PN	**Pn**	**01 31 02.4**	**-2.1**
BKI	**Bering**	**6.01**	**35**	*e*P	**Pn**	**01 31 02.4**	**-2.1**
KBTR	**Krutoberegovo**	**6.03**	**16**	PN	**Pn**	**01 31 03.5**	**-1.3**
KBTR	**Krutoberegovo**	**6.03**	**16**	*e*P	**Pn**	**01 31 03.5**	**-1.3**
KBTR				*e*S	**Sn**	**01 32 08.7**	**-3.8**
ERM	**Erimo**	**14.32**	**240**	*i*P	**P**	**01 33 01.3**	**-3.7**
BILL	**Bilibino**	**17.93**	**8**	P	**P**	**01 33 47.4**	**+2.7**
BILL	**Bilibino**	**17.93**	**8**	*i*P	**P**	**01 33 42.9**	**-1.8**
KLR	**Kul'dur**	**18.18**	**277**	P	**P**	**01 33 47.9**	**+0.2**
	comp=E,0.1nm,0.3s,baz=70,slow=14,SNR=5.3						
	comp=E,1.5nm,0.8s						
KLR	**Kul'dur**	**18.18**	**277**	*ce*P	**P**	**01 33 49.1**	**+1.4**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.3s						
YAK	**Yakutsk**	**20.20**	**317**	*ce*P	Pn	01 34 08.4	-3.3
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
ZEA	**Zeya**	**20.25**	**292**	*i*P	Pn	01 34 10.9	-1.4
MAJO	**Matsushiro**	**20.91**	**237**	*i*P	Pn	01 34 18.9	-1.3
MAJO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
N15K	**Kwethluk River**	**24.38**	**51**	P	**P**	**01 34 54.3**	**+1.5**
N15K				IAmb	IAmb	01 35 23.6	
	comp=Z,9.4nm,1.2s						
TIXI	**Tiksi**	**25.48**	**338**	P	**P**	**01 35 03.3**	**+0.7**
TIXI	**Tiksi**	**25.48**	**338**	*ce*P	**P**	**01 35 02.8**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,11nm,0.7s						
H19K	**Roundabout Mou**	**26.90**	**39**	P	**P**	**01 35 16.4**	**+0.9**
H19K				IAmb	IAmb	01 35 17.5	
	comp=Z,6.1nm,0.9s						
E19K	**Redstone River**	**27.10**	**35**	P	**P**	**01 35 15.9**	**-1.4**
H21K	**Melozitna Rive**	**28.41**	**40**	P	**P**	**01 35 30.0**	**+1.0**
H21K				IAmb	IAmb	01 35 31.6	
	comp=Z,4.9nm,1.0s						
NEA2	**Nenana**	**29.86**	**42**	P	**P**	**01 35 42.5**	**+0.6**
NEA2				IAmb	IAmb	01 35 44.1	
	comp=Z,4.3nm,0.6s						
SML	**Sawmill**	**30.15**	**48**	P	**P**	**01 35 45.0**	**+0.5**
WRH	**Wood River Hil**	**30.27**	**43**	P	**P**	**01 35 46.5**	**+1.0**
WRH				IAmb	IAmb	01 35 48.1	
	comp=Z,2.6nm,0.7s						
CCB	**Clear Creek Bu**	**30.41**	**42**	P	**P**	**01 35 47.5**	**+0.9**
E24K	**Your Creek**	**30.48**	**35**	P	**P**	**01 35 47.5**	**+0.1**
E24K				IAmb	IAmb	01 35 49.2	
	comp=Z,3.5nm,0.8s						
IL31		**30.80**	**42**	P	**P**	**01 35 50.8**	**+0.6**
IL31				IAmb	IAmb	01 35 51.1	
	comp=Z,2.3nm,0.6s						
ILAR	**Eielson Array**	**30.80**	**42**	P	**P**	**01 35 50.4**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=247,slow=7.8,SNR=36						
	comp=Z,1.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**31.14**	**167**	T	T	02 08 40.8	
	baz=352,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.16**	**167**	T	T	02 08 41.7	
	baz=352,slow=76						
H11N1	**WAKE ISLAND Hy**	**31.16**	**167**	T	T	02 08 42.0	
	baz=352,slow=76						
PRP	**Porcupine Dome**	**31.40**	**41**	P	**P**	**01 35 56.9**	**+1.3**
PRP				IAmb	IAmb	01 35 57.2	
	comp=Z,3.6nm,0.8s						
D25K	**Kavik River**	**31.44**	**33**	P	**P**	**01 35 55.9**	**+0.1**
D25K				IAmb	IAmb	01 35 57.6	
	comp=Z,5.4nm,0.9s						
FYU	**Fort Yukon**	**31.57**	**39**	P	**P**	**01 35 57.9**	**+1.0**
RIDG	**Independent Ri**	**31.69**	**44**	P	**P**	**01 35 58.4**	**+0.3**
RIDG				IAmb	IAmb	01 35 58.7	
	comp=Z,4.4nm,1.0s						
DOT	**Dot Lake**	**32.05**	**44**	P	**P**	**01 36 00.9**	**-0.3**
DOT				IAmb	IAmb	01 36 02.3	
	comp=Z,2.5nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**32.32**	**168**	T	T	02 10 07.6	
	baz=352,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**32.33**	**168**	T	T	02 10 08.7	
	baz=352,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**32.34**	**168**	T	T	02 10 10.6	
	baz=352,slow=76,SNR=6.0						
C27K	**Jago River**	**32.41**	**33**	P	**P**	**01 36 05.3**	**+1.0**
C27K				IAmb	IAmb	01 36 06.5	
	comp=Z,2.4nm,0.7s						
L27K	**Beaver Creek,**	**33.09**	**45**	P	**P**	**01 36 12.0**	**+1.6**
I28M	**Miner Creek**	**33.74**	**41**	P	**P**	**01 36 16.9**	**+0.9**
G29M	**Pine Creek**	**34.43**	**38**	IAmb	IAmb	01 36 24.6	
	comp=Z,5.8nm,0.9s						
SONM	**Songino Array**	**34.49**	**287**	P	**P**	**01 36 23.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=94,slow=9.4,SNR=1.8						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**34.49**	**287**	P	**P**	**01 36 23.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**34.59**	**273**	*e*P	**P**	**01 36 22.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,5.3s						
L29M	**L29M**	**34.76**	**45**	P	P	01 36 26.9	+2.1
L29M				IAmb	IAmb	01 36 27.5	
	comp=Z,5.0nm,0.8s						
K29M	**Barlow Dome**	**34.93**	**43**	P	**P**	**01 36 27.8**	**+1.5**
K29M				IAmb	IAmb	01 36 29.6	
	comp=Z,4.6nm,1.2s						
EPYK	**Eagle Plains**	**34.99**	**39**	P	**P**	**01 36 27.9**	**+1.2**
EPYK				IAmb	IAmb	01 36 29.5	
	comp=Z,6.5nm,1.0s						
M31M	**Drury Creek, Y**	**36.62**	**46**	P	**P**	**01 36 42.0**	**+1.3**
M31M				IAmb	IAmb	01 36 43.5	
	comp=Z,4.2nm,0.9s				

BRVK	Borovoye	52.02	310	*ce*P	P	01 38 44.6	+0.8
BRVK				pmax	pmax		
comp=Z,9.0nm,2.5s							
FCC	Fort Churchill	55.63	37	P	P	01 39 10.6	+0.5
FCC	Fort Churchill	55.63	37	P	P	01 39 10.6	+0.5
FCC				pmax	pmax		
comp=Z,1.0nm,0.7s							
AAK	Ala-Archa	56.19	298	*ce*P	P	01 39 16.4	+1.8
AAK				pmax	pmax		
comp=Z,4.0nm,1.3s							
NVAR	Mina Array Bea	56.78	68	P	P	01 39 20.1	+1.1
comp=Z,0.5nm,0.4s,baz=297,slow=7.8,SNR=5.0							
comp=Z,0.5nm,0.4s							
KSH	Kashi	57.36	294	P	P	01 39 31.0	+8.1
KSH				pmax	pmax		
comp=Z,3.0nm,0.7s							
CMAR	Chiang Mai Arr	57.57	260	P	P	01 39 24.9	+0.5
comp=Z,0.6nm,0.3s,baz=40,slow=6.1,SNR=1.7							
comp=Z,0.6nm,0.3s							
TPAW	Teton Pass	57.69	59	P	P	01 39 26.7	+1.4
KKAR	Karatay Array	58.11	300	P	P	01 39 28.4	+0.5
KKAR	Karatay Array	58.11	300	P	P	01 39 28.5	+0.5
PDAR	Pinedale Array	58.94	59	P	P	01 39 35.6	+1.6
PDAR	Pinedale Array	58.94	59	P	P	01 39 35.0	+1.1
comp=Z,1.7nm,0.8s,baz=300,slow=3.2,SNR=15							
comp=Z,1.7nm,0.8s							
ABKAR	Akbulak array	59.46	311	P	P	01 39 38.0	+0.8
ABKAR	Akbulak array	59.46	311	P	P	01 39 38.0	+0.8
ABKAR				IAmb	IAmb	01 39 38.4	
comp=Z,3.6nm,1.2s							
RDMU	Red Mountain	60.40	61	P	P	01 39 45.9	+1.8
GAR	Garm	60.97	297	P	P	01 39 48.7	+0.8
SIMJ	Simiganj	61.95	297	P	P	01 39 54.1	-0.4
FINES	FINESS Array B	62.52	337	P	P	01 39 56.9	-0.9
comp=Z,1.5nm,0.8s,baz=24,slow=7.1,SNR=4.1							
comp=Z,1.5nm,0.8s							
NOA	NORSAR Array B	66.06	344	P	P	01 40 19.1	-1.9
comp=Z,0.7nm,0.8s,baz=24,slow=7.3,SNR=2.6							
comp=Z,0.7nm,0.8s							
HFS	Hagfors	66.45	342	P	P	01 40 24.9	+1.4
comp=Z,2.7nm,0.8s,baz=52,slow=5.7,SNR=4.8							
comp=Z,2.7nm,0.8s							
AKASG	Malin Array Be	70.84	329	P	P	01 40 49.1	-1.8
comp=Z,0.7nm,0.5s,baz=28,slow=6.9,SNR=2.3							
comp=Z,0.7nm,0.5s							
TX31	Lajitas Ar. Si	71.79	66	P	P	01 40 58.2	+1.0
TX31				IAmb	IAmb	01 40 59.1	
comp=Z,2.1nm,0.7s							
TXAR	Lajitas Array	71.79	66	P	P	01 40 58.1	+0.9
TXAR	Lajitas Array	71.79	66	P	P	01 40 57.9	+0.7
comp=Z,1.6nm,0.5s,baz=301,slow=5.0,SNR=30							
comp=Z,1.6nm,0.5s							
WRA	Warramunga Arr	73.63	205	P	P	01 41 07.6	-0.3
comp=Z,1.3nm,0.8s,baz=16,slow=6.0,SNR=5.8							
comp=Z,1.3nm,0.8s							
ESK	Eskdalemuir	73.67	350	*ce*P	P	01 41 07.6	-0.2
BURAR	Bucovina Array	74.82	330	P	P	01 41 15.5	+0.7
MODS	Modra-Piesok	76.46	335	*e*P	P	01 41 25.4	+1.4
MODS	Modra-Piesok	76.46	335	*e*P	P	01 41 25.4	+1.4
GERES	GERESS Array B	76.93	338	P	P	01 41 26.4	-0.4
comp=Z,0.3nm,0.6s,baz=36,slow=8.5,SNR=2.3							
comp=Z,0.3nm,0.6s							
ASAR	Alice Springs	77.30	204	P	P	01 41 29.1	+0.3
comp=Z,0.4nm,0.5s,baz=16,slow=6.0,SNR=4.6							
comp=Z,0.4nm,0.5s							
ESDC	Sonseca Array	89.15	348	P	P	01 42 29.2	-0.8
comp=Z,0.8nm,0.9s,baz=341,slow=3.1,SNR=3.8							
comp=Z,0.8nm,0.9s							
H03N2	Juan Fernandez	134.28	91	T	T	04 17 49.5	
baz=313,slow=77,SNR=4.6							
H03N1	Juan Fernandez	134.29	91	T	T	04 17 50.9	
baz=313,slow=77,SNR=7.3							
H03N3	Juan Fernandez	134.29	91	T	T	04 17 53.5	
baz=313,slow=77,SNR=5.6							

TRN 29 01:30:30.4, 10.°12N×60.°71W, h76km, MD3.6, East of Trinidad., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.86	308	*e*P	Pn	01 30 47.6	-0.1
TOSP	Speyside	1.18	8	*e*P	Pn	01 30 51.6	+0.1
GRFF	Grenada Fort F	2.17	332	*e*S	Sn	01 31 30.0	-0.6
GRGR	Grenville	2.21	335	*e*P	Pn	01 31 05.7	+0.7
GRGR				*e*S	Sn	01 31 31.8	+0.3
GCMP	Grenada, Carri	2.46	343	*e*P	Pn	01 31 08.7	+0.3
GCMP				*e*S	Sn	01 31 35.8	-1.6
SVT	Saint Vincent	3.08	350	*e*S	Sn	01 31 50.9	-1.6
SVB	Belmont	3.18	350	*e*S	Sn	01 31 54.1	-0.9
BAUV	El Baul	7.33	261	*e*P	Pn	01 32 15.5	+0.7
BAUV				*e*S	Sn	01 33 31.6	-5.0

IDC 29 01:39:06.7±29.0, 20.°89S×178.°57W, h498km±272km, mb3.1/5, mbtmp4.0/5, Error ellipse: s-maj=206.7km s-min=30.1km az=48.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.14	245	P	P	01 45 34.7	+0.1
1.9nm,0.6s,baz=64,slow=9.3,SNR=3.0							
1.9nm,0.6s							
ASAR	Alice Springs	43.91	257	P	P	01 46 29.1	+0.2
1.5nm,0.5s,baz=100,slow=7.6,SNR=18							
ASAR				PcP	PcP	01 48 03.7	-0.6
0.2nm,0.3s,baz=91,slow=4.1,SNR=4.1							
1.5nm,0.5s							
WRA	Warramunga Arr	44.02	263	P	P	01 46 29.2	-0.6
1.0nm,0.6s,baz=94,slow=8.4,SNR=34							
1.0nm,0.6s							
VNDA	Vanda	57.48	185	P	P	01 48 06.9	-0.2
2.0nm,1.1s,baz=45,slow=4.3,SNR=2.9							
2.0nm,1.1s							
QSPA	South Pole Qui	69.18	180	P	P	01 49 22.7	+0.1
0.9nm,0.8s,baz=36,slow=14,SNR=1.8							
0.9nm,0.8s							
MMAI	Mount Meron Ar	147.54	299	PKPbc	PKPbc	01 57 54.6	-0.4
0.7nm,0.4s,baz=93,slow=3.0,SNR=4.2							

IDC 29 01:52:21.9±431.0, 17.°86N×97.°82W, h0km, Error ellipse: s-maj=323.0km s-min=171.3km az=73.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I20EC	Galapagos	19.76	157	I	I	03 50 40.0	
0.1nm,0.9s,baz=337,slow=321,SNR=6.6							
I10CA	LAC DU BONNET	32.29	2	I	I	05 10 10.0	
baz=181,slow=329,SNR=2.4							
I56US	NEWPORT INFRAS	34.16	337	I	I	05 20 55.0	
baz=138,slow=290							

*NOU **29** 02:06:31.8, 18.°19S×167.°30E, h0km, MLv4.6/18, Vanuatu Islands*
*NEIC **29** 02:06:35.1±1.9, 18.°2S±0.°1×167.°2E±0.°2, h10km±1km, mb4.9/13, Error ellipse: s-maj=34.3km s-min=5.0km az=119.0*
*IDC **29** 02:06:40.5±4.9, 18.°50S×167.°31E, h68km±53km, mb3.8/6, mbtmp4.1/8, ML4.9/1, MS3.2/5, Error ellipse: s-maj=48.8km s-min=19.6km az=148.0*
ISC 29 02:06:33.9±0.6, 18.°24S±0.°07×167.°29E±0.°06, h10km, n50, σ1§24/47, mb4.8/13, MS3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	0.99	59	P	Pg	02 06 50.9	-2.1
DVP	Devils Point	0.99	59	S	Sg	02 07 03.8	-2.1
INH	Isangel	2.28	125	P	Pn	02 07 11.0	-0.7
INH	Isangel	2.28	125	S	Sn	02 07 39.8	-0.1
MARNC	Mare, Loyalty	3.30	168	P	Pn	02 07 25.1	-0.5
KOUNC	Koumac, New Ca	3.65	230	P	Pn	02 07 30.8	+0.3
YATNC	Mamie plateau,	3.82	186	P	Pn	02 07 31.9	-0.9
DZM	Mont Dzumac	3.90	192	P	Pn	02 07 34.2	+0.3
18nm,0.6s,baz=147,slow=21,SNR=42							
DZM				S	Sn	02 08 17.1	-2.7
42nm,0.5s,baz=356,slow=19,SNR=12							
DZM				LR	LR	02 08 46.6	
comp=Z,112nm,21.6s,baz=84,slow=35							
DZM	Mont Dzumac	3.90	192	P	Pn	02 07 33.8	-0.1
ONTNC	Ouen Toro	4.13	191		Pn	02 07 37.2	+0.2
ONTNC	Ouen Toro	4.13	191	P	Pn	02 07 36.9	-0.1
OUENC	Ouen Island, N	4.18	186	P	Pn	02 07 37.6	-0.2
PINNC	Pines Island,	4.36	178	Pn	Pn	02 07 41.8	+1.6
LUES	Luesalemba Tem	7.65	350	P	Pn	02 08 24.2	-1.2

MSVF	Nonsavu	10.25	89	P	Pn	02 09 05.6	+4.5
0.3nm,0.3s,baz=242,slow=14,SNR=4.2							
6.2nm,0.8s							
HNR	Honiara	11.29	320	LR	LR	02 12 28.0	
comp=Z,136nm,21.3s,baz=330,slow=30							
RAR	Rarotonga	31.11	101	LR	LR	02 24 05.5	
comp=Z,38nm,19.9s,baz=272,slow=34							
WB0	Warramunga Arr	31.12	262	P	P	02 12 51.4	-1.5
WRA	Warramunga Arr	31.16	261	P	P	02 12 52.5	-0.8
1.2nm,1.0s,baz=93,slow=8.6,SNR=5.7							
1.2nm,1.0s							
ASAR	Alice Springs	31.60	254	P	P	02 12 57.0	-0.1
ASAR	Alice Springs	31.60	254	P	P	02 12 56.5	-0.6
1.5nm,0.4s,baz=89,slow=7.7,SNR=18							
1.5nm,0.4s							
FITZ	Fitzroy Crossi	39.51	263	P	P	02 14 05.1	0.0
FITZ	Fitzroy Crossi	39.51	263	LR	LR	02 29 31.4	
comp=Z,77nm,18.7s,baz=98,slow=35							
JOW	Kunigami	58.66	319	LR	LR	02 41 23.0	
comp=Z,44nm,18.8s,baz=312,slow=35							
CMAR	Chiang Mai Arr	76.41	295	P	P	02 18 25.6	+1.5
2.1nm,0.3s,baz=121,slow=8.5,SNR=4.0							
2.1nm,0.3s							
P18K	Big Mountain,	83.18	18	P	P	02 18 58.9	-1.0
P18K				IAmb	IAmb	02 19 01.7	
comp=Z,7.9nm,1.0s							
ILSW	Iliamna Southw	84.29	19	P	P	02 19 05.6	-0.1
CNPM	China Poot	84.53	20	P	P	02 19 07.2	+0.4
J16K	Anvik River	85.04	14		P	02 19 10.4	+1.1
J16K				IAmb	IAmb	02 19 11.6	
comp=Z,15nm,1.1s							
L18K	Granite Mounta	85.10	16	P	P	02 19 11.2	+1.6
L18K				IAmb	IAmb	02 19 11.9	
comp=Z,9.8nm,1.0s							
K17K	Iditarod	85.11	15	P	P	02 19 10.4	+0.8
SONM	Songino Array	85.32	324	P	P	02 19 11.0	-0.3
comp=Z,0.6nm,0.7s,baz=142,slow=7.3,SNR=3.1							
comp=Z,0.6nm,0.7s							
M19K	Big River Lodg	85.47	17	P	P	02 19 12.3	+0.9
M19K				IAmb	IAmb	02 19 13.3	
comp=Z,10nm,1.2s							
J17K	VABM Dome	85.50	14		P	02 19 13.1	+1.5
J17K				IAmb	IAmb	02 19 13.8	
comp=Z,8.7nm,0.9s							
L19K	White Mountain	85.56	17		P	02 19 13.5	+1.5
L19K				IAmb	IAmb	02 19 14.8	
comp=Z,6.7nm,0.9s							
J18K	Innoko River	86.13	15		P	02 19 15.6	+0.9
J18K				IAmb	IAmb	02 19 17.0	
comp=Z,8.7nm,0.9s							
CAST	Castle Rocks	87.32	17		P	02 19 20.0	-0.5
NVAR	Mina Array Bea	89.53	49	P	P	02 19 32.3	+0.3
comp=Z,0.9nm,0.9s,baz=212,slow=3.5,SNR=4.8							
comp=Z,0.9nm,0.9s							
ILAR	Eielson Array	89.84	18	P	P	02 19 31.0	-1.4
comp=Z,0.9nm,0.7s,baz=230,slow=4.6,SNR=13							
comp=Z,0.9nm,0.7s							
LESA	Schwarzleotal	144.23	330	*e*PKP	PKPab	02 26 08.8	+0.8
comp=Z,0.3nm,0.2s							
ABTA	Abfaltersbach	144.79	329	*e*PKP	PKPab	02 26 10.0	-0.1
comp=Z,2.2nm,0.7s							
MOTA	Moosalm	145.02	331	*e*PKP	PKPab	02 26 11.3	+0.3
comp=Z,1.6nm,0.5s							
SQTA	Sankt Quirin	145.06	331	*e*PKP	PKPbc	02 26 11.7	+0.5
comp=Z,2.3nm,0.7s							
RETA	Reutte	145.07	332	*e*PKP	PKPbc	02 26 11.6	+0.5
comp=Z,0.6nm,0.3s							
WLF	Walferdange	145.17	338		PKPbc	02 26 11.9	+0.7
FETA	Feichten	145.43	331	*i* PKP	PKPbc	02 26 13.0	+0.7
comp=Z,4.4nm,0.7s							
BFO	Black Forest	145.45	335		PKPbc	02 26 12.7	+0.5
DAVA	Damuels	145.61	332	*e*PKP	PKPdf	02 26 13.5	+0.7
comp=Z,5.0nm,0.6s							
FUORN	Ofenpass-Fuorn	145.94	331		PKPdf	02 26 14.8	+1.3
TUE	Stuetta	146.47	332		PKPbc	02 26 16.8	+1.1

*SJA **29** 02:33:27.5±0.7, 22.°85S×68.°89W, h125km±4km, ML3.9, MW3.8*
*GUC **29** 02:33:29.3±0.9, 22.°84S×68.°79W, h113km±5km, ML4.0*
ISC 29 02:33:28.6±1.4, 22.°85S±0.°03×68.°85W±0.°05, h116km±9km, n24, σ1§38/40, 1C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.63	100	*e*P	Pn	02 33 46.9	-0.6
AF01				*i* S	Sn	02 33 59.8	-1.8
AF01				IAML		02 34 00.8	
comp=E,11μm,0.3s							
AF01	San Pedro de A	0.63	100	*e*P	Pn	02 33 48.0	+0.5
AF01				IAML		02 34 15.8	
comp=Z,5μm,0.3s							
PB06	IPOC Station P	0.68	282	⇓*i*P	Pn	02 33 48.2	+0.6
PB06				*i* S	Sn	02 34 02.2	+0.3
PB06				IAML		02 34 02.9	
comp=N,8μm,0.2s							
PB06	IPOC Station P	0.68	282	*e*P	Pn	02 33 48.0	+0.3
PB06				*e*S	Sn	02 34 02.6	+0.7
PB06				IAML		02 34 02.8	
comp=Z,3μm,0.2s							
PB09	IPOC Station P	1.11	341	⇓*i*P	Pn	02 33 52.7	+1.0
PB09				*i* S	Sn	02 34 09.4	+0.3
PB09				IAML		02 34 10.4	
comp=E,2μm,0.3s							
PB09	IPOC Station P	1.11	341	*e*P	Pn	02 33 48.0	-3.7
PB09				*e*P		02 33 52.0	
PB09				*e*S	Sn	02 34 10.2	+1.1
PB09				IAML		02 34 11.0	
comp=Z,2μm,0.7s							
PB03	IPOC Station P	1.15	314	⇓*i*P	Pn	02 33 52.8	+0.7
PB03				*i* S	Sn	02 34 10.2	+0.3
PB03				IAML		02 34 11.5	
comp=N,2μm,0.2s							
PB03	IPOC Station P	1.15	314	*e*P	Pn	02 33 48.0	-4.2
PB03				*e*P		02 33 52.1	
PB03				*e*S	Sn	02 34 10.2	+0.3
PB03				*e*S		02 34 10.2	
PB03				IAML		02 34 11.4	
comp=Z,2μm,0.2s							
PB05	IPOC Station P	1.25	270	⇑*i*P	Pn	02 33 54.1	+1.0
PB05				*i* S	Sn	02 34 12.2	+0.6
PB05	IPOC Station P	1.25	270	*e*P	Pn	02 33 53.4	+0.3
PB05				*e*S	Sn	02 34 12.9	+1.4
PB01	IPOC Station P	1.89	342	⇓*i*P	Pn	02 34 01.2	+0.5
PB01				*i* S	Sn	02 34 25.3	+0.2
PB01				IAML		02 34 26.6	
comp=E,2μm,0.2s							
PB01	IPOC Station P	1.89	342	*e*P	Pn	02 34 00.7	0.0
PB01				*e*S	Sn	02 34 26.2	+1.2
PB01				IAML		02 34 28.8	
comp=Z,1μm,0.2s							
PB14	IPOC Station P	2.27	218	*e*P	Pn	02 34 05.9	+0.2
PB14				*e*S	Sn	02 34 31.9	-2.0
PB14				IAML		02 34 39.1	
comp=Z,340nm,0.4s							
GO02	Mina Guanaco	2.40	196	*e*P	Pn	02 34 08.2	+0.9
GO02				*i* S	Sn	02 34 38.5	+1.5
GO02				IAML		02 34 40.6	
comp=N,725nm,0.5s							
TA01	Diego Aracena	2.58	331	*e*P	Pn	02 34 09.2	-0.2
PB08	IPOC Station P	2.71	354	*e*P	Pn	02 34 11.6	+0.2
PB08				*e*S	Sn	02 34 34.5	-10
HMBC	Humberstone	2.73	339	⇓*i*P	Pn	02 34 11.0	-0.5
HMBC	Humberstone	2.73	339	*e*P	Pn	02 34 11.1	-0.5
HMBC				*e*S	Sn	02 34 34.5	-10
HMBC				IAML		02 34 52.3	
comp=Z,358nm,0.2s							
TA02	Huaiquique	2.83	335	*e*P	Pn	02 34 11.8	-0.8
PB11	IPOC Station P	3.16	346	*e*P	Pn	02 34 16.6	-0.5
PB11				*e*S	Sn	02 34 55.2	+0.7
PB11				IAML		02 34 56.2	
comp=Z,208nm,0.3s							
AC01	Pan de Azucar	3.65	205	*e*P	Pn	02 34 22.9	-0.5
AC01	Pan de Azucar	3.65	205	*e*P	Pn	02 34 23.1	-0.3
AC01				*e*S	Sn	02 35 04.6	-1.3
AC01				IAML		02 35 05.4	
comp=Z,139nm,0.2s							
AC02	Maricunga	3.98	184	*e*P	Pn	02 34 28.7	+0.5
AC02				*e*S	Sn	02 35 11.4	-3.0
FSA	Cafayete	4.17	142	*e*P	Pn	02 34 32.6	+2.1

*IDC **29** 02:36:04.4±3.9, 5.°22S×68.°00E, h0km, mb3.8/5, mbtmp3.8/5, MS3.5/8, Error ellipse: s-maj=128.0km s-min=37.3km az=64.0*
ISC 29 02:36:04.1±4.8, 5.°4S±0.°5×67.°6E±1.°0, h10km, n19, σ0§65/6, mb4.0/5, MS3.5/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	5.30	115	T	T	02 42 45.4	
baz=310,slow=75,SNR=42							
H08S3	Diego Garcia H	5.30	115	T	T	02 42 40.1	
baz=310,slow=75,SNR=18							
H08S2	Diego Garcia H	5.32	115	T	T	02 42 36.7	
baz=310,slow=75,SNR=21							
PSI	Prapat	32.29	76	LR	LR	02 53 52.2	
comp=Z,81nm,18.6s,baz=201,slow=34							
CMAR	Chiang Mai Arr	38.91	52	LR	LR	02 57 57.0	
comp=Z,18nm,18.9s,baz=245,slow=34							
LSZ	Lusaka	39.97	253	LR	LR	02 57 58.6	
comp=Z,65nm,21.5s,baz=108,slow=33							
LBTB	Lobatse	44.76	240	LR	LR	03 00 25.4	
comp=Z,76nm,20.3s,baz=94,slow=32							
BOSA	Boshof	46.29	235	LR	LR	03 01 30.7	
comp=Z,103nm,19.4s,baz=56,slow=33							
SUR	Sutherland	51.24	232	LR	LR	03 03 43.5	
comp=Z,70nm,21.5s,baz=110,slow=32							
KAPI	Kappang	51.88	92	LR	LR	03 05 29.5	
comp=Z,26nm,19.7s,baz=252,slow=34							
H01W3	Cape Leeuwin H	51.93	131	T	T	03 41 08.7	
baz=295							
H01W2	Cape Leeuwin H	51.94	131	T	T	03 41 04.9	
baz=295							
H01W1	Cape Leeuwin H	51.95	131	T	T	03 41 06.7	
baz=295							
MKAR	Makanchi Array	53.55	12	P	P	02 45 24.2	-0.9
0.3nm,0.6s,baz=187,slow=8.7,SNR=3.1							
MKAR				LR	LR	03 05 57.6	
comp=Z,49nm,18.6s,baz=21,slow=34							
0.3nm,0.6s							
KURBB	Kurchatov Arra	56.57	8	P	P	02 45 47.2	+0.4
1.2nm,1.0s,baz=206,slow=7.4,SNR=5.1							
1.2nm,1.0s							
ZALV	Zalesovo Beam	60.85	12	P	P	02 46 16.7	+0.1
1.2nm,0.5s,baz=198,slow=8.8,SNR=6.0							
1.2nm,0.5s							
SONM	Songino Array	62.99	28	P	P	02 46 31.7	+0.4
1.6nm,0.7s,baz=221,slow=7.0,SNR=7.8							
1.6nm,0.7s							
WRA	Warramunga Arr	66.29	109	P	P	02 46 53.2	0.0
1.0nm,1.0s,baz=272,slow=6.5,SNR=4.6							
1.0nm,1.0s							
NVAR	Mina Array Bea	146.67	9	PKPbc	PKPab	02 55 47.7	-0.2
1.2nm,1.0s,baz=346,slow=3.8,SNR=4.6							

*SJA **29** 02:41:34.9±0.7, 23.°45S×66.°37W, h252km±5km, ML4.1, MW3.8*
*GUC **29** 02:41:38.0±0.5, 23.°50S×66.°84W, h256km±12km, ML4.3*
ISC 29 02:41:36.1±1.8, 23.°49S±0.°04×66.°46W±0.°06, h232km±14km, n31, σ1§49/58, 4C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.74	172	*e*P	Pn	02 42 05.6	-2.8
SALTA				*e*P		02 42 09.5	
SLA	San Lorenzo	1.50	145	*e*P	Pn	02 42 14.0	+1.1
SLA				*e*S	S	02 42 43.2	+1.5
YJA	Yavi	1.57	34	*e*P	Pn	02 42 14.8	+1.0
YJA				*e*S	S	02 42 43.7	+0.5
AF01	San Pedro de A	1.67	288	*e*P	Pn	02 42 17.1	+2.6
AF01				*e*S	S	02 42 40.6	-3.8
FSA	Cafayete	2.65	171	*e*P	Pn	02 42 24.5	+0.7
FSA				*e*S	S	02 43 01.1	-0.2
PB06	IPOC Station P	2.97	285	⇑*i*P	Pn	02 42 28.9	+1.5
PB06				*e*S	S	02 43 07.7	+0.1
PB06	IPOC Station P	2.97	285	*e*P	Pn	02 42 28.6	+1.3
PB06				*e*S	S	02 43 07.1	-0.4
PB06				IAML		02 43 09.4	
comp=Z,336nm,0.3s							
PB09	IPOC Station P	3.08	303	*e*P	Pn	02 42 30.5	+2.0
PB09				*e*S	S	02 43 10.1	+0.4
PB09				IAML		02 43 12.4	
comp=E,197nm,0.7s							
PB09	IPOC Station P	3.08	303	*e*P	Pn	02 42 30.3	+1.8
PB09				*e*S	S	02 43 09.5	-0.2
PB09				IAML		02 43 15.6	
comp=Z,131nm,0.3s							
GO02	Mina Guanaco	3.31	239	⇑*i*P	Pn	02 42 32.6	+1.4
GO02				*e*S	S	02 43 15.3	+0.6
GO02	Mina Guanaco	3.31	239	*e*P	Pn	02 42 32.7	+1.4
GO02				*e*S	S	02 43 16.0	+1.4
PB03	IPOC Station P	3.36	295	*e*P	Pn	02 42 32.9	+1.1
PB03				*e*S	S	02 43 14.4	-1.1
PB03	IPOC Station P	3.36	295	*e*P	Pn	02 42 32.9	+1.1
PB03				*e*S	S	02 43 14.6	-1.0
PB03				IAML		02 43 17.6	
comp=Z,574nm,0.1s							
PB05	IPOC Station P	3.51	280	*e*P	Pn	02 42 34.4	+1.0
PB05				*e*S	S	02 43 17.5	-1.0
PB05	IPOC Station P	3.51	280	*e*P	Pn	02 42 34.4	+1.0
PB05				*e*S	S	02 43 18.8	+0.4
PB05				IAML		02 43 20.5	
comp=Z,199nm,0.3s							
PB01	IPOC Station P	3.71	310	⇓*i*P	Pn	02 42 36.5	+0.7
PB01				⇓*e*P		02 42 36.8	
PB01	IPOC Station P	3.71	310	*e*P	Pn	02 42 36.7	+0.9
PB01				*e*S	S	02 43 22.4	-0.5
PB01				IAML		02 43 25.9	
comp=Z,216nm,0.3s							
PB14	IPOC Station P	3.78	252	*e*P	Pn	02 42 37.7	+0.9
PB14				*e*S	S	02 43 24.3	-0.4
PB14	IPOC Station P	3.78	252	*e*P	Pn	02 42 37.7	+0.9
PB14				*e*S	S	02 43 24.7	+0.1
PB14				IAML		02 43 26.7	
comp=Z,71nm,0.2s							
AC02	Maricunga	4.12	215	⇑*i*P	Pn	02 42 42.3	+1.3
AC02	Maricunga	4.12	215	*e*P	Pn	02 42 42.5	+1.4
AC02				*e*S	S	02 43 32.0	-0.2
AC02				IAML		02 43 49.1	
comp=Z,175nm,0.8s							
PB08	IPOC Station P	4.17	323	*e*P	Pn	02 42 43.0	+1.5
PB08				*e*S	S	02 43 33.0	-0.2
PB08	IPOC Station P	4.17	323	*e*P	Pn	02 42 43.0	+1.5
PB08				*e*S	S

WPHZ	Waipukurau	0.32	325	P	Pb	02 56 16.5	-1.1
WPHZ				S	Sb	02 56 20.8	-1.7
PXZ	Pawanui	0.33	25	P	Pn	02 56 19.1	-0.5
PXZ				S	Sn	02 56 25.7	+0.1
PWZ	Pawanui	0.33	25	P	Pn	02 56 19.1	-0.5
WPWS	Waipawa Distri	0.39	349	P	Pb	02 56 18.3	-0.4
WPWS				S	Sb	02 56 24.1	-0.3
DVHZ	Dannevirke	0.39	274	P	Pb	02 56 17.7	-1.0
DVHZ				S	Sb	02 56 22.8	-1.7
BFZ	Birch Farm	0.48	223	P	Pb	02 56 21.1	+0.9
BFZ	Birch Farm	0.48	223	S	Sn	02 56 30.2	+0.8
BFZ	Birch Farm	0.48	223	P	Pb	02 56 21.3	+1.0
PNHZ	Pukenui	0.55	318	P	Pb	02 56 20.2	-1.2
PNHZ				S	Sb	02 56 27.5	-1.5
KAHZ	Kahuranaki	0.56	16	P	Pn	02 56 22.7	-0.1
PRWZ	Pori Road	0.58	247	P	Pb	02 56 22.4	+0.4
TSZ	Takapari Road	0.61	296	P	Pb	02 56 21.1	-1.4
TSZ				S	Sb	02 56 28.4	-2.3
WDPS	Woodville Poli	0.62	269	P	Pb	02 56 22.0	-0.5
TRMS	Tiraumea	0.63	237	P	Pb	02 56 23.3	+0.6
CPFS	Castlepoint Fi	0.67	211	P	Pn	02 56 25.3	+1.1
CPWZ	Castlepoint	0.69	212	P	Pn	02 56 25.2	+0.7
POWZ	Post Office Ro	0.70	265	P	Pb	02 56 23.7	-0.1
KRHZ	Kereru	0.72	341	P	Pb	02 56 23.8	-0.5
CKHZ	Cape Kidnapper	0.74	25	P	Pn	02 56 25.3	+0.1
TIWZ	Tintock	0.75	233	P	Pn	02 56 25.3	-0.1
MCHZ	McNeill Hill	0.88	1	P	Pb	02 56 27.5	+0.5
MRZ	Mangatainoka R	0.90	248	P	Pn	02 56 26.9	-0.6
KWHZ	Kaweka Forest	0.93	348	P	Pn	02 56 27.4	-0.4
TMWZ	Te Maipa	0.98	217	P	Pn	02 56 28.4	-0.2
OHWZ	Ohakea	1.05	276	P	Pn	02 56 30.2	+0.6
HOWZ	Holdsworth Sta	1.05	237	P	Pn	02 56 29.0	-0.5
ARWZ	Aropaoanui	1.09	13	P	Pn	02 56 30.4	-0.1
BKZ	Black Stump Fm	1.17	353	P	Pn	02 56 30.8	-0.4
BKZ	Black Stump Fm	1.17	353	S	Sb	02 56 46.7	0.0
BKZ	Black Stump Fm	1.17	353	P	Pn	02 56 30.9	-0.3
MTW	Mount Morrison	1.22	227	P	Pn	02 56 31.1	-0.8
NMHZ	Naumai	1.23	5	P	Pb	02 56 32.8	-0.2
OGWZ	Otaki Gorge	1.25	247	P	Pn	02 56 31.8	-0.4
WNVZ	Wahianoa	1.30	320	P	Pn	02 56 33.4	+0.3
TRWZ	Traveller	1.31	215	P	Pn	02 56 32.2	-0.9
WHHZ	Waihua	1.32	19	P	Pn	02 56 33.6	+0.3
MTVZ	Mangateitei	1.32	315	P	Pn	02 56 33.7	+0.3
TRVZ	Turoa	1.35	319	P	Pn	02 56 34.2	+0.3
MAVZ	Matarangi	1.36	321	P	Pn	02 56 34.8	+0.6
FWVZ	Far West T-bar	1.38	321	P	Pn	02 56 34.8	+0.5
SNVZ	South Ngauruho	1.39	325	P	Pn	02 56 34.8	+0.4
ETVZ	East Tongariro	1.41	328	P	Pn	02 56 35.0	+0.4
PAWZ	Paruwai Farm	1.42	222	P	Pn	02 56 33.7	-0.9
NGZ	Ngauruhoe	1.42	324	P	Pn	02 56 35.2	+0.4
WAZ	Wangaehu	1.42	293	P	Pn	02 56 35.4	+0.7
TMVZ	Te Maari	1.43	328	P	Pn	02 56 35.3	+0.5
COVZ	Chateau Observ	1.43	322	P	Pn	02 56 35.6	+0.7
RAHZ	Arahi	1.45	13	P	Pn	02 56 35.1	+0.1
KIW	Kapiti Island	1.45	248	P	Pn	02 56 34.5	-0.5
NNVZ	North Ngauruho	1.45	325	P	Pn	02 56 36.2	+1.1
CAW	Cannon Point	1.45	237	P	Pn	02 56 34.3	-0.8
NTVZ	North Tongarir	1.45	327	P	Pn	02 56 35.7	+0.6
PKVZ	Pokaka	1.46	315	P	Pn	02 56 35.9	+0.7
KRVZ	Karewarewa	1.47	327	P	Pn	02 56 36.3	+0.9
WTVZ	West Tongariro	1.47	325	P	Pn	02 56 36.3	+0.8
MTHZ	Maungataniwha	1.48	5	P	Pn	02 56 35.6	+0.1
RITZ	Rihia Road	1.49	335	P	Pb	02 56 36.9	-0.5
HATZ	Hinemaiaia	1.51	342	P	Pb	02 56 38.0	+0.4
KNZ	Kokohu	1.51	31	P	Pn	02 56 35.6	-0.3
MSWZ	Moikau Station	1.53	224	P	Pn	02 56 34.9	-1.3
KATZ	Kakaramea	1.55	330	P	Pb	02 56 37.9	-0.6
TWKZ	Taurewa	1.58	322	P	Pn	02 56 37.7	+0.8
SNGZ	Shannon Statio	1.63	19	P	Pn	02 56 37.4	-0.1
PLWZ	Palliser	1.64	221	P	Pn	02 56 36.5	-1.3
PRGZ	Paritu Road	1.68	34	P	Pn	02 56 37.7	-0.6
RTZ	Ruatahuna	1.73	8	P	Pn	02 56 39.5	+0.6
BHW	Baring Head	1.74	231	P	Pn	02 56 37.7	-1.3
WHTZ	Whakaora	1.75	341	P	Pb	02 56 41.9	+0.1
WATZ	Wairara	1.78	335	P	Pb	02 56 41.8	-0.4
ALRZ	Allen Road	1.78	352	P	Pn	02 56 40.0	+0.3
RIGZ	Rimuhau	1.82	28	P	Pn	02 56 39.9	-0.3
VRZ	Vera Road	1.91	308	P	Pn	02 56 42.6	+1.3
HRRZ	Handcock Road	1.96	351	P	Pb	02 56 45.7	+0.3
TCW	Tory Channel	2.03	243	P	Pn	02 56 41.7	-1.2
HSRZ	Hossack Road	2.04	350	P	Pb	02 56 49.3	+2.5
TKGZ	Te Karaka	2.09	26	P	Pn	02 56 43.1	-0.8
TARZ	Mount Tarawera	2.09	356	P	Pn	02 56 44.9	+1.0
URZ	Urewera	2.09	9	P	Pn	02 56 43.0	-0.8
URZ	Urewera	2.09	9	P	Pn	02 56 43.1	-0.8
MWZ	Matawai	2.10	19	P	Pn	02 56 43.1	-0.9
DUWZ	D'Urville Isla	2.15	256	P	Pn	02 56 45.7	+1.0
PREZ	Palmer Road	2.18	296	P	Pn	02 56 46.4	+1.3
TLZ	Tolley Road	2.18	336	P	Pn	02 56 45.9	+0.8
CNGZ	Carnagh Statio	2.19	33	P	Pn	02 56 45.2	0.0
NEZ	North Egmont	2.25	297	P	Pn	02 56 48.2	+2.0
KHEZ	Kahui Hut	2.30	296	P	Pn	02 56 48.4	+1.7
HIZ	Hauiti	2.30	322	P	Pn	02 56 49.1	+2.4
HIZ	Hauiti	2.30	322	S	Sb	02 57 21.7	+2.7
HIZ	Hauiti	2.30	322	P	Pn	02 56 49.1	+2.4
TUWZ	Tuamarina	2.35	241	P	Pn	02 56 46.9	-0.4
TWGZ	Tauwhareparae	2.38	26	P	Pn	02 56 47.2	-0.6
NBEZ	Newall Road No	2.41	295	P	Pb	02 56 53.7	+0.8
RUGZ	Raukumara Rang	2.48	19	P	Pn	02 56 48.6	-0.7
NNZ	Nelson	2.66	249	P	Pb	02 56 56.1	-1.1
PKGZ	Pakihiroa	2.69	24	P	Pn	02 56 51.1	-1.0
HAZ	Te Kaha	2.71	19	P	Pn	02 56 51.6	-0.7
WMGZ	Waiomatatini S	2.85	29	P	Pn	02 56 53.0	-1.2
TKNZ	Takaka Hill	2.91	255	P	Pb	02 57 01.4	-0.2
KHZ	Kahutara	3.15	228	P	Pn	02 57 00.0	+1.6
MRNZ	Matariki Terra	3.16	249	P	Pn	02 56 58.3	-0.2
THZ	Tophouse	3.19	242	P	Pn	02 56 57.7	-1.4
QRZ	Quartz Range	3.20	260	P	Pn	02 57 02.1	+3.0
QRZ	Quartz Range	3.20	260	P	Pn	02 56 59.7	+0.6
LTZ	Lake Taylor	4.12	232	P	Pn	02 57 09.2	-2.5
AKCZ	Akaroa Harbour	4.52	217	P	Pn	02 57 16.0	-1.1
CTZ	Chatham Island	6.04	126	P	Pn	02 57 39.4	+1.3

IDC 29 02:59:26.1±1.3, 17°.74S×176°.87W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=43.6km s-min=35.6km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.10	259	P	P	03 07 52.1	-0.4
	0.2nm,0.5s,baz=96,slow=8.1,SNR=5.1 0.2nm,0.5s						
ASAR	Alice Springs	46.25	254	P	P	03 07 53.7	+0.1
	0.4nm,0.5s,baz=89,slow=7.7,SNR=3.0 0.4nm,0.5s						
QSPA	South Pole Qui	72.31	180	P	P	03 10 53.6	+0.1
	1.5nm,0.6s,baz=28,slow=16,SNR=13 1.5nm,0.6s						
ILAR	Eielson Array	85.41	12	P	P	03 12 05.0	0.0
	0.3nm,0.8s,baz=206,slow=4.8,SNR=12 0.3nm,0.8s						

*IDC **29** 03:02:35.7±0.9, 50°.33N×159°.79E, h0km, mb3.7/12, mbtmp3.7/13, ML2.5/1, Error ellipse: s-maj=24.3km s-min=18.5km az=162.0*

*KRSC **29** 03:02:37.9±1.8, 50°.51N×159°.95E, h58km±33km, Ml4.1*

ISC 29 03:02:41.3±0.8, 50°.48N±0°.07×159°.88E±0°.06, h35km, n40, σ1§05/45, mb3.8/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.75	320	eP	Pn	03 03 08.0	-1.1
KDTR				eS	Sn	03 03 29.3	-0.8
RUS	Russkaya	2.13	337	eP	Pn	03 03 12.8	-1.6
RUS				eS	Sn	03 03 38.4	-1.2
PAU	Pauzhetka	2.17	298	eP	Pn	03 03 15.0	0.0
PAU				eS	Sn	03 03 41.3	+0.7
GRL	Gorelyy	2.36	332	eP	Pn	03 03 17.4	-0.2
GRL				eS	Sn	03 03 46.2	+0.9
SKR	Severo-Kuril's	2.41	276	eP	Pn	03 03 17.1	-1.0
SKR				eS	Sn	03 03 44.9	-1.4
KRMR	Karymshinskiy	2.59	336	eP	Pn	03 03 20.3	-0.3
KRMR				eS	Sn	03 03 51.0	+0.2
SPN	Mys Shipunski	2.62	2	eS	Sn	03 03 49.7	-2.0
DALK	Dalny	2.65	345	eP	Pn	03 03 20.1	-1.3
DALK				eS	Sn	03 03 50.5	-1.7
PET	Petropavlovsk	2.66	344	eS	Sn	03 03 51.5	-1.0
SDLR	Sedlovina	2.87	348	eP	Pn	03 03 23.8	-0.8
KOK	Koryaka	2.92	345	eP	Pn	03 03 25.2	-0.1
PETK	Petropavlovsk-	2.96	334	Pn	Pn	03 03 25.7	0.0
	2.7nm,0.3s,baz=123,slow=17,SNR=12						
PETK				Sn	Sn	03 04 00.7	+0.8
	2.1nm,0.3s,baz=144,slow=16,SNR=4.9 10nm,0.6s						
APC	Apacha	2.97	326	eP	Pn	03 03 26.1	+0.1
APC				eS	Sn	03 04 01.9	+1.6
KRX	Arik	2.98	346	eP	Pn	03 03 25.4	-0.7
GNL	Ganaly	3.43	340	eP	Pn	03 03 32.3	-0.1
KII	Karymskiy	3.57	356	eP	Pn	03 03 33.8	-0.4
KII				eS	Sn	03 04 14.1	-1.0
TUMD	Tumrok D	4.74	4	eP	Pn	03 03 49.4	-0.8
TUMD				eS	Sn	03 04 41.3	-2.6
KMNR	Kamenistaya	5.29	2	eP	Pn	03 03 59.2	+1.4
KIRR	Kirishev	5.49	3	eP	Pn	03 04 01.6	+1.0
BZGR	Bezymyannyi-Gr	5.49	5	eP	Pn	03 04 01.5	+0.9
KPT	Kopyto	5.50	2	eP	Pn	03 04 01.8	+1.1
KBTR	Krutoberegovo	6.00	16	eP	Pn	03 04 06.0	-1.4
ILAR	Eielson Array	30.80	42	P	P	03 08 53.0	-0.3
	0.8nm,0.7s,baz=246,slow=7.9,SNR=16 0.8nm,0.7s						
H11N2	WAKE ISLAND Hy	31.19	167	T	T	03 41 40.3	
	baz=352,slow=76,SNR=9.9						
H11N3	WAKE ISLAND Hy	31.20	167	T	T	03 41 39.8	
	baz=352,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	31.20	167	T	T	03 41 43.8	
	baz=352,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	32.37	168	T	T	03 43 10.2	
	baz=352,slow=76,SNR=8.8						
H11S3	WAKE ISLAND Hy	32.38	168	T	T	03 43 11.0	
	baz=352,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	32.38	168	T	T	03 43 11.4	
	baz=352,slow=76,SNR=7.9						
INK	Inuvik	36.05	35	P	P	03 09 39.8	+1.0
	1.7nm,1.1s,baz=315,slow=3.4,SNR=4.5 1.7nm,1.1s						
YKA	Yellowknife Ar	45.20	41	P	P	03 10 54.9	+0.5
	0.4nm,0.7s,baz=300,slow=8.0,SNR=6.1 0.4nm,0.7s						
KURBB	Kurchatov Arra	49.13	304	P	P	03 11 25.1	0.0
	0.9nm,0.6s,baz=61,slow=7.7,SNR=7.1 0.9nm,0.6s						
MKAR	Makanchi Array	49.20	298	P	P	03 11 25.8	-0.1
	0.3nm,0.6s,baz=38,slow=5.7,SNR=3.9 0.3nm,0.6s						
BVAR	Borovoye Array	51.93	310	P	P	03 11 46.0	-0.2
	1.0nm,0.5s,baz=55,slow=11,SNR=5.4 1.0nm,0.5s						
NVAR	Mina Array Bea	56.80	68	P	P	03 12 23.1	+1.0
	0.2nm,0.5s,baz=311,slow=7.0,SNR=2.5 0.2nm,0.5s						
PDAR	Pinedale Array	58.95	59	P	P	03 12 38.1	+1.0
	0.8nm,0.8s,baz=323,slow=2.2,SNR=7.4 0.8nm,0.8s						
HFS	Hagfors	66.40	342	P	P	03 13 26.6	+0.4
	2.6nm,0.8s,baz=32,slow=8.5,SNR=2.1 2.6nm,0.8s						
TXAR	Lajitas Array	71.81	66	P	P	03 14 00.9	+0.6
	0.8nm,0.5s,baz=306,slow=4.5,SNR=9.7 0.8nm,0.5s						
WRA	Warramunga Arr	73.66	205	P	P	03 14 09.9	-1.2
	1.0nm,1.0s,baz=16,slow=6.1,SNR=4.5 1.0nm,1.0s						
ASAR	Alice Springs	77.32	204	P	P	03 14 30.9	-1.2
	0.4nm,0.8s,baz=15,slow=5.9,SNR=2.2 0.4nm,0.8s						

*JMA **29** 03:06:53.5±0.2, 37°.N±2°.×13°.5E±°., h380km, MV2.6/28, SEA OF JAPAN*

*IDC **29** 03:06:53.3±3.5, 37°.28N×134°.52E, h353km±111km, mb2.5/2, mbtmp3.2/3, Error ellipse: s-maj=247.3km s-min=29.8km az=56.0*

ISC 29 03:06:53.9±1.2, 37°.4N±0°.1×134°.97E±0°.08, h378km, n13, σ0§63/15, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	OKI	1.79	231	eP	Pn	03 07 46.7	+0.2
JWT	Wachi	2.18	171	eP	Pn	03 07 49.1	+0.1
JWT				eS	S	03 08 33.1	-0.4
JSD	Sado	2.68	76	eP	Pn	03 07 52.6	-0.1
JNG	Nsakai	2.71	111	eP	Pn	03 07 53.9	+0.8
MAT	Matsushiro	2.74	108	eP	Pn	03 07 53.4	+0.1
MJAR	Matsushiro Arr	2.75	108	P	Pn	03 07 53.7	+0.4
	7.5nm,0.7s,baz=287,slow=9.8,SNR=17						
JHS	Saijyo	2.86	212	eP	Pn	03 07 54.5	+0.2
JIE	Ise	3.35	155	eP	Pn	03 07 59.1	+0.6
JRY	Ryogami san	3.46	113	eP	Pn	03 08 00.7	+1.2
JMK	Ichinoseki	5.15	71	eP	Pn	03 08 16.9	+0.6
BSO1	Boso 1	5.61	118	eP	Pn	03 08 20.3	-0.5
BSO1				eS	S	03 09 30.4	-1.1
MKAR	Makanchi Array	39.52	301	P	P	03 13 49.1	-0.4
	0.1nm,0.4s,baz=98,slow=8.0,SNR=1.8 0.1nm,0.4s						
WRA	Warramunga Arr	57.07	181	P	P	03 16 02.6	+0.5
	0.2nm,0.4s,baz=0.1,slow=7.3,SNR=5.1 0.2nm,0.4s						

*IDC **29** 03:24:13.2±0.5, 37°.09N×141°.10E, h0km, mb4.1/24, mbtmp4.1/29, ML3.4/5, MS3.4/14, Error ellipse: s-maj=14.0km s-min=13.1km az=83.0*

*JMA **29** 03:24:15.3±0.1, 37°.0N±0°.2×141°.2E±0°.4, h21km, MD4.5/39, MW4.3/39, E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*NIED **29** 03:24:15.3, 37°.04N×141°.20E, h21km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.00; Mθθ0.19; Mφφ1.80; Mrθ-0.06; Mθφ0.84; Mφr0.45; Fault plane solution: M0 2.13000×10^15 NP1:φs=30.00000°, δ40.00000°, λ-79.00000°. NP2:φs=196.00000°, δ51.00000°, λ-99.00000°.*

*MOS **29** 03:24:17.1±1.2, 37°.16N×141°.08E, h36km, mb4.7/15 Error ellipse: s-maj=10.4km s-min=6.7km az=106.1*

*NEIC **29** 03:24:19.6±1.9, 37°.17N±0°.04×141°.14E±0°.09, h35km±2km, mb4.5/68, Error ellipse: s-maj=12.1km s-min=5.9km az=268.0*

ISC 29 03:24:17.2±0.7, 37°.10N±0°.04×141°.18E±0°.05, h25km±4km, n198, σ1§25/150, mb4.5/71, MS3.8/7, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.30	270	P	Pb	03 24 22.2	-2.0
ONAJ				eS	Sb	03 24 27.4	-1.7
ONAJ	Iwakimizuishiy	0.30	270	A	A	03 24 22.2	
	comp=N,66nm,0.3s,comp=E,107nm,0.3s						
JFK	Kawauchi	0.36	318	P	Pb	03 24 23.8	-1.4
JFK				eS	Sb	03 24 30.2	-0.3
JFK	Kawauchi	0.36	318	A	A	03 24 23.8	
	comp=N,14nm,2.6s,comp=E,10.0nm,7.2s						
JFFD	Fukushimafurud	0.49	269	iP	Pb	03 24 25.3	-2.0
JFFD				S	Sb	03 24 32.2	-1.9
JFFD	Fukushimafurud	0.49	269	A	A	03 24 25.3	
	comp=N,16nm,1.3s,comp=E,12nm,1.0s						
JMST	Minamisoumatoc	0.67	340	A	A	03 24 29.1	
	comp=N,11nm,1.9s,comp=E,13nm,0.8s						
JHO	Hitachi	0.69	225	iP	Pb	03 24 27.6	-3.0
JHO				S	Sb	03 24 36.6	-3.1
JHO	Hitachi	0.69	225	A	A	03 24 27.6	
	comp=N,36nm,0.8s,comp=E,20nm,0.9s						
JOTO	OTAMA OYAMA	0.81	305	iP	Pb	03 24 31.9	-0.8
JOTO				S	Sn	03 24 43.8	-0.7
JOTO	OTAMA OYAMA	0.81	305	A	A	03 24 31.9	
	comp=N,30nm,0.7s,comp=E,39nm,1.0s						
JMM	Marumori	0.82	338	P	Pb	03 24 32.0	-0.8
JMM				Sn	Sn	03 24 43.1	-1.5
JMM	Marumori	0.82	338	A	A	03 24 31.9	
	comp=N,9.0nm,1.0s,comp=E,7.0nm,5.1s						
JHYU	Hitachinakayam	0.90	212	A	A	03 24 31.1	
	comp=N,29nm,0.8s,comp=E,25nm,1.4s						
JSB	Shiboa	1.02	263	P	Pn	03 24 34.8	-1.0
JSB				S	Sn	03 24 48.8	-0.6
JSB	Shiboa	1.02	263	A	A	03 24 34.8	
	comp=N,25nm,1.0s,comp=E,36nm,0.9s						
JYAR	Yonezawaarcadi	1.16	315	A	A	03 24 37.0	
	comp=N,69nm,0.8s,comp=E,56nm,0.8s						
JYT	Yasato	1.18	223	A	A	03 24 36.0	
	comp=N,13nm,0.9s,comp=E,20nm,1.9s						
JFY	Yanaizu	1.22	285	iP	Pn	03 24 38.2	-0.4
JFY				S	Sb	03 24 54.6	-0.2
JFY	Yanaizu	1.22	285	A	A	03 24 38.2	
	comp=N,9.0nm,0.3s,comp=E,11nm,1.0s						
JIHU	Itakohorinouch	1.25	205	A	A	03 24 36.9	
	comp=N,30nm,1.8s,comp=E,27nm,2.9s						
JOU	Okura	1.33	342	A	A	03 24 40.0	
	comp=N,21nm,2.1s,comp=E,20nm,1.3s						
JYS	Shiratake	1.43	322	A	A	03 24 41.4	
	comp=N,24nm,1.1s,comp=E,28nm,1.0s						
JOFO	Osakifurukawao	1.51	352	A	A	03 24 42.7	
	comp=N,78nm,1.5s,comp=E,63nm,1.5s						
JSMT	Sammumatsuo	1.57	202	A	A	03 24 41.7	
	comp=N,20nm,2.0s,comp=E,19nm,4.3s						
JNS	Sasagawa	1.65	296	A	A	03 24 44.4	
	comp=N,6.0nm,1.1s,comp=E,9.0nm,1.5s						
TOK	Tokyo	1.82	219	A	A	03 24 45.6	
	comp=N,21nm,1.2s,comp=E,14nm,1.2s						
JYA	Atsumi	1.89	323	A	A	03 24 48.1	
	comp=N,13nm,1.0s,comp=E,13nm,1.3s						
JIZZ	Izumozaki	2.02	283	A	A	03 24 49.5	
	comp=N,12nm,4.8s,comp=E,21nm,3.2s						
JGK	Kuni	2.11	256	A	A	03 24 50.4	
	comp=N,10.0nm,3.3s,comp=E,5.0nm,3.1s						
JYYZ	Yamagatayuza	2.15	333	A	A	03 24 52.0	
	comp=N,15nm,6.6s,comp=E,12nm,3.1s						
MJAR	Matsushiro Arr	2.45	258	Pn	Pn	03 24 55.3	-0.3
	comp=E,1.7nm,0.3s,baz=86,slow=16,SNR=40						
MJAR				Sn	Sn	03 25 25.5	+0.8
	comp=E,4.3nm,0.3s,baz=197,slow=30,SNR=3.8						
MJAR				LR	LR	03 25 56.7	
	comp=E,260nm,20.1s,baz=84,slow=43 comp=E,72nm,0.8s						
MAJO	Matsushiro	2.45	258		Pn	03 24 56.0	+0.5
MAJO	Matsushiro	2.45	258	iP	Pn	03 24 56.2	+0.6
MJB9	Matsu-Tunnel	2.45	258		Pn	03 24 56.9	+1.3
JSD	Sado	2.50	293		Pn	03 24 55.8	-0.4
JGF	Kuroka	3.43	245	Pn	Pn	03 25 10.3	+1.3
JTM	Tenmabayashi	3.68	359		Pn	03 25 13.7	+1.2
INU	Inuyama	3.79	244		Pn	03 25 15.7	+1.7
JHJ2	Mitsune	4.13	196	Pn	Pn	03 25 18.8	+0.1
JHJ	Hachijo jima 2	4.13	196	Pn	Pn	03 25 18.4	-0.3
	comp=E,20nm,0.3s,baz=356,slow=21,SNR=8.5						
JHJ				Sn	Sn	03 26 02.6	-3.6
	comp=E,23nm,0.3s,baz=40,slow=24,SNR=1.9						
JHJ				LR	LR	03 27 00.2	
	comp=E,186nm,19.1s,baz=84,slow=41 comp=E,55nm,0.4s						
ERM	Erimo	5.14	17	Pn	Pn	03 25 32.8	+0.2
ERM	Erimo	5.14	17	iP	Pn	03 25 32.2	-0.3
ASAJ	Asahikawa	7.09	8	Pn	Pn	03 25 59.0	-0.3
	comp=E,1.8nm,0.3s,baz=222,slow=9.6,SNR=7.5						
ASAJ				Sn	Sn	03 27 15.3	-3.7
	baz=63,slow=32 comp=E,6.1nm,0.3s						
ASAJ	Asahikawa	7.09	8	P	Pn	03 25 57.5	-1.8
JKA	Kamikawa-asahi	7.09	8	Pn	Pn	03 25 57.5	-1.8
JNU	Nakatsue	9.32	248	Pn	Pn	03 26 30.9	+0.9
	comp=E,0.2nm,0.3s,baz=238,slow=8.5,SNR=2.3						
JNU				LR	LR	03 30 22.9	
	comp=E,183nm,20.2s,baz=57,slow=40						
YSS	Yuzhno-Sakhali	9.92	6	eP	Pn	03 26 35.1	-2.9
YSS				eS	Sn	03 28 23.1	-5.3
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,400nm,9.0s						
USA0B	Ussuriysk Arra	9.95	318	iP	Pn	03 26 36.8	-1.7
USRK	Ussuriysk Ar.	9.95	318	Pn	Pn	03 26 37.9	-0.6
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=7.1						
USRK				LR	LR	03 30 11.9	
	comp=Z,144nm,19.3s,baz=131,slow=36 comp=Z,1.4nm,0.7s						
JCJ	Chichijima	10.01	175	Pn	Pn	03 26 35.4	-4.0
	comp=Z,7.8nm,0.3s,baz=296,slow=20,SNR=2.0						
JCJ				Sn	Sn	03 28 14.6	-16
	comp=Z,2.9nm,0.3s,baz=281,slow=21,SNR=1.8						
JCJ				LR	LR	03 30 57.7	
	comp=Z,98nm,19.4s,baz=156,slow=40						
KSRS	Korea Array	10.57	276	Pn	Pn	03 26 48.2	+1.2
	comp=Z,0.3nm,0.3s,baz=87,slow=15,SNR=5.8						
KSRS				LR	LR	03 30 20.9	
	comp=Z,227nm,20.9s,baz=70,slow=35						
MDJ	Mudanjiang	11.54	314	P	Pn	03 27 06.8	+6.6
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TYV	Tymovskoe	13.80	4	eP	P	03 27 43.5	+4.2
TYV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,2.3s						
KLR	Kul'dur	13.92	333	Pn	Pn	03 27 33.6	+0.8
	comp=Z,0.1nm,0.3s,baz=140,slow=16,SNR=3.7						
KLR				LR	LR	03 32 38.7	
	comp=Z,133nm,19.3s,baz=120,slow=36 comp=Z,0.3nm,0.3s						
KLR	Kul'dur	13.92	333	iP	Pn	03 27 34.2	+1.4
KLR				pmax	pmax		
	comp=Z,16nm,2.8s						
NJ2	Nanjing	19.05	261	eP	P	03 28 38.5	+1.0
NJ2	

comp=Z,2.0nm,0.6s
E18K Tukpahlearik C 44.22 28 P **P 03 32 24.7 +0.8**
E18K IAmb IAmb 03 32 34.0
comp=Z,7.7nm,1.1s
C18K Utukok River 44.30 26 P **P 03 32 26.1 +1.5**
C18K IAmb IAmb 03 32 33.9
comp=Z,8.6nm,0.8s
M17K Holitna River 44.70 37 P **P 03 32 29.7 +1.9**
M17K IAmb IAmb 03 32 38.1
comp=Z,6.8nm,0.9s
BRDH Bariadhala 44.81 266 LR LR 03 54 24.1
comp=Z,70nm,18.5s,baz=124,slow=40
D19K Kuna River 45.37 27 IAmb IAmb 03 32 40.6
comp=Z,6.7nm,0.9s
E19K Redstone River 45.50 28 IAmb IAmb 03 32 43.4
comp=Z,6.2nm,1.3s
H19K Roundabout Mou 45.53 31 IAmb IAmb 03 32 44.1
comp=Z,8.9nm,1.2s
KURK Kurchatov 45.74 308 P **P 03 32 35.8 -0.4**
KURK IAmb IAmb 03 32 42.4
comp=Z,17nm,1.4s
KURK Kurchatov 45.74 308 *ce*P **P 03 32 36.0 -0.2**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 45.81 308 P **P 03 32 36.4 -0.3**
comp=Z,3.1nm,0.9s,baz=85,slow=8.3,SNR=22
KURBB PcP **PcP 03 34 13.5 -0.4**
comp=Z,0.6nm,0.8s,baz=95,slow=2.2,SNR=2.2
comp=Z,3.1nm,0.9s
KDAK Kodiak Island 47.17 42 P **P 03 32 46.8 -0.5**
KDAK Kodiak Island 47.17 42 P **P 03 32 46.8 -0.5**
KDAK pmax pmax
comp=Z,21nm,1.4s
CAST Castle Rocks 47.27 34 P **P 03 32 49.5 +1.4**
B22K Teshekpuk Lake 47.33 25 IAmb IAmb 03 32 57.7
comp=Z,9.6nm,1.0s
WUS Wushi 47.33 295 IAmb IAmb 03 32 58.4
comp=Z,8.4nm,1.1s
D22K Ayikyak River 47.39 27 IAmb IAmb 03 32 58.8
comp=Z,8.7nm,0.9s
E22K Anaktuvuk Pass 47.63 28 P **P 03 32 52.8 +1.9**
E22K IAmb IAmb 03 33 00.5
comp=Z,7.1nm,0.9s
D23K Nanushuk River 48.12 27 P **P 03 32 56.1 +1.5**
D23K IAmb IAmb 03 33 04.6
comp=Z,13nm,1.5s
NEA2 Nenana 48.60 33 IAmb IAmb 03 33 06.0
comp=Z,5.7nm,1.2s
GHO Glory Hole Cre 48.77 36 IAmb IAmb 03 33 06.9
comp=Z,5.3nm,1.0s
E24K Your Creek 48.87 28 IAmb IAmb 03 33 10.3
comp=Z,7.3nm,1.1s
COLA College 49.12 32 *i*P **P 03 33 04.2 +1.9**
COLA pmax pmax
comp=Z,25nm,3.8s
POKR Poker Plat Res 49.29 32 IAmb IAmb 03 33 07.9
comp=Z,5.9nm,0.8s
HDA Harding Lake 49.53 33 IAmb IAmb 03 33 14.1
comp=Z,2.8nm,0.9s
IL31 49.54 32 IAmb IAmb 03 33 12.0
comp=Z,2.9nm,0.8s
ILAR Eielson Array 49.54 32 P **P 03 33 06.4 +0.9**
comp=Z,1.3nm,0.7s,baz=268,slow=5.7,SNR=23
comp=Z,1.3nm,0.7s
D25K Kavik River 49.67 26 IAmb IAmb 03 33 14.0
comp=Z,7.5nm,1.1s
AAK Ala-Archa 50.29 298 LR LR 03 55 50.7
comp=Z,92nm,18.6s,baz=62,slow=38
BVAR Borovoye Array 50.39 312 P **P 03 33 11.6 -0.5**
comp=Z,0.5nm,0.4s,baz=76,slow=7.6,SNR=5.0
comp=Z,0.5nm,0.4s
BRVK Borovoye 50.44 312 *ce*P **P 03 33 14.1 +1.6**
BRVK pmax pmax
comp=Z,6.0nm,2.5s
F26K Sheenjek River 50.52 28 IAmb IAmb 03 33 23.5
comp=Z,4.9nm,1.0s
E27K Coleen River 51.45 28 IAmb IAmb 03 33 29.5
comp=Z,5.8nm,1.3s
G29M Pine Creek 52.96 29 IAmb IAmb 03 33 41.6
comp=Z,9.8nm,1.2s
EPYK Eagle Plains 53.56 30 IAmb IAmb 03 33 38.5
comp=Z,8.1nm,0.9s
L29M L29M 53.58 34 IAmb IAmb 03 33 46.4
comp=Z,5.4nm,1.0s
G30M tAoh Zrail Nji 53.65 29 IAmb IAmb 03 33 45.9
comp=Z,9.7nm,1.1s
K29M Barlow Dome 53.70 33 IAmb IAmb 03 33 46.9
comp=Z,4.9nm,1.1s
KNRA Kununurra 53.78 195 P **P 03 33 37.3 -0.3**
A36M Sachs Harbour 56.27 22 IAmb IAmb 03 34 04.4
comp=Z,7.4nm,0.9s
ARTI Arti 56.29 318 P **P 03 33 55.5 +0.1**
ARTI Arti 56.29 318 *d i*P **P 03 33 53.5 -1.9**
ARTI 03 35 56.6
ARTI S **S 03 41 42.1 -1.6**
ARTI SS **SS 03 45 27.7 -2.4**
ARTI pmax pmax
comp=Z,60nm,5.2s
WB0 Warramunga Arr 56.92 188 P **P 03 33 59.4 -0.9**
WB2 Warramunga Arr 57.10 188 P **P 03 34 00.8 -0.7**
WRA Warramunga Arr 57.10 188 P **P 03 34 00.4 -1.1**
comp=Z,2.7nm,0.5s,baz=4.5,slow=7.4,SNR=38
WRA PcP **PcP 03 34 56.5 +0.4**
comp=Z,0.3nm,0.3s,baz=3.1,slow=4.2,SNR=6.1
comp=Z,2.7nm,0.5s
ABKAR Akbulak array 57.75 310 P **P 03 34 06.5 +0.6**
ABKAR Akbulak array 57.75 310 P **P 03 34 06.1 +0.2**
KIRV Kirov 60.08 323 LR LR 04 04 13.6
comp=Z,111nm,18.0s,baz=348,slow=40
KIRV Kirov 60.08 323 *ce*P **P 03 34 22.4 +0.6**
EUNU Eureka 60.15 9 P **P 03 34 22.7 +0.5**
EUNU IAmb IAmb 03 34 23.6
comp=Z,3.0nm,0.9s
SPITS Spitsbergen Ar 60.42 349 P **P 03 34 23.7 -0.3**
comp=Z,18nm,1.0s,baz=68,slow=11,SNR=6.2
comp=Z,18nm,1.0s
ASAR Alice Springs 60.83 188 P **P 03 34 27.1 -0.2**
ASAR Alice Springs 60.83 188 P **P 03 34 26.9 -0.4**
comp=Z,1.9nm,0.9s,baz=9.1,slow=4.6,SNR=10
comp=Z,1.9nm,0.9s
KLMR Klimovskoe 63.60 328 *e*P **P 03 34 43.0 -2.5**
KLMR pmax pmax
comp=Z,36nm,1.9s
YKA Yellowknife Ar 63.84 30 P **P 03 34 46.3 -0.8**
comp=Z,0.7nm,0.8s,baz=304,slow=7.0,SNR=12
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 63.84 30 *i*P **P 03 34 47.9 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 63.87 339 P **P 03 34 47.1 -0.1**
comp=Z,5.4nm,1.0s,baz=54,slow=6.6,SNR=6.3
comp=Z,5.4nm,1.0s
STKA Stephens Creek 68.62 180 P **P 03 35 17.2 -0.8**
comp=Z,0.8nm,0.3s,baz=332,slow=9.5,SNR=3.4
comp=Z,0.8nm,0.3s
FINES FINESS Array B 68.67 332 P **P 03 35 17.5 -0.5**
comp=Z,3.8nm,0.7s,baz=41,slow=8.4,SNR=8.6
comp=Z,3.8nm,0.7s
FINES FINESS Array B 68.67 332 *i*P **P 03 35 18.2 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 70.21 44 P **P 03 35 28.4 +0.5**
comp=Z,1.5nm,0.8s,baz=309,slow=5.4,SNR=4.3
comp=Z,1.5nm,0.8s
PINE Pine Mountain 70.44 50 P **P 03 35 30.1 +0.6**
KBZ Khabaz 70.72 311 P **P 03 35 29.7 -1.2**
comp=Z,2.5nm,0.9s,baz=180,slow=13,SNR=4.3
comp=Z,2.5nm,0.9s
KIV Kislovodsk 70.72 311 *e*P **P 03 35 30.8 -0.3**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 70.72 311 P **P 03 35 30.9 -0.2**
comp=Z,14nm,1.1s
GNI Garni 71.52 307 *ce*P **P 03 35 36.4 +0.3**
GNI pmax pmax
comp=Z,6.0nm,1.3s
BMO Blue Mountains 72.02 47 P **P 03 35 39.8 +0.8**
BMO Blue Mountains 72.02 47 P **P 03 35 39.8 +0.8**
BMO pmax pmax
comp=Z,3.0nm,0.8s
PABE Paberze 73.38 328 P **P 03 35 47.4 +0.7**
HFS Hagfors 73.95 336 P **P 03 35 50.1 +0.1**
comp=Z,1.3nm,0.6s,baz=36,slow=5.5,SNR=7.1
comp=Z,1.3nm,0.6s
NC204 NORSAR Array S 74.01 338 P **P 03 35 51.0 +0.7**
NC204 IAmb IAmb 03 35 56.8
comp=Z,3.0nm,0.7s
FCC Fort Churchill 74.03 26 P **P 03 35 50.9 +0.5**
FCC IAmb IAmb 03 35 57.0
comp=Z,9.1nm,1.2s
FCC Fort Churchill 74.03 26 P **P 03 35 50.9 +0.5**
FCC pmax pmax
comp=Z,9.0nm,1.2s
NB2 NORSAR Subarra 74.05 337 P **P 03 35 50.5 -0.1**
comp=Z,0.7nm,0.5s,baz=38,slow=6.2
NOA NORSAR Array B 74.05 337 P **P 03 35 50.1 -0.5**
comp=Z,1.3nm,0.7s,baz=39,slow=5.9,SNR=5.9
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 74.13 322 P **P 03 35 50.7 -0.4**
comp=Z,1.1nm,0.3s,baz=48,slow=6.1,SNR=14
AKASG LR LR 04 12 20.2
comp=Z,59nm,19.1s,baz=338,slow=39
comp=Z,1.1nm,0.3s
AKBB Malin Array Si 74.13 322 *i*P **P 03 35 50.2 -1.0**
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 74.13 322 P **P 03 35 50.4 -0.8**
AK01 Malin Array Si 74.14 322 P **P 03 35 50.2 -1.0**
KIEV Kiev 74.14 322 P **P 03 35 50.4 -0.8**
comp=Z,50nm,2.4s
AK04 Malin Array Si 74.14 322 P **P 03 35 50.3 -0.9**
AK21 Malin Array Si 74.17 322 P **P 03 35 50.4 -1.0**
AK11 Malin Array Si 74.17 322 P **P 03 35 50.4 -1.0**
AK18 Malin Array Si 74.19 322 P **P 03 35 50.7 -0.8**
AK12 Malin Array Si 74.20 322 P **P 03 35 50.7 -0.9**
DLMT Dillon 74.43 45 IAmb IAmb 03 36 01.1
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 74.82 44 IAmb IAmb 03 36 02.9
comp=Z,3.3nm,0.9s
NVAR Mina Array Bea 75.10 53 P **P 03 35 58.6 +1.3**
comp=Z,1.3nm,0.7s,baz=288,slow=5.3,SNR=11
comp=Z,1.3nm,0.7s
LUBAR Lubar, Ukraine 75.35 322 P **P 03 35 57.1 -1.2**
SORM Soroca 76.22 321 P **P 03 36 02.1 -1.1**
comp=Z,7μmcomp=Z,9.7nm,1.7s
NDNU Novodnistrovsk 76.42 321 P **P 03 36 03.2 -1.2**
R11B Troy Canyon, C 76.87 52 IAmb IAmb 03 36 17.2
comp=Z,5.0nm,1.4s
TPNV Topopah Spring 77.29 53 P **P 03 36 11.5 +1.8**
TPNV Topopah Spring 77.29 53 P **P 03 36 11.5 +1.8**
TPNV pmax pmax
comp=Z,3.0nm,1.0s
PDAR Pinedale Array 77.75 45 P **P 03 36 13.3 +1.0**
comp=Z,1.0nm,0.7s,baz=268,slow=2.8,SNR=11
comp=Z,1.0nm,0.7s
BUR08 Bucovina Ar. S 78.13 322 P **P 03 36 13.8 -0.3**
BUR08 IAmb IAmb 03 36 20.3
comp=Z,4.3nm,1.1s
BRTR Keskin Array B 78.67 311 P **P 03 36 17.6 +0.2**
comp=Z,0.5nm,0.8s,baz=54,slow=7.8,SNR=2.0
comp=Z,0.5nm,0.8s
ULM Lac du Bonnet 79.55 33 P **P 03 36 20.6 -1.1**
comp=Z,0.7nm,0.4s,baz=323,slow=5.3,SNR=2.1
comp=Z,0.7nm,0.4s
LANS Liptovska Anna 79.80 325 *e*P **P 03 36 23.9 +0.7**
LANS Liptovska Anna 79.80 325 *e*P **P 03 36 23.9 +0.7**
DPC Dobruska-Polom 80.30 328 P **P 03 36 25.6 -0.3**
CLL Collm 80.94 330 *e*P **P 03 36 29.0 -0.2**
CLL *e**SP **sP 03 36 42.0 +1.8**
CLL Collm 80.94 330 *e*P **P 03 36 29.0 -0.2**
CLL *e*PcP **PcP 03 36 35.0 -0.7**
CLL *e*pP **sP 03 36 42.0 +1.8**
MODS Modra-Piesok 81.36 326 *e*P **P 03 36 31.5 0.0**
MODS Modra-Piesok 81.36 326 *e*P **P 03 36 31.5 0.0**
MORH Mrgy, Hungar 82.32 324 P **P 03 36 35.4 -1.2**
GERES GERESS Array B 82.56 328 P **P 03 36 37.5 -0.5**
comp=Z,0.8nm,0.7s,baz=34,slow=5.0,SNR=6.0
comp=Z,0.8nm,0.7s
PPT Papeete 84.83 116 LR LR 04 09 36.9
comp=Z,45nm,21.1s,baz=274,slow=32
PPT2 Papeete2 84.85 116 *e*LR LR 04 03 36.0
comp=Z,36nm,21.0s
TAOE Nuku Hiva Isla 86.37 104 *e*LR LR 04 04 08.6
comp=Z,44nm,23.3s
TXAR Lajitas Array 90.23 52 P **P 03 37 17.0 +1.0**
comp=Z,0.9nm,0.7s,baz=278,slow=3.1,SNR=9.4
comp=Z,0.9nm,0.7s
TXAR Lajitas Array 90.23 52 P **P 03 37 17.0 +1.0**
ESDC Sonseca Array 97.15 334 LR LR 04 27 18.6
comp=Z,19nm,19.1s,baz=354,slow=39
LPAZ La Paz 146.82 59 PKPbc **PKPbc 03 43 58.8 +0.4**
comp=Z,3.3nm,0.7s,baz=3.7,slow=6.5,SNR=11
H03N2 Juan Fernandez 147.22 96 T T 06 28 26.3
baz=291,slow=76,SNR=79
H03N3 Juan Fernandez 147.23 96 T T 06 28 28.6
baz=291,slow=76,SNR=100
H03N1 Juan Fernandez 147.23 96 T T 06 28 28.8
baz=291,slow=76,SNR=102
PLCA Paso Flores 155.12 108 PKPab **PKPab 03 44 33.4 +0.6**
comp=Z,0.8nm,0.7s,baz=225,slow=5.4,SNR=3.5

*IDC **29** 03:38:46.2±2.5, 37.°05N×141.°42E, h0km, mb3.5/2, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=49.8km s-min=32.5km az=37.0*
*JMA **29** 03:38:49.7±0.1, 37.°0N±0.°2×141.°2E±0.°5, h20km, MV3.3/40, E OFF FUKUSHIMA PREF*
ISC 29 03:38:48.9±2.1, 37.°03N±0.°06×141.°24E±0.°10, h15km±10km, n20, σ0§34/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.36**	**281**	P	**Pg**	**03 38 56.6**	**+0.3**
ONAJ				S	**Sg**	**03 39 01.6**	**+0.2**
JFK	**Kawauchi**	**0.45**	**319**	P	**Pb**	**03 38 58.2**	**-0.3**
JFK				*e*S	**Sg**	**03 39 04.0**	**+0.1**
JFFD	**Fukushimafurud**	**0.55**	**276**	*i*P	**Pg**	**03 38 59.6**	**-0.1**
JFFD				*e*S	**Sg**	**03 39 06.5**	**-0.5**
JHO	**Hitachi**	**0.68**	**232**	P	**Pg**	**03 39 01.9**	**-0.4**
JOTO	**OTAMA OYAMA**	**0.90**	**306**	P	**Pb**	**03 39 06.3**	**+0.1**
JOTO				*e*S	**Sg**	**03 39 17.9**	**-0.1**
JMM	**Marumori**	**0.91**	**337**	P	**Pb**	**03 39 06.2**	**-0.2**
JMM				S	**Sb**	**03 39 18.0**	**-0.2**
JSB	**Shiboa**	**1.06**	**267**	P	**Pb**	**03 39 09.2**	**+0.2**
JFY	**Yanaizu**	**1.28**	**287**	P	**Pn**	**03 39 12.5**	**+0.2**
JFY				S	**Sb**	**03 39 28.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.48**	**260**	Pn	**Pn**	**03 39 29.5**	**+0.7**
	1.0nm,0.3s,baz=80,slow=16,SNR=17						
MJAR				Sn	**Sb**	**03 40 03.4**	**-0.3**
	0.7nm,0.3s,baz=63,slow=14,SNR=4.8						
	5.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	04 14 16.8	
	baz=313,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	04 14 21.5	
	baz=313,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	04 14 18.0	
	baz=313,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	04 15 12.1	
	baz=314,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	04 15 08.6	
	baz=314,slow=75,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	04 15 10.9	
	baz=314,slow=75,SNR=6.7						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**03 46 55.9**	**+0.1**
	0.2nm,0.7s,baz=76,slow=6.1,SNR=2.0						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**57.04**	**188**	P	**P**	**03 48 34.2**	**-0.1**
	0.5nm,0.5s,baz=4.8,slow=7.3,SNR=10.0						
	0.5nm,0.5s						
H03N2	**Juan Fernandez**	**147.16**	**96**	T	T	06 43 00.5	
	baz=291,slow=76,SNR=4.7						
H03N3	**Juan Fernandez**	**147.17**	**96**	T	T	06 43 02.6	
	baz=291,slow=76,SNR=8.8						
H03N1	**Juan Fernandez**	**147.18**	**96**	T	T	06 43 01.3	
	baz=291,slow=76,SNR=6.3						

*IDC **29** 03:46:35.2±1.0, 1.°67S×120.°80E, h0km, mb3.6/7, mbtmp3.6/8, ML3.8/1, Error ellipse: s-maj=45.9km s-min=17.5km az=72.0*
*DJA **29** 03:46:39.0±0.3, 2.°S±2.°×12.°1E±.°, h10km, M3.9/9, MLv3.9/9*
ISC 29 03:46:39.0±0.7, 1.72S±0.°05×120.71E±0.°07, h23km, n16, σ1§79/21, mb3.8/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.19**	**313**	P	**Pn**	**03 46 59.6**	**-0.7**
PCI				S	**Sb**	**03 47 17.5**	**+1.5**
APSI	**Ampana**	**1.24**	**49**	P	**Pb**	**03 47 04.8**	**+3.0**
TTSI	**Tana Toraja**	**1.58**	**214**	P	**Pn**	**03 47 03.0**	**-2.7**
TTSI				S	**Sn**	**03 47 21.4**	**-4.1**
LUWI	**Luwuk**	**2.17**	**72**	P	**Pb**	**03 47 16.8**	**-0.9**
SPSI	**Sidrap Palu**	**2.42**	**203**	P	**Pn**	**03 47 17.8**	**+0.6**
SPSI				S	**Sn**	**03 47 46.9**	**+0.9**
MRSI	**Marisa**	**2.51**	**29**	P	**Pb**	**03 47 21.4**	**-2.1**
KAPI	**Kappang**	**3.41**	**196**	Pn	**Pn**	**03 47 32.4**	**+1.6**
	8.7nm,0.3s,baz=10,slow=13,SNR=11						
KAPI				Sn	**Sn**	**03 48 12.3**	**+1.9**
	5.0nm,0.3s,baz=213,slow=22,SNR=8.3						
	13nm,0.4s						
BKB	**Balikpapan**	**3.84**	**277**	P	**Pn**	**03 47 37.8**	**+1.1**
TNG	**Tangerang**	**14.71**	**252**	P	**Pn**	**03 50 07.5**	**+1.7**
TNG				P	**Pn**	**03 50 07.5**	**+1.7**
WRA	**Warramunga Arr**	**22.48**	**145**	P	**P**	**03 51 36.2**	**-0.8**
	0.5nm,0.7s,baz=322,slow=11,SNR=3.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**25.28**	**151**	P	**P**	**03 52 03.5**	**-0.4**
	0.1nm,0.3s,baz=328,slow=8.7,SNR=1.1						
	0.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**29.34**	**314**	P	**P**	**03 52 39.4**	**-1.0**
	1.0nm,0.3s,baz=128,slow=8.1,SNR=5.3						
	1.0nm,0.3s						
SONM	**Songino Array**	**50.92**	**348**	P	**P**	**03 55 38.6**	**0.0**
	0.6nm,0.7s,baz=169,slow=8.1,SNR=4.2						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**58.91**	**330**	P	**P**	**03 56 36.6**	**+0.2**
	0.6nm,0.5s,baz=134,slow=7.0,SNR=7.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.33**	**331**	P	**P**	**03 57 05.8**	**-0.4**
	0.3nm,0.4s,baz=148,slow=5.9,SNR=4.2						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**88.22**	**180**	P	**P**	**03 59 27.7**	**-0.6**
	0.5nm,0.7s,baz=0.0,slow=3.0,SNR=1.2						
	0.5nm,0.7s						

RSNC 29 04:04:35.4±1.2, 3.°S±19.°×7.°5W±.°, h11km±20km, M3.2, mB4.7, mb3.9, ML2.9, Mw(mB)3.9, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTLC	**Puerto Leguiza**	**2.99**	**9**	P	Pn	04 05 19.1	-3.8
PTLC				S	Sn	04 05 57.7	-1.1
PTLC	**Puerto Leguiza**	**2.99**	**9**	P	Pn	04 05 19.1	-3.8
PTLC				S	Sn	04 05 57.7	-1.1
PIAT	**Ana Tenorio**	**3.52**	**301**	P	Pn	04 05 27.0	-3.4
PIAT				S	Sn	04 06 14.6	+2.4
PIAT	**Ana Tenorio**	**3.52**	**301**	P	Pn	04 05 27.0	-3.4
PIAT				S	Sn	04 06 14.6	+2.4
BONI	**La Bonita**	**3.97**	**325**	P	Pn	04 05 34.5	-2.0
BONI	**La Bonita**	**3.97**	**325**	P	Pn	04 05 34.5	-2.0
COHC	**Cochancay**	**4.03**	**275**	P	Pn	04 05 41.1	+4.1
COHC	**Cochancay**	**4.03**	**275**	P	Pn	04 05 41.1	+4.1
FLOC	**Florencia**	**4.38**	**355**	P	Pn	04 05 41.2	-0.8
FLOC				S	Sb	04 06 45.1	-0.3
FLOC	**Florencia**	**4.38**	**355**	P	Pn	04 05 41.2	-0.8
FLOC				S	Sb	04 06 45.1	-0.3
OTAV	**Otavalo**	**4.41**	**313**	P	Pn	04 05 42.7	-0.1
OTAV	**Otavalo**	**4.41**	**313**	P	Pn	04 05 42.7	-0.1
GCUF	**Volcan Galeras**	**4.53**	**332**	P	Pn	04 05 44.3	-0.1
GCUF	**Volcan Galeras**	**4.53**	**332**	P	Pn	04 05 44.3	-0.1
CRUC	**La Cruz**	**4.67**	**339**	P	Pb	04 05 56.5	-1.1
CRUC				S	Sb	04 06 53.7	-0.4
CRUC	**La Cruz**	**4.67**	**339**	P	Pb	04 05 56.5	-1.1
CRUC				S	Sb	04 06 53.7	-0.4
GARC	**Garzon, Huila**	**4.97**	**357**	P	Pn	04 05 49.8	-0.5
GARC				S	Sb	04 07 01.3	-1.3
GARC	**Garzon, Huila**	**4.97**	**357**	P	Pn	04 05 49.8	-0.5
GARC				S	Sb	04 07 01.3	-1.3
MACC	**Macarena, Meta**	**5.12**	**16**	P	Pn	04 05 53.5	+1.4
	539nm11nm,0.6s						
MACC				S	Sg	04 07 14.8	-5.0
	539nm11nm,0.6s						
MACC	**Macarena, Meta**	**5.12**	**16**	P	Pn	04 05 53.5	+1.4
	539nm11nm,0.6s						
MACC				S	Sg	04 07 14.8	-5.0
	539nm11nm,0.6s						
BBAC	**Balboa, Cauca**	**5.20**	**337**	P	Pn	04 05 53.3	-0.1
	7.9nm,0.6s						
BBAC	**Balboa, Cauca**	**5.20**	**337**	P	Pn	04 05 53.3	-0.1
	7.9nm,0.6s						
POPC	**Popayan, Colom**	**5.50**	**345**	P	Pn	04 05 58.8	+1.2
	4.6nm,0.5s						
POPC	**Popayan, Colom**	**5.50**	**345**	P	Pn	04 05 58.8	+1.2
	4.6nm,0.5s						
URMC	**La Uribe, Meta**	**6.08**	**8**	P	Pn	04 06 06.7	+1.3
	11nm,0.6s						
URMC	**La Uribe, Meta**	**6.08**	**8**	P	Pn	04 06 06.7	+1.3
	11nm,0.6s						
ORTC	**Ortega, Tolima**	**6.67**	**360**	P	Pn	04 06 13.9	+0.4
	7.1nm,0.6s						
ORTC	**Ortega, Tolima**	**6.67**	**360**	P	Pn	04 06 13.9	+0.4
	7.1nm,0.6s						
CHIC	**Chingaza**	**7.54**	**12**	P	Pn	04 06 27.6	+1.8
CHIC	**Chingaza**	**7.54**	**12**	P	Pn	04 06 27.6	+1.8

*ASRS **29** 04:05:13.0±0.9, 54.°13N×87.°18E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 04:05:14.6±3.4, 54.°22N×87.°26E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=30.8km s-min=19.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**260**	I	I	04 12 40.0	
	baz=79,slow=325,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.46**	**260**	Pg	Pn	04 05 40.8	-1.4
	2.6nm,0.3s,baz=80,slow=17,SNR=24						
ZALV				Lg	Lg	04 06 01.2	
	1.6nm,0.3s,baz=76,slow=27,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn	Pn	04 06 51.6	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=2.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	04 07 13.9	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=2.0						
	0.1nm,0.3s						

IDC 29 04:07:20.5±38.0, 19.°66S×176.°54W, h342km±277km, mb3.1/2, mbtmp3.8/2, Error ellipse: s-maj=581.3km s-min=58.2km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.05**	**256**	P	P	04 15 11.4	-0.2
	1.4nm,0.4s,baz=89,slow=8.2,SNR=20						
	1.4nm,0.4s						
ILAR	**Eielson Array**	**87.20**	**12**	P	P	04 19 27.9	-0.2
	0.1nm,0.4s,baz=212,slow=4.8,SNR=6.9						
	0.1nm,0.4s						
MMAI	**Mount Meron Ar**	**148.57**	**302**	PKPbc	PKPbc	04 26 27.0	-0.9
	0.6nm,0.3s,baz=90,slow=2.0,SNR=1.5						
GERES	**GERESS Array B**	**149.73**	**347**	PKPbc	PKPbc	04 26 30.2	-0.1
	0.6nm,0.5s,baz=40,slow=1.7,SNR=5.3						

*CATAC **29** 04:07:19.3±0.7, 12.°N±3.°×8.°9W±.°, h3km±5km, M4.2/33, MLv4.2/33, Error ellipse: s-maj=6.2km s-min=2.7km az=31.0, confirmed*
*NEIC **29** 04:07:20.6±1.8, 12.°19N±0.°09×89.°35W±0.°09, h10km±2km, mb4.6/98, Error ellipse: s-maj=18.7km s-min=9.1km az=223.0*
*IDC **29** 04:07:22.3±1.4, 13.°09N×88.°83W, h0km, mb3.9/8, mbtmp3.9/12, ML3.0/5, MS3.3/5, Error ellipse: s-maj=39.5km s-min=19.4km az=38.0*
*GCG **29** 04:07:22.5±0.7, 12.°34N×89.°36W, h15km±10km, MD4.9*
*SNET **29** 04:07:24.4±1.1, 12.°42N×89.°31W, h36km, ML4.1*
*UCR **29** 04:07:24.4±1.1, 12.°74N×89.°19W, h34km±566km, MW3.8, MB4.6(NEIC)*
ISC 29 04:07:22.7±1.6, 12.°33N±0.°04×89.°36W±0.°04, h17km±9km, n244, σ1§48/214, mb4.6/48, MS3.3/4, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.15**	**2**	S	**Sn**	**04 08 00.6**	**+1.1**
LALI	**Alcalda de L**	**1.15**	**2**	P	**Pb**	**04 07 43.1**	**-1.1**
LALI	**Alcalda de L**	**1.15**	**2**	*e*P	**Pb**	**04 07 43.1**	**-1.1**
LALI	**Alcalda de L**	**1.15**	**2**	*e*P		04 07 43.1	
PANCS	**Alcalda de**	**1.29**	**8**	P	**Pn**	**04 07 45.9**	**-0.1**
PANCS	**Alcalda de**	**1.29**	**8**	S	**Sb**	**04 08 03.8**	**+1.0**
LFRS	**El Faro**	**1.32**	**13**	*e*P	**Pn**	**04 07 44.9**	**-1.6**
JAYA	**Jayaque - finc**	**1.32**	**356**	*e*P	**Pn**	**04 07 45.1**	**-1.4**

JAYA	Jayaque - finc	1.32 356	P		Pn	04 07 45.5	-1.1
JAYA	Jayaque - finc	1.32 356	P		Pn	04 07 45.4	-1.1
JAYA	Jayaque - finc	1.32 356	S		Sb	04 08 04.4	+0.5
JAYA	Jayaque - finc	1.32 356	eP		Pn	04 07 45.2	-1.4
JAYA			i S		Sb	04 08 03.5	-0.4
JAYA	Jayaque - finc	1.32 356	eP			04 07 45.2	
JAYA			i S			04 08 03.5	
TECO	Alcaldia de Te	1.33 25	S		Sn	04 08 04.9	+1.1
TECO	Alcaldia de Te	1.33 25	P		Pn	04 07 45.7	-0.8
TECO	Alcaldia de Te	1.33 25	P		Pg	04 07 48.6	+0.2
COEG	Centro de Oper	1.37 20	eP		Pn	04 07 45.9	-1.2
COEG	Centro de Oper	1.37 20	P		Pn	04 07 46.2	-0.9
COEG	Centro de Oper	1.37 20	S		Sg	04 08 06.5	-0.4
COEG	Centro de Oper	1.37 20	P		Pn	04 07 47.9	+0.8
PMON	Piamonte	1.38 2	P		Pn	04 07 46.5	-0.8
PMON	Piamonte	1.38 2	S		Sn	04 08 06.7	+1.5
PMON	Piamonte	1.38 2	P		Pn	04 07 46.7	-0.6
UEES	Universidad Ev	1.38 5	P		Pn	04 07 46.7	-0.7
UEES	Universidad Ev	1.38 5	P		Pn	04 07 47.3	-0.1
BOQS	Boqueron	1.40 3	eP		Pn	04 07 46.8	-1.0
UESV	Universidad de	1.41 23	P		Pn	04 07 47.3	-0.5
UESV	Universidad de	1.41 23	S		Sg	04 08 08.1	-0.4
UESV	Universidad de	1.41 23	P		Pb	04 07 49.2	+0.5
PAVA	Las Pavas	1.44 17	P		Pn	04 07 47.5	-0.6
PAVA	Las Pavas	1.44 17	P		Pn	04 07 47.3	-0.8
PAVA	Las Pavas	1.44 17	S		Sg	04 08 09.2	0.0
SCLA	Alcaldia de Sa	1.50 24	P		Pn	04 07 49.3	+0.4
SCLA	Alcaldia de Sa	1.50 24	S		Sg	04 08 10.2	-1.0
SCLA	Alcaldia de Sa	1.50 24	P		Pn	04 07 48.4	-0.5
CEVE	Cerro Verde	1.51 350	eP		Pn	04 07 48.2	-1.1
CEVE	Cerro Verde	1.51 350	S		Sn	04 08 09.6	+0.9
CEVE	Cerro Verde	1.51 350	P		Pb	04 07 51.2	+0.6
RANC	El Ranchito	1.52 43	P		Pn	04 07 48.7	-0.6
RANC	El Ranchito	1.52 43	S		Sb	04 08 10.4	+0.9
PACA	Pacayal	1.52 42	P		Pn	04 07 49.3	+0.1
PACA	Pacayal	1.52 42	S		Sb	04 08 10.4	+0.8
PACA	Pacayal	1.52 42	P		Pn	04 07 49.6	+0.4
BLLM	Bellamira	1.56 45	eP		Pn	04 07 48.6	-1.1
NUBE	Las Nubes	1.62 345	P		Pn	04 07 49.5	-1.2
NUBE	Las Nubes	1.62 345	P		Pn	04 07 49.6	-1.0
NUBE	Las Nubes	1.62 345	eP		Pn	04 07 49.4	-1.2
NUBE	Las Nubes	1.62 345	eP			04 07 49.4	
UNIC	Universidad Ca	1.65 354	P		Pn	04 07 50.4	-0.6
UNIC	Universidad Ca	1.65 354	S		Sn	04 08 12.6	+0.7
UNIC	Universidad Ca	1.65 354	P		Pn	04 07 51.6	+0.5
LCND	La Caada	1.73 56	eP		Pn	04 07 50.4	-1.7
LCND	La Caada	1.73 56	P		Pn	04 07 51.0	-1.0
LCND	La Caada	1.73 56	P		Pn	04 07 51.1	-1.0
SLOZ	Alcaldia de Sa	1.74 346	P		Pn	04 07 51.7	-0.5
SLOZ	Alcaldia de Sa	1.74 346	S		Sn	04 08 15.1	+1.2
SLOZ	Alcaldia de Sa	1.74 346	P		Pn	04 07 52.7	+0.5
CNCH	Conchagua	1.76 58	S		Sn	04 08 16.5	+1.8
CNCH	Conchagua	1.76 58	P		Pn	04 07 52.1	-0.4
CNCH	Conchagua	1.76 58	P		Pn	04 07 52.5	-0.1
CAHU	Cacacuatique	1.82 38	eP		Pn	04 07 53.1	-0.3
LLGN	La Laguna	1.87 12	P		Pn	04 07 54.3	+0.3
LLGN	La Laguna	1.87 12	P		Pn	04 07 54.9	+0.9
CSGN	Cosiguina Volc	1.87 70	P		Pn	04 07 53.8	-0.2
CSGN			S		Sn	04 08 18.9	+1.6
CSGN	Cosiguina Volc	1.87 70	P		Pn	04 07 53.3	-0.7
POTN	Potosi Cosigui	1.93 70	P		Pn	04 07 53.9	-0.8
POTN			S		Sn	04 08 19.9	+1.3
POTN	Potosi Cosigui	1.93 70	P		Pn	04 07 54.1	-0.6
MTO3	Montecristo	2.06 360			Pn	04 07 56.5	-0.2
MTO3	Montecristo	2.06 360	eP		Pn	04 07 56.5	-0.2
MTO3	Montecristo	2.06 360	P		Pn	04 07 57.0	+0.2
MTO3	Montecristo	2.06 360	P		Pn	04 07 56.9	+0.2
MTO3	Montecristo	2.06 360	S		Sn	04 08 23.0	+0.9
MTO3	Montecristo	2.06 360	i P		Pn	04 07 56.6	-0.2
MTO3	Montecristo	2.06 360	i P			04 07 56.6	
ESQI	Esquipulas	2.22 0			Pn	04 07 59.0	+0.2
ESQI	Esquipulas	2.22 0	eP		Pn	04 07 59.0	+0.2
ESQI	Esquipulas	2.22 0	S		Sn	04 08 27.1	+1.2
ESQI	Esquipulas	2.22 0	P		Pn	04 07 59.1	+0.3
ESQI	Esquipulas	2.22 0	P		Pn	04 08 00.3	+1.5
CRIN	San Cristobal	2.29 80			Pn	04 07 57.3	-2.5
CRIN	San Cristobal	2.29 80	P		Pn	04 07 59.5	-0.3
CRIN	San Cristobal	2.29 80	S		Sn	04 08 29.1	+1.6
CRIN	San Cristobal	2.29 80	P		Pb	04 08 03.3	-0.3
HERN	Volcan Telica	2.48 83			Pn	04 08 00.6	-1.9
HERN	Volcan Telica	2.48 83	P		Pn	04 08 01.0	-1.5
HERN	Volcan Telica	2.48 83	S		Sn	04 08 32.6	+0.2
POLN	Al Sur del Vol	2.51 82	P		Pn	04 08 01.2	-1.5
POLN			S		Sn	04 08 32.6	-0.4
POLN	Al Sur del Vol	2.51 82	P		Pn	04 08 02.7	-0.1
ROCN	Rota Cerro Neg	2.56 85	P		Pn	04 08 02.0	-1.5
ROCN			S		Sn	04 08 34.8	+0.5
ROCN	Rota Cerro Neg	2.56 85	P		Pn	04 08 03.0	-0.5
CNGA	Al SSO del Vol	2.60 86	P		Pn	04 08 02.4	-1.6
CNGA			S		Sn	04 08 35.4	0.0
CNGA	Al SSO del Vol	2.60 86	P		Pn	04 08 05.8	+1.7
CNGN	Cerro Negro	2.60 86			Pn	04 08 02.1	-2.0
CNGN	Cerro Negro	2.60 86	P		Pb	04 08 08.1	-0.9
CNGN	Cerro Negro	2.60 86	P		Pn	04 08 02.3	-1.8
CNGN	Cerro Negro	2.60 86	S		Sn	04 08 35.9	+0.4
ILCN	San Idelfonso	2.61 84	P		Pn	04 08 01.9	-2.2
ILCN			S		Sn	04 08 34.7	-0.8
ILCN	San Idelfonso	2.61 84	P		Pb	04 08 09.1	0.0
TGUH	Tegucigalpa,Un	2.66 50			Pn	04 08 04.3	-0.7
TGUH	Tegucigalpa,Un	2.66 50	P		Pn	04 08 04.5	-0.4
TGUH			S		Sn	04 08 38.7	+1.8
TGUH	Tegucigalpa,Un	2.66 50	P		Pn	04 08 05.7	+0.7
LEVN	Ruinas Leon Vi	2.68 88	S		Sn	04 08 36.6	-0.6
LEVN	Ruinas Leon Vi	2.68 88	P		Pg	04 08 20.6	+6.4
COPN	Copaltepe	2.71 93	P		Pn	04 08 04.4	-1.2
COPN	Copaltepe	2.71 93	P		Pn	04 08 04.3	-1.2
MOMN	Momotombo	2.76 88	P		Pn	04 08 04.5	-1.7
MOMN			S		Sn	04 08 38.7	-0.4
MOMN	Momotombo	2.76 88	P		Pn	04 08 06.6	+0.4
STG0	El Palmar, Qui	2.84 317	i P			04 08 13.0	
STG8	El Palmar, Qui	2.86 318	||i P			04 08 13.3	
SAPS	Ciudad Sandino	2.89 93	P		Pn	04 08 11.4	+3.4
SAPS	Ciudad Sandino	2.89 93	S		Sn	04 08 41.9	-0.5
LIMN	Finca el Limon	3.01 76	P		Pn	04 08 09.1	-0.7
LIMN	Finca el Limon	3.01 76	P		Pn	04 08 08.7	-1.1
TISN	Laguna Tiscapa	3.03 93	P		Pn	04 08 09.0	-0.9
TISN	Laguna Tiscapa	3.03 93	P		Pn	04 08 10.0	+0.1
UNAN	Cigeo UNAN	3.03 94	P		Pn	04 08 08.5	-1.4
UNAN			S		Sn	04 08 44.9	-0.9
UNAN	Cigeo UNAN	3.03 94	P		Pn	04 08 13.0	+3.1
MGAN	Managua	3.05 93			Pn	04 08 08.1	-2.0
MGAN	Managua	3.05 93	S		Sn	04 08 44.9	-1.4
MGAN	Managua	3.05 93	eP		Pn	04 08 08.7	-1.5
MGAN			eS		Sn	04 08 43.6	-2.7
MAS3	Al N del Volca	3.13 95	P		Pn	04 08 09.7	-1.6
MAS3			S		Sn	04 08 47.0	-1.3
SABN	Sabanita	3.15 96	P		Pn	04 08 09.8	-1.8
SABN	Sabanita	3.15 96	P		Pn	04 08 13.8	+2.2
NANN	Nandasmo	3.19 97	S		Sn	04 08 47.9	-1.9
NANN	Nandasmo	3.19 97	P		Pn	04 08 10.8	-1.3
NANN	Nandasmo	3.19 97	P		Pn	04 08 12.9	+0.8
RCVN	Varilla2	3.33 68	P		Pn	04 08 13.4	-0.7
RCVN	Varilla2	3.33 68	S		Sn	04 08 55.0	+1.6
RCVN	Varilla2	3.33 68	P		Pn	04 08 14.4	+0.2
RCPN	Sur Rio San Ju	3.40 69	P		Pn	04 08 14.8	-0.3
RCPN	Sur Rio San Ju	3.40 69	S		Sn	04 08 56.2	+1.1
RCPN	Sur Rio San Ju	3.40 69	P		Pn	04 08 16.8	+1.7
MATN	Matagalpa	3.40 80	P		Pn	04 08 13.8	-1.4
MATN	Matagalpa	3.40 80	S		Sn	04 08 54.9	-0.3
MATN	Matagalpa	3.40 80	P		Pn	04 08 14.8	-0.4
BOAB	BOACO BROADBAN	3.61 88	Pn		Pn	04 08 15.5	-2.4
BOAB	BOACO BROADBAN	3.61 88	P		Pn	04 08 16.1	-1.8
BOAB	BOACO BROADBAN	3.61 88	S		Sn	04 09 00.1	-0.1
BOAB	BOACO BROADBAN	3.61 88	P		Pn	04 08 17.1	-0.8
ELI1	Hacienda Flor	4.09 114	eP		Pn	04 08 25.0	+0.5
ACON	Acoyapa	4.11 95			Pn	04 08 23.7	-1.1
ACON	Acoyapa	4.11 95	eP		Pn	04 08 24.2	-0.6
ALIBA	Liberia Airpor	4.12 114	eP		Pn	04 08 26.5	+1.7
VRLE	La Escondida,	4.20 111	eP		Pn	04 08 28.2	+2.0
COLC	Colonia	4.40 112	eP		Pn	04 08 30.3	+1.5
VMAR	Armenia, Volca	4.42 109	eP		Pn	04 08 29.0	-0.2
CMARA	Lajas Hojancha	4.49 120	eP		Pn	04 08 30.0	-0.1
INDI	Punta indio, G	4.51 122	P		Pn	04 08 27.7	-2.6
INDI	Punta indio, G	4.51 122	S		Sn	04 09 18.6	-3.7
INDI	Punta indio, G	4.51 122	P		Pn	04 08 30.8	+0.5
JUNT	Juntas	4.77 115	eP		Pn	04 08 34.0	+0.1
JTS	Las Juntas de	4.77 115	Pn		Pn	04 08 34.5	+0.6
JTS	Las Juntas de	4.77 115	Pn		Pn	04 08 35.1	+1.2
	4.0nm,0.3s,baz=304,slow=22,SNR=11						
JTS			Sn		Sn	04 09 22.9	-6.0
	8.4nm,0.3s,baz=257,slow=23,SNR=4.9						
	8.1nm,0.3s						
JTS	Las Juntas de	4.77 115	eP		Pn	04 08 34.4	+0.4
ARE1	Arenal 1	4.91 112	eP		Pn	04 08 36.7	+0.8
VARE2	V. Arenal	4.91 112	eP		Pn	04 08 36.7	+0.8
CEDE	Laguna Cedeo	4.92 111	eP		Pn	04 08 36.8	+0.8
VACR	Volcan Arenal	4.95 111	eP		Pn	04 08 37.0	+0.7
FORC	Fortuna	4.96 111	eP		Pn	04 08 37.3	+0.9
SOCE	Pocosol	5.04 112	P		Pn	04 08 41.1	+3.6
VBV1	V. Barva	5.61 113	eP		Pn	04 08 48.1	+2.4
ACOS	Acosta	5.69 116	eP		Pn	04 08 48.3	+1.7
PICV	PH. Pirrs	5.74 117	eP		Pn	04 08 49.4	+2.1
ABE2	San Pablo	5.83 116	eP		Pn	04 08 50.8	+2.2
LCR2	La Lucha 2	5.85 116	Pn		Pn	04 08 49.5	+0.6
LCR2	La Lucha 2	5.85 116	eP		Pn	04 08 51.2	+2.3
VICA	Volcano Irazu	5.89 113	eP		Pn	04 08 51.9	+2.2
BUS1	Rivas	6.16 116	eP		Pn	04 08 54.7	+1.3
DRK0	Durika	6.74 116	eP		Pn	04 09 03.7	+2.6
FIMO	Fila Mora	6.77 119	eP		Pn	04 09 04.8	+3.3
PIRO	Carate, Puerto	7.09 123	eP		Pn	04 09 07.9	+2.1
CMIG	Matias Romero	7.14 312	Pn		Pn	04 09 06.9	+0.5
	0.3nm,0.3s,baz=145,slow=11,SNR=9.7						
CMIG			Sn		Sn	04 10 21.1	-6.1
	0.4nm,0.3s,baz=123,slow=20,SNR=1.4						
	1.4nm,0.4s						
ALCO	Alturas Coton,	7.24 117	eP		Pn	04 09 09.0	+1.0
BRU2	Volcan	7.44 118			Pn	04 09 10.5	-0.2
TEIG	Tepich	7.92 7	Pn		Pn	04 09 08.2	-9.0
	0.1nm,0.3s,baz=352,slow=24,SNR=2.1						
ROSC	El Rosal	16.62 115	P		Pn	04 11 15.5	+0.1
ROSC	El Rosal	16.62 115	Pn		Pn	04 11 15.8	+0.3
	0.6nm,0.3s,baz=43,slow=23,SNR=1.3						
	2.3nm,0.3s						
FLOC	Florencia	17.28 127	P		P	04 11 28.5	+3.7
553A	Crawfordville	18.35 14	P		P	04 11 38.1	+1.6
553A			IAmb		IAmb	04 11 45.4	
	comp=Z,31nm,1.0s						
SDV	Santo Domingo	18.72 99	P		P	04 11 39.4	-1.4
	comp=Z,0.5nm,0.3s,baz=250,slow=14,SNR=4.0						
SDV			LR		LR	04 19 32.6	
	comp=Z,54nm,19.2s,baz=284,slow=40						
	comp=Z,2.2nm,0.6s						
HNDO	Hondo	19.44 333			P	04 11 49.3	+0.8
352A	Blakely	19.49 11	P		P	04 11 49.3	+0.3
352A			IAmb		IAmb	04 11 51.0	
	comp=Z,40nm,1.0s						
TIGA	Tifton	19.75 15	P		P	04 11 52.5	+0.7
VBMS	Vicksburg	19.82 357	P		P	04 11 52.9	+0.3
435B	Jarrell	19.88 339	P		P	04 11 52.5	-0.8
DRIO	Del Rio	19.98 330	P		P	04 11 54.4	+0.1
JCT	Junction City	20.49 333	P		P	04 11 59.6	-0.3
152A	Waverly Hall	20.69 11	P		P	04 12 02.8	+0.8
LRAL	Lakeview Retre	20.72 6	P		P	04 12 02.6	+0.2
Z47A	Carrollton	20.81 3	P		P	04 12 03.0	-0.3
Z47A			IAmb		IAmb	04 12 04.4	
	comp=Z,32nm,0.9s						
BRDY	Brady	20.86 336	P		P	04 12 03.2	-0.8
BRDY			IAmb		IAmb	04 12 04.4	
	comp=Z,20nm,0.9s						
WHTX	Lake Whitney,	20.94 340	P		P	04 12 03.5	-1.2
154A	Montrose	20.99 15	P		P	04 12 05.3	0.0
Z41A	Richland Creek	21.07 352	IAmb		IAmb	04 12 11.1	
	comp=Z,24nm,0.8s						
FW13	Cleburne	21.26 341	IAmb		IAmb	04 12 08.7	
	comp=Z,28nm,0.9s						
Y45A	Yeager Farm, C	21.44 360	IAmb		IAmb	04 12 13.5	
	comp=Z,33nm,1.1s						
TXAR	Lajitas Array	21.53 324	P		P	04 12 12.6	+1.4
TXAR	Lajitas Array	21.53 324	P		P	04 12 12.1	+0.9
	comp=Z,2.3nm,0.8s,baz=144,slow=9.0,SNR=23						
	comp=Z,2.3nm,0.8s						
CCAR	Cane Creek	21.60 355	IAmb		IAmb	04 12 15.8	
	comp=Z,22nm,0.8s						
PLPT	Palo Pinto	21.98 339	IAmb		IAmb	04 12 15.3	
	comp=Z,20nm,0.9s						
MIAR	Mount Ida	22.45 351	IAmb		IAmb	04 12 22.7	
	comp=Z,19nm,0.8s						
UALR	University of	22.51 354	IAmb		IAmb	04 12 29.9	
	comp=Z,44nm,1.5s						
HODGE	Hodges	22.74 15	IAmb		IAmb	04 12 24.1	
	comp=Z,15nm,0.9s						
WHAR	Wooly Hollow	23.01 354	IAmb		IAmb	04 12 27.8	
	comp=Z,22nm,1.2s						
Y57A	Sumter	23.09 19	IAmb		IAmb	04 12 28.1	
	comp=Z,18nm,0.8s						
APMT	Aspermont	23.10 337	IAmb		IAmb	04 12 34.9	
	comp=Z,10nm,0.7s						
POST	Post	23.45 334	P		P	04 12 28.9	-2.5
POST			IAmb		IAmb	04 12 39.3	
	comp=Z,10nm,0.7s						
X34A	Smith Ranch, M	23.47 342	IAmb		IAmb	04 12 31.3	
	comp=Z,17nm,1.0s						
FCAR	Ozark Folk Cen	23.59 354	IAmb		IAmb	04 12 33.6	
	comp=Z,20nm,0.9s						
LCAR	Lake Charles	23.69 356	IAmb		IAmb	04 12 33.6	
	comp=Z,13nm,0.7s						
DKNS	Dickens	23.72 335	IAmb		IAmb	04 12 34.7	
	comp=Z,11nm,0.7s						
W35A	Tecumseh	23.72 345	IAmb		IAmb	04 12 34.4	
	comp=Z,10.0nm,0.9s						
TKL	Tuckaleechee C	23.77 11	LR		LR	04 21 03.4	
	comp=Z,69nm,21.6s,baz=216,slow=36						
KMSC	Kings Mountain	23.85 16	IAmb		IAmb	04 12 35.4	
	comp=Z,12nm,0.8s						
WMOK	Wichita Mounta	23.89 341	IAmb		IAmb	04 12 34.2	
	comp=Z,16nm,1.4s						
X58A	Rowland	23.93 21	IAmb		IAmb	04 12 36.4	
	comp=Z,23nm,0.9s						
V53A	Saluda	23.98 13	IAmb		IAmb	04 12 40.3	
	comp=Z,11nm,0.9s						
OK031	S. Brethren Rd	24.47 345	IAmb		IAmb	04 12 40.2	
	comp=Z,20nm,1.0s						
OK029	Liberty Lake	24.48 344	IAmb		IAmb	04 12 40.5	
	comp=Z,19nm,0.9s						
CGM3	Cape Girardeau	24.86 359	IAmb		IAmb	04 12 58.4	
	comp=Z,13nm,0.9s						
OK048	Pawnee Station	24.94 345	IAmb		IAmb	04 12 44.6	
	comp=Z,20nm,1.1s						
OK051	E0350 and S346	25.00 346	IAmb		IAmb	04 12 45.9	
	comp=Z,21nm,1.0s						
V58A	Windy Hill, Pi	25.13 20	IAmb		IAmb	04 12 45.8	
	comp=Z,11nm,0.8s						
ELIS	Ellis County	25.32 341	P		P	04 12 48.0	-0.6
ELIS			IAmb		IAmb	04 12 55.5	
	comp=Z,11nm,0.7s						
FVM	French Village	25.57 358	IAmb		IAmb	04 12 52.2	
	comp=Z,7.0nm,0.7s						
CCM	Cathedral Cave	25.68 357	P		P	04 12 50.4	-1.4
WCI	Wyandotte Cave	25.94 6	P		P	04 12 52.1	-2.1
WCI			IAmb		IAmb	04 12 53.0	
	comp=Z,12nm,0.8s						
R40A	Maddies Statio	25.98 355	IAmb		IAmb	04 12 56.7	
	comp=Z,12nm,0.8s						
T59A	Double "B" Far	26.73 21	IAmb		IAmb	04 13 07.4	
	comp=Z,14nm,0.9s						
P40A	Paris	27.20 355	IAmb		IAmb	04 13 18.1	
	comp=Z,13nm,1.2s						
TUC	Tucson	27.97 319	P		P	04 13 18.1	+5.4
L40A	Anamosa	29.67 357	IAmb		IAmb	04 13 26.3	
	comp=Z,11nm,0.8s						
JFWS	Jewell Farm	30.48 359	IAmb		IAmb	04 13 34.6	
	comp=Z,8.0nm,0.7s						
PFO	Pinyon Flats O	32.55 315	LR		LR	04 28 46.3	
	comp=Z,72nm,21.4s,baz=248,slow=40						
G40A	Rib Lake	32.84 359	IAmb		IAmb	04 13 53.8	
	comp=Z,7.7nm,0.9s						
SPMN	Marine on St.	32.91 356	IAmb		IAmb	04 13 56.1	
	comp=Z,6.4nm,0.6s						
SADO	Sadowa	33.49 13	P		P	04 13 56.1	-5.0
	comp=Z,4.3nm,0.6s,baz=205,slow=9.7,SNR=7.8						
SADO			LR		LR	04 27 41.6	
	comp=Z,45nm,18.8s,baz=245,slow=37						
	comp=Z,4.3nm,0.6s						
PDAR	Pinedale Array	35.02 334	P		P	04 14 13.3	-1.5
	comp=Z,0.2nm,0.6s,baz=139,slow=8.0,SNR=3.0						
	comp=Z,0.2nm,0.6s						
EYMN	Ely	35.55 358	IAmb		IAmb	04 14 16.4	
	comp=Z,11nm,1.1s						
NVAR	Mina Array Bea	36.59 320	P		P	04 14 28.8	+0.6
	comp=Z,1.5nm,0.9s,baz=135,slow=9.0,SNR=8.8						
	comp=Z,1.5nm,0.9s						
DGMT	Dagmar	38.09 344	IAmb		IAmb	04 14 49.0	
	comp=Z,11nm,0.8s						
ULM	Lac du Bonnet	38.19 353	P		P	04 14 37.5	-3.9
	comp=Z,2.8nm,0.8s,baz=157,slow=8.1,SNR=6.9						
	comp=Z,2.8nm,0.8s						
SCHQ	Schefferville	45.95 18	P		P	04 15 39.9	-4.7
	comp=Z,5.2nm,0.8s,baz=228,slow=10,SNR=8.3						
	comp=Z,5.2nm,0.8s						
FCC	Fort Churchill	46.48 357	P		P	04 15 44.9	-3.7
FCC			IAmb		IAmb	04 15 55.1	
	comp=Z,5.7nm,1.2s						
BBB	Bella Bella	50.48 330	LR		LR	04 42 07.0	
	comp=Z,49nm,20.4s,baz=258,slow=42						
YKA	Yellowknife Ar	53.25 346	P		P	04 16 37.5	-2.7
	comp=Z,2.1nm,0.9s,baz=146,slow=7.7,SNR=22						
YKA			PcP		PcP	04 17 47.3	-0.4
	comp=Z,0.3nm,0.8s,baz=146,slow=3.7,SNR=2.3						
	comp=Z,2.1nm,0.9s						
ILAR	Eielson Array	65.38 337	P		P	04 18 02.6	-1.5
	comp=Z,0.7nm,0.9s,baz=153,slow=4.1,SNR=6.6						
	comp=Z,0.7nm,0.9s						
D25K	Kavik River	67.21 341	P		P	04 18 14.5	-1.3
WRA	Warramunga Arr	137.44 254	PKP		PKiKP	04 26 51.2	+2.8
	comp=Z,0.2nm,0.5s,baz=87,slow=2.5,SNR=1.6						
CMAR	Chiang Mai Arr	148.33 345	PKPbc		PKPdf	04 27 07.9	+2.2
	comp=Z,0.8nm,0.3s,baz=19,slow=2.9,SNR=1.2						

SGS ***29*** *04:20:31.0, 27°.65N×34°.40E, h10km, Ml1.2*
HLW ***29*** *04:20:31.4, 27°.64N×33°.91E, h30km±7km, Md2.5, Ml1.7*
ISC 29 04:20:27.3±1.0, 27°.66N±0°.05×34°.21E±0°.04, h17km, n25,
σ0°81/26, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	Tor 1	0.42	327	P	Pn	04 20 39.8	+1.2
HHRG	Al Ghardaqah	0.72	233	P	Pn	04 20 43.8	+1.0
HHRG				S	Sn	04 20 53.0	-0.3
RSHS		0.82	39	P	Pn	04 20 44.8	+0.6
RSHS		0.82	39	S	Sn	04 20 55.1	-0.9
KRABS	KRABS	1.03	64	P	Pg	04 20 47.4	+0.2
KRABS	KRABS	1.03	64	S	Sb	04 20 59.1	-0.8
TAYS	Tayyib Ism	1.07	33	P	Pg	04 20 48.3	+0.3
TAYS	Tayyib Ism	1.07	33	S	Sn	04 21 01.8	-0.1
AYUS	`Aynunah	1.08	60	S	Sb	04 21 01.0	-0.3
AYUS	`Aynunah	1.08	60	P	Pg	04 20 48.3	+0.1
BDAS	Al Bad`	1.10	45	S	Sn	04 21 02.8	-0.1
BDAS	Al Bad`	1.10	45	P	Pg	04 20 48.9	+0.2
MWLHS	Almuwaylih	1.16	85	P	Pn	04 20 48.9	+0.1
GRB	Gharib	1.40	296	P	Pn	04 20 51.2	-0.9
HAQS	Haql	1.52	24	S	Sb	04 21 14.9	+0.7
HAQS	Haql	1.52	24	P	Pg	04 20 55.8	-0.9
JLOS		1.56	46	S	Sn	04 21 14.7	+0.3
JLOS		1.56	46	P	Pb	04 20 55.9	0.0
JMOS	Jabal al Moall	1.70	28	P	Pb	04 20 58.4	+0.2
DESA	DESA	1.74	94	S	Sn	04 21 17.6	-1.1
DESA	DESA	1.74	94	P	Pn	04 20 57.9	+1.1
WJHS		2.15	115	P	Pn	04 21 03.0	+0.5
BIDS	Bi'r al Bayda'	2.57	107	P	Pn	04 21 09.6	+1.4
BIDS	Bi'r al Bayda'	2.57	107	S	Sn	04 21 37.3	-1.8
EWJHS	Al Wajh	2.65	124	P	Pn	04 21 09.6	+0.4

UPA ***29*** *04:27:42.0±1.1, 7°.26N×78°.09W, h14km±5km, MW4.5*
RSNC ***29*** *04:27:43.0±0.0, 7°.N±1°×7°.W±°, h19km±3km, M2.8, mb4.3, ML2.6*
ISC 29 04:27:42.0±1.0, 7°.36N±0°.03×78°.06W±0°.02, h15km±8km,
n46, σ1°50/82, 1C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	Punta Ardita,	0.33	131	P	Pg	04 27 49.0	+0.2
PTAC				S	Sg	04 27 53.0	-0.4
PTAC	Punta Ardita,	0.33	131	||i P	Pg	04 27 49.1	+0.2
PTAC				eS	Sg	04 27 53.1	-0.4
SOLC	Bahia Solano	1.30	150	P	Pn	04 28 04.6	-1.1
SOLC				S	Sg	04 28 23.6	-0.4
CAPC	Capurgana	1.45	29

MOCB IAML 04 35 03.7
85nm,0.7s
PB09 IPOC Station P 1.72 255 *eP* **Pn 04 34 37.1 +0.9**
PB09 IAML 04 35 07.2
comp=Z,32nm,0.2s
PB09 IPOC Station P 1.72 255 Pg **Pn 04 34 37.6 +1.3**
PB01 IPOC Station P 1.92 279 *eP* **Pn 04 34 38.3 +0.1**
PB01 IAML 04 35 10.0
comp=Z,91nm,0.2s
PB01 IPOC Station P 1.92 279 Pg **Pn 04 34 39.1 +0.9**
PB01 Sg **Sn 04 35 07.2 +0.8**
PB01 IAML 04 35 11.3
comp=Z,117nm,0.7s
YJA Yavi 1.98 115 *eP* **Pn 04 34 40.2 +1.0**
YJA IAML 04 35 13.2
comp=Z,9.0nm,0.4s
YJA Yavi 1.98 115 Pg **Pn 04 34 40.0 +0.7**
PB08 IPOC Station P 1.99 307 *eP* **Pn 04 34 40.1 +0.7**
PB08 IAML 04 35 14.5
comp=Z,42nm,0.1s
PB08 IPOC Station P 1.99 307 Pg **Pn 04 34 40.8 +1.5**
PB06 IPOC Station P 2.39 235 *eP* **Pn 04 34 43.5 0.0**
PB06 IAML 04 35 22.4
comp=Z,25nm,0.2s
HMBC Humberstone 2.51 295 *eP* **Pn 04 34 44.3 -0.6**
HMBC IAML 04 35 20.6
comp=Z,178nm,0.2s
PB11 IPOC Station P 2.60 307 *eP* **Pn 04 34 45.5 -0.4**
PB11 IAML 04 35 22.9
comp=Z,129nm,0.2s
PB11 IPOC Station P 2.60 307 Pg **Pn 04 34 46.2 +0.3**
TA01 Diego Aracena 2.66 286 *eP* **Pn 04 34 46.1 -0.4**
TA01 IAML 04 35 26.3
comp=Z,27nm,0.5s
PB05 IPOC Station P 2.96 239 *eP* **Pn 04 34 49.9 -0.2**
PB05 IAML 04 35 32.6
comp=Z,11nm,1.0s
SOET ToroToro 3.57 26 Pg **Pn 04 34 57.6 -0.3**
AOEA Aiquile 3.78 34 Pg **Pn 04 35 00.4 -0.1**
PB12 IPOC Station P 3.83 315 *eP* **Pn 04 34 59.7 -1.3**
PB12 IAML 04 35 51.1
comp=Z,35nm,0.4s
PB14 IPOC Station P 4.25 219 *eP* **Pn 04 35 05.9 -0.6**
PB14 IAML 04 35 57.9
comp=Z,15nm,0.2s
GO02 Mina Guanaco 4.28 207 *eP* **Pn 04 35 05.9 -0.9**
SOEJ Jacaque 4.40 351 Pg **Pn 04 35 10.1 +1.4**
BBOD La Paz, Gloria 4.81 347 Pg **Pn 04 35 15.6 +1.7**
FSA Cafayete 4.93 164 *eP* **Pn 04 35 17.0 +1.9**

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*IDC **29** 04:38:08.8±0.8, 85°.17N×95°.72E, h0km, mb3.6/13, mbtmp3.7/16, ML3.4/3, MS3.5/18, Error ellipse: s-maj=22.0km s-min=16.8km az=125.0*
ISC 29 04:38:10.6±0.7, 85°.11N±0°.08×93°.90E±0°.07, h10km, n32, σ2°13/23, mb3.5/13, MS3.4/16, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**5.95**	**166**	*eP*	**Pn**	**04 39 39.9**	**+1.2**
SVZ				*eS*	**Sn**	**04 40 42.2**	**-4.5**
37nm,0.3s							
ZFI2	**Zemlya Franca-**	**6.84**	**257**	*eP*	**Pn**	**04 39 52.0**	**+1.3**
ZFI2				*eS*	**Sn**	**04 41 05.4**	**-3.0**
18nm,3.4s							
OMEGA	**Omega**	**6.85**	**257**	*eP*	**Pn**	**04 39 52.0**	**+1.1**
OMEGA				*eS*	**Sn**	**04 41 05.4**	**-3.3**
19nm,2.8s							
SPITS	**Spitsbergen Ar**	**11.84**	**281**	Pn	**Pn**	**04 41 01.1**	**+1.9**
baz=28,slow=16							
SPITS				Sn	**Sn**	**04 43 05.9**	**-5.2**
baz=60,slow=4.9							
6.2nm,0.9s							
NRIK	**Noril'sk**	**15.90**	**188**	Pn	**Pn**	**04 41 54.2**	**+0.2**
0.3nm,0.3s,baz=8.8,slow=6.3,SNR=5.2							
NRIK				Sn	Sn	04 44 33.3	-17
0.3nm,0.3s,baz=50,slow=23,SNR=1.1							
NRIK				LR	LR	04 48 26.8	
comp=Z,169nm,18.0s,baz=344,slow=39							
3.9nm,0.7s							
ARCES	**ARCESS Array B**	**19.30**	**262**	P	**P**	**04 42 36.4**	**+1.2**
baz=12,slow=11,SNR=1.8							
ARCES				LR	LR	04 50 50.0	
comp=Z,92nm,18.2s,baz=300,slow=39							
9.0nm,1.1s							
RES	**Resolute Bay**	**20.29**	**7**	P	Pn	04 42 48.8	+0.9
1.3nm,1.0s,baz=4.7,slow=12,SNR=5.1							
FINES	**FINESS Array B**	**27.21**	**257**	P	**P**	**04 43 55.2**	**+1.2**
0.9nm,0.8s,baz=342,slow=18,SNR=1.0							
0.9nm,0.8s							
SFJD	**Kangerlussuaq**	**27.29**	**330**	LR	LR	04 53 43.7	
comp=Z,52nm,18.3s,baz=342,slow=34							
ILAR	**Eielson Array**	**28.09**	**53**	P	**P**	**04 44 00.7**	**-1.1**
0.3nm,0.9s,baz=351,slow=8.7,SNR=2.8							
ILAR				LR	LR	04 54 42.2	
comp=Z,53nm,19.2s,baz=303,slow=36							
0.3nm,0.9s							
KIRV	**Kirov**	**28.26**	**231**	LR	LR	04 55 30.9	
comp=Z,54nm,19.0s,baz=326,slow=37							
NOA	**NORSAR Array B**	**28.88**	**272**	P	**P**	**04 44 09.9**	**+1.1**
0.7nm,0.8s,baz=8.3,slow=7.8,SNR=1.5							
0.7nm,0.8s							
ARTI	**Arti**	**29.90**	**220**	LR	LR	04 56 55.4	
comp=Z,120nm,18.1s,baz=9.0,slow=38							
ZALV	**Zalesovo Beam**	**31.38**	**190**	LR	LR	04 58 27.8	
comp=Z,52nm,18.9s,baz=226,slow=39							
YKA	**Yellowknife Ar**	**32.07**	**25**	P	**P**	**04 44 36.1**	**-0.9**
0.3nm,0.8s,baz=0.4,slow=8.8,SNR=5.9							
YKA				LR	LR	04 57 48.7	
comp=Z,79nm,18.5s,baz=308,slow=37							
0.3nm,0.8s							
BVAR	**Borovoye Array**	**32.70**	**206**	P	**P**	**04 44 44.2**	**+1.6**
0.6nm,0.5s,baz=37,slow=9.9,SNR=4.1							
BVAR				LR	LR	04 59 31.8	
comp=Z,57nm,19.1s,baz=343,slow=39							
0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**34.84**	**197**	P	**P**	**04 45 01.6**	**+0.4**
0.2nm,0.3s,baz=23,slow=7.9,SNR=1.9							
KURBB				LR	LR	05 01 18.4	
comp=Z,73nm,18.4s,baz=176,slow=40							
0.2nm,0.3s							
DLBC	**Dease Lake**	**35.43**	**39**	LR	LR	05 00 10.6	
comp=Z,79nm,18.9s,baz=334,slow=38							
SONM	**Songino Array**	**37.56**	**166**	P	**P**	**04 45 25.1**	**+0.4**
0.2nm,0.3s,baz=331,slow=8.5,SNR=3.5							
0.2nm,0.3s							
AKASG	**Malin Array Be**	**37.60**	**250**	P	**P**	**04 45 26.3**	**+1.5**
0.2nm,0.3s,baz=13,slow=9.9,SNR=3.6							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**38.59**	**193**	P	**P**	**04 45 33.1**	**-0.1**
0.7nm,0.8s,baz=8.3,slow=7.0,SNR=7.2							
0.7nm,0.8s							
BBB	**Bella Bella**	**41.77**	**38**	LR	LR	05 03 07.5	
comp=Z,54nm,19.6s,baz=298,slow=36							
AAK	**Ala-Archa**	**42.94**	**201**	LR	LR	05 06 52.2	
comp=Z,100nm,19.8s,baz=2.0,slow=40							
ULM	**Lac du Bonnet**	**44.80**	**9**	LR	LR	05 04 27.5	
comp=Z,66nm,18.7s,baz=352,slow=35							
BRTR	**Keskin Array B**	**48.16**	**244**	P	**P**	**04 46 52.2**	**+1.6**
0.4nm,0.5s,baz=335,slow=5.6,SNR=3.6							
0.4nm,0.5s							
MMAI	**Mount Meron Ar**	**54.69**	**241**	LR	LR	05 15 29.1	
comp=Z,18nm,18.6s,baz=6.0,slow=41							
TKL	**Tuckaleechee C**	**59.44**	**358**	LR	LR	05 13 24.3	
comp=Z,58nm,18.4s,baz=340,slow=36							
ANMO	**Albuquerque**	**59.87**	**19**	LR	LR	05 14 37.9	
comp=Z,77nm,19.1s,baz=102,slow=37							
TXAR	**Lajitas Array**	**65.53**	**17**	P	**P**	**04 48 52.5**	**-1.3**
0.2nm,0.6s,baz=348,slow=5.8,SNR=3.8							
0.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**66.76**	**175**	P	**P**	**04 49 01.2**	**-0.4**
0.6nm,0.3s,baz=356,slow=6.4,SNR=5.5							
0.6nm,0.3s							
SJG	**San Juan**	**76.64**	**341**	LR	LR	05 25 31.4	
comp=Z,31nm,18.2s,baz=262,slow=37							
TORD	**Torodi Ar. Bea**	**77.17**	**273**	P	**P**	**04 50 03.9**	**-0.3**
0.9nm,0.3s,baz=5.1,slow=6.4,SNR=1.5							
0.9nm,0.3s							

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*IDC **29** 04:49:08.8±4.5, 36°.00N×70°.85E, h147km±39km, mb3.6/8, mbtmp4.0/13, Error ellipse: s-maj=32.2km s-min=22.5km az=4.0*
*NNC **29** 04:49:10.0±3.7, 36°.76N×70°.25E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=30.5km s-min=22.2km az=164.0*

ISC 29 04:49:10.6±1.1, 36°.31N±0°.09×70°.67E±0°.10, h150km, n26, σ1°49/32, mb3.9/6, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.27**	**21**	P	**Pn**	**04 50 41.3**	**+0.2**
SNR=164							
UCH	**Uchtor**	**6.62**	**26**	P	**Pn**	**04 50 47.2**	**+1.3**
SNR=6.0							
EKS2	**Erkin-Say**	**6.78**	**20**	P	**Pn**	**04 50 48.2**	**+0.4**
SNR=16							
KK31	**Karatay Array**	**6.78**	**359**	P	**Pn**	**04 50 46.9**	**-0.8**
6.5nm,0.3s,baz=183,slow=13,SNR=99							
KK31				⇓S	**Sn**	**04 52 00.8**	**-3.0**
5.5nm,0.3s,baz=197,slow=25,SNR=3.5							
AAK	**Ala-Archa**	**6.97**	**24**	P	**Pn**	**04 50 51.2**	**+0.8**
30nm,0.4s,baz=78,slow=6.8,SNR=3.6							
AAK				S	**Sn**	**04 52 07.5**	**-1.1**
9.2nm,0.6s,baz=339,slow=23,SNR=8.2							
AAK	**Ala-Archa**	**6.97**	**24**	P	**Pn**	**04 50 51.1**	**+0.7**
SNR=19							
AAK	**Ala-Archa**	**6.97**	**24**	⇑P	**Pn**	**04 50 51.0**	**+0.7**
20nm,0.5s							
AAK				S	**Sn**	**04 52 08.2**	**-0.4**
22nm,1.1s							
KBK	**Karagaybulak**	**7.15**	**26**	P	**Pn**	**04 50 54.4**	**+1.7**
SNR=5.7							
CHMS	**Chumysh**	**7.38**	**24**	⇓P	**Pn**	**04 50 55.3**	**-0.4**
6.5nm,0.6s							
CHMS				⇑S	**Sn**	**04 52 18.6**	**+0.4**
9.9nm,0.6s							
USP	**Ospenovka**	**7.54**	**22**	P	**Pn**	**04 50 58.5**	**+0.6**
SNR=12							
TKM2	**Tokmak 2**	**7.62**	**28**	P	**Pn**	**04 50 59.5**	**+0.6**
SNR=13							
TKM2	**Tokmak 2**	**7.62**	**28**	⇓P	**Pn**	**04 50 59.1**	**+0.1**
12nm,0.6s							
TKM2				⇑S	**Sn**	**04 52 23.3**	**-0.8**
3.5nm,0.6s							
MKAR	**Makanchi Array**	**13.60**	**36**	P	**Pn**	**04 52 17.8**	**+0.5**
0.5nm,0.6s,baz=225,slow=15,SNR=5.7							
AB31	**Akbulak array**	**15.12**	**332**	P	**Pn**	**04 52 36.0**	**-0.3**
2.2nm,0.5s,baz=159,slow=11,SNR=83							
AB31				S	Sn	04 55 17.6	-6.6
1.2nm,0.5s,baz=153,slow=24,SNR=5.7							
KURBB	**Kurchatov Arra**	**15.38**	**19**	P	**Pn**	**04 52 41.0**	**+1.5**
0.3nm,0.3s,baz=210,slow=10,SNR=7.0							
BVAR	**Borovoye Array**	**16.71**	**359**	P	**P**	**04 52 56.5**	**+1.0**
1.4nm,0.4s,baz=168,slow=7.0,SNR=6.0							
AKTO	**Aktyubinsk**	**16.81**	**331**	P	**P**	**04 52 57.2**	**+0.6**
2.1nm,0.5s,baz=133,slow=8.6,SNR=11							
AKTO				S	S	04 55 52.2	-12
0.7nm,0.4s,baz=266,slow=22,SNR=6.4							
AKTO	**Aktyubinsk**	**16.81**	**331**	⇓P	**P**	**04 52 57.0**	**+0.4**
2.5nm,0.7s							
AKTO				⇓S	**S**	**04 55 59.9**	**-3.9**
3.7nm,1.2s							
ZALV	**Zalesovo Beam**	**20.20**	**25**	P	**P**	**04 53 35.4**	**+2.0**
5.6nm,0.6s,baz=221,slow=10,SNR=28							
5.6nm,0.6s							
GNI	**Garni**	**20.70**	**289**	P	**P**	**04 53 41.5**	**+2.4**
3.1nm,0.5s,baz=90,slow=5.1,SNR=3.2							
3.1nm,0.5s							
ARCES	**ARCESS Array B**	**41.21**	**338**	P	**P**	**04 56 41.8**	**+1.6**
3.0nm,0.8s,baz=118,slow=9.5,SNR=2.4							
3.0nm,0.8s							
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**04 56 55.9**	**+0.7**
2.5nm,0.9s,baz=108,slow=8.2,SNR=4.3							
2.5nm,0.9s							
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**04 57 05.9**	**+0.2**
0.5nm,0.6s,baz=96,slow=8.0,SNR=2.1							
0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**65.44**	**269**	P	**P**	**04 59 37.1**	**-0.6**
1.2nm,0.3s,baz=47,slow=5.9,SNR=2.4							
1.2nm,0.3s							
FITZ	**Fitzroy Crossi**	**75.00**	**126**	P	**P**	**05 00 32.1**	**-3.6**
2.7nm,1.0s,baz=292,slow=9.1,SNR=2.2							
2.7nm,1.0s							
ILAR	**Eielson Array**	**75.03**	**16**	P	**P**	**05 00 35.5**	**+0.3**
0.3nm,0.8s,baz=319,slow=3.6,SNR=4.2							
0.3nm,0.8s							

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*JMA **29** 04:50:10.9±0.4, 25°.N±1°.×12°.3E±°, h4km, MV3.1/9, NW OFF ISHIGAKIJIMA IS*
*IDC **29** 04:50:19.6±5.3, 24°.91N×122°.75E, h61km±53km, mb3.5/8, mbtmp3.8/9, MS3.3/11, Error ellipse: s-maj=45.9km s-min=18.2km az=61.0*
ISC 29 04:50:13.3±0.8, 25°.05N±0°.06×123°.0E±0°.1, h10km, n25, σ0°88/16, mb3.8/8, MS3.2/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.59**	**175**	*eP*	**Pg**	**04 50 24.2**	**-0.5**
YOJ				*eS*	**Sg**	**04 50 33.8**	**+1.4**
JYNG	**Yonagunijimaku**	**0.59**	**181**	*eP*	**Pg**	**04 50 24.5**	**-0.3**
JYNG				*eS*	**Sg**	**04 50 33.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.00**	**135**	*eP*	**Pb**	**04 50 32.8**	**+0.1**
JIJ	**Ishigaki jima**	**1.28**	**122**	*eP*	**Pn**	**04 50 37.0**	**-0.2**
JISG	**Ishigakijimahi**	**1.32**	**110**	*eP*	**Pb**	**04 50 38.2**	**+0.1**
JOW	**Kunigami**	**5.11**	**69**	P	Pb	04 51 36.5	-6.3
21nm,1.0s,baz=81,slow=30,SNR=3.6							
JNU	**Nakatsue**	**10.62**	**39**	LR	LR	04 57 57.6	
comp=Z,46nm,18.2s,baz=56,slow=42							
KSRS	**Korea Array**	**13.07**	**18**	P	**P**	**04 53 29.5**	**+0.1**
1.7nm,0.7s,baz=196,slow=12,SNR=8.6							
KSRS				LR	LR	04 58 27.0	
comp=Z,92nm,19.1s,baz=190,slow=37							
MJAR	**Matsushiro Arr**	**17.38**	**45**	LR	LR	05 02 21.2	
comp=Z,67nm,19.9s,baz=36,slow=41							
DAV	**Davao City (W)**	**18.05**	**172**	LR	LR	05 01 55.1	
comp=Z,47nm,18.5s,baz=322,slow=39							
USRK	**Ussuriysk Ar.**	**20.48**	**19**	LR	LR	05 03 24.5	
comp=Z,61nm,18.9s,baz=58,slow=38							
CMAR	**Chiang Mai Arr**	**23.22**	**258**	LR	LR	05 03 55.8	
comp=Z,30nm,20.4s,baz=190,slow=36							
ASAJ	**Asahikawa**	**24.86**	**35**	LR	LR	05 05 23.8	
comp=Z,43nm,20.3s,baz=132,slow=36							
KLR	**Kul'dur**	**25.10**	**14**	LR	LR	05 05 09.0	
comp=Z,78nm,20.2s,baz=305,slow=35							
SONM	**Songino Array**	**26.24**	**334**	P	**P**	**04 55 49.6**	**+1.0**
0.6nm,0.3s,baz=148,slow=8.5,SNR=5.9							
0.6nm,0.3s							
PSI	**Prapat**	**32.02**	**230**	LR	LR	05 10 31.1	
comp=Z,92nm,18.6s,baz=304,slow=38							
MKAR	**Makanchi Array**	**38.86**	**314**	P	**P**	**04 57 39.2**	**+0.5**
1.4nm,0.9s,baz=109,slow=9.6,SNR=6.2							
1.4nm,0.9s							
ZALV	**Zasovo Beam**	**40.42**	**326**	P	**P**	**04 57 52.1**	**+0.6**
1.7nm,0.8s,baz=99,slow=7.7,SNR=4.6							
1.7nm,0.8s							
KURBB	**Kurchatov Arra**	**42.50**	**319**	P	**P**	**04 58 08.1**	**-0.6**
1.3nm,0.3s,baz=84,slow=19,SNR=4.1							
1.3nm,0.3s							
WRA	**Warramunga Arr**	**46.07**	**165**	P	**P**	**04 58 36.5**	**-1.1**
1.8nm,0.8s,baz=348,slow=8.2,SNR=6.3							
1.8nm,0.8s							
BVAR	**Borovoye Array**	**48.04**	**320**	P	**P**	**04 58 50.7**	**-1.9**
0.4nm,0.4s,baz=122,slow=9.5,SNR=1.7							
0.4nm,0.4s							
NRIK	**Noril'sk**	**49.00**	**344**	LR	LR	05 20 07.3	
comp=Z,62nm,18.5s,baz=270,slow=36							
ASAR	**Alice Springs**	**49.58**	**167**	P	**P**	**04 59 04.4**	**-0.4**
0.5nm,0.9s,baz=346,slow=9.2,SNR=1.9							
0.5nm,0.9s							
INK	**Inuvik**	**71.82**	**22**	LR	LR	05 34 31.0	
comp=Z,160nm,20.4s,baz=228,slow=37							
YKA	**Yellowknife Ar**	**81.55**	**23**	P	**P**	**05 02 31.4**	**+0.6**
0.8nm,1.1s,baz=308,slow=5.2,SNR=4.4							
0.8nm,1.1s							

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*IDC **29** 04:50:31.4±2.2, 1°.46N×126°.71E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=171.9km s-min=28.2km az=66.0*
*DJA **29** 04:50:44.2±0.5, 2°.N±3°.×12°.7E±°, h70km±15km, M4.1/10, mB5.1/2, mb4.2/4, MLv4.1/10, Mw(mB)4.5/2*
ISC 29 04:50:42.5±1.5, 1°.62N±0°.09×127°.3E±0°.1, h100km, n10, σ1°93/11, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.71**	**319**	P	**Pn**	**04 51 23.8**	**-0.6**
KMSI	**Cibinong**	**3.48**	**253**	P	**Pn**	**04 51 35.8**	**+1.1**
SANI	**Sanana**	**3.88**	**200**	P	**Pn**	**04 51 41.0**	**+0.9**
SANI				S	**Sn**	**04 52 21.3**	**-3.4**
NLAI	**Namlea**	**4.83**	**182**	P	**Pn**	**04 51 55.4**	**+2.4**
LUWI	**Luwuk**	**5.25**	**240**	P	**Pn**	**04 52 00.7**	**+2.1**
0.3nm2μm20nm,0.8s							
APSI	**Ampana**	**6.19**	**246**	P	**Pn**	**04 52 12.8**	**+1.4**
0.1nm22nm,1.1s							
SPSI	**Sidrap Palu**	**9.35**	**234**	P	**Pn**	**04 52 56.4**	**+1.9**
WRA	**Warramunga Arr**	**22.52**	**162**	P	**P**	**04 55 33.5**	**-0.6**
1.2nm,0.5s,baz=340,slow=11,SNR=13							
1.2nm,0.5s							
ASAR	**Alice Springs**	**25.95**	**166**	P	**P**	**04 56 05.4**	**-0.4**
0.3nm,0.7s,baz=346,slow=11,SNR=5.1							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**59.60**	**326**	P	**P**	**05 00 35.8**	**-0.1**
0.2nm,0.5s,baz=120,slow=7.5,SNR=2.3							
0.2nm,0.5s							

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*IDC **29** 04:55:23.4±1.2, 40°.50N×124°.21W, h0km, mb3.2/3, mbtmp3.6/10, ML3.3/5, MS3.2/4, Error ellipse: s-maj=13.2km s-min=8.9km az=90.0*
*NCEDC **29** 04:55:25.9±2.6, 40°.43N±0°.03×124°.47W±0°.08, h28km±4km, Mwr4.2/6, mb4.1/10(NEIC), ML3.7/96(NEIC), Mwr4.1/38(NEIC), Error ellipse: s-maj=9.2km s-min=4.9km az=82.0*
*NEIC **29** 04:55:26.5±2.3, 40°.44N±0°.03×124°.35W±0°.04, h28km±6km, Error ellipse: s-maj=4.7km s-min=4.4km az=89.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.06; $M_{\theta\theta}$-1.45; $M_{\phi\phi}$1.39; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.38; $M_{\phi r}$0.34; Fault plane solution: $M_0$1.51000×10^{15} NP1:ϕ_s38.20000°, δ82.33000°, λ10.60000°. NP2:ϕ_s306.77000°, δ79.49000°, λ172.20000°. Principal axes: T 1.5202, Plg13.0000°, Azm263.0000°; N -0.0194, Plg77.0000°, Azm74.0000°; P -1.5008, Plg2.0000°, Azm172.0000°;*
*NEIC **29** 04:55:26.3, 40°.43N×124°.43W, h25km*
ISC 29 04:55:26.4±0.8, 40°.47N±0°.03×124°.37W±0°.05, h29km±5km, n137, σ1°24/123, mb3.6/4, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.02**	**81**		**Pb**	**04 55 31.4**	**+0.2**
KCTM					**Sb**	**04 55 35.7**	**+1.1**
PETL	**Petrolia**	**0.18**	**174**		**Pb**	**04 55 31.6**	**-0.7**
PETL					**Sb**	**04 55 35.8**	**-0.5**
KMPM	**Mount Pierce**	**0.20**	**106**		**Pb**	**04 55 32.6**	**0.0**
KMPM					**Sb**	**04 55 37.3**	**+0.6**
JCC	**Jacoby Creek,**	**0.43**	**37**		**Pb**	**04 55 35.5**	**-0.1**
JCC					**Sb**	**04 55 42.3**	**+0.3**
BRIC	**Briceland Vine**	**0.51**	**135**		**Pb**	**04 55 36.7**	**-0.2**
KMRM	**Mail Ridge**	**0.56**	**116**		**Pb**	**04 55 37.8**	**-0.1**
KMRM					**Sn**	**04 55 46.3**	**-0.6**
KMRM				IAML		04 55 47.2	
comp=N,8μm,0.9s							
KHMM	**Horse Mountain**	**0.63**	**50**		**Pb**	**04 55 39.0**	**-0.1**
KHMM					**Sn**	**04 55 48.4**	**-0.4**
KRPM	**Rodgers**	**0.73**	**21**		**Pb**	**04 55 40.1**	**-0.6**
KRPM					**Sb**	**04 55 50.2**	**-0.3**
KHBM	**Hayfork Bally**	**0.89**	**77**		**Sb**	**04 55 54.6**	**-0.6**
KHBM				IAML		04 55 55.6	
comp=N,2μm,0.7s							
KHBM				IAML		04 55 55.9	
comp=E,2μm,0.7s							
KHBM	**Hayfork Bally**	**0.89**	**77**		**Pn**	**04 55 42.5**	**-0.8**
KIPM	**Iron Peak**	**0.95**	**134**		**Pn**	**04 55 42.8**	**-1.2**
KCPM	**Cahto Peak**	**0.99**	**142**		**Pn**	**04 55 42.9**	**-1.6**
KCPM				IAML		04 55 56.4	
comp=N,4μm,0.7s							
KOMM	**Orleans Mounta**	**1.06**	**40**		**Pn**	**04 55 45.0**	**-0.5**
KBNM	**Bluenose Ridge**	**1.07**	**122**		**Pn**	**04 55 45.2**	**-0.4**
WEAV	**Weaverville**	**1.09**	**75**		**Pn**	**04 55 45.0**	**-0.8**
LBPM	**Beegum Peak**	**1.15**	**97**		**Pn**	**04 55 45.7**	**-0.9**
GTC	**Three Chop Rid**	**1.24**	**150**		**Pn**	**04 55 46.0**	**-1.8**
O02D	**Mt. Diablo Mer**	**1.24**	**103**	Pn	**Pn**	**04 55 47.2**	**-0.8**
O02D				IAML		04 56 03.8	
comp=E,815nm,0.8s							
O02D				IAML		04 56 19.2	
comp=N,978nm,0.9s							
DCMP	**DeCamp, Califo**	**1.28**	**141**		**Pn**	**04 55 46.7**	**-1.7**
DCMP	**DeCamp, Califo**	**1.28**	**141**	IAML		04 56 02.0	
comp=N,1μm,0.4s							
N02D	**Trinity Center**	**1.36**	**68**		**Pn**	**04 55 49.1**	**-0.4**
N02D	**Trinity Center**	**1.36**	**68**	IAML		04 56 07.4	
comp=N,2μm,0.6s							
N02D				IAML		04 56 10.1	
comp=E,2μm,0.7s							
GROM	**Round Mountain**	**1.41**	**113**		**Pn**	**04 55 49.9**	**-0.4**
SIGP	**Signal Peak, C**	**1.42**	**9**		**Pn**	**04 55 49.2**	**-1.1**
LBKM	**Bonanza King**	**1.43**	**64**		**Pn**	**04 55 50.2**	**-0.3**
M02C	**Callahan**	**1.47**	**51**		**Pn**	**04 55 50.7**	**-0.4**
M02C	**Callahan**	**1.47**	**51**	IAML		04 56 10.1	
comp=N,1μm,0.6s							
M02C				IAML		04 56 10.1	
comp=E,1μm,0.9s							
GVV	**Valley View**	**1.47**	**118**		**Pn**	**04 55 50.7**	**-0.5**
GWRM	**Wonder Ranch**	**1.51**	**147**		**Pn**	**04 55 49.8**	**-1.7**
GHOM	**Hamilton Openi**	**1.56**	**156**		**Pb**	**04 55 57.8**	**+3.1**
LTCM	**Tuscan Springs**	**1.73**	**98**		**Pn**	**04 55 54.3**	**-0.4**
LAMM	**Antelope Mount**	**1.74**	**49**		**Pn**	**04 55 54.8**	**-0.1**
KBO	**Bosley Butte**	**1.74**	**3**		**Pn**	**04 55 53.4**	**-1.5**
KBO				IAML		04 56 15.3	
comp=E,1μm,0.3s							
GCK	**Clark Valley**	**1.75**	**121**		**Pn**	**04 55 55.2**	**+0.4**
L02F	**Cave Junction**	**1.75**	**20**		**Pn**	**04 55 54.2**	**-0.8**
LCSM	**College of the**	**1.77**	**57**		**Pn**	**04 55 55.5**	**+0.3**
YBH	**Yreka Blue Hor**	**1.77**	**44**		**Pn**	**04 55 55.2**	**-0.1**
YBH				IAML		04 56 19.7	
comp=N,847nm,0.5s							
YBH				IAML		04 56 19.9	
comp=E,1μm,0.5s							
YBH	**Yreka Blue Hor**	**1.77**	**44**	Pg	**Pn**	**04 55 54.7**	**-0.5**
comp=E,62nm,0.3s,baz=218,slow=10.0,SNR=556							
YBH				Lg	Lg	04 56 15.8	
comp=E,215nm,0.3s,baz=260,sl

J01E Myrtle Point 2.71 7 IAML 04 56 40.3
comp=N,337nm,0.3s
J01E IAML 04 56 41.6
comp=E,530nm,0.5s
NOLM Olema 2.72 153 Pn 04 56 06.5 -1.7
BBOR Butler Butte 2.72 27 IAML 04 56 43.4
comp=N,349nm,0.5s
BBOR IAML 04 56 50.8
comp=E,385nm,0.5s
DBO Dodson Butte 2.77 17 IAML 04 56 44.8
comp=N,182nm,0.8s
DBO IAML 04 57 00.1
comp=E,195nm,1.0s
FARB Farallon Islan 2.97 159 Pn 04 56 09.8 -1.8
FARB Farallon Islan 2.97 159 IAML 04 56 42.6
comp=E,152nm,0.6s
AFDM Forest Hills D 3.03 119 Pn **Pn 04 56 11.9 -0.5**
BEKR Beckworth 3.13 100 IAML 04 56 54.4
comp=N,327nm,0.6s
BEKR IAML 04 56 56.7
comp=E,197nm,0.7s
J04A Umpqua Nationa 3.24 31 Pn **Pn 04 56 17.0 +1.5**
I03D Drain, OR 3.31 13 IAML 04 57 09.3
comp=E,118nm,0.6s
I03D IAML 04 57 09.9
comp=N,120nm,1.0s
MPK Martis Peak 3.54 108 IAML 04 57 06.6
comp=E,305nm,0.7s
MPK IAML 04 57 09.7
comp=N,269nm,0.7s
I04A Tendick Farm, 3.62 23 IAML 04 57 04.7
comp=N,255nm,0.3s
J05D Fort Rock, OR 3.66 39 Pn **Pn 04 56 22.5 +1.3**
J05D IAML 04 57 27.2
comp=E,102nm,1.4s
J05D IAML 04 57 29.8
comp=N,111nm,0.9s
BUCK Buck Mountain 3.86 15 IAML 04 57 21.5
comp=N,104nm,1.2s
BUCK IAML 04 57 52.8
comp=E,112nm,1.8s
PNTR Pine Nut 3.92 109 Pn **Pn 04 56 25.7 +0.8**
PNTR IAML 04 57 23.1
comp=E,130nm,1.1s
PNTR IAML 04 57 45.9
comp=N,128nm,1.2s
CMB Columbia Colle 3.93 127 Pn **Pn 04 56 25.8 +0.9**
PINE Pine Mountain 4.18 36 Pn **Pn 04 56 30.1 +1.6**
COR Corvallis 4.19 10 Pn 04 56 29.4 +1.1
COR IAML 04 57 21.7
comp=N,81nm,0.9s
COR IAML 04 58 12.2
comp=N,62nm,1.9s
SAO San Andreas Ge 4.35 147 Pn **Pn 04 56 28.8 -1.8**
I07A Izee 5.10 43 Pn 04 56 43.1 +2.1
NVAR Mina Array Bea 5.12 112 Pn 04 56 41.6 +0.3
NVAR Mina Array Bea 5.12 112 Pn **Pn 04 56 41.9 +0.5**
comp=N,3.6nm,0.3s,baz=289,slow=14,SNR=107
NVAR Sn **Sn 04 57 40.0 +0.4**
comp=N,1.2nm,0.3s,baz=298,slow=22,SNR=4.3
comp=N,7.9nm,0.4s
J08A Circle Bar Ran 5.26 55 Pn **Pn 04 56 43.3 +0.2**
ELK Elko 6.95 85 Pn **Pn 04 57 06.3 -0.2**
comp=N,0.3nm,0.3s,baz=273,slow=12,SNR=15
ELK Sn **Sn 04 58 23.7 -1.0**
comp=N,0.2nm,0.3s,baz=36,slow=22,SNR=1.0
comp=N,2.5nm,0.6s
PFO Pinyon Flats O 9.31 135 Pn 04 57 39.9 +1.0
PFO Pinyon Flats O 9.31 135 Pn **Pn 04 57 39.6 +0.8**
comp=N,4.7nm,0.4s,baz=321,slow=13,SNR=17
PFO LR LR 05 01 52.4
comp=N,121nm,19.9s,baz=50,slow=42
HWUT Hardware Ranch 9.74 79 Pn 04 57 47.9 +3.2
MSO Missoula 9.87 46 Pn **Pn 04 57 48.5 +2.1**
DLMT Dillon 9.92 57 Pn **Pn 04 57 50.0 +2.9**
BSUT Blindstream Ca 10.36 85 Pn 04 57 58.2 +4.8
YHL Hebgen Lake 10.65 61 Pn **Pn 04 58 01.1 +3.9**
PDAR Pinedale Array 11.32 73 Pn **Pn 04 58 08.1 +1.7**
baz=272,slow=14,SNR=4.9
PDAR LR LR 05 02 29.2
comp=N,56nm,21.1s,baz=258,slow=38
comp=N,1.2nm,1.0s
BBB Bella Bella 12.00 349 Pn **Pn 04 58 15.9 +0.6**
comp=N,0.1nm,0.3s,baz=158,slow=19,SNR=2.1
comp=N,8.3nm,0.9s
S22A 4UR Ranch, Cre 13.89 96 Pn **Pn 04 58 45.0 +3.4**
ANMO Albuquerque 15.20 106 Pn **Pn 04 58 58.2 -1.1**
comp=N,0.6nm,0.6s,baz=99,slow=12,SNR=3.6
DGMT Dagmar 16.44 54 Pn **Pn 04 59 15.3 +0.4**
DGMT IAmb IAmb 04 59 17.4
comp=Z,15nm,1.2s
KSCO Kaye Shedlock' 16.78 88 P 04 59 20.9 -0.5
KSCO IAmb IAmb 04 59 23.6
comp=Z,8.4nm,0.9s
DLBC Dease Lake 18.34 351 P **Pn 04 59 39.1 +0.6**
comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=3.4
comp=Z,0.9nm,0.8s
K30B Basset 18.64 75 IAmb IAmb 04 59 43.0
comp=Z,19nm,1.1s
SUSD Miller 19.14 70 P **P 04 59 45.9 -1.3**
SUSD IAmb IAmb 04 59 46.7
comp=Z,21nm,0.9s
R32A Long Quarter, 19.90 88 P **Pn 04 59 56.9 -0.5**
LPIG La Paz 20.15 140 LR LR 05 08 15.6
comp=Z,73nm,19.9s,baz=345,slow=38
TXAR Lajitas Array 20.24 117 P **P 04 59 58.9 -0.6**
comp=Z,0.5nm,0.8s,baz=301,slow=11,SNR=5.4
comp=Z,0.5nm,0.8s
FFC Flin Flon 20.64 39 P **P 05 00 03.5 +0.1**
ECSD EROS Data Cent 20.81 72 P **P 05 00 03.8 -1.6**
KSU1 Kansas State U 21.34 85 P **P 05 00 12.2 +1.0**
AGMN Agassiz Nation 21.73 59 P **P 05 00 14.7 -0.5**
AGMN IAmb IAmb 05 00 17.2
comp=Z,8.0nm,0.6s
ULM Lac du Bonnet 22.16 54 P **P 05 00 16.9 -2.9**
ULM IAmb IAmb 05 00 21.7
comp=Z,3.2nm,0.6s
ULM Lac du Bonnet 22.16 54 P **P 05 00 16.8 -2.9**
comp=Z,3.8nm,0.6s,baz=252,slow=11,SNR=8.0
YKA Yellowknife Ar 22.82 12 P **P 05 00 27.4 +0.7**
comp=Z,0.8nm,0.8s,baz=201,slow=11,SNR=10
comp=Z,0.8nm,0.8s
KDAK Kodiak Island 25.03 323 LR LR 05 08 04.1
comp=Z,159nm,19.6s,baz=95,slow=30
ILAR Eielson Array 27.60 339 P **P 05 01 11.7 +0.8**
comp=Z,0.6nm,1.0s,baz=138,slow=8.3,SNR=3.2
comp=Z,0.6nm,1.0s
H11N3 WAKE ISLAND Hy 61.47 272 T T 06 12 23.4
baz=53,slow=75,SNR=29
H11N2 WAKE ISLAND Hy 61.47 272 T T 06 12 22.2
baz=53,slow=75,SNR=33
H11N1 WAKE ISLAND Hy 61.49 272 T T 06 12 24.9
baz=53,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 62.34 271 T T 06 13 32.7
baz=54,slow=76,SNR=155
H11S2 WAKE ISLAND Hy 62.35 271 T T 06 13 32.7
baz=54,slow=76,SNR=155
H11S3 WAKE ISLAND Hy 62.36 271 T T 06 13 32.7
baz=54,slow=76,SNR=146

*FCIAR **29** 05:03:28.0, 80.˚40N×0.˚07W, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.80*
*BER **29** 05:03:28.7±2.1, 80.˚66N×1.˚22W, h10km, mb(Pn)3.7, ML1.9(DNK), Confirmed Earthquake*
*IDC **29** 05:03:28.6±0.9, 80.˚60N×1.˚86W, h0km, mb3.7/10, mbtmp3.8/12, ML4.3/2, MS3.3/2, Error ellipse: s-maj=25.9km s-min=16.0km az=32.0*
*DNK **29** 05:03:30.7±2.7, 80.˚70N×0.˚68W, h36km±20km, ML1.9*
*KOLA **29** 05:03:31.6, 81.˚00N×2.˚56E, h0km, ML2.9, Error ellipse: s-maj=105.3km s-min=29.6km az=40.0, Greenland sea*
ISC 29 05:03:28.3±0.6, 80.˚58N±0.˚07×0.˚96W±0.˚05, h10km, n43, σ3°07/51, mb3.7/8, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.65**	**300**	*i* P		**Pn**	**05 04 08.8**	**-2.1**
NOR				*i* S		**Sn**	**05 04 37.1**	**-5.8**
NOR				IAML			05 04 40.5	
	comp=Z,8.9nm,0.2s							
NOR	**Nord**	**2.65**	**300**	*i* P		**Pn**	**05 04 08.8**	**-2.1**
NOR				*i* S		**Sn**	**05 04 37.1**	**-5.8**
NOR				IAML			05 04 40.5	
	comp=Z,8.9nm,0.2s							
KBS	**Kingsbay**	**2.84**	**119**	*i* P		**Pn**	**05 04 13.3**	**-0.3**
KBS				*i* S		**Sn**	**05 04 43.0**	**-4.7**
KBS	**Kingsbay**	**2.84**	**119**	P		**Pn**	**05 04 12.9**	**-0.6**
KBS				S		**Sn**	**05 04 43.2**	**-4.5**
KBS	**Kingsbay**	**2.84**	**119**	*i* P		**Pn**	**05 04 13.3**	**-0.3**
KBS				*i* S		**Sn**	**05 04 43.0**	**-4.7**
BRBB	**Barentsburg B**	**3.75**	**124**	*e*P		**Pn**	**05 04 26.8**	**+0.6**
BRBB				*e*S		**Sn**	**05 05 07.1**	**-3.2**
BRBB	**Barentsburg B**	**3.75**	**124**	P		**Pn**	**05 04 26.5**	**+0.4**
BRBB				S		**Sn**	**05 05 07.7**	**-2.6**
BRBA	**Barentsburg A**	**3.78**	**124**	*e*P		**Pn**	**05 04 27.3**	**+0.8**
BRBA				*e*S		**Sn**	**05 05 07.6**	**-3.3**
BRBA				IAML			05 05 11.1	
	comp=Z,26nm,0.3s							
SPA0	**Spitsbergen Ar**	**4.00**	**118**	*e*P		**Pn**	**05 04 29.5**	**0.0**
SPA0				*e*S		**Sn**	**05 05 12.3**	**-4.0**
SPA0				IAML			05 05 30.4	
	comp=Z,17nm,0.5s							
SPA0	**Spitsbergen Ar**	**4.00**	**118**	*e*P		**Pn**	**05 04 29.4**	**0.0**
SPA0				*e*S		**Sn**	**05 05 11.8**	**-4.5**
SPITS	**Spitsbergen Ar**	**4.00**	**118**	Pn		**Pn**	**05 04 29.6**	**+0.1**
	baz=335,slow=6.5							
SPITS				Sn		**Sn**	**05 05 12.3**	**-4.0**
	baz=335,slow=23							
	comp=Z,66nm,0.3s							
SPITS	**Spitsbergen Ar**	**4.00**	**118**	P		**Pn**	**05 04 29.2**	**-0.3**
SPITS				S		**Sn**	**05 05 12.5**	**-3.9**
HSPB	**Hornsund (broa**	**4.80**	**130**	*e*P		**Pn**	**05 04 40.7**	**+0.2**
HSPB				*e*S		**Sn**	**05 05 33.1**	**-3.0**
HSPB				IAML			05 05 35.4	
	comp=Z,10nm,0.5s							
HSPB	**Hornsund (broa**	**4.80**	**130**	P		**Pn**	**05 04 41.3**	**+0.8**
HOPEN	**Hopen**	**6.52**	**115**	*e*P		**Pn**	**05 05 03.5**	**-0.5**
HOPEN				*e*S		**Sn**	**05 06 13.0**	**-5.3**
HOPEN				IAML			05 06 16.9	
	comp=Z,8.4nm,0.4s							
HOPEN	**Hopen**	**6.52**	**115**	*e*P		Pn	05 05 00.0	-4.0
HOPEN				*e*S		Sn	05 06 09.3	-8.9
DBG	**Daneborg**	**7.51**	**223**	*i* P		**Pn**	**05 05 16.1**	**-1.5**
DBG				*i* S		Sn	05 06 32.9	-10
DBG				IAML			05 06 39.8	
	comp=Z,2.5nm,0.3s							
DBG	**Daneborg**	**7.51**	**223**	*i* P		**Pn**	**05 05 16.1**	**-1.5**
DBG				*i* S		Sn	05 06 32.9	-10
DBG				IAML			05 06 39.8	
	comp=Z,2.5nm,0.3s							
ZFI2	**Zemlya Franca-**	**7.69**	**64**	*e*P		**Pn**	**05 05 19.1**	**-0.9**
ZFI2				*e*S		**Sn**	**05 06 41.2**	**-5.7**
	comp=Z,24nm,2.4s							
OMEGA	**Omega**	**7.71**	**65**	*e*P		**Pn**	**05 05 19.1**	**-1.2**
OMEGA				*e*S		**Sn**	**05 06 41.2**	**-6.3**
	comp=Z,20nm,2.4s							
NEEM	**North Greenlan**	**9.75**	**278**	*i* P		**Pn**	**05 05 45.8**	**-2.7**
NEEM				*i* S		Sn	05 07 25.5	-12
NEEM				IAML			05 07 30.6	
	comp=Z,6.5nm,0.3s							
NEEM	**North Greenlan**	**9.75**	**278**	*i* P		**Pn**	**05 05 45.8**	**-2.7**
NEEM				*i* S		Sn	05 07 25.5	-12
NEEM				IAML			05 07 30.6	
	comp=Z,6.5nm,0.3s							
SCO	**Scoresbysund**	**11.29**	**218**	*i* P		**Pn**	**05 06 07.6**	**-1.7**
SCO	**Scoresbysund**	**11.29**	**218**	*i* P		**Pn**	**05 06 07.6**	**-1.7**
SUMG	**Summit**	**11.51**	**247**	*i* P		**Pn**	**05 06 09.5**	**-3.3**
SUMG				*i* S		Sn	05 08 06.2	-15
SUMG				IAML			05 08 14.3	
	comp=Z,1.8nm,0.8s							
SUMG	**Summit**	**11.51**	**247**	*i* P		**Pn**	**05 06 09.5**	**-3.3**
SUMG				*i* S		Sn	05 08 06.2	-15
SUMG				IAML			05 08 14.3	
	comp=Z,1.8nm,0.8s							
ARCES	**ARCESS Array B**	**12.79**	**135**	Pn		**Pn**	**05 06 33.0**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=346,slow=11,SNR=16							
	comp=Z,1.5nm,0.4s							
KULLO	**Kullorsuaq**	**12.87**	**273**	*i* P		Pn	05 06 24.6	-6.3
KULLO				*i* S		Sn	05 08 35.3	-19
KULLO				IAML			05 08 41.8	
	comp=Z,2.1nm,0.2s							
KULLO	**Kullorsuaq**	**12.87**	**273**	*i* P		Pn	05 06 24.6	-6.3
KULLO				*i* S		Sn	05 08 35.3	-19
KULLO				IAML			05 08 41.8	
	comp=Z,2.1nm,0.2s							
UPNV	**Upernavik**	**14.16**	**268**	*i*		Pn	05 06 41.1	-7.4
UPNV				*i*			05 09 05.7	
UPNV	**Upernavik**	**14.16**	**268**	*i*		Pn	05 06 41.1	-7.4
UPNV				*i*			05 09 05.7	
SFJD	**Kangerlussuaq**	**18.40**	**252**	LR		LR	05 14 39.7	
	comp=Z,93nm,21.4s,baz=32,slow=37							
FINES	**FINESS Array B**	**20.69**	**142**	P		Pn	05 08 12.4	+2.1
	comp=Z,3.5nm,0.8s,baz=331,slow=11,SNR=2.8							
	comp=Z,3.5nm,0.8s							
HFS	**Hagfors**	**20.99**	**159**	P		**P**	**05 08 13.7**	**+2.5**
	comp=Z,3.5nm,0.8s,baz=334,slow=9.6,SNR=2.8							
	comp=Z,3.5nm,0.8s							
NRIK	**Noril'sk**	**22.54**	**68**	P		**P**	**05 08 29.8**	**+2.0**
	comp=Z,3.4nm,0.9s,baz=0.4,slow=10,SNR=5.4							
	comp=Z,3.4nm,0.9s							
ARTI	**Arti**	**29.95**	**107**	LR		LR	05 22 51.8	
	comp=Z,48nm,18.6s,baz=30,slow=39							
YKA	**Yellowknife Ar**	**32.55**	**308**	P		**P**	**05 10 00.7**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=16,slow=8.5,SNR=2.6							
	comp=Z,0.2nm,0.8s							
ILAR	**Eielson Array**	**33.62**	**334**	P		**P**	**05 10 09.9**	**+1.7**
	comp=Z,0.5nm,1.1s,baz=358,slow=9.5,SNR=2.5							
	comp=Z,0.5nm,1.1s							
ZALV	**Zalesovo Beam**	**36.61**	**81**	P		**P**	**05 10 36.9**	**+2.9**
	comp=Z,0.5nm,0.4s,baz=340,slow=8.0,SNR=3.6							
	comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**38.79**	**89**	P		**P**	**05 10 55.6**	**+3.2**
	comp=Z,1.5nm,0.8s,baz=342,slow=8.8,SNR=14							
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**43.12**	**87**	P		**P**	**05 11 31.2**	**+3.1**
	comp=Z,1.0nm,0.7s,baz=350,slow=7.6,SNR=13							
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**63.31**	**288**	P		**P**	**05 13 57.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=11,slow=6.9,SNR=4.3							
	comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**67.47**	**177**	P		**P**	**05 14 24.9**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=6.8,slow=6.8,SNR=2.1							
	comp=Z,1.5nm,0.3s							

WEL 29 05:03:58.3±0.6, 34.˚S±8.˚×18.˚0W±2.˚0, h12km, M4.2/6, mB4.3/2, ML4.3/13, MLv4.2/6, Mw(mB)3.4/2, Error ellipse: s-maj=28.0km s-min=4.0km az=111.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.03**	**204**	P		Pn	05 04 59.7	0.0
MXZ				S		Sn	05 05 48.4	+1.6
WMGZ	**Waiomatatini S**	**4.23**	**201**	P		Pn	05 05 01.2	-1.3
WMGZ				S		Sn	05 05 52.7	+0.9
PKGZ	**Pakihiroa**	**4.38**	**204**	P		Pn	05 05 05.0	+0.4
PKGZ				S		Sn	05 05 56.7	+1.1
HAZ	**Te Kaha**	**4.39**	**207**	P		Pn	05 05 05.6	+0.9
HAZ				S		Sn	05 05 59.2	+3.4
PUZ	**Puketiti**	**4.51**	**201**	P		Pn	05 05 05.9	-0.5
PUZ				S		Sn	05 05 58.8	0.0
RUGZ	**Raukumara Rang**	**4.61**	**207**	P		Pn	05 05 08.7	+0.8
RUGZ				S		Sn	05 06 02.6	+1.2
TWGZ	**Tauwhareparae**	**4.69**	**203**	P		Pn	05 05 07.6	-1.4
TWGZ				S		Sn	05 06 05.0	+1.6
GLKZ	**Green Lake**	**4.84**	**18**	P		Pn	05 05 11.1	+0.2
GLKZ				S		Sn	05 06 08.0	+1.1
CNGZ	**Carnagh Statio**	**4.91**	**200**	P		Pn	05 05 12.0	+0.1
CNGZ				S		Sn	05 06 09.2	+0.6
TKGZ	**Te Karaka**	**4.97**	**203**	P		Pn	05 05 13.5	+0.7
TKGZ				S		Sn	05 06 09.5	-0.7
MWZ	**Matawai**	**4.99**	**206**	P		Pn	05 05 13.4	+0.4
MWZ				S		Sn	05 06 11.9	+1.2
URZ	**Urewera**	**5.09**	**210**	P		Pn	05 05 13.8	-0.6
URZ				S		Sn	05 06 13.4	+0.3
MBAZ	**Motutapu North**	**5.29**	**235**	P		Pn	05 05 16.4	-0.8
SNGZ	**Shannon Statio**	**5.45**	**205**	P		Pn	05 05 20.3	+0.9
SNGZ				S		Sn	05 06 22.7	+0.5
MTHZ	**Maungataniwha**	**5.70**	**209**	P		Pn	05 05 21.6	-1.3
MTHZ				S		Sn	05 06 28.9	+0.6

*IDC **29** 05:08:28.1±2.7, 5.˚44S×146.˚14E, h74km±21km, mb3.4/6, mbtmp3.7/9, Error ellipse: s-maj=37.6km s-min=12.0km az=60.0*
ISC 29 05:08:27.5±1.1, 5.˚4S±0.˚1×146.˚2E±0.˚2, h69km, n9, σ1°22/12, mb3.8/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.11**	**167**	P		**Pn**	**05 09 29.2**	**+1.3**
	23nm,0.3s,baz=315,slow=7.5,SNR=9.4							
PMG				S		**Sn**	**05 10 14.3**	**-0.4**
	45nm,0.4s,baz=147,slow=23,SNR=7.4							
JAY	**Jayapura**	**6.21**	**297**	P		**Pn**	**05 09 58.0**	**+1.4**
	16nm,1.1s,baz=96,slow=11,SNR=1.7							
JAY				S		**Sn**	**05 11 06.4**	**0.0**
	15nm,1.0s,baz=298,slow=16,SNR=1.6							
WRA	**Warramunga Arr**	**18.55**	**218**	P		**P**	**05 12 37.0**	**-1.7**
	0.4nm,0.3s,baz=36,slow=12,SNR=11							
WRA				PcP		**PcP**	**05 17 05.5**	**-0.5**
	0.3nm,0.7s,baz=355,slow=2.3,SNR=7.3							
ASAR	**Alice Springs**	**21.73**	**212**	P		**P**	**05 13 11.3**	**-1.9**
	0.6nm,0.9s,baz=42,slow=6.7,SNR=7.1							
	0.6nm,0.9s							
KSRS	**Korea Array**	**45.90**	**340**	P		**P**	**05 16 42.3**	**-0.9**
	1.2nm,0.8s,baz=151,slow=8.3,SNR=4.3							
	1.2nm,0.8s							
VNDA	**Vanda**	**72.58**	**176**	P		**P**	**05 19 47.5**	**+0.7**
	0.9nm,0.6s,baz=335,slow=7.1,SNR=8.4							
	0.9nm,0.6s							
MKAR	**Makanchi Array**	**76.54**	**321**	P		**P**	**05 20 10.9**	**+0.5**
	0.2nm,0.6s,baz=120,slow=5.5,SNR=3.6							
	0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**78.08**	**328**	P		**P**	**05 20 17.9**	**-0.9**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.1							
	0.4nm,0.4s							
QSPA	**South Pole Qui**	**84.59**	**180**	P		**P**	**05 20 53.4**	**+0.2**
	0.7nm,0.7s,baz=32,slow=0.5,SNR=5.8							
	0.7nm,0.7s							

*MOS **29** 05:13:52.0±0.9, 51.˚69N×176.˚17W, h36km, mb4.9/33, Error ellipse: s-maj=8.9km s-min=7.5km az=80.2*
*AEIC **29** 05:13:53.4±2.6, 51.˚53N±0.˚08×176.˚08W±0.˚07, h54km±5km, Error ellipse: s-maj=11.7km s-min=6.0km az=168.0*
*BJI **29** 05:13:53.2, 51.˚76N×176.˚25W, h50km, mB5.2/15, mb5.0/53, Ms4.5/5, Ms7 4.3/5*
*GCMT **29** 05:13:54.2±0.4, 51.˚36N±0.˚03×175.˚81W±0.˚04, h45km±1km, MW5.0/65, Moment Tensor Solution. s30,c32; s65,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.08±.22; $M_{\theta\theta}$-2.09±.14; $M_{\phi\phi}$-0.98±.15; $M_{r\theta}$1.06±.11; $M_{\theta\phi}$-1.41±.09; $M_{\phi r}$0.61±.09; Best double couple: $M_0$3.30100×10^{16} NP1:ϕ_s234.00000°, δ34.00000°, λ87.00000°. NP2: ϕ_s57.00000°, δ56.00000°, λ92.00000°. Principal axes: T 3.3160, Plg79.0000°, Azm334.0000°; N -0.0250, Plg1.0000°, Azm236.0000°; P -3.2860, Plg11.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 05:13:55.2±2.0, 51.˚56N±0.˚08×176.˚16W±0.˚07, h49km±6km, mb4.7/137, ML4.6(AEIC) Error ellipse: s-maj=11.6km s-min=5.8km az=169.0*
*IDC **29** 05:13:55.8±2.0, 51.˚66N×176.˚19W, h56km±16km, mb4.1/32, mbtmp4.4/34, ML3.8/2, MS3.9/64, Error ellipse: s-maj=14.2km s-min=8.9km az=62.0*
ISC 29 05:13:54.3±0.7, 51.˚50N±0.˚07×176.˚11W±0.˚03, h46km±5km, n373, σ1°34/341, mb4.8/106, MS3.9/66, 14C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSCK	**Great Sitkin C**	**0.51**	**356**			**Pn**	**05 14 05.7**	**+0.2**
ADK	**Adak**	**0.53**	**317**			**Pn**	**05 14 05.2**	**-0.4**
ADK					Sn	**Sn**	**05 14 13.7**	**0.0**
GSMY	**Great Sitkin M**	**0.55**	**3**			**Pn**	**05 14 06.2**	**+0.3**
GSTD	**Great Sitkin T**	**0.56**	**357**			**Pn**	**05 14 06.3**	**+0.3**
KIRH	**Kanaga Island**	**0.73**	**303**			**Pn**	**05 14 08.2**	**-0.1**
KIWB	**Kanaga Island**	**0.74**	**299**			**Pn**	**05 14 08.2**	**-0.2**
KIMD	**Kanaga Island**	**0.75**	**291**			**Pn**	**05 14 08.1**	**-0.4**
KIMD						**Sn**	**05 14 18.4**	**-0.4**
KIKV	**Kanaga Island**	**0.76**	**300**			**Pn**	**05 14 08.4**	**-0.3**
KICM	**Kanaga Island**	**0.80**	**302**			**Pn**	**05 14 09.0**	**-0.1**
TAFP	**Tanaga Falls P**	**1.24**	**290**			**Pn**	**05 14 15.1**	**0.0**
TAFP						**Sn**	**05 14 29.9**	**-0.8**
TASE	**Tanaga Southea**	**1.25**	**286**			**Pn**	**05 14 15.3**	**0.0**
ATKA	**Atka Island**	**1.38**	**59**			**Pn**	**05 14 16.1**	**-0.9**
ATKA	**Atka Island**	**1.38**	**59**	P		**Pn**	**05 14 16.2**	**-0.8**
ATKA	**Atka Island**	**1.38**	**59**	S		**Sn**	**05 14 33.5**	**-0.5**
GAEA	**Gareloi East**	**1.67**	**281**			**Pn**	**05 14 21.7**	**+0.7**
NIKH	**Nikolski High**	**4.69**	**69**	Pn		**Pn**	**05 15 03.9**	**+1.5**
NIKH	**Nikolski High**	**4.69**	**69**	P		**Pn**	**05 15 04.2**	**+1.7**
SHEM	**Shemya Is, Ala**	**6.16**	**285**	P		**Pn**	**05 15 22.0**	**-0.5**
	11nm,0.3s,baz=70,slow=5.6,SNR=4.3							
SHEM				S		**Sn**	**05 16 32.6**	**+1.0**
	57nm,0.6s,baz=266,slow=23,SNR=1.6							
SHEM				LR		LR	05 17 58.4	
	comp=Z,1μm,19.9s,baz=142,slow=40							
	47nm,0.6s							
UNV	**Unalaska Valle**	**6.29**	**64**	Pn		**Pn**	**05 15 26.7**	**+2.3**
P08K	**Saint George I**	**6.40**	**34**	Pn		**Pn**	**05 15 27.7**	**+1.8**
SPIA	**Saint Paul Isl**	**6.64**	**29**	Pn		**Pn**	**05 15 31.3**	**+2.2**
SPIA	**Saint Paul Isl**	**6.64**	**29**	P		**Pn**	**05 15 32.9**	**+3.8**
LVA	**Lava Point**	**6.66**	**62**	Pn		**Pn**	**05 15 32.5**	**+3.1**
FALS	**False Pass**	**8.33**	**61**			**Pn**	**05 15 54.9**	**+2.7**
FALS	**False Pass**	**8.33**	**61**	P		**Pn**	**05 15 54.6**	**+2.4**
SDPT	**Sand Point**	**10.09**	**61**	Pn		**Pn**	**05 16 16.7**	**+0.4**
SDPT	**Sand Point**	**10.09**	**61**	P		**Pn**	**05 16 18.3**	**+2.0**
CNBA	**Chernabura Isl**	**10.46**	**65**			**Pn**	**05 16 20.9**	**-0.4**
CHNA	**Chernabura Isl**	**10.46**	**65**	P		**Pn**	**05 16 22.2**	**+0.8**
M11K	**Mekoryuk**	**10.48**	**28**	Pn		**Pn**	**05 16 25.0**	**+3.4**
M13K	**Dall Lake**	**11.42**	**34**			**Pn**	**05 16 37.2**	**+2.7**
O14K	**Tigyukauivet M**	**11.45**	**42**			**Pn**	**05 16 38.2**	**+3.4**
M14K	**Bethel**	**12.14**	**35**			Pn	05 16 48.6	+4.2
K13K	**Kusilvak Mount**	**12.18**	**26**			**Pn**	**05 16 47.3**	**+2.5**
L14K	**Kuka Creek**	**12.32**	**32**	Pn		**Pn**	**05 16 49.2**	**+2.5**
N15K	**Kwethluk River**	**12.47**	**40**			**Pn**	**05 16 52.9**	**+4.0**
GAMB	**Gambell**	**12.53**	**9**			**Pn**	**05 16 51.8**	**+2.2**
CHIR	**Chirikof Islan**	**12.88**	**62**	Pn		**Pn**	**05 16 52.8**	**-1.6**
CHIR	**Chirikof Islan**	**12.88**	**62**	P		**Pn**	**05 16 54.0**	**-0.4**
O16K	**Kokwok River B**	**12.99**	**44**			**Pn**	**05 17 00.1**	**+4.2**
J14K	**Nanvaranak Lak**	**13.14**	**26**			P	05 17 01.9	-4.9
K15K	**Wolf Creek Mou**	**13.39**	**31**			**P**	**05 17 05.3**	**-4.4**
M16K	**Timber Creek**	**13.44**	**38**			**Pn**	**05 17 04.9**	**+2.9**
L16K	**Owhat River**	**13.68**	**35**			**Pn**	**05 17 08.5**	**+3.2**
ACHA	**Angle Creek He**	**13.69**	**53**	Pn		**Pn**	**05

RC01 Rabbit Creek A 17.38 46 P **P 05 17 53.7 -0.1**
I20K Naaghedeneel 17.41 32 **P 05 17 56.0 +1.9**
I20K IAmb IAmb 05 18 16.8
comp=Z,34nm,0.9s
CAST Castle Rocks 17.45 38 **P 05 17 57.0 +2.3**
CAST IAmb IAmb 05 18 14.7
comp=Z,66nm,1.3s
C16K Lisburne Hills 17.62 13 **P 05 17 58.5 +2.1**
CUT Chulitna 17.68 42 P **P 05 17 57.8 +0.6**
CUT IAmb IAmb 05 18 24.1
comp=Z,37nm,1.0s
E18K Tukpahlearik C 17.71 20 **P 05 17 59.3 +1.8**
PMR Palmer 17.84 45 P **P 05 18 02.3 +3.4**
F19K Shaleruckik Mo 17.89 24 **P 05 18 01.2 +1.8**
KTH Kantishna Hill 17.97 38 **P 05 18 01.0 +0.5**
GHO Glory Hole Cre 18.00 45 P **Pn 05 17 60.0 -0.8**
TRF Thorofare Moun 18.16 39 P **P 05 18 04.2 +1.5**
TRF IAmb IAmb 05 18 21.9
comp=Z,133nm,1.4s
BPAW Bear Paw Mtn. 18.23 37 P **Pn 05 18 04.8 +1.4**
BPAW IAmb IAmb 05 18 11.2
comp=Z,47nm,1.0s
BILL Bilibino 18.68 339 P **Pn 05 18 08.5 -0.4**
BILL IAmb IAmb 05 18 11.8
comp=Z,45nm,1.1s
BILL Bilibino 18.68 339 *ce*P **Pn 05 18 09.6 +0.7**
BILL pmax pmax
comp=Z,54nm,1.3s
RND Reindeer 18.71 40 P **P 05 18 08.6 0.0**
RND IAmb IAmb 05 18 11.3
comp=Z,46nm,0.7s
RND Reindeer 18.71 40 P **P 05 18 08.6 0.0**
RND pmax pmax
comp=Z,46nm,0.7s
MCK McKinley 18.83 39 P **Pn 05 18 11.0 +0.2**
MCK IAmb IAmb 05 18 24.7
comp=Z,29nm,0.9s
MCK McKinley 18.83 39 P **Pn 05 18 11.0 +0.2**
MCK pmax pmax
comp=Z,29nm,0.9s
G21K Allakaket 18.84 28 **Pn 05 18 12.0 +1.1**
G21K IAmb IAmb 05 18 14.0
comp=Z,33nm,1.1s
EYAK Cordova Ski Ar 19.07 50 P **Pn 05 18 13.7 +0.2**
WRH Wood River Hil 19.51 38 P **P 05 18 16.9 -0.4**
WRH IAmb IAmb 05 18 32.8
comp=Z,24nm,0.9s
CCB Clear Creek Bu 19.70 37 P **P 05 18 18.5 -0.8**
CCB IAmb IAmb 05 18 24.7
comp=Z,27nm,1.0s
BMRM Bremner River 19.72 49 P **P 05 18 19.8 +0.2**
BMRM IAmb IAmb 05 18 40.3
comp=Z,20nm,0.8s
COLA College 19.79 37 P **P 05 18 20.4 +0.1**
COLA IAmb IAmb 05 18 36.6
comp=Z,36nm,0.8s
COLA College 19.79 37 P **Pn 05 18 22.2 +0.1**
COLA College 19.79 37 *i* P **P 05 18 19.1 -1.2**
COLA pmax pmax
comp=Z,24nm,0.8s
HDA Harding Lake 19.92 38 P **P 05 18 21.8 +0.1**
PAX Paxson 19.94 43 P **P 05 18 22.1 +0.1**
PAX IAmb IAmb 05 18 28.9
comp=Z,25nm,0.9s
PAX Paxson 19.94 43 P **P 05 18 22.1 +0.1**
PAX pmax pmax
comp=Z,25nm,0.9s
ILAR Eielson Array 20.11 37 P **P 05 18 22.4 -1.4**
comp=Z,4.3nm,0.7s,baz=241,slow=10.0,SNR=46
ILAR S **S 05 22 05.7 -1.1**
comp=Z,0.6nm,0.8s,baz=240,slow=18,SNR=2.2
ILAR PcP **PcP 05 22 36.6 -0.4**
comp=Z,1.2nm,0.7s,baz=286,slow=2.5,SNR=4.7
ILAR ScP **ScP 05 26 08.7 -0.5**
comp=Z,0.7nm,0.9s,baz=264,slow=2.6,SNR=5.3
ILAR LR LR 05 26 14.0
comp=Z,258nm,19.2s,baz=240,slow=37
comp=Z,4.3nm,0.7s
GLB Gilahina Butte 20.21 48 P **P 05 18 25.8 +0.9**
GLB IAmb IAmb 05 18 30.1
comp=Z,18nm,0.8s
MA2 Magadan 20.23 306 P **P 05 18 25.0 -0.1**
MA2 IAmb IAmb 05 18 43.1
comp=Z,24nm,1.0s
MA2 Magadan 20.23 306 P **P 05 18 25.2 +0.2**
comp=Z,2.4nm,0.3s,baz=121,slow=3.9,SNR=5.8
comp=Z,2.4nm,0.3s
MA2 Magadan 20.23 306 *i* P **P 05 18 24.8 -0.3**
MA2 pmax pmax
comp=Z,15nm,1.0s
H24K Noodor Dome 20.27 34 P Pn 05 18 26.4 -1.5
H24K IAmb IAmb 05 18 29.1
comp=Z,64nm,1.0s
SEY Seymchan 20.30 316 P Pn 05 18 26.6 -1.5
comp=Z,11nm,0.9s,baz=108,slow=10,SNR=11
SEY LR LR 05 26 36.6
comp=Z,514nm,18.2s,baz=152,slow=38
comp=Z,11nm,0.9s
SEY Seymchan 20.30 316 *ce*P Pn 05 18 26.8 -1.4
SEY pmax pmax
comp=Z,17nm,1.3s
E22K Anaktuvuk Pass 20.42 26 P Pn 05 18 28.2 -1.4
B20K Meade River 20.56 19 P Pn 05 18 29.7 -1.5
B20K IAmb IAmb 05 18 46.5
comp=Z,27nm,0.9s
MENT Mentasta 20.68 44 P **P 05 18 29.3 -0.7**
MENT IAmb IAmb 05 18 44.7
comp=Z,18nm,0.8s
DOT Dot Lake 20.77 42 P **P 05 18 32.1 +1.0**
DOT IAmb IAmb 05 18 36.4
comp=Z,41nm,0.8s
YAH Yahtse 20.97 52 P Pn 05 18 35.1 -1.2
YAH IAmb IAmb 05 19 05.6
comp=Z,33nm,1.3s
F24K Squaw Lake 21.20 30 P **P 05 18 37.0 +1.5**
F24K IAmb IAmb 05 18 51.5
comp=Z,24nm,0.8s
TOLK Toolik Lake Re 21.38 27 P **P 05 18 39.1 +1.6**
TOLK IAmb IAmb 05 19 00.7
comp=Z,24nm,0.8s
C23K Itkillik River 21.91 24 P **P 05 18 44.0 +1.0**
PNL Peninsula 22.04 54 P **P 05 18 45.9 +1.3**
BMAR Burnt Mountain 22.22 32 P **P 05 18 47.0 +0.5**
F26K Sheenjek River 22.50 32 P **P 05 18 49.9 +0.4**
O29M Mount Kennedy 22.52 52 P **P 05 18 49.4 -0.5**
D25K Kavik River 22.71 27 P **P 05 18 51.9 +0.2**
M29M Somme Creek 22.90 47 P **P 05 18 53.8 +0.1**
G27K Doyon Strip 22.95 35 P **P 05 18 53.9 -0.2**
I28M Miner Creek 23.07 39 P **P 05 18 54.9 -0.6**
I28M IAmb IAmb 05 19 13.4
comp=Z,16nm,0.9s
HYT Haines Junctio 23.10 51 P **P 05 18 54.9 -0.9**
L29M L29M 23.18 45 P **P 05 18 56.8 +0.3**
J29N Klondike Camp 23.47 42 P **P 05 18 59.8 +0.4**
J29N IAmb IAmb 05 19 16.0
comp=Z,14nm,0.6s
E27K Coleen River 23.58 32 P **P 05 19 00.7 +0.4**
C27K Jago River 23.66 28 P **P 05 19 01.0 +0.1**
H29M Whitestone 23.94 38 P **P 05 19 03.1 -0.6**
H29M IAmb IAmb 05 19 14.8
comp=Z,18nm,0.8s
D27M Malcolm River 24.29 30 P **P 05 19 06.4 -0.4**
J30M Hart River 24.29 42 P **P 05 19 07.2 +0.3**
J30M IAmb IAmb 05 19 09.3
comp=Z,30nm,0.8s
E29M Blow River 24.91 33 P **P 05 19 12.8 +0.4**
E29M IAmb IAmb 05 19 16.7
comp=Z,21nm,1.1s
CRAG Craig 25.57 64 P **P 05 19 20.3 +1.8**
CRAG IAmb IAmb 05 19 22.8
comp=Z,41nm,1.0s
TYV Tymovskoe 25.62 285 *eP* **P 05 19 14.4 -4.6**
TYV pmax pmax
comp=Z,8.0nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.3s
G31M Satah River 25.72 37 P **P 05 19 18.9 -0.8**
F31M Tsiigehtchic 26.06 36 P **P 05 19 22.4 -0.4**
INK Inuvik 26.40 34 P **P 05 19 25.4 -0.4**
INK Inuvik 26.40 34 P **P 05 19 25.5 -0.4**
INK pmax pmax
comp=Z,5.0nm,0.9s
DLBC Dease Lake 26.88 57 LR LR 05 30 50.2
comp=Z,139nm,19.6s,baz=294,slow=38
YSS Yuzhno-Sakhali 26.98 277 P **P 05 19 31.7 +0.4**
YSS Yuzhno-Sakhali 26.98 277 *eP* **P 05 19 31.1 -0.3**
YSS *e**PP **pP 05 19 44.2 +0.9**
YSS *e* 05 20 15.9
YSS *e*S **S 05 24 01.0 -4.3**
YSS *e*SS **SnSn 05 25 11.7 -2.3**
YSS pmax pmax
comp=Z,40nm,1.2s
YSS pmax pmax
comp=Z,200nm,4.5s
YSS MLR MLR
comp=Z,500nm,17.0s
ASAJ Asahikawa 28.39 271 LR LR 05 31 22.3
comp=Z,73nm,20.5s,baz=154,slow=37
C36M Paulatuk 29.98 34 P **P 05 19 57.4 -0.4**
A36M Sachs Harbour 30.16 29 P **P 05 19 59.6 +0.3**
A36M IAmb IAmb 05 20 01.3
comp=Z,8.9nm,0.8s
YAK Yakutsk 30.61 311 LR LR 05 32 02.0
comp=Z,286nm,20.9s,baz=79,slow=36
TIXI Tiksi 31.37 330 LR LR 05 33 51.7
comp=Z,230nm,18.3s,baz=102,slow=38
KLR Kul'dur 32.76 287 *ce*P **P 05 20 23.1 +0.6**
KLR pmax pmax
comp=Z,21nm,1.3s
NLWA Neilton Lookou 33.61 76 P **P 05 20 30.4 +0.4**
NLWA IAmb IAmb 05 20 34.0
comp=Z,22nm,1.2s
ZEA Zeya 33.69 297 *eP* **P 05 20 31.1 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 33.92 47 P **P 05 20 32.8 +0.4**
YKA Yellowknife Ar 33.92 47 P **P 05 20 32.6 +0.2**
comp=Z,4.0nm,1.0s,baz=282,slow=8.7,SNR=28
YKA PcP **PcP 05 23 10.9 +1.2**
comp=Z,0.3nm,0.3s,baz=274,slow=3.1,SNR=21
YKA ScP **ScP 05 26 50.7 +0.3**
comp=Z,0.6nm,0.9s,baz=287,slow=3.2,SNR=5.9
YKA LR LR 05 36 49.3
comp=Z,212nm,18.1s,baz=276,slow=40
comp=Z,4.0nm,1.0s
YKAB2 New Yellowknif 33.93 47 P **P 05 20 32.5 +0.1**
H11N2 WAKE ISLAND Hy 34.41 209 T T 05 57 16.4
baz=18,slow=76,SNR=666
H11N3 WAKE ISLAND Hy 34.41 209 T T 05 57 17.0
baz=18,slow=76,SNR=765
H11N1 WAKE ISLAND Hy 34.42 209 T T 05 57 17.8
baz=18,slow=76,SNR=766
HEH HeiHe 34.91 291 *eP* **P 05 20 39.8 -1.3**
HEH pmax pmax
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 34.95 279 P **P 05 20 41.1 -0.3**
comp=Z,8.9nm,0.8s,baz=53,slow=7.6,SNR=8.0
comp=Z,8.9nm,0.8s
USA0B Ussuriysk Arra 34.95 279 *i* P **P 05 20 40.6 -0.9**
LON Longmire 35.16 76 P **P 05 20 44.3 +1.0**
LON IAmb IAmb 05 21 05.1
comp=Z,7.5nm,0.7s
LON Longmire 35.16 76 P **P 05 20 44.3 +1.0**
LON pmax pmax
comp=Z,7.0nm,0.7s
MAJO Matsushiro 35.47 263 P **P 05 20 45.9 -0.2**
MAJO Matsushiro 35.47 263 *i* P **P 05 20 46.7 +0.6**
MAJO pmax pmax
comp=Z,27nm,1.1s
MJAR Matsushiro Arr 35.47 263 P **P 05 20 46.8 +0.7**
comp=Z,5.1nm,0.7s,baz=48,slow=7.7,SNR=16
MJAR PcP **PcP 05 23 15.3 +0.6**
comp=Z,1.0nm,0.6s,baz=46,slow=3.5,SNR=1.6
MJAR LR LR 05 33 14.3
comp=Z,150nm,21.8s,baz=67,slow=33
comp=Z,5.1nm,0.7s
LTY Liberty 35.61 74 P **P 05 20 48.5 +1.3**
LTY IAmb IAmb 05 21 09.5
comp=Z,5.9nm,0.8s
H11S1 WAKE ISLAND Hy 35.62 209 T T 05 58 49.1
baz=18,slow=76,SNR=624
H11S2 WAKE ISLAND Hy 35.63 209 T T 05 58 49.6
baz=18,slow=76,SNR=378
H11S3 WAKE ISLAND Hy 35.63 209 T T 05 58 51.5
baz=18,slow=76,SNR=176
JHJ Hachijo jima 2 36.76 257 LR LR 05 33 18.0
comp=Z,93nm,21.5s,baz=73,slow=32
BNX BinXian 36.98 284 ⇓P **P 05 20 58.3 -0.5**
BNX pmax pmax
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 37.19 84 LR LR 05 33 01.6
comp=Z,151nm,20.1s,baz=304,slow=31
NEW Newport 37.25 71 P **P 05 21 01.9 +0.7**
NEW IAmb IAmb 05 21 21.7
comp=Z,15nm,0.8s
NEW Newport 37.25 71 LR LR 05 33 10.4
comp=Z,146nm,19.4s,baz=310,slow=31
NEW Newport 37.25 71 P **P 05 21 01.9 +0.7**
NEW pmax pmax
comp=Z,15nm,0.8s
RES Resolute Bay 38.93 25 LR LR 05 40 02.2
comp=Z,144nm,19.9s,baz=265,slow=40
CN2 Changchun 39.17 282 *eP* **P 05 21 16.8 -0.5**
CN2 LR LR
comp=Z,260nm,17.0s
CN2 LR LR
comp=Z,340nm,17.0s
CN2 LR LR
comp=Z,380nm,18.0s
WVOR Wild Horse Val 39.32 80 P **P 05 21 20.3 +1.5**
WVOR IAmb IAmb 05 21 44.8
comp=Z,8.5nm,0.8s
WVOR Wild Horse Val 39.32 80 P **P 05 21 20.3 +1.5**
WVOR pmax pmax
comp=Z,9.0nm,0.8s
JCJ Chichijima 39.68 248 LR LR 05 34 18.0
comp=Z,80nm,21.7s,baz=198,slow=31
BPMT Black Pine Rid 40.33 72 P **P 05 21 28.1 +0.8**
PNTR Pine Nut 40.66 85 P **P 05 21 30.8 +0.9**
PNTR IAmb IAmb 05 21 54.3
comp=Z,12nm,0.7s
HLID Hailey 41.28 76 P **P 05 21 36.3 +1.3**
HLID IAmb IAmb 05 21 56.6
comp=Z,9.9nm,1.0s
KSRS Korea Array 41.32 273 P **P 05 21 36.5 +1.4**
comp=Z,11nm,0.9s,baz=57,slow=8.1,SNR=20
comp=Z,11nm,0.9s
KSAR Wonju Array Be 41.35 273 P **P 05 21 35.5 +0.1**
KSAR Wonju Array Be 41.35 273 P **P 05 21 35.5 +0.1**
SNY Shenyang 41.41 281 ⇓P **P 05 21 36.8 +1.0**
SNY pP **pP 05 21 51.0 +2.9**
SNY pmax pmax
comp=Z,51nm,1.2s
MCMT McKenzie Canyo 41.53 73 P **P 05 21 38.1 +1.0**
NVAR Mina Array Bea 41.86 85 P **P 05 21 41.8 +1.9**
comp=Z,3.2nm,0.9s,baz=295,slow=7.6,SNR=16
NVAR PcP **PcP 05 23 36.3 +1.4**
comp=Z,3.0nm,0.7s,baz=287,slow=2.2,SNR=8.8
comp=Z,3.2nm,0.9s
JNU Nakatsue 42.26 265 LR LR 05 37 30.5
comp=Z,116nm,21.1s,baz=44,slow=34
TJN Taejon 42.34 272 *i* P **P 05 21 44.0 +0.5**
ELK Elko 42.38 80 P **P 05 21 45.4 +1.4**
ELK Elko 42.38 80 P **P 05 21 45.4 +1.4**
ELK pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 43.28 77 P **P 05 21 52.8 +1.5**
HVU Hansel Valley 43.28 77 P **P 05 21 52.8 +1.5**
HVU pmax pmax
comp=Z,6.0nm,0.7s
RLMT Red Lodge 43.50 71 P **P 05 21 54.4 +1.3**
RLMT IAmb IAmb 05 22 14.4
comp=Z,16nm,0.8s
TPNV Topopah Spring 44.06 85 P **P 05 21 59.0 +1.5**
TPNV IAmb IAmb 05 22 15.0
comp=Z,7.9nm,0.8s
TPNV Topopah Spring 44.06 85 P **P 05 21 59.1 +1.5**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway, Tooele 44.19 79 P **P 05 21 59.8 +1.2**
DUG IAmb IAmb 05 22 23.5
comp=Z,9.9nm,0.9s
DUG Dugway, Tooele 44.19 79 P **P 05 21 59.8 +1.2**
DUG pmax pmax
comp=Z,10.0nm,1.0s
DL2 Dalian 44.34 279 P **P 05 22 00.3 +0.7**
DL2 pmax pmax
comp=Z,57nm,1.2s
FCC Fort Churchill 44.65 47 P **P 05 22 01.6 -0.1**
FCC Fort Churchill 44.65 47 P **P 05 22 01.6 -0.1**
FCC pmax pmax
comp=Z,5.0nm,0.9s
PDAR Pinedale Array 44.66 74 P **P 05 22 03.6 +1.2**
comp=Z,11nm,0.6s,baz=302,slow=4.3,SNR=134
PDAR LR LR 05 38 00.0
comp=Z,81nm,20.9s,baz=303,slow=32
comp=Z,11nm,0.6s
XLT XiLinHaoTe 44.77 288 *eP* **P 05 22 02.8 -0.3**
XLT PcP **PcP 05 23 40.5 -4.0**
XLT pmax pmax
comp=Z,13nm,1.3s
XLT pmax pmax
comp=Z,160nm,6.7s
NRIK Noril'sk 45.15 330 P **P 05 22 05.0 -0.6**
comp=Z,2.1nm,0.7s,baz=58,slow=2.4,SNR=4.4
NRIK PcP **PcP 05 23 43.8 -1.4**
comp=Z,2.5nm,0.8s,baz=330,slow=2.7,SNR=4.0
NRIK LR LR 05 43 05.5
comp=Z,134nm,18.4s,baz=9.5,slow=39
comp=Z,2.1nm,0.7s
NRIK Noril'sk 45.15 330 *ce*P **P 05 22 04.9 -0.7**
NRIK pmax pmax
comp=Z,8.0nm,1.3s
P18A Preston Nutter 46.11 78 P **P 05 22 15.5 +1.5**
P18A IAmb IAmb 05 22 18.6
comp=Z,8.0nm,1.0s
KNB Kanab 46.14 83 P **P 05 22 14.4 +0.3**
KNB IAmb IAmb 05 22 39.4
comp=Z,5.5nm,0.9s
KNB Kanab 46.14 83 P **P 05 22 14.4 +0.3**
KNB pmax pmax
comp=Z,6.0nm,0.9s
BJI Beijing 46.99 284 P **P 05 22 21.8 +1.3**
BJI pmax pmax
comp=Z,13nm,1.2s
O20A White River Ci 47.02 76 P **P 05 22 21.7 +0.7**
ULN Ulaanbaatar 47.71 298 *ce*P **P 05 22 25.1 -1.1**
ULN pmax pmax
comp=Z,5.0nm,1.7s
PV11 David Mesa, Pa 47.77 78 P **P 05 22 27.9 +1.1**
PV11 IAmb IAmb 05 22 29.4
comp=Z,13nm,0.7s
SONM Songino Array 48.09 298 P **P 05 22 28.2 -0.9**
comp=Z,1.1nm,0.5s,baz=56,slow=8.4,SNR=8.2
SONM PcP **PcP 05 23 54.9 -1.3**
comp=Z,5.3nm,1.0s,baz=65,slow=1.7,SNR=11
SONM LR LR 05 43 56.8
comp=Z,122nm,18.7s,baz=64,slow=38
comp=Z,1.1nm,0.5s
ULM Lac du Bonnet 48.20 58 P **P 05 22 29.7 0.0**
comp=Z,1.2nm,0.3s,baz=318,slow=9.5,SNR=7.7
ULM LR LR 05 43 41.1
comp=Z,99nm,19.1s,baz=306,slow=37
comp=Z,1.2nm,0.3s
ZAK Zakamensk 48.33 302 *eP* **P 05 22 30.0 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TIA Tai'an 48.81 279 P **P 05 22 35.3 +0.6**
TIA pmax pmax
comp=Z,26nm,1.0s
HHC Hu-ho-hao-te 49.27 287 *eP* **P 05 22 39.0 +0.8**
HHC S **S 05 29 42.8 +1.9**
HHC ScS **ScS 05 32 26.5 +0.6**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,200nm,4.8s
HNS HongShan 49.54 282 ⇑P **P 05 22 41.5 +1.4**
HNS pmax pmax
comp=Z,72nm,1.2s
SDCO Great Sand Dun 50.18 77 P **P 05 22 46.4 +1.0**
SDCO IAmb IAmb 05 22 47.9
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 50.36 357 P **P 05 22 45.6 -0.3**
comp=Z,2.8nm,0.6s,baz=45,slow=6.0,SNR=18
SPITS LR LR 05 43 51.9
comp=Z,128nm,19.8s,baz=335,slow=36
comp=Z,2.8nm,0.6s
TUC Tucson 50.49 86 P **P 05 22 47.7 +0.2**
TUC IAmb IAmb 05 22 49.8
comp=Z,6.5nm,0.8s
TUC Tucson 50.49 86 P **P 05 22 47.7 +0.2**
TUC pmax pmax
comp=Z,7.0nm,0.8s
NJ2 Nanjing 50.49 274 *eP* **P 05 22 47.8 +0.4**
NJ2 pmax pmax
comp=Z,35nm,0.6s
F33A 5 Mile Ranch, 50.55 63 P **P 05 22 47.5 -0.2**
TIY Taiyuan 50.72 284 *eP* **P 05 22 51.0 +1.8**
TIY pmax pmax
comp=Z,38nm,1.2s
ANMO Albuquerque 51.41 80 P **P 05 22 55.6 +1.0**
ANMO Albuquerque 51.41 80 LR LR 05 42 13.0
comp=Z,76nm,21.6s,baz=121,slow=33
ANMO Albuquerque 51.41 80 *ce*P **P 05 22 55.3 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ECSD EROS Data Cent 51.66 65 P **P 05 22 56.0 -0.1**
ECSD IAmb IAmb 05 22 56.8
comp=Z,17nm,1.1s
FRB Frobisher Bay 52.03 33 LR LR 05 47 40.9
comp=Z,201nm,18.8s,baz=304,slow=39
LYN LuoYang 52.77 281 P **P 05 23 05.5 +1.1**
LYN sP sP 05 23 28.0 +5.6
LYN pmax pmax
comp=Z,71nm,0.9s
SFJD Kangerlussuaq 54.89 23 LR LR 05 50 24.4
comp=Z,114nm,18.5s,baz=312,slow=40
VHRN Van Horn 55.14 83 P **P 05 23 23.0 +1.1**
VHRN IAmb IAmb 05 23 24.2
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 55.16 315 P **P 05 23 20.0 -1.5**
comp=Z,0.7nm,0.4s,baz=51,slow=6.9,SNR=4.1
ZALV PcP **PcP 05 24 22.2 0.0**
comp=Z,6.5nm,0.7s,baz=35,slow=4.1,SNR=22
ZALV LR LR 05 48 47.7
comp=Z,210nm,19.1s,baz=30,slow=38
comp=Z,0.7nm,0.4s
XAN Xi'an 55.29 283 ⇑P **P 05 23 23.0 +0.2**
XAN pP pP 05 23 37.5 +1.9
XAN pmax pmax
comp=Z,69nm,1.2s
XAN pmax pmax
comp=Z,320nm,5.2s
L40A Anamosa 55.77 64 P **P 05 23 26.2 +0.1**
L40A IAmb IAmb 05 23 27.4
comp=Z,12nm,0.8s
LPIG La Paz 56.55 93 LR LR 05 43 23.2
comp=Z,43nm,21.7s,baz=305,slow=31
LZH Lanzhou 56.96 288 *eP* **P 05 23 37.0 +2.1**
LZH sP sP 05 23 53.3 +0.5
LZH pmax pmax
comp=Z,26nm,0.6s
LZH LR LR
comp=Z,270nm,13.4s
LZH LR LR
comp=Z,320nm,12.7s
LZH LR LR
comp=Z,420nm,13.4s
TX31 Lajitas Ar. Si 56.97 83 P **P 05 23 35.5 +0.5**
TX31 IAmb IAmb 05 23 36.7
comp=Z,11nm,1.1s
TXAR Lajitas Array 56.97 83 P **P 05 23 35.5 +0.6**
TXAR Lajitas Array 56.97 83 P **P 05 23 35.2 +0.3**
comp=Z,4.9nm,0.7s,baz=298,slow=5.0,SNR=36
TXAR LR LR 05 47 12.2
comp=Z,45nm,18.1s,baz=332,slow=35
comp=Z,4.9nm,0.7s
TXAR Lajitas Array 56.97 83 P **P 05 23 35.5 +0.6**
GTA Gaotai 57.08 293 *eP* **P 05 23 36.0 +0.3**
GTA pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 58.24 351 P **P 05 23 42.5 -0.8**
comp=Z,3.3nm,0.7s,baz=12,slow=9.0,SNR=5.9
ARCES PcP **PcP 05 24 33.4 -0.6**
comp=Z,3.0nm,0.8s,baz=12,slow=4.6,SNR=3.6
ARCES LR LR 05 49 20.1
comp=Z,102nm,21.0s,baz=0.0,slow=37
comp=Z,3.3nm,0.7s
CCM Cathedral Cave 58.44 67 P **P 05 23 45.0 -0.1**
CCM IAmb IAmb 05 23 46.0
comp=Z,17nm,1.5s
CCM Cathedral Cave 58.44 67 P **P 05 23 45.0 -0.1**
CCM pmax pmax
comp=Z,17nm,1.5s
SCHQ Schefferville 58.85 40 P **P 05 23 46.9 -0.8**
comp=Z,4.1nm,0.9s,baz=294,slow=9.5,SNR=3.4
SCHQ PcP **PcP 05 24 35.8 -0.9**

comp=Z,1.8nm,0.7s,baz=339,slow=11,SNR=3.6
comp=Z,4.1nm,0.9s
FCAR Ozark Folk Cen 59.42 70 P **P 05 23 51.2 -0.7**
KURK Kurchatov 60.14 315 P **P 05 23 55.6 -1.0**
KURK Kurchatov 60.14 315 *ce*P **P 05 23 56.6 0.0**
KURK pmax pmax
comp=Z,16nm,1.0s
KURBB Kurchatov Arra 60.25 315 P **P 05 23 56.9 -0.5**
comp=Z,5.6nm,0.4s,baz=43,slow=6.7,SNR=63
KURBB PcP **PcP 05 24 41.7 -0.6**
comp=Z,2.9nm,0.8s,baz=40,slow=4.4,SNR=8.1
KURBB LR LR 05 51 49.7
comp=Z,204nm,18.9s,baz=165,slow=38
comp=Z,5.6nm,0.4s
PARMO Parma 60.26 68 P **P 05 23 56.9 -0.7**
O48B Farmland 60.36 62 P **P 05 23 58.0 -0.3**
SADO Sadowa 60.40 54 P **P 05 23 58.7 +0.2**
SADO IAmb IAmb 05 23 59.4
comp=Z,5.0nm,0.8s
SADO Sadowa 60.40 54 LR LR 05 50 08.9
comp=Z,92nm,18.6s,baz=250,slow=36
WMQ Urumqi 60.68 304 *e*P **P 05 24 03.0 +2.5**
NRS Narsarsuaq 60.98 25 P **P 05 24 03.4 +1.2**
WCI Wyandotte Cave 61.14 64 P **P 05 24 04.2 +0.6**
WCI Wyandotte Cave 61.14 64 P **P 05 24 04.2 +0.6**
WCI pmax pmax
comp=Z,17nm,0.8s
MK31 Makanchi Array 61.27 310 P **P 05 24 03.5 -0.9**
MK31 IAmb IAmb 05 24 04.7
comp=Z,4.9nm,1.2s
MK31 Makanchi Array 61.27 310 *ce*P **P 05 24 04.2 -0.2**
MKAR Makanchi Array 61.27 310 P **P 05 24 03.4 -1.0**
comp=Z,3.0nm,0.5s,baz=48,slow=6.2,SNR=76
MKAR PcP **PcP 05 24 45.6 -0.9**
comp=Z,1.3nm,0.5s,baz=53,slow=4.3,SNR=5.2
MKAR LR LR 05 51 38.3
comp=Z,99nm,18.2s,baz=20,slow=37
comp=Z,3.0nm,0.5s
HKT Hockley 61.35 77 P **P 05 24 05.9 +0.8**
HKT Hockley 61.35 77 *i*P **P 05 24 04.6 -0.5**
HKT pmax pmax
comp=Z,13nm,1.0s
N51A Ashland 61.41 59 P **P 05 24 05.2 -0.3**
BVAR Borovoye Array 61.87 321 P **P 05 24 07.9 -0.4**
comp=Z,5.0nm,0.3s,baz=51,slow=7.2,SNR=28
BVAR PcP **PcP 05 24 47.9 -0.9**
comp=Z,5.0nm,0.6s,baz=59,slow=4.2,SNR=8.1
BVAR LR LR 05 53 08.5
comp=Z,314nm,20.0s,baz=44,slow=38
comp=Z,5.0nm,0.3s
BRVK Borovoye 61.89 321 P **P 05 24 08.1 -0.3**
BRVK IAmb IAmb 05 24 10.3
comp=Z,4.5nm,0.9s
BRVK Borovoye 61.89 321 *ce*P **P 05 24 08.8 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
GYA Guiyang 61.98 278 ⇑P **P 05 24 11.0 +1.4**
GYA pmax pmax
comp=Z,14nm,1.2s
PLAL Pickwick Lake 62.41 68 P **P 05 24 12.0 -0.2**
PLAL IAmb IAmb 05 24 13.2
comp=Z,8.3nm,0.8s
BORG Borgarnes 62.45 12 LR LR 05 53 44.8
comp=Z,78nm,18.2s,baz=357,slow=38
SSFO Shawnee State 62.54 62 P **P 05 24 13.8 +0.8**
O54A Avella 63.01 59 P **P 05 24 16.8 +0.7**
L56A Greenwood 63.09 56 P **P 05 24 17.6 +0.9**
ARTI Arti 63.46 330 LR LR 05 54 02.1
comp=Z,141nm,20.9s,baz=23,slow=38
ARTI Arti 63.46 330 *c i*P **P 05 24 18.8 0.0**
ARTI 05 24 50.4
ARTI S **S 05 32 54.5 +6.4**
ARTI SS **SS 05 36 56.5 +1.9**
ARTI pmax pmax
comp=Z,4.0nm,0.9s
J59A Piesco 63.67 53 P **P 05 24 20.1 -0.4**
J59A IAmb IAmb 05 24 26.9
comp=Z,11nm,1.3s
Z47A Carrollton 63.68 69 P **P 05 24 20.9 +0.3**
TZTN Tazewell 63.88 64 P **P 05 24 22.2 +0.3**
SSPA Standing Stone 64.00 57 P **P 05 24 23.4 +0.7**
CPCT Cooper Cave 64.11 65 P **P 05 24 23.5 0.0**
CPCT IAmb IAmb 05 24 40.5
comp=Z,21nm,1.5s
HNR Honiara 64.11 206 LR LR 05 48 05.9
comp=Z,80nm,19.1s,baz=152,slow=32
FPAL Fort Paine 64.14 67 P **P 05 24 24.0 +0.2**
FPAL IAmb IAmb 05 24 24.8
comp=Z,9.9nm,0.8s
KIRV Kirov 64.18 335 LR LR 05 56 25.2
comp=Z,115nm,18.4s,baz=354,slow=40
KIRV Kirov 64.18 335 *i*P **P 05 24 22.9 -0.6**
TKL Tuckaleechee C 64.39 64 LR LR 05 54 01.3
comp=Z,117nm,18.7s,baz=337,slow=37
R55A Marlinton 64.51 60 P **P 05 24 26.8 +0.7**
PZH PanZhiHua 64.98 282 P **P 05 24 30.5 +1.1**
PZH pmax pmax
comp=Z,11nm,1.2s
PZH pmax pmax
comp=Z,110nm,5.3s
DAV Davao City (W) 65.08 249 LR LR 05 47 34.9
comp=Z,68nm,21.2s,baz=7.5,slow=31
BLA Blacksburg 65.13 61 P **P 05 24 31.0 +0.9**
BLA Blacksburg 65.13 61 P **P 05 24 31.0 +0.9**
BLA pmax pmax
comp=Z,56nm,1.3s
KMI Kunming 65.37 280 P **P 05 24 33.3 +1.2**
KMI pP sP 05 24 48.8 -1.5
KMI pmax pmax
comp=Z,19nm,1.3s
250A Grady 65.61 69 P **P 05 24 33.3 +0.1**
FINES FINESS Array B 66.02 349 P **P 05 24 34.3 -1.1**
comp=Z,1.2nm,0.6s,baz=8.6,slow=6.6,SNR=4.9
FINES LR LR 05 55 00.3
comp=Z,97nm,20.1s,baz=35,slow=37
comp=Z,1.2nm,0.6s
V58A Windy Hill, Pi 66.88 61 P **P 05 24 41.9 +0.6**
ULHL Ulahol 67.54 310 P **P 05 24 46.8 +1.1**
SNR=8.8
USP Ospenovka 67.58 312 P **P 05 24 46.2 +0.5**
SNR=12
TAOE Nuku Hiva Isla 67.63 141 *e*LR LR 05 45 13.7
comp=Z,130nm,23.2s
NOA NORSAR Array B 67.66 356 P **P 05 24 44.8 -1.1**
comp=Z,1.1nm,0.8s,baz=5.4,slow=6.3,SNR=2.2
NOA LR LR 05 52 09.0
comp=Z,52nm,21.9s,baz=355,slow=34
comp=Z,1.1nm,0.8s
AAK Ala-Archa 68.06 311 P **P 05 24 48.8 -0.1**
AAK Ala-Archa 68.06 311 LR LR 05 58 41.0
comp=Z,114nm,18.0s,baz=16,slow=40
AAK Ala-Archa 68.06 311 P **P 05 24 49.4 +0.5**
SNR=12
AAK Ala-Archa 68.06 311 *ce*P **P 05 24 48.9 -0.1**
AAK pmax pmax
comp=Z,18nm,1.3s
EKS2 Erkin-Say 68.38 312 P **P 05 24 51.5 +0.6**
SNR=14
HFS Hagfors 68.44 355 P **P 05 24 49.7 -1.1**
comp=Z,2.1nm,0.4s,baz=349,slow=3.8,SNR=11
HFS LR LR 05 53 25.4
comp=Z,67nm,21.8s,baz=348,slow=35
comp=Z,2.1nm,0.4s
AKTO Aktyubinsk 68.54 326 LR LR 05 59 52.0
comp=Z,146nm,18.4s,baz=26,slow=40
AML Almayashu 68.83 312 P **P 05 24 54.8 +0.8**
SNR=13
ABKAR Abkulak array 68.84 324 P **P 05 24 53.3 -0.2**
KK31 Karatay Array 69.53 314 P **P 05 24 57.4 -0.4**
KK31 IAmb IAmb 05 24 58.6
comp=Z,18nm,1.1s
KK31 Karatay Array 69.53 314 P **P 05 24 57.4 -0.4**
KK31 pmax pmax
comp=Z,18nm,1.1s
KKAR Karatay Array 69.53 314 P **P 05 24 57.3 -0.5**
KKAR Karatay Array 69.53 314 P **P 05 24 57.3 -0.5**
KSH Kashi 69.76 308 P **P 05 25 02.3 +2.8**
KSH pP pP 05 25 14.8 +2.1
KSH pmax pmax
comp=Z,21nm,1.0s
MYLDM Lahad Datu 70.78 254 P **P 05 25 06.1 +0.3**
PPT Papeete 72.58 153 LR LR 05 51 45.9
comp=Z,97nm,20.8s,baz=341,slow=31
PPT2 Papeete2 72.60 153 *e*S **S 05 34 37.7 -0.2**
comp=Z,51nm,23.5s
PPT2 Papeete2 72.60 153 *e*LR LR 05 47 30.7
comp=Z,128nm,27.0s
PPT2 *e*LR LR 05 47 35.4
comp=Z,126nm,23.2s
CMAR Chiang Mai Arr 72.67 278 P **P 05 25 17.1 0.0**
CMAR Chiang Mai Arr 72.67 278 P **P 05 25 18.1 +0.9**
comp=Z,4.4nm,0.7s,baz=26,slow=7.0,SNR=28
CMAR LR LR 05 59 42.0
comp=Z,23nm,19.4s,baz=55,slow=38
comp=Z,4.4nm,0.7s
EKA Eskdalemuir Ar 73.37 4 P **P 05 25 20.8 +0.1**
comp=Z,3.2nm,1.0s,baz=359,slow=5.5,SNR=5.5
comp=Z,3.2nm,1.0s
SIMJ Simiganj 73.76 312 P **P 05 25 22.9 -0.6**
RAR Rarotonga 73.80 164 LR LR 05 52 03.9
comp=Z,261nm,19.0s,baz=297,slow=31
BRDH Bariadhala 73.95 286 LR LR 06 03 34.5
comp=Z,40nm,19.5s,baz=262,slow=40
DZM Mont Dzumac 74.84 197 *e*LR LR 05 48 31.6
comp=Z,159nm,24.3s
NIL Nilore 75.72 306 P **P 05 25 35.0 +0.2**
NIL Nilore 75.72 306 P **P 05 25 35.0 +0.2**
NIL pmax pmax
comp=Z,21nm,0.9s
AKASG Malin Array Be 75.93 344 P **P 05 25 35.1 -0.5**
comp=Z,0.6nm,0.3s,baz=19,slow=6.2,SNR=5.2
AKASG LR LR 06 02 41.9
comp=Z,77nm,19.1s,baz=9.0,slow=39
comp=Z,0.6nm,0.3s
KBL Kabul 77.07 310 P **P 05 25 41.8 -0.9**
KBL Kabul 77.07 310 P **P 05 25 41.8 -0.9**
KBL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 77.28 354 *e*P **P 05 25 44.0 +0.8**
CLL Collm 77.28 354 *e*P **P 05 25 44.0 +0.8**
CLL *e*PcP **pP 05 25 56.0 -0.5**
TBI Tubuai 78.12 155 *e*LR LR 05 50 01.3
comp=Z,634nm,26.2s
KAPI Kappang 78.24 246 P **P 05 25 49.3 +0.2**
comp=Z,3.3nm,0.6s,baz=268,slow=6.2,SNR=3.6
comp=Z,5.3nm,0.6s
KOLS Kolonicke sedl 78.72 348 *e*P **P 05 25 52.1 +0.8**
KOLS Kolonicke sedl 78.72 348 *e*P **P 05 25 52.1 +0.8**
VRAC Vranov 78.99 352 LR LR 06 03 51.2
comp=Z,78nm,18.9s,baz=351,slow=38
LABN Labinsk 79.08 334 *e*P **P 05 25 49.8 -3.5**
LABN pmax pmax
comp=Z,19nm,0.9s
KVAR Kislovodsk Arr 79.16 333 LR LR 06 04 50.0
comp=Z,78nm,21.9s,baz=269,slow=39
KIV Kislovodsk 79.16 333 *e*P **P 05 25 52.5 -1.4**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,88nm,19.0s
KBZ Khabaz 79.31 332 LR LR 06 08 23.1
comp=Z,56nm,18.1s,baz=13,slow=41
ANN Anapa 79.79 336 *e*P P 05 26 05.5 +8.3
ANN pmax pmax
comp=Z,63nm,1.4s
MODS Modra-Piesok 79.85 351 *e*P **P 05 26 00.1 +2.6**
MODS Modra-Piesok 79.85 351 *e*P **P 05 26 00.1 +2.6**
MLR Muntele Rosu 81.53 345 LR LR 06 05 17.4
comp=Z,77nm,21.0s,baz=22,slow=38
DAVOX Davos/Dischmat 81.96 356 LR LR 06 02 03.1
comp=Z,34nm,21.4s,baz=3.0,slow=35
GNI Garni 82.02 330 LR LR 06 08 52.3
comp=Z,86nm,18.3s,baz=27,slow=40
RKT Rikitea 82.61 142 *e*LR LR 05 52 11.0
comp=Z,632nm,25.2s
WRA Warramunga Arr 83.29 226 P **P 05 26 15.7 -0.2**
comp=Z,4.5nm,1.0s,baz=37,slow=6.2,SNR=16
WRA LR LR 05 57 34.6
comp=Z,56nm,20.3s,baz=219,slow=31
comp=Z,4.5nm,1.0s
WRA Warramunga Arr 83.29 226 *i*P **P 05 26 16.1 +0.2**
WRA pmax pmax
comp=Z,4.0nm,0.9s
PSI Prapat 84.69 268 P **P 05 26 23.1 -0.3**
PSI pmax pmax
comp=Z,14nm,0.8s
RPSI Rantau Prapat 84.77 268 P **P 05 26 23.1 -0.5**
BRTR Keskin Array B 85.51 337 P **P 05 26 26.0 -1.2**
comp=Z,0.9nm,0.6s,baz=41,slow=4.8,SNR=4.9
comp=Z,0.9nm,0.6s
BRTR Keskin Array B 85.51 337 *i*P **P 05 26 28.7 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
FITZ Fitzroy Crossi 85.88 234 P **P 05 26 28.8 -0.1**
comp=Z,5.8nm,0.3s,baz=53,slow=4.7,SNR=8.1
comp=Z,5.8nm,0.3s
ASAR Alice Springs 86.74 225 P **P 05 26 33.4 +0.3**
comp=Z,5.4nm,0.9s,baz=34,slow=4.5,SNR=29
ASAR LR LR 06 01 47.9
comp=Z,26nm,21.1s,baz=70,slow=33
comp=Z,5.4nm,0.9s
SJG San Juan 87.81 63 LR LR 06 06 50.3
comp=Z,46nm,19.1s,baz=280,slow=36
URZ Urewera 89.58 185 LR LR 05 59 17.3
comp=Z,69nm,21.3s,baz=120,slow=30
VAE Valguarnera 90.92 352 LR LR 06 09 53.7
comp=Z,40nm,20.5s,baz=321,slow=37
STKA Stephens Creek 90.97 215 P **P 05 26 53.7 +0.9**
comp=Z,7.5nm,0.9s,baz=32,slow=6.8,SNR=4.8
STKA LR LR 06 03 17.6
comp=Z,72nm,21.6s,baz=26,slow=32
comp=Z,7.5nm,0.9s
MMAI Mount Meron Ar 91.40 334 LR LR 06 14 54.7
comp=Z,42nm,18.1s,baz=22,slow=40
ROSC El Rosal 93.54 78 LR LR 06 11 35.9
comp=Z,21nm,18.8s,baz=276,slow=37
EIL Elat 94.68 333 LR LR 06 16 42.4
comp=Z,52nm,18.6s,baz=54,slow=40
MDT Midelt 95.72 7 LR LR 06 12 15.9
comp=Z,33nm,18.5s,baz=16,slow=37
H03N2 Juan Fernandez 119.56 107 T T 07 43 49.9
baz=317,slow=77,SNR=148
H03N1 Juan Fernandez 119.58 107 T T 07 43 51.4
baz=317,slow=77,SNR=178
H03N3 Juan Fernandez 119.58 107 T T 07 43 50.6
baz=317,slow=77,SNR=134
DBIC Dimbokro 121.58 10 PKP **PKPdf 05 32 42.5 -0.4**
comp=Z,1.8nm,0.3s,baz=19,slow=2.6,SNR=11
PLCA Paso Flores 129.40 109 PKP **PKPdf 05 32 57.2 +0.2**
comp=Z,2.9nm,0.9s,baz=279,slow=1.4,SNR=7.0
GRTLG Ghanzi 147.02 329 *i*P **PKPbc 05 33 32.7 +0.8**
LPHEP Lephephe 147.20 321 *i*P **PKPbc 05 33 32.7 +0.4**
KDWAN Kaudwane 147.68 322 *i*P **PKPbc 05 33 34.3 +0.7**
KGCAE Kacgae 148.08 327 *i*P **PKPbc 05 33 35.7 +0.9**
KOOLE Kule 148.87 330 *i*P **PKPbc 05 33 38.0 +1.2**
SKOMA Sekoma 148.98 323 *i*P **PKPbc 05 33 37.6 +0.6**
LKGWB Lokgwabe 149.58 327 *i*P **PKPbc 05 33 39.2 +0.6**
BOSA Boshof 152.09 317 PKPbc **PKPbc 05 33 44.2 -0.1**
comp=Z,7.6nm,0.8s,baz=35,slow=2.6,SNR=17

CATAC 29 05:14:01.3±0.4, 13°.N±3°.×8°.8W±°., h35km±5km, M2.9/23, MLv2.9/23, Error ellipse: s-maj=5.9km s-min=1.8km az=25.7, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.64**	**44**	S	Sb	05 14 24.1	+0.8
CSGN	**Cosiguina Volc**	**0.64**	**44**	P	Pb	05 14 15.0	+0.6
POTN	**Potosi Cosigui**	**0.69**	**46**	P	Pb	05 14 15.2	0.0
POTN				S	Sb	05 14 25.8	+1.2
POTN	**Potosi Cosigui**	**0.69**	**46**	P	Pb	05 14 15.3	+0.1
CNCH	**Conchagua**	**0.78**	**13**	P	Pb	05 14 16.4	-0.3
CNCH	**Conchagua**	**0.78**	**13**	S	Sb	05 14 28.0	+0.9
CNCH	**Conchagua**	**0.78**	**13**	P	Pb	05 14 17.4	+0.7
LCND	**La Caada**	**0.80**	**9**	P	Pb	05 14 16.7	-0.3
LCND	**La Caada**	**0.80**	**9**	P	Pb	05 14 17.2	+0.2
PACA	**Pacayal**	**0.99**	**343**	P	Pn	05 14 19.2	+0.2
PACA	**Pacayal**	**0.99**	**343**	S	Sb	05 14 33.2	0.0
PACA	**Pacayal**	**0.99**	**343**	P	Pb	05 14 20.4	+0.1
HERN	**Volcan Telica**	**1.16**	**85**	P	Pn	05 14 20.9	-0.3
HERN	**Volcan Telica**	**1.16**	**85**	S	Sb	05 14 37.2	-0.7
POLN	**Al Sur del Vol**	**1.18**	**83**	S	Sb	05 14 37.5	-0.9
PLRN	**Geotermica Pol**	**1.22**	**87**	P	Pn	05 14 21.6	-0.3
PLRN				S	Sn	05 14 37.6	+0.3
PQSS	**Presa 15 de Se**	**1.22**	**334**	P	Pb	05 14 23.1	-1.0
PQSS	**Presa 15 de Se**	**1.22**	**334**	P	Pn	05 14 22.0	0.0
PQSS	**Presa 15 de Se**	**1.22**	**334**	S	Sb	05 14 39.0	-0.6
ROCN	**Rota Cerro Neg**	**1.24**	**90**	P	Pn	05 14 21.9	-0.3
ROCN				S	Sn	05 14 38.9	+1.0
TECO	**Alcaldia de Te**	**1.26**	**324**	S	Sn	05 14 38.7	+0.4
CNGA	**Al SSO del Vol**	**1.28**	**91**	P	Pn	05 14 22.8	-0.1
CNGN	**Cerro Negro**	**1.29**	**90**	S	Sn	05 14 40.1	+1.2
CNGN	**Cerro Negro**	**1.29**	**90**	P	Pn	05 14 22.4	-0.6
ILCN	**San Idelfonso**	**1.29**	**87**	S	Sn	05 14 39.5	+0.6
UESV	**Universidad de**	**1.34**	**326**	P	Pn	05 14 23.2	-0.5
UESV	**Universidad de**	**1.34**	**326**	S	Sn	05 14 40.7	+0.3
SCLA	**Alcaldia de Sa**	**1.37**	**330**	P	Pn	05 14 24.4	+0.3
SCLA	**Alcaldia de Sa**	**1.37**	**330**	S	Sn	05 14 42.1	+1.1
SCLA	**Alcaldia de Sa**	**1.37**	**330**	P	Pn	05 14 24.4	+0.4
COEG	**Centro de Oper**	**1.38**	**323**	P	Pn	05 14 24.5	+0.2
COEG	**Centro de Oper**	**1.38**	**323**	S	Sn	05 14 41.8	+0.4
COPN	**Copaltepe**	**1.43**	**103**	P	Pn	05 14 24.8	0.0
COPN	**Copaltepe**	**1.43**	**103**	P	Pn	05 14 25.2	+0.4
MOMN	**Momotombo**	**1.45**	**94**	P	Pn	05 14 24.8	-0.3
MOMN				S	Sn	05 14 43.2	+0.3
PAVA	**Las Pavas**	**1.49**	**323**	P	Pn	05 14 25.8	0.0
PAVA	**Las Pavas**	**1.49**	**323**	S	Sn	05 14 45.1	+1.0
LOMA	**Loma Larga**	**1.59**	**315**	S	Sn	05 14 46.9	+0.3
LALI	**Alcalda de L**	**1.60**	**307**	S	Sn	05 14 47.9	+1.4
LALI	**Alcalda de L**	**1.60**	**307**	P	Pn	05 14 28.3	+1.2
UEES	**Universidad Ev**	**1.69**	**315**	S	Sn	05 14 49.8	+0.9
TGUH	**Tegucigalpa,Un**	**1.70**	**25**	P	Pn	05 14 29.2	+0.6
TGUH				S	Sn	05 14 50.3	+1.1
LIMN	**Finca el Limon**	**1.70**	**71**	P	Pn	05 14 28.5	-0.1
PMON	**Piamonte**	**1.74**	**313**	P	Pn	05 14 29.3	+0.2
PMON	**Piamonte**	**1.74**	**313**	S	Sn	05 14 50.2	+0.1
ALLN	**Telcor Managua**	**1.74**	**102**	S	Sn	05 14 50.5	+0.4
ALLN	**Telcor Managua**	**1.74**	**102**	P	Pn	05 14 29.1	0.0
UNAN	**Cigeo UNAN**	**1.75**	**103**	P	Pn	05 14 30.5	+1.2
UNAN				S	Sn	05 14 51.2	+0.7
MGAN	**Managua**	**1.77**	**102**	S	Sn	05 14 50.9	+0.1
JAYA	**Jayaque - finc**	**1.80**	**309**	P	Pn	05 14 30.7	+0.7
JAYA	**Jayaque - finc**	**1.80**	**309**	S	Sn	05 14 51.3	-0.5
AERN	**Aeropuerto Man**	**1.84**	**101**	P	Pb	05 14 41.5	+7.0
AERN	**Aeropuerto Man**	**1.84**	**101**	S	Sn	05 14 53.3	+0.7
AERN	**Aeropuerto Man**	**1.84**	**101**	P	Pn	05 14 31.8	+1.3
MAS3	**Al N del Volca**	**1.86**	**105**	S	Sn	05 14 53.5	+0.3
NANN	**Nandasmo**	**1.94**	**107**	S	Sn	05 14 55.9	+0.8
RCVN	**Varillal2**	**2.07**	**59**	P	Pn	05 14 34.2	+0.4
RCVN	**Varillal2**	**2.07**	**59**	S	Sn	05 14 59.3	+0.9
MATN	**Matagalpa**	**2.08**	**78**	P	Pn	05 14 33.7	-0.2
RCPN	**Sur Rio San Ju**	**2.13**	**62**	P	Pn	05 14 35.3	+0.8
RCPN	**Sur Rio San Ju**	**2.13**	**62**	S	Sn	05 15 00.2	+0.3
RCPN	**Sur Rio San Ju**	**2.13**	**62**	P	Pb	05 14 37.1	-2.3
NUBE	**Las Nubes**	**2.20**	**309**	S	Sn	05 15 00.9	-0.9
NUBE	**Las Nubes**	**2.20**	**309**	P	Pn	05 14 36.8	+1.2
NUBE	**Las Nubes**	**2.20**	**309**	P	Pb	05 14 40.3	-0.3
SLOZ	**Alcaldia de Sa**	**2.28**	**311**	P	Pn	05 14 37.9	+1.3
SLOZ	**Alcaldia de Sa**	**2.28**	**311**	S	Sn	05 15 02.1	-1.5
BOAB	**BOACO BROADBAN**	**2.30**	**91**	P	Pn	05 14 37.9	+1.1
JAPN	**AI SSO del Vol**	**2.49**	**113**	P	Pb	05 14 47.5	+2.1

IDC 29 05:23:30.6±1.9, 6°.69S×128°.76E, h0km, mb4.0/2, mbtmp4.0/5, ML4.0/3, Error ellipse: s-maj=105.8km s-min=24.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.74**	**195**	Pn	Pn	05 26 20.1	+0.6
	1.7nm,0.3s,baz=15,slow=11,SNR=56						
FITZ				Sn	Sn	05 28 18.3	-13
	2.1nm,0.3s,baz=93,slow=23,SNR=3.6						
	8.5nm,0.6s						
WRA	**Warramunga Arr**	**14.25**	**158**	Pn	Pn	05 26 53.2	-0.7
	0.7nm,0.3s,baz=333,slow=13,SNR=14						
WRA				Sn	Sn	05 29 18.9	-14
	2.1nm,0.3s,baz=328,slow=23,SNR=10						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**17.59**	**164**	P	Pn	05 27 37.4	0.0
	0.2nm,0.3s,baz=336,slow=12,SNR=9.6						
ASAR				S	Sn	05 30 39.5	-15
	1.7nm,0.5s,baz=349,slow=28,SNR=5.8						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	05 34 27.6	+0.3
	1.2nm,0.5s,baz=118,slow=7.9,SNR=13						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.60**	**329**	P	P	05 34 53.4	-0.4
	0.5nm,0.4s,baz=123,slow=5.0,SNR=6.0						
	0.5nm,0.4s						

IDC 29 05:26:30.4±2.4, 50°.44N×159°.88E, h0km, mb3.5/4, mbtmp3.4/5, ML2.2/1, Error ellipse: s-maj=63.0km s-min=28.3km az=6.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.00**	**334**	Pn	Pn	05 27 19.2	0.0
	1.5nm,0.3s,baz=131,slow=17,SNR=24						
PETK				Sn	Sn	05 27 52.4	-3.3
	1.1nm,0.3s,baz=141,slow=16,SNR=4.8						
	5.8nm,0.6s						
ILAR	**Eielson Array**	**30.83**	**42**	P	P	05 32 47.5	-0.1
	0.3nm,0.5s,baz=248,slow=7.6,SNR=8.1						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**31.14**	**167**	T	T	06 05 32.7	
	baz=352,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**31.16**	**167**	T	T	06 05 33.4	
	baz=352,slow=76,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**31.16**	**167**	T	T	06 05 34.5	
	baz=352,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**32.32**	**168**	T	T	06 07 01.6	
	baz=352,slow=74						
H11S3	**WAKE ISLAND Hy**	**32.33**	**168**	T	T	06 07 03.7	
	baz=352,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.34**	**168**	T	T	06 07 02.7	
	baz=352						
KURBB	**Kurchatov Arra**	**49.16**	**304**	P	P	05 35 19.4	-0.2
	0.4nm,0.6s,baz=56,slow=7.7,SNR=3.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**49.23**	**298**	P	P	05 35 20.2	0.0
	0.2nm,0.6s,baz=50,slow=6.1,SNR=2.1						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**71.82**	**66**	P	P	05 37 55.0	+0.1
	0.4nm,0.5s,baz=315,slow=5.1,SNR=5.2						
	0.4nm,0.5s						

ASRS ***29*** *05:27:25.0±1.1, 54°.25N×87°.08E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 05:27:26.1±3.5, 54°.28N×87°.29E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=31.1km s-min=19.9km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**258**	I	I	05 34 30.0	
	baz=75,slow=325,SNR=6.5						
ZALV	**Zalesovo Beam**	**1.49**	**258**	Pg	Pn	05 27 53.0	-1.1
	0.9nm,0.3s,baz=76,slow=18,SNR=8.9						
ZALV				Lg	Lg	05 28 13.7	
	0.7nm,0.3s,baz=78,slow=24,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.48**	**239**	Pn	Pn	05 29 03.4	+0.8
	baz=53,slow=14,SNR=2.0						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	05 29 26.3	+0.9
	0.1nm,0.3s,baz=29,slow=14,SNR=2.0						
	0.1nm,0.3s						

ASRS ***29*** *05:29:23.0±1.3, 54°.12N×87°.18E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 05:29:25.7±3.3, 54°.16N×87°.24E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.1km s-min=19.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**263**	I	I	05 36 40.0	
	baz=80,slow=321,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.44**	**263**	Pg	Pn	05 29 51.3	-1.7
	2.0nm,0.3s,baz=83,slow=15,SNR=14						
ZALV				Lg	Lg	05 30 11.7	
	1.6nm,0.3s,baz=80,slow=27,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.40**	**240**	Pn	Pn	05 31 02.1	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=5.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.02**	**205**	Pn	Pn	05 31 24.4	+1.0
	0.1nm,0.3s,baz=27,slow=15,SNR=2.1						
	0.1nm,0.3s						

TXNET 29 05:29:43.2, 30°.9N±0°.6×103°.4W±0°., h5km±1km, ML1.7/9,

Error ellipse: s-maj=1.0km s-min=0.9km az=77.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB05	**Hovey Rd**	**0.08**	**107**	P	Pg	05 29 45.4	+0.4
TPB05				S	Sg	05 29 46.9	+0.7
TPB03	**Saragosa**	**0.17**	**328**	P	Pg	05 29 46.7	+0.1
TPB03				S	Sg	05 29 50.0	+1.2
TPB16	**Coyonosa**	**0.23**	**37**	P	Pg	05 29 48.2	+0.5
TPB16				S	Sg	05 29 52.6	+1.9
TPB16	**Coyonosa**	**0.23**	**37**	P	Pg	05 29 48.2	+0.5
TPB16				S	Sg	05 29 52.6	+1.9
TPB04	**Verhalen**	**0.27**	**26**	P	Pg	05 29 49.4	+0.9
TPB04				S	Sg	05 29 53.5	+1.3
TPB01	**Permian Basin**	**0.32**	**270**	P	Pg	05 29 50.4	+0.9
TPB01				S	Sb	05 29 55.4	-1.6
TPB10	**Southeast of T**	**0.45**	**319**	P	Pb	05 29 54.6	+0.8
TPB10				S	Sb	05 30 01.6	+0.8
PCOS	**Crockett Middl**	**0.47**	**350**	S	Sb	05 30 00.6	-0.9
TPB12	**Southwest of T**	**0.54**	**300**	P	Pg	05 29 54.3	+0.7
TPB12				S	Sg	05 30 02.1	+1.4
PECS	**Pecos**	**0.58**	**318**	P	Pb	05 29 55.6	-0.4
PECS				S	Sb	05 30 03.4	-1.2
ALPN	**Alpine**	**0.60**	**199**	P	Pb	05 29 55.7	-0.7
ALPN				S	Sb	05 30 04.6	-0.6
MNHN	**Monahans**	**0.68**	**54**	P	Pg	05 29 56.7	+0.4
MNHN				S	Sg	05 30 05.5	+0.3
TPB06	**Permian Basin**	**0.72**	**13**	S	Sb	05 30 09.8	+1.1
TPB11	**China Draw**	**1.12**	**332**	S	Sg	05 30 19.8	+0.3
TMB02	**Rankin**	**1.21**	**77**	S	Sg	05 30 22.0	0.0
VHRN	**Van Horn**	**1.36**	**264**	P	Pb	05 30 09.4	0.0
VHRN				S	Sn	05 30 28.1	+0.4
CLNB	**Carlsbad**	**1.38**	**343**	S	Sn	05 30 29.7	+1.7
ODSA	**Odessa**	**1.39**	**32**	S	Sb	05 30 27.3	-0.4
NM01	**Eunice**	**1.41**	**0**	S	Sn	05 30 31.2	+2.5
SAND	**Sanderson**	**1.48**	**131**	P	Pg	05 30 11.9	+0.2
SAND				S	Sg	05 30 32.4	+1.4
CLN7	**Carlsbad 7**	**1.50**	**347**	P	Pn	05 30 10.9	-0.2
HTMS	**Hat Mesa**	**1.54**	**353**	P	Pb	05 30 12.1	-0.2
TX31	**Lajitas Ar. Si**	**1.62**	**188**	P	Pb	05 30 13.7	0.0
TX31				S	Sg	05 30 35.9	+0.7
MNTX	**Cornudas Mount**	**1.85**	**295**	P	Pb	05 30 17.6	+0.1
MNTX				S	Sg	05 30 42.1	-0.5
TMB04	**Seminole**	**1.85**	**25**	S	Sb	05 30 41.7	+0.5
OZNA	**Ozona**	**1.96**	**90**	P	Pb	05 30 19.5	0.0
OZNA				S	Sb	05 30 44.5	+0.2
SGCY	**Sterling City**	**2.18**	**63**	S	Sb	05 30 50.8	+0.2

NNC 29 05:51:52.9±8.9, 37°.54N×71°.79E, h0km, mb3.9, mpv3.7, 4C, Error ellipse: s-maj=70.0km s-min=57.6km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.50**	**21**	⇑P	Pn	05 53 15.7	-0.5
	3.2nm,0.6s						
AAK				⇑S	Sn	05 54 20.7	+0.4
	12nm,1.1s						
KK31	**Karatay Array**	**5.64**	**350**	P	Pn	05 53 20.4	+2.3
	4.3nm,0.3s,baz=162,slow=12,SNR=57						
KK31				S	Sn	05 54 25.7	+2.0
	5.4nm,0.4s,baz=190,slow=26,SNR=14						
AB31	**Akbulak array**	**14.51**	**328**	⇑P	Pn	05 55 15.8	-3.7
	0.2nm,0.2s,baz=134,slow=14,SNR=21						
AB31				⇑S	Sn	05 57 57.9	-3.2
	1.3nm,0.8s,baz=145,slow=23,SNR=3.9						

*PLV **29** 06:03:19.8±0.9, 23°.38N×102°.31E, h17km±145km, ML3.6*
*BKK **29** 06:03:22.4±1.0, 23°.7N±7°.×10°.2E±°, h1km, M3.8/13, Mjma3.5/13, ML4.0/6, MLv3.9/13*

ISC 29 06:03:05.5±9.9, 23°.5N±0°.6×103°.1E±0°.3, h10km, n10, σ0s89/11, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLVB	**It Ong**	**2.22**	**156**	*e*Pg	**Pg**	**06 03 48.5**	**+0.5**
MLVB				*e*Sg	**Sn**	**06 04 09.3**	**-0.5**
MLVB				IAML		06 04 11.2	
	comp=N,763nm,0.4s						
MLVB				IAML		06 04 13.2	
	comp=E,854nm,0.7s						
PAYA	**Payao**	**5.11**	**216**	Pg	**Pb**	**06 04 34.0**	**-1.0**
PAYA				Pn	**Pn**	**06 04 21.5**	**-0.7**
NONG	**Nongkai**	**5.45**	**179**	Pg	Pg	06 04 56.1	+6.1
LAMP	**Lampang**	**5.93**	**213**	Pg	**Pb**	**06 04 49.2**	**+0.2**
CM09	**Chiang Mai Arr**	**6.33**	**218**	Pg	**Pb**	**06 04 56.8**	**+0.9**
CM02	**Chiang Mai Arr**	**6.37**	**218**	Pg	**Pb**	**06 04 57.2**	**+0.7**
CM01	**Chiang Mai Arr**	**6.37**	**218**	Pg	**Pb**	**06 04 57.5**	**+1.0**
CM04	**Chiang Mai Arr**	**6.38**	**217**	Pg	**Pb**	**06 04 57.5**	**+0.9**
CM05	**Chiang Mai Arr**	**6.39**	**218**	Pg	**Pb**	**06 04 58.0**	**+1.1**
CM13	**Chiang Mai Arr**	**6.40**	**218**	Pg	**Pb**	**06 04 57.4**	**+0.4**

*NEIC **29** 06:38:40.3±1.1, 66°.32N±0°.02×157°.17W±0°.05, h9km±1km, Error ellipse: s-maj=2.7km s-min=2.3km az=89.0*

AEIC 29 06:38:40.2±1.1, 66°.34N±0°.01×157°.22W±0°.04, h8km±4km, ML3.3, ML3.5/126(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=101.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.20**	**164**		Pg	06 38 44.1	-0.1
G19K					Sg	06 38 46.9	-0.1
G19K	**Purcell Mounta**	**0.20**	**164**	IAML		06 38 47.2	
	comp=E,32μm,0.3s						
G19K				IAML		06 38 47.2	
	comp=N,20μm,0.6s						
F19K	**Shaleruckik Mo**	**0.55**	**337**		Pg	06 38 51.2	+0.5
F19K					Sg	06 38 58.0	+0.1
G18K	**Tagagawik**	**0.73**	**233**		Pg	06 38 54.1	-0.1
G18K					Sg	06 39 04.3	+0.5
H19K	**Roundabout Mou**	**0.87**	**158**	Pg	Pg	06 38 56.4	-0.5
H19K				Sg	Sg	06 39 08.0	-0.2
F20K	**Avaraart Lake**	**0.93**	**39**		Pg	06 38 57.9	-0.2
F20K					Sg	06 39 10.6	+0.4
F18K	**Selawik**	**1.01**	**286**		Pg	06 38 59.2	-0.3
F18K					Sb	06 39 13.8	+0.5
E19K	**Redstone River**	**1.13**	**360**		Pb	06 39 02.0	+0.1
E19K					Sb	06 39 16.9	+0.2
E19K	**Redstone River**	**1.13**	**360**	IAML		06 39 23.2	
	comp=E,785nm,0.7s						
H18K	**Honhosa River**	**1.28**	**202**		Pn	06 39 03.3	-1.0
H18K				Sg	Sb	06 39 20.6	-0.5
H20K	**Anotleneega Mo**	**1.28**	**130**		Pn	06 39 03.5	-0.8
H20K					Sb	06 39 21.2	+0.1
G21K	**Allakaket**	**1.51**	**81**		Pn	06 39 07.1	-0.4
GCSA	**Galena City Sc**	**1.60**	**175**		Pn	06 39 08.6	-0.1
F17K	**Baldwin Pennin**	**1.63**	**276**		Pn	06 39 08.9	-0.1
F17K	**Baldwin Pennin**	**1.63**	**276**	IAML		06 39 34.8	
	comp=E,498nm,0.5s						
F17K				IAML		06 39 36.9	
	comp=N,492nm,0.9s						
G17K	**Kiwalik Mounta**	**1.64**	**241**		Pn	06 39 08.5	-0.8
E18K	**Tukpahlearik C**	**1.72**	**311**	Pn	Pb	06 39 11.3	-0.8
H17K	**Granite Mounta**	**1.79**	**220**	Pn	Pn	06 39 11.1	-0.3
H17K				Sn	Sb	06 39 36.3	+0.4
H17K				IAML		06 39 36.8	
	comp=N,509nm,0.6s						
H17K				IAML		06 39 36.9	
	comp=E,580nm,0.5s						
I20K	**Naaghedeneel**	**1.92**	**142**		Pn	06 39 12.4	-0.7
H21K	**Melozitna Rive**	**1.93**	**109**		Pn	06 39 12.8	-0.5
H21K				IAML		06 39 44.1	
	comp=N,460nm,0.6s						
H21K				IAML		06 39 44.5	
	comp=E,434nm,0.6s						
D19K	**Kuna River**	**2.20**	**351**		Pn	06 39 17.8	+0.8
D19K				IAML		06 40 00.3	
	comp=N,256nm,0.8s						
G16K	**Koyuk River**	**2.31**	**248**	Pn	Pn	06 39 17.3	-1.2
G16K				IAML		06 39 55.6	
	comp=E,232nm,0.5s						
J19K	**Poorman**	**2.45**	**163**		Pn	06 39 20.2	-0.1
J19K				IAML		06 39 58.5	
	comp=E,199nm,0.5s						
J19K				IAML		06 40 05.4	
	comp=N,178nm,1.0s						
J20K	**Nowinta River**	**2.52**	**148**		Pn	06 39 20.5	-1.0
J20K				IAML		06 40 04.8	
	comp=N,232nm,0.6s						
J20K				IAML		06 40 07.5	
	comp=E,236nm,0.6s						
D17K	**Noatak River**	**2.68**	**303**		Pn	06 39 24.2	+0.7
E22K	**Anaktuvuk Pass**	**2.77**	**47**		Pn	06 39 26.0	+1.1
E22K				IAML		06 40 15.4	
	comp=E,141nm,1.0s						
C18K	**Utukok River**	**2.78**	**328**	Pn	Pn	06 39 25.0	-0.1
RDOG	**Red Dog Mine**	**2.81**	**311**	Pn	Pn	06 39 27.4	+2.0
I17K	**Unalakleet**	**2.86**	**212**		Pn	06 39 26.2	+0.2
J18K	**Innoko River**	**2.89**	**175**		Pn	06 39 26.6	+0.1
J18K				IAML		06 40 11.0	
	comp=N,139nm,0.6s						
G23K	**Bananza Creek**	**2.91**	**79**	Pn	Pn	06 39 26.0	-0.7
G23K				IAML		06 40 16.0	
	comp=E,158nm,0.5s						
G23K				IAML		06 40 19.6	
	comp=N,218nm,0.9s						
COLD	**Coldfoot**	**2.92**	**69**	Pn	Pn	06 39 27.0	+0.1
J17K	**VABM Dome**	**3.06**	**196**	Pn	Pn	06 39 28.4	-0.3
J17K				IAML		06 40 27.5	
	comp=E,131nm,0.7s						
D22K	**Ayikyak River**	**3.09**	**32**	Pn	Pn	06 39 29.8	+0.5
F15K	**North Star Dit**	**3.10**	**262**	Pn	Pn	06 39 28.8	-0.6
F15K				IAML		06 40 22.0	
	comp=E,103nm,1.0s						
F15K				IAML		06 40 22.1	
	comp=N,115nm,0.9s						
K20K	**Telida**	**3.28**	**154**		Pn	06 39 32.2	+0.4
J16K	**Anvik River**	**3.39**	**207**		Pn	06 39 33.7	+0.4
J16K				IAML		06 40 30.6	
	comp=N,127nm,0.9s						
J16K				IAML		06 40 35.3	
	comp=E,143nm,0.9s						
E23K	**Chandalar**	**3.43**	**56**		Pn	06 39 34.2	+0.2
E23K				IAML		06 40 35.5	
	comp=E,137nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.45**	**128**	Pn	Pn	06 39 34.2	0.0
BPAW				IAML		06 40 37.1	
	comp=N,73nm,1.1s						
I23K	**Minto, Yukon-K**	**3.46**	**107**		Pn	06 39 33.8	-0.5
I23K				IAML		06 40 32.5	
	comp=N,138nm,1.1s						
D23K	**Nanushuk River**	**3.64**	**40**		Pn	06 39 38.4	+1.7
D23K				IAML		06 40 44.2	
	comp=N,124nm,0.9s						
CAST	**Castle Rocks**	**3.66**	**141**	Pn	Pn	06 39 38.2	+1.2
K17K	**Iditarod**	**3.66**	**188**		Pn	06 39 36.4	-0.7
K17K				IAML		06 40 47.6	
	comp=N,92nm,0.8s						
K17K				IAML		06 40 53.0	
	comp=E,77nm,0.8s						
B20K	**Meade River**	**3.69**	**0**		Pn	06 39 38.0	+0.6
B20K				IAML		06 41 15.5	
	comp=E,80nm,1.1s						
TOLK	**Toolik Lake Re**	**3.74**	**48**		Pn	06 39 38.9	+0.7
TOLK				IAML		06 40 47.3	
	comp=N,106nm,0.8s						
NEA2	**Nenana**	**3.82**	**113**		Pn	06 39 39.3	0.0
NEA2				IAML		06 40 44.3	
	comp=E,56nm,1.1s						
NEA2				IAML		06 40 48.7	
	comp=N,61nm,1.0s						
H24K	**Noodor Dome**	**3.84**	**93**		Pn	06 39 39.0	-0.6
H24K				IAML		06 40 55.4	
	comp=E,79nm,1.1s						
KTH	**Kantishna Hill**	**3.87**	**133**	Pn	Pn	06 39 40.5	+0.5
KTH				IAML		06 40 52.2	
	comp=E,56nm,0.9s						
KTH				IAML		06 40 53.2	
	comp=N,60nm,0.8s						
BWN	**Browne**	**3.92**	**120**		Pn	06 39 41.6	+1.0
G24K	**Hadweenzic Riv**	**3.92**	**80**	Pn	Pn	06 39 39.9	-0.7
PPLA	**Purkeypile**	**4.08**	**146**	Pn	Pn	06 39 43.9	+1.0
TRF	**Thorofare Moun**	**4.14**	**131**	Pn	Pn	06 39 44.8	+1.0
TRF				IAML		06 40 53.6	
	comp=E,77nm,0.8s						
TRF				IAML		06 40 54.0	
	comp=N,57nm,0.9s						
L18K	**Granite Mounta**	**4.14**	**177**		Pn	06 39 44.1	+0.5
L18K				IAML		06 40 54.7	
	comp=N,49nm,1.0s						
L18K				IAML		06 41 00.6	
	comp=E,48nm,0.9s						
COLA	**College**	**4.16**	**106**		Pn	06 39 43.9	+0.1
POKR	**Poker Plat Res**	**4.22**	**102**		Pn	06 39 44.5	-0.3
POKR				IAML		06 40 56.9	
	comp=N,64nm,1.2s						
POKR				IAML		06 41 02.2	
	comp=E,64nm,0.6s						
WRH	**Wood River Hil**	**4.25**	**112**	Pn	Pn	06 39 44.5	-0.6
WRH				IAML		06 40 55.7	
	comp=E,42nm,0.9s						
B22K	**Teshekpuk Lake**	**4.26**	**18**	Pn	Pn	06 39 45.1	-0.2
B22K				IAML		06 41 07.1	
	comp=E,56nm,1.2s						
B22K				IAML		06 41 13.6	
	comp=N,63nm,0.9s						
CCB	**Clear Creek Bu**	**4.27**	**109**		Pn	06 39 44.9	-0.5
CCB				IAML		06 40 58.3	
	comp=E,52nm,0.9s						
CCB				IAML		06 41 00.9	
	comp=N,39nm,1.1s						
L19K	**White Mountain**	**4.30**	**165**		Pn	06 39 45.9	+0.1
L19K				IAML		06 41 03.2	
	comp=N,42nm,0.7s						
L19K				IAML		06 41 12.6	
	comp=E,39nm,1.0s						
C23K	**Itkillik River**	**4.30**	**32**	Pn	Pn	06 39 45.9	+0.1
C23K				IAML		06 41 15.9	
	comp=N,70nm,0.9s						
C23K				IAML		06 41 16.6	
	comp=E,51nm,1.0s						
MCK	**McKinley**	**4.38**	**123**	Pn	Pn	06 39 46.1	-0.8
K15K	**Wolf Creek Mou**	**4.47**	**207**		Pn	06 39 48.7	+0.5
K15K				IAML		06 41 11.7	
	comp=E,38nm,1.0s						
J14K	**Nanvaranak Lak**	**4.52**	**220**		Pn	06 39 48.1	-0.7
J14K				IAML		06 41 10.5	
	comp=N,54nm,0.6s						
IL31		**4.57**	**105**		Pn	06 39 49.0	-0.6
ILAR	**Eielson Array**	**4.57**	**105**		Pn	06 39 49.5	-0.1
M19K	**Big River Lodg**	**4.62**	**163**		Pn	06 39 51.0	+0.7
M19K				IAML		06 41 11.1	
	comp=N,31nm,0.7s						
M19K				IAML		06 41 24.6	
	comp=E,42nm,1.1s						
RND	**Reindeer**	**4.62**	**126**	Pn	Pn	06 39 50.4	+0.1
L16K	**Owhat River**	**4.75**	**193**		Pn	06 39 51.1	-0.8
FYU	**Fort Yukon**	**4.82**	**82**		Pn	06 39 53.2	+0.3
FYU				IAML		06 41 23.4	
	comp=N,51nm,0.8s						
M20K	**Styx River**	**4.82**	**156**		Pn	06 39 53.6	+0.6
M20K				IAML		06 40 51.5	
	comp=E,34nm,0.9s						
PRP	**Porcupine Dome**	**4.86**	**94**		Pn	06 39 54.3	+0.6
PRP				IAML		06 41 14.2	
	comp=N,47nm,1.0s						
PRP				IAML		06 41 14.9	
	comp=E,41nm,0.7s						
E25K	**Arctic Village**	**4.87**	**63**		Pn	06 39 53.9	+0.2
E25K				IAML		06 41 23.2	
	comp=E,45nm,1.0s						
M17K	**Holitna River**	**4.96**	**181**		Pn	06 39 55.1	+0.3
M17K				IAML		06 41 35.6	
	comp=N,47nm,1.1s						
M17K				IAML		06 41 40.4	
	comp=E,46nm,1.1s						
SKT	**Skwentna**	**5.03**	**148**		Pn	06 39 56.4	+0.6
SKT				IAML		06 41 28.1	
	comp=E,25nm,0.6s						
J25K	**Salcha River,**	**5.23**	**104**		Pn	06 39 58.5	-0.1
J25K				IAML		06 41 31.2	
	comp=N,35nm,0.7s						
M16K	**Timber Creek**	**5.39**	**189**		Pn	06 40 00.4	-0.4
M16K				IAML		06 41 34.1	
	comp=N,18nm,0.9s						
STLK	**Strandline Lak**	**5.40**	**151**		Pn	06 40 02.2	+1.1
K13K	**Kusilvak Mount**	**5.49**	**220**	Pn	Pn	06 40 01.8	-0.3
N19K	**Bonanza Creek**	**5.68**	**166**		Pn	06 40 05.0	+0.2
N18K	**Kilae Creek**	**5.71**	**173**		Pn	06 40 05.8	+0.6
N17K	**Nushagak Hills**	**5.83**	**180**		Pn	06 40 07.5	+0.7
GHO	**Glory Hole Cre**	**5.85**	**138**		Pn	06 40 08.4	+1.2
RIDG	**Independent Ri**	**5.85**	**111**		Pn	06 40 06.2	-1.0
PMR	**Palmer**	**5.94**	**139**		Pn	06 40 09.7	+1.4
SML	**Sawmill**	**5.99**	**135**		Pn	06 40 09.7	+0.7
J26L	**Joseph Creek**	**5.99**	**102**		Pn	06 40 09.4	+0.3
M14K	**Bethel**	**5.99**	**203**	Pn	Pn	06 40 09.3	+0.3
SCRK	**Sand Creek**	**6.06**	**107**		Pn	06 40 09.3	-0.7
SCM	**Sheep Creek Mo**	**6.26**	**132**		Pn	06 40 12.5	-0.3
N15K	**Kwethluk River**	**6.32**	**193**	Pn	Pn	06 40 13.3	-0.3
M24K	**Tolsona, Glenn**	**6.42**	**126**		Pn	06 40 16.0	+1.1
O18K	**Koktuh Hills**	**6.57**	**171**	Pn	Pn	06 40 17.3	+0.3
PWL	**Port Wells**	**6.77**	**140**	Pn	Pn	06 40 20.6	+0.8
O16K	**Kokwok River B**	**6.78**	**184**	Pn	Pn	06 40 19.7	-0.1
P18K	**Big Mountain,**	**7.03**	**172**	Pn	Pn	06 40 23.1	-0.2
I28M	**Miner Creek**	**7.13**	**89**		Pn	06 40 24.7	-0.1
L27K	**Beaver Creek,**	**7.36**	**109**		Pn	06 40 27.0	-0.9
BCAR	**Beaver Creek A**	**7.38**	**109**	Pn	Pn	06 40 27.1	-1.0
H29M	**Whitestone**	**7.60**	**82**	Pn	Pn	06 40 31.3	+0.2
M27K	**Edge Creek, AK**	**7.75**	**114**	Pn	Pn	06 40 33.0	-0.3
DAWY	**Dawson**	**7.83**	**99**		Pn	06 40 34.2	-0.1
G30M	**tAoh Zraii Nji**	**8.35**	**76**	Pn	Pn	06 40 41.0	-0.5
I30M	**Mount Dempster**	**8.63**	**88**		Pn	06 40 45.1	-0.2
L29M	**L29M**	**8.77**	**103**	Pn	Pn	06 40 47.3	+0.1
M29M	**Somme Creek**	**8.99**	**107**	Pn	Pn	06 40 50.2	-0.1
G31M	**Satah River**	**9.12**	**76**	Pn	Pn	06 40 51.1	-0.8
INK	**Inuvik**	**9.34**	**67**	Pn	Pn	06 40 55.5	+0.7
O30N	**Mendenhall**	**10.91**	**111**	Pn	Pn	06 41 16.3	-0.1
A36M	**Sachs Harbour**	**12.57**	**49**	Pn	Pn	06 41 38.0	-0.9

*AEIC **29** 06:39:38.6±1.0, 54°.18N±0°.04×162°.89W±0°.03, h34km±7km, Error ellipse: s-maj=6.4km s-min=1.8km az=159.0*

NEIC 29 06:39:39.2±0.6, 54°.23N±0°.04×162°.89W±0°.04, h29km±10km, ML2.7/6, ML2.6(AEIC), Error ellipse: s-maj=5.9km s-min=2.0km az=155.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.65**	**310**		Pn	06 39 52.6	+0.2
ISLZ	**Isanotski Laza**	**0.69**	**316**		Pb	06 39 52.4	-0.4
ISLZ					Sn	06 40 02.8	+0.1
FALS	**False Pass**	**0.69**	**334**		Pb	06 39 52.5	-0.3
FALS					Sn	06 40 03.2	+0.4
ISNN	**Isanotski Nort**	**0.79**	**320**		Pn	06 39 54.4	0.0
ISNN					Sn	06 40 06.3	+1.1
SSLS	**Shishaldin Sou**	**0.80**	**307**		Pn	06 39 54.4	-0.3
SSLS					Sn	06 40 06.4	+0.8
WECS	**Westdahl Cape**	**1.14**	**286**		Pn	06 39 59.2	-0.1
WEBT	**Westdahl Beart**	**1.15**	**289**		Pn	06 39 59.4	+0.1
HAG	**Hague Volcano**	**1.23**	**27**		Pn	06 40 00.5	+0.1
HAG					Sb	06 40 17.4	+0.1
PS4A	**Pavlof South-4**	**1.27**	**28**		Pn	06 40 00.8	-0.1
PVV	**Pavlof Volcano**	**1.31**	**29**		Pn	06 40 01.4	-0.1
PS1A	**Pavlof South-1**	**1.36**	**29**		Pn	06 40 02.3	+0.1
PS1A					Sb	06 40 21.1	0.0
AKSA	**Akutan Strait**	**1.65**	**268**		Pn	06 40 05.5	-0.7
AKSA					Sn	06 40 26.6	+0.2
AHB	**Akutan Harbor**	**1.72**	**267**		Pn	06 40 07.0	-0.2
SDPT	**Sand Point**	**1.79**	**50**		Pn	06 40 08.0	-0.1
SDPT	**Sand Point**	**1.79**	**50**	IAML		06 40 35.2	
	comp=E,91nm,0.7s						
AKBBA	**Akutan Broad B**	**1.79**	**267**		Pn	06 40 07.9	-0.2
AKGG	**Akutan Green G**	**1.82**	**270**		Pn	06 40 08.3	-0.2
AKGG					Sn	06 40 32.1	+1.5
AKMO	**Akutan Morgan**	**1.84**	**267**		Pn	06 40 08.7	-0.1
LVA	**Lava Point**	**1.85**	**269**		Pn	06 40 08.9	0.0
LVA	**Lava Point**	**1.85**	**269**	IAML		06 40 32.3	
	comp=E,56nm,2.0s						
LVA				IAML		06 40 34.4	
	comp=N,87nm,1.2s						
CNBA	**Chernabura Isl**	**2.01**	**72**		Pn	06 40 10.0	-1.2
CNBA	**Chernabura Isl**	**2.01**	**72**	IAML		06 40 44.5	
	comp=N,28nm,2.2s						
UNV	**Unalaska Valle**	**2.17**	**261**		Pn	06 40 12.6	-0.7
UNV					Sn	06 40 38.7	-0.4
MTBL	**Makushin Table**	**2.25**	**265**		Pn	06 40 14.2	-0.2

KRSC 29 06:40:30.1±2.1, 50°.54N×160°.12E, h58km±36km, MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.81**	**315**	*e*P	Pn	06 41 00.9	+2.1
KDTR				*e*S	Sn	06 41 22.3	+1.7
RUS	**Russkaya**	**2.15**	**333**	*e*P	Pn	06 41 06.5	+3.0
RUS				*e*S	Sn	06 41 30.6	+1.7
PAU	**Pauzhetka**	**2.29**	**295**	*e*S	Sn	06 41 34.3	+2.0
GRL	**Gorelyy**	**2.39**	**328**	*e*P	Pn	06 41 10.0	+3.2
GRL				*e*S	Sn	06 41 38.3	+3.3
SKR	**Severo-Kuril's**	**2.56**	**275**	*e*P	Pn	06 41 10.9	+1.9
SKR				*e*S	Sn	06 41 39.2	+0.3
SPN	**Mys Shipunski**	**2.56**	**359**	*e*S	Sn	06 41 40.6	+1.6
KRMR	**Karymshinskiy**	**2.61**	**332**	*e*S	Sn	06 41 43.4	+3.3
DALK	**Dalny**	**2.63**	**342**	*e*P	Pn	06 41 12.6	+2.5
DALK				*e*S	Sn	06 41 43.2	+2.4
PET	**Petropavlovsk**	**2.65**	**340**	*e*S	Sn	06 41 43.2	+2.1
NLC	**Nalytchevo**	**2.68**	**350**	*e*S	Sn	06 41 44.9	+3.1
UGLR	**Uglovaya**	**2.79**	**344**	*e*P	Pn	06 41 15.7	+3.4
SDLR	**Sedlovina**	**2.85**	**345**	*e*P	Pn	06 41 16.1	+3.0
AVH	**Avacha**	**2.86**	**343**	*e*P	Pn	06 41 16.5	+3.3
KOK	**Koryaka**	**2.91**	**342**	*e*P	Pn	06 41 17.6	+3.7
KRX	**Arik**	**2.97**	**343**	*e*P	Pn	06 41 17.8	+3.0
APC	**Apacha**	**3.02**	**323**	*e*S	Sn	06 41 55.1	+5.0
GNL	**Ganaly**	**3.43**	**338**	*e*P	Pn	06 41 25.9	+4.8
GNL				*e*S	Sn	06 42 06.2	+5.6
TUMD	**Tumrok D**	**4.67**	**2**	*e*P	Pn	06 41 41.4	+3.4
TUMD				*e*S	Sn	06 42 32.8	+1.9
KBTR	**Krutoberegovo**	**5.90**	**15**	*e*P	Pn	06 41 57.8	+3.0

*IDC **29** 06:55:13.3±2.5, 54°.31N×86°.14E, h0km, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=19.1km s-min=11.8km az=53.0.*

**ASRS 29 06:55:11.0±1.8, 54°.25N×86°.16E, h0km, M2.7, The earthquakes of

comp=Z,103nm,0.2s
NUUG Nuugaatsiaq 2.64 3 *e*P **Pn 06 59 16.6 +3.1**
NUUG *i* S **Sn 06 59 45.9 +0.4**
NUUG IAML 06 59 54.7
comp=Z,10.0nm,0.2s
UPNV Upernavik 3.97 349 *i* P **Pn 06 59 35.0 +3.2**
UPNV *i* S **Sn 07 00 20.0 +1.7**
UPNV IAML 07 00 41.1
comp=Z,4.0nm,0.2s
NUUK Nuuk 4.82 170 *i* P **Pn 06 59 45.4 +2.0**
NUUK *i* S **Sn 07 00 38.8 -0.3**
NUUK IAML 07 01 11.2
comp=Z,5.7nm,0.2s
ICESG Greenland Ices 5.03 82 *e*P **Pn 06 59 48.8 +2.2**
ICESG *i* S **Sn 07 00 42.3 -2.5**
ICESG IAML 07 01 05.9
comp=Z,15nm,0.2s
CLRN Clyde River 5.44 294 PN **Pn 06 59 53.8 +1.9**
CLRN SN **Sn 07 00 52.7 -1.7**
CLRN Trac 07 00 59.0
comp=Z,6.1nm,0.1s
KULLO Kullorsuaq 5.80 350 PN **Pn 06 59 58.0 +1.1**
KULLO SN **Sn 07 00 59.5 -3.8**
KULLO Trac 07 01 22.9
comp=Z,23nm,0.6s
KULLO Kullorsuaq 5.80 350 *i* P **Pn 07 00 00.3 +3.4**
KULLO *i* S **Sn 07 01 04.7 +1.3**
KULLO IAML 07 01 25.1
comp=Z,1.4nm,0.2s
SUMG Summit 6.20 47 *i* P **Pn 07 00 03.7 +0.9**
SUMG *i* S **Sn 07 01 10.4 -3.4**
SUMG IAML 07 01 18.2
comp=Z,4.1nm,0.1s
ISOG Isortoq, Green 6.60 114 *i* S **Sn 07 01 18.4 -4.7**
ANGG Ammassalik, Gr 7.01 111 *i* P **Pn 07 00 16.3 +2.8**
ANGG *i* S **Sn 07 01 27.8 -5.3**
ANGG IAML 07 01 31.4
comp=Z,9.2nm,0.2s
FRB Frobisher Bay 7.92 236 PN **Pn 07 00 29.2 +3.2**
FRB SN **Sn 07 01 53.9 -1.6**
FRB Trac 07 02 20.4
comp=Z,3.8nm,0.2s
NRS Narsarsuaq 8.52 152 *i* P **Pn 07 00 35.4 +1.3**
NRS *i* S **Sn 07 02 06.2 -3.9**
NRS IAML 07 02 10.9
comp=Z,1.7nm,0.2s
NEEM North Greenlan 8.60 4 *i* P **Pn 07 00 37.7 +2.1**
NEEM *i* S **Sn 07 02 08.6 -4.0**
NEEM IAML 07 02 13.9
comp=Z,1.1nm,0.2s
POIN Pond Inlet 8.82 306 PN **Pn 07 00 40.2 +1.9**
POIN SN **Sn 07 02 12.7 -4.8**
POIN Trac 07 02 20.8
comp=Z,0.6nm,0.2s
ILON Igloolik, Nuna 10.02 286 PN **Pn 07 00 55.5 +0.9**
ILON SN Sn 07 02 39.9 -7.0
ILON Trac 07 02 55.3
comp=Z,0.7nm,0.1s
SCO Scoresbysund 11.03 67 *i* P **Pn 07 01 06.0 -2.5**
SCO *i* S Sn 07 03 00.8 -11
SCO IAML 07 03 08.3
comp=Z,0.6nm,0.2s
DBG Daneborg 11.69 48 *i* S Sn 07 03 13.4 -14

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*ASRS **29** 07:00:04.0±1.1, 54°.18N×86°.44E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 07:00:07.5±2.4, 54°.11N×86°.42E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=19.8km s-min=13.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**261**	I	I	07 05 10.0	
baz=79,slow=322,SNR=9.1							
ZALV	**Zalesovo Beam**	**0.96**	**261**	Pg	Pg	07 00 24.8	-1.1
1.7nm,0.3s,baz=79,slow=16,SNR=18							
ZALV				Lg	Lg	07 00 39.3	
1.3nm,0.3s,baz=82,slow=32,SNR=4.6							
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	07 01 38.1	+1.2
0.1nm,0.3s,baz=54,slow=13,SNR=11							
KURBB				Sn	Sn	07 02 46.0	+0.1
baz=56,slow=25,SNR=1.2							
KURBB				Lg	Lg	07 03 17.5	
baz=274,slow=18,SNR=4.0							
1.3nm,0.5s							
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	07 02 02.7	+0.7
0.5nm,0.3s,baz=25,slow=14,SNR=15							
0.5nm,0.3s							

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*NEIC **29** 07:09:18.1±1.4, 66°.306N±0°.010×157°.16W±0°.04, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=75.0*
*AEIC **29** 07:09:18.0±1.1, 66°.30N±0°.02×157°.19W±0°.04, h7km±5km, ML3.2, ML3.5/114(NEIC), Error ellipse: s-maj=2.3km s-min=2.1km az=137.0*
*IDC **29** 07:09:18.4±3.8, 66°.24N×157°.56W, h0km, mb3.4/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=59.8km s-min=37.5km az=7.0*

ISC 29 07:09:18.3±1.1, 66°.31N±0°.03×157°.19W±0°.03, h7km±8km, n104, σ0s65/109, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**166**		**Pg**	**07 09 21.7**	**-0.1**
G19K					**Sg**	**07 09 24.3**	**+0.2**
G19K	**Purcell Mounta**	**0.17**	**166**	IAML		07 09 24.7	
comp=E,19μm,0.4s							
G19K				IAML		07 09 24.7	
comp=N,26μm,0.8s							
F19K	**Shaleruckik Mo**	**0.57**	**336**		**Pg**	**07 09 29.0**	**-0.4**
F19K					**Sg**	**07 09 37.5**	**+0.6**
G18K	**Tagagawik**	**0.73**	**236**	Pg	**Pg**	**07 09 32.0**	**-0.3**
G18K				Sg	**Sb**	**07 09 42.7**	**-0.8**
H19K	**Roundabout Mou**	**0.84**	**159**		**Pg**	**07 09 34.2**	**-0.2**
H19K				IAML		07 09 49.5	
comp=E,2μm,0.5s							
F20K	**Avaraart Lake**	**0.94**	**37**	Pg	**Pg**	**07 09 36.2**	**-0.2**
F20K				Sg	**Sb**	**07 09 49.2**	**-0.5**
F18K	**Selawik**	**1.03**	**288**		**Pg**	**07 09 37.6**	**-0.5**
F18K					**Sb**	**07 09 52.1**	**0.0**
E19K	**Redstone River**	**1.15**	**359**		**Pg**	**07 09 39.8**	**-0.6**
E19K	**Redstone River**	**1.15**	**359**	IAML		07 10 00.0	
comp=N,1μm,0.6s							
E19K				IAML		07 10 01.4	
comp=E,872nm,0.6s							
H18K	**Honhosa River**	**1.26**	**203**	Pn	**Pn**	**07 09 40.7**	**-1.6**
H18K				Sn	**Sn**	**07 09 59.6**	**+0.1**
H18K				IAML		07 10 03.9	
comp=E,770nm,0.9s							
GCSA	**Galena City Sc**	**1.58**	**175**		**Pn**	**07 09 46.3**	**-0.3**
G17K	**Kiwalik Mounta**	**1.64**	**242**		**Pn**	**07 09 46.1**	**-1.3**
F17K	**Baldwin Pennin**	**1.64**	**276**	Pn	**Pn**	**07 09 47.5**	**0.0**
F17K				IAML		07 10 17.6	
comp=N,409nm,0.9s							
F17K				IAML		07 10 18.4	
comp=E,334nm,0.8s							
H17K	**Granite Mounta**	**1.78**	**221**	Pn	**Pn**	**07 09 48.9**	**-0.6**
H17K				Sn	**Sb**	**07 10 13.6**	**-0.2**
H17K				IAML		07 10 18.6	
comp=E,447nm,0.8s							
H17K				IAML		07 10 19.5	
comp=N,498nm,0.7s							
I20K	**Naaghedeneel**	**1.89**	**142**	Pn	**Pn**	**07 09 49.8**	**-1.1**
H21K	**Melozitna Rive**	**1.91**	**108**	Pn	**Pn**	**07 09 50.9**	**-0.4**
H21K				IAML		07 10 20.6	
comp=E,465nm,0.7s							
H21K				IAML		07 10 21.6	
comp=N,313nm,0.5s							
E17K	**Hotham Inlet**	**2.00**	**295**		**Pn**	**07 09 52.5**	**+0.1**
G16K	**Koyuk River**	**2.31**	**249**		**Pn**	**07 09 55.2**	**-1.6**
G16K	**Koyuk River**	**2.31**	**249**	IAML		07 10 37.1	
comp=N,236nm,0.8s							
G16K				IAML		07 10 37.9	
comp=E,197nm,0.9s							
J19K	**Poorman**	**2.42**	**163**		**Pn**	**07 09 58.3**	**+0.1**
J19K				IAML		07 10 38.3	
comp=E,200nm,0.9s							
J19K				IAML		07 10 42.4	
comp=N,147nm,1.1s							
J20K	**Nowinta River**	**2.50**	**148**		**Pn**	**07 09 58.4**	**-0.9**
J20K				IAML		07 10 45.1	
comp=E,229nm,0.6s							
J20K				IAML		07 10 48.3	
comp=N,206nm,0.7s							
D17K	**Noatak River**	**2.70**	**304**		**Pn**	**07 10 02.2**	**+0.1**
C18K	**Utukok River**	**2.81**	**329**	Pn	**Pn**	**07 10 03.8**	**+0.1**
RDOG	**Red Dog Mine**	**2.83**	**311**		**Pn**	**07 10 04.9**	**+1.0**
I17K	**Unalakleet**	**2.85**	**213**		**Pn**	**07 10 03.6**	**-0.5**
I17K				IAML		07 10 55.1	
comp=E,234nm,0.7s							
I17K				IAML		07 10 57.3	
comp=N,208nm,1.1s							
J18K	**Innoko River**	**2.86**	**176**	Pn	**Pn**	**07 10 03.7**	**-0.6**
COLD	**Coldfoot**	**2.92**	**68**	Pn	**Pn**	**07 10 05.0**	**-0.1**
J17K	**VABM Dome**	**3.04**	**196**	Pn	**Pn**	**07 10 06.2**	**-0.4**
J17K				IAML		07 10 58.4	
comp=N,86nm,0.9s							
J17K				IAML		07 10 58.5	
comp=E,102nm,1.0s							
K20K	**Telida**	**3.25**	**154**		**Pn**	**07 10 09.5**	**-0.2**
J16K	**Anvik River**	**3.37**	**207**	Pn	**Pn**	**07 10 10.4**	**-0.8**
J16K				IAML		07 11 09.6	
comp=E,128nm,1.1s							
J16K				IAML		07 11 13.6	
comp=N,127nm,0.6s							
BPAW	**Bear Paw Mtn.**	**3.43**	**127**		**Pn**	**07 10 11.5**	**-0.6**
BPAW				IAML		07 11 10.3	
comp=E,69nm,1.0s							
BPAW				IAML		07 11 14.7	
comp=N,90nm,1.1s							
I23K	**Minto, Yukon-K**	**3.44**	**106**		**Pn**	**07 10 11.3**	**-0.9**
I23K				IAML		07 11 09.2	
comp=E,140nm,0.7s							
B21K	**Ikpikpuk River**	**3.47**	**15**	Pn	**Pn**	**07 10 12.3**	**-0.3**
K17K	**Iditarod**	**3.64**	**188**		**Pn**	**07 10 14.4**	**-0.6**
K17K				IAML		07 11 21.3	
comp=N,77nm,1.1s							
K17K				IAML		07 11 28.8	
comp=E,57nm,1.3s							
D23K	**Nanushuk River**	**3.65**	**40**	Pn	**Pn**	**07 10 14.9**	**-0.2**
B20K	**Meade River**	**3.72**	**0**	Pn	**Pn**	**07 10 15.6**	**-0.4**
B20K				IAML		07 11 22.7	
comp=N,107nm,0.9s							
B20K				IAML		07 11 24.6	
comp=E,113nm,0.7s							
C16K	**Lisburne Hills**	**3.73**	**306**	Pn	**Pn**	**07 10 16.1**	**0.0**
TOLK	**Toolik Lake Re**	**3.75**	**48**		**Pn**	**07 10 16.4**	**-0.1**
NEA2	**Nenana**	**3.80**	**113**		**Pn**	**07 10 17.1**	**-0.1**
NEA2				IAML		07 11 26.2	
comp=N,55nm,1.3s							
H24K	**Noodor Dome**	**3.82**	**93**		**Pn**	**07 10 17.9**	**+0.3**
H24K				IAML		07 11 20.8	
comp=N,100nm,0.7s							
H24K				IAML		07 11 24.2	
comp=E,93nm,0.7s							
E24K	**Your Creek**	**3.82**	**58**	Pn	**Pn**	**07 10 17.0**	**-0.6**
KTH	**Kantishna Hill**	**3.84**	**133**		**Pn**	**07 10 17.9**	**+0.1**
KTH				IAML		07 11 30.8	
comp=N,58nm,0.9s							
KTH				IAML		07 11 31.1	
comp=E,65nm,0.9s							
F24K	**Squaw Lake**	**3.86**	**67**	Pn	**Pn**	**07 10 18.6**	**+0.5**
BWN	**Browne**	**3.89**	**120**		**Pn**	**07 10 19.1**	**+0.7**
PPLA	**Purkeypile**	**4.05**	**146**		**Pn**	**07 10 21.7**	**+1.0**
TRF	**Thorofare Moun**	**4.11**	**131**		**Pn**	**07 10 21.6**	**0.0**
TRF				IAML		07 11 34.6	
comp=N,58nm,0.8s							
L18K	**Granite Mounta**	**4.11**	**177**		**Pn**	**07 10 21.9**	**+0.4**
L18K				IAML		07 11 36.7	
comp=N,42nm,0.9s							
L18K				IAML		07 11 38.7	
comp=E,47nm,0.9s							
COLA	**College**	**4.13**	**106**		**Pn**	**07 10 22.0**	**+0.3**
POKR	**Poker Plat Res**	**4.20**	**102**		**Pn**	**07 10 23.3**	**+0.6**
POKR				IAML		07 11 31.1	
comp=E,64nm,0.7s							
POKR				IAML		07 11 34.3	
comp=N,70nm,0.7s							
WRH	**Wood River Hil**	**4.23**	**112**		**Pn**	**07 10 23.4**	**+0.3**
WRH				IAML		07 11 33.7	
comp=E,43nm,0.8s							
CCB	**Clear Creek Bu**	**4.25**	**109**		**Pn**	**07 10 23.2**	**-0.2**
CCB				IAML		07 11 35.9	
comp=E,36nm,0.8s							
L19K	**White Mountain**	**4.27**	**165**		**Pn**	**07 10 23.6**	**-0.1**
L19K				IAML		07 11 39.8	
comp=E,31nm,1.1s							
L19K				IAML		07 11 42.9	
comp=N,34nm,0.8s							
MCK	**McKinley**	**4.35**	**123**		**Pn**	**07 10 24.9**	**+0.1**
K15K	**Wolf Creek Mou**	**4.45**	**207**		**Pn**	**07 10 26.8**	**+0.7**
K15K				IAML		07 11 52.3	
comp=E,30nm,1.2s							
J14K	**Nanvaranak Lak**	**4.51**	**220**		**Pn**	**07 10 27.8**	**+0.9**
J14K				IAML		07 11 51.4	
comp=N,64nm,0.9s							
IL31		**4.55**	**105**		**Pn**	**07 10 27.6**	**+0.1**
ILAR	**Eielson Array**	**4.55**	**105**		**Pn**	**07 10 27.4**	**-0.1**
ILAR	**Eielson Array**	**4.55**	**105**	Pn	**Pn**	**07 10 27.2**	**-0.3**
comp=N,3.9nm,0.3s,baz=294,slow=14,SNR=196							
ILAR				Sn	**Sn**	**07 11 18.3**	**-2.3**
comp=N,1.7nm,0.3s,baz=292,slow=23,SNR=8.3							
ILAR				Lg	Lg	07 11 36.0	
comp=N,1.3nm,0.3s,baz=289,slow=23,SNR=4.5							
comp=N,15nm,0.5s							
RND	**Reindeer**	**4.60**	**125**		**Pn**	**07 10 28.7**	**+0.5**
HDA	**Harding Lake**	**4.69**	**109**		**Pn**	**07 10 28.8**	**-0.7**
HDA				IAML		07 11 50.0	
comp=N,44nm,0.6s							
HDA				IAML		07 11 52.8	
comp=E,29nm,0.7s							
L16K	**Owhat River**	**4.73**	**193**		**Pn**	**07 10 29.2**	**-0.6**
M20K	**Styx River**	**4.79**	**156**		**Pn**	**07 10 31.4**	**+0.6**
M20K				IAML		07 11 55.4	
comp=E,33nm,1.1s							
FYU	**Fort Yukon**	**4.81**	**81**		**Pn**	**07 10 30.1**	**-0.9**
PRP	**Porcupine Dome**	**4.85**	**94**		**Pn**	**07 10 31.6**	**0.0**
PRP				IAML		07 11 57.1	
comp=E,40nm,0.8s							
PRP				IAML		07 12 05.8	
comp=N,34nm,0.6s							
E25K	**Arctic Village**	**4.87**	**63**		**Pn**	**07 10 31.2**	**-0.7**
E25K				IAML		07 12 01.2	
comp=E,46nm,0.7s							
M17K	**Holitna River**	**4.93**	**181**		**Pn**	**07 10 32.8**	**+0.1**
M17K				IAML		07 12 06.0	
comp=E,37nm,0.9s							
M17K				IAML		07 12 12.8	
comp=N,36nm,1.0s							
SKT	**Skwentna**	**5.00**	**148**		**Pn**	**07 10 34.4**	**+0.7**
SKT				IAML		07 12 04.4	
comp=E,30nm,1.0s							
D25K	**Kavik River**	**5.09**	**49**	Pn	**Pn**	**07 10 36.2**	**+1.3**
J25K	**Salcha River,**	**5.21**	**104**		**Pn**	**07 10 36.4**	**-0.3**
J25K				IAML		07 12 02.9	
comp=E,27nm,0.6s							
J25K				IAML		07 12 09.8	
comp=N,28nm,1.1s							
M16K	**Timber Creek**	**5.37**	**189**		**Pn**	**07 10 38.1**	**-0.6**
M16K				IAML		07 12 15.7	
comp=N,19nm,0.9s							
STLK	**Strandline Lak**	**5.38**	**151**		**Pn**	**07 10 40.0**	**+1.1**
N19K	**Bonanza Creek**	**5.65**	**166**		**Pn**	**07 10 42.8**	**+0.2**
N18K	**Kilae Creek**	**5.68**	**174**		**Pn**	**07 10 43.4**	**+0.3**
N17K	**Nushagak Hills**	**5.81**	**180**		**Pn**	**07 10 44.5**	**-0.3**
GHO	**Glory Hole Cre**	**5.82**	**138**		**Pn**	**07 10 46.5**	**+1.5**
RIDG	**Independent Ri**	**5.83**	**111**		**Pn**	**07 10 45.2**	**+0.1**
I26K	**Coal Creek Min**	**5.86**	**93**		**Pn**	**07 10 44.6**	**-0.8**
SML	**Sawmill**	**5.96**	**135**		**Pn**	**07 10 47.2**	**+0.4**
J26L	**Joseph Creek**	**5.97**	**101**		**Pn**	**07 10 47.1**	**0.0**
M14K	**Bethel**	**5.97**	**203**	Pn	**Pn**	**07 10 46.2**	**-0.8**
SCRK	**Sand Creek**	**6.04**	**107**		**Pn**	**07 10 47.7**	**-0.4**
SCM	**Sheep Creek Mo**	**6.23**	**132**		**Pn**	**07 10 50.1**	**-0.5**
N15K	**Kwethluk River**	**6.30**	**193**	Pn	**Pn**	**07 10 51.4**	**-0.1**
E27K	**Coleen River**	**6.33**	**66**	Pn	**Pn**	**07 10 51.4**	**-0.5**
O18K	**Koktuh Hills**	**6.54**	**171**		**Pn**	**07 10 54.8**	**-0.1**
MENT	**Mentasta**	**6.70**	**114**		**Pn**	**07 10 57.0**	**0.0**
O16K	**Kokwok River B**	**6.75**	**184**		**Pn**	**07 10 57.7**	**0.0**
L26K	**Log Cabin Wild**	**6.79**	**113**		**Pn**	**07 10 58.2**	**0.0**
P19K	**Oil Pt**	**6.92**	**163**	Pn	**Pn**	**07 10 59.8**	**-0.2**
P18K	**Big Mountain,**	**7.00**	**172**	Pn	**Pn**	**07 11 00.9**	**-0.2**
I28M	**Miner Creek**	**7.12**	**89**		**Pn**	**07 11 02.5**	**-0.4**
L27K	**Beaver Creek,**	**7.34**	**109**		**Pn**	**07 11 05.3**	**-0.5**
BCAR	**Beaver Creek A**	**7.35**	**109**	Pn	**Pn**	**07 11 06.0**	**0.0**
H29M	**Whitestone**	**7.59**	**82**		**Pn**	**07 11 09.4**	**+0.2**
E29M	**Blow River**	**7.72**	**66**	Pn	**Pn**	**07 11 10.2**	**-0.7**
DAWY	**Dawson**	**7.81**	**98**		**Pn**	**07 11 11.7**	**-0.5**
I30M	**Mount Dempster**	**8.62**	**88**		**Pn**	**07 11 23.3**	**-0.1**
K29M	**Barlow Dome**	**8.65**	**97**	Pn	**Pn**	**07 11 23.7**	**-0.2**
L29M	**L29M**	**8.75**	**103**		**Pn**	**07 11 25.9**	**+0.7**
J30M	**Hart River**	**8.85**	**92**		**Pn**	**07 11 26.9**	**+0.4**
M29M	**Somme Creek**	**8.97**	**107**		**Pn**	**07 11 27.8**	**-0.5**
G31M	**Satah River**	**9.12**	**76**	Pn	**Pn**	**07 11 28.6**	**-1.4**
YKA	**Yellowknife Ar**	**18.51**	**82**	P	**Pn**	**07 13 36.0**	**+1.2**
comp=N,0.1nm,0.3s,baz=305,slow=12,SNR=7.6							
comp=N,0.6nm,0.9s							
NVAR	**Mina Array Bea**	**35.59**	**122**	P	**P**	**07 16 17.4**	**+1.1**
comp=N,0.4nm,0.7s,baz=347,slow=8.0,SNR=2.7							
comp=N,0.4nm,0.7s							

RSNC 29 07:15:59.1±0.0, 5°.N±1°×7°.4W±°, h148km±2km, M2.8, mb3.5, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.64**	**180**	P	Pn	07 16 21.4	-0.1
CHIC				S	Sn	07 16 38.2	-0.4
ROSC	**El Rosal**	**0.73**	**234**	P	Pn	07 16 23.0	+1.0
ROSC				S	Sn	07 16 40.7	+1.3
CVER	**Cruz Verde, Cu**	**0.82**	**205**	P	Pn	07 16 23.3	+0.5
CVER				S	Sn	07 16 40.6	-0.2
RUSC	**La Rusia**	**0.89**	**46**	P	Pn	07 16 23.7	+0.3
RUSC				S	Sn	07 16 41.8	0.0
VILC	**Villavicencio,**	**1.15**	**178**	P	Pn	07 16 24.8	-0.4
VILC				S	Sn	07 16 44.5	-0.7
NORC	**Norcasia**	**1.17**	**284**	P	Pn	07 16 25.0	-0.3
NORC				S	Sn	07 16 44.6	-0.6
BARC	**Barichara**	**1.42**	**22**	P	Pn	07 16 27.5	-0.5
BARC				S	Sn	07 16 49.2	-0.9
PTBC	**PUERTO BERRIO,**	**1.45**	**330**	P	Pn	07 16 27.0	-1.1
PTBC				S	Sn	07 16 48.9	-1.4
GUY2C	**Guyana, Caldas**	**1.63**	**268**	P	Pn	07 16 30.2	-0.2
GUY2C				S	Sn	07 16 53.5	-0.8
BRJC	**Barrancabermej**	**1.69**	**360**	P	Pn	07 16 30.5	-0.1
BRJC				S	Sn	07 16 55.1	+0.3
ANIL	**Santa Ana**	**1.84**	**245**	P	Pn	07 16 32.7	+0.1
ANIL				S	Sn	07 16 57.9	-0.2
PTGC	**Puerto Gaitan,**	**1.91**	**124**	P	Pn	07 16 32.6	-0.5
PTGC				S	Sn	07 16 57.8	-1.4
PRAC	**Prado**	**1.93**	**217**	P	Pn	07 16 33.1	-0.3
PRAC				S	Sn	07 16 58.9	-0.7
HELC	**Santa Helena**	**2.01**	**297**	P	Pn	07 16 34.5	-0.1
HELC				S	Sn	07 17 00.4	-1.4
ORTC	**Ortega, Tolima**	**2.03**	**228**	P	Pn	07 16 34.0	-0.5
ORTC				S	Sn	07 17 00.7	-1.0
URMC	**La Uribe, Meta**	**2.11**	**198**	P	Pn	07 16 35.6	+0.1
URMC				S	Sn	07 17 03.3	-0.3
TAMC	**Tame, Arauca**	**2.25**	**59**	P	Pn	07 16 37.7	+0.6
TAMC				S	Sn	07 17 05.8	-0.6
PAMC	**Pamplona, Colo**	**2.30**	**26**	P	Pn	07 16 38.0	-0.2
PAMC				S	Sn	07 17 07.6	-0.6
CBOC	**Ciudad Bolivar**	**2.35**	**285**	P	Pn	07 16 38.3	-0.1
CBOC				S	Sn	07 17 08.5	-0.2
ZARC	**Zaragoza, Cauc**	**2.48**	**333**	P	Pn	07 16 37.9	-2.0
ZARC				S	Sn	07 17 08.9	-2.4
YOTC	**Yotoco, Valle**	**2.90**	**244**	P	Pn	07 16 43.5	-1.8
YOTC				S	Sn	07 17 20.5	-0.5
GUVC	**San Jose del G**	**2.92**	**158**	P	Pn	07 16 45.3	-0.2
GUVC				S	Sn	07 17 19.0	-2.3
OCAC	**Ocana**	**2.98**	**8**	P	Pn	07 16 46.0	-0.3
OCAC				S	Sn	07 17 21.5	-1.3
DBBC	**Dabeiba**	**3.02**	**305**	P	Pn	07 16 46.5	-0.2
DBBC				S	Sn	07 17 23.1	-0.4
UREC	**San Jos de Ur**	**3.05**	**324**	P	Pn	07 16 44.6	-2.4
UREC				S	Sn	07 17 20.8	-3.3
MACC	**Macarena, Meta**	**3.11**	**182**	P	Pn	07 16 46.2	-1.6
MACC				S	Sn	07 17 22.1	-3.4
FLOC	**Florencia**	**4.13**	**208**	P	Pn	07 17 00.6	-0.6
FLOC				S	Sn	07 17 46.8	-2.6
ARGC	**Ariguani, Magd**	**4.59**	**354**	P	Pn	07 17 06.7	-0.4
ARGC				S	Sn	07 17 59.1	-0.9
SDV	**Santo Domingo**	**4.73**	**40**	P	Pn	07 17 08.7	-0.4
SDV				S	Sn	07 18 03.2	-0.4
SJCC	**San Jacinto, C**	**4.82**	**343**	P	Pn	07 17 07.8	-2.3
SJCC				S	Sn	07 17 59.9	-5.6
CRJC	**Cerrejon, Guaj**	**5.77**	**8**	P	Pn	07 17 20.0	-2.9
CRJC				S	Sn	07 18 23.6	-4.8
SMRC	**Santa Marta, M**	**5.88**	**355**	P	Pn	07 17 22.6	-1.6
15nm,1.7s							
SMRC				S	Sn	07 18 25.6	-5.1
15nm,1.7s							
URIC	**Uribia, Colomb**	**6.62**	**15**	P	Pn	07 17 32.4	-1.7
13nm,1.5s							
URIC				S	Sn	07 18 42.1	-6.4
13nm,1.5s							
SGC2	**Sao Gabriel da**	**8.63**	**128**	P	Pn	07 17 57.3	-3.7
SGC2				S	Sn	07 19 29.4	-7.5

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*IDC **29** 07:17:33.1±1.0, 2°.29N×99°.02E, h141km±3km, mb3.5/8, mbtmp4.0/8, MS3.2/1, Error ellipse: s-maj=44.6km s-min=13.1km az=52.0*
*DJA **29** 07:17:34.9±0.4, 2°N±2°×9°9E±°, h133km±4km, M3.7/11, MLv3.7/11*

ISC 29 07:17:33.8±0.8, 2°.35N±0°.05×99°.00E±0°.07, h150km, n19, σ0s70/22, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.46**	**350**	P	**Pn**	**07 17 54.6**	**-0.5**
257nm,0.3s,baz=164,slow=6.8,SNR=179							
PSI				LR	LR	07 18 02.5	
comp=Z,108nm,18.5s,baz=272,slow=71							
PSI				S	**Sn**	**07 18 09.8**	**-1.5**
116nm,0.5s,baz=323,slow=21,SNR=40							
TSI	**Tuntungan**	**1.22**	**339**	P	**Pn**	**07 18 01.0**	**+0.4**
MNSI	**Mandailing Nat**	**1.65**	**159**	P	**Pn**	**07 18 05.4**	**+0.5**
MNSI				S	**Sn**	**07 18 28.7**	**-0.2**
GSI	**Gunungsitoli**	**1.76**	**234**	P	**Pn**	**07 18 06.5**	**+0.3**
GSI				S	**Sn**	**07 18 30.1**	**-1.0**
PBSI	**Pulau Batu**	**2.49**	**197**	P	**Pn**	**07 18 15.2**	**+0.4**
PBSI				S	**Sn**	**07 18 45.4**	**-1.1**
SNSI	**Sinabang, Aceh**	**2.67**	**271**	P	**Pn**	**07 18 17.8**	**+0.8**
BKNI	**Bangkinang**	**2.86**	**135**	P	**Pn**	**07 18 20.0**	**+0.6**
PPI	**Padang Panjang**	**3.12**	**153**	P	**Pn**	**07 18 23.1**	**+0.5**
MLSI	**Meulaboh, Aceh**	**3.22**	**306**	P	**Pn**	**07 18 24.1**	**+0.2**
LHMI	**Lhok Sumawe**	**3.52**	**324**	P	**Pn**	**07 18 28.2**	**+0.4**
LEM	**Lembang**	**12.53**	**137**	LR	LR	07 25 41.7	
comp=Z,122nm,21.5s,baz=158,slow=39							
FITZ	**Fitzroy Crossi**	**33.19**	**129**	P	**P**	**07 23 56.1**	**-0.3**
1.2nm,0.6s,baz=284,slow=9.5,SNR=5.3							
1.2nm,0.6s							
WRA	**Warramunga Arr

n16,σ1°47/38, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.16**	**239**	Pn	**Pb**	**07 21 41.9**	**+1.0**
KBS				Pg	**Pg**	**07 21 44.4**	**+0.8**
KBS				Sg	**Sb**	**07 22 08.0**	**+0.5**
KBS	**Kingsbay**	**2.16**	**239**	Pn	**Pb**	**07 21 41.9**	**+1.0**
KBS				Pg	**Pg**	**07 21 44.4**	**+0.8**
KBS				Lg	Lg	07 22 08.0	
KBS	**Kingsbay**	**2.16**	**239**	P	**Pb**	**07 21 41.6**	**+0.8**
KBS				S	**Sn**	**07 22 04.4**	**+0.4**
SPA0	**Spitsbergen Ar**	**2.25**	**208**	Pn	**Pb**	**07 21 42.1**	**-0.3**
	baz=26,slow=18						
SPA0				Pg	**Pg**	**07 21 46.2**	**+1.0**
	baz=25,slow=18						
SPA0				Sg	**Sg**	**07 22 12.7**	**-1.6**
	baz=28,slow=22						
SPA0	**Spitsbergen Ar**	**2.25**	**208**	Pn	**Pb**	**07 21 42.1**	**-0.3**
	baz=26,slow=18						
SPA0				Pg	**Pg**	**07 21 46.2**	**+1.0**
	baz=25,slow=18						
SPA0				Lg	Lg	07 22 12.7	
	baz=28,slow=22						
SPA0	**Spitsbergen Ar**	**2.25**	**208**	*e*P	**Pb**	**07 21 41.7**	**-0.7**
SPA0				*e*S	**Sb**	**07 22 11.0**	**+1.0**
SPITS	**Spitsbergen Ar**	**2.25**	**208**	P	**Pb**	**07 21 42.6**	**+0.2**
SPITS				S	**Sn**	**07 22 05.6**	**-0.6**
BRBB	**Barentsburg B**	**2.52**	**217**	Pn	**Pb**	**07 21 46.0**	**-1.1**
BRBB				Sn	**Sn**	**07 22 12.7**	**-0.2**
BRBB				Sg	**Sg**	**07 22 21.4**	**-1.7**
BRBB	**Barentsburg B**	**2.52**	**217**	Pn	**Pb**	**07 21 46.0**	**-1.1**
BRBB				Sn	**Sn**	**07 22 12.7**	**-0.2**
BRBB				Lg	Lg	07 22 21.4	
BRBB	**Barentsburg B**	**2.52**	**217**	P	**Pb**	**07 21 47.0**	**-0.1**
BRBB				S	**Sn**	**07 22 12.6**	**-0.3**
BRBA	**Barentsburg A**	**2.55**	**217**	*e*S	**Sn**	**07 22 13.4**	**-0.3**
BRBA				*e*Sg	**Sg**	**07 22 23.4**	**-0.7**
BRBA				IAML		07 22 28.1	
	comp=Z,23nm,0.6s						
HSPB	**Hornsund (broa**	**3.42**	**203**	*e*P	**Pb**	**07 21 59.5**	**-2.9**
HSPB				*e*Pg	**Pg**	**07 22 06.5**	**-1.1**
HSPB				*e*Sg	**Sg**	**07 22 51.0**	**-0.9**
HSPB				IAML		07 22 56.8	
	comp=Z,11nm,0.7s						
HOPEN	**Hopen**	**3.77**	**167**	*e*P	**Pb**	**07 22 05.4**	**-2.9**
HOPEN				*e*Pg	**Pg**	**07 22 17.0**	**+2.7**
HOPEN				*e*S	**Sn**	**07 22 47.8**	**+4.2**
HOPEN				*e*Sg	**Sg**	**07 23 04.4**	**+1.3**
HOPEN				IAML		07 23 10.9	
	comp=Z,17nm,0.4s						
HOPEN	**Hopen**	**3.77**	**167**	*e*P	**Pg**	**07 22 16.2**	**+1.9**
HOPEN				*e*S	**Sg**	**07 23 03.3**	**+0.2**
ZFI2	**Zemlya Franca-**	**4.34**	**69**	*e*P	**Pb**	**07 22 18.2**	**+0.2**
ZFI2				*e*S	**Sb**	**07 23 08.5**	**-1.7**
	comp=Z,20nm,2.8s						
OMEGA	**Omega**	**4.36**	**69**	*e*P	**Pb**	**07 22 18.2**	**-0.1**
OMEGA				*e*S	**Sb**	**07 23 08.5**	**-2.1**
	comp=Z,20nm,2.4s						

IDC 29 07:22:09.3±2.4, 6°.14S×129°.90E, h0km, mb3.7/1, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=90.1km s-min=29.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.59**	**199**	Pn	Pn	07 25 11.1	+1.2
	0.6nm,0.3s,baz=21,slow=11,SNR=24						
FITZ				Sn	Sn	07 27 19.1	-12
	0.7nm,0.3s,baz=290,slow=22,SNR=8.1						
	1.1nm,0.3s						
WRA	**Warramunga Arr**	**14.38**	**163**	Pn	Pn	07 25 32.6	-1.7
	0.5nm,0.3s,baz=340,slow=13,SNR=12						
WRA				Sn	Sn	07 27 59.0	-16
	1.3nm,0.3s,baz=342,slow=22,SNR=9.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.85**	**168**	P	Pn	07 26 19.3	+0.1
	0.3nm,0.3s,baz=350,slow=11,SNR=20						
ASAR				S	Sn	07 29 20.5	-19
	1.0nm,0.6s,baz=353,slow=27,SNR=8.7						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	07 33 07.0	0.0
	0.5nm,0.6s,baz=109,slow=7.8,SNR=3.2						
	0.5nm,0.6s						

*IDC **29** 07:33:26.9±6.8, 2°.48N×128°.43E, h189km±68km, mb3.6/10, mbtmp4.1/10, Error ellipse: s-maj=45.9km s-min=12.8km az=66.0*
*NEIC **29** 07:33:27.9±1.2, 2°.5N±0°.1×128°.4E±0°.1, h197km±10km, mb4.3/17, Error ellipse: s-maj=24.4km s-min=14.4km az=53.0*
*DJA **29** 07:33:29.0±0.8, 2°.N±5°.×128°.8E±°., h188km±9km, M4.1/9, MLv4.1/9*
ISC 29 07:33:27.8±0.6, 2°.43N±0°.08×128°.27E±0°.09, h200km, n38, σ0°.74/40, mb4.2/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.88**	**209**	Pn	**Pn**	**07 34 06.3**	**+1.2**
TNTI	**Ternate**	**1.88**	**209**	P	**Pn**	**07 34 05.5**	**+0.4**
SGSI	**Sangihe**	**3.00**	**295**	P	**Pn**	**07 34 18.1**	**+0.6**
SGSI				S	**Sn**	**07 34 55.4**	**-0.9**
SWI	**Sorong**	**4.43**	**138**	P	**Pn**	**07 34 35.7**	**+0.7**
SANI	**Sanana**	**5.00**	**207**	P	**Pn**	**07 34 41.5**	**-0.7**
FAKI	**Fak Fak**	**6.64**	**143**	Pn	**Pn**	**07 35 04.3**	**+0.9**
MTN	**Manton Dam**	**15.44**	**169**		**Pn**	**07 36 54.7**	**-0.7**
MTN				IAmb	IAmb	07 37 37.6	
	comp=Z,13nm,1.3s						
KSM	**Kuching**	**17.97**	**267**	P	**Pn**	**07 37 25.7**	**+0.1**
KSM				IAmb	IAmb	07 37 28.4	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**18.00**	**178**	P	**P**	**07 37 24.2**	**+0.5**
KNRA				IAmb	IAmb	07 37 50.0	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.56**	**187**	P	**P**	**07 37 50.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=14,slow=9.0,SNR=1.4						
	comp=Z,0.6nm,0.3s						
COEN	**Coen**	**21.99**	**138**	P	**P**	**07 38 05.0**	**-1.1**
COEN				IAmb	IAmb	07 38 39.9	
	comp=Z,13nm,1.3s						
TPUB	**Ta-pu**	**22.03**	**341**	P	**P**	**07 38 04.4**	**-2.0**
WRA	**Warramunga Arr**	**23.02**	**165**	P	**P**	**07 38 14.5**	**-1.0**
WRA	**Warramunga Arr**	**23.02**	**165**	P	**P**	**07 38 14.9**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=344,slow=10,SNR=52						
	comp=Z,3.7nm,0.6s						
WB2	**Warramunga Arr**	**23.02**	**165**	P	**P**	**07 38 15.1**	**-0.4**
AS31	**Alice Springs**	**26.51**	**168**	P	**P**	**07 38 46.8**	**-0.2**
ASAR	**Alice Springs**	**26.52**	**168**	P	**P**	**07 38 46.7**	**-0.4**
ASAR	**Alice Springs**	**26.52**	**168**	P	**P**	**07 38 47.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=357,slow=8.2,SNR=17						
ASAR				PcP	**PcP**	**07 42 07.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=4.1,slow=2.0,SNR=4.3						
	comp=Z,0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.85**	**301**	P	**P**	**07 39 45.1**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=115,slow=6.6,SNR=7.8						
	comp=Z,1.3nm,0.3s						
KSRS	**Korea Array**	**34.85**	**360**	P	**P**	**07 39 60.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=175,slow=11,SNR=2.1						
	comp=Z,0.6nm,0.4s						
EIDS	**Eidsvold**	**35.39**	**143**	P	**P**	**07 40 04.0**	**-0.7**
EIDS				IAmb	IAmb	07 40 42.3	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**07 40 13.1**	**0.0**
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**07 40 13.6**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=340,slow=8.0,SNR=11						
	comp=Z,2.6nm,0.4s						
ARMA	**Armidale**	**39.55**	**147**	P	**P**	**07 40 39.8**	**+0.1**
ARMA				IAmb	IAmb	07 40 41.2	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**49.02**	**341**	P	**P**	**07 41 54.2**	**-0.2**
SONM	**Songino Array**	**49.02**	**341**	P	**P**	**07 41 54.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=155,slow=7.3,SNR=3.8						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**59.49**	**325**	P	**P**	**07 43 09.8**	**0.0**
MKAR	**Makanchi Array**	**59.49**	**325**	P	**P**	**07 43 09.7**	**-0.2**
MKAR	**Makanchi Array**	**59.49**	**325**	P	**P**	**07 43 10.5**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=115,slow=8.1,SNR=25						
	comp=Z,1.6nm,0.4s						
MAKZ	**Makanchi**	**59.68**	**325**	P	**P**	**07 43 11.4**	**+0.2**
MAKZ				IAmb	IAmb	07 43 12.4	
	comp=Z,2.4nm,0.9s						
THZ	**Tophouse**	**59.74**	**143**	P	**P**	**07 43 11.5**	**-0.3**
KURBB	**Kurchatov Arra**	**63.65**	**327**	P	**P**	**07 43 37.8**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=126,slow=6.0,SNR=30						
	comp=Z,2.5nm,0.6s						
KURK	**Kurchatov**	**63.65**	**327**	P	**P**	**07 43 37.5**	**-0.1**
KURK				IAmb	IAmb	07 43 38.5	
	comp=Z,3.3nm,0.8s						
GAR	**Garm**	**63.93**	**313**	P	**P**	**07 43 39.7**	**-0.1**
GAR				IAmb	IAmb	07 43 41.3	
	comp=Z,7.5nm,1.2s						
KKAR	**Karatay Array**	**65.22**	**317**	P	**P**	**07 43 48.4**	**+0.4**
BVAR	**Borovoye Array**	**69.24**	**327**	P	**P**	**07 44 13.0**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=116,slow=6.8,SNR=6.5						
	comp=Z,0.9nm,0.4s						
BRVK	**Borovoye**	**69.31**	**327**	P	**P**	**07 44 12.7**	**-0.7**
ABKAR	**Akbulak array**	**74.12**	**321**	P	**P**	**07 44 41.7**	**-0.4**

*IDC **29** 07:55:06.9±3.6, 54°.55N×87°.00E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=33.4km s-min=23.7km az=37.0*
ASRS 29 07:55:06.0±1.0, 54°.21N×87°.13E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**260**	I	I	08 02 00.0	
	0.1nm,1.3s,baz=64,slow=322,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.39**	**260**	Pg	Pg	07 55 32.5	-0.1
	1.0nm,0.3s,baz=64,slow=18,SNR=8.7						
ZALV				Lg	Lg	07 55 52.2	
	1.2nm,0.3s,baz=77,slow=25,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.37**	**239**	Pn	Pn	07 56 44.3	+3.3
	0.1nm,0.3s,baz=46,slow=15,SNR=5.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.04**	**204**	Pn	Pn	07 57 09.5	+5.5
	0.1nm,0.3s,baz=26,slow=14,SNR=2.1						
	0.1nm,0.3s						

IDC 29 08:05:25.3±9.0, 16°.09S×177°.37W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=400.5km s-min=40.3km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.97**	**258**	P	P	08 13 50.7	+0.1
	0.1nm,0.4s,baz=91,slow=7.3,SNR=5.4						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**46.26**	**253**	P	P	08 13 52.5	-0.4
	0.5nm,0.4s,baz=86,slow=8.2,SNR=15						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**83.90**	**13**	P	P	08 17 56.7	0.0
	0.4nm,0.9s,baz=203,slow=5.4,SNR=2.6						
	0.4nm,0.9s						

*ISK **29** 08:17:12.6, 39°.34N×29°.20E, h8km, ML2.5/13*
*AFAD **29** 08:17:13.2, 39°.34N×29°.20E, h4km±2km, ML2.2*
ISC 29 08:17:13.0±0.9, 39°.37N±0°.02×29°.20E±0°.03, h10km±6km, n26, σ1°44/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMET	**Ktahya-Emet**	**0.09**	**88**	P	**Pg**	**08 17 15.5**	**-0.1**
EMET				*i* AML	AML	08 17 17.0	
	comp=N,2μm,0.2s						
EMET				S	**Sg**	**08 17 17.7**	**+0.2**
EMET				*i* AML	AML	08 17 18.0	
	comp=E,1μm,0.1s						
TVSB	**Tavsanli**	**0.22**	**69**	Pg	**Pg**	**08 17 17.8**	**+0.2**
TVSB				Sg	**Sg**	**08 17 21.4**	**+0.8**
SMAA	**Simav-Kutahya**	**0.32**	**212**	Pg	**Pg**	**08 17 19.0**	**-0.4**
SMAA				Sg	**Sg**	**08 17 23.7**	**0.0**
SIMA	**Simav-Kutahya**	**0.33**	**210**	Pg	**Pg**	**08 17 19.3**	**-0.4**
SIMA				Sg	**Sg**	**08 17 23.9**	**-0.2**
SHAP	**Saphane-Kutahy**	**0.35**	**177**	Pg	**Pg**	**08 17 19.7**	**-0.3**
SHAP				Sg	**Sg**	**08 17 24.1**	**-0.5**
GDZ	**Gediz**	**0.36**	**142**	P	**Pg**	**08 17 19.9**	**-0.2**
GDZ				S	**Sg**	**08 17 24.5**	**-0.4**
GDZ				*i* AML	AML	08 17 25.0	
	comp=N,176nm,0.3s						
GEDZ	**Gediz**	**0.37**	**153**	Pg	**Pg**	**08 17 19.9**	**-0.4**
DST	**Dursunbey**	**0.51**	**297**	Pg	**Pg**	**08 17 23.1**	**+0.2**
ANDZ	**Kutahya, Merke**	**0.56**	**76**	P	**Pg**	**08 17 23.9**	**0.0**
ANDZ				S	**Sb**	**08 17 32.7**	**-0.4**
ANDZ				*i* AML	AML	08 17 33.0	
	comp=N,129nm,0.2s						
DOMA	**Ktahya-Doman**	**0.56**	**43**	P	**Pb**	**08 17 25.2**	**+0.1**
DOMA				S	**Sb**	**08 17 33.2**	**0.0**
DOMA				*i* AML	AML	08 17 41.0	
	comp=N,103nm,0.1s						
DOMA				*i* AML	AML	08 17 41.0	
	comp=E,104nm,0.2s						
ULDT	**Uludag**	**0.77**	**356**	P	**Pg**	**08 17 28.2**	**+0.2**
ULDT				*i* AML	AML	08 17 44.0	
	comp=N,127nm,0.2s						
ULDT				*i* AML	AML	08 17 45.0	
	comp=E,70nm,0.1s						
AUBOZ	**BOZOYUK**	**0.84**	**50**	P	**Pn**	**08 17 31.5**	**+0.5**
AUBOZ				S	**Sn**	**08 17 43.8**	**+0.3**
AUKUT	**KUTAHYA**	**0.86**	**47**	P	**Pg**	**08 17 25.4**	**-4.2**
AUKUT				*i* AML	AML	08 17 35.0	
	comp=E,112nm,0.1s						
AUKUT				S	**Sg**	**08 17 35.1**	**-5.8**
AUKUT				*i* AML	AML	08 17 36.0	
	comp=N,155nm,0.2s						
BNAZ	**Uak-Banaz**	**0.87**	**142**	P	**Pb**	**08 17 30.4**	**0.0**
BNAZ				S	**Sn**	**08 17 43.0**	**-1.3**
BNAZ				*i* AML	AML	08 17 47.0	
	comp=N,283nm,0.6s						
BNAZ				*i* AML	AML	08 17 48.0	
	comp=E,202nm,0.3s						
IGD	**Bursa**	**0.89**	**0**	P	**Pb**	**08 17 31.1**	**+0.5**
IGD				*i* AML	AML	08 17 47.0	
	comp=N,71nm,0.3s						
IGD				*i* AML	AML	08 17 47.0	
	comp=E,62nm,0.2s						
GORD	**Gordes-Manisa**	**0.92**	**240**	Pg	**Pg**	**08 17 30.3**	**-0.4**
BILE	**Bilecik/Merkez**	**0.94**	**33**	P	**Pn**	**08 17 33.2**	**+0.7**
BILE				S	**Sn**	**08 17 48.6**	**+2.5**
BILE				*i* AML	AML	08 17 49.0	
	comp=N,199nm,0.5s						
BILE				*i* AML	AML	08 17 49.0	
	comp=E,161nm,0.9s						
KULA	**Kula-Manisa**	**0.95**	**206**	Pg	**Pg**	**08 17 30.5**	**-0.9**
AFYO	**Afyonkarahisar**	**1.04**	**124**	P	**Pn**	**08 17 34.2**	**+0.5**
AFYO				S	**Sn**	**08 17 49.8**	**+1.4**
AFYO				*i* AML	AML	08 17 51.0	
	comp=E,101nm,0.6s						
AFYO				*i* AML	AML	08 17 56.0	
	comp=N,72nm,0.5s						
BORA	**Eskisehir**	**1.09**	**62**	P	**Pg**	**08 17 33.9**	**-0.1**
BORA				S	**Sb**	**08 17 49.9**	**+1.4**
BORA				*i* AML	AML	08 17 52.0	
	comp=N,49nm,0.3s						
BORA				*i* AML	AML	08 17 53.0	
	comp=E,48nm,0.3s						
AKS	**Akhisar**	**1.19**	**246**	Pn	**Pg**	**08 17 35.3**	**-0.5**
GOMA	**Golmarmara-Man**	**1.20**	**237**	Pn	**Pg**	**08 17 35.5**	**-0.5**
SGAZ	**Eskisehir, Sey**	**1.28**	**82**	P	**Pb**	**08 17 37.7**	**+0.4**
SGAZ				S	**Sn**	**08 17 57.0**	**+2.6**
ODEM	**Odemis-Izmir**	**1.40**	**219**	Pn	**Pn**	**08 17 38.8**	**0.0**
NAZL	**Nazilli-Aydin**	**1.57**	**207**	Pn	**Pb**	**08 17 41.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**216**	Pn	**Pb**	**08 17 44.5**	**-0.9**

*IDC **29** 08:36:39.2±1.7, 24°.01S×67°.03W, h162km±23km, mb3.7/2, mbtmp4.0/7, Error ellipse: s-maj=36.9km s-min=13.5km az=102.0*
*NEIC **29** 08:36:40.6±2.6, 24°.04S±0°.06×67°.1W±0°.1, h192km±8km, mb4.3/8, Error ellipse: s-maj=19.1km s-min=8.5km az=103.0*
*SJA **29** 08:36:40.0±0.9, 23°.96S×67°.13W, h200km, ML3.4, MW3.6*
ISC 29 08:36:39.6±0.7, 23°.98S±0°.05×67°.13W±0°.06, h181km, n50, σ1°73/57, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.40**	**317**	Pn	**Pn**	**08 37 13.4**	**+2.3**
AF01	**San Pedro de A**	**1.40**	**317**	*e*P	**Pn**	**08 37 14.1**	**+2.9**
AF01				IAML		08 37 58.6	
	comp=Z,230nm,0.7s						
YJA	**Yavi**	**2.33**	**40**	*e*P	**Pn**	**08 37 23.7**	**+2.8**
YJA				IAML		08 38 03.3	
	comp=Z,1.8nm,1.6s						
FSA	**Cafayete**	**2.37**	**154**	*e*P	**Pn**	**08 37 23.7**	**+2.6**
GO02	**Mina Guanaco**	**2.53**	**242**	Pn	**Pn**	**08 37 24.7**	**+1.7**
GO02	**Mina Guanaco**	**2.53**	**242**	*e*P	**Pn**	**08 37 25.4**	**+2.4**
GO02				*e*S	**Sn**	**08 37 59.4**	**+2.6**
PB06	**IPOC Station P**	**2.58**	**299**	*e*P	**Pn**	**08 37 25.1**	**+1.7**
PB06				*e*S	**Sn**	**08 37 58.8**	**+1.3**
PB06				IAML		08 38 01.0	
	comp=Z,458nm,0.2s						
PB09	**IPOC Station P**	**2.92**	**318**	Pn	**Pn**	**08 37 29.6**	**+2.1**
PB09	**IPOC Station P**	**2.92**	**318**	*e*P	**Pn**	**08 37 29.8**	**+2.3**
PB09				*e*S	**Sn**	**08 38 06.3**	**+1.6**
PB09				IAML		08 38 09.0	
	comp=Z,256nm,0.3s						
PB05	**IPOC Station P**	**3.03**	**291**	Pn	**Pn**	**08 37 29.7**	**+0.8**
PB05	**IPOC Station P**	**3.03**	**291**	*e*P	**Pn**	**08 37 30.7**	**+1.8**
PB05				*e*S	**Sn**	**08 38 06.9**	**-0.3**
PB05				IAML		08 38 10.7	
	comp=Z,67nm,0.2s						
PB14	**IPOC Station P**	**3.05**	**257**	Pn	**Pn**	**08 37 30.2**	**+0.9**
PB14	**IPOC Station P**	**3.05**	**257**	*e*P	**Pn**	**08 37 30.9**	**+1.7**
PB14				*e*S	**Sn**	**08 38 09.3**	**+1.3**
PB14				IAML		08 38 12.8	
	comp=Z,84nm,0.4s						
AC02	**Maricunga**	**3.37**	**212**	Pn	**Pn**	**08 37 35.1**	**+1.8**
AC02	**Maricunga**	**3.37**	**212**	*e*P	**Pn**	**08 37 35.2**	**+1.9**
AC02				IAML		08 38 22.8	
	comp=Z,48nm,0.2s						
PB01	**IPOC Station P**	**3.64**	**323**	Pn	**Pn**	**08 37 37.4**	**+1.0**
PB01	**IPOC Station P**	**3.64**	**323**	*e*P	**Pn**	**08 37 37.5**	**+1.0**
PB01				IAML		08 38 25.4	
	comp=Z,139nm,0.2s						
AC01	**Pan de Azucar**	**3.81**	**235**		**Pn**	**08 37 38.9**	**+0.5**
AC01	**Pan de Azucar**	**3.81**	**235**	*e*P	**Pn**	**08 37 38.4**	**0.0**
AC01				IAML		08 38 27.0	
	comp=Z,64nm,0.4s						
PB08	**IPOC Station P**	**4.25**	**333**	Pn	**Pn**	**08 37 46.4**	**+2.0**
PB08	**IPOC Station P**	**4.25**	**333**	*e*P	**Pn**	**08 37 46.1**	**+1.7**
PB08				IAML		08 38 40.3	
	comp=Z,36nm,0.2s						
TA01	**Diego Aracena**	**4.42**	**320**	Pn	**Pn**	**08 37 49.0**	**+2.9**
TA01	**Diego Aracena**	**4.42**	**320**	*e*P	**Pn**	**08 37 48.2**	**+2.2**
TA01				IAML		08 38 45.0	
	comp=Z,44nm,0.8s						
AC06	**Mina Casimiro**	**4.45**	**220**	Pn	**Pn**	**08 37 46.3**	**-0.1**
HMBC	**Humberstone**	**4.48**	**325**	*e*P	**Pn**	**08 37 47.3**	**+0.2**
HMBC				IAML		08 38 42.7	
	comp=Z,103nm,0.6s						
GO03	**Copiapo**	**4.56**	**217**	*e*P	**Pn**	**08 37 48.1**	**+0.2**
CYA	**Choya**	**4.60**	**165**	*e*P	**Pn**	**08 37 51.1**	**+2.7**
CYA				IAML		08 38 49.4	
	comp=Z,5.3nm,2.1s						
PB11	**IPOC Station P**	**4.81**	**330**	Pn	**Pn**	**08 37 51.7**	**+0.4**
PB11	**IPOC Station P**	**4.81**	**330**	*e*P	**Pn**	**08 37 51.7**	**+0.4**
PB11				IAML		08 38 54.7	
	comp=Z,46nm,0.3s						
VCA	**Vinchina**	**4.83**	**191**	*e*P	**Pn**	**08 37 54.8**	**+3.2**
VCA				IAML		08 39 10.1	
	comp=Z,8.6nm,1.2s						
PB16	**IPOC Station P**	**6.04**	**338**	Pn	**Pn**	**08 38 08.2**	**+0.5**
GO04	**Tololo Observa**	**6.98**	**207**	Pn	**Pn**	**08 38 18.2**	**-1.5**
CFA	**Coronel Fontan**	**7.66**	**187**	P	**Pn**	**08 38 29.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=360,slow=14,SNR=2.7						
CFA				S	**Sn**	**08 39 51.1**	**-3.5**
	comp=Z,1.4nm,0.4s,baz=158,slow=21,SNR=7.0						
LPAZ	**La Paz**	**7.71**	**353**		**Pn**	**08 38 30.8**	**+1.1**
LPAZ	**La Paz**	**7.71**	**353**	P	**Pn**	**08 38 31.2**	**+1.4**
	comp=Z,5.4nm,0.4s,baz=165,slow=13,SNR=47						
LPAZ				S	**Sn**	**08 39 55.7**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=340,slow=18,SNR=3.7						
SIV	**San Ignacio**	**9.78**	**37**	P	**Pn**	**08 38 55.5**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=225,slow=12,SNR=37						
MT02	**Curacav**	**9.89**	**200**	Pn	**Pn**	**08 38 57.9**	**+0.2**
BI02	**San Fabin de**	**13.14**	**195**	Pn	**Pn**	**08 39 38.3**	**-1.1**
PLCA	**Paso Flores**	**16.95**	**189**	P	**Pn**	**08 40 25.1**	**-1.2**
PLCA	**Paso Flores**	**16.95**	**189**	P	**Pn**	**08 40 26.8**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=10,slow=13,SNR=6.3						
LL01	**San Ignacio de**	**18.87**	**192**	P	**Pn**	**08 40 46.9**	**-1.8**
LL01				IAmb	IAmb	08 40 51.4	
	comp=Z,4.6nm,0.8s						
LL06	**Loncomilla**	**18.97**	**195**	P	**Pn**	**08 40 47.7**	**-2.2**
LL06				IAmb	IAmb	08 41 18.3	
	comp=Z,13nm,0.9s						
BDFB	**Brasilia**	**19.79**	**69**	P	**P**	**08 40 56.8**	**+0.4**
BDFB				IAmb	IAmb	08 40 58.0	
	comp=Z,9.9nm,0.9s						
BDFB	**Brasilia**	**19.79**	**69**	P	**P**	**08 40 57.3**	**+1.0**
	comp=Z,8.2nm,0.7s,baz=246,slow=12,SNR=9.4						
OBIP	**Obispado Ponce**	**41.77**	**1**	P	**P**	**08 44 09.8**	**-1.5**
CELP	**Cerrillos**	**41.80**	**1**	P	**P**	**08 44 10.0**	**-1.5**
QSPA	**South Pole Qui**	**66.23**	**180**	P	**P**	**08 47 09.3**	**+1.4**
QSPA				IAmb	IAmb	08 47 32.7	
	comp=Z,6.9nm,1.4s						
QSPA	**South Pole Qui**	**66.23**	**180**	P	**P**	**08 47 09.9**	**+2.0**
	comp=Z,1.6nm,1.1s,baz=183,slow=3.5,SNR=3.4						
	comp=Z,1.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**08 48 10.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**08 48 11.3**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=246,slow=7.2,SNR=2.0						
	comp=Z,1.3nm,0.4s						

*IDC **29** 08:41:21.8±1.9, 32°.29S

comp=Z,1.3nm,0.4s,baz=46,slow=4.0,SNR=6.3
NC303 NORSAR Array S 150.67 350 PKPdf **PKPdf 09 01 10.4 0.0**
NC204 NORSAR Array S 150.71 350 PKPdf **PKPdf 09 01 11.0 +0.4**

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*IDC **29** 08:47:22.0±0.5,36°.29N×141°.13E,h0km,mb4.3/31, mbtmp4.3/37,ML3.9/5,MS3.4/12,Error ellipse: s-maj=13.2km s-min=12.0km az=119.0*
*BJI **29** 08:47:26.1,36°.41N×141°.06E,h35km,mB4.7/9,mb4.6/39, Ms4.0/4,Ms7 3.9/3*
*JMA **29** 08:47:26.1±0.2,36°.3N±0°.4×14°.1E±°,h46km±2km, MD4.3/35,MV4.2/35,E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*NIED **29** 08:47:26.1,36°.29N×141°.17E,h46km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.74; Mθθ0.38; Mφφ1.37; Mrθ-0.00; Mθφ0.60; Mφr-2.27; Fault plane solution: M0 2.82000×10^15 NP1: φs218.00000°,δ21.00000°,λ-60.00000°. NP2:φs6.00000°, δ72.00000°,λ-101.00000°.*
*MOS **29** 08:47:26.5±0.8,36°.62N×141°.08E,h29km,mb4.8/30 Error ellipse: s-maj=7.7km s-min=5.1km az=99.7*
*NEIC **29** 08:47:30.0±1.2,36°.43N±0°.06×141°.05E±0°.10,h45km±8km, mb4.6/70,Error ellipse: s-maj=11.8km s-min=7.7km az=109.0*
ISC 29 08:47:26.1±0.6,36°.34N±0°.04×141°.28E±0°.04,h26km±3km, n494,σ1$40/497,mb4.5/92,MS3.6/6,20C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.56**	**270**	*i* P		**Pb**	**08 47 37.0**	**-0.3**
JHYU				S		**Sb**	**08 47 44.2**	**-0.6**
JHYU	**Hitachinakayam**	**0.56**	**270**	A		A	08 47 37.0	
	comp=N,25nm,0.4s,comp=E,33nm,0.7s							
JHO	**Hitachi**	**0.63**	**295**	*i* P		**Pb**	**08 47 37.9**	**-0.6**
JHO				*e*S		**Sb**	**08 47 46.2**	**-0.8**
JHO	**Hitachi**	**0.63**	**295**	A		A	08 47 37.9	
	comp=N,11nm,0.5s,comp=E,6.0nm,1.1s							
JIHU	**Itakohorinouch**	**0.71**	**239**	*i* P		**Pb**	**08 47 39.2**	**-0.7**
JIHU				*e*S		**Sb**	**08 47 48.5**	**-0.8**
JIHU	**Itakohorinouch**	**0.71**	**239**	A		A	08 47 39.2	
	comp=N,46nm,0.8s,comp=E,53nm,1.3s							
ONAJ	**Iwakimizuishiy**	**0.85**	**333**	*i* P		**Pb**	**08 47 41.6**	**-0.6**
ONAJ				S		**Sb**	**08 47 52.2**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.85**	**333**	A		A	08 47 41.6	
	comp=N,14nm,0.3s,comp=E,18nm,0.9s							
JYT	**Yasato**	**0.88**	**263**	*i* P		**Pb**	**08 47 40.9**	**-1.8**
JYT	**Yasato**	**0.88**	**263**	A		A	08 47 40.9	
	comp=N,12nm,0.4s,comp=E,13nm,0.4s							
JSMT	**Sammumatsuo**	**0.97**	**224**	A		A	08 47 42.1	
	comp=N,18nm,2.4s,comp=E,13nm,4.4s							
JFK	**Kawauchi**	**1.07**	**343**	*i* P		**Pn**	**08 47 44.9**	**-0.6**
JFK				S		**Sn**	**08 47 57.9**	**-1.7**
JFK	**Kawauchi**	**1.07**	**343**	A		A	08 47 44.9	
	comp=N,5.0nm,0.3s,comp=E,5.0nm,0.5s							
JSB	**Shiboa**	**1.26**	**300**	A		A	08 47 47.0	
	comp=N,16nm,1.0s,comp=E,29nm,1.6s							
TOK	**Tokyo**	**1.39**	**242**	A		A	08 47 48.1	
	comp=N,17nm,1.8s,comp=E,16nm,2.1s							
JMST	**Minamisoumatoc**	**1.42**	**347**	A		A	08 47 50.5	
	comp=N,11nm,0.3s,comp=E,17nm,0.5s							
JOTO	**OTAMA OYAMA**	**1.43**	**328**	*i* P		**Pn**	**08 47 51.0**	**+0.6**
JOTO				S		**Sn**	**08 48 08.8**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.43**	**328**	A		A	08 47 51.0	
	comp=N,30nm,0.4s,comp=E,34nm,0.7s							
JAG	**Ashikaga**	**1.47**	**274**	*i* P		**Pn**	**08 47 49.5**	**-1.5**
JMM	**Marumori**	**1.57**	**346**			**Pn**	**08 47 52.3**	**0.0**
JMM				Sn		**Sn**	**08 48 11.4**	**-0.4**
JMM	**Marumori**	**1.57**	**346**	P		**Pn**	**08 47 52.8**	**+0.5**
JMM	**Marumori**	**1.57**	**346**	S		**Sn**	**08 48 11.7**	**-0.1**
JFY	**Yanaizu**	**1.65**	**311**	A		A	08 47 52.9	
	comp=N,3.0nm,0.7s,comp=E,5.0nm,0.6s							
BSO3	**Boso 3**	**1.66**	**202**	*e*P		**Pn**	**08 47 53.5**	**+0.2**
JOU	**Okura**	**2.08**	**347**	A		A	08 48 00.0	
	comp=N,9.0nm,0.7s,comp=E,8.0nm,0.8s							
JOFO	**Osakifurukawao**	**2.27**	**353**	A		A	08 48 02.9	
	comp=N,17nm,1.0s,comp=E,16nm,1.1s							
MJAR	**Matsushiro Arr**	**2.48**	**276**	Pn		**Pn**	**08 48 03.7**	**-1.2**
	comp=E,7.6nm,0.3s,baz=104,slow=8.5,SNR=477							
MJAR				Sn		**Sn**	**08 48 35.9**	**+1.5**
	comp=E,6.6nm,0.3s,baz=95,slow=26,SNR=2.9							
MJAR				LR		LR	08 49 19.6	
	comp=E,823nm,18.2s,baz=114,slow=50							
	comp=E,127nm,0.8s							
MAJO	**Matsushiro**	**2.48**	**276**			**Pn**	**08 48 04.5**	**-0.4**
MAJO	**Matsushiro**	**2.48**	**276**	P		**Pn**	**08 48 05.0**	**+0.1**
MAJO	**Matsushiro**	**2.48**	**276**	⇓*i*P		**Pn**	**08 48 04.7**	**-0.2**
MJB9	**Matsu-Tunnel**	**2.49**	**276**			**Pn**	**08 48 05.8**	**+0.8**
JSD	**Sado**	**2.94**	**306**	Pn		**Pn**	**08 48 11.1**	**-0.1**
JSD	**Sado**	**2.94**	**306**	P		**Pn**	**08 48 12.0**	**+0.8**
JSG	**Sagara**	**3.02**	**237**			**Pn**	**08 48 13.4**	**+1.1**
JSG	**Sagara**	**3.02**	**237**	P		**Pn**	**08 48 13.7**	**+1.4**
JGF	**Kuroka**	**3.27**	**258**			**Pn**	**08 48 16.6**	**+0.9**
JGF	**Kuroka**	**3.27**	**258**	P		**Pn**	**08 48 16.9**	**+1.2**
JHJ2	**Mitsune**	**3.44**	**201**	Pn		**Pn**	**08 48 19.2**	**+1.2**
JHJ2	**Mitsune**	**3.44**	**201**	P		**Pn**	**08 48 19.0**	**+1.0**
JHJ	**Hachijo jima 2**	**3.44**	**201**	Pn		**Pn**	**08 48 17.4**	**-0.6**
	comp=E,29nm,0.3s,baz=47,slow=18,SNR=14							
JHJ				Sn		**Sn**	**08 48 56.5**	**-1.5**
	comp=E,66nm,0.3s,baz=61,slow=23,SNR=9.9							
	comp=E,101nm,0.2s							
INU	**Inuyama**	**3.60**	**255**			**Pn**	**08 48 21.5**	**+1.2**
INU	**Inuyama**	**3.60**	**255**	P		**Pn**	**08 48 21.4**	**+1.2**
JTM	**Tenmabayashi**	**4.44**	**358**			**Pn**	**08 48 34.1**	**+2.4**
JTM	**Tenmabayashi**	**4.44**	**358**	P		**Pn**	**08 48 33.4**	**+1.6**
ERM	**Erimo**	**5.85**	**14**	Pn		**Pn**	**08 48 53.1**	**+2.0**
ERM	**Erimo**	**5.85**	**14**	P		**Pn**	**08 48 51.7**	**+0.6**
ERM	**Erimo**	**5.85**	**14**	*e*P		**Pn**	**08 48 52.2**	**+1.1**
JEM	**Erimo**	**5.85**	**14**	P		**Pn**	**08 48 51.9**	**+0.8**
JMN	**Monobe**	**6.61**	**249**	Pn		**Pn**	**08 49 02.0**	**+0.4**
JMN	**Monobe**	**6.61**	**249**	P		**Pn**	**08 49 03.1**	**+1.5**
NMR	**Nemuro--Hokkai**	**7.81**	**25**	*e*P		**Pn**	**08 49 16.6**	**-1.4**
NMR				*e*S		**Sn**	**08 50 37.9**	**-7.6**
ASAJ	**Asahikawa**	**7.83**	**7**	Pn		**Pn**	**08 49 17.9**	**-0.4**
	comp=E,2.5nm,0.3s,baz=240,slow=8.9,SNR=8.1							
ASAJ				Sn		**Sn**	**08 50 43.9**	**-2.2**
	comp=E,3.4nm,0.3s,baz=305,slow=28,SNR=4.0							
	comp=E,6.5nm,0.4s							
JKA	**Kamikawa-asahi**	**7.83**	**7**	Pn		**Pn**	**08 49 18.1**	**-0.2**
RUSJ	**Misakicho**	**8.32**	**20**	*e*P		**Pn**	**08 49 25.5**	**+0.4**
RUSJ				*e*S		**Sn**	**08 50 54.3**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**8.45**	**23**	*e*P		**Pn**	**08 49 25.5**	**-1.2**
YUK				*e*S		**Sn**	**08 50 55.9**	**-5.2**
SHO	**Shikotan**	**8.64**	**28**	P		**Pn**	**08 49 26.6**	**-2.7**
SHO				*e*S		Sn	08 50 56.5	-9.3
JNU	**Nakatsue**	**9.14**	**252**			**Pn**	**08 49 37.0**	**+0.6**
JNU	**Nakatsue**	**9.14**	**252**	Pn		**Pn**	**08 49 37.4**	**+1.0**
	comp=E,0.3nm,0.3s,baz=99,slow=5.7,SNR=6.7							
JNU				LR		LR	08 53 21.6	
	comp=E,291nm,19.9s,baz=23,slow=40							
JCJ	**Chichijima**	**9.25**	**175**	Pn		**Pn**	**08 49 35.9**	**-2.0**
	comp=E,13nm,0.3s,baz=155,slow=17,SNR=2.0							
	comp=E,44nm,0.4s							
MSHR	**Mys Shultsa**	**10.00**	**312**	⇑*e*P		**Pn**	**08 49 47.8**	**-0.2**
KUR	**Kuril'sk**	**10.19**	**27**	P		**Pn**	**08 49 51.2**	**+0.6**
KUR				*e*S		**Sn**	**08 51 36.7**	**-7.2**
KUR				smax		smax		
	comp=N,83nm,0.2s							
KUR				smax		smax		
	comp=E,60nm,0.2s							
USRK	**Ussuriysk Ar.**	**10.57**	**321**	Pn		**Pn**	**08 49 58.1**	**+2.3**
	comp=E,0.5nm,0.3s,baz=114,slow=13,SNR=4.8							
USRK				LR		LR	08 53 53.0	
	comp=E,176nm,18.0s,baz=116,slow=37							
USA0B	**Ussuriysk Arra**	**10.57**	**321**	⇑*e*P		**Pn**	**08 49 55.1**	**-0.8**
YSS	**Yuzhno-Sakhali**	**10.66**	**5**	*e*P		**Pn**	**08 49 55.5**	**-1.5**
YSS				*e*S		**Sn**	**08 51 51.7**	**-3.8**
YSS				pmax		pmax		
	comp=Z,20nm,1.3s							
YSS				MLR		MLR		
	comp=Z,300nm,20.0s							
KSRS	**Korea Array**	**10.75**	**280**	Pn		**Pn**	**08 49 59.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=93,slow=14,SNR=11							
KSRS				LR		LR	08 53 52.7	
	comp=Z,177nm,19.8s,baz=90,slow=37							
CN2	**Changchun**	**14.21**	**306**	*e*P		**Pn**	**08 50 43.5**	**-2.1**
TYV	**Tymovskoe**	**14.55**	**3**	*e*P		**Pn**	**08 50 49.9**	**-0.3**
TYV				pmax		pmax		
	comp=Z,9.0nm,1.3s							
TYV				pmax		pmax		
	comp=Z,200nm,3.6s							
JOW	**Kunigami**	**14.57**	**233**	Pn		**Pn**	**08 50 48.6**	**-2.0**
	comp=Z,8.9nm,1.0s,baz=131,slow=22,SNR=1.8							
JOW				LR		LR	08 56 29.0	
	comp=Z,97nm,19.0s,baz=290,slow=38							
KLR	**Kul'dur**	**14.64**	**335**	Pn		**Pn**	**08 50 50.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=155,slow=8.8,SNR=4.4							
KLR				LR		LR	08 56 12.7	
	comp=Z,79nm,19.6s,baz=62,slow=36							
	comp=Z,0.7nm,0.5s							
DL2	**Dalian**	**15.78**	**285**	P		**P**	**08 51 09.5**	**-0.7**
DL2				S		**Sn**	**08 54 04.8**	**+4.3**
DL2				pmax		pmax		
	comp=Z,31nm,0.9s							
DL2				pmax		pmax		
	comp=Z,360nm,4.7s							
DL2				LR		LR		
	comp=Z,220nm,14.2s							
DL2				LR		LR		
	comp=Z,370nm,15.5s							
DL2				LR		LR		
	comp=Z,490nm,14.8s							
NJ2	**Nanjing**	**19.03**	**264**	*e*P		**P**	**08 51 44.5**	**-1.6**
NJ2				pmax		pmax		
	comp=Z,29nm,0.6s							
TIA	**Tai'an**	**19.47**	**277**	P		**P**	**08 51 48.3**	**-2.6**
TIA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
ZEA	**Zeya**	**19.95**	**335**	*e*P		**P**	**08 51 54.9**	**-1.2**
ZEA				pmax		pmax		
	comp=Z,30nm,0.8s							
BJT	**Baijiatuau**	**20.06**	**288**	P		**P**	**08 51 55.7**	**-1.6**
BJT	**Baijiatuau**	**20.06**	**288**	P		**P**	**08 51 55.7**	**-1.6**
BJT				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PETK	**Petropavlovsk-**	**20.34**	**29**	P		Pn	08 52 02.4	0.0
PETK	**Petropavlovsk-**	**20.34**	**29**	P		Pn	08 52 02.4	0.0
XLT	**XiLinHaoTe**	**20.64**	**299**	*e*P		**P**	**08 52 00.8**	**-2.9**
XLT				pP		pP	08 52 11.0	+0.4
XLT				SS		**SnSn**	**08 56 18.0**	**+5.1**
XLT				ScP		**ScP**	**08 59 45.3**	**-2.9**
XLT				pmax		pmax		
	comp=Z,16nm,0.7s							
HNS	**HongShan**	**21.26**	**281**	⇑P		**P**	**08 52 07.3**	**-3.1**
HNS				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC	**Hu-ho-hao-te**	**23.60**	**290**	*e*P		**P**	**08 52 34.8**	**-0.1**
HHC				pmax		pmax		
	comp=Z,8.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,130nm,4.7s							
MA2	**Magadan**	**24.05**	**12**	LR		LR	09 02 38.6	
	comp=Z,67nm,19.0s,baz=108,slow=38							
XAN	**Xi'an**	**26.48**	**275**	P		**P**	**08 53 00.3**	**-1.0**
XAN				pmax		pmax		
	comp=Z,14nm,0.7s							
YAK	**Yakutsk**	**26.72**	**348**	*ce*P		**P**	**08 53 03.1**	**0.0**
YAK				pmax		pmax		
	comp=Z,23nm,1.3s							
SEY	**Seymchan**	**27.49**	**11**	*ce*P		**P**	**08 53 12.4**	**+2.4**
SEY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.66**	**305**	P		**P**	**08 53 10.3**	**-1.6**
ULN	**Ulaanbaatar**	**27.66**	**305**	⇑*i*P		**P**	**08 53 10.9**	**-1.0**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**27.90**	**119**	T		T	09 22 36.4	
	baz=313,slow=75,SNR=144							
H11N1	**WAKE ISLAND Hy**	**27.90**	**120**	T		T	09 22 53.9	
	baz=313,slow=75,SNR=162							
H11N3	**WAKE ISLAND Hy**	**27.91**	**119**	T		T	09 22 39.4	
	baz=313,slow=75,SNR=145							
SONM	**Songino Array**	**28.09**	**305**	P		**P**	**08 53 15.0**	**-0.7**
SONM	**Songino Array**	**28.09**	**305**	P		**P**	**08 53 15.0**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=106,slow=9.1,SNR=17							
SONM				PcP		**PcP**	**08 56 29.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=133,slow=5.1,SNR=2.3							
SONM				LR		LR	09 04 17.2	
	comp=Z,125nm,18.4s,baz=72,slow=36							
	comp=Z,3.6nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**28.58**	**122**	T		T	09 23 25.8	
	baz=314,slow=76,SNR=334							
H11S3	**WAKE ISLAND Hy**	**28.58**	**122**	T		T	09 23 25.8	
	baz=314,slow=76,SNR=238							
H11S2	**WAKE ISLAND Hy**	**28.60**	**122**	T		T	09 23 26.1	
	baz=314,slow=76,SNR=198							
LZH	**Lanzhou**	**30.08**	**281**	*e*P		**P**	**08 53 36.0**	**+2.5**
LZH				pP		sP	08 53 46.5	+2.5
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
QIZ	**Qiongzhong**	**32.55**	**246**	P		**P**	**08 53 53.5**	**-1.7**
QIZ				S		**S**	**08 59 08.0**	**-1.1**
QIZ				LR		LR		
	comp=Z,120nm,7.6s							
QIZ				LR		LR		
	comp=Z,97nm,8.8s							
QIZ				LR		LR		
	comp=Z,120nm,6.7s							
GTA	**Gaotai**	**32.67**	**288**	*e*P		**P**	**08 53 55.5**	**-0.7**
GTA				pP		pP	08 54 03.5	-0.2
GTA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BILL	**Bilibino**	**34.72**	**16**	⇑*i*P		**P**	**08 54 14.1**	**+0.5**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.1s							
PZH	**PanZhiHua**	**34.93**	**265**	P		**P**	**08 54 16.8**	**+0.8**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
TIXI	**Tiksi**	**35.96**	**353**	⇑*i*P		**P**	**08 54 23.8**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SPIA	**Saint Paul Isl**	**38.15**	**41**	P		**P**	**08 54 44.5**	**+1.5**
	baz=258							
NIKH	**Nikolski High**	**38.31**	**48**	P		**P**	**08 54 46.4**	**+2.0**
	baz=265							
P08K	**Saint George I**	**38.42**	**42**	P		**P**	**08 54 47.4**	**+2.2**
	baz=260							
GAMB	**Gambell**	**39.36**	**31**	P		**P**	**08 54 55.0**	**+2.0**
	baz=249							
UNV	**Unalaska Valle**	**39.79**	**47**	P		**P**	**08 54 58.7**	**+2.0**
	baz=266							
M11K	**Mekoryuk**	**40.88**	**37**	P		**P**	**08 55 06.6**	**+1.0**
	baz=258							
CMAR	**Chiang Mai Arr**	**41.22**	**256**	P		**P**	**08 55 07.3**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=39,slow=3.7,SNR=4.4							
CMAR				PcP		**PcP**	**08 57 08.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=42,slow=5.7,SNR=4.3							
	comp=Z,1.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**41.22**	**256**	*ce*P		**P**	**08 55 10.0**	**+1.0**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
TNA	**Tin City**	**41.51**	**29**	P		**P**	**08 55 12.7**	**+1.9**
	baz=251							
FALS	**False Pass**	**41.66**	**46**	P		**P**	**08 55 13.2**	**+1.1**
	baz=267							
K13K	**Kusilvak Mount**	**41.93**	**35**	P		**P**	**08 55 14.8**	**+0.5**
	baz=258							
F14K	**Arctic Creek**	**42.11**	**30**	P		**P**	**08 55 17.4**	**+1.7**
	baz=253							
ANM	**Nome**	**42.24**	**31**	P		**P**	**08 55 18.2**	**+1.5**
	baz=255							
M13K	**Dall Lake**	**42.28**	**37**	P		**P**	**08 55 18.7**	**+1.6**
	baz=261							
ZAA0	**Zalesovo Array**	**42.30**	**313**	P		**P**	**08 55 16.7**	**-0.7**
ZAA0				IAmb		IAmb	08 55 17.7	
	comp=Z,9.5nm,0.6s							
ZALV	**Zalesovo Beam**	**42.30**	**313**	P		**P**	**08 55 16.9**	**-0.5**
	comp=Z,8.1nm,0.5s,baz=95,slow=7.3,SNR=30							
ZALV				PcP		**PcP**	**08 57 10.0**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=72,slow=4.7,SNR=3.1							
	comp=Z,8.1nm,0.5s							
J14K	**Nanvaranak Lak**	**42.60**	**34**	P		**P**	**08 55 20.8**	**+1.1**
	baz=258							
L14K	**Kuka Creek**	**42.75**	**36**	P		**P**	**08 55 21.6**	**+0.8**
	baz=261							
F15K	**North Star Dit**	**42.85**	**30**	P		**P**	**08 55 23.5**	**+1.8**
	baz=254							
G15K	**Niukluk**	**42.91**	**31**	P		**P**	**08 55 23.6**	**+1.4**
	baz=256							
M14K	**Bethel**	**43.01**	**37**	P		**P**	**08 55 25.4**	**+2.5**
M14K				IAmb		IAmb	08 55 26.3	
	comp=Z,7.4nm,0.8s							
M14K	**Bethel**	**43.01**	**37**	P		**P**	**08 55 24.2**	**+1.2**
	baz=262							
N14K	**Kuskokwak Cree**	**43.03**	**38**	P		**P**	**08 55 24.6**	**+1.4**
	baz=263							
O14K	**Tigyukauivet M**	**43.17**	**39**	P		**P**	**08 55 25.9**	**+1.6**
	baz=264							
SDPT	**Sand Point**	**43.36**	**45**	P		**P**	**08 55 27.2**	**+1.2**
	baz=269							
L15K	**Ungalak Mounta**	**43.37**	**36**	P		**P**	**08 55 27.3**	**+1.4**
	baz=262							
C16K	**Lisburne Hills**	**43.37**	**26**	P		**P**	**08 55 26.9**	**+1.0**
	baz=251							
K15K	**Wolf Creek Mou**	**43.44**	**35**	P		**P**	**08 55 27.7**	**+1.1**
	baz=261							
H16K	**Elim**	**43.57**	**31**	P		**P**	**08 55 28.6**	**+1.1**
	baz=258							
M15K	**Kasigluk River**	**43.62**	**37**	P		**P**	**08 55 28.9**	**+1.0**
	baz=264							
G16K	**Koyuk River**	**43.69**	**30**	P		**P**	**08 55 29.8**	**+1.3**
	baz=257							
NRIK	**Noril'sk**	**43.85**	**336**	*i* P		**P**	**08 55 30.5**	**+0.8**
NRIK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
N15K	**Kwethluk River**	**43.85**	**38**	P		**P**	**08 55 31.3**	**+1.4**
	baz=265							
CHNA	**Chernabura Isl**	**43.87**	**46**	P		**P**	**08 55 31.3**	**+1.2**
	baz=271							
O15K	**Ungalikthiuk R**	**43.90**	**39**	P		**P**	**08 55 31.9**	**+1.7**
	baz=266							
S14K	**Fog Glacier**	**43.90**	**44**	P		**P**	**08 55 31.9**	**+1.5**
	baz=269							
D17K	**Noatak River**	**44.01**	**27**	P		**P**	**08 55 32.1**	**+1.1**
	baz=254							
J16K	**Anvik River**	**44.02**	**34**	P		**P**	**08 55 32.9**	**+1.7**
	baz=261							
I17K	**Unalakleet**	**44.09**	**33**	P		**P**	**08 55 32.5**	**+0.9**
	baz=260							
RDOG	**Red Dog Mine**	**44.17**	**27**	P		**P**	**08 55 33.4**	**+1.1**
	baz=254							
C17K	**DeLong Mountai**	**44.20**	**26**	P		**P**	**08 55 33.8**	**+1.3**
	baz=253							
E17K	**Hotham Inlet**	**44.31**	**28**	P		**P**	**08 55 34.2**	**+0.8**
	baz=256							
L16K	**Owhat River**	**44.32**	**36**	P		**P**	**08 55 35.7**	**+2.1**
L16K	**Owhat River**	**44.32**	**36**	P		**P**	**08 55 35.1**	**+1.5**
	baz=264							
F17K	**Baldwin Pennin**	**44.38**	**29**	P		**P**	**08 55 35.2**	**+1.3**
	baz=257							
MK31	**Makanchi Array**	**44.40**	**303**	P		**P**	**08 55 34.2**	**-0.3**
MK31	**Makanchi Array**	**44.40**	**303**	*ce*P		**P**	**08 55 34.0**	**-0.5**
MKAR	**Makanchi Array**	**44.40**	**303**	P		**P**	**08 55 34.2**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=88,slow=10,SNR=34							
MKAR				PcP		**PcP**	**08 57 17.3**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=89,slow=3.6,SNR=3.6							
	comp=Z,3.0nm,0.6s							
G17K	**Kiwalik Mounta**	**44.41**	**30**	P		**P**	**08 55 35.4**	**+1.1**
	baz=259							
M16K	**Timber Creek**	**44.49**	**37**	P		**P**	**08 55 37.4**	**+2.4**
M16K	**Timber Creek**	**44.49**	**37**	P		**P**	**08 55 36.3**	**+1.4**
	baz=265							
N16K	**Nishlik Lake**	**44.54**	**38**	P		**P**	**08 55 36.6**	**+1.2**
	baz=265							
CHGN	**Chignik**	**44.54**	**44**	P		**P**	**08 55 37.1**	**+1.7**
	baz=270							
MAKZ	**Makanchi**	**44.61**	**303**	P		**P**	**08 55 35.9**	**-0.2**
MAKZ	**Makanchi**	**44.61**	**303**	P		**P**	**08 55 35.9**	**-0.2**
MAKZ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
H17K	**Granite Mounta**	**44.61**	**31**	P		**P**	**08 55 38.1**	**+2.3**
H17K	**Granite Mounta**	**44.61**	**31**	P		**P**	**08 55 37.5**	**+1.6**
	baz=260							
J17K	**VABM Dome**	**44.72**	**34**	P		**P**	**08 55 37.8**	**+1.1**
	baz=262							
O16K	**Kokwok River B**	**44.81**	**39**	P		**P**	**08 55 38.9**	**+1.4**
	baz=267							
P16K	**Nushagak River**	**44.84**	**40**	P		**P**	**08 55 39.0**	**+1.3**
	baz=268							
E18K	**Tukpahlearik C**	**44.85**	**28**	P		**P**	**08 55 39.3**	**+1.5**
	baz=257							
L17K	**Donlin**	**44.92**	**35**	P		**P**	**08 55 39.8**	**+1.4**
	baz=264							
B18K	**Kokolik River**	**44.93**	**25**	P		**P**	**08 55 39.8**	**+1.4**
	baz=254							
C18K	**Utukok River**	**44.95**	**26**	P		**P**	**08 55 40.5**	**+2.0**
C18K				IAmb		IAmb	08 55 52.1	
	comp=Z,6.9nm,0.9s							
C18K	**Utukok River**	**44.95**	**26**	P		**P**	**08 55 39.3**	**+0.7**
	baz=255							
K17K	**Iditarod**	**44.98**	**35**	P		**P**	**08 55 41.8**	**+2.9**
K17K				IAmb		IAmb	08 55 42.3	
	comp=Z,6.0nm,0.8s							
K17K	**Iditarod**	**44.98**	**35**	P		**P**	**08 55 40.4**	**+1.5**
	baz=264							
R16K	**Pilot Point**	**45.01**	**42**	P		**P**	**08 55 40.2**	**+1.1**
	baz=269							
F18K	**Selawik**	**45.04**	**29**	P		**P**	**08 55 40.3**	**+1.1**
	baz=258							
M17K	**Holitna River**	**45.26**	**36**	P		**P**	**08 55 42.6**	**+1.5**
	baz=266							
H18K	**Honhosa River**	**45.29**	**31**	P		**P**	**08 55 42.9**	**+1.6**
	baz=261							

F20K	Avaraart Lake	46.65	29	P	P	08 55 53.7 +1.9
	baz=262					
E20K	Nigu River	46.66	27	P	P	08 55 53.4 +1.3
	baz=260					
N19K	Bonanza Creek	46.66	37	P	P	08 55 54.3 +2.1
	baz=269					
B20K	Meade River	46.66	25	P	P	08 55 53.0 +1.0
	baz=258					
R18K	Karluk	46.69	42	P	P	08 55 52.6 +0.3
	baz=272					
O19K	Port Alsworth	46.73	38	P	P	08 55 53.9 +1.2
	baz=270					
M19K	Big River Lodg	46.74	36	P	P	08 55 53.7 +0.9
	baz=268					
H20K	Anotleneega Mo	46.79	31	P	P	08 55 54.3 +1.3
	baz=264					
SII	Sitkinak Islan	46.88	43	P	P	08 55 54.5 +0.6
	baz=273					
I20K	Naaghedeneel	46.89	32	P	P	08 55 53.5 -0.3
	baz=265					
K20K	Telida	46.96	34	P	P	08 55 56.4 +2.0
K20K				IAmb	IAmb	08 55 59.3
	comp=Z,4.2nm,0.7s					
K20K	Telida	46.96	34	P	P	08 55 55.1 +0.6
	baz=267,SNR=6.9					
J20K	Nowinta River	46.98	33	P	P	08 55 55.8 +1.2
	baz=266					
L20K	Farewell, AK	47.01	35	P	P	08 55 55.6 +0.7
	baz=268					
Q19K	Cape Douglas,	47.09	40	P	P	08 55 56.0 +0.5
	baz=271					
A21K	Barrow	47.14	23	P	P	08 55 56.5 +0.9
	baz=257					
P19K	Oil Pt	47.28	39	P	P	08 55 58.4 +1.4
	baz=271					
C21K	Knifebiade Rid	47.32	26	P	P	08 55 58.2 +1.1
	baz=261					
M20K	Styx River	47.34	36	P	P	08 55 58.1 +0.6
	baz=269					
OHAK	Old Harbor	47.34	42	P	P	08 55 58.3 +0.8
	baz=273					
G21K	Allakaket	47.45	30	P	P	08 55 59.1 +0.9
	baz=264					
B21K	Ikpikpuk River	47.46	25	P	P	08 55 59.8 +1.6
B21K				IAmb	IAmb	08 56 01.3
	comp=Z,4.4nm,0.8s					
B21K	Ikpikpuk River	47.46	25	P	P	08 55 59.9 +1.6
	baz=261					
E21K	Killik River	47.51	27	P	P	08 55 59.0 +0.4
	baz=262					
F21K	Alatna River	47.54	29	P	P	08 55 60.0 +1.1
	baz=264					
O20K	Slope Mountain	47.58	38	P	P	08 56 00.4 +1.0
	baz=271					
H21K	Melozitna Rive	47.66	31	P	P	08 56 00.4 +0.6
	baz=266					
KDAK	Kodiak Island	47.69	41	P	P	08 56 01.3 +1.1
	baz=273					
WUS	Wushi	47.73	296		P	08 56 00.7 -0.2
Q20K	Shuyak Island	47.75	40	P	P	08 56 01.9 +1.3
	baz=273					
CHUM	Lake Minchumin	47.77	33	P	P	08 56 01.9 +1.2
	baz=268					
SPCR	Spurr Chakacha	47.77	37	P	P	08 56 02.0 +1.1
	baz=271					
PPLA	Purkeypile	47.80	35	P	P	08 56 00.6 -0.5
	baz=269					
CAST	Castle Rocks	47.86	34	P	P	08 56 03.9 +2.4
CAST	Castle Rocks	47.86	34	P	P	08 56 02.6 +1.2
	baz=269					
B22K	Teshekpuk Lake	47.98	24	P	P	08 56 04.3 +2.1
B22K				IAmb	IAmb	08 56 23.5
	comp=Z,10nm,1.1s					
B22K	Teshekpuk Lake	47.98	24	P	P	08 56 03.1 +0.8
	baz=261					
D22K	Ayikyak River	48.03	26	P	P	08 56 03.7 +1.0
	baz=263					
F22K	John River	48.07	28	P	P	08 56 04.8 +1.7
	baz=265					
HOM	Homer	48.09	39	P	P	08 56 04.2 +1.0
	baz=272					
SKT	Skwentna	48.09	36	P	P	08 56 03.9 +0.6
	baz=270					
H22K	Ishtalitna Cre	48.27	31	P	P	08 56 04.2 -0.4
	baz=267					
E22K	Anaktuvuk Pass	48.27	28	P	P	08 56 05.8 +1.3
E22K				IAmb	IAmb	08 56 08.8
	comp=Z,4.6nm,0.6s					
E22K	Anaktuvuk Pass	48.27	28	P	P	08 56 04.8 +0.2
	baz=265,SNR=8.8					
CAPN	Captain Cook N	48.30	37	P	P	08 56 04.6 -0.2
	baz=272					
BPAW	Bear Paw Mtn.	48.36	33	P	P	08 56 04.5 -0.8
	baz=269					
BRSE	Bradley Lake S	48.54	39	P	P	08 56 08.1 +1.3
	baz=273					
TARG	Taragay, Kyrgy	48.61	297	P	P	08 56 08.0 -0.1
TARG	Taragay, Kyrgy	48.61	297	P	P	08 56 08.0 -0.1
TARG				pmax	pmax	
	comp=Z,13nm,0.7s					
TRF	Thorofare Moun	48.66	34	P	P	08 56 09.0 +1.2
	baz=270					
CUT	Chulitna	48.68	35	P	P	08 56 08.9 +1.1
	baz=271					
D23K	Nanushuk River	48.76	26	P	P	08 56 08.8 +0.5
	baz=265					
M22K	Willow	48.77	36	P	P	08 56 09.0 +0.6
	baz=272					
HNR	Honiara	48.80	155	LR	LR	09 15 24.5
	comp=Z,36nm,19.8s,baz=247,slow=34					
COLD	Coldfoot	48.81	29	P	P	08 56 09.3 +0.6
	baz=267					
G23K	Bananza Creek	48.85	29	P	P	08 56 09.3 +0.2
	baz=268					
C23K	Itkillik River	48.87	25	P	P	08 56 09.2 +0.1
	baz=264,SNR=5.3					
KDJ	Kajisay	48.95	297		P	08 56 10.0 -0.4
KDJ				IAmb	IAmb	08 56 11.3
	comp=Z,5.0nm,0.8s					
KDJ	Kajisay	48.95	297	P	P	08 56 10.0 -0.4
KDJ				pmax	pmax	
	comp=Z,5.0nm,0.8s					
RC01	Rabbit Creek A	48.98	37	P	P	08 56 10.5 +0.4
	baz=273					
O22K	Cooper Landing	49.01	38	P	P	08 56 11.6 +1.3
	baz=273					
H23K	Yukon River	49.02	31	P	P	08 56 11.1 +0.7
	baz=269					
I23K	Minto, Yukon-K	49.08	32	P	P	08 56 10.9 +0.1
	baz=270					
E23K	Chandalar	49.08	28	P	P	08 56 11.5 +0.6
	baz=267,SNR=8.0					
TOLK	Toolik Lake Re	49.13	27	P	P	08 56 11.0 -0.3
	baz=266					
SEW	Seward	49.17	38	P	P	08 56 12.1 +0.6
	baz=274					
NEA2	Nenana	49.20	32	P	P	08 56 12.3 +0.5
	baz=270					
PMR	Palmer	49.25	36	P	P	08 56 12.6 +0.5
	baz=273					
MCK	McKinley	49.27	33	P	P	08 56 13.0 +0.7
	baz=271					
GHO	Glory Hole Cre	49.34	36	P	P	08 56 14.0 +1.1
D24K	Happy Valley	49.44	26	P	P	08 56 14.4 +0.9
	baz=267					
E24K	Your Creek	49.51	28	P	P	08 56 14.7 +0.6
	baz=268					
C24K	Franklin Bluff	49.52	26	P	P	08 56 14.8 +0.7
	baz=266					
KNK	Knik Glacier	49.58	36	P	P	08 56 15.5 +0.8
	baz=274					
SML	Sawmill	49.62	36	P	P	08 56 15.8 +0.8
	baz=273					
PWL	Port Wells	49.67	37	P	P	08 56 16.2 +0.8
	baz=274					
H24K	Noodor Dome	49.70	31	P	P	08 56 17.6 +2.0
H24K				IAmb	IAmb	08 56 29.5
	comp=Z,4.5nm,1.1s					
H24K	Noodor Dome	49.70	31	P	P	08 56 16.0 +0.4
	baz=270					
F24K	Squaw Lake	49.72	28	P	P	08 56 16.3 +0.6
	baz=269					
COLA	College	49.72	32⇑	*e*P	P	08 56 16.6 +0.9
COLA				pmax	pmax	
	comp=Z,4.0nm,0.8s					
COLA	College	49.72	32	P	P	08 56 16.5 +0.9
	baz=271					
BOOM	Boomskoye usch	49.74	298		P	08 56 16.9 +0.5
BOOM				IAmb	IAmb	08 56 17.5
	comp=Z,4.9nm,0.8s					
BOOM	Boomskoye usch	49.74	298	P	P	08 56 16.9 +0.5
BOOM				pmax	pmax	
	comp=Z,5.0nm,0.8s					
G24K	Hadweenzic Riv	49.87	30	P	P	08 56 17.7 +0.9
	baz=270					
POKR	Poker Plat Res	49.90	32	P	P	08 56 17.5 +0.5
	baz=271					
M23K	Glacier View	49.90	36	P	P	08 56 18.3 +1.1
	baz=274					
SCM	Sheep Creek Mo	50.09	36	P	P	08 56 19.9 +1.3
	baz=274					
HDA	Harding Lake	50.12	33	P	P	08 56 20.4 +1.7
	baz=272					
ILAR	Eielson Array	50.14	32	P	P	08 56 19.9 +1.1
	comp=Z,2.4nm,0.8s,baz=268,slow=6.4,SNR=29					
	comp=Z,2.4nm,0.8s					
ILAR	Eielson Array	50.14	32	P	P	08 56 20.0 +1.1
P23K	Montague Islan	50.20	38	P	P	08 56 20.4 +1.0
	baz=276					
GLI	Glacier Island	50.27	37	P	P	08 56 20.1 +0.1
	baz=275					
D25K	Kavik River	50.32	26	P	P	08 56 22.0 +1.8
D25K				IAmb	IAmb	08 56 25.4
	comp=Z,3.5nm,0.8s					
D25K	Kavik River	50.32	26	P	P	08 56 20.0 -0.2
	baz=269					
G25K	Bearman Lake	50.41	29	P	P	08 56 21.2 +0.4
	baz=271					
H25L	Birch Creek	50.53	30	P	P	08 56 22.3 +0.5
	baz=272					
F25K	Christian Rive	50.58	28	P	P	08 56 22.0 -0.2
	baz=271					
KSH	Kashi	50.59	295	P	P	08 56 25.5 +2.7
KSH				pmax	pmax	
	comp=Z,5.0nm,0.9s					
E25K	Arctic Village	50.60	28	P	P	08 56 22.6 +0.3
	baz=271					
M24K	Tolsona, Glenn	50.61	35	P	P	08 56 23.1 +0.6
	baz=275					
K24K	Donnelly Dome	50.67	33	P	P	08 56 23.5 +0.6
	baz=274					
PRP	Porcupine Dome	50.68	31	P	P	08 56 23.8 +0.6
	baz=273					
AAK	Ala-Archa	50.72	299	P	P	08 56 23.1 -0.7
AAK				IAmb	IAmb	08 56 24.5
	comp=Z,4.9nm,1.1s					
AAK	Ala-Archa	50.72	299	P	P	08 56 23.7 -0.2
	comp=Z,2.2nm,0.7s,baz=152,slow=5.3,SNR=6.8					
AAK				LR	LR	09 17 28.8
	comp=Z,55nm,19.2s,baz=76,slow=36					
	comp=Z,2.2nm,0.7s					
AAK	Ala-Archa	50.72	299	*d iP*	P	08 56 23.6 -0.2
AAK				pmax	pmax	
	comp=Z,4.0nm,1.1s					
KLU	Klutina	50.78	36	P	P	08 56 25.3 +1.4
	baz=276					
J25K	Salcha River,	50.80	32	P	P	08 56 24.9 +1.0
	baz=274					
C26K	Camden Bay	50.84	25	P	P	08 56 25.3 +1.2
	baz=270					
PAX	Paxson	50.87	34	P	P	08 56 24.9 +0.4
	baz=275					
BVAR	Borovoye Array	50.96	313	P	P	08 56 24.6 -0.6
	comp=Z,3.0nm,0.5s,baz=74,slow=6.5,SNR=11					
BVAR				PcP	PcP	08 57 40.9 -0.3
	comp=Z,1.8nm,0.7s,baz=102,slow=4.9,SNR=2.2					
	comp=Z,3.0nm,0.5s					
EYAK	Cordova Ski Ar	50.97	37	P	P	08 56 26.7 +1.5
	baz=277					
BRVK	Borovoye	51.01	313	P	P	08 56 25.2 -0.4
BRVK	Borovoye	51.01	313	*c iP*	P	08 56 25.8 +0.2
BRVK				pmax	pmax	
	comp=Z,4.0nm,0.6s					
HARP	HAARP	51.06	35	P	P	08 56 27.5 +1.6
	baz=276					
RIDG	Independent Ri	51.09	33	P	P	08 56 27.3 +1.2
	baz=275					
F26K	Sheenjek River	51.15	28	P	P	08 56 27.7 +1.2
	baz=272					
C27K	Jago River	51.26	26	P	P	08 56 28.0 +0.7
	baz=271					
G26K	Porcupine Rive	51.32	29	P	P	08 56 29.1 +1.4
	baz=273					
N25K	Chitina, Valde	51.40	36	P	P	08 56 29.0 +0.4
	baz=277					
SCRK	Sand Creek	51.44	33	P	P	08 56 29.6 +0.8
	baz=275					
BMRM	Bremner River	51.48	37	P	P	08 56 29.4 +0.4
	baz=277					
J26L	Joseph Creek	51.58	32	P	P	08 56 31.5 +1.6
	baz=275					
I26K	Coal Creek Min	51.69	31	P	P	08 56 31.9 +1.4
	baz=275					
KAIM	Kayak Island	51.70	38	P	P	08 56 31.9 +1.3
	baz=278					
L26K	Log Cabin Wild	51.83	34	P	P	08 56 33.4 +1.8
	baz=277					
M26K	Nabesna, AK	52.06	35	P	P	08 56 33.7 +0.3
	baz=277					
E27K	Coleen River	52.09	28	P	P	08 56 34.0 +0.6
	baz=274					
G27K	Doyon Strip	52.17	29	P	P	08 56 34.9 +0.8
	baz=275					
ARSB	Arslanbob	52.19	298	P	P	08 56 34.1 -0.7
ARSB	Arslanbob	52.19	298	P	P	08 56 34.1 -0.7
ARSB				pmax	pmax	
	comp=Z,8.0nm,0.7s					
D27M	Malcolm River	52.24	26	P	P	08 56 35.2 +0.5
	baz=274					
H27K	Steamboat Moun	52.27	30	P	P	08 56 36.1 +1.1
	baz=276					
K27K	Chicken	52.28	33	P	P	08 56 36.1 +1.1
	baz=277					
I27K	Kandik River	52.30	31	P	P	08 56 35.8 +0.7
	baz=276					
L27K	Beaver Creek,	52.51	34	P	P	08 56 37.7 +1.0
	baz=278					
M27K	Edge Creek, AK	52.58	35	P	P	08 56 38.3 +0.9
	baz=278					
E28M	Babbage River	52.81	27	P	P	08 56 39.8 +1.0
	baz=276					
MESA	MESA	52.89	38	P	P	08 56 40.5 +0.7
	baz=280					
I28M	Miner Creek	53.01	31	P	P	08 56 41.9 +1.5
I28M				IAmb	IAmb	08 56 56.5
	comp=Z,4.8nm,1.1s					
I28M	Miner Creek	53.01	31	P	P	08 56 41.9 +1.5
	baz=278,SNR=6.1					
D28M	Stokes Point	53.03	26	P	P	08 56 41.7 +1.4
	baz=276					
BVCY	Beaver Creek	53.04	35	P	P	08 56 41.8 +1.1
	baz=279					
YUK3	Moose Creek	53.33	35	P	P	08 56 43.0 0.0
	baz=280					
KK31	Karatay Array	53.38	301		P	08 56 42.8 -0.6
KK31	Karatay Array	53.38	301	P	P	08 56 42.8 -0.6
KK31				pmax	pmax	
	comp=Z,11nm,1.1s					
KKAR	Karatay Array	53.38	301		P	08 56 42.9 -0.5
KKAR				IAmb	IAmb	08 56 44.5
	comp=Z,7.5nm,1.1s					
KKAR	Karatay Array	53.38	301	P	P	08 56 42.9 -0.5
KKAR				pmax	pmax	
	comp=Z,7.0nm,1.1s					
E29M	Blow River	53.44	27	P	P	08 56 45.4 +2.0
E29M				IAmb	IAmb	08 56 46.8
	comp=Z,4.2nm,0.9s					
E29M	Blow River	53.44	27	P	P	08 56 44.2 +0.8
	baz=277					
DAWY	Dawson	53.44	33	P	P	08 56 45.8 +2.3
DAWY	Dawson	53.44	33	P	P	08 56 44.6 +1.0
	baz=279					
H29M	Whitestone	53.55	30	P	P	08 56 46.1 +1.8
	baz=278					
G29M	Pine Creek	53.58	29	P	P	08 56 46.6 +2.1
G29M	Pine Creek	53.58	29	P	P	08 56 44.8 +0.2
	baz=278					
O28M	Mount Upton	53.64	37	P	P	08 56 45.8 +0.5
	baz=281					
DRK	Karamyk	53.65	296	P	P	08 56 45.3 -0.5
DRK				IAmb	IAmb	08 56 46.7
	comp=Z,6.2nm,0.8s					
DRK	Karamyk	53.65	296	P	P	08 56 45.3 -0.5
DRK				pmax	pmax	
	comp=Z,6.0nm,0.8s					
I29M	Ogilvie Camp,	53.70	31	P	P	08 56 47.7 +2.3
I29M				IAmb	IAmb	08 56 48.2
	comp=Z,5.0nm,1.0s					
I29M	Ogilvie Camp,	53.70	31	P	P	08 56 46.3 +0.9
	baz=279,SNR=5.2					
PINM	Pinnacle	53.74	38	P	P	08 56 47.0 +1.2
	baz=281					
J29N	Klondike Camp	53.88	32	P	P	08 56 47.7 +0.9
	baz=280					
M29M	Somme Creek	54.14	34	P	P	08 56 50.0 +1.2
	baz=281					
L29M	L29M	54.16	34	P	P	08 56 50.4 +1.6
L29M				IAmb	IAmb	08 57 03.9
	comp=Z,9.1nm,1.1s					
L29M	L29M	54.16	34	P	P	08 56 49.0 +0.1
	baz=281					
EPYK	Eagle Plains	54.18	29	P	P	08 56 50.0 +1.1
	baz=280,SNR=8.2					
PNL	Peninsula	54.25	38	P	P	08 56 51.1 +1.6
	baz=282					
YUK4	Talbot Arm	54.27	36	P	P	08 56 50.6 +0.7
	baz=282					
G30M	tAoh Zraii Nji	54.27	29	P	P	08 56 50.3 +0.7
	baz=280,SNR=5.4					
K29M	Barlow Dome	54.29	33	P	P	08 56 51.0 +1.2
	baz=281					
F30M	Barrier River	54.34	28	P	P	08 56 51.2 +1.2
	baz=280					
YUK6	Outpost Mounta	54.48	36	P	P	08 56 52.2 +0.7
	baz=282					
O29M	Mount Kennedy	54.52	37	P	P	08 56 51.9 +0.3
	baz=283					
I30M	Mount Dempster	54.52	31	P	P	08 56 52.2 +0.7
	baz=281,SNR=10.0					
J30M	Hart River	54.66	32	P	P	08 56 52.9 +0.3
	baz=281					
M30M	Minto, Yukon	54.87	34	P	P	08 56 55.3 +1.3
M30M	Minto, Yukon	54.87	34	P	P	08 56 54.3 +0.3
	baz=282					
GAR	Garm	54.90	296		P	08 56 53.9 -0.8
HYT	Haines Junctio	54.92	36	P	P	08 56 55.6 +1.1
	baz=283					
N30M	Aishikik Lake	54.98	35	P	P	08 56 54.9 +0.1
	baz=283					
G31M	Satah River	55.04	29	P	P	08 56 55.5 +0.5
	baz=282					
INK	Inuvik	55.05	27	P	P	08 56 56.7 +1.6
INK	Inuvik	55.05	27	P	P	08 56 56.7 +1.6
INK				pmax	pmax	
	comp=Z,3.0nm,0.9s					
INK	Inuvik	55.05	27	P	P	08 56 55.6 +0.5
	baz=281					
MAYO	Mayo, Yukon	55.05	33	P	P	08 56 55.5 +0.2
	baz=282					
P29M	Windy Craggy	55.08	38	P	P	08 56 55.1 -0.4
	baz=284					
F31M	Tsiigehtchic	55.14	28	P	P	08 56 55.5 -0.2
	baz=282					
H31M	Peel River	55.24	30	P	P	08 56 58.1 +1.5
H31M				IAmb	IAmb	08 57 10.8
	comp=Z,9.7nm,1.1s					
H31M	Peel River	55.24	30	P	P	08 56 56.6 +0.1
	baz=282,SNR=6.6					
P30M	Million Dollar	55.34	37	P	P	08 56 58.5 +1.0
	baz=284					
O30N	Mendenhall	55.61	36	P	P	08 57 00.1 +0.8
	baz=284					
PLBC	Pleasant Camp	55.80	38	P	P	08 57 01.7 +1.0
	baz=285					
CHGR	Chuyangaron	55.87	296	P	P	08 57 01.2 -0.4
CHGR	Chuyangaron	55.87	296	P	P	08 57 01.2 -0.4
SIMJ	Simiganj	55.97	296		P	08 57 01.7 -0.7
M31M	Drury Creek, Y	56.04	34	P	P	08 57 03.4 +1.0
	baz=285					
WHY	Whitehorse	56.21	36	P	P	08 57 06.2 +2.5
WHY				IAmb	IAmb	08 57 16.9
	comp=Z,6.8nm,0.8s					
WHY	Whitehorse	56.21	36	P	P	08 57 04.4 +0.7
	baz=285					
S31K	Pelican	56.26	39	P	P	08 57 05.0 +1.1
	baz=286					
SKAG	Skagway	56.31	38	P	P	08 57 05.4 +1.2
	baz=286					
WRAB	Tennant Creek	56.35	188⇑	*i P*	P	08 57 03.7 -1.3
WRAB				pmax	pmax	
	comp=Z,11nm,1.6s					
WRA	Warramunga Arr	56.36	188	P	P	08 57 03.7 -1.3
	comp=Z,2.8nm,0.8s,baz=4.9,slow=7.5,SNR=14					
	comp=Z,2.8nm,0.8s					
FARO	Faro, Yukon	56.51	34	P	P	08 57 06.8 +1.0
	baz=286					
ARTI	Arti	56.91	319		P	08 57 07.8 -0.8
ARTI	Arti	56.91	319	P	P	08 57 08.0 -0.7
	comp=Z,8.6nm,0.6s,baz=101,slow=5.2,SNR=10					
	comp=Z,8.6nm,0.6s					
ARTI	Arti	56.91	319	*c iP*	P	08 57 08.2 -0.4
ARTI				*PP	sP	08 57 18.9 -0.4
ARTI						08 59 12.5
ARTI				S	S	09 04 59.5 -1.2
ARTI				SS	SS	09 08 45.3 -3.3
ARTI				pmax	pmax	
	comp=Z,75nm,4.8s					
A36M	Sachs Harbour	56.94	22	P	P	08 57 10.7 +2.1
A36M	Sachs Harbour	56.94	22	P	P	08 57 09.1 +0.5
	baz=286,SNR=11					
SIT	Sitka	56.98	40	P	P	08 57 10.4 +1.3
	baz=287					
R32K	Eaglecrest	57.04	39	P	P	08 57 10.7 +1.1
	baz=287					
P33M	Teslin, Yukon	57.32	36	P	P	08 57 12.9 +1.3
	baz=287					
C36M	Paulatuk	58.10	25	P	P	08 57 18.1 +1.3
C36M				IAmb	IAmb	08 57 18.9
	comp=Z,4.6nm,0.9s					
C36M	Paulatuk	58.10	25	P	P	08 57 17.6 +0.8
	baz=289,SNR=5.7					
ABKAR	Akbulak array	58.30	310		P	08 57 18.3 -0.2
ABKAR				IAmb	IAmb	08 57 18.7
	comp=Z,8.2nm,1.3s					
U33K	Whale Pass	58.44	41	P	P	08 57 20.3 +0.9
	baz=289					
CRAG	Craig	58.65	42	P	P	08 57 22.1 +1.3
	baz=290					
WRAK	Wrangell Islan	58.74	40	P	P	08 57 22.2 +0.7
	baz=290					
S34M	Telegraph Cree	58.87	39	P	P	08 57 22.9 +0.6
	baz=290					
TGTN	Hyland Airport	59.02	34	P	P	08 57 23.7 +0.3
	baz=290					
AKTO	Aktyubinsk	59.06	312	P	P	08 57 23.1 -0.6
	comp=Z,2.2nm,0.7s,baz=99,slow=8.4,SNR=4.1					
	comp=Z,2.2nm,0.7s					
DLBC	Dease Lake	59.24	38	P	P	08 57 25.5 +0.5
	baz=290					
T35M	Bob Quinn	59.63	39	P	P	08 57 28.5 +0.8
	baz=291					
ASAR	Alice Springs	60.09	188	P	P	08 57 30.2 -0.9
	comp=Z,1.7nm,0.8s,baz=14,slow=6.8,SNR=14					
	comp=Z,1.7nm,0.8s					
LIRD	Liard River Hi	60.78	36	P	P	08 57 36.1 +0.6
	baz=293					
EUNU	Eureka	60.89	8	P	P	08 57 36.6 +0.7
EUNU				IAmb	IAmb	08 57 38.9
	comp=Z,2.6nm,0.8s					
TOAD	Toad River Com	61.41	36	P	P	08 57 41.1 +1.3
	baz=294					
KOTAN	Kotaneelee Air	61.45	35	P	P	08 57 41.3 +1.3
	baz=294					
RES	Resolute Bay	63.30	14	P	P	08 57 52.5 +0.4
RES				IAmb	IAmb	08 57 53.5
	comp=Z,5.7nm,1.1s					
RES	Resolute Bay	63.30	14	LR	LR	09 27 34.7
	comp=Z,37nm,18.5s,baz=20,slow=38					
RES	Resolute Bay	63.30	14	P	P	08 57 52.5 +0.4
RES				pmax	pmax	
	comp=Z,6.0nm,1.1s					
YKA	Yellowknife Ar	64.46	30	P	P	08 58 00.4 +0.5
	comp=Z,1.0nm,0.8s,baz=299,slow=6.8,SNR=13					
	comp=Z,1.0nm,0.8s					
YKA	Yellowknife Ar	64.46	30	*ce*P	P	08 58 00.8 +0.9
YKA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
ARCES	ARCESS Array B	64.60	339	P	P	08 58 00.3 -0.5
	comp=Z,4.8nm,0.9s,baz=57,slow=5.7,SNR=4.8					
	comp=Z,4.8nm,0.9s					
FIA1	FINESS Array S	69.37	332	P	P	08 58 30.8 -0.4
FINES	FINESS Array B	69.37	332	P	P	08 58 31.1 -0.1

FINES FINESS Array B 69.37 332 P **P** **08 58 30.4 -0.8**
comp=Z,2.9nm,0.7s,baz=46,slow=8.2,SNR=5.2
comp=Z,2.9nm,0.7s
NEW Newport 70.70 44 P **P** **08 58 40.5 +0.8**
comp=Z,1.5nm,0.8s,baz=275,slow=8.6,SNR=3.8
comp=Z,1.5nm,0.8s
L04D Klamath Falls 70.86 51 P **P** **08 58 42.0 +1.1**
PINE Pine Mountain 70.87 49 P **P** **08 58 42.7 +1.7**
KBZ Khabaz 71.27 311 P **P** **08 58 43.0 -0.2**
comp=Z,2.0nm,0.8s,baz=65,slow=7.2,SNR=5.6
comp=Z,2.0nm,0.8s
KBZ Khabaz 71.27 311 *e*P **P** **08 58 42.9 -0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
UOSS Minazif 71.92 288 P **P** **08 58 46.6 -0.8**
UOSS IAmb IAmb 08 58 47.5
comp=Z,4.3nm,0.7s
BMO Blue Mountains 72.48 47 P **P** **08 58 52.0 +1.5**
BMO Blue Mountains 72.48 47 P **P** **08 58 52.0 +1.5**
BMO pmax pmax
comp=Z,3.0nm,1.0s
MNK Minsk 73.00 326 *i* P P 08 58 58.8 +5.4
comp=E,23nm,0.8s
MNK *i* P P 08 58 58.8 +5.4
comp=N,10.0nm,0.7s
MNK *i* P P 08 58 58.8 +5.4
comp=Z,9.0nm,0.6s,baz=51
MNK *i* PcP **PcP** **08 59 15.1 +5.0**
MNK *i* PP **PP** **09 01 41.4 +6.0**
MNK *i* PPP PPP 09 03 26.3
MNK *i* S **SKiKP** **09 08 28.9 +4.8**
MNK *i* PS PnS 09 09 12.2 +21
MNK *i* SS SS 09 13 50.9 +53
MNK Minsk 73.00 326 *i* P P 08 58 58.7 +5.4
MNK *i* 08 59 15.1
MNK *i* 09 01 41.4
MNK *i* PPP PPP 09 03 26.3
MNK *i* PS PnS 09 09 12.1 +21
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=E,23nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.6s
BEKR Beckworth 73.36 53 P **P** **08 58 57.3 +1.3**
BEKR IAmb IAmb 08 59 09.7
comp=Z,5.8nm,1.0s
OVMT Ovando 73.68 43 P **P** **08 58 58.3 +0.6**
FFC Flin Flon 74.34 33 P **P** **08 59 01.9 +0.7**
FFC IAmb IAmb 08 59 14.4
comp=Z,9.3nm,1.1s
FFC Flin Flon 74.34 33 P **P** **08 59 01.9 +0.7**
FFC pmax pmax
comp=Z,9.0nm,1.2s
HRY Holter Researc 74.53 43 P **P** **08 59 03.6 +1.1**
FCC Fort Churchill 74.67 26 P **P** **08 59 03.5 +0.6**
FCC IAmb IAmb 08 59 16.4
comp=Z,7.4nm,1.2s
FCC Fort Churchill 74.67 26 P **P** **08 59 03.5 +0.6**
FCC pmax pmax
comp=Z,7.0nm,1.2s
HFS Hagfors 74.67 336 P **P** **08 59 04.2 +1.2**
comp=Z,4.7nm,1.0s,baz=81,slow=4.5,SNR=5.6
comp=Z,4.7nm,1.0s
LRM Limekiln Ridge 74.72 44 P **P** **08 59 05.4 +1.6**
AKASG Malin Array Be 74.78 322 P **P** **08 59 03.0 -0.8**
comp=Z,2.6nm,0.4s,baz=48,slow=5.9,SNR=21
AKASG LR LR 09 33 16.1
comp=Z,48nm,18.2s,baz=250,slow=37
comp=Z,2.6nm,0.4s
AKASG Malin Array Be 74.78 322 *ce*P **P** **08 59 03.2 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 74.78 322 ⇑*i*P **P** **08 59 02.8 -0.9**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
NB2 NORSAR Subarra 74.78 337 P **P** **08 59 03.7 0.0**
comp=Z,2.0nm,0.6s,baz=40,slow=6.2
NOA NORSAR Array B 74.78 337 P **P** **08 59 03.5 -0.2**
comp=Z,4.0nm,0.8s,baz=39,slow=5.8,SNR=9.6
comp=Z,4.0nm,0.8s
KIEV Kiev 74.79 322 P **P** **08 59 03.1 -0.7**
KIEV IAmb IAmb 08 59 03.9
comp=Z,6.5nm,0.7s
KIEV Kiev 74.79 322 P **P** **08 59 03.1 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
AK05 Malin Array Si 74.84 322 P **P** **08 59 03.3 -0.8**
DLMT Dillon 74.91 45 P **P** **08 59 04.9 0.0**
DLMT IAmb IAmb 08 59 08.7
comp=Z,3.4nm,0.7s
BOZ Bozeman (W) 75.31 44 P **P** **08 59 08.6 +1.4**
BOZ Bozeman (W) 75.31 44 P **P** **08 59 08.6 +1.4**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 75.49 53 P **P** **08 59 10.0 +1.6**
comp=Z,1.2nm,0.6s,baz=300,slow=5.5,SNR=13
comp=Z,1.2nm,0.6s
ELK Elko 76.08 50 P **P** **08 59 13.3 +1.6**
ELK Elko 76.08 50 P **P** **08 59 13.1 +1.3**
comp=Z,1.2nm,0.6s,baz=285,slow=5.5,SNR=8.2
comp=Z,1.2nm,0.6s
FRB Frobisher Bay 77.47 13 P **P** **08 59 19.1 +0.3**
comp=Z,5.3nm,0.8s,baz=327,slow=5.5,SNR=11
comp=Z,5.3nm,0.8s
PDAR Pinedale Array 78.23 45 P **P** **08 59 24.6 +0.8**
comp=Z,0.9nm,0.6s,baz=264,slow=2.3,SNR=12
comp=Z,0.9nm,0.6s
BUR08 Bucovina Ar. S 78.77 322 P **P** **08 59 26.1 -0.4**
BR131 Keskin Array S 79.23 312 *e*P **P** **08 59 29.0 -0.2**
BRTR Keskin Array B 79.23 312 P **P** **08 59 28.6 -0.6**
comp=Z,1.3nm,0.8s,baz=67,slow=6.9,SNR=5.3
comp=Z,1.3nm,0.8s
PFO Pinyon Flats O 79.52 56 *i* P **P** **08 59 30.5 -0.4**
PFO pmax pmax
comp=Z,5.0nm,1.0s
ULM Lac du Bonnet 80.14 33 *e*P **P** **08 59 34.4 +0.6**
CLL Collm 81.64 330 *e*P **P** **08 59 41.0 -0.7**
CLL *e**PP **sP** **08 59 54.0 +1.3**
CLL Collm 81.64 330 *e*P **P** **08 59 41.0 -0.7**
CLL *e*pP **sP** **08 59 54.0 +1.3**
MODS Modra-Piesok 82.03 326 *e*P **P** **08 59 44.6 +0.7**
MODS Modra-Piesok 82.03 326 *e*P **P** **08 59 44.6 +0.7**
MODS *e* 09 22 08.7
MODS *e* 09 22 48.0
MODS *e* 09 23 09.6
MODS *e* 09 23 31.0
KHC Kasperske Hory 83.07 328 ⇑*i*P **P** **08 59 49.7 +0.3**
KHC *i* *PP **sP** **09 00 01.8 +1.5**
KHC pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 83.24 328 P **P** **08 59 49.6 -0.6**
comp=Z,1.5nm,0.5s,baz=28,slow=6.0,SNR=9.9
comp=Z,1.5nm,0.5s
EKA Eskdalemuir Ar 83.75 340 P **P** **08 59 52.5 -0.2**
comp=Z,1.2nm,0.6s,baz=23,slow=6.5,SNR=4.0
comp=Z,1.2nm,0.6s
PPT2 Papeete2 84.44 116 *e*LR LR 09 26 39.6
comp=Z,54nm,25.5s
ANMO Albuquerque 85.12 50 P **P** **09 00 01.7 +1.5**
comp=Z,0.9nm,0.9s,baz=248,slow=5.4,SNR=4.2
comp=Z,0.9nm,0.9s
Y22D IRIS PASSCAL I 85.40 51 P **P** **09 00 01.4 -0.2**
baz=312
SCHQ Schefferville 86.03 16 P **P** **09 00 05.3 +1.2**
comp=Z,2.1nm,0.8s,baz=96,slow=14,SNR=1.8
comp=Z,2.1nm,0.8s
TXAR Lajitas Array 90.63 52 P **P** **09 00 27.2 +0.6**
comp=Z,0.9nm,0.9s,baz=290,slow=3.7,SNR=10.0
comp=Z,0.9nm,0.9s
H03N2 Juan Fernandez 147.05 97 T T 11 51 31.1
baz=291,slow=76,SNR=34
H03N3 Juan Fernandez 147.07 97 T T 11 51 30.8
baz=291,slow=76,SNR=47
H03N1 Juan Fernandez 147.07 97 T T 11 51 40.2
baz=291,slow=76,SNR=53
LPAZ La Paz 147.13 60 PKPbc **PKPbc** **09 07 07.8 -0.2**
comp=Z,2.0nm,0.7s,baz=293,slow=5.6,SNR=7.0

*IDC **29** 08:54:13.5±0.5, 6°.50S×129°.17E, h0km, mb4.3/17, mbtmp4.4/21, ML4.6/3, MS3.8/22, Error ellipse: s-maj=22.8km s-min=13.4km az=69.0*
*NEIC **29** 08:54:15.8±1.3, 6°.54S±0°.06×129°.04E±0°.07, h10km±1km, mb4.8/27, Error ellipse: s-maj=12.1km s-min=10.0km az=235.0*
*GCMT **29** 08:54:16.8±0.3, 6°.48S±0°.02×128°.98E±0°.02, h22km±2km, MW4.8/65, Moment Tensor Solution. s22,c27; s65,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.20±.16; $M_{\theta\theta}$-2.26±.12; $M_{\phi\phi}$2.06±.13; $M_{r\theta}$0.43±.19; $M_{\theta\phi}$0.59±.11; $M_{r\phi}$0.22±.20; Best double couple: $M_0$2.28900×10^{16} NP1:ϕ_s323.00000°, δ78.00000°, λ-180.00000°. NP2: ϕ_s233.00000°, δ90.00000°, λ-12.00000°. Principal axes: T 2.1790, Plg8.0000°, Azm278.0000°; N 0.2230, Plg78.0000°, Azm51.0000°; P -2.3990, Plg9.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **29** 08:54:17.4±0.2, 6°S±2°×12°9E±°, h25km±2km, M4.8/56, mb5.0/56, mB5.4/18, MLv5.0/19, Mw(mB)4.8/18, MwMwp4.6/5, Mwp5.0/5*
ISC 29 08:54:15.4±0.3, 6°.59S±0°.04×129°.06E±0°.05, h10km, n195, σ1**87**/185, **mb4.7**/49, **MS3.8**/19, **1C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.22**	**22**	P	**Pb**	**08 54 53.9**	**-1.7**
BNDI	**Bandanaira**	**2.22**	**22**	P	**Pn**	**08 54 49.4**	**-2.9**
SAUI	**Saumlaki**	**2.62**	**122**	Pn	**Pn**	**08 55 00.0**	**+2.2**
SAUI	**Saumlaki**	**2.62**	**122**	P	**Pn**	**08 55 01.0**	**+3.1**
SAUI	**Saumlaki**	**2.62**	**122**	P	**Pn**	**08 55 00.5**	**+2.6**
AAI	**Ambon**	**3.01**	**343**	P	**Pn**	**08 55 00.1**	**-3.0**
MSAI	**Masohi**	**3.22**	**358**	P	**Pn**	**08 55 03.4**	**-2.7**
NLAI	**Namlea**	**3.85**	**330**	P	**Pn**	**08 55 13.2**	**-1.6**
FAKI	**Fak Fak**	**4.84**	**41**	Pn	**Pn**	**08 55 27.6**	**-0.7**
FAKI	**Fak Fak**	**4.84**	**41**	P	**Pn**	**08 55 30.3**	**+2.0**
FAKI	**Fak Fak**	**4.84**	**41**	P	**Pn**	**08 55 27.6**	**-0.7**
SANI	**Sanana**	**5.45**	**326**	P	**Pn**	**08 55 39.2**	**+2.5**
SANI	**Sanana**	**5.45**	**326**	P	**Pn**	**08 55 36.4**	**-0.3**
78nm,0.8s							
KMPI	**Kaimana, Papua**	**5.47**	**58**	P	**Pn**	**08 55 37.6**	**+0.6**
SOEI	**Soe**	**5.69**	**236**		**Pn**	**08 55 40.8**	**+0.6**
SOEI	**Soe**	**5.69**	**236**	P	**Pn**	**08 55 42.6**	**+2.4**
SOEI	**Soe**	**5.69**	**236**	P	**Pn**	**08 55 43.8**	**+3.6**
1.2nm2μm224nm,1.0s							
DRS	**Darwin Rock St**	**6.08**	**163**	P	**Pn**	**08 55 48.6**	**+3.1**
SWI	**Sorong**	**6.10**	**21**	P	**Pn**	**08 55 45.2**	**-0.4**
BBSI	**Bau Bau**	**6.54**	**279**	P	**Pn**	**08 55 53.1**	**+1.3**
MTN	**Manton Dam**	**6.54**	**162**		**Pn**	**08 55 53.1**	**+1.3**
MTN	**Manton Dam**	**6.54**	**162**	P	**Pn**	**08 55 54.3**	**+2.5**
comp=Z,98nm,0.5s							
MTN	**Manton Dam**	**6.54**	**162**	P	**Pn**	**08 55 54.7**	**+2.9**
KDI	**Kendari**	**6.92**	**292**	P	**Pn**	**08 55 57.1**	**+0.1**
KDU	**Kakadu**	**6.93**	**151**	P	**Pn**	**08 55 58.2**	**+1.1**
comp=Z,80nm,0.6s							
KDU	**Kakadu**	**6.93**	**151**	S	**Sn**	**08 57 17.7**	**+1.5**
KDU	**Kakadu**	**6.93**	**151**	P	**Pn**	**08 55 58.2**	**+1.1**
MMRI	**Maumere**	**7.06**	**253**	Pn	**Pn**	**08 55 59.3**	**+0.5**
MMRI	**Maumere**	**7.06**	**253**	P	**Pn**	**08 56 02.0**	**+3.1**
MMRI	**Maumere**	**7.06**	**253**	P	**Pn**	**08 56 00.4**	**+1.5**
comp=Z,0.8nmcomp=Z,3μmcomp=Z,211nm,0.8s							
TNTI	**Ternate**	**7.50**	**347**	Pn	**Pn**	**08 56 04.3**	**-0.6**
TNTI	**Ternate**	**7.50**	**347**	P	**Pn**	**08 56 04.0**	**-0.9**
comp=Z,0.4nmcomp=Z,105nm,0.9s							
EDFI	**Ende, Flores**	**7.61**	**253**	P	**Pn**	**08 56 08.6**	**+2.1**
comp=Z,0.6nmcomp=Z,2μmcomp=Z,197nm,1.0s							
LUWI	**Luwuk**	**8.34**	**311**		**Pn**	**08 56 15.3**	**-1.2**
LUWI	**Luwuk**	**8.34**	**311**	P	**Pn**	**08 56 19.3**	**+2.8**
LUWI	**Luwuk**	**8.34**	**311**	P	**Pn**	**08 56 15.5**	**-1.0**
comp=Z,109nm,0.7s							
BSSI	**Bau Bau, Buton**	**8.52**	**272**	P	**Pn**	**08 56 18.9**	**-0.1**
comp=Z,2μmcomp=Z,140nm,1.1s							
BAKI	**Biak**	**8.84**	**53**	P	**Pn**	**08 56 23.6**	**+0.2**
BKSI	**Bulukumba**	**8.97**	**278**	P	**Pn**	**08 56 26.2**	**+1.0**
KNRA	**Kununurra**	**9.04**	**182**	Pn	**Pn**	**08 56 25.8**	**-0.2**
KNRA	**Kununurra**	**9.04**	**182**	P	**Pn**	**08 56 25.9**	**-0.2**
comp=Z,158nm,0.8s							
BASI	**Baing, Sumba**	**9.13**	**246**	P	**Pn**	**08 56 28.7**	**+1.4**
comp=Z,110nm,0.7s							
WSI	**Waingapu**	**9.19**	**250**	P	**Pn**	**08 56 31.1**	**+2.9**
APSI	**Ampana**	**9.29**	**307**	P	**Pn**	**08 56 28.2**	**-1.4**
comp=Z,68nm,0.9s							
KAPI	**Kappang**	**9.39**	**279**		**Pn**	**08 56 32.1**	**+1.3**
KAPI	**Kappang**	**9.39**	**279**	Pn	**Pn**	**08 56 31.3**	**+0.5**
comp=Z,14nm,0.3s,baz=152,slow=8.7,SNR=48							
KAPI				LR	LR	08 59 56.5	
comp=Z,895nm,20.6s,baz=86,slow=36							
comp=Z,122nm,0.7s							
KAPI	**Kappang**	**9.39**	**279**	P	**Pn**	**08 56 33.0**	**+2.2**
SPSI	**Sidrap Palu**	**9.61**	**285**	P	**Pn**	**08 56 35.1**	**+1.3**
comp=Z,1μmcomp=Z,71nm,0.6s							
TTSI	**Tana Toraja**	**9.85**	**290**	P	**Pn**	**08 56 38.1**	**+0.9**
comp=Z,47nm,0.8s							
MRSI	**Marisa**	**9.98**	**314**	P	**Pn**	**08 56 40.4**	**+1.4**
comp=Z,52nm,0.9s							
WBSI	**Waikabubak, Su**	**10.04**	**252**	P	**Pn**	**08 56 41.9**	**+2.1**
comp=Z,64nm,1.0s							
TOLI2	**Tolitoli**	**11.26**	**313**	Pn	**Pn**	**08 56 57.8**	**+1.4**
TOLI2	**Tolitoli**	**11.26**	**313**	P	**Pn**	**08 56 59.8**	**+3.4**
PLAI	**Plampang**	**11.40**	**258**	P	**Pn**	**08 57 00.7**	**+2.3**
comp=Z,54nm,1.0s							
FITZ	**Fitzroy Crossi**	**11.92**	**196**	Pn	**Pn**	**08 57 03.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**11.92**	**196**	P	**Pn**	**08 57 03.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**11.92**	**196**	Pn	**Pn**	**08 57 03.7**	**-1.8**
comp=Z,1.6nm,0.3s,baz=19,slow=13,SNR=35							
FITZ				Sn	**Sn**	**08 59 11.4**	**-7.2**
comp=Z,2.7nm,0.3s,baz=27,slow=8.2,SNR=4.7							
FITZ				LR	LR	09 03 04.9	
comp=Z,174nm,18.9s,baz=17,slow=44							
TABU	**Tabubil**	**12.17**	**84**	P	**Pn**	**08 57 08.8**	**-0.3**
WB0	**Warramunga Arr**	**14.09**	**159**		**Pn**	**08 57 33.1**	**-2.1**
WRAB	**Tennant Creek**	**14.23**	**159**	Pn	**Pn**	**08 57 34.2**	**-2.9**
WRA	**Warramunga Arr**	**14.23**	**159**	Pn	**Pn**	**08 57 34.0**	**-3.2**
WRA	**Warramunga Arr**	**14.23**	**159**	Pn	**Pn**	**08 57 34.9**	**-2.3**
comp=Z,2.6nm,0.3s,baz=326,slow=13,SNR=50							
WRA				Sn	Sn	09 00 04.7	-11
comp=Z,2.0nm,0.3s,baz=335,slow=22,SNR=6.9							
WRA				LR	LR	09 03 18.2	
comp=Z,654nm,20.5s,baz=350,slow=38							
comp=Z,12nm,0.8s							
WB2	**Warramunga Arr**	**14.24**	**159**		**Pn**	**08 57 34.4**	**-2.9**
KMMI	**Kalianget**	**14.99**	**267**	P	**Pn**	**08 57 47.5**	**0.0**
comp=Z,2μmcomp=Z,67nm,1.3s							
COEN	**Coen**	**15.70**	**119**	Pn	**Pn**	**08 57 54.8**	**-2.0**
COEN				IAmb	IAmb	08 58 03.1	
comp=Z,72nm,0.9s							
COEN	**Coen**	**15.70**	**119**	P	**Pn**	**08 57 56.0**	**-0.9**
comp=Z,85nm,1.1s							
COEN	**Coen**	**15.70**	**119**	P	**Pn**	**08 57 58.4**	**+1.6**
MYLDM	**Lahad Datu**	**15.74**	**318**	Pn	**Pn**	**08 57 57.9**	**+0.6**
MYLDM				IAmb	IAmb	08 58 25.3	
comp=Z,52nm,1.2s							
MYLDM	**Lahad Datu**	**15.74**	**318**	P	**P**	**08 57 59.9**	**-1.4**
MBWA	**Marble Bar**	**17.07**	**211**		**Pn**	**08 58 14.2**	**-0.1**
MBWA	**Marble Bar**	**17.07**	**211**	P	**P**	**08 58 17.1**	**+1.0**
comp=Z,33nm,1.2s							
MBWA	**Marble Bar**	**17.07**	**211**	P	**P**	**08 58 16.4**	**+0.3**
QIS	**Mount Isa**	**17.25**	**145**	P	**Pn**	**08 58 16.1**	**-0.5**
comp=Z,42nm,1.7s							
QIS	**Mount Isa**	**17.25**	**145**	P	**Pn**	**08 58 18.0**	**+1.4**
PSA00	**Pilbara Seismi**	**17.36**	**210**	Pn	**Pn**	**08 58 15.9**	**-2.0**
PSA00				IAmb	IAmb	08 58 21.7	
comp=Z,50nm,0.8s							
PSA00	**Pilbara Seismi**	**17.36**	**210**	P	**Pn**	**08 58 15.1**	**-2.8**
PSA00	**Pilbara Seismi**	**17.36**	**210**	P	**P**	**08 58 20.0**	**+0.7**
NGJI	**Ngawi**	**17.48**	**266**	P	**Pn**	**08 58 19.3**	**-0.2**
comp=Z,37nm,0.9s							
AS31	**Alice Springs**	**17.61**	**165**	Pn	**Pn**	**08 58 19.5**	**-1.6**
AS31	**Alice Springs**	**17.61**	**165**	P	**Pn**	**08 58 19.8**	**-1.2**
comp=Z,15nm,0.7s							
ASAR	**Alice Springs**	**17.61**	**165**	Pn	**Pn**	**08 58 19.8**	**-1.3**
ASAR	**Alice Springs**	**17.61**	**165**	Pn	**Pn**	**08 58 19.9**	**-1.1**
comp=Z,0.9nm,0.3s,baz=344,slow=11,SNR=38							
ASAR				Sn	**Sn**	**09 01 28.4**	**-9.0**
comp=Z,0.7nm,0.3s,baz=344,slow=26,SNR=4.7							
comp=Z,17nm,0.7s							
AS01	**Alice Springs**	**17.62**	**165**	P	**P**	**08 58 23.1**	**+0.9**
PCJI	**Pacitan**	**17.80**	**264**	P	**Pn**	**08 58 21.4**	**-2.1**
comp=Z,36nm,1.0s							
PMG	**Port Moresby**	**18.14**	**100**	P	**Pn**	**08 58 26.7**	**-1.0**
comp=Z,62nm,0.8s,baz=282,slow=7.4,SNR=8.8							
WRKA	**Warakurna**	**18.36**	**182**	P	**P**	**08 58 28.1**	**-2.3**
STKI	**Sintang**	**18.74**	**290**	P	**P**	**08 58 34.4**	**-0.2**
comp=Z,62nm,0.7s							
MTSU	**Mount Surprise**	**18.79**	**129**	P	**P**	**08 58 35.4**	**+0.2**
comp=Z,27nm,0.8s							
MTSU	**Mount Surprise**	**18.79**	**129**	P	**Pn**	**08 58 36.5**	**+0.9**
SBUM	**Sibu**	**19.05**	**298**	P	**Pn**	**08 58 40.0**	**+1.3**
SBUM	**Sibu**	**19.05**	**298**	P	**Pn**	**08 58 40.4**	**+1.6**
KSM	**Kuching**	**20.35**	**293**	P	**P**	**08 58 53.3**	**+1.0**
KSM				IAmb	IAmb	08 58 54.2	
comp=Z,46nm,0.8s							
KSM	**Kuching**	**20.35**	**293**	P	Pn	08 58 53.7	-0.6
BBJI	**Bungbulang**	**21.26**	**266**	P	**P**	**08 59 04.1**	**+1.9**
LEM	**Lembang**	**21.29**	**268**	P	**P**	**08 59 04.0**	**+1.4**
comp=Z,39nm,0.8s,baz=82,slow=10,SNR=9.8							
LEM				LR	LR	09 08 28.7	
comp=Z,312nm,19.6s,baz=152,slow=40							
comp=Z,39nm,0.8s							
LEM	**Lembang**	**21.29**	**268**	P	**P**	**08 59 02.3**	**-0.3**
comp=Z,40nm,0.9s							
TV1H	**Townsville Har**	**21.36**	**128**	P	**P**	**08 59 05.3**	**+2.2**
GIRL	**Giralia**	**21.42**	**220**	P	**P**	**08 59 02.6**	**-1.1**
GIRL	**Giralia**	**21.42**	**220**	P	**P**	**08 59 10.9**	**+7.2**
GIRL	**Giralia**	**21.42**	**220**	P	**P**	**08 59 06.3**	**+2.6**
TPI	**Tanjungpandan**	**21.66**	**279**	P	**P**	**08 59 08.7**	**+2.3**
comp=Z,34nm,1.0s							
OOD	**Oodnadatta**	**22.01**	**164**	P	**P**	**08 59 11.2**	**+1.2**
MEEK	**Meekatharra**	**22.28**	**205**	P	**P**	**08 59 14.3**	**+1.4**
comp=Z,38nm,1.3s							
MEEK	**Meekatharra**	**22.28**	**205**	P	**P**	**08 59 15.2**	**+2.2**
CGJI	**Cibinong**	**23.21**	**269**	P	**P**	**08 59 21.4**	**-1.4**
comp=Z,68nm,1.4s							
INKA	**Innaminka**	**23.79**	**154**	P	**P**	**08 59 30.3**	**+2.0**
FORT	**Forrest**	**24.09**	**182**	P	**P**	**08 59 30.5**	**-0.7**
FORT	**Forrest**	**24.09**	**182**	P	**P**	**08 59 32.5**	**+1.3**
comp=Z,162nm,0.8s							
FORT	**Forrest**	**24.09**	**182**	P	**P**	**08 59 32.6**	**+1.4**
QLP	**Quilpie**	**24.59**	**146**	P	**P**	**08 59 36.7**	**+0.9**
comp=Z,109nm,0.9s							
QLP	**Quilpie**	**24.59**	**146**	P	**P**	**08 59 37.0**	**+1.2**
MDSI	**Maura Dua**	**24.85**	**274**	P	**P**	**08 59 36.3**	**-2.0**
LCRK	**Leigh Creek**	**25.25**	**161**	P	**P**	**08 59 43.6**	**+1.8**
GUMO	**Guam**	**25.46**	**38**	LR	LR	09 11 14.4	
comp=Z,57nm,18.8s,baz=199,slow=40							
MORW	**Morawa**	**25.52**	**207**	P	**P**	**08 59 44.9**	**+0.7**
MORW	**Morawa**	**25.52**	**207**	P	**P**	**08 59 45.7**	**+1.5**
comp=Z,63nm,1.1s							
MORW	**Morawa**	**25.52**	**207**	P	**P**	**08 59 45.6**	**+1.4**
KMBL	**Kambalda**	**25.55**	**194**	P	**P**	**08 59 45.2**	**+0.7**
comp=Z,70nm,1.0s							
KMBL	**Kambalda**	**25.55**	**194**	P	**P**	**08 59 45.2**	**+0.7**
MYKOM	**Kota Tinggi**	**26.50**	**287**	P	**P**	**08 59 53.3**	**0.0**
BBOO	**Buckleboo**	**26.89**	**167**	P	**P**	**08 59 55.2**	**-1.4**
KLBR	**Kellerberrin**	**27.03**	**202**	P	**P**	**08 59 58.6**	**+0.7**
comp=Z,43nm,0.8s							
KLBR	**Kellerberrin**	**27.03**	**202**	P	**P**	**08 59 58.9**	**+1.0**
STKA	**Stephens Creek**	**27.75**	**157**	P	**P**	**09 00 05.7**	**+1.3**
STKA	**Stephens Creek**	**27.75**	**157**	P	**P**	**09 00 04.5**	**+0.1**
comp=Z,5.2nm,0.7s,baz=339,slow=9.8,SNR=8.9							
STKA				LR	LR	09 12 04.1	
comp=Z,382nm,19.0s,baz=333,slow=38							
comp=Z,5.2nm,0.7s							
NWAO	**Narrogin (SRO)**	**28.42**	**201**	P	**P**	**09 00 10.7**	**+0.4**
NWAO				IAmb	IAmb	09 00 33.9	
comp=Z,26nm,1.1s							
PPI	**Padang Panjang**	**29.23**	**281**	P	**P**	**09 00 17.1**	**-0.7**
comp=Z,34nm,0.9s							
CMSA	**Cobar Meteorol**	**29.30**	**150**	P	**P**	**09 00 19.7**	**+1.6**
SISI	**Saibi**	**30.34**	**279**	P	**P**	**09 00 27.8**	**+0.2**
comp=Z,45nm,0.9s							
PSI	**Prapat**	**31.49**	**286**	LR	LR	09 14 17.2	
comp=Z,242nm,19.5s,baz=135,slow=38							
PSI	**Prapat**	**31.49**	**286**	P	**P**	**09 00 37.9**	**0.0**
ARPS	**Mount Arapiles**	**32.23**	**161**	P	**P**	**09 00 44.8**	**+0.8**
comp=Z,49nm,0.9s							
GSI	**Gunungsitoli**	**32.38**	**283**	P	**P**	**09 00 43.8**	**-1.8**
comp=Z,27nm,0.8s							
JOW	**Kunigami**	**33.23**	**359**	P	**P**	**09 00 53.0**	**+0.2**
JOW	**Kunigami**	**33.23**	**359**	P	**P**	**09 00 52.5**	**-0.3**
comp=Z,14nm,0.8s,baz=192,slow=9.3,SNR=3.8							
JOW				LR	LR	09 14 49.7	
comp=Z,72nm,20.2s,baz=318,slow=37							
comp=Z,14nm,0.8s							
JCJ	**Chichijima**	**35.82**	**20**	LR	LR	09 16 43.0	
comp=Z,30nm,18.2s,baz=243,slow=38							
CMAR	**Chiang Mai Arr**	**38.75**	**310**	P	**P**	**09 01 39.9**	**-0.4**
comp=Z,1.7nm,0.4s,baz=139,slow=6.9,SNR=10							
CMAR				LR	LR	09 20 12.4	
comp=Z,65nm,19.4s,baz=115,slow=40							
comp=Z,1.7nm,0.4s							
CHTO	**Chiang Mai**	**38.96**	**311**	P	**P**	**09 01 42.1**	**+0.1**
MOO	**Moorlands**	**39.15**	**159**	P	**P**	**09 01 44.0**	**+0.7**
comp=Z,110nm,2.9s							
DZM	**Mont Dzumac**	**39.22**	**117**	LR	LR	09 18 17.7	
comp=Z,110nm,18.1s,baz=296,slow=37							
JNU	**Nakatsue**	**39.53**	**2**	LR	LR	09 16 41.7	
comp=Z,62nm,20.4s,baz=162,slow=34							
NJ2	**Nanjing**	**39.64**	**346**	*e*P	**P**	**09 01 48.5**	**+1.1**
NJ2				pmax	pmax		
comp=Z,24nm,0.6s							
JHJ	**Hachijo jima 2**	**40.78**	**14**	LR	LR	09 17 33.6	
comp=Z,121nm,18.9s,baz=196,slow=34							
PZH	**PanZhiHua**	**42.23**	**322**	P	**P**	**09 02 11.8**	**+2.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,110nm,5.1s							
MJAR	**Matsushiro Arr**	**43.75**	**11**	P	**P**	**09 02 19.6**	**-1.6**
comp=Z,3.0nm,0.8s,baz=192,slow=10.0,SNR=6.2							
MJAR				LR	LR	09 20 08.6	
comp=Z,48nm,20.5s,baz=170,slow=36							
comp=Z,3.0nm,0.8s							
KSAR	**Wonju Array Be**	**43.81**	**359**	P	**P**	**09 02 21.1**	**-0.4**
KSRS	**Korea Array**	**43.82**	**359**	P	**P**	**09 02 21.4**	**-0.2**
comp=Z,2.5nm,0.8s,baz=176,slow=9.6,SNR=9.3							
comp=Z,2.5nm,0.8s							
XAN	**Xi'an**	**44.68**	**336**	P	**P**	**09 02 28.0**	**-0.6**
XAN				pmax	pmax		
comp=Z,11nm,1.0s							
HNS	**HongShan**	**45.77**	**344**	⇓P	**P**	**09 02 36.3**	**-0.8**
HNS				pmax	pmax

SIMJ IAmb IAmb 09 05 37.1
comp=Z,4.1nm,0.8s
KURBB Kurchatov Arra 71.67 329 P **P** **09 05 36.8 -0.5**
comp=Z,3.1nm,0.8s,baz=129,slow=5.2,SNR=17
comp=Z,3.1nm,0.8s
KURK Kurchatov 71.68 329 P **P** **09 05 36.7 -0.6**
KURK IAmb IAmb 09 05 49.0
comp=Z,6.7nm,0.8s
KKAR Karatay Array 72.41 319 P **P** **09 05 41.5 -0.5**
VNDA Vanda 72.97 173 P **P** **09 05 45.1 +0.4**
VNDA Vanda 72.97 173 P **P** **09 05 45.4 +0.7**
comp=Z,1.2nm,1.1s,baz=340,slow=6.1,SNR=8.9
VNDA LR LR 09 38 08.7
comp=Z,53nm,18.6s,baz=288,slow=36
comp=Z,1.2nm,1.1s
BVAR Borovoye Array 77.22 328 P **P** **09 06 09.3 -0.3**
comp=Z,1.3nm,0.6s,baz=112,slow=6.9,SNR=4.5
comp=Z,1.3nm,0.6s
NRIK Noril'sk 80.94 346 P **P** **09 06 29.1 -0.5**
comp=Z,2.1nm,0.6s,baz=123,slow=5.5,SNR=6.6
NRIK LR LR 09 47 30.8
comp=Z,54nm,18.3s,baz=348,slow=40
comp=Z,2.1nm,0.6s
AKTO Aktyubinsk 83.17 322 P **P** **09 06 43.3 +1.5**
comp=Z,0.7nm,0.2s,baz=85,slow=2.5,SNR=1.9
comp=Z,0.7nm,0.2s
QSPA South Pole Qui 83.39 180 P **P** **09 06 42.9 +0.1**
comp=Z,3.5nm,1.0s,baz=319,slow=1.3,SNR=6.1
QSPA LR LR 09 42 58.6
comp=Z,158nm,20.2s,baz=268,slow=35
comp=Z,3.5nm,1.0s
SYO Syowa Base 83.70 201⇑ *eP* **P** **09 06 44.4 +0.2**
RAYN Ar Rayn 86.72 294 P **P** **09 06 59.8 -0.5**
RAYN IAmb IAmb 09 07 01.1
comp=Z,3.1nm,0.8s
M16K Timber Creek 87.13 28 P **P** **09 07 01.3 -0.1**
M16K IAmb IAmb 09 07 03.8
comp=Z,6.5nm,1.1s
ELIB Princess Elisa 88.60 197 *dP* P 09 07 13.6 +5.1
KBZ Khabaz 91.73 314 P **P** **09 07 23.4 +0.1**
comp=Z,0.4nm,0.4s,baz=304,slow=7.3,SNR=0.9
comp=Z,0.4nm,0.4s
ILAR Eielson Array 93.38 25 P **P** **09 07 28.2 -2.4**
comp=Z,0.2nm,0.8s,baz=211,slow=4.3,SNR=1.4
ILAR LR LR 09 53 19.3
comp=Z,60nm,18.0s,baz=248,slow=38
comp=Z,0.2nm,0.8s
SNAA Sanae 95.84 194 LR LR 09 51 29.8
comp=Z,117nm,18.2s,baz=113,slow=36
MMAI Mount Meron Ar 96.60 302 LR LR 09 58 38.9
comp=Z,41nm,18.1s,baz=90,slow=40
LBTB Lobatse 99.31 243 LR LR 09 47 04.4
comp=Z,37nm,20.7s,baz=144,slow=32
BMRD Maredsous 116.51 324 *dP*KPdf **PKPdf** **09 12 58.8 -0.8**
TXAR Lajitas Array 125.52 59 PKP **PKPdf** **09 13 17.4 -0.3**
comp=Z,0.2nm,0.6s,baz=339,slow=3.7,SNR=3.5
ESDC Sonseca Array 126.55 315 PKP **PKPdf** **09 13 17.5 -1.9**
comp=Z,0.4nm,0.3s,baz=169,slow=2.1,SNR=1.7
TORD Torodi Ar. Bea 127.81 281 PKP **PKPdf** **09 13 21.9 -0.4**
comp=Z,1.2nm,0.3s,baz=76,slow=2.5,SNR=1.9
PLCA Paso Flores 129.58 161 PKP **PKPdf** **09 13 25.7 +0.5**
comp=Z,1.4nm,1.0s,baz=206,slow=5.0,SNR=2.7
CPUP Villa Florida 146.70 170 PKPbc **PKPdf** **09 13 57.0 +0.2**
comp=Z,2.5nm,1.0s,baz=360,slow=5.8,SNR=3.6
LPAZ La Paz 151.61 143 PKPbc **PKPbc** **09 14 12.6 +0.8**
comp=Z,0.7nm,0.4s,baz=357,slow=1.6,SNR=3.6

*ASRS **29** 08:59:22.0±1.2,54°.22N×86°.41E, $h0^{km}$, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 08:59:20.9±3.2,54°.15N×86°.63E, $h0^{km}$, mbtmp2.4/2, ML1.8/2, Error ellipse: s-maj=25.5km s-min=15.0km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**260**	I	I	09 04 40.0	
	baz=76,slow=318,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.09**	**260**	Pg	Pb	08 59 42.4	-0.2
	0.7nm,0.3s,baz=77,slow=17,SNR=8.3						
ZALV				Lg	Lg	08 59 56.5	
	2.0nm,0.3s,baz=82,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**6.09**	**238**	Pn	Pn	09 00 52.2	+0.1
	baz=53,slow=14,SNR=1.6						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**7.87**	**202**	Pn	Pn	09 01 17.6	+1.1
	baz=22,slow=8.4,SNR=2.2						
	0.1nm,0.5s						

*ASRS **29** 09:09:16.0±1.2,54°.28N×86°.87E, $h0^{km}$, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 09:09:18.8±3.4,54°.29N×86°.90E, $h0^{km}$, mbtmp2.8/2, ML2.6/2, 1C-1D, Error ellipse: s-maj=30.7km s-min=18.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**255**	I	I	09 17 40.0	
	baz=75,slow=319,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.27**	**255**	Pg	Pg	09 09 41.3	-1.8
	2.6nm,0.3s,baz=70,slow=17,SNR=15						
ZALV				Lg	Lg	09 09 59.9	
	2.3nm,0.3s,baz=76,slow=28,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.30**	**238**	Pn	Pn	09 10 54.0	+1.2
	0.1nm,0.3s,baz=56,slow=13,SNR=6.5						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**6.30**	**238**	⇓Pg	Pn	09 10 48.8	-4.0
	1.0nm,0.4s,baz=321,slow=16						
KURBB				⇑Lg	Lg	09 11 17.8	
	7.7nm,0.7s,baz=308,slow=28						
MKAR	**Makanchi Array**	**8.06**	**203**	Pn	Pn	09 11 18.1	+1.2
	0.1nm,0.3s,baz=27,slow=15,SNR=1.6						
	0.1nm,0.3s						

GCG 29 09:16:17.3±0.3,14°.50N×90°.72W, $h4^{km}$±1km, MD3.4, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.21**	**64**	*eP*	Pg	09 16 21.0	-0.4
GCG4	**OSOP**	**0.21**	**64**	*eP*		09 16 21.0	
FG8	**Yepocapa, Chim**	**0.28**	**146**	*eP*		09 16 22.6	
FG8				*eS*		09 16 26.9	
PS001	**Antigua, Sacat**	**0.33**	**123**	*eP*		09 16 18.9	
PS001				*eS*		09 16 20.1	
STG0	**El Palmar, Qui**	**0.60**	**263**	*eP*		09 16 34.2	

*WEL **29** 09:26:20.8±1.1,32°.5S±5°.×17°.7W±1°.7, $h12^{km}$, M4.4/4, mB4.9/1, ML4.8/9, MLv4.4/4, Mw(mB)4.1/1, Error ellipse: s-maj=23.2km s-min=3.3km az=102.3, confirmed*
*IDC **29** 09:26:23.3±3.4,31°.99S×177°.85W, $h0^{km}$, mb3.8/2, mbtmp3.7/3, ML3.2/1, MS3.0/1, Error ellipse: s-maj=75.7km s-min=37.5km az=113.0*
ISC 29 09:26:22.5±2.1,31°.92S±0°.09×177°.5W±0°.3, $h18^{km}$, n19, σ1°51/29, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**352**	P	**Pn**	**09 27 05.0**	**+0.3**
GLKZ				P	**Sn**	**09 27 35.8**	**-0.8**
RIZ	**Raoul Island**	**2.69**	**352**	P	**Pn**	**09 27 04.5**	**-0.4**
RIZ				S	**Sn**	**09 27 36.8**	**-0.3**
WMGZ	**Waiomatatini S**	**6.78**	**209**	P	**Pn**	**09 28 02.2**	**+1.2**
WMGZ				S	**Sn**	**09 29 19.7**	**+1.9**
PKGZ	**Pakihiroa**	**6.96**	**210**	S	**Sn**	**09 29 23.1**	**+0.8**
HAZ	**Te Kaha**	**7.00**	**212**	P	**Pn**	**09 28 04.0**	**0.0**
HAZ				S	**Sn**	**09 29 25.2**	**+2.1**
PUZ	**Puketiti**	**7.06**	**208**	P	**Pn**	**09 28 05.2**	**+0.2**
PUZ				S	**Sn**	**09 29 25.0**	**+0.2**
RUGZ	**Raukumara Rang**	**7.22**	**212**	P	**Pn**	**09 28 07.0**	**-0.3**
RUGZ				S	**Sn**	**09 29 30.5**	**+1.7**
TWGZ	**Tauwhareparae**	**7.26**	**209**	P	**Pn**	**09 28 04.0**	**-3.8**
TWGZ				S	**Sn**	**09 29 29.4**	**-0.4**
CNGZ	**Carnagh Statio**	**7.43**	**207**	P	**Pn**	**09 28 08.2**	**-1.9**
CNGZ				S	**Sn**	**09 29 36.0**	**+2.1**
MWZ	**Matawai**	**7.59**	**211**	P	**Pn**	**09 28 11.8**	**-0.4**
MWZ				S	**Sn**	**09 29 36.3**	**-1.5**
URZ	**Urewera**	**7.72**	**213**	Pn	**Pn**	**09 28 13.7**	**-0.2**
	0.4nm,0.3s,baz=348,slow=5.2,SNR=6.9						
URZ				Sn	**Sn**	**09 29 38.6**	**-2.3**
	1.4nm,0.3s,baz=295,slow=20,SNR=7.6						
	4.4nm,0.8s						
URZ	**Urewera**	**7.72**	**213**	P	**Pn**	**09 28 13.4**	**-0.5**
URZ				S	**Sn**	**09 29 38.2**	**-2.7**
RIGZ	**Rimuhau**	**7.80**	**208**	P	**Pn**	**09 28 15.1**	**-0.1**
RIGZ				S	**Sn**	**09 29 41.9**	**-1.2**
SNGZ	**Shannon Statio**	**8.04**	**210**	S	**Sn**	**09 29 46.9**	**-2.0**
OUZ	**Omahuta**	**8.13**	**244**	P	Pn	09 28 25.9	+6.2
ASAR	**Alice Springs**	**43.48**	**268**	P	**P**	**09 34 26.1**	**+1.1**
	0.5nm,0.5s,baz=103,slow=7.2,SNR=8.9						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.60**	**273**	P	**P**	**09 34 35.1**	**+1.1**
	0.9nm,0.6s,baz=113,slow=7.8,SNR=9.0						
	0.9nm,0.6s						
GUMO	**Guam**	**57.86**	**315**	LR	LR	09 58 09.5	
	comp=Z,15nm,22.0s,baz=80,slow=33						
FINES	**FINESS Array B**	**146.72**	**340**	PKPbc	**PKiKP**	**09 46 05.2**	**0.0**
	1.1nm,0.6s,baz=66,slow=3.4,SNR=3.4						

*AEIC **29** 09:29:28.8±3.4,51°.18N±0°.07×178°.24W±0°.06, $h37^{km}$±9km, Error ellipse: s-maj=10.7km s-min=4.9km az=198.0*
NEIC 29 09:29:27.7±2.1,51°.12N±0°.08×178°.25W±0°.05, $h50^{km}$±17km, mb3.7/21, ML3.0 (AEIC), Error ellipse: s-maj=12.2km s-min=4.0km az=189.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.73**	**10**		Pn	09 29 41.9	0.0
GAEA	**Gareloi East**	**0.73**	**335**		Pn	09 29 42.5	+0.6
GAEA					Sn	09 29 53.4	+1.2
GASW	**Gareloi Southw**	**0.76**	**330**		Pn	09 29 42.5	+0.3
GASW					Sn	09 29 52.7	0.0
GANE	**Gareloi Northe**	**0.77**	**335**		Pn	09 29 42.7	+0.3
GANO	**Gareloi North**	**0.78**	**334**		Pn	09 29 42.9	+0.4
TAFP	**Tanaga Falls P**	**0.80**	**12**		Pn	09 29 42.6	-0.1
TAFP					Sn	09 29 53.6	-0.1
TANO	**Tanaga North**	**0.80**	**6**		Pn	09 29 43.1	+0.3
KIMD	**Kanaga Island**	**0.90**	**44**		Pn	09 29 43.8	-0.3
KIWB	**Kanaga Island**	**1.01**	**43**	Pn	Pn	09 29 45.2	-0.3
KIKV	**Kanaga Island**	**1.02**	**41**		Pn	09 29 45.5	-0.1
KIRH	**Kanaga Island**	**1.06**	**42**		Pn	09 29 47.6	+1.4
ADK	**Adak**	**1.24**	**51**	Pn	Pn	09 29 48.4	-0.3
GSCK	**Great Sitkin C**	**1.58**	**55**		Pn	09 29 55.0	+1.7
GSTR	**Great Sitkin T**	**1.68**	**54**	Pn	Pn	09 29 56.4	+1.8
ATKA	**Atka Island**	**2.75**	**65**		Pn	09 30 07.4	-1.8
ATKA					Sn	09 30 42.2	+1.0
ANM	**Nome**	**15.07**	**22**	Pn	Pn	09 32 55.6	-1.6
P18K	**Big Mountain,**	**15.45**	**49**	Pn	Pn	09 33 00.3	-1.8
P18K				IAmb	IAmb	09 33 13.0	
	comp=Z,8.4nm,1.4s						
O18K	**Koktuh Hills**	**15.64**	**47**	Pn	Pn	09 33 03.5	-1.1
O18K				IAmb	IAmb	09 33 18.2	
	comp=Z,6.8nm,1.3s						
N18K	**Kilae Creek**	**15.70**	**44**	Pn	Pn	09 33 03.7	-1.5
OHAK	**Old Harbor**	**15.79**	**58**	Pn	Pn	09 33 05.1	-1.3
OHAK				IAmb	IAmb	09 33 11.6	
	comp=Z,8.2nm,1.1s						
KDAK	**Kodiak Island**	**16.28**	**56**	Pn	Pn	09 33 11.7	-0.9
N19K	**Bonanza Creek**	**16.37**	**44**	Pn	Pn	09 33 12.2	-1.7
N19K				IAmb	IAmb	09 33 53.5	
	comp=Z,9.5nm,1.4s						
L19K	**White Mountain**	**16.86**	**40**	Pn	Pn	09 33 19.3	-0.6
SEW	**Seward**	**18.45**	**50**	P	P	09 33 38.8	0.0
SEW				IAmb	IAmb	09 33 41.3	
	comp=Z,8.1nm,1.3s						
KTH	**Kantishna Hill**	**19.11**	**39**	P	P	09 33 44.1	-2.0
KTH				IAmb	IAmb	09 33 51.8	
	comp=Z,6.5nm,1.2s						
PWL	**Port Wells**	**19.19**	**48**	P	P	09 33 46.4	-0.6
SML	**Sawmill**	**19.49**	**45**	P	P	09 33 50.9	+0.5
SCM	**Sheep Creek Mo**	**19.95**	**46**	P	P	09 33 55.9	+0.5
SCM				IAmb	IAmb	09 34 39.5	
	comp=Z,4.2nm,1.1s						
B20K	**Meade River**	**21.37**	**20**	P	P	09 34 11.5	+1.1
E22K	**Anaktuvuk Pass**	**21.37**	**27**	P	P	09 34 10.3	-0.3
B21K	**Ikpikpuk River**	**21.65**	**22**	P	P	09 34 13.6	+0.1
B21K				IAmb	IAmb	09 34 40.7	
	comp=Z,3.2nm,1.2s						
RIDG	**Independent Ri**	**21.66**	**42**	P	P	09 34 13.8	+0.1
RIDG				IAmb	IAmb	09 34 56.2	
	comp=Z,3.7nm,1.4s						
SCRK	**Sand Creek**	**22.10**	**41**	P	P	09 34 17.9	-0.6
D23K	**Nanushuk River**	**22.22**	**26**	P	P	09 34 20.5	+0.9
D23K				IAmb	IAmb	09 34 26.1	
	comp=Z,3.7nm,1.4s						
C23K	**Itkillik River**	**22.80**	**25**	P	P	09 34 24.6	-1.2
BMAR	**Burnt Mountain**	**23.26**	**33**	P	P	09 34 29.7	-0.8
K29M	**Barlow Dome**	**24.82**	**44**	P	P	09 34 45.5	+0.5
K29M				IAmb	IAmb	09 35 09.8	
	comp=Z,2.3nm,1.3s						

IDC 29 09:33:24.4±269.0, 55°.44N×38°.89E, $h0^{km}$, Error ellipse: s-maj=127.3km s-min=33.3km az=145.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**1.59**	**325**	I	I	09 42 10.0	
	0.3nm,0.7s,baz=142,slow=330,SNR=9.2						
I26DE	**FREYUNG INFRAS**	**16.74**	**257**	I	I	11 16 50.0	
	baz=64,slow=334,SNR=0.3						
I46RU	**ZALESOVO INFRA**	**26.22**	**74**	I	I	12 16 50.0	
	baz=292,slow=328,SNR=1.9						
I48TN	**KESRA INFRASON**	**28.17**	**238**	I	I	12 22 50.0	
	baz=37,slow=319,SNR=0.8						

*IDC **29** 09:35:30.2±3.1,54°.44N×87°.18E, $h0^{km}$, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=28.4km s-min=19.9km az=44.0*
ASRS 29 09:35:29.0±0.9,54°.38N×86°.93E, $h0^{km}$, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**252**	I	I	09 44 20.0	
	baz=70,slow=319,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.31**	**252**	Pg	Pn	09 35 55.7	+1.1
	2.1nm,0.3s,baz=65,slow=16,SNR=15						
ZALV				Lg	Lg	09 36 17.4	
	1.8nm,0.3s,baz=73,slow=29,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.36**	**237**	Pn	Pn	09 37 07.9	+4.0
	0.1nm,0.3s,baz=53,slow=13,SNR=8.9						
KURBB				Lg	Lg	09 38 56.3	
	baz=52,slow=32,SNR=3.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**8.15**	**203**	Pn	Pn	09 37 32.4	+3.9
	0.1nm,0.3s,baz=30,slow=15,SNR=6.1						
	0.2nm,0.3s						

*ASRS **29** 09:39:11.0±0.9,53°.97N×86°.58E, $h0^{km}$, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 09:39:12.3±2.6,53°.90N×86°.74E, $h0^{km}$, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=22.2km s-min=13.5km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**273**	I	I	09 46 51.6	
	baz=90,slow=320,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.14**	**273**	Pg	Pg	09 39 32.4	-1.7
	1.3nm,0.3s,baz=92,slow=17,SNR=8.4						
ZALV				Lg	Lg	09 39 49.8	
	2.1nm,0.3s,baz=96,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.01**	**240**	Pn	Pn	09 40 43.5	+1.0
	baz=56,slow=13,SNR=6.2						
KURBB				Lg	Lg	09 42 25.7	
	baz=58,slow=33,SNR=2.1						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.66**	**204**	Pn	Pn	09 41 06.4	+1.2
	0.1nm,0.3s,baz=28,slow=15,SNR=6.7						
MKAR				Lg	Lg	09 43 16.0	
	baz=22,slow=29,SNR=2.1						
	0.2nm,0.2s						

*NNC **29** 09:44:33.1±2.3,54°.62N×83°.71E, $h0^{km}$, mb3.6, mpv2.9, Error ellipse: s-maj=19.6km s-min=6.4km az=12.0, Suspected Mining explosion.*
*ASRS **29** 09:44:33.0±0.8,54°.65N×83°.63E, $h0^{km}$, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **29** 09:44:33.7±1.6,54°.66N×83°.78E, $h0^{km}$, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=14.9km s-min=9.6km az=14.0*
ISC 29 09:44:34.9±2.5,54°.6N±0°.2×83°.64E±0°.05, $h0^{km}$, n9, σ1°73/17, 5C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**131**	I	I	09 49 50.0	
	baz=318,slow=326,SNR=5.9						
ZAA0	**Zalesovo Array**	**0.93**	**131**	⇓P	**Pg**	**09 44 50.6**	**-2.0**
	0.7nm,0.3s						
ZAA0				⇑S	**Sg**	**09 45 04.4**	**-0.2**
	7.8nm,0.5s						
ZALV	**Zalesovo Beam**	**0.93**	**131**	Pg	**Pg**	**09 44 50.8**	**-1.8**
	3.1nm,0.3s,baz=323,slow=17,SNR=22						
ZALV				Lg	Lg	09 45 05.3	
	11nm,0.3s,baz=323,slow=26,SNR=30						
KURK	**Kurchatov**	**4.92**	**220**	⇑Pn	**Pn**	**09 45 51.5**	**+1.5**
	2.0nm,0.6s						
KURK				⇑Pg	**Pg**	**09 46 07.2**	**-1.9**
	2.7nm,0.5s						
KURK				⇑Sn	**Sn**	**09 46 46.1**	**-1.4**
	2.5nm,0.5s						
KURK				⇑Lg	Lg	09 47 11.8	
	7.5nm,0.5s						
KURBB	**Kurchatov Arra**	**5.03**	**220**	Pn	**Pn**	**09 45 52.2**	**+0.7**
	0.1nm,0.3s,baz=39,slow=14,SNR=16						
KURBB				Pg	**Pb**	**09 46 06.3**	**+2.6**
	0.2nm,0.3s,baz=34,slow=16,SNR=7.2						
KURBB				Sn	**Sn**	**09 46 50.4**	**+0.2**
	0.2nm,0.3s,baz=39,slow=26,SNR=5.8						
KURBB				Lg	Lg	09 47 17.9	
	0.2nm,0.3s,baz=40,slow=29,SNR=5.7						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**5.03**	**220**	⇓Pn	**Pn**	**09 45 52.0**	**+0.5**
	1.2nm,0.4s						
KURBB				⇓Pg	**Pg**	**09 46 07.7**	**-3.5**
	3.9nm,0.8s						
KURBB				⇓Sn	**Sn**	**09 46 51.0**	**+0.7**
	5.8nm,0.6s						
KURBB				⇓Lg	Lg	09 47 17.0	
	18nm,0.6s						
MK31	**Makanchi Array**	**7.83**	**187**	⇓Pn	**Pn**	**09 46 29.8**	**-0.2**
	0.2nm,0.4s,baz=13,slow=13,SNR=5.8						
MK31				⇓Sn	**Sn**	**09 47 58.4**	**-0.9**
	0.6nm,0.6s,baz=69,slow=39,SNR=2.7						
MK31				⇓Lg	Lg	09 48 43.2	
	1.1nm,0.5s,baz=234,slow=34,SNR=4.6						
MKAR	**Makanchi Array**	**7.83**	**187**	Pn	**Pn**	**09 46 30.6**	**+0.6**
	0.2nm,0.3s,baz=13,slow=12,SNR=4.9						
MKAR				Sn	**Sn**	**09 48 01.5**	**+2.3**
	0.1nm,0.3s,baz=18,slow=20,SNR=3.2						
MKAR				Lg	Lg	09 48 42.7	
	0.2nm,0.3s,baz=9.6,slow=27,SNR=3.9						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**8.00**	**264**	Pn	**Pn**	**09 46 31.5**	**-0.8**
	0.1nm,0.3s,baz=61,slow=16,SNR=5.8						
	1.4nm,0.4s						

*THE **29** 10:00:39.5, 38°.34N×22°.34E, $h7^{km}$, ML3.4/18, Error ellipse: s-maj=0.7km s-min=0.4km az=275.0*
*ATH **29** 10:00:39.1, 38°.34N×22°.32E, $h10^{km}$, ML3.4/31, Manual Solution by K.Orfanogiannaki First location: 2019/03/29 10:01:30, This location: 2021/03/25 09:45:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*NEIC **29** 10:00:41.0±1.2, 38°.35N±0°.04×22°.47E±0°.06, $h19^{km}$±5^{km}, mb4.3/22, Error ellipse: s-maj=7.0km s-min=6.0km az=80.0*
*IDC **29** 10:00:42.2±2.8, 38°.35N×22°.33E, $h36^{km}$±27^{km}, mb3.6/9, mbtmp3.8/13, ML3.0/3, MS3.6/2, Error ellipse: s-maj=19.3km s-min=16.9km az=166.0*
ISC 29 10:00:39.2±0.8, 38°.34N±0°.02×22°.35E±0°.02, $h11^{km}$±5^{km}, n151, σ0°87/193, mb4.3/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.17**	**286**	P	**Pg**	**10 00 43.0**	**0.0**
KALE				S	**Sg**	**10 00 45.4**	**-0.3**
	43μm,0.3s						
KALE	**Kalithea**	**0.17**	**286**	P	**Pg**	**10 00 43.0**	**0.0**
KALE				S	**Sg**	**10 00 45.2**	**-0.5**
DLFA	**Delphi**	**0.18**	**41**	P	**Pg**	**10 00 43.4**	**+0.3**
DLFA				S	**Sg**	**10 00 46.5**	**+0.5**
ALIK	**Aliki, Aigiali**	**0.20**	**246**	P	**Pg**	**10 00 43.8**	**+0.3**
ALIK				S	**Sg**	**10 00 47.1**	**+0.6**
SERG	**Sergoula**	**0.24**	**287**	P	**Pg**	**10 00 43.9**	**-0.2**
SERG				S	**Sg**	**10 00 47.0**	**-0.5**
KLV	**Kalavryta, Ach**	**0.34**	**207**	P	**Pg**	**10 00 45.9**	**-0.1**
KLV				S	**Sg**	**10 00 50.0**	**-0.5**
KLV	**Kalavryta, Ach**	**0.34**	**207**	P	**Pg**	**10 00 45.9**	**-0.1**
KLV				S	**Sg**	**10 00 50.1**	**-0.4**
EFP	**Efpalio**	**0.36**	**284**	P	**Pg**	**10 00 46.0**	**-0.3**
EFP				S	**Sg**	**10 00 51.4**	**+0.3**
	11μm,0.3s						
EFP	**Efpalio**	**0.36**	**284**	P	**Pg**	**10 00 46.0**	**-0.3**
EFP				S	**Sg**	**10 00 50.4**	**-0.6**
GUR	**Goura**	**0.41**	**180**	P	**Pg**	**10 00 47.3**	**0.0**
GUR				S	**Sg**	**10 00 52.9**	**+0.2**
	10μm,0.2s						
GUR	**Goura**	**0.41**	**180**	P	**Pg**	**10 00 47.2**	**0.0**
GUR				S	**Sg**	**10 00 52.6**	**-0.1**
ANX	**Ano Chora**	**0.42**	**307**	P	**Pg**	**10 00 47.1**	**-0.4**
ANX				S	**Sg**	**10 00 53.5**	**+0.5**
	13μm,0.3s						
ANX	**Ano Chora**	**0.42**	**307**	P	**Pg**	**10 00 47.0**	**-0.4**
ANX				S	**Sg**	**10 00 53.1**	**+0.1**
UPR	**University Cam**	**0.44**	**262**	P	**Pg**	**10 00 48.0**	**+0.1**
UPR				S	**Sg**	**10 00 54.2**	**+0.4**
UPR	**University Cam**	**0.44**	**262**	P	**Pg**	**10 00 47.8**	**-0.1**
UPR				S	**Sg**	**10 00 53.7**	**-0.1**
KIAA	**Kiato**	**0.46**	**136**	P	**Pg**	**10 00 48.4**	**+0.2**
KIAA				S	**Sb**	**10 00 55.3**	**-0.7**
PATC	**Patra C**	**0.47**	**261**	P	**Pg**	**10 00 48.5**	**+0.1**
PATC				S	**Sg**	**10 00 54.1**	**-0.4**
AXAR	**Agios Charalam**	**0.49**	**30**	P	**Pb**	**10 00 48.9**	**-0.9**
AXAR				S	**Sb**	**10 00 57.0**	**0.0**
AXAR	**Agios Charalam**	**0.49**	**30**	P	**Pb**	**10 00 48.8**	**-0.9**
AXAR				S	**Sb**	**10 00 56.9**	**0.0**
LTK	**Loutraki**	**0.58**	**123**	P	**Pb**	**10 00 51.0**	**-0.4**
LTK				S	**Sb**	**10 00 59.7**	**0.0**
LKR	**Lokris**	**0.60**	**59**	P	**Pb**	**10 00 50.9**	**-0.7**
LKR				S	**Sb**	**10 00 59.7**	**-0.3**
DRO	**Drossia**	**0.64**	**232**	P	**Pg**	**10 00 51.1**	**-0.5**
DRO				S	**Sg**	**10 01 00.7**	**+0.8**
	6μm,0.4s						
DRO	**Drossia**	**0.64**	**232**	P	**Pg**	**10 00 51.0**	**-0.5**
DRO				S	**Sg**

ATH			S		Sn	10 01 17.2 +0.5
	2μm,0.7s					
ATH	Athens Observa	1.14 109	P		Pn	10 01 01.5 +0.4
NOAC	Athens-Thissio	1.14 108	P		Pn	10 01 01.4 +0.4
KRND	KRANIDI	1.15 146	P		Pn	10 01 01.4 +0.2
KRND	KRANIDI	1.15 146	P		Pn	10 01 01.4 +0.2
NEO	Neokhori	1.18 35	P		Pn	10 01 01.7 0.0
NEO			S		Sn	10 01 18.2 +0.5
	2μm,0.4s					
NEO	Neokhori	1.18 35	P		Pn	10 01 01.6 -0.1
ATHU	Athens Univers	1.20 108	P		Pn	10 01 01.8 0.0
ITM	Ithomi	1.21 196	P		Pg	10 01 01.4 -1.0
ITM			S		Sn	10 01 19.8 +1.4
	988nm,0.3s					
ITM	Ithomi	1.21 196	Pn		Pg	10 01 01.3 -1.0
ITM			Sn		Sn	10 01 19.8 +1.4
ITM	Ithomi	1.21 196	P		Pg	10 01 01.2 -1.2
XOR	Xorichti	1.22 33	P		Pn	10 01 02.0 -0.1
XOR	Xorichti	1.22 33	P		Pn	10 01 02.0 -0.1
PTL	Penteli	1.23 103	P		Pn	10 01 02.5 +0.1
PTL			S		Sn	10 01 19.6 +0.6
	1μm,0.7s					
PTL	Penteli	1.23 103	P		Pn	10 01 02.4 +0.1
VLY	Voula,Athens	1.24 113	P		Pg	10 01 02.4 -0.7
THL	Klokotos Trika	1.25 348	P		Pn	10 01 03.0 +0.4
THL	Klokotos Trika	1.25 348	P		Pn	10 01 02.9 +0.4
RTZL	Ratzakli, Kefa	1.27 258	P		Pn	10 01 02.6 -0.2
RTZL			S		Sn	10 01 20.9 +1.1
DION	Dionisos Attik	1.28 101	P		Pb	10 01 03.3 +0.1
DION			S		Sn	10 01 21.0 +0.9
	1μm,0.4s					
DION	Dionisos Attik	1.28 101	P		Pb	10 01 03.3 +0.1
NYDR	Nydri-Lefkada	1.34 286	P		Pn	10 01 04.2 +0.3
NYDR	Nydri-Lefkada	1.34 286	P		Pn	10 01 04.2 +0.3
LTHK	Lithakia	1.35 242	P		Pn	10 01 04.2 +0.3
LTHK			S		Sn	10 01 23.7 +1.9
	1μm,0.4s					
LTHK	Lithakia	1.35 242	P		Pn	10 01 03.9 0.0
EVGI	Lefkada island	1.35 282	P		Pn	10 01 04.2 +0.2
EVGI	Lefkada island	1.35 282	P		Pn	10 01 03.9 -0.1
VLS	Valsamata	1.39 264	P		Pn	10 01 04.1 -0.4
VLS			S		Sg	10 01 25.2 +1.2
	668nm,0.7s					
VLS	Valsamata	1.39 264	P		Pn	10 01 03.8 -0.8
LKD2	Lefkada island	1.40 289	P		Pn	10 01 05.0 +0.4
LKD2			S		Sg	10 01 24.1 0.0
	1μm,0.6s					
LKD2	Lefkada island	1.40 289	P		Pn	10 01 04.8 +0.2
FSK	Fiskardo	1.41 275	P		Pn	10 01 04.5 -0.1
FSK			S		Sg	10 01 24.9 +0.5
	928nm,1.0s					
FSK	Fiskardo	1.41 275	P		Pn	10 01 04.6 -0.1
KYMI	Kymi, Euboea I	1.41 78	P		Pb	10 01 05.0 -0.4
PSDA	Pessada-Kefalo	1.41 261	P		Pn	10 01 04.2 -0.5
PSDA	Pessada-Kefalo	1.41 261	P		Pn	10 01 04.0 -0.7
TSLK	Tsoukalades, L	1.41 290	P		Pn	10 01 04.9 +0.1
TSLK	Tsoukalades, L	1.41 290	P		Pn	10 01 03.5 -1.2
DRAG	Dragano-Lefkad	1.43 284	P		Pn	10 01 05.4 +0.3
DRAG	Dragano-Lefkad	1.43 284	P		Pn	10 01 04.9 -0.2
AOS	Alonnisos	1.46 55	P		Pn	10 01 04.9 -0.5
AOS			S		Sn	10 01 24.2 -0.3
	565nm,0.7s					
DMLN	Damoulianata-K	1.56 267	P		Pn	10 01 07.0 +0.2
DMLN	Damoulianata-K	1.56 267	P		Pn	10 01 06.9 +0.1
KARY	Karystos	1.68 100	P		Pn	10 01 08.9 +0.5
VLI	Veliai	1.69 164	P		Pn	10 01 08.4 -0.2
VLI			S		Sn	10 01 30.6 +0.4
VLI	Veliai	1.69 164	P		Pn	10 01 08.4 -0.2
JAN	Janina	1.75 319	P		Pb	10 01 10.8 -0.5
LIT	Litokhoron	1.76 4	P		Pn	10 01 09.5 -0.1
LIT	Litokhoron	1.76 4			Pn	10 01 09.9 +0.3
LIT	Litokhoron	1.76 4	P		Pn	10 01 09.1 -0.5
KZN	Kozani	2.01 347	P		Pn	10 01 13.6 +0.5
KZN	Kozani	2.01 347	P		Pb	10 01 14.9 -0.9
NEST	Nestorio	2.30 334	P		Pb	10 01 19.0 -1.7
KEK	Kerkira	2.41 305	Pn		Pn	10 01 19.9 +1.4
FNA	Florina	2.55 343	P		Pn	10 01 21.3 +0.8
FNA	Florina	2.55 343			Pn	10 01 21.5 +1.0
VAY	Valandovo	2.98 3	*i* Pn		Pn	10 01 27.9 +1.5
OHR	Ohrid	3.01 337	*i* Pn		Pb	10 01 30.1 -2.7
IDI	Anoyia	3.67 145	Pn		Pn	10 01 36.0 +0.1
IDI	Anoyia	3.67 145	Pn		Pn	10 01 36.3 +0.4
	13nm,0.5s,baz=309,slow=6.5,SNR=8.8					
IDI			Sn		Sn	10 02 17.6 -1.6
	5.4nm,0.3s,baz=26,slow=8.7,SNR=2.3					
RDO	Rodhopi	3.73 40	Pn		Pn	10 01 36.7 +0.1
ALN	Alexandroupoli	3.83 47	Pn		Pn	10 01 35.2 -2.8
TIP	Timpagrande	4.45 283	Pn		Pn	10 01 48.3 +1.7
CEL	Celeste	5.08 271	Pn		Pn	10 01 56.2 +1.0
CUC	Castrocucco	5.34 290			Pn	10 02 00.8 +2.1
SGRT	San Giovanni R	6.10 306	Pn		Pn	10 02 10.9 +1.5
VAE	Valguarnera	6.33 265	Pn		Pn	10 02 14.2 +1.7
	1.8nm,0.3s,baz=101,slow=5.2,SNR=1.7					
	9.9nm,0.3s					
RAFF	Raffo Rosso	6.42 262	Pn		Pn	10 02 16.3 +2.6
BORA	Eskisehir	6.49 74	Pn		Pn	10 02 15.0 +0.3
PAOL	Paolisi	6.57 297	Pn		Pn	10 02 19.4 +3.6
INTR	Introdacqua	7.43 302	Pn		Pn	10 02 30.3 +2.8
MLR	Muntele Rosu	7.63 19	Pn		Pn	10 02 32.5 +2.2
	0.2nm,0.3s,baz=195,slow=16,SNR=4.7					
	1.8nm,0.4s					
CAMP	Campotosto	8.00 304	Pn		Pn	10 02 35.4 0.0
FDMO	Fiordimonte	8.45 307	Pn		Pn	10 02 43.8 +2.3
BRTR	Keskin Array B	8.90 78	Pn		Pn	10 02 46.4 -1.4
BRTR	Keskin Array B	8.90 78	Pn		Pn	10 02 49.6 +1.9
	0.2nm,0.3s,baz=255,slow=12,SNR=4.5					
	0.7nm,0.5s					
OBN	Obninsk	19.34 25	LR		LR	10 12 06.7
	comp=Z,202nm,19.2s,baz=358,slow=35					
ESDC	Sonseca Array	20.47 282	P		P	10 05 16.9 +0.1
	1.2nm,0.7s,baz=73,slow=10,SNR=8.1					
	1.2nm,0.7s					
HFS	Hagfors	22.49 349	P		P	10 05 37.7 -0.6
	2.2nm,0.8s,baz=153,slow=13,SNR=1.7					
	2.2nm,0.8s					
NOA	NORSAR Array B	23.77 347	P		P	10 05 49.4 -2.0
	0.9nm,0.8s,baz=156,slow=11,SNR=1.6					
	0.9nm,0.8s					
EKA	Eskdalemuir Ar	24.14 323	P		P	10 05 53.9 -1.0
	0.8nm,0.6s,baz=111,slow=8.8,SNR=1.9					
	0.8nm,0.6s					
ARTI	Arti	29.88 41	LR		LR	10 19 04.6
	comp=Z,86nm,18.1s,baz=17,slow=37					
TORD	Torodi Ar. Bea	31.09 222	P		P	10 06 57.4 -0.1
	0.9nm,0.3s,baz=30,slow=8.4,SNR=1.1					
	0.9nm,0.3s					
BOOM	Boomskoye usch	40.45 67	P		P	10 08 17.1 -0.7
KURBB	Kurchatov Arra	40.97 54	P		P	10 08 21.8 0.0
	1.1nm,0.6s,baz=280,slow=8.8,SNR=6.9					
	1.1nm,0.6s					
MK31	Makanchi Array	43.99 59	P		P	10 08 46.2 -0.1
MKAR	Makanchi Array	43.99 59	P		P	10 08 45.7 -0.7
MKAR	Makanchi Array	43.99 59	P		P	10 08 46.2 -0.2
	0.7nm,0.5s,baz=286,slow=6.6,SNR=12					
	0.7nm,0.5s					
ZAA0	Zalesovo Array	44.51 48	P		P	10 08 50.2 -0.2
ZAA0			IAmb		IAmb	10 08 50.3
	comp=Z,2.5nm,0.5s					
ZALV	Zalesovo Beam	44.51 48	P		P	10 08 50.0 -0.4
ZALV	Zalesovo Beam	44.51 48	P		P	10 08 49.9 -0.5
	comp=Z,2.3nm,0.4s,baz=269,slow=8.7,SNR=8.2					
	comp=Z,2.3nm,0.4s					
SONM	Songino Array	59.24 51	P		P	10 10 39.8 -0.7
	comp=Z,0.6nm,0.7s,baz=317,slow=5.9,SNR=2.1					
	comp=Z,0.6nm,0.7s					
SCHQ	Schefferville	59.31 318	P		P	10 10 41.4 +0.6
ILON	Igloolik, Nuna	59.37 336	P		P	10 10 41.8 +0.9
ILON			IAmb		IAmb	10 10 51.7
	comp=Z,3.5nm,1.4s					
BATG	Bathurst New B	62.14 310	P		P	10 11 00.9 +0.8
B20K	Meade River	71.96 360	P		P	10 12 03.2 +1.1
E28M	Babbage River	72.51 353	P		P	10 12 05.3 -0.2
E29M	Blow River	72.56 352	P		P	10 12 06.4 +0.6
E29M			IAmb		IAmb	10 12 07.0
	comp=Z,4.6nm,1.4s					
D23K	Nanushuk River	72.88 357	P		P	10 12 08.7 +1.1
D23K			IAmb		IAmb	10 12 20.5
	comp=Z,3.3nm,1.3s					
F31M	Tsiigehtchic	72.98 351	P		P	10 12 08.3 +0.1
TOLK	Toolik Lake Re	73.16 357	P		P	10 12 10.8 +1.4
TOLK			IAmb		IAmb	10 12 42.4
	comp=Z,4.2nm,1.4s					
YKAW3	Yellowknife Wh	73.66 341	P		P	10 12 13.1 +0.7
YKAW3			IAmb		IAmb	10 12 17.2
	comp=Z,0.3nm,0.7s					
E19K	Redstone River	74.52 360	P		P	10 12 18.0 +0.7
E19K			IAmb		IAmb	10 12 47.1
	comp=Z,4.1nm,1.4s					
H29M	Whitestone	74.71 352	P		P	10 12 18.4 0.0
H29M			IAmb		IAmb	10 12 36.3
	comp=Z,4.9nm,1.5s					
F21K	Alatna River	74.71 358	P		P	10 12 19.3 +0.9
F21K			IAmb		IAmb	10 12 57.8
	comp=Z,4.6nm,1.4s					
I29M	Ogilvie Camp,	75.53 352	P		P	10 12 23.1 -0.1
I28M	Miner Creek	75.62 352	P		P	10 12 24.1 +0.3
I28M			IAmb		IAmb	10 12 38.5
	comp=Z,4.0nm,1.5s					
ILAR	Eielson Array	76.87 355	P		P	10 12 31.7 +0.9
DAWY	Dawson	76.91 352	P		P	10 12 31.7 +0.6
DAWY			IAmb		IAmb	10 12 32.2
	comp=Z,3.8nm,1.4s					
HDA	Harding Lake	77.24 355	P		P	10 12 32.9 0.0
HDA			IAmb		IAmb	10 12 44.8
	comp=Z,3.1nm,1.2s					
PPLA	Purkeypile	79.01 357	P		P	10 12 43.1 +0.2
SKT	Skwentna	79.90 357	P		P	10 12 46.8 -0.9
SKT			IAmb		IAmb	10 13 20.3
	comp=Z,3.5nm,1.2s					

*NNC **29** 10:10:56.0±1.4, 43°.60N×69°.62E, h0km, mb3.6, mpv2.9,*
Error ellipse: s-maj=19.0km s-min=7.4km az=41.0,
Suspected Mining explosion.
*KRNET **29** 10:10:58.5±0.1, 43°.32N×69°.59E, mb2.8*
ISC 29 10:10:58.2±2.9, 43°.4N±0°.1×69°.6E±0°.1, h0km, n10, σ1§33/18, 13C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.77	114	⇑P		Pg	10 11 11.9 -1.0
	1.8nm,0.4s,baz=13,slow=36,SNR=23						
KK31				⇑S		Sg	10 11 23.2 +0.4
	32nm,0.6s,baz=301,slow=31,SNR=56						
KKAR	Karatay Array	0.77	114	⇑*e*P		Pg	10 11 12.1 -0.8
KKAR				⇑*e*S		Sg	10 11 22.2 -0.7
TRKS	Terek-Say	2.23	148	⇑*e*P		Pb	10 11 38.3 -1.1
TRKS				⇑*e*S		Sb	10 12 07.2 -0.3
MNAS	Manas	2.36	112	⇑*e*P		Pn	10 11 39.7 +1.4
MNAS				⇑*e*S		Sn	10 12 09.7 +1.7
ARK	Arkit	2.41	132	⇑*e*P		Pn	10 11 40.0 +1.1
ARK				⇑*e*S		Sn	10 12 10.2 +1.0
EKS2	Erkin-Say	3.19	102	⇓*e*P		Pn	10 11 51.4 +1.7
EKS2				⇓*e*S		Sn	10 12 30.0 +1.5
ARSB	Arslanbob	3.29	128	⇓*e*P		Pn	10 11 52.1 +1.0
ARSB				⇓*e*S		Sn	10 12 31.7 +0.6
AML	Almayashu	3.31	112	⇓*e*P		Pn	10 11 53.1 +1.5
AML				⇓*e*S		Sn	10 12 33.0 +1.2
AAK	Ala-Archa	3.71	101	⇓Pg		Pb	10 12 02.7 -1.9
	6.0nm,0.7s						
AAK				⇑Lg		Lg	10 12 52.6
	4.3nm,0.7s						
TKM2	Tokmak 2	4.45	94	⇑Pg		Pb	10 12 15.7 -1.6
	3.2nm,0.8s						
TKM2				⇑Lg		Lg	10 13 16.4
	4.7nm,0.7s						

IDC 29 10:32:10.2±288.0, 56°.82N×30°.01E, h0km, Error ellipse: s-maj=120.7km s-min=81.1km az=100.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.96	88	I	I	10 56 50.0	
	0.1nm,0.7s,baz=274,slow=325,SNR=3.0						
I26DE	FREYUNG INFRAS	12.66	238	I	I	11 51 30.0	
	baz=44,slow=329,SNR=0.7						
I48TN	KESRA INFRASON	25.23	222	I	I	13 05 00.0	
	baz=25,slow=321,SNR=0.7						

IDC 29 10:45:00.2±297.0, 57°.19N×30°.08E, h0km, Error ellipse: s-maj=127.7km s-min=92.4km az=114.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.94	94	I	I	11 09 46.9	
	0.1nm,0.5s,baz=280,slow=326,SNR=2.6						
I26DE	FREYUNG INFRAS	12.89	237	I	I	12 05 40.0	
	baz=44,slow=329,SNR=0.8						
I48TN	KESRA INFRASON	25.53	222	I	I	13 19 19.3	
	baz=26,slow=320						

*GCG **29** 10:52:52.7±2.4, 14°.30N×93°.67W, h36km±999km, MD4.3*
*MEX **29** 10:52:52.8±1.0, 14°.36N×93°.78W, h16km±36km, MD4.0*
ISC 29 10:52:40.9±1.5, 14°.27N±0°.06×93°.91W±0°.03, h5km±11km, n27, σ2§14/52, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.58	25	*e*P	Pg	10 53 14.3 +3.1	
PCIG				*e*S	Sb	10 53 31.5 +0.6	
THIG		1.71	68	*e*P	Pg	10 53 16.4 +2.5	
THIG				*e*S	Sn	10 53 31.2 -2.5	
PATR	El Naranjo	1.83	62	*e*P	Pg	10 53 17.9 +1.9	
PATR				*e*S	Sn	10 53 37.0 +0.1	
PAVE	Pavencul	1.91	61	*e*P	Pg	10 53 19.2 +1.6	
PAVE				*e*S	Sb	10 53 41.2 +0.4	
RTAL	Retalhuleu	2.16	83	*e*P	Pg	10 53 22.2 -0.2	
RTAL				*e*S	Sb	10 53 47.4 -0.3	
STG8	El Palmar, Qui	2.49	86⇑	*e*P		10 53 24.9	
STG8				*e*S		10 53 50.7	
STG0	El Palmar, Qui	2.49	86⇓	*e*P		10 53 25.2	
STG0				*e*S		10 53 51.1	
HUEH	Huehuetenango	2.55	66	*e*P	Pg	10 53 30.2 +0.3	
HUEH				*e*S	Sg	10 54 02.8 -0.2	
HUEH	Huehuetenango	2.55	66	*e*P	Pg	10 53 30.1 +0.3	
HUEH				*e*S	Sg	10 54 02.0 -1.0	
HUEH	Huehuetenango	2.55	66	*e*P		10 53 30.1	
HUEH				*e*S		10 54 02.0	
HUIG	Huatulco	2.60	305	*e*P	Pg	10 53 32.4 +1.7	
HUIG				*e*S	Sb	10 53 58.7 -1.6	
TGIG		2.61	17	*e*P	Pg	10 53 30.6 -0.3	
TGIG				*e*S	Sb	10 54 00.5 -0.2	
TGIG		2.61	17	*e*P	Pg	10 53 30.9 -0.1	
TGIG				*e*S	Sb	10 54 00.9 +0.3	
TGIG		2.61	17	*e*P		10 53 30.9	
TGIG				*e*S		10 54 00.9	
CCIG	Comitan	2.63	40	*e*P	Pg	10 53 30.8 -0.6	
CCIG				*e*S	Sb	10 54 01.2 -0.2	
CCIG	Comitan	2.63	40	*e*P	Pg	10 53 31.9 +0.5	
CCIG				*e*S	Sb	10 54 01.1 -0.4	
CCIG	Comitan	2.63	40	*e*P		10 53 31.9	
CCIG				*e*S		10 54 01.1	
CMIG	Matias Romero	2.96	342	*e*P	Pb	10 53 35.5 +1.3	
CMIG				*e*S	Sn	10 54 07.7 +3.1	
UXUV	UXUV	3.04	356	*e*P	Pb	10 53 37.7 +2.2	
UXUV				*e*S	Sb	10 54 12.7 -0.4	
PEIG	Puerto Escondi	3.57	299	*e*P	Pb	10 53 45.9 +1.3	
PEIG				*e*S	Sn	10 54 22.3 +2.7	
NEUV	Arroyo Zacate	3.88	332	*e*P	Pb	10 53 47.9 -1.9	
NEUV				*e*S	Sn	10 54 29.2 +2.0	
NUBE	Las Nubes	4.02	95	*e*P	Pb	10 53 50.5 -1.9	
NUBE				*e*S	Sn	10 54 31.2 +0.2	
NUBE				*e*S	Sb	10 54 41.6 +0.1	
NUBE	Las Nubes	4.02	95	*e*P		10 53 50.5	
NUBE				*e*S		10 54 31.2	
NUBE				*e*S		10 54 41.6	
YOIG	Yosondua	4.35	307	*e*P	Pb	10 53 58.5 +0.5	
YOIG				*e*S	Sn	10 54 43.3 +4.1	
PMUV	Sontecomapan	4.41	345	*e*P	Pb	10 53 54.4 -4.5	
PMUV				*e*S	Sn	10 54 38.1 -2.3	
PNIG	Pinotepa	4.58	298	*e*P	Pb	10 54 00.4 -1.6	
PNIG				*e*S	Sn	10 54 46.1 +1.4	
PETF	Flores	4.70	55	*e*P	Pb	10 53 59.5 -4.4	
PETF				*e*S	Sn	10 54 49.3 +1.7	
TXIG	Tlaxiaco	4.75	309	*e*P	Pb	10 54 04.6 -0.4	
TXIG				*e*S	Sn	10 54 50.7 +1.5	
TOIG	Toxpalan	4.87	322	*e*P	Pb	10 54 04.8 -1.9	
TOIG				*e*S	Sn	10 54 57.4 +5.6	
HLIG	Huajuapan de L	5.15	314	*e*P	Pb	10 54 11.5 -0.2	
HLIG				*e*S	Sb	10 55 09.2 -4.9	
MGIG	Malinaltepec	5.42	304	*e*P	Pb	10 54 13.5 -2.8	
MGIG				*e*S	Sn	10 55 07.0 +1.4	
FTIG	Fresnillo de T	5.44	312	*e*P	Pb	10 54 12.4 -4.1	
JAUV	Jalcomulco	5.78	332	*e*P	Pb	10 54 18.1 -4.1	
JAUV				*e*S	Sn	10 55 10.7 -3.5	

*VAO **29** 10:53:11.2±2.0, 32°.72S×72°.02W, h10km, mb4.5*
*NEIC **29** 10:53:16.3, 32°.48S×72°.01W, h32km*
*NEIC **29** 10:53:16.5±1.6, 32°.479S±0°.010×72°.01W±0°.07,*
h41km±6km, mb4.5/9, Mwr4.1/49, Error ellipse: s-maj=8.3km
s-min=1.3km az=94.0, Moment Tensor Solution. Moment
tensor: Scale 10^{15}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-0.80;
$M_{r\theta}$-0.87; $M_{r\phi}$1.07; $M_{\theta\phi}$0.17; Fault plane solution:
$M_0$1.69000×10^{15} NP1,ϕ_s171.11000°, δ39.90000°,
λ137.72000°. NP2:ϕ_s296.00000°, δ64.43000°, λ58.25000°.
Principal axes: T 1.5516, Plg58.0000°, Azm161.0000°;
N 0.2499, Plg28.0000°, Azm311.0000°; P -1.8015,
Plg14.0000°, Azm49.0000°;
*GUC **29** 10:53:16.9±0.8, 32°.48S×71°.81W, h46km±3km, ML3.9*
*IDC **29** 10:53:17.6±2.8, 32°.52S×71°.91W, h49km±24km, mb3.9/5,*
mbtmp4.2/10, ML4.2/5, MS3.3/3, Error ellipse:
s-maj=27.6km s-min=13.5km az=112.0
ISC 29 10:53:14.9±1.8, 32°.49S±0°.03×72°.04W±0°.05, h29km±13km, n128, σ1§27/157, mb4.5/10, 23C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.62	148		Pn	10 53 28.3 +0.5	
VA01				Sn	Sn	10 53 37.2 +0.3	
VA01	Torpederas	0.62	148	*e*P	Pn	10 53 28.5 +0.6	
VA01				*i* S	Sb	10 53 36.6 +0.8	
VA01				IAML		10 53 38.0	
	comp=N,8μm,0.1s						
ROCH	El Roble	0.99	119	⇑*i*P	Pn	10 53 33.1 0.0	
ROCH				*i* S	Sn	10 53 44.4 -1.8	
ROCH				IAML		10 53 45.9	
	comp=E,5μm,0.7s						
MT02	Curacav	1.08	136		Pn	10 53 34.5 +0.3	
MT02				Sn	Sn	10 53 47.2 -1.0	
MT02	Curacav	1.08	136	⇑*i*P	Pn	10 53 34.4 +0.3	
MT02				*i* S	Sn	10 53 47.1 -1.0	
VA05	Santo Domingo	1.22	163		Pn	10 53 36.7 +0.6	
VA05				Sn	Sn	10 53 50.7 -0.8	
VA05	Santo Domingo	1.22	163	⇑*i*P	Pn	10 53 36.6 +0.6	
VA05				*i* S	Sn	10 53 50.7 -0.8	
VA05				IAML		10 53 51.8	
	comp=E,4μm,0.5s						
VA03	San Esteban	1.28	103		Pn	10 53 36.9 -0.1	
VA03				Sn	Sn	10 53 51.8 -1.5	
VA03	San Esteban	1.28	103	*e*P	Pn	10 53 36.9 -0.1	
VA03				*i* S	Sn	10 53 51.6 -1.7	
VA03				IAML		10 53 52.5	
	comp=E,5μm,0.2s						
PEL	Peldehue	1.31	120		Pn	10 53 37.3 -0.1	
PEL				Sn	Sn	10 53 52.7 -1.2	
PEL	Peldehue	1.31	120	*e*P	Pn	10 53 36.9 -0.4	
PEL				*i* S	Sn	10 53 52.3 -1.7	
PEL				IAML		10 53 54.0	
	comp=E,4μm,0.6s						
MT05	Renca	1.42	130	Pn	Pn	10 53 39.6 +0.7	
MT05	Renca	1.42	130	⇑*i*P	Pn	10 53 39.5 +0.7	
MT05				*i* S	Sn	10 53 55.9 -0.7	
MT05				IAML		10 53 57.9	
	comp=E,4μm,0.4s						
MT10	Hacienda Santa	1.48	122	⇑*i*P	Pn	10 53 40.4 +0.5	
MT10				*i* S	Sn	10 53 57.5 -0.9	
MT10				IAML		10 53 59.0	
	comp=N,5μm,0.6s						
MT01	Popeta	1.52	155		Pn	10 53 40.7 +0.5	
MT01	Popeta	1.52	155	⇑*i*P	Pn	10 53 40.7 +0.5	
MT01				*i* S	Sn	10 53 57.7 -1.4	
MT14	Cerro Cal¡n	1.55	126	⇑*i*P	Pn	10 53 41.4 +0.6	
MT14				*i* S	Sn	10 53 59.4 -0.5	
MT14				IAML		10 54 02.6	
	comp=E,3μm,0.7s						
MT09	Talagante	1.56	146		Pn	10 53 41.5 +0.7	
MT09	Talagante	1.56	146	⇑*i*P	Pn	10 53 41.5 +0.7	
MT09				*i* S	Sn	10 53 59.4 -0.7	
MT09				IAML		10 54 01.5	
	comp=N,3μm,0.2s						
MT16	CCHEN	1.58	127		Pn	10 53 41.8 +0.7	
MT16	CCHEN	1.58	127	⇑*i*P	Pn	10 53 41.8 +0.7	
MT16				*i* S	Sn	10 53 59.7 -0.9	
MT03	Universidad Ad	1.63	128		Pn	10 53 42.6 +0.8	
MT03	Universidad Ad	1.63	128	⇑*i*P	Pn	10 53 42.6 +0.8	
MT03				*i* S	Sn	10 54 01.5 -0.3	
MT03				IAML		10 54 03.8	
	comp=E,5μm,0.2s						
FCH	Farellones	1.69	120	⇑*i*P	Pn	10 53 43.3 +0.5	
FCH				*i* S	Sn	10 54 02.7 -1.0	
MT15	Las Vizcachas	1.70	131	⇑*i*P	Pn	10 53 43.5 +0.9	
MT15				*i* S	Sn	10 54 03.4 0.0	
MT15				IAML		10 54 06.0	
	comp=E,3μm,0.3s						
MT12	Pirque	1.76	135	⇑*i*P	Pn	10 53 44.6 +1.1	
MT12				*i* S	Sn	10 54 05.3 +0.2	
MT12				IAML		10 54 10.1	
	comp=E,4μm,0.4s						
MT04	Ro Olivares	1.84	120	⇑*i*P	Pn	10 53 45.4 +0.6	
MT04				*i* S	Sn	10 54 06.4 -0.9	
MT04				IAML		10 54 07.4	
	comp=E,1μm,0.5s						
CO06	Fray Jorge	1.84	11		Pn	10 53 45.8 +1.2	
CO06	Fray Jorge	1.84	11	⇓*i*P	Pn	10 53 45.8 +1.2	
CO06				*i* S	Sn	10 54 06.3 -0.7	
BO04	La Punta	1.92	142		Pn	10 53 46.8 +1.1	
BO04	La Punta	1.92	142	⇑*i*P	Pn	10 53 46.8 +1.1	
BO04				*i* S	Sn	10 54 08.7 -0.2	
BO04				IAML		10 54 12.2	
	comp=N,2μm,0.3s						
MT13	San Alfonso	1.93	131		Pn	10 53 47.0 +1.1	
MT08	Bocatoma Ro	1.95

baz=120,slow=20,SNR=46
H03N1 T T 11 01 31.0
baz=85,slow=73,SNR=108
H03N3 Juan Fernandez 5.87 259 P **Pn 10 54 43.5 +3.7**
baz=120,slow=20,SNR=55
H03N3 T T 11 01 32.2
baz=85,slow=73,SNR=196
H03N2 Juan Fernandez 5.87 259 P **Pn 10 54 43.6 +3.9**
baz=120,slow=20,SNR=22
H03N2 T T 11 01 28.7
baz=85,slow=73,SNR=73
H03S3 Juan Fernandez 5.92 255 P **Pn 10 54 43.2 +2.8**
baz=53,slow=17,SNR=11
H03S3 T T 11 01 12.7
baz=82,slow=75,SNR=25
H03S1 Juan Fernandez 5.92 255 P **Pn 10 54 42.3 +1.9**
baz=53,slow=17,SNR=10
H03S1 T T 11 01 09.4
baz=82,slow=75,SNR=25
H03S2 Juan Fernandez 5.93 255 P **Pn 10 54 43.3 +2.7**
baz=53,slow=17,SNR=13
H03S2 T T 11 01 05.8
baz=82,slow=75,SNR=24
AC02 Maricunga 6.18 25 Pn **Pn 10 54 45.5 +0.9**
AC01 Pan de Azucar 6.44 12 Pn **Pn 10 54 46.6 -1.3**
LR04 Corral 7.46 188 Pn **Pn 10 55 01.4 -0.4**
GO02 Mina Guanaco 7.61 17 Pn **Pn 10 55 02.8 -1.4**
PB14 IPOC Station P 7.96 11 Pn **Pn 10 55 06.6 -2.4**
PLCA Paso Flores 8.31 172 P **Pn 10 55 15.2 +1.7**
comp=E,1.1nm,0.3s,baz=333,slow=11,SNR=55
PLCA S **Sn 10 56 44.4 -2.1**
comp=E,8.5nm,1.0s,baz=55,slow=18,SNR=6.5
comp=E,3.4nm,0.3s
PB05 IPOC Station P 9.74 10 Pn **Pn 10 55 29.6 -3.7**
LL06 Loncomilla 9.79 187 Pn **Pn 10 55 35.2 +1.5**
LL01 San Ignacio de 9.88 182 Pn **Pn 10 55 35.8 +0.9**
TRQA Tornquist 9.92 127 Pn **Pn 10 55 36.5 +0.9**
PB09 IPOC Station P 10.94 14 Pn **Pn 10 55 47.6 -2.1**
PB01 IPOC Station P 11.62 12 Pn Pn 10 55 54.6 -4.4
PB11 IPOC Station P 12.86 10 Pn **Pn 10 56 12.9 -3.0**
CPUP Villa Florida 14.21 68 P **Pn 10 56 35.0 +0.8**
comp=E,0.1nm,0.3s,baz=261,slow=13,SNR=2.8
CPUP LR LR 11 02 19.3
comp=E,86nm,20.8s,baz=234,slow=38
comp=E,1.0nm,0.4s
LPAZ La Paz 16.52 13 P **P 10 57 06.6 -1.0**
LPAZ La Paz 16.52 13 P **P 10 57 06.8 -0.8**
comp=E,1.2nm,0.3s,baz=181,slow=6.6,SNR=50
comp=E,13nm,0.6s
MURT Porto Murtinho 16.76 54 *eP* **Pn 10 57 08.4 +0.8**
AMBA Amambai (Brazi 17.83 62 *eP* **Pn 10 57 20.8 -0.1**
AQDB Aquidauana 18.86 55 P **P 10 57 33.1 +0.2**
SIV San Ignacio 19.20 34 P **P 10 57 35.9 -0.7**
comp=E,0.1nm,0.3s,baz=204,slow=11,SNR=59
SIV LR LR 11 06 34.4
comp=E,87nm,21.6s,baz=81,slow=42
comp=E,13nm,0.6s
RPRD Ribas do Rio P 20.27 58 *eP* **P 10 57 48.2 0.0**
LDASE Londrina, Braz 20.55 69 *eP* **P 10 57 50.1 -1.3**
PTLB Pontes e Lacer 20.62 38 P **P 10 57 52.2 +0.1**
PTLB Pontes e Lacer 20.62 38 *eP* **P 10 57 51.8 -0.2**
SALV Santo Antonio 22.20 46 *eP* **P 10 58 08.4 -0.7**
VILB Vilhena 22.27 32 P **P 10 58 09.2 -0.6**
VILB IAmb IAmb 10 58 10.0
comp=Z,16nm,0.8s
VILB Vilhena 22.27 32 *eP* **P 10 58 09.2 -0.6**
PDRB Porto dos Gac 25.10 38 *eP* **P 10 58 38.7 +1.4**
BDFB Brasilia 27.51 58 P **P 10 58 58.3 -0.9**
BDFB IAmb IAmb 10 59 00.6
comp=Z,7.7nm,0.9s
BDFB Brasilia 27.51 58 P **P 10 58 58.0 -1.2**
comp=Z,4.9nm,0.7s,baz=244,slow=3.5,SNR=5.9
comp=Z,4.9nm,0.7s
SNDB Serra Nova Dou 27.93 48 *eP* **P 10 59 04.9 +2.1**
HOPE Hope Point 33.26 142 P **P 10 59 49.3 -0.2**
BOAV Boa Vista 36.37 20 P **P 11 00 17.3 +0.6**
BOAV IAmb IAmb 11 00 22.4
comp=Z,13nm,1.4s
BOAV Boa Vista 36.37 20 *eP* **P 11 00 17.5 +0.8**
NBAN Anadia - AL 40.06 64 *eP* **P 11 00 46.4 -1.5**
NBPB Pedra_Branca-C 40.44 55 *eP* **P 11 00 50.5 -0.4**
MDP Montagnes des 41.68 30 LR LR 11 20 13.0
comp=Z,62nm,19.3s,baz=209,slow=39
BELA Belgrano 2 48.36 170 P **P 11 01 55.0 +1.4**
BELA IAmb IAmb 11 01 56.3
comp=Z,4.0nm,1.2s
VNA3 Neumayer Olymp 50.76 158 ⇑P **P 11 02 11.5 -0.4**
comp=Z,3.9nm,0.7s
VNA2 Neumayer--Watz 51.40 158 ⇑P **P 11 02 17.2 +0.5**
comp=Z,3.6nm,0.5s,baz=278,slow=8.1
SNAA Sanae 52.98 158 P **P 11 02 29.0 +0.5**
SNAA IAmb IAmb 11 02 30.0
comp=Z,9.4nm,1.2s
SNAA Sanae 52.98 158 ⇑P **P 11 02 29.1 +0.5**
comp=Z,48nm,0.5s
SNAA Sanae 52.98 158 P **P 11 02 28.7 +0.1**
comp=Z,2.0nm,0.6s,baz=282,slow=8.1,SNR=23
comp=Z,2.0nm,0.6s
TROLL Troll, Antarti 54.69 158 ⇑P **P 11 02 40.5 -0.7**
comp=Z,93nm,0.6s
QSPA South Pole Qui 57.74 180 P **P 11 03 04.4 +1.4**
QSPA South Pole Qui 57.74 180 P **P 11 03 04.1 +1.1**
comp=Z,6.7nm,0.9s,baz=142,slow=1.3,SNR=32
comp=Z,6.7nm,0.9s
TXAR Lajitas Array 68.42 330 P **P 11 04 15.7 +1.5**
comp=Z,0.2nm,0.5s,baz=151,slow=7.4,SNR=2.6
comp=Z,0.2nm,0.5s
BOSA Boshof 80.77 118 P **P 11 05 25.6 -0.5**
comp=Z,1.3nm,0.7s,baz=207,slow=4.5,SNR=1.7
comp=Z,1.3nm,0.7s
ASAR Alice Springs 118.91 207 PKP **PKPdf 11 12 00.9 -0.3**
comp=Z,0.4nm,0.9s,baz=158,slow=1.7,SNR=2.4
BRTR Keskin Array B 121.09 60 PKP **PKiKP 11 12 05.3 +0.3**
comp=Z,0.3nm,0.5s,baz=360,slow=5.4,SNR=1.4
WRA Warramunga Arr 122.08 210 PKP **PKPdf 11 12 06.6 -0.7**
comp=Z,0.4nm,0.9s,baz=143,slow=1.8,SNR=4.6
H11S2 WAKE ISLAND Hyl 25.78 270 T T 13 31 22.3
baz=118,slow=75,SNR=28
H11S1 WAKE ISLAND Hyl 25.79 270 T T 13 31 20.4
baz=118,slow=75,SNR=37
H11S3 WAKE ISLAND Hyl 25.80 270 T T 13 31 19.9
baz=118,slow=75,SNR=19
H11N3 WAKE ISLAND Hyl 26.16 272 T T 13 31 48.0
baz=117
H11N1 WAKE ISLAND Hyl 26.17 272 T T 13 31 48.9
baz=117
H11N2 WAKE ISLAND Hyl 26.17 272 T T 13 31 50.7
baz=117
BVAR Borovoye Array 146.16 41 PKPbc **PKPdf 11 12 51.2 +0.3**
comp=Z,0.5nm,0.4s,baz=132,slow=2.2,SNR=2.7
YAK Yakutsk 147.31 341 PKPbc **PKPdf 11 12 52.2 -0.3**
comp=Z,9.8nm,0.3s,baz=84,slow=0.7,SNR=1.7
KURBB Kurchatov Arra 151.75 41 PKPbc **PKPbc 11 13 06.4 +0.1**
comp=Z,0.8nm,0.4s,baz=308,slow=3.2,SNR=5.3
ZALV Zalesovo Beam 152.94 31 PKPbc **PKPbc 11 13 08.6 -0.3**
comp=Z,1.1nm,0.5s,baz=270,slow=2.8,SNR=6.1

IDC 29 10:56:05.9±2.6, 6°39S×131°63E, h0km, mb3.6/1, mbtmp3.5/4, ML3.5/3, MS3.0/1, Error ellipse: s-maj=104.2km s-min=29.6km az=80.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.02**	**206**	Pn	Pn	10 59 12.3	0.0
0.3nm,0.3s,baz=24,slow=11,SNR=12							
FITZ				Sn	Sn	11 01 15.3	-23
0.2nm,0.3s,baz=44,slow=12,SNR=1.6							
1.7nm,0.6s							
WRA	**Warramunga Arr**	**13.72**	**169**	Pn	Pn	10 59 21.1	-0.8
0.2nm,0.3s,baz=355,slow=13,SNR=11							
WRA				Sn	Sn	11 01 48.5	-6.7
0.1nm,0.3s,baz=349,slow=24,SNR=3.7							
0.3nm,0.3s							
ASAR	**Alice Springs**	**17.31**	**173**	P	Pn	11 00 09.7	+0.6
0.1nm,0.3s,baz=348,slow=8.0,SNR=10.0							
0.2nm,0.4s							
TGY	**Tagaytay City**	**22.96**	**333**	LR	LR	11 10 16.2	
comp=Z,36nm,20.3s,baz=62,slow=37							
MKAR	**Makanchi Array**	**68.62**	**326**	P	P	11 07 10.9	0.0
0.4nm,0.6s,baz=122,slow=7.3,SNR=5.0							
0.4nm,0.6s							

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*CATAC **29** 11:40:20.7±0.3, 10°N±2°×8°6W±°, h1km, M3.7/31, MLv3.7/31, Error ellipse: s-maj=5.1km s-min=2.3km az=45.4, confirmed*
*UCR **29** 11:40:20.3±1.3, 10°41N×86°29W, h0km±5km, MW4.0*
ISC 29 11:40:21.7±1.3, 10°43N±0°03×86°24W±0°03, h6km±10km, n103, σ0°80/125, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALIBA	**Liberia Airpor**	**0.70**	**76**	*eP*	**Pn**	**11 40 38.0**	**-0.1**
ALIBA				*eS*	**Sn**	**11 40 50.0**	**+0.7**
ELI1	**Hacienda Flor**	**0.70**	**72**	*eP*	**Pn**	**11 40 37.4**	**-0.8**
ELI1				*eS*	**Sn**	**11 40 49.6**	**+0.1**
ERIA	**Liberia**	**0.81**	**75**	*eP*	**Pn**	**11 40 38.8**	**-0.8**
ERIA				*eS*	**Sn**	**11 40 51.9**	**-0.2**
NICO	**Nicoya**	**0.83**	**111**	*eP*	**Pg**	**11 40 37.8**	**+0.2**
LCRUZ	**La Cruz**	**0.88**	**43**	*eP*	**Pn**	**11 40 40.5**	**-0.1**
LCRUZ				*eS*	**Sn**	**11 40 54.6**	**+0.8**
CMARA	**Lajas Hojancha**	**0.90**	**117**	*eP*	**Pg**	**11 40 38.8**	**-0.1**
INDI	**Punta indio, G**	**0.91**	**128**	P	**Pb**	**11 40 39.5**	**-0.4**
INDI	**Punta indio, G**	**0.91**	**128**	S	**Sg**	**11 40 50.7**	**-0.4**
INDI	**Punta indio, G**	**0.91**	**128**	P	**Pg**	**11 40 39.0**	**-0.2**
GPS3	**Bodega del ICE**	**0.91**	**69**	*eP*	**Pn**	**11 40 40.7**	**-0.5**
GPS3				*eS*	**Sn**	**11 40 54.3**	**-0.5**
GPS2	**Hotel Rincn d**	**0.93**	**70**	*eP*	**Pn**	**11 40 40.1**	**-0.1**
GPS2				*eS*	**Sb**	**11 40 53.6**	**+0.8**
VRLE	**La Escondida,**	**0.93**	**67**	*eP*	**Pb**	**11 40 40.0**	**-0.3**
VORI	**VORI**	**0.95**	**66**	*eP*	**Pb**	**11 40 40.6**	**-0.2**
BAGA	**Bagaces**	**0.96**	**84**	*eP*	**Pn**	**11 40 41.7**	**-0.1**
BAGA				*eS*	**Sn**	**11 40 56.7**	**+0.9**
CARN	**Rivas**	**1.03**	**43**	P	**Pn**	**11 40 42.7**	**0.0**
CARN	**Rivas**	**1.03**	**43**	P	**Pn**	**11 40 42.2**	**-0.4**
CARN				S	**Sn**	**11 40 58.7**	**+1.2**
COLC	**Colonia**	**1.04**	**77**	*eP*	**Pg**	**11 40 41.7**	**0.0**
COLC				*eS*	**Sn**	**11 40 57.3**	**-0.5**
NYURE	**Nandayure**	**1.06**	**114**	*eP*	**Pn**	**11 40 43.0**	**-0.1**
NYURE				*eS*	**Sn**	**11 40 58.9**	**+0.7**
HORNC	**Hornillas**	**1.08**	**75**	*eP*	**Pb**	**11 40 42.2**	**-0.6**
HORNC				*eS*	**Sn**	**11 40 58.0**	**-0.8**
CUI	**Cuipilapa**	**1.08**	**78**	*eP*	**Pb**	**11 40 42.4**	**-0.4**
ARIN	**Rivas**	**1.09**	**21**	P	**Pn**	**11 40 43.0**	**-0.6**
CNAS	**Canas**	**1.12**	**90**	*eP*	**Pn**	**11 40 43.9**	**-0.1**
VMAR	**Armenia, Volca**	**1.17**	**71**	*eP*	**Pb**	**11 40 44.0**	**-0.3**
VMAR				*eS*	**Sn**	**11 41 01.3**	**+0.4**
JAPN	**AI SSO del Vol**	**1.22**	**27**	P	**Pg**	**11 40 46.7**	**+1.6**
JAPN	**AI SSO del Vol**	**1.22**	**27**	P	**Pg**	**11 40 45.3**	**+0.3**
JUNT	**Juntas**	**1.26**	**97**	*eP*	**Pn**	**11 40 44.7**	**-1.3**
TENO	**El Achiote**	**1.27**	**77**	*eP*	**Pn**	**11 40 44.1**	**-2.0**
JTS	**Las Juntas de**	**1.27**	**96**	*eP*	**Pn**	**11 40 44.5**	**-1.5**
CONN	**Concepcion**	**1.28**	**28**	P	**Pb**	**11 40 45.9**	**-0.3**
CONN	**Concepcion**	**1.28**	**28**	P	**Pn**	**11 40 45.3**	**-0.8**
MTEVE	**Monteverde**	**1.39**	**94**	*eP*	**Pn**	**11 40 47.3**	**-0.6**
VERA	**Finca Concepci**	**1.41**	**72**	*eP*	**Pn**	**11 40 47.4**	**-0.5**
VARE2	**V. Arenal**	**1.49**	**89**	*eP*	**Pn**	**11 40 48.6**	**-0.5**
ARE1	**Arenal 1**	**1.49**	**89**	*eP*	**Pn**	**11 40 48.6**	**-0.5**
NANN	**Nandasmo**	**1.50**	**4**	P	**Pg**	**11 40 50.6**	**+0.1**
NANN	**Nandasmo**	**1.50**	**4**	P	**Pb**	**11 40 50.0**	**-0.1**
CEDE	**Laguna Cedeo**	**1.51**	**88**	*eP*	**Pn**	**11 40 49.2**	**-0.2**
VACR	**Volcan Arenal**	**1.53**	**88**	*eP*	**Pb**	**11 40 50.1**	**-0.4**
FORC	**Fortuna**	**1.54**	**88**	*eP*	**Pb**	**11 40 49.8**	**-0.8**
CRUN	**El Crucero**	**1.55**	**358**	P	**Pg**	**11 40 51.2**	**-0.1**
SOCE	**Pocosol**	**1.59**	**92**	P	**Pg**	**11 40 52.4**	**+0.1**
SOCE	**Pocosol**	**1.59**	**92**	S	**Sg**	**11 41 13.2**	**+0.4**
SOCE	**Pocosol**	**1.59**	**92**	P	**Pb**	**11 40 51.1**	**-0.5**
SOCE	**Pocosol**	**1.59**	**92**	*eP*	**Pn**	**11 40 50.4**	**-0.1**
LCHIL	**Los Chiles**	**1.61**	**68**	*eP*	**Pn**	**11 40 49.9**	**-0.8**
MAFN	**Magfor**	**1.66**	**360**	S	**Sg**	**11 41 16.4**	**+1.5**
UNAN	**Cigeo UNAN**	**1.67**	**359**	P	**Pb**	**11 40 51.8**	**-1.1**
UNAN				S	**Sg**	**11 41 16.2**	**+0.8**
TISN	**Laguna Tiscapa**	**1.70**	**359**	P	**Pn**	**11 40 52.0**	**0.0**
MGAN	**Managua**	**1.71**	**360**	P	**Pb**	**11 40 52.3**	**-1.2**
MGAN	**Managua**	**1.71**	**360**	S	**Sg**	**11 41 16.9**	**+0.3**
COPN	**Copaltepe**	**1.77**	**349**	P	**Pn**	**11 40 53.2**	**+0.2**
COPN	**Copaltepe**	**1.77**	**349**	P	**Pn**	**11 40 52.9**	**-0.1**
COPN	**Copaltepe**	**1.77**	**349**	*eP*	**Pn**	**11 40 52.4**	**-0.6**
APYN	**Apoyeque**	**1.80**	**356**	P	**Pb**	**11 40 54.3**	**-0.8**
APYN				S	**Sg**	**11 41 20.4**	**+0.9**
TRB2	**Turrubares**	**1.83**	**106**	*eP*	**Pn**	**11 40 52.1**	**-1.7**
ACON	**Acoyapa**	**1.85**	**34**	P	**Pn**	**11 40 53.7**	**-0.3**
ACON	**Acoyapa**	**1.85**	**34**	S	**Sg**	**11 41 20.7**	**-0.5**
ACON	**Acoyapa**	**1.85**	**34**	*eP*	**Pn**	**11 40 52.9**	**-1.1**
MOMN	**Momotombo**	**1.99**	**351**	P	**Pn**	**11 40 55.9**	**-0.1**
MOMN				S	**Sb**	**11 41 24.2**	**+0.7**
LEVN	**Ruinas Leon Vi**	**2.00**	**349**	P	**Pn**	**11 40 56.4**	**+0.4**
LEVN				S	**Sb**	**11 41 23.0**	**-0.6**
BOAB	**BOACO BROADBAN**	**2.08**	**15**	P	**Pn**	**11 40 56.8**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.08**	**15**	S	**Sb**	**11 41 26.7**	**+0.6**
CNGA	**AI SSO del Vol**	**2.10**	**347**	P	**Pn**	**11 40 55.5**	**-2.0**
CNGN	**Cerro Negro**	**2.11**	**348**	P	**Pn**	**11 40 58.4**	**+0.8**
CNGN	**Cerro Negro**	**2.11**	**348**	S	**Sb**	**11 41 26.9**	**0.0**
VBV1	**V. Barva**	**2.12**	**98**	*eP*	**Pn**	**11 40 58.2**	**+0.1**
PACN	**AI O del Volca**	**2.13**	**345**	P	**Pn**	**11 40 58.4**	**+0.5**
PACN				S	**Sb**	**11 41 26.1**	**-1.3**
HDC	**Heredia**	**2.13**	**101**	P	**Pn**	**11 40 58.5**	**+0.5**
HDC				S	**Sb**	**11 41 28.2**	**+0.6**
ACOS	**Acosta**	**2.13**	**107**	*eP*	**Pb**	**11 41 00.6**	**-0.3**
ROCN	**Rocn Cerro Neg**	**2.14**	**347**	S	**Sb**	**11 41 27.0**	**-0.7**
PICV	**PH. Pirrs**	**2.16**	**111**	*eP*	**Pn**	**11 40 59.1**	**+0.7**
ILCN	**San Idelfonso**	**2.18**	**348**	P	**Pb**	**11 41 00.2**	**-1.4**
ILCN				S	**Sb**	**11 41 28.9**	**-0.1**
PLRN	**Geotermica Pol**	**2.20**	**346**	S	**Sb**	**11 41 28.8**	**-0.8**
QUEN	**AI S del Volca**	**2.23**	**344**	P	**Pb**	**11 41 00.6**	**-1.9**
HERN	**Volcan Telica**	**2.24**	**345**	P	**Pn**	**11 41 00.5**	**+1.0**
ABE2	**San Pablo**	**2.27**	**108**	*eP*	**Pb**	**11 41 03.3**	**+0.1**
POLN	**AI Sur del Vol**	**2.28**	**346**	P	**Pn**	**11 41 00.8**	**+0.8**
POLN				S	**Sb**	**11 41 31.3**	**-0.5**
LCR2	**La Lucha 2**	**2.30**	**107**	S	**Sb**	**11 41 32.2**	**-0.3**
LCR2	**La Lucha 2**	**2.30**	**107**	P	**Pn**	**11 41 01.1**	**+0.7**
LCR2	**La Lucha 2**	**2.30**	**107**	*eP*	**Pn**	**11 41 00.5**	**+0.1**
CRIN	**San Cristobal**	**2.39**	**341**	S	**Sb**	**11 41 33.1**	**-2.0**
CVTG	**V. Turrialba,**	**2.44**	**96**	*eP*	**Pn**	**11 41 03.1**	**+0.9**
CVTQ	**Turrialba Volc**	**2.46**	**100**	*eP*	**Pn**	**11 41 04.2**	**+1.4**
CVTR	**Volcan Turrial**	**2.47**	**99**	*eP*	**Pb**	**11 41 05.1**	**-1.6**
MATN	**Matagalpa**	**2.50**	**7**	P	**Pn**	**11 41 03.3**	**+0.2**
MATN	**Matagalpa**	**2.50**	**7**	S	**Sb**	**11 41 37.6**	**-0.7**
ESPN	**Las Esperanzas**	**2.58**	**47**	P	**Pn**	**11 41 04.8**	**+0.7**
ESPN	**Las Esperanzas**	**2.58**	**47**	S	**Sb**	**11 41 41.0**	**+0.4**
BUS1	**Rivas**	**2.60**	**109**	*eP*	**Pn**	**11 41 05.5**	**+0.7**
LIMN	**Finca el Limon**	**2.62**	**357**	P	**Pn**	**11 41 04.5**	**-0.2**
POTN	**Potosi Cosigui**	**2.84**	**334**	S	**Sn**	**11 41 43.0**	**+0.7**
CSGN	**Cosiguina Volc**	**2.84**	**333**	P	**Pn**	**11 41 08.0**	**+0.3**
CSGN				S	**Sn**	**11 41 42.9**	**+0.5**
OCHAL	**Ojochal**	**2.88**	**117**	S	**Sn**	**11 41 44.9**	**+1.8**
OCHAL	**Ojochal**	**2.88**	**117**	P	**Pn**	**11 41 07.8**	**-0.3**
BLUN	**Bluefields**	**2.88**	**57**	P	**Pn**	**11 41 08.5**	**+0.3**
BLUN				S	**Sb**	**11 41 46.9**	**-2.1**
RCPN	**Sur Rio San Ju**	**3.08**	**3**	P	**Pn**	**11 41 11.4**	**+0.3**
RCVN	**Varillal2**	**3.13**	**1**	P	**Pn**	**11 41 12.8**	**+1.0**
DRK0	**Durika**	**3.17**	**111**	*eP*	**Pn**	**11 41 12.7**	**+0.4**
CNCH	**Conchagua**	**3.23**	**331**	P	**Pn**	**11 41 14.1**	**+0.9**
CNCH	**Conchagua**	**3.23**	**331**	S	**Sn**	**11 41 52.2**	**+0.1**
LCND	**La Caada**	**3.29**	**331**	P	**Pn**	**11 41 14.2**	**+0.4**
RANC	**El Ranchito**	**3.60**	**326**	P	**Pn**	**11 41 19.3**	**+1.1**
PACA	**Pacayal**	**3.65**	**326**	P	**Pn**	**11 41 19.5**	**+0.6**

IDC 29 11:45:20.2±1.9, 0°04S×123°56E, h0km, mb3.1/3, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=157.6km s-min=26.8km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.07**	**174**	P	Pn	11 49 32.9	0.0
0.2nm,0.3s,baz=2.9,slow=9.6,SNR=1.4							
0.8nm,0.4s							
WRA	**Warramunga Arr**	**22.42**	**153**	P	P	11 50 20.8	0.0
0.3nm,0.4s,baz=331,slow=9.9,SNR=11							
0.3nm,0.4s							
ASAR	**Alice Springs**	**25.55**	**158**	P	P	11 50 50.6	-0.3
0.1nm,0.3s,baz=335,slow=8.7,SNR=5.2							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**58.94**	**328**	P	P	11 55 21.7	+0.2
0.2nm,0.5s,baz=141,slow=7.4,SNR=2.2							
0.2nm,0.5s							

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*MOS **29** 11:49:38.5±0.8, 41°95N×135°92E, h361km, mb4.1/13, Error ellipse: s-maj=10.2km s-min=6.4km az=104.6*
*IDC **29** 11:49:39.9±0.8, 41°97N×135°77E, h352km±7km, mb3.4/22, mbtmp4.0/28, Error ellipse: s-maj=13.0km s-min=9.1km az=68.0*
*SKHL **29** 11:49:39.6±0.7, 42°00N×136°00E, h350km±5km, mb4.3/6, msh4.1/2*
*JMA **29** 11:49:40.5±0.4, 42°N±2°×13°6E±°, h362km, MV3.4/28, EASTERN SEA OF JAPAN*
ISC 29 11:49:38.6±0.4, 41°90N±0°04×135°99E±0°05, h350km, n85, σ1°82/107, mb3.8/33, 11C-8D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**2.60**	**85**	P	**Pn**	**11 50 35.9**	**+1.4**
JHST	**Hiyamasetana**	**2.94**	**78**	*eP*	**Pn**	**11 50 39.2**	**+1.9**
JOMM	**Oshimamatsumae**	**3.03**	**96**	P	**Pn**	**11 50 39.9**	**+1.7**
JSH	**Shimam**	**3.10**	**75**	*eP*	**Pn**	**11 50 41.0**	**+2.2**
TEY	**Ternei**	**3.17**	**8**	*eP*	**Pn**	**11 50 40.6**	**+1.2**
VLA	**Vladivostok**	**3.27**	**293**	*i P*	**Pn**	**11 50 40.4**	**0.0**
MSHR	**Mys Shultsa**	**3.65**	**282**	*d iP*	**Pn**	**11 50 44.6**	**+0.5**
USA0B	**Ussuriysk Arra**	**3.73**	**309**	*c iP*	**Pn**	**11 50 45.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**3.73**	**309**	P	**Pn**	**11 50 45.2**	**+0.4**
9.6nm,0.4s,baz=125,slow=9.2,SNR=33							
USRK				S	**S**	**11 51 37.2**	**-1.0**
9.9nm,0.9s,baz=125,slow=18,SNR=6.5							
JOT	**Ohata**	**3.83**	**96**	P	**Pn**	**11 50 47.2**	**+1.4**
PSTR	**Posyet**	**3.92**	**283**	*d iP*	**Pn**	**11 50 47.5**	**+0.8**
JMK	**Ichinoseki**	**4.96**	**125**	P	**Pn**	**11 50 58.2**	**+0.5**
JMK				S	**S**	**11 52 01.7**	**-0.1**
ASAJ	**Asahikawa**	**5.33**	**63**	P	**Pn**	**11 51 03.1**	**+1.4**
8.0nm,0.3s,baz=251,slow=10,SNR=44							
ASAJ				S	**S**	**11 52 07.9**	**-1.2**
23nm,0.9s,baz=245,slow=7.8,SNR=9.2							
ERM	**Erimo**	**5.34**	**86**	*c iP*	**Pn**	**11 51 02.9**	**+0.9**
ERM				*i* S	**S**	**11 52 07.0**	**-2.5**
JWK2	**Keihoku**	**5.48**	**49**	P	**Pn**	**11 51 06.0**	**+2.5**
JCH	**Churui**	**5.52**	**80**	P	**Pn**	**11 51 04.2**	**+0.3**
JCH				S	**S**	**11 52 10.0**	**-3.0**
MAJO	**Matsushiro**	**5.62**	**161**	*eP*	**Pn**	**11 51 05.9**	**+0.7**
MJAR	**Matsushiro Arr**	**5.62**	**161**	P	**Pn**	**11 51 08.0**	**+2.8**
1.7nm,0.6s,baz=356,slow=28,SNR=6.2							
MJAR	**Matsushiro Arr**	**5.62**	**161**	P	**Pn**	**11 51 08.0**	**+2.8**
JTKR	**Abashiri--Toko**	**6.17**	**68**	*eP*	**Pn**	**11 51 12.5**	**+1.3**
JRY	**Ryogami san**	**6.29**	**158**	P	**Pn**	**11 51 15.1**	**+2.2**
JRY				*eS*	**S**	**11 52 29.2**	**-0.2**
YSS	**Yuzhno-Sakhali**	**7.00**	**41**	*eP*	**Pn**	**11 51 21.4**	**+0.6**
YSS				*eS*	**S**	**11 52 43.1**	**-0.9**
YSS				pmax	pmax		
comp=Z,70nm,0.5s							
YSS				pmax	pmax		
comp=Z,400nm,4.5s							
YSS				smax	smax		
comp=N,20nm,1.0s							
YSS				MLR	MLR		
comp=Z,400nm,16.0s							
JOD2	**Odawara 2**	**7.05**	**159**	*eS*	**S**	**11 52 43.0**	**-2.5**
JHS	**Saijyo**	**7.25**	**199**	P	**Pn**	**11 51 26.2**	**+2.2**
NEM2	**Nemuro 2**	**7.34**	**75**	P	**Pn**	**11 51 24.6**	**-0.3**
NEM2				S	**S**	**11 52 46.0**	**-5.4**
JIE	**Ise**	**7.51**	**175**	P	**Pn**	**11 51 30.4**	**+3.3**
KSRS	**Korea Array**	**7.64**	**237**	P	**Pn**	**11 51 30.0**	**+1.5**
comp=Z,3.9nm,0.8s,baz=52,slow=11,SNR=12							
KSRS	**Korea Array**	**7.64**	**237**	P	**Pn**	**11 51 30.0**	**+1.5**
KLR	**Kul'dur**	**7.91**	**339**	P	**Pn**	**11 51 31.2**	**-0.4**
comp=Z,2.9nm,0.5s,baz=157,slow=13,SNR=9.0							
KLR				S	**S**	**11 53 00.1**	**-3.5**
comp=Z,1.2nm,0.7s,baz=156,slow=20,SNR=1.5							
KLR	**Kul'dur**	**7.91**	**339**	⇓*iP*	**Pn**	**11 51 31.7**	**+0.1**
BSO1	**Boso 1**	**8.22**	**150**	P	**Pn**	**11 51 34.3**	**-0.7**
BSO1				*eS*	**S**	**11 53 05.4**	**-4.5**
JHJ	**Hachijo jima 2**	**9.26**	**160**	P	**Pn**	**11 51 45.3**	**-2.5**
comp=Z,128nm,1.0s,baz=319,slow=20,SNR=1.5							
JHJ				S	**S**	**11 53 27.0**	**-6.6**
comp=Z,117nm,0.8s,baz=274,slow=19,SNR=8.9							
JHJ2	**Mitsune**	**9.28**	**160**	S	**S**	**11 53 30.2**	**-3.7**
JTO	**Tosashimizu**	**9.37**	**197**	*eP*	**P**	**11 51 51.5**	**+0.4**
JNU	**Nakatsue**	**9.65**	**206**	P	**P**	**11 51 55.0**	**+0.7**
comp=Z,4.7nm,0.4s,baz=32,slow=9.5,SNR=15							
TYV	**Tymovskoe**	**10.08**	**25**	*eP*	**P**	**11 51 59.5**	**+0.8**
TYV				*eS*	**S**	**11 53 50.1**	**-0.9**
TYV				pmax	pmax		
comp=Z,17nm,0.6s							
TYV				pmax	pmax		
comp=Z,200nm,4.0s							
TYV				smax	smax		
comp=E,200nm,3.8s							
TYV				smax	smax		
comp=N,12nm,1.2s							
TYV				smax	smax		
comp=E,8.0nm,1.2s							
JSJ	**Shimokoshiki**	**11.37**	**208**	*eP*	**P**	**11 52 14.9**	**+1.6**
ZEA	**Zeya**

KIRV e*PP **pP** **11 59 37.7 -1.8**
SPITS Spitsbergen Ar 54.91 347 P **P** **11 58 34.2 +0.7**
comp=Z,16nm,1.0s,baz=70,slow=12,SNR=2.0
comp=Z,16nm,1.0s
ARCES ARCESS Array B 57.93 337 P **P** **11 58 54.9 +0.2**
comp=Z,8.9nm,1.1s,baz=56,slow=6.7,SNR=6.9
comp=Z,8.9nm,1.1s
WRAB Tennant Creek 61.53 182 eP **P** **11 59 19.3 -0.3**
WRAB pmax pmax
comp=Z,14nm,2.6s
WRA Warramunga Arr 61.54 182 P **P** **11 59 20.4 +0.7**
comp=Z,0.7nm,0.5s,baz=1.3,slow=6.7,SNR=25
comp=Z,0.7nm,0.5s
WRA Warramunga Arr 61.54 182 ceP **P** **11 59 20.5 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.4s
OBN Obninsk 61.69 320⇓ eP **P** **11 59 19.5 -0.7**
OBN e 12 01 39.1
OBN ePPP PPP 12 03 12.7
OBN eS **S** **12 07 07.9 -6.2**
OBN pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 62.53 329 P **P** **11 59 25.3 -0.4**
comp=Z,4.2nm,0.8s,baz=54,slow=6.3,SNR=14
comp=Z,4.2nm,0.8s
FINES FINESS Array B 62.53 329 ceP **P** **11 59 25.7 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 64.59 307 eP **P** **11 59 40.6 +1.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 64.59 307 P **P** **11 59 39.8 +0.5**
comp=Z,0.8nm,0.6s,baz=60,slow=8.1,SNR=2.0
comp=Z,0.8nm,0.6s
KBZ Khabaz 64.59 307⇑ iP **P** **11 59 38.9 -0.4**
KBZ pmax pmax
comp=Z,11nm,2.4s
ASAR Alice Springs 65.26 182 P **P** **11 59 45.0 +1.2**
comp=Z,0.6nm,0.5s,baz=2.6,slow=6.7,SNR=15
comp=Z,0.6nm,0.5s
GNI Garni 65.49 303⇑ iP **P** **11 59 45.1 -0.3**
GNI pmax pmax
comp=Z,18nm,1.9s
AKASG Malin Array Be 67.88 319 P **P** **11 59 59.4 -0.5**
comp=Z,0.9nm,0.3s,baz=45,slow=6.2,SNR=9.3
comp=Z,0.9nm,0.3s
AKASG Malin Array Be 67.88 319 ceP **P** **11 59 59.5 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 67.89 333 P **P** **11 59 59.7 -0.2**
comp=Z,1.6nm,0.5s,baz=64,slow=6.6,SNR=6.9
comp=Z,1.6nm,0.5s
NB2 NORSAR Subarra 68.04 334 P **P** **12 00 00.9 +0.1**
comp=Z,0.7nm,0.6s,baz=39,slow=6.5
NOA NORSAR Array B 68.04 334 P **P** **12 00 00.6 -0.2**
comp=Z,0.9nm,0.6s,baz=45,slow=6.5,SNR=3.2
comp=Z,0.9nm,0.6s
NVAR Mina Array Bea 75.34 51 P **P** **12 00 47.3 +2.8**
comp=Z,0.2nm,0.5s,baz=312,slow=5.6,SNR=3.0
comp=Z,0.2nm,0.5s
KHC Kasperske Hory 76.19 325⇑ iP **P** **12 00 50.3 +1.5**
KHC pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 76.35 325 P **P** **12 00 50.6 +0.8**
comp=Z,1.2nm,0.5s,baz=34,slow=5.6,SNR=7.0
comp=Z,1.2nm,0.5s
EKA Eskdalemuir Ar 77.10 337 P **P** **12 00 54.9 +1.2**
comp=Z,0.3nm,0.4s,baz=22,slow=6.1,SNR=2.4
comp=Z,0.3nm,0.4s
PDAR Pinedale Array 77.14 43 P **P** **12 00 55.5 +1.0**
comp=Z,0.2nm,0.4s,baz=325,slow=8.1,SNR=4.6
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 90.29 49 P **P** **12 02 02.9 +2.2**
comp=Z,0.1nm,0.5s,baz=327,slow=2.0,SNR=2.2
comp=Z,0.1nm,0.5s
CPUP Villa Florida 160.99 39 PKPab **PKPab** **12 09 43.9 +1.6**
comp=Z,1.7nm,0.3s,baz=358,slow=2.6,SNR=3.0

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*SNET **29** 11:57:27.8±0.7, 13°.52N×90°.65W, h23km±3km, ML3.1*
*CATAC **29** 11:57:27.7±0.6, 14°.N±3°.×9°.1W±°, h16km±3km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=7.4km s-min=2.8km az=26.3, confirmed*
*GCG **29** 11:57:27.6±0.7, 13°.84N×90°.66W, h74km±19km, MD3.8*
ISC 29 11:57:27.8±2.3, 13°.71N±0°.09×90°.69W±0°.05, h17km±13km, n42, σ0s68/50, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.67**	**78**	S	**Sn**	**11 57 53.0**	**+0.3**
NUBE	**Las Nubes**	**0.91**	**78**	eP	**Pb**	**11 57 44.8**	**-0.4**
NUBE				eS	**Sg**	**11 57 57.8**	**+0.4**
NUBE				IAML		11 58 01.2	
	comp=Z,214nm,0.2s						
NUBE	**Las Nubes**	**0.91**	**78**	P	**Pb**	**11 57 44.6**	**-0.5**
NUBE	**Las Nubes**	**0.91**	**78**	S	**Sn**	**11 57 58.4**	**-0.3**
NUBE	**Las Nubes**	**0.91**	**78**	eP	**Pb**	**11 57 44.8**	**-0.4**
NUBE				eS	**Sg**	**11 57 58.1**	**+0.7**
NUBE	**Las Nubes**	**0.91**	**78**	eP		11 57 44.8	
NUBE				eS		11 57 58.1	
SLOZ	**Alcaldia de Sa**	**0.94**	**70**	iP	**Pb**	**11 57 45.6**	**0.0**
SLOZ				eS	**Sn**	**11 57 59.4**	**+0.1**
SLOZ				IAML		11 58 08.4	
	comp=Z,260nm,0.4s						
SLOZ	**Alcaldia de Sa**	**0.94**	**70**	P	**Pb**	**11 57 45.5**	**-0.1**
STG0	**El Palmar, Qui**	**0.95**	**319**	eP		11 57 50.0	
STG0				eS		11 58 06.7	
STG8	**El Palmar, Qui**	**0.98**	**319**	eP		11 57 50.5	
STG8				eS		11 58 08.0	
CEVE	**Cerro Verde**	**1.04**	**83**	eP	**Pb**	**11 57 47.0**	**-0.5**
CEVE				IAML		11 58 03.9	
	comp=Z,3μm,0.3s						
CEVE	**Cerro Verde**	**1.04**	**83**	P	**Pb**	**11 57 47.4**	**-0.1**
CEVE	**Cerro Verde**	**1.04**	**83**	S	**Sn**	**11 58 02.3**	**+0.1**
SBLS	**San Blas**	**1.04**	**83**	eP	**Pb**	**11 57 47.0**	**-0.6**
SBLS				eP	**Pb**	**11 57 47.1**	**-0.6**
SBLS				IAML		11 58 03.2	
	comp=Z,279nm,0.2s						
UNIC	**Universidad Ca**	**1.14**	**76**	P	**Pn**	**11 57 48.3**	**-0.8**
UNIC	**Universidad Ca**	**1.14**	**76**	S	**Sb**	**11 58 04.2**	**+0.5**
JAYA	**Jayaque - finc**	**1.21**	**92**	eP	**Pn**	**11 57 48.9**	**-1.1**
JAYA				eS	**Sb**	**11 58 04.7**	**-1.1**
JAYA				IAML		11 58 08.8	
	comp=Z,921nm,0.1s						
JAYA	**Jayaque - finc**	**1.21**	**92**	P	**Pn**	**11 57 49.6**	**-0.5**
JAYA	**Jayaque - finc**	**1.21**	**92**	S	**Sb**	**11 58 05.4**	**-0.4**
JAYA	**Jayaque - finc**	**1.21**	**92**	eP	**Pn**	**11 57 48.8**	**-1.3**
JAYA				eS	**Sb**	**11 58 05.1**	**-0.7**
JAYA	**Jayaque - finc**	**1.21**	**92**	eP		11 57 48.8	
JAYA				eS		11 58 05.1	
CEDA	**San Andres**	**1.26**	**86**	S	**Sb**	**11 58 07.4**	**+0.3**
CEDA	**San Andres**	**1.26**	**86**	P	**Pn**	**11 57 50.6**	**-0.1**
RTAL	**Retalhuleu**	**1.27**	**310**	S	**Sn**	**11 58 07.7**	**+0.3**
SOKI	**Kika Raxquin**	**1.30**	**328**	eP	**Pn**	**11 57 50.8**	**-0.9**
SOKI				eS	**Sb**	**11 58 08.4**	**-0.4**
SOKI	**Kika Raxquin**	**1.30**	**328**	eP		11 57 50.8	
SOKI				eS		11 58 08.4	
PMON	**Piamonte**	**1.34**	**90**	S	**Sn**	**11 58 09.3**	**0.0**
PMON	**Piamonte**	**1.34**	**90**	P	**Pn**	**11 57 51.5**	**-0.3**
LALI	**Alcalda de L**	**1.35**	**99**	S	**Sn**	**11 58 09.3**	**-0.1**
UEES	**Universidad Ev**	**1.41**	**90**	S	**Sn**	**11 58 11.5**	**+0.4**
UTEC	**Universidad Te**	**1.45**	**90**	S	**Sn**	**11 58 11.8**	**-0.2**
MTO3	**Montecristo**	**1.46**	**62**	S	**Sn**	**11 58 12.3**	**-0.2**
MTO3	**Montecristo**	**1.46**	**62**	P	**Pn**	**11 57 53.2**	**-0.4**
LOMA	**Loma Larga**	**1.48**	**92**	S	**Sn**	**11 58 12.9**	**+0.1**
LOMA	**Loma Larga**	**1.48**	**92**	P	**Pn**	**11 57 54.2**	**+0.4**
UDBS	**Universidad Do**	**1.49**	**90**	S	**Sn**	**11 58 13.4**	**+0.4**
ESQI	**Esquipulas**	**1.56**	**57**	S	**Sn**	**11 58 15.0**	**+0.2**
PAVA	**Las Pavas**	**1.70**	**90**	S	**Sn**	**11 58 19.5**	**+1.1**
LLGN	**La Laguna**	**1.75**	**75**	S	**Sn**	**11 58 20.6**	**+1.0**
COEG	**Centro de Oper**	**1.76**	**93**	P	**Pn**	**11 57 58.1**	**+0.5**
COEG	**Centro de Oper**	**1.76**	**93**	S	**Sb**	**11 58 21.3**	**-0.3**
HUEH	**Huehuetenango**	**1.78**	**334**	S	**Sn**	**11 58 21.8**	**+1.3**
UESV	**Universidad de**	**1.85**	**92**	S	**Sb**	**11 58 23.5**	**-0.6**
TECO	**Alcaldia de Te**	**1.86**	**95**	S	**Sn**	**11 58 23.6**	**+1.4**
PQSS	**Presa 15 de Se**	**2.07**	**92**	S	**Sn**	**11 58 28.9**	**+1.6**
CCIG	**Comitan**	**2.92**	**332**	P	**Pn**	**11 58 14.0**	**+0.4**
CSGN	**Cosiguina Volc**	**3.13**	**103**	P	**Pn**	**11 58 16.7**	**+0.2**
CSGN				S	**Sn**	**11 58 55.1**	**+1.4**

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*IDC **29** 12:07:07.8±0.9, 6°.70S×155°.33E, h0km, mb3.7/7, mbtmp3.8/9, ML1.9/1, MS3.1/3, Error ellipse: s-maj=29.1km s-min=22.1km az=147.0*
ISC 29 12:07:13.0±0.8, 6°.7S±0°.2×155°.38E±0°.09, h35km, n13, σ0s83/11, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.27**	**121**	Pn	**Pn**	**12 08 29.2**	**0.0**
	26nm,0.3s,baz=288,slow=6.4,SNR=2.5						
HNR				LR	LR	12 10 20.0	
	comp=Z,87nm,19.2s,baz=306,slow=36						
PMG	**Port Moresby**	**8.56**	**251**	Pn	**Pn**	**12 09 13.3**	**-1.2**
	0.8nm,0.3s,baz=74,slow=20,SNR=1.6						
PMG				Sn	**Sn**	**12 10 51.4**	**+1.5**
	1.0nm,0.3s,baz=24,slow=20,SNR=3.5						
	3.3nm,0.4s						
DZM	**Mont Dzumac**	**18.63**	**146**	LR	LR	12 16 30.4	
	comp=Z,148nm,20.1s,baz=102,slow=30						
WRA	**Warramunga Arr**	**24.28**	**235**	P	**P**	**12 12 26.6**	**-0.7**
	0.7nm,0.6s,baz=58,slow=9.6,SNR=12						
WRA				PcP	**PcP**	**12 16 07.7**	**+0.8**
	0.2nm,0.7s,baz=58,slow=2.0,SNR=4.6						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**26.63**	**228**	P	**P**	**12 12 47.9**	**-0.7**
	0.3nm,0.6s,baz=55,slow=9.0,SNR=7.9						
ASAR				LR	LR	12 21 49.2	
	comp=Z,41nm,18.3s,baz=95,slow=33						
	0.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.43**	**24**	T	T	12 41 23.8	
	baz=203,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**27.43**	**24**	T	T	12 41 27.2	
	baz=203,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.45**	**24**	T	T	12 41 22.3	
	baz=203,slow=76,SNR=11						
CMAR	**Chiang Mai Arr**	**61.01**	**295**	P	**P**	**12 17 23.6**	**+0.1**
	1.5nm,0.7s,baz=110,slow=6.5,SNR=11						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**82.98**	**21**	P	**P**	**12 19 34.4**	**+0.2**
	0.4nm,0.7s,baz=258,slow=6.8,SNR=6.7						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.25**	**180**	P	**P**	**12 19 36.3**	**+0.5**
	0.9nm,0.6s,baz=343,slow=11,SNR=6.8						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**83.45**	**319**	P	**P**	**12 19 37.1**	**0.0**
	0.2nm,0.6s,baz=117,slow=3.3,SNR=2.0						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**12 20 35.7**	**-0.2**
	0.3nm,0.9s,baz=271,slow=4.9,SNR=4.2						
	0.3nm,0.9s						

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*IDC **29** 12:14:02.1±3.5, 34°.14N×36°.97W, h0km, mb3.5/8, mbtmp3.5/8, MS3.3/7, Error ellipse: s-maj=102.6km s-min=34.1km az=175.0*
ISC 29 12:14:03.4±3.3, 34°.1N±0°.7×37°.0W±0°.2, h10km, n18, σ1s19/8, mb3.6/8, MS3.2/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**26.91**	**68**	LR	LR	12 27 56.2	
	comp=Z,41nm,18.5s,baz=319,slow=31						
MDT	**Midelt**	**26.99**	**84**	LR	LR	12 27 30.5	
	comp=Z,31nm,19.6s,baz=356,slow=30						
SCHQ	**Schefferville**	**29.38**	**324**	LR	LR	12 30 36.5	
	comp=Z,49nm,19.7s,baz=290,slow=34						
TKL	**Tuckaleechee C**	**38.14**	**286**	LR	LR	12 33 50.2	
	comp=Z,40nm,19.7s,baz=359,slow=31						
ULM	**Lac du Bonnet**	**45.34**	**309**	P	**P**	**12 22 22.9**	**+1.3**
	1.0nm,0.6s,baz=89,slow=10,SNR=2.2						
	1.0nm,0.6s						
H10N2	**ASCENSION HYDR**	**46.81**	**149**	T	T	13 13 00.7	
	baz=335,slow=75,SNR=9.1						
H10N3	**ASCENSION HYDR**	**46.81**	**149**	T	T	13 13 00.6	
	baz=335,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**46.83**	**149**	T	T	13 13 01.8	
	baz=335,slow=75,SNR=19						
H10S3	**ASCENSION HYDR**	**47.74**	**150**	T	T	13 14 12.1	
	baz=335,slow=74						
H10S2	**ASCENSION HYDR**	**47.75**	**150**	T	T	13 14 12.4	
	baz=245,slow=74,SNR=8.1						
YKA	**Yellowknife Ar**	**54.80**	**326**	P	**P**	**12 23 32.5**	**-0.7**
	0.7nm,1.0s,baz=83,slow=7.3,SNR=8.5						
YKA				LR	LR	12 44 18.7	
	comp=Z,93nm,19.7s,baz=302,slow=33						
	0.7nm,1.0s						
PDAR	**Pinedale Array**	**55.92**	**302**	P	**P**	**12 23 41.5**	**-0.4**
	0.7nm,1.0s,baz=80,slow=10,SNR=4.4						
PDAR				LR	LR	12 47 42.3	
	comp=Z,21nm,18.0s,baz=354,slow=36						
	0.7nm,1.0s						
TXAR	**Lajitas Array**	**56.03**	**285**	P	**P**	**12 23 41.8**	**-0.9**
	0.2nm,0.8s,baz=80,slow=6.9,SNR=1.8						
	0.2nm,0.8s						
NVAR	**Mina Array Bea**	**63.67**	**300**	P	**P**	**12 24 36.8**	**+1.5**
	0.3nm,0.7s,baz=58,slow=1.5,SNR=2.4						
	0.3nm,0.7s						
YBH	**Yreka Blue Hor**	**65.41**	**305**	LR	LR	12 53 52.0	
	comp=Z,44nm,18.3s,baz=231,slow=37						
ILAR	**Eielson Array**	**67.50**	**334**	P	**P**	**12 24 58.5**	**-0.8**
	0.5nm,1.0s,baz=55,slow=7.8,SNR=4.8						
	0.5nm,1.0s						
KURBB	**Kurchatov Arra**	**78.34**	**36**	P	**P**	**12 26 04.7**	**+0.9**
	0.4nm,0.7s,baz=303,slow=5.8,SNR=2.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**82.75**	**37**	P	**P**	**12 26 27.0**	**-0.6**
	0.1nm,0.3s,baz=307,slow=5.2,SNR=1.8						
	0.1nm,0.3s						

DJA 29 12:55:05.8±0.8, 10°S±4°.×11°9E±°, h18km±6km, M3.8/8, mb4.4/1, MLv3.5/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.83**	**17**	P	Pb	12 55 21.3	-0.5
WBSI				S	Sg	12 55 33.6	+0.5
WSI	**Waingapu**	**1.37**	**56**	P	Pn	12 55 30.1	0.0
WSI				S	Sb	12 55 48.5	+0.3
BASI	**Baing, Sumba**	**1.43**	**81**	P	Pn	12 55 31.0	+0.1
BASI				S	Sb	12 55 50.9	+1.0
PLAI	**Plampang**	**2.09**	**320**	P	Pn	12 55 39.6	-0.4
PLAI				S	Sn	12 56 06.0	+0.4
TWSI	**Taliwang, Sumb**	**2.80**	**307**	P	Pn	12 55 50.5	+0.8
EDFI	**Ende, Flores**	**3.02**	**56**	P	Pn	12 55 52.2	-0.7
EDFI				S	Sn	12 56 29.3	+0.5
MMRI	**Maumere**	**3.54**	**60**	P	Pn	12 55 59.6	-0.4
MMRI				S	Sn	12 56 40.4	-1.0
BSSI	**Bau Bau, Buton**	**4.47**	**17**	P	Pn	12 56 14.8	+2.0
BSSI				S	Sn	12 57 06.5	+2.1
BKSI	**Bulukumba**	**5.18**	**11**	P	Pn	12 56 22.4	0.0

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*ISN **29** 13:13:03.7±0.5, 34°.62N×46°.32E, h8km±6km, ML2.6*
*TEH **29** 13:13:05.4, 34°.62N×46°.29E, h10km±98km*
ISC 29 13:13:05.1±1.0, 34°.64N±0°.06×46°.29E±0°.05, h14km±10km, n9, σ0s83/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**55**	Pg	**Pg**	**13 13 08.3**	**-0.1**
IDHR				Sg	**Sg**	**13 13 11.3**	**+0.6**
IGHG	**Ghaleghazi**	**0.39**	**143**	Pg	**Pb**	**13 13 13.4**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.59**	**257**	Pg	**Pb**	**13 13 17.2**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.61**	**211**	Pg	**Pb**	**13 13 17.2**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.72**	**120**	Pg	**Pb**	**13 13 18.5**	**-1.1**
IBDR	**Badra**	**1.56**	**191**	ePn	**Pb**	**13 13 33.0**	**-0.7**
IBDR				eSn	**Sg**	**13 13 55.0**	**-0.3**
IBDR				AML	AML	13 14 01.1	
	comp=E,100nm,0.5s						
IBDR				AML	AML	13 14 09.9	
	comp=N,78nm,0.5s						
IKFM	**Kafar-mosalman**	**1.71**	**130**	Pg	**Pg**	**13 13 38.6**	**+0.6**
IKRK	**Kirkuk**	**1.77**	**296**	ePn	**Pb**	**13 13 37.0**	**-0.3**
IKRK				eSn	**Sg**	**13 14 01.0**	**-1.0**
BHD	**Baghdad**	**2.10**	**230**	ePn	**Pn**	**13 14 41.0**	**+1.2**
BHD				eSn	**Sb**	**13 14 08.0**	**-0.8**

IDC 29 13:17:08.5±279.0, 57°.20N×30°.06E, h0km, Error ellipse: s-maj=119.0km s-min=78.8km az=108.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.95**	**94**	I	I	13 40 31.5	
	0.1nm,0.6s,baz=280,slow=327,SNR=5.1						
I26DE	**FREYUNG INFRAS**	**12.89**	**236**	I	I	14 36 50.0	
	baz=45,slow=328,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**17.77**	**101**	I	I	15 07 40.0	
	baz=303,slow=328,SNR=0.8						
I48TN	**KESRA INFRASON**	**25.53**	**222**	I	I	15 52 00.0	
	baz=23,slow=327,SNR=0.5						

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*IDC **29** 13:25:49.5±2.0, 50°.57N×160°.07E, h0km, mb3.5/6, mbtmp3.5/7, ML2.1/1, MS3.2/1, Error ellipse: s-maj=46.7km s-min=23.5km az=15.0*
*KRSC **29** 13:25:51.1±1.5, 50°.54N×159°.91E, h40km±30km, Ml3.8*
ISC 29 13:25:53.7±1.1, 50°.48N±0°.08×159°.93E±0°.08, h35km, n25, σ1s04/32, mb3.4/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**320**	eP	**Pn**	**13 26 20.2**	**-1.6**
KDTR				eS	**Sn**	**13 26 42.0**	**-1.1**
RUS	**Russkaya**	**2.15**	**336**	eP	**Pn**	**13 26 26.2**	**-0.8**
RUS				eS	**Sn**	**13 26 51.3**	**-1.1**
PAU	**Pauzhetka**	**2.21**	**298**	eP	**Pn**	**13 26 27.7**	**-0.1**
GRL	**Gorelyy**	**2.38**	**332**	eP	**Pn**	**13 26 30.2**	**0.0**
SKR	**Severo-Kuril's**	**2.44**	**276**	eP	**Pn**	**13 26 29.9**	**-1.1**
SKR				eS	**Sn**	**13 26 57.8**	**-1.6**
KRMR	**Karymshinskiy**	**2.61**	**335**	eS	**Sn**	**13 27 03.4**	**-0.3**
SPN	**Mys Shipunski**	**2.62**	**1**	eP	**Pn**	**13 26 32.4**	**-1.1**
SPN				eS	**Sn**	**13 27 02.3**	**-1.8**
DALK	**Dalny**	**2.66**	**345**	eP	**Pn**	**13 26 33.3**	**-0.7**
DALK				eS	**Sn**	**13 27 03.3**	**-1.7**
PET	**Petropavlovsk**	**2.67**	**343**	eP	**Pn**	**13 26 33.0**	**-1.1**
PET				eS	**Sn**	**13 27 03.9**	**-1.3**
UGLR	**Uglovaya**	**2.82**	**346**	eP	**Pn**	**13 26 36.6**	**+0.3**
SDLR	**Sedlovina**	**2.88**	**347**	eP	**Pn**	**13 26 37.4**	**+0.3**
AVH	**Avacha**	**2.89**	**346**	eP	**Pn**	**13 26 37.2**	**0.0**
KOK	**Koryaka**	**2.93**	**345**	eP	**Pn**	**13 26 38.4**	**+0.6**
PETK	**Petropavlovsk-**	**2.98**	**333**	Pn	**Pn**	**13 26 37.5**	**-0.9**
	1.5nm,0.3s,baz=137,slow=15,SNR=52						
PETK				Sn	**Sn**	**13 27 13.2**	**+0.3**
	3.7nm,0.3s,baz=117,slow=15,SNR=8.8						
	3.8nm,0.5s						
KRX	**Arik**	**2.99**	**345**	eP	**Pn**	**13 26 38.2**	**-0.5**
APC	**Apacha**	**3.00**	**326**	eP	**Pn**	**13 26 39.9**	**+1.3**
APC				eS	**Sn**	**13 27 15.1**	**+1.9**
GNL	**Ganaly**	**3.45**	**340**	eP	**Pn**	**13 26 45.9**	**+1.0**
KII	**Karymskiy**	**3.58**	**355**	eS	**Sn**	**13 27 27.4**	**-0.2**
TIXI	**Tiksi**	**25.44**	**338**	P	**P**	**13 31 18.5**	**+0.9**
	1.1nm,0.2s,baz=129,slow=11,SNR=8.1						
	1.1nm,0.2s						
ILAR	**Eielson Array**	**30.78**	**42**	P	**P**	**13 32 05.4**	**0.0**
	0.4nm,0.7s,baz=269,slow=8.5,SNR=8.4						
	0.4nm,0.7s						
GUMO	**Guam**	**38.78**	**204**	LR	LR	13 48 45.3	
	comp=Z,36nm,19.4s,baz=83,slow=35						
YKA	**Yellowknife Ar**	**45.19**	**41**	P	**P**	**13 34 05.9**	**-0.7**
	0.3nm,0.9s,baz=296,slow=8.4,SNR=2.9						
	0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**49.16**	**304**	P	**P**	**13 34 38.9**	**+1.2**
	0.3nm,0.5s,baz=64,slow=7.3,SNR=3.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**49.24**	**298**	P	**P**	**13 34 39.3**	**+0.9**
	0.1nm,0.4s,baz=54,slow=6.9,SNR=4.8						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**71.78**	**66**	P	**P**	**13 37 13.0**	**+0.4**
	0.6nm,0.6s,baz=315,slow=6.4,SNR=6.7						
	0.6nm,0.6s						

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*IDC **29** 13:37:25.8±0.9, 21°.42N×144°.15E, h0km, mb3.4/10, mbtmp3.4/10, MS3.4/2, Error ellipse: s-maj=31.6km s-min=19.9km az=89.0*
ISC 29 13:37:30.6±1.0, 21°.3N±0°.1×144°.2E±0°.2, h33km, n18, σ1s42/11, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.05**	**343**	Pn	**Pn**	**13 39 00.2**	**+2.3**
	8.9nm,0.3s,baz=254,slow=22,SNR=2.9						
JCJ				LR	LR	13 41 07.1	
	comp=Z,78nm,18.4s,baz=97,slow=37						
H11N1	**WAKE ISLAND Hy**	**21.32**	**90**	T	T	14 04 10.5	
	baz=279,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**21.33**	**90**	T	T	14 04 11.2	
	baz=279,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	14 04 13.1	
	baz=282,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**21.34**	**90**	T	T	14 04 11.7	
	baz=279,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**21.35**	**94**	T	T	14 04 13.2	
	baz=282,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**21.36**	**94**	T	T	14 04 13.8	
	baz=282,slow=75,SNR=44						
KSRS	**Korea Array**	**21.40**	**322**	P	**P**	**13 42 15.9**	**+0.5**
	0.5nm,0.6s,baz=149,slow=7.4,SNR=4.8						
	0.5nm,0.6s						
SONM	**Songino Array**	**40.24**	**320**	P	**P**	**13 45 02.4**	**-1.9**
	0.1nm,0.3s,baz=142,slow=7.3,SNR=1.5						
	0.1nm,0.3s						
SEY	**Seymchan**	**41.98**	**6**	P	**P**	**13 45 18.6**	**+0.4**
	0.6nm,0.5s,baz=228,slow=12,SNR=2.6						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**42.10**	**194**	P	**P**	**13 45 20.5**	**+0.8**
	0.6nm,0.7s,baz=14,slow=8.4,SNR=6.7						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**45.80**	**193**	P	**P**	**13 45 50.9**	**+1.5**
	0.4nm,0.6s,baz=15,slow=9.1,SNR=7.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**55.65**	**313**	P	**P**	**13 47 02.2**	**-1.3**
	0.2nm,0.7s,baz=74,slow=5.2,SNR=4.8						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**58.45**	**317**	P	**P**	**13 47 22.1**	**-1.0**
	0.7nm,0.6s,baz=98,slow=7.7,SNR=11						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**61.97**	**27**	P	**P**	**13 47 46.3**	**-0.8**
	0.3nm,0.9s,baz=267,slow=7.6,SNR=2.8						
	0.3nm,0.9s						
PALK	**Pallekele**	**62.71**	**267**	LR	LR	14 13 05.5	
	comp=Z,104nm,20.4s,baz=201,slow=34						
**YKA

WSI S **Sn** **14 01 19.9 -4.1**
EDFI Ende, Flores 1.85 103 P **Pn** **14 01 02.6 -0.9**
EDFI S **Sn** **14 01 29.8 -2.0**
BASI Baing, Sumba 2.00 159 P **Pn** **14 01 03.7 -1.2**
PLAI Plampang 2.12 257 P **Pn** **14 01 04.7 -1.6**
PLAI Plampang 2.12 257 P Pn 14 01 04.5 -1.8
BSSI Bau Bau, Buton 2.27 16 P **Pn** **14 01 07.6 -0.3**
MMRI Maumere 2.37 97 **Pn** **14 01 08.8 -0.2**
MMRI Sn **Sn** **14 01 41.1 -0.5**
MMRI Maumere 2.37 97 P **Pn** **14 01 09.4 +0.5**
MMRI Maumere 2.37 97 P **Pn** **14 01 08.7 -0.2**
TWSI Taliwang, Sumb 2.98 262 P Pn 14 01 14.0 -2.0
BKSI Bulukumba 3.01 5 P **Pn** **14 01 16.6 +0.2**
KAPI Kappang 3.30 358 Pn **Pn** **14 01 20.5 +0.5**
KAPI Sn **Sn** **14 02 02.6 +1.2**
KAPI Kappang 3.30 358 P **Pn** **14 01 20.6 +0.6**
659nm,0.5s,baz=172,slow=8.1,SNR=173
KAPI S **Sn** **14 02 00.4 -1.1**
270nm,0.8s,baz=357,slow=19,SNR=8.4
KAPI LR LR 14 02 57.2
comp=Z,128nm,18.6s,baz=218,slow=48
KAPI Kappang 3.30 358 P **Pn** **14 01 20.6 +0.6**
BBSI Bau Bau 3.90 44 P **Pn** **14 01 28.8 +1.4**
SPSI Sidrap Palu 4.35 359 P **Pn** **14 01 33.7 +0.7**
SOEI Soe 4.57 108 **Pn** **14 01 36.1 +0.2**
SOEI Sn **Sn** **14 02 31.2 +1.2**
SOEI Soe 4.57 108 P **Pn** **14 01 36.0 0.0**
SOEI Soe 4.57 108 P **Pn** **14 01 35.9 0.0**
SRBI Singaraja 4.61 273 P **Pn** **14 01 34.6 -1.7**
DNP Denpasar 4.62 265 P **Pn** **14 01 35.5 -0.9**
TTSI Tana Toraja 5.26 360 P **Pn** **14 01 46.4 +1.7**
0.9nm3µm299nm,0.8s
ABJI Asem Bagus 5.60 275 P **Pn** **14 01 47.6 -1.5**
1.8nm5µm412nm,0.7s
JAGI Jajag, Banyuwa 5.65 268 Pn Pn 14 01 45.5 -4.2
JAGI Sn Sn 14 02 47.9 -7.1
JAGI Jajag, Banyuwa 5.65 268 P **Pn** **14 01 47.8 -2.0**
JAGI Jajag, Banyuwa 5.65 268 P Pn 14 01 45.3 -4.5
12µm520nm,0.5s
KMMI Kalianget 5.98 282 P **Pn** **14 01 54.8 +0.8**
2.7nm6µm778nm,1.4s
GMJI Gumukmas 6.35 270 P Pn 14 01 54.4 -4.5
2.1nm5µm337nm,0.8s
PCI Palu 7.38 360 P **Pn** **14 02 14.1 +1.7**
0.3nm85nm,1.0s
GRJI Gresik 7.46 280 P **Pn** **14 02 12.7 -0.6**
2.0nm6µm657nm,1.0s
APSI Ampana 7.59 14 P **Pn** **14 02 15.9 +0.9**
0.4nm100nm,1.0s
BKB Balikpapan 7.63 337 Pn **Pn** **14 02 14.4 -1.1**
LUWI Luwuk 7.80 22 Pn **Pn** **14 02 18.9 +1.0**
LUWI Luwuk 7.80 22 P **Pn** **14 02 19.5 +1.6**
LUWI Luwuk 7.80 22 P **Pn** **14 02 19.0 +1.1**
0.4nm105nm,1.0s
TBJI Tambak Boyo 8.09 280 P **Pn** **14 02 21.0 -0.6**
3µm321nm,0.8s
NGJI Ngawi 8.38 276 P **Pn** **14 02 26.7 +1.3**
3µm249nm,0.8s
PCJI Pacitan 8.60 270 P Pn 14 02 25.2 -3.0
SANI Sanana 8.73 45 P **Pn** **14 02 31.8 +1.9**
SANI Sanana 8.73 45 P **Pn** **14 02 31.1 +1.2**
109nm,1.2s
NLAI Namlea 8.80 55 P **Pn** **14 02 32.4 +1.5**
2µm198nm,0.8s
MRSI Marisa 9.00 13 P **Pn** **14 02 35.0 +1.5**
64nm,0.7s
UGM Wanagama 9.26 272 Pn **Pn** **14 02 35.1 -1.8**
UGM Wanagama 9.26 272 P **Pn** **14 02 34.7 -2.2**
UGM Wanagama 9.26 272 P Pn 14 02 34.6 -2.3
SMRI Semarang 9.43 277 Pn **Pn** **14 02 39.5 +0.4**
SMRI Semarang 9.43 277 P **Pn** **14 02 39.9 +0.8**
SMRI Semarang 9.43 277 P **Pn** **14 02 39.3 +0.2**
TOLI2 Tolitoli 9.43 6 Pn **Pn** **14 02 36.5 -2.6**
TOLI2 Tolitoli 9.43 6 P **Pn** **14 02 38.5 -0.6**
AAI Ambon 9.48 61 P **Pn** **14 02 42.7 +2.9**
3µm226nm,0.8s
YOGI Yogyakarta 9.49 272 P **Pn** **14 02 37.8 -2.1**
2µm179nm,0.7s
MSAI Masohi 10.29 62 P **Pn** **14 02 51.9 +1.6**
2µm161nm,0.6s
BNDI Bandanaira 10.67 70 P **Pn** **14 02 55.5 +0.3**
FITZ Fitzroy Crossi 11.21 151 Pn **Pn** **14 03 01.9 -0.2**
FITZ Fitzroy Crossi 11.21 151 P **Pn** **14 03 01.6 -0.5**
15nm,0.6s,baz=324,slow=9.6,SNR=56
FITZ S **Sn** **14 05 00.6 -6.4**
57nm,0.8s,baz=170,slow=14,SNR=4.2
FITZ LR LR 14 07 59.2
comp=Z,107nm,18.4s,baz=326,slow=40
CMJI Cimerak 11.32 272 P Pn 14 02 58.6 -5.0
2µm141nm,0.9s
SAUI Saumlaki 11.33 89 Pn **Pn** **14 03 03.1 -0.6**
SAUI Saumlaki 11.33 89 P **Pn** **14 03 03.8 +0.1**
SAUI Saumlaki 11.33 89 P **Pn** **14 03 02.7 -1.0**
KNRA Kununurra 11.35 131 Pn **Pn** **14 03 03.0 -1.0**
KNRA Kununurra 11.35 131 P **Pn** **14 03 02.2 -1.8**
comp=Z,227nm,0.7s
DRS Darwin Rock St 11.59 111 P **Pn** **14 03 06.1 -0.9**
TNTI Ternate 11.74 40 P **Pn** **14 03 09.8 +0.8**
comp=Z,80nm,1.1s
STKI Sintang 11.81 315 P **Pn** **14 03 11.2 +1.3**
comp=Z,25nm,0.6s
MTN Manton Dam 11.95 113 Pn **Pn** **14 03 10.8 -0.8**
MTN Manton Dam 11.95 113 P **Pn** **14 03 10.5 -1.1**
comp=Z,664nm,0.6s
MTN Manton Dam 11.95 113 P **Pn** **14 03 10.9 -0.7**
BBJI Bungbulang 12.13 273 P Pn 14 03 10.7 -3.3
LEM Lembang 12.23 276 P **Pn** **14 03 13.6 -1.8**
comp=Z,125nm,0.8s,baz=58,slow=12,SNR=30
LEM S Sn 14 05 22.4 -9.4
comp=Z,24nm,0.5s,baz=328,slow=23,SNR=1.8
LEM Lembang 12.23 276 P **Pn** **14 03 14.6 -0.8**
comp=Z,131nm,0.8s
CNJI Cibinong 12.66 274 P Pn 14 03 16.8 -3.9
comp=Z,61nm,0.7s
MBWA Marble Bar 12.75 181 **Pn** **14 03 21.0 -0.8**
MBWA Marble Bar 12.75 181 P **Pn** **14 03 20.6 -1.1**
comp=Z,87nm,0.8s
MBWA Marble Bar 12.75 181 P **Pn** **14 03 22.2 +0.5**
PSAD1 Pilbara Seismi 13.04 180 P **Pn** **14 03 24.1 -1.3**
comp=Z,99nm,1.0s
PSAC1 Pilbara Seismi 13.12 180 P **Pn** **14 03 25.0 -1.4**
comp=Z,116nm,1.0s
KDU Kakadu 13.13 110 P **Pn** **14 03 26.3 -0.2**
SBUM Sibu 13.15 324 Pn **Pn** **14 03 25.6 -1.3**
PSA00 Pilbara Seismi 13.16 180 Pn **Pn** **14 03 26.5 -0.4**
PSA00 Pilbara Seismi 13.16 180 P **Pn** **14 03 26.4 -0.4**
TPI Tanjungpandan 13.36 294 P **Pn** **14 03 29.5 +0.1**
FAKI Fak Fak 13.45 67 **Pn** **14 03 29.3 -1.3**
FAKI Fak Fak 13.45 67 P **Pn** **14 03 29.6 -1.0**
FAKI Fak Fak 13.45 67 P **Pn** **14 03 29.1 -1.5**
comp=Z,2µmcomp=Z,211nm,0.7s
SWI Sorong 13.56 57 P **Pn** **14 03 31.5 -0.5**
comp=Z,3µmcomp=Z,304nm,0.8s
KSM Kuching 13.63 315 Pn **Pn** **14 03 31.5 -1.4**
XMI Christmas Isla 14.14 260 P **Pn** **14 03 40.3 +1.1**
CGJI Cibinong 14.16 276 P Pn 14 03 34.3 -5.1
comp=Z,3µmcomp=Z,185nm,0.6s
XMIS Christmas Isla 14.18 260 **Pn** **14 03 38.8 -0.9**
XMIS Christmas Isla 14.18 260 P **Pn** **14 03 38.2 -1.5**
KMPI Kaimana, Papua 14.52 72 P **Pn** **14 03 42.1 -1.8**
comp=Z,367nm,0.9s
KKM Kota Kinabalu 14.74 346 **Pn** **14 03 44.3 -2.4**
KKM Kota Kinabalu 14.74 346 P **Pn** **14 03 46.4 -0.3**
GIRL Giralia 15.22 200 **Pn** **14 03 52.8 +0.4**
GIRL Giralia 15.22 200 P **Pn** **14 03 52.4 0.0**
comp=Z,221nm,1.2s
GIRL Giralia 15.22 200 P **Pn** **14 03 55.0 +2.6**
LWLI Liwa 16.04 281 P **P** **14 04 02.7 +0.4**
comp=Z,133nm,0.7s
MDSI Maura Dua 16.05 283 P **P** **14 04 01.6 -0.6**
comp=Z,25nm,0.7s
MNAI Manna 17.26 282 P **P** **14 04 13.7 -1.8**
MNAI Manna 17.26 282 P **P** **14 04 17.2 +1.6**
MNAI Manna 17.26 282 P **P** **14 04 16.6 +1.0**
comp=Z,129nm,1.1s
SRPI Serui, Papua 17.52 69 P **Pn** **14 04 19.3 -0.8**
comp=Z,3µmcomp=Z,167nm,1.1s
BAKI Biak 17.66 67 P **Pn** **14 04 21.3 -0.5**
comp=Z,5µmcomp=Z,433nm,1.0s
WB0 Warramunga Arr 18.08 130 P **P** **14 04 24.7 +0.2**
WRA Warramunga Arr 18.15 131 P **P** **14 04 24.8 -0.4**
WRA Warramunga Arr 18.15 131 P **P** **14 04 25.3 +0.1**
comp=Z,29nm,0.8s,baz=303,slow=12,SNR=180
WRA S **S** **14 07 42.2 -0.9**
comp=Z,28nm,0.9s,baz=309,slow=21,SNR=16
WRAB Tennant Creek 18.15 131 P **P** **14 04 25.8 +0.5**
WB2 Warramunga Arr 18.16 131 P **P** **14 04 25.6 +0.3**
MEEK Meekatharra 18.24 184 P **P** **14 04 27.3 +1.1**
comp=Z,361nm,0.8s
MEEK Meekatharra 18.24 184 P **P** **14 04 27.5 +1.3**
WR8 Warramunga Arr 18.28 131 P **P** **14 04 26.8 +0.2**
WR0 Warramunga Arr 18.31 131 P **P** **14 04 27.5 +0.5**
WRKA Warakurna 18.45 155 P **P** **14 04 30.0 +1.5**
comp=Z,216nm,0.8s
WRKA Warakurna 18.45 155 P **P** **14 04 30.0 +1.5**
SMPI Sarmi 19.79 72 P **P** **14 04 42.8 -0.2**
comp=Z,52nm,0.9s
MMPI Merauke 20.30 92 P **P** **14 04 49.2 +0.8**
AS15 Alice Springs 20.31 140 P **P** **14 04 49.3 +0.7**
comp=Z,45nm,0.7s
AS31 Alice Springs 20.33 140 P **P** **14 04 49.4 +0.7**
ASAR Alice Springs 20.33 140 P **P** **14 04 49.5 +0.8**
ASAR Alice Springs 20.33 140 P **P** **14 04 49.2 +0.6**
comp=Z,27nm,0.5s,baz=315,slow=10.0,SNR=465
ASAR S **S** **14 08 23.9 -2.1**
comp=Z,31nm,0.9s,baz=305,slow=18,SNR=25
ASAR ScP **ScP** **14 12 11.6 -0.7**
comp=Z,4.6nm,0.5s,baz=323,slow=2.2,SNR=10
comp=Z,27nm,0.5s
AS01 Alice Springs 20.36 140 P **P** **14 04 50.0 +1.0**
MORW Morawa 20.93 189 P **P** **14 04 55.4 +0.4**
MORW Morawa 20.93 189 P **P** **14 04 54.9 -0.1**
comp=Z,88nm,1.3s
MORW Morawa 20.93 189 P **P** **14 04 55.1 +0.1**
GENI Geneyem 20.99 75 P **P** **14 04 54.1 -1.7**
comp=Z,135nm,0.9s
JAY Jayapura 21.53 76 P **P** **14 05 00.0 -1.5**
comp=Z,23nm,0.7s,baz=221,slow=12,SNR=5.6
comp=Z,23nm,0.7s
MNSI Mandailing Nat 22.16 293 P **P** **14 05 06.4 -1.3**
comp=Z,20nm,0.8s
BLDU Ballidu 22.36 187 P **P** **14 05 09.3 -0.2**
comp=Z,148nm,0.8s
BLDU Ballidu 22.36 187 P **P** **14 05 09.2 -0.2**
QIS Mount Isa 22.61 125 P **P** **14 05 12.6 +0.7**
COCO West Island 22.98 258 P **P** **14 05 16.0 +0.9**
KMBL Kambalda 22.99 176 P **P** **14 05 15.4 +0.3**
comp=Z,138nm,0.7s
KMBL Kambalda 22.99 176 P **P** **14 05 15.6 +0.5**
KLBR Kellerberrin 23.22 185 P **P** **14 05 17.5 +0.3**
comp=Z,295nm,0.7s
KLBR Kellerberrin 23.22 185 P **P** **14 05 17.8 +0.6**
KULM Kulim 23.46 305 P **P** **14 05 19.2 -0.3**
KULM Kulim 23.46 305 P **P** **14 05 19.7 +0.1**
COEN Coen 23.53 106 P **P** **14 05 20.5 +0.3**
COEN Coen 23.53 106 P **P** **14 05 20.9 +0.7**
comp=Z,399nm,0.9s
COEN Coen 23.53 106 P **P** **14 05 21.4 +1.2**
RPSI Rantau Prapat 23.58 297 P **P** **14 05 20.5 -0.2**
FORT Forrest 23.60 162 P **P** **14 05 21.3 +0.6**
FORT Forrest 23.60 162 P **P** **14 05 21.5 +0.8**
comp=Z,303nm,0.8s
FORT Forrest 23.60 162 P **P** **14 05 21.9 +1.2**
MUN Mundaring 23.77 188 P **P** **14 05 22.2 +0.1**
comp=Z,44nm,0.7s
MUN Mundaring 23.77 188 P **P** **14 05 22.8 +0.7**
GSI Gunungsitoli 24.20 292 P **P** **14 05 25.0 -1.3**
GSI IAmb IAmb 14 05 29.3
comp=Z,20nm,0.6s
GSI Gunungsitoli 24.20 292 P **P** **14 05 24.6 -1.7**
OOD Oodnadatta 24.46 144 P **P** **14 05 29.7 +1.2**
NWAO Narrogin (SRO) 24.59 185 P **P** **14 05 30.1 +0.5**
NWAO Narrogin (SRO) 24.59 185 P **P** **14 05 29.8 +0.2**
NWAO Narrogin (SRO) 24.59 185 LR LR 14 15 02.9
comp=Z,53nm,20.1s,baz=160,slow=35
NWAO Narrogin (SRO) 24.59 185 P **P** **14 05 30.1 +0.5**
MTSU Mount Surprise 25.68 115 P **P** **14 05 40.8 +1.0**
comp=Z,29nm,0.8s
MTSU Mount Surprise 25.68 115 P **P** **14 05 41.1 +1.4**
RKGY Rocky Gully 26.28 185 P **P** **14 05 45.9 +1.1**
PMG Port Moresby 26.99 94 P **P** **14 05 49.4 -2.0**
PMG IAmb IAmb 14 06 34.4
comp=Z,19nm,0.8s
PMG Port Moresby 26.99 94 P **P** **14 05 50.8 -0.6**
comp=Z,12nm,0.8s,baz=170,slow=6.1,SNR=5.2
comp=Z,12nm,0.8s
INKA Innaminka 27.60 137 P **P** **14 05 58.2 +1.5**
LCRK Leigh Creek 27.90 144 P **P** **14 06 00.8 +1.5**
BBOO Buckleboo 28.60 151 P **P** **14 06 05.8 +0.3**
BBOO Buckleboo 28.60 151 P **P** **14 06 06.4 +0.9**
comp=Z,145nm,0.7s
BBOO Buckleboo 28.60 151 P **P** **14 06 06.4 +0.9**
QIZ Qiongzhong 28.93 340 P **P** **14 06 08.5 -0.1**
QIZ pP **pP** **14 06 43.0 -4.4**
QIZ S **S** **14 10 48.0 +2.9**
QIZ sS **sS** **14 11 50.5 -4.4**
QIZ pmax pmax
comp=Z,17nm,1.3s
QLP Quilpie 29.39 131 P **P** **14 06 13.2 +0.6**
comp=Z,18nm,1.4s
QLP Quilpie 29.39 131 P **P** **14 06 12.9 +0.3**
HTT Hallett 30.55 148 P **P** **14 06 24.4 +1.6**
comp=Z,9.8nm,1.4s
HTT Hallett 30.55 148 P **P** **14 06 24.4 +1.6**
STKA Stephens Creek 30.93 142 P **P** **14 06 27.6 +1.5**
STKA Stephens Creek 30.93 142 P **P** **14 06 27.6 +1.5**
comp=Z,177nm,0.8s
STKA Stephens Creek 30.93 142 P **P** **14 06 27.7 +1.6**
comp=Z,20nm,0.5s,baz=324,slow=8.4,SNR=48
STKA ScP **ScP** **14 12 41.8 -0.8**
comp=Z,6.7nm,0.8s,baz=36,slow=1.9,SNR=4.0
comp=Z,20nm,0.5s
STKA Stephens Creek 30.93 142 P **P** **14 06 27.5 +1.5**
TWGBT Beinan 30.99 2 P **P** **14 06 25.5 -1.1**
TWG Pinlang 30.99 2 P **P** **14 06 24.5 -2.1**
TWG IAmb IAmb 14 06 39.5
comp=Z,43nm,1.4s
TPUB Ta-pu 31.45 1 P **P** **14 06 28.7 -2.0**
TPUB Ta-pu 31.45 1 P **P** **14 06 31.2 +0.5**
YULB Yu-li 31.57 3 P **P** **14 06 29.2 -2.5**
YULB IAmb IAmb 14 06 38.8
comp=Z,30nm,1.3s
YULB Yu-li 31.57 3 P **P** **14 06 29.7 -2.0**
SSLB Suanglung 31.95 2 P **P** **14 06 34.0 -1.1**
SSLB Suanglung 31.95 2 P **P** **14 06 34.6 -0.4**
NACB Ninganchiao 32.36 3 P **P** **14 06 36.5 -2.1**
NACB Ninganchiao 32.36 3 P **P** **14 06 38.2 -0.4**
YHNB Yeheng 32.84 3 P **P** **14 06 40.5 -2.3**
YHNB Yeheng 32.84 3 P **P** **14 06 42.3 -0.6**
CMSA Cobar Meteorol 33.33 137 P **P** **14 06 48.9 +1.9**
comp=Z,11nm,0.7s
CMSA Cobar Meteorol 33.33 137 P **P** **14 06 48.6 +1.6**
CMAR Chiang Mai Arr 33.69 322 P **P** **14 06 50.2 -0.1**
comp=Z,1.2nm,0.4s,baz=150,slow=7.0,SNR=9.8
CMAR PcP **PcP** **14 09 26.4 +0.8**
comp=Z,1.1nm,0.6s,baz=179,slow=3.2,SNR=4.9
CMAR ScP **ScP** **14 12 51.5 -0.8**
comp=Z,1.3nm,0.6s,baz=176,slow=3.2,SNR=9.6
comp=Z,1.2nm,0.4s
ARPS Mount Arapiles 34.64 148 P **P** **14 06 59.8 +1.6**
comp=Z,74nm,0.7s
ARPS Mount Arapiles 34.64 148 P **P** **14 07 00.1 +1.9**
JOW Kunigami 35.90 13 P **P** **14 07 07.3 -1.7**
JOW Kunigami 35.90 13 P **P** **14 07 07.5 -1.6**
comp=Z,5.5nm,0.5s,baz=195,slow=12,SNR=1.4
JOW LR LR 14 21 54.3
comp=Z,24nm,21.7s,baz=268,slow=36
comp=Z,5.5nm,0.5s
GYA Guiyang 36.89 340 ⇓P **P** **14 07 18.8 +1.2**
GYA pmax pmax
comp=Z,8.0nm,1.0s
ARMA Armidale 36.93 131 P **P** **14 07 20.4 +2.5**
comp=Z,15nm,2.5s
ARMA Armidale 36.93 131 P **P** **14 07 20.7 +2.8**
TOO Toolangi 37.21 145 P **P** **14 07 20.8 +0.7**
TOO IAmb IAmb 14 08 38.4
comp=Z,56nm,2.0s
CAN Canberra 37.84 140 PcP **PcP** **14 09 39.4 +1.6**
PZH PanZhiHua 38.85 334 P **P** **14 07 34.8 +0.8**
PZH pmax pmax
comp=Z,9.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.4s
SAVO Savo Central 39.48 94 P **P** **14 07 41.2 +1.9**
TATA Tatamba Isabel 39.50 93 P **P** **14 07 39.1 -0.4**
HNR Honiara 39.60 95 P **P** **14 07 39.9 -0.4**
ENH Enshi 39.66 346 P **P** **14 07 39.7 -0.8**
ENH IAmb IAmb 14 07 41.4
comp=Z,22nm,1.1s
ENH Enshi 39.66 346 P **P** **14 07 40.7 +0.2**
NGOA Tingoa Renbel 39.70 98 P **P** **14 07 40.8 -0.3**
NJ2 Nanjing 40.17 359 ⇑P **P** **14 07 45.5 +0.8**
NJ2 pmax pmax
comp=Z,42nm,0.9s
ALEG Aligegeo Malai 40.37 94 P **P** **14 07 46.4 -0.2**
JNU Nakatsue 42.54 14 P **P** **14 08 01.6 -2.3**
comp=Z,4.6nm,0.7s,baz=270,slow=4.0,SNR=4.6
comp=Z,4.6nm,0.7s
XAN Xi'an 43.41 347 ⇑P **P** **14 08 10.5 -0.4**
XAN pP pP 14 08 51.5 +0.1
XAN pmax pmax
comp=Z,30nm,0.8s
XAN Xi'an 43.41 347 P **P** **14 08 10.4 -0.5**
JTU Tsushima 43.57 11 P **P** **14 08 12.6 +0.4**
KOUNC Koumac, New Ca 44.55 111 P **P** **14 08 23.0 +2.8**
KSRS Korea Array 46.17 9 P **P** **14 08 30.8 -1.8**
comp=Z,1.7nm,0.7s,baz=184,slow=7.9,SNR=9.5
KSRS PcP **PcP** **14 10 05.6 +0.4**
comp=Z,1.7nm,0.7s,baz=182,slow=4.7,SNR=5.6
comp=Z,1.7nm,0.7s
JGF Kuroka 46.71 20 P **P** **14 08 35.5 -1.4**
JGF IAmb IAmb 14 09 24.1
comp=Z,57nm,1.9s
JGF Kuroka 46.71 20 P **P** **14 08 37.5 +0.6**
SANVU Saraoutou 46.78 103 P **P** **14 08 39.1 +1.4**
DZM Mont Dzumac 46.78 112 P **P** **14 08 38.3 +0.5**
comp=Z,8.7nm,0.8s,baz=246,slow=12,SNR=8.1
DZM LR LR 14 28 35.9
comp=Z,65nm,18.1s,baz=48,slow=36
comp=Z,8.7nm,0.8s
H08S2 Diego Garcia H 46.90 267 P **P** **14 08 39.1 +0.7**
baz=56,slow=10.0,SNR=8.3
H08S3 Diego Garcia H 46.91 267 P **P** **14 08 39.0 +0.5**
baz=56,slow=10.0,SNR=11
H08S1 Diego Carcia H 46.91 267 P **P** **14 08 39.1 +0.6**
baz=56,slow=10.0,SNR=7.4
PINNC Pines Island, 47.79 113 P **P** **14 08 46.4 +1.0**
MJAR Matsushiro Arr 47.85 20 P **P** **14 08 43.3 -2.4**
comp=Z,1.9nm,0.6s,baz=194,slow=9.7,SNR=4.4
comp=Z,1.9nm,0.6s
INH Isangel 49.07 109 P **P** **14 08 56.5 +1.2**
JSD Sado 49.23 19 P **P** **14 08 54.2 -1.9**
HHC Hu-ho-hao-te 49.54 352 *e*P **P** **14 08 59.0 +0.5**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,76nm,5.4s
BTO Baotou 49.54 350 *e*P **P** **14 09 00.3 +1.7**
BTO pP **pP** **14 09 38.8 -1.1**
BTO S **S** **14 15 54.8 +3.2**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,440nm,5.1s
BTO LR LR
comp=Z,520nm,7.2s
BTO LR LR
comp=Z,260nm,6.8s
BTO LR LR
comp=Z,210nm,9.0s
JMM Marumori 49.95 22 P **P** **14 09 00.0 -1.5**
JMM IAmb IAmb 14 09 56.1
comp=Z,49nm,1.4s
JMM Marumori 49.95 22 P **P** **14 09 01.3 -0.2**
GTA Gaotai 51.02 340 *e*P **P** **14 09 11.5 +1.8**
GTA pP pwP 14 09 58.5 +2.5
GTA pmax pmax
comp=Z,3.0nm,0.7s
XLT XiLinHaoTe 52.10 357 *e*P **P** **14 09 17.0 -0.6**
XLT pmax pmax
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 53.43 11 P **P** **14 09 25.9 -1.3**
USRK Ussuriysk Ar. 53.43 11 P **P** **14 09 25.0 -2.2**
USRK Ussuriysk Ar. 53.43 11 P **P** **14 09 25.8 -1.4**
comp=Z,5.7nm,0.5s,baz=198,slow=6.4,SNR=34
comp=Z,5.7nm,0.5s
MDJ Mudanjiang 53.44 9 P **P** **14 09 25.9 -1.3**
MDJ Mudanjiang 53.44 9 P **P** **14 09 26.3 -0.9**
MDJ pmax pmax
comp=Z,11nm,0.9s
MDJ Mudanjiang 53.44 9 P **P** **14 09 26.1 -1.1**
MDJ pP **pP** **14 10 12.4 +3.2**
JCZ Jackson Bay 55.35 139 P **P** **14 09 42.5 +1.2**
WHZ Wether Hill Ro 55.61 141 P **P** **14 09 43.0 0.0**
ASAJ Asahikawa 56.12 20 P **P** **14 09 44.7 -1.8**
comp=Z,3.9nm,0.4s,baz=237,slow=9.9,SNR=19
comp=Z,3.9nm,0.4s
JKA Kamikawa-asahi 56.12 20 P **P** **14 09 45.2 -1.3**
JKA IAmb IAmb 14 11 39.3
comp=Z,58nm,1.5s
QRZ Quartz Range 56.68 134 P **P** **14 09 52.0 +1.3**
RPZ Rata Peaks 56.71 137 P **P** **14 09 51.7 +0.9**
comp=Z,17nm,0.8s,baz=253,slow=5.0,SNR=7.3
comp=Z,17nm,0.8s
RPZ Rata Peaks 56.71 137 P **P** **14 09 52.2 +1.4**
ULN Ulaanbaatar 57.10 350 P **P** **14 09 52.0 -1.6**
SONM Songino Array 57.19 349 P **P** **14 09 53.4 -0.7**
SONM Songino Array 57.19 349 P **P** **14 09 53.6 -0.5**
comp=Z,3.8nm,0.7s,baz=169,slow=8.3,SNR=20
comp=Z,3.8nm,0.7s
MSVF Nonsavu 57.26 106 P **P** **14 09 55.0 -0.2**
MSVF IAmb IAmb 14 09 57.8
comp=Z,26nm,0.7s
MSVF Nonsavu 57.26 106 P **P** **14 09 56.6 +1.4**
comp=Z,22nm,0.7s,baz=270,slow=9.6,SNR=22
comp=Z,22nm,0.7s
MSVF Nonsavu 57.26 106 P **P** **14 09 57.7 +2.5**
MSVF Nonsavu 57.26 106 P **P** **14 09 56.6 +1.4**
MQZ McQueen's Vall 57.78 137 P **P** **14 09 57.8 -0.4**
MQZ IAmb IAmb 14 11 10.8
comp=Z,52nm,1.3s
CASY Casey 58.21 184 P **P** **14 10 02.2 +1.3**
CASY IAmb IAmb 14 10 02.8
comp=Z,36nm,1.2s
CASY Casey 58.21 184 P **P** **14 10 01.5 +0.7**
CASY PcP **PcP** **14 10 51.4 +1.4**
KLR Kul'dur 58.26 9 P **P** **14 09 59.5 -2.0**
comp=Z,1.1nm,0.5s,baz=185,slow=9.2,SNR=5.0
comp=Z,1.1nm,0.5s
SNZO South Karori 58.40 134 P **P** **14 10 02.6 0.0**
HEH HeiHe 58.72 6 *e*P **P** **14 10 03.3 -1.2**
HEH pP **pP** **14 10 50.0 +2.8**
HEH pmax pmax
comp=Z,11nm,0.8s
MRZ Mangatainoka R 58.83 133 P **P** **14 10 05.7 +0.1**
DGTI Dogotuki 58.86 104 P **P** **14 10 07.7 +1.5**
BKZ Black Stump Fm 59.08 131 P **P** **14 10 09.7 +2.2**
URZ Urewera 59.32 130 P **P** **14 10 10.2 +1.2**
WMQ Urumqi 59.54 333 *e*P **P** **14 10 12.0 +1.6**
NIL Nilore 60.82 316 P **P** **14 10 18.3 -1.0**
NIL IAmb IAmb 14 10 19.6
comp=Z,6.2nm,0.6s
KSH Kashi 62.59 323 P **P** **14 10 30.5 -0.6**
KSH pmax pmax
comp=Z,11nm,0.6s
TARG Taragay, Kyrgy 62.97 326 P **P** **14 10 32.6 -1.4**
KDJ Kajisay 63.59 326 P **P** **14 10 36.9 -0.8**
KBL Kabul 64.23 315 P **P** **14 10 40.5 -1.6**
KBL IAmb IAmb 14 10 41.0
comp=Z,8.9nm,0.7s
MK31 Makanchi Array 64.27 332 P **P** **14 10 41.3 -0.6**
MKAR Makanchi Array 64.27 332 P **P** **14 10 41.1 -0.7**
comp=Z,3.0nm,0.4s,baz=143,slow=7.6,SNR=59
comp=Z,3.0nm,0.4s
MAKZ Makanchi 64.42 332 P **P** **14 10 41.9 -1.0**
MAKZ Makanchi 64.42 332 P **P** **14 10 41.9 -1.0**
MAKZ pP **pP** **14 11 28.8 +2.8**
MAKZ sP **sP** **14 11 50.4 +4.2**
BOOM Boomskoye usch 64.52 325 P **P** **14 10 43.1 -0.7**
AAK Ala-Archa 65.43 325 P **P** **14 10 48.7 -0.9**
AAK Ala-Archa 65.43 325 P **P** **14 10 48.7 -0.9**
AAK pP **pP** **14 11 36.2 +3.3**
ARSB Arslanbob 65.50 323 P **P** **14 10 49.2 -0.9**
ARSB IAmb IAmb 14 10 51.1
comp=Z,10nm,0.7s
GAR Garm 65.80 319 P **P** **14 10 50.7 -1.3**
GAR IAmb IAmb 14 10 58.5
comp=Z,14nm,0.8s
SIMJ Simiganj 66.46 319 P **P** **14 10 54.4 -1.8**
ZAA0 Zalesovo Array 68.73 339 P **P** **14 11 08.3 -1.6**
ZAA0 IAmb IAmb 14 11 09.7
comp=Z,9.3nm,0.5s
ZALV Zalesovo Beam 68.73 339 P **P** **14 11 08.1 -1.8**
ZALV Zalesovo Beam 68.73 339 P **P** **14 11 08.6 -1.3**

comp=Z,9.2nm,0.4s,baz=137,slow=5.1,SNR=32
comp=Z,9.2nm,0.4s
KURBB **Kurchatov Arra** 68.76 333 P **P** 14 11 09.1 -1.1
comp=Z,2.3nm,0.6s,baz=141,slow=6.0,SNR=4.7
comp=Z,2.3nm,0.6s
KURK **Kurchatov** 68.79 333 P **P** 14 11 09.4 -0.9
PEA0B **Petropavlovsk-** 69.13 23 P **P** 14 11 11.8 -0.6
PETK **Petropavlovsk-** 69.13 23 P **P** 14 11 11.2 -1.2
PETK **Petropavlovsk-** 69.13 23 P **P** 14 11 11.4 -1.0
comp=Z,8.2nm,0.6s,baz=211,slow=3.1,SNR=36
comp=Z,8.2nm,0.6s
MAW **Mawson** 70.15 200 P **P** 14 11 20.0 +1.6
comp=Z,14nm,0.7s,baz=100,slow=8.6,SNR=2.0
comp=Z,14nm,0.7s
ABPO **Ambohimpanom** 70.97 253 P **P** 14 11 25.2 +0.6
MA2 **Magadan** 72.05 16 P **P** 14 11 29.2 -0.7
comp=Z,21nm,0.8s
MA2 **Magadan** 72.05 16 P **P** 14 11 29.8 -0.1
MA2 PcP **PcP** 14 11 47.5 +0.2
MA2 pP **pwP** 14 12 18.7 -1.1
MA2 sP **sP** 14 12 39.8 +5.6
VNDA **Vanda** 72.51 171 P **P** 14 11 34.2 +1.7
VNDA IAmb IAmb 14 11 35.4
comp=Z,24nm,1.5s
VNDA **Vanda** 72.51 171 P **P** 14 11 34.1 +1.7
comp=Z,3.8nm,0.5s,baz=320,slow=6.6,SNR=48
comp=Z,3.8nm,0.5s
BVAR **Borovoye Array** 74.12 331 P **P** 14 11 41.0 -1.2
comp=Z,2.1nm,0.7s,baz=133,slow=5.5,SNR=9.1
comp=Z,2.1nm,0.7s
BRVK **Borovoye** 74.19 331 P **P** 14 11 41.7 -1.0
AB31 **Akbulak array** 77.52 325 P **P** 14 12 00.2 -1.3
ABKAR **Akbulak array** 77.52 325 P **P** 14 12 00.1 -1.4
AKTO **Aktyubinsk** 79.17 325 P **P** 14 12 09.1 -1.5
comp=Z,2.6nm,0.5s,baz=131,slow=2.6,SNR=6.1
comp=Z,2.6nm,0.5s
NRIK **Noril'sk** 80.67 349 P **P** 14 12 17.3 -0.9
comp=Z,1.1nm,0.3s,baz=138,slow=5.7,SNR=4.4
comp=Z,1.1nm,0.3s
KIBK **Kibwezi** 81.57 269 P **P** 14 12 24.7 +0.4
QSPA **South Pole Qui** 81.65 180 P **P** 14 12 25.0 +1.3
QSPA **South Pole Qui** 81.65 180 P **P** 14 12 24.7 +1.0
comp=Z,6.5nm,0.8s,baz=319,slow=3.8,SNR=14
comp=Z,6.5nm,0.8s
ARTI **Arti** 81.78 330 P **P** 14 12 23.2 -1.1
comp=Z,3.7nm,0.4s,baz=143,slow=4.2,SNR=5.9
comp=Z,3.7nm,0.4s
KMBO **Kilima Mbogo** 82.53 270 P **P** 14 12 30.9 +1.4
comp=Z,10nm,0.7s,baz=68,slow=7.4,SNR=18
comp=Z,10nm,0.7s
GEVA **Gevas** 84.91 310 P **P** 14 12 40.4 -0.6
GEVA IAmb IAmb 14 12 41.6
comp=Z,13nm,0.7s
GURO **Guroymak-BITLI** 85.75 310 P **P** 14 12 44.6 -0.5
GURO IAmb IAmb 14 12 46.6
comp=Z,17nm,1.4s
KBZ **Khabaz** 86.41 315 P **P** 14 12 46.9 -1.1
comp=Z,3.1nm,0.7s,baz=130,slow=4.4,SNR=12
comp=Z,3.1nm,0.7s
MBAR **Mbarara** 89.05 270 P **P** 14 13 01.1 -0.4
MBAR IAmb IAmb 14 13 02.5
comp=Z,7.6nm,0.7s
LSZ **Lusaka** 89.44 255 P **P** 14 13 03.6 +0.5
LSZ IAmb IAmb 14 13 05.2
comp=Z,11nm,0.7s
MMAI **Mount Meron Ar** 89.88 303 P **P** 14 13 04.8 +0.1
comp=Z,1.5nm,0.5s,baz=81,slow=5.2,SNR=6.6
comp=Z,1.5nm,0.5s
BOSA **Boshof** 90.07 241 P **P** 14 13 06.6 +0.8
BOSA IAmb IAmb 14 13 06.8
comp=Z,8.1nm,0.7s
BOSA **Boshof** 90.07 241 P **P** 14 13 06.3 +0.5
comp=Z,5.2nm,0.5s,baz=115,slow=4.2,SNR=33
comp=Z,5.2nm,0.5s
TROLL **Troll, Antarti** 90.25 196 ⇑P **P** 14 13 08.4 +2.6
comp=Z,230nm,0.6s
SNAA **Sanae** 91.86 195 P **P** 14 13 15.1 +1.9
SNAA IAmb IAmb 14 13 15.6
comp=Z,8.4nm,0.7s
SNAA **Sanae** 91.86 195 P **P** 14 13 14.4 +1.2
comp=Z,7.0nm,0.7s,baz=138,slow=5.7,SNR=15
comp=Z,7.0nm,0.7s
BRTR **Keskin Array B** 92.38 310 P **P** 14 13 14.3 -2.0
comp=Z,0.9nm,0.7s,baz=126,slow=2.5,SNR=4.5
comp=Z,0.9nm,0.7s
BELA **Belgrano 2** 92.75 185 P **P** 14 13 18.4 +1.3
BELA IAmb IAmb 14 13 19.1
comp=Z,9.9nm,0.9s
VNA2 **Neumayer--Watz** 93.49 195 ⇑P **P** 14 13 22.0 +1.4
comp=Z,5.5nm,0.6s,baz=124,slow=4.0
VNA3 **Neumayer Olymp** 93.87 194 ⇑P **P** 14 13 23.5 +1.1
comp=Z,3.8nm,0.7s
H19K **Roundabout Mou** 94.91 25 P **P** 14 13 26.4 -0.7
H19K IAmb IAmb 14 14 20.7
comp=Z,8.2nm,1.2s
E19K **Redstone River** 94.92 23 P **P** 14 13 26.7 -0.5
E19K IAmb IAmb 14 14 19.4
comp=Z,8.8nm,0.9s
B20K **Meade River** 95.37 20 P **P** 14 13 29.5 +0.4
B20K IAmb IAmb 14 14 21.6
comp=Z,12nm,1.1s
B21K **Ikpikpuk River** 96.19 21 P **P** 14 13 32.2 -0.6
B21K IAmb IAmb 14 14 25.3
comp=Z,7.4nm,0.9s
CAST **Castle Rocks** 96.52 27 P **P** 14 13 33.6 -0.9
CAST IAmb IAmb 14 14 11.7
comp=Z,12nm,1.9s
B22K **Teshekpuk Lake** 96.68 20 P **P** 14 13 34.8 -0.2
E22K **Anaktuvuk Pass** 97.05 22 P **P** 14 13 37.0 +0.2
E22K IAmb IAmb 14 14 29.2
comp=Z,9.5nm,1.1s
BPAW **Bear Paw Mtn.** 97.06 26 P **P** 14 13 36.7 -0.2
C23K **Itkillik River** 97.60 20 P Pdif 14 13 39.4 +0.2
KEV **Kevo** 98.76 339 P **P** 14 13 43.3 -1.1
D25K **Kavik River** 99.07 21 P Pdif 14 13 46.1 +0.2
D25K IAmb IAmb 14 17 34.0
comp=Z,7.0nm,1.4s
BURAR **Bucovina Array** 99.23 317 **Pdif** 14 13 46.5 -0.6
E25K **Arctic Village** 99.39 22 Pdif **Pdif** 14 13 47.9 +0.7
E25K IAmb IAmb 14 14 40.7
comp=Z,4.8nm,1.1s
RIDG **Independent Ri** 99.77 27 Pdif **Pdif** 14 13 47.8 -1.3
RIDG IAmb IAmb 14 16 35.2
comp=Z,7.3nm,1.4s
BMAR **Burnt Mountain** 99.78 23 Pdif **Pdif** 14 13 49.2 +0.2
C27K **Jago River** 100.00 21 Pdif **Pdif** 14 13 50.0 +0.1
C27K IAmb IAmb 14 14 42.4
comp=Z,9.6nm,1.6s
J26L **Joseph Creek** 100.31 26 Pdif **Pdif** 14 13 51.6 +0.1
BCAR **Beaver Creek A** 101.17 27 Pdif **Pdif** 14 13 56.6 +1.2
G29M **Pine Creek** 102.37 23 Pdif **Pdif** 14 14 01.4 +0.9
TORD **Torodi Ar. Bea** 119.19 280 PKPdf **PKPdf** 14 18 53.9 -0.4
TORD **Torodi Ar. Bea** 119.19 280 PKP **PKPdf** 14 18 53.6 -0.7
comp=Z,3.0nm,0.6s,baz=58,slow=1.8,SNR=24
R11B **Troy Canyon, C** 122.02 50 PKPdf **PKPdf** 14 18 58.7 -0.7
EGMT **Eagleton** 122.49 37 PKPdf **PKiKP** 14 19 00.4 +0.3
FCC **Fort Churchill** 123.42 20 PKPdf **PKPdf** 14 19 00.8 -0.4
PDAR **Pinedale Array** 124.85 43 PKPdf **PKiKP** 14 19 05.4 +0.3
PDAR **Pinedale Array** 124.85 43 PKP **PKPdf** 14 19 04.8 0.0
comp=Z,0.3nm,0.5s,baz=256,slow=3.8,SNR=3.8
DBIC **Dimbokro** 125.20 272 PKPdf **PKPdf** 14 19 05.4 -0.5
DBIC **Dimbokro** 125.20 272 PKP **PKPdf** 14 19 05.0 -0.9
comp=Z,6.0nm,0.9s,baz=104,slow=2.5,SNR=6.1
ULM **Lac du Bonnet** 128.76 29 PKP **PKPdf** 14 19 11.8 +0.1
comp=Z,1.2nm,0.6s,baz=300,slow=2.1,SNR=3.7
EPLO **Experimental L** 130.17 28 PKPdf **PKiKP** 14 19 15.1 -0.1
SCHQ **Schefferville** 133.32 5 PKP **PKiKP** 14 19 21.6 +0.2
comp=Z,2.6nm,0.5s,baz=283,slow=2.9,SNR=6.6
TXAR **Lajitas Array** 134.16 57 PKP **PKiKP** 14 19 24.2 +0.2
comp=Z,0.3nm,0.5s,baz=201,slow=2.1,SNR=5.0
AC04 **Llanos de Chal** 142.16 164 PKPdf **PKPdf** 14 19 34.4 -2.9
GBN **Guysborough** 143.05 2 PKPdf **PKPdf** 14 19 36.0 -2.2
SSFO **Shawnee State** 143.34 31 PKPdf PKPbc 14 19 36.8 +0.1
T50A **Nancy** 143.70 34 PKPdf PKPbc 14 19 37.4 -0.3
ITAB **Concordia** 143.80 192 PKPdf PKPbc 14 19 39.6 +1.4
S51A **Beattyville** 143.93 32 PKPdf PKPab 14 19 37.4 -0.3
X48A **Hartselle** 144.13 40 PKPdf PKPab 14 19 38.2 -0.4
SSPA **Standing Stone** 144.16 23 PKPdf **PKPab** 14 19 38.6 +0.1
MCWV **Mont Chateau** 144.17 26 PKPdf PKPbc 14 19 39.1 +0.1
AC01 **Pan de Azucar** 144.24 164 PKPdf **PKPdf** 14 19 41.1 +0.1
W50A **Signal Mountai** 144.70 37 PKPbc **PKPab** 14 19 40.4 -0.4
KSCT **Kent School, K** 144.71 17 PKPdf **PKPab** 14 19 39.9 -0.6
TZTN **Tazewell** 144.76 34 PKPbc **PKPab** 14 19 40.6 -0.3
Y49A **Blount Mountai** 144.91 40 PKPbc **PKPab** 14 19 40.7 -0.9
FPAL **Fort Paine** 144.96 38 PKPbc PKPbc 14 19 40.9 -0.8
Q56A **Snyder Ridge,** 144.96 26 PKPbc PKPbc 14 19 40.7 -0.8

CPCT Cooper Cave 144.99 36 PKPbc PKPbc 14 19 41.0 -0.7
LRAL Lakeview Retre 145.06 42 PKPbc PKPbc 14 19 41.6 -0.3
R55A Marlinton 145.16 28 PKPbc **PKPdf** 14 19 42.5 +0.2
TKL Tuckaleechee C 145.27 35 **PKPbc** 14 19 42.1 -0.5
X51A Calhoun 145.40 37 PKPdf **PKPdf** 14 19 42.5 -0.2
CPUP Villa Florida 145.43 184 PKPbc **PKPab** 14 19 44.5 +0.8
comp=Z,9.7nm,0.6s,baz=142,slow=2.7,SNR=24
BG3 Lake Jocassee 146.23 35 PKPbc **PKPbc** 14 19 45.1 -0.4
V55A Taylorsville 146.53 32 PKPbc **PKPbc** 14 19 46.1 -0.2
152A Waverly Hall 146.76 40 PKPbc **PKPbc** 14 19 46.5 -0.6
KMSC Kings Mountain 147.00 33 PKPab **PKPbc** 14 19 47.8 +0.1
T59A Double "B" Far 147.40 26 PKPbc **PKPbc** 14 19 49.0 +0.3
JSC Jenkinsville 147.68 34 PKPbc **PKPbc** 14 19 49.7 +0.2
BDFB Brasilia 153.32 207 PKPbc **PKPbc** 14 20 03.7 +0.2
comp=Z,2.9nm,0.5s,baz=90,slow=5.1,SNR=3.7
LPAZ La Paz 154.28 162 PKPab **PKPab** 14 20 22.6 +1.8
comp=Z,7.4nm,0.8s,baz=194,slow=4.6,SNR=13

DJA 29 14:11:07.9±0.7, 1°S±3°×11°9E±°, h10km±4km, M3.5/8, Mjma3.6/8, ML3.7/7, MLv3.6/8, Ms(BB)3.2/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.89**	**60**	P	Pg	14 11 25.1	0.0
PCI				S	Sb	14 11 37.5	0.0
TTSI	**Tana Toraja**	**1.85**	**156**	P	Pn	14 11 39.9	+0.2
TTSI				S	Sb	14 12 04.4	-0.6
APSI	**Ampana**	**2.62**	**80**	P	Pn	14 11 51.0	+0.6
SPSI	**Sidrap Palu**	**2.69**	**165**	P	Pn	14 11 51.5	+0.2
SPSI				S	Sn	14 12 24.4	+0.4
MRSI	**Marisa**	**3.40**	**58**	P	Pn	14 11 59.9	-1.2
LUWI	**Luwuk**	**3.72**	**85**	P	Pn	14 12 06.0	+0.5
LUWI				S	Sn	14 12 51.2	+1.7
BKSI	**Bulukumba**	**4.09**	**165**	P	Pn	14 12 11.5	+1.0
BKSI				S	Sn	14 12 59.2	+0.8

IDC 29 14:11:49.3±5.2, 17°61S×178°40W, h598km±23km, mb2.4/3, mbtmp3.4/4, Error ellipse: s-maj=190.3km s-min=31.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.39**	**267**	P	P	14 13 10.7	0.0
	20nm,0.7s,baz=143,slow=15,SNR=20						
WRA	**Warramunga Arr**	**44.70**	**259**	P	P	14 19 10.6	-0.1
	0.2nm,0.4s,baz=95,slow=8.0,SNR=1.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**44.88**	**254**	P	P	14 19 12.0	-0.1
	0.3nm,0.7s,baz=88,slow=8.2,SNR=4.9						
ASAR				PcP	PcP	14 20 40.5	-0.1
	0.6nm,1.0s,baz=99,slow=3.4,SNR=2.6						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**85.60**	**13**	P	P	14 23 24.9	-0.1
	0.2nm,0.4s,baz=220,slow=5.0,SNR=9.6						
	0.2nm,0.4s						

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*WEL **29** 14:45:04.0±1.1, 32°S±6°×17°8W±2°2, h12km, M4.6/6, ML4.9/10, MLv4.6/6, Error ellipse: s-maj=29.2km s-min=4.2km az=104.5, confirmed*
*IDC **29** 14:45:05.8±3.3, 31°87S×177°74W, h0km, mb3.8/2, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=74.7km s-min=37.2km az=113.0*
ISC 29 14:45:06.3±2.3, 31°71S±0°09×177°5W±0°3, h26km, n19, σ1§24/30, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.47**	**351**	P	**Pn**	**14 45 43.9**	**-1.0**
GLKZ				S	**Sn**	**14 46 13.4**	**-0.9**
WMGZ	**Waiomatatini S**	**6.97**	**208**	P	**Pn**	**14 46 46.0**	**-0.7**
WMGZ				S	**Sn**	**14 48 06.3**	**+1.2**
PKGZ	**Pakihiroa**	**7.15**	**210**	P	**Pn**	**14 46 47.6**	**-1.6**
PKGZ				S	**Sn**	**14 48 10.6**	**+1.0**
HAZ	**Te Kaha**	**7.19**	**212**	P	**Pn**	**14 46 49.8**	**+0.1**
HAZ				S	**Sn**	**14 48 11.0**	**+0.6**
PUZ	**Puketiti**	**7.25**	**208**	P	**Pn**	**14 46 48.9**	**-1.7**
PUZ				S	**Sn**	**14 48 10.5**	**-1.6**
RUGZ	**Raukumara Rang**	**7.41**	**211**	P	**Pn**	**14 46 51.6**	**-1.2**
RUGZ				S	**Sn**	**14 48 17.3**	**+1.2**
TWGZ	**Tauwhareparae**	**7.45**	**209**	P	**Pn**	**14 46 52.2**	**-1.2**
TWGZ				S	**Sn**	**14 48 18.0**	**+0.9**
CNGZ	**Carnagh Statio**	**7.63**	**207**	P	**Pn**	**14 46 54.0**	**-1.8**
CNGZ				S	**Sn**	**14 48 21.7**	**+0.3**
TKGZ	**Te Karaka**	**7.73**	**208**	P	**Pn**	**14 46 56.2**	**-1.0**
TKGZ				S	**Sn**	**14 48 23.5**	**-0.3**
MWZ	**Matawai**	**7.78**	**210**	P	Pn	14 46 55.2	-2.6
MWZ				S	**Sn**	**14 48 24.5**	**-0.5**
URZ	**Urewera**	**7.90**	**213**	Pn	**Pn**	**14 46 58.5**	**-1.0**
	0.2nm,0.3s,baz=350,slow=4.7,SNR=11						
URZ				Sn	**Sn**	**14 48 26.2**	**-1.9**
	1.3nm,0.3s,baz=255,slow=22,SNR=14						
	4.9nm,0.9s						
URZ	**Urewera**	**7.90**	**213**	P	**Pn**	**14 46 57.4**	**-2.1**
URZ				S	**Sn**	**14 48 27.5**	**-0.5**
RIGZ	**Rimuhau**	**8.00**	**208**	P	**Pn**	**14 47 00.8**	**0.0**
RIGZ				S	**Sn**	**14 48 30.7**	**+0.3**
PRGZ	**Paritu Road**	**8.13**	**207**	S	**Sn**	**14 48 33.8**	**-0.1**
SNGZ	**Shannon Statio**	**8.23**	**210**	P	Pn	14 47 01.7	-2.4
SNGZ				S	**Sn**	**14 48 35.7**	**-0.6**
OUZ	**Omahuta**	**8.25**	**243**	P	Pn	14 47 13.2	+8.9
ASAR	**Alice Springs**	**43.51**	**268**	P	**P**	**14 53 09.0**	**+1.1**
	0.4nm,0.3s,baz=107,slow=7.3,SNR=10						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**44.62**	**273**	P	**P**	**14 53 18.5**	**+1.7**
	0.6nm,0.3s,baz=111,slow=8.0,SNR=14						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**146.53**	**340**	PKPbc	**PKPab**	**15 04 47.7**	**+2.1**
	2.2nm,0.9s,baz=68,slow=5.9,SNR=3.6						

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*NEIC **29** 14:49:01.2±2.2, 17°89S±0°10×178°5W±0°1, h538km±6km, mb4.6/219, Error ellipse: s-maj=14.9km s-min=13.4km az=128.0*
*NOU **29** 14:49:02.4, 17°90S×178°48W, h550km, mb4.9/58, Fiji Islands Region*
*IDC **29** 14:49:03.5±0.8, 17°88S×178°68W, h567km±7km, mb3.8/18, mbtmp4.7/20, Error ellipse: s-maj=12.1km s-min=9.5km az=130.0*
ISC 29 14:49:01.4±0.3, 17°98S±0°05×178°46W±0°05, h550km, n705, σ1§03/673, mb4.6/133, 14C-26D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.42**	**233**	P	**P**	**14 50 07.6**	**+0.9**
TAVE	**Taveuni**	**1.87**	**312**	P	**P**	**14 50 11.4**	**+0.7**
DGTI	**Dogotuki**	**2.40**	**314**	P	**P**	**14 50 13.3**	**+0.1**
MSVF	**Nonsavu**	**3.33**	**274**	P	**P**	**14 50 20.6**	**+1.9**
	560nm,0.8s,baz=127,slow=10.0,SNR=240						
MSVF				S	**S**	**14 51 24.5**	**+3.0**
	64nm,1.1s,baz=304,slow=23,SNR=14						
MSVF	**Nonsavu**	**3.33**	**274**	P	**P**	**14 50 19.9**	**+1.2**
FUTU	**Fugatoga**	**3.67**	**5**	P	**P**	**14 50 20.9**	**-0.1**
FUTU	**Fugatoga**	**3.67**	**5**	P	**P**	**14 50 21.3**	**+0.3**
AFI	**Afiamalu**	**7.60**	**59**	P	**P**	**14 50 53.7**	**-1.7**
NIUE	**Niue**	**8.17**	**99**	P	**P**	**14 51 02.1**	**+1.3**
NIUE	**Niue**	**8.17**	**99**	P	**P**	**14 51 02.3**	**+1.4**
GLKZ	**Green Lake**	**11.24**	**178**	P	**P**	**14 51 30.5**	**-1.5**
GLKZ				S	**S**	**14 53 35.7**	**-0.2**
PINNC	**Pines Island,**	**14.00**	**248**	P	**P**	**14 51 59.6**	**-1.0**
OUENC	**Ouen Island, N**	**14.48**	**250**	P	**P**	**14 52 06.0**	**+0.4**
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**14 52 07.4**	**-1.1**
DZM	**Mont Dzumac**	**14.75**	**252**	*e*P	**P**	**14 52 06.9**	**-1.6**
	103nm,1.1s						
DZM				*e*S	S	14 54 27.8	-15
	214nm,27.6s						
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**14 52 07.3**	**-1.2**
	35nm,0.9s,baz=51,slow=9.8,SNR=22						
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**14 52 08.7**	**+0.2**
ONTNC	**Ouen Toro**	**14.80**	**251**	P	**P**	**14 52 08.1**	**-0.8**
KOUNC	**Koumac, New Ca**	**16.49**	**258**	P	**P**	**14 52 25.3**	**-0.3**
OUZ	**Omahuta**	**18.56**	**201**	P	**P**	**14 52 47.8**	**+3.5**
WCZ	**Waipu Caves**	**18.99**	**198**	P	**P**	**14 52 51.5**	**+3.3**
WIAZ	**Waiheke Island**	**19.57**	**195**	P	**P**	**14 52 55.4**	**+1.9**
MBAZ	**Motutapu North**	**19.61**	**196**	P	**P**	**14 52 55.4**	**+1.6**
ETAZ	**East Tamaki Re**	**19.78**	**196**	P	**P**	**14 52 56.7**	**+1.4**
WTAZ	**Waiatarua**	**19.85**	**197**	P	**P**	**14 52 57.7**	**+1.6**
MKAZ	**Moumakai**	**19.86**	**195**	P	**P**	**14 52 57.8**	**+1.7**
AWAZ	**Awhitu Peninsu**	**19.95**	**196**	P	**P**	**14 52 59.7**	**+2.8**
HAZ	**Te Kaha**	**19.97**	**189**	P	**P**	**14 52 57.3**	**+0.2**

HAZ				S	**S**	**14 56 04.2**	**-3.9**
PKGZ	**Pakihiroa**	**20.04**	**188**	P	**P**	**14 53 01.7**	**+4.0**
RUGZ	**Raukumara Rang**	**20.19**	**189**	P	**P**	**14 53 00.2**	**+0.9**
TGRZ	**Tauranga**	**20.21**	**192**	P	**P**	**14 53 01.9**	**+2.7**
PUZ	**Puketiti**	**20.22**	**188**	P	**P**	**14 53 00.3**	**+1.0**
TWGZ	**Tauwhareparae**	**20.36**	**188**	P	**P**	**14 53 01.6**	**+1.0**
URZ	**Urewera**	**20.57**	**190**	P	**P**	**14 53 00.9**	**-1.6**
	20nm,0.8s,baz=125,slow=0.8,SNR=11						
URZ	**Urewera**	**20.57**	**190**	P	**P**	**14 53 01.2**	**-1.3**
MWZ	**Matawai**	**20.58**	**189**	P	**P**	**14 53 00.5**	**-2.1**
MWZ				S	**S**	**14 56 14.2**	**-3.7**
CNGZ	**Carnagh Statio**	**20.63**	**187**	P	**P**	**14 53 03.7**	**+0.6**
CNGZ				S	**S**	**14 56 11.8**	**-6.8**
RAGZ	**Rawiri**	**20.75**	**189**	P	**P**	**14 53 04.2**	**0.0**
RIGZ	**Rimuhau**	**20.91**	**188**	P	**P**	**14 53 04.4**	**-1.2**
SNGZ	**Shannon Statio**	**21.05**	**189**	P	**P**	**14 53 07.2**	**+0.3**
BKZ	**Black Stump Fm**	**21.56**	**191**	P	**P**	**14 53 10.3**	**-1.2**
SAVO	**Savo Central**	**22.85**	**290**	P	**P**	**14 53 23.9**	**+0.6**
TATA	**Tatamba Isabel**	**23.18**	**291**	P	**P**	**14 53 27.1**	**+0.8**
QRZ	**Quartz Range**	**24.05**	**197**	P	**P**	**14 53 35.1**	**+1.5**
THZ	**Tophouse**	**24.83**	**196**	P	**P**	**14 53 41.4**	**+0.9**
DSZ	**Denniston Nort**	**25.11**	**197**	P	**P**	**14 53 43.8**	**+0.8**
KHZ	**Kahutara**	**25.29**	**194**	P	**P**	**14 53 45.3**	**+0.8**
INZ	**Inchbonnie**	**26.11**	**197**	P	**P**	**14 53 52.0**	**+0.2**
RPZ	**Rata Peaks**	**27.14**	**197**	P	**P**	**14 54 00.6**	**-0.2**
	9.4nm,0.6s,baz=268,slow=4.1,SNR=7.9						
	9.4nm,0.6s						
FOZ	**Fox Glacier**	**27.33**	**199**	P	**P**	**14 54 02.4**	**0.0**
FOZ				PcP	**PcP**	**14 57 03.5**	**-0.1**
PPT2	**Papeete2**	**27.50**	**94**	*e*S	**S**	**14 58 12.9**	**+5.7**
	42nm,21.5s						
PPT2				*es*S	**PcS**	**15 00 43.5**	**-4.0**
	154nm,23.2s						
PPT2				*es*S	sS	15 00 48.1	-6.5
	194nm,25.5s						
GC1S	**Gold Coast 1 S**	**27.64**	**243**	P	**P**	**14 54 06.8**	**+1.4**
AUWSH	**Wavell State H**	**27.86**	**245**	P	**P**	**14 54 08.7**	**+1.4**
JCZ	**Jackson Bay**	**28.14**	**200**	P	**P**	**14 54 11.1**	**+1.4**
TW1H	**Toowoomba 1 Ha**	**28.81**	**245**	P	**P**	**14 54 16.8**	**+1.0**
GD1S	**Gladstone Soft**	**28.92**	**253**	P	**P**	**14 54 17.7**	**+1.0**
EAZ	**Earnscleugh**	**29.03**	**198**	P	**P**	**14 54 16.6**	**-0.7**
EIDS	**Eidsvold**	**29.19**	**250**	P	**P**	**14 54 19.1**	**+0.1**
EIDS	**Eidsvold**	**29.19**	**250**	P	**P**	**14 54 19.9**	**+0.9**
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**14 54 25.9**	**+1.1**
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**14 54 25.9**	**+1.1**
WHZ	**Wether Hill Ro**	**30.04**	**199**	P	**P**	**14 54 27.1**	**+1.1**
BULU	**Kimbe**	**32.90**	**288**	P	**P**	**14 54 51.8**	**+0.9**
TV1H	**Townsville Har**	**32.92**	**262**	P	**P**	**14 54 51.5**	**+0.6**
CNB	**Canberra Magne**	**33.34**	**232**	P	**P**	**14 54 56.2**	**+1.8**
CAN	**Canberra**	**33.62**	**233**	P	**P**	**14 54 57.5**	**+0.8**
PMG	**Port Moresby**	**34.42**	**280**	P	**P**	**14 55 04.6**	**+1.0**
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	**P**	**14 55 10.4**	**+1.6**
MTSU	**Mount Surprise**	**35.35**	**264**	P	**P**	**14 55 12.8**	**+1.4**
QLP	**Quilpie**	**35.46**	**249**	P	**P**	**14 55 13.4**	**+1.2**
COEN	**Coen**	**37.05**	**271**	P	**P**	**14 55 25.4**	**-0.1**
COEN	**Coen**	**37.05**	**271**	P	**P**	**14 55 26.0**	**+0.5**
TOO	**Toolangi**	**37.08**	**231**	P	**P**	**14 55 27.0**	**+1.6**
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**14 55 38.1**	**+0.7**
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**14 55 37.8**	**+0.4**
	48nm,0.8s,baz=89,slow=9.5,SNR=57						
	48nm,0.8s						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**14 55 39.1**	**+1.7**
INKA	**Innaminka**	**38.67**	**248**	P	**P**	**14 55 39.4**	**+1.0**
ARPS	**Mount Arapiles**	**39.56**	**234**	P	**P**	**14 55 46.6**	**+1.1**
QIS	**Mount Isa**	**39.59**	**259**	P	**P**	**14 55 46.0**	**0.0**
HTT	**Hallett**	**41.06**	**240**	P	**P**	**14 55 58.6**	**+1.0**
LCRK	**Leigh Creek**	**41.18**	**244**	P	**P**	**14 55 59.5**	**+1.0**
WHYH	**Whyalla**	**42.10**	**240**	P	**P**	**14 56 06.9**	**+1.2**
OOD	**Oodnadatta**	**43.14**	**248**	P	**P**	**14 56 15.1**	**+1.1**
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**14 56 15.6**	**+0.3**
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**14 56 16.6**	**+1.3**
MLH	**Mauna Loa**	**43.59**	**32**	P	**P**	**14 56 18.1**	**+0.4**
HMH	**Humu'ula Sheep**	**43.64**	**32**	P	**P**	**14 56 17.2**	**-1.0**
KEKH	**Kekaha**	**43.76**	**26**	P	**P**	**14 56 17.8**	**-0.8**
WR0	**Warramunga Arr**	**44.38**	**260**	P	**P**	**14 56 22.4**	**-1.2**
WR0				IAmb	IAmb	14 56 24.5	
	comp=Z,21nm,1.2s						
WR8	**Warramunga Arr**	**44.41**	**260**	P	**P**	**14 56 23.0**	**-1.0**
WR8				IAmb	IAmb	14 56 24.7	
	comp=Z,32nm,1.1s						
WB0	**Warramunga Arr**	**44.53**	**260**	P	**P**	**14 56 23.6**	**-1.3**
WB0				IAmb	IAmb	14 56 25.5	
	comp=Z,33nm,0.9s						
WB2	**Warramunga Arr**	**44.56**	**260**	P	**P**	**14 56 23.7**	**-1.3**
WRAB	**Tennant Creek**	**44.56**	**260**	P	**P**	**14 56 24.6**	**-0.5**
WRAB				IAmb	IAmb	14 56 25.7	
	comp=Z,21nm,0.6s						
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**14 56 23.9**	**-1.3**
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**14 56 24.3**	**-0.8**
	comp=Z,16nm,0.6s,baz=96,slow=6.9,SNR=168						
WRA				ScP	**ScP**	**15 00 56.5**	**+0.2**
	comp=Z,4.5nm,1.2s,baz=89,slow=3.9,SNR=4.8						
WRA				S	**S**	**15 02 17.0**	**-4.3**
	comp=Z,1.1nm,0.8s,baz=98,slow=12,SNR=5.0						
	comp=Z,16nm,0.6s						
AS01	**Alice Springs**	**44.68**	**254**	P	**P**	**14 56 26.0**	**0.0**
AS31	**Alice Springs**	**44.72**	**254**	P	**P**	**14 56 25.9**	**-0.3**
ASAR	**Alice Springs**	**44.72**	**254**

baz=190
JKA Kamikawa-asahi 71.31 331 P P 14 59 26.8 +1.1
JKA IAmb IAmb 15 00 08.5
comp=Z,47nm,1.5s
YULB Yu-li 71.76 303 P P 14 59 27.9 -0.9
YULB IAmb IAmb 14 59 45.8
comp=Z,24nm,1.3s
QSPA South Pole Qui 72.07 180 P P 14 59 31.7 +1.7
QSPA IAmb IAmb 14 59 33.0
comp=Z,12nm,0.8s
QSPA South Pole Qui 72.07 180 P P 14 59 31.5 +1.5
comp=Z,8.1nm,0.6s,baz=75,slow=0.3,SNR=68
comp=Z,8.1nm,0.6s
SSLB Suanglung 72.23 303 P P 14 59 30.4 -1.1
SSLB IAmb IAmb 14 59 36.8
comp=Z,23nm,1.1s
TPUB Ta-pu 72.25 302 P P 14 59 30.5 -1.1
UNV Unalaska Valle 72.27 7 P P 14 59 29.7 -1.3
UNV IAmb IAmb 14 59 31.3
comp=Z,24nm,1.0s
UNV Unalaska Valle 72.27 7 P P 14 59 30.5 -0.5
baz=192
KSM Kuching 72.64 277 P P 14 59 34.9 +0.8
PET Petropavlovsk 73.43 346 P P 14 59 37.3 -0.3
PEA0B Petropavlovsk- 73.74 345 P P 14 59 39.9 +0.4
PETK Petropavlovsk- 73.74 345 P P 14 59 38.5 -1.0
comp=Z,14nm,0.7s,baz=106,slow=6.2,SNR=22
comp=Z,14nm,0.7s
CNBA Chernabura Isl 74.28 11 P P 14 59 42.4 0.0
CNBA IAmb IAmb 15 00 24.4
comp=Z,18nm,1.1s
CHNA Chernabura Isl 74.29 11 P P 14 59 41.9 -0.5
baz=199
SDPT Sand Point 74.62 11 P P 14 59 44.0 -0.3
SDPT IAmb IAmb 14 59 44.8
comp=Z,32nm,1.0s
SDPT Sand Point 74.62 11 P P 14 59 44.4 0.0
baz=198
P08K Saint George I 74.67 5 P P 14 59 44.4 -0.1
baz=189
KSRS Korea Array 74.72 318 P P 14 59 45.6 +0.3
comp=Z,1.0nm,0.5s,baz=130,slow=6.3,SNR=11
comp=Z,1.0nm,0.5s
SPIA Saint Paul Isl 75.19 5 P P 14 59 47.3 -0.2
baz=188
S14K Fog Glacier 75.68 11 P P 14 59 50.1 -0.3
baz=199
CHIR Chirikof Islan 76.01 13 P P 14 59 52.2 +0.1
CHIR Chirikof Islan 76.01 13 P P 14 59 52.4 +0.3
baz=202
SAO San Andreas Ge 76.51 44 P P 14 59 57.3 +2.0
SAO IAmb IAmb 14 59 58.8
comp=Z,23nm,0.9s
USRK Ussuriysk Ar. 76.65 326 P P 14 59 56.9 +1.0
USRK Ussuriysk Ar. 76.65 326 P P 14 59 57.0 +1.2
comp=Z,2.2nm,0.5s,baz=130,slow=6.3,SNR=8.8
comp=Z,2.2nm,0.5s
SII Sitkinak Islan 77.01 14 P P 14 59 57.4 -0.2
SII Sitkinak Islan 77.01 14 P P 14 59 57.5 -0.1
baz=204
KMRM Mail Ridge 77.11 40 P P 14 59 59.2 +0.6
KMRM IAmb IAmb 15 00 02.0
comp=Z,28nm,0.8s
O02D Mt. Diablo Mer 77.64 40 P P 15 00 01.8 +0.3
OHAK Old Harbor 77.82 14 P P 15 00 02.0 +0.1
OHAK IAmb IAmb 15 00 03.4
comp=Z,15nm,0.8s
OHAK Old Harbor 77.82 14 P P 15 00 02.9 +1.0
OHAK Old Harbor 77.82 14 P P 15 00 01.8 -0.1
baz=204
R18K Karluk 77.88 13 P P 15 00 02.4 +0.2
baz=203
NJ2 Nanjing 77.94 310 eP P 15 00 03.5 +0.3
NJ2 pmax pmax
comp=Z,27nm,0.7s
ORV Oroville 78.08 41 P P 15 00 05.2 +1.5
YUH Yuha Desert 78.14 50 P P 15 00 06.0 +1.8
MDJ Mudanjiang 78.22 325 P P 15 00 04.0 -0.4
MDJ Mudanjiang 78.22 325 P P 15 00 04.0 -0.4
MDJ pmax pmax
comp=Z,10.0nm,1.5s
MDJ Mudanjiang 78.22 325 P P 15 00 05.1 +0.7
O14K Tigyukauivet M 78.24 9 P P 15 00 03.6 -0.4
O14K Tigyukauivet M 78.24 9 P P 15 00 04.5 +0.4
baz=197
ACHA Angle Creek He 78.29 12 P P 15 00 05.2 +0.6
O15K Ungalikthiuk R 78.38 10 P P 15 00 05.2 +0.3
baz=198
Q16K King Salmon 78.47 11 P P 15 00 05.8 +0.5
baz=201
KDAK Kodiak Island 78.49 14 P P 15 00 05.8 +0.4
KDAK IAmb IAmb 15 00 08.0
comp=Z,26nm,1.0s
KDAK Kodiak Island 78.49 14 P P 15 00 05.8 +0.4
baz=205
P16K Nushagak River 78.55 11 P P 15 00 06.1 +0.3
baz=200,SNR=6.1
YBH Yreka Blue Hor 78.61 39 P P 15 00 05.7 -1.0
M11K Mekoryuk 78.72 6 P P 15 00 06.7 +0.1
baz=192
Q18K Katmai Hardscr 78.76 12 P P 15 00 06.2 -0.8
baz=203
WAKR Walker 78.81 43 P P 15 00 09.2 +1.2
WAKR IAmb IAmb 15 00 11.1
comp=Z,19nm,0.9s
N14K Kuskokwak Cree 78.82 9 P P 15 00 07.0 -0.1
baz=196,SNR=5.8
BEKR Beckworth 78.98 42 P P 15 00 09.8 +1.0
BEKR IAmb IAmb 15 00 11.4
comp=Z,13nm,0.8s
P17K Kvichak River 78.99 11 P P 15 00 07.8 -0.3
baz=201,SNR=15
PNTR Pine Nut 79.03 43 P P 15 00 09.5 +0.4
PNTR IAmb IAmb 15 00 12.1
comp=Z,32nm,1.0s
O16K Kokwok River B 79.07 10 P P 15 00 07.3 -1.2
O16K Kokwok River B 79.07 10 P P 15 00 07.9 -0.6
baz=200,SNR=6.3
M13K Dall Lake 79.07 8 P P 15 00 08.1 -0.4
baz=195
L04D Klamath Falls 79.15 39 P P 15 00 10.9 +1.3
L04D IAmb IAmb 15 00 12.2
comp=Z,27nm,0.8s
DSP Deep Springs 79.16 45 P P 15 00 11.2 +1.7
Q20K Shuyak Island 79.28 14 P P 15 00 09.3 -0.3
baz=205
SYI Shuyak Island 79.28 14 P P 15 00 10.4 +0.8
SYI IAmb IAmb 15 00 11.3
comp=Z,21nm,0.8s
N15K Kwethluk River 79.29 9 P P 15 00 09.9 +0.2
N15K IAmb IAmb 15 00 11.7
comp=Z,12nm,0.7s
N15K Kwethluk River 79.29 9 P P 15 00 10.3 +0.6
baz=198,SNR=5.3
Q19K Cape Douglas, 79.30 13 P P 15 00 09.4 -0.4
Q19K IAmb IAmb 15 00 11.1
comp=Z,48nm,1.1s
Q19K Cape Douglas, 79.30 13 P P 15 00 10.2 +0.4
baz=204
BBOR Butler Butte 79.32 38 P P 15 00 12.0 +1.5
P18K Big Mountain, 79.40 12 P P 15 00 09.7 -0.7
P18K Big Mountain, 79.40 12 P P 15 00 09.7 -0.7
baz=202,SNR=27
O17K Koliganek Bris 79.41 11 P P 15 00 09.8 -0.5
baz=201,SNR=6.9
PIX Pinacate 79.43 52 P P 15 00 12.4 +1.3
NVAR Mina Array Bea 79.51 44 P P 15 00 13.0 +1.3
NVAR Mina Array Bea 79.51 44 P P 15 00 12.7 +1.0
comp=Z,8.3nm,0.8s,baz=226,slow=8.2,SNR=37
comp=Z,8.3nm,0.8s
M14K Bethel 79.58 8 P P 15 00 12.0 +0.8
M14K IAmb IAmb 15 00 13.1
comp=Z,24nm,1.2s
M14K Bethel 79.58 8 P P 15 00 11.0 -0.2
baz=196
M15K Kasigluk River 79.70 9 P P 15 00 11.0 -0.9
baz=197
113A Mohawk Valley, 79.78 51 P P 15 00 14.4 +1.5
N16K Nishlik Lake 79.79 10 P P 15 00 12.4 +0.1
baz=199,SNR=7.3
O18K Koktuh Hills 79.84 12 P P 15 00 12.1 -0.5
O18K Koktuh Hills 79.84 12 P P 15 00 12.1 -0.5
baz=202,SNR=39
J04A Umpqua Nationa 79.87 38 P P 15 00 14.6 +1.1
CN2 Changchun 80.05 322 eP P 15 00 15.0 +0.9
P19K Oil Pt 80.05 13 P P 15 00 14.1 +0.4
baz=204
L14K Kuka Creek 80.06 8 P P 15 00 14.6 +1.0
L14K Kuka Creek 80.06 8 P P 15 00 13.8 +0.2
baz=195
N17K Nushagak Hills 80.10 10 P P 15 00 15.0 +1.0
N17K Nushagak Hills 80.10 10 P P 15 00 14.2 +0.2
baz=200
M16K Timber Creek 80.28 9 P P 15 00 15.7 +0.8
M16K IAmb IAmb 15 00 17.6
comp=Z,28nm,0.9s
M16K Timber Creek 80.28 9 P P 15 00 15.8 +0.9
baz=199,SNR=10
O19K Port Alsworth 80.33 12 P P 15 00 14.5 -0.5
O19K Port Alsworth 80.33 12 P P 15 00 14.6 -0.5
baz=203,SNR=13
CNPM China Poot 80.37 14 P P 15 00 15.3 -0.1
CNPM IAmb IAmb 15 00 16.8
comp=Z,14nm,0.7s
ILSW Iliamna Southw 80.37 13 P P 15 00 15.0 -0.5
ILSW IAmb IAmb 15 00 16.3
comp=Z,28nm,0.8s
K13K Kusilvak Mount 80.40 7 P P 15 00 14.7 -0.8
baz=193
J05D Fort Rock, OR 80.41 39 P P 15 00 17.3 +1.1
N18K Kilae Creek 80.48 11 P P 15 00 15.5 -0.5
N18K Kilae Creek 80.48 11 P P 15 00 15.9 -0.1
baz=202,SNR=5.2
L15K Ungalak Mounta 80.54 8 P P 15 00 16.3 +0.1
baz=196
O20K Slope Mountain 80.57 13 P P 15 00 16.8 +0.3
baz=205,SNR=6.8
BRLK Bradley Lake 80.66 14 P P 15 00 16.5 -0.5
BRLK IAmb IAmb 15 00 18.2
comp=Z,21nm,0.8s
BRSE Bradley Lake S 80.67 14 P P 15 00 17.5 +0.5
baz=207,SNR=9.1
H04A Detroit Lake 80.68 37 P P 15 00 17.9 +0.4
H04A IAmb IAmb 15 00 19.6
comp=Z,11nm,0.7s
L16K Owhat River 80.85 9 P P 15 00 18.4 +0.5
L16K IAmb IAmb 15 00 20.2
comp=Z,22nm,1.1s
L16K Owhat River 80.85 9 P P 15 00 17.4 -0.5
baz=198,SNR=9.2
N19K Bonanza Creek 80.86 12 P P 15 00 17.1 -1.0
N19K IAmb IAmb 15 00 18.8
comp=Z,14nm,0.9s
N19K Bonanza Creek 80.86 12 P P 15 00 16.8 -1.3
baz=203,SNR=6.9
PINE Pine Mountain 80.88 38 P P 15 00 19.0 +0.3
PINE IAmb IAmb 15 00 21.7
comp=Z,27nm,0.9s
M17K Holitna River 80.88 10 P P 15 00 18.8 +0.8
M17K Holitna River 80.88 10 P P 15 00 18.0 0.0
baz=200,SNR=14
I05D Terrebonne, OR 80.97 38 P P 15 00 19.7 +0.8
I05D IAmb IAmb 15 00 21.5
comp=Z,21nm,1.2s
K15K Wolf Creek Mou 81.12 8 P P 15 00 20.1 +0.9
K15K Wolf Creek Mou 81.12 8 P P 15 00 18.1 -1.2
baz=196,SNR=13
PRN Pahroc Range 81.17 46 P P 15 00 21.5 +1.3
PRN IAmb IAmb 15 00 23.6
comp=Z,18nm,0.9s
M18K Stony River 81.24 11 P P 15 00 18.7 -1.2
baz=202
MA2 Magadan 81.25 345 P P 15 00 19.3 -0.7
MA2 IAmb IAmb 15 00 20.7
comp=Z,10.0nm,0.7s
MA2 Magadan 81.25 345 P P 15 00 20.2 +0.3
SEW Seward 81.29 14 P P 15 00 19.3 -0.8
SEW Seward 81.29 14 P P 15 00 19.6 -0.5
baz=208,SNR=5.8
J14K Nanvaranak Lak 81.32 7 P P 15 00 20.5 +0.4
baz=194
L17K Donlin 81.44 9 P P 15 00 20.7 -0.2
baz=199,SNR=11
SLKM Skilak Lake 81.48 14 P P 15 00 20.8 -0.3
WVOR Wild Horse Val 81.50 40 P P 15 00 22.9 +1.1
WVOR IAmb IAmb 15 00 24.7
comp=Z,24nm,0.9s
CAPN Captain Cook N 81.50 13 P P 15 00 21.3 +0.2
baz=206,SNR=5.7
O22K Cooper Landing 81.56 14 P P 15 00 21.2 -0.3
baz=208,SNR=6.7
GAMB Gambell 81.66 3 P P 15 00 21.9 0.0
baz=186
SPCR Spurr Chakacha 81.67 13 P P 15 00 22.4 +0.3
baz=205
P23K Montague Islan 81.69 15 P P 15 00 22.6 +0.5
baz=210
L18K Granite Mounta 81.78 10 P P 15 00 23.6 +1.1
L18K IAmb IAmb 15 00 24.9
comp=Z,42nm,1.4s
L18K Granite Mounta 81.78 10 P P 15 00 23.4 +0.9
baz=201,SNR=18
M19K Big River Lodg 81.89 11 P P 15 00 22.6 -0.6
M19K Big River Lodg 81.89 11 P P 15 00 23.1 -0.1
baz=203
K17K Iditarod 81.99 9 P P 15 00 24.4 +0.8
K17K IAmb IAmb 15 00 25.9
comp=Z,27nm,1.4s
K17K Iditarod 81.99 9 P P 15 00 23.8 +0.2
baz=199,SNR=6.2
STLK Strandline Lak 82.02 13 P P 15 00 22.4 -1.6
STLK IAmb IAmb 15 00 24.2
comp=Z,13nm,0.8s
FIS Fire Island 82.05 13 P P 15 00 25.1 +1.2
L19K White Mountain 82.06 11 P P 15 00 24.1 +0.1
L19K IAmb IAmb 15 00 25.8
comp=Z,16nm,1.2s
L19K White Mountain 82.06 11 P P 15 00 24.4 +0.3
baz=203,SNR=9.4
BELA Belgrano 2 82.10 173 P P 15 00 24.6 +0.5
RC01 Rabbit Creek A 82.10 14 P P 15 00 23.8 -0.4
RC01 IAmb IAmb 15 00 25.5
comp=Z,23nm,1.2s
RC01 Rabbit Creek A 82.10 14 P P 15 00 24.6 +0.4
baz=208,SNR=8.5
M20K Styx River 82.11 12 P P 15 00 24.6 +0.2
baz=204
J16K Anvik River 82.20 8 P P 15 00 25.1 +0.4
J16K IAmb IAmb 15 00 27.0
comp=Z,16nm,0.8s
J16K Anvik River 82.20 8 P P 15 00 25.0 +0.3
baz=197,SNR=9.9
PWL Port Wells 82.22 14 P P 15 00 24.3 -0.6
PWL IAmb IAmb 15 00 25.9
comp=Z,23nm,0.8s
PWL Port Wells 82.22 14 P P 15 00 24.7 -0.2
baz=209,SNR=15
KAIM Kayak Island 82.41 17 P P 15 00 25.6 -0.3
baz=212
319A Douglas 82.51 54 IAmb IAmb 15 00 31.1
comp=Z,26nm,1.0s
L20K Farewell, AK 82.51 11 P P 15 00 26.4 +0.1
baz=204,SNR=12
KNB Kanab 82.52 47 IAmb IAmb 15 00 30.4
comp=Z,15nm,0.9s
SKT Skwentna 82.52 12 P P 15 00 26.3 0.0
baz=206
J17K VABM Dome 82.52 9 P P 15 00 26.6 +0.3
J17K IAmb IAmb 15 00 28.4
comp=Z,9.0nm,0.7s
J17K VABM Dome 82.52 9 P P 15 00 26.0 -0.3
baz=199,SNR=6.8
GLI Glacier Island 82.54 15 P P 15 00 26.0 -0.4
GLI Glacier Island 82.54 15 P P 15 00 25.8 -0.6
baz=210,SNR=8.5
PSUT Pine Spring 82.55 46 P P 15 00 28.1 +0.8
EYAK Cordova Ski Ar 82.59 16 P P 15 00 26.4 -0.3
EYAK Cordova Ski Ar 82.59 16 P P 15 00 26.6 -0.1
baz=211
CRAG Craig 82.61 24 P P 15 00 26.3 -0.6
baz=223
M22K Willow 82.61 13 P P 15 00 26.6 -0.2
baz=207,SNR=8.7
KNK Knik Glacier 82.68 14 P P 15 00 27.0 -0.2
KNK IAmb IAmb 15 00 28.4
comp=Z,14nm,0.8s
KNK Knik Glacier 82.68 14 P P 15 00 27.0 -0.2
baz=209,SNR=9.5
PMR Palmer 82.69 14 P P 15 00 27.7 +0.6
PMR Palmer 82.69 14 P P 15 00 26.5 -0.7
baz=208,SNR=12
ELK Elko 82.75 43 P P 15 00 28.7 +0.4
ELK IAmb IAmb 15 00 31.0
comp=Z,13nm,0.9s
I17K Unalakleet 82.77 8 P P 15 00 27.2 -0.3
baz=197
BGLC Bering Glacier 82.88 17 P P 15 00 27.3 -0.8
baz=214
GHO Glory Hole Cre 82.89 14 P P 15 00 27.7 -0.7
J18K Innoko River 82.94 10 IAmb IAmb 15 00 30.2
comp=Z,18nm,0.8s
J18K Innoko River 82.94 10 P P 15 00 28.6 +0.1
baz=201,SNR=19
SIT Sitka 82.97 22 P P 15 00 27.6 -1.0
baz=221
SML Sawmill 83.06 14 P P 15 00 28.7 -0.5
baz=209
PKCU Pink Cliffs 83.08 47 IAmb IAmb 15 00 34.1
comp=Z,25nm,1.0s
U33K Whale Pass 83.08 24 P P 15 00 28.6 -0.6
baz=223
V35K Ketchikan 83.10 25 P P 15 00 29.6 +0.3
baz=224
E07A Sunnyside 83.11 36 IAmb IAmb 15 00 32.3
comp=Z,15nm,0.9s
CUT Chulitna 83.16 13 P P 15 00 28.9 -0.7
baz=207,SNR=15
M23K Glacier View 83.18 14 P P 15 00 30.0 +0.3
baz=209,SNR=6.4
HAWA Hanford 83.19 37 IAmb IAmb 15 00 32.7
comp=Z,21nm,1.1s
PPLA Purkeypile 83.22 12 P P 15 00 29.2 -0.8
baz=205
BMRM Bremner River 83.24 16 IAmb IAmb 15 00 31.4
comp=Z,14nm,0.6s
BMRM Bremner River 83.24 16 P P 15 00 29.5 -0.5
baz=212,SNR=10
WAX Waxell Ridge 83.28 17 P P 15 00 30.1 -0.1
WAX IAmb IAmb 15 00 32.1
comp=Z,26nm,0.8s
K20K Telida 83.29 11 P P 15 00 30.5 +0.3
baz=203,SNR=20
H16K Elim 83.30 7 P P 15 00 30.2 +0.1
baz=196
MESA MESA 83.31 17 P P 15 00 30.8 +0.2
baz=215,SNR=6.7
SCM Sheep Creek Mo 83.31 14 P P 15 00 30.0 -0.4
baz=210,SNR=25
S31K Pelican 83.34 21 P P 15 00 29.2 -1.2
baz=220
KLU Klutina 83.36 15 P P 15 00 30.9 +0.3
baz=211,SNR=6.0
G15K Niukluk 83.45 6 P P 15 00 31.5 +0.6
baz=194
WRAK Wrangell Islan 83.60 24 P P 15 00 32.5 +0.7
baz=224
J19K Poorman 83.61 10 P P 15 00 32.4 +0.7
baz=202,SNR=9.1
BMO Blue Mountains 83.63 39 P P 15 00 32.7 +0.3
PNL Peninsula 83.65 19 P P 15 00 31.8 -0.3
baz=217
TNA Tin City 83.67 4 P P 15 00 32.1 +0.2
baz=190
F14K Arctic Creek 83.71 5 P P 15 00 32.9 +0.7
baz=192
CAST Castle Rocks 83.71 12 P P 15 00 30.7 -1.7
CAST IAmb IAmb 15 00 32.8
comp=Z,20nm,0.8s
CAST Castle Rocks 83.71 12 P P 15 00 30.6 -1.7
baz=205,SNR=32
PINM Pinnacle 83.73 18 P P 15 00 31.6 -0.9
baz=216
MFID Camas Ranch 83.76 41 IAmb IAmb 15 00 35.9
comp=Z,16nm,1.1s
VRDI Verde Repeater 83.77 16 P P 15 00 32.7 -0.1
VRDI IAmb IAmb 15 00 34.2
comp=Z,19nm,1.2s
N25K Chitina, Valde 83.79 16 P P 15 00 32.6 -0.2
baz=212,SNR=28
M24K Tolsona, Glenn 83.82 15 P P 15 00 33.4 +0.4
baz=211,SNR=14
H17K Granite Mounta 83.87 8 P P 15 00 33.1 +0.1
baz=198
D08A Wollman Farm, 83.92 36 IAmb IAmb 15 00 36.2
comp=Z,17nm,1.0s
G16K Koyuk River 84.02 7 P P 15 00 34.5 +0.8
baz=195
J20K Nowinta River 84.03 10 P P 15 00 33.8 -0.1
J20K IAmb IAmb 15 00 35.4
comp=Z,10nm,0.8s
J20K Nowinta River 84.03 10 P P 15 00 34.0 +0.1
baz=203,SNR=10
KTH Kantishna Hill 84.06 12 P P 15 00 33.0 -1.0
KTH IAmb IAmb 15 00 34.3
comp=Z,20nm,1.0s
CHUM Lake Minchumin 84.09 11 P P 15 00 33.5 -0.6
baz=205,SNR=16
F15K North Star Dit 84.09 6 P P 15 00 33.7 -0.3
baz=193
TRF Thorofare Moun 84.09 12 P P 15 00 33.4 -0.9
baz=207,SNR=35
GCSA Galena City Sc 84.12 9 P P 15 00 34.2 0.0
baz=201
P29M Windy Craggy 84.13 19 P P 15 00 34.4 -0.1
baz=219
R32K Eaglecrest 84.17 22 P P 15 00 34.7 0.0
baz=222
JIS Juneau Island 84.22 22 P P 15 00 35.8 +1.0
BESE Bessie Mountai 84.28 21 IAmb IAmb 15 00 37.6
comp=Z,11nm,1.0s
H18K Honhosa River 84.29 8 P P 15 00 35.4 +0.3
baz=199
O28M Mount Upton 84.30 18 P P 15 00 35.6 +0.1
baz=216,SNR=9.1
G17K Kiwalik Mounta 84.32 7 P P 15 00 36.0 +0.8
baz=197
HARP HAARP 84.32 15 P P 15 00 35.4 +0.1
baz=212,SNR=12
O29M Mount Kennedy 84.40 19 P P 15 00 36.7 +0.8
baz=218
B08A Colville Reser 84.43 35 P P 15 00 36.2 0.0
B08A IAmb IAmb 15 00 38.0
comp=Z,11nm,0.8s
PLBC Pleasant Camp 84.44 20 P P 15 00 36.7 +0.7
baz=220
BPAW Bear Paw Mtn. 84.54 12 P P 15 00 36.3 -0.1
baz=206
I20K Naaghedeneel 84.55 10 P P 15 00 36.9 +0.6
baz=203
MCK McKinley 84.62 13 IAmb IAmb 15 00 37.7
comp=Z,19nm,0.9s
MCK McKinley 84.62 13 P P 15 00 36.0 -0.8
baz=208,SNR=18
HLID Hailey 84.72 41 IAmb IAmb 15 00 40.9
comp=Z,10nm,0.8s
PAX Paxson 84.73 14 P P 15 00 36.5 -0.9
baz=211,SNR=8.7
P30M Million Dollar 84.76 19 P P 15 00 36.9 -0.7
baz=219
SKAG Skagway 84.79 21 P P 15 00 38.4 +0.8
SKAG IAmb IAmb 15 00 40.4
comp=Z,17nm,1.2s
SKAG Skagway 84.79 21 P P 15 00 38.8 +1.2
SKAG Skagway 84.79 21 P P 15 00 38.1 +0.5
baz=221,SNR=6.7
T35M Bob Quinn 84.81 24 P P 15 00 38.2 +0.4
baz=225
YUK8 Steele Glacier 84.83 18 P P 15 00 37.8 -0.4
baz=217,SNR=12
M26K Nabesna, AK 84.87 16 P P 15 00 38.2 +0.2
M26K IAmb IAmb 15 00 40.3
comp=Z,17nm,0.9s
M26K Nabesna, AK 84.87 16 P P 15 00 38.1 +0.1
baz=214,SNR=18
HVU Hansel Valley 84.87 43 IAmb IAmb 15 00 41.4
comp=Z,18nm,1.5s
H19K Roundabout Mou 84.92 9 P P 15 00 38.8 +0.7
baz=201
G18K Tagagawik 84.95 8 P P 15 00 38.5 +0.2
baz=199
YUK6 Outpost Mounta 84.97 18 P P 15 00 38.8 0.0
baz=218
YUK3 Moose Creek 85.03 17 P P 15 00 38.5 -0.5
baz=216,SNR=22
M27K Edge Creek, AK 85.12 16 P P 15 00 39.8 +0.4
baz=215,SNR=15
H20K Anotleneega Mo 85.13 10 P P 15 00 39.2 +0.1
baz=202,SNR=5.6
MENT Mentasta 85.13 15 P P 15 00 39.9 +0.6
S34M Telegraph Cree 85.13 23 P P 15 00 39.4 +0.1

baz=225,SNR=21
HYT Haines Junctio 85.14 19 IAmb IAmb 15 00 41.5
comp=Z,10nm,1.0s
HYT Haines Junctio 85.14 19 P **P 15 00 39.1 -0.3**
baz=219,SNR=8.5
F17K Baldwin Pennin 85.16 7 P **P 15 00 39.9 +0.7**
baz=196
YUK4 Talbot Arm 85.21 18 P **P 15 00 40.6 +0.7**
baz=218,SNR=6.1
L26K Log Cabin Wild 85.30 15 P **P 15 00 40.0 -0.1**
baz=213
NEA2 Nenana 85.36 12 P **P 15 00 39.6 -0.7**
baz=208
K24K Donnelly Dome 85.38 14 P **P 15 00 40.0 -0.4**
baz=211,SNR=16
P32M Atlin 85.43 21 P **P 15 00 41.3 +0.5**
P32M Atlin 85.43 21 P **P 15 00 41.2 +0.4**
baz=222,SNR=7.4
BVCY Beaver Creek 85.44 17 P **P 15 00 40.5 -0.3**
baz=216,SNR=16
WRH Wood River Hil 85.45 13 IAmb IAmb 15 00 42.4
comp=Z,18nm,1.0s
Q32M Nakina River 85.47 22 P **P 15 00 41.3 +0.1**
baz=224,SNR=9.0
F18K Selawik 85.50 7 P **P 15 00 41.0 +0.1**
baz=198
O30N Mendenhall 85.54 19 P **P 15 00 41.4 +0.1**
baz=220,SNR=9.1
RIDG Independent Ri 85.54 14 IAmb IAmb 15 00 42.6
comp=Z,10nm,0.8s
RIDG Independent Ri 85.54 14 P **P 15 00 41.1 -0.1**
baz=212,SNR=12
VHRN Van Horn 85.60 56 IAmb IAmb 15 00 46.0
comp=Z,19nm,1.3s
H21K Melozitna Rive 85.62 10 P **P 15 00 41.3 -0.2**
baz=204
HDA Harding Lake 85.64 13 P **P 15 00 40.8 -0.9**
HDA IAmb IAmb 15 00 42.5
comp=Z,12nm,0.9s
HDA Harding Lake 85.64 13 P **P 15 00 41.2 -0.5**
baz=210,SNR=15
DOT Dot Lake 85.65 15 IAmb IAmb 15 00 43.1
comp=Z,12nm,0.8s
E17K Hotham Inlet 85.71 6 P **P 15 00 42.2 +0.3**
baz=196
L27K Beaver Creek, 85.72 16 P **P 15 00 42.2 +0.1**
baz=215
N30M Aishikik Lake 85.76 19 P **P 15 00 42.5 +0.2**
baz=219,SNR=5.1
I23K Minto, Yukon-K 85.79 12 P **P 15 00 42.1 -0.2**
baz=208
WHY Whitehorse 85.84 20 IAmb IAmb 15 00 44.9
comp=Z,23nm,1.0s
WHY Whitehorse 85.84 20 P **P 15 00 43.1 +0.3**
baz=221,SNR=8.6
COLA College 85.86 13 P **P 15 00 41.8 -0.8**
COLA College 85.86 13 P **P 15 00 42.4 -0.2**
baz=209
DLBC Dease Lake 85.92 23 P **P 15 00 42.9 -0.3**
baz=226,SNR=6.1
SCRK Sand Creek 85.94 14 P **P 15 00 43.6 +0.4**
baz=213,SNR=10
F19K Shaleruckik Mo 85.96 8 P **P 15 00 42.8 -0.3**
baz=200
IL31 85.97 13 IAmb IAmb 15 00 44.0
comp=Z,6.6nm,0.6s
ILAR Eielson Array 85.97 13 P **P 15 00 42.0 -1.3**
comp=Z,4.3nm,0.5s,baz=222,slow=5.1,SNR=164
comp=Z,4.3nm,0.5s
TX31 Lajitas Ar. Si 86.08 58 IAmb IAmb 15 00 48.7
comp=Z,20nm,1.0s
TXAR Lajitas Array 86.08 58 P **P 15 00 46.7 +2.0**
comp=Z,9.4nm,0.8s,baz=224,slow=5.6,SNR=65
comp=Z,9.4nm,0.8s
H22K Ishtalitna Cre 86.09 11 P **P 15 00 43.3 -0.5**
baz=206
M29M Somme Creek 86.13 17 P **P 15 00 44.5 +0.3**
baz=218,SNR=9.8
POKR Poker Plat Res 86.16 13 P **P 15 00 43.2 -0.9**
POKR IAmb IAmb 15 00 44.6
comp=Z,7.5nm,0.6s
POKR Poker Plat Res 86.16 13 P **P 15 00 42.8 -1.3**
baz=210,SNR=15
J25K Salcha River, 86.17 14 IAmb IAmb 15 00 45.3
comp=Z,8.2nm,0.5s
J25K Salcha River, 86.17 14 P **P 15 00 43.4 -0.8**
baz=211,SNR=20
E18K Tukpahlearik C 86.17 7 P **P 15 00 43.1 -1.0**
baz=197
D17K Noatak River 86.18 6 P **P 15 00 43.3 -0.8**
baz=195
N31M Braeburn, Yuko 86.19 19 P **P 15 00 43.1 -1.2**
baz=220
P33M Teslin, Yukon 86.19 21 P **P 15 00 43.8 -0.7**
baz=223,SNR=5.9
R33M Jennings River 86.25 22 IAmb IAmb 15 00 47.3
comp=Z,18nm,1.2s
R33M Jennings River 86.25 22 P **P 15 00 43.7 -1.1**
baz=225,SNR=9.6
G21K Allakaket 86.29 10 P **P 15 00 43.7 -1.0**
baz=204
H23K Yukon River 86.36 12 P **P 15 00 45.1 +0.1**
baz=208
F20K Avaraart Lake 86.45 9 P **P 15 00 45.7 +0.3**
baz=202
K27K Chicken 86.45 15 P **P 15 00 44.8 -0.7**
baz=214
J26L Joseph Creek 86.49 14 P **P 15 00 44.9 -0.9**
baz=213,SNR=19
ALPN Alpine 86.51 57 IAmb IAmb 15 00 50.9
comp=Z,12nm,1.0s
C16K Lisburne Hills 86.54 5 P **P 15 00 46.1 +0.3**
baz=192
RDOG Red Dog Mine 86.54 6 P **P 15 00 45.8 -0.1**
baz=195
E19K Redstone River 86.62 8 P **P 15 00 46.1 -0.2**
E19K IAmb IAmb 15 00 47.6
comp=Z,6.8nm,0.7s
E19K Redstone River 86.62 8 P **P 15 00 46.2 0.0**
baz=200
H24K Noodor Dome 86.70 12 P **P 15 00 45.8 -0.9**
baz=209
M30M Minto, Yukon 86.72 18 P **P 15 00 46.4 -0.5**
baz=219,SNR=9.8
DLMT Dillon 86.75 40 IAmb IAmb 15 00 50.3
comp=Z,14nm,0.9s
L29M L29M 86.75 17 IAmb IAmb 15 00 49.3
comp=Z,16nm,1.1s
L29M L29M 86.75 17 P **P 15 00 47.2 +0.2**
baz=218,SNR=11
PRP Porcupine Dome 86.91 13 P **P 15 00 47.7 -0.1**
baz=211,SNR=6.4
C17K DeLong Mountai 86.93 6 P **P 15 00 47.8 +0.1**
baz=195
F21K Alatna River 86.94 9 P **P 15 00 48.0 +0.2**
baz=204
G23K Bananza Creek 87.06 11 P **P 15 00 48.9 +0.5**
baz=207
S22A 4UR Ranch, Cre 87.10 49 IAmb IAmb 15 00 52.5
comp=Z,9.1nm,1.1s
M31M Drury Creek, Y 87.16 19 P **P 15 00 48.9 -0.1**
baz=222
DAWY Dawson 87.17 16 P **P 15 00 49.6 +0.6**
baz=217,SNR=5.1
I26K Coal Creek Min 87.26 14 P **P 15 00 48.9 -0.4**
baz=213
HHC Hu-ho-hao-te 87.29 314 *e*P **P 15 00 52.3 +2.2**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.7s
C18K Utukok River 87.29 6 P **P 15 00 49.5 0.0**
baz=196
F22K John River 87.42 10 P **P 15 00 49.3 -0.7**
baz=205
PD31 Pinedale Array 87.44 43 IAmb IAmb 15 00 53.2
comp=Z,8.6nm,0.8s
PDAR Pinedale Array 87.44 43 P **P 15 00 51.1 +0.1**
PDAR Pinedale Array 87.44 43 P **P 15 00 51.5 +0.6**
comp=Z,4.7nm,0.6s,baz=204,slow=3.0,SNR=46
comp=Z,4.7nm,0.6s
D19K Kuna River 87.49 7 P **P 15 00 49.3 -1.1**
baz=199
H25L Birch Creek 87.49 13 P **P 15 00 49.3 -1.0**
baz=211
COLD Coldfoot 87.50 11 IAmb IAmb 15 00 52.2
comp=Z,11nm,0.9s
COLD Coldfoot 87.50 11 P **P 15 00 50.8 +0.4**
baz=207,SNR=15
K29M Barlow Dome 87.50 17 IAmb IAmb 15 00 53.4
comp=Z,11nm,1.2s
K29M Barlow Dome 87.50 17 P **P 15 00 50.2 -0.4**
baz=219,SNR=9.4
FARO Faro, Yukon 87.51 19 P **P 15 00 50.2 -0.3**
baz=222
E20K Nigu River 87.51 8 P **P 15 00 50.1 -0.4**
baz=201
G24K Hadweenzic Riv 87.53 12 P **P 15 00 50.7 +0.2**
baz=209
SAND Sanderson 87.56 58 P **P 15 00 52.6 +1.0**
SAND IAmb IAmb 15 00 54.6
comp=Z,9.9nm,1.0s
MAYO Mayo, Yukon 87.77 18 P **P 15 00 52.0 +0.3**
baz=220
J29N Klondike Camp 87.79 16 P **P 15 00 52.3 +0.4**
baz=218
G25K Bearman Lake 87.86 12 P **P 15 00 51.9 -0.1**
baz=211
I27K Kandik River 87.87 14 P **P 15 00 52.4 +0.2**
baz=215
D20K Etivluk River 87.88 8 P **P 15 00 52.2 +0.1**
baz=201
B18K Kokolik River 87.92 6 P **P 15 00 52.1 -0.2**
baz=196
E21K Killik River 88.00 9 P **P 15 00 53.0 +0.3**
baz=203
E22K Anaktuvuk Pass 88.04 10 IAmb IAmb 15 00 54.4
comp=Z,6.6nm,0.9s
E22K Anaktuvuk Pass 88.04 10 P **P 15 00 52.3 -0.7**
baz=205
TOAD Toad River Com 88.05 25 P **P 15 00 53.1 -0.1**
baz=230,SNR=12
I28M Miner Creek 88.15 15 P **P 15 00 52.5 -1.0**
baz=216,SNR=5.9
F24K Squaw Lake 88.17 11 P **P 15 00 53.2 -0.3**
baz=209
YNE Yellowstone No 88.19 41 IAmb IAmb 15 00 57.6
comp=Z,10nm,1.0s
E23K Chandalar 88.34 10 P **P 15 00 54.1 -0.3**
baz=207
J30M Hart River 88.40 17 P **P 15 00 54.0 -0.7**
baz=220
H27K Steamboat Moun 88.41 14 P **P 15 00 53.8 -0.8**
baz=215,SNR=9.0
I29M Ogilvie Camp, 88.49 16 P **P 15 00 54.8 -0.3**
baz=218,SNR=7.4
G26K Porcupine Rive 88.50 13 P **P 15 00 55.1 +0.1**
baz=213
C21K Knifeblade Rid 88.54 8 P **P 15 00 55.2 0.0**
baz=202
E24K Your Creek 88.55 11 P **P 15 00 55.2 -0.1**
baz=208
MSTX Muteshoe 88.58 54 IAmb IAmb 15 00 58.8
comp=Z,14nm,0.9s
D22K Ayikyak River 88.59 9 P **P 15 00 55.5 +0.1**
baz=204
F25K Christian Rive 88.67 12 P **P 15 00 56.0 +0.2**
F25K Christian Rive 88.67 12 P **P 15 00 55.5 -0.4**
baz=211
BMAR Burnt Mountain 88.74 12 P **P 15 00 56.0 -0.3**
A19K Wainwright 88.80 6 P **P 15 00 56.0 -0.3**
baz=197
G27K Doyon Strip 88.85 14 P **P 15 00 56.2 -0.5**
baz=215
CMAR Chiang Mai Arr 88.86 290 P **P 15 00 58.0 +0.2**
comp=Z,1.0nm,0.8s,baz=106,slow=3.1,SNR=8.0
comp=Z,1.0nm,0.8s
TOLK Toolik Lake Re 88.87 10 P **P 15 00 56.5 -0.3**
TOLK Toolik Lake Re 88.87 10 P **P 15 00 57.0 +0.2**
baz=207
I30M Mount Dempster 88.89 16 P **P 15 00 56.8 -0.3**
I30M IAmb IAmb 15 00 58.5
comp=Z,10.0nm,1.1s
I30M Mount Dempster 88.89 16 P **P 15 00 56.8 -0.3**
baz=220,SNR=13
D23K Nanushuk River 88.98 10 IAmb IAmb 15 00 59.1
comp=Z,10nm,0.9s
D23K Nanushuk River 88.98 10 P **P 15 00 56.9 -0.3**
baz=206
B21K Ikpikpuk River 89.00 8 P **P 15 00 57.1 -0.1**
baz=203
B20K Meade River 89.03 7 P **P 15 00 57.0 -0.4**
baz=200
F26K Sheenjek River 89.06 12 P **P 15 00 57.5 -0.1**
baz=212
SYO Syowa Base 89.07 193⇑*e*P **P 15 00 59.3 +1.5**
ELIB Princess Elisa 89.08 187 *d*P **P 15 00 58.2 +0.2**
comp=Z,7.1nm,0.6s
E25K Arctic Village 89.14 12 P **P 15 00 57.8 -0.2**
baz=211,SNR=7.3
PZH PanZhiHua 89.14 298 P **P 15 01 00.0 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
H29M Whitestone 89.15 15 IAmb IAmb 15 00 59.7
comp=Z,9.4nm,0.9s
H29M Whitestone 89.15 15 P **P 15 00 58.1 0.0**
baz=218,SNR=11
KOTAN Kotaneelee Air 89.33 24 P **P 15 00 59.4 +0.3**
baz=231
D24K Happy Valley 89.45 10 P **P 15 00 59.0 -0.4**
baz=208
JCT Junction City 89.62 58 IAmb IAmb 15 01 03.6
comp=Z,12nm,1.0s
EPYK Eagle Plains 89.69 16 P **P 15 01 00.8 +0.2**
baz=219
C23K Itkillik River 89.77 9 P **P 15 01 00.8 0.0**
C23K IAmb IAmb 15 01 02.6
comp=Z,7.7nm,0.7s
C23K Itkillik River 89.77 9 P **P 15 01 01.0 +0.2**
baz=206
G29M Pine Creek 89.79 15 P **P 15 01 00.8 -0.3**
baz=218
B22K Teshekpuk Lake 89.82 8 P **P 15 01 01.1 0.0**
baz=204
H31M Peel River 89.89 17 IAmb IAmb 15 01 02.7
comp=Z,11nm,1.1s
H31M Peel River 89.89 17 P **P 15 01 01.6 0.0**
baz=222,SNR=5.2
C24K Franklin Bluff 89.97 10 P **P 15 01 01.5 -0.3**
baz=208
E27K Coleen River 90.00 13 P **P 15 01 01.9 -0.2**
baz=215
D25K Kavik River 90.02 11 P **P 15 01 02.0 -0.1**
baz=210
TROLL Troll, Antarti 90.23 180⇑P **P 15 01 03.7 +0.4**
comp=Z,248nm,0.3s
A22K Sinclair Lake 90.23 8 P **P 15 01 02.8 -0.1**
baz=202
G30M tAoh Zraii Nji 90.29 15 P **P 15 01 02.9 -0.5**
baz=220,SNR=21
APMT Aspermont 90.39 55 IAmb IAmb 15 01 06.9
comp=Z,9.0nm,0.8s
SNAA Sanae 90.53 179 P **P 15 01 04.9 +0.3**
SNAA IAmb IAmb 15 01 17.2
comp=Z,11nm,1.5s
SNAA Sanae 90.53 179 P **P 15 01 04.7 0.0**
comp=Z,1.2nm,0.3s,baz=192,slow=14,SNR=7.9
comp=Z,1.2nm,0.3s
VNA3 Neumayer Olymp 90.67 176⇑P **P 15 01 05.8 +0.6**
comp=Z,16nm,0.6s
G31M Satah River 90.74 16 P **P 15 01 05.4 0.0**
baz=222,SNR=14
C27K Jago River 90.78 12 P **P 15 01 05.7 +0.1**
baz=213
E28M Babbage River 90.79 13 P **P 15 01 05.9 +0.3**
baz=217
C26K Camden Bay 90.80 11 P **P 15 01 06.0 +0.4**
baz=212
F30M Barrier River 90.88 15 P **P 15 01 06.2 +0.2**
baz=220
E29M Blow River 90.98 14 P **P 15 01 06.7 +0.2**
baz=218
D27M Malcolm River 91.00 13 P **P 15 01 07.3 +0.6**
baz=215
VNA2 Neumayer--Watz 91.11 177⇑P **P 15 01 07.4 +0.2**
comp=Z,6.2nm,0.6s,baz=180,slow=4.3
F31M Tsiigehtchic 91.27 16 P **P 15 01 07.8 0.0**
baz=222,SNR=17
PLCA Paso Flores 91.32 134 P **P 15 01 09.8 +0.8**
comp=Z,2.9nm,1.1s,baz=232,slow=4.9,SNR=3.1
comp=Z,2.9nm,1.1s
D28M Stokes Point 91.54 13 P **P 15 01 09.3 +0.2**
baz=218
INK Inuvik 91.97 15 P **P 15 01 10.0 -1.0**
INK IAmb IAmb 15 01 12.1
comp=Z,9.0nm,0.8s
INK Inuvik 91.97 15 P **P 15 01 11.1 +0.1**
baz=222
DGMT Dagmar 93.28 40 P **P 15 01 18.3 +0.7**
SONM Songino Array 93.57 319 P **P 15 01 19.8 +0.7**
SONM Songino Array 93.57 319 P **P 15 01 17.9 -1.1**
comp=Z,0.5nm,0.4s,baz=125,slow=4.2,SNR=4.2
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 94.42 25 P **P 15 01 21.6 -0.7**
comp=Z,2.6nm,0.8s,baz=246,slow=4.7,SNR=32
comp=Z,2.6nm,0.8s
YKAW1 Yellowknife Wh 94.46 25 P **P 15 01 22.7 +0.2**
YKAW1 IAmb IAmb 15 01 24.6
comp=Z,4.3nm,0.9s
C36M Paulatuk 95.18 17 P **P 15 01 26.6 +1.0**
C36M IAmb IAmb 15 01 27.4
comp=Z,5.3nm,1.1s
C36M Paulatuk 95.18 17 P **P 15 01 25.5 -0.1**
baz=231
A36M Sachs Harbour 96.56 15 P **P 15 01 31.9 +0.1**
A36M Sachs Harbour 96.56 15 P **P 15 01 31.2 -0.6**
baz=230
RUSC La Rusia 106.40 89 PKiKP **PKiKP 15 06 23.1 -2.4**
ZALV Zalesovo Beam 108.26 322 PKiKP **PKiKP 15 06 26.1 -1.0**
comp=Z,1.0nm,0.5s,baz=111,slow=2.2,SNR=5.8
MK31 Makanchi Array 109.15 314 PKiKP **PKiKP 15 06 28.0 -1.0**
MKAR Makanchi Array 109.15 314 PKiKP **PKiKP 15 06 27.9 -1.2**
comp=Z,1.1nm,0.5s,baz=195,slow=0.6,SNR=27
KURBB Kurchatov Arra 111.90 318 PKiKP **PKiKP 15 06 32.6 -1.5**
comp=Z,1.1nm,0.6s,baz=97,slow=1.6,SNR=14
BOOM Boomskoye usch 113.31 309 PKiKP **PKiKP 15 06 37.1 -0.1**
BVAR Borovoye Array 116.87 321 PKP **PKPdf 15 06 42.3 -1.3**
comp=Z,3.9nm,0.4s,baz=94,slow=2.0,SNR=28
GAR Garm 117.44 305 PKPdf **PKPdf 15 06 43.6 -1.7**
SPITS Spitsbergen Ar 119.34 357 PKP **PKPdf 15 06 47.0 -0.7**
comp=Z,5.8nm,0.8s,baz=74,slow=4.4,SNR=6.8
DSLB Salisbury 119.90 82 *e*P **Pdif 15 03 10.1 -6.8**
MDN Morne-Daniel 119.90 82 *e*P **Pdif 15 03 09.0 -7.9**
ARTI Arti 122.99 326 PKPdf **PKPdf 15 06 54.6 -0.6**
AB31 Akbulak array 123.95 318 PKPdf **PKiKP 15 06 57.6 0.0**
ABKAR Akbulak array 123.95 318 PKPdf **PKPdf 15 06 57.2 -0.1**
ARCES ARCESS Array B 126.38 350 PKP **PKPdf 15 07 00.6 -0.8**
comp=Z,1.8nm,0.4s,baz=70,slow=1.2,SNR=18
BOSA Boshof 128.31 207 PKP **PKPdf 15 07 06.6 +0.1**
comp=Z,4.2nm,1.2s,baz=181,slow=5.0,SNR=2.3
FINES FINESS Array B 133.25 344 PKhKP PKPpre 15 07 07.9
comp=Z,5.6nm,1.1s,baz=38,slow=2.5,SNR=1.9
FINES PKP **PKPdf 15 07 14.0 -0.6**
comp=Z,2.5nm,0.6s,baz=105,slow=4.1,SNR=5.6
NB2 NORSAR Subarra 136.44 353 PKP PKPpre 15 07 10.7
comp=Z,3.1nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B 136.44 353 PKP **PKPdf 15 07 21.1 +0.5**
comp=Z,1.2nm,1.0s,baz=12,slow=4.0,SNR=3.5
HFS Hagfors 137.00 351 PKhKP PKPpre 15 07 08.9
comp=Z,1.7nm,0.3s,baz=28,slow=3.4,SNR=13
AKASG Malin Array Be 140.60 332 PKhKP PKPpre 15 07 21.6
comp=Z,1.2nm,0.3s,baz=45,slow=4.0,SNR=14
AKASG PKP **PKiKP 15 07 30.0 -1.1**
comp=Z,1.7nm,0.4s,baz=46,slow=4.0,SNR=9.7
EKA Eskdalemuir Ar 142.54 4 PKhKP PKPpre 15 07 27.6
comp=Z,1.5nm,0.5s,baz=348,slow=3.1,SNR=9.8
SORM Soroca 142.83 330⇑P **PKPdf 15 07 29.7 -2.7**
GAZ Gaziantep 143.34 309 PKPdf PKPbc 15 07 33.0 +0.7
BNN Bunyan 143.66 312 PKPbc PKPbc 15 07 33.4 +0.1
LODK Lodwar 143.85 250 PKPbc 15 07 34.1 -0.5
ILGA Ilgaz 144.09 317 **PKPab 15 07 35.1 +0.1**
TLCR 144.60 326⇓P **PKPab 15 07 36.2 -0.3**
BUR08 Bucovina Ar. S 144.64 332 PKPdf PKPbc 15 07 36.3 +0.3
BURAR Bucovina Array 144.65 332 PKPdf PKPbc 15 07 36.2 +0.1
BURAR Bucovina Array 144.65 332⇓P **PKPab 15 07 37.1 +0.3**
OJC Ojcow 144.66 340 *e*PKP **PKPdf 15 07 35.8 +0.2**
TESR Tescani 144.79 329⇑P PKPbc 15 07 36.4 0.0
BR131 Keskin Array S 144.80 315 **PKPdf 15 07 36.5 +0.1**
BRTR Keskin Array B 144.80 315 PKPbc PKPbc 15 07 36.9 0.0
BRTR Keskin Array B 144.80 315 PKP **PKPdf 15 07 36.5 +0.1**
comp=Z,7.0nm,0.6s,baz=116,slow=2.7,SNR=36
STHS Stebnicka Huta 144.84 338 *e*PKP **PKPab 15 07 37.0 -0.3**
KOLS Kolonicke sedl 144.85 336 *e*PKP **PKPab 15 07 37.2 -0.1**
KIRS Kirsehir-Merke 144.89 314⇓P PKPbc 15 07 37.0 -0.1
CFR Carcaliu 144.97 327⇑P PKPbc 15 07 36.8 -0.1
TPGR Topolog 145.03 326⇓P **PKPbc 15 07 37.7 +0.5**
ONER Baraj Valea Uz 145.04 329⇑P **PKPab 15 07 38.1 -0.1**
KSP Ksiaz 145.17 344 *e*PKP **PKPbc 15 07 37.8 +0.4**
NIE Niedzica 145.18 338 *e*PKP **PKPab 15 07 38.1 -0.5**
VRI Vrincioaia 145.22 329⇓P **PKPbc 15 07 37.5 -0.3**
PLOR Plostina 145.26 329⇑P **PKPab 15 07 39.4 +0.3**
ARCR ARCALIA 145.44 332⇓P **PKPab 15 07 40.2 +0.6**
OSTC Ostas 145.45 343 *e*PKP **PKPbc 15 07 38.3 0.0**
COVR Voineasa-Covas 145.49 329⇑P **PKPbc 15 07 38.8 +0.3**
CLL Collm 145.52 347 **PKPbc 15 07 38.1 -0.3**
CLL Collm 145.52 347 *e*PKiKP **PKiKP 15 07 43.0 +1.7**
CLL Collm 145.52 347 *i* PKPbc **PKPbc 15 07 38.0 -0.4**
comp=Z,11nm,0.7s
CLL Collm 145.52 347 *i* PKPab **PKPab 15 07 39.6 -0.2**
comp=Z,36nm,1.0s
UPC Upice 145.55 344 *e*PKP **PKPbc 15 07 38.2 -0.3**
STEB Steborice 145.56 341 *e*PKP **PKPbc 15 07 38.5 -0.1**
DPC Dobruska-Polom 145.60 343 *e*PKP **PKPbc 15 07 39.1 +0.3**
LANS Liptovska Anna 145.69 339 *e*PKP **PKPab 15 07 40.5 -0.1**
KRLC Kraliky 145.72 342 *e*PKP **PKPbc 15 07 39.3 +0.2**
BRG Berggiesshubel 145.72 346 Amp 15 07 39.7
comp=Z,5.2nm,0.7s
BRG Berggiesshubel 145.72 346 Amp 15 09 51.5
comp=Z,2.8nm,0.8s
BRG Berggiesshubel 145.72 346 *e*PKP **PKPbc 15 07 39.0 0.0**
BRG Berggiesshubel 145.72 346 P **PKPab 15 07 40.4 -0.2**
BRG Berggiesshubel 145.72 346 Amp 15 07 41.1
comp=Z,20nm,0.9s
BRG Berggiesshubel 145.72 346 pPKP pPKPdf 15 09 48.0 +1.8
MORC Moravsky Berou 145.76 341 *e*PKP **PKPbc 15 07 38.5 -0.7**
MORC Moravsky Berou 145.76 341⇓P **PKPbc 15 07 39.2 0.0**
DOPR Dopca 145.79 330⇓P **PKPab 15 07 40.3 -0.8**
MLR Muntele Rosu 145.87 329⇑P **PKPbc 15 07 40.2 +0.5**
KECS Kecovo 145.89 337 *e*PKP **PKPab 15 07 40.8 -0.6**
PVCC Panska Ves 145.90 345 *e*PKP **PKPab 15 07 40.7 -0.6**
HSKC Hora Svate Kat 146.09 346 *e*PKP **PKPbc 15 07 40.1 0.0**
MMAI Mount Meron Ar 146.14 303 PKPbc **PKPbc 15 07 41.4 +0.5**
comp=Z,4.6nm,0.4s,baz=67,slow=6.4,SNR=21
VOIR 146.34 330⇑P **PKPbc 15 07 41.6 +0.6**
DRGR 146.38 333⇓P **PKPbc 15 07 41.3 +0.2**
PRU Pruhonice 146.40 345 *e*PKP **PKPbc 15 07 41.1 +0.2**
GOPC GO Pecny, Ondr 146.41 344 *e*PKP **PKPbc 15 07 41.0 0.0**
VRAC Vranov 146.46 342 *e*PKP **PKPbc 15 07 41.1 -0.1**
VRAC Vranov 146.46 342⇑P **PKPab 15 07 44.7 +1.0**
JAVC Velka Javorina 146.53 341 *e*PKP **PKiKP 15 07 42.6 -1.0**
PSZ Piszkesteto 146.58 337⇓P **PKPbc 15 07 40.6 -1.0**
ARR Arges 146.59 330⇓P **PKPbc 15 07 42.6 +0.9**
KRUC Moravsky 146.74 342 *e*PKP **PKPbc 15 07 41.8 -0.1**
MODS Modra-Piesok 147.09 341 *e*PKP **PKiKP 15 07 44.2 -0.5**
SIRR Siria 147.24 334⇓P **PKPbc 15 07 43.8 +0.5**
MEM Membach 147.25 355 *d*PKP **PKPbc 15 07 42.8 -0.4**
BTNL Ternell 147.26 355 *d*PKP **PKPbc 15 07 43.5 +0.2**
BSTI Sart Tilman 147.31 355 *d*PKP **PKPbc 15 07 43.3 0.0**
KHC Kasperske Hory 147.43 345 *e*PKP **PKPbc 15 07 43.6 -0.2**
SURR Surduc 147.45 333⇓P **PKPbc 15 07 43.4 -0.4**
BCLA Clavier 147.50 356 *d*PKP **PKiKP 15 07 44.7 -0.7**
CKRC Cesky Krumlov 147.54 344 *e*PKP **PKPbc 15 07 44.1 +0.1**
BGES Gesves 147.55 356 *d*PKP **PKPbc 15 07 43.3 -0.7**
BMRD Maredsous 147.65 356 *d*PKP **PKPbc 15 07 44.1 -0.1**
GERES GERESS Array B 147.67 345 **PKPbc 15 07 44.2 -0.2**
GERES GERESS Array B 147.67 345 PKPbc **PKPbc 15 07 44.4 -0.1**
comp=Z,12nm,0.5s,baz=25,slow=2.9,SNR=66
RCHB Rochefort 147.77 356 *d*PKiKP **PKiKP 15 07 45.5 -0.5**
BZS Buzias 147.78 333⇓P **PKPbc 15 07 44.7 0.0**
DOU Dourbes 147.87 356 *d*PKP **PKPbc 15 07 44.8 0.0**
CONA Conrad Observa 147.92 342 *e*PKiKP **PKPbc 15 07 45.4 +0.3**
comp=Z,9.6nm,0.5s,SNR=6.8
RONA Rosalia, Austr 147.99 341 *i* PKP **PKPbc 15 07 45.4 +0.1**
comp=Z,12nm,0.6s,SNR=5.6
HERR Herculane 148.00 331⇑P **PKPbc 15 07 44.8 -0.4**
WLF Walferdange 148.18 354 **PKPbc 15 07 46.2 +0.7**
WLF Walferdange 148.18 354 *d*PKiKP **PKPbc 15 07 46.3 +0.7**
MOA Molln 148.44 344 *i* PKiKP **PKiKP 15 07 47.3 -0.2**
comp=Z,8.5nm,0.8s
MORH Mrgy, Hungar 148.48 337⇓P **PKPbc 15 07 46.1 -0.3**
ARSA Arzberg 148.63 342 *i* PKiKP **PKiKP 15 07 47.5 -0.4**
comp=Z,5.3nm,0.8s
ARSA Arzberg 148.63 342 PKPbc **PKiKP 15 07 47.4 -0.4**
BIOA Bad Ischl, Aus 148.75 344 *i* PKiKP **PKPbc 15 07 47.4 +0.3**
comp=Z,7.8nm,0.9s
FRGS Fruska Gora 148.90 335 *e*P **PKPbc 15 07 47.8 +0.3**
BFO Black Forest 149.23 351 **PKPbc 15 07 47.8 -0.4**

LESA	Schwarzleotal	149.24	345	*i* PKiKP	PKPbc	15 07 48.5	+0.2
	comp=Z,9.3nm,0.4s,SNR=9.3						
BOVS	Bovan	149.28	331	⇓P	PKPbc	15 07 48.3	-0.2
SOKA	Soboth	149.29	342	*e*PKP	PKPbc	15 07 47.9	-0.6
	comp=Z,15nm,1.4s,SNR=6.3						
KBA	Koelnbreinsper	149.40	344	*i* PKP	PKPbc	15 07 48.1	-0.8
	comp=Z,8.4nm,0.5s,SNR=5.9						
TEKS	Tekeris	149.51	334	*e*P	PKPbc	15 07 48.5	-0.5
OBKA	Obir	149.58	342	*i* PKP	PKPbc	15 07 48.1	-1.1
	comp=Z,6.0nm,1.1s						
OBKA	Obir	149.58	342	*e*P	PKPbc	15 07 47.9	-1.3
WATA	Walderalm	149.58	346	*i* PKP	PKPbc	15 07 48.8	-0.5
	comp=Z,9.7nm,0.5s						
RETA	Reutte	149.61	348	*i* PKP	PKPbc	15 07 49.2	-0.1
	comp=Z,6.0nm,0.4s						
WTTA	Wattenberg	149.64	346	*i* PKiKP	PKPbc	15 07 49.3	-0.1
	comp=Z,23nm,0.6s,SNR=10						
MOTA	Moosalm	149.68	347	*i* PKP	PKPbc	15 07 49.1	-0.4
	comp=Z,12nm,0.7s						
MYKA	Terra Mystica	149.73	343	*i* PKP	PKPbc	15 07 48.6	-1.0
	comp=Z,10nm,0.5s						
SQTA	Sankt Quirin	149.77	347	*i* PKiKP	PKPbc	15 07 49.6	-0.1
	comp=Z,13nm,0.5s,SNR=6.5						
PDKS	Podkum	149.85	341	*i* PKPbc	PKPbc	15 07 49.5	-0.4
ABTA	Abfaltersbach	149.92	345	*i* PKP	PKPbc	15 07 49.3	-0.7
	comp=Z,19nm,0.6s,SNR=9.2						
PRED	Cave del Predi	149.92	343	PKPbc	PKPbc	15 07 49.0	-1.1
DAVA	Damuels	149.98	349	*i* PKP	PKPbc	15 07 49.7	-0.6
	comp=Z,14nm,0.8s,SNR=5.3						
FETA	Feichten	150.07	347	*e*PKiKP	PKPbc	15 07 50.4	0.0
	comp=Z,20nm,1.1s,SNR=5.3						
BBLS	Lazi&#263i	150.12	334	*e*P	PKPbc	15 07 50.6	0.0
A051A	Mrakovica	150.14	338	*e*P	PKPbc	15 07 50.0	-0.6
BLY	Banja Luka	150.27	337	*e*P	PKPbc	15 07 50.7	-0.1
BOJS	Bojanci	150.27	340	*e*P	PKPbc	15 07 50.9	+0.2
CEY	Cerknica	150.32	342	*e*P	PKPbc	15 07 50.3	-0.6
RUDO	Rudo	150.34	333	*e*P	PKPbc	15 07 49.9	-1.1
CIMO	Cimolais	150.34	345		PKPbc	15 07 50.1	-0.9
SJES	Sjenica	150.36	332	*e*P	PKPbc	15 07 51.0	-0.2
GBRS	Gornja Briga	150.39	341	*i* PKPbc	PKPbc	15 07 50.9	-0.2
FUORN	Ofenpass-Fuorn	150.54	348	PKPbc	PKPbc	15 07 51.8	+0.1
SKDS	Skadanscina	150.61	342	*e*P	PKPbc	15 07 50.8	-0.8
A050A	Klekovaca	150.73	338	*e*P	PKPdf	15 07 48.8	+3.0
TUE	Stuetta	150.86	349	PKPdf	PKPdf	15 07 45.1	-1.0
TUE				PKPbc	PKiKP	15 07 52.7	-0.1
TUE				PKPab	PKPab	15 08 02.8	+0.7
BRY	Bratogost	151.27	333	*e*P	PKPbc	15 07 51.6	-1.7
SENIN	Lac Senin/Sane	151.30	352	PKPdf	PKPdf	15 07 44.8	-1.9
SENIN					PKPbc	15 07 53.5	+0.1
SENIN				PKPab	PKPab	15 08 03.1	-0.8
TEOL	Teolo	151.42	345	PKPdf	PKPdf	15 07 44.5	-2.2
TEOL				PKPbc	PKPbc	15 07 53.5	+0.1
TEOL				PKPab	PKPab	15 08 04.0	-0.3
TREB	Trebinje	151.50	333	*e*P	PKPbc	15 07 52.9	-0.8
DRME	Dracevica, Mon	151.56	332	*e*P	PKPbc	15 07 52.6	-1.2
FNA	Florina	151.58	327	PKPbc	PKPbc	15 07 53.4	-0.6
STON	Ston	151.65	334	*e*P	PKPdf	15 07 47.1	0.0
SSB	Saint Sauveur	152.67	355	PKPbc	PKPbc	15 07 55.5	-0.7
CEST	Esterri de Car	155.46	1	PKPdf	PKPdf	15 07 50.6	-2.1
CEST				PKPab	PKPab	15 08 21.6	-0.1
ESDC	Sonseca Array	157.86	11	PKPdf	PKPdf	15 07 52.9	-2.9
ESDC				PKPab	PKPab	15 08 31.2	-0.9
ESDC	Sonseca Array	157.86	11	PKP	PKPdf	15 07 57.1	+1.4
	comp=Z,0.9nm,0.9s,baz=17,slow=1.5,SNR=4.5						
ESDC				PKPab	PKPab	15 08 31.2	-0.9
	comp=Z,2.4nm,1.0s,baz=330,slow=4.0,SNR=9.1						
AVE	Averroes	162.76	26	PKPdf	PKPdf	15 07 59.9	-1.2
AVE				PKPab	PKPab	15 08 53.2	-0.4

CATAC ***29*** *14:54:11.5±0.3, 9°N±2°×8°3W±°, h1km, M4.6/14, MLv4.6/14, Error ellipse: s-maj=4.4km s-min=3.3km az=90.0, confirmed*
UCR ***29*** *14:54:12.1±0.6, 9.45N×83.30W, h6km±3km, MW4.0, Fault plane solution: NP1:φs215.11000°, δ77.76000°, λ-8.74000°.*
UPA ***29*** *14:54:12.5±1.5, 9.41N×83.31W, h10km±4km, MD4.4, ML4.4, MW4.5*
ISC 29 14:54:12.3±0.8, 9.43N±0.02×83.30W±0.02, h14km±6km, n124, σ0.85/144, 14C-28D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	Durika	0.17	162	⇓*iP*	Pg	14 54 16.5	-0.1
DRK0				*e*S	Sg	14 54 19.5	0.0
DRK0	Durika	0.17	162	⇓P	Pg	14 54 16.5	-0.1
DRK0				S	Sg	14 54 19.4	0.0
DRK0	Durika	0.17	162	P	Pg	14 54 16.5	-0.1
DRK0	Durika	0.17	162	⇓*e*P	Pg	14 54 16.4	-0.1
DRK0				*e*S	Sg	14 54 19.4	0.0
BURE	Buenos Aires	0.26	189	⇓*e*P	Pg	14 54 17.9	+0.1
BURE				*e*S	Sg	14 54 22.0	+0.5
EDP2	Potrero Grande	0.43	163	⇓*e*P	Pg	14 54 21.1	+0.3
FIMO	Fila Mora	0.44	187	⇓*e*P	Pb	14 54 21.6	-0.3
BUS1	Rivas	0.46	286	⇑*e*P	Pg	14 54 21.2	-0.4
BUS1				*e*S	Sg	14 54 27.7	-0.2
OCHAL	Ojochal	0.47	226	S	Sb	14 54 30.0	+0.8
OCHAL	Ojochal	0.47	226	⇑P	Pg	14 54 21.8	+0.1
OCHAL	Ojochal	0.47	226	P	Pg	14 54 22.1	+0.4
TURIB	Turrialba	0.61	321	⇓*e*P	Pg	14 54 23.7	-0.6
VINA	Juan Vinas	0.64	317	*e*P	Pg	14 54 24.5	-0.4
RVSTA	Santa Teresita	0.64	328	⇓*e*P	Pg	14 54 24.8	-0.2
VERB	Verbena	0.65	323	⇓*e*P	Pg	14 54 24.6	-0.4
VITO	San Vito	0.69	152	*e*P	Pb	14 54 26.0	-0.1
REPA	Paraso	0.69	305	⇑*e*P	Pg	14 54 25.4	-0.4
IRES	Siquirres	0.69	343	⇓*e*P	Pg	14 54 25.5	-0.3
VTCV	VTCV, Calle Va	0.69	323	⇓*e*P	Pg	14 54 25.6	-0.4
VTCV				*e*S	Sg	14 54 35.2	+0.1
PCAYA	Pacayas	0.70	314	*e*P	Pb	14 54 26.7	+0.2
CVTV	Tajo	0.72	322	⇓*e*P	Pg	14 54 26.3	-0.2
RAFA	San Farael, Vo	0.73	316	⇓*e*P	Pg	14 54 26.1	-0.5
RVLA	Villa Bonita	0.73	337	⇓*e*P	Pg	14 54 26.2	-0.4
CVTQ	Turrialba Volc	0.74	321	⇓*e*P	Pg	14 54 26.4	-0.3
VTLA	Turrialba Volc	0.74	321	⇓*e*P	Pg	14 54 26.5	-0.3
VTR0	Volcan Turrial	0.74	322	⇓*e*P	Pg	14 54 26.6	-0.3
CVTR	Volcan Turrial	0.74	322	⇓*e*P	Pg	14 54 26.4	-0.4
RAZU	San Marcos de	0.75	288	*e*P	Pg	14 54 25.8	-1.1
TAGO	Cartago	0.75	305	*e*P	Pg	14 54 26.6	-0.4
LCR2	La Lucha 2	0.76	294	S	Sg	14 54 36.1	-1.2
LCR2	La Lucha 2	0.76	294	⇑P	Pg	14 54 26.1	-1.1
LCR2	La Lucha 2	0.76	294	P	Pg	14 54 26.2	-1.0
LCR2	La Lucha 2	0.76	294	⇑*e*P	Pg	14 54 26.0	-1.2
LCR2				*e*S	Sg	14 54 36.0	-1.3
VICA	Volcano Irazu	0.77	316	⇓*e*P	Pg	14 54 26.8	-0.6
EDAD	Golfito	0.78	170	⇓*e*P	Pg	14 54 27.0	-0.5
LLNJ	Naranjito	0.79	273	*e*P	Pg	14 54 27.1	-0.6
ABE2	San Pablo	0.79	290	*e*P	Pg	14 54 26.5	-1.3
FITO	Golfito	0.81	170	⇓*e*P	Pg	14 54 27.3	-0.7
TRIO	Tres Rios	0.83	305	*e*P	Pg	14 54 27.6	-0.9
NELY	Ciudad Neily	0.85	156	*e*P	Pb	14 54 28.9	+0.1
CVTG	V. Turrialba,	0.85	327	⇓*e*P	Pg	14 54 28.4	-0.5
CVTG				*e*S	Sb	14 54 40.5	+0.2
SVQ2	Quepos	0.85	270	*e*P	Pg	14 54 28.1	-0.8
CVIMO	Finca Echandi	0.87	313	*e*P	Pg	14 54 28.8	-0.4
BRU2	Volcan	0.87	136	⇓*iP*	Pg	14 54 28.7	-0.5
BRU2				*e*S	Sb	14 54 41.1	+0.3
BRU2	Volcan	0.87	136	P	Pg	14 54 28.8	-0.5
BRU2	Volcan	0.87	136	⇓*e*P	Pg	14 54 28.6	-0.6
CORON	Coronado	0.88	308	*e*P	Pg	14 54 29.0	-0.4
JIME	Puerto Jimenez	0.88	182	*e*P	Pg	14 54 29.3	-0.2
AMPA	Desamparados	0.89	302	*e*P	Pg	14 54 28.2	-1.3
SJS3	Mercedes San J	0.90	304	*e*P	Pg	14 54 29.1	-0.6
SJS	Escuela Geolog	0.90	304	*e*P	Pg	14 54 29.0	-0.8
BC3P	Paso Ancho	0.91	132	⇓*iP*	Pg	14 54 29.1	-0.9
BC3P				AMP		14 54 29.6	
	comp=Z,13μm,0.1s						
CENT	San Jose	0.92	303	*e*P	Pg	14 54 29.3	-0.8
ACOS	Acosta	0.93	293	*e*P	Pb	14 54 29.0	-1.2
CDITO	Canoas	0.95	154	P	Pb	14 54 20.6	-10
DOMI	Santo Domingo	0.95	305	⇓*e*P	Pb	14 54 30.2	-0.5
HDC	Heredia	0.98	305	P	Pb	14 54 30.7	-0.5
HDC				S	Sb	14 54 43.5	-0.7
HDC	Heredia	0.98	305	⇑*e*P	Pb	14 54 30.4	-0.8
SANTA	Santa Ana	1.01	300	*e*P	Pb	14 54 30.3	-1.2
PIRO	Carate, Puerto	1.02	182	⇓*iP*	Pb	14 54 31.2	-0.5
PIRO				*e*S	Sb	14 54 45.0	+0.1
PIRO	Carate, Puerto	1.02	182	P	Pb	14 54 31.6	0.0
PIRO	Carate, Puerto	1.02	182	⇓*e*P	Pb	14 54 31.1	-0.6
CARI	Cariari	1.02	335	*e*P	Pg	14 54 32.2	0.0
BELE	Belen	1.03	302	⇑*e*P	Pb	14 54 30.9	-1.1
VBV1	V. Barva	1.04	311	⇑*e*P	Pb	14 54 31.6	-0.7
LNBQ3	Los Naranjos,	1.06	127	*e*P	Pb	14 54 31.4	-1.1
LNBQ3				*e*S	Sb	14 54 45.9	-0.3
PTAR3	Potrerillos Ar	1.08	133	⇑*e*P	Pb	14 54 32.3	-0.5
PTAR3				*e*S	Sn	14 54 47.8	-0.1
TCS1	Tacares	1.16	302	P	Pb	14 54 33.8	-0.4
TCS1	Tacares	1.16	302	P	Pg	14 54 35.5	+0.8
SARCI	Sarchi	1.22	303	*e*P	Pn	14 54 34.9	-0.2
TRB2	Turrubares	1.23	293	*e*P	Pn	14 54 34.0	-1.1
CHGR2	Aguacate	1.24	113	*e*P	Pn	14 54 34.4	-0.8
CHGR2				AMP		14 54 35.1	
	comp=Z,8μm,0.1s						
CHGR2				*e*S	Sb	14 54 50.8	-0.5
DVD	David	1.29	140	*e*P	Pn	14 54 36.0	0.0
DVD				*e*S	Sn	14 54 53.1	+0.1
RAMO	San Ramon	1.32	300	*e*P	Pn	14 54 36.1	-0.4
GUAL3	Gualaca, Chiri	1.33	132	*e*P	Pb	14 54 36.8	-0.2
LOMA3	Las Lomas, Chi	1.34	138	*e*P	Pn	14 54 36.5	0.0
PEDE3	Pedregal, Chir	1.35	140	*e*P	Pn	14 54 36.3	-0.4
ITAL	Pital	1.40	317	*e*P	Pn	14 54 37.3	-0.1
SOCE	Pocosol	1.61	306	S	Sb	14 55 03.1	+1.1
SOCE	Pocosol	1.61	306	P	Pn	14 54 41.1	+0.7
SOCE	Pocosol	1.61	306	P	Pb	14 54 42.0	+0.2
SOCE	Pocosol	1.61	306	*e*P	Pn	14 54 41.0	+0.7
COVE	Coope Vega, Sa	1.68	320	S	Sb	14 55 04.2	+0.1
COVE	Coope Vega, Sa	1.68	320	⇓P	Pn	14 54 41.6	+0.4
COVE	Coope Vega, Sa	1.68	320	P	Pb	14 54 42.4	-0.7
FORC	Fortuna	1.70	308	*e*P	Pn	14 54 42.4	+0.9
VACR	Volcan Arenal	1.71	308	*e*P	Pn	14 54 42.5	+0.8
ARE1	Arenal 1	1.73	306	⇓*e*P	Pb	14 54 43.2	-0.8
VARE2	V. Arenal	1.73	306	⇓*e*P	Pb	14 54 43.2	-0.8
CEDE	Laguna Cedeo	1.74	307	*e*P	Pb	14 54 43.3	-0.7
MTEVE	Monteverde	1.75	301	*e*P	Pn	14 54 43.0	+0.7
JTS	Las Juntas de	1.84	298	*e*P	Pn	14 54 44.0	+0.5
JTS				*e*S	Sn	14 55 06.1	-0.5
JTS	Las Juntas de	1.84	298	⇑*e*P	Pn	14 54 43.8	+0.3
CMARA	Lajas Hojancha	2.17	286	*e*P	Pn	14 54 48.3	+0.2
INDI	Punta indio, G	2.21	282	P	Pn	14 54 49.2	+0.6
INDI	Punta indio, G	2.21	282	S	Sb	14 55 21.2	+1.7
INDI	Punta indio, G	2.21	282	P	Pn	14 54 48.8	+0.2
BAGA	Bagaces	2.22	300	*e*P	Pb	14 54 52.2	0.0
VMAR	Armenia, Volca	2.25	308	*e*P	Pn	14 54 50.4	+1.2
ELI1	Hacienda Flor	2.53	299	*e*P	Pb	14 54 55.4	-2.1
BLUN	Bluefields	2.60	350	P	Pn	14 54 55.5	+1.5
BLUN	Bluefields	2.60	350	P	Pn	14 54 54.0	+0.1
BLUN				S	Sn	14 55 26.2	+0.8
GMAL	Guarumal, Vera	2.63	129	*e*P	Pn	14 54 55.2	+0.8
GMAL				*e*S	Sn	14 55 25.7	-0.3
STIA3	Santiago, Vera	2.65	120	*e*P	Pn	14 54 55.2	+0.6
CALO3	Calobre, Verag	2.67	114	*e*P	Pn	14 54 55.6	+0.8
CRIS3	El Cristo, Coc	2.90	114	*e*P	Pn	14 54 58.0	0.0
CONN	Concepcion	3.12	313	P	Pb	14 55 08.5	+0.9
CONN	Concepcion	3.12	313	P	Pn	14 55 01.7	+0.6
ACON	Acoyapa	3.13	324	P	Pn	14 55 02.2	+1.0
ACON	Acoyapa	3.13	324	S	Sn	14 55 39.0	+0.7
ACON	Acoyapa	3.13	324	*e*P	Pn	14 55 01.5	+0.3
CHIT3	Chitre	3.20	117	*e*P	Pn	14 55 02.0	-0.2
CHIT3				*e*S	Sn	14 55 40.8	+0.6
AZU	Azuero	3.41	118	*e*P	Pn	14 55 05.2	+0.2
AZU				*e*S	Sn	14 55 45.9	+0.7
BCIP	Isla Barro Col	3.43	94	*e*P	Pn	14 55 06.0	+0.7
BCIP				*e*S	Sn	14 55 45.9	+0.1
BCIP	Isla Barro Col	3.43	94	⇑*e*P	Pn	14 55 05.9	+0.6
BOAB	BOACO BROADBAN	3.80	322	P	Pn	14 55 11.2	+0.8
BOAB	BOACO BROADBAN	3.80	322	P	Pn	14 55 10.7	+0.3
MATN	Matagalpa	4.33	324	P	Pn	14 55 19.9	+2.1
MATN	Matagalpa	4.33	324	P	Pn	14 55 18.7	+0.8
LIMN	Finca el Limon	4.70	320	P	Pn	14 55 26.1	+3.2
LIMN	Finca el Limon	4.70	320	P	Pn	14 55 23.6	+0.6
RCVN	Varillal2	5.01	326	P	Pn	14 55 22.9	-4.3
RCVN	Varillal2	5.01	326	S	Sn	14 56 27.6	+2.5
RCVN	Varillal2	5.01	326	P	Pn	14 55 28.4	+1.1

STR 29 15:06:22.2±0.9, 48°N±4°×°±°, h0km, MLv1.4/4, Error ellipse: s-maj=0.0km s-min=0.0km az=46.4, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPP	Oppenau	0.38	278	Pg	Pg	15 06 29.2	-0.3
OPP	Oppenau	0.38	278	Sg	Sg	15 06 34.2	-0.1
GUT	Gutenstein	0.45	147	Pg	Pg	15 06 30.9	0.0
GUT	Gutenstein	0.45	147	Sg	Sg	15 06 37.1	+0.4
BABA	Baden-Baden-Ne	0.46	307	Pg	Pg	15 06 31.0	0.0
BABA	Baden-Baden-Ne	0.46	307	Sg	Sg	15 06 37.3	+0.4
SLE	Schleitheim	0.70	194	Pg	Pg	15 06 36.2	+0.4
SLE	Schleitheim	0.70	194	Sg	Sg	15 06 44.8	-0.1
KIZ	Kirchzarten	0.74	229	Sg	Sg	15 06 47.1	+1.0
KIZ	Kirchzarten	0.74	229	Pg	Pg	15 06 36.6	+0.2

IDC ***29*** *15:16:30.5±3.5, 55°.94N×149°.03W, h0km, mb3.7/3, mbtmp3.5/5, ML2.5/2, MS3.4/2, Error ellipse: s-maj=71.4km s-min=39.3km az=155.0*
NEIC ***29*** *15:16:32.2±2.0, 56°.17N±0°.09×149°.3W±0°.1, h21km±10km, ML3.6/66, ML3.4(AEIC), Error ellipse: s-maj=13.3km s-min=7.7km az=163.0*
AEIC ***29*** *15:16:36.3±1.5, 56°.22N±0°.09×149°.4W±0°.1, h11km±7km, Error ellipse: s-maj=13.8km s-min=8.6km az=157.0*
ISC 29 15:16:32.7±1.0, 56°.30N±0°.08×149°.44W±0°.06, h10km, n127, σ1.12/118, mb3.7/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.27	312		Pn	15 17 10.3	0.0
KDAK				Sn	Sn	15 17 37.2	-1.1
OHAK	Old Harbor	2.31	295		Pn	15 17 10.0	-0.8
OHAK	Old Harbor	2.31	295		Sn	15 17 36.6	-2.7
OHAK	Old Harbor	2.31	295	P	Pn	15 17 10.0	-0.8
SII	Sitkinak Islan	2.65	278		Pn	15 17 14.7	-0.8
SII				IAML		15 17 51.9	
	comp=E,118nm,0.9s						
SII	Sitkinak Islan	2.65	278		Sn	15 17 44.2	-3.4
SII	Sitkinak Islan	2.65	278	P	Pn	15 17 14.6	-0.8
SYI	Shuyak Island	2.81	327		Pn	15 17 17.7	0.0
SYI	Shuyak Island	2.81	327		Sn	15 17 46.7	-1.2
R18K	Karluk	3.02	297		Pn	15 17 20.2	-0.4
R18K					Sn	15 17 54.8	-2.1
R18K	Karluk	3.02	297	IAML		15 18 01.8	
	comp=E,198nm,0.4s						
R18K				IAML		15 18 03.3	
	comp=N,194nm,0.5s						
CNPM	China Poot	3.38	344		Pn	15 17 25.0	-0.5
CNPM				IAML		15 18 14.0	
	comp=N,65nm,0.4s						
CNPM				IAML		15 18 15.6	
	comp=E,60nm,0.5s						
CNPM	China Poot	3.38	344		Sn	15 18 03.0	-2.5
Q19K	Cape Douglas,	3.47	321		Pn	15 17 27.5	+0.7
CHIR	Chirikof Islan	3.50	265		Sn	15 18 04.5	-4.0
CHIR	Chirikof Islan	3.50	265	Pn	Pn	15 17 26.1	-1.0
CHIR	Chirikof Islan	3.50	265	P	Pn	15 17 26.1	-1.0
KAHG	Katmai Hook Gl	3.53	311		Pn	15 17 27.1	-0.6
BRLK	Bradley Lake	3.56	348		Pn	15 17 27.4	-0.6
BRLK				IAML		15 18 12.0	
	comp=N,64nm,0.6s						
BRLK				IAML		15 18 13.4	
	comp=E,64nm,0.6s						
HOM	Homer	3.57	342		Pn	15 17 28.2	+0.2
HOM	Homer	3.57	342	IAML		15 18 30.2	
	comp=E,152nm,0.6s						
HOM				IAML		15 18 47.1	
	comp=N,127nm,0.9s						
KAKN	Katmai Knife C	3.65	306		Pn	15 17 30.2	+1.0
AU22	Augustine Moun	3.72	327		Pn	15 17 31.3	+1.1
ACHA	Angle Creek He	3.73	303		Pn	15 17 31.6	+1.3
AUCH	Augustine Cone	3.74	327		Pn	15 17 31.7	+1.2
AUL	Augustine Lava	3.76	327		Pn	15 17 31.8	+1.1
ANCK	Angle Creek	3.80	303		Pn	15 17 32.5	+1.2
SEW	Seward	3.82	360		Pn	15 17 30.5	-1.0
KAHC	Katmai Hardscr	3.82	310		Pn	15 17 32.8	+1.2
P19K	Oil Pt	3.92	331	Pn	Pn	15 17 33.5	+0.5
P19K				IAML		15 18 23.1	
	comp=N,125nm,0.5s						
ILS	Iliamna Low So	4.14	334		Pn	15 17 36.0	-0.1
O20K	Slope Mountain	4.15	337		Pn	15 17 35.9	-0.2
ILSW	Iliamna Southw	4.18	334		Pn	15 17 36.4	-0.3
ILSW				IAML		15 18 26.8	
	comp=N,45nm,0.7s						
ILSW				IAML		15 18 27.0	
	comp=E,52nm,0.7s						
O22K	Cooper Landing	4.20	358		Pn	15 17 36.1	-0.6
SLKM	Skilak Lake	4.24	355		Pn	15 17 36.9	-0.5
SLKM				IAML		15 18 28.7	
	comp=N,56nm,0.3s						
SLKM				IAML		15 18 33.4	
	comp=E,68nm,0.7s						
P18K	Big Mountain,	4.38	317		Pn	15 17 39.2	-0.1
HIN	Hinchinbrook I	4.39	19		Pn	15 17 38.9	-0.5
HIN				IAML		15 18 37.1	
	comp=E,78nm,1.1s						
HIN				IAML		15 18 43.7	
	comp=N,79nm,0.8s						
RED	Redoubt Volcan	4.49	338		Pn	15 17 39.8	-1.0
KAIM	Kayak Island	4.51	34	Pn	Pn	15 17 40.6	-0.4
RDWB	Redoubt West	4.56	338		Pn	15 17 40.9	-1.1
CAPN	Captain Cook N	4.57	349		Pn	15 17 42.5	+0.7
CAPN				IAML		15 18 56.4	
	comp=E,85nm,0.5s						
PWL	Port Wells	4.61	7		Pn	15 17 42.0	-0.5
PWL				IAML		15 18 42.6	
	comp=E,47nm,0.8s						
PWL				IAML		15 18 43.9	
	comp=N,47nm,0.8s						
DFR	Drift River	4.63	340		Pn	15 17 42.0	-0.8
NCT	North Crescent	4.65	338		Pn	15 17 42.1	-0.9
EYAK	Cordova Ski Ar	4.68	23		Pn	15 17 42.5	-0.9
EYAK	Cordova Ski Ar	4.68	23	P	Pn	15 17 43.0	-0.4
O18K	Koktuh Hills	4.70	322		Pn	15 17 43.0	-0.7
O18K	Koktuh Hills	4.70	322	IAML		15 18 52.0	
	comp=N,29nm,0.7s						
FID	Port Fidalgo	4.73	18		Pn	15 17 43.3	-0.8
FID				IAML		15 18 36.1	
	comp=N,30nm,0.5s						
FID				IAML		15 18 41.2	
	comp=E,44nm,0.5s						
P17K	Kvichak River	4.74	311		Pn	15 17 44.5	+0.4
GLI	Glacier Island	4.75	14		Pn	15 17 43.5	-0.9
GLI	Glacier Island	4.75	14	IAML		15 18 46.5	
	comp=N,28nm,0.7s						
GLI				IAML		15 18 54.8	
	comp=E,33nm,0.6s						
RC01	Rabbit Creek A	4.81	358		Pn	15 17 44.4	-0.7
RC01	Rabbit Creek A	4.81	358	IAML		15 18 42.9	
	comp=N,38nm,0.5s						
RC01				IAML		15 18 51.9	
	comp=E,29nm,0.4s						
SUCK	Suckling Hills	4.83	36		Pn	15 17 45.1	-0.3
SUCK				IAML		15 18 43.2	
	comp=E,54nm,1.1s						
FIS	Fire Island	4.88	356	Pn	Pn	15 17 46.6	+0.6
FIS				IAML		15 18 45.6	
	comp=E,55nm,0.8s						
HMT	Hamilton	4.88	32		Pn	15 17 45.8	-0.4
CKL	Chakachamna La	5.14	344		Pn	15 17 48.9	-0.9
KNK	Knik Glacier	5.16	5	IAML		15 19 07.4	
	comp=E,24nm,0.6s						
KNK				IAML		15 19 08.2	
	comp=N,19nm,0.5s						
SNH	Sunshine Point	5.23	39		Pn	15 17 49.9	-1.0
SNH	Sunshine Point	5.23	39	IAML		15 19 04.2	
	comp=E,39nm,0.8s						
SNH				IAML		15 19 26.2	
	comp=N,37nm,0.9s						
PMR	Palmer	5.31	2	P	Pn	15 17 51.9	-0.1
P16K	Nushagak River	5.34	304		Pn	15 17 53.3	+0.8
O17K	Koliganek Bris	5.35	314		Pn	15 17 53.1	+0.5
N18K	Klaee Creek	5.54	325		Pn	15 17 54.7	-0.5
MESA	MESA	5.55	42	Pn	Pn	15 17 54.8	-0.6
SML	Sawmill	5.55	5		Pn	15 17 55

*JMA **29** 15:38:50.5±0.1, 38°.2N±0°.3×141°.7E±0°.6, h51km, MV3.4/40, E OFF MIYAGI PREF*
*IDC **29** 15:38:51.1±4.2, 38°.09N×141°.60E, h55km±34km, mb3.5/6, mbtmp3.7/9, ML3.0/3, Error ellipse: s-maj=33.5km s-min=15.6km az=73.0*
ISC 29 15:38:49.8±1.1, 38°.16N±0°.05×141°.74E±0°.10, h47km±6km, n29, σ0§67/38, mb3.8/6, 18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.27**	**306**	⇓*i*P	**Pn**	**15 38 59.0**	**+0.7**
JIKH				⇓S	**Sn**	**15 39 04.8**	**+0.4**
JIO	**Ouri**	**0.43**	**314**	⇓P	**Pn**	**15 39 00.4**	**+0.5**
JIO				⇓S	**Sn**	**15 39 07.2**	**-0.1**
JKMT	**Kesennumamotoy**	**0.69**	**342**	⇓*i*P	**Pn**	**15 39 03.4**	**+0.2**
JKMT				⇓*e*S	**Sn**	**15 39 12.3**	**-0.7**
JMM	**Marumori**	**0.80**	**249**	⇓P	**Pn**	**15 39 04.8**	**0.0**
JMM				⇓*e*S	**Sn**	**15 39 15.1**	**-0.5**
JOU	**Okura**	**0.87**	**284**	⇓P	**Pn**	**15 39 06.0**	**+0.3**
JOU				⇓*e*S	**Sn**	**15 39 17.3**	**0.0**
JMK	**Ichinoseki**	**0.89**	**333**	⇓P	**Pn**	**15 39 06.3**	**+0.3**
JMK				⇓*e*S	**Sn**	**15 39 17.5**	**-0.4**
OFUJ	**Ofunato**	**0.93**	**357**	⇓P	**Pn**	**15 39 06.6**	**+0.2**
OFUJ				⇓*e*S	**Sn**	**15 39 18.1**	**-0.5**
JFK	**Kawauchi**	**1.04**	**221**	P	**Pn**	**15 39 08.4**	**+0.4**
JFK				*e*S	**Sn**	**15 39 21.3**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.26**	**242**	P	**Pn**	**15 39 11.6**	**+0.6**
JOTO				*e*S	**Sn**	**15 39 27.1**	**+0.3**
JYS	**Shiratake**	**1.32**	**273**	⇓P	**Pn**	**15 39 12.2**	**+0.4**
JYK	**Kaneyama**	**1.32**	**306**	⇓P	**Pn**	**15 39 12.0**	**+0.2**
JOM	**Ohasama**	**1.36**	**345**	⇓P	**Pn**	**15 39 12.7**	**+0.4**
JRG	**Rokugo**	**1.51**	**325**	⇓P	**Pn**	**15 39 15.1**	**+0.8**
MJAR	**Matsushiro Arr**	**3.24**	**241**	P	**Pn**	**15 39 37.9**	**-0.3**
	0.3nm,0.3s,baz=38,slow=12,SNR=14						
MJAR				S	**Sn**	**15 40 14.2**	**-1.3**
	1.7nm,0.3s,baz=76,slow=16,SNR=4.9 3.4nm,0.7s						
JHJ	**Hachijo jima 2**	**5.27**	**198**	P	**Pn**	**15 40 06.9**	**+0.9**
	4.5nm,0.3s,baz=239,slow=20,SNR=1.1						
JHJ				S	**Sn**	**15 41 03.8**	**-1.7**
	92nm,0.6s,baz=78,slow=17,SNR=1.1 115nm,1.0s						
ASAJ	**Asahikawa**	**5.99**	**6**	P	**Pn**	**15 40 14.5**	**-1.3**
	1.3nm,0.3s,baz=214,slow=11,SNR=6.1						
ASAJ				S	**Sn**	**15 41 21.4**	**-1.7**
	5.9nm,0.9s,baz=218,slow=23,SNR=1.6						
USRK	**Ussuriysk Ar.**	**9.51**	**312**	P	**Pn**	**15 41 04.9**	**+1.0**
	0.2nm,0.3s,baz=125,slow=14,SNR=1.8 1.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	16 14 51.5	
	baz=316,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	16 14 51.8	
	baz=316,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	16 14 55.3	
	baz=316,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	16 15 50.1	
	baz=317,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	16 15 49.7	
	baz=317,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.29**	**125**	T	T	16 16 00.1	
	baz=317,slow=76,SNR=10.0						
ZALV	**Zalesovo Beam**	**41.36**	**311**	P	**P**	**15 46 30.7**	**-0.1**
	0.8nm,0.5s,baz=94,slow=9.4,SNR=3.0 0.8nm,0.5s						
MKAR	**Makanchi Array**	**43.75**	**301**	P	**P**	**15 46 50.5**	**0.0**
	0.3nm,0.6s,baz=86,slow=8.8,SNR=5.3						
MKAR				pP	**sP**	**15 47 08.7**	**-0.1**
	0.9nm,0.7s,baz=90,slow=10,SNR=9.7						
MKAR				PcP	**PcP**	**15 48 37.0**	**+0.5**
	0.1nm,0.6s,baz=71,slow=7.8,SNR=3.6 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.52**	**307**	P	**P**	**15 47 04.2**	**-0.2**
	0.8nm,0.5s,baz=82,slow=8.1,SNR=9.5						
KURBB				pP	**sP**	**15 47 22.2**	**-0.5**
	1.9nm,0.5s,baz=82,slow=8.3,SNR=13 0.8nm,0.5s						
WRA	**Warramunga Arr**	**58.20**	**188**	P	**P**	**15 48 39.0**	**-0.1**
	0.3nm,0.4s,baz=5.2,slow=7.0,SNR=9.5 0.3nm,0.4s						
ASAR	**Alice Springs**	**61.93**	**188**	P	**P**	**15 49 04.8**	**+0.2**
	0.4nm,0.9s,baz=355,slow=4.1,SNR=6.6 0.4nm,0.9s						
HFS	**Hagfors**	**73.17**	**336**	P	**P**	**15 50 15.5**	**+0.3**
	2.7nm,0.8s,baz=50,slow=7.7,SNR=1.6 2.7nm,0.8s						

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*JMA **29** 15:41:24.7±0.5, 29°.4N×13°.9E±°, h525km, MV3.2/12, NEAR TORISHIMA IS*
*IDC **29** 15:41:27.7±1.2, 29°.48N×138°.36E, h445km±17km, mb2.7/4, mbtmp3.7/8, Error ellipse: s-maj=49.1km s-min=15.1km az=94.0*
ISC 29 15:41:28.5±1.0, 29°.49N±0°.08×138°.8E±0°.1, h450km, n16, σ1§26/17, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.72**	**13**	*e*P	**P**	**15 42 43.8**	**+2.7**
JHJ	**Hachijo jima 2**	**3.72**	**13**	P	**P**	**15 42 42.5**	**+1.4**
	135nm,0.8s,baz=298,slow=9.2,SNR=2.0						
JHJ				S	**S**	**15 43 40.0**	**-0.3**
	104nm,0.9s,baz=91,slow=16,SNR=1.2						
CBIJ	**Chichi jima**	**3.83**	**128**	*e*S	**S**	**15 43 42.4**	**+0.4**
JTNC	**Tanabenakahech**	**5.10**	**329**	*e*P	**P**	**15 42 55.8**	**+2.1**
JIE	**Ise**	**5.20**	**341**	*e*P	P	15 42 57.8	+3.2
BSO1	**Boso 1**	**5.48**	**19**	*e*S	**S**	**15 44 08.7**	**-0.3**
JOD2	**Odawara 2**	**5.77**	**2**	*e*P	**P**	**15 43 01.1**	**+0.7**
JOD2				*e*S	**S**	**15 44 15.2**	**-0.2**
JRY	**Ryogami san**	**6.51**	**1**	*e*P	**P**	**15 43 08.3**	**+0.4**
MJAR	**Matsushiro Arr**	**7.05**	**356**	P	**P**	**15 43 12.4**	**-1.2**
	3.4nm,0.8s,baz=175,slow=12,SNR=7.0						
JHS	**Saijyo**	**7.30**	**320**	*e*P	**P**	**15 43 17.8**	**+1.5**
ASAJ	**Asahikawa**	**14.91**	**11**	P	**P**	**15 44 38.3**	**-0.2**
	4.8nm,0.8s,baz=212,slow=13,SNR=1.5						
USRK	**Ussuriysk Ar.**	**15.65**	**342**	P	**P**	**15 44 45.4**	**-1.0**
	2.4nm,0.6s,baz=159,slow=12,SNR=4.7						
KLR	**Kul'dur**	**20.44**	**347**	P	**P**	**15 45 32.5**	**-1.0**
	1.5nm,0.6s,baz=157,slow=7.6,SNR=6.4 1.5nm,0.6s						
WRA	**Warramunga Arr**	**49.33**	**186**	P	**P**	**15 49 34.5**	**-0.8**
	0.3nm,0.3s,baz=0.4,slow=7.6,SNR=16 0.3nm,0.3s						
ASAR	**Alice Springs**	**53.05**	**186**	P	**P**	**15 50 01.5**	**-0.9**
	0.2nm,0.5s,baz=1.5,slow=6.0,SNR=9.7 0.2nm,0.5s						
ILAR	**Eielson Array**	**57.08**	**29**	P	**P**	**15 50 30.9**	**+0.7**
	0.2nm,0.5s,baz=292,slow=9.2,SNR=5.9 0.2nm,0.5s						

IDC 29 16:10:32.9±1.7, 8°.21S×128°.98E, h0km, mb3.5/2, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=102.9km s-min=30.3km az=66.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.77**	**157**	Pn	Pn	16 13 35.7	-0.3
	0.2nm,0.3s,baz=335,slow=14,SNR=7.5						
WRA				Sn	Sn	16 15 48.1	-11
	0.5nm,0.3s,baz=327,slow=23,SNR=11 0.2nm,0.3s						
ASAR	**Alice Springs**	**16.08**	**163**	Pn	Pn	16 14 20.9	+0.3
	0.1nm,0.3s,baz=344,slow=9.2,SNR=10						
ASAR				Sn	Sn	16 17 11.2	-8.5
	0.1nm,0.3s,baz=343,slow=25,SNR=5.8 0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.69**	**328**	P	P	16 21 38.8	+0.4
	0.4nm,0.5s,baz=114,slow=8.2,SNR=12 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**73.01**	**329**	P	P	16 22 03.8	-0.7
	0.2nm,0.5s,baz=122,slow=5.4,SNR=2.8 0.2nm,0.5s						

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*NEIC **29** 16:42:33.5±1.2, 47°.56N±0°.04×92°.59W±0°.06, h0km±2km, mb_Lg2.9/31, Error ellipse: s-maj=7.4km s-min=6.5km az=334.0*
*IDC **29** 16:42:34.2±3.0, 47°.56N×92°.67W, h0km, mbtmp2.8/3, ML2.0/2, Error ellipse: s-maj=33.5km s-min=18.7km az=87.0*
ISC 29 16:42:30.7±0.9, 47°.65N±0°.05×92°.43W±0°.05, h0km, n28, σ1§46/16, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.70**	**64**		**Pn**	**16 42 48.3**	**+0.5**
E38A	**The Farm, Brul**	**1.20**	**150**		**Pn**	**16 42 55.2**	**+0.5**
EPLO	**Experimental L**	**2.20**	**338**	Pn	**Pg**	**16 43 12.4**	**-0.4**
EPLO				IAmb_Lg		16 43 46.3	
	comp=Z,46nm,1.3s						
TBO	**Thunder Bay**	**2.26**	**63**	Pn	**Pg**	**16 43 13.3**	**-0.6**
AGMN	**Agassiz Nation**	**2.40**	**287**		**Pn**	**16 43 12.4**	**+1.2**
SPMN	**Marine on St.**	**2.44**	**186**		**Pn**	**16 43 12.4**	**+0.7**
SPMN				IAmb_Lg		16 43 46.3	
	comp=Z,44nm,0.8s						
COWI	**Conover**	**2.74**	**123**		**Pb**	**16 43 20.3**	**-0.2**
G40A	**Rib Lake**	**2.84**	**146**		**Pn**	**16 43 18.6**	**+1.4**
ULM	**Lac du Bonnet**	**3.45**	**320**	Pn	**Pn**	**16 43 27.7**	**+2.0**
ULM				IAmb_Lg		16 44 23.1	
	comp=Z,34nm,0.8s						
ULM	**Lac du Bonnet**	**3.45**	**320**	Pn	**Pn**	**16 43 27.6**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=144,slow=14,SNR=16						
ULM				Pg	**Pg**	**16 43 36.0**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=142,slow=15,SNR=8.3						
ULM				Lg	Lg	16 44 18.6	
	comp=Z,1.0nm,0.3s,baz=118,slow=12,SNR=4.4 comp=Z,0.7nm,0.3s						
I10CA	**LAC DU BONNET**	**3.48**	**318**	I	I	17 04 40.0	
	comp=Z,0.1nm,1.2s,baz=132,slow=335,SNR=3.8						
F42A	**Maple Grove Fa**	**3.51**	**121**	IAmb_Lg		16 44 32.1	
	comp=Z,21nm,0.8s						
I37A	**Lemond, Waseca**	**3.70**	**191**	Pn	**Pn**	**16 43 30.6**	**+1.6**
I37A				IAmb_Lg		16 44 32.7	
	comp=Z,28nm,1.2s						
I40A	**Norwalk**	**3.97**	**161**	IAmb_Lg		16 44 45.6	
	comp=Z,20nm,1.0s						
H43A	**Windswept, Lux**	**4.54**	**133**	Pn	**Pn**	**16 43 42.9**	**+2.2**
H43A				IAmb_Lg		16 44 54.5	
	comp=Z,28nm,1.0s						
MDND	**Maddock**	**4.84**	**275**	IAmb_Lg		16 45 11.4	
	comp=Z,25nm,0.8s						
JFWS	**Jewell Farm**	**4.98**	**161**	Pn	**Pn**	**16 43 48.5**	**+1.9**
I45A	**Fountain**	**5.64**	**128**	IAmb_Lg		16 45 37.7	
	comp=Z,30nm,0.7s						
K43A	**Burlington**	**5.73**	**148**	IAmb_Lg		16 45 30.5	
	comp=Z,23nm,1.0s						
E28A	**Huff**	**5.74**	**262**	IAmb_Lg		16 45 31.4	
	comp=Z,29nm,0.8s						
SCIA	**State Center**	**5.77**	**186**	IAmb_Lg		16 45 38.6	
	comp=Z,19nm,1.0s						
L42A	**Oliver, Polo**	**5.98**	**160**	IAmb_Lg		16 45 50.1	
	comp=Z,12nm,0.8s						
J47A	**Sunmer**	**6.93**	**127**	IAmb_Lg		16 46 16.8	
	comp=Z,28nm,1.1s						
L46A	**Eue Claire**	**7.12**	**140**	IAmb_Lg		16 46 35.5	
	comp=Z,18nm,1.0s						
N35A	**Tabor**	**7.17**	**200**	IAmb_Lg		16 46 20.1	
	comp=Z,17nm,0.8s						
KSU1	**Kansas State U**	**9.07**	**201**	IAmb_Lg		16 47 23.4	
	comp=Z,14nm,1.1s						
PDAR	**Pinedale Array**	**13.02**	**254**	Pn	**Pn**	**16 45 35.3**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=60,slow=14,SNR=2.6						
PDAR				Lg	Lg	16 49 07.8	
	comp=Z,0.1nm,0.3s,baz=52,slow=27,SNR=3.1						
YKA	**Yellowknife Ar**	**19.39**	**328**	P	**Pn**	**16 46 59.3**	**+0.4**
	baz=133,slow=13,SNR=3.4						
YKA				Lg	Lg	16 52 28.8	
	baz=124,slow=29,SNR=3.6 comp=Z,0.2nm,0.7s						

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*LDG **29** 16:45:35.8±0.4, 45°.66N×6°.82E, h2km, Md1.1/2, Error ellipse: s-maj=7.8km s-min=3.2km az=53.0*
STR 29 16:45:35.7±1.0, 46°N±5°×°±°, h9km±19km, MLv0.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=169.2, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.11**	**200**	*e*Pg	Pg	16 45 39.1	+0.7
LPL				*e*Sg	Sg	16 45 40.8	+0.5
	6.3nm,0.2s						
LPG	**La Plagne**	**0.12**	**191**	*e*Pg	Pg	16 45 39.2	+0.6
LPG				*e*Sg	Sg	16 45 41.5	+0.8
	5.9nm,0.3s						
RSL	**Roselend**	**0.13**	**303**	Pg	Pg	16 45 39.1	+0.4
RSL				Sg	Sg	16 45 40.7	-0.2
REMY	**Saint-Rhmy-en**	**0.34**	**49**	Sg	Sg	16 45 47.6	+0.5
REMY	**Saint-Rhmy-en**	**0.34**	**49**	Pg	Pg	16 45 42.7	+0.1
OGSI	**Sixt**	**0.45**	**357**	Pg	Pb	16 45 45.7	-0.2
OGSI				Sg	Sg	16 45 48.9	-1.6
CIRO	**Champorcher**	**0.55**	**91**	Pg	Pg	16 45 46.4	0.0
CIRO	**Champorcher**	**0.55**	**91**	Sg	Sg	16 45 53.1	-0.5
TRAV	**Traversella**	**0.68**	**98**	Sg	Sg	16 45 57.9	+0.1

KRSC 29 16:52:18.8±2.0, 50°.55N×160°.20E, h68km±41km, Ml3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.83**	**314**	*e*S	Sn	16 53 11.7	+1.3
RUS	**Russkaya**	**2.16**	**331**	*e*P	Pn	16 52 54.9	+2.4
RUS				*e*S	Sn	16 53 19.8	+1.7
PAU	**Pauzhetka**	**2.33**	**294**	*e*S	Sn	16 53 23.8	+1.6
GRL	**Gorelyy**	**2.40**	**327**	*e*P	Pn	16 52 59.4	+3.5
GRL				*e*S	Sn	16 53 27.0	+2.7
SPN	**Mys Shipunski**	**2.55**	**358**	*e*S	Sn	16 53 29.8	+2.0
SKR	**Severo-Kuril's**	**2.60**	**274**	*e*S	Sn	16 53 29.2	+0.3
KRMR	**Karymshinskiy**	**2.62**	**331**	*e*S	Sn	16 53 32.4	+3.0
DALK	**Dalny**	**2.64**	**341**	*e*P	Pn	16 53 01.8	+2.9
DALK				*e*S	Sn	16 53 32.3	+2.4
PET	**Petropavlovsk**	**2.65**	**339**	*e*P	Pn	16 53 01.4	+2.2
PET				*e*S	Sn	16 53 32.0	+1.8
UGLR	**Uglovaya**	**2.79**	**343**	*e*P	Pn	16 53 05.1	+3.9
SDLR	**Sedlovina**	**2.85**	**344**	*e*P	Pn	16 53 05.2	+3.2
AVH	**Avacha**	**2.86**	**342**	*e*P	Pn	16 53 05.9	+3.8
KOK	**Koryaka**	**2.91**	**341**	*e*P	Pn	16 53 06.8	+4.0
KOK				*e*S	Sn	16 53 40.2	+3.6
KRX	**Arik**	**2.97**	**342**	*e*P	Pn	16 53 07.2	+3.6
KRX				*e*S	Sn	16 53 42.4	+4.2
KII	**Karymskiy**	**3.52**	**353**	*e*S	Sn	16 53 55.4	+3.9
MKZ	**Mys Kozlova**	**4.12**	**13**	*e*P	Pn	16 53 21.5	+2.4
TUMD	**Tumrok D**	**4.66**	**1**	*e*P	Pn	16 53 30.1	+3.5
TUMD				*e*S	Sn	16 54 21.5	+2.2
KBTR	**Krutoberegovo**	**5.88**	**14**	*e*P	Pn	16 53 46.4	+3.2

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*SKHL **29** 17:09:18.5±0.2, 47°.60N×153°.00E, h132km±6km, mb5.5/5, mbv5.5/4, msh5.5/4, msha6.3/5*
*MOS **29** 17:09:18.8±1.3, 47°.80N×152°.69E, h141km, mb4.3/21, Error ellipse: s-maj=7.6km s-min=5.4km az=64.2*
*NEIC **29** 17:09:19.1±1.5, 47°.89N±0°.08×152°.4E±0°.1, h121km±6km, mb4.4/118, Error ellipse: s-maj=14.8km s-min=10.0km az=130.0*
*IDC **29** 17:09:21.6±0.7, 47°.93N×152°.54E, h145km±5km, mb3.7/27, mbtmp4.2/35, MS3.1/4, Error ellipse: s-maj=12.0km s-min=8.7km az=155.0*
*JMA **29** 17:09:22.8±0.8, 47°N±5°×15°3E±°, h143km, MV4.1/15, KURILE ISLANDS REGION*
ISC 29 17:09:19.4±0.5, 47°.75N±0°.05×152°.66E±0°.05, h132km±4km, h131km; pP-P, n443, σ1§29/461, mb4.3/96, 16C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**36**	*e*PN	**Pn**	**17 10 15.1**	**-0.2**
SKR				*e*S	**Sn**	**17 10 58.0**	**-0.6**
SKR				pmax	pmax		
	comp=Z,284nm,0.7s						
SKR				smax	smax		
	comp=E,358nm,0.3s						
SKR				smax	smax		
	comp=N,506nm,0.3s						
SKR	**Severo-Kuril's**	**3.71**	**36**	*e*P	**Pn**	**17 10 14.9**	**-0.4**
SKR				AMB	AMB	17 10 16.9	
	comp=N,170nm,0.2s						
SKR				AMB	AMB	17 10 17.0	
	comp=N,980nm,2.0s						
SKR				*e*S	**Sn**	**17 10 57.0**	**-1.6**
SKR				A	A	17 11 01.1	
	comp=N,3μm,3.0s						
SKR				A	A	17 11 01.1	
	comp=N,2μm,3.0s						
SKR				A	A	17 11 02.7	
	comp=N,560nm,0.3s						
SKR				A	A	17 11 02.7	
	comp=N,460nm,0.3s						
KUR	**Kuril'sk**	**4.15**	**235**	*e*PN	**Pn**	**17 10 23.2**	**+2.1**
KUR				*i* S	**Sn**	**17 11 13.1**	**+4.0**
KUR				pmax	pmax		
	comp=Z,126nm,0.4s						
KUR				pmax	pmax		
	comp=N,63nm,0.3s						
KUR				pmax	pmax		
	comp=E,43nm,0.4s						
KUR				smax	smax		
	comp=N,322nm,0.5s						
KUR				smax	smax		
	comp=E,193nm,0.5s						
KUR	**Kuril'sk**	**4.15**	**235**	*e*P	**Pn**	**17 10 22.5**	**+1.4**
KUR				AMB	AMB	17 10 26.3	
	comp=E,800nm,3.0s						
KUR				AMB	AMB	17 10 27.5	
	comp=E,60nm,0.3s						
KUR				*e*S	**Sn**	**17 11 10.6**	**+1.5**
KUR				A	A	17 11 16.3	
	comp=E,2μm,2.0s						
KUR				A	A	17 11 16.3	
	comp=E,2μm,2.0s						
KUR				A	A	17 11 25.4	
	comp=E,370nm,0.4s						
KUR				A	A	17 11 25.4	
	comp=E,190nm,0.4s						
PAU	**Pauzhetka**	**4.60**	**34**	*e*P	**Pn**	**17 10 26.8**	**-0.2**
PAU				AMB	AMB	17 10 28.6	
	comp=E,1μm,3.5s						
PAU				AMB	AMB	17 10 29.4	
	comp=E,190nm,0.4s						
PAU				*e*S	**Sn**	**17 11 18.1**	**-1.6**
PAU				A	A	17 11 20.5	
	comp=E,2μm,3.0s						
PAU				A	A	17 11 20.5	
	comp=E,2μm,3.0s						
PAU				A	A	17 11 20.8	
	comp=E,950nm,0.3s						
PAU				A	A	17 11 20.8	
	comp=E,980nm,0.3s						
SHO	**Shikotan**	**5.62**	**229**	*e*PN	**Pn**	**17 10 39.0**	**-1.8**
SHO				*e*S	**Sn**	**17 11 40.3**	**-3.9**
SHO				pmax	pmax		
	comp=Z,52nm,0.4s						
SHO				pmax	pmax		
	comp=E,43nm,0.2s						
SHO				smax	smax		
	comp=N,104nm,0.2s						
SHO				smax	smax		
	comp=E,201nm,0.2s						
SHO	**Shikotan**	**5.62**	**229**	*e*P	**Pn**	**17 10 40.2**	**-0.6**
SHO				AMB	AMB	17 10 42.3	
	comp=E,50nm,0.3s						
SHO				AMB	AMB	17 10 42.7	
	comp=E,900nm,2.0s						
SHO				*e*S	**Sn**	**17 11 42.3**	**-1.9**
SHO				A	A	17 11 43.6	
	comp=E,800nm,2.0s						
SHO				A	A	17 11 43.6	
	comp=E,700nm,2.0s						
SHO				A	A	17 11 45.6	
	comp=E,100nm,0.2s						
SHO				A	A	17 11 45.6	
	comp=E,200nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**6.02**	**234**	*e*PN	**Pn**	**17 10 46.5**	**+0.4**
YUK				*e*S	**Sn**	**17 11 53.9**	**+0.1**
YUK				pmax	pmax		
	comp=Z,757nm,0.4s						
YUK				pmax	pmax		
	comp=N,116nm,0.1s						
YUK				pmax	pmax		
	comp=E,104nm,0.1s						
YUK				smax	smax		
	comp=N,218nm,0.1s						
YUK				smax	smax		
	comp=E,260nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.02**	**234**	*e*P	**Pn**	**17 10 46.5**	**+0.4**
YUK				AMB	AMB	17 10 47.4	
	comp=E,760nm,0.4s						
YUK				*e*S	**Sn**	**17 11 53.9**	**+0.1**
YUK				A	A	17 11 59.1	
	comp=E,220nm,0.2s						
YUK				A	A	17 11 59.1	
	comp=E,290nm,0.2s						
PEA0B	**Petropavlovsk-**	**6.26**	**29**	Pn	**Pn**	**17 10 49.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.26**	**29**	*i* PN	**Pn**	**17 10 49.1**	**-0.2**
PETK	**Petropavlovsk-**	**6.26**	**29**	P	**Pn**	**17 10 48.7**	**-0.6**
	comp=E,38nm,0.6s,baz=188,slow=12,SNR=66						
RUSJ	**Misakicho**	**6.32**	**238**	*e*PN	**Pn**	**17 10 51.2**	**+1.1**
RUSJ				*e*S	**Sn**	**17 12 07.7**	**+6.7**
JRA	**Rausu**	**6.49**	**237**	*e*P	**Pn**	**17 10 52.6**	**+0.2**
PET	**Petropavlovsk**	**6.53**	**34**	Pn	**Pn**	**17 10 51.0**	**-1.9**
PET	**Petropavlovsk**	**6.53**	**34**	*e*PN	**Pn**	**17 10 50.6**	**-2.2**
PET				*e*S	**Sn**	**17 12 01.5**	**-4.4**
PET				smax	smax		
	comp=N,90nm,0.6s						
PET				smax	smax		
	comp=E,73nm,0.4s						
PET	**Petropavlovsk**	**6.53**	**34**	*e*P	**Pn**	**17 10 51.6**	**-1.2**
PET				AMB	AMB	17 11 03.9	
	comp=E,10.0nm,0.9s						
PET				*e*S	**Sn**	**17 12 03.2**	**-2.7**
PET				A	A	17 12 04.9	
	comp=E,90nm,0.5s						
PET				A	A	17 12 04.9	
	comp=E,70nm,0.5s						
NEM2	**Nemuro 2**	**6.54**	**230**	*e*P	**Pn**	**17 10 51.2**	**-1.8**
NEM2				*e*S	**Sn**	**17 11 59.6**	**-6.6**
NMR	**Nemuro--Hokkai**	**6.54**	**231**	*e*PN	**Pn**	**17 10 50.8**	**-2.3**
NMR	**Nemuro--Hokkai**	**6.54**	**231**	*e*P	**Pn**	**17 10 51.5**	**-1.6**
YSS	**Yuzhno-Sakhali**	**6.77**	**267**	Pn	**Pn**	**17 10 57.3**	**+1.1**
YSS	**Yuzhno-Sakhali**	**6.77**	**267**	⇓*e*PN	**Pn**	**17 10 59.9**	**+3.7**
YSS				*e*S	**Sn**	**17 12 14.2**	**+2.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,20nm,0.9s						
YSS				smax	smax		
	comp=E,10.0nm,0.6s						
YSS	**Yuzhno-Sakhali**	**6.77**	**267**	*e*P	**Pn**	**17 10 59.5**	**+3.3**
YSS				AMB	AMB	17 11 10.1	
	comp=E,200nm,1.0s						
YSS				*e*S	**Sn**	**17 12 14.5**	**+2.6**
YSS				A	A	17 12 17.9	
	comp=E,200nm,0.8s						
YSS				A	A	17 12 17.9	
	comp=E,100nm,0.8s						
JNK	**Nakash**	**6.94**	**236**	*e*P	**Pn**	**17 10 58.5**	**0.0**
JNK				*e*S	**Sn**	**17 12 13.8**	**-2.3**
JTKR	**Abashiri--Toko**	**7.18**	**241**	*e*P	**Pn**	**17 11 02.9**	**+1.2**
TYV	**Tymovskoe**	**7.24**	**299**	*e*PN	**Pn**	**17 11 05.1**	**+2.6**
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,2.9s						
TYV	**Tymovskoe**	**7.24**	**299**	*e*P	**Pn**	**17

JANG eS Sn 17 13 38.0 -13
TEY Ternei 11.41 262 eP **Pn 17 12 00.5 +2.1**
TEY AMB AMB 17 12 06.5
comp=Z,10.0nm,0.4s
MA2 Magadan 11.90 355 P **Pn 17 12 04.6 -0.1**
comp=Z,0.9nm,0.4s,baz=180,slow=19,SNR=2.2
MA2 Magadan 11.90 355⇑ i PN **Pn 17 12 04.5 -0.2**
MA2 Magadan 11.90 355 eP **Pn 17 12 04.5 -0.2**
KLR Kul'dur 13.94 284 P **Pn 17 12 31.5 +0.4**
comp=Z,3.4nm,0.8s,baz=91,slow=9.7,SNR=23
KLR Kul'dur 13.94 284 d iP **P 17 12 33.7 -1.2**
KLR pmax pmax
comp=Z,26nm,1.7s
KLR Kul'dur 13.94 284 eP **Pn 17 12 32.6 +1.5**
USA0B Ussuriysk Arra 14.79 264 **P 17 12 43.8 -0.6**
USA0B Ussuriysk Arra 14.79 264 c iP **Pn 17 12 43.1 +1.2**
USRK Ussuriysk Ar. 14.79 264 **Pn 17 12 43.5 +1.6**
USRK Ussuriysk Ar. 14.79 264 P **Pn 17 12 43.1 +1.2**
comp=Z,11nm,0.5s,baz=66,slow=12,SNR=40
USRK Ussuriysk Ar. 14.79 264 P **Pn 17 12 43.5 +1.6**
SEY Seymchan 15.22 360 P **P 17 12 48.0 -0.9**
comp=Z,1.9nm,0.5s,baz=170,slow=10,SNR=19
SEY Seymchan 15.22 360 i P **Pn 17 12 46.1 -1.0**
SEY Seymchan 15.22 360 eP **Pn 17 12 46.1 -1.0**
VLA Vladivostok 15.29 260⇑ i P **Pn 17 12 49.1 +1.1**
VLA Vladivostok 15.29 260 eP **Pn 17 12 47.5 -0.5**
MJAR Matsushiro Arr 15.47 229 P **P 17 12 52.4 +0.4**
comp=Z,6.9nm,0.8s,baz=20,slow=11,SNR=16
MJB9 Matsu-Tunnel 15.47 229 P **Pn 17 12 50.8 +0.4**
MJB9 IAmb IAmb 17 12 55.8
comp=Z,17nm,1.0s
MAJO Matsushiro 15.47 229 P **Pn 17 12 50.4 0.0**
MAJO IAmb IAmb 17 12 54.8
comp=Z,18nm,1.0s
MAJO Matsushiro 15.47 229 eP **Pn 17 12 51.2 +0.8**
MSHR Mys Shultsa 16.00 259 i P **P 17 12 59.2 +1.4**
PSTR Posyet 16.20 260⇑ i P **Pn 17 12 59.3 -0.1**
MDJ Mudanjiang 16.26 267 P **P 17 13 03.0 +2.3**
MDJ pmax pmax
comp=Z,20nm,1.2s
JGF Kuroka 16.63 229 **Pn 17 13 03.6 -1.1**
JGF IAmb IAmb 17 13 07.7
comp=Z,12nm,0.8s
HEH HeiHe 16.73 288 eP **Pn 17 13 06.5 +0.8**
HEH pmax pmax
comp=Z,21nm,0.9s
INU Inuyama 17.00 229 P **P 17 13 08.3 -0.6**
INU IAmb IAmb 17 13 12.1
comp=Z,25nm,0.8s
ZEA Zeya 17.11 300 eP **Pn 17 13 10.9 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA Zeya 17.11 300 eP **Pn 17 13 10.9 +0.6**
ZEA AMB AMB 17 13 11.8
comp=Z,10.0nm,1.0s
YAK Yakutsk 19.32 326 P **P 17 13 31.5 -2.4**
YAK IAmb IAmb 17 13 38.9
comp=Z,16nm,0.8s
YAK Yakutsk 19.32 326 P **P 17 13 33.9 0.0**
comp=Z,18nm,0.8s,baz=141,slow=3.6,SNR=9.3
YAK Yakutsk 19.32 326 eP **Pn 17 13 36.8 +0.5**
YAK eS **S 17 17 07.7 +2.6**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax smax
comp=N,51nm,3.1s
YAK smax smax
comp=E,106nm,3.4s
YAK Yakutsk 19.32 326 eP **Pn 17 13 36.8 +0.5**
JMN Monobe 19.89 232 P **P 17 13 39.7 -0.7**
JMN IAmb IAmb 17 13 50.8
comp=Z,19nm,1.1s
KSRS Korea Array 20.83 249 P **P 17 13 51.5 +1.2**
comp=Z,13nm,0.8s,baz=50,slow=10,SNR=50
KSRS LR LR 17 21 28.9
comp=Z,15nm,18.9s,baz=50,slow=35
comp=Z,13nm,0.8s
KS19 Wonju Array Si 20.83 250 P **P 17 13 49.1 -1.4**
KS19 IAmb IAmb 17 13 52.2
comp=Z,38nm,1.4s
KSAR Wonju Array Be 20.86 249 P **P 17 13 49.5 -1.2**
KSAR Wonju Array Be 20.86 249 P **P 17 13 49.5 -1.2**
TJN Taejon 21.84 248 P **P 17 14 02.3 +1.1**
TJN Taejon 21.84 248⇑ i P **P 17 14 03.1 +1.9**
JNU Nakatsue 21.99 236 P **P 17 14 03.3 +0.4**
JNU IAmb IAmb 17 14 36.2
comp=Z,27nm,1.4s
UNV Unalaska Valle 26.24 61 P **P 17 14 41.8 0.0**
baz=274
TIXI Tiksi 26.42 343 P **P 17 14 41.0 -2.2**
TIXI Tiksi 26.42 343 i P **P 17 14 41.7 -1.6**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
M13K Dall Lake 28.17 47 P **P 17 14 59.5 +0.7**
JOW Kunigami 28.29 231 P **P 17 15 00.6 +0.3**
J14K Nanvaranak Lak 28.44 42 P **P 17 15 01.5 +0.2**
J14K IAmb IAmb 17 15 24.1
comp=Z,18nm,1.5s
M14K Bethel 28.89 46 P **P 17 15 06.1 +0.9**
M14K IAmb IAmb 17 15 46.5
comp=Z,15nm,1.2s
M14K Bethel 28.89 46 P **P 17 15 05.8 +0.5**
baz=264
N14K Kuskokwak Cree 28.95 48 P **P 17 15 05.8 0.0**
baz=266
H16K Elim 29.41 38 P **P 17 15 09.9 0.0**
baz=257
M15K Kasigluk River 29.50 47 P **P 17 15 10.0 -0.8**
baz=266
N15K Kwethluk River 29.76 48 P **P 17 15 13.8 +0.7**
baz=267
O15K Ungalikthiuk R 29.86 50 P **P 17 15 14.2 +0.3**
baz=269
HHC Hu-ho-hao-te 29.93 272 eP **P 17 15 14.5 -0.4**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,96nm,4.7s
D17K Noatak River 29.94 32 P **P 17 15 14.4 -0.2**
baz=251
C17K DeLong Mountai 30.18 31 P **P 17 15 16.9 +0.3**
baz=250
L16K Owhat River 30.18 45 P **P 17 15 16.6 0.0**
L16K IAmb IAmb 17 15 42.0
comp=Z,9.0nm,1.4s
CHNA Chernabura Isl 30.19 58 P **P 17 15 17.0 +0.2**
baz=277
E17K Hotham Inlet 30.21 34 P **P 17 15 16.5 -0.5**
baz=254
H11N2 WAKE ISLAND Hy 30.25 153 T T 17 47 19.0
baz=342,slow=76,SNR=70
F17K Baldwin Pennin 30.25 35 P **P 17 15 17.8 +0.5**
F17K IAmb IAmb 17 15 38.6
comp=Z,21nm,1.5s
F17K Baldwin Pennin 30.25 35 P **P 17 15 17.0 -0.3**
baz=255
G17K Kiwalik Mounta 30.26 37 P **P 17 15 17.9 +0.5**
baz=258
H11N1 WAKE ISLAND Hy 30.26 153 T T 17 47 20.2
baz=342,slow=76,SNR=60
H11N3 WAKE ISLAND Hy 30.26 153 T T 17 47 20.3
baz=342,slow=76,SNR=37
ULN Ulaanbaatar 30.29 287 eP **P 17 15 18.8 +0.8**
ULN Ulaanbaatar 30.29 287 eP **P 17 15 18.8 +0.8**
M16K Timber Creek 30.37 46 P **P 17 15 18.5 +0.1**
M16K IAmb IAmb 17 15 47.6
comp=Z,14nm,1.5s
M16K Timber Creek 30.37 46 P **P 17 15 18.7 +0.3**
baz=267
N16K Nishlik Lake 30.43 47 P **P 17 15 19.3 +0.3**
baz=268
H17K Granite Mounta 30.45 38 P **P 17 15 19.0 0.0**
baz=259
SONM Songino Array 30.72 288 P **P 17 15 21.5 -0.3**
comp=Z,0.5nm,0.5s,baz=73,slow=8.5,SNR=4.4
SONM pP **pwP 17 15 53.9 +0.2**
comp=Z,0.4nm,0.5s,baz=79,slow=9.0,SNR=2.9
SONM LR LR 17 28 16.0
comp=Z,43nm,19.1s,baz=40,slow=37
comp=Z,0.5nm,0.5s
L17K Donlin 30.77 44 P **P 17 15 22.5 +0.6**
baz=266

K17K Iditarod 30.82 43 P **P 17 15 22.6 +0.3**
K17K IAmb IAmb 17 15 48.1
comp=Z,7.1nm,1.1s
K17K Iditarod 30.82 43 P **P 17 15 22.7 +0.3**
baz=265
F18K Selawik 30.91 35 P **P 17 15 23.2 +0.2**
baz=257
C18K Utukok River 30.92 31 P **P 17 15 22.9 -0.3**
C18K Utukok River 30.92 31 P **P 17 15 23.3 0.0**
baz=252
R16K Pilot Point 31.07 53 P **P 17 15 25.5 +0.9**
baz=274
M17K Holitna River 31.13 45 P **P 17 15 26.0 +0.9**
baz=268
H18K Honhosa River 31.13 38 P **P 17 15 25.8 +0.7**
baz=260
G18K Tagagawik 31.15 37 P **P 17 15 25.1 -0.2**
G18K IAmb IAmb 17 15 26.9
comp=Z,5.1nm,0.9s
G18K Tagagawik 31.15 37 P **P 17 15 25.5 +0.2**
baz=259
N17K Nushagak Hills 31.22 47 P **P 17 15 26.6 +0.8**
baz=269
O17K Koliganek Bris 31.26 49 P **P 17 15 26.8 +0.6**
baz=271
H11S1 WAKE ISLAND Hy 31.34 154 T T 17 48 41.0
baz=342,slow=76,SNR=97
H11S3 WAKE ISLAND Hy 31.35 154 T T 17 48 58.6
baz=342,slow=76,SNR=71
H11S2 WAKE ISLAND Hy 31.36 154 T T 17 48 40.5
baz=342,slow=76,SNR=84
A19K Wainwright 31.49 28 P **P 17 15 28.9 +0.8**
baz=249
L18K Granite Mounta 31.53 44 P **P 17 15 29.2 +0.6**
baz=267
J18K Innoko River 31.62 41 P **P 17 15 29.8 +0.4**
J18K Innoko River 31.62 41 P **P 17 15 29.6 +0.2**
baz=265
F19K Shaleruckik Mo 31.69 35 P **P 17 15 30.0 +0.1**
baz=258
G19K Purcell Mounta 31.83 36 P **P 17 15 30.2 -0.9**
baz=260
N18K Kilae Creek 31.86 47 P **P 17 15 31.2 -0.3**
baz=270
D19K Kuna River 31.96 32 P **P 17 15 32.8 +0.5**
baz=255
H19K Roundabout Mou 31.99 38 P **P 17 15 33.1 +0.6**
H19K IAmb IAmb 17 15 34.2
comp=Z,8.1nm,0.8s
H19K Roundabout Mou 31.99 38 P **P 17 15 32.7 +0.2**
baz=262,SNR=6.9
E19K Redstone River 32.03 34 P **P 17 15 33.0 0.0**
baz=258
J19K Poorman 32.15 41 P **P 17 15 34.2 +0.2**
baz=265
CHIR Chirikof Islan 32.31 56 P **P 17 15 36.4 +0.9**
baz=278
F20K Avaraart Lake 32.53 35 P **P 17 15 37.5 +0.3**
baz=260
D20K Etivluk River 32.55 32 P **P 17 15 37.9 +0.5**
baz=257
N19K Bonanza Creek 32.55 47 P **P 17 15 38.1 +0.5**
baz=271
E20K Nigu River 32.59 33 P **P 17 15 37.0 -0.9**
baz=258
M19K Big River Lodg 32.60 45 P **P 17 15 38.5 +0.5**
baz=270
H20K Anotleneega Mo 32.63 38 P **P 17 15 38.5 +0.3**
baz=263
B20K Meade River 32.70 29 P **P 17 15 39.3 +0.6**
B20K IAmb IAmb 17 15 45.7
comp=Z,5.5nm,0.9s
B20K Meade River 32.70 29 P **P 17 15 38.5 -0.2**
baz=254
I20K Naaghedeneel 32.72 39 P **P 17 15 39.2 +0.3**
baz=265
K20K Telida 32.80 42 P **P 17 15 39.9 +0.2**
K20K Telida 32.80 42 P **P 17 15 39.5 -0.2**
baz=268
J20K Nowinta River 32.81 40 P **P 17 15 40.2 +0.4**
J20K Nowinta River 32.81 40 P **P 17 15 40.2 +0.4**
baz=266
L20K Farewell, AK 32.85 43 P **P 17 15 40.1 -0.1**
baz=269
SII Sitkinak Islan 33.01 54 P **P 17 15 41.9 +0.2**
baz=278
Q19K Cape Douglas, 33.06 50 P **P 17 15 42.5 +0.5**
baz=275,SNR=8.0
C21K Knifeblade Rid 33.29 31 P **P 17 15 43.9 0.0**
baz=258
G21K Allakaket 33.31 36 IAmb IAmb 17 15 45.9
comp=Z,3.9nm,0.8s
G21K Allakaket 33.31 36 P **P 17 15 44.5 +0.3**
baz=263
F21K Alatna River 33.42 35 P **P 17 15 45.0 -0.1**
baz=262
B21K Ikpikpuk River 33.45 30 P **P 17 15 46.0 +0.8**
B21K IAmb IAmb 17 15 47.0
comp=Z,5.7nm,0.7s
B21K Ikpikpuk River 33.45 30 P **P 17 15 44.6 -0.7**
baz=257
O20K Slope Mountain 33.50 48 P **P 17 15 45.5 -0.3**
baz=274
H21K Melozitna Rive 33.51 38 P **P 17 15 45.5 -0.3**
H21K Melozitna Rive 33.51 38 P **P 17 15 45.5 -0.3**
baz=265
CHUM Lake Minchumin 33.60 41 P **P 17 15 47.2 +0.6**
baz=268
PPLA Purkeypile 33.63 43 P **P 17 15 46.2 -0.9**
baz=270
SPCR Spurr Chakacha 33.65 46 P **P 17 15 47.1 -0.1**
baz=272
A22K Sinclair Lake 33.68 28 P **P 17 15 46.0 -1.2**
baz=255
CAST Castle Rocks 33.69 42 P **P 17 15 47.2 -0.2**
baz=269
SKT Skwentna 33.95 44 P **P 17 15 49.4 -0.3**
baz=272
F22K John River 33.96 34 P **P 17 15 49.3 -0.4**
baz=263
D22K Ayikyak River 33.98 32 P **P 17 15 49.6 -0.3**
baz=260
B22K Teshekpuk Lake 34.02 29 P **P 17 15 50.3 +0.2**
B22K IAmb IAmb 17 15 51.3
comp=Z,7.1nm,1.4s
B22K Teshekpuk Lake 34.02 29 P **P 17 15 49.7 -0.4**
baz=258
H22K Ishtalitna Cre 34.11 37 P **P 17 15 51.1 +0.1**
baz=266
E22K Anaktuvuk Pass 34.18 33 P **P 17 15 51.9 +0.3**
E22K Anaktuvuk Pass 34.18 33 P **P 17 15 51.5 -0.1**
baz=262
BPAW Bear Paw Mtn. 34.19 41 P **P 17 15 51.3 -0.5**
baz=269
KTH Kantishna Hill 34.21 42 P **P 17 15 52.0 0.0**
KTH IAmb IAmb 17 15 54.1
comp=Z,5.1nm,0.9s
TRF Thorofare Moun 34.50 42 P **P 17 15 54.2 -0.4**
baz=271
CUT Chulitna 34.53 44 P **P 17 15 54.5 -0.1**
baz=272
COLD Coldfoot 34.69 35 P **P 17 15 55.4 -0.5**
baz=265
D23K Nanushuk River 34.71 32 P **P 17 15 55.1 -1.1**
baz=262
G23K Bananza Creek 34.72 36 P **P 17 15 56.1 -0.2**
baz=266
RC01 Rabbit Creek A 34.85 46 P **P 17 15 57.6 +0.2**
baz=275
H23K Yukon River 34.86 38 P **P 17 15 57.3 -0.2**
baz=268
C23K Itkillik River 34.86 30 P **P 17 15 56.8 -0.6**
baz=261
O22K Cooper Landing 34.91 47 P **P 17 15 58.4 +0.5**
baz=276
I23K Minto, Yukon-K 34.92 39 P **P 17 15 57.4 -0.5**
baz=269
E23K Chandalar 34.99 34 P **P 17 15 58.2 -0.4**
baz=265
NEA2 Nenana 35.03 40 P **P 17 15 59.4 +0.4**
NEA2 IAmb IAmb 17 16 01.3
comp=Z,6.0nm,0.8s
NEA2 Nenana 35.03 40 P **P 17 15 58.4 -0.5**
baz=270,SNR=8.7
TOLK Toolik Lake Re 35.07 33 IAmb IAmb 17 16 30.8
comp=Z,10nm,1.4s
TOLK Toolik Lake Re 35.07 33 P **P 17 15 58.3 -1.0**
baz=264

MCK McKinley 35.10 41 P **P 17 15 59.6 0.0**
baz=272
D24K Happy Valley 35.40 32 P **P 17 16 02.3 +0.3**
D24K IAmb IAmb 17 16 23.4
comp=Z,7.0nm,1.4s
D24K Happy Valley 35.40 32 P **P 17 16 01.4 -0.6**
baz=264
E24K Your Creek 35.41 34 IAmb IAmb 17 16 04.7
comp=Z,5.7nm,1.2s
E24K Your Creek 35.41 34 P **P 17 16 01.6 -0.6**
baz=266
SML Sawmill 35.47 45 **P 17 16 02.8 0.0**
SML Sawmill 35.47 45 P **P 17 16 02.2 -0.6**
baz=275,SNR=6.4
C24K Franklin Bluff 35.51 31 P **P 17 16 01.9 -1.0**
baz=263
H24K Noodor Dome 35.55 38 P **P 17 16 02.6 -0.8**
baz=270
PWL Port Wells 35.55 46 P **P 17 16 03.0 -0.5**
baz=276
COLA College 35.56 39⇑ i P **P 17 16 04.2 +0.8**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 35.56 39 P **P 17 16 02.9 -0.4**
baz=271
CCB Clear Creek Bu 35.58 40 P **P 17 16 04.3 +0.7**
CCB IAmb IAmb 17 16 05.9
comp=Z,3.3nm,0.8s
F24K Squaw Lake 35.60 35 P **P 17 16 03.2 -0.6**
baz=267
G24K Hadweenzic Riv 35.73 36 P **P 17 16 05.6 +0.7**
G24K IAmb IAmb 17 16 07.1
comp=Z,6.0nm,1.0s
G24K Hadweenzic Riv 35.73 36 P **P 17 16 04.7 -0.2**
baz=269
POKR Poker Plat Res 35.73 39 P **P 17 16 04.6 -0.4**
baz=271
SCM Sheep Creek Mo 35.94 44 P **P 17 16 06.2 -0.6**
baz=276
HDA Harding Lake 35.95 40 IAmb IAmb 17 16 07.8
comp=Z,2.9nm,0.6s
HDA Harding Lake 35.95 40 P **P 17 16 05.9 -0.9**
baz=272
ILAR Eielson Array 35.97 39 P **P 17 16 07.3 +0.4**
comp=Z,11nm,1.3s,baz=257,slow=7.9,SNR=18
comp=Z,11nm,1.3s
P23K Montague Islan 36.11 48 P **P 17 16 07.7 -0.5**
baz=278
G25K Bearman Lake 36.28 36 P **P 17 16 08.9 -0.6**
baz=270
D25K Kavik River 36.28 32 IAmb IAmb 17 16 11.1
comp=Z,3.5nm,0.8s
D25K Kavik River 36.28 32 P **P 17 16 08.3 -1.3**
baz=266
H25L Birch Creek 36.39 37 P **P 17 16 09.9 -0.6**
baz=271
F25K Christian Rive 36.47 35 P **P 17 16 10.0 -1.2**
baz=269
K24K Donnelly Dome 36.50 41 P **P 17 16 10.3 -1.1**
baz=274
E25K Arctic Village 36.51 34 P **P 17 16 10.7 -0.9**
baz=268
PRP Porcupine Dome 36.52 38 P **P 17 16 10.9 -0.9**
baz=272,SNR=6.4
J25K Salcha River, 36.63 40 P **P 17 16 11.8 -0.8**
baz=273
KLU Klutina 36.65 45 P **P 17 16 12.0 -0.9**
baz=277
PAX Paxson 36.70 42 P **P 17 16 12.5 -0.8**
baz=276
C26K Camden Bay 36.83 31 P **P 17 16 13.5 -0.7**
baz=267
BMAR Burnt Mountain 36.88 35 P **P 17 16 14.8 +0.2**
BMAR PcP **PcP 17 18 34.5 +1.3**
HARP HAARP 36.90 43 P **P 17 16 14.7 -0.2**
baz=277
RIDG Independent Ri 36.92 41 P **P 17 16 14.7 -0.4**
baz=275
F26K Sheenjek River 37.04 34 P **P 17 16 15.4 -0.7**
baz=270
G26K Porcupine Rive 37.19 36 P **P 17 16 16.6 -0.7**
baz=272
C27K Jago River 37.24 31 P **P 17 16 16.7 -0.9**
baz=268
N25K Chitina, Valde 37.26 45 P **P 17 16 17.7 -0.3**
baz=278
DOT Dot Lake 37.27 41 **P 17 16 17.2 -0.9**
SCRK Sand Creek 37.27 41 IAmb IAmb 17 16 18.8
comp=Z,6.4nm,1.5s
SCRK Sand Creek 37.27 41 P **P 17 16 17.2 -1.0**
baz=276
BMRM Bremner River 37.35 46 P **P 17 16 18.5 -0.3**
baz=279
J26L Joseph Creek 37.41 40 P **P 17 16 18.9 -0.4**
baz=275
LZH Lanzhou 37.56 270 eP **P 17 16 22.5 +1.6**
LZH pP pP 17 16 51.0 +2.1
LZH sP sP 17 17 03.8 +0.3
LZH pmax pmax
comp=Z,34nm,1.0s
L26K Log Cabin Wild 37.66 42 P **P 17 16 20.8 -0.5**
baz=277
M26K Nabesna, AK 37.90 43 P **P 17 16 23.2 -0.1**
baz=278
E27K Coleen River 38.00 34 P **P 17 16 24.6 +0.6**
baz=272
G27K Doyon Strip 38.04 36 P **P 17 16 24.0 -0.4**
baz=274
K27K Chicken 38.11 40 IAmb IAmb 17 16 26.9
comp=Z,5.8nm,1.1s
K27K Chicken 38.11 40 P **P 17 16 25.4 +0.4**
baz=277,SNR=6.3
H27K Steamboat Moun 38.13 37 P **P 17 16 25.8 +0.6**
baz=275
I27K Kandik River 38.14 38 P **P 17 16 25.5 +0.2**
baz=275
D27M Malcolm River 38.20 32 P **P 17 16 26.4 +0.6**
baz=271
L27K Beaver Creek, 38.34 42 IAmb IAmb 17 16 30.4
comp=Z,8.5nm,1.4s
L27K Beaver Creek, 38.34 42 P **P 17 16 27.3 +0.3**
baz=278,SNR=6.0
M27K Edge Creek, AK 38.42 43 P **P 17 16 28.6 +0.8**
baz=279
GTA Gaotai 38.52 278 eP **P 17 16 28.8 -0.1**
GTA pmax pmax
comp=Z,1.0nm,0.9s
E28M Babbage River 38.74 33 P **P 17 16 30.3 +0.1**
baz=273
I28M Miner Creek 38.85 38 P **P 17 16 32.3 +0.9**
I28M Miner Creek 38.85 38 P **P 17 16 31.7 +0.3**
baz=277,SNR=5.7
BVCY Beaver Creek 38.88 43 P **P 17 16 32.2 +0.7**
baz=280
YUK3 Moose Creek 39.18 44 P **P 17 16 34.3 0.0**
baz=281
DAWY Dawson 39.27 40 P **P 17 16 35.7 +1.0**
baz=279
E29M Blow River 39.36 33 P **P 17 16 35.8 +0.4**
baz=275
H29M Whitestone 39.40 37 P **P 17 16 35.9 +0.2**
baz=277
G29M Pine Creek 39.46 35 P **P 17 16 36.3 0.0**
baz=277
O28M Mount Upton 39.51 45 P **P 17 16 37.3 +0.3**
baz=282
PINM Pinnacle 39.62 46 P **P 17 16 38.9 +1.1**
baz=283
M29M Somme Creek 39.97 42 P **P 17 16 41.3 +0.7**
baz=282
L29M L29M 39.99 41 P **P 17 16 42.2 +1.5**
L29M IAmb IAmb 17 16 43.4
comp=Z,3.4nm,0.7s
L29M L29M 39.99 41 P **P 17 16 41.4 +0.7**
baz=281,SNR=5.3
EPYK Eagle Plains 40.04 36 P **P 17 16 41.7 +0.6**
baz=279
K29M Barlow Dome 40.12 40 P **P 17 16 42.5 +0.6**
baz=281
G30M tAoh Zraii Nji 40.15 35 P **P 17 16 41.9 -0.1**
baz=278
F30M Barrier River 40.23 34 P **P 17 16 43.4 +0.8**
baz=278
I30M Mount Dempster 40.37 38 P **P 17 16 44.6 +0.7**
I30M IAmb IAmb 17 16 46.2
comp=Z,5.5nm,0.9s
I30M Mount Dempster 40.37 38 P **P 17 16 43.8 -0.1**
baz=280,SNR=9.7

J30M Hart River 40.50 39 P **P 17 16 43.7 -1.3**
baz=281
M30M Minto, Yukon 40.70 42 P **P 17 16 46.5 -0.1**
baz=283
HYT Haines Junctio 40.78 45 P **P 17 16 47.9 +0.6**
baz=284
G31M Satah River 40.92 35 P **P 17 16 48.5 +0.3**
baz=280
INK Inuvik 40.98 33 P **P 17 16 49.7 +1.0**
INK Inuvik 40.98 33 P **P 17 16 49.7 +1.0**
INK pmax pmax
comp=Z,5.0nm,1.4s
INK Inuvik 40.98 33 P **P 17 16 49.2 +0.6**
baz=279
H31M Peel River 41.09 37 P **P 17 16 50.1 +0.3**
baz=281
P30M Million Dollar 41.22 46 P **P 17 16 50.7 -0.1**
baz=286
O30N Mendenhall 41.46 45 P **P 17 16 52.9 +0.1**
baz=286
ZALV Zalesovo Beam 41.78 305 P **P 17 16 53.9 -1.5**
comp=Z,1.5nm,0.5s,baz=58,slow=7.5,SNR=8.4
ZALV pP **pwP 17 17 28.4 0.0**
comp=Z,1.1nm,0.7s,baz=77,slow=8.0,SNR=2.9
ZALV PcP **PcP 17 18 49.5 +0.6**
comp=Z,1.3nm,0.3s,baz=43,slow=2.9,SNR=9.8
comp=Z,1.5nm,0.5s
M31M Drury Creek, Y 41.88 42 P **P 17 16 56.0 -0.1**
M31M Drury Creek, Y 41.88 42 P **P 17 16 55.8 -0.3**
baz=285
WHY Whitehorse 42.07 45 P **P 17 16 57.4 -0.4**
baz=286
S31K Pelican 42.20 49 P **P 17 16 58.6 -0.2**
baz=288
FARO Faro, Yukon 42.34 42 P **P 17 17 00.4 +0.4**
baz=286
TGY Tagaytay City 42.64 229 LR LR 17 33 17.1
comp=Z,29nm,19.9s,baz=12,slow=34
R32K Eaglecrest 42.96 48 P **P 17 17 05.3 +0.4**
baz=289
P33M Teslin, Yukon 43.18 45 P **P 17 17 07.1 +0.3**
baz=288
R33M Jennings River 44.33 45 P **P 17 17 16.9 +0.9**
baz=290
DLBC Dease Lake 45.13 46 P **P 17 17 22.4 +0.1**
baz=292
KMI Kunming 45.13 258 P **P 17 17 23.5 +0.6**
KMI sP sP 17 18 04.8 -1.3
KMI pmax pmax
comp=Z,13nm,0.9s
V35K Ketchikan 45.52 51 P **P 17 17 26.4 +1.1**
baz=294
T35M Bob Quinn 45.57 48 P **P 17 17 27.0 +1.3**
baz=293
MK31 Makanchi Array 46.21 296 P **P 17 17 28.9 -2.0**
MK31 PcP **PcP 17 19 03.3 -1.0**
MK31 Makanchi Array 46.21 296*d* P **P 17 17 29.6 -1.3**
MK31 *e*PP **pwP 17 18 02.9 -1.4**
MKAR Makanchi Array 46.21 296 P **P 17 17 29.1 -1.8**
MKAR PcP **PcP 17 19 04.5 +0.2**
MKAR Makanchi Array 46.21 296 P **P 17 17 29.9 -1.0**
comp=Z,0.5nm,0.5s,baz=64,slow=7.3,SNR=11
MKAR pP **pwP 17 18 03.1 -1.2**
comp=Z,1.7nm,0.9s,baz=64,slow=9.5,SNR=5.2
MKAR PcP **PcP 17 19 04.5 +0.2**
comp=Z,1.1nm,0.7s,baz=56,slow=3.0,SNR=5.4
comp=Z,0.5nm,0.5s
KURK Kurchatov 46.56 303 P **P 17 17 31.7 -1.8**
KURK IAmb IAmb 17 17 33.1
comp=Z,4.3nm,0.8s
KURK Kurchatov 46.56 303*d* P **P 17 17 32.1 -1.4**
KURK pmax pmax
comp=Z,6.0nm,1.1s
KURBB Kurchatov Arra 46.65 303 P **P 17 17 33.0 -1.2**
comp=Z,3.0nm,0.6s,baz=69,slow=8.3,SNR=29
KURBB pP **pwP 17 18 06.8 -0.8**
comp=Z,2.3nm,0.8s,baz=68,slow=8.3,SNR=4.5
KURBB PcP **PcP 17 19 06.1 +0.4**
comp=Z,1.5nm,0.8s,baz=66,slow=3.1,SNR=6.8
comp=Z,3.0nm,0.6s
GRNB Grenville Isla 47.02 52 P **P 17 17 38.7 +1.6**
GRNB IAmb IAmb 17 17 39.9
comp=Z,7.9nm,1.0s
HG4B Hotspring 47.03 55 P **P 17 17 38.5 +1.3**
TOAD Toad River Com 47.27 45 P **P 17 17 39.5 +0.6**
baz=295
EUNU Eureka 48.21 12 P **P 17 17 45.9 -0.1**
HOLB Holberg 49.50 55 P **P 17 17 56.9 +0.7**
BVAR Borovoye Array 49.99 309 P **P 17 17 59.2 -0.6**
comp=Z,1.3nm,0.3s,baz=42,slow=7.2,SNR=10
BVAR pP **pwP 17 18 34.2 +0.7**
comp=Z,0.8nm,0.5s,baz=58,slow=5.6,SNR=1.9
BVAR PcP **PcP 17 19 18.1 +0.3**
comp=Z,2.7nm,0.5s,baz=60,slow=2.1,SNR=9.7
comp=Z,1.3nm,0.3s
BRVK Borovoye 50.03 309*ce*P **P 17 17 59.3 -0.8**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
CRAI Chiangrai 50.11 256 P **P 17 18 01.1 0.0**
CRAI IAmb IAmb 17 18 03.3
comp=Z,6.0nm,0.8s
YKAW3 Yellowknife Wh 50.28 37 P **P 17 18 02.4 +0.6**
YKAW3 IAmb IAmb 17 18 03.6
comp=Z,1.4nm,0.7s
YKA Yellowknife Ar 50.31 37 P **P 17 18 02.8 +0.7**
comp=Z,0.9nm,0.6s,baz=298,slow=7.3,SNR=16
comp=Z,0.9nm,0.6s
YKA Yellowknife Ar 50.31 37*ce*P **P 17 18 03.0 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
CHTO Chiang Mai 52.05 256 P **P 17 18 16.5 +0.9**
CHTO Chiang Mai 52.05 256 P **P 17 18 16.5 +0.9**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 52.31 255 P **P 17 18 18.9 +1.4**
comp=Z,5.3nm,0.7s,baz=36,slow=7.2,SNR=43
CMAR PcP **PcP 17 19 28.3 +1.4**
comp=Z,0.8nm,0.5s,baz=23,slow=3.6,SNR=5.6
comp=Z,5.3nm,0.7s
CMAR Chiang Mai Arr 52.31 255*ce*P **P 17 18 19.3 +1.8**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
BOOM Boomskoye usch 52.31 295 P **P 17 18 17.2 -0.3**
BOOM Boomskoye usch 52.31 295 P **P 17 18 17.2 -0.3**
BOOM pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 53.12 295 *e*P **P 17 18 22.7 -0.7**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 53.12 295 *e*P **P 17 18 22.7 -0.7**
FAKI Fak Fak 53.53 206 P **P 17 18 27.5 +1.1**
ARTI Arti 54.17 317 P **P 17 18 28.8 -1.9**
ARTI Arti 54.17 317*d i*P **P 17 18 29.4 -1.2**
ARTI S **S 17 25 55.6 -1.5**
ARTI SS **SS 17 29 34.2 -5.7**
ARTI pmax pmax
comp=Z,9.0nm,1.3s
I02E Swisshome, OR 55.47 60 P **P 17 18 42.1 +2.0**
I03D Drain, OR 56.00 60 P **P 17 18 45.6 +1.7**
ARCES ARCESS Array B 56.81 340 P **P 17 18 48.0 -1.3**
comp=Z,0.9nm,0.4s,baz=35,slow=6.9,SNR=5.4
comp=Z,0.9nm,0.4s
PINE Pine Mountain 57.35 59 P **P 17 18 54.6 +0.9**
PINE IAmb IAmb 17 18 56.5
comp=Z,3.9nm,0.8s
L04D Klamath Falls 57.50 61 P **P 17 18 55.4 +0.7**
AB31 Akbulak array 57.55 309 P **P 17 18 53.3 -1.5**
AB31 IAmb IAmb 17 18 55.2
comp=Z,3.3nm,1.0s
ABKAR Akbulak array 57.55 309 P **P 17 18 53.6 -1.1**
ABKAR Akbulak array 57.55 309 P **P 17 18 53.4 -1.4**
ABKAR IAmb IAmb 17 18 55.2
comp=Z,3.4nm,1.0s
PLID Pearl Lake 59.36 55 P **P 17 19 08.7 +0.9**
PLID IAmb IAmb 17 19 09.8
comp=Z,5.0nm,0.9s
FCC Fort Churchill 60.60 33 P **P 17 19 15.8 +0.2**
FCC Fort Churchill 60.60 33 P **P 17 19 15.8 +0.2**
FCC pmax pmax
comp=Z,2.0nm,1.1s
LRM Limekiln Ridge 60.84 53 P **P 17 19 18.7 +0.9**
PNTR Pine Nut 61.05 63 P **P 17 19 20.5 +1.2**
PNTR IAmb IAmb 17 19 21.4
comp=Z,3.8nm,0.7s
KULM Kulim 61.23 244 P **P 17 19 21.2 +0.7**
CMB Columbia Colle 61.25 64 P **P 17 19 20.8 +0.4**
CMB IAmb IAmb 17 19 22.4
comp=Z,2.0nm,0.6s
CMB Columbia Colle 61.25 64 P **P 17 19 20.8 +0.4**
CMB pmax pmax
comp=Z,2.0nm,0.6s
KBL Kabul 61.41 291 P **P 17 19 20.1 -1.7**
KBL IAmb IAmb 17 19 21.7
comp=Z,3.3nm,0.8s
KBL Kabul 61.41 291 P **P 17 19 20.1 -1.7**
KBL pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 61.43 53 P **P 17 19 22.2 +0.6**
BOZ IAmb IAmb 17 19 23.5
comp=Z,2.5nm,0.6s
BOZ Bozeman (W) 61.43 53 P **P 17 19 22.2 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.6s
WAKR Walker 61.52 63 P **P 17 19 22.9 +0.5**
WAKR IAmb IAmb 17 19 24.6
comp=Z,2.4nm,0.8s
COEN Coen 62.00 190 P **P 17 19 26.4 +0.9**
COEN IAmb IAmb 17 19 27.3
comp=Z,5.2nm,0.9s
SCO Scoresbysund 62.02 358 P **P 17 19 25.7 +0.7**
SCO Scoresbysund 62.02 358 P **P 17 19 25.7 +0.7**
SCO pmax pmax
comp=Z,14nm,1.3s
NVAR Mina Array Bea 62.25 63 P **P 17 19 27.9 +0.6**
NVAR Mina Array Bea 62.25 63 P **P 17 19 28.3 +1.0**
comp=Z,1.8nm,0.7s,baz=290,slow=7.0,SNR=9.3
NVAR pP **pwP 17 20 00.5 +1.9**
comp=Z,1.4nm,0.7s,baz=294,slow=7.7,SNR=5.1
comp=Z,1.8nm,0.7s
ELK Elko 62.55 59 P **P 17 19 31.3 +2.0**
comp=Z,0.3nm,0.5s,baz=284,slow=8.3,SNR=2.2
ELK pP **pwP 17 20 02.9 +2.4**
comp=Z,0.7nm,0.6s,baz=337,slow=6.9,SNR=2.6
ELK LR LR 17 47 43.7
comp=Z,30nm,18.2s,baz=316,slow=37
comp=Z,0.3nm,0.5s
XMAS Kiritimati 62.57 121 P **P 17 19 30.2 +0.7**
RLMT Red Lodge 63.00 52 P **P 17 19 33.3 +1.1**
RLMT IAmb IAmb 17 20 07.1
comp=Z,5.2nm,1.4s
FIA1 FINESS Array S 63.00 334 P **P 17 19 30.2 -1.4**
FINES FINESS Array B 63.01 334 P **P 17 19 30.1 -1.5**
FINES FINESS Array B 63.01 334 P **P 17 19 30.2 -1.4**
comp=Z,1.4nm,0.3s,baz=34,slow=7.5,SNR=34
comp=Z,1.4nm,0.3s
MTN Manton Dam 63.30 204 P **P 17 19 34.5 +0.4**
R11B Troy Canyon, C 63.92 61 P **P 17 19 38.4 +0.1**
OBN Obninsk 64.31 325⇑ *e*P **P 17 19 39.1 -1.2**
OBN *e**PP **pwP 17 20 16.4 +1.0**
OBN *e* 17 22 04.4
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 64.31 325 *e*P **P 17 19 39.1 -1.2**
BW06 Boulder Array 64.41 54 P **P 17 19 42.2 +0.7**
PDAR Pinedale Array 64.41 54 P **P 17 19 42.4 +0.9**
PDAR Pinedale Array 64.41 54 P **P 17 19 42.2 +0.7**
comp=Z,1.3nm,0.8s,baz=314,slow=1.6,SNR=17
comp=Z,1.3nm,0.8s
GWY Greenwater Val 64.70 63 P **P 17 19 44.5 +1.1**
GSI Gunungsitoli 66.24 244 P **P 17 19 55.0 +1.7**
PFO Pinyon Flats O 66.55 65⇑ *i*P **P 17 19 55.3 0.0**
PFO pmax pmax
comp=Z,12nm,1.1s
NC405 NORSAR Array S 67.01 341 P **P 17 19 57.6 0.0**
NB2 NORSAR Subarra 67.18 341 P **P 17 19 58.2 -0.5**
comp=Z,0.6nm,0.5s,baz=27,slow=6.5
NOA NORSAR Array B 67.18 341 P **P 17 19 57.8 -0.9**
comp=Z,0.7nm,0.5s,baz=28,slow=6.5,SNR=8.1
comp=Z,0.7nm,0.5s
HFS Hagfors 67.41 339 P **P 17 19 58.9 -1.2**
comp=Z,2.3nm,0.5s,baz=57,slow=5.5,SNR=21
comp=Z,2.3nm,0.5s
PV13 Radium Mtn., P 67.97 57 P **P 17 20 05.4 +1.2**
PV13 IAmb IAmb 17 20 05.9
comp=Z,2.5nm,0.5s
WB0 Warramunga Arr 69.17 198 P **P 17 20 11.9 +0.4**
WB0 IAmb IAmb 17 20 12.8
comp=Z,4.7nm,0.9s
WR8 Warramunga Arr 69.33 198 P **P 17 20 12.9 +0.4**
WR8 IAmb IAmb 17 20 13.9
comp=Z,4.1nm,0.9s
WRA Warramunga Arr 69.36 198 P **P 17 20 13.1 +0.5**
comp=Z,2.3nm,0.7s,baz=19,slow=6.8,SNR=28
comp=Z,2.3nm,0.7s
FITZ Fitzroy Crossi 69.88 207 P **P 17 20 16.9 +1.1**
KBZ Khabaz 69.95 313 P **P 17 20 15.4 -0.7**
comp=Z,1.1nm,0.6s,baz=53,slow=17,SNR=4.1
comp=Z,1.1nm,0.6s
AKASG Malin Array Be 70.55 326 P **P 17 20 18.4 -1.2**
comp=Z,1.0nm,0.3s,baz=37,slow=6.3,SNR=7.9
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 70.55 326*ce*P **P 17 20 19.8 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 70.55 326 *i* P **P 17 20 19.6 0.0**
AKBB pmax pmax
comp=Z,26nm,2.4s
KIEV Kiev 70.56 326 P **P 17 20 19.3 -0.4**
KIEV IAmb IAmb 17 20 20.8
comp=Z,6.1nm,1.1s
KIEV Kiev 70.56 326⇓ P **P 17 20 19.1 -0.6**
KIEV Kiev 70.56 326 P **P 17 20 19.3 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
SCHQ Schefferville 72.51 23 P **P 17 20 31.6 +0.2**
SCHQ IAmb IAmb 17 20 50.4
comp=Z,14nm,1.4s
SCHQ Schefferville 72.51 23 P **P 17 20 31.8 +0.4**
comp=Z,1.3nm,0.4s,baz=286,slow=4.5,SNR=5.6
comp=Z,1.3nm,0.4s
PALK Pallekele 72.53 261 P **P 17 20 32.8 +0.7**
PALK IAmb IAmb 17 20 37.4
comp=Z,12nm,1.4s
PALK Pallekele 72.53 261 P **P 17 20 32.8 +0.7**
PALK pmax pmax
comp=Z,12nm,1.4s
AS31 Alice Springs 73.06 198 P **P 17 20 36.6 +1.8**
AS31 IAmb IAmb 17 20 37.3
comp=Z,3.4nm,0.6s
ASAR Alice Springs 73.06 198 P **P 17 20 36.4 +1.5**
ASAR Alice Springs 73.06 198 P **P 17 20 36.6 +1.7**
comp=Z,7.7nm,0.7s,baz=9.2,slow=5.5,SNR=177
comp=Z,7.7nm,0.7s
ASAR Alice Springs 73.06 198 P **P 17 20 36.4 +1.5**
BUR08 Bucovina Ar. S 74.57 326 P **P 17 20 42.8 -0.8**
BURAR Bucovina Array 74.59 326 P **P 17 20 43.3 -0.4**
BURAR Bucovina Array 74.59 326⇑ P **P 17 20 43.3 -0.4**
EKA Eskdalemuir Ar 75.30 346 P **P 17 20 47.5 0.0**
comp=Z,0.6nm,0.3s,baz=21,slow=5.1,SNR=17
comp=Z,0.6nm,0.3s
ESK Eskdalemuir 75.32 346 P **P 17 20 47.5 -0.1**
ESK Eskdalemuir 75.32 346 P **P 17 20 47.6 -0.1**
ESK pmax pmax
comp=Z,17nm,1.2s
VHRN Van Horn 75.43 60 P **P 17 20 49.5 +0.6**
TPGR Topolog 75.60 323⇑ P **P 17 20 49.7 +0.2**
MLR Muntele Rosu 76.07 324⇑ P **P 17 20 51.5 -0.7**
UOSS Minazif 76.07 292 P **P 17 20 52.2 -0.3**
UOSS IAmb IAmb 17 21 01.1
comp=Z,16nm,1.4s
ILGA Ilgaz 76.36 317 P **P 17 20 54.7 +0.6**
VOIR 76.47 325⇓ P **P 17 20 55.3 +0.8**
TX31 Lajitas Ar. Si 77.27 60 P **P 17 20 59.9 +0.6**
TXAR Lajitas Array 77.27 60 P **P 17 21 00.1 +0.8**
comp=Z,1.9nm,0.6s,baz=297,slow=4.2,SNR=30
comp=Z,1.9nm,0.6s
GERES GERESS Array B 77.42 334 P **P 17 20 59.2 -0.5**
comp=Z,0.5nm,0.4s,baz=32,slow=5.3,SNR=4.5
comp=Z,0.5nm,0.4s
BRTR Keskin Array B 77.45 316 P **P 17 21 00.6 +0.5**
BRTR Keskin Array B 77.45 316 P **P 17 20 59.7 -0.5**
comp=Z,0.6nm,0.6s,baz=63,slow=3.1,SNR=4.0
comp=Z,0.6nm,0.6s
BRTR Keskin Array B 77.45 316*ce*P **P 17 21 02.0 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
PRED Cave del Predi 79.61 333 P **P 17 21 11.1 -0.7**
FUORN Ofenpass-Fuorn 80.44 335 P **P 17 21 16.4 0.0**
TUE Stuetta 80.83 335 P **P 17 21 19.4 +0.9**
TUE IAmb IAmb 17 21 53.3
comp=Z,8.3nm,1.4s
PDG Podgorica 81.22 327 P **P 17 21 19.7 -0.6**
FORT Forrest 81.23 201 P **P 17 21 21.5 +1.2**
MMAI Mount Meron Ar 81.92 311 P **P 17 21 24.6 +0.3**
comp=Z,1.1nm,0.5s,baz=61,slow=5.2,SNR=7.1
comp=Z,1.1nm,0.5s
FDMO Fiordimonte 82.81 331 P **P 17 21 28.8 +0.1**
BNI Bardonecchia 82.88 336 P **P 17 21 29.5 +0.4**
BNI Bardonecchia 82.88 336 P **P 17 21 29.5 +0.4**
BNI pmax pmax
comp=Z,4.0nm,1.1s
OSSC Osservatorio P 82.95 333 P **P 17 21 29.1 -0.4**
OSSC IAmb IAmb 17 21 55.5
comp=Z,6.3nm,0.9s
NRCA Norcia 82.98 331 P **P 17 21 29.4 -0.2**
GHAJ Ghor Haditha 83.20 310 P **P 17 21 31.1 +0.3**
SSB Saint Sauveur 83.22 338 P **P 17 21 31.3 +0.5**
SSB IAmb IAmb 17 21 32.3
comp=Z,9.8nm,1.3s
SSB Saint Sauveur 83.22 338 P **P 17 21 31.3 +0.5**
SSB pmax pmax
comp=Z,10.0nm,1.3s
RAYN Ar Rayn 83.67 298 P **P 17 21 34.3 +0.8**
RAYN IAmb IAmb 17 21 34.7
comp=Z,6.3nm,0.9s
RAYN Ar Rayn 83.67 298 P **P 17 21 34.3 +0.8**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
ITM Ithomi 84.70 323 P **P 17 21 37.0 -1.4**
ESDC Sonseca Array 90.51 342 P **P 17 22 05.7 -0.5**
comp=Z,0.2nm,0.3s,baz=13,slow=5.1,SNR=3.8
comp=Z,0.2nm,0.3s
QSPA South Pole Qui 137.48 180 PKP **PKPdf 17 28 27.0 +0.8**
comp=Z,0.7nm,0.5s,baz=177,slow=0.9,SNR=8.6
H03N2 Juan Fernandez 139.06 89 T T 20 03 28.4
baz=309,slow=77,SNR=5.5
H03N1 Juan Fernandez 139.07 89 T T 20 03 29.8
baz=309,slow=77,SNR=5.0
H03N3 Juan Fernandez 139.07 89 T T 20 03 31.0
baz=309,slow=77,SNR=3.1
NVL N'lazarevskaya 150.41 205 *e*PKIKP **PKPbc 17 28 54.2 +0.5**
NVL pmax pmax
comp=Z,9.0nm,0.8s

IDC 29 17:16:16.6±5.9, 3°.31S×67°.69E, h0km, mb3.6/4, mbtmp3.6/4, MS3.6/13, Error ellipse: s-maj=149.3km s-min=43.2km az=81.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.80**	**79**	LR	LR	17 33 30.0	
	comp=Z,80nm,18.6s,baz=219,slow=32						
BRDH	**Bariadhala**	**34.84**	**41**	LR	LR	17 39 11.1	
	comp=Z,69nm,18.2s,baz=254,slow=40						
CMAR	**Chiang Mai Arr**	**37.62**	**54**	P	P	17 23 33.3	-0.1
	0.2nm,0.3s,baz=222,slow=7.3,SNR=4.5						
CMAR				LR	LR	17 37 37.8	
	comp=Z,30nm,18.5s,baz=235,slow=34						
	0.2nm,0.3s						
LEM	**Lembang**	**39.91**	**97**	LR	LR	17 36 13.1	
	comp=Z,74nm,19.8s,baz=279,slow=30						
LSZ	**Lusaka**	**40.67**	**250**	LR	LR	17 38 55.6	
	comp=Z,85nm,18.3s,baz=98,slow=33						
LBTB	**Lobatse**	**45.88**	**238**	LR	LR	17 41 38.1	
	comp=Z,96nm,19.8s,baz=118,slow=33						
AAK	**Ala-Archa**	**46.14**	**7**	LR	LR	17 41 37.0	
	comp=Z,59nm,20.0s,baz=135,slow=33						
BOSA	**Boshof**	**47.54**	**234**	LR	LR	17 41 32.4	
	comp=Z,51nm,20.5s,baz=125,slow=32						
KAPI	**Kappang**	**51.94**	**94**	LR	LR	17 44 46.6	
	comp=Z,26nm,20.9s,baz=242,slow=33						
SUR	**Sutherland**	**52.56**	**231**	LR	LR	17 44 40.1	
	comp=Z,110nm,20.4s,baz=122,slow=32						
SONM	**Songino Array**	**61.14**	**29**	P	P	17 26 33.0	0.0
	0.3nm,0.4s,baz=224,slow=8.1,SNR=4.0						
SONM				LR	LR	17 51 51.0	
	comp=Z,86nm,20.5s,baz=226,slow=35						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**66.91**	**114**	P	P	17 27 11.6	+0.2
	0.6nm,0.9s,baz=275,slow=6.3,SNR=5.9						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**66.94**	**110**	P	P	17 27 11.3	-0.2
	0.6nm,0.9s,baz=278,slow=6.3,SNR=1.9						
	0.6nm,0.9s						
NRIK	**Noril'sk**	**73.76**	**7**	LR	LR	17 59 16.7	
	comp=Z,46nm,18.6s,baz=16,slow=35						
YAK	**Yakutsk**	**80.18**	**25**	LR	LR	18 03 44.9	
	comp=Z,68nm,18.1s,baz=84,slow=36						

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*NEIC **29** 17:21:40.9±2.7, 45°.97N±0°.05×106°.94W±0°.08, h0km±1km, ML3.0/46, Error ellipse: s-maj=11.6km s-min=6.3km az=308.0*

*IDC **29** 17:21:41.9±1.3, 45°.72N×106°.65W, h0km, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=44.9km s-min=9.6km az=132.0*

ISC 29 17:21:41.8±0.9, 46°.01N±0°.06×106°.90W±0°.06, h0km, n31, σ1§27/31, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.82**	**34**	Pg	**Pg**	**17 21 58.8**	**+1.2**
LAO				IAML		17 22 14.1	
	355nm,0.6s						
RLMT	**Red Lodge**	**1.89**	**243**		**Pb**	**17 22 16.7**	**-0.5**
RLMT				IAML		17 22 45.7	
	96nm,0.5s						
RLMT				IAML		17 22 46.4	
	158nm,0.5s						
YNE	**Yellowstone No**	**2.41**	**246**	Pn	**Pn**	**17 22 23.6**	**+0.9**
YNE				IAML		17 23 01.7	
	comp=N,118nm,0.5s						
YNE				IAML		17 23 01.9	
	comp=E,102nm,0.5s						
YMP	**Mirror Lake Pl**	**2.62**	**242**		**Pn**	**17 22 24.3**	**-1.4**
EGMT	**Eagleton**	**2.80**	**317**	Pn	**Pn**	**17 22 25.1**	**-2.9**
EGMT				IAML		17 23 15.4	
	comp=E,73nm,0.5s						
LKWY	**Lake**	**2.86**	**241**	Pn	**Pn**	**17 22 28.2**	**-0.7**
LKWY				IAML		17 23 16.2	
	comp=E,56nm,0.6s						
YNR	**Norris Junctio**	**2.96**	**245**	Pn	**Pn**	**17 22 28.8**	**-1.6**
YNR				IAML		17 23 15.1	
	comp=N,71nm,0.5s						
YHH	**Holmes Hill**	**3.04**	**248**		**Pn**	**17 22 30.8**	**-0.7**
H17A	**Grant Village**	**3.06**	**239**	Pn	**Pn**	**17 22 29.4**	**-2.3**
DGMT	**Dagmar**	**3.07**	**36**	Pn	**Pn**	**17 22 31.2**	**-0.4**
YMR	**Madison River**	**3.17**	**246**	Pn	**Pn**	**17 22 31.2**	**-1.9**
YMR				IAML		17 23 24.2	
	comp=E,53nm,0.6s						
YMR				IAML		17 23 36.4	
	comp=N,58nm,0.6s						
YHL	**Hebgen Lake**	**3.23**	**250**		**Pn**	**17 22 34.5**	**+0.5**
YHL				IAML		17 23 31.2	
	comp=N,33nm,0.6s						
YHL				IAML		17 23 33.1	
	comp=E,42nm,0.6s						
YHB	**Horse Butte**	**3.28**	**249**	Pn	**Pn**	**17 22 35.2**	**+0.6**
YHB				IAML		17 23 27.1	
	comp=N,26nm,0.5s						
YHB				IAML		17 23 35.8	
	comp=E,26nm,0.6s						
BOZ	**Bozeman (W)**	**3.33**	**265**		**Pn**	**17 22 36.9**	**+1.6**
BOZ				IAML		17 23 34.2	
	comp=E,36nm,0.6s						
BOZ				IAML		17 23 38.4	
	comp=E,25nm,0.5s						
K22A	**Casper**	**3.37**	**175**	Pn	**Pn**	**17 22 34.4**	**-1.4**
K22A				IAML		17 23 15.4	
	comp=E,42nm,0.5s						
K22A				IAML		17 23 25.2	
	comp=E,34nm,0.3s						
MOOW	**Moose Ponds**	**3.55**	**232**	Pn	**Pn**	**17 22 37.8**	**-0.5**
LOHW	**Long Hollow**	**3.57**	**229**	Pn	**Pn**	**17 22 37.0**	**-1.6**
BW06	**Boulder Array**	**3.76**	**211**	Pn	**Pn**	**17 22 41.8**	**+0.5**
BW06				IAML		17 23 41.7	
	comp=E,25nm,0.5s						
PD31	**Pinedale Array**	**3.76**	**211**	Pn	**Pn**	**17 22 41.8**	**+0.5**
PDAR	**Pinedale Array**	**3.76**	**211**	Pn	**Pn**	**17 22 42.9**	**+1.6**
PDAR	**Pinedale Array**	**3.76**	**211**	Pn	**Pn**	**17 22 42.3**	**+1.0**
	comp=E,0.5nm,0.3s,baz=48,slow=13,SNR=21						
PDAR				Pg	**Pb**	**17 22 49.1**	**-0.1**
	comp=E,2.6nm,0.3s,baz=30,slow=17,SNR=43						
PDAR				Lg	Lg	17 23 35.8	
	comp=E,2.1nm,0.3s,baz=42,slow=37,SNR=6.3						
	comp=E,0.5nm,0.3s						
FXWY	**Fox Creek**	**3.78**	**233**	Pn	**Pn**	**17 22 41.5**	**+0.1**

TPAW	**Teton Pass**	**3.83 230**	Pn	**Pn**	**17 22 42.3**	**+0.1**
TPAW			IAML		17 24 45.1	
comp=E,15nm,4.8s						
LRM	**Limekiln Ridge**	**3.88 269**		**Pn**	**17 22 44.1**	**+1.2**
DLMT	**Dillon**	**4.05 263**	Pn	**Pn**	**17 22 46.0**	**+0.9**
DLMT			IAML		17 24 09.8	
comp=E,13nm,3.5s						
DLMT			IAML		17 24 26.5	
comp=E,17nm,3.9s						
E28A	**Huff**	**4.34 80**	Pn	**Pn**	**17 22 49.8**	**+0.8**
MSO	**Missoula**	**4.94 282**	Pn	**Pn**	**17 22 57.5**	**+0.2**
MSO			IAML		17 24 28.5	
comp=E,14nm,0.6s						
MSO			IAML		17 24 34.1	
comp=E,10nm,1.4s						
HVU	**Hansel Valley**	**5.99 227**	Pn	**Pn**	**17 23 10.1**	**-1.8**
I10CA	**LAC DU BONNET**	**8.39 56**	I	I	18 14 00.0	
baz=237,slow=320,SNR=4.4						
ULM	**Lac du Bonnet**	**8.50 56**	Pn	**Pn**	**17 23 45.6**	**-0.5**
comp=E,0.3nm,0.3s,baz=246,slow=12,SNR=2.3						
ULM			Lg	Lg	17 26 04.1	
comp=E,0.6nm,0.3s,baz=331,slow=20,SNR=2.9						
comp=E,0.9nm,0.4s						
YKA	**Yellowknife Ar**	**17.09 348**	P	**P**	**17 25 44.9**	**+1.2**
baz=168,slow=12,SNR=2.5						
comp=E,0.1nm,0.6s						

*SJA **29** 17:25:09.5±0.7,27°.67S×71°.50W,h25km±2km,ML3.3, MW3.7*
*GUC **29** 17:25:13.9±0.6,27°.76S×71°.31W,h37km±2km,ML3.5*

ISC 29 17:25:07.3±1.9,27°.64S±0°.03×71°.61W±0°.06,h5km±12km, n32,σ1°99/58,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.73**	**140**	*i* P	**Pb**	**17 25 23.7**	**+1.1**
AC04				*e*S	**Sb**	**17 25 31.2**	**-1.7**
AC04				IAML		17 25 32.7	
comp=E,2μm,0.1s							
AC04	**Llanos de Chal**	**0.73**	**140**	*e*P	**Pb**	**17 25 22.9**	**+0.2**
AC04				*e*S	**Sb**	**17 25 32.0**	**-1.0**
AC04				IAML		17 25 33.1	
comp=Z,611nm,0.4s							
AC06	**Mina Casimiro**	**1.15**	**76⇓**	*e*P	**Pg**	**17 25 30.2**	**+0.8**
AC06				*e*S	**Sg**	**17 25 43.2**	**-1.2**
GO03	**Copiapo**	**1.22**	**88**	*e*P	**Pb**	**17 25 31.3**	**+0.3**
GO03				*e*S	**Sg**	**17 25 44.3**	**-2.3**
GO03				IAML		17 25 47.4	
comp=N,2μm,0.1s							
GO03	**Copiapo**	**1.22**	**88**	*e*P	**Pb**	**17 25 31.4**	**+0.5**
GO03				*e*S	**Sn**	**17 25 47.2**	**-0.9**
LCO	**Las Campanas**	**1.58**	**150**	*e*P	**Pn**	**17 25 37.4**	**+1.1**
LCO				*e*S	**Sn**	**17 25 54.9**	**-2.4**
LCO				IAML		17 25 57.5	
comp=N,6μm,0.2s							
LCO	**Las Campanas**	**1.58**	**150**	*e*P	**Pn**	**17 25 37.5**	**+1.2**
LCO				*e*S	**Sn**	**17 25 56.0**	**-1.3**
AC05	**El Transito**	**1.68**	**136**	*e*P	**Pb**	**17 25 38.8**	**+0.1**
AC05				*e*S	**Sn**	**17 25 57.0**	**-2.5**
AC05				IAML		17 25 58.5	
comp=N,833nm,0.4s							
AC05	**El Transito**	**1.68**	**136**	*e*P	**Pb**	**17 25 38.9**	**+0.1**
AC05				*e*S	**Sn**	**17 25 57.8**	**-1.6**
AC05				IAML		17 25 58.2	
comp=Z,369nm,0.4s							
AC01	**Pan de Azucar**	**1.74**	**31**	*e*P	**Pn**	**17 25 39.7**	**+1.4**
AC01				*i* S	**Sn**	**17 25 59.2**	**-1.7**
AC01	**Pan de Azucar**	**1.74**	**31**	*e*P	**Pn**	**17 25 39.7**	**+1.4**
AC02	**Maricunga**	**2.35**	**71**	*e*P	**Pn**	**17 25 49.6**	**+2.5**
AC02				*e*S	**Sn**	**17 26 16.5**	**-0.1**
AC02				IAML		17 26 18.5	
comp=N,612nm,0.2s							
AC02	**Maricunga**	**2.35**	**71**	*e*P	**Pn**	**17 25 49.5**	**+2.5**
AC02				*e*S	**Sb**	**17 26 17.4**	**-2.6**
GO04	**Tololo Observa**	**2.62**	**164**	*e*P	**Pn**	**17 25 52.2**	**+1.6**
GO04				*e*S	**Sn**	**17 26 22.2**	**-0.7**
GO04	**Tololo Observa**	**2.62**	**164**	*e*P	**Pn**	**17 25 52.5**	**+1.9**
GO04				*e*S	**Sn**	**17 26 17.6**	**-5.2**
CO01	**Juntas del Tor**	**2.68**	**151**	*e*P	**Pn**	**17 25 54.1**	**+2.7**
CO01				*e*S	**Sn**	**17 26 23.9**	**-0.5**
CO01				IAML		17 26 26.0	
comp=E,195nm,0.4s							
CO01	**Juntas del Tor**	**2.68**	**151**	*e*P	**Pn**	**17 25 53.9**	**+2.5**
CO01				*e*S	**Sn**	**17 26 25.1**	**+0.7**
CO01				IAML		17 26 26.2	
comp=Z,132nm,0.3s							
CO06	**Fray Jorge**	**3.02**	**180**	*e*P	**Pn**	**17 25 56.4**	**+0.6**
GO02	**Mina Guanaco**	**3.06**	**37**	*e*P	**Pn**	**17 25 58.6**	**+1.9**
GO02	**Mina Guanaco**	**3.06**	**37**	*e*P	**Pn**	**17 25 58.7**	**+2.0**
GO02				*e*S	**Sn**	**17 26 35.5**	**+1.5**
AROD	**Rodeo**	**3.14**	**144**	*e*P	**Pb**	**17 26 01.9**	**-1.9**
AROD				*e*S	**Sn**	**17 26 33.1**	**-2.6**
PB14	**IPOC Station P**	**3.19**	**20**	*e*P	**Pn**	**17 25 59.4**	**+0.8**
PB14	**IPOC Station P**	**3.19**	**20**	*e*P	**Pn**	**17 25 59.8**	**+1.3**
PB14				*e*S	**Sn**	**17 26 36.6**	**-0.6**
PB14				IAML		17 27 01.9	
comp=Z,30nm,0.6s							
VCA	**Vinchina**	**3.20**	**111**	*e*P	**Pn**	**17 25 58.3**	**-0.1**
VCA				*e*S	**Sg**	**17 26 50.3**	**+0.2**
VCA				IAML		17 26 51.1	
comp=Z,82nm,0.3s							
CO03	**El Pedregal**	**3.28**	**166**	*e*P	**Pn**	**17 26 01.2**	**+1.7**
CO03	**El Pedregal**	**3.28**	**166**	*e*P	**Pn**	**17 26 01.4**	**+1.7**
CO03				*e*S	**Sn**	**17 26 40.2**	**+1.1**
CO03				IAML		17 27 00.1	
comp=Z,79nm,0.4s							
AGUA	**GUANDACOL**	**3.30**	**125**	*e*P	**Pn**	**17 25 59.2**	**-0.6**
AGUA				*e*S	**Sn**	**17 26 38.7**	**-0.8**
AGUA				IAML		17 26 56.0	
comp=Z,112nm,0.5s							
ACLC	**CERRO LA CRUZ**	**4.47**	**115**	*e*P	**Pn**	**17 26 19.4**	**+3.5**
ACLC				*e*S	**Sn**	**17 27 09.8**	**+1.4**
ACLC				IAML		17 27 34.2	
comp=Z,14nm,0.6s							
RTLS	**Leoncito**	**4.60**	**155**	*e*P	**Pn**	**17 26 17.2**	**-0.7**
RTLS				*e*S	**Sn**	**17 27 17.7**	**+5.8**
RTLS				IAML		17 27 35.3	
comp=Z,116nm,0.8s							
CFA	**Coronel Fontan**	**4.92**	**144**	*e*P	**Pn**	**17 26 25.8**	**+3.8**
CFA				*e*S	**Sn**	**17 27 20.4**	**+1.0**
PB05	**IPOC Station P**	**4.94**	**15**	*e*P	**Pn**	**17 26 23.4**	**+1.1**
PB05				*e*S	**Sn**	**17 27 18.1**	**-1.9**
PB05				IAML		17 27 59.8	
comp=Z,24nm,4.8s							
APLL	**PUNTA DE LOS L**	**5.23**	**123**	*e*P	**Pn**	**17 26 28.8**	**+2.5**

*IDC **29** 17:27:56.7±2.6,43°.16N×105°.22W,h0km,mb2.6/1, mbtmp3.0/3,ML2.7/2,Error ellipse: s-maj=46.7km s-min=10.2km az=155.0*
*NEIC **29** 17:27:58.9±2.0,43°.60N±0°.06×105°.43W±0°.08,h0km±1km, ML3.3/70,Error ellipse: s-maj=10.3km s-min=9.4km az=73.0*

ISC 29 17:27:59.8±1.2,43°.61N±0°.06×105°.37W±0°.07,h0km,n49, σ1°46/48,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**3.13**	**349**		**Pn**	**17 28 50.0**	**-0.5**
LAO				IAML		17 29 58.5	
97nm,1.5s							
LAO				IAML		17 30 06.3	
107nm,0.9s							
RLMT	**Red Lodge**	**3.18**	**300**	Pn	**Pn**	**17 28 52.4**	**+1.2**
BW06	**Boulder Array**	**3.18**	**256**		**Pn**	**17 28 51.6**	**+0.4**
PD31	**Pinedale Array**	**3.18**	**256**		**Pn**	**17 28 51.8**	**+0.6**
PDAR	**Pinedale Array**	**3.18**	**256**		**Pn**	**17 28 50.9**	**-0.4**
PDAR	**Pinedale Array**	**3.18**	**256**	Pn	**Pn**	**17 28 51.9**	**+0.6**
0.6nm,0.3s,baz=63,slow=14,SNR=60							
PDAR				Lg	Lg	17 29 36.8	
9.2nm,0.3s,baz=86,slow=30,SNR=14							
1.3nm,0.4s							
YNE	**Yellowstone No**	**3.61**	**294**	Pn	**Pn**	**17 28 59.0**	**+1.8**
YNE				IAML		17 29 59.9	
comp=N,83nm,0.8s							
YNE				IAML		17 30 03.7	
comp=E,42nm,0.8s							
YMP	**Mirror Lake Pl**	**3.62**	**290**	Pn	**Pn**	**17 28 59.3**	**+1.9**
YMP				IAML		17 30 02.6	
comp=N,74nm,1.4s							
YMP				IAML		17 30 07.8	
comp=E,90nm,0.7s							

OGNE	**Ogallala**	**3.64**	**136**	Pn	**Pn**	**17 28 58.2**	**+0.7**
LKWY	**Lake**	**3.75**	**286**	Pn	**Pn**	**17 28 57.7**	**-1.4**
LKWY				IAML		17 30 06.1	
comp=E,41nm,1.4s							
LOHW	**Long Hollow**	**3.80**	**272**	Pn	**Pn**	**17 28 59.6**	**-0.2**
ISCO	**Idaho Springs**	**3.81**	**183**	Pn	**Pn**	**17 29 00.9**	**+0.9**
H17A	**Grant Village**	**3.84**	**284**	Pn	**Pn**	**17 29 01.1**	**+0.8**
H17A				IAML		17 30 06.5	
comp=E,38nm,2.1s							
H17A				IAML		17 30 08.0	
comp=N,41nm,1.8s							
MOOW	**Moose Ponds**	**3.90**	**274**	Pn	**Pn**	**17 29 02.7**	**+1.5**
SNOW	**Snow King Moun**	**3.92**	**270**		**Pn**	**17 29 02.5**	**+1.1**
SNOW				IAML		17 30 19.1	
comp=N,62nm,0.8s							
SNOW				IAML		17 30 23.5	
comp=N,65nm,1.8s							
TPAW	**Teton Pass**	**4.06**	**270**	Pn	**Pn**	**17 29 03.1**	**-0.3**
TPAW				IAML		17 30 24.7	
comp=N,40nm,1.4s							
TPAW				IAML		17 30 36.3	
comp=N,36nm,2.0s							
O20A	**White River Ci**	**4.08**	**213**		**Pn**	**17 29 02.0**	**-1.6**
O20A				IAML		17 30 52.8	
comp=N,59nm,1.9s							
FXWY	**Fox Creek**	**4.11**	**272**	Pn	**Pn**	**17 29 03.5**	**-0.5**
YHH	**Holmes Hill**	**4.11**	**288**	Pn	**Pn**	**17 29 04.2**	**0.0**
AHID	**Auburn Hatcher**	**4.27**	**261**		**Pn**	**17 29 07.3**	**+1.0**
AHID				IAML		17 30 21.2	
comp=N,36nm,0.9s							
AHID				IAML		17 30 26.8	
comp=N,33nm,1.5s							
K30B	**Basset**	**4.32**	**101**	Pn	**Pn**	**17 29 08.0**	**+1.2**
YHB	**Horse Butte**	**4.34**	**287**	Pn	**Pn**	**17 29 10.1**	**+2.8**
YHB				IAML		17 30 28.1	
comp=N,30nm,1.3s							
YHL	**Hebgen Lake**	**4.36**	**289**		**Pn**	**17 29 10.3**	**+2.8**
YHL				IAML		17 30 38.0	
comp=N,44nm,1.5s							
YHL				IAML		17 31 02.2	
comp=E,36nm,1.8s							
RDMU	**Red Mountain**	**4.36**	**227**		**Pn**	**17 29 10.7**	**+3.3**
RDMU				IAML		17 30 26.0	
comp=E,32nm,1.5s							
RDMU				IAML		17 30 33.8	
comp=N,28nm,1.7s							
E28A	**Huff**	**4.44**	**47**		**Pn**	**17 29 10.1**	**+1.7**
QLMT	**Earthquake Lak**	**4.52**	**288**		**Pn**	**17 29 14.1**	**+4.4**
Q24A	**Divide**	**4.65**	**178**	Pn	**Pn**	**17 29 14.0**	**+2.5**
Q24A				IAML		17 30 31.2	
comp=E,21nm,1.3s							
BOZ	**Bozeman (W)**	**4.89**	**296**	Pn	**Pn**	**17 29 15.2**	**+0.5**
DGMT	**Dagmar**	**4.93**	**9**	Pn	**Pn**	**17 29 16.4**	**+1.4**
HWUT	**Hardware Ranch**	**4.99**	**248**	Pn	**Pn**	**17 29 17.1**	**+1.0**
HWUT				IAML		17 31 02.6	
comp=E,29nm,1.4s							
HWUT				IAML		17 31 05.4	
comp=E,20nm,1.3s							
KSCO	**Kaye Shedlock'**	**5.04**	**155**		**Pn**	**17 29 17.0**	**+0.2**
BSUT	**Blindstream Ca**	**5.05**	**234**		**Pn**	**17 29 16.8**	**-0.4**
BSUT				IAML		17 30 52.5	
comp=N,18nm,1.6s							
BSUT				IAML		17 31 01.8	
comp=E,18nm,1.7s							
TCUT	**Toone Canyon**	**5.12**	**243**		**Pn**	**17 29 17.6**	**-0.3**
EGMT	**Eagleton**	**5.37**	**327**	Pn	**Pn**	**17 29 21.4**	**+0.2**
P18A	**Preston Nutter**	**5.40**	**224**	Pn	**Pn**	**17 29 22.4**	**+0.5**
P18A				IAML		17 30 50.7	
comp=N,22nm,1.2s							
P18A				IAML		17 31 35.2	
comp=E,25nm,2.3s							
LRM	**Limekiln Ridge**	**5.51**	**296**		**Pn**	**17 29 24.2**	**+1.0**
MCMT	**McKenzie Canyo**	**5.51**	**285**		**Pn**	**17 29 22.6**	**-0.6**
HRY	**Holter Researc**	**5.52**	**306**	Pn	**Pn**	**17 29 24.1**	**+0.8**
PV22	**Blue Mesa, Par**	**5.69**	**208**	Pn	**Pn**	**17 29 27.0**	**+1.3**
PV07	**Paradox Valley**	**5.73**	**207**		**Pn**	**17 29 24.4**	**-2.0**
PV21	**Cone Mtn., Par**	**5.73**	**210**	Pn	**Pn**	**17 29 26.9**	**+0.5**
HVU	**Hansel Valley**	**5.75**	**254**		**Pn**	**17 29 25.3**	**-1.3**
BGNE	**Belgrade**	**5.77**	**110**	Pn	**Pn**	**17 29 27.1**	**+0.4**
PV23	**Carpenter Ridg**	**5.84**	**209**	Pn	**Pn**	**17 29 26.2**	**-1.7**
PV13	**Radium Mtn., P**	**6.04**	**207**		**Pn**	**17 29 30.8**	**+0.1**
T25A	**Trinidad**	**6.51**	**173**	Pn	**Pn**	**17 29 37.9**	**+0.9**
I10CA	**LAC DU BONNET**	**9.18**	**41**	I	I	18 23 47.9	
comp=E,0.1nm,1.8s,baz=221,slow=314,SNR=4.2							
ULM	**Lac du Bonnet**	**9.28**	**41**	Pn	**Pn**	**17 30 13.6**	**-1.2**
comp=E,0.2nm,0.3s,baz=232,slow=12,SNR=2.9							
ULM				Lg	Lg	17 32 50.1	
comp=E,0.2nm,0.3s,baz=143,slow=16,SNR=4.3							
comp=E,0.9nm,0.3s							
YKA	**Yellowknife Ar**	**19.67**	**347**	P	**Pn**	**17 32 31.5**	**+0.1**
comp=E,0.1nm,0.3s,baz=158,slow=12,SNR=3.5							
comp=E,0.1nm,0.3s							

KRSC 29 17:37:54.3±1.5,50°.57N×160°.19E,h42km±27km,Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.82**	**314**	*e*P	Pn	17 38 24.8	+1.8
KDTR				*e*S	Sn	17 38 46.7	+1.9
RUS	**Russkaya**	**2.14**	**331**	*e*P	Pn	17 38 29.6	+2.2
RUS				*e*S	Sn	17 38 55.6	+2.8
PAU	**Pauzhetka**	**2.32**	**294**	*e*P	Pn	17 38 32.3	+2.4
PAU				*e*S	Sn	17 38 58.6	+1.5
GRL	**Gorelyy**	**2.38**	**327**	*e*P	Pn	17 38 33.9	+3.0
GRL				*e*S	Sn	17 39 03.4	+4.4
KRMR	**Karymshinskiy**	**2.60**	**331**	*e*P	Pn	17 38 36.4	+2.7
KRMR				*e*S	Sn	17 39 07.7	+3.6
DALK	**Dalny**	**2.62**	**341**	*e*S	Sn	17 39 07.2	+2.6
PET	**Petropavlovsk**	**2.63**	**339**	*e*P	Pn	17 38 36.8	+2.5
PET				*e*S	Sn	17 39 07.8	+2.9
INSR	**Institute**	**2.69**	**339**	*e*S	Sn	17 39 10.0	+3.8
UGLR	**Uglovaya**	**2.77**	**343**	*e*P	Pn	17 38 39.6	+3.3
SDLR	**Sedlovina**	**2.83**	**344**	*e*P	Pn	17 38 40.4	+3.4
AVH	**Avacha**	**2.84**	**342**	*e*P	Pn	17 38 40.7	+3.6
KOK	**Koryaka**	**2.89**	**341**	*e*P	Pn	17 38 41.3	+3.5
KRX	**Arik**	**2.95**	**342**	*e*P	Pn	17 38 41.8	+3.1
APC	**Apacha**	**3.02**	**323**	*e*P	Pn	17 38 43.1	+3.6
APC				*e*S	Sn	17 39 19.8	+5.5
GNL	**Ganaly**	**3.42**	**337**	*e*P	Pn	17 38 49.1	+4.0
GNL				*e*S	Sn	17 39 30.1	+5.6
KII	**Karymskiy**	**3.50**	**353**	*e*P	Pn	17 38 50.6	+4.4
TUMD	**Tumrok D**	**4.64**	**1**	*e*P	Pn	17 39 05.6	+3.8
TUMD				*e*S	Sn	17 39 57.5	+3.1
KMNR	**Kamenistaya**	**5.19**	**0**	*e*P	Pn	17 39 15.3	+5.9

*IDC **29** 17:40:14.3±3.7,21°.46S×176°.81W,h368km±30km,mb3.0/4, mbtmp3.8/5,Error ellipse: s-maj=40.1km s-min=26.4km az=131.0*

ISC 29 17:40:12.0±1.1,21°.5S±0°.2×176°.6W±0°.2,h350km,n9, σ1°88/11,mb3.2/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.31**	**306**	P	**Pn**	**17 41 47.9**	**+1.4**
5.4nm,0.3s,baz=270,slow=23,SNR=12							
ASAR	**Alice Springs**	**45.60**	**257**	P	**P**	**17 47 58.1**	**-0.7**
1.3nm,0.7s,baz=90,slow=8.5,SNR=33							
ASAR				PcP	**PcP**	**17 49 31.4**	**+0.8**
0.7nm,0.5s,baz=107,slow=3.7,SNR=14							
1.3nm,0.7s							
WRA	**Warramunga Arr**	**45.79**	**263**	P	**P**	**17 47 57.7**	**-2.6**
0.5nm,0.5s,baz=96,slow=7.6,SNR=18							
WRA				PcP	**PcP**	**17 49 31.8**	**+0.4**
0.4nm,0.7s,baz=92,slow=3.0,SNR=1.5							
0.5nm,0.5s							
QSPA	**South Pole Qui**	**68.57**	**180**	P	**P**	**17 50 38.1**	**+0.5**
0.8nm,0.7s,baz=11,slow=5.2,SNR=1.4							
0.8nm,0.7s							
ILAR	**Eielson Array**	**89.00**	**12**	P	**P**	**17 52 26.0**	**-1.2**
0.1nm,0.4s,baz=211,slow=4.5,SNR=1.7							
0.1nm,0.4s							
AKASG	**Malin Array Be**	**144.53**	**332**	PKP	**PKPab**	**17 59 04.3**	**-2.2**
1.3nm,0.4s,baz=43,slow=4.3,SNR=19							
BRTR	**Keskin Array B**	**148.50**	**312**	PKPbc	**PKPdf**	**17 59 17.5**	**+3.4**
1.5nm,0.6s,baz=137,slow=4.4,SNR=7.6							
MMAI	**Mount Meron Ar**	**149.47**	**299**	PKPbc	**PKPbc**	**17 59 21.1**	**+0.5**
2.3nm,0.5s,baz=80,slow=5.2,SNR=14							
GERES	**GERESS Array B**	**151.51**	**346**	PKPbc	**PKPbc**	**17 59 24.8**	**-0.2**
0.1nm,0.3s,baz=50,slow=5.1,SNR=7.6							

*BJI **29** 18:00:32.1,37°.89N×141°.85E,h60km,mB4.8/14,mb4.5/39, Ms4.3/1,Ms7 4.2/1*
*MOS **29** 18:00:32.6±0.9,38°.19N×141°.92E,h54km,mb4.5/17,Error ellipse: s-maj=8.3km s-min=5.4km az=92.0*
*NIED **29** 18:00:35.0,38°.18N×141°.69E,h50km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.22; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-0.95; $M_{r\theta}$0.40; $M_{\theta\phi}$-0.62; $M_{\phi r}$1.34; Fault plane solution: $M_0$1.89000×10^{15} NP1: ϕ_s222.00000°,δ22.00000°,λ111.00000°. NP2: ϕ_s20.00000°,δ69.00000°,λ82.00000°.*
*JMA **29** 18:00:35.0±0.1,38°.2N±0°.3×141°.7E±0°.6,h50km,MD4.1/40, MV4.3/40,E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*NEIC **29** 18:00:35.0±2.4,38°.20N±0°.06×141°.69E±0°.08,h49km±7km, mb4.4/61,Error ellipse: s-maj=11.1km s-min=6.9km az=130.0*
*IDC **29** 18:00:36.9±0.7,38°.08N×141°.54E,h69km±4km,mb3.8/21, mbtmp4.1/27,MS3.1/9,Error ellipse: s-maj=13.5km s-min=8.6km az=115.0*

ISC 29 18:00:33.9±0.5,38°.14N±0°.04×141°.82E±0°.05,h47km±3km, h47km:pP-P,n212,σ1°43/221,mb4.4/64,6C-21D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.33**	**301**	*i*P	**Pn**	**18 00 43.5**	**+0.5**
JIKH				⇓S	**Sn**	**18 00 49.3**	**-0.2**
JIKH	**Ishinomakikobu**	**0.33**	**301**	A	A	18 00 43.5	
comp=N,36nm,0.5s,comp=E,87nm,0.6s							
JIO	**Ouri**	**0.49**	**310**	*i*P	**Pn**	**18 00 45.0**	**+0.2**
JIO				⇓S	**Sn**	**18 00 51.8**	**-0.8**
JIO	**Ouri**	**0.49**	**310**	A	A	18 00 45.0	
comp=N,24nm,0.3s,comp=E,25nm,1.7s							
JKMT	**Kesennumamotoy**	**0.72**	**338**	*i*P	**Pn**	**18 00 48.0**	**+0.1**
JKMT				⇓S	**Sn**	**18 00 57.1**	**-0.9**
JMST	**Minamisoumatoc**	**0.85**	**241**	A	A	18 00 49.9	
comp=N,25nm,0.3s,comp=E,20nm,0.3s							
JOFO	**Osakifurukawao**	**0.85**	**303**	A	A	18 00 49.4	
comp=N,27nm,1.3s,comp=E,24nm,2.8s							
JMM	**Marumori**	**0.86**	**252**		**Pn**	**18 00 49.2**	**-0.5**
JMM				Sn	**Sn**	**18 00 59.6**	**-1.6**
JMM	**Marumori**	**0.86**	**252**	P	**Pn**	**18 00 49.2**	**-0.5**
JMM	**Marumori**	**0.86**	**252**	S	**Sn**	**18 00 59.8**	**-1.4**
JMM	**Marumori**	**0.86**	**252**	*i*P	**Pn**	**18 00 49.4**	**-0.3**
JMM				⇓S	**Sn**	**18 00 59.8**	**-1.4**
JMM	**Marumori**	**0.86**	**252**	A	A	18 00 49.4	
comp=N,8.0nm,0.8s,comp=E,12nm,0.4s							
JMK	**Ichinoseki**	**0.94**	**330**	*i*P	**Pn**	**18 00 50.9**	**+0.2**
JMK				⇓S	**Sn**	**18 01 02.2**	**-0.9**
JMK	**Ichinoseki**	**0.94**	**330**	A	A	18 00 50.9	
comp=N,7.0nm,2.6s,comp=E,6.0nm,0.5s							
JOU	**Okura**	**0.94**	**284**	*i*P	**Pn**	**18 00 50.6**	**-0.2**
JOU				⇓S	**Sn**	**18 01 02.0**	**-1.1**
JOU	**Okura**	**0.94**	**284**	A	A	18 00 50.6	
comp=N,14nm,0.6s,comp=E,15nm,0.5s							
OFUJ	**Ofunato**	**0.95**	**353**	*i*P	**Pn**	**18 00 51.1**	**+0.2**
OFUJ				⇓S	**Sn**	**18 01 02.5**	**-0.8**
OFUJ	**Ofunato**	**0.95**	**353**	A	A	18 00 51.1	
comp=N,3.0nm,1.0s,comp=E,4.0nm,1.0s							
JFK	**Kawauchi**	**1.08**	**225**	*i* P	**Pn**	**18 00 52.9**	**+0.2**
JFK				S	**Sn**	**18 01 06.1**	**-0.4**
JFK	**Kawauchi**	**1.08**	**225**	A	A	18 00 52.9	
comp=N,4.0nm,0.3s,comp=E,10.0nm,0.5s							
JOTO	**OTAMA OYAMA**	**1.31**	**244**	*i* P	**Pn**	**18 00 56.2**	**+0.3**
JOTO				S	**Sn**	**18 01 11.8**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.31**	**244**	A	A	18 00 56.2	
comp=N,10.0nm,0.3s,comp=E,7.0nm,3.8s							
ONAJ	**Iwakimizuishiy**	**1.32**	**218**	A	A	18 00 57.0	
comp=N,10.0nm,0.3s,comp=E,15nm,0.4s							
JYAR	**Yonezawaarcadi**	**1.35**	**261**	A	A	18 00 56.5	
comp=N,11nm,0.9s,comp=E,9.0nm,1.0s							
JYK	**Kaneyama**	**1.39**	**304**	*i*P	**Pn**	**18 00 56.7**	**-0.2**
JYS	**Shirataka**	**1.39**	**274**	*i*P	**Pn**	**18 00 56.9**	**0.0**
JOM	**Ohasama**	**1.39**	**343**	*i*P	**Pn**	**18 00 57.3**	**+0.4**
JOM				⇓*e*S	**Sn**	**18 01 13.8**	**-0.4**
JRG	**Rokugo**	**1.56**	**324**	*i*P	**Pn**	**18 00 59.8**	**+0.5**
JRG	**Rokugo**	**1.56**	**324**	A	A	18 00 59.8	
comp=N,5.0nm,0.6s,comp=E,7.0nm,0.6s							
JTM	**Tenmabayashi**	**2.71**	**348**		**Pn**	**18 01 15.3**	**+0.3**
JTM	**Tenmabayashi**	**2.71**	**348**	P	**Pn**	**18 01 16.1**	**+1.2**
JSD	**Sado**	**2.81**	**269**		**Pn**	**18 01 15.8**	**-0.6**
JSD	**Sado**	**2.81**	**269**	P	**Pn**	**18 01 16.1**	**-0.3**
MJA0	**Matsu Arr-Jizo**	**3.27**	**242**	*e*P	**Pn**	**18 01 24.4**	**+1.7**
MJA0				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**3.29**	**242**	P	**Pn**	**18 01 24.4**	**+1.4**
comp=Z,23nm,0.7s,baz=56,slow=11,SNR=41							
MJAR				S	**Sn**	**18 01 55.8**	**-5.2**
comp=Z,21nm,0.5s,baz=30,slow=15,SNR=5.9							
MJAR				LR	LR	18 02 55.6	
comp=Z,252nm,20.7s,baz=76,slow=45							
MAJO	**Matsushiro**	**3.29**	**242**		**Pn**	**18 01 24.1**	**+1.0**
**MA

KLR	Kul'dur	13.25 330	*ce*P		Pn	18 03 41.0	+1.7
KLR			pmax		pmax		
comp=Z,12nm,2.5s							
ZEA	Zeya	18.54 332	*e*P		P	18 04 46.1	-0.4
PETK	Petropavlovsk-	18.57 31	LR		LR	18 11 20.4	
comp=Z,98nm,18.8s,baz=146,slow=34							
PET	Petropavlovsk	18.91 33	P		P	18 04 51.7	+1.3
comp=Z,34nm,1.7s							
NJ2	Nanjing	19.73 259	*e*P		P	18 04 59.3	-0.3
NJ2			pmax		pmax		
comp=Z,27nm,0.6s							
TIA	Tai'an	19.76 272	P		Pn	18 05 00.3	-1.5
TIA			pmax		pmax		
comp=Z,11nm,1.1s							
YHNB	Yeheng	21.96 238	P		P	18 05 21.8	-2.0
NACB	Ninganchiao	22.15 237	P		P	18 05 22.8	-3.0
MA2	Magadan	22.20 12	P		P	18 05 24.0	-2.1
MA2	Magadan	22.20 12	P		P	18 05 26.5	+0.5
comp=Z,4.5nm,0.7s,baz=194,slow=8.8,SNR=12							
comp=Z,4.5nm,0.7s							
MA2	Magadan	22.20 12	*i* P		P	18 05 26.2	+0.1
MA2			pmax		pmax		
comp=Z,4.0nm,0.6s							
MA2	Magadan	22.20 12	P		P	18 05 26.2	+0.1
comp=Z,7.2nm,0.8s							
SSLB	Suanglung	22.84 237	P		P	18 05 30.0	-3.1
SSLB			IAmb		IAmb	18 05 40.1	
comp=Z,22nm,1.1s							
YULB	Yu-li	22.89 236	P		P	18 05 30.9	-2.7
TPUB	Ta-pu	23.39 237	P		P	18 05 34.9	-3.7
TWG	Pinlang	23.44 235	P		P	18 05 35.1	-3.9
TWG			IAmb		IAmb	18 05 42.2	
comp=Z,22nm,1.0s							
HHC	Hu-ho-hao-te	23.45 286	*e*P		P	18 05 39.0	-0.2
HHC			pmax		pmax		
comp=Z,19nm,0.7s							
HHC			pmax		pmax		
comp=Z,130nm,5.5s							
YAK	Yakutsk	25.07 346	P		P	18 05 51.3	-2.3
YAK			IAmb		IAmb	18 06 11.7	
comp=Z,8.3nm,0.7s							
YAK	Yakutsk	25.07 346	*i* P		P	18 05 52.3	-1.3
SEY	Seymchan	25.64 11⇑	*i* P		P	18 06 01.0	+2.2
SEY			*i* *PP		pP	18 06 13.8	+2.8
SEY			pmax		pmax		
comp=Z,4.0nm,1.0s							
XAN	Xi'an	26.82 271	P		P	18 06 08.5	-1.4
XAN			pmax		pmax		
comp=Z,12nm,0.9s							
ULN	Ulaanbaatar	27.02 302	*ce*P		P	18 06 12.2	+0.5
ULN			pmax		pmax		
comp=Z,3.0nm,1.3s							
SONM	Songino Array	27.46 302	P		P	18 06 15.6	+0.1
comp=Z,1.4nm,0.8s,baz=99,slow=10,SNR=8.1							
SONM			pP		pP	18 06 31.2	+3.4
comp=Z,1.2nm,0.6s,baz=98,slow=8.3,SNR=4.3							
SONM			LR		LR	18 18 52.9	
comp=Z,40nm,19.1s,baz=60,slow=40							
comp=Z,1.4nm,0.8s							
SONM	Songino Array	27.46 302	*e*P		P	18 06 17.2	+1.7
SONM			pmax		pmax		
comp=Z,1.0nm,0.5s							
ENH	Enshi	27.77 263	P		P	18 06 16.1	-2.3
ENH			IAmb		IAmb	18 06 18.7	
comp=Z,18nm,0.9s							
H11N2	WAKE ISLAND Hy	28.46 123	T		T	18 36 35.3	
baz=316,slow=75,SNR=556							
H11N1	WAKE ISLAND Hy	28.46 123	T		T	18 36 39.4	
baz=316,slow=75,SNR=399							
H11N3	WAKE ISLAND Hy	28.47 123	T		T	18 36 40.2	
baz=316,slow=75,SNR=424							
H11S1	WAKE ISLAND Hy	29.21 125	T		T	18 37 34.2	
baz=318,slow=76,SNR=315							
H11S3	WAKE ISLAND Hy	29.21 125	T		T	18 37 34.4	
baz=318,slow=76,SNR=372							
H11S2	WAKE ISLAND Hy	29.22 125	T		T	18 37 35.4	
baz=318,slow=76,SNR=172							
GTA	Gaotai	32.56 286	P		P	18 07 01.0	+0.2
GTA			pmax		pmax		
comp=Z,2.0nm,0.7s							
BILL	Bilibino	32.88 17	*i* P		P	18 07 02.5	-0.5
BILL			pmax		pmax		
comp=Z,14nm,3.1s							
QIZ	Qiongzhong	33.69 245	P		P	18 07 10.5	-0.1
QIZ			S		S	18 12 31.5	+1.0
QIZ			LR		LR		
comp=Z,110nm,7.3s							
QIZ			LR		LR		
comp=Z,130nm,7.5s							
QIZ			LR		LR		
comp=Z,91nm,4.3s							
PZH	PanZhiHua	35.55 263	P		P	18 07 27.0	+0.2
PZH			pmax		pmax		
comp=Z,7.0nm,1.0s							
PZH			pmax		pmax		
comp=Z,100nm,5.4s							
UBPT	Khong Chiam	39.29 245	P		P	18 07 56.9	-1.4
UBPT			IAmb		IAmb	18 08 27.9	
comp=Z,6.6nm,1.2s							
CRAI	Chiangrai	39.97 255	P		P	18 08 03.4	-0.6
CRAI			IAmb		IAmb	18 08 10.9	
comp=Z,4.6nm,1.0s							
F15K	North Star Dit	41.08 30	P		P	18 08 13.9	+1.3
F15K			IAmb		IAmb	18 08 14.8	
comp=Z,9.8nm,1.2s							
M14K	Bethel	41.32 38	P		P	18 08 16.9	+2.4
ZAA0	Zalesovo Array	41.42 311	P		P	18 08 15.2	-0.4
ZAA0			IAmb		IAmb	18 08 33.5	
comp=Z,5.8nm,0.8s							
ZALV	Zalesovo Beam	41.42 311	P		P	18 08 15.1	-0.4
comp=Z,4.5nm,0.5s,baz=86,slow=6.9,SNR=22							
ZALV			pP		sP	18 08 33.0	-0.7
comp=Z,5.0nm,0.6s,baz=85,slow=8.4,SNR=9.5							
comp=Z,4.5nm,0.5s							
ZALV	Zalesovo Beam	41.42 311	*e*P		P	18 08 15.4	-0.1
ZALV			pmax		pmax		
comp=Z,5.0nm,0.5s							
FAKI	Fak Fak	41.80 194	P		P	18 08 20.8	+1.7
CHTO	Chiang Mai	41.89 255	P		P	18 08 18.9	-0.9
CHTO	Chiang Mai	41.89 255	P		P	18 08 18.9	-0.9
CHTO			pmax		pmax		
comp=Z,2.0nm,0.8s							
CM31	Chiang Mai Arr	42.10 254	P		P	18 08 20.8	-0.8
CMAR	Chiang Mai Arr	42.10 254	P		P	18 08 19.6	-2.0
CMAR	Chiang Mai Arr	42.10 254	P		P	18 08 21.4	-0.2
comp=Z,0.7nm,0.6s,baz=47,slow=7.0,SNR=8.4							
CMAR			LR		LR	18 26 21.7	
comp=Z,18nm,19.1s,baz=80,slow=37							
comp=Z,0.7nm,0.6s							
CMAR	Chiang Mai Arr	42.10 254	*e*P		P	18 08 21.7	+0.2
CMAR			pmax		pmax		
comp=Z,1.0nm,0.6s							
I17K	Unalakleet	42.34 34	P		P	18 08 23.8	+0.8
I17K			IAmb		IAmb	18 08 28.0	
comp=Z,7.0nm,1.1s							
LUWI	Luwuk	42.77 209	P		P	18 08 26.8	-0.1
M16K	Timber Creek	42.80 38	P		P	18 08 27.5	+0.7
M16K			IAmb		IAmb	18 08 46.1	
comp=Z,9.9nm,1.4s							
H17K	Granite Mounta	42.85 32	P		P	18 08 28.5	+1.4
CHGN	Chignik	42.95 45	P		P	18 08 29.4	+1.4
J17K	VABM Dome	42.99 35	P		P	18 08 27.8	-0.4
J17K			IAmb		IAmb	18 08 45.0	
comp=Z,14nm,1.4s							
C18K	Utukok River	43.14 27	P		P	18 08 30.2	+0.8
C18K			IAmb		IAmb	18 09 11.3	
comp=Z,8.0nm,1.4s							
G18K	Tagagawik	43.53 31	P		P	18 08 32.2	-0.4
M17K	Holitna River	43.56 38	P		P	18 08 34.8	+1.9
MK31	Makanchi Array	43.82 301	P		P	18 08 34.8	-0.3
MK31			IAmb		IAmb	18 08 53.4	
comp=Z,4.9nm,0.8s							
MK31	Makanchi Array	43.82 301	*i* P		P	18 08 34.6	-0.6
MK31			*i* *PP		sP	18 08 52.7	-0.7
MKAR	Makanchi Array	43.82 301	P		P	18 08 34.8	-0.4
comp=Z,2.6nm,0.6s,baz=85,slow=9.7,SNR=38							
MKAR			pP		sP	18 08 52.5	-0.9
comp=Z,5.5nm,0.7s,baz=86,slow=9.9,SNR=20							
comp=Z,2.6nm,0.6s							
MAKZ	Makanchi	44.02 301	P		P	18 08 36.5	-0.3
MAKZ			IAmb		IAmb	18 08 55.1	
comp=Z,6.4nm,0.8s							
MAKZ	Makanchi	44.02 301	P		P	18 08 36.5	-0.3
MAKZ			pmax		pmax		
comp=Z,6.0nm,0.9s							
E19K	Redstone River	44.35 29	P		P	18 08 40.9	+1.9
B20K	Meade River	44.85 25	P		P	18 08 43.9	+0.9
B20K			IAmb		IAmb	18 09 24.1	
comp=Z,5.8nm,1.1s							
KURK	Kurchatov	45.51 307	P		P	18 08 48.1	-0.5
KURK	Kurchatov	45.51 307	P		P	18 08 48.6	0.0
KURK			*PP		sP	18 09 06.5	-0.3
KURBB	Kurchatov Arra	45.59 307	P		P	18 08 48.6	-0.5
comp=Z,6.6nm,0.7s,baz=82,slow=8.3,SNR=28							
KURBB			pP		sP	18 09 06.5	-0.8
comp=Z,14nm,0.6s,baz=82,slow=8.3,SNR=14							
comp=Z,6.6nm,0.7s							
B21K	Ikpikpuk River	45.65 26	P		P	18 08 51.5	+2.2
B21K			IAmb		IAmb	18 08 52.3	
comp=Z,3.9nm,0.8s							
CAST	Castle Rocks	46.13 35	P		P	18 08 55.8	+2.6
B22K	Teshekpuk Lake	46.17 25	P		P	18 08 54.9	+1.5
B22K			IAmb		IAmb	18 09 11.2	
comp=Z,5.8nm,1.2s							
C23K	Itkillik River	47.06 26	P		P	18 09 01.1	+0.7
C23K			IAmb		IAmb	18 09 03.8	
comp=Z,5.4nm,1.0s							
D24K	Happy Valley	47.64 27	P		P	18 09 06.0	+1.1
D24K			IAmb		IAmb	18 09 07.7	
comp=Z,4.0nm,0.8s							
E24K	Your Creek	47.72 28	P		P	18 09 07.7	+2.0
ILAR	Eielson Array	48.39 33	P		P	18 09 11.9	+1.1
comp=Z,0.6nm,0.8s,baz=264,slow=6.1,SNR=5.9							
comp=Z,0.6nm,0.8s							
D25K	Kavik River	48.52 27	P		P	18 09 12.9	+1.1
D25K			IAmb		IAmb	18 09 29.2	
comp=Z,4.6nm,1.1s							
KDJ	Kajisay	48.53 296	P		P	18 09 10.8	-1.7
KDJ	Kajisay	48.53 296	P		P	18 09 10.8	-1.7
KDJ			pmax		pmax		
comp=Z,5.0nm,0.6s							
BOOM	Boomskoye usch	49.29 297	P		P	18 09 17.9	-0.4
BOOM	Boomskoye usch	49.29 297	P		P	18 09 17.9	-0.4
BOOM			pmax		pmax		
comp=Z,8.0nm,0.7s							
F26K	Sheenjek River	49.36 29	IAmb		IAmb	18 09 22.0	
comp=Z,2.2nm,0.8s							
BVAR	Borovoye Array	50.08 312	P		P	18 09 23.1	-0.8
comp=Z,1.4nm,0.5s,baz=71,slow=8.3,SNR=15							
BVAR			pP		sP	18 09 41.2	-1.0
comp=Z,2.3nm,0.6s,baz=86,slow=7.9,SNR=6.9							
BVAR			PcP		PcP	18 10 43.3	+0.4
comp=Z,2.1nm,0.7s,baz=52,slow=3.3,SNR=6.3							
comp=Z,1.4nm,0.5s							
BRVK	Borovoye	50.13 312	P		P	18 09 24.0	-0.3
BRVK			IAmb		IAmb	18 09 43.4	
comp=Z,3.7nm,0.9s							
BRVK	Borovoye	50.13 312	*e*P		P	18 09 24.4	+0.1
BRVK			pmax		pmax		
comp=Z,1.0nm,0.9s							
AAK	Ala-Archa	50.26 298	*i* P		P	18 09 25.3	-0.3
AAK			pmax		pmax		
comp=Z,1.0nm,0.6s							
E29M	Blow River	51.64 28	P		P	18 09 37.3	+1.9
I30M	Mount Dempster	52.76 32	P		P	18 09 45.6	+1.7
I30M			IAmb		IAmb	18 09 47.0	
comp=Z,2.5nm,0.8s							
INK	Inuvik	53.25 28	P		P	18 09 48.9	+1.6
INK	Inuvik	53.25 28	P		P	18 09 48.9	+1.6
INK			pmax		pmax		
comp=Z,2.0nm,0.9s							
H31M	Peel River	53.47 31	P		P	18 09 50.5	+1.5
H31M			IAmb		IAmb	18 09 51.5	
comp=Z,4.6nm,1.1s							
GAR	Garm	54.52 295	P		P	18 09 55.5	-1.7
ARTI	Arti	55.86 318	P		P	18 10 05.8	-0.6
ARTI	Arti	55.86 318	*c* *i* P		P	18 10 06.0	-0.4
ARTI			S		S	18 17 51.0	+0.9
ARTI			SS		SS	18 21 35.8	+0.1
ARTI			pmax		pmax		
comp=Z,4.0nm,0.5s							
ABKAR	Akbulak array	57.48 310	P		P	18 10 16.6	-1.4
ABKAR			IAmb		IAmb	18 10 36.4	
comp=Z,3.4nm,0.7s							
WRA	Warramunga Arr	58.20 188	P		P	18 10 23.8	+0.5
comp=Z,1.7nm,0.5s,baz=4.9,slow=7.0,SNR=11							
comp=Z,1.7nm,0.5s							
EUNU	Eureka	59.05 9	P		P	18 10 28.6	0.0
EUNU			IAmb		IAmb	18 10 45.8	
comp=Z,3.7nm,1.3s							
RES	Resolute Bay	61.45 15	P		P	18 10 45.1	+0.1
RES	Resolute Bay	61.45 15	P		P	18 10 45.1	+0.1
RES			pmax		pmax		
comp=Z,2.0nm,0.9s							
ASAR	Alice Springs	61.93 188	P		P	18 10 49.4	+0.6
comp=Z,1.4nm,0.7s,baz=9.6,slow=4.9,SNR=18							
comp=Z,1.4nm,0.7s							
YKA	Yellowknife Ar	62.69 31	P		P	18 10 54.4	+1.0
comp=Z,0.5nm,0.9s,baz=298,slow=7.0,SNR=5.9							
comp=Z,0.5nm,0.9s							
OBN	Obninsk	67.41 323	*ce*P		P	18 11 22.5	-1.6
OBN			*e*			18 11 51.3	
OBN			*e*			18 13 54.5	
OBN			pmax		pmax		
comp=Z,6.0nm,0.8s							
FIA1	FINESS Array S	67.99 332	P		P	18 11 27.6	-0.1
FINES	FINESS Array B	67.99 332	P		P	18 11 27.4	-0.4
comp=Z,4.4nm,0.7s,baz=62,slow=5.5,SNR=7.4							
comp=Z,4.4nm,0.7s							
FINES	FINESS Array B	67.99 332	*e*P		P	18 11 27.7	0.0
FINES			pmax		pmax		
comp=Z,4.0nm,0.7s							
KIV	Kislovodsk	70.43 311	*e*P		P	18 11 43.6	+0.3
KIV			pmax		pmax		
comp=Z,7.0nm,1.1s							
KIV	Kislovodsk	70.43 311	P		P	18 11 42.3	-1.0
comp=Z,6.7nm,0.9s							
KBZ	Khabaz	70.43 311	P		P	18 11 43.4	+0.2
comp=Z,3.2nm,1.0s,baz=9.7,slow=6.5,SNR=7.6							
comp=Z,3.2nm,1.0s							
KBZ	Khabaz	70.43 311	*e*P		P	18 11 43.6	+0.5
KBZ			pmax		pmax		
comp=Z,6.0nm,1.0s							
HFS	Hagfors	73.22 336	P		P	18 11 59.6	0.0
comp=Z,2.6nm,0.5s,baz=50,slow=4.6,SNR=14							
comp=Z,2.6nm,0.5s							
NC204	NORSAR Array S	73.24 338	P		P	18 11 59.8	-0.1
NB2	NORSAR Subarra	73.29 337	P		P	18 11 59.8	-0.3
comp=Z,1.2nm,0.6s,baz=38,slow=6.2							
NOA	NORSAR Array B	73.29 337	P		P	18 12 00.1	0.0
comp=Z,2.5nm,0.8s,baz=39,slow=5.9,SNR=6.8							
comp=Z,2.5nm,0.8s							
AK03	Malin Array Si	73.61 322	P		P	18 12 01.4	-0.6
AKASG	Malin Array Be	73.62 322	P		P	18 12 01.7	-0.5
comp=Z,1.5nm,0.5s,baz=49,slow=5.7,SNR=11							
AKASG			pP		PcP	18 12 20.2	+2.4
comp=Z,1.0nm,0.5s,baz=47,slow=6.2,SNR=6.1							
comp=Z,1.5nm,0.5s							
AKBB	Malin Array Si	73.62 322	P		P	18 12 01.5	-0.6
AKBB			IAmb		IAmb	18 12 02.1	
comp=Z,3.2nm,0.7s							
AKBB	Malin Array Si	73.62 322	P		P	18 12 01.5	-0.6
AKBB			pmax		pmax		
comp=Z,3.0nm,0.7s							
AKBB	Malin Array Si	73.62 322	P		P	18 12 01.5	-0.6
AK01	Malin Array Si	73.63 322	P		P	18 12 01.7	-0.5
KIEV	Kiev	73.64 322	P		P	18 12 01.6	-0.6
KIEV			IAmb		IAmb	18 12 02.1	
comp=Z,2.8nm,0.7s							
KIEV	Kiev	73.64 322	P		P	18 12 01.6	-0.6
KIEV			pmax		pmax		
comp=Z,3.0nm,0.7s							
KIEV	Kiev	73.64 322	P		P	18 12 01.5	-0.7
AK04	Malin Array Si	73.64 322	P		P	18 12 01.7	-0.5
AK08	Malin Array Si	73.65 322	P		P	18 12 01.8	-0.5
AK02	Malin Array Si	73.66 322	P		P	18 12 01.8	-0.6
AK21	Malin Array Si	73.66 322	P		P	18 12 01.8	-0.6
AK16	Malin Array Si	73.70 322	P		P	18 12 02.0	-0.6
RNPP1	Kostyukhnivka	74.82 324	P		P	18 12 08.4	-0.7
GMN	Gold Mountain	75.40 54	P		P	18 12 12.2	-0.9
GMN			IAmb		IAmb	18 12 12.8	
comp=Z,3.5nm,0.8s							
PDAR	Pinedale Array	76.66 46	P		P	18 12 19.9	-0.2
PDAR	Pinedale Array	76.66 46	P		P	18 12 20.9	+0.8
comp=Z,0.4nm,0.6s,baz=292,slow=5.1,SNR=6.1							
comp=Z,0.4nm,0.6s							
BUR08	Bucovina Ar. S	77.63 322	P		P	18 12 24.1	-1.2
BRTR	Keskin Array B	78.36 312	P		P	18 12 29.4	-0.1
comp=Z,0.7nm,0.8s,baz=117,slow=3.2,SNR=4.5							
BRTR			pP		sP	18 12 47.7	-0.8
comp=Z,0.7nm,0.5s,baz=91,slow=3.4,SNR=4.1							
comp=Z,0.7nm,0.8s							
MMAI	Mount Meron Ar	81.59 305	P		P	18 12 47.7	+0.7
comp=Z,1.6nm,0.7s,baz=2.7,slow=6.1,SNR=3.1							
comp=Z,1.6nm,0.7s							
GERES	GERESS Array B	81.94 328	P		P	18 12 48.6	0.0
comp=Z,0.7nm,0.6s,baz=38,slow=5.2,SNR=5.5							
GERES			pP		sP	18 13 07.5	0.0
comp=Z,0.4nm,0.6s,baz=27,slow=9.0,SNR=2.7							
comp=Z,0.7nm,0.6s							
PPT2	Papeete2	84.85 117	*e*LR		LR	18 39 57.9	
comp=Z,45nm,24.0s							
TXAR	Lajitas Array	89.19 53	P		P	18 13 25.3	+0.4
comp=Z,0.2nm,0.5s,baz=314,slow=1.9,SNR=2.5							
comp=Z,0.2nm,0.5s							
LPAZ	La Paz	145.85 59	PKPbc		PKPbc	18 20 09.6	+0.4
comp=Z,0.8nm,0.4s,baz=315,slow=7.1,SNR=4.0							

*LDG **29** 18:00:57.9±0.1, 45°.08N×6°.59E, h12km, Md1.9/4, Ml2.5/1,*
Error ellipse: s-maj=1.1km s-min=1.0km az=75.0
*STR **29** 18:00:58.5±0.6, 45°.N±4°×°.±°, h5km, MLv0.7/6, Error*
ellipse: s-maj=0.0km s-min=0.0km az=4.2, preliminary

ISC 29 18:00:58.0±1.1, 45°.08N±0°.03×6°.58E±0°.03, h12km±11km, n16, σ0.9s52/23, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	Rocca Remolon	0.21	137	Pg	Pg	18 01 02.7	-0.1
RRL				Sg	Sg	18 01 06.2	+0.2
MBDF	Montbardon	0.38	159	*e*Pg	Pg	18 01 05.7	+0.1
MBDF				*e*Sg	Sg	18 01 10.1	-0.5
1.5nm,0.2s							
LPG	La Plagne	0.44	16	*e*Pg	Pg	18 01 06.7	0.0
LPG				*e*Sg	Sg	18 01 11.2	-1.4
0.8nm,0.3s							
LPL	La Plagne	0.45	13	*e*Pg	Pg	18 01 07.0	0.0
LPL				*e*Sg	Sg	18 01 13.2	+0.2
1.7nm,0.3s							
RSP	Reno Superiore	0.49	82	Pg	Pg	18 01 07.6	0.0
RSP	Reno Superiore	0.49	82	Sg	Sg	18 01 15.0	+0.9
ORIF	Oris-en-Rattie	0.52	252	*e*Pg	Pg	18 01 08.2	-0.1
ORIF				*e*Sg	Sg	18 01 15.9	+0.7
1.7nm,0.3s							
ORIF	Oris-en-Rattie	0.52	252	Pg	Pg	18 01 08.1	-0.1
BHB	Bricherasio	0.54	116	Pg	Pg	18 01 08.3	-0.2
BHB	Bricherasio	0.54	116	Sg	Sg	18 01 16.0	+0.3
SURF	Saint Ours	0.62	165	Pg	Pg	18 01 09.6	-0.5
SURF				Sg	Sg	18 01 17.9	-0.4
OGAG	Argentiere	0.62	183	Pg	Pg	18 01 04.1	-6.1
OGAG				Sg	Sg	18 01 08.0	-10
JAUF	Jausiers	0.66	170	Pg	Pg	18 01 10.8	-0.1
JAUF				Sg	Sg	18 01 19.9	+0.3
PZZ	Stroppo	0.69	146	Pg	Pg	18 01 10.9	-0.4
PZZ	Stroppo	0.69	146	Sg	Sg	18 01 20.5	+0.2
SBF	Sospel	1.36	153	*e*Pg	Pn	18 01 23.4	+0.5
SBF				*e*Sg	Sb	18 01 40.2	-0.7
31nm,0.9s							

*TAP **29** 18:02:29.0, 25°.37N×122°.16E, h214km, ML3.0, C*
*JMA **29** 18:02:30.7±0.4, 25°.N±2°.×122°.2E±0°.8, h197km±3km,*
MV2.8/12, TAIWAN REGION

ISC 29 18:02:28.2±2.5, 25°.34N±0°.09×122°.24E±0°.04,
h213km±13km, n90, σ0.92/163, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	Pengchaiyu	0.33	332	*e*P	Pn	18 02 56.9	+0.6
TWB1	Santiao Chiao	0.40	215	P	Pn	18 02 57.3	+0.8
TWB1				*i* S	S	18 03 17.6	-1.0
SXI1	Grass Mountain	0.41	234	*e*P	Pn	18 02 57.6	+0.9
SXI1				*e*S	S	18 03 19.4	+0.6
TNOU	National Taiwa	0.47	247	P	Pn	18 02 57.0	+0.3
TNOU				S	S	18 03 17.4	-1.4
NWF	Wu-fen Shan	0.49	238	P	Pn	18 02 57.7	+0.8
WFSB	Wu-fen Shan	0.49	238	P	Pn	18 02 57.5	+0.7
WFSB				S	S	18 03 18.3	-0.7
TIPB	Shuangxi	0.52	226	*e*P	Pn	18 02 57.5	+0.5
EGS		0.56	210	*e*P	Pn	18 02 58.3	+1.2
YM08	YM08	0.61	256	*i* P	Pn	18 02 57.6	+0.3
YM08				S	S	18 03 18.7	-1.1
YM01	YM01	0.64	253	*e*P	Pn	18 02 58.1	+0.7
YM01				*e*S	S	18 03 20.9	+0.9
ZUZH	Zhuzihu	0.66	255	⇓P	Pn	18 02 57.9	+0.4
ZUZH				S	S	18 03 18.5	-1.7
NHY	Taipei	0.68	244	*e*P	Pn	18 02 57.0	-0.5
TWA	Mucha	0.69	239	*e*P	Pn	18 02 59.8	+2.1
TWA				*e*S	S	18 03 21.9	+1.4
ILA	Ilan	0.72	218	*e*S	S	18 03 21.3	+0.6
TWE	Neicheng	0.81	221	P	Pn	18 02 59.2	+1.0
TWE				*e*S	S	18 03 22.4	+1.0
TWC	Suao	0.81	206	*e*P	Pn	18 02 59.4	+1.2
TWC				*e*S	S	18 03 21.6	+0.2
FUSB	Fushanzhiwuyua	0.83	226	P	Pn	18 02 59.0	+0.6
FUSB				*e*S	S	18 03 21.1	-0.7
ESAO	Su ao	0.84	206	*e*P	Pn	18 02 59.8	+1.4
ESAO				*e*S	S	18 03 22.0	+0.2
NDS	Dongshan	0.85	215	*e*P	Pn	18 02 59.7	+1.2
NDS				*e*S	S	18 03 21.8	-0.1
NWLT	Wulai	0.87	231	*e*P	Pn	18 02 58.9	+0.2
NWLT				S	S	18 03 20.7	-1.4
EOS2	EOS2	0.91	181	P	Pn	18 02 60.0	+1.3
EOS2				S	S	18 03 21.7	-0.5
ENTT	Nioudou	0.93	222	*e*P	Pn	18 02 59.5	+0.6
ENTT				S	S	18 03 21.3	-1.4
EWUT	Wuta	0.98	206	*e*P	Pn	18 02 59.8	+0.5
EWUT				S	S	18 03 21.9	-1.4
ENA	Nanau	1.01	207	*i* P	Pn	18 03 00.0	+0.6
ENA				*i* S	S	18 03 22.8	-0.8
NCUH	Zhongli	1.03	249	P	Pn	18 02 59.9	+0.4
NCUH				*i* S	S	18 03 22.4	-1.3
LATG	Datong	1.03	219	*i* P	Pn	18 03 00.5	+0.8
LATG				*e*S	S	18 03 23.9	0.0
YHNB	Yeheng	1.03	230	P	Pn	18 02 59.8	+0.1
YHNB				S	S	18 03 22.1	-1.8
NSK	Sanguang	1.04	231	*e*P	Pn	18 02 59.7	0.0
NSK				*e*S	S	18 03 22.4	-1.5
EOS3	EOS3	1.05	176	*e*P	Pn	18 03 00.5	+1.0
EOS3				S	S	18 03 24.2	+0.5
EAHA	Aohua	1.10	205	P

OWD	**Renai**	**1.68 215**	*e*P	**Pn**	**18 03 05.9**	**+1.0**
OWD			*i* S	**S**	**18 03 32.7**	**-0.4**
WUSB	**Renai**	**1.69 218**	P	**Pn**	**18 03 05.8**	**+0.9**
WUSB			*e*S	**S**	**18 03 33.7**	**+0.6**
ESL	**Shilin**	**1.69 206**	*e*P	**Pn**	**18 03 04.0**	**-0.7**
ESL			*e*S	**S**	**18 03 30.6**	**-2.4**
WCS	**Beigang Elemen**	**1.76 224**	*e*P	**Pn**	**18 03 06.0**	**+0.6**
WCS			*i* S	**S**	**18 03 33.2**	**-0.9**
WARBT	**Fenglin Townsh**	**1.79 206**	*e*P	**Pn**	**18 03 05.0**	**-0.7**
WARBT			*e*S	**S**	**18 03 32.2**	**-2.4**
EGFH	**Guangfu**	**1.82 204**	P	**Pn**	**18 03 06.6**	**+0.6**
EGFH			*e*S	**S**	**18 03 33.9**	**-1.2**
VWDT	**VWDT**	**1.87 213**	*e*P	**Pn**	**18 03 07.8**	**+1.4**
VWDT			*e*S	**S**	**18 03 36.4**	**+0.5**
SMLT	**Sun Moon Lake**	**1.89 220**	*e*P	**Pn**	**18 03 06.5**	**-0.3**
SMLT			S	**S**	**18 03 35.3**	**-1.3**
TYC	**Yuchr**	**1.90 222**	P	**Pn**	**18 03 07.5**	**+0.7**
TYC			S	**S**	**18 03 35.9**	**-0.6**
HATJ	**Hateruma jima**	**1.91 132**	S	**S**	**18 03 35.3**	**-1.3**
SSLB	**Suanglung**	**1.94 218**	*i* P	**Pn**	**18 03 07.8**	**+0.7**
SSLB			*i* S	**S**	**18 03 36.4**	**-0.8**
JKRS	**Kuro-shima**	**1.94 124**	*e*P	**Pn**	**18 03 07.9**	**+0.8**
JKRS			*e*S	**S**	**18 03 36.1**	**-1.0**
JIJ	**Ishigaki jima**	**1.98 119**	P	**Pn**	**18 03 07.6**	**+0.1**
JIJ			*e*S	**S**	**18 03 35.6**	**-2.1**
HGSD	**Ruisui**	**1.98 202**	P	**Pn**	**18 03 08.5**	**+1.0**
HGSD			*e*S	**S**	**18 03 38.4**	**+0.5**
EHY	**Hungye**	**2.01 205**	P	**Pn**	**18 03 08.4**	**+0.5**
EHY			*e*S	**S**	**18 03 38.9**	**+0.5**
JISG	**Ishigakijimahi**	**2.02 111**	*e*P	**Pn**	**18 03 08.5**	**+0.6**
JISG			*e*S	**S**	**18 03 37.1**	**-1.3**
WHYT	**Xinyi Township**	**2.07 218**	*i* P	**Pn**	**18 03 09.0**	**+0.6**
WHYT			*i* S	**S**	**18 03 38.9**	**-0.6**
YULB	**Yu-li**	**2.12 204**	*e*P	**Pn**	**18 03 08.0**	**-1.0**
YULB			*e*S	**S**	**18 03 41.6**	**+1.2**
EYUL	**Yuli**	**2.15 203**	P	**Pn**	**18 03 10.5**	**+1.2**
TWF1	**Yuli**	**2.16 204**	P	**Pn**	**18 03 09.0**	**-0.4**
TWF1			*e*S	**S**	**18 03 42.0**	**+0.9**
ALS	**Alishan**	**2.24 216**	P	**Pn**	**18 03 11.0**	**+0.4**
ALS			*e*S	**S**	**18 03 43.4**	**+0.2**
CHN5	**Tsauling**	**2.24 220**	*e*P	**Pn**	**18 03 10.8**	**+0.4**
CHN5			*e*S	**S**	**18 03 42.2**	**-0.6**
WDLH	**Douliu**	**2.26 224**	*e*P	**Pn**	**18 03 11.0**	**+0.6**
WDLH			*e*S	**S**	**18 03 42.5**	**-0.4**
FULB	**Fuli**	**2.30 202**	*e*P	**Pn**	**18 03 11.3**	**+0.5**
FULB			*e*S	**S**	**18 03 44.6**	**+0.9**
JTJ	**Tarama**	**2.34 107**	P	**Pn**	**18 03 12.6**	**+1.5**
JTJ			*e*S	**S**	**18 03 44.2**	**-0.1**
WCKO	**Fanlu**	**2.41 219**	*e*P	**Pn**	**18 03 12.6**	**+0.6**
WCKO			*e*S	**S**	**18 03 44.8**	**-1.0**
ELDTW	**Lidau**	**2.41 208**	*e*P	**Pn**	**18 03 12.5**	**+0.3**
ELDTW			*e*S	**S**	**18 03 47.2**	**+1.1**
CHN4	**Tsaushan**	**2.48 218**	*e*P	**Pn**	**18 03 13.1**	**+0.3**
CHN4			*e*S	**S**	**18 03 46.8**	**-0.5**
TPUB	**Ta-pu**	**2.50 216**	*i* P	**Pn**	**18 03 13.6**	**+0.6**
TPUB			*e*S	**S**	**18 03 46.7**	**-1.0**
STYH	**Taoyuan**	**2.54 212**	*e*P	**Pn**	**18 03 12.5**	**-0.9**
STYH			*e*S	**S**	**18 03 46.1**	**-2.2**
WTP	**Ta-pu**	**2.56 216**	P	**Pn**	**18 03 13.8**	**+0.1**
WTP			*e*S	**S**	**18 03 49.3**	**+0.6**
TWK	**Hsinying**	**2.61 218**	P	**Pn**	**18 03 14.7**	**+0.4**
TWK			*e*S	**S**	**18 03 49.3**	**-0.5**
LONT	**Longtian**	**2.62 203**	*i* P	**Pn**	**18 03 15.1**	**+0.7**
LONT			*i* S	**S**	**18 03 49.6**	**-0.5**
CHN1	**Nanshi**	**2.65 217**	P	**Pn**	**18 03 15.1**	**+0.4**
CHN1			*e*S	**S**	**18 03 50.1**	**-0.5**
SGST	**Jiashian**	**2.71 214**	*e*P	**Pn**	**18 03 15.2**	**-0.1**
MASBT	**Mashibuluo**	**3.09 209**	*e*P	**Pn**	**18 03 20.3**	**+0.7**

IDC 29 18:04:16.0±2.2, 7°.01S×128°.31E, h0km, mb3.5/1, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=107.4km s-min=28.0km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.33**	**193**	Pn	Pn	18 07 00.1	+0.9
	0.1nm,0.3s,baz=14,slow=12,SNR=7.8						
FITZ				Sn	Sn	18 08 57.1	-10
	0.4nm,0.3s,baz=63,slow=7.9,SNR=3.0						
	3.7nm,1.1s						
WRA	**Warramunga Arr**	**14.13**	**156**	Pn	Pn	18 07 37.8	+0.3
	0.1nm,0.3s,baz=329,slow=13,SNR=5.3						
WRA				Sn	Sn	18 09 55.2	-20
	0.4nm,0.3s,baz=330,slow=22,SNR=7.6						
	0.1nm,0.6s						
ASAR	**Alice Springs**	**17.41**	**163**	P	Pn	18 08 19.5	-1.1
	0.1nm,0.3s,baz=337,slow=11,SNR=10						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**67.32**	**328**	P	P	18 15 12.8	0.0
	0.2nm,0.5s,baz=112,slow=8.1,SNR=5.9						
	0.2nm,0.5s						

*BGSI **29** 18:07:50.6±1.5, 26°.69S×27°.93E, h0km±76km, ML3.2*
*PRE **29** 18:07:50.6±1.1, 26°.48S×27°.69E, h2km, ML2.6*
*BUL **29** 18:07:53.8±1.8, 26°.15S×27°.23E, h10km, MD3.4*
ISC 29 18:07:51.2±1.2, 26°.50S±0°.03×27°.69E±0°.03, h6km±9km, n29, σ1°59/55, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.25**	**288**	*e*P	**Pg**	**18 07 56.3**	**+0.2**
WDLM				*e*S	**Sg**	**18 07 59.9**	**+0.4**
WDLM				IAML		18 08 01.7	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.51**	**215**	*e*P	**Pg**	**18 08 01.5**	**+0.4**
PRYS				*e*S	**Sg**	**18 08 08.9**	**+1.1**
PRYS				IAML		18 08 15.6	
	comp=Z,232nm,0.5s						
HRAO	**HartRAO**	**0.61**	**360**	*e*P	**Pg**	**18 08 02.5**	**-0.4**
HRAO				*e*S	**Sg**	**18 08 09.2**	**-1.7**
HRAO				IAML		18 08 09.9	
	comp=Z,350nm,0.2s						
SNKL	**Senekal, Frees**	**1.77**	**178**	*e*P	**Pb**	**18 08 24.1**	**0.0**
SNKL				*e*S	**Sb**	**18 08 47.1**	**+0.5**
SNKL				IAML		18 08 54.0	
	comp=Z,110nm,0.3s						
CRLN	**Carolina, Mapu**	**2.16**	**77**	*e*P	**Pn**	**18 08 28.1**	**+0.3**
CRLN				*e*S	**Sn**	**18 08 55.4**	**+0.3**
CRLN				IAML		18 08 59.0	
	comp=Z,45nm,0.5s						
SWZ	**Schweizer**	**2.21**	**252**	*e*P	**Pn**	**18 08 29.8**	**+1.1**
SWZ				*e*S	**Sn**	**18 08 57.0**	**+0.6**
SWZ				IAML		18 09 11.0	
	comp=Z,68nm,0.3s						
NWCL	**Newcastle**	**2.31**	**123**	*e*P	**Pn**	**18 08 31.0**	**+1.0**
NWCL				*e*S	**Sn**	**18 09 00.3**	**+1.4**
NWCL				IAML		18 09 11.7	
	comp=Z,64nm,0.3s						
LEPH	**Lephalale, Lim**	**2.64**	**2**	*e*P	**Pn**	**18 08 34.6**	**+0.2**
LEPH				*e*S	**Sn**	**18 09 06.7**	**-0.1**
LEPH				IAML		18 09 13.8	
	comp=Z,46nm,0.3s						
MAKGR	**Makgori**	**2.69**	**284**	*i* P	**Pb**	**18 08 37.8**	**-1.9**
MAKGR				IAML		18 09 15.4	
	comp=N,408nm,0.5s						
BOSA	**Boshof**	**3.01**	**225**	*e*P	**Pn**	**18 08 40.2**	**+0.6**
BOSA				*e*S	**Sn**	**18 09 16.5**	**+0.4**
BOSA				IAML		18 09 38.4	
	comp=Z,17nm,0.3s						
BOSA	**Boshof**	**3.01**	**225**	*i* P	**Pn**	**18 08 41.5**	**+1.9**
BOSA				*i* S	**Sn**	**18 09 16.4**	**+0.2**
PILG	**Pilgrimsrest,**	**3.14**	**61**	*e*P	**Pn**	**18 08 42.3**	**+0.8**
PILG				*e*S	**Sn**	**18 09 19.2**	**-0.3**
PILG				IAML		18 09 35.5	
	comp=Z,68nm,0.4s						
LPHEP	**Lephephe**	**3.54**	**332**	*i* P	**Pn**	**18 08 48.5**	**+1.6**
LPHEP				*i* S	**Sn**	**18 09 32.2**	**+3.1**
LPHEP				IAML		18 09 45.2	
	comp=E,100nm,0.5s						
PMBG	**Pietermaritzbu**	**3.90**	**141**	*e*P	**Pn**	**18 08 52.5**	**+0.8**
PMBG				*e*S	**Sn**	**18 09 38.8**	**+0.9**
PMBG				IAML		18 09 55.8	
	comp=Z,24nm,0.7s						
MREMI	**Moremi**	**3.92**	**357**	*i* P	**Pn**	**18 08 53.6**	**+1.5**
MREMI				IAML		18 09 58.0	
	comp=E,162nm,0.4s						
SKOMA	**Sekoma**	**3.93**	**299**	*i* P	**Pn**	**18 08 53.6**	**+1.4**
SKOMA				*i* S	**Sn**	**18 09 41.4**	**+2.6**
SKOMA				IAML		18 09 57.2	
	comp=E,54nm,0.5s						
KDWAN	**Kaudwane**	**4.15**	**318**	*i* P	**Pn**	**18 08 56.3**	**+1.1**
KDWAN				*i* S	**Sn**	**18 09 46.4**	**+2.1**
KDWAN				IAML		18 10 01.1	
	comp=N,141nm,0.5s						
KSTD	**Kokstad**	**4.34**	**161**	*e*P	**Pn**	**18 08 58.4**	**+0.5**
KSTD				*e*S	**Sn**	**18 09 49.4**	**+0.4**
KSTD				IAML		18 10 17.4	
	comp=Z,11nm,0.4s						
MOPA	**Mopani**	**4.49**	**49**	*e*P	**Pn**	**18 08 59.6**	**-0.2**
MOPA				*e*S	**Sn**	**18 09 50.8**	**-1.7**
MOPA				IAML		18 10 10.2	
	comp=Z,50nm,0.4s						
MOPA	**Mopani**	**4.49**	**49**	*i* P	**Pn**	**18 09 00.8**	**+1.0**
MOPA				*i* S	**Sn**	**18 09 54.7**	**+2.3**
ALKP	**Alkanpan, Nort**	**5.90**	**233**	*e*P	**Pn**	**18 09 19.9**	**+0.6**
ALKP				*e*S	**Sn**	**18 10 25.4**	**-1.9**
ALKP				IAML		18 10 58.5	
	comp=Z,15nm,0.5s						
BFON	**Badsfontein, M**	**6.33**	**213**	*e*P	**Pn**	**18 09 26.3**	**+1.1**
BFON				*e*S	**Sn**	**18 10 36.0**	**-1.9**
BFON				IAML		18 11 18.8	
	comp=Z,9.7nm,0.6s						
BLWY	**Bulawayo**	**6.39**	**8**	*i* P	**Pn**	**18 09 23.2**	**-2.9**
BLWY				*i* S	Sn	18 10 28.6	-11
GRAF	**Camdeboo Natio**	**6.40**	**205**	*e*P	**Pn**	**18 09 26.4**	**+0.3**
GRAF				*e*S	**Sn**	**18 10 37.8**	**-1.7**
GRAF				IAML		18 11 19.5	
	comp=Z,9.2nm,0.5s						
BRAK	**Brakfontein**	**6.72**	**217**	*e*P	**Pn**	**18 09 31.5**	**+0.9**
BRAK				*e*S	**Sn**	**18 10 45.0**	**-2.6**
BRAK				IAML		18 11 30.4	
	comp=Z,6.9nm,0.5s						
GRAN	**Grantham**	**7.52**	**218**	*e*P	**Pn**	**18 09 42.4**	**+0.9**
GRAN				*e*S	**Sn**	**18 11 04.4**	**-2.8**
GRAN				IAML		18 11 28.0	
	comp=Z,4.5nm,0.5s						
FRAZ	**Fraserburg**	**7.70**	**224**	*e*P	**Pn**	**18 09 45.2**	**+1.1**
FRAZ				*e*S	**Sn**	**18 11 08.5**	**-3.2**
FRAZ				IAML		18 11 13.1	
	comp=Z,5.6nm,0.4s						
MERW	**Merweville**	**8.16**	**220**	*e*P	**Pn**	**18 09 51.7**	**+1.4**
MERW				*e*S	**Sn**	**18 11 20.1**	**-2.9**
MERW				IAML		18 11 25.5	
	comp=Z,3.8nm,0.6s						
SUR	**Sutherland**	**8.38**	**224**	*e*P	**Pn**	**18 09 54.3**	**+0.9**
SUR				*e*S	**Sn**	**18 11 25.1**	**-3.4**
SUR				IAML		18 11 43.7	
	comp=Z,3.9nm,0.4s						

*IDC **29** 18:19:03.6±1.8, 21°.03N×122°.65E, h0km, mb3.7/7, mbtmp3.7/7, MS3.0/5, Error ellipse: s-maj=148.0km s-min=19.2km az=65.0*
ISC 29 18:19:04.9±1.3, 21°.1N±0°.2×122°.8E±0°.2, h10km, n27, σ2°76/16, mb4.1/12, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**13.99**	**29**	LR	LR	18 27 46.4	
	comp=Z,45nm,19.8s,baz=263,slow=37						
DAV	**Davao City (W)**	**14.20**	**169**	LR	LR	18 28 02.0	
	comp=Z,37nm,19.7s,baz=348,slow=38						
KSRS	**Korea Array**	**16.91**	**14**	LR	LR	18 30 38.5	
	comp=Z,27nm,18.6s,baz=40,slow=41						
PAYA	**Payao**	**21.55**	**269**	P	**P**	**18 23 47.9**	**-6.7**
CM09	**Chiang Mai Arr**	**22.52**	**267**	P	**P**	**18 24 04.3**	**-0.8**
	0.0nm0.0nm87nm8.8nm,0.6s						
CM04	**Chiang Mai Arr**	**22.54**	**267**	P	**P**	**18 24 08.3**	**+3.0**
	0.1nm0.0nm97nm10nm,0.7s						
CM01	**Chiang Mai Arr**	**22.56**	**267**	P	**P**	**18 24 08.0**	**+2.6**
CM31	**Chiang Mai Arr**	**22.56**	**267**	P	**P**	**18 24 01.8**	**-3.7**
CM02	**Chiang Mai Arr**	**22.57**	**267**	P	**P**	**18 24 07.9**	**+2.4**
	0.0nm0.0nm73nm8.2nm,0.8s						
CM05	**Chiang Mai Arr**	**22.57**	**267**	P	**P**	**18 24 07.4**	**+1.8**
	0.0nm0.0nm65nm5.8nm,0.5s						
CM15	**Chiang Mai Arr**	**22.58**	**267**	P	**P**	**18 24 08.6**	**+2.9**
	0.0nm0.0nm89nm5.4nm,0.6s						
CM13	**Chiang Mai Arr**	**22.60**	**267**	P	**P**	**18 24 08.4**	**+2.5**
SONM	**Songino Array**	**29.77**	**338**	P	**P**	**18 25 12.1**	**+0.3**
	0.7nm,0.8s,baz=159,slow=9.0,SNR=3.8						
	0.7nm,0.8s						
LEM	**Lembang**	**31.48**	**210**	LR	LR	18 37 55.9	
	comp=Z,60nm,18.1s,baz=345,slow=36						
YAK	**Yakutsk**	**41.19**	**5**	LR	LR	18 45 60.0	
	comp=Z,41nm,18.3s,baz=68,slow=39						
H11N1	**WAKE ISLAND Hy**	**41.28**	**84**	T	T	19 11 53.1	
	baz=279,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**41.29**	**84**	T	T	19 11 54.1	
	baz=279,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**41.30**	**84**	T	T	19 11 57.5	
	baz=279,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**41.32**	**86**	T	T	19 11 52.4	
	baz=281,slow=74,SNR=93						
H11S1	**WAKE ISLAND Hy**	**41.33**	**86**	T	T	19 11 52.0	
	baz=281,slow=74,SNR=90						
H11S2	**WAKE ISLAND Hy**	**41.33**	**86**	T	T	19 11 53.9	
	baz=281,slow=74,SNR=89						
MKAR	**Makanchi Array**	**41.58**	**318**	P	**P**	**18 26 53.0**	**+0.1**
	0.9nm,0.6s,baz=113,slow=9.6,SNR=17						
	0.9nm,0.6s						
WRA	**Warramunga Ar**	**42.32**	**164**	P	**P**	**18 26 58.8**	**-0.3**
	0.6nm,0.9s,baz=344,slow=9.0,SNR=2.4						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**43.63**	**328**	P	**P**	**18 27 08.9**	**-0.4**
	2.3nm,0.7s,baz=114,slow=8.0,SNR=13						
	2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.42**	**321**	P	**P**	**18 27 23.9**	**+0.2**
	1.9nm,0.7s,baz=117,slow=7.7,SNR=7.2						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**45.79**	**166**	P	**P**	**18 27 27.1**	**+0.1**
	0.2nm,0.5s,baz=345,slow=7.1,SNR=6.3						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**50.99**	**322**	P	**P**	**18 28 07.1**	**+0.3**
	0.8nm,0.5s,baz=101,slow=7.4,SNR=9.3						
	0.8nm,0.5s						

*NEIC **29** 18:36:19.1±1.6, 56°.55N±0°.08×148°.6W±0°.1, h10km±2km, ML3.2/80, ML2.9(AEIC), Error ellipse: s-maj=13.8km s-min=8.9km az=159.0*
*IDC **29** 18:36:19.8±2.9, 56°.46N×148°.78W, h0km, mb3.7/2, mbtmp3.2/5, ML2.8/3, Error ellipse: s-maj=41.6km s-min=30.1km az=170.0*
*AEIC **29** 18:36:24.8±1.4, 56°.59N±0°.09×148°.58W±0°.08, h12km±8km, Error ellipse: s-maj=13.9km s-min=5.1km az=161.0*
ISC 29 18:36:21.2±1.3, 56°.74N±0°.09×148°.69W±0°.06, h10km, n135, σ0°94/127, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**298**	Pn	**Pn**	**18 37 00.2**	**+0.3**
KDAK	**Kodiak Island**	**2.36**	**298**		**Sn**	**18 37 26.9**	**-2.0**
KDAK	**Kodiak Island**	**2.36**	**298**	Pn	**Pn**	**18 37 00.2**	**+0.3**
	1.4nm,0.3s,baz=343,slow=3.0,SNR=24						
KDAK				Sn	**Sn**	**18 37 28.5**	**-0.4**
	2.8nm,0.3s,baz=187,slow=15,SNR=8.9						
	3.8nm,0.4s						
OHAK	**Old Harbor**	**2.56**	**283**	Pn	**Pn**	**18 37 02.1**	**-0.6**
OHAK	**Old Harbor**	**2.56**	**283**		**Sn**	**18 37 31.4**	**-2.5**
SYI	**Shuyak Island**	**2.73**	**315**	Pn	**Pn**	**18 37 05.7**	**+0.7**
SII	**Sitkinak Islan**	**3.04**	**269**		**Pn**	**18 37 08.2**	**-1.1**
SII				IAML		18 37 49.5	
	comp=N,63nm,1.0s						
SII				IAML		18 37 58.5	
	comp=E,61nm,1.0s						
SII	**Sitkinak Islan**	**3.04**	**269**		**Sn**	**18 37 42.7**	**-3.0**
CNPM	**China Poot**	**3.11**	**335**		**Pn**	**18 37 10.7**	**+0.5**
CNPM	**China Poot**	**3.11**	**335**		**Sn**	**18 37 46.6**	**-0.8**
BRSE	**Bradley Lake S**	**3.20**	**341**		**Pn**	**18 37 12.0**	**+0.5**
BRLK	**Bradley Lake**	**3.25**	**340**		**Pn**	**18 37 12.6**	**+0.4**
BRLK				IAML		18 39 20.7	
	comp=E,50nm,0.1s						
BRLK				IAML		18 39 22.4	
	comp=N,52nm,0.0s						
P23K	**Montague Islan**	**3.34**	**11**		**Pn**	**18 37 13.6**	**+0.2**
P23K					**Sn**	**18 37 52.0**	**-1.1**
SEW	**Seward**	**3.40**	**354**		**Pn**	**18 37 14.4**	**+0.2**
Q19K	**Cape Douglas,**	**3.44**	**312**		**Pn**	**18 37 16.0**	**+1.2**
Q19K				IAML		18 38 08.9	
	comp=N,51nm,0.8s						
KAHG	**Katmai Hook Gl**	**3.61**	**302**		**Pn**	**18 37 18.6**	**+1.4**
AUCH	**Augustine Cone**	**3.65**	**318**		**Pn**	**18 37 19.4**	**+1.6**
AUL	**Augustine Lava**	**3.66**	**318**		**Pn**	**18 37 19.6**	**+1.8**
KAKN	**Katmai Knife C**	**3.78**	**297**		**Pn**	**18 37 20.7**	**+1.2**
P19K	**Oil Pt**	**3.79**	**322**	Pn	**Pn**	**18 37 20.4**	**+0.8**
P19K				IAML		18 38 09.0	
	comp=N,50nm,0.4s						
O22K	**Cooper Landing**	**3.79**	**352**	Pn	**Pn**	**18 37 20.0**	**+0.4**
HIN	**Hinchinbrook I**	**3.85**	**16**		**Pn**	**18 37 20.4**	**0.0**
SLKM	**Skilak Lake**	**3.87**	**349**	Pn	**Pn**	**18 37 20.8**	**+0.1**
SLKM				IAML		18 38 08.5	
	comp=N,30nm,0.5s						
SLKM				IAML		18 38 08.6	
	comp=E,36nm,0.5s						
ACHA	**Angle Creek He**	**3.88**	**295**	Pn	**Pn**	**18 37 20.9**	**+0.1**
KAHC	**Katmai Hardscr**	**3.90**	**302**		**Pn**	**18 37 22.2**	**+1.1**
KAIM	**Kayak Island**	**3.91**	**33**	Pn	**Pn**	**18 37 20.9**	**-0.4**
KAIM				IAML		18 38 10.1	
	comp=E,37nm,1.0s						
KAIM				IAML		18 38 13.3	
	comp=N,48nm,1.1s						
O20K	**Slope Mountain**	**3.94**	**330**		**Pn**	**18 37 22.5**	**+0.8**
ANCK	**Angle Creek**	**3.96**	**295**		**Pn**	**18 37 23.3**	**+1.4**
ILS	**Iliamna Low So**	**3.97**	**326**		**Pn**	**18 37 22.9**	**+0.8**
CHIR	**Chirikof Islan**	**3.97**	**260**		**Pn**	**18 37 20.3**	**-1.8**
CHIR				IAML		18 38 07.1	
	comp=N,31nm,1.0s						
ILSW	**Iliamna Southw**	**4.01**	**326**		**Pn**	**18 37 23.1**	**+0.4**
ILSW				IAML		18 38 12.4	
	comp=N,18nm,0.4s						
ILSW				IAML		18 38 17.4	
	comp=E,21nm,0.6s						
EYAK	**Cordova Ski Ar**	**4.12**	**21**	Pn	**Pn**	**18 37 24.3**	**+0.3**
PWL	**Port Wells**	**4.14**	**2**		**Pn**	**18 37 24.8**	**+0.4**
PWL				IAML		18 38 20.0	
	comp=E,20nm,0.5s						
PWL				IAML		18 38 24.3	
	comp=N,17nm,0.8s						
FID	**Port Fidalgo**	**4.19**	**15**		**Pn**	**18 37 24.2**	**-0.8**
FID				IAML		18 38 13.6	
	comp=E,20nm,0.6s						
FID				IAML		18 38 18.2	
	comp=N,16nm,0.6s						
RAGM	**Ragged Mountai**	**4.22**	**28**		**Pn**	**18 37 26.1**	**+0.6**
SUCK	**Suckling Hills**	**4.23**	**36**	Pn	**Pn**	**18 37 25.2**	**-0.4**
SUCK				IAML		18 38 21.9	
	comp=E,27nm,1.0s						
SUCK				IAML		18 38 31.2	
	comp=N,31nm,0.9s						
GLI	**Glacier Island**	**4.24**	**11**	Pn	**Pn**	**18 37 25.9**	**+0.2**
GLI				IAML		18 38 14.5	
	comp=E,24nm,0.7s						
HMT	**Hamilton**	**4.29**	**31**		**Pn**	**18 37 26.6**	**+0.1**
NICHA	**Nichawak Mount**	**4.30**	**33**		**Pn**	**18 37 26.7**	**+0.1**
GOAT	**Goat Mountain**	**4.38**	**27**		**Pn**	**18 37 28.1**	**+0.4**
P18K	**Big Mountain,**	**4.38**	**310**		**Pn**	**18 37 27.2**	**-0.4**
DFR	**Drift River**	**4.39**	**333**		**Pn**	**18 37 27.9**	**0.0**
RC01	**Rabbit Creek A**	**4.40**	**353**	Pn	**Pn**	**18 37 26.5**	**-1.4**
RC01				IAML		18 38 20.3	
	comp=N,17nm,0.5s						
RC01				IAML		18 38 21.9	
	comp=E,20nm,0.5s						
FIS	**Fire Island**	**4.49**	**350**	Pn	**Pn**	**18 37 28.5**	**-0.7**
BERG	**Berg Lake**	**4.50**	**33**		**Pn**	**18 37 29.0**	**-0.4**
GRIN	**Grindle Hills**	**4.53**	**36**		**Pn**	**18 37 30.0**	**+0.2**
SNH	**Sunshine Point**	**4.62**	**39**	Pn	**Pn**	**18 37 30.4**	**-0.6**
SNH				IAML		18 38 36.2	
	comp=N,16nm,1.2s						
SNH				IAML		18 38 46.3	
	comp=E,14nm,1.2s						
O18K	**Koktuh Hills**	**4.65**	**315**	Pn	Pn	18 37 29.5	-1.9
KHIT	**Khitrov Hills**	**4.68**	**35**		**Pn**	**18 37 31.5**	**-0.4**
KNK	**Knik Glacier**	**4.69**	**1**	Pn	**Pn**	**18 37 31.6**	**-0.3**
KNK				IAML		18 38 38.1	
	comp=N,10nm,1.2s						
KNK				IAML		18 38 40.2	
	comp=E,12nm,0.7s						
BMRM	**Bremner River**	**4.74**	**25**		**Pn**	**18 37 32.9**	**+0.1**
P17K	**Kvichak River**	**4.81**	**304**		**Pn**	**18 37 34.6**	**+1.2**
WAX	**Waxell Ridge**	**4.81**	**37**		**Pn**	**18 37 32.8**	**-0.9**
BARK	**Barkley Ridge**	**4.90**	**39**		**Pn**	**18 37 33.5**	**-1.4**
MESA	**MESA**	**4.94**	**43**	Pn	**Pn**	**18 37 35.1**	**-0.4**
MESA				IAML		18 39 00.5	
	comp=E,13nm,0.6s						
MESA				IAML		18 39 00.9	
	comp=N,15nm,0.7s						
KLU	**Klutina**	**4.98**	**15**	Pn	**Pn**	**18 37 35.6**	**-0.4**
KLU				IAML		18 38 35.1	
	comp=E,11nm,0.8s						
KLU				IAML		18 38 40.5	
	comp=N,14nm,1.2s						
STLK	**Strandline Lak**	**5.04**	**343**		**Pn**	**18 37 36.8**	**0.0**
STLK				IAML		18 38 38.5	
	comp=E,8.5nm,0.9s						
STLK				IAML		18 38 39.6	
	comp=N,18nm,0.7s						
GHO	**Glory Hole Cre**	**5.05**	**359**		**Pn**	**18 37 35.7**	**-1.2**
GHO				IAML		18 38 39.9	
	comp=N,19nm,0.6s						
GHO				IAML		18 38 47.1	
	comp=E,14nm,0.7s						
N19K	**Bonanza Creek**	**5.08**	**326**	Pn	**Pn**	**18 37 37.5**	**+0.1**
SML	**Sawmill**	**5.09**	**2**		**Pn**	**18 37 37.9**	**+0.5**
SML				IAML		18 38 40.8	
	comp=E,13nm,0.7

R32K	**Eaglecrest**	7.79	73	Pn	Pn	18 38 10.8	-3.6
J18K	**Innoko River**	7.84	333	Pn	**Pn**	**18 38 14.8**	**-0.4**
J20K	**Nowinta River**	7.93	342	Pn	**Pn**	**18 38 15.4**	**-1.0**
J19K	**Poorman**	8.04	338	Pn	**Pn**	**18 38 18.4**	**+0.4**
J25K	**Salcha River,**	8.07	10	Pn	**Pn**	**18 38 18.9**	**+0.6**
ILAR	**Eielson Array**	8.11	5	Pn	**Pn**	**18 38 20.7**	**+1.9**
	comp=N,0.1nm,0.3s,baz=199,slow=12,SNR=6.6						
ILAR				Sn	**Sn**	**18 39 48.4**	**-2.1**
	comp=N,0.1nm,0.3s,baz=188,slow=23,SNR=8.4						
	comp=N,0.2nm,0.6s						
N31M	**Braeburn, Yuko**	8.17	49	Pn	**Pn**	**18 38 19.8**	**+0.2**
J26L	**Joseph Creek**	8.19	16	Pn	**Pn**	**18 38 21.1**	**+1.1**
WHY	**Whitehorse**	8.19	56	Pn	**Pn**	**18 38 19.3**	**-0.8**
L29M	**L29M**	8.30	35	Pn	**Pn**	**18 38 21.6**	**+0.1**
M30M	**Minto, Yukon**	8.39	41	Pn	**Pn**	**18 38 22.1**	**-0.6**
P32M	**Atlin**	8.42	64		**Pn**	**18 38 21.4**	**-1.6**
POKR	**Poker Plat Res**	8.43	4	Pn	**Pn**	**18 38 22.2**	**-1.1**
I23K	**Minto, Yukon-K**	8.45	358	Pn	**Pn**	**18 38 22.7**	**-0.7**
J17K	**VABM Dome**	8.45	326	Pn	**Pn**	**18 38 22.3**	**-1.2**
L14K	**Kuka Creek**	8.56	308	Pn	**Pn**	**18 38 24.5**	**-0.4**
U33K	**Whale Pass**	8.65	88	Pn	Pn	18 38 20.4	-5.9
YKA	**Yellowknife Ar**	18.02	57	P	**Pn**	**18 40 33.0**	**+1.7**
	baz=269,slow=10,SNR=3.9						
	comp=N,0.2nm,0.7s						
ZALV	**Zalesovo Beam**	61.36	327	P	**P**	**18 46 38.0**	**+1.4**
	comp=N,0.6nm,0.5s,baz=32,slow=6.8,SNR=2.5						
	comp=N,0.6nm,0.5s						
BVAR	**Borovoye Array**	66.01	335	P	**P**	**18 47 08.8**	**+1.5**
	comp=N,0.4nm,0.6s,baz=23,slow=7.8,SNR=3.0						
	comp=N,0.4nm,0.6s						

*SOME **29** 19:00:08.4, 42°.00N×83°.13E, h5km*
*NNC **29** 19:00:14.9±4.4, 42°.15N×82°.80E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=39.3km s-min=19.7km az=160.0

ISC 29 19:00:14.9±3.4, 42°.0N±0°.2×82°.8E±0°.1, h10km, n6,
σ1º77/10, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	2.70	296	*e*P	**Pn**	**19 00 57.5**	**-1.0**
	0.7nm,0.1s						
SHLS				*e*S	**Sb**	**19 01 34.3**	**-2.4**
	9.9nm,0.2s						
PDGK	**Podgornoye**	2.76	300	⇑Pg	**Pb**	**19 01 04.9**	**+0.5**
	3.4nm,0.7s						
PDGK				⇑Lg	Lg	19 01 39.8	
	11nm,0.8s						
UZB	**Uzynbulak**	3.00	293	*e*P	**Pb**	**19 01 08.3**	**-0.1**
	1.8nm,0.1s						
UZB				*e*S	**Sg**	**19 01 52.7**	**+1.6**
	7.3nm,0.2s						
KOTS	**Kotyrbulak**	4.36	288	*e*P	**Pb**	**19 01 33.5**	**+1.9**
	1.4nm,0.2s						
KOTS				*e*S	**Sg**	**19 02 35.9**	**+1.1**
	6.1nm,0.4s						
MK31	**Makanchi Array**	4.79	356	Pn	**Pn**	**19 01 27.8**	**+0.7**
	0.1nm,0.2s,baz=199,slow=15,SNR=6.1						
MK31				⇓Pg	**Pb**	**19 01 40.1**	**+1.2**
	0.3nm,0.3s,baz=171,slow=15,SNR=6.9						
MK31				⇑Lg	Lg	19 02 44.5	
	1.5nm,0.5s,baz=168,slow=27,SNR=6.4						
MAKZ	**Makanchi**	4.83	353	⇑Pn	**Pn**	**19 01 25.2**	**-2.4**
	3.2nm,1.5s						
MAKZ				⇑Lg	Lg	19 02 44.4	
	1.3nm,0.7s						

*IDC **29** 19:02:25.0±1.1, 12°.28N×125°.54E, h0km, mb3.7/8,*
mbtmp3.7/8, MS2.9/6, Error ellipse: s-maj=59.8km
s-min=18.5km az=64.0

ISC 29 19:02:29.5±1.1, 12°.3N±0°.2×125°.6E±0°.4, h33km, n20,
σ0º74/9, mb3.7/8, MS2.7/3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	4.91	292	LR	LR	19 05 42.4	
	comp=Z,224nm,18.2s,baz=152,slow=41						
DAV	**Davao City (W)**	5.17	180	LR	LR	19 06 16.6	
	comp=Z,210nm,18.5s,baz=318,slow=45						
GUMO	**Guam**	18.81	84	LR	LR	19 13 27.9	
	comp=Z,33nm,20.7s,baz=104,slow=35						
JCJ	**Chichijima**	21.43	44	LR	LR	19 15 03.3	
	comp=Z,43nm,20.7s,baz=96,slow=35						
KSRS	**Korea Array**	25.16	4	LR	LR	19 18 21.4	
	comp=Z,14nm,19.8s,baz=0.0,slow=38						
CMAR	**Chiang Mai Arr**	26.43	287	P	**P**	**19 08 03.2**	**-0.3**
	0.9nm,0.7s,baz=93,slow=7.2,SNR=8.6						
CMAR				LR	LR	19 19 44.4	
	comp=Z,23nm,18.8s,baz=260,slow=39						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	33.14	165	P	**P**	**19 09 01.8**	**-1.2**
	0.2nm,0.7s,baz=347,slow=8.8,SNR=1.2						
	0.2nm,0.7s						
ASAR	**Alice Springs**	36.62	167	P	**P**	**19 09 33.7**	**+0.7**
	0.3nm,0.7s,baz=348,slow=8.3,SNR=10						
	0.3nm,0.7s						
SONM	**Songino Array**	38.93	339	P	**P**	**19 09 51.6**	**-0.8**
	0.7nm,0.9s,baz=161,slow=8.1,SNR=4.8						
	0.7nm,0.9s						
H11S3	**WAKE ISLAND Hy 40.01**	76		T	T	19 52 52.5	
	baz=268,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy 40.03**	76		T	T	19 52 54.7	
	baz=268,slow=75,SNR=9.2						
H11S2	**WAKE ISLAND Hy 40.03**	76		T	T	19 52 57.4	
	baz=268,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy 40.28**	74		T	T	19 53 14.4	
	baz=266,slow=75,SNR=31						
H11N2	**WAKE ISLAND Hy 40.29**	74		T	T	19 53 11.8	
	baz=266,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy 40.30**	74		T	T	19 53 15.6	
	baz=266,slow=75,SNR=28						
MKAR	**Makanchi Array**	50.06	322	P	**P**	**19 11 21.2**	**+0.1**
	0.8nm,0.8s,baz=116,slow=6.6,SNR=2.6						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	54.08	325	P	**P**	**19 11 51.2**	**+0.4**
	1.2nm,0.6s,baz=124,slow=7.5,SNR=14						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	59.67	325	P	**P**	**19 12 30.7**	**+0.2**
	1.1nm,0.8s,baz=104,slow=9.6,SNR=4.3						
	1.1nm,0.8s						
FINES	**FINESS Array B**	83.84	332	P	**P**	**19 14 56.1**	**+0.6**
	3.5nm,0.9s,baz=68,slow=5.9,SNR=5.7						
	3.5nm,0.9s						
PLCA	**Paso Flores**	148.28	156	PKPbc	**PKiKP**	**19 22 14.9**	**+0.5**
	1.2nm,0.8s,baz=207,slow=4.5,SNR=3.3						

*IDC **29** 19:16:55.9±3.0, 21°.64N×144°.46E, h126km±27km, mb3.4/9,*
mbtmp3.8/11, MS3.1/1, Error ellipse: s-maj=34.9km
s-min=14.5km az=88.0

ISC 29 19:16:54.5±0.9, 21°.60N±0°.10×144°.6E±0°.2, h114km, n12,
σ0º98/12, mb3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	5.88	339	P	**Pn**	**19 18 21.0**	**+1.8**
	28nm,0.3s,baz=106,slow=22,SNR=5.9						
JCJ				S	**Sn**	**19 19 24.6**	**-0.7**
	45nm,0.6s,baz=300,slow=20,SNR=1.4						
MJAR	**Matsushiro Arr**	15.88	341	P	**P**	**19 20 32.4**	**-0.5**
	0.5nm,0.5s,baz=159,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	42.48	194	P	**P**	**19 24 38.8**	**+0.3**
	2.9nm,0.3s,baz=13,slow=8.2,SNR=24						
	2.9nm,0.3s						
ASAR	**Alice Springs**	46.17	194	P	**P**	**19 25 08.0**	**+0.1**
	0.9nm,0.4s,baz=9.2,slow=7.0,SNR=5.4						
ASAR				LR	LR	19 44 44.4	
	comp=Z,23nm,19.7s,baz=104,slow=36						
	0.9nm,0.4s						
STKA	**Stephens Creek**	53.25	183	P	**P**	**19 26 01.6**	**+0.2**
	3.3nm,0.7s,baz=9.6,slow=8.3,SNR=5.0						
	3.3nm,0.7s						
MKAR	**Makanchi Array**	55.70	313	P	**P**	**19 26 19.5**	**+0.5**
	0.1nm,0.3s,baz=94,slow=7.9,SNR=4.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	58.46	317	P	**P**	**19 26 37.4**	**-1.0**
	0.3nm,0.5s,baz=94,slow=7.6,SNR=5.5						
	0.3nm,0.5s						
ILAR	**Eielson Array**	61.55	27	P	**P**	**19 27 00.3**	**+1.1**
	0.5nm,0.8s,baz=263,slow=6.2,SNR=5.0						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	63.57	320	P	**P**	**19 27 12.9**	**0.0**
	0.3nm,0.4s,baz=86,slow=6.2,SNR=4.0						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	75.95	28	P	**P**	**19 28 27.4**	**-1.1**
	0.2nm,0.3s,baz=291,slow=6.5,SNR=3.2						
	0.2nm,0.3s						
FINES	**FINESS Array B**	83.81	335	P	**P**	**19 29 09.9**	**-1.0**
	1.3nm,0.8s,baz=56,slow=6.0,SNR=1.3						
	1.3nm,0.8s						
PLCA	**Paso Flores**	144.74	131	PKP	PKPbc	19 36 18.1	+0.8
	1.8nm,0.9s,baz=277,slow=0.8,SNR=5.7						

*IDC **29** 19:19:25.1±3.5, 6°.57S×147°.33E, h92km±31km, mb3.6/6,*
mbtmp3.9/8, MS3.2/3, Error ellipse: s-maj=32.8km
s-min=27.3km az=78.0

ISC 29 19:19:22.3±1.1, 6°.36S±0°.09×147°.3E±0°.2, h63km, n23,
σ0º90/21, mb3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.03	182	P	**Pn**	**19 20 08.5**	**+0.6**
	121nm,0.3s,baz=355,slow=5.8,SNR=236						
PMG				S	**Sn**	**19 20 42.4**	**-0.6**
	104nm,0.4s,baz=221,slow=22,SNR=9.6						
COEN	**Coen**	8.55	208	P	**Pn**	**19 21 23.3**	**-0.2**
MTSU	**Mount Surprise**	12.05	193	P	**Pn**	**19 22 12.1**	**+0.8**
KDU	**Kakadu**	15.87	246	P	**Pn**	**19 23 02.1**	**+0.2**
QIS	**Mount Isa**	15.95	207	P	**P**	**19 23 05.5**	**+0.2**
MTN	**Manton Dam**	17.14	247	P	**Pn**	**19 23 17.8**	**0.0**
WRA	**Warramunga Arr**	18.43	222	P	**P**	**19 23 31.6**	**-1.2**
	0.8nm,0.5s,baz=49,slow=11,SNR=15						
WRA				S	Sn	19 26 44.9	-14
	0.4nm,0.5s,baz=46,slow=25,SNR=2.4						
QLP	**Quilpie**	20.32	188	P	**P**	**19 23 54.0**	**+0.7**
AS01	**Alice Springs**	21.44	215	P	**P**	**19 24 06.0**	**+0.5**
ASAR	**Alice Springs**	21.47	215	P	**P**	**19 24 05.2**	**-0.5**
	1.2nm,0.5s,baz=50,slow=7.9,SNR=47						
ASAR				S	S	19 27 50.4	-10
	0.4nm,0.6s,baz=38,slow=21,SNR=1.5						
	1.2nm,0.5s						
OOD	**Oodnadatta**	23.98	206	P	**P**	**19 24 31.0**	**-0.1**
FITZ	**Fitzroy Crossi**	24.10	239	P	**P**	**19 24 31.0**	**-1.2**
	4.7nm,0.4s,baz=53,slow=8.7,SNR=42						
	4.7nm,0.4s						
FITZ	**Fitzroy Crossi**	24.10	239	P	**P**	**19 24 31.2**	**-1.0**
LCRK	**Leigh Creek**	25.43	198	P	**P**	**19 24 43.7**	**-0.5**
STKA	**Stephens Creek**	25.94	191	LR	LR	19 34 02.6	
	comp=Z,56nm,21.3s,baz=197,slow=34						
WRKA	**Warakurna**	25.97	222	P	**P**	**19 24 48.1**	**-1.2**
HTT	**Hallett**	28.03	195	P	**P**	**19 25 06.8**	**-0.8**
KSRS	**Korea Array**	47.17	339	LR	LR	19 47 09.9	
	comp=Z,6.8nm,18.1s,baz=40,slow=35						
RAR	**Rarotonga**	53.27	112	LR	LR	19 48 05.8	
	comp=Z,71nm,21.3s,baz=173,slow=32						
CMAR	**Chiang Mai Arr**	53.64	298	P	**P**	**19 28 40.0**	**+2.2**
	0.9nm,0.6s,baz=122,slow=5.5,SNR=11						
	0.9nm,0.6s						
QSPA	**South Pole Qui**	83.61	180	P	**P**	**19 31 42.9**	**-0.8**
	0.9nm,0.5s,baz=86,slow=1.3,SNR=11						
	0.9nm,0.5s						
ILAR	**Eielson Array**	85.71	23	P	**P**	**19 31 53.5**	**-0.6**
	0.2nm,0.6s,baz=248,slow=5.8,SNR=2.1						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	87.20	324	P	**P**	**19 32 01.1**	**-0.6**
	0.5nm,0.7s,baz=104,slow=6.1,SNR=2.9						
	0.5nm,0.7s						

*THE **29** 19:41:14.2, 37°.22N×20°.59E, h0km±2km, ML3.0/6, Error*
ellipse: s-maj=2.9km s-min=0.9km az=198.0
*ATH **29** 19:41:19.3, 37°.49N×20°.82E, h12km±2km, ML2.6/17,*
Manual Solution by A.Andreou First location: 2019/03/29
19:42:14, This location: 2019/03/29 19:57:09 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 4 km;
Longitude uncertainty: 4 km

ISC 29 19:41:17.7±1.6, 37°.39N±0°.06×20°.72E±0°.05, h18km±7km,
n52, σ1º23/69, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.28	16	P	**Pg**	**19 41 23.3**	**-0.6**
KRI1				S	**Sg**	**19 41 30.4**	**+2.3**
	4μm,0.2s						
LTHK	**Lithakia**	0.33	16	P	**Pg**	**19 41 24.1**	**-0.6**
LTHK				S	**Sg**	**19 41 31.7**	**+2.2**
	3μm,0.2s						
LTHK	**Lithakia**	0.33	16	P	**Pg**	**19 41 24.2**	**-0.6**
KYPS	**Kipseli, Zakin**	0.43	11	P	**Pg**	**19 41 26.5**	**-0.1**
KYPS				S	**Sb**	**19 41 31.6**	**-1.5**
ORTH	**Orthonies,Zaky**	0.46	358	P	**Pg**	**19 41 26.4**	**-0.6**
ORTH				S	**Sg**	**19 41 32.5**	**-0.8**
CLEM	**Kyllini,Ilia,G**	0.59	33	P	**Pg**	**19 41 29.1**	**-0.5**
CLEM				S	**Sb**	**19 41 36.0**	**-1.8**
RTZL	**Ratzakli, Kefa**	0.68	3	P	**Pg**	**19 41 30.3**	**-0.9**
RTZL				S	**Sn**	**19 41 42.9**	**+0.1**
PSDA	**Pessada-Kefalo**	0.73	351	P	**Pg**	**19 41 31.0**	**-1.0**
PSDA				S	**Sn**	**19 41 44.5**	**+0.6**
	638nm,0.3s						
PSDA	**Pessada-Kefalo**	0.73	351	P	**Pg**	**19 41 31.2**	**-0.8**
PSDA				S	**Sg**	**19 41 40.6**	**-1.1**
VLS	**Valsamata**	0.79	352	P	**Pg**	**19 41 32.1**	**-1.1**
VLS				S	**Sn**	**19 41 46.2**	**+0.7**
	582nm,0.5s						
VLS	**Valsamata**	0.79	352	P	**Pg**	**19 41 32.2**	**-1.0**
VLS				S	**Sg**	**19 41 42.7**	**-1.0**
AMT	**Artemida-Makis**	0.80	80	P	**Pg**	**19 41 32.3**	**-1.1**
SMHA	**Samh**	0.86	356	P	**Pg**	**19 41 34.2**	**-0.3**
SMHA				S	**Sg**	**19 41 44.8**	**-1.0**
YRMI	**Loutra Irminis**	0.87	35	P	**Pg**	**19 41 33.6**	**-1.0**
DMLN	**Damoulianata-K**	0.89	342	P	**Pg**	**19 41 33.6**	**-1.4**
DMLN				S	**Sn**	**19 41 49.2**	**+1.3**
	1μm,0.5s						
DMLN	**Damoulianata-K**	0.89	342	P	**Pg**	**19 41 34.9**	**-0.2**
DMLN				S	**Sg**	**19 41 46.0**	**-0.8**
RLS	**Riolos of Patr**	0.89	41	P	**Pb**	**19 41 34.5**	**-0.2**
RLS	**Riolos of Patr**	0.89	41	P	**Pg**	**19 41 34.0**	**-1.1**
AXS	**Araxos**	0.95	33	P	**Pg**	**19 41 35.1**	**-1.2**
DRO	**Drossia**	0.96	54	P	**Pg**	**19 41 35.4**	**-1.1**
DRO	**Drossia**	0.96	54	P	**Pg**	**19 41 35.2**	**-1.3**
ITM	**Ithomi**	0.98	102	P	**Pg**	**19 41 34.8**	**-2.1**
ITM	**Ithomi**	0.98	102	P	**Pg**	**19 41 36.6**	**-0.2**
ITM				S	**Sg**	**19 41 49.2**	**-0.7**
VSK1	**VASILIKIADES**	1.02	353	P	**Pg**	**19 41 35.9**	**-1.7**
VSK1				S	**Sn**	**19 41 53.5**	**+2.3**
	492nm,0.7s						
FSK	**Fiskardo**	1.07	353	P	**Pb**	**19 41 37.2**	**-0.6**
FSK				S	**Sg**	**19 41 50.2**	**-2.3**
EVGI	**Lefkada island**	1.23	358	P	**Pb**	**19 41 39.4**	**-1.0**
EVGI	**Lefkada island**	1.23	358	P	**Pg**	**19 41 41.2**	**-0.2**
DRAG	**Dragano-Lefkad**	1.29	355	P	**Pn**	**19 41 40.8**	**-0.2**
DRAG	**Dragano-Lefkad**	1.29	355	P	**Pn**	**19 41 42.1**	**+1.1**
NYDR	**Nydri-Lefkada**	1.32	359	P	**Pn**	**19 41 41.3**	**0.0**
NYDR				S	**Sg**	**19 42 02.9**	**+2.5**
NYDR	**Nydri-Lefkada**	1.32	359	P	**Pg**	**19 41 42.9**	**-0.3**
VLX	**Vlachokerasia**	1.32	91	P	**Pg**	**19 41 43.8**	**+0.5**
PVO	**Paravola**	1.38	27	P	**Pg**	**19 41 43.4**	**-0.9**
EFP	**Efpalio**	1.39	42	P	**Pb**	**19 41 43.4**	**+0.1**
LKD2	**Lefkada island**	1.39	358	P	**Pg**	**19 41 44.3**	**-0.3**
GUR	**Goura**	1.40	67	P	**Pn**	**19 41 42.7**	**+0.2**
TSLK	**Tsoukalades, L**	1.43	358	P	**Pn**	**19 41 43.5**	**+0.6**
TSLK	**Tsoukalades, L**	1.43	358	P	**Pn**	**19 41 43.7**	**+0.8**
SERG	**Sergoula**	1.47	46	P	**Pb**	**19 41 44.7**	**+0.1**
KALE	**Kalithea**	1.50	48	P	**Pg**	**19 41 45.6**	**-1.1**
ANX	**Ano Chora**	1.53	38	P	**Pb**	**19 41 45.3**	**-0.3**
ANX	**Ano Chora**	1.53	38	P	**Pb**	**19 41 45.3**	**-0.3**
EVR	**Evrytania**	1.75	29	P	**Pb**	**19 41 49.0**	**-0.4**
VLI	**Veliai**	1.90	110	P	**Pn**	**19 41 50.6**	**+1.3**
TETR	**Tetrakomo, Epi**	2.00	12	P	**Pn**	**19 41 52.2**	**+1.5**
AXAR	**Agios Charalam**	2.05	48	P	**Pn**	**19 41 53.2**	**+1.8**
IGT	**Igoumenitsa**	2.16	352	P	**Pn**	**19 41 54.9**	**+2.0**
VIL2	**Platees**	2.18	67	P	**Pb**	**19 41 55.4**	**-1.3**
LKR	**Lokris**	2.19	54	P	**Pn**	**19 41 55.2**	**+1.9**
THL	**Klokotos Trika**	2.39	25	P	**Pn**	**19 41 57.9**	**+1.8**
KEK	**Kerkira**	2.43	343	P	**Pn**	**19 41 58.9**	**+2.3**
DION	**Dionisos Attik**	2.64	74	P	**Pn**	**19 42 00.9**	**+1.5**

ISC 29 20:05:25.2±2.4, 11°.32S×166°.84E, h0km, mb3.8/6,
mbtmp3.8/6, Error ellipse: s-maj=84.4km s-min=32.2km
az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	32.40	251	P	P	20 11 57.6	+0.5
	0.6nm,0.8s,baz=74,slow=8.8,SNR=2.7						
	0.6nm,0.8s						
ASAR	**Alice Springs**	33.64	244	P	P	20 12 08.9	+1.0
	0.3nm,0.6s,baz=62,slow=9.2,SNR=4.4						
ASAR				PcP	PcP	20 14 46.2	-2.1
	0.3nm,0.6s,baz=73,slow=2.3,SNR=5.0						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	73.21	293	P	P	20 16 58.7	+0.1
	1.0nm,0.7s,baz=111,slow=5.7,SNR=8.0						
	1.0nm,0.7s						
SONM	**Songino Array**	79.52	323	P	P	20 17 33.8	-0.3
	0.3nm,0.5s,baz=108,slow=4.7,SNR=3.0						
	0.3nm,0.5s						
ILAR	**Eielson Array**	83.43	18	P	P	20 17 55.5	+1.2
	0.4nm,0.5s,baz=228,slow=5.3,SNR=7.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	94.45	317	P	P	20 18 46.4	-1.1
	1.6nm,0.5s,baz=86,slow=5.9,SNR=23						
	1.6nm,0.5s						

*IDC **29** 20:21:56.3±0.6, 12°.78S×45°.38E, h0km, mb4.0/18,*
mbtmp4.0/20, ML5.0/3, MS3.5/7, Error ellipse:
s-maj=21.3km s-min=15.9km az=86.0
*NEIC **29** 20:21:58.2±1.8, 12°.78S±0°.08×45°.5E±0°.1, h10km±1km,*
mb4.5/19, Error ellipse: s-maj=17.5km s-min=13.1km
az=265.0

ISC 29 20:21:57.4±0.4, 12°.86S±0°.05×45°.48E±0°.06, h10km, n70,
σ1º98/75, mb4.3/28, MS3.6/5, 1C, Northwest of
Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	4.36	98	P	**Pn**	**20 23 05.1**	**+1.3**
SBV				S	**Sn**	**20 23 50.6**	**-4.1**
OPO	**Ambohidratompo**	5.91	164	Pn	**Pn**	**20 23 27.1**	**+1.9**
	17nm,0.3s,baz=337,slow=12,SNR=1050						
OPO				Sn	**Sn**	**20 24 29.0**	**-4.1**
	58nm,0.3s,baz=270,slow=19,SNR=15						
OPO	**Ambohidratompo**	5.91	164	P	**Pn**	**20 23 27.3**	**+2.2**
OPO				S	**Sn**	**20 24 29.3**	**-3.7**
FIRM	**Firavahana**	5.96	167	P	**Pn**	**20 23 28.2**	**+2.3**
FIRM				S	**Sn**	**20 24 29.9**	**-4.4**
ATG	**Ambohiby**	6.02	174	P	**Pn**	**20 23 28.3**	**+1.6**
ATG				S	**Sn**	**20 24 32.0**	**-3.8**
ABPO	**Ambohimpanom**	6.34	165	Pn	**Pn**	**20 23 32.9**	**+1.7**
MDSM	**Mandiavato**	6.36	167	P	**Pn**	**20 23 33.5**	**+2.1**
MDSM				S	**Sn**	**20 24 38.9**	**-5.4**
AVY	**Angavokely**	6.41	161	P	**Pn**	**20 23 33.6**	**+1.5**
AVY				S	**Sn**	**20 24 39.3**	**-6.1**
DGRM	**Ambatolahisoa**	6.42	172	P	**Pn**	**20 23 34.2**	**+2.0**
DGRM				S	**Sn**	**20 24 40.5**	**-5.2**
ABM	**Ambohimiarambe**	7.11	166	P	**Pn**	**20 23 43.8**	**+2.1**
ABM				S	Sn	20 24 55.9	-6.9
VOI	**Vohitsoka**	9.08	172	Pn	**Pn**	**20 24 09.9**	**+1.2**
FOMA	**Nahampoana Res**	12.13	174	Pn	**Pn**	**20 24 51.4**	**+1.0**
KIBK	**Kibwezi**	12.79	324	Pn	**Pn**	**20 24 56.9**	**-2.6**
MSEY	**Mahe Island**	12.79	51	Pn	**Pn**	**20 24 57.4**	**-2.2**
RER	**Riviere de l'E**	12.82	131	Pn	**Pn**	**20 25 00.7**	**+0.9**
KMBO	**Kilima Mbogo**	14.23	324	Pn	**Pn**	**20 25 17.8**	**-1.5**
	1.2nm,0.3s,baz=132,slow=12,SNR=15						
KMBO				Sn	**Sn**	**20 27 57.2**	**-0.4**
	1.9nm,0.3s,baz=52,slow=16,SNR=4.6						
KMBO				LR	LR	20 29 43.1	
	comp=Z,80nm,21.1s,baz=86,slow=33						
	3.2nm,0.3s						
LSZ	**Lusaka**	16.95	260	Pn	**Pn**	**20 25 54.1**	**-0.8**
LSZ	**Lusaka**	16.95	260	Pn	**Pn**	**20 25 53.9**	**-1.0**
	1.0nm,0.3s,baz=89,slow=10,SNR=26						
LSZ				Sn	Sn	20 28 52.2	-11
	0.6nm,0.3s,baz=358,slow=9.6,SNR=5.6						
LSZ				LR	LR	20 32 09.9	
	comp=Z,197nm,19.7s,baz=105,slow=36						
	7.9nm,0.6s						
LSZ	**Lusaka**	16.95	260	*i* P	**Pn**	**20 25 53.9**	**-1.0**
MOPA	**Mopani**	17.05	230	*i* P	**Pn**	**20 25 56.9**	**+0.8**
MBAR	**Mbarara**	19.03	309	P	**P**	**20 26 17.9**	**-2.0**
LODK	**Lodwar**	19.05	327		**P**	**20 26 19.6**	**-0.5**
LBTB	**Lobatse**	22.32	234	P	**P**	**20 26 55.6**	**+0.2**
LBTB	**Lobatse**	22.32	234	LR	LR	20 35 47.6	
	comp=Z,197nm,18.1s,baz=60,slow=37						
LBTB	**Lobatse**	22.32	234	*i* P	**P**	**20 26 55.2**	**-0.2**
BOSA	**Boshof**	24.50	227	P	**P**	**20 27 17.8**	**+0.6**
BOSA				IAmb	IAmb	20 27 21.2	
	comp=Z,5.8nm,0.8s						
BOSA	**Boshof**	24.50	227	P	**P**	**20 27 17.1**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=54,slow=8.9,SNR=17						
BOSA				LR	LR	20 37 52.9	
	comp=Z,62nm,19.5s,baz=38,slow=39						
	comp=Z,4.9nm,0.7s						
BOSA	**Boshof**	24.50	227	*i* P	**P**	**20 27 18.0**	**+0.8**

comp=Z,3.8nm,1.0s
QSPA South Pole Qui 77.23 180 P **P 20 33 53.0 +1.4**
QSPA South Pole Qui 77.23 180 P **P 20 33 53.5 +1.8**
comp=Z,5.7nm,1.0s,baz=254,slow=3.0,SNR=11
comp=Z,5.7nm,1.0s
LUWI Luwuk 77.38 88 P **P 20 33 54.1 +0.8**
EKA Eskdalemuir Ar 79.24 344 P **P 20 34 01.1 -1.5**
comp=Z,2.5nm,1.1s,baz=134,slow=4.1,SNR=1.8
comp=Z,2.5nm,1.1s
SONM Songino Array 81.03 37 P **P 20 34 12.3 -0.3**
comp=Z,0.6nm,0.8s,baz=224,slow=6.0,SNR=3.5
comp=Z,0.6nm,0.8s
HHC Hu-ho-hao-te 81.04 45 *e*P **P 20 34 14.8 +2.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,70nm,4.4s
ASAR Alice Springs 83.52 113 P **P 20 34 27.2 +1.0**
comp=Z,2.7nm,0.7s,baz=264,slow=4.8,SNR=43
comp=Z,2.7nm,0.7s
WRA Warramunga Arr 84.64 109 P **P 20 34 32.9 +0.9**
comp=Z,4.5nm,1.0s,baz=266,slow=4.3
comp=Z,4.5nm,1.0s
TXAR Lajitas Array 147.02 305 PKPbc **PKPbc 20 41 41.4 +0.2**
comp=Z,0.2nm,0.4s,baz=62,slow=2.6,SNR=2.9

*AEIC **29** 20:30:26.5±1.2, 53°.47N±0°.08×160°.2W±0°.1, h27km±9km, Error ellipse: s-maj=12.6km s-min=8.1km az=160.0*
NEIC 29 20:30:26.6±1.3, 53°.61N±0°.04×160°.31W±0°.07, h10km±2km, ML3.2/16, ML3.1(AEIC), Error ellipse: s-maj=8.3km s-min=5.5km az=235.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.28**	**19**			20 30 49.9	-0.7
CNBA					Sg	20 31 08.0	+0.2
SDPT	**Sand Point**	**1.74**	**357**			20 30 56.8	-0.2
SDPT					Sb	20 31 20.0	-0.6
SDPT				IAML		20 31 22.7	
	comp=E,286nm,0.5s						
HAG	**Hague Volcano**	**1.95**	**332**			20 31 00.1	+0.3
HAG					Sb	20 31 26.6	+0.1
PS4A	**Pavlof South-4**	**1.96**	**333**			20 31 00.1	+0.2
PS4A					Sb	20 31 26.2	-0.6
PVV	**Pavlof Volcano**	**1.97**	**334**			20 31 00.7	+0.7
PVV					Sb	20 31 26.9	-0.2
PS1A	**Pavlof South-1**	**2.00**	**336**			20 31 01.4	+1.0
PS1A					Sb	20 31 27.5	-0.4
FALS	**False Pass**	**2.21**	**306**			20 31 03.5	+0.1
ISNN	**Isanotski Nor**	**2.38**	**302**			20 31 06.2	+0.6
ISNN					Sn	20 31 35.7	+0.8
SSLN	**Shishaldin Nor**	**2.48**	**301**			20 31 07.4	+0.4
WECS	**Westdahl Cape**	**2.79**	**291**			20 31 11.2	-0.1
WEBT	**Westdahl Beart**	**2.79**	**292**			20 31 11.8	+0.4
CHGN	**Chignik**	**2.91**	**21**			20 31 13.2	+0.3
CHGN				IAML		20 31 51.8	
	comp=N,71nm,0.3s						
CHGN				IAML		20 31 52.4	
	comp=E,134nm,0.4s						
AKSA	**Akutan Strait**	**3.23**	**281**			20 31 17.3	-0.1
AKV	**Akutan Volcano**	**3.39**	**281**			20 31 19.3	-0.3
ZRO	**Akutan Zero**	**3.39**	**280**			20 31 19.5	-0.1
LVA	**Lava Point**	**3.43**	**282**			20 31 19.0	-1.2
LVA				IAML		20 32 05.2	
	comp=E,58nm,1.8s						
CHIR	**Chirikof Islan**	**3.50**	**49**			20 31 19.6	-1.5
CHIR				IAML		20 32 55.9	
	comp=E,74nm,2.3s						
UNV	**Unalaska Valle**	**3.69**	**276**			20 31 22.4	-1.2
MREP	**Makushin Rep't**	**3.83**	**276**			20 31 25.1	-0.6
SII	**Sitkinak Islan**	**4.59**	**48**			20 31 34.7	-1.4
NIKH	**Nikolski High**	**5.17**	**266**			20 31 41.9	-2.1
ANCK	**Angle Creek**	**5.33**	**29**			20 31 46.3	0.0
OHAK	**Old Harbor**	**5.39**	**45**			20 31 45.6	-1.4
OHAK				IAML		20 33 35.5	
	comp=E,11nm,4.6s						
OHAK				IAML		20 35 13.0	
	comp=N,13nm,4.0s						
ACHA	**Angle Creek He**	**5.39**	**29**			20 31 47.0	-0.1
ACHA				IAML		20 33 02.0	
	comp=N,8.1nm,4.4s						
O14K	**Tigyukauivet M**	**5.68**	**355**			20 31 51.1	+0.1
KAHC	**Katmai Hardscr**	**5.85**	**28**			20 31 53.5	+0.1
KDAK	**Kodiak Island**	**6.04**	**43**			20 31 54.0	-2.0
P08K	**Saint George I**	**6.09**	**303**			20 31 55.7	-0.9
O16K	**Kokwok River B**	**6.12**	**11**			20 31 57.8	+0.8
P18K	**Big Mountain,**	**6.44**	**24**			20 32 01.3	-0.1
Q19K	**Cape Douglas,**	**6.49**	**32**			20 32 01.7	-0.5
N15K	**Kwethluk River**	**6.58**	**1**			20 32 03.4	+0.2
SYI	**Shuyak Island**	**6.68**	**38**			20 32 03.7	-1.0
O18K	**Koktuh Hills**	**6.86**	**22**			20 32 06.6	-0.5
M13K	**Dall Lake**	**7.02**	**348**			20 32 11.3	+2.0
N17K	**Nushagak Hills**	**7.14**	**13**			20 32 12.0	+1.1
P19K	**Oil Pt**	**7.20**	**30**			20 32 12.5	+0.7
M14K	**Bethel**	**7.21**	**354**			20 32 11.3	-0.7
O19K	**Port Alsworth**	**7.37**	**24**			20 32 14.4	+0.3
M16K	**Timber Creek**	**7.47**	**5**			20 32 16.0	+0.6
N18K	**Kilae Creek**	**7.48**	**17**			20 32 17.3	+1.6
CNPM	**China Poot**	**7.76**	**37**			20 32 18.1	-1.4
L14K	**Kuka Creek**	**7.86**	**352**			20 32 20.2	-0.5
N19K	**Bonanza Creek**	**7.88**	**21**			20 32 20.9	-0.3
M17K	**Holitna River**	**7.96**	**10**			20 32 21.7	-0.6
BRLK	**Bradley Lake**	**8.05**	**36**			20 32 21.7	-1.8
L16K	**Owhat River**	**8.13**	**3**			20 32 23.6	-1.0
K13K	**Kusilvak Mount**	**8.66**	**346**			20 32 32.6	+0.8
K15K	**Wolf Creek Mou**	**8.73**	**356**			20 32 32.6	-0.1
SLKM	**Skilak Lake**	**8.82**	**34**			20 32 34.3	+0.2
L18K	**Granite Mounta**	**8.84**	**11**			20 32 32.9	-1.5
M19K	**Big River Lodg**	**8.89**	**18**			20 32 35.1	+0.1
L19K	**White Mountain**	**9.07**	**16**			20 32 36.4	-1.0
STLK	**Strandline Lak**	**9.12**	**26**			20 32 38.5	+0.4
M20K	**Styx River**	**9.13**	**22**			20 32 38.3	-0.1
K17K	**Iditarod**	**9.19**	**6**			20 32 38.6	-0.5
J14K	**Nanvaranak Lak**	**9.32**	**351**			20 32 40.5	-0.3
RC01	**Rabbit Creek A**	**9.41**	**33**			20 32 41.0	-1.1
SKT	**Skwentna**	**9.60**	**26**			20 32 44.4	-0.3
GSTR	**Great Sitkin T**	**9.65**	**267**			20 32 46.5	+1.0
J16K	**Anvik River**	**9.70**	**359**			20 32 46.8	+0.7
PWL	**Port Wells**	**9.73**	**37**			20 32 45.1	-1.4
J17K	**VABM Dome**	**9.83**	**3**			20 32 48.4	+0.5
PMR	**Palmer**	**9.98**	**32**			20 32 50.5	+0.6
J18K	**Innoko River**	**10.06**	**9**			20 32 50.1	-0.8
KNK	**Knik Glacier**	**10.07**	**34**			20 32 49.9	-1.3
ADK	**Adak**	**10.08**	**267**			20 32 48.7	-2.6
HIN	**Hinchinbrook I**	**10.13**	**42**			20 32 50.5	-1.5
GHO	**Glory Hole Cre**	**10.18**	**32**			20 32 52.1	-0.7
GLI	**Glacier Island**	**10.20**	**39**			20 32 51.0	-1.9
PPLA	**Purkeypile**	**10.23**	**21**			20 32 51.0	-2.6
K20K	**Telida**	**10.30**	**16**			20 32 53.6	-0.6
I17K	**Unalakleet**	**10.31**	**359**			20 32 52.7	-1.6
FID	**Port Fidalgo**	**10.35**	**41**			20 32 51.2	-3.7
SML	**Sawmill**	**10.40**	**33**			20 32 54.9	-0.8
EYAK	**Cordova Ski Ar**	**10.52**	**43**			20 32 55.9	-1.4
J19K	**Poorman**	**10.69**	**11**			20 32 59.4	-0.2
CAST	**Castle Rocks**	**10.72**	**20**			20 32 59.7	-0.4
SCM	**Sheep Creek Mo**	**10.75**	**35**			20 32 59.6	-0.9
KAIM	**Kayak Island**	**10.75**	**48**			20 32 59.2	-1.3
RAGM	**Ragged Mountai**	**10.88**	**45**			20 32 59.9	-2.3
KLU	**Klutina**	**11.03**	**39**			20 33 03.7	-0.6
HMT	**Hamilton**	**11.03**	**46**			20 33 03.4	-0.9
KTH	**Kantishna Hill**	**11.09**	**22**			20 33 03.8	-1.4
SUCK	**Suckling Hills**	**11.11**	**48**			20 33 05.2	-0.1
TRF	**Thorofare Moun**	**11.15**	**24**			20 33 04.1	-1.9
BMRM	**Bremner River**	**11.22**	**43**			20 33 05.1	-1.9
BERG	**Berg Lake**	**11.30**	**46**			20 33 06.2	-1.8
M24K	**Tolsona, Glenn**	**11.34**	**36**			20 33 07.8	-0.7
RND	**Reindeer**	**11.48**	**27**			20 33 09.3	-1.2
BPAW	**Bear Paw Mtn.**	**11.55**	**21**			20 33 11.2	-0.2
SNH	**Sunshine Point**	**11.57**	**48**			20 33 11.2	-0.6
N25K	**Chitina, Valde**	**11.60**	**40**			20 33 10.9	-1.2
WAX	**Waxell Ridge**	**11.69**	**47**			20 33 11.8	-1.6
GLB	**Gilahina Butte**	**11.81**	**42**			20 33 14.1	-0.8
VRDI	**Verde Repeater**	**11.83**	**43**			20 33 14.6	-0.8
H19K	**Roundabout Mou**	**12.11**	**8**			20 33 19.2	+0.2
YAH	**Yahtse**	**12.14**	**49**			20 33 18.8	-0.9
PAX	**Paxson**	**12.17**	**34**			20 33 16.5	-3.4
WRH	**Wood River Hil**	**12.54**	**25**			20 33 21.9	-3.0
H21K	**Melozitna Rive**	**12.65**	**14**			20 33 26.2	-0.2
PCA	**Pinnacle**	**12.72**	**51**			20 33 27.6	+0.2
RIDG	**Independent Ri**	**12.91**	**32**			20 33 28.3	-1.6
M27K	**Edge Creek, AK**	**13.08**	**41**			20 33 30.5	-1.9

IL31 13.09 26 Pn Pn 20 33 28.6 -3.7

*IDC **29** 20:55:37.6±0.4, 30°.71N×130°.99E, h0km, mb4.9/35, mbtmp4.9/39, ML4.3/4, MS4.6/79, Error ellipse: s-maj=12.6km s-min=9.3km az=96.0*
*MOS **29** 20:55:38.8±1.0, 30°.59N×131°.02E, h18km, mb5.4/78, MS5.1/19, Error ellipse: s-maj=6.1km s-min=3.5km az=114.4*
*BJI **29** 20:55:39.6, 30°.42N×131°.41E, h43km, mB5.2/49, mb4.8/83, Ms5.0/91, Ms7 5.0/88*
*NEIC **29** 20:55:42.2±1.4, 30°.62N±0°.04×131°.02E±0°.07, h27km±3km, mb5.2/301, Mww5.1/26, Error ellipse: s-maj=8.7km s-min=5.1km az=89.0*
*NIED **29** 20:55:42.6, 30°.59N×131°.16E, h32km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr5.40; Mθθ-1.91; Mφφ-3.49; Mrθ3.67; Mθφ-1.98; Mφr4.62; Fault plane solution: M0 7.80000×10^16 NP1: φs212.00000°, δ21.00000°, λ85.00000°. NP2:φs37.00000°, δ70.00000°, λ92.00000°.*
*JMA **29** 20:55:42.6±0.1, 30°.6N±0°.3×131°.2E±0°.7, h32km, MD5.0/39, MW5.2/39, NEAR TANEGASHIMA ISLAND*
JMA Felt III J1 at NEAR TANEGASHIMA ISLAND .
*NEIC **29** 20:55:42.3, 30°.61N×131°.05E, h24km*
*NEIC **29** 20:55:42.3, 30°.81N×131°.00E, h24km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16 Nm; Mrr4.21; Mθθ-0.49; Mφφ-3.72; Mrθ2.14; Mθφ-1.89; Mφr2.47; Fault plane solution: M0 5.49000×10^16 NP1: φs193.97000°, δ28.06000°, λ71.54000°. NP2:φs34.69000°, δ63.50000°, λ99.58000°. Principal axes: T 5.3654, Plg70.0000°, Azm325.0000°; N 0.2434, Plg9.0000°, Azm210.0000°; P -5.6088, Plg18.0000°, Azm118.0000°;*
*GCMT **29** 20:55:44.2±0.2, 30°.60N±0°.01×131°.24E±0°.01, h34km, MW5.2/124, Moment Tensor Solution. s93, c147; s124, c203; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.70±.02; Mθθ-0.14±.01; Mφφ-0.56±.01; Mrθ0.31±.01; Mθφ-0.28±.01; Mφr0.23±.01; Best double couple: M0 0.79800×10^17 NP1:φs194.00000°, δ33.00000°, λ69.00000°. NP2:φs39.00000°, δ59.00000°, λ103.00000°. Principal axes: T 0.8150, Plg72.0000°, Azm340.0000°; N -0.0350, Plg11.0000°, Azm212.0000°; P -0.7800, Plg14.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 20:55:43.8±0.4, 30°.58N±0°.02×131°.10E±0°.03, h43km±3km, h43km:pP-P, n1205, σ1s35/1112, mb5.1/320, MS4.8/108, 47C-55D, Kyushu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.13**	**307**	↓*i*P	**Pn**	**20 55 48.3**	**-2.7**
JTN				↓S	**Sn**	**20 55 53.1**	**-2.9**
JTN	**Tanegashima 3**	**0.13**	**307**	A	A	20 55 48.3	
	comp=N,560nm,2.2s,comp=E,1μm,1.8s						
JMTN	**Minamitane**	**0.25**	**224**	↓*i*P	**Pn**	**20 55 49.9**	**-1.9**
JMTN				↓S	**Sn**	**20 55 55.5**	**-1.9**
JMTN	**Minamitane**	**0.25**	**224**	A	A	20 55 49.9	
	comp=N,643nm,2.0s,comp=E,739nm,2.6s						
JTSR	**Tashiro 2**	**0.61**	**345**	↓*i*P	**Pn**	**20 55 54.5**	**-1.7**
JTSR				↓S	**Sn**	**20 56 03.3**	**-1.7**
JTSR	**Tashiro 2**	**0.61**	**345**	A	A	20 55 54.5	
	comp=N,131nm,1.3s,comp=E,230nm,1.4s						
JYAK	**Yakushimahirau**	**0.61**	**237**	↓*i*P	**Pn**	**20 55 55.0**	**-1.1**
JYAK				↓S	**Sn**	**20 56 04.4**	**-0.5**
JYAK	**Yakushimahirau**	**0.61**	**237**	A	A	20 55 55.0	
	comp=N,140nm,2.7s,comp=E,130nm,1.8s						
JKC	**Kuchinoerabu**	**0.79**	**262**	↓P	**Pn**	**20 55 58.0**	**-0.5**
JKC				↓S	**Sn**	**20 56 10.1**	**+1.0**
JKC	**Kuchinoerabu**	**0.79**	**262**	A	A	20 55 58.0	
	comp=N,161nm,2.5s,comp=E,105nm,1.6s						
JNAR	**Kushima--Naru**	**0.96**	**9**	↓*i*P	**Pn**	**20 56 00.0**	**-0.8**
JNAR				↓*e*S	**Sn**	**20 56 14.9**	**+1.6**
JNAR	**Kushima--Naru**	**0.96**	**9**	A	A	20 56 00.0	
	comp=N,125nm,3.6s,comp=E,128nm,2.5s						
JSU	**Suzuyama**	**1.08**	**329**	P	**Pn**	**20 56 03.0**	**+0.5**
JSU	**Suzuyama**	**1.08**	**329**	↓*i*P	**Pn**	**20 56 01.6**	**-0.9**
JSU	**Suzuyama**	**1.08**	**329**	A	A	20 56 01.6	
	comp=N,70nm,0.9s,comp=E,106nm,2.0s						
JNKG	**Nichinankitago**	**1.11**	**12**	*i*P	**Pn**	**20 56 02.7**	**-0.2**
JNKG				*e*S	**Sn**	**20 56 18.3**	**+1.3**
JNKG	**Nichinankitago**	**1.11**	**12**	A	A	20 56 02.7	
	comp=N,82nm,2.0s,comp=E,124nm,2.3s						
JNN	**Nakanoshima**	**1.29**	**236**	P	**Pn**	**20 56 05.7**	**+0.3**
JNN	**Nakanoshima**	**1.29**	**236**	A	A	20 56 05.7	
	comp=N,92nm,2.0s,comp=E,89nm,1.7s						
JTZ	**Takazaki**	**1.32**	**360**	↓*i*P	**Pn**	**20 56 05.5**	**-0.4**
JTZ				↓*e*S	**Sn**	**20 56 23.4**	**+1.2**
JTZ	**Takazaki**	**1.32**	**360**	A	A	20 56 05.5	
	comp=N,77nm,1.7s,comp=E,96nm,2.6s						
JZO	**Okuchi**	**1.62**	**345**	A	A	20 56 09.9	
	comp=N,40nm,2.1s,comp=E,33nm,3.0s						
JSJ	**Shimokoshiki**	**1.62**	**313**	A	A	20 56 10.3	
	comp=N,18nm,2.9s,comp=E,20nm,3.4s						
JTSN	**Tsuno**	**1.70**	**12**	A	A	20 56 10.8	
	comp=N,26nm,2.6s,comp=E,26nm,3.3s						
JHHC	**Hyogahichiya**	**1.92**	**14**	A	A	20 56 13.8	
	comp=N,21nm,3.2s,comp=E,23nm,1.5s						
JIU3	**Izumi3**	**1.98**	**353**	A	A	20 56 15.0	
	comp=N,20nm,4.6s,comp=E,20nm,3.3s						
JHD	**Hondo**	**2.06**	**337**	A	A	20 56 16.3	
	comp=N,24nm,2.0s,comp=E,44nm,3.4s						
JKIT	**Kitakata**	**2.06**	**8**	A	A	20 56 16.1	
	comp=N,19nm,2.4s,comp=E,19nm,2.0s						
JTAJ	**Takarajima**	**2.17**	**230**	A	A	20 56 18.5	
	comp=N,22nm,3.5s,comp=E,22nm,3.8s						
JSKE	**Saikikamae**	**2.32**	**17**	A	A	20 56 19.6	
	comp=N,14nm,2.9s,comp=E,23nm,2.5s						
NGSJ	**Nagasakinomoza**	**2.33**	**332**	A	A	20 56 20.3	
	comp=N,15nm,2.2s,comp=E,14nm,6.6s						
JTA	**Tamana**	**2.43**	**349**	A	A	20 56 21.5	
	comp=N,14nm,4.2s,comp=E,12nm,2.8s						
JZK	**Kikaishima**	**2.46**	**204**	A	A	20 56 22.4	
	comp=N,68nm,2.1s,comp=E,106nm,2.3s						
JAM	**Amami Oshima**	**2.52**	**212**	A	A	20 56 23.3	
	comp=N,17nm,1.3s,comp=E,32nm,4.3s						
JUS	**Usuki**	**2.54**	**12**	A	A	20 56 22.9	
	comp=N,27nm,2.1s,comp=E,26nm,1.8s						
JNU	**Nakatsue**	**2.54**	**356**		**Pn**	**20 56 22.3**	**-0.3**
JNU				Sn	**Sn**	**20 56 51.5**	**-1.0**
JNU	**Nakatsue**	**2.54**	**356**	Pn	**Pn**	**20 56 22.2**	**-0.4**
	comp=E,52nm,0.3s,baz=166,slow=10,SNR=384						
JNU				Sn	**Sn**	**20 56 54.2**	**+1.8**
	comp=E,136nm,0.3s,baz=149,slow=12,SNR=5.7						
JNU	**Nakatsue**	**2.54**	**356**	P	**Pn**	**20 56 22.8**	**+0.1**
JNU	**Nakatsue**	**2.54**	**356**	A	A	20 56 23.1	
	comp=N,15nm,5.6s,comp=E,15nm,2.1s						
JUR	**Ureshino**	**2.69**	**339**	A	A	20 56 25.5	
	comp=N,14nm,2.4s,comp=E,11nm,3.2s						
JTO	**Tosashimizu**	**2.70**	**32**	A	A	20 56 24.9	
	comp=N,6.0nm,1.9s,comp=E,8.0nm,3.3s						
JBEP	**Beppuamama**	**2.77**	**5**	A	A	20 56 26.1	
	comp=N,39nm,2.2s,comp=E,45nm,1.9s						
JAMN	**Amaminishikomi**	**2.87**	**216**	A	A	20 56 28.4	
	comp=N,12nm,5.6s,comp=E,16nm,4.2s						
JFU	**Fukue jima 2**	**2.88**	**317**	A	A	20 56 28.4	
	comp=N,5.0nm,3.2s,comp=E,5.0nm,4.4s						
JFI	**Itaya**	**2.91**	**348**	A	A	20 56 28.4	
	comp=N,9.0nm,7.1s,comp=E,13nm,3.3s						
UWA2	**Uwa jima 2**	**2.93**	**26**	A	A	20 56 28.3	
	comp=N,10.0nm,2.3s,comp=E,8.0nm,3.9s						
JKI	**Kunimi**	**3.07**	**7**	A	A	20 56 30.5	
	comp=N,17nm,4.3s,comp=E,16nm,2.9s						
JFA	**Akaike**	**3.14**	**355**	A	A	20 56 31.6	
	comp=N,9.0nm,5.5s,comp=E,10.0nm,2.2s						
JNA	**Nagahama**	**3.19**	**21**	A	A	20 56 32.1	
	comp=N,9.0nm,6.5s,comp=E,9.0nm,4.1s						
JKU	**Kubokawa**	**3.20**	**31**	A	A	20 56 32.0	
	comp=N,15nm,3.6s,comp=E,8.0nm,2.0s						
JTK	**Tokunoshima**	**3.36**	**215**	A	A	20 56 35.3	
	comp=N,7.0nm,5.6s,comp=E,11nm,4.4s						
JII	**Iki**	**3.41**	**340**	A	A	20 56 35.6	
	comp=N,10.0nm,3.6s,comp=E,12nm,2.6s						
JKD	**Kudamatsu**	**3.53**	**10**	A	A	20 56 36.9	
	comp=N,10.0nm,5.8s,comp=E,16nm,4.4s						
JKHR	**Kochiharuno**	**3.56**	**34**	A	A	20 56 37.1	
	comp=N,7.0nm,2.8s,comp=E,5.0nm,6.0s						
JET	**Tanbara**	**3.60**	**27**	A	A	20 56 37.7	
	comp=N,13nm,4.6s,comp=E,11nm,4.6s						
JTY	**Toyota**	**3.68**	**360**	A	A	20 56 39.1	
	comp=N,7.0nm,2.5s,comp=E,7.0nm,2.6s						
MRT2	**Murotomisaki 2**	**3.81**	**42**	A	A	20 56 40.6	
	comp=N,5.0nm,2.7s,comp=E,4.0nm,3.9s						
JMN	**Monobe**	**3.93**	**36**		**Pn**	**20 56 41.1**	**-0.5**
JMN				Sn	**Sn**	**20 57 24.2**	**-2.3**
JMN	**Monobe**	**3.93**	**36**	P	**Pn**	**20 56 41.2**	**-0.5**
JMN	**Monobe**	**3.93**	**36**	A	A	20 56 42.3	
	comp=N,12nm,3.2s,comp=E,8.0nm,2.5s						
JHIK	**Hikimi**	**4.01**	**10**	A	A	20 56 43.6	
	comp=N,4.0nm,2.2s,comp=E,9.0nm,5.0s						
JTSM	**Tsushimamitsus**	**4.02**	**339**	A	A	20 56 44.2	
	comp=N,4.0nm,3.3s,comp=E,7.0nm,4.1s						
JTU	**Tsushima**	**4.19**	**340**	P	**Pn**	**20 56 45.4**	**+0.2**
JHGM	**Hagimishima**	**4.20**	**0**	A	A	20 56 46.4	
	comp=N,9.0nm,5.0s,comp=E,12nm,3.5s						
JHT	**Toyohira**	**4.22**	**15**	A	A	20 56 46.7	
	comp=N,5.0nm,2.9s,comp=E,12nm,3.1s						
JYRO	**Yoronjima**	**4.23**	**214**	A	A	20 56 47.7	
	comp=N,8.0nm,4.0s,comp=E,7.0nm,4.1s						
JJG	**Jouge**	**4.41**	**23**	A	A	20 56 49.2	
	comp=N,10.0nm,3.6s,comp=E,8.0nm,3.1s						
JIH	**Iheya**	**4.47**	**219**	A	A	20 56 51.0	
	comp=N,7.0nm,4.3s,comp=E,7.0nm,5.1s						
JJS	**Sakaide**	**4.48**	**32**	A	A	20 56 50.1	
	comp=N,7.0nm,4.6s,comp=E,9.0nm,2.7s						
JOW	**Kunigami**	**4.48**	**214**		**Pn**	**20 56 48.9**	**-0.3**
JOW				Sn	**Sn**	**20 57 38.8**	**-1.3**
JOW	**Kunigami**	**4.48**	**214**	Pn	**Pn**	**20 56 49.1**	**-0.1**
	comp=E,29nm,0.3s,baz=93,slow=18,SNR=71						
JOW				Sn	**Sn**	**20 57 39.9**	**-0.2**
	comp=E,49nm,0.3s,baz=36,slow=17,SNR=5.6						
	comp=E,55nm,0.3s						
JOW	**Kunigami**	**4.48**	**214**	P	**Pn**	**20 56 49.0**	**-0.2**
JOW	**Kunigami**	**4.48**	**214**	A	A	20 56 51.1	
	comp=N,4.0nm,3.8s,comp=E,5.0nm,2.0s						
JKDJ	**Kitadaitoujima**	**4.61**	**178**	A	A	20 56 52.6	
	comp=N,4.0nm,10.3s,comp=E,6.0nm,4.7s						
JGT2	**ShimaneMisato**	**4.63**	**14**	A	A	20 56 52.3	
	comp=N,6.0nm,2.3s,comp=E,7.0nm,4.9s						
JHS	**Saijyo**	**4.73**	**21**	A	A	20 56 53.7	
	comp=N,5.0nm,4.0s,comp=E,8.0nm,3.1s						
JMZ	**Minamidaito 2**	**4.74**	**179**		**Pn**	**20 56 52.3**	**-0.4**
JMZ	**Minamidaito 2**	**4.74**	**179**	P	**Pn**	**20 56 53.1**	**+0.3**
JMZ	**Minamidaito 2**	**4.74**	**179**	A	A	20 56 54.4	
	comp=N,6.0nm,3.6s,comp=E,7.0nm,4.4s						
JAWN	**Awajishima-nag**	**5.05**	**38**	A	A	20 56 58.0	
	comp=N,12nm,3.6s,comp=E,6.0nm,5.6s						
JISK	**Izumosakaura**	**5.13**	**16**	A	A	20 56 59.3	
	comp=N,10.0nm,1.6s,comp=E,13nm,2.3s						
JNM	**Ikuma**	**5.17**	**18**	A	A	20 56 59.9	
	comp=N,9.0nm,1.8s,comp=E,14nm,2.9s						
JAGN	**Aguni-jima**	**5.22**	**221**	A	A	20 57 01.6	
	comp=N,5.0nm,2.3s,comp=E,6.0nm,2.7s						
JJT3	**Tamagusuku3**	**5.29**	**214**	A	A	20 57 02.5	
	comp=N,18nm,2.2s,comp=E,14nm,6.4s						
JKR	**Kurayoshi**	**5.31**	**25**	A	A	20 57 01.7	
	comp=N,7.0nm,4.9s,comp=E,9.0nm,5.6s						
JMIK	**Miki**	**5.38**	**37**	A	A	20 57 02.6	
	comp=N,7.0nm,7.2s,comp=E,4.0nm,6.7s						
JKSM	**Kasumi**	**5.82**	**30**	A	A	20 57 08.9	
	comp=N,6.0nm,4.2s,comp=E,6.0nm,9.3s						
JOI	**OKI**	**5.98**	**17**	A	A	20 57 11.2	
	comp=N,5.0nm,2.5s,comp=E,6.0nm,5.1s						
JKY	**Yasaka**	**6.06**	**33**	A	A	20 57 12.1	
	comp=N,6.0nm,4.4s,comp=E,8.0nm,2.4s						
TJN	**Taejon**	**6.57**	**333**	Pn	**Pn**	**20 57 18.5**	**+0.6**
TJN	**Taejon**	**6.57**	**333**	P	**Pn**	**20 57 18.9**	**+1.0**
TJN	**Taejon**	**6.57**	**333**	*c i*P	**Pn**	**20 57 19.1**	**+1.2**
INU	**Inuyama**	**6.88**	**45**	Pn	**Pn**	**20 57 22.5**	**+0.4**
INU	**Inuyama**	**6.88**	**45**	P	**Pn**	**20 57 23.0**	**+0.9**
JSG	**Sagara**	**7.24**	**54**		**Pn**	**20 57 27.4**	**+0.3**
JGF	**Kuroka**	**7.26**	**45**	Pn	**Pn**	**20 57 27.3**	**0.0**
JGF	**Kuroka**	**7.26**	**45**	P	**Pn**	**20 57 27.5**	**+0.2**
KSAR	**Wonju Array Be**	**7.35**	**340**	Pn	**Pn**	**20 57 29.1**	**+0.6**
KSAR	**Wonju Array Be**	**7.35**	**340**	P	**Pn**	**20 57 29.2**	**+0.6**
KSRS	**Korea Array**	**7.35**	**340**	Pn	**Pn**	**20 57 29.8**	**+1.3**
	comp=E,5.7nm,0.3s,baz=162,slow=14,SNR=63						
KSRS				Lg	Lg	20 59 22.8	
	baz=163,slow=29						
KSRS			

TIA				pmax	pmax		
	comp=E,65nm,1.0s						
TIA				LR	LR		
	comp=E,4μm,14.7s						
TIA				LR	LR		
	comp=E,5μm,13.7s						
TIA				LR	LR		
	comp=E,7μm,19.1s						
JTM	**Tenmabayashi**	**13.01**	**36**	Pn	**Pn**	**20 58 46.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**13.62**	**3**		**Pn**	**20 58 53.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**13.62**	**3**	Pn	**Pn**	**20 58 55.8**	**+1.5**
	comp=E,0.2nm,0.3s,baz=185,slow=13,SNR=7.7						
USRK				LR	LR	21 04 10.8	
	comp=E,3μm,19.1s,baz=182,slow=38						
USRK	**Ussuriysk Ar.**	**13.62**	**3**	P	**Pn**	**20 58 53.4**	**-0.9**
CN2	**Changchun**	**13.94**	**343**	*e*P	**P**	**20 59 02.8**	**-3.0**
CN2				*e*PP	**PnPn**	**20 59 15.5**	**+8.7**
CN2				*e*S	**Sn**	**21 01 35.0**	**+3.0**
CN2				pmax	pmax		
	comp=E,20nm,1.0s						
CN2				pmax	pmax		
	comp=E,710nm,5.0s						
CN2				LR	LR		
	comp=E,7μm,16.0s						
CN2				LR	LR		
	comp=E,4μm,16.0s						
CN2				LR	LR		
	comp=E,8μm,16.0s						
MDJ	**Mudanjiang**	**14.07**	**356**		**Pn**	**20 58 59.9**	**-0.5**
MDJ	**Mudanjiang**	**14.07**	**356**	P	**P**	**20 59 06.5**	**-0.7**
MDJ				PP	**PnPn**	**20 59 15.0**	**+6.5**
MDJ				S	Sn	21 00 37.5	-58
WHN	**Wuhan**	**14.44**	**274**	P	**Pn**	**20 59 08.0**	**+2.6**
WHN				pmax	pmax		
	comp=E,61nm,0.9s						
WHN				pmax	pmax		
	comp=E,1μm,10.0s						
WHN				LR	LR		
	comp=E,3μm,12.4s						
WHN				LR	LR		
	comp=E,12μm,14.6s						
WHN				LR	LR		
	comp=E,14μm,15.0s						
ERM	**Erimo**	**14.97**	**37**	Pn	**Pn**	**20 59 11.1**	**-1.4**
ERM	**Erimo**	**14.97**	**37**	P	**Pn**	**20 59 11.6**	**-0.9**
ERM	**Erimo**	**14.97**	**37**	⇑*e*P	**Pn**	**20 59 12.2**	**-0.3**
JEM	**Erimo**	**14.98**	**37**	P	**Pn**	**20 59 11.5**	**-1.0**
TEY	**Ternei**	**15.07**	**15**	⇑*e*P	**Pn**	**20 59 08.2**	**-5.5**
TEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TEY				pmax	pmax		
	comp=Z,30nm,7.7s						
TEY				MLR	MLR		
	comp=N,100nm,20.0s						
TEY				MLR	MLR		
	comp=Z,100nm,19.0s						
HNS	**HongShan**	**15.20**	**301**	⇑P	**Pn**	**20 59 16.5**	**+1.1**
HNS				S	**Sn**	**21 02 07.5**	**+4.9**
HNS				pmax	pmax		
	comp=Z,48nm,1.2s						
HNS				LR	LR		
	comp=Z,4μm,18.1s						
HNS				LR	LR		
	comp=Z,4μm,18.4s						
HNS				LR	LR		
	comp=Z,5μm,18.1s						
BJT	**Baijiatuau**	**15.39**	**312**	P	**Pn**	**20 59 17.2**	**-0.7**
BJT	**Baijiatuau**	**15.39**	**312**	P	**Pn**	**20 59 17.8**	**-0.1**
BJT	**Baijiatuau**	**15.39**	**312**	P	**Pn**	**20 59 17.2**	**-0.7**
BJT				pmax	pmax		
	comp=Z,129nm,1.7s						
BJI	**Beijing**	**15.40**	**312**	P	**Pn**	**20 59 19.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,22nm,1.2s						
BJI				pmax	pmax		
	comp=Z,260nm,3.8s						
BJI				LR	LR		
	comp=Z,2μm,19.0s						
BJI				LR	LR		
	comp=Z,2μm,14.7s						
BJI				LR	LR		
	comp=Z,4μm,14.7s						
BNX	**BinXian**	**15.41**	**350**	⇑P	**Pn**	**20 59 18.3**	**+0.1**
BNX				S	**Sn**	**21 02 06.8**	**-0.9**
BNX				pmax	pmax		
	comp=Z,100nm,1.0s						
BNX				pmax	pmax		
	comp=Z,470nm,4.6s						
BNX				LR	LR		
	comp=Z,3μm,19.2s						
BNX				LR	LR		
	comp=Z,2μm,15.2s						
BNX				LR	LR		
	comp=Z,4μm,18.2s						
CNSH	**ChangSha**	**16.02**	**266**	P	**P**	**20 59 28.5**	**-0.5**
CNSH				S	**S**	**21 02 32.3**	**-2.5**
CNSH				pmax	pmax		
	comp=Z,31nm,1.1s						
CNSH				LR	LR		
	comp=Z,2μm,17.4s						
CNSH				LR	LR		
	comp=Z,1μm,19.6s						
CNSH				LR	LR		
	comp=Z,3μm,17.5s						
LYN	**LuoYang**	**16.20**	**289**	P	**Pn**	**20 59 29.3**	**+0.9**
LYN				pP	pP	20 59 41.0	-0.2
LYN				sP	sP	20 59 48.5	+1.9
LYN				pmax	pmax		
	comp=Z,69nm,1.5s						
LYN				pmax	pmax		
	comp=Z,900nm,3.5s						
LYN				LR	LR		
	comp=Z,2μm,14.1s						
LYN				LR	LR		
	comp=Z,10μm,16.0s						
LYN				LR	LR		
	comp=Z,14μm,15.9s						
ASAJ	**Asahikawa**	**16.29**	**31**	Pn	**Pn**	**20 59 28.7**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=219,slow=11,SNR=13						
ASAJ				LR	LR	21 05 41.7	
	comp=Z,3μm,21.8s,baz=230,slow=37						
	comp=Z,14nm,0.7s						
JKA	**Kamikawa-asahi**	**16.29**	**31**		**Pn**	**20 59 29.2**	**-0.2**
TIY	**Taiyuan**	**17.00**	**300**	*e*P	**P**	**20 59 40.8**	**+0.9**
TIY				pmax	pmax		
	comp=Z,54nm,0.6s						
TIY				pmax	pmax		
	comp=Z,600nm,3.8s						
TIY				LR	LR		
	comp=Z,3μm,16.0s						
TIY				LR	LR		
	comp=Z,2μm,21.8s						
TIY				LR	LR		
	comp=Z,3μm,20.7s						
XLT	**XiLinHaoTe**	**17.85**	**322**	*e*P	**P**	**20 59 49.8**	**+0.6**
XLT				pP	sP	21 00 02.5	-2.5
XLT				S	**Sn**	**21 03 05.0**	**-1.9**
XLT				SS	**SnSn**	**21 03 30.8**	**+10**
XLT				pmax	pmax		
	comp=Z,48nm,0.8s						
XLT				pmax	pmax		
	comp=Z,1μm,6.6s						
XLT				LR	LR		
	comp=Z,3μm,14.1s						
XLT				LR	LR		
	comp=Z,5μm,14.2s						
KLR	**Kul'dur**	**18.64**	**1**	P	**P**	**20 59 57.2**	**-0.6**
	comp=Z,3.9nm,0.3s,baz=174,slow=8.4,SNR=92						
KLR				LR	LR	21 06 59.0	
	comp=Z,2μm,21.3s,baz=180,slow=37						
	comp=Z,20nm,0.5s						
KLR	**Kul'dur**	**18.64**	**1**	*ce*P	**P**	**20 59 57.6**	**-0.2**
KLR				pmax	pmax		
	comp=Z,58nm,1.0s						
ENH	**Enshi**	**18.64**	**275**		**P**	**20 59 57.0**	**-1.0**
ENH				IAmb	IAmb	21 00 07.6	
	comp=Z,95nm,0.8s						
YSS	**Yuzhno-Sakhali**	**18.67**	**26**	P	**P**	**20 59 56.5**	**-1.7**
YSS	**Yuzhno-Sakhali**	**18.67**	**26**	⇓*e*P	**P**	**20 59 57.1**	**-1.1**
YSS				*e*S	**Sn**	**21 03 18.7**	**-7.9**
YSS				pmax	pmax		
	comp=Z,300nm,4.4s						
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS				smax	smax		
	comp=N,600nm,3.9s						
YSS				smax	smax		
	comp=E,400nm,3.2s						
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,17.0s						
HHC	**Hu-ho-hao-te**	**18.85**	**308**	*e*P	**Pn**	**21 00 01.3**	**+0.1**
HHC				PP	**sP**	**21 00 15.3**	**-0.8**
HHC				S	**Sn**	**21 03 30.0**	**-1.2**
HHC				pmax	pmax		
	comp=E,26nm,1.2s						
HHC				pmax	pmax		
	comp=E,700nm,5.5s						
HHC				LR	LR		
	comp=E,3μm,15.3s						
HHC				LR	LR		
	comp=E,3μm,16.8s						
HHC				LR	LR		
	comp=E,5μm,16.4s						
TGY	**Tagaytay City**	**18.88**	**212**	P	**Pn**	**21 00 02.1**	**+0.5**
	comp=E,252nm,0.4s,baz=333,slow=4.5,SNR=6.3						
TGY				LR	LR	21 08 18.0	
	comp=E,704nm,18.8s,baz=21,slow=40						
XAN	**Xi'an**	**19.06**	**286**	⇑P	**P**	**21 00 02.0**	**-0.6**
XAN				pP	pP	21 00 14.3	+1.4
XAN				S	**Sn**	**21 03 32.0**	**-4.2**
XAN				sS	sS	21 03 50.8	-2.2
XAN				pmax	pmax		
	comp=E,150nm,1.1s						
XAN				pmax	pmax		
	comp=E,890nm,6.4s						
XAN				LR	LR		
	comp=E,2μm,11.2s						
XAN				LR	LR		
	comp=E,10μm,13.7s						
XAN				LR	LR		
	comp=E,10μm,14.3s						
BTO	**Baotou**	**19.81**	**306**	*e*P	**Pn**	**21 00 13.0**	**+0.4**
BTO				pP	**sP**	**21 00 26.5**	**0.0**
BTO				PP	**PnPn**	**21 00 33.8**	**+6.6**
BTO				S	**Sn**	**21 03 54.0**	**-0.3**
BTO				pmax	pmax		
	comp=E,25nm,0.5s						
BTO				pmax	pmax		
	comp=E,640nm,3.7s						
BTO				LR	LR		
	comp=E,7μm,15.1s						
BTO				LR	LR		
	comp=E,8μm,15.1s						
BTO				LR	LR		
	comp=E,12μm,14.7s						
HEH	**HeiHe**	**19.85**	**353**	*e*P	**P**	**21 00 10.3**	**-0.7**
HEH				S	**S**	**21 03 52.5**	**+0.4**
HEH				pmax	pmax		
	comp=E,130nm,0.9s						
HEH				pmax	pmax		
	comp=E,690nm,7.8s						
HEH				LR	LR		
	comp=E,1μm,16.0s						
HEH				LR	LR		
	comp=E,1μm,14.1s						
HEH				LR	LR		
	comp=E,2μm,17.8s						
GUMO	**Guam**	**21.14**	**140**	P	**P**	**21 00 27.8**	**+2.5**
	comp=E,144nm,0.9s,baz=353,slow=16,SNR=3.7						
GUMO				LR	LR	21 07 47.1	
	comp=E,1μm,18.6s,baz=328,slow=34						
	comp=E,144nm,0.9s						
GYA	**Guiyang**	**21.85**	**265**	⇓P	**P**	**21 00 34.0**	**+1.1**
GYA				S	**S**	**21 04 27.5**	**-4.7**
GYA				pmax	pmax		
	comp=E,81nm,0.8s						
GYA				pmax	pmax		
	comp=E,450nm,3.2s						
GYA				LR	LR		
	comp=E,1μm,13.8s						
GYA				LR	LR		
	comp=E,1μm,19.5s						
GYA				LR	LR		
	comp=E,2μm,23.0s						
TYV	**Tymovskoe**	**22.03**	**20**	*e*P	**P**	**21 00 35.2**	**+0.8**
TYV				*e*S	**S**	**21 04 36.2**	**+1.3**
TYV				pmax	pmax		
	comp=Z,100nm,2.2s						
TYV				pmax	pmax		
	comp=Z,65nm,1.4s						
TYV				smax	smax		
	comp=N,500nm,4.5s						
TYV				smax	smax		
	comp=E,300nm,4.5s						
TYV				MLR	MLR		
	comp=N,2μm,17.0s						
TYV				MLR	MLR		
	comp=Z,2μm,17.0s						
QIZ	**Qiongzhong**	**22.42**	**244**	P	**P**	**21 00 37.1**	**-1.8**
QIZ	**Qiongzhong**	**22.42**	**244**	P	**P**	**21 00 39.5**	**+0.6**
QIZ				S	**S**	**21 04 43.5**	**+1.0**
QIZ				sS	Sn	21 04 54.0	-3.1
QIZ				pmax	pmax		
	comp=Z,11nm,1.1s						
QIZ				LR	LR		
	comp=Z,2μm,19.6s						
QIZ				LR	LR		
	comp=Z,1μm,14.4s						
QIZ				LR	LR		
	comp=Z,2μm,19.6s						
ZEA	**Zeya**	**23.32**	**354**	*e*P	**P**	**21 00 45.5**	**-2.3**
ZEA				pmax	pmax		
	comp=Z,100nm,1.1s						
ZEA				pmax	pmax		
	comp=N,40nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,110nm,0.9s						
ZEA				MLR	MLR		
	comp=E,500nm,19.0s						
ZEA				MLR	MLR		
	comp=N,500nm,21.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,18.0s						
LZH	**Lanzhou**	**23.39**	**291**	P	**P**	**21 00 50.0**	**+1.0**
LZH				sP	sP	21 01 05.3	+0.2
LZH				S	**S**	**21 05 04.3**	**+5.2**
LZH				pmax	pmax		
	comp=Z,55nm,0.6s						
LZH				pmax	pmax		
	comp=Z,460nm,5.8s						
LZH				LR	LR		
	comp=Z,2μm,14.8s						
LZH				LR	LR		
	comp=Z,5μm,14.4s						
LZH				LR	LR		
	comp=Z,7μm,14.4s						
CD2	**Chengdu**	**23.48**	**278**	P	**P**	**21 00 49.0**	**-0.8**
CD2				S	**S**	**21 05 01.5**	**+1.0**
CD2				sS	sS	21 05 14.0	-5.5
CD2				pmax	pmax		
	comp=Z,100nm,0.7s						
CD2				pmax	pmax		
	comp=Z,310nm,4.3s						
CD2				LR	LR		
	comp=Z,3μm,16.1s						
CD2				LR	LR		
	comp=Z,3μm,15.7s						
NKL	**Nikolayevsk**	**23.62**	**14**	*e*P	**P**	**21 00 49.0**	**-1.7**
NKL				*e*S	**S**	**21 05 03.5**	**+1.5**
NKL				pmax	pmax		
	comp=N,148nm,1.3s						
NKL				pmax	pmax		
	comp=E,115nm,1.4s						
NKL				pmax	pmax		
	comp=Z,289nm,1.4s						
NKL				smax	smax		
	comp=E,189nm,3.9s						
NKL				smax	smax		
	comp=N,291nm,7.8s						
NKL				MLR	MLR		
	comp=E,6μm,16.0s						
NKL				MLR	MLR		
	comp=N,5μm,15.0s						
NKL				MLR	MLR		
	comp=Z,7μm,15.0s						
DAV	**Davao City (W)**	**23.95**	**194**	LR	LR	21 11 52.9	
	comp=Z,536nm,18.6s,baz=56,slow=40						
CIT	**Chita**	**25.03**	**334**	*e*P	**P**	**21 01 02.4**	**-1.4**
CIT				*e*		21 01 36.4	
CIT				*e*		21 01 55.6	
CIT				*e*		21 05 19.2	
CIT				pmax	pmax		
	comp=Z,80nm,2.7s						
ULN	**Ulaanbaatar**	**25.24**	**320**	P	**P**	**21 01 04.7**	**-1.2**
ULN				IAmb	IAmb	21 01 07.5	
	comp=Z,32nm,0.8s						
ULN	**Ulaanbaatar**	**25.24**	**320**	P	**P**	**21 01 05.9**	**+0.1**
ULN				P	**P**	**21 01 05.9**	**+0.1**
ULN	**Ulaanbaatar**	**25.24**	**320**	⇑*e*P	**P**	**21 01 05.0**	**-0.9**
ULN				pmax	pmax		
	comp=Z,30nm,0.7s						
SONM	**Songino Array**	**25.59**	**319**	P	**P**	**21 01 07.7**	**-1.3**
SONM				IAmb	IAmb	21 01 21.9	
	comp=Z,108nm,2.0s						
SONM	**Songino Array**	**25.59**	**319**	P	**P**	**21 01 08.2**	**-0.8**
	comp=Z,15nm,0.7s,baz=139,slow=10.0,SNR=53						
SONM				LR	LR	21 12 19.3	
	comp=Z,3μm,18.2s,baz=144,slow=39						
	comp=Z,15nm,0.7s						
SONM	**Songino Array**	**25.59**	**319**	P	**P**	**21 01 07.7**	**-1.3**
SONM				pmax	pmax		
	comp=Z,108nm,2.0s						
KMI	**Kunming**	**25.62**	**265**	⇓P	**P**	**21 01 10.8**	**+1.2**
KMI				sP	sP	21 01 24.3	-1.9
KMI				PP	**PnPn**	**21 01 51.3**	**+4.3**
KMI				S	**S**	**21 05 37.5**	**+2.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				LR	LR		
	comp=Z,2μm,17.3s						
KMI				LR	LR		
	comp=Z,2μm,16.8s						
KMI				LR	LR		
	comp=Z,3μm,16.1s						
PZH	**PanZhiHua**	**26.07**	**268**	P	**P**	**21 01 13.0**	**-0.6**
PZH				S	**S**	**21 05 41.8**	**-0.2**
PZH				sS	**sS**	**21 06 04.3**	**+3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
PZH				LR	LR		
	comp=Z,1μm,23.0s						
PZH				LR	LR		
	comp=Z,1μm,21.6s						
PZH				LR	LR		
	comp=Z,1μm,15.7s						
SLVN	**Son La**	**26.07**	**256**	P	**P**	**21 01 12.9**	**-0.6**
GTA	**Gaotai**	**27.00**	**298**	P	**P**	**21 01 22.0**	**+0.2**
GTA				sS	sS	21 06 20.5	+4.9
GTA				SS	**SnSn**	**21 07 16.3**	**+11**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				LR	LR		
	comp=Z,840nm,16.7s						
GTA				LR	LR		
	comp=Z,1μm,19.1s						
GTA				LR	LR		
	comp=Z,2μm,19.9s						
SKR	**Severo-Kuril's**	**27.41**	**36**	*e*P	**P**	**21 01 20.3**	**-4.9**
SKR				pmax	pmax		
	comp=Z,1μm,5.1s						
SKR				MLR	MLR		
	comp=Z,2μm,13.0s						
MYLDM	**Lahad Datu**	**27.91**	**208**	P	**P**	**21 01 30.4**	**+0.4**
MYLDM				IAmb	IAmb	21 02 10.1	
	comp=Z,67nm,1.5s						
UBPT	**Khong Chiam**	**27.99**	**243**	P	**P**	**21 01 29.1**	**-1.6**
KKM	**Kota Kinabalu**	**28.13**	**213**	P	**P**	**21 01 31.2**	**-0.9**
KKM				IAmb	IAmb	21 01 37.3	
	comp=Z,59nm,1.8s						
ZAK	**Zakamensk**	**28.70**	**322**	*e*P	**P**	**21 01 34.5**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
IRK	**Irkutsk**	**29.26**	**325**	*e*P	**P**	**21 01 39.9**	**-1.8**
IRK				pmax	pmax		
	comp=Z,34nm,1.6s						
TNCH	**TengChong**	**29.28**	**267**	P	**P**	**21 01 41.8**	**-0.6**
TNCH				pP	pP	21 01 50.5	-3.4
TNCH				sP	sP	21 01 54.5	-4.5
TNCH				S	**S**	**21 06 38.0**	**+5.3**
TNCH				pmax	pmax		
	comp=Z,13nm,0.9s						
TNCH				LR	LR		
	comp=Z,1μm,13.6s						
TNCH				LR	LR		
	comp=Z,1μm,16.4s						
TNCH				LR	LR		
	comp=Z,3μm,20.6s						
CRAI	**Chiangrai**	**29.52**	**257**	P	**P**	**21 01 42.6**	**-1.7**
PEA0B	**Petropavlovsk-**	**29.69**	**33**	P	**P**	**21 01 44.4**	**-1.0**
PEA0B				IAmb	IAmb	21 01 47.1	
	comp=Z,66nm,1.1s						
PEA0B	**Petropavlovsk-**	**29.69**	**33**	⇑*e*P	**P**	**21 01 45.9**	**+0.5**
PETK	**Petropavlovsk-**	**29.69**	**33**	P	**P**	**21 01 45.0**	**-0.5**
PETK	**Petropavlovsk-**	**29.69**	**33**	P	**P**	**21 01 45.9**	**+0.4**
	comp=Z,15nm,0.9s,baz=216,slow=7.3,SNR=8.0						
PETK				LR	LR	21 13 56.2	
	comp=Z,946nm,19.9s,baz=218,slow=37						
	comp=Z,15nm,0.9s						
BOD	**Bodaibo**	**29.69**	**341**	*e*P	**P**	**21 01 43.7**	**-1.7**
BOD				pmax	pmax		
	comp=Z,28nm,1.3s						
PET	**Petropavlovsk**	**30.09**	**34**	*e*P	**P**	**21 01 49.7**	**+0.7**
PET				*e*S	**S**	**21 06 46.6**	**+2.2**
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**30.09**	**34**	P	**P**	**21 01 49.0**	**0.0**
	comp=Z,43nm,1.2s						
MOY	**Mondy**	**30.61**	**322**	*e*P	**P**	**21 01 53.2**	**-0.6**
MOY				pmax	pmax		
	comp=Z,19nm,1.9s						
GOMU	**GeErMu**	**30.69**	**290**	P	**P**	**21 01 55.3**	**+0.3**
GOMU				S	**S**	**21 06 55.5**	**+0.5**
GOMU				pmax	pmax		
	comp=Z,15nm,0.8s						
GOMU				LR	LR		
	comp=Z,1μm,16.6s						
GOMU				LR	LR		
	comp=Z,4μm,16.8s						
GOMU				LR	LR		
	comp=Z,7μm,16.6s						
TOLI2	**Tolitoli**	**30.90**	**200**	P	**P**	**21 01 55.3**	**-1.1**
CHTO	**Chiang Mai**	**31.36**	**256**	P	**P**	**21 01 59.5**	**-1.1**
CHTO	**Chiang Mai**	**31.36**	**256**	P	**P**	**21 02 00.7**	**0.0**
CHTO				P	**P**	**21 02 00.7**	**0.0**
CHTO	**Chiang Mai**	**31.36**	**256**	P	**P**	**21 02 00.5**	**-0.1**
CHTO	**Chiang Mai**	**31.36**	**256**	P	**P**	**21 01 59.5**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,13nm,0.7s						
YAK	**Yakutsk**	**31.48**	**359**	P	**P**	**21 01 59.4**	**-1.6**
YAK	**Yakutsk**	**31.48**	**359**	P	**P**	**21 01 59.5**	**-1.6**
	comp=Z,40nm,0.5s,baz=166,slow=2.2,SNR=14						
YAK				LR	LR	21 14 58.9	
	comp=Z,956nm,20.4s,baz=184,slow=37						
	comp=Z,40nm,0.5s						
YAK	**Yakutsk**	**31.48**	**359**	*e*P	**P**	**21 01 59.5**	**-1.6**
YAK				*e**PP	**pP**	**21 02 07.9**	**-4.8**
YAK				*e*		21 03 02.2	
YAK				*e*PPP	PPP	21 03 15.0	
YAK				*e*S	**S**	**21 07 09.1**	**+3.1**
YAK				*e*SS	**SS**	**21 09 20.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,33nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,42nm,2.2s						
YAK				pmax	pmax		
	comp=E,26nm,2.4s						
YAK				pmax	pmax		
	comp=N,18nm,1.4s						
YAK				smax	smax		
	comp=N,204nm,15.2s						
YAK				smax	smax		
	comp=E,30nm,10.4s						
YAK				MLR	MLR		
	comp=Z,757nm,19.0s						

YAK MLR MLR
comp=E,532nm,14.0s
YAK MLR MLR
comp=N,521nm,20.0s
CM31 Chiang Mai Arr 31.54 255 P **P 21 02 01.1 -1.0**
CMAR Chiang Mai Arr 31.54 255 P **P 21 02 01.2 -0.9**
CMAR Chiang Mai Arr 31.54 255 P **P 21 02 01.5 -0.6**
comp=N,3.1nm,0.7s,baz=50,slow=7.1,SNR=23
CMAR PcP **PcP 21 04 55.5 +1.3**
comp=N,3.2nm,0.9s,baz=27,slow=1.7,SNR=12
CMAR LR LR 21 16 01.4
comp=N,1µm,20.1s,baz=75,slow=39
comp=N,3.1nm,0.7s
CMAR Chiang Mai Arr 31.54 255 *i* P **P 21 02 02.2 +0.1**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
MA2 Magadan 31.89 19 P **P 21 02 04.2 -0.6**
MA2 IAmb IAmb 21 02 06.2
comp=Z,41nm,1.0s
MA2 Magadan 31.89 19 PcP **PcP 21 04 54.5 +0.1**
comp=Z,3.0nm,0.4s,baz=172,slow=8.3,SNR=5.6
MA2 LR LR 21 16 05.0
comp=Z,858nm,18.5s,baz=204,slow=39
MA2 Magadan 31.89 19*c i* P **P 21 02 04.7 -0.1**
MA2 pmax pmax
comp=Z,42nm,1.0s
MA2 Magadan 31.89 19 P **P 21 02 04.4 -0.4**
comp=Z,46nm,1.3s
APSI Ampana 32.58 198 P **P 21 02 11.0 -0.2**
SBUM Sibu 33.20 216 P **P 21 02 15.6 -1.0**
FAKI Fak Fak 33.33 178 P **P 21 02 16.6 -1.2**
FAKI Fak Fak 33.33 178 P **P 21 02 18.9 +1.2**
FAKI Fak Fak 33.33 178 P **P 21 02 18.5 +0.8**
JAY Jayapura 34.16 163 LR LR 21 14 19.1
comp=Z,936nm,20.0s,baz=356,slow=33
H11S3 WAKE ISLAND Hy 34.39 102 T T 21 39 43.5
baz=303,slow=71
H11S1 WAKE ISLAND Hy 34.40 102 T T 21 39 20.1
baz=303,slow=71
H11S2 WAKE ISLAND Hy 34.41 102 T T 21 39 22.4
baz=303,slow=71
LSA Lhasa 34.44 279 P **P 21 02 25.9 -2.0**
LSA Lhasa 34.44 279 P **P 21 02 28.9 +1.0**
LSA Lhasa 34.44 279 P **P 21 02 25.9 -2.0**
LSA pmax pmax
comp=Z,16nm,1.2s
LSA Lhasa 34.44 279 P **P 21 02 28.6 +0.7**
SHL Shillong 34.84 272 P **P 21 02 29.5 -1.6**
SHL IAmb IAmb 21 02 31.1
comp=Z,25nm,0.6s
SHL Shillong 34.84 272 P **P 21 02 30.1 -1.1**
SNR=9.2
SHL Shillong 34.84 272 P **P 21 02 29.5 -1.6**
SHL pmax pmax
comp=Z,25nm,0.6s
KSM Kuching 35.02 218 P **P 21 02 32.4 -0.1**
KSM IAmb IAmb 21 02 34.7
comp=Z,23nm,1.1s
SEY Seymchan 35.14 17 LR LR 21 18 04.1
comp=Z,874nm,18.4s,baz=184,slow=38
SEY Seymchan 35.14 17*ce* **P 21 02 33.7 +0.7**
SEY pmax pmax
comp=Z,34nm,1.1s
BRDH Bariadhala 36.00 267 LR LR 21 20 60.0
comp=Z,957nm,18.1s,baz=94,slow=42
WMQ Urumqi 36.60 303 *e*P **P 21 02 46.5 +0.6**
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ LR LR
comp=Z,820nm,18.1s
WMQ LR LR
comp=Z,2µm,17.1s
WMQ LR LR
comp=Z,2µm,19.9s
SRIT Nakonsritamara 36.64 240 P **P 21 02 46.1 -0.3**
SRIT IAmb IAmb 21 02 48.3
comp=Z,28nm,1.0s
KAPI Kappang 37.02 199 LR LR 21 18 40.0
comp=Z,281nm,21.8s,baz=14,slow=37
KULM Kulim 38.12 235 P **P 21 02 58.2 -0.7**
KULM Kulim 38.12 235 P **P 21 02 59.6 +0.7**
SHEM Shemya Is, Ala 38.24 42 LR LR 21 18 40.7
comp=Z,187nm,21.4s,baz=332,slow=36
TPRI Tanjung Pinang 38.80 226 P **P 21 03 05.9 +1.3**
comp=Z,22nm,1.0s
ZSN Zaisan 39.05 309 *e*P **P 21 03 06.0 -0.4**
ZSN Zaisan 39.05 309 *e*P **P 21 03 06.0 -0.4**
PBA Port Blair 40.17 250 P **P 21 03 15.6 -0.5**
ZAA0 Zalesovo Array 40.48 319 P **P 21 03 17.0 -1.2**
ZALV Zalesovo Beam 40.48 319 P **P 21 03 16.4 -1.8**
ZALV Zalesovo Beam 40.48 319 P **P 21 03 16.8 -1.4**
comp=Z,9.9nm,0.8s,baz=102,slow=8.0,SNR=30
ZALV PcP **PcP 21 05 19.1 -1.0**
comp=Z,2.6nm,0.7s,baz=129,slow=3.7,SNR=5.2
ZALV ScP **ScP 21 09 10.5 +4.4**
comp=Z,1.8nm,0.7s,baz=114,slow=3.7,SNR=5.6
ZALV LR LR 21 21 21.8
comp=Z,2µm,18.5s,baz=108,slow=38
comp=Z,9.9nm,0.8s
ZALV Zalesovo Beam 40.48 319 *i* P **P 21 03 17.5 -0.7**
ZALV pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 40.71 308 P **P 21 03 18.6 -1.6**
MK31 Makanchi Array 40.71 308*c i* P **P 21 03 18.7 -1.6**
MKAR Makanchi Array 40.71 308 P **P 21 03 18.6 -1.6**
MKAR Makanchi Array 40.71 308 P **P 21 03 19.1 -1.2**
comp=Z,6.5nm,0.7s,baz=93,slow=10,SNR=73
MKAR PcP **PcP 21 05 19.2 -1.9**
comp=Z,1.8nm,0.8s,baz=70,slow=3.4,SNR=4.4
MKAR ScP **ScP 21 09 11.3 +4.1**
comp=Z,1.7nm,0.9s,baz=90,slow=6.1,SNR=5.6
MKAR LR LR 21 21 44.0
comp=Z,2µm,19.3s,baz=86,slow=39
comp=Z,6.5nm,0.7s
LHMI Lhok Sumawe 40.83 239 P **P 21 03 22.6 +1.1**
LHMI IAmb IAmb 21 03 23.7
comp=Z,30nm,0.7s
MAKZ Makanchi 40.93 308 P **P 21 03 20.6 -1.4**
MAKZ Makanchi 40.93 308 P **P 21 03 20.6 -1.4**
MAKZ pmax pmax
comp=Z,11nm,1.0s
PSI Prapat 41.09 234 P **P 21 03 23.9 +0.1**
comp=Z,4.0nm,0.3s,baz=22,slow=6.6,SNR=6.9
PSI LR LR 21 20 51.6
comp=Z,284nm,18.8s,baz=32,slow=37
comp=Z,4.0nm,0.3s
PSI Prapat 41.09 234 P **P 21 03 24.6 +0.8**
PSI Prapat 41.09 234 P **P 21 03 22.9 -0.9**
PSI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 41.14 359 P **P 21 03 21.5 -1.9**
TIXI IAmb IAmb 21 03 37.3
comp=Z,26nm,0.8s
TIXI Tiksi 41.14 359 P **P 21 03 21.7 -1.7**
comp=Z,9.0nm,0.4s,baz=160,slow=6.0,SNR=59
TIXI LR LR 21 22 17.1
comp=Z,1µm,18.7s,baz=179,slow=39
comp=Z,9.0nm,0.4s
TIXI Tiksi 41.14 359 ||*i* P **P 21 03 22.7 -0.7**
TIXI pmax pmax
comp=Z,44nm,2.0s
RPSI Rantau Prapat 41.16 234 P **P 21 03 22.9 -1.4**
PMBI Palembang 41.73 222 P **P 21 03 28.1 -0.7**
MNSI Mandailing Nat 42.09 231 P **P 21 03 32.9 +1.1**
comp=Z,12nm,0.8s
SEM Semipalatinsk 42.49 313 *e*P **P 21 03 34.8 -0.2**
SEM pmax pmax
comp=Z,21nm,0.7s
SEM Semipalatinsk 42.49 313 *e*P **P 21 03 34.8 -0.2**
comp=Z,21nm,0.7s
PDGK Podgornoye 42.53 302 *i* P **P 21 03 32.9 -2.4**
PDGK pmax pmax
comp=Z,34nm,1.0s
SHLS Shalkode 42.55 302 *e*P **P 21 03 32.2 -3.3**
SHLS Shalkode 42.55 302 *e*P **P 21 03 32.3 -3.3**
BILL Bilibino 42.76 19 P **P 21 03 36.7 0.0**
BILL IAmb IAmb 21 03 38.6
comp=Z,52nm,1.1s
BILL Bilibino 42.76 19*c i* P **P 21 03 37.1 +0.4**
BILL pmax pmax
comp=Z,58nm,1.1s
WUS Wushi 42.79 299 P **P 21 03 36.1 -1.3**
UZB Uzynbulak 42.88 302 *e*P **P 21 03 37.8 -0.3**
UZB Uzynbulak 42.88 302 *e*P **P 21 03 37.8 -0.3**
GSI Gunungsitoli 43.09 234 P **P 21 03 38.8 -1.2**
GSI IAmb IAmb 21 03 49.0
comp=Z,69nm,1.5s
GSI Gunungsitoli 43.09 234 P **P 21 03 39.2 -0.8**
comp=Z,26nm,1.7s
MTN Manton Dam 43.17 180 P **P 21 03 40.0 -0.5**
MTN Manton Dam 43.17 180 P **P 21 03 40.5 0.0**
comp=Z,26nm,1.4s
TDK Taldyqorghan 43.32 305 *e*P **P 21 03 41.6 +0.1**
TDK pmax pmax
comp=Z,38nm,1.0s
TDK Taldyqorghan 43.32 305 *e*P **P 21 03 41.6 +0.1**
comp=Z,38nm,1.0s
SATY Saty 43.33 302 *e*P **P 21 03 41.5 -0.3**
SATY Saty 43.33 302 *e*P **P 21 03 41.5 -0.3**
MDSI Maura Dua 43.34 221 P **P 21 03 43.0 +1.1**
comp=Z,44nm,1.2s
LEM Lembang 43.47 215 P **P 21 03 44.5 +1.4**
comp=Z,47nm,0.7s,baz=58,slow=7.7,SNR=10
LEM LR LR 21 23 13.2
comp=Z,258nm,20.9s,baz=7.0,slow=38
comp=Z,47nm,0.7s
KURK Kurchatov 43.56 313 P **P 21 03 42.3 -1.0**
KURK IAmb IAmb 21 03 43.8
comp=Z,45nm,0.9s
KURK Kurchatov 43.56 313 P **P 21 03 42.8 -0.6**
KURK P **P 21 03 42.8 -0.6**
KURK Kurchatov 43.56 313*ce* **P 21 03 42.7 -0.6**
KURK pmax pmax
comp=Z,50nm,0.9s
KSI Kapahiang 43.59 224 P **P 21 03 44.4 +0.4**
comp=Z,53nm,0.8s
KURBB Kurchatov Arra 43.61 313 P **P 21 03 42.9 -0.9**
comp=Z,22nm,0.8s,baz=100,slow=8.8,SNR=124
KURBB LR LR 21 24 01.7
comp=Z,2µm,18.6s,baz=132,slow=39
comp=Z,22nm,0.8s
ARXS Arharly 43.73 304 *e*P **P 21 03 44.4 -0.5**
TARG Taragay, Kyrgy 43.82 300 P **P 21 03 45.5 -0.6**
TARG IAmb IAmb 21 03 47.7
comp=Z,33nm,0.8s
TARG Taragay, Kyrgy 43.82 300 P **P 21 03 45.5 -0.6**
TARG pmax pmax
comp=Z,33nm,0.8s
ANVS Anan'yevo 43.88 301 P **P 21 03 46.9 +0.6**
KDJ Kajisay 44.27 301 P **P 21 03 47.7 -1.7**
KDJ IAmb IAmb 21 03 50.5
comp=Z,35nm,1.5s
KDJ Kajisay 44.27 301 P **P 21 03 47.7 -1.7**
KDJ pmax pmax
comp=Z,35nm,1.5s
MDOK Medeo 44.32 302 *e*P **P 21 03 49.3 -0.4**
MDOK Medeo 44.32 302 *e*P **P 21 03 49.4 -0.4**
CHKK Chushkaly 44.34 303 *e*P **P 21 03 49.4 -0.4**
CHKK Chushkaly 44.34 303 *e*P **P 21 03 49.4 -0.4**
TNSS Tian-Shan 44.40 302 *e*P **P 21 03 50.1 -0.6**
TNSS Tian-Shan 44.40 302 *e*P **P 21 03 50.1 -0.6**
AAA Alma-Ata 44.41 302 *e*P **P 21 03 50.3 -0.1**
AAA pmax pmax
comp=Z,29nm,0.7s
AAA Alma-Ata 44.41 302 *e*P **P 21 03 50.3 -0.1**
comp=Z,29nm,0.7s
ULHL Ulahol 44.96 301 P **P 21 03 55.5 +0.5**
SNR=5.9
BOOM Boomskoye usch 45.17 301 P **P 21 03 55.9 -0.7**
BOOM Boomskoye usch 45.17 301 P **P 21 03 55.9 -0.7**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 45.39 302 P **P 21 03 59.4 +1.0**
SNR=23
TKM2 Tokmak 2 45.39 302 *i* P **P 21 03 57.7 -0.7**
TKM2 pmax pmax
comp=Z,41nm,0.7s
KSH Kashi 45.40 297 P **P 21 04 02.3 +4.0**
KSH sP sP 21 04 15.5 +0.2
KSH pmax pmax
comp=Z,11nm,1.3s
KSH LR LR
comp=Z,1µm,18.6s
KSH LR LR
comp=Z,3µm,20.6s
KSH LR LR
comp=Z,2µm,22.0s
COEN Coen 45.77 164 P **P 21 04 01.8 +0.5**
COEN IAmb IAmb 21 04 14.4
comp=Z,33nm,1.2s
COEN Coen 45.77 164 P **P 21 04 02.6 +1.3**
comp=Z,27nm,1.7s
KBK Karagaybulak 45.89 301 P **P 21 04 02.9 +0.6**
SNR=13
NRIK Noril'sk 45.97 340 P **P 21 04 00.4 -1.8**
NRIK Noril'sk 45.97 340 P **P 21 04 00.6 -1.6**
comp=Z,40nm,0.8s,baz=117,slow=8.9,SNR=70
NRIK LR LR 21 25 16.9
comp=Z,3µm,18.0s,baz=134,slow=39
comp=Z,40nm,0.8s
NRIK Noril'sk 45.97 340*ce*P **P 21 04 00.1 -2.1**
NRIK pmax pmax
comp=Z,48nm,0.9s
CHMS Chumysh 46.01 302 P **P 21 04 02.9 -0.1**
SNR=17
KNRA Kununurra 46.04 183 P **P 21 04 03.0 -0.3**
KNRA IAmb IAmb 21 04 23.5
comp=Z,47nm,1.4s
KNRA Kununurra 46.04 183 P **P 21 04 04.2 +0.8**
comp=Z,25nm,0.9s
FRU1 Bishkek 46.11 302 P **P 21 04 03.2 -0.7**
FRU1 IAmb IAmb 21 04 05.6
comp=Z,29nm,0.9s
FRU1 Bishkek 46.11 302 P **P 21 04 03.2 -0.7**
FRU1 pmax pmax
comp=Z,29nm,0.9s
USP Ospenovka 46.17 302 P **P 21 04 04.4 0.0**
SNR=6.4
AAK Ala-Archa 46.22 301 P **P 21 04 04.0 -0.8**
AAK Ala-Archa 46.22 301 LR LR 21 26 25.7
comp=Z,2µm,18.9s,baz=84,slow=40
AAK Ala-Archa 46.22 301 P **P 21 04 05.3 +0.5**
AAK P **P 21 04 05.3 +0.5**
AAK Ala-Archa 46.22 301 P **P 21 04 05.4 +0.5**
SNR=22
AAK Ala-Archa 46.22 301*ce*P **P 21 04 04.0 -0.8**
AAK pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 46.22 301 *i* P **P 21 04 04.5 -0.4**
SNR=29
UCH Ucfor 46.24 301 P **P 21 04 06.8 +1.4**
SNR=10.0
BTLS Baital 46.41 305 *e*P **P 21 04 05.5 -0.6**
BTLS pmax pmax
comp=Z,11nm,0.8s
BTLS Baital 46.41 305 *e*P **P 21 04 05.5 -0.6**
comp=Z,11nm,0.8s
ARLS Aral 46.41 300 P **P 21 04 06.9 +0.5**
EKS2 Erkin-Say 46.75 302 P **P 21 04 09.1 +0.1**
SNR=15
AML Almayashu 46.85 301 P **P 21 04 10.3 +0.2**
SNR=22
ARSB Arslanbob 47.47 300 P **P 21 04 14.0 -0.6**
ARSB IAmb IAmb 21 04 16.0
comp=Z,24nm,1.0s
ARSB Arslanbob 47.47 300 P **P 21 04 14.0 -0.6**
ARSB pmax pmax
comp=Z,24nm,1.0s
OHH Osh 47.71 299 P **P 21 04 16.9 +0.5**
SPIA Saint Paul Isl 48.02 39 P **P 21 04 17.9 -0.6**
baz=262
ARK Arkit 48.17 301 P **P 21 04 20.9 +0.9**
P08K Saint George I 48.33 40 P **P 21 04 20.5 -0.3**
baz=263
NIKH Nikolski High 48.43 44 P **P 21 04 21.6 0.0**
baz=267
HNR Honiara 48.48 141 LR LR 21 23 49.6
comp=Z,340nm,20.5s,baz=339,slow=35
NIL Nilore 48.55 290 P **P 21 04 22.4 -0.5**
NIL IAmb IAmb 21 04 24.3
comp=Z,23nm,0.8s
NIL Nilore 48.55 290 P **P 21 04 23.3 +0.4**
NIL Nilore 48.55 290 P **P 21 04 22.4 -0.5**
NIL pmax pmax
comp=Z,23nm,0.9s
DRK Karamyk 48.60 297 P **P 21 04 22.9 -0.7**
DRK IAmb IAmb 21 06 14.7
comp=Z,16nm,0.6s
DRK Karamyk 48.60 297 P **P 21 04 22.9 -0.7**
DRK pmax pmax
comp=Z,16nm,0.6s
GAMB Gambell 48.62 30 P **P 21 04 22.8 -0.1**
baz=255
FITZ Fitzroy Crossi 48.68 187 P **P 21 04 24.5 +0.7**
FITZ Fitzroy Crossi 48.68 187 P **P 21 04 24.9 +1.1**
FITZ Fitzroy Crossi 48.68 187 P **P 21 04 24.3 +0.5**
comp=Z,5.3nm,0.8s,baz=20,slow=8.1,SNR=14
FITZ LR LR 21 25 50.2
comp=Z,184nm,20.1s,baz=22,slow=37
comp=Z,5.3nm,0.8s
TRKS Terek-Say 48.82 300 P **P 21 04 25.3 +0.3**
BVAR Borovoye Array 48.84 316 P **P 21 04 24.5 -0.3**
comp=Z,52nm,0.5s,baz=97,slow=9.5,SNR=311
BVAR ScP **ScP 21 09 45.0 +4.6**
comp=Z,1.2nm,0.7s,baz=122,slow=1.9,SNR=3.7
BVAR LR LR 21 26 53.1
comp=Z,2µm,18.3s,baz=99,slow=38
comp=Z,52nm,0.5s
BRVK Borovoye 48.90 316 P **P 21 04 24.6 -0.7**
BRVK Borovoye 48.90 316 P **P 21 04 25.5 +0.2**
BRVK P **P 21 04 25.5 +0.2**
BRVK Borovoye 48.90 316*d i* P **P 21 04 25.3 0.0**
BRVK pmax pmax
comp=Z,54nm,0.6s
KK31 Karatay Array 49.09 302 P **P 21 04 26.2 -0.8**
KK31 IAmb IAmb 21 04 27.9
comp=Z,24nm,0.8s
KK31 Karatay Array 49.09 302 P **P 21 04 26.2 -0.8**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 49.09 302 P **P 21 04 26.2 -0.7**
KKAR Karatay Array 49.09 302 P **P 21 04 26.2 -0.7**
BTK Batken 49.26 298 P **P 21 04 27.6 -0.8**
BTK Batken 49.26 298 P **P 21 04 27.6 -0.8**
BTK pmax pmax
comp=Z,17nm,1.2s
HYB Hyderabad 49.36 267 *e*P **P 21 04 28.9 -0.4**
BRLS Borolday 49.59 302 *e*P **P 21 04 31.8 +1.0**
BRLS Borolday 49.59 302 *e*P **P 21 04 31.8 +1.0**
GAR Garm 49.81 297 P **P 21 04 32.1 -0.6**
CHM Chimkent 49.85 301 *e*P **P 21 04 32.7 0.0**
CHM pmax pmax
comp=Z,12nm,0.7s
CHM Chimkent 49.85 301 *e*P **P 21 04 32.7 0.0**
comp=Z,12nm,0.7s
UNV Unalaska Valle 49.87 43 P **P 21 04 32.3 -0.3**
baz=268
MTSU Mount Surprise 50.07 164 P **P 21 04 35.9 +1.4**
comp=Z,5.2nm,1.0s
WB0 Warramunga Arr 50.15 176 P **P 21 04 34.9 -0.2**
WB0 IAmb IAmb 21 04 47.2
comp=Z,22nm,0.9s
WRAB Tennant Creek 50.31 176 *e*P **P 21 04 36.6 +0.3**
WRAB pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Arr 50.32 176 P **P 21 04 36.7 +0.3**
WRA Warramunga Arr 50.32 176 P **P 21 04 36.7 +0.3**
comp=Z,12nm,0.9s,baz=352,slow=8.4,SNR=55
WRA LR LR 21 24 12.3
comp=Z,262nm,21.4s,baz=344,slow=34
comp=Z,12nm,0.9s
M11K Mekoryuk 50.52 35 P **P 21 04 38.0 +0.5**
baz=263
TNA Tin City 50.63 28 P **P 21 04 38.6 +0.4**
TNA IAmb IAmb 21 04 40.5
comp=Z,39nm,1.0s
TNA Tin City 50.63 28 P **P 21 04 39.5 +1.3**
baz=257,SNR=5.2
SIMJ Simiganj 50.88 297 P **P 21 04 40.2 -0.5**
DZET Dzherino 50.99 297 P **P 21 04 41.7 +0.2**
F14K Arctic Creek 51.26 28 P **P 21 04 44.1 +1.1**
baz=259
K13K Kusilvak Mount 51.45 33 P **P 21 04 45.0 +0.6**
baz=263
QIS Mount Isa 51.49 170 P **P 21 04 45.8 +0.6**
comp=Z,22nm,1.1s
QIS Mount Isa 51.49 170 P **P 21 04 45.8 +0.6**
ANM Nome 51.50 30 P **P 21 04 45.6 +0.8**
baz=261
KBL Kabul 51.74 292 P **P 21 04 46.9 -0.4**
KBL IAmb IAmb 21 04 48.4
comp=Z,37nm,0.9s
KBL Kabul 51.74 292 P **P 21 04 47.6 +0.3**
SNR=27
KBL P **P 21 04 47.6 +0.3**
SNR=27
KBL Kabul 51.74 292 P **P 21 04 46.9 -0.4**
KBL pmax pmax
comp=Z,37nm,1.0s
M13K Dall Lake 51.93 35 P **P 21 04 48.8 +0.8**
baz=266
F15K North Star Dit 51.99 28 P **P 21 04 49.0 +0.5**
F15K IAmb IAmb 21 04 50.9
comp=Z,31nm,0.9s
F15K North Star Dit 51.99 28 P **P 21 04 49.5 +1.1**
baz=260
J14K Nanvaranak Lak 52.05 32 P **P 21 04 49.8 +0.9**
baz=264
G15K Niukluk 52.13 29 P **P 21 04 50.6 +1.1**
baz=262
C16K Lisburne Hills 52.21 25 P **P 21 04 49.5 -0.5**
C16K IAmb IAmb 21 04 51.6
comp=Z,30nm,0.8s
C16K Lisburne Hills 52.21 25 P **P 21 04 50.7 +0.7**
baz=258
L14K Kuka Creek 52.33 34 P **P 21 04 51.9 +1.0**
L14K IAmb IAmb 21 04 53.7
comp=Z,39nm,1.1s
L14K Kuka Creek 52.33 34 P **P 21 04 52.5 +1.5**
baz=266,SNR=6.9
PALK Pallekele 52.48 255 P **P 21 04 52.0 -0.8**
PALK IAmb IAmb 21 04 53.5
comp=Z,36nm,1.8s
PALK Pallekele 52.48 255 P **P 21 04 53.1 +0.3**
PALK Pallekele 52.48 255 P **P 21 04 52.0 -0.8**
PALK pmax pmax
comp=Z,36nm,1.8s
M14K Bethel 52.64 35 IAmb IAmb 21 04 55.6
comp=Z,30nm,0.9s
M14K Bethel 52.64 35 P **P 21 04 54.3 +1.1**
baz=267,SNR=5.7
N14K Kuskokwak Cree 52.74 36 P **P 21 04 54.9 +0.9**
baz=268
H16K Elim 52.85 30 P **P 21 04 55.2 +0.5**
baz=264,SNR=6.3
PSAD1 Pilbara Seismi 52.85 193 P **P 21 04 54.2 -1.1**
comp=Z,20nm,0.9s
G16K Koyuk River 52.89 29 P **P 21 04 55.8 +0.8**
baz=263
L15K Ungalak Mounta 52.92 33 P **P 21 04 56.0 +0.6**
baz=266
O14K Tigyukauivet M 52.93 37 P **P 21 04 56.5 +1.1**
baz=269
PSAC1 Pilbara Seismi 52.93 193 P **P 21 04 56.4 +0.6**
comp=Z,23nm,1.3s
D17K Noatak River 52.94 26 P **P 21 04 56.1 +0.7**
baz=260,SNR=21
PSAC2 Pilbara Seismi 52.94 193 P **P 21 04 56.6 +0.7**
comp=Z,23nm,0.9s
PSAB2 Pilbara Seismi 52.95 193 P **P 21 04 56.6 +0.7**
comp=Z,21nm,1.2s
K15K Wolf Creek Mou 52.95 33 IAmb IAmb 21 05 30.9
comp=Z,39nm,1.6s
K15K Wolf Creek Mou 52.95 33 P **P 21 04 57.0 +1.4**
baz=266
PSAA2 Pilbara Seismi 52.95 193 P **P 21 04 56.8 +0.8**
PSA00 Pilbara Seismi 52.97 193 P **P 21 04 56.7 +0.6**
comp=Z,19nm,1.1s
PSAB1 Pilbara Seismi 52.97 193 P **P 21 04 54.9 -1.1**
comp=Z,20nm,0.9s
PSAA3 Pilbara Seismi 52.97 193 P **P 21 04 56.7 +0.6**
comp=Z,23nm,1.2s
PSAA1 Pilbara Seismi 52.97 193 P **P 21 04 56.8 +0.7**
comp=Z,23nm,1.1s
PSAB3 Pilbara Seismi 52.98 193 P **P 21 04 56.4 +0.2**
comp=Z,22nm,1.5s
C17K DeLong Mountai 53.04 25 P **P 21 04 56.7 +0.5**
baz=260
RDOG Red Dog Mine 53.06 25 IAmb IAmb 21 05 05.7
comp=Z,29nm,1.4s
RDOG Red Dog Mine 53.06 25 P **P 21 04 57.2 +0.8**
baz=260,SNR=7.0
M15K Kasigluk River 53.26 35 P **P 21 04 58.4 +0.5**
baz=268
E17K Hotham Inlet 53.32 27 P **P 21 04 59.2 +1.0**
baz=262
SDPT Sand Point 53.37 41 P **P 21 04 59.1 +0.3**
baz=272
J16K Anvik River 53.44 32 P **P 21 04 60.0 +0.8**

baz=266
I17K Unalakleet 53.45 31 P **P 21 05 00.5 +1.4**
baz=266
F17K Baldwin Pennin 53.47 28 P **P 21 04 59.1 -0.1**
F17K IAmb IAmb 21 05 01.6
comp=Z,33nm,0.8s
F17K Baldwin Pennin 53.47 28 P **P 21 05 00.3 +1.0**
baz=263,SNR=14
N15K Kwethluk River 53.54 35 P **P 21 05 00.0 0.0**
N15K IAmb IAmb 21 05 02.2
comp=Z,16nm,0.8s
N15K Kwethluk River 53.54 35 P **P 21 05 00.9 +0.9**
baz=269
G17K Kiwalik Mounta 53.61 29 P **P 21 05 01.3 +0.9**
baz=264,SNR=9.3
O15K Ungalikthiuk R 53.67 37 P **P 21 05 01.6 +0.7**
baz=270,SNR=5.8
B18K Kokolik River 53.68 24 P **P 21 05 02.1 +1.2**
baz=260
C18K Utukok River 53.79 25 IAmb IAmb 21 05 03.3
comp=Z,26nm,0.9s
C18K Utukok River 53.79 25 P **P 21 05 02.3 +0.6**
baz=262
E18K Tukpahlearik C 53.84 26 IAmb IAmb 21 05 04.4
comp=Z,24nm,0.8s
E18K Tukpahlearik C 53.84 26 P **P 21 05 03.2 +1.2**
baz=263
S14K Fog Glacier 53.86 40 P **P 21 05 03.0 +0.6**
baz=272
H17K Granite Mounta 53.87 29 P **P 21 05 02.7 +0.4**
H17K IAmb IAmb 21 05 04.8
comp=Z,19nm,1.2s
H17K Granite Mounta 53.87 29 P **P 21 05 03.3 +1.0**
baz=266,SNR=7.2
L16K Owhat River 53.88 34 IAmb IAmb 21 05 34.7
comp=Z,36nm,1.6s
L16K Owhat River 53.88 34 P **P 21 05 03.0 +0.6**
baz=266
CHNA Chernabura Isl 53.91 42 P **P 21 05 03.6 +1.0**
baz=273
AS15 Alice Springs 53.97 177 P **P 21 05 04.5 +1.0**
comp=Z,18nm,0.8s
AS05 Alice Springs 53.98 177 P **P 21 05 04.5 +0.9**
comp=Z,16nm,0.9s
AS13 Alice Springs 53.98 177 P **P 21 05 04.8 +1.2**
comp=Z,21nm,1.0s
AS31 Alice Springs 54.00 177 P **P 21 05 04.9 +1.2**
comp=Z,5.0nm,0.9s
AS01 Alice Springs 54.00 177 P **P 21 05 04.5 +0.8**
ASAR Alice Springs 54.00 177 P **P 21 05 03.8 +0.1**
ASAR Alice Springs 54.00 177 P **P 21 05 04.3 +0.6**
comp=Z,6.7nm,0.8s,baz=4.9,slow=7.7,SNR=58
ASAR LR LR 21 26 58.9
comp=Z,360nm,20.9s,baz=9.5,slow=35
comp=Z,6.7nm,0.8s
ASAR Alice Springs 54.00 177 P **P 21 05 03.8 +0.1**
AS10 Alice Springs 54.03 177 P **P 21 05 04.8 +0.9**
comp=Z,33nm,0.8s
AS09 Alice Springs 54.03 177 P **P 21 05 05.2 +1.2**
comp=Z,30nm,0.9s
AS19 Alice Springs 54.04 177 P **P 21 05 04.8 +0.9**
comp=Z,33nm,0.9s
A19K Wainwright 54.07 23 P **P 21 05 04.8 +1.1**
baz=261
M16K Timber Creek 54.12 34 IAmb IAmb 21 05 08.3
comp=Z,22nm,1.3s
M16K Timber Creek 54.12 34 P **P 21 05 05.2 +1.0**
baz=269
F18K Selawik 54.12 27 P **P 21 05 05.0 +1.0**
baz=265,SNR=28
J17K VABM Dome 54.13 31 IAmb IAmb 21 05 06.7
comp=Z,19nm,0.9s
J17K VABM Dome 54.13 31 P **P 21 05 05.4 +1.2**
baz=267,SNR=6.1
N16K Nishlik Lake 54.20 35 P **P 21 05 06.0 +1.2**
baz=270,SNR=8.3
L17K Donlin 54.45 33 P **P 21 05 08.3 +1.7**
baz=269,SNR=8.8
SVE Sverdlovsk 54.45 320*de*P **P 21 05 06.1 -0.6**
SVE pmax pmax
comp=Z,84nm,0.9s
SVE MLR MLR
comp=Z,1μm,14.0s
K17K Iditarod 54.46 32 P **P 21 05 07.5 +0.8**
baz=269
G18K Tagagawik 54.47 28 P **P 21 05 07.0 +0.4**
G18K IAmb IAmb 21 05 08.6
comp=Z,41nm,1.2s
G18K Tagagawik 54.47 28 P **P 21 05 07.3 +0.7**
baz=266
CHGN Chignik 54.49 40 P **P 21 05 07.9 +1.0**
baz=273
H18K Honhosa River 54.54 29 IAmb IAmb 21 05 09.2
comp=Z,23nm,1.1s
H18K Honhosa River 54.54 29 P **P 21 05 08.0 +0.8**
baz=267
O16K Kokwok River B 54.55 36 P **P 21 05 07.9 +0.7**
O16K Kokwok River B 54.55 36 P **P 21 05 08.2 +0.9**
baz=271,SNR=6.5
P16K Nushagak River 54.61 37 P **P 21 05 08.6 +0.8**
baz=272
M17K Holitna River 54.86 34 IAmb IAmb 21 05 12.2
comp=Z,20nm,1.0s
M17K Holitna River 54.86 34 P **P 21 05 10.8 +1.3**
baz=270,SNR=8.5
F19K Shaleruckik Mo 54.88 27 P **P 21 05 10.0 +0.4**
baz=266
R16K Pilot Point 54.89 39 P **P 21 05 10.8 +1.0**
baz=273
D19K Kuna River 54.89 25 P **P 21 05 10.2 +0.5**
baz=265
N17K Nushagak Hills 54.99 35 IAmb IAmb 21 05 13.1
comp=Z,21nm,1.1s
N17K Nushagak Hills 54.99 35 P **P 21 05 11.6 +1.1**
baz=271,SNR=8.0
O17K Koliganek Bris 55.05 36 P **P 21 05 11.7 +0.8**
baz=272
G19K Purcell Mounta 55.12 28 P **P 21 05 11.8 +0.5**
baz=267,SNR=12
E19K Redstone River 55.14 26 P **P 21 05 11.7 +0.2**
E19K IAmb IAmb 21 05 13.4
comp=Z,23nm,0.8s
E19K Redstone River 55.14 26 P **P 21 05 12.3 +0.8**
baz=266
GCSA Galena City Sc 55.15 30 P **P 21 05 12.2 +0.6**
baz=268
J18K Innoko River 55.20 31 P **P 21 05 12.4 +0.4**
baz=270
L18K Granite Mounta 55.21 33 P **P 21 05 12.7 +0.6**
baz=270,SNR=5.3
Q16K King Salmon 55.32 37 P **P 21 05 13.5 +0.6**
baz=273
H19K Roundabout Mou 55.36 29 IAmb IAmb 21 05 15.4
comp=Z,38nm,1.1s
H19K Roundabout Mou 55.36 29 P **P 21 05 14.0 +1.0**
baz=268
WRKA Warakurna 55.36 183 P **P 21 05 14.5 +1.0**
comp=Z,22nm,0.5s
WRKA Warakurna 55.36 183 P **P 21 05 14.2 +0.6**
B20K Meade River 55.38 23 IAmb IAmb 21 05 14.8
comp=Z,22nm,0.7s
B20K Meade River 55.38 23 P **P 21 05 13.6 +0.5**
baz=264
P17K Kvichak River 55.41 37 P **P 21 05 14.3 +0.8**
baz=273
D20K Etivluk River 55.46 25 P **P 21 05 14.7 +0.9**
baz=266
E20K Nigu River 55.58 26 P **P 21 05 15.5 +0.7**
baz=267
ABKAR Akbulak array 55.61 311 P **P 21 05 14.4 -0.7**
ABKAR Akbulak array 55.61 311 IAmb IAmb 21 05 15.5
comp=Z,26nm,0.7s
N18K Kilae Creek 55.62 35 P **P 21 05 16.0 +0.9**
baz=272
M18K Stony River 55.63 34 P **P 21 05 16.2 +1.2**
baz=272,SNR=5.1
A21K Barrow 55.69 22 P **P 21 05 15.5 +0.2**
baz=264
J19K Poorman 55.69 31 P **P 21 05 16.0 +0.6**
baz=270,SNR=12
F20K Avaraart Lake 55.70 27 P **P 21 05 15.2 -0.3**
F20K Avaraart Lake 55.70 27 P **P 21 05 16.3 +0.9**
baz=268
ARTI Arti 55.73 320 P **P 21 05 14.6 -1.3**
ARTI Arti 55.73 320 LR LR 21 31 51.9
comp=Z,3μm,18.3s,baz=84,slow=39
ARTI Arti 55.73 320*c i*P **P 21 05 14.5 -1.3**
ARTI 21 06 11.2
ARTI S **S 21 12 57.9 -1.3**
ARTI SS **SS 21 16 41.7 -2.8**
ARTI pmax pmax
comp=Z,40nm,0.6s
ARTI MLR MLR
comp=Z,3μm,18.0s
O18K Koktuh Hills 56.00 36 P **P 21 05 18.8 +1.0**
baz=273,SNR=9.0
H20K Anotleneega Mo 56.01 29 P **P 21 05 18.6 +0.9**
baz=270,SNR=9.0
P18K Big Mountain, 56.02 36 P **P 21 05 18.6 +0.7**
baz=274,SNR=11
L19K White Mountain 56.07 33 P **P 21 05 19.2 +1.0**
baz=272
CHIR Chirikof Islan 56.09 41 P **P 21 05 19.6 +1.2**
baz=276
C21K Knifeblade Rid 56.15 24 P **P 21 05 19.3 +0.7**
baz=267,SNR=17
I20K Naaghedeneel 56.18 30 P **P 21 05 20.3 +1.4**
baz=271,SNR=12
Q18K Katmai Hardscr 56.18 37 P **P 21 05 20.1 +0.9**
baz=274
A22K Sinclair Lake 56.19 22 P **P 21 05 19.5 +0.6**
baz=266
B21K Ikpikpuk River 56.23 24 IAmb IAmb 21 05 21.2
comp=Z,31nm,0.9s
B21K Ikpikpuk River 56.23 24 P **P 21 05 20.1 +0.9**
baz=267,SNR=28
M19K Big River Lodg 56.30 33 P **P 21 05 20.9 +1.0**
baz=273
N19K Bonanza Creek 56.31 35 P **P 21 05 20.9 +0.9**
baz=273
J20K Nowinta River 56.33 31 P **P 21 05 21.3 +1.2**
baz=271,SNR=20
K20K Telida 56.39 31 IAmb IAmb 21 05 23.1
comp=Z,18nm,0.9s
K20K Telida 56.39 31 P **P 21 05 21.8 +1.3**
baz=272
E21K Killik River 56.41 25 IAmb IAmb 21 05 22.3
comp=Z,23nm,0.8s
E21K Killik River 56.41 25 P **P 21 05 21.2 +0.5**
baz=269
O19K Port Alsworth 56.42 35 P **P 21 05 21.6 +0.8**
baz=274
L20K Farewell, AK 56.51 33 P **P 21 05 22.5 +1.1**
baz=273,SNR=7.7
R18K Karluk 56.57 38 P **P 21 05 22.0 +0.2**
baz=276
G21K Allakaket 56.57 28 IAmb IAmb 21 05 24.0
comp=Z,22nm,1.0s
G21K Allakaket 56.57 28 P **P 21 05 22.6 +0.8**
baz=270
F21K Alatna River 56.58 27 P **P 21 05 22.4 +0.6**
baz=270,SNR=12
AKTO Aktyubinsk 56.66 313 LR LR 21 31 28.8
comp=Z,4μm,19.4s,baz=80,slow=38
B22K Teshekpuk Lake 56.67 23 P **P 21 05 22.8 +0.5**
baz=268
SII Sitkinak Islan 56.81 40 P **P 21 05 23.9 +0.3**
baz=276
Q19K Cape Douglas, 56.87 37 P **P 21 05 23.5 -0.5**
baz=275
H21K Melozitna Rive 56.87 29 P **P 21 05 24.8 +0.9**
baz=272,SNR=14
D22K Ayikyak River 56.89 25 P **P 21 05 24.9 +0.9**
baz=270,SNR=35
M20K Styx River 56.89 33 P **P 21 05 25.2 +1.0**
baz=274
P19K Oil Pt 57.01 36 P **P 21 05 25.2 +0.2**
baz=275
F22K John River 57.09 26 P **P 21 05 26.6 +1.2**
baz=271,SNR=62
CHUM Lake Minchumin 57.15 31 P **P 21 05 27.2 +1.3**
baz=273,SNR=17
E22K Anaktuvuk Pass 57.22 26 P **P 21 05 27.0 +0.7**
baz=271,SNR=28
OHAK Old Harbor 57.23 39 P **P 21 05 26.2 -0.2**
OHAK Old Harbor 57.23 39 P **P 21 05 27.5 +1.0**
baz=277
PPLA Purkeypile 57.27 32 P **P 21 05 26.4 -0.5**
PPLA Purkeypile 57.27 32 P **P 21 05 27.8 +0.9**
baz=274,SNR=9.6
CAST Castle Rocks 57.28 31 IAmb IAmb 21 05 29.2
comp=Z,21nm,1.1s
CAST Castle Rocks 57.28 31 P **P 21 05 28.1 +1.3**
baz=274,SNR=20
O20K Slope Mountain 57.28 35 P **P 21 05 27.2 +0.2**
baz=275
SPCR Spurr Chakacha 57.38 34 P **P 21 05 28.6 +0.9**
baz=275,SNR=5.5
H22K Ishtalitna Cre 57.45 28 P **P 21 05 29.1 +1.1**
baz=273,SNR=24
KDAK Kodiak Island 57.54 38 P **P 21 05 28.5 -0.2**
KDAK IAmb IAmb 21 05 30.0
comp=Z,28nm,1.2s
KDAK Kodiak Island 57.54 38*c i*P **P 21 05 28.7 0.0**
KDAK pmax pmax
comp=Z,31nm,1.1s
KDAK Kodiak Island 57.54 38 P **P 21 05 28.7 0.0**
baz=277
Q20K Shuyak Island 57.55 37 P **P 21 05 28.3 -0.5**
baz=276
D23K Nanushuk River 57.62 25 IAmb IAmb 21 05 31.5
comp=Z,27nm,1.1s
D23K Nanushuk River 57.62 25 P **P 21 05 29.8 +0.7**
baz=271
C23K Itkillik River 57.62 24 IAmb IAmb 21 05 31.1
comp=Z,38nm,1.3s
C23K Itkillik River 57.62 24 P **P 21 05 29.7 +0.6**
baz=271
SKT Skwentna 57.64 33 P **P 21 05 29.4 0.0**
baz=275,SNR=6.5
BPAW Bear Paw Mtn. 57.72 31 P **P 21 05 30.6 +0.7**
baz=274,SNR=13
KTH Kantishna Hill 57.79 31 P **P 21 05 30.1 -0.4**
KTH IAmb IAmb 21 05 32.7
comp=Z,34nm,1.4s
COLD Coldfoot 57.86 27 IAmb IAmb 21 05 33.2
comp=Z,47nm,1.9s
COLD Coldfoot 57.86 27 P **P 21 05 31.4 +0.6**
baz=273,SNR=8.5
CAPN Captain Cook N 57.94 34 P **P 21 05 32.3 +0.9**
baz=276
G23K Bananza Creek 57.96 27 IAmb IAmb 21 05 33.7
comp=Z,20nm,1.1s
G23K Bananza Creek 57.96 27 P **P 21 05 32.4 +0.8**
baz=273
TOLK Toolik Lake Re 58.03 25 IAmb IAmb 21 05 34.1
comp=Z,27nm,1.1s
TOLK Toolik Lake Re 58.03 25 P **P 21 05 32.8 +0.7**
baz=273,SNR=18
E23K Chandalar 58.04 26 P **P 21 05 33.2 +1.1**
baz=273,SNR=46
TRF Thorofare Moun 58.08 31 P **P 21 05 32.5 -0.2**
TRF Thorofare Moun 58.08 31 P **P 21 05 32.8 +0.1**
baz=275
BRLK Bradley Lake 58.19 36 IAmb IAmb 21 05 36.7
comp=Z,14nm,1.0s
CUT Chulitna 58.19 32 IAmb IAmb 21 07 05.7
comp=Z,21nm,0.6s
CUT Chulitna 58.19 32 P **P 21 05 33.4 +0.3**
baz=276
H23K Yukon River 58.21 28 IAmb IAmb 21 05 36.1
comp=Z,32nm,1.1s
H23K Yukon River 58.21 28 P **P 21 05 34.6 +1.3**
baz=274
QLP Quilpie 58.21 166 P **P 21 05 34.2 +0.6**
comp=Z,24nm,1.6s
OOD Oodnadatta 58.21 175 P **P 21 05 34.5 +0.9**
BRSE Bradley Lake S 58.26 36 P **P 21 05 34.6 +0.8**
baz=277
D24K Happy Valley 58.28 24 P **P 21 05 34.4 +0.7**
baz=273
C24K Franklin Bluff 58.29 24 P **P 21 05 34.2 +0.5**
baz=273
M22K Willow 58.33 33 P **P 21 05 34.9 +0.8**
baz=276
I23K Minto, Yukon-K 58.34 29 P **P 21 05 35.3 +1.1**
baz=275,SNR=5.7
SLKM Skilak Lake 58.42 35 P **P 21 05 34.2 -0.7**
SLKM IAmb IAmb 21 05 36.7
comp=Z,37nm,1.8s
E24K Your Creek 58.46 26 IAmb IAmb 21 05 37.4
comp=Z,20nm,0.8s
E24K Your Creek 58.46 26 P **P 21 05 36.1 +1.1**
baz=274,SNR=30
NEA2 Nenana 58.51 30 P **P 21 05 36.2 +0.8**
baz=276,SNR=26
RC01 Rabbit Creek A 58.59 34 IAmb IAmb 21 05 37.2
comp=Z,24nm,1.2s
RC01 Rabbit Creek A 58.59 34 P **P 21 05 36.1 +0.1**
baz=277,SNR=6.3
MCK McKinley 58.66 31 IAmb IAmb 21 05 38.0
comp=Z,43nm,1.5s
MCK McKinley 58.66 31 P **P 21 05 36.7 +0.3**
baz=276,SNR=14
O22K Cooper Landing 58.67 35 P **P 21 05 36.1 -0.5**
baz=278
RND Reindeer 58.73 31 IAmb IAmb 21 05 38.2
comp=Z,22nm,0.9s
F24K Squaw Lake 58.73 26 IAmb IAmb 21 05 39.1
comp=Z,15nm,0.9s
F24K Squaw Lake 58.73 26 P **P 21 05 38.1 +1.2**
baz=275
PMR Palmer 58.82 33 IAmb IAmb 21 05 38.7
comp=Z,17nm,1.2s
PMR Palmer 58.82 33 P **P 21 05 37.5 0.0**
baz=277
EIDS Eidsvold 58.83 159 P **P 21 05 38.8 +0.8**
comp=Z,22nm,1.9s
SEW Seward 58.86 35 IAmb IAmb 21 05 45.4
comp=Z,24nm,1.0s
SEW Seward 58.86 35 P **P 21 05 37.9 +0.1**
baz=278,SNR=8.5
H24K Noodor Dome 58.89 28 IAmb IAmb 21 05 40.7
comp=Z,27nm,1.3s
H24K Noodor Dome 58.89 28 P **P 21 05 39.2 +1.1**
baz=276,SNR=19
WRH Wood River Hil 58.95 30 IAmb IAmb 21 06 28.6
comp=Z,12nm,1.0s
G24K Hadweenzic Riv 58.97 27 IAmb IAmb 21 05 41.2
comp=Z,32nm,1.2s
G24K Hadweenzic Riv 58.97 27 P **P 21 05 39.1 +0.6**
baz=276,SNR=24
COLA College 59.00 29*c i*P **P 21 05 39.3 +0.5**
COLA pmax pmax
comp=Z,23nm,1.8s
COLA College 59.00 29 P **P 21 05 39.4 +0.7**
baz=276
CCB Clear Creek Bu 59.05 30 P **P 21 05 38.8 -0.3**
D25K Kavik River 59.14 24 IAmb IAmb 21 05 41.6
comp=Z,26nm,0.9s
D25K Kavik River 59.14 24 P **P 21 05 40.4 +0.7**
baz=275
POKR Poker Plat Res 59.15 29 P **P 21 05 40.7 +0.8**
baz=277,SNR=7.1
KNK Knik Glacier 59.16 34 IAmb IAmb 21 06 13.5
comp=Z,19nm,1.0s
KNK Knik Glacier 59.16 34 P **P 21 05 40.1 +0.1**
baz=278,SNR=11
SML Sawmill 59.17 33 P **P 21 05 40.1 0.0**
baz=278,SNR=7.5
PWL Port Wells 59.30 34 IAmb IAmb 21 06 01.8
comp=Z,16nm,1.0s
PWL Port Wells 59.30 34 P **P 21 05 40.9 -0.1**
baz=278,SNR=9.9
IL31 59.42 30 IAmb IAmb 21 05 49.6
comp=Z,8.4nm,0.7s
ILAR Eielson Array 59.42 30 P **P 21 05 41.3 -0.4**
ILAR Eielson Array 59.42 30 P **P 21 05 40.9 -0.8**
comp=Z,3.8nm,0.8s,baz=277,slow=5.8,SNR=38
ILAR LR LR 21 33 09.3
comp=Z,252nm,19.0s,baz=286,slow=38
comp=Z,3.8nm,0.8s
HDA Harding Lake 59.45 30 IAmb IAmb 21 05 42.7
comp=Z,21nm,1.0s
HDA Harding Lake 59.45 30 P **P 21 05 41.4 -0.5**
baz=278,SNR=21
M23K Glacier View 59.45 33 P **P 21 05 42.6 +0.6**
baz=278
G25K Bearman Lake 59.50 27 P **P 21 05 43.6 +1.4**
baz=277
E25K Arctic Village 59.55 26 P **P 21 05 43.9 +1.3**
baz=277,SNR=26
F25K Christian Rive 59.58 26 IAmb IAmb 21 05 45.7
comp=Z,25nm,1.0s
F25K Christian Rive 59.58 26 P **P 21 05 44.6 +1.7**
baz=277
C26K Camden Bay 59.59 23 P **P 21 05 44.1 +1.4**
baz=276
SCM Sheep Creek Mo 59.63 33 P **P 21 05 43.8 +0.4**
SCM IAmb IAmb 21 05 50.7
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 59.63 33 P **P 21 05 43.8 +0.4**
SCM pmax pmax
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 59.63 33 P **P 21 05 43.7 +0.4**
baz=279
H25L Birch Creek 59.68 28 P **P 21 05 44.7 +1.3**
baz=277,SNR=12
P23K Montague Islan 59.89 35 P **P 21 05 45.4 +0.4**
baz=280
GLI Glacier Island 59.89 34 P **P 21 05 45.2 +0.2**
baz=279
PRP Porcupine Dome 59.90 29 IAmb IAmb 21 05 51.7
comp=Z,11nm,0.8s
PRP Porcupine Dome 59.90 29 P **P 21 05 45.6 +0.5**
baz=278,SNR=16
BMAR Burnt Mountain 60.01 26 P **P 21 05 47.0 +1.3**
C27K Jago River 60.04 24 P **P 21 05 47.0 +1.1**
baz=277,SNR=42
K24K Donnelly Dome 60.04 31 P **P 21 05 45.6 -0.4**
baz=279
J25K Salcha River, 60.09 30 P **P 21 05 46.5 +0.1**
baz=279,SNR=5.5
M24K Tolsona, Glenn 60.13 33 P **P 21 05 47.2 +0.5**
baz=280
F26K Sheenjek River 60.14 26 P **P 21 05 48.2 +1.6**
baz=278
FID Port Fidalgo 60.21 34 IAmb IAmb 21 05 57.2
comp=Z,13nm,0.9s
KIRV Kirov 60.23 323 LR LR 21 34 25.6
comp=Z,1μm,19.3s,baz=87,slow=39
KIRV Kirov 60.23 323*d i*P **P 21 05 46.7 -0.6**
PAX Paxson 60.31 31 P **P 21 05 48.1 +0.2**
baz=280
KLU Klutina 60.35 33 P **P 21 05 48.4 +0.2**
baz=280
G26K Porcupine Rive 60.38 27 P **P 21 05 49.1 +0.9**
baz=279
RIDG Independent Ri 60.46 31 IAmb IAmb 21 06 34.8
comp=Z,20nm,1.2s
RIDG Independent Ri 60.46 31 P **P 21 05 49.0 +0.1**
baz=280,SNR=7.5
HARP HAARP 60.55 32 P **P 21 05 50.3 +0.8**
baz=280
EYAK Cordova Ski Ar 60.60 34 P **P 21 05 50.3 +0.4**
baz=281
SCRK Sand Creek 60.79 30 P **P 21 05 50.9 -0.3**
SCRK Sand Creek 60.79 30 P **P 21 05 51.0 -0.2**
baz=280,SNR=26
DOT Dot Lake 60.82 31 IAmb IAmb 21 05 52.4
comp=Z,33nm,1.4s
J26L Joseph Creek 60.88 30 P **P 21 05 51.5 -0.3**
baz=280,SNR=13
I26K Coal Creek Min 60.91 29 P **P 21 05 51.5 -0.4**
baz=280
N25K Chitina, Valde 60.95 33 P **P 21 05 53.7 +1.3**
baz=281,SNR=6.3
E27K Coleen River 61.01 25 P **P 21 05 53.8 +1.3**
baz=280
D27M Malcolm River 61.05 24 P **P 21 05 54.0 +1.1**
baz=280
LCRK Leigh Creek 61.06 173 P **P 21 05 54.2 +1.0**
BMRM Bremner River 61.08 34 IAmb IAmb 21 05 59.0
comp=Z,21nm,1.0s
BMRM Bremner River 61.08 34 P **P 21 05 54.0 +0.9**
baz=281
FORT Forrest 61.09 183 P **P 21 05 54.2 +0.8**
FORT Forrest 61.09 183 P P 21 06 03.7 +10
MENT Mentasta 61.10 31 IAmb IAmb 21 06 03.1
comp=Z,18nm,0.8s
MENT Mentasta 61.10 31 P **P 21 05 54.3 +1.0**
NGCH Negor - Chabah 61.12 284 P **P 21 05 55.4 +1.4**
RAGM Ragged Mountai 61.16 34 IAmb IAmb 21 06 32.5
comp=Z,14nm,0.8s
G27K Doyon Strip 61.24 27 IAmb IAmb 21 05 56.8
comp=Z,15nm,1.1s
G27K Doyon Strip 61.24 27 P **P 21 05 55.2 +1.0**
baz=281
L26K Log Cabin Wild 61.25 31 IAmb IAmb 21 05 56.5
comp=Z,38nm,1.6s
L26K Log Cabin Wild 61.25 31 P **P 21 05 55.1 +0.9**
baz=281,SNR=8.0
GLB Gilahina Butte 61.36 33 IAmb IAmb 21 05 57.8
comp=Z,21nm,1.3s

HMT	**Hamilton**	**61.37**	**34**	P	**P**	**21 05 55.5**	**+0.4**
KAIM	**Kayak Island**	**61.38**	**35**	P	**P**	**21 05 55.9**	**+0.7**
	baz=282						
H27K	**Steamboat Moun**	**61.40**	**27**	P	**P**	**21 05 56.7**	**+1.5**
	baz=281,SNR=17						
I27K	**Kandik River**	**61.48**	**28**	P	**P**	**21 05 57.1**	**+1.2**
	baz=282,SNR=71						
M26K	**Nabesna, AK**	**61.54**	**32**	P	**P**	**21 05 57.2**	**+0.9**
	baz=282,SNR=25						
VRDI	**Verde Repeater**	**61.57**	**33**	IAmb	IAmb	21 06 04.1	
	comp=Z,14nm,1.0s						
K27K	**Chicken**	**61.61**	**30**	IAmb	IAmb	21 05 58.8	
	comp=Z,31nm,1.2s						
K27K	**Chicken**	**61.61**	**30**	P	**P**	**21 05 57.6**	**+1.0**
	baz=282						
E28M	**Babbage River**	**61.68**	**25**	P	**P**	**21 05 58.2**	**+1.2**
	baz=282,SNR=53						
D28M	**Stokes Point**	**61.82**	**24**	P	**P**	**21 05 59.0**	**+1.1**
	baz=282,SNR=18						
BGLC	**Bering Glacier**	**61.89**	**34**	P	**P**	**21 05 59.4**	**+0.9**
	baz=283						
L27K	**Beaver Creek,**	**61.92**	**31**	P	**P**	**21 05 59.8**	**+1.0**
	baz=283,SNR=18						
BCAR	**Beaver Creek A**	**61.94**	**31**	P	**P**	**21 06 00.2**	**+1.3**
M27K	**Edge Creek, AK**	**62.05**	**32**	P	**P**	**21 06 00.6**	**+0.8**
	baz=283,SNR=10						
I28M	**Miner Creek**	**62.20**	**28**	P	**P**	**21 06 01.8**	**+1.1**
	baz=283,SNR=38						
E29M	**Blow River**	**62.32**	**25**	P	**P**	**21 06 02.4**	**+1.1**
	baz=283						
DZM	**Mont Dzumac**	**62.39**	**143**	*e*P	**P**	**21 06 03.3**	**+0.8**
	comp=Z,56nm,1.4s						
DZM				*e*S	**S**	**21 14 32.4**	**+6.1**
	comp=Z,440nm,26.4s						
DZM				*e*SS	**SS**	**21 18 33.6**	**+2.6**
	comp=Z,120nm,24.1s						
DZM				*e*LR	LR	21 24 36.8	
	comp=Z,357nm,26.3s						
DZM	**Mont Dzumac**	**62.39**	**143**	LR	LR	21 32 41.2	
	comp=Z,209nm,18.2s,baz=274,slow=36						
BVCY	**Beaver Creek**	**62.50**	**32**	P	**P**	**21 06 03.4**	**+0.7**
	baz=284						
MESA	**MESA**	**62.53**	**34**	P	**P**	**21 06 03.7**	**+0.6**
	baz=284						
G29M	**Pine Creek**	**62.62**	**26**	P	**P**	**21 06 04.6**	**+1.3**
	baz=284						
H29M	**Whitestone**	**62.65**	**27**	P	**P**	**21 06 04.9**	**+1.3**
	baz=284,SNR=26						
DAWY	**Dawson**	**62.75**	**30**	IAmb	IAmb	21 06 06.1	
	comp=Z,14nm,1.1s						
DAWY	**Dawson**	**62.75**	**30**	P	**P**	**21 06 04.9**	**+0.6**
	baz=284,SNR=8.2						
YUK3	**Moose Creek**	**62.84**	**32**	P	**P**	**21 06 05.9**	**+0.7**
	baz=284,SNR=5.6						
I29M	**Ogilvie Camp,**	**62.88**	**28**	P	**P**	**21 06 06.0**	**+0.8**
	baz=284,SNR=18						
STKA	**Stephens Creek**	**62.91**	**170**	P	**P**	**21 06 06.3**	**+0.8**
STKA	**Stephens Creek**	**62.91**	**170**	P	**P**	**21 06 06.8**	**+1.2**
	comp=Z,120nm,0.8s						
STKA	**Stephens Creek**	**62.91**	**170**	P	**P**	**21 06 06.4**	**+0.8**
	comp=Z,12nm,0.8s,baz=342,slow=6.3,SNR=20						
STKA				LR	LR	21 32 49.0	
	comp=Z,311nm,20.9s,baz=357,slow=35						
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**62.91**	**170**	P	**P**	**21 06 06.6**	**+1.0**
STKA	**Stephens Creek**	**62.91**	**170**	⇑*i*P	**P**	**21 06 06.2**	**+0.6**
J29N	**Klondike Camp**	**63.15**	**29**	P	**P**	**21 06 08.2**	**+1.1**
	baz=285,SNR=19						
O28M	**Mount Upton**	**63.22**	**33**	P	**P**	**21 06 08.4**	**+0.6**
	baz=285						
EPYK	**Eagle Plains**	**63.26**	**27**	P	**P**	**21 06 08.3**	**+0.7**
	baz=285						
F30M	**Barrier River**	**63.28**	**25**	P	**P**	**21 06 08.6**	**+0.8**
	baz=286						
G30M	**tAoh Zraii Nji**	**63.29**	**26**	P	**P**	**21 06 08.2**	**+0.3**
	baz=285,SNR=68						
YUK8	**Steele Glacier**	**63.29**	**33**	P	**P**	**21 06 08.6**	**+0.4**
	baz=285,SNR=6.3						
CMSA	**Cobar Meteorol**	**63.31**	**166**	P	**P**	**21 06 10.2**	**+2.0**
	comp=Z,23nm,1.2s						
PCA	**Pinnacle**	**63.37**	**34**	IAmb	IAmb	21 06 35.1	
	comp=Z,29nm,1.1s						
PINM	**Pinnacle**	**63.37**	**34**	P	**P**	**21 06 09.0**	**+0.5**
	baz=285						
L29M	**L29M**	**63.54**	**31**	P	**P**	**21 06 11.1**	**+1.5**
	baz=286,SNR=32						
M29M	**Somme Creek**	**63.58**	**31**	IAmb	IAmb	21 06 12.7	
	comp=Z,21nm,1.2s						
M29M	**Somme Creek**	**63.58**	**31**	P	**P**	**21 06 11.4**	**+1.5**
	baz=286,SNR=15						
K29M	**Barlow Dome**	**63.61**	**30**	P	**P**	**21 06 11.2**	**+1.1**
	baz=286,SNR=28						
I30M	**Mount Dempster**	**63.70**	**28**	P	**P**	**21 06 11.8**	**+1.1**
I30M	**Mount Dempster**	**63.70**	**28**	P	**P**	**21 06 11.6**	**+0.9**
	baz=286,SNR=43						
YUK4	**Talbot Arm**	**63.79**	**32**	P	**P**	**21 06 11.9**	**+0.5**
	baz=286						
JLN	**Jalan Bani Buh**	**63.84**	**281**	P	**P**	**21 06 11.8**	**-0.3**
JLN				P	**P**	**21 06 11.8**	**-0.3**
PNL	**Peninsula**	**63.90**	**34**	P	**P**	**21 06 12.5**	**+0.6**
	baz=286						
J30M	**Hart River**	**63.91**	**29**	IAmb	IAmb	21 06 14.3	
	comp=Z,13nm,0.9s						
J30M	**Hart River**	**63.91**	**29**	P	**P**	**21 06 13.0**	**+1.0**
	baz=286,SNR=24						
INK	**Inuvik**	**63.91**	**24**	LR	LR	21 36 43.6	
	comp=Z,327nm,20.4s,baz=302,slow=39						
INK	**Inuvik**	**63.91**	**24**	P	**P**	**21 06 12.1**	**+0.3**
	baz=287,SNR=37						
WBK	**Wadi Bani Khal**	**64.02**	**282**	P	**P**	**21 06 13.8**	**+0.4**
WBK				P	**P**	**21 06 13.8**	**+0.4**
YUK6	**Outpost Mounta**	**64.04**	**33**	P	**P**	**21 06 14.0**	**+0.9**
	baz=286						
G31M	**Satah River**	**64.04**	**26**	P	**P**	**21 06 12.9**	**+0.2**
	baz=287,SNR=20						
F31M	**Tsiigehtchic**	**64.08**	**25**	P	**P**	**21 06 13.7**	**+0.7**
	baz=287,SNR=7.7						
O29M	**Mount Kennedy**	**64.12**	**34**	IAmb	IAmb	21 06 29.2	
	comp=Z,14nm,1.0s						
O29M	**Mount Kennedy**	**64.12**	**34**	P	**P**	**21 06 15.1**	**+1.6**
	baz=287						
M30M	**Minto, Yukon**	**64.28**	**31**	P	**P**	**21 06 15.7**	**+1.2**
	baz=287,SNR=13						
H31M	**Peel River**	**64.35**	**27**	P	**P**	**21 06 15.5**	**+0.7**
	baz=288,SNR=40						
BIDO	**Bidbid**	**64.36**	**283**	P	**P**	**21 06 16.1**	**+0.5**
HYT	**Haines Junctio**	**64.47**	**33**	P	**P**	**21 06 16.7**	**+0.8**
HYT				IAmb	IAmb	21 06 18.3	
	comp=Z,13nm,1.0s						
HYT	**Haines Junctio**	**64.47**	**33**	P	**P**	**21 06 17.2**	**+1.3**
	baz=287,SNR=8.2						
N30M	**Aishikik Lake**	**64.48**	**32**	P	**P**	**21 06 16.7**	**+0.9**
	baz=287,SNR=6.1						
NWAO	**Narrogin (SRO)**	**64.51**	**193**	LR	LR	21 36 08.0	
	comp=Z,105nm,20.4s,baz=331,slow=38						
KLMR	**Klimovskoe**	**64.55**	**327**	*e*P	P	21 06 07.5	-8.7
KLMR				pmax	pmax		
	comp=Z,48nm,1.0s						
KLMR				MLR	MLR		
	comp=Z,2μm,15.0s						
SMDO	**Samad**	**64.61**	**283**	P	**P**	**21 06 17.4**	**0.0**
SMDO				P	**P**	**21 06 17.4**	**0.0**
P29M	**Windy Craggy**	**64.72**	**34**	P	**P**	**21 06 18.6**	**+1.2**
	baz=288,SNR=5.5						
JMDO	**Jabal Madar**	**64.85**	**282**	P	**P**	**21 06 18.9**	**+0.1**
JMDO				P	**P**	**21 06 18.9**	**+0.1**
P30M	**Million Dollar**	**64.94**	**34**	P	**P**	**21 06 19.9**	**+1.1**
	baz=288						
APA	**Apatity**	**64.97**	**335**	⇓*i*P	**P**	**21 06 15.8**	**-3.0**
APA				*i*		21 06 48.0	
APA				pmax	pmax		
	comp=Z,14nm,0.8s						
APA				MLR	MLR		
	comp=Z,2μm,16.0s						
SHME	**Shamm**	**65.01**	**287**	P	**P**	**21 06 20.6**	**+0.8**
SHME				P	**P**	**21 06 20.6**	**+0.8**
SHME	**Shamm**	**65.01**	**287**	*i* P	**P**	**21 06 20.0**	**+0.2**
	SNR=5.2						
HOQ	**Hoqain**	**65.02**	**284**	P	**P**	**21 06 20.0**	**+0.1**
HOQ				P	**P**	**21 06 20.0**	**+0.1**
N31M	**Braeburn, Yuko**	**65.07**	**32**	IAmb	IAmb	21 06 22.1	
	comp=Z,17nm,0.9s						
N31M	**Braeburn, Yuko**	**65.07**	**32**	P	**P**	**21 06 20.6**	**+1.0**
	baz=288,SNR=10						
SPITS	**Spitsbergen Ar**	**65.11**	**348**	P	**P**	**21 06 19.0**	**-0.6**
	comp=Z,14nm,0.5s,baz=85,slow=9.5,SNR=47						
SPITS				LR	LR	21 36 55.7	
	comp=Z,482nm,20.2s,baz=18,slow=38						
	comp=Z,14nm,0.5s						
SPITS	**Spitsbergen Ar**	**65.11**	**348**	P	**P**	**21 06 19.0**	**-0.6**
O30N	**Mendenhall**	**65.15**	**33**	P	**P**	**21 06 21.0**	**+0.8**
	baz=288,SNR=5.8						
MDH	**Madha**	**65.18**	**286**	P	**P**	**21 06 20.7**	**-0.2**
MDH	**Madha**	**65.18**	**286**	P	**P**	**21 06 20.2**	**-0.7**
MASF	**Masafi**	**65.27**	**286**	P	**P**	**21 06 21.8**	**+0.3**
MASF				P	**P**	**21 06 21.8**	**+0.3**
MSFE	**Esma-Masafi**	**65.27**	**286**	P	**P**	**21 06 21.7**	**+0.2**
A36M	**Sachs Harbour**	**65.31**	**19**	P	**P**	**21 06 21.5**	**+0.6**
	baz=293,SNR=80						
UOSS	**Minazif**	**65.40**	**285**	P	**P**	**21 06 21.9**	**-0.4**
UOSS				IAmb	IAmb	21 06 33.1	
	comp=Z,44nm,1.9s						
UOSS	**Minazif**	**65.40**	**285**	P	**P**	**21 06 22.7**	**+0.4**
UOSS				P	**P**	**21 06 22.7**	**+0.4**
UOSS	**Minazif**	**65.40**	**285**	P	**P**	**21 06 22.8**	**+0.4**
SOHO	**SOHO**	**65.45**	**284**	P	**P**	**21 06 22.8**	**+0.2**
SOHO				P	**P**	**21 06 22.8**	**+0.2**
SOHO	**SOHO**	**65.45**	**284**	*i* P	**P**	**21 06 22.7**	**+0.1**
	SNR=30						
BSY	**Bisya**	**65.46**	**283**	P	**P**	**21 06 22.8**	**0.0**
BSY				P	**P**	**21 06 22.8**	**0.0**
KBS	**Kingsbay**	**65.46**	**349**	P	**P**	**21 06 21.5**	**-0.3**
KBS	**Kingsbay**	**65.46**	**349**	P	**P**	**21 06 21.5**	**-0.3**
KBS				pmax	pmax		
	comp=Z,200nm,1.7s						
M31M	**Drury Creek, Y**	**65.46**	**31**	P	**P**	**21 06 22.8**	**+0.7**
	baz=289,SNR=11						
HATD	**Hatta, Dubai**	**65.51**	**285**	P	**P**	**21 06 23.3**	**+0.3**
MAK	**Makhachkala**	**65.52**	**307**	*e*P	**P**	**21 06 21.6**	**-1.2**
MAK				*e*S	**S**	**21 15 04.2**	**-0.5**
MAK				pmax	pmax		
	comp=Z,62nm,0.8s						
MAK				MLR	MLR		
	comp=Z,2μm,18.0s						
MHTO	**MHTO**	**65.54**	**281**	P	**P**	**21 06 23.0**	**-0.3**
	SNR=6.4						
MHTO				P	**P**	**21 06 23.0**	**-0.3**
	SNR=6.4						
ASHO	**Ashiyiah**	**65.62**	**285**	P	**P**	**21 06 24.0**	**+0.2**
	SNR=6.5						
ASHO	**Ashiyiah**	**65.62**	**285**	*i* P	**P**	**21 06 24.3**	**+0.5**
	SNR=11						
WHY	**Whitehorse**	**65.75**	**33**	P	**P**	**21 06 25.0**	**+0.9**
	baz=289,SNR=12						
ARQ	**Araqi**	**65.78**	**284**	P	**P**	**21 06 24.7**	**-0.1**
	SNR=5.3						
ARQ				P	**P**	**21 06 24.7**	**-0.1**
	SNR=5.3						
NAZ	**Nazwa, Dubai**	**65.83**	**286**	P	**P**	**21 06 24.7**	**-0.4**
FARO	**Faro, Yukon**	**65.91**	**31**	P	**P**	**21 06 25.9**	**+0.8**
	baz=290,SNR=25						
MSVF	**Nonsavu**	**65.93**	**130**	LR	LR	21 29 06.0	
	comp=Z,176nm,21.3s,baz=349,slow=30						
SKAG	**Skagway**	**65.94**	**34**	P	**P**	**21 06 26.3**	**+1.2**
	baz=290,SNR=6.2						
FAQ	**Al Faqa, Dubai**	**65.99**	**285**	P	**P**	**21 06 26.2**	**+0.1**
S31K	**Pelican**	**65.99**	**36**	P	**P**	**21 06 26.6**	**+1.0**
	baz=290						
ALNE	**Al Ain**	**66.14**	**285**	P	**P**	**21 06 27.2**	**+0.1**
	SNR=9.2						
ALNE				P	**P**	**21 06 27.2**	**+0.1**
	SNR=9.2						
ALNE	**Al Ain**	**66.14**	**285**	*i* P	**P**	**21 06 27.2**	**+0.1**
	SNR=22						
ASUD	**Al Ashush, Dub**	**66.25**	**285**	P	**P**	**21 06 28.1**	**+0.3**
ASUD				P	**P**	**21 06 28.1**	**+0.3**
ASUD	**Al Ashush, Dub**	**66.25**	**285**	P	**P**	**21 06 28.3**	**+0.5**
POHA	**Pohakuloa**	**66.26**	**80**	P	**P**	**21 06 28.5**	**+0.3**
N32M	**Quiet Lake**	**66.41**	**32**	IAmb	IAmb	21 06 38.4	
	comp=Z,17nm,1.1s						
N32M	**Quiet Lake**	**66.41**	**32**	P	**P**	**21 06 29.1**	**+0.8**
	baz=291						
VRH	**Novokhopyorsk**	**66.47**	**317**	*e*P	**P**	**21 06 24.9**	**-3.8**
VRH				pmax	pmax		
	comp=Z,30nm,0.9s						
BESE	**Bessie Mountai**	**66.47**	**35**	P	**P**	**21 06 29.0**	**+0.3**
AJN	**Ajban**	**66.56**	**286**	P	**P**	**21 06 30.1**	**+0.3**
AJN				P	**P**	**21 06 30.1**	**+0.3**
P32M	**Atlin**	**66.67**	**33**	P	**P**	**21 06 30.8**	**+0.8**
	baz=291						
MMPY	**Sheldon Lake,**	**66.68**	**30**	P	**P**	**21 06 30.7**	**+0.7**
MMPY				IAmb	IAmb	21 06 32.3	
	comp=Z,13nm,0.9s						
MMPY	**Sheldon Lake,**	**66.68**	**30**	P	**P**	**21 06 31.2**	**+1.2**
	baz=292,SNR=18						
C36M	**Paulatuk**	**66.74**	**22**	P	**P**	**21 06 30.4**	**+0.3**
	baz=295,SNR=72						
R32K	**Eaglecrest**	**66.74**	**35**	P	**P**	**21 06 31.3**	**+0.9**
	baz=291						
SIT	**Sitka**	**66.76**	**36**	P	**P**	**21 06 31.3**	**+0.9**
	baz=291						
NOR	**Nord**	**66.84**	**355**	*i* P	**P**	**21 06 29.0**	**-1.6**
NOR				IAmb	IAmb	21 06 31.9	
	comp=Z,2.1nm,0.5s						
P33M	**Teslin, Yukon**	**66.86**	**33**	P	**P**	**21 06 32.0**	**+0.8**
	baz=291,SNR=13						
ARA0	**ARCESS Array S**	**66.90**	**338**	*e*P	**P**	**21 06 31.6**	**+0.4**
ARCES	**ARCESS Array B**	**66.90**	**338**	P	**P**	**21 06 29.9**	**-1.4**
	comp=Z,4.9nm,0.6s,baz=63,slow=7.4,SNR=18						
ARCES				LR	LR	21 41 23.0	
	comp=Z,2μm,18.2s,baz=62,slow=41						
	comp=Z,4.9nm,0.6s						
S32K	**Killisnoo**	**67.00**	**36**	P	**P**	**21 06 32.8**	**+0.8**
	baz=291						
MOS	**Moscow**	**67.18**	**322**	*e*P	**P**	**21 06 30.9**	**-2.2**
MOS				pmax	pmax		
	comp=Z,99nm,0.8s						
MOS				MLR	MLR		
	comp=Z,1μm,17.0s						
UMZA	**Um Al Zommool**	**67.18**	**284**	P	**P**	**21 06 33.4**	**-0.4**
UMZA				P	**P**	**21 06 33.4**	**-0.4**
JOF	**Joensuu**	**67.49**	**331**	*e*P	**P**	**21 06 34.2**	**-0.7**
Q32M	**Nakina River**	**67.59**	**34**	P	**P**	**21 06 36.8**	**+0.9**
	baz=292						
LPSR	**Galich'ya Gora**	**67.59**	**319**	*e*P	**P**	**21 06 33.3**	**-2.5**
LPSR				pmax	pmax		
	comp=Z,60nm,0.9s						
EUNU	**Eureka**	**67.70**	**7**	P	**P**	**21 06 35.3**	**-0.8**
VORR	**Voronezh**	**67.77**	**318**	*e*P	**P**	**21 06 33.0**	**-4.0**
VORR				pmax	pmax		
	comp=Z,40nm,0.9s						
GOF	**Gofitskoye**	**67.80**	**310**	*ce*P	**P**	**21 06 37.3**	**0.0**
KTK1	**Kautokeino**	**67.86**	**338**	*e*P	**P**	**21 06 36.6**	**-0.7**
VSR	**Storozhevoye**	**67.96**	**317**	*e*P	**P**	**21 06 34.7**	**-3.5**
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
OBN	**Obninsk**	**67.97**	**322**	P	**P**	**21 06 36.7**	**-1.4**
OBN	**Obninsk**	**67.97**	**322**	LR	LR	21 38 55.4	
	comp=Z,1μm,19.1s,baz=44,slow=38						
OBN	**Obninsk**	**67.97**	**322**	*d i* P	**P**	**21 06 37.4**	**-0.7**
OBN				*e*		21 09 09.7	
OBN				*e*PPP	PPP	21 10 49.4	
OBN				pmax	pmax		
	comp=Z,90nm,1.4s						
OBN				MLR	MLR		
	comp=Z,1μm,18.0s						
OBN	**Obninsk**	**67.97**	**322**	P	**P**	**21 06 37.3**	**-0.8**
	comp=Z,63nm,1.3s						
VORD	**Divnogorie**	**67.98**	**317**	*e*P	**P**	**21 06 36.2**	**-2.1**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
R33M	**Jennings River**	**68.04**	**33**	P	**P**	**21 06 40.1**	**+1.3**
	baz=293,SNR=8.1						
U33K	**Whale Pass**	**68.24**	**37**	P	**P**	**21 06 40.9**	**+1.1**
	baz=293						
KBZ	**Khabaz**	**68.39**	**309**	P	**P**	**21 06 40.5**	**-0.5**
	comp=Z,51nm,0.8s,baz=70,slow=5.3,SNR=128						
KBZ				LR	LR	21 40 10.4	
	comp=Z,732nm,18.5s,baz=53,slow=39						
KBZ	**Khabaz**	**68.39**	**309**	*d i* P	**P**	**21 06 40.9**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,64nm,0.9s						
TGTN	**Hyland Airport**	**68.41**	**30**	P	**P**	**21 06 42.0**	**+1.1**
	baz=294,SNR=30						
KVAR	**Kislovodsk Arr**	**68.44**	**309**	LR	LR	21 40 25.5	
	comp=Z,556nm,18.3s,baz=236,slow=39						
KIV	**Kislovodsk**	**68.45**	**309**	P	**P**	**21 06 41.0**	**-0.5**
KIV	**Kislovodsk**	**68.45**	**309**	P	**P**	**21 06 42.0**	**+0.4**
KIV				P	**P**	**21 06 42.0**	**+0.4**
KIV	**Kislovodsk**	**68.45**	**309**	⇑P	**P**	**21 06 42.2**	**+0.6**
KIV	**Kislovodsk**	**68.45**	**309**	*e*P	**P**	**21 06 40.7**	**-0.8**
KIV				pmax	pmax		
	comp=Z,80nm,1.0s						
KIV				MLR	MLR		
	comp=Z,632nm,17.0s						
KIV	**Kislovodsk**	**68.45**	**309**	*i* P	**P**	**21 06 41.5**	**0.0**
	SNR=37						
KIV	**Kislovodsk**	**68.45**	**309**	P	**P**	**21 06 41.3**	**-0.2**
	comp=Z,836nmcomp=Z,82nm,1.1s						
GNI	**Garni**	**68.47**	**305**	P	**P**	**21 06 40.9**	**-0.9**
GNI	**Garni**	**68.47**	**305**	LR	LR	21 41 02.8	
	comp=Z,348nm,18.6s,baz=58,slow=40						
GNI	**Garni**	**68.47**	**305**	P	**P**	**21 06 42.7**	**+0.9**
GNI				P	**P**	**21 06 42.7**	**+0.9**
GNI	**Garni**	**68.47**	**305**	*ce*P	**P**	**21 06 42.0**	**+0.2**
GNI				pmax	pmax		
	comp=Z,52nm,1.1s						
GNI	**Garni**	**68.47**	**305**	P	**P**	**21 06 42.4**	**+0.7**
GNI	**Garni**	**68.47**	**305**	P	**P**	**21 06 41.4**	**-0.4**
	comp=Z,43nm,1.1s						
MZR	**Muzera**	**68.47**	**285**	P	**P**	**21 06 41.7**	**-0.1**
MZR				P	**P**	**21 06 41.7**	**-0.1**
MZR	**Muzera**	**68.47**	**285**	P	**P**	**21 06 41.6**	**-0.3**
JETT	**Jettan, Norway**	**68.48**	**339**	*e*P	**P**	**21 06 40.2**	**-1.0**
WRAK	**Wrangell Islan**	**68.52**	**36**	P	**P**	**21 06 43.2**	**+1.6**
	baz=293						
S34M	**Telegraph Cree**	**68.54**	**35**	P	**P**	**21 06 43.0**	**+1.2**
	baz=294,SNR=6.7						
SHA1	**Shidzhatmaz**	**68.55**	**309**	*d i* P	**P**	**21 06 42.3**	**0.0**
GHWR	**Ruwais**	**68.57**	**286**	P	**P**	**21 06 43.0**	**+0.6**
GHWR				P	**P**	**21 06 43.0**	**+0.6**
DLBC	**Dease Lake**	**68.87**	**34**	P	**P**	**21 06 44.5**	**+0.6**
DLBC	**Dease Lake**	**68.87**	**34**	P	**P**	**21 06 43.8**	**0.0**
	comp=Z,6.0nm,1.1s,baz=288,slow=7.0,SNR=10.0						
	comp=Z,6.0nm,1.1s						
DLBC	**Dease Lake**	**68.87**	**34**	P	**P**	**21 06 45.1**	**+1.2**
	baz=294,SNR=5.9						
TOO	**Toolangi**	**69.12**	**168**	P	**P**	**21 06 46.6**	**+1.2**
TOO				IAmb	IAmb	21 07 33.2	
	comp=Z,35nm,1.8s						
TOO	**Toolangi**	**69.12**	**168**	P	**P**	**21 06 46.6**	**+1.2**
TOO				pmax	pmax		
	comp=Z,35nm,1.8s						
ERBR	**Yeremizino-Bor**	**69.23**	**311**	*e*P	**P**	**21 06 43.8**	**-2.4**
ERBR				pmax	pmax		
	comp=Z,32nm,1.0s						
ERBR				MLR	MLR		
	comp=Z,1μm,18.0s						
V35K	**Ketchikan**	**69.34**	**37**	P	**P**	**21 06 47.8**	**+1.2**
	baz=294						
SHMA	**Al-Shehemyia**	**69.35**	**288**	P	**P**	**21 06 47.5**	**+0.3**
T35M	**Bob Quinn**	**69.36**	**35**	P	**P**	**21 06 48.1**	**+1.3**
	baz=294,SNR=7.9						
LABN	**Labinsk**	**69.49**	**310**	*e*P	**P**	**21 06 45.7**	**-2.1**
LABN				pmax	pmax		
	comp=Z,15nm,1.0s						
SLWR	**Sila**	**69.50**	**286**	P	**P**	**21 06 48.1**	**-0.1**
SLWR				P	**P**	**21 06 48.1**	**-0.1**
DMTO	**DMTO**	**69.52**	**279**	P	**P**	**21 06 48.4**	**0.0**
TRNA	**Turayna**	**69.62**	**287**	P	**P**	**21 06 48.2**	**-0.7**
SAKB	**Bahrain**	**69.65**	**289**	P	**P**	**21 06 49.0**	**-0.1**
WRGLY	**Wrigley**	**69.68**	**28**	IAmb	IAmb	21 06 50.5	
	comp=Z,28nm,1.0s						
WRGLY	**Wrigley**	**69.68**	**28**	P	**P**	**21 06 49.3**	**+0.7**
	baz=298						
DOK	**Doka**	**69.82**	**280**	P	**P**	**21 06 49.5**	**-0.7**
	SNR=5.8						
DOK				P	**P**	**21 06 49.5**	**-0.7**
	SNR=5.8						
U35K	**Hyder**	**69.92**	**36**	P	**P**	**21 06 51.0**	**+0.8**
	baz=295						
SMRA	**Abu-Samra**	**69.93**	**287**	P	**P**	**21 06 50.4**	**-0.5**
RBK	**Rabkut**	**70.25**	**279**	P	**P**	**21 06 52.7**	**-0.3**
	SNR=6.4						
RBK				P	**P**	**21 06 52.7**	**-0.3**
	SNR=6.4						
LIRD	**Liard River Hi**	**70.29**	**32**	P	**P**	**21 06 53.8**	**+1.3**
	baz=297,SNR=8.7						
FINES	**FINESS Array B**	**70.34**	**330**	P	**P**	**21 06 51.1**	**-1.6**
FINES	**FINESS Array B**	**70.34**	**330**	P	**P**	**21 06 51.2**	**-1.5**
	comp=Z,25nm,0.6s,baz=65,slow=5.9,SNR=142						
FINES				LR	LR	21 41 10.4	
	comp=Z,2μm,18.2s,baz=66,slow=39						
	comp=Z,25nm,0.6s						
FINES	**FINESS Array B**	**70.34**	**330**	P	**P**	**21 06 51.1**	**-1.6**
GEVA	**Gevas**	**70.39**	**303**	P	**P**	**21 06 53.1**	**-0.6**
VSLR	**Vesyoloye**	**70.41**	**309**	⇓*i*P	**P**	**21 06 53.1**	**-0.4**
VSLR				pmax	pmax		
	comp=Z,92nm,1.1s						
WHFO	**Wadi Hawf**	**70.43**	**280**	P	**P**	**21 06 53.2**	**-0.9**
	SNR=7.4						
WHFO				P	**P**	**21 06 53.2**	**-0.9**
	SNR=7.4						
KEF	**Keuruu**	**70.50**	**331**	*e*P	**P**	**21 06 53.0**	**-0.7**
SOC	**Sochi**	**70.58**	**310**	*e*P	**P**	**21 06 50.9**	**-3.6**
SOC				*e*		21 09 28.8	
SOC				*e*PPP	PPP	21 11 07.6	
SOC				*e*S	**S**	**21 16 02.0**	**-3.0**
SOC				*e*SS	**SS**	**21 20 32.1**	**-4.3**
SOC				pmax	pmax		
	comp=Z,46nm,0.7s						
SOC				MLR	MLR		
	comp=Z,580nm,19.0s						
KBD	**Kabd**	**70.61**	**293**	P	**P**	**21 06 54.7**	**-0.3**
RES	**Resolute Bay**	**70.81**	**12**	LR	LR	21 40 40.5	
	comp=Z,362nm,19.5s,baz=354,slow=38						
STEI	**Steigen**	**70.95**	**339**	*e*P	**P**	**21 06 55.2**	**-1.1**
TOAD	**Toad River Com**	**70.95**	**32**	P	**P**	**21 06 56.7**	**+0.2**
	baz=298,SNR=12						
**VAF

comp=E,1µm,16.0s
IDID Didziasalis 72.96 325 *eP* **P 21 07 06.8 -1.8**
ISAL Salakas 73.14 325 *eP* **P 21 07 10.0 +0.3**
IIGN Ignalina 73.20 325 *eP* **P 21 07 09.0 -1.0**
YKA Yellowknife Ar 73.53 26 P **P 21 07 11.4 -0.4**
YKA Yellowknife Ar 73.53 26 P **P 21 07 11.8 0.0**
comp=E,9.8nm,0.8s,baz=304,slow=5.6,SNR=134
YKA LR LR 21 42 12.7
comp=E,136nm,18.8s,baz=303,slow=38
comp=E,9.8nm,0.8s
YKA Yellowknife Ar 73.53 26 *i* P **P 21 07 12.3 +0.5**
YKA pmax pmax
comp=Z,10.0nm,0.8s
SIM Simferopol' 73.63 313 *eP* **P 21 07 12.0 -0.7**
SIM *e* 21 07 27.0
SIM pmax pmax
comp=Z,57nm,1.3s
SIM MLR MLR
comp=Z,900nm,19.9s
AK03 Malin Array Si 73.86 320 P **P 21 07 12.8 -1.2**
AKASG Malin Array Be 73.87 320 P **P 21 07 12.8 -1.3**
comp=Z,7.5nm,0.5s,baz=56,slow=6.3,SNR=77
AKASG LR LR 21 42 46.5
comp=Z,1µm,18.8s,baz=56,slow=38
comp=Z,7.5nm,0.5s
AKASG Malin Array Be 73.87 320 *i* P **P 21 07 13.1 -1.0**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKBB Malin Array Si 73.87 320 *d i* P **P 21 07 13.1 -1.0**
AKBB pmax pmax
comp=Z,39nm,1.0s
AKBB Malin Array Si 73.87 320 P **P 21 07 13.0 -1.0**
AK09 Malin Array Si 73.88 320 P **P 21 07 13.1 -1.0**
AK01 Malin Array Si 73.89 320 P **P 21 07 13.1 -1.0**
KIEV Kiev 73.89 320 P **P 21 07 12.9 -1.2**
KIEV IAmb IAmb 21 07 13.8
comp=Z,29nm,1.0s
KIEV Kiev 73.89 320 ⇑P **P 21 07 13.2 -0.9**
KIEV Kiev 73.89 320 P **P 21 07 12.9 -1.2**
KIEV pmax pmax
comp=Z,29nm,1.0s
KIEV Kiev 73.89 320 *i* P **P 21 07 13.0 -1.2**
SNR=13
KIEV Kiev 73.89 320 P **P 21 07 13.0 -1.2**
comp=Z,138nm,1.1s
AK08 Malin Array Si 73.89 320 P **P 21 07 13.0 -1.1**
AK04 Malin Array Si 73.90 320 P **P 21 07 13.0 -1.2**
AK23 Malin Array Si 73.90 320 P **P 21 07 13.1 -1.1**
TOKA Tokat 74.15 308 IAmb IAmb 21 07 17.3
comp=Z,25nm,0.9s
PABE Paberze 74.23 326 P **P 21 07 15.5 -0.5**
PABE Paberze 74.23 326 *eP* **P 21 07 15.4 -0.6**
DIKM Dikmen 74.38 309 P **P 21 07 16.9 -0.3**
comp=Z,22nm,0.9s
MI28 Mi28,Pidlybu 74.62 320 P **P 21 07 17.6 -0.8**
JMIC Jan Mayen 74.76 347 LR LR 21 42 49.7
comp=Z,319nm,19.6s,baz=272,slow=38
RAYN Ar Rayn 74.83 289 P **P 21 07 19.0 -1.2**
RAYN IAmb IAmb 21 07 20.9
comp=Z,27nm,0.9s
RAYN Ar Rayn 74.83 289 P **P 21 07 19.9 -0.3**
RAYN Ar Rayn 74.83 289 P **P 21 07 19.0 -1.2**
RAYN pmax pmax
comp=Z,27nm,1.0s
RAYN Ar Rayn 74.83 289 *i* P **P 21 07 19.7 -0.5**
SNR=36
KULLO Kullorsuaq 74.97 2 *i* P **P 21 07 17.8 -2.2**
KULLO IAmb IAmb 21 07 19.9
comp=Z,18nm,1.0s
GAZ Gaziantep 75.06 304 P **P 21 07 20.8 -0.6**
GAZ IAmb IAmb 21 07 22.5
comp=Z,26nm,0.9s
LUBAR Lubar, Ukraine 75.08 319 P **P 21 07 20.3 -0.8**
BNN Bunyan 75.25 306 P **P 21 07 21.6 -0.9**
RNPP9 Sopachiv 75.35 321 P **P 21 07 22.0 -0.6**
SUW Suwalki 75.41 325 *eP* **P 21 07 22.4 -0.4**
SUW Suwalki 75.41 325 P **P 21 07 21.8 -1.0**
SUW Suwalki 75.41 325 P **P 21 07 21.8 -1.0**
SUW pmax pmax
comp=Z,62nm,1.0s
SUW Suwalki 75.41 325 *eP* **P 21 07 23.6 +0.7**
RNPP8 Varash 75.41 321 P **P 21 07 22.3 -0.6**
RNPP5 Staryi Chortor 75.45 321 P **P 21 07 22.6 -0.6**
SORM Soroca 75.62 318 ⇓P **P 21 07 23.3 -0.9**
SORM Soroca 75.62 318 P **P 21 07 23.3 -0.9**
SORM Soroca 75.62 318 P **P 21 07 22.8 -1.4**
comp=Z,13nm,1.8s
KIS Kishinev 75.91 316 *eP* **P 21 07 22.0 -3.9**
KIS *eL* L 21 43 01.0
KIS LRM MLR 21 43 46.0
comp=Z,500nm,18.5s
KIS Kishinev 75.91 316 *eP* **P 21 07 22.0 -3.9**
KIS MLR MLR
comp=Z,500nm,18.5s
MILM Milestii Mici 75.95 316 *eP* **P 21 07 24.0 -2.1**
MILM *eL* L 21 42 53.0
MILM LRM MLR 21 43 49.0
comp=Z,2µm,17.5s
MILM Milestii Mici 75.95 316 *eP* **P 21 07 24.0 -2.1**
MILM MLR MLR
comp=Z,2µm,17.5s
NDNU Novodnistrovsk 75.96 318 P **P 21 07 26.0 -0.2**
HFS Hagfors 76.14 333 P **P 21 07 25.8 -1.2**
comp=Z,5.3nm,0.5s,baz=72,slow=4.7,SNR=48
HFS LR LR 21 43 49.7
comp=Z,580nm,18.2s,baz=34,slow=38
comp=Z,5.3nm,0.5s
HORU Horodok 76.18 319 P **P 21 07 27.1 -0.3**
NC405 NORSAR Array S 76.29 334 P **P 21 07 26.5 -1.3**
BR131 Keskin Array S 76.36 308 P **P 21 07 28.2 -0.6**
BR131 IAmb IAmb 21 07 29.9
comp=Z,34nm,1.0s
BR131 Keskin Array S 76.36 308 *d i* P **P 21 07 28.4 -0.4**
BRTR Keskin Array B 76.36 308 P **P 21 07 28.1 -0.7**
comp=Z,19nm,0.9s,baz=90,slow=3.1,SNR=74
BRTR LR LR 21 45 47.4
comp=Z,322nm,20.8s,baz=82,slow=40
comp=Z,19nm,0.9s
BRTR Keskin Array B 76.36 308 *i* P **P 21 07 28.7 -0.1**
BRTR pmax pmax
comp=Z,19nm,0.9s
BR104 Keskin Array S 76.37 308 P **P 21 07 28.4 -0.4**
comp=Z,210nmcomp=Z,27nm,1.0s
BR106 Keskin Array S 76.37 308 P **P 21 07 28.4 -0.5**
comp=Z,199nmcomp=Z,26nm,1.0s
BR105 Keskin Array S 76.38 308 P **P 21 07 28.5 -0.4**
comp=Z,233nmcomp=Z,30nm,1.0s
KIRS Kirsehir-Merke 76.45 307 ⇑P **P 21 07 29.4 +0.2**
KMPD K-Podol'skiy 76.50 319 P **P 21 07 28.1 -1.1**
NB2 NORSAR Subarra 76.53 334 P **P 21 07 28.0 -1.2**
comp=Z,2.3nm,0.5s,baz=47,slow=5.6
NB2 NORSAR Subarra 76.53 334 P **P 21 07 28.0 -1.2**
baz=47,slow=5.6
NOA NORSAR Array B 76.53 334 P **P 21 07 27.8 -1.4**
comp=Z,3.7nm,0.6s,baz=50,slow=5.6,SNR=20
NOA LR LR 21 45 59.2
comp=Z,470nm,18.3s,baz=30,slow=40
comp=Z,3.7nm,0.6s
NC602 NORSAR Array S 76.60 334 *eP* **P 21 07 28.5 -1.0**
DOMB Dombas 76.66 336 *eP* **P 21 07 28.8 -1.1**
LLLB Lillooet 76.75 39 P **P 21 07 30.6 -0.1**
UPNV Upernavik 76.80 2 *i* P **P 21 07 28.0 -2.5**
UPNV IAmb IAmb 21 07 30.5
comp=Z,27nm,1.1s
ANTO Ankara 76.86 309 P **P 21 07 30.8 -0.8**
ANTO IAmb IAmb 21 07 32.8
comp=Z,19nm,0.9s
ANTO Ankara 76.86 309 P **P 21 07 31.8 +0.3**
ANTO Ankara 76.86 309 ⇓P **P 21 07 32.5 +0.9**
ANTO Ankara 76.86 309 P **P 21 07 30.8 -0.8**
ANTO pmax pmax
comp=Z,19nm,0.9s
ANTO Ankara 76.86 309 P **P 21 07 31.1 -0.5**
comp=Z,14nm,1.2s
SUMG Summit 76.87 357 P **P 21 07 30.4 -1.0**
SUMG IAmb IAmb 21 07 34.0
comp=Z,27nm,0.9s
SUMG Summit 76.87 357 P **P 21 07 30.4 -1.0**
SUMG pmax pmax
comp=Z,27nm,0.9s
SUMG Summit 76.87 357 *i* P **P 21 07 30.0 -1.4**
SUMG IAmb IAmb 21 07 33.8
comp=Z,31nm,1.0s
VLDR Vladesti 76.93 316 ⇑P **P 21 07 31.9 +0.2**
SCTR Scanteiesti 77.07 316 ⇑P **P 21 07 32.9 +0.4**

TPGR Topolog 77.22 315 ⇑P **P 21 07 33.1 -0.4**
CFR Carcaliu 77.23 315 ⇓P **P 21 07 32.9 -0.5**
CFR Carcaliu 77.23 315 P **P 21 07 32.9 -0.5**
SCO Scoresbysund 77.39 351 P **P 21 07 33.5 -0.2**
SCO IAmb IAmb 21 07 36.9
comp=Z,57nm,1.8s
SCO Scoresbysund 77.39 351 P **P 21 07 33.6 -0.2**
SCO pmax pmax
comp=Z,57nm,1.8s
SCO Scoresbysund 77.39 351 *i* P **P 21 07 32.6 -1.2**
SCO IAmb IAmb 21 07 36.6
comp=Z,27nm,1.4s
KSV Kosov 77.42 319 P **P 21 07 33.9 -0.5**
TIRR Tirgusor 77.43 314 ⇓P **P 21 07 34.2 -0.3**
TIRR Tirgusor 77.43 314 P **P 21 07 34.2 -0.3**
TESR Tescani 77.44 317 ⇑P **P 21 07 34.0 -0.7**
TESR Tescani 77.44 317 P **P 21 07 33.9 -0.7**
PANC Panciu 77.48 316 ⇑P **P 21 07 35.6 +0.8**
STNU Starunia 77.53 319 P **P 21 07 34.5 -0.5**
ODBI Odobesti 77.59 316 ⇑P **P 21 07 35.9 +0.5**
ASF Jabal al Asfar 77.61 300 LR LR 21 48 12.4
comp=Z,305nm,18.1s,baz=141,slow=41
HARR Harsova 77.61 315 ⇓P **P 21 07 36.1 +0.5**
HARR Harsova 77.61 315 P **P 21 07 36.0 +0.5**
ONER Baraj Valea Uz 77.69 317 ⇓P **P 21 07 35.4 -0.6**
BUR08 Bucovina Ar. S 77.69 318 P **P 21 07 35.1 -1.0**
BURAR Bucovina Array 77.70 318 P **P 21 07 35.2 -0.9**
BURAR Bucovina Array 77.70 318 ⇑P **P 21 07 35.0 -1.2**
BURAR Bucovina Array 77.70 318 P **P 21 07 34.9 -1.2**
VRI Vrincioaia 77.73 316 ⇑P **P 21 07 37.1 +0.8**
VRI Vrincioaia 77.73 316 P **P 21 07 37.0 +0.8**
VRI Vrincioaia 77.73 316 P **P 21 07 36.1 -0.1**
comp=Z,15nm,1.7s
PLOR5 Plostina Array 77.78 316 P **P 21 07 36.4 -0.1**
comp=Z,15nm,0.8s
SKAR Skarslia 77.84 335 *eP* **P 21 07 37.2 +0.6**
ICOR Ion Corvin 77.98 314 ⇑P **P 21 07 38.3 +0.7**
COVR Voineasa-Covas 78.05 316 ⇓P **P 21 07 38.6 +0.6**
RAKU Rahkiv 78.08 319 P **P 21 07 37.5 -0.6**
OZUR 78.17 317 ⇓P **P 21 07 38.7 -0.1**
MEZ Mezhgor'ye 78.18 320 P **P 21 07 38.8 +0.1**
ISR Istrita 78.23 316 P **P 21 07 38.9 -0.2**
MMAI Mount Meron Ar 78.31 301 P **P 21 07 39.3 -0.5**
comp=Z,10nm,1.0s,baz=64,slow=3.4,SNR=9.2
MMAI LR LR 21 48 17.7
comp=Z,289nm,18.1s,baz=50,slow=40
comp=Z,10nm,1.0s
MLR Muntele Rosu 78.39 316 LR LR 21 45 46.8
comp=Z,1µm,20.1s,baz=52,slow=38
MLR Muntele Rosu 78.39 316 ⇓P **P 21 07 40.9 +0.8**
MLR Muntele Rosu 78.39 316 P **P 21 07 40.8 +0.8**
MLR Muntele Rosu 78.39 316 P **P 21 07 39.8 -0.3**
comp=Z,11nm,1.7s
DOPR Dopca 78.47 317 ⇑P **P 21 07 41.1 +0.8**
BRIU Brid 78.56 320 P **P 21 07 40.6 -0.1**
KOLS Kolonicke sedl 78.64 320 *eP* **P 21 07 40.7 -0.5**
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 78.64 320 *eP* **P 21 07 40.7 -0.5**
MUKU Mukachevo 78.68 320 P **P 21 07 41.3 -0.1**
BSD Bornholm Skovb 78.72 328 *i* P **P 21 07 37.7 -3.8**
BSD IAmb IAmb 21 07 43.9
comp=Z,19nm,0.6s
HOLU Holmets 78.81 320 P **P 21 07 42.0 -0.1**
BERU Beregovo 78.82 320 P **P 21 07 42.2 0.0**
STHS Stebnicka Huta 78.93 321 *eP* **P 21 07 43.8 +1.0**
STHS pmax pmax
comp=Z,10.0nm,1.1s
STHS Stebnicka Huta 78.93 321 *eP* **P 21 07 43.8 +1.0**
VOIR 78.96 316 P **P 21 07 43.0 -0.1**
LTY Liberty 79.23 41 IAmb IAmb 21 08 28.2
comp=Z,29nm,1.9s
ARR Arges 79.24 317 ⇑P **P 21 07 44.7 +0.1**
OJC Ojcow 79.24 322 IAmb IAmb 21 07 46.0
comp=Z,29nm,0.8s
OJC Ojcow 79.24 322 P **P 21 07 44.5 0.0**
comp=Z,46nm,0.9s
MARR Marisel-Cluj 79.41 318 ⇑P **P 21 07 44.9 -0.7**
NIE Niedzica 79.44 322 P **P 21 07 45.5 -0.1**
comp=Z,12nm,1.1s
DRGR 79.58 318 ⇑P **P 21 07 46.1 -0.4**
DRGR 79.58 318 P **P 21 07 46.1 -0.4**
LANS Liptovska Anna 80.04 322 *eP* **P 21 07 50.2 +1.3**
LANS pmax pmax
comp=Z,7.0nm,1.4s
LANS Liptovska Anna 80.04 322 *eP* **P 21 07 50.2 +1.3**
EIL Elat 80.28 299 LR LR 21 49 17.5
comp=Z,335nm,19.6s,baz=70,slow=40
GZR Gura Zlata 80.32 317 ⇑P **P 21 07 50.9 +0.4**
GZR Gura Zlata 80.32 317 P **P 21 07 50.8 +0.4**
D08A Wollman Farm, 80.33 41 IAmb IAmb 21 08 11.5
comp=Z,51nm,2.0s
ICESG Greenland Ices 80.40 357 *i* P **P 21 07 49.2 -1.6**
ICESG IAmb IAmb 21 07 51.4
comp=Z,26nm,1.1s
STEB Steborice 80.47 323 *eP* **P 21 07 51.2 +0.1**
SURR Surduc 80.50 318 ⇓P **P 21 07 50.8 -0.6**
PSZ Piszkesteto 80.52 321 P **P 21 07 51.8 +0.3**
PSZ IAmb IAmb 21 07 53.4
comp=Z,22nm,1.3s
PSZ Piszkesteto 80.52 321 ⇓P **P 21 07 50.7 -0.8**
PSZ Piszkesteto 80.52 321 P **P 21 07 50.7 -0.8**
PSZ Piszkesteto 80.52 321 *eP* **P 21 07 51.9 +0.4**
NEW Newport 80.63 39 P **P 21 07 52.3 +0.2**
NEW Newport 80.63 39 P **P 21 07 52.3 +0.2**
NEW pmax pmax
comp=Z,9.0nm,1.1s
KSP Ksiaz 80.68 324 P **P 21 07 52.2 0.0**
comp=Z,21nm,0.9s
MORC Moravsky Berou 80.68 323 P **P 21 07 51.7 -0.6**
MORC Moravsky Berou 80.68 323 *eP* **P 21 07 52.1 -0.2**
MORC Moravsky Berou 80.68 323 ⇓P **P 21 07 52.0 -0.2**
MORC Moravsky Berou 80.68 323 P **P 21 07 51.7 -0.6**
MORC pmax pmax
comp=Z,12nm,1.0s
HERR Herculane 80.82 317 ⇓P **P 21 07 53.0 -0.1**
URZ Urewera 80.83 145 LR LR 21 43 04.0
comp=Z,207nm,18.3s,baz=42,slow=35
RUE Ruedersdorf 80.89 327 *eP* **P 21 07 53.9 +0.6**
KRLC Kraliky 80.89 324 *eP* **P 21 07 54.0 +0.6**
KRLC Kraliky 80.89 324 *eP* **P 21 07 54.0 +0.6**
CHVC Chvalec 80.95 324 *eP* **P 21 07 53.8 +0.1**
CHVC Chvalec 80.95 324 *eP* **P 21 07 53.8 +0.1**
DPC Dobruska-Polom 80.96 324 *eP* **P 21 07 54.1 +0.3**
DPC Dobruska-Polom 80.96 324 *eP* **P 21 07 54.1 +0.3**
DPC Dobruska-Polom 80.96 324 P **P 21 07 53.8 0.0**
comp=Z,8.0nm,1.3s
PINE Pine Mountain 81.00 44 P **P 21 07 54.6 +0.3**
PINE IAmb IAmb 21 08 18.9
comp=Z,20nm,1.2s
RTZ Ruatahuna 81.04 145 P **P 21 07 54.4 +0.2**
RTZ IAmb IAmb 21 07 55.6
comp=Z,26nm,0.9s
JAVC Velka Javorina 81.17 322 *eP* **P 21 07 56.1 +1.2**
BKZ Black Stump Fm 81.23 146 P **P 21 07 55.2 +0.1**
BKZ IAmb IAmb 21 07 57.4
comp=Z,24nm,1.1s
VRAC Vranov 81.46 323 LR LR 21 47 31.4
comp=Z,841nm,19.6s,baz=58,slow=38
VRAC Vranov 81.46 323 *eP* **P 21 07 56.9 +0.5**
VRAC Vranov 81.46 323 ⇑P **P 21 07 56.8 +0.3**
VRAC Vranov 81.46 323 P **P 21 07 56.7 +0.3**
SMOL Smolenice 81.50 322 *eP* **P 21 07 58.2 +1.6**
SMOL pmax pmax
comp=Z,18nm,1.6s
MODS Modra-Piesok 81.67 322 *eP* **P 21 07 59.0 +1.5**
MODS pmax pmax
comp=Z,44nm,1.2s
MODS Modra-Piesok 81.67 322 *eP* **P 21 07 59.0 +1.5**
KRUC Moravsky 81.71 323 *eP* **P 21 07 58.0 +0.3**
PVCC Panska Ves 81.73 325 *eP* **P 21 07 58.8 +1.0**
PVCC AMS AMS 21 48 40.0
comp=Z,2µm,17.2s
PVCC Panska Ves 81.73 325 *eP* **P 21 07 58.8 +1.0**
PVCC MLR MLR
comp=Z,2µm,17.2s
BRG Berggiesshubel 81.83 325 *i* P **P 21 07 58.6 +0.3**
BRG Amp 21 07 59.4
comp=Z,6.3nm,0.9s
BRG Berggiesshubel 81.83 325 P P 21 08 05.5 +7.2
BRG Amp 21 08 05.8
comp=Z,4.4nm,0.9s
RICC Richard 81.96 325 AMS AMS 21 48 40.0

comp=Z,2µm,18.2s
CLL Collm 82.01 326 IAmb IAmb 21 08 00.5
comp=Z,21nm,0.7s
CLL Collm 82.01 326 *i* P **P 21 07 58.6 -0.6**
CLL *i* *PP **pP 21 08 10.2 -1.9**
CLL pmax pmax
comp=Z,25nm,0.9s
CLL Collm 82.01 326 P **P 21 07 59.2 0.0**
comp=Z,32nm,0.9s
PRU Pruhonice 82.09 324 *eP* **P 21 08 00.2 +0.5**
PRU AMS AMS 21 48 50.0
comp=Z,2µm,17.8s
PRU Pruhonice 82.09 324 *eP* **P 21 08 00.2 +0.5**
PRU MLR MLR
comp=Z,2µm,17.8s
PRA Prague 82.09 324 AMS AMS 21 49 00.0
comp=Z,2µm,18.7s
MORH Mrgy, Hungar 82.21 320 ⇑P **P 21 07 59.2 -1.2**
MORH Mrgy, Hungar 82.21 320 P **P 21 08 00.3 -0.1**
comp=Z,6.1nm,1.0s
HSKC Hora Svate Kat 82.25 325 *eP* **P 21 08 01.3 +0.8**
HSKC AMS AMS 21 48 50.0
comp=Z,2µm,16.5s
MPLH Magyarpolny 82.25 321 P **P 21 08 00.4 -0.2**
comp=Z,37nm,1.2s
RPZ Rata Peaks 82.48 152 LR LR 21 41 03.5
comp=Z,144nm,21.8s,baz=341,slow=33
BORG Borgarnes 82.57 348 LR LR 21 47 11.8
comp=Z,196nm,18.1s,baz=23,slow=38
RONA Rosalia, Austr 82.60 322 *eP* **P 21 08 03.5 +1.0**
comp=Z,11nm,1.2s
CONA Conrad Observa 82.69 322 *eP* **P 21 08 03.6 +0.6**
comp=Z,17nm,1.0s,SNR=7.2
SFJD Kangerlussuaq 82.73 1 LR LR 21 47 00.5
comp=Z,402nm,20.1s,baz=342,slow=37
SFJD Kangerlussuaq 82.73 1 *i* P **P 21 08 00.4 -2.3**
SFJD IAmb IAmb 21 08 02.4
comp=Z,27nm,0.9s
CKRC Cesky Krumlov 82.94 324 *eP* **P 21 08 04.6 +0.4**
CKRC Cesky Krumlov 82.94 324 *eP* **P 21 08 04.6 +0.4**
NKC Novy Kostel 82.97 325 *eP* **P 21 08 05.4 +1.1**
NKC AMS AMS 21 49 10.0
comp=Z,2µm,16.8s
NKC Novy Kostel 82.97 325 *eP* **P 21 08 05.4 +1.1**
NKC MLR MLR
comp=Z,2µm,16.8s
KHC Kasperske Hory 83.11 324 *eP* **P 21 08 05.7 +0.6**
KHC AMS AMS 21 48 00.0
comp=Z,2µm,20.2s
KHC Kasperske Hory 83.11 324 *ceP* **P 21 08 05.5 +0.4**
KHC pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 83.11 324 P **P 21 08 04.9 -0.2**
comp=Z,8.6nm,2.2s
PLID Pearl Lake 83.14 41 P **P 21 08 05.1 -0.4**
GEC2 GERESS Array S 83.23 324 P **P 21 08 05.7 -0.1**
GERES GERESS Array B 83.23 324 P **P 21 08 05.1 -0.7**
GERES GERESS Array B 83.23 324 P **P 21 08 04.8 -1.1**
comp=Z,2.7nm,0.8s,baz=46,slow=5.8,SNR=21
GERES LR LR 21 48 30.4
comp=Z,1µm,18.8s,baz=4.0,slow=38
comp=Z,2.7nm,0.8s
ARSA Arzberg 83.29 322 *eP* **P 21 08 06.3 +0.3**
comp=Z,6.1nm,0.9s
ARSA Arzberg 83.29 322 P **P 21 08 05.9 -0.1**
ARSA IAmb IAmb 21 08 16.5
comp=Z,38nm,2.0s
MOA Molln 83.58 323 *eP* **P 21 08 07.6 +0.1**
comp=Z,10nm,1.1s
FFC Flin Flon 83.58 28 P **P 21 08 07.1 -0.3**
FFC IAmb IAmb 21 08 08.4
comp=Z,21nm,1.0s
FFC Flin Flon 83.58 28 P **P 21 08 07.1 -0.3**
FFC pmax pmax
comp=Z,21nm,1.0s
SOKA Soboth 83.91 322 *eP* **P 21 08 08.9 -0.4**
comp=Z,32nm,1.3s,SNR=7.3
GRFO Grafenberg 83.92 326 P **P 21 08 08.7 -0.5**
GRFO Grafenberg 83.92 326 P **P 21 08 08.7 -0.5**
GRFO pmax pmax
comp=Z,42nm,1.1s
RAR Rarotonga 83.99 119 LR LR 21 44 46.0
comp=Z,112nm,18.6s,baz=294,slow=35
BIOA Bad Ischl, Aus 84.00 323 *eP* **P 21 08 10.1 +0.4**
comp=Z,21nm,1.5s,SNR=7.3
MPK Martis Peak 84.10 48 IAmb IAmb 21 08 21.3
comp=Z,18nm,1.2s
MFID Camas Ranch 84.24 42 IAmb IAmb 21 08 13.3
comp=Z,25nm,1.4s
OBKA Obir 84.27 322 *eP* **P 21 08 11.9 +0.8**
comp=Z,9.6nm,1.0s
KBA Koelnbreinsper 84.55 323 *eP* **P 21 08 12.5 -0.2**
comp=Z,12nm,1.0s,SNR=6.7
IDI Anoyia 84.60 308 LR LR 21 51 32.1
comp=Z,449nm,19.9s,baz=72,slow=40
LESA Schwarzleotal 84.67 323 *eP* **P 21 08 12.6 -0.5**
comp=Z,24nm,1.1s,SNR=13
MYKA Terra Mystica 84.68 322 *eP* **P 21 08 12.2 -0.9**
comp=Z,9.8nm,0.7s
FRB Frobisher Bay 84.72 9 LR LR 21 46 56.7
comp=Z,822nm,21.5s,baz=329,slow=36
DLMT Dillon 84.86 39 IAmb IAmb 21 08 16.3
comp=Z,22nm,1.1s
ABTA Abfaltersbach 85.20 323 *eP* **P 21 08 14.8 -1.0**
comp=Z,26nm,1.5s,SNR=7.6
WATA Walderalm 85.30 324 *eP* **P 21 08 16.1 -0.3**
comp=Z,13nm,1.4s
WTTA Wattenberg 85.31 323 *eP* **P 21 08 15.9 -0.6**
comp=Z,9.9nm,1.2s
CIMO Cimolais 85.52 322 IAmb IAmb 21 08 20.9
comp=Z,11nm,0.9s
STU Stuttgart 85.53 326 *eP* **P 21 08 17.3 0.0**
MOTA Moosalm 85.53 324 *eP* **P 21 08 17.6 0.0**
comp=Z,6.4nm,1.0s
SQTA Sankt Quirin 85.56 324 *eP* **P 21 08 17.7 +0.1**
comp=Z,8.4nm,1.2s
RETA Reutte 85.61 324 *ePcP* **P 21 08 18.4 +0.6**
comp=Z,13nm,1.2s
NVAR Mina Array Bea 85.70 48 P **P 21 08 18.8 +0.1**
NVAR Mina Array Bea 85.70 48 P **P 21 08 19.4 +0.8**
comp=Z,5.1nm,0.8s,baz=284,slow=5.0,SNR=27
NVAR LR LR 21 43 18.5
comp=Z,100nm,21.7s,baz=262,slow=33
comp=Z,5.1nm,0.8s
BTNL Ternell 85.71 328 *dP* **P 21 08 17.4 -0.8**
comp=Z,6.3nm,1.0s
MEM Membach 85.75 328 *dP* **P 21 08 16.8 -1.5**
comp=Z,8.2nm,1.0s
NV11 Mina Array Sit 85.79 47 P **P 21 08 19.3 +0.3**
EKA Eskdalemuir Ar 85.90 336 P **P 21 08 17.2 -1.8**
comp=Z,1.4nm,0.4s,baz=50,slow=3.8,SNR=20
comp=Z,1.4nm,0.4s
BHOU Houvegnez 85.93 328 *dP* **P 21 08 20.0 +0.7**
comp=Z,7.5nm,1.1s
FETA Feichten 85.94 324 *eP* **P 21 08 19.8 +0.2**
comp=Z,6.8nm,1.1s
YHL Hebgen Lake 85.96 39 P **P 21 08 20.7 +0.8**
YHL IAmb IAmb 21 08 22.3
comp=Z,14nm,1.2s
BSTI Sart Tilman 85.96 329 *dP* **P 21 08 19.1 -0.3**
CTI Castel Tesino 86.11 323 IAmb IAmb 21 08 21.1
comp=Z,13nm,1.0s
DAVA Damuels 86.19 324 *eP* **P 21 08 20.8 0.0**
comp=Z,6.0nm,0.5s
BCLA Clavier 86.20 329 *dP* **P 21 08 20.6 +0.1**
comp=Z,5.6nm,1.4s
BFO Black Forest 86.25 326 P **P 21 08 20.3 -0.6**
BFO IAmb IAmb 21 08 22.4
comp=Z,24nm,1.1s
BFO Black Forest 86.25 326 P **P 21 08 20.3 -0.6**
BFO pmax pmax
comp=Z,24nm,1.1s
BGES Gesves 86.32 329 *dP* **P 21 08 20.8 -0.3**
comp=Z,5.0nm,1.4s
WLF Walferdange 86.35 328 P **P 21 08 20.8 -0.5**
WLF Walferdange 86.35 328 *dP* **P 21 08 21.0 -0.3**
comp=Z,15nm,1.1s
WLF Walferdange 86.35 328 P **P 21 08 20.8 -0.5**
WLF pmax pmax
comp=Z,29nm,1.1s
RCHB Rochefort 86.42 329 *dP* **P 21 08 21.3 -0.3**
comp=Z,7.7nm,1.0s
FUORN Ofenpass-Fuorn 86.45 324 P **P 21 08 21.7 -0.5**
FUORN IAmb IAmb 21 08 24.0
comp=Z,20nm,1.2s
BMRD Maredsous 86.52 329 *dP* **P 21 08 22.1 -0.1**
comp=Z,8.4nm,1.0s

DAVOX Davos/Dischmat 86.53 324 LR LR 21 52 28.3
comp=Z,1μm,18.1s,baz=42,slow=40
H17A Grant Village 86.59 39 P **P** **21 08 24.5 +1.5**
H17A IAmb IAmb 21 08 28.6
comp=Z,14nm,1.0s
DOU Dourbes 86.75 329 *d*P **P** **21 08 22.2 -1.0**
comp=Z,3.9nm,1.2s
RLMT Red Lodge 86.81 38 IAmb IAmb 21 08 26.2
comp=Z,28nm,1.5s
ECH Echery 86.89 326 IAmb IAmb 21 08 25.4
comp=Z,14nm,1.1s
MOOW Moose Ponds 86.91 40 P **P** **21 08 25.1 +0.6**
MOOW IAmb IAmb 21 08 44.7
comp=Z,24nm,1.9s
TUE Stuetta 87.01 324 IAmb IAmb 21 08 27.1
comp=Z,13nm,1.2s
TUE Stuetta 87.01 324 P **P** **21 08 24.6 -0.3**
comp=Z,38nm,1.6s
DGMT Dagmar 87.08 33 P **P** **21 08 25.3 +0.3**
NRCA Norcia 87.41 319 IAmb IAmb 21 08 49.5
comp=Z,15nm,1.0s
DUG Dugway, Tooele 88.00 44 IAmb IAmb 21 08 32.0
comp=Z,7.6nm,1.0s
GWY Greenwater Val 88.08 49 IAmb IAmb 21 09 10.4
comp=Z,22nm,1.9s
PD31 Pinedale Array 88.21 40 IAmb IAmb 21 08 32.2
comp=Z,8.7nm,1.1s
PDAR Pinedale Array 88.21 40 P **P** **21 08 30.3 -0.5**
PDAR Pinedale Array 88.21 40 P **P** **21 08 30.9 +0.1**
comp=Z,4.2nm,0.9s,baz=309,slow=1.9,SNR=29
PDAR LR LR 21 47 52.7
comp=Z,43nm,20.3s,baz=332,slow=36
comp=Z,4.2nm,0.9s
TCUT Toone Canyon 88.24 42 P **P** **21 08 31.0 +0.1**
TCUT IAmb IAmb 21 08 34.3
comp=Z,16nm,1.2s
ULM Lac du Bonnet 89.41 28 P **P** **21 08 35.8 -0.2**
comp=Z,17nm,0.8s,baz=322,slow=5.2,SNR=24
ULM LR LR 21 53 06.0
comp=Z,147nm,18.8s,baz=307,slow=39
comp=Z,17nm,0.8s
PFO Pinyon Flats O 89.76 50 LR LR 21 43 15.3
comp=Z,137nm,20.3s,baz=292,slow=32
PPT Papeete 89.97 110 LR LR 21 44 04.2
comp=Z,192nm,18.5s,baz=342,slow=32
PPT2 Papeete2 89.98 110 *e*P **P** **21 08 39.4 +0.3**
comp=Z,38nm,25.8s
PPT2 Papeete2 89.98 110 *e*S **S** **21 19 31.5 +2.4**
PPT2 *e*SS **SS** **21 25 29.9 +1.5**
comp=Z,134nm,25.0s
PPT2 Papeete2 89.98 110 *e*LR LR 21 37 19.8
comp=Z,200nm,20.5s
PPT2 *e*LR LR 21 37 23.6
comp=Z,208nm,22.8s
VAE Valguarnera 90.09 315 LR LR 21 54 45.5
comp=Z,709nm,18.4s,baz=72,slow=39
U15A North Rim 90.70 46 P **P** **21 08 42.3 -0.3**
U15A IAmb IAmb 21 08 45.4
comp=Z,26nm,1.9s
EYMN Ely 92.99 27 P **P** **21 08 52.2 -0.4**
EYMN IAmb IAmb 21 08 53.9
comp=Z,9.9nm,0.9s
TBI Tubuai 93.11 115 *e*LR LR 21 38 47.0
comp=Z,1μm,28.8s
TBI *e*LR LR 21 38 49.7
comp=Z,2μm,33.8s
TAOE Nuku Hiva Isla 93.37 98 *e*S **S** **21 19 58.7 -1.3**
comp=Z,103nm,29.9s
TAOE Nuku Hiva Isla 93.37 98 *e*LR LR 21 38 49.6
comp=Z,292nm,21.7s
SCHQ Schefferville 93.55 10 LR LR 21 52 17.6
comp=Z,417nm,21.6s,baz=328,slow=36
KMBO Kilima Mbogo 93.89 271 P **P** **21 08 57.7 +0.1**
comp=Z,0.7nm,0.3s,baz=56,slow=7.3,SNR=4.0
comp=Z,0.7nm,0.3s
KEST Kesra 94.30 316 LR LR 21 57 19.2
comp=Z,418nm,19.2s,baz=44,slow=39
G40A Rib Lake 95.69 28 IAmb IAmb 21 09 06.3
comp=Z,6.6nm,0.8s
ESDC Sonseca Array 98.59 327 P **P** **21 09 17.7 -0.6**
comp=Z,0.6nm,0.7s,baz=31,slow=3.9,SNR=5.7
ESDC LR LR 21 59 22.4
comp=Z,536nm,18.0s,baz=21,slow=39
comp=Z,0.6nm,0.7s
LPIG La Paz 99.88 55 LR LR 21 52 00.7
comp=Z,47nm,18.4s,baz=3.0,slow=34
TXAR Lajitas Array 100.82 47 P **Pdif** **21 09 28.9 +0.4**
comp=Z,1.1nm,0.9s,baz=306,slow=4.2,SNR=6.9
BOSA Boshof 116.63 251 PKP **PKPdf** **21 14 23.4 -0.3**
comp=Z,1.4nm,0.6s,baz=90,slow=2.0,SNR=4.7
QSPA South Pole Qui 120.34 180 PKP **PKPdf** **21 14 29.1 -0.5**
comp=Z,2.4nm,0.7s,baz=287,slow=1.4,SNR=20
DBIC Dimbokro 123.88 304 PKP **PKPdf** **21 14 37.0 -0.9**
comp=Z,6.3nm,0.8s,baz=73,slow=2.2,SNR=7.4
ELIB Princess Elisa 124.26 201 *d*PKPdf **PKiKP** **21 14 37.5 +0.1**
TROLL Troll, Antarti 130.41 199 ⇑P **PKiKP** **21 14 50.0 +0.4**
comp=Z,107nm,0.6s
VNA2 Neumayer--Watz 133.66 198 ⇑P **PKiKP** **21 14 55.8 -0.3**
comp=Z,8.9nm,0.6s,baz=114,slow=1.4
SDV Santo Domingo 135.56 32 **PKPdf** **21 14 59.9 -0.4**
BOAV Boa Vista 145.39 21 **PKPbc** **21 15 15.0 -2.7**
CZSB Cruzeiro do Su 148.17 49 PKPbc **PKPdf** **21 15 22.6 +0.2**
MAL2 Monte Alegre, 151.16 11 PKPbc **PKPdf** **21 15 29.0 +1.7**
H03N2 Juan Fernandez 154.41 104 T T 00 09 02.7
baz=280
H03N3 Juan Fernandez 154.42 104 T T 00 09 01.7
baz=280,slow=74
H03N1 Juan Fernandez 154.43 104 T T 00 09 03.5
baz=280,slow=74
LPAZ La Paz 157.39 55 PKP **PKPdf** **21 15 37.5 +1.0**
comp=Z,3.7nm,1.2s,baz=292,slow=3.1,SNR=4.2
LPAZ PKPab **PKPab** **21 16 07.1 -0.9**
comp=Z,3.7nm,0.9s,baz=360,slow=1.4,SNR=5.8

*IDC **29** 21:01:00.6±5.6, 28°.53N×43°.45W, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/11, Error ellipse: s-maj=154.4km s-min=33.6km az=179.0*
ISC 29 21:01:02.9±5.2, 28.7N±1.0×43.5W±0.2, h10km, n21, σ0.74/7, mb3.9/7, MS3.3/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**23.30**	**248**	LR	LR	LR	21 15 19.4	
comp=Z,21nm,19.2s,baz=56,slow=37								
PCRV	**Puerto La Cruz**	**27.08**	**231**	LR	LR	LR	21 16 08.2	
comp=Z,42nm,18.2s,slow=34								
BBTS	**Babate**	**28.55**	**114**	LR	LR	LR	21 15 59.0	
comp=Z,60nm,19.0s,baz=194,slow=32								
SDV	**Santo Domingo**	**32.26**	**238**	LR	LR	LR	21 18 34.3	
comp=Z,37nm,20.3s,baz=94,slow=33								
SADO	**Sadowa**	**32.50**	**309**	LR	LR	LR	21 19 42.1	
comp=Z,52nm,18.4s,baz=87,slow=34								
MDT	**Midelt**	**33.51**	**73**	LR	LR	LR	21 18 25.2	
comp=Z,57nm,18.1s,baz=308,slow=31								
TKL	**Tuckaleechee C**	**34.65**	**292**	LR	LR	LR	21 19 36.8	
comp=Z,53nm,19.4s,baz=99,slow=32								
DBIC	**Dimbokro**	**42.50**	**113**	LR	LR	LR	21 23 33.1	
comp=Z,76nm,21.6s,baz=249,slow=32								
H10N2	**ASCENSION HYDR**	**45.80**	**138**	T	T	T	21 58 01.4	
baz=323,slow=75,SNR=26								
H10N3	**ASCENSION HYDR**	**45.80**	**138**	T	T	T	21 57 52.8	
baz=323,slow=75,SNR=16								
H10N1	**ASCENSION HYDR**	**45.82**	**138**	T	T	T	21 58 07.0	
baz=323,slow=75,SNR=28								
NOA	**NORSAR Array B**	**48.37**	**32**	P	**P**	**P**	**21 09 44.3**	**-0.3**
1.2nm,0.8s,baz=250,slow=7.6,SNR=3.8								
1.2nm,0.8s								
CMIG	**Matias Romero**	**48.44**	**268**	LR	LR	LR	21 31 32.7	
comp=Z,38nm,18.0s,baz=341,slow=38								
ATAH	**Atahualpa**	**49.01**	**229**	LR	LR	LR	21 29 58.6	
comp=Z,41nm,21.2s,baz=138,slow=36								
PDAR	**Pinedale Array**	**54.19**	**304**	P	**P**	**P**	**21 10 28.3**	**-0.6**
1.2nm,0.9s,baz=86,slow=6.1,SNR=4.5								
1.2nm,0.9s								
YKA	**Yellowknife Ar**	**56.32**	**328**	P	**P**	**P**	**21 10 44.2**	**+0.7**
0.6nm,0.9s,baz=96,slow=7.1,SNR=5.3								
0.6nm,0.9s								
AKASG	**Malin Array Be**	**57.67**	**46**	P	**P**	**P**	**21 10 53.3**	**-0.1**
1.2nm,0.7s,baz=287,slow=6.2,SNR=1.2								
1.2nm,0.7s								
BBB	**Bella Bella**	**64.75**	**317**	LR	LR	LR	21 40 20.6	
comp=Z,112nm,20.5s,baz=314,slow=36								
ILAR	**Eielson Array**	**69.89**	**334**	P	**P**	**P**	**21 12 13.6**	**-0.1**
1.2nm,1.1s,baz=67,slow=5.6,SNR=6.2								
1.2nm,1.1s								
BVAR	**Borovoye Array**	**80.45**	**34**	P	**P**	**P**	**21 13 14.3**	**-0.5**
0.1nm,0.2s,baz=318,slow=4.1,SNR=1.2								
0.1nm,0.2s								
KURBB	**Kurchatov Arra**	**85.90**	**33**	P	**P**	**P**	**21 13 44.0**	**+1.0**
0.1nm,0.3s,baz=306,slow=4.9,SNR=2.9								
0.1nm,0.3s								

*SOME **29** 21:14:13.2, 42°.80N×85°.95E, h5km*
*NNC **29** 21:14:14.7±4.3, 42°.77N×85°.84E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=36.3km s-min=26.5km az=92.0*
ISC 29 21:14:12.3±3.1, 42°.8N±0°.1×86°.0E±0°.1, h10km, n7, σ3.02/14, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.75**	**351**	*e*P		**Pg**	**21 15 39.9**	**-3.3**
1.6nm,0.2s								
ZSN				*e*S		**Sg**	**21 16 42.4**	**-2.3**
5.0nm,0.7s								
DJR	**Jarkent**	**4.75**	**291**	*e*P		**Pg**	**21 15 40.6**	**-2.7**
0.9nm,0.1s								
DJR				*e*S		**Sg**	**21 16 43.6**	**-1.3**
5.5nm,0.3s								
PDGK	**Podgornoye**	**4.78**	**279**	⇓Pg		**Pg**	**21 15 41.4**	**-2.5**
2.3nm,0.7s								
PDGK				⇓Lg		Lg	21 16 42.6	
7.3nm,0.6s								
SHLS	**Shalkode**	**4.79**	**277**	*e*P		**Pb**	**21 15 35.9**	**-0.5**
2.0nm,0.2s								
SHLS				*e*S		**Sb**	**21 16 35.4**	**+1.3**
11nm,0.4s								
MK31	**Makanchi Array**	**4.80**	**328**	Pn		**Pn**	**21 15 27.9**	**+3.2**
0.1nm,0.2s,baz=158,slow=15,SNR=11								
MK31				⇑Sn		**Sn**	**21 16 25.6**	**+5.3**
1.8nm,0.5s								
MK31				Lg		Lg	21 16 47.7	
2.5nm,0.6s,baz=141,slow=29,SNR=5.5								
MAKZ	**Makanchi**	**4.94**	**326**	⇑Pn		**Pn**	**21 15 28.6**	**+2.1**
1.1nm,0.7s								
MAKZ				⇓Pg		**Pg**	**21 15 43.6**	**-3.2**
1.5nm,0.8s								
MAKZ				⇑Sn		**Sn**	**21 16 26.0**	**+2.3**
0.8nm,0.3s								
MAKZ				⇑Lg		Lg	21 16 51.4	
2.7nm,0.7s								
UZB	**Uzynbulak**	**5.11**	**277**	*e*P		**Pg**	**21 15 47.4**	**-2.8**
3.2nm,0.1s								
UZB				*e*S		**Sg**	**21 16 55.1**	**-1.3**
6.8nm,0.4s								

*IDC **29** 21:27:33.0±1.2, 21°.37S×168°.75E, h0km, mb3.9/6, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=42.7km s-min=23.1km az=149.0*
*NOU **29** 21:27:33.1, 21°.18S×168°.77E, h0km, MLv3.9/14, Loyalty Islands*
*NEIC **29** 21:27:35.0±1.3, 21°.20S±0°.07×168°.71E±0°.09, h10km±1km, mb4.5/11, Error ellipse: s-maj=14.2km s-min=11.7km az=101.0*
ISC 29 21:27:34.1±0.7, 21°.22S±0°.08×168°.76E±0°.08, h10km, n39, σ0.93/42, mb4.3/12, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.73**	**249**	P	P	**Pb**	**21 27 48.9**	**+0.1**
MARNC	**Mare, Loyalty**	**0.73**	**249**	S	S	**Sb**	**21 27 58.5**	**-0.4**
INH	**Isangel**	**1.73**	**16**	P	P	**Pn**	**21 28 04.3**	**0.0**
PINNC	**Pines Island,**	**1.85**	**221**		**Pn**	**Pn**	**21 28 06.1**	**+0.3**
PINNC					Sn	**Sn**	**21 28 29.7**	**+0.5**
PINNC	**Pines Island,**	**1.85**	**221**	P	**Pn**	**Pn**	**21 28 06.3**	**+0.5**
PINNC	**Pines Island,**	**1.85**	**221**	S	**Sn**	**Sn**	**21 28 29.8**	**+0.6**
YATNC	**Mamie plateau,**	**1.93**	**244**	P	**Pn**	**Pn**	**21 28 06.2**	**-0.8**
OUENC	**Ouen Island, N**	**2.14**	**236**	P	**Pn**	**Pn**	**21 28 10.9**	**+1.0**
DZM	**Mont Dzumac**	**2.31**	**248**		**Pn**	**Pn**	**21 28 12.3**	**-0.1**
DZM					Sn	**Sn**	**21 28 41.1**	**+0.2**
DZM	**Mont Dzumac**	**2.31**	**248**	Pn	**Pn**	**Pn**	**21 28 12.7**	**+0.4**
16nm,0.3s,baz=102,slow=9.2,SNR=243								
DZM					Sn	**Sn**	**21 28 40.2**	**-0.8**
45nm,0.3s,baz=142,slow=23,SNR=17								
38nm,0.3s								
DZM	**Mont Dzumac**	**2.31**	**248**	P		**Pn**	**21 28 12.3**	**-0.1**
DZM	**Mont Dzumac**	**2.31**	**248**	S		**Sn**	**21 28 41.5**	**+0.6**
ONTNC	**Ouen Toro**	**2.40**	**243**			**Pn**	**21 28 14.1**	**+0.6**
ONTNC					Sn	**Sn**	**21 28 43.3**	**+0.4**
ONTNC	**Ouen Toro**	**2.40**	**243**	P		**Pn**	**21 28 15.2**	**+1.7**
ONTNC	**Ouen Toro**	**2.40**	**243**	S		**Sn**	**21 28 44.4**	**+1.5**
KOUNC	**Koumac, New Ca**	**4.23**	**278**	P		**Pn**	**21 28 39.6**	**+0.9**
MLZ	**Mavora Lakes**	**24.09**	**181**	P		**P**	**21 32 48.2**	**-1.6**
MLZ					IAmb	IAmb	21 33 01.7	
comp=Z,14nm,1.1s								
COEN	**Coen**	**25.41**	**282**	P		**P**	**21 32 60.0**	**-2.1**
COEN					IAmb	IAmb	21 33 00.8	
comp=Z,11nm,1.3s								
TOO	**Toolangi**	**25.90**	**226**	P		**P**	**21 33 05.7**	**-0.7**
TOO					IAmb	IAmb	21 33 45.9	
comp=Z,13nm,1.4s								
STKA	**Stephens Creek**	**26.45**	**241**	P		**P**	**21 33 10.8**	**-0.6**
comp=Z,2.7nm,1.0s,baz=64,slow=15,SNR=1.4								
comp=Z,2.7nm,1.0s								
WB0	**Warramunga Arr**	**32.19**	**266**	P		**P**	**21 34 02.0**	**-0.4**
WB0					IAmb	IAmb	21 34 10.0	
comp=Z,8.6nm,1.5s								
WB2	**Warramunga Arr**	**32.20**	**266**	P		**P**	**21 34 02.0**	**-0.6**
WB2					IAmb	IAmb	21 34 10.7	
comp=Z,5.9nm,1.3s								
WRA	**Warramunga Arr**	**32.21**	**266**	P		**P**	**21 34 02.3**	**-0.4**
comp=Z,0.7nm,0.6s,baz=89,slow=6.2,SNR=9.1								
comp=Z,0.7nm,0.6s								
ASAR	**Alice Springs**	**32.26**	**259**	P		**P**	**21 34 03.2**	**+0.1**
comp=Z,2.4nm,0.7s,baz=84,slow=9.5,SNR=28								
comp=Z,2.4nm,0.7s								
FORT	**Forrest**	**37.62**	**247**	P		**P**	**21 34 48.2**	**-1.2**
KNRA	**Kununurra**	**38.26**	**271**	P		**P**	**21 34 54.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.63**	**267**	P		**P**	**21 35 15.2**	**+0.5**
MBWA	**Marble Bar**	**45.56**	**261**	P		**P**	**21 35 55.6**	**+1.1**
QSPA	**South Pole Qui**	**68.84**	**180**	P		**P**	**21 38 39.7**	**+1.0**
QSPA					IAmb	IAmb	21 39 16.8	
comp=Z,5.5nm,1.4s								
QSPA	**South Pole Qui**	**68.84**	**180**	P		**P**	**21 38 38.3**	**-0.4**
comp=Z,1.3nm,0.9s,baz=39,slow=6.5,SNR=2.1								
comp=Z,1.3nm,0.9s								
GSI	**Gunungsitoli**	**72.98**	**278**	P		**P**	**21 39 03.1**	**-1.4**
GSI					IAmb	IAmb	21 39 14.7	
comp=Z,12nm,1.0s								
SONM	**Songino Array**	**88.53**	**323**	P		**P**	**21 40 28.2**	**+1.2**
comp=Z,0.6nm,0.7s,baz=114,slow=3.6,SNR=4.0								
comp=Z,0.6nm,0.7s								
ILAR	**Eielson Array**	**92.25**	**17**	P		**P**	**21 40 43.7**	**-0.1**
comp=Z,0.3nm,0.9s,baz=206,slow=5.1,SNR=2.3								
comp=Z,0.3nm,0.9s								
DPC	**Dobruska-Polom**	**143.72**	**330**	*e*PKP		PKPbc	21 47 08.1	+1.2
ZVC	**Zvikov**	**145.35**	**330**	*e*PKP		**PKPdf**	**21 47 13.7**	**+1.5**
EKA	**Eskdalemuir Ar**	**145.40**	**352**	PKPbc		**PKPbc**	**21 47 11.8**	**-0.1**
comp=Z,0.5nm,0.5s,baz=0.2,slow=2.7,SNR=4.7								
CKRC	**Cesky Krumlov**	**145.73**	**330**	*e*PKP		**PKPab**	**21 47 15.1**	**+1.5**
CKRC				*ex*		x	21 47 26.1	
KHC	**Kasperske Hory**	**145.85**	**331**	*e*PKP		**PKPab**	**21 47 15.5**	**+1.5**
KHC				*ex*		x	21 47 26.7	
GERES	**GERESS Array B**	**146.00**	**330**	PKPbc		**PKPab**	**21 47 15.7**	**+1.0**
comp=Z,3.5nm,0.8s,baz=30,slow=2.8,SNR=24								

*IDC **29** 21:40:04.5±7.3, 3°.62S×154°.85E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=213.7km s-min=36.4km az=104.0*
*NEIC **29** 21:40:32.1±1.7, 3°.9S±0°.1×154°.7E±0°.1, h238km±8km, mb4.2/12, Error ellipse: s-maj=22.4km s-min=12.4km az=142.0*
ISC 29 21:40:32.9±1.3, 4°.0S±0°.2×154°.5E±0°.1, h250km, n17, σ1.81/18, mb4.2/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.33**	**265**	Pn	**Pn**	**Pn**	**21 41 19.1**	**+0.5**
RABL				Sn	**S**	**S**	**21 41 51.8**	**-2.8**
COEN	**Coen**	**14.92**	**228**	P	**P**	**P**	**21 43 51.1**	**-0.8**
COEN					IAmb	IAmb	21 43 51.9	
comp=Z,6.1nm,1.0s								
DZM	**Mont Dzumac**	**21.37**	**148**	P	**P**	**P**	**21 45 00.6**	**-0.7**
MTN	**Manton Dam**	**24.70**	**248**	P	**P**	**P**	**21 45 35.0**	**+3.3**
MTN					IAmb	IAmb	21 46 07.5	
comp=Z,14nm,1.4s								
WB0	**Warramunga Arr**	**25.09**	**230**	P	**P**	**P**	**21 45 36.9**	**+1.7**
WB0					IAmb	IAmb	21 45 37.4	
comp=Z,4.2nm,0.6s								
WR0	**Warramunga Arr**	**25.09**	**229**	P	**P**	**P**	**21 45 36.8**	**+1.6**
WR0					IAmb	IAmb	21 45 37.5	
comp=Z,6.6nm,1.1s								
WRAB	**Tennant Creek**	**25.22**	**229**	P	**P**	**P**	**21 45 37.3**	**+0.9**
WRAB					IAmb	IAmb	21 45 38.5	
comp=Z,6.5nm,0.7s								
WB2	**Warramunga Arr**	**25.23**	**229**	P	**P**	**P**	**21 45 38.0**	**+1.6**
WB2					IAmb	IAmb	21 45 38.6	
comp=Z,4.6nm,0.5s								
WRA	**Warramunga Arr**	**25.24**	**229**	P	**P**	**P**	**21 45 38.1**	**+1.6**
WRA	**Warramunga Arr**	**25.24**	**229**	P	**P**	**P**	**21 45 37.7**	**+1.2**
comp=Z,3.8nm,0.6s,baz=55,slow=9.8,SNR=40								
comp=Z,3.8nm,0.6s								
ARMA	**Armidale**	**26.41**	**186**	P	**P**	**P**	**21 45 46.1**	**-0.8**
KNRA	**Kununurra**	**27.84**	**244**	P	**P**	**P**	**21 46 01.8**	**+2.1**
ASAR	**Alice Springs**	**27.88**	**224**	P	**P**	**P**	**21 46 00.3**	**+0.3**
comp=Z,0.7nm,0.4s,baz=54,slow=9.2,SNR=15								
comp=Z,0.7nm,0.4s								
FITZ	**Fitzroy Crossi**	**31.52**	**241**	P	**P**	**P**	**21 46 35.2**	**+3.1**
SONM	**Songino Array**	**66.57**	**327**	P	**P**	**P**	**21 50 55.6**	**-0.9**
SONM	**Songino Array**	**66.57**	**327**	P	**P**	**P**	**21 50 55.8**	**-0.7**
comp=Z,0.3nm,0.4s,baz=133,slow=6.1,SNR=3.0								
comp=Z,0.3nm,0.4s								
KKAR	**Karatay Array**	**88.32**	**313**	P	**P**	**P**	**21 52 57.0**	**+0.5**

*SJA **29** 21:42:38.3±0.7, 18°.58S×69°.37W, h131km±4km, ML3.4, MW3.5*
*NEIC **29** 21:42:39.2±1.9, 18°.63S±0°.05×69°.35W±0°.07, h124km±6km, mb4.1/4, Error ellipse: s-maj=10.7km s-min=6.0km az=115.0*
*GUC **29** 21:42:40.0±0.7, 18°.59S×69°.36W, h124km±3km, ML3.4*
ISC 29 21:42:38.6±0.8, 18°.60S±0°.04×69°.36W±0°.06, h128km±7km, n55, σ1.03/85, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.30**	**332**			**Pn**	**21 42 56.9**	**-0.3**
PB16					Sn	**Sn**	**21 43 11.1**	**-0.2**
PB16	**IPOC Station P**	**0.30**	**332**	⇓*i*P		**Pn**	**21 42 57.4**	**+0.1**
PB16				*i* S		**Sn**	**21 43 11.0**	**-0.2**
PB16				IAML			21 43 11.9	
comp=E,1μm,0.5s								
PB16	**IPOC Station P**	**0.30**	**332**	*e*P		**Pn**	**21 42 57.4**	**+0.1**
PB16				*e*S		**Sn**	**21 43 12.1**	**+0.8**
PB16				IAML			21 43 12.2	
comp=Z,623nm,0.7s								
PX02	**IPOC Station P**	**0.87**	**245**	*e*P		**Pn**	**21 42 59.8**	**-0.5**
PX02				*i* S		**Sn**	**21 43 16.1**	**-0.6**
PB12	**IPOC Station P**	**0.92**	**269**			**Pn**	**21 43 00.6**	**-0.1**
PB12					Sn	**Sn**	**21 43 17.4**	**0.0**
PB12	**IPOC Station P**	**0.92**	**269**	⇑*i*P		**Pn**	**21 43 01.1**	**+0.3**
PB12				*i* S		**Sn**	**21 43 17.3**	**-0.1**
PB12				IAML			21 43 18.1	
comp=E,998nm,0.3s								
PB12	**IPOC Station P**	**0.92**	**269**	*e*P		**Pn**	**21 43 01.0**	**+0.3**
PB12				*e*S		**Sn**	**21 43 18.1**	**+0.7**
PB12				IAML			21 43 18.7	
comp=Z,412nm,0.4s								
AP01	**Chacalluta**	**0.96**	**283**			**Pn**	**21 43 01.7**	**+0.8**
AP01					Sn	**Sn**	**21 43 18.7**	**+0.9**
AP01	**Chacalluta**	**0.96**	**283**	*e*P		**Pn**	**21 43 01.4**	**+0.5**
AP01				*i* S		**Sn**	**21 43 18.1**	**+0.3**
AP01	**Chacalluta**	**0.96**	**283**	*e*P		**Pn**	**21 43 01.7**	**+0.8**
AP01				*e*S		**Sn**	**21 43 19.1**	**+1.3**
AP01				IAML			21 43 20.6	
comp=Z,1μm,0.3s								
PB18	**Visviri**	**1.01**	**354**			**Pn**	**21 43 03.4**	**+1.3**
PB18	**Visviri**	**1.01**	**354**	⇓*i*P		**Pn**	**21 43 03.4**	**+1.3**
PB18				*i* S		**Sn**	**21 43 20.6**	**+0.8**
PB11	**IPOC Station P**	**1.19**	**194**			**Pn**	**21 43 03.9**	**+0.5**
PB11	**IPOC Station P**	**1.19**	**194**	⇑*i*P		**Pn**	**21 43 03.9**	**+0.5**
PB11				*i* S		**Sn**	**21 43 22.5**	**+0.2**
PB11				IAML			21 43 23.8	
comp=E,1μm,0.2s								
PB11	**IPOC Station P**	**1.19**	**194**	*e*P		**Pn**	**21 43 04.1**	**+0.6**
PB11				*e*S		**Sn**	**21 43 23.0**	**+0.8**
PB11				IAML			21 43 24.9	
comp=Z,307nm,0.3s								
PB08	**IPOC Station P**	**1.55**	**173**			**Pn**	**21 43 08.4**	**+0.8**
PB08	**IPOC Station P**	**1.55**	**173**	⇑*i*P		**Pn**	**21 43 08.6**	**+1.0**
PB08				*i* S		**Sn**	**21 43 30.3**	**+0.7**
PB08				IAML			21 43 33.1	
comp=N,290nm,0.3s								
PB08	**IPOC Station P**	**1.55**	**173**	*e*P		**Pn**	**21 43 08.6**	**+1.0**
PB08				*e*S		**Sn**	**21 43 31.4**	**+1.8**
PB08				IAML			21 43 32.4	
comp=Z,162nm,0.4s								
HMBC	**Humberstone**	**1.74**	**196**	Pn		**Pn**	**21 43 09.2**	**-0.4**
HMBC	**Humberstone**	**1.74**	**196**	*e*P		**Pn**	**21 43 09.9**	**+0.3**
HMBC				*i* S		**Sn**	**21 43 31.1**	**-2.1**
HMBC				IAML			21 43 39.5	
comp=N,326nm,0.3s								
HMBC	**Humberstone**	**1.74**	**196**	*e*P		**Pn**	**21 43 10.1**	**+0.5**
HMBC				*e*S		**Sn**	**21 43 34.0**	**+0.8**
HMBC				IAML			21 43 38.1	
comp=Z,279nm,0.3s								
PX03	**IPOC Station P**	**1.81**	**188**	*e*P		**Pn**	**21 43 10.1**	**-0.3**
PX03				*e*S		**Sn**	**21 43 34.3**	**-0.3**
TA02	**Huaiquique**	**1.82**	**203**	Pn		**Pn**	**21 43 10.7**	**+0.4**
TA02	**Huaiquique**	**1.82**	**203**	*e*P		**Pn**	**21 43 10.9**	**+0.6**
TA02				*e*S		**Sn**	**21 43 34.6**	**+0.1**
TA02				IAML			21 43 41.2	
comp=Z,182nm,0.1s								
TA01	**Diego Aracena**	**2.10**	**201**			**Pn**	**21 43 13.7**	**0.0**
TA01	**Diego Aracena**	**2.10**	**201**	*e*P		**Pn**	**21 43 14.1**	**+0.4**
TA01				*i* S		**Sn**	**21 43 39.3**	**-1.5**
TA01				IAML			21 43 47.0	
comp=N,116nm,0.3s								
TA01	**Diego Aracena**	**2.10**	**201**	*e*P		**Pn**	**21 43 14.3**	**+0.6**
TA01				*e*S		**Sn**	**21 43 41.9**	**+1.1**
PATCX	**Punta Patache**	**2.33**	**199**			**Pn**	**21 43 16.9**	**+0.1**
PATCX					Sn	**Sn**	**21 43 43.7**	**-2.3**
PATCX	**

LL07	Hotel Espejo d	24.41	187	P	P	21 47 47.6	+2.6
RUSC	La Rusia	24.61	351	P	P	21 47 47.7	0.0
RUSC				IAmb	IAmb	21 47 59.7	
	comp=Z,11nm,1.4s						

*THE **29** 22:09:00.5,37˝.59N×20˝.65E,h2km±2km,ML3.0/13,Error ellipse: s-maj=2.5km s-min=0.5km az=27.0*
*ATH **29** 22:09:00.6,37˝.60N×20˝.65E,h13km±1km,ML3.1/18, Manual Solution by S.Liakopoulos First location: 2019/03/29 22:09:57, This location: 2019/03/29 22:41:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 29 22:09:00.6±1.2,37˝.60N±0˝.04×20˝.66E±0˝.04,h10km±6km, n64,σ0˝.66/103,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.14	64	P	Pg	22 09 03.9	+0.1
KRI1				S	Sg	22 09 05.6	-0.5
	23μm,0.4s						
LTHK	Lithakia	0.18	52	P	Pg	22 09 04.3	-0.2
LTHK				S	Sg	22 09 06.5	-0.5
	23μm,0.2s						
LTHK	Lithakia	0.18	52	P	Pg	22 09 04.3	-0.2
LTHK				S	Sg	22 09 06.6	-0.5
ORTH	Orthonies,Zaky	0.25	6	P	Pg	22 09 06.2	+0.3
ORTH				S	Sg	22 09 09.8	+0.5
KYPS	Kipseli, Zakin	0.25	31	P	Pg	22 09 06.2	+0.4
KYPS				S	Sg	22 09 10.0	+0.7
CLEM	Kyllini,Ilia,G	0.47	52	P	Pg	22 09 10.0	+0.1
CLEM				S	Sg	22 09 16.9	+0.7
RTZL	Ratzakli, Kefa	0.48	10	P	Pg	22 09 10.0	-0.1
RTZL				S	Sg	22 09 17.0	+0.6
PSDA	Pessada-Kefalo	0.52	353	P	Pg	22 09 10.8	+0.1
PSDA				S	Sg	22 09 18.4	+0.9
	3μm,0.5s						
PSDA	Pessada-Kefalo	0.52	353	P	Pg	22 09 10.8	+0.1
PSDA				S	Sg	22 09 17.7	+0.2
VLS	Valsamata	0.58	354	P	Pg	22 09 11.6	-0.3
VLS				S	Sg	22 09 20.2	+0.7
	2μm,0.1s						
VLS	Valsamata	0.58	354	P	Pg	22 09 11.7	-0.2
VLS				S	Sg	22 09 20.2	+0.7
LCHA	Lechaina	0.58	55	P	Pg	22 09 12.3	+0.3
LCHA				S	Sb	22 09 21.2	0.0
LXR1	Lixouri, Cepha	0.62	344	P	Pg	22 09 13.0	+0.2
LXR1				S	Sb	22 09 22.0	-0.4
	6μm,0.5s						
SMHA	Samh	0.65	359	P	Pg	22 09 12.0	-1.2
SMHA				S	Sg	22 09 21.1	-0.7
DMLN	Damoulianata-K	0.68	340	P	Pg	22 09 13.7	0.0
DMLN				S	Sb	22 09 23.4	-0.5
	3μm,0.6s						
DMLN	Damoulianata-K	0.68	340	P	Pg	22 09 13.8	+0.1
DMLN				S	Sg	22 09 22.9	+0.3
YRMI	Loutra Irminis	0.74	47	P	Pg	22 09 14.4	-0.5
YRMI				S	Sg	22 09 24.0	-0.6
RLS	Riolos of Patr	0.78	54	P	Pg	22 09 15.1	-0.7
RLS				S	Sb	22 09 27.0	0.0
	612nm,0.5s						
RLS	Riolos of Patr	0.78	54	P	Pg	22 09 15.2	-0.5
RLS				S	Sg	22 09 25.8	-0.2
ZARO	Zacharo	0.79	98	P	Pg	22 09 15.4	-0.5
ZARO				S	Sb	22 09 27.3	+0.1
VSK1	VASILIKIADES	0.81	355	P	Pg	22 09 15.8	-0.5
VSK1				S	Sb	22 09 28.2	+0.4
	1μm,0.5s						
AXS	Araxos	0.82	43	P	Pg	22 09 15.7	-0.7
AXS				S	Sg	22 09 27.6	+0.4
AMT	Artemida-Makis	0.83	94	P	Pg	22 09 16.4	-0.3
AMT				S	Sb	22 09 28.7	+0.2
FSK	Fiskardo	0.86	355	P	Pg	22 09 16.5	-0.7
FSK				S	Sb	22 09 29.4	+0.2
	890nm,0.5s						
FSK	Fiskardo	0.86	355	P	Pg	22 09 16.6	-0.6
FSK				S	Sg	22 09 28.1	-0.3
DRO	Drossia	0.90	67	P	Pg	22 09 17.4	-0.6
DRO				S	Sb	22 09 31.9	+1.5
	1μm,0.6s						
DRO	Drossia	0.90	67	P	Pg	22 09 17.5	-0.6
DRO				S	Sg	22 09 30.4	+0.6
AST1	Astakos	1.00	20	P	Pg	22 09 19.6	-0.2
EVGI	Lefkada island	1.02	360	P	Pg	22 09 19.6	-0.6
EVGI				S	Sb	22 09 34.4	+0.6
	702nm,0.4s						
EVGI	Lefkada island	1.02	360	P	Pg	22 09 19.3	-1.0
EVGI				S	Sg	22 09 33.9	+0.4
DRAG	Dragano-Lefkad	1.08	356	P	Pg	22 09 20.5	-1.0
DRAG	Dragano-Lefkad	1.08	356	P	Pg	22 09 20.5	-1.0
DRAG				S	Sg	22 09 34.2	-1.4
ITM	Ithomi	1.09	112	P	Pg	22 09 20.6	-1.0
ITM				S	Sn	22 09 37.4	+0.3
	302nm,0.4s						
ITM	Ithomi	1.09	112	P	Pg	22 09 20.8	-0.8
ITM				S	Sg	22 09 36.0	+0.2
PATC	Patra C	1.09	52	P	Pg	22 09 20.2	-1.5
NYDR	Nydri-Lefkada	1.11	1	P	Pg	22 09 21.2	-0.8
NYDR				S	Sn	22 09 38.8	+1.3
	312nm,0.6s						
NYDR	Nydri-Lefkada	1.11	1	P	Pg	22 09 20.8	-1.2
NYDR				S	Sg	22 09 36.1	-0.4
UPR	University Cam	1.12	52	P	Pg	22 09 21.6	-0.6
UPR				S	Sb	22 09 37.6	+0.9
MTHA	Methoni	1.14	133	P	Pb	22 09 22.7	+0.2
MTHA				S	Sn	22 09 38.5	+0.2
LKD2	Lefkada island	1.19	360	P	Pg	22 09 22.3	-1.2
LKD2				S	Sn	22 09 40.0	+0.5
PVO	Paravola	1.22	34	P	Pb	22 09 23.2	-0.6
PVO				S	Sb	22 09 39.2	-0.4
TSLK	Tsoukalades, L	1.22	360	P	Pb	22 09 23.1	-0.7
TSLK	Tsoukalades, L	1.22	360	P	Pb	22 09 23.6	-0.2
TSLK				S	Sb	22 09 39.5	-0.1
KLV	Kalavryta, Ach	1.26	69	P	Pn	22 09 23.5	-0.8
EFP	Efpalio	1.28	50	P	Pn	22 09 23.5	-1.1
ALIK	Aliki, Aigiali	1.32	60	P	Pn	22 09 25.6	+0.5
SERG	Sergoula	1.37	53	P	Pn	22 09 25.4	-0.4
GUR	Goura	1.37	75	P	Pn	22 09 25.9	0.0
GUR	Goura	1.37	75	P	Pn	22 09 26.0	0.0
VLX	Vlachokerasia	1.39	99	P	Pn	22 09 25.7	-0.4
ANX	Ano Chora	1.40	45	P	Pn	22 09 26.0	-0.3
ANX	Ano Chora	1.40	45	P	Pn	22 09 25.7	-0.7
KALE	Kalithea	1.41	56	P	Pn	22 09 25.6	-0.7
TETR	Tetrakomo, Epi	1.81	15	P	Pn	22 09 32.9	+1.0
MAKR	Makrakomi, Fth	1.82	39	P	Pn	22 09 32.4	+0.4
LTK	Loutraki	1.87	76	P	Pn	22 09 32.4	-0.3
IGT	Igoumenitsa	1.94	352	P	Pn	22 09 34.0	+0.3
AXAR	Agios Charalam	1.96	53	P	Pn	22 09 34.8	+0.9
KRND	KRANIDI	1.99	96	P	Pn	22 09 34.0	-0.3
VLI	Veliai	2.02	115	P	Pn	22 09 35.8	+1.0
LKR	Lokris	2.12	60	P	Pn	22 09 37.4	+1.3
VIL2	Platees	2.15	73	P	Pn	22 09 37.8	+1.2
KEK	Kerkira	2.21	342	P	Pn	22 09 37.1	-0.3
THL	Klokotos Trika	2.23	28	P	Pn	22 09 38.0	+0.4

UCR 29 22:12:36.7±1.1,6˚.68N×82˚.34W,h5km±19km,MW3.7, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	Guarumal, Vera	1.54	46	eP	Pn	22 13 04.6	-0.3
GMAL				eS	Sn	22 13 23.7	-1.6
PIRO	Carate, Puerto	1.98	330	eP	Pn	22 13 08.7	-2.2
NELY	Ciudad Neily	2.05	343	eP	Pn	22 13 10.6	-1.2
EDAD	Golfito	2.12	337	eP	Pn	22 13 11.1	-1.9
BRU2	Volcan	2.13	351	eP	Pn	22 13 12.9	-0.2
ALCO	Alturas Coton,	2.31	348	eP	Pn	22 13 14.7	-0.9
AZU	Azuero	2.33	62	eP	Pn	22 13 16.1	+0.4
EDP2	Potrero Grande	2.47	340	eP	Pn	22 13 17.5	-0.2
FIMO	Fila Mora	2.51	337	eP	Pn	22 13 17.3	-1.0
DRK0	Durika	2.72	341	eP	Pn	22 13 20.5	-0.8
BUS1	Rivas	3.18	334	eP	Pn	22 13 27.6	-0.2
PICV	PH. Pirrs	3.46	328	eP	Pn	22 13 30.5	-0.8
BCIP	Isla Barro Col	3.50	45	eP	Pn	22 13 33.0	+1.1
VTCV	VTCV, Calle Va	3.56	337	eP	Pn	22 13 33.1	+0.3
CVTV	Tajo	3.59	337	eP	Pn	22 13 33.8	+0.5
CVTQ	Turrialba Volc	3.59	337	eP	Pn	22 13 33.8	+0.3
VTLA	Turrialba Volc	3.59	337	eP	Pn	22 13 34.0	+0.6
CVTG	V. Turrialba,	3.73	338	eP	Pn	22 13 35.6	+0.6
VBV1	V. Barva	3.83	333	eP	Pn	22 13 36.8	+0.1

*NOU **29** 22:16:22.7,40˚.30S×174˚.40E,h4km,MLv3.1/10,Cook Strait, New Zealand*
*WEL **29** 22:16:23.0±0.3,40˚S±2˚×17˚4E±˚,h12km,M3.2/18, ML3.5/18,MLv3.2/18,Error ellipse: s-maj=3.1km s-min=2.0km az=73.3,confirmed*
ISC 29 22:16:22.8±1.0,40˚.27S±0˚.02×174˚.46E±0˚.02,h10km±10km, n47,σ0˝.62/67,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.66	38	P	Pg	22 16 36.0	+0.5
WAZ				S	Sg	22 16 45.6	+1.5
OHWZ	Ohakea	0.66	84	P	Pg	22 16 36.4	+0.9
OHWZ				S	Sb	22 16 45.9	+0.3
DUWZ	D'Urville Isla	0.67	218	P	Pb	22 16 36.7	+0.1
DUWZ				S	Sb	22 16 46.5	+0.6
KIW	Kapiti Island	0.68	150	P	Pb	22 16 36.8	0.0
KIW				S	Sb	22 16 45.8	-0.4
OGWZ	Otaki Gorge	0.77	135	P	Pb	22 16 38.4	+0.1
OGWZ				S	Sb	22 16 48.8	0.0
LREZ	Lake Rotokare	0.81	357	P	Pg	22 16 38.9	+0.5
LREZ				S	Sb	22 16 51.1	+1.1
MRZ	Mangatainoka R	0.94	115	P	Pg	22 16 41.1	+0.3
MRZ				S	Sg	22 16 53.0	0.0
TCW	Tory Channel	0.94	188	P	Pg	22 16 40.8	-0.1
TCW				S	Sg	22 16 52.7	-0.5
CAW	Cannon Point	0.95	151	P	Pg	22 16 41.1	+0.1
CAW				S	Sg	22 16 53.7	+0.2
PREZ	Palmer Road	0.96	346	P	Pg	22 16 41.4	+0.2
PREZ				S	Sn	22 16 56.1	0.0
NMEZ	Namu Road	0.97	332	P	Pg	22 16 41.6	+0.2
NMEZ				S	Sb	22 16 55.8	+1.3
POWZ	Post Office Ro	1.01	97	P	Pg	22 16 42.2	+0.1
POWZ				S	Sg	22 16 55.5	+0.2
HOWZ	Holdsworth Sta	1.02	128	P	Pg	22 16 42.5	+0.2
HOWZ				S	Sb	22 16 56.4	+0.4
KHEZ	Kahui Hut	1.04	341	P	Pg	22 16 42.8	+0.1
KHEZ	Kahui Hut	1.04	341	S	Sb	22 16 57.3	+0.8
KHEZ	Kahui Hut	1.04	341	P	Pg	22 16 42.6	-0.1
KHEZ				S	Sb	22 16 57.2	+0.7
WEL	Wellington	1.04	167	P	Pb	22 16 42.8	0.0
WEL				S	Sg	22 16 55.9	-0.2
SNZO	South Karori	1.05	170	P	Pg	22 16 42.6	-0.4
SNZO	South Karori	1.05	170	S	Sg	22 16 56.4	-0.3
TSZ	Takapari Road	1.17	80	P	Pb	22 16 44.6	-0.5
TSZ				S	Sg	22 16 59.4	-1.1
VRZ	Vera Road	1.17	12	P	Pb	22 16 43.9	-1.2
VRZ				S	Sg	22 17 00.9	-0.2
BHW	Baring Head	1.18	165	P	Pg	22 16 44.5	-0.8
BHW				S	Sg	22 17 00.0	-0.6
MTVZ	Mangateitei	1.18	42	P	Pb	22 16 44.0	-1.3
MTW	Mount Morrison	1.19	138	P	Pb	22 16 45.2	-0.2
MTW				S	Sn	22 17 02.2	+0.5
PRWZ	Pori Road	1.19	104	P	Pb	22 16 45.5	+0.1
PKVZ	Pokaka	1.20	35	P	Pb	22 16 44.5	-1.1
TIWZ	Tintock	1.20	115	P	Pb	22 16 45.6	0.0
TIWZ				S	Sn	22 17 02.4	+0.3
TUWZ	Tuamarina	1.22	199	P	Pn	22 16 45.9	0.0
NNZ	Nelson	1.25	221	P	Pg	22 16 46.5	-0.2
TRVZ	Turoa	1.29	41	P	Pn	22 16 46.0	-1.0
MSWZ	Moikau Station	1.29	152	P	Pn	22 16 46.7	-0.1
WNVZ	Wahianoa	1.29	43	P	Pn	22 16 46.2	-0.8
DVHZ	Dannevirke	1.31	92	P	Pn	22 16 47.0	-0.1
MOVZ	Moawhango	1.32	49	P	Pn	22 16 46.1	-1.2
PAWZ	Paruwai Farm	1.33	147	P	Pn	22 16 47.3	-0.2
TKNZ	Takaka Hill	1.37	236	P	Pn	22 16 48.1	+0.1
TMWZ	Te Maipa	1.37	128	P	Pn	22 16 48.0	0.0
PNHZ	Pukenui	1.38	75	P	Pn	22 16 47.5	-0.7
TWVZ	Taurewa	1.42	33	P	Pn	22 16 47.6	-1.2
BFZ	Birch Farm	1.42	107	P	Pn	22 16 49.3	+0.6
BFZ	Birch Farm	1.42	107	P	Pn	22 16 48.0	-0.7
PLWZ	Palliser	1.43	155	P	Pn	22 16 48.3	-0.6
QRZ	Quartz Range	1.57	249	P	Pn	22 16 50.4	-0.3
HIZ	Hauiti	1.79	10	P	Pn	22 16 53.0	-0.7
BKZ	Black Stump Fm	1.92	55	P	Pb	22 16 57.9	0.0
KHZ	Kahutara	2.25	198	P	Pn	22 17 00.2	+0.2
URZ	Urewera	2.88	47	P	Pn	22 17 09.6	+0.9

IDC 29 22:24:54.9±2.6,7˚.33S×128˚.29E,h0km,mb3.4/1, mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=283.9km s-min=33.3km az=65.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.84	156	Pn	Pn	22 28 12.4	-0.2
	0.2nm,0.3s,baz=335,slow=14,SNR=6.5						
WRA				Sn	Sn	22 30 31.3	-16
	0.3nm,0.3s,baz=334,slow=22,SNR=5.4						
	0.7nm,0.5s						
ASAR	Alice Springs	17.11	162	P	Pn	22 28 55.9	+0.1
	0.1nm,0.3s,baz=338,slow=11,SNR=4.9						
ASAR				S	Sn	22 31 56.2	-11
	0.3nm,0.8s,baz=200,slow=17,SNR=2.2						
	0.4nm,0.8s						
MKAR	Makanchi Array	67.58	328	P	P	22 35 53.4	0.0
	0.2nm,0.4s,baz=134,slow=6.2,SNR=3.7						
	0.2nm,0.4s						

IDC 29 22:35:30.3±2.3,7˚.19S×153˚.71E,h0km,mb3.3/3, mbtmp3.5/4,ML2.0/1,Error ellipse: s-maj=115.9km s-min=30.0km az=135.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.85	251	Pn	Pn	22 37 13.0	+1.0
	1.8nm,0.3s,baz=47,slow=7.5,SNR=5.4						
PMG				Sn	Sn	22 38 17.4	-13
	0.9nm,0.3s,baz=313,slow=12,SNR=1.2						
	13nm,0.5s						
WRA	Warramunga Arr	22.67	234	P	P	22 40 32.8	-0.6
	0.5nm,0.8s,baz=59,slow=11,SNR=3.1						
	0.5nm,0.8s						
ASAR	Alice Springs	25.10	227	P	P	22 40 57.2	+0.2
	0.6nm,0.7s,baz=64,slow=8.8,SNR=7.0						
	0.6nm,0.7s						
ILAR	Eielson Array	84.03	22	P	P	22 48 02.3	-0.1
	0.2nm,0.5s,baz=226,slow=4.9,SNR=4.1						
	0.2nm,0.5s						

*NEIC **29** 22:56:38.4±2.0,66˚.26N×0˚.02×157˚.27W±0˚.05,h10km±1km, Error ellipse: s-maj=4.0km s-min=3.2km az=336.0*
AEIC 29 22:56:37.8±1.9,66˚.24N±0˚.02×157˚.20W±0˚.04,h7km±6km, ML2.9,ML3.2/116(NEIC),Error ellipse: s-maj=2.8km s-min=2.5km az=156.0,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	Purcell Mounta	0.11	155	Pg	Pg	22 56 40.2	0.0
G19K	Purcell Mounta	0.11	155		Sg	22 56 42.0	+0.2
F19K	Shaleruckik Mo	0.64	339		Pg	22 56 50.0	0.0
G18K	Tagagawik	0.69	240	Sg	Sg	22 56 59.7	-0.2
H19K	Roundabout Mou	0.78	156		Pg	22 56 52.5	-0.2
H19K				Sg	Sg	22 57 03.0	+0.1
F20K	Avaraart Lake	1.00	35		Pg	22 56 56.5	-0.5
F20K					Sb	22 57 10.5	-0.3
F20K	Avaraart Lake	1.00	35	IAML		22 57 17.3	
	comp=E,495nm,0.5s						
F18K	Selawik	1.05	291		Pg	22 56 57.7	-0.2
F18K					Sb	22 57 12.2	0.0
H18K	Honhosa River	1.20	204		Pg	22 56 59.7	-1.0
H18K					Sg	22 57 15.7	-0.4
H20K	Anotleneega Mo	1.22	127		Pg	22 56 60.0	-1.1
H20K					Sg	22 57 16.5	-0.2
E19K	Redstone River	1.22	359		Pg	22 57 00.6	-0.6
E19K	Redstone River	1.22	359	IAML		22 57 20.5	
	comp=E,331nm,0.8s						
E19K				IAML		22 57 24.4	
	comp=N,349nm,0.5s						
GCSA	Galena City Sc	1.51	175		Pn	22 57 05.1	-0.1
GCSA					Sb	22 57 25.6	+0.3
G21K	Allakaket	1.51	78		Pn	22 57 05.5	+0.2
G17K	Kiwalik Mounta	1.60	244		Pn	22 57 06.0	-0.5
F17K	Baldwin Pennin	1.65	279		Pn	22 57 06.9	-0.2
F17K	Baldwin Pennin	1.65	279	IAML		22 58 07.5	
	comp=N,282nm,0.8s						
H17K	Granite Mounta	1.73	222	Pn	Pn	22 57 08.4	+0.2
H17K				Sn	Sb	22 57 31.3	-0.4
H17K					IAML	22 58 07.3	
	comp=E,342nm,0.6s						
H17K					IAML	22 58 10.7	
	comp=N,182nm,0.4s						
F21K	Alatna River	1.77	55		Pn	22 57 08.8	-0.1
F21K	Alatna River	1.77	55	IAML		22 58 10.9	
	comp=N,284nm,0.5s						
F21K				IAML		22 58 12.8	
	comp=E,298nm,0.7s						
E18K	Tukpahlearik C	1.79	313		Pn	22 57 09.6	+0.5
E18K	Tukpahlearik C	1.79	313	IAML		22 58 09.6	
	comp=E,205nm,0.5s						
E18K				IAML		22 58 09.6	
	comp=N,268nm,0.6s						
I20K	Naaghedeneel	1.84	141		Pn	22 57 09.9	+0.2
I20K				Sn	Sb	22 57 35.3	+0.3
H21K	Melozitna Rive	1.89	106		Pb	22 57 12.1	-0.5
H21K				Sn	Sb	22 57 36.8	+0.3
H21K				IAML		22 58 12.1	
	comp=N,201nm,0.5s						
E17K	Hotham Inlet	2.03	297		Pn	22 57 12.8	+0.5
E20K	Nigu River	2.06	11		Pn	22 57 13.9	+1.0
G16K	Koyuk River	2.29	250		Pn	22 57 15.3	-0.6
G16K	Koyuk River	2.29	250	IAML		22 58 25.9	
	comp=E,149nm,0.6s						
G16K				IAML		22 58 26.6	
	comp=N,167nm,0.8s						
D19K	Kuna River	2.29	352		Pn	22 57 17.3	+1.3
D19K	Kuna River	2.29	352	IAML		22 58 28.3	
	comp=N,114nm,0.7s						
D19K				IAML		22 58 36.3	
	comp=E,114nm,0.7s						
J19K	Poorman	2.35	163		Pn	22 57 18.5	+1.7
J19K					Sb	22 57 49.4	-0.3
J19K				IAML		22 58 24.4	
	comp=E,118nm,0.9s						
J19K				IAML		22 58 26.2	
	comp=N,139nm,0.4s						
H22K	Ishtalitna Cre	2.40	96		Pn	22 57 17.3	-0.2
J20K	Nowinta River	2.44	147		Pn	22 57 17.3	-0.7
J20K	Nowinta River	2.44	147	IAML		22 58 34.3	
	comp=E,93nm,0.8s						
H16K	Eliim	2.65	235		Pn	22 57 20.1	-0.8
D17K	Noatak River	2.74	305		Pn	22 57 22.2	+0.2
I17K	Unalakleet	2.79	214	Pn	Pn	22 57 24.2	+1.4
I17K				Sn	Sn	22 57 58.8	+2.2
J18K	Innoko River	2.80	176		Pn	22 57 23.8	+0.9
E22K	Anaktuvuk Pass	2.83	45	Pn	Pn	22 57 24.0	+0.6
E22K				Sn	Sn	22 58 00.5	+2.7
E22K				IAML		22 58 46.9	
	comp=N,68nm,0.8s						
RDOG	Red Dog Mine	2.88	312	Pn	Pn	22 57 23.8	-0.2
COLD	Coldfoot	2.95	67	Pg	Pg	22 57 34.1	-0.1
J17K	VABM Dome	2.97	197	Pn	Pn	22 57 25.4	+0.2
J17K				IAML		22 58 54.8	
	comp=E,60nm,0.6s						
J17K				IAML		22 58 55.6	
	comp=N,52nm,0.7s						
F15K	North Star Dit	3.09	263		Pn	22 57 27.8	+0.8
F15K				IAML		22 58 50.7	
	comp=N,70nm,0.6s						
F15K				IAML		22 58 54.8	
	comp=E,80nm,0.6s						
J16K	Anvik River	3.31	208	Pn	Pn	22 57 31.6	+1.7
J16K				IAML		22 59 00.4	
	comp=E,50nm,0.9s						
J16K				IAML		22 59 11.0	
	comp=N,54nm,0.7s						
BPAW	Bear Paw Mtn.	3.39	127		Pn	22 57 31.4	+0.4
BPAW				IAML		22 59 02.0	
	comp=N,37nm,0.7s						
BPAW				IAML		22 59 02.1	
	comp=E,39nm,0.8s						
I23K	Minto, Yukon-K	3.42	105		Pn	22 57 32.0	+0.5
I23K				IAML		22 59 02.8	
	comp=N,61nm,1.1s						
I23K				IAML		22 59 05.2	
	comp=E,64nm,0.6s						
B21K	Ikpikpuk River	3.53	15	Pn	Pn	22 57 36.6	+3.6
B21K				IAML		22 59 07.6	
	comp=E,64nm,1.1s						
B21K				IAML		22 59 10.0	
	comp=N,48nm,1.0s						
K17K	Iditarod	3.57	188		Pn	22 57 33.2	-0.3
K17K				IAML		22 59 14.4	
	comp=E,36nm,0.8s						
K17K				IAML		22 59 20.1	
	comp=N,34nm,1.1s						
CAST	Castle Rocks	3.58	140		Pn	22 57 34.6	+0.9
NEA2	Nenana	3.78	112		Pn	22 57 36.4	0.0
NEA2				IAML		22 59 17.5	
	comp=N,26nm,0.8s						
B20K	Meade River	3.78	0	Pn	Pn	22 57 37.1	+0.7
B20K				IAML		22 59 16.9	
	comp=N,35nm,1.1s						
B20K				IAML		22 59 18.9	
	comp=E,47nm,1.1s						
KTH	Kantishna Hill	3.80	132		Pn	22 57 37.1	+0.3
KTH				IAML		22 59 21.5	
	comp=N,27nm,1.2s						
TOLK	Toolik Lake Re	3.80	47		Pn	22 57 37.3	+0.6
TOLK	Toolik Lake Re	3.80	47	Pg	Pb	22 57 47.0	+1.9
H24K	Noodor Dome	3.83	92		Pn	22 57 38.8	+1.7
H24K				IAML		22 59 18.5	
	comp=E,40nm,0.6s						
BWN	Browne	3.86	119		Pn	22 57 38.6	+1.1
BWN				IAML		22 59 29.9	
	comp=N,46nm,0.9s						
E24K	Your Creek	3.86	58	IAML		22 59 21.9	
	comp=E,37nm,0.8s						
E24K				IAML		22 59 30.8	
	comp=N,43nm,1.0s						
PPLA	Purkeypile	3.99	145		Pn	22 57 39.7	+0.2
L20K	Farewell, AK	4.04	158		Pn	22 57 41.0	+1.0
TRF	Thorofare Moun	4.07	130		Pn	22 57 40.6	+0.1
TRF				IAML		22 59 30.4	
	comp=N,22nm,1.0s						
COLA	College	4.12	105		Pn	22 57 40.7	-0.3
POKR	Poker Plat Res	4.20	101		Pn	22 57 42.6	+0.5
L19K	White Mountain	4.20	165		Pn	22 57 42.5	+0.2
L19K				IAML		22 59 05.8	
	comp=E,27nm,1.1s						
L19K				IAML		22 59 07.2	
	comp=N,22nm,0.5s						
WRH	Wood River Hil	4.21	111		Pn	22 57 42.8	+0.5
CCB	Clear Creek Bu	4.24	108		Pn	22 57 42.0	-0.6
MCK	McKinley	4.32	122		Pn	22 57 44.5	+0.6
D24K	Happy Valley	4.33	44	IAML		22 59

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J25K                                IAML                22 59 56.5
        comp=E,10nm,0.7s
J25K                                IAML                22 59 59.8
        comp=N,15nm,1.1s
STLK  Strandline Lak    5.32 151    Pn    Pn            22 57 58.3 +0.7
K13K  Kusilvak Mount    5.42 221    Pn    Pn            22 57 58.8 -0.1
K13K                                Pg    Pg            22 58 19.5 -2.0
N19K  Bonanza Creek     5.58 166    Pn    Pn            22 58 02.1 +0.9
N18K  Kilae Creek       5.62 173    Pn    Pn            22 58 02.3 +0.7
N17K  Nushagak Hills    5.74 180    Pn    Pn            22 58 04.5 +1.2
GHO   Glory Hole Cre    5.77 137    Pn    Pn            22 58 05.6 +1.7
RIDG  Independent Ri    5.81 110    Pn    Pn            22 58 05.8 +1.5
M14K  Bethel            5.91 203    Pn    Pn            22 58 06.4 +0.8
SML   Sawmill           5.91 135    Pn    Pn            22 58 06.0 +0.2
J26L  Joseph Creek      5.96 101    Pn    Pn            22 58 06.8 +0.3
SCRK  Sand Creek        6.02 106    Pn    Pn            22 58 07.5 +0.1
DOT   Dot Lake          6.16 109    Pn    Pn            22 58 09.1 +0.1
SCM   Sheep Creek Mo    6.19 131    Pn    Pn            22 58 09.8 +0.2
KNK   Knik Glacier      6.20 137    Pn    Pn            22 58 10.3 +0.7
N15K  Kwethluk River    6.24 193    Pn    Pn            22 58 11.1 +1.0
M24K  Tolsona, Glenn    6.35 126    Pn    Pn            22 58 13.4 +1.6
O18K  Koktuh Hills      6.48 171    Pn    Pn            22 58 13.5 +1.0
ILSW  Iliamna Southw    6.54 162    Pn    Pn            22 58 15.8 +1.3
MENT  Mentasta          6.68 113    Pn    Pn            22 58 17.7 +1.5
O16K  Kokwok River B    6.69 184    Pn    Pn            22 58 17.3 +1.1
I28M  Miner Creek       7.13  88    Pn    Pn            22 58 24.1 +1.7
N25K  Chitina, Valde    7.24 124    Pn    Pn            22 58 24.4 +0.5
CNPM  China Poot        7.27 155    Pn    Pn            22 58 25.6 +1.3
M26K  Nabesna, AK       7.27 115    Pn    Pn            22 58 25.1 +0.8
L27K  Beaver Creek,     7.32 109    Pn    Pn            22 58 25.0  0.0
BCAR  Beaver Creek A    7.34 109    Pn    Pn            22 58 26.6 +1.4
H29M  Whitestone        7.61  82    Pn    Pn            22 58 30.5 +1.6
BMRM  Bremner River     7.70 127    Pn    Pn            22 58 31.2 +1.0
M27K  Edge Creek, AK    7.71 113    Pn    Pn            22 58 30.9 +0.5
VRDI  Verde Repeater    7.89 123    Pn    Pn            22 58 32.7 -0.3
I30M  Mount Dempster    8.63  87    Pn    Pn            22 58 44.2 +1.3
K29M  Barlow Dome       8.65  97    Pn    Pn            22 58 44.6 +1.3
WAX   Waxell Ridge      8.66 125    Pn    Pn            22 58 44.9 +1.4
L29M  L29M              8.74 102    Pn    Pn            22 58 45.6 +1.1
J30M  Hart River        8.85  91    Pn    Pn            22 58 47.3 +1.3
SNH   Sunshine Point    8.87 126    Pn    Pn            22 58 45.9  -0.4
G31M  Satah River       9.14  75    Pn    Pn            22 58 50.2 +0.4
N30M  Aishikik Lake    10.06 109    Pn    Pn            22 59 03.3 +0.7
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JMA ***29*** *22:57:06.4±0.3, 44°N±1°×14°7E±°, h43km±4km, MV3.5/28, E OFF HOKKAIDO*
SKHL ***29*** *22:57:07.5±0.2, 43°.60N×146°.80E, h37km±2km, mb4.5/5*
ISC 29 22:57:05.0±2.0, 43°.56N±0°.07×146°.91E±0°.08, h19km±4km, n16, σ0°.72/28, Kuril Islands

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Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
SHO   Shikotan          0.31 349  i P   Pn                22 57 15.0 +0.5
SHO                                AMB   AMB               22 57 15.6
        820nm,0.3s
SHO                                eS    Sn                22 57 20.5  0.0
SHO                                A     A                 22 57 20.8
        9μm,0.4s
SHO                                A     A                 22 57 20.8
        12μm,0.4s
NEM2  Nemuro 2          0.87 257   P     Pn                22 57 22.3 +0.2
NEM2                               S     Sg                22 57 33.6 +0.1
NMR   Nemuro--Hokkai    0.88 258  i P    Pn                22 57 22.3  0.0
NMR                                AMB   AMB               22 57 22.6
        80nm,0.3s
NMR                                eS    Sg                22 57 33.5 -0.4
NMR                                A     A                 22 57 33.8
        270nm,0.2s
NMR                                A     A                 22 57 33.8
        160nm,0.2s
YUK   Yuzh-Kuril'sk     0.89 302  i P    Pg                22 57 22.0 -0.4
YUK                                AMB   AMB               22 57 22.3
        2μm,0.3s
YUK                                eS    Sb                22 57 33.0 -0.3
YUK                                A     A                 22 57 36.1
        1μm,0.3s
YUK                                A     A                 22 57 36.1
        1μm,0.3s
JRA   Rausu             1.35 287   P     Pn                22 57 29.0 +0.3
JRA                                eS    Sn                22 57 44.8 -1.2
JKHN  Kushirohamanak    1.36 250  i P    Pb                22 57 29.5 -0.3
JNSB  Nemuroshibetsu    1.40 279   P     Pn                22 57 29.9 +0.5
JNSB                               eS    Sn                22 57 47.4 +0.1
JNK   Nakash            1.59 272  eP     Pn                22 57 32.3 +0.2
AKK   Akkeshi           1.60 251  eP     Pn                22 57 32.6 +0.3
AKK                                eS    Sn                22 57 51.2 -1.2
JAK   Akkeshi           1.71 251   P     Pn                22 57 34.1 +0.4
JAK                                eS    Sn                22 57 55.2 +0.1
KUR   Kuril'sk          1.81  22  eP     Pn                22 57 35.5 +0.5
KUR                                AMB   AMB               22 57 37.1
        40nm,0.3s
KUR                                eS    Sn                22 57 56.6 -0.7
KUR                                A     A                 22 57 59.0
        250nm,0.3s
KUR                                A     A                 22 57 59.0
        190nm,0.3s
JTKR  Abashiri--Toko    2.21 282   P     Pn                22 57 41.8 +1.2
JAR   Ashorobuto        2.30 264   P     Pn                22 57 43.0 +1.2
JAR                                eS    Sn                22 58 10.8 +1.1
JOB   Onbets            2.34 255   P     Pn                22 57 43.5 +1.1
JOB                                eS    Sn                22 58 10.6  0.0
JCH   Churui            2.77 251  eP     Pn                22 57 49.0 +0.8
JCH                                S     Sn                22 58 21.2 +0.1
YSS   Yuzhno-Sakhali    4.48 321  eP     Pn                22 58 13.0 +1.2
YSS                                AMB   AMB               22 58 14.4
        10.0nm,0.3s
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NEIC ***29*** *22:57:11.4±0.7, 66°.234N±0°.009×157°.17W±0°.04, h9km±3km, Error ellipse: s-maj=2.2km s-min=1.3km az=92.0*
AEIC 29 22:57:11.4±0.9, 66°.239N±0°.009×157°.19W±0°.04, h8km±3km, ML2.9, ML3.2/12(NEIC), Error ellipse: s-maj=2.2km s-min=1.3km az=91.0, Northern Alaska

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Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
G19K  Purcell Mounta    0.10 157   Pg    Pg                22 57 13.8 -0.1
G19K                               Sg    Sg                22 57 15.6  0.0
F19K  Shaleruckik Mo    0.64 339   Pb    Pb                22 57 24.7 -0.1
F19K                               Sg    Sg                22 57 32.6 +0.4
F19K                               IAML                    22 57 38.0
        comp=E,1μm,0.6s
G18K  Tagagawik         0.69 241   Pg    Pg                22 57 24.8 +0.1
G18K                               Sb    Sb                22 57 34.7 -0.6
G18K                               IAML                    22 57 37.4
        comp=N,1μm,0.8s
H19K  Roundabout Mou    0.78 157   Pg    Pg                22 57 26.3  0.0
H19K                               Sg    Sg                22 57 36.8 +0.4
F20K  Avaraart Lake     1.00  35   Pg    Pg                22 57 30.4 -0.2
F20K                               IAML                    22 57 47.1
        comp=N,813nm,0.6s
F20K                               IAML                    22 57 47.2
        comp=E,877nm,0.7s
F20K  Avaraart Lake     1.00  35   Sb                    22 57 44.1 -0.1
F18K  Selawik           1.06 291   Pg                    22 57 31.4 -0.2
F18K                               Sn                    22 57 46.5 -0.7
H18K  Honhosa River     1.20 205   Pb                    22 57 33.9 -0.3
H18K                               Sn    Sn                22 57 50.3 -0.4
H18K                               IAML                    22 57 53.1
        comp=E,475nm,0.4s
H18K                               IAML                    22 57 53.4
        comp=N,457nm,0.3s
H20K  Anotleneega Mo    1.21 127   Pb                    22 57 34.3 -0.1
H20K                               Sb                    22 57 49.9 -0.3
GCSA  Galena City Sc    1.50 175   Pb                    22 57 39.1 -0.4
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MOS ***29*** *23:22:02.4±1.1, 51°.79N×101°.51E, h9km, mb4.8/43, MS4.1/12, Error ellipse: s-maj=5.3km s-min=4.4km az=139.5*
MOS Felt (V) at Mondy, (IV-V) at Kyren, Shimki, Arshan, (IV) at Irkutsk, Angarsk, Meget, Shelekhov, Usol'ye- Sibirskoye, Cheremkhovo, Sayansk, Karymsk, Mikhaylovka, Mal'ta, Zima, Markova, Tal'yany, Molodyozhnyy, Dzerzhinsk, (III-IV) at Slyudyanka, Tyret' 1, Sredniy, Granovschina, Zalari, Belorechenskiy, Shamanka, Pad' Mel'nichnaya, Tibel'ti, (III) at Khomutovo, Bratsk, Bokson, Khokhorsk.
IDC ***29*** *23:22:02.0±0.4, 51°.77N×101°.61E, h0km, mb4.3/31, mbtmp4.2/38, ML2.8/6, MS4.0/68, Error ellipse: s-maj=10.1km s-min=8.0km az=20.0*
BYKL ***29*** *23:22:03.2±0.2, 51°.72N×101°.52E, h3km±3km, FELT I=V MSK at Mondy; IV-V at Kyren, Shimki, Arshan; IV at Irkutsk, Angarsk, Meget, Shelekhov, Usolye-Sibirskoye, Cheremkhovo, Sayansk, Zima, Talyany.*
NEIC ***29*** *23:22:04.4±1.3, 51°.78N±0°.07×101°.7E±0°.1, h10km±1km, mb4.7/245, Error ellipse: s-maj=13.4km s-min=10.9km az=214.0*
BJI ***29*** *23:22:05.8, 51°.59N×101°.87E, h19km, mB4.8/21, mb4.4/54, Ms4.9/57, Ms7 4.6/54*
GCMT ***29*** *23:22:06.4±0.2, 51°.65N±0°.02×101°.57E±0°.02, h22km±1km, MW4.8/95, Moment Tensor Solution. s35,c44; s95,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.42±.12; $M_{\theta\theta}$-0.21±.08; $M_{\phi\phi}$1.63±.08; $M_{r\theta}$-0.30±.14; $M_{\theta\phi}$1.34±.05; $M_{\phi r}$0.46±.11; Best double couple: $M_0$2.03800×10^{16} NP1:ϕ_s56.00000°, δ49.00000°, λ-48.00000°. NP2: ϕ_s182.00000°, δ56.00000°, λ-128.00000°. Principal axes: T 2.3550, Plg4.0000°, Azm297.0000°; N -0.6300, Plg31.0000°, Azm205.0000°; P -1.7220, Plg59.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NNC ***29*** *23:22:07.8±2.1, 52°.02N×100°.85E, h0km, mb4.5 Error ellipse: s-maj=21.5km s-min=20.4km az=87.0*
ISC 29 23:22:03.7±0.6, 51°.78N±0°.02×101°.63E±0°.02, h10km±3km, n845, σ1°64/893, mb4.7/199, MS4.1/73, 32C-22D, Tuva-Buryatia-Mongolia border region

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Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
MOY   Mondy             0.41 254  ⇑i Pg                 Pg        23 22 09.2 -2.6
MOY                                Pmax                    23 22 09.6
        39μm,0.5s
MOY                                eSg   Sg                23 22 13.9 -3.4
MOY                                Smax                    23 22 14.3
        339μm,0.9s
MOY   Mondy             0.41 254  ePG   Pg                23 22 09.3 -2.6
MOY                                i                       23 22 14.3
ARS   Arshan            0.51  74  ⇑i Pg                 Pb        23 22 15.1 +0.2
ARS                                Pmax                    23 22 15.5
        6μm,0.7s
ARS                                eSg   Sb                23 22 23.5 +1.1
ARS                                Smax                    23 22 24.8
        194μm,0.8s
ARS   Arshan            0.51  74  ⇑i PG                 Pb        23 22 15.1 +0.2
ARS                                e                       23 22 23.5
ARS                                pmax  pmax
        comp=Z,5μm,0.2s
ARS                                smax  smax
        comp=N,157μm,0.8s
TLY   Talaya            1.26  94  ⇑i Pg                 Pn        23 22 26.7 -0.7
TLY                                Pmax                    23 22 27.2
        comp=N,2μm,0.6s
TLY                                eSg   Sn                23 22 45.0 +0.6
TLY                                Smax                    23 22 49.3
        comp=N,35μm,0.5s
TLY   Talaya            1.26  94  ⇑i PG                 Pn        23 22 26.7 -0.7
TLY                                e                       23 22 45.0
TLY                                pmax  pmax
        comp=Z,2μm,0.6s
TLY                                smax  smax
        comp=N,35μm,0.5s
ORL   Orlik             1.35 305  ⇑i Pg                 Pn        23 22 27.5 -1.4
ORL     comp=N,4μm,1.3s
ORL     comp=N,8μm,1.3s            ⇓i Pg                 Pn        23 22 27.5 -1.4
ORL     comp=N,7μm,1.3s            ⇑i Pg                 Pn        23 22 27.5 -1.4
ORL                                Pmax                    23 22 28.8
        comp=N,8μm,0.5s
ORL                                eSg   Sb                23 22 44.8 -1.9
ORL                                Smax                    23 22 52.2
        comp=N,20μm,0.5s
ORL   Orlik             1.35 305  i PG                 Pn        23 22 27.4 -1.4
ORL                                i S                   Sb        23 22 44.9 -1.8
IRK   Irkutsk           1.70  73  ePg                   Pg        23 22 35.9 -0.4
IRK                                Pmax                    23 22 36.8
        comp=N,5μm,0.4s
IRK                                eSg   Sg                23 22 58.8 +0.5
IRK                                Smax                    23 23 03.5
        comp=N,83μm,0.9s
IRK   Irkutsk           1.70  73  ePN                   Pg        23 22 35.9 -0.4
IRK                                e                       23 22 58.5
IRK                                pmax  pmax
        comp=Z,5μm,0.4s
IRK                                smax  smax
        comp=N,83μm,0.9s
IVK   Ivanovka          1.73  88  ⇑i Pg                 Pb        23 22 35.4 -0.2
IVK                                Pmax                    23 22 36.9
        comp=N,9μm,0.5s
IVK                                eSg   Sg                23 22 59.6 +0.3
IVK                                Smax                    23 23 02.0
        comp=N,36μm,0.6s
IVK   Ivanovka          1.73  88  ePN                   Pb        23 22 35.8 +0.2
IVK                                e                       23 22 59.6
IVK                                pmax  pmax
        comp=Z,9μm,0.8s
IVK                                smax  smax
        comp=N,36μm,0.3s
ZAK   Zakamensk         1.75 143  ⇓i Pg                 Pn        23 22 33.8 -0.4
        comp=N,6μm,1.4s
ZAK                                ⇑i Pg                 Pn        23 22 33.8 -0.4
        comp=N,4μm,1.4s
ZAK                                ⇑i Pg                 Pn        23 22 33.8 -0.4
        comp=N,5μm,1.4s
ZAK                                Pmax                    23 22 34.4
        comp=N,4μm,0.8s
ZAK                                eSg   Sn                23 22 57.0 +0.5
ZAK                                Smax                    23 23 02.1
        comp=N,15μm,0.6s
ZAK   Zakamensk         1.75 143  ⇑i PN                 Pn        23 22 33.8 -0.4
ZAK                                e                       23 22 57.0
ZAK                                pmax  pmax
        comp=Z,4μm,0.4s
ZAK                                smax  smax
        comp=N,16μm,0.8s
LSTR  Listvyanka        1.99  86  ⇑i Pn                 Pb        23 22 39.5 -0.5
LSTR                               ⇓i Pg                 Pg        23 22 40.8 -1.1
LSTR                               Pmax                    23 22 41.1
        comp=N,1μm,0.7s
LSTR                               eSg   Sg                23 23 06.7 -0.9
LSTR                               Smax                    23 23 09.3
        comp=N,20μm,1.0s
LSTR  Listvyanka        1.99  86  ePN                   Pb        23 22 40.6 +0.6
LSTR                               e                       23 23 06.6
LSTR                               pmax  pmax
        comp=Z,1μm,0.7s
LSTR                               smax  smax
        comp=N,20μm,1.0s
BGT   Bolshoye Golou    2.35  82  ePg                   Pb        23 22 46.2  0.0
BGT                                e                       23 22 48.5
BGT                                max                     23 22 49.8
        comp=N,5μm,0.4s
BGT                                eSg   Sg                23 23 18.1 -1.2
BGT                                Smax                    23 23 20.0
        comp=N,72μm,0.7s
BGT   Bolshoye Golou    2.35  82  ePN                   Pb        23 22 45.8 -0.4
BGT                                e                       23 22 47.2
BGT                                e                       23 23 18.1
BGT                                pmax  pmax
        comp=Z,5μm,0.4s
BGT                                smax  smax
        comp=N,71μm,0.7s
VBR   Suhoy Ruchey      2.72  88  ePg                   Pb        23 22 53.4 +0.9
VBR                                eSg   Sg                23 23 29.2 -2.0
STDB  Stepnoy Dvoret    2.96  81  ePg                   Pb        23 22 56.0 -0.5
STDB                               eSg   Sg                23 23 35.7 -2.9
TRG   Tyrgan            3.06  69  ⇓i PN                 Pn        23 22 53.7 +1.5
TRG                                e                       23 22 55.5
TRG                                ePg   Pg                23 23 00.4 -1.9
TRG                                Pmax                    23 23 03.2
        comp=N,844nm,0.4s
TRG                                eSn   Sn                23 23 31.5 +2.6
TRG                                eSg   Sg                23 23 40.6 -1.4
TRG                                e                       23 23 47.4
TRG                                max                     23 23 48.0
        comp=N,25μm,1.5s
TRG   Tyrgan            3.06  69  ePN                   Pn        23 22 55.1 +2.9
TRG                                e                       23 23 00.9
TRG                                eS    Sn                23 23 31.5 +2.6
TRG                                e                       23 23 40.3
TRG                                pmax  pmax
        comp=Z,983nm,0.4s
TRG                                smax  smax
        comp=N,16μm,0.8s
KAB   Kabansk           3.12  83  e                     Pb        23 22 58.4 -0.9
KAB                                ePg   Pg                23 23 00.8 -2.7
KAB                                Pmax                    23 23 01.3
        comp=N,2μm,0.7s
KAB                                e                       23 23 37.8
KAB                                eSg   Sg                23 23 42.6 -1.4
KAB                                max                     23 23 52.7
        comp=N,40μm,1.5s
FFNB  Fofonovo          3.19  83  ePn                   Pn        23 22 55.5 +1.5
FFNB                               e                       23 22 59.4
FFNB                               ePg   Pb                23 23 01.5 +1.0
FFNB                               e                       23 23 39.1
FFNB                               eSg   Sg                23 23 44.0 -2.2
HRMR  Khuramsha         3.32  91  ⇑i Pn                 Pn        23 22 57.3 +1.6
HRMR                               e                       23 23 00.9
HRMR                               ePg   Pb                23 23 04.0 +1.3
HRMR                               Pmax                    23 23 05.0
        comp=N,2μm,0.4s
HRMR                               eSn   Sn                23 23 37.6 +2.4
HRMR                               e                       23 23 43.7
HRMR                               eSg   Sg                23 23 48.6 -1.6
HRMR                               Smax                    23 23 51.9
        comp=N,35μm,0.5s
TDJR  Todzha            3.47 282  ePg                   Pb        23 23 05.9 +0.7
TDJR                               eSg   Sb                23 23 50.7 +3.3
TDJR  Todzha            3.47 282  PN                    Pb        23 23 05.9 +0.7
TDJR                                                              23 23 50.7
ZRHB  Zarechye          3.49  75  ePg                   Pb        23 23 07.4 +1.8
ZRHB                               Pmax                    23 23 15.9
        comp=N,6μm,1.0s
ZRHB                               eSg   Sg                23 23 53.0 -2.7
ZRHB                               Smax                    23 24 37.9
        comp=N,51μm,1.3s
TSC   Tosontsengel      3.71 217  ⇓i Pn                 Pn        23 23 01.9 +0.7
TSC                                ePg   Pb                23 23 08.8 -0.7
TSC                                i Sg                  Sb        23 23 56.7 +2.2
UUDB  Ulan-Yde          3.75  86  ePn                   Pn        23 23 03.5 +1.9
UUDB                               e                       23 23 07.2
UUDB                               ePg   Pb                23 23 12.3 +2.4
UUDB                               Pmax                    23 23 18.6
        comp=N,2μm,1.1s
UUDB                               e                       23 23 52.9
UUDB                               eSg   Sg                23 24 02.1 -1.8
UUDB                               Smax                    23 24 06.9
        comp=N,14μm,1.1s
OGRR  Ongureny          4.08  60  ePn                   Pn        23 23 08.3 +2.1
OGRR                               ePg   Pb                23 23 17.9 +2.3
OGRR                               e                       23 23 20.6
OGRR                               max                     23 23 22.4
        comp=N,645nm,0.3s
OGRR                               e                       23 23 57.2
OGRR                               e                       23 24 09.7
OGRR                               eSg   Sg                23 24 13.0 -1.6
OGRR                               max                     23 24 16.4
        comp=N,10μm,0.9s
OGRR  Ongureny          4.08  60  ePN                   Pn        23 23 08.8 +2.6
OGRR                               e                       23 23 18.7
OGRR                               eS    Sn                23 23 54.9 +0.9
OGRR                               e                       23 24 10.3
OGRR                               pmax  pmax
        comp=Z,814nm,0.8s
OGRR                               smax  smax
        comp=N,10μm,1.4s
KELR  Kotokel           4.08  74  ePn                   Pn        23 23 08.8 +2.6
KELR                               ePg   Pb                23 23 17.8 +2.1
KELR                               e                       23 23 24.5
KELR                               eSg   Sg                23 24 11.8 -2.9
GORB  Goryachinsk       4.25  71  ePn                   Pn        23 23 09.8 +1.2
GORB                               ePg   Pb                23 23 20.3 +1.7
GORB                               e                       23 24 03.6
GORB                               eSg   Sg                23 24 17.1 -3.1
KZLR  Kyzyl             4.46 272  eSg                   Sb        23 24 16.9 +1.0
KZLR  Kyzyl             4.46 272  PN                    Pb        23 23 19.9 -2.2
KZLR                                                              23 24 16.9
HVS   Khovu-Aksy        5.00 266  i PN                  Pb        23 23 30.0 -1.3
HVS                                i S                   Sb        23 24 33.6 +2.1
SONM  Songino Array     5.01 140                        Pn        23 23 18.4 -0.7
SONM                               Pb                    Pb        23 23 33.1 +1.5
SONM                               Sg                    Sg        23 24 39.5 -5.0
SONM  Songino Array     5.01 140   Pn                   Pn        23 23 18.0 -1.1
        comp=N,0.6nm,0.3s,baz=318,slow=14,SNR=26
SONM                               Pg                    Pb        23 23 33.0 +1.4
        comp=N,87nm,0.3s,baz=331,slow=17,SNR=356
SONM                               Lg    Lg                23 24 40.2
        comp=N,277nm,0.3s,baz=317,slow=26,SNR=21
SONM                               LR    LR                23 25 35.3
        comp=N,2μm,20.0s,baz=316,slow=42
I34MN SONGINO INFRAS    5.04 140   Lg    Lg                23 24 40.8
        baz=326,slow=28
ARDR  Aradan            5.11 282   PN                    Pb        23 23 31.0 -2.2
ARDR                                                              23 24 35.7
TBRR  Tiberkul'         5.22 297  i PN                  Pb        23 23 36.1 +1.0
TBRR                               i S                   Sb        23 24 43.9 +6.0
ULN   Ulaanbaatar       5.26 136   Pn                   Pn        23 23 21.8 -0.7
ULN                                Pb                    Pb        23 23 38.0 +2.2
ULN                                Sg                    Sg        23 24 48.7 -3.8
ULN   Ulaanbaatar       5.26 136  ePn                   Pn        23 23 22.4 -0.1
ULN                                ePg   Pb                23 23 37.2 +1.4
ULN                                Pmax                    23 23 39.2
        comp=N,623nm,0.9s
ULN                                eSn   Sn                23 24 22.5 -0.8
ULN                                eSg   Sg                23 24 46.8 -5.7
ULN                                Smax                    23 24 59.5
        comp=N,6μm,1.8s
ULN   Ulaanbaatar       5.26 136   PN                   Pn        23 23 21.8 -0.7
ULN                                                              23 24 48.7
SYVR  Suvo              5.42  66  ePn                   Pn        23 23 27.1 +2.5
SYVR                               ePg   Pb                23 23 41.6 +3.1
SYVR                               Pmax                    23 23 46.9
        comp=N,227nm,0.9s
SYVR                               eSn   Sn                23 24 27.1  0.0
SYVR                               eSg   Sg                23 24 53.2 -4.5
SYVR                               Smax                    23 25 23.3
        comp=N,3μm,1.8s
SYVR  Suvo              5.42  66  ePN                   Pn        23 23 27.7 +3.1
SYVR                               e                       23 23 41.3
SYVR                               e                       23 24 52.6
SYVR                               pmax  pmax
        comp=Z,236nm,1.0s
SYVR                               smax  smax
        comp=E,3μm,1.5s
MINR  Mina              5.44 308   PG                   Pg        23 23 44.5 -3.3
NIZB  Nizh Angarsk      6.16  46  ePn                   Pn        23 23 36.6 +1.8
NIZB                               max                     23 23 38.0
        comp=E,694nm,1.1s
NIZB                               eSn   Sn                23 24 45.5 +0.3
NIZB                               eSg   Sg                23 25 16.7 -4.7
NIZB                               Smax                    23 25 22.1
        comp=E,12μm,1.0s
ULG   Ulaangom          6.33 257  ePg                   Pb        23 23 54.6 +0.7
ULG                                i Sg                  Sb        23 25 15.2 +5.6
CERR  Cheremushki       6.36 284  eSg                   Sb        23 25 17.1 +6.7
CERR  Cheremushki       6.36 284  PN                    Pb        23 23 53.3 -1.1
CERR                                                              23 25 17.1
DJO   Djoy, Khakassi    6.47 283   PN                   Pb        23 23 55.7 -0.6
DJO                                                               23 25 18.8
ABNR  Abakan            6.49 291  i PG                  Pb        23 23 58.6 +2.0
ABNR                               i S                   Sb        23 25 22.9 +8.7
YLYR  Ulyunkhan         6.50  58  ePn                   Pn        23 23 41.2 +1.8
YLYR                               ePg   Pb                23 24 01.6 +4.8
YLYR                               Pmax                    23 24 18.9
        comp=E,215nm,1.1s
YLYR                               e                       23 24 58.1
YLYR                               eSg   Sg                23 25 27.8 -4.3
YLYR                               Smax                    23 25 33.5
        comp=E,4μm,1.4s
YLYR  Ulyunkhan         6.50  58  ePN                   Pn        23 23 41.5 +2.1
YLYR                               e                       23 24 01.5
SHTK  Zheleznogorsk-    6.56 317   PG                   Pb        23 24 03.5 +5.6
SHTK                                                              23 25 29.4
KRAR  Krasnoyarsk       6.69 313  i PG                  Pb        23 24 03.7 +3.7
KMO   Kumora            7.00  50  ePn                   Pn        23 23 48.9 +2.7
KMO                                max                     23 24 16.8
        comp=E,262nm,0.3s
KMO                                e                       23 25 08.6
KMO                                eSg   Sg                23 25 43.3 -4.9
KMO                                Smax                    23 25 56.2
        comp=E,8μm,1.3s
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KMO Kumora 7.00 50 *e*PN **Pn 23 23 48.9 +2.7**
KMO *e*S **Sg 23 25 44.1 -4.1**
KMO smax smax
comp=E,8μm,1.4s
KPC Khapcheranga 7.13 103 *e*Pn **Pn 23 23 49.0 +0.9**
KPC *e*Pg Pb 23 24 12.4 +4.8
KPC Pmax 23 24 15.0
comp=E,183nm,1.1s
KPC *e*Sn Sn 23 25 18.9 +10
KPC *e*Sg **Sg 23 25 45.7 -6.8**
KPC Smax 23 25 52.5
comp=E,5μm,1.8s
KPC Khapcheranga 7.13 103 *e*PN **Pn 23 23 48.3 +0.2**
KPC *e* 23 24 11.6
KPC *e* 23 25 46.0
KPC pmax pmax
comp=Z,183nm,1.3s
KPC smax smax
comp=N,5μm,1.9s
TEL Teeli 7.19 268 PG **Pb 23 24 10.0 +1.3**
TEL 23 25 42.6
CIT Chita 7.38 83 *e*Sg **Sg 23 25 54.3 -6.2**
CIT Smax 23 26 04.4
comp=N,4μm,1.3s
SHRR Shira 7.41 296 *i* PG **Pb 23 24 15.6 +3.2**
UKT Uakit 8.04 58 *e*Pn **Pn 23 24 02.0 +1.5**
UKT *e* 23 24 20.6
UKT max 23 24 28.6
comp=N,81nm,1.1s
UKT *e* 23 25 53.8
UKT *e*Sg **Sg 23 26 15.5 -6.0**
UKT Smax 23 26 25.0
comp=N,3μm,1.3s
UKT Uakit 8.04 58 *e*PN **Pn 23 24 02.1 +1.5**
UKT *e* 23 24 28.3
UKT pmax pmax
comp=Z,48nm,0.6s
BOD Bodaibo 9.35 45 *e*Pn **Pn 23 24 19.6 +1.1**
BOD max 23 24 53.0
comp=Z,183nm,1.2s
BOD *e*Sn **Sn 23 26 01.1 -2.5**
BOD *e*Sg 23 26 56.2
BOD Smax 23 27 07.0
comp=Z,3μm,1.6s
BOD Bodaibo 9.35 45 *e*P **Pn 23 24 19.3 +0.8**
BOD pmax pmax
comp=Z,100nm,1.1s
VTMR Vitim 9.84 34 P **Pn 23 24 25.7 +0.6**
VTMR S **Sn 23 26 11.1 -4.4**
ZAA0 Zalesovo Array 10.39 289 Pn **Pn 23 24 32.6 -0.1**
ZAA0 Zalesovo Array 10.39 289 ⇓Pn **Pn 23 24 30.5 -2.3**
comp=Z,5.4nm,1.1s
ZAA0 ⇓Lg Lg 23 27 19.5
comp=Z,72nm,1.2s
ZALV Zalesovo Beam 10.39 289 Pn **Pn 23 24 33.3 +0.6**
ZALV Zalesovo Beam 10.39 289 Pn **Pn 23 24 33.9 +1.1**
comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=4.6
ZALV Lg Lg 23 27 25.6
comp=Z,3.3nm,0.3s,baz=104,slow=25,SNR=9.7
ZALV LR LR 23 28 36.3
comp=Z,562nm,19.6s,baz=92,slow=38
comp=Z,1.2nm,0.7s
CRS Chara 10.97 56 *e*Pn **Pn 23 24 43.6 +2.9**
CRS *e*Pg 23 25 22.8
CRS Pmax 23 25 30.1
comp=Z,89nm,1.5s
CRS *e*Sg 23 27 45.1
CRS Smax 23 28 01.2
comp=Z,2μm,1.5s
TUP Tupik 11.33 69 *e*Pn **Pn 23 24 48.4 +2.9**
TUP max 23 24 56.6
comp=Z,65nm,2.0s
TUP *e*Sn **Sn 23 26 49.4 -2.7**
TUP *e*Sg 23 27 55.7
TUP Smax 23 28 18.5
comp=Z,2μm,1.6s
TUP Tupik 11.33 69 *e*P **Pn 23 24 48.2 +2.7**
TUP *e*S **Sn 23 26 49.6 -2.5**
TUP pmax pmax
comp=Z,35nm,1.7s
TUP smax smax
comp=N,2μm,1.7s
HIA Hailar 11.80 95 *e*Sg 23 28 09.6
KHNR Khani 11.86 57 P **Pn 23 24 56.8 +3.9**
KHNR S **Sn 23 27 02.2 -3.0**
WMQ Urumqi 12.28 235 *e*P Pn 23 25 04.5 +5.9
WMQ LR LR
comp=N,3μm,7.1s
WMQ LR LR
comp=N,2μm,10.5s
WMQ LR LR
comp=N,590nm,12.9s
GTA Gaotai 12.44 187 P **Pn 23 25 02.5 +1.7**
GTA pmax pmax
comp=N,9.0nm,1.2s
GTA LR LR
comp=N,1μm,11.2s
GTA LR LR
comp=N,4μm,10.8s
GTA LR LR
comp=N,2μm,15.9s
XLT XiLinHaoTe 12.49 123 *e*P **Pn 23 25 03.0 +1.5**
XLT S **Sn 23 27 24.5 +3.8**
XLT pmax pmax
comp=N,9.0nm,0.8s
XLT LR LR
comp=N,260nm,9.6s
XLT LR LR
comp=N,2μm,6.5s
XLT LR LR
comp=N,3μm,9.1s
YKLR Yuktali 12.66 60 P **Pn 23 25 07.2 +3.5**
YKLR S **Sn 23 27 23.6 -1.0**
HHC Hu-ho-hao-te 12.89 144 *e*P **Pn 23 25 08.3 +1.2**
HHC S **Sn 23 27 31.5 +0.9**
HHC pmax pmax
comp=N,15nm,0.6s
HHC pmax pmax
comp=N,180nm,5.5s
HHC LR LR
comp=N,3μm,8.8s
HHC LR LR
comp=N,2μm,8.0s
HHC LR LR
comp=N,4μm,9.2s
MK31 Makanchi Array 13.56 256 **Pn 23 25 16.9 +0.8**
MK31 Makanchi Array 13.56 256 ⇓Pn **Pn 23 25 17.0 +1.0**
comp=N,8.8nm,0.9s,baz=67,slow=13,SNR=13
MK31 ⇑Lg Lg 23 29 03.6
comp=N,266nm,1.5s,baz=65,slow=28,SNR=5.7
MK31 Makanchi Array 13.56 256 ⇑*i*P **Pn 23 25 17.4 +1.3**
MKAR Makanchi Array 13.56 256 **Pn 23 25 16.9 +0.8**
MKAR Makanchi Array 13.56 256 Pn **Pn 23 25 17.2 +1.2**
comp=N,0.1nm,0.3s,baz=72,slow=10,SNR=12
MKAR Sn **Sn 23 27 43.1 -3.6**
comp=N,0.4nm,0.3s,baz=60,slow=17,SNR=1.7
MKAR Lg Lg 23 29 09.6
comp=N,0.5nm,0.3s,baz=59,slow=33,SNR=6.8
MKAR LR LR 23 30 35.4
comp=N,938nm,19.0s,baz=54,slow=38
comp=N,0.9nm,0.7s
MKAR Makanchi Array 13.56 256*c e*P **Pn 23 25 17.8 +1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MAKZ Makanchi 13.74 257 **Pn 23 25 18.2 -0.3**
MAKZ Makanchi 13.74 257 ⇑Pn **Pn 23 25 19.4 +0.9**
comp=Z,12nm,1.1s
MAKZ ⇓Lg Lg 23 29 10.6
comp=Z,257nm,1.5s
MAKZ Makanchi 13.74 257 P **Pn 23 25 18.2 -0.3**
TNDR Tynda 14.14 67 P **Pn 23 25 25.8 +1.9**
KURK Kurchatov 14.44 275 Pn **Pn 23 25 28.2 +0.2**
KURK P **P 23 25 35.3 +0.4**
KURK Kurchatov 14.44 275 ⇓Pn **Pn 23 25 28.1 +0.1**
comp=Z,17nm,0.9s
KURK ⇑Lg Lg 23 29 29.5
comp=Z,142nm,1.2s
KURK Kurchatov 14.44 275*d i*P **Pn 23 25 28.5 +0.5**
KURK pmax pmax
comp=Z,10.0nm,0.8s
CLNS Chul'man 14.46 60 P **Pn 23 25 29.6 +1.3**
KURBB Kurchatov Arra 14.52 275 Pn **Pn 23 25 28.9 -0.1**
baz=76,slow=12,SNR=19
KURBB Lg Lg 23 29 43.4
comp=Z,0.2nm,0.3s,baz=80,slow=27,SNR=4.0
KURBB LR LR 23 31 00.9
comp=Z,525nm,21.2s,baz=199,slow=37
comp=Z,4.1nm,0.9s
KURBB Kurchatov Arra 14.52 275 ⇑Pn **Pn 23 25 28.0 -1.1**
comp=Z,29nm,1.1s
KURBB ⇓Lg Lg 23 29 33.5
comp=Z,403nm,1.3s
KURBB Kurchatov Arra 14.52 275 P **Pn 23 25 28.0 -1.1**
ALDR Aldan 15.15 54 P **Pn 23 25 38.4 +0.8**
ZEA Zeya 15.61 73 *e*P **P 23 25 51.1 +3.3**
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=E,600nm,7.0s
ZEA MLR MLR
comp=Z,900nm,10.0s
LZH Lanzhou 15.77 173 *e*P **P 23 25 53.8 +3.9**
LZH sP sP 23 26 01.5 +7.1
LZH S Sn 23 28 27.5 -13
LZH pmax pmax
comp=Z,40nm,0.7s
LZH LR LR
comp=N,2μm,9.3s
LZH LR LR
comp=E,6μm,8.6s
LZH LR LR
comp=Z,2μm,11.0s
HEH HeiHe 16.27 85 *e*P **P 23 25 55.0 -0.2**
HEH S **Sn 23 28 55.0 +2.4**
GOMU GeErMu 16.32 200 P **Pn 23 25 52.3 -0.9**
GOMU pP P 23 25 56.5 +0.3
GOMU S **Sn 23 28 59.3 +4.9**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU LR LR
comp=Z,2μm,11.7s
GOMU LR LR
comp=Z,950nm,11.4s
GOMU LR LR
comp=Z,3μm,12.0s
HNS HongShan 17.09 142 ⇓P **Pn 23 26 03.3 +0.7**
HNS S **Sn 23 29 11.3 -1.2**
HNS pmax pmax
comp=Z,26nm,1.1s
HNS LR LR
comp=Z,2μm,11.2s
HNS LR LR
comp=Z,1μm,12.2s
HNS LR LR
comp=Z,2μm,11.0s
PDGK Podgornoye 17.12 249 ⇑Pn **Pn 23 26 03.9 +0.8**
comp=Z,25nm,1.1s
PDGK ⇓Lg Lg 23 31 01.2
comp=Z,103nm,1.5s
PDGK Podgornoye 17.12 249 P **Pn 23 26 03.0 -0.1**
SHLS Shalkode 17.24 249 *e*P **Pn 23 26 02.2 -2.4**
UZB Uzynbulak 17.50 249 *e*P **P 23 26 09.1 +0.1**
ARXS Arharly 17.58 254 *e*P **P 23 26 12.9 +3.0**
BLSR Buluus 17.75 47 P **Pn 23 26 09.1 -1.5**
BLSR S **Sn 23 29 19.9 -8.3**
CN2 Changchun 17.82 107 *e*P **P 23 26 18.0 +5.6**
CN2 *e*PP **PnPn 23 26 33.0 +11**
CN2 *e*S **S 23 29 36.0 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,350nm,6.5s
CN2 LR LR
comp=N,2μm,12.0s
CN2 LR LR
comp=E,2μm,12.0s
CN2 LR LR
comp=Z,3μm,12.0s
BNX BinXian 17.98 99 ⇓P **P 23 26 16.0 +1.8**
BNX pP **sP 23 26 19.3 +0.3**
BNX S **S 23 29 38.3 -2.0**
BNX pmax pmax
comp=Z,9.0nm,1.3s
BNX pmax pmax
comp=Z,310nm,6.0s
BNX LR LR
comp=Z,2μm,10.3s
BNX LR LR
comp=Z,1μm,8.7s
BNX LR LR
comp=Z,1μm,10.8s
TBGR Tabaga 18.18 46 P **Pn 23 26 12.6 -3.4**
YAK Yakutsk 18.28 45 **Pn 23 26 15.9 -1.2**
YAK IAmb IAmb 23 26 33.0
comp=Z,50nm,0.8s
YAK Yakutsk 18.28 45 P **Pn 23 26 16.6 -0.5**
comp=Z,15nm,0.3s,baz=243,slow=11,SNR=6.3
YAK LR LR 23 33 31.9
comp=Z,648nm,18.9s,baz=250,slow=38
YAK Yakutsk 18.28 45 *e*P **Pn 23 26 16.6 -0.5**
YAK *e*S **Sn 23 29 36.5 -4.5**
YAK pmax pmax
comp=Z,12nm,0.6s
YAK smax smax
comp=E,41nm,0.9s
YAK MLR MLR
comp=Z,595nm,13.0s
BRZS Berezniki 18.31 276 *e*P **P 23 26 23.5 +5.8**
XAN Xi'an 18.50 161 P **P 23 26 18.5 -1.5**
XAN S **Sn 23 29 39.8 -7.0**
XAN pmax pmax
comp=Z,13nm,1.0s
XAN pmax pmax
comp=Z,250nm,6.2s
XAN LR LR
comp=Z,3μm,15.1s
XAN LR LR
comp=Z,2μm,12.5s
XAN LR LR
comp=Z,3μm,13.6s
ANVS Anan'yevo 18.51 250 P **Pn 23 26 21.9 +1.5**
MDOK Medeo 18.65 252 Pn **P 23 26 20.8 -0.9**
comp=Z,11nm,1.0s
MDOK Lg Lg 23 31 48.0
comp=Z,43nm,1.4s
MDOK Medeo 18.65 252 P **P 23 26 20.8 -0.9**
NRIK Noril'sk 18.83 344 P **P 23 26 23.2 -0.1**
NRIK IAmb IAmb 23 26 50.2
comp=Z,38nm,0.8s
NRIK Noril'sk 18.83 344 P **P 23 26 23.2 -0.1**
comp=Z,19nm,0.9s,baz=134,slow=9.5,SNR=13
NRIK S **Sn 23 29 54.3 0.0**
comp=Z,23nm,0.7s,baz=217,slow=21,SNR=4.1
NRIK LR LR 23 34 41.8
comp=Z,114nm,19.3s,baz=157,slow=40
LYN LuoYang 18.91 151 P **Pn 23 26 25.0 0.0**
LYN pP sP 23 26 28.8 -0.2
LYN pmax pmax
comp=Z,21nm,0.8s
LYN pmax pmax
comp=Z,260nm,4.4s
LYN LR LR
comp=Z,2μm,8.9s
LYN LR LR
comp=Z,5μm,13.1s
LYN LR LR
comp=Z,2μm,17.2s
DL2 Dalian 18.98 125 P **P 23 26 22.5 -2.7**
DL2 S **Sn 23 29 50.5 -7.7**
DL2 pmax pmax
comp=Z,64nm,1.3s
DL2 pmax pmax
comp=Z,300nm,5.1s
DL2 LR LR
comp=Z,2μm,11.0s
DL2 LR LR
comp=Z,1μm,10.2s
DL2 LR LR
comp=Z,3μm,10.6s
BVA0 Borovoye Array 19.03 286 Pn **P 23 26 25.1 -0.6**
comp=Z,9.2nm,1.0s,baz=81,slow=10,SNR=20
BVA0 ⇑Lg Lg 23 31 54.0
comp=Z,94nm,1.4s
BVA0 Borovoye Array 19.03 286 P **P 23 26 25.5 -0.1**
BVAR Borovoye Array 19.03 286 P **P 23 26 24.7 -0.9**
baz=79,slow=9.7,SNR=10
comp=Z,3.8nm,0.9s
TIA Tai'an 19.08 139 P **Pn 23 26 27.0 -0.1**
TIA S **S 23 30 02.5 -0.1**
TIA pmax pmax
comp=Z,13nm,1.0s
TIA pmax pmax
comp=Z,260nm,6.3s
TIA LR LR
comp=Z,2μm,10.6s
TIA LR LR
comp=Z,2μm,10.6s
TIA LR LR
comp=Z,5μm,11.4s
BRVK Borovoye 19.09 286 P **P 23 26 25.9 -0.4**
BRVK Borovoye 19.09 286 ⇓Pn **P 23 26 25.7 -0.6**
comp=Z,8.4nm,0.9s
BRVK ⇑Lg Lg 23 31 57.4
comp=Z,85nm,1.5s
BRVK Borovoye 19.09 286*d i*P **P 23 26 25.6 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
KDJ Kajisay 19.20 249 **P 23 26 28.3 +0.6**
KDJ Kajisay 19.20 249 P **P 23 26 28.3 +0.6**
KDJ pmax pmax
comp=Z,13nm,1.0s
KLR Kul'dur 19.26 86 P **P 23 26 28.2 0.0**
baz=287,slow=10,SNR=6.6
KLR Lg Lg 23 32 12.8
comp=Z,0.1nm,0.3s,baz=32,slow=21,SNR=7.8
KLR LR LR 23 34 42.5
comp=Z,563nm,18.1s,baz=289,slow=40
comp=Z,1.9nm,0.8s
KLR Kul'dur 19.26 86*c i*P **Pn 23 26 30.5 +1.3**
KLR pmax pmax
comp=Z,11nm,1.4s
KLR MLR MLR
comp=Z,748nm,15.0s
BTLS Baital 19.43 261 *e*P **Pn 23 26 33.0 +1.7**
BOOM Boomskoye usch 19.70 252 P **P 23 26 33.7 +0.4**
BOOM Boomskoye usch 19.70 252 P **P 23 26 33.7 +0.4**
BOOM pmax pmax
comp=Z,17nm,1.0s
FRU1 Bishkek 20.29 254 P Pn 23 26 41.5 0.0
FRU1 Bishkek 20.29 254 P Pn 23 26 41.5 -0.1
FRU1 pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 20.48 254 P **P 23 26 42.4 +0.8**
AAK Ala-Archa 20.48 254 P **P 23 26 42.6 +1.0**
comp=Z,0.8nm,0.3s,baz=30,slow=7.8,SNR=6.8
AAK Lg Lg 23 32 51.0
comp=Z,0.1nm,0.3s,baz=146,slow=17,SNR=4.9
AAK LR LR 23 34 58.3
comp=Z,456nm,18.1s,baz=44,slow=38
comp=Z,0.8nm,0.3s
AAK Ala-Archa 20.48 254*d i*P **P 23 26 42.5 +0.8**
AAK pmax pmax
comp=Z,7.0nm,1.0s
USA0B Ussuriysk Arra 21.57 99 P **P 23 26 53.7 +0.4**
USA0B IAmb IAmb 23 27 06.6
comp=Z,61nm,1.5s
USA0B Ussuriysk Arra 21.57 99 ⇑*i*P **P 23 26 53.8 +0.6**
USRK Ussuriysk Ar. 21.57 99 P **P 23 26 53.9 +0.7**
USRK Ussuriysk Ar. 21.57 99 P **P 23 26 54.8 +1.5**
comp=Z,11nm,1.0s,baz=308,slow=9.4,SNR=8.9
USRK Lg Lg 23 33 26.6
comp=Z,0.2nm,0.3s,baz=310,slow=19,SNR=5.1
USRK LR LR 23 36 06.3
comp=Z,382nm,20.7s,baz=306,slow=39
comp=Z,11nm,1.0s
KSH Kashi 21.60 245 P **P 23 26 59.8 +6.1**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH LR LR
comp=Z,1μm,13.7s
KSH LR LR
comp=Z,1μm,14.4s
KSH LR LR
comp=Z,980nm,15.5s
ARSB Arslanbob 22.16 253 P **P 23 27 00.1 +0.2**
ARSB IAmb IAmb 23 27 11.5
comp=Z,59nm,1.4s
ARSB Arslanbob 22.16 253 P **P 23 27 00.1 +0.2**
ARSB pmax pmax
comp=Z,59nm,1.4s
ARK Arkit 22.49 255 P **P 23 27 06.3 +3.0**
KK31 Karatay Array 22.62 260 P **P 23 27 04.9 +0.3**
KK31 Karatay Array 22.62 260 P **P 23 27 04.9 +0.3**
KK31 pmax pmax
comp=Z,15nm,1.0s
KKAR Karatay Array 22.62 260 P **P 23 27 05.3 +0.8**
KKAR Karatay Array 22.62 260 P **P 23 27 05.4 +0.8**
KKAR IAmb IAmb 23 27 46.9
comp=Z,9.3nm,1.0s
KKAR Karatay Array 22.62 260 P **P 23 27 05.4 +0.8**
WHN Wuhan 23.21 151 P **P 23 27 11.3 +0.6**
WHN S **S 23 31 22.5 0.0**
WHN pmax pmax
comp=Z,50nm,0.9s
WHN LR LR
comp=Z,3μm,15.3s
WHN LR LR
comp=Z,3μm,14.1s
TIXI Tiksi 23.33 21 P **P 23 27 11.7 0.0**
TIXI Tiksi 23.33 21 LR LR 23 36 37.9
comp=Z,473nm,19.1s,baz=238,slow=38
TIXI Tiksi 23.33 21 ⇓*i*P **P 23 27 10.8 -0.8**
TIXI pmax pmax
comp=Z,47nm,1.7s
TIXI MLR MLR
comp=Z,526nm,17.0s
KSAR Wonju Array Be 23.39 117 P **P 23 27 12.8 +0.3**
KSAR Wonju Array Be 23.39 117 P **P 23 27 12.8 +0.3**
KSRS Korea Array 23.40 117 P **P 23 27 13.2 +0.6**
comp=Z,2.5nm,0.8s,baz=321,slow=8.5,SNR=9.4
comp=Z,2.5nm,0.8s
NJ2 Nanjing 23.40 141 ⇑P **P 23 27 13.5 +0.8**
NJ2 pmax pmax
comp=Z,50nm,0.6s
DRK Karamyk 24.03 251 P **P 23 27 19.4 +0.4**
DRK Karamyk 24.03 251 P **P 23 27 19.4 +0.4**
DRK pmax pmax
comp=Z,15nm,1.2s
SVE Sverdlovsk 24.17 298 *e*P **P 23 27 20.4 +0.6**
SVE pmax pmax
comp=Z,22nm,0.9s
SVE MLR MLR
comp=Z,656nm,11.0s
SSE Sheshan 25.19 138 P **P 23 27 28.5 -0.8**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,140nm,3.5s
SSE LR LR
comp=Z,740nm,12.0s
SSE LR LR
comp=Z,680nm,11.8s
GAR Garm 25.22 252 P **P 23 27 29.6 -0.1**
GAR IAmb IAmb 23 27 50.5
comp=Z,16nm,0.8s
PZH PanZhiHua 25.24 180 P **P 23 27 33.8 +3.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
TYV Tymovskoe 25.42 76 *e*P **P 23 27 34.6 +3.4**
TYV pmax pmax
comp=Z,5.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,4.1s
ARTI Arti 25.45 298 P **P 23 27 31.1 -0.4**
ARTI IAmb IAmb 23 27 40.5
comp=Z,19nm,0.9s
ARTI Arti 25.45 298 P **P 23 27 30.8 -0.7**
comp=Z,7.4nm,0.6s,baz=106,slow=4.7,SNR=17
ARTI LR LR 23 37 09.2
comp=Z,143nm,20.5s,baz=88,slow=36
comp=Z,7.4nm,0.6s
ARTI Arti 25.45 298*d i*P **P 23 27 30.9 -0.6**
ARTI 23 28 03.8
ARTI S **S 23 31 59.4 +1.2**
ARTI SS **SnSn 23 32 51.7 +1.4**
ARTI pmax pmax
comp=Z,43nm,3.1s
ARTI MLR MLR
comp=Z,604nm,14.0s
CHGR Chuyangaron 26.12 253 P **P 23 27 38.2 +0.4**
CHGR Chuyangaron 26.12 253 P **P 23 27 38.2 +0.4**
SIMJ Simiganj 26.21 253 P **P 23 27 38.6 -0.1**
ABKAR Akbulak array 26.37 281 P **P 23 27 38.1 -1.8**
ABKAR Akbulak array 26.37 281 P **P 23 27 38.4 -1.5**
ABKAR IAmb IAmb 23 28 15.0

comp=Z,4.8nm,0.8s
KMI Kunming 26.63 178 P **P** **23 27 44.0 +1.4**
KMI S **S** **23 32 18.5 +0.8**
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI LR LR
comp=Z,190nm,11.2s
KMI LR LR
comp=Z,530nm,15.2s
TNCH TengChong 26.82 186 P **P** **23 27 47.3 +3.0**
TNCH S **S** **23 32 19.5 -1.0**
TNCH pmax pmax
comp=Z,180nm,2.9s
TNCH LR LR
comp=Z,1μm,12.7s
TNCH LR LR
comp=Z,390nm,12.8s
TNCH LR LR
comp=Z,1μm,11.2s
SHL Shillong 27.21 200 P **P** **23 27 48.1 +0.4**
SHL Shillong 27.21 200 P **P** **23 27 48.2 +0.4**
SHL pmax pmax
comp=Z,8.0nm,0.9s
ASAJ Asahikawa 28.18 89 LR LR 23 38 35.3
comp=Z,208nm,18.4s,baz=174,slow=35
MA2 Magadan 28.19 55 P **P** **23 27 56.5 +0.4**
MA2 IAmb IAmb 23 27 59.1
comp=Z,18nm,1.5s
MA2 Magadan 28.19 55 P **P** **23 27 56.5 +0.4**
MA2 pmax pmax
comp=Z,18nm,1.5s
MA2 Magadan 28.19 55 P **P** **23 27 54.4 -1.7**
comp=Z,11nm,2.2s
JNU Nakatsue 28.23 120 LR LR 23 40 09.0
comp=Z,297nm,18.6s,baz=216,slow=38
SEY Seymchan 28.76 47*ce*P **P** **23 28 02.6 +1.4**
SEY pmax pmax
comp=Z,21nm,2.1s
SEY MLR MLR
comp=Z,398nm,18.0s
KIRV Kirov 29.90 304 LR LR 23 41 23.0
comp=Z,463nm,18.5s,baz=76,slow=39
MJAR Matsushiro Arr 29.97 106 LR LR 23 39 07.6
comp=Z,126nm,18.8s,baz=318,slow=34
BRDH Bariadhala 30.06 199 LR LR 23 42 04.3
comp=Z,567nm,20.0s,baz=7.0,slow=40
SLVN Son La 30.44 176 P **P** **23 28 17.0 +0.6**
JOW Kunigami 32.01 131 LR LR 23 42 44.2
comp=Z,258nm,18.5s,baz=6.5,slow=39
CMAR Chiang Mai Arr 33.32 185 P **P** **23 28 40.9 -0.8**
comp=Z,0.8nm,0.3s,baz=0.5,slow=8.9,SNR=12
CMAR LR LR 23 43 22.6
comp=Z,665nm,18.2s,baz=10.0,slow=38
comp=Z,0.8nm,0.3s
CMAR Chiang Mai Arr 33.32 185*ce*P **P** **23 28 42.2 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 33.46 65 P **P** **23 28 42.9 +0.2**
PETK Petropavlovsk- 33.46 65 P **P** **23 28 43.9 +1.2**
comp=Z,6.8nm,0.8s,baz=303,slow=7.3,SNR=10
PETK LR LR 23 42 41.4
comp=Z,268nm,21.3s,baz=287,slow=37
comp=Z,6.8nm,0.8s
BILL Biiibino 34.30 37 P **P** **23 28 51.1 +1.3**
BILL Biiibino 34.30 37*d i*P **P** **23 28 51.3 +1.6**
BILL pmax pmax
comp=Z,20nm,1.1s
BILL MLR MLR
comp=Z,709nm,16.0s
KLMR Klimovskoe 34.35 310 *e*P **P** **23 28 46.9 -3.4**
KLMR pmax pmax
comp=Z,12nm,0.9s
VRH Novokhopyorsk 36.38 293 P P 23 29 00.9 -6.9
VRH pmax pmax
comp=Z,9.0nm,1.0s
MAK Makhachkala 36.93 278 *e*P P 23 29 07.8 -4.8
MAK *e*S **S** **23 34 51.5 -5.8**
MAK pmax pmax
comp=Z,33nm,0.9s
MAK MLR MLR
comp=Z,504nm,14.0s
LPSR Galich'ya Gora 37.37 297 P **P** **23 29 19.5 +3.3**
LPSR pmax pmax
comp=Z,13nm,1.1s
VORR Voronezh 37.60 295 P **P** **23 29 21.5 +3.3**
VORR pmax pmax
comp=Z,10.0nm,1.6s
OBN Obninsk 37.64 301 LR LR 23 45 06.1
comp=Z,206nm,19.0s,baz=6.5,slow=37
OBN Obninsk 37.64 301 *e*P **P** **23 29 17.8 -0.6**
OBN *e* 23 30 46.4
OBN *e*SS SS 23 37 39.6 -13
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,277nm,17.0s
ARCES ARCESS Array B 38.19 326 P **P** **23 29 22.9 -0.1**
comp=Z,3.4nm,0.9s,baz=71,slow=8.2,SNR=4.8
ARCES PcP **PcP** **23 31 36.4 -0.8**
comp=Z,4.4nm,0.7s,baz=72,slow=4.0,SNR=8.8
ARCES LR LR 23 46 40.1
comp=Z,316nm,18.4s,baz=72,slow=39
comp=Z,3.4nm,0.9s
SPITS Spitsbergen Ar 38.98 341 P **P** **23 29 29.9 +0.4**
comp=Z,5.0nm,0.5s,baz=91,slow=11,SNR=22
comp=Z,5.0nm,0.5s
KBZ Khabaz 39.33 282 P **P** **23 29 32.1 -0.7**
comp=Z,0.6nm,0.4s,baz=62,slow=2.5,SNR=4.6
comp=Z,0.6nm,0.4s
KIV Kislovodsk 39.33 283 P **P** **23 29 33.3 +0.3**
KIV Kislovodsk 39.33 283 *e*P **P** **23 29 33.5 +0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,98nm,16.0s
KIV Kislovodsk 39.33 283 P **P** **23 29 30.9 -2.1**
GNI Garni 40.23 276 LR LR 23 46 13.7
comp=Z,100nm,20.8s,baz=71,slow=36
FINES FINESS Array B 40.38 314 P **P** **23 29 41.3 -0.1**
FINES FINESS Array B 40.38 314 P **P** **23 29 41.1 -0.3**
comp=Z,4.8nm,0.5s,baz=71,slow=8.5,SNR=74
FINES LR LR 23 48 04.1
comp=Z,531nm,20.5s,baz=70,slow=39
comp=Z,4.8nm,0.5s
FINES FINESS Array B 40.38 314*ce*P **P** **23 29 41.2 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.5s
TGY Tagaytay City 40.66 151 LR LR 23 48 17.0
comp=Z,168nm,19.1s,baz=4.0,slow=39
MNK Minsk 42.44 304 *i* P **P** **23 29 58.9 +0.5**
comp=E,8.0nm,0.8s
MNK *i* P **P** **23 29 58.9 +0.5**
comp=N,6.0nm,0.7s
MNK *i* P **P** **23 29 58.9 +0.5**
comp=Z,12nm,0.8s,baz=61
MNK *i* PP **PP** **23 31 36.7 +0.3**
MNK *i* PPP PPP 23 32 06.4
MNK *i* S **S** **23 36 19.9 +0.1**
MNK *i* SS SS 23 39 13.6 -15
MNK *i* LQ LQ 23 45 51.5
MNK *i* LR LR 23 48 05.2
MNK *i* LRM MLR 23 49 09.0
comp=Z,241nm,12.7s
MNK *i* LRM MLR 23 49 45.0
comp=N,463nm,12.7s
MNK *i* LRM MLR 23 49 45.4
comp=E,482nm,15.4s
MNK Minsk 42.44 304 *i* P **P** **23 29 58.8 +0.5**
MNK *i* 23 31 36.7
MNK *i* 23 31 51.0
MNK *i* PPP PPP 23 32 06.4
MNK *i* S **S** **23 36 19.8 +0.1**
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK MLR MLR
comp=Z,241nm,13.0s
MNK MLR MLR
comp=N,463nm,13.0s
MNK MLR MLR
comp=E,482nm,15.0s
SHEM Shemya Is, Ala 42.62 59 LR LR 23 48 24.4
comp=E,158nm,20.0s,baz=4.0,slow=37
NACGM Naroch 42.82 305 *e*P **P** **23 30 01.6 +0.2**
comp=Z,2μm,1.0s,baz=62
GURO Guroymak-BITLI 42.87 276 P **P** **23 30 03.1 +0.9**
AK03 Malin Array Si 43.59 299 P **P** **23 30 05.4 -2.2**
AKASG Malin Array Be 43.60 298 P **P** **23 30 06.8 -0.9**
comp=Z,5.1nm,0.5s,baz=55,slow=8.8,SNR=22
AKASG LR LR 23 48 32.1
comp=Z,111nm,20.8s,baz=63,slow=36
comp=Z,5.1nm,0.5s
AKBB Malin Array Si 43.60 298 P **P** **23 30 05.7 -2.0**
AK01 Malin Array Si 43.61 298 P **P** **23 30 05.8 -2.0**
AK09 Malin Array Si 43.61 298 P **P** **23 30 05.8 -2.0**
AK08 Malin Array Si 43.62 298 P **P** **23 30 05.9 -2.0**
AK04 Malin Array Si 43.62 299 P **P** **23 30 05.9 -2.0**
PABE Paberze 43.95 307 P **P** **23 30 10.2 -0.3**
GAMB Gambell 44.10 40 P **P** **23 30 10.5 -1.1**
baz=297
MI28 Mi28,Pidlybu 44.33 299 P **P** **23 30 11.7 -1.9**
C16K Lisburne Hills 44.35 32 P **P** **23 30 14.7 +1.2**
C16K IAmb IAmb 23 30 16.4
comp=Z,18nm,1.2s
C16K Lisburne Hills 44.35 32 P **P** **23 30 13.0 -0.6**
baz=297
TNA Tin City 44.72 36 P **P** **23 30 16.2 -0.3**
baz=298
A19K Wainwright 44.78 29 P **P** **23 30 16.7 -0.2**
baz=299
LUBAR Lubar, Ukraine 44.81 298 P **P** **23 30 15.4 -2.1**
C17K DeLong Mountai 44.96 31 P **P** **23 30 18.5 +0.1**
baz=299
B18K Kokolik River 44.97 30 P **P** **23 30 18.8 +0.3**
baz=299
RNPP9 Sopachiv 45.03 301 P **P** **23 30 17.3 -1.9**
RNPP8 Varash 45.09 301 P **P** **23 30 17.6 -2.0**
RNPP5 Staryi Chortor 45.13 301 P **P** **23 30 18.0 -2.0**
DIKM Dikmen 45.14 284 P **P** **23 30 18.1 -2.1**
comp=Z,23nm,1.2s
RDOG Red Dog Mine 45.26 32 P **P** **23 30 21.0 +0.2**
baz=300
F14K Arctic Creek 45.34 36 P **P** **23 30 21.2 -0.3**
baz=299
D17K Noatak River 45.38 32 P **P** **23 30 21.7 0.0**
baz=300,SNR=5.8
SORM Soroca 45.45 296 P **P** **23 30 20.4 -2.1**
comp=Z,11nm,0.7s
C18K Utukok River 45.51 31 P **P** **23 30 24.4 +1.5**
C18K IAmb IAmb 23 30 25.7
comp=Z,9.8nm,0.9s
C18K Utukok River 45.51 31 P **P** **23 30 22.0 -0.9**
baz=300,SNR=5.6
NDNU Novodnistrovsk 45.74 297 P **P** **23 30 22.7 -2.2**
KIS Kishinev 45.82 294 P **P** **23 30 23.3 -2.2**
comp=Z,20nm,0.6s
F15K North Star Dit 45.84 35 P **P** **23 30 24.6 -0.8**
baz=300
HORU Horodok 45.92 298 P **P** **23 30 24.1 -2.2**
HORU Horodok 45.92 298 P **P** **23 30 24.1 -2.2**
B20K Meade River 46.03 28 P **P** **23 30 26.6 -0.2**
baz=302
E17K Hotham Inlet 46.11 33 P **P** **23 30 28.2 +0.6**
baz=301
A22K Sinclair Lake 46.11 26 P **P** **23 30 27.2 -0.2**
baz=303
ANM Nome 46.15 37 P **P** **23 30 28.9 +1.0**
ANM Nome 46.15 37 P **P** **23 30 28.9 +1.0**
ANM pmax pmax
comp=Z,123nm,1.5s
ANM Nome 46.15 37 P **P** **23 30 27.7 -0.2**
baz=301
KMPD K-Podol'skiy 46.26 297 P **P** **23 30 26.9 -2.0**
E18K Tukpahlearik C 46.34 32 P **P** **23 30 28.5 -0.9**
baz=302
HFS Hagfors 46.40 316 P **P** **23 30 29.2 -0.7**
comp=Z,5.2nm,0.7s,baz=49,slow=4.7,SNR=14
HFS LR LR 23 51 49.4
comp=Z,647nm,18.5s,baz=60,slow=38
comp=Z,5.2nm,0.7s
G15K Niukluk 46.42 36 P **P** **23 30 29.5 -0.5**
baz=301
D19K Kuna River 46.56 30 P **P** **23 30 30.5 -0.6**
baz=303
F17K Baldwin Pennin 46.64 33 P **P** **23 30 31.1 -0.6**
baz=302
NC405 NORSAR Array S 46.73 318 P **P** **23 30 32.4 -0.1**
G16K Koyuk River 46.81 35 P **P** **23 30 32.2 -0.9**
baz=302
LVV L'vov 46.89 300 P **P** **23 30 33.8 -0.1**
D20K Etivluk River 46.90 29 P **P** **23 30 33.9 +0.1**
baz=304
B22K Teshekpuk Lake 46.91 27 P **P** **23 30 33.3 -0.5**
baz=305
NB2 NORSAR Subarra 46.97 318 P **P** **23 30 33.9 -0.5**
comp=Z,3.7nm,0.7s,baz=58,slow=7.9
NOA NORSAR Array B 46.97 318 P **P** **23 30 33.7 -0.7**
comp=Z,3.3nm,0.7s,baz=59,slow=7.7,SNR=11
NOA LR LR 23 51 12.7
comp=Z,198nm,19.2s,baz=55,slow=37
comp=Z,3.3nm,0.7s
B21K Ikpikpuk River 46.98 28 P **P** **23 30 33.9 -0.4**
baz=304
F18K Selawik 47.09 33 P **P** **23 30 34.7 -0.5**
baz=303,SNR=8.0
GHRR 47.15 294 P **P** **23 30 34.0 -2.0**
KSV Kosov 47.17 298 P **P** **23 30 34.1 -2.0**
C21K Knifeblade Rid 47.20 28 P **P** **23 30 35.8 -0.2**
baz=305
STNU Starunia 47.26 298 P **P** **23 30 34.7 -2.1**
H16K Elim 47.26 36 P **P** **23 30 36.0 -0.5**
baz=303
BR131 Keskin Array S 47.28 283 P **P** **23 30 36.9 -0.4**
BR131 IAmb IAmb 23 30 51.0
comp=Z,6.6nm,1.1s
BR131 Keskin Array S 47.28 283 P **P** **23 30 36.9 -0.4**
BR131 pmax pmax
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 47.28 283 **P** **23 30 37.9 +0.6**
BRTR Keskin Array B 47.28 283 P **P** **23 30 37.0 -0.2**
comp=Z,0.9nm,0.6s,baz=69,slow=7.5,SNR=6.2
comp=Z,0.9nm,0.6s
BRTR Keskin Array B 47.28 283*ce*P **P** **23 30 36.2 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
E20K Nigu River 47.28 30 P **P** **23 30 36.1 -0.7**
baz=304
TESR Tescani 47.32 295 P **P** **23 30 35.3 -2.0**
comp=Z,8.5nm,2.7s
G17K Kiwalik Mounta 47.36 34 P **P** **23 30 37.7 +0.4**
baz=303
E19K Redstone River 47.41 31 P **P** **23 30 35.9 -1.8**
baz=304
BUR08 Bucovina Ar. S 47.48 297 P **P** **23 30 38.1 -0.5**
BURAR Bucovina Array 47.48 297 P **P** **23 30 37.6 -1.1**
BURAR Bucovina Array 47.48 297 P **P** **23 30 37.6 -1.1**
F19K Shaleruckik Mo 47.59 32 P **P** **23 30 38.3 -0.8**
baz=304
KWP Kalwaria Pacla 47.70 300 P **P** **23 30 38.1 -2.1**
comp=Z,3.0nmcomp=Z,151μm,0.8s
J14K Nanvaranak Lak 47.81 38 P **P** **23 30 40.5 -0.3**
baz=303
G18K Tagagawik 47.82 33 P **P** **23 30 41.5 +0.5**
G18K IAmb IAmb 23 30 52.4
comp=Z,9.2nm,1.4s
G18K Tagagawik 47.82 33 P **P** **23 30 40.4 -0.6**
baz=304
K13K Kusilvak Mount 47.83 40 P **P** **23 30 40.0 -1.0**
baz=303
E21K Killik River 47.85 29 P **P** **23 30 41.5 +0.3**
baz=306
H17K Granite Mounta 47.93 35 P **P** **23 30 43.3 +1.5**
H17K Granite Mounta 47.93 35 P **P** **23 30 41.2 -0.6**
baz=304
D22K Ayikyaik River 47.98 28 P **P** **23 30 41.6 -0.5**
baz=306
C23K Itkillik River 47.99 26 P **P** **23 30 41.6 -0.5**
baz=307
M11K Mekoryuk 48.05 42 P **P** **23 30 44.4 +1.7**
M11K Mekoryuk 48.05 42 P **P** **23 30 42.2 -0.5**
baz=303
SPIA Saint Paul Isl 48.06 47 P **P** **23 30 42.5 -0.4**
baz=304
F20K Avaraart Lake 48.12 31 P **P** **23 30 42.4 -0.9**
baz=306
G19K Purcell Mounta 48.21 32 P **P** **23 30 43.1 -0.8**
baz=305
I17K Unalakleet 48.24 36 P **P** **23 30 42.1 -2.0**
baz=304
DEL Delary 48.29 312 *i* P **P** **23 30 43.8 -0.8**
MLR Muntele Rosu 48.31 294 LR LR 23 52 35.3
comp=Z,369nm,18.4s,baz=52,slow=38
KOLS Kolonicke sedl 48.34 300 *e*P **P** **23 30 45.3 +0.1**
KOLS pmax pmax
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 48.34 300 *e*P **P** **23 30 45.3 +0.1**
EUNU Eureka 48.34 2 P **P** **23 30 46.4 +1.6**
EUNU IAmb IAmb 23 30 57.5
comp=Z,5.7nm,1.1s
H18K Honhosa River 48.35 34 P **P** **23 30 42.8 -2.2**
baz=305
D23K Nanushuk River 48.50 27 P **P** **23 30 47.2 +1.1**
D23K Nanushuk River 48.50 27 P **P** **23 30 44.7 -1.5**
baz=308
FABU Falkenberg 48.52 313 *i* P **P** **23 30 49.5 +3.1**
BERU Beregovo 48.54 299 P **P** **23 30 44.4 -2.3**
C24K Franklin Bluff 48.58 26 P **P** **23 30 45.9 -0.9**
baz=309
J16K Anvik River 48.62 37 P **P** **23 30 46.6 -0.5**
baz=305
E22K Anaktuvuk Pass 48.68 29 P **P** **23 30 48.5 +0.9**
E22K Anaktuvuk Pass 48.68 29 P **P** **23 30 47.5 -0.1**
baz=308,SNR=14
P08K Saint George I 48.70 47 P **P** **23 30 47.5 -0.3**
baz=304
F21K Alatna River 48.73 30 P **P** **23 30 47.1 -0.8**
baz=307
DAV Davao City (W) 48.75 148 LR LR 23 53 14.6
comp=Z,115nm,19.8s,baz=326,slow=38
H19K Roundabout Mou 48.78 33 P **P** **23 30 49.9 +1.6**
H19K Roundabout Mou 48.78 33 P **P** **23 30 47.8 -0.5**
baz=306,SNR=12
K15K Wolf Creek Mou 48.84 38 P **P** **23 30 48.8 0.0**
baz=305
PSI Prapat 48.86 184 LR LR 23 52 35.3
comp=Z,246nm,18.9s,baz=354,slow=37
BJUU Bjuv 48.90 312 *i* P **P** **23 30 49.4 +0.1**
D24K Happy Valley 48.91 27 P **P** **23 30 50.3 +1.0**
D24K Happy Valley 48.91 27 P **P** **23 30 49.0 -0.2**
baz=309,SNR=12
L14K Kuka Creek 48.94 40 P **P** **23 30 49.7 +0.1**
baz=305
F22K John River 48.96 29 P **P** **23 30 49.9 +0.2**
baz=308
TOLK Toolik Lake Re 49.02 27 P **P** **23 30 51.7 +1.5**
TOLK Toolik Lake Re 49.02 27 P **P** **23 30 50.0 -0.2**
baz=309,SNR=12
GCSA Galena City Sc 49.10 34 P **P** **23 30 49.4 -1.3**
baz=306,SNR=5.9
J17K VABM Dome 49.12 36 P **P** **23 30 51.6 +0.7**
J17K IAmb IAmb 23 30 53.1
comp=Z,12nm,1.1s
J17K VABM Dome 49.12 36 P **P** **23 30 50.4 -0.5**
baz=306
G21K Allakaket 49.15 31 P **P** **23 30 51.5 +0.3**
baz=308
M13K Dall Lake 49.21 41 P **P** **23 30 51.6 0.0**
baz=305
L15K Ungalak Mounta 49.21 39 P **P** **23 30 51.5 -0.1**
baz=306
H20K Anotleneega Mo 49.33 32 P **P** **23 30 51.7 -0.8**
baz=307,SNR=12
E23K Chandalar 49.38 28 P **P** **23 30 52.7 -0.2**
baz=309
C26K Camden Bay 49.46 25 P **P** **23 30 53.7 +0.3**
baz=311
D25K Kavik River 49.47 26 IAmb IAmb 23 30 56.0
comp=Z,10.0nm,0.9s
D25K Kavik River 49.47 26 P **P** **23 30 52.7 -0.9**
baz=311
G22K Bettles 49.53 30 P **P** **23 30 54.0 0.0**
baz=309
M14K Bethel 49.57 40 P **P** **23 30 53.6 -0.8**
baz=306
E24K Your Creek 49.69 28 P **P** **23 30 55.0 -0.3**
baz=310
LANS Liptovska Anna 49.71 301 *e*P **P** **23 30 57.4 +1.7**
LANS pmax pmax
comp=Z,3.0nm,1.2s
LANS Liptovska Anna 49.71 301 *e*P **P** **23 30 57.4 +1.7**
COLD Coldfoot 49.73 29 P **P** **23 30 56.7 +1.1**
COLD IAmb IAmb 23 30 58.4
comp=Z,10nm,1.0s
COLD Coldfoot 49.73 29 P **P** **23 30 55.9 +0.3**
baz=309,SNR=7.7
K17K Iditarod 49.80 36 P **P** **23 30 57.3 +1.1**
K17K Iditarod 49.80 36 P **P** **23 30 56.0 -0.1**
baz=307
I20K Naaghedeneel 49.89 33 P **P** **23 30 58.2 +1.4**
I20K IAmb IAmb 23 31 01.2
comp=Z,11nm,0.9s
I20K Naaghedeneel 49.89 33 P **P** **23 30 56.3 -0.4**
baz=308
H21K Melozitna Rive 49.91 31 P **P** **23 30 57.2 +0.2**
H21K IAmb IAmb 23 30 59.7
comp=Z,15nm,1.2s
H21K Melozitna Rive 49.91 31 P **P** **23 30 57.1 +0.2**
baz=309,SNR=10
J18K Innoko River 49.93 35 P **P** **23 30 57.4 +0.2**
J18K Innoko River 49.93 35 P **P** **23 30 56.7 -0.4**
baz=307,SNR=6.5
C27K Jago River 49.97 25 P **P** **23 30 57.2 -0.1**
baz=312
L16K Owhat River 49.97 38 P **P** **23 30 57.2 -0.2**
baz=307
J19K Poorman 49.99 34 P **P** **23 30 59.0 +1.5**
J19K IAmb IAmb 23 31 01.4
comp=Z,8.5nm,1.1s
J19K Poorman 49.99 34 P **P** **23 30 57.3 -0.3**
baz=308,SNR=7.9
M15K Kasigluk River 50.11 39 P **P** **23 30 57.8 -0.7**
baz=307
G23K Bananza Creek 50.11 29 IAmb IAmb 23 31 01.2
comp=Z,9.3nm,1.3s
G23K Bananza Creek 50.11 29 P **P** **23 30 57.4 -1.1**
baz=310
STEB Steborice 50.13 303 *e*P **P** **23 30 59.1 +0.2**
L17K Donlin 50.16 37 P **P** **23 30 59.2 +0.3**
baz=307
N14K Kuskokwak Cree 50.17 41 P **P** **23 30 58.6 -0.3**
baz=307
H22K Ishtalitna Cre 50.22 31 P **P** **23 30 58.2 -1.1**
baz=309
F24K Squaw Lake 50.23 28 P **P** **23 30 58.4 -1.0**
baz=311
MORC Moravsky Berou 50.35 303 P **P** **23 31 00.1 -0.4**
MORC IAmb IAmb 23 31 18.2
comp=Z,9.3nm,1.3s
MORC Moravsky Berou 50.35 303 *e*P **P** **23 31 00.7 +0.2**
MORC Moravsky Berou 50.35 303 P **P** **23 31 00.1 -0.4**
MORC pmax pmax
comp=Z,9.0nm,1.3s
KSP Ksiaz 50.36 305 P **P** **23 30 58.5 -2.0**
comp=Z,7.5nm,1.3s
J20K Nowinta River 50.39 33 P **P** **23 31 02.1 +1.6**
J20K Nowinta River 50.39 33 P **P** **23 31 00.4 -0.1**
baz=309
MAUC Maruska 50.45 303 *e*P **P** **23 31 01.7 +0.4**
E25K Arctic Village 50.49 27 P **P** **23 31 02.0 +0.7**
E25K IAmb IAmb 23 31 03.7
comp=Z,11nm,1.0s
E25K Arctic Village 50.49 27 P **P** **23 31 00.7 -0.6**
baz=312,SNR=14
MMAI Mount Meron Ar 50.55 275 P **P** **23 31 02.1 -0.2**
comp=Z,2.9nm,0.9s,baz=47,slow=6.3,SNR=5.3
MMAI LR LR 23 55 07.2
comp=Z,131nm,19.5s,baz=58,slow=39
comp=Z,2.9nm,0.9s
M16K Timber Creek 50.58 38 P **P** **23 31 02.2 +0.1**
baz=308
DPC Dobruska-Polom 50.63 304 *e*P **P** **23 31 03.5 +0.8**
DPC *ex* x 23 31 11.7
DPC Dobruska-Polom 50.63 304 *e*P **P** **23 31 03.5 +0.8**
DPC *e* 23 31 11.7
DPC Dobruska-Polom 50.63 304 P **P** **23 31 00.6 -2.1**
comp=Z,9.5nm,1.1s
N15K Kwethluk River 50.66 40 P **P** **23 31 04.2 +1.5**
N15K IAmb IAmb 23 31 18.9
comp=Z,16nm,1.2s
N15K Kwethluk River 50.66 40 P **P** **23 31 02.8 0.0**
baz=307
UPC Upice 50.70 305 *e*P **P** **23 31 03.6 +0.5**
UPC Upice 50.70 305 *e*P **P** **23 31 03.6 +0.5**
L18K Granite Mounta 50.70 36 P **P** **23 31 02.9 0.0**
baz=308
O14K Tigyukauivet M 50.74 41 P **P** **23 31 01.4 -1.9**
baz=307
F25K Christian Rive 50.82 27 P **P** **23 31 03.0 -0.9**

baz=312
JAVC Velka Javorina 50.83 302 *e*P **P 23 31 05.3 +1.1**
H23K Yukon River 50.84 30 P **P 23 31 02.9 -1.1**
baz=311
G24K Hadweenzic Riv 50.89 29 P **P 23 31 03.9 -0.5**
baz=312
K20K Telida 50.93 34 P **P 23 31 04.3 -0.4**
baz=309
M17K Holitna River 50.93 37 P **P 23 31 04.3 -0.4**
baz=308
D27M Malcolm River 50.94 24 P **P 23 31 05.6 +0.8**
D27M IAmb IAmb 23 31 07.3
comp=Z,14nm,1.0s
D27M Malcolm River 50.94 24 P **P 23 31 04.3 -0.5**
baz=315
N16K Nishlik Lake 50.99 39 P **P 23 31 04.8 -0.4**
baz=308,SNR=5.2
RAYN Ar Rayn 51.04 259 P **P 23 31 04.7 -1.4**
RAYN Ar Rayn 51.04 259 P **P 23 31 04.7 -1.4**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 51.12 303 LR LR 23 54 39.6
comp=Z,88nm,19.5s,baz=51,slow=38
VRAC Vranov 51.12 303 *e*P **P 23 31 06.7 +0.3**
NIKH Nikolski High 51.15 51 P **P 23 31 06.2 -0.2**
baz=307
F26K Sheenjek River 51.17 27 P **P 23 31 07.4 +0.9**
F26K IAmb IAmb 23 31 09.1
comp=Z,11nm,0.8s
F26K Sheenjek River 51.17 27 P **P 23 31 06.4 -0.1**
baz=313,SNR=19
CHUM Lake Minchumin 51.20 33 P **P 23 31 06.2 -0.5**
baz=310
BMAR Burnt Mountain 51.23 27 P **P 23 31 08.2 +1.2**
G25K Bearman Lake 51.25 28 P **P 23 31 07.1 +0.1**
baz=312
I23K Minto, Yukon-K 51.34 31 P **P 23 31 09.3 +1.6**
I23K IAmb IAmb 23 31 11.0
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 51.34 31 P **P 23 31 08.0 +0.3**
baz=311,SNR=5.6
H24K Noodor Dome 51.34 30 P **P 23 31 09.3 +1.5**
H24K Noodor Dome 51.34 30 P **P 23 31 07.4 -0.5**
baz=312
O15K Ungalikthiuk R 51.38 41 P **P 23 31 07.8 -0.3**
baz=308
KRUC Moravsky 51.38 303 *e*P **P 23 31 08.8 +0.6**
L19K White Mountain 51.40 36 P **P 23 31 08.5 +0.2**
baz=309
PVCC Panska Ves 51.42 305 *e*P **P 23 31 09.6 +1.1**
PVCC Panska Ves 51.42 305 *e*P **P 23 31 09.6 +1.1**
D28M Stokes Point 51.43 23 P **P 23 31 07.5 -0.8**
baz=316
M18K Stony River 51.48 37 P **P 23 31 08.9 +0.1**
baz=309
BPAW Bear Paw Mtn. 51.50 32 P **P 23 31 10.2 +1.2**
BPAW IAmb IAmb 23 31 11.9
comp=Z,14nm,1.4s
BPAW Bear Paw Mtn. 51.50 32 P **P 23 31 08.5 -0.6**
baz=311,SNR=6.2
E27K Coleen River 51.52 25 P **P 23 31 09.8 +0.7**
E27K IAmb IAmb 23 31 11.4
comp=Z,14nm,1.0s
E27K Coleen River 51.52 25 P **P 23 31 09.2 +0.1**
baz=315,SNR=16
BRG Berggiesshubel 51.53 306 *e*P **P 23 31 09.7 +0.4**
BRG Amp 23 31 10.1
comp=Z,3.5nm,0.7s
L20K Farewell, AK 51.56 35 P **P 23 31 09.2 -0.2**
baz=310
N17K Nushagak Hills 51.57 38 P **P 23 31 08.8 -0.7**
baz=309
CAST Castle Rocks 51.58 33 P **P 23 31 10.5 +0.9**
CAST Castle Rocks 51.58 33 P **P 23 31 08.3 -1.2**
baz=310,SNR=7.5
FYU Fort Yukon 51.64 28 P **P 23 31 11.3 +1.3**
H25L Birch Creek 51.67 28 P **P 23 31 09.4 -0.8**
baz=313
TREC Trest 51.71 304 *e*P P 23 31 02.7 -8.0
TREC Trest 51.71 304 *e*P P 23 31 02.7 -8.0
CLL Collm 51.73 307 *i* P **P 23 31 10.7 -0.1**
CLL *e**PP **sP 23 31 18.0 +2.1**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 51.73 307 P **P 23 31 09.0 -1.8**
comp=Z,7.1nm,0.9s
CLL Collm 51.73 307 *i* P **P 23 31 10.7 -0.1**
comp=Z,6.0nm,0.7s
CLL *ex* x 23 31 18.0
CLL *e*S **S 23 38 36.0 +3.8**
CLL *e*SS **SS 23 42 18.0 +10**
UNV Unalaska Valle 51.74 49 P **P 23 31 10.3 -0.6**
baz=308
M19K Big River Lodg 51.74 36 P **P 23 31 10.2 -0.7**
baz=310
E28M Babbage River 51.76 24 P **P 23 31 10.7 -0.2**
baz=316
PRU Pruhonice 51.77 305 *e*P **P 23 31 11.6 +0.5**
PRU Pruhonice 51.77 305 *e*P **P 23 31 11.6 +0.5**
G26K Porcupine Rive 51.79 27 P **P 23 31 09.6 -1.5**
baz=314,SNR=9.8
NEA2 Nenana 51.80 31 P **P 23 31 10.1 -1.1**
baz=312
O16K Kokwok River B 51.81 40 P **P 23 31 11.0 -0.3**
baz=309
PPLA Purkeypile 51.88 34 P **P 23 31 12.0 0.0**
baz=311
KTH Kantishna Hill 51.88 33 P **P 23 31 13.5 +1.6**
MPLH Magyarpolny 51.94 300 P **P 23 31 10.6 -1.8**
comp=Z,22nm,1.4s
POKR Poker Plat Res 51.97 30 P **P 23 31 13.0 +0.6**
POKR IAmb IAmb 23 31 15.7
comp=Z,12nm,1.2s
POKR Poker Plat Res 51.97 30 P **P 23 31 11.4 -1.1**
baz=313
N18K Kilae Creek 51.97 38 P **P 23 31 12.5 -0.1**
baz=310
COLA College 52.00 30 P **P 23 31 14.2 +1.6**
COLA College 52.00 30 *d i* P **P 23 31 13.8 +1.2**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 52.00 30 P **P 23 31 12.4 -0.3**
baz=312
O17K Koliganek Bris 52.09 39 P **P 23 31 12.4 -0.9**
baz=310
TRF Thorofare Moun 52.16 33 P **P 23 31 16.2 +2.0**
TRF IAmb IAmb 23 31 17.8
comp=Z,18nm,1.2s
TRF Thorofare Moun 52.16 33 P **P 23 31 13.9 -0.3**
baz=312,SNR=7.1
CCB Clear Creek Bu 52.17 31 P **P 23 31 14.8 +0.9**
CCB IAmb IAmb 23 31 17.3
comp=Z,8.6nm,1.1s
WRH Wood River Hil 52.20 31 P **P 23 31 14.4 +0.3**
WRH IAmb IAmb 23 31 17.4
comp=Z,12nm,1.1s
P16K Nushagak River 52.21 40 P **P 23 31 13.0 -1.3**
baz=309
M20K Styx River 52.21 35 P **P 23 31 15.5 +1.1**
M20K IAmb IAmb 23 31 18.6
comp=Z,8.6nm,1.1s
M20K Styx River 52.21 35 P **P 23 31 13.3 -1.1**
baz=311,SNR=6.2
A36M Sachs Harbour 52.22 17 P **P 23 31 14.5 +0.3**
A36M Sachs Harbour 52.22 17 P **P 23 31 13.5 -0.7**
baz=325,SNR=31
RONA Rosalia, Austr 52.27 302 *e*pP **P 23 31 16.0 +1.0**
comp=Z,9.3nm,1.7s
PRP Porcupine Dome 52.28 29 P **P 23 31 16.0 +1.1**
PRP IAmb IAmb 23 31 18.1
comp=Z,9.2nm,1.0s
PRP Porcupine Dome 52.28 29 P **P 23 31 13.8 -1.2**
baz=314,SNR=9.7
E29M Blow River 52.33 24 P **P 23 31 16.0 +0.9**
E29M Blow River 52.33 24 P **P 23 31 14.2 -0.8**
baz=317,SNR=30
CONA Conrad Observa 52.36 302 *e*pP **P 23 31 16.8 +1.2**
comp=Z,10nm,1.5s
IL31 52.38 30 P **P 23 31 16.6 +1.2**
IL31 IAmb IAmb 23 31 18.8
comp=Z,14nm,1.2s
ILAR Eielson Array 52.38 30 P **P 23 31 16.2 +0.7**
ILAR Eielson Array 52.38 30 P **P 23 31 16.6 +1.1**
comp=Z,6.2nm,0.9s,baz=310,slow=3.5,SNR=43
ILAR LR LR 23 54 04.5
comp=Z,126nm,18.3s,baz=290,slow=37
comp=Z,6.2nm,0.9s
N19K Bonanza Creek 52.41 37 P **P 23 31 16.9 +1.0**
N19K Bonanza Creek 52.41 37 P **P 23 31 14.4 -1.6**
baz=310
MCK McKinley 52.43 32 P **P 23 31 17.8 +1.9**
MCK McKinley 52.43 32 P **P 23 31 17.8 +1.9**
MCK pmax pmax
comp=Z,5.0nm,1.0s
MCK McKinley 52.43 32 P **P 23 31 15.0 -0.9**
baz=312
G27K Doyon Strip 52.49 26 P **P 23 31 17.2 +0.8**
G27K Doyon Strip 52.49 26 P **P 23 31 16.3 0.0**
baz=316,SNR=5.9
HDA Harding Lake 52.60 31 P **P 23 31 17.7 +0.6**
HDA Harding Lake 52.60 31 P **P 23 31 16.5 -0.6**
baz=313
CKRC Cesky Krumlov 52.61 304 *e*P **P 23 31 17.8 +0.3**
CKRC Cesky Krumlov 52.61 304 *e*P **P 23 31 17.8 +0.3**
P17K Kvichak River 52.72 39 P **P 23 31 18.1 +0.1**
baz=310
SKT Skwentna 52.72 35 P **P 23 31 19.6 +1.5**
SKT IAmb IAmb 23 31 32.3
comp=Z,8.2nm,1.2s
SKT Skwentna 52.72 35 P **P 23 31 16.7 -1.4**
baz=312
O18K Koktuh Hills 52.77 38 P **P 23 31 19.2 +0.8**
O18K Koktuh Hills 52.77 38 P **P 23 31 18.2 -0.2**
baz=311
KHC Kasperske Hory 52.79 304 *e*P **P 23 31 19.2 +0.4**
KHC *ex* x 23 31 28.9
KHC Kasperske Hory 52.79 304 *ce*P **P 23 31 19.3 +0.4**
KHC pmax pmax
comp=Z,23nm,1.6s
KHC Kasperske Hory 52.79 304 P **P 23 31 16.8 -2.0**
comp=Z,4.1nm,1.7s
CUT Chulitna 52.87 34 P **P 23 31 20.6 +1.4**
CUT Chulitna 52.87 34 P **P 23 31 18.4 -0.7**
baz=312
GERES GERESS Array B 52.91 304 P **P 23 31 19.9 +0.1**
comp=Z,0.6nm,0.6s,baz=56,slow=7.2,SNR=6.1
comp=Z,0.6nm,0.6s
STLK Strandline Lak 52.93 35 P **P 23 31 21.1 +1.4**
H27K Steamboat Moun 52.94 27 P **P 23 31 19.8 +0.1**
baz=316,SNR=6.4
J25K Salcha River, 52.96 30 P **P 23 31 21.2 +1.3**
J25K Salcha River, 52.96 30 P **P 23 31 19.5 -0.4**
baz=314
SPCR Spurr Chakacha 52.99 36 P **P 23 31 20.2 0.0**
baz=312
P18K Big Mountain, 53.06 39 P **P 23 31 21.8 +1.2**
P18K IAmb IAmb 23 31 39.7
comp=Z,7.9nm,1.0s
P18K Big Mountain, 53.06 39 P **P 23 31 19.9 -0.7**
baz=311
EIL Elat 53.13 273 LR LR 23 56 49.8
comp=Z,125nm,18.8s,baz=68,slow=39
I26K Coal Creek Min 53.13 28 P **P 23 31 20.5 -0.5**
baz=315
MOA Molln 53.24 303 *i* P **P 23 31 22.7 +0.6**
comp=Z,4.8nm,1.0s
S14K Fog Glacier 53.32 43 P **P 23 31 21.1 -1.6**
baz=310
RES Resolute Bay 53.33 5 P **P 23 31 22.6 +0.3**
RES IAmb IAmb 23 31 24.4
comp=Z,17nm,1.4s
RES Resolute Bay 53.33 5 LR LR 23 55 35.7
comp=Z,81nm,18.8s,baz=356,slow=38
RES Resolute Bay 53.33 5 P **P 23 31 22.7 +0.3**
RES pmax pmax
comp=Z,17nm,1.5s
I27K Kandik River 53.37 28 P **P 23 31 21.6 -1.3**
baz=316,SNR=12
G29M Pine Creek 53.39 25 P **P 23 31 22.8 -0.2**
baz=318
K24K Donnelly Dome 53.40 31 P **P 23 31 22.2 -0.8**
baz=314
F30M Barrier River 53.44 24 P **P 23 31 22.3 -1.0**
baz=319
INK Inuvik 53.45 22 P **P 23 31 23.9 +0.5**
INK Inuvik 53.45 22 LR LR 23 56 52.8
comp=Z,92nm,19.5s,baz=248,slow=39
INK Inuvik 53.45 22 P **P 23 31 23.9 +0.5**
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 53.45 22 P **P 23 31 21.4 -2.0**
baz=321,SNR=14
ILSW Iliamna Southw 53.46 37 P **P 23 31 25.1 +1.4**
ILSW IAmb IAmb 23 31 27.9
comp=Z,5.5nm,0.8s
SDPT Sand Point 53.52 45 P **P 23 31 22.5 -1.5**
baz=310
SOKA Soboth 53.58 301 *i* P **P 23 31 25.1 +0.4**
comp=Z,4.5nm,1.2s
J26L Joseph Creek 53.59 29 P **P 23 31 25.0 +0.5**
J26L Joseph Creek 53.59 29 P **P 23 31 23.4 -1.1**
baz=316
O20K Slope Mountain 53.59 37 P **P 23 31 23.4 -1.2**
baz=312
Q18K Katmai Hardscr 53.64 39 P **P 23 31 23.2 -1.8**
baz=311
P19K Oil Pt 53.65 37 P **P 23 31 26.2 +1.2**
P19K IAmb IAmb 23 31 44.5
comp=Z,11nm,0.8s
P19K Oil Pt 53.65 37 P **P 23 31 23.8 -1.2**
baz=312
CAPN Captain Cook N 53.67 36 P **P 23 31 23.9 -1.1**
baz=313
RIDG Independent Ri 53.74 30 P **P 23 31 26.4 +0.8**
RIDG IAmb IAmb 23 31 27.9
comp=Z,14nm,1.2s
RIDG Independent Ri 53.74 30 P **P 23 31 24.3 -1.3**
baz=315,SNR=8.6
GHO Glory Hole Cre 53.77 34 P **P 23 31 26.0 +0.2**
GHO IAmb IAmb 23 31 30.0
comp=Z,6.3nm,0.8s
CHGN Chignik 53.79 43 P **P 23 31 24.8 -1.2**
baz=311
ACHA Angle Creek He 53.80 40 P **P 23 31 26.8 +0.7**
ACHA IAmb IAmb 23 31 41.5
comp=Z,8.4nm,1.4s
G30M tAoh Zrail Nji 53.81 24 P **P 23 31 24.7 -1.4**
baz=319
H29M Whitestone 53.82 26 P **P 23 31 26.4 +0.3**
H29M IAmb IAmb 23 31 41.6
comp=Z,12nm,1.4s
H29M Whitestone 53.82 26 P **P 23 31 25.2 -0.9**
baz=318
PMR Palmer 53.82 34 P **P 23 31 27.4 +1.3**
PMR IAmb IAmb 23 31 29.3
comp=Z,16nm,1.4s
PMR Palmer 53.82 34 P **P 23 31 27.4 +1.3**
PMR pmax pmax
comp=Z,16nm,1.4s
PMR Palmer 53.82 34 P **P 23 31 24.8 -1.3**
baz=313
SCRK Sand Creek 53.84 30 P **P 23 31 26.6 +0.3**
SCRK Sand Creek 53.84 30 P **P 23 31 25.0 -1.4**
baz=316
OBKA Obir 53.95 301 *i* P **P 23 31 28.0 +0.6**
comp=Z,4.4nm,0.7s
SML Sawmill 53.95 33 P **P 23 31 27.9 +0.7**
SML IAmb IAmb 23 31 45.7
comp=Z,13nm,1.2s
SML Sawmill 53.95 33 P **P 23 31 25.7 -1.4**
baz=314,SNR=7.7
RC01 Rabbit Creek A 53.95 35 P **P 23 31 27.5 +0.4**
RC01 IAmb IAmb 23 31 30.4
comp=Z,11nm,1.1s
RC01 Rabbit Creek A 53.95 35 P **P 23 31 25.6 -1.6**
baz=313
I28M Miner Creek 53.96 27 P **P 23 31 27.6 +0.3**
I28M Miner Creek 53.96 27 P **P 23 31 26.0 -1.2**
baz=318
Q19K Cape Douglas, 53.98 38 P **P 23 31 26.3 -1.0**
baz=312
DOT Dot Lake 54.05 30 P **P 23 31 28.1 +0.2**
DOT IAmb IAmb 23 31 30.3
comp=Z,15nm,1.3s
F31M Tsiigehtchic 54.08 23 P **P 23 31 28.4 +0.5**
F31M Tsiigehtchic 54.08 23 P **P 23 31 26.8 -1.1**
baz=321,SNR=6.0
PAX Paxson 54.08 31 P **P 23 31 26.7 -1.5**
baz=315
EPYK Eagle Plains 54.15 25 P **P 23 31 28.8 +0.3**
EPYK IAmb IAmb 23 31 31.1
comp=Z,6.1nm,0.8s
EPYK Eagle Plains 54.15 25 P **P 23 31 26.9 -1.6**
baz=319
M23K Glacier View 54.16 33 P **P 23 31 27.4 -1.3**
baz=314,SNR=5.9
KNK Knik Glacier 54.18 34 P **P 23 31 29.6 +0.8**
KNK IAmb IAmb 23 31 31.8
comp=Z,9.5nm,0.9s
KNK Knik Glacier 54.18 34 P **P 23 31 27.5 -1.3**
baz=314,SNR=7.3
SLKM Skilak Lake 54.18 35 P **P 23 31 30.0 +1.2**
SLKM IAmb IAmb 23 31 30.8
comp=Z,5.6nm,1.0s
KBA Koelnbreinsper 54.22 303 *e*P **P 23 31 30.1 +0.6**
comp=Z,9.4nm,1.3s
HOM Homer 54.24 37 P **P 23 31 28.9 -0.3**
baz=313
CHNA Chernabura Isl 54.25 45 P **P 23 31 29.4 +0.1**
baz=311
SCM Sheep Creek Mo 54.27 33 P **P 23 31 29.9 +0.3**
SCM IAmb IAmb 23 31 41.7
comp=Z,10nm,1.0s
SCM Sheep Creek Mo 54.27 33 P **P 23 31 29.9 +0.3**
SCM pmax pmax
comp=Z,11nm,1.0s
SCM Sheep Creek Mo 54.27 33 P **P 23 31 29.2 -0.3**
baz=314
LESA Schwarzleotal 54.34 303 *i* pP **P 23 31 31.2 +0.9**
comp=Z,9.9nm,1.3s
G31M Satah River 54.35 24 P **P 23 31 30.1 +0.2**
G31M Satah River 54.35 24 P **P 23 31 29.8 0.0**
baz=321,SNR=16
MYKA Terra Mystica 54.35 302 *i* P **P 23 31 30.9 +0.6**
comp=Z,5.9nm,0.8s
O22K Cooper Landing 54.38 35 P **P 23 31 29.3 -0.9**
baz=314
K27K Chicken 54.38 29 P **P 23 31 30.1 -0.1**
baz=317
M24K Tolsona, Glenn 54.47 32 P **P 23 31 32.4 +1.4**
M24K Tolsona, Glenn 54.47 32 P **P 23 31 29.5 -1.4**
baz=315
I29M Ogilvie Camp, 54.48 26 P **P 23 31 30.8 -0.1**
I29M Ogilvie Camp, 54.48 26 P **P 23 31 30.4 -0.6**
baz=319
CNPM China Poot 54.49 37 P **P 23 31 32.4 +1.3**
CNPM IAmb IAmb 23 31 39.8
comp=Z,6.0nm,0.9s
PRED Cave del Predi 54.51 302 P **P 23 31 31.0 -0.5**
BRSE Bradley Lake S 54.52 36 P **P 23 31 29.6 -1.7**
baz=313
R18K Karluk 54.58 40 P **P 23 31 30.8 -0.8**
baz=312
HARP HAARP 54.59 32 P **P 23 31 31.0 -0.8**
baz=316
PWL Port Wells 54.61 34 P **P 23 31 32.2 +0.2**
PWL IAmb IAmb 23 31 42.4
comp=Z,6.7nm,0.9s
PWL Port Wells 54.61 34 P **P 23 31 31.0 -0.9**
baz=314,SNR=5.5
C36M Paulatuk 54.64 18 P **P 23 31 31.9 0.0**
C36M Paulatuk 54.64 18 P **P 23 31 31.1 -0.8**
baz=327,SNR=23
Q20K Shuyak Island 54.68 38 P **P 23 31 31.5 -0.9**
baz=313
L26K Log Cabin Wild 54.72 30 P **P 23 31 31.9 -0.8**
baz=316
SEW Seward 54.74 35 P **P 23 31 32.3 -0.5**
baz=314
ABTA Abfaltersbach 54.86 303 *i* P **P 23 31 34.2 +0.2**
comp=Z,5.1nm,1.3s
WATA Walderalm 54.97 304 *e*pP **P 23 31 35.7 +0.8**
comp=Z,6.5nm,1.0s
WTTA Wattenberg 54.98 304 *e*pP **P 23 31 35.8 +0.8**
comp=Z,11nm,1.7s
KLU Klutina 54.99 33 P **P 23 31 35.5 +0.7**
KLU IAmb IAmb 23 31 53.3
comp=Z,7.7nm,1.1s
KLU Klutina 54.99 33 P **P 23 31 33.2 -1.6**
baz=316
GLI Glacier Island 55.03 34 P **P 23 31 35.5 +0.5**
GLI IAmb IAmb 23 31 37.9
comp=Z,7.4nm,0.9s
GLI Glacier Island 55.03 34 P **P 23 31 33.6 -1.4**
baz=315,SNR=5.4
I30M Mount Dempster 55.12 26 P **P 23 31 36.0 +0.3**
I30M IAmb IAmb 23 31 52.5
comp=Z,5.9nm,0.8s
I30M Mount Dempster 55.12 26 P **P 23 31 34.4 -1.3**
baz=320,SNR=8.4
DAWY Dawson 55.15 28 P **P 23 31 36.8 +0.9**
DAWY Dawson 55.15 28 P **P 23 31 34.8 -1.1**
baz=319
L27K Beaver Creek, 55.17 30 P **P 23 31 36.8 +0.8**
L27K IAmb IAmb 23 31 38.9
comp=Z,14nm,1.4s
L27K Beaver Creek, 55.17 30 P **P 23 31 34.8 -1.2**
baz=317,SNR=7.1
KDAK Kodiak Island 55.17 39 LR LR 23 57 42.7
comp=Z,386nm,18.8s,baz=155,slow=39
KDAK Kodiak Island 55.17 39 P **P 23 31 34.7 -1.3**
baz=313
BCAR Beaver Creek A 55.18 30 P **P 23 31 36.8 +0.8**
H31M Peel River 55.20 25 P **P 23 31 36.4 +0.3**
H31M Peel River 55.20 25 P **P 23 31 34.5 -1.6**
baz=321,SNR=6.8
MOTA Moosalm 55.20 304 *e*P **P 23 31 37.1 +0.5**
comp=Z,11nm,1.5s
SQTA Sankt Quirin 55.23 304 *e*P **P 23 31 37.5 +0.7**
comp=Z,4.6nm,0.6s
OHAK Old Harbor 55.28 40 P **P 23 31 37.6 +0.8**
OHAK IAmb IAmb 23 31 38.4
comp=Z,11nm,1.1s
OHAK Old Harbor 55.28 40 P **P 23 31 35.7 -1.1**
baz=313
M26K Nabesna, AK 55.29 31 P **P 23 31 37.8 +0.9**
M26K IAmb IAmb 23 31 57.9
comp=Z,6.8nm,1.2s
M26K Nabesna, AK 55.29 31 P **P 23 31 35.4 -1.4**
baz=317
FID Port Fidalgo 55.33 34 P **P 23 31 38.0 +0.9**
N25K Chitina, Valde 55.35 32 P **P 23 31 38.2 +0.8**
N25K IAmb IAmb 23 31 40.5
comp=Z,9.5nm,1.0s
N25K Chitina, Valde 55.35 32 P **P 23 31 35.5 -1.8**
baz=316,SNR=7.0
SII Sitkinak Islan 55.37 41 P **P 23 31 36.4 -1.1**
baz=313
P23K Montague Islan 55.55 35 P **P 23 31 37.9 -0.8**
baz=315
HIN Hinchinbrook I 55.58 34 P **P 23 31 39.6 +0.6**
FETA Feichten 55.61 304 *e*P **P 23 31 40.2 +0.6**
comp=Z,5.5nm,1.2s
J30M Hart River 55.63 26 P **P 23 31 37.9 -1.5**
baz=320
M27K Edge Creek, AK 55.67 30 P **P 23 31 41.4 +1.6**
M27K Edge Creek, AK 55.67 30 P **P 23 31 38.9 -0.9**
baz=318,SNR=16
EYAK Cordova Ski Ar 55.73 34 P **P 23 31 41.1 +1.1**
EYAK IAmb IAmb 23 31 44.0
comp=Z,9.9nm,0.9s
EYAK Cordova Ski Ar 55.73 34 P **P 23 31 39.1 -0.9**
baz=316
GLB Gilahina Butte 55.73 32 P **P 23 31 40.9 +0.9**
BORG Borgarnes 55.74 334 LR LR 23 56 16.5
comp=Z,131nm,18.4s,baz=57,slow=37
CTI Castel Tesino 55.77 303 P **P 23 31 39.6 -1.1**
CTI Castel Tesino 55.77 303 P **P 23 31 39.6 -1.1**
CTI pmax pmax
comp=Z,21nm,1.4s
BMRM Bremner River 55.81 33 P **P 23 31 41.5 +0.9**
BMRM IAmb IAmb 23 31 43.5
comp=Z,11nm,1.4s
BMRM Bremner River 55.81 33 P **P 23 31 39.8 -0.9**
baz=317
K29M Barlow Dome 55.86 27 P **P 23 31 41.9 +0.8**
K29M Barlow Dome 55.86 27 P **P 23 31 40.2 -0.8**
baz=320
DAVA Damuels 55.87 305 *i* P **P 23 31 42.0 +0.6**
comp=Z,12nm,1.2s
BVCY Beaver Creek 55.95 30 P **P 23 31 40.4 -1.2**
baz=318
BFO Black Forest 55.96 306 P **P 23 31 42.3 +0.4**
BFO Black Forest 55.96 306 P **P 23 31 42.3 +0.4**
BFO pmax pmax
comp=Z,2.0nm,0.9s
VRDI Verde Repeater 56.00 32 P **P 23 31 43.9 +1.7**
VRDI IAmb IAmb 23 31 44.9
comp=Z,8.0nm,1.1s

DAVOX	Davos/Dischmat	56.21	304	LR	LR	23 55 39.7	
	comp=Z,169nm,18.8s,baz=40,slow=36						
L29M	L29M	56.24	28	P	P	23 31 44.2	+0.5
L29M				IAmb	IAmb	23 31 46.5	
	comp=Z,15nm,1.4s						
L29M	L29M	56.24	28	P	P	23 31 43.0	-0.8
	baz=320,SNR=6.1						
HMT	Hamilton	56.39	33	P	P	23 31 45.8	+1.1
HMT				IAmb	IAmb	23 31 47.9	
	comp=Z,11nm,1.0s						
EKA	Eskdalemuir Ar	56.46	318	P	P	23 31 45.3	0.0
	comp=Z,1.9nm,0.8s,baz=42,slow=6.7,SNR=5.1						
	comp=Z,1.9nm,0.8s						
YUK3	Moose Creek	56.55	30	P	P	23 31 44.7	-1.4
	baz=319,SNR=6.6						
KAIM	Kayak Island	56.63	33	P	P	23 31 45.0	-1.5
	baz=317						
M29M	Somme Creek	56.66	29	P	P	23 31 48.0	+1.3
M29M	Somme Creek	56.66	29	P	P	23 31 45.3	-1.4
	baz=320,SNR=5.3						
WAX	Waxell Ridge	56.78	32	P	P	23 31 49.0	+1.4
WAX				IAmb	IAmb	23 31 50.5	
	comp=Z,10nm,1.2s						
M30M	Minto, Yukon	57.05	28	P	P	23 31 49.9	+0.5
M30M	Minto, Yukon	57.05	28	P	P	23 31 47.9	-1.6
	baz=321						
YUK8	Steele Glacier	57.14	30	P	P	23 31 49.1	-1.3
	baz=320						
MESA	MESA	57.28	32	P	P	23 31 48.7	-2.5
	baz=319						
O28M	Mount Upton	57.40	31	P	P	23 31 51.1	-1.2
	baz=320						
YUK4	Talbot Arm	57.45	30	P	P	23 31 50.7	-1.8
	baz=320						
OSSC	Osservatorio P	57.68	301	P	P	23 31 53.3	-0.8
OSSC				IAmb	IAmb	23 31 54.1	
	comp=Z,15nm,1.4s						
N30M	Aishikik Lake	57.83	29	P	P	23 31 56.5	+1.5
N30M				IAmb	IAmb	23 31 58.2	
	comp=Z,16nm,1.4s						
N30M	Aishikik Lake	57.83	29	P	P	23 31 53.4	-1.6
	baz=321,SNR=11						
YUK6	Outpost Mounta	57.84	30	P	P	23 31 54.1	-1.2
	baz=321						
PINM	Pinnacle	57.90	31	P	P	23 31 54.3	-1.1
	baz=320						
M31M	Drury Creek, Y	58.03	27	P	P	23 31 57.3	+0.9
M31M				IAmb	IAmb	23 31 58.6	
	comp=Z,13nm,1.1s						
M31M	Drury Creek, Y	58.03	27	P	P	23 31 55.1	-1.3
	baz=323,SNR=15						
HYT	Haines Junctio	58.20	30	P	P	23 31 58.8	+1.2
HYT				IAmb	IAmb	23 32 00.4	
	comp=Z,7.0nm,0.9s						
HYT	Haines Junctio	58.20	30	P	P	23 31 56.3	-1.3
	baz=321,SNR=7.2						
N31M	Braeburn, Yuko	58.20	28	P	P	23 31 57.5	-0.1
N31M	Braeburn, Yuko	58.20	28	P	P	23 31 57.3	-0.3
	baz=322,SNR=8.3						
FARO	Faro, Yukon	58.31	27	P	P	23 31 57.9	-0.4
	baz=323						
PNL	Peninsula	58.50	31	P	P	23 31 57.9	-1.8
	baz=320						
MMPY	Sheldon Lake,	58.56	26	P	P	23 32 01.5	+1.4
MMPY				IAmb	IAmb	23 32 21.6	
	comp=Z,7.2nm,1.4s						
MMPY	Sheldon Lake,	58.56	26	P	P	23 31 57.8	-2.3
	baz=324						
LEM	Lembang	58.60	173	LR	LR	23 59 18.5	
	comp=Z,208nm,18.1s,baz=318,slow=38						
KAPI	Kappang	58.66	159	LR	LR	23 58 48.1	
	comp=Z,78nm,18.6s,baz=354,slow=38						
O30N	Mendenhall	58.67	29	P	P	23 32 01.9	+1.0
O30N	Mendenhall	58.67	29	P	P	23 31 59.1	-1.8
	baz=322,SNR=13						
P30M	Million Dollar	58.92	30	P	P	23 32 01.5	-1.1
	baz=322						
BNI	Bardonecchia	59.02	305	P	P	23 32 03.0	-0.6
BNI				IAmb	IAmb	23 32 07.4	
	comp=Z,6.4nm,1.1s						
BNI	Bardonecchia	59.02	305	P	P	23 32 03.0	-0.6
BNI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
P29M	Windy Craggy	59.06	31	P	P	23 32 02.8	-0.8
	baz=322						
WHY	Whitehorse	59.12	29	P	P	23 32 04.7	+0.6
WHY	Whitehorse	59.12	29	P	P	23 32 03.2	-0.9
	baz=323						
CLF	Chambon-Foret	59.14	310	P	P	23 32 04.5	+0.3
N32M	Quiet Lake	59.25	27	P	P	23 32 04.6	-0.3
	baz=324						
SFJD	Kangerlussuaq	59.70	348	LR	LR	23 59 10.8	
	comp=Z,207nm,18.4s,baz=17,slow=37						
SKAG	Skagway	59.95	30	P	P	23 32 10.3	+0.7
SKAG	Skagway	59.95	30	P	P	23 32 07.7	-1.9
	baz=323,SNR=5.3						
P33M	Teslin, Yukon	60.09	28	P	P	23 32 11.1	+0.4
P33M	Teslin, Yukon	60.09	28	P	P	23 32 09.5	-1.3
	baz=324,SNR=10						
TGTN	Hyland Airport	60.26	25	P	P	23 32 11.3	-0.6
	baz=327						
P32M	Atlin	60.34	29	P	P	23 32 12.9	+0.6
P32M				IAmb	IAmb	23 32 24.3	
	comp=Z,5.3nm,0.9s						
P32M	Atlin	60.34	29	P	P	23 32 11.7	-0.7
	baz=324						
BESE	Bessie Mountai	60.80	30	P	P	23 32 16.4	+0.8
BESE				IAmb	IAmb	23 32 18.1	
	comp=Z,11nm,1.2s						
S31K	Pelican	60.87	31	P	P	23 32 15.1	-0.8
	baz=323						
R32K	Eaglecrest	61.16	30	P	P	23 32 16.6	-1.3
	baz=324						
WDD	Wied Dalam	61.17	292	P	P	23 32 18.9	+0.7
Q32M	Nakina River	61.28	29	P	P	23 32 17.3	-1.6
	baz=325						
R33M	Jennings River	61.30	28	P	P	23 32 19.5	+0.5
R33M				IAmb	IAmb	23 32 20.6	
	comp=Z,6.6nm,0.8s						
R33M	Jennings River	61.30	28	P	P	23 32 17.2	-1.8
	baz=326,SNR=10.0						
WTLY	Watson Lake, Y	61.31	26	P	P	23 32 19.0	0.0
WTLY				IAmb	IAmb	23 32 20.4	
	comp=Z,5.1nm,0.8s						
WTLY	Watson Lake, Y	61.31	26	P	P	23 32 18.3	-0.7
	baz=327						
S32K	Killisnoo	61.79	31	P	P	23 32 21.0	-1.1
	baz=324						
SIT	Sitka	61.89	31	P	P	23 32 20.9	-1.9
	baz=324						
ATD	Arta Tunnel	61.89	252	LR	LR	00 00 26.5	
	comp=Z,5.1nm,20.4s,baz=32,slow=37						
DLBC	Dease Lake	62.37	28	P	P	23 32 27.0	+0.8
DLBC	Dease Lake	62.37	28	LR	LR	00 02 30.7	
	comp=Z,144nm,18.9s,baz=292,slow=39						
DLBC	Dease Lake	62.37	28	P	P	23 32 24.2	-1.9
	baz=327						
S34M	Telegraph Cree	62.48	29	P	P	23 32 28.0	+1.2
S34M				IAmb	IAmb	23 32 34.0	
	comp=Z,5.1nm,1.1s						
S34M	Telegraph Cree	62.48	29	P	P	23 32 26.5	-0.4
	baz=326						
YKA	Yellowknife Ar	62.52	18	P	P	23 32 27.0	0.0
YKA	Yellowknife Ar	62.52	18	P	P	23 32 27.0	0.0
	comp=Z,3.0nm,0.9s,baz=331,slow=6.7,SNR=36						
YKA				LR	LR	00 02 30.2	
	comp=Z,76nm,18.7s,baz=276,slow=39						
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	62.52	18	*i* P	P	23 32 27.2	+0.2
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKAB2	New Yellowknif	62.59	18	P	P	23 32 27.8	+0.4
TOAD	Toad River Com	63.34	25	P	P	23 32 32.2	-0.4
	baz=330						
WRAK	Wrangell Islan	63.35	30	P	P	23 32 31.9	-0.7
	baz=326						
U33K	Whale Pass	63.36	31	P	P	23 32 32.2	-0.4
	baz=326						
JAY	Jayapura	63.41	135	LR	LR	00 00 37.7	
	comp=Z,70nm,19.1s,baz=345,slow=36						
CEST	Esterri de Car	63.52	306	P	P	23 32 34.0	-0.1
T35M	Bob Quinn	63.53	29	P	P	23 32 33.2	-0.6
	baz=327						
CRAG	Craig	63.90	31	P	P	23 32 35.4	-0.8
	baz=326						
KEST	Kesra	64.19	295	P	P	23 32 38.2	-0.3
	comp=Z,2.9nm,0.5s,baz=18,slow=3.7,SNR=19						
KEST				LR	LR	00 02 08.1	
	comp=Z,72nm,19.7s,baz=304,slow=38						
	comp=Z,2.9nm,0.5s						
V35K	Ketchikan	64.49	30	P	P	23 32 39.6	-0.5
	baz=327						
FRB	Frobisher Bay	64.56	355	LR	LR	00 01 50.4	
	comp=Z,167nm,18.7s,baz=322,slow=37						
BBB	Bella Bella	68.27	30	LR	LR	00 06 45.9	
	comp=Z,117nm,19.5s,baz=326,slow=39						
ESDC	Sonseca Array	68.32	307	P	P	23 33 04.5	-0.5
ESDC	Sonseca Array	68.32	307	P	P	23 33 04.9	-0.1
	comp=Z,3.1nm,1.1s,baz=35,slow=6.5,SNR=12						
ESDC				LR	LR	00 05 55.3	
	comp=Z,150nm,19.0s,baz=34,slow=38						
	comp=Z,3.1nm,1.1s						
FCC	Fort Churchill	69.08	9	P	P	23 33 08.4	-0.8
FCC	Fort Churchill	69.08	9	P	P	23 33 08.5	-0.8
FCC				pmax	pmax		
	comp=Z,14nm,1.2s						
LLLB	Lillooet	71.53	28	P	P	23 33 26.2	+1.7
FFC	Flin Flon	72.06	14	P	P	23 33 27.5	0.0
FFC				IAmb	IAmb	23 33 28.6	
	comp=Z,10nm,1.3s						
FFC	Flin Flon	72.06	14	P	P	23 33 27.5	0.0
FFC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
FITZ	Fitzroy Crossi	72.67	156	P	P	23 33 32.1	+0.6
LODK	Lodwar	72.78	253	P	P	23 33 32.0	-0.5
A04D	Lummi Island	72.97	29	P	P	23 33 33.8	+0.8
SCHQ	Schefferville	73.32	353	P	P	23 33 34.5	-0.6
	comp=Z,2.8nm,0.9s,baz=0.0,slow=9.1,SNR=2.9						
SCHQ				LR	LR	00 07 22.4	
	comp=Z,104nm,18.7s,baz=309,slow=37						
	comp=Z,2.8nm,0.9s						
MDT	Midelt	73.96	303	LR	LR	00 07 57.8	
	comp=Z,77nm,19.7s,baz=26,slow=37						
GNW	Green Mountain	73.96	30	P	P	23 33 40.0	+1.0
GNW				IAmb	IAmb	23 33 42.1	
	comp=Z,13nm,1.2s						
B08A	Colville Reser	74.28	27	P	P	23 33 41.5	+0.7
B08A				IAmb	IAmb	23 33 43.1	
	comp=Z,12nm,1.2s						
E03A	Lebam	74.64	31	P	P	23 33 43.9	+1.0
LTY	Liberty	74.89	28	P	P	23 33 44.8	+0.4
LTY				IAmb	IAmb	23 33 46.4	
	comp=Z,7.0nm,1.1s						
NEW	Newport	74.97	26	LR	LR	00 09 47.1	
	comp=Z,148nm,19.3s,baz=348,slow=38						
LON	Longmire	75.00	29	P	P	23 33 45.6	+0.5
LON	Longmire	75.00	29	P	P	23 33 45.6	+0.5
LON				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMBO	Kilima Mbogo	75.33	249	P	P	23 33 47.8	+0.3
	comp=Z,2.5nm,1.0s,baz=40,slow=10,SNR=4.9						
KMBO				LR	LR	00 09 23.3	
	comp=Z,114nm,18.2s,baz=84,slow=38						
	comp=Z,2.5nm,1.0s						
MXC	Moxie City	75.61	28	P	P	23 33 49.6	+1.1
WAH2	Wahluke Slope	75.66	28	P	P	23 33 49.5	+0.7
E07A	Sunnyside	75.76	28	P	P	23 33 49.8	+0.4
KIBK	Kibwezi	75.86	247	P	P	23 33 50.7	+0.3
HAWA	Hanford	76.00	28	P	P	23 33 52.0	+1.3
HAWA				IAmb	IAmb	23 34 01.1	
	comp=Z,8.1nm,1.3s						
TAM	Tamanrasset	76.06	289	P	P	23 33 51.4	-0.3
TAM	Tamanrasset	76.06	289	P	P	23 33 51.4	-0.3
YPT	Yellepit	76.48	28	P	P	23 33 54.3	+0.8
YPT				IAmb	IAmb	23 33 56.2	
	comp=Z,15nm,1.5s						
WRA	Warramunga Arr	76.93	149	P	P	23 33 55.6	-0.5
WRA	Warramunga Arr	76.93	149	P	P	23 33 55.0	-1.1
	comp=Z,3.1nm,0.6s,baz=344,slow=6.3,SNR=16						
	comp=Z,3.1nm,0.6s						
WRA	Warramunga Arr	76.93	149	*i* P	P	23 33 55.7	-0.5
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WB2	Warramunga Arr	76.94	149	P	P	23 33 55.4	-0.8
MSO	Missoula	77.13	24	P	P	23 33 57.1	-0.2
G08A	Pilot Rock	77.17	28	P	P	23 33 58.2	+0.6
G08A				IAmb	IAmb	23 34 00.2	
	comp=Z,6.1nm,1.1s						
ULM	Lac du Bonnet	77.26	11	P	P	23 33 57.6	-0.2
ULM				IAmb	IAmb	23 34 04.7	
	comp=Z,11nm,1.4s						
ULM	Lac du Bonnet	77.26	11	P	P	23 33 56.9	-0.9
	comp=Z,3.0nm,0.9s,baz=348,slow=5.4,SNR=3.9						
ULM				LR	LR	00 08 30.3	
	comp=Z,44nm,21.1s,baz=278,slow=36						
	comp=Z,3.0nm,0.9s						
ULM	Lac du Bonnet	77.26	11	P	P	23 33 57.6	-0.2
ULM				pmax	pmax		
	comp=Z,11nm,1.4s						
PINE	Pine Mountain	77.93	30	P	P	23 34 02.3	+0.4
BMO	Blue Mountains	78.05	27	P	P	23 34 02.9	+0.5
BMO				IAmb	IAmb	23 34 04.5	
	comp=Z,8.2nm,1.1s						
BMO	Blue Mountains	78.05	27	P	P	23 34 02.9	+0.5
BMO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PLID	Pearl Lake	78.20	26	P	P	23 34 03.5	+0.1
J05D	Fort Rock, OR	78.30	30	P	P	23 34 04.8	+0.9
J05D				IAmb	IAmb	23 34 06.8	
	comp=Z,7.6nm,1.0s						
HNR	Honiara	78.79	121	LR	LR	00 09 38.4	
	comp=Z,46nm,18.1s,baz=350,slow=36						
DLMT	Dillon	78.84	24	P	P	23 34 06.3	-0.5
DLMT				IAmb	IAmb	23 34 08.8	
	comp=Z,11nm,1.2s						
YBH	Yreka Blue Hor	79.22	32	LR	LR	00 10 43.5	
	comp=Z,103nm,20.0s,baz=334,slow=37						
MCMT	McKenzie Canyo	79.27	24	P	P	23 34 08.8	-0.6
YHL	Hebgen Lake	79.67	23	P	P	23 34 11.8	+0.2
YHB	Horse Butte	79.76	23	P	P	23 34 11.6	-0.4
YHB				IAmb	IAmb	23 34 27.6	
	comp=Z,7.1nm,1.0s						
MFID	Camas Ranch	79.79	27	P	P	23 34 12.7	+0.7
MFID				IAmb	IAmb	23 34 14.3	
	comp=Z,7.9nm,1.1s						
YNE	Yellowstone No	79.80	22	P	P	23 34 12.2	0.0
YHH	Holmes Hill	79.81	23	P	P	23 34 12.3	0.0
RLMT	Red Lodge	79.86	22	P	P	23 34 12.6	+0.1
RLMT				IAmb	IAmb	23 34 14.1	
	comp=Z,8.0nm,1.1s						
YMP	Mirror Lake Pl	80.02	22	P	P	23 34 14.3	+0.9
LKWY	Lake	80.12	23	P	P	23 34 14.7	+0.7
LKWY	Lake	80.12	23	P	P	23 34 14.7	+0.7
LKWY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H17A	Grant Village	80.24	23	P	P	23 34 15.9	+1.3
H17A				IAmb	IAmb	23 34 18.6	
	comp=Z,8.8nm,1.4s						
AS31	Alice Springs	80.28	150	P	P	23 34 13.8	-0.8
ASAR	Alice Springs	80.28	150	P	P	23 34 13.4	-1.2
ASAR	Alice Springs	80.28	150	P	P	23 34 13.6	-1.0
	comp=Z,4.7nm,0.7s,baz=346,slow=5.9,SNR=42						
	comp=Z,4.7nm,0.7s						
ASAR	Alice Springs	80.28	150	P	P	23 34 13.4	-1.2
VLDQ	Val d'Or	80.48	359	P	P	23 34 14.9	-0.6
VLDQ				IAmb	IAmb	23 34 16.3	
	comp=Z,11nm,1.1s						
MOOW	Moose Ponds	80.81	23	P	P	23 34 18.4	+0.8
FXWY	Fox Creek	80.84	23	P	P	23 34 18.1	+0.3
FXWY				IAmb	IAmb	23 34 20.1	
	comp=Z,9.2nm,1.1s						
TPAW	Teton Pass	81.00	23	P	P	23 34 18.6	-0.2
BEKR	Beckworth	81.67	31	P	P	23 34 22.5	+0.3
BEKR				IAmb	IAmb	23 34 24.2	
	comp=Z,7.3nm,1.1s						
PDAR	Pinedale Array	82.02	23	P	P	23 34 23.6	-0.6
	comp=Z,0.2nm,0.5s,baz=34,slow=5.9,SNR=3.7						
PDAR				LR	LR	00 14 45.5	
	comp=Z,60nm,20.1s,baz=331,slow=39						
	comp=Z,0.2nm,0.5s						
E46A	Sault Ste Mari	82.10	4	P	P	23 34 23.9	-0.3
E46A				IAmb	IAmb	23 34 26.5	
	comp=Z,7.0nm,1.0s						
PAHR	Pah Rah Range	82.12	31	P	P	23 34 24.9	+0.3
PAHR				IAmb	IAmb	23 34 26.8	
	comp=Z,9.4nm,1.4s						
ELK	Elko	82.42	27	P	P	23 34 26.6	+0.3
ELK				IAmb	IAmb	23 34 28.6	
	comp=Z,7.9nm,1.3s						
ELK	Elko	82.42	27	P	P	23 34 26.2	-0.1
	comp=Z,3.2nm,1.0s,baz=333,slow=4.5,SNR=6.9						
ELK				LR	LR	00 15 00.1	
	comp=Z,65nm,21.4s,baz=340,slow=39						
	comp=Z,3.2nm,1.0s						
ELK	Elko	82.42	27	P	P	23 34 26.6	+0.3
ELK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HWUT	Hardware Ranch	82.62	24	P	P	23 34 26.9	-0.2
HWUT				IAmb	IAmb	23 34 29.1	
	comp=Z,6.6nm,1.1s						
PNTR	Pine Nut	82.62	31	P	P	23 34 27.4	+0.1
G40A	Rib Lake	82.79	8	P	P	23 34 26.8	-1.0
G40A				IAmb	IAmb	23 34 28.4	
	comp=Z,9.4nm,1.3s						
ECSD	EROS Data Cent	83.56	13	P	P	23 34 30.8	-1.0
ECSD				IAmb	IAmb	23 34 33.5	
	comp=Z,6.2nm,1.1s						
WBO	Williamsburg	83.56	358	P	P	23 34 31.5	-0.2
DUG	Dugway, Tooele	83.61	26	P	P	23 34 32.5	+0.2
DUG				IAmb	IAmb	23 34 33.7	
	comp=Z,8.1nm,1.2s						
DUG	Dugway, Tooele	83.61	26	P	P	23 34 32.5	+0.2
DUG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
NVAR	Mina Array Bea	83.63	30	P	P	23 34 32.8	+0.3
NVAR	Mina Array Bea	83.63	30	P	P	23 34 33.3	+0.7
	comp=Z,2.7nm,0.9s,baz=325,slow=3.6,SNR=8.4						
NVAR				LR	LR	00 13 55.4	
	comp=Z,84nm,21.8s,baz=242,slow=37						
	comp=Z,2.7nm,0.9s						
LHV	Little Huntoon	83.73	31	P	P	23 34 33.9	+1.2
LHV				IAmb	IAmb	23 34 35.7	
	comp=Z,8.8nm,1.1s						
SADO	Sadowa	83.83	1	LR	LR	00 14 00.6	
	comp=Z,77nm,18.1s,baz=56,slow=37						
RDMU	Red Mountain	84.09	23	P	P	23 34 34.9	0.0
RDMU				IAmb	IAmb	23 34 36.6	
	comp=Z,8.9nm,1.2s						
SPR3	Spring Creek 3	84.30	27	P	P	23 34 35.2	-0.8
SPR3				IAmb	IAmb	23 34 38.7	
	comp=Z,11nm,1.5s						
R11B	Troy Canyon, C	84.54	29	P	P	23 34 36.6	-0.5
R11B				IAmb	IAmb	23 34 39.8	
	comp=Z,7.9nm,1.4s						
MZP	Montezuma Peak	84.59	30	P	P	23 34 38.1	+0.7
MZP				IAmb	IAmb	23 34 39.7	
	comp=Z,5.2nm,1.4s						
DSP	Deep Springs	84.71	31	P	P	23 34 39.0	+1.3
O20A	White River Ci	84.83	23	P	P	23 34 38.2	-0.3
O20A				IAmb	IAmb	23 34 39.5	
	comp=Z,6.6nm,1.1s						
PSUT	Pine Spring	84.87	27	P	P	23 34 38.9	+0.1
PSUT				IAmb	IAmb	23 34 41.5	
	comp=Z,7.1nm,1.4s						
GMN	Gold Mountain	85.00	30	P	P	23 34 40.5	+1.1
GMN				IAmb	IAmb	23 34 41.9	
	comp=Z,4.5nm,1.3s						
GRAC	Grapevine Rang	85.24	30	P	P	23 34 41.6	+1.2
Q16A	Castle Valley	85.25	25	P	P	23 34 40.6	0.0
MVU	Marysvale	85.35	26	P	P	23 34 42.3	+1.0
MSU	Marysvale	85.36	26	P	P	23 34 42.0	+0.8
MSU	Marysvale	85.36	26	P	P	23 34 42.1	+0.8
PRN	Pahroc Range	85.57	28	P	P	23 34 42.8	+0.6
PRN				IAmb	IAmb	23 34 44.6	
	comp=Z,9.0nm,1.3s						
MTPU	Mount Pierson	85.80	26	P	P	23 34 44.3	+0.7
TORD	Torodi Ar. Bea	85.83	286	P	P	23 34 41.6	-2.0
TORD				IAmb	IAmb	23 34 43.5	
	comp=Z,6.4nm,1.5s						
TORD	Torodi Ar. Bea	85.83	286	P	P	23 34 42.1	-1.5
	comp=Z,1.6nm,0.4s,baz=25,slow=5.4,SNR=1.7						
	comp=Z,1.6nm,0.4s						
LCMT	Little Creek M	86.46	27	P	P	23 34 46.0	-0.6
PV15	Paradox Valley	86.47	23	P	P	23 34 47.0	+0.2
PV15				IAmb	IAmb	23 35 10.4	
	comp=Z,5.4nm,0.8s						
KNB	Kanab	86.58	27	P	P	23 34 48.3	+1.0
KNB	Kanab	86.58	27	P	P	23 34 48.3	+1.0
KNB				pmax	pmax		
	comp=Z,14nm,1.3s						
PV01	Paradox Valley	86.65	23	P	P	23 34 47.0	-0.6
PV01				IAmb	IAmb	23 34 48.9	
	comp=Z,5.5nm,1.1s						
SDCO	Great Sand Dun	87.74	21	P	P	23 34 53.0	0.0
SDCO				IAmb	IAmb	23 34 54.5	
	comp=Z,6.3nm,1.4s						
O52A	Adamsville	88.43	3	P	P	23 34 55.9	0.0
PFO	Pinyon Flats O	88.64	31	LR	LR	00 18 33.3	
	comp=Z,105nm,21.0s,baz=241,slow=38						
P53A	Whipple	89.07	2	P	P	23 34 59.2	+0.3
ANMO	Albuquerque	90.20	23	P	P	23 35 05.2	+0.6
ANMO				IAmb	IAmb	23 35 07.0	
	comp=Z,4.6nm,1.1s						
ANMO	Albuquerque	90.20	23	P	P	23 35 04.4	-0.1
	comp=Z,3.1nm,1.0s,baz=324,slow=8.7,SNR=6.7						
ANMO				LR	LR	00 19 58.9	
	comp=Z,47nm,19.3s,baz=155,slow=38						
	comp=Z,3.1nm,1.0s						
ANMO	Albuquerque	90.20	23	*ce* P	P	23 35 06.0	+1.5
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
LSZ	Lusaka	91.97	248	LR	LR	00 18 24.3	
	comp=Z,106nm,18.6s,baz=84,slow=37						
TKL	Tuckaleechee C	92.80	4	LR	LR	00 20 03.1	
	comp=Z,65nm,19.0s,baz=1.5,slow=38						
DBIC	Dimbokro	94.86	287	LR	LR	00 24 24.3	
	comp=Z,61nm,18.8s,baz=63,slow=40						
BBTS	Babate	94.97	301	LR	LR	00 23 25.2	
	comp=Z,78nm,19.7s,baz=238,slow=39						
LPIG	La Paz	99.41	29	LR	LR	00 24 26.9	
	comp=Z,47nm,18.2s,baz=294,slow=38						
QSPA	South Pole Qui	141.54	180	PKhKP	PKPpre	23 41 24.7	
	comp=Z,0.9nm,0.6s,baz=301,slow=2.6,SNR=8.1						
LPAZ	La Paz	143.66	343	PKP	PKPdf	23 41 39.0	-0.7
	comp=Z,1.4nm,0.9s,baz=339,slow=3.8,SNR=4.4						

*IDC **29** 23:53:01.9±2.4, 31°.84S×177°.66W, h0km, mb3.9/3, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=62.5km s-min=35.1km az=126.0*

ISC 29 23:53:03.6±2.4, 31°.9S±0°.2×177°.4W±0°.4, h18km, n6, σ1§02/7, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.74	214	Pn	Pn	23 54 54.7	-0.6
	0.2nm,0.3s,baz=287,slow=16,SNR=1.6						
URZ				Sn	Sn	23 56 23.0	+0.5
	1.7nm,0.3s,baz=84,slow=18,SNR=7.1						
	10nm,1.0s						
STKA	Stephens Creek	34.63	259	P	P	23 59 52.9	+1.0

QTPS				S	Sb	23 55 15.5	-1.0
WKZ	**Wanaka**	**1.57**	**72**	P	Pb	23 55 04.8	-0.5
WKZ				S	Sn	23 55 23.3	-1.0
APZ	**The Paps**	**1.67**	**154**	P	Pn	23 55 05.7	+0.2
APZ				S	Sb	23 55 27.9	-0.2
EAZ	**Earnscleugh**	**1.69**	**87**	P	Pn	23 55 06.4	+0.6
EAZ				S	Sn	23 55 26.9	-0.3
JCZ	**Jackson Bay**	**1.83**	**47**	P	Pn	23 55 08.7	+0.9
SYZ	**Scrubby Hill**	**1.96**	**129**	P	Pn	23 55 09.3	-0.1
SYZ				S	Sn	23 55 32.8	-1.1
TUZ	**Tuapeka**	**2.00**	**109**	P	Pn	23 55 10.3	+0.3
LBZ	**Lake Benmore**	**2.51**	**69**	P	Pn	23 55 16.7	-0.3
HHSZ	**Highcliff Hill**	**2.64**	**103**	P	Pn	23 55 18.9	+0.2
HHSZ				S	Sn	23 55 53.3	+2.6
ODZ	**Otahua Downs**	**2.65**	**85**	P	Pn	23 55 18.5	-0.4
FOZ	**Fox Glacier**	**2.75**	**50**	P	Pn	23 55 20.5	+0.3
TMZ	**Timaru**	**3.06**	**73**	P	Pn	23 55 23.8	-0.7
GCSZ	**Gaunt Creek Bo**	**3.17**	**52**	P	Pn	23 55 26.1	+0.1
ARCZ	**Arundel**	**3.34**	**67**	P	Pn	23 55 27.3	-1.1
RPZ	**Rata Peaks**	**3.37**	**63**	P	Pn	23 55 28.0	-0.8
WVZ	**Waitaha Valley**	**3.55**	**52**	P	Pn	23 55 31.2	-0.1
WACZ	**Wakanui South**	**3.77**	**70**	P	Pn	23 55 35.1	+0.7
MHCZ	**Mount Hutt**	**3.78**	**63**	P	Pn	23 55 34.9	+0.3
INZ	**Inchbonnie**	**4.17**	**53**	P	Pn	23 55 39.8	-0.1
OXZ	**Oxford**	**4.18**	**63**	P	Pn	23 55 40.0	0.0
MQZ	**McQueen's Vall**	**4.41**	**70**	P	Pn	23 55 43.5	+0.4
AKCZ	**Akaroa Harbour**	**4.52**	**73**	P	Pn	23 55 45.4	+0.8
LTZ	**Lake Taylor**	**4.62**	**58**	P	Pn	23 55 45.4	-0.6
AMCZ	**Amberley**	**4.65**	**64**	P	Pn	23 55 46.3	0.0
GVZ	**Greta Valley S**	**4.99**	**64**	P	Pn	23 55 49.8	-1.3
DSZ	**Denniston Nort**	**5.04**	**46**	P	Pn	23 55 51.2	-0.7
THZ	**Tophouse**	**5.62**	**53**	P	Pn	23 56 00.5	+0.6
MRNZ	**Matariki Terra**	**5.79**	**49**	P	Pn	23 56 02.2	+0.4
QRZ	**Quartz Range**	**6.09**	**44**	P	Pn	23 56 05.8	-0.5
TKNZ	**Takaka Hill**	**6.16**	**48**	P	Pn	23 56 07.3	+0.1
NNZ	**Nelson**	**6.25**	**51**	P	Pn	23 56 10.0	+1.5
TCW	**Tory Channel**	**6.76**	**55**	P	Pn	23 56 18.3	+2.9
DUWZ	**D'Urville Isla**	**6.84**	**51**	P	Pn	23 56 18.1	+1.6
OTVZ	**Oturere**	**8.94**	**49**	P	Pn	23 56 48.4	+2.9
KWHZ	**Kaweka Forest**	**9.18**	**53**	P	Pn	23 56 53.4	+4.7

*NEIC **30** 00:16:19.9±0.6, 19°.18N±0°.03×155°.49W±0°.02, h40km±3km, Error ellipse: s-maj=4.6km s-min=2.9km az=161.0*
HVO 30 00:16:20.6±0.7,**19°.13N**±0°.04×**155°.46W**±0°.03,**h41**km±3km, **ML2.3**/26,**ML2.5**/44(NEIC),**Error ellipse: s-maj=6.5km s-min=3.0km az=146.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.10**	**246**	Pn	Pn	00 16 27.0	-0.3
HTC	**Hot Caves**	**0.12**	**29**		Pn	00 16 27.0	-0.5
KHU	**Kahuku**	**0.19**	**309**		Pn	00 16 27.2	-1.0
KHU				IAML		00 16 32.3	
	comp=N,504nm,0.2s						
KHU				IAML		00 16 32.3	
	comp=E,481nm,1.6s						
HLP	**Hilina Pali**	**0.22**	**41**		Pn	00 16 27.6	-0.6
HLP					Sn	00 16 32.6	-1.0
HLP				IAML		00 16 35.1	
	comp=E,592nm,1.1s						
SDHHI	**Sand Hill**	**0.30**	**31**		Pn	00 16 28.1	-1.0
SDHHI					Sn	00 16 33.5	-1.6
WRMHI	**West Rim**	**0.32**	**29**		Pn	00 16 28.2	-1.1
RIM	**Rim**	**0.32**	**34**		Pn	00 16 28.2	-1.1
RIM					Sn	00 16 34.0	-1.4
KKO	**Keanakako'i**	**0.33**	**34**		Pn	00 16 28.3	-1.1
UWE	**Uwekahuna**	**0.33**	**29**		Pn	00 16 28.5	-1.0
PUH	**Pauahi**	**0.34**	**43**		Pn	00 16 28.4	-1.1
PUH	**Pauahi**	**0.34**	**43**		Sn	00 16 34.0	-1.7
BYL	**Byron's Ledge**	**0.34**	**34**		Pn	00 16 28.3	-1.2
BYL	**Byron's Ledge**	**0.34**	**34**	IAML		00 16 34.3	
	comp=N,230nm,2.3s						
BYL				IAML		00 16 41.0	
	comp=E,255nm,0.6s						
UWB	**Uwekahuna Bluf**	**0.34**	**30**		Pn	00 16 28.3	-1.3
HATHI	**Halema'uma'u T**	**0.35**	**33**		Pn	00 16 28.5	-1.1
HATHI				IAML		00 16 34.4	
	comp=N,277nm,0.3s						
HATHI				IAML		00 16 35.9	
	comp=E,348nm,0.3s						
SBLHI	**Steaming Bluff**	**0.35**	**32**		Pn	00 16 28.4	-1.3
SBLHI					Sn	00 16 34.5	-1.4
MLH	**Mauna Loa**	**0.37**	**11**		Pn	00 16 28.9	-1.1
MLH					Sn	00 16 35.0	-1.6
KNHH	**Kane Nui o Ham**	**0.37**	**48**		Pn	00 16 28.8	-1.1
RSD	**Rainshed**	**0.38**	**27**		Pn	00 16 28.2	-1.8
MWH	**Mokuaweoweo**	**0.38**	**340**		Pn	00 16 29.0	-1.4
MWH				IAML		00 16 35.7	
	comp=E,348nm,0.3s						
MWH				IAML		00 16 43.2	
	comp=N,320nm,0.3s						
MWH	**Mokuaweoweo**	**0.38**	**340**		Sn	00 16 35.4	-1.8
STCH	**Steam Cracks**	**0.41**	**51**		Pn	00 16 29.1	-1.2
STCH				IAML		00 16 34.2	
	comp=N,302nm,3.7s						
MLOA	**Mauna Loa Obse**	**0.42**	**345**		Pn	00 16 29.4	-1.4
NPOC	**North of Pu'u**	**0.42**	**51**		Pn	00 16 29.3	-1.2
JCUZ	**Jacuzzi**	**0.43**	**53**		Pn	00 16 29.3	-1.2
ALEP	**Alea Permanent**	**0.45**	**337**		Pn	00 16 29.4	-1.6
ALEP					Sn	00 16 36.0	-2.3
HMH	**Humu'ula Sheep**	**0.47**	**358**		Pn	00 16 30.4	-0.9
HMH				IAML		00 16 38.0	
	comp=E,370nm,0.3s						
HMH	**Humu'ula Sheep**	**0.47**	**358**		Sn	00 16 37.4	-1.4
JOKA	**Jonika Flow**	**0.53**	**55**		Pn	00 16 30.5	-1.3
JOKA				IAML		00 16 49.6	
	comp=N,245nm,3.3s						
CPH	**Captain Cook**	**0.56**	**310**		Pn	00 16 30.5	-1.7
POHA	**Pohakuloa**	**0.63**	**354**		Pn	00 16 31.9	-1.5
POHA				IAML		00 16 38.8	
	comp=N,165nm,4.4s						
HUH	**Hualalai**	**0.66**	**328**		Pn	00 16 32.4	-1.3
HUH	**Hualalai**	**0.66**	**328**		Sn	00 16 41.0	-2.1
KKH	**Kailua Kona**	**0.74**	**315**	Pn	Pn	00 16 33.5	-1.1
HPAH	**Hawaii Prepara**	**0.93**	**346**	Pn	Pn	00 16 35.4	-1.9
HPAH				IAML		00 17 01.2	
	comp=N,98nm,2.4s						
MHA	**Mahukona**	**1.13**	**339**	Pn	Pn	00 16 38.3	-1.6

*IDC **30** 00:16:45.7±1.9, 7°.22S×123°.20E, h558km±33km, mb2.5/3, mbtmp3.5/7, Error ellipse: s-maj=111.3km s-min=16.5km az=59.0*
ISC 30 00:16:45.7±1.0,**7°.3S**±0°.2×**123°.1E**±0°.4,**h563**km,**n7,** σ0**68/7,mb2.9**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.05**	**304**	P	**P**	**00 18 09.2**	**+0.3**
	9.2nm,0.5s,baz=128,slow=3.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**10.99**	**167**	P	**P**	**00 19 13.3**	**-0.5**
	4.0nm,0.8s,baz=2.9,slow=11,SNR=15						
WRA	**Warramunga Arr**	**16.61**	**140**	P	**P**	**00 20 10.2**	**-0.2**
	0.8nm,0.8s,baz=314,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**19.27**	**149**	P	**P**	**00 20 35.8**	**+1.2**
	0.4nm,0.5s,baz=345,slow=16,SNR=8.4						
SONM	**Songino Array**	**56.88**	**347**	P	**P**	**00 25 37.4**	**-0.1**
	0.2nm,0.4s,baz=165,slow=6.0,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**64.93**	**330**	P	**P**	**00 26 30.2**	**-0.1**
	0.4nm,0.6s,baz=129,slow=7.9,SNR=4.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**69.37**	**331**	P	**P**	**00 26 57.1**	**-0.2**
	0.3nm,0.8s,baz=127,slow=5.9,SNR=1.9						
	0.3nm,0.8s						

*TRN **30** 00:18:09.2, 19°.01N×62°.63W, h37km, MD4.1, Far North-east of Anguilla.*
ISC 30 00:18:04.2±2.1,**19°.2N**±0°.2×**62°.8W**±0°.1,**h10**km,**n17,** σ1**94/21,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.76**	**147**	*e*P	**Pn**	**00 18 35.9**	**+1.1**
ANWB				*e*S	**Sn**	**00 18 55.5**	**-1.7**
SKI	**Saint Kitts**	**1.81**	**178**	*e*P	**Pn**	**00 18 37.8**	**+2.3**
ANBD	**Bethesda, Anti**	**2.31**	**155**	*e*P	**Pn**	**00 18 43.6**	**+1.3**
ANBD				*e*S	**Sn**	**00 19 08.4**	**-2.3**
MBFL	**Flemmings, Mon**	**2.45**	**167**	*e*P	**Pn**	**00 18 46.5**	**+2.1**
MBFL				*e*S	**Sn**	**00 19 14.0**	**-0.4**
MBWH		**2.46**	**166**	*e*P	**Pn**	**00 18 47.1**	**+2.7**
MBWH				*e*S	**Sn**	**00 19 13.0**	**-1.7**
SJG	**San Juan**	**3.35**	**253**	*e*P	Pn	00 19 01.8	+5.2
TBG	**Guadaloupe-3**	**3.46**	**161**	*e*P	**Pn**	**00 19 00.9**	**+2.7**
TBG				*e*S	**Sn**	**00 19 38.0**	**-1.2**
MAGL	**Barre de l'ile**	**3.50**	**155**	*e*P	**Pn**	**00 19 00.7**	**+2.0**
DSLB	**Salisbury**	**3.92**	**160**	*e*P	**Pn**	**00 19 06.7**	**+2.2**
DSLB				*e*S	**Sn**	**00 19 49.2**	**-1.4**
BIM	**Bigot**	**4.89**	**160**	*e*P	**Pn**	**00 19 19.8**	**+1.8**
BIM				*e*S	**Sn**	**00 20 11.5**	**-3.2**
SDDR	**Presa de Saban**	**8.04**	**270**	*e*P	Pg	00 20 49.6	+11
SDDR				*e*S	**Sn**	**00 21 31.2**	**-1.0**
MASC	**Masc**	**10.82**	**277**	*e*P	Pn	00 20 50.9	+12
QMBU	**Quimbuelo**	**11.37**	**277**	*e*P	**Pn**	**00 20 47.4**	**+0.6**
MOAC	**Moa**	**11.54**	**280**	*e*P	**Pn**	**00 20 48.9**	**-0.3**
NMDO	**Nuevo Mundo**	**11.56**	**279**	*e*P	**Pn**	**00 20 49.5**	**+0.1**
RCC	**Rio Carpintero**	**12.19**	**276**	*e*P	Pn	00 20 54.9	-3.1
PINC	**Pinares de May**	**12.31**	**278**	*e*P	**Pn**	**00 20 58.2**	**-1.4**

*NEIC **30** 00:25:24.4±1.3, 19°.17N±0°.02×155°.38W±0°.04, h45km±3km, Error ellipse: s-maj=5.3km s-min=1.3km az=115.0*
HVO 30 00:25:25.8±1.7,**19°.09N**±0°.03×**155°.40W**±0°.04,**h37**km±3km, **ML2.8**/8,**ML3.1**/44(NEIC),**Error ellipse: s-maj=6.7km s-min=3.0km az=129.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.14**	**271**		Pn	00 25 32.1	-5.1
HPO					Sn	00 25 37.0	-11
HTC	**Hot Caves**	**0.15**	**2**		Pn	00 25 32.3	-4.7
HLP	**Hilina Pali**	**0.23**	**23**		Pn	00 25 32.6	-2.0
HLP				IAML		00 25 44.6	
	comp=E,2μm,1.0s						
KHU	**Kahuku**	**0.26**	**308**		Pn	00 25 32.5	-1.9
KHU					Sn	00 25 37.8	-4.4
KHU				IAML		00 25 45.2	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.32**	**19**		Pn	00 25 33.2	-1.0
RIM	**Rim**	**0.33**	**22**		Pn	00 25 33.1	-1.3
PUH	**Pauahi**	**0.34**	**32**	Pn	Pn	00 25 31.9	-2.4
PUH				IAML		00 25 44.9	
	comp=N,1μm,0.5s						
UWE	**Uwekahuna**	**0.35**	**17**	Pn	Pn	00 25 32.6	-1.9
UWE				IAML		00 25 47.6	
	comp=E,2μm,0.6s						
BYL	**Byron's Ledge**	**0.35**	**23**		Pn	00 25 32.8	-1.7
BYL				IAML		00 25 45.2	
	comp=E,1μm,0.6s						
HATHI	**Halema'uma'u T**	**0.36**	**22**		Pn	00 25 32.9	-1.7
HATHI				IAML		00 25 51.2	
	comp=N,1μm,0.9s						
HATHI				IAML		00 25 52.2	
	comp=E,1μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.36**	**37**		Pn	00 25 33.3	-1.3
RSD	**Rainshed**	**0.39**	**17**	Pn	Pn	00 25 33.6	-1.3
STCH	**Steam Cracks**	**0.40**	**41**	Pn	Pn	00 25 33.9	-1.0
STCH					Sn	00 25 34.5	-7.3
MLH	**Mauna Loa**	**0.41**	**2**	Pn	Pn	00 25 33.9	-1.3
MLH					Sn	00 25 35.3	-7.0
MLH				IAML		00 25 41.2	
	comp=E,1μm,0.6s						
MWH	**Mokuaweoweo**	**0.44**	**335**		Pn	00 25 34.0	-1.9
MLOA	**Mauna Loa Obse**	**0.48**	**340**	Pn	Pn	00 25 35.3	-1.2
JOKA	**Jonika Flow**	**0.51**	**47**		Pn	00 25 34.8	-1.9
JOKA				IAML		00 25 49.6	
	comp=N,1μm,1.0s						
HMH	**Humu'ula Sheep**	**0.52**	**352**		Pn	00 25 34.9	-2.2
HMH					Sn	00 25 42.3	-2.5
HMH				IAML		00 25 48.2	
	comp=N,1μm,0.8s						
POHA	**Pohakuloa**	**0.68**	**350**	Pn	Pn	00 25 39.9	+0.6
POHA				IAML		00 26 01.9	
	comp=N,800nm,0.5s						
HUH	**Hualalai**	**0.72**	**326**	Pn	Pn	00 25 39.2	-0.6
HPAH	**Hawaii Prepara**	**0.98**	**344**	Pn	Pn	00 25 39.8	-3.3
HPAH				IAML		00 25 56.0	
	comp=N,459nm,0.8s						
HPAH				IAML		00 25 59.9	
	comp=E,457nm,0.8s						
MHA	**Mahukona**	**1.19**	**337**	Pn	Pn	00 25 42.5	-3.4
HLK	**Haleakala**	**1.84**	**335**	Pn	Pn	00 25 54.8	-0.4

*RSNC **30** 00:27:00.9±0.0, 9°N±1°×7°7W±°, h50km±4km, M3.7, mb4.5, mB5.2, ML3.1, Mw(mB)4.6*
*UPA **30** 00:27:01.5±1.8, 8°.61N×77°.56W, h40km±14km, MD4.2*
ISC 30 00:27:00.5±0.9,**8°.80N**±0°.03×**77°.50W**±0°.02,**h53**km±7km, **n118,** σ1$**65**/216,**2C-2D,Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.22**	**137**	P	**Pn**	**00 27 08.5**	**-0.8**
CAPC				S	**Sn**	**00 27 15.0**	**-0.6**
CAPC	**Capurgana**	**0.22**	**137**	P	**Pn**	**00 27 08.5**	**-0.8**
CAPC				S	**Sn**	**00 27 15.0**	**-0.6**
TOTI	**Torti**	**0.81**	**280**	⇑*i*P	**Pn**	**00 27 15.7**	**-0.1**
TOTI				*i* S	**Sn**	**00 27 27.4**	**+0.4**
TOTI				*i* S		00 27 27.8	
LCBC	**Los crdobas,**	**1.12**	**87**	P	**Pn**	**00 27 20.9**	**+1.0**
LCBC				S	**Sn**	**00 27 38.1**	**+3.7**
LCBC	**Los crdobas,**	**1.12**	**87**	*i* P	**Pn**	**00 27 21.5**	**+1.6**
LCBC				*e*S	**Sn**	**00 27 37.9**	**+3.5**
LCBC	**Los crdobas,**	**1.12**	**87**	P	**Pn**	**00 27 20.9**	**+1.0**
LCBC				S	**Sn**	**00 27 38.1**	**+3.7**
APAC	**Apartado, Choc**	**1.27**	**134**	P	**Pn**	**00 27 21.8**	**-0.2**
APAC				S	**Sn**	**00 27 39.4**	**+1.4**
APAC	**Apartado, Choc**	**1.27**	**134**	P	**Pn**	**00 27 21.8**	**-0.2**
APAC				S	**Sn**	**00 27 39.4**	**+1.4**
PTAC	**Punta Ardita,**	**1.67**	**191**	P	**Pn**	**00 27 25.9**	**-1.4**
PTAC				S	**Sn**	**00 27 45.2**	**-2.4**
PTAC	**Punta Ardita,**	**1.67**	**191**	⇓*i*P	**Pn**	**00 27 26.1**	**-1.2**
PTAC				*i* S	**Sn**	**00 27 43.9**	**-3.7**
PTAC	**Punta Ardita,**	**1.67**	**191**	P	**Pn**	**00 27 25.9**	**-1.4**
PTAC				S	**Sn**	**00 27 45.2**	**-2.4**
UPA	**Univ. de Panam**	**2.02**	**275**	*i* P	**Pn**	**00 27 32.3**	**+0.2**
UPA				*i* S	**Sn**	**00 27 55.4**	**-0.8**
TABO3	**Taboga, Panama**	**2.03**	**270**	*i* P	**Pn**	**00 27 32.7**	**+0.5**
TABO3				*i* S	**Sn**	**00 27 55.8**	**-0.7**
DBBC	**Dabeiba**	**2.18**	**144**	P	**Pn**	**00 27 33.7**	**-0.7**
DBBC				S	**Sn**	**00 27 59.7**	**-0.6**
DBBC	**Dabeiba**	**2.18**	**144**	P	**Pn**	**00 27 33.7**	**-0.7**
DBBC				S	**Sn**	**00 27 59.7**	**-0.6**
GAMB1	**Gamboa**	**2.21**	**279**	*i* P	**Pn**	**00 27 35.0**	**+0.4**
GAMB1				*i* S	**Sn**	**00 28 02.1**	**+1.3**
UREC	**San Jos de Ur**	**2.21**	**118**	P	**Pn**	**00 27 34.0**	**-0.8**
UREC				S	**Sn**	**00 27 58.9**	**-2.0**
UREC	**San Jos de Ur**	**2.21**	**118**	⇑*i*P	**Pn**	**00 27 33.9**	**-0.8**
UREC				*i* S	**Sn**	**00 27 56.3**	**-4.6**
UREC	**San Jos de Ur**	**2.21**	**118**	P	**Pn**	**00 27 34.0**	**-0.8**
UREC				S	**Sn**	**00 27 58.9**	**-2.0**
FRIJ	**El Hiral**	**2.24**	**281**	*i* P	**Pn**	**00 27 35.8**	**+0.7**
FRIJ				*i* S	**Sn**	**00 28 02.3**	**+0.7**
CHOR3	**La Chorrera**	**2.24**	**273**	*i* P	**Pn**	**00 27 35.4**	**+0.3**
CHOR3				*i* S	**Sn**	**00 28 01.8**	**+0.1**
BCIP	**Isla Barro Col**	**2.34**	**279**	P	**Pn**	**00 27 36.7**	**+0.2**
BCIP				S	**Sn**	**00 28 04.4**	**+0.4**
BCIP	**Isla Barro Col**	**2.34**	**279**	⇓*i*P	**Pn**	**00 27 37.0**	**+0.5**
BCIP				*i* S	**Sn**	**00 28 04.5**	**+0.4**
BCIP	**Isla Barro Col**	**2.34**	**279**	P	**Pn**	**00 27 36.7**	**+0.2**
BCIP				S	**Sn**	**00 28 04.4**	**+0.4**
ZANG	**Zanguenga, Cho**	**2.34**	**274**	*i* P	**Pn**	**00 27 36.7**	**+0.1**
ZANG				*i* S	**Sn**	**00 28 02.6**	**-1.6**
MLIR	**Monte Lirio**	**2.37**	**281**	*i* P	**Pn**	**00 27 37.3**	**+0.5**
MLIR				*i* S	**Sn**	**00 28 02.7**	**-2.0**
SJCC	**San Jacinto, C**	**2.54**	**64**	P	**Pn**	**00 27 39.7**	**+0.4**
SJCC				S	**Sn**	**00 28 08.7**	**-0.4**
SJCC	**San Jacinto, C**	**2.54**	**64**	P	**Pn**	**00 27 39.7**	**+0.4**
SJCC				S	**Sn**	**00 28 08.7**	**-0.4**
SOLC	**Bahia Solano**	**2.55**	**178**	P	**Pn**	**00 27 40.9**	**+1.4**
SOLC				S	**Sn**	**00 28 10.9**	**+1.5**
SOLC	**Bahia Solano**	**2.55**	**178**	P	**Pn**	**00 27 40.9**	**+1.4**
SOLC				S	**Sn**	**00 28 10.9**	**+1.5**
PNME	**Penonome**	**2.81**	**264**	*e*P	**Pn**	**00 27 42.4**	**-0.6**
PNME				*i* S	**Sn**	**00 28 14.1**	**-1.5**
AZU	**Azuero**	**2.92**	**250**	P	**Pn**	**00 27 44.4**	**-0.1**
AZU				S	**Sn**	**00 28 16.1**	**-2.2**
AZU	**Azuero**	**2.92**	**250**	*i* P	**Pn**	**00 27 44.5**	**+0.1**
AZU	**Azuero**	**2.92**	**250**	P	**Pn**	**00 27 44.4**	**-0.1**
AZU				S	**Sn**	**00 28 16.1**	**-2.2**
ZARC	**Zaragoza, Cauc**	**2.92**	**116**	P	**Pn**	**00 27 43.7**	**-0.8**
ZARC				S	**Sn**	**00 28 15.7**	**-2.7**
ZARC	**Zaragoza, Cauc**	**2.92**	**116**	P	**Pn**	**00 27 43.7**	**-0.8**
ZARC				S	**Sn**	**00 28 15.7**	**-2.7**
CHIT3	**Chitre**	**3.00**	**254**	*i* P	**Pn**	**00 27 44.9**	**-0.7**
CHIT3				*e*S	**Sn**	**00 28 17.1**	**-3.3**
CRIS3	**El Cristo, Coc**	**3.13**	**260**	*e*P	**Pn**	**00 27 47.7**	**+0.4**
CRIS3				*i* S	**Sn**	**00 28 24.3**	**+0.9**
HELC	**Santa Helena**	**3.24**	**143**	P	**Pn**	**00 27 48.5**	**-0.8**
HELC				S	**Sn**	**00 28 25.8**	**-1.1**
HELC	**Santa Helena**	**3.24**	**143**	P	**Pn**	**00 27 48.5**	**-0.8**
HELC				S	**Sn**	**00 28 25.8**	**-1.1**
CBOC	**Ciudad Bolivar**	**3.27**	**153**	P	**Pn**	**00 27 50.0**	**+0.6**
CBOC				S	**Sn**	**00 28 27.7**	**+0.6**
CBOC	**Ciudad Bolivar**	**3.27**	**153**	P	**Pn**	**00 27 50.0**	**+0.6**
CBOC				S	**Sn**	**00 28 27.7**	**+0.6**
CALO3	**Calobre, Verag**	**3.34**	**262**	*i* P	**Pn**	**00 27 51.2**	**+1.0**
ARGC	**Ariguani, Magd**	**3.38**	**72**	P	**Pn**	**00 27 51.8**	**+1.0**
ARGC				S	**Sn**	**00 28 28.7**	**-1.0**
ARGC	**Ariguani, Magd**	**3.38**	**72**	P	**Pn**	**00 27 51.8**	**+1.0**
ARGC				S	**Sn**	**00 28 28.7**	**-1.0**
STIA3	**Santiago, Vera**	**3.50**	**259**	*e*P	**Pn**	**00 27 52.9**	**+0.4**
PTBC	**PUERTO BERRIO,**	**3.76**	**126**	P	**Pn**	**00 27 54.8**	**-1.2**
PTBC				S	**Sn**	**00 28 37.0**	**-2.1**
PTBC	**PUERTO BERRIO,**	**3.76**	**126**	P	**Pn**	**00 27 54.8**	**-1.2**
PTBC				S	**Sn**	**00 28 37.0**	**-2.1**
PIZC	**Pizarro, Choco**	**3.81**	**178**	P	**Pn**	**00 27 56.9**	**+0.2**
PIZC				S	**Sn**	**00 28 37.9**	**-2.3**
PIZC	**Pizarro, Choco**	**3.81**	**178**	P	**Pn**	**00 27 56.9**	**+0.2**
PIZC				S	**Sn**	**00 28 37.9**	**-2.3**
GMAL	**Guarumal, Vera**	**3.83**	**255**	P	**Pn**	**00 27 58.6**	**+1.6**
GMAL				S	**Sn**	**00 28 42.4**	**+1.6**
GMAL	**Guarumal, Vera**	**3.83**	**255**	P	**Pn**	**00 27 58.6**	**+1.6**
GMAL				S	**Sn**	**00 28 42.4**	**+1.6**
SMRC	**Santa Marta, M**	**3.99**	**54**	P	**Pn**	**00 27 59.8**	**+0.6**
SMRC				S	**Sn**	**00 28 43.0**	**-1.8**
SMRC	**Santa Marta, M**	**3.99**	**54**	P	**Pn**	**00 27 59.8**	**+0.6**
SMRC				S	**Sn**	**00 28 43.0**	**-1.8**
GUY2C	**Guyana, Caldas**	**4.13**	**149**	P	**Pn**	**00 28 02.7**	**+1.1**
GUY2C				S	**Sn**	**00 28 49.6**	**+0.7**
GUY2C	**Guyana, Caldas**	**4.13**	**149**	P	**Pn**	**00 28 02.7**	**+1.1**
GUY2C				S	**Sn**	**00 28 49.6**	**+0.7**
BRJC	**Barrancabermej**	**4.14**	**116**	P	**Pn**	**00 28 00.7**	**-0.5**
BRJC				S	**Sn**	**00 28 47.2**	**-1.2**
BRJC	**Barrancabermej**	**4.14**	**116**	P	**Pn**	**00 28 00.7**	**-0.5**
BRJC				S	**Sn**	**00 28 47.2**	**-1.2**
NORC	**Norcasia**	**4.14**	**141**	P	**Pn**	**00 28 01.0**	**-0.3**
NORC				S	**Sn**	**00 28 48.5**	**0.0**
NORC	**Norcasia**	**4.14**	**141**	P	**Pn**	**00 28 01.0**	**-0.3**
NORC				S	**Sn**	**00 28 48.5**	**0.0**
OCAC	**Ocana**	**4.17**	**97**	P	**Pn**	**00 28 01.1**	**-0.7**
OCAC				S	**Sn**	**00 28 48.5**	**-0.9**
OCAC	**Ocana**	**4.17**	**97**	P	**Pn**	**00 28 01.1**	**-0.7**
OCAC				S	**Sn**	**00 28 48.5**	**-0.9**
NIZA	**Niza - Manizal**	**4.23**	**151**	P	**Pn**	**00 28 05.7**	**+3.0**
NIZA				S	**Sn**	**00 28 53.6**	**+2.7**
NIZA	**Niza - Manizal**	**4.23**	**151**	P	**Pn**	**00 28 05.7**	**+3.0**
NIZA				S	**Sn**	**00 28 53.6**	**+2.7**
RECRC	**Villamaria, Ca**	**4.37**	**151**	P	**Pn**	**00 28 07.1**	**+2.3**
RECRC	**Villamaria, Ca**	**4.37**	**151**	P	**Pn**	**00 28 07.1**	**+2.3**
CHGR2	**Aguacate**	**4.59**	**272**	*e*P	**Pn**	**00 28 07.9**	**+0.5**
CHGR2				*e*S	**Sn**	**00 28 56.5**	**-3.0**
MALC	**Bahia Malaga**	**4.75**	**178**	P	**Pn**	**00 28 11.1**	**+1.4**
MALC				S	**Sn**	**00 29 03.1**	**-0.4**
MALC	**Bahia Malaga**	**4.75**	**178**	P	**Pn**	**00 28 11.1**	**+1.4**
MALC				S	**Sn**	**00 29 03.1**	**-0.4**
ANIL	**Santa Ana**	**4.76**	**154**	P	**Pn**	**00 28 12.0**	**+2.0**
ANIL				S	**Sn**	**00 29 02.8**	**-1.2**
ANIL	**Santa Ana**	**4.76**	**154**	P	**Pn**	**00 28 12.0**	**

3μm127nm,0.5s
POPC Popayan, Colom 6.27 172 P Pn 00 28 32.3 +1.6
30nm,0.6s
POPC S Sn 00 29 41.4 +0.3
30nm,0.6s
POPC Popayan, Colom 6.27 172 P Pn 00 28 32.3 +1.6
30nm,0.6s
POPC S Sn 00 29 41.4 +0.3
30nm,0.6s
URMC La Uribe, Meta 6.33 150 P Pn 00 28 32.9 +1.6
URMC S Sn 00 29 41.2 -1.1
URMC La Uribe, Meta 6.33 150 P Pn 00 28 32.9 +1.6
URMC S Sn 00 29 41.2 -1.1
STH Stony Hill 9.25 4 eP Pn 00 29 13.3 +2.0
MTDJ Mount Denham 9.37 360 eP Pn 00 29 13.9 +0.8
PILO Pilon 11.05 0 eP Pn 00 29 36.7 +0.8
CHIV Chivirico 11.16 5 eP Pn 00 29 37.8 +0.3
LMGC Las Mercedes 11.21 2 eP Pn 00 29 36.1 -2.0
MARVS **Santiago de Cu 11.25 8** eP Pn 00 29 34.2 -4.3
RCC Rio Carpintero 11.27 9 eP Pn 00 29 40.7 +1.8
GTBY Guantanamo Bay 11.30 12 eP Pn 00 29 39.8 +0.5
QMBU Quimbuelo 11.63 13 eP Pn 00 29 45.9 +2.0
PINC Pinares de May 11.74 8 eP Pn 00 29 46.1 +0.8
MASC Masc 11.75 15 eP Pn 00 29 46.5 +1.1

*KRNET **30** 00:38:28.6±0.1, 42.°94N×78.°23E, h20km, mb2.8*
*NNC **30** 00:38:28.2±0.4, 42.°97N×78.°26E, h0km, mb3.0, mpv3.1,*
Error ellipse: s-maj=4.4km s-min=1.3km az=172.0
*SOME **30** 00:38:28.5, 42.°97N×78.°23E, h10km*
ISC 30 00:38:27.7±1.1, 42.°95N±0.°03×78.°22E±0.°02, h2km±10km, n48, σ1§66/88, 22C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.44**	**248**	⇑iP	**Pg**	**00 38 37.2**	**+1.1**
ANVS				⇑iS	**Sb**	**00 38 43.7**	**-1.6**
PRZ	**Przheval'sk**	**0.48**	**164**	⇓eP	**Pb**	**00 38 38.1**	**-0.8**
PRZ				⇓eS	**Sb**	**00 38 44.6**	**-1.9**
UZB	**Uzynbulak**	**0.62**	**71**	P	**Pg**	**00 38 39.8**	**+0.2**
UZB	12nm,0.2s			S	**Sg**	**00 38 47.8**	**+0.1**
UZB	**Uzynbulak**	**0.62**	**71**	eP	**Pg**	**00 38 39.8**	**+0.2**
UZB	12nm,0.2s 95nm,0.3s			eS	**Sg**	**00 38 47.8**	**+0.1**
KOTS	**Kotyrbulak**	**0.86**	**290**	P	**Pg**	**00 38 45.1**	**+1.0**
KOTS	11nm,0.1s 30nm,0.2s			S	**Sg**	**00 38 57.1**	**+1.8**
KOTS	**Kotyrbulak**	**0.86**	**290**	eP	**Pg**	**00 38 45.1**	**+1.0**
KOTS	11nm,0.1s			eS	**Sg**	**00 38 57.1**	**+1.8**
KOTS	**Kotyrbulak**	**0.86**	**290**	eP	**Pg**	**00 38 45.1**	**+1.0**
KOTS	11nm,0.1s 30nm,0.2s			eS	**Sg**	**00 38 57.1**	**+1.8**
MDOK	**Medeo**	**0.89**	**285**	Pg	**Pg**	**00 38 45.3**	**+0.7**
MDOK	3.9nm,0.2s 2.8nm,0.5s			P	**Pb**	**00 38 45.4**	**-0.4**
MDOK				Lg	Lg	00 38 57.4	
MDOK	11nm,0.4s 5.8nm,0.5s			⇓S	**Sn**	**00 38 58.2**	**-2.6**
MDOK	**Medeo**	**0.89**	**285**	eP	**Pg**	**00 38 45.3**	**+0.7**
MDOK				eS	**Sg**	**00 38 57.4**	**+1.3**
SHLS	**Shalkode**	**0.94**	**77**	P	Pn	00 38 51.2	+3.3
SHLS	6.7nm,0.2s 18nm,0.3s			S	**Sn**	**00 39 07.5**	**+5.5**
SHLS	**Shalkode**	**0.94**	**77**	eP	Pn	00 38 51.2	+3.3
SHLS				eS	**Sn**	**00 39 07.5**	**+5.5**
SHLS	**Shalkode**	**0.94**	**77**	eP	Pn	00 38 51.2	+3.3
SHLS	6.7nm,0.2s 18nm,0.3s			eS	**Sn**	**00 39 07.5**	**+5.5**
TNSS	**Tian-Shan**	**0.94**	**276**	P	**Pg**	**00 38 46.3**	**+0.7**
TNSS	2.7nm,0.1s 15nm,0.2s			S	**Sg**	**00 38 59.2**	**+1.4**
TNSS	**Tian-Shan**	**0.94**	**276**	eP	**Pg**	**00 38 46.3**	**+0.7**
TNSS				eS	**Sg**	**00 38 59.2**	**+1.4**
TNSS	**Tian-Shan**	**0.94**	**276**	eP	**Pg**	**00 38 46.3**	**+0.7**
TNSS	2.7nm,0.1s 15nm,0.2s			eS	**Sg**	**00 38 59.2**	**+1.4**
PDGK	**Podgornoye**	**1.01**	**67**	⇑P	**Pb**	**00 38 46.5**	**-1.4**
PDGK	6.1nm,0.4s 23nm,0.7s			⇑S	**Sg**	**00 39 00.1**	**+0.1**
KDJ	**Kajisay**	**1.12**	**224**	⇑iP	**Pn**	**00 38 49.2**	**-1.3**
KDJ				⇑iS	**Sn**	**00 39 04.4**	**-2.2**
BLB	**Baldybastay**	**1.17**	**9**	P	**Pg**	**00 38 50.3**	**+0.3**
BLB	23nm,0.2s 63nm,0.2s			S	**Sg**	**00 39 05.8**	**+0.7**
TARG	**Taragay, Kyrgy**	**1.25**	**194**	⇑iP	**Pb**	**00 38 51.7**	**-0.6**
TARG				⇑iS	**Sg**	**00 39 08.3**	**+0.3**
ARXS	**Arharly**	**1.30**	**347**	P	**Pg**	**00 38 52.7**	**+0.2**
ARXS	9.2nm,0.2s 30nm,0.2s			S	**Sg**	**00 39 10.0**	**+0.6**
MTBS	**Maitube**	**1.32**	**279**	P	**Pg**	**00 38 53.4**	**+0.3**
MTBS	2.4nm,0.2s 15nm,0.3s			S	**Sg**	**00 39 11.2**	**+1.0**
MTBS	**Maitube**	**1.32**	**279**	eP	**Pg**	**00 38 53.4**	**+0.3**
MTBS				eS	**Sg**	**00 39 11.3**	**+1.0**
MTBS	**Maitube**	**1.32**	**279**	eP	**Pg**	**00 38 53.4**	**+0.3**
MTBS	2.4nm,0.2s 15nm,0.3s			eS	**Sg**	**00 39 11.2**	**+1.0**
KTBS	**Karatobe**	**1.36**	**305**	P	**Pg**	**00 38 54.1**	**+0.4**
KTBS	9.9nm,0.2s 8.6nm,0.2s			S	**Sg**	**00 39 12.4**	**+1.2**
KTBS	**Karatobe**	**1.36**	**305**	eP	**Pg**	**00 38 54.1**	**+0.4**
KTBS				eS	**Sg**	**00 39 12.5**	**+1.2**
KNOS	**Konyrlen**	**1.57**	**26**	P	**Pg**	**00 38 57.6**	**-0.2**
KNOS	18nm,0.1s 18nm,0.2s			S	**Sg**	**00 39 18.6**	**+0.3**
ULHL	**Ulahol**	**1.62**	**245**	⇑iP	**Pb**	**00 38 58.2**	**-0.2**
ULHL				⇑iS	**Sg**	**00 39 20.0**	**+0.3**
KST	**Kastek**	**1.66**	**274**	P	**Pg**	**00 38 59.7**	**+0.2**
KST	2.4nm,0.4s 17nm,0.3s			S	**Sg**	**00 39 22.2**	**+1.3**
KST	**Kastek**	**1.66**	**274**	eP	**Pg**	**00 38 59.7**	**+0.2**
KST	2.4nm,0.4s 17nm,0.3s			eS	**Sg**	**00 39 22.2**	**+1.3**
BOOM	**Boomskoye usch**	**1.74**	**256**	⇓iP	**Pb**	**00 39 00.3**	**-0.1**
BOOM				⇓iS	**Sg**	**00 39 23.7**	**+0.1**
DJR	**Jarkent**	**1.79**	**39**	P	**Pb**	**00 39 00.9**	**-0.4**
DJR	12nm,0.2s 24nm,0.3s			S	**Sg**	**00 39 24.1**	**-1.2**
DJR	**Jarkent**	**1.79**	**39**	eP	**Pb**	**00 39 00.9**	**-0.4**
DJR	12nm,0.2s 24nm,0.3s			eS	**Sg**	**00 39 24.1**	**-1.2**
DGS	**Degeres**	**1.82**	**280**	P	**Pg**	**00 39 02.4**	**-0.1**
DGS	3.6nm,0.3s 22nm,0.3s			S	**Sg**	**00 39 26.6**	**+0.6**
TKM2	**Tokmak 2**	**1.93**	**270**	⇑Pn	**Pb**	**00 39 03.2**	**-0.4**
TKM2	1.3nm,0.5s 7.7nm,0.3s			⇑Sn	**Sg**	**00 39 29.2**	**-0.3**
TKM2	**Tokmak 2**	**1.93**	**270**	⇑iP	**Pb**	**00 39 03.3**	**-0.3**
TKM2				⇑iS	**Sb**	**00 39 28.5**	**+0.4**
KRBS	**Karabastau**	**2.00**	**293**	Pg	**Pb**	**00 39 05.2**	**+0.4**
KRBS	10.0nm,0.2s 22nm,0.2s			Lg	Lg	00 39 31.5	
TDK	**Taldyqorghan**	**2.06**	**4**	Pg	**Pg**	**00 39 06.2**	**-0.9**
TDK	21nm,0.3s 50nm,0.2s			Lg	Lg	00 39 33.3	
TDK	**Taldyqorghan**	**2.06**	**4**	eP	**Pg**	**00 39 06.2**	**-0.9**
TDK	21nm,0.3s 50nm,0.2s			eS	**Sg**	**00 39 33.3**	**-0.5**
KBK	**Karagaybulak**	**2.42**	**264**	⇑iP	**Pb**	**00 39 10.1**	**-2.0**
KBK				⇑iS	**Sb**	**00 39 40.6**	**-1.8**
CHMS	**Chumysh**	**2.54**	**272**	⇑Pn	**Pb**	**00 39 12.8**	**-1.2**
CHMS	1.7nm,0.7s 3.2nm,0.3s			⇑Sn	**Sb**	**00 39 46.1**	**+0.4**
CHMS	**Chumysh**	**2.54**	**272**	⇓iP	**Pb**	**00 39 11.7**	**-2.3**
CHMS				⇓iS	**Sb**	**00 39 43.1**	**-2.7**
USP	**Ospenovka**	**2.74**	**278**	⇓iP	**Pb**	**00 39 14.4**	**-3.0**
USP				⇓iS	**Sb**	**00 39 48.1**	**-3.4**
AAK	**Ala-Archa**	**2.76**	**265**	⇓Pg	**Pb**	**00 39 18.6**	**+0.8**
AAK	2.1nm,0.8s 9.7nm,0.7s			⇑Lg	Lg	00 39 57.8	
AAK	**Ala-Archa**	**2.76**	**265**	⇓iP	**Pb**	**00 39 14.8**	**-3.0**
AAK				⇓iS	**Sb**	**00 39 48.4**	**-3.6**
EKS2	**Erkin-Say**	**3.28**	**267**	⇓iP	**Pn**	**00 39 22.0**	**+1.9**
EKS2				⇓iS	**Sn**	**00 40 01.0**	**+1.2**
AML	**Almayashu**	**3.44**	**258**	⇑iP	**Pn**	**00 39 24.4**	**+1.8**
AML				⇑iS	**Sn**	**00 40 05.2**	**+1.1**
MK31	**Makanchi Array**	**4.81**	**36**	Pn	**Pn**	**00 39 39.9**	**-1.2**
MK31	0.1nm,0.2s,baz=209,slow=15,SNR=4.6 0.8nm,0.6s,baz=208,slow=28,SNR=6.5			⇑Lg	Lg	00 40 59.3	
KK31	**Karatay Array**	**5.65**	**274**	Lg	Lg	00 41 29.6	
	0.9nm,0.3s,baz=335,slow=40,SNR=5.2						

*IDC **30** 00:50:37.0±1.1, 10.°72S×164.°62E, h0km, mb3.7/6,*
mbtmp3.9/9, ML4.7/3, MS3.5/18, Error ellipse:
s-maj=31.0km s-min=24.7km az=4.0
*NOU **30** 00:50:39.8, 10.°62S×164.°78E, h29km, MLv4.9/11, Santa Cruz Islands Region*
ISC 30 00:50:40.2±0.7, 10.°7S±0.°1×164.°74E±0.°06, h24km, n38, σ1§18/21, mb3.7/6, MS3.5/16, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.16**	**87**	P	**Pn**	**00 50 59.0**	**-1.9**
ALEG	**Aligegeo Malai**	**4.44**	**296**	P	**Pn**	**00 51 45.2**	**-0.8**
ALEG	**Aligegeo Malai**	**4.44**	**296**	S	**Sn**	**00 52 37.6**	**+0.7**
NGOA	**Tingoa Renbel**	**4.66**	**259**	P	**Pn**	**00 51 47.3**	**-1.8**
HNR	**Honiara**	**4.89**	**285**	Pn	**Pn**	**00 51 49.3**	**-2.9**
HNR	32nm,0.3s,baz=90,slow=5.1,SNR=5.2 19nm,0.3s,baz=41,slow=16,SNR=4.5 50nm,0.3s			Sn	**Sn**	**00 52 48.9**	**+0.8**
SAVO	**Savo Central**	**5.09**	**287**	P	**Pn**	**00 51 55.6**	**+0.5**
TATA	**Tatamba Isabel**	**5.39**	**295**	P	**Pn**	**00 51 58.8**	**-0.3**
TATA	**Tatamba Isabel**	**5.39**	**295**	S	**Sn**	**00 52 59.2**	**-1.2**
KOUNC	**Kounac, New Ca**	**9.79**	**182**	P	**Pn**	**00 53 00.4**	**+0.9**
DZM	**Mont Dzumac**	**11.41**	**172**	Pn	**Pn**	**00 53 21.3**	**-0.4**
DZM	1.1nm,0.3s,baz=0.0,slow=20,SNR=20 comp=Z,294nm,18.2s,baz=11,slow=32 10nm,0.8s			LR	LR	00 56 44.8	
DZM	**Mont Dzumac**	**11.41**	**172**	P	**Pn**	**00 53 22.8**	**+1.0**
MSVF	**Nonsavu**	**14.66**	**120**	Pn	**Pn**	**00 54 07.2**	**+0.8**
MSVF	0.3nm,0.3s,baz=303,slow=22,SNR=2.7 comp=Z,390nm,19.6s,baz=297,slow=34 7.6nm,1.2s			LR	LR	00 58 56.5	
JAY	**Jayapura**	**25.20**	**287**	LR	LR	01 06 37.7	
H11S2	comp=Z,154nm,19.3s,baz=302,slow=38 **WAKE ISLAND Hy**	**29.09**	**4**	T	T	01 27 15.1	
H11S3	baz=183,slow=76,SNR=38 **WAKE ISLAND Hy**	**29.09**	**4**	T	T	01 27 14.9	
H11S1	baz=183,slow=76,SNR=54 **WAKE ISLAND Hy**	**29.11**	**4**	T	T	01 27 12.1	
STKA	baz=183,slow=76,SNR=43 **Stephens Creek**	**30.01**	**222**	LR	LR	01 07 33.1	
H11N1	comp=Z,90nm,22.0s,baz=27,slow=34 **WAKE ISLAND Hy**	**30.32**	**4**	T	T	01 28 37.5	
H11N3	baz=184,slow=76,SNR=25 **WAKE ISLAND Hy**	**30.32**	**4**	T	T	01 28 44.8	
H11N2	baz=184,slow=76,SNR=16 **WAKE ISLAND Hy**	**30.33**	**4**	T	T	01 28 38.9	
WRA	baz=184,slow=76,SNR=15 **Warramunga Arr**	**30.67**	**249**	P	**P**	**00 56 52.5**	**-0.7**
WRA	0.9nm,0.7s,baz=72,slow=7.3,SNR=5.1 comp=Z,142nm,18.0s,baz=88,slow=38 0.9nm,0.7s			LR	LR	01 09 47.6	
GUMO	**Guam**	**31.17**	**320**	LR	LR	01 09 04.0	
ASAR	comp=Z,112nm,18.4s,baz=107,slow=36 **Alice Springs**	**32.06**	**242**	P	**P**	**00 57 04.9**	**-0.5**
ASAR	0.3nm,0.8s,baz=83,slow=10,SNR=4.4 comp=Z,112nm,18.4s,baz=73,slow=35 0.3nm,0.8s			LR	LR	01 09 26.4	
FITZ	**Fitzroy Crossi**	**38.51**	**254**	LR	LR	01 12 48.9	
DAV	comp=Z,128nm,21.1s,baz=82,slow=35 **Davao City (W)**	**42.80**	**293**	LR	LR	01 14 32.5	
JOW	comp=Z,60nm,21.4s,baz=346,slow=34 **Kunigami**	**51.44**	**317**	LR	LR	01 21 40.3	
JNU	comp=Z,30nm,19.1s,baz=282,slow=36 **Natsatsue**	**54.24**	**325**	LR	LR	01 22 39.6	
ASAJ	comp=Z,24nm,18.1s,baz=125,slow=36 **Asahikawa**	**58.16**	**341**	LR	LR	01 22 41.1	
KSRS	comp=Z,34nm,20.2s,baz=102,slow=33 **Korea Array**	**59.05**	**326**	LR	LR	01 22 28.3	
KLR	comp=Z,18nm,20.7s,baz=40,slow=32 **Kul'dur**	**66.37**	**337**	LR	LR	01 26 27.1	
CMAR	comp=Z,20nm,21.4s,baz=46,slow=32 **Chiang Mai Arr**	**71.07**	**294**	P	**P**	**01 01 57.2**	**+0.2**
CMAR	0.6nm,0.3s,baz=107,slow=3.6,SNR=4.1 comp=Z,12nm,20.7s,baz=285,slow=35 0.6nm,0.3s			LR	LR	01 31 34.0	
SONM	**Songino Array**	**77.82**	**324**	P	**P**	**01 02 35.7**	**0.0**
BBB	0.2nm,0.3s,baz=117,slow=5.0,SNR=1.7 0.2nm,0.3s **Bella Bella**	**84.87**	**35**	LR	LR	01 31 37.2	
NVAR	comp=Z,36nm,20.2s,baz=218,slow=29 **Mina Array Bea**	**86.57**	**50**	P	**P**	**01 03 22.3**	**+0.3**
NVAR	0.6nm,1.0s,baz=247,slow=7.6,SNR=4.3 comp=Z,40nm,18.3s,baz=44,slow=31 0.6nm,1.0s			LR	LR	01 35 57.1	
MKAR	**Makanchi Array**	**92.61**	**317**	P	**P**	**01 03 49.6**	**-0.4**
PDAR	0.3nm,0.7s,baz=118,slow=5.7,SNR=5.0 0.3nm,0.7s **Pinedale Array**	**94.06**	**47**	LR	LR	01 40 15.8	
BRTR	comp=Z,12nm,18.6s,baz=328,slow=32 **Keskin Array B**	**128.01**	**312**	PKP	**PKiKP**	**01 09 46.4**	**+1.1**
ESDC	0.4nm,0.8s,baz=71,slow=4.8,SNR=1.7 **Sonseca Array**	**149.46**	**343**	PKPbc	**PKiKP**	**01 10 29.7**	**+0.8**
	0.3nm,0.8s,baz=48,slow=1.9,SNR=1.7						

*IDC **30** 00:51:39.4±0.9, 33.°45S×178.°62W, h0km, mb4.3/3,*
mbtmp4.4/5, ML4.2/2, MS3.3/2, Error ellipse: s-maj=34.4km
s-min=27.4km az=115.0
*WEL **30** 00:51:40.6±0.6, 33.°S±7.°×17.°9W±1.°4, h12km, M4.7/18,*
MLv4.7/18, Error ellipse: s-maj=19.7km s-min=3.6km
az=113.4, confirmed
*NEIC **30** 00:51:42.7±0.9, 33.°62S±0.°10×178.°8W±0.°1, h10km±2km,*
mb4.4/15, Error ellipse: s-maj=20.7km s-min=16.4km
az=90.0
ISC 30 00:51:40.3±0.7, 33.°53S±0.°06×178.°6W±0.°1, h10km, n92, σ1§57/124, mb4.5/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.29**	**8**	P	**Pn**	**00 52 44.1**	**-1.5**
GLKZ				S	**Sn**	**00 53 30.9**	**-4.9**
MXZ	**Matakaoa Point**	**4.76**	**211**	Pn	**Pn**	**00 52 52.3**	**+0.3**
MXZ				Sn	**Sn**	**00 53 46.2**	**-1.1**
MXZ	**Matakaoa Point**	**4.76**	**211**	P	**Pn**	**00 52 53.4**	**+1.3**
MXZ				S	**Sn**	**00 53 46.8**	**-0.5**
WMGZ	**Waiomatatini S**	**4.93**	**209**	P	**Pn**	**00 52 55.2**	**+0.8**
WMGZ				S	**Sn**	**00 53 52.3**	**+0.8**
PKGZ	**Pakihiroa**	**5.11**	**211**	P	**Pn**	**00 52 56.2**	**-0.7**
PKGZ				S	**Sn**	**00 53 56.0**	**0.0**
HAZ	**Te Kaha**	**5.15**	**214**	P	**Pn**	**00 52 57.6**	**+0.1**
HAZ				S	**Sn**	**00 53 58.1**	**+1.1**
PUZ	**Puketiti**	**5.21**	**209**	P	**Pn**	**00 52 59.9**	**+1.6**
PUZ				S	**Sn**	**00 53 57.3**	**-1.1**
RUGZ	**Raukumara Rang**	**5.37**	**213**	P	**Pn**	**00 53 00.2**	**-0.4**
RUGZ				S	**Sn**	**00 54 03.0**	**+0.5**
TWGZ	**Tauwhareparae**	**5.41**	**210**	P	**Pn**	**00 53 00.4**	**-0.7**
TWGZ				S	**Sn**	**00 54 03.1**	**-0.4**
CNGZ	**Carnagh Statio**	**5.59**	**207**	P	**Pn**	**00 53 02.4**	**-1.1**
CNGZ				S	**Sn**	**00 54 07.9**	**+0.2**
TKGZ	**Te Karaka**	**5.69**	**210**	P	**Pn**	**00 53 05.7**	**+0.8**
TKGZ				S	**Sn**	**00 54 09.0**	**-1.2**
MWZ	**Matawai**	**5.74**	**212**	P	**Pn**	**00 53 06.8**	**+1.2**
MWZ				S	**Sn**	**00 54 09.7**	**-1.9**
URZ	**Urewera**	**5.87**	**215**	Pn	**Pn**	**00 53 07.6**	**+0.3**
URZ	6.8nm,0.3s,baz=123,slow=5.0,SNR=51 9.9nm,0.3s,baz=307,slow=21,SNR=6.5 54nm,0.6s			Sn	**Sn**	**00 54 13.4**	**-1.3**
URZ	**Urewera**	**5.87**	**215**	P	**Pn**	**00 53 07.9**	**+0.5**
URZ				S	**Sn**	**00 54 13.1**	**-1.6**
RAGZ	**Rawiri**	**5.92**	**212**	P	**Pn**	**00 53 09.1**	**+1.0**
RIGZ	**Rimuhau**	**5.95**	**209**	P	**Pn**	**00 53 08.8**	**+0.3**
RIGZ				S	**Sn**	**00 54 15.9**	**-0.9**
PRGZ	**Paritu Road**	**6.09**	**207**	P	**Pn**	**00 53 10.3**	**-0.2**
SNGZ	**Shannon Statio**	**6.19**	**211**	P	**Pn**	**00 53 11.6**	**-0.2**
SNGZ				S	**Sn**	**00 54 20.8**	**-1.8**
ABAZ	**Army Bay**	**6.21**	**239**	P	**Pn**	**00 53 09.8**	**-2.2**
RTZ	**Ruatahuna**	**6.22**	**214**	Pn	**Pn**	**00 53 11.9**	**-0.3**
RTZ	**Ruatahuna**	**6.22**	**214**	P	**Pn**	**00 53 12.1**	**-0.1**
RTZ				S	**Sn**	**00 54 21.2**	**-2.2**
MHGZ	**Mahia Peninsul**	**6.29**	**206**	P	**Pn**	**00 53 10.6**	**-2.5**
MHGZ				S	**Sn**	**00 54 23.6**	**-1.4**
WCZ	**Waipu Caves**	**6.30**	**246**	P	Pb	00 53 22.9	-7.1
TOZ	**Tahuroa Road**	**6.38**	**227**		**Pn**	**00 53 15.3**	**+0.9**
RAHZ	**Arahi**	**6.42**	**212**	P	**Pn**	**00 53 15.8**	**+0.9**
RAHZ				S	**Sn**	**00 54 26.9**	**-1.2**
WHHZ	**Waihua**	**6.49**	**210**	P	**Pn**	**00 53 15.6**	**-0.2**
WHHZ				S	**Sn**	**00 54 28.6**	**-1.2**
MRHZ	**Matea Rd**	**6.66**	**216**	P	**Pn**	**00 53 19.1**	**+0.8**
MRHZ				S	**Sn**	**00 54 33.5**	**-0.8**
NMHZ	**Naumai**	**6.69**	**212**	P	**Pn**	**00 53 19.3**	**+0.7**
NMHZ				S	**Sn**	**00 54 33.6**	**-1.3**
ARHZ	**Aropaoanui**	**6.74**	**211**	P	**Pn**	**00 53 15.8**	**-3.5**
ARHZ				S	**Sn**	**00 54 32.7**	**-3.5**
TLZ	**Tolley Road**	**6.76**	**223**	P	**Pn**	**00 53 21.4**	**+1.8**
BKZ	**Black Stump Fm**	**6.89**	**214**	Pn	**Pn**	**00 53 20.6**	**-0.8**
BKZ	**Black Stump Fm**	**6.89**	**214**	P	**Pn**	**00 53 20.4**	**-0.9**
BKZ				S	**Sn**	**00 54 35.3**	**-4.5**
MCHZ	**McNeill Hill**	**7.02**	**211**	P	**Pn**	**00 53 23.4**	**+0.3**
MCHZ				S	**Sn**	**00 54 39.7**	**-3.3**
KWHZ	**Kaweka Forest**	**7.13**	**213**	P	**Pn**	**00 53 24.0**	**-0.7**
KWHZ				S	**Sn**	**00 54 41.8**	**-3.9**
TMVZ	**Te Maari**	**7.23**	**218**	P	**Pn**	**00 53 25.8**	**-0.4**
TMVZ				S	**Sn**	**00 54 45.3**	**-3.1**
NTVZ	**North Tongarir**	**7.24**	**218**	P	**Pn**	**00 53 27.4**	**+1.2**
NTVZ				S	**Sn**	**00 54 46.7**	**-1.8**
KAHZ	**Kahuranaki**	**7.24**	**209**	P	**Pn**	**00 53 23.9**	**-2.3**
KAHZ				S	**Sn**	**00 54 43.8**	**-4.7**
ETVZ	**East Tongariro**	**7.25**	**218**	P	**Pn**	**00 53 26.6**	**+0.2**
ETVZ				S	**Sn**	**00 54 47.1**	**-1.7**
HIZ	**Hauiti**	**7.28**	**225**	Pn	**Pn**	**00 53 24.6**	**-2.1**
HIZ	**Hauiti**	**7.28**	**225**	P	**Pn**	**00 53 28.7**	**+2.0**
OTVZ	**Oturere**	**7.29**	**218**	P	**Pn**	**00 53 27.5**	**+0.5**
OTVZ				S	**Sn**	**00 54 46.9**	**-3.0**
NNVZ	**North Ngauruho**	**7.29**	**218**	P	**Pn**	**00 53 28.7**	**+1.7**
SNVZ	**South Ngauruho**	**7.32**	**218**	P	**Pn**	**00 53 29.1**	**+1.7**
KRHZ	**Kereru**	**7.33**	**212**	P	**Pn**	**00 53 26.7**	**-0.7**
NGZ	**Ngauruhoe**	**7.33**	**218**	P	**Pn**	**00 53 28.8**	**+1.3**
NGZ				S	**Sn**	**00 54 49.0**	**-1.9**
MOVZ	**Moawhango**	**7.43**	**216**	P	**Pn**	**00 53 28.6**	**-0.2**
PNHZ	**Pukenui**	**7.62**	**212**	P	**Pn**	**00 53 29.9**	**-1.6**
PNHZ				S	**Sn**	**00 54 53.2**	**-4.7**
BFZ	**Birch Farm**	**8.25**	**209**	Pn	**Pn**	**00 53 38.4**	**-1.6**
BFZ	**Birch Farm**	**8.25**	**209**	P	**Pn**	**00 53 37.8**	**-2.2**
MRZ	**Mangatainoka R**	**8.51**	**212**	Pn	**Pn**	**00 53 43.2**	**-0.3**
MRZ	**Mangatainoka R**	**8.51**	**212**	P	**Pn**	**00 53 40.9**	**-2.7**
MSWZ	**Moikau Station**	**9.27**	**210**	Pn	**Pn**	**00 53 54.1**	**+0.1**
PLWZ	**Palliser**	**9.40**	**210**	Pn	**Pn**	**00 53 56.0**	**+0.2**
NNZ	**Nelson**	**9.98**	**217**	Pn	**Pn**	**00 54 04.2**	**+0.5**
CTZ	**Chatham Island**	**10.31**	**172**		**Pn**	**00 54 08.0**	**-0.2**
CTZ	**Chatham Island**	**10.31**	**172**	P	**Pn**	**00 54 08.0**	**-0.2**
THZ	**Tophouse**	**10.63**	**217**	Pn	**Pn**	**00 54 12.1**	**-0.6**
RPZ	**Rata Peaks**	**12.99**	**215**	Pn	**Pn**	**00 54 43.7**	**-1.2**
RPZ	**Rata Peaks**	**12.99**	**215**	Pn	**Pn**	**00 54 43.9**	**-1.0**
RPZ	1.3nm,0.3s,baz=68,slow=23,SNR=2.5 0.7nm,0.3s,baz=46,slow=18,SNR=2.4 5.5nm,0.4s			Sn	Sn	00 56 57.1	-12
ODZ	**Otahua Downs**	**14.19**	**213**	Pn	**Pn**	**00 54 59.5**	**-1.8**
WHZ	**Wether Hill Ro**	**16.09**	**216**	Pn	**Pn**	**00 55 26.1**	**-0.5**
WHZ				IAmb	IAmb	00 55 43.5	
DCZ	**Deep Cove**	**16.20**	**218**	Pn	**Pn**	**00 55 27.3**	**-0.6**
DCZ	comp=Z,38nm,1.3s comp=Z,30nm,1.4s			IAmb	IAmb	00 55 59.7	
EIDS	**Eidsvold**	**27.56**	**279**	P	**P**	**00 57 29.6**	**+2.0**
TOO	**Toolangi**	**29.39**	**252**	P	**P**	**00 57 43.8**	**+0.1**
TOO	comp=Z,6.5nm,1.1s			IAmb	IAmb	00 58 20.0	
PPT	**Papeete**	**30.48**	**66**	LR	LR	01 09 23.7	
BBOO	comp=Z,38nm,18.1s,baz=286,slow=35 **Buckleboo**	**37.74**	**258**	P	**P**	**00 58 57.1**	**+0.7**
COEN	**Coen**	**39.76**	**290**	P	**P**	**00 59 13.7**	**+0.2**
COEN	comp=Z,8.0nm,1.3s			IAmb	IAmb	00 59 41.7	
AS31	**Alice Springs**	**42.54**	**271**	P	**P**	**00 59 36.0**	**-0.4**
ASAR	**Alice Springs**	**42.54**	**271**	P	**P**	**00 59 36.3**	**-0.1**
ASAR	**Alice Springs**	**42.54**	**271**	P	**P**	**00 59 37.0**	**+0.6**
ASAR	comp=Z,4.8nm,0.7s,baz=111,slow=7.3,SNR=38 comp=Z,0.9nm,0.7s,baz=115,slow=3.3,SNR=5.2 comp=Z,4.8nm,0.7s			PcP	**PcP**	**01 01 28.6**	**-0.3**
WB2	**Warramunga Arr**	**43.80**	**276**	P	**P**	**00 59 47.0**	**+0.4**
WB2	comp=Z,10nm,1.1s			IAmb	IAmb	00 59 47.8	
WRA	**Warramunga Arr**	**43.81**	**276**	P	**P**	**00 59 46.8**	**+0.1**
WRA	**Warramunga Arr**	**43.81**	**276**	P	**P**	**00 59 47.1**	**+0.4**
WRA	comp=Z,3.2nm,0.5s,baz=119,slow=7.6,SNR=18 comp=Z,0.6nm,0.7s,baz=112,slow=2.6,SNR=3.0 comp=Z,3.2nm,0.5s			PcP	**PcP**	**01 01 33.3**	**+0.1**
WB0	**Warramunga Arr**	**43.85**	**276**	P	**P**	**00 59 47.1**	**+0.1**
WB0	comp=Z,7.0nm,0.8s			IAmb	IAmb	00 59 48.8	
SBA	**Scott Base**	**44.89**	**184**	P	**P**	**00 59 55.1**	**+0.6**
SBA	comp=Z,9.2nm,1.4s			IAmb	IAmb	01 00 05.4	
KNRA	**Kununurra**	**50.52**	**277**	P	**P**	**01 00 39.1**	**+0.1**
KNRA	comp=Z,10nm,1.2

HPO	**Honuapo**	**0.03**	**228**		Pn	01 11 11.8	+0.1
KHU	**Kahuku**	**0.16**	**328**		Pn	01 11 11.3	-1.1
KHU					Sn	01 11 16.9	-1.5
KHU				IAML		01 11 18.0	
	comp=N,912nm,0.9s						
KHU				IAML		01 11 18.4	
	comp=E,773nm,1.3s						
HTC	**Hot Caves**	**0.18**	**44**		Pn	01 11 11.3	-0.9
HLP	**Hilina Pali**	**0.28**	**48**		Pn	01 11 12.4	-0.6
HLP					Sn	01 11 17.9	-1.5
SDHHI	**Sand Hill**	**0.35**	**39**		Pn	01 11 12.3	-1.5
SDHHI					Sn	01 11 19.2	-1.6
WRMHI	**West Rim**	**0.36**	**36**		Pn	01 11 13.1	-0.8
WRMHI					Sn	01 11 19.6	-1.4
RIM	**Rim**	**0.37**	**40**		Pn	01 11 12.7	-1.3
RIM					Sn	01 11 19.6	-1.5
KKO	**Keanakako'i**	**0.38**	**41**		Pn	01 11 12.6	-1.5
KKO					Sn	01 11 20.0	-1.2
MWH	**Mokuaweoweo**	**0.38**	**350**		Pn	01 11 12.8	-1.7
MWH				IAML		01 11 21.4	
	comp=E,974nm,1.0s						
UWE	**Uwekahuna**	**0.38**	**36**		Pn	01 11 13.3	-0.8
UWE					Sn	01 11 20.0	-1.3
UWB	**Uwekahuna Bluf**	**0.39**	**37**		Pn	01 11 13.3	-0.9
BYL	**Byron's Ledge**	**0.39**	**40**		Pn	01 11 13.2	-0.9
BYL	**Byron's Ledge**	**0.39**	**40**	IAML		01 11 23.7	
	comp=E,678nm,0.9s						
BYL				IAML		01 11 24.9	
	comp=N,683nm,0.8s						
PUH	**Pauahi**	**0.39**	**48**		Pn	01 11 12.7	-1.4
PUH				IAML		01 11 20.7	
	comp=N,921nm,1.0s						
PUH	**Pauahi**	**0.39**	**48**		Sn	01 11 19.9	-1.6
SBLHI	**Steaming Bluff**	**0.40**	**38**		Pn	01 11 13.2	-1.0
SBLHI					Sn	01 11 20.0	-1.6
HATHI	**Halema'uma'u T**	**0.40**	**39**		Pn	01 11 13.2	-1.1
HATHI					Sn	01 11 19.9	-1.7
MLH	**Mauna Loa**	**0.40**	**19**		Pn	01 11 13.1	-1.3
MLH	**Mauna Loa**	**0.40**	**19**	IAML		01 11 20.9	
	comp=E,414nm,0.8s						
MLH				IAML		01 11 26.8	
	comp=N,824nm,0.8s						
RSD	**Rainshed**	**0.42**	**34**		Pn	01 11 13.8	-0.7
RSD					Sn	01 11 20.5	-1.6
KNHH	**Kane Nui o Ham**	**0.43**	**52**		Pn	01 11 13.0	-1.6
ALEP	**Alea Permanent**	**0.44**	**346**		Pn	01 11 13.5	-1.5
ALEP					Sn	01 11 20.8	-2.0
STCH	**Steam Cracks**	**0.47**	**54**		Pn	01 11 13.9	-1.0
STCH					Sn	01 11 21.5	-1.3
STCH	**Steam Cracks**	**0.47**	**54**	IAML		01 11 22.0	
	comp=N,780nm,0.9s						
STCH				IAML		01 11 22.1	
	comp=E,548nm,1.0s						
NPOC	**North of Pu'u**	**0.48**	**55**		Pn	01 11 14.1	-1.0
JCUZ	**Jacuzzi**	**0.49**	**56**		Pn	01 11 14.2	-1.0
JCUZ					Sn	01 11 21.5	-1.7
HMH	**Humu'ula Sheep**	**0.49**	**5**		Pn	01 11 14.4	-1.1
HMH					Sn	01 11 22.6	-1.1
HMH	**Humu'ula Sheep**	**0.49**	**5**	IAML		01 11 23.0	
	comp=N,737nm,0.8s						
HMH				IAML		01 11 23.4	
	comp=E,928nm,0.8s						
JOKA	**Jonika Flow**	**0.59**	**57**		Pn	01 11 15.2	-1.1
JOKA	**Jonika Flow**	**0.59**	**57**	IAML		01 11 24.5	
	comp=E,443nm,1.5s						
JOKA				IAML		01 11 25.1	
	comp=N,911nm,0.8s						
HUH	**Hualalai**	**0.64**	**333**		Pn	01 11 16.2	-1.0
HUH				IAML		01 11 35.1	
	comp=E,512nm,1.1s						
HUH				IAML		01 11 41.3	
	comp=N,522nm,0.8s						

*ISN **30** 01:12:51.2±0.4, 34°.70N×46°.33E, h9km±6km, ML2.6*
*TEH **30** 01:12:52.0, 34°.66N×46°.34E, h10km±21km*
ISC 30 01:12:51.9±1.0, 34°.68N±0°.05×46°.35E±0°.04, h11km±7km, n10, σ0°70/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.04**	**52**	Pg	**Pg**	**01 12 54.0**	**-0.2**
IDHR				Sg	**Sg**	**01 12 56.5**	**+0.5**
IGHG	**Ghaleghazi**	**0.39**	**153**	Pg	**Pb**	**01 13 00.3**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.65**	**255**	Pg	**Pb**	**01 13 04.8**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.67**	**213**	Pg	**Pg**	**01 13 04.6**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.70**	**125**	Pg	**Pg**	**01 13 05.5**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.06**	**80**	Pg	**Pn**	**01 13 13.1**	**+0.1**
IBDR	**Badra**	**1.60**	**193**	*e*Pn	**Pg**	**01 13 22.0**	**-0.6**
IBDR				*e*Sn	**Sg**	**01 13 44.0**	**+0.6**
IBDR				AML	AML	01 13 55.3	
	comp=E,86nm,0.6s						
IBDR				AML	AML	01 13 57.6	
	comp=N,82nm,0.4s						
IKFM	**Kafar-mosalman**	**1.69**	**132**	Pg	**Pg**	**01 13 24.3**	**0.0**
IKRK	**Kirkuk**	**1.80**	**294**	*e*Pn	**Pb**	**01 13 24.0**	**-0.9**
IKRK				*e*Sn	**Sb**	**01 13 48.0**	**+0.6**
BHD	**Baghdad**	**2.16**	**230**	*e*Pn	**Pn**	**01 13 29.0**	**+1.3**
BHD				*e*Sn	**Sb**	**01 13 57.0**	**-0.7**

*NEIC **30** 01:24:23.9±1.2, 19°.11N±0°.03×155°.41W±0°.04, h38km±3km, Error ellipse: s-maj=6.0km s-min=3.8km az=107.0*
HVO 30 01:24:24.6±0.8, 19°.06N±0°.06×155°.42W±0°.04, h44km±4km, Md2.6/3, ML2.7/6(NEIC), Error ellipse: s-maj=10.4km s-min=3.1km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.13**	**283**	Pn	Pn	01 24 30.4	-1.4
KHU	**Kahuku**	**0.26**	**315**	Pn	Pn	01 24 31.0	-2.1
KHU				IAML		01 24 37.9	
	comp=E,756nm,1.0s						
UWE	**Uwekahuna**	**0.38**	**18**		Pn	01 24 32.6	-1.6
UWE				IAML		01 24 45.6	
	comp=N,546nm,0.6s						
HATHI	**Halema'uma'u T**	**0.39**	**22**	Pn	Pn	01 24 32.8	-1.5
HATHI				IAML		01 24 43.5	
	comp=N,419nm,0.9s						
HATHI				IAML		01 24 50.5	
	comp=E,402nm,1.2s						
KNHH	**Kane Nui o Ham**	**0.40**	**36**	Pn	Pn	01 24 32.6	-1.7
RSD	**Rainshed**	**0.42**	**18**	Pn	Pn	01 24 33.2	-1.5
ALEP	**Alea Permanent**	**0.53**	**336**		Sn	01 24 41.0	-3.4

TRN 30 01:26:11.8, 17°.28N×62°.73W, h179km, MD3.7, St. Kitts., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.05**	**346**	*e*P	Pn	01 26 35.9	+0.4
MBFL	**Flemmings, Mon**	**0.72**	**137**	*e*P	Pn	01 26 38.1	+0.4
MBWH		**0.74**	**136**	*e*P	Pn	01 26 38.1	+0.3
ANBD	**Bethesda, Anti**	**0.95**	**104**	*e*P	Pn	01 26 39.7	+0.7
ANBD				*e*S	Sn	01 26 57.7	-2.3
ANWB	**Willy Bob**	**0.98**	**67**	*e*P	Pn	01 26 41.0	+1.8
ANWB				*e*S	Sn	01 27 01.6	+1.1
TBG	**Guadaloupe-3**	**1.76**	**144**	*e*P	Pn	01 26 46.7	+0.4
MAGL	**Barre de l'Ile**	**1.92**	**134**	*e*P	Pn	01 26 49.1	+1.1
MAGL				*e*S	Sn	01 27 16.0	0.0
DSLB	**Salisbury**	**2.22**	**145**	*e*P	Pn	01 26 52.7	+1.4
DSLB				*e*S	Sn	01 27 20.7	-1.3
MDN	**Morne-Daniel**	**2.33**	**147**	*e*P	Pn	01 26 54.3	+1.7
BIM	**Bigot**	**3.18**	**150**	*e*P	Pn	01 27 04.9	+2.2

*NEIC **30** 01:26:22.0±0.9, 19°.13N±0°.08×155°.43W±0°.06, h44km±6km, Error ellipse: s-maj=13.5km s-min=3.8km az=144.0*
HVO 30 01:26:23.4±0.7, 19°.14N±0°.07×155°.41W±0°.06, h41km±5km, Md2.3/4, ML2.5/10(NEIC), Error ellipse: s-maj=12.5km s-min=3.5km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**6**		Pn	01 26 29.8	-0.5
HLP	**Hilina Pali**	**0.18**	**31**		Pn	01 26 30.1	-0.7
HLP				IAML		01 26 43.9	
	comp=E,498nm,1.5s						
KHU	**Kahuku**	**0.22**	**298**		Pn	01 26 30.2	-1.1
KHU				IAML		01 26 36.1	
	comp=E,578nm,1.3s						
KKO	**Keanakako'i**	**0.29**	**28**		Pn	01 26 30.7	-1.1
OBL	**Observatory Le**	**0.30**	**23**		Pn	01 26 30.9	-1.1
HATHI	**Halema'uma'u T**	**0.31**	**26**		Pn	01 26 30.9	-1.2
HATHI				IAML		01 26 42.8	
	comp=N,375nm,1.0s						
HATHI				IAML		01 26 48.9	
	comp=E,379nm,0.9s						
JOKA	**Jonika Flow**	**0.48**	**53**		Pn	01 26 32.7	-1.3
JOKA	**Jonika Flow**	**0.48**	**53**	IAML		01 26 52.5	
	comp=N,288nm,1.1s						

*JMA **30** 01:29:15.8±0.3, 25°.N±3°.×123°.4E±0°.8, h198km±3km, MV3.7/21, NW OFF ISHIGAKIJIMA IS*
*IDC **30** 01:29:18.1±3.2, 25°.47N×124°.01E, h221km±32km, mb3.0/4, mbtmp3.8/6, Error ellipse: s-maj=39.0km s-min=18.1km az=77.0*
ISC 30 01:29:15.2±0.8, 25°.42N±0°.08×123°.43E±0°.04, h200km±7km, n42, σ1°62/53, mb3.2/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.03**	**202**	P	**Pn**	**01 29 44.8**	**-0.4**
YOJ	**Yonaguni jima**	**1.03**	**202**	S	**Sn**	**01 30 07.8**	**-0.6**
YOJ	**Yonaguni jima**	**1.03**	**202**	P	**Pn**	**01 29 44.7**	**-0.4**
YOJ				*e*S	**Sn**	**01 30 07.6**	**-0.8**
JYNG	**Yonagunijimaku**	**1.06**	**205**	*e*P	**Pn**	**01 29 45.0**	**-0.4**
JYNG				*e*S	**Sn**	**01 30 08.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.12**	**166**	P	**Pn**	**01 29 45.2**	**-0.5**
JISG	**Ishigakijimahi**	**1.15**	**136**	P	**Pn**	**01 29 46.0**	**0.0**
JISG				S	**Sn**	**01 30 08.7**	**-1.2**
JIJ	**Ishigaki jima**	**1.24**	**148**	P	**Pn**	**01 29 46.6**	**-0.1**
JIJ				S	**Sn**	**01 30 09.5**	**-1.6**
JKRS	**Kuro-shima**	**1.29**	**156**	*e*P	**Pn**	**01 29 46.9**	**-0.2**
JKRS				S	**Sn**	**01 30 10.9**	**-1.0**
JTJ	**Tarama**	**1.39**	**124**	*e*P	**Pn**	**01 29 48.5**	**+0.6**
JTJ				S	**Sn**	**01 30 12.7**	**-0.5**
HATJ	**Hateruma jima**	**1.40**	**166**	*e*P	**Pn**	**01 29 48.2**	**+0.2**
HATJ				*e*S	**Sn**	**01 30 12.4**	**-1.2**
JIRB	**Irabujima**	**1.69**	**110**	*e*S	**Sn**	**01 30 17.2**	**-0.8**
JIKM	**Ikemajima**	**1.72**	**106**	*e*S	**Sn**	**01 30 18.2**	**-0.3**
TATO	**Taipei**	**1.82**	**256**	P	**Pn**	**01 29 51.9**	**+0.1**
JMJ2	**Miyako jima3**	**1.85**	**111**	*e*P	**Pn**	**01 29 53.1**	**+1.0**
JMJ2				*e*S	**Sn**	**01 30 21.2**	**+0.4**
JOGS	**Gusukube**	**1.91**	**110**	*e*P	**Pn**	**01 29 53.7**	**+1.0**
JOGS				*e*S	**Sn**	**01 30 22.0**	**+0.1**
YHNB	**Yeheng**	**2.01**	**249**	P	**Pn**	**01 29 53.8**	**-0.1**
YHNB	**Yeheng**	**2.01**	**249**	S	**Sn**	**01 30 22.8**	**-1.1**
YHNB	**Yeheng**	**2.01**	**249**	P	**Pn**	**01 29 53.7**	**-0.1**
YHNB	**Yeheng**	**2.01**	**249**	S	**Sn**	**01 30 23.4**	**-0.5**
NACB	**Ninganchiao**	**2.08**	**234**	P	**Pn**	**01 29 53.4**	**-1.2**
NACB	**Ninganchiao**	**2.08**	**234**	P	**Sn**	**01 30 22.9**	**-2.3**
NACB	**Ninganchiao**	**2.08**	**234**	P	**Pn**	**01 29 53.1**	**-1.5**
NACB	**Ninganchiao**	**2.08**	**234**	S	**Sn**	**01 30 24.1**	**-1.1**
SSLB	**Suanglung**	**2.78**	**235**	P	**Pn**	**01 30 02.0**	**-0.3**
SSLB	**Suanglung**	**2.78**	**235**	P	**Sn**	**01 30 38.3**	**-0.8**
YULB	**Yu-li**	**2.81**	**224**	P	**Pn**	**01 30 01.2**	**-1.4**
YULB	**Yu-li**	**2.81**	**224**	S	**Sn**	**01 30 36.3**	**-3.3**
YULB	**Yu-li**	**2.81**	**224**	P	**Pn**	**01 30 01.0**	**-1.6**
YULB	**Yu-li**	**2.81**	**224**	S	**Sn**	**01 30 36.6**	**-3.0**
TPUB	**Ta-pu**	**3.32**	**231**	P	**Pn**	**01 30 08.2**	**-0.4**
TPUB	**Ta-pu**	**3.32**	**231**	S	**Sn**	**01 30 49.3**	**-1.2**
TPUB	**Ta-pu**	**3.32**	**231**	P	**Pn**	**01 30 08.4**	**-0.2**
TPUB	**Ta-pu**	**3.32**	**231**	S	**Sn**	**01 30 48.4**	**-2.1**
TWGBT	**Beinan**	**3.37**	**220**	P	**Pn**	**01 30 08.0**	**-1.3**
TWGBT	**Beinan**	**3.37**	**220**	P	**Pn**	**01 30 07.9**	**-1.3**
JAGN	**Aguni-jima**	**3.62**	**70**	*e*P	**Pn**	**01 30 11.1**	**-1.1**
JAGN				*e*S	**Sn**	**01 30 55.7**	**-1.3**
JOW	**Kunigami**	**4.57**	**71**	P	**Pn**	**01 30 22.3**	**-1.8**
	45nm,0.2s,baz=162,slow=12,SNR=29						
JOW				S	**Sn**	**01 31 11.2**	**-7.1**
	59nm,0.3s,baz=244,slow=7.1,SNR=4.7						
KSRS	**Korea Array**	**12.59**	**17**	P	**Pn**	**01 32 08.0**	**+0.6**
	4.6nm,0.5s,baz=196,slow=11,SNR=16						
MKAR	**Makanchi Array**	**38.91**	**314**	P	**P**	**01 36 24.9**	**+3.4**
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.9						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**46.33**	**166**	P	**P**	**01 37 21.6**	**+0.4**
	1.5nm,0.5s,baz=348,slow=8.8,SNR=9.6						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**49.84**	**167**	P	**P**	**01 37 48.4**	**+0.3**
	0.8nm,0.7s,baz=345,slow=7.2,SNR=8.8						
	0.8nm,0.7s						
YKA	**Yellowknife Ar**	**81.03**	**24**	P	**P**	**01 41 06.7**	**-0.7**
	0.3nm,0.6s,baz=314,slow=4.7,SNR=6.8						
	0.3nm,0.6s						

*NEIC **30** 01:41:55.1±2.8, 25°.2S±0°.2×179°.99W±0°.08, h481km±10km, mb4.2/10, Error ellipse: s-maj=22.8km s-min=8.4km az=193.0*
*IDC **30** 01:41:57.1±2.1, 25°.01S×179°.75E, h501km±21km, mb3.4/7, mbtmp4.2/9, Error ellipse: s-maj=23.3km s-min=18.2km az=104.0*
ISC 30 01:41:57.0±0.7, 25°.10S±0°.07×179°.7E±0°.1, h500km, n31, σ1°16/33, mb4.0/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.49**	**348**	P	**P**	**01 43 47.5**	**-0.8**
MSVF	**Nonsavu**	**7.49**	**348**	P	**P**	**01 43 47.7**	**-0.7**
	8.7nm,0.4s,baz=184,slow=6.8,SNR=18						
MSVF				S	**S**	**01 45 18.1**	**-1.4**
	4.2nm,0.8s,baz=129,slow=20,SNR=1.8						
PINNC	**Pines Island,**	**11.48**	**280**	P	**P**	**01 44 30.0**	**-0.1**
DZM	**Mont Dzumac**	**12.52**	**281**	P	**P**	**01 44 43.3**	**+2.1**
DZM	**Mont Dzumac**	**12.52**	**281**	P	**P**	**01 44 42.5**	**+1.3**
	9.7nm,0.9s,baz=100,slow=13,SNR=5.1						
URZ	**Urewera**	**13.30**	**189**	P	**P**	**01 44 46.7**	**-2.4**
	2.8nm,0.4s,baz=138,slow=17,SNR=1.7						
URZ				S	**S**	**01 47 10.8**	**-0.4**
	11nm,0.7s,baz=294,slow=19,SNR=2.2						
BKZ	**Black Stump Fm**	**14.28**	**190**	P	**P**	**01 44 58.5**	**-1.1**
EIDS	**Eidsvold**	**25.86**	**263**	P	**P**	**01 46 49.8**	**+1.5**
EIDS				IAmb	IAmb	01 47 18.7	
	comp=Z,18nm,1.3s						
COEN	**Coen**	**36.05**	**281**	P	**P**	**01 48 17.2**	**+1.3**
COEN				IAmb	IAmb	01 48 17.8	
	comp=Z,8.6nm,0.8s						
AS31	**Alice Springs**	**41.58**	**262**	P	**P**	**01 49 01.1**	**+0.3**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**01 49 00.7**	**0.0**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**01 49 01.1**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=92,slow=7.5,SNR=30						
ASAR				S	**S**	**01 54 38.6**	**-1.8**
	comp=Z,0.6nm,1.0s,baz=98,slow=15,SNR=2.3						
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**42.05**	**268**	P	**P**	**01 49 04.4**	**-0.1**
WB0	**Warramunga Arr**	**42.06**	**268**	P	**P**	**01 49 04.5**	**-0.1**
WRA	**Warramunga Arr**	**42.06**	**268**	P	**P**	**01 49 04.4**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=100,slow=6.9,SNR=51						
WRA				S	**S**	**01 54 44.1**	**-3.3**
	comp=Z,1.0nm,0.9s,baz=99,slow=14,SNR=3.2						
	comp=Z,2.6nm,0.4s						
KNRA	**Kununurra**	**48.42**	**271**	P	**P**	**01 49 53.9**	**+0.6**
KNRA				IAmb	IAmb	01 49 54.1	
	comp=Z,7.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.47**	**267**	P	**P**	**01 50 08.8**	**+0.2**
VNDA	**Vanda**	**53.17**	**185**	P	**P**	**01 50 28.1**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=318,slow=2.5,SNR=2.3						
	comp=Z,0.4nm,0.4s						
QSPA	**South Pole Qui**	**64.99**	**180**	P	**P**	**01 51 47.5**	**+0.6**
QSPA				IAmb	IAmb	01 51 52.0	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**64.99**	**180**	P	**P**	**01 51 47.3**	**+0.4**
	comp=Z,3.0nm,1.0s,baz=23,slow=7.7,SNR=6.8						
	comp=Z,3.0nm,1.0s						
MJAR	**Matsushiro Arr**	**72.73**	**326**	P	**P**	**01 52 33.3**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=169,slow=5.3,SNR=4.6						
	comp=Z,2.3nm,0.7s						
BELA	**Belgrano 2**	**75.28**	**173**	P	**P**	**01 52 47.6**	**-0.2**
BELA				IAmb	IAmb	01 53 10.9	
	comp=Z,6.5nm,1.5s						
NVAR	**Mina Array Bea**	**85.80**	**44**	P	**P**	**01 53 43.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=211,slow=7.1,SNR=4.0						
	comp=Z,0.5nm,0.7s						
O18K	**Koktuh Hills**	**87.12**	**12**	P	**P**	**01 53 48.2**	**-0.6**
O18K				IAmb	IAmb	01 53 49.3	
	comp=Z,4.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**01 54 03.2**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=135,slow=3.2,SNR=4.6						
	comp=Z,1.7nm,0.3s						
NOA	**NORSAR Array B**	**143.22**	**351**	PKP	PKPab	02 00 30.4	-0.6
	comp=Z,1.7nm,1.0s,baz=3.3,slow=2.3,SNR=1.8						
HFS	**Hagfors**	**143.66**	**348**	PKP	PKPab	02 00 31.3	-1.3
	comp=Z,3.5nm,0.6s,baz=90,slow=3.0,SNR=14						
PABE	**Paberze**	**144.80**	**336**	PKPdf	**PKPdf**	**02 00 36.2**	**+0.1**
AKASG	**Malin Array Be**	**145.81**	**326**	PKPbc	**PKPdf**	**02 00 38.5**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=46,slow=4.4,SNR=5.3						
MMAI	**Mount Meron Ar**	**147.92**	**293**	PKPbc	**PKPbc**	**02 00 46.3**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=82,slow=6.0,SNR=8.1						
BRTR	**Keskin Array B**	**148.06**	**306**	PKPbc	**PKPbc**	**02 00 45.9**	**-0.3**

*KRSC **30** 01:43:10.6±0.9, 55°.77N×161°.55E, h87km±13km, Ml4.4*
*MOS **30** 01:43:11.0±0.9, 55°.84N×161°.44E, h86km, mb3.9/6, Error ellipse: s-maj=9.9km s-min=4.8km az=77.6*
*IDC **30** 01:43:13.9±1.7, 55°.83N×161°.28E, h95km±17km, mb3.4/17, mbtmp3.7/21, Error ellipse: s-maj=14.9km s-min=11.8km az=124.0*
ISC 30 01:43:12.3±0.7, 55°.80N±0°.03×161°.51E±0°.03, h82km±5km, n102, σ1°08/135, mb3.8/23, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.46**	**299**	PN	**Pn**	**01 43 26.2**	**+0.3**
ZLN	**Zelenaya**	**0.46**	**299**	*e*P	**Pn**	**01 43 26.3**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**0.48**	**288**	PN	**Pn**	**01 43 26.2**	**0.0**
BZGR				S	**Sn**	**01 43 37.2**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**0.48**	**288**	*e*P	**Pn**	**01 43 26.2**	**0.0**
BZGR				*e*S	**Sn**	**01 43 37.2**	**+0.8**
CIRR	**Tsirk**	**0.54**	**307**	PN	**Pn**	**01 43 27.1**	**+0.4**
CIRR	**Tsirk**	**0.54**	**307**	*e*P	**Pn**	**01 43 27.1**	**+0.4**
LGNR	**Loginova**	**0.55**	**302**	PN	**Pn**	**01 43 27.3**	**+0.4**
LGNR	**Loginova**	**0.55**	**302**	*e*P	**Pn**	**01 43 27.3**	**+0.4**
BZWR	**Bezymyannyi-We**	**0.60**	**287**	PN	**Pn**	**01 43 27.3**	**+0.1**
BZWR				S	**Sn**	**01 43 39.2**	**+0.9**
BZWR	**Bezymyannyi-We**	**0.60**	**287**	*e*P	**Pn**	**01 43 27.4**	**+0.1**
BZWR				*e*S	**Sn**	**01 43 39.3**	**+0.9**
KIRR	**Kirishev**	**0.68**	**284**	PN	**Pn**	**01 43 27.8**	**-0.2**
KIRR	**Kirishev**	**0.68**	**284**	*e*P	**Pn**	**01 43 27.9**	**-0.2**
KRSR	**Krestovskiy**	**0.68**	**309**	PN	**Pn**	**01 43 27.8**	**-0.1**
KRSR				S	**Sn**	**01 43 39.9**	**+0.3**
KRSR	**Krestovskiy**	**0.68**	**309**	*e*P	**Pn**	**01 43 27.9**	**-0.1**
KRSR				*e*S	**Sn**	**01 43 39.9**	**+0.3**
KLY	**Klyuchi**	**0.71**	**317**	PN	**Pn**	**01 43 27.5**	**-0.6**
KLY				S	**Sn**	**01 43 39.2**	**-0.7**
KLY	**Klyuchi**	**0.71**	**317**	*e*P	**Pn**	**01 43 27.5**	**-0.6**
KLY				*e*S	**Sn**	**01 43 39.2**	**-0.7**
KMNR	**Kamenistaya**	**0.72**	**267**	PN	**Pn**	**01 43 28.6**	**+0.2**
KMNR				S	**Sn**	**01 43 41.3**	**+1.0**
KMNR	**Kamenistaya**	**0.72**	**267**	*e*P	**Pn**	**01 43 28.6**	**+0.2**
KMNR				*e*S	**Sn**	**01 43 41.4**	**+1.0**
KPT	**Kopyto**	**0.75**	**284**	PN	**Pn**	**01 43 28.3**	**-0.3**
KPT				S	**Sn**	**01 43 41.2**	**+0.4**
KPT	**Kopyto**	**0.75**	**284**	*e*P	**Pn**	**01 43 28.3**	**-0.3**
KPT				*e*S	**Sn**	**01 43 41.2**	**+0.4**
SMKR	**Semkarok**	**0.79**	**358**	PN	**Pn**	**01 43 29.6**	**+0.5**
SMKR				S	**Sn**	**01 43 43.2**	**+1.7**
SMKR	**Semkarok**	**0.79**	**358**	*e*P	**Pn**	**01 43 29.7**	**+0.5**
SMKR				*e*S	**Sn**	**01 43 43.3**	**+1.7**
KBG	**Krutoberegovo**	**0.81**	**55**	PN	**Pn**	**01 43 29.4**	**+0.2**
KBG				S	**Sn**	**01 43 43.2**	**+1.4**
KBG	**Krutoberegovo**	**0.81**	**55**	*e*P	**Pn**	**01 43 29.5**	**+0.2**
KBG				*e*S	**Sn**	**01 43 43.3**	**+1.4**
KBTR	**Krutoberegovo**	**0.84**	**60**	PN	**Pn**	**01 43 29.7**	**+0.2**
KBTR				S	**Sn**	**01 43 44.3**	**+1.9**
KBTR	**Krutoberegovo**	**0.84**	**60**	*e*P	**Pn**	**01 43 29.7**	**+0.2**
KBTR				*e*S	**Sn**	**01 43 44.3**	**+1.9**
TUMD	**Tumrok D**	**0.87**	**227**	PN	**Pn**	**01 43 29.2**	**-0.7**
TUMD				S	**Sn**	**01 43 42.1**	**-0.9**
TUMD	**Tumrok D**	**0.87**	**227**	*e*P	**Pn**	**01 43 29.2**	**-0.7**
TUMD				*e*S	**Sn**	**01 43 42.1**	**-0.9**
KOZ	**Kozyrevsk**	**0.96**	**287**	PN	**Pn**	**01 43 31.0**	**+0.1**
KOZ				S	**Sn**	**01 43 45.8**	**+0.9**
KOZ	**Kozyrevsk**	**0.96**	**287**	*e*P	**Pn**	**01 43 31.1**	**+0.1**
KOZ				*e*S	**Sn**	**01 43 45.8**	**+0.9**
SRDR	**Sredinnyy**	**1.14**	**298**	PN	**Pn**	**01 43 32.9**	**-0.2**
SRDR				S	**Sn**	**01 43 48.2**	**-0.5**
SRDR	**Sredinnyy**	**1.14**	**298**	*e*P	**Pn**	**01 43 32.9**	**-0.2**
SRDR				*e*S	**Sn**	**01 43 48.3**	**-0.5**
MKZ	**Mys Kozlova**	**1.25**	**174**	PN	**Pn**	**01 43 33.3**	**-1.1**
MKZ				S	**Sn**	**01 43 50.4**	**-0.6**
MKZ	**Mys

ULN	**Ulaanbaatar**	**33.78 280**	*i* P	**P**	**01 49 44.2**	**-2.0**
ULN			pmax	pmax		
comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**34.16 280**	P	**P**	**01 49 48.5**	**-1.0**
comp=Z,0.3nm,0.7s,baz=82,slow=8.2,SNR=1.9						
comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**40.63 45**	P	**P**	**01 50 44.4**	**+0.7**
comp=Z,0.4nm,0.8s,baz=302,slow=8.3,SNR=6.4						
comp=Z,0.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**44.60 350**	P	**P**	**01 51 14.9**	**-0.7**
comp=Z,2.4nm,0.5s,baz=53,slow=5.5,SNR=9.3						
comp=Z,2.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.60 350**	P	**P**	**01 51 15.0**	**-0.7**
KURK	**Kurchatov**	**47.04 300**	*e*P	**P**	**01 51 33.7**	**-1.5**
KURK			pmax	pmax		
comp=Z,1.0nm,1.0s						
KURBB	**Kurchatov Arra**	**47.15 300**	P	**P**	**01 51 35.0**	**-0.9**
comp=Z,0.6nm,0.5s,baz=56,slow=8.0,SNR=9.2						
comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**47.76 294**	P	**P**	**01 51 39.8**	**-1.1**
comp=Z,0.3nm,0.4s,baz=58,slow=7.4,SNR=6.5						
comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**49.38 307**	P	**P**	**01 51 52.3**	**-0.8**
comp=Z,1.0nm,0.5s,baz=56,slow=7.1,SNR=3.1						
comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**49.41 307**	*i* P	**P**	**01 51 52.6**	**-0.7**
NVAR	**Mina Array Bea**	**54.09 73**	P	**P**	**01 52 30.2**	**+1.6**
comp=Z,0.5nm,0.7s,baz=299,slow=8.1,SNR=5.3						
comp=Z,0.5nm,0.7s						
AAK	**Ala-Archa**	**54.65 295**	*i* P	**P**	**01 52 32.7**	**+0.2**
AAK			pmax	pmax		
comp=Z,1.0nm,1.0s						
PDAR	**Pinedale Array**	**55.52 63**	P	**P**	**01 52 40.1**	**+1.2**
comp=Z,0.6nm,0.7s,baz=352,slow=2.7,SNR=7.4						
comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**57.97 337**	P	**P**	**01 52 55.0**	**-0.7**
comp=Z,2.9nm,1.0s,baz=20,slow=6.7,SNR=5.0						
comp=Z,2.9nm,1.0s						
FINES	**FINESS Array B**	**57.97 337**	*e*P	**P**	**01 52 55.8**	**+0.2**
FINES			pmax	pmax		
comp=Z,3.0nm,1.0s						
NOA	**NORSAR Array B**	**61.17 344**	P	**P**	**01 53 17.2**	**-0.5**
comp=Z,0.5nm,0.6s,baz=21,slow=6.6,SNR=1.6						
comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**66.72 329**	P	**P**	**01 53 53.5**	**-0.6**
comp=Z,0.2nm,0.3s,baz=25,slow=7.1,SNR=2.0						
comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**68.85 69**	P	**P**	**01 54 09.1**	**+1.1**
comp=Z,0.5nm,0.7s,baz=281,slow=4.0,SNR=8.5						
comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**78.88 206**	P	**P**	**01 55 06.7**	**+0.3**
comp=Z,0.3nm,0.2s,baz=10,slow=6.0,SNR=8.7						
comp=Z,0.3nm,0.2s						
ASAR	**Alice Springs**	**82.56 205**	P	**P**	**01 55 25.9**	**-0.1**
comp=Z,0.5nm,0.6s,baz=15,slow=4.8,SNR=6.1						
comp=Z,0.5nm,0.6s						

*WEL **30** 01:44:20.8±1.2,32°S±8°×17°8W±2°8, h12km, M4.7/6, mB4.5/2, ML4.9/7, MLv4.7/6, Mw(mB)3.6/2, Error ellipse: s-maj=37.8km s-min=4.1km az=105.6, confirmed*
*IDC **30** 01:44:21.4±1.0,31°66S×177°66W, h0km, mb4.0/5, mbtmp4.0/6, ML3.1/1, MS3.3/3, Error ellipse: s-maj=31.6km s-min=30.1km az=100.0*

ISC 30 01:44:22.1±0.8, 31°69S±0°07×177°8W±0°2, h10km, n38, σ2°31/45, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.42**	**358**	P		**Pn**	**01 45 00.8**	**-0.9**
GLKZ				S		**Sn**	**01 45 28.1**	**-3.2**
PKGZ	**Pakihiroa**	**7.03**	**208**	P		**Pn**	**01 46 04.1**	**-1.0**
PKGZ				S		**Sn**	**01 47 26.2**	**+1.1**
HAZ	**Te Kaha**	**7.06**	**210**	P		**Pn**	**01 46 05.8**	**+0.3**
HAZ				S		**Sn**	**01 47 28.8**	**+3.1**
PUZ	**Puketiti**	**7.14**	**206**	P		**Pn**	**01 46 05.3**	**-1.4**
PUZ				S		**Sn**	**01 47 28.9**	**+1.0**
RUGZ	**Raukumara Rang**	**7.28**	**209**	P		**Pn**	**01 46 08.4**	**-0.2**
RUGZ				S		**Sn**	**01 47 32.5**	**+1.1**
TWGZ	**Tauwhareparae**	**7.34**	**207**	S		**Sn**	**01 47 33.9**	**+1.1**
CNGZ	**Carnagh Statio**	**7.53**	**205**	P		**Pn**	**01 46 10.6**	**-1.3**
CNGZ				S		**Sn**	**01 47 38.8**	**+1.5**
TKGZ	**Te Karaka**	**7.62**	**207**	S		**Sn**	**01 47 39.7**	**+0.2**
MWZ	**Matawai**	**7.66**	**209**	P		**Pn**	**01 46 12.6**	**-1.1**
MWZ				S		**Sn**	**01 47 41.5**	**+1.0**
URZ	**Urewera**	**7.77**	**211**	Pn		**Pn**	**01 46 16.5**	**+1.3**
0.3nm,0.3s,baz=77,slow=7.9,SNR=1.7								
URZ				Sn		**Sn**	**01 47 42.6**	**-0.7**
8.2nm,0.3s,baz=107,slow=21,SNR=11								
2.6nm,0.4s								
URZ	**Urewera**	**7.77**	**211**	S		**Sn**	**01 47 42.6**	**-0.7**
RIGZ	**Rimuhau**	**7.88**	**206**	S		**Sn**	**01 47 47.0**	**+0.8**
PRGZ	**Paritu Road**	**8.03**	**205**	S		**Sn**	**01 47 48.7**	**-1.1**
ARHZ	**Aropaoanui**	**8.66**	**208**	P		**Sn**	**01 48 06.3**	**+1.0**
BKZ	**Black Stump Fm**	**8.79**	**210**	P		**Pn**	**01 46 30.9**	**+1.6**
MCHZ	**McNeill Hill**	**8.94**	**209**	P		**Sn**	**01 48 11.5**	**-0.6**
KWHZ	**Kaweka Forest**	**9.04**	**210**	P		**Sn**	**01 48 13.3**	**-1.2**
KAHZ	**Kahuranaki**	**9.17**	**207**	P		**Pn**	**01 46 30.3**	**-4.1**
KAHZ				P		**Sn**	**01 48 16.4**	**-1.3**
KRHZ	**Kereru**	**9.24**	**209**	P		**Sn**	**01 48 17.6**	**-1.9**
PXZ	**Pawanui**	**9.38**	**206**	P		**Sn**	**01 48 18.1**	**-4.8**
PNHZ	**Pukenui**	**9.54**	**209**	P		**Pn**	**01 46 35.9**	**-3.7**
PNHZ				S		**Sn**	**01 48 22.5**	**-4.3**
PRHZ	**Porangahau**	**9.67**	**206**	P		**Sn**	**01 48 26.5**	**-3.5**
DVHZ	**Dannevirke**	**9.88**	**208**	S		**Sn**	**01 48 30.0**	**-5.2**
ANWZ	**Angora Road**	**9.90**	**206**	P		**Sn**	**01 48 32.1**	**-3.5**
BFZ	**Birch Farm**	**10.18**	**206**	P		**Sn**	**01 48 36.6**	**-5.9**
MRZ	**Mangatainoka R**	**10.43**	**209**	P		Sn	01 48 36.1	-12
MSVF	**Nonsavu**	**14.39**	**344**	LR		LR	01 52 52.4	
comp=Z,122nm,18.4s,baz=160,slow=36								
PPT	**Papeete**	**29.15**	**68**	LR		LR	01 58 32.9	
comp=Z,19nm,20.0s,baz=190,slow=29								
ASAR	**Alice Springs**	**43.22**	**268**	P		**P**	**01 52 25.4**	**+1.7**
1.1nm,0.7s,baz=107,slow=7.4,SNR=12								
ASAR				PcP		**PcP**	**01 54 13.9**	**+0.9**
0.2nm,0.5s,baz=105,slow=3.2,SNR=1.4								
1.1nm,0.7s								
WRA	**Warramunga Arr**	**44.32**	**273**	P		**P**	**01 52 34.0**	**+1.4**
2.0nm,0.6s,baz=113,slow=7.6,SNR=11								
2.0nm,0.6s								
QSPA	**South Pole Qui**	**58.43**	**180**	P		**P**	**01 54 18.5**	**+0.7**
2.2nm,1.0s,baz=72,slow=0.4,SNR=5.1								
2.2nm,1.0s								
SNAA	**Sanae**	**76.87**	**178**	P		**P**	**01 56 15.2**	**+1.2**
1.8nm,1.1s,baz=93,slow=8.8,SNR=1.8								
1.8nm,1.1s								
PSI	**Prapat**	**85.73**	**276**	LR		LR	02 36 43.2	
comp=Z,37nm,18.2s,baz=156,slow=37								
NVAR	**Mina Array Bea**	**89.07**	**43**	P		**P**	**01 57 17.6**	**-0.1**
0.4nm,0.7s,baz=231,slow=3.4,SNR=3.8								
0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**122.09**	**313**	PKP		**PKiKP**	**02 03 17.4**	**+0.7**
0.1nm,0.4s,baz=111,slow=2.1,SNR=2.5								
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc		**PKPab**	**02 04 02.8**	**-0.6**
2.3nm,0.6s,baz=29,slow=3.2,SNR=13								
MMAI	**Mount Meron Ar**	**151.97**	**282**	PKPbc		**PKiKP**	**02 04 19.9**	**+1.8**
1.0nm,0.5s,baz=98,slow=2.9,SNR=6.2								
BRTR	**Keskin Array B**	**153.34**	**296**	PKPbc		**PKiKP**	**02 04 22.8**	**+2.0**
0.4nm,0.7s,baz=112,slow=2.3,SNR=1.9								

RSNC 30 01:48:19.7±0.0, 8°N±1°×7°3W±°, h137km±2km, M2.5, mb2.9, mB6.0, ML2.2, Mw(mB)5.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.29**	**223**	P		Pn	01 48 38.6	-0.3
OCAC				S		Sn	01 48 53.1	-0.2
PAMC	**Pamplona, Colo**	**1.18**	**159**	P		Pn	01 48 45.5	0.0
PAMC				S		Sn	01 49 04.8	-0.3
BRJC	**Barrancabermej**	**1.59**	**203**	P		Pn	01 48 48.8	-0.6
BRJC				S		Sn	01 49 11.8	-0.2
ARGC	**Ariguani, Magd**	**1.79**	**322**	P		Pn	01 48 52.0	+0.4
ARGC				S		Sn	01 49 15.8	-0.2
BARC	**Barichara**	**1.85**	**182**	P		Pn	01 48 51.9	-0.6
BARC				S		Sn	01 49 17.0	-0.6
ZARC	**Zaragoza, Cauc**	**1.97**	**241**	P		Pn	01 48 52.5	-1.2
ZARC				S		Sn	01 49 17.8	-1.9
PTBC	**PUERTO BERRIO,**	**2.31**	**215**	P		Pn	01 48 56.9	-1.1
PTBC				S		Sn	01 49 25.7	-1.6
TAMC	**Tame, Arauca**	**2.40**	**147**	P		Pn	01 48 59.0	0.0
TAMC				S		Sn	01 49 28.8	-0.4
UREC	**San Jos de Ur**	**2.49**	**254**	P		Pn	01 48 58.1	-2.0
UREC				S		Sn	01 49 27.3	-3.8
SJCC	**San Jacinto, C**	**2.49**	**305**	P		Pn	01 48 58.9	-1.3
SJCC				S		Sn	01 49 28.2	-3.1
SDV	**Santo Domingo**	**2.50**	**80**	P		Pn	01 49 00.4	0.0
SDV				S		Sn	01 49 30.7	-0.9
RUSC	**La Rusia**	**2.54**	**179**	P		Pn	01 49 01.4	+0.2
RUSC				S		Sn	01 49 32.6	-0.5
CRJC	**Cerrejon, Guaj**	**2.56**	**5**	P		Pn	01 48 59.7	-1.4
CRJC				S		Sn	01 49 30.0	-3.0
SMRC	**Santa Marta, M**	**2.91**	**338**	P		Pn	01 49 04.1	-1.3
SMRC				S		Sn	01 49 37.0	-3.7
LCBC	**Los crdobas,**	**3.24**	**277**	P		Pn	01 49 08.4	-1.2
LCBC				S		Sn	01 49 46.9	-1.3
HELC	**Santa Helena**	**3.28**	**227**	P		Pn	01 49 10.2	-0.3
HELC				S		Sn	01 49 49.3	-0.5
NORC	**Norcasia**	**3.35**	**211**	P		Pn	01 49 08.6	-2.6
NORC				S		Sn	01 49 47.7	-3.4
DBBC	**Dabeiba**	**3.38**	**245**	P		Pn	01 49 11.0	-0.5
DBBC				S		Sn	01 49 49.0	-2.6
URIC	**Uribia, Colomb**	**3.42**	**19**	P		Pn	01 49 10.1	-1.9
URIC				S		Sn	01 49 48.5	-4.0
APAC	**Apartado, Choc**	**3.47**	**261**	P		Pn	01 49 11.4	-1.3
APAC				S		Sn	01 49 50.2	-3.4
CHIC	**Chingaza**	**3.84**	**189**	P		Pn	01 49 18.7	+0.7
CHIC				S		Sn	01 50 03.6	+0.5
CBOC	**Ciudad Bolivar**	**3.85**	**228**	P		Pn	01 49 17.5	-0.4
CBOC				S		Sn	01 50 01.2	-1.7
GUY2C	**Guyana, Caldas**	**3.90**	**215**	P		Pn	01 49 18.8	0.0
GUY2C				S		Sn	01 50 03.6	-1.0
CVER	**Cruz Verde, Cu**	**4.02**	**194**	P		Pn	01 49 19.9	-0.4
CVER				S		Sn	01 50 07.0	-0.3
VILC	**Villavicencio,**	**4.35**	**188**	P		Pn	01 49 22.8	-1.6
VILC				S		Sn	01 50 15.0	+0.4
ORTC	**Ortega, Tolima**	**4.98**	**205**	P		Pn	01 49 33.8	+1.0
ORTC				S		Sn	01 50 29.1	-0.5
PRAC	**Prado**	**5.02**	**201**	P		Pn	01 49 33.2	-0.1
4.6nm,1.8s								
PRAC				S		Sn	01 50 29.3	-1.3
4.6nm,1.8s								
URMC	**La Uribe, Meta**	**5.32**	**194**	P		Pn	01 49 36.7	-0.6
2.3nm,1.9s								
URMC				S		Sn	01 50 35.4	-2.4
2.3nm,1.9s								
YOTC	**Yotoco, Valle**	**5.47**	**216**	P		Pn	01 49 38.1	-1.3
1.5nm,0.7s								
YOTC				S		Sn	01 50 40.8	-0.7
1.5nm,0.7s								
MALC	**Bahia Malaga**	**6.08**	**224**	P		Pn	01 49 48.3	+0.9
MALC				S		Sn	01 50 55.8	-0.2

*BJI **30** 01:52:33.4, 6°99S×156°37E, h27km, mB5.1/8, mb4.9/35*
*IDC **30** 01:52:41.5±1.6, 7°02S×155°95E, h75km±14km, mb4.3/20, mbtmp4.5/24, MS3.6/30, Error ellipse: s-maj=13.5km s-min=10.4km az=45.0*
*NEIC **30** 01:52:42.2±2.2, 7°05S±0°09×156°12E±0°09, h84km±6km, mb4.7/54, Error ellipse: s-maj=14.2km s-min=11.8km az=217.0*

ISC 30 01:52:40.1±0.3, 7°04S±0°06×156°01E±0°05, h62km, n155, σ1°28/119, mb4.8/61, 1C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TATA	**Tatamba Isabel**	**4.00**	**110**	P		**Pn**	**01 53 39.4**	**+0.5**
TATA	**Tatamba Isabel**	**4.00**	**110**	S		**Sn**	**01 54 26.3**	**+1.8**
SAVO	**Savo Central**	**4.32**	**119**	P		**Pn**	**01 53 44.1**	**+0.8**
HNR	**Honiara**	**4.57**	**122**	Pn		**Pn**	**01 53 47.2**	**+0.4**
HNR	**Honiara**	**4.57**	**122**	P		**Pn**	**01 53 49.0**	**+2.2**
102nm,0.5s,baz=192,slow=9.8,SNR=2.5								
HNR				S		**Sn**	**01 54 43.2**	**+4.6**
501nm,0.8s,baz=118,slow=22,SNR=8.3								
HNR				LR		LR	01 55 31.6	
comp=Z,598nm,20.4s,baz=274,slow=37								
HNR	**Honiara**	**4.57**	**122**	P		**Pn**	**01 53 50.1**	**+3.3**
RABL	**Rabaul**	**4.75**	**306**	P		Pn	01 53 57.7	+8.3
ALEG	**Aligegeo Malai**	**4.95**	**110**	P		**Pn**	**01 53 52.5**	**+0.5**
PMG	**Port Moresby**	**9.07**	**254**	Pn		**Pn**	**01 54 51.7**	**+3.3**
PMG	**Port Moresby**	**9.07**	**254**	P		**Pn**	**01 54 48.5**	**+0.1**
3.2nm,0.3s,baz=61,slow=11,SNR=29								
PMG				S		**Sn**	**01 56 31.0**	**+2.0**
12nm,0.6s,baz=49,slow=19,SNR=1.3								
PATS	**Pohnpei**	**13.97**	**10**	Pn		**Pn**	**01 55 56.0**	**+0.8**
PATS	**Pohnpei**	**13.97**	**10**	P		Pn	01 55 42.0	-13
COEN	**Coen**	**14.37**	**240**			**Pn**	**01 56 02.7**	**+2.3**
JAY	**Jayapura**	**15.89**	**286**	P		**Pn**	**01 56 19.8**	**-0.3**
6.9nm,0.6s,baz=145,slow=12,SNR=1.4								
DZM	**Mont Dzumac**	**18.02**	**147**	P		**Pn**	**01 56 46.2**	**-0.3**
DZM	**Mont Dzumac**	**18.02**	**147**	*e*P		**P**	**01 56 44.9**	**-1.4**
41nm,1.1s								
DZM				*e*LR		LR	02 00 53.5	
523nm,26.9s								
DZM	**Mont Dzumac**	**18.02**	**147**	P		**Pn**	**01 56 48.5**	**+1.9**
11nm,0.9s,baz=314,slow=10,SNR=6.9								
DZM	**Mont Dzumac**	**18.02**	**147**	P		**Pn**	**01 56 47.2**	**+0.7**
EIDS	**Eidsvold**	**18.83**	**194**	P		**P**	**01 56 53.3**	**-1.7**
QIS	**Mount Isa**	**20.81**	**228**	P		Pn	01 57 19.8	+0.1
GUMO	**Guam**	**23.28**	**332**	LR		LR	02 06 02.6	
comp=Z,46nm,21.3s,baz=107,slow=34								
ARMA	**Armidale**	**23.62**	**189**	P		**P**	**01 57 45.0**	**-0.8**
ARMA				IAmb		IAmb	01 57 49.3	
comp=Z,38nm,1.5s								
ARMA	**Armidale**	**23.62**	**189**	P		**P**	**01 57 46.9**	**+1.0**
KDU	**Kakadu**	**23.85**	**255**	P		**P**	**01 57 47.4**	**-0.5**
MSVF	**Nonsavu**	**23.98**	**118**	P		**P**	**01 57 48.5**	**-0.7**
comp=Z,5.1nm,0.6s,baz=272,slow=10.0,SNR=6.3								
MSVF				LR		LR	02 08 15.4	
comp=Z,104nm,18.5s,baz=332,slow=39								
comp=Z,5.1nm,0.6s								
WB0	**Warramunga Arr**	**24.50**	**237**	P		**P**	**01 57 53.8**	**0.0**
WB0				IAmb		IAmb	01 57 54.9	
comp=Z,15nm,0.8s								
WB2	**Warramunga Arr**	**24.62**	**236**	P		**P**	**01 57 54.2**	**-0.7**
WB2				IAmb		IAmb	01 57 56.0	
comp=Z,17nm,0.9s								
WRA	**Warramunga Arr**	**24.63**	**236**	P		**P**	**01 57 54.9**	**-0.1**
comp=Z,12nm,0.5s,baz=60,slow=9.1,SNR=45								
WRA				PcP		**PcP**	**02 01 30.4**	**-1.1**
comp=Z,2.6nm,0.8s,baz=64,slow=2.0,SNR=8.0								
WRA				ScP		**ScP**	**02 05 04.2**	**-1.0**
comp=Z,0.5nm,0.7s,baz=66,slow=2.8,SNR=4.8								
WRA				LR		LR	02 07 09.0	
comp=Z,237nm,19.7s,baz=48,slow=35								
comp=Z,12nm,0.5s								
MTN	**Manton Dam**	**25.16**	**255**	P		**P**	**01 57 59.6**	**-0.3**
MTN				IAmb		IAmb	01 58 01.5	
comp=Z,51nm,1.5s								
INKA	**Innaminka**	**25.17**	**213**	P		**P**	**01 58 00.9**	**+1.1**
AS01	**Alice Springs**	**26.87**	**230**	P		**P**	**01 58 14.5**	**-0.8**
AS31	**Alice Springs**	**26.90**	**230**	P		**P**	**01 58 14.7**	**-0.9**
ASAR	**Alice Springs**	**26.91**	**230**	P		**P**	**01 58 14.2**	**-1.4**
ASAR	**Alice Springs**	**26.91**	**230**	P		**P**	**01 58 14.8**	**-0.8**
comp=Z,2.1nm,0.4s,baz=58,slow=10.0,SNR=70								
ASAR				PcP		**PcP**	**02 01 35.9**	**-0.8**
comp=Z,1.2nm,0.6s,baz=89,slow=1.8,SNR=6.0								
ASAR				ScP		**ScP**	**02 05 10.2**	**-1.6**
comp=Z,0.8nm,0.8s,baz=73,slow=3.7,SNR=4.7								
comp=Z,2.1nm,0.4s								
H11S3	**WAKE ISLAND Hy**	**27.47**	**22**	T		T	02 26 36.8	
baz=202,slow=76,SNR=349								
H11S2	**WAKE ISLAND Hy**	**27.47**	**22**	T		T	02 26 35.5	
baz=202,slow=76,SNR=286								
H11S1	**WAKE ISLAND Hy**	**27.49**	**22**	T		T	02 26 41.6	
baz=202,slow=76,SNR=238								
KNRA	**Kununurra**	**28.03**	**250**	P		**P**	**01 58 25.4**	**-0.3**
STKA	**Stephens Creek**	**28.14**	**207**	P		**P**	**01 58 26.7**	**+0.2**
comp=Z,6.8nm,1.1s,baz=32,slow=14,SNR=3.5								
STKA				LR		LR	02 08 59.6	
comp=Z,185nm,21.3s,baz=22,slow=35								
comp=Z,6.8nm,1.1s								
LCRK	**Leigh Creek**	**28.66**	**213**	P		**P**	**01 58 31.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**31.56**	**247**	P		**P**	**01 58 56.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**31.56**	**247**	LR		LR	02 11 57.4	
comp=Z,178nm,18.1s,baz=82,slow=37								
BBOO	**Buckleboo**	**31.64**	**213**	P		**P**	**01 58 55.1**	**-2.4**
BBOO				IAmb		IAmb	01 59 15.0	
comp=Z,37nm,1.3s								
DAV	**Davao City (W)**	**33.43**	**294**	LR		LR	02 12 33.3	
comp=Z,44nm,19.7s,baz=340,slow=36								
FORT	**Forrest**	**35.26**	**224**	P		**P**	**01 59 28.2**	**-0.8**
TOLI2	**Tolitoli**	**36.07**	**282**	P		**P**	**01 59 35.7**	**-0.4**
TOLI2				IAmb		IAmb	01 59 37.1	
comp=Z,7.8nm,1.0s								
KAPI	**Kappang**	**36.10**	**271**	LR		LR	02 16 16.8	
comp=Z,38nm,18.3s,baz=102,slow=39								
URZ	**Urewera**	**36.49**	**152**	LR		LR	02 11 44.5	
comp=Z,58nm,18.7s,baz=67,slow=31								
RTZ	**Ruatahuna**	**36.71**	**152**	P		**P**	**01 59 40.9**	**-0.5**
THZ	**Tophouse**	**37.70**	**159**	P		**P**	**01 59 48.0**	**-1.7**
TCW	**Tory Channel**	**37.72**	**157**	P		**P**	**01 59 49.1**	**-0.8**
MBWA	**Marble Bar**	**37.76**	**244**	P		**P**	**01 59 49.8**	**-0.7**
MBWA				IAmb		IAmb	02 00 11.9	
comp=Z,22nm,1.2s								
PSA00	**Pilbara Seismi**	**37.78**	**244**	P		**P**	**01 59 48.1**	**-2.5**
RPZ	**Rata Peaks**	**38.85**	**163**	P		**P**	**01 59 59.5**	**+0.3**
comp=Z,17nm,0.8s,baz=10,slow=15,SNR=4.5								
RPZ				LR		LR	02 16 41.6	
comp=Z,265nm,18.6s,baz=143,slow=37								
comp=Z,17nm,0.8s								
KKM	**Kota Kinabalu**	**41.78**	**287**	P		**P**	**02 00 24.2**	**+0.2**
KKM				IAmb		IAmb	02 00 26.5	
comp=Z,18nm,0.8s								
MORW	**Morawa**	**43.55**	**235**	P		**P**	**02 00 37.4**	**-0.7**
MORW				IAmb		IAmb	02 00 38.1	
comp=Z,12nm,0.8s								
NWAO	**Narrogin (SRO)**	**44.22**	**229**	LR		LR	02 18 37.6	
comp=Z,118nm,21.5s,baz=64,slow=35								
JMN	**Monobe**	**45.65**	**334**	P		**P**	**02 00 53.4**	**-1.3**
JGF	**Kuroka**	**45.90**	**339**	P		**P**	**02 00 57.0**	**+0.3**
JGF				IAmb		IAmb	02 01 29.6	
comp=Z,13nm,1.2s								
MJAR	**Matsushiro Arr**	**46.45**	**340**	P		**P**	**02 01 00.1**	**-0.8**
comp=Z,4.0nm,0.9s,baz=166,slow=8.7,SNR=6.3								
MJAR				PcP		**PcP**	**02 02 34.8**	**0.0**
comp=Z,1.5nm,0.4s,baz=182,slow=3.5,SNR=5.0								
MJAR				LR		LR	02 19 41.4	
comp=Z,26nm,19.1s,baz=152,slow=35								
comp=Z,4.0nm,0.9s								
JNU	**Nakatsue**	**46.53**	**331**	P		**P**	**02 01 02.1**	**+0.5**
JNU				IAmb		IAmb	02 01 03.9	
comp=Z,18nm,0.9s								
JNU	**Nakatsue**	**46.53**	**331**	LR		LR	02 18 04.6	
comp=Z,52nm,18.0s,baz=178,slow=33								
LEM	**Lembang**	**48.02**	**267**	LR		LR	02 23 34.1	
comp=Z,60nm,20.1s,baz=206,slow=39								
DLV	**Lat**	**50.88**	**292**	P		**P**	**02 01 35.8**	**+0.3**
KSRS	**Korea Array**	**51.45**	**331**	P		**P**	**02 01 38.5**	**-0.7**
comp=Z,4.4nm,0.7s,baz=150,slow=7.7,SNR=15								
KSRS				LR		LR	02 25 11.6	
comp=Z,9.8nm,18.0s,baz=125,slow=38								
comp=Z,4.4nm,0.7s								
KSAR	**Wonju Array Be**	**51.46**	**331**	P		**P**	**02 01 37.6**	**-1.6**
ASAJ	**Asahikawa**	**52.34**	**348**	LR		LR	02 21 14.6	
comp=Z,38nm,21.4s,baz=128,slow=33								
NJ2	**Nanjing**	**52.59**	**320**	*e*P		**P**	**02 01 49.5**	**+1.7**
NJ2				pmax		pmax		
comp=Z,41nm,0.5s								
PPT	**Papeete**	**54.02**	**107**	LR		LR	02 20 00.5	
comp=Z,29nm,21.9s,baz=3.5,slow=30								
PPT2	**Papeete2**	**54.02**	**107**	*e*LR		LR	02 17 27.6	
comp=Z,74nm,26.8s								
PPT2				*e*LR		LR	02 17 48.9	
comp=Z,49nm,22.0s								
TBI	**Tubuai**	**54.74**	**114**	*e*LR		LR	02 17 57.2	
comp=Z,739nm,32.8s								
TBI				*e*LR		LR	02 18 02.5	
comp=Z,934nm,28.2s								
UBPT	**Khong Chiam**	**54.76**	**294**	P		**P**	**02 02 04.8**	**+0.8**
UBPT				IAmb		IAmb	02 02 05.4	
comp=Z,9.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**55.42**	**339**	P		**P**	**02 02 07.7**	**-0.4**
comp=Z,2.4nm,0.6s,baz=122,slow=6.9,SNR=4.9								
comp=Z,2.4nm,0.6s								
DL2	**Dalian**	**55.73**	**328**	P		**P**	**02 02 11.5**	**+1.0**
DL2

MKAR LR LR 02 42 39.1
comp=Z,22nm,19.8s,baz=65,slow=36
comp=Z,13nm,0.7s
MAKZ Makanchi 84.31 318 P P 02 05 05.7 +0.3
WUS Wushi 84.76 312 IAmb IAmb 02 05 09.6
comp=Z,6.7nm,0.8s
ZAA0 Zalesovo Array 84.78 326 IAmb IAmb 02 05 07.7
comp=Z,14nm,1.4s
ZALV Zalesovo Beam 84.78 326 P P 02 05 06.7 -0.9
ZALV Zalesovo Beam 84.78 326 P P 02 05 06.9 -0.7
comp=Z,5.5nm,0.6s,baz=119,slow=5.7,SNR=22
comp=Z,5.5nm,0.6s
KSH Kashi 86.80 310 P P 02 05 20.5 +2.3
KSH pmax pmax
comp=Z,12nm,1.1s
BBB Bella Bella 86.95 37 LR LR 02 41 47.7
comp=Z,67nm,18.2s,baz=251,slow=34
I30M Mount Dempster 87.19 23 P P 02 05 20.5 +1.1
KURK Kurchatov 87.48 322 P P 02 05 20.0 -1.0
KURK IAmb IAmb 02 05 21.3
comp=Z,5.3nm,1.1s
KURBB Kurchatov Arra 87.52 322 P P 02 05 20.7 -0.5
comp=Z,2.5nm,0.6s,baz=99,slow=5.0,SNR=24
comp=Z,2.5nm,0.6s
YBH Yreka Blue Hor 88.17 48 LR LR 02 38 53.7
comp=Z,48nm,19.9s,baz=260,slow=31
AAK Ala-Archa 88.51 313 P P 02 05 26.4 +0.1
AAK IAmb IAmb 02 05 27.3
comp=Z,3.5nm,0.8s
NRIK Noril'sk 89.10 341 P P 02 05 27.6 -0.6
comp=Z,1.1nm,0.4s,baz=66,slow=2.5,SNR=4.0
comp=Z,1.1nm,0.4s
ARSB Arslanbob 89.38 312 IAmb IAmb 02 05 32.5
comp=Z,9.4nm,1.0s
INK Inuvik 89.40 21 LR LR 02 41 41.0
comp=Z,65nm,19.3s,baz=244,slow=33
KBL Kabul 91.45 304 P P 02 05 38.5 -1.7
KBL IAmb IAmb 02 05 39.7
comp=Z,4.7nm,0.8s
TKX Tecate 91.55 58 P P 02 05 37.1 -3.4
PFO Pinyon Flats O 91.80 57 LR LR 02 45 32.2
comp=Z,40nm,18.4s,baz=252,slow=34
BVAR Borovoye Array 92.93 323 P P 02 05 45.5 -0.9
comp=Z,5.9nm,0.7s,baz=93,slow=5.9,SNR=25
comp=Z,5.9nm,0.7s
NEW Newport 93.11 42 LR LR 02 39 37.0
comp=Z,51nm,21.2s,baz=274,slow=30
ELIB Princess Elisa 95.40 193 *dP* **P 02 05 56.4 -1.2**
comp=Z,2.8nm,1.1s
YKA Yellowknife Ar 95.90 28 P P 02 05 59.8 0.0
comp=Z,0.4nm,0.9s,baz=265,slow=4.6,SNR=4.1
comp=Z,0.4nm,0.9s
LPIG La Paz 96.18 67 LR LR 02 40 11.1
comp=Z,44nm,21.4s,baz=244,slow=30
PDAR Pinedale Array 97.98 49 LR LR 02 46 27.7
comp=Z,23nm,18.1s,baz=292,slow=33
AKASG Malin Array Be 118.15 325 PKP **PKPdf 02 11 18.1 -2.1**
comp=Z,1.6nm,0.6s,baz=56,slow=2.2,SNR=7.1
NOA NORSAR Array B 120.06 341 PKP **PKPdf 02 11 21.8 -1.8**
comp=Z,0.4nm,0.6s,baz=44,slow=2.0,SNR=1.4
BOSA Boshof 120.78 231 PKP **PKPdf 02 11 25.9 -0.2**
comp=Z,2.6nm,0.9s,baz=153,slow=5.4,SNR=4.3
CLL Collm 126.32 332 *e*PKPdf **PKiKP 02 11 37.0 +0.7**
EKA Eskdalemuir Ar 129.04 345 PKP **PKPdf 02 11 40.5 -0.5**
comp=Z,0.3nm,0.5s,baz=8,7,slow=2.9,SNR=4.1
ESDC Sonseca Array 142.85 334 PKP **PKPdf 02 12 04.5 -2.7**
comp=Z,0.8nm,0.9s,baz=42,slow=2.8,SNR=5.8
PTO Porto 143.37 340 *e*PKP **PKPdf 02 12 06.9 -1.0**
PVIS Viseu 143.51 339 *e*PKP PKPbc 02 12 06.1 +0.5
MTE Manteigas 143.66 339 *e*PKP PKPbc 02 12 07.0 +0.9
PCBR Castelo Branco 144.13 338 *e*PKP PKPbc 02 12 08.4 +1.0
PCAS Casmilo, Conde 144.31 339 *e*PKP **PKPdf 02 12 10.1 +0.5**
PMRV Marv??o 144.46 338 *e*PKP PKPbc 02 12 09.1 +0.6
PSBE So Bento 144.89 339 *e*PKP **PKPdf 02 12 11.1 +0.4**
PESTR Estremoz 145.02 337 *e*PKP **PKPdf 02 12 11.0 +0.1**
PMTG Montargil 145.08 338 *e*PKP **PKPab 02 12 10.9 +0.4**
PBAR Barrancos 145.40 336 *e*PKP **PKPab 02 12 13.1 +1.4**
EVO Evora 145.47 338 *e*PKP **PKPab 02 12 12.6 +0.6**
PBEJ Beja 145.86 337 *e*PKP **PKPab 02 12 14.0 +0.6**
BDFB Brasilia 147.23 134 PKPbc **PKPbc 02 12 17.1 -0.6**
comp=Z,21nm,0.7s,baz=228,slow=1.5,SNR=26
MDT Midelt 148.66 327 PKPbc **PKPbc 02 12 21.3 +0.2**
comp=Z,5.1nm,0.9s,baz=85,slow=5.7,SNR=8.2

IDC ***30*** *01:53:14.8±1.8, 22°.98S×178°.83E, h623km±21km, mb3.0/5, mbtmp3.9/8, Error ellipse: s-maj=29.1km s-min=22.0km az=139.0*

ISC 30 01:53:15.8±0.9, 22°.8S±0°.2×178°.7E±0°.2, h650km, n10, σ1§15/11, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.12**	**353**	P	**P**	**01 54 51.5**	**-1.5**
	1.1nm,0.3s,baz=253,slow=23,SNR=4.9						
DZM	**Mont Dzumac**	**11.37**	**272**	P	**P**	**01 55 48.6**	**-0.3**
	1.7nm,0.4s,baz=92,slow=19,SNR=1.6						
URZ	**Urewera**	**15.43**	**185**	P	**P**	**01 56 24.1**	**-1.6**
	5.3nm,0.8s,baz=75,slow=21,SNR=1.5						
RPZ	**Rata Peaks**	**21.76**	**195**	P	**P**	**01 57 22.8**	**-0.1**
	2.5nm,0.4s,baz=18,slow=23,SNR=1.0						
	2.5nm,0.4s						
ASAR	**Alice Springs**	**41.05**	**260**	P	**P**	**02 00 06.3**	**+0.5**
	0.9nm,0.4s,baz=80,slow=9.1,SNR=5.4						
ASAR				PcP	**PcP**	**02 01 49.5**	**+0.3**
	0.7nm,0.7s,baz=81,slow=2.3,SNR=2.2						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**41.31**	**265**	P	**P**	**02 00 09.3**	**+1.5**
	1.9nm,0.5s,baz=104,slow=8.0,SNR=5.3						
	1.9nm,0.5s						
TXAR	**Lajitas Array**	**90.88**	**59**	P	**P**	**02 05 13.8**	**+1.2**
	0.3nm,0.7s,baz=239,slow=4.5,SNR=4.4						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**92.76**	**44**	P	**P**	**02 05 21.5**	**+0.5**
	0.3nm,0.9s,baz=322,slow=4.3,SNR=2.4						
	0.3nm,0.9s						
HFS	**Hagfors**	**141.28**	**348**	PKP	**PKiKP**	**02 11 35.9**	**-0.9**
	1.4nm,0.4s,baz=31,slow=3.4,SNR=11						
MMAI	**Mount Meron Ar**	**146.19**	**296**	PKPbc	**PKPab**	**02 11 48.4**	**+0.1**
	1.4nm,0.6s,baz=112,slow=3.4,SNR=1.3						

BGR ***30*** *02:08:17.6±0.6, 43°.29N×16°.83E, h10km, ML4.2/25, Error ellipse: s-maj=15.6km s-min=11.1km az=83.0*
IDC ***30*** *02:08:21.0±0.7, 43°.79N×16°.50E, h0km, mb3.8/15, mbtmp3.8/28, ML3.5/11, MS3.1/8, Error ellipse: s-maj=12.9km s-min=8.3km az=52.0*
MCSM ***30*** *02:08:21.9±0.2, 44°.N±2°×1°.6E±°, h10km, mb4.2, MLv4.3*
MED_RC ***30*** *02:08:21.0±0.9, 43°.66N×16°.45E, h14km±4km, MW3.9/6, Moment Tensor Solution.Mantle waves: s6,c6; Duration: 1§0 Moment tensor: Scale 10¹⁵Nm; M_rr1.06±.44; M_θθ-0.89±.32; M_φφ-0.18±.32; M_rθ0.34±.18; M_θφ0.06±.16; M_rφ0.00±.70; Best double couple: M_o1.03000×10¹⁵ NP1:φ_s276.00000°, δ36.00000°, λ92.00000°. NP2: φ_s93.00000°, δ54.00000°, λ88.00000°. Principal axes: T 1.1200, Plg80.0000°, Azm356.0000°; N -0.1700, Plg1.0000°, Azm94.0000°; P -0.9500, Plg9.0000°, Azm184.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PRU ***30*** *02:08:21.6, 43°.50N×16°.46E, h10km, M4.4*
NAO ***30*** *02:08:21.2, 43°.66N×16°.45E, h10km, mb3.3*
NEIC ***30*** *02:08:22.9±2.4, 43°.69N±0°.05×16°.40E±0°.07, h10km±1km, mb4.4/12, Error ellipse: s-maj=8.8km s-min=8.1km az=39.0*
RHSSO ***30*** *02:08:22.6±0.3, 43°.71N×16°.48E, h4km±1km, ML3.9/18*
LDG ***30*** *02:08:22.0±0.0, 43°.65N×16°.47E, h5km, Ml3.8/31, Error ellipse: s-maj=9.1km s-min=2.1km az=18.0*
BEO ***30*** *02:08:22.7±0.4, 43°.74N×16°.49E, h0km, ML3.8/17*
PDG ***30*** *02:08:22.0±0.6, 43°.72N×16°.46E, h7km±1km, MD4.3/6, ML4.2/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

ISC 30 02:08:21.4±1.0, 43°.67N±0°.02×16°.43E±0°.02, h8km±7km, n344, σ2§14/475, mb4.2/23, MS3.3/3, 34C-25D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.34**	**357**	*i* Pg	**Pg**	**02 08 27.2**	**-0.9**
KIJV				Sg	**Sg**	**02 08 32.2**	**-0.5**
HVAR	**Hvar**	**0.49**	**178**	*e*Pg	**Pg**	**02 08 31.1**	**+0.3**
MORI	**Morici**	**0.56**	**291**	*i* Pg	**Pg**	**02 08 32.0**	**-0.2**
ZIRJ	**Zirje**	**0.57**	**269**	*i* Pg	**Pg**	**02 08 32.8**	**+0.4**
A050A	**Klekovaca**	**0.82**	**5**	*e*Pg	**Pg**	**02 08 35.9**	**-1.3**
A050A				*e*Sg	**Sg**	**02 08 46.9**	**-1.0**
UDBI	**Udbina**	**0.99**	**331**	*i* Pg	**Pg**	**02 08 39.5**	**-0.8**
DUGI	**Dugi Otok**	**1.04**	**289**	*i* Pg	**Pg**	**02 08 40.9**	**-0.5**
VIRC	**Vir**	**1.17**	**303**	*i* Pg	**Pb**	**02 08 43.1**	**-0.8**
BLY	**Banja Luka**	**1.21**	**26**	⇓*i*Pg	**Pb**	**02 08 42.9**	**-1.7**
BLY				*e*Sg	**Sb**	**02 08 59.5**	**-1.0**
BLY	**Banja Luka**	**1.21**	**26**	*e*Pg	**Pb**	**02 08 43.5**	**-1.1**
BLY				*e*Sg	**Sn**	**02 09 00.4**	**-0.9**
STON	**Ston**	**1.22**	**130**	*e*Pg	**Pn**	**02 08 43.6**	**-1.2**
STON				*e*Sg	**Sg**	**02 09 00.9**	**+0.2**
STON	**Ston**	**1.22**	**130**	*e*Pg	**Pn**	**02 08 43.3**	**-1.4**
STON	**Ston**	**1.22**	**130**	*e*Pg	**Pn**	**02 08 43.4**	**-1.4**
STON				*e*Sg	**Sn**	**02 09 02.8**	**+1.3**
PRIJ	**Prijedor**	**1.33**	**9**	*e*Pg	**Pn**	**02 08 45.5**	**-0.8**
PRIJ				*e*Sg	**Sb**	**02 09 03.2**	**-0.5**
PLIT	**Plitvice**	**1.34**	**335**	*e*Pg	**Pn**	**02 08 45.6**	**-0.9**
A051A	**Mrakovica**	**1.39**	**14**	⇓*i*Pg	**Pn**	**02 08 46.6**	**-0.6**
A051A				*e*Sg	**Sg**	**02 09 05.8**	**-0.3**
NVLJ	**Novalja**	**1.44**	**309**	*e*Pn	**Pn**	**02 08 47.6**	**-0.1**
KALIN	**Kalinovik**	**1.48**	**96**	⇑*i*Pg	**Pn**	**02 08 48.6**	**+0.2**
KALIN				*e*Sg	**Sg**	**02 09 08.5**	**-0.4**
DBRK	**Dubrovnik**	**1.60**	**128**	*e*Pn	**Pn**	**02 08 50.0**	**-0.1**
RABC	**Rab**	**1.60**	**313**	*e*Pn	**Pn**	**02 08 50.6**	**+0.5**
DOB	**Doboj**	**1.61**	**48**	*e*Pn	**Pn**	**02 08 50.2**	**+0.1**
DOB				*e*Sn	**Sb**	**02 09 11.3**	**-0.5**
TREB	**Trebinje**	**1.70**	**123**	*e*Pn	**Pn**	**02 08 52.1**	**+0.8**
TREB				*e*Sn	**Sb**	**02 09 15.1**	**+0.8**
TREB	**Trebinje**	**1.70**	**123**	*e*Pn	**Pn**	**02 08 51.9**	**+0.6**
TREB				*e*Sn	**Sg**	**02 09 16.8**	**+0.9**
BRY	**Bratogost**	**1.72**	**116**	*e*Pn	**Pn**	**02 08 52.3**	**+0.5**
BRY				*e*Sn	**Sb**	**02 09 15.5**	**+0.3**
BRY	**Bratogost**	**1.72**	**116**	⇓*i*Pn	**Pn**	**02 08 52.4**	**+0.6**
BRY				*i* Sn	**Sg**	**02 09 17.7**	**+1.0**
UPM	**Unac-Piva**	**1.86**	**103**	*e*Pn	**Pb**	**02 08 55.1**	**-0.7**
UPM				*e*Sn	**Sb**	**02 09 18.8**	**-0.5**
UPM	**Unac-Piva**	**1.86**	**103**	⇓*i*Pn	**Pb**	**02 08 54.9**	**-0.9**
UPM				*i* Sn	**Sg**	**02 09 20.8**	**-0.5**
HCY	**Herceg Novi**	**1.94**	**128**	*e*Pn	**Pb**	**02 08 56.2**	**-0.9**
HCY				*e*Sn	**Sb**	**02 09 21.2**	**-0.2**
HCY	**Herceg Novi**	**1.94**	**128**	⇓*i*Pn	**Pn**	**02 08 56.0**	**+1.3**
HCY				*i* Sn	**Sg**	**02 09 23.1**	**-0.7**
MOSL	**Moslavina**	**1.96**	**7**	*i* Pn	**Pn**	**02 08 55.3**	**+0.3**
SGRT	**San Giovanni R**	**1.97**	**195**		**Pn**	**02 08 55.6**	**+0.4**
BOJS	**Bojanci**	**2.02**	**336**	*i* Pn	**Pb**	**02 08 57.7**	**-0.8**
BOJS				*e*Sn	**Sb**	**02 09 24.5**	**+0.8**
BOJS				IAML		02 09 26.7	
	comp=Z,850nm,0.7s						
BOJS	**Bojanci**	**2.02**	**336**	⇑*i*Pn	**Pb**	**02 08 57.6**	**-0.8**
BOJS				*e*Sn	**Sb**	**02 09 22.6**	**-1.1**
NKME	**Niksic**	**2.05**	**115**	⇑*i*Pn	**Pb**	**02 08 57.9**	**-1.1**
NKME				*e*Sn	**Sb**	**02 09 25.2**	**+0.5**
OZLJ	**Ozalj**	**2.07**	**341**	*i* Pn	**Pb**	**02 08 58.1**	**-1.1**
RUDO	**Rudo**	**2.14**	**90**	*e*Pn	**Pb**	**02 08 59.0**	**-1.4**
RUDO				*e*Sn	**Sn**	**02 09 25.0**	**+0.9**
CEME	**Cevo**	**2.14**	**121**	⇑*i*Pn	**Pn**	**02 08 59.1**	**+1.6**
CEME				*i* Sn	**Sb**	**02 09 28.0**	**+0.8**
RIY	**Rijeka**	**2.17**	**321**	*e*Pn	**Pn**	**02 08 59.4**	**+1.6**
BBLS	**Lazi&#263i**	**2.17**	**84**	⇑*i*Pn	**Pb**	**02 08 59.3**	**-1.6**
BBLS				*e*Sn	**Sn**	**02 09 25.6**	**+0.6**
BBLS	**Lazi&#263i**	**2.17**	**84**	*e*Pn	**Pb**	**02 08 59.4**	**-1.5**
BBLS				*e*Sn	**Sb**	**02 09 26.8**	**-1.2**
PLE	**Pljevlja**	**2.18**	**98**	⇑*i*Pn	**Pn**	**02 08 59.4**	**+1.3**
PLE				*e*Sn	**Sb**	**02 09 28.5**	**+0.1**
ZAG	**Zagreb**	**2.19**	**352**	*i* Pn	**Pn**	**02 08 59.2**	**+1.1**
GBRS	**Gornja Briga**	**2.19**	**329**	⇑*i*Pn	**Pb**	**02 09 00.5**	**-0.9**
GBRS				*e*Sn	**Sb**	**02 09 30.2**	**+1.4**
GBRS				IAML		02 09 58.0	
	comp=Z,2μm,1.6s						
BUM	**Brajici-Budva**	**2.27**	**126**	⇑*i*Pn	**Pn**	**02 09 00.7**	**+1.5**
BUM				*i* Sn	**Sb**	**02 09 30.7**	**-0.1**
PTJ	**Puntijarka**	**2.27**	**352**	*i* Pn	**Pn**	**02 08 59.8**	**+0.6**
GUMA	**Gualdo di Mace**	**2.33**	**256**		**Pb**	**02 09 02.9**	**-0.8**
KOME	**Kolasin**	**2.40**	**109**	⇑*i*Pn	**Pb**	**02 09 03.3**	**-1.6**
KOME				*i* Sn	**Sb**	**02 09 33.6**	**-1.0**
TEKS	**Tekeris**	**2.40**	**67**	*e*Pn	**Pn**	**02 09 02.4**	**+1.3**
TEKS				*e*Sn	**Sn**	**02 09 30.4**	**-0.3**
TEKS	**Tekeris**	**2.40**	**67**	*e*Pn	**Pn**	**02 09 01.1**	**0.0**
TEKS				*e*Sn	**Sn**	**02 09 31.6**	**+0.9**
PDG	**Podgorica**	**2.41**	**120**		**Pb**	**02 09 03.5**	**-1.5**
PDG	**Podgorica**	**2.41**	**120**	*e*Pn	**Pb**	**02 09 03.5**	**-1.5**
PDG				*e*Sn	**Sn**	**02 09 32.0**	**+1.1**
PDG	**Podgorica**	**2.41**	**120**	⇑P	**Pb**	**02 09 04.6**	**-0.4**
PDG				⇑S	**Sg**	**02 09 37.9**	**-1.0**
PDG	**Podgorica**	**2.41**	**120**	*e*Pn	**Pn**	**02 09 03.2**	**+2.1**
PDG				*e*Sn	**Sb**	**02 09 33.9**	**-1.0**
PDG	**Podgorica**	**2.41**	**120**	⇓*i*Pn	**Pn**	**02 09 02.6**	**+1.5**
PDG				*e*Sn	**Sb**	**02 09 34.4**	**-0.5**
VISS	**Visnje**	**2.42**	**333**	*i* Pn	**Pn**	**02 09 03.3**	**+2.0**
VISS				*e*Sn	**Sb**	**02 09 34.7**	**-0.4**
VISS				IAML		02 09 37.3	
	comp=Z,658nm,0.7s						
KALN	**Kalnik**	**2.47**	**0**	*e*Pn	**Pn**	**02 09 02.2**	**+0.2**
CAMP	**Campotosto**	**2.48**	**244**		**Pn**	**02 09 03.7**	**+1.5**
INTR	**Introdacqua**	**2.48**	**229**		**Pn**	**02 09 03.1**	**+0.8**
LOBO	**Lobor**	**2.50**	**354**	*i* Pn	**Pn**	**02 09 03.1**	**+0.7**
DRME	**Dracevica, Mon**	**2.51**	**125**	*e*Pn	**Pn**	**02 09 04.4**	**+1.9**
DRME				*e*Sn	**Sb**	**02 09 35.5**	**-2.2**
DRME	**Dracevica, Mon**	**2.51**	**125**	⇓*i*Pn	**Pn**	**02 09 04.2**	**+1.7**
DRME				*e*Sn	**Sb**	**02 09 36.6**	**-1.1**
FDMO	**Fiordimonte**	**2.52**	**257**		**Pn**	**02 09 04.3**	**+1.7**
CEY	**Cerknica**	**2.52**	**326**	⇑*i*Pn	**Pn**	**02 09 04.5**	**+1.9**
CEY				*e*Sn	**Sn**	**02 09 34.4**	**+0.9**
SKDS	**Skadanscina**	**2.55**	**318**	⇑*i*Pn	**Pn**	**02 09 04.1**	**+1.0**
SKDS				*e*Sn	**Sn**	**02 09 36.4**	**+2.0**
NRCA	**Norcia**	**2.56**	**252**		**Pn**	**02 09 05.3**	**+2.1**
AQU	**L'Aquila**	**2.58**	**240**	Pn	**Pn**	**02 09 03.7**	**+0.2**
AQU				Sn	**Sn**	**02 09 34.2**	**-0.8**
DIVS	**Divibare**	**2.61**	**79**	*e*Pn	**Pn**	**02 09 04.9**	**+0.9**
DIVS				*e*Sn	**Sn**	**02 09 37.2**	**+1.2**
SJES	**Sjenica**	**2.61**	**98**	*e*Pn	**Pn**	**02 09 06.0**	**+2.0**
SJES				*e*Sn	**Sn**	**02 09 36.7**	**+0.7**
SJES	**Sjenica**	**2.61**	**98**	*e*Pn	**Pb**	**02 09 06.7**	**-1.9**
SJES				*e*Sn	**Sn**	**02 09 37.3**	**+1.3**
IVA	**Berane**	**2.65**	**106**	⇑*i*Pn	**Pn**	**02 09 06.3**	**+1.7**
IVA				*i* Sn	**Sb**	**02 09 41.0**	**-1.0**
ULC	**Ulcinj**	**2.68**	**128**	*e*Pn	**Pn**	**02 09 06.4**	**+1.5**
ULC				*i* Sn	**Sb**	**02 09 40.5**	**-2.2**
VNDS	**Vrh nad Dolski**	**2.73**	**334**	⇑*e*Pn	**Pn**	**02 09 07.2**	**+1.6**
LJU	**Ljubljana**	**2.74**	**331**	⇑*i*Pn	**Pn**	**02 09 07.4**	**+1.8**
PVY	**Plav**	**2.80**	**111**	*e*Pn	**Pn**	**02 09 09.0**	**+2.4**
PVY				*i* Sn	**Sn**	**02 09 42.7**	**+2.1**
BEHE	**Becsehely**	**2.82**	**5**		**Pn**	**02 09 07.6**	**+0.8**
BEHE	**Becsehely**	**2.82**	**5**	⇑*i*Pn	**Pn**	**02 09 07.5**	**+0.8**
BEHE				*e*Sn	**Sn**	**02 09 41.5**	**+0.6**
FRGS	**Fruska Gora**	**2.85**	**57**	*e*Pn	**Pn**	**02 09 07.5**	**+0.3**
FRGS				*e*Sn	**Sn**	**02 09 41.4**	**-0.3**
FRGS	**Fruska Gora**	**2.85**	**57**	*e*Pn	**Pn**	**02 09 07.4**	**+0.3**
CRNS	**Crni Vrh**	**2.87**	**328**	⇑*i*Pn	**Pn**	**02 09 09.3**	**+1.9**
TRUS	**Trudelj**	**2.93**	**78**	*e*Pn	**Pn**	**02 09 09.0**	**+0.7**
TRUS				*e*Sn	**Sn**	**02 09 45.4**	**+1.8**
PAOL	**Paolisi**	**2.97**	**208**		**Pn**	**02 09 09.4**	**+0.5**
MORH	**Mrgy, Hungar**	**3.00**	**31**	*e*Sn	**Sn**	**02 09 44.9**	**-0.4**
MORH	**Mrgy, Hungar**	**3.00**	**31**	⇓P	**Pn**	**02 09 09.2**	**0.0**
MORH				⇓S	**Sb**	**02 09 48.0**	**-3.7**
MORH	**Mrgy, Hungar**	**3.00**	**31**	Pn	**Pn**	**02 09 09.1**	**-0.1**
CESX	**Cesi**	**3.01**	**251**		**Pn**	**02 09 12.2**	**+2.8**
SABO	**M.te Sabotino**	**3.07**	**320**		**Pn**	**02 09 11.3**	**+1.1**
GRUS	**Gruza**	**3.11**	**84**	*e*Pn	**Pn**	**02 09 12.1**	**+1.3**
GRUS				*e*Sn	**Sn**	**02 09 50.1**	**+1.9**
BEO	**Beograd**	**3.12**	**67**	*e*Pn	**Pn**	**02 09 12.0**	**+1.1**
OBKA	**Obir**	**3.14**	**336**	*i* Pn	**Pn**	**02 09 12.9**	**+1.6**
	comp=Z,29nm,0.2s,SNR=15						
OBKA				*e*Sn	**Sn**	**02 09 51.2**	**+2.2**
	comp=Z,533nm,0.8s						
OBKA	**Obir**	**3.14**	**336**	*e*Pn	**Pn**	**02 09 12.5**	**+1.2**
OBKA				*e*Sn	**Sn**	**02 09 49.4**	**+0.4**
OBKA	**Obir**	**3.14**	**336**	*e*Pn	**Pn**	**02 09 12.9**	**+1.6**
OBKA				*e*Sn	**Sn**	**02 09 52.4**	**+3.4**
SOKA	**Soboth**	**3.17**	**342**	*i* Pn	**Pn**	**02 09 12.7**	**+1.1**
	comp=Z,23nm,0.3s,SNR=22						
SOKA				*e*Sg	**Sn**	**02 09 51.6**	**+1.9**
	comp=Z,82nm,0.5s						
TIR	**Tirane**	**3.44**	**131**		**Pn**	**02 09 17.6**	**+2.4**
TIR	**Tirane**	**3.44**	**131**	⇓P	**Pn**	**02 09 17.8**	**+2.5**
TIR	**Tirane**	**3.44**	**131**	*e*Pn	**Pn**	**02 09 17.0**	**+1.7**
TIR				*e*Sn	**Sn**	**02 09 59.0**	**+2.8**
TIR	**Tirane**	**3.44**	**131**	Pn	**Pn**	**02 09 15.9**	**+0.6**
PRED	**Cave del Predi**	**3.44**	**325**		**Pn**	**02 09 16.8**	**+1.5**
SELS	**Selova**	**3.45**	**96**	*e*Pn	**Pn**	**02 09 17.7**	**+2.3**
SELS				*e*Sn	**Sn**	**02 09 58.2**	**+1.8**
SVIS	**Svilajnac**	**3.51**	**78**	*e*Pn	**Pn**	**02 09 16.9**	**+0.7**
MYKA	**Terra Mystica**	**3.56**	**327**	*i* Pn	**Pn**	**02 09 18.9**	**+1.9**
	comp=Z,23nm,0.3s,SNR=7.9						
MYKA				*e*Sn	**Sn**	**02 09 58.2**	**-1.1**
	comp=Z,98nm,0.7s						
MPLH	**Magyarpolny**	**3.59**	**12**	Pn	**Pn**	**02 09 17.4**	**0.0**
ARSA	**Arzberg**	**3.64**	**350**	*i* Pn	**Pn**	**02 09 19.2**	**+1.1**
	comp=Z,99nm,0.5s,SNR=65						
ARSA				*i* Sn	**Sn**	**02 10 02.4**	**+1.1**
	comp=Z,95nm,1.0s						
ARSA	**Arzberg**	**3.64**	**350**		**Pn**	**02 09 19.1**	**+1.1**
ARSA	**Arzberg**	**3.64**	**350**	⇑*i*Pn	**Pn**	**02 09 18.9**	**+0.8**
ARSA				*e*Sn	**Sn**	**02 10 01.2**	**-0.1**
ARSA	**Arzberg**	**3.64**	**350**	*e*Pn	**Pn**	**02 09 19.3**	**+1.1**
ARSA				*e*Sn	**Sn**	**02 10 01.7**	**+0.4**
CUC	**Castrocucco**	**3.70**	**187**		**Pn**	**02 09 19.8**	**+1.0**
OSSC	**Osservatorio P**	**3.77**	**270**		**Pn**	**02 09 21.7**	**+1.9**
BANR	**Banloc**	**3.78**	**61**	⇓P	**Pn**	**02 09 21.6**	**+1.7**
TEOL	**Teolo**	**3.80**	**298**		**Pn**	**02 09 21.0**	**+0.7**
BOVS	**Bovan**	**3.83**	**89**	⇓P	**Pn**	**02 09 22.4**	**+1.7**
BOVS	**Bovan**	**3.83**	**89**	*e*Pn	**Pn**	**02 09 21.7**	**+1.0**
BOVS				*e*Sn	**Sn**	**02 10 06.1**	**+0.2**
BARS	**Barje**	**4.03**	**100**	*e*Pn	**Pn**	**02 09 25.5**	**+2.1**
BARS				*e*Sn	**Sn**	**02 10 11.1**	**+0.4**
RONA	**Rosalia, Austr**	**4.04**	**359**	*i* Pn	**Pn**	**02 09 24.4**	**+0.8**
	comp=Z,41nm,0.3s,SNR=36						
RONA				*i* Sn	**Sn**	**02 10 13.0**	**+2.0**
	comp=Z,41nm,0.5s						
KBA	**Koelnbreinsper**	**4.05**	**329**	*i* Pn	**Pn**	**02 09 25.7**	**+1.8**
	comp=Z,7.9nm,0.3s,SNR=8.9						
KBA				*e*Sn	**Sn**	**02 10 13.4**	**+2.0**
	comp=Z,45nm,0.5s						
KBA	**Koelnbreinsper**	**4.05**	**329**	*e*Pn	**Pn**	**02 09 25.6**	**+1.8**
KBA				*e*Sn	**Sn**	**02 10 14.1**	**+2.7**
BORS2	**Bor- Borsko je**	**4.07**	**82**	*e*Pn	**Pn**	**02 09 24.1**	**+0.2**
BORS2				*e*Sn	**Sn**	**02 10 10.8**	**-0.9**
OHR	**Ohrid**	**4.12**	**127**	*i* Pn	**Pn**	**02 09 28.0**	**+3.3**
OHR	**Ohrid**	**4.12**	**127**	*e*Pn	**Pn**	**02 09 27.6**	**+2.9**
ABTA	**Abfaltersbach**	**4.14**	**319**	*e*Pn	**Pn**	**02 09 26.2**	**+1.1**
	comp=Z,11nm,0.4s,SNR=8.9						
ABTA				*e*Sn	**Sn**	**02 10 11.9**	**-1.8**
	comp=Z,48nm,0.5s						
CTI	**Castel Tesino**	**4.15**	**307**		**Pn**	**02 09 26.2**	**+1.1**
BZS	**Buzias**	**4.19**	**60**	⇑P	**Pn**	**02 09 27.1**	**+1.6**
BZS	**Buzias**	**4.19**	**60**	*e*Pn	**Pn**	**02 09 25.9**	**+0.4**
BZS				*e*Sn	**Sn**	**02 10 14.2**	**-0.4**
ZAGS	**Zajecar**	**4.21**	**86**	*e*Pn	**Pn**	**02 09 27.1**	**+1.2**
ZAGS				*e*Sn	**Sn**	**02 10 14.8**	**-0.4**
CONA	**Conrad Observa**	**4.28**	**355**	*i* Pn	**Pn**	**02 09 27.9**	**+1.0**
	comp=Z,15nm,0.3s,SNR=16						
CONA				*i* Sn	**Sn**	**02 10 19.4**	**+2.3**
	comp=Z,30nm,0.5s						
SRO	**Srobarova**	**4.35**	**17**	*e*PN	**Pn**	**02 09 28.9**	**+1.1**
SRO				*e*SN	**Sn**	**02 10 19.0**	**+0.3**
MOA	**Molln**	**4.45**	**341**	*i* Pn	**Pn**	**02 09 31.5**	**+2.2**
	comp=Z,39nm,0.3s,SNR=38						
MOA				*i* Sn	**Sn**	**02 10 23.3**	**+2.1**
	comp=Z,51nm,0.5s						
MOA	**Molln**	**4.45**	**341**	*e*Pn	**Pn**	**02 09

KECS	Kecovo	5.58	29	ePN	Pn	02 09 46.6	+1.8
KECS				eSN	Sn	02 10 49.7	+0.6
MARR	Marisel-Cluj	5.61	55	⇑P	Pn	02 09 46.5	+1.3
VRAC	Vranov	5.65	1	Pn	Pn	02 09 45.9	+0.3
comp=Z,1.5nm,0.3s,baz=187,slow=13,SNR=17							
VRAC				Sn	Sn	02 10 48.5	-2.1
comp=Z,2.7nm,0.3s,baz=100,slow=20,SNR=5.6							
VRAC				LR	LR	02 12 01.3	
comp=Z,74nm,20.1s,baz=185,slow=40							
comp=Z,5.8nm,0.4s							
VRAC	Vranov	5.65	1	ePN	Pn	02 09 45.6	0.0
VRAC				eSN	Sn	02 10 49.5	-1.1
VRAC	Vranov	5.65	1	⇑P	Pn	02 09 45.2	-0.4
TREC	Trest	5.67	354	ePN	Pn	02 09 47.6	+1.7
OBER	Oberstdorf	5.71	313	ePn	Pn	02 09 49.8	+3.3
TUE	Stuetta	5.75	302		Pn	02 09 49.3	+2.1
TUE	Stuetta	5.75	302	P	Pn	02 09 46.9	-0.3
comp=Z,0.6nmcomp=Z,72nm,0.6s							
FUR	Furstenfeldbru	5.76	323	ePn	Pn	02 09 48.3	+1.2
MESR	Meseseni	5.76	51	⇑P	Pn	02 09 49.7	+2.4
VLAD	Vladila	5.78	84	⇑P	Pn	02 09 49.6	+2.2
PGB	Panagyurishte	5.79	99	P	Pn	02 09 50.4	+2.8
TSLK	Tsoukalades, L	5.79	145	P	Pn	02 09 48.0	+0.4
KHC	Kasperske Hory	5.81	341	ePN	Pn	02 09 49.4	+1.5
KHC				eSN	Sn	02 10 56.1	+1.4
KHC	Kasperske Hory	5.81	341	P	Pn	02 09 47.8	-0.1
comp=Z,0.2nmcomp=Z,25nm,1.0s							
DAVA	Damuels	5.86	310	i Pn	Pn	02 09 51.5	+2.9
comp=Z,9.9nm,0.3s,SNR=7.1							
DAVA				i Sn	Sn	02 10 58.8	+2.8
comp=Z,46nm,0.5s							
DAVA	Damuels	5.86	310	ePn	Pn	02 09 51.4	+2.8
LANS	Liptovska Anna	5.88	20	ePN	Pn	02 09 50.2	+1.4
LANS				eSN	Sn	02 10 54.9	-1.4
SRS	Serrai	5.88	113	ePn	Pn	02 09 50.6	+1.7
NYDR	Nydri-Lefkada	5.90	145	P	Pn	02 09 49.2	+0.1
CJR	Cluj-Napoca	5.91	56	⇑P	Pn	02 09 51.8	+2.5
TNR	Turnu Rosu	5.94	68	⇑P	Pn	02 09 52.0	+2.4
UBR	Ueberruh	5.98	314	ePn	Pn	02 09 51.6	+1.4
ZVC	Zvikov	5.98	346	ePN	Pn	02 09 51.7	+1.6
ZVC				eSN	Sn	02 10 58.5	-0.3
WET	Wettzell	6.00	337	ePN	Pn	02 09 51.6	+1.0
PLONS	Plons/SG	6.01	307	ePn	Pn	02 09 52.6	+2.0
ARR	Arges	6.11	71	⇓P	Pn	02 09 55.0	+3.0
MORC	Moravsky Berou	6.16	7		Pn	02 09 54.1	+1.4
MORC	Moravsky Berou	6.16	7	ePN	Pn	02 09 53.3	+0.6
MORC				eSN	Sn	02 11 03.1	-0.3
MORC	Moravsky Berou	6.16	7	⇑P	Pn	02 09 52.1	-0.6
DMLN	Damoulianata-K	6.19	150	P	Pn	02 09 52.8	-0.3
BERU	Beregovo	6.30	41	P	Pn	02 09 54.8	+0.3
STEB	Steborice	6.34	8	ePN	Pn	02 09 57.0	+1.9
NIE	Niedzica	6.34	24	P	Pn	02 09 55.3	+0.1
comp=Z,0.1nmcomp=Z,6.3nm,0.8s							
GOPC	GO Pecny, Ondr	6.35	350	ePN	Pn	02 09 56.6	+1.3
VAE	Valguarnera	6.37	195	Pn	Pn	02 09 59.8	+4.2
comp=Z,20nm,1.2s,baz=174,slow=22,SNR=1.9							
HOLU	Holmets	6.39	38	P	Pn	02 09 56.0	+0.3
VOIR		6.41	71	⇑P	Pn	02 09 59.1	+2.9
VOIR		6.41	71	P	Pn	02 09 56.6	+0.4
comp=Z,0.1nmcomp=Z,9.6nm,0.7s							
KRLC	Kraliky	6.42	2	eSN	Sn	02 11 10.6	+0.9
PRU	Pruhonice	6.46	349	ePN	Pn	02 09 57.7	+1.0
NORI	Noerdlinger Ri	6.46	324	ePn	Pn	02 09 57.3	+0.4
MUKU	Mukachevo	6.47	40	P	Pn	02 09 57.2	+0.3
WILA	Wila	6.47	308	ePn	Pn	02 09 58.5	+1.5
KORU	Korolevo	6.49	48	P	Pn	02 09 57.4	+0.3
SBF	Sospel	6.51	275	ePn	Pn	02 09 57.7	+0.1
SBF				eSn	Sn	02 11 07.3	-4.8
comp=Z,53nm,0.5s							
WALHA	Wallhausen, DE	6.55	311	ePn	Pn	02 09 58.8	+0.8
BRIU	Brid	6.55	42	P	Pn	02 09 58.3	+0.3
PRA	Prague	6.55	349	ePN	Pn	02 09 59.1	+1.1
STHS	Stebnicka Huta	6.64	28	ePN	Pn	02 10 01.6	+2.3
STHS				eSN	Sn	02 11 13.9	-1.3
KOLS	Kolonicke sedl	6.64	35	ePN	Pn	02 10 02.5	+3.2
DPC	Dobruska-Polom	6.69	359	ePN	Pn	02 10 01.2	+1.2
ROTZ	Rotzenmuhle	6.76	336	ePn	Pn	02 10 01.4	+0.5
EMING	Emmingen-Lipti	6.78	311	ePn	Pn	02 10 02.0	+0.8
OSTC	Ostas	6.90	359	ePN	Pn	02 10 04.4	+1.6
SLE	Schleitheim	6.90	309	ePn	Pn	02 10 03.3	+0.5
CHVC	Chvalec	6.93	358	ePN	Pn	02 10 04.5	+1.2
RAKU	Rahkiv	6.94	48	P	Pn	02 10 05.0	+1.6
SZH	Strazhitsa	6.96	90	P	Pn	02 10 05.8	+2.1
MANZ	Manzenberg	6.98	336	ePn	Pn	02 10 04.5	+0.6
MANZ				eSn	Sn	02 11 23.2	-0.4
METMA	Mettma DE	7.01	308	ePn	Pn	02 10 04.1	-0.3
GRF	Grafenberg Arr	7.01	331	ePn	Pn	02 10 05.7	+1.4
GRFO	Grafenberg	7.01	331		Pn	02 10 05.8	+1.5
GRFO	Grafenberg	7.01	331	ePn	Pn	02 10 05.6	+1.2
MBDF	Montbardon	7.02	282	ePn	Pn	02 10 04.6	0.0
MBDF				eSn	Sn	02 11 18.5	-6.2
comp=Z,14nm,0.3s							
MLR	Muntele Rosu	7.04	72	Pn	Pn	02 10 05.7	+0.9
comp=Z,1.0nm,0.3s,baz=133,slow=6.1,SNR=5.5							
MLR				LR	LR	02 12 58.8	
comp=Z,99nm,18.9s,baz=280,slow=40							
comp=Z,2.5nm,0.4s							
MLR	Muntele Rosu	7.04	72	⇓P	Pn	02 10 07.0	+2.2
MLR	Muntele Rosu	7.04	72	P	Pn	02 10 05.0	+0.2
comp=Z,0.1nmcomp=Z,6.2nm,0.9s							
NKC	Novy Kostel	7.11	339	ePN	Pn	02 10 07.4	+1.7
BERGE	Lenzkirch (DE)	7.14	309	ePn	Pn	02 10 06.5	+0.3
LPG	La Plagne	7.15	288	ePn	Pn	02 10 06.3	-0.2
LPG				eSn	Sn	02 11 22.4	-5.6
comp=Z,48nm,0.7s							
BALST	Balsthal	7.15	304	ePn	Pn	02 10 07.0	+0.7
LPL	La Plagne	7.17	288	ePn	Pn	02 10 07.0	+0.3
LPL				eSn	Sn	02 11 22.1	-6.2
comp=Z,61nm,0.6s							
KSP	Ksiaz	7.18	359	P	Pn	02 10 06.3	-0.4
comp=Z,0.1nmcomp=Z,5.5nm,0.8s							
LMR	La Mourre	7.22	271	ePn	Pn	02 10 06.9	-0.3
LMR				eSn	Sn	02 11 24.1	-5.3
comp=Z,4.8nm,0.3s							
HSKC	Hora Svate Kat	7.24	345	ePN	Pn	02 10 09.0	+1.5
BFO	Black Forest	7.32	312		Pn	02 10 08.6	0.0
BFO	Black Forest	7.32	312	ePn	Pn	02 10 09.1	+0.6
RAZG	Razgrad	7.32	87	⇓P	Pn	02 10 10.7	+2.1
BUR08	Bucovina Ar. S	7.32	54		Pn	02 10 12.3	+3.6
BRG	Berggiesshubel	7.41	348	Pn	Pn	02 10 11.2	+1.5
BRG				r		02 10 32.3	
BRG	Berggiesshubel	7.41	348	Sn	Sn	02 11 30.4	-3.5
BRG				Amp		02 11 37.0	
comp=Z,8.8nm,0.9s							
BRG				r		02 12 01.2	
BRG				Amp		02 12 02.1	
comp=Z,12nm,0.7s							
STNU	Starunia	7.54	45	P	Pn	02 10 11.6	0.0
PLOR	Plostina	7.60	70	⇑P	Pn	02 10 15.1	+2.6
KSV	Kosov	7.60	49	P	Pn	02 10 12.5	0.0
PLOR5	Plostina Array	7.61	70	P	Pn	02 10 12.7	+0.2
comp=Z,0.1nmcomp=Z,7.4nm,0.5s							
VRI	Vrincioaia	7.66	70	P	Pn	02 10 13.4	+0.2
comp=Z,0.1nmcomp=Z,15nm,2.9s							
ORIF	Oris-en-Rattie	7.67	283	ePn	Pn	02 10 13.2	-0.3
ORIF				eSn	Sn	02 11 34.2	-6.4
comp=Z,45nm,0.6s							
MOX	Moxa	7.71	337	ePn	Pn	02 10 14.8	+0.9
SMRF	Simiane la Rot	7.86	276	ePn	Pn	02 10 14.1	-1.9
SMRF				eSn	Sn	02 11 38.7	-6.4
comp=Z,9.5nm,0.7s							
HINF	Hinteralfeld	7.88	305	ePn	Pn	02 10 16.8	+0.5
HINF				eSn	Sn	02 11 39.2	-6.4
comp=Z,8.3nm,0.3s							
CABF	La Chapelle	7.88	296	ePn	Pn	02 10 17.1	+0.7
CABF				eSn	Sn	02 11 38.9	-6.9
comp=Z,4.2nm,0.3s							
ECH	Echery	7.90	308	ePn	Pn	02 10 16.5	-0.1
ECH				eSn	Sn	02 11 41.5	-4.6
CDF	Champ du Feu	7.94	310	ePn	Pn	02 10 17.3	+0.1
CDF				eSn	Sn	02 11 40.5	-6.7
comp=Z,6.2nm,0.5s							
CLL	Collm	7.99	344	P	Pn	02 10 17.5	-0.2
comp=Z,0.1nmcomp=Z,8.3nm,0.6s							
CLL	Collm	7.99	344	ePn	Pn	02 10 20.0	+2.3
CLL				ePg	Pg	02 10 51.0	-3.3
CLL				eSn	Sn	02 11 43.0	-5.2
CLL				eSb	Sb	02 12 21.0	+5.7
CLL				eSg	Sg	02 12 36.0	-1.7
comp=Z,31nm,1.0s							
HAU	Haudompre	8.27	305	ePn	Pn	02 10 20.2	-1.4
HAU				eSn	Sn	02 11 47.6	-7.5
comp=Z,19nm,0.5s							
VIVF	Saint-Julien-l	8.52	282	ePn	Pn	02 10 23.5	-1.6
VIVF				eSn	Sn	02 11 54.3	-7.1
comp=Z,7.6nm,0.5s							
TNS	Taunus Mts	8.53	323	ePn	Pn	02 10 26.2	+1.0
ABH	Alteburg	8.70	319	ePn	Pn	02 10 28.0	+0.5
PAGF	Fort de Pagny	8.90	307	ePn	Pn	02 10 31.1	+0.9
LASF	Ste Croix	9.09	277	ePn	Pn	02 10 33.3	+0.4
LASF				eSn	Sn	02 12 08.3	-7.1
comp=Z,0.4nm,0.2s							
SMF	Signal de Mont	9.38	293	ePn	Pn	02 10 36.7	-0.1
SMF				eSn	Sn	02 12 14.9	-7.5
comp=Z,5.2nm,0.2s							
LOR	Lormes	9.54	297	ePn	Pn	02 10 39.2	+0.2
baz=110							
LOR				eSn	Sn	02 12 20.2	-6.1
comp=Z,23nm,0.5s							
KEST	Kesra	9.62	217	Pn	Pn	02 10 43.0	+2.9
comp=Z,0.4nm,0.3s,baz=22,slow=4.0,SNR=8.5							
KEST				LR	LR	02 14 59.5	
comp=Z,98nm,18.7s,baz=259,slow=41							
comp=Z,1.8nm,0.6s							
SSF	Saint Saulge	9.71	295	ePn	Pn	02 10 39.1	-2.2
SSF				eSn	Sn	02 12 22.2	-8.3
comp=Z,14nm,0.5s							
AVF	Avril sur Loir	9.74	293	ePn	Pn	02 10 41.8	+0.1
AVF				eSn	Sn	02 12 24.1	-7.1
comp=Z,6.6nm,0.5s							
BTNL	Ternell	9.85	318	dP	Pn	02 10 45.0	+1.7
BTNL				dS	Sn	02 12 34.8	+0.8
PURM	Purcari	9.93	69	P	Pn	02 10 44.6	+0.3
comp=Z,11nm,0.9s							
BGF	Bois d'Agland	10.03	291	ePn	Pn	02 10 45.9	+0.2
BGF				eSn	Sn	02 12 30.8	-7.5
comp=Z,6.4nm,0.2s							
RCHB	Rochefort	10.04	314	dP	Pn	02 10 47.2	+1.4
RCHB				dS	Sn	02 12 38.4	-0.1
MTLF	Montolieu	10.33	273	ePn	Pn	02 10 49.6	-0.3
MTLF				eSn	Sn	02 12 39.0	-6.8
comp=Z,2.5nm,0.5s							
HYF	Humbligny	10.33	295	ePn	Pn	02 10 49.3	-0.6
HYF				eSn	Sn	02 12 38.2	-7.6
TCF	Toulx Ste Croi	10.41	290	eP	Pn	02 10 54.5	+3.5
TCF				eSn	Sn	02 12 39.9	-7.9
comp=Z,1.8nm,0.2s							
BAIF	Baives	10.52	312	ePn	Pn	02 10 50.8	-1.7
IDI	Anoyia	10.61	139	Pn	Pn	02 10 54.9	+1.1
comp=Z,17nm,0.7s,baz=300,slow=7.5,SNR=1.7							
IDI				Sn	Sn	02 12 46.5	-6.4
comp=Z,0.6nm,0.3s,baz=264,slow=21,SNR=1.9							
RJF	Les Rejaudoux	10.78	284	ePn	Pn	02 10 55.7	-0.3
RJF				eSn	Sn	02 12 48.3	-8.6
comp=Z,0.2nm,0.1s							
AKASG	Malin Array Be	11.19	47	Pn	Pn	02 11 00.4	-1.1
comp=Z,0.3nm,0.3s,baz=237,slow=12,SNR=1.9							
comp=Z,0.2nm,0.3s							
MFF	Saint Martin d	12.07	290	eP	Pn	02 11 17.9	+4.3
MFF				eSn	Sn	02 13 19.5	-8.8
comp=Z,1.1nm,0.3s							
GRR	Gorron	12.90	297	ePn	Pn	02 11 24.7	-0.3
GRR				eSn	Sn	02 13 38.8	-10
comp=Z,0.2nm,0.1s							
BRTR	Keskin Array B	13.45	101	Pn	Pn	02 11 35.1	+2.4
comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=1.4							
comp=Z,0.5nm,0.8s							
HFS	Hagfors	16.58	355	Pn	Pn	02 12 15.3	+1.3
comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=5.8							
EKA	Eskdalemuir Ar	17.20	320	P	P	02 12 25.5	+2.1
comp=Z,0.7nm,0.6s,baz=129,slow=14,SNR=3.7							
NC602	NORSAR Array S	17.35	352	Pn	Pn	02 12 24.2	+0.6
NB2	NORSAR Subarra	17.68	352	P	P	02 12 28.8	0.0
comp=Z,1.9nm,1.0s,baz=167,slow=11							
NOA	NORSAR Array B	17.68	352	P	Pn	02 12 28.0	+0.2
baz=170,slow=13,SNR=4.7							
NOA				LR	LR	02 20 13.3	
comp=Z,67nm,18.4s,baz=0.0,slow=40							
comp=Z,0.6nm,0.5s							
MMAI	Mount Meron Ar	18.25	119	P	P	02 12 36.0	+0.8
comp=Z,0.9nm,0.3s,baz=322,slow=10,SNR=9.8							
comp=Z,1.2nm,0.5s							
FINES	FINESS Array B	18.71	15	P	P	02 12 39.7	-0.3
FINES	FINESS Array B	18.71	15	P	P	02 12 39.4	-0.7
comp=Z,0.4nm,0.3s,baz=189,slow=8.9,SNR=14							
comp=Z,6.0nm,0.8s							
FIA1	FINESS Array S	18.71	15	P	P	02 12 40.0	-0.1
KBZ	Khabaz	19.12	81	P	Pn	02 12 45.2	-0.2
comp=Z,0.1nm,0.3s,baz=288,slow=6.4,SNR=4.0							
comp=Z,0.6nm,0.5s							
GURO	Guroymak-BITLI	19.92	96		Pn	02 12 56.3	+1.0
EIL	Elat	20.33	127	P	Pn	02 12 59.9	-0.1
comp=Z,5.6nm,0.7s,baz=333,slow=14,SNR=7.1							
EIL				LR	LR	02 23 10.3	
comp=Z,35nm,18.1s,baz=242,slow=44							
comp=Z,5.6nm,0.7s							
GNI	Garni	21.32	90	P	P	02 13 10.1	+1.3
comp=Z,2.0nm,0.6s,baz=351,slow=20,SNR=1.5							
comp=Z,2.0nm,0.6s							
ARCES	ARCESS Array B	26.35	7	LR	LR	02 23 21.0	
comp=Z,80nm,19.7s,baz=274,slow=34							
ABKAR	Akbulak array	30.17	64	P	P	02 14 31.8	0.0
ABKAR	Akbulak array	30.17	64	P	P	02 14 31.4	-0.4
ABKAR				IAmb	IAmb	02 14 40.8	
comp=Z,5.1nm,1.5s							
TORD	Torodi Ar. Bea	32.95	207	P	P	02 14 57.2	+0.8
comp=Z,2.1nm,0.5s,baz=9.4,slow=8.7,SNR=1.8							
comp=Z,2.1nm,0.5s							
SPITS	Spitsbergen Ar	34.63	360	P	P	02 15 10.0	-0.6
comp=Z,4.5nm,0.8s,baz=177,slow=9.7,SNR=1.2							
comp=Z,4.5nm,0.8s							
BRVK	Borovoye	36.21	56	P	P	02 15 24.9	+0.5
BRVK				IAmb	IAmb	02 15 26.7	
comp=Z,3.3nm,0.5s							
BVAR	Borovoye Array	36.27	56	P	P	02 15 24.3	-0.7
comp=Z,0.7nm,0.5s,baz=258,slow=9.6,SNR=5.2							
comp=Z,0.7nm,0.5s							
KURBB	Kurchatov Arra	41.70	58	P	P	02 16 09.4	-1.0
comp=Z,0.4nm,0.4s,baz=286,slow=9.7,SNR=6.8							
comp=Z,0.4nm,0.4s							
NRIK	Noril'sk	43.40	29	P	P	02 16 23.8	-0.2
comp=Z,1.0nm,0.4s,baz=239,slow=5.9,SNR=1.9							
comp=Z,1.0nm,0.4s							
ZALV	Zalesovo Beam	44.53	52	P	P	02 16 32.5	-0.7
comp=Z,0.5nm,0.3s,baz=284,slow=7.2,SNR=4.8							
comp=Z,0.5nm,0.3s							
MKAR	Makanchi Array	45.27	62	P	P	02 16 39.2	-0.1
MKAR	Makanchi Array	45.27	62	P	P	02 16 38.9	-0.4
comp=Z,0.4nm,0.5s,baz=302,slow=7.0,SNR=6.3							
comp=Z,0.4nm,0.5s							
SCHQ	Schefferville	52.38	313	P	P	02 17 33.9	+0.2
comp=Z,2.7nm,0.9s,baz=124,slow=2.6,SNR=2.4							
comp=Z,2.7nm,0.9s							
SONM	Songino Array	59.42	51	P	P	02 18 23.8	-0.7
comp=Z,0.7nm,0.7s,baz=283,slow=7.5,SNR=5.7							
comp=Z,0.7nm,0.7s							
FCC	Fort Churchill	62.96	327	P	P	02 18 48.4	+0.4
FCC				IAmb	IAmb	02 19 17.0	
comp=Z,2.0nm,1.1s							
INK	Inuvik	66.10	348	P	P	02 19 08.0	-0.4
comp=Z,0.6nm,0.7s,baz=11,slow=5.9,SNR=2.7							
comp=Z,0.6nm,0.7s							
HHC	Hu-ho-hao-te	66.49	55	eP	P	02 19 11.5	0.0
HHC				pmax	pmax		
comp=Z,9.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,98nm,4.3s							
E29M	Blow River	66.62	350	IAmb	IAmb	02 19 13.2	
comp=Z,1.9nm,0.7s							
F31M	Tsiigehtchic	66.93	348	P	P	02 19 13.8	+0.1
YKA	Yellowknife Ar	67.16	338	P	P	02 19 15.2	-0.2
comp=Z,0.2nm,0.7s,baz=36,slow=5.6,SNR=6.7							
comp=Z,0.2nm,0.7s							
G31M	Satah River	67.49	348	P	P	02 19 16.9	-0.4
H29M	Whitestone	68.74	349	P	P	02 19 24.9	-0.3
H29M				IAmb	IAmb	02 19 44.0	
comp=Z,3.6nm,1.4s							
PZH	PanZhiHua	68.99	73	P	P	02 19 28.8	+1.2
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,4.3s							
ULM	Lac du Bonnet	69.47	321	LR	LR	02 48 24.9	
comp=Z,91nm,21.1s,baz=328,slow=35							
ILAR	Eielson Array	71.11	353	P	P	02 19 39.2	-0.6
comp=Z,0.2nm,0.7s,baz=13,slow=7.0,SNR=5.1							
comp=Z,0.2nm,0.7s							
RIDG	Independent Ri	71.91	351	P	P	02 19 46.1	+1.4
RIDG				IAmb	IAmb	02 19 47.8	
comp=Z,2.5nm,0.9s							
CMAR	Chiang Mai Arr	72.17	81	P	P	02 19 46.0	-0.9
comp=Z,1.8nm,0.3s,baz=298,slow=8.6,SNR=4.9							
CN2	Changchun	72.34	46	P	P	02 19 49.5	+1.9
CN2				pmax	pmax		
comp=Z,10.0nm,0.5s							
PDAR	Pinedale Array	81.29	323	P	P	02 20 39.8	+1.4
comp=Z,0.2nm,0.7s,baz=31,slow=6.0,SNR=2.0							
comp=Z,0.2nm,0.7s							

IDC 30 02:17:12.7±3.2, 31°.63S×177°.63W, h0km, mb3.8/2, mbtmp3.8/3, ML3.2/1, MS2.9/1, Error ellipse: s-maj=77.2km s-min=47.5km az=124.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.89	212	Pn	Pn	02 19 08.0	-0.8
0.3nm,0.3s,baz=112,slow=19,SNR=2.0							
URZ				Sn	Sn	02 20 34.7	-4.1
3.7nm,0.3s,baz=251,slow=13,SNR=11							
9.7nm,0.9s							
PPT	Papeete	28.99	68	LR	LR	02 31 57.2	
comp=Z,23nm,21.7s,baz=3.5,slow=30							
ASAR	Alice Springs	43.37	268	P	P	02 25 16.9	-0.2
0.5nm,0.5s,baz=106,slow=7.3,SNR=12							
0.5nm,0.5s							
WRA	Warramunga Arr	44.47	273	P	P	02 25 26.1	+0.2
1.6nm,0.8s,baz=113,slow=7.9,SNR=6.1							
1.6nm,0.8s							
FINES	FINESS Array B	146.41	340	PKPbc	PKPdf	02 36 54.0	+0.5
4.8nm,1.0s,baz=23,slow=2.5,SNR=5.1							

TRN 30 02:26:33.9, 9°.12N×61°.19W, h3km, MD3.9, Venezuela.
FUNV 30 02:26:36.8, 8°.98N×61°.75W, h24km, MW4.0

ISC 30 02:26:35.7±3.3, 9°.1N±0°.2×61°.8W±0°.1, h35km, n20, σ1§54/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.63	14	eP	Pn	02 27 02.4	+0.4
TRN				eS	Sn	02 27 22.6	+0.8
GRFF	Grenada Fort F	2.98	1	eP	Pn	02 27 21.2	+0.7
GRFF				eS	Sn	02 27 56.9	+1.8
PCRV	Puerto La Cruz	3.01	292	eP	Pn	02 27 23.0	+2.0
PCRV				eS	Sn	02 27 55.7	-0.1
GRGR	Grenville	3.06	3	eP	Pn	02 27 22.0	+0.3
GRGR				eS	Sn	02 27 58.6	+1.5
GCMP	Grenada, Carri	3.43	6	eP	Pn	02 27 27.2	+0.4
GCMP				eS	Sn	02 28 06.8	+0.6
SVOC	Richmond Hill,	4.12	8	eP	Pn	02 27 36.1	0.0
SVT	Saint Vincent	4.13	8	eP	Pn	02 27 36.7	+0.4
SVB	Belmont	4.23	7	eP	Pn	02 27 37.3	-0.4
SVB				eS	Sn	02 28 24.8	-1.1
CACV	CAICARA DEL OR	4.92	253	eP	Pn	02 27 41.8	-5.4
CACV				eS	Sn	02 28 29.3	-14
SLBI	Saint Lucia, B	5.01	9	eP	Pn	02 27 49.2	+0.8
SLBI				eS	Sn	02 28 43.8	-1.2
FUNV	FUNVISIS	5.13	286	eP	Pn	02 27 51.9	+1.6
FUNV				eS	Sn	02 28 47.2	-1.2
TACV	Tcata	5.26	282	eP	Pn	02 27 53.3	+1.3
TACV				eS	Sn	02 28 50.0	-1.5
BIM	Bigot	5.48	7	eP	Pn	02 27 54.9	0.0
BIM				eS	Sn	02 28 54.3	-2.5
BENV	Beln	5.79	279	eP	Pn	02 28 00.8	+1.6
BENV				eS	Sn	02 29 02.8	-1.6
BAUV	El Baul	6.16	269	eP	Pn	02 28 04.2	-0.1
BAUV				eS	Sn	02 29 10.2	-3.5
DSLB	Salisbury	6.36	3	eP	Pn	02 28 07.4	+0.4
MAGL	Barre de l'ile	6.87	4	eP	Pn	02 28 14.9	+0.8
TEPV	Terepaima	7.34	278	eP	Pn	02 28 21.0	+0.4
TEPV				eS	Sn	02 29 38.6	-4.2
ANBD	Bethesda, Anti	7.95	0	eP	Pn	02 28 30.1	+1.3
ANBD				eS	Sn	02 29 56.8	-0.8
ANWB	Willy Bob	8.56	0	eP	Pn	02 28 39.4	+2.1
ANWB				eS	Sn	02 30 11.3	-1.4

DJA 30 02:41:36.5±1.2, 9°.S±4°.×11°.4E±°, h20km±10km, M3.6/13, mB4.8/1, mb4.2/3, MLv3.3/13, Mw(mB)4.0/1

ISC 30 02:41:37.6±1.8, 9°.3S±0°.1×114°.01E±0°.05, h31km, n12, σ0§46/15, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.85	9	P	Pn	02 41 53.2	-0.3
JAGI				S	Sn	02 42 04.7	-0.2
GM

ASAR	Alice Springs	33.09	124	P	P	03 22 51.5	+1.8
	0.1nm,0.4s,baz=306,slow=8.1,SNR=1.5						
	0.1nm,0.4s						
SONM	Songino Array	54.35	2	P	P	03 25 38.9	-1.2
	0.2nm,0.3s,baz=202,slow=7.7,SNR=4.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	56.74	342	P	P	03 25 55.9	-1.3
	0.5nm,0.5s,baz=147,slow=8.2,SNR=7.5						
	0.5nm,0.5s						
H04N2	CROZET ISLANDS	59.72	220	T	T	04 31 03.5	
	baz=65,slow=75,SNR=11						
H04N1	CROZET ISLANDS	59.73	220	T	T	04 31 02.8	
	baz=65,slow=75,SNR=11						
H04N3	CROZET ISLANDS	59.73	220	T	T	04 31 02.6	
	baz=65,slow=75,SNR=12						
KURBB	Kurchatov Arra	61.29	342	P	P	03 26 27.4	-1.2
	0.4nm,0.7s,baz=155,slow=5.1,SNR=4.7						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	62.62	347	P	P	03 26 35.7	-1.8
	1.4nm,0.3s,baz=151,slow=6.2,SNR=8.9						
	1.4nm,0.3s						
BVAR	Borovoye Array	66.08	338	P	P	03 26 59.0	-1.2
	0.6nm,0.5s,baz=156,slow=8.1,SNR=3.6						
	0.6nm,0.5s						
TXAR	Lajitas Array	145.38	46	PKPbc	PKPbc	03 35 51.9	0.0
	0.4nm,0.5s,baz=266,slow=0.9,SNR=9.3						

*THE **30** 03:19:56.6, 37°.62N×20°.68E, h0km±3km, ML3.1/4, Error ellipse: s-maj=3.9km s-min=0.8km az=226.0*
*ATH **30** 03:19:56.6, 37°.63N×20°.67E, h8km±2km, ML3.1/20, Manual Solution by A.Papageorgiou First location: 2019/03/30 03:20:51, This location: 2019/03/30 07:16:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
ISC 30 03:19:56.8±1.2, 37°.63N±0°.04×20°.69E±0°.04, h9km±6km, n39, σ0s53/76, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.11	71	P	Pg	03 19 59.4	0.0
KRI1				S	Sg	03 20 00.7	-0.5
LTHK	Lithakia	0.14	55	P	Pg	03 19 59.9	-0.1
LTHK				S	Sg	03 20 02.0	-0.1
	33μm,0.1s						
LTHK	Lithakia	0.14	55	P	Pg	03 19 59.8	-0.1
LTHK				S	Sg	03 20 01.7	-0.4
KYPS	Kipseli, Zakin	0.22	29	P	Pg	03 20 01.6	+0.3
KYPS				S	Sg	03 20 04.7	+0.4
ORTH	Orthonies,Zaky	0.23	2	P	Pg	03 20 01.7	+0.3
ORTH				S	Sg	03 20 04.3	-0.2
CLEM	Kyllini,Ilia,G	0.44	53	P	Pg	03 20 05.4	0.0
CLEM				S	Sg	03 20 12.1	+0.9
RTZL	Ratzakli, Kefa	0.45	8	P	Pg	03 20 05.5	-0.1
RTZL				S	Sb	03 20 12.8	-1.1
PSDA	Pessada-Kefalo	0.49	351	P	Pg	03 20 06.1	-0.3
PSDA				S	Sg	03 20 13.2	+0.3
LCHA	Lechaina	0.55	56	P	Pg	03 20 07.8	+0.4
LCHA				S	Sg	03 20 14.4	-0.3
VLS	Valsamata	0.56	352	P	Pg	03 20 07.2	-0.4
VLS				S	Sg	03 20 15.7	+0.8
	2μm,0.2s						
VLS	Valsamata	0.56	352	P	Pg	03 20 07.2	-0.4
VLS				S	Sg	03 20 15.0	+0.1
SMHA	Samh	0.62	357	P	Pg	03 20 08.1	-0.8
SMHA				S	Sg	03 20 16.6	-0.5
DMLN	Damoulianata-K	0.66	338	P	Pg	03 20 09.7	+0.1
DMLN				S	Sg	03 20 18.3	+0.1
YRMI	Loutra Irminis	0.71	48	P	Pg	03 20 09.9	-0.5
YRMI				S	Sg	03 20 19.9	+0.2
RLS	Riolos of Patr	0.75	55	P	Pg	03 20 10.8	-0.5
RLS				S	Sg	03 20 21.9	+0.8
	838nm,0.3s						
RLS	Riolos of Patr	0.75	55	P	Pg	03 20 10.8	-0.5
RLS				S	Sg	03 20 21.4	+0.3
ZARO	Zacharo	0.78	100	P	Pg	03 20 11.9	+0.1
ZARO				S	Sb	03 20 23.4	+0.2
AXS	Araxos	0.79	44	P	Pg	03 20 11.2	-0.8
AXS				S	Sg	03 20 21.9	-0.4
AMT	Artemida-Makis	0.82	96	P	Pg	03 20 12.2	-0.3
AMT				S	Sb	03 20 24.4	0.0
FSK	Fiskardo	0.84	353	P	Pg	03 20 11.7	-1.2
FSK				S	Sb	03 20 25.0	0.0
	1μm,0.4s						
FSK	Fiskardo	0.84	353	P	Pg	03 20 12.9	0.0
FSK				S	Sg	03 20 23.9	+0.1
DRO	Drossia	0.87	68	P	Pg	03 20 13.2	-0.4
DRO				S	Sb	03 20 26.2	+0.2
EVGI	Lefkada island	0.99	359	P	Pg	03 20 15.0	-0.9
EVGI				S	Sg	03 20 29.0	+0.1
DRAG	Dragano-Lefkad	1.06	355	P	Pg	03 20 16.3	-0.8
DRAG				S	Sb	03 20 31.2	-0.1
ITM	Ithomi	1.08	114	P	Pg	03 20 16.5	-1.1
ITM				S	Sn	03 20 33.6	+0.2
ITM	Ithomi	1.08	114	P	Pg	03 20 17.0	-0.6
ITM				S	Sb	03 20 32.4	+0.4
NYDR	Nydri-Lefkada	1.09	0	P	Pg	03 20 17.3	-0.4
NYDR				S	Sg	03 20 31.8	0.0
UPR	University Cam	1.09	53	P	Pb	03 20 18.0	+0.1
UPR				S	Sb	03 20 32.6	+0.4
MTHA	Methoni	1.14	134	P	Pg	03 20 18.7	-0.1
LKD2	Lefkada island	1.16	359	P	Pg	03 20 19.0	-0.1
LKD2				S	Sg	03 20 34.0	-0.2
PVO	Paravola	1.19	34	P	Pg	03 20 18.8	-0.8
PVO				S	Sb	03 20 35.5	+0.4
TSLK	Tsoukalades, L	1.20	359	P	Pb	03 20 19.9	+0.3
TSLK				S	Sg	03 20 35.1	-0.2
KLV	Kalavryta, Ach	1.23	70	P	Pg	03 20 19.8	-0.6
KLV				S	Sg	03 20 36.7	+0.3
EFP	Efpalio	1.25	50	P	Pg	03 20 19.8	-1.0
EFP				S	Sb	03 20 37.3	+0.5
SERG	Sergoula	1.34	54	P	Pn	03 20 21.1	-0.6
SERG				S	Sg	03 20 39.0	-0.8
GUR	Goura	1.35	76	P	Pn	03 20 21.5	-0.4
GUR				S	Sb	03 20 40.5	+0.8
ANX	Ano Chora	1.37	45	P	Pn	03 20 21.6	-0.7
ANX				S	Sn	03 20 41.3	+0.6
KALE	Kalithea	1.38	56	P	Pn	03 20 21.5	-0.9
KALE				S	Sn	03 20 41.5	+0.8
TETR	Tetrakomo, Epi	1.78	15	P	Pn	03 20 28.8	+1.0

*GCG **30** 03:28:23.7±2.1, 15°.73N×95°.09W, h32km±39km, MD4.6*
*NEIC **30** 03:28:23.2±1.8, 16°.03N±0°.04×95°.03W±0°.03, h35km±2km, mb4.3/3, Md4.4/34(MEX), Error ellipse: s-maj=6.8km s-min=4.4km az=201.0*
*MEX **30** 03:28:24.3±0.7, 15°.99N×95°.04W, h59km±14km, MD4.4*
ISC 30 03:28:20.0±1.1, 16°.00N±0°.03×95°.01W±0°.02, h11km±9km, n40, σ1s26/72, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.08	258		Pg	03 28 41.1	+0.3
HUIG					Sg	03 28 55.2	+0.4
HUIG	Huatulco	1.08	258	eP	Pg	03 28 41.1	+0.3
HUIG				eS	Sg	03 28 55.2	+0.4
HUIG	Huatulco	1.08	258	i P	Pg	03 28 41.1	+0.3
HUIG				i S	Sg	03 28 54.8	-0.1
HUIG	Huatulco	1.08	258	i P		03 28 41.1	
HUIG				i S		03 28 54.8	
CMIG	Matias Romero	1.09	6		Pg	03 28 41.1	-0.1
CMIG					Sg	03 28 54.7	-0.7
CMIG	Matias Romero	1.09	6	eP	Pg	03 28 41.1	-0.1
CMIG				eS	Sg	03 28 54.7	-0.7
PANG	Puerto Angel	1.44	257		Pn	03 28 46.1	+0.1
PANG					Sg	03 29 08.0	+1.4
PANG	Puerto Angel	1.44	257	eP	Pn	03 28 46.1	+0.1
PANG				i S	Sg	03 29 08.0	+1.4
UXUV	UXUV	1.55	32	eP	Pn	03 28 48.5	+1.0
UXUV				eS	Sn	03 29 07.5	-0.2
PCIG		1.75	99		Pn	03 28 50.7	+0.4
PCIG					Sn	03 29 11.9	-0.6
PCIG		1.75	99	eP	Pn	03 28 50.7	+0.4
PCIG				eS	Sn	03 29 11.9	-0.6
NEUV	Arroyo Zacate	1.87	336	eP	Pn	03 28 52.1	+0.2
NEUV				eS	Sn	03 29 14.6	-0.8
TGIG		1.97	67		Pn	03 28 55.0	+1.6
TGIG					Sn	03 29 19.5	+1.3
TGIG		1.97	67	eP	Pn	03 28 55.0	+1.6
TGIG				eS	Sn	03 29 19.5	+1.3
TGIG		1.97	67	i P	Pb	03 28 55.6	-0.4
TGIG				i S	Sg	03 29 24.2	+0.7
TGIG		1.97	67	i P		03 28 55.6	
TGIG				i S		03 29 24.2	
PEIG	Puerto Escondi	2.05	270		Pn	03 28 54.2	-0.2
PEIG					Sn	03 29 19.0	-1.1
PEIG	Puerto Escondi	2.05	270	eP	Pn	03 28 54.2	-0.2
PEIG				eS	Sn	03 29 19.0	-1.1
TUIG	Tuzandepetl	2.10	15	eP	Pn	03 28 56.2	+1.1
TUIG				eS	Sg	03 29 26.8	-0.9
YOIG	Yosondua	2.58	290		Pn	03 29 03.9	+2.0
YOIG					Sn	03 29 33.6	+0.2
YOIG	Yosondua	2.58	290	eP	Pn	03 29 03.9	+2.0
YOIG				eS	Sn	03 29 33.6	+0.2
CCIG	Comitan	2.78	84		Pn	03 29 06.3	+1.7
CCIG	Comitan	2.78	84	eP	Pn	03 29 05.6	+1.0
CCIG				eS	Sn	03 29 38.3	+0.1
CCIG	Comitan	2.78	84	i P	Pb	03 29 08.2	-1.6
CCIG				i S	Sb	03 29 42.3	-1.6
CCIG	Comitan	2.78	84	i P		03 29 08.2	
CCIG				i S		03 29 42.3	
PATR	El Naranjo	2.82	108	eP	Pn	03 29 06.4	+1.3
PATR				eS	Sn	03 29 39.4	+0.2
PAVE	Pavencul	2.85	106	eP	Pn	03 29 07.5	+1.9
PAVE				eS	Sn	03 29 41.0	+1.0
THIG		2.86	112		Pn	03 29 06.7	+1.1
THIG					Sn	03 29 39.1	-0.9
THIG		2.86	112	eP	Pn	03 29 06.7	+1.1
THIG				eS	Sn	03 29 39.1	-0.9
TOIG	Toxpalan	2.87	317		Pn	03 29 06.9	+1.2
TOIG					Sn	03 29 43.5	+3.2
TOIG	Toxpalan	2.87	317	eP	Pn	03 29 06.9	+1.2
TOIG				eS	Sn	03 29 43.5	+3.2
TXIG	Tlaxiaco	2.92	296		Pn	03 29 07.5	+0.8
TXIG					Sn	03 29 42.5	+0.6
TXIG	Tlaxiaco	2.92	296	eP	Pn	03 29 07.5	+0.8
TXIG				eS	Sn	03 29 42.5	+0.6
PNIG	Pinotepa	3.02	278		Pn	03 29 07.7	0.0
PNIG					Sn	03 29 41.4	-2.5
PNIG	Pinotepa	3.02	278	eP	Pn	03 29 07.7	0.0
PNIG				eS	Sn	03 29 41.4	-2.5
SMCA	Catarina	3.05	111	i P	Pn	03 29 09.8	+1.6
SMCA				i S	Sn	03 29 43.9	-0.8
SMCA	Catarina	3.05	111	i P		03 29 09.8	
SMCA				i S		03 29 43.9	
HUEH	Huehuetenango	3.45	101		Pn	03 29 16.0	+2.2
HUEH	Huehuetenango	3.45	101	i S	Sn	03 29 57.6	+2.7
HUEH	Huehuetenango	3.45	101	i S		03 29 57.6	
STG8	El Palmar, Qui	3.85	113	i P		03 29 16.6	
STG8				i S		03 29 56.0	
STG0	El Palmar, Qui	3.87	113	i P		03 29 17.0	
STG0				i S		03 29 56.9	
PETF	Flores	5.02	79		Pn	03 29 34.0	-1.3
NUBE	Las Nubes	5.47	112	i P	Pn	03 29 43.1	+1.5
NUBE	Las Nubes	5.47	112	i P		03 29 43.1	
JAYA	Jayaque - finc	5.86	113	i P	Pn	03 29 48.1	+1.1
JAYA	Jayaque - finc	5.86	113	i P		03 29 48.1	
TEIG	Tepich	7.66	56	Pn	Pn	03 30 12.3	+0.7
ALPN	Alpine	16.35	333	P	P	03 32 12.3	-0.3
ALPN				IAmb	IAmb	03 32 15.9	
	comp=Z,3.4nm,0.9s						

*SDD **30** 03:29:39.9±1.9, 18°.94N×70°.34W, h87km±10km, MD2.5, ML2.1, MW2.7*
*OSPL **30** 03:29:39.9±2.7, 18°.82N×70°.35W, h105km±38km, ML1.9*
ISC 30 03:29:40.1±1.8, 18°.76N±0°.06×70°.28W±0°.04, h81km±12km, n13, σ1s41/25, 13C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	Loma La Naviza	0.31	51	⇑ePg	Pn	03 29 51.3	-1.3
DR08				⇑eSg	Sn	03 30 01.0	-0.8
DR08				IAML		03 30 05.4	
	comp=N,1μm,0.1s						
ABDR	Alto Bandera	0.34	278	⇑ePg	Pn	03 29 52.6	-0.5
ABDR				⇑eSg	Sn	03 30 02.3	-0.4
ABDR				IAML		03 30 04.3	
	comp=N,60nm,0.3s						
BANI	BANI	0.38	192	⇓ePg	Pn	03 29 54.0	+1.0
BANI				⇓eSg	Sn	03 30 05.3	+2.6
BANI				IAML		03 30 07.5	
	comp=N,111nm,0.3s						
SC01	Santiago de Io	0.79	327	i P	Pn	03 29 56.5	-0.2
SC01				eS	Sn	03 30 10.2	+1.1
SC01				IAML		03 30 11.4	
	comp=Z,32nm,3.5s						
HATOM	Hato Mayor del	0.85	88	⇑ePg	Pn	03 29 57.3	-0.1
HATOM				⇑eSg	Sn	03 30 10.0	-0.4
HATOM				IAML		03 30 12.8	
	comp=N,19nm,0.7s						
SDDR	Presa de Saban	0.98	283	⇑ePg	Pn	03 29 58.5	-0.5
SDDR				⇑eSg	Sn	03 30 10.5	-2.6
SDDR				IAML		03 30 17.9	
	comp=N,13nm,0.8s						
SDDR	Presa de Saban	0.98	283	i P	Pn	03 30 00.5	+1.5
SDDR				eS	Sn	03 30 12.0	-1.2
SDDR				IAML		03 30 15.7	
	comp=Z,10nm,1.1s						
PODR	Polo	1.12	238	⇑ePg	Pn	03 29 59.6	-1.2
PODR				⇑eSg	Sn	03 30 16.4	-0.1
PODR	Polo	1.12	238	i P	Pn	03 30 00.2	-0.6
PODR				eS	Sn	03 30 17.3	+0.9
REDR	Restauracion	1.13	291	⇑ePg	Pn	03 30 02.5	+1.8
REDR				⇑eSg	Sn	03 30 19.1	+2.9
REDR				IAML		03 30 38.3	
	comp=N,10nm,1.2s						
LONE3	El Aguacate, B	1.13	262	i P	Pn	03 29 59.4	-1.5
LONE3				eS	Sn	03 30 15.4	-1.1
LONE3				IAML		03 30 16.1	
	comp=Z,16nm,3.4s						
MIDR	Miches	1.18	79	⇑ePg	Pn	03 30 01.1	-0.3
MIDR				⇓eSg	Sn	03 30 18.3	+0.9
MIDR				IAML		03 30 21.0	
	comp=N,13nm,0.9s						
LOBH	Bahia de las A	1.57	236	i P	Pn	03 30 06.2	-0.1

*IDC **30** 03:39:15.9±2.6, 31°.90S×178°.93E, h471km±25km, mb3.0/4, mbtmp4.0/8, Error ellipse: s-maj=41.5km s-min=21.9km az=70.0*
*WEL **30** 03:39:19.2±0.9, 32°S±5°×18°0E±1°3, h436km±14km, mB4.2/7, ML4.5/10, MLv4.5/16, Mw(mB)3.3/7, Error ellipse: s-maj=16.9km s-min=5.3km az=105.2, confirmed*
ISC 30 03:39:14.5±0.9, 31°.89S±0°.07×179°.6E±0°.1, h500km, n35, σ2s25/49, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.41	40	P	P	03 40 27.5	-0.9
GLKZ				S	S	03 41 25.6	-2.8
GRZ	Great Barrier	5.51	217	P	P	03 40 49.0	+2.9
MXZ	Matakaoa Point	5.75	190	P	P	03 40 51.1	+2.9
MXZ				S	S	03 42 01.6	-3.4
WCZ	Waipu Caves	5.92	226	P	P	03 40 52.5	+2.7
OUZ	Omahuta	5.97	235	P	P	03 40 52.5	+2.1
WMGZ	Waiomatatini S	5.99	189	P	P	03 40 50.6	+0.1
WMGZ				S	S	03 42 08.8	-0.4
HAZ	Te Kaha	6.03	193	P	P	03 40 51.7	+0.8
HAZ				S	S	03 42 07.8	-2.1
PKGZ	Pakihiroa	6.08	191	P	P	03 40 52.8	+1.4
PKGZ				S	S	03 42 09.2	-1.7
WIAZ	Waiheke Island	6.10	216	P	P	03 40 54.9	+3.3
RUGZ	Raukumara Rang	6.25	194	P	P	03 40 54.0	+0.8
RUGZ				S	S	03 42 10.5	-3.6
PUZ	Puketiti	6.26	189	P	P	03 40 54.6	+1.4
PUZ				S	S	03 42 11.5	-2.5
ETAZ	East Tamaki Re	6.33	216	P	P	03 40 57.7	+3.9
MKAZ	Moumakai	6.34	214	P	P	03 40 57.4	+3.5
TWGZ	Tauwhareparae	6.40	191	P	P	03 40 56.3	+1.7
TWGZ				S	S	03 42 16.0	-0.7
KBAZ	Karaka Road Bo	6.46	215	P	P	03 40 55.4	+0.3
WTAZ	Waiatarua	6.49	218	P	P	03 40 57.7	+2.2
AWAZ	Awhitu Peninsu	6.56	217	P	P	03 40 59.3	+3.2
MWZ	Matawai	6.64	194	P	P	03 40 57.6	+0.7
URZ	Urewera	6.66	197	P	P	03 40 56.8	-0.3
	22nm,0.5s,baz=342,slow=4.8,SNR=37						
URZ				S	S	03 42 16.9	-4.3
	8.8nm,0.5s,baz=289,slow=22,SNR=8.8						
URZ	Urewera	6.66	197	P	P	03 40 56.9	-0.1
URZ				S	S	03 42 17.1	-4.1
CNGZ	Carnagh Statio	6.67	189	P	P	03 40 60.0	+2.8
CNGZ				S	S	03 42 22.7	+1.3
TKGZ	Te Karaka	6.68	192	P	P	03 40 58.4	+1.2
TKGZ				S	S	03 42 20.2	-1.4
RIGZ	Rimuhau	6.96	192	P	P	03 41 00.2	+0.2
RIGZ				S	S	03 42 24.6	-2.1
SNGZ	Shannon Statio	7.11	194	P	P	03 41 02.3	+0.7
PRGZ	Paritu Road	7.15	190	P	P	03 41 03.8	+1.8
PRGZ				S	S	03 42 29.7	-0.5
TLZ	Tolley Road	7.21	206	P	P	03 41 05.9	+3.2
MHGZ	Mahia Peninsul	7.37	190	P	P	03 41 06.2	+1.9
NGZ	Ngauruhoe	7.95	203	P	P	03 41 11.4	+1.1
RPZ	Rata Peaks	13.57	207	P	P	03 42 09.5	+0.1
	6.8nm,0.6s,baz=318,slow=3.4,SNR=6.8						
MSVF	Nonsavu	14.16	354	P	P	03 42 17.5	+1.4
	0.7nm,0.3s,baz=197,slow=17,SNR=1.4						
DZM	Mont Dzumac	15.22	307	P	P	03 42 25.2	-2.0
	4.2nm,0.8s,baz=79,slow=17,SNR=2.1						
STKA	Stephens Creek	32.12	260	P	P	03 45 00.3	+0.3
	1.3nm,0.3s,baz=90,slow=11,SNR=4.5						
	1.3nm,0.3s						
ASAR	Alice Springs	40.96	270	P	P	03 46 11.8	-1.5
	0.6nm,0.6s,baz=104,slow=7.2,SNR=8.3						
	0.6nm,0.6s						
WRA	Warramunga Arr	42.09	275	P	P	03 46 20.6	-1.6
	0.4nm,0.3s,baz=114,slow=8.3,SNR=4.7						
	0.4nm,0.3s						
QSPA	South Pole Qui	58.22	180	P	P	03 48 23.6	+3.6
	1.6nm,1.0s,baz=178,slow=4.0,SNR=2.3						
	1.6nm,1.0s						

*THE **30** 03:39:23.7, 37°.41N×20°.53E, h0km±3km, ML2.7/4, Error ellipse: s-maj=4.6km s-min=0.8km az=230.0*
*ATH **30** 03:39:24.8, 37°.47N×20°.60E, h13km±2km, ML2.6/15, Manual Solution by A.Papageorgiou First location: 2019/03/30 03:40:26, This location: 2019/03/30 06:43:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
ISC 30 03:39:24.6±1.7, 37°.45N±0°.06×20°.57E±0°.05, h13km±8km, n30, σ0s61/59, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.28	43	P	Pg	03 39 30.4	-0.1
KRI1				S	Sg	03 39 35.3	+0.7
	4μm,0.3s						
LTHK	Lithakia	0.33	39	P	Pg	03 39 31.1	-0.3
LTHK				S	Sg	03 39 36.7	+0.8
	2μm,0.4s						
LTHK	Lithakia	0.33	39	P	Pg	03 39 31.1	-0.3
LTHK				S	Sg	03 39 36.1	+0.2
ORTH	Orthonies,Zaky	0.41	14	P	Pg	03 39 32.5	-0.3
ORTH				S	Sg	03 39 38.8	+0.5
KYPS	Kipseli, Zakin	0.41	28	P	Pg	03 39 32.4	-0.5
KYPS				S	Sg	03 39 39.0	+0.4
CLEM	Kyllini,Ilia,G	0.62	45	P	Pg	03 39 36.5	-0.3
CLEM				S	Sg	03 39 44.6	-0.4
PSDA	Pessada-Kefalo	0.66	1	P	Pg	03 39 36.9	-0.6
PSDA				S	Sb	03 39 47.7	+0.7
	688nm,0.4s						
PSDA	Pessada-Kefalo	0.66	1	P	Pg	03 39 37.1	-0.4
PSDA				S	Sg	03 39 46.6	+0.4
VLS	Valsamata	0.72	1	P	Pg	03 39 37.9	-0.7
VLS				S	Sb	03 39 49.4	+0.5
	445nm,0.4s						
VLS	Valsamata	0.72	1	P	Pg	03 39 38.0	-0.7
VLS				S	Sg	03 39 47.7	-0.5
SMHA	Samh	0.80	4	P	Pg	03 39 39.7	-0.4
SMHA				S	Sg	03 39 49.9	-0.7
DMLN	Damoulianata-K	0.80	349	P	Pb	03 39 40.5	+0.1
DMLN				S	Sg	03 39 50.6	0.0
ZARO	Zacharo	0.86	87	P	Pg	03 39 40.8	-0.4
ZARO				S	Sb	03 39 53.5	+0.8
YRMI	Loutra Irminis	0.89	43	P	Pg	03 39 41.1	-0.8
YRMI				S	Sg	03 39 53.0	-0.6
AMT	Artemida-Makis	0.91	85	P	Pg	03 39 41.5	-0.6
AMT				S	Sg	03 39 53.9	-0.1
AXS	Araxos	0.98	40	P	Pg	03 39 42.5	-1.0
AXS				S	Sg	03 39 55.3	-1.0
FSK	Fiskardo	1.00	359	P	Pg	03 39 43.9	-0.1
FSK				S	Sg	03 39 57.3	+0.2
DRO	Drossia	1.03	61	P	Pg	03 39 44.0	-0.5
DRO				S	Sg	03 39 58.0	+0.1
ITM	Ithomi	1.11	104	P	Pg	03 39 44.5	-1.5
ITM				S	Sn	03 40 02.3	+1.3
ITM	Ithomi	1.11	104	P	Pg	03 39 44.7	-1.3
ITM				S	Sb	03 40 01.0	+0.9
EVGI	Lefkada island	1.17	3	P	Pg	03 39 45.9	-1.2
EVGI				S	Sg	03 40 02.0	-0.3
NYDR	Nydri-Lefkada	1.26	4	P	Pn	03 39 47.8	-0.1
NYDR				S	Sb	03 40 04.4	+0.1
LKD2	Lefkada island	1.33	3	P	Pn	03 39 49.3	+0.3
LKD2				S	Sb	03 40 06.8	+0.3
TSLK	Tsoukalades, L	1.37	3	P	Pn	03 39 50.1	+0.7
TSLK				S	Sb	03 40 06.8	-0.7
KLV	Kalavryta, Ach	1.38	64	P	Pn	03 39 50.0	+0.4
KLV				S	Sb	03 40 07.4	-0.5
PVO	Paravola	1.38	33	P	Pn	03 39 50.0	+0.5
PVO				S	Sb	03 40 07.5	-0.4
EFP	Efpalio	1.43	47	P	Pn	03 39 50.0	-0.3
EFP				S	Sn	03 40 08.9	-0.1
GUR	Goura	1.48	70	P	Pn	03 39 51.6	+0.5
GUR				S	Sn	03 40 10.5	+0.2
ANX	Ano Chora	1.56	43	P	Pn	03 39 52.3	+0.2
ANX				S	Sn	03 40 12.1	-0.1
TETR	Tetrakomo, Epi	1.97	16	P	Pn	03 39 57.9	+0.2

*RSNC **30** 03:40:00.7±0.5, 2°S±2°×8°0W±°, h38km±11km, M4.1, mB5.2, mb4.3, ML4.3, Mw(mB)4.6*
*IGQ **30** 03:40:59.7±0.2, 2°S±2°×8°0W±°, h40km±2km, MLv4.3/51*
ISC 30 03:40:58.0±1.1, 2°.33S±0°.05×79°.99W±0°.04, h64km±8km, n136, σ1s71/175, 5C-41D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYE3	Ecuador-Guayaq	0.19	29	⇓P	Pn	03 41 08.0	+0.1
GYE3				S	Sn	03 41 15.1	+0.1
AGUAY	Guayaquil	0.27	9	P	Pn	03 41 08.2	-0.1
AGUAY				S	Sn	03 41 16.0	+0.2
MILO	Milagro-Astudi	0.44	84	⇓P	Pn	03 41 09.8	+0.1
M

FLF1	Flavio Alfaro-	1.96	4	P	Pn	03 41 29.2	+0.1
FLF1				S	Sn	03 41 54.0	+1.3
CAB1	Cabo Pasado-Ma	1.98	347	P	Pn	03 41 30.0	+0.8
GONZ	Gonzanam	1.99	163	P	Pn	03 41 31.2	+1.4
AZAM	Ecuador-Zamora	2.02	149	P	Pn	03 41 31.7	+1.8
ILLI	Illinizas Sur	2.04	38	||P	Pn	03 41 31.2	+0.6
PIS1	Pisayambo	2.04	52	||P	Pn	03 41 32.1	+1.5
JAMA	Jama	2.06	354	P	Pn	03 41 29.9	-0.5
PAST	Pastocalle	2.11	40	P	Pn	03 41 33.1	+1.6
PUYO	Puyo, Santa Ro	2.13	67	P	Pn	03 41 33.1	+1.7
PIAT	Ana Tenorio	2.18	53	P	Pn	03 41 33.6	+1.3
PIAT				S	Sn	03 42 00.0	+1.6
PIAT	Ana Tenorio	2.18	53	||P	Pn	03 41 33.8	+1.5
PIAT	Ana Tenorio	2.18	53	P	Pn	03 41 33.6	+1.3
PIAT				S	Sn	03 42 00.0	+1.6
VCES	Cotopaxi	2.20	47	||P	Pn	03 41 34.4	+1.6
BMOR	Cotopaxi Volca	2.21	44	||P	Pn	03 41 34.4	+1.5
CAMI	Rancho Maria	2.21	42	P	Pn	03 41 34.9	+2.0
ASDO	Santo Domingo	2.23	23	P	Pn	03 41 31.4	-1.4
BNAS	Cotopaxi Volca	2.23	43	||P	Pn	03 41 36.2	+3.0
SUCR	Mariscal Sucre	2.25	42	||P	Pn	03 41 35.4	+2.1
BREF	Cotopaxi Volca	2.26	43	||P	Pn	03 41 35.8	+2.1
BTAM	Cotopaxi Volca	2.29	44	||P	Pn	03 41 35.8	+1.9
BVC2	Cotopaxi Volca	2.29	44	||P	Pn	03 41 35.9	+1.9
TAMB	Tambo	2.29	45	||P	Pn	03 41 35.9	+1.9
VC1	Cotopaxi 1	2.31	44	||P	Pn	03 41 36.3	+2.1
PITA	Cotopaxi Volc	2.35	42	P	Pn	03 41 36.6	+1.9
HPAL	Hacienda Las P	2.49	33	P	Pn	03 41 37.4	+0.9
GGPT	Toaza - Volcan	2.50	33	||P	Pn	03 41 37.6	+0.9
ANTM	Antisana-La Mi	2.51	45	P	Pn	03 41 38.1	+1.1
ANTG	Antisana-Guama	2.51	44	P	Pn	03 41 38.4	+1.4
JUA2	San Juan 2	2.52	33	P	Pn	03 41 38.4	+1.4
TERV	Terraza Guagua	2.55	33	||P	Pn	03 41 38.7	+1.2
GGPC	Guagua Pichinc	2.55	33	||P	Pn	03 41 38.8	+1.3
TING	Casa Alexandra	2.55	37	P	Pn	03 41 39.0	+1.6
ARDO	Archidona, Ten	2.56	59	P	Pn	03 41 38.2	+0.9
PINO	Pino	2.56	33	||P	Pn	03 41 39.0	+1.2
ANTS	Antisana-Sarah	2.57	45	P	Pn	03 41 39.3	+1.4
APR2	Miler	2.60	23	P	Pn	03 41 37.4	-0.4
ANTI	Antisana	2.61	45	P	Pn	03 41 40.1	+1.6
YANA	Yana	2.61	33	||P	Pn	03 41 39.6	+1.2
ZUMB	Zumba	2.66	161	||P	Pn	03 41 41.0	+2.3
PULU	Pululahua	2.77	33	P	Pn	03 41 41.7	+1.3
PAC1	Pacto, Paraso	2.84	25	P	Pn	03 41 40.4	-0.7
PAC1				S	Sn	03 42 13.5	-0.8
PAC1	Pacto, Paraso	2.84	25	P	Pn	03 41 40.4	-0.7
PAC1	Pacto, Paraso	2.84	25	P	Pn	03 41 40.4	-0.7
PAC1				S	Sn	03 42 13.5	-0.8
OTAV	Otavalo	2.98	31	P	Pn	03 41 44.0	+0.7
OTAV				S	Sn	03 42 18.0	-0.1
OTAV	Otavalo	2.98	31	||P	Pn	03 41 44.1	+0.8
OTAV	Otavalo	2.98	31	P	Pn	03 41 44.0	+0.7
OTAV				S	Sn	03 42 18.0	-0.1
AV21	Acelerografo,	3.00	9	P	Pn	03 41 43.6	+0.4
CUSE	Cuicocha Este	3.06	31	P	Pn	03 41 45.4	+1.0
CUSE				S	Sn	03 42 22.9	+2.8
CUSE	Cuicocha Este	3.06	31	||P	Pn	03 41 45.4	+1.0
CUSE	Cuicocha Este	3.06	31	P	Pn	03 41 45.4	+1.0
CUSE				S	Sn	03 42 22.9	+2.8
CUSW	Cuicocha Oeste	3.07	32	P	Pn	03 41 47.6	+3.1
CUIC	Cuicocha-Domo	3.08	32	||P	Pn	03 41 45.9	+1.3
ANGU	Angureal	3.08	40	||P	Pn	03 41 46.6	+1.7
CAYA	Cayambe	3.11	40	P	Pn	03 41 47.0	+1.8
COTA	Cotacachi	3.12	32	P	Pn	03 41 46.6	+1.3
ACOT	Cotacachi (Cas	3.12	33	P	Pn	03 41 46.9	+1.8
IMBA	Imbabura, San	3.15	35	||P	Pn	03 41 47.9	+2.3
REVS	Reventador Sur	3.24	47	P	Pn	03 41 48.7	+2.0
URCU	Urcuqui	3.25	32	P	Pn	03 41 48.6	+1.6
YAHU	Yahuarcocha	3.30	36	||P	Pn	03 41 49.1	+1.5
CASC	Dorado de Casc	3.61	47	P	Pn	03 41 52.9	+1.2
LNGL	El Angel-Carch	3.64	33	P	Pn	03 41 55.9	+3.6
CHMA	Chilma	3.71	31	P	Pn	03 41 53.4	+0.2
CHL1	Volc¡n Chiles	3.71	33	P	Pn	03 41 54.6	+1.2
ECEN	Cerro Negro	3.73	33	P	Pn	03 41 55.4	+1.8
CHL2	Volc¡n Chiles	3.74	34	||P	Pn	03 41 55.0	+1.3
TULM	Tulcn-Chalpat	3.74	36	P	Pn	03 41 55.2	+1.5
SNLR	San Lorenzo-Es	3.77	18	P	Pn	03 41 53.8	0.0
CMBC	Cumbal	3.90	34	P	Pn	03 41 58.1	+2.2
CMBC				S	Sn	03 42 45.9	+5.2
CMBC	Cumbal	3.90	34	P	Pn	03 41 57.8	+1.8
CMBC	Cumbal	3.90	34	P	Pn	03 41 58.1	+2.2
CMBC				S	Sn	03 42 45.9	+5.2
TUMC	Tumaco	4.31	17	P	Pn	03 41 59.7	-1.4
TUMC				S	Sn	03 42 50.9	+0.7
TUMC	Tumaco	4.31	17	P	Pn	03 42 01.4	+0.3
TUMC	Tumaco	4.31	17	P	Pn	03 41 59.7	-1.4
TUMC				S	Sn	03 42 50.9	+0.7
GCUF	Volcan Galeras	4.41	37	P	Pn	03 42 06.1	+3.2
GCUF				S	Sn	03 42 56.0	+2.7
GCUF	Volcan Galeras	4.41	37	P	Pn	03 42 06.1	+3.2
GCUF				S	Sn	03 42 56.0	+2.7
CRUC	La Cruz	4.92	38	P	Pn	03 42 12.2	+2.4
CRUC				S	Sn	03 43 07.5	+1.9
CRUC	La Cruz	4.92	38	P	Pn	03 42 12.2	+2.4
CRUC				S	Sn	03 43 07.5	+1.9
BBAC	Balboa, Cauca	5.12	32	P	Pn	03 42 12.5	+0.1
	1μm53nm,0.6s						
BBAC				S	Sn	03 43 11.9	+1.6
	1μm53nm,0.6s						
BBAC	Balboa, Cauca	5.12	32	P	Pn	03 42 13.0	+0.6
BBAC	Balboa, Cauca	5.12	32	P	Pn	03 42 12.5	+0.1
	1μm53nm,0.6s						
BBAC				S	Sn	03 43 11.9	+1.6
	1μm53nm,0.6s						
FLOC	Florencia	5.82	48	P	Pn	03 42 22.4	+0.5
	20nm,1.1s						
FLOC	Florencia	5.82	48	P	Pn	03 42 22.4	+0.5
	20nm,1.1s						
POPC	Popayan, Colom	5.86	34	P	Pn	03 42 22.2	-0.4
	13nm,0.8s						
POPC				S	Sn	03 43 29.5	+0.9
	13nm,0.8s						
POPC	Popayan, Colom	5.86	34	P	Pn	03 42 22.2	-0.4
	13nm,0.8s						
POPC				S	Sn	03 43 29.5	+0.9
	13nm,0.8s						
GARC	Garzon, Huila	6.35	45	P	Pn	03 42 27.1	-2.2
	507nm21nm,0.5s						
GARC	Garzon, Huila	6.35	45	P	Pn	03 42 27.1	-2.2
	507nm21nm,0.5s						
MALC	Bahia Malaga	6.83	23	P	Pn	03 42 37.1	+1.4
MALC				S	Sn	03 43 53.2	+1.1
MALC	Bahia Malaga	6.83	23	P	Pn	03 42 37.1	+1.4
MALC				S	Sn	03 43 53.2	+1.1
YOTC	Yotoco, Valle	7.25	30	P	Pn	03 42 39.4	-2.1
	4.3nm,0.4s						
YOTC				S	Sn	03 44 01.2	-1.3
	4.3nm,0.4s						
YOTC	Yotoco, Valle	7.25	30	P	Pn	03 42 39.4	-2.1
	4.3nm,0.4s						
YOTC				S	Sn	03 44 01.2	-1.3
	4.3nm,0.4s						
ORTC	Ortega, Tolima	7.80	37	P	Pn	03 42 48.5	-0.5
	14nm,1.0s						
ORTC	Ortega, Tolima	7.80	37	P	Pn	03 42 48.5	-0.5
	14nm,1.0s						
PRAC	Prado	7.88	40	P	Pn	03 42 50.6	+0.6
	8.9nm,0.7s						
PRAC	Prado	7.88	40	P	Pn	03 42 50.6	+0.6
	8.9nm,0.7s						
URMC	La Uribe, Meta	7.88	45	P	Pn	03 42 50.9	+0.8
	10nm,0.9s						
URMC	La Uribe, Meta	7.88	45	P	Pn	03 42 50.9	+0.8
	10nm,0.9s						
CZSB	Cruzeiro do Su	9.03	127	P	Pn	03 43 04.2	-1.5
	3μm124nm,0.6s						
CZSB				S	Sn	03 44 40.4	-5.5
	3μm124nm,0.6s						
CZSB	Cruzeiro do Su	9.03	127	P	Pn	03 43 04.2	-1.5
	3μm124nm,0.6s						
CZSB				S	Sn	03 44 40.4	-5.5
	3μm124nm,0.6s						
CBOC	Ciudad Bolivar	9.05	26	P	Pn	03 43 05.3	-0.9
CBOC				S	Sn	03 44 47.9	+1.1
CBOC	Ciudad Bolivar	9.05	26	P	Pn	03 43 05.3	-0.9
CBOC				S	Sn	03 44 47.9	+1.1
NNA	Nana	10.09	162	P	Pn	03 43 20.6	+0.3
NNA				S	Sn	03 45 00.5	-12
NNA	Nana	10.09	162	P	Pn	03 43 20.6	+0.3
NNA				S	Sn	03 45 00.5	-12

NEIC ***30*** *03:44:51.2±2.1, 40°.56N±0°.10×127°.2W±0°.1, h10km±2km, ML3.0/44, ML2.8/4(NCEDC), Error ellipse: s-maj=17.2km s-min=12.8km az=203.0*
IDC ***30*** *03:44:54.1±4.5, 41°.03N×126°.96W, h0km, mb2.5/2, mbtmp2.8/5, ML3.7/2, MS2.7/7, Error ellipse: s-maj=57.9km s-min=29.9km az=61.0*
NCEDC ***30*** *03:44:54.2±1.4, 40°.69N±0°.09×127°.05W±0°.04, h10km±2km, Error ellipse: s-maj=15.9km s-min=4.3km az=191.0*

ISC 30 03:44:56.0±2.4, 40°.79N±0°.08×126°.8W±0°.2, h10km, n39, σ1§53/33, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	1.90	99		Pn	03 45 27.9	-0.5
KMPM	Mount Pierce	2.07	99	Pn	Pn	03 45 30.1	-0.8
KMPM				IAML		03 46 00.8	
	comp=E,63nm,1.1s						
KMPM				IAML		03 46 02.8	
	comp=N,61nm,1.1s						
JCC	Jacoby Creek,	2.10	88	Pn	Pn	03 45 30.1	-1.1
KRPM	Rodgers	2.13	79	Pn	Pn	03 45 30.9	-0.8
KRPM				IAML		03 46 02.9	
	comp=N,76nm,2.0s						
KRPM				IAML		03 46 12.2	
	comp=E,84nm,2.6s						
KCRM	Chalk Rock	2.29	98		Pn	03 45 33.3	-0.6
BRIC	Briceland Vine	2.31	106		Pn	03 45 33.3	-0.9
SIGP	Signal Peak, C	2.32	61		Pn	03 45 34.0	-0.3
KHMM	Horse Mountain	2.33	87	Pn	Pn	03 45 33.8	-0.7
KBO	Bosley Butte	2.40	53	Pn	Pn	03 45 34.9	-0.5
KMRM	Mail Ridge	2.42	102		Pn	03 45 35.5	-0.2
KMRM				IAML		03 45 60.0	
	comp=E,58nm,2.8s						
KMRM				IAML		03 46 47.3	
	comp=N,43nm,4.5s						
KCPM	Cahto Peak	2.69	113	Pn	Pn	03 45 38.3	-1.2
KCPM				IAML		03 46 26.9	
	comp=E,60nm,4.4s						
KCPM				IAML		03 46 38.2	
	comp=N,52nm,2.3s						
L02F	Cave Junction	2.77	60		Pn	03 45 40.8	+0.4
L02F				IAML		03 46 05.7	
	comp=E,27nm,4.2s						
K02D	Willamette Mer	3.02	50		Pn	03 45 43.6	-0.3
K02D				IAML		03 46 37.3	
	comp=E,21nm,3.8s						
O02D	Mt. Diablo Mer	3.12	100	Pn	Pn	03 45 44.9	-0.3
J01E	Myrtle Point	3.19	41	Pn	Pn	03 45 45.4	-0.8
J01E				IAML		03 46 21.9	
	comp=E,30nm,3.4s						
J01E				IAML		03 46 47.5	
	comp=N,26nm,3.4s						
YBH	Yreka Blue Hor	3.22	72	Pn	Pn	03 45 47.9	+1.2
YBH	Yreka Blue Hor	3.22	72	Pn	Pn	03 45 48.3	+1.5
	comp=N,7.3nm,0.3s,baz=261,slow=11,SNR=95						
YBH				Sn	Sn	03 46 21.9	-3.3
	baz=192,slow=20						
YBH				LR	LR	03 46 42.0	
	comp=N,60nm,19.0s,baz=260,slow=33						
	comp=N,18nm,0.3s						
DBO	Dodson Butte	3.53	47		Pn	03 45 50.9	0.0
DBO				IAML		03 46 57.5	
	comp=E,22nm,3.7s						
DBO				IAML		03 47 49.0	
	comp=N,20nm,3.3s						
L04D	Klamath Falls	3.66	66	Pn	Pn	03 45 55.2	+2.4
L04D				IAML		03 46 53.0	
	comp=N,21nm,4.8s						
BBOR	Butler Butte	3.72	54		Pn	03 45 54.5	+0.8
BBOR				IAML		03 48 18.1	
	comp=E,15nm,4.3s						
I03D	Drain, OR	3.87	40		Pn	03 45 55.3	-0.3
I03D				IAML		03 46 28.0	
	comp=E,20nm,3.4s						
J04A	Umpqua Nationa	4.27	53	Pn	Pn	03 46 02.7	+1.5
I04A	Tendick Farm,	4.43	46		Pn	03 46 04.4	+1.2
I04A				IAML		03 48 11.0	
	comp=N,14nm,4.2s						
J05D	Fort Rock, OR	4.83	57	Pn	Pn	03 46 10.3	+1.3
BEKR	Beckworth	5.00	98		Pn	03 46 12.7	+1.4
BEKR				IAML		03 49 11.0	
	comp=E,5.5nm,4.7s						
BEKR				IAML		03 49 40.6	
	comp=N,5.6nm,5.0s						
H04A	Detroit Lake	5.17	40	Pn	Pn	03 46 13.7	+0.4
PINE	Pine Mountain	5.28	53	Pn	Pn	03 46 16.5	+1.4
NVAR	Mina Array Bea	6.96	107	Pn	Pn	03 46 41.2	+2.9
	comp=N,0.4nm,0.7s,baz=286,slow=15,SNR=2.7						
NVAR				LR	LR	03 48 52.6	
	comp=N,36nm,21.8s,baz=204,slow=33						
ELK	Elko	6.77	87	LR	LR	03 50 50.1	
	comp=N,92nm,21.1s,baz=245,slow=40						
PLID	Pearl Lake	9.01	58		Pn	03 47 08.9	+2.6
NEW	Newport	10.17	39	LR	LR	03 51 30.2	
	comp=N,37nm,21.6s,baz=257,slow=39						
PFO	Pinyon Flats O	10.91	128	LR	LR	03 52 02.5	
	comp=N,45nm,18.7s,baz=290,slow=38						
PDAR	Pinedale Array	13.02	76	Pn	Pn	03 48 04.0	+2.9
	comp=N,0.1nm,0.3s,baz=269,slow=14,SNR=4.2						
PDAR				LR	LR	03 53 42.2	
	comp=N,50nm,21.6s,baz=239,slow=40						
	comp=N,0.2nm,0.5s						
ANMO	Albuquerque	17.07	103	LR	LR	03 54 58.9	
	comp=N,44nm,18.5s,baz=108,slow=35						
TXAR	Lajitas Array	22.04	114	P	P	03 49 52.6	+1.7
	comp=N,0.2nm,0.8s,baz=304,slow=10,SNR=6.5						
	comp=N,0.2nm,0.8s						
YKA	Yellowknife Ar	22.94	15	P	P	03 49 57.4	-2.6
	comp=N,0.1nm,0.6s,baz=205,slow=11,SNR=4.6						
	comp=N,0.1nm,0.6s						
H11N3	WAKE ISLAND Hy	59.61	271	T	T	04 58 58.0	
	baz=53,slow=75,SNR=13						
H11N2	WAKE ISLAND Hy	59.62	271	T	T	04 59 05.5	
	baz=53,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	59.63	271	T	T	04 59 02.8	
	baz=53,slow=75,SNR=14						

IDC 30 03:56:13.3±3.3, 31°.93S×177°.82W, h0km, mb3.5/2, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=80.1km s-min=37.9km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.56	212	Pn	Pn	03 58 04.6	-0.1
	0.2nm,0.3s,baz=63,slow=18,SNR=1.5						
URZ				Sn	Sn	03 59 32.1	+1.0
	0.7nm,0.3s,baz=58,slow=16,SNR=7.9						
	9.0nm,1.1s						
ASAR	Alice Springs	43.20	268	P	P	04 04 16.1	-0.2
	0.1nm,0.3s,baz=107,slow=8.0,SNR=2.5						
	0.1nm,0.3s						
WRA	Warramunga Arr	44.33	274	P	P	04 04 25.3	0.0
	0.3nm,0.3s,baz=115,slow=8.0,SNR=3.8						
	0.3nm,0.3s						
FINES	FINESS Array B	146.63	339	PKPbc	PKPdf	04 15 55.3	+0.8
	2.4nm,0.9s,baz=29,slow=3.2,SNR=4.4						

KOLA ***30*** *04:04:59.2, 80°.40N×21°.63E, h0km, ML2.1, Error ellipse: s-maj=42.2km s-min=25.6km az=100.0, Spitsbergen, Arctic Ocean*
BER ***30*** *04:05:07.9±1.6, 80°.20N×20°.35E, h23km±6km, ML2.4, ML2.5(NAO), Confirmed Earthquake*
NAO ***30*** *04:05:09.1±4.1, 79°.97N×20°.17E, h22km±17km, ML2.5*
FCIAR ***30*** *04:05:14.0, 80°.37N×20°.09E, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.50*

ISC 30 04:05:00.2±1.5, 80°.21N±0°.05×21°.54E±0°.04, h6km±11km, n20, σ1§61/47, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.17	238	Pn	Pb	04 05 38.8	-0.9
KBS				Pg	Pg	04 05 43.0	+1.3
KBS				Sg	Sb	04 06 07.1	+0.3
KBS	Kingsbay	2.17	238	Pn	Pb	04 05 38.8	-0.9
KBS				Pg	Pg	04 05 43.0	+1.3
KBS				Lg	Lg	04 06 07.1	
KBS	Kingsbay	2.17	238	P	Pb	04 05 39.1	-0.6
KBS				S	Sb	04 06 06.4	-0.4
SPA0	Spitsbergen Ar	2.26	208	Pn	Pb	04 05 40.5	-0.9
	baz=22,slow=12						
SPA0				Pg	Pg	04 05 44.9	+1.4
	baz=22,slow=16						
SPA0				Lg	Lg	04 06 12.5	
SPA0	Spitsbergen Ar	2.26	208	*e*P	Pb	04 05 40.0	-1.3
SPA0				*e*S	Sb	04 06 09.0	-0.5
SPITS	Spitsbergen Ar	2.26	208	P	Pb	04 05 40.5	-0.9
SPITS				S	Sg	04 06 11.9	-0.9
BRBB	Barentsburg B	2.54	217	Pn	Pb	04 05 44.8	-1.2
BRBB				Sn	Sn	04 06 11.7	-1.2
BRBB				Sg	Sg	04 06 19.3	-2.2
BRBB	Barentsburg B	2.54	217	Pn	Pb	04 05 44.8	-1.2
BRBB				Sn	Sn	04 06 11.7	-1.2
BRBB				Lg	Lg	04 06 19.3	
BRBB	Barentsburg B	2.54	217	P	Pb	04 05 44.6	-1.4
BRBB				S	Sg	04 06 19.6	-2.0
BRBA	Barentsburg A	2.57	216	Pn	Pb	04 05 45.1	-1.4
BRBA				Sn	Sn	04 06 12.0	-1.6
BRBA				Sg	Sg	04 06 20.8	-1.7
BRBA	Barentsburg A	2.57	216	Pn	Pb	04 05 45.1	-1.4
BRBA				Sn	Sn	04 06 12.0	-1.6
BRBA				Lg	Lg	04 06 20.8	
HSPB	Hornsund (broa	3.44	203	*e*P	Pn	04 05 56.6	+2.6
HSPB				*e*Pg	Pg	04 06 06.5	+0.6
HSPB				*e*S	Sn	04 06 33.6	-1.4
HSPB				*e*Sg	Sg	04 06 48.5	-1.9
HSPB				IAML		04 06 53.8	
	comp=Z,21nm,0.4s						
HSPB	Hornsund (broa	3.44	203	Pn	Pn	04 05 56.4	+2.3
HSPB				Pg	Pg	04 06 06.5	+0.6
HSPB				Lg	Lg	04 06 48.1	
HSPB	Hornsund (broa	3.44	203	P	Pn	04 05 56.5	+2.5
HSPB				S	Sn	04 06 36.7	+1.7
HOPEN	Hopen	3.79	168	*e*P	Pb	04 06 04.3	-2.9
HOPEN				*e*S	Sn	04 06 45.3	+1.7
HOPEN				*e*Sg	Sg	04 07 01.4	-0.2
HOPEN				IAML		04 07 08.3	
	comp=Z,28nm,0.3s						
HOPEN	Hopen	3.79	168	Pn	Pb	04 06 04.4	-2.9
HOPEN				Sn	Sn	04 06 45.3	+1.7
HOPEN				Lg	Lg	04 07 02.5	
HOPEN	Hopen	3.79	168	*e*P	Pg	04 06 15.3	+2.7
HOPEN				*e*S	Sg	04 07 00.9	-0.8
ZFI2	Zemlya Franca-	4.34	69	*e*P	Pb	04 06 16.2	-0.5
ZFI2				*e*S	Sb	04 07 07.0	-2.1
	comp=Z,33nm,3.1s						
OMEGA	Omega	4.35	70	*e*P	Pb	04 06 16.2	-0.7
OMEGA				*e*S	Sb	04 07 07.0	-2.5
	comp=Z,37nm,3.2s						

IDC 30 04:14:01.2±6.4, 13°.21N×143°.03E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/1, Error ellipse: s-maj=268.4km s-min=26.9km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.03	195	P	P	04 20 47.2	-0.1
	0.9nm,0.6s,baz=17,slow=9.6,SNR=6.2						
	0.9nm,0.6s						
ASAR	Alice Springs	37.72	194	P	P	04 21 18.8	-0.1
	0.1nm,0.4s,baz=15,slow=14,SNR=4.6						
	0.1nm,0.4s						
SONM	Songino Array	46.03	326	LR	LR	04 43 14.6	
	comp=Z,30nm,18.7s,baz=55,slow=38						
MKAR	Makanchi Array	60.53	316	P	P	04 24 14.3	+0.9
	0.1nm,0.5s,baz=105,slow=11,SNR=1.6						
	0.1nm,0.5s						
BVAR	Borovoye Array	69.12	322	P	P	04 25 08.6	-0.7
	0.6nm,0.4s,baz=106,slow=7.1,SNR=4.5						
	0.6nm,0.4s						

IDC ***30*** *04:37:35.8±1.9, 12°.50N×87°.81W, h0km, mb3.5/5, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=63.5km s-min=15.1km az=44.0*
CATAC ***30*** *04:37:37.2±0.5, 12°N±3°×8°8W±°, h19km±4km, M3.7/24, MLv3.7/24, Error ellipse: s-maj=6.9km s-min=2.5km az=22.5, confirmed*
SNET ***30*** *04:37:37.2±0.8, 12°.03N×88°.24W, h13km±6km, ML3.4*

ISC 30 04:37:35.0±1.4, 11°.99N±0°.04×88°.19W±0°.03, h11km±9km, n117, σ1§12/133, mb3.6/5, 3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	1.16	32	P	Pn	04 37 57.7	+0.4
CSGN				S	Sn	04 38 13.5	+0.3
CSGN	Cosiguina Volc	1.16	32	P	Pn	04 37 57.8	+0.5
POTN	Potosi Cosigui	1.20	34	P	Pn	04 37 58.7	+0.9
POTN				S	Sn	04 38 14.7	+0.5
POTN	Potosi Cosigui	1.20	34	P	Pn	04 37 58.3	+0.5
CRIN	San Cristobal	1.32	58	P	Pb	04 38 00.3	+0.5
CRIN	San Cristobal	1.32	58	S	Sn	04 38 19.2	+2.0
CRIN	San Cristobal	1.32	58	P	Pb	04 38 01.0	+1.1
CNCH	Conchagua	1.32	15	*e*P	Pb	04 38 00.4	+0.4
CNCH				*e*S	Sn	04 38 18.4	+1.0
CNCH	Conchagua	1.32	15	P	Pb	04 38 00.2	+0.2
CNCH	Conchagua	1.32	15	S	Sn	04 38 20.0	+2.6
CNCH	Conchagua	1.32	15	P	Pb	04 38 00.4	+0.4
LCND	La Caada	1.34	13	*e*P	Pb	04 38 00.5	+0.3
LCND				IAML		04 38 25.1	
	comp=Z,738nm,0.3s						
LCND	La Caada	1.34	13	P	Pb	04 38 00.7	+0.4
LCND	La Caada	1.34	13	P	Pb	04 38 00.5	+0.3
LCY	Lacayo	1.43	356	*e*P	Pg	04 38 01.9	-0.6
VSM	San Miguel	1.43	357	*e*P	Pb	04 38 02.0	+0.1
RANC	El Ranchito	1.44	356	*e*P	Pg	04 38 02.0	-0.6
RANC	El Ranchito	1.44	356	P	Pg	04 38 02.3	-0.4
RANC	El Ranchito	1.44	356	S	Sn	04 38 23.2	+3.0
RANC	El Ranchito	1.44	356	P	Pg	04 38 02.6	-0.1
BLLM	Bellamira	1.44	358	*e*P	Pb	04 38 01.9	-0.1
HERN	Volcan Telica	1.46	65	P	Pn	04 38 01.8	+0.3
HERN	Volcan Telica	1.46	65	S	Sg	04 38 22.3	+0.2
HERN

PAVA Las Pavas 1.86 337 *e*P **Pn 04 38 07.8 +0.7**
PAVA IAML 04 38 42.1
comp=Z,352nm,0.3s
PAVA Las Pavas 1.86 337 S **Sg 04 38 33.2 -1.7**
PAVA Las Pavas 1.86 337 P **Pn 04 38 07.9 +0.9**
PAVA Las Pavas 1.86 337 S **Sg 04 38 33.8 -1.1**
PAVA Las Pavas 1.86 337 P **Pb 04 38 08.3 -0.8**
UNAN Cigeo UNAN 1.88 86 P **Pn 04 38 08.9 +1.7**
UNAN S **Sn 04 38 31.3 +0.3**
UNAN Cigeo UNAN 1.88 86 P **Pn 04 38 08.2 +1.0**
TISN Laguna Tiscapa 1.88 85 P **Pn 04 38 08.2 +0.9**
TISN Laguna Tiscapa 1.88 85 P **Pn 04 38 08.1 +0.9**
LOMA Loma Larga 1.90 330 *e*P **Pn 04 38 08.9 +1.3**
MAS3 Al N del Volca 1.97 89 P **Pn 04 38 09.4 +0.9**
MAS3 S **Sn 04 38 34.3 +1.1**
MAS3 Al N del Volca 1.97 89 P **Pn 04 38 09.3 +0.9**
NANN Nandasmo 2.02 91 P **Pb 04 38 11.8 -0.1**
NANN Nandasmo 2.02 91 S **Sn 04 38 36.1 +1.5**
NANN Nandasmo 2.02 91 P **Pn 04 38 11.1 +1.9**
PMON Piamonte 2.03 327 *e*P **Pn 04 38 10.1 +0.8**
PMON *e*S **Sb 04 38 36.4 -1.1**
PMON Piamonte 2.03 327 P **Pn 04 38 10.7 +1.3**
PMON Piamonte 2.03 327 S **Sb 04 38 36.8 -0.7**
PMON Piamonte 2.03 327 P **Pn 04 38 10.7 +1.3**
JAYA Jayaque - finc 2.06 324 *e*P **Pn 04 38 10.5 +0.7**
JAYA *e*S **Sn 04 38 35.7 +0.1**
JAYA Jayaque - finc 2.06 324 P **Pn 04 38 10.5 +0.7**
JAYA Jayaque - finc 2.06 324 S **Sn 04 38 36.4 +0.7**
JAYA Jayaque - finc 2.06 324 P **Pn 04 38 10.6 +0.7**
LIMN Finca el Limon 2.07 59 P **Pn 04 38 10.3 +0.4**
LIMN Finca el Limon 2.07 59 P **Pn 04 38 10.4 +0.4**
CEDA San Andres 2.15 327 P Pg 04 38 29.1 +13
TGUH Tegucigalpa,Un 2.24 23 P **Pn 04 38 13.3 +1.1**
TGUH S **Sn 04 38 41.5 +1.5**
TGUH Tegucigalpa,Un 2.24 23 P **Pn 04 38 13.7 +1.4**
CEVE Cerro Verde 2.30 323 *e*P **Pn 04 38 14.4 +1.2**
CEVE Cerro Verde 2.30 323 P **Pn 04 38 14.8 +1.6**
CEVE Cerro Verde 2.30 323 S **Sn 04 38 43.0 +1.4**
CEVE Cerro Verde 2.30 323 P **Pn 04 38 14.8 +1.6**
SBLS San Blas 2.31 323 *e*P **Pn 04 38 14.9 +1.6**
SNJE San Jose 2.32 324 *e*P **Pn 04 38 14.7 +1.3**
MATN Matagalpa 2.40 67 P **Pn 04 38 15.2 +0.8**
MATN Matagalpa 2.40 67 P **Pn 04 38 16.5 +2.1**
NUBE Las Nubes 2.45 321 *e*P **Pn 04 38 16.5 +1.3**
NUBE *e*S **Sn 04 38 45.2 0.0**
NUBE Las Nubes 2.45 321 P **Pn 04 38 16.3 +1.1**
NUBE Las Nubes 2.45 321 S **Sn 04 38 46.2 +0.9**
NUBE Las Nubes 2.45 321 P **Pn 04 38 16.6 +1.3**
RCVN Varilla\|2 2.51 51 P **Pn 04 38 17.2 +1.1**
RCVN Varilla\|2 2.51 51 S **Sn 04 38 47.9 +1.2**
RCVN Varilla\|2 2.51 51 P **Pn 04 38 17.1 +1.1**
RCPN Sur Rio San Ju 2.55 53 P **Pn 04 38 17.5 +1.0**
RCPN Sur Rio San Ju 2.55 53 S **Sn 04 38 48.1 +0.4**
RCPN Sur Rio San Ju 2.55 53 P **Pn 04 38 17.7 +1.1**
SLOZ Alcaldia de Sa 2.55 323 P **Pg 04 38 27.1 +3.1**
MTO3 Montecristo 2.65 335 P **Pn 04 38 20.0 +2.0**
MTO3 Montecristo 2.65 335 S **Sn 04 38 51.8 +1.5**
MTO3 Montecristo 2.65 335 P **Pn 04 38 19.7 +1.7**
JTS Las Juntas de 3.60 118 Pn **Pn 04 38 31.6 +0.7**
comp=Z,0.9nm,0.3s,baz=319,slow=19,SNR=2.7
JTS Pg **Pb 04 38 40.0 +1.3**
comp=Z,1.7nm,0.3s,baz=321,slow=18,SNR=6.3
JTS Sn **Sn 04 39 10.5 -2.9**
comp=Z,2.9nm,0.3s,baz=298,slow=18,SNR=4.4
JTS Lg Lg 04 39 31.2
comp=Z,1.5nm,0.3s,baz=300,slow=20,SNR=6.9
comp=Z,2.5nm,0.3s
CMIG Matias Romero 8.23 309 Pn **Pn 04 39 37.7 +3.2**
comp=Z,0.8nm,0.3s,baz=127,slow=12,SNR=13
comp=Z,1.8nm,0.3s
TXAR Lajitas Array 22.48 322 P **P 04 42 36.5 +1.8**
comp=Z,2.7nm,0.8s,baz=134,slow=11,SNR=24
comp=Z,2.7nm,0.8s
TKL Tuckaleechee C 23.90 9 P **P 04 42 47.5 -1.4**
comp=Z,0.5nm,0.3s,baz=192,slow=16,SNR=1.7
comp=Z,0.5nm,0.3s
PDAR Pinedale Array 35.84 333 P **P 04 44 35.3 +0.2**
comp=Z,0.4nm,0.8s,baz=147,slow=8.8,SNR=3.3
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 53.86 345 P **P 04 46 56.2 -1.8**
comp=Z,0.3nm,0.7s,baz=151,slow=6.8,SNR=8.2
comp=Z,0.3nm,0.7s
RES Resolute Bay 62.79 358 P **P 04 47 58.6 -1.6**
comp=Z,0.6nm,0.6s,baz=188,slow=7.0,SNR=5.4
comp=Z,0.6nm,0.6s

DJA 30 04:54:59.0±0.7, 7°S±3°×10°6E±°, h22km±6km, M3.9/13, mb4.0/1, MLv3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.60**	**52**	P	Pn	04 55 11.6	-0.6
SKJI				S	Sn	04 55 20.6	-0.7
CGJI	**Cibinong**	**0.85**	**333**	P	Pn	04 55 16.2	+0.5
CGJI				S	Sb	04 55 26.8	+0.6
CNJI	**Cibinong**	**1.04**	**86**	P	Pb	04 55 18.7	+0.3
CNJI				S	Sn	04 55 32.1	-0.1
SBJI	**Serang**	**1.25**	**2**	P	Pn	04 55 20.8	-0.4
TNG	**Tangerang**	**1.33**	**25**	P	Pb	04 55 21.7	-1.5
TNG				P	Pn	04 55 20.9	-1.3
LEM	**Lembang**	**1.62**	**70**	P	Pn	04 55 25.6	-0.8
CMJI	**Cimerak**	**2.38**	**100**	P	Pn	04 55 38.1	+1.4
KASI	**Kota Agung**	**2.42**	**319**	P	Pn	04 55 38.1	+0.8
MDSI	**Maura Dua**	**3.44**	**327**	P	Pn	04 55 52.3	+1.0
UGM	**Wanagama**	**4.44**	**97**	P	Pn	04 56 06.7	+1.7
PCJI	**Pacitan**	**5.12**	**99**	P	Pn	04 56 15.4	+1.0

MOS ***30*** *05:05:52.2±1.0, 9°.84S×161°.04E, h49km, mb5.0/26, Error ellipse: s-maj=10.1km s-min=8.5km az=128.4*
BJI ***30*** *05:05:52.0, 9°.80S×161°.10E, h49km, mB5.2/13, mb4.7/40, Ms4.8/6, Ms7 4.5/4*
IDC ***30*** *05:05:54.1±2.0, 9°.82S×161°.12E, h52km±16km, mb4.1/18, mbtmp4.4/21, ML4.9/2, MS3.9/43, Error ellipse: s-maj=17.9km s-min=12.4km az=60.0*
NEIC ***30*** *05:05:55.4±1.5, 9°.81S±0°.06×161°.02E±0°.06, h56km±7km, mb5.0/58, Error ellipse: s-maj=11.4km s-min=2.4km az=136.0*
GCMT ***30*** *05:05:55.4±0.2, 9°.92S±0°.02×161°.11E±0°.01, h34km±1km, MW5.0/98, Moment Tensor Solution. s51,c66; s98,c133; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.15±.18; Mθθ-0.09±.14; Mφφ-0.06±.14; Mrθ-0.09±.18; Mθφ4.00±.10; Mrφ0.04±.18; Best double couple: M0=4.00100×10^16 NP1:φs180.00000°, δ89.00000°, λ-179.00000°. NP2: φs90.00000°, δ89.00000°, λ-1.00000°. Principal axes: T 3.9250, Plg1.0000°, Azm135.0000°; N 0.1520, Plg89.0000°, Azm247.0000°; P -4.0770, Plg1.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 05:05:54.3±0.4, 9°.83S±0°.04×161°.11E±0°.04, h50km±3km, h50km: pP-P, n275, σ1§45/241, mb4.8/89, MS4.0/45, 11C-8D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEG	**Aligegeo Malai**	**1.15**	**339**	P	**Pn**	**05 06 13.4**	**-0.7**
ALEG	**Aligegeo Malai**	**1.15**	**339**	S	**Sn**	**05 06 31.1**	**+2.4**
HNR	**Honiara**	**1.22**	**289**	Pn	**Pn**	**05 06 13.9**	**-1.0**
HNR	**Honiara**	**1.22**	**289**	P	**Pn**	**05 06 14.3**	**-0.6**
HNR	9μm,0.4s,baz=160,slow=1.0,SNR=451			S	**Sn**	**05 06 30.5**	**+0.1**
	7μm,0.3s,baz=136,slow=18,SNR=11						
HNR	**Honiara**	**1.22**	**289**	P	**Pn**	**05 06 14.7**	**-0.3**
HNR	**Honiara**	**1.22**	**289**	S	**Sn**	**05 06 31.9**	**+1.5**
SAVO	**Savo Central**	**1.45**	**298**	P	**Pn**	**05 06 18.7**	**+0.5**
SAVO	**Savo Central**	**1.45**	**298**	S	**Sn**	**05 06 38.7**	**+2.6**
TATA	**Tatamba Isabel**	**1.93**	**318**	P	**Pn**	**05 06 26.2**	**+1.4**
NGOA	**Tingoa Renbel**	**2.00**	**211**	P	**Pn**	**05 06 23.6**	**-2.0**
NGOA	**Tingoa Renbel**	**2.00**	**211**	S	**Sn**	**05 06 47.8**	**-1.6**
LUES	**Luesalemba Tem**	**4.80**	**100**	P	**Pn**	**05 07 03.1**	**-0.9**
LUES	**Luesalemba Tem**	**4.80**	**100**	S	**Sn**	**05 07 57.3**	**-1.1**
DVP	**Devils Point**	**10.43**	**140**	P	**Pn**	**05 08 21.9**	**+0.7**
RABL	**Rabaul**	**10.50**	**302**	Pn	**Pn**	**05 08 23.8**	**+1.5**
KOUNC	**Koumac, New Ca**	**11.09**	**164**	P	**Pn**	**05 08 31.4**	**+1.2**
KOUNC	**Koumac, New Ca**	**11.09**	**164**	S	**Sn**	**05 10 34.4**	**+1.6**
INH	**Isangel**	**12.47**	**142**	P	**Pn**	**05 08 50.1**	**+1.0**
DZM	**Mont Dzumac**	**13.20**	**158**	Pn	**Pn**	**05 08 59.1**	**-0.1**
DZM	**Mont Dzumac**	**13.20**	**158**	*e*P	**Pn**	**05 08 58.0**	**-1.2**
	170nm,1.0s						
DZM				*e*S	**Sn**	**05 11 19.2**	**-5.4**
	60nm,1.0s						
DZM				*e*LR	LR	05 11 56.8	
	658nm,23.3s						
DZM	**Mont Dzumac**	**13.20**	**158**	P	**Pn**	**05 08 58.9**	**-0.3**
	6.7nm,0.3s,baz=315,slow=22,SNR=83						
DZM				S	**Sn**	**05 11 23.5**	**-1.1**
	24nm,0.8s,baz=330,slow=20,SNR=3.3						
DZM				LR	LR	05 13 12.7	
	comp=Z,586nm,20.1s,baz=349,slow=33						
	39nm,0.5s						
DZM	**Mont Dzumac**	**13.20**	**158**	P	**Pn**	**05 09 00.8**	**+1.6**
YATNC	**Mamie plateau,**	**13.36**	**156**	P	**Pn**	**05 09 01.9**	**+0.6**
ONTNC	**Ouen Toro**	**13.42**	**158**	Pn	**Pn**	**05 09 03.2**	**+1.1**
ONTNC	**Ouen Toro**	**13.42**	**158**	P	**Pn**	**05 09 04.1**	**+2.0**
OUENC	**Ouen Island, N**	**13.67**	**157**	P	**Pn**	**05 09 07.2**	**+1.7**
PMG	**Port Moresby**	**13.77**	**271**	P	**Pn**	**05 09 06.2**	**-0.7**
	5.5nm,0.5s,baz=116,slow=6.0,SNR=8.8						
PINNC	**Pines Island,**	**14.08**	**155**		**Pn**	**05 09 12.6**	**+1.5**
PINNC	**Pines Island,**	**14.08**	**155**	P	**Pn**	**05 09 13.3**	**+2.2**
TV1H	**Townsville Har**	**16.72**	**234**	P	**P**	**05 09 46.1**	**-0.7**
GD1S	**Gladstone Soft**	**16.86**	**213**	P	**P**	**05 09 48.1**	**-0.2**
RK1H	**Rockhampton Ha**	**16.87**	**216**	P	**P**	**05 09 49.1**	**+0.6**
COEN	**Coen**	**18.02**	**255**	P	**P**	**05 09 59.0**	**-2.2**
COEN	**Coen**	**18.02**	**255**	P	**Pn**	**05 10 03.8**	**+2.5**
	comp=Z,45nm,1.3s						
COEN	**Coen**	**18.02**	**255**	P	**Pn**	**05 10 04.2**	**+2.9**
EIDS	**Eidsvold**	**18.15**	**210**	P	**P**	**05 10 02.4**	**-0.2**
EIDS	**Eidsvold**	**18.15**	**210**	P	**Pn**	**05 10 04.4**	**+1.6**
	comp=Z,65nm,0.9s						
EIDS	**Eidsvold**	**18.15**	**210**	P	**Pn**	**05 10 05.1**	**+2.3**
MSVF	**Nonsavu**	**18.22**	**117**	P	**P**	**05 10 03.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=273,slow=8.8,SNR=4.9						
MSVF				LR	LR	05 15 40.5	
	comp=Z,288nm,18.5s,baz=278,slow=32						
	comp=Z,6.5nm,0.8s						
MSVF	**Nonsavu**	**18.22**	**117**	P	**Pn**	**05 10 05.6**	**+1.9**
MTSU	**Mount Surprise**	**18.25**	**241**	P	**Pn**	**05 10 07.2**	**+3.0**
AUWSH	**Wavell State H**	**19.06**	**202**	P	**Pn**	**05 10 14.8**	**+1.1**
DGTI	**Dogotuki**	**19.24**	**111**	P	**Pn**	**05 10 17.8**	**+1.8**
TW1H	**Toowoomba 1 Ha**	**19.61**	**205**	P	**Pn**	**05 10 21.7**	**+1.3**
TABU	**Tabubil**	**20.23**	**282**	P	Pn	05 10 28.9	+1.1
JAY	**Jayapura**	**21.54**	**288**	LR	LR	05 19 57.7	
	comp=Z,464nm,19.2s,baz=348,slow=39						
ARMA	**Armidale**	**22.31**	**202**	P	**P**	**05 10 48.0**	**+0.2**
ARMA				IAmb	IAmb	05 11 06.0	
	comp=Z,48nm,1.1s						
ARMA	**Armidale**	**22.31**	**202**	P	**P**	**05 10 50.4**	**+2.6**
QLP	**Quilpie**	**23.07**	**222**	P	**P**	**05 10 55.6**	**-0.1**
	comp=Z,70nm,1.0s						
QLP	**Quilpie**	**23.07**	**222**	P	**P**	**05 10 56.1**	**+0.4**
QIS	**Mount Isa**	**23.30**	**240**	P	**P**	**05 10 58.8**	**+0.8**
	comp=Z,74nm,0.8s						
QIS	**Mount Isa**	**23.30**	**240**	P	**P**	**05 10 59.0**	**+1.0**
SMPI	**Sarmi**	**23.59**	**288**	P	**P**	**05 11 00.0**	**-0.8**
CMSA	**Cobar Meteorol**	**25.91**	**211**	P	**P**	**05 11 22.8**	**+1.1**
	comp=Z,46nm,2.7s						
CMSA	**Cobar Meteorol**	**25.91**	**211**	P	**P**	**05 11 23.2**	**+1.5**
INKA	**Innaminka**	**26.17**	**224**	P	**P**	**05 11 25.2**	**+1.0**
WR0	**Warramunga Arr**	**27.54**	**246**	P	**P**	**05 11 36.1**	**-0.5**
WB0	**Warramunga Arr**	**27.61**	**246**	P	**P**	**05 11 36.7**	**-0.6**
WB0				IAmb	IAmb	05 11 47.1	
	comp=Z,41nm,1.1s						
CAN	**Canberra**	**27.67**	**202**	P	**P**	**05 11 38.4**	**+0.7**
CAN	**Canberra**	**27.67**	**202**	P	**P**	**05 11 38.4**	**+0.7**
CAN				pmax	pmax		
	comp=Z,136nm,1.9s						
WRAB	**Tennant Creek**	**27.70**	**246**	*i* P	**P**	**05 11 35.7**	**-2.4**
WRA	**Warramunga Arr**	**27.71**	**246**	P	**P**	**05 11 37.0**	**-1.2**
WRA	**Warramunga Arr**	**27.71**	**246**	P	**P**	**05 11 37.9**	**-0.3**
	comp=Z,14nm,0.7s,baz=76,slow=9.1,SNR=47						
WRA				LR	LR	05 23 03.3	
	comp=Z,347nm,18.4s,baz=58,slow=37						
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**27.71**	**246**	*ce*P	**P**	**05 11 38.4**	**+0.2**
WRA				pmax	pmax		
	comp=Z,15nm,0.7s						
KDU	**Kakadu**	**28.22**	**262**	P	**P**	**05 11 45.1**	**+2.4**
GUMO	**Guam**	**28.31**	**325**	LR	LR	05 23 53.0	
	comp=Z,54nm,19.4s,baz=130,slow=38						
STKA	**Stephens Creek**	**28.43**	**217**	P	**P**	**05 11 45.5**	**+1.2**
STKA	**Stephens Creek**	**28.43**	**217**	P	**P**	**05 11 44.3**	**0.0**
	comp=Z,5.0nm,0.9s,baz=32,slow=7.6,SNR=4.8						
STKA				LR	LR	05 23 01.2	
	comp=Z,455nm,18.7s,baz=44,slow=36						
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**28.43**	**217**	P	**P**	**05 11 46.5**	**+2.1**
STKA	**Stephens Creek**	**28.43**	**217**	*e*P	**P**	**05 11 42.9**	**-1.5**
H11S2	**WAKE ISLAND Hy**	**28.68**	**11**	T	T	05 40 34.9	
	baz=194,slow=76,SNR=1482						
H11S3	**WAKE ISLAND Hy**	**28.68**	**11**	T	T	05 40 32.4	
	baz=194,slow=76,SNR=219						
H11S1	**WAKE ISLAND Hy**	**28.70**	**11**	T	T	05 40 36.1	
	baz=194,slow=76,SNR=180						
AS01	**Alice Springs**	**29.34**	**239**	P	**P**	**05 11 51.9**	**-0.8**
AS31	**Alice Springs**	**29.38**	**239**	P	**P**	**05 11 52.1**	**-0.9**
AS31	**Alice Springs**	**29.38**	**239**	P	**P**	**05 11 52.3**	**-0.7**
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**29.39**	**239**	P	**P**	**05 11 52.0**	**-1.1**
ASAR	**Alice Springs**	**29.39**	**239**	P	**P**	**05 11 51.9**	**-1.1**
	comp=Z,7.9nm,0.9s,baz=62,slow=10,SNR=71						
ASAR				LR	LR	05 23 27.9	
	comp=Z,823nm,18.5s,baz=68,slow=36						
	comp=Z,7.9nm,0.9s						
ASAR	**Alice Springs**	**29.39**	**239**	P	**P**	**05 11 52.0**	**-1.1**
LCRK	**Leigh Creek**	**29.59**	**223**	P	**P**	**05 11 55.2**	**+0.5**
OOD	**Oodnadatta**	**29.86**	**230**	P	**P**	**05 11 59.8**	**+2.7**
H11N1	**WAKE ISLAND Hy**	**29.91**	**11**	T	T	05 42 06.4	
	baz=193,slow=76,SNR=154						
H11N3	**WAKE ISLAND Hy**	**29.92**	**11**	T	T	05 42 07.0	
	baz=193,slow=76,SNR=123						
H11N2	**WAKE ISLAND Hy**	**29.93**	**11**	T	T	05 42 07.8	
	baz=193,slow=76,SNR=170						
URZ	**Urewera**	**31.74**	**156**	LR	LR	05 23 45.9	
	comp=Z,186nm,20.3s,baz=66,slow=34						
KNRA	**Kununurra**	**32.05**	**256**	P	**P**	**05 12 15.4**	**-1.2**
KNRA				IAmb	IAmb	05 12 29.2	
	comp=Z,23nm,0.7s						
KNRA	**Kununurra**	**32.05**	**256**	P	**P**	**05 12 16.4**	**-0.2**
	comp=Z,39nm,0.8s						
BKZ	**Black Stump Fm**	**32.28**	**157**	P	**P**	**05 12 17.6**	**-0.8**
BKZ				IAmb	IAmb	05 12 34.0	
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**32.51**	**222**	P	**P**	**05 12 20.4**	**0.0**
BBOO	**Buckleboo**	**32.51**	**222**	P	**P**	**05 12 22.7**	**+2.3**
TCW	**Tory Channel**	**33.34**	**162**	P	**P**	**05 12 27.3**	**-0.2**
TUWZ	**Tuamarina**	**33.45**	**162**	P	**P**	**05 12 28.4**	**0.0**
WRKA	**Warakurna**	**34.64**	**240**	P	**P**	**05 12 38.3**	**-0.8**
	comp=Z,21nm,1.4s						
WRKA	**Warakurna**	**34.64**	**240**	P	**P**	**05 12 38.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.34**	**253**	P	**P**	**05 12 44.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.34**	**253**	P	**P**	**05 12 45.0**	**-0.1**
	comp=Z,4.7nm,0.7s						
EDFI	**Ende, Flores**	**38.91**	**268**	P	P	05 13 21.8	+6.2
	comp=Z,20nm,1.0s						
BSSI	**Bau Bau, Buton**	**40.38**	**272**	P	P	05 13 36.6	+8.9
JCJ	**Chichijima**	**41.05**	**334**	LR	LR	05 28 26.7	
	comp=Z,188nm,19.1s,baz=116,slow=33						
WBSI	**Waikabubak, Su**	**41.10**	**267**	P	P	05 13 42.2	+8.4
	comp=Z,36nm,0.7s						
PSAC2	**Pilbara Seismi**	**41.23**	**249**	P	**P**	**05 13 35.1**	**+0.5**
	comp=Z,38nm,1.9s						
PSAB2	**Pilbara Seismi**	**41.26**	**249**	P	**P**	**05 13 35.1**	**+0.1**
	comp=Z,29nm,1.0s						
KAPI	**Kappang**	**41.27**	**274**	P	**P**	**05 13 33.8**	**-1.2**
KAPI				IAmb	IAmb	05 13 54.9	
	comp=Z,23nm,1.1s						
KAPI	**Kappang**	**41.27**	**274**	*e*P	**P**	**05 13 34.2**	**-0.9**
PSAA3	**Pilbara Seismi**	**41.27**	**249**	P	**P**	**05 13 35.3**	**+0.3**
	comp=Z,31nm,1.4s						
PSA00	**Pilbara Seismi**	**41.28**	**249**	P	**P**	**05 13 35.2**	**+0.1**
	comp=Z,22nm,1.6s						
MBWA	**Marble Bar**	**41.31**	**249**	P	**P**	**05 13 33.6**	**-1.8**
MBWA				IAmb	IAmb	05 13 49.5	
	comp=Z,45nm,1.1s						
MBWA	**Marble Bar**	**41.31**	**249**	P	**P**	**05 13 36.3**	**+0.9**
	comp=Z,37nm,1.1s						
MBWA	**Marble Bar**	**41.31**	**249**	P	**P**	**05 13 36.4**	**+0.9**
MBWA				pP	**pP**	**05 13 48.7**	**+0.2**
PSAD3	**Pilbara Seismi**	**41.35**	**248**	P	**P**	**05 13 35.9**	**+0.2**
	comp=Z,34nm,1.1s						
SPSI	**Sidrap Palu**	**41.43**	**275**	P	P	05 13 44.4	+8.0
	comp=Z,12nm,0.8s						
TOLI2	**Tolitoli**	**41.59**	**283**	P	**P**	**05 13 34.5**	**-3.2**
KMBL	**Kambalda**	**42.19**	**234**	P	**P**	**05 13 42.5**	**+0.1**
	comp=Z,27nm,2.1s						
PLAI	**Plampang**	**42.75**	**268**	P	P	05 13 55.6	+8.4
TWSI	**Taliwang, Sumb**	**43.64**	**268**	P	P	05 14 02.8	+8.4
	comp=Z,21nm,0.9s						
MORW	**Morawa**	**46.27**	**239**	P	**P**	**05 14 14.2**	**-0.9**
MORW				IAmb	IAmb	05 14 40.1	
	comp=Z,28nm,1.1s						
JAGI	**Jajag, Banyuwa**	**46.35**	**268**	P	**P**	**05 14 12.5**	**-3.4**
JAGI	**Jajag, Banyuwa**	**46.35**	**268**	P	**P**	**05 14 14.5**	**-1.4**
NWAO	**Narrogin (SRO)**	**46.43**	**234**	P	**P**	**05 14 13.9**	**-2.4**
NWAO	**Narrogin (SRO)**	**46.43**	**234**	LR	LR	05 34 00.4	
	comp=Z,691nm,19.2s,baz=114,slow=36						
NWAO	**Narrogin (SRO)**	**46.43**	**234**	P	**P**	**05 14 13.9**	**-2.4**
NWAO				pmax	pmax		
	comp=Z,45nm,1.3s						
NWAO	**Narrogin (SRO)**	**46.43**	**234**	P	**P**	**05 14 16.4**	**+0.1**
PPT	**Papeete**	**48.41**	**105**	LR	LR	05 32 33.3	
	comp=Z,52nm,18.0s,baz=285,slow=33						
PPT2	**Papeete2**	**48.41**	**105**	*e*SS	SS	05 25 00.6	+0.8
	comp=Z,58nm,25.5s						
PPT2				*e*LR	LR	05 28 17.9	
	comp=Z,81nm,29.5s						
PPT2				*e*LR	LR	05 28 24.5	
	comp=Z,112nm,25.8s						
JOW	**Kunigami**	**48.42**	**320**	LR	LR	05 34 38.1	
	comp=Z,44nm,18.4s,baz=109,slow=36						
TBI	**Tubuai**	**49.01**	**112**	*e*LR	LR	05 28 34.5	
	comp=Z,515nm,25.0s						
PCJI	**Pacitan**	**49.31**	**268**	P	**P**	**05 14 42.9**	**+4.1**
JMN	**Monobe**	**50.47**	**330**	P	**P**	**05 14 46.1**	**-1.2**
KIP	**Kipapa**	**50.75**	**52**	*ce*P	P	05 14 44.0	-5.6
KIP				pmax	pmax		
	comp=Z,41nm,1.5s						
MJAR	**Matsushiro Arr**	**50.91**	**336**	P	**P**	**05 14 48.2**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=181,slow=8.8,SNR=4.1						
	comp=Z,1.2nm,0.6s						
MAJO	**Matsushiro**	**50.91**	**336**	P	**P**	**05 14 50.3**	**-0.3**
MAJO	**Matsushiro**	**50.91**	**336**	*i* P	**P**	**05 14 51.0**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJB9	**Matsu-Tunnel**	**50.92**	**336**	P	**P**	**05 14 50.6**	**-0.1**
YULB	**Yu-li**	**51.06**	**311**	P	**P**	**05 14 50.7**	**-1.2**
TPUB	**Ta-pu**	**51.51**	**310**	P	**P**	**05 14 54.6**	**-0.7**
JNU	**Nakatsue**	**51.52**	**327**	P	**P**	**05 14 52.9**	**-2.4**
JNU				IAmb	IAmb	05 15 23.4	
	comp=Z,21nm,1.0s						
JNU	**Nakatsue**	**51.52**	**327**	LR	LR	05 34 14.1	
	comp=Z,50nm,21.5s,baz=130,slow=33						
SSLB	**Suanglung**	**51.55**	**311**	P	**P**	**05 14 53.9**	**-1.6**
ASAJ	**Asahikawa**	**56.27**	**344**	LR	LR	05 38 28.6	
	comp=Z,175nm,20.2s,baz=204,slow=35						
KSRS	**Korea Array**	**56.39**	**328**	P	**P**	**05 15 29.9**	**-0.7**
	comp=Z,4.5nm,1.0s,baz=144,slow=7.5,SNR=8.0						
KSRS				LR	LR	05 36 03.0	
	comp=Z,76nm,22.0s,baz=145,slow=32						
	comp=Z,4.5nm,1.0s						
TAOE	**Nuku Hiva Isla**	**57.90**	**94**	*e*LR	LR	05 32 38.9	
	comp=Z,70nm,22.4s						
NJ2	**Nanjing**	**58.01**	**318**	*e*P	**P**	**05 15 43.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,31nm,0.5s						
QIZ	**Qiongzhong**	**58.11**	**300**	P	**P**	**05 15 42.3**	**-0.8**
QIZ				S	**S**	**05 23 39.0**	**-2.0**
QIZ				LR	LR		
	comp=Z,80nm,7.6s						
QIZ				LR	LR		
	comp=Z,150nm,9.6s						
QIZ				LR	LR		
	comp=Z,160nm,27.5s						
YSS	**Yuzhno-Sakhali**	**58.86**	**345**	*oe*P	**P**	**05 15 46.4**	**-1.4**
YSS				*e*S	**S**	**05 23 45.7**	**-4.1**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,300nm,15.0s						
USA0B	**Ussuriysk Arra**	**59.91**	**336**	⇑*i* P	**P**	**05 15 55.2**	**+0.1**
RKT	**Rikitea**	**62.28**	**111**	*e*LR	LR	05 34 49.5	
	comp=E,588nm,25.8s						
CN2	**Changchun**	**62.44**	**332**	P	**P**	**05 16 11.5**	**-0.7**
CN2				pmax	pmax		
	comp=E,10.0nm,0.7s						
TYV	**Tymovskoe**	**62.54**	**347**	*e*P	P	05 16 25.9	+13
TYV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,2.9s						
PETK	**Petropavlovsk-**	**62.76**	**358**	P	**P**	**05 16 14.3**	**+0.1**
	comp=Z,10nm,1.0s,baz=154,slow=6.0,SNR=2.8

comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,390nm,5.6s
BTO LR LR
comp=Z,350nm,6.5s
BTO LR LR
comp=Z,240nm,5.7s
BTO LR LR
comp=Z,350nm,6.5s
HIA Hailar 69.13 332⇑ *i*P **P 05 16 55.3 0.0**
HIA pmax pmax
comp=Z,7.0nm,0.9s
ZEA Zeya 69.53 339 *e*P **P 05 16 58.3 +0.7**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
MA2 Magadan 69.68 354 P 05 16 57.6 -0.8
MA2 Magadan 69.68 354⇓ *i*P **P 05 16 57.6 -0.8**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MA2 Magadan 69.68 354 P **P 05 16 58.0 -0.4**
comp=Z,12nm,1.6s
MA2 Magadan 69.68 354 P **P 05 16 57.8 -0.5**
MA2 pP **pP 05 17 10.6 -1.6**
MA2 sP **sP 05 17 15.0 -2.6**
LZH Lanzhou 70.60 314 *e*P **P 05 17 09.0 +4.2**
LZH pP pP 05 17 17.8 -1.0
LZH pmax pmax
comp=Z,9.0nm,1.3s
SEY Seymchan 72.86 356 *e*P **P 05 17 17.3 -0.2**
SEY pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 74.69 326 P 05 17 27.9 -1.0
ULN IAmb IAmb 05 17 44.9
comp=Z,16nm,1.0s
ULN Ulaanbaatar 74.69 326⇓ *i*P **P 05 17 29.6 +0.8**
ULN pmax pmax
comp=Z,7.0nm,1.3s
GTA Gaotai 74.97 315 P **P 05 17 31.5 +0.9**
GTA pP PcP 05 17 43.5 -0.7
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA LR LR
comp=Z,110nm,15.5s
GTA LR LR
comp=Z,96nm,15.9s
SONM Songino Array 75.04 325 P **P 05 17 30.7 -0.1**
SONM IAmb IAmb 05 17 46.6
comp=Z,13nm,0.9s
SONM Songino Array 75.04 325 P **P 05 17 31.0 +0.2**
comp=Z,3.2nm,0.7s,baz=143,slow=5.1,SNR=16
SONM LR LR 05 49 31.8
comp=Z,51nm,20.8s,baz=98,slow=35
comp=Z,3.2nm,0.7s
SONM Songino Array 75.04 325 P **P 05 17 31.0 +0.2**
BRDH Bariadhala 75.28 297 LR LR 05 49 25.6
comp=Z,64nm,21.4s,baz=134,slow=35
YAK Yakutsk 75.71 345 LR LR 05 50 09.5
comp=Z,44nm,20.0s,baz=148,slow=35
YAK Yakutsk 75.71 345 *i* P **P 05 17 34.1 0.0**
YAK pmax pmax
comp=Z,20nm,1.3s
SHL Shillong 75.95 299 P **P 05 17 35.5 -1.0**
SHL IAmb IAmb 05 17 53.7
comp=Z,16nm,1.0s
SHL Shillong 75.95 299 P **P 05 17 35.5 -1.0**
SHL pmax pmax
comp=Z,17nm,1.0s
N15K Kwethluk River 76.29 19 P **P 05 17 38.2 +0.7**
N15K IAmb IAmb 05 17 52.1
comp=Z,13nm,0.9s
KDAK Kodiak Island 77.21 23 P 05 17 43.1 +0.4
KDAK IAmb IAmb 05 18 10.3
comp=Z,10nm,0.8s
KDAK Kodiak Island 77.21 23 LR LR 05 48 33.2
comp=Z,144nm,18.6s,baz=68,slow=33
KDAK Kodiak Island 77.21 23⇓ *i*P **P 05 17 42.4 -0.3**
KDAK pmax pmax
comp=Z,5.0nm,0.9s
P18K Big Mountain, 77.35 21 P **P 05 17 43.2 -0.4**
P18K IAmb IAmb 05 18 13.8
comp=Z,18nm,1.1s
Q19K Cape Douglas, 77.60 22 P **P 05 17 44.7 -0.2**
BILL Bilibino 77.76 2 P 05 17 46.2 +0.6
BILL IAmb IAmb 05 18 00.7
comp=Z,20nm,0.9s
BILL Bilibino 77.76 2*d i*P **P 05 17 45.9 +0.3**
BILL pmax pmax
comp=Z,14nm,1.0s
ZAK Zakamensk 78.14 326 *e*P **P 05 17 47.7 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
P19K Oil Pt 78.25 22 P **P 05 17 48.8 +0.2**
P19K IAmb IAmb 05 18 02.1
comp=Z,15nm,0.8s
BRLK Bradley Lake 79.20 23 P **P 05 17 54.6 +0.8**
BRLK IAmb IAmb 05 18 17.7
comp=Z,14nm,0.9s
L19K White Mountain 79.48 19 P **P 05 17 56.4 +1.2**
L19K IAmb IAmb 05 18 17.6
comp=Z,16nm,0.8s
SLKM Skilak Lake 79.94 22 P **P 05 17 58.3 +0.5**
SLKM IAmb IAmb 05 18 19.3
comp=Z,18nm,1.0s
MOY Mondy 80.04 327 *e*P **P 05 18 02.6 +4.0**
MOY pmax pmax
comp=Z,16nm,2.2s
QSPA South Pole Qui 80.16 180 P **P 05 17 57.9 -1.2**
QSPA IAmb IAmb 05 18 24.9
comp=Z,17nm,1.1s
QSPA South Pole Qui 80.16 180 P **P 05 17 58.6 -0.5**
comp=Z,3.5nm,0.8s,baz=62,slow=0.4,SNR=10
comp=Z,3.5nm,0.8s
RC01 Rabbit Creek A 80.51 22 P **P 05 18 01.2 +0.4**
K20K Telida 80.58 19 P **P 05 18 01.2 +0.1**
PPLA Purkeypile 80.87 20 P **P 05 18 02.6 -0.2**
PWL Port Wells 80.88 23 P **P 05 18 04.1 +1.3**
PWL IAmb IAmb 05 18 25.4
comp=Z,21nm,1.0s
PMR Palmer 81.06 22 P **P 05 18 04.1 +0.5**
PMR Palmer 81.06 22 P **P 05 18 04.1 +0.5**
PMR pmax pmax
comp=Z,12nm,1.0s
J20K Nowinta River 81.14 18 P **P 05 18 04.6 +0.6**
J20K IAmb IAmb 05 18 24.7
comp=Z,18nm,1.2s
GHO Glory Hole Cre 81.25 22 P **P 05 18 05.8 +1.0**
GHO IAmb IAmb 05 18 26.4
comp=Z,13nm,1.0s
CAST Castle Rocks 81.26 19 P **P 05 18 05.2 +0.4**
CAST IAmb IAmb 05 18 25.6
comp=Z,15nm,0.8s
KTH Kantishna Hill 81.74 20 P **P 05 18 06.7 -0.6**
KTH IAmb IAmb 05 18 27.9
comp=Z,14nm,0.8s
PALK Pallekele 81.86 279 LR LR 05 59 00.0
comp=Z,55nm,18.3s,baz=108,slow=39
RND Reindeer 82.34 20 P **P 05 18 10.2 -0.3**
RND IAmb IAmb 05 18 34.2
comp=Z,14nm,0.9s
RND Reindeer 82.34 20 P **P 05 18 10.2 -0.3**
RND pmax pmax
comp=Z,14nm,0.9s
VRDI Verde Repeater 82.99 24 P **P 05 18 14.0 -0.1**
COLA College 83.62 20*d i*P **P 05 18 16.5 -0.4**
COLA pmax pmax
comp=Z,9.0nm,1.0s
HDA Harding Lake 83.63 20 P **P 05 18 17.7 +0.7**
HDA IAmb IAmb 05 18 38.8
comp=Z,17nm,1.0s
ILAR Eielson Array 83.87 20 P **P 05 18 18.8 +0.5**
ILAR Eielson Array 83.87 20 P **P 05 18 17.8 -0.5**
comp=Z,1.5nm,0.5s,baz=248,slow=4.7,SNR=14
ILAR LR LR 05 51 01.9
comp=Z,133nm,19.7s,baz=240,slow=32
comp=Z,1.5nm,0.5s
ILAR Eielson Array 83.87 20 P **P 05 18 18.8 +0.5**
TIXI Tiksi 84.08 350 LR LR 05 58 04.4
comp=Z,55nm,18.6s,baz=62,slow=37
TIXI Tiksi 84.08 350*d i*P **P 05 18 18.9 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 85.04 316 *e*P **P 05 18 26.0 +1.2**

D23K Nanushuk River 85.48 16 P **P 05 18 26.3 0.0**
D23K IAmb IAmb 05 18 54.0
comp=Z,7.7nm,0.9s
BBB Bella Bella 86.21 36 LR LR 05 49 20.0
comp=Z,98nm,20.1s,baz=266,slow=30
YBH Yreka Blue Hor 86.35 47 LR LR 05 52 40.4
comp=Z,50nm,18.4s,baz=257,slow=32
I28M Miner Creek 86.66 21 P **P 05 18 33.0 +0.6**
K29M Barlow Dome 86.72 23 P **P 05 18 33.5 +0.8**
DLBC Dease Lake 87.56 29 LR LR 05 49 50.6
comp=Z,135nm,22.0s,baz=262,slow=30
NVAR Mina Array Bea 88.76 51 P **P 05 18 42.7 -0.5**
comp=Z,1.0nm,1.1s,baz=220,slow=6.7,SNR=7.0
NVAR LR LR 05 53 58.8
comp=Z,73nm,18.1s,baz=255,slow=32
comp=Z,1.0nm,1.1s
PFO Pinyon Flats O 89.15 56 LR LR 05 50 42.1
comp=Z,152nm,20.8s,baz=268,slow=30
MK31 Makanchi Array 89.54 318 P **P 05 18 45.1 -1.3**
MK31 IAmb IAmb 05 19 10.1
comp=Z,17nm,1.6s
MK31 Makanchi Array 89.54 318*d i*P **P 05 18 45.7 -0.7**
MKAR Makanchi Array 89.54 318 P **P 05 18 45.3 -1.1**
MKAR Makanchi Array 89.54 318 P **P 05 18 45.7 -0.7**
comp=Z,1.0nm,0.7s,baz=92,slow=6.3,SNR=10
MKAR LR LR 06 01 33.9
comp=Z,40nm,18.5s,baz=72,slow=37
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 89.93 325 P **P 05 18 47.1 -0.9**
comp=Z,0.5nm,0.3s,baz=98,slow=2.0,SNR=1.8
ZALV LR LR 06 01 25.7
comp=Z,40nm,18.1s,baz=105,slow=37
comp=Z,0.5nm,0.3s
SYO Syowa Base 91.57 198⇑ *e*PcP **PcP 05 18 58.2 +2.0**
ELK Elko 91.58 49 LR LR 05 52 50.6
comp=Z,51nm,19.3s,baz=256,slow=31
NEW Newport 91.83 41 LR LR 05 53 53.6
comp=Z,88nm,19.2s,baz=264,slow=31
LPIG La Paz 92.67 66 LR LR 05 51 37.7
comp=Z,65nm,21.9s,baz=267,slow=30
KURK Kurchatov 92.82 321 P **P 05 19 00.5 -0.9**
KURBB Kurchatov Arra 92.85 321 P **P 05 19 00.5 -1.1**
comp=Z,0.8nm,0.9s,baz=92,slow=5.2,SNR=5.1
KURBB LR LR 05 58 43.6
comp=Z,72nm,21.9s,baz=168,slow=34
comp=Z,0.8nm,0.9s
NRIK Noril'sk 93.42 340*ce*P **P 05 19 04.0 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 94.11 312 LR LR 06 01 52.9
comp=Z,30nm,20.3s,baz=98,slow=36
YKA Yellowknife Ar 96.01 28 P **P 05 19 15.3 -0.5**
comp=Z,0.7nm,0.8s,baz=262,slow=5.0,SNR=11
YKA LR LR 05 56 50.2
comp=Z,112nm,19.6s,baz=298,slow=32
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 96.10 48 P **P 05 19 16.3 -0.7**
comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=3.8
PDAR LR LR 05 58 01.1
comp=Z,18nm,18.6s,baz=298,slow=32
comp=Z,0.3nm,0.6s
ANMO Albuquerque 97.53 56 LR LR 05 56 07.5
comp=Z,67nm,20.0s,baz=79,slow=31
SNAA Sanae 97.97 185 LR LR 05 58 52.3
comp=Z,67nm,21.3s,baz=338,slow=32
BVAR Borovoye Array 98.21 322 P **P 05 19 24.9 -1.1**
comp=Z,0.3nm,0.4s,baz=107,slow=5.0,SNR=1.9
BVAR LR LR 06 06 06.1
comp=Z,36nm,18.4s,baz=77,slow=37
comp=Z,0.3nm,0.4s
TXAR Lajitas Array 99.27 62 LR LR 05 56 36.2
comp=Z,93nm,20.8s,baz=257,slow=31
OBN Obninsk 117.38 328 *i* PKIKP **PKPdf 05 24 31.1 -3.0**
OBN pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 123.33 325 PKP **PKiKP 05 24 46.1 +0.2**
comp=Z,0.3nm,0.4s,baz=50,slow=1.5,SNR=1.5
AKBB Malin Array Si 123.33 325 *i* PKIKP **PKPdf 05 24 44.2 -1.5**
AKBB pmax pmax
comp=Z,3.0nm,1.1s
CLL Collm 131.09 334 *e*pPKPdf pPKPdf 05 25 15.0 -0.2
KHC Kasperske Hory 132.38 331 *e*PKP PKiKP 05 25 14.4 +10
GERES GERESS Array B 132.53 331 PKP **PKPdf 05 25 02.8 -0.6**
comp=Z,0.1nm,0.3s,baz=35,slow=3.6,SNR=2.1
PBRG Braganca 146.41 343 *e*PKPab **PKPab 05 25 30.6 -0.4**
PBRG *e*tx tx 05 25 44.0
PCAB Cabril 146.84 345 *e*PKPab **PKPab 05 25 32.6 0.0**
PCAB *e*tx tx 05 25 43.0
MVO Moncorvo 147.08 343 *e*PKPab **PKiKP 05 25 34.3 -0.3**
MVO *e*tx tx 05 25 43.0
POLO Lamas de Olo 147.09 345 *e*PKPab **PKiKP 05 25 35.6 +1.0**
POLO *e*tx tx 05 25 43.7
ESDC Sonseca Array 147.44 338 PKPbc **PKPbc 05 25 32.9 -0.2**
comp=Z,0.5nm,0.7s,baz=345,slow=4.6,SNR=5.2
PVIS Viseu 147.74 344 *e*PKPab **PKiKP 05 25 35.7 -0.2**
PVIS *e*tx tx 05 25 51.7
MTE Manteigas 147.94 344 *e*PKPab **PKPab 05 25 37.9 +0.8**
MTE *e*tx tx 05 25 51.7
PCBR Castelo Branco 148.44 343 *e*PKPab **PKPab 05 25 38.9 -0.1**
PMRV Marv??o 148.79 343 *e*PKPab **PKPab 05 25 40.0 -0.4**
PMRV *e*tx tx 05 25 47.8
PMTG Montargil 149.37 344 *e*PKPab **PKiKP 05 25 39.3 +0.1**
PMTG *e*tx tx 05 25 48.6
PESTR Estremoz 149.37 343 *e*PKPab **PKPab 05 25 44.0 +1.2**
PBEJ Beja 150.23 342 *e*tx tx 05 25 51.5
MESJ Messejana 150.51 343 *e*tx tx 05 25 51.6
PCVE Castro Verde 150.65 342 *e*tx tx 05 25 52.2
PVAQ Vaqueiros 150.76 342 *e*tx tx 05 25 52.8

*NOU **30** 05:17:29.0, 41°.81S×174°.95E, h0km, MLv3.6/9, Cook Strait, New Zealand*
*WEL **30** 05:17:31.7±0.5, 42°.S±4°.×17°.5E±°, h17km±3km, M3.5/47, ML3.8/18, MLv3.5/47, Error ellipse: s-maj=4.9km s-min=3.0km az=178.0, confirmed*
ISC 30 05:17:29.9±1.3, **41°.72S**±0°.04×**174°.86E**±0°.03, **h9**km±12km, **n86**, σ0°**98**/97, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHW	**Baring Head**	**0.31**	**1**	P	**Pb**	**05 17 38.3**	**+0.6**
PLWZ	**Palliser**	**0.33**	**63**	P	**Pn**	**05 17 40.0**	**-0.9**
PLWZ				S	**Sb**	**05 17 46.0**	**+2.6**
SEAW	**Seatoun School**	**0.40**	**357**	P	**Pg**	**05 17 38.3**	**+0.6**
SEAW				S	**Sg**	**05 17 43.2**	**+0.3**
WNAS	**Wellington Int**	**0.40**	**354**	S	**Sg**	**05 17 43.1**	**+0.1**
MISS	**Wellington Mir**	**0.41**	**355**	P	**Pb**	**05 17 39.5**	**+0.3**
MISS				S	**Sb**	**05 17 44.7**	**-0.8**
MSWZ	**Moikau Station**	**0.42**	**44**	P	**Pb**	**05 17 40.9**	**+1.4**
MSWZ				S	**Sb**	**05 17 47.4**	**+1.5**
SNZO	**South Karori**	**0.43**	**344**	P	**Pb**	**05 17 39.7**	**+0.1**
SNZO	**South Karori**	**0.43**	**344**	S	**Sb**	**05 17 45.2**	**-0.9**
WEL	**Wellington**	**0.44**	**351**	P	**Pb**	**05 17 40.1**	**+0.3**
WEL				S	**Sb**	**05 17 45.4**	**-1.2**
CMWZ	**Cape Campbell**	**0.49**	**267**	P	**Pn**	**05 17 43.0**	**0.0**
PAWZ	**Paruwai Farm**	**0.54**	**51**	P	**Pb**	**05 17 42.9**	**+1.3**
PAWZ				S	**Sb**	**05 17 51.0**	**+1.5**
CAW	**Cannon Point**	**0.63**	**14**	P	**Pb**	**05 17 43.4**	**+0.3**
TCW	**Tory Channel**	**0.68**	**319**	P	**Pb**	**05 17 44.0**	**+0.2**
TCW				S	**Sg**	**05 17 52.3**	**+0.5**
TRWZ	**Traveller**	**0.70**	**63**	P	**Pb**	**05 17 45.2**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.74**	**270**	P	**Pb**	**05 17 46.4**	**+1.5**
MTW	**Mount Morrison**	**0.74**	**41**	P	**Pb**	**05 17 45.5**	**+0.5**
MTW				S	**Sb**	**05 17 55.4**	**+0.2**
TUWZ	**Tuamarina**	**0.75**	**293**	P	**Pb**	**05 17 46.4**	**+1.3**
QCCS	**Picton Queen C**	**0.77**	**305**	P	**Pg**	**05 17 44.2**	**-0.5**
QCCS				S	**Sg**	**05 17 53.8**	**-1.0**
KIW	**Kapiti Island**	**0.86**	**2**	P	**Pb**	**05 17 47.0**	**0.0**
KIW				S	**Sg**	**05 17 57.6**	**-0.1**
OGWZ	**Otaki Gorge**	**0.93**	**14**	P	**Pg**	**05 17 48.0**	**+0.1**
OGWZ				S	**Sg**	**05 17 59.6**	**-0.4**
HOWZ	**Holdsworth Sta**	**0.96**	**31**	P	**Pb**	**05 17 48.6**	**-0.1**
TMWZ	**Te Maipa**	**0.99**	**52**	P	**Pg**	**05 17 48.9**	**+0.1**
DUWZ	**D'Urville Isla**	**1.16**	**322**	P	**Pg**	**05 17 51.9**	**-0.3**
MRZ	**Mangatainoka R**	**1.19**	**27**	P	**Pb**	**05 17 51.8**	**-0.8**
KHZ	**Kahutara**	**1.21**	**234**	P	**Pn**	**05 17 52.9**	**0.0**
KHZ	**Kahutara**	**1.21**	**234**	P	**Pn**	**05 17 53.0**	**+0.2**
TIWZ	**Tintock**	**1.22**	**40**	P	**Pb**	**05 17 52.5**	**-0.6**
NNZ	**Nelson**	**1.22**	**294**	P	**Pn**	**05 17 52.5**	**-0.6**
CPWZ	**Castlepoint**	**1.29**	**52**	P	**Pn**	**05 17 53.4**	**-0.7**
PRWZ	**Pori Road**	**1.44**	**36**	P	**Pn**	**05 17 55.7**	**-0.4**
THZ	**Tophouse**	**1.47**	**268**	P	**Pn**	**05 17 56.4**	**-0.1**
BFZ	**Birch Farm**	**1.47**	**46**	P	**Pn**	**05 17 55.3**	**-1.3**
BFZ	**Birch Farm**	**1.47**	**46**	P	**Pn**	**05 17 55.2**	**-1.4**
POWZ	**Post Office Ro**	**1.50**	**28**	P	**Pn**	**05 17 56.1**	**-0.8**
TKNZ	**Takaka Hill**	**1.59**	**295**	P	**Pn**	**05 17 58.2**	**0.0**
MRNZ	**Matariki Terra**	**1.61**	**281**	P	**Pn**	**05 17 58.4**	**-0.1**
DVHZ	**Dannevirke**	**1.73**	**35**	P	**Pn**	**05 17 58.5**	**-1.6**
ANWZ	**Angora Road**	**1.75**	**45**	P	**Pn**	**05 17 59.2**	**-1.2**
GVZ	**Greta Valley S**	**1.84**	**227**	P	**Pn**	**05 18 01.7**	**0.0**
TSZ	**Takapari Road**	**1.86**	**27**	P	**Pn**	**05 18 01.0**	**-0.9**
WAZ	**Wanganui**	**1.97**	**3**	P	**Pn**	**05 18 04.5**	**+1.1**
QRZ	**Quartz Range**	**1.97**	**296**	P	**Pn**	**05 18 04.0**	**+0.6**
QRZ	**Quartz Range**	**1.97**	**296**	P	**Pn**	**05 18 04.1**	**+0.6**
PRHZ	**Porangahau**	**1.98**	**43**	P	**Pn**	**05 18 02.1**	**-1.4**
WPHZ	**Waipukurau**	**2.04**	**36**	P	**Pn**	**05 18 05.7**	**+1.2**
PNHZ	**Pukenui**	**2.07**	**30**	P	**Pn**	**05 18 03.4**	**-1.4**
LTZ	**Lake Taylor**	**2.20**	**240**	P	**Pn**	**05 18 06.4**	**-0.2**
PXZ	**Pawanui**	**2.27**	**43**	P	**Pn**	**05 18 06.9**	**-0.6**
DSZ	**Denniston Nort**	**2.29**	**268**	P	**Pn**	**05 18 07.9**	**0.0**
KRHZ	**Kereru**	**2.37**	**29**	P	**Pn**	**05 18 08.4**	**-0.6**
MTVZ	**Mangateitei**	**2.38**	**11**	P	**Pn**	**05 18 09.6**	**+0.5**
OKCZ	**Okains Bay**	**2.40**	**213**	P	**Pn**	**05 18 08.7**	**-0.7**
MOVZ	**Moawhango**	**2.41**	**17**	P	**Pn**	**05 18 08.8**	**-0.7**
PREZ	**Palmer Road**	**2.44**	**347**	P	**Pn**	**05 18 11.9**	**+2.0**
WNVZ	**Wahianoa**	**2.46**	**13**	P	**Pn**	**05 18 10.9**	**+0.6**
KAHZ	**Kahuranaki**	**2.46**	**39**	P	**Pn**	**05 18 09.6**	**-0.5**
TRVZ	**Turoa**	**2.48**	**12**	P	**Pb**	**05 18 14.8**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.50**	**13**	P	**Pn**	**05 18 11.9**	**+1.0**
KHEZ	**Kahui Hut**	**2.51**	**345**	P	**Pn**	**05 18 13.2**	**+2.3**
KHEZ	**Kahui Hut**	**2.51**	**345**	P	**Pn**	**05 18 13.2**	**+2.3**
NEZ	**North Egmont**	**2.52**	**346**	P	**Pb**	**05 18 13.5**	**-1.8**
FWVZ	**Far West T-bar**	**2.52**	**12**	P	**Pb**	**05 18 14.3**	**-1.1**
TUVZ	**Tukino**	**2.52**	**14**	P	**Pn**	**05 18 11.2**	**0.0**
MQZ	**McQueen's Vall**	**2.57**	**219**	P	**Pn**	**05 18 10.4**	**-1.2**
NBEZ	**Newall Road No**	**2.57**	**342**	P	**Pb**	**05 18 14.7**	**-1.4**
COVZ	**Chateau Observ**	**2.57**	**12**	P	**Pb**	**05 18 15.7**	**-0.5**
KWHZ	**Kaweka Forest**	**2.58**	**28**	P	**Pn**	**05 18 10.5**	**-1.5**
AKCZ	**Akaroa Harbour**	**2.59**	**213**	P	**Pn**	**05 18 11.2**	**-0.7**
VRZ	**Vera Road**	**2.60**	**358**	P	**Pb**	**05 18 14.7**	**-1.9**
SNVZ	**South Ngauruho**	**2.60**	**13**	P	**Pn**	**05 18 12.2**	**-0.1**
NGZ	**Ngauruhoe**	**2.60**	**13**	P	**Pn**	**05 18 12.3**	**0.0**
OTVZ	**Oturere**	**2.63**	**14**	P	**Pn**	**05 18 12.6**	**0.0**
OXZ	**Oxford**	**2.63**	**232**	P	**Pn**	**05 18 11.3**	**-1.2**
NNVZ	**North Ngauruho**	**2.65**	**13**	P	**Pn**	**05 18 13.0**	**+0.1**
WTVZ	**West Tongariro**	**2.66**	**12**	P	**Pn**	**05 18 13.2**	**+0.2**
ETVZ	**East Tongariro**	**2.66**	**14**	P	**Pn**	**05 18 13.0**	**-0.1**
TMVZ	**Te Maari**	**2.68**	**14**	P	**Pn**	**05 18 13.3**	**0.0**
KRVZ	**Karewarewa**	**2.69**	**13**	P	**Pn**	**05 18 14.2**	**+0.7**
NTVZ	**North Tongarir**	**2.69**	**14**	P	**Pn**	**05 18 13.3**	**-0.2**
INZ	**Inchbonnie**	**2.73**	**247**	P	**Pn**	**05 18 14.4**	**+0.5**
RACZ	**Rakaia**	**2.84**	**224**	P	**Pn**	**05 18 14.7**	**-0.6**
BKZ	**Black Stump Fm**	**2.84**	**26**	P	**Pn**	**05 18 16.6**	**+1.2**
WACZ	**Wakanui South**	**3.14**	**224**	P	**Pn**	**05 18 18.6**	**-0.9**
HIZ	**Hauiti**	**3.21**	**360**	P	**Pn**	**05 18 22.8**	**+2.4**
RPZ	**Rata Peaks**	**3.44**	**233**	P	**Pn**	**05 18 23.0**	**-0.7**
ODZ	**Otahua Downs**	**4.53**	**221**	P	**Pn**	**05 18 37.9**	**-0.6**

*HEL **30** 05:23:04.7±0.3, 67°.87N×20°.04E, h0km, ML1.5, Explosion*
*IDC **30** 05:23:05.9±1.4, 67°.84N×20°.64E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=22.7km s-min=8.4km az=120.0*
ISC 30 05:23:04.9±1.4, **67°.89N**±0°.03×**20°.10E**±0°.07, **h0**km, **n22**, σ1°**39**/36, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**76**	PG	**Pg**	**05 23 18.5**	**-0.4**
LANU				SG	**Sg**	**05 23 27.2**	**-1.3**
KIF	**Kilpisjarvi**	**1.15**	**13**	*e*P	**Pn**	**05 23 28.3**	**0.0**
KIF	**Kilpisjarvi**	**1.15**	**13**	PN	**Pn**	**05 23 28.3**	**0.0**
KIF				MSG		05 23 41.3	
	comp=Z,4.1nm,0.2s						
KIF				SN	**Sn**	**05 23 44.2**	**-0.4**
HEF	**Hetta**	**1.43**	**67**	*e*P	**Pn**	**05 23 31.3**	**-0.9**
HEF	**Hetta**	**1.43**	**67**	PG	**Pn**	**05 23 31.2**	**-0.9**
	baz=248						
HEF				MSG		05 23 48.5	
	comp=Z,2.2nm,0.2s						
HEF				SG	**Sg**	**05 23 50.2**	**-0.6**
ERTU	**Ertsjaerv**	**1.57**	**148**	PG	**Pn**	**05 23 32.7**	**-1.2**
ERTU				SN	**Sn**	**05 23 53.7**	**-1.2**
KTK1	**Kautokeino**	**1.62**	**44**	PG	**Pn**	**05 23 34.7**	**0.0**
KTK1				SN	**Sg**	**05 23 58.1**	**+1.2**
KLF	**Kolari**	**1.62**	**112**	PG	**Pn**	**05 23 34.2**	**-0.5**
	baz=293						
KLF				MSG		05 23 53.7	
	comp=Z,2.8nm,0.2s						
KLF				SG	**Sn**	**05 23 56.0**	**-0.2**
KALU	**Kalix**	**2.41**	**146**	PG	**Pn**	**05 23 46.0**	**+0.6**
	baz=326						
KALU				SG	**Sn**	**05 24 17.7**	**+2.1**
TOF	**Tornio**	**2.46**	**136**	PB	**Pn**	**05 23 47.5**	**+1.4**
TOF				MSG		05 24 17.5	
	comp=Z,2.3nm,0.2s						
TOF				SG	**Sb**	**05 24 20.0**	**-0.7**
ARA0	**ARCESS Array S**	**2.58**	**48**	PG	**Pb**	**05 23 51.4**	**-0.5**
	baz=229						
ARA0				SG	**Sb**	**05 24 23.7**	**-0.4**
ARCES	**ARCESS Array B**	**2.58**	**48**	Pn	**Pn**	**05 23 48.7**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=226,slow=16,SNR=9.9						
ARCES				Lg	Lg	05 24 22.5	
	comp=Z,1.3nm,0.3s,baz=229,slow=26,SNR=14						
	comp=Z,0.7nm,0.3s						
RNF	**Rovaniemi**	**2.63**	**116**	PB	**Pn**	**05 23 50.2**	**+1.6**
RNF				SB	**Sb**	**05 24 24.2**	**-1.4**
RAJF	**Raja-Jooseppi**	**3.12**	**75**	PB	**Pn**	**05 23 57.5**	**+2.2**
RAJF				SG	**Sb**	**05 24 39.4**	**-0.4**
KEV	**Kevo**	**3.13**	**50**	SN	**Sn**	**05 24 35.2**	**+1.7**
RANF	**Ranua**	**3.23**	**122**	PB	**Pn**	**05 23 58.4**	**+1.6**
RANF				SG	**Sb**	**05 24 44.0**	**+1.0**
VRF	**Varrio**	**3.61**	**88**	PG	**Pb**	**05 24 10.3**	**+0.8**
	baz=274						
OUL	**Oulu**	**3.65**	**138**	PB	**Pn**	**05 24 05.5**	**+3.0**
OUL				SG	**Sb**	**05 24 55.5**	**+0.6**
OLKF	**Oulanka, Finla**	**3.96**	**109**	PG	**Pb**	**05 24 16.9**	**+1.4**
KU6	**Riekki**	**4.28**	**111**	PG	**Pb**	**05 24 21.5**	**+0.6**
KU6				SG	**Sg**	**05 25 18.0**	**-4.2**
FINES	**FINESS Array B**	**6.96**	**156**	Pn	**Pn**	**05 24 47.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=4.0						
FINES				Lg	Lg	05 26 40.5	
	comp=Z,0.3nm,0.3s,baz=340,slow=27,SNR=8.3						
	comp=Z,1.1nm,0.8s						
NOA	**NORSAR Array B**	**7.86**	**213**	Pn	**Pn**	**05 25 00.0**	**-0.3**
	baz=34,slow=1.8,SNR=4.2						
	comp=Z,0.4nm,0.8s						

*NEIC **30** 05:25:09.4±1.4, 9°.84S±0°.04×161°.0E±0°.1, h65km±8km, mb4.2/14, Error ellipse: s-maj=14.9km s-min=4.4km az=99.0*
*IDC **30** 05:25:09.8±2.3, 9°.84S×161°.06E, h61km±18km, mb3.6/11, mbtmp3.9/12, MS3.5/3, Error ellipse: s-maj=22.9km s-min=19.8km az=79.0*
ISC 30 05:25:09.3±0.5, **9°.93S**±0°.04×**161°.10E**±0°.04, **h67**km, **n52**, σ1°**49**/53, **mb3.9**/17, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.95**	**124**	P	**Pn**	**05 25 23.9**	**-3.1**
HURO	**Huro Makira**	**0.95**	**124**	S	**Sn**	**05 25 37.6**	**-2.5**
ALEG	**Aligegeo Malai**	**1.24**	**341**	P	**Pn**	**05 25 27.7**	**-3.0**
ALEG	**Aligegeo Malai**	**1.24**	**341**	S	**Sn**	**05 25 45.1**	**-1.6**
HNR	**Honiara**	**1.24**	**294**	P	**Pn**	**05 25 28.3**	**-2.4**
	3μm,0.3s,baz=141,slow=8.5,SNR=238						
HNR				S	**Sn**	**05 25 45.5**	**-1.2**
	9μm,0.3s,baz=201,slow=23,SNR=29						
HNR	**Honiara**	**1.24**	**294**	P	**Pn**	**05 25 28.7**	**-2.0**
HNR	**Honiara**	**1.24**	**294**	S	**Sn**	**05 25 46.2**	**-0.6**
SAVO	**Savo Central**	**1.49**	**302**	P	**Pn**	**05 25 32.4**	**-1.6**
SAVO	**Savo Central**	**1.49**	**302**	S	**Sn**	**05 25 53.3**	**+0.6**
NGOA	**Tingoa Renbel**	**1.91**	**212**	P	**Pn**	**05 25 37.3**	**-2.3**
NGOA	**Tingoa Renbel**	**1.91**	**212**	S	**Sn**	**05 26 01.4**	**-1.2**
TATA	**Tatamba Isabel**	**2.00**	**320**	P	**Pn**	**05 25 39.9**	**-0.9**
LUES	**Lu

DZM	**Mont Dzumac**	**13.11**	**158**	P	**Pn**	**05 28 13.6**	**+0.9**
YATNC	**Mamie plateau,**	**13.28**	**156**	P	**Pn**	**05 28 16.5**	**+1.7**
ONTNC	**Ouen Toro**	**13.33**	**158**	Pn	**Pn**	**05 28 17.8**	**+2.3**
PMG	**Port Moresby**	**13.75**	**271**	Pn	**Pn**	**05 28 18.4**	**-2.8**
PINNC	**Pines Island,**	**14.00**	**155**	Pn	**Pn**	**05 28 24.9**	**+0.5**
PATS	**Pohnpei**	**16.89**	**350**	P	**P**	**05 29 00.5**	**-2.0**
COEN	**Coen**	**17.98**	**255**	P	**Pn**	**05 29 13.4**	**-1.4**
EIDS	**Eidsvold**	**18.06**	**211**	P	**P**	**05 29 14.6**	**-0.8**
EIDS				IAmb	IAmb	05 29 21.7	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**27.66**	**246**	P	**P**	**05 30 50.5**	**-0.6**
WRA	**Warramunga Arr**	**27.66**	**246**	P	**P**	**05 30 51.9**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=74,slow=9.0,SNR=11						
	comp=Z,1.4nm,0.4s						
STKA	**Stephens Creek**	**28.34**	**217**	P	**P**	**05 30 59.4**	**+2.4**
	comp=Z,2.0nm,0.9s,baz=317,slow=8.5,SNR=3.1						
STKA				LR	LR	05 41 30.3	
	comp=Z,108nm,18.4s,baz=14,slow=34						
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**29.32**	**239**	P	**P**	**05 31 06.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=64,slow=10,SNR=5.3						
ASAR				LR	LR	05 41 28.3	
	comp=Z,83nm,20.5s,baz=55,slow=33						
	comp=Z,0.3nm,0.5s						
KNRA	**Kununurra**	**32.02**	**256**	P	**P**	**05 31 28.9**	**-0.7**
KNRA				IAmb	IAmb	05 31 51.2	
	comp=Z,5.7nm,0.9s						
BBOO	**Buckleboo**	**32.42**	**222**	P	**P**	**05 31 33.0**	**0.0**
LTZ	**Lake Taylor**	**34.15**	**165**	P	**P**	**05 31 48.6**	**+0.7**
RAR	**Rarotonga**	**39.22**	**111**	LR	LR	05 47 01.1	
	comp=Z,53nm,19.0s,baz=162,slow=33						
CMAR	**Chiang Mai Arr**	**67.49**	**295**	P	**P**	**05 35 59.6**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=104,slow=7.5,SNR=1.3						
	comp=Z,1.4nm,0.3s						
SONM	**Songino Array**	**75.11**	**325**	P	**P**	**05 36 45.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=138,slow=4.5,SNR=4.0						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**80.06**	**180**	P	**P**	**05 37 12.1**	**+0.5**
QSPA				IAmb	IAmb	05 37 30.4	
	comp=Z,4.0nm,1.1s						
QSPA	**South Pole Qui**	**80.06**	**180**	P	**P**	**05 37 14.2**	**+2.6**
	comp=Z,1.2nm,0.8s,baz=331,slow=2.0,SNR=2.5						
	comp=Z,1.2nm,0.8s						
N25K	**Chitina, Valde**	**82.86**	**23**	P	**P**	**05 37 26.2**	**-0.1**
N25K				IAmb	IAmb	05 37 42.0	
	comp=Z,3.5nm,1.1s						
M26K	**Nabesna, AK**	**83.94**	**23**	P	**P**	**05 37 31.1**	**-0.7**
M26K				IAmb	IAmb	05 37 50.8	
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**83.97**	**20**	P	**P**	**05 37 32.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=240,slow=4.8,SNR=5.0						
	comp=Z,0.3nm,0.5s						
MAW	**Mawson**	**84.01**	**202**	P	**P**	**05 37 32.5**	**+0.5**
MAW				IAmb	IAmb	05 37 34.1	
	comp=Z,3.0nm,0.9s						
J25K	**Salcha River,**	**84.39**	**20**	P	**P**	**05 37 33.3**	**-0.7**
B20K	**Meade River**	**84.73**	**13**	P	**P**	**05 37 36.1**	**+0.6**
B20K				IAmb	IAmb	05 38 00.5	
	comp=Z,2.9nm,1.1s						
BCAR	**Beaver Creek A**	**84.78**	**23**	P	**P**	**05 37 36.4**	**+0.4**
D22K	**Ayikyak River**	**84.99**	**15**	P	**P**	**05 37 37.4**	**+0.5**
D22K				IAmb	IAmb	05 37 56.6	
	comp=Z,1.7nm,0.9s						
NVAR	**Mina Array Bea**	**88.84**	**51**	P	**P**	**05 37 58.8**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=321,slow=3.1,SNR=1.8						
	comp=Z,0.2nm,0.7s						
MK31	**Makanchi Array**	**89.61**	**318**	P	**P**	**05 37 59.0**	**-0.6**
MKAR	**Makanchi Array**	**89.61**	**318**	P	**P**	**05 37 58.9**	**-0.8**
MKAR	**Makanchi Array**	**89.61**	**318**	P	**P**	**05 37 59.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=104,slow=4.1,SNR=3.8						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**96.10**	**28**	P	**P**	**05 38 29.9**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=254,slow=4.9,SNR=2.5						
	comp=Z,0.1nm,0.6s						
PDAR	**Pinedale Array**	**96.18**	**48**	P	**P**	**05 38 31.1**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=13,slow=1.3,SNR=1.3						
	comp=Z,0.1nm,0.4s						

*IDC **30** 05:47:54.0±4.3, 37°.88N×20°.57E, h0km, mb3.6/6, mbtmp3.5/9, ML2.7/2, Error ellipse: s-maj=84.4km s-min=22.0km az=40.0*
*THE **30** 05:47:55.1, 37°.64N×20°.62E, h0km±2km, ML3.5/7, Error ellipse: s-maj=3.2km s-min=0.5km az=226.0*
*ATH **30** 05:47:55.3, 37°.68N×20°.63E, h12km, ML3.6/19, Manual Solution by A.Papageorgiou First location: 2019/03/30 05:48:49, This location: 2020/07/09 14:24:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*NAO **30** 05:48:26.3, 41°.14N×24°.05E, h33km, mb3.0*
ISC 30 05:47:55.3±0.9, 37°.73N±0°.03×20°.64E±0°.03, h13km±5km, n80, σ1§09/127, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.13**	**19**	P	**Pb**	**05 47 59.6**	**-0.1**
ORTH				S	**Sb**	**05 48 02.7**	**+0.1**
KRI1	**kERI**	**0.15**	**115**	P	**Pg**	**05 47 58.9**	**-0.1**
KRI1				S	**Sg**	**05 48 01.2**	**-0.4**
LTHK	**Lithakia**	**0.15**	**97**	P	**Pg**	**05 47 59.1**	**0.0**
LTHK				S	**Sg**	**05 48 01.6**	**0.0**
	67μm,0.2s						
LTHK	**Lithakia**	**0.15**	**97**	P	**Pg**	**05 47 59.0**	**0.0**
LTHK				S	**Sg**	**05 48 01.1**	**-0.5**
KYPS	**Kipseli, Zakin**	**0.17**	**58**	P	**Pb**	**05 48 00.3**	**0.0**
KYPS				S	**Sb**	**05 48 03.1**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.36**	**16**	P	**Pb**	**05 48 03.9**	**+0.3**
RTZL				S	**Sb**	**05 48 10.6**	**+1.4**
PSDA	**Pessada-Kefalo**	**0.39**	**353**	P	**Pb**	**05 48 04.4**	**+0.3**
PSDA				S	**Sb**	**05 48 11.5**	**+1.5**
	15μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.39**	**353**	P	**Pb**	**05 48 04.3**	**+0.3**
PSDA				S	**Sb**	**05 48 09.7**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**0.42**	**67**	P	**Pb**	**05 48 04.4**	**-0.3**
CLEM				S	**Sb**	**05 48 10.1**	**-0.8**
VLS	**Valsamata**	**0.45**	**355**	P	**Pb**	**05 48 05.2**	**+0.1**
VLS				S	**Sb**	**05 48 13.2**	**+1.4**
	6μm,0.3s						
VLS	**Valsamata**	**0.45**	**355**	P	**Pb**	**05 48 05.3**	**+0.1**
VLS				S	**Sb**	**05 48 12.3**	**+0.5**
SMHA	**Samh**	**0.52**	**0**	P	**Pg**	**05 48 05.8**	**+0.2**
SMHA				S	**Sb**	**05 48 13.5**	**-0.3**
LCHA	**Lechaina**	**0.53**	**67**	P	**Pg**	**05 48 05.5**	**-0.3**
LCHA				S	**Sb**	**05 48 13.7**	**-0.4**
DMLN	**Damoulianata-K**	**0.55**	**337**	P	**Pb**	**05 48 07.1**	**+0.2**
DMLN				S	**Sb**	**05 48 15.9**	**+1.2**
YRMI	**Loutra Irminis**	**0.67**	**56**	P	**Pg**	**05 48 08.5**	**+0.1**
YRMI				S	**Sg**	**05 48 16.9**	**-0.4**
RLS	**Riolos of Patr**	**0.73**	**63**	P	**Pb**	**05 48 09.8**	**0.0**
RLS				S	**Sn**	**05 48 21.2**	**-1.1**
	3μm,0.3s						
RLS	**Riolos of Patr**	**0.73**	**63**	P	**Pb**	**05 48 09.9**	**0.0**
RLS				S	**Sb**	**05 48 20.1**	**+0.3**
FSK	**Fiskardo**	**0.73**	**355**	P	**Pb**	**05 48 10.0**	**+0.1**
FSK				S	**Sn**	**05 48 22.4**	**0.0**
	4μm,0.3s						
FSK	**Fiskardo**	**0.73**	**355**	P	**Pb**	**05 48 10.1**	**+0.1**
FSK				S	**Sn**	**05 48 21.6**	**-0.9**
AXS	**Araxos**	**0.74**	**51**	P	**Pb**	**05 48 09.9**	**-0.3**
AXS				S	**Sb**	**05 48 20.6**	**+0.3**
ZARO	**Zacharo**	**0.83**	**106**	P	**Pb**	**05 48 11.7**	**+0.1**
ZARO				S	**Sb**	**05 48 22.4**	**-0.4**
AMT	**Artemida-Makis**	**0.87**	**103**	P	**Pb**	**05 48 12.0**	**-0.2**
AMT				S	**Sb**	**05 48 24.0**	**+0.2**
DRO	**Drossia**	**0.87**	**75**	P	**Pb**	**05 48 12.2**	**-0.2**
DRO				S	**Sn**	**05 48 25.6**	**-0.4**
	3μm,0.3s						
DRO	**Drossia**	**0.87**	**75**	P	**Pb**	**05 48 12.3**	**0.0**
DRO				S	**Sb**	**05 48 24.4**	**+0.4**
EVGI	**Lefkada island**	**0.89**	**1**	P	**Pb**	**05 48 12.9**	**+0.2**
EVGI				S	**Sn**	**05 48 26.9**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.96**	**357**	P	**Pn**	**05 48 14.1**	**-0.4**
DRAG				S	**Sn**	**05 48 28.8**	**+0.8**
NYDR	**Nydri-Lefkada**	**0.98**	**3**	P	**Pn**	**05 48 14.7**	**-0.1**
NYDR				S	**Sn**	**05 48 29.3**	**+0.7**
PATC	**Patra C**	**1.03**	**58**	P	**Pn**	**05 48 15.8**	**+0.3**
PATC				S	**Sn**	**05 48 29.8**	**-0.1**
LKD2	**Lefkada island**	**1.06**	**1**	P	**Pg**	**05 48 15.8**	**0.0**
LKD2				S	**Sn**	**05 48 31.4**	**+0.9**
UPR	**University Cam**	**1.06**	**58**	P	**Pn**	**05 48 16.3**	**+0.4**
UPR				S	**Sn**	**05 48 30.4**	**-0.1**
TSLK	**Tsoukalades, L**	**1.09**	**1**	P	**Pg**	**05 48 16.8**	**+0.3**
TSLK				S	**Sn**	**05 48 31.8**	**+0.4**
PVO	**Paravola**	**1.13**	**38**	P	**Pg**	**05 48 17.5**	**+0.4**
PVO				S	**Sn**	**05 48 32.8**	**+0.7**
ITM	**Ithomi**	**1.16**	**118**	P	**Pb**	**05 48 16.2**	**-1.0**
ITM				S	**Sn**	**05 48 33.1**	**+0.1**
	1μm,0.5s						
ITM	**Ithomi**	**1.16**	**118**	P	**Pb**	**05 48 16.7**	**-0.5**
ITM				S	**Sg**	**05 48 32.3**	**-0.4**
EFP	**Efpalio**	**1.22**	**55**	P	**Pb**	**05 48 18.3**	**+0.1**
EFP				S	**Sb**	**05 48 33.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.23**	**75**	P	**Pb**	**05 48 18.4**	**-0.1**
KLV				S	**Sb**	**05 48 34.1**	**-0.2**
SERG	**Sergoula**	**1.31**	**58**	P	**Pb**	**05 48 19.6**	**-0.1**
SERG				S	**Sg**	**05 48 37.3**	**-0.2**
ANX	**Ano Chora**	**1.33**	**49**	P	**Pb**	**05 48 20.2**	**+0.1**
ANX				S	**Sg**	**05 48 38.9**	**+0.7**
KALE	**Kalithea**	**1.35**	**60**	P	**Pb**	**05 48 20.6**	**0.0**
KALE				S	**Sg**	**05 48 38.7**	**-0.3**
GUR	**Goura**	**1.36**	**81**	P	**Pb**	**05 48 20.6**	**-0.1**
GUR				S	**Sg**	**05 48 39.1**	**-0.1**
VLX	**Vlachokerasia**	**1.43**	**104**	P	**Pb**	**05 48 21.8**	**0.0**
VLX				S	**Sb**	**05 48 40.2**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.69**	**17**	P	**Pb**	**05 48 26.9**	**+0.6**
TETR				S	**Sb**	**05 48 48.0**	**+0.5**
LTK	**Loutraki**	**1.86**	**80**	P	**Pb**	**05 48 28.2**	**-1.0**
AXAR	**Agios Charalam**	**1.90**	**56**	P	**Pb**	**05 48 28.9**	**-0.9**
VLI	**Veliai**	**2.09**	**118**	P	**Pn**	**05 48 30.4**	**+0.4**
OHR	**Ohrid**	**3.38**	**2**	*i* Pn	**Pb**	**05 48 51.6**	**-3.5**
VAY	**Valandovo**	**3.89**	**22**	*e*Pn	**Pb**	**05 49 00.7**	**-2.9**
IDI	**Anoyia**	**4.20**	**124**	Pn	**Pn**	**05 49 00.9**	**+1.8**
	25nm,1.0s,baz=250,slow=14,SNR=1.8						
IDI				Sn	**Sn**	**05 49 48.6**	**+0.5**
	5.8nm,0.3s,baz=322,slow=20,SNR=12						
DRME	**Dracevica, Mon**	**4.59**	**346**	*e*Pn	**Pn**	**05 49 05.3**	**+0.9**
PDG	**Podgorica**	**4.82**	**348**	*e*Pn	**Pn**	**05 49 07.9**	**+0.4**
TREB	**Trebinje**	**5.28**	**341**	*e*Pn	**Pn**	**05 49 13.0**	**-0.9**
BRY	**Bratogost**	**5.41**	**343**	*e*Pn	**Pn**	**05 49 15.7**	**-0.1**
SJES	**Sjenica**	**5.55**	**355**	*e*Pn	**Pn**	**05 49 19.8**	**+2.1**
STON	**Ston**	**5.61**	**337**	*e*Pn	**Pn**	**05 49 18.1**	**-0.3**
RUDO	**Rudo**	**5.96**	**351**	*e*Pn	**Pn**	**05 49 23.9**	**+0.6**
BBLS	**Lazi&#263i**	**6.20**	**352**	*e*Pn	**Pn**	**05 49 30.3**	**+3.7**
TEKS	**Tekeris**	**6.87**	**353**	*e*Pn	**Pn**	**05 49 35.1**	**-0.6**
A050A	**Klekovaca**	**7.43**	**337**	*e*Pn	**Pn**	**05 49 44.5**	**+1.1**
BLY	**Banja Luka**	**7.48**	**341**	*e*Pn	**Pn**	**05 49 46.6**	**+2.5**
A051A	**Mrakovica**	**7.80**	**340**	*e*Pn	**Pn**	**05 49 48.4**	**-0.1**
BOJS	**Bojanci**	**8.75**	**334**	*e*Pn	**Pn**	**05 50 01.2**	**-0.3**
SKDS	**Skadanscina**	**9.25**	**330**	*e*Pn	**Pn**	**05 50 06.5**	**-1.9**
CEY	**Cerknica**	**9.25**	**332**	*e*Pn	**Pn**	**05 50 08.4**	**0.0**
SOKA	**Soboth**	**9.86**	**337**	*i* Pn	**Pn**	**05 50 16.8**	**0.0**
	1.4nm,0.2s,SNR=7.3						
SOKA				*i* Sn	**Sn**	**05 52 01.8**	**-5.6**
	0.9nm,0.4s						
OBKA	**Obir**	**9.87**	**335**	*i* Pn	**Pn**	**05 50 18.1**	**+1.1**
	1.0nm,0.2s						
OBKA				*i* Sn	**Sn**	**05 52 05.0**	**-2.6**
	2.6nm,0.3s						
OBKA	**Obir**	**9.87**	**335**	*e*Pn	**Pn**	**05 50 18.0**	**+1.1**
BRTR	**Keskin Array B**	**10.35**	**75**	Pn	**Pn**	**05 50 26.1**	**+2.5**
	0.1nm,0.3s,baz=265,slow=10,SNR=2.4						
	0.4nm,0.6s						
ABTA	**Abfaltersbach**	**10.84**	**329**	*i* Pn	**Pn**	**05 50 31.0**	**+0.8**
	0.3nm,0.2s						
ABTA				*e*Sn	**Sn**	**05 52 29.0**	**-2.3**
	4.2nm,1.0s						
MOA	**Molln**	**11.14**	**337**	*i* Pn	**Pn**	**05 50 35.6**	**+1.4**
	1.0nm,0.2s						
LESA	**Schwarzleotal**	**11.32**	**331**	*i* Pn	**Pn**	**05 50 38.2**	**+1.4**
	3.9nm,0.5s,SNR=6.2						
LESA				*i* Sn	**Sn**	**05 52 41.4**	**-1.8**
	2.0nm,0.5s						
MOTA	**Moosalm**	**11.90**	**327**	*i* Pn	**Pn**	**05 50 46.4**	**+1.6**
	0.9nm,0.3s						
GERES	**GERESS Array B**	**12.20**	**338**	Pn	**Pn**	**05 50 46.8**	**-2.0**
	baz=159,slow=15,SNR=4.4						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**14.34**	**23**	Pn	**P**	**05 51 24.5**	**-0.5**
	0.7nm,0.3s,baz=211,slow=8.3,SNR=5.0						
HFS	**Hagfors**	**22.86**	**351**	P	**P**	**05 52 58.0**	**-0.2**
	2.0nm,0.5s,baz=149,slow=12,SNR=6.6						
	2.0nm,0.5s						
FINES	**FINESS Array B**	**23.98**	**6**	P	**P**	**05 53 09.3**	**+0.1**
	2.9nm,0.9s,baz=177,slow=12,SNR=4.9						
	2.9nm,0.9s						
NB2	**NORSAR Subarra**	**24.08**	**349**	P	**P**	**05 53 11.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=153,slow=11						
NOA	**NORSAR Array B**	**24.08**	**349**	P	**P**	**05 53 09.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=147,slow=9.1,SNR=3.3						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**42.42**	**53**	P	**P**	**05 55 50.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=281,slow=8.8,SNR=4.7						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.46**	**58**	P	**P**	**05 56 14.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=269,slow=8.2,SNR=5.5						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**45.92**	**48**	P	**P**	**05 56 17.2**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=277,slow=8.6,SNR=4.8						
	comp=Z,0.8nm,0.5s						

*VIE **30** 06:06:50.0±1.1, 43°.69N×16°.66E, h8km, mb2.5/6, ml2.4/11, Error ellipse: s-maj=12.8km s-min=7.8km az=56.0*
*RHSSO **30** 06:06:50.1±0.5, 43°.68N×16°.46E, h4km±2km, ML2.5/10*
ISC 30 06:06:48.3±1.2, 43°.66N±0°.03×16°.46E±0°.03, h1km±10km, n43, σ1§44/68, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.35**	**353**	*i* Pg	**Pg**	**06 06 54.8**	**-0.2**
KIJV				Sg	**Sg**	**06 06 59.9**	**+0.4**
HVAR	**Hvar**	**0.48**	**181**	*e*Pg	**Pb**	**06 06 58.5**	**-1.0**
MAKA	**Makarska**	**0.55**	**132**	*e*Pg	**Pg**	**06 06 59.6**	**+0.8**
MORI	**Morici**	**0.59**	**291**	*e*Pg	**Pg**	**06 06 59.6**	**+0.1**
ZIRJ	**Zirje**	**0.59**	**270**	*i* Pg	**Pg**	**06 07 00.2**	**+0.5**
A050A	**Klekovaca**	**0.82**	**3**	*e*Pg	**Pg**	**06 07 03.9**	**-0.2**
A050A				*e*Sg	**Sg**	**06 07 15.9**	**+1.1**
LSTV	**Lastovo**	**0.94**	**160**	*e*Pg	**Pn**	**06 07 07.2**	**-1.4**
UDBI	**Udbina**	**1.00**	**330**	*e*Pg	**Pg**	**06 07 07.2**	**-0.4**
DUGI	**Dugi Otok**	**1.07**	**289**	*e*Pg	**Pg**	**06 07 08.7**	**-0.1**
STON	**Ston**	**1.20**	**131**	*e*Pg	**Pb**	**06 07 11.1**	**-0.6**
STON				*e*Sg	**Sn**	**06 07 28.0**	**-1.1**
STON	**Ston**	**1.20**	**131**	*e*Pg	**Pb**	**06 07 11.2**	**-0.6**
VIRC	**Vir**	**1.20**	**302**	*e*Pg	**Pb**	**06 07 10.8**	**-1.1**
BLY	**Banja Luka**	**1.21**	**25**	⇓*i*Pg	**Pn**	**06 07 11.5**	**-0.8**
BLY				*e*Sg	**Sg**	**06 07 28.1**	**+1.0**
PLIT	**Plitvice**	**1.36**	**334**	*e*Pg	**Pn**	**06 07 13.3**	**-1.2**
A051A	**Mrakovica**	**1.39**	**13**	*e*Pg	**Pb**	**06 07 14.7**	**-0.4**
A051A				*e*Sg	**Sg**	**06 07 33.9**	**+0.9**
KALIN	**Kalinovik**	**1.45**	**96**	*e*Pg	**Pg**	**06 07 16.8**	**+0.7**
KALIN				*e*Sg	**Sg**	**06 07 36.4**	**+1.5**
NVLJ	**Novalja**	**1.46**	**309**	*e*Pg	**Pb**	**06 07 15.4**	**-0.9**
DBRK	**Dubrovnik**	**1.58**	**128**	*e*Pn	**Pg**	**06 07 19.4**	**+0.8**
RABC	**Rab**	**1.63**	**313**	*e*Pn	**Pb**	**06 07 19.0**	**-0.1**
TREB	**Trebinje**	**1.67**	**124**	*e*Pn	**Pg**	**06 07 20.2**	**-0.1**
TREB				*e*Sn	**Sg**	**06 07 42.6**	**+0.7**
BRY	**Bratogost**	**1.69**	**116**	*e*Pn	**Pg**	**06 07 21.1**	**+0.3**
BRY				*e*Sn	**Sg**	**06 07 42.8**	**+0.1**
HCY	**Herceg Novi**	**1.92**	**128**	*e*Pn	**Pb**	**06 07 24.0**	**-0.1**
HCY				*e*Sn	**Sb**	**06 07 48.6**	**+0.1**
BOJS	**Bojanci**	**2.04**	**335**	*e*Pn	**Pb**	**06 07 25.0**	**-1.1**
BOJS				*e*Sn	**Sb**	**06 07 50.2**	**-1.8**
RUDO	**Rudo**	**2.11**	**90**	*e*Pn	**Pb**	**06 07 26.7**	**-0.7**
RUDO				*e*Sn	**Sb**	**06 07 52.9**	**-1.2**
BBLS	**Lazi&#263i**	**2.14**	**83**	*e*Pn	**Pb**	**06 07 27.4**	**-0.5**
BBLS				*e*Sn	**Sb**	**06 07 53.3**	**-1.7**
TEKS	**Tekeris**	**2.38**	**67**	*e*Pn	**Pn**	**06 07 29.8**	**+1.3**
PDG	**Podgorica**	**2.39**	**120**	*e*Sn	**Sb**	**06 08 00.2**	**-1.8**
CEY	**Cerknica**	**2.54**	**326**	*e*Pn	**Pb**	**06 07 32.4**	**-2.2**
CEY				*e*Sn	**Sn**	**06 08 03.1**	**+0.9**
SKDS	**Skadanscina**	**2.57**	**318**	*e*Pn	**Pb**	**06 07 32.6**	**-2.7**
SKDS				*e*Sn	**Sn**	**06 08 03.8**	**+0.7**
SJES	**Sjenica**	**2.59**	**98**	*e*Pn	**Pb**	**06 07 33.2**	**-2.3**
SJES				*e*Sn	**Sn**	**06 08 04.2**	**+0.6**
OBKA	**Obir**	**3.16**	**335**	*i* Pn	**Pn**	**06 07 41.2**	**+1.9**
	0.8nm,0.2s						
OBKA				*i* Sn	**Sb**	**06 08 20.4**	**-3.8**
	17nm,0.8s						
OBKA	**Obir**	**3.16**	**335**	*e*Pn	**Pn**	**06 07 40.2**	**+1.0**
OBKA				*e*Sn	**Sn**	**06 08 17.7**	**+0.1**
SOKA	**Soboth**	**3.18**	**342**	*i* Pn	**Pn**	**06 07 40.9**	**+1.3**
	0.8nm,0.2s						
SOKA				*i* Sn	**Sn**	**06 08 19.4**	**+1.2**
	1.9nm,0.5s						
ARSA	**Arzberg**	**3.65**	**350**	*i* Pn	**Pn**	**06 07 47.0**	**+1.0**
	1.6nm,0.2s						
ARSA				*i* Sn	**Sn**	**06 08 29.0**	**-0.8**
	1.3nm,0.6s						
ARSA	**Arzberg**	**3.65**	**350**	*e*Pn	**Pn**	**06 07 46.5**	**+0.5**
ARSA				*e*Sn	**Sn**	**06 08 29.7**	**0.0**
RONA	**Rosalia, Austr**	**4.04**	**358**	*i* Pn	**Pn**	**06 07 52.3**	**+0.9**
	0.7nm,0.2s						
KBA	**Koelnbreinsper**	**4.07**	**328**	*i* Sn	**Sn**	**06 08 42.7**	**+2.6**
	1.1nm,0.4s						
ABTA	**Abfaltersbach**	**4.16**	**319**	*i* Pn	**Pn**	**06 07 53.1**	**+0.1**
	0.1nm,0.2s						
ABTA				*i* Sn	**Sn**	**06 08 43.9**	**+1.4**
	1.2nm,0.4s						
CONA	**Conrad Observa**	**4.29**	**355**	*i* Pn	**Pn**	**06 07 53.6**	**-1.2**
	0.6nm,0.4s						
CONA				*e*Sn	**Sn**	**06 08 46.6**	**+1.0**
	1.7nm,0.4s						
MOA	**Molln**	**4.46**	**341**	*i* Pn	**Pn**	**06 07 59.3**	**+2.2**
	1.7nm,0.3s						
MOA				*i* Sn	**Sn**	**06 08 52.1**	**+2.3**
	2.1nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.49**	**335**	*i* Sn	**Sn**	**06 08 52.8**	**+2.4**
	4.0nm,0.6s						
LESA	**Schwarzleotal**	**4.61**	**326**	*i* Pn	**Pn**	**06 08 01.9**	**+2.7**
	1.6nm,0.4s						
LESA				*e*Sn	**Sn**	**06 08 56.2**	**+2.8**
	2.0nm,0.6s						
WTTA	**Wattenberg**	**4.95**	**318**	*i* Pn	**Pn**	**06 08 06.2**	**+2.2**
	1.4nm,0.2s						
WTTA				*i* Sn	**Sn**	**06 09 05.0**	**+3.1**
	2.6nm,0.4s						

*PRE **30** 06:27:07.8±2.0, 8°.37S×67°.52E, h5km±10km*
*BJI **30** 06:27:16.3, 10°.02S×65°.95E, h10km, mB6.1/79, mb5.5/93, Ms5.7/98, Ms7 5.4/95*
*IDC **30** 06:27:21.1±0.3, 9°.64S×66°.53E, h0km, mb5.5/37, mbtmp5.5/37, MS5.3/81, Error ellipse: s-maj=11.9km s-min=10.9km az=84.0*
*MOS **30** 06:27:22.4±0.9, 9°.58S×66°.53E, h19km, mb6.1/92, MS5.3/38, Error ellipse: s-maj=5.9km s-min=3.6km az=101.3*
*ISC-PP **30** 06:27:23, 9°.69S×66°.53E, h10km, Mwppsm6.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{18}Nm; M_{rr}0.80±.10; $M_{\theta\theta}$0.21±.12; $M_{\phi\phi}$-0.08±.08; $M_{r\theta}$-0.33±.10; $M_{\theta\phi}$0.03±.17; $M_{\phi r}$-0.21±.08; Fault plane solution: $M_0$1.05000×10^{18} NP1:ϕ_s233.30000°, δ58.30000°, λ119.40000°. NP2:ϕ_s6.20000°, δ42.20000°, λ51.50000°.*
*NEIC **30** 06:27:23.3±1.8, 9°.69S±0°.06×66°.53E±0°.05, h8km±1km, mb6.0/156, Ms_20 5.7/835, Mwb5.8/59, Mww5.8/38 Error ellipse: s-maj=13.8km s-min=2.8km az=140.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.78; $M_{\theta\theta}$1.59; $M_{\phi\phi}$-4.38; $M_{r\theta}$2.70; $M_{\theta\phi}$-2.64; $M_{\phi r}$0.36; Fault plane solution: $M_0$5.39000×10^{17} NP1:ϕ_s54.81000°, δ66.51000°, λ136.35000°. NP2:ϕ_s165.63000°, δ50.72000°, λ31.00000°. Principal axes: T 5.1696, Plg47.0000°, Azm13.0000°; N 0.4237, Plg42.0000°, Azm212.0000°; P -5.5933, Plg10.0000°, Azm114.0000°;*
*NEIC **30** 06:27:23.7, 9°.79S×67°.00E, h18km, Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^{17}Nm; M_{rr}6.13; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-6.03; $M_{r\theta}$1.34; $M_

FOMA	Nahampoana Res	23.95	228	⇓P	P	06 32 38.5	+1.1
MNGI	Mangalore	24.00	20	eP	P	06 32 38.9	+1.0
GOA	Goa	26.09	16	eP	P	06 32 57.3	+0.3
GOA				IAMs_20	IAMs_20	06 40 36.4	
	comp=Z,14μm,16.9s						
MDRS	Chennai	26.46	31	eP	P	06 32 58.8	-1.5
KAD	Karad	27.92	16	eP	P	06 33 14.0	+0.5
KAD				IAmb	IAmb	06 33 15.0	
	comp=Z,227nm,1.5s						
KAD				IAMs_20	IAMs_20	06 41 49.7	
	comp=Z,12μm,16.7s						
POO	Poona	29.00	15	eP	P	06 33 21.1	-2.1
POO				IAmb	IAmb	06 33 24.6	
POO				IAMs_20	IAMs_20	06 42 23.2	
	comp=Z,7μm,16.4s						
KIBK	Kibwezi	29.17	283	P	P	06 33 25.2	+0.4
KIBK				IAMs_20	IAMs_20	06 43 53.8	
	comp=Z,19μm,18.0s						
KIBK	Kibwezi	29.17	283	P	P	06 33 25.9	+1.1
	SNR=45						
HYB	Hyderabad	29.50	24	eP	P	06 33 27.2	-0.3
HYB				IVmB_BB		06 33 30.3	
	comp=Z,2μm,3.0s						
HYB				e		06 34 16.8	
HYB				e		06 36 30.7	
HYB				IVMs_BB	IVMs_BB	06 43 13.9	
	comp=Z,5μm,13.4s						
DMTO	DMTO	29.54	337	P	P	06 33 27.4	-0.5
	SNR=14						
DMTO				P	P	06 33 27.4	-0.5
	SNR=14						
DMTO				P	P	06 33 27.4	-0.5
	SNR=14						
VJD	Vijayawada	29.61	28	eP	P	06 33 28.2	-0.3
VJD				IAMs_20	IAMs_20	06 43 28.1	
	comp=Z,13μm,17.6s						
RBK	Rabkut	29.64	336	P	P	06 33 30.8	+2.0
	SNR=62						
RBK				P	P	06 33 30.8	+2.0
	SNR=62						
AIS	Amsterdam Isla	29.69	162	P	P	06 33 29.6	+0.6
ABTO	Aybut	29.89	334	P	P	06 33 32.0	+1.0
	SNR=57						
ABTO				P	P	06 33 32.0	+1.0
	SNR=57						
ABTO				P	P	06 33 32.0	+1.0
	SNR=57						
ABTO				P	pP	06 33 32.2	-0.1
ABTO				P	pP	06 33 32.2	-0.1
ABTO				P	pP	06 33 32.2	-0.1
COCO	West Island	29.91	98	P	P	06 33 31.0	-0.2
COCO	West Island	29.91	98	IAMs_20	IAMs_20	06 42 05.6	
	comp=Z,15μm,22.0s						
COCO	West Island	29.91	98	P	P	06 33 31.0	-0.2
COCO				pmax	pmax		
	comp=Z,129nm,1.3s						
WHFO	Wadi Hawf	30.19	335	P	P	06 33 34.4	+0.8
	SNR=41						
WHFO				P	P	06 33 34.4	+0.8
	SNR=41						
WHFO				P	P	06 33 34.4	+0.8
	SNR=41						
KMBO	Kilima Mbogo	30.28	285	P	P	06 33 35.9	+1.1
	comp=Z,57nm,1.1s,baz=86,slow=8.9,SNR=104						
KMBO				LR	LR	06 43 50.3	
	comp=Z,12μm,19.6s,baz=88,slow=33						
	comp=Z,57nm,1.1s						
DOK	Doka	30.68	337	P	P	06 33 38.2	+0.3
	SNR=102						
DOK				P	P	06 33 38.2	+0.3
	SNR=102						
DQM	DQM	30.75	343	P	P	06 33 39.3	+0.8
	SNR=40						
DQM				P	P	06 33 39.3	+0.8
	SNR=40						
ZOMB	Zomba	30.86	256	⇑P	P	06 33 39.8	0.0
ATD	Arta Tunnel	31.57	311	LR	LR	06 44 58.2	
	comp=Z,993nm,18.2s,baz=114,slow=34						
MHTO	MHTO	31.64	345	P	P	06 33 46.1	-0.3
	SNR=122						
MHTO				P	P	06 33 46.1	-0.3
	SNR=122						
VIS	Vishakhapatnam	31.96	32	eP	P	06 33 45.7	-3.5
VIS				IAmb	IAmb	06 33 52.4	
	comp=Z,288nm,1.8s						
VIS				IAMs_20	IAMs_20	06 46 47.3	
	comp=Z,9μm,13.8s						
AKL	Akola	31.97	19	eP	P	06 33 50.2	+0.9
AKL				IAmb	IAmb	06 33 53.7	
	comp=Z,426nm,1.7s						
AKL				IAMs_20	IAMs_20	06 44 15.3	
	comp=Z,12μm,16.5s						
CMBY	CAMPBELL BAY	32.02	60	eP	P	06 33 52.0	+2.2
CMBY				IAmb	IAmb	06 34 01.7	
	comp=Z,581nm,1.5s						
JLN	Jalan Bani Buh	32.42	348	P	P	06 33 53.7	+0.4
	SNR=37						
JLN				P	P	06 33 53.7	+0.4
	SNR=37						
JLN				P	P	06 33 53.7	+0.4
	SNR=37						
BSI	Banda Aceh	32.47	63	P	P	06 33 54.8	+1.0
	comp=Z,2μmcomp=Z,55nm,1.6s						
GSI	Gunungsitoli	32.86	72	P	P	06 33 58.0	+0.8
GSI				IAmb	IAmb	06 34 02.5	
	comp=Z,273nm,1.4s						
GSI				IAMs_20	IAMs_20	06 45 02.0	
	comp=Z,11μm,19.0s						
GSI	Gunungsitoli	32.86	72	P	P	06 33 58.8	+1.5
GSI	Gunungsitoli	32.86	72	P	P	06 33 59.7	+2.4
	comp=Z,144nm,1.4s						
MLSI	Meulaboh, Aceh	32.91	66	P	P	06 34 01.0	+3.3
	comp=Z,89nm,0.9s						
BHUJ	Bhuj	32.92	5	eP	P	06 34 00.1	+2.5
BHUJ				IAMs_20	IAMs_20	06 43 50.5	
	comp=Z,6μm,18.7s						
JMDO	Jabal Madar	32.93	346	P	P	06 33 58.6	+0.9
	SNR=50						
JMDO				P	P	06 33 58.6	+0.9
	SNR=50						
JMDO				P	P	06 33 58.6	+0.9
	SNR=50						
WBK	Wadi Bani Khal	32.96	347	P	P	06 33 58.1	+0.1
	SNR=49						
WBK				P	P	06 33 58.1	+0.1
	SNR=49						
NGP	Nagpur	33.08	22	eP	P	06 33 59.8	+0.7
NGP				IAmb	IAmb	06 34 06.1	
	comp=Z,189nm,1.5s						
NGP				IAMs_20	IAMs_20	06 45 40.0	
	comp=Z,12μm,16.8s						
NGP				IAMs_20	IAMs_20	06 45 54.3	
	comp=Z,14μm,12.4s						
PBSI	Pulau Batu	33.09	75	P	P	06 33 59.8	+0.5
	comp=Z,5μmcomp=Z,135nm,1.2s						
RAGD	RAYAGADA	33.31	30	eP	P	06 34 01.6	+0.5
RAGD				IAmb	IAmb	06 34 04.7	
	comp=Z,287nm,1.4s						
RAGD				IAMs_20	IAMs_20	06 45 59.2	
	comp=Z,15μm,15.6s						
BSY	Bisya	33.52	344	P	P	06 34 02.9	+0.1
	SNR=82						
BSY				P	P	06 34 02.9	+0.1
	SNR=82						
SMDO	Samad	33.60	346	P	P	06 34 04.0	+0.3
	SNR=83						
SMDO				P	P	06 34 04.0	+0.3
	SNR=83						
SMDO				P	P	06 34 04.0	+0.3
	SNR=83						
LODK	Lodwar	33.62	291	P	P	06 34 05.6	+1.6
LODK				IAMs_20	IAMs_20	06 45 06.8	
	comp=Z,15μm,22.0s						
LODK	Lodwar	33.62	291	P	P	06 34 05.7	+1.7
	SNR=28						
WSAR	Wadi Sarin	33.64	347	LR	LR	06 44 53.5	
	comp=Z,50nm,18.9s,baz=167,slow=31						
PBA	Port Blair	33.67	51	P	P	06 34 05.6	+1.3
PBA	Port Blair	33.67	51	P	P	06 34 07.6	+3.3
	SNR=43						
PBA	Port Blair	33.67	51	eP	P	06 34 05.4	+1.1
PBA				IAmb	IAmb	06 34 10.4	
	comp=Z,596nm,1.4s						
NRDN	NARMADA NAGAR	33.91	18	eP	P	06 34 00.7	-5.5
NRDN				IAmb	IAmb	06 34 03.7	
	comp=Z,293nm,1.2s						
NRDN				IAMs_20	IAMs_20	06 44 53.2	
	comp=Z,9μm,17.7s						
BIDO	Bidbid	34.03	346	P	P	06 34 08.5	+1.2
	SNR=66						
BIDO				P	P	06 34 08.5	+1.2
	SNR=66						
UMZA	Um Al Zommool	34.08	341	P	P	06 34 08.2	+0.4
UMZA				P	P	06 34 08.2	+0.4
UMZA				P	P	06 34 08.2	+0.4
ARQ	Araqi	34.27	344	P	P	06 34 09.5	+0.2
	SNR=80						
ARQ				P	P	06 34 09.5	+0.2
	SNR=80						
HOQ	Hoqain	34.29	345	P	P	06 34 10.0	+0.5
	SNR=151						
HOQ				P	P	06 34 10.0	+0.5
	SNR=151						
HOQ				P	P	06 34 10.0	+0.5
	SNR=151						
BHPL	Bhopal	34.47	18	eP	P	06 34 12.1	+0.9
BHPL				IAmb	IAmb	06 34 13.0	
	comp=Z,464nm,1.6s						
BHPL				IAMs_20	IAMs_20	06 45 52.5	
	comp=Z,9μm,18.6s						
MNSI	Mandailing Nat	34.59	74	P	P	06 34 14.3	+2.0
	comp=Z,96nm,1.5s						
RPSI	Rantau Prapat	34.61	71	P	P	06 34 12.2	-0.3
RPSI				IAMs_20	IAMs_20	06 46 05.4	
	comp=Z,13μm,19.0s						
PSI	Prapat	34.65	71	LR	LR	06 46 44.6	
	comp=Z,13μm,18.0s,baz=244,slow=34						
PSI	Prapat	34.65	71	P	P	06 34 13.9	+0.9
PSI	Prapat	34.65	71	P	P	06 34 12.2	-0.8
PSI				pmax	pmax		
	comp=Z,55nm,1.1s						
DGPR	DIGLIPUR	34.76	50	eP	P	06 34 15.3	+1.6
DGPR				IAmb	IAmb	06 34 18.6	
	comp=Z,191nm,0.9s						
MZR	Muzera	34.92	339	P	P	06 34 15.3	+0.3
	SNR=16						
MZR				P	P	06 34 15.3	+0.3
	SNR=16						
MZR	Muzera	34.92	339	i P	P	06 34 14.9	-0.1
	SNR=16						
PPI	Padang Panjang	35.00	77	P	P	06 34 17.5	+1.7
	comp=Z,3μmcomp=Z,80nm,1.4s						
SOHO	SOHO	35.02	344	P	P	06 34 16.1	+0.3
SOHO				P	P	06 34 16.1	+0.3
SOHO	SOHO	35.02	344	i P	P	06 34 15.7	-0.1
	SNR=15						
ALNE	Al Ain	35.16	343	P	P	06 34 17.8	+0.7
	SNR=45						
ALNE	Al Ain	35.16	343	i P	P	06 34 17.4	+0.3
	SNR=21						
BLSP	Bilaspur	35.19	26	eP	P	06 34 17.4	0.0
BLSP				IAMs_20	IAMs_20	06 47 03.0	
	comp=Z,11μm,17.4s						
NGCH	Negor - Chabah	35.25	352	P	P	06 34 19.3	+1.5
	SNR=6.3						
MZWR	Madinat Zayed	35.48	340	P	P	06 34 20.2	+0.4
MZWR				P	P	06 34 20.2	+0.4
JHSG	JHARSUGUGA	35.60	28	eP	P	06 34 22.0	+1.1
JHSG				IAMs_20	IAMs_20	06 46 50.6	
	comp=Z,9μm,18.5s						
ASHO	Ashiyiah	35.67	344	P	P	06 34 21.8	+0.3
	SNR=78						
ASHO	Ashiyiah	35.67	344	i P	P	06 34 21.5	0.0
	SNR=150						
GUNA	GUNA	35.77	17	eP	P	06 34 22.8	+0.5
GUNA				IAmb	IAmb	06 34 25.2	
	comp=Z,247nm,1.1s						
GUNA				IAMs_20	IAMs_20	06 46 11.6	
	comp=Z,8μm,20.2s						
HATD	Hatta, Dubai	35.79	344	P	P	06 34 22.8	+0.4
	SNR=62						
HATD				P	P	06 34 22.8	+0.4
	SNR=62						
HATD	Hatta, Dubai	35.79	344	i P	P	06 34 22.4	-0.1
	SNR=115						
ASUD	Al Ashush, Dub	35.83	343	P	P	06 34 23.9	+1.1
	SNR=10						
ASUD	Al Ashush, Dub	35.83	343	i P	P	06 34 22.8	0.0
	SNR=15						
BKNI	Bangkinang	35.84	76	P	P	06 34 25.0	+1.9
FAQ	Al Faqa, Dubai	35.86	343	P	P	06 34 24.1	+1.0
	SNR=22						
FAQ				P	P	06 34 24.1	+1.0
	SNR=22						
FAQ				P	P	06 34 24.1	+1.0
	SNR=22						
FAQ	Al Faqa, Dubai	35.86	343	i P	P	06 34 22.9	-0.2
	SNR=39						
AJN	Ajban	35.87	342	P	P	06 34 24.2	+1.0
	SNR=8.8						
AJN				P	P	06 34 24.2	+1.0
	SNR=8.8						
AJN	Ajban	35.87	342	i P	P	06 34 23.2	0.0
	SNR=6.9						
UOSS	Minazif	35.88	344	P	P	06 34 22.9	-0.3
UOSS				IAmb	IAmb	06 34 24.9	
	comp=Z,422nm,1.2s						
UOSS	Minazif	35.88	344	P	P	06 34 23.5	+0.2
UOSS				P	P	06 34 23.5	+0.2
UOSS	Minazif	35.88	344	i P	P	06 34 23.0	-0.3
	SNR=61						
UOSS	Minazif	35.88	344	⇑P	P	06 34 22.7	-0.5
GHWR	Ruwais	36.02	339	P	P	06 34 25.9	+1.5
GHWR				P	P	06 34 25.9	+1.5
GHWR				P	P	06 34 25.9	+1.5
NAZ	Nazwa, Dubai	36.07	343	P	P	06 34 26.3	+1.4
	SNR=45						
NAZ				P	P	06 34 26.3	+1.4
	SNR=45						
NAZ	Nazwa, Dubai	36.07	343	i P	P	06 34 24.8	0.0
	SNR=52						
MOPA	Mopani	36.17	243	eP	P	06 34 26.5	+0.6
MDH	Madha	36.19	344	P	P	06 34 25.2	-0.7
	SNR=15						
MDH				P	P	06 34 25.2	-0.7
	SNR=15						
MDH				P	P	06 34 25.2	-0.7
	SNR=15						
MDH	Madha	36.19	344	i P	P	06 34 24.6	-1.3
	SNR=27						
MSFE	Esma-Masafi	36.29	344	i P	P	06 34 26.7	-0.1
	SNR=62						
MASF	Masafi	36.30	344	P	P	06 34 27.2	+0.3
	SNR=63						
MASF				P	P	06 34 27.2	+0.3
	SNR=63						
SLWR	Sila	36.55	337	P	P	06 34 30.3	+1.3
SLWR				P	P	06 34 30.3	+1.3
UMQ	Umm Al-Quwin	36.58	343	P	P	06 34 30.8	+1.6
	SNR=9.6						
UMQ				P	P	06 34 30.8	+1.6
	SNR=9.6						
UMQ				P	P	06 34 30.8	+1.6
	SNR=9.6						
UMQ	Umm Al-Quwin	36.58	343	i P	P	06 34 29.6	+0.4
	SNR=13						
MNAI	Manna	36.59	84	P	P	06 34 29.8	+0.3
MNAI				IAmb	IAmb	06 34 57.6	
	comp=Z,176nm,1.0s						
MNAI	Manna	36.59	84	P	P	06 34 30.4	+0.8
	comp=Z,4μmcomp=Z,179nm,1.1s						
MBAR	Mbarara	36.67	282	P	P	06 34 31.5	+1.1
MBAR	Mbarara	36.67	282	IAMs_20	IAMs_20	06 48 32.9	
	comp=Z,14μm,18.0s						
MBAR	Mbarara	36.67	282	P	P	06 34 31.7	+1.2
MBAR				P	P	06 34 31.7	+1.2
MBAR	Mbarara	36.67	282	i P	P	06 34 31.0	+0.5
MBAR				pmax	pmax		
	comp=Z,85nm,1.4s						
BANOM	Banah	36.78	345	P	P	06 34 31.0	0.0
BANOM				P	P	06 34 31.0	0.0
BANOM	Banah	36.78	345	i P	P	06 34 30.3	-0.7
	SNR=104						
AJM	Ajmer	36.85	12	eP	P	06 34 31.3	-0.3
AJM				IAmb	IAmb	06 34 34.6	
	comp=Z,175nm,1.0s						
AJM				IAMs_20	IAMs_20	06 48 23.9	
	comp=Z,6μm,17.6s						
SHME	Shamm	36.95	344	P	P	06 34 32.7	+0.4
	SNR=26						
SHME	Shamm	36.95	344	i P	P	06 34 31.3	-1.0
	SNR=28						
KULM	Kulim	37.19	68	P	P	06 34 36.2	+1.6
KULM	Kulim	37.19	68	⇑P	P	06 34 35.2	+0.6
MUSN	Musina, Limpop	37.22	246	eP	P	06 34 35.3	+0.4
MUSN	Musina, Limpop	37.22	246	i P	P	06 34 34.6	-0.4
TRNA	Turayna	37.34	337	P	P	06 34 36.2	+0.5
	SNR=6.7						
KNTI	KHUNTI	37.43	29	eP	P	06 34 37.1	+0.5
KNTI				IAMs_20	IAMs_20	06 48 06.5	
	comp=Z,13μm,16.6s						
SMRA	Abu-Samra	37.50	336	P	P	06 34 38.1	+1.1
	SNR=10.0						
BNDA	BANDA	37.51	21	eP	P	06 34 36.1	-1.1
BNDA				IAMs_20	IAMs_20	06 48 02.6	
	comp=Z,10μm,19.3s						
SRIT	Nakonsritamara	37.69	62	P	P	06 34 38.4	-0.5
SRIT	Nakonsritamara	37.69	62	P	P	06 34 39.5	+0.7
LSZ	Lusaka	37.73	258	P	P	06 34 39.5	+0.1
LSZ				IAmb	IAmb	06 34 41.5	
	comp=Z,343nm,0.9s						
LSZ	Lusaka	37.73	258	IAMs_20	IAMs_20	06 47 23.3	
	comp=Z,14μm,22.0s						
LSZ	Lusaka	37.73	258	LR	LR	06 48 16.0	
	comp=Z,10μm,18.5s,baz=90,slow=33						
LSZ	Lusaka	37.73	258	P	P	06 34 39.5	+0.1
LSZ				pmax	pmax		
	comp=Z,343nm,0.9s						
LSZ	Lusaka	37.73	258	eP	P	06 34 37.7	-1.6
LSZ	Lusaka	37.73	258	⇑P	P	06 34 39.6	+0.2
LSZ	Lusaka	37.73	258	i P	P	06 34 41.0	+1.6
MDSI	Maura Dua	37.77	85	P	P	06 34 41.2	+1.6
ALBI	Allahabad	37.90	23	eP	P	06 34 40.8	+0.4
ALBI				IAmb	IAmb	06 34 43.0	
	comp=Z,252nm,1.3s						
ALBI				IAMs_20	IAMs_20	06 47 56.9	
	comp=Z,10μm,19.3s						
KASI	Kota Agung	37.91	87	P	P	06 34 41.7	+0.9
BLWY	Bulawayo	37.92	250	i P	P	06 34 41.7	+0.7
BKNR	BIKANER	38.10	10	eP	P	06 34 41.7	-0.3
BKNR				IAMs_20	IAMs_20	06 49 13.9	
	comp=Z,5μm,15.9s						
BOK	Bokaro	38.34	29	eP	P	06 34 44.0	-0.2
BOK				IAMs_20	IAMs_20	06 48 16.4	
	comp=Z,12μm,17.6s						
VAR	Varanasi	38.37	25	eP	P	06 34 45.6	+1.3
VAR				IAMs_20	IAMs_20	06 48 45.1	
	comp=Z,16μm,17.7s						
H04N2	CROZET ISLANDS	38.42	196	T	T	07 15 37.0	
	baz=20,SNR=25						
H04N1	CROZET ISLANDS	38.42	196	T	T	07 15 37.0	
	baz=20,slow=74,SNR=23						
H04N3	CROZET ISLANDS	38.44	196	T	T	07 15 37.0	
	baz=20,slow=74,SNR=30						
SHMA	Al-Shehemyia	38.45	337	P	P	06 34 46.1	+1.1
	SNR=6.5						
XMIS	Christmas Isla	38.58	95	P	P	06 34 47.4	+1.0
XMIS	Christmas Isla	38.58	95	P	P	06 34 46.7	+0.3
XMI	Christmas Isla	38.61	95	P	P	06 34 48.0	+1.3
SAKB	Bahrain	38.72	337	P	P	06 34 48.1	+0.8
KUDL	Kundal	38.87	14	eP	P	06 34 48.4	-0.2
KUDL				IAmb	IAmb	06 34 53.7	
	comp=Z,582nm,1.6s						
KUDL				IAMs_20	IAMs_20	06 48 42.7	
	comp=Z,5μm,16.9s						
LKN	LUCKNOW	38.88	21	IAMs_20	IAMs_20	06 48 44.4	
	comp=Z,10μm,18.6s						
RAYN	Ar Rayn	38.88	328	P	P	06 34 49.1	+0.3
RAYN	Ar Rayn	38.88	328	IAMs_20	IAMs_20	06 48 22.9	
	comp=Z,11μm,19.0s						
RAYN	Ar Rayn	38.88	328	P	P	06 34 49.3	+0.5
RAYN	Ar Rayn	38.88	328	P	P	06 34 49.1	+0.3
RAYN				pmax	pmax		
	comp=Z,155nm,1.1s						
RAYN	Ar Rayn	38.88	328	i P	P	06 34 48.5	-0.3
	SNR=66						
RAYN	Ar Rayn	38.88	328	⇑P	P	06 34 48.4	-0.4
CGJI	Cibinong	38.94	89	P	P	06 34 50.3	+0.9
	comp=Z,165nm,1.3s						
MYKOM	Kota Tinggi	38.95	75	P	P	06 34 49.3	-0.3
MYKOM	Kota Tinggi	38.95	75	P	P	06 34 50.6	+1.1
FRKB	FARRUKHABAD	39.03	19	eP	P	06 34 50.3	+0.4
FRKB				IAMs_20	IAMs_20	06 48 32.5	
	comp=Z,12μm,17.1s						
SONA	Sohna	39.12	15	eP	P	06 34 51.2	+0.5
SONA				IAmb	IAmb	06 34 53.8	
	comp=Z,472nm,1.4s						
SONA				IAMs_20	IAMs_20	06 50 58.5	
	comp=Z,6μm,17.1s						
AYAN	Aya Nagar	39.35	15	eP	P	06 34 52.7	+0.1
LEPH	Lephalale, Lim	39.44	244	eP	P	06 34 52.9	-0.8
MREMI	Moremi	39.46	246	i P	P	06 34 54.0	+0.1
LDR	Lodi Road	39.48	15	eP	P	06 34 53.9	+0.3
LDR				IAMs_20	IAMs_20	06 51 08.2	
	comp=Z,6μm,16.5s						
JMIU	JAMIA UNIVERSI	39.48	15	eP	P	06 34 52.6	-1.1
BHGR	Bahadurgarh	39.51	15	IAMs_20	IAMs_20	06 48 54.1	
	comp=Z,5μm,15.2s						
NPLP	NPLP New Delhi	39.51	15	eP	P	06 34 55.1	+1.2
NDI	New Delhi	39.57	15	eP	P	06 34 54.9	+0.5
NDI				IAmb	IAmb	06 34 55.9	
	comp=Z,557nm,1.7s						
NDI				IAMs_20	IAMs_20	06 51 11.4	
	comp=Z,5μm,15.8s						
GNR	GANAUR	39.95	14	eP	P	06 34 58.2	+0.6
MERT	Meerut	39.98	15	eP	P	06 34 57.6	-0.2
MERT				IAMs_20	IAMs_20	06 49 49.4	
	comp=Z,6μm,15.3s						
SRGN	SRI GANGA NAGA	40.06	10	eP	P	06 34 59.9	+1.4
SRDT	SRDT	40.27	54	P	P	06 35 01.9	+1.5
CNJI	Cibinong	40.28	90	P	P	06 35 01.6	+1.0
	comp=Z,53nm,1.1s						
TKRD	Thakurdwara	40.45	17	eP	P	06 35 01.4	-0.3
BRDH	Bariadhala	40.57	37	LR	LR	06 52 10.0	
	comp=Z,4μm,18.8s,baz=206,slow=37						
PRYS	Parys	40.66	240	eP	P	06 35 03.6	-0.1
KKR	Kurukshetra	40.70	14	eP	P	06 35 05.5	+1.8
KKR				IAMs_20	IAMs_20	06 49 39.3	
	comp=Z,6μm,19.4s						
SNKL	Senekal, Frees	40.73	238	eP	P	06 35 04.2	-0.2
BBJI	Bungbulang	40.77	90	P	P	06 35 06.0	+1.2
LEM	Lembang	40.81	89	LR	LR	06 48 56.4	
	comp=Z,7μm,20.4s,baz=238,slow=32						
LEM	Lembang	40.81	89	P	P	06 35 06.9	+1.7
	comp=Z,3μmcomp=Z,137nm,1.3s						
KSANE	Kasane	40.84	254	i P	P	06 35 06.2	+0.9
LPHEP	Lephephe	41.06	246	i P	P	06 35 07.7	+0.6
LGTI	Lohaghat	41.15	18	eP	P	06 35 07.0	-0.4
LGTI				IAmb	IAmb	06 35 19.8	
	comp=Z,406nm,1.5s						
LGTI				IAMs_20	IAMs_20	06 49 38.7	
	comp=Z,10μm,19.4s						
PTH	Pithoragarh	41.23	18	eP	P	06 35 10.0	+1.6
PTH				IAmb	IAmb	06 35 12.0	
	comp=Z,372nm,1.3s						
PTH				IAMs_20	IAMs_20	06 50 05.7	
	comp=Z,12μm,19.8s						
SAIH	SAIHA	41.24	39	eP	P	06 35 09.4	+0.8
SAIH				IAmb	IAmb	06 35 12.8	
	comp=Z,426nm,1.5s						
SAIH				IAMs_20	IAMs_20	06 55 07.1	
	comp=Z,3μm,17.8s						
AGT	Agartala	41.26	36	eP	P	06 35 10.7	+2.2
DDI	Dehra Dun	41.35	15	eP	P	06 35 08.5	-0.7
DDI				IAmb	IAmb	06 35 22.9	
	comp=Z,337nm,1.5s						
TPI	Tanjungpandan	41.50	83	P	P	06 35 11.6	+0.9
	comp=Z,2μmcomp=Z,47nm,1.2s						
CMJI	Cimerak	41.53	91	P	P	06 35 12.0	+1.1
	comp=Z,2μmcomp=Z,3μmcomp=Z,91nm,2.5s						
LBTB	Lobatse	41.67	243	P	P	06 35 12.0	-0.1
LBTB	Lobatse	41.67	243	LR	LR	06 51 35.6	
	comp=Z,4μm,18.1s,baz=77,slow=35						
LBTB	Lobatse	41.67	243	P	P	06 35 12.0	-0.1
LBTB				pmax	pmax		
	comp=Z,119nm,1.0s						
LBTB	Lobatse	41.67	243	eP	P	06 35 12.2	+0.2
LBTB	Lobatse	41.67	243	⇑P

comp=Z,240nm,1.3s
AZL IAMs_20 IAMs_20 06 54 16.8
comp=Z,6μm,16.8s
BHK Bhakra 42.00 13 *e*P **P 06 35 16.0 +1.5**
BHK IAMs_20 IAMs_20 06 51 40.3
comp=Z,7μm,16.5s
NAYO Nakonayok 42.02 56 P **P 06 35 15.7 +0.8**
JPG JALPAIGURI 42.04 30 *e*P **P 06 35 15.4 +0.6**
KDWAN Kaudwane 42.14 246 *i* P **P 06 35 16.6 +0.6**
SWZ Schweizer 42.46 240 *e*P **P 06 35 18.0 -0.6**
KLP Kalpa 42.55 15 *e*P **P 06 35 19.3 0.0**
KLP IAMs_20 IAMs_20 06 52 27.5
comp=Z,6μm,14.5s
CM31 Chiang Mai Arr 42.56 49 P **P 06 35 18.8 -0.4**
CMAR Chiang Mai Arr 42.56 49 P **P 06 35 18.9 -0.3**
comp=Z,56nm,1.1s,baz=244,slow=9.2,SNR=115
CMAR PcP **PcP 06 37 12.1 +0.3**
comp=Z,11nm,1.0s,baz=244,slow=5.7,SNR=4.4
CMAR LR LR 06 52 14.7
comp=Z,1μm,18.2s,baz=235,slow=35
comp=Z,56nm,1.1s
CMAR Chiang Mai Arr 42.56 49 *i* P **P 06 35 19.8 +0.5**
CMAR pmax pmax
comp=Z,60nm,1.1s
GTK Tadong 42.62 30 *e*P **P 06 35 20.1 +0.3**
GTK IAmb IAmb 06 35 33.0
comp=Z,211nm,1.3s
GTK IAMs_20 IAMs_20 06 51 12.5
comp=Z,13μm,16.5s
KBD Kabd 42.70 335 P **P 06 35 20.8 +0.6**
DHRM DHARAMSHALA 42.78 12 *e*P **P 06 35 22.2 +1.1**
DHRM IAmb IAmb 06 35 28.5
comp=Z,782nm,1.3s
CHTO Chiang Mai 42.78 48 P **P 06 35 20.9 -0.2**
CHTO Chiang Mai 42.78 48 P **P 06 35 21.5 +0.4**
CHTO Chiang Mai 42.78 48 P **P 06 35 20.9 -0.2**
CHTO pmax pmax
comp=Z,133nm,1.1s
CHTO Chiang Mai 42.78 48 ⇑P **P 06 35 21.5 +0.4**
THN Thein Dam 42.84 12 *e*P **P 06 35 21.4 +0.1**
THN IAmb IAmb 06 35 25.0
comp=Z,760nm,1.2s
SHL Shillong 42.93 35 P **P 06 35 21.8 -0.5**
SHL IAmb IAmb 06 35 24.6
comp=Z,322nm,1.0s
SHL Shillong 42.93 35 P **P 06 35 22.9 +0.5**
SNR=186
SHL Shillong 42.93 35 *e*P **P 06 35 21.9 -0.5**
SHL IAmb IAmb 06 35 25.5
comp=Z,377nm,1.2s
SHL IAMs_20 IAMs_20 06 51 54.5
comp=Z,5μm,13.9s
SHL Shillong 42.93 35 P **P 06 35 21.8 -0.5**
SHL pmax pmax
comp=Z,322nm,1.0s
BOSA Boshof 42.94 238 P **P 06 35 22.4 0.0**
BOSA Boshof 42.94 238 P **P 06 35 22.1 -0.4**
comp=Z,36nm,0.6s,baz=70,slow=8.1,SNR=82
BOSA LR LR 06 53 16.0
comp=Z,4μm,18.4s,baz=71,slow=36
comp=Z,36nm,0.6s
BOSA Boshof 42.94 238 P **P 06 35 22.4 0.0**
BOSA pmax pmax
comp=Z,50nm,0.8s
BOSA Boshof 42.94 238 *e*P **P 06 35 22.5 +0.1**
BOSA Boshof 42.94 238 ⇑P **P 06 35 22.0 -0.4**
JMU Jammu 42.96 10 *e*P **P 06 35 24.4 +2.2**
JMU IAMs_20 IAMs_20 06 51 48.2
comp=Z,6μm,19.3s
SKOMA Sekoma 43.03 244 *i* P **P 06 35 23.3 +0.2**
YOGI Yogyakarta 43.34 91 P **P 06 35 27.1 +1.4**
comp=Z,3μmcomp=Z,193nm,1.5s
UGM Wanagama 43.56 91 P **P 06 35 28.5 +1.0**
UGM Wanagama 43.56 91 P **P 06 35 28.9 +1.4**
UGM Wanagama 43.56 91 P **P 06 35 28.5 +1.0**
comp=Z,2μmcomp=Z,95nm,1.7s
IMP Imphal 43.57 37 *e*P **P 06 35 28.4 +1.0**
IMP IAmb IAmb 06 35 31.5
comp=Z,240nm,1.3s
IMP ⇓*e*S **S 06 42 00.1 +3.1**
IMP IAMs_20 IAMs_20 06 55 17.6
comp=Z,5μm,14.4s
SMRI Semarang 43.57 90 P **P 06 35 28.0 +0.5**
NIL Nilore 43.61 8 P **P 06 35 27.3 -0.3**
NIL IAmb IAmb 06 35 29.7
comp=Z,217nm,1.1s
NIL Nilore 43.61 8 P **P 06 35 27.3 -0.3**
NIL pmax pmax
comp=Z,217nm,1.1s
GRHM Grahamstown, E 43.66 231 P **P 06 35 29.3 +1.2**
GRHM Grahamstown, E 43.66 231 ⇓P **P 06 35 28.6 +0.6**
HNLY HANLEY 43.92 15 *e*P **P 06 35 30.8 +0.2**
HNLY IAmb IAmb 06 35 33.9
comp=Z,264nm,1.2s
HRA Herat 44.05 355 P **P 06 35 30.6 -0.7**
SOE Somerset East 44.07 233 ⇓P **P 06 35 32.2 +0.8**
KBL Kabul 44.09 3 P **P 06 35 31.7 +0.1**
KBL IAmb IAmb 06 35 34.1
comp=Z,195nm,1.2s
KBL Kabul 44.09 3 P **P 06 35 32.8 +1.2**
SNR=74
KBL Kabul 44.09 3 P **P 06 35 31.7 +0.1**
KBL pmax pmax
comp=Z,195nm,1.2s
PCJI Pacitan 44.17 92 P **P 06 35 33.3 +0.9**
PHPEN Phepeng 44.19 243 *i* P **P 06 35 32.9 +0.4**
KGCAE Kacgae 44.26 247 *i* P **P 06 35 33.5 +0.3**
SRNI Srinagar 44.30 10 *e*P **P 06 35 31.7 -1.3**
KOHI KOHIMA 44.33 37 *e*P **P 06 35 33.9 +0.3**
KOHI IAmb IAmb 06 35 47.6
comp=Z,481nm,1.5s
KOHI *e*S **S 06 42 14.9 +6.6**
KOHI IAMs_20 IAMs_20 06 53 50.7
comp=Z,4μm,17.9s
TAWA Tawang 44.52 33 *e*P **P 06 35 35.8 +0.4**
TAWA IAmb IAmb 06 35 39.1
comp=Z,200nm,0.9s
TAWA IAMs_20 IAMs_20 06 52 18.1
comp=Z,2μm,16.4s
XAUDM Khaudum 44.52 253 *i* P **P 06 35 37.3 +2.1**
NGJI Ngawi 44.54 91 P **P 06 35 38.2 +2.9**
comp=Z,2μmcomp=Z,67nm,1.6s
GRAF Camdeboo Natio 44.76 234 *e*P **P 06 35 37.9 +0.9**
QNGWA Qangwa 44.77 252 *i* P **P 06 35 37.9 +0.6**
KSM Kuching 45.05 78 P **P 06 35 40.6 +1.2**
ITAN ITANAGAR 45.19 35 *e*P **P 06 35 40.7 +0.4**
ITAN IAmb IAmb 06 35 43.8
comp=Z,840nm,1.4s
ITAN ⇑*e*S **S 06 42 22.3 +1.8**
ITAN IAMs_20 IAMs_20 06 53 37.8
comp=Z,4μm,16.7s
NONG Nongkai 45.54 53 P **P 06 35 43.6 +0.4**
ZIRO ZIRO 45.56 35 *e*P **P 06 35 43.5 +0.1**
ZIRO ⇑*e*S **S 06 42 27.1 +1.0**
ALKP Alkanpan, Nort 45.84 238 *e*P **P 06 35 45.8 +0.2**
LSA Lhasa 45.84 30 P **P 06 35 46.6 +0.6**
LSA IAmb IAmb 06 35 49.8
comp=Z,301nm,1.2s
LSA IAMs_20 IAMs_20 06 52 59.9
comp=Z,7μm,19.0s
LSA Lhasa 45.84 30 P **P 06 35 47.0 +1.0**
LSA S **S 06 42 30.5 -0.2**
LSA LR LR
comp=Z,5μm,17.3s
LSA LR LR
comp=Z,7μm,15.8s
LSA Lhasa 45.84 30 P **P 06 35 46.6 +0.6**
LSA pmax pmax
comp=Z,301nm,1.2s
LSA Lhasa 45.84 30 *i* P **P 06 35 46.9 +1.0**
SNR=79
BRAK Brakfontein 45.87 235 *e*P **P 06 35 44.3 -1.5**
UBPT Khong Chiam 45.95 58 P **P 06 35 45.7 -0.7**
UBPT IAmb IAmb 06 35 49.4
comp=Z,162nm,1.4s
UBPT Khong Chiam 45.95 58 P **P 06 35 46.4 0.0**
KOOLE Kule 46.12 247 *i* P **P 06 35 48.1 +0.2**
DIBR DIBRUGARH 46.12 36 *e*P **P 06 35 47.4 -0.2**
DIBR IAMs_20 IAMs_20 06 54 31.2
comp=Z,3μm,17.4s
UPI Upington 46.26 240 *e*P **P 06 35 49.3 +0.4**
GMJI Gumukmas 46.40 92 P **P 06 35 50.7 +0.6**
comp=Z,1μmcomp=Z,51nm,1.5s
LKP Lekhapani 46.57 37 *e*P **P 06 35 51.6 +0.5**
LKP IAmb IAmb 06 35 59.9
comp=Z,1μm,1.4s
LKP *e*S **S 06 42 41.6 +1.4**
LKP IAMs_20 IAMs_20 06 54 24.4
comp=Z,2μm,19.5s
TNCH TengChong 46.58 42 ⇑P **P 06 35 52.3 +0.8**
TNCH sP pwP 06 35 59.0 +1.0
TNCH S **S 06 42 44.5 +3.6**
TNCH pmax pmax
comp=Z,340nm,0.9s
TNCH LR LR
comp=Z,1μm,13.2s
TNCH LR LR
comp=Z,3μm,13.2s
TNCH LR LR
comp=Z,4μm,15.0s
KEIM Keimoes 46.59 240 *e*P **P 06 35 51.4 0.0**
GRAN Grantham 46.62 234 *e*P **P 06 35 51.1 -0.6**
DLV Lat 46.99 64 P **P 06 35 53.9 -0.9**
DLV IAmb IAmb 06 35 59.0
comp=Z,188nm,1.4s
DLV Lat 46.99 64 P **P 06 35 55.3 +0.4**
KMMI Kalianget 47.05 91 P **P 06 35 56.5 +1.4**
comp=Z,3μmcomp=Z,100nm,1.3s
JAGI Jajag, Banyuwa 47.08 93 P **P 06 35 54.6 -0.8**
JAGI IAMs_20 IAMs_20 06 52 25.1
comp=Z,6μm,20.0s
JAGI Jajag, Banyuwa 47.08 93 P **P 06 35 55.0 -0.4**
JAGI Jajag, Banyuwa 47.08 93 P **P 06 35 55.8 +0.4**
comp=Z,2μmcomp=Z,3μmcomp=Z,107nm,1.5s
JAGI Jajag, Banyuwa 47.08 93 ⇓P **P 06 35 55.4 -0.1**
SBUM Sibu 47.15 77 P **P 06 35 56.5 +0.5**
SBUM Sibu 47.15 77 ⇑P **P 06 35 56.0 0.0**
ABJI Asem Bagus 47.23 92 P **P 06 35 57.1 +0.6**
comp=Z,3μmcomp=Z,64nm,1.1s
MERW Merweville 47.26 234 *e*P **P 06 35 56.4 -0.3**
GIRL Giralia 47.45 112 P **P 06 35 59.0 +0.8**
GIRL Giralia 47.45 112 P **P 06 35 58.4 +0.2**
comp=Z,131nm,1.9s
ARMS Ukamas 47.48 241 *e*P **P 06 35 57.9 -0.5**
SUR Sutherland 47.74 235 LR LR 06 55 01.4
comp=Z,3μm,18.9s,baz=66,slow=35
SUR Sutherland 47.74 235 P **P 06 36 01.2 +0.6**
SUR Sutherland 47.74 235 ⇑P **P 06 36 01.3 +0.7**
SLVN Son La 48.01 50 P **P 06 36 02.3 -0.2**
SLVN IAmb IAmb 06 36 06.4
comp=Z,153nm,1.2s
SLVN Son La 48.01 50 P **P 06 36 02.9 +0.3**
TSUM Tsumeb 48.12 253 P **P 06 36 04.0 +0.4**
TSUM Tsumeb 48.12 253 LR LR 06 54 25.6
comp=Z,4μm,21.8s,baz=68,slow=34
TSUM Tsumeb 48.12 253 ⇑P **P 06 36 03.7 +0.1**
SRBI Singaraja 48.16 92 P **P 06 36 05.6 +1.8**
comp=Z,2μmcomp=Z,2μmcomp=Z,72nm,1.9s
SIMJ Simiganj 48.19 3 P **P 06 36 02.7 -1.0**
SIMJ IAmb IAmb 06 36 04.9
comp=Z,125nm,1.1s
DZET Dzherino 48.33 2 P **P 06 36 04.2 -0.6**
GAR Garm 48.60 4 IAMs_20 IAMs_20 06 55 05.0
comp=Z,7μm,20.0s
WIN Windhoek 48.89 249 P **P 06 36 09.8 +0.2**
WIN IAmb IAmb 06 36 13.6
comp=Z,203nm,1.8s
WIN IAMs_20 IAMs_20 06 54 45.0
comp=Z,6μm,20.0s
WIN Windhoek 48.89 249 P **P 06 36 09.8 +0.2**
WIN pmax pmax
comp=Z,203nm,1.8s
DRK Karamyk 49.20 5 P **P 06 36 10.9 -0.8**
DRK IAmb IAmb 06 36 13.5
comp=Z,300nm,1.2s
DRK Karamyk 49.20 5 P **P 06 36 10.9 -0.8**
DRK pmax pmax
comp=Z,300nm,1.2s
KMI Kunming 49.49 45 ⇑P **P 06 36 14.3 +0.2**
KMI S **S 06 43 25.0 +2.7**
KMI pmax pmax
comp=Z,40nm,1.5s
KMI pmax pmax
comp=Z,1μm,5.5s
KMI LR LR
comp=Z,1μm,24.5s
KMI LR LR
comp=Z,1μm,17.3s
KMI LR LR
comp=Z,2μm,14.2s
EIL Elat 49.55 323 LR LR 06 54 36.0
comp=Z,11μm,20.3s,baz=148,slow=33
EIL Elat 49.55 323 ⇑P **P 06 36 14.4 +0.2**
BTK Batken 49.69 4 P **P 06 36 14.8 -0.4**
PZH PanZhiHua 49.71 43 P **P 06 36 15.8 +0.2**
PZH S **S 06 43 27.3 +2.2**
PZH ScS **ScS 06 46 08.3 +0.1**
PZH pmax pmax
comp=Z,220nm,1.4s
PZH pmax pmax
comp=Z,2μm,4.4s
PZH LR LR
comp=Z,1μm,18.0s
PZH LR LR
comp=Z,1μm,16.0s
PZH LR LR
comp=Z,2μm,16.7s
TWSI Taliwang, Sumb 49.74 93 P **P 06 36 15.9 -0.1**
comp=Z,1μmcomp=Z,85nm,1.4s
KSH Kashi 49.78 10 P **P 06 36 12.3 -3.6**
KSH pP pP 06 36 17.3 0.0
KSH sP pwP 06 36 24.5 +2.2
KSH S **S 06 43 20.8 -4.8**
KSH pmax pmax
comp=Z,710nm,1.2s
KSH pmax pmax
comp=Z,4μm,5.1s
KSH LR LR
comp=Z,4μm,13.7s
KSH LR LR
comp=Z,4μm,13.1s
KSH LR LR
comp=Z,6μm,15.1s
H01W3 Cape Leeuwin H 50.12 128 T T 07 30 08.6
baz=288,slow=75,SNR=1597
H01W2 Cape Leeuwin H 50.12 128 T T 07 30 08.9
baz=288,slow=75,SNR=2370
H01W1 Cape Leeuwin H 50.13 128 T T 07 30 09.9
baz=288,slow=75,SNR=1807
MORW Morawa 50.16 120 P **P 06 36 19.3 +0.3**
MORW IAmb IAmb 06 36 21.1
comp=Z,219nm,1.6s
MORW Morawa 50.16 120 P **P 06 36 19.1 +0.1**
comp=Z,90nm,1.6s
MORW Morawa 50.16 120 P **P 06 36 19.6 +0.7**
MORW Morawa 50.16 120 ⇑P **P 06 36 19.7 +0.8**
OHH Osh 50.33 6 P **P 06 36 19.3 -0.8**
ASF Jabal al Asfar 50.34 327 LR LR 06 55 59.2
comp=Z,8μm,19.3s,baz=183,slow=34
GHAJ Ghor Haditha 50.40 325 P **P 06 36 21.5 +0.9**
GHAJ IAmb IAmb 06 36 23.3
comp=Z,373nm,1.2s
GHAJ IAMs_20 IAMs_20 06 54 40.8
comp=Z,9μm,20.0s
MSBI Mazada 50.53 325 ⇑P **P 06 36 21.9 +0.4**
MTKN Mount Kenneth 50.60 123 P **P 06 36 24.2 +2.1**
comp=Z,115nm,1.2s
PLAI Plampang 50.61 93 P **P 06 36 21.7 -0.9**
PLAI Plampang 50.61 93 P **P 06 36 21.7 -0.9**
comp=Z,2μmcomp=Z,64nm,1.5s
KZIT Kziot 50.78 324 ⇑P **P 06 36 23.9 +0.4**
MUN Mundaring 50.97 123 P **P 06 36 25.7 +0.7**
comp=Z,64nm,1.7s
MUN Mundaring 50.97 123 P **P 06 36 26.1 +1.1**
BLDU Ballidu 51.06 122 P **P 06 36 26.1 +0.4**
comp=Z,84nm,1.4s
BLDU Ballidu 51.06 122 P **P 06 36 26.4 +0.7**
ARSB Arslanbob 51.15 6 P **P 06 36 25.0 -1.2**
ARSB IAmb IAmb 06 36 28.5
comp=Z,340nm,1.4s
ARSB Arslanbob 51.15 6 P **P 06 36 25.0 -1.2**
ARSB pmax pmax
comp=Z,340nm,1.4s
TRKS Terek-Say 51.18 5 P **P 06 36 25.7 -0.8**
SALP Salfit 51.19 326 ⇑P **P 06 36 26.8 +0.2**
QIZ Qiongzhong 51.43 56 P **P 06 36 29.5 +0.9**
QIZ S **S 06 43 52.3 +3.3**
QIZ pmax pmax
comp=Z,74nm,1.5s
QIZ pmax pmax
comp=Z,790nm,4.9s
QIZ LR LR
comp=Z,3μm,15.1s
QIZ LR LR
comp=Z,2μm,14.5s
QIZ LR LR
comp=Z,2μm,19.1s
ARK Arkit 51.52 5 P **P 06 36 28.5 -0.5**
MMAI Mount Meron Ar 51.79 327 P **P 06 36 32.0 +0.9**
comp=Z,144nm,1.1s,baz=134,slow=8.3,SNR=58
MMAI LR LR 06 55 19.5
comp=Z,7μm,21.9s,baz=148,slow=32
comp=Z,144nm,1.1s
ARLS Aral 51.84 7 P **P 06 36 31.4 0.0**
CHM Chimkent 51.87 3 *e*P **P 06 36 30.4 -1.1**
CHM pmax pmax
comp=Z,513nm,1.8s
CHM Chimkent 51.87 3 *e*P **P 06 36 30.4 -1.1**
comp=Z,513nm,1.8s
MEEK Meekatharra 51.96 116 P **P 06 36 33.0 +0.4**
comp=Z,90nm,1.5s
MEEK Meekatharra 51.96 116 P **P 06 36 33.2 +0.6**
KKM Kota Kinabalu 51.99 74 P **P 06 36 32.5 -0.5**
KKM IAMs_20 IAMs_20 06 56 47.4
comp=Z,5μm,21.0s
KKM Kota Kinabalu 51.99 74 P **P 06 36 34.1 +1.1**
WUS Wushi 52.02 12 P **P 06 36 31.6 -1.1**
WUS IAmb IAmb 06 36 34.4
comp=Z,180nm,1.3s
AML Almayashu 52.02 7 P **P 06 36 32.7 -0.4**
SNR=126
NWAO Narrogin (SRO) 52.04 124 P **P 06 36 33.0 0.0**
NWAO IAmb IAmb 06 36 34.4
comp=Z,187nm,1.5s
NWAO Narrogin (SRO) 52.04 124 IAMs_20 IAMs_20 06 53 41.9
comp=Z,8μm,20.0s
NWAO Narrogin (SRO) 52.04 124 P **P 06 36 33.5 +0.4**
comp=Z,151nm,1.6s
NWAO Narrogin (SRO) 52.04 124 LR LR 06 53 43.7
comp=Z,8μm,20.6s,baz=290,slow=30
NWAO Narrogin (SRO) 52.04 124 P **P 06 36 33.3 +0.3**
NWAO Narrogin (SRO) 52.04 124 P **P 06 36 33.8 +0.8**
NWAO Narrogin (SRO) 52.04 124 P **P 06 36 33.5 +0.4**
NWAO Narrogin (SRO) 52.04 124 P **P 06 36 33.0 0.0**
NWAO pmax pmax
comp=Z,187nm,1.5s
WBSI Waikabubak, Su 52.13 95 P **P 06 36 34.6 +0.6**
comp=Z,2μmcomp=Z,142nm,1.1s
KLBR Kellerberrin 52.16 123 P **P 06 36 34.0 +0.1**
comp=Z,151nm,1.3s
KLBR Kellerberrin 52.16 123 P **P 06 36 34.3 +0.4**
UCH Uchtor 52.22 8 P **P 06 36 36.2 +1.6**
SNR=10
RKGY Rocky Gully 52.27 126 P **P 06 36 35.5 +0.7**
comp=Z,48nm,1.5s
MBWA Marble Bar 52.38 109 P **P 06 36 35.3 -0.4**
MBWA IAmb IAmb 06 36 37.9
comp=Z,213nm,1.7s
MBWA IAMs_20 IAMs_20 06 54 03.5
comp=Z,10μm,22.0s
MBWA Marble Bar 52.38 109 P **P 06 36 36.3 +0.6**
comp=Z,72nm,1.6s
MBWA Marble Bar 52.38 109 P **P 06 36 36.1 +0.4**
MBWA Marble Bar 52.38 109 P **P 06 36 36.2 +0.6**
MBWA Marble Bar 52.38 109 ⇓P **P 06 36 36.3 +0.6**
ULHL Ulahol 52.49 9 P **P 06 36 36.5 +0.2**
SNR=14
PSA00 Pilbara Seismi 52.51 110 P **P 06 36 36.9 +0.2**
PSA00 IAmb IAmb 06 36 38.8
comp=Z,199nm,1.6s
PSA00 Pilbara Seismi 52.51 110 P **P 06 36 36.7 0.0**
PSA00 IAmb IAmb 06 36 38.7
comp=Z,160nm,1.8s
PSA00 Pilbara Seismi 52.51 110 P **P 06 36 37.1 +0.4**
comp=Z,76nm,1.6s
PSA00 Pilbara Seismi 52.51 110 P **P 06 36 36.9 +0.2**
KDJ Kajisay 52.53 10 P **P 06 36 36.1 -0.5**
KDJ IAmb IAmb 06 36 38.1
comp=Z,253nm,1.4s
KDJ Kajisay 52.53 10 P **P 06 36 36.1 -0.5**
KDJ pmax pmax
comp=Z,253nm,1.4s
GEVA Gevas 52.55 337 P **P 06 36 37.1 +0.3**
GEVA IAmb IAmb 06 37 02.2
comp=Z,186nm,1.4s
EKS2 Erkin-Say 52.56 7 P **P 06 36 36.9 +0.1**
SNR=110
BRLS Borolday 52.59 3 *e*P **P 06 36 33.7 -3.1**
BRLS Borolday 52.59 3 *e*P **P 06 36 33.8 -3.1**
AAK Ala-Archa 52.62 7 P **P 06 36 36.8 -0.5**
AAK IAmb IAmb 06 36 40.0
comp=Z,161nm,1.2s
AAK Ala-Archa 52.62 7 LR LR 06 58 17.3
comp=Z,3μm,18.5s,baz=194,slow=35
AAK Ala-Archa 52.62 7 P **P 06 36 38.4 +1.1**
AAK Ala-Archa 52.62 7 P **P 06 36 37.1 -0.1**
SNR=89
AAK Ala-Archa 52.62 7 *i* P **P 06 36 36.3 -1.0**
AAK pmax pmax
comp=Z,182nm,1.3s
AAK MLR MLR
comp=Z,3μm,17.0s
AAK Ala-Archa 52.62 7 *i* P **P 06 36 36.9 -0.3**
SNR=98
AAK Ala-Archa 52.62 7 ⇑P **P 06 36 36.9 -0.3**
MARD Mardin 52.62 334 P **P 06 36 38.1 +0.8**
BOOM Boomskoye usch 52.68 9 P **P 06 36 37.1 -0.6**
BOOM IAmb IAmb 06 36 39.2
comp=Z,185nm,1.6s
BOOM Boomskoye usch 52.68 9 P **P 06 36 37.1 -0.6**
BOOM pmax pmax
comp=Z,185nm,1.6s
KBK Karagaybulak 52.70 8 P **P 06 36 37.7 -0.1**
SNR=75
KK31 Karatay Array 52.70 4 P **P 06 36 37.9 +0.3**
KK31 Karatay Array 52.70 4 *i* P **P 06 36 36.8 -0.9**
KKAR Karatay Array 52.70 4 P **P 06 36 36.8 -0.8**
KKAR Karatay Array 52.70 4 P **P 06 36 37.0 -0.7**
KKAR Karatay Array 52.70 4 P **P 06 36 37.0 -0.7**
KKAR Karatay Array 52.70 4 ⇑P **P 06 36 37.0 -0.7**
GOMU GeErMu 52.91 29 P **P 06 36 39.8 0.0**
GOMU sP pwP 06 36 47.3 +1.1
GOMU S **S 06 44 07.5 -2.0**
GOMU pmax pmax
comp=Z,210nm,1.2s
GOMU LR LR
comp=Z,7μm,17.8s
GOMU LR LR
comp=Z,5μm,17.8s
GOMU LR LR
comp=Z,11μm,17.8s
CHMS Chumysh 53.01 8 P **P 06 36 40.3 +0.4**
SNR=10
KAPI Kappang 53.02 89 P **P 06 36 39.9 -0.6**
KAPI Kappang 53.02 89 LR LR 06 56 22.2
comp=Z,4μm,21.1s,baz=228,slow=33
KAPI Kappang 53.02 89 P **P 06 36 40.0 -0.5**
KAPI P **P 06 36 40.0 -0.5**
KAPI Kappang 53.02 89 P **P 06 36 40.1 -0.5**
KAPI Kappang 53.02 89 *i* P **P 06 36 40.1 -0.5**
KAPI pmax pmax
comp=Z,93nm,1.6s
TKM2 Tokmak 2 53.05 8 P **P 06 36 39.6 -0.9**
SNR=161
TKM2 Tokmak 2 53.05 8 *i* P **P 06 36 38.9 -1.6**
TKM2 pmax pmax
comp=Z,253nm,1.3s
GYA Guiyang 53.09 46 ⇑P **P 06 36 40.0 -1.0**
GYA S **S 06 44 09.8 -1.9**
GYA pmax pmax
comp=Z,110nm,1.7s
GYA pmax pmax
comp=Z,1μm,3.5s
GYA LR LR
comp=Z,1μm,17.3s
GYA LR LR
comp=Z,720nm,16.3s
GYA LR LR
comp=Z,1μm,19.6s
GURO Guroymak-BITLI 53.16 336 P **P 06 36 41.7 +0.5**
GURO IAmb IAmb 06 36 45.1
comp=Z,335nm,1.2s
GURO IAMs_20 IAMs_20 06 59 13.2
comp=Z,5μm,18.0s
GURO Guroymak-BITLI 53.16 336 ⇑P **P 06 36 42.0 +0.7**
USP Ospenovka 53.24 7 P **P 06 36 40.9 -0.8**

SNR=55
BKSI Bulukumba 53.34 89 P P 06 36 42.6 -0.3
comp=Z,1μmcomp=Z,86nm,1.4s
TNSS Tian-Shan 53.37 10 *e*P **P 06 36 41.4 -1.6**
TNSS Tian-Shan 53.37 10 *e*P **P 06 36 41.5 -1.6**
TTSI Tana Toraja 53.39 87 P **P 06 36 44.2 +0.9**
SGDS Sogindy 53.44 7 *e*P **P 06 36 42.0 -1.1**
SGDS *e*S **S 06 44 14.2 -1.6**
SGDS Sogindy 53.44 7 *e*P **P 06 36 42.1 -1.1**
SGDS *e*S **S 06 44 14.3 -1.6**
MDOK Medeo 53.51 10 *e*P **P 06 36 42.5 -1.3**
MDOK *e*S **S 06 44 14.9 -2.1**
MDOK Medeo 53.51 10 *e*P **P 06 36 42.5 -1.3**
MDOK *e*S **S 06 44 14.9 -2.1**
AAA Alma-Ata 53.53 9 *e*P **P 06 36 42.7 -1.2**
AAA Alma-Ata 53.53 9 *e*P **P 06 36 42.6 -1.3**
comp=Z,162nm,1.5s
GNI Garni 53.54 339 P **P 06 36 44.8 +0.7**
GNI Garni 53.54 339 IAMs_20 IAMs_20 06 58 58.3
comp=Z,6μm,18.0s
GNI Garni 53.54 339 LR LR 06 59 09.7
comp=Z,6μm,18.1s,baz=178,slow=36
GNI Garni 53.54 339 P **P 06 36 45.4 +1.3**
GNI P **P 06 36 45.4 +1.3**
GNI Garni 53.54 339*c i*P **P 06 36 44.8 +0.7**
GNI pmax pmax
comp=Z,609nm,1.2s
GNI Garni 53.54 339 P **P 06 36 44.6 +0.5**
GNI Garni 53.54 339 ⇑P **P 06 36 44.5 +0.5**
GNI Garni 53.54 339 P **P 06 36 45.2 +1.1**
comp=Z,9μmcomp=Z,454nm,1.4s
BSSI Bau Bau, Buton 53.59 90 P **P 06 36 44.0 -0.8**
comp=Z,2μmcomp=Z,50nm,1.5s
AKT Akhty 53.79 343 *e*P **P 06 36 45.3 -0.5**
AKT *e* 06 37 50.6
AKT *e* 06 38 48.0
AKT *e*PPP PPP 06 39 53.8
AKT *e* 06 46 37.3
AKT pmax pmax
comp=Z,238nm,1.2s
AKT MLR MLR
comp=Z,2μm,16.0s
PCI Palu 53.80 84 P **P 06 36 47.6 +1.3**
comp=Z,105nm,0.9s
UZB Uzynbulak 53.85 11 *e*P **P 06 36 45.1 -1.2**
UZB *e*S **S 06 44 19.6 -2.0**
UZB Uzynbulak 53.85 11 *e*P **P 06 36 45.2 -1.2**
UZB *e*S **S 06 44 19.7 -1.9**
SHLS Shalkode 53.95 12 *e*P **P 06 36 46.5 -0.4**
SHLS Shalkode 53.95 12 *e*P **P 06 36 46.6 -0.4**
CD2 Chengdu 53.97 40 P **P 06 36 46.5 -0.7**
CD2 sP sP 06 36 51.0 +1.8
CD2 PP **PP 06 38 48.5 -0.3**
CD2 S **S 06 44 23.3 -0.1**
CD2 ScS **ScS 06 46 36.5 -0.9**
CD2 pmax pmax
comp=Z,320nm,1.2s
CD2 pmax pmax
comp=Z,1μm,5.0s
CD2 LR LR
comp=Z,2μm,17.1s
CD2 LR LR
comp=Z,2μm,15.9s
PDGK Podgornoye 54.12 12 P **P 06 36 46.2 -2.0**
GAZ Gaziantep 54.12 331 P **P 06 36 48.9 +0.7**
GAZ IAMs_20 IAMs_20 06 58 01.8
comp=Z,8μm,21.0s
GAZ Gaziantep 54.12 331 ⇑P **P 06 36 49.1 +0.8**
CHKK Chushkaly 54.17 9 *e*P **P 06 36 47.2 -1.2**
CHKK Chushkaly 54.17 9 *e*P **P 06 36 47.3 -1.2**
CSS Mathiatis 54.38 326 P **P 06 36 50.8 +0.6**
CSS IAmb IAmb 06 36 52.1
comp=Z,193nm,1.4s
CSS IAMs_20 IAMs_20 06 56 59.9
comp=Z,5μm,21.0s
CSS Mathiatis 54.38 326 ⇑P **P 06 36 50.4 +0.2**
CSS Mathiatis 54.38 326 P **P 06 36 51.0 +0.8**
comp=Z,3μmcomp=Z,117nm,1.7s
EDFI Ende, Flores 54.47 94 P **P 06 36 50.7 -0.6**
comp=Z,2μmcomp=Z,57nm,1.3s
KARS Kars 54.56 338 P **P 06 36 52.1 +0.6**
KARS Kars 54.56 338 P **P 06 36 52.1 +0.6**
KARS pmax pmax
comp=Z,2μm,1.3s
BTLS Baital 54.94 7 *e*P **P 06 36 52.9 -1.0**
BTLS Baital 54.94 7 *e*P **P 06 36 52.9 -1.0**
KOPT Kop Dagi 55.03 336 P **P 06 36 55.1 +0.1**
TOLI2 Tolitoli 55.14 82 P **P 06 36 55.3 -0.7**
TOLI2 IAmb IAmb 06 36 58.1
comp=Z,144nm,1.5s
TOLI2 Tolitoli 55.14 82 P **P 06 36 56.1 +0.1**
MAK Makhachkala 55.21 343*c i*P **P 06 36 57.1 +1.1**
MAK *e* 06 38 55.1
MAK *e*PPP PPP 06 40 09.7
MAK *e*S **S 06 44 42.6 +3.0**
MAK *e*SS **SS 06 48 16.9 -7.2**
MAK *e*SSS SSS 06 50 24.4
MAK pmax pmax
comp=Z,432nm,1.5s
MAK MLR MLR
comp=Z,3μm,17.0s
TDK Taldyqorghan 55.53 10 *e*P **P 06 36 57.0 -1.3**
TDK pmax pmax
comp=Z,345nm,1.3s
TDK Taldyqorghan 55.53 10 *e*P **P 06 36 57.0 -1.3**
comp=Z,344nm,1.3s
KMBL Kambalda 55.56 121 P **P 06 36 59.1 +0.2**
comp=Z,104nm,1.5s
KMBL Kambalda 55.56 121 P **P 06 36 59.2 +0.3**
APSI Ampana 55.57 84 P **P 06 36 59.4 +0.2**
comp=Z,1μmcomp=Z,39nm,1.0s
BBSI Bau Bau 55.73 90 P **P 06 37 02.4 +2.1**
comp=Z,3μmcomp=Z,3μmcomp=Z,136nm,1.1s
BNN Bunyan 56.11 331 P **P 06 37 02.6 -0.1**
BNN Bunyan 56.11 331 ⇑P **P 06 37 02.8 +0.1**
BATI Baumata 56.28 96 P **P 06 37 05.5 +1.2**
GZH Guangzhou 56.29 54 P **P 06 37 08.0 +3.9**
GZH S **S 06 45 00.0 +5.4**
GZH pmax pmax
comp=Z,120nm,1.5s
GZH LR LR
comp=Z,2μm,13.0s
GZH LR LR
comp=Z,2μm,17.0s
GZH LR LR
comp=Z,3μm,15.5s
HKPS Hong Kong Po S 56.53 55 P **P 06 37 06.5 +0.6**
HKPS Hong Kong Po S 56.53 55 P **P 06 37 07.5 +1.7**
HKC Hong Kong Obse 56.57 55 ⇑P **P 06 37 06.0 -0.1**
WMQ Urumqi 56.68 18 ⇑P **P 06 37 06.3 -0.3**
WMQ S **S 06 44 57.5 -1.8**
WMQ pmax pmax
comp=Z,150nm,1.9s
WMQ pmax pmax
comp=Z,3μm,4.3s
WMQ LR LR
comp=Z,5μm,15.3s
WMQ LR LR
comp=Z,3μm,19.1s
WMQ LR LR
comp=Z,3μm,24.2s
SOEI Soe 56.91 95 P **P 06 37 10.1 +1.2**
SOEI Soe 56.91 95 P **P 06 37 10.0 +1.2**
SOEI Soe 56.91 95 ⇓P **P 06 37 10.1 +1.2**
TOKA Tokat 57.00 333 P **P 06 37 08.8 -0.1**
NEUR Neytrino 57.01 339 *i* P P 06 37 01.2 -7.9
NEUR pmax pmax
comp=Z,146nm,1.5s
KIRS Kirsehir-Merke 57.26 330 ⇑P **P 06 37 11.6 +0.8**
KBZ Khabaz 57.35 340 P **P 06 37 10.2 -1.0**
comp=Z,83nm,1.1s,baz=152,slow=4.8,SNR=89
KBZ LR LR 07 01 28.8
comp=Z,6μm,19.4s,baz=162,slow=36
comp=Z,83nm,1.1s
KBZ Khabaz 57.35 340*ce*P **P 06 37 11.0 -0.2**
KBZ pmax pmax
comp=Z,163nm,1.3s
ENH Enshi 57.36 45 P **P 06 37 10.3 -1.4**
ENH IAmb IAmb 06 37 22.1
comp=Z,168nm,1.3s
ENH Enshi 57.36 45 P **P 06 37 11.1 -0.6**
SHA1 Shidzhatmaz 57.44 340*c i*P **P 06 37 11.7 -0.5**
ELL Elmali 57.58 325 P **P 06 37 13.4 +0.2**
ELL IAMs_20 IAMs_20 07 01 55.6
comp=Z,7μm,20.0s
ELL Elmali 57.58 325 P **P 06 37 13.4 +0.2**
ELL pmax pmax
comp=Z,590nm,1.5s
ELL MLR MLR
comp=Z,8μm,20.0s
ELL Elmali 57.58 325 ⇑P **P 06 37 13.0 -0.1**
LZH Lanzhou 57.58 36 ⇑P **P 06 37 12.8 -0.5**
LZH sP pwP 06 37 21.5 +1.8
LZH S **S 06 45 12.0 +0.3**
LZH sS sS 06 45 26.5 +13
LZH pmax pmax
comp=Z,63nm,1.7s
LZH pmax pmax
comp=Z,2μm,6.9s
LZH LR LR
comp=Z,1μm,15.1s
LZH LR LR
comp=Z,1μm,17.2s
LZH LR LR
comp=Z,2μm,19.6s
KVAR Kislovodsk Arr 57.62 340 LR LR 07 01 44.3
comp=Z,4μm,20.4s,baz=76,slow=36
KIV Kislovodsk 57.62 340 P **P 06 37 12.5 -0.8**
KIV IAmb IAmb 06 37 16.6
comp=Z,154nm,1.2s
KIV IAMs_20 IAMs_20 07 01 33.1
comp=Z,6μm,19.0s
KIV Kislovodsk 57.62 340 P **P 06 37 14.0 +0.7**
KIV Kislovodsk 57.62 340 ⇑P **P 06 37 14.6 +1.3**
KIV Kislovodsk 57.62 340 *e*P **P 06 37 12.5 -0.8**
KIV *e* 06 39 19.7
KIV *e*PPP PPP 06 40 36.2
KIV *e*S **S 06 45 10.7 -1.1**
KIV *e*SS **SS 06 48 57.9 -4.4**
KIV pmax pmax
comp=Z,85nm,1.1s
KIV pmax pmax
comp=Z,533nm,3.8s
KIV Kislovodsk 57.62 340 *i* P **P 06 37 12.6 -0.7**
SNR=27
KIV Kislovodsk 57.62 340 ⇑P **P 06 37 12.8 -0.5**
KIV Kislovodsk 57.62 340 P **P 06 37 13.2 -0.1**
comp=Z,3μmcomp=Z,105nm,1.2s
BR104 Keskin Array S 57.84 330 P **P 06 37 14.9 0.0**
comp=Z,1μmcomp=Z,109nm,1.2s
FITZ Fitzroy Crossi 57.84 105 P **P 06 37 15.2 -0.1**
FITZ Fitzroy Crossi 57.84 105 P **P 06 37 15.6 +0.4**
comp=Z,18nm,1.5s
FITZ Fitzroy Crossi 57.84 105 LR LR 07 01 30.3
comp=Z,7μm,18.1s,baz=268,slow=36
FITZ Fitzroy Crossi 57.84 105 P **P 06 37 15.3 0.0**
BR131 Keskin Array S 57.85 330 P **P 06 37 14.6 -0.5**
BR131 IAmb IAmb 06 37 16.6
comp=Z,295nm,1.3s
BR131 Keskin Array S 57.85 330 *i* P **P 06 37 14.6 -0.5**
BRTR Keskin Array B 57.85 330 P **P 06 37 14.6 -0.5**
BRTR Keskin Array B 57.85 330 P **P 06 37 14.8 -0.2**
comp=Z,123nm,1.1s,baz=147,slow=7.3,SNR=178
BRTR LR LR 07 00 41.2
comp=Z,5μm,19.6s,baz=137,slow=35
comp=Z,123nm,1.1s
BRTR Keskin Array B 57.85 330 *i* P **P 06 37 14.5 -0.5**
BRTR pmax pmax
comp=Z,124nm,1.1s
BR105 Keskin Array S 57.86 330 P **P 06 37 15.4 +0.3**
comp=Z,1μmcomp=Z,127nm,1.2s
MAW Mawson 57.86 182 P **P 06 37 15.0 +0.5**
MAW Mawson 57.86 182 P **P 06 37 15.4 +0.9**
comp=Z,24nm,1.5s
MAW Mawson 57.86 182 P **P 06 37 15.4 +0.9**
comp=Z,45nm,0.6s,baz=347,slow=7.7,SNR=15
MAW LR LR 06 56 08.7
comp=Z,5μm,21.4s,baz=0.5,slow=30
comp=Z,45nm,0.6s
MAW Mawson 57.86 182 ⇓P **P 06 37 15.4 +0.9**
GTA Gaotai 57.87 30 P **P 06 37 15.0 -0.2**
GTA sP pwP 06 37 22.3 +0.7
GTA PcP **PcP 06 38 09.3 +1.7**
GTA S **S 06 45 14.8 -0.5**
GTA pmax pmax
comp=Z,120nm,1.4s
GTA pmax pmax
comp=Z,2μm,5.6s
GTA LR LR
comp=Z,3μm,18.3s
GTA LR LR
comp=Z,2μm,17.5s
GTA LR LR
comp=Z,4μm,19.9s
MAKZ Makanchi 57.96 13 P **P 06 37 15.6 +0.1**
MAKZ Makanchi 57.96 13 ⇑P **P 06 37 13.9 -1.6**
MK31 Makanchi Array 58.01 13 P **P 06 37 14.3 -1.6**
MK31 IAmb IAmb 06 37 16.5
comp=Z,191nm,1.6s
MK31 Makanchi Array 58.01 13 *i* P **P 06 37 13.7 -2.2**
MK31 pmax pmax
comp=Z,116nm,1.0s
MKAR Makanchi Array 58.01 13 P **P 06 37 14.7 -1.2**
MKAR Makanchi Array 58.01 13 P **P 06 37 14.9 -1.0**
comp=Z,56nm,1.0s,baz=211,slow=6.8,SNR=171
MKAR PcP **PcP 06 38 06.8 -1.1**
comp=Z,24nm,1.0s,baz=197,slow=3.8,SNR=6.0
MKAR LR LR 07 02 06.9
comp=Z,3μm,18.5s,baz=205,slow=36
MKAR PKPPKP **P'P'df 07 06 58.2 +3.1**
comp=Z,0.2nm,0.6s,baz=20,slow=4.0,SNR=4.1
comp=Z,56nm,1.0s
MKAR Makanchi Array 58.01 13 *i* P **P 06 37 14.1 -1.8**
MKAR pmax pmax
comp=Z,55nm,1.0s
ISP Isparta 58.02 327*ce*P **P 06 37 16.4 +0.2**
ISP pmax pmax
comp=Z,169nm,1.7s
VSLR Vesyoloye 58.14 338*c i*P **P 06 37 16.0 -0.8**
VSLR pmax pmax
comp=Z,274nm,1.5s
ARG Arkhangelos 58.22 324 P **P 06 37 17.2 -0.3**
ARG Arkhangelos 58.22 324 P **P 06 37 17.2 -0.3**
ARG pmax pmax
comp=Z,591nm,1.3s
KARP Karpathos 58.33 323 P **P 06 37 18.4 0.0**
KARP Karpathos 58.33 323 *e*P **P 06 37 19.6 +1.3**
KARP Karpathos 58.33 323 P **P 06 37 18.8 +0.4**
comp=Z,331nm,1.6s
SOC Sochi 58.37 337 *e*P **P 06 37 15.3 -3.1**
SOC *e* 06 39 26.3
SOC *i* S **S 06 45 17.8 -3.5**
SOC *e*SS **SS 06 49 07.2 -6.6**
SOC *e*SSS SSS 06 51 37.9
SOC pmax pmax
comp=Z,121nm,1.0s
SOC MLR MLR
comp=Z,3μm,14.0s
ANTO Ankara 58.38 330 P **P 06 37 18.5 -0.1**
ANTO IAmb IAmb 06 38 37.2
comp=Z,145nm,0.8s
ANTO Ankara 58.38 330 IAMs_20 IAMs_20 07 01 22.5
comp=Z,5μm,20.0s
ANTO Ankara 58.38 330 P **P 06 37 19.3 +0.6**
ANTO P **P 06 37 19.3 +0.6**
ANTO Ankara 58.38 330 ⇓P **P 06 37 19.4 +0.8**
ANTO Ankara 58.38 330 P **P 06 37 18.5 -0.1**
ANTO pmax pmax
comp=Z,145nm,0.9s
ANTO Ankara 58.38 330 ⇑P **P 06 37 18.2 -0.5**
ANTO Ankara 58.38 330 P **P 06 37 18.8 +0.2**
comp=Z,3μmcomp=Z,64nm,1.2s
GOF Gofitskoye 58.48 341*c i*P **P 06 37 18.3 -0.9**
DIKM Dikmen 58.61 333 ⇑P **P 06 37 21.4 +1.2**
DIKM Dikmen 58.61 333 P **P 06 37 20.6 +0.5**
comp=Z,4μmcomp=Z,148nm,1.3s
CNSH ChangSha 58.63 49 P **P 06 37 20.3 -0.2**
CNSH PP **PP 06 39 35.0 +4.6**
CNSH S **S 06 45 25.5 +0.2**
CNSH ScS **ScS 06 47 11.8 +0.6**
CNSH SS **SS 06 49 26.0 +7.5**
CNSH pmax pmax
comp=Z,97nm,1.5s
CNSH LR LR
comp=Z,1μm,17.1s
CNSH LR LR
comp=Z,1μm,18.0s
CNSH LR LR
comp=Z,1μm,15.7s
ILGA Ilgaz 58.85 331 P **P 06 37 21.8 -0.3**
LABN Labinsk 58.91 339 *e*P **P 06 37 20.5 -1.6**
LABN pmax pmax
comp=Z,148nm,1.1s
TGY Tagaytay City 58.99 67 LR LR 07 00 28.6
comp=Z,1μm,20.7s,baz=257,slow=34
AB31 Akbulak array 59.00 355 *i* P **P 06 37 21.5 -1.2**
ABKAR Akbulak array 59.00 355 P **P 06 37 22.3 -0.4**
ABKAR Akbulak array 59.00 355 ⇑P **P 06 37 21.6 -1.2**
ZSN Zaisan 59.23 14 *e*P **P 06 37 23.4 -0.9**
ZSN pmax pmax
comp=Z,166nm,1.9s
ZSN Zaisan 59.23 14 *e*P **P 06 37 23.5 -0.9**
comp=Z,166nm,1.9s
XAN Xi'an 59.31 41 ⇑P **P 06 37 24.0 -1.2**
XAN sP pwP 06 37 30.8 -0.9
XAN S **S 06 45 32.5 -1.5**
XAN ScS **ScS 06 47 12.5 -3.5**
XAN SS **SS 06 49 26.5 -2.5**
XAN pmax pmax
comp=Z,210nm,1.2s
XAN pmax pmax
comp=Z,2μm,5.0s
XAN LR LR
comp=Z,1μm,16.0s
XAN LR LR
comp=Z,2μm,14.6s
XAN LR LR
comp=Z,2μm,13.9s
BZK Bozkurt 59.43 332 P **P 06 37 26.4 +0.6**
BZK Bozkurt 59.43 332 ⇑P **P 06 37 26.1 +0.3**
BAG Baguio City 59.51 64 P P 06 37 34.1 +7.1
IDI Anoyia 59.54 321 P **P 06 37 26.4 -0.4**
IDI IAmb IAmb 06 37 29.8
comp=Z,192nm,1.2s
IDI Anoyia 59.54 321 LR LR 07 02 50.3
comp=Z,916nm,20.2s,baz=109,slow=36
BORA Eskisehir 59.57 328 P **P 06 37 27.1 +0.2**
MANT Manisa 59.57 326 P **P 06 37 27.3 +0.1**
MANT IAmb IAmb 06 37 30.4
comp=Z,376nm,1.9s
MDUB Mudurnu 59.63 329 P **P 06 37 27.0 -0.4**
SANI Sanana 59.63 87 P **P 06 37 28.0 +0.2**
SANI Sanana 59.63 87 P **P 06 37 28.5 +0.7**
comp=Z,2μmcomp=Z,1μmcomp=Z,38nm,1.2s
BRZS Berezniki 59.70 5 *e*P **P 06 37 26.9 -0.6**
BRZS pmax pmax
comp=Z,181nm,2.6s
BRZS Berezniki 59.70 5 *e*P **P 06 37 26.9 -0.6**
comp=Z,181nm,2.6s
CIDE Kastamonu/Cide 59.85 332 ⇑P **P 06 37 28.3 -0.4**
ERBR Yeremizino-Bor 59.92 339 *e*P **P 06 37 26.3 -2.8**
ERBR *e*S **S 06 45 39.5 -1.9**
ERBR pmax pmax
comp=Z,64nm,1.2s
ERBR MLR MLR
comp=Z,4μm,17.0s
ANN Anapa 60.27 337*c i*P **P 06 37 30.6 -0.9**
ANN *e*S **S 06 45 43.2 -2.7**
ANN pmax pmax
comp=Z,143nm,1.1s
ANN MLR MLR
comp=Z,2μm,16.0s
ANN MLR MLR
comp=E,3μm,17.0s
ANN MLR MLR
comp=N,821nm,14.0s
APE Apeiranthos 60.33 323 ⇑P **P 06 37 32.0 -0.2**
APE Apeiranthos 60.33 323 P **P 06 37 31.9 -0.2**
AKTO Aktyubinsk 60.36 354 LR LR 07 03 32.2
comp=N,2μm,18.6s,baz=170,slow=36
AKTO Aktyubinsk 60.36 354 P **P 06 37 31.0 -1.0**
WRKA Warakurna 60.48 113 P **P 06 37 33.9 +0.4**
comp=Z,127nm,1.4s
WRKA Warakurna 60.48 113 P **P 06 37 34.6 +1.1**
WRKA Warakurna 60.48 113 ⇓P **P 06 37 33.6 +0.1**
YLV Yalova 60.63 328 P **P 06 37 34.6 +0.4**
comp=Z,6μmcomp=Z,369nm,1.1s
FORT Forrest 60.73 120 P **P 06 37 35.2 +0.2**
FORT IAmb IAmb 06 37 36.5
comp=Z,163nm,1.3s
FORT Forrest 60.73 120 P **P 06 37 35.2 +0.2**
comp=Z,106nm,1.4s
FORT Forrest 60.73 120 P **P 06 37 35.9 +0.9**
KNRA Kununurra 60.89 103 P **P 06 37 35.8 -0.6**
KNRA IAmb IAmb 06 37 37.9
comp=Z,342nm,1.9s
KNRA Kununurra 60.89 103 P **P 06 37 36.3 -0.1**
comp=Z,96nm,1.4s
WHN Wuhan 60.96 47 P **P 06 37 37.0 +0.5**
WHN S **S 06 45 56.0 +0.8**
WHN pmax pmax
comp=Z,370nm,1.3s
WHN pmax pmax
comp=Z,3μm,4.7s
WHN LR LR
comp=Z,3μm,13.7s
WHN LR LR
comp=Z,5μm,16.1s
WHN LR LR
comp=Z,4μm,14.2s
KURBB Kurchatov Arra 61.01 9 P **P 06 37 35.4 -1.1**
comp=Z,130nm,1.2s,baz=202,slow=7.1,SNR=195
KURBB LR LR 07 02 59.0
comp=Z,2μm,18.6s,baz=178,slow=35
KURBB PKPPKP **P'P'df 07 06 54.0 +3.7**
comp=Z,0.1nm,0.3s,baz=28,slow=2.3,SNR=5.7
comp=Z,130nm,1.2s
KURK Kurchatov 61.11 9 P **P 06 37 36.5 -0.6**
KURK IAmb IAmb 06 37 38.3
comp=Z,230nm,1.2s
KURK Kurchatov 61.11 9 P **P 06 37 36.5 -0.6**
KURK Kurchatov 61.11 9 *i* P **P 06 37 35.8 -1.3**
KURK pmax pmax
comp=Z,148nm,1.2s
BAND Balkesir-Ban 61.15 327 ⇑P **P 06 37 38.7 +1.1**
ISK Istanbul-Kandi 61.16 328 P **P 06 37 35.2 -2.5**
DAV Davao City (W) 61.20 76 LR LR 07 02 27.7
comp=Z,3μm,20.6s,baz=236,slow=34
DAV Davao City (W) 61.20 76 P **P 06 37 39.0 +0.4**
KLYT Kilyos 61.31 329 P **P 06 37 38.9 +0.3**
comp=Z,5μmcomp=Z,294nm,1.2s
PRK Paraskevi 61.38 325 P **P 06 37 37.9 -1.3**
QZH Quanzhou 61.38 55 P **P 06 37 39.8 +0.3**
QZH S **S 06 46 02.8 +2.0**
QZH ScS **SKKSac 06 47 31.5 -0.2**
QZH SS **SS 06 50 06.5 +4.8**
QZH pmax pmax
comp=Z,70nm,1.3s
QZH pmax pmax
comp=Z,1μm,4.8s
QZH LR LR
comp=Z,2μm,16.5s
QZH LR LR
comp=Z,820nm,15.5s
QZH LR LR
comp=Z,2μm,15.8s
TNTI Ternate 61.51 84 P **P 06 37 41.6 +1.0**
TNTI Ternate 61.51 84 P **P 06 37 41.3 +0.7**
comp=Z,2μmcomp=Z,113nm,1.3s
EZN Ezine 61.74 326 P **P 06 37 41.3 -0.4**
EZN Ezine 61.74 326 P **P 06 37 42.3 +0.6**
comp=Z,4μmcomp=Z,174nm,1.9s
SYO Syowa Base 61.75 191 ⇓*e*P **P 06 37 41.0 -0.2**
SYO Syowa Base 61.75 191 ⇑*es*P sP 06 37 47.0 +3.8
SIM Simferopol' 61.75 334*j i*P **P 06 37 41.7 +0.1**
SIM *e* 06 38 22.3
SIM *e* 06 39 59.0
SIM *e*S **S 06 46 07.0 +2.2**
SIM pmax pmax
comp=Z,170nm,1.3s
SIM pmax pmax
comp=Z,65nm,1.3s
SIM pmax pmax
comp=Z,140μm,1.8s
SIM smax smax
comp=N,1μm,10.0s
SIM MLR MLR
comp=Z,2μm,19.0s
CTYL Yalikoy Yolu 61.86 328 P **P 06 37 42.9 +0.5**
comp=Z,4μmcomp=Z,164nm,1.4s
LYN LuoYang 61.94 42 P **P 06 37 43.0 -0.1**
LYN pP pwP 06 37 47.5 -2.0
LYN sP sP 06 37 50.0 +5.0
LYN S **S 06 46 03.0 -4.6**

LYN pmax pmax
comp=Z,62nm,1.3s
LYN pmax pmax
comp=Z,2μm,5.1s
LYN LR LR
comp=Z,2μm,15.1s
LYN LR LR
comp=Z,1μm,15.8s
LYN LR LR
comp=Z,2μm,17.2s
TPUB Ta-pu 62.32 57 P **P 06 37 47.8 +1.9**
CAVK Edirne/Enez-Ca 62.43 326 ⇑P **P 06 37 45.9 -0.4**
TWG Pinlang 62.48 58 P **P 06 37 48.1 +1.2**
TWGBT Beinan 62.49 58 P **P 06 37 49.0 +2.0**
BVA0 Borovoye Array 62.59 3 *i* P **P 06 37 44.2 -2.9**
BVAR Borovoye Array 62.59 3 P **P 06 37 45.8 -1.3**
comp=Z,123nm,1.1s,baz=163,slow=6.2,SNR=150
BVAR LR LR 07 03 23.2
comp=Z,2μm,21.8s,baz=192,slow=35
BVAR PKP2bc 07 06 55.6
comp=Z,0.6nm,0.7s,baz=96,slow=1.5,SNR=4.1
comp=Z,123nm,1.1s
ITM Ithomi 62.59 321 P **P 06 37 46.9 -0.6**
ITM Ithomi 62.59 321 ⇑P **P 06 37 46.5 -0.9**
BRVK Borovoye 62.62 3 P **P 06 37 47.5 +0.2**
BRVK IAmb IAmb 06 37 49.6
comp=Z,159nm,1.2s
BRVK Borovoye 62.62 3 P **P 06 37 47.1 -0.1**
BRVK Borovoye 62.62 3 *i* P **P 06 37 46.3 -0.9**
BRVK pmax pmax
comp=Z,163nm,1.2s
ALN Alexandroupoli 62.64 326 P **P 06 37 44.1 -3.6**
ALN Alexandroupoli 62.64 326 P **P 06 37 48.5 +0.8**
ALN Alexandroupoli 62.64 326 P **P 06 37 48.5 +0.8**
ALN pmax pmax
comp=Z,293nm,1.3s
ALN Alexandroupoli 62.64 326 ⇓P **P 06 37 47.8 +0.2**
SSLB Suanglung 62.79 57 P **P 06 37 49.9 +0.8**
SSLB IAmb IAmb 06 37 54.0
comp=Z,141nm,1.3s
SSLB Suanglung 62.79 57 P **P 06 37 50.9 +1.8**
YULB Yu-li 62.91 58 P **P 06 37 51.9 +2.1**
EDRB Edirne 62.93 326 P **P 06 37 48.5 -1.1**
RDO Rodhopi 63.09 326 P **P 06 37 47.6 -3.0**
RDO Rodhopi 63.09 326 P **P 06 37 50.6 -0.1**
RDO IAmb IAmb 06 37 52.2
comp=Z,150nm,1.3s
RDO Rodhopi 63.09 326 ⇑P **P 06 37 50.2 -0.4**
DRS Darwin Rock St 63.17 99 P **P 06 37 52.3 +0.6**
MTN Manton Dam 63.36 100 P **P 06 37 52.1 -0.9**
MTN IAmb IAmb 06 37 54.6
comp=Z,256nm,1.8s
MTN Manton Dam 63.36 100 P **P 06 37 53.0 0.0**
comp=Z,0.0nmcomp=Z,71nm,1.5s
MTN Manton Dam 63.36 100 P **P 06 37 53.6 +0.6**
MANR Mangalia 63.41 330 ⇓P **P 06 37 53.2 +0.5**
ANX Ano Chora 63.49 322 P **P 06 37 51.4 -2.1**
NACB Ninganchiao 63.49 57 P **P 06 37 55.1 +1.4**
NACB IAmb IAmb 06 38 10.3
comp=Z,171nm,1.4s
NACB Ninganchiao 63.49 57 P **P 06 37 55.7 +2.1**
YHNB Yeheng 63.52 56 P **P 06 37 55.4 +1.5**
YHNB IAmb IAmb 06 38 03.7
comp=Z,160nm,1.3s
YHNB Yeheng 63.52 56 P **P 06 37 55.8 +1.9**
KAVA Kavala 63.55 326 P **P 06 37 52.9 -0.8**
EFOR EFORIE 63.59 330 ⇑P **P 06 37 55.1 +1.2**
KOKK Kokkinochori, 63.72 325 P **P 06 37 53.0 -1.9**
MFTR Murfatlar 63.76 330 ⇑P **P 06 37 56.1 +1.1**
TIY Taiyuan 63.82 39 *eP* **P 06 37 56.3 +0.6**
TIY PP **PP 06 40 23.5 +7.3**
TIY S **S 06 46 33.0 +1.7**
TIY ScS **SKSac 06 47 43.8 -6.1**
TIY pmax pmax
comp=Z,48nm,0.9s
TIY pmax pmax
comp=Z,1μm,5.3s
TIY LR LR
comp=Z,1μm,12.9s
TIY LR LR
comp=Z,2μm,14.3s
TIY LR LR
comp=Z,1μm,18.8s
CASY Casey 63.90 162 P **P 06 37 55.7 +0.1**
CASY IAmb IAmb 06 37 59.0
comp=Z,128nm,1.6s
TIRR Tirgusor 63.97 331 P **P 06 37 55.9 -0.5**
TIRR Tirgusor 63.97 331 ⇓P **P 06 37 56.6 +0.1**
TIRR Tirgusor 63.97 331 P **P 06 37 56.5 +0.1**
TIRR Tirgusor 63.97 331 ⇑P **P 06 37 55.6 -0.8**
TIRR Tirgusor 63.97 331 P **P 06 37 55.9 -0.5**
comp=Z,4μmcomp=Z,206nm,1.7s
JURR Jurilovca 63.98 331 ⇓P **P 06 37 56.8 +0.4**
THL Klokotos Trika 64.05 323 P **P 06 37 54.5 -2.5**
LIT Litokhoron 64.11 324 P **P 06 37 55.2 -2.3**
LIT Litokhoron 64.11 324 P **P 06 37 56.8 -0.7**
LIT Litokhoron 64.11 324 P **P 06 37 56.8 -0.7**
LIT pmax pmax
comp=Z,371nm,1.5s
LIT MLR MLR
comp=Z,3μm,20.0s
SRS Serrai 64.15 325 P **P 06 37 55.5 -2.2**
BTO Baotou 64.21 36 *eP* **P 06 37 58.0 -0.2**
BTO pP **pwP 06 38 03.0 -1.7**
BTO sP **sP 06 38 06.0 +5.8**
BTO PP **PP 06 40 17.5 -2.1**
BTO S **S 06 46 35.8 -0.2**
BTO pmax pmax
comp=Z,170nm,1.6s
BTO pmax pmax
comp=Z,2μm,4.8s
BTO LR LR
comp=Z,2μm,16.6s
BTO LR LR
comp=Z,1μm,10.5s
BTO LR LR
comp=Z,2μm,14.7s
TLBR Topalu 64.21 330 ⇑P **P 06 37 58.6 +0.7**
TPGR Topolog 64.26 331 ⇑P **P 06 37 58.3 -0.1**
RAZG Razgrad 64.27 329 ⇑P **P 06 37 58.6 +0.2**
NYDR Nydri-Lefkada 64.31 322 P **P 06 37 56.9 -1.8**
VRH Novokhopyorsk 64.35 343 ⇓*iP* **P 06 37 58.2 -0.5**
VRH pmax pmax
comp=Z,218nm,1.3s
VRH MLR MLR
comp=Z,3μm,20.0s
HARR Harsova 64.38 330 ⇑P **P 06 37 59.0 -0.1**
HARR Harsova 64.38 330 P **P 06 37 58.9 -0.1**
KNT Kendrikon 64.57 325 P **P 06 37 57.0 -3.5**
CFR Carcaliu 64.63 331 ⇑P **P 06 38 00.2 -0.6**
CFR Carcaliu 64.63 331 P **P 06 38 00.1 -0.6**
KZN Kozani 64.67 323 P **P 06 38 00.6 -0.6**
KDU Kakadu 64.68 99 P **P 06 38 01.5 -0.2**
comp=Z,183nm,1.4s
KDU Kakadu 64.68 99 P **P 06 38 02.8 +1.2**
KPRO Kipourio 64.69 323 P **P 06 37 59.4 -1.9**
PGB Panagyurishte 64.77 327 P **P 06 38 00.5 -1.2**
PURM Purcari 64.84 333 ⇓P **P 06 38 02.2 +0.2**
PURM Purcari 64.84 333 P **P 06 38 01.5 -0.5**
comp=Z,5μmcomp=Z,282nm,1.8s
VAY Valandovo 64.86 325 *i* P **P 06 38 01.7 -0.6**
VORD Divnogorie 64.87 341 *eP* **P 06 38 01.4 -0.8**
VORD pmax pmax
comp=Z,130nm,1.1s
KKB Krupnik 64.89 326 P **P 06 38 01.0 -1.5**
TATR Tatarca 64.98 331 ⇑P **P 06 38 03.6 +0.6**
SCHLR Schela 65.00 331 ⇓P **P 06 38 04.4 +1.3**
SGRR Singureni 65.01 329 ⇑P **P 06 38 04.5 +1.3**
SCHL Schela 65.02 331 ⇓P **P 06 38 04.2 +1.0**
NJ2 Nanjing 65.03 48 ⇓*iP* **P 06 38 04.3 +0.7**
NJ2 sP **pwP 06 38 09.5 -0.5**
NJ2 S **S 06 46 51.0 +4.8**
NJ2 SS **SS 06 51 04.3 +5.8**
NJ2 pmax pmax
comp=Z,96nm,1.1s
NJ2 pmax pmax
comp=Z,3μm,5.2s
NJ2 LR LR
comp=Z,5μm,17.0s
NJ2 LR LR
comp=Z,3μm,12.3s
NJ2 LR LR
comp=Z,5μm,21.8s
IGT Igoumenitsa 65.04 322 P **P 06 38 02.2 -1.3**

KHAM Kharkiv 65.06 339 P **P 06 38 04.3 +0.8**
IZVR Izvoarele 65.08 331 ⇑P **P 06 38 04.9 +1.3**
HNS HongShan 65.08 41 ⇑P **P 06 38 04.0 +0.2**
HNS PP **PP 06 40 31.0 +3.8**
HNS S **S 06 46 48.5 +1.9**
HNS pmax pmax
comp=Z,130nm,1.4s
HNS pmax pmax
comp=Z,2μm,5.2s
HNS LR LR
comp=Z,440nm,13.1s
HNS LR LR
comp=Z,2μm,17.8s
HNS LR LR
comp=Z,1μm,16.7s
VSR Storozhevoye 65.13 341 *eP* **P 06 38 01.8 -2.0**
VSR *e* 06 38 03.1
VSR pmax pmax
comp=Z,220nm,1.4s
VSR pmax pmax
comp=Z,700nm,1.8s
VSR MLR MLR
comp=Z,4μm,19.0s
TUDR 65.16 331 ⇓P **P 06 38 05.3 +1.1**
FNA Florina 65.20 324 P **P 06 38 02.2 -2.4**
FNA Florina 65.20 324 P **P 06 38 04.7 +0.1**
FNA IAmb IAmb 06 38 06.5
comp=Z,113nm,1.0s
FNA Florina 65.20 324 P **P 06 38 04.7 +0.1**
FNA pmax pmax
comp=Z,113nm,1.0s
HHC Hu-ho-hao-te 65.26 36 ⇓P **P 06 38 06.0 +0.9**
HHC sP pwP 06 38 12.5 +1.0
HHC PP **PP 06 40 33.0 +4.2**
HHC S **S 06 46 49.8 +0.8**
HHC SS **SS 06 51 04.8 +2.7**
HHC pmax pmax
comp=Z,79nm,1.3s
HHC pmax pmax
comp=Z,580nm,5.7s
HHC LR LR
comp=Z,2μm,16.3s
HHC LR LR
comp=Z,2μm,17.1s
HHC LR LR
comp=Z,1μm,16.2s
ZAA0 Zalesovo Array 65.31 12 P **P 06 38 03.7 -1.3**
ZAA0 IAmb IAmb 06 38 05.5
comp=Z,264nm,1.4s
ZALV Zalesovo Beam 65.31 12 P **P 06 38 03.1 -1.8**
ZALV Zalesovo Beam 65.31 12 P **P 06 38 03.4 -1.6**
comp=Z,59nm,0.8s,baz=211,slow=6.5,SNR=133
ZALV LR LR 07 06 15.0
comp=Z,2μm,18.1s,baz=206,slow=36
ZALV PKP2bc 07 06 51.7
comp=Z,0.7nm,0.5s,baz=222,slow=2.0,SNR=4.7
comp=Z,59nm,0.8s
COPA Copaceanca 65.33 329 ⇑P **P 06 38 05.8 +0.5**
GRER 65.34 330 ⇓P **P 06 38 06.4 +1.1**
VTS Vitosha 65.35 326 P **P 06 38 04.6 -1.1**
ISR Istrita 65.36 330 ⇑P **P 06 38 06.0 +0.4**
ISR Istrita 65.36 330 P **P 06 38 06.0 +0.4**
ISR Istrita 65.36 330 P **P 06 38 06.3 +0.7**
comp=Z,8μmcomp=Z,364nm,1.8s
VORR Voronezh 65.51 342 *eP* **P 06 38 05.8 -0.5**
VORR S **S 06 46 51.9 +0.5**
VORR pmax pmax
comp=Z,217nm,1.1s
VORR MLR MLR
comp=Z,3μm,18.0s
ASAR Alice Springs 65.56 112 P **P 06 38 06.2 -1.2**
ASAR Alice Springs 65.56 112 P **P 06 38 06.7 -0.7**
comp=Z,38nm,0.7s,baz=276,slow=5.9,SNR=398
ASAR LR LR 07 04 44.2
comp=Z,6μm,18.2s,baz=282,slow=34
ASAR PKPPKP P'P'df 07 06 31.9 -18
comp=Z,2.1nm,1.1s,baz=64,slow=2.1,SNR=6.2
comp=Z,38nm,0.7s
AS31 Alice Springs 65.56 112 P **P 06 38 06.5 -0.9**
AS31 Alice Springs 65.56 112 P **P 06 38 07.3 -0.1**
comp=Z,27nm,0.8s
MPEP Malo Peshtene 65.58 327 P **P 06 38 06.2 -0.7**
ODBI Odobesti 65.58 331 P **P 06 38 07.5 +0.6**
comp=Z,2μmcomp=Z,64nm,0.9s
BISRR Bisoca 65.59 330 ⇑P **P 06 38 06.5 -0.6**
AS01 Alice Springs 65.61 112 P **P 06 38 07.9 +0.2**
MILM Milestii Mici 65.61 333 ⇑*iP* **P 06 38 05.8 -1.2**
comp=Z,2μm,3.5s
MILM Milestii Mici 65.61 333 *e*PP PP 06 40 28.0 -3.6
MILM *e*L L 06 59 13.0
MILM LRM MLR 07 08 53.0
comp=Z,2μm,17.0s
MILM Milestii Mici 65.61 333 ⇑P **P 06 38 07.3 +0.3**
MILM Milestii Mici 65.61 333 P **P 06 38 07.3 +0.3**
GHRR 65.63 331 ⇑P **P 06 38 07.9 +0.7**
GHRR 65.63 331 P **P 06 38 07.7 +0.5**
KIS Kishinev 65.67 333 ⇑*iP* **P 06 38 06.0 -1.4**
comp=Z,320nm,1.0s
KIS Kishinev 65.67 333 *e*PP PP 06 40 31.0 -1.1
KIS *e*L L 07 03 31.0
KIS LRM MLR 07 07 38.0
comp=Z,600nm,16.0s
KIS Kishinev 65.67 333 *c iP* **P 06 38 06.0 -1.4**
KIS *e* 06 40 31.0
KIS pmax pmax
comp=Z,320nm,1.0s
KIS MLR MLR
comp=Z,600nm,16.0s
KIS Kishinev 65.67 333 P **P 06 38 07.4 0.0**
comp=Z,144nm,1.3s
NEHR Nehoiu 65.71 330 ⇓P **P 06 38 08.4 +0.6**
HUMR Humele 65.73 329 ⇑P **P 06 38 08.9 +1.0**
OHR Ohrid 65.75 324 *i* P **P 06 38 07.4 -0.7**
VRI Vrincioaia 65.81 331 ⇓P **P 06 38 08.5 +0.1**
VRI Vrincioaia 65.81 331 P **P 06 38 08.5 +0.1**
VRI Vrincioaia 65.81 331 P **P 06 38 08.8 +0.4**
comp=Z,9μmcomp=Z,533nm,1.3s
PLOR Plostina 65.84 331 ⇑P **P 06 38 09.1 +0.5**
PLOR Plostina 65.84 331 P **P 06 38 09.1 +0.5**
MLR Muntele Rosu 65.93 330 P **P 06 38 09.1 -0.2**
MLR Muntele Rosu 65.93 330 LR LR 07 07 01.6
comp=Z,3μm,19.9s,baz=138,slow=36
MLR Muntele Rosu 65.93 330 ⇑P **P 06 38 09.8 +0.5**
MLR Muntele Rosu 65.93 330 P **P 06 38 09.8 +0.5**
VALD Valchedram 65.96 327 P **P 06 38 09.9 +0.5**
STFAR Stefanesti-Arg 65.97 329 ⇓P **P 06 38 09.5 0.0**
TIA Tai'an 66.00 43 P **P 06 38 09.5 -0.3**
TIA sP **pwP 06 38 16.5 +0.2**
TIA PcP **PcP 06 38 42.8 +2.3**
TIA S **S 06 47 00.0 +1.9**
TIA SKS **SKSac 06 48 06.0 -0.4**
TIA SS **SS 06 51 19.5 +5.8**
TIA pmax pmax
comp=Z,80nm,1.5s
TIA pmax pmax
comp=Z,2μm,5.4s
TIA LR LR
comp=Z,1μm,14.3s
TIA LR LR
comp=Z,1μm,17.0s
TIA LR LR
comp=Z,1μm,14.4s
WRA Warramunga Arr 66.04 108 P **P 06 38 09.8 -0.7**
WRA Warramunga Arr 66.04 108 P **P 06 38 10.2 -0.3**
comp=Z,52nm,0.8s,baz=279,slow=5.8,SNR=187
WRA LR LR 07 02 57.6
comp=Z,12μm,21.9s,baz=272,slow=32
WRA PKPPKP **P'P'df 07 06 43.6 -5.4**
comp=Z,4.9nm,1.2s,baz=76,slow=3.0,SNR=5.7
comp=Z,52nm,0.8s
WB1 Warramunga Ar. 66.04 108 P **P 06 38 10.6 +0.1**
WRAB Tennant Creek 66.05 107 P **P 06 38 10.0 -0.5**
WRAB Tennant Creek 66.05 107 *d iP* **P 06 38 10.6 +0.1**
WRAB pmax pmax
comp=Z,377nm,1.9s
WB2 Warramunga Arr 66.05 108 P **P 06 38 10.0 -0.5**
COVR Voineasa-Covas 66.05 330 ⇓P **P 06 38 09.7 -0.3**
MTUR Matau 66.18 329 ⇓P **P 06 38 11.1 +0.2**
MTUR Matau 66.18 329 P **P 06 38 11.1 +0.2**
ARTI Arti 66.21 355 LR LR 07 06 19.8
comp=Z,855nm,19.8s,baz=180,slow=35
ARTI Arti 66.21 355 *c iP* **P 06 38 10.1 -0.6**
ARTI 06 40 31.4
ARTI S **S 06 47 01.4 +1.6**
ARTI SS **SS 06 51 13.7 -2.4**

ARTI pmax pmax
comp=Z,288nm,1.3s
ARTI MLR MLR
comp=Z,2μm,18.0s
SSE Sheshan 66.29 50 P **P 06 38 11.8 +0.1**
SSE S **S 06 47 02.5 +0.9**
SSE pmax pmax
comp=Z,27nm,1.5s
SSE pmax pmax
comp=Z,610nm,4.8s
SSE LR LR
comp=Z,620nm,15.4s
SSE LR LR
comp=Z,760nm,15.8s
ONER Baraj Valea Uz 66.31 331 ⇓P **P 06 38 11.5 -0.1**
TESR Tescani 66.32 331 ⇑P **P 06 38 11.7 0.0**
TESR Tescani 66.32 331 P **P 06 38 11.6 0.0**
comp=Z,5μmcomp=Z,228nm,2.2s
VOIR 66.33 329 ⇑P **P 06 38 11.8 0.0**
VOIR 66.33 329 P **P 06 38 11.8 0.0**
VOIR 66.33 329 P **P 06 38 11.4 -0.5**
comp=Z,3μmcomp=Z,136nm,1.3s
LPSR Galich'ya Gora 66.41 342 ⇓*iP* **P 06 38 11.7 -0.3**
LPSR *e*S **S 06 47 03.0 +0.8**
LPSR pmax pmax
comp=Z,196nm,1.2s
LPSR MLR MLR
comp=Z,2μm,18.0s
OZUR 66.44 330 ⇑P **P 06 38 12.4 -0.1**
TIR Tirane 66.45 323 ⇓P **P 06 38 12.9 +0.3**
TIR Tirane 66.45 323 P **P 06 38 12.9 +0.3**
TIR Tirane 66.45 323 ⇓P **P 06 38 12.7 +0.1**
TIR Tirane 66.45 323 P **P 06 38 12.6 +0.1**
comp=Z,7μmcomp=Z,501nm,1.3s
SVE Sverdlovsk 66.48 357 *de*P **P 06 38 11.7 -0.8**
SVE *e*S **S 06 47 05.3 +2.2**
SVE pmax pmax
comp=Z,253nm,1.5s
ARR Arges 66.49 329 ⇓P **P 06 38 12.5 -0.4**
DOPR Dopca 66.54 330 ⇑P **P 06 38 12.8 -0.3**
PUNG Punghina 66.63 327 ⇑P **P 06 38 14.7 +1.0**
WDD Wied Dalam 66.67 316 P **P 06 38 14.5 +0.4**
SORM Soroca 66.73 333 ⇓P **P 06 38 13.9 -0.4**
SORM Soroca 66.73 333 P **P 06 38 13.8 -0.4**
SORM Soroca 66.73 333 P **P 06 38 13.1 -1.1**
comp=Z,3μmcomp=Z,173nm,1.3s
SRE Strehaia 66.74 328 ⇑P **P 06 38 15.3 +0.8**
SRE Strehaia 66.74 328 P **P 06 38 15.2 +0.8**
BOVS Bovan 66.86 326 ⇑P **P 06 38 14.4 -0.7**
TNR Turnu Rosu 66.87 329 ⇓P **P 06 38 16.4 +1.2**
TNR Turnu Rosu 66.87 329 P **P 06 38 16.4 +1.2**
LOT Lotru 66.99 329 ⇑P **P 06 38 16.6 +0.5**
TIP Timpagrande 67.05 320 P **P 06 38 15.6 -0.9**
TIP IAmb IAmb 06 38 38.4
comp=Z,156nm,1.3s
TIP Timpagrande 67.05 320 ⇑P **P 06 38 17.0 +0.4**
TIP Timpagrande 67.05 320 P **P 06 38 16.3 -0.2**
comp=Z,3μmcomp=Z,78nm,1.2s
CEL Celeste 67.08 319 P **P 06 38 16.5 -0.2**
CEL Celeste 67.08 319 ⇑P **P 06 38 16.8 +0.1**
CEL Celeste 67.08 319 P **P 06 38 16.8 +0.1**
comp=Z,3μmcomp=Z,121nm,0.8s
DJES Djerdap 67.11 327 ⇑P **P 06 38 17.1 +0.3**
PRAR RASCA 67.13 332 ⇓P **P 06 38 17.7 +0.9**
PVY Plav 67.17 324 ⇑*iP* **P 06 38 16.7 -0.6**
ULC Ulcinj 67.19 324 ⇑*iP* **P 06 38 17.4 0.0**
OOD Oodnadatta 67.20 116 P **P 06 38 17.6 -0.1**
HERR Herculane 67.31 328 ⇑P **P 06 38 17.6 -0.3**
SONM Songino Array 67.34 28 P **P 06 38 17.9 -0.4**
SONM IAmb IAmb 06 38 20.3
comp=Z,151nm,1.0s
SONM Songino Array 67.34 28 P **P 06 38 18.3 0.0**
comp=Z,89nm,0.9s,baz=222,slow=6.1,SNR=212
SONM PKP2bc 07 06 45.9
comp=Z,2.5nm,1.0s,baz=119,slow=1.9,SNR=7.4
SONM LR LR 07 07 08.5
comp=Z,5μm,18.8s,baz=218,slow=36
comp=Z,89nm,0.9s
SONM Songino Array 67.34 28 P **P 06 38 17.9 -0.4**
SONM pmax pmax
comp=Z,151nm,1.0s
DRME Dracevica, Mon 67.37 324 ⇑*iP* **P 06 38 18.2 -0.2**
DRME Dracevica, Mon 67.37 324 ⇑*iP* **P 06 38 18.1 -0.3**
IVA Berane 67.39 325 ⇑*iP* **P 06 38 17.5 -1.1**
ELIB Princess Elisa 67.43 193 *dP* **P 06 38 18.4 -0.2**
comp=Z,30nm,1.1s
GZR Gura Zlata 67.46 328 ⇓P **P 06 38 18.9 -0.1**
GZR Gura Zlata 67.46 328 P **P 06 38 18.9 -0.1**
PDG Podgorica 67.48 324 P **P 06 38 18.6 -0.5**
PDG Podgorica 67.48 324 ⇑*iP* **P 06 38 18.4 -0.7**
PDG Podgorica 67.48 324 ⇓P **P 06 38 18.6 -0.5**
PDG Podgorica 67.48 324 ⇑P **P 06 38 18.6 -0.5**
PDG Podgorica 67.48 324 ⇑*iP* **P 06 38 18.5 -0.5**
NDNU Novodnistrovsk 67.51 333 P **P 06 38 17.8 -1.4**
RAFF Raffo Rosso 67.52 317 P **P 06 38 20.3 +0.8**
BJT Baijiatuau 67.53 39 P **P 06 38 19.2 -0.3**
BJT IAmb IAmb 06 38 22.8
comp=Z,78nm,1.1s
BJT Baijiatuau 67.53 39 P **P 06 38 20.1 +0.6**
BJT Baijiatuau 67.53 39 P **P 06 38 19.2 -0.3**
BJT pmax pmax
comp=Z,79nm,1.1s
BJT MLR MLR
comp=Z,700nm,18.0s
BJI Beijing 67.55 39 P **P 06 38 19.0 -0.6**
BJI S **S 06 47 19.0 +2.4**
BJI pmax pmax
comp=Z,37nm,1.4s
BJI pmax pmax
comp=Z,740nm,5.2s
BJI LR LR
comp=Z,490nm,14.7s
BJI LR LR
comp=Z,500nm,14.0s
BJI LR LR
comp=Z,440nm,13.0s
SJES Sjenica 67.59 325 ⇑*iP* **P 06 38 19.3 -0.6**
KOME Kolasin 67.59 324 ⇑*iP* **P 06 38 19.4 -0.5**
BUM Brajici-Budva 67.61 324 ⇑*iP* **P 06 38 19.6 -0.4**
VAE Valguarnera 67.62 317 LR LR 07 05 10.3
comp=Z,2μm,20.6s,baz=132,slow=34
ULN Ulaanbaatar 67.67 28 P **P 06 38 19.7 -0.6**
ULN IAmb IAmb 06 38 22.1
comp=Z,144nm,1.4s
ULN Ulaanbaatar 67.67 28 IAMs_20 IAMs_20 07 06 47.6
comp=Z,4μm,21.0s
ULN Ulaanbaatar 67.67 28 P **P 06 38 20.6 +0.2**
ULN P **P 06 38 20.6 +0.2**
ULN Ulaanbaatar 67.67 28 *ceP* **P 06 38 20.0 -0.4**
ULN pmax pmax
comp=Z,159nm,1.7s
ULN Ulaanbaatar 67.67 28 ⇑P **P 06 38 20.0 -0.4**
BBOO Buckleboo 67.67 121 P **P 06 38 20.3 -0.4**
BBOO Buckleboo 67.67 121 P **P 06 38 20.4 -0.3**
comp=Z,153nm,1.4s
BBOO Buckleboo 67.67 121 P **P 06 38 20.7 0.0**
CEME Cevo 67.75 324 ⇑*iP* **P 06 38 20.5 -0.4**
BURAR Bucovina Array 67.79 331 P **P 06 38 21.0 -0.2**
BURAR Bucovina Array 67.79 331 ⇑P **P 06 38 22.5 +1.4**
BURAR Bucovina Array 67.79 331 P **P 06 38 22.5 +1.4**
BUR08 Bucovina Ar. S 67.82 331 P **P 06 38 21.3 0.0**
BUR08 IAmb IAmb 06 38 23.3
comp=Z,118nm,1.5s
TAM Tamanrasset 67.83 299 P **P 06 38 22.2 +0.3**
TAM IAMs_20 IAMs_20 07 05 13.1
comp=Z,4μm,22.0s
TAM Tamanrasset 67.83 299 P **P 06 38 22.3 +0.3**
TAM pmax pmax
comp=Z,73nm,1.5s
ARCR ARCALIA 67.83 330 ⇓P **P 06 38 21.8 +0.6**
NKME Niksic 67.86 324 ⇑*iP* **P 06 38 21.0 -0.6**
ZAK Zakamensk 67.89 24 *eP* **P 06 38 20.8 -0.9**
ZAK pmax pmax
comp=Z,53nm,1.4s
KMPD K-Podol'skiy 67.90 333 P **pP 06 38 20.1 -3.0**
KMPD P **P 06 38 19.6 -2.0**
HCY Herceg Novi 67.93 324 ⇑*iP* **P 06 38 21.4 -0.6**
HCY Herceg Novi 67.93 324 ⇑*iP* **P 06 38 22.2 +0.2**
MATE Matera 67.93 321 ⇑P **P 06 38 22.6 +0.6**
MATE Matera 67.93 321 *eP* **P 06 38 22.8 +0.8**
CJR Cluj-Napoca 67.95 330 ⇓P **P 06 38 23.2 +1.2**
CJR Cluj-Napoca 67.95 330 P **P 06 38 23.2 +1.2**
MOY Mondy 68.01 22 *eP* **P 06 38 21.6 -0.8**
MOY pmax pmax

comp=Z,158nm,1.8s
SURR Surduc 68.05 328 ⇑P **P 06 38 22.3 -0.3**
CUC Castrocucco 68.11 320 P **P 06 38 22.9 -0.3**
CUC IAmb IAmb 06 38 25.6
comp=Z,95nm,1.1s
ACRG Accra 68.15 280 P **P 06 38 24.0 +0.1**
ACRG IAMs_20 IAMs_20 07 06 08.3
comp=Z,3μm,20.0s
RUDO Rudo 68.15 325 ⇑*i*P **P 06 38 23.2 -0.2**
UPM Unac-Piva 68.16 324 *e*P **P 06 38 23.8 +0.2**
UPM Unac-Piva 68.16 324 ⇑*i*P **P 06 38 22.8 -0.8**
MARR Marisel-Cluj 68.16 329 ⇑P **P 06 38 23.3 -0.2**
TREB Trebinje 68.18 324 *e*P **P 06 38 22.5 -1.0**
BRY Bratogost 68.18 324 *e*P **P 06 38 23.2 -0.5**
BRY Bratogost 68.18 324 ⇑*i*P **P 06 38 22.5 -1.2**
TORD Torodi Ar. Bea 68.19 288 P **P 06 38 23.6 -0.6**
TORD IAmb IAmb 06 38 25.7
comp=Z,116nm,1.4s
TORD Torodi Ar. Bea 68.19 288 P **P 06 38 24.2 +0.1**
comp=Z,24nm,0.9s,baz=84,slow=3.7,SNR=27
TORD LR LR 07 05 59.2
comp=Z,5μm,21.5s,baz=99,slow=34
comp=Z,24nm,0.9s
AK07 Malin Array Si 68.20 335 P **P 06 38 23.2 -0.3**
BZS Buzias 68.22 328 ⇑P **P 06 38 23.1 -0.6**
BZS Buzias 68.22 328 P **P 06 38 23.1 -0.6**
BZS Buzias 68.22 328 ⇑P **P 06 38 23.0 -0.7**
AK06 Malin Array Si 68.23 335 P **P 06 38 23.0 -0.6**
BBLS Lazi&#263i 68.29 325 ⇑*i*P **P 06 38 24.5 +0.2**
AKASG Malin Array Be 68.31 336 P **P 06 38 22.6 -1.5**
comp=Z,58nm,1.0s,baz=138,slow=4.9,SNR=150
AKASG PP **PP 06 40 51.7 -3.3**
comp=Z,16nm,1.1s,baz=142,slow=7.9,SNR=4.9
AKASG LR LR 07 08 23.5
comp=Z,3μm,20.7s,baz=143,slow=36
comp=Z,58nm,1.0s
AKBB Malin Array Si 68.31 336 *ce*P **P 06 38 23.0 -1.1**
AKBB pmax pmax
comp=Z,267nm,1.4s
AKBB Malin Array Si 68.31 336 P **P 06 38 22.8 -1.3**
KIEV Kiev 68.31 336 P **P 06 38 23.1 -1.0**
KIEV IAmb IAmb 06 38 24.7
comp=Z,251nm,1.3s
KIEV Kiev 68.31 336 ⇓P **P 06 38 24.0 -0.2**
KIEV Kiev 68.31 336 P **P 06 38 23.9 -0.2**
KIEV Kiev 68.31 336 *i* P **P 06 38 22.9 -1.3**
SNR=36
KIEV Kiev 68.31 336 ⇑P **P 06 38 22.7 -1.5**
KIEV Kiev 68.31 336 P **P 06 38 22.8 -1.3**
comp=Z,13μmcomp=Z,639nm,1.9s
AK03 Malin Array Si 68.33 336 P **P 06 38 22.9 -1.4**
LUBAR Lubar, Ukraine 68.33 334 P **P 06 38 22.9 -1.4**
HORU Horodok 68.39 333 P **P 06 38 23.9 -0.8**
DRGR 68.44 329 ⇓P **P 06 38 24.7 -0.5**
DRGR 68.44 329 P **P 06 38 24.7 -0.5**
MESR Meseseni 68.57 330 ⇑P **P 06 38 26.4 +0.5**
SIRR Siria 68.63 328 ⇑P **P 06 38 26.2 -0.1**
TEKS Tekeris 68.65 326 ⇑*i*P **P 06 38 26.2 -0.3**
STON Ston 68.65 324 ⇑*i*P **P 06 38 25.1 -1.3**
BMR Baia Mare 68.66 330 ⇓P **P 06 38 27.0 +0.6**
BMR Baia Mare 68.66 330 P **P 06 38 27.0 +0.6**
MI29 MI29, Kamyanyy 68.66 335 P **P 06 38 25.5 -0.9**
comp=Z,21μmcomp=Z,737nm,1.7s
MI30 MI30,Zelenitsa 68.77 335 P **P 06 38 26.1 -0.9**
comp=Z,6μmcomp=Z,213nm,1.9s
FRGS Fruska Gora 68.89 327 ⇑*i*P **P 06 38 27.2 -0.7**
STNU Starunia 68.91 332 P **P 06 38 28.0 0.0**
WHYH Whyalla 68.96 122 P **P 06 38 29.0 +0.3**
MI28 Mi28,Pidlybu 69.12 335 P **P 06 38 28.6 -0.6**
SGRT San Giovanni R 69.16 322 P **P 06 38 30.1 +0.3**
OBN Obninsk 69.28 342 P **P 06 38 29.6 -0.5**
OBN Obninsk 69.28 342 LR LR 07 09 19.3
comp=Z,2μm,18.7s,baz=160,slow=36
OBN Obninsk 69.28 342 ⇑P **P 06 38 30.8 +0.7**
OBN Obninsk 69.28 342 *c i*P **P 06 38 28.5 -1.6**
OBN *i* 06 38 47.2
OBN *i* 06 40 59.0
OBN *i* S **S 06 47 32.1 -4.5**
OBN pmax pmax
comp=Z,126nm,1.3s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 69.28 342 P **P 06 38 29.9 -0.2**
comp=Z,5μmcomp=Z,189nm,1.3s
BRIU Brid 69.35 331 P **P 06 38 30.9 +0.2**
LCRK Leigh Creek 69.44 119 P **P 06 38 32.4 +0.6**
BERU Beregovo 69.46 330 P **P 06 38 31.8 +0.4**
KIRV Kirov 69.47 351 LR LR 07 11 25.1
comp=Z,2μm,18.1s,baz=179,slow=38
KIRV Kirov 69.47 351 *ce*P **P 06 38 30.2 -0.9**
PAOL Paolisi 69.48 321 P **P 06 38 31.9 +0.1**
PAOL IAmb IAmb 06 38 34.9
comp=Z,228nm,1.4s
MOS Moscow 69.51 343 *e*P **P 06 38 29.0 -2.5**
MOS *e* 06 38 51.2
MOS *e* 06 41 04.1
MOS *e*PPP PPP 06 42 44.3
MOS *e*SS SS 06 52 10.6 +3.5
MOS pmax pmax
comp=Z,630nm,1.5s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,2μm,20.0s
MOS MLR MLR
comp=Z,3μm,20.0s
MUKU Mukachevo 69.59 331 P **P 06 38 32.6 +0.4**
NVL N'lazarevskaya 69.67 197 *e*P **P 06 38 31.5 -0.8**
NVL pmax pmax
comp=Z,99nm,1.4s
NVL MLR MLR
comp=Z,670nm,16.0s
IRK Irkutsk 69.72 24 *e*P **P 06 38 31.9 -1.0**
IRK *e*S **S 06 47 45.1 +3.1**
IRK pmax pmax
comp=Z,396nm,2.1s
XLT XiLinHaoTe 69.77 36 *e*P **P 06 38 33.5 0.0**
XLT PP **PP 06 41 11.8 +3.8**
XLT S **S 06 47 43.5 +0.4**
XLT ScS **SKKSac 06 48 35.3 +0.4**
XLT SS **SS 06 52 10.8 -1.1**
XLT pmax pmax
comp=Z,84nm,1.4s
XLT pmax pmax
comp=Z,1μm,4.5s
XLT LR LR
comp=Z,140nm,16.0s
XLT LR LR
comp=Z,880nm,13.7s
XLT LR LR
comp=Z,1μm,14.9s
HOLU Holmets 69.79 330 P **P 06 38 33.6 +0.2**
UZHM Uzhgorod 69.91 331 P **P 06 38 34.8 +0.7**
LVV L'vov 69.91 332 P **P 06 38 34.0 -0.1**
JOW Kunigami 70.08 57 P **P 06 38 35.7 0.0**
JOW IAmb IAmb 06 38 38.7
comp=Z,290nm,1.4s
JOW Kunigami 70.08 57 LR LR 07 08 41.4
comp=Z,665nm,19.7s,baz=242,slow=35
JOW Kunigami 70.08 57 P **P 06 38 37.8 +2.1**
BLY Banja Luka 70.09 325 ⇑*i*P **P 06 38 35.0 -0.3**
HTT Hallett 70.10 122 P **P 06 38 36.9 +1.1**
RNPP5 Staryi Chortor 70.10 334 P **P 06 38 34.8 -0.5**
KOLS Kolonicke sedl 70.12 331 *e*P **P 06 38 35.1 -0.4**
KOLS pmax pmax
comp=Z,113nm,1.1s
KOLS Kolonicke sedl 70.12 331 *e*P **P 06 38 35.1 -0.4**
KOLS *e*PP **PP 06 41 12.0 +1.2**
MORH Mrgy, Hungar 70.19 327 ⇑P **P 06 38 35.4 -0.5**
MORH Mrgy, Hungar 70.19 327 P **P 06 38 35.4 -0.5**
comp=Z,3μmcomp=Z,142nm,1.5s
RNPP8 Varash 70.19 334 P **P 06 38 35.3 -0.5**
RNPP9 Sopachiv 70.23 334 P **P 06 38 35.6 -0.5**
KEST Kesra 70.25 313 P **P 06 38 37.5 +0.9**
KEST IAmb IAmb 06 39 02.1
comp=Z,200nm,1.4s
KEST Kesra 70.25 313 P **P 06 38 37.0 +0.4**
comp=Z,61nm,1.2s,baz=130,slow=4.5,SNR=32
KEST LR LR 07 08 28.3
comp=Z,3μm,19.6s,baz=113,slow=35
comp=Z,61nm,1.2s
A050A Klekovaca 70.30 324 ⇑*i*P **P 06 38 35.6 -1.1**
A051A Mrakovica 70.41 325 ⇑*i*P **P 06 38 36.9 -0.5**
INTR Introdacqua 70.44 321 P **P 06 38 37.2 -0.5**
INTR IAmb IAmb 06 38 39.5
comp=Z,194nm,1.3s
DL2 Dalian 70.47 43 P **P 06 38 37.5 -0.2**
DL2 S **S 06 47 53.0 +1.9**
DL2 pmax pmax
comp=Z,91nm,1.1s
DL2 pmax pmax
comp=Z,2μm,4.4s
DL2 LR LR
comp=Z,2μm,18.0s
DL2 LR LR
comp=Z,950nm,17.5s
DL2 LR LR
comp=Z,2μm,16.7s
PSZ Piszkesteto 70.62 329 ⇓P **P 06 38 38.0 -0.6**
PSZ Piszkesteto 70.62 329 P **P 06 38 38.0 -0.6**
PSZ Piszkesteto 70.62 329 *e*P **P 06 38 38.7 0.0**
KECS Kecovo 70.70 330 *e*P **P 06 38 39.2 +0.2**
KECS pmax pmax
comp=Z,67nm,1.3s
KECS Kecovo 70.70 330 *e*P **P 06 38 39.2 +0.2**
AQU L'Aquila 70.94 321 P **P 06 38 41.0 +0.3**
comp=Z,3μmcomp=Z,104nm,1.4s
STHS Stebnicka Huta 70.95 331 *e*P **P 06 38 40.2 -0.3**
STHS pmax pmax
comp=Z,46nm,1.2s
STHS Stebnicka Huta 70.95 331 *e*P **P 06 38 40.1 -0.4**
STHS *e*PP **PP 06 41 18.4 +0.5**
QIS Mount Isa 70.95 108 P **P 06 38 41.4 +0.2**
comp=Z,144nm,1.4s
QIS Mount Isa 70.95 108 P **P 06 38 41.3 +0.1**
GUMA Gualdo di Mace 71.37 322 P **P 06 38 43.1 -0.1**
GUMA IAmb IAmb 06 38 44.7
comp=Z,286nm,1.4s
SRO Srobarova 71.37 328 *e*P **P 06 38 43.5 +0.4**
SRO pmax pmax
comp=Z,216nm,1.3s
SRO Srobarova 71.37 328 *e*P **P 06 38 43.5 +0.4**
SRO *e*PP **PP 06 41 23.3 +1.7**
MPLH Magyarpolny 71.38 327 P **P 06 38 43.3 +0.2**
comp=Z,8μmcomp=Z,452nm,1.4s
NRCA Norcia 71.38 321 P **P 06 38 42.8 -0.6**
NIE Niedzica 71.41 330 *e*P **P 06 38 42.1 -1.2**
NIE Niedzica 71.41 330 P **P 06 38 43.2 -0.1**
comp=Z,1μmcomp=Z,38nm,1.6s
FDMO Fiordimonte 71.51 322 P **P 06 38 43.7 -0.4**
FDMO IAmb IAmb 06 38 45.4
comp=Z,169nm,1.3s
BOJS Bojanci 71.64 325 *e*P **P 06 38 44.4 -0.3**
BOJS Bojanci 71.64 325 ⇑*i*P **P 06 38 44.1 -0.6**
GCIS Gornji Cirnik 71.64 325 *e*P **P 06 38 44.4 -0.4**
GCIS *e*PP **PP 06 41 24.5 +0.6**
KOGS Kog 71.64 326 *e*P **P 06 38 44.2 -0.5**
KOGS *e*PP **PP 06 41 25.1 +1.2**
LANS Liptovska Anna 71.64 330 *e*P **P 06 38 44.6 -0.2**
LANS pmax pmax
comp=Z,80nm,1.2s
LANS Liptovska Anna 71.64 330 *e*P **P 06 38 44.6 -0.2**
LANS *e*PP **PP 06 41 25.8 +1.8**
INKA Innaminka 71.68 116 P **P 06 38 46.1 +0.7**
CRES Cresnjevec Ost 71.71 325 *e*PP PP 06 41 25.5 +0.9
MNK Minsk 71.75 337 *i* P **P 06 38 43.6 -1.6**
MNK *i* 06 39 03.8
MNK *i* 06 41 20.8
MNK *i* PPP PPP 06 43 03.5
MNK *i* S **S 06 48 00.6 -4.8**
MNK *i* SS **SS 06 52 36.1 -5.5**
MNK *i* SSS SSS 06 55 53.7
MNK pmax pmax
comp=Z,154nm,1.0s
MNK pmax pmax
comp=N,76nm,1.1s
MNK pmax pmax
comp=E,62nm,1.1s
MNK MLR MLR
comp=Z,3μm,21.0s
MNK MLR MLR
comp=N,2μm,19.0s
MNK MLR MLR
comp=E,2μm,18.0s
VSL Villasalto 72.05 317 P **P 06 38 47.1 -0.3**
VSL IAmb IAmb 06 38 49.3
comp=Z,220nm,1.3s
OJC Ojcow 72.18 331 *e*P **P 06 38 47.1 -0.8**
OJC Ojcow 72.18 331 P **P 06 38 47.3 -0.6**
comp=Z,72nm,1.3s
CEY Cerknica 72.24 325 ⇑*i*P **P 06 38 47.4 -1.0**
MODS Modra-Piesok 72.27 328 *e*P **P 06 38 48.1 -0.4**
MODS pmax pmax
comp=Z,289nm,1.3s
MODS Modra-Piesok 72.27 328 *e*P **P 06 38 48.1 -0.4**
MODS *e*PP **PP 06 41 29.5 +0.2**
SMOL Smolenice 72.27 328 *e*P **P 06 38 48.5 0.0**
SMOL pmax pmax
comp=Z,39nm,1.3s
STKA Stephens Creek 72.34 120 P **P 06 38 49.2 -0.1**
comp=Z,16nm,0.6s,baz=296,slow=5.5,SNR=30
STKA LR LR 07 07 18.7
comp=Z,9μm,19.7s,baz=260,slow=33
comp=Z,16nm,0.6s
STKA Stephens Creek 72.34 120 P **P 06 38 49.7 +0.3**
LJU Ljubljana 72.36 325 *e*P **P 06 38 48.6 -0.5**
JAVC Velka Javorina 72.36 329 *e*P **P 06 38 49.2 +0.1**
JAVC *e* 06 41 26.3
SKDS Skadanscina 72.37 324 ⇑*i*P **P 06 38 48.3 -0.9**
RONA Rosalia, Austr 72.37 327 *i* P **P 06 38 48.9 -0.3**
comp=Z,146nm,1.2s,SNR=66
RONA *e*PP **PP 06 41 28.0 -2.2**
comp=Z,46nm,1.5s
SOKA Soboth 72.45 326 *i* P **P 06 38 49.6 -0.2**
comp=Z,112nm,1.4s,SNR=64
SOKA *e*PP **PP 06 41 31.6 +0.6**
comp=Z,34nm,1.4s
ARSA Arzberg 72.52 326 *i* P **P 06 38 50.1 0.0**
comp=Z,169nm,1.3s,SNR=58
ARSA *e*PP **PP 06 41 31.8 +0.3**
comp=Z,26nm,1.4s
ARPS Mount Arapiles 72.55 125 P **P 06 38 51.2 +0.7**
MAUC Maruska 72.60 329 *e*P **P 06 38 50.3 -0.2**
OBKA Obir 72.62 325 *i* P **P 06 38 50.7 0.0**
comp=Z,137nm,1.4s,SNR=36
OBKA *e*PP **PP 06 41 33.2 +0.7**
comp=Z,57nm,1.5s
OBKA Obir 72.62 325 ⇑*i*P **P 06 38 50.4 -0.3**
CONA Conrad Observa 72.74 327 *i* P **P 06 38 50.9 -0.5**
comp=Z,272nm,1.3s,SNR=101
OKC Ostrava-Krasne 72.74 330 *e*P **P 06 38 51.4 +0.1**
OKC *e*S **S 06 48 17.6 +0.6**
OKC AMS AMS 07 10 40.0
comp=Z,2μm,22.0s
OKC Ostrava-Krasne 72.74 330 *e*P **P 06 38 51.4 +0.1**
OKC *e*S **S 06 48 17.6 +0.6**
OKC MLR MLR
comp=Z,2μm,22.0s
CASP Castiglione de 72.75 321 P **P 06 38 51.0 -0.5**
BEL Belsk 72.79 332 *e*P **P 06 38 51.6 +0.1**
IDID Didziasalis 72.80 338 *e*P **P 06 38 50.7 -0.7**
SABO M.te Sabotino 72.86 324 P **P 06 38 51.6 -0.4**
SABO IAmb IAmb 06 38 53.3
comp=Z,280nm,1.4s
DBIC Dimbokro 72.88 280 P **P 06 38 52.5 -0.3**
comp=Z,65nm,0.8s,baz=94,slow=6.8,SNR=76
DBIC LR LR 07 09 53.0
comp=Z,3μm,20.2s,baz=100,slow=35
comp=Z,65nm,0.8s
R9F13 Warsaw-Wawer 72.89 333 *e*P **P 06 38 52.6 +0.5**
TROLL Troll, Antarti 72.90 197 ⇑P **P 06 38 53.3 +1.3**
comp=Z,933nm,0.9s
STEB Steborice 72.99 329 *e*P **P 06 38 52.9 +0.1**
MORC Moravsky Berou 73.01 329 P **P 06 38 52.4 -0.6**
MORC IAmb IAmb 06 38 54.2
comp=Z,119nm,1.3s
MORC Moravsky Berou 73.01 329 *e*P **P 06 38 51.9 -1.0**
MORC *e* 06 41 28.0
MORC Moravsky Berou 73.01 329 ⇓P **P 06 38 52.7 -0.3**
MORC Moravsky Berou 73.01 329 P **P 06 38 52.6 -0.3**
IIGN Ignalina 73.02 337 *e*P **P 06 38 52.6 -0.2**
KRUC Moravsky 73.15 328 *e*P **P 06 38 52.8 -0.9**
VRAC Vranov 73.20 328 LR LR 07 12 00.9
comp=Z,960nm,18.2s,baz=120,slow=37
VRAC Vranov 73.20 328 *e*P **P 06 38 53.1 -0.9**
VRAC Vranov 73.20 328 ⇑P **P 06 38 54.7 +0.7**
VRAC Vranov 73.20 328 P **P 06 38 54.7 +0.7**
MYKA Terra Mystica 73.20 325 *i* P **P 06 38 54.0 -0.2**
comp=Z,131nm,1.4s,SNR=36
MYKA *i* PP **PP 06 41 39.4 +2.0**
comp=Z,17nm,1.1s
ISAL Salakas 73.22 337 *e*P **P 06 38 54.9 +1.0**
SNY Shenyang 73.23 41 ⇓P **P 06 38 54.5 +0.2**
SNY PP **PP 06 41 44.3 +6.7**
SNY S **S 06 48 23.5 +0.6**
SNY pmax pmax
comp=Z,76nm,1.4s
SNY LR LR
comp=Z,920nm,15.2s
SNY LR LR
comp=Z,470nm,14.2s
SNY LR LR
comp=Z,870nm,15.4s
INCN Inchon 73.24 46 P **P 06 38 55.6 +1.1**
SUW Suwalki 73.25 335 *e*P **P 06 38 53.2 -1.0**
SUW Suwalki 73.25 335 P **P 06 38 53.9 -0.3**
SUW IAmb IAmb 06 38 55.1
comp=Z,253nm,1.2s
SUW Suwalki 73.25 335 P **P 06 38 53.9 -0.3**
SUW pmax pmax
comp=Z,253nm,1.2s
SUW Suwalki 73.25 335 *e*P **P 06 38 54.6 +0.4**
TJN Taejon 73.27 47 IAMs_20 IAMs_20 07 14 59.8
comp=Z,4μm,19.0s
TJN Taejon 73.27 47 P **P 06 38 55.3 +0.6**
SET Setif 73.31 312 P **P 06 38 55.0 -0.1**
KLMR Klimovskoe 73.51 347 *e*P **P 06 38 51.2 -4.3**
KLMR S **S 06 48 21.2 -4.0**
KLMR pmax pmax
comp=Z,735nm,1.2s
KLMR MLR MLR
comp=Z,2μm,17.0s
ZCCA Zocca 73.51 322 IAMs_20 IAMs_20 07 13 32.2
comp=Z,3μm,18.0s
MOA Molln 73.56 326 *i* P **P 06 38 55.8 -0.4**
comp=Z,245nm,1.2s,SNR=89
CIT Chita 73.57 28 *e*P **P 06 38 55.7 -0.5**
CIT *e* 06 39 00.6
CIT *e* 06 39 06.9
CIT *e* 06 41 37.4
CIT *e*S **SKiKP 06 48 28.9 +1.7**
CIT pmax pmax
comp=Z,391nm,1.7s
KRLC Kraliky 73.58 329 *e*P **P 06 38 56.1 -0.2**
KRLC AMS AMS 07 10 00.0
comp=Z,2μm,24.6s
KRLC Kraliky 73.58 329 *e*P **P 06 38 56.1 -0.2**
KRLC MLR MLR
comp=Z,2μm,24.6s
KBA Koelnbreinsper 73.63 325 *i* P **P 06 38 56.3 -0.5**
comp=Z,106nm,1.3s,SNR=39
BIOA Bad Ischl, Aus 73.81 326 *i* P **P 06 38 57.1 -0.6**
comp=Z,152nm,1.3s,SNR=51
ABTA Abfaltersbach 73.91 325 *i* P **P 06 38 58.2 -0.1**
comp=Z,266nm,1.3s,SNR=83
DPC Dobruska-Polom 73.98 329 *e*P **P 06 38 58.8 +0.2**
DPC AMS AMS 07 11 20.0
comp=Z,1μm,22.3s
DPC Dobruska-Polom 73.98 329 *e*P **P 06 38 58.8 +0.2**
DPC MLR MLR
comp=Z,1μm,22.3s
DPC Dobruska-Polom 73.98 329 P **P 06 38 58.5 -0.1**
comp=Z,2μmcomp=Z,54nm,1.6s
PABE Paberze 74.00 336 IAMs_20 IAMs_20 07 11 48.5
comp=Z,3μm,19.0s
PABE Paberze 74.00 336 *e*P **P 06 38 58.5 0.0**
JAY Jayapura 74.05 90 LR LR 07 10 07.8
comp=Z,1μm,21.9s,baz=226,slow=35
CKRC Cesky Krumlov 74.11 327 *e*P **P 06 38 57.9 -1.5**
CKRC AMS AMS 07 15 40.0
comp=Z,1μm,16.6s
CKRC Cesky Krumlov 74.11 327 *e*P **P 06 38 57.9 -1.5**
CKRC MLR MLR
comp=Z,1μm,16.6s
TABU Tabubil 74.14 93 P **P 06 39 01.8 +1.4**
KSRS Korea Array 74.15 47 P **P 06 38 59.2 -0.6**
comp=Z,19nm,0.9s,baz=244,slow=6.0,SNR=36
KSRS LR LR 07 12 17.9
comp=Z,707nm,18.8s,baz=225,slow=36
comp=Z,19nm,0.9s
OSTC Ostas 74.16 329 *e*P **P 06 38 59.2 -0.5**
OSTC *e*x x 06 39 06.8
OSTC AMS AMS 07 11 50.0
comp=Z,2μm,22.0s
OSTC Ostas 74.16 329 *e*P **P 06 38 59.2 -0.5**
OSTC *e* 06 39 06.8
OSTC MLR MLR
comp=Z,2μm,22.0s
LESA Schwarzleotal 74.20 325 *i* P **P 06 38 59.0 -1.0**
comp=Z,190nm,1.5s,SNR=56
UPC Upice 74.23 329 *e*P **P 06 38 59.8 -0.3**
UPC AMS AMS 07 11 10.0
comp=Z,2μm,24.0s
UPC Upice 74.23 329 *e*P **P 06 38 59.8 -0.3**
UPC MLR MLR
comp=Z,2μm,24.0s
CHVC Chvalec 74.26 329 *e*P **P 06 39 00.0 -0.2**
CHVC AMS AMS 07 11 10.0
comp=Z,2μm,19.5s
CHVC Chvalec 74.26 329 *e*P **P 06 39 00.0 -0.2**
CHVC MLR MLR
comp=Z,2μm,19.5s
KSP Ksiaz 74.30 330 *e*P **P 06 38 59.9 -0.5**
KSP Ksiaz 74.30 330 P **P 06 39 00.5 +0.1**
comp=Z,2μmcomp=Z,77nm,1.8s
VSVD Vaisvydziai 74.36 337 *e*P **P 06 39 00.5 -0.1**
SNAA Sanae 74.37 198 ⇑P **P 06 39 00.5 -0.1**
comp=Z,424nm,0.8s
SNAA Sanae 74.37 198 P **P 06 39 01.2 +0.6**
comp=Z,16nm,0.8s,baz=93,slow=4.9,SNR=39
SNAA LR LR 07 04 12.2
comp=Z,1μm,21.0s,baz=92,slow=30
comp=Z,16nm,0.8s
MSSA Maissana 74.38 321 P **P 06 38 59.6 -1.5**
GEC2 GERESS Array S 74.45 327 P **P 06 39 01.1 -0.4**
GERES GERESS Array B 74.45 327 P **P 06 39 01.0 -0.4**
GERES GERESS Array B 74.45 327 P **P 06 39 01.1 -0.4**
comp=Z,24nm,1.0s,baz=132,slow=5.6,SNR=76
GERES PP **PP 06 41 47.5 -0.5**
comp=Z,5.9nm,1.0s,baz=142,slow=11,SNR=4.7
GERES LR LR 07 13 23.8
comp=Z,969nm,19.1s,baz=142,slow=37
comp=Z,24nm,1.0s
GOPC GO Pecny, Ondr 74.50 328 *e*P **P 06 39 01.4 -0.2**
GOPC GO Pecny, Ondr 74.50 328 *e*P **P 06 39 01.4 -0.2**
ZVC Zvikov 74.53 328 *e*P **P 06 39 00.8 -1.0**
ZVC *e*x x 06 39 08.9
JNU Nakatsue 74.58 52 LR LR 07 12 44.5
comp=Z,664nm,18.1s,baz=240,slow=37
JNU Nakatsue 74.58 52 P **P 06 39 04.3 +1.8**
PRU Pruhonice 74.67 328 *e*P **P 06 39 01.9 -0.7**
PRU *e*S **S 06 48 39.4 +0.6**
PRU AMS AMS 07 12 00.0
comp=Z,2μm,16.1s
PRU Pruhonice 74.67 328 *e*P **P 06 39 01.9 -0.7**
PRU *e*S **S 06 48 39.4 +0.6**
PRU MLR MLR
comp=Z,2μm,16.1s
KHC Kasperske Hory 74.68 327 *e*P **P 06 39 01.4 -1.3**
KHC *e*x x 06 39 09.6
KHC *e*S **S 06 48 35.4 -3.6**
KHC AMS AMS 07 14 50.0
comp=Z,1μm,16.4s
KHC Kasperske Hory 74.68 327 *ce*P **P 06 39 01.9 -0.8**
KHC pmax pmax
comp=Z,285nm,1.3s
KHC Kasperske Hory 74.68 327 P **P 06 39 02.3 -0.4**
comp=Z,2μmcomp=Z,91nm,1.3s
WTTA Wattenberg 74.69 325 *i* P **P 06 39 02.4 -0.6**
comp=Z,290nm,1.3s,SNR=85
WATA Walderalm 74.77 325 *i* P **P 06 39 02.6 -0.8**
comp=Z,312nm,1.3s,SNR=92
PRA Prague 74.78 328 *e*P **P 06 39 03.8 +0.6**
PRA *e*x x 06 39 11.0
PRA *e*S **S 06 48 41.2 +1.2**
PRA AMS AMS 07 12 10.0
comp=Z,2μm,18.8s
PRA Prague 74.78 328 *e*P **P 06 39 03.8 +0.6**
PRA *e* 06 39 11.0
PRA *e*S **S 06 48 41.2 +1.2**
PRA MLR MLR
comp=Z,2μm,18.8s
QLP Quilpie 74.83 115 P **P 06 39 05.0 +0.9**

SQTA Sankt Quirin 74.92 325 *i* P **P 06 39 03.5 -0.8**
comp=Z,206nm,1.2s,SNR=79
COEN Coen 74.92 102 P **P 06 39 04.6 -0.2**
HIA Hailar 74.97 33 P **P 06 39 05.2 +0.8**
PVCC Panska Ves 74.98 329 *e*P **P 06 39 04.4 0.0**
PVCC AMS AMS 07 13 00.0
comp=Z,2μm,16.7s
PVCC Panska Ves 74.98 329 *e*P **P 06 39 04.4 0.0**
PVCC MLR MLR
comp=Z,2μm,16.7s
MOTA Moosalm 75.04 325 *i* P **P 06 39 04.2 -0.8**
comp=Z,234nm,1.3s
MOTA *e*PP **PP 06 41 51.4 -1.7**
comp=Z,12nm,1.1s
PUL Pulkovo 75.04 342 *ce*P **P 06 39 05.5 +1.0**
PUL pmax pmax
comp=Z,220nm,1.3s
FETA Feichten 75.08 324 *i* P **P 06 39 04.9 -0.4**
comp=Z,173nm,1.1s,SNR=92
VSU Vasula 75.18 340 *ce*P **P 06 39 04.9 -0.4**
VSU pmax pmax
comp=Z,216nm,1.3s
VSU Vasula 75.18 340 *e*P **P 06 39 05.2 -0.1**
PBUR Paburge 75.18 336 *e*P **P 06 39 06.5 +1.1**
RICC Richard 75.23 328 *e*P **P 06 39 06.0 +0.2**
RETA Reutte 75.31 325 *i* P **P 06 39 05.9 -0.6**
comp=Z,155nm,1.3s,SNR=45
GKP Gorka Klasztor 75.37 332 *e*P **P 06 39 07.0 +0.4**
GKP Gorka Klasztor 75.37 332 *e*P **P 06 39 07.5 +1.0**
CN2 Changchun 75.40 40 P **P 06 39 05.8 -1.1**
CN2 sP pwP 06 39 12.5 -0.9
CN2 PP **PP 06 41 52.0 -4.1**
CN2 S **S 06 48 44.5 -2.7**
CN2 pmax pmax
comp=Z,100nm,1.2s
CN2 pmax pmax
comp=Z,900nm,3.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
DAVOX Davos/Dischmat 75.45 324 LR LR 07 14 40.6
comp=Z,915nm,18.9s,baz=114,slow=38
TOO Toolangi 75.47 126 P **P 06 39 07.9 +0.3**
TOO Toolangi 75.47 126 P **P 06 39 07.9 +0.3**
TOO pmax pmax
comp=Z,40nm,1.1s
BRG Berggiesshubel 75.51 329 *e*P **P 06 39 07.3 -0.1**
BRG Amp 06 39 10.3
comp=Z,122nm,1.1s
BRG Berggiesshubel 75.51 329 S **S 06 48 49.0 +0.9**
BRG Berggiesshubel 75.51 329 SS SS 06 53 38.0 -1.1
MTSU Mount Surprise 75.58 106 P **P 06 39 09.8 +1.2**
TUE Stuetta 75.60 323 P **P 06 39 08.2 -0.1**
comp=Z,7μmcomp=Z,359nm,1.3s
VNA2 Neumayer--Watz 75.61 199 ⇑P **P 06 39 08.0 +0.3**
comp=Z,30nm,0.8s,baz=64,slow=5.7
HSKC Hora Svate Kat 75.61 328 *e*P **P 06 39 09.4 +1.3**
HSKC AMS AMS 07 13 00.0
comp=Z,2μm,20.2s
DAVA Damuels 75.72 324 *i* P **P 06 39 08.4 -0.5**
comp=Z,187nm,1.3s,SNR=71
VNA1 Neumayer--Stat 75.83 199 ⇑P **P 06 39 08.3 -0.7**
comp=Z,23nm,0.9s
CMSA Cobar Meteorol 75.84 120 P **P 06 39 10.6 +0.8**
NKC Novy Kostel 75.91 328 *e*P **P 06 39 10.4 +0.6**
NKC *e*S **S 06 48 53.2 +0.5**
NKC AMS AMS 07 14 20.0
comp=Z,1μm,16.3s
NKC Novy Kostel 75.91 328 *e*P **P 06 39 10.4 +0.6**
NKC *e*S **S 06 48 53.2 +0.5**
NKC MLR MLR
comp=Z,1μm,16.3s
ARBE Arbavere 76.17 340 *e*P **P 06 39 11.8 +0.8**
CLL Collm 76.24 329 P **P 06 39 11.7 +0.1**
CLL IAmb IAmb 06 39 13.8
comp=Z,228nm,1.3s
CLL Collm 76.24 329 *i* P **P 06 39 11.7 +0.1**
CLL *e*S **S 06 48 56.0 -0.2**
CLL pmax pmax
comp=Z,262nm,1.4s
CLL Collm 76.24 329 P **P 06 39 12.0 +0.4**
comp=Z,4μmcomp=Z,137nm,1.9s
GRFO Grafenberg 76.27 327 P **P 06 39 11.4 -0.4**
GRFO IAmb IAmb 06 39 13.2
comp=Z,323nm,1.3s
GRFO Grafenberg 76.27 327 P **P 06 39 11.4 -0.4**
GRFO pmax pmax
comp=Z,323nm,1.3s
MTSE Matsula 76.39 339 *e*P **P 06 39 13.4 +1.2**
VNA3 Neumayer Olymp 76.40 199 ⇑P **P 06 39 12.2 0.0**
comp=Z,43nm,0.8s
BNI Bardonecchia 76.51 321 P **P 06 39 12.8 -0.6**
BNI Bardonecchia 76.51 321 P **P 06 39 12.8 -0.6**
BNI pmax pmax
comp=Z,63nm,1.4s
BNI MLR MLR
comp=Z,2μm,21.0s
RUE Ruedersdorf 76.54 330 *e*P **P 06 39 14.0 +0.8**
MOO Moorlands 76.68 131 P **P 06 39 16.0 +1.6**
TAU Tasmania Unive 76.77 132 P **P 06 39 16.5 +1.6**
STU Stuttgart 76.89 325 *e*P **P 06 39 16.1 +0.8**
JMN Monobe 77.13 52 P **P 06 39 18.3 +1.2**
MEF Metsahovi 77.29 340 *e*P **P 06 39 18.1 +0.8**
JOF Joensuu 77.31 344 *e*P **P 06 39 17.7 +0.4**
BNX BinXian 77.55 39 ⇑P **P 06 39 17.8 -1.3**
BNX pP **pP 06 39 20.5 0.0**
BNX sP **sP 06 39 21.8 +0.7**
BNX PP **PP 06 42 18.8 +4.7**
BNX S **S 06 49 11.3 +0.6**
BNX pmax pmax
comp=Z,64nm,1.3s
BNX pmax pmax
comp=Z,980nm,4.9s
BNX LR LR
comp=Z,1μm,16.3s
BNX LR LR
comp=Z,850nm,16.3s
BNX LR LR
comp=Z,1μm,14.1s
BSD Bornholm Skovb 77.59 333 *e*P **P 06 39 19.7 +0.7**
BSD Bornholm Skovb 77.59 333 *i* P **P 06 39 19.3 +0.3**
BSD IAmb IAmb 06 39 20.7
comp=Z,42nm,1.1s
FINES FINESS Array B 77.66 341 P **P 06 39 19.9 +0.6**
FINES FINESS Array B 77.66 341 P **P 06 39 19.6 +0.2**
comp=Z,61nm,1.1s,baz=123,slow=7.0,SNR=31
FINES PP **PP 06 42 10.9 -3.7**
comp=Z,19nm,1.1s,baz=132,slow=11,SNR=5.8
FINES LR LR 07 15 49.5
comp=Z,2μm,18.6s,baz=148,slow=38
comp=Z,61nm,1.1s
ECH Echery 77.77 324 P **P 06 39 19.9 -0.4**
ECH IAmb IAmb 06 39 21.6
comp=Z,112nm,1.4s
ECH Echery 77.77 324 P **P 06 39 19.9 -0.4**
ECH pmax pmax
comp=Z,112nm,1.4s
TV1H Townsville Har 77.80 108 P **P 06 39 21.7 +0.6**
BLEU Blekinge 77.93 334 *i* P **P 06 39 19.6 -1.3**
BLEU IAmb IAmb 06 39 23.1
comp=Z,20nm,1.2s
RGN Rugen 77.98 332 P **P 06 39 22.0 +0.8**
CAN Canberra 78.39 124 IAMs_20 IAMs_20 07 09 14.3
comp=Z,4μm,21.0s
CAN Canberra 78.39 124 P **P 06 39 25.1 +0.9**
MDJ Mudanjiang 78.42 41 P **P 06 39 24.2 +0.2**
MDJ IAmb IAmb 06 39 27.4
comp=Z,171nm,1.2s
MDJ Mudanjiang 78.42 41 P **P 06 39 23.5 -0.4**
MDJ S **S 06 49 21.8 +1.7**
MDJ SS **SS 06 54 31.5 +8.1**
MDJ pmax pmax
comp=Z,100nm,1.9s
MDJ pmax pmax
comp=Z,2μm,4.2s
MDJ Mudanjiang 78.42 41 P **P 06 39 24.0 +0.1**
CART Cartagena 78.56 312 P **P 06 39 25.6 +0.7**
CART IAmb IAmb 06 39 26.9
comp=Z,246nm,1.5s
LUNU Lund 78.57 332 *i* P **P 06 39 24.6 +0.1**
MSHR Mys Shultsa 78.58 43 *i* P **P 06 39 24.2 -0.6**
MSHR pmax pmax
comp=Z,72nm,1.1s
KEF Keuruu 78.59 341 *e*P **P 06 39 25.0 +0.5**
CNB Canberra Magne 78.69 124 P **P 06 39 26.6 +0.8**
RAF Rauma 78.77 340 *e*P **P 06 39 26.3 +0.8**
DEL Delary 78.88 333 *i* P **P 06 39 26.3 +0.1**
LLD Lille Linde 78.96 332 *i* P **P 06 39 26.9 +0.3**
BJUU Bjuv 79.03 333 *i* P **P 06 39 27.1 +0.1**
WLF Walferdange 79.06 325 *d*P **P 06 39 28.1 +0.7**
comp=Z,52nm,1.1s
COP Copenhagen 79.07 332 *i* P **P 06 39 27.9 +0.7**
PMG Port Moresby 79.37 98 IAMs_20 IAMs_20 07 16 06.9
comp=Z,3μm,18.0s
BHOU Houvegnez 79.48 325 *d*P **P 06 39 30.3 +0.6**
comp=Z,46nm,1.3s
BHOU *d*PcP **PcP 06 39 38.0 +0.3**
BTNL Ternell 79.53 326 *d*P **P 06 39 30.2 +0.3**
comp=Z,60nm,1.2s
MEM Membach 79.60 326 *d*P **P 06 39 30.4 +0.1**
comp=Z,48nm,1.2s
MDT Midelt 79.70 306 LR LR 07 15 58.7
comp=Z,6μm,19.0s,baz=120,slow=37
HEH HeiHe 79.71 35 *e*P **P 06 39 28.8 -2.1**
HEH pP **pwP 06 39 35.8 -1.5**
HEH PP **PP 06 42 30.5 -1.6**
HEH S **S 06 49 28.3 -5.3**
HEH pmax pmax
comp=Z,52nm,1.2s
HEH pmax pmax
comp=Z,780nm,6.9s
HEH LR LR
comp=Z,1μm,15.6s
HEH LR LR
comp=Z,2μm,14.7s
HEH LR LR
comp=Z,2μm,15.3s
FABU Falkenberg 79.71 333 *i* P **P 06 39 31.0 +0.3**
USA0B Ussuriysk Arra 79.80 42 *i* P **P 06 39 30.1 -1.4**
USRK Ussuriysk Ar. 79.80 42 P **P 06 39 29.9 -1.6**
comp=Z,97nm,1.2s,baz=248,slow=5.4,SNR=37
USRK LR LR 07 15 49.5
comp=Z,507nm,18.9s,baz=243,slow=36
comp=Z,97nm,1.2s
RCHB Rochefort 79.82 325 *d*P **P 06 39 31.2 -0.3**
comp=Z,26nm,1.3s
RCHB *d*PP **PP 06 42 34.1 +1.1**
BSTI Sart Tilman 79.84 326 *d*P **P 06 39 32.7 +1.1**
comp=Z,10nm,1.3s
BEBN Eben Emael 79.88 326 *d*P **P 06 39 31.4 -0.4**
BCLA Clavier 79.91 325 *d*P **P 06 39 32.9 +0.9**
comp=Z,42nm,1.2s
BCLA *d*PcP **PcP 06 39 39.7 +0.2**
VAF Ylistaro 79.92 341 *e*P **P 06 39 32.6 +0.9**
SYDH Sydney Hard Ro 79.94 123 P **P 06 39 34.5 +1.9**
BGES Gesves 80.01 325 *d*P **P 06 39 32.2 -0.3**
comp=Z,23nm,1.3s
BGES *d*PcP **PcP 06 39 40.3 +0.4**
INU Inuyama 80.12 51 P **P 06 39 33.6 +0.2**
BMRD Maredsous 80.15 325 *d*P **P 06 39 33.4 +0.1**
comp=Z,27nm,1.2s
DOU Dourbes 80.15 325 *d*P **P 06 39 33.0 -0.3**
comp=Z,48nm,1.3s
NRIK Noril'sk 80.24 7 P **P 06 39 32.9 -0.5**
comp=Z,28nm,1.0s,baz=195,slow=4.2,SNR=50
NRIK PP **PP 06 42 34.6 -1.4**
comp=Z,20nm,1.2s,baz=213,slow=6.4,SNR=4.7
NRIK LR LR 07 15 53.8
comp=Z,2μm,19.8s,baz=214,slow=36
comp=Z,28nm,1.0s
NRIK Noril'sk 80.24 7 *ce*P **P 06 39 33.1 -0.2**
NRIK pmax pmax
comp=Z,137nm,1.6s
SSRD Sdr. Stenderup 80.26 331 *i* P **P 06 39 34.1 +0.4**
QSPA South Pole Qui 80.33 180 IAMs_20 IAMs_20 07 10 52.6
comp=Z,4μm,19.0s
QSPA South Pole Qui 80.33 180 P **P 06 39 34.6 +0.4**
comp=Z,20nm,0.9s,baz=271,slow=1.8,SNR=63
QSPA LR LR 07 11 12.9
comp=Z,3μm,19.1s,baz=292,slow=33
comp=Z,20nm,0.9s
JGF Kuroka 80.46 51 P **P 06 39 36.0 +0.6**
UCC Uccle 80.61 325 *d*P **P 06 39 35.6 -0.1**
comp=Z,51nm,1.3s
APA Apatity 80.67 348 ⇓*i*P **P 06 39 31.7 -4.0**
APA *i* 06 42 44.8
APA *i* S **S 06 49 46.0 +3.0**
APA *i* PS **PnS 06 50 31.0 +2.2**
APA *i* SS **SS 06 54 53.0 -3.2**
APA pmax pmax
comp=Z,14nm,1.4s
APA MLR MLR
comp=Z,2μm,20.0s
LVZ Lovozero 80.69 348 *ce*P **P 06 39 35.0 -0.9**
LVZ pmax pmax
comp=Z,156nm,1.7s
LVZ Lovozero 80.69 348 P **P 06 39 35.9 0.0**
comp=Z,87nm,1.5s
RK1H Rockhampton Ha 80.77 112 P **P 06 39 38.8 +1.5**
ARMA Armidale 81.01 119 P **P 06 39 40.0 +1.4**
MUD Monsted U'grnd 81.01 332 *i* P **P 06 39 37.7 0.0**
MUD IAmb IAmb 06 39 40.9
comp=Z,70nm,1.1s
EIDS Eidsvold 81.08 114 P **P 06 39 40.1 +1.2**
GUMO Guam 81.17 75 LR LR 07 11 36.3
comp=Z,722nm,21.8s,baz=250,slow=33
HFS Hagfors 81.18 336 P **P 06 39 38.7 +0.1**
comp=Z,281nm,1.2s,baz=147,slow=3.0,SNR=50
HFS PP **PP 06 42 42.1 -1.9**
comp=Z,28nm,1.1s,baz=142,slow=7.5,SNR=5.8
HFS LR LR 07 16 01.3
comp=Z,2μm,21.0s,baz=132,slow=36
comp=Z,281nm,1.2s
ZEA Zeya 81.33 32 *e*P **P 06 39 38.9 -0.6**
ZEA *e*S **S 06 49 51.4 +1.0**
ZEA pmax pmax
comp=E,200nm,4.5s
ZEA pmax pmax
comp=N,200nm,5.1s
ZEA pmax pmax
comp=Z,600nm,4.6s
ZEA pmax pmax
comp=E,20nm,1.6s
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,60nm,1.3s
ZEA smax smax
comp=N,300nm,9.1s
ZEA smax smax
comp=E,400nm,14.0s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=N,900nm,16.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
MAJO Matsushiro 81.42 51 P **P 06 39 41.3 +0.9**
MAJO Matsushiro 81.42 51 *c i* P **P 06 39 39.9 -0.5**
MAJO pmax pmax
comp=Z,113nm,1.6s
MJAR Matsushiro Arr 81.42 51 P **P 06 39 40.2 -0.2**
comp=Z,171nm,1.3s,baz=247,slow=5.4,SNR=54
MJAR LR LR 07 14 44.7
comp=Z,398nm,21.3s,baz=240,slow=35
comp=Z,171nm,1.3s
ESDC Sonseca Array 81.47 313 P **P 06 39 40.5 -0.1**
comp=Z,100nm,1.2s,baz=94,slow=3.7,SNR=146
ESDC LR LR 07 13 48.2
comp=Z,1μm,21.2s,baz=132,slow=34
comp=Z,100nm,1.2s
STRU Stroemstad 81.56 335 *i* P **P 06 39 41.0 +0.4**
JHJ Hachijo jima 2 81.59 54 LR LR 07 14 48.7
comp=Z,481nm,20.4s,baz=29,slow=35
TW1H Toowoomba 1 Ha 81.62 117 P **P 06 39 43.6 +1.8**
PAB San Pablo 81.71 312 P **P 06 39 41.9 -0.1**
VNDA Vanda 81.74 167 P **P 06 39 41.8 +0.4**
comp=Z,5.9nm,0.8s,baz=277,slow=5.8,SNR=20
VNDA LR LR 07 10 34.4
comp=Z,2μm,20.9s,baz=260,slow=32
comp=Z,5.9nm,0.8s
KLR Kul'dur 81.75 37 LR LR 07 17 51.1
comp=Z,984nm,20.8s,baz=244,slow=37
KLR Kul'dur 81.75 37 *ce*P **P 06 39 40.4 -1.5**
KLR pmax pmax
comp=Z,123nm,1.3s
JCJ Chichijima 81.91 61 LR LR 07 14 16.1
comp=Z,338nm,18.3s,baz=224,slow=34
JSD Sado 81.94 49 P **P 06 39 44.1 +1.0**
AVE Averroes 82.09 306 IAMs_20 IAMs_20 07 15 34.3
comp=Z,4μm,20.0s
KONO Kongsberg 82.58 335 *ce*P **P 06 39 45.7 -0.2**
KONO pmax pmax
comp=Z,187nm,1.3s
NB2 NORSAR Subarra 82.71 336 P **P 06 39 46.2 -0.5**
comp=Z,610nm,2.0s,baz=127,slow=5.1
NB2 NORSAR Subarra 82.71 336 P **P 06 39 46.2 -0.5**
baz=127,slow=5.1
NOA NORSAR Array B 82.71 336 P **P 06 39 46.7 0.0**
comp=Z,54nm,1.2s,baz=116,slow=5.2,SNR=27
NOA PP **PP 06 42 53.5 -3.2**
comp=Z,15nm,1.3s,baz=127,slow=8.6,SNR=3.7
NOA LR LR 07 16 57.8
comp=Z,2μm,20.7s,baz=125,slow=36
comp=Z,54nm,1.2s
SNART Snartemo 82.92 333 *i* P **P 06 39 48.0 +0.2**
TEY Ternei 83.16 42 ⇓*e*P **P 06 39 46.5 -2.8**
TEY *e* 06 50 01.0
TEY pmax pmax
comp=E,10.0nm,1.7s
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,30nm,1.5s
TEY pmax pmax
comp=E,100nm,3.7s
TEY pmax pmax
comp=Z,200nm,4.3s
PBAR Barrancos 83.26 310 ⇑*e*P **P 06 39 49.8 -0.1**
PBAR *i* Amb 06 39 52.5
comp=Z,126nm,1.5s
PBAR *e*PP **PP 06 43 02.4 +0.7**
PVAQ Vaqueiros 83.54 310 *e*P **P 06 39 51.0 -0.4**
PVAQ *i* Amb 06 39 54.8
comp=Z,141nm,1.4s
PVAQ *e*PP **PP 06 43 06.6 +2.6**
PVAQ *e*LR LR 07 08 24.9
PVAQ *i* AMs_20 07 19 00.5
comp=Z,2μm,20.0s
WACR West Acre 83.55 326 *e*P **P 06 39 50.7 -0.4**
WACR IAmb IAmb 06 39 53.3
comp=Z,233nm,1.1s
PBDV Barranco-do-Ve 83.65 309 *e*P **P 06 39 52.3 +0.3**
PBDV *i* Amb 06 39 56.3
comp=Z,96nm,1.3s
PBDV *e*PP PP 06 42 52.1 -13
JMM Marumori 83.79 50 P **P 06 39 53.1 +0.4**
PBEJ Beja 83.83 310 ⇑*e*P **P 06 39 53.1 +0.2**
PBEJ *i* Amb 06 39 55.7
comp=Z,101nm,1.4s
PBEJ *e*PP **PP 06 43 09.8 +3.4**
PCVE Castro Verde 83.85 310 *e*P **P 06 39 53.5 +0.4**
PCVE *i* Amb 06 39 56.0
comp=Z,115nm,1.3s
PCVE *e*PP **PP 06 43 09.2 +2.7**
PESTR Estremoz 83.88 311 ⇑*e*P **P 06 39 52.9 -0.3**
PESTR *i* Amb 06 39 56.1
comp=Z,218nm,1.4s
PESTR *e*PP **PP 06 43 08.8 +2.0**
PMRV Marv??o 83.90 312 ⇑*e*P **P 06 39 52.9 -0.4**
PMRV *i* Amb 06 39 56.1
comp=Z,206nm,1.4s
PMRV *e*PP **PP 06 43 08.9 +1.9**
PMRV *e*S **S 06 50 25.6 +8.1**
PMRV *e*LR LR 07 08 31.9
PMRV *i* AMs_20 07 20 04.6
comp=Z,2μm,20.0s
ARCES ARCESS Array B 83.98 347 P **P 06 39 52.3 -0.8**
comp=Z,162nm,1.2s,baz=132,slow=3.6,SNR=32
ARCES LR LR 07 18 51.0
comp=Z,2μm,19.3s,baz=148,slow=37
comp=Z,162nm,1.2s
MESJ Messejana 84.05 310 *e*P **P 06 39 54.6 +0.6**
MESJ *e*SKSac **SKSac 06 50 17.0 -0.9**
MESJ IAMs_20 IAMs_20 07 18 36.1
comp=Z,2μm,13.9s
MESJ Messejana 84.05 310 ⇑*e*P **P 06 39 53.9 -0.2**
MESJ *i* Amb 06 39 57.2
comp=Z,170nm,1.5s
MESJ *e*PP **PP 06 43 10.2 +2.1**
MESJ Messejana 84.05 310 *e*P **P 06 39 54.6 +0.6**
MESJ *e* 06 50 17.0
PCBR Castelo Branco 84.09 312 ⇑*e*P **P 06 39 53.7 -0.5**
PCBR *i* Amb 06 39 57.1
comp=Z,193nm,1.3s
PCBR *e*PP **PP 06 43 09.6 +1.2**
EVO Evora 84.09 311 ⇑*e*P **P 06 39 54.7 +0.4**
EVO *i* Amb 06 39 57.5
comp=Z,196nm,1.3s
EVO *e*PP **PP 06 43 10.9 +2.4**
PBRG Braganca 84.17 314 ⇑*e*P **P 06 39 54.9 +0.3**
PBRG *i* Amb 06 39 57.8
comp=Z,160nm,1.4s
PBRG *e*PP **PP 06 43 10.4 +1.3**
MVO Moncorvo 84.17 313 ⇑*e*P **P 06 39 54.8 +0.1**
MVO *i* Amb 06 39 58.0
comp=Z,183nm,1.4s
MVO *e*PP **PP 06 43 10.7 +1.5**
MVO *e*S **S 06 50 22.5 +2.3**
MVO *e*SS **SS 06 55 53.4 +3.9**
MVO *e*LR LR 07 08 14.8
MVO *i* AMs_20 07 23 41.2
comp=Z,2μm,18.0s
MORF Marmelete 84.22 309 *e*P **P 06 39 55.5 +0.5**
MORF *e*SKSac **SKSac 06 50 18.2 -0.9**
MORF IAMs_20 IAMs_20 07 13 16.6
comp=E,3μm,18.4s
MORF Marmelete 84.22 309 *e*P **P 06 39 55.3 +0.3**
MORF *i* Amb 06 39 58.3
comp=E,312nm,1.4s
MORF *e*PP PP 06 43 25.9 +16
MORF Marmelete 84.22 309 *e*P **P 06 39 55.5 +0.5**
MORF *e* 06 50 18.2
PFVI Vila Bisbo 84.30 309 *e*P **P 06 39 56.5 +1.1**
PFVI *i* Amb 06 39 58.9
comp=E,304nm,1.2s
MTE Manteigas 84.31 312 IAMs_20 IAMs_20 07 23 47.7
comp=Z,2μm,18.0s
MTE Manteigas 84.31 312 ⇑*e*P **P 06 39 55.3 -0.1**
MTE *i* Amb 06 39 58.5
comp=Z,161nm,1.4s
MTE *e*PP **PP 06 43 11.7 +1.4**
MTE *e*S **S 06 50 21.8 +0.2**
MTE *e*SS **SS 06 56 00.8 +9.2**
MTE *e*LR LR 07 07 27.3
MTE *i* AMs_20 07 24 21.7
comp=Z,2μm,18.0s
MTE Manteigas 84.31 312 *e*P **P 06 39 56.5 +1.1**
PTEO Sao Teotonio 84.34 309 ⇑*e*P **P 06 39 55.8 +0.3**
PTEO *i* Amb 06 39 58.9
comp=Z,300nm,1.4s
PMTG Montargil 84.41 311 ⇑*e*P **P 06 39 55.4 -0.5**
PMTG *i* Amb 06 39 59.0
comp=Z,332nm,1.4s
PMTG *e*PP **PP 06 43 14.5 +3.4**
CWF Charnwood Fore 84.63 326 *e*P **P 06 39 57.2 +0.5**
CWF IAmb IAmb 06 40 00.1
comp=Z,66nm,1.1s
PVIS Viseu 84.66 313 ⇑*e*P **P 06 39 57.0 -0.2**
PVRL Vila Real 84.70 313 *e*P **P 06 39 58.7 +1.3**
PVRL *i* Amb 06 40 00.6
comp=Z,166nm,1.4s
POLO Lamas de Olo 84.79 313 ⇑*e*P **P 06 39 58.2 +0.4**
POLO *i* Amb 06 40 01.1
comp=Z,76nm,1.5s
COI Coimbra 84.89 312 IAMs_20 IAMs_20 07 21 57.0
comp=Z,3μm,19.0s
COI Coimbra 84.89 312 ⇑*e*P **P 06 39 58.5 +0.3**
COI *i* Amb 06 40 01.3
comp=Z,243nm,1.4s
PCAS Casmilo, Conde 84.90 312 ⇑*e*P **P 06 39 58.8 +0.4**
PCAS *i* Amb 06 40 01.6
comp=Z,356nm,1.4s
PCAS *e*PP **PP 06 43 17.2 +2.1**
PSBE So Bento 84.97 311 ⇑*e*P **P 06 39 58.3 -0.4**
PSBE *i* Amb 06 40 01.9
comp=Z,164nm,1.5s
LIS Lisbon 85.00 310 *e*P **P 06 39 59.5 +0.6**
LIS *e*SKSac **SKSac 06 50 23.1 -0.9**
LIS IAMs_20 IAMs_20 07 21 44.2
comp=Z,2μm,12.7s
LIS Lisbon 85.00 310 *e*P **P 06 40 00.3 +1.4**
LIS *i* Amb 06 40 02.4

comp=Z,240nm,1.7s
LIS Lisbon 85.00 310 *e*P **P 06 39 59.5 +0.6**
LIS *e* 06 50 23.1
GDLE Glaisdale, N Y 85.04 327 *e*P **P 06 39 59.6 +0.9**
GDLE IAmb IAmb 06 40 01.6
comp=Z,46nm,1.1s
PCAB Cabril 85.06 314⇑ *e*P **P 06 39 59.0 -0.1**
PCAB *i* Amb 06 40 02.3
comp=Z,238nm,1.5s
LBWR Ladybower, Pea 85.12 326 *e*P **P 06 39 59.1 0.0**
LBWR IAmb IAmb 06 40 02.1
comp=Z,404nm,1.1s
DYA Yadsworthy 85.26 323 *e*P **P 06 40 00.3 +0.5**
DYA IAmb IAmb 06 40 03.4
comp=Z,50nm,1.1s
STNC Stoke 85.27 326 *e*P **P 06 40 00.9 +1.1**
STNC IAmb IAmb 06 40 02.0
comp=Z,513nm,1.4s
MCH1 Michaelchurch 85.30 324 *e*P **P 06 40 00.5 +0.5**
MCH1 IAmb IAmb 06 40 01.6
comp=Z,288nm,1.3s
PGAV Gavieira, Arco 85.31 314⇑ *e*P **P 06 40 00.5 +0.1**
PGAV *i* Amb 06 40 03.8
comp=Z,151nm,1.5s
PGAV *e*S **SKSac 06 50 27.6 +1.6**
PGAV *e*SS **SS 06 56 11.7 +5.4**
PGAV *e*LR LR 07 08 42.3
PGAV *i* AMs_20 07 17 42.3
comp=Z,2μm,20.0s
HLM1 Long Mynd 85.43 325 *e*P **P 06 40 00.7 0.0**
HLM1 IAmb IAmb 06 40 03.8
comp=Z,63nm,1.0s
BBTS Babate 85.75 286 LR LR 07 18 56.4
comp=Z,4μm,18.2s,baz=336,slow=36
FOEL Foel Wylfa 85.75 325 *e*P **P 06 40 02.4 +0.1**
FOEL IAmb IAmb 06 40 05.5
comp=Z,39nm,0.9s
EDMD Edmundbyers 85.82 327 *e*P **P 06 40 03.3 +0.8**
EDMD IAmb IAmb 06 40 05.8
comp=Z,60nm,1.0s
LLW Llanuwychllyn 85.99 325 *e*P **P 06 40 03.5 0.0**
LLW IAmb IAmb 06 40 06.1
comp=Z,94nm,1.2s
RSBS Rosebush, Pemb 86.29 324 *e*P **P 06 40 04.7 -0.2**
RSBS IAmb IAmb 06 40 06.7
comp=Z,177nm,1.3s
KESW Keswick, Cumbr 86.34 327 *e*P **P 06 40 06.0 +0.9**
KESW IAmb IAmb 06 40 08.3
comp=Z,99nm,1.2s
YAK Yakutsk 86.48 25 IAMs_20 IAMs_20 07 18 31.2
comp=Z,2μm,20.0s
YAK Yakutsk 86.48 25 LR LR 07 18 48.4
comp=Z,2μm,19.0s,baz=236,slow=36
YAK Yakutsk 86.48 25 *e*P **P 06 40 04.4 -1.2**
YAK *e* 06 40 10.2
YAK *e**PP **pwP 06 40 13.1 +1.0**
YAK *e* 06 43 26.1
YAK *e*PPP PPP 06 45 20.4
YAK *e*S **SKSac 06 50 30.4 -1.8**
YAK *e*SS **SS 06 56 24.2 +1.9**
YAK *e*SSS SSS 06 59 55.8
YAK pmax pmax
comp=Z,154nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=Z,116nm,2.2s
YAK pmax pmax
comp=N,156nm,3.5s
YAK pmax pmax
comp=E,205nm,4.3s
YAK smax smax
comp=N,92nm,3.5s
YAK smax smax
comp=E,167nm,4.4s
YAK MLR MLR
comp=Z,3μm,29.0s
YAK MLR MLR
comp=N,1μm,26.0s
YAK MLR MLR
comp=E,839nm,15.0s
WME Myndd Eilian 86.55 325 *e*P **P 06 40 07.1 +0.9**
WLF1 Llynfaes 86.57 325 *e*P **P 06 40 07.2 +1.0**
WLF1 IAmb IAmb 06 40 08.3
comp=Z,729nm,1.4s
ESY Stoneypath 86.59 328 *e*P **P 06 40 06.8 +0.5**
EKA Eskdalemuir Ar 86.65 328 P **P 06 40 06.5 -0.2**
comp=Z,64nm,1.2s,baz=119,slow=6.8,SNR=41
EKA PP **PP 06 43 27.9 -0.9**
comp=Z,2.6nm,0.9s,baz=108,slow=8.1,SNR=3.5
comp=Z,64nm,1.2s
WPS Cemaes, Angles 86.66 325 *e*P **P 06 40 06.8 +0.1**
WPS IAmb IAmb 06 40 08.8
comp=Z,268nm,1.4s
ESK Eskdalemuir 86.67 328 *e*P **P 06 40 07.1 +0.4**
ESK IAmb IAmb 06 40 09.5
comp=Z,22nm,1.0s
ERM Erimo 86.72 47 P **P 06 40 09.2 +1.9**
JEM Erimo 86.72 47 P **P 06 40 09.4 +2.1**
EDI Edinburgh 86.89 328 *e*P **P 06 40 08.2 +0.4**
EDI IAmb IAmb 06 40 11.3
comp=Z,25nm,1.1s
ASAJ Asahikawa 86.92 44 LR LR 07 20 19.0
comp=Z,569nm,18.7s,baz=261,slow=37
NEWG New Galloway 87.14 327 *e*P **P 06 40 09.3 +0.3**
NEWG IAmb IAmb 06 40 11.0
comp=Z,305nm,1.5s
LHI Lord Howe Isla 87.19 121 IAMs_20 IAMs_20 07 14 37.2
comp=Z,3μm,21.0s
IWEX Carrickbyrne, 87.61 324 *e*P **P 06 40 11.4 0.0**
IWEX IAmb IAmb 06 40 13.8
comp=Z,152nm,1.1s
IWEX Carrickbyrne, 87.61 324 P **P 06 40 11.5 +0.2**
DSB Dublin 87.67 325 P **P 06 40 11.3 -0.3**
YSS Yuzhno-Sakhali 87.84 42 P **P 06 40 12.4 -0.1**
YSS Yuzhno-Sakhali 87.84 42 *e*P **P 06 40 11.7 -0.8**
YSS *e* 06 43 37.6
YSS *e*S **S 06 50 53.8 -1.8**
YSS *e*SS **SS 06 56 42.6 -0.3**
YSS pmax pmax
comp=Z,1μm,3.7s
YSS pmax pmax
comp=N,300nm,3.9s
YSS pmax pmax
comp=E,500nm,4.0s
YSS pmax pmax
comp=Z,190nm,1.3s
ILTH Belurgan, Co L 87.91 326 P **P 06 40 14.1 +1.4**
UGL Uglegorsk 88.01 40 *e*P **P 06 40 13.3 0.0**
UGL *e* 06 43 36.2
UGL *e*S **S 06 50 58.9 +1.7**
UGL pmax pmax
comp=Z,2μm,4.3s
UGL pmax pmax
comp=Z,200nm,1.3s
UGL MLR MLR
comp=E,2μm,18.0s
UGL MLR MLR
comp=N,2μm,22.0s
UGL MLR MLR
comp=Z,1μm,17.0s
CLGH Cloghs, Cushen 88.14 327 *e*P **P 06 40 15.2 +1.4**
CLGH IAmb IAmb 06 40 17.4
comp=Z,60nm,1.1s
LAWE Loch Awe, Argy 88.16 328 *e*P **P 06 40 14.1 +0.2**
LAWE IAmb IAmb 06 40 15.4
comp=Z,194nm,1.6s
NKL Nikolayevsk 88.42 35 *e*P **P 06 40 13.0 -2.2**
NKL *e*S **SKSac 06 50 42.0 -2.4**
NKL pmax pmax
comp=N,254nm,1.4s
NKL pmax pmax
comp=Z,817nm,1.3s
NKL pmax pmax
comp=E,168nm,1.1s
NKL smax smax
comp=N,265nm,7.9s
NKL smax smax
comp=E,787nm,7.9s
NKL MLR MLR
comp=N,8μm,17.0s
NKL MLR MLR
comp=E,10μm,17.0s
NKL MLR MLR
comp=Z,13μm,17.0s
MACI Morro de la Ar 88.43 299 IAMs_20 IAMs_20 07 20 45.6
comp=Z,3μm,19.0s
IDGL Inch Island, C 88.89 326 P **P 06 40 18.1 +0.7**
TYV Tymovskoe 88.90 38 *e*P **P 06 40 18.8 +1.3**
TYV *e*S **S 06 51 05.8 +0.3**
TYV pmax pmax
comp=Z,1μm,4.3s
TYV pmax pmax
comp=Z,75nm,1.5s
TYV smax smax
comp=N,1μm,7.5s
TYV smax smax
comp=E,600nm,7.5s
PMPST Porto Santo, M 89.27 304 *e*P **P 06 40 19.1 -0.6**
IGLA Glengowla, Co 89.43 325 P **P 06 40 20.1 +0.2**
VAL Valentia 89.51 323 P **P 06 40 21.1 +0.8**
FUL Funchal 89.64 303 *e*P **P 06 40 20.6 -0.8**
PMOZ Porto Moniz, M 89.93 303 *e*P **P 06 40 24.2 +1.2**
PMOZ *e*S S 06 51 03.2 -13
PMOZ *e*LR LR 07 10 34.2
PMOZ *i* AMs_20 07 20 28.4
comp=E,4μm,20.0s
TIXI Tiksi 90.83 16 IAMs_20 IAMs_20 07 21 03.8
comp=Z,3μm,20.0s
TIXI Tiksi 90.83 16 LR LR 07 21 14.4
comp=Z,2μm,20.8s,baz=262,slow=36
TIXI Tiksi 90.83 16 *ce*P **P 06 40 24.9 -1.2**
TIXI pmax pmax
comp=Z,242nm,1.4s
SPITS Spitsbergen Ar 91.94 351 P **P 06 40 31.8 +0.6**
comp=Z,39nm,1.1s,baz=44,slow=7.3,SNR=6.1
SPITS LR LR 07 23 27.1
comp=Z,2μm,21.1s,baz=108,slow=37
comp=Z,39nm,1.1s
SACV Santiago Islan 92.53 285 IAMs_20 IAMs_20 07 20 38.2
comp=Z,3μm,20.0s
FOZ Fox Glacier 92.89 135 IAMs_20 IAMs_20 07 19 04.7
comp=Z,2μm,18.0s
RPZ Rata Peaks 93.70 135 IAMs_20 IAMs_20 07 18 33.0
comp=Z,3μm,18.0s
RPZ Rata Peaks 93.70 135 LR LR 07 13 46.2
comp=Z,2μm,20.1s,baz=254,slow=30
KOUNC Koumac, New Ca 93.86 111 P **P 06 40 41.3 0.0**
INZ Inchbonnie 94.27 134 IAMs_20 IAMs_20 07 20 20.0
comp=Z,2μm,18.0s
JMIC Jan Mayen 94.28 341 LR LR 07 24 57.4
comp=Z,623nm,18.4s,baz=72,slow=37
MQZ McQueen's Vall 94.81 136 IAMs_20 IAMs_20 07 18 04.4
comp=Z,3μm,18.0s
DSZ Denniston Nort 94.81 134 IAMs_20 IAMs_20 07 19 51.6
comp=Z,2μm,19.0s
LTZ Lake Taylor 94.83 135 IAMs_20 IAMs_20 07 20 39.9
comp=Z,3μm,18.0s
MA2 Magadan 95.43 31 LR LR 07 24 29.9
comp=Z,924nm,18.3s,baz=270,slow=36
MA2 Magadan 95.43 31 P **P 06 40 46.9 -0.6**
MA2 Magadan 95.43 31 *ce*P **P 06 40 46.7 -0.9**
MA2 pmax pmax
comp=Z,110nm,1.4s
MA2 Magadan 95.43 31 P **P 06 40 47.0 -0.6**
ONTNC Ouen Toro 95.46 114 IAMs_20 IAMs_20 07 22 43.7
comp=Z,3μm,19.0s
DZM Mont Dzumac 95.50 113 IAMs_20 IAMs_20 07 20 00.8
comp=Z,3μm,20.0s
DZM Mont Dzumac 95.50 113 *e*P **P 06 40 47.4 -1.5**
comp=Z,66nm,1.6s
DZM Mont Dzumac 95.50 113 *e*PP **PP 06 44 33.3 -6.4**
comp=Z,117nm,23.9s
DZM Mont Dzumac 95.50 113 *e*SS SS 06 58 32.8 -1.5
comp=Z,1μm,27.3s
DZM Mont Dzumac 95.50 113 *e*LR LR 07 11 39.1
comp=Z,13μm,26.8s
DZM Mont Dzumac 95.50 113 LR LR 07 21 05.9
comp=Z,2μm,20.5s,baz=249,slow=34
DZM Mont Dzumac 95.50 113 P **P 06 40 49.1 +0.2**
THZ Tophouse 95.59 134 IAMs_20 IAMs_20 07 14 43.2
comp=Z,2μm,20.0s
QRZ Quartz Range 95.61 133 IAMs_20 IAMs_20 07 15 14.7
comp=Z,3μm,20.0s
KHZ Kahutara 95.83 135 IAMs_20 IAMs_20 07 16 57.5
comp=Z,2μm,20.0s
NNZ Nelson 96.10 133 IAMs_20 IAMs_20 07 14 51.7
comp=Z,2μm,20.0s
SEY Seymchan 96.73 27 LR LR 07 25 15.4
comp=Z,4μm,18.0s,baz=302,slow=36
SEY Seymchan 96.73 27 *ce*P **P 06 40 52.8 -0.6**
SEY pmax pmax
comp=Z,77nm,1.5s
SNZO South Karori 97.02 134 IAMs_20 IAMs_20 07 14 59.9
comp=Z,3μm,22.0s
BORG Borgarnes 97.77 334 LR LR 07 26 26.6
comp=Z,1μm,19.7s,baz=100,slow=36
MRZ Mangatainoka R 97.86 133 IAMs_20 IAMs_20 07 15 25.1
comp=Z,3μm,22.0s
HIZ Hauiti 98.05 131 IAMs_20 IAMs_20 07 17 12.3
comp=Z,3μm,20.0s
BFZ Birch Farm 98.33 134 IAMs_20 IAMs_20 07 24 36.6
comp=Z,2μm,19.0s
PETK Petropavlovsk- 98.44 38 P **P 06 40 59.9 -1.4**
comp=Z,3.2nm,0.8s,baz=191,slow=3.0,SNR=3.9
PETK LR LR 07 27 47.0
comp=Z,748nm,21.1s,baz=269,slow=37
comp=Z,3.2nm,0.8s
PET Petropavlovsk 99.00 38 P Pdif 06 41 04.2 +0.4
PET Petropavlovsk 99.00 38 *ce*P Pdif 06 41 04.7 +0.9
PET pmax pmax
comp=Z,34nm,1.0s
BKZ Black Stump Fm 99.03 132 IAMs_20 IAMs_20 07 17 36.3
comp=Z,3μm,21.0s
RTZ Ruatahuna 99.58 132 IAMs_20 IAMs_20 07 18 03.9
comp=Z,2μm,20.0s
URZ Urewera 99.80 132 LR LR 07 18 31.2
comp=Z,3μm,20.6s,baz=6.5,slow=31
RCBR Riachuelo 101.13 262 IAMs_20 IAMs_20 07 21 32.3
comp=Z,3μm,20.0s
BILL Bilibino 102.63 22 IAMs_20 IAMs_20 07 29 00.5
comp=Z,2μm,20.0s
BILL Bilibino 102.63 22 *i* P **Pdif 06 41 19.0 -0.7**
BILL pmax pmax
comp=Z,11nm,1.2s
BILL MLR MLR
comp=Z,2μm,19.0s
VAO Valinhos 107.21 242 IAMs_20 IAMs_20 07 30 25.4
comp=Z,2μm,18.0s
ITAB Concordia 110.10 236 IAMs_20 IAMs_20 07 29 39.3
comp=Z,2μm,20.0s
GAMB Gambell 112.42 24 P **PKiKP 06 45 59.3 +0.5**
baz=295
C16K Lisburne Hills 112.50 18 IAMs_20 IAMs_20 07 38 17.4
comp=Z,2μm,18.0s
C16K Lisburne Hills 112.50 18 P **PKiKP 06 45 59.5 +0.6**
baz=303
A19K Wainwright 112.61 16 P **PKiKP 06 45 59.5 +0.4**
baz=308
B18K Kokolik River 112.93 17 P **PKiKP 06 45 59.9 +0.2**
baz=307
A21K Barrow 113.01 14 P **PKiKP 06 46 00.0 +0.2**
baz=313
TNA Tin City 113.04 22 P **PKiKP 06 46 00.2 +0.1**
baz=299
C17K DeLong Mountai 113.05 18 P **PKiKP 06 46 00.4 +0.3**
baz=305
RDOG Red Dog Mine 113.38 18 IAMs_20 IAMs_20 07 37 54.7
comp=Z,2μm,18.0s
RDOG Red Dog Mine 113.38 18 P **PKiKP 06 46 01.2 +0.5**
baz=305
D17K Noatak River 113.53 18 P **PKiKP 06 46 01.5 +0.6**
baz=305
C18K Utukok River 113.53 17 IAMs_20 IAMs_20 07 39 54.7
comp=Z,1μm,19.0s
C18K Utukok River 113.53 17 P **PKiKP 06 46 01.5 +0.5**
baz=307
A22K Sinclair Lake 113.61 14 P **PKiKP 06 46 01.6 +0.6**
baz=315
F14K Arctic Creek 113.66 21 P **PKiKP 06 46 01.9 +0.6**
baz=301
B20K Meade River 113.77 15 P **PKiKP 06 46 01.7 +0.4**
baz=312
F15K North Star Dit 114.13 21 P **PKiKP 06 46 02.6 +0.5**
baz=303
E17K Hotham Inlet 114.29 19 P **PKiKP 06 46 02.7 +0.3**
baz=306
B22K Teshekpuk Lake 114.45 14 IAMs_20 IAMs_20 07 36 22.0
comp=Z,2μm,22.0s
B22K Teshekpuk Lake 114.45 14 P PKPdf 06 46 03.2 +0.5
baz=316
E18K Tukpahlearik C 114.46 18 P PKPdf 06 46 03.3 +0.5
baz=308
ANM Nome 114.48 22 IAMs_20 IAMs_20 07 36 50.0
comp=Z,2μm,18.0s
ANM Nome 114.48 22 P PKPdf 06 46 03.3 +0.4
baz=302
D19K Kuna River 114.51 17 IAMs_20 IAMs_20 07 39 02.7
comp=Z,2μm,18.0s
D19K Kuna River 114.51 17 P PKPdf 06 46 03.3 +0.5
baz=310
B21K Ikpikpuk River 114.68 15 P PKPdf 06 46 03.6 +0.6
baz=314
G15K Niukluk 114.73 21 P PKPdf 06 46 03.6 +0.3
baz=303
D20K Etivluk River 114.78 16 P PKPdf 06 46 03.9 +0.5
baz=312
F17K Baldwin Pennin 114.85 19 P PKPdf 06 46 03.9 +0.4
baz=306
C21K Knifeblade Rid 114.96 15 P PKPdf 06 46 04.3 +0.6
baz=314,SNR=6.5
G16K Koyuk River 115.10 20 P **PKPdf 06 46 04.4 +0.4**
baz=305
E20K Nigu River 115.20 16 P **PKPdf 06 46 04.7 +0.4**
baz=312
F18K Selawik 115.26 19 P **PKPdf 06 46 04.7 +0.5**
baz=308
E19K Redstone River 115.45 17 P **PKPdf 06 46 05.1 +0.5**
baz=311
C23K Itkillik River 115.47 13 P **PKPdf 06 46 05.3 +0.7**
baz=319
H16K Elim 115.57 21 P **PKPdf 06 46 05.4 +0.5**
baz=305
G17K Kiwalik Mounta 115.61 20 P **PKPdf 06 46 05.7 +0.7**
baz=307
E21K Killik River 115.67 15 P **PKPdf 06 46 05.8 +0.7**
baz=315
D22K Ayikyak River 115.69 15 IAMs_20 IAMs_20 07 37 27.8
comp=Z,2μm,21.0s
D22K Ayikyak River 115.69 15 P **PKPdf 06 46 05.8 +0.7**
baz=316
F19K Shaleruckik Mo 115.69 18 P **PKPdf 06 46 06.0 +0.9**
baz=310
SPIA Saint Paul Isl 115.81 30 P **PKPdf 06 46 05.8 +0.2**
baz=294
C24K Franklin Bluff 115.99 13 IAMs_20 IAMs_20 07 40 04.7
comp=Z,1μm,19.0s
C24K Franklin Bluff 115.99 13 P **PKPdf 06 46 06.3 +0.7**
baz=321
G18K Tagagawik 116.02 19 P **PKPdf 06 46 06.4 +0.5**
baz=309
D23K Nanushuk River 116.12 14 P **PKPdf 06 46 06.6 +0.7**
baz=318,SNR=7.2
K13K Kusilvak Mount 116.14 24 IAMs_20 IAMs_20 07 37 21.9
comp=Z,2μm,19.0s
K13K Kusilvak Mount 116.14 24 P **PKPdf 06 46 06.6 +0.5**
baz=301
J14K Nanvaranak Lak 116.14 23 P **PKPdf 06 46 06.7 +0.7**
baz=303
F20K Avaraart Lake 116.16 17 P **PKPdf 06 46 06.7 +0.7**
baz=312
H17K Granite Mounta 116.20 20 P **PKPdf 06 46 06.6 +0.4**
baz=307
M11K Mekoryuk 116.27 26 IAMs_20 IAMs_20 07 37 48.5
comp=Z,2μm,18.0s
M11K Mekoryuk 116.27 26 P **PKPdf 06 46 07.1 +0.7**
baz=299
G19K Purcell Mounta 116.35 18 IAMs_20 IAMs_20 07 38 39.2
comp=Z,1μm,20.0s
G19K Purcell Mounta 116.35 18 P **PKPdf 06 46 07.2 +0.8**
baz=311
P08K Saint George I 116.40 31 P **PKiKP 06 46 07.3 +0.6**
baz=294
D24K Happy Valley 116.41 13 P **PKiKP 06 46 07.5 +1.0**
baz=320
E22K Anaktuvuk Pass 116.45 15 IAMs_20 IAMs_20 07 38 17.0
comp=Z,2μm,21.0s
E22K Anaktuvuk Pass 116.45 15 P **PKiKP 06 46 07.5 +0.9**
baz=317
I17K Unalakleet 116.56 21 P **PKiKP 06 46 07.6 +0.8**
baz=306
H18K Honhosa River 116.58 19 P **PKiKP 06 46 07.8 +0.9**
baz=309
TOLK Toolik Lake Re 116.63 14 P **PKiKP 06 46 08.0 +1.0**
baz=320,SNR=11
C26K Camden Bay 116.63 12 P **PKiKP 06 46 07.7 +0.9**
baz=325
F21K Alatna River 116.67 16 IAMs_20 IAMs_20 07 40 22.5
comp=Z,1μm,18.0s
F21K Alatna River 116.67 16 P **PKiKP 06 46 07.8 +0.8**
baz=315
D25K Kavik River 116.81 12 P **PKiKP 06 46 08.2 +0.9**
baz=323
F22K John River 116.82 16 P **PKiKP 06 46 08.2 +0.9**
baz=316
J16K Anvik River 116.95 22 IAMs_20 IAMs_20 07 38 02.2
comp=Z,2μm,18.0s
J16K Anvik River 116.95 22 P **PKiKP 06 46 08.4 +0.7**
baz=306
H19K Roundabout Mou 116.96 19 P **PKiKP 06 46 08.4 +0.9**
baz=311,SNR=6.2
E23K Chandalar 117.06 14 IAMs_20 IAMs_20 07 38 07.8
comp=Z,2μm,21.0s
E23K Chandalar 117.06 14 P **PKiKP 06 46 08.7 +0.8**
baz=319
C27K Jago River 117.11 11 P **PKiKP 06 46 08.5 +0.7**
baz=326
G21K Allakaket 117.16 17 IAMs_20 IAMs_20 07 41 35.7
comp=Z,1μm,18.0s
G21K Allakaket 117.16 17 P **PKiKP 06 46 08.5 +0.5**
baz=315
K15K Wolf Creek Mou 117.17 23 IAMs_20 IAMs_20 07 37 56.2
comp=Z,2μm,20.0s
K15K Wolf Creek Mou 117.17 23 P **PKiKP 06 46 08.6 +0.5**
baz=305
L14K Kuka Creek 117.25 24 IAMs_20 IAMs_20 07 37 47.5
comp=Z,2μm,20.0s
L14K Kuka Creek 117.25 24 P **PKiKP 06 46 08.5 +0.2**
baz=303
E24K Your Creek 117.32 14 P **PKiKP 06 46 08.5 +0.2**
baz=320
GCSA Galena City Sc 117.33 19 P **PKiKP 06 46 08.5 +0.2**
baz=310
A36M Sachs Harbour 117.37 4 P **PKiKP 06 46 08.2 0.0**
baz=347
J17K VABM Dome 117.43 21 IAMs_20 IAMs_20 07 38 26.0
comp=Z,1μm,18.0s
J17K VABM Dome 117.43 21 P **PKPdf 06 46 08.4 -0.1**
baz=308
H20K Anotleneega Mo 117.47 18 P **PKiKP 06 46 08.8 +0.2**
baz=313,SNR=7.9
M13K Dall Lake 117.47 25 P **PKiKP 06 46 08.8 +0.1**
baz=302
L15K Ungalak Mounta 117.54 24 P **PKiKP 06 46 08.9 +0.1**
baz=304,SNR=7.1
COLD Coldfoot 117.54 15 P **PKiKP 06 46 08.8 +0.1**
baz=318
M14K Bethel 117.87 25 IAMs_20 IAMs_20 07 38 05.7
comp=Z,1μm,20.0s
M14K Bethel 117.87 25 P **PKiKP 06 46 09.5 +0.1**
baz=304
F24K Squaw Lake 117.90 14 P **PKiKP 06 46 09.6 +0.2**
baz=321
D27M Malcolm River 117.95 11 P **PKiKP 06 46 09.6 +0.1**
baz=329
E25K Arctic Village 117.96 13 P **PKiKP 06 46 09.8 +0.3**
baz=324,SNR=6.6
H21K Melozitna Rive 117.97 17 P **PKiKP 06 46 09.9 +0.3**
baz=315,SNR=10
G23K Bananza Creek 117.98 16 IAMs_20 IAMs_20 07 39 29.2
comp=Z,2μm,22.0s
G23K Bananza Creek 117.98 16 P **PKiKP 06 46 10.0 +0.3**
baz=318
I20K Naaghedeneel 118.07 19 P **PKiKP 06 46 10.1 +0.4**
baz=313
K17K Iditarod 118.13 22 IAMs_20 IAMs_20 07 38 57.5
comp=Z,2μm,19.0s
K17K Iditarod 118.13 22 P **PKiKP 06 46 10.2 +0.3**
baz=308
H22K Ishtalitna Cre 118.21 17 P **PKiKP 06 46 10.3 +0.2**
baz=317,SNR=11
J18K Innoko River 118.22 20 P **PKiKP 06 46 10.6 +0.4**
baz=310
NIKH Nikolski High 118.22 34 P **PKiKP 06 46 10.7 +0.3**
baz=293
J19K Poorman 118.24 20 P **PKiKP 06 46 10.5 +0.4**
baz=311,SNR=8.0
D28M Stokes Point 118.27 10 P **PKiKP 06 46 10.7 +0.7**
baz=332

L16K	Owhat River	118.30	23	IAMs_20	IAMs_20	07 39 21.1	
	comp=Z,2µm,19.0s						
L16K	Owhat River	118.30	23	P	PKiKP	06 46 10.8	+0.5
	baz=306						
F25K	Christian Rive	118.37	13	P	PKiKP	06 46 10.9	+0.5
	baz=324						
M15K	Kasigluk River	118.42	24	P	PKiKP	06 46 10.9	+0.4
	baz=305,SNR=5.8						
N14K	Kuskokwak Cree	118.44	25	P	PKiKP	06 46 11.2	+0.6
	baz=303						
L17K	Donlin	118.49	22	P	PKiKP	06 46 11.3	+0.6
	baz=308						
J20K	Nowinta River	118.60	19	P	PKiKP	06 46 11.4	+0.5
	baz=313,SNR=10.0						
F26K	Sheenjek River	118.62	13	P	PKiKP	06 46 11.6	+0.8
	baz=325						
G24K	Hadweenzic Riv	118.64	15	P	PKiKP	06 46 11.7	+0.8
	baz=321						
E27K	Coleen River	118.74	12	P	PKiKP	06 46 11.7	+0.6
	baz=328						
E28M	Babbage River	118.77	11	P	PKiKP	06 46 11.6	+0.6
	baz=330						
H23K	Yukon River	118.77	16	IAMs_20	IAMs_20	07 41 31.3	
	comp=Z,1µm,18.0s						
H23K	Yukon River	118.77	16	P	PKiKP	06 46 11.8	+0.6
	baz=319,SNR=13						
M16K	Timber Creek	118.92	23	IAMs_20	IAMs_20	07 39 10.3	
	comp=Z,2µm,20.0s						
M16K	Timber Creek	118.92	23	P	PKiKP	06 46 12.2	+0.7
	baz=307						
G25K	Bearman Lake	118.92	14	P	PKiKP	06 46 12.2	+0.9
	baz=323						
N15K	Kwethluk River	118.96	25	IAMs_20	IAMs_20	07 38 51.7	
	comp=Z,2µm,20.0s						
N15K	Kwethluk River	118.96	25	P	PKiKP	06 46 12.2	+0.5
	baz=305						
O14K	Tigyukauivet M	118.99	26	P	PKiKP	06 46 12.2	+0.6
	baz=304						
L18K	Granite Mounta	119.03	21	IAMs_20	IAMs_20	07 39 35.3	
	comp=Z,2µm,19.0s						
L18K	Granite Mounta	119.03	21	P	PKiKP	06 46 12.2	+0.5
	baz=310,SNR=7.1						
UNV	Unalaska Valle	119.14	33	P	PKiKP	06 46 12.6	+0.5
	baz=296						
K20K	Telida	119.18	20	P	PKiKP	06 46 12.6	+0.6
	baz=313,SNR=14						
DRLN	Deer Lake	119.18	322	IAMs_20	IAMs_20	07 40 01.2	
	comp=Z,1µm,20.0s						
H24K	Noodor Dome	119.21	15	IAMs_20	IAMs_20	07 40 04.7	
	comp=Z,2µm,21.0s						
H24K	Noodor Dome	119.21	15	P	PKiKP	06 46 12.3	+0.3
	baz=320						
E29M	Blow River	119.25	10	P	PKiKP	06 46 12.2	+0.2
	baz=332						
M17K	Holitna River	119.27	22	IAMs_20	IAMs_20	07 39 15.6	
	comp=Z,2µm,21.0s						
M17K	Holitna River	119.27	22	P	PKiKP	06 46 12.6	+0.4
	baz=308						
G26K	Porcupine Rive	119.31	13	P	PKiKP	06 46 12.6	+0.5
	baz=325						
N16K	Nishlik Lake	119.32	24	P	PKiKP	06 46 12.7	+0.4
	baz=307,SNR=7.1						
I23K	Minto, Yukon-K	119.33	16	IAMs_20	IAMs_20	07 40 18.0	
	comp=Z,1µm,20.0s						
I23K	Minto, Yukon-K	119.33	16	P	PKiKP	06 46 12.4	+0.2
	baz=319,SNR=19						
CHUM	Lake Minchumin	119.38	19	P	PKiKP	06 46 12.6	+0.3
	baz=315,SNR=5.4						
H25L	Birch Creek	119.39	14	P	PKiKP	06 46 12.7	+0.4
	baz=323,SNR=8.9						
BPAW	Bear Paw Mtn.	119.64	18	P	PKiKP	06 46 13.0	+0.2
	baz=316,SNR=11						
O15K	Ungalikthiuk R	119.65	25	P	PKiKP	06 46 13.1	+0.1
	baz=305						
L19K	White Mountain	119.70	21	P	PKiKP	06 46 13.7	+0.6
	baz=312,SNR=6.9						
MAL2	Monte Alegre,	119.75	262	IAMs_20	IAMs_20	07 31 26.8	
	comp=Z,3µm,22.0s						
CAST	Castle Rocks	119.78	19	P	PKiKP	06 46 13.3	+0.1
	baz=315,SNR=13						
M18K	Stony River	119.81	22	P	PKiKP	06 46 13.6	+0.4
	baz=310,SNR=8.0						
NEA2	Nenana	119.83	17	P	PKiKP	06 46 13.6	+0.4
	baz=319						
L20K	Farewell, AK	119.84	20	P	PKiKP	06 46 13.6	+0.3
	baz=313,SNR=5.4						
POKR	Poker Plat Res	119.88	16	IAMs_20	IAMs_20	07 40 25.7	
	comp=Z,2µm,21.0s						
POKR	Poker Plat Res	119.88	16	P	PKiKP	06 46 13.6	+0.2
	baz=321						
G27K	Doyon Strip	119.90	12	P	PKiKP	06 46 13.6	+0.3
	baz=328						
N17K	Nushagak Hills	119.91	23	IAMs_20	IAMs_20	07 40 22.5	
	comp=Z,1µm,20.0s						
N17K	Nushagak Hills	119.91	23	P	PKiKP	06 46 13.6	+0.2
	baz=308,SNR=11						
COLA	College	119.96	16	IAMs_20	IAMs_20	07 43 31.5	
	comp=Z,2µm,19.0s						
COLA	College	119.96	16	P	PKiKP	06 46 13.9	+0.5
COLA	College	119.96	16	P	PKiKP	06 46 13.5	+0.1
COLA	College	119.96	16	P	PKiKP	06 46 13.6	+0.2
	baz=320						
INK	Inuvik	120.01	8	P	PKiKP	06 46 13.6	+0.1
	baz=337,SNR=37						
C36M	Paulatuk	120.05	4	P	PKiKP	06 46 13.7	+0.2
	baz=348						
M19K	Big River Lodg	120.05	21	P	PKiKP	06 46 14.1	+0.4
	baz=312,SNR=10						
PRP	Porcupine Dome	120.06	15	P	PKiKP	06 46 13.9	+0.1
	baz=323,SNR=22						
O16K	Kokwok River B	120.12	24	IAMs_20	IAMs_20	07 39 48.3	
	comp=Z,2µm,19.0s						
O16K	Kokwok River B	120.12	24	P	PKiKP	06 46 14.1	+0.2
	baz=307,SNR=8.4						
PPLA	Purkeypile	120.12	19	P	PKiKP	06 46 14.0	0.0
	baz=315,SNR=7.4						
CCB	Clear Creek Bu	120.15	16	IAMs_20	IAMs_20	07 40 49.5	
	comp=Z,2µm,21.0s						
FALS	False Pass	120.28	31	P	PKiKP	06 46 14.3	0.0
	baz=299						
F30M	Barrier River	120.30	10	P	PKiKP	06 46 14.2	+0.1
	baz=334,SNR=18						
ILAR	Eielson Array	120.30	16	PKP	PKPdf	06 46 12.4	-1.6
	comp=Z,16nm,1.2s,baz=312,slow=2.9,SNR=36						
ILAR				PP	PP	06 47 34.1	-5.4
	comp=Z,7.4nm,1.1s,baz=305,slow=4.5,SNR=6.7						
ILAR				PKKPbc	PKKPab	06 56 21.6	-0.6
	comp=Z,1.0nm,0.8s,baz=184,slow=2.3,SNR=7.2						
N18K	Kilae Creek	120.31	23	IAMs_20	IAMs_20	07 39 55.2	
	comp=Z,2µm,20.0s						
N18K	Kilae Creek	120.31	23	P	PKiKP	06 46 14.4	+0.1
	baz=310,SNR=5.8						
TRF	Thorofare Moun	120.32	18	P	PKiKP	06 46 14.4	0.0
	baz=317						
MT08	Bocatoma Ro	120.37	222	IAMs_20	IAMs_20	07 37 14.7	
	comp=Z,2µm,20.0s						
O17K	Koliganek Bris	120.41	24	P	PKiKP	06 46 14.7	+0.3
	baz=308,SNR=8.1						
H27K	Steamboat Moun	120.41	13	P	PKiKP	06 46 14.5	+0.1
	baz=328,SNR=17						
P16K	Nushagak River	120.50	25	P	PKiKP	06 46 14.9	+0.3
	baz=307						
M20K	Styx River	120.51	21	P	PKPdf	06 46 14.6	0.0
	baz=313,SNR=8.8						
MCK	McKinley	120.52	17	P	PKiKP	06 46 14.8	+0.1
	baz=318,SNR=12						
G29M	Pine Creek	120.53	11	P	PKiKP	06 46 14.6	0.0
	baz=332						
HDA	Harding Lake	120.57	16	IAMs_20	IAMs_20	07 41 20.6	
	comp=Z,1µm,20.0s						
HDA	Harding Lake	120.57	16	P	PKiKP	06 46 14.8	+0.1
	baz=321						
N19K	Bonanza Creek	120.75	22	IAMs_20	IAMs_20	07 40 38.7	
	comp=Z,2µm,18.0s						
N19K	Bonanza Creek	120.75	22	P	PKiKP	06 46 15.2	0.0
	baz=311						
F31M	Tsiigehtchic	120.78	9	P	PKPdf	06 46 14.9	0.0
	baz=337,SNR=15						
RND	Reindeer	120.79	18	IAMs_20	IAMs_20	07 41 23.5	
	comp=Z,1µm,20.0s						
G30M	tAoh Zraii Nji	120.80	10	P	PKiKP	06 46 15.4	+0.3
	baz=334						
I26K	Coal Creek Min	120.82	14	P	PKiKP	06 46 15.5	+0.4
	baz=325,SNR=15						
J25K	Salcha River,	120.83	15	IAMs_20	IAMs_20	07 40 05.6	
	comp=Z,2µm,22.0s						
J25K	Salcha River,	120.83	15	P	PKiKP	06 46 15.5	+0.3
	baz=323,SNR=13						
I27K	Kandik River	120.92	13	P	PKiKP	06 46 15.8	+0.4
	baz=327,SNR=31						
SKT	Skwentna	120.98	20	P	PKiKP	06 46 16.0	+0.5
	baz=315,SNR=16						
PEL	Peldehue	121.00	222	IAMs_20	IAMs_20	07 37 35.0	
	comp=Z,2µm,21.0s						
P17K	Kvichak River	121.03	24	P	PKiKP	06 46 16.1	+0.4
	baz=308						
H29M	Whitestone	121.08	11	P	PKiKP	06 46 16.0	+0.4
	baz=331,SNR=13						
O18K	Koktuh Hills	121.10	23	IAMs_20	IAMs_20	07 41 07.2	
	comp=Z,1µm,19.0s						
O18K	Koktuh Hills	121.10	23	P	PKiKP	06 46 16.1	+0.2
	baz=310,SNR=8.5						
VA03	San Esteban	121.14	222	IAMs_20	IAMs_20	07 41 02.0	
	comp=Z,2µm,22.0s						
G31M	Satah River	121.17	9	P	PKPdf	06 46 15.6	-0.1
	baz=336,SNR=16						
O19K	Port Alsworth	121.22	22	IAMs_20	IAMs_20	07 40 55.2	
	comp=Z,2µm,19.0s						
O19K	Port Alsworth	121.22	22	P	PKPdf	06 46 15.7	-0.2
	baz=311,SNR=6.9						
EPYK	Eagle Plains	121.25	11	P	PKiKP	06 46 16.0	-0.1
	baz=333,SNR=43						
Q16K	King Salmon	121.27	25	P	PKiKP	06 46 16.4	+0.2
	baz=308						
SPCR	Spurr Chakacha	121.30	21	P	PKiKP	06 46 16.3	0.0
	baz=314						
K24K	Donnelly Dome	121.36	16	P	PKiKP	06 46 16.3	0.0
	baz=322,SNR=5.0						
J26L	Joseph Creek	121.38	15	P	PKiKP	06 46 16.3	-0.1
	baz=325,SNR=18						
P18K	Big Mountain,	121.39	23	P	PKiKP	06 46 16.5	0.0
	baz=310,SNR=15						
S14K	Fog Glacier	121.40	28	P	PKPdf	06 46 16.4	-0.1
	baz=304						
I28M	Miner Creek	121.43	13	P	PKiKP	06 46 16.6	+0.2
	baz=329,SNR=14						
SDPT	Sand Point	121.48	29	P	PKiKP	06 46 18.4	+1.7
SDPT	Sand Point	121.48	29	P	PKiKP	06 46 18.3	+1.6
SDPT	Sand Point	121.48	29	P	PKiKP	06 46 16.6	0.0
	baz=302						
R16K	Pilot Point	121.55	26	P	PKiKP	06 46 17.1	+0.4
	baz=306						
M22K	Willow	121.61	19	P	PKiKP	06 46 17.0	+0.3
	baz=316,SNR=16						
RIDG	Independent Ri	121.67	16	P	PKiKP	06 46 17.2	+0.3
	baz=323,SNR=10						
SCRK	Sand Creek	121.70	15	P	PKiKP	06 46 17.3	+0.2
	baz=324,SNR=8.7						
ILSW	Iliamna Southw	121.80	22	IAMs_20	IAMs_20	07 41 12.6	
	comp=Z,2µm,21.0s						
I29M	Ogilvie Camp,	121.84	12	P	PKiKP	06 46 17.3	+0.1
	baz=331						
SCHQ	Schefferville	121.87	330	PKP	PKPdf	06 46 16.8	-0.5
	comp=Z,4.0nm,0.7s,baz=12,slow=5.7,SNR=8.6						
CHGN	Chignik	121.92	28	P	PKiKP	06 46 17.7	+0.2
	baz=305						
O20K	Slope Mountain	121.92	22	P	PKiKP	06 46 17.5	-0.1
	baz=313						
Q18K	Katmai Hardscr	121.95	24	P	PKiKP	06 46 17.7	0.0
	baz=310						
CAPN	Captain Cook N	121.97	21	P	PKiKP	06 46 17.9	+0.4
	baz=315						
P19K	Oil Pt	121.99	22	P	PKiKP	06 46 17.8	+0.1
	baz=312						
PMR	Palmer	122.06	19	P	PKPdf	06 46 17.3	-0.2
PMR	Palmer	122.06	19	P	PKPdf	06 46 16.9	-0.6
PMR	Palmer	122.06	19	P	PKiKP	06 46 17.8	+0.1
	baz=317,SNR=16						
ACHA	Angle Creek He	122.10	25	IAMs_20	IAMs_20	07 41 09.8	
	comp=Z,2µm,20.0s						
PAX	Paxson	122.11	17	P	PKiKP	06 46 18.0	+0.1
	baz=322,SNR=9.0						
K27K	Chicken	122.14	14	P	PKiKP	06 46 18.1	+0.3
	baz=326						
SML	Sawmill	122.15	19	P	PKiKP	06 46 17.9	0.0
	baz=318,SNR=16						
H31M	Peel River	122.19	10	P	PKiKP	06 46 18.0	+0.2
	baz=336						
CHNA	Chernabura Isl	122.19	29	P	PKiKP	06 46 18.0	-0.1
	baz=303						
RC01	Rabbit Creek A	122.22	20	P	PKiKP	06 46 18.0	0.0
	baz=316,SNR=26						
Q19K	Cape Douglas,	122.31	23	IAMs_20	IAMs_20	07 41 20.2	
	comp=Z,2µm,20.0s						
Q19K	Cape Douglas,	122.31	23	P	PKPdf	06 46 17.9	-0.2
	baz=311,SNR=16						
I30M	Mount Dempster	122.35	11	P	PKPdf	06 46 18.2	0.0
	baz=333						
M23K	Glacier View	122.35	18	P	PKPdf	06 46 18.2	+0.1
	baz=319,SNR=20						
KNK	Knik Glacier	122.40	19	P	PKiKP	06 46 18.7	+0.3
	baz=318,SNR=11						
VILB	Vilhena	122.44	248	IAMs_20	IAMs_20	07 34 43.2	
	comp=Z,2µm,20.0s						
SCM	Sheep Creek Mo	122.44	18	P	PKiKP	06 46 18.9	+0.4
	baz=320,SNR=11						
HOM	Homer	122.57	22	P	PKiKP	06 46 19.2	+0.5
	baz=314						
M24K	Tolsona, Glenn	122.58	18	P	PKiKP	06 46 19.3	+0.5
	baz=321						
MENT	Mentasta	122.61	16	P	PKiKP	06 46 19.9	+1.1
L26K	Log Cabin Wild	122.64	16	P	PKiKP	06 46 19.5	+0.7
	baz=324						
HARP	HAARP	122.65	17	P	PKiKP	06 46 19.3	+0.4
	baz=322,SNR=6.8						
J29N	Klondike Camp	122.66	12	P	PKiKP	06 46 19.3	+0.4
	baz=331						
O22K	Cooper Landing	122.67	20	P	PKiKP	06 46 19.5	+0.6
	baz=316						
DAWY	Dawson	122.74	13	P	PKiKP	06 46 19.4	+0.4
	baz=329,SNR=40						
BRSE	Bradley Lake S	122.84	21	P	PKiKP	06 46 19.4	+0.1
	baz=315,SNR=6.9						
PWL	Port Wells	122.86	19	IAMs_20	IAMs_20	07 45 59.5	
	comp=Z,1µm,19.0s						
PWL	Port Wells	122.86	19	P	PKiKP	06 46 19.6	+0.3
	baz=318,SNR=18						
R18K	Karluk	122.88	25	P	PKiKP	06 46 19.5	+0.2
	baz=310						
J30M	Hart River	122.94	11	P	PKiKP	06 46 19.7	+0.2
	baz=333						
L27K	Beaver Creek,	123.01	15	P	PKiKP	06 46 20.0	+0.4
	baz=326,SNR=37						
Q20K	Shuyak Island	123.01	23	P	PKiKP	06 46 19.9	+0.3
	baz=312,SNR=7.4						
SEW	Seward	123.04	21	P	PKiKP	06 46 19.6	0.0
	baz=316,SNR=14						
GBN	Guysborough	123.12	318	IAMs_20	IAMs_20	07 37 30.8	
	comp=Z,2µm,22.0s						
KLU	Klutina	123.14	18	IAMs_20	IAMs_20	07 42 54.7	
	comp=Z,1µm,19.0s						
KLU	Klutina	123.14	18	P	PKiKP	06 46 20.2	+0.3
	baz=321,SNR=23						
GLI	Glacier Island	123.24	19	P	PKiKP	06 46 20.3	+0.3
	baz=319,SNR=8.0						
M26K	Nabesna, AK	123.25	16	P	PKiKP	06 46 20.1	0.0
	baz=325,SNR=19						
AC05	El Transito	123.32	226	IAMs_20	IAMs_20	07 41 02.1	
	comp=Z,2µm,18.0s						
K29M	Barlow Dome	123.34	12	P	PKiKP	06 46 20.4	+0.1
	baz=331,SNR=38						
N25K	Chitina, Valde	123.44	17	P	PKiKP	06 46 20.7	+0.2
	baz=322,SNR=42						
CHIR	Chirikof Islan	123.47	27	P	PKiKP	06 46 20.6	0.0
	baz=308						
KDAK	Kodiak Island	123.49	24	IAMs_20	IAMs_20	07 41 49.5	
	comp=Z,2µm,20.0s						
KDAK	Kodiak Island	123.49	24	P	PKiKP	06 46 20.6	+0.1
	baz=312						
FID	Port Fidalgo	123.54	19	IAMs_20	IAMs_20	07 43 25.8	
	comp=Z,1µm,19.0s						
OHAK	Old Harbor	123.58	25	IAMs_20	IAMs_20	07 42 17.8	
	comp=Z,2µm,19.0s						
OHAK	Old Harbor	123.58	25	P	PKiKP	06 46 22.3	+1.5
OHAK	Old Harbor	123.58	25	P	PKiKP	06 46 21.8	+1.0
OHAK	Old Harbor	123.58	25	P	PKiKP	06 46 20.9	+0.1
	baz=311						
M27K	Edge Creek, AK	123.58	15	P	PKiKP	06 46 20.8	0.0
	baz=326,SNR=21						
SII	Sitkinak Islan	123.63	26	P	PKiKP	06 46 21.1	+0.1
	baz=310						
BVCY	Beaver Creek	123.80	15	P	PKiKP	06 46 21.3	+0.2
	baz=327,SNR=10						
GLB	Gilahina Butte	123.80	17	IAMs_20	IAMs_20	07 42 22.2	
	comp=Z,1µm,22.0s						
P23K	Montague Islan	123.81	20	P	PKiKP	06 46 21.4	+0.2
	baz=319,SNR=6.4						
L29M	L29M	123.85	13	P	PKiKP	06 46 21.5	+0.3
	baz=330						
EYAK	Cordova Ski Ar	123.92	19	P	PKiKP	06 46 23.3	+1.9
EYAK	Cordova Ski Ar	123.92	19	P	PKiKP	06 46 23.0	+1.6
EYAK	Cordova Ski Ar	123.92	19	P	PKiKP	06 46 21.6	+0.2
	baz=321,SNR=6.6						
BMRM	Bremner River	123.94	18	P	PKiKP	06 46 21.8	+0.3
	baz=322,SNR=12						
VRDI	Verde Repeater	124.07	17	IAMs_20	IAMs_20	07 42 17.4	
	comp=Z,1µm,22.0s						
M29M	Somme Creek	124.36	14	P	PKiKP	06 46 22.6	+0.3
	baz=330,SNR=38						
RAGM	Ragged Mountai	124.38	18	IAMs_20	IAMs_20	07 43 44.7	
	comp=Z,2µm,19.0s						
YUK3	Moose Creek	124.44	15	P	PKiKP	06 46 22.6	-0.1
	baz=327,SNR=10						
HMT	Hamilton	124.55	18	IAMs_20	IAMs_20	07 46 15.1	
	comp=Z,2µm,20.0s						
M30M	Minto, Yukon	124.62	13	P	PKiKP	06 46 22.9	+0.1
	baz=332						
BERG	Berg Lake	124.67	18	IAMs_20	IAMs_20	07 46 26.3	
	comp=Z,1µm,19.0s						
KAIM	Kayak Island	124.83	18	P	PKiKP	06 46 23.2	0.0
	baz=322						
ICQ	Pointe Anglais	124.85	325	IAMs_20	IAMs_20	07 43 08.6	
	comp=Z,2µm,21.0s						
BGLC	Bering Glacier	125.02	18	P	PKiKP	06 46 23.7	+0.2
	baz=323						
YUK8	Steele Glacier	125.03	15	P	PKPdf	06 46 23.7	+0.1
	baz=328,SNR=23						
BATG	Bathurst New B	125.21	322	IAMs_20	IAMs_20	07 42 10.6	
	comp=Z,2µm,21.0s						
YUK4	Talbot Arm	125.26	15	P	PKPdf	06 46 24.1	+0.2
	baz=329,SNR=33						
YAH	Yahtse	125.27	17	IAMs_20	IAMs_20	07 43 26.9	
	comp=Z,2µm,21.0s						
O28M	Mount Upton	125.35	16	P	PKiKP	06 46 24.6	0.0
	baz=327,SNR=20						
MESA	MESA	125.36	17	IAMs_20	IAMs_20	07 45 33.5	
	comp=Z,1µm,21.0s						
MESA	MESA	125.36	17	P	PKPdf	06 46 24.3	+0.2
	baz=325						
M31M	Drury Creek, Y	125.46	12	P	PKiKP	06 46 24.5	+0.1
	baz=334						
N30M	Aishikik Lake	125.53	14	P	PKiKP	06 46 24.8	+0.1
	baz=331,SNR=19						
FARO	Faro, Yukon	125.64	11	P	PKiKP	06 46 24.8	0.0
	baz=336,SNR=8.5						
YUK6	Outpost Mounta	125.68	15	P	PKiKP	06 46 25.0	-0.2
	baz=329,SNR=9.3						
N31M	Braeburn, Yuko	125.81	13	P	PKiKP	06 46 25.1	0.0
	baz=333,SNR=30						
PINM	Pinnacle	125.91	16	P	PKiKP	06 46 25.7	+0.3
	baz=327						
HYT	Haines Junctio	125.99	14	P	PKiKP	06 46 25.9	+0.2
	baz=330,SNR=30						
WRGLY	Wrigley	126.11	6	P	PKiKP	06 46 25.8	+0.2
	baz=348,SNR=20						
O29M	Mount Kennedy	126.18	15	P	PKiKP	06 46 25.9	-0.2
	baz=329,SNR=12						
O30N	Mendenhall	126.37	14	P	PKiKP	06 46 26.8	+0.5
	baz=332,SNR=20						
PNL	Peninsula	126.50	16	P	PKiKP	06 46 28.4	+1.8
PNL	Peninsula	126.50	16	P	PKiKP	06 46 27.9	+1.3
PNL	Peninsula	126.50	16	P	PKiKP	06 46 26.8	+0.3
	baz=328						
N32M	Quiet Lake	126.68	12	IAMs_20	IAMs_20	07 48 57.1	
	comp=Z,1µm,19.0s						
N32M	Quiet Lake	126.68	12	P	PKiKP	06 46 26.9	0.0
	baz=336						
P30M	Million Dollar	126.74	14	P	PKiKP	06 46 27.0	0.0
	baz=331						
WHY	Whitehorse	126.75	13	P	PKiKP	06 46 26.9	-0.2
	baz=333,SNR=9.4						
BOAV	Boa Vista	126.83	266	IAMs_20	IAMs_20	07 36 24.5	
	comp=Z,2µm,20.0s						
P29M	Windy Craggy	126.97	15	P	PKiKP	06 46 27.4	-0.2
	baz=330						
D62A	Allapoint, All	127.09	323	IAMs_20	IAMs_20	07 44 20.3	
	comp=Z,2µm,20.0s						
TGTN	Hyland Airport	127.17	9	P	PKiKP	06 46 27.9	0.0
	baz=342,SNR=24						
YKA	Yellowknife Ar	127.32	1	PKP	PKPdf	06 46 26.4	-1.2
	comp=Z,20nm,1.1s,baz=351,slow=2.1,SNR=82						
YKA				PKKPbc	PKKPbc	06 55 53.3	
	comp=Z,0.1nm,0.7s,baz=182,slow=4.0,SNR=4.4						
P33M	Teslin, Yukon	127.59	12	P	PKiKP	06 46 28.6	-0.2
	baz=336,SNR=5.6						
E62A	Clayton Lake	127.60	323	IAMs_20	IAMs_20	07 42 18.0	
	comp=Z,2µm,22.0s						
SKAG	Skagway	127.71	14	P	PKiKP	06 46 30.1	+1.2
SKAG	Skagway	127.71	14	P	PKiKP	06 46 28.9	0.0
	baz=332						
LDAQ	Lac Daran	127.90	325	IAMs_20	IAMs_20	07 44 40.5	
	comp=Z,2µm,21.0s						
P32M	Atlin	127.97	13	P	PKiKP	06 46 29.6	0.0
	baz=334						
LPAZ	La Paz	128.16	240	PKP	PKPdf	06 46 31.5	+0.2
	comp=Z,9.8nm,0.8s,baz=161,slow=2.4,SNR=6.9						
LPAZ	La Paz	128.16	240	eP	PKiKP	06 46 32.0	+0.1
WTLY	Watson Lake, Y	128.43	10	IAMs_20	IAMs_20	07 48 43.4	
	comp=Z,1µm,19.0s						
WTLY	Watson Lake, Y	128.43	10	P	PKiKP	06 46 30.3	-0.2
	baz=341						
GDSD	La Dsirade Is	128.57	283	IAMs_20	IAMs_20	07 39 25.0	
	comp=Z,2µm,21.0s						
FDF	Fort de France	128.65	281	IAMs_20	IAMs_20	07 41 19.1	
	comp=Z,1µm,19.0s						
SVN	Savane Anatole	128.66	281	IAMs_20	IAMs_20	07 41 19.6	
	comp=Z,1µm,21.0s						
R33M	Jennings River	128.71	11	P	PKiKP	06 46 31.1	0.0
	baz=338,SNR=26						
Q32M	Nakina River	128.85	12	P	PKiKP	06 46 31.6	+0.1
	baz=336,SNR=18						
FCC	Fort Churchill	128.88	347	IAMs_20	IAMs_20	07 52 05.8	
	comp=Z,1µm,21.0s						
R32K	Eaglecrest	128.96	14	P	PKiKP	06 46 31.2	-0.3
	ba

comp=Z,1µm,20.0s
WRAK Wrangell Islan 131.15 14 P PKiKP 06 46 35.6 -0.3
baz=335
VLDQ Val d'Or 131.18 328 IAMs_20 IAMs_20 07 47 12.5
comp=Z,2µm,20.0s
U33K Whale Pass 131.24 14 P PKiKP 06 46 36.0 -0.1
baz=334
K62A Royalston 131.26 320 IAMs_20 IAMs_20 07 46 46.1
comp=Z,2µm,20.0s
L61B Northampton 131.66 320 IAMs_20 IAMs_20 07 48 14.5
comp=Z,1µm,20.0s
LONY Lake Ozonia 131.68 323 IAMs_20 IAMs_20 07 43 29.6
comp=Z,2µm,20.0s
UCCT U. Connecticut 131.69 319 IAMs_20 IAMs_20 07 51 46.5
comp=Z,1µm,18.0s
M63A Gales Ferry 131.76 318 IAMs_20 IAMs_20 07 44 49.5
comp=Z,2µm,20.0s
ACCN Adirondack Com 131.79 321 IAMs_20 IAMs_20 07 47 50.0
comp=Z,2µm,20.0s
CRAG Craig 131.82 15 P PKiKP 06 46 37.2 -0.1
baz=334
WBO Williamsburg 131.87 324 IAMs_20 IAMs_20 07 46 47.5
comp=Z,2µm,20.0s
TBI Tubuai 131.88 134 *e*PP PP 06 48 52.7 -4.6
comp=Z,1µm,26.5s
TBI Tubuai 131.88 134 *e*SS SS 07 06 33.8 +0.2
comp=Z,3µm,27.8s
TBI Tubuai 131.88 134 *e*LR LR 07 28 25.4
comp=Z,6µm,23.2s
TBI *e*LR LR 07 28 27.2
comp=Z,2µm,23.8s
U35K Hyder 132.13 12 P PKiKP 06 46 37.8 -0.2
baz=338
TRY Troy 132.14 320 IAMs_20 IAMs_20 07 46 28.1
comp=Z,1µm,20.0s
V35K Ketchikan 132.32 14 P PKiKP 06 46 38.2 -0.1
baz=336
N62A Caumsett State 132.93 318 IAMs_20 IAMs_20 07 40 36.4
comp=Z,2µm,22.0s
HUMP Col San Antoni 133.07 286 IAMs_20 IAMs_20 07 45 18.2
comp=Z,2µm,19.0s
J57A Williamstown 133.20 322 IAMs_20 IAMs_20 07 44 41.0
comp=Z,2µm,22.0s
PDPR Patillas Dam, 133.25 286 IAMs_20 IAMs_20 07 44 55.8
comp=Z,2µm,20.0s
L59A Walton 133.29 321 IAMs_20 IAMs_20 07 46 09.6
comp=Z,1µm,19.0s
TRNY Table Rock, Ra 133.31 319 IAMs_20 IAMs_20 07 54 31.5
comp=Z,1µm,18.0s
IGPR InterUniversit 133.33 285 IAMs_20 IAMs_20 07 46 32.0
comp=Z,2µm,20.0s
SJG San Juan 133.36 286 IAMs_20 IAMs_20 07 40 05.8
comp=Z,2µm,21.0s
PECO Prince Edward 133.49 324 IAMs_20 IAMs_20 07 48 20.4
comp=Z,1µm,20.0s
DELO Deloro Mine 133.50 325 IAMs_20 IAMs_20 07 45 03.6
comp=Z,2µm,22.0s
CELP Cerrillos 133.77 286 IAMs_20 IAMs_20 07 40 13.7
comp=Z,1µm,20.0s
OBIP Obispado Ponce 133.80 286 IAMs_20 IAMs_20 07 40 43.4
comp=Z,1µm,21.0s
BINY Binghamton 133.87 321 IAMs_20 IAMs_20 07 47 36.9
comp=Z,1µm,20.0s
UUPR Utuado, UPR, P 133.89 286 IAMs_20 IAMs_20 07 40 48.9
comp=Z,1µm,19.0s
K57A Scipio Center 133.90 322 IAMs_20 IAMs_20 07 45 54.5
comp=Z,1µm,20.0s
KSPA Keystone Colle 134.08 320 IAMs_20 IAMs_20 07 51 02.7
comp=Z,1µm,19.0s
FFC Flin Flon 134.18 351 IAMs_20 IAMs_20 07 56 12.9
comp=Z,2µm,20.0s
CRPR Cabo Rojo, PR 134.28 286 IAMs_20 IAMs_20 07 44 08.2
comp=Z,1µm,21.0s
LUPA Lehigh Univers 134.34 319 IAMs_20 IAMs_20 07 41 29.7
comp=Z,2µm,22.0s
J55A Hilton 134.36 323 IAMs_20 IAMs_20 07 46 39.6
comp=Z,1µm,22.0s
L56A Greenwood 134.87 322 IAMs_20 IAMs_20 07 56 03.3
comp=Z,1µm,18.0s
N58A Sunbury 135.07 320 IAMs_20 IAMs_20 07 49 36.0
comp=Z,1µm,19.0s
PPT2 Papeete2 135.23 127 *e*PP PP 06 49 14.2 -4.9
comp=Z,382nm,25.5s
PPT2 Papeete2 135.23 127 *e*SS SS 07 07 14.9 0.0
comp=Z,1µm,26.5s
PPT2 Papeete2 135.23 127 *e*LR LR 07 29 56.9
comp=Z,2µm,38.0s
PPT2 *e*LR LR 07 29 57.4
comp=Z,2µm,27.5s
MVL Millersville 135.29 319 IAMs_20 IAMs_20 07 50 32.9
comp=Z,2µm,19.0s
PCDR Punta Cana, DR 135.44 286 IAMs_20 IAMs_20 07 57 27.0
comp=Z,1µm,22.0s
R61A Willards 135.47 316 IAMs_20 IAMs_20 07 46 52.0
comp=Z,1µm,20.0s
CZSB Cruzeiro do Su 135.79 248 *e*P PKPdf 06 46 43.8 -1.2
SDMD Soldier's Deli 135.93 318 IAMs_20 IAMs_20 07 51 31.7
comp=Z,919nm,18.0s
S61A Accomac 136.02 315 IAMs_20 IAMs_20 07 45 11.7
comp=Z,1µm,21.0s
ERPA Erie 136.33 323 IAMs_20 IAMs_20 07 45 16.8
comp=Z,1µm,22.0s
P57A Homestead Farm 136.65 319 IAMs_20 IAMs_20 07 52 26.8
comp=Z,1µm,19.0s
ALLY Alegheny Colle 136.71 323 IAMs_20 IAMs_20 07 48 01.9
comp=Z,1µm,20.0s
I49A Point Hope 136.74 327 IAMs_20 IAMs_20 07 50 14.0
comp=Z,2µm,20.0s
CBN Corbin Frederi 136.91 317 IAMs_20 IAMs_20 07 48 19.1
comp=Z,1µm,20.0s
ULM Lac du Bonnet 137.03 343 PKhKP PKPpre 06 46 36.1
comp=Z,1.8nm,0.8s,baz=49,slow=3.0,SNR=4.6
ULM PKP PKPdf 06 46 46.0 -0.3
comp=Z,5.9nm,0.8s,baz=46,slow=5.4,SNR=7.9
ULM PP PP 06 49 24.5 -4.5
comp=Z,15nm,1.2s,baz=32,slow=7.4,SNR=9.3
ULM Lac du Bonnet 137.03 343 PKIKP PKPdf 06 46 46.0 -0.3
GLMI Grayling 137.05 330 IAMs_20 IAMs_20 07 50 02.9
comp=Z,2µm,20.0s
R58B Mineral 137.38 317 IAMs_20 IAMs_20 07 47 59.4
comp=Z,1µm,20.0s
K50A Casco 137.41 326 IAMs_20 IAMs_20 07 53 03.0
comp=Z,1µm,18.0s
M52A Chesterland 137.49 324 IAMs_20 IAMs_20 07 51 10.4
comp=Z,1µm,20.0s
V61A Roper 137.57 314 IAMs_20 IAMs_20 07 48 42.0
comp=Z,1µm,20.0s
NNA Nana 137.63 240 PKP PKPdf 06 46 48.8 +0.3
comp=Z,4.2nm,0.4s,baz=273,slow=6.8,SNR=3.6
SDV Santo Domingo 137.67 273 IAMs_20 IAMs_20 07 46 13.8
comp=Z,2µm,20.0s
T59A Double "B" Far 137.67 316 IAMs_20 IAMs_20 07 47 23.4
comp=Z,2µm,20.0s
MCWV Mont Chateau 137.72 320 IAMs_20 IAMs_20 07 51 25.8
comp=Z,2µm,20.0s
O54A Avella 137.74 321 IAMs_20 IAMs_20 07 51 53.3
comp=Z,2µm,18.0s
S57A Dark Hollow, R 138.21 318 IAMs_20 IAMs_20 07 46 51.2
comp=Z,1µm,21.0s
O53A New Philadelph 138.21 322 IAMs_20 IAMs_20 07 49 25.6
comp=Z,2µm,21.0s
AAM Ann Arbor 138.30 326 IAMs_20 IAMs_20 07 53 03.4
comp=Z,1µm,19.0s
I45A Fountain 138.42 330 IAMs_20 IAMs_20 07 47 24.0
comp=Z,2µm,22.0s
N51A Ashland 138.48 324 IAMs_20 IAMs_20 07 49 46.6
comp=Z,2µm,20.0s
M50A Fremont 138.55 325 IAMs_20 IAMs_20 07 49 46.3
comp=Z,2µm,21.0s
O52A Adamsville 138.67 322 IAMs_20 IAMs_20 07 50 27.0
comp=Z,1µm,20.0s
R55A Marlinton 138.68 319 IAMs_20 IAMs_20 07 50 29.6
comp=Z,1µm,18.0s
AGMN Agassiz Nation 138.77 342 IAMs_20 IAMs_20 07 53 52.0
comp=Z,2µm,20.0s
P53A Whipple 138.78 321 IAMs_20 IAMs_20 07 49 33.8
comp=Z,2µm,21.0s
T57A Hurt 138.82 317 IAMs_20 IAMs_20 07 48 42.5
comp=Z,1µm,20.0s
H43A Windswept, Lux 138.83 332 IAMs_20 IAMs_20 07 50 28.7
comp=Z,2µm,20.0s
P52A Corning 139.14 322 IAMs_20 IAMs_20 07 56 25.4
comp=Z,1µm,18.0s
ACSO Alum Creek Sta 139.27 323 IAMs_20 IAMs_20 07 57 10.6
comp=Z,1µm,18.0s
V58A Windy Hill, Pi 139.36 315 IAMs_20 IAMs_20 07 47 47.1
comp=Z,2µm,20.0s
BLA Blacksburg 139.48 318 IAMs_20 IAMs_20 07 47 27.0
comp=Z,2µm,21.0s
N49A Columbus Grove 139.51 325 IAMs_20 IAMs_20 07 51 17.8
comp=Z,2µm,20.0s
Y60A Bolivia 139.60 312 IAMs_20 IAMs_20 07 45 57.0
comp=Z,2µm,21.0s
OZB Mount Ozzard 139.63 12 IAMs_20 IAMs_20 07 53 37.5
comp=Z,1µm,22.0s
Q52A Bidwell 139.64 321 IAMs_20 IAMs_20 07 51 05.6
comp=Z,1µm,19.0s
S54A Dingess, Beckl 139.73 319 IAMs_20 IAMs_20 07 47 02.3
comp=Z,1µm,22.0s
P51A Williamsport 139.80 323 IAMs_20 IAMs_20 07 50 12.6
comp=Z,1µm,20.0s
I42A Draeger Farm, 139.80 332 IAMs_20 IAMs_20 07 52 37.4
comp=Z,2µm,20.0s
L46A Eue Claire 139.91 328 IAMs_20 IAMs_20 07 51 58.8
comp=Z,1µm,19.0s
CLRS Cowichan Lake 140.03 11 IAMs_20 IAMs_20 07 55 12.2
comp=Z,999nm,20.0s
O49A Covington 140.09 324 IAMs_20 IAMs_20 07 53 38.1
comp=Z,1µm,18.0s
X58A Rowland 140.15 314 IAMs_20 IAMs_20 07 45 45.1
comp=Z,2µm,21.0s
MDND Maddock 140.22 345 IAMs_20 IAMs_20 07 54 35.0
comp=Z,1µm,19.0s
Q51A Peebles 140.26 322 IAMs_20 IAMs_20 07 51 41.8
comp=Z,2µm,19.0s
W57A Gilead 140.30 315 IAMs_20 IAMs_20 07 43 49.1
comp=Z,1µm,22.0s
SPMN Marine on St. 140.38 337 IAMs_20 IAMs_20 07 53 11.0
comp=Z,2µm,20.0s
K43A Burlington 140.43 330 IAMs_20 IAMs_20 08 01 05.2
comp=Z,1µm,19.0s
O48B Farmland 140.51 325 IAMs_20 IAMs_20 07 54 51.1
comp=Z,2µm,18.0s
I40A Norwalk 140.57 334 IAMs_20 IAMs_20 07 51 50.4
comp=Z,1µm,19.0s
DGMT Dagmar 140.59 350 IAMs_20 IAMs_20 07 55 43.4
comp=Z,2µm,22.0s
L44A Lake County Fo 140.62 330 IAMs_20 IAMs_20 07 51 12.3
comp=Z,2µm,21.0s
V55A Taylorsville 140.77 317 IAMs_20 IAMs_20 07 52 33.2
comp=Z,1µm,18.0s
ROSC El Rosal 140.82 266 PKP PKPdf 06 46 55.2 +0.5
comp=Z,5.7nm,0.5s,baz=84,slow=4.7,SNR=10
JFWS Jewell Farm 141.17 332 IAMs_20 IAMs_20 07 55 46.6
comp=Z,2µm,19.0s
B08A Colville Reser 141.18 6 IAMs_20 IAMs_20 08 01 18.7
comp=Z,1µm,21.0s
RKT Rikitea 141.20 148 *e*SS SS 07 08 24.5 +0.7
comp=Z,4µm,32.8s
RKT Rikitea 141.20 148 *e*LR LR 07 32 46.0
comp=Z,12µm,26.0s
P48A Milroy 141.20 324 IAMs_20 IAMs_20 07 51 28.4
comp=Z,1µm,20.0s
KMSC Kings Mountain 141.24 316 IAMs_20 IAMs_20 07 43 58.7
comp=Z,2µm,22.0s
S51A Beattyville 141.27 321 IAMs_20 IAMs_20 07 48 57.9
comp=Z,1µm,20.0s
R50A Paris 141.32 322 IAMs_20 IAMs_20 07 53 39.0
comp=Z,1µm,19.0s
NMDO Nuevo Mundo 141.35 291 IAMs_20 IAMs_20 07 46 52.0
comp=Z,2µm,20.0s
NEW Newport 141.47 4 IAMs_20 IAMs_20 08 00 49.2
comp=Z,1µm,21.0s
NHSC New Hope 141.47 312 IAMs_20 IAMs_20 07 45 47.4
comp=Z,2µm,21.0s
SFIN Lafayette 141.50 327 IAMs_20 IAMs_20 07 53 09.9
comp=Z,1µm,19.0s
L42A Oliver, Polo 141.61 331 IAMs_20 IAMs_20 07 55 48.3
comp=Z,2µm,19.0s
I37A Lemond, Waseca 141.62 336 IAMs_20 IAMs_20 07 59 09.1
comp=Z,1µm,18.0s
JSC Jenkinsville 141.65 315 IAMs_20 IAMs_20 07 47 51.7
comp=Z,2µm,21.0s
E28A Huff 141.68 346 IAMs_20 IAMs_20 07 56 50.5
comp=Z,2µm,20.0s
EGMT Eagleton 141.69 356 IAMs_20 IAMs_20 07 58 01.3
comp=Z,1µm,22.0s
PAULI Pauline 141.74 316 IAMs_20 IAMs_20 07 44 34.1
comp=Z,2µm,22.0s
R49A Shelbyville 141.82 323 IAMs_20 IAMs_20 07 55 43.2
comp=Z,980nm,19.0s
TZTN Tazewell 141.91 319 IAMs_20 IAMs_20 07 50 11.0
comp=Z,2µm,20.0s
D05A Enumclaw 141.98 9 IAMs_20 IAMs_20 08 02 34.7
comp=Z,1µm,22.0s
BLO Bloomington 142.02 325 IAMs_20 IAMs_20 07 49 38.1
comp=Z,1µm,20.0s
P46A Rosedale 142.09 326 IAMs_20 IAMs_20 07 52 57.8
comp=Z,2µm,20.0s
L40A Anamosa 142.29 332 IAMs_20 IAMs_20 07 57 08.1
comp=Z,1µm,20.0s
HODGE Hodges 142.37 315 IAMs_20 IAMs_20 07 48 36.8
comp=Z,2µm,20.0s
BG3 Lake Jocassee 142.41 317 IAMs_20 IAMs_20 07 48 17.6
comp=Z,2µm,21.0s
LON Longmire 142.43 9 IAMs_20 IAMs_20 08 03 09.7
comp=Z,1µm,21.0s
D08A Wollman Farm, 142.51 6 IAMs_20 IAMs_20 07 58 24.8
comp=Z,1µm,21.0s
WCI Wyandotte Cave 142.53 324 IAMs_20 IAMs_20 07 50 26.7
comp=Z,1µm,20.0s
LAO LASA Array 142.64 352 IAMs_20 IAMs_20 07 55 05.5
comp=Z,2µm,22.0s
257A Skidaway Islan 142.65 311 IAMs_20 IAMs_20 07 46 53.8
comp=Z,2µm,21.0s
CHIV Chivirico 142.78 290 IAMs_20 IAMs_20 07 43 53.0
comp=Z,2µm,22.0s
MXC Moxie City 142.82 8 IAMs_20 IAMs_20 08 02 52.0
comp=Z,1µm,19.0s
MSO Missoula 143.02 0 IAMs_20 IAMs_20 08 02 58.3
comp=Z,1µm,20.0s
W52A Murphy 143.02 318 IAMs_20 IAMs_20 07 47 49.7
comp=Z,1µm,21.0s
ECSD EROS Data Cent 143.06 339 IAMs_20 IAMs_20 07 58 12.6
comp=Z,2µm,18.0s
E08A Dider Farm, El 143.06 6 IAMs_20 IAMs_20 08 02 30.2
comp=Z,1µm,21.0s
E09A Wood Farm, Sta 143.13 5 IAMs_20 IAMs_20 08 02 13.1
comp=Z,1µm,20.0s
CPCT Cooper Cave 143.20 319 IAMs_20 IAMs_20 07 49 20.2
comp=Z,2µm,22.0s
OLIL Olney 143.21 326 IAMs_20 IAMs_20 07 50 35.4
comp=Z,1µm,22.0s
SCIA State Center 143.29 334 IAMs_20 IAMs_20 07 53 06.5
comp=Z,1µm,19.0s
P43A Skaggs, Pawnee 143.31 328 IAMs_20 IAMs_20 07 47 46.8
comp=Z,1µm,21.0s
U49A Red Boiling Sp 143.34 321 IAMs_20 IAMs_20 07 52 16.6
comp=Z,2µm,19.0s
USIN University of 143.50 325 IAMs_20 IAMs_20 07 51 27.4
comp=Z,1µm,21.0s
GOGA Godfrey 143.66 315 IAMs_20 IAMs_20 07 46 48.1
comp=Z,1µm,21.0s
Y52A Lilburn 143.82 316 IAMs_20 IAMs_20 07 46 51.1
comp=Z,1µm,22.0s
OTAV Otavalo 143.84 257 *e*P PKPbc 06 46 58.2 +0.4
HOOD Mount Hood Mea 143.85 10 IAMs_20 IAMs_20 08 02 37.1
comp=Z,2µm,22.0s
W50A Signal Mountai 143.86 319 IAMs_20 IAMs_20 07 50 00.8
comp=Z,1µm,21.0s
X51A Calhoun 143.95 318 IAMs_20 IAMs_20 07 52 36.3
comp=Z,1µm,20.0s
G06A Carlson Farm, 144.09 9 IAMs_20 IAMs_20 08 01 51.6
comp=Z,1µm,22.0s
MTDJ Mount Denham 144.11 288 IAMs_20 IAMs_20 07 47 11.6
comp=Z,1µm,21.0s
N38A Joes South For 144.21 333 IAMs_20 IAMs_20 07 54 47.9
comp=Z,2µm,20.0s
BOZ Bozeman (W) 144.22 358 IAMs_20 IAMs_20 08 02 14.0
comp=Z,1µm,19.0s
COR Corvallis 144.25 12 IAMs_20 IAMs_20 08 03 54.9
comp=Z,2µm,21.0s
H04D Lebanon 144.43 11 IAMs_20 IAMs_20 08 04 16.5
comp=Z,1µm,20.0s
SLM Saint Louis 144.43 328 IAMs_20 IAMs_20 07 56 45.5
comp=Z,1µm,20.0s
DLMT Dillon 144.48 359 IAMs_20 IAMs_20 08 02 07.9
comp=Z,1µm,20.0s
V48A Smith Brothers 144.48 321 IAMs_20 IAMs_20 07 48 44.9
comp=Z,1µm,22.0s
L34A Svendsen Farm, 144.51 338 IAMs_20 IAMs_20 07 56 34.4
comp=Z,2µm,21.0s
RLMT Red Lodge 144.54 355 IAMs_20 IAMs_20 07 58 09.6
comp=Z,2µm,22.0s
P40A Paris 144.66 331 IAMs_20 IAMs_20 07 49 09.3
comp=Z,1µm,21.0s
PLID Pearl Lake 144.70 3 IAMs_20 IAMs_20 08 04 39.7
comp=Z,1µm,19.0s
YNE Yellowstone No 144.71 356 IAMs_20 IAMs_20 07 58 26.2
comp=Z,2µm,21.0s
WVT Waverly 144.84 322 IAMs_20 IAMs_20 07 52 09.2
comp=Z,2µm,20.0s
BMO Blue Mountains 144.85 5 IAMs_20 IAMs_20 08 00 50.6
comp=Z,1µm,21.0s
I05D Terrebonne, OR 144.86 10 IAMs_20 IAMs_20 08 06 19.8
comp=Z,1µm,18.0s
YHL Hebgen Lake 144.94 357 IAMs_20 IAMs_20 08 03 57.2
comp=Z,1µm,19.0s
K30B Basset 144.98 342 IAMs_20 IAMs_20 08 00 10.4
comp=Z,1µm,18.0s
FVM French Village 145.01 327 IAMs_20 IAMs_20 08 00 45.1
comp=Z,1µm,18.0s
YHB Horse Butte 145.04 357 IAMs_20 IAMs_20 07 58 23.9
comp=Z,1µm,20.0s
I03D Drain, OR 145.09 12 IAMs_20 IAMs_20 08 04 17.2
comp=Z,1µm,22.0s
I04A Tendick Farm, 145.19 11 IAMs_20 IAMs_20 08 03 12.7
comp=Z,1µm,22.0s
P38A Dawn 145.29 332 IAMs_20 IAMs_20 07 54 32.6
comp=Z,1µm,20.0s
UTMT University of 145.31 324 IAMs_20 IAMs_20 07 54 09.3
comp=Z,2µm,20.0s
CCM Cathedral Cave 145.39 328 IAMs_20 IAMs_20 07 51 15.9
comp=Z,1µm,22.0s
Y49A Blount Mountai 145.40 318 IAMs_20 IAMs_20 07 53 08.7
comp=Z,1µm,20.0s
X48A Hartselle 145.44 319 IAMs_20 IAMs_20 07 54 09.6
comp=Z,1µm,20.0s
GLAT Glass 145.61 324 IAMs_20 IAMs_20 07 54 18.3
comp=Z,2µm,20.0s
BGNE Belgrade 145.64 339 IAMs_20 IAMs_20 07 57 44.1
comp=Z,2µm,19.0s
DBO Dodson Butte 145.67 13 IAMs_20 IAMs_20 07 53 26.4
comp=Z,1µm,18.0s
R40A Maddies Statio 145.73 330 IAMs_20 IAMs_20 07 53 11.8
comp=Z,2µm,20.0s
PLAL Pickwick Lake 145.75 321 IAMs_20 IAMs_20 07 51 08.5
comp=Z,1µm,20.0s
J04A Umpqua Nationa 145.78 11 IAMs_20 IAMs_20 08 05 58.4
comp=Z,1µm,19.0s
LNXT Lenox 145.84 324 IAMs_20 IAMs_20 07 54 15.5
comp=Z,2µm,20.0s
HALT Halls 145.89 324 IAMs_20 IAMs_20 07 53 54.7
comp=Z,2µm,20.0s
J05D Fort Rock, OR 145.90 10 IAMs_20 IAMs_20 08 05 49.4
comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 146.05 324 IAMs_20 IAMs_20 07 52 48.9
comp=Z,1µm,20.0s
GNAR Gosnell 146.24 324 IAMs_20 IAMs_20 07 55 41.0
comp=Z,1µm,19.0s
HLID Hailey 146.28 1 IAMs_20 IAMs_20 08 01 05.5
comp=Z,2µm,21.0s
MFID Camas Ranch 146.38 3 IAMs_20 IAMs_20 08 01 14.0
comp=Z,2µm,21.0s
250A Grady 146.42 315 IAMs_20 IAMs_20 07 51 54.0
comp=Z,2µm,20.0s
K22A Casper 146.63 351 IAMs_20 IAMs_20 07 55 24.2
comp=Z,1µm,22.0s
BCIP Isla Barro Col 146.76 272 IAMs_20 IAMs_20 07 48 47.7
comp=Z,934nm,20.0s
MET Memphis--Engin 146.78 323 IAMs_20 IAMs_20 07 59 29.4
comp=Z,1µm,18.0s
HBAR Harrisburg 146.90 325 IAMs_20 IAMs_20 07 51 51.3
comp=Z,1µm,20.0s
BW06 Boulder Array 146.90 355 IAMs_20 IAMs_20 07 58 41.9
comp=Z,2µm,20.0s
PDAR Pinedale Array 146.90 355 PKPbc PKPbc 06 47 05.9 -0.3
comp=Z,36nm,0.8s,baz=61,slow=1.6,SNR=121
PDAR PP PP 06 50 26.9 -2.3
comp=Z,5.6nm,1.2s,baz=102,slow=2.1,SNR=4.5
AHID Auburn Hatcher 147.02 357 IAMs_20 IAMs_20 08 02 04.1
comp=Z,1µm,20.0s
KSU1 Kansas State U 147.06 335 IAMs_20 IAMs_20 07 56 35.0
comp=Z,1µm,19.0s
WVOR Wild Horse Val 147.11 7 IAMs_20 IAMs_20 08 02 58.5
comp=Z,2µm,22.0s
OGNE Ogallala 147.28 344 IAMs_20 IAMs_20 07 57 09.9
comp=Z,1µm,20.0s
Y45A Yeager Farm, C 147.40 321 IAMs_20 IAMs_20 07 58 10.1
comp=Z,2µm,19.0s
BRAL Brewton 147.43 315 IAMs_20 IAMs_20 07 50 56.9
comp=Z,1µm,20.0s
FCAR Ozark Folk Cen 147.47 327 IAMs_20 IAMs_20 07 57 17.3
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 147.71 124 *e*P PKPdf 06 46 58.7 -7.6
comp=Z,100nm,24.1s
TAOE Nuku Hiva Isla 147.71 124 *e*PP PP 06 50 27.9 -7.4
comp=Z,99nm,24.6s
TAOE Nuku Hiva Isla 147.71 124 *e*SS SS 07 09 40.6 0.0
comp=Z,306nm,23.3s
TAOE Nuku Hiva Isla 147.71 124 *e*LR LR 07 35 44.7
comp=Z,2µm,24.1s
146A Union 147.89 319 IAMs_20 IAMs_20 07 49 56.5
comp=Z,2µm,21.0s
WHAR Wooly Hollow 148.01 326 IAMs_20 IAMs_20 07 59 10.5
comp=Z,2µm,21.0s
HHAR Hobbs 148.13 329 IAMs_20 IAMs_20 07 57 01.3
comp=Z,1µm,20.0s
HWUT Hardware Ranch 148.19 357 IAMs_20 IAMs_20 08 06 06.3
comp=Z,2µm,20.0s
UALR University of 148.42 325 IAMs_20 IAMs_20 07 59 00.4
comp=Z,1µm,20.0s
CCAR Cane Creek 148.71 324 IAMs_20 IAMs_20 07 54 43.3
comp=Z,2µm,20.0s
X40A Basin Creek Fa 148.90 326 IAMs_20 IAMs_20 08 00 40.2
comp=Z,935nm,20.0s
346A Big Creek Wild 148.95 317 IAMs_20 IAMs_20 07 57 06.7
comp=Z,1µm,20.0s
VBMS Vicksburg 149.10 320 IAMs_20 IAMs_20 07 54 47.4
comp=Z,2µm,20.0s
KSCO Kaye Shedlock' 149.24 343 IAMs_20 IAMs_20 07 58 22.0
comp=Z,1µm,21.0s
MIAR Mount Ida 149.27 327 IAMs_20 IAMs_20 07 56 44.7
comp=Z,1µm,20.0s
TUL3 Leonard 149.34 331 IAMs_20 IAMs_20 07 55 58.9
comp=Z,1µm,21.0s
BEKR Beckworth 149.37 10 IAMs_20 IAMs_20 08 05 04.4
comp=Z,1µm,20.0s
ORV Oroville 149.46 12 IAMs_20 IAMs_20 08 07 15.6
comp=Z,1µm,20.0s
PAHR Pah Rah Range 149.69 9 IAMs_20 IAMs_20 08 06 04.6
comp=Z,1µm,18.0s
OK052 Battle Ridge R 149.74 332 IAMs_20 IAMs_20 07 52 35.5
comp=Z,1µm,22.0s
OK031 S. Brethren Rd 149.79 332 IAMs_20 IAMs_20 07 56 58.8
comp=Z,1µm,20.0s
Q24A Divide 149.93 347 IAMs_20 IAMs_20 07 57 18.8
comp=Z,1µm,20.0s
AFDM Forest Hills D 150.15 12 IAMs_20 IAMs_20 08 08 53.0
comp=Z,1µm,19.0s
OK029 Liberty Lake 150.20 333 IAMs_20 IAMs_20 07 58 21.5
comp=Z,1µm,21.0s
PNTR Pine Nut 150.26 10 IAMs_20 IAMs_20 08 10 07.8
comp=Z,1µm,20.0s
W35A Tecumseh 150.47 332 IAMs_20 IAMs_20 08 07 28.7
comp=Z,1000nm,22.0s
FNO Franklin 150.62 332 IAMs_20 IAMs_20 08 06 07.8
comp=Z,1µm,18.0s
Q09A Carvers 150.83 6 IAMs_20 IAMs_20 08 08 01.9
comp=Z,2µm,21.0s
SPR3 Spring Creek 3 150.84 1 IAMs_20 IAMs_20 08 10 26.2
comp=Z,2µm,20.0s
WAKR Walker 150.86 10 IAMs_20 IAMs_20 08 06 38.6
comp=Z,1µm,20.0s
LCR2 La Lucha 2 150.89 273 IAMs_20 IAMs_20 08 02 54.3
comp=Z,1µm,21.0s
HDC Heredia 151.01 273 IAMs_20 IAMs_20 07 54 01.3
comp=Z,1µm,19.0s
NVAR Mina Array Bea 151.10 8 PKPbc PKPbc 06 47 15.1 -2.0
comp=Z,18nm,0.7s,baz=275,slow=1.1,SNR=44
NVAR PP PP 06 50 54.4 +0.8
comp=Z,18nm,1.1s,baz=338,slow=3.4,SNR=9.8
ESPN Las Esperanzas 151.19 278 IAMs_20 IAMs_20 07 57 43.1
comp=Z,970nm,19.0s
TCRU Three Creeks R 151.22 358 IAMs_20 IAMs_20 08 06 47.3
comp=Z,1µm,20.0s
PSUT Pine Spring 151.31 1 IAMs_20 IAMs_20 08 04 40.7
comp=Z,1µm,20.0s
WMOK Wichita Mounta 151.67 334 IAMs_20 IAMs_20 07 59 15.5
comp=Z,2µm,20.0s
JTS Las Juntas de 151.84 274 IAMs_20 IAMs_20 07 53 33.5
comp=Z,1µm,19.0s
NATX Nacogdoches 151.94 324 IAMs_20 IAMs_20 07 52 57.9
comp=Z,2µm,22.0s

PKCU Pink Cliffs 152.38 358 IAMs_20 IAMs_20 07 59 22.0
comp=Z,1μm,21.0s
AMTX Amarillo 152.71 338 IAMs_20 IAMs_20 08 09 30.2
comp=Z,1μm,20.0s
KNB Kanab 152.82 359 IAMs_20 IAMs_20 08 00 13.6
comp=Z,1μm,20.0s
LCMT Little Creek M 152.83 359 IAMs_20 IAMs_20 08 04 52.9
comp=Z,1μm,19.0s
FW14 Alvarado 152.84 329 IAMs_20 IAMs_20 08 00 41.0
comp=Z,1μm,20.0s
FW07 Weatherford 152.90 330 IAMs_20 IAMs_20 07 54 52.3
comp=Z,2μm,22.0s
GWY Greenwater Val 153.50 6 IAMs_20 IAMs_20 08 01 43.6
comp=Z,1μm,21.0s
HERN Volcan Telica 153.65 279 IAMs_20 IAMs_20 07 55 43.0
comp=Z,1μm,20.0s
ABTX Abilene, Hawle 153.84 333 IAMs_20 IAMs_20 07 54 43.0
comp=Z,1μm,21.0s
CRIN San Cristobal 153.85 279 IAMs_20 IAMs_20 07 47 50.5
comp=Z,1μm,22.0s
HKT Hockley 153.95 323 IAMs_20 IAMs_20 07 57 24.0
comp=Z,1μm,20.0s
ANMO Albuquerque 154.07 347 IAMs_20 IAMs_20 08 02 33.4
comp=Z,1μm,20.0s
ANMO Albuquerque 154.07 347 IAMs_20 IAMs_20 08 02 33.4
comp=Z,1μm,20.0s
WUAZ Wupatki 154.25 356 IAMs_20 IAMs_20 08 04 34.6
comp=Z,2μm,20.0s
GSC Goldstone, Bar 154.37 6 IAMs_20 IAMs_20 08 03 30.5
comp=Z,1μm,20.0s
Y22D IRIS PASSCAL I 155.01 347 IAMs_20 IAMs_20 08 07 17.4
comp=Z,2μm,20.0s
Y22D IRIS PASSCAL I 155.01 347 P **PKPdf 06 47 16.8 -0.2**
baz=15
X18A Snowflake 155.09 353 IAMs_20 IAMs_20 08 08 28.0
comp=Z,1μm,19.0s
JCT Junction City 155.70 330 IAMs_20 IAMs_20 08 05 21.5
comp=Z,1μm,20.0s
Y14A Wickenburg 155.89 359 IAMs_20 IAMs_20 08 08 07.0
comp=Z,1μm,19.0s
GLA Glamis 156.75 3 IAMs_20 IAMs_20 08 02 01.7
comp=Z,2μm,21.0s
CPBX Cerro Prieto 157.35 4 IAMs_20 IAMs_20 08 03 06.6
comp=Z,1μm,22.0s
TUC Tucson 157.38 354 IAMs_20 IAMs_20 08 07 02.6
comp=Z,1μm,19.0s
TXAR Lajitas Array 158.41 336 PKP **PKPdf 06 47 21.1 -0.4**
comp=Z,2.9nm,1.0s,baz=127,slow=1.2,SNR=20
TXAR PKPab **PKPab 06 47 55.1 -0.6**
comp=Z,40nm,1.1s,baz=56,slow=2.8,SNR=6.8
TXAR PP **PP 06 51 32.6 -2.0**
comp=Z,6.5nm,1.2s,baz=37,slow=3.1,SNR=5.9

*NEIC **30** 06:29:27.8±1.1, 20°.24N±0°.03×155°.79W±0°.03, h35km±2km, Error ellipse: s-maj=5.4km s-min=4.2km az=220.0*
HVO 30 06:29:29.7±1.0, 20°.22N±0°.03×155°.78W±0°.02, h38km±4km, **ML3.7**/55, **ML3.7**/50(NEIC), **Error ellipse: s-maj=4.7km s-min=1.6km az=203.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.12 254**			Pn	06 29 35.6	-6.2
HPAH	**Hawaii Prepara**	**0.21 157**			Pn	06 29 35.8	-3.0
HPAH				IAML		06 29 40.7	
	comp=E,12μm,0.3s						
HPAH				IAML		06 29 40.8	
	comp=N,9μm,0.2s						
POHA	**Pohakuloa**	**0.52 153**			Pn	06 29 39.3	-1.5
POHA				IAML		06 29 46.9	
	comp=N,4μm,0.3s						
POHA	**Pohakuloa**	**0.52 153**			Sn	06 29 46.5	-2.0
HUH	**Hualalai**	**0.54 185**			Pn	06 29 39.9	-1.3
HUH				IAML		06 29 54.0	
	comp=N,5μm,0.2s						
HUH				IAML		06 29 57.4	
	comp=E,5μm,0.4s						
HUH	**Hualalai**	**0.54 185**			Sn	06 29 47.6	-1.5
KKH	**Kailua Kona**	**0.60 202**			Pn	06 29 40.4	-1.5
KKH					Sn	06 29 48.6	-1.8
HMH	**Humu'ula Sheep**	**0.68 155**			Pn	06 29 41.4	-1.7
HMH				IAML		06 29 50.9	
	comp=E,4μm,0.5s						
HMH	**Humu'ula Sheep**	**0.68 155**			Sn	06 29 50.6	-1.9
ALEP	**Alea Permanent**	**0.69 169**			Pn	06 29 41.9	-1.4
ALEP					Sn	06 29 51.1	-1.8
HLK	**Haleakala**	**0.69 321**			Pn	06 29 40.9	-2.3
HLK					Sn	06 29 49.4	-3.4
MLOA	**Mauna Loa Obse**	**0.71 164**			Pn	06 29 42.2	-1.4
CPH	**Captain Cook**	**0.74 190**			Pn	06 29 41.9	-1.7
MWH	**Mokuaweoweo**	**0.75 167**			Sn	06 29 52.0	-2.7
MWH	**Mokuaweoweo**	**0.75 167**			Pn	06 29 42.3	-2.0
MWH				IAML		06 30 03.2	
	comp=E,4μm,0.4s						
MWH				IAML		06 30 05.8	
	comp=N,5μm,0.4s						
MLH	**Mauna Loa**	**0.81 153**			Sn	06 29 53.3	-2.6
MLH	**Mauna Loa**	**0.81 153**			Pn	06 29 43.2	-1.7
MLH				IAML		06 29 53.5	
	comp=E,4μm,0.4s						
RSD	**Rainshed**	**0.89 148**			Pn	06 29 42.9	-3.0
RSD	**Rainshed**	**0.89 148**			Sn	06 29 54.9	-2.7
KHLH	**Kahului Airpor**	**0.90 318**			Pn	06 29 44.5	-1.4
KHLH	**Kahului Airpor**	**0.90 318**			Sn	06 29 55.5	-2.2
UWE	**Uwekahuna**	**0.92 150**			Pn	06 29 44.3	-2.0
UWE	**Uwekahuna**	**0.92 150**			Sn	06 29 55.3	-3.0
UWB	**Uwekahuna Bluf**	**0.92 149**			Pn	06 29 44.3	-2.0
UWB					Sn	06 29 55.1	-3.3
SBLHI	**Steaming Bluff**	**0.93 148**			Pn	06 29 44.3	-2.0
SBLHI					Sn	06 29 55.1	-3.3
OBL	**Observatory Le**	**0.93 149**			Pn	06 29 44.4	-1.9
OBL					Sn	06 29 55.4	-3.1
WRMHI	**West Rim**	**0.93 151**			Pn	06 29 44.4	-2.0
WRMHI					Sn	06 29 55.2	-3.3
HATHI	**Halema'uma'u T**	**0.93 148**			Sn	06 29 55.0	-3.6
HATHI	**Halema'uma'u T**	**0.93 148**			Pn	06 29 44.2	-2.2
HATHI				IAML		06 29 56.3	
	comp=E,2μm,0.3s						
HATHI				IAML		06 29 59.8	
	comp=N,2μm,0.2s						
BYL	**Byron's Ledge**	**0.94 148**			Pn	06 29 44.6	-1.9
BYL				IAML		06 29 56.3	
	comp=N,2μm,0.4s						
BYL				IAML		06 29 56.4	
	comp=E,2μm,0.2s						
BYL	**Byron's Ledge**	**0.94 148**			Sn	06 29 55.5	-3.3
SDHHI	**Sand Hill**	**0.95 151**			Pn	06 29 44.6	-2.0
SDHHI					Sn	06 29 55.7	-3.3
RIM	**Rim**	**0.95 150**			Pn	06 29 44.7	-1.9
RIM					Sn	06 29 56.4	-2.7
KKO	**Keanakako'i**	**0.95 149**			Pn	06 29 44.8	-1.9
KKO					Sn	06 29 56.0	-3.1
KHU	**Kahuku**	**0.98 171**			Sn	06 29 56.7	-3.2
KHU	**Kahuku**	**0.98 171**			Pn	06 29 45.0	-2.2
KHU				IAML		06 29 57.3	
	comp=E,2μm,0.4s						
PUH	**Pauahi**	**1.00 148**			Pn	06 29 45.3	-1.9
PUH				IAML		06 29 57.9	
	comp=E,2μm,0.2s						
PUH	**Pauahi**	**1.00 148**			Sn	06 29 57.1	-3.0
KNHH	**Kane Nui o Ham**	**1.02 145**			Pn	06 29 45.6	-1.9
HLP	**Hilina Pali**	**1.02 154**			Pn	06 29 45.7	-1.9
HLP	**Hilina Pali**	**1.02 154**			Sn	06 29 57.6	-3.1
STCH	**Steam Cracks**	**1.04 143**			Pn	06 29 45.6	-2.1
STCH	**Steam Cracks**	**1.04 143**			Sn	06 29 57.7	-3.4
NPOC	**North of Pu'u**	**1.04 142**			Pn	06 29 45.8	-2.0
NPOC					Sn	06 29 57.8	-3.3
HTC	**Hot Caves**	**1.04 160**			Pn	06 29 46.0	-1.8
JCUZ	**Jacuzzi**	**1.05 142**			Pn	06 29 45.9	-2.0
JCUZ					Sn	06 29 58.5	-2.9
JOKA	**Jonika Flow**	**1.07 137**			Sn	06 29 58.8	-3.0
JOKA	**Jonika Flow**	**1.07 137**			Pn	06 29 46.1	-2.1
JOKA				IAML		06 30 09.7	
	comp=E,1μm,0.6s						
JOKA				IAML		06 30 12.4	
	comp=N,2μm,0.7s						
HPO	**Honuapo**	**1.15 169**			Pn	06 29 47.2	-2.0
HPO	**Honuapo**	**1.15 169**			Sn	06 30 00.5	-3.2
WMR	**Waimanalo Ridg**	**2.09 302**			Pn	06 29 59.9	-2.2
DHH	**Diamond Head**	**2.15 299**	Pn		Pn	06 30 00.5	-2.6
HON	**Honolulu**	**2.35 298**			Pn	06 30 03.4	-2.3
KIP	**Kipapa**	**2.41 300**			Pn	06 30 04.1	-2.4
KIP				IAML		06 30 32.4	
	comp=N,376nm,0.8s						
KIP				IAML		06 30 32.4	
	comp=N,337nm,0.8s						
KIP	**Kipapa**	**2.41 300**			Sn	06 30 31.0	-3.7
OPA	**Opana**	**2.54 305**			Pn	06 30 06.6	-1.8
OPA					Sn	06 30 33.0	-5.1
KEKH	**Kekaha**	**4.07 296**			Sn	06 31 10.0	-5.7
KEKH	**Kekaha**	**4.07 296**	Pn	Pn	Pn	06 30 26.4	-3.0

*IDC **30** 06:41:00.8±1.4, 24°.10S×66°.97W, h171km±12km, mb3.8/12, mbtmp4.3/18, Error ellipse: s-maj=13.6km s-min=10.1km az=92.0*
*NEIC **30** 06:41:01.2±2.4, 24°.19S±0°.06×67°.1W±0°.1, h186km±8km, mb4.7/21, Error ellipse: s-maj=16.2km s-min=9.1km az=93.0*
*SJA **30** 06:41:01.1±1.2, 24°.17S×67°.13W, h191km±7km, ML4.2, MW4.1*
*RSNC **30** 06:41:01.0±0.0, 24°.19S×67°.07W, h184km, M4.8, mb4.8, mB5.3, ML2.6, Mw(mB)4.6, MwMwp5.1, Mwp5.4*
*GUC **30** 06:41:02.9±0.7, 24°.25S×67°.07W, h182km±6km, ML4.5*
*VAO **30** 06:41:03.3±0.4, 24°.11S×66°.92W, h205km±3km, mb4.4*
ISC 30 06:41:01.1±0.5, **24°.15S**±0°.03×**67°.12W**±0°.04, **h183**km±5km, **n166,** σ1§**40**/197, **mb4.6**/20, **15C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.72**	**96**	*i* P	**Pn**	**06 41 29.6**	**+1.7**
SALTA				*i* S	**Sn**	**06 41 49.4**	**+1.0**
SALTA		**0.72**	**96**	*i* P	**Pn**	**06 41 29.5**	**+1.7**
SALTA				*i* S	**Sn**	**06 41 49.4**	**+1.0**
AF01	**San Pedro de A**	**1.54 321**			**Pn**	**06 41 36.6**	**+2.7**
AF01	**San Pedro de A**	**1.54 321**		⇑*i* P	**Pn**	**06 41 36.6**	**+2.7**
AF01				*i* S	**Sn**	**06 41 56.7**	**-2.6**
AF01				IAML		06 42 05.6	
	comp=N,2μm,0.7s						
AF01	**San Pedro de A**	**1.54 321**		*i* P	**Pn**	**06 41 36.6**	**+2.7**
AF01				IAML		06 42 25.2	
	comp=Z,1μm,0.8s						
SLA	**San Lorenzo**	**1.58 111**		*i* P	**Pn**	**06 41 35.8**	**+1.6**
SLA				*i* S	**Sn**	**06 42 01.3**	**+1.4**
SLA				IAML		06 42 03.1	
	comp=Z,477nm,0.8s						
FSA	**Cafayete**	**2.21 152**		*i* P	**Pn**	**06 41 42.2**	**+1.4**
FSA				*i* S	**Sn**	**06 42 11.9**	**+0.1**
GO02	**Mina Guanaco**	**2.46 245**			**Pn**	**06 41 45.2**	**+1.5**
GO02	**Mina Guanaco**	**2.46 245**		⇑*i* P	**Pn**	**06 41 45.7**	**+1.9**
GO02				*i* S	**Sn**	**06 42 19.1**	**+2.2**
GO02	**Mina Guanaco**	**2.46 245**		*i* P	**Pn**	**06 41 45.7**	**+1.9**
GO02				*i* S	**Sn**	**06 42 19.2**	**+2.2**
YJA	**Yavi**	**2.46**	**37**	*i* P	**Pn**	**06 41 45.7**	**+1.8**
YJA				*i* S	**Sn**	**06 42 18.1**	**+0.8**
PB06	**IPOC Station P**	**2.67 302**		⇑*i* P	**Pn**	**06 41 48.1**	**+2.0**
PB06				*i* S	**Sn**	**06 42 21.9**	**+0.9**
PB06	**IPOC Station P**	**2.67 302**		*i* P	**Pn**	**06 41 48.1**	**+2.0**
PB06				IAML		06 42 25.9	
	comp=Z,2μm,0.6s						
PB14	**IPOC Station P**	**3.03 260**			**Pn**	**06 41 51.9**	**+1.4**
PB14	**IPOC Station P**	**3.03 260**		⇑*i* P	**Pn**	**06 41 51.8**	**+1.2**
PB14				*i* S	**Sn**	**06 42 29.2**	**+0.2**
PB14				IAML		06 42 31.1	
	comp=E,694nm,0.4s						
PB14	**IPOC Station P**	**3.03 260**		*i* P	**Pn**	**06 41 51.7**	**+1.2**
PB14				*i* S	**Sn**	**06 42 29.5**	**+0.6**
PB14				IAML		06 42 32.4	
	comp=Z,874nm,0.5s						
PB09	**IPOC Station P**	**3.05 320**			**Pn**	**06 41 52.3**	**+1.7**
PB09	**IPOC Station P**	**3.05 320**		⇑*i* P	**Pn**	**06 41 52.8**	**+2.2**
PB09				*i* S	**Sn**	**06 42 30.8**	**+1.5**
PB09				IAML		06 42 32.8	
	comp=N,907nm,0.4s						
PB09	**IPOC Station P**	**3.05 320**		*i* P	**Pn**	**06 41 52.5**	**+1.9**
PB09				IAML		06 42 36.0	
	comp=Z,788nm,0.4s						
PB05	**IPOC Station P**	**3.11 294**			**Pn**	**06 41 52.2**	**+0.9**
PB05	**IPOC Station P**	**3.11 294**		⇑*i* P	**Pn**	**06 41 52.6**	**+1.3**
PB05				*i* S	**Sn**	**06 42 29.8**	**-0.5**
PB05				IAML		06 42 36.0	
	comp=N,1μm,0.4s						
PB05	**IPOC Station P**	**3.11 294**		*i* P	**Pn**	**06 41 52.5**	**+1.3**
PB05				*i* S	**Sn**	**06 42 30.3**	**-0.1**
PB05				IAML		06 42 37.6	
	comp=Z,618nm,1.1s						
AC02	**Maricunga**	**3.23 214**			**Pn**	**06 41 54.5**	**+1.4**
AC02	**Maricunga**	**3.23 214**		⇑*i* P	**Pn**	**06 41 54.9**	**+1.8**
AC02				*i* S	**Sn**	**06 42 35.2**	**+1.4**
AC02				IAML		06 42 45.5	
	comp=N,239nm,0.2s						
AC02	**Maricunga**	**3.23 214**		⇓*i* P	**Pn**	**06 41 54.9**	**+1.8**
AC02				IAML		06 42 44.0	
	comp=Z,146nm,0.3s						
AC01	**Pan de Azucar**	**3.73 237**			**Pn**	**06 41 59.0**	**+0.3**
AC01	**Pan de Azucar**	**3.73 237**		⇑*i* P	**Pn**	**06 41 59.0**	**+0.3**
AC01	**Pan de Azucar**	**3.73 237**		*i* P	**Pn**	**06 41 59.1**	**+0.3**
AC01				*i* S	**Sn**	**06 42 42.7**	**-1.3**
AC01				IAML		06 42 43.3	
	comp=Z,456nm,0.3s						
PB01	**IPOC Station P**	**3.79 324**			**Pn**	**06 42 00.1**	**+0.5**
PB01	**IPOC Station P**	**3.79 324**		⇑*i* P	**Pn**	**06 42 00.4**	**+0.8**
PB01				*i* S	**Sn**	**06 42 44.6**	**-0.9**
PB01	**IPOC Station P**	**3.79 324**		*i* P	**Pn**	**06 42 00.5**	**+0.8**
PB01				*i* S	**Sn**	**06 42 45.0**	**-0.5**
AC06	**Mina Casimiro**	**4.32 222**	Pn	Pn	**Pn**	**06 42 06.3**	**-0.1**
AC06	**Mina Casimiro**	**4.32 222**	*eP*	Pn	**Pn**	**06 42 06.2**	**-0.1**
AC06			*eS*		**Sn**	**06 42 54.5**	**-3.1**
PB08	**IPOC Station P**	**4.41 334**			**Pn**	**06 42 09.1**	**+1.2**
PB08	**IPOC Station P**	**4.41 334**		*i* P	**Pn**	**06 42 09.4**	**+1.5**
PB08				IAML		06 43 07.2	
	comp=Z,231nm,0.5s						
GO03	**Copiapo**	**4.43 219**			**Pn**	**06 42 07.8**	**0.0**
GO03	**Copiapo**	**4.43 219**	*eP*		**Pn**	**06 42 07.5**	**-0.2**
GO03	**Copiapo**	**4.43 219**	*i* P		**Pn**	**06 42 07.6**	**-0.2**
GO03			*i* S		**Sn**	**06 42 58.2**	**-1.9**
CYA	**Choya**	**4.44 165**	*i* P		**Pn**	**06 42 08.9**	**+1.1**
TA01	**Diego Aracena**	**4.55 321**	Pn	Pn	**Pn**	**06 42 09.5**	**+0.2**
TA01	**Diego Aracena**	**4.55 321**	*i* P		**Pn**	**06 42 09.8**	**+0.4**
TA01				IAML		06 43 06.6	
	comp=Z,226nm,0.6s						
VCA	**Vinchina**	**4.67 192**	*i* P		**Pn**	**06 42 13.7**	**+2.8**
VCA				IAML		06 43 29.2	
	comp=Z,55nm,1.4s						
TA02	**Huaiquique**	**4.76 324**			**Pn**	**06 42 11.7**	**-0.3**
PB11	**IPOC Station P**	**4.96 331**	Pn	Pn	**Pn**	**06 42 14.5**	**-0.3**
PB11	**IPOC Station P**	**4.96 331**	*i* P		**Pn**	**06 42 14.4**	**-0.4**
PB11				IAML		06 43 15.2	
	comp=Z,195nm,0.9s						
ACLC	**CERRO LA CRUZ**	**5.26 178**	*i* P		**Pn**	**06 42 18.9**	**+0.4**
ACLC			*i* S		**Sn**	**06 43 18.2**	**-1.4**
AC04	**Llanos de Chal**	**5.38 220**	Pn	Pn	**Pn**	**06 42 18.5**	**-1.4**
AC04	**Llanos de Chal**	**5.38 220**	*i* P		**Pn**	**06 42 19.1**	**-0.9**
AC04			*i* S		**Sn**	**06 43 19.8**	**-2.3**
AC04				IAML		06 43 20.4	
	comp=Z,159nm,1.3s						
AC05	**El Transito**	**5.46 210**	Pn	Pn	**Pn**	**06 42 21.0**	**-0.1**
AC05	**El Transito**	**5.46 210**	*i* P		**Pn**	**06 42 21.0**	**-0.1**
AC05				IAML		06 43 30.8	
	comp=Z,131nm,0.5s						
LCO	**Las Campanas**	**5.80 213**			**Pn**	**06 42 24.6**	**-1.2**
PB12	**IPOC Station P**	**6.26 331**	Pn	Pn	**Pn**	**06 42 30.6**	**-1.1**
CO01	**Juntas del Tor**	**6.38 204**			**Pn**	**06 42 34.4**	**+1.1**
GO04	**Tololo Observa**	**6.83 208**			**Pn**	**06 42 38.0**	**-1.2**
PB18	**Visviri**	**6.89 341**			**Pn**	**06 42 39.1**	**-1.2**
CO03	**El Pedregal**	**7.38 205**	Pn	Pn	**Pn**	**06 42 44.7**	**-1.5**
CFA	**Coronel Fontan**	**7.49 187**	P		**Pn**	**06 42 46.8**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=10,slow=12,SNR=56						
CFA				S	**Sn**	**06 44 06.6**	**-5.5**
	comp=Z,4.9nm,0.3s,baz=106,slow=18,SNR=9.4						
ZON	**Zonda**	**7.50 190**			**Pn**	**06 42 46.7**	**-1.1**
CO06	**Fray Jorge**	**7.63 211**	Pn	Pn	**Pn**	**06 42 47.9**	**-1.6**
LPAZ	**La Paz**	**7.88 353**	Pn	Pn	**Pn**	**06 42 53.5**	**+0.1**
LPAZ	**La Paz**	**7.88 353**	P		**Pn**	**06 42 53.4**	**0.0**
	comp=Z,14nm,0.4s,baz=161,slow=9.3,SNR=108						
LPAZ				S	**Sn**	**06 44 20.0**	**-2.3**
	comp=Z,16nm,0.8s,baz=127,slow=5.1,SNR=5.2						
LPAZ	**La Paz**	**7.88 353**	*eP*		**Pn**	**06 42 53.9**	**+0.5**
VA03	**San Esteban**	**9.10 199**			**Pn**	**06 43 06.9**	**-1.9**
CPUP	**Villa Florida**	**9.13 106**			**Pn**	**06 43 06.6**	**-2.5**
CPUP	**Villa Florida**	**9.13 106**	P	Pn	**Pn**	**06 43 08.1**	**-1.1**
	comp=Z,9.4nm,0.9s,baz=292,slow=12,SNR=19						
MT08	**Bocatoma Ro**	**9.60 195**			**Pn**	**06 43 15.0**	**-0.6**
MT02	**Curacav**	**9.73 200**	Pn	Pn	**Pn**	**06 43 14.1**	**-2.9**
MT03	**Universidad Ad**	**9.77 197**			**Pn**	**06 43 16.6**	**-1.0**
SIV	**San Ignacio**	**9.91**	**36**	P	**Pn**	**06 43 17.6**	**-1.9**
	comp=Z,13nm,0.5s,baz=214,slow=10,SNR=105						
SIV				S	Sn	06 44 57.6	-12
	comp=Z,5.5nm,0.9s,baz=207,slow=15,SNR=4.4						
MT13	**San Alfonso**	**9.95 195**			**Pn**	**06 43 21.1**	**+1.1**
LMEL	**Las Melosas**	**10.03 195**			**Pn**	**06 43 21.9**	**+0.8**
SJPY	**San Joaquin**	**10.07**	**97**	*eP*	**Pn**	**06 43 19.7**	**-1.8**
BO04	**La Punta**	**10.27 196**	Pn	Pn	**Pn**	**06 43 23.9**	**-0.2**
MT01	**Popeta**	**10.33 200**	Pn	Pn	**Pn**	**06 43 23.2**	**-1.6**
BO01	**Tunca**	**10.78 198**	Pn	Pn	**Pn**	**06 43 28.2**	**-2.3**
BO02	**Sierra Bellavi**	**11.07 196**	Pn	Pn	**Pn**	**06 43 33.1**	**-1.4**
AQDB	**Aquidauana**	**11.19**	**73**	Pn	**Pn**	**06 43 34.8**	**-1.2**
AQDB	**Aquidauana**	**11.19**	**73**	*eP*	**Pn**	**06 43 33.9**	**-2.2**
AMBA	**Amambai (Brazi**	**11.20**	**86**	*eP*	**Pn**	**06 43 34.1**	**-2.1**
PTLB	**Pontes e Lacer**	**11.46**	**42**	Pn	**Pn**	**06 43 37.4**	**-2.2**
PTLB	**Pontes e Lacer**	**11.46**	**42**	*eP*	**Pn**	**06 43 37.7**	**-1.9**
ML02	**Panimavida**	**12.16 197**		P	**Pn**	**06 43 47.1**	**-1.2**
VILB	**Vilhena**	**12.92**	**32**	Pn	**Pn**	**06 43 55.5**	**-2.8**
VILB	**Vilhena**	**12.92**	**32**	*eP*	**Pn**	**06 43 58.4**	**+0.1**
RPRD	**Ribas do Rio P**	**12.95**	**76**	*eP*	**Pn**	**06 43 58.4**	**-0.2**
BI02	**San Fabin de**	**12.97 195**		Pn	**Pn**	**06 43 57.3**	**-1.5**
SALV	**Santo Antonio**	**13.51**	**55**	*eP*	**Pn**	**06 44 04.0**	**-1.6**
CPSB	**Cacapava Do Su**	**13.67 120**		*eP*	**Pn**	**06 44 06.5**	**-1.0**
PTGB	**Pitanga**	**13.73**	**95**	*eP*	**P**	**06 44 10.0**	**-1.1**
PLTB	**Pedras Altas**	**14.14 125**		Pn	**Pn**	**06 44 11.3**	**-2.2**
PLTB	**Pedras Altas**	**14.14 125**		*eP*	**Pn**	**06 44 11.6**	**-1.9**
C2SB	**Chapadao do Su**	**14.33**	**71**	*eP*	**Pn**	**06 44 16.5**	**+0.6**
TRQA	**Tornquist**	**14.54 164**		Pn	**Pn**	**06 44 16.5**	**-1.8**
LDASE	**Londrina, Braz**	**14.68**	**90**	*eP*	**Pn**	**06 44 19.1**	**-1.1**
PDRB	**Porto dos Gac**	**15.90**	**40**	*eP*	**Pn**	**06 44 33.4**	**-1.8**
FRTB	**Fartura**	**16.10**	**91**	*eP*	**P**	**06 44 36.9**	**-0.4**
ITRB	**Iturama**	**16.17**	**77**	*eP*	**Pn**	**06 44 39.0**	**+0.6**
LR05	**Currie**	**16.55 193**		P	**Pn**	**06 44 42.6**	**-0.2**
LR05				IAmb	IAmb	06 44 46.1	
	comp=Z,29nm,0.9s						
ARAG	**Araguaiana, MT**	**16.66**	**63**	*eP*	**Pn**	**06 44 44.0**	**-0.3**
PLCA	**Paso Flores**	**16.79 189**		P	**P**	**06 44 44.8**	**+0.1**
PLCA	**Paso Flores**	**16.79 189**		P	**Pn**	**06 44 45.8**	**+0.1**
	comp=Z,5.3nm,0.7s,baz=9.4,slow=13,SNR=22						
PLCA				S	**Sn**	**06 47 54.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=320,slow=7.9,SNR=1.3						
PLCA	**Paso Flores**	**16.79 189**		*eP*	**Pn**	**06 44 45.8**	**+0.1**
CLDB	**Colider**	**17.04**	**41**	*eP*	**P**	**06 44 46.7**	**-1.0**
LL03	**Petrohue**	**17.51 193**		P	**P**	**06 44 51.3**	**-1.3**
VAO	**Valinhos**	**18.52**	**91**	P	**P**	**06 45 02.3**	**-1.5**
VAO	**Valinhos**	**18.52**	**91**	*eP*	**P**	**06 45 02.5**	**-1.4**
IPMB	**Ipameri, GO**	**18.68**	**74**	*eP*	**P**	**06 45 05.1**	**-0.5**
LL01	**San Ignacio de**	**18.70 192**		P	**P**	**06 45 05.9**	**+0.3**
LL01				IAmb	IAmb	06 45 11.3	
	comp=Z,24nm,0.6s						
SNDB	**Serra Nova Dou**	**19.29**	**54**	*eP*	**P**	**06 45 11.0**	**-1.2**
LL02	**Futaleuf**	**19.39 190**		P	**P**	**06 45 13.5**	**+0.5**
LL02				IAmb	IAmb	06 45 17.9	
	comp=Z,40nm,0.9s						
GO07	**Milladeo Hill,**	**19.67 194**		P	**P**	**06 45 15.6**	**-0.4**
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**06 45 16.6**	**-1.7**
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**06 45 17.2**	**-1.0**
	comp=Z,59nm,0.7s,baz=242,slow=11,SNR=82						
BDFB				S	**S**	**06 48 50.6**	**-1.3**
	comp=Z,3.7nm,1.0s,baz=270,slow=20,SNR=2.4						
PMNB	**Patos De Minas**	**20.05**	**78**	*eP*	**P**	**06 45 19.5**	**-1.0**
TEFE	**Tefe**	**20.66**	**7**	*eP*	**P**	**06 45 26.4**	**-0.4**
COYC	**Coyhaique**	**21.75 189**		P	**P**	**06 45 37.3**	**-0.7**
COYC				IAmb	IAmb	06 45 39.1	
	comp=Z,19nm,1.0s						
ITTB	**Itaituba**	**22.52**	**31**	*eP*	**P**	**06 45 44.1**	**-1.6**
ITTB				*ep*	**pP**	**06 46 17.8**	**-1.6**
JANB	**Januaria**	**23.29**	**71**	*eP*	**P**	**06 45 51.1**	**-1.7**
JANB				*ep*	**pP**	**06 46 28.9**	**+1.4**
SDBA	**SAO DESIDERIO**	**24.07**	**65**	*eP*	**P**	**06 45 58.0**	**-1.9**
BOAV	**Boa Vista**	**27.16**	**15**	P	**P**	**06 46 27.6**	**+0.1**
BOAV				IAmb	IAmb	06 46 37.2	
	comp=Z,23nm,1.1s						
BOAV	**Boa Vista**	**27.16**	**15**	*eP*	**P**	**06 46 27.6**	**+0.1**
BELA	**Belgrano 2**	**55.91 172**		P	**P**	**06 50 19.9**	**+0.4**
VNA3	**Neumayer Olymp**	**57.05 161**		⇑P	**P**	**06 50 28.6**	**+1.0**
	comp=Z,12nm,0.7s						
VNA1	**Neumayer--Stat**	**57.25 160**		⇑P	**P**	**06 50 30.6**	**+1.6**
	comp=Z,11nm,0.9s						
VNA2	**Neumayer--Watz**	**57.62 160**	

comp=Z,0.9nm,0.6s,baz=295,slow=4.2,SNR=3.8
ZALV Zalesovo Beam 143.58 28 PKP **PKPdf 07 00 12.7 -1.0**
comp=Z,4.9nm,0.6s,baz=297,slow=4.2,SNR=22
MKAR Makanchi Array 146.71 40 PKPbc **PKPbc 07 00 20.8 -0.6**
comp=Z,9.3nm,0.8s,baz=302,slow=1.3,SNR=57
SONM Songino Array 155.81 11 PKP **PKPdf 07 00 34.9 +1.7**
comp=Z,0.3nm,0.3s,baz=5.0,slow=3.3,SNR=2.5
SONM PKPab **PKPab 07 01 01.6 +0.9**
comp=Z,0.4nm,0.3s,baz=331,slow=3.2,SNR=2.9
CMAR Chiang Mai Arr 165.84 111 PKPab **PKPab 07 01 45.2 -0.1**
comp=Z,0.9nm,0.3s,baz=259,slow=5.2,SNR=5.8

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*IDC **30** 06:54:23.8±3.9, 18°.83N×107°.76W, h0km, mb3.1/4, mbtmp3.3/7, ML3.5/3, MS3.6/2, Error ellipse: s-maj=71.2km s-min=39.1km az=29.0*
*MEX **30** 06:54:28.8±0.9, 19°.05N×107°.47W, h10km, MD4.3*
ISC 30 06:54:26.5±1.8, 18°.9N±0°.2×107°.48W±0°.09, h16km, n16, σ1s37/23, mb3.0/4, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.38**	**75**	*e*P	**Pn**	**06 55 03.0**	**-1.9**
CJM				*e*S	**Sn**	**06 55 31.1**	**-2.7**
CDAR	**Ciudad de Arme**	**3.28**	**88**	*e*P	**Pn**	**06 55 15.8**	**-1.5**
CDAR				*e*S	**Sn**	**06 55 55.0**	**-0.9**
CEGR	**Campo Tres**	**3.46**	**81**	*i* P	**Pn**	**06 55 19.4**	**-0.5**
CEGR				*e*S	**Sn**	**06 56 00.6**	**-0.1**
ANIG	**Ahuacatlan**	**3.52**	**52**	*e*P	**Pn**	**06 55 20.2**	**-0.5**
ANIG				*e*S	**Sn**	**06 56 02.0**	**-0.1**
SOMAC	**Volcano de Col**	**3.69**	**79**	*e*P	**Pn**	**06 55 23.6**	**+0.3**
SOMAC				*e*S	**Sn**	**06 56 07.9**	**+1.3**
MNGA	**Volcan de Coli**	**3.69**	**80**	*e*P	**Pn**	**06 55 23.4**	**+0.3**
MNGA				*e*S	**Sn**	**06 56 07.9**	**+1.4**
EZ5V		**3.71**	**80**	*e*P	**Pn**	**06 55 23.9**	**+0.5**
EZ5V				*e*S	**Sn**	**06 56 08.1**	**+1.1**
INCO	**Volcan de Coli**	**3.72**	**79**	*e*P	**Pn**	**06 55 23.9**	**+0.3**
INCO				*e*S	**Sn**	**06 56 04.9**	**-2.4**
LPIG	**La Paz**	**5.83**	**334**	LR	LR	06 57 37.8	
	comp=Z,629nm,21.1s,baz=171,slow=34						
TXAR	**Lajitas Array**	**10.97**	**18**	Pn	**Pn**	**06 57 04.5**	**+1.5**
	0.1nm,0.3s,baz=197,slow=12,SNR=9.3 1.4nm,0.7s						
CMIG	**Matias Romero**	**12.11**	**96**	Pn	**Pn**	**06 57 21.1**	**+2.6**
	0.6nm,0.3s,baz=277,slow=11,SNR=6.5 2.1nm,0.3s						
ANMO	**Albuquerque**	**16.03**	**3**	Pn	**Pn**	**06 58 11.7**	**+0.1**
	baz=212,slow=15,SNR=8.1 0.5nm,0.8s						
NVAR	**Mina Array Bea**	**21.64**	**336**	P	**P**	**06 59 15.2**	**-1.3**
	0.9nm,0.8s,baz=151,slow=9.7,SNR=5.9						
NVAR				LR	LR	07 07 03.5	
	comp=Z,160nm,18.6s,baz=174,slow=35 0.9nm,0.8s						
PDAR	**Pinedale Array**	**23.88**	**356**	P	**P**	**06 59 40.4**	**+0.8**
	0.1nm,0.4s,baz=202,slow=8.1,SNR=2.2 0.1nm,0.4s						
YKA	**Yellowknife Ar**	**43.86**	**355**	P	**P**	**07 02 32.3**	**+0.5**
	0.1nm,0.7s,baz=185,slow=8.0,SNR=2.3 0.1nm,0.7s						
ILAR	**Eielson Array**	**52.84**	**340**	P	**P**	**07 03 40.1**	**-0.9**
	0.7nm,0.8s,baz=156,slow=7.2,SNR=9.7 0.7nm,0.8s						

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*NOU **30** 07:09:20.9, 21°.19S×178°.99W, h617km, mb5.0/96, Fiji Islands Region*
*MOS **30** 07:09:20.5±1.0, 21°.04S×179°.09W, h616km, mb4.7/19, Error ellipse: s-maj=11.9km s-min=9.6km az=101.1*
*IDC **30** 07:09:21.7±0.8, 21°.10S×179°.16W, h618km±8km, mb4.2/29, mbtmp5.1/31, Error ellipse: s-maj=10.0km s-min=8.5km az=142.0*
*NEIC **30** 07:09:21.4±1.9, 21°.2S±0°.1×179°.0W±0°.1, h617km±8km, mb4.8/116, Error ellipse: s-maj=15.1km s-min=13.7km az=152.0*
*BJI **30** 07:09:22.7, 20°.50S×178°.83W, h631km, mB5.1/4, mb5.0/37*
ISC 30 07:09:21.2±0.4, 21°.18S±0°.04×179°.05W±0°.05, h616km±4km, h617km:pP-P, n962, σ1s04/1028, mb4.9/163, 74C-48D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.94**	**4**	P	**P**	**07 10 41.5**	**-0.1**
MSVF	**Nonsavu**	**4.38**	**321**	P	**P**	**07 10 50.8**	**0.0**
	1μm,0.7s,baz=154,slow=4.3,SNR=986						
MSVF				S	**S**	**07 12 05.6**	**+1.9**
	113nm,1.0s,baz=255,slow=22,SNR=0.7						
MSVF	**Nonsavu**	**4.38**	**321**	P	**P**	**07 10 51.2**	**+0.4**
MSVF	**Nonsavu**	**4.38**	**321**	*i* P	**P**	**07 10 51.1**	**+0.3**
TAVE	**Taveuni**	**4.52**	**350**	P	**P**	**07 10 51.6**	**-0.1**
DGTI	**Dogotuki**	**4.99**	**347**	P	**P**	**07 10 54.6**	**-0.6**
FUTU	**Fugatoga**	**6.89**	**8**		**P**	**07 11 10.3**	**-0.8**
FUTU	**Fugatoga**	**6.89**	**8**	P	**P**	**07 11 11.0**	**-0.2**
RIZ	**Raoul Island**	**8.10**	**173**	S	**S**	**07 12 59.7**	**-1.1**
GLKZ	**Green Lake**	**8.11**	**173**	P	**P**	**07 11 21.2**	**-0.8**
GLKZ				S	**S**	**07 12 58.6**	**-2.5**
NIUE	**Niue**	**8.82**	**78**	P	**P**	**07 11 27.6**	**-1.4**
NIUE	**Niue**	**8.82**	**78**	P	**P**	**07 11 27.8**	**-1.2**
	comp=Z,580nm,1.0s						
NIUE	**Niue**	**8.82**	**78**	P	**P**	**07 11 28.0**	**-1.0**
AFI	**Afiamalu**	**10.02**	**45**	P	**P**	**07 11 37.2**	**-3.6**
AFI	**Afiamalu**	**10.02**	**45**	P	**P**	**07 11 37.2**	**-3.6**
MARNC	**Mare, Loyalty**	**12.04**	**266**	P	**P**	**07 12 01.3**	**+0.9**
DVP	**Devils Point**	**12.52**	**284**	P	**P**	**07 12 05.5**	**+0.4**
PINNC	**Pines Island,**	**12.62**	**261**	P	**P**	**07 12 06.5**	**+0.5**
YATNC	**Mamie plateau,**	**13.10**	**264**	P	**P**	**07 12 11.0**	**+0.1**
ONTNC	**Ouen Toro**	**13.52**	**263**	P	**P**	**07 12 14.4**	**-0.6**
DZM	**Mont Dzumac**	**13.52**	**264**	P	**P**	**07 12 14.7**	**-0.4**
DZM	**Mont Dzumac**	**13.52**	**264**	P	**P**	**07 12 14.9**	**-0.1**
	comp=Z,39nm,0.6s,baz=84,slow=18,SNR=50						
DZM	**Mont Dzumac**	**13.52**	**264**	P	**P**	**07 12 15.0**	**-0.1**
NFK	**Norfolk Island**	**14.14**	**234**	P	**P**	**07 12 22.0**	**+1.1**
	comp=Z,42nm,1.2s						
OUZ	**Omahuta**	**15.41**	**203**	P	**P**	**07 12 35.5**	**+3.2**
OUZ	**Omahuta**	**15.41**	**203**	P	**P**	**07 12 35.5**	**+3.2**
KOUNC	**Koumac, New Ca**	**15.59**	**269**	P	**P**	**07 12 36.1**	**+1.9**
GRZ	**Great Barrier**	**15.76**	**197**	P	**P**	**07 12 37.3**	**+1.7**
WCZ	**Waipu Caves**	**15.80**	**200**	P	**P**	**07 12 39.2**	**+3.3**
MXZ	**Matakaoa Point**	**16.49**	**187**	P	**P**	**07 12 41.8**	**-0.3**
MXZ	**Matakaoa Point**	**16.49**	**187**	P	**P**	**07 12 40.8**	**-1.3**
MXZ				S	**S**	**07 15 22.7**	**-2.9**
HAZ	**Te Kaha**	**16.75**	**189**	P	**P**	**07 12 43.3**	**-1.2**
HAZ				S	**S**	**07 15 23.8**	**-6.0**
PKGZ	**Pakihiroa**	**16.81**	**188**	P	**P**	**07 12 44.1**	**-1.1**
PKGZ				S	**S**	**07 15 27.7**	**-3.3**
TGRZ	**Tauranga**	**16.98**	**193**	P	**P**	**07 12 48.8**	**+2.1**
PUZ	**Puketiti**	**16.99**	**187**	P	**P**	**07 12 46.6**	**-0.2**
TWGZ	**Tauwhareparae**	**17.13**	**188**	P	**P**	**07 12 47.5**	**-0.6**
TWGZ				S	**S**	**07 15 32.2**	**-4.0**
TOZ	**Tahuroa Road**	**17.16**	**195**	P	**P**	**07 12 50.3**	**+2.0**
OMRZ	**Omania**	**17.33**	**192**	P	**P**	**07 12 50.5**	**+0.6**
URZ	**Urewera**	**17.34**	**190**	P	**P**	**07 12 48.2**	**-1.8**
	comp=Z,44nm,0.3s,baz=353,slow=2.3,SNR=81						
URZ				S	**S**	**07 15 33.9**	**-5.6**
	comp=Z,15nm,0.5s,baz=101,slow=23,SNR=9.1						
URZ	**Urewera**	**17.34**	**190**	P	**P**	**07 12 47.7**	**-2.2**
URZ	**Urewera**	**17.34**	**190**	P	**P**	**07 12 47.5**	**-2.5**
URZ				S	**S**	**07 15 33.5**	**-6.0**
MWZ	**Matawai**	**17.35**	**189**	P	**P**	**07 12 48.7**	**-1.3**
MWZ				S	**S**	**07 15 34.4**	**-5.3**
CNGZ	**Carnagh Statio**	**17.41**	**187**	P	**P**	**07 12 50.2**	**-0.3**
CNGZ				S	**S**	**07 15 39.3**	**-1.2**
TKGZ	**Te Karaka**	**17.41**	**188**	P	**P**	**07 12 50.4**	**-0.1**
TKGZ				S	**S**	**07 15 34.4**	**-6.1**
TARZ	**Mount Tarawera**	**17.43**	**192**	P	**P**	**07 12 50.8**	**0.0**
RAGZ	**Rawiri**	**17.52**	**189**	P	**P**	**07 12 50.6**	**-1.1**
RAGZ				S	**S**	**07 15 40.8**	**-1.9**
RRRZ	**Republican Roa**	**17.52**	**192**	P	**P**	**07 12 51.3**	**-0.4**
HSRZ	**Hossack Road**	**17.55**	**192**	P	**P**	**07 12 53.0**	**+1.1**
MUGZ	**Murupara**	**17.61**	**191**	P	**P**	**07 12 51.2**	**-1.3**
MUGZ				S	**S**	**07 15 39.6**	**-4.3**
HRRZ	**Handcock Road**	**17.62**	**192**	P	**P**	**07 12 52.6**	**0.0**
PRRZ	**Plateau Road**	**17.70**	**192**	P	**P**	**07 12 52.9**	**-0.4**
RTZ	**Ruatahuna**	**17.71**	**190**	P	**P**	**07 12 52.0**	**-1.4**
TLZ	**Tolley Road**	**17.72**	**194**	P	**P**	**07 12 55.5**	**+2.1**
KUTZ	**Kaahu Road**	**17.81**	**193**	P	**P**	**07 12 55.5**	**+1.3**
SNGZ	**Shannon Statio**	**17.82**	**189**	P	**P**	**07 12 53.2**	**-1.1**
SNGZ				S	**S**	**07 15 42.7**	**-4.6**
RAHZ	**Arahi**	**17.99**	**190**	P	**P**	**07 12 55.2**	**-0.7**
RAHZ				S	**S**	**07 15 47.0**	**-2.9**
KNZ	**Kokohu**	**18.00**	**188**	P	**P**	**07 12 55.3**	**-0.7**
MRHZ	**Matea Rd**	**18.02**	**192**	P	**P**	**07 12 54.9**	**-1.3**
MRHZ				S	**S**	**07 15 49.8**	**-0.8**
HIZ	**Hauiti**	**18.06**	**196**	P	**P**	**07 12 56.2**	**-0.3**
HIZ	**Hauiti**	**18.06**	**196**	P	**P**	**07 12 59.7**	**+3.3**
WHHZ	**Waihua**	**18.12**	**189**	P	**P**	**07 12 57.2**	**+0.1**
WHHZ				S	**S**	**07 15 47.0**	**-5.1**
HATZ	**Hinemaiaia**	**18.14**	**192**	P	**P**	**07 12 56.0**	**-1.2**
NMHZ	**Naumai**	**18.21**	**190**	P	**P**	**07 12 57.7**	**-0.2**
NMHZ				S	**S**	**07 15 51.0**	**-2.7**
KATZ	**Kakaramea**	**18.30**	**193**	P	**P**	**07 12 59.1**	**+0.3**
BKZ	**Black Stump Fm**	**18.33**	**191**	P	**P**	**07 12 57.4**	**-1.6**
BKZ	**Black Stump Fm**	**18.33**	**191**	P	**P**	**07 12 57.0**	**-2.1**
ARHZ	**Aropaoanui**	**18.34**	**190**	P	**P**	**07 12 59.2**	**+0.2**
NTVZ	**North Tongarir**	**18.43**	**193**	P	**P**	**07 12 59.9**	**0.0**
TMVZ	**Te Maari**	**18.43**	**193**	P	**P**	**07 12 59.2**	**-0.8**
ETVZ	**East Tongariro**	**18.45**	**193**	P	**P**	**07 12 59.3**	**-0.9**
WTVZ	**West Tongariro**	**18.46**	**193**	P	**P**	**07 12 59.5**	**-0.7**
NNVZ	**North Ngauruho**	**18.47**	**193**	P	**P**	**07 13 00.7**	**+0.3**
OTVZ	**Oturere**	**18.49**	**193**	P	**P**	**07 12 59.3**	**-1.3**
NGZ	**Ngauruhoe**	**18.52**	**193**	P	**P**	**07 13 00.5**	**-0.3**
SNVZ	**South Ngauruho**	**18.52**	**193**	P	**P**	**07 13 00.0**	**-0.8**
KWHZ	**Kaweka Forest**	**18.59**	**191**	P	**P**	**07 12 59.8**	**-1.6**
WNVZ	**Wahianoa**	**18.66**	**193**	P	**P**	**07 13 01.1**	**-1.0**
PKVZ	**Pokaka**	**18.68**	**194**	P	**P**	**07 13 01.5**	**-0.7**
MOVZ	**Moawhango**	**18.71**	**193**	P	**P**	**07 13 00.8**	**-1.6**
KRHZ	**Kereru**	**18.82**	**191**	P	**P**	**07 13 01.7**	**-1.7**
KAHZ	**Kahuranaki**	**18.88**	**190**	P	**P**	**07 13 02.9**	**-1.1**
KHEZ	**Kahui Hut**	**19.01**	**197**	P	**P**	**07 13 05.0**	**-0.2**
KHEZ	**Kahui Hut**	**19.01**	**197**	P	**P**	**07 13 08.4**	**+3.2**
PNHZ	**Pukenui**	**19.11**	**191**	P	**P**	**07 13 04.3**	**-1.7**
PXZ	**Pawanui**	**19.11**	**190**	P	**P**	**07 13 05.0**	**-1.0**
WAZ	**Wanganui**	**19.20**	**194**	P	**P**	**07 13 05.0**	**-1.9**
TSZ	**Takapari Road**	**19.29**	**192**	P	**P**	**07 13 07.5**	**-0.2**
DVHZ	**Dannevirke**	**19.49**	**191**	P	**P**	**07 13 06.8**	**-2.6**
BFZ	**Birch Farm**	**19.85**	**191**	P	**P**	**07 13 11.5**	**-1.2**
BFZ	**Birch Farm**	**19.85**	**191**	P	**P**	**07 13 12.0**	**-0.7**
BFZ	**Birch Farm**	**19.85**	**191**	P	**P**	**07 13 11.9**	**-0.7**
MRZ	**Mangatainoka R**	**19.95**	**192**	P	**P**	**07 13 12.0**	**-1.6**
MRZ				IAmb	IAmb	07 13 13.6	
	comp=Z,15nm,0.6s						
MRZ	**Mangatainoka R**	**19.95**	**192**	P	**P**	**07 13 11.5**	**-2.1**
SNZO	**South Karori**	**20.75**	**193**	P	**P**	**07 13 20.3**	**-0.4**
QRZ	**Quartz Range**	**20.85**	**198**	P	**P**	**07 13 21.8**	**+0.2**
QRZ				IAmb	IAmb	07 13 23.1	
	comp=Z,34nm,0.7s						
QRZ	**Quartz Range**	**20.85**	**198**	P	**P**	**07 13 22.6**	**+0.9**
QRZ	**Quartz Range**	**20.85**	**198**	P	**P**	**07 13 22.3**	**+0.6**
TKNZ	**Takaka Hill**	**20.92**	**197**	P	**P**	**07 13 21.4**	**-1.0**
NNZ	**Nelson**	**20.98**	**196**	P	**P**	**07 13 21.9**	**-0.9**
MRNZ	**Matariki Terra**	**21.32**	**197**	P	**P**	**07 13 24.6**	**-1.2**
THZ	**Tophouse**	**21.61**	**197**	P	**P**	**07 13 27.6**	**-1.0**
DSZ	**Denniston Nort**	**21.91**	**199**	P	**P**	**07 13 31.4**	**+0.2**
KHZ	**Kahutara**	**22.07**	**195**	P	**P**	**07 13 31.7**	**-0.8**
KHZ	**Kahutara**	**22.07**	**195**	P	**P**	**07 13 31.4**	**-1.0**
GVZ	**Greta Valley S**	**22.71**	**195**	P	**P**	**07 13 37.2**	**-1.1**
LTZ	**Lake Taylor**	**22.73**	**197**	P	**P**	**07 13 37.1**	**-1.3**
INZ	**Inchbonnie**	**22.91**	**198**	P	**P**	**07 13 39.3**	**-0.6**
OXZ	**Oxford**	**23.30**	**197**	P	**P**	**07 13 42.5**	**-0.9**
WVZ	**Waitaha Valley**	**23.44**	**199**	P	**P**	**07 13 44.3**	**-0.4**
MQZ	**McQueen's Vall**	**23.50**	**195**	P	**P**	**07 13 44.1**	**-1.1**
RPZ	**Rata Peaks**	**23.93**	**198**	P	**P**	**07 13 49.7**	**+0.6**
RPZ	**Rata Peaks**	**23.93**	**198**	P	**P**	**07 13 49.7**	**+0.6**
TATA	**Tatamba Isabel**	**24.03**	**299**	P	**P**	**07 13 48.8**	**-1.5**
FOZ	**Fox Glacier**	**24.15**	**200**	P	**P**	**07 13 50.2**	**-0.7**
TMZ	**Timaru**	**24.56**	**197**	P	**P**	**07 13 53.7**	**-0.9**
LBZ	**Lake Benmore**	**24.80**	**199**	P	**P**	**07 13 55.3**	**-1.4**
JCZ	**Jackson Bay**	**24.97**	**201**	P	**P**	**07 13 58.6**	**+0.4**
JCZ	**Jackson Bay**	**24.97**	**201**	P	**P**	**07 13 58.4**	**+0.2**
ODZ	**Otahua Downs**	**25.27**	**197**	P	**P**	**07 14 00.7**	**-0.1**
ODZ	**Otahua Downs**	**25.27**	**197**	P	**P**	**07 14 00.0**	**-0.8**
WKZ	**Wanaka**	**25.56**	**200**	P	**P**	**07 14 02.9**	**-0.5**
MSZ	**Milford Sound**	**25.79**	**202**	P	**P**	**07 14 06.8**	**+1.5**
EAZ	**Earnscleugh**	**25.83**	**199**	P	**P**	**07 14 05.8**	**0.0**
MLZ	**Mavora Lakes**	**26.33**	**201**	P	**P**	**07 14 10.7**	**+0.6**
TUZ	**Tuapeka**	**26.39**	**198**	P	**P**	**07 14 11.1**	**+0.5**
DCZ	**Deep Cove**	**26.74**	**202**	P	**P**	**07 14 14.0**	**+0.3**
WHZ	**Wether Hill Ro**	**26.85**	**200**	P	**P**	**07 14 14.8**	**+0.2**
SYZ	**Scrubby Hill**	**27.07**	**198**	P	**P**	**07 14 17.2**	**+0.7**
SYZ	**Scrubby Hill**	**27.07**	**198**	P	**P**	**07 14 16.8**	**+0.4**
APZ	**The Paps**	**27.68**	**199**	P	**P**	**07 14 22.9**	**+1.1**
EIDS	**Eidsvold**	**27.72**	**256**	P	**P**	**07 14 22.8**	**+0.3**
	comp=Z,54nm,0.8s						
EIDS	**Eidsvold**	**27.72**	**256**	P	**P**	**07 14 22.0**	**-0.5**
ARMA	**Armidale**	**27.89**	**245**	P	**P**	**07 14 25.3**	**+1.2**
	comp=Z,53nm,0.7s						
ARMA	**Armidale**	**27.89**	**245**	P	**P**	**07 14 25.6**	**+1.6**
PPT	**Papeete**	**28.02**	**88**	P	**P**	**07 14 25.5**	**+0.3**
	comp=Z,15nm,0.4s,baz=357,slow=3.7,SNR=6.6						
	comp=Z,15nm,0.4s						
PPTF	**Pamatai, Papee**	**28.02**	**88**	P	**P**	**07 14 24.6**	**-0.7**
RK1H	**Rockhampton Ha**	**28.24**	**260**	P	**P**	**07 14 27.0**	**-0.1**
RMQ	**Roma**	**29.87**	**253**	P	**P**	**07 14 41.5**	**+0.4**
	comp=Z,25nm,2.1s						
CNB	**Canberra Magne**	**31.03**	**236**	P	**P**	**07 14 51.7**	**+0.7**
	comp=Z,34nm,0.8s						
CNB	**Canberra Magne**	**31.03**	**236**	P	**P**	**07 14 50.5**	**-0.5**
CAN	**Canberra**	**31.32**	**236**	P	**P**	**07 14 54.6**	**+1.2**
	comp=Z,42nm,1.9s						
CAN	**Canberra**	**31.32**	**236**	P	**P**	**07 14 54.5**	**+1.1**
CAN				pP	**pP**	**07 16 31.9**	**+2.0**
CAN				PcP	**PcP**	**07 17 29.9**	**+2.2**
CAN				ScP	**ScP**	**07 20 16.8**	**+3.5**
TV1H	**Townsville Har**	**32.07**	**267**	P	**P**	**07 14 59.8**	**-0.1**
CMSA	**Cobar Meteorol**	**33.10**	**244**	P	**P**	**07 15 09.2**	**+0.7**
	comp=Z,75nm,0.7s						
CMSA	**Cobar Meteorol**	**33.10**	**244**	P	**P**	**07 15 09.4**	**+1.0**
QLP	**Quilpie**	**33.92**	**254**	P	**P**	**07 15 15.8**	**+0.5**
	comp=Z,191nm,0.9s						
QLP	**Quilpie**	**33.92**	**254**	P	**P**	**07 15 15.5**	**+0.2**
PMG	**Port Moresby**	**34.55**	**285**	P	**P**	**07 15 20.6**	**0.0**
MTSU	**Mount Surprise**	**34.58**	**269**	P	**P**	**07 15 21.3**	**+0.4**
	comp=Z,98nm,0.7s						
MTSU	**Mount Surprise**	**34.58**	**269**	P	**P**	**07 15 21.3**	**+0.4**
TOO	**Toolangi**	**34.70**	**234**	P	**P**	**07 15 22.0**	**+0.3**
	comp=Z,11nm,1.3s						
PATS	**Pohnpei**	**35.62**	**319**	P	**P**	**07 15 30.0**	**+0.5**
	comp=Z,154nm,1.4s						
STKA	**Stephens Creek**	**36.61**	**245**	P	**P**	**07 15 37.6**	**+0.2**
STKA	**Stephens Creek**	**36.61**	**245**	P	**P**	**07 15 38.0**	**+0.6**
	comp=Z,193nm,1.2s						
STKA	**Stephens Creek**	**36.61**	**245**	P	**P**	**07 15 37.9**	**+0.4**
	comp=Z,29nm,0.8s,baz=91,slow=10,SNR=54						
STKA				S	**S**	**07 20 34.0**	**-4.1**
	comp=Z,7.0nm,0.9s,baz=86,slow=15,SNR=5.9						
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**36.61**	**245**	P	**P**	**07 15 38.5**	**+1.1**
STKA	**Stephens Creek**	**36.61**	**245**	*i* P	**P**	**07 15 38.3**	**+0.9**
COEN	**Coen**	**36.65**	**275**	P	**P**	**07 15 38.1**	**+0.2**
COEN	**Coen**	**36.65**	**275**	P	**P**	**07 15 38.2**	**+0.2**
	comp=Z,103nm,1.1s						
INKA	**Innaminka**	**37.05**	**252**	P	**P**	**07 15 42.4**	**+1.3**
ARPS	**Mount Arapiles**	**37.29**	**237**	P	**P**	**07 15 43.3**	**+0.4**
	comp=Z,27nm,0.8s						
MANU	**Manus Island**	**37.84**	**296**	P	**P**	**07 15 47.1**	**-0.5**
QIS	**Mount Isa**	**38.56**	**263**	P	**P**	**07 15 52.7**	**-0.7**
	comp=Z,23nm,1.3s						
QIS	**Mount Isa**	**38.56**	**263**	P	**P**	**07 15 53.1**	**-0.3**
HTT	**Hallett**	**39.04**	**243**	P	**P**	**07 15 57.4**	**+0.3**
	comp=Z,14nm,1.1s						
HTT	**Hallett**	**39.04**	**243**	P	**P**	**07 15 57.8**	**+0.7**
LCRK	**Leigh Creek**	**39.37**	**248**	P	**P**	**07 16 00.5**	**+0.8**
TAOE	**Nuku Hiva Isla**	**39.41**	**78**	P	**P**	**07 16 00.6**	**+0.2**
BBOO	**Buckleboo**	**41.37**	**244**	P	**P**	**07 16 15.5**	**0.0**
BBOO	**Buckleboo**	**41.37**	**244**	P	**P**	**07 16 15.4**	**-0.1**
	comp=Z,72nm,0.9s						
BBOO	**Buckleboo**	**41.37**	**244**	P	**P**	**07 16 15.4**	**-0.1**
OOD	**Oodnadatta**	**41.53**	**252**	P	**P**	**07 16 17.4**	**+0.5**
AS17	**Alice Springs**	**43.33**	**258**	P	**P**	**07 16 31.0**	**0.0**
	comp=Z,203nm,0.8s						
JAY	**Jayapura**	**43.34**	**290**	P	**P**	**07 16 31.2**	**+0.1**
	comp=Z,2μmcomp=Z,280nm,0.9s						
AS01	**Alice Springs**	**43.37**	**258**	P	**P**	**07 16 31.1**	**-0.2**
AS31	**Alice Springs**	**43.41**	**258**	P	**P**	**07 16 31.4**	**-0.2**
AS31				IAmb	IAmb	07 16 32.5	
	comp=Z,26nm,0.7s						
AS31	**Alice Springs**	**43.41**	**258**	P	**P**	**07 16 31.8**	**+0.2**
	comp=Z,35nm,0.7s						
ASAR	**Alice Springs**	**43.41**	**258**	P	**P**	**07 16 31.0**	**-0.7**
ASAR	**Alice Springs**	**43.41**	**258**	P	**P**	**07 16 31.8**	**+0.1**
	comp=Z,80nm,0.6s,baz=98,slow=7.6,SNR=1218						
ASAR				PcP	**PcP**	**07 18 05.9**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=112,slow=3.8,SNR=3.5						
ASAR				ScP	**ScP**	**07 21 01.4**	**+2.0**
	comp=Z,11nm,0.7s,baz=104,slow=4.2,SNR=21						
ASAR				S	**S**	**07 22 14.5**	**-2.2**
	comp=Z,10nm,0.7s,baz=95,slow=17,SNR=28						
ASAR				ScS	**ScS**	**07 25 24.9**	**+1.8**
	comp=Z,3.5nm,0.9s,baz=90,slow=6.9,SNR=12						
	comp=Z,80nm,0.6s						
WR6	**Warramunga Arr**	**43.43**	**263**	P	**P**	**07 16 31.1**	**-0.6**
	comp=Z,106nm,1.0s						
WB0	**Warramunga Arr**	**43.52**	**263**	P	**P**	**07 16 31.3**	**-1.2**
WB1	**Warramunga Ar.**	**43.53**	**263**	P	**P**	**07 16 32.0**	**-0.5**
WRAB	**Tennant Creek**	**43.53**	**263**	*i* P	**P**	**07 16 32.1**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,108nm,0.9s						
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**	**07 16 31.6**	**-1.0**
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**	**07 16 32.1**	**-0.5**
	comp=Z,49nm,0.5s,baz=98,slow=8.6,SNR=267						
WRA				ScP	**ScP**	**07 21 01.2**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=95,slow=3.9,SNR=7.1						
WRA				S	**S**	**07 22 17.6**	**-1.0**
	comp=Z,8.1nm,1.0s,baz=100,slow=13,SNR=8.2						
WRA				ScS	**ScS**	**07 25 26.2**	**+2.2**
	comp=Z,3.1nm,1.1s,baz=93,slow=8.4,SNR=4.7						
	comp=Z,49nm,0.5s						
GENI	**Genyem**	**43.77**	**289**	P	**P**	**07 16 34.0**	**-0.5**
	comp=Z,268nm,1.0s						
SMPI	**Sarmi**	**45.34**	**289**	P	**P**	**07 16 46.0**	**-0.4**
	comp=Z,120nm,1.3s						
MLH	**Mauna Loa**	**46.59**	**31**	P	**P**	**07 16 55.2**	**-0.8**
HPAH	**Hawaii Prepara**	**46.90**	**31**	P	**P**	**07 16 57.4**	**-0.7**
KDU	**Kakadu**	**46.98**	**272**	P	**P**	**07 16 58.3**	**-0.5**
	comp=Z,116nm,1.0s						
KDU	**Kakadu**	**46.98**	**272**	P	**P**	**07 16 58.6**	**-0.2**
DHH	**Diamond Head**	**47.02**	**28**	P	**P**	**07 16 58.6**	**-0.3**
DHH	**Diamond Head**	**47.02**	**28**	P	**P**	**07 16 58.6**	**-0.3**
KIP	**Kipapa**	**47.07**	**27**	P	**P**	**07 16 58.9**	**-0.4**
FORT	**Forrest**	**48.12**	**247**	P	**P**	**07 17 06.5**	**-0.5**
FORT	**Forrest**	**48.12**	**247**	P	**P**	**07 17 06.7**	**-0.4**
	comp=Z,136nm,0.9s						
FORT	**Forrest**	**48.12**	**247**	P	**P**	**07 17 06.9**	**-0.2**
MTN	**Manton Dam**	**48.19**	**272**	P	**P**	**07 17 07.2**	**-0.6**
	comp=Z,161nm,0.7s						
WRKA	**Warakurna**	**48.34**	**255**	P	**P**	**07 17 08.7**	**-0.1**
	comp=Z,159nm,1.0s						
WRKA	**Warakurna**	**48.34**	**255**	P	**P**	**07 17 08.8**	**-0.1**
DRS	**Darwin Rock St**	**48.53**	**272**	P	**P**	**07 17 09.8**	**-0.5**
GUMO	**Guam**	**49.49**	**311**	P	**P**	**07 17 16.6**	**-0.7**
GUMO	**Guam**	**49.49**	**311**	P	**P**	**07 17 16.6**	**-0.7**
	comp=Z,100nm,0.7s,baz=95,slow=7.8,SNR=5.1

comp=Z,976nmcomp=Z,110nm,0.9s
TOLI2 Tolitoli 62.79 283 P **P** **07 18 47.6 -1.0**
TOLI2 IAmb IAmb 07 18 50.6
comp=Z,43nm,0.6s
TOLI2 Tolitoli 62.79 283 P **P** **07 18 48.5 -0.1**
PCI Palu 62.84 280 P **P** **07 18 49.5 +0.6**
comp=Z,212nm,1.0s
CASY Casey 62.93 205 P **P** **07 18 49.0 +0.4**
CASY IAmb IAmb 07 18 50.4
comp=Z,35nm,1.1s
CASY Casey 62.93 205 P **P** **07 18 49.4 +0.8**
CASY PcP **PcP** **07 19 20.1 +0.4**
SRBI Singaraja 64.53 271 P **P** **07 18 59.5 -0.1**
comp=Z,77nm,0.8s
JAGI Jajag, Banyuwa 65.40 270 P **P** **07 19 03.3 -1.8**
JAGI IAmb IAmb 07 19 04.6
comp=Z,64nm,1.0s
JAGI Jajag, Banyuwa 65.40 270 P **P** **07 19 03.3 -1.8**
comp=Z,71nm,0.9s
KMMI Kalianget 66.05 272 P **P** **07 19 09.0 -0.1**
comp=Z,61nm,0.9s
GMJI Gumukmas 66.12 270 P **P** **07 19 08.4 -1.1**
comp=Z,31nm,0.9s
MYLDM Lahad Datu 66.56 286 P **P** **07 19 14.2 +2.0**
MYLDM IAmb IAmb 07 19 32.7
comp=Z,48nm,1.1s
MYLDM Lahad Datu 66.56 286 P **P** **07 19 12.6 +0.4**
JHJ2 Mitsune 66.75 323 P **P** **07 19 13.0 0.0**
JHJ2 Mitsune 66.75 323 P **P** **07 19 13.3 +0.3**
QSPA South Pole Qui 68.89 180 P **P** **07 19 27.1 +1.5**
comp=Z,58nm,0.8s,baz=36,slow=2.3,SNR=378
comp=Z,58nm,0.8s
QSPA South Pole Qui 68.89 180 P **P** **07 19 27.1 +1.5**
QSPA pP **pP** **07 21 29.9 +1.4**
UGM Wanagama 68.97 269 P **P** **07 19 26.1 -0.8**
UGM Wanagama 68.97 269 P **P** **07 19 26.6 -0.3**
KKM Kota Kinabalu 68.98 286 P **P** **07 19 27.6 +0.5**
JMM Marumori 69.82 327 P **P** **07 19 30.7 -0.7**
JMM IAmb IAmb 07 19 32.1
comp=Z,44nm,1.1s
JMM Marumori 69.82 327 P **P** **07 19 31.6 +0.3**
JOW Kunigami 69.86 311 P **P** **07 19 31.7 -0.1**
JGF Kuroka 69.96 323 P **P** **07 19 32.4 +0.1**
MJAR Matsushiro Arr 70.18 324 P **P** **07 19 33.3 -0.3**
comp=Z,23nm,0.6s,baz=154,slow=5.4,SNR=49
comp=Z,23nm,0.6s
MAJO Matsushiro 70.18 324 P **P** **07 19 32.8 -0.8**
MAJO IAmb IAmb 07 19 34.0
comp=Z,36nm,0.9s
MAJO Matsushiro 70.18 324 P **P** **07 19 33.6 0.0**
MAJO Matsushiro 70.18 324 *i* P **P** **07 19 33.0 -0.6**
MAJO pmax pmax
comp=Z,34nm,0.9s
MAJO Matsushiro 70.18 324 P **P** **07 19 33.1 -0.4**
MJB9 Matsu-Tunnel 70.19 324 P **P** **07 19 33.8 +0.2**
MJB9 IAmb IAmb 07 19 35.0
comp=Z,32nm,0.9s
JMN Monobe 70.66 320 P **P** **07 19 37.4 +1.0**
SBUM Sibu 71.15 280 P **P** **07 19 38.7 -1.0**
JTM Tenmabayashi 71.94 329 P **P** **07 19 43.6 -0.1**
LEM Lembang 72.05 270 P **P** **07 19 44.8 -0.3**
comp=Z,74nm,1.1s
JNU Nakatsue 72.10 317 P **P** **07 19 44.1 -0.7**
JNU IAmb IAmb 07 19 45.7
comp=Z,61nm,1.3s
JNU Nakatsue 72.10 317 P **P** **07 19 44.6 -0.3**
comp=Z,21nm,0.9s,baz=216,slow=0.7,SNR=8.8
comp=Z,21nm,0.9s
JNU Nakatsue 72.10 317 P **P** **07 19 44.1 -0.7**
CNJI Cibinong 72.34 269 P **P** **07 19 45.7 -0.9**
YULB Yu-li 73.06 304 P **P** **07 19 48.7 -1.8**
YULB IAmb IAmb 07 19 50.1
comp=Z,24nm,0.6s
YULB Yu-li 73.06 304 P **P** **07 19 49.8 -0.7**
ATKA Atka Island 73.19 3 P **P** **07 19 49.8 -0.7**
NACB Ninganchiao 73.25 305 P **P** **07 19 50.5 -1.0**
NACB Ninganchiao 73.25 305 P **P** **07 19 51.3 -0.2**
TPUB Ta-pu 73.52 304 P **P** **07 19 52.6 -0.6**
SSLB Suanglung 73.53 304 P **P** **07 19 51.3 -1.9**
SSLB Suanglung 73.53 304 P **P** **07 19 52.6 -0.6**
YHNB Yeheng 73.68 305 P **P** **07 19 53.4 -0.7**
YHNB IAmb IAmb 07 19 55.0
comp=Z,37nm,0.8s
YHNB Yeheng 73.68 305 P **P** **07 19 54.0 -0.1**
NIKH Nikolski High 74.37 6 P **P** **07 19 56.8 -0.4**
NIKH Nikolski High 74.37 6 P **P** **07 19 56.5 -0.6**
baz=190
UNV Unalaska Valle 75.50 8 P **P** **07 20 02.4 -1.0**
baz=192
YSS Yuzhno-Sakhali 76.07 334 P **P** **07 20 07.4 +0.7**
YSS IAmb IAmb 07 20 10.7
comp=Z,18nm,0.7s
YSS Yuzhno-Sakhali 76.07 334*ce* P **P** **07 20 07.1 +0.4**
YSS pmax pmax
comp=Z,15nm,0.7s
PEA0B Petropavlovsk- 76.68 346*ce* P **P** **07 20 09.6 -0.4**
PETK Petropavlovsk- 76.68 346 P **P** **07 20 09.3 -0.7**
PETK Petropavlovsk- 76.68 346 P **P** **07 20 09.4 -0.6**
comp=Z,24nm,0.7s,baz=175,slow=3.0,SNR=38
comp=Z,24nm,0.7s
KSRS Korea Array 76.75 319 P **P** **07 20 11.2 +0.5**
comp=Z,4.0nm,0.6s,baz=129,slow=6.1,SNR=11
comp=Z,4.0nm,0.6s
FALS False Pass 76.90 9 P **P** **07 20 10.1 -1.0**
baz=195
CHNA Chernabura Isl 77.52 11 P **P** **07 20 13.8 -0.6**
baz=199
SDPT Sand Point 77.85 11 P **P** **07 20 15.7 -0.5**
SDPT Sand Point 77.85 11 P **P** **07 20 15.5 -0.7**
baz=198,SNR=9.4
VLA Vladivostok 78.28 326 *i* P **P** **07 20 19.0 +0.2**
PSTR Posyet 78.53 325 *i* P **P** **07 20 21.2 +1.1**
MYKOM Kota Tinggi 78.63 276 P **P** **07 20 20.7 -0.6**
MYKOM IAmb IAmb 07 20 22.8
comp=Z,26nm,0.8s
S14K Fog Glacier 78.91 11 P **P** **07 20 21.8 -0.1**
baz=198
USA0B Ussuriysk Arra 78.98 326 *i* P **P** **07 20 23.8 +1.3**
USRK Ussuriysk Ar. 78.98 326 P **P** **07 20 23.1 +0.6**
comp=Z,19nm,0.7s,baz=116,slow=3.1,SNR=31
comp=Z,19nm,0.7s
BELA Belgrano 2 79.01 173 P **P** **07 20 21.7 -0.5**
BELA IAmb IAmb 07 20 23.5
comp=Z,49nm,0.9s
CHGN Chignik 79.13 12 P **P** **07 20 22.8 -0.2**
baz=200
CHIR Chirikof Islan 79.24 13 P **P** **07 20 23.8 +0.3**
CHIR Chirikof Islan 79.24 13 P **P** **07 20 23.9 +0.3**
baz=202
TYV Tymovskoe 79.26 336 *e* P **P** **07 20 24.3 +0.5**
TYV pmax pmax
comp=Z,26nm,0.8s
TYV pmax pmax
comp=Z,200nm,2.9s
NJ2 Nanjing 79.56 310 ⇑P **P** **07 20 27.0 +1.2**
NJ2 pmax pmax
comp=Z,58nm,0.6s
KMPM Mount Pierce 79.78 39 P **P** **07 20 28.1 +1.2**
KMPM IAmb IAmb 07 20 30.3
comp=Z,33nm,1.0s
KMRM Mail Ridge 79.90 40 P **P** **07 20 28.5 +1.0**
KMRM IAmb IAmb 07 20 30.4
comp=Z,48nm,0.8s
SII Sitkinak Islan 80.23 14 P **P** **07 20 29.1 +0.3**
SII Sitkinak Islan 80.23 14 P **P** **07 20 29.0 +0.2**
baz=204
O02D Mt. Diablo Mer 80.43 40 P **P** **07 20 31.6 +1.3**
O02D IAmb IAmb 07 20 33.2
comp=Z,25nm,1.0s
R16K Pilot Point 80.48 12 P **P** **07 20 29.9 0.0**
baz=200
MDJ Mudanjiang 80.51 326 P **P** **07 20 31.5 +1.0**
MDJ pmax pmax
comp=Z,28nm,0.7s
CMB Columbia Colle 80.63 43 P **P** **07 20 31.6 +0.3**
CMB Columbia Colle 80.63 43 P **P** **07 20 31.6 +0.3**
CMB pmax pmax
comp=Z,19nm,1.3s
OHAK Old Harbor 81.04 14 P **P** **07 20 32.4 -0.5**
OHAK Old Harbor 81.04 14 P **P** **07 20 33.1 +0.3**
OHAK Old Harbor 81.04 14 P **P** **07 20 32.8 0.0**
baz=204
R18K Karluk 81.10 13 P **P** **07 20 33.1 0.0**
baz=203
L02F Cave Junction 81.17 38 P **P** **07 20 34.6 +0.6**

YBH Yreka Blue Hor 81.43 39 P **P** **07 20 36.6 +1.2**
YBH IAmb IAmb 07 20 38.0
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 81.43 39 P **P** **07 20 36.3 +0.9**
comp=Z,14nm,0.7s,baz=186,slow=1.7,SNR=33
comp=Z,14nm,0.7s
YBH Yreka Blue Hor 81.43 39 P **P** **07 20 36.6 +1.2**
YBH pmax pmax
comp=Z,15nm,0.9s
O14K Tigyukauivet M 81.47 9 P **P** **07 20 34.7 -0.2**
baz=197
ACHA Angle Creek He 81.52 12 P **P** **07 20 34.8 -0.6**
O15K Ungalikthiuk R 81.61 10 P **P** **07 20 35.3 -0.5**
baz=198
HATC Hat Creek Radi 81.62 40 P **P** **07 20 37.4 +1.1**
HATC IAmb IAmb 07 20 38.8
comp=Z,40nm,1.1s
Q16K King Salmon 81.69 12 P **P** **07 20 35.8 -0.3**
baz=201,SNR=20
KDAK Kodiak Island 81.71 14 P **P** **07 20 36.2 -0.1**
KDAK Kodiak Island 81.71 14 P **P** **07 20 36.1 -0.1**
comp=Z,4.2nm,0.5s,baz=129,slow=20,SNR=21
comp=Z,4.2nm,0.5s
KDAK Kodiak Island 81.71 14 *i* P **P** **07 20 37.6 +1.4**
KDAK pmax pmax
comp=Z,7.0nm,0.6s
KDAK Kodiak Island 81.71 14 P **P** **07 20 36.0 -0.2**
baz=205
PNTR Pine Nut 81.75 43 P **P** **07 20 38.2 +1.0**
PNTR IAmb IAmb 07 20 39.4
comp=Z,35nm,0.8s
P16K Nushagak River 81.78 11 P **P** **07 20 36.2 -0.4**
baz=200,SNR=8.1
DSP Deep Springs 81.81 45 P **P** **07 20 38.1 +0.9**
L04D Klamath Falls 81.97 39 P **P** **07 20 39.2 +1.0**
L04D IAmb IAmb 07 20 40.0
comp=Z,22nm,0.6s
Q18K Katmai Hardscr 81.99 12 P **P** **07 20 37.3 -0.5**
baz=203,SNR=31
DBO Dodson Butte 81.99 38 P **P** **07 20 38.3 +0.1**
GRAC Grapevine Rang 82.00 45 P **P** **07 20 39.5 +1.2**
GRAC IAmb IAmb 07 20 40.5
comp=Z,14nm,0.7s
N14K Kuskokwak Cree 82.05 9 P **P** **07 20 38.4 +0.4**
baz=196,SNR=7.8
BBOR Butler Butte 82.17 38 P **P** **07 20 40.2 +1.0**
NVAR Mina Array Bea 82.19 44 P **P** **07 20 39.8 +0.3**
NVAR Mina Array Bea 82.19 44 P **P** **07 20 40.5 +0.9**
comp=Z,12nm,0.8s,baz=225,slow=8.1,SNR=72
comp=Z,12nm,0.8s
P17K Kvichak River 82.22 12 P **P** **07 20 38.5 -0.3**
baz=201,SNR=20
CN2 Changchun 82.24 323 P **P** **07 20 40.0 +0.7**
CN2 pP pwP 07 22 54.5 +3.1
CN2 pmax pmax
comp=Z,20nm,1.1s
O16K Kokwok River B 82.30 11 P **P** **07 20 38.3 -0.9**
baz=200,SNR=10
M13K Dall Lake 82.30 8 P **P** **07 20 38.9 -0.3**
baz=195
WCT Wildcat Mounta 82.38 46 P **P** **07 20 40.6 +0.3**
BNX BinXian 82.42 325 ⇓P **P** **07 20 39.8 -0.3**
BNX pmax pmax
comp=Z,36nm,0.8s
Q20K Shuyak Island 82.50 14 P **P** **07 20 40.1 -0.1**
baz=205
N15K Kwethluk River 82.52 9 P **P** **07 20 41.2 +0.8**
baz=198,SNR=17
Q19K Cape Douglas, 82.52 13 P **P** **07 20 39.5 -0.9**
Q19K IAmb IAmb 07 20 40.8
comp=Z,18nm,0.7s
Q19K Cape Douglas, 82.52 13 P **P** **07 20 39.9 -0.5**
baz=204,SNR=6.9
KLR Kul'dur 82.61 330 P **P** **07 20 41.3 +0.2**
comp=Z,9.3nm,0.8s,baz=100,slow=3.8,SNR=34
comp=Z,9.3nm,0.8s
KLR Kul'dur 82.61 330*ce* P **P** **07 20 41.8 +0.7**
KLR pmax pmax
comp=Z,13nm,0.9s
P18K Big Mountain, 82.63 12 P **P** **07 20 39.9 -1.1**
P18K IAmb IAmb 07 20 41.0
comp=Z,13nm,0.8s
P18K Big Mountain, 82.63 12 P **P** **07 20 40.3 -0.7**
baz=202,SNR=12
O17K Koliganek Bris 82.64 11 P **P** **07 20 40.4 -0.5**
baz=201,SNR=6.9
J04A Umpqua Nationa 82.71 38 P **P** **07 20 42.9 +1.0**
M14K Bethel 82.81 8 P **P** **07 20 41.7 0.0**
M14K IAmb IAmb 07 20 44.6
comp=Z,18nm,0.7s
M14K Bethel 82.81 8 P **P** **07 20 42.1 +0.4**
baz=196,SNR=5.8
I04A Tendick Farm, 82.88 38 P **P** **07 20 42.8 +0.2**
M15K Kasigluk River 82.93 9 P **P** **07 20 43.0 +0.6**
baz=197
TIA Tai'an 83.01 313 P **P** **07 20 44.0 +0.6**
TIA pmax pmax
comp=Z,21nm,1.0s
N16K Nishlik Lake 83.02 10 P **P** **07 20 43.4 +0.5**
baz=199,SNR=24
O18K Koktuh Hills 83.06 12 P **P** **07 20 42.5 -0.6**
baz=202,SNR=29
P19K Oil Pt 83.27 13 P **P** **07 20 43.8 -0.4**
baz=204,SNR=13
L14K Kuka Creek 83.28 8 P **P** **07 20 44.4 +0.3**
baz=195
N17K Nushagak Hills 83.33 11 P **P** **07 20 44.5 +0.1**
baz=200
M16K Timber Creek 83.51 10 P **P** **07 20 45.7 +0.5**
M16K IAmb IAmb 07 20 47.1
comp=Z,13nm,0.6s
M16K Timber Creek 83.51 10 P **P** **07 20 46.1 +0.9**
baz=199,SNR=8.4
O19K Port Alsworth 83.55 12 P **P** **07 20 44.7 -0.7**
baz=203,SNR=36
ILSW Iliamna Southw 83.59 13 P **P** **07 20 44.8 -1.0**
ILSW IAmb IAmb 07 20 45.8
comp=Z,28nm,0.6s
HOM Homer 83.62 14 P **P** **07 20 46.1 +0.4**
baz=206
K13K Kusilvak Mount 83.62 7 P **P** **07 20 46.5 +0.8**
baz=194
N18K Kilae Creek 83.70 11 P **P** **07 20 45.7 -0.5**
baz=202
PINE Pine Mountain 83.72 38 P **P** **07 20 48.1 +1.1**
PINE IAmb IAmb 07 20 49.4
comp=Z,22nm,0.9s
L15K Ungalak Mounta 83.77 8 P **P** **07 20 46.6 +0.2**
baz=196,SNR=6.7
O20K Sleepy Mountain 83.79 13 P **P** **07 20 46.2 -0.6**
baz=205,SNR=6.0
BRLK Bradley Lake 83.88 14 P **P** **07 20 46.7 -0.5**
BRLK IAmb IAmb 07 20 48.0
comp=Z,15nm,0.8s
BRSE Bradley Lake S 83.89 14 P **P** **07 20 47.5 +0.3**
baz=206,SNR=13
L16K Owhat River 84.08 9 P **P** **07 20 48.0 0.0**
baz=198
N19K Bonanza Creek 84.09 12 P **P** **07 20 47.1 -1.1**
baz=203,SNR=8.9
USHA Ushuaia 84.10 147 PKKPbc PKKPbc 07 38 57.5 -1.7
comp=Z,12nm,0.5s,baz=334,slow=2.2,SNR=4.8
M17K Holitna River 84.11 10 P **P** **07 20 48.4 +0.2**
M17K IAmb IAmb 07 20 50.4
comp=Z,13nm,0.8s
M17K Holitna River 84.11 10 P **P** **07 20 49.5 +1.4**
baz=200,SNR=5.4
MA2 Magadan 84.18 345 P **P** **07 20 47.9 -0.7**
comp=Z,12nm,0.8s,baz=141,slow=6.2,SNR=18
comp=Z,12nm,0.8s
MA2 Magadan 84.18 345*ce* P **P** **07 20 47.7 -0.9**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
GSI Gunungsitoli 84.28 274 P **P** **07 20 50.5 +0.3**
GSI Gunungsitoli 84.28 274 P **P** **07 20 51.2 +1.0**
K15K Wolf Creek Mou 84.35 8 P **P** **07 20 49.9 +0.5**
K15K IAmb IAmb 07 20 51.3
comp=Z,12nm,0.6s
K15K Wolf Creek Mou 84.35 8 P **P** **07 20 49.9 +0.5**
baz=196,SNR=5.8
M18K Stony River 84.47 11 P **P** **07 20 50.0 +0.1**
baz=202
SEW Seward 84.51 14 P **P** **07 20 49.3 -0.8**
SEW Seward 84.51 14 P **P** **07 20 50.1 -0.1**
baz=208,SNR=7.5
J14K Nanvaranak Lak 84.54 7 P **P** **07 20 51.2 +1.0**
baz=194

L17K Donlin 84.67 10 P **P** **07 20 51.7 +0.9**
baz=199
SLKM Skilak Lake 84.70 14 P **P** **07 20 49.8 -1.3**
SLKM IAmb IAmb 07 20 51.5
comp=Z,21nm,0.8s
CAPN Captain Cook N 84.73 13 P **P** **07 20 52.0 +0.9**
baz=206
O22K Cooper Landing 84.79 14 P **P** **07 20 51.1 -0.3**
baz=207,SNR=8.2
GAMB Gambell 84.87 3 P **P** **07 20 52.2 +0.4**
baz=187
SPCR Spurr Chakacha 84.90 13 P **P** **07 20 51.0 -1.1**
baz=205
P23K Montague Islan 84.91 15 P **P** **07 20 51.7 -0.3**
baz=209
L18K Granite Mounta 85.01 10 P **P** **07 20 52.7 +0.2**
baz=201,SNR=7.7
M19K Big River Lodg 85.12 11 P **P** **07 20 52.8 -0.3**
baz=203
K17K Iditarod 85.22 9 P **P** **07 20 53.4 -0.1**
baz=199
HNS HongShan 85.28 313 ⇓P **P** **07 20 55.3 +0.9**
HNS pmax pmax
comp=Z,20nm,0.8s
L19K White Mountain 85.29 11 P **P** **07 20 53.8 -0.1**
baz=203,SNR=9.4
RC01 Rabbit Creek A 85.33 14 P **P** **07 20 53.6 -0.4**
baz=207,SNR=10.0
M20K Styx River 85.33 12 P **P** **07 20 53.3 -1.0**
M20K Styx River 85.33 12 P **P** **07 20 53.9 -0.3**
baz=204
PGC Sidney 85.37 33 P **P** **07 20 55.1 +0.6**
HEH HeiHe 85.37 329 *e* P **P** **07 20 54.5 0.0**
HEH pmax pmax
comp=Z,34nm,0.6s
LYN LuoYang 85.42 310 P **P** **07 20 56.5 +1.3**
LYN pmax pmax
comp=Z,38nm,0.7s
J16K Anvik River 85.43 8 P **P** **07 20 54.6 +0.2**
J16K Anvik River 85.43 8 P **P** **07 20 54.5 0.0**
baz=197
PWL Port Wells 85.44 15 P **P** **07 20 54.0 -0.7**
baz=209,SNR=11
BBB Bella Bella 85.47 29 P **P** **07 20 55.2 +0.4**
comp=Z,4.6nm,0.6s,baz=299,slow=4.7,SNR=7.6
comp=Z,4.6nm,0.6s
CRAG Craig 85.73 24 P **P** **07 20 55.4 -0.6**
baz=222
L20K Farewell, AK 85.74 11 P **P** **07 20 55.6 -0.5**
baz=204,SNR=5.5
SKT Skwentna 85.74 13 P **P** **07 20 55.2 -0.8**
baz=206
J17K VABM Dome 85.75 9 P **P** **07 20 55.7 -0.3**
baz=199
G08A Pilot Rock 85.75 38 P **P** **07 20 57.4 +0.7**
G08A IAmb IAmb 07 20 58.6
comp=Z,30nm,1.5s
GLI Glacier Island 85.75 15 P **P** **07 20 55.6 -0.6**
baz=210,SNR=16
EYAK Cordova Ski Ar 85.80 16 P **P** **07 20 56.3 0.0**
EYAK Cordova Ski Ar 85.80 16 P **P** **07 20 55.9 -0.4**
baz=211
M22K Willow 85.83 13 P **P** **07 20 55.8 -0.6**
baz=207,SNR=5.0
SYO Syowa Base 85.85 193 ⇑*e* P **P** **07 20 56.2 -0.4**
ELIB Princess Elisa 85.86 187 *d* P **P** **07 20 56.9 +0.1**
comp=Z,38nm,0.8s
KNK Knik Glacier 85.90 14 P **P** **07 20 56.2 -0.6**
KNK IAmb IAmb 07 20 57.3
comp=Z,15nm,0.6s
KNK Knik Glacier 85.90 14 P **P** **07 20 56.4 -0.5**
baz=208,SNR=18
PMR Palmer 85.91 14 P **P** **07 20 56.5 -0.3**
PMR Palmer 85.91 14 P **P** **07 20 56.3 -0.5**
baz=208,SNR=17
I17K Unalakleet 85.99 8 P **P** **07 20 57.3 +0.2**
baz=197
E07A Sunnyside 86.00 36 P **P** **07 20 58.1 +0.5**
E07A IAmb IAmb 07 20 59.8
comp=Z,16nm,0.9s
HMT Hamilton 86.01 17 P **P** **07 20 57.0 -0.3**
HMT IAmb IAmb 07 20 57.7
comp=Z,9.4nm,0.7s
MTPU Mount Pierson 86.04 47 P **P** **07 20 59.7 +1.2**
J18K Innoko River 86.17 10 P **P** **07 20 57.8 -0.3**
J18K IAmb IAmb 07 20 58.7
comp=Z,11nm,0.7s
J18K Innoko River 86.17 10 P **P** **07 20 57.9 -0.1**
baz=201,SNR=13
U33K Whale Pass 86.22 24 P **P** **07 20 58.4 +0.1**
baz=222
V35K Ketchikan 86.22 25 P **P** **07 20 59.1 +0.7**
baz=224
SML Sawmill 86.28 14 P **P** **07 20 58.0 -0.7**
baz=208,SNR=6.0
COYC Coyhaique 86.31 138 P **P** **07 21 00.0 +0.7**
CUT Chulitna 86.39 13 P **P** **07 20 58.0 -1.0**
CUT Chulitna 86.39 13 P **P** **07 20 58.5 -0.6**
baz=207,SNR=16
M23K Glacier View 86.40 14 P **P** **07 20 58.6 -0.6**
baz=209,SNR=16
PPLA Purkeypile 86.44 12 P **P** **07 20 58.8 -0.8**
baz=205
BMRM Bremner River 86.45 16 P **P** **07 20 59.0 -0.5**
BMRM IAmb IAmb 07 21 00.0
comp=Z,16nm,0.6s
BMRM Bremner River 86.45 16 P **P** **07 20 59.2 -0.3**
baz=212,SNR=12
WAX Waxell Ridge 86.48 17 P **P** **07 20 59.9 +0.3**
S31K Pelican 86.50 21 P **P** **07 21 00.1 +0.4**
baz=219
MESA MESA 86.51 18 P **P** **07 21 00.5 +0.5**
MESA MESA 86.51 18 P **P** **07 21 00.3 +0.4**
baz=214,SNR=10
K20K Telida 86.52 11 P **P** **07 20 59.4 -0.3**
baz=203,SNR=8.8
H16K Elim 86.53 7 P **P** **07 20 59.5 -0.2**
baz=196
SCM Sheep Creek Mo 86.53 14 P **P** **07 20 59.9 0.0**
SCM Sheep Creek Mo 86.53 14 P **P** **07 20 59.9 0.0**
SCM pmax pmax
comp=Z,49nm,0.5s
SCM Sheep Creek Mo 86.53 14 P **P** **07 20 59.6 -0.3**
baz=209,SNR=33
KLU Klutina 86.57 15 P **P** **07 20 59.4 -0.7**
KLU IAmb IAmb 07 21 01.0
comp=Z,8.3nm,0.6s
KLU Klutina 86.57 15 P **P** **07 20 60.0 -0.1**
baz=211,SNR=12
G15K Nukluk 86.67 6 P **P** **07 21 00.0 -0.3**
baz=194
S32K Killisnoo 86.70 22 P **P** **07 21 00.7 +0.1**
baz=221
WRAK Wrangell Islan 86.73 24 P **P** **07 21 01.0 +0.2**
baz=223
SEY Seymchan 86.81 347 P **P** **07 21 01.1 0.0**
comp=Z,16nm,0.8s,baz=143,slow=5.3,SNR=67
comp=Z,16nm,0.8s
SEY Seymchan 86.81 347*ce* P **P** **07 21 01.0 0.0**
SEY pmax pmax
comp=Z,31nm,1.3s
PNL Peninsula 86.84 19 P **P** **07 21 01.0 -0.3**
PNL Peninsula 86.84 19 P **P** **07 21 01.5 +0.2**
baz=217
J19K Poorman 86.84 10 P **P** **07 21 00.9 -0.2**
J19K Poorman 86.84 10 P **P** **07 21 01.4 +0.2**
baz=202,SNR=6.9
TNA Tin City 86.89 5 P **P** **07 21 01.8 +0.5**
baz=190
F14K Arctic Creek 86.93 5 P **P** **07 21 01.2 -0.3**
baz=192
PINM Pinnacle 86.93 18 P **P** **07 21 02.2 +0.5**
baz=216
CAST Castle Rocks 86.94 12 P **P** **07 20 59.9 -1.8**
CAST Castle Rocks 86.94 12 P **P** **07 21 00.4 -1.3**
baz=205,SNR=32
VRDI Verde Repeater 86.97 16 P **P** **07 21 01.8 -0.3**
VRDI IAmb IAmb 07 21 02.4
comp=Z,7.2nm,0.6s
N25K Chitina, Valde 87.00 16 P **P** **07 21 02.0 -0.1**
baz=212,SNR=25
M24K Tolsona, Glenn 87.04 15 P **P** **07 21 02.3 +0.1**
baz=210,SNR=8.8
TROLL Troll, Antarti 87.05 180 ⇑P **P** **07 21 02.4 0.0**
comp=Z,800nm,0.5s
H17K Granite Mounta 87.10 8 P **P** **07 21 01.9 -0.5**
baz=198

G16K Koyuk River 87.24 7 P **P** 07 21 03.0 +0.1
baz=196
J20K Nowinta River 87.26 11 P **P** 07 21 03.2 +0.1
baz=203
F15K North Star Dit 87.31 6 P **P** 07 21 03.2 -0.2
baz=194
CHUM Lake Minchumin 87.32 11 P **P** 07 21 02.0 -1.3
baz=205,SNR=18
P29M Windy Craggy 87.32 20 P **P** 07 21 03.8 +0.2
baz=218
TRF Thorofare Moun 87.32 13 P **P** 07 21 02.5 -1.2
baz=207,SNR=43
R32K Eaglecrest 87.33 22 P **P** 07 21 03.5 -0.1
baz=221
GCSA Galena City Sc 87.35 9 P **P** 07 21 03.6 +0.2
baz=201,SNR=7.3
SNAA Sanae 87.36 179 P **P** 07 21 03.4 -0.4
SNAA IAmb IAmb 07 21 04.5
comp=Z,12nm,1.2s
SNAA Sanae 87.36 179 ⇑P **P** 07 21 03.5 -0.4
comp=Z,156nm,0.5s
SNAA Sanae 87.36 179 P **P** 07 21 03.4 -0.4
comp=Z,4.9nm,0.5s,baz=206,slow=8.5,SNR=65
comp=Z,4.9nm,0.5s
PLID Pearl Lake 87.36 39 P **P** 07 21 04.2 -0.1
PLID IAmb IAmb 07 21 06.0
comp=Z,24nm,1.5s
LLLB Lillooet 87.39 32 P **P** 07 21 04.4 +0.2
HLID Hailey 87.48 41 P **P** 07 21 05.8 +0.9
O28M Mount Upton 87.50 18 P **P** 07 21 04.7 +0.1
baz=216
H18K Honhosa River 87.52 9 P **P** 07 21 03.6 -0.7
baz=199
VNA3 Neumayer Olymp 87.53 177 ⇑P **P** 07 21 04.2 -0.3
comp=Z,68nm,0.7s
HARP HAARP 87.54 15 P **P** 07 21 04.3 -0.2
baz=211,SNR=6.1
G17K Kiwalik Mounta 87.55 8 P **P** 07 21 04.5 0.0
baz=197
HVU Hansel Valley 87.57 43 P **P** 07 21 05.4 0.0
HVU Hansel Valley 87.57 43 P **P** 07 21 05.4 0.0
HVU pmax pmax
comp=Z,9.0nm,0.9s
O29M Mount Kennedy 87.59 19 P **P** 07 21 05.4 +0.4
O29M Mount Kennedy 87.59 19 P **P** 07 21 05.3 +0.4
baz=217,SNR=5.6
SRU San Rafael Swe 87.70 46 P **P** 07 21 06.5 +0.5
SRU IAmb IAmb 07 21 07.8
comp=Z,11nm,0.8s
SRU San Rafael Swe 87.70 46 P **P** 07 21 06.5 +0.5
SRU pmax pmax
comp=Z,11nm,0.8s
ZEA Zeya 87.75 331 *e*P **P** 07 21 05.9 +0.3
ZEA pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 87.76 308 P **P** 07 21 07.0 +0.7
XAN pmax pmax
comp=Z,33nm,0.8s
BPAW Bear Paw Mtn. 87.77 12 P **P** 07 21 04.7 -0.8
baz=206,SNR=6.0
I20K Naaghedeneel 87.78 10 P **P** 07 21 05.3 -0.2
I20K IAmb IAmb 07 21 06.8
comp=Z,33nm,1.2s
I20K Naaghedeneel 87.78 10 P **P** 07 21 05.6 +0.1
baz=203,SNR=5.0
XLT XiLinHaoTe 87.80 319 *e*P **P** 07 21 05.8 -0.5
XLT pmax pmax
comp=Z,15nm,0.9s
MCK McKinley 87.85 13 P **P** 07 21 05.0 -0.9
baz=208,SNR=18
T35M Bob Quinn 87.94 24 P **P** 07 21 07.2 +0.7
baz=225
P30M Million Dollar 87.95 20 P **P** 07 21 07.3 +0.8
baz=219,SNR=8.8
PAX Paxson 87.95 15 P **P** 07 21 05.6 -0.9
PAX Paxson 87.95 15 P **P** 07 21 05.6 -0.9
PAX pmax pmax
comp=Z,3.0nm,0.8s
PAX Paxson 87.95 15 P **P** 07 21 05.8 -0.7
baz=211,SNR=5.6
VNA2 Neumayer--Watz 87.96 177 ⇑P **P** 07 21 06.7 +0.2
comp=Z,34nm,0.8s,baz=181,slow=4.7
SKAG Skagway 87.96 21 P **P** 07 21 07.5 +1.0
SKAG Skagway 87.96 21 P **P** 07 21 07.4 +1.0
baz=220
NVL N'lazarevskaya 87.98 184 ⇓*i*P **P** 07 21 06.8 +0.2
NVL pmax pmax
comp=Z,35nm,0.8s
YUK8 Steele Glacier 88.03 18 P **P** 07 21 07.5 +0.4
baz=216,SNR=30
M26K Nabesna, AK 88.08 16 P **P** 07 21 07.0 -0.1
M26K IAmb IAmb 07 21 08.5
comp=Z,7.9nm,0.8s
M26K Nabesna, AK 88.08 16 P **P** 07 21 07.5 +0.4
baz=213,SNR=9.3
H19K Roundabout Mou 88.15 9 P **P** 07 21 07.0 -0.2
H19K IAmb IAmb 07 21 08.0
comp=Z,11nm,0.7s
H19K Roundabout Mou 88.15 9 P **P** 07 21 07.2 0.0
baz=201,SNR=9.2
YUK6 Outpost Mounta 88.17 19 P **P** 07 21 07.9 +0.2
baz=218,SNR=6.0
G18K Tagagawik 88.18 8 P **P** 07 21 07.0 -0.4
baz=199
VNA1 Neumayer--Stat 88.19 177 ⇑P **P** 07 21 07.7 +0.2
comp=Z,45nm,0.9s
YUK3 Moose Creek 88.24 17 P **P** 07 21 08.0 0.0
baz=216,SNR=33
TX31 Lajitas Ar. Si 88.25 58 P **P** 07 21 09.1 +0.4
TX31 IAmb IAmb 07 21 11.2
comp=Z,16nm,0.9s
TXAR Lajitas Array 88.25 58 P **P** 07 21 09.6 +0.9
TXAR Lajitas Array 88.25 58 P **P** 07 21 10.0 +1.3
comp=Z,11nm,0.8s,baz=219,slow=5.9,SNR=128
TXAR PKKPbc **PKKPbc** 07 38 49.7 +0.9
comp=Z,0.3nm,0.5s,baz=161,slow=3.3,SNR=10
comp=Z,11nm,0.8s
S34M Telegraph Cree 88.28 23 P **P** 07 21 09.1 +1.1
baz=224,SNR=9.2
HYT Haines Junctio 88.33 19 P **P** 07 21 08.7 +0.3
baz=218,SNR=5.3
M27K Edge Creek, AK 88.33 16 P **P** 07 21 08.7 +0.3
M27K IAmb IAmb 07 21 09.6
comp=Z,9.2nm,0.7s
M27K Edge Creek, AK 88.33 16 P **P** 07 21 08.7 +0.3
baz=214
H20K Anotleneega Mo 88.36 10 P **P** 07 21 08.1 -0.1
baz=202,SNR=8.8
F17K Baldwin Pennin 88.38 7 P **P** 07 21 08.4 +0.2
baz=197
YUK4 Talbot Arm 88.41 18 P **P** 07 21 09.3 +0.5
baz=217,SNR=10.0
L26K Log Cabin Wild 88.52 15 P **P** 07 21 09.1 +0.1
baz=213,SNR=12
NEA2 Nenana 88.58 12 P **P** 07 21 08.3 -1.0
baz=208,SNR=13
ANMO Albuquerque 88.60 52 P **P** 07 21 10.1 -0.2
ANMO IAmb IAmb 07 21 12.0
comp=Z,8.4nm,1.1s
ANMO Albuquerque 88.60 52 *i*P **P** 07 21 10.4 +0.1
ANMO pmax pmax
comp=Z,5.0nm,1.2s
P32M Atlin 88.60 21 P **P** 07 21 10.4 +0.8
baz=222
K24K Donnelly Dome 88.60 14 P **P** 07 21 09.3 -0.1
baz=211,SNR=15
Q32M Nakina River 88.63 22 P **P** 07 21 09.6 -0.2
baz=223
G19K Purcell Mounta 88.63 9 P **P** 07 21 08.8 -0.6
G19K IAmb IAmb 07 21 10.1
comp=Z,9.3nm,0.8s
G19K Purcell Mounta 88.63 9 P **P** 07 21 09.3 -0.2
baz=200,SNR=8.8
BVCY Beaver Creek 88.65 17 P **P** 07 21 09.9 +0.2
baz=215,SNR=20
HIA Hailar 88.68 325 *i*P **P** 07 21 07.5 -2.6
F18K Selawik 88.72 8 P **P** 07 21 09.6 -0.3
baz=198
O30N Mendenhall 88.72 20 P **P** 07 21 10.1 0.0
O30N IAmb IAmb 07 21 11.3
comp=Z,7.7nm,0.7s
O30N Mendenhall 88.72 20 P **P** 07 21 10.7 +0.6
baz=220,SNR=10
RIDG Independent Ri 88.76 14 P **P** 07 21 09.2 -1.0
RIDG IAmb IAmb 07 21 11.1
comp=Z,7.5nm,0.9s
RIDG Independent Ri 88.76 14 P **P** 07 21 10.0 -0.2
baz=212,SNR=7.1
LR05 Currie 88.76 133 P **P** 07 21 11.9 +1.0
H21K Melozitna River 88.85 11 P **P** 07 21 10.2 -0.3
baz=204,SNR=12
HDA Harding Lake 88.87 13 P **P** 07 21 09.8 -0.8
baz=210,SNR=31
L27K Beaver Creek, 88.93 16 P **P** 07 21 10.9 0.0
baz=214
E17K Hotham Inlet 88.93 7 P **P** 07 21 10.9 0.0
baz=196
N30M Aishikik Lake 88.96 19 P **P** 07 21 11.3 +0.1
baz=219
I23K Minto, Yukon-K 89.02 12 P **P** 07 21 10.4 -0.8
baz=208,SNR=8.4
WHY Whitehorse 89.02 20 P **P** 07 21 12.2 +0.7
baz=221,SNR=6.2
DLBC Dease Lake 89.06 23 P **P** 07 21 11.6 -0.1
baz=225
COLA College 89.08 13 P **P** 07 21 11.1 -0.5
COLA College 89.08 13 *i*P **P** 07 21 10.5 -1.0
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 89.08 13 P **P** 07 21 11.1 -0.5
baz=209
HHC Hu-ho-hao-te 89.13 315 *e*P **P** 07 21 13.5 +1.0
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,240nm,6.7s
SCRK Sand Creek 89.16 15 P **P** 07 21 11.6 -0.6
baz=212,SNR=8.9
F19K Shaleruckik Mo 89.19 8 P **P** 07 21 11.4 -0.6
baz=200,SNR=9.2
ILAR Eielson Array 89.19 13 P **P** 07 21 11.1 -1.1
comp=Z,4.4nm,0.4s,baz=216,slow=5.2,SNR=213
comp=Z,4.4nm,0.4s
H22K Ishtalitna Cre 89.31 11 P **P** 07 21 12.4 -0.3
baz=206
M29M Somme Creek 89.33 18 P **P** 07 21 12.6 -0.4
baz=217,SNR=21
P33M Teslin, Yukon 89.36 21 P **P** 07 21 13.5 +0.4
baz=222
N31M Braeburn, Yuko 89.37 19 P **P** 07 21 13.8 +0.7
baz=220,SNR=5.3
POKR Poker Plat Res 89.38 13 P **P** 07 21 12.0 -1.0
baz=209,SNR=6.7
J25K Salcha River, 89.39 14 P **P** 07 21 12.8 -0.4
baz=211,SNR=16
E18K Tukpahlearik C 89.40 7 P **P** 07 21 13.2 +0.2
baz=197
D17K Noatak River 89.40 6 P **P** 07 21 13.3 +0.3
baz=195
R33M Jennings River 89.41 22 P **P** 07 21 13.8 +0.4
baz=224
CMAR Chiang Mai Arr 89.42 290 P **P** 07 21 14.2 -0.1
comp=Z,10.0nm,0.7s,baz=129,slow=3.1,SNR=55
comp=Z,10.0nm,0.7s
CMAR Chiang Mai Arr 89.42 290 *ce*P **P** 07 21 15.8 +1.6
CMAR pmax pmax
comp=Z,11nm,0.7s
PLCA Paso Flores 89.52 134 P **P** 07 21 15.5 +1.0
comp=Z,11nm,0.7s,baz=243,slow=5.2,SNR=59
comp=Z,11nm,0.7s
G21K Alakaket 89.52 10 P **P** 07 21 13.8 +0.2
baz=204
CHTO Chiang Mai 89.55 290 P **P** 07 21 15.9 +1.0
H23K Yukon River 89.59 12 P **P** 07 21 14.0 0.0
baz=207
BILL Bilibino 89.61 355 *ce*P **P** 07 21 13.7 -0.3
BILL pmax pmax
comp=Z,5.0nm,0.6s
K27K Chicken 89.67 15 P **P** 07 21 14.7 +0.4
baz=214
F20K Avaraart Lake 89.67 9 P **P** 07 21 14.2 0.0
baz=202
J26L Joseph Creek 89.71 15 P **P** 07 21 14.9 +0.2
baz=213
C16K Lisburne Hills 89.76 5 P **P** 07 21 15.6 +0.9
baz=193
RDOG Red Dog Mine 89.76 6 P **P** 07 21 15.3 +0.6
baz=195
E19K Redstone River 89.85 8 P **P** 07 21 15.1 0.0
baz=200
M30M Minto, Yukon 89.92 18 P **P** 07 21 15.8 +0.2
baz=219
H24K Noodor Dome 89.92 12 P **P** 07 21 15.7 +0.2
baz=209
L29M L29M 89.96 17 P **P** 07 21 16.3 +0.5
baz=218,SNR=11
N32M Quiet Lake 89.97 20 P **P** 07 21 15.9 0.0
baz=222
PDAR Pinedale Array 90.13 44 P **P** 07 21 17.4 +0.1
comp=Z,4.7nm,0.7s,baz=207,slow=3.0,SNR=60
comp=Z,4.7nm,0.7s
PRP Porcupine Dome 90.13 13 P **P** 07 21 16.6 0.0
baz=211
C17K DeLong Mountai 90.15 6 P **P** 07 21 16.9 +0.4
baz=195
PZH PanZhiHua 90.16 298 P **P** 07 21 18.8 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
F21K Alatna River 90.17 10 P **P** 07 21 17.2 +0.6
baz=204
G23K Bananza Creek 90.29 11 P **P** 07 21 17.8 +0.6
baz=207
M31M Drury Creek, Y 90.35 19 P **P** 07 21 17.8 +0.2
baz=221
DAWY Dawson 90.38 16 P **P** 07 21 17.8 +0.1
baz=217,SNR=14
I26K Coal Creek Min 90.48 14 P **P** 07 21 18.3 +0.3
baz=213,SNR=6.2
C18K Utukok River 90.51 6 P **P** 07 21 18.7 +0.4
baz=197
F22K John River 90.64 10 P **P** 07 21 18.8 0.0
baz=205
FARO Faro, Yukon 90.69 20 P **P** 07 21 19.5 +0.3
baz=222
WTLY Watson Lake, Y 90.69 23 P **P** 07 21 19.3 +0.1
baz=226
K29M Barlow Dome 90.71 17 P **P** 07 21 19.6 +0.3
baz=218,SNR=8.2
D19K Kuna River 90.72 8 P **P** 07 21 19.2 +0.1
baz=200
H25L Birch Creek 90.72 13 P **P** 07 21 19.9 +0.8
baz=211
COLD Coldfoot 90.72 11 P **P** 07 21 19.5 +0.4
baz=207
E20K Nigu River 90.74 8 P **P** 07 21 19.4 +0.1
baz=201,SNR=17
G24K Hadweenzic Riv 90.76 12 P **P** 07 21 19.2 -0.1
baz=209
J29N Klondike Camp 91.00 16 P **P** 07 21 21.2 +0.6
baz=218
I27K Kandik River 91.09 15 P **P** 07 21 20.9 0.0
baz=215
G25K Mearman Lake 91.09 12 P **P** 07 21 20.8 0.0
baz=210
D20K Etivluk River 91.11 8 P **P** 07 21 20.8 -0.1
baz=201
B18K Kokolik River 91.14 6 P **P** 07 21 21.0 0.0
baz=196
TOAD Toad River Com 91.17 25 P **P** 07 21 21.5 0.0
baz=229,SNR=8.1
E21K Killik River 91.22 9 P **P** 07 21 21.7 +0.2
baz=203
E22K Anaktuvuk Pass 91.27 10 P **P** 07 21 21.5 -0.2
baz=205
I28M Miner Creek 91.36 15 P **P** 07 21 22.2 -0.1
baz=216
F24K Squaw Lake 91.40 11 P **P** 07 21 22.7 +0.4
baz=209
E23K Chandalar 91.57 11 P **P** 07 21 23.1 0.0
baz=207
J30M Hart River 91.61 17 P **P** 07 21 23.3 -0.1
baz=219
H27K Steamboat Moun 91.62 14 P **P** 07 21 23.6 +0.2
baz=215
I29M Ogilvie Camp, 91.70 16 P **P** 07 21 23.5 -0.2
baz=218
G26K Porcupine Rive 91.73 13 P **P** 07 21 24.0 +0.3
baz=213
C21K Knifeblade Rid 91.77 8 P **P** 07 21 24.4 +0.5
baz=203
E24K Your Creek 91.78 11 P **P** 07 21 24.6 +0.5
baz=208
D22K Ayikyak River 91.82 9 P **P** 07 21 24.8 +0.7
baz=204
TGTN Hyland Airport 91.86 22 P **P** 07 21 24.9 +0.4
baz=226
F25K Christian Rive 91.90 12 P **P** 07 21 25.1 +0.5
baz=211
A19K Wainwright 92.02 6 P **P** 07 21 25.2 +0.2
baz=197
G27K Doyon Strip 92.07 14 P **P** 07 21 25.3 -0.1
baz=215
I30M Mount Dempster 92.10 17 P **P** 07 21 25.4 -0.3
baz=219,SNR=6.8
TOLK Toolik Lake Re 92.10 10 P **P** 07 21 25.4 -0.1
baz=207
D23K Nanushuk River 92.21 10 P **P** 07 21 26.2 +0.2
baz=206
B21K Ikpikpuk River 92.22 8 P **P** 07 21 26.3 +0.4
baz=203
B20K Meade River 92.26 7 P **P** 07 21 26.5 +0.4
baz=200
F26K Sheenjek River 92.28 13 P **P** 07 21 26.6 +0.3
baz=212
E25K Arctic Village 92.36 12 P **P** 07 21 26.9 +0.1
baz=211
H29M Whitestone 92.37 15 P **P** 07 21 26.9 +0.1
baz=218
YAK Yakutsk 92.38 338 *ce*P **P** 07 21 25.7 -1.1
YAK pmax pmax
comp=Z,21nm,0.8s
LZH Lanzhou 92.40 308 *e*P **P** 07 21 30.3 +2.5
LZH pP pwP 07 23 43.5 -0.9
LZH pmax pmax
comp=Z,25nm,0.9s
KOTAN Kotaneelee Air 92.47 24 P **P** 07 21 27.4 +0.1
baz=230
D24K Happy Valley 92.68 10 P **P** 07 21 28.6 +0.6
baz=208
EPYK Eagle Plains 92.90 16 P **P** 07 21 29.1 -0.1
baz=219,SNR=6.1
C23K Itkillik River 93.00 10 P **P** 07 21 29.6 +0.1
baz=206
G29M Pine Creek 93.00 15 P **P** 07 21 29.6 0.0
baz=218
B22K Teshekpuk Lake 93.05 8 P **P** 07 21 30.0 +0.2
baz=204
H31M Peel River 93.09 17 P **P** 07 21 30.1 +0.1
baz=221
C24K Franklin Bluff 93.20 10 P **P** 07 21 30.8 +0.3
baz=208
E27K Coleen River 93.23 13 P **P** 07 21 30.8 +0.1
baz=215
A22K Sinclair Lake 93.46 8 P **P** 07 21 31.7 +0.1
baz=202
G30M tAoh Zraii Nji 93.50 16 P **P** 07 21 31.6 -0.4
baz=220,SNR=8.1
G31M Satah River 93.95 16 P **P** 07 21 33.4 -0.5
baz=221,SNR=6.3
C27K Jago River 94.00 12 P **P** 07 21 34.4 +0.2
baz=213
E28M Babbage River 94.01 14 P **P** 07 21 34.0 -0.2
baz=217,SNR=5.5
C26K Camden Bay 94.03 11 P **P** 07 21 34.3 +0.1
baz=212
F30M Barrier River 94.10 15 P **P** 07 21 34.5 0.0
baz=220
E29M Blow River 94.20 14 P **P** 07 21 35.1 +0.1
baz=218
D27M Malcolm River 94.23 13 P **P** 07 21 35.3 +0.1
baz=215
F31M Tsiigehtchic 94.48 16 P **P** 07 21 36.5 +0.2
baz=222
WRGLY Wrigley 94.67 22 P **P** 07 21 37.0 -0.2
baz=231
D28M Stokes Point 94.77 13 P **P** 07 21 37.5 0.0
baz=217
INK Inuvik 95.18 15 P **P** 07 21 39.3 -0.2
baz=222
ULN Ulaanbaatar 95.23 319 *ce*P **P** 07 21 40.0 -0.4
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 95.62 319 P **P** 07 21 40.7 -1.4
comp=Z,0.5nm,0.4s,baz=129,slow=4.9,SNR=4.8
SONM PP **PP** 07 25 39.5 -5.2
comp=Z,1.4nm,1.0s,baz=124,slow=6.3,SNR=4.2
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 97.54 25 P Pdif 07 21 48.6 -1.5
comp=Z,0.5nm,0.7s,baz=248,slow=4.7,SNR=12
YKA PKiKP **PKiKP** 07 26 20.0 -0.4
comp=Z,0.2nm,0.6s,baz=260,slow=1.6,SNR=5.0
YKA PKKPbc **PKKPbc** 07 38 23.1 -2.9
comp=Z,0.1nm,0.4s,baz=162,slow=4.7,SNR=6.9
comp=Z,0.5nm,0.7s
C36M Paulatuk 98.39 17 P Pdif 07 21 53.5 -0.2
baz=231
LPAZ La Paz 102.71 113 P **Pdif** 07 22 15.5 +0.5
comp=Z,1.3nm,0.8s,baz=195,slow=8.1,SNR=4.8
ZALV Zalesovo Beam 110.40 321 PKiKP **PKiKP** 07 26 42.8 -1.5
comp=Z,1.3nm,0.5s,baz=46,slow=0.3,SNR=8.7
ZALV PP **PP** 07 27 32.8 +0.2
comp=Z,0.5nm,0.3s,baz=68,slow=8.2,SNR=3.6
MKAR Makanchi Array 110.95 313 Pdiff **Pdif** 07 22 50.1 -0.1
comp=Z,0.5nm,0.6s,baz=82,slow=5.5,SNR=6.3
MKAR PKiKP **PKiKP** 07 26 44.4 -1.2
comp=Z,0.9nm,0.4s,baz=132,slow=0.3,SNR=20
MKAR PP **PP** 07 27 34.0 -2.7
comp=Z,0.6nm,0.8s,baz=99,slow=7.5,SNR=4.4
MKAR SKP 07 29 22.6
comp=Z,0.3nm,0.5s,baz=130,slow=1.9,SNR=3.5
MKAR PKKPbc **PKKPbc** 07 37 45.2 -0.5
comp=Z,2.1nm,0.8s,baz=270,slow=4.3,SNR=16
MKAR PKKPab **PKKPab** 07 37 57.5 +1.1
comp=Z,0.6nm,0.7s,baz=284,slow=3.2,SNR=4.4
KURK Kurchatov 113.82 317 *i*PKiKP **PKiKP** 07 26 49.6 -1.3
KURBB Kurchatov Arra 113.87 317 PKiKP **PKiKP** 07 26 49.6 -1.4
comp=Z,1.3nm,0.5s,baz=100,slow=1.8,SNR=21
KURBB PP **PP** 07 27 53.6 -3.4
comp=Z,1.6nm,0.8s,baz=96,slow=6.5,SNR=7.1
KURBB SKP 07 29 28.3
comp=Z,1.7nm,0.9s,baz=96,slow=2.4,SNR=5.9
KURBB PKKPbc **PKKPbc** 07 37 35.0 -1.2
comp=Z,1.4nm,0.8s,baz=272,slow=4.0,SNR=12
KURBB PKKPab **PKKPab** 07 37 44.1 +0.8
comp=Z,1.6nm,0.8s,baz=274,slow=5.2,SNR=13
BVAR Borovoye Array 118.96 320 PKP **PKPdf** 07 26 59.9 -0.9
comp=Z,7.5nm,0.4s,baz=111,slow=2.1,SNR=54
BVAR SKP 07 29 38.5
comp=Z,0.9nm,0.5s,baz=66,slow=3.6,SNR=3.9
BVAR PKKPbc **PKKPbc** 07 37 17.9 -0.7
comp=Z,0.7nm,0.5s,baz=298,slow=3.2,SNR=4.0
BRVK Borovoye 119.02 320 *c i*PKiKP **PKPdf** 07 27 00.7 -0.2
BRVK pmax pmax
comp=Z,11nm,2.5s
BDFB Brasilia 119.61 123 PKP **PKPdf** 07 27 02.3 -1.0
comp=Z,1.2nm,0.6s,baz=233,slow=6.3,SNR=3.7
BDFB PKKPab **PKKPab** 07 37 19.7 -1.2
comp=Z,0.5nm,0.4s,baz=108,slow=5.2,SNR=4.0
SPA0 Spitsbergen Ar 122.48 356 *e*PKPdf **PKPdf** 07 27 06.5 -0.4
SPITS Spitsbergen Ar 122.48 356 PKP **PKPdf** 07 27 06.2 -0.7
comp=Z,7.1nm,0.5s,baz=81,slow=5.2,SNR=28
BOSA Boshof 125.22 206 PKP **PKiKP** 07 27 14.4 +0.2
comp=Z,2.7nm,0.7s,baz=112,slow=3.2,SNR=4.8
ARTI Arti 125.30 325 *i*PKiKP **PKPdf** 07 27 12.5 -0.3
ARTI 07 29 10.6
ARTI 07 33 27.2
HAMF Hammerfest 128.73 350 *e*PKPdf **PKPdf** 07 27 18.4 -0.5
ARA0 ARCESS Array S 129.40 349 *e*PKPdf **PKPdf** 07 27 19.9 -0.4
ARCES ARCESS Array B 129.40 349 PKP **PKPdf** 07 27 19.7 -0.6
comp=Z,8.0nm,0.6s,baz=21,slow=1.1,SNR=35
KTK1 Kautokeino 130.25 350 *e*PKPdf **PKPdf** 07 27 21.1 -0.9
TRO Tromso 130.33 352 *e*PKPdf **PKPdf** 07 27 22.1 +0.1
STEI Steigen 132.40 353 *e*PKPdf **PKPdf** 07 27 25.9 0.0
NSS Namsos 136.05 353 *e*PKPdf PKPpre 07 27 24.3
FINES FINESS Array B 136.14 343 PKhKP PKPpre 07 27 19.8
comp=Z,0.8nm,0.3s,baz=41,slow=3.8,SNR=10
FINES PKP **PKPdf** 07 27 33.2 +0.1
comp=Z,3.1nm,0.4s,baz=63,slow=2.6,SNR=5.8
FINES SKPbc **SKPbc** 07 30 08.2 0.0
comp=Z,7.7nm,0.8s,baz=90,slow=3.8,SNR=8.8
KMBO Kilima Mbogo 138.15 243 SKPbc **SkiKP** 07 30 18.6 -0.9
comp=Z,1.7nm,0.3s,baz=294,slow=1.5,SNR=5.3
KBZ Khabaz 138.64 313 SKPbc **SKPbc** 07 30 16.1 +0.1
comp=Z,1.4nm,0.8s,baz=360,slow=4.2,SNR=4.2
DOMB Dombas 138.78 354 *e*PKPdf PKPpre 07 27 29.3
NB2 NORSAR Subarra 139.53 352 PKP PKPpre 07 27 31.4
comp=Z,0.6nm,0.4s,baz=10,slow=3.2
NB2 pPKP **SKPbc** 07 30 18.3 +0.4
comp=Z,7.4nm,1.0s,baz=17,slow=4.4
NOA NORSAR Array B 139.53 352 PKhKP PKPpre 07 27 31.5
comp=Z,0.9nm,0.5s,baz=33,slow=1.3,SNR=20

NOA PKP **PKPdf** **07 27 38.5 -0.9**
comp=Z,2.0nm,0.6s,baz=14,slow=3.8,SNR=5.9
NOA SKPbc **SKPbc** **07 30 16.4 -1.5**
comp=Z,3.8nm,1.0s,baz=16,slow=4.3,SNR=5.7
NOA SKPab **SKPab** **07 30 28.6 -1.4**
comp=Z,2.6nm,0.9s,baz=15,slow=3.2,SNR=3.3
NC602 NORSAR Array S 139.78 352 *e*PKPdf PKPpre 07 27 31.9
HFS Hagfors 140.04 350 PKhKP PKPpre 07 27 33.0
comp=Z,6.4nm,0.3s,baz=60,slow=3.3,SNR=74
HFS PKP **PKPdf** **07 27 40.0 -0.3**
comp=Z,2.6nm,0.5s,baz=5.7,slow=1.4,SNR=4.0
HFS SKPbc **SKPbc** **07 30 19.3 +0.1**
comp=Z,6.5nm,0.9s,baz=124,slow=7.2,SNR=5.4
HFS SKPab **SKPab** **07 30 31.5 -0.7**
comp=Z,3.0nm,0.8s,baz=353,slow=7.4,SNR=2.5
SKAR Skarslia 140.19 354 *e*PKPdf PKPpre 07 27 35.4
ASK Askoy 140.62 357 *e*PKPdf PKPpre 07 27 35.9
KONO Kongsberg 141.07 353 *e*PKPdf PKPpre 07 27 37.6
STRU Stroemstad 141.47 352 *i* P PKPpre 07 27 37.8
BLS5 Blasjo 141.59 355 *e*PKPdf PKPpre 07 27 39.0
TJOU Tjoern 142.38 351 *i* P PKPpre 07 27 40.6
HOMB Homborsund 142.55 353 *e*PKPdf **PKPdf** **07 27 42.2 -2.6**
HOMB Homborsund 142.55 353 *e*P **PKPdf** **07 27 42.5 -2.3**
BORU Boraas 142.57 350 *i* P **PKPdf** **07 27 40.9 -4.0**
SNART Snartemo 142.61 355 *e*PKPdf **PKPdf** **07 27 42.0 -2.9**
SNART Snartemo 142.61 355 *i* P **PKPdf** **07 27 42.0 -2.9**
ONAU Onsala 142.94 350 *i* P **PKPdf** **07 27 42.2 -3.3**
SUW Suwalki 143.11 338 *e*PKP PKPab 07 27 43.8 -0.2
AKASG Malin Array Be 143.12 330 PKhKP PKPpre 07 27 43.3
comp=Z,38nm,0.4s,baz=45,slow=4.2,SNR=344
AKASG SKPbc **SKPbc** **07 30 25.9 -1.3**
comp=Z,4.9nm,0.9s,baz=47,slow=2.4,SNR=9.1
KIEV Kiev 143.13 330 ⇓P PKPab 07 27 43.3 -0.9
KIEV Kiev 143.13 330 ⇓PKIKP PKPab 07 27 43.3 -0.9
FABU Falkenberg 143.19 349 *i* P PKPab 07 27 43.3 -0.9
BLEU Blekinge 143.22 346 *i* P PKPab 07 27 43.3 -1.1
DEL Delary 143.47 348 *i* P PKPab 07 27 44.5 -0.8
MCD Coleburn Disti 143.51 4 *e*P PKPab 07 27 44.1 -1.4
KPL Plockton 143.56 6 *e*P PKPab 07 27 44.8 -0.8
MBAR Mbarara 143.72 237 *c* *i*PKIKP **PKPdf** **07 27 49.7 +1.2**
MBAR pmax pmax
comp=Z,17nm,1.7s
SIM Simferopol' 143.87 319 *e*PKIKP **PKPdf** **07 27 47.5 -0.1**
SIM pmax pmax
comp=Z,63nm,0.9s
BJUU Bjuv 144.01 348 *i* P PKPbc 07 27 46.2 -0.8
RNPP9 Sopachiv 144.09 333 PKP PKPbc 07 27 46.8 -0.7
RNPP8 Varash 144.17 333 PKP PKPbc 07 27 47.2 -0.5
DRUM Mains of Drumt 144.22 3 *e*P PKPbc 07 27 45.8 -1.9
LUBAR Lubar, Ukraine 144.34 330 PKP **PKPdf** **07 27 47.3 -0.9**
LUNU Lund 144.35 348 *i* P **PKPdf** **07 27 47.5 -0.5**
COP Copenhagen 144.49 349 *i* P **PKPdf** **07 27 48.3 +0.1**
BSD Bornholm Skovb 144.52 346 *i* P **PKPdf** **07 27 47.9 -0.4**
LAWE Loch Awe, Argy 144.65 6 *e*P **PKPdf** **07 27 48.1 -0.4**
SORM Soroca 145.25 327 ⇑P **PKPbc** **07 27 50.4 -0.7**
SORM Soroca 145.25 327 ⇑PKIKP **PKPbc** **07 27 50.4 -0.7**
SORM Soroca 145.25 327 PKP **PKPdf** **07 27 50.2 +0.4**
BZK Bozkurt 145.35 314 ⇑P **PKPbc** **07 27 52.2 +0.6**
PURM Purcari 145.47 324 ⇓P **PKPbc** **07 27 51.8 0.0**
GKP Gorka Klasztor 145.61 343 *e*PKP **PKPbc** **07 27 52.0 +0.1**
BEL Belsk 145.73 338 *e*PKP **PKPbc** **07 27 52.2 -0.1**
EKA Eskdalemuir Ar 145.76 4 PKPbc **PKPbc** **07 27 51.8 -0.5**
comp=Z,9.6nm,0.6s,baz=339,slow=2.9,SNR=46
ESK Eskdalemuir 145.77 4 *e*P **PKPbc** **07 27 51.6 -0.7**
MILM Milestii Mici 145.80 325 ⇑P **PKPbc** **07 27 52.3 -0.4**
MILM Milestii Mici 145.80 325 ⇑PKP2 **PKPbc** **07 27 52.3 -0.4**
NEWG New Galloway 145.89 5 *e*P **PKPbc** **07 27 51.9 -0.7**
KMPD K-Podol'skiy 145.89 329 PKP **PKPbc** **07 27 51.9 -1.0**
KMPD PKP **PKPdf** **07 27 51.7 +0.8**
GAL1 Galloway 146.09 6 *e*P **PKPdf** **07 27 52.1 +1.0**
EDMD Edmundbyers 146.33 3 *e*P **PKPbc** **07 27 52.9 -1.0**
KESW Keswick, Cumbr 146.50 4 *e*P **PKPbc** **07 27 54.0 -0.4**
BRTR Keskin Array B 146.55 311 PKPbc **PKPbc** **07 27 54.6 -0.6**
comp=Z,8.7nm,0.5s,baz=135,slow=3.9,SNR=44
BRTR SKPbc **SKPbc** **07 30 34.9 -0.7**
comp=Z,1.7nm,0.9s,baz=29,slow=2.8,SNR=3.9
BRTR SKPab SKPab 07 31 01.6
comp=Z,1.8nm,0.8s,baz=46,slow=5.3,SNR=5.1
BR104 Keskin Array S 146.56 311 PKP **PKPbc** **07 27 54.1 -1.1**
BR106 Keskin Array S 146.56 311 PKP **PKPdf** **07 27 53.7 +1.2**
KIRS Kirsehir-Merke 146.59 310 ⇓P **PKPbc** **07 27 55.0 -0.3**
IOMK Kirk Michael 146.71 6 *e*P **PKPbc** **07 27 54.0 -0.9**
ILTH Belurgan, Co L 146.74 8 *e*P **PKPbc** **07 27 54.2 -0.7**
GDLE Glaisdale, N Y 146.78 2 *e*P **PKPdf** **07 27 53.3 +1.1**
WIM Isle of Man 146.81 6 *e*P **PKPbc** **07 27 55.0 -0.2**
TLCR 146.87 323 ⇑P **PKPbc** **07 27 54.9 -0.7**
TLCR 146.87 323 ⇑PKIKP **PKPbc** **07 27 54.9 -0.7**
VLDR Vladesti 146.87 324 ⇑P **PKPbc** **07 27 56.2 +0.6**
SCTR Scanteiesti 147.02 324 ⇑P **PKPbc** **07 27 56.6 +0.6**
ANTO Ankara 147.09 312 ⇑P **PKPbc** **07 27 56.8 +0.3**
ANTO Ankara 147.09 312 ⇑PKP2 **PKPbc** **07 27 56.8 +0.3**
GHRR 147.09 325 ⇓P **PKPbc** **07 27 57.0 +0.8**
BURAR Bucovina Array 147.15 329 ⇓P **PKPbc** **07 27 56.8 +0.4**
BURAR Bucovina Array 147.15 329 ⇓PKP2 **PKPbc** **07 27 56.8 +0.4**
TESR Tescani 147.20 326 ⇑P **PKPbc** **07 27 56.3 -0.2**
HPK Haverah Park 147.22 3 *e*P **PKPbc** **07 27 55.2 -1.0**
IZVR Izvoarele 147.23 324 ⇑P **PKiKP** **07 27 57.8 -0.4**
CFR Carcaliu 147.25 323 ⇑P **PKPbc** **07 27 56.8 +0.2**
CFR Carcaliu 147.25 323 ⇑PKP2 **PKPbc** **07 27 56.8 +0.2**
MMAI Mount Meron Ar 147.28 298 PKPbc **PKPbc** **07 27 57.7 +0.5**
comp=Z,12nm,0.4s,baz=78,slow=5.5,SNR=36
MMAI PKPab **PKPab** **07 28 01.9 +0.6**
comp=Z,2.7nm,0.5s,baz=58,slow=5.6,SNR=5.3
TPGR Topolog 147.29 323 ⇑P **PKPbc** **07 27 57.2 +0.4**
OJC Ojcow 147.42 337 *e*PKPbc **PKPbc** **07 27 56.8 -0.2**
OJC Ojcow 147.42 337 PKP **PKPbc** **07 27 55.7 -1.2**
ONER Baraj Valea Uz 147.46 326 ⇓P **PKPbc** **07 27 57.7 +0.5**
KOLS Kolonicke sedl 147.49 333 *e*PKP2 **PKPbc** **07 27 57.7 +0.5**
KOLS Kolonicke sedl 147.49 333 *e*PKP **PKPbc** **07 27 57.7 +0.5**
STHS Stebnicka Huta 147.53 335 *e*PKP2 **PKPbc** **07 27 56.8 -0.5**
STHS Stebnicka Huta 147.53 335 *e*PKP **PKPbc** **07 27 56.8 -0.5**
STHS *e* 07 28 01.8
TIRR Tirgusor 147.53 322 ⇓P **PKPbc** **07 27 57.4 0.0**
TIRR Tirgusor 147.53 322 ⇓PKP2 **PKPbc** **07 27 57.4 0.0**
WPS Cemaes, Angles 147.56 6 *e*P **PKPdf** **07 27 55.2 +1.7**
TSCT Constanta Port 147.57 321 ⇓P **PKPab** **07 28 05.6 +3.6**
VRI Vrincioaia 147.58 325 ⇓P **PKPbc** **07 27 57.0 -0.5**
VRI Vrincioaia 147.58 325 ⇓PKP2 **PKPbc** **07 27 57.0 -0.5**
WME Myndd Eilian 147.59 6 *e*P **PKPbc** **07 27 56.7 -0.5**
PLOR Plostina 147.63 326 ⇑P **PKPab** **07 28 02.3 +0.1**
PLOR Plostina 147.63 326 ⇑PKP2 **PKPab** **07 28 02.3 +0.1**
HARR Harsova 147.67 323 ⇑P **PKPbc** **07 27 58.1 +0.4**
HARR Harsova 147.67 323 ⇑PKP2 **PKPbc** **07 27 58.1 +0.4**
WLF1 Llynfaes 147.68 6 *e*P **PKPbc** **07 27 56.1 -1.3**
MFTR Murfatlar 147.69 322 ⇑P **PKPbc** **07 27 58.2 +0.4**
MANR Mangalia 147.81 321 ⇑P **PKPbc** **07 27 58.7 +0.6**
COVR Voineasa-Covas 147.87 326 ⇑P **PKPbc** **07 27 58.2 -0.1**
NIE Niedzica 147.89 336 *e*PKPbc **PKPbc** **07 27 58.8 +0.6**
NIE *e*PKPab **PKPab** **07 28 03.6 +0.4**
OZUR 147.92 327 ⇑P **PKPbc** **07 27 58.8 +0.4**
KSP Ksiaz 148.03 342 *e*PKPbc **PKPbc** **07 27 58.9 +0.4**
KSP *e*PKPab **PKPab** **07 28 03.8 +0.2**
NEHR Nehoiu 148.10 325 ⇑P **PKPbc** **07 27 58.9 +0.1**
ISR Istrita 148.17 325 ⇑P **PKPab** **07 28 05.0 +0.5**
ISR Istrita 148.17 325 ⇑PKP2 **PKPab** **07 28 05.0 +0.5**
FOEL Foel Wylfa 148.19 5 *e*P **PKPbc** **07 27 57.4 -1.4**
DOPR Dopca 148.21 327 ⇑P **PKiKP** **07 27 60.0 -0.3**
MLR Muntele Rosu 148.24 326 ⇑P **PKPbc** **07 27 59.1 -0.3**
MLR Muntele Rosu 148.24 326 ⇑PKP2 **PKPbc** **07 27 59.1 -0.3**
OSTC Ostas 148.31 341 ⇑*e*PKP **PKiKP** **07 27 59.9 -0.4**
OSTC Ostas 148.31 341 *e*PKP2 **PKiKP** **07 27 59.9 -0.4**
STEB Steborice 148.36 339 ⇑*e*PKP **PKPbc** **07 27 59.4 +0.1**
STEB *e*PKPAB **PKPab** **07 28 05.1 +0.1**
LANS Liptovska Anna 148.43 337 *e*PKP2 **PKiKP** **07 28 00.8 +0.2**
LANS Liptovska Anna 148.43 337 *e*PKP **PKiKP** **07 28 00.8 +0.2**
LANS *e* 07 28 06.3
DPC Dobruska-Polom 148.46 341 ⇑*e*PKP **PKPbc** **07 28 00.0 +0.4**
DPC Dobruska-Polom 148.46 341 *e*PKP2 **PKPbc** **07 28 00.0 +0.4**
CLL Collm 148.49 345 *e*PKHKP PKPpre 07 27 55.0
CLL *i* 07 28 04.9
CLL pmax pmax
comp=Z,23nm,0.7s
CLL pmax pmax
comp=Z,13nm,0.6s
CLL Collm 148.49 345 *e*PKPdf **PKPdf** **07 27 55.0 -0.1**
CLL *i* PKPbc **PKPbc** **07 27 59.4 -0.1**
comp=Z,23nm,0.7s
CLL *i* PKPab **PKPab** **07 28 04.9 -0.5**
comp=Z,13nm,0.6s
CLL *e*pPKPab **pPKPab** **07 30 22.0 +1.8**
CLL *e*SKPdf **SKPdf** **07 30 34.0 +2.6**

CBBR Cluj-Babes-Bol 148.55 330 ⇓P **PKPbc** **07 28 00.3 +0.4**
KRLC Kraliky 148.56 340 ⇑*e*PKP **PKPbc** **07 28 00.1 +0.2**
KRLC *e*PKPAB **PKPab** **07 28 06.2 +0.3**
KRLC Kraliky 148.56 340 *e*PKP2 **PKPbc** **07 28 00.1 +0.2**
CJR Cluj-Napoca 148.57 329 ⇑P **PKPbc** **07 28 00.3 +0.3**
CJR Cluj-Napoca 148.57 329 ⇑PKP2 **PKPbc** **07 28 00.3 +0.3**
MORC Moravsky Berou 148.57 339 *e*PKP **PKPbc** **07 28 00.0 +0.1**
MORC *e* 07 28 06.2
MORC Moravsky Berou 148.57 339 ⇑P **PKPab** **07 28 06.1 +0.1**
MORC Moravsky Berou 148.57 339 ⇑PKP2 **PKPab** **07 28 06.1 +0.1**
KECS Kecovo 148.57 335 *e*PKP2 **PKiKP** **07 28 00.6 -0.3**
KECS Kecovo 148.57 335 *e*PKP **PKiKP** **07 28 00.6 -0.3**
HLM1 Long Mynd 148.58 4 *e*P **PKPdf** **07 27 55.1 -0.1**
BRG Berggiesshubel 148.66 344 *e*PKP **PKPbc** **07 28 00.3 +0.4**
BRG Amp 07 28 00.9
comp=Z,12nm,0.6s
BRG Berggiesshubel 148.66 344 P **PKPab** **07 28 06.1 -0.1**
BRG Amp 07 28 06.7
comp=Z,6.6nm,0.6s
BRG pPKP **pPKPab** **07 30 23.6 +2.8**
BRG Amp 07 30 28.8
comp=Z,3.1nm,0.9s
VOIR 148.75 326 ⇑P **PKPbc** **07 28 00.4 -0.1**
VOIR 148.75 326 ⇑PKHKP PKPpre 07 28 00.4
PVCC Panska Ves 148.81 343 ⇑*e*PKP **PKiKP** **07 28 00.9 -0.4**
PVCC Panska Ves 148.81 343 *e*PKP2 **PKiKP** **07 28 00.9 -0.4**
MARR Marisel-Cluj 148.82 330 ⇓P **PKPbc** **07 28 00.4 -0.3**
DRGR 148.93 330 ⇑P **PKPbc** **07 28 00.8 -0.1**
DRGR 148.93 330 ⇑PKHKP PKPpre 07 28 00.8
RSBS Rosebush, Pemb 148.97 7 *e*P **PKPbc** **07 28 00.0 -0.7**
TNR Turnu Rosu 148.99 327 ⇓P **PKiKP** **07 28 01.7 -0.2**
TNR Turnu Rosu 148.99 327 ⇓PKP2 **PKiKP** **07 28 01.7 -0.2**
ARR Arges 149.01 327 ⇑P **PKiKP** **07 28 02.2 +0.2**
HSKC Hora Svate Kat 149.03 344 ⇑*e*PKP **PKPbc** **07 28 01.1 +0.1**
MCH1 Michaelchurch 149.09 5 *e*P **PKPbc** **07 28 00.4 -0.5**
RAZG Razgrad 149.17 322 ⇓P **PKPbc** **07 28 01.3 -0.2**
CALA Caldeira 149.18 49 *e*PKP **PKPbc** **07 28 01.9 +0.1**
HOR Horta 149.25 49 *e*PKP **PKiKP** **07 28 02.6 0.0**
PRA Prague 149.26 343 ⇑*e*PKP **PKiKP** **07 28 02.0 -0.2**
PRA Prague 149.26 343 *e*PKHKP PKPpre 07 28 02.0
PRA MLR MLR
comp=Z,4μm,19.6s
MONM Monmouth 149.26 5 *e*P **PKPbc** **07 28 00.6 -0.8**
PSZ Piszkesteto 149.26 335 ⇓P **PKPbc** **07 28 01.4 -0.3**
PSZ Piszkesteto 149.26 335 ⇓PKHKP PKPpre 07 28 01.4
VRAC Vranov 149.29 340 *e*PKP **PKPbc** **07 28 01.6 0.0**
VRAC *e* 07 28 09.3
VRAC Vranov 149.29 340 ⇑P **PKiKP** **07 28 02.0 -0.3**
VRAC Vranov 149.29 340 ⇑PKHKP PKPpre 07 28 02.0
PRU Pruhonice 149.30 343 ⇑*e*PKP **PKPbc** **07 28 01.6 0.0**
PRU Pruhonice 149.30 343 *e*PKHKP PKPpre 07 28 01.6
JAVC Velka Javorina 149.31 338 *e*PKP **PKiKP** **07 28 02.9 +0.4**
JAVC *e* 07 28 11.2
PCAN Candelaria 149.38 49 *e*PKP **PKPbc** **07 28 02.4 +0.2**
LOT Lotru 149.39 328 ⇓P **PKPbc** **07 28 01.4 -0.7**
PICO Pico 149.41 49 *e*PKP **PKPbc** **07 28 02.6 +0.3**
ROSA Rosais 149.44 49 *e*PKP **PKPbc** **07 28 02.4 +0.1**
COPA Copaceanca 149.53 324 ⇓P **PKPbc** **07 28 02.0 -0.3**
PPNO Prainha do Nor 149.53 49 *e*PKP **PKiKP** **07 28 03.2 -0.1**
KRUC Moravsky 149.57 340 *e*PKP **PKPbc** **07 28 02.1 -0.1**
KRUC *e* 07 28 10.4
PMAN Manadas 149.59 49 *e*PKP **PKPbc** **07 28 02.8 +0.2**
PID Ribeirinha 149.65 49 *e*PKP **PKPbc** **07 28 02.6 -0.2**
SMOL Smolenice 149.69 338 *e*PKHKP PKPpre 07 28 03.3
SIRR Siria 149.80 331 ⇓P **PKPbc** **07 28 03.0 +0.1**
MODS Modra-Piesok 149.87 338 *e*PKHKP PKPpre 07 28 03.8
MODS Modra-Piesok 149.87 338 *e*PKP **PKiKP** **07 28 03.8 +0.2**
MODS *e* 07 28 12.3
ZVC Zvikov 149.90 343 *e*PKPAB **PKPab** **07 28 11.6 +0.2**
GZR Gura Zlata 149.92 328 ⇓P **PKPbc** **07 28 02.8 -0.5**
GZR Gura Zlata 149.92 328 ⇓PKHKP PKPpre 07 28 02.8
SRO Srobarova 149.96 336 *e*PKHKP PKPpre 07 28 03.5
SRO *e* 07 28 12.1
SRO Srobarova 149.96 336 *e*PKP **PKiKP** **07 28 03.5 -0.3**
SRO *e* 07 28 12.1
SURR Surduc 149.97 330 ⇓P **PKPbc** **07 28 03.2 -0.1**
PAGU Aguaiva, Azore 150.16 48 *e*PKP **PKPbc** **07 28 04.0 0.0**
SRE Strehaia 150.23 327 ⇑P **PKiKP** **07 28 04.4 -0.1**
SRE Strehaia 150.23 327 ⇑PKIKP **PKiKP** **07 28 04.4 -0.1**
BZS Buzias 150.31 330 ⇓P **PKPbc** **07 28 03.9 -0.2**
BZS Buzias 150.31 330 ⇓PKIKP **PKPbc** **07 28 03.9 -0.2**
UCC Uccle 150.32 356 *d*PKP **PKPab** **07 28 12.6 -0.4**
PLVB Pleven 150.34 324 ⇑P **PKPbc** **07 28 04.0 -0.2**
SBD Saint Breward 150.34 7 *e*P **PKPbc** **07 28 03.0 -1.0**
KHC Kasperske Hory 150.34 343 ⇑*e*PKP **PKPbc** **07 28 04.2 +0.1**
KHC *e*PKPAB **PKPab** **07 28 13.9 +0.6**
KHC Kasperske Hory 150.34 343 *e*PKIKP **PKPbc** **07 28 04.2 +0.1**
KHC *e* 07 28 13.9
MEM Membach 150.36 353 *d*PKP **PKPbc** **07 28 03.8 -0.2**
MEM *d*PKPab **PKPab** **07 28 12.5 -0.8**
BTNL Ternell 150.37 353 *d*PKiKP **PKPbc** **07 28 04.2 +0.1**
CKRC Cesky Krumlov 150.42 342 ⇑*e*PKP **PKiKP** **07 28 04.5 -0.2**
CKRC Cesky Krumlov 150.42 342 *e*PKIKP **PKiKP** **07 28 04.5 -0.2**
BSTI Sart Tilman 150.43 354 *d*PKP **PKPbc** **07 28 04.3 +0.2**
HERR Herculane 150.47 328 ⇓P **PKPbc** **07 28 04.2 -0.2**
GERES GERESS Array B 150.57 343 PKP **PKPdf** **07 27 58.1 -0.4**
comp=Z,6.7nm,0.5s,baz=49,slow=4.1,SNR=3.6
GERES PKPbc **PKPbc** **07 28 04.5 -0.2**
comp=Z,7.9nm,0.6s,baz=27,slow=2.6,SNR=72
GERES PKPab **PKPab** **07 28 14.1 -0.3**
comp=Z,2.5nm,0.7s,baz=28,slow=3.2,SNR=5.2
BCLA Clavier 150.62 354 *d*PKP **PKPbc** **07 28 04.0 -0.6**
BCLA *d*PKPab **PKPab** **07 28 13.6 -0.7**
BGES Gesves 150.67 355 *d*PKP **PKPbc** **07 28 04.1 -0.6**
BGES *d*PKPab **PKPab** **07 28 13.7 -0.8**
CONA Conrad Observa 150.73 339 *i* PKP **PKPbc** **07 28 05.1 0.0**
comp=Z,16nm,0.6s,SNR=10
CONA *i* PKP **PKPab** **07 28 15.8 +0.7**
comp=Z,8.4nm,0.7s
CONA *i* pPKiKP **pPKiKP** **07 30 27.0 +0.6**
comp=Z,5.9nm,1.2s
BMRD Maredsous 150.78 355 *d*PKP **PKPbc** **07 28 04.7 -0.3**
BMRD *d*PKPab **PKPab** **07 28 14.2 -0.8**
RONA Rosalia, Austr 150.78 339 *i* PKP **PKPbc** **07 28 05.2 +0.1**
comp=Z,28nm,0.5s,SNR=27
RONA *i* PKP **PKPab** **07 28 15.9 +0.7**
comp=Z,8.0nm,0.7s
RONA *i* pPKP **pPKPab** **07 30 29.8 +0.4**
comp=Z,8.2nm,1.1s
RCHB Rochefort 150.89 354 *d*PKP **PKPbc** **07 28 04.9 -0.3**
DOU Dourbes 151.00 355 *d*PKP **PKPbc** **07 28 05.5 0.0**
DOU *d*PKPab **PKPab** **07 28 15.2 -0.7**
MORH Mrgy, Hungar 151.15 334 ⇑P **PKPbc** **07 28 05.6 -0.3**
WLF Walferdange 151.28 353 *d*PKP **PKiKP** **07 28 06.7 +0.3**
MOA Molln 151.31 341 *i* PKP **PKPbc** **07 28 05.9 -0.4**
comp=Z,6.5nm,0.5s,SNR=8.5
MOA *i* PKP **PKPab** **07 28 18.4 +1.0**
comp=Z,5.0nm,0.7s
MOA *i* pPKP **pPKPab** **07 30 31.7 +0.2**
comp=Z,3.8nm,1.1s
ARSA Arzberg 151.43 339 *i* PKP **PKPbc** **07 28 06.0 -0.7**
comp=Z,2.5nm,0.6s
ARSA *i* PKP **PKPab** **07 28 18.2 +0.3**
comp=Z,4.3nm,0.5s
BIOA Bad Ischl, Aus 151.63 342 *i* PKP **PKPbc** **07 28 06.3 -0.7**
comp=Z,7.7nm,0.8s
BIOA *i* PKP **PKPab** **07 28 19.3 +0.6**
comp=Z,10nm,0.6s
BOVS Bovan 151.72 327 ⇑P **PKPbc** **07 28 07.0 -0.3**
CMLA Cha da Macela 151.78 48 *e*PKP **PKPdf** **07 28 02.6 +2.0**
JSA Saint Aubin 151.94 4 *e*P **PKPbc** **07 28 06.6 -1.0**
SOKA Soboth 152.10 339 *i* PKP **PKPbc** **07 28 07.3 -0.9**
comp=Z,4.8nm,0.5s,SNR=7.9
SOKA *i* PKP **PKPab** **07 28 20.7 -0.2**
comp=Z,5.2nm,0.9s
SOKA *i* pPKP **pPKPab** **07 30 33.2 -1.8**
comp=Z,6.7nm,1.5s
LESA Schwarzleotal 152.15 343 *i* PKP **PKPbc** **07 28 07.8 -0.5**
comp=Z,7.6nm,0.5s,SNR=5.4
LESA *i* PKP **PKPab** **07 28 21.8 +0.7**
comp=Z,3.2nm,0.6s
LESA *i* pPKP **pPKPab** **07 30 33.3 -1.7**
comp=Z,4.9nm,1.4s
KBA Koelnbreinsper 152.27 342 *i* PKP **PKPbc** **07 28 08.3 -0.4**
comp=Z,4.8nm,0.4s,SNR=11
KBA *i* PKP **PKPab** **07 28 22.1 +0.4**
comp=Z,6.9nm,0.5s
OBKA Obir 152.41 339 *i* PKP **PKPbc** **07 28 07.9 -1.0**
comp=Z,4.9nm,0.5s,SNR=4.7
OBKA *i* PKP **PKPab** **07 28 21.7 -0.5**
comp=Z,5.9nm,0.7s
WATA Walderalm 152.52 344 *i* PKP **PKPbc** **07 28 08.7 -0.5**
comp=Z,7.1nm,0.5s

WATA *i* PKP **PKPab** **07 28 22.0 -0.7**
comp=Z,4.3nm,0.5s
WTTA Wattenberg 152.57 344 *i* PKP **PKPbc** **07 28 08.9 -0.5**
comp=Z,11nm,0.4s,SNR=11
WTTA *i* PKP **PKPab** **07 28 23.2 +0.2**
comp=Z,8.9nm,0.5s
RETA Reutte 152.58 345 *i* PKP **PKPbc** **07 28 08.9 -0.3**
comp=Z,4.2nm,0.7s
RETA *i* PKP **PKPab** **07 28 22.9 +0.1**
comp=Z,6.2nm,0.5s
MYKA Terra Mystica 152.59 341 *i* PKP **PKPbc** **07 28 08.0 -1.2**
comp=Z,6.6nm,0.5s,SNR=5.8
MYKA *i* PKP **PKPab** **07 28 22.2 -0.7**
comp=Z,4.0nm,0.5s
MOTA Moosalm 152.63 345 *i* PKP **PKPbc** **07 28 08.7 -0.7**
comp=Z,7.9nm,0.9s
MOTA *i* PKP **PKPab** **07 28 23.1 -0.1**
comp=Z,5.8nm,0.5s
MOTA *i* pPKP **pPKPab** **07 30 33.8 -3.3**
comp=Z,3.6nm,0.9s
VNDS Vrh nad Dolski 152.71 339 *i* PKPbc **PKPbc** **07 28 08.9 -0.6**
SQTA Sankt Quirin 152.72 345 *i* PKP **PKPbc** **07 28 09.1 -0.5**
comp=Z,8.3nm,0.8s
SQTA *i* PKP **PKPab** **07 28 23.5 0.0**
comp=Z,5.2nm,0.9s
ABTA Abfaltersbach 152.81 342 *i* PKP **PKPbc** **07 28 08.7 -1.0**
comp=Z,13nm,0.6s,SNR=6.5
ABTA *i* PKP **PKPab** **07 28 23.2 -0.7**
comp=Z,7.1nm,0.6s
ABTA *i* pPKiKP **pPKiKP** **07 30 33.3 +2.6**
comp=Z,5.8nm,1.2s
CRNS Crni Vrh 152.88 339 *i* PKPbc **PKPbc** **07 28 09.1 -0.8**
DAVA Damuels 152.97 347 *i* PKiKP **PKiKP** **07 28 10.5 +0.3**
comp=Z,4.3nm,0.5s
DAVA *i* PKP **PKPab** **07 28 24.4 -0.2**
comp=Z,8.6nm,0.7s
FETA Feichten 153.02 345 *i* PKP **PKPbc** **07 28 09.9 -0.4**
comp=Z,3.3nm,0.5s
FETA *i* pPKiKP **pPKiKP** **07 30 34.4 +3.2**
comp=Z,4.6nm,1.3s
VOJS Vojsko 153.04 340 *i* PKPbc **PKPbc** **07 28 09.3 -1.0**
ESDC Sonseca Array 161.09 12 PKPab **PKPab** **07 28 59.6 -0.3**
comp=Z,2.1nm,0.9s,baz=339,slow=4.2,SNR=9.9
KEST Kesra 163.74 335 PKPab **PKPab** **07 29 11.8 0.0**
comp=Z,9.0nm,0.8s,baz=37,slow=4.1,SNR=8.0
DBIC Dimbokro 164.52 158 PKP PKPdf **07 28 15.8 -0.6**
comp=Z,6.2nm,0.7s,baz=120,slow=1.4,SNR=8.8
DBIC PKPab **PKPab** **07 29 16.5 +1.0**
comp=Z,6.4nm,0.6s,baz=180,slow=4.7,SNR=9.8

SJA ***30*** *07:33:24.8±0.7, 23°.31S×68°.80W, h119km±4km, ML3.6, MW3.6*

GUC ***30*** *07:33:26.2±0.7, 23°.32S×68°.81W, h117km±4km, ML3.7*

ISC 30 07:33:25.6±1.4,**23°.30S**±0°.03×**68°.86W**±0°.05,**h123**km±9km,
n29,σ1.04/47,2C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.71**	**61**	⇑*i* P	**Pn**	**07 33 44.9**	**-0.8**
AF01				*e*S	**Sn**	**07 33 59.0**	**-2.0**
AF01				IAML		07 34 05.4	
comp=N,3μm,0.4s							
AF01	**San Pedro de A**	**0.71**	**61**	*e*P	**Pn**	**07 33 45.1**	**-0.6**
AF01				*e*S	**Sn**	**07 33 59.5**	**-1.5**
AF01				IAML		07 34 01.9	
comp=Z,2μm,0.3s							
PB06	**IPOC Station P**	**0.88**	**312**	*i* P	**Pn**	**07 33 47.6**	**+0.5**
PB06				*e*S	**Sn**	**07 34 03.0**	**-0.2**
PB06				IAML		07 34 03.7	
comp=E,4μm,0.1s							
PB06	**IPOC Station P**	**0.88**	**312**	*e*P	**Pn**	**07 33 46.8**	**-0.2**
PB06				*e*S	**Sn**	**07 34 03.3**	**+0.1**
PB06				IAML		07 34 03.6	
comp=Z,2μm,0.2s							
PB05	**IPOC Station P**	**1.31**	**289**	*i* P	**Pn**	**07 33 51.9**	**+0.6**
PB05				*e*S	**Sn**	**07 34 10.8**	**0.0**
PB05				IAML		07 34 13.6	
comp=N,334nm,0.4s							
PB05	**IPOC Station P**	**1.31**	**289**	*e*P	**Pn**	**07 33 51.2**	**-0.1**
PB05				*e*S	**Sn**	**07 34 12.4**	**+1.6**
PB09	**IPOC Station P**	**1.54**	**347**	*i* P	**Pn**	**07 33 55.3**	**+1.4**
PB09				*e*S	**Sn**	**07 34 16.2**	**+0.8**
PB09				IAML		07 34 17.6	
comp=E,891nm,0.3s							
PB09	**IPOC Station P**	**1.54**	**347**	*e*P	**Pn**	**07 33 54.6**	**+0.7**
PB09				*e*S	**Sn**	**07 34 17.2**	**+1.9**
PB09				IAML		07 34 18.1	
comp=Z,539nm,0.4s							
PB14	**IPOC Station P**	**1.94**	**227**	*e*P	**Pn**	**07 33 59.2**	**+0.5**
PB14				*e*S	**Sn**	**07 34 24.0**	**0.0**
PB14				IAML		07 34 25.1	
comp=E,177nm,0.5s							
PB14	**IPOC Station P**	**1.94**	**227**	*e*P	**Pn**	**07 33 59.2**	**+0.5**
PB14				*e*S	**Sn**	**07 34 24.8**	**+0.7**
PB14				IAML		07 34 25.3	
comp=Z,232nm,0.3s							
GO02	**Mina Guanaco**	**1.97**	**200**	⇑*i* P	**Pn**	**07 33 59.7**	**+0.5**
GO02				*e*S	**Sn**	**07 34 24.9**	**0.0**
GO02				IAML		07 34 29.3	
comp=N,1μm,0.1s							
GO02	**Mina Guanaco**	**1.97**	**200**	*e*P	**Pn**	**07 33 59.1**	**-0.1**
GO02				*e*S	**Sn**	**07 34 25.7**	**+0.8**
PB01	**IPOC Station P**	**2.32**	**345**	*e*P	**Pn**	**07 34 04.1**	**+0.8**
PB01				*e*S	**Sn**	**07 34 32.6**	**+0.4**
PB01				IAML		07 34 34.4	
comp=N,827nm,0.4s							
PB01	**IPOC Station P**	**2.32**	**345**	*e*P	**Pn**	**07 34 03.6**	**+0.3**
PB01				*e*S	**Sn**	**07 34 32.6**	**+0.4**
PB01				IAML		07 34 36.1	
comp=Z,488nm,0.2s							
TA01	**Diego Aracena**	**2.98**	**335**	*e*P	**Pn**	**07 34 11.6**	**-0.2**
TA01	**Diego Aracena**	**2.98**	**335**	*e*P	**Pn**	**07 34 11.0**	**-0.8

WRMHI	West Rim	0.33	27		Pn		07 52 11.2	-1.3
RIM	Rim	0.33	31		Pn		07 52 11.2	-1.3
KKO	Keanakako'i	0.34	32		Pn		07 52 11.7	-0.9
UWE	Uwekahuna	0.34	27		Pn		07 52 11.5	-1.2
OBL	Observatory Le	0.35	28		Pn		07 52 11.3	-1.4
PUH	Pauahi	0.35	41		Pn		07 52 11.6	-1.1
PUH	Pauahi	0.35	41	IAML			07 52 27.0	
	comp=N,502nm,1.1s							
BYL	Byron's Ledge	0.35	32		Pn		07 52 11.6	-1.1
BYL	Byron's Ledge	0.35	32	IAML			07 52 18.0	
	comp=N,424nm,1.0s							
BYL				IAML			07 52 30.3	
	comp=E,612nm,0.6s							
HATHI	Halema'uma'u T	0.36	31		Pn		07 52 11.8	-1.1
HATHI	Halema'uma'u T	0.36	31	IAML			07 52 19.8	
	comp=E,675nm,0.6s							
HATHI				IAML			07 52 28.2	
	comp=N,575nm,1.1s							
SBLHI	Steaming Bluff	0.36	30		Pn		07 52 11.7	-1.2
KNHH	Kane Nui o Ham	0.38	45		Pn		07 52 12.0	-1.1
MLH	Mauna Loa	0.39	10		Pn		07 52 12.0	-1.3
MLH	Mauna Loa	0.39	10	IAML			07 52 17.6	
	comp=E,422nm,1.4s							
MLH				IAML			07 52 18.5	
	comp=N,536nm,0.5s							
MWH	Mokuaweoweo	0.40	340		Pn		07 52 12.2	-1.4
MWH	Mokuaweoweo	0.40	340	IAML			07 52 32.5	
	comp=N,396nm,1.0s							
MWH				IAML			07 52 32.8	
	comp=E,641nm,1.0s							
STCH	Steam Cracks	0.42	49		Pn		07 52 12.2	-1.2
STCH	Steam Cracks	0.42	49	IAML			07 52 19.4	
	comp=N,289nm,0.6s							
STCH				IAML			07 52 33.4	
	comp=E,366nm,1.0s							
JCUZ	Jacuzzi	0.43	51		Pn		07 52 12.5	-1.1
NPOC	North of Pu'u	0.43	49		Pn		07 52 12.5	-1.1
HMH	Humu'ula Sheep	0.49	357		Pn		07 52 13.6	-1.0
HMH	Humu'ula Sheep	0.49	357	IAML			07 52 20.9	
	comp=E,641nm,0.5s							
HMH				IAML			07 52 21.0	
	comp=N,444nm,0.9s							
JOKA	Jonika Flow	0.54	53		Pn		07 52 13.7	-1.3
JOKA	Jonika Flow	0.54	53	IAML			07 52 36.4	
	comp=N,416nm,1.4s							

IDC 30 07:53:52.2±1.6, 12°.65S×71°.33W, h0km, mb3.3/2, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=62.0km s-min=25.9km az=36.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.76	140	Pn	Pn	07 55 05.3	-0.5
	0.7nm,0.3s,baz=313,slow=5.4,SNR=17						
	0.7nm,0.3s						
NNA	Nana	5.43	276	Pn	Pn	07 55 14.8	+0.3
	2.9nm,0.3s,baz=93,slow=16,SNR=5.3						
NNA				Sn	Sn	07 56 07.0	-11
	6.0nm,0.3s,baz=185,slow=17,SNR=4.0						
	4.9nm,0.3s						
SIV	San Ignacio	10.48	110	Pn	Pn	07 56 24.7	+0.9
	baz=294,slow=16,SNR=1.7						
	0.4nm,0.6s						
TXAR	Lajitas Array	52.12	324	P	P	08 03 04.5	0.0
	0.1nm,0.4s,baz=144,slow=9.4,SNR=2.2						
	0.1nm,0.4s						
YKA	Yellowknife Ar	82.11	341	P	P	08 06 14.2	-0.2
	0.4nm,0.7s,baz=136,slow=5.3,SNR=8.8						
	0.4nm,0.7s						

*NEIC **30** 07:59:43.6±0.5, 19°.17N±0°.03×155°.46W±0°.02, h43km±4km, Error ellipse: s-maj=4.7km s-min=2.9km az=169.0*

HVO 30 07:59:44.6±0.7, 19°.13N±0°.04×155°.43W±0°.03, h41km±4km, ML2.3/12, ML2.6/26(NEIC), Error ellipse: s-maj=6.4km s-min=3.0km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.11	16		Pn	07 59 50.9	-0.6
HPO	Honuapo	0.13	250		Pn	07 59 50.7	-0.8
HLP	Hilina Pali	0.20	35		Pn	07 59 51.4	-0.8
HLP				IAML		08 00 06.5	
	comp=N,663nm,0.9s						
HLP				IAML		08 00 06.8	
	comp=E,684nm,0.9s						
KHU	Kahuku	0.21	303		Pn	07 59 51.3	-1.1
KHU					Sn	07 59 56.4	-1.4
KHU	Kahuku	0.21	303	IAML		07 59 58.2	
	comp=E,696nm,0.9s						
KHU				IAML		08 00 05.3	
	comp=N,439nm,0.7s						
SDHHI	Sand Hill	0.29	27		Pn	07 59 52.0	-1.0
SDHHI					Sn	07 59 58.0	-0.8
WRMHI	West Rim	0.30	24		Pn	07 59 52.2	-0.9
WRMHI					Sn	07 59 58.3	-0.7
KKO	Keanakako'i	0.30	30		Pn	07 59 52.2	-1.0
PUH	Pauahi	0.31	40		Pn	07 59 52.2	-1.0
PUH					Sn	07 59 57.9	-1.4
PUH	Pauahi	0.31	40	IAML		08 00 03.2	
	comp=N,369nm,0.7s						
UWE	Uwekahuna	0.31	24		Pn	07 59 52.3	-1.0
UWE					Sn	07 59 57.9	-1.4
OBL	Observatory Le	0.32	26		Pn	07 59 52.2	-1.1
OBL					Sn	07 59 58.3	-1.0
BYL	Byron's Ledge	0.32	30		Pn	07 59 52.2	-1.1
BYL	Byron's Ledge	0.32	30	IAML		07 59 59.0	
	comp=E,400nm,1.0s						
BYL				IAML		08 00 10.7	
	comp=N,200nm,0.6s						
UWB	Uwekahuna Bluf	0.32	26		Pn	07 59 52.2	-1.2
HATHI	Halema'uma'u T	0.33	29		Pn	07 59 52.1	-1.3
HATHI	Halema'uma'u T	0.33	29	IAML		08 00 03.9	
	comp=E,410nm,0.7s						
HATHI				IAML		08 00 08.4	
	comp=N,417nm,0.8s						
SBLHI	Steaming Bluff	0.33	27		Pn	07 59 52.3	-1.2
KNHH	Kane Nui o Ham	0.35	45		Pn	07 59 52.4	-1.3
STCH	Steam Cracks	0.38	49		Pn	07 59 52.7	-1.3
STCH	Steam Cracks	0.38	49	IAML		08 00 00.9	
	comp=N,223nm,1.2s						
STCH				IAML		08 00 11.2	
	comp=E,163nm,0.9s						
JCUZ	Jacuzzi	0.40	51		Pn	07 59 54.0	-0.2
ALEP	Alea Permanent	0.45	334		Pn	07 59 53.9	-1.3
ALEP					Sn	08 00 00.7	-1.9
HMH	Humu'ula Sheep	0.47	354		Pn	07 59 54.5	-0.8
HMH					Sn	08 00 00.8	-2.1
HMH	Humu'ula Sheep	0.47	354	IAML		08 00 02.0	
	comp=N,444nm,0.8s						
HMH				IAML		08 00 02.9	
	comp=E,816nm,0.8s						
JOKA	Jonika Flow	0.50	53		Pn	07 59 54.1	-1.3
JOKA	Jonika Flow	0.50	53	IAML		08 00 03.0	
	comp=E,146nm,0.7s						
JOKA				IAML		08 00 03.8	
	comp=N,234nm,1.1s						

*NEIC **30** 08:02:53.7±0.7, 19°.11N±0°.05×155°.41W±0°.05, h39km±4km, Error ellipse: s-maj=10.0km s-min=2.8km az=136.0*

HVO 30 08:02:54.9±1.0, 19°.07N±0°.04×155°.37W±0°.03, h35km±2km, Md2.3/4, ML2.6/22(NEIC), Error ellipse: s-maj=5.5km s-min=3.3km az=150.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.17	352		Pn	08 03 00.8	-1.0
HPO	Honuapo	0.17	277		Sn	08 03 05.4	-1.1
HPO	Honuapo	0.17	277	Pn	Pn	08 03 01.0	-0.7
HLP	Hilina Pali	0.24	15	Pn	Pn	08 03 01.2	-1.1
HLP				IAML		08 03 12.0	
	comp=N,798nm,0.9s						
KHU	Kahuku	0.29	308		Sn	08 03 06.9	-1.8
PUH	Pauahi	0.34	26	Pn	Pn	08 03 01.9	-1.6
PUH				IAML		08 03 07.8	
	comp=E,455nm,0.8s						
PUH				IAML		08 03 12.6	
	comp=N,492nm,0.7s						
UWE	Uwekahuna	0.36	12		Pn	08 03 02.6	-1.2
UWE	Uwekahuna	0.36	12	IAML		08 03 11.6	
	comp=N,968nm,0.9s						
UWE				IAML		08 03 12.2	
	comp=E,796nm,0.9s						

KNHH	Kane Nui o Ham	0.37	32	Pn	Pn		08 03 02.5	-1.3
HATHI	Halema'uma'u T	0.37	17		Pn		08 03 02.6	-1.3
HATHI	Halema'uma'u T	0.37	17	IAML			08 03 10.6	
	comp=N,741nm,1.0s							
HATHI				IAML			08 03 11.2	
	comp=E,449nm,1.1s							
SBLHI	Steaming Bluff	0.37	16		Pn		08 03 02.6	-1.4
MLH	Mauna Loa	0.42	358		Pn		08 03 03.4	-1.4
MLH	Mauna Loa	0.42	358	IAML			08 03 15.1	
	comp=N,468nm,0.8s							
MWH	Mokuaweoweo	0.47	333	Pn	Pn		08 03 03.5	-2.1
MWH				IAML			08 03 12.5	
	comp=E,523nm,1.1s							
MWH				IAML			08 03 16.0	
	comp=N,457nm,0.9s							
MLOA	Mauna Loa Obse	0.50	338	Pn	Pn		08 03 05.1	-0.9
HMH	Humu'ula Sheep	0.54	349		Pn		08 03 04.9	-1.6
HMH	Humu'ula Sheep	0.54	349	IAML			08 03 10.8	
	comp=N,426nm,1.1s							
HMH				IAML			08 03 11.7	
	comp=E,860nm,0.7s							

*NEIC **30** 08:05:21.8±0.4, 19°.15N±0°.02×155°.52W±0°.02, h44km±1km, Error ellipse: s-maj=3.9km s-min=2.4km az=142.0*

HVO 30 08:05:22.4±0.7, 19°.10N±0°.05×155°.51W±0°.02, h45km±4km, ML2.7/44, ML3.0/40(NEIC), Error ellipse: s-maj=7.7km s-min=2.3km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.04	259		Pn	08 05 29.1	-0.4
HTC	Hot Caves	0.18	38		Pn	08 05 29.5	-0.7
KHU	Kahuku	0.18	326		Sn	08 05 34.8	-1.3
KHU	Kahuku	0.18	326		Pn	08 05 29.2	-1.2
KHU				IAML		08 05 35.4	
	comp=N,1μm,0.6s						
KHU				IAML		08 05 35.4	
	comp=E,2μm,0.7s						
HLP	Hilina Pali	0.28	44		Pn	08 05 30.3	-0.7
HLP				IAML		08 05 43.8	
	comp=N,1μm,0.4s						
SDHHI	Sand Hill	0.36	35		Pn	08 05 30.9	-1.0
SDHHI					Sn	08 05 37.0	-1.6
WRMHI	West Rim	0.37	33		Pn	08 05 30.9	-1.1
RIM	Rim	0.37	37		Pn	08 05 30.9	-1.2
RIM					Sn	08 05 37.6	-1.2
KKO	Keanakako'i	0.38	38		Pn	08 05 31.0	-1.1
KKO					Sn	08 05 37.4	-1.6
UWE	Uwekahuna	0.38	33		Pn	08 05 30.6	-1.6
UWE	Uwekahuna	0.38	33		Sn	08 05 37.9	-1.2
OBL	Observatory Le	0.38	34		Pn	08 05 31.0	-1.2
OBL					Sn	08 05 38.1	-1.0
PUH	Pauahi	0.39	45		Sn	08 05 37.5	-1.7
PUH	Pauahi	0.39	45		Pn	08 05 30.8	-1.5
PUH				IAML		08 05 43.6	
	comp=N,1μm,0.6s						
PUH				IAML		08 05 47.4	
	comp=E,748nm,0.6s						
BYL	Byron's Ledge	0.39	37		Pn	08 05 31.2	-1.1
BYL				IAML		08 05 40.6	
	comp=N,857nm,0.7s						
BYL				IAML		08 05 46.0	
	comp=E,1μm,0.6s						
BYL	Byron's Ledge	0.39	37		Sn	08 05 37.6	-1.7
UWB	Uwekahuna Bluf	0.39	34		Pn	08 05 31.0	-1.3
MWH	Mokuaweoweo	0.39	348		Pn	08 05 31.3	-1.5
MWH				IAML		08 05 42.8	
	comp=N,1μm,0.8s						
MWH				IAML		08 05 43.0	
	comp=E,1μm,0.6s						
MWH	Mokuaweoweo	0.39	348		Sn	08 05 38.0	-2.0
SBLHI	Steaming Bluff	0.40	35		Pn	08 05 31.0	-1.3
SBLHI					Sn	08 05 37.7	-1.7
HATHI	Halema'uma'u T	0.40	36		Pn	08 05 30.8	-1.6
HATHI				IAML		08 05 40.4	
	comp=N,1μm,0.8s						
HATHI				IAML		08 05 42.7	
	comp=E,1μm,0.7s						
HATHI	Halema'uma'u T	0.40	36		Sn	08 05 37.8	-1.6
MLH	Mauna Loa	0.41	17		Pn	08 05 31.4	-1.3
MLH				IAML		08 05 44.0	
	comp=N,951nm,0.5s						
MLH	Mauna Loa	0.41	17		Sn	08 05 38.1	-1.7
RSD	Rainshed	0.42	31		Pn	08 05 30.4	-2.3
RSD	Rainshed	0.42	31		Sn	08 05 38.3	-1.6
KNHH	Kane Nui o Ham	0.43	49		Pn	08 05 31.3	-1.4
ALEP	Alea Permanent	0.46	344		Pn	08 05 32.0	-1.3
ALEP					Sn	08 05 39.1	-1.9
STCH	Steam Cracks	0.46	52		Pn	08 05 31.7	-1.4
STCH				IAML		08 05 39.2	
	comp=N,912nm,0.6s						
STCH	Steam Cracks	0.46	52		Sn	08 05 38.9	-1.7
NPOC	North of Pu'u	0.48	52		Pn	08 05 32.4	-0.8
NPOC					Sn	08 05 39.6	-1.4
JCUZ	Jacuzzi	0.48	54		Pn	08 05 32.2	-1.1
JCUZ					Sn	08 05 39.5	-1.5
HMH	Humu'ula Sheep	0.50	3		Pn	08 05 32.4	-1.4
HMH				IAML		08 05 41.0	
	comp=N,714nm,0.9s						
HMH				IAML		08 05 41.1	
	comp=E,943nm,0.8s						
HMH	Humu'ula Sheep	0.50	3		Sn	08 05 40.1	-1.7
CPH	Captain Cook	0.55	315		Pn	08 05 32.6	-1.5
JOKA	Jonika Flow	0.58	55		Sn	08 05 41.5	-1.7
JOKA	Jonika Flow	0.58	55		Pn	08 05 32.9	-1.6
JOKA				IAML		08 05 41.8	
	comp=E,516nm,0.7s						
JOKA				IAML		08 05 42.7	
	comp=N,879nm,0.8s						
HUH	Hualalai	0.66	332		Pn	08 05 34.2	-1.6
HUH	Hualalai	0.66	332		Sn	08 05 43.5	-1.8
HPAH	Hawaii Prepara	0.94	349		Pn	08 05 37.4	-2.1
HLK	Haleakala	1.79	337	Pn	Pn	08 05 48.8	-2.4

*SOME **30** 08:08:27.5, 47°.18N×75°.63E, h5km*
*NNC **30** 08:08:32.1±0.4, 46°.95N×75°.52E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=4.2km s-min=3.0km az=86.0, Suspected Mining explosion.*

ISC 30 08:08:26.4±0.8, 47°.14N±0°.03×75°.66E±0°.03, h0km, n37, σ1♯41/53, 11C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLS	Baital	2.38	209	Pg	Pg	08 09 11.8	-0.2
	6.7nm,0.2s						
BTLS				Lg	Lg	08 09 44.1	
	37nm,0.2s						
BTLS	Baital	2.38	209	eP	Pg	08 09 11.8	-0.2
	6.7nm,0.2s						
BTLS				eS	Sg	08 09 44.1	+1.4
	37nm,0.2s						
OTUK	Ortayu	2.51	298	⇑Pn	Pg	08 09 13.8	-0.6
	2.5nm,0.2s						
OTUK				⇑Sn	Sg	08 09 45.6	-1.2
	22nm,0.3s						
TDK	Taldyqorghan	2.86	137	Pg	Pg	08 09 21.1	-0.2
	32nm,0.4s						
TDK				Lg	Lg	08 09 59.9	
	76nm,0.4s						
TDK	Taldyqorghan	2.86	137	eP	Pg	08 09 21.1	-0.2
	32nm,0.4s						
TDK				eS	Sg	08 09 59.9	+1.6
	76nm,0.4s						
CHKK	Chushkaly	3.41	164	Pg	Pg	08 09 30.9	-0.9
	3.8nm,0.3s						
CHKK				Lg	Lg	08 10 16.6	
	19nm,0.3s						
CHKK	Chushkaly	3.41	164	eP	Pg	08 09 30.9	-0.9
	3.8nm,0.3s						
CHKK				eS	Sg	08 10 16.6	+0.7
	19nm,0.3s						
KRBS	Karabastau	3.44	180	Pg	Pg	08 09 31.6	-0.7
	1.7nm,0.1s						
KRBS				Lg	Lg	08 10 18.0	
	17nm,0.4s						
KTBS	Karatobe	3.50	168	Pg	Pg	08 09 32.5	-0.9
	7.0nm,0.1s						
KTBS				Lg	Lg	08 10 19.5	
	27nm,0.4s						
BLB	Baldybastay	3.62	146	Pg	Pg	08 09 35.0	-0.9
	16nm,0.1s						
BLB				Lg	Lg	08 10 23.7	
	32nm,0.5s						
KNOS	Konyrlen	3.71	137	Pg	Pg	08 09 36.7	-0.7
	1.3nm,0.1s						
KNOS				Lg	Lg	08 10 26.6	
	8.1nm,0.1s						
SGDS	Sogindy	3.75	192	Pg	Pg	08 09 37.1	-1.2
	2.7nm,0.3s						
SGDS				Lg	Lg	08 10 27.3	
	9.2nm,0.3s						
DGS	Degeres	3.89	179	Pg	Pg	08 09 40.0	-1.0
	10nm,0.4s						
DGS				Lg	Lg	08 10 32.5	
	20nm,0.4s						
KURBB	Kurchatov Arra	3.97	27	⇓Pn	Pb	08 09 38.7	+1.5
	2.5nm,0.8s						
KURBB				⇓Sn	Sg	08 10 29.9	-4.0
	18nm,0.6s						
DJR	Jarkent	4.03	133	Pg	Pg	08 09 42.7	-0.9
	2.3nm,0.3s						
DJR				Lg	Lg	08 10 37.1	
	7.5nm,0.6s						
DJR	Jarkent	4.03	133	eP	Pg	08 09 42.6	-0.9
	2.3nm,0.3s						
DJR				eS	Sg	08 10 37.1	+1.5
	7.5nm,0.6s						
KOTS	Kotyrbulak	4.03	165	Pg	Pg	08 09 42.6	-1.1
	6.7nm,0.3s						
KOTS				Lg	Lg	08 10 36.9	
	34nm,0.4s						
KOTS	Kotyrbulak	4.03	165	eP	Pg	08 09 42.6	-1.1
	6.7nm,0.3s						
KOTS				eS	Sg	08 10 36.9	+1.0
	34nm,0.4s						
MTBS	Maitube	4.04	172	Pg	Pg	08 09 42.9	-0.9
	5.8nm,0.3s						
MTBS				Lg	Lg	08 10 37.4	
	23nm,0.4s						
MTBS	Maitube	4.04	172	eP	Pg	08 09 42.9	-0.9
	5.8nm,0.3s						
MTBS				eS	Sg	08 10 37.4	+1.2
	23nm,0.4s						
KURS	Kuram	4.05	153	eP	Pn	08 09 30.9	+1.2
	3.8nm,0.3s						
KURS				eS	Sn	08 10 16.6	-1.3
	19nm,0.3s						
KURK	Kurchatov	4.08	27	⇑Pn	Pb	08 09 39.0	0.0
	2.1nm,0.8s						
KURK				⇑Sn	Sb	08 10 30.4	+1.5
	14nm,0.8s						
MDOK	Medeo	4.09	166	Pg	Pg	08 09 43.7	-1.1
	4.4nm,0.5s						
MDOK				Lg	Lg	08 10 38.6	
	9.2nm,0.6s						
MDOK				⇓Lg	Lg	08 10 39.5	
	9.2nm,0.6s						
KST	Kastek	4.10	177	Pg	Pg	08 09 43.8	-1.1
	5.9nm,0.4s						
KST				Lg	Lg	08 10 38.9	
	18nm,0.6s						
KST	Kastek	4.10	177	eP	Pg	08 09 43.8	-1.1
	5.9nm,0.4s						
KST				eS	Sg	08 10 38.9	+0.9
	18nm,0.6s						
TNSS	Tian-Shan	4.20	167	Pg	Pg	08 09 45.5	-1.3
	2.6nm,0.2s						
TNSS				Lg	Lg	08 10 42.0	
	5.5nm,0.3s						
TNSS	Tian-Shan	4.20	167	eP	Pg	08 09 45.5	-1.3
	2.6nm,0.2s						
TNSS				eS	Sg	08 10 42.0	+0.8
	5.5nm,0.3s						
TKM2	Tokmak 2	4.21	181	⇑Pg	Pg	08 09 47.0	-0.2
	2.1nm,0.6s						
TKM2				⇓Lg	Lg	08 10 40.8	
	9.2nm,0.7s						
KPKS	Kokpek	4.24	149	eP	Pb	08 09 40.0	-1.9
	10nm,0.4s						
KPKS				eS	Sb	08 10 32.5	-1.2
	20nm,0.4s						
MK31	Makanchi Array	4.55	92	⇓Pn	Pb	08 09 43.9	-3.2
	0.1nm,0.2s,baz=267,slow=12,SNR=7.5						
MK31				⇑Pg	Pg	08 09 55.2	+1.7
	0.3nm,0.3s,baz=274,slow=15,SNR=8.5						
MK31				⇑Lg	Lg	08 10 59.4	
	0.9nm,0.3s,baz=279,slow=26,SNR=7.1						
UZB	Uzynbulak	4.64	148	Pg	Pg	08 09 54.2	-1.1
	4.0nm,0.3s						
UZB				Lg	Lg	08 10 57.0	
	4.2nm,0.3s						
UZB	Uzynbulak	4.64	148	eP	Pg	08 09 54.2	-1.1
	4.0nm,0.3s						
UZB				eS	Sg	08 10 57.0	+1.5
	4.2nm,0.3s						
PDGK	Podgornoye	4.67	143	⇑Lg	Lg	08 10 59.9	
	4.5nm,0.6s						
MRKS	Merke	4.72	202	Pg	Pg	08 09 54.8	-2.0
	3.7nm,0.5s						
MRKS				Lg	Lg	08 10 57.7	
	12nm,0.4s						
MRKS	Merke	4.72	202	eP	Pg	08 09 54.8	-2.0
	3.7nm,0.5s						
MRKS				eS	Sg	08 10 57.7	-0.3
	12nm,0.4s						
KK31	Karatay Array	5.43	224	⇑Pn	Pn	08 09 52.2	+3.5
	1.1nm,0.4s,baz=42,slow=12,SNR=9.6						
KK31				⇑Sn	Sn	08 10 52.6	+0.7
	0.6nm,0.3s,baz=42,slow=32,SNR=4.0						
KK31				Lg	Lg	08 11 17.1	
	4.6nm,0.6s,baz=35,slow=28,SNR=5.5						
AB31	Akbulak array	10.71	287	⇑Pn	Pn	08 11 00.4	-0.5
	0.3nm,0.6s,baz=0.0,slow=0.1,SNR=5.9						

*NEIC **30** 08:18:22.3±0.8, 19°.08N±0°.04×155°.45W±0°.04, h43km±3km, Error ellipse: s-maj=6.6km s-min=3.5km az=142.0*

HVO 30 08:18:23.5±0.8, 19°.06N±0°.03×155°.45W±0°.04, h42km±2km, Md2.5/4, ML2.5/26(NEIC), Error ellipse: s-maj=6.0km s-min=3.1km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.18	15		Pn	08 18 30.4	-0.6
KHU	Kahuku	0.24	319		Sn	08 18 36.0	-1.4
KHU	Kahuku	0.24	319		Pn	08 18 29.5	-2.2
KHU				IAML		08 18 36.1	
	comp=N,470nm,0.5s						
KHU				IAML		08 18 36.3	
	comp=E,637nm,0.6s						
HLP	Hilina Pali	0.27	29	Pn	Pn	08 18 30.6	-1.2
HLP				IAML		08 18 44.1	
	comp=N,454nm,0.6s						
HLP				IAML		08 18 44.4	
	comp=E,531nm,0.6s						
SDHHI	Sand Hill	0.36	24		Sn	08 18 37.8	-1.5
PUH	Pauahi	0.38	35	Pn	Pn	08 18 31.7	-1.3
PUH				IAML		08 18 47.0	
	comp=N,267nm,1.7s						
UWE	Uwekahuna	0.39	22	Pn	Pn	08 18 31.2	-1.9
BYL	Byron's Ledge	0.39	27	Pn	Pn	08 18 31.1	-2.0
BYL				IAML		08 18 43.1	
	comp=E,331nm,0.6s						
HATHI	Halema'uma'u T	0.40	26	Pn	Pn	08 18 31.5	-1.8
HATHI				IAML		08 18 40.6	
	comp=E,356nm,0.8s						
HATHI				IAML		08 18 45.9	
	comp=N,285nm,1.0s						
KNHH	Kane Nui o Ham	0.41	40		Pn	08 18 32.2	-1.1
MLH	Mauna Loa	0.43	8	Pn	Pn	08 18 31.8	-2.0
MLH				IAML		08 18 52.9	
	comp=E,277nm,3.6s						
STCH	Steam Cracks	0.44	43		Pn	08 18 32.5	-1.2
STCH	Steam Cracks	0.44	43	IAML		08 18 40.4	
	comp=E,138nm,2.1s						
STCH				IAML		08 18 50.9	
	comp=N,202nm,3.7s						
MWH	Mokuaweoweo	0.44	341		Pn	08 18 32.8	-1.4
MWH				IAML		08 18 43.7	
	comp=N,278nm,0.7s						
MWH				IAML		08 18 50.2	
	comp=E,294nm,3.0s						
HMH	Humu'ula Sheep	0.54	356		Pn	08 18 34.0	-1.2
HMH	Humu'ula Sheep	0.54	356	IAML		08 18 42.0	
	comp=E,370nm,2.1s						
HMH

*IGIL **30** 08:26:10.9, 37.°05N×5.°30W, h0km, ML2.5*
*MDD **30** 08:26:10.9±0.2, 37.°05N×5.°30W, h0km, mb_Lg2.9/37, Error ellipse: s-maj=1.9km s-min=1.3km az=170.0*
*INMG **30** 08:26:11.7±1.7, 36.°97N×5.°27W, h18km±2km, ML2.5, Error ellipse: s-maj=2.3km s-min=1.9km az=152.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*SFS **30** 08:26:12.3, 37.°06N×5.°32W, h8km, ML2.8/9, ML2.8/9, MLv2.7/9*
*CNRM **30** 08:26:13.9, 36.°75N×5.°50W, h79km, ML0.5*

ISC 30 08:26:11.1±1.0, 36.°99N±0.°02×5.°27W±0.°01, h20km±8km, n76, σ1§78/158, 3C-6D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.48**	**256**	Pg	**Pg**	**08 26 21.1**	**+0.1**
ESPR				Sg	**Sb**	**08 26 28.9**	**+1.3**
ESPR	**Espera**	**0.48**	**256**	⇑Pg	**Pg**	**08 26 21.4**	**+0.4**
ESPR				Sg	**Sg**	**08 26 27.1**	**-0.5**
ESPR				*i* Vmb_Lg		08 26 37.1	
EJIF	**Jimena Fronter**	**0.56**	**197**	Pg	**Pg**	**08 26 20.8**	**-1.6**
EJIF				Sg	**Sb**	**08 26 31.5**	**+1.7**
EGOR	**Sierra Gorda,**	**0.94**	**82**	Sg	**Sb**	**08 26 43.8**	**+3.0**
EGOR	**Sierra Gorda,**	**0.94**	**82**	Pg	**Pg**	**08 26 29.1**	**-0.3**
EGOR				Sg	**Sg**	**08 26 42.6**	**+0.8**
EGOR				*i* Vmb_Lg		08 26 48.5	
EXCBR	**El Cabril**	**1.09**	**354**	Pg	**Pb**	**08 26 31.0**	**-0.3**
EXCBR				Sg	**Sg**	**08 26 46.0**	**-0.5**
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pb**	**08 26 30.9**	**-0.4**
ECAB				Sg	**Sg**	**08 26 46.1**	**-0.5**
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pb**	**08 26 30.8**	**-0.5**
ECAB				Sg	**Sg**	**08 26 46.3**	**-0.3**
ECAB				*i* Vmb_Lg		08 26 47.3	
EADA	**Adamuz**	**1.30**	**25**	Sn	**Sb**	**08 26 51.5**	**+0.3**
EADA				Pn	**Pn**	**08 26 34.1**	**0.0**
EADA	**Adamuz**	**1.30**	**25**	⇑Pg	**Pn**	**08 26 34.2**	**0.0**
EADA				Sg	**Sb**	**08 26 51.3**	**+0.2**
EADA				*i* Vmb_Lg		08 26 54.4	
ELGU	**Los Guajares,**	**1.32**	**95**	Pn	**Pn**	**08 26 34.9**	**+0.4**
ELGU				Sn	**Sg**	**08 26 55.5**	**+1.5**
ELGU	**Los Guajares,**	**1.32**	**95**	Pg	**Pn**	**08 26 35.4**	**+0.8**
ELGU				Sg	**Sg**	**08 26 54.9**	**+0.9**
ELGU				*i* Vmb_Lg		08 27 00.0	
EXCAB	**Granada**	**1.35**	**82**	Pg	**Pn**	**08 26 37.3**	**+2.3**
EMIN	**Mina Concepcio**	**1.36**	**305**	Pn	**Pn**	**08 26 34.4**	**-0.6**
EMIN				Sn	**Sb**	**08 26 53.6**	**+0.8**
EMIN	**Mina Concepcio**	**1.36**	**305**	⇓Pg	**Pn**	**08 26 34.4**	**-0.6**
EMIN				Sg	**Sb**	**08 26 53.9**	**+1.1**
EMIN				*i* Vmb_Lg		08 26 56.8	
EQTA	**Presa de Quent**	**1.48**	**81**	Pn	**Pn**	**08 26 37.8**	**+1.1**
EQTA				Sn	**Sg**	**08 26 59.6**	**+0.6**
EQUE	**Quentar**	**1.48**	**81**	Pg	**Pn**	**08 26 38.0**	**+1.3**
EQUE				Sg	**Sb**	**08 26 58.9**	**+2.5**
EQUE				*i* Vmb_Lg		08 27 01.6	
E0803	**Jimena (Jaen)**	**1.66**	**59**	Pn	**Pn**	**08 26 39.3**	**+0.1**
E0803				Pg	**Pb**	**08 26 40.9**	**-0.2**
E0803				Sg	**Sb**	**08 27 05.0**	**+3.3**
EXAYA	**Ayamonte**	**1.72**	**278**	Pg	**Pb**	**08 26 43.0**	**+1.0**
EXAYA				Sg	**Sb**	**08 27 04.7**	**+1.4**
PBAR	**Barrancos**	**1.84**	**311**	*e*Pn	**Pn**	**08 26 41.1**	**-0.4**
PBAR				*e*Sg	**Sg**	**08 27 09.9**	**-0.4**
PBAR				*i* AML	AML	08 27 13.2	
PBAR				*i* AML	AML	08 27 13.3	
PBAR				*i* AML	AML	08 27 14.3	
PBAR	**Barrancos**	**1.84**	**311**	Pn	**Pn**	**08 26 41.1**	**-0.4**
PBAR				Sn	**Sn**	**08 27 05.1**	**+0.9**
EGRO	**El Granado**	**1.85**	**288**	Pn	**Pn**	**08 26 41.0**	**-0.7**
EGRO				Sn	**Sn**	**08 27 05.7**	**+1.3**
EGRO	**El Granado**	**1.85**	**288**	⇓Pn	**Pn**	**08 26 41.2**	**-0.5**
EGRO				Sg	**Sn**	**08 27 06.9**	**+2.4**
EGRO				*i* Vmb_Lg		08 27 12.5	
EQES	**Quesada**	**1.93**	**65**	Pn	**Pn**	**08 26 43.3**	**+0.4**
EQES				Pg	**Pb**	**08 26 46.0**	**+0.3**
EQES				Sg	**Sb**	**08 27 11.2**	**+1.8**
EQES				*i* Vmb_Lg		08 27 15.3	
PVAQ	**Vaqueiros**	**2.00**	**283**	⇓*i*Pn	**Pn**	**08 26 43.2**	**-0.5**
PVAQ				*i* AML	AML	08 27 16.1	
PVAQ	**Vaqueiros**	**2.00**	**283**	Pn	**Pn**	**08 26 43.0**	**-0.8**
PVAQ				Sn	**Sn**	**08 27 07.2**	**-0.9**
PVAQ	**Vaqueiros**	**2.00**	**283**	P	**Pn**	**08 26 43.2**	**-0.5**
PVAQ	**Vaqueiros**	**2.00**	**283**	S	**Sn**	**08 27 08.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**2.14**	**278**	⇑*e*Pn	**Pn**	**08 26 45.5**	**-0.3**
PBDV				*e*Sn	**Sn**	**08 27 10.7**	**-1.1**
PBDV				*e*Sg	**Sb**	**08 27 18.2**	**+2.8**
PBDV				*i* AML	AML	08 27 21.4	
PBDV				*i* AML	AML	08 27 21.4	
PBDV				*i* AML	AML	08 27 22.6	
PSIM	**Granatula de C**	**2.18**	**33**	Pn	**Pn**	**08 26 46.5**	**+0.1**
PSIM				Pg	**Pb**	**08 26 49.6**	**-0.3**
PSIM				Sn	**Sn**	**08 27 12.7**	**-0.2**
PSIM				Sg	**Sb**	**08 27 19.2**	**+2.5**
EBAD	**Badajoz**	**2.24**	**322**	Pn	**Pn**	**08 26 46.5**	**-0.5**
EBAD				Sn	**Sn**	**08 27 12.5**	**-1.6**
EBAD	**Badajoz**	**2.24**	**322**	⇓Pn	**Pn**	**08 26 46.6**	**-0.4**
EBAD				Sn	**Sn**	**08 27 14.1**	**0.0**
EBAD				Sg	**Sb**	**08 27 21.2**	**+3.1**
EBAD				*i* Vmb_Lg		08 27 24.7	
PCVE	**Castro Verde**	**2.30**	**287**	⇓*e*Pn	**Pn**	**08 26 47.4**	**-0.5**
PCVE				*e*Sn	**Sn**	**08 27 14.2**	**-1.4**
PCVE				*e*Sg	**Sb**	**08 27 22.6**	**+2.7**
PCVE				*i* AML	AML	08 27 26.6	
PCVE				*i* AML	AML	08 27 29.1	
PCVE				*i* AML	AML	08 27 32.9	
PCVE	**Castro Verde**	**2.30**	**287**	Pn	**Pn**	**08 26 47.2**	**-0.6**
PCVE				Sn	**Sn**	**08 27 16.7**	**+1.1**
PBEJ	**Beja**	**2.31**	**297**	*e*Pn	**Pn**	**08 26 47.7**	**-0.4**
PBEJ				*e*Sn	**Sn**	**08 27 15.5**	**-0.3**
PBEJ				*e*Sg	**Sb**	**08 27 23.5**	**+3.3**
PBEJ				*i* AML	AML	08 27 31.0	
PBEJ				*i* AML	AML	08 27 31.9	
PBEJ				*i* AML	AML	08 27 34.5	
ENIJ	**Nijar**	**2.45**	**90**	Sg	**Sg**	**08 27 29.3**	**-0.7**
ENIJ				*i* Vmb_Lg		08 27 32.6	
MESJ	**Messejana**	**2.50**	**291**	*e*P	**Pn**	**08 26 50.2**	**-0.4**
MESJ	**Messejana**	**2.50**	**291**	⇓*e*Pn	**Pn**	**08 26 50.3**	**-0.4**
MESJ				*e*Sn	**Sn**	**08 27 18.9**	**-1.6**
MESJ				*e*Sg	**Sb**	**08 27 29.3**	**+3.7**
MESJ				*i* AML	AML	08 27 34.5	
MESJ				*i* AML	AML	08 27 36.1	
MESJ				*i* AML	AML	08 27 37.6	
PESTR	**Estremoz**	**2.62**	**316**	*e*Pn	**Pn**	**08 26 52.3**	**-0.1**
PESTR				*e*Pg	**Pb**	**08 26 58.1**	**+0.7**
PESTR				*e*Sn	**Sn**	**08 27 22.8**	**-0.8**
PESTR				*e*Sg	**Sb**	**08 27 32.8**	**+3.6**
PESTR				*i* AML	AML	08 27 38.2	
PESTR				*i* AML	AML	08 27 44.0	
PESTR				*i* AML	AML	08 27 45.5	
PAB	**San Pablo**	**2.65**	**16**	Pn	**Pn**	**08 26 53.8**	**+1.0**
PAB				Sn	**Sn**	**08 27 22.4**	**-2.0**
PAB				Sg	**Sb**	**08 27 32.6**	**+2.4**
PAB				*i* Vmb_Lg		08 27 38.4	
EVO	**Evora**	**2.66**	**306**	*e*Pn	**Pn**	**08 26 53.2**	**+0.3**
EVO				*e*Sn	**Sn**	**08 27 24.2**	**-0.4**
EVO				*e*Sg	**Sb**	**08 27 34.2**	**+3.9**
EVO				*i* AML	AML	08 27 39.0	
EVO				*i* AML	AML	08 27 39.2	
EVO				*i* AML	AML	08 27 39.3	
MORF	**Marmelete**	**2.72**	**278**	*e*P	**Pn**	**08 26 53.4**	**-0.3**
MORF				*e*S	**Sn**	**08 27 24.7**	**-1.4**
MORF				IAML		08 27 27.9	
	comp=N,23nm,0.2s						
MORF	**Marmelete**	**2.72**	**278**	*e*Pn	**Pn**	**08 26 53.7**	**0.0**
MORF				*e*Sn	**Sn**	**08 27 25.1**	**-0.9**
MORF				*e*Sg	**Sb**	**08 27 36.1**	**+4.0**
MORF				*i* AML	AML	08 27 40.2	
MORF				*i* AML	AML	08 27 40.2	
MORF				*i* AML	AML	08 27 40.2	
PTEO	**Sao Teotonio**	**2.81**	**282**	*e*Pn	**Pn**	**08 26 54.6**	**-0.3**
PTEO				*e*Sn	**Sn**	**08 27 28.5**	**+0.3**
PTEO				*e*Sg	**Sg**	**08 27 40.0**	**-1.4**
PTEO				*i* AML	AML	08 27 47.0	
PTEO				*i* AML	AML	08 27 47.4	
PTEO				*i* AML	AML	08 27 49.7	
PFVI	**Vila Bisbo**	**2.85**	**274**	*e*Pn	**Pn**	**08 26 54.7**	**-0.7**
PFVI				*e*Sn	**Sn**	**08 27 28.1**	**-1.0**
PFVI				*e*Sg	**Sg**	**08 27 41.0**	**-1.6**
PFVI				*i* AML	AML	08 27 42.3	
PFVI				*i* AML	AML	08 27 43.9	
PFVI				*i* AML	AML	08 27 49.2	
PFVI	**Vila Bisbo**	**2.85**	**274**	P	**Pn**	**08 26 54.6**	**-0.8**
PFVI	**Vila Bisbo**	**2.85**	**274**	S	**Sn**	**08 27 27.7**	**-1.5**
ESDC	**Sonseca Array**	**2.87**	**21**	Pn	**Pn**	**08 26 56.5**	**+0.7**
ESDC				Sn	**Sn**	**08 27 28.8**	**-1.0**
ESDC				Sg	**Sb**	**08 27 39.9**	**+3.5**
ESDC				*i* Vmb_Lg		08 27 44.4	
ESBB	**Sonseca Array**	**2.87**	**21**	Pn	**Pn**	**08 26 56.7**	**+0.8**
ESBB				Sn	**Sn**	**08 27 29.3**	**-0.5**
ESBB				Sg	**Sb**	**08 27 39.9**	**+3.5**
PMRV	**Marv??o**	**2.95**	**326**	*e*Pn	**Pn**	**08 26 56.5**	**-0.4**
PMRV				*e*Sn	**Sn**	**08 27 31.7**	**-0.1**
PMRV				*e*Sg	**Sb**	**08 27 42.8**	**+4.1**
PMRV				*i* AML	AML	08 27 47.8	
PMRV				*i* AML	AML	08 27 47.9	
PMRV				*i* AML	AML	08 27 51.8	
PMTG	**Montargil**	**3.12**	**313**	*e*Pn	**Pn**	**08 26 58.8**	**-0.4**
PMTG				*e*Sn	**Sn**	**08 27 36.0**	**+0.1**
PMTG				*e*Sg	**Sb**	**08 27 48.7**	**+5.1**
PMTG				*i* AML	AML	08 27 55.4	
PMTG				*i* AML	AML	08 27 57.0	
PMTG				*i* AML	AML	08 27 59.5	
EPLA	**Plasencia**	**3.13**	**349**	Sg	**Sb**	**08 27 47.8**	**+3.9**
EPLA				*i* Vmb_Lg		08 27 53.0	
PCBR	**Castelo Branco**	**3.33**	**329**	*e*Pn	**Pn**	**08 27 03.1**	**+1.0**
PCBR				*e*Sn	**Sn**	**08 27 40.0**	**-1.0**
PCBR				*e*Sg	**Sb**	**08 27 54.6**	**+5.0**
PCBR				*i* AML	AML	08 28 03.5	
PCBR				*i* AML	AML	08 28 04.4	
PCBR				*i* AML	AML	08 28 04.7	
ZHG	**ZHG**	**3.71**	**198**	P	**Pn**	**08 27 06.9**	**-0.5**
ZHG	**ZHG**	**3.71**	**198**	S	**Sn**	**08 27 48.4**	**-2.2**
PMAFR	**Mafra**	**3.73**	**303**	*e*Pn	**Pn**	**08 27 07.5**	**0.0**
PMAFR				*e*Sn	**Sn**	**08 27 51.9**	**+1.0**
GUD	**Guadarrama**	**3.75**	**13**	Pn	**Pn**	**08 27 08.6**	**+0.6**
GUD				Sn	**Sn**	**08 27 48.6**	**-3.0**
GUD				Sg	**Sg**	**08 28 09.8**	**-1.8**
GUD				*i* Vmb_Lg		08 28 17.8	
MTE	**Manteigas**	**3.84**	**333**	*e*Sn	**Sn**	**08 27 52.6**	**-1.1**
MTE				*e*Sg	**Sb**	**08 28 09.3**	**+5.0**
MTE				*i* AML	AML	08 28 17.7	
MTE				*i* AML	AML	08 28 20.5	
MTE				*i* AML	AML	08 28 20.7	
PCAS	**Casmilo, Conde**	**3.97**	**321**	*e*Sg	**Sg**	**08 28 17.5**	**-1.1**
PCAS				*i* AML	AML	08 28 22.4	
PCAS				*i* AML	AML	08 28 24.5	
PCAS				*i* AML	AML	08 28 25.3	
EVIV	**Cofrentes, Val**	**3.98**	**54**	Pn	**Pn**	**08 27 10.1**	**-1.0**
EVIV				Pg	**Pb**	**08 27 20.2**	**-0.5**
EVIV				Sn	**Sn**	**08 27 56.9**	**-0.4**
EVIV				Sg	**Sg**	**08 28 16.0**	**-3.0**
EVIV				*i* Vmb_Lg		08 28 20.9	
EJUZ	**Juzbado, Salam**	**4.12**	**353**	Pn	**Pn**	**08 27 13.7**	**+0.7**
EJUZ				Sn	**Sn**	**08 27 59.7**	**-0.9**
EJUZ				Sg	**Sg**	**08 28 20.2**	**-3.1**
MD31	**MD31**	**4.14**	**174**	P	**Pn**	**08 27 12.3**	**-0.9**
MD31	**MD31**	**4.14**	**174**	S	**Sn**	**08 27 57.9**	**-3.2**
MDT	**Midelt**	**4.20**	**172**	P	**Pn**	**08 27 13.6**	**-0.6**
MDT	**Midelt**	**4.20**	**172**	S	**Sn**	**08 27 59.0**	**-3.7**
PVIS	**Viseu**	**4.25**	**332**	*e*Pn	**Pn**	**08 27 15.2**	**+0.4**
PVIS				*e*Sn	**Sn**	**08 28 02.3**	**-1.4**
MVO	**Moncorvo**	**4.39**	**342**	*e*Pn	**Pn**	**08 27 16.5**	**-0.2**
MVO				*e*Sn	**Sn**	**08 28 05.5**	**-1.7**
MVO				*e*Sg	**Sg**	**08 28 29.1**	**-2.8**
MVO				*i* AML	AML	08 28 34.9	
MVO				*i* AML	AML	08 28 36.1	
MVO				*i* AML	AML	08 28 41.0	
ETOR	**Torete**	**4.57**	**32**	Pn	**Pn**	**08 27 19.5**	**+0.3**
ETOR				Sn	**Sn**	**08 28 10.1**	**-1.7**
ETOR				Sg	**Sg**	**08 28 34.7**	**-3.1**
ETOR				*i* Vmb_Lg		08 28 47.3	
PVRL	**Vila Real**	**4.68**	**337**	*e*Sn	**Sn**	**08 28 12.1**	**-2.4**
PVRL				*i* AML	AML	08 28 14.7	
PVRL				*i* AML	AML	08 28 14.8	
PVRL				*i* AML	AML	08 28 16.4	
POLO	**Lamas de Olo**	**4.80**	**337**	*e*Pn	**Pn**	**08 27 22.0**	**-0.3**
POLO				*e*Sn	**Sn**	**08 28 15.8**	**-1.5**
POLO				*i* AML	AML	08 28 45.8	
POLO				*i* AML	AML	08 28 46.5	
POLO				*i* AML	AML	08 28 46.9	
PBRG	**Braganca**	**4.94**	**347**	*e*Sn	**Sn**	**08 28 19.2**	**-1.7**
PBRG				*e*Sg	Sb	08 28 44.6	+8.7
PBRG				*i* AML	AML	08 28 54.3	
PBRG				*i* AML	AML	08 29 00.2	
PBRG				*i* AML	AML	08 29 03.5	
EMOS	**Mosqueruela**	**5.04**	**47**	Sg	**Sg**	**08 28 50.2**	**-2.8**
EMOS				*i* Vmb_Lg		08 29 01.3	
ECAL	**Calabor**	**5.07**	**348**	Pn	**Pn**	**08 27 26.8**	**+0.7**
ECAL				Sn	**Sn**	**08 28 21.6**	**-2.5**
ECAL				Sg	**Sg**	**08 28 51.0**	**-2.9**
ECAL				*i* Vmb_Lg		08 28 54.5	
PCAB	**Cabril**	**5.17**	**336**	*e*Sn	**Sn**	**08 28 25.0**	**-1.6**
ELOB	**Lobios**	**5.33**	**337**	Sn	**Sn**	**08 28 29.2**	**-1.3**
ELOB				Sg	**Sg**	**08 28 58.7**	**-3.4**
ELOB				*i* Vmb_Lg		08 29 08.1	
PGAV	**Gavieira, Arco**	**5.48**	**336**	*e*Sn	**Sn**	**08 28 32.2**	**-2.1**
PGAV				*i* AML	AML	08 29 08.4	
PGAV				*i* AML	AML	08 29 16.5	

RSNC 30 08:46:45.8±0.0, 6.°N±1.°×7.°3W±.°, h137km±2km, M2.5, mb3.5, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.36**	**119**	P	Pn	08 47 05.2	-0.4
RUSC				S	Sn	08 47 20.5	-0.1
BARC	**Barichara**	**0.56**	**23**	P	Pn	08 47 05.8	-0.5
BARC				S	Sn	08 47 21.8	-0.1
BRJC	**Barrancabermej**	**0.96**	**339**	P	Pn	08 47 08.5	-0.5
BRJC				S	Sn	08 47 26.7	0.0
PTBC	**PUERTO BERRIO,**	**1.15**	**294**	P	Pn	08 47 09.6	-1.2
PTBC				S	Sn	08 47 28.4	-1.4
PAMC	**Pamplona, Colo**	**1.44**	**29**	P	Pn	08 47 14.2	-0.1
PAMC				S	Sn	08 47 36.0	+0.1
CHIC	**Chingaza**	**1.47**	**193**	P	Pn	08 47 14.0	-0.5
CHIC				S	Sn	08 47 35.6	-0.8
ROSC	**El Rosal**	**1.53**	**217**	P	Pn	08 47 15.8	+0.7
ROSC				S	Sn	08 47 39.7	+2.3
NORC	**Norcasia**	**1.55**	**251**	P	Pn	08 47 14.4	-0.6
NORC				S	Sn	08 47 37.0	-0.2
TAMC	**Tame, Arauca**	**1.64**	**77**	P	Pn	08 47 15.6	-0.4
TAMC				S	Sn	08 47 38.2	-0.9
CVER	**Cruz Verde, Cu**	**1.68**	**204**	P	Pn	08 47 17.0	+0.1
CVER				S	Sn	08 47 41.6	+1.0
VILC	**Villavicencio,**	**1.97**	**189**	P	Pn	08 47 18.9	-1.0
VILC				S	Sn	08 47 44.7	-1.4
ZARC	**Zaragoza, Cauc**	**2.02**	**314**	P	Pn	08 47 19.6	-0.9
ZARC				S	Sn	08 47 45.8	-1.2
HELC	**Santa Helena**	**2.12**	**273**	P	Pn	08 47 22.3	+0.3
HELC				S	Sn	08 47 48.5	-1.2
GUY2C	**Guyana, Caldas**	**2.13**	**247**	P	Pn	08 47 22.5	+0.3
GUY2C				S	Sn	08 47 50.3	+0.3
OCAC	**Ocana**	**2.16**	**2**	P	Pn	08 47 22.1	-0.1
OCAC				S	Sn	08 47 50.5	+0.3
RECRC	**Villamaria, Ca**	**2.23**	**241**	P	Pn	08 47 24.7	+1.1
RECRC				S	Sn	08 47 54.2	+1.8
PTGC	**Puerto Gaitan,**	**2.25**	**146**	P	Pn	08 47 21.7	-1.5
PTGC				S	Sn	08 47 49.5	-2.4
ANIL	**Santa Ana**	**2.54**	**232**	P	Pn	08 47 26.9	-0.2
ANIL				S	Sn	08 47 59.2	+0.4
CBOC	**Ciudad Bolivar**	**2.61**	**266**	P	Pn	08 47 27.7	-0.1
CBOC				S	Sn	08 47 58.7	-1.4
UREC	**San Jos de Ur**	**2.70**	**308**	P	Pn	08 47 26.8	-2.0
UREC				S	Sn	08 47 58.5	-3.5
PRAC	**Prado**	**2.77**	**212**	P	Pn	08 47 28.9	-0.9
PRAC				S	Sn	08 48 03.7	0.0
DBBC	**Dabeiba**	**2.95**	**289**	P	Pn	08 47 32.0	-0.1
DBBC				S	Sn	08 48 06.9	-0.9
GUVC	**San Jose del G**	**3.59**	**168**	P	Pn	08 47 40.7	+0.4
GUVC				S	Sn	08 48 20.0	-2.6
MACC	**Macarena, Meta**	**3.92**	**187**	P	Pn	08 47 42.1	-2.7
MACC				S	Sn	08 48 25.9	-4.7
SJCC	**San Jacinto, C**	**4.19**	**335**	P	Pn	08 47 46.0	-2.3
SJCC				S	Sn	08 48 33.2	-3.7
GARC	**Garzon, Huila**	**4.39**	**209**	P	Pn	08 47 49.4	-1.7
GARC				S	Sn	08 48 40.2	-1.6
MALC	**Bahia Malaga**	**4.42**	**243**	P	Pn	08 47 50.5	-0.8
CRJC	**Cerrejon, Guaj**	**4.95**	**6**	P	Pn	08 47 57.1	-1.3
CRJC				S	Sn	08 48 51.3	-3.6
FLOC	**Florencia**	**4.99**	**207**	P	Pn	08 47 57.7	-1.3
FLOC				S	Sn	08 48 55.9	-0.1
URIC	**Uribia, Colomb**	**5.77**	**14**	P	Pn	08 48 07.1	-2.2
URIC				S	Sn	08 49 10.6	-3.9

*NEIC **30** 09:05:04.7±1.1, 51.°5N±0.°1×171.°3E±0.°1, h10km±2km, mb4.2/135, Error ellipse: s-maj=24.0km s-min=10.2km az=158.0*
*IDC **30** 09:05:06.1±0.7, 51.°96N×171.°17E, h0km, mb4.0/17, mbtmp4.0/19, ML3.4/2, MS3.2/2, Error ellipse: s-maj=22.6km s-min=12.1km az=171.0*
*MOS **30** 09:05:07.2±0.8, 52.°08N×171.°05E, h19km, mb4.3/9, Error ellipse: s-maj=10.5km s-min=7.2km az=21.7*
*KRSC **30** 09:05:11.8±2.0, 52.°25N×170.°29E, h18km±53km, Ml4.2*

ISC 30 09:05:07.8±0.6, 52.°06N±0.°09×171.°06E±0.°04, h10km, n197, σ1§47/169, mb4.2/79, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.98**	**69**	Pn	**Pn**	**09 05 39.7**	**-1.7**
	454nm,0.3s,baz=252,slow=3.2,SNR=303						
SHEM				Sn	**Sn**	**09 06 02.2**	**-4.0**
	1um,0.3s,baz=314,slow=21,SNR=150						
SMY	**Shemya**	**1.98**	**69**	Pn	**Pn**	**09 05 39.8**	**-1.6**
SMY				Sn	**Sn**	**09 06 02.3**	**-3.9**
SMY	**Shemya**	**1.98**	**69**	P	**Pn**	**09 05 39.8**	**-1.6**
SMY						09 06 02.3	
BKI	**Bering**	**4.37**	**318**	*e*S	**Sn**	**09 07 00.6**	**-4.5**
MKZ	**Mys Kozlova**	**6.12**	**298**	P	**Pn**	**09 06 38.1**	**-0.2**
MKZ				S	**Sn**	**09 07 42.6**	**-5.7**
MKZ	**Mys Kozlova**	**6.12**	**298**	*e*P	**Pn**	**09 06 38.1**	**-0.2**
MKZ				*e*S	**Sn**	**09 07 42.6**	**-5.7**
KBTR	**Krutoberegovo**	**6.38**	**314**	P	**Pn**	**09 06 42.3**	**+0.5**
KBTR				S	**Sn**	**09 07 50.0**	**-4.6**
KBTR	**Krutoberegovo**	**6.38**	**314**	*e*P	**Pn**	**09 06 42.3**	**+0.5**
KBTR				*e*S	**Sn**	**09 07 50.1**	**-4.6**
KBG	**Krutoberegovo**	**6.46**	**314**	*e*S	**Sn**	**09 07 52.6**	**-3.9**
KII	**Karymskiy**	**7.27**	**290**	P	**Pn**	**09 06 54.5**	**+0.4**
KII	**Karymskiy**	**7.27**	**290**	*e*P	**Pn**	**09 06 54.6**	**+0.4**
KMNR	**Kamenistaya**	**7.38**	**304**	P	**Pn**	**09 06 56.6**	**+1.0**
KMNR	**Kamenistaya**	**7.38**	**304**	*e*P	**Pn**	**09 06 56.7**	**+1.0**
SDLR	**Sedlovina**	**7.50**	**284**	P	**Pn**	**09 06 58.1**	**+0.8**
SDLR	**Sedlovina**	**7.50**	**284**	*e*P	**Pn**	**09 06 58.1**	**+0.8**
UGLR	**Uglovaya**	**7.54**	**284**	P	**Pn**	**09 06 58.8**	**+1.1**
UGLR	**Uglovaya**	**7.54**	**284**	*e*P	**Pn**	**09 06 58.8**	**+1.1**
DALK	**Dalny**	**7.57**	**282**	P	**Pn**	**09 06 58.5**	**+0.5**
DALK	**Dalny**	**7.57**	**282**	*e*P	**Pn**	**09 06 58.5**	**+0.5**
AVH	**Avacha**	**7.59**	**284**	P	**Pn**	**09 06 59.5**	**+1.1**
AVH	**Avacha**	**7.59**	**284**	*e*P	**Pn**	**09 06 59.6**	**+1.1**
PET	**Petropavlovsk**	**7.63**	**282**		**Pn**	**09 06 59.7**	**+0.8**
KRX	**Arik**	**7.65**	**285**	P	**Pn**	**09 07 00.1**	**+0.7**
KRX	**Arik**	**7.65**	**285**	*e*P	**Pn**	**09 07 00.1**	**+0.7**
KOK	**Koryaka**	**7.65**	**284**	P	**Pn**	**09 07 00.3**	**+0.9**
KOK	**Koryaka**	**7.65**	**284**	*e*P	**Pn**	**09 07 00.3**	**+0.9**
RUS	**Russkaya**	**7.71**	**278**	P	**Pn**	**09 07 00.8**	**+0.8**
RUS	**Russkaya**	**7.71**	**278**	*e*P	**Pn**	**09 07 00.9**	**+0.8**
KRMR	**Karymshinskiy**	**7.94**	**281**	P	**Pn**	**09 07 04.6**	**+1.5**
KRMR	**Karymshinskiy**	**7.94**	**281**	*e*P	**Pn**	**09 07 04.7**	**+1.5**
GRL	**Gorelyy**	**7.98**	**279**	P	**Pn**	**09 07 05.8**	**+2.0**
GRL	**Gorelyy**	**7.98**	**279**	*e*P	**Pn**	**09 07 05.8**	**+2.0**
KDTR	**Khodutka, Kamc**	**8.03**	**273**	P	**Pn**	**09 07 04.7**	**+0.3**
KDTR	**Khodutka, Kamc**	**8.03**	**273**	*e*P	**Pn**	**09 07 04.8**	**+0.3**
GNL	**Ganaly**	**8.10**	**287**	P	**Pn**	**09 07 07.2**	**+1.7**
GNL	**Ganaly**	**8.10**	**287**	*e*P	**Pn**	**09 07 07.3**	**+1.7**
PEA0B	**Petropavlovsk-**	**8.21**	**283**	Pn	**Pn**	**09 07 07.7**	**+0.8**
PEA0B	**Petropavlovsk-**	**8.21**	**283**	P	**Pn**	**09 07 07.7**	**+0.8**
PETK	**Petropavlovsk-**	**8.21**	**283**		**Pn**	**09 07 07.3**	**+0.4**
PETK	**Petropavlovsk-**	**8.21**	**283**	Pn	**Pn**	**09 07 07.6**	**+0.7**
	2.1nm,0.3s,baz=90,slow=18,SNR=17						
PETK

H21K Melozitna Rive 22.70 39 P **P 09 10 09.7 +0.4**
H21K IAmb IAmb 09 10 10.9
comp=Z,7.8nm,0.8s
SLKM Skilak Lake 22.79 53 P **P 09 10 09.6 -0.7**
SLKM IAmb IAmb 09 10 09.8
comp=Z,8.8nm,1.1s
KTH Kantishna Hill 22.91 45 P **P 09 10 11.4 -0.1**
KTH IAmb IAmb 09 10 14.6
comp=Z,4.6nm,0.8s
BPAW Bear Paw Mtn. 23.00 44 P **P 09 10 12.5 0.0**
O22K Cooper Landing 23.03 53 P **P 09 10 11.6 -1.2**
RC01 Rabbit Creek A 23.07 52 P **P 09 10 12.9 -0.3**
TRF Thorofare Moun 23.16 46 P **P 09 10 14.0 -0.3**
PMR Palmer 23.41 50 P **P 09 10 14.7 -1.9**
PMR Palmer 23.41 50 P **P 09 10 14.7 -1.9**
PMR pmax pmax
comp=Z,7.0nm,1.4s
GHO Glory Hole Cre 23.53 50 P **P 09 10 17.3 -0.6**
GHO IAmb IAmb 09 10 35.4
comp=Z,3.3nm,0.7s
KNK Knik Glacier 23.72 51 P **P 09 10 18.3 -1.3**
KNK IAmb IAmb 09 10 23.7
comp=Z,5.2nm,0.8s
B21K Ikpikpuk River 23.74 29 IAmb IAmb 09 10 21.2
comp=Z,7.4nm,0.9s
PWL Port Wells 23.74 52 P **P 09 10 18.3 -1.5**
PWL IAmb IAmb 09 10 19.0
comp=Z,7.9nm,1.0s
RND Reindeer 23.79 46 P **P 09 10 19.8 -0.6**
RND IAmb IAmb 09 10 20.5
comp=Z,2.9nm,0.6s
RND Reindeer 23.79 46 P **P 09 10 19.8 -0.6**
RND pmax pmax
comp=Z,3.0nm,0.6s
MCK McKinley 23.81 45 P **P 09 10 20.0 -0.5**
MCK IAmb IAmb 09 10 21.3
comp=Z,6.6nm,0.7s
MCK McKinley 23.81 45 P **P 09 10 20.0 -0.5**
MCK pmax pmax
comp=Z,7.0nm,0.7s
I23K Minto, Yukon-K 23.93 42 IAmb IAmb 09 10 21.9
comp=Z,5.4nm,0.6s
E22K Anaktuvuk Pass 23.97 34 IAmb IAmb 09 10 23.4
comp=Z,5.4nm,0.8s
D22K Ayikyak River 24.00 32 IAmb IAmb 09 10 27.3
comp=Z,4.8nm,0.8s
WRH Wood River Hil 24.31 44 P **P 09 10 24.7 -0.5**
WRH IAmb IAmb 09 10 25.6
comp=Z,5.8nm,1.0s
B22K Teshekpuk Lake 24.46 28 IAmb IAmb 09 10 26.6
comp=Z,6.1nm,0.8s
CCB Clear Creek Bu 24.47 43 P **P 09 10 26.3 -0.3**
CCB IAmb IAmb 09 10 31.3
comp=Z,5.4nm,1.1s
COLA College 24.50 43 P **P 09 10 26.8 0.0**
COLA College 24.50 43 P **P 09 10 26.8 0.0**
COLA pmax pmax
comp=Z,16nm,0.7s
FID Port Fidalgo 24.64 53 P **P 09 10 26.8 -1.4**
FID IAmb IAmb 09 10 30.8
comp=Z,5.0nm,0.8s
D23K Nanushuk River 24.69 32 IAmb IAmb 09 10 30.0
comp=Z,7.0nm,0.8s
H24K Noodor Dome 24.70 40 IAmb IAmb 09 10 45.5
comp=Z,3.6nm,0.8s
E23K Chandalar 24.71 35 IAmb IAmb 09 10 41.3
comp=Z,4.7nm,0.9s
HDA Harding Lake 24.79 44 IAmb IAmb 09 10 29.6
comp=Z,4.7nm,0.6s
IL31 24.88 43 IAmb IAmb 09 10 30.8
comp=Z,5.6nm,0.7s
ILAR Eielson Array 24.88 43 P **P 09 10 29.5 -0.8**
ILAR Eielson Array 24.88 43 P **P 09 10 29.0 -1.3**
comp=Z,4.1nm,0.7s,baz=248,slow=7.7,SNR=80
ILAR LR LR 09 19 15.1
comp=Z,104nm,19.7s,baz=276,slow=34
comp=Z,4.1nm,0.7s
ILAR Eielson Array 24.88 43 P **P 09 10 29.5 -0.8**
TOLK Toolik Lake Re 24.93 33 P **P 09 10 30.8 -0.1**
TOLK IAmb IAmb 09 10 35.9
comp=Z,5.6nm,0.9s
G24K Hadweenzic Riv 25.08 38 IAmb IAmb 09 10 37.8
comp=Z,3.0nm,0.7s
PAX Paxson 25.25 47 IAmb IAmb 09 10 34.7
comp=Z,3.7nm,0.8s
J25K Salcha River, 25.50 44 P **P 09 10 34.5 -1.5**
J25K IAmb IAmb 09 10 35.0
comp=Z,3.8nm,0.6s
BMRM Bremner River 25.56 52 IAmb IAmb 09 10 39.3
comp=Z,4.7nm,0.8s
N25K Chitina, Valde 25.58 51 IAmb IAmb 09 10 49.4
comp=Z,3.9nm,0.9s
PRP Porcupine Dome 25.58 42 IAmb IAmb 09 10 39.1
comp=Z,2.5nm,0.6s
FYU Fort Yukon 25.91 39 P **P 09 10 40.2 +0.6**
DOT Dot Lake 25.95 46 IAmb IAmb 09 10 41.0
comp=Z,6.4nm,1.0s
F25K Christian Rive 26.00 37 IAmb IAmb 09 10 43.1
comp=Z,4.5nm,1.1s
MENT Mentasta 26.05 48 IAmb IAmb 09 10 59.1
comp=Z,4.4nm,0.6s
E25K Arctic Village 26.17 36 IAmb IAmb 09 10 44.7
comp=Z,5.3nm,0.7s
L26K Log Cabin Wild 26.22 48 IAmb IAmb 09 11 03.3
comp=Z,6.9nm,1.5s
J26L Joseph Creek 26.25 44 P **P 09 10 41.9 -1.0**
J26L IAmb IAmb 09 10 43.2
comp=Z,4.4nm,0.8s
BMAR Burnt Mountain 26.36 37 P **P 09 10 44.3 +0.6**
M26K Nabesna, AK 26.36 49 IAmb IAmb 09 11 01.1
comp=Z,4.0nm,0.9s
WAX Waxell Ridge 26.44 53 IAmb IAmb 09 10 48.4
comp=Z,6.1nm,0.8s
K27K Chicken 26.86 45 IAmb IAmb 09 11 02.8
comp=Z,7.8nm,1.3s
C27K Jago River 27.24 33 IAmb IAmb 09 10 54.9
comp=Z,2.7nm,0.8s
G27K Doyon Strip 27.36 39 P **P 09 10 52.9 +0.2**
G27K IAmb IAmb 09 10 56.4
comp=Z,3.0nm,0.9s
E27K Coleen River 27.63 36 P **P 09 10 55.7 +0.6**
I28M Miner Creek 27.89 42 P **P 09 10 57.0 -0.6**
I28M IAmb IAmb 09 11 01.1
comp=Z,3.3nm,0.7s
DAWY Dawson 28.04 45 P **P 09 10 59.1 +0.2**
DAWY IAmb IAmb 09 11 03.2
comp=Z,4.0nm,0.8s
D27M Malcolm River 28.08 34 IAmb IAmb 09 11 13.7
comp=Z,2.7nm,0.8s
E28M Babbage River 28.46 36 P **P 09 11 03.3 +0.8**
J29N Klondike Camp 28.56 45 IAmb IAmb 09 11 10.0
comp=Z,2.5nm,0.7s
H29M Whitestone 28.59 41 P **P 09 11 03.7 0.0**
H29M IAmb IAmb 09 11 07.8
comp=Z,3.6nm,0.8s
L29M L29M 28.60 47 P **P 09 11 04.3 +0.4**
G29M Pine Creek 28.79 39 P **P 09 11 05.7 +0.2**
G29M IAmb IAmb 09 11 20.5
comp=Z,4.8nm,0.8s
K29M Barlow Dome 28.86 46 P **P 09 11 06.8 +0.5**
K29M IAmb IAmb 09 11 20.8
comp=Z,5.4nm,0.9s
HYT Haines Junctio 29.04 52 IAmb IAmb 09 11 18.4
comp=Z,6.7nm,1.4s
EPYK Eagle Plains 29.27 41 IAmb IAmb 09 11 24.3
comp=Z,4.4nm,0.9s
H31M Peel River 30.22 42 P **P 09 11 17.8 -0.3**
H31M IAmb IAmb 09 11 42.8
comp=Z,4.4nm,1.3s
G31M Satah River 30.27 40 P **P 09 11 18.6 0.0**
G31M IAmb IAmb 09 11 22.2
comp=Z,4.3nm,0.8s
F31M Tsiigehtchic 30.50 39 P **P 09 11 20.6 +0.1**
F31M IAmb IAmb 09 11 33.5
comp=Z,2.7nm,0.8s
INK Inuvik 30.62 37 P **P 09 11 21.6 0.0**
INK IAmb IAmb 09 11 32.9
comp=Z,2.2nm,0.9s
INK Inuvik 30.62 37 P **P 09 11 21.6 0.0**
INK pmax pmax
comp=Z,2.0nm,1.0s
H11N2 WAKE ISLAND Hy 32.43 187 T T 09 47 21.8
baz=5.6,slow=76,SNR=8.6
H11N3 WAKE ISLAND Hy 32.44 187 T T 09 47 19.7
baz=5.6,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 32.44 187 T T 09 47 20.1
baz=5.6,slow=76,SNR=8.7
A36M Sachs Harbour 33.62 30 P **P 09 11 48.9 +1.0**
H11S1 WAKE ISLAND Hy 33.65 187 T T 09 48 56.3
baz=5.5,slow=76,SNR=10.0
H11S3 WAKE ISLAND Hy 33.67 187 T T 09 48 45.1
baz=5.5,slow=76,SNR=8.1
H11S2 WAKE ISLAND Hy 33.67 187 T T 09 48 54.0
baz=5.5,slow=76,SNR=6.4
C36M Paulatuk 34.06 35 P **P 09 11 52.0 +0.3**
JNU Nakatsue 34.55 253 P P 09 11 52.5 -3.9
YKA Yellowknife Ar 39.28 45 P **P 09 12 36.3 +0.1**
YKA Yellowknife Ar 39.28 45 P **P 09 12 36.5 +0.2**
comp=Z,1.1nm,0.6s,baz=292,slow=8.3,SNR=28
YKA PcP **PcP 09 14 44.8 0.0**
comp=Z,0.4nm,0.8s,baz=290,slow=3.7,SNR=5.0
comp=Z,1.1nm,0.6s
ULN Ulaanbaatar 40.20 290 P **P 09 12 42.6 -1.7**
ULN IAmb IAmb 09 12 53.9
comp=Z,7.7nm,1.2s
ULN Ulaanbaatar 40.20 290 P **P 09 12 42.6 -1.7**
ULN pmax pmax
comp=Z,8.0nm,1.3s
C03A Quillayute Air 40.37 69 P P 09 12 41.3 -4.2
SONM Songino Array 40.60 291 P **P 09 12 47.1 -0.5**
SONM Songino Array 40.60 291 P **P 09 12 48.5 +1.0**
comp=Z,1.3nm,0.7s,baz=14,slow=12,SNR=9.8
SONM PcP **PcP 09 14 49.6 +0.1**
comp=Z,0.2nm,0.4s,baz=31,slow=3.4,SNR=2.2
comp=Z,1.3nm,0.7s
SONM Songino Array 40.60 291 P **P 09 12 47.1 -0.5**
SONM pmax pmax
comp=Z,3.0nm,1.4s
EUNU Eureka 41.29 15 P **P 09 12 54.8 +2.0**
HHC Hu-ho-hao-te 41.38 279 *eP* **P 09 12 52.0 -2.1**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,84nm,4.6s
LZH Lanzhou 49.08 279 *eP* P 09 13 50.5 -4.8
LZH pP pP 09 13 56.5 -0.4
LZH pmax pmax
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 49.11 353 P **P 09 13 54.5 -0.2**
comp=Z,8.6nm,0.9s,baz=58,slow=6.3,SNR=4.1
comp=Z,8.6nm,0.9s
GTA Gaotai 49.37 285 P **P 09 13 58.3 +0.9**
GTA pmax pmax
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 49.63 77 P **P 09 13 59.8 +0.2**
comp=Z,0.2nm,0.5s,baz=298,slow=7.1,SNR=2.3
NVAR PcP **PcP 09 15 21.2 +0.3**
comp=Z,0.2nm,0.5s,baz=332,slow=7.8,SNR=2.0
comp=Z,0.2nm,0.5s
FCC Fort Churchill 49.90 43 P **P 09 14 01.4 +0.4**
FCC IAmb IAmb 09 14 14.8
comp=Z,5.5nm,1.4s
FCC Fort Churchill 49.90 43 P **P 09 14 01.4 +0.4**
FCC pmax pmax
comp=Z,6.0nm,1.4s
PDAR Pinedale Array 51.98 67 P **P 09 14 16.5 -0.7**
comp=Z,0.5nm,0.8s,baz=316,slow=4.1,SNR=5.7
comp=Z,0.5nm,0.8s
KURK Kurchatov 53.81 308 P **P 09 14 30.6 +0.3**
KURK 09 15 36.6
KURBB Kurchatov Arra 53.91 308 P **P 09 14 30.6 -0.5**
comp=Z,1.8nm,0.7s,baz=52,slow=7.5,SNR=9.6
KURBB PcP **PcP 09 15 36.6 +0.3**
comp=Z,0.3nm,0.4s,baz=55,slow=3.4,SNR=2.4
comp=Z,1.8nm,0.7s
MKAR Makanchi Array 54.50 302 P **P 09 14 34.2 -1.2**
comp=Z,0.3nm,0.6s,baz=55,slow=7.6,SNR=2.3
comp=Z,0.3nm,0.6s
BVAR Borovoye Array 56.09 314 P **P 09 14 46.9 +0.1**
comp=Z,2.2nm,0.7s,baz=46,slow=8.5,SNR=8.9
comp=Z,2.2nm,0.7s
SCHQ Schefferville 63.15 33 P **P 09 15 36.9 +1.5**
comp=Z,3.1nm,0.8s,baz=340,slow=6.3,SNR=4.3
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 64.67 74 P **P 09 15 46.6 +0.7**
comp=Z,1.0nm,0.6s,baz=308,slow=4.9,SNR=19
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 64.69 268 P **P 09 15 46.8 +0.8**
comp=Z,0.9nm,0.3s,baz=29,slow=7.7,SNR=6.6
comp=Z,0.9nm,0.3s
WRA Warramunga Arr 78.53 215 P **P 09 17 07.5 -1.7**
comp=Z,1.3nm,1.0s,baz=29,slow=5.7,SNR=5.2
comp=Z,1.3nm,1.0s
BRTR Keskin Array B 81.37 328 P **P 09 17 25.1 +0.4**
comp=Z,1.0nm,0.7s,baz=55,slow=3.5,SNR=5.6
comp=Z,1.0nm,0.7s
ASAR Alice Springs 82.11 214 P **P 09 17 27.8 -0.7**
comp=Z,0.6nm,1.1s,baz=26,slow=5.3,SNR=2.4
comp=Z,0.6nm,1.1s
BOSA Boshof 145.46 299 PKPbc **PKPdf 09 24 45.6 -0.4**
comp=Z,2.5nm,0.8s,baz=61,slow=6.6,SNR=5.1

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*IDC **30** 09:18:56.2±1.9, 10°.02N×93°.53E, h0km, mb3.5/6, mbtmp3.5/6, MS3.4/3, Error ellipse: s-maj=89.1km s-min=21.5km az=60.0*
ISC 30 09:19:00.1±1.8, 10°.1N±0°.3×93°.6E±0°.5, h24km, n9, σ0°54/6, mb3.5/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.94**	**144**	LR	LR	09 24 47.4	
	comp=Z,130nm,20.3s,baz=334,slow=39						
MKAR	**Makanchi Array**	**37.84**	**347**	P	**P**	**09 26 15.5**	**+0.7**
	0.1nm,0.5s,baz=155,slow=7.9,SNR=2.3						
	0.1nm,0.5s						
SONM	**Songino Array**	**39.15**	**14**	P	**P**	**09 26 25.7**	**-0.3**
	0.3nm,0.4s,baz=188,slow=6.4,SNR=4.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**42.30**	**346**	P	**P**	**09 26 52.0**	**+0.3**
	0.3nm,0.6s,baz=158,slow=7.0,SNR=3.1						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**49.97**	**127**	P	**P**	**09 27 52.5**	**-0.1**
	1.7nm,1.0s,baz=303,slow=8.7,SNR=9.0						
	1.7nm,1.0s						
ASAR	**Alice Springs**	**51.73**	**131**	P	**P**	**09 28 06.2**	**+0.3**
	1.2nm,0.9s,baz=313,slow=7.7,SNR=10						
	1.2nm,0.9s						
KBZ	**Khabaz**	**55.13**	**317**	LR	LR	09 52 51.9	
	comp=Z,36nm,20.7s,baz=44,slow=37						
MMAI	**Mount Meron Ar**	**57.99**	**303**	LR	LR	09 56 44.7	
	comp=Z,49nm,18.3s,baz=170,slow=39						
NOA	**NORSAR Array B**	**77.57**	**330**	P	**P**	**09 30 53.6**	**-0.4**
	0.8nm,0.9s,baz=91,slow=5.1,SNR=1.4						
	0.8nm,0.9s						

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*IDC **30** 09:21:10.9±1.2, 10°.26N×93°.89E, h0km, mb3.8/7, mbtmp3.8/8, Error ellipse: s-maj=53.6km s-min=20.1km az=55.0*
ISC 30 09:21:14.0±1.2, 10°.3N±0°.2×94°.0E±0°.2, h19km, n8, σ0°24/8, mb3.8/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.44**	**30**	Pn	**Pn**	**09 23 29.0**	**-0.1**
	1.1nm,0.3s,baz=202,slow=15,SNR=1.1						
MKAR	**Makanchi Array**	**37.70**	**347**	P	**P**	**09 28 28.5**	**+0.2**
	0.5nm,0.8s,baz=157,slow=8.6,SNR=4.7						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**42.16**	**345**	P	**P**	**09 29 05.6**	**+0.4**
	0.3nm,0.6s,baz=163,slow=6.8,SNR=1.6						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**49.84**	**127**	P	**P**	**09 30 06.2**	**0.0**
	1.1nm,0.6s,baz=305,slow=8.8,SNR=9.4						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**51.63**	**131**	P	**P**	**09 30 19.9**	**+0.1**
	1.1nm,0.8s,baz=305,slow=6.6,SNR=9.3						
	1.1nm,0.8s						
BRTR	**Keskin Array B**	**60.73**	**310**	P	**P**	**09 31 24.5**	**-0.2**
	0.4nm,0.6s,baz=134,slow=10,SNR=2.0						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**70.50**	**332**	P	**P**	**09 32 27.2**	**0.0**
	2.0nm,0.8s,baz=141,slow=9.2,SNR=2.0						
	2.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**77.44**	**348**	P	**P**	**09 33 07.4**	**-0.2**
	5.6nm,0.7s,baz=122,slow=5.4,SNR=4.5						
	5.6nm,0.7s						

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*MOS **30** 09:25:28.8±0.8, 51°.76N×153°.21E, h454km, mb4.0/1, Error ellipse: s-maj=24.2km s-min=9.9km az=47.0*
*IDC **30** 09:25:29.5±1.8, 52°.02N×152°.84E, h421km±20km, mb2.6/7, mbtmp3.3/8, Error ellipse: s-maj=30.8km s-min=20.1km az=169.0*
*KRSC **30** 09:25:31.4±1.5, 51°.66N×154°.26E, h465km±23km, Ml4.3*
ISC 30 09:25:29.8±0.7, 51°.71N±0°.09×153°.48E±0°.09, h450km, n48, σ2°42/61, mb3.0/7, 2D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.09**	**95**	PN	**P**	**09 26 31.8**	**+1.2**
PAU	**Pauzhetka**	**2.09**	**95**	*eP*	**P**	**09 26 31.9**	**+1.2**
APC	**Apacha**	**2.56**	**60**	PN	**P**	**09 26 33.5**	**0.0**
APC	**Apacha**	**2.56**	**60**	*eP*	**P**	**09 26 33.6**	**0.0**
KDTR	**Khodutka, Kamc**	**2.86**	**86**	PN	**P**	**09 26 36.2**	**+0.6**
KDTR				S	**S**	**09 27 27.0**	**-2.2**
KDTR	**Khodutka, Kamc**	**2.86**	**86**	*eP*	**P**	**09 26 36.2**	**+0.6**
KDTR				*eS*	**S**	**09 27 27.1**	**-2.2**
PEA0B	**Petropavlovsk-**	**2.94**	**60**	PN	**P**	**09 26 37.5**	**+1.3**
PETK	**Petropavlovsk-**	**2.94**	**60**	P	**P**	**09 26 35.5**	**-0.7**
	3.4nm,0.5s,baz=231,slow=2.2,SNR=20						
GRL	**Gorelyy**	**2.95**	**72**	PN	**P**	**09 26 38.4**	**+2.0**
GRL	**Gorelyy**	**2.95**	**72**	*eP*	**P**	**09 26 38.4**	**+2.0**
KRMR	**Karymshinskiy**	**3.07**	**67**	PN	**P**	**09 26 38.0**	**+0.9**
KRMR	**Karymshinskiy**	**3.07**	**67**	*eP*	**P**	**09 26 38.1**	**+0.9**
RUS	**Russkaya**	**3.19**	**75**	PN	**P**	**09 26 39.0**	**+1.0**
RUS	**Russkaya**	**3.19**	**75**	*eP*	**P**	**09 26 39.1**	**+1.0**
PET	**Petropavlovsk**	**3.43**	**65**	PN	**P**	**09 26 41.5**	**+1.6**
PET	**Petropavlovsk**	**3.43**	**65**	*eP*	**P**	**09 26 41.6**	**+1.6**
DALK	**Dalny**	**3.49**	**66**	PN	**P**	**09 26 41.8**	**+1.4**
DALK				S	**S**	**09 27 37.2**	**-0.9**
DALK	**Dalny**	**3.49**	**66**	*eP*	**P**	**09 26 41.8**	**+1.4**
DALK				*eS*	**S**	**09 27 37.2**	**-0.9**
KOK	**Koryaka**	**3.53**	**61**	PN	**P**	**09 26 42.3**	**+1.5**
KOK	**Koryaka**	**3.53**	**61**	*eP*	**P**	**09 26 42.3**	**+1.5**
KRX	**Arik**	**3.56**	**60**	PN	**P**	**09 26 42.4**	**+1.2**
KRX	**Arik**	**3.56**	**60**	*eP*	**P**	**09 26 42.4**	**+1.2**
AVH	**Avacha**	**3.57**	**62**	PN	**P**	**09 26 42.9**	**+1.7**
AVH	**Avacha**	**3.57**	**62**	*eP*	**P**	**09 26 42.9**	**+1.7**
UGLR	**Uglovaya**	**3.60**	**63**	PN	**P**	**09 26 43.6**	**+2.2**
UGLR	**Uglovaya**	**3.60**	**63**	*eP*	**P**	**09 26 43.6**	**+2.2**
SDLR	**Sedlovina**	**3.66**	**62**	PN	**P**	**09 26 43.6**	**+1.7**
SDLR	**Sedlovina**	**3.66**	**62**	*eP*	**P**	**09 26 43.6**	**+1.7**
SPN	**Mys Shipunski**	**4.24**	**68**	PN	**P**	**09 26 47.2**	**+0.4**
SPN				S	**S**	**09 27 44.9**	**-4.9**
SPN	**Mys Shipunski**	**4.24**	**68**	*eP*	**P**	**09 26 47.3**	**+0.4**
SPN				*eS*	**S**	**09 27 44.9**	**-4.9**
MKZ	**Mys Kozlova**	**5.72**	**57**	PN	**P**	**09 27 01.6**	**+0.6**
MKZ				S	**S**	**09 28 10.9**	**-4.8**
MKZ	**Mys Kozlova**	**5.72**	**57**	*eP*	**P**	**09 27 01.6**	**+0.6**
MKZ				*eS*	**S**	**09 28 10.9**	**-4.8**
KRSR	**Krestovskiy**	**6.15**	**40**	PN	**P**	**09 27 07.0**	**+1.5**
KRSR	**Krestovskiy**	**6.15**	**40**	*eP*	**P**	**09 27 07.1**	**+1.5**
KBG	**Krutoberegovo**	**7.09**	**46**	PN	**P**	**09 27 16.2**	**+1.1**
KBG				S	**S**	**09 28 36.7**	**-4.9**
KBG	**Krutoberegovo**	**7.09**	**46**	*eP*	**P**	**09 27 16.2**	**+1.1**
KBG				*eS*	**S**	**09 28 36.8**	**-4.9**
KBTR	**Krutoberegovo**	**7.11**	**47**	PN	**P**	**09 27 16.0**	**+0.6**
KBTR				S	**S**	**09 28 37.7**	**-4.4**
KBTR	**Krutoberegovo**	**7.11**	**47**	*eP*	**P**	**09 27 16.1**	**+0.6**
KBTR				*eS*	**S**	**09 28 37.8**	**-4.4**
YSS	**Yuzhno-Sakhali**	**8.47**	**240**	*eP*N	**P**	**09 27 31.8**	**+1.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SHO	**Shikotan**	**9.03**	**212**	*eP*N	**P**	**09 27 34.8**	**-1.5**
SHO				*eS*	**S**	**09 29 14.1**	**-6.2**
SHO				pmax	pmax		
	comp=Z,35nm,0.5s						
SHO				pmax	pmax		
	comp=N,12nm,0.3s						
SHO				pmax	pmax		
	comp=E,11nm,0.6s						
ILAR	**Eielson Array**	**32.63**	**43**	P	**P**	**09 31 23.8**	**+1.5**
	comp=E,0.3nm,0.9s,baz=269,slow=7.5,SNR=2.3						
	comp=E,0.3nm,0.9s						
KURK	**Kurchatov**	**44.96**	**300**	P	**P**	**09 33 02.1**	**-0.8**
MKAR	**Makanchi Array**	**45.04**	**293**	P	**P**	**09 33 01.5**	**-2.1**
	comp=E,0.2nm,0.3s,baz=53,slow=6.3,SNR=5.9						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**45.06**	**300**	P	**P**	**09 33 02.0**	**-1.6**
	comp=E,0.3nm,0.5s,baz=58,slow=7.1,SNR=5.0						
	comp=E,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**46.87**	**39**	P	**P**	**09 33 19.3**	**+2.0**
	comp=E,0.1nm,0.4s,baz=306,slow=7.5,SNR=4.2						
	comp=E,0.1nm,0.4s						
FINES	**FINESS Array B**	**59.67**	**334**	P	**P**	**09 34 47.4**	**-1.4**
	comp=E,2.4nm,1.0s,baz=22,slow=7.2,SNR=1.4						
	comp=E,2.4nm,1.0s						
WRA	**Warramunga Arr**	**73.29**	**199**	P	**P**	**09 36 17.2**	**+3.1**
	comp=E,0.2nm,0.5s,baz=7.9,slow=7.9,SNR=1.7						
	comp=E,0.2nm,0.5s						
TXAR	**Lajitas Array**	**74.89**	**62**	P	**P**	**09 36 27.5**	**+4.1**
	comp=E,0.1nm,0.4s,baz=341,slow=4.1,SNR=1.3						
	comp=E,0.1nm,0.4s						

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*VAO **30** 09:42:12.7±2.8, 21°.22S×69°.25W, h72km±11km, mb4.4*
*SJA **30** 09:42:18.1±0.9, 21°.17S×68°.91W, h119km±5km, ML3.8, MW3.8*
*GUC **30** 09:42:20.8±0.8, 21°.17S×68°.87W, h105km±4km, ML3.9*
*IDC **30** 09:42:21.7±0.7, 21°.13S×68°.65W, h115km±5km, mb3.5/9, mbtmp3.9/13, Error ellipse: s-maj=24.1km s-min=11.5km az=95.0*
ISC 30 09:42:19.9±0.5, 21°.15S±0°.03×68°.82W±0°.06, h106km±5km, n48, σ1°25/68, mb3.8/8, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.63**	**280**	↑*iP*	**Pn**	**09 42 36.8**	**-0.6**
PB01				*eS*	**Sn**	**09 42 49.7**	**-0.8**
PB01				IAML		09 42 50.4	
	comp=N,9μm,0.2s						
PB01	**IPOC Station P**	**0.63**	**280**	*eP*	**Pn**	**09 42 36.2**	**-1.2**
PB01				*eS*	**Sn**	**09 42 50.5**	**0.0**
PB01				IAML		09 42 50.5	
	comp=Z,3μm,0.2s						
PB09	**IPOC Station P**	**0.75**	**211**	*i*P	**Pn**	**09 42 38.6**	**0.0**
PB09				*eS*	**Sn**	**09 42 53.2**	**+0.7**
PB09				IAML		09 42 54.7	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.75**	**211**	*eP*	**Pn**	**09 42 37.9**	**-0.7**
PB09				*eS*	**Sn**	**09 42 53.5**	**+0.9**
PB09				IAML		09 42 53.5	
	comp=Z,2μm,0.4s						
PB08	**IPOC Station P**	**1.05**	**343**	*i*P	**Pn**	**09 42 42.6**	**+0.8**
PB08				*eS*	**Sn**	**09 42 59.0**	**+0.9**
PB08				IAML		09 43 00.3	
	comp=E,4μm,0.6s						
PB08	**IPOC Station P**	**1.05**	**343**	*eP*	**Pn**	**09 42 42.0**	**+0.2**
PB08				*eS*	**Sn**	**09 42 59.5**	**+1.4**
PB08				IAML		09 42 59.9	
	comp=Z,2μm,0.4s						
PX03	**IPOC Station P**	**1.06**	**314**	*eP*	**Pn**	**09 42 40.8**	**-0.7**
PX03				*eS*	**Sn**	**09 42 57.3**	**-0.5**
PX03				IAML		09 42 58.6	
	comp=N,5μm,0.2s						
TA01	**Diego Aracena**	**1.40**	**294**	↑*iP*	**Pn**	**09 42 44.9**	**-0.3**
TA01				*eS*	**Sn**	**09 43 03.5**	**-0.9**
TA01	**Diego Aracena**	**1.40**	**294**	*eP*	**Pn**	**09 42 44.2**	**-1.1**
TA01				*eS*	**Sn**	**09 43 04.5**	**0.0**
TA01				IAML		09 43 05.1	
	comp=Z,1μm,0.3s						
TA02	**Huaiquique**	**1.50**	**305**	*eP*	**Pn**	**09 42 46.7**	**+0.1**
TA02				*eS*	**Sn**	**09 43 06.5**	**-0.2**
TA02	**Huaiquique**	**1.50**	**305**	*eP*	**Pn**	**09 42 45.9**	**-0.7**
TA02				IAML		09 43 10.1	
	comp=Z,1μm,0.4s						
PB11	**IPOC Station P**	**1.59**	**330**	*eP*	**Pn**	**09 42 48.0**	**+0.3**
PB11				*eS*	**Sn**	**09 43 09.2**	**+0.4**
PB11				IAML		09 43 12.8	
	comp=E,1μm,0.4s						
PB11	**IPOC Station P**	**1.59**	**330**	*eP*	**Pn**	**09 42 47.7**	**-0.1**
PB11				IAML		09 43 14.0	
	comp=Z,712nm,0.5s						
PB06	**IPOC Station P**	**1.70**	**204**	↑*iP*	**Pn**	**09 42 49.1**	**0.0**
PB06				*eS*	**Sn**	**09 43 11.1**	**-0.2**
PB06				IAML		09 43 13.4	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**1.70**	**204**	*eP*	**Pn**	**09 42 48.3**	**-0.8**
PB06				*eS*	**Sn**	**09 43 11.8**	**+0.6**
PB06				IAML		09 43 13.4	
	comp=Z,1μm,0.4s						
PB05	**IPOC Station P**	**2.12**	**217**	*eP*	**Pn**	**09 42 53.7**	**-0.7**
PB05				*eS*	**Sn**	**09 43 19.3**	**-1.6**
PB05				IAML		09 43 29.3	

comp=E,473nm,0.7s
PB05 IPOC Station P 2.12 217 *e*P **Pn 09 42 53.5 -0.9**
PB05 *e*S **Sn 09 43 23.7 +2.8**
PB05 IAML 09 43 28.0
comp=Z,251nm,0.3s
PB16 IPOC Station P 2.87 347 *e*P **Pn 09 43 06.2 +1.5**
PB16 *e*S **Sn 09 43 39.0 -0.1**
PB12 IPOC Station P 2.89 330 *e*P **Pn 09 43 03.5 -1.0**
PB12 IPOC Station P 2.89 330 *e*P **Pn 09 43 03.6 -0.9**
PB12 *e*S Sn 09 43 27.4 -11
PB12 IAML 09 44 00.7
comp=Z,229nm,0.5s
LPAZ La Paz 4.88 8 P **Pn 09 43 34.1 +2.4**
comp=Z,12nm,0.4s,baz=198,slow=8.0,SNR=61
LPAZ S **Sn 09 44 30.9 +3.5**
comp=Z,3.5nm,0.4s,baz=169,slow=4.5,SNR=1.3
LPAZ La Paz 4.88 8 *e*P **Pn 09 43 34.5 +2.8**
LPAZ La Paz 4.88 8 *e*P Pn 09 43 25.5 -6.2
SIV San Ignacio 8.96 56 P **Pn 09 44 24.3 -2.3**
comp=Z,16nm,0.7s,baz=234,slow=9.8,SNR=56
CFA Coronel Fontan 10.43 177 P **Pn 09 44 47.8 +1.3**
comp=Z,0.5nm,0.3s,baz=354,slow=13,SNR=2.0
CFA S Sn 09 46 31.4 -10
comp=Z,0.6nm,0.4s,baz=24,slow=4.7,SNR=1.2
MURT Porto Murtinho 10.46 95 *e*P **Pn 09 44 44.7 -2.2**
PTLB Pontes e Lacer 10.80 60 *e*P **Pn 09 44 48.8 -2.8**
VILB Vilhena 11.59 47 *e*P **Pn 09 45 00.6 -1.5**
SALV Santo Antonio 13.50 69 *e*P **Pn 09 45 26.9 -0.3**
ARAG Araguaiana, MT 17.02 74 *e*P **P 09 46 11.6 -0.1**
SNDB Serra Nova Dou 19.10 64 *e*P **P 09 46 33.8 -0.8**
NPGB Novo Progresso 19.14 45 *e*P **P 09 46 33.1 -1.8**
PLCA Paso Flores 19.58 184 P **Pn 09 46 40.7 -1.3**
comp=Z,1.7nm,0.7s,baz=13,slow=8.9,SNR=5.1
IPMB Ipameri, GO 19.68 84 *e*P **P 09 46 40.8 -0.1**
BDFB Brasilia 20.48 78 P **P 09 46 49.1 -0.6**
comp=Z,1.3nm,0.4s,baz=216,slow=9.5,SNR=3.4
comp=Z,1.3nm,0.4s
ITTB Itaituba 20.98 39 *e*P **P 09 46 52.9 -1.9**
TXAR Lajitas Array 60.39 325 P **P 09 52 18.8 +0.5**
comp=Z,0.1nm,0.5s,baz=146,slow=8.9,SNR=1.4
comp=Z,0.1nm,0.5s
SNAA Sanae 62.58 161 P **P 09 52 33.4 +0.9**
comp=Z,1.5nm,0.7s,baz=296,slow=5.3,SNR=3.5
SNAA pP **pP 09 53 01.5 +1.8**
comp=Z,1.8nm,1.0s,baz=319,slow=10,SNR=2.0
comp=Z,1.5nm,0.7s
DBIC Dimbokro 68.56 74 P **P 09 53 10.5 -1.3**
comp=Z,1.2nm,0.4s,baz=239,slow=1.8,SNR=1.7
comp=Z,1.2nm,0.4s
QSPA South Pole Qui 69.04 180 P **P 09 53 15.6 +1.5**
comp=Z,0.9nm,0.5s,baz=144,slow=2.6,SNR=16
QSPA pP **pP 09 53 43.7 +1.9**
comp=Z,1.3nm,0.7s,baz=229,slow=1.6,SNR=2.8
comp=Z,0.9nm,0.5s
ULM Lac du Bonnet 75.01 342 P **P 09 53 49.6 0.0**
comp=Z,0.7nm,0.5s,baz=172,slow=7.1,SNR=1.7
comp=Z,0.7nm,0.5s
TORD Torodi Ar. Bea 77.16 70 P **P 09 54 02.6 0.0**
comp=Z,1.3nm,0.3s,baz=270,slow=5.2,SNR=1.6
comp=Z,1.3nm,0.3s
VNDA Vanda 77.21 190 P **P 09 54 02.7 +0.9**
comp=Z,1.3nm,1.1s,baz=96,slow=7.5,SNR=1.6
comp=Z,1.3nm,1.1s
YKA Yellowknife Ar 90.88 341 P **P 09 55 11.6 +0.5**
comp=Z,0.2nm,0.8s,baz=148,slow=5.8,SNR=3.4
YKA pP **pP 09 55 40.5 +0.5**
comp=Z,0.5nm,0.9s,baz=141,slow=4.7,SNR=6.4
comp=Z,0.2nm,0.8s
ASAR Alice Springs 130.26 208 PKP **PKiKP 10 01 19.4 0.0**
comp=Z,0.2nm,0.5s,baz=104,slow=1.4,SNR=2.4
WRA Warramunga Arr 133.29 211 PKP **PKiKP 10 01 25.1 -0.5**
comp=Z,0.3nm,0.7s,baz=142,slow=1.4,SNR=1.6
ZALV Zalesovo Beam 141.60 25 PKP **PKPdf 10 01 38.5 0.0**
comp=Z,0.3nm,0.3s,baz=343,slow=4.5,SNR=1.6
MKAR Makanchi Array 145.30 36 PKPbc **PKPab 10 01 45.8 +0.2**
comp=Z,0.4nm,0.6s,baz=338,slow=2.9,SNR=4.3
MKAR pPKPbc **pPKPdf 10 02 15.6 -0.1**
comp=Z,1.4nm,0.7s,baz=334,slow=4.2,SNR=9.9

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*IDC **30** 09:49:01.7±2.7, 18°.83N×104°.60W, h0km, mb3.2/2, mbtmp3.2/4, ML3.3/2, MS3.0/1, Error ellipse: s-maj=49.7km s-min=34.1km az=56.0*
*MEX **30** 09:49:04.0±1.3, 18°.68N×104°.60W, h17km±35km, MD3.9*
ISC 30 09:49:02.1±1.9, 18°.78N±0°.09×104°.57W±0°.04, h2km±10km, n20, σ0°87/28, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAR	**Ciudad de Arme**	**0.55**	**73**	*e*P	**Pg**	**09 49 13.3**	**+0.6**
CDAR				*e*S	**Sg**	**09 49 21.0**	**+1.1**
CJM	**Chamela**	**0.84**	**328**	*e*P	**Pg**	**09 49 18.1**	**-0.2**
CJM				*e*S	**Sg**	**09 49 29.3**	**+0.1**
CEGR	**Campo Tres**	**0.91**	**48**	*e*P	**Pg**	**09 49 18.9**	**-0.6**
CEGR				*e*S	**Sg**	**09 49 30.6**	**-0.6**
COMA	**Comala**	**0.94**	**55**	*i*P	**Pg**	**09 49 20.0**	**0.0**
COMA				*e*S	**Sg**	**09 49 32.1**	**-0.1**
MNGA	**Volcan de Coli**	**1.12**	**53**	*e*P	**Pg**	**09 49 23.2**	**-0.5**
MNGA				*e*S	**Sg**	**09 49 38.5**	**+0.2**
EZ5V		**1.15**	**53**	*e*P	**Pg**	**09 49 23.8**	**-0.3**
EZ5V				*e*S	**Sg**	**09 49 39.1**	**+0.1**
SOMAC	**Volcano de Col**	**1.15**	**50**	*e*P	**Pg**	**09 49 24.0**	**-0.3**
SOMAC				*e*S	**Sg**	**09 49 39.2**	**0.0**
INCO	**Volcan de Coli**	**1.17**	**51**	*e*P	**Pg**	**09 49 24.2**	**-0.5**
INCO				*e*S	**Sb**	**09 49 40.4**	**-0.8**
PUVA	**Puert Vallarta**	**1.93**	**342**	*e*P	**Pn**	**09 49 36.4**	**+0.4**
PUVA				*e*S	**Sn**	**09 50 01.1**	**+0.2**
ANIG	**Ahuacatlan**	**2.26**	**1**	*e*P	**Pn**	**09 49 39.9**	**-0.8**
ANIG				*e*S	**Sn**	**09 50 09.1**	**-0.1**
URUA	**Uruapan**	**2.44**	**75**	*e*P	**Pb**	**09 49 45.7**	**-1.2**
URUA				*e*S	**Sb**	**09 50 17.5**	**-0.1**
ZIIG	**Zihuatanejo**	**3.17**	**111**	*e*S	Sn	09 50 21.6	-10
AAIG	**Aguscalientes**	**3.78**	**33**	*e*P	**Pn**	**09 50 03.3**	**+1.7**
AAIG				*e*S	**Sn**	**09 50 46.7**	**0.0**
CMIG	**Matias Romero**	**9.37**	**99**	Pn	**Pn**	**09 51 18.6**	**+0.3**
	0.2nm,0.3s,baz=287,slow=11,SNR=1.7						
CMIG				LR	LR	09 55 13.3	
	comp=Z,84nm,19.3s,baz=295,slow=40						
	2.4nm,1.0s						
TXAR	**Lajitas Array**	**10.54**	**4**	Pn	**Pn**	**09 51 37.0**	**+2.7**
	0.1nm,0.3s,baz=186,slow=12,SNR=4.6						
TXAR				Lg	Lg	09 54 31.1	
	baz=183,slow=20,SNR=2.6						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**22.94**	**331**	P	**P**	**09 54 08.5**	**+0.6**
	0.2nm,0.6s,baz=156,slow=11,SNR=2.2						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**53.89**	**339**	P	**P**	**09 58 25.1**	**-1.5**
	0.6nm,0.9s,baz=139,slow=7.6,SNR=7.2						
	0.6nm,0.9s						
H03N2	**Juan Fernandez**	**57.41**	**155**	T	T	11 01 03.3	
	baz=333,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**57.42**	**155**	T	T	11 01 01.2	
	baz=333,slow=77,SNR=24						
H03N3	**Juan Fernandez**	**57.42**	**155**	T	T	11 01 04.5	
	baz=333,slow=77,SNR=20						

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*NNC **30** 10:01:52.8±0.8, 44°.62N×80°.39E, h0km±4km, mb2.5, mpv2.8, Error ellipse: s-maj=13.6km s-min=2.8km az=142.0*
*SOME **30** 10:01:53.2, 44°.35N×80°.50E, h25km*
ISC 30 10:01:49.9±1.7, 44°.32N±0°.06×80°.68E±0°.07, h12km±11km, n9, σ1°42/17, 1C, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.64**	**272**	P	**Pg**	**10 02 03.0**	**+0.5**
	3.9nm,0.2s						
DJR				S	**Sg**	**10 02 10.0**	**-0.9**
	9.8nm,0.3s						
DJR	**Jarkent**	**0.64**	**272**	*e*P	**Pg**	**10 02 03.0**	**+0.5**
	3.9nm,0.2s						
DJR				*e*S	**Sg**	**10 02 10.0**	**-0.9**
	9.8nm,0.3s						
KNOS	**Konyrlen**	**1.08**	**273**	P	**Pg**	**10 02 10.5**	**-0.3**
	2.5nm,0.1s						
KNOS				S	**Sg**	**10 02 22.9**	**-1.9**
	6.0nm,0.3s						
SHLS	**Shalkode**	**1.46**	**218**	*e*P	**Pn**	**10 02 15.7**	**-0.5**
	1.9nm,0.2s						
SHLS				*e*S	**Sn**	**10 02 31.8**	**-3.5**
	400nm,0.2s						
BLB	**Baldybastay**	**1.60**	**263**	P	**Pb**	**10 02 20.3**	**+0.8**
	6.9nm,0.2s						
BLB				S	**Sn**	**10 02 39.9**	**+1.0**
	12nm,0.3s						
UZB	**Uzynbulak**	**1.68**	**226**	*e*P	**Pg**	**10 02 22.8**	**+0.6**
	1.8nm,0.1s						
UZB				*e*S	**Sg**	**10 02 43.8**	**-0.2**
	6.3nm,0.5s						
TDK	**Taldyqorghan**	**1.76**	**294**	*e*P	**Pg**	**10 02 23.5**	**-0.3**
	19nm,0.2s						
TDK				*e*S	**Sb**	**10 02 44.9**	**+0.6**
	17nm,0.2s						
MK31	**Makanchi Array**	**2.72**	**24**	⇑Pg	**Pb**	**10 02 39.3**	**+0.7**
	0.9nm,0.8s,baz=204,slow=15,SNR=4.8						
MK31				Lg	Lg	10 03 13.6	
	0.6nm,0.5s,baz=207,slow=20,SNR=6.5						
TNSS	**Tian-Shan**	**3.00**	**246**	*e*P	**Pb**	**10 02 44.9**	**+1.4**
	0.3nm,0.1s						
TNSS				*e*S	**Sb**	**10 03 21.8**	**+1.5**
	0.5nm,0.2s						

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*MEX **30** 10:01:55.7±0.9, 14°.76N×92°.47W, h92km±10km, MD3.8*
*GCG **30** 10:01:55.9±1.9, 14°.68N×92°.45W, h76km±10km, MD3.9*
ISC 30 10:01:56.1±1.5, 14°.64N±0°.08×92°.52W±0°.06, h69km±9km, n18, σ0°89/32, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**43**	*e*P	**Pn**	**10 02 07.4**	**-0.3**
THIG				*e*S	**Sn**	**10 02 17.0**	**+0.9**
THIG		**0.36**	**43**	*i*P	**Pn**	**10 02 07.4**	**-0.3**
THIG				*i*S	**Sn**	**10 02 17.1**	**+1.0**
THIG		**0.36**	**43**	*i*P		10 02 07.4	
THIG				*i*S		10 02 17.1	
SMCA	**Catarina**	**0.48**	**63**	*i*P	**Pn**	**10 02 08.3**	**-0.4**
SMCA				*i*S	**Sn**	**10 02 17.8**	**-0.1**
SMCA	**Catarina**	**0.48**	**63**	*i*P		10 02 08.3	
SMCA				*i*S		10 02 17.8	
PATR	**El Naranjo**	**0.55**	**30**	*e*P	**Pn**	**10 02 08.9**	**-0.8**
PATR				*i*S	**Sn**	**10 02 18.7**	**-0.7**
PAVE	**Pavencul**	**0.64**	**31**	*e*P	**Pn**	**10 02 09.9**	**-0.7**
PAVE				*e*S	**Sn**	**10 02 21.0**	**-0.2**
RTAL	**Retalhuleu**	**0.80**	**98**	*e*P	**Pn**	**10 02 12.7**	**+0.5**
RTAL				*e*S	**Sn**	**10 02 24.4**	**+0.3**
STG8	**El Palmar, Qui**	**1.15**	**99**	*i*P		10 02 13.0	
STG8				*i*S		10 02 26.0	
HUEH	**Huehuetenango**	**1.19**	**55**	*i*S	**Sn**	**10 02 34.9**	**+1.9**
HUEH	**Huehuetenango**	**1.19**	**55**	*i*S		10 02 34.9	
PCIG		**1.26**	**327**	*i*P	**Pn**	**10 02 17.8**	**0.0**
PCIG				*e*S	**Sn**	**10 02 34.2**	**+0.1**
CCIG	**Comitan**	**1.67**	**13**	*e*P	**Pn**	**10 02 24.3**	**+0.7**
CCIG				*e*S	**Sn**	**10 02 42.6**	**-1.7**
CCIG	**Comitan**	**1.67**	**13**	*i*P	**Pn**	**10 02 24.6**	**+1.0**
CCIG				*i*S	**Sn**	**10 02 45.2**	**+1.0**
CCIG	**Comitan**	**1.67**	**13**	*i*P		10 02 24.6	
CCIG				*i*S		10 02 45.2	
TGIG		**2.20**	**345**	*e*P	**Pn**	**10 02 30.0**	**-0.6**
TGIG				*e*S	**Sn**	**10 02 55.8**	**-1.1**
TGIG		**2.20**	**345**	*i*P	**Pn**	**10 02 31.1**	**+0.5**
TGIG				*i*S	**Sn**	**10 02 55.5**	**-1.4**
TGIG		**2.20**	**345**	*i*P		10 02 31.1	
TGIG				*i*S		10 02 55.5	
NUBE	**Las Nubes**	**2.75**	**105**	*i*S	**Sn**	**10 03 09.1**	**-1.3**
NUBE	**Las Nubes**	**2.75**	**105**	*i*S		10 03 09.1	
MTO3	**Montecristo**	**3.07**	**94**	*i*P	**Pn**	**10 02 42.8**	**+0.4**
MTO3	**Montecristo**	**3.07**	**94**	*i*P		10 02 42.8	
UXUV	**UXUV**	**3.09**	**330**	*e*P	**Pn**	**10 02 43.1**	**+0.6**
UXUV				*e*S	**Sn**	**10 03 17.5**	**-0.9**
JAYA	**Jayaque - finc**	**3.13**	**108**	*i*P	**Pn**	**10 02 42.8**	**-0.6**
JAYA	**Jayaque - finc**	**3.13**	**108**	*i*P		10 02 42.8	
CMIG	**Matias Romero**	**3.33**	**317**	*e*P	**Pn**	**10 02 46.2**	**+0.2**
CMIG				*e*S	**Sn**	**10 03 25.6**	**+1.2**
NEUV	**Arroyo Zacate**	**4.39**	**314**	*e*P	**Pn**	**10 03 00.9**	**+0.6**
NEUV				*e*S	**Sn**	**10 03 49.8**	**-0.5**

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*IDC **30** 10:05:28.4±1.6, 10°.96N×125°.62E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=81.3km s-min=21.7km az=62.0*
ISC 30 10:05:39.3±1.6, 10°.8N±0°.3×125°.4E±0°.5, h88km, n6, σ0°56/6, mb3.5/6, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.71**	**290**	P	**P**	**10 11 10.4**	**-0.2**
	0.8nm,0.4s,baz=89,slow=8.3,SNR=4.9						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**31.79**	**164**	P	**P**	**10 11 55.1**	**-0.5**
	0.2nm,0.6s,baz=347,slow=9.2,SNR=1.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**35.25**	**166**	P	**P**	**10 12 26.1**	**+0.5**
	0.3nm,0.8s,baz=354,slow=7.8,SNR=4.8						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**51.10**	**323**	P	**P**	**10 14 33.5**	**+0.5**
	0.3nm,0.7s,baz=108,slow=7.8,SNR=2.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**55.16**	**325**	P	**P**	**10 15 02.2**	**-0.5**
	0.5nm,0.5s,baz=129,slow=7.0,SNR=4.9						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**60.76**	**325**	P	**P**	**10 15 41.9**	**+0.1**
	1.4nm,0.9s,baz=131,slow=7.9,SNR=4.5						
	1.4nm,0.9s						

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*AEIC **30** 10:06:15.6±2.5, 53°.99N±0°.05×164°.28W±0°.07, h41km±9km, Error ellipse: s-maj=8.3km s-min=4.4km az=149.0*
*NEIC **30** 10:06:15.3±2.3, 53°.94N±0°.02×164°.19W±0°.06, h35km±2km, ML3.5/12, ML3.3(AEIC), Error ellipse: s-maj=5.9km s-min=3.1km az=109.0*
*IDC **30** 10:06:18.9±4.3, 54°.67N×164°.70W, h111km±38km, mb3.2/5, mbtmp3.4/8, Error ellipse: s-maj=38.8km s-min=23.0km az=5.0*
ISC 30 10:06:13.2±0.9, 53°.90N±0°.07×164°.20W±0°.04, h35km, n100, σ1°99/100, mb3.3/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WECS	**Westdahl Cape**	**0.72**	**332**		**Pn**	**10 06 28.6**	**+1.8**
WEBT	**Westdahl Beart**	**0.77**	**335**		**Pn**	**10 06 28.9**	**+1.4**
WEBT					**Sn**	**10 06 39.7**	**+1.9**
SSLW	**Shishaldin Wes**	**0.87**	**3**		**Pn**	**10 06 30.5**	**+1.5**
ISLZ	**Isanotski Laza**	**0.88**	**19**		**Pn**	**10 06 31.1**	**+2.1**
ISLZ					**Sn**	**10 06 42.8**	**+2.2**
AKSA	**Akutan Strait**	**0.92**	**286**		**Pn**	**10 06 31.9**	**+2.3**
AKSA					**Sn**	**10 06 43.7**	**+2.2**
ISNN	**Isanotski Nort**	**0.97**	**15**		**Pn**	**10 06 32.5**	**+2.2**
ISNN					**Sn**	**10 06 45.0**	**+2.3**
AHB	**Akutan Harbor**	**0.98**	**283**		**Pn**	**10 06 32.8**	**+2.4**
AHB					**Sn**	**10 06 45.4**	**+2.3**
FALS	**False Pass**	**1.06**	**25**		**Pn**	**10 06 33.6**	**+2.1**
FALS	**False Pass**	**1.06**	**25**	P	**Pn**	**10 06 33.5**	**+2.0**
FALS	**False Pass**	**1.06**	**25**	S	**Sn**	**10 06 47.5**	**+2.5**
LVA	**Lava Point**	**1.11**	**284**		**Pn**	**10 06 34.5**	**+2.2**
LVA					**Sn**	**10 06 48.2**	**+1.8**
LVA				IAML		10 06 50.9	
	comp=E,978nm,0.6s						
LVA				IAML		10 06 56.9	
	comp=N,1μm,0.5s						
UNV	**Unalaska Valle**	**1.37**	**269**		**Pn**	**10 06 37.9**	**+2.2**
MTBL	**Makushin Table**	**1.47**	**274**		**Pn**	**10 06 39.3**	**+2.1**
MREP	**Makushin Rep't**	**1.51**	**268**		**Pn**	**10 06 40.1**	**+2.4**
HAG	**Hague Volcano**	**1.95**	**42**		**Pn**	**10 06 46.8**	**+3.1**
PS4A	**Pavlof South-4**	**1.99**	**42**		**Pn**	**10 06 47.1**	**+2.9**
PS1A	**Pavlof South-1**	**2.09**	**42**		**Pn**	**10 06 48.5**	**+2.9**
OKTU	**Okmok Mt. Tuli**	**2.35**	**259**		**Pn**	**10 06 52.3**	**+3.0**
OKWE	**Okmok W'ng Wal**	**2.44**	**262**		**Pn**	**10 06 52.6**	**+2.1**
SDPT	**Sand Point**	**2.61**	**55**	Pn	**Pn**	**10 06 55.9**	**+3.2**
SDPT				Sn	**Sn**	**10 07 26.3**	**+3.2**
SDPT				IAML		10 07 32.9	
	comp=E,212nm,0.3s						
SDPT				IAML		10 07 39.5	
	comp=N,172nm,0.7s						
SDPT	**Sand Point**	**2.61**	**55**	P	**Pn**	**10 06 56.1**	**+3.4**
CNBA	**Chernabura Isl**	**2.85**	**69**	Pn	**Pn**	**10 06 58.9**	**+2.8**
CNBA				Sn	**Sn**	**10 07 31.0**	**+1.8**
NIKH	**Nikolski High**	**2.94**	**253**	Pn	**Pn**	**10 06 59.6**	**+2.3**
NIKH	**Nikolski High**	**2.94**	**253**	P	Pn	10 07 04.4	+7.1
P08K	**Saint George I**	**4.09**	**314**	Pn	**Pn**	**10 07 14.1**	**+1.1**
CHGN	**Chignik**	**4.10**	**52**	Pn	**Pn**	**10 07 14.3**	**+1.0**
CHGN				IAML		10 08 17.7	
	comp=E,59nm,0.5s						
CHIR	**Chirikof Islan**	**5.31**	**65**	Pn	**Pn**	**10 07 31.3**	**+1.4**
CHIR				IAML		10 09 36.5	
	comp=E,42nm,2.0s						
CHIR	**Chirikof Islan**	**5.31**	**65**	P	**Pn**	**10 07 32.3**	**+2.4**
O14K	**Tigyukauivet M**	**5.61**	**16**	Pn	**Pn**	**10 07 34.7**	**+0.8**
P16K	**Nushagak River**	**6.19**	**31**		**Pn**	**10 07 43.8**	**+1.9**
M13K	**Dall Lake**	**6.55**	**4**	Pn	**Pn**	**10 07 48.0**	**+1.1**
M11K	**Mekoryuk**	**6.59**	**351**	Pn	**Pn**	**10 07 48.1**	**+0.7**
O16K	**Kokwok River B**	**6.62**	**28**		**Pn**	**10 07 49.5**	**+1.7**
N15K	**Kwethluk River**	**6.67**	**18**	Pn	**Pn**	**10 07 49.9**	**+1.3**
P17K	**Kvichak River**	**6.82**	**36**		**Pn**	**10 07 53.9**	**+3.3**
M14K	**Bethel**	**6.98**	**9**	Pn	**Pn**	**10 07 53.5**	**+0.8**
KAHC	**Katmai Hardscr**	**6.98**	**43**		**Pn**	**10 07 55.9**	**+2.9**
OHAK	**Old Harbor**	**7.03**	**57**	Pn	**Pn**	**10 07 54.0**	**+0.6**
OHAK	**Old Harbor**	**7.03**	**57**	P	**Pn**	**10 07 55.5**	**+2.1**
P18K	**Big Mountain,**	**7.39**	**38**	Pn	**Pn**	**10 08 01.4**	**+2.9**
L14K	**Kuka Creek**	**7.51**	**6**	Pn	**Pn**	**10 08 00.0**	**+0.1**
KDAK	**Kodiak Island**	**7.61**	**55**	Pn	**Pn**	**10 08 02.5**	**+1.1**
KDAK	**Kodiak Island**	**7.61**	**55**	P	**Pn**	**10 08 02.7**	**+1.3**
	comp=E,0.7nm,0.3s,baz=270,slow=19,SNR=20						
KDAK				S	**Sn**	**10 09 23.3**	**-2.9**
	comp=E,1.1nm,0.5s,baz=306,slow=16,SNR=1.7						
N17K	**Nushagak Hills**	**7.65**	**27**	Pn	**Pn**	**10 08 04.0**	**+2.0**
M16K	**Timber Creek**	**7.68**	**19**	Pn	**Pn**	**10 08 03.0**	**+0.7**
Q19K	**Cape Douglas,**	**7.72**	**45**		**Pn**	**10 08 05.4**	**+2.4**
O18K	**Koktuh Hills**	**7.73**	**36**	Pn	**Pn**	**10 08 06.1**	**+3.0**
K13K	**Kusilvak Mount**	**8.06**	**358**	Pn	**Pn**	**10 08 07.9**	**+0.3**
SYI	**Shuyak Island**	**8.09**	**50**	Pn	**Pn**	**10 08 10.1**	**+2.1**
N18K	**Kilae Creek**	**8.14**	**30**	Pn	**Pn**	**10 08 09.4**	**+0.6**
L16K	**Owhat River**	**8.22**	**16**	Pn	**Pn**	**10 08 10.2**	**+0.4**
M17K	**Holitna River**	**8.34**	**23**	Pn	**Pn**	**10 08 12.5**	**+1.0**
K15K	**Wolf Creek Mou**	**8.54**	**8**		**Pn**	**10 08 15.0**	**+0.9**
ILSW	**Iliamna Southw**	**8.58**	**40**		**Pn**	**10 08 17.9**	**+3.1**
N19K	**Bonanza Creek**	**8.69**	**33**		**Pn**	**10 08 18.8**	**+2.5**
CNPM	**China Poot**	**9.08**	**46**	Pn	**Pn**	**10 08 22.7**	**+1.1**
K17K	**Iditarod**	**9.37**	**17**	Pn	**Pn**	**10 08 25.6**	**+0.2**
M19K	**Big River Lodg**	**9.56**	**29**	Pn	**Pn**	**10 08 29.8**	**+1.6**
L19K	**White Mountain**	**9.66**	**27**	Pn	**Pn**	**10 08 30.8**	**+1.3**
J17K	**VABM Dome**	**9.89**	**14**	Pn	**Pn**	**10 08 33.1**	**+0.5**
M20K	**Styx River**	**9.92**	**32**		**Pn**	**10 08 35.8**	**+2.6**
STLK	**Strandline Lak**	**10.07**	**36**	Pn	**Pn**	**10 08 38.4**	**+3.2**
SEW	**Seward**	**10.15**	**46**	Pn	**Pn**	**10 08 36.7**	**+0.5**
O22K	**Cooper Landing**	**10.24**	**44**	Pn	**Pn**	**10 08 38.0**	**+0.6**
J18K	**Innoko River**	**10.34**	**19**	Pn	**Pn**	**10 08 39.3**	**+0.4**
SKT	**Skwentna**	**10.51**	**35**	Pn	**Pn**	**10 08 42.8**	**+1.6**
K20K	**Telida**	**10.84**	**25**	Pn	**Pn**	**10 08 46.4**	**+0.8**
PWL	**Port Wells**	**11.02**	**44**		**Pn**	**10 08 47.9**	**-0.3**
J19K	**Poorman**	**11.04**	**20**	Pn	**Pn**	**10 08 48.9**	**+0.6**
KNK	**Knik Glacier**	**11.28**	**42**		**Pn**	**10 08 49.7**	**-1.9**
J20K	**Nowinta River**	**11.51**	**23**		**Pn**	**10 08 55.2**	**+0.4**
HIN	**Hinchinbrook I**	**11.58**	**49**	Pn	**Pn**	**10 08 55.6**	**-0.2**
SCM	**Sheep Creek Mo**	**11.96**	**42**		**Pn**	**10 09 00.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**11.98**	**49**	Pn	**Pn**	**10 09 00.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**11.98**	**49**	P	**Pn**	**10 09 00.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**12.25**	**28**	Pn	**Pn**	**10 09 07.6**	**+2.7**
KLU	**Klutina**	**12.35**	**45**		**Pn**	**10 09 05.5**	**-0.8**
M24K	**Tolsona, Glenn**	**12.57**	**42**	Pn	**Pn**	**10 09 08.8**	**-0.4**
HMT	**Hamilton**	**12.57**	**51**	Pn	**Pn**	**10 09 09.8**	**+0.5**
BMRM	**Bremner River**	**12.67**	**48**	Pn	**Pn**	**10 09 12.6**	**+1.9**
BERG	**Berg Lake**	**12.85**	**51**	Pn	**Pn**	**10 09 13.4**	**+0.3**
N25K	**Chitina, Valde**	**12.96**	**46**	Pn	**Pn**	**10 09 14.4**	**-0.3**
H21K	**Melozitna Rive**	**13.08**	**21**	Pn	**Pn**	**10 09 16.6**	**+0.4**
WAX	**Waxell Ridge**	**13.27**	**52**	Pn	**Pn**	**10 09 19.3**	**+0.5**
ILAR	**Eielson Array**	**13.96**	**32**	P	**Pn**	**10 09 27.2**	**-1.1**
	comp=E,0.1nm,0.5s,baz=243,slow=12,SNR=2.3						
H23K	**Yukon River**	**13.99**	**26**	Pn	**Pn**	**10 09 29.2**	**+0.7**
SCRK	**Sand Creek**	**14.44**	**38**	Pn	**Pn**	**10 09 36.8**	**+1.9**
INK	**Inuvik**	**20.36**	**33**	P	**P**	**10 10 40.8**	**-5.4**
	comp=E,0.4nm,0.5s,baz=247,slow=8.9,SNR=4.8						
PETK	**Petropavlovsk-**	**22.50**	**284**	P	**P**	**10 11 05.4**	**-4.0**
	comp=E,5.5nm,1.0s,baz=76,slow=11,SNR=2.0						
	comp=E,5.5nm,1.0s						
YKA	**Yellowknife Ar**	**26.87**	**51**	P	**P**	**10 11 48.2**	**-2.0**
	comp=E,0.3nm,0.6s,baz=277,slow=9.0,SNR=8.0						
	comp=E,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**34.67**	**98**	P	**P**	**10 13 00.3**	**+0.9**
	comp=E,0.2nm,0.5s,baz=320,slow=13,SNR=2.0						
	comp=E,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**40.66**	**224**	T	T	10 57 51.2	
	baz=26,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**40.67**	**224**	T	T	10 57 57.1	
	baz=26,slow=76,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**40.68**	**224**	T	T	10 57 47.2	
	ba

SEM Lg Lg 10 21 52.8
14nm,0.5s
BTLS Baital 5.78 179 Pg Pb 10 21 31.0 +2.9
2.0nm,0.7s
BTLS Lg Lg 10 22 48.7
6.2nm,1.4s
MAKZ Makanchi 6.69 124 ⇑Lg Lg 10 23 21.0
8.0nm,0.7s
MK31 Makanchi Array 6.87 123 ⇓Lg Lg 10 23 25.1
8.2nm,0.7s,baz=306,slow=30,SNR=5.5
KRBS Karabastau 7.23 170 Pg Pb 10 21 57.2 +4.4
0.9nm,0.5s
KRBS Lg Lg 10 23 34.2
9.4nm,1.2s
CHKK Chushkaly 7.28 162 Pg Pb 10 21 58.1 +4.5
0.9nm,0.1s
CHKK Lg Lg 10 23 35.9
6.2nm,0.9s
KTBS Karatobe 7.36 164 Pg Pb 10 21 59.6 +4.6
0.9nm,0.3s
KTBS Lg Lg 10 23 38.6
15nm,0.9s
BLB Baldybastay 7.41 153 Pg Pb 10 22 00.2 +4.3
5.6nm,0.4s
BLB Lg Lg 10 23 39.6
18nm,0.8s
DJR Jarkent 7.62 146 Pg Pb 10 22 04.2 +4.7
2.3nm,0.6s
DJR Lg Lg 10 23 46.6
6.9nm,0.8s
DGS Degeres 7.69 170 Pg Pb 10 22 05.9 +5.2
3.7nm,0.4s
DGS Lg Lg 10 23 49.5
12nm,0.9s
KST Kastek 7.91 169 Pg Pb 10 22 10.1 +5.7
2.8nm,0.7s
KST Lg Lg 10 23 56.7
15nm,1.1s
ZSN Zaisan 7.96 111 Pg Pb 10 22 09.6 +4.4
1.8nm,0.2s
ZSN Lg Lg 10 23 55.5
5.8nm,0.7s
TKM2 Tokmak 2 7.99 171 ⇓Lg Lg 10 23 59.0
17nm,0.8s
KK31 Karatay Array 8.05 198 ⇑Lg Lg 10 24 02.0
5.4nm,0.8s,baz=16,slow=30,SNR=4.4
TNSS Tian-Shan 8.06 164 Pg Pb 10 22 12.4 +5.3
1.7nm,0.6s
TNSS Lg Lg 10 24 00.6
3.6nm,1.0s
AAK Ala-Archa 8.19 177 ⇓Lg Lg 10 24 08.0
12nm,1.0s

DJA 30 10:22:53.9±0.4, 8°S±5°×10°7E±°, h67km±10km, M3.7/11, mb4.1/1, MLv3.5/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.81**	**33**	P	Pn	10 23 10.6	+0.7
CNJI				S	Sn	10 23 23.4	+1.7
SKJI	**Sukabumi**	**0.99**	**353**	P	Pn	10 23 12.3	+0.2
SKJI				S	Sn	10 23 26.7	+1.1
CGJI	**Cibinong**	**1.68**	**324**	P	Pn	10 23 21.5	+0.3
CGJI				S	Sn	10 23 41.2	-0.7
CMJI	**Cimerak**	**1.76**	**83**	P	Pn	10 23 22.6	+0.3
TNG	**Tangerang**	**1.81**	**359**	P		10 23 23.1	
TNG				P	Pn	10 23 23.0	+0.1
JCJI	**Jatiwangi**	**2.17**	**47**	P	Pn	10 23 26.0	-1.8
BLSI	**Bandar Lampung**	**2.97**	**331**	P	Pn	10 23 39.4	+0.7
PCJI	**Pacitan**	**4.46**	**93**	P	Pn	10 23 58.9	-0.1

NAO ***30*** *10:46:15.6, 38°.77N×25°.56E, h10km, mb5.6*
GII ***30*** *10:46:16.7±0.0, 38°.33N×22°.31E, h11km, Mws5.3, confirmed*
BJI ***30*** *10:46:17.8, 38°.30N×22°.30E, h11km, mB5.4/35, mb5.4/74, Ms5.0/31, Ms7 4.6/32*
MOS ***30*** *10:46:17.3±1.0, 38°.36N×22°.30E, h12km, mb5.7/62, MS4.7/21, Error ellipse: s-maj=4.4km s-min=2.6km az=78.4*
BEO ***30*** *10:46:18.7±0.6, 38°.28N×22°.38E, h4km±6km, ML5.2/5*
UPSL ***30*** *10:46:18.8, 38°.35N×22°.30E, h14km, Mw5.1, Moment Tensor Solution. s7 Moment tensor: Mrr-5.04; Mθθ5.62; Mφφ-0.58; Mrθ-2.33; Mθφ-0.44; Mφr-0.72; Fault plane solution: NP1:φs284.00000°, δ34.00000°, λ-73.00000°. NP2:φs85.00000°, δ57.00000°, λ-101.00000°.*
MED_RC ***30*** *10:46:18.0±0.2, 38°.23N×22°.27E, h13km, MW5.3/30, Moment Tensor Solution. Body waves: s9,c9;Mantle waves: s30,c54; Duration: 1s7 Moment tensor: Scale 1017Nm; Mrr-0.91±.03; Mθθ0.98±.02; Mφφ-0.07±.02; Mrθ-0.44±.05; Mθφ-0.31±.02; Mφr-0.36±.06; Best double couple: M0:1.15000×1017 NP1:φs308.00000°, δ40.00000°, λ-52.00000°. NP2:φs82.00000°, δ59.00000°, λ-118.00000°. Principal axes: T 1.1200, Plg10.0000°, Azm192.0000°; N 0.0500, Plg23.0000°, Azm97.0000°; P -1.1700, Plg64.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
NEIC ***30*** *10:46:19.2, 38°.38N×22°.00E, h16km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 1017Nm; Mrr-0.83; Mθθ0.89; Mφφ-0.06; Mrθ-0.89; Mθφ-0.14; Mφr0.07; Fault plane solution: M0:1.25000×1017 NP1: φs280.83000°, δ22.27000°, λ-84.96000°. NP2:φs95.39000°, δ67.82000°, λ-92.06000°. Principal axes: T 1.2864, Plg23.0000°, Azm187.0000°; N -0.0803, Plg2.0000°, Azm96.0000°; P -1.2061, Plg67.0000°, Azm2.0000°;*
MCSM ***30*** *10:46:19.8±0.3, 38°.N±2°×2°.2E±°, h13km±2km, mb5.3, mB5.7, MLv5.6, Mw(mB)5.2*
NEIC ***30*** *10:46:19.2±1.5, 38°.37N±0°.05×22°.39E±0°.07, h10km±1km, mb5.6/782, Ms_20 5.1/333, Mww5.3/50, Error ellipse: s-maj=9.0km s-min=8.2km az=232.0*
THE ***30*** *10:46:19.2, 38°.33N×22°.31E, h11km, ML5.2/14, Error ellipse: s-maj=1.0km s-min=0.4km az=286.0*
PDG ***30*** *10:46:19.7±0.6, 38°.36N×22°.32E, h11km±1km, MD5.4/5, ML5.3/10, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
ATH ***30*** *10:46:19.1, 38°.35N×22°.30E, h13km, ML5.4/31, Manual Solution by A.Papageorgiou First location: 2019/03/30 10:47:09, This location: 2021/03/27 20:00:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
NEIC ***30*** *10:46:19.2, 38°.38N×22°.39E, h16km*
GCMT ***30*** *10:46:21.2±0.1, 38°.27N±0°.01×22°.27E±0°.01, h15km, MW5.3/129, Moment Tensor Solution. s97,c146; s129,c256; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr-0.98±.02; Mθθ1.01±.02; Mφφ-0.03±.01; Mrθ-0.35±.03; Mθφ-0.09±.01; Mφr-0.33±.03; Best double couple: M0:1.10800×1017 NP1:φs292.00000°, δ39.00000°, λ-62.00000°. NP2:φs77.00000°, δ57.00000°, λ-111.00000°. Principal axes: T 1.0710, Plg9.0000°, Azm182.0000°; N 0.0690, Plg17.0000°, Azm89.0000°; P -1.1450, Plg70.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***30*** *10:46:21.9±1.0, 38°.49N×22°.39E, h30km±6km, mb5.2/40, mbtmp5.2/55, ML4.4/13, MS4.5/35 Error ellipse: s-maj=7.6km s-min=6.8km az=144.0*

ISC 30 10:46:19.2±0.5, 38°.34N±0°.01×22°.33E±0°.01, h15km±2km, n2110, σ1°54/1943, mb5.6/523, MS5.1/215, 108C-114D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.16**	**290**	P	**Pg**	10 46 22.6	-0.7
KALE	**Kalithea**	**0.16**	**290**	P	**Pg**	10 46 22.3	-1.0
KALE				S	**Sg**	10 46 25.0	-1.0
ALIK	**Aliki, Aigiali**	**0.19**	**246**	P	**Pg**	10 46 23.4	-0.2
ALIK				S	**Sg**	10 46 25.9	-0.7
DLFA	**Delphi**	**0.19**	**43**	P	**Pg**	10 46 23.2	-0.6
DLFA				S	**Sg**	10 46 26.0	-0.8
SERG	**Sergoula**	**0.23**	**290**	P	**Pg**	10 46 23.7	-0.6
SERG				S	**Sg**	10 46 26.3	-1.4
KLV	**Kalavryta, Ach**	**0.33**	**205**	P	**Pg**	10 46 25.5	-0.5
KLV				S	**Sg**	10 46 30.2	-0.4
	313μm,0.7s						
KLV	**Kalavryta, Ach**	**0.33**	**205**	P	**Pg**	10 46 25.0	-1.0
KLV				S	**Sg**	10 46 29.6	-0.9
EFP	**Efpalio**	**0.34**	**285**	P	**Pg**	10 46 25.6	-0.7
EFP				S	**Sg**	10 46 30.4	-0.7
	608μm,0.6s						
EFP	**Efpalio**	**0.34**	**285**	P	**Pg**	10 46 25.6	-0.7
EFP				S	**Sg**	10 46 29.3	-1.8
ANX	**Ano Chora**	**0.41**	**309**	P	**Pg**	10 46 26.8	-0.7
ANX				S	**Sg**	10 46 32.9	-0.2
	633μm,0.5s						
ANX	**Ano Chora**	**0.41**	**309**	P	**Pg**	10 46 26.7	-0.8
ANX				S	**Sg**	10 46 31.4	-1.7
UPR	**University Cam**	**0.43**	**263**	P	**Pg**	10 46 27.4	-0.4
UPR				S	**Sg**	10 46 33.1	-0.6
UPR	**University Cam**	**0.43**	**263**	P	**Pg**	10 46 27.5	-0.3
UPR				S	**Sg**	10 46 31.9	-1.7
PATC	**Patra C**	**0.45**	**262**	P	**Pg**	10 46 27.7	-0.5
PATC				S	**Sg**	10 46 33.7	-0.6
KIAA	**Kiato**	**0.46**	**134**	P	**Pb**	10 46 29.2	+0.1
KIAA				S	**Sg**	10 46 35.3	+0.6
PATG	**Patra B**	**0.48**	**258**	P	**Pg**	10 46 28.6	-0.2
PATG				S	**Sg**	10 46 35.0	-0.2
AXAR	**Agios Charalam**	**0.50**	**31**	P	**Pg**	10 46 29.0	-0.2
AXAR				S	**Sb**	10 46 36.8	-0.2
AXAR	**Agios Charalam**	**0.50**	**31**	P	**Pg**	10 46 28.9	-0.3
AXAR				S	**Sg**	10 46 35.7	-0.2
LTK	**Loutraki**	**0.59**	**122**	P	**Pb**	10 46 31.4	0.0
LTK				S	**Sg**	10 46 39.2	+0.4
LKR	**Lokris**	**0.61**	**59**	P	**Pg**	10 46 30.6	-0.7
LKR				S	**Sg**	10 46 39.6	+0.2
	290μm,0.2s						
LKR	**Lokris**	**0.61**	**59**	P	**Pg**	10 46 30.2	-1.1
LKR				S	**Sg**	10 46 39.2	-0.2
DRO	**Drossia**	**0.62**	**232**	P	**Pg**	10 46 30.7	-0.7
DRO				S	**Sg**	10 46 39.7	+0.1
	367μm,0.5s						
DRO	**Drossia**	**0.62**	**232**	P	**Pg**	10 46 30.1	-1.3
DRO				S	**Sg**	10 46 38.1	-1.5
PVO	**Paravola**	**0.69**	**294**	P	**Pg**	10 46 32.6	-0.1
PVO				S	**Sg**	10 46 41.0	-0.8
MAKR	**Makrakomi, Fth**	**0.69**	**347**	P	**Pg**	10 46 32.1	-0.7
MAKR				S	**Sb**	10 46 43.0	+0.5
	284μm,0.6s						
MAKR	**Makrakomi, Fth**	**0.69**	**347**	P	**Pg**	10 46 32.1	-0.7
MAKR				S	**Sg**	10 46 41.8	-0.2
EVR	**Evrytania**	**0.71**	**325**	P	**Pg**	10 46 33.1	0.0
EVR				S	**Sb**	10 46 43.7	+0.8
	262μm,0.8s						
EVR	**Evrytania**	**0.71**	**325**	P	**Pg**	10 46 32.9	-0.2
EVR				S	**Sg**	10 46 41.8	-0.6
RLS	**Riolos of Patr**	**0.73**	**248**	P	**Pg**	10 46 32.5	-1.0
RLS				S	**Sg**	10 46 42.6	-0.6
	213μm,0.6s						
RLS	**Riolos of Patr**	**0.73**	**248**	P	**Pg**	10 46 32.5	-1.0
RLS				S	**Sg**	10 46 42.5	-0.6
VIL2	**Platees**	**0.75**	**99**	P	**Pn**	10 46 35.2	-0.1
VIL2				S	**Sn**	10 46 46.4	-0.2
AXS	**Araxos**	**0.76**	**260**	P	**Pg**	10 46 33.1	-0.9
AXS				S	**Sg**	10 46 43.2	-0.9
AIDA	**Aidipsos**	**0.77**	**47**	P	**Pb**	10 46 34.4	+0.1
AIDA				S	**Sb**	10 46 45.1	+0.5
VILL	**Villia**	**0.80**	**102**	P	**Pg**	10 46 34.5	-0.2
VILL				S	**Sb**	10 46 46.7	+1.3
	338μm,0.5s						
YRMI	**Loutra Irminis**	**0.81**	**253**	P	**Pg**	10 46 33.7	-1.1
YRMI				S	**Sg**	10 46 44.3	-1.1
LCHA	**Lechaina**	**0.93**	**245**	P	**Pb**	10 46 36.9	-0.1
LCHA				S	**Sb**	10 46 48.9	-0.3
AMT	**Artemida-Makis**	**0.94**	**211**	P	**Pb**	10 46 36.8	-0.5
AMT				S	**Sg**	10 46 50.0	+0.2
VLX	**Vlachokerasia**	**0.97**	**178**	P	**Pb**	10 46 37.5	-0.3
VLX				S	**Sn**	10 46 51.4	-0.5
ELFA	**Athens-Elefsin**	**1.00**	**107**	P	**Pn**	10 46 39.0	+0.2
ELFA				S	**Sn**	10 46 52.4	-0.2
SOFA	**Sofades**	**1.01**	**350**	P	**Pg**	10 46 38.8	-0.1
SOFA				S	**Sb**	10 46 51.3	-0.4
CLEM	**Kyllini,Ilia,G**	**1.04**	**245**	P	**Pb**	10 46 38.6	-0.4
CLEM				S	**Sb**	10 46 51.7	-0.8
MET5	**Makryloggos,Me**	**1.08**	**131**	P	**Pg**	10 46 40.2	0.0
MET5				S	**Sb**	10 46 54.1	+0.5
MET4	**Agioi Theodoro**	**1.11**	**130**	P	**Pg**	10 46 40.6	0.0
MET4				S	**Sn**	10 46 55.4	+0.2
ACHAR	**Athens-Acharne**	**1.15**	**103**	P	**Pg**	10 46 41.4	+0.1
ACHAR				S	**Sn**	10 46 56.0	-0.1
KRND	**KRANIDI**	**1.15**	**145**	P	**Pb**	10 46 41.0	+0.1
KRND	**KRANIDI**	**1.15**	**145**	P	**Pg**	10 46 41.4	-0.1
KRND				S	**Sg**	10 46 56.7	+0.1
ATH	**Athens Observa**	**1.16**	**108**	P	**Pb**	10 46 41.2	+0.3
ATH				S	**Sg**	10 46 57.4	+0.8
	131μm,0.7s						
ATH	**Athens Observa**	**1.16**	**108**	P	**Pg**	10 46 41.6	+0.1
ATH				S	**Sn**	10 46 56.7	+0.3
NOAC	**Athens-Thissio**	**1.16**	**108**	P	**Pb**	10 46 41.3	+0.4
NOAC				S	**Sn**	10 46 56.5	+0.1
ATHP	**Athens-Neo Psi**	**1.19**	**106**	P	**Pb**	10 46 41.8	+0.3
ATHP				S	**Sn**	10 46 57.6	+0.4
NEO	**Neokhori**	**1.20**	**36**	P	**Pn**	10 46 41.5	+0.1
NEO				S	**Sb**	10 46 57.1	+0.2
ITM	**Ithomi**	**1.20**	**195**	*eP*	**Pn**	10 46 40.8	-0.7
ITM	**Ithomi**	**1.20**	**195**	P	**Pn**	10 46 40.6	-0.9
ITM				S	**Sg**	10 46 58.6	+0.6
	92μm,0.8s						
ITM	**Ithomi**	**1.20**	**195**		**Pn**	10 46 40.8	-0.7
ITM	**Ithomi**	**1.20**	**195**	⇑P	**Pn**	10 46 40.6	-0.9
ITM	**Ithomi**	**1.20**	**195**	P	**Pn**	10 46 40.9	-0.6
ITM				S	**Sb**	10 46 57.1	+0.1
ATHU	**Athens Univers**	**1.21**	**107**	P	**Pb**	10 46 42.2	+0.4
ATHU				S	**Sb**	10 46 57.5	+0.2
XOR	**Xorichti**	**1.23**	**33**	P	**Pn**	10 46 41.4	-0.6
XOR				S	**Sn**	10 46 58.4	+0.1
	82μm,0.8s						
XOR	**Xorichti**	**1.23**	**33**	P	**Pn**	10 46 41.9	-0.1
XOR				S	**Sn**	10 46 58.2	-0.2
PTL	**Penteli**	**1.25**	**103**	P	**Pn**	10 46 42.4	+0.3
PTL				S	**Sb**	10 46 58.7	+0.3
THL	**Klokotos Trika**	**1.25**	**349**	P	**Pn**	10 46 41.6	-0.6
THL				S	**Sg**	10 46 59.7	+0.1
	47μm,1.1s						
THL	**Klokotos Trika**	**1.25**	**349**	P	**Pn**	10 46 42.2	0.0
THL				S	**Sb**	10 46 58.1	-0.4
VLY	**Voula,Athens**	**1.25**	**112**	P	**Pn**	10 46 42.1	-0.1
VLY				S	**Sn**	10 46 59.2	+0.3
TRKA	**Trikala**	**1.29**	**340**	P	**Pn**	10 46 42.9	+0.2
TRKA				S	**Sb**	10 46 58.7	-0.9
DION	**Dionisos Attik**	**1.29**	**101**	P	**Pb**	10 46 43.4	+0.1
DION				S	**Sb**	10 46 59.8	+0.1
KYPS	**Kipseli, Zakin**	**1.29**	**247**	P	**Pb**	10 46 43.1	-0.2
KYPS				S	**Sb**	10 46 58.9	-0.9
TETR	**Tetrakomo, Epi**	**1.30**	**321**	P	**Pb**	10 46 43.1	-0.3
TETR				S	**Sb**	10 46 58.9	-1.1
SMHA	**Samh**	**1.32**	**267**	P	**Pn**	10 46 42.2	-1.0
SMHA				S	**Sb**	10 46 59.9	-0.7
GINA	**Giannouli**	**1.33**	**2**	P	**Pn**	10 46 43.1	-0.2
GINA				S	**Sb**	10 47 00.2	-0.5
NYDR	**Nydri-Lefkada**	**1.33**	**287**	P	**Pn**	10 46 43.5	+0.2
NYDR				S	**Sb**	10 46 59.6	-1.1
LRSO	**Larissa Observ**	**1.33**	**2**	P	**Pn**	10 46 43.6	+0.2
LRSO				S	**Sn**	10 47 00.4	-0.5
LTHK	**Lithakia**	**1.33**	**242**	P	**Pn**	10 46 43.4	0.0
LTHK				S	**Sn**	10 46 59.5	-1.2
YDRA	**Hydra**	**1.34**	**137**	P	**Pb**	10 46 43.9	-0.1
YDRA				S	**Sn**	10 47 01.1	+0.2
EVGI	**Lefkada island**	**1.34**	**283**	P	**Pn**	10 46 43.3	-0.2
ORTH	**Orthonies,Zaky**	**1.38**	**250**	P	**Pn**	10 46 44.1	+0.1
ORTH				S	**Sn**	10 47 01.3	-0.6
VLS	**Valsamata**	**1.38**	**264**	P	**Pn**	10 46 43.6	-0.3
VLS				S	**Sn**	10 47 01.6	-0.4
LKD2	**Lefkada island**	**1.38**	**290**	P	**Pn**	10 46 44.3	+0.2
LKD2				S	**Sn**	10 47 01.4	-0.7
PSDA	**Pessada-Kefalo**	**1.39**	**261**	P	**Pn**	10 46 43.3	-0.8
PSDA				S	**Sn**	10 47 01.6	-0.6
FSK	**Fiskardo**	**1.39**	**276**	P	**Pn**	10 46 44.1	0.0
FSK				S	**Sn**	10 47 00.8	-1.4
TSLK	**Tsoukalades, L**	**1.40**	**291**	P	**Pn**	10 46 44.1	-0.1
TSLK				S	**Sn**	10 47 01.2	-1.2
KYMI	**Kymi, Euboea I**	**1.42**	**77**	P	**Pn**	10 46 44.4	-0.2
KYMI				S	**Sn**	10 47 03.2	+0.2
	54μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.42**	**77**	P	**Pn**	10 46 44.5	0.0
KYMI				S	**Sb**	10 47 03.5	0.0
DMLN	**Damoulianata-K**	**1.54**	**267**	P	**Pn**	10 46 46.4	+0.1
DMLN				S	**Sn**	10 47 03.9	-2.1
VLI	**Veliai**	**1.69**	**163**	P	**Pn**	10 46 48.4	+0.2
VLI	**Veliai**	**1.69**	**163**	P	**Pn**	10 46 48.1	-0.1
VLI				S	**Sn**	10 47 10.0	+0.4
KARY	**Karystos**	**1.69**	**100**	P	**Pn**	10 46 48.7	+0.4
KARY				S	**Sn**	10 47 09.3	-0.4
LIT	**Litokhoron**	**1.77**	**4**		**Pn**	10 46 49.5	+0.2
LIT	**Litokhoron**	**1.77**	**4**	⇓P	**Pn**	10 46 49.5	+0.2
LIT	**Litokhoron**	**1.77**	**4**	P	**Pn**	10 46 49.2	-0.1
SKY	**Skiros Island**	**1.82**	**72**	P	**Pn**	10 46 50.1	0.0
PAIG	**Paliouri**	**1.90**	**33**	*eP*	**Pn**	10 46 51.3	+0.1
IGT	**Igoumenitsa**	**1.96**	**308**	*ePn*	**Pb**	10 46 54.4	-0.3
IGT				*eSg*	**Sg**	10 47 23.2	+0.9
HORT	**Hortiatis**	**2.33**	**15**	*eP*	**Pn**	10 46 57.3	+0.1
OUR	**Ouranopolis**	**2.37**	**32**	*eP*	**Pn**	10 46 57.8	+0.2
KEK	**Kerkira**	**2.40**	**306**	*eP*	**Pn**	10 46 59.9	+1.9
KEK	**Kerkira**	**2.40**	**306**		**Pb**	10 47 01.0	-1.2
KEK	**Kerkira**	**2.40**	**306**	⇓P	**Pb**	10 47 01.8	-0.3
FNA	**Florina**	**2.55**	**344**	*eP*	**Pn**	10 47 01.4	+1.2
FNA	**Florina**	**2.55**	**344**		**Pn**	10 47 01.2	+1.1
FNA	**Florina**	**2.55**	**344**	P	**Pn**	10 47 01.2	+1.1
FNA	**Florina**	**2.55**	**344**	*ePn*	**Pn**	10 47 01.3	+1.1
FNA				*eSn*	**Sb**	10 47 34.2	-1.8
FNA	**Florina**	**2.55**	**344**	⇓P	**Pn**	10 47 01.3	+1.1
GRG	**Griva**	**2.62**	**1**	*eP*	**Pn**	10 47 01.8	+0.8
APE	**Apeiranthos**	**2.84**	**116**	*eP*	**Pn**	10 47 05.2	+1.1
APE	**Apeiranthos**	**2.84**	**116**	⇓P	**Pn**	10 47 05.7	+1.6
APE				⇓S	**Sb**	10 47 42.3	-1.9
APE	**Apeiranthos**	**2.84**	**116**	*i* P	**Pn**	10 47 05.2	+1.1
APE	**Apeiranthos**	**2.84**	**116**	⇓P	**Pn**	10 47 04.8	+0.7
KNT	**Kendrikon**	**2.85**	**9**	*eP*	**Pn**	10 47 05.3	+1.0
SIGR	**SIGRI**	**2.89**	**71**	*eP*	**Pn**	10 47 05.5	+0.7
SRS	**Serrai**	**2.94**	**19**	*ePn*	**Pn**	10 47 06.1	+0.6
VAY	**Valandovo**	**2.99**	**4**	*i* Pn	**Pn**	10 47 06.8	+0.8
VAY	**Valandovo**	**2.99**	**4**	*ePn*	**Pn**	10 47 06.8	+0.8
VAY				*eSn*	**Sn**	10 47 44.1	+2.5
OHR	**Ohrid**	**3.01**	**337**	*i* Pn	**Pn**	10 47 09.0	+2.5
OHR	**Ohrid**	**3.01**	**337**	*ePn*	**Pn**	10 47 09.0	+2.5
OHR				*eSn*	**Sb**	10 47 46.2	-3.0
IMMV	**Iera Moni Meta**	**3.16**	**155**	*eP*	**Pn**	10 47 08.9	+0.4
BOZC	**Bozcaada**	**3.27**	**61**	*eP*	**Pn**	10 47 10.5	+0.6
KNDR	**Palaiochora Ch**	**3.28**	**160**	*eP*	**Pn**	10 47 12.5	+2.4
GADA	**Gvkgeada**	**3.33**	**55**	*eP*	**Pn**	10 47 11.2	+0.4
EZN	**Ezine**	**3.45**	**63**	*eP*	**Pn**	10 47 12.7	+0.3
EZN	**Ezine**	**3.45**	**63**	P	**Pn**	10 47 12.9	+0.5
EZN	**Ezine**	**3.45**	**63**	Pn	**Pn**	10 47 12.7	+0.3
SCTE	**Santa Cesarea**	**3.46**	**301**	Pn	**Pn**	10 47 13.8	+1.2
TIR	**Tirane**	**3.55**	**329**		**Pn**	10 47 16.2	+2.3
TIR	**Tirane**	**3.55**	**329**	⇑P	**Pn**	10 47 15.8	+1.9
TIR	**Tirane**	**3.55**	**329**	P	**Pn**	10 47 16.2	+2.3
TIR	**Tirane**	**3.55**	**329**	*ePn*	**Pn**	10 47 16.5	+2.6
TIR	**Tirane**	**3.55**	**329**	⇓P	**Pn**	10 47 16.4	+2.5
TIR	**Tirane**	**3.55**	**329**	Pn	**Pn**	10 47 16.4	+2.5
DKL	**Dikili**	**3.66**	**77**	*eP*	**Pn**	10 47 16.5	+1.2
DKL	**Dikili**	**3.66**	**77**	⇓P	**Pn**	10 47 16.3	+1.0
COMU	**Canakkale**	**3.67**	**60**	*eP*	**Pn**	10 47 17.9	+2.4
IDI	**Anoyia**	**3.67**	**145**	*eP*	**Pn**	10 47 16.5	+0.9
IDI	**Anoyia**	**3.67**	**145**	Pn	**Pn**	10 47 16.5	+0.9
IDI	**Anoyia**	**3.67**	**145**	Pn	**Pn**	10 47 16.1	+0.5
	252nm,0.4s,baz=322,slow=13,SNR=128						
IDI				Sn	**Sn**	10 47 56.8	-1.8
	248nm,0.3s,baz=288,slow=19,SNR=3.5						
BLCB	**Balcova**	**3.71**	**88**	*eP*	**Pn**	10 47 17.6	+1.6
RDO	**Rodhopi**	**3.74**	**40**	*eP*	**Pn**	10 47 16.2	-0.2
RDO	**Rodhopi**	**3.74**	**40**	Pn	**Pn**	10 47 15.6	-0.9
GVD	**Gavdhos**	**3.77**	**157**	*eP*	**Pn**	10 47 19.3	+2.5
ENEZ	**Enez**	**3.81**	**50**	*eP*	**Pn**	10 47 17.2	-0.1
GELI	**Tayfur-Gelibol**	**3.82**	**56**	*eP*	**Pn**	10 47 18.2	+0.7
ALN	**Alexandroupoli**	**3.84**	**47**	*eP*	**Pn**	10 47 17.8	-0.1
ALN	**Alexandroupoli**	**3.84**	**47**	Pn	**Pn**	10 47 17.7	-0.1
ALN	**Alexandroupoli**	**3.84**	**47**	⇓P	**Pn**	10 47 17.6	-0.3
YAYO	**Edremit-Balk**	**3.91**	**70**	*eP*	**Pn**	10 47 20.1	+1.3
ERIK	**Erikli-Kesan**	**3.99**	**53**	*eP*	**Pn**	10 47 19.6	-0.2
LPK	**Lapseki**	**3.99**	**58**	*eP*	**Pn**	10 47 20.9	+1.0
KDZ	**Kurdzhali**	**4.02**	**34**	*eP*	**Pn**	10 47 20.6	+0.3
CANM	**Can-anakkale**	**4.04**	**64**	*eP*	**Pn**	10 47 20.8	+0.3
BODT	**Bodrum**	**4.15**	**106**	*eP*	**Pn**	10 47 24.2	+2.1
BOSS	**Bosilegrad**	**4.16**	**2**	*ePn*	**Pn**	10 47 23.2	+1.0
PLD	**Plovdiv**	**4.23**	**25**	*eP*	**Pn**	10 47 24.2	+1.0
PLD	**Plovdiv**	**4.23**	**25**	*ePn*	**Pn**	10 47 24.4	+1.2
ULC	**Ulcinj**	**4.32**	**328**	⇓*i*Pn	**Pn**	10 47 25.4	+0.9
ULC				*eSn*	**Sn**	10 48 14.3	-0.4
VTS	**Vitosha**	**4.33**	**9**	*ePn*	**Pn**	10 47 25.7	+1.0
VTS				*eSn*	**Sn**	10 48 15.0	0.0
UKOP	**Uzunkopru-Edir**	**4.33**	**49**	*eP*	**Pn**	10 47 26.3	+1.7
AYDB	**Zeytinkoy-Aydi**	**4.40**	**93**	*eP*	**Pn**	10 47 27.5	+1.8
RKY	**Sarkoy-Tekirda**	**4.42**	**56**	*eP*	**Pn**	10 47 26.1	+0.2
TIP	**Timpagrande**	**4.43**	**283**		**Pn**	10 47 27.8	+1.8
TIP	**Timpagrande**	**4.43**	**283**	⇓P	**Pn**	10 47 27.9	+1.8
TIP	**Timpagrande**	**4.43**	**283**	⇓P	**Pn**	10 47 27.7	+1.8
TIP	**Timpagrande**	**4.43**	**283**	Pn	**Pn**	10 47 27.7	+1.7
MLSB	**Milas**	**4.44**	**102**	*eP*	**Pn**	10 47 27.6	+1.5
ZKR	**Zakros**	**4.48**	**135**	*eP*	**Pn**	10 47 28.9

TREB	Trebinje	5.32	327	*e*Pn	Pn	10 47 38.0 -0.2
CUC	Castrocucco	5.32	290	Pn	Pn	10 47 40.6 +2.3
CUC	Castrocucco	5.32	290	⇓P	Pn	10 47 40.6 +2.3
SLVT	Silivri	5.37	56	*e*P	Pn	10 47 41.1 +2.2
BRY	Bratogost	5.39	329	*e*Pn	Pn	10 47 39.6 +0.3
BRY	Bratogost	5.39	329	*e*Pn	Pn	10 47 39.2 -0.1
BRY				*e*Sn	Sn	10 48 39.8 -1.4
MRVN	Minervino Murg	5.46	302	⇑P	Pn	10 47 40.7 +0.6
PLE	Pljevlja	5.46	337	⇓*i*Pn	Pn	10 47 42.0 +1.8
ZAGS	Zajecar	5.47	359	*e*Pn	Pn	10 47 40.6 +0.4
ZAGS				*e*Sn	Sn	10 48 41.9 -0.9
MDNY	Mudanya-Bursa	5.47	66	*e*P	Pn	10 47 45.6 +5.4
UPM	Unac-Piva	5.51	333	*e*Pn	Pn	10 47 42.6 +1.7
UPM	Unac-Piva	5.51	333	*e*Pn	Pn	10 47 42.3 +1.4
ARMT	Armutlu	5.53	64	*e*P	Pn	10 47 42.6 +1.6
CTYL	Yalikoy Yolu	5.55	54	*e*P	Pn	10 47 42.2 +0.9
CTYL	Yalikoy Yolu	5.55	54	Pn	Pn	10 47 40.8 -0.5
	2.1nm5µm473nm,0.8s					
APMY	Acipayam-Deniz	5.58	97	*e*P	Pn	10 47 44.9 +3.0
GEDZ	Gediz	5.59	81	*e*P	Pn	10 47 43.8 +1.9
FETY	Fethiye	5.63	105	*e*P	Pn	10 47 46.8 +4.3
TVSB	Tavsanli	5.68	76	*e*P	Pn	10 47 45.6 +2.5
GRUS	Gruza	5.68	348	*e*Pn	Pn	10 47 44.0 +0.9
CAME	Cameli-Denizli	5.71	102	*e*P	Pn	10 47 47.8 +4.2
BGKT	Bogazkoy	5.72	58	*e*P	Pn	10 47 44.8 +1.2
BAIL	Bailesti	5.73	7	⇓P	Pn	10 47 46.0 +2.2
RUDO	Rudo	5.73	338	*e*Pn	Pn	10 47 44.1 +0.3
STON	Ston	5.74	324	*e*Pn	Pn	10 47 43.4 -0.4
STON	Ston	5.74	324	*e*Pn	Pn	10 47 43.7 -0.1
BORS2	Bor- Borsko je	5.75	358	*e*Pn	Pn	10 47 43.4 -0.7
KAVV	Kandilli-Istan	5.86	60	*e*P	Pn	10 47 46.4 +0.8
ISK	Istanbul-Kandi	5.86	60	*e*P	Pn	10 47 46.2 +0.6
VLAD	Vladila	5.87	15	⇑P	Pn	10 47 46.8 +1.2
YLV	Yalova	5.89	66	Pn	Pn	10 47 47.6 +1.6
	1.8nm5µm473nm,0.8s					
KLYT	Kilyos	5.93	59	*e*P	Pn	10 47 47.9 +1.3
KLYT	Kilyos	5.93	59	Pn	Pn	10 47 47.5 +0.9
	1.5nm4µm218nm,0.8s					
BBLS	Lazi&#263i	5.95	339	*e*Pn	Pn	10 47 47.6 +0.8
BBLS	Lazi&#263i	5.95	339	*e*Pn	Pn	10 47 48.0 +1.2
PUNG	Punghina	5.95	4	⇑P	Pn	10 47 49.0 +2.2
SVIS	Svilajnac	5.98	352	*e*Pn	Pn	10 47 48.7 +1.5
DIVS	Divibare	6.02	344	*e*Pn	Pn	10 47 48.9 +1.1
TRUS	Trudelj	6.06	347	*e*Pn	Pn	10 47 49.3 +1.0
KUBS	Kucevo	6.09	356	*e*Pn	Pn	10 47 47.6 -1.1
SGRT	San Giovanni R	6.09	306		Pn	10 47 49.5 +0.6
BASM	Basmaki-Afyon	6.10	92	*e*P	Pn	10 47 51.6 +2.6
RAZG	Razgrad	6.11	30	⇑P	Pn	10 47 50.2 +1.2
ADVT	Abdulvahap	6.11	68	*e*P	Pn	10 47 51.1 +2.1
AKAS	Kas	6.17	108	*e*P	Pn	10 47 54.0 +4.0
COPA	Copaceanca	6.19	20	⇑P	Pn	10 47 51.4 +1.3
HRT	Hereke	6.19	64	*e*P	Pn	10 47 51.5 +1.4
ELL	Elmali	6.23	102	*e*P	Pn	10 47 56.2 +5.4
ELL	Elmali	6.23	102	⇑P	Pn	10 47 55.5 +4.8
SILT	Sile	6.30	61	*e*P	Pn	10 47 52.5 +0.9
VAE	Valguarnera	6.32	265	Pn	Pn	10 47 53.8 +1.9
	157nm,0.9s,baz=42,slow=6.7,SNR=14					
VAE				Sn	Sn	10 48 59.8 -4.0
	14nm,0.3s,baz=139,slow=20,SNR=4.0					
VAE				LR	LR	10 50 38.5
	comp=Z,3µm,20.8s,baz=90,slow=40					
DJES	Djerdap	6.33	1	⇑P	Pn	10 47 54.2 +2.2
SRE	Strehaia	6.35	6	⇓P	Pn	10 47 54.2 +1.9
SRE	Strehaia	6.35	6	P	Pn	10 47 54.2 +1.9
RAFF	Raffo Rosso	6.41	262	Pn	Pn	10 47 54.1 +1.0
SHUT	Suhut-Afyon	6.46	86	*e*P	Pn	10 47 57.1 +3.2
ISP	Isparta	6.49	92	*e*P	Pn	10 47 57.1 +2.8
ISP	Isparta	6.49	92		Pn	10 47 56.8 +2.5
ISP	Isparta	6.49	92	*ce*P	Pn	10 47 57.2 +2.9
ISP				pmax	pmax	
	comp=Z,358nm,0.8s					
ISP	Isparta	6.49	92	⇑P	Pn	10 47 57.2 +2.9
SGRR	Singureni	6.49	24	⇑P	Pn	10 47 55.5 +1.3
HUMR	Humele	6.50	17	⇑P	Pn	10 47 56.0 +1.7
KORT	Korkueli	6.50	99	*e*P	Pn	10 48 00.0 +5.5
BORA	Eskisehir	6.50	74		Pn	10 47 56.2 +1.7
HERR	Herculane	6.54	1	⇑P	Pn	10 47 55.3 +0.5
TEKS	Tekeris	6.55	342	*e*Pn	Pn	10 47 55.5 +0.4
TEKS	Tekeris	6.55	342	*e*Pn	Pn	10 47 55.8 +0.7
PAOL	Paolisi	6.56	297		Pn	10 47 56.6 +1.3
BCK	Bucak	6.59	95	*e*P	Pn	10 47 59.2 +3.5
SAUV	Serdivan-Sakar	6.63	66	*e*P	Pn	10 47 57.9 +1.7
GULT	Gulveren	6.68	69	*e*P	Pn	10 47 58.9 +2.0
WDD	Wied Dalam	6.72	251		Pn	10 47 57.4 +0.1
WDD	Wied Dalam	6.72	251	⇑P	Pn	10 47 58.0 +0.6
ANTB	Antalya	6.76	100	*e*P	Pn	10 48 04.8 +6.8
STFAR	Stefanesti-Arg	6.81	16	⇑P	Pn	10 48 01.0 +2.4
CICN	Ciocanesti	6.84	30	⇑P	Pn	10 47 59.6 +0.6
CIFT	Cifteler, Eski	6.89	79	*e*P	Pn	10 48 02.6 +2.8
SULR		6.99	24	⇓P	Pn	10 48 02.0 +1.0
GZR	Gura Zlata	7.06	3	⇑P	Pn	10 48 03.2 +1.1
GZR	Gura Zlata	7.06	3	P	Pn	10 48 03.2 +1.1
GZR	Gura Zlata	7.06	3	*e*Pn	Pn	10 48 02.9 +0.8
FRGS	Fruska Gora	7.07	345	*e*Pn	Pn	10 48 02.8 +0.6
FRGS	Fruska Gora	7.07	345	*e*Pn	Pn	10 48 02.8 +0.6
ICOR	Ion Corvin	7.09	34	⇓P	Pn	10 48 03.9 +1.5
DOB	Doboj	7.13	335	*e*Pn	Pn	10 48 02.2 -0.8
MTUR	Matau	7.18	16	⇑P	Pn	10 48 06.3 +2.5
MTUR	Matau	7.18	16	P	Pn	10 48 06.2 +2.5
LOT	Lotru	7.19	8	*e*P	Pn	10 48 04.4 +0.5
LOT	Lotru	7.19	8	⇓P	Pn	10 48 04.6 +0.7
MDUB	Mudurnu	7.19	70	*e*P	Pn	10 48 06.3 +2.4
MDUB	Mudurnu	7.19	70		Pn	10 48 05.8 +1.8
MDUB	Mudurnu	7.19	70	⇓P	Pn	10 48 06.0 +2.0
ARR	Arges	7.23	13	⇓P	Pn	10 48 05.3 +0.9
MANR	Mangalia	7.23	39	⇑P	Pn	10 48 05.8 +1.4
CLTB	Caltabellotta	7.24	267	⇑P	Pn	10 48 07.5 +3.0
SVRH	Sivrihisar-ESK	7.26	78	*e*P	Pn	10 48 07.4 +2.5
BZS	Buzias	7.29	356	*e*P	Pn	10 48 05.3 +0.1
BZS	Buzias	7.29	356	⇓P	Pn	10 48 06.3 +1.1
BZS	Buzias	7.29	356	P	Pn	10 48 06.3 +1.1
BZS	Buzias	7.29	356	*e*Pn	Pn	10 48 04.7 -0.5
BZS	Buzias	7.29	356	⇑P	Pn	10 48 04.9 -0.3
VOIR		7.38	15	⇑P	Pn	10 48 07.7 +1.2
VOIR		7.38	15	P	Pn	10 48 07.7 +1.2
VOIR		7.38	15	Pn	Pn	10 48 07.7 +1.2
	comp=Z,1.0nmcomp=Z,3µmcomp=Z,298nm,0.8s					
SURR	Surduc	7.41	359	⇑P	Pn	10 48 08.7 +1.9
MFTR	Murfatlar	7.42	36	⇓P	Pn	10 48 09.2 +2.2
EFOR	EFORIE	7.45	38	⇓P	Pn	10 48 08.7 +1.4
TNR	Turnu Rosu	7.45	11	⇑P	Pn	10 48 09.2 +1.8
TNR	Turnu Rosu	7.45	11	P	Pn	10 48 09.2 +1.8
ISR	Istrita	7.47	24	⇑P	Pn	10 48 10.6 +2.8
ISR	Istrita	7.47	24	P	Pn	10 48 10.5 +2.8
ISR	Istrita	7.47	24	Pn	Pn	10 48 10.3 +2.6
	comp=Z,2.9nmcomp=Z,7µmcomp=Z,917nm,1.1s					
BLY	Banja Luka	7.48	331	*e*Pn	Pn	10 48 07.9 +0.2
BLY	Banja Luka	7.48	331	*e*Pn	Pn	10 48 07.9 +0.2
BLY	Banja Luka	7.48	331	⇓P	Pn	10 48 08.1 +0.3
KIZT	Kizilcal	7.50	83	*e*P	Pn	10 48 11.6 +3.4
A050A	Klekovaca	7.53	326	*e*Pn	Pn	10 48 07.7 -0.8
YUVA	Yuva-Kibriscik	7.54	71	*e*P	Pn	10 48 11.1 +2.4
DEV	Deva	7.55	3	⇑P	Pn	10 48 11.0 +2.2
DEV	Deva	7.55	3	P	Pn	10 48 10.9 +2.2
SEYD	Seydisehir-KON	7.58	94	*e*P	Pn	10 48 13.6 +4.3
HARR	Harsova	7.61	32	⇑P	Pn	10 48 11.0 +1.4
HARR	Harsova	7.61	32	P	Pn	10 48 10.9 +1.4
TIRR	Tirgusor	7.63	35	*e*P	Pn	10 48 10.7 +0.8
TIRR	Tirgusor	7.63	35		Pn	10 48 09.8 0.0
TIRR	Tirgusor	7.63	35	⇓P	Pn	10 48 10.8 +0.8
TIRR	Tirgusor	7.63	35	P	Pn	10 48 10.7 +0.8
TIRR	Tirgusor	7.63	35	⇑P	Pn	10 48 10.4 +0.5
TIRR	Tirgusor	7.63	35	Pn	Pn	10 48 10.4 +0.5
	comp=Z,0.9nmcomp=Z,2µmcomp=Z,201nm,1.1s					
MLR	Muntele Rosu	7.64	20	*e*P	Pn	10 48 12.8 +2.7
MLR	Muntele Rosu	7.64	20		Pn	10 48 11.4 +1.3
MLR	Muntele Rosu	7.64	20	Pn	Pn	10 48 12.1 +2.0
	comp=Z,11nm,0.3s,baz=210,slow=5.4,SNR=112					
MLR				Sn	Sn	10 49 36.8 +0.4
	baz=274,slow=16					
	comp=Z,170nm,0.7s					
MLR	Muntele Rosu	7.64	20	⇓P	Pn	10 48 12.4 +2.4
MLR	Muntele Rosu	7.64	20	P	Pn	10 48 12.5 +2.4
MLR	Muntele Rosu	7.64	20	*e*Pn	Pn	10 48 11.9 +1.8
MLR	Muntele Rosu	7.64	20	Pn	Pn	10 48 12.3 +2.2
	comp=Z,3.3nmcomp=Z,8µmcomp=Z,1µm,1.2s					
NEHR	Nehoiu	7.68	21	⇓P	Pn	10 48 13.2 +2.7
A051A	Mrakovica	7.80	330	*e*Pn	Pn	10 48 11.9 -0.4
GRER		7.84	25	⇑P	Pn	10 48 15.9 +3.2
AQU	L'Aquila	7.91	303	⇓P	Pn	10 48 15.0 +1.3
BISRR	Bisoca	7.91	23	⇑P	Pn	10 48 16.3 +2.6
BISRR	Bisoca	7.91	23	Pn	Pn	10 48 15.9 +2.2
	comp=Z,5.8nmcomp=Z,16µmcomp=Z,2µm,0.9s					
KONT	Konya--Tatoy	7.92	90	*e*P	Pn	10 48 17.9 +4.1
SIRR	Siria	7.94	357	⇑P	Pn	10 48 15.2 +1.1
SIRR	Siria	7.94	357	*e*Pn	Pn	10 48 15.2 +1.1
MDB	Medias	7.95	10	⇑P	Pn	10 48 15.6 +1.4
MDB	Medias	7.95	10	P	Pn	10 48 15.6 +1.4
TPGR	Topolog	7.95	33	⇑P	Pn	10 48 15.6 +1.3
DOPR	Dopca	7.96	16	⇓P	Pn	10 48 15.6 +1.2
COVR	Voineasa-Covas	8.04	20	⇑P	Pn	10 48 17.9 +2.5
JURR	Jurilovca	8.08	35	⇑P	Pn	10 48 17.5 +1.5
CFR	Carcaliu	8.10	31	⇑P	Pn	10 48 17.2 +0.9
CFR	Carcaliu	8.10	31	P	Pn	10 48 17.1 +0.9
OZUR		8.17	17	⇓P	Pn	10 48 19.4 +2.2
PLOR	Plostina	8.17	22	⇓P	Pn	10 48 19.8 +2.6
PLOR	Plostina	8.17	22	P	Pn	10 48 19.8 +2.6
HDMB	Hadim	8.18	97	*e*P	Pn	10 48 22.9 +5.3
VRI	Vrincioaia	8.20	22	⇑P	Pn	10 48 20.3 +2.5
VRI	Vrincioaia	8.20	22	P	Pn	10 48 20.2 +2.5
ODBI	Odobesti	8.21	24	⇓P	Pn	10 48 20.1 +2.3
GAZI	Gazipasa	8.23	102	*e*P	Pn	10 48 23.5 +5.3
LOD	Lodumlu	8.26	76	*e*P	Pn	10 48 21.1 +2.5
ANTO	Ankara	8.28	76	*e*P	Pn	10 48 19.9 +1.0
ANTO	Ankara	8.28	76		Pn	10 48 19.4 +0.5
ANTO	Ankara	8.28	76	P	Pn	10 48 21.5 +2.6
ANTO				S	Sn	10 49 59.7 +7.5
ANTO	Ankara	8.28	76	⇑P	Pn	10 48 21.4 +2.6
ANTO	Ankara	8.28	76	P	Pn	10 48 21.4 +2.6
ANTO	Ankara	8.28	76	Pn	Pn	10 48 21.0 +2.1
	comp=Z,707nmcomp=Z,65nm,0.9s					
MORH	Mrgy, Hungar	8.33	342	Pn	Pn	10 48 19.1 -0.3
	comp=Z,2µmcomp=Z,119nm,1.4s					
PANC	Panciu	8.34	24	⇑P	Pn	10 48 22.0 +2.5
MARR	Marisel-Cluj	8.35	4	⇑P	Pn	10 48 22.5 +2.6
KOVH	Kovagotottos	8.36	339	⇑P	Pn	10 48 17.7 -2.1
GIUM	Giurgiulesti	8.38	30	⇓P	Pn	10 48 22.0 +1.9
KULU	Kulu	8.38	82	*e*P	Pn	10 48 24.2 +4.0
TLCR		8.38	33	⇓P	Pn	10 48 21.3 +1.1
TLCR		8.38	33	P	Pn	10 48 21.3 +1.1
CJR	Cluj-Napoca	8.42	6	⇑P	Pn	10 48 23.2 +2.4
CJR	Cluj-Napoca	8.42	6	P	Pn	10 48 23.1 +2.4
FDMO	Fiordimonte	8.44	307		Pn	10 48 21.4 +0.4
DRGR		8.45	2	⇑P	Pn	10 48 22.4 +1.1
DRGR		8.45	2	P	Pn	10 48 22.3 +1.1
DRGR		8.45	2	*e*Pn	Pn	10 48 22.2 +1.0
SCTR	Scanteiesti	8.46	28	⇑P	Pn	10 48 23.4 +2.2
CBBR	Cluj-Babes-Bol	8.47	6	⇓P	Pn	10 48 23.7 +2.2
ONER	Baraj Valea Uz	8.54	19	⇑P	Pn	10 48 24.9 +2.6
GHRR		8.59	24	⇑P	Pn	10 48 24.9 +2.0
VLDR	Vladesti	8.63	28	⇑P	Pn	10 48 26.4 +2.9
TESR	Tescani	8.77	20	⇓P	Pn	10 48 28.0 +2.5
TESR	Tescani	8.77	20	Pn	Pn	10 48 27.1 +1.6
	comp=Z,176nm,1.3s					
MESR	Meseseni	8.82	3	⇓P	Pn	10 48 28.7 +2.5
ARCR	ARCALIA	8.87	9	⇑P	Pn	10 48 28.4 +1.6
CIDE	Kastamonu/Cide	8.87	63	⇓P	Pn	10 48 28.4 +1.5
BOJS	Bojanci	8.89	326	*i*Pn	Pn	10 48 26.2 -0.9
BOJS	Bojanci	8.89	326	*e*Pn	Pn	10 48 26.2 -0.9
BOJS	Bojanci	8.89	326	*e*Pn	Pn	10 48 26.4 -0.7
BR105	Keskin Array S	8.89	78	Pn	Pn	10 48 30.2 +2.8
	comp=Z,1µmcomp=Z,153nm,0.7s					
BR106	Keskin Array S	8.90	77	Pn	Pn	10 48 30.0 +2.6
	comp=Z,1µmcomp=Z,131nm,0.8s					
BR104	Keskin Array S	8.91	78	Pn	Pn	10 48 30.2 +2.6
	comp=Z,1µmcomp=Z,122nm,0.8s					
BR131	Keskin Array S	8.91	78	*i*P	Pn	10 48 30.2 +2.6
BRTR	Keskin Array B	8.91	78		Pn	10 48 30.1 +2.5
BRTR	Keskin Array B	8.91	78	Pn	Pn	10 48 29.6 +2.0
	comp=Z,16nm,0.3s,baz=260,slow=12,SNR=143					
BRTR				Sn	Sn	10 50 04.6 -3.2
	baz=274,slow=20					
	comp=Z,44nm,0.4s					
BRTR	Keskin Array B	8.91	78	*e*P	Pn	10 48 30.5 +2.9
BRTR				pmax	pmax	
	comp=Z,16nm,0.3s					
MGAB	Montegabbione	9.01	304	⇑P	Pn	10 48 31.1 +2.3
CRES	Cresnjevec Ost	9.06	328	*i*Pn	Pn	10 48 28.3 -1.1
KIRS	Kirsehir-Merke	9.09	81	⇓P	Pn	10 48 33.4 +3.3
BEHE	Becsehely	9.10	335		Pn	10 48 29.7 -0.3
RIY	Rijeka	9.11	323	*e*Pn	Pn	10 48 30.3 +0.2
GBRS	Gornja Briga	9.11	324	*i*Pn	Pn	10 48 29.7 -0.4
ILGA	Ilgaz	9.19	69		Pn	10 48 32.9 +1.4
BMR	Baia Mare	9.37	5	⇓P	Pn	10 48 36.4 +2.6
BMR	Baia Mare	9.37	5	P	Pn	10 48 36.3 +2.6
CEY	Cerknica	9.44	324	*e*Pn	Pn	10 48 33.5 -1.2
CEY	Cerknica	9.44	324	*e*Pn	Pn	10 48 34.0 -0.7
CSS	Mathiatis	9.46	108		Pn	10 48 36.2 +1.2
CSS	Mathiatis	9.46	108	⇑P	Pn	10 48 37.5 +2.4
CSS	Mathiatis	9.46	108	Pn	Pn	10 48 37.2 +2.2
	comp=Z,179nm,1.2s					
SKDS	Skadanscina	9.49	322	*i*Pn	Pn	10 48 34.0 -1.5
SKDS	Skadanscina	9.49	322	*e*Pn	Pn	10 48 32.8 -2.6
SKDS	Skadanscina	9.49	322	*e*Pn	Pn	10 48 34.7 -0.7
MPLH	Magyarpolny	9.50	340	Pn	Pn	10 48 35.3 -0.2
	comp=Z,8µmcomp=Z,841nm,1.3s					
BURAR	Bucovina Array	9.51	12		Pn	10 48 36.9 +1.2
BUR08	Bucovina Ar. S	9.54	12		Pn	10 48 37.0 +0.9
BZK	Bozkurt	9.64	64	⇑P	Pn	10 48 40.5 +3.1
PSZ	Piszkesteto	9.74	350	⇓P	Pn	10 48 40.4 +1.5
PSZ	Piszkesteto	9.74	350	P	Pn	10 48 40.3 +1.5
PSZ	Piszkesteto	9.74	350	*e*P	Pn	10 48 40.7 +1.9
PSZ	Piszkesteto	9.74	350	⇑P	Pn	10 48 40.2 +1.4
TRSU	Trosnyk	9.76	2	Pn	Pn	10 48 41.5 +2.4
RAKU	Rahkiv	9.78	7	Pn	Pn	10 48 43.2 +3.9
MILM	Milestii Mici	9.81	27	*e*P	Pn	10 48 39.5 -0.2
MILM				*e*S	Sn	10 50 32.5 +2.9
MILM				*e*Lq	LQ	10 51 21.0
	comp=Z,6µm,5.9s					
MILM				LRM	MLR	10 53 36.0
	comp=Z,9µm,11.0s					
MILM	Milestii Mici	9.81	27	⇑P	Pn	10 48 41.7 +1.9
MILM	Milestii Mici	9.81	27	P	Pn	10 48 41.6 +1.9
KIS	Kishinev	9.88	27	*e*P	Pn	10 48 39.0 -1.7
KIS	Kishinev	9.88	27	*e*PP	Pn	10 48 48.0 +7.3
KIS				*e*S	Sn	10 50 33.0 +1.7
KIS				*e*Lq	LQ	10 51 25.0
	comp=Z,3µm,5.4s					
KIS				LRM	MLR	10 53 42.0
	comp=Z,4µm,12.0s					
KIS	Kishinev	9.88	27	*e*P	Pn	10 48 39.0 -1.7
KIS				*e*S	Sn	10 50 33.0 +1.7
KIS				MLR	MLR	
	comp=Z,4µm,12.0s					
PURM	Purcari	9.90	32	⇑P	Pn	10 48 42.7 +1.7
PURM	Purcari	9.90	32	Pn	Pn	10 48 42.2 +1.3
	comp=Z,5µmcomp=Z,445nm,1.3s					
SRO	Srobarova	9.91	344	*e*SN	Sn	10 50 34.4 +2.3
SOKA	Soboth	9.92	330	*e*Pn	Pn	10 48 40.1 -1.2
	comp=Z,61nm,0.9s,SNR=41					
OBKA	Obir	9.98	327	*e*Pn	Pn	10 48 41.7 -0.5
	comp=Z,29nm,0.4s,SNR=11					
OBKA				*i*Sn	Sn	10 50 34.0 +0.1
	comp=Z,396nm,1.9s					
OBKA	Obir	9.98	327	*e*Pn	Pn	10 48 41.2 -1.0
MUKU	Mukachevo	10.12	1	Pn	Pn	10 48 45.7 +1.8
VSL	Villasalto	10.16	281	⇓P	Pn	10 48 44.5 -0.1
HOLU	Holmets	10.19	0	Pn	Pn	10 48 45.1 +0.3
ARSA	Arzberg	10.21	333	*i*Pn	Pn	10 48 44.4 -0.9
	comp=Z,48nm,0.9s,SNR=21					
ARSA	Arzberg	10.21	333		Pn	10 48 44.3 -0.9
ARSA	Arzberg	10.21	333	*e*Pn	Pn	10 48 44.2 -1.0
ARSA	Arzberg	10.21	333	⇓P	Pn	10 48 44.1 -1.2
KECS	Kecovo	10.23	353	*e*P	Pn	10 48 48.7 +3.2
KECS	Kecovo	10.23	353	*e*PN	Pn	10 48 48.7 +3.2
CHRU	Chernivtsi	10.29	14	Pn	Pn	10 48 47.7 +1.4
RONA	Rosalia, Austr	10.34	337	*i*Pn	Pn	10 48 46.7 -0.4
	comp=Z,13nm,0.6s,SNR=18					
PRED	Cave del Predi	10.37	324		Pn	10 48 47.6 +0.2
PTCC	Patocco-Chiusa	10.44	323	⇑P	Pn	10 48 47.0 -1.4
NE56	Odesa	10.46	34	Pn	Pn	10 48 50.3 +1.8
DIKM	Dikmen	10.46	68	⇓P	Pn	10 48 51.7 +3.0
MYKA	Terra Mystica	10.47	325	*e*Pn	Pn	10 48 49.4 +0.5
	comp=Z,19nm,0.7s					
MYKA				*i*Sn	Sn	10 50 46.2 +0.3
	comp=Z,426nm,2.6s					
KOLS	Kolonicke sedl	10.59	360	*e*P	Pn	10 48 52.5 +2.1
KOLS	Kolonicke sedl	10.59	360	*e*PN	Pn	10 48 52.5 +2.1
KMPD	K-Podol'skiy	10.65	15	Pn	Pn	10 48 53.3 +2.1
MODS	Modra-Piesok	10.68	342	*e*P	Pn	10 48 51.8 +0.1
MODS				*e*		10 50 50.9
MODS	Modra-Piesok	10.68	342	*e*PN	Pn	10 48 51.8 +0.1
MODS				*e*SN	Sn	10 50 50.9 0.0
CONA	Conrad Observa	10.68	336	*i*Pn	Pn	10 48 51.0 -0.8
	comp=Z,4.8nm,0.4s,SNR=13					
KEST	Kesra	10.70	260		Pn	10 48 53.0 +1.0
KEST	Kesra	10.70	260	Pn	Pn	10 48 54.5 +2.5
	comp=Z,0.8nm,0.3s,baz=66,slow=5.7,SNR=50					
KEST				Sn	Sn	10 50 49.8 -1.8
	comp=Z,0.1nm,0.3s,baz=68,slow=19,SNR=0.9					
KEST				LR	LR	10 54 46.7
	comp=Z,3µm,18.2s,baz=58,slow=47					
	comp=Z,93nm,1.0s					
VLC	Villacollemand	10.70	307	⇑P	Pn	10 48 53.5 +1.5
SORM	Soroca	10.73	22	⇑P	Pn	10 48 53.0 +0.7
SORM	Soroca	10.73	22	P	Pn	10 48 52.9 +0.7
SORM	Soroca	10.73	22	Pn	Pn	10 48 53.2 +0.9
	comp=Z,74nm,1.0s					
SMOL	Smolenice	10.77	342	*e*P	Pn	10 48 58.6 +5.7
SMOL				*e*		10 50 52.8
NDNU	Novodnistrovsk	10.88	18	Pn	Pn	10 48 55.5 +1.1
KBA	Koelnbreinsper	10.95	326	*e*Pn	Pn	10 48 54.7 -0.7
	comp=Z,59nm,0.9s,SNR=17					
KBA	Koelnbreinsper	10.95	326	⇑P	Pn	10 48 54.5 -1.0
BAL3X	Bal3x, Balta	10.96	27	Pn	Pn	10 48 57.1 +1.6
PGF	Pioggiola	10.99	297	⇑P	Pn	10 48 57.2 +1.2
LANS	Liptovska Anna	11.00	350	*e*P	Pn	10 49 01.0 +4.9
LANS				*e*		10 51 04.6
LANS	Liptovska Anna	11.00	350	*e*PN	Pn	10 49 01.0 +4.9
LANS	Liptovska Anna	11.00	350	*e*SN	Sn	10 51 04.6 +5.7
SIM	Simferopol'	11.01	49	*e*P	Pn	10 49 00.4 +4.2
SIM				*e*		10 51 03.0
SIM				pmax	pmax	
	comp=Z,140nm,1.3s					
SIM				MLR	MLR	
	comp=Z,2µm,14.0s					
CTI	Castel Tesino	11.04	318		Pn	10 48 55.5 -1.2
CTI	Castel Tesino	11.04	318	P	Pn	10 48 55.5 -1.2
JAVC	Velka Javorina	11.04	344	*e*PN	Pn	10 48 56.0 -0.7
ABTA	Abfaltersbach	11.08	322	*e*Pn	Pn	10 48 56.4 -0.9
	comp=Z,35nm,0.5s,SNR=33					
ABTA				*e*Sn	Sn	10 50 59.0 -2.0
	comp=Z,360nm,1.4s					
STHS	Stebnicka Huta	11.10	356	*e*P	Pn	10 49 03.4 +6.0
STHS	Stebnicka Huta	11.10	356	*e*PN	Pn	10 49 03.4 +6.0
NIE	Niedzica	11.17	353	*e*P	Pn	10 49 03.1 +4.7
MOA	Molln	11.18	331

CBBAR **Babar** 12.55 260 P Pn 10 49 20.0 +2.6
TUE **Stuetta** 12.56 314 Pn 10 49 17.1 -0.4
TUE **Stuetta** 12.56 314 ⇑P Pn 10 49 17.6 0.0
TUE **Stuetta** 12.56 314 Pn Pn 10 49 18.1 +0.5
comp=Z,6μmcomp=Z,487nm,1.0s
CKFL **Kef-Lekhel** 12.57 266 P Pn 10 49 20.5 +2.9
YTIR **Yattir** 12.59 120 P Pn 10 49 16.9 -1.1
YTIR **Yattir** 12.59 120 S Sn 10 51 36.6 -1.4
DSI **Dead Sea** 12.65 118 P Pn 10 49 17.1 -1.6
DSI **Dead Sea** 12.65 118 S Sn 10 51 37.9 -1.4
DPC **Dobruska-Polom** 12.75 342 *e*PN Pn 10 49 21.6 +1.6
DPC AMS AMS 10 55 00.0
comp=Z,8μm,9.9s
DPC **Dobruska-Polom** 12.75 342 *e*P Pn 10 49 21.6 +1.6
DPC MLR MLR
comp=Z,8μm,9.9s
DPC **Dobruska-Polom** 12.75 342 Pn Pn 10 49 20.1 +0.1
comp=Z,54nm,1.9s
DAVA **Damuels** 12.77 318 *e*Pn Pn 10 49 21.5 +1.1
comp=Z,22nm,0.6s,SNR=23
DAVA *e*Sn Sn 10 51 42.2 -0.1
comp=Z,341nm,1.3s
DAVA **Damuels** 12.77 318 ⇑P Pn 10 49 20.9 +0.5
CASM **Ain Smara** 12.78 266 P Pn 10 49 23.5 +3.0
MSBI **Mazada** 12.79 119 ⇑P Pn 10 49 19.7 -0.8
MSBI **Mazada** 12.79 119 P Pn 10 49 18.7 -1.8
MSBI **Mazada** 12.79 119 S Sn 10 51 40.1 -2.4
PRU **Pruhonice** 12.91 337 *e*PN Pn 10 49 21.1 -1.0
PRU AMS AMS 10 54 50.0
comp=Z,11μm,10.0s
PRU **Pruhonice** 12.91 337 *e*P Pn 10 49 21.1 -1.0
PRU MLR MLR
comp=Z,11μm,10.0s
GHAJ **Ghor Haditha** 12.94 119 Pn 10 49 23.0 +0.4
GHAJ **Ghor Haditha** 12.94 119 P Pn 10 49 20.5 -2.0
GHAJ **Ghor Haditha** 12.94 119 S Sn 10 51 45.1 -1.1
ANN **Anapa** 13.02 55 *e*P Pn 10 49 25.2 +1.7
ANN *e*S Sn 10 51 53.6 +5.6
ANN pmax pmax
comp=Z,98nm,1.3s
ANN MLR MLR
comp=Z,1μm,10.0s
CHVC **Chvalec** 13.03 342 *e*PN Pn 10 49 25.2 +1.4
CHVC AMS AMS 10 55 00.0
comp=Z,9μm,8.6s
CHVC **Chvalec** 13.03 342 *e*P Pn 10 49 25.2 +1.4
CHVC MLR MLR
comp=Z,9μm,8.6s
KRMI **Paran Flat** 13.12 125 P Pn 10 49 23.8 -1.3
KRMI **Paran Flat** 13.12 125 S Sn 10 51 49.1 -1.8
RNPP5 **Staryi Chortor** 13.13 10 Pn Pn 10 49 27.3 +2.2
MI28 **Mi28,Pidlybu** 13.15 15 Pn Pn 10 49 26.6 +1.3
PRNI **Paran** 13.15 124 P Pn 10 49 23.4 -2.1
PRNI **Paran** 13.15 124 S Sn 10 51 49.3 -2.2
AK07 **Malin Array Si** 13.15 20 Pn Pn 10 49 25.4 0.0
AK13 **Malin Array Si** 13.17 19 Pn Pn 10 49 25.6 -0.1
AK06 **Malin Array Si** 13.18 20 Pn Pn 10 49 26.6 +0.8
DFRA **Djebel Bou Aff** 13.20 267 P Pn 10 49 29.4 +3.2
AK14 **Malin Array Si** 13.20 19 Pn Pn 10 49 26.0 -0.1
KSP **Ksiaz** 13.21 343 *e*P P 10 49 37.1 +0.9
KSP **Ksiaz** 13.21 343 Pn Pn 10 49 27.7 +1.4
comp=Z,39nm,1.4s
AK12 **Malin Array Si** 13.22 19 Pn Pn 10 49 26.3 -0.1
AK09 **Malin Array Si** 13.23 20 Pn Pn 10 49 26.5 0.0
AK17 **Malin Array Si** 13.24 19 Pn Pn 10 49 26.6 0.0
KIEV **Kiev** 13.29 19 Pn 10 49 27.1 -0.1
KIEV **Kiev** 13.29 19 *i* P Pn 10 49 26.6 -0.6
SNR=41
KIEV **Kiev** 13.29 19 ⇑P Pn 10 49 27.6 +0.3
KIEV **Kiev** 13.29 19 Pn Pn 10 49 27.5 +0.3
comp=Z,211nm,1.1s
AKASG **Malin Array Be** 13.30 19 Pn Pn 10 49 27.0 -0.3
comp=Z,1.6nm,0.3s,baz=206,slow=12,SNR=35
AKASG LR LR 10 54 51.2
comp=Z,2μm,20.8s,baz=198,slow=39
AKASG PcP PcP 10 54 55.5 -1.0
comp=Z,4.2nm,0.7s,baz=242,slow=0.9,SNR=5.0
AKASG ScP ScP 10 58 27.4 -1.8
comp=Z,3.1nm,0.7s,baz=243,slow=1.2,SNR=6.7
comp=Z,30nm,0.9s
AKASG **Malin Array Be** 13.30 19 *e*P Pn 10 49 25.7 -1.6
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB **Malin Array Si** 13.30 19 *c e*P Pn 10 49 27.5 +0.1
AKBB **Malin Array Si** 13.30 19 Pn Pn 10 49 27.4 +0.1
HRFI **Mount Harif** 13.38 124 P Pn 10 49 27.0 -1.6
HRFI **Mount Harif** 13.38 124 S Sn 10 51 54.8 -2.3
ASF **Jabal al Asfar** 13.39 113 Pn Pn 10 49 31.2 +2.3
comp=Z,1.1nm,0.3s,baz=310,slow=3.8,SNR=14
ASF Sn Sn 10 51 57.6 +0.1
comp=Z,0.6nm,0.3s,baz=311,slow=20,SNR=1.6
comp=Z,33nm,0.8s
MBRI **Mt Berech** 13.46 126 P Pn 10 49 28.5 -1.3
MBRI **Mt Berech** 13.46 126 S Sn 10 51 57.8 -1.4
BNI **Bardonecchia** 13.47 305 ⇑P Pn 10 49 32.4 +2.5
EIL **Elat** 13.57 126 Pn Pn 10 49 30.2 -1.0
comp=Z,1.7nm,0.3s,baz=313,slow=6.2,SNR=14
EIL Sn Sn 10 51 53.1 -8.6
comp=Z,11nm,0.3s,baz=16,slow=23,SNR=6.4
EIL **Elat** 13.57 126 P Pn 10 49 29.3 -1.9
EIL **Elat** 13.57 126 S Sn 10 51 59.6 -2.1
SET **Setif** 13.65 266 P Pn 10 49 36.0 +3.6
HSKC **Hora Svate Kat** 13.80 336 *e*PN Pn 10 49 35.1 +0.8
HSKC AMS AMS 10 55 20.0
comp=Z,14μm,10.1s
NKC **Novy Kostel** 13.82 333 *e*PN Pn 10 49 34.7 +0.1
NKC AMS AMS 10 55 10.0
comp=Z,14μm,10.8s
NKC **Novy Kostel** 13.82 333 *e*P Pn 10 49 34.7 +0.1
NKC MLR MLR
comp=Z,14μm,10.8s
GRFO **Grafenberg** 13.86 329 Pn 10 49 35.2 +0.1
GRFO **Grafenberg** 13.86 329 P Pn 10 49 35.2 +0.1
BRG **Berggiesshubel** 13.87 337 *e*P Pn 10 49 35.4 +0.2
BRG **Berggiesshubel** 13.87 337 P P 10 49 45.6 +2.2
BRG Amp 10 49 46.2
comp=Z,23nm,0.8s
BRG **Berggiesshubel** 13.87 337 SS Sn 10 52 17.0 +8.1
R9F13 **Warsaw-Wawer** 13.91 357 *e*P Pn 10 49 38.2 +2.5
R9F13 *i* S SgSg 10 53 47.3 +1.8
SOC **Sochi** 14.14 63 *e*P Pn 10 49 42.5 +3.6
SOC *e* 10 52 24.6
SOC pmax pmax
comp=Z,20nm,0.9s
SOC MLR MLR
comp=Z,870nm,16.0s
BFO **Black Forest** 14.24 319 Pn 10 49 37.8 -2.6
BFO **Black Forest** 14.24 319 P Pn 10 49 37.8 -2.6
BFO **Black Forest** 14.24 319 ⇑P Pn 10 49 38.1 -2.2
VSLR **Vesyoloye** 14.33 63 *i* P Pn 10 49 44.4 +2.9
CDCN **Doucen** 14.34 260 P Pn 10 49 43.6 +1.8
CLL **Collm** 14.54 336 *e*P P 10 49 48.0 -2.9
CLL **Collm** 14.54 336 *e*P Pn 10 49 45.0 +0.6
CLL *e*sP P 10 49 48.0 -2.9
CLL *i* x x 10 49 50.9
comp=Z,49nm,0.9s
CLL *i* PP PnPn 10 49 53.2 +0.9
CLL *i* sPP 10 49 55.7
comp=Z,69nm,1.0s
CLL *i* x x 10 49 59.7
comp=Z,172nm,1.4s
CLL *e*x x 10 50 54.0
CLL *e*SS S 10 52 45.0 +0.4
CLL AMS AMS 10 55 00.0
ATKJ **Tikjda** 14.60 268 P Pn 10 49 46.0 +0.6
MARD **Mardin** 14.62 88 P 10 49 50.5 -1.5
ECH **Echery** 14.79 317 ⇑P Pn 10 49 46.3 -1.5
ABSD **Ouled Sidi Bra** 14.79 264 P P 10 49 54.0 +0.1
SSB **Saint Sauveur** 14.95 303 ⇑P Pn 10 49 50.9 +0.9
LABN **Labinsk** 15.14 60 *e*P Pn 10 49 53.6 +1.1
LABN pmax pmax
comp=Z,56nm,1.0s
GKP **Gorka Klasztor** 15.34 348 *e*P P 10 50 00.5 +0.7
RUE **Ruedersdorf** 15.35 340 *e*P P 10 50 00.5 +0.7
ERBR **Yeremizino-Bor** 15.36 56 *e*P Pn 10 49 55.5 +0.2
ERBR *e*S Sn 10 52 52.8 +7.7
ERBR pmax pmax
comp=Z,94nm,0.9s
ABA **Alger-Bouzarea** 15.38 270 P Pn 10 49 56.0 +0.3
SUW **Suwalki** 15.69 2 *e*P Pn 10 50 00.2 +0.6
SUW **Suwalki** 15.69 2 Pn 10 49 59.8 +0.2
SUW **Suwalki** 15.69 2 P Pn 10 49 59.8 +0.2
SUW **Suwalki** 15.69 2 *e*P P 10 50 02.5 -1.2
SUW **Suwalki** 15.69 2 ⇑P Pn 10 50 01.3 +1.7
FLTG **Flechtingen** 15.99 335 ⇑P P 10 50 07.5 +0.6
ABKD **Disi Amar** 16.00 270 P Pn 10 50 03.8 0.0
MTLF **Montolieu** 16.01 295 ⇑P Pn 10 50 03.1 -0.7
ADJF **Tadmit** 16.04 261 P P 10 50 10.0 +2.2
KARS **Kars** 16.18 75 P P 10 50 11.2 +1.8
KARS IAmb IAmb 10 50 14.1
comp=Z,904nm,1.6s
KARS **Kars** 16.18 75 ⇓P P 10 50 10.0 +0.6
LOR **Lormes** 16.20 309 ⇑P Pn 10 50 05.2 -1.0
WLF **Walferdange** 16.20 320 *d*P Pn 10 50 07.3 +1.1
WLF **Walferdange** 16.20 320 ⇓P P 10 50 10.5 +1.2
SHA1 **Shidzhatmaz** 16.25 64 *i* P P 10 50 09.9 -0.2
EARB **Arib** 16.29 269 P Pn 10 50 08.0 +0.5
KIV **Kislovodsk** 16.32 63 Pn 10 50 07.5 -0.3
KIV **Kislovodsk** 16.32 63 P P 10 50 10.3 -0.5
KIV S S 10 53 15.0 -6.2
KIV **Kislovodsk** 16.32 63 *e*P P 10 50 09.5 -1.3
KIV *e*S Sn 10 53 12.5 +3.9
KIV pmax pmax
comp=Z,58nm,1.0s
KIV MLR MLR
comp=Z,514nm,14.0s
KIV **Kislovodsk** 16.32 63 *i* P Pn 10 50 08.8 +1.0
SNR=23
KVAR **Kislovodsk Arr** 16.32 63 Pn P 10 50 09.6 -1.3
baz=274,slow=18
comp=Z,1.7nm,0.3s
KBZ **Khabaz** 16.42 64 Pn P 10 50 11.7 0.0
comp=Z,0.5nm,0.3s,baz=279,slow=6.5,SNR=34
KBZ Sn Sn 10 53 15.3 +4.5
comp=Z,0.1nm,0.3s,baz=266,slow=22,SNR=1.3
comp=Z,41nm,1.0s
KBZ **Khabaz** 16.42 64 *e*P P 10 50 12.1 +0.4
KBZ pmax pmax
comp=Z,1.0nm,0.3s
MNK **Minsk** 16.61 11 *i* P Pn 10 50 10.4 -0.9
comp=E,73nm,0.9s
MNK *i* P Pn 10 50 10.4 -0.9
comp=N,24nm,0.9s
MNK *i* P Pn 10 50 10.4 -0.9
comp=Z,78nm,0.9s,baz=195
MNK *i* PP sP 10 50 19.8 -0.3
MNK *i* PPP PPP 10 50 27.4
MNK *i* S Sn 10 53 15.1 -0.3
MNK *i* SS SnSn 10 53 29.5 +1.0
MNK *i* LRM MLR 10 56 13.5
comp=N,3μm,16.4s
MNK *i* LR LR 10 56 35.3
MNK *i* LRM MLR 10 57 22.6
comp=Z,3μm,14.1s
MNK *i* LRM MLR 10 57 27.6
comp=E,2μm,13.7s
MNK **Minsk** 16.61 11 *i* P Pn 10 50 10.4 -0.9
MNK *i* S Sn 10 53 15.0 -0.3
MNK pmax pmax
comp=Z,78nm,0.9s
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=E,73nm,0.9s
MNK MLR MLR
comp=N,3μm,16.0s
MNK MLR MLR
comp=Z,3μm,14.0s
MNK MLR MLR
comp=E,2μm,14.0s
BHOU **Houvegnez** 16.71 321 *d*P Pn 10 50 13.3 +0.7
BTNL **Ternell** 16.80 322 *d*P P 10 50 17.3 +1.4
BTNL *d*S Sn 10 53 16.2 -3.8
GOF **Gofitskoye** 16.84 60 *c e*P P 10 50 18.8 +2.3
NACGM **Naroch** 16.85 9 *e*P Pn 10 50 13.3 -1.1
comp=Z,57nm,0.8s,baz=193
NCK **Nalchik** 16.87 65 *i* P P 10 50 18.0 +1.2
NCK pmax pmax
comp=Z,86nm,1.4s
MEM **Membach** 16.87 322 *d*P P 10 50 18.5 +1.8
RCHB **Rochefort** 16.97 320 *d*P Pn 10 50 16.7 +0.7
BCLA **Clavier** 17.10 320 *d*P Pn 10 50 18.1 +0.6
BCLA *d*S Sn 10 53 24.4 -2.8
BEBN **Eben Emael** 17.15 322 *d*P P 10 50 20.9 +1.1
BEBN *d*S Sn 10 53 28.0 -0.5
BGES **Gesves** 17.18 320 *d*P Pn 10 50 19.2 +0.6
PABE **Paberze** 17.21 3 Pn 10 50 17.9 -1.0
PABE IAmb IAmb 10 50 26.3
comp=Z,863nm,1.4s
PABE **Paberze** 17.21 3 *e*P Pn 10 50 18.7 -0.2
IIGN **Ignalina** 17.22 8 *e*P P 10 50 20.1 -0.5
IDID **Didziasalis** 17.24 9 *e*P Pn 10 50 19.3 0.0
DOU **Dourbes** 17.26 319 *d*P Pn 10 50 19.3 -0.3
DOU *d*S Sn 10 53 30.7 -0.6
BMRD **Maredsous** 17.30 319 *d*P Pn 10 50 20.6 +0.6
BMRD *d*S Sn 10 53 34.2 +2.1
VORD **Divnogorie** 17.41 38 *e*P Pn 10 50 20.5 -1.0
VORD pmax pmax
comp=Z,60nm,0.8s
VORD MLR MLR
comp=Z,2μm,8.0s
OKGL **Djebel Kef Gue** 17.43 269 P Pn 10 50 22.0 +0.1
ISAL **Salakas** 17.43 7 *e*P P 10 50 22.6 -0.3
GNI **Garni** 17.45 77 P Pn 10 50 22.4 +0.1
GNI **Garni** 17.45 77 Pn P 10 50 25.9 +2.5
comp=Z,1.6nm,0.3s,baz=206,slow=1.8,SNR=24
GNI LR LR 10 57 04.8
comp=Z,2μm,19.7s,baz=288,slow=37
comp=Z,25nm,0.6s
GNI **Garni** 17.45 77 P P 10 50 23.0 -0.5
GNI S S 10 53 42.3 -2.2
GNI **Garni** 17.45 77 *i* P P 10 50 24.7 +1.3
GNI pmax pmax
comp=Z,285nm,1.6s
GNI **Garni** 17.45 77 P P 10 50 24.1 +0.7
GNI **Garni** 17.45 77 ⇓P P 10 50 24.8 +1.3
OJGS **Djebel Guires** 17.48 267 P Pn 10 50 20.0 -2.6
CLF **Chambon-Foret** 17.50 310 ⇓P P 10 50 24.9 +1.2
VSR **Storozhevoye** 17.52 37 *e*P Pn 10 50 21.7 -1.1
VSR pmax pmax
comp=Z,30nm,0.6s
VSR MLR MLR
comp=Z,6μm,10.0s
BSD **Bornholm Skovb** 17.52 346 *e*P P 10 50 24.1 +0.3
BSD **Bornholm Skovb** 17.52 346 *i* P P 10 50 23.6 -0.2
BSD **Bornholm Skovb** 17.52 346 ⇓P Pn 10 50 23.0 +0.3
IZAR **Zarasai** 17.62 7 *e*P P 10 50 25.3 +0.4
VSVD **Vaisvydziai** 17.68 3 *e*P P 10 50 25.4 -0.2
PBUR **Paburge** 17.70 359 *e*P P 10 50 25.7 -0.1
UCC **Uccle** 17.80 320 *d*P P 10 50 27.4 +0.4
VORR **Voronezh** 17.84 36 *e*P P 10 50 27.4 0.0
VORR pmax pmax
comp=Z,260nm,1.2s
VORR MLR MLR
comp=Z,1μm,13.0s
ODJA **Bouhanifia** 18.23 267 P P 10 50 34.0 +2.0
LUNU **Lund** 18.30 344 *i* P Pn 10 50 31.8 -0.6
LPSR **Galich'ya Gora** 18.35 34 *e*P Pn 10 50 32.8 -0.2
LPSR pmax pmax
comp=Z,216nm,0.8s
LPSR MLR MLR
comp=Z,1μm,14.0s
USTO **Oran** 18.44 269 P P 10 50 19.0 -15
MFF **Saint Martin d** 18.48 304 ⇓P Pn 10 50 35.8 +1.2
BLEU **Blekinge** 18.49 349 *i* P P 10 50 33.2 -1.4
VRH **Novokhopyorsk** 18.77 40 *e*P Pn 10 50 38.8 +0.7
VRH *e*S S 10 54 12.5 +1.8
VRH pmax pmax
comp=Z,199nm,0.8s
VRH MLR MLR
comp=Z,1μm,13.0s
BJUU **Bjuv** 18.80 344 *e*P Pn 10 50 39.7 +1.2
DEL **Delary** 19.00 345 *i* P P 10 50 39.6 -0.5
SLIT **Slitere, Latvi** 19.30 360 *e*P P 10 50 43.9 +0.5
SLIT **Slitere, Latvi** 19.30 360 ⇓P P 10 50 43.7 +0.3
OBN **Obninsk** 19.35 25 P P 10 50 44.0 +0.1
OBN IAmb IAmb 10 50 51.7
comp=Z,686nm,1.3s
OBN **Obninsk** 19.35 25 P 10 50 44.0 +0.1
comp=Z,16nm,0.3s,baz=184,slow=4.9,SNR=11
OBN S S 10 54 22.4 +0.2
comp=Z,46nm,0.2s,baz=234,slow=19,SNR=7.5
OBN LR LR 10 58 14.2
comp=Z,2μm,18.7s,baz=208,slow=37
comp=Z,78nm,0.6s
OBN **Obninsk** 19.35 25 *e*P P 10 50 44.1 +0.1
OBN *i* S Sn 10 54 17.3 -4.3
OBN pmax pmax
comp=Z,582nm,1.2s
OBN MLR MLR
comp=Z,1μm,14.0s
OBN **Obninsk** 19.35 25 ⇓P Pn 10 50 45.1 +0.1
MAK **Makhachkala** 19.63 68 *d i*P Pn 10 50 49.4 +0.9
MAK pmax pmax
comp=Z,646nm,1.0s
MAK MLR MLR
comp=Z,1μm,9.0s
AKT **Akhty** 19.72 73 *e*P P 10 50 48.9 +0.6
AKT pmax pmax
comp=Z,127nm,0.9s
AKT MLR MLR
comp=Z,1μm,10.0s
FABU **Falkenberg** 19.73 344 *i* P P 10 50 48.1 0.0
MUD **Monsted U'grnd** 20.13 338 *i* P P 10 50 52.5 +0.1
MOS **Moscow** 20.21 26 *e*P P 10 50 50.7 -2.6
MOS *e* 10 51 07.8
MOS *e*S S 10 54 35.9 -3.6
MOS *e* 10 54 45.6
MOS *e* 11 02 19.4
MOS pmax pmax
comp=Z,1μm,1.6s
MOS pmax pmax
comp=N,700nm,1.6s
MOS pmax pmax
comp=E,600nm,1.6s
MOS pmax pmax
comp=Z,727nm,1.4s
MOS pmax pmax
comp=N,342nm,1.3s
MOS pmax pmax
comp=E,355nm,1.3s
MOS MLR MLR
comp=Z,3μm,14.0s
ONAU **Onsala** 20.26 344 *i* P P 10 50 54.5 +0.6
ELMS **Elmsett, Ipswi** 20.27 320 *e*P P 10 50 53.7 -0.3
BORU **Boraas** 20.30 345 *i* P P 10 50 54.5 +0.2
VSU **Vasula** 20.34 7 *c e*P P 10 50 53.6 -1.1
VSU pmax pmax
comp=Z,2μm,1.3s
VSU **Vasula** 20.34 7 *e*P P 10 50 54.0 -0.8
VSU **Vasula** 20.34 7 ⇓P P 10 50 53.6 -1.1
MTSE **Matsula** 20.42 2 *e*P P 10 50 55.9 +0.4
ESBB **Sonseca Array** 20.45 282 P P 10 50 56.9 +0.7
ESBB IAmb IAmb 10 51 01.9
comp=Z,376nm,1.0s
ESDC **Sonseca Array** 20.45 282 P P 10 50 57.0 +0.7
ESDC **Sonseca Array** 20.45 282 P P 10 50 57.0 +0.7
comp=Z,231nm,0.9s,baz=77,slow=10,SNR=589
ESDC S S 10 54 41.6 -3.2
comp=Z,0.3nm,0.3s,baz=90,slow=8.7,SNR=0.8
ESDC ScP ScP 10 58 43.7 -0.2
comp=Z,1.6nm,1.0s,baz=52,slow=1.8,SNR=4.1
ESDC LR LR 10 59 09.5
comp=Z,947nm,19.0s,baz=82,slow=38
comp=Z,231nm,0.9s
JSA **Saint Aubin** 20.66 310 *e*P P 10 50 57.9 -0.4
JSA IAmb IAmb 10 51 07.6
comp=Z,470nm,1.3s
JSA **Saint Aubin** 20.66 310 ⇓P P 10 50 58.2 -0.1
PAB **San Pablo** 20.76 282 P P 10 51 00.5 +0.8
PAB IAmb IAmb 10 51 04.7
comp=Z,438nm,1.1s
PAB **San Pablo** 20.76 282 ⇓P P 10 51 00.2 +0.6
WACR **West Acre** 20.82 321 *e*P P 10 50 59.7 -0.2
WACR IAmb IAmb 10 51 05.5
comp=Z,284nm,1.0s
TJOU **Tjoern** 20.91 344 *i* P P 10 51 00.3 -0.6
ROSF **Rostrenen** 21.04 307 ⇓P P 10 51 02.5 0.0
TAM **Tamanrasset** 21.15 228 P P 10 51 06.1 +2.2
ARBE **Arbavere** 21.25 5 *e*P P 10 51 04.4 -0.1
CWF **Charnwood Fore** 21.80 319 *e*P P 10 51 10.2 -0.4
CWF IAmb IAmb 10 51 17.1
comp=Z,208nm,1.3s
HOMB **Homborsund** 21.88 340 *e*P P 10 51 11.8 +0.5
HOMB IAmb IAmb 10 51 19.1
comp=Z,62nm,0.8s
HOMB *e*S S 10 55 14.7 +2.3
HOMB *e*ScP ScP 10 58 48.6 +1.7
HOMB IAMs_20 IAMs_20 11 01 32.5
comp=Z,8μm,10.1s
MEF **Metsahovi** 21.94 3 *e*P P 10 51 10.9 -1.0
PUL **Pulkovo** 22.05 11 *c e*P P 10 51 14.3 +1.1
PUL pmax pmax
comp=Z,366nm,1.3s
MONM **Monmouth** 22.15 316 *e*P P 10 51 13.6 -0.7
MONM IAmb IAmb 10 51 20.4
comp=Z,200nm,1.1s
DYA **Yadsworthy** 22.20 312 *e*P P 10 51 13.8 -1.0
DYA IAmb IAmb 10 51 22.6
comp=Z,141nm,1.1s
SNART **Snartemo** 22.30 339 *e*P P 10 51 16.4 +0.6
SNART IAmb IAmb 10 51 18.7
comp=Z,519nm,1.3s
SNART *e*S Sn 10 55 26.7 -5.7
SNART **Snartemo** 22.30 339 *i* P P 10 51 15.4 -0.4
MCH1 **Michaelchurch** 22.33 316 *e*P P 10 51 15.4 -0.9
MCH1 **Michaelchurch** 22.33 316 ⇓P P 10 51 15.6 -0.7
LBWR **Ladybower, Pea** 22.37 320 *e*P P 10 51 15.6 -1.1
STNC **Stoke** 22.45 319 *e*P P 10 51 16.8 -0.7
STNC IAmb IAmb 10 51 22.6
comp=Z,279nm,1.1s
PBRG **Braganca** 22.46 288 *e*P P 10 51 16.9 -0.9
PBRG *i* Amb 10 51 41.6
comp=Z,131nm,1.5s
HFS **Hagfors** 22.49 349 P P 10 51 16.6 -1.3
comp=Z,65nm,0.7s,baz=154,slow=11,SNR=82
HFS S S 10 55 21.2 -2.9
comp=Z,3.6nm,0.8s,baz=153,slow=10.0,SNR=1.7
HFS LR LR 11 01 19.4
comp=Z,1μm,20.6s,baz=177,slow=40
comp=Z,65nm,0.7s
HLM1 **Long Mynd** 22.52 317 *e*P P 10 51 17.2 -1.1
MDT **Midelt** 22.55 264 P P 10 51 19.4 +0.5
comp=Z,123nm,1.1s,baz=89,slow=12,SNR=31
MDT S S 10 55 28.6 +2.9
comp=Z,2.0nm,0.4s,baz=93,slow=18,SNR=1.1
MDT LR LR 11 01 37.9
comp=Z,401nm,18.9s,baz=72,slow=40
comp=Z,123nm,1.1s
SBD **Saint Breward** 22.69 311 *e*P P 10 51 18.6 -1.5
MVO **Moncorvo** 22.70 286 *e*P P 10 51 19.3 -1.1
MVO *i* Amb 10 51 44.6
comp=Z,164nm,2.4s
MVO *e*S S 10 55 29.9 +1.6
MVO *e*LR LR 11 00 36.6
MVO *i* AMs_20 11 04 23.2
comp=Z,836nm,16.0s
RAF **Rauma** 22.71 359 *e*P P 10 51 18.4 -1.8
HTL **Hartland** 22.74 312 *e*P P 10 51 20.4 -0.2
HTL IAmb IAmb 10 51 25.1
comp=Z,65nm,0.7s
KONO **Kongsberg** 22.83 343 *e*P P 10 51 20.0 -1.5
KONO IAmb IAmb 10 51 23.4
comp=Z,119nm,0.9s
KONO *e*S S 10 55 31.8 +1.8
KONO *e*ScP ScP 10 58 50.3 +1.0
KONO IAMs_20 IAMs_20 11 02 42.1
comp=Z,3μm,7.5s
KONO **Kongsberg** 22.83 343 P P 10 51 20.1 -1.3
KONO **Kongsberg** 22.83 343 *c e*P P 10 51 20.3 -1.1
KONO pmax pmax
comp=Z,180nm,1.3s
KONO **Kongsberg** 22.83 343 ⇓P P 10 51 19.4 -2.0
OSL **Oslo** 22.84 345 *e*P P 10 51 20.2 -1.4
OSL *e*S S 10 55 31.7 +1.4
FOEL **Foel Wylfa** 22.87 318 *e*P P 10 51 21.3 -0.7
FOEL IAmb IAmb 10 51 30.6
comp=Z,199nm,1.0s
CCA1 **Carnmenellis** 22.87 310 *e*P P 10 51 21.8 -0.2
KBD **Kabd** 22.93 106 P P 10 51 21.5 -1.3
KBD S S 10 55 30.0 -2.3
PBAR **Barrancos** 23.02 279 *e*P P 10 51 22.6 -1.1
PBAR *i* Amb 10 51 37.3
comp=Z,162nm,1.5s
LLW **Llanuwychllyn** 23.10 317 *e*P P 10 51 23.3 -1.0
PMRV **Marv??o** 23.12 282 *e*P P 10 51 23.5 -1.2
PMRV *i* Amb 10 51 35.8
comp=Z,170nm,1.3s
PMRV *e*S S 10 55 39.0 +3.6
PMRV *e*LR LR 11 00 26.4
PMRV *i* AMs_20 11 04 57.1
comp=Z,969nm,16.0s

MTE Manteigas 23.14 285 P **P** **10 51 23.9 -1.0**
MTE IAmb IAmb 10 51 43.3
comp=Z,268nm,1.6s
MTE Manteigas 23.14 285 *e*P **P** **10 51 23.9 -1.0**
MTE *i* Amb 10 51 43.4
comp=Z,177nm,1.3s
MTE *e*S **S** **10 55 40.1 +4.2**
MTE *e*LR LR 10 59 18.8
MTE *i* AMs_20 11 01 14.3
comp=Z,807nm,18.0s
MTE Manteigas 23.14 285 *e*P **P** **10 51 24.2 -0.7**
MTE Manteigas 23.14 285 ⇑P **P** **10 51 23.9 -1.0**
PCBR Castelo Branco 23.14 283 *e*P **P** **10 51 23.9 -0.9**
PCBR *i* Amb 10 52 18.5
comp=Z,86nm,1.5s
PCBR *e*PcP **PcP** **10 55 14.5 +1.3**
PVRL Vila Real 23.21 287 *e*P **P** **10 51 26.4 +0.7**
PVRL *i* Amb 10 52 15.5
comp=Z,62nm,1.5s
PVRL *e*PcP **PcP** **10 55 14.7 +1.3**
FINES FINESS Array B 23.25 5 P **P** **10 51 23.8 -2.0**
comp=Z,52nm,0.9s,baz=183,slow=8.5,SNR=65
FINES PcP **PcP** **10 55 12.8 -0.1**
comp=Z,27nm,0.9s,baz=145,slow=1.7,SNR=8.3
FINES S **S** **10 55 33.4 -3.8**
comp=Z,17nm,1.2s,baz=95,slow=23,SNR=1.7
FINES ScP **ScP** **10 58 48.1 -2.3**
comp=Z,8.9nm,1.1s,baz=130,slow=3.0,SNR=3.3
FINES LR LR 11 01 14.6
comp=Z,3μm,19.2s,baz=203,slow=39
comp=Z,52nm,0.9s
FINES FINESS Array B 23.25 5 *e*P **P** **10 51 24.0 -1.8**
FINES pmax pmax
comp=Z,52nm,0.9s
FIA1 FINESS Array S 23.25 5 P **P** **10 51 24.0 -1.8**
FIA1 IAmb IAmb 10 51 47.3
comp=Z,286nm,1.2s
POLO Lamas de Olo 23.27 287 *e*P **P** **10 51 26.4 +0.2**
POLO *i* Amb 10 51 44.0
comp=Z,36nm,1.3s
POLO *e*PcP **PcP** **10 55 14.8 +1.3**
RSBS Rosebush, Pemb 23.28 315 *e*P **P** **10 51 25.1 -1.1**
RSBS IAmb IAmb 10 51 31.7
comp=Z,142nm,1.3s
EDMD Edmundbyers 23.29 323 *e*P **P** **10 51 24.5 -1.7**
EDMD IAmb IAmb 10 51 36.5
comp=Z,120nm,1.0s
PESTR Estremoz 23.34 281 P **P** **10 51 25.8 -1.2**
PESTR IAmb IAmb 10 51 30.7
comp=Z,125nm,0.9s
PESTR Estremoz 23.34 281 *e*P **P** **10 51 26.8 -0.2**
PESTR *i* Amb 10 51 30.8
comp=Z,132nm,1.1s
PESTR Estremoz 23.34 281 ⇑P **P** **10 51 26.1 -0.9**
PVIS Viseu 23.38 285 *e*P **P** **10 51 26.3 -1.1**
PVIS *e*PcP **PcP** **10 55 14.9 +1.2**
BLS5 Blasjo 23.42 339 *e*P **P** **10 51 27.6 +0.1**
BLS5 IAmb IAmb 10 51 28.3
comp=Z,262nm,1.3s
BLS5 *e*S **S** **10 55 45.4 +5.3**
BLS5 *e*ScP **ScP** **10 58 57.9 +6.9**
BLS5 IAMs_20 IAMs_20 11 02 23.1
comp=Z,6μm,11.6s
NC602 NORSAR Array S 23.43 347 *e*P **P** **10 51 26.1 -1.4**
NC602 IAmb IAmb 10 51 27.1
comp=Z,127nm,0.9s
NC602 *e*S **S** **10 55 40.8 +0.7**
NC602 IAMs_20 IAMs_20 11 02 20.9
comp=Z,5μm,8.2s
NC602 NORSAR Array S 23.43 347 P **P** **10 51 26.1 -1.4**
NC602 IAmb IAmb 10 51 27.4
comp=Z,133nm,0.9s
PCAB Cabril 23.43 288 *e*P **P** **10 51 27.0 -0.8**
PCAB *i* Amb 10 52 02.4
comp=Z,119nm,1.4s
PCAB *e*PcP **PcP** **10 55 14.9 +1.1**
PGAV Gavieira, Arco 23.60 289 *e*P **P** **10 51 29.3 -0.3**
PGAV *i* Amb 10 51 57.7
comp=Z,98nm,1.5s
PGAV *e*S **S** **10 55 48.6 +5.1**
PGAV *e*LR LR 10 59 38.9
PGAV *i* AMs_20 11 05 42.0
comp=Z,716nm,16.0s
NAO01 NORSAR Array S 23.65 346 P **P** **10 51 28.9 -0.8**
PBEJ Beja 23.69 279 *e*P **P** **10 51 28.6 -1.8**
PBEJ *i* Amb 10 51 40.5
comp=Z,148nm,1.4s
PVAQ Vaqueiros 23.69 277 P **P** **10 51 29.9 -0.5**
PVAQ Vaqueiros 23.69 277 *e*P **P** **10 51 30.2 -0.2**
PVAQ *i* Amb 10 51 39.6
comp=Z,136nm,1.4s
PVAQ *e*LR LR 10 59 16.2
PVAQ *i* AMs_20 11 05 05.4
comp=Z,373nm,18.0s
PVAQ Vaqueiros 23.69 277 ⇑P **P** **10 51 30.2 -0.2**
WLF1 Llynfaes 23.69 318 *e*P **P** **10 51 29.7 -0.6**
WME Myndd Eilian 23.70 318 *e*P **P** **10 51 29.7 -0.5**
KESW Keswick, Cumbr 23.70 322 *e*P **P** **10 51 29.1 -1.2**
KESW IAmb IAmb 10 51 36.1
comp=Z,92nm,0.8s
EVO Evora 23.72 280 *e*P **P** **10 51 30.2 -0.4**
EVO *i* Amb 10 51 43.4
comp=Z,80nm,1.3s
NB2 NORSAR Subarra 23.77 347 P **P** **10 51 29.4 -1.5**
comp=Z,192nm,1.0s,baz=152,slow=10
NB2 PCP **PcP** **10 55 14.6 +0.4**
comp=Z,7.8nm,0.7s,baz=127,slow=3.6
NB2 SCP **ScP** **10 58 58.2 +6.3**
comp=Z,1.5nm,0.8s,baz=186,slow=2.9
NB2 NORSAR Subarra 23.77 347 P **P** **10 51 29.4 -1.5**
baz=152,slow=10
NOA NORSAR Array B 23.77 347 P **P** **10 51 29.6 -1.3**
comp=Z,41nm,0.9s,baz=166,slow=9.1,SNR=117
NOA PcP **PcP** **10 55 14.1 0.0**
comp=Z,7.3nm,0.7s,baz=135,slow=2.5,SNR=8.3
NOA S **S** **10 55 38.4 -7.3**
comp=Z,0.8nm,0.7s,baz=96,slow=5.9,SNR=1.0
NOA ScP **ScP** **10 58 50.4 -1.5**
comp=Z,5.1nm,0.9s,baz=140,slow=3.4,SNR=5.0
comp=Z,41nm,0.9s
ODD1 Odda 23.79 340 *e*P **P** **10 51 30.8 -0.4**
ODD1 IAmb IAmb 10 51 31.6
comp=Z,211nm,1.4s
ODD1 IAMs_20 IAMs_20 11 03 13.5
comp=Z,5μm,9.5s
WPS Cemaes, Angles 23.80 318 *e*P **P** **10 51 31.9 +0.7**
WPS IAmb IAmb 10 51 38.2
comp=Z,128nm,1.4s
PMTG Montargil 23.80 281 *e*P **P** **10 51 30.0 -1.4**
PMTG *i* Amb 10 51 41.6
comp=Z,133nm,1.4s
COI Coimbra 23.82 284 *e*P **P** **10 51 31.4 -0.2**
COI *i* Amb 10 51 56.2
comp=Z,117nm,1.2s
COI Coimbra 23.82 284 ⇑P **P** **10 51 31.1 -0.4**
NBO00 NORSAR Array S 23.84 346 IAmb IAmb 10 51 32.2
comp=Z,297nm,1.3s
PTO Porto 23.89 287 *e*P **P** **10 51 35.7 +3.5**
PTO *i* Amb 10 51 41.6
comp=Z,114nm,1.1s
PBDV Barranco-do-Ve 23.89 277 *e*P **P** **10 51 32.1 -0.3**
PBDV *i* Amb 10 51 36.7
comp=Z,257nm,1.3s
PCAS Casmilo, Conde 23.90 284 *e*P **P** **10 51 31.6 -0.7**
PCAS *i* Amb 10 52 01.5
comp=Z,102nm,1.5s
PCVE Castro Verde 23.90 278 *e*P **P** **10 51 32.1 -0.2**
PCVE *i* Amb 10 51 43.2
comp=Z,92nm,1.9s
KEF Keuruu 23.91 3 *e*P **P** **10 51 30.8 -1.4**
NC303 NORSAR Array S 23.91 347 IAmb IAmb 10 51 32.5
comp=Z,260nm,1.2s
MESJ Messejana 24.00 278 *e*P **P** **10 51 32.9 -0.5**
MESJ IAmb IAmb 10 51 33.9
comp=Z,94nm,1.2s
MESJ *e*S **S** **10 55 50.7 +1.0**
MESJ Messejana 24.00 278 *e*P **P** **10 51 32.5 -0.8**
MESJ *i* Amb 10 51 49.4
comp=Z,83nm,1.1s
MESJ Messejana 24.00 278 *e*P **P** **10 51 32.8 -0.5**
MESJ *e*S **S** **10 55 50.7 +1.0**
MESJ Messejana 24.00 278 ⇑P **P** **10 51 32.1 -1.2**
SKAR Skarslia 24.04 343 *e*P **P** **10 51 34.0 +0.4**
SKAR IAmb IAmb 10 51 34.2
comp=Z,225nm,1.4s
SKAR *e*S **S** **10 55 56.1 +6.0**
SKAR IAMs_20 IAMs_20 11 02 33.5
comp=Z,3μm,8.1s
NC204 NORSAR Array S 24.07 346 IAmb IAmb 10 51 34.5
comp=Z,289nm,1.1s
EKA Eskdalemuir Ar 24.14 323 P **P** **10 51 33.9 -0.6**
comp=Z,49nm,0.8s,baz=123,slow=8.8,SNR=52
EKA PcP **PcP** **10 55 15.3 +0.3**
comp=Z,9.8nm,0.8s,baz=108,slow=2.9,SNR=6.0
EKA ScP **ScP** **10 58 51.6 -1.3**
comp=Z,2.5nm,0.9s,baz=104,slow=3.0,SNR=2.7
comp=Z,49nm,0.8s
ESK Eskdalemuir 24.15 323 P **P** **10 51 34.1 -0.4**
ESK IAmb IAmb 10 51 40.8
comp=Z,144nm,0.8s
ESK Eskdalemuir 24.15 323 *e*P **P** **10 51 33.4 -1.1**
ESK IAmb IAmb 10 51 40.6
comp=Z,144nm,0.9s
ESK Eskdalemuir 24.15 323 ⇓P **P** **10 51 33.9 -0.6**
PSBE So Bento 24.18 283 *e*P **P** **10 51 35.4 +0.3**
PSBE *i* Amb 10 51 43.0
comp=Z,93nm,1.9s
WIM Isle of Man 24.25 319 *e*P **P** **10 51 34.7 -0.8**
IOMK Kirk Michael 24.26 320 *e*P **P** **10 51 35.6 +0.1**
MORF Marmelete 24.44 277 *e*P **P** **10 51 36.9 -0.5**
MORF IAmb IAmb 10 51 41.1
comp=Z,136nm,1.6s
MORF Marmelete 24.44 277 *e*P **P** **10 51 38.3 +0.9**
MORF *i* Amb 10 51 42.1
comp=Z,93nm,1.6s
MORF Marmelete 24.44 277 *e*P **P** **10 51 36.9 -0.5**
PTEO Sao Teotonio 24.45 278 *e*P **P** **10 51 37.9 +0.5**
PTEO *i* Amb 10 51 43.1
comp=Z,212nm,2.1s
EDI Edinburgh 24.49 324 *e*P **P** **10 51 37.3 -0.3**
NEWG New Galloway 24.53 322 *e*P **P** **10 51 37.4 -0.6**
BER Bergen 24.54 340 *e*P **P** **10 51 38.1 +0.1**
BER IAmb IAmb 10 51 42.3
comp=Z,100nm,0.9s
BER *e*S **S** **10 56 00.4 +2.6**
BER *e*ScP **ScP** **10 58 54.7 +0.8**
BER IAMs_20 IAMs_20 11 02 59.6
comp=Z,5μm,11.5s
LIS Lisbon 24.57 281 *e*P **P** **10 51 38.1 -0.5**
LIS IAmb IAmb 10 51 43.9
comp=Z,111nm,0.8s
LIS *e*S **S** **10 55 60.0 +1.1**
LIS Lisbon 24.57 281 *e*P **P** **10 51 39.4 +0.9**
LIS *i* Amb 10 51 43.9
comp=Z,263nm,1.4s
LIS Lisbon 24.57 281 *e*P **P** **10 51 38.1 -0.5**
LIS *e*S **S** **10 56 00.0 +1.1**
AVE Averroes 24.58 267 P **P** **10 51 39.0 +0.3**
AVE IAmb IAmb 10 51 45.8
comp=Z,204nm,0.9s
AVE Averroes 24.58 267 ⇓P **P** **10 51 39.7 +1.0**
IWEX Carrickbyrne, 24.59 314 *e*P **P** **10 51 38.5 -0.1**
IWEX Carrickbyrne, 24.59 314 P **P** **10 51 40.2 +1.6**
PFVI Vila Bisbo 24.61 277 *e*P **P** **10 51 39.5 +0.6**
PFVI *i* Amb 10 52 10.8
comp=Z,150nm,2.2s
GAL1 Galloway 24.64 321 *e*P **P** **10 51 39.4 +0.4**
ASK Askoy 24.66 340 *e*P **P** **10 51 39.0 -0.1**
ASK IAmb IAmb 10 51 45.1
comp=Z,173nm,1.0s
ASK *e*S **S** **10 56 05.0 +5.2**
ASK *e*ScP **ScP** **10 58 53.6 -0.7**
ASK IAMs_20 IAMs_20 11 03 40.0
comp=Z,5μm,10.1s
RAYN Ar Rayn 24.67 120 P **P** **10 51 40.2 +0.5**
RAYN Ar Rayn 24.67 120 P **P** **10 51 38.2 -1.4**
RAYN S **S** **10 56 01.2 +0.4**
RAYN Ar Rayn 24.67 120 *i* P **P** **10 51 39.6 -0.1**
SNR=60
RAYN Ar Rayn 24.67 120 ⇑P **P** **10 51 40.6 +0.9**
DSB Dublin 24.73 316 P **P** **10 51 39.9 0.0**
DSB Dublin 24.73 316 P **P** **10 51 41.5 +1.6**
DSB Dublin 24.73 316 ⇑P **P** **10 51 40.5 +0.6**
VAF Ylistaro 24.74 0 *e*P **P** **10 51 39.7 -0.1**
DRUM Mains of Drumt 24.77 327 *e*P **P** **10 51 39.1 -1.0**
HYA Hoyanger 24.98 341 *e*P **P** **10 51 41.8 -0.2**
HYA IAmb IAmb 10 51 49.0
comp=Z,1μm,2.2s
HYA IAMs_20 IAMs_20 11 05 30.9
comp=Z,6μm,6.2s
KLMR Klimovskoe 24.98 20 *e*P **P** **10 51 37.9 -4.1**
KLMR *e* 10 55 14.2
KLMR S **S** **10 56 01.7 -3.4**
KLMR pmax pmax
comp=Z,613nm,1.2s
KLMR MLR MLR
comp=Z,4μm,11.0s
ILTH Belurgan, Co L 25.06 318 P **P** **10 51 44.7 +1.9**
DOMB Dombas 25.10 345 *e*P **P** **10 51 42.9 -0.3**
DOMB IAmb IAmb 10 51 45.1
comp=Z,304nm,1.2s
JOF Joensuu 25.21 10 *e*P **P** **10 51 43.2 -0.9**
SUE Sulen 25.26 340 *e*P **P** **10 51 44.2 -0.2**
CLGH Cloghs, Cushen 25.44 320 *e*P **P** **10 51 46.3 0.0**
MCD Coleburn Disti 25.51 327 *e*P **P** **10 51 45.9 -1.0**
FOO Floro 25.64 341 *e*P **P** **10 51 47.6 -0.3**
FOO IAmb IAmb 10 51 47.9
comp=Z,204nm,1.4s
FOO IAMs_20 IAMs_20 11 04 13.9
comp=Z,5μm,11.5s
AKN Aaknes 25.66 343 *e*P **P** **10 51 48.4 +0.1**
LAWE Loch Awe, Argy 25.70 323 *e*P **P** **10 51 48.5 -0.1**
MOL Molde 25.89 344 *e*P **P** **10 51 50.3 0.0**
IDGL Inch Island, C 26.15 320 P **P** **10 51 53.2 +0.6**
LRW Lerwick 26.40 333 ⇓P **P** **10 51 54.6 -0.2**
KPL Plockton 26.41 325 *e*P **P** **10 51 54.4 -0.6**
VAL Valentia 26.44 312 P **P** **10 51 56.0 +0.7**
VAL Valentia 26.44 312 ⇑P **P** **10 51 56.5 +1.1**
IGLA Glengowla, Co 26.45 315 P **P** **10 51 57.0 +1.6**
KIRV Kirov 26.76 32 *c e*P **P** **10 51 57.4 -0.7**
SAKB Bahrain 26.76 109 P **P** **10 51 57.6 -0.8**
NSS Namsos 26.94 350 *e*P **P** **10 51 59.1 -0.6**
SHMA Al-Shehemyia 27.15 109 P **P** **10 52 03.1 +1.2**
SHMA S **S** **10 56 37.7 -2.2**
SMRA Abu-Samra 27.68 111 P **P** **10 52 07.2 +0.4**
AKTO Aktyubinsk 27.95 53 LR LR 11 03 55.4
comp=Z,283nm,21.4s,baz=258,slow=38
AKTO Aktyubinsk 27.95 53 P **P** **10 52 08.2 -0.7**
TRNA Turayna 27.97 111 P **P** **10 52 09.3 -0.1**
TRNA S **S** **10 56 49.1 -3.9**
MOR8 Moi Rana 28.25 353 *e*P **P** **10 52 11.4 0.0**
MOR8 IAmb IAmb 10 52 11.4
comp=Z,78nm,1.2s
MOR8 IAMs_20 IAMs_20 11 04 54.4
comp=Z,7μm,14.3s
LEIR Leirfjorden 28.32 352 *e*P **P** **10 52 11.7 -0.3**
LEIR IAmb IAmb 10 52 12.8
comp=Z,76nm,1.1s
LEIR *e*S S 10 57 07.2 +10
LEIR IAMs_20 IAMs_20 11 04 58.3
comp=Z,6μm,17.4s
STOK Stokkvaagen 28.55 352 *e*P **P** **10 52 13.7 -0.3**
STOK IAmb IAmb 10 52 15.8
comp=Z,73nm,1.2s
STOK IAMs_20 IAMs_20 11 05 06.8
comp=Z,6μm,17.4s
SLWR Sila 28.72 111 P **P** **10 52 15.7 -0.3**
SLWR S **S** **10 57 02.1 -2.6**
VAGH Vaagaholmen 28.91 353 *e*P **P** **10 52 17.0 -0.2**
AB31 Akbulak array 28.98 56 P **P** **10 52 17.2 -0.9**
ABKAR Akbulak array 28.98 56 P **P** **10 52 18.2 +0.1**
ABKAR Akbulak array 28.98 56 ⇓P **P** **10 52 17.9 -0.2**
FAUS Fauske 29.36 354 *e*P **P** **10 52 20.8 -0.5**
GHWR Ruwais 29.65 110 P **P** **10 52 25.2 +0.9**
GHWR S **S** **10 57 16.7 -2.7**
ARTI Arti 29.89 41 P **P** **10 52 25.3 -0.8**
ARTI IAmb IAmb 10 52 26.5
comp=Z,85nm,1.0s
ARTI Arti 29.89 41 LR LR 11 04 06.2
comp=Z,624nm,19.5s,baz=246,slow=36
ARTI Arti 29.89 41 *d i*P **P** **10 52 25.4 -0.7**
ARTI 10 53 17.3
ARTI 10 55 26.9
ARTI S **S** **10 57 23.2 +0.6**
ARTI SS **SnSn** **10 58 51.4 -2.1**
ARTI pmax pmax
comp=Z,102nm,1.1s
ARTI MLR MLR
comp=Z,1μm,12.0s
ARTI Arti 29.89 41 ⇓P **P** **10 52 25.4 -0.7**
STEI Steigen 29.91 355 *e*P **P** **10 52 25.8 -0.3**
APA Apatity 29.93 8 ⇓*i*P **P** **10 52 31.1 +4.8**
APA *i* 10 53 21.8
APA *i* 10 55 31.4
APA *i* SS **SnSn** **10 58 53.0 -1.3**
APA pmax pmax
comp=Z,18nm,0.8s
APA MLR MLR
comp=Z,4μm,10.0s
LOF Lofoten 30.24 353 *e*P **P** **10 52 29.7 +0.7**
LOF IAmb IAmb 10 52 31.0
comp=Z,49nm,1.0s
LOF *e*ScS ScS 11 03 07.7 +1.4
LOF IAMs_20 IAMs_20 11 06 11.5
comp=Z,5μm,10.2s
LVZ Lovozero 30.40 9 P **P** **10 52 32.4 +1.9**
comp=Z,79nm,2.0s
MZWR Madinat Zayed 30.52 109 P **P** **10 52 32.5 +0.6**
MZWR S **S** **10 57 30.0 -2.9**
MZWR S S 10 57 30.3 -2.6
MZR Muzera 30.67 111 P **P** **10 52 33.4 +0.1**
SNR=6.0
MZR Muzera 30.67 111 *i* P **P** **10 52 32.8 -0.5**
SNR=21
KTK1 Kautokeino 30.74 1 *e*P **P** **10 52 32.6 -0.8**
UMQ Umm Al-Quwin 30.87 105 P **P** **10 52 36.6 +1.6**
UMQ Umm Al-Quwin 30.87 105 P **P** **10 52 36.7 +1.7**
AJN Ajban 30.89 107 P **P** **10 52 36.4 +1.2**
SHME Shamm 30.96 103 P **P** **10 52 36.0 +0.2**
SNR=5.4
SHME S **S** **10 57 35.9 -4.0**
SHME Shamm 30.96 103 *i* P **P** **10 52 35.4 -0.4**
SNR=16
TORD Torodi Ar. Bea 31.07 222 P **P** **10 52 37.5 +0.7**
TORD IAmb IAmb 10 52 42.0
comp=Z,97nm,0.7s
TORD Torodi Ar. Bea 31.07 222 P **P** **10 52 37.6 +0.7**
comp=Z,87nm,0.6s,baz=27,slow=10,SNR=20
TORD PcP **PcP** **10 55 32.7 +0.3**
comp=Z,4.3nm,0.5s,baz=55,slow=2.6,SNR=2.2
TORD LR LR 11 06 04.0
comp=Z,1μm,19.0s,baz=36,slow=38
comp=Z,87nm,0.6s
ASUD Al Ashush, Dub 31.11 106 P **P** **10 52 38.3 +1.2**
ASUD S **S** **10 57 40.2 -2.0**
ASUD Al Ashush, Dub 31.11 106 P **P** **10 52 38.1 +0.9**
BANOM Banah 31.14 103 P **P** **10 52 37.3 -0.2**
BANOM S **S** **10 57 39.2 -3.7**
BANOM Banah 31.14 103 *i* P **P** **10 52 37.7 +0.2**
SNR=16
NAZ Nazwa, Dubai 31.16 105 P **P** **10 52 38.3 +0.7**
SNR=5.5
NAZ Nazwa, Dubai 31.16 105 *i* P **P** **10 52 38.4 +0.7**
SNR=12
SVE Sverdlovsk 31.21 41 *c i*P **P** **10 52 37.8 0.0**
SVE pmax pmax
comp=Z,127nm,1.1s
SVE MLR MLR
comp=Z,2μm,12.0s
FAQ Al Faqa, Dubai 31.24 106 P **P** **10 52 38.1 -0.2**
FAQ S **S** **10 57 38.4 -5.9**
FAQ Al Faqa, Dubai 31.24 106 *i* P **P** **10 52 38.8 +0.5**
SNR=7.3
JETT Jettan, Norway 31.30 359 *e*P **P** **10 52 38.5 +0.1**
JETT IAmb IAmb 10 52 38.9
comp=Z,104nm,1.4s
JETT IAMs_20 IAMs_20 11 07 46.8
comp=Z,4μm,6.5s
ARA0 ARCESS Array S 31.30 2 IAmb IAmb 10 52 37.5
comp=Z,56nm,1.2s
ARA0 *e*P **P** **10 52 37.9 -0.6**
ARA0 *e*S **S** **10 57 49.8 +5.3**
ARA0 *e*ScS **ScS** **11 03 17.4 +5.8**
ARA0 IAMs_20 IAMs_20 11 06 15.8
comp=Z,5μm,10.6s
ARCES ARCESS Array B 31.30 2 P **P** **10 52 37.0 -1.5**
comp=Z,6.4nm,0.5s,baz=200,slow=9.7,SNR=53
ARCES PcP **PcP** **10 55 31.4 -0.7**
comp=Z,18nm,0.9s,baz=188,slow=2.4,SNR=9.1
ARCES LR LR 11 06 14.1
comp=Z,2μm,20.5s,baz=194,slow=38
comp=Z,6.4nm,0.5s
MASF Masafi 31.33 104 P **P** **10 52 39.7 +0.5**
SNR=5.4
MASF S **S** **10 57 41.1 -4.7**
MSFE Esma-Masafi 31.34 104 *i* P **P** **10 52 39.3 +0.1**
SNR=13
TRO Tromso 31.41 358 *e*P **P** **10 52 39.4 +0.1**
TRO IAmb IAmb 10 52 39.9
comp=Z,191nm,1.5s
TRO *e*S **S** **10 57 50.9 +4.9**
TRO *e*ScS **ScS** **11 03 19.0 +7.0**
TRO IAMs_20 IAMs_20 11 06 26.7
comp=Z,4μm,12.7s
MDH Madha 31.48 104 P **P** **10 52 40.7 +0.3**
MDH Madha 31.48 104 P **P** **10 52 40.5 +0.1**
UOSS Minazif 31.59 105 P **P** **10 52 40.4 -1.0**
UOSS IAmb IAmb 10 52 42.3
comp=Z,58nm,0.9s
UOSS Minazif 31.59 105 P **P** **10 52 40.7 -0.7**
UOSS S **S** **10 57 45.2 -4.7**
UOSS Minazif 31.59 105 *i* P **P** **10 52 41.1 -0.3**
SNR=14
UOSS Minazif 31.59 105 ⇑P **P** **10 52 41.2 -0.3**
HATD Hatta, Dubai 31.61 105 P **P** **10 52 41.0 -0.6**
SNR=8.4
HATD S **S** **10 57 44.6 -5.5**
HATD Hatta, Dubai 31.61 105 *i* P **P** **10 52 41.4 -0.1**
SNR=17
ASHO Ashiyiah 31.63 106 P **P** **10 52 41.6 -0.2**
SNR=13
ASHO S **S** **10 57 48.1 -2.3**
ASHO Ashiyiah 31.63 106 *i* P **P** **10 52 41.5 -0.3**
SNR=21
PMPST Porto Santo, M 31.67 272 *e*P **P** **10 52 43.6 +1.5**
ALNE Al Ain 31.75 107 P **P** **10 52 42.8 0.0**
SNR=24
ALNE S **S** **10 57 48.8 -3.4**
ALNE Al Ain 31.75 107 *i* P **P** **10 52 42.8 0.0**
SNR=25
VADS Vadso 32.07 5 *e*P **P** **10 52 45.1 0.0**
UMZA Um Al Zommool 32.08 110 P **P** **10 52 46.3 +0.6**
PMAR Madeira 32.25 272 *e*P **P** **10 52 48.9 +1.6**
PMAR *i* Amb 10 52 53.0
comp=Z,173nm,1.2s
SOHO SOHO 32.29 106 P **P** **10 52 47.2 -0.3**
SOHO S **S** **10 57 57.3 -3.4**
SOHO SOHO 32.29 106 *i* P **P** **10 52 47.0 -0.5**
SNR=83
ATD Arta Tunnel 32.38 140 P **P** **10 52 45.9 -2.5**
PMOZ Porto Moniz, M 32.44 272 *e*S **S** **10 58 09.2 +6.2**
ARQ Araqi 32.73 107 P **P** **10 52 51.6 +0.1**
SNR=21
ARQ S **S** **10 58 04.2 -3.5**
HOQ Hoqain 33.19 106 P **P** **10 52 55.4 -0.1**
SNR=14
HOQ S **S** **10 58 11.8 -3.0**
BSY Bisya 33.59 107 P **P** **10 52 58.4 -0.5**
SNR=12
BSY S **S** **10 58 17.6 -3.4**
MACI Morro de la Ar 33.77 264 P **P** **10 53 00.3 -0.4**
MACI IAmb IAmb 10 53 06.2
comp=Z,86nm,0.9s
BIDO Bidbid 33.84 105 P **P** **10 53 01.1 0.0**
SNR=7.4
DOK Doka 33.92 116 P **P** **10 53 01.8 0.0**
SNR=24
DOK S **S** **10 58 21.1 -4.9**
SMDO Samad 34.04 106 P **P** **10 53 03.0 -0.1**
SNR=27
SMDO S **S** **10 58 27.5 -0.6**
WHFO Wadi Hawf 34.14 118 P **P** **10 53 04.0 +0.2**
SNR=17
WHFO S **S** **10 58 24.7 -4.9**
ABTO Aybut 34.20 119 P **P** **10 53 04.7 +0.4**
SNR=20
ABTO S **S** **10 58 28.6 -2.0**
JMDO Jabal Madar 34.48 107 P **P** **10 53 06.7 0.0**
SNR=18
JMDO S **S** **10 58 30.0 -4.8**
RBK Rabkut 34.72 118 P **P** **10 53 09.2 +0.4**
SNR=23
RBK S **S** **10 58 35.1 -3.5**

WBK	Wadi Bani Khal	35.00	106	P	P	10 53 11.9	+0.7
	SNR=20						
DMTO	DMTO	35.10	117	P	P	10 53 11.6	-0.4
	SNR=7.4						
DMTO				S	S	10 58 42.0	-2.3
MHTO	MHTO	35.20	109	P	P	10 53 12.7	-0.2
	SNR=49						
MHTO				S	S	10 58 43.6	-2.2
DQM	DQM	35.53	111	P	P	10 53 14.9	-0.9
	SNR=30						
JLN	Jalan Bani Buh	35.59	106	P	P	10 53 17.2	+0.9
	SNR=15						
BRVK	Borovoye	35.87	50	P	P	10 53 18.1	-0.2
BRVK	Borovoye	35.87	50	S	S	10 59 01.7	+6.2
BRVK	Borovoye	35.87	50	*ce*P	P	10 53 18.6	+0.3
BRVK				pmax	pmax		
	comp=Z,50nm,1.3s						
BRVK	Borovoye	35.87	50	⇓P	P	10 53 18.5	+0.3
BVA0	Borovoye Array	35.93	50	*i* P	P	10 53 18.3	-0.5
BVAR	Borovoye Array	35.93	50	P	P	10 53 19.1	+0.3
	comp=Z,12nm,0.5s,baz=262,slow=5.1,SNR=73						
BVAR				PcP	PcP	10 55 45.2	-0.3
	comp=Z,7.3nm,0.8s,baz=292,slow=2.9,SNR=2.3						
BVAR				S	S	10 58 58.6	+2.2
	comp=Z,0.5nm,0.4s,baz=276,slow=16,SNR=1.4						
BVAR				ScP	ScP	10 59 29.5	-1.6
	comp=Z,2.1nm,0.7s,baz=325,slow=1.8,SNR=2.8						
BVAR				LR	LR	11 09 52.8	
	comp=Z,509nm,20.1s,baz=262,slow=39						
BVAR				P3KPbc		11 23 59.0	
	comp=Z,0.7nm,0.3s,baz=72,slow=4.7,SNR=3.1						
	comp=Z,12nm,0.5s						
BRLS	Borolday	35.95	67	*e*P	P	10 53 18.7	-0.5
BRLS	Borolday	35.95	67	*e*P	P	10 53 18.8	-0.5
SIMJ	Simiganj	36.23	75	P	P	10 53 22.4	+0.6
CHGR	Chuyangaron	36.34	75	P	P	10 53 22.5	-0.2
CHGR	Chuyangaron	36.34	75	P	P	10 53 22.5	-0.2
JMIC	Jan Mayen	36.40	344	LR	LR	11 09 32.0	
	comp=Z,355nm,19.0s,baz=279,slow=38						
KK31	Karatay Array	36.43	67	P	P	10 53 23.3	+0.1
KK31				IAmb	IAmb	10 53 30.5	
	comp=Z,131nm,1.1s						
KK31	Karatay Array	36.43	67	*i* P	P	10 53 23.1	-0.2
KKAR	Karatay Array	36.43	67	P	P	10 53 23.1	-0.2
KKAR				IAmb	IAmb	10 53 30.4	
	comp=Z,77nm,1.0s						
KKAR	Karatay Array	36.43	67	⇓P	P	10 53 23.4	+0.1
BORG	Borgarnes	36.67	330	LR	LR	11 09 55.6	
	comp=Z,518nm,18.6s,baz=129,slow=39						
LODK	Lodwar	36.73	158	P	P	10 53 27.3	+1.2
LODK	Lodwar	36.73	158	P	P	10 53 27.6	+1.5
	SNR=6.7						
GAR	Garm	37.13	74	IAmb	IAmb	10 53 31.8	
	comp=Z,239nm,1.2s						
OTUK	Ortayu	37.13	58	P	P	10 53 28.6	-0.6
BRZS	Berezniki	37.28	55	*e*P	P	10 53 30.3	-0.1
BRZS	Berezniki	37.28	55	*e*P	P	10 53 30.4	-0.1
KBL	Kabul	37.47	81	P	P	10 53 31.2	-1.2
KBL	Kabul	37.47	81	P	P	10 53 31.2	-1.2
	SNR=5.1						
KBL	Kabul	37.47	81	P	P	10 53 31.2	-1.2
KBL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HOPEN	Hopen	38.29	1	*e*P	P	10 53 38.6	0.0
ACRG	Accra	38.45	218	P	P	10 53 40.6	+0.1
ARSB	Arslanbob	38.57	69	IAmb	IAmb	10 53 49.2	
	comp=Z,250nm,1.2s						
BTLS	Baital	38.64	63	*e*P	P	10 53 42.1	+0.1
BTLS	Baital	38.64	63	*e*P	P	10 53 42.1	+0.1
EKS2	Erkin-Say	38.87	67	P	P	10 53 45.0	+0.9
	SNR=114						
AML	Almayashu	38.92	68	P	P	10 53 45.6	+0.8
	SNR=55						
USP	Ospenovka	39.27	66	P	P	10 53 48.6	+1.3
	SNR=15						
SGDS	Sogindy	39.33	65	*e*P	P	10 53 47.8	0.0
SGDS	Sogindy	39.33	65	*e*P	P	10 53 47.8	0.0
AAK	Ala-Archa	39.39	67	P	P	10 53 49.1	+0.6
AAK	Ala-Archa	39.39	67	P	P	10 53 49.3	+0.8
AAK	Ala-Archa	39.39	67	P	P	10 53 49.4	+0.8
	SNR=56						
AAK	Ala-Archa	39.39	67	*ce*P	P	10 53 49.0	+0.5
AAK				pmax	pmax		
	comp=Z,109nm,1.0s						
AAK	Ala-Archa	39.39	67	*i* P	P	10 53 49.2	+0.8
	SNR=66						
AAK	Ala-Archa	39.39	67	⇓P	P	10 53 49.3	+0.8
FRU1	Bishkek	39.45	66	IAmb	IAmb	10 53 56.1	
	comp=Z,281nm,1.2s						
CHMS	Chumysh	39.50	66	P	P	10 53 49.9	+0.7
	SNR=24						
MBAR	Mbarara	39.52	167	P	P	10 53 50.1	+0.4
MBAR	Mbarara	39.52	167	P	P	10 53 50.7	+1.0
MBAR	Mbarara	39.52	167	*i* P	P	10 53 50.5	+0.8
MBAR				pmax	pmax		
	comp=Z,21nm,1.3s						
MBAR	Mbarara	39.52	167	⇑P	P	10 53 51.0	+1.3
SCO	Scoresbysund	39.55	338	*i* P	P	10 53 50.3	+1.1
KBK	Karagaybulak	39.72	67	P	P	10 53 52.1	+0.9
	SNR=32						
DBIC	Dimbokro	39.99	225	P	P	10 53 54.3	+0.8
DBIC				IAmb	IAmb	10 53 58.0	
	comp=Z,107nm,0.8s						
DBIC	Dimbokro	39.99	225	P	P	10 53 53.9	+0.4
	comp=Z,103nm,0.8s,baz=24,slow=8.8,SNR=43						
DBIC				S	S	10 59 48.0	-11
	comp=Z,13nm,1.1s,baz=119,slow=23,SNR=7.6						
DBIC				LR	LR	11 11 42.9	
	comp=Z,727nm,18.4s,baz=20,slow=38						
	comp=Z,103nm,0.8s						
DBIC	Dimbokro	39.99	225	P	P	10 53 54.3	+0.8
DBIC				pmax	pmax		
	comp=Z,107nm,0.9s						
DBIC	Dimbokro	39.99	225	⇓P	P	10 53 53.9	+0.4
SPB2	Spitsbergen Ar	40.02	358	P	P	10 53 53.6	+0.5
SPB3	Spitsbergen Ar	40.02	358	P	P	10 53 53.2	+0.1
SPB3				IAmb	IAmb	10 54 03.4	
	comp=Z,372nm,2.0s						
SPA0	Spitsbergen Ar	40.03	358	*e*P	P	10 53 53.3	+0.1
SPITS	Spitsbergen Ar	40.03	358	P	P	10 53 53.2	+0.1
	comp=Z,4.0nm,0.4s,baz=153,slow=11,SNR=27						
SPITS				PcP	PcP	10 55 57.6	-0.1
	comp=Z,2.2nm,0.4s,baz=139,slow=7.7,SNR=1.2						
SPITS				LR	LR	11 12 12.2	
	comp=Z,686nm,18.2s,baz=147,slow=39						
	comp=Z,4.0nm,0.4s						
SPB5	Spitsbergen Ar	40.03	358	P	P	10 53 53.3	+0.1
SPB5				IAmb	IAmb	10 54 03.5	
	comp=Z,313nm,1.6s						
TKM2	Tokmak 2	40.13	66	P	P	10 53 54.8	+0.1
	SNR=19						
TKM2	Tokmak 2	40.13	66	P	P	10 53 53.8	-0.9
BOOM	Boomskoye usch	40.47	67	IAmb	IAmb	10 54 04.5	
	comp=Z,194nm,1.5s						
ULHL	Ulahol	40.74	67	P	P	10 54 01.0	+1.3
	SNR=18						
KBS	Kingsbay	40.92	357	*i* P	P	10 54 01.0	+0.5
CHKK	Chushkaly	40.93	64	*e*P	P	10 54 01.1	+0.1
CHKK	Chushkaly	40.93	64	*e*P	P	10 54 01.2	+0.1
KURBB	Kurchatov Arra	40.99	54	P	P	10 54 01.3	-0.1
	comp=Z,68nm,0.6s,baz=280,slow=8.7,SNR=419						
KURBB				PcP	PcP	10 56 00.9	-0.4
	comp=Z,14nm,0.8s,baz=271,slow=3.7,SNR=4.6						
KURBB				ScP	ScP	10 59 46.6	-3.8
	comp=Z,4.9nm,1.0s,baz=282,slow=5.1,SNR=4.8						
KURBB				S	S	11 00 09.6	-3.3
	comp=Z,4.6nm,1.0s,baz=289,slow=18,SNR=5.6						
KURBB				LR	LR	11 14 11.7	
	comp=Z,876nm,18.4s,baz=260,slow=41						
	comp=Z,68nm,0.6s						
AAA	Alma-Ata	41.01	65	*e*P	P	10 54 01.9	+0.1
AAA				pmax	pmax		
	comp=Z,89nm,1.1s						
AAA	Alma-Ata	41.01	65	*e*P	P	10 54 01.9	+0.1
	comp=Z,88nm,1.1s						
KURK	Kurchatov	41.04	54	P	P	10 54 01.7	-0.1
KURK	Kurchatov	41.04	54	P	P	10 54 01.7	-0.1
KURK	Kurchatov	41.04	54	*ce*P	P	10 54 01.7	-0.1
KURK				pmax	pmax		
	comp=Z,106nm,1.3s						
KURK	Kurchatov	41.04	54	⇑P	P	10 54 01.5	-0.3
NIL	Nilore	41.05	80	P	P	10 54 02.0	-0.2
NIL	Nilore	41.05	80	P	P	10 54 02.0	-0.2
NIL				pmax	pmax		
	comp=Z,54nm,0.9s						
TNSS	Tian-Shan	41.07	65	*e*P	P	10 54 02.3	-0.3
TNSS	Tian-Shan	41.07	65	*e*P	P	10 54 02.4	-0.3
MDOK	Medeo	41.12	65	*e*P	P	10 54 02.7	0.0
MDOK	Medeo	41.12	65	*e*P	P	10 54 02.7	0.0
DBG	Daneborg	41.23	344	*i* P	P	10 54 03.8	+0.8
KSH	Kashi	41.23	71	P	P	10 54 02.8	-0.9
KSH				pP	pP	10 54 07.5	-0.9
KSH				PcP	PcP	10 56 02.3	-0.2
KSH				pmax	pmax		
	comp=Z,67nm,1.1s						
KSH				pmax	pmax		
	comp=Z,290nm,5.5s						
KSH				LR	LR		
	comp=Z,630nm,16.5s						
KDJ	Kajisay	41.44	67	IAmb	IAmb	10 54 08.7	
	comp=Z,120nm,1.1s						
BBTS	Babate	41.58	246	LR	LR	11 13 59.7	
	comp=Z,1μm,18.3s,baz=294,slow=40						
KMBO	Kilima Mbogo	41.61	157	P	P	10 54 10.0	+2.9
	comp=Z,4.1nm,0.7s,baz=3.0,slow=11,SNR=10						
KMBO				PcP	PcP	10 56 06.3	+2.2
	comp=Z,6.6nm,0.9s,baz=330,slow=7.6,SNR=5.0						
KMBO				LR	LR	11 13 15.7	
	comp=Z,678nm,18.0s,baz=292,slow=39						
	comp=Z,4.1nm,0.7s						
KMBO	Kilima Mbogo	41.61	157	*e*P	P	10 54 12.7	+5.6
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TDK	Taldyqorghan	41.70	62	*e*P	P	10 54 07.3	0.0
TDK				pmax	pmax		
	comp=Z,45nm,0.7s						
TDK	Taldyqorghan	41.70	62	*e*P	P	10 54 07.4	0.0
	comp=Z,46nm,0.7s						
TARG	Taragay, Kyrgy	41.99	67	IAmb	IAmb	10 54 17.9	
	comp=Z,150nm,1.3s						
UZB	Uzynbulak	42.53	65	*e*P	P	10 54 14.3	0.0
UZB	Uzynbulak	42.53	65	*e*P	P	10 54 14.3	0.0
PDGK	Podgornoye	42.82	64	P	P	10 54 15.6	-1.0
SHLS	Shalkode	42.84	65	*e*P	P	10 54 19.1	+2.4
SHLS				pmax	pmax		
	comp=Z,22nm,0.6s						
SHLS	Shalkode	42.84	65	*e*P	P	10 54 19.2	+2.4
	comp=Z,22nm,0.6s						
KIBK	Kibwezi	43.00	157	P	P	10 54 18.9	+0.6
KIBK	Kibwezi	43.00	157	P	P	10 54 18.1	-0.2
	SNR=6.3						
MAKZ	Makanchi	43.79	59	P	P	10 54 23.9	-0.4
MAKZ				IAmb	IAmb	10 54 25.9	
	comp=Z,258nm,1.9s						
MAKZ	Makanchi	43.79	59	P	P	10 54 23.9	-0.4
MAKZ				pmax	pmax		
	comp=Z,258nm,1.9s						
MAKZ	Makanchi	43.79	59	⇓P	P	10 54 24.5	+0.2
MK31	Makanchi Array	44.00	59	P	P	10 54 25.9	-0.1
MK31				IAmb	IAmb	10 54 27.5	
	comp=Z,68nm,0.6s						
MK31	Makanchi Array	44.00	59	*ce*P	P	10 54 25.8	-0.2
MKAR	Makanchi Array	44.00	59	P	P	10 54 25.9	-0.1
MKAR	Makanchi Array	44.00	59	P	P	10 54 26.1	+0.1
	comp=Z,82nm,0.5s,baz=279,slow=6.9,SNR=937						
MKAR				PcP	PcP	10 56 10.5	-1.0
	comp=Z,21nm,0.8s,baz=287,slow=5.2,SNR=3.5						
MKAR				ScP	ScP	10 59 59.7	-3.0
	comp=Z,9.3nm,0.9s,baz=289,slow=3.7,SNR=7.9						
MKAR				S	S	11 00 55.9	-1.5
	comp=Z,3.9nm,1.0s,baz=260,slow=6.0,SNR=2.6						
MKAR				LR	LR	11 15 32.6	
	comp=Z,436nm,18.4s,baz=272,slow=40						
	comp=Z,82nm,0.5s						
ISOG	Isortoq, Green	44.04	328	*i* P	P	10 54 26.5	+0.5
ISOG	Isortoq, Green	44.04	328	⇓P	P	10 54 26.9	+0.9
ZAA0	Zalesovo Array	44.52	48	P	P	10 54 29.7	-0.3
ZALV	Zalesovo Beam	44.52	48	P	P	10 54 29.8	-0.2
	comp=Z,143nm,0.4s,baz=273,slow=8.6,SNR=601						
ZALV				ScP	ScP	11 00 01.7	-3.0
	comp=Z,0.5nm,0.4s,baz=216,slow=7.1,SNR=2.7						
ZALV				S	S	11 01 02.1	-2.7
	comp=Z,0.9nm,0.6s,baz=271,slow=17,SNR=3.0						
ZALV				LR	LR	11 15 14.5	
	comp=Z,510nm,18.5s,baz=272,slow=39						
	comp=Z,143nm,0.4s						
ICESG	Greenland Ices	44.83	333	*i* P	P	10 54 32.8	+0.2
ICESG				IAmb	IAmb	10 54 34.2	
	comp=Z,22nm,1.1s						
ICESG	Greenland Ices	44.83	333	⇓P	P	10 54 32.9	+0.2
SUMG	Summit	45.20	338	P	P	10 54 36.0	+0.4
SUMG	Summit	45.20	338	*i* P	P	10 54 35.0	-0.6
SUMG				IAmb	IAmb	10 54 40.9	
	comp=Z,16nm,0.9s						
NOR	Nord	45.50	353	*i* P	P	10 54 37.2	-0.3
NOR				IAmb	IAmb	10 54 38.6	
	comp=Z,30nm,1.2s						
ZSN	Zaisan	45.59	57	*e*P	P	10 54 38.6	0.0
ZSN				pmax	pmax		
	comp=Z,42nm,1.2s						
ZSN	Zaisan	45.59	57	*e*P	P	10 54 38.6	0.0
	comp=Z,42nm,1.2s						
NRIK	Noril'sk	46.02	27	P	P	10 54 42.1	+0.4
NRIK				IAmb	IAmb	10 54 43.5	
	comp=Z,65nm,1.0s						
NRIK	Noril'sk	46.02	27	P	P	10 54 42.4	+0.7
	comp=Z,44nm,0.9s,baz=256,slow=5.1,SNR=52						
NRIK				S	S	11 01 21.7	-4.2
	comp=Z,2.3nm,0.5s,baz=270,slow=1.0,SNR=1.7						
NRIK				LR	LR	11 15 19.2	
	comp=Z,793nm,18.1s,baz=264,slow=38						
	comp=Z,44nm,0.9s						
SACV	Santiago Islan	46.59	253	P	P	10 54 49.7	+2.8
NRS	Narsarsuaq	46.79	322	*i* P	P	10 54 48.7	+0.9
WMQ	Urumqi	48.44	62	⇓P	P	10 55 01.5	+0.5
WMQ				PP	PP	10 56 55.5	+2.0
WMQ				pmax	pmax		
	comp=Z,68nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,420nm,3.7s						
WMQ				LR	LR		
	comp=Z,750nm,16.7s						
WMQ				LR	LR		
	comp=Z,400nm,23.5s						
SFJD	Kangerlussuaq	48.80	330	P	P	10 55 03.7	+0.3
SFJD				IAmb	IAmb	10 55 12.8	
	comp=Z,51nm,1.1s						
SFJD	Kangerlussuaq	48.80	330	LR	LR	11 16 27.6	
	comp=Z,946nm,19.3s,baz=86,slow=37						
SFJD	Kangerlussuaq	48.80	330	⇑P	P	10 55 03.9	+0.5
ILULI	Ilulissat	48.92	333	P	P	10 55 03.9	-0.3
ILULI				IAmb	IAmb	10 55 20.3	
	comp=Z,57nm,1.3s						
ILULI	Ilulissat	48.92	333	P	P	10 55 03.9	-0.3
ILULI				pmax	pmax		
	comp=Z,57nm,1.3s						
UMMG	Uummannaq	49.26	335	*i* P	P	10 55 06.2	-0.6
NEEM	North Greenlan	49.31	344	*i* P	P	10 55 06.6	-0.9
UPNV	Upernavik	50.47	338	*i* P	P	10 55 14.9	-1.0
HYB	Hyderabad	53.05	97	*e*P	P	10 55 34.0	-2.0
HYB				IVmB_BB		10 55 34.8	
	comp=Z,346nm,1.4s						
LSZ	Lusaka	53.61	173	P	P	10 55 40.9	+0.8
LSZ				IAmb	IAmb	10 55 44.6	
	comp=Z,23nm,0.9s						
LSZ	Lusaka	53.61	173	IAMs_20	IAMs_20	11 20 19.5	
	comp=Z,1μm,18.0s						
LSZ	Lusaka	53.61	173	LR	LR	11 20 29.9	
	comp=Z,765nm,18.2s,baz=354,slow=38						
LSZ	Lusaka	53.61	173	P	P	10 55 40.9	+0.8
LSZ				pmax	pmax		
	comp=Z,23nm,1.0s						
LSZ				MLR	MLR		
	comp=Z,1μm,18.0s						
LSZ	Lusaka	53.61	173	⇑P	P	10 55 41.4	+1.3
MOY	Mondy	54.58	49	*e*P	P	10 55 47.2	+0.3
MOY				pmax	pmax		
	comp=Z,80nm,2.0s						
EUNU	Eureka	55.64	348	IAmb	IAmb	10 56 06.2	
	comp=Z,104nm,1.8s						
KSANE	Kasane	55.90	177	*i* P	P	10 55 57.8	+1.1
DRLN	Deer Lake	56.11	309	P	P	10 55 57.9	+0.2
IRK	Irkutsk	56.30	47	*e*P	P	10 55 57.5	-1.6
IRK				*e*		11 03 53.7	
IRK				pmax	pmax		
	comp=Z,143nm,1.8s						
GOMU	GeErMu	56.31	68	P	P	10 55 59.3	-0.6
GOMU				sP	sP	10 56 06.3	-0.2
GOMU				S	S	11 03 41.8	-8.1
GOMU				pmax	pmax		
	comp=Z,20nm,0.7s						
GOMU				LR	LR		
	comp=Z,310nm,15.2s						
GOMU				LR	LR		
	comp=Z,280nm,15.8s						
GOMU				LR	LR		
	comp=Z,560nm,15.0s						
ZAK	Zakamensk	56.38	49	*e*P	P	10 55 57.9	-1.9
ZAK				pmax	pmax		
	comp=Z,47nm,1.2s						
XAUDM	Khaudum	56.58	181	*i* P	P	10 56 02.8	+1.3
FRB	Frobisher Bay	56.77	328	P	P	10 56 02.0	-0.2
	comp=Z,23nm,0.8s,baz=73,slow=7.8,SNR=42						
FRB				LR	LR	11 22 37.6	
	comp=Z,437nm,19.0s,baz=74,slow=38						
	comp=Z,23nm,0.8s						
TSUM	Tsumeb	57.41	185	P	P	10 56 07.6	+0.2
TSUM	Tsumeb	57.41	185	IAMs_20	IAMs_20	11 22 32.4	
	comp=Z,1μm,19.0s						
TSUM	Tsumeb	57.41	185	LR	LR	11 22 44.4	
	comp=Z,1μm,19.9s,baz=338,slow=38						
QNGWA	Qangwa	57.57	181	*i* P	P	10 56 09.4	+0.9
SBV	Sambava	57.64	148	P	P	10 56 09.9	+0.9
GTA	Gaotai	58.49	63	P	P	10 56 14.0	-1.0
GTA				pP	pP	10 56 18.5	-1.3
GTA				S	S	11 04 20.8	+2.8
GTA				pmax	pmax		
	comp=Z,60nm,0.8s						
GTA				LR	LR		
	comp=Z,260nm,16.7s						
GTA				LR	LR		
	comp=Z,340nm,22.3s						
GTA				LR	LR		
	comp=Z,380nm,20.7s						
TIXI	Tiksi	59.00	21	P	P	10 56 16.9	-0.9
TIXI	Tiksi	59.00	21	IAMs_20	IAMs_20	11 24 52.8	
	comp=Z,2μm,19.0s						
TIXI	Tiksi	59.00	21	*i* P	P	10 56 17.3	-0.5
TIXI				pmax	pmax		
	comp=Z,21nm,1.1s						
SHL	Shillong	59.12	80	P	P	10 56 17.3	-2.3
SHL	Shillong	59.12	80	P	P	10 56 20.4	+0.8
	SNR=26						
SHL	Shillong	59.12	80	P	P	10 56 17.3	-2.3
SHL				pmax	pmax		
	comp=Z,143nm,1.5s						
SONM	Songino Array	59.25	51	P	P	10 56 20.0	-0.2
SONM	Songino Array	59.25	51	P	P	10 56 19.9	-0.2
	comp=Z,63nm,1.0s,baz=286,slow=8.1,SNR=228						
SONM				ScP	ScP	11 01 05.9	-2.6
	comp=Z,3.3nm,0.9s,baz=291,slow=4.6,SNR=4.1						
	comp=Z,63nm,1.0s						
SONM	Songino Array	59.25	51	P	P	10 56 20.0	-0.2
SONM				pmax	pmax		
	comp=Z,107nm,1.1s						
SCHQ	Schefferville	59.30	318	P	P	10 56 20.2	0.0
SCHQ	Schefferville	59.30	318	P	P	10 56 20.2	0.0
	comp=Z,92nm,0.9s,baz=68,slow=7.3,SNR=61						
	comp=Z,92nm,0.9s						
GRTLG	Ghanzi	59.39	181	*i* P	P	10 56 22.5	+1.3
ULN	Ulaanbaatar	59.64	51	P	P	10 56 22.8	0.0
ULN				IAmb	IAmb	10 56 23.9	
	comp=Z,90nm,1.1s						
ULN	Ulaanbaatar	59.64	51	P	P	10 56 22.6	-0.3
ULN	Ulaanbaatar	59.64	51	*d* *i* P	P	10 56 22.6	-0.3
ULN				pmax	pmax		
	comp=Z,94nm,1.1s						
KAAM	Kaadhehdhoo	59.76	116	P	P	10 56 23.4	-0.4
RES	Resolute Bay	60.01	344	P	P	10 56 25.3	+0.6
RES	Resolute Bay	60.01	344	LR	LR	11 24 03.8	
	comp=Z,607nm,18.1s,baz=24,slow=38						
GBN	Guysborough	60.14	306	P	P	10 56 26.6	+0.5
WIN	Windhoek	60.78	186	IAmb	IAmb	10 56 35.9	
	comp=Z,36nm,1.0s						
KGCAE	Kacgae	60.87	180	*i* P	P	10 56 32.5	+1.3
PALK	Pallekele	60.87	105	P	P	10 56 31.1	-0.4
PALK				IAmb	IAmb	10 56 37.5	
	comp=Z,79nm,1.1s						
PALK	Pallekele	60.87	105	P	P	10 56 30.7	-0.8
KOOLE	Kule	61.04	182	*i* P	P	10 56 33.6	+1.1
OPO	Ambohidratompo	61.23	153	LR	LR	11 24 29.9	
	comp=Z,157nm,21.2s,baz=190,slow=37						
KDWAN	Kaudwane	61.43	178	*i* P	P	10 56 35.3	+0.3
LPHEP	Lephephe	61.46	176	*i* P	P	10 56 36.5	+1.2
CIT	Chita	61.62	45	*e*P	P	10 56 35.2	-0.9
CIT				pmax	pmax		
	comp=Z,131nm,1.5s						
ABPO	Ambohimpanom	61.66	153	P	P	10 56 38.2	+1.4
HAL	Halifax	61.80	306	P	P	10 56 38.0	+0.6
HAL	Halifax	61.80	306	P	P	10 56 38.0	+0.6
HAL				pmax	pmax		
	comp=Z,168nm,0.8s						
ICQ	Pointe Anglais	61.83	312	P	P	10 56 38.3	+0.8
ICQ				IAmb	IAmb	10 56 39.0	
	comp=Z,50nm,0.8s						
LEPH	Lephalale, Lim	62.08	174	*e*P	P	10 56 38.8	-0.7
MOPA	Mopani	62.11	171	*e*P	P	10 56 39.4	-0.2
LKGWB	Lokgwabe	62.13	181	*i* P	P	10 56 40.7	+0.9
SKOMA	Sekoma	62.54	178	*i* P	P	10 56 43.1	+0.6
LZH	Lanzhou	62.86	64	⇓P	P	10 56 44.5	-0.3
LZH				pP	pP	10 56 50.0	+0.4
LZH				pmax	pmax		
	comp=Z,70nm,1.0s						
LZH				LR	LR		
	comp=Z,460nm,19.6s						
LZH				LR	LR		
	comp=Z,590nm,15.5s						
LZH				LR	LR		
	comp=Z,620nm,18.9s						
LBTB	Lobatse	63.09	177	P	P	10 56 47.0	+0.9
LBTB				IAmb	IAmb	10 56 51.0	
	comp=Z,47nm,0.9s						
LBTB	Lobatse	63.09	177	LR	LR	11 27 09.1	
	comp=Z,601nm,18.4s,baz=358,slow=39						
LBTB	Lobatse	63.09	177	*e*P	P	10 56 49.6	+3.4
PHPEN	Phepeng	63.48	179	*i* P	P	10 56 49.6	+0.9
MAKGR	Makgori	63.85	178	*i* P	P	10 56 52.2	+1.0
D62A	Allapoint, All	64.02	311	IAmb	IAmb	10 56 54.1	
	comp=Z,70nm,0.9s						
G65A	Princeton	64.03	308	IAmb	IAmb	10 56 54.0	
	comp=Z,58nm,1.0s						
HRAO	HartRAO	64.09	175	*e*P	P	10 56 51.9	-0.9
VOI	Vohitsoka	64.18	155	IAmb	IAmb	10 56 58.6	
	comp=Z,30nm,0.9s						
F64A	Sherman	64.19	309	IAmb	IAmb	10 56 55.1	
	comp=Z,

comp=Z,96nm,1.3s
BTO pmax pmax
comp=Z,310nm,7.8s
BTO LR LR
comp=Z,400nm,8.4s
BTO LR LR
comp=Z,410nm,7.5s
BTO LR LR
comp=Z,960nm,17.3s
LDAQ Lac Daran 64.88 312 P **P 10 56 58.4 +0.5**
LDAQ IAmb IAmb 10 56 59.7
comp=Z,43nm,1.0s
PKME Peaks-Kenny Pk 65.06 309 IAmb IAmb 10 57 01.1
comp=Z,54nm,0.9s
DGAR Diego Garcia 65.11 123 P **P 10 56 59.5 -0.1**
DGAR Diego Garcia 65.11 123 P **P 10 56 59.9 +0.3**
DGAR Diego Garcia 65.11 123 P **P 10 56 59.5 -0.1**
DGAR pmax pmax
comp=Z,139nm,1.1s
CD2 Chengdu 65.39 69 P **P 10 57 00.5 -0.9**
CD2 pmax pmax
comp=Z,50nm,0.8s
WVL Waterville 65.64 308 IAmb IAmb 10 57 04.5
comp=Z,35nm,0.9s
HHC Hu-ho-hao-te 65.77 56⇓ *i*P **P 10 57 03.5 -0.2**
HHC pP pP 10 57 07.5 -1.1
HHC pmax pmax
comp=Z,63nm,1.3s
G62A West of Eustis 65.84 309 IAmb IAmb 10 57 06.5
comp=Z,40nm,1.1s
ARMS Ukamas 66.08 183 *e*P **P 10 57 03.8 -1.8**
PZH PanZhiHua 66.19 74 P **P 10 57 05.3 -1.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
HIA Hailar 66.41 45 IAMs_20 IAMs_20 11 30 58.8
comp=Z,2μm,19.0s
HIA Hailar 66.41 45 P **P 10 57 07.1 -0.5**
comp=Z,79nm,1.0s
I63A Otisfield 66.47 308 P **P 10 57 08.8 +0.8**
I63A IAmb IAmb 10 57 09.8
comp=Z,31nm,0.9s
H62A Milan 66.55 309 IAmb IAmb 10 57 10.9
comp=Z,42nm,0.9s
BOSA Boshof 66.66 177 P **P 10 57 10.4 +1.0**
BOSA IAmb IAmb 10 57 13.8
comp=Z,46nm,1.1s
BOSA Boshof 66.66 177 P **P 10 57 10.2 +0.9**
comp=Z,37nm,0.9s,baz=359,slow=7.1,SNR=58
BOSA LR LR 11 29 08.1
comp=Z,775nm,18.1s,baz=1.5,slow=38
comp=Z,37nm,0.9s
BOSA Boshof 66.66 177 *e*P **P 10 57 12.4 +3.1**
I62A Tamworth 67.03 308 IAmb IAmb 10 57 14.2
comp=Z,40nm,0.9s
XLT XiLinHaoTe 67.07 52 *e*P **P 10 57 11.3 -0.7**
XLT pP pP 10 57 16.0 -0.8
XLT PcP **PcP 10 57 40.3 +0.1**
XLT pmax pmax
comp=Z,52nm,1.1s
XLT pmax pmax
comp=Z,310nm,3.7s
XAN Xi'an 67.48 64⇓P **P 10 57 13.5 -1.2**
XAN S **S 11 06 09.0 -1.6**
XAN pmax pmax
comp=Z,73nm,1.4s
XAN pmax pmax
comp=Z,430nm,4.5s
XAN LR LR
comp=Z,530nm,14.6s
XAN LR LR
comp=Z,460nm,12.7s
XAN LR LR
comp=Z,430nm,17.0s
PBA Port Blair 67.53 93 P **P 10 57 14.1 -1.1**
SNR=12
MNTQ Montreal, Queb 67.55 311 P **P 10 57 15.4 +0.5**
MNTQ IAmb IAmb 10 57 17.2
comp=Z,62nm,1.2s
A36M Sachs Harbour 67.63 350 IAmb IAmb 10 57 17.4
comp=Z,62nm,0.9s
A36M Sachs Harbour 67.63 350 P **P 10 57 15.5 +0.6**
baz=27
KMI Kunming 67.69 75 P **P 10 57 13.5 -2.9**
KMI PcP **PcP 10 57 43.5 +0.2**
KMI pmax pmax
comp=Z,26nm,1.2s
HNH Hanover 67.70 309 IAmb IAmb 10 57 18.7
comp=Z,35nm,1.0s
BCX Boston College 67.73 307 IAmb IAmb 10 57 18.5
comp=Z,66nm,1.0s
L64A Middleborough 67.73 306 IAmb IAmb 10 57 18.6
comp=Z,64nm,1.1s
WES Weston 67.80 307 IAmb IAmb 10 57 18.9
comp=Z,64nm,0.9s
M65A Busby, Falmout 67.81 306 P **P 10 57 17.5 +0.9**
baz=58
ZEA Zeya 67.88 38 *e*P **P 10 57 16.9 +0.1**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.7s
HRV Adam Dziewonsk 67.89 307 P **P 10 57 17.5 +0.5**
HRV IAmb IAmb 10 57 19.4
comp=Z,31nm,0.9s
FRNY Flat Rock 67.89 310 IAmb IAmb 10 57 19.1
comp=Z,30nm,0.9s
ALKP Alkanpan, Nort 67.93 180 *e*P **P 10 57 20.2 +2.8**
K62A Royalston 68.22 308 IAmb IAmb 10 57 22.1
comp=Z,33nm,1.0s
CHTO Chiang Mai 68.26 83 P **P 10 57 18.1 -1.7**
CHTO IAmb IAmb 10 57 20.0
comp=Z,37nm,1.1s
CHTO IAMs_20 IAMs_20 11 31 12.0
comp=Z,718nm,20.0s
CHTO Chiang Mai 68.26 83 P **P 10 57 18.3 -1.5**
CHTO Chiang Mai 68.26 83 P **P 10 57 17.9 -1.8**
comp=Z,21nm,1.1s
CM31 Chiang Mai Arr 68.46 83 IAmb IAmb 10 57 20.7
comp=Z,58nm,1.4s
CMAR Chiang Mai Arr 68.46 83 P **P 10 57 19.9 -1.1**
comp=Z,15nm,0.9s,baz=302,slow=7.5,SNR=88
CMAR PKP2bc 11 25 37.9
comp=Z,0.5nm,0.4s,baz=110,slow=1.8,SNR=4.4
comp=Z,15nm,0.9s
LONY Lake Ozonia 68.60 310 IAmb IAmb 10 57 23.9
comp=Z,56nm,1.0s
UCCT U. Connecticut 68.69 307 IAmb IAmb 10 57 24.9
comp=Z,33nm,1.0s
ACCN Adirondack Com 68.72 309 IAmb IAmb 10 57 25.2
comp=Z,69nm,1.0s
M63A Gales Ferry 68.78 306 IAmb IAmb 10 57 25.4
comp=Z,62nm,1.0s
J59A Piesco 69.19 309 IAmb IAmb 10 57 27.9
comp=Z,50nm,1.1s
BJI Beijing 69.19 55 P **P 10 57 24.5 -0.7**
BJI pmax pmax
comp=Z,17nm,1.4s
BJI pmax pmax
comp=Z,94nm,3.5s
BJT Baijiatuau 69.19 55 IAMs_20 IAMs_20 11 31 45.2
comp=Z,828nm,21.0s
BJT Baijiatuau 69.19 55 P **P 10 57 24.9 -0.4**
comp=Z,36nm,1.2s
CVNA Calvinia 69.50 182 *e*P **P 10 57 24.9 -2.3**
RCBR Riachuelo 69.53 245 P **P 10 57 28.5 +0.8**
RCBR IAmb IAmb 10 57 33.7
comp=Z,35nm,0.9s
RCBR Riachuelo 69.53 245 *e*P **P 10 57 29.2 +1.5**
HNS HongShan 69.66 58⇓P **P 10 57 27.5 -0.7**
HNS pmax pmax
comp=Z,37nm,1.4s
LYN LuoYang 69.69 62 P **P 10 57 28.0 -0.4**
LYN pP pP 10 57 32.3 -1.0
LYN PP **PP 11 00 06.8 +4.6**
LYN pmax pmax
comp=Z,31nm,1.1s
LYN pmax pmax
comp=Z,340nm,5.4s
LYN LR LR
comp=Z,350nm,13.1s
LYN LR LR
comp=Z,340nm,16.5s
LYN LR LR
comp=Z,370nm,19.9s
WSPT Westport, CT 69.72 307 IAmb IAmb 10 57 30.6
comp=Z,45nm,1.3s
BRAK Brakfontein 69.76 179 *e*P **P 10 57 31.8 +3.1**
BFON Badsfontein, M 69.79 179 *e*P **P 10 57 27.1 -1.8**
C36M Paulatuk 69.81 348 P **P 10 57 28.6 +0.1**
baz=28,SNR=52
FCC Fort Churchill 69.82 330 P **P 10 57 29.1 +0.3**
FCC IAmb IAmb 10 57 30.3
comp=Z,37nm,0.9s
FCC Fort Churchill 69.82 330 P **P 10 57 29.1 +0.3**
FCC pmax pmax
comp=Z,37nm,0.9s
ENH Enshi 69.91 67 P **P 10 57 28.5 -1.4**
comp=Z,49nm,1.3s
FRAZ Fraserburg 69.91 181 *e*P **P 10 57 28.1 -1.6**
GYA Guiyang 69.92 72⇑P **P 10 57 28.8 -1.3**
GYA pmax pmax
comp=Z,31nm,1.3s
HEH HeiHe 69.98 41 *e*P **P 10 57 29.5 -0.5**
HEH pmax pmax
comp=Z,110nm,0.9s
HEH LR LR
comp=Z,1μm,18.1s
HEH LR LR
comp=Z,860nm,16.1s
HEH LR LR
comp=Z,520nm,15.2s
J57A Williamstown 70.12 310 IAmb IAmb 10 57 33.5
comp=Z,52nm,0.9s
PAL Palisades 70.18 307 IAmb IAmb 10 57 33.5
comp=Z,43nm,0.9s
L59A Walton 70.22 308 IAmb IAmb 10 57 34.5
comp=Z,74nm,1.0s
GRAF Camdeboo Natio 70.28 178 *e*P **P 10 57 35.2 +3.3**
SUR Sutherland 70.37 181 P **P 10 57 33.1 +0.5**
SUR IAmb IAmb 10 57 37.5
comp=Z,32nm,0.8s
PECO Prince Edward 70.42 311 IAmb IAmb 10 57 35.4
comp=Z,54nm,1.0s
DELO Deloro Mine 70.46 312 IAmb IAmb 10 57 35.7
comp=Z,77nm,1.3s
BILL Bilibino 70.53 14 P **P 10 57 32.3 -0.7**
BILL IAMs_20 IAMs_20 11 32 08.7
comp=Z,901nm,19.0s
BILL Bilibino 70.53 14 *i*P **P 10 57 32.1 -0.9**
BILL pmax pmax
comp=Z,22nm,1.1s
ODNJ Ogdensburg 70.57 307 IAmb IAmb 10 57 36.2
comp=Z,42nm,1.2s
A21K Barrow 70.64 360 P **P 10 57 34.6 +1.0**
baz=0.8
MERW Merweville 70.65 181 *e*P **P 10 57 37.1 +2.9**
SLVN Son La 70.68 78 P **P 10 57 33.2 -1.6**
comp=Z,15nm,0.9s
SOE Somerset East 70.75 177 IAmb IAmb 10 57 40.9
comp=Z,74nm,1.3s
BRNJ Basking Ridge 70.77 307 IAmb IAmb 10 57 40.9
comp=Z,64nm,1.2s
BINY Binghamton 70.80 309 IAmb IAmb 10 57 37.8
comp=Z,61nm,1.0s
K57A Scipio Center 70.82 310 IAmb IAmb 10 57 38.1
comp=Z,80nm,1.1s
A22K Sinclair Lake 70.95 359 P **P 10 57 36.4 +0.9**
baz=2.2
SRDT SRDT 70.96 87 P **P 10 57 35.4 -1.0**
comp=Z,72nm,1.2s
KSPA Keystone Colle 71.03 308 IAmb IAmb 10 57 39.2
comp=Z,76nm,1.1s
SADO Sadowa 71.20 312 P **P 10 57 38.9 +1.3**
comp=Z,62nm,0.8s,baz=47,slow=5.5,SNR=72
comp=Z,62nm,0.8s
GRHM Grahamstown, E 71.35 176 IAmb IAmb 10 57 44.5
comp=Z,51nm,0.9s
SEY Seymchan 71.47 22 *i*P **P 10 57 38.9 +0.1**
SEY pmax pmax
comp=Z,43nm,1.8s
B22K Teshekpuk Lake 71.59 358 IAMs_20 IAMs_20 11 33 41.4
comp=Z,1μm,21.0s
B22K Teshekpuk Lake 71.59 358 P **P 10 57 40.5 +1.1**
baz=3.5,SNR=48
C26K Camden Bay 71.65 355 P **P 10 57 41.0 +1.3**
baz=10,SNR=84
MEDO Medina 71.73 311 IAmb IAmb 10 57 43.2
comp=Z,95nm,1.1s
D28M Stokes Point 71.74 353 P **P 10 57 41.5 +1.3**
baz=16,SNR=39
A19K Wainwright 71.74 1 P **P 10 57 41.4 +1.1**
baz=357
C27K Jago River 71.86 355 P **P 10 57 42.3 +1.2**
baz=11
TIA Tai'an 71.93 58 P **P 10 57 40.5 -1.6**
TIA pmax pmax
comp=Z,40nm,1.2s
TIA pmax pmax
comp=Z,350nm,7.4s
NONG Nongkai 71.96 81 P **P 10 57 40.8 -1.6**
comp=Z,30nm,1.2s
B20K Meade River 71.97 360 P **P 10 57 42.7 +1.1**
baz=0.4
C23K Itkillik River 72.01 357 IAMs_20 IAMs_20 11 27 52.7
comp=Z,621nm,18.0s
C23K Itkillik River 72.01 357 P **P 10 57 43.4 +1.5**
baz=5.8,SNR=85
D27M Malcolm River 72.02 354 P **P 10 57 42.9 +0.7**
baz=14
N58A Sunbury 72.02 308 IAmb IAmb 10 57 45.1
comp=Z,84nm,1.1s
C24K Franklin Bluff 72.05 357 IAMs_20 IAMs_20 11 33 46.8
comp=Z,1μm,21.0s
C24K Franklin Bluff 72.05 357 P **P 10 57 43.3 +1.1**
baz=7.3
INK Inuvik 72.14 351 IAmb IAmb 10 57 43.8
comp=Z,49nm,1.1s
INK Inuvik 72.14 351 P **P 10 57 42.5 -0.1**
baz=20,SNR=46
MVL Millersville 72.28 307 IAmb IAmb 10 57 46.8
comp=Z,60nm,1.1s
D25K Kavik River 72.33 356 P **P 10 57 44.7 +0.8**
baz=9.2
B21K Ikpikpuk River 72.33 359 IAMs_20 IAMs_20 11 33 49.0
comp=Z,759nm,19.0s
B21K Ikpikpuk River 72.33 359 P **P 10 57 45.1 +1.3**
baz=2.5
E28M Babbage River 72.52 353 P **P 10 57 45.7 +0.7**
baz=15
E29M Blow River 72.56 352 P **P 10 57 46.1 +0.8**
baz=16,SNR=311
B18K Kokolik River 72.57 2 P **P 10 57 46.6 +1.3**
baz=357,SNR=14
D24K Happy Valley 72.62 357 IAMs_20 IAMs_20 11 33 44.9
comp=Z,1μm,19.0s
D24K Happy Valley 72.62 357 P **P 10 57 46.5 +0.9**
baz=7.2
BNX BinXian 72.68 45⇑P **P 10 57 44.5 -1.8**
BNX pmax pmax
comp=Z,55nm,1.1s
CN2 Changchun 72.73 48 P **P 10 57 45.8 -0.9**
CN2 pmax pmax
comp=Z,110nm,1.0s
C21K Knifeblade Rid 72.80 359 P **P 10 57 47.7 +1.1**
baz=2.3,SNR=59
KLR Kul'dur 72.84 40 P **P 10 57 46.5 -0.8**
comp=Z,45nm,1.0s,baz=325,slow=12,SNR=12
comp=Z,45nm,1.0s
KLR Kul'dur 72.84 40 *i*P **P 10 57 46.2 -1.0**
KLR pmax pmax
comp=Z,78nm,1.2s
SSPA Standing Stone 72.87 308 P **P 10 57 48.8 +1.2**
D23K Nanushuk River 72.89 357 P **P 10 57 48.5 +1.3**
baz=5.7,SNR=117
F31M Tsiigehtchic 72.99 351 P **P 10 57 48.1 +0.3**
baz=19,SNR=136
D22K Ayikyak River 73.03 358 P **P 10 57 49.2 +1.1**
baz=4.0
F30M Barrier River 73.08 351 P **P 10 57 48.5 +0.2**
baz=18,SNR=43
E27K Coleen River 73.11 354 P **P 10 57 49.3 +0.8**
baz=13
TOLK Toolik Lake Re 73.17 357 IAmb IAmb 10 57 51.2
comp=Z,66nm,1.2s
TOLK Toolik Lake Re 73.17 357 P **P 10 57 50.0 +1.1**
baz=6.6,SNR=37
WHN Wuhan 73.24 64 P **P 10 57 47.0 -2.9**
WHN pmax pmax
comp=Z,170nm,1.6s
BSI Banda Aceh 73.26 96 P **P 10 57 48.3 -1.9**
comp=Z,59nm,1.4s
D20K Etivluk River 73.26 360 P **P 10 57 50.2 +0.8**
baz=0.8
C18K Utukok River 73.30 1 IAmb IAmb 10 57 51.8
comp=Z,100nm,1.2s
C18K Utukok River 73.30 1 P **P 10 57 50.5 +0.8**
baz=357
C17K DeLong Mountai 73.43 2 P **P 10 57 51.4 +1.0**
baz=355
E25K Arctic Village 73.47 355 IAmb IAmb 10 57 53.0
comp=Z,83nm,1.2s
E25K Arctic Village 73.47 355 P **P 10 57 51.5 +0.8**
baz=9.8,SNR=70
D19K Kuna River 73.49 0 IAmb IAmb 10 57 52.9
comp=Z,104nm,1.1s
D19K Kuna River 73.49 0 P **P 10 57 51.6 +0.9**
baz=360
E21K Killik River 73.50 359 P **P 10 57 51.3 +0.4**
baz=3.0
G31M Satah River 73.55 351 IAmb IAmb 10 57 55.2
comp=Z,99nm,1.1s
G31M Satah River 73.55 351 P **P 10 57 51.0 -0.1**
baz=19,SNR=91
C16K Lisburne Hills 73.55 3 IAMs_20 IAMs_20 11 32 51.2
comp=Z,1μm,18.0s
C16K Lisburne Hills 73.55 3 P **P 10 57 51.4 +0.3**
baz=354,SNR=17
MA2 Magadan 73.57 25 P **P 10 57 51.2 -0.2**
MA2 IAmb IAmb 10 57 52.4
comp=Z,51nm,0.7s
MA2 IAMs_20 IAMs_20 11 31 23.6
comp=Z,1μm,18.0s
MA2 Magadan 73.57 25 P **P 10 57 51.1 -0.2**
comp=Z,86nm,0.8s
MA2 Magadan 73.57 25 *i*P **P 10 57 51.4 +0.1**
MA2 pmax pmax
comp=Z,56nm,0.9s
MA2 Magadan 73.57 25 P **P 10 57 51.1 -0.2**
comp=Z,84nm,0.8s
CNSH ChangSha 73.57 67 P **P 10 57 50.8 -1.1**
P57A Homestead Farm 73.62 307 IAmb IAmb 10 57 54.7
comp=Z,92nm,1.1s
ALLY Alegheny Colle 73.64 310 IAmb IAmb 10 57 54.5
comp=Z,83nm,1.0s
E24K Your Creek 73.68 356 IAMs_20 IAMs_20 11 33 17.8
comp=Z,1μm,18.0s
E24K Your Creek 73.68 356 P **P 10 57 52.6 +0.7**
baz=7.5
YKA Yellowknife Ar 73.72 341 P **P 10 57 52.3 +0.2**
YKA Yellowknife Ar 73.72 341 P **P 10 57 52.1 -0.1**
comp=Z,18nm,0.8s,baz=35,slow=5.2,SNR=248
YKA PKPPKP **P'P'df 11 25 28.5 -5.8**
comp=Z,0.3nm,1.0s,baz=247,slow=1.4,SNR=3.7
comp=Z,18nm,0.8s
YKA Yellowknife Ar 73.72 341 *e*P **P 10 57 52.0 -0.1**
YKA pmax pmax
comp=Z,19nm,0.8s
E20K Nigu River 73.72 359 P **P 10 57 52.8 +0.6**
baz=1.2
G30M tAoh Zraii Nji 73.73 351 P **P 10 57 52.1 -0.1**
baz=17,SNR=62
E23K Chandalar 73.75 357 IAmb IAmb 10 57 54.8
comp=Z,57nm,1.1s
E23K Chandalar 73.75 357 P **P 10 57 53.5 +1.1**
baz=6.5,SNR=63
E22K Anaktuvuk Pass 73.76 358 IAmb IAmb 10 57 54.4
comp=Z,96nm,1.2s
E22K IAMs_20 IAMs_20 11 33 11.8
comp=Z,2μm,18.0s
E22K Anaktuvuk Pass 73.76 358 P **P 10 57 53.2 +0.8**
baz=4.7,SNR=64
F26K Sheenjek River 73.79 355 IAMs_20 IAMs_20 11 33 49.9
comp=Z,1μm,21.0s
F26K Sheenjek River 73.79 355 P **P 10 57 53.8 +1.2**
baz=11,SNR=123
RDOG Red Dog Mine 73.86 2 IAmb IAmb 10 57 54.6
comp=Z,70nm,1.2s
RDOG IAMs_20 IAMs_20 11 32 43.3
comp=Z,1μm,18.0s
RDOG Red Dog Mine 73.86 2 P **P 10 57 53.2 +0.3**
baz=356,SNR=14
F25K Christian Rive 74.00 355 P **P 10 57 55.0 +1.2**
baz=9.8,SNR=56
G29M Pine Creek 74.00 352 IAMs_20 IAMs_20 11 33 32.5
comp=Z,1μm,18.0s
G29M Pine Creek 74.00 352 P **P 10 57 54.1 +0.3**
baz=16,SNR=106
BMAR Burnt Mountain 74.09 355 P **P 10 57 55.5 +1.1**
F24K Squaw Lake 74.20 356 IAMs_20 IAMs_20 11 33 16.7
comp=Z,2μm,21.0s
F24K Squaw Lake 74.20 356 P **P 10 57 56.4 +1.3**
baz=7.9,SNR=94
D17K Noatak River 74.21 2 P **P 10 57 55.6 +0.7**
baz=356,SNR=70
EPYK Eagle Plains 74.38 351 IAmb IAmb 10 57 57.4
comp=Z,140nm,1.4s
EPYK IAMs_20 IAMs_20 11 33 33.4
comp=Z,1μm,21.0s
EPYK Eagle Plains 74.38 351 P **P 10 57 56.1 +0.1**
baz=17,SNR=50
F22K John River 74.40 358 P **P 10 57 57.2 +1.1**
baz=4.4
R58B Mineral 74.44 306 IAmb IAmb 10 57 59.1
comp=Z,75nm,1.1s
G27K Doyon Strip 74.46 353 IAMs_20 IAMs_20 11 33 25.6
comp=Z,2μm,18.0s
G27K Doyon Strip 74.46 353 P **P 10 57 57.5 +1.0**
baz=13,SNR=68
G26K Porcupine Rive 74.50 354 P **P 10 57 58.2 +1.5**
baz=11,SNR=91
E19K Redstone River 74.53 360 P **P 10 57 57.6 +0.7**
E19K IAmb IAmb 10 58 03.7
comp=Z,73nm,0.8s
E19K Redstone River 74.53 360 P **P 10 57 57.8 +0.9**
baz=0.3,SNR=102
E18K Tukpahlearik C 74.54 1 IAmb IAmb 10 57 58.8
comp=Z,159nm,1.4s
E18K IAMs_20 IAMs_20 11 32 56.4
comp=Z,2μm,21.0s
E18K Tukpahlearik C 74.54 1 P **P 10 57 57.5 +0.6**
baz=358
MDJ Mudanjiang 74.59 45 P **P 10 57 57.7 +0.1**
comp=Z,28nm,1.1s
COLD Coldfoot 74.61 357 IAmb IAmb 10 57 59.3
comp=Z,51nm,1.0s
COLD Coldfoot 74.61 357 P **P 10 57 58.1 +0.8**
baz=6.0,SNR=79
H31M Peel River 74.62 350 IAmb IAmb 10 58 16.1
comp=Z,46nm,1.1s
H31M IAMs_20 IAMs_20 11 34 02.8
comp=Z,958nm,20.0s
H31M Peel River 74.62 350 P **P 10 57 57.7 +0.2**
baz=19,SNR=29
O54A Avella 74.66 309 IAmb IAmb 10 58 00.6
comp=Z,70nm,1.0s
O54A IAMs_20 IAMs_20 11 31 01.0
comp=Z,622nm,20.0s
H29M Whitestone 74.71 352 IAmb IAmb 10 57 60.0
comp=Z,55nm,0.8s
H29M IAMs_20 IAMs_20 11 33 30.2
comp=Z,2μm,18.0s
H29M Whitestone 74.71 352 P **P 10 57 58.2 +0.2**
baz=16
F21K Alatna River 74.72 358 IAMs_20 IAMs_20 11 36 35.1
comp=Z,884nm,20.0s
F21K Alatna River 74.72 358 P **P 10 57 59.0 +1.1**
baz=3.4,SNR=84
T59A Double "B" Far 74.82 305 IAmb IAmb 10 58 01.3
comp=Z,61nm,1.0s
G25K Bearman Lake 74.85 355 P **P 10 58 00.3 +1.6**
baz=9.3,SNR=38
MLSI Meulaboh, Aceh 74.88 97 P **P 10 57 58.1 -1.6**
comp=Z,270nm,1.0s
F20K Avaraart Lake 74.93 359 IAMs_20 IAMs_20 11 34 04.7
comp=Z,620nm,18.0s
F20K Avaraart Lake 74.93 359 P **P 10 57 59.8 +0.7**
baz=1.5
FYU Fort Yukon 74.99 355 IAMs_20 IAMs_20 11 33 18.4
comp=Z,1μm,21.0s
G24K Hadweenzic Riv 75.00 356 IAMs_20 IAMs_20 11 33 14.6
comp=Z,1μm,19.0s
G24K Hadweenzic Riv 75.00 356 P **P 10 58 00.6 +1.1**
baz=8.2
H27K Steamboat Moun 75.02 353 P **P 10 58 00.9 +1.2**
baz=13,SNR=117
G23K Bananza Creek 75.11 357 P **P 10 58 01.3 +1.0**
baz=6.2,SNR=55
O53A New Philadelph 75.13 310 IAmb IAmb 10 58 03.4
comp=Z,110nm,1.0s
WRGLY Wrigley 75.15 345 IAmb IAmb 10 58 11.4
comp=E,70nm,0.9s

WRGLY **Wrigley** 75.15 345 P P 10 58 01.5 +1.0
baz=27,SNR=46
F19K **Shaleruckik Mo** 75.16 0 IAmb IAmb 10 58 02.4
comp=Z,95nm,1.1s
F19K IAMs_20 IAMs_20 11 33 37.7
comp=Z,723nm,21.0s
F19K **Shaleruckik Mo** 75.16 0 P P 10 58 00.7 +0.2
baz=360,SNR=102
AAM **Ann Arbor** 75.31 312 IAmb IAmb 10 58 03.8
comp=Z,107nm,1.1s
H25L **Birch Creek** 75.32 355 P P 10 58 03.0 +1.6
baz=9.5,SNR=76
F18K **Selawik** 75.38 1 P P 10 58 02.2 +0.5
baz=358,SNR=50
G21K **Allakaket** 75.43 358 IAmb IAmb 10 58 04.2
comp=Z,102nm,1.1s
G21K IAMs_20 IAMs_20 11 33 03.9
comp=Z,2µm,21.0s
G21K **Allakaket** 75.43 358 P P 10 58 02.8 +0.8
baz=3.3
I30M **Mount Dempster** 75.44 351 P P 10 58 02.8 +0.4
I30M IAmb IAmb 10 58 07.5
comp=Z,77nm,0.9s
I30M IAMs_20 IAMs_20 11 36 55.5
comp=Z,748nm,21.0s
I30M **Mount Dempster** 75.44 351 P P 10 58 02.7 +0.4
baz=17,SNR=151
NJ2 **Nanjing** 75.50 61 ⇓P P 10 58 01.5 -1.6
NJ2 pmax pmax
comp=Z,75nm,1.1s
M50A **Fremont** 75.51 311 IAmb IAmb 10 58 04.8
comp=Z,68nm,1.1s
F17K **Baldwin Pennin** 75.51 1 IAmb IAmb 10 58 08.6
comp=Z,39nm,0.8s
F17K **Baldwin Pennin** 75.51 1 P P 10 58 02.9 +0.5
baz=357
I29M **Ogilvie Camp,** 75.53 352 IAMs_20 IAMs_20 11 33 54.9
comp=Z,1µm,22.0s
I29M **Ogilvie Camp,** 75.53 352 P P 10 58 02.8 +0.1
baz=16
F42A **Maple Grove Fa** 75.60 317 IAmb IAmb 10 58 05.4
comp=Z,58nm,0.8s
I28M **Miner Creek** 75.62 352 IAmb IAmb 10 58 04.9
comp=Z,41nm,1.0s
I28M IAMs_20 IAMs_20 11 33 27.3
comp=Z,2µm,22.0s
I28M **Miner Creek** 75.62 352 P P 10 58 03.4 +0.1
baz=14,SNR=47
I27K **Kandik River** 75.64 353 P P 10 58 04.2 +0.8
baz=13,SNR=72
FFC **Flin Flon** 75.75 330 P P 10 58 04.5 +0.4
FFC **Flin Flon** 75.75 330 P P 10 58 04.5 +0.4
FFC pmax pmax
comp=Z,35nm,1.0s
G19K **Purcell Mounta** 75.85 360 IAMs_20 IAMs_20 11 33 23.0
comp=Z,1µm,21.0s
G19K **Purcell Mounta** 75.85 360 P P 10 58 05.4 +0.9
baz=0.4,SNR=59
H24K **Noodor Dome** 75.88 356 IAMs_20 IAMs_20 11 36 45.9
comp=Z,696nm,19.0s
H24K **Noodor Dome** 75.88 356 P P 10 58 05.5 +0.8
baz=7.9,SNR=28
T57A **Hurt** 75.89 306 IAmb IAmb 10 58 07.7
comp=Z,74nm,1.2s
EYMN **Ely** 75.89 321 IAmb IAmb 10 58 06.8
comp=Z,127nm,1.6s
H23K **Yukon River** 75.98 357 IAMs_20 IAMs_20 11 33 09.5
comp=Z,2µm,20.0s
H23K **Yukon River** 75.98 357 P P 10 58 06.7 +1.4
baz=6.5,SNR=56
H22K **Ishtalitna Cre** 75.98 357 P P 10 58 06.8 +1.6
baz=5.0
PRP **Porcupine Dome** 76.05 355 IAmb IAmb 10 58 08.0
comp=Z,52nm,1.1s
PRP IAMs_20 IAMs_20 11 33 16.3
comp=Z,1µm,19.0s
PRP **Porcupine Dome** 76.05 355 P P 10 58 06.6 +0.8
baz=9.8,SNR=49
J30M **Hart River** 76.05 351 IAmb IAmb 10 58 11.0
comp=Z,88nm,0.9s
J30M IAMs_20 IAMs_20 11 37 17.7
comp=Z,697nm,20.0s
J30M **Hart River** 76.05 351 P P 10 58 06.8 +1.0
baz=17,SNR=150
I26K **Coal Creek Min** 76.07 354 IAMs_20 IAMs_20 11 33 46.0
comp=Z,817nm,22.0s
I26K **Coal Creek Min** 76.07 354 P P 10 58 06.4 +0.7
baz=12
G18K **Tagagawik** 76.10 0 IAMs_20 IAMs_20 11 32 52.5
comp=Z,2µm,21.0s
G18K **Tagagawik** 76.10 0 P P 10 58 06.4 +0.5
baz=359
TNA **Tin City** 76.13 4 P P 10 58 06.0 0.0
baz=352
F15K **North Star Dit** 76.14 3 IAMs_20 IAMs_20 11 32 42.7
comp=Z,2µm,18.0s
F15K **North Star Dit** 76.14 3 P P 10 58 06.5 +0.4
baz=354
USA0B **Ussuriysk Arra** 76.18 44 P P 10 58 05.8 -1.0
USA0B IAmb IAmb 10 58 06.8
comp=Z,63nm,0.9s
USA0B **Ussuriysk Arra** 76.18 44*d*iP P 10 58 05.6 -1.1
USRK **Ussuriysk Ar.** 76.18 44 P P 10 58 05.8 -1.0
USRK **Ussuriysk Ar.** 76.18 44 P P 10 58 05.9 -0.8
comp=Z,43nm,0.8s,baz=289,slow=5.1,SNR=45
comp=Z,43nm,0.8s
H21K **Melozitna Rive** 76.27 358 P P 10 58 08.3 +1.5
baz=3.9,SNR=124
F14K **Arctic Creek** 76.30 4 P P 10 58 07.4 +0.3
baz=353
J29N **Klondike Camp** 76.40 351 IAMs_20 IAMs_20 11 37 10.9
comp=Z,751nm,18.0s
J29N **Klondike Camp** 76.40 351 P P 10 58 08.6 +0.8
baz=16
ULM **Lac du Bonnet** 76.41 324 P P 10 58 08.0 +0.1
comp=Z,74nm,0.9s,baz=44,slow=5.6,SNR=118
comp=Z,74nm,0.9s
H19K **Roundabout Mou** 76.46 359 IAmb IAmb 10 58 10.1
comp=Z,86nm,1.2s
H19K IAMs_20 IAMs_20 11 32 56.2
comp=Z,2µm,18.0s
H19K **Roundabout Mou** 76.46 359 P P 10 58 08.8 +0.9
baz=0.9,SNR=38
G17K **Kiwalik Mounta** 76.47 1 P P 10 58 08.4 +0.4
baz=358
H20K **Anotleneega Mo** 76.48 359 P P 10 58 08.9 +0.8
baz=2.2
V58A **Windy Hill, Pi** 76.53 305 IAmb IAmb 10 58 11.3
comp=Z,51nm,1.1s
G16K **Koyuk River** 76.54 2 IAMs_20 IAMs_20 11 32 45.1
comp=Z,2µm,18.0s
G16K **Koyuk River** 76.54 2 P P 10 58 09.0 +0.6
baz=356
QIZ **Qiongzhong** 76.56 76 P P 10 58 08.0 -1.3
QIZ S S 11 07 53.3 -1.8
QIZ pmax pmax
comp=Z,23nm,1.0s
QIZ LR LR
comp=Z,100nm,12.8s
QIZ LR LR
comp=Z,130nm,14.9s
QIZ LR LR
comp=Z,130nm,16.5s
POKR **Poker Plat Res** 76.57 356 IAmb IAmb 10 58 10.7
comp=Z,88nm,1.1s
POKR IAMs_20 IAMs_20 11 33 11.1
comp=Z,1µm,22.0s
POKR **Poker Plat Res** 76.57 356 P P 10 58 09.4 +0.8
baz=8.2,SNR=14
I23K **Minto, Yukon-K** 76.64 356 IAmb IAmb 10 58 11.2
comp=Z,58nm,1.1s
I23K IAMs_20 IAMs_20 11 33 07.1
comp=Z,2µm,18.0s
I23K **Minto, Yukon-K** 76.64 356 P P 10 58 10.0 +1.0
baz=6.7,SNR=52
S54A **Dingess, Beckl** 76.69 308 IAmb IAmb 10 58 14.9
comp=Z,48nm,0.9s
P51A **Williamsport** 76.72 310 IAmb IAmb 10 58 11.4
comp=Z,86nm,1.1s
E38A **The Farm, Brul** 76.82 320 IAmb IAmb 10 58 11.6
comp=Z,52nm,1.0s
COLA **College** 76.83 356 P P 10 58 10.5 +0.5
COLA IAmb IAmb 10 58 11.8
comp=Z,66nm,1.4s
COLA **College** 76.83 356 IAMs_20 IAMs_20 11 33 09.2
comp=Z,1µm,19.0s
COLA **College** 76.83 356 P P 10 58 10.9 +0.9
comp=Z,20nm,1.6s
COLA **College** 76.83 356*d*iP P 10 58 10.4 +0.4
COLA pmax pmax
comp=Z,53nm,1.3s
COLA **College** 76.83 356 P P 10 58 10.3 +0.3
baz=7.8
H18K **Honhosa River** 76.84 0 IAmb IAmb 10 58 12.3
comp=Z,63nm,1.1s
H18K **Honhosa River** 76.84 0 P P 10 58 11.1 +0.9
baz=359,SNR=18
ILAR **Eielson Array** 76.88 355 P P 10 58 10.1 -0.1
ILAR **Eielson Array** 76.88 355 P P 10 58 10.3 0.0
comp=Z,16nm,1.0s,baz=360,slow=4.2,SNR=72
ILAR PKKPbc PKKPbc 11 17 17.9 -1.0
comp=Z,0.8nm,0.8s,baz=226,slow=2.4,SNR=6.7
ILAR PKPPKP P'P'df 11 25 20.9 -7.8
comp=Z,1.0nm,0.8s,baz=248,slow=2.2,SNR=7.0
comp=Z,16nm,1.0s
ILAR **Eielson Array** 76.88 355 *e*P P 10 58 10.2 -0.1
ILAR pmax pmax
comp=Z,16nm,1.0s
G15K **Niukluk** 76.88 3 P P 10 58 10.4 +0.1
baz=355
J26L **Joseph Creek** 76.89 354 IAmb IAmb 10 58 12.8
comp=Z,37nm,0.8s
J26L IAMs_20 IAMs_20 11 37 39.8
comp=Z,680nm,18.0s
J26L **Joseph Creek** 76.89 354 P P 10 58 11.0 +0.5
baz=11,SNR=77
K29M **Barlow Dome** 76.91 351 IAmb IAmb 10 58 15.8
comp=Z,41nm,1.1s
K29M IAMs_20 IAMs_20 11 34 09.3
comp=Z,742nm,18.0s
K29M **Barlow Dome** 76.91 351 P P 10 58 11.5 +0.8
baz=16,SNR=38
DAWY **Dawson** 76.91 352 IAmb IAmb 10 58 13.1
comp=Z,49nm,0.8s
DAWY **Dawson** 76.91 352 P P 10 58 11.4 +0.8
baz=15,SNR=78
TYV **Tymovskoe** 76.93 34 *e*P P 10 58 10.7 -0.1
TYV *e*S S 11 07 55.7 -2.4
TYV pmax pmax
comp=Z,19nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.4s
TYV smax smax
comp=N,100nm,5.4s
TYV smax smax
comp=E,400nm,5.4s
J25K **Salcha River,** 76.93 355 IAMs_20 IAMs_20 11 34 15.7
comp=Z,657nm,19.0s
J25K **Salcha River,** 76.93 355 P P 10 58 10.9 +0.2
baz=9.8,SNR=28
MAYO **Mayo, Yukon** 76.94 350 P P 10 58 11.5 +0.9
baz=17,SNR=14
U56A **King** 77.01 306 IAmb IAmb 10 58 14.1
comp=Z,97nm,1.1s
L46A **Eue Claire** 77.01 314 IAmb IAmb 10 58 13.3
comp=Z,87nm,1.1s
G40A **Rib Lake** 77.02 318 IAmb IAmb 10 58 13.4
comp=Z,62nm,1.0s
O49A **Covington** 77.04 311 IAMs_20 IAMs_20 11 34 51.7
comp=Z,550nm,18.0s
TSI **Tuntungan** 77.04 96 P P 10 58 09.9 -2.1
comp=Z,212nm,0.9s
H17K **Granite Mounta** 77.05 1 P P 10 58 11.4 +0.2
baz=358,SNR=8.1
CCB **Clear Creek Bu** 77.06 356 IAMs_20 IAMs_20 11 33 35.1
comp=Z,867nm,20.0s
I20K **Naaghedeneel** 77.17 359 IAMs_20 IAMs_20 11 36 21.0
comp=Z,722nm,21.0s
I20K **Naaghedeneel** 77.17 359 P P 10 58 12.9 +1.0
baz=2.5,SNR=16
NEA2 **Nenana** 77.18 356 IAmb IAmb 10 58 13.7
comp=Z,58nm,1.2s
NEA2 IAMs_20 IAMs_20 11 32 53.3
comp=Z,891nm,21.0s
NEA2 **Nenana** 77.18 356 P P 10 58 12.2 +0.2
baz=6.9,SNR=55
K27K **Chicken** 77.22 353 IAMs_20 IAMs_20 11 33 45.6
comp=Z,1µm,19.0s
K27K **Chicken** 77.22 353 P P 10 58 13.3 +1.1
baz=12
HDA **Harding Lake** 77.24 355 IAmb IAmb 10 58 13.7
comp=Z,80nm,1.1s
HDA IAMs_20 IAMs_20 11 33 08.9
comp=Z,1µm,19.0s
HDA **Harding Lake** 77.24 355 P P 10 58 12.5 +0.2
baz=8.6,SNR=64
I42A **Draeger Farm,** 77.25 316 IAmb IAmb 10 58 14.6
comp=Z,91nm,1.0s
WRH **Wood River Hil** 77.25 356 IAmb IAmb 10 58 13.9
comp=Z,109nm,1.3s
GCSA **Galena City** 77.25 360 P P 10 58 13.3 +0.9
baz=0.6,SNR=35
ANM **Nome** 77.25 3 IAMs_20 IAMs_20 11 33 17.1
comp=Z,896nm,20.0s
ANM **Nome** 77.25 3 P P 10 58 11.8 -0.6
baz=354
SSFO **Shawnee State** 77.30 309 IAmb IAmb 10 58 15.1
comp=Z,80nm,1.0s
H16K **Elim** 77.30 2 P P 10 58 13.3 +0.7
baz=356,SNR=20
X58A **Rowland** 77.44 304 IAmb IAmb 10 58 16.6
comp=Z,60nm,1.0s
SCRK **Sand Creek** 77.45 354 IAmb IAmb 10 58 15.9
comp=Z,50nm,1.1s
SCRK IAMs_20 IAMs_20 11 33 16.5
comp=Z,2µm,18.0s
SCRK **Sand Creek** 77.45 354 P P 10 58 14.5 +0.9
baz=11,SNR=52
O48B **Farmland** 77.48 312 IAmb IAmb 10 58 15.7
comp=Z,95nm,1.0s
W57A **Gilead** 77.49 305 IAmb IAmb 10 58 16.4
comp=Z,62nm,1.1s
KULM **Kulim** 77.58 93 P P 10 58 14.2 -0.9
KULM IAmb IAmb 10 58 14.8
comp=Z,68nm,1.0s
KULM IAMs_20 IAMs_20 11 29 48.6
comp=Z,2µm,19.0s
KULM **Kulim** 77.58 93 P P 10 58 14.2 -0.9
comp=Z,71nm,1.2s
HUMP **Col San Antoni** 77.59 283 IAmb IAmb 10 58 17.7
comp=Z,65nm,1.0s
GAMB **Gambell** 77.62 6 P P 10 58 13.8 -0.6
baz=349
GSI **Gunungsitoli** 77.63 98 P P 10 58 14.8 -0.6
GSI **Gunungsitoli** 77.63 98 P P 10 58 15.3 -0.1
comp=Z,157nm,1.0s
GSI **Gunungsitoli** 77.63 98 P P 10 58 14.3 -1.1
comp=Z,3µmcomp=Z,154nm,0.9s
GCPR **Guaynabo City** 77.67 284 IAmb IAmb 10 58 17.4
comp=Z,49nm,0.9s
L29M **L29M** 77.69 351 IAmb IAmb 10 58 17.1
comp=Z,47nm,1.2s
L29M IAMs_20 IAMs_20 11 34 22.0
comp=Z,723nm,19.0s
L29M **L29M** 77.69 351 P P 10 58 15.7 +0.7
baz=16
RIDG **Independent Ri** 77.75 354 IAmb IAmb 10 58 17.4
comp=Z,97nm,1.3s
RIDG **Independent Ri** 77.75 354 P P 10 58 15.9 +0.6
baz=10,SNR=36
PSI **Prapat** 77.76 96 P P 10 58 15.3 -0.9
comp=Z,112nm,1.0s
K24K **Donnelly Dome** 77.76 355 P P 10 58 15.7 +0.4
baz=9.5,SNR=33
BPAW **Bear Paw Mtn.** 77.76 357 IAmb IAmb 10 58 16.5
comp=Z,69nm,1.2s
BPAW **Bear Paw Mtn.** 77.76 357 P P 10 58 15.4 +0.1
baz=5.3,SNR=56
DOT **Dot Lake** 77.78 354 IAmb IAmb 10 58 17.7
comp=Z,87nm,1.2s
J20K **Nowinta River** 77.79 358 IAmb IAmb 10 58 17.6
comp=Z,52nm,1.1s
J20K **Nowinta River** 77.79 358 P P 10 58 16.2 +0.8
baz=2.8,SNR=33
RPSI **Rantau Prapat** 77.82 96 IAmb IAmb 10 58 16.0
comp=Z,75nm,0.8s
RPSI IAMs_20 IAMs_20 11 30 21.2
comp=Z,1µm,22.0s
SJG **San Juan** 77.83 283 P P 10 58 17.1 +0.7
SJG IAmb IAmb 10 58 22.3
comp=Z,68nm,1.2s
SJG **San Juan** 77.83 283 P P 10 58 17.1 +0.7
SJG pmax pmax
comp=Z,68nm,1.2s
V55A **Taylorsville** 77.84 306 IAmb IAmb 10 58 18.8
comp=Z,83nm,1.1s
FARO **Faro, Yukon** 77.87 349 P P 10 58 17.4 +1.5
baz=19,SNR=96
UGL **Uglegorsk** 77.94 36 *e*P P 10 58 16.6 +0.1
UGL pmax pmax
comp=Z,120nm,1.1s
J19K **Poorman** 78.00 359 IAmb IAmb 10 58 19.0
comp=Z,106nm,1.1s
J19K **Poorman** 78.00 359 P P 10 58 17.7 +1.1
baz=1.6,SNR=67
CHUM **Lake Minchumin** 78.03 358 P P 10 58 17.2 +0.4
baz=4.2,SNR=44
MCK **McKinley** 78.03 356 IAmb IAmb 10 58 18.1
comp=Z,113nm,1.2s
MCK **McKinley** 78.03 356 P P 10 58 16.8 0.0
baz=7.0,SNR=55
M30M **Minto, Yukon** 78.03 350 IAMs_20 IAMs_20 11 34 07.1
comp=Z,664nm,20.0s
M30M **Minto, Yukon** 78.03 350 P P 10 58 17.2 +0.3
baz=17
KOTAN **Kotaneelee Air** 78.05 344 P P 10 58 18.3 +1.3
baz=26,SNR=26
M31M **Drury Creek, Y** 78.05 349 IAMs_20 IAMs_20 11 33 32.7
comp=Z,1µm,19.0s
M31M **Drury Creek, Y** 78.05 349 P P 10 58 18.1 +1.1
baz=18
KS19 **Wonju Array Si** 78.06 52 IAmb IAmb 10 58 18.1
comp=Z,71nm,1.1s
I17K **Unalakleet** 78.09 1 IAmb IAmb 10 58 19.1
comp=Z,65nm,1.3s
I17K **Unalakleet** 78.09 1 P P 10 58 17.9 +0.8
baz=358,SNR=8.1
TEY **Ternei** 78.09 41⇑*e*P P 10 58 15.8 -1.6
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=Z,20nm,0.9s
TEY pmax pmax
comp=E,10.0nm,1.0s
KSAR **Wonju Array Be** 78.11 52 P P 10 58 16.8 -0.9
KSAR **Wonju Array Be** 78.11 52 P P 10 58 16.8 -0.9
BIRD **Birdtown, Kers** 78.11 305 IAmb IAmb 10 58 23.3
comp=Z,74nm,1.1s
KSRS **Korea Array** 78.12 52 P P 10 58 16.9 -0.8
comp=Z,31nm,0.9s,baz=310,slow=4.9,SNR=52
comp=Z,31nm,0.9s
BCAR **Beaver Creek A** 78.14 353 P P 10 58 18.4 +0.9
P48A **Milroy** 78.15 311 IAmb IAmb 10 58 19.2
comp=Z,77nm,0.9s
L27K **Beaver Creek,** 78.15 353 IAmb IAmb 10 58 19.9
comp=Z,71nm,1.2s
L27K **Beaver Creek,** 78.15 353 P P 10 58 18.7 +1.2
baz=13,SNR=66
AOPR **Arecibo Observ** 78.16 284 IAmb IAmb 10 58 20.0
comp=Z,67nm,1.0s
I40A **Norwalk** 78.16 317 IAmb IAmb 10 58 19.7
comp=Z,78nm,1.0s
CELP **Cerrillos** 78.18 284 IAmb IAmb 10 58 20.8
comp=Z,61nm,1.0s
UUPR **Utuado, UPR, P** 78.19 284 IAmb IAmb 10 58 20.3
comp=Z,51nm,0.9s
S51A **Beattyville** 78.20 309 IAmb IAmb 10 58 20.2
comp=Z,35nm,0.9s
R50A **Paris** 78.24 310 IAmb IAmb 10 58 20.3
comp=Z,70nm,1.1s
KTH **Kantishna Hill** 78.31 357 IAmb IAmb 10 58 23.3
comp=Z,51nm,1.2s
KTH IAMs_20 IAMs_20 11 32 41.1
comp=Z,834nm,21.0s
L26K **Log Cabin Wild** 78.33 353 IAMs_20 IAMs_20 11 33 15.8
comp=Z,2µm,21.0s
L26K **Log Cabin Wild** 78.33 353 P P 10 58 19.6 +1.1
baz=11,SNR=39
RND **Reindeer** 78.35 356 IAMs_20 IAMs_20 11 33 03.3
comp=Z,2µm,18.0s
KMSC **Kings Mountain** 78.36 306 IAmb IAmb 10 58 21.4
comp=Z,70nm,1.0s
M29M **Somme Creek** 78.38 351 IAmb IAmb 10 58 24.9
comp=Z,58nm,0.8s
M29M IAMs_20 IAMs_20 11 33 25.1
comp=Z,2µm,19.0s
M29M **Somme Creek** 78.38 351 P P 10 58 20.1 +1.3
baz=15,SNR=52
TRF **Thorofare Moun** 78.38 357 IAmb IAmb 10 58 20.2
comp=Z,64nm,1.2s
TRF IAMs_20 IAMs_20 11 33 01.1
comp=Z,2µm,20.0s
TRF **Thorofare Moun** 78.38 357 P P 10 58 18.7 -0.2
baz=5.9,SNR=31
SPMN **Marine on St.** 78.40 319 IAmb IAmb 10 58 20.9
comp=Z,85nm,1.2s
M44A **Midewin, Midew** 78.41 314 IAmb IAmb 10 58 20.9
comp=Z,83nm,1.1s
TJN **Taejon** 78.46 53 P P 10 58 18.5 -1.1
comp=Z,228nm,1.4s
CAST **Castle Rocks** 78.49 357 P P 10 58 19.9 +0.5
baz=4.4,SNR=58
PRSN **Puerto Rico Se** 78.53 284 IAmb IAmb 10 58 25.2
comp=Z,60nm,0.8s
J18K **Innoko River** 78.54 360 IAmb IAmb 10 58 21.9
comp=Z,86nm,1.2s
J18K IAMs_20 IAMs_20 11 32 49.0
comp=Z,2µm,19.0s
J18K **Innoko River** 78.54 360 P P 10 58 20.6 +1.0
baz=0.7,SNR=45
PAX **Paxson** 78.56 354 P P 10 58 19.9 0.0
baz=9.7,SNR=30
J17K **VABM Dome** 78.60 1 IAmb IAmb 10 58 22.0
comp=Z,83nm,1.1s
J17K IAMs_20 IAMs_20 11 36 48.7
comp=Z,705nm,18.0s
J17K **VABM Dome** 78.60 1 P P 10 58 20.6 +0.7
baz=359,SNR=25
K20K **Telida** 78.61 358 IAmb IAmb 10 58 22.1
comp=Z,70nm,1.1s
K20K IAMs_20 IAMs_20 11 37 09.9
comp=Z,694nm,18.0s
K20K **Telida** 78.61 358 P P 10 58 20.9 +0.9
baz=2.8
JFWS **Jewell Farm** 78.62 316 IAmb IAmb 10 58 21.8
comp=Z,93nm,0.9s
BVCY **Beaver Creek** 78.68 352 P P 10 58 21.7 +1.3
baz=13,SNR=68
J16K **Anvik River** 78.69 1 IAmb IAmb 10 58 22.4
comp=Z,59nm,1.1s
J16K IAMs_20 IAMs_20 11 36 14.1
comp=Z,716nm,18.0s
J16K **Anvik River** 78.69 1 P P 10 58 20.9 +0.5
baz=358,SNR=17
R49A **Shelbyville** 78.75 310 IAmb IAmb 10 58 23.1
comp=Z,103nm,1.1s
M27K **Edge Creek, AK** 78.84 353 IAmb IAmb 10 58 24.1
comp=Z,92nm,1.4s
M27K **Edge Creek, AK** 78.84 353 P P 10 58 22.7 +1.2
baz=12,SNR=32
N32M **Quiet Lake** 78.85 348 IAMs_20 IAMs_20 11 33 33.7
comp=Z,1µm,19.0s
N32M **Quiet Lake** 78.85 348 P P 10 58 22.2 +0.8
baz=19
JSC **Jenkinsville** 78.85 305 IAmb IAmb 10 58 24.2
comp=Z,60nm,1.1s
PAULI **Pauline** 78.87 306 IAmb IAmb 10 58 24.2
comp=Z,75nm,1.0s
TZTN **Tazewell** 78.87 308 IAmb IAmb 10 58 27.5
comp=Z,98nm,1.2s
M26K **Nabesna, AK** 78.91 353 IAmb IAmb 10 58 27.0
comp=Z,65nm,1.2s
M26K IAMs_20 IAMs_20 11 33 15.1
comp=Z,2µm,21.0s
M26K **Nabesna, AK** 78.91 353 P P 10 58 22.7 +0.9
baz=12,SNR=43
N31M **Braeburn, Yuko** 78.94 349 IAmb IAmb 10 58 27.2
comp=Z,76nm,1.2s
N31M IAMs_20 IAMs_20 11 37 14.1
comp=Z,842nm,20.0s
N31M **Braeburn, Yuko** 78.94 349 P P 10 58 22.2 +0.4
baz=17,SNR=21
V53A **Saluda** 78.97 307 IAmb IAmb 10 58 24.6
comp=Z,55nm,1.0s
PPLA **Purkeypile** 79.01 357 P P 10 58 22.1 -0.3
baz=4.3,SNR=30
PBSI **Pulau Batu** 79.03 99 P P 10 58 22.8 -0.3
WTLY **Watson Lake, Y** 79.06 346 IAmb IAmb 10 58 28.7
comp=Z,51nm,1.0s
WTLY **Watson Lake, Y** 79.06 346 P P 10 58 23.8 +1.3
baz=23,SNR=91
P46A **Rosedale** 79.09 312 IAmb IAmb 10 58 24.6
comp=Z,54nm,0.8s
HARP **HAARP** 79.10 354 P P 10 58 23.4 +0.7

baz=9.9,SNR=16
J14K Nanvaranak Lak 79.15 3 IAMs_20 IAMs_20 11 36 03.1
comp=Z,700nm,20.0s
J14K Nanvaranak Lak 79.15 3 P **P** **10 58 22.9 0.0**
baz=355,SNR=6.7
N30M Aishikik Lake 79.15 350 IAMs_20 IAMs_20 11 33 25.6
comp=Z,2µm,20.0s
N30M Aishikik Lake 79.15 350 P **P** **10 58 23.8 +0.7**
baz=16,SNR=19
LIRD Liard River Hi 79.15 344 P **P** **10 58 24.3 +1.3**
baz=25,SNR=24
YUK3 Moose Creek 79.26 352 P **P** **10 58 24.8 +1.0**
baz=14,SNR=57
K17K Iditarod 79.29 0 P **P** **10 58 24.5 +0.8**
baz=359,SNR=32
T50A Nancy 79.36 309 IAmb IAmb 10 58 26.8
comp=Z,76nm,0.9s
CUT Chulitna 79.42 356 IAmb IAmb 10 58 37.2
comp=Z,77nm,1.1s
CUT IAMs_20 IAMs_20 11 32 57.6
comp=Z,1µm,19.0s
CUT Chulitna 79.42 356 P **P** **10 58 23.7 -0.7**
baz=5.9,SNR=16
WCI Wyandotte Cave 79.46 311 P **P** **10 58 25.9 +0.8**
WCI Wyandotte Cave 79.46 311 P **P** **10 58 25.9 +0.8**
WCI pmax pmax
comp=Z,124nm,1.0s
YUK4 Talbot Arm 79.46 351 P **P** **10 58 25.0 0.0**
baz=15,SNR=31
M24K Tolsona, Glenn 79.47 355 IAmb IAmb 10 58 26.9
comp=Z,69nm,1.2s
M24K Tolsona, Glenn 79.47 355 P **P** **10 58 25.3 +0.5**
baz=9.1,SNR=16
BG3 Lake Jocassee 79.47 306 IAmb IAmb 10 58 27.5
comp=Z,67nm,1.1s
TOAD Toad River Com 79.47 344 P **P** **10 58 25.9 +1.1**
baz=25,SNR=65
L20K Farewell, AK 79.48 358 P **P** **10 58 25.1 +0.2**
baz=3.0,SNR=29
MNSI Mandailing Nat 79.51 97 P **P** **10 58 24.6 -1.1**
comp=Z,85nm,0.9s
HODGE Hodges 79.52 305 IAmb IAmb 10 58 30.9
comp=Z,85nm,1.4s
TKL Tuckaleechee C 79.58 307 IAmb IAmb 10 58 27.8
comp=Z,71nm,1.1s
TKL Tuckaleechee C 79.58 307 P **P** **10 58 26.2 +0.4**
comp=Z,43nm,0.9s,baz=82,slow=5.8,SNR=59
comp=Z,43nm,0.9s
WHY Whitehorse 79.60 349 P **P** **10 58 25.8 +0.2**
baz=18,SNR=16
YUK8 Steele Glacier 79.66 351 P **P** **10 58 26.7 +0.6**
baz=14,SNR=18
K15K Wolf Creek Mou 79.67 2 IAmb IAmb 10 58 30.9
comp=Z,77nm,1.4s
K15K Wolf Creek Mou 79.67 2 P **P** **10 58 26.6 +0.8**
baz=357
O30N Mendenhall 79.67 349 P **P** **10 58 26.3 +0.4**
baz=17,SNR=22
P33M Teslin, Yukon 79.69 348 IAMs_20 IAMs_20 11 33 34.1
comp=Z,2µm,19.0s
P33M Teslin, Yukon 79.69 348 P **P** **10 58 26.7 +0.6**
baz=20,SNR=42
L40A Anamosa 79.73 316 P **P** **10 58 26.9 +0.4**
L18K Granite Mounta 79.79 360 IAmb IAmb 10 58 32.5
comp=Z,76nm,1.1s
L18K IAMs_20 IAMs_20 11 33 25.1
comp=Z,884nm,19.0s
L18K Granite Mounta 79.79 360 P **P** **10 58 27.4 +1.0**
baz=0.7,SNR=45
YSS Yuzhno-Sakhali 79.79 37 P **P** **10 58 26.7 0.0**
YSS Yuzhno-Sakhali 79.79 37 P **P** **10 58 27.1 +0.4**
comp=Z,180nm,1.1s
YSS Yuzhno-Sakhali 79.79 37 *e*P **P** **10 58 26.7 0.0**
YSS *e* 10 58 34.9
YSS *e*S **S** **11 08 26.0 -3.0**
YSS pmax pmax
comp=Z,400nm,6.2s
YSS pmax pmax
comp=Z,100nm,1.1s
L19K White Mountain 79.80 359 IAmb IAmb 10 58 28.7
comp=Z,119nm,1.2s
L19K IAMs_20 IAMs_20 11 33 28.5
comp=Z,835nm,18.0s
L19K White Mountain 79.80 359 P **P** **10 58 27.5 +0.9**
baz=2.2,SNR=74
YUK6 Outpost Mounta 79.81 351 P **P** **10 58 28.0 +1.1**
baz=15,SNR=48
HYT Haines Junctio 79.82 350 P **P** **10 58 27.8 +1.0**
baz=16,SNR=43
SCM Sheep Creek Mo 79.82 355 IAmb IAmb 10 58 32.5
comp=Z,57nm,1.0s
SCM Sheep Creek Mo 79.82 355 P **P** **10 58 27.5 +0.7**
baz=8.2,SNR=29
MDND Maddock 79.84 324 IAmb IAmb 10 58 28.3
comp=Z,67nm,1.1s
MDND IAMs_20 IAMs_20 11 40 01.6
comp=Z,816nm,22.0s
N25K Chitina, Valde 79.84 354 P **P** **10 58 27.2 +0.4**
baz=10,SNR=25
L17K Donlin 79.87 0 P **P** **10 58 27.8 +0.9**
baz=359,SNR=25
DR12 Loma Pena Alta 79.89 286 IAmb IAmb 10 58 34.2
comp=Z,85nm,1.4s
M23K Glacier View 79.89 355 P **P** **10 58 27.4 +0.4**
baz=7.9,SNR=51
SKT Skwentna 79.91 357 IAmb IAmb 10 58 28.0
comp=Z,60nm,1.0s
SKT Skwentna 79.91 357 P **P** **10 58 26.6 -0.6**
baz=4.8,SNR=54
SML Sawmill 79.92 356 IAmb IAmb 10 58 41.4
comp=Z,52nm,1.0s
SML IAMs_20 IAMs_20 11 33 26.6
comp=Z,1µm,21.0s
SML Sawmill 79.92 356 P **P** **10 58 27.3 0.0**
baz=7.4,SNR=27
K13K Kusilvak Mount 79.92 3 P **P** **10 58 27.1 0.0**
baz=354,SNR=5.7
GHO Glory Hole Cre 79.98 356 IAmb IAmb 10 58 32.3
comp=Z,50nm,0.9s
PRPB Parauapebas 79.99 254 *e*P **P** **10 58 28.9 +0.6**
W52A Murphy 80.03 307 IAmb IAmb 10 58 30.4
comp=Z,73nm,1.0s
KLU Klutina 80.06 354 P **P** **10 58 28.3 +0.3**
baz=9.3,SNR=23
M20K Styx River 80.06 358 IAMs_20 IAMs_20 11 36 11.4
comp=Z,583nm,20.0s
M20K Styx River 80.06 358 P **P** **10 58 28.1 +0.1**
baz=3.6
M22K Willow 80.07 356 P **P** **10 58 28.1 +0.2**
baz=6.0,SNR=49
M19K Big River Lodg 80.07 358 IAMs_20 IAMs_20 11 33 14.6
comp=Z,1µm,20.0s
M19K Big River Lodg 80.07 358 P **P** **10 58 28.6 +0.6**
baz=2.6
R33M Jennings River 80.14 347 IAmb IAmb 10 58 34.7
comp=Z,82nm,1.1s
R33M IAMs_20 IAMs_20 11 34 03.9
comp=Z,1µm,20.0s
R33M Jennings River 80.14 347 P **P** **10 58 30.4 +1.8**
baz=21,SNR=77
PMR Palmer 80.18 356 IAmb IAmb 10 58 30.1
comp=Z,62nm,1.2s
PMR Palmer 80.18 356 P **P** **10 58 29.6 +1.1**
comp=Z,44nm,1.1s
PMR Palmer 80.18 356 P **P** **10 58 28.7 +0.2**
baz=6.7,SNR=67
CPCT Cooper Cave 80.18 308 IAmb IAmb 10 58 31.6
comp=Z,117nm,1.0s
OLIL Olney 80.20 312 IAmb IAmb 10 58 30.8
comp=Z,120nm,1.1s
O28M Mount Upton 80.21 351 P **P** **10 58 30.0 +0.9**
baz=14,SNR=15
U49A Red Boiling Sp 80.27 309 IAMs_20 IAMs_20 11 32 50.4
comp=Z,597nm,21.0s
L15K Ungalak Mounta 80.28 2 P **P** **10 58 29.6 +0.5**
baz=357
L16K Owhat River 80.29 1 IAMs_20 IAMs_20 11 36 23.3
comp=Z,646nm,20.0s
L16K Owhat River 80.29 1 P **P** **10 58 29.9 +0.7**
baz=358,SNR=12
KNK Knik Glacier 80.31 356 IAmb IAmb 10 58 31.2
comp=Z,69nm,1.2s
KNK Knik Glacier 80.31 356 P **P** **10 58 30.0 +0.6**
baz=7.3,SNR=27
P30M Million Dollar 80.42 350 P **P** **10 58 30.9 +1.0**
baz=16
P32M Atlin 80.43 348 IAMs_20 IAMs_20 11 34 08.6
comp=Z,594nm,20.0s
P32M Atlin 80.43 348 P **P** **10 58 30.1 +0.1**
baz=19,SNR=19
USIN University of 80.45 311 IAmb IAmb 10 58 32.0
comp=Z,114nm,1.1s
SISI Saibi 80.45 99 P **P** **10 58 30.2 -0.6**
comp=Z,105nm,1.1s
O29M Mount Kennedy 80.46 350 IAmb IAmb 10 58 35.1
comp=Z,49nm,1.0s
O29M Mount Kennedy 80.46 350 P **P** **10 58 30.9 +0.6**
baz=15,SNR=26
BMRM Bremner River 80.47 354 IAmb IAmb 10 58 31.9
comp=Z,75nm,1.2s
BMRM Bremner River 80.47 354 P **P** **10 58 30.7 +0.5**
baz=10,SNR=18
SDBA SAO DESIDERIO 80.48 246 *e*P **P** **10 58 31.5 +0.6**
M18K Stony River 80.51 359 P **P** **10 58 31.3 +1.0**
baz=1.4,SNR=43
L14K Kuka Creek 80.59 2 P **P** **10 58 31.1 +0.3**
baz=356,SNR=6.4
M17K Holitna River 80.61 360 IAmb IAmb 10 58 33.5
comp=Z,130nm,1.2s
M17K IAMs_20 IAMs_20 11 41 18.9
comp=Z,542nm,19.0s
M17K Holitna River 80.61 360 P **P** **10 58 32.1 +1.2**
baz=0.1,SNR=37
Q44A Meyer Farm, Va 80.62 313 IAmb IAmb 10 58 33.1
comp=Z,118nm,1.0s
MAL2 Monte Alegre, 80.69 260 IAmb IAmb 10 58 34.7
comp=Z,117nm,1.0s
RC01 Rabbit Creek A 80.71 356 IAmb IAmb 10 58 33.1
comp=Z,94nm,1.1s
RC01 Rabbit Creek A 80.71 356 P **P** **10 58 32.0 +0.5**
baz=6.2,SNR=42
SPCR Spurr Chakacha 80.71 357 P **P** **10 58 31.3 -0.2**
baz=4.3,SNR=15
GLI Glacier Island 80.75 355 IAmb IAmb 10 58 33.3
comp=Z,68nm,1.2s
GLI IAMs_20 IAMs_20 11 33 43.8
comp=Z,598nm,20.0s
GLI Glacier Island 80.75 355 P **P** **10 58 32.2 +0.5**
baz=8.3,SNR=14
Q32M Nakina River 80.78 347 IAMs_20 IAMs_20 11 38 14.8
comp=Z,831nm,19.0s
Q32M Nakina River 80.78 347 P **P** **10 58 33.2 +1.1**
baz=20,SNR=24
SKAG Skagway 80.81 349 P **P** **10 58 33.6 +1.6**
comp=Z,26nm,1.6s
SKAG Skagway 80.81 349 P **P** **10 58 32.6 +0.6**
baz=18,SNR=12
WAX Waxell Ridge 80.81 353 IAmb IAmb 10 58 38.1
comp=Z,81nm,1.4s
WAX IAMs_20 IAMs_20 11 33 37.5
comp=Z,1µm,20.0s
GOGA Godfrey 80.82 305 IAmb IAmb 10 58 38.1
comp=Z,90nm,1.2s
W50A Signal Mountai 80.83 308 IAMs_20 IAMs_20 11 40 57.4
comp=Z,765nm,19.0s
FID Port Fidalgo 80.84 354 IAmb IAmb 10 58 34.3
comp=Z,69nm,1.2s
DLBC Dease Lake 80.85 346 P **P** **10 58 33.9 +1.5**
baz=22,SNR=21
PWL Port Wells 80.86 355 IAMs_20 IAMs_20 11 33 59.6
comp=Z,629nm,18.0s
PWL Port Wells 80.86 355 P **P** **10 58 32.5 +0.2**
baz=7.4
PCA Pinnacle 80.87 351 IAmb IAmb 10 58 37.8
comp=Z,114nm,1.0s
PINM Pinnacle 80.87 351 P **P** **10 58 33.3 +0.9**
baz=14,SNR=19
CLTN Cedars of Leba 80.88 309 IAmb IAmb 10 58 34.9
comp=Z,60nm,1.2s
Y52A Lilburn 80.91 306 IAmb IAmb 10 58 35.4
comp=Z,102nm,0.9s
Y52A IAMs_20 IAMs_20 11 41 05.7
comp=Z,772nm,19.0s
SCIA State Center 80.91 317 IAmb IAmb 10 58 37.5
comp=Z,62nm,0.8s
PPI Padang Panjang 80.93 98 P **P** **10 58 33.0 -0.3**
comp=Z,67nm,1.0s
BERG Berg Lake 80.95 353 IAMs_20 IAMs_20 11 36 58.1
comp=Z,811nm,20.0s
X51A Calhoun 80.96 307 IAmb IAmb 10 58 35.0
comp=Z,57nm,1.0s
X51A IAMs_20 IAMs_20 11 41 22.9
comp=Z,802nm,18.0s
PLBC Pleasant Camp 80.97 349 P **P** **10 58 33.6 +0.8**
baz=17
EYAK Cordova Ski Ar 80.98 354 P **P** **10 58 34.5 +1.7**
comp=Z,34nm,1.2s
EYAK Cordova Ski Ar 80.98 354 P **P** **10 58 33.6 +0.8**
baz=9.4,SNR=12
M16K Timber Creek 80.98 1 IAmb IAmb 10 58 35.3
comp=Z,72nm,1.1s
M16K Timber Creek 80.98 1 P **P** **10 58 34.0 +1.1**
baz=359
MESA MESA 80.98 352 IAmb IAmb 10 58 38.4
comp=Z,55nm,1.2s
MESA IAMs_20 IAMs_20 11 35 14.0
comp=Z,686nm,18.0s
MESA MESA 80.98 352 P **P** **10 58 33.7 +0.5**
baz=12
P29M Windy Craggy 81.00 350 IAMs_20 IAMs_20 11 34 15.6
comp=Z,896nm,21.0s
P29M Windy Craggy 81.00 350 P **P** **10 58 33.9 +0.8**
baz=16,SNR=23
RAGM Ragged Mountai 81.05 354 IAmb IAmb 10 58 39.1
comp=Z,83nm,1.4s
PETK Petropavlovsk- 81.06 25 P **P** **10 58 31.6 -1.8**
PETK Petropavlovsk- 81.06 25 P **P** **10 58 32.0 -1.4**
comp=Z,22nm,1.2s,baz=330,slow=5.5,SNR=11
comp=Z,22nm,1.2s
SNH Sunshine Point 81.08 353 IAmb IAmb 10 58 36.0
comp=Z,86nm,1.3s
154A Montrose 81.10 305 IAmb IAmb 10 58 36.5
comp=Z,112nm,1.1s
154A IAMs_20 IAMs_20 11 41 24.8
comp=Z,987nm,22.0s
CAPN Captain Cook N 81.10 357 P **P** **10 58 34.9 +1.5**
baz=5.1,SNR=10
N19K Bonanza Creek 81.17 358 IAmb IAmb 10 58 36.0
comp=Z,91nm,1.4s
N19K Bonanza Creek 81.17 358 P **P** **10 58 34.6 +0.6**
baz=2.5,SNR=37
BGLC Bering Glacier 81.18 353 P **P** **10 58 35.2 +1.3**
baz=11
PNL Peninsula 81.18 351 P **P** **10 58 35.4 +1.4**
comp=Z,62nm,1.0s
PNL Peninsula 81.18 351 P **P** **10 58 34.7 +0.7**
baz=14,SNR=14
HIN Hinchinbrook I 81.19 354 IAmb IAmb 10 58 36.0
comp=Z,67nm,1.2s
HIN IAMs_20 IAMs_20 11 36 28.4
comp=Z,631nm,21.0s
M14K Bethel 81.20 2 IAmb IAmb 10 58 35.8
comp=Z,88nm,1.2s
M14K Bethel 81.20 2 P **P** **10 58 34.4 +0.4**
baz=356,SNR=11
SUCK Suckling Hills 81.28 353 IAmb IAmb 10 58 40.1
comp=Z,48nm,1.1s
E28A Huff 81.28 324 IAmb IAmb 10 58 36.5
comp=Z,82nm,0.9s
E28A IAMs_20 IAMs_20 11 35 13.8
comp=Z,757nm,20.0s
M15K Kasigluk River 81.29 2 P **P** **10 58 35.1 +0.7**
baz=358,SNR=18
O22K Cooper Landing 81.32 356 IAmb IAmb 10 58 43.5
comp=Z,45nm,0.7s
O22K IAMs_20 IAMs_20 11 33 34.6
comp=Z,626nm,22.0s
O22K Cooper Landing 81.32 356 P **P** **10 58 35.2 +0.6**
baz=6.2,SNR=11
SLKM Skilak Lake 81.32 356 IAmb IAmb 10 58 39.3
comp=Z,70nm,1.2s
N18K Kilae Creek 81.32 359 IAmb IAmb 10 58 37.2
comp=Z,59nm,1.1s
N18K Kilae Creek 81.32 359 P **P** **10 58 36.0 +1.2**
baz=1.4,SNR=27
M11K Mekoryuk 81.38 4 P **P** **10 58 36.0 +1.0**
baz=353
ECSD EROS Data Cent 81.39 320 IAmb IAmb 10 58 37.0
comp=Z,56nm,0.8s
DGMT Dagmar 81.40 327 IAMs_20 IAMs_20 11 34 45.6
comp=Z,536nm,20.0s
V48A Smith Brothers 81.41 309 IAmb IAmb 10 58 37.5
comp=Z,107nm,1.2s
V48A IAMs_20 IAMs_20 11 40 59.6
comp=Z,958nm,21.0s
FPAL Fort Paine 81.45 307 IAmb IAmb 10 58 38.1
comp=Z,63nm,1.2s
KAIM Kayak Island 81.48 353 IAmb IAmb 10 58 41.5
comp=Z,68nm,0.9s
KAIM Kayak Island 81.48 353 P **P** **10 58 36.6 +1.1**
baz=10
N17K Nushagak Hills 81.49 360 IAmb IAmb 10 58 38.1
comp=Z,57nm,1.1s
N17K IAMs_20 IAMs_20 11 33 05.0
comp=Z,2µm,20.0s
N17K Nushagak Hills 81.49 360 P **P** **10 58 36.8 +1.2**
baz=0.3,SNR=26
M13K Dall Lake 81.49 3 IAmb IAmb 10 58 37.9
comp=Z,63nm,1.1s
M13K Dall Lake 81.49 3 P **P** **10 58 36.4 +0.8**
baz=355
N16K Nishlik Lake 81.54 1 P **P** **10 58 37.1 +1.2**
baz=359,SNR=21
S34M Telegraph Cree 81.56 346 IAmb IAmb 10 58 42.5
comp=Z,44nm,1.0s
S34M IAMs_20 IAMs_20 11 34 02.4
comp=Z,994nm,20.0s
S34M Telegraph Cree 81.56 346 P **P** **10 58 37.5 +1.5**
baz=21,SNR=38
S44A Carbondale 81.57 312 IAMs_20 IAMs_20 11 40 53.5
comp=Z,768nm,18.0s
BESE Bessie Mountai 81.58 348 IAmb IAmb 10 58 41.8
comp=Z,44nm,1.0s
456A Hilliard 81.59 303 IAmb IAmb 10 58 39.0
comp=Z,109nm,1.2s
P23K Montague Islan 81.65 355 P **P** **10 58 37.0 +0.5**
baz=8.1,SNR=5.6
T45A Paducah 81.66 311 IAMs_20 IAMs_20 11 40 58.1
comp=Z,839nm,18.0s
SEW Seward 81.68 356 IAmb IAmb 10 58 41.2
comp=Z,50nm,1.1s
SEW Seward 81.68 356 P **P** **10 58 36.9 +0.4**
baz=6.5,SNR=12
WVT Waverly 81.76 310 P **P** **10 58 37.8 +0.3**
WVT IAmb IAmb 10 58 38.7
comp=Z,50nm,1.0s
WVT Waverly 81.76 310 IAMs_20 IAMs_20 11 41 03.9
comp=Z,853nm,18.0s
WVT Waverly 81.76 310 P **P** **10 58 37.8 +0.3**
WVT pmax pmax
comp=Z,50nm,1.0s
ASAJ Asahikawa 81.78 39 P **P** **10 58 36.6 -0.8**
comp=Z,20nm,0.8s,baz=289,slow=8.0,SNR=19
comp=Z,20nm,0.8s
O19K Port Alsworth 81.78 358 IAmb IAmb 10 58 38.3
comp=Z,97nm,1.4s
O19K Port Alsworth 81.78 358 P **P** **10 58 37.1 0.0**
baz=2.6,SNR=29
JIS Juneau Island 81.79 348 P **P** **10 58 38.7 +1.5**
comp=Z,34nm,1.2s
R32K Eaglecrest 81.81 348 P **P** **10 58 38.6 +1.2**
baz=18,SNR=17
N15K Kwethluk River 81.83 1 IAmb IAmb 10 58 39.6
comp=Z,70nm,1.2s
N15K IAMs_20 IAMs_20 11 36 51.0
comp=Z,674nm,19.0s
N15K Kwethluk River 81.83 1 P **P** **10 58 38.4 +1.0**
baz=358,SNR=19
O20K Slope Mountain 81.85 357 P **P** **10 58 37.5 -0.1**
baz=4.0,SNR=21
JANB Januaria 81.85 244 *e*P **P** **10 58 38.9 +0.8**
R31K City Hall, Gus 81.88 349 P **P** **10 58 38.7 +1.1**
baz=17
P40A Paris 81.92 315 IAmb IAmb 10 58 39.7
comp=Z,82nm,1.0s
N14K Kuskokwak Cree 82.04 2 P **P** **10 58 38.8 +0.4**
baz=357,SNR=5.6
FVM French Village 82.05 313 IAmb IAmb 10 58 41.0
comp=Z,98nm,1.0s
CGM3 Cape Girardeau 82.07 312 IAmb IAmb 10 58 40.8
comp=Z,94nm,1.0s
BRLK Bradley Lake 82.09 357 IAmb IAmb 10 58 40.5
comp=Z,85nm,1.1s
152A Waverly Hall 82.10 306 IAmb IAmb 10 58 41.4
comp=Z,60nm,1.0s
BRSE Bradley Lake S 82.11 356 P **P** **10 58 39.2 +0.3**
baz=5.4,SNR=22
O18K Koktuh Hills 82.14 359 P **P** **10 58 39.6 +0.5**
baz=1.9,SNR=56
TIGA Tifton 82.17 304 IAmb IAmb 10 58 45.2
comp=Z,84nm,1.0s
SJMB Sao Joao De Ma 82.21 239 *e*P **P** **10 58 41.0 +1.1**
HOM Homer 82.23 357 P **P** **10 58 39.9 +0.4**
baz=4.7,SNR=12
MYKOM Kota Tinggi 82.24 94 IAmb IAmb 10 58 40.4
comp=Z,45nm,1.0s
MYKOM Kota Tinggi 82.24 94 P **P** **10 58 39.4 -0.9**
comp=Z,50nm,1.0s
O17K Koliganek Bris 82.24 360 P **P** **10 58 40.5 +0.9**
baz=0.4,SNR=26
T35M Bob Quinn 82.25 345 IAMs_20 IAMs_20 11 36 07.0
comp=Z,634nm,18.0s
T35M Bob Quinn 82.25 345 P **P** **10 58 40.9 +1.2**
baz=21,SNR=13
P19K Oil Pt 82.30 358 P **P** **10 58 39.4 -0.5**
baz=3.5,SNR=7.4
CNPM China Poot 82.35 357 IAmb IAmb 10 58 41.8
comp=Z,85nm,1.2s
S31K Pelican 82.39 349 IAmb IAmb 10 58 46.1
comp=Z,43nm,1.1s
S31K Pelican 82.39 349 P **P** **10 58 41.0 +0.7**
baz=17
Y49A Blount Mountai 82.40 307 IAmb IAmb 10 58 46.2
comp=Z,57nm,1.0s
Y49A IAMs_20 IAMs_20 11 41 17.9
comp=Z,978nm,20.0s
O16K Kokwok River B 82.42 0 P **P** **10 58 41.1 +0.6**
baz=360,SNR=17
CCM Cathedral Cave 82.48 313 P **P** **10 58 41.6 +0.5**
CCM IAmb IAmb 10 58 43.0
comp=Z,79nm,0.9s
CCM Cathedral Cave 82.48 313 IAMs_20 IAMs_20 11 40 42.4
comp=Z,988nm,18.0s
CCM Cathedral Cave 82.48 313 P **P** **10 58 41.7 +0.5**
CCM pmax pmax
comp=Z,79nm,1.0s
S32K Killisnoo 82.59 348 P **P** **10 58 42.5 +1.1**
baz=18,SNR=5.9
P18K Big Mountain, 82.61 359 P **P** **10 58 40.8 -0.7**
baz=1.9,SNR=12
PLAL Pickwick Lake 82.68 309 IAmb IAmb 10 58 43.7
comp=Z,85nm,1.1s
O14K Tigyukauivet M 82.72 2 IAmb IAmb 10 58 43.9
comp=Z,52nm,1.2s
O14K Tigyukauivet M 82.72 2 P **P** **10 58 42.5 +0.5**
baz=357,SNR=8.0
JNU Nakatsue 82.76 53 IAmb IAmb 10 58 47.2
comp=Z,37nm,1.0s
JNU Nakatsue 82.76 53 P **P** **10 58 41.5 -1.3**
comp=Z,26nm,1.0s,baz=47,slow=1.7,SNR=5.1
comp=Z,26nm,1.0s
JNU Nakatsue 82.76 53 P **P** **10 58 44.8 +2.0**
comp=Z,45nm,1.9s
P17K Kvichak River 82.82 359 P **P** **10 58 43.1 +0.6**
baz=0.9,SNR=8.5
O15K Ungalikthiuk R 82.83 1 P **P** **10 58 43.3 +0.7**
baz=358
DWPF Disney Wildern 82.86 300 P **P** **10 58 45.8 +2.4**
PBMO Poplar Bluff 82.88 312 IAmb IAmb 10 58 48.4
comp=Z,47nm,0.9s
BOAV Boa Vista 82.91 267 IAmb IAmb 10 58 46.5
comp=Z,48nm,1.4s
T33K Petersburg 82.93 347 P **P** **10 58 44.2 +1.1**
baz=19
P16K Nushagak River 82.99 0 P **P** **10 58 44.4 +0.9**
baz=360,SNR=14
NMDO Nuevo Mundo 83.00 291 IAmb IAmb 10 58 50.2
comp=Z,95nm,1.1s
352A Blakely 83.01 305 IAmb IAmb 10 58 49.2
comp=Z,61nm,1.1s
Q19K Cape Douglas, 83.03 358 P **P** **10 58 44.2 +0.4**
baz=3.1,SNR=7.9
T42A Van Buren 83.09 312 IAMs_20 IAMs_20 11 40 32.8
comp=Z,789nm,22.0s
SIT Sitka 83.11 348 P **P** **10 58 47.2 +3.1**
comp=Z,26nm,1.0s
SIT Sitka 83.11 348 P **P** **10 58 44.3 +0.2**
baz=17
WRAK Wrangell Islan 83.19 346 P **P** **10 58 45.5 +0.9**
baz=20,SNR=9.2
U35K Hyder 83.20 345 IAMs_20 IAMs_20 11 33 36.1
comp=Z,1µm,18.0s
U35K Hyder 83.20 345 P **P** **10 58 45.3 +0.7**
baz=22

Q20K	Shuyak Island	83.31	357	P		P		10 58 45.7	+0.6
	baz=4.1,SNR=31							
Q16K	King Salmon	83.34	359	P		P		10 58 45.0	-0.2
	baz=0.8,SNR=6.6							
Q18K	Katmai Hardscr	83.35	359	P		P		10 58 44.6	-0.8
	baz=2.0,SNR=7.4							
ITTB	Itaituba	83.37	259	eP		P		10 58 46.8	+0.7
JTM	Tenmabayashi	83.41	42	P		P		10 58 46.3	+0.3
	comp=Z,135nm,1.2s							
553A	Crawfordville	83.53	303	IAmb		IAmb		10 58 49.0	
	comp=Z,65nm,1.0s							
250A	Grady	83.54	306	IAMs_20		IAMs_20		11 40 57.4	
	comp=Z,586nm,18.0s							
JEM	Erimo	83.59	40	P		P		10 58 46.9	0.0
	comp=Z,55nm,1.2s							
ERM	Erimo	83.59	40	P		P		10 58 47.4	+0.5
ERM	Erimo	83.59	40	P		P		10 58 47.5	+0.6
	comp=Z,116nm,1.2s							
ERM	Erimo	83.59	40	P		P		10 58 47.4	+0.5
U33K	Whale Pass	83.62	346	IAmb		IAmb		10 58 52.5	
	comp=Z,40nm,1.4s							
LAO	LASA Array	83.64	327	IAMs_20		IAMs_20		11 34 44.1	
	comp=Z,696nm,21.0s							
K30B	Basset	83.66	321	IAMs_20		IAMs_20		11 39 39.1	
	comp=Z,883nm,22.0s							
LCAR	Lake Charles	83.79	312	IAmb		IAmb		10 58 52.0	
	comp=Z,55nm,1.0s							
Z47A	Carrollton	83.87	308	IAMs_20		IAMs_20		11 40 56.8	
	comp=Z,906nm,22.0s							
S39A	Bolivar	83.91	314	IAMs_20		IAMs_20		11 40 32.2	
	comp=Z,1µm,19.0s							
EGMT	Eagleton	84.03	330	IAMs_20		IAMs_20		11 38 43.9	
	comp=Z,921nm,22.0s							
V35K	Ketchikan	84.08	345	IAMs_20		IAMs_20		11 33 31.1	
	comp=Z,1µm,20.0s							
V35K	Ketchikan	84.08	345	P		P		10 58 48.5	-0.6
	baz=20							
KDAK	Kodiak Island	84.14	357	P		P		10 58 50.1	+0.7
KDAK				IAmb		IAmb		10 58 51.5	
	comp=Z,81nm,1.1s							
KDAK	Kodiak Island	84.14	357	P		P		10 58 50.1	+0.7
KDAK				pmax		pmax			
	comp=Z,81nm,1.2s							
KDAK	Kodiak Island	84.14	357	P		P		10 58 49.6	+0.2
	baz=4.0							
CRAG	Craig	84.23	346	P		P		10 58 52.1	+2.2
	comp=Z,24nm,1.5s							
CRAG	Craig	84.23	346	P		P		10 58 50.0	+0.1
	baz=19							
SPIA	Saint Paul Isl	84.26	7	P		P		10 58 49.2	-0.8
	baz=350							
CHIV	Chivirico	84.41	291	IAmb		IAmb		10 58 54.3	
	comp=Z,102nm,1.1s							
R18K	Karluk	84.42	358	P		P		10 58 50.7	0.0
	baz=2.5							
R16K	Pilot Point	84.46	360	P		P		10 58 50.4	-0.6
	baz=0.0							
KSI	Kapahiang	84.63	99	P		P		10 58 51.8	-0.8
OHAK	Old Harbor	84.73	358	P		P		10 58 54.0	+1.6
	comp=Z,40nm,1.1s							
OHAK	Old Harbor	84.73	358	P		P		10 58 52.7	+0.4
	baz=3.4,SNR=19							
NPGB	Novo Progresso	84.77	257	eP		P		10 58 53.5	+0.2
MJB9	Matsu-Tunnel	84.84	47	IAmb		IAmb		10 58 54.5	
	comp=Z,39nm,1.1s							
MAJO	Matsushiro	84.85	47	P		P		10 58 52.6	-0.8
MAJO				IAmb		IAmb		10 58 53.5	
	comp=Z,38nm,1.1s							
MAJO	Matsushiro	84.85	47	P		P		10 58 53.2	-0.2
	comp=Z,37nm,1.2s							
MAJO	Matsushiro	84.85	47	P		P		10 58 52.6	-0.8
MAJO				pmax		pmax			
	comp=Z,38nm,1.1s							
MAJO				MLR		MLR			
	comp=Z,3µm,21.0s							
MJAR	Matsushiro Arr	84.85	47	P		P		10 58 52.4	-1.0
	comp=Z,34nm,1.0s,baz=315,slow=5.0,SNR=47							
	comp=Z,34nm,1.0s							
SNDB	Serra Nova Dou	84.86	250	eP		P		10 58 55.0	+1.3
146A	Union	84.86	308	IAMs_20		IAMs_20		11 35 54.0	
	comp=Z,590nm,21.0s							
BDFB	Brasilia	84.87	246	P		P		10 58 55.0	+1.2
	comp=Z,13nm,0.9s,baz=82,slow=5.8,SNR=13							
	comp=Z,13nm,0.9s							
BDFB	Brasilia	84.87	246	P		P		10 58 55.0	+1.2
MJA0	Matsu Arr-Jizo	84.87	47	eP		P		10 58 52.4	-1.2
MJA0				pmax		pmax			
	comp=Z,34nm,1.0s							
P08K	Saint George I	84.89	7	IAMs_20		IAMs_20		11 32 19.9	
	comp=Z,2µm,22.0s							
P08K	Saint George I	84.89	7	P		P		10 58 53.2	+0.1
	baz=351							
JGF	Kuroka	85.02	48	IAmb		IAmb		10 58 54.6	
	comp=Z,74nm,1.3s							
JGF	Kuroka	85.02	48	P		P		10 58 54.5	+0.2
	comp=Z,52nm,1.9s							
GRNB	Grenville Isla	85.12	344	IAmb		IAmb		10 58 59.9	
	comp=Z,42nm,1.0s							
JOW	Kunigami	85.17	60	P		P		10 58 54.1	-1.1
	comp=Z,77nm,1.0s,baz=38,slow=10,SNR=7.8							
	comp=Z,77nm,1.0s							
UALR	University of	85.38	311	IAmb		IAmb		10 58 58.1	
	comp=Z,66nm,0.9s							
U38A	Gravette	85.40	314	IAMs_20		IAMs_20		11 40 42.7	
	comp=Z,605nm,19.0s							
SII	Sitkinak Islan	85.42	358	IAmb		IAmb		10 58 58.0	
	comp=Z,83nm,1.2s							
SII	Sitkinak Islan	85.42	358	P		P		10 58 58.0	+2.1
	comp=Z,60nm,1.2s							
SII	Sitkinak Islan	85.42	358	P		P		10 58 56.1	+0.2
	baz=2.7							
PMNB	Patos De Minas	85.70	242	eP		P		10 58 58.5	+0.7
CHGN	Chignik	85.72	0	P		P		10 58 56.4	-1.0
	baz=359							
S14K	Fog Glacier	85.73	1	P		P		10 58 56.5	-1.0
	baz=358							
X40A	Basin Creek Fa	85.87	311	IAmb		IAmb		10 58 59.6	
	comp=Z,73nm,1.1s							
RLMT	Red Lodge	86.18	328	IAmb		IAmb		10 59 02.4	
	comp=Z,116nm,1.8s							
RLMT				IAMs_20		IAMs_20		11 38 49.0	
	comp=Z,994nm,22.0s							
CHIR	Chirikof Islan	86.19	359	P		P		10 59 00.8	+1.1
	comp=Z,113nm,1.2s							
CHIR	Chirikof Islan	86.19	359	P		P		10 58 59.0	-0.7
	baz=1.6							
MOBC	Moresby Island	86.20	345	IAmb		IAmb		10 59 04.9	
	comp=Z,59nm,1.2s							
VAS01	Vassouras-RJ	86.21	238	eP		P		10 59 01.3	+1.1
DIB	Dawson Inlet,	86.25	345	IAmb		IAmb		10 59 03.4	
	comp=Z,70nm,1.4s							
MDSI	Maura Dua	86.38	99	P		P		10 58 59.2	-2.1
	comp=Z,1µmcomp=Z,130nm,1.0s							
MACA	Manacapuru-AM	86.46	263	eP		P		10 59 03.4	+1.7
NEW	Newport	86.54	334	IAMs_20		IAMs_20		11 34 08.1	
	comp=Z,901nm,20.0s							
NEW	Newport	86.54	334	IAmb		IAmb		10 59 03.3	
	comp=Z,52nm,0.9s							
IPMB	Ipameri, GO	86.57	244	eP		P		10 59 03.1	+1.0
YNE	Yellowstone No	86.58	328	IAmb		IAmb		10 59 04.3	
	comp=Z,68nm,0.9s							
CBKS	Cedar Bluff	86.59	318	IAMs_20		IAMs_20		11 41 32.8	
	comp=Z,550nm,19.0s							
LWLI	Liwa	86.62	99	P		P		10 59 02.9	+0.3
	comp=Z,168nm,1.0s							
MSO	Missoula	86.62	332	IAMs_20		IAMs_20		11 39 06.4	
	comp=Z,685nm,18.0s							
SDPT	Sand Point	86.65	2	P		P		10 59 02.3	+0.4
	comp=Z,92nm,0.6s							
SDPT	Sand Point	86.65	2	P		P		10 59 01.3	-0.6
	baz=358							
BOZ	Bozeman (W)	86.75	330	IAmb		IAmb		10 59 05.0	
	comp=Z,38nm,1.2s							
BOZ				IAMs_20		IAMs_20		11 38 49.1	
	comp=Z,879nm,21.0s							
SDV	Santo Domingo	86.87	279	IAMs_20		IAMs_20		11 43 09.0	
	comp=Z,1µm,21.0s							
K22A	Casper	86.96	325	IAmb		IAmb		10 59 04.7	
	comp=Z,40nm,0.9s							
K22A				IAMs_20		IAMs_20		11 38 28.9	
	comp=Z,772nm,20.0s							
MAN01	Angra dos Reis	86.96	238	eP		P		10 59 05.2	+1.2
FALS	False Pass	87.04	3	P		P		10 59 03.2	-0.6
	baz=355							
OK052	Battle Ridge R	87.08	315	IAMs_20		IAMs_20		11 35 19.1	
	comp=Z,545nm,22.0s							
LKWY	Lake	87.10	328	IAmb		IAmb		11 01 07.2	
	comp=Z,20nm,0.7s							
OK031	S. Brethren Rd	87.13	315	IAMs_20		IAMs_20		11 41 40.4	
	comp=Z,932nm,20.0s							
CHNA	Chernabura Isl	87.19	1	P		P		10 59 04.3	-0.2
	baz=358							
YMR	Madison River	87.25	329	IAmb		IAmb		10 59 07.9	
	comp=Z,26nm,0.9s							
OK032	Salt Plains WL	87.26	316	IAMs_20		IAMs_20		11 35 28.8	
	comp=Z,598nm,22.0s							
KASI	Kota Agung	87.27	99	P		P		10 59 04.1	-1.5
	comp=Z,545nmcomp=Z,77nm,0.9s							
DLMT	Dillon	87.33	330	IAmb		IAmb		10 59 07.8	
	comp=Z,34nm,1.1s							
DLMT				IAMs_20		IAMs_20		11 41 21.3	
	comp=Z,688nm,18.0s							
SOR	Soroa	87.36	297	IAmb		IAmb		10 59 08.1	
	comp=Z,35nm,1.0s							
KSM	Kuching	87.51	90	P		P		10 59 07.3	+0.5
	comp=Z,54nm,1.3s							
CLDB	Colider	87.52	254	eP		P		10 59 07.8	+1.0
BRIGG	Briggsdale	87.55	322	IAmb		IAmb		10 59 09.5	
	comp=Z,29nm,0.9s							
OK029	Liberty Lake	87.58	315	IAmb		IAmb		10 59 09.2	
	comp=Z,68nm,1.1s							
OK029				IAMs_20		IAMs_20		11 39 59.4	
	comp=Z,881nm,22.0s							
ARAG	Araguaiana, MT	87.66	248	eP		P		10 59 08.7	+1.3
UNV	Unalaska Valle	87.87	5	P		P		10 59 07.7	-0.2
	baz=353							
KSCO	Kaye Shedlock'	87.92	320	IAmb		IAmb		10 59 10.5	
	comp=Z,43nm,1.0s							
LOHW	Long Hollow	87.96	328	IAMs_20		IAMs_20		11 40 05.2	
	comp=Z,633nm,21.0s							
TPI	Tanjungpandan	88.02	95	P		P		10 59 08.4	-0.9
	comp=Z,1µmcomp=Z,122nm,1.1s							
SNOW	Snow King Moun	88.15	328	IAMs_20		IAMs_20		11 38 52.2	
	comp=Z,912nm,20.0s							
PDAR	Pinedale Array	88.21	327	P		P		10 59 09.6	-0.5
	comp=Z,9.1nm,0.8s,baz=63,slow=4.4,SNR=93							
PDAR				PP		PP		11 02 35.8	-0.5
	comp=Z,5.7nm,1.1s,baz=62,slow=6.9,SNR=4.4							
PDAR				PKKPbc		PKKPbc		11 16 52.5	-0.6
	comp=Z,0.3nm,0.7s,baz=256,slow=4.1,SNR=2.7							
	comp=Z,9.1nm,0.8s							
TPAW	Teton Pass	88.21	328	IAmb		IAmb		10 59 11.0	
	comp=Z,21nm,0.8s							
TPAW				IAMs_20		IAMs_20		11 38 40.8	
	comp=Z,859nm,22.0s							
SMRC	Santa Marta, M	88.24	283	IAmb		IAmb		10 59 16.2	
	comp=Z,36nm,1.0s							
E09A	Wood Farm, Sta	88.40	334	IAmb		IAmb		10 59 12.1	
	comp=Z,80nm,1.8s							
SBUM	Sibu	88.41	88	P		P		10 59 10.2	-0.9
SBUM				IAmb		IAmb		10 59 12.8	
	comp=Z,64nm,1.7s							
SBUM				IAMs_20		IAMs_20		11 40 08.2	
	comp=Z,1µm,20.0s							
SBUM	Sibu	88.41	88	P		P		10 59 11.4	+0.3
	comp=Z,22nm,1.3s							
NIKH	Nikolski High	88.55	7	P		P		10 59 10.6	-0.5
	baz=351							
WAH2	Wahluke Slope	88.68	335	IAmb		IAmb		10 59 13.8	
	comp=Z,36nm,1.2s							
PDRB	Porto dos Gac	88.70	254	eP		P		10 59 13.6	+1.2
ISCO	Idaho Springs	88.78	323	IAmb		IAmb		10 59 14.4	
	comp=Z,81nm,1.8s							
BB19B	Bebedouro	88.85	242	eP		P		10 59 14.2	+1.3
PLID	Pearl Lake	88.86	332	IAMs_20		IAMs_20		11 34 14.6	
	comp=Z,643nm,20.0s							
AHID	Auburn Hatcher	88.86	328	IAMs_20		IAMs_20		11 38 40.1	
	comp=Z,969nm,21.0s							
CGJI	Cibinong	88.88	99	P		P		10 59 12.7	-0.6
	comp=Z,2µmcomp=Z,182nm,0.9s							
HAWA	Hanford	88.98	335	IAmb		IAmb		10 59 15.2	
	comp=Z,31nm,0.8s							
HAWA				IAMs_20		IAMs_20		11 37 53.6	
	comp=Z,584nm,20.0s							
WMOK	Wichita Mounta	89.09	315	IAmb		IAmb		10 59 16.3	
	comp=Z,54nm,0.9s							
Q24A	Divide	89.21	322	IAmb		IAmb		10 59 16.4	
	comp=Z,38nm,1.5s							
ITRB	Iturama	89.23	244	eP		P		10 59 16.2	+1.4
BMO	Blue Mountains	89.54	333	IAMs_20		IAMs_20		11 47 15.6	
	comp=Z,741nm,21.0s							
HLID	Hailey	89.55	330	IAMs_20		IAMs_20		11 38 22.0	
	comp=Z,849nm,22.0s							
SMWD	Samnorwood	89.62	316	IAmb		IAmb		10 59 18.7	
	comp=Z,51nm,1.0s							
WTFS	Witchita Falls	89.63	314	IAmb		IAmb		10 59 18.9	
	comp=Z,43nm,1.0s							
FW06	Azle	89.70	313	IAmb		IAmb		10 59 22.5	
	comp=Z,80nm,1.4s							
O20A	White River Ci	89.74	324	IAmb		IAmb		10 59 18.3	
	comp=Z,44nm,1.0s							
TEFE	Tefe	89.77	265	eP		P		10 59 17.6	+0.1
SKJI	Sukabumi	89.79	99	P		P		10 59 16.5	-1.1
HWUT	Hardware Ranch	90.01	327	IAmb		IAmb		10 59 19.6	
	comp=Z,41nm,0.8s							
FW07	Weatherford	90.03	313	IAmb		IAmb		10 59 24.1	
	comp=Z,42nm,1.0s							
FW13	Cleburne	90.08	313	IAmb		IAmb		10 59 21.8	
	comp=Z,36nm,1.1s							
MFID	Camas Ranch	90.22	331	IAMs_20		IAMs_20		11 46 48.7	
	comp=Z,846nm,22.0s							
T25A	Trinidad	90.26	320	IAMs_20		IAMs_20		11 39 45.7	
	comp=Z,593nm,20.0s							
SDCO	Great Sand Dun	90.33	321	IAMs_20		IAMs_20		11 34 50.5	
	comp=Z,603nm,19.0s							
TCUT	Toone Canyon	90.35	327	IAmb		IAmb		10 59 24.4	
	comp=Z,22nm,0.8s							
WHTX	Lake Whitney,	90.36	312	IAmb		IAmb		10 59 22.3	
	comp=Z,68nm,1.2s							
C2SB	Chapadao do Su	90.39	246	eP		P		10 59 21.4	+1.2
CNJI	Cibinong	90.42	99	P		P		10 59 19.4	-1.1
	comp=Z,54nm,1.1s							
LEM	Lembang	90.51	98	P		P		10 59 20.6	-0.5
	comp=Z,56nm,1.1s							
BSUT	Blindstream Ca	90.55	326	IAmb		IAmb		10 59 31.1	
	comp=Z,37nm,1.2s							
RUSC	La Rusia	90.62	278	IAmb		IAmb		10 59 27.8	
	comp=Z,34nm,1.4s							
SALV	Santo Antonio	90.64	250	eP		P		10 59 22.6	+1.2
HKT	Hockley	90.88	310	P		P		10 59 23.2	+0.8
HKT				IAmb		IAmb		10 59 25.3	
	comp=Z,60nm,1.1s							
HKT	Hockley	90.88	310	P		P		10 59 23.2	+0.8
HKT				pmax		pmax			
	comp=Z,60nm,1.1s							
APMT	Aspermont	90.89	315	IAmb		IAmb		10 59 24.4	
	comp=Z,49nm,1.0s							
BBJI	Bungbulang	90.92	99	P		P		10 59 21.8	-1.1
	comp=Z,55nm,1.1s							
G04A	Mulino	91.00	336	IAmb		IAmb		10 59 27.2	
	comp=Z,28nm,1.1s							
P18A	Preston Nutter	91.06	325	IAmb		IAmb		10 59 29.3	
	comp=Z,27nm,1.0s							
FRTB	Fartura	91.07	241	eP		P		10 59 24.7	+1.4
BGU	Big Grassy Mou	91.19	328	IAmb		IAmb		10 59 25.6	
	comp=Z,31nm,1.1s							
G03D	McMinnville, O	91.24	336	IAmb		IAmb		10 59 30.2	
	comp=Z,57nm,1.2s							
PV15	Paradox Valley	91.29	323	IAmb		IAmb		10 59 25.8	
	comp=Z,53nm,1.0s							
SN07	Snyder 07	91.49	315	IAmb		IAmb		10 59 26.9	
	comp=Z,32nm,0.9s							
PV13	Radium Mtn., P	91.59	324	IAmb		IAmb		10 59 27.4	
	comp=Z,38nm,1.0s							
SRU	San Rafael Swe	91.60	325	IAmb		IAmb		10 59 26.7	
	comp=Z,29nm,0.9s							
SN05	Snyder 5	91.64	315	IAmb		IAmb		10 59 27.9	
	comp=Z,46nm,0.9s							
MYLDM	Lahad Datu	91.65	82	IAmb		IAmb		10 59 28.1	
	comp=Z,34nm,1.1s							
MYLDM	Lahad Datu	91.65	82	P		P		10 59 26.3	0.0
	comp=Z,27nm,1.1s							
H04D	Lebanon	91.69	336	IAmb		IAmb		10 59 36.5	
	comp=Z,60nm,1.6s							
DUG	Dugway, Tooele	91.71	327	IAmb		IAmb		10 59 27.8	
	comp=Z,22nm,0.9s							
DUG				IAMs_20		IAMs_20		11 42 15.5	
	comp=Z,690nm,18.0s							
POST	Post	91.84	316	IAmb		IAmb		10 59 28.5	
	comp=Z,26nm,1.0s							
MSTX	Muleshoe	91.85	317	IAmb		IAmb		10 59 32.2	
	comp=Z,29nm,1.2s							
MSTX				IAMs_20		IAMs_20		11 48 36.1	
	comp=Z,708nm,18.0s							
Q16A	Castle Valley	92.05	326	IAmb		IAmb		10 59 29.2	
	comp=Z,26nm,1.2s							
BUCK	Buck Mountain	92.06	336	IAmb		IAmb		10 59 32.2	
	comp=Z,78nm,1.6s							
RPRD	Ribas do Rio P	92.11	246	eP		P		10 59 29.5	+1.3
WVOR	Wild Horse Val	92.12	332	IAMs_20		IAMs_20		11 37 56.8	
	comp=Z,1µm,21.0s							
VILB	Vilhena	92.17	255	IAmb		IAmb		10 59 31.0	
	comp=Z,30nm,0.9s							
VILB	Vilhena	92.17	255	eP		P		10 59 29.9	+1.3
LDASE	Londrina, Braz	92.18	242	eP		P		10 59 29.5	+1.0
MVCO	Mesa Verde	92.20	323	IAmb		IAmb		10 59 30.3	
	comp=Z,24nm,1.1s							
MVCO				IAMs_20		IAMs_20		11 48 14.2	
	comp=Z,1µm,21.0s							
ROSC	El Rosal	92.23	278	IAmb		IAmb		10 59 31.4	
	comp=Z,47nm,1.3s							
ROSC	El Rosal	92.23	278	P		P		10 59 30.3	+0.9
	comp=Z,10.0nm,0.4s,baz=62,slow=3.0,SNR=9.1							
	comp=Z,10.0nm,0.4s							
ELK	Elko	92.25	329	IAMs_20		IAMs_20		11 47 52.7	
	comp=Z,1µm,22.0s							
SGCY	Sterling City	92.50	315	IAmb		IAmb		10 59 32.0	
	comp=Z,26nm,0.9s							
I03D	Drain, OR	92.62	336	IAmb		IAmb		10 59 34.8	
	comp=Z,68nm,1.7s							
J04A	Umpqua Nationa	92.63	335	IAmb		IAmb		10 59 31.7	
	comp=Z,22nm,1.2s							
TEIG	Tepich	92.73	298	P		P		10 59 33.1	+2.0
JCT	Junction City	92.83	313	IAmb		IAmb		10 59 37.0	
	comp=Z,30nm,1.1s							
TCRU	Three Creeks R	92.87	326	IAmb		IAmb		10 59 33.8	
	comp=Z,33nm,1.2s							
PTLB	Pontes e Lacer	92.92	253	IAmb		IAmb		10 59 37.5	
	comp=Z,20nm,1.1s							
PTLB	Pontes e Lacer	92.92	253	eP		P		10 59 33.1	+1.2
ANMO	Albuquerque	93.00	320	P		P		10 59 32.3	-0.2
ANMO	Albuquerque	93.00	320	IAMs_20		IAMs_20		11 48 31.5	
	comp=Z,1µm,21.0s							
ANMO	Albuquerque	93.00	320	IAMs_20		IAMs_20		11 48 31.5	
	comp=Z,1µm,21.0s							
ANMO	Albuquerque	93.00	320	IAMs_20		IAMs_20		11 48 31.5	
	comp=Z,1µm,21.0s							
ANMO	Albuquerque	93.00	320	P		P		10 59 32.3	-0.2
ANMO				pmax		pmax			
	comp=Z,5.0nm,0.9s							
DBO	Dodson Butte	93.11	336	IAmb		IAmb		11 00 34.6	
	comp=Z,40nm,1.8s							
ODSA	Odessa	93.14	316	IAmb		IAmb		10 59 34.5	
	comp=Z,29nm,1.0s							
MTPU	Mount Pierson	93.22	326	IAmb		IAmb		10 59 39.0	
	comp=Z,30nm,1.3s							
HNDO	Hondo	93.23	312	IAmb		IAmb		10 59 35.7	
	comp=Z,25nm,1.0s							
SPR3	Spring Creek 3	93.35	328	IAmb		IAmb		10 59 36.8	
	comp=Z,36nm,1.4s							
L04D	Klamath Falls	93.60	334	IAmb		IAmb		10 59 36.3	
	comp=Z,31nm,1.2s							
PTGB	Pitanga	93.69	241	eP		P		10 59 36.5	+1.0
PKCU	Pink Cliffs	93.77	325	IAmb		IAmb		10 59 40.8	
	comp=Z,21nm,0.9s							
MNHN	Monahans	93.85	315	IAmb		IAmb		10 59 37.9	
	comp=Z,28nm,1.1s							
Y22D	IRIS PASSCAL I	93.93	320	P		P		10 59 35.6	-1.1
	baz=37							
L02F	Cave Junction	94.11	335	IAmb		IAmb		10 59 38.9	
	comp=Z,37nm,1.6s							
TER01	Tubaro-SC	94.21	237	eP		P		10 59 39.0	+1.3
TBTG	Tabatinga, AM	94.32	268	eP		P		10 59 39.0	+0.4
PECS	Pecos	94.43	316	IAmb		IAmb		10 59 41.1	
	comp=Z,38nm,1.1s							
SAND	Sanderson	94.54	314	IAmb		IAmb		10 59 41.6	
	comp=Z,27nm,0.9s							
HATC	Hat Creek Radi	94.55	333	IAmb		IAmb		11 01 26.0	
	comp=Z,32nm,1.4s							
AMBA	Amambai (Brazi	94.59	244	eP		P		10 59 40.5	+0.9
SIV	San Ignacio	94.71	253	PKKPbc		PKKPbc		11 16 36.8	+0.4
	comp=Z,0.9nm,0.6s,baz=188,slow=4.6,SNR=5.1							
WUAZ	Wupatki	94.93	324	IAmb		IAmb		10 59 43.2	
	comp=Z,25nm,1.1s							
WUAZ				IAMs_20		IAMs_20		11 48 29.1	
	comp=Z,1µm,21.0s							
ALPN	Alpine	95.07	315	IAmb		IAmb		10 59 43.9	
	comp=Z,32nm,1.0s							
FLOC	Florencia	95.29	276	IAmb		IAmb		10 59 47.6	
	comp=Z,50nm,1.6s							
ITAB	Concordia	95.37	239	eP		P		10 59 44.8	+1.8
NVAR	Mina Array Bea	95.46	330	P		P		10 59 43.1	-0.6
NVAR	Mina Array Bea	95.46	330	P		P		10 59 44.0	+0.2
	comp=Z,2.4nm,0.9s,baz=55,slow=4.5,SNR=16							
NVAR				PKKPbc		PKKPbc		11 16 34.2	-0.5
	comp=Z,1.9nm,0.8s,baz=199,slow=5.3,SNR=13							
	comp=Z,2.4nm,0.9s							
EPT	El Paso	95.53	318	IAMs_20		IAMs_20		11 39 10.5	
	comp=Z,993nm,22.0s							
TX31	Lajitas Ar. Si	95.88	315	IAmb		IAmb		10 59 47.7	
	comp=Z,27nm,1.1s							
TXAR	Lajitas Array	95.88	315	P		P		10 59 46.1	+0.4
TXAR	Lajitas Array	95.88	315	P		P		10 59 46.5	+0.8
	comp=

COEN	Coen	122.65	82	PKPdf	PKiKP	11 05 15.2	+0.1
COEN	Coen	122.65	82	P	PKiKP	11 05 15.1	+0.1
COEN	Coen	122.65	82	P	PKPdf	11 05 14.9	+0.1
COEN	Coen	122.65	82	P	PKiKP	11 05 16.0	+1.0
QIS	Mount Isa	123.60	91	P	PKPdf	11 05 16.4	-0.1
QIS	Mount Isa	123.60	91	P	PKPdf	11 05 16.1	-0.4
CASY	Casey	123.71	151	PKPdf	PKiKP	11 05 16.2	+0.7
OOD	Oodnadatta	124.25	100	P	PKPdf	11 05 17.0	-0.5
OOD	Oodnadatta	124.25	100	P	PKPdf	11 05 17.5	0.0
MTSU	Mount Surprise	125.96	85	P	PKiKP	11 05 21.7	+0.2
MTSU	Mount Surprise	125.96	85	P	PKiKP	11 05 21.8	+0.3
MTSU	Mount Surprise	125.96	85	P	PKiKP	11 05 21.9	+0.4
INKA	Innaminka	128.15	98	P	PKiKP	11 05 25.5	-0.1
INKA	Innaminka	128.15	98	P	PKiKP	11 05 26.1	+0.5
QSPA	South Pole Qui	128.19	180	PKPdf	PKPdf	11 05 23.8	-0.1
QSPA	South Pole Qui	128.19	180	PKP	PKPdf	11 05 23.2	-0.7
	comp=Z,10nm,0.8s,baz=264,slow=1.2,SNR=55						
QLP	Quilpie	130.33	94	P	PKiKP	11 05 30.1	0.0
QLP	Quilpie	130.33	94	P	PKiKP	11 05 30.0	0.0
STKA	Stephens Creek	130.67	102	PKPdf	PKPdf	11 05 30.1	+0.4
STKA	Stephens Creek	130.67	102	P	PKPdf	11 05 29.1	-0.6
STKA	Stephens Creek	130.67	102	PKP	PKPdf	11 05 29.1	-0.6
	comp=Z,10nm,0.8s,baz=4.3,slow=1.1,SNR=13						
STKA				SKPbc	SKPbc	11 08 51.0	-2.0
	comp=Z,8.8nm,0.7s,baz=307,slow=4.6,SNR=10						
STKA	Stephens Creek	130.67	102	P	PKiKP	11 05 30.4	-0.1
STKA	Stephens Creek	130.67	102	PKIKP	PKPdf	11 05 30.1	+0.4
VNDA	Vanda	137.14	168	PKP	PKiKP	11 05 42.6	+0.3
	comp=Z,5.7nm,1.1s,baz=277,slow=5.1,SNR=6.7						
VNDA				SKPbc	SKPbc	11 09 12.0	-1.0
	comp=Z,2.0nm,0.9s,baz=250,slow=3.6,SNR=3.6						
SBA	Scott Base	137.66	169	PKPdf	PKiKP	11 05 44.7	+1.3
SBA	Scott Base	137.66	169	PKIKP	PKiKP	11 05 44.7	+1.3
DZM	Mont Dzumac	145.26	73	PKPbc	PKPdf	11 05 57.3	+0.6
	comp=Z,119nm,0.9s,baz=250,slow=2.7,SNR=60						
DZM	Mont Dzumac	145.26	73	P	PKPdf	11 05 57.4	+0.6
DZM	Mont Dzumac	145.26	73	P	PKPdf	11 05 57.7	+0.9
ONTNC	Ouen Toro	145.41	73	P	PKPab	11 05 57.7	+0.7
ONTNC	Ouen Toro	145.41	73	P	PKPab	11 05 58.0	+1.0
YATNC	Mamie plateau,	145.59	72	P	PKPab	11 05 58.8	+1.1
YATNC	Mamie plateau,	145.59	72	P	PKPab	11 05 59.3	+1.6
OUENC	Ouen Island, N	145.77	73	P	PKPab	11 05 58.8	+0.5
OUENC	Ouen Island, N	145.77	73	P	PKPab	11 05 59.9	+1.6
INH	Isangel	145.80	66	P	PKiKP	11 06 02.6	+0.9
INH	Isangel	145.80	66	P	PKPbc	11 05 58.3	+0.2
TAOE	Nuku Hiva Isla	146.67	327	P	PKiKP	11 06 05.7	+1.9
DGTI	Dogotuki	150.41	48	P	PKiKP	11 06 11.6	+0.3
DGTI	Dogotuki	150.41	48	P	PKiKP	11 06 11.7	+0.4
MSVF	Nonsavu	150.48	53		PKiKP	11 06 11.9	+0.4
MSVF	Nonsavu	150.48	53	PKPbc	PKiKP	11 06 11.6	+0.1
	comp=Z,56nm,0.8s,baz=237,slow=4.0,SNR=41						
MSVF	Nonsavu	150.48	53	P	PKiKP	11 06 11.6	+0.1
RPZ	Rata Peaks	155.89	113	PKPab	PKPab	11 06 40.3	+0.8
THZ	Tophouse	157.27	108		PKPab	11 06 44.9	-0.7
URZ	Urewera	160.22	98	PKPab	PKPab	11 06 56.4	-1.9
	comp=Z,22nm,0.8s,baz=288,slow=3.2,SNR=7.2						

NIED ***30*** *10:59:17.8, 41.°48N×142.°03E, h63km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.71; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-0.60; $M_{r\theta}$0.27; $M_{\phi\theta}$-0.19; $M_{r\phi}$0.75; Fault plane solution: $M_0$1.06000×10^{15} NP1: ϕ_s198.00000°, δ20.00000°, λ89.00000°. NP2:ϕ_s20.00000°, δ70.00000°, λ90.00000°.*
JMA ***30*** *10:59:17.8±0.1, 41.°5N±0.°4×142.°0E±0.°7, h63km±1km, MD3.9/39, MV3.9/39, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
IDC ***30*** *10:59:18.9±1.4, 41.°48N×142.°07E, h69km±11km, mb3.8/25, mbtmp4.1/34, MS2.6/2, Error ellipse: s-maj=14.9km s-min=9.3km az=115.0*
ISC 30 10:59:18.3±0.8, 41.°46N±0.°04×142.°06E±0.°05, h64km±7km, n72, σ1°25/71, mb4.0/25, 19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	Aomorihigashid	0.57	251	⇓P	Pn	10 59 31.1	-0.2
JAHD				⇓S	Sn	10 59 40.7	-0.2
JAHD	Aomorihigashid	0.57	251	A	A	10 59 31.1	
	comp=N,41nm,1.3s,comp=E,40nm,0.5s						
JARK	Aomorirokkasho	0.69	229	⇓P	Pn	10 59 32.0	-0.6
JARK				⇓S	Sn	10 59 42.2	-0.9
JARK	Aomorirokkasho	0.69	229	A	A	10 59 32.0	
	comp=N,6.0nm,1.0s,comp=E,8.0nm,0.4s						
JOT	Ohata	0.76	265	⇓P	Pn	10 59 32.7	-0.7
JOT				⇓S	Sn	10 59 43.9	-0.8
JOT	Ohata	0.76	265	A	A	10 59 32.7	
	comp=N,7.0nm,0.7s,comp=E,4.0nm,0.6s						
JKB	Kayabe	0.88	300	⇓P	Pn	10 59 33.8	-1.1
JNBK	Urakawa-nobuka	0.97	32	P	Pn	10 59 34.9	-1.2
JNBK	Urakawa-nobuka	0.97	32	A	A	10 59 34.9	
	comp=N,5.0nm,1.3s,comp=E,5.0nm,1.4s						
JEM	Erimo	1.00	56	P	Pn	10 59 36.2	-0.2
JTM	Tenmabayashi	1.00	228	⇓P	Pn	10 59 36.4	-0.1
JTM				⇓S	Sn	10 59 49.7	-0.3
JTM	Tenmabayashi	1.00	228	A	A	10 59 36.4	
	comp=N,4.0nm,2.5s,comp=E,3.0nm,0.9s						
JANG	Nango	1.16	201	P	Pn	10 59 38.2	-0.3
JANG				eS	Sn	10 59 53.0	-0.6
JIAM	Iburiatsuma	1.17	355	⇓P	Pn	10 59 38.9	+0.2
JIAM	Iburiatsuma	1.17	355	A	A	10 59 38.9	
	comp=N,9.0nm,0.5s,comp=E,8.0nm,1.4s						
JSR	Shiriuchi	1.23	274	P	Pn	10 59 39.0	-0.5
JSR				S	Sn	10 59 55.0	-0.3
JNB	Noboribetsu	1.26	323	⇓P	Pn	10 59 38.6	-1.3
JNB				⇓S	Sn	10 59 54.1	-2.0
JKEN	Kujiedanarisaw	1.28	192	A	A	10 59 40.2	
	comp=N,9.0nm,0.6s,comp=E,7.0nm,0.7s						
JSI2	Shiura 2	1.30	253	A	A	10 59 40.1	
	comp=N,8.0nm,0.9s,comp=E,4.0nm,0.7s						
JBT2	Biratori 2	1.34	10	⇓P	Pn	10 59 40.8	-0.1
JBT2				⇓S	Sn	10 59 58.6	+0.7
JYM2	Yakumo 2	1.42	298	⇓P	Pn	10 59 41.7	-0.3
JEW	Eniwo	1.45	342	⇓P	Pn	10 59 42.1	-0.3
JEW	Eniwo	1.45	342	A	A	10 59 42.1	
	comp=N,5.0nm,4.0s,comp=E,4.0nm,4.9s						
JCH	Churui	1.51	40	⇓P	Pn	10 59 43.7	+0.5
JCH				⇓S	Sn	11 00 03.9	+1.9
JOMM	Oshimamatsumae	1.54	273	⇓P	Pn	10 59 43.0	-0.6
JAH	Hinai	1.66	221	P	Pn	10 59 45.7	+0.4
JAH				S	Sn	11 00 07.2	+1.6
ASAJ	Asahikawa	2.69	8	P	Pn	10 59 59.9	+0.7
	comp=E,53nm,0.4s,baz=211,slow=11,SNR=124						
ASAJ				S	Sn	11 00 31.4	+0.9
	comp=E,102nm,0.6s,baz=183,slow=32,SNR=9.3						
ASAJ				LR	LR	11 01 23.0	
	comp=E,152nm,19.9s,baz=236,slow=46						
MJAR	Matsushiro Arr	5.75	213	P	Pn	11 00 43.8	+2.7
	comp=E,3.5nm,0.6s,baz=23,slow=15,SNR=11						
MJAR				LR	LR	11 03 37.2	
	comp=E,33nm,18.6s,baz=45,slow=45						
USRK	Ussuriysk Ar.	7.89	294	P	Pn	11 01 11.0	+0.7
	comp=E,6.9nm,0.6s,baz=98,slow=13,SNR=8.9						
JHJ	Hachijo jima 2	8.52	193	P	Pn	11 01 17.8	-1.1
	comp=E,80nm,1.0s,baz=29,slow=19,SNR=1.4						
JHJ				S	Sn	11 02 49.3	-4.2
	comp=E,42nm,0.6s,baz=19,slow=22,SNR=1.3						
KLR	Kul'dur	10.62	320	P	Pn	11 01 48.4	+0.8
	comp=E,4.2nm,1.0s,baz=144,slow=13,SNR=4.7						
KSRS	Korea Array	11.63	255	P	Pn	11 02 03.5	+2.1
	comp=E,4.4nm,0.5s,baz=63,slow=14,SNR=14						
KSRS				S	Sn	11 04 15.8	+6.3
	comp=E,3.8nm,0.6s,baz=68,slow=24,SNR=8.0						
JNU	Nakatsue	12.18	230	P	Pn	11 02 09.8	+0.9
	comp=E,11nm,1.0s,baz=135,slow=1.4,SNR=1.1						
PETK	Petropavlovsk-	15.72	37	P	Pn	11 02 54.5	-1.2
	comp=E,1.9nm,0.7s,baz=202,slow=14,SNR=1.2						
MA2	Magadan	18.94	14	P	P	11 03 33.0	-0.8
	comp=E,1.5nm,0.7s,baz=176,slow=18,SNR=1.8						
SONM	Songino Array	25.39	296	P	P	11 04 45.3	+0.2
	comp=E,2.5nm,0.6s,baz=91,slow=8.5,SNR=11						
	comp=E,2.5nm,0.6s						
H11N2	WAKE ISLAND Hy 30.24	128		T	T	11 37 54.0	
	baz=321,slow=75,SNR=66						
H11N1	WAKE ISLAND Hy 30.25	128		T	T	11 37 54.8	
	baz=321,slow=75,SNR=59						
H11N3	WAKE ISLAND Hy 30.26	128		T	T	11 37 55.5	
	baz=321,slow=75,SNR=72						
H11S1	WAKE ISLAND Hy 31.09	130		T	T	11 38 53.3	
	baz=323,slow=76,SNR=55						
H11S3	WAKE ISLAND Hy 31.09	130		T	T	11 38 57.8	
	baz=323,slow=76,SNR=37						
H11S2	WAKE ISLAND Hy 31.10	130		T	T	11 38 54.7	
	baz=323,slow=76,SNR=47						

ZALV	Zalesovo Beam	39.43	308	P	P	11 06 41.6	-0.1
	comp=E,6.4nm,0.7s,baz=90,slow=8.3,SNR=17						
ZALV				PcP	PcP	11 08 49.0	+0.4
	comp=E,1.3nm,0.3s,baz=90,slow=4.3,SNR=7.1						
	comp=E,6.4nm,0.7s						
NRIK	Noril'sk	39.51	333	P	P	11 06 40.8	-1.4
	comp=E,1.8nm,0.5s,baz=63,slow=3.4,SNR=3.9						
	comp=E,1.8nm,0.5s						
MKAR	Makanchi Array	42.33	298	P	P	11 07 05.2	-0.6
	comp=E,2.4nm,0.6s,baz=83,slow=12,SNR=21						
MKAR				PcP	PcP	11 08 58.4	+0.2
	comp=E,0.5nm,0.6s,baz=71,slow=3.4,SNR=3.3						
	comp=E,2.4nm,0.6s						
CMAR	Chiang Mai Arr	43.25	251	P	P	11 07 13.2	-0.3
	comp=E,0.6nm,0.3s,baz=43,slow=8.5,SNR=4.6						
	comp=E,0.6nm,0.3s						
KURBB	Kurchatov Arra	43.79	305	P	P	11 07 17.1	-0.4
	comp=E,7.0nm,0.5s,baz=78,slow=8.9,SNR=51						
KURBB				PcP	PcP	11 09 02.7	-0.2
	comp=E,0.6nm,0.6s,baz=83,slow=3.4,SNR=0.9						
	comp=E,7.0nm,0.5s						
ILAR	Eielson Array	45.53	35	P	P	11 07 31.7	+0.6
	comp=E,1.9nm,1.0s,baz=279,slow=8.4,SNR=20						
	comp=E,1.9nm,1.0s						
BVAR	Borovoye Array	48.05	310	P	P	11 07 51.1	+0.2
	comp=E,3.3nm,0.4s,baz=76,slow=8.6,SNR=22						
BVAR				PcP	PcP	11 09 18.5	+0.6
	comp=E,0.8nm,0.5s,baz=70,slow=4.7,SNR=2.5						
	comp=E,3.3nm,0.4s						
SPITS	Spitsbergen Ar	56.29	348	P	P	11 08 51.6	-0.2
	comp=E,14nm,1.1s,baz=26,slow=2.1,SNR=1.8						
	comp=E,14nm,1.1s						
RES	Resolute Bay	58.20	15	P	P	11 09 04.8	-0.4
	comp=E,2.7nm,0.5s,baz=312,slow=4.5,SNR=21						
	comp=E,2.7nm,0.5s						
YKA	Yellowknife Ar	59.76	32	P	P	11 09 16.3	+0.2
	comp=E,0.3nm,0.8s,baz=303,slow=7.0,SNR=4.4						
	comp=E,0.3nm,0.8s						
WRA	Warramunga Arr	61.50	188	P	P	11 09 27.8	-0.6
	comp=E,0.7nm,0.6s,baz=6.6,slow=7.0,SNR=8.5						
	comp=E,0.7nm,0.6s						
FINES	FINESS Array B	65.15	332	P	P	11 09 51.8	-0.3
	comp=E,2.1nm,0.5s,baz=53,slow=7.1,SNR=18						
	comp=E,2.1nm,0.5s						
ASAR	Alice Springs	65.23	188	P	P	11 09 52.9	-0.1
	comp=E,0.5nm,0.7s,baz=17,slow=12,SNR=4.9						
	comp=E,0.5nm,0.7s						
KBZ	Khabaz	68.43	310	P	P	11 10 13.7	+0.5
	comp=E,1.0nm,0.4s,baz=16,slow=4.0,SNR=4.3						
	comp=E,1.0nm,0.4s						
HFS	Hagfors	70.27	335	P	P	11 10 23.9	-0.5
	comp=E,4.9nm,0.9s,baz=54,slow=7.5,SNR=10.0						
	comp=E,4.9nm,0.9s						
NB2	NORSAR Subarra	70.31	337	P	P	11 10 24.1	-0.5
	comp=Z,0.5nm,0.4s,baz=35,slow=6.5						
NOA	NORSAR Array B	70.31	337	P	P	11 10 23.9	-0.7
	comp=Z,0.6nm,0.5s,baz=51,slow=7.0,SNR=4.8						
	comp=Z,0.6nm,0.5s						
AKASG	Malin Array Be	71.12	322	P	P	11 10 29.1	-0.5
	comp=Z,1.5nm,0.4s,baz=45,slow=6.6,SNR=11						
	comp=Z,1.5nm,0.4s						
NVAR	Mina Array Bea	71.98	55	P	P	11 10 34.1	-1.3
	comp=Z,0.2nm,0.7s,baz=297,slow=6.3,SNR=1.8						
	comp=Z,0.2nm,0.7s						
PDAR	Pinedale Array	74.24	47	P	P	11 10 48.9	+0.3
	comp=Z,0.2nm,0.5s,baz=296,slow=5.4,SNR=2.0						
	comp=Z,0.2nm,0.5s						
BRTR	Keskin Array B	76.31	311	P	P	11 11 00.6	+0.2
	comp=Z,0.8nm,0.6s,baz=46,slow=2.8,SNR=4.5						
	comp=Z,0.8nm,0.6s						
EKA	Eskdalemuir Ar	79.13	341	P	P	11 11 15.5	-0.1
	comp=Z,0.4nm,0.4s,baz=22,slow=6.1,SNR=2.3						
	comp=Z,0.4nm,0.4s						
GERES	GERESS Array B	79.22	328	P	P	11 11 16.5	+0.1
	comp=Z,0.4nm,0.6s,baz=26,slow=6.4,SNR=3.9						
	comp=Z,0.4nm,0.6s						
MMAI	Mount Meron Ar	79.82	305	P	P	11 11 21.0	+1.1
	comp=Z,4.1nm,0.8s,baz=342,slow=4.6,SNR=4.1						
	comp=Z,4.1nm,0.8s						
ESDC	Sonseca Array	93.53	334	P	P	11 12 26.9	-0.3
	comp=Z,0.4nm,0.7s,baz=64,slow=3.0,SNR=3.3						
	comp=Z,0.4nm,0.7s						
SNAA	Sanae	145.11	199	PKPbc	PKPab	11 18 46.8	-0.2
	comp=Z,1.0nm,0.7s,baz=189,slow=9.1,SNR=5.5						
H03N2	Juan Fernandez	146.74	90	T	T	14 03 43.5	
	baz=299,slow=77,SNR=17						
H03N3	Juan Fernandez	146.75	90	T	T	14 03 41.3	
	baz=299,slow=77,SNR=22						
H03N1	Juan Fernandez	146.75	90	T	T	14 03 44.9	
	baz=299,slow=77,SNR=25						
SIV	San Ignacio	147.72	45	PKPbc	PKPbc	11 18 55.8	-0.3
	comp=Z,1.0nm,0.9s,baz=294,slow=3.7,SNR=2.6						

NEIC ***30*** *11:09:26.0±1.5, 59.°94N±0.°02×149.°17W±0.°03, h3km±11km, Error ellipse: s-maj=3.2km s-min=2.1km az=168.0*
AEIC 30 11:09:26.0±1.4, 59.°95N±0.°02×149.°16W±0.°02, h1km±7km, ML3.0, ML3.2/146(NEIC), **Error ellipse: s-maj=2.8km s-min=1.5km az=192.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEW	Seward	0.21	316		Pg	11 09 30.0	-0.1
O22K	Cooper Landing	0.60	332		Pg	11 09 37.1	-0.4
SLKM	Skilak Lake	0.77	317		Pg	11 09 40.3	-0.4
SLKM					Sg	11 09 50.5	-0.2
SLKM				IAML		11 09 52.5	
	comp=N,772nm,0.4s						
SLKM				IAML		11 09 53.2	
	comp=E,808nm,0.3s						
BRSE	Bradley Lake S	0.83	256		Pg	11 09 41.2	-0.6
BRSE					Sg	11 09 52.3	-0.2
P23K	Montague Islan	0.88	86		Pg	11 09 43.8	-0.4
P23K					Sb	11 09 56.5	+0.1
BRLK	Bradley Lake	0.89	258		Pg	11 09 43.2	+0.1
BRLK				IAML		11 09 58.9	
	comp=N,454nm,0.7s						
BRLK				IAML		11 10 01.8	
	comp=E,832nm,0.4s						
PWL	Port Wells	1.00	24		Pg	11 09 44.0	-1.1
PWL					Sg	11 09 57.5	-0.5
PWL				IAML		11 10 01.7	
	comp=E,573nm,0.4s						
PWL				IAML		11 10 03.6	
	comp=N,641nm,0.6s						
CNPM	China Poot	1.14	249	Pg	Pg	11 09 47.1	-0.7
CNPM				IAML		11 10 06.1	
	comp=N,765nm,0.6s						
CNPM				IAML		11 10 06.6	
	comp=E,424nm,0.9s						
RC01	Rabbit Creek A	1.18	346		Pg	11 09 47.8	-0.7
RC01				IAML		11 10 04.5	
	comp=N,437nm,0.9s						
CAPN	Captain Cook N	1.29	310		Pn	11 09 51.1	0.0
HOM	Homer	1.29	258		Pg	11 09 50.5	-0.2
FIS	Fire Island	1.30	337		Pn	11 09 52.0	+0.6
GLI	Glacier Island	1.38	47		Pg	11 09 50.9	-1.6
GLI				IAML		11 10 13.2	
	comp=E,435nm,0.5s						
HIN	Hinchinbrook I	1.40	70		Pn	11 09 52.7	-0.1
KNK	Knik Glacier	1.50	13		Pn	11 09 53.1	-1.1
KNK				IAML		11 10 17.9	
	comp=N,443nm,0.7s						
FID	Port Fidalgo	1.55	58		Pn	11 09 53.4	-1.4
FID				IAML		11 10 15.9	
	comp=E,440nm,0.5s						
PMR	Palmer	1.65	0		Pn	11 09 55.7	-0.3
PMR				IAML		11 10 19.7	
	comp=E,304nm,0.7s						
PMR				IAML		11 10 20.4	
	comp=N,301nm,0.6s						
RDT	Redoubt	1.73	292		Pn	11 09 56.6	-0.8
O20K	Slope Mountain	1.75	276		Pn	11 09 57.2	-0.3
EYAK	Cordova Ski Ar	1.80	69		Pn	11 09 57.7	-0.5
GHO	Glory Hole Cre	1.83	3		Pn	11 09 59.0	+0.3
RED	Redoubt Volcan	1.86	286		Pn	11 09 58.6	-0.6
M22K	Willow	1.87	346		Pn	11 09 60.0	+0.9
DFR	Drift River	1.87	292		Pn	11 09 58.7	-0.6
SML	Sawmill	1.90	12		Pn	11 10 00.0	+0.3
RDWB	Redoubt West	1.92	288		Pn	11 09 59.7	-0.3
RDJH	Redoubt Jeurge	1.93	291		Pn	11 10 00.4	+0.3
ILS	Iliamna Low So	1.97	272		Pn	11 10 00.5	-0.1
M23K	Glacier View	1.97	20		Pn	11 10 01.4	+0.7
NCT	North Crescent	1.98	290		Pn	11 09 59.9	-0.8
ILSW	Iliamna Southw	2.00	273		Pn	11 10 00.5	-0.6
CKL	Chakachamna La	2.00	310		Pn	11 10 01.2	0.0
STLK	Strandline Lak	2.03	321		Pn	11 10 01.6	+0.1

DIV	Divide	2.05	53		Pn	11 10 01.9	+0.2
SPBG	Spurr Blockage	2.06	311		Pn	11 10 01.8	-0.1
P19K	Oil Pt	2.08	263		Pn	11 10 02.4	+0.3
P19K				IAML		11 10 38.2	
	comp=N,203nm,0.7s						
SCM	Sheep Creek Mo	2.09	25		Pn	11 10 02.8	+0.5
SCM				IAML		11 10 35.6	
	comp=N,206nm,0.9s						
SCM				IAML		11 10 37.1	
	comp=E,219nm,1.0s						
SYI	Shuyak Island	2.14	232	Pn	Pn	11 10 03.1	+0.3
AU22	Augustine Moun	2.21	256		Pn	11 10 04.1	+0.3
KLU	Klutina	2.22	44		Pn	11 10 04.3	+0.3
KLU				IAML		11 10 36.9	
	comp=N,135nm,0.7s						
KLU				IAML		11 10 37.1	
	comp=E,110nm,0.5s						
AUCH	Augustine Cone	2.25	257		Pn	11 10 05.0	+0.5
RAGM	Ragged Mountai	2.28	77		Pn	11 10 04.6	-0.3
RAGM				IAML		11 10 44.5	
	comp=E,198nm,0.4s						
GOAT	Goat Mountain	2.30	72		Pn	11 10 04.9	-0.2
SKT	Skwentna	2.34	331		Pn	11 10 06.7	+1.1
SKT				IAML		11 10 44.5	
	comp=E,75nm,0.7s						
SKT				IAML		11 10 44.8	
	comp=N,103nm,0.5s						
KAIM	Kayak Island	2.38	89	Pn	Pn	11 10 05.8	-0.4
KAIM				IAML		11 10 52.7	
	comp=N,71nm,0.9s						
BMRM	Bremner River	2.47	64		Pn	11 10 07.3	-0.3
HMT	Hamilton	2.48	79		Pn	11 10 07.1	-0.5
CUT	Chulitna	2.52	348		Pn	11 10 09.8	+1.7
M24K	Tolsona, Glenn	2.60	33		Pn	11 10 10.6	+1.3
M24K				IAML		11 10 59.4	
	comp=N,152nm,0.9s						
NICHA	Nichawak Mount	2.62	82		Pn	11 10 08.9	-0.6
SUCK	Suckling Hills	2.71	85		Pn	11 10 09.7	-1.0
BERG	Berg Lake	2.76	78	Pn	Pn	11 10 10.8	-0.7
N19K	Bonanza Creek	2.78	290	Pn	Pn	11 10 11.9	+0.1
N25K	Chitina, Valde	2.78	51	Pn	Pn	11 10 12.5	+0.7
N25K				IAML		11 10 56.1	
	comp=N,67nm,0.6s						
N25K				IAML		11 10 58.8	
	comp=E,56nm,0.8s						
KDAK	Kodiak Island	2.81	221	Pn	Pn	11 10 11.5	-0.6
GRIN	Grindle Hills	2.94	81		Pn	11 10 13.5	-0.4
KHIT	Khitrov Hills	2.99	78		Pn	11 10 13.8	-0.8
GLB	Gilahina Butte	3.02	58		Pn	11 10 15.3	+0.3
GLB				IAML		11 11 01.6	
	comp=N,60nm,0.7s						
VRDI	Verde Repeater	3.09	63		Pn	11 10 16.2	0.0
VRDI				IAML		11 11 03.2	
	comp=N,44nm,0.6s						
HARP	HAARP	3.13	37		Pn	11 10 18.1	+1.7
SNH	Sunshine Point	3.18	83	Pn	Pn	11 10 16.6	-0.6
WAX	Waxell Ridge	3.19	78		Pn	11 10 16.6	-0.8
WAX				IAML		11 10 59.3	
	comp=E,85nm,0.4s						
KAHC	Katmai Hardscr	3.27	249		Pn	11 10 18.9	+0.3
L20K	Farewell, AK	3.41	320		Pn	11 10 21.7	+1.4
RND	Reindeer	3.47	2		Pn	11 10 23.8	+2.5
RND				IAML		11 11 20.5	
	comp=E,46nm,0.9s						
RND				IAML		11 11 23.0	
	comp=N,47nm,0.9s						
PAX	Paxson	3.51	29		Pn	11 10 24.1	+2.3
TRF	Thorofare Moun	3.55	352	Pn	Pn	11 10 24.7	+2.3
TRF				IAML		11 11 23.1	
	comp=E,52nm,0.9s						
TRF				IAML		11 11 24.1	
	comp=N,50nm,0.8s						
L19K	White Mountain	3.56	311	Pn	Pn	11 10 23.5	+1.1
M18K	Stony River	3.62	298		Pn	11 10 22.9	-0.3
MESA	MESA	3.62	83	Pn	Pn	11 10 22.9	-0.5
MESA				IAML		11 11 10.3	
	comp=N,25nm,1.2s						
MESA				IAML		11 11 12.0	
	comp=E,28nm,1.2s						
KTH	Kantishna Hill	3.71	348		Pn	11 10 27.1	+2.6
KTH				IAML		11 11 25.1	
	comp=N,38nm,0.7s						
KTH				IAML		11 11 35.8	
	comp=E,45nm,0.8s						
YAH	Yahtse	3.73

J19K				IAML		11 12 07.7	
	comp=E,9.8nm,0.8s						
J19K				IAML		11 12 17.7	
	comp=N,11nm,0.9s						
K17K	**Iditarod**	**5.20**	**306**	Pn	Pn	11 10 46.0	+1.1
K17K				IAML		11 12 24.6	
	comp=E,13nm,1.2s						
K17K				IAML		11 12 41.0	
	comp=N,12nm,1.2s						
I23K	**Minto, Yukon-K**	**5.21**	**359**		Pn	11 10 47.2	+2.1
I23K				IAML		11 12 15.4	
	comp=N,14nm,0.8s						
I23K				IAML		11 12 19.2	
	comp=E,13nm,1.1s						
POKR	**Poker Plat Res**	**5.24**	**8**		Pn	11 10 47.8	+2.2
POKR				IAML		11 12 14.4	
	comp=E,9.5nm,1.0s						
POKR				IAML		11 12 18.8	
	comp=N,13nm,1.2s						
J26L	**Joseph Creek**	**5.26**	**27**	Pn	Pn	11 10 47.1	+1.3
J26L				IAML		11 12 07.2	
	comp=N,8.4nm,0.9s						
J26L				IAML		11 12 17.9	
	comp=E,9.0nm,1.0s						
O29M	**Mount Kennedy**	**5.30**	**82**		Pn	11 10 46.6	+0.2
O29M				IAML		11 12 01.9	
	comp=N,6.7nm,0.8s						
YUK6	**Outpost Mounta**	**5.44**	**75**		Pn	11 10 48.6	+0.3
M29M	**Somme Creek**	**5.74**	**60**		Pn	11 10 53.3	+0.8
P29M	**Windy Craggy**	**5.78**	**88**		Pn	11 10 52.8	-0.1
PRP	**Porcupine Dome**	**5.83**	**15**	Pn	Pn	11 10 55.0	+1.4
HYT	**Haines Junctio**	**5.84**	**76**	Pn	Pn	11 10 53.5	-0.3
H23K	**Yukon River**	**5.90**	**358**		Pn	11 10 56.3	+1.8
H24K	**Noodor Dome**	**5.94**	**5**	Pn	Pn	11 10 57.5	+2.5
H21K	**Melozitna Rive**	**5.96**	**345**		Pn	11 10 56.1	+0.8
H22K	**Ishtalitna Cre**	**6.05**	**351**		Pn	11 10 58.2	+1.7
N30M	**Aishikik Lake**	**6.12**	**71**		Pn	11 10 57.5	-0.1
L29M	**L29M**	**6.15**	**54**	Pn	Pn	11 10 58.8	+0.9
DAWY	**Dawson**	**6.17**	**44**		Pn	11 10 59.6	+1.3
O30N	**Mendenhall**	**6.54**	**77**		Pn	11 11 03.3	0.0
I27K	**Kandik River**	**6.64**	**28**		Pn	11 11 05.9	+1.2
K29M	**Barlow Dome**	**6.74**	**50**	Pn	Pn	11 11 07.7	+1.5
G23K	**Bananza Creek**	**6.80**	**357**	Pn	Pn	11 11 08.1	+1.3
FYU	**Fort Yukon**	**6.87**	**13**	Pn	Pn	11 11 08.7	+0.9
I28M	**Miner Creek**	**6.95**	**34**	Pn	Pn	11 11 10.7	+1.7
COLD	**Coldfoot**	**7.32**	**357**	Pn	Pn	11 11 15.8	+1.9
I29M	**Ogilvie Camp,**	**7.37**	**38**		Pn	11 11 16.6	+1.9
F21K	**Alatna River**	**7.55**	**347**		Pn	11 11 18.7	+1.6
J30M	**Hart River**	**7.56**	**47**	Pn	Pn	11 11 19.2	+1.8
F24K	**Squaw Lake**	**7.62**	**4**	Pn	Pn	11 11 19.6	+1.6
BMAR	**Burnt Mountain**	**7.77**	**13**	Pn	Pn	11 11 21.1	+0.9
F25K	**Christian Rive**	**7.83**	**10**		Pn	11 11 22.5	+1.5
I30M	**Mount Dempster**	**7.91**	**43**	Pn	Pn	11 11 23.6	+1.4
H29M	**Whitestone**	**7.96**	**33**	Pn	Pn	11 11 24.0	+1.3
FARO	**Faro, Yukon**	**7.99**	**67**	Pn	Pn	11 11 23.4	+0.2
F26K	**Sheenjek River**	**8.08**	**14**		Pn	11 11 26.1	+1.7
E25K	**Arctic Village**	**8.35**	**9**		Pn	11 11 29.9	+1.9
G30M	**tAoh Zraii Nji**	**9.10**	**34**	Pn	Pn	11 11 39.8	+1.4

*BUT **30** 11:20:15.8±1.4, 46°.36N±0°.02×111°.40W±0°.03, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.3km az=225.0*

NEIC 30 11:20:15.8±1.1, 46°.34N±0°.02×111°.39W±0°.03, h7km±2km, ML2.2/20, ML2.2/10(BUT), Error ellipse: s-maj=3.1km s-min=2.3km az=212.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SXM	**Sixmile**	**0.23**	**146**		Pg	11 20 20.6	+0.1
SXM					Sg	11 20 24.4	+0.7
HRY	**Holter Researc**	**0.48**	**321**		Pg	11 20 24.5	-0.6
BOZ	**Bozeman (W)**	**0.76**	**193**		Pg	11 20 30.3	-0.2
BOZ				Sg	Sg	11 20 39.9	-0.5
BZMT	**Bozeman Pass**	**0.81**	**149**		Pg	11 20 31.4	0.0
LRM	**Limekiln Ridge**	**0.90**	**235**		Pg	11 20 32.7	-0.4
HBMT	**Mount Humbug**	**1.01**	**237**		Pg	11 20 34.9	-0.3
MSMT	**Mission Creek**	**1.02**	**134**		Pg	11 20 35.1	-0.2
BGMT	**Barton Gulch**	**1.20**	**202**		Pg	11 20 38.3	-0.5
DLMT	**Dillon**	**1.29**	**221**		Pn	11 20 40.2	-0.1
OVMT	**Ovando**	**1.32**	**304**		Pn	11 20 40.9	+0.1
GCMT	**Greycliff**	**1.32**	**114**		Pb	11 20 41.1	+0.1
CHMT	**Chamberlain Mo**	**1.40**	**295**		Pn	11 20 41.9	-0.1
BPMT	**Black Pine Rid**	**1.42**	**275**		Pn	11 20 42.5	+0.2
YHL	**Hebgen Lake**	**1.50**	**174**		Pn	11 20 43.3	-0.1
YHL				IAML		11 21 06.4	
	comp=E,25nm,0.4s						
YHL				IAML		11 21 10.9	
	comp=N,20nm,0.7s						
QLMT	**Earthquake Lak**	**1.51**	**181**		Pn	11 20 43.6	+0.1
YHB	**Horse Butte**	**1.60**	**175**		Pn	11 20 45.1	+0.4
YHB				IAML		11 21 08.8	
	comp=N,27nm,0.2s						
YHH	**Holmes Hill**	**1.60**	**166**		Pn	11 20 44.8	0.0
YNE	**Yellowstone No**	**1.65**	**143**		Pn	11 20 46.1	+0.6
YNE				IAML		11 21 10.8	
	comp=E,29nm,0.3s						
YNE				IAML		11 21 10.8	
	comp=N,37nm,0.2s						
YMR	**Madison River**	**1.70**	**170**		Pn	11 20 46.8	+0.7
YMR				IAML		11 21 11.2	
	comp=E,17nm,0.6s						
YMR				IAML		11 21 24.4	
	comp=N,19nm,0.7s						
YPWB	**West Boundary**	**1.75**	**173**		Pg	11 20 48.9	-0.5
YMP	**Mirror Lake Pl**	**1.82**	**151**		Pb	11 20 49.2	-0.4
YMP				IAML		11 21 18.5	
	comp=N,26nm,0.4s						
CMI	**Centennial Mou**	**1.82**	**185**		Pn	11 20 48.0	+0.2
MSO	**Missoula**	**1.82**	**286**		Pb	11 20 49.2	-0.3
MSO				IAML		11 21 14.9	
	comp=N,20nm,0.3s						
MCMT	**McKenzie Canyo**	**1.83**	**215**		Pg	11 20 50.4	-0.4
MOMT	**Monida**	**1.88**	**202**		Pn	11 20 49.3	+0.7
RLMT	**Red Lodge**	**1.93**	**129**		Pb	11 20 51.2	-0.1
RLMT				IAML		11 21 22.8	
	comp=N,21nm,0.4s						
VCMT	**Victor**	**1.94**	**274**		Pb	11 20 51.5	0.0
EGMT	**Eagleton**	**2.02**	**33**		Pn	11 20 50.9	+0.5
MCID	**Moose Creek**	**2.16**	**176**		Pn	11 20 52.9	+0.5
YBMT	**Yellow Bay**	**2.35**	**311**		Pn	11 20 56.3	+1.3

*NEIC **30** 11:20:40.6, 5°.64S×151°.08E, h40km*

*MOS **30** 11:20:40.9±0.9, 5°.51S×150°.97E, h42km, mb5.9/46, MS6.0/23, Error ellipse: s-maj=7.6km s-min=5.0km az=109.6*

*NEIC **30** 11:20:40.6, 5°.74S×151°.00E, h40km, Moment Tensor Solution. Duration: 5s7 Moment tensor: Scale 10^{18}Nm; M_{rr}2.13; $M_{\theta\theta}$-2.11; $M_{\phi\phi}$-0.03; $M_{r\theta}$0.65; $M_{\theta r}$-0.65; $M_{\phi r}$-0.41; Fault plane solution: $M_0$2.35000×10^{18} NP1: ϕ_s239.63000°, δ40.38000°, λ67.47000°. NP2:ϕ_s88.21000°, δ53.25000°, λ108.05000°. Principal axes: T 2.3400, Plg74.0000°, Azm51.0000°; N 0.0119, Plg14.0000°, Azm257.0000°; P -2.3519, Plg7.0000°, Azm165.0000°;*

*NEIC **30** 11:20:41.5, 5°.63S×151°.08E, h32km*

*NEIC **30** 11:20:42.6±1.8, 5°.70S±0°.07×151°.11E±0°.07, h41km±1km, mb5.8/514, Ms_20 6.1/641, Mwb6.2/81, Mww6.2/35, Error ellipse: s-maj=11.5km s-min=11.0km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.34; $M_{\theta\theta}$-1.21; $M_{\phi\phi}$-0.13; $M_{r\theta}$1.73; $M_{\theta\phi}$-0.28; $M_{\phi r}$-0.10; Fault plane solution: $M_0$2.18000×10^{18} NP1: ϕ_s246.23000°, δ19.72000°, λ67.99000°. NP2:ϕ_s89.47000°, δ71.77000°, λ97.65000°. Principal axes: T 2.2369, Plg62.0000°, Azm11.0000°; N -0.1263, Plg7.0000°, Azm267.0000°; P -2.1105, Plg26.0000°, Azm173.0000°;*

*BJI **30** 11:20:43.4, 5°.65S×151°.10E, h60km, mB6.1/78, mb5.9/96, Ms6.0/99, Ms7 6.0/96*

*IPGP **30** 11:20:44.0, 5°.67S×151°.09E, h50km, Mw6.2, Fault plane solution: NP1:ϕ_s247.00000°, δ37.00000°, λ76.00000°. NP2:ϕ_s84.00000°, δ54.00000°, λ100.00000°.*

*IDC **30** 11:20:44.2±0.8, 5°.62S×150°.97E, h63km±6km, mb5.2/28, mbtmp5.6/30, MS5.8/52, Error ellipse: s-maj=10.6km s-min=6.3km az=118.0*

*GCMT **30** 11:20:45.6±0.0, 5°.94S×151°.06E, h48km, MW6.2/172, Moment Tensor Solution. s172,c403; s170,c647; Duration: 3s1 Moment tensor: Scale 10^{18}Nm; M_{rr}2.16±.01; $M_{\theta\theta}$-2.36±.01; $M_{\phi\phi}$0.20±.01; $M_{r\theta}$0.75±.01; $M_{\theta\phi}$-0.65±.01; $M_{\phi r}$-0.28±.01; Best double couple: $M_0$2.48100×10^{18} NP1:ϕ_s244.00000°, δ38.00000°, λ70.00000°. NP2:ϕ_s88.00000°, δ54.00000°, λ105.00000°. Principal axes: T 2.3510, Plg75.0000°, Azm45.0000°; N 0.2600, Plg12.0000°, Azm260.0000°; P -2.6100, Plg8.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DJA **30** 11:20:48.5±0.4, 6°S±2°×15°1E±°, h101km±4km, M5.9/125, mB6.2/104, mb5.7/125, Mw(mB)5.8/104, MwMwp5.9/103, Mwp6.0/103*

ISC 30 11:20:43.3±0.2, 5°.74S±0°.03×151°.07E±0°.03, h58km±1km, h58km:pP-P, n1899, σ1959/1682, mb5.8/396, MS6.1/430, 124C-48D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**0.78**	**285**	P	**Pn**	**11 20 58.8**	**+0.4**
BULU	**Kimbe**	**0.78**	**285**	P	**Sn**	**11 21 11.2**	**+1.7**
I40PG	**Keravat**	**1.71**	**33**	P	**Pn**	**11 21 11.7**	**+0.8**
I40PG				S	**Sn**	**11 21 32.6**	**+1.0**
I40PG				I	I	11 30 50.0	
	62nm,0.5s,baz=216,slow=291,SNR=0.6						
RABL	**Rabaul**	**1.88**	**35**		**Pn**	**11 21 14.4**	**+1.2**
RABL	**Rabaul**	**1.88**	**35**	⇑P	**Pn**	**11 21 14.2**	**+1.0**
MANU	**Manus Island**	**5.21**	**315**	Pn	**Pn**	**11 22 02.0**	**+3.2**
MANU	**Manus Island**	**5.21**	**315**	⇓P	**Pn**	**11 22 01.0**	**+2.3**
PMG	**Port Moresby**	**5.32**	**227**	P	**Pn**	**11 22 02.0**	**+1.7**
	4μm,0.8s,baz=71,slow=4.3,SNR=387						
PMG				S	**Sn**	**11 23 02.5**	**+2.2**
	4μm,0.6s,baz=311,slow=18,SNR=10						
TATA	**Tatamba Isabel**	**9.06**	**107**	P	**Pn**	**11 22 53.6**	**+2.1**
SAVO	**Savo Central**	**9.31**	**112**	P	**Pn**	**11 22 57.6**	**+2.7**
HNR	**Honiara**	**9.53**	**113**		**Pn**	**11 22 59.0**	**+1.1**
HNR	**Honiara**	**9.53**	**113**	P	**Pn**	**11 23 00.0**	**+2.0**
	590nm,0.8s,baz=268,slow=2.5,SNR=16						
HNR				S	**Sn**	**11 24 47.7**	**+4.0**
	663nm,0.8s,baz=161,slow=22,SNR=3.7						
HNR				LR	LR	11 26 45.4	
	comp=Z,32μm,21.9s,baz=282,slow=37						
HNR	**Honiara**	**9.53**	**113**	P	**Pn**	**11 23 01.5**	**+3.5**
HNR	**Honiara**	**9.53**	**113**	⇓P	**Pn**	**11 22 59.1**	**+1.1**
TABU	**Tabubil**	**9.81**	**272**	P	**Pn**	**11 23 02.9**	**+1.0**
ALEG	**Aligegeo Malai**	**10.01**	**108**	P	**Pn**	**11 23 06.9**	**+2.4**
NGOA	**Tingoa Renbel**	**10.60**	**124**	P	**Pn**	**11 23 17.1**	**+4.5**
JAY	**Jayapura**	**10.82**	**287**	P	**Pn**	**11 23 20.0**	**+4.3**
	170nm,1.0s,baz=118,slow=4.2,SNR=19						
JAY				LR	LR	11 26 56.2	
	comp=Z,66μm,21.9s,baz=94,slow=35						
JAY	**Jayapura**	**10.82**	**287**	P	Pn	11 23 20.8	+5.1
	52μm25μm411nm,1.5s						
COEN	**Coen**	**11.28**	**223**	Pn	**Pn**	**11 23 22.6**	**+0.7**
COEN	**Coen**	**11.28**	**223**	P	**Pn**	**11 23 22.3**	**+0.5**
	comp=Z,0.0nmcomp=Z,148nm,1.2s						
COEN	**Coen**	**11.28**	**223**	P	**Pn**	**11 23 22.8**	**+1.0**
COEN	**Coen**	**11.28**	**223**	⇑P	**Pn**	**11 23 22.4**	**+0.5**
GENI	**Genyem**	**11.31**	**286**	P	**Pn**	**11 23 25.1**	**+2.7**
GENI	**Genyem**	**11.31**	**286**	P	Pn	11 23 27.8	+5.4
	comp=Z,53μmcomp=Z,756nm,1.2s						
HURO	**Huro Makira**	**11.71**	**114**	P	**Pn**	**11 23 31.3**	**+3.6**
SMPI	**Sarmi**	**12.88**	**286**	P	**P**	**11 23 48.5**	**-4.2**
	comp=Z,58μmcomp=Z,924nm,2.0s						
MTSU	**Mount Surprise**	**13.97**	**208**	P	**Pn**	**11 24 00.0**	**+1.4**
	comp=Z,213nm,1.1s						
MTSU	**Mount Surprise**	**13.97**	**208**	P	**Pn**	**11 24 00.6**	**+2.0**
TV1H	**Townsville Har**	**14.07**	**197**	P	**Pn**	**11 24 01.7**	**+1.9**
PATS	**Pohnpei**	**14.43**	**30**	Pn	**Pn**	**11 24 04.0**	**-0.7**
PATS	**Pohnpei**	**14.43**	**30**	P	**Pn**	**11 24 05.1**	**+0.5**
	comp=Z,690nm,1.5s,comp=Z,0.0nm						
PATS	**Pohnpei**	**14.43**	**30**	P	**Pn**	**11 24 06.5**	**+1.9**
SRPI	**Serui, Papua**	**15.29**	**284**	P	**P**	**11 24 21.6**	**+2.1**
LUES	**Luesalemba Tem**	**15.48**	**109**	P	**P**	**11 24 21.7**	**+0.1**
BAKI	**Biak**	**15.60**	**286**	P	**P**	**11 24 24.8**	**+1.8**
	comp=Z,36μmcomp=Z,19μmcomp=Z,503nm,1.4s						
RKPI	**Ransiki, Papua**	**17.37**	**283**	P	**P**	**11 24 47.2**	**+4.6**
	comp=Z,32μmcomp=Z,621nm,1.6s						
RK1H	**Rockhampton Ha**	**17.56**	**182**	P	**P**	**11 24 45.7**	**+1.2**
GD1S	**Gladstone Soft**	**18.00**	**180**	P	**Pn**	**11 24 51.9**	**+2.3**
QIS	**Mount Isa**	**18.46**	**216**	P	**Pn**	**11 24 56.1**	**+0.8**
	comp=Z,0.0nmcomp=Z,591nm,1.6s						
QIS	**Mount Isa**	**18.46**	**216**	P	**Pn**	**11 24 57.1**	**+1.8**
FAKI	**Fak Fak**	**18.97**	**278**	P	**P**	**11 25 00.7**	**+0.4**
FAKI	**Fak Fak**	**18.97**	**278**	P	**Pn**	**11 25 03.1**	**+1.6**
FAKI	**Fak Fak**	**18.97**	**278**	P	**Pn**	**11 25 04.8**	**+3.3**
	comp=Z,34μmcomp=Z,10μmcomp=Z,205nm,1.1s						
FAKI	**Fak Fak**	**18.97**	**278**	⇑P	**P**	**11 24 58.2**	**-2.0**
EIDS	**Eidsvold**	**19.52**	**180**	P	**Pn**	**11 25 07.4**	**-0.4**
EIDS				IAmb	IAmb	11 25 11.2	
	comp=Z,2μm,1.7s						
EIDS	**Eidsvold**	**19.52**	**180**	P	**Pn**	**11 25 07.6**	**-0.2**
	comp=Z,0.0nmcomp=Z,700nm,1.7s						
EIDS	**Eidsvold**	**19.52**	**180**	P	**Pn**	**11 25 08.5**	**+0.7**
EIDS	**Eidsvold**	**19.52**	**180**	⇓P	**Pn**	**11 25 07.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**19.53**	**140**	P	**Pn**	**11 25 10.5**	**+2.5**
KOUNC	**Koumac, New Ca**	**19.53**	**140**	⇓P	**Pn**	**11 25 07.6**	**-0.4**
KDU	**Kakadu**	**19.60**	**248**	P	**P**	**11 25 07.0**	**-0.1**
	comp=Z,0.0nmcomp=Z,505nm,1.0s						
KDU	**Kakadu**	**19.60**	**248**	P	**Pn**	**11 25 08.0**	**-0.9**
SAUI	**Saumlaki**	**19.75**	**262**		**Pn**	**11 25 10.6**	**-0.2**
SAUI				IAmb	IAmb	11 25 15.7	
	comp=Z,306nm,0.9s						
SAUI	**Saumlaki**	**19.75**	**262**	P	**Pn**	**11 25 11.6**	**+0.9**
SAUI	**Saumlaki**	**19.75**	**262**	P	**Pn**	**11 25 13.2**	**+2.5**
	comp=Z,16μmcomp=Z,493nm,0.8s						
GUMO	**Guam**	**20.16**	**342**	P	Pn	11 25 14.9	-0.6
	comp=Z,2μm,1.0s,baz=174,slow=6.0,SNR=41						
GUMO				LR	LR	11 31 29.3	
	comp=Z,34μm,21.9s,baz=170,slow=32						
GUMO	**Guam**	**20.16**	**342**	P	Pn	11 25 16.5	+1.0
GUMO	**Guam**	**20.16**	**342**	⇑P	Pn	11 25 14.6	-0.9
SWI	**Sorong**	**20.36**	**283**	P	Pn	11 25 19.4	+1.6
	comp=Z,37μmcomp=Z,13μmcomp=Z,313nm,0.9s						
DVP	**Devils Point**	**20.54**	**127**	P	Pn	11 25 22.6	+2.7
RMQ	**Roma**	**20.75**	**186**	P	Pn	11 25 21.9	-0.4
	comp=Z,149nm,1.1s						
RMQ	**Roma**	**20.75**	**186**	P	Pn	11 25 21.9	-0.4
MTN	**Manton Dam**	**20.89**	**249**	P	**P**	**11 25 21.1**	**0.0**
MTN				IAmb	IAmb	11 25 37.8	
	comp=Z,456nm,0.8s						
MTN	**Manton Dam**	**20.89**	**249**	P	**P**	**11 25 20.8**	**-0.3**
MTN	**Manton Dam**	**20.89**	**249**	P	**P**	**11 25 22.1**	**+1.0**
DRS	**Darwin Rock St**	**20.99**	**250**	P	**P**	**11 25 23.1**	**+1.0**
BNDI	**Bandanaira**	**21.12**	**272**	P	**P**	**11 25 27.3**	**+3.8**
	comp=Z,685nm,1.2s						
WB0	**Warramunga Arr**	**21.39**	**228**	P	**P**	**11 25 26.9**	**+0.5**
WB0				IAmb	IAmb	11 25 42.0	
	comp=Z,1μm,1.2s						
WR0	**Warramunga Arr**	**21.40**	**227**	P	**P**	**11 25 27.2**	**+0.7**
WR0				IAmb	IAmb	11 25 41.6	
	comp=Z,638nm,0.9s						
WRAB	**Tennant Creek**	**21.53**	**228**	P	**P**	**11 25 28.4**	**+0.6**
WRAB				IAmb	IAmb	11 25 41.4	
	comp=Z,696nm,0.9s						
WRAB	**Tennant Creek**	**21.53**	**228**	*i* P	**P**	**11 25 28.6**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,381nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,26μm,21.0s						
WB2	**Warramunga Arr**	**21.53**	**228**	P	**P**	**11 25 28.4**	**+0.5**
WB2				IAmb	IAmb	11 25 41.5	
	comp=Z,654nm,1.1s						
WRA	**Warramunga Arr**	**21.54**	**228**	P	**P**	**11 25 28.7**	**+0.7**
WRA	**Warramunga Arr**	**21.54**	**228**	P	**P**	**11 25 28.5**	**+0.5**
	comp=Z,292nm,0.9s,baz=52,slow=10,SNR=132						
WRA				S	**S**	**11 29 21.9**	**-1.9**
	comp=Z,211nm,1.4s,baz=55,slow=18,SNR=24						
WRA				PcP	**PcP**	**11 29 29.6**	**+0.8**
	comp=Z,101nm,1.1s,baz=38,slow=2.0,SNR=4.9						
WRA				ScP	**ScP**	**11 33 01.4**	**+0.2**
	comp=Z,22nm,0.9s,baz=53,slow=2.7,SNR=5.2						
WRA				LR	LR	11 33 51.2	
	comp=Z,26μm,21.8s,baz=52,slow=36						
WRA				PKiKP	**PKiKP**	**11 37 15.7**	**0.0**
	comp=Z,1.6nm,0.8s,baz=90,slow=0.4,SNR=4.6						
	comp=Z,292nm,0.9s						
AUWSH	**Wavell State H**	**21.62**	**175**	P	**P**	**11 25 30.5**	**+1.7**
TW1H	**Toowoomba 1 Ha**	**21.70**	**178**	P	**P**	**11 25 31.2**	**+1.5**
QLP	**Quilpie**	**21.73**	**197**	P	**P**	**11 25 31.2**	**+1.3**
	comp=Z,0.0nmcomp=Z,1μm,1.4s						
QLP	**Quilpie**	**21.73**	**197**	P	**P**	**11 25 31.6**	**+1.6**
QLP	**Quilpie**	**21.73**	**197**	⇓P	**P**	**11 25 31.5**	**+1.6**
DZM	**Mont Dzumac**	**22.02**	**139**	P	**P**	**11 25 33.8**	**+0.6**
DZM				IAMs_20	IAMs_20	11 32 57.9	
	comp=Z,66μm,20.0s						
DZM	**Mont Dzumac**	**22.02**	**139**	*e*P	**P**	**11 25 33.2**	**+0.1**
	comp=Z,563nm,1.3s						
DZM				*e*S	**S**	**11 29 28.3**	**-4.7**
	comp=Z,53μm,25.4s						
DZM				*e*LR	LR	11 30 54.5	
	comp=Z,109μm,24.6s						
DZM	**Mont Dzumac**	**22.02**	**139**	P	**P**	**11 25 34.2**	**+1.1**
	comp=Z,65nm,0.8s,baz=297,slow=7.4,SNR=36						
DZM				LR	LR	11 33 18.6	
	comp=Z,65μm,19.5s,baz=314,slow=34						
	comp=Z,65nm,0.8s						
DZM	**Mont Dzumac**	**22.02**	**139**	P	**P**	**11 25 34.4**	**+1.3**
DZM	**Mont Dzumac**	**22.02**	**139**	⇓P	**P**	**11 25 34.2**	**+1.1**
ONTNC	**Ouen Toro**	**22.19**	**139**	P	**P**	**11 25 35.6**	**+0.7**
ONTNC				IAmb	IAmb	11 25 58.5	
	comp=Z,876nm,1.9s						
ONTNC	**Ouen Toro**	**22.19**	**139**	P	**P**	**11 25 37.8**	**+2.9**
ONTNC	**Ouen Toro**	**22.19**	**139**	⇓P	**P**	**11 25 37.5**	**+2.6**
MSAI	**Masohi**	**22.20**	**275**	P	**P**	**11 25 38.8**	**+3.7**
	comp=Z,32μmcomp=Z,5μmcomp=Z,103nm,0.6s						
YATNC	**Mamie plateau,**	**22.30**	**138**	P	**P**	**11 25 39.1**	**+3.0**
INH	**Isangel**	**22.41**	**129**	P	**P**	**11 25 41.0**	**+3.7**
GC1S	**Gold Coast 1 S**	**22.42**	**174**	P	**P**	**11 25 39.1**	**+1.8**
OUENC	**Ouen Island, N**	**22.52**	**139**	P	**P**	**11 25 40.9**	**+2.4**
MARNC	**Mare, Loyalty**	**22.69**	**135**	P	**P**	**11 25 42.4**	**+2.2**
AAI	**Ambon**	**22.89**	**274**	P	**P**	**11 25 44.5**	**+2.1**
PINNC	**Pines Island,**	**23.05**	**138**	P	**P**	**11 25 44.4**	**+0.4**
PINNC				IAmb	IAmb	11 26 05.4	
	comp=Z,353nm,1.5s						
PINNC	**Pines Island,**	**23.05**	**138**	P	**P**	**11 25 48.8**	**+4.8**
INKA	**Innaminka**	**23.98**	**203**	P	**P**	**11 25 54.9**	**+2.3**
KNRA	**Kununurra**	**24.01**	**244**	P	**P**	**11 25 52.8**	**-0.2**
KNRA				IAmb	IAmb	11 26 16.0	
	comp=Z,510nm,1.1s						
KNRA	**Kununurra**	**24.01**	**244**	P	**P**	**11 25 53.0**	**-0.1**
	comp=Z,0.0nmcomp=Z,393nm,1.1s						
NLAI	**Namlea**	**24.02**	**275**	P	**P**	**11 25 54.3**	**+1.1**
AS01	**Alice Springs**	**24.27**	**221**	P	**P**	**11 25 56.9**	**+1.5**
AS31	**Alice Springs**	**24.30**	**221**	P	**P**	**11 25 56.8**	**+1.1**
AS31	**Alice Springs**	**24.30**	**221**	P	**P**	**11 25 57.0**	**+1.3**
	comp=Z,0.0nmcomp=Z,138nm,1.0s						
ASAR	**Alice Springs**	**24.31**	**221**	P	**P**	**11 25 56.9**	**+1.2**
	comp=Z,212nm,0.8s,baz=56,slow=7.6,SNR=490						
ASAR				PcP	**PcP**	**11 29 34.5**	**0.0**
	comp=Z,43nm,1.0s,baz=52,slow=2.1,SNR=4.2						
ASAR				S	**S**	**11 30 11.3**	**+0.3**
	comp=Z,14nm,1.0s,baz=36,slow=16,SNR=2.3						
ASAR				ScP	**ScP**	**11 33 09.9**	**+1.5**
	comp=Z,15nm,0.7s,baz=39,slow=2.7,SNR=7.1						
ASAR				LR	LR	11 35 44.8	
	comp=Z,26μm,19.1s,baz=78,slow=37						
ASAR				P3KPbc		11 59 09.1	
	comp=Z,1.4nm,0.9s,baz=225,slow=3.7,SNR=7.2						
ASAR				P3KP		11 59 55.7	
	comp=Z,2.0nm,1.0s,baz=125,slow=3.6,SNR=5.1						
	comp=Z,212nm,0.8s						
TNTI	**Ternate**	**24.54**	**285**	P	**P**	**11 25 57.9**	**+0.1**
TNTI				IAmb	IAmb	11 26 30.4	
	comp=Z,234nm,1.3s						
TNTI	**Ternate**	**24.54**	**285**	P	**P**	**11 25 58.8**	**+1.0**
TNTI	**Ternate**	**24.54**	**285**	P	**P**	**11 26 01.8**	**+4.0**
	comp=Z,5μmcomp=Z,159nm,1.4s						
ARMA	**Armidale**	**24.56**	**179**	P	**P**	**11 25 59.2**	**+1.3**
ARMA				IAmb	IAmb	11 26 03.1	
	comp=Z,417nm,1.4s						
ARMA	**Armidale**	**24.56**	**179**	P	**P**	**11 25 59.2**	**+1.3**
	comp=Z,0.0nmcomp=Z,211nm,1.6s						
ARMA	**Armidale**	**24.56**	**179**	P	**P**	**11 25 59.8**	**+1.8**
ARMA	**Armidale**	**24.56**	**179**	⇑P	**P**	**11 25 59.5**	**+1.5**
SANI	**Sanana**	**25.29**	**277**	P	**P**	**11 26 01.0**	**-3.6**
SANI	**Sanana**	**25.29**	**277**	P	**P**	**11 26 05.8**	**+1.1**
SANI	**Sanana**	**25.29**	**277**	P	**P**	**11 26 06.1**	**+1.4**
	comp=Z,14μmcomp=Z,4μmcomp=Z,111nm,1.3s			

WHYH	Whyalla	29.93 203	P	P	11 26 47.8	+1.9
DGTI	Dogotuki	29.99 113	P	P	11 26 47.1	+0.4
BBOO	Buckleboo	30.35 206	P	P	11 26 50.4	+0.7
BBOO			IAmb	IAmb	11 27 53.1	
	comp=Z,352nm,1.9s					
BBOO			IAMs_20	IAMs_20	11 39 22.1	
	comp=Z,34μm,19.0s					
BBOO	Buckleboo	30.35 206	P	P	11 26 50.4	+0.7
	comp=Z,0.0nmcomp=Z,74nm,0.9s					
BBOO	Buckleboo	30.35 206	P	P	11 26 50.3	+0.5
BSSI	Bau Bau, Buton	30.42 268	P	P	11 26 53.4	+2.8
	comp=Z,10μmcomp=Z,3μmcomp=Z,144nm,0.8s					
TAVE	Taveuni	30.43 113	P	P	11 26 53.5	+2.8
BASI	Baing, Sumba	30.51 260	P	P	11 26 53.0	+1.6
WSI	Waingapu	30.73 261	P	P	11 26 54.1	+0.7
BKSI	Bulukumba	30.80 269	P	P	11 26 55.0	+1.0
TOLI2	Tolitoli	31.00 282	P	P	11 26 55.2	-0.5
TOLI2	Tolitoli	31.00 282	P	P	11 26 56.7	+1.0
KAPI	Kappang	31.19 270	P	P	11 26 57.6	+0.2
KAPI	Kappang	31.19 270	LR	LR	11 40 57.8	
	comp=Z,8μm,21.7s,baz=89,slow=39					
KAPI	Kappang	31.19 270	P	P	11 26 55.1	-2.2
KAPI			P	P	11 26 55.1	-2.2
KAPI			S	S	11 31 57.6	-2.1
KAPI			S	S	11 31 57.6	-2.1
KAPI	Kappang	31.19 270	P	P	11 26 58.5	+1.1
KAPI	Kappang	31.19 270	*i* P	P	11 26 57.4	0.0
KAPI			pmax	pmax		
	comp=Z,31nm,0.9s					
SPSI	Sidrap Palu	31.24 272	P	P	11 26 58.3	+0.5
	comp=Z,9μmcomp=Z,41nm,0.9s					
GHSS	Government Hou	31.24 200	P	P	11 26 59.4	+1.9
TTSI	Tana Toraja	31.27 274	P	P	11 27 00.5	+2.4
FUTU	Fugatoga	31.48 108	P	P	11 27 00.8	+0.9
FUTU			IAmb	IAmb	11 27 03.4	
	comp=Z,698nm,1.9s					
FUTU	Fugatoga	31.48 108	P	P	11 27 02.3	+2.4
PCI	Palu	31.54 278	P	P	11 27 03.7	+3.2
	comp=Z,11μmcomp=Z,129nm,1.0s					
WBSI	Waikabubak, Su	31.62 261	P	P	11 27 01.4	+0.2
LKBA	Tubou, Lakemba	31.90 116	P	P	11 27 04.1	+0.5
ARPS	Mount Arapiles	32.02 194	P	P	11 27 05.9	+1.5
	comp=Z,129nm,0.8s					
ARPS	Mount Arapiles	32.02 194	P	P	11 27 05.9	+1.5
TOO	Toolangi	32.09 188	P	P	11 27 06.0	+1.0
TOO	Toolangi	32.09 188	P	P	11 27 06.5	+1.4
	comp=Z,0.0nmcomp=Z,38nm,1.4s					
TOO	Toolangi	32.09 188	P	P	11 27 06.0	+1.0
TOO			pmax	pmax		
	comp=Z,83nm,1.5s					
TOO			MLR	MLR		
	comp=Z,10μm,20.0s					
TOO	Toolangi	32.09 188	⇑P	P	11 27 06.8	+1.8
GEXS	Deakin Univers	32.90 190	P	P	11 27 14.6	+2.6
FORT	Forrest	32.98 218	P	P	11 27 13.5	+0.6
FORT	Forrest	32.98 218	P	P	11 27 13.1	+0.2
	comp=Z,0.0nmcomp=Z,456nm,0.8s					
FORT	Forrest	32.98 218	P	P	11 27 14.3	+1.4
FORT	Forrest	32.98 218	⇑P	P	11 27 13.3	+0.4
PLAI	Plampang	33.16 263	P	P	11 27 13.9	-0.8
PLAI	Plampang	33.16 263	P	P	11 27 13.4	-1.3
	comp=Z,2μmcomp=Z,256nm,0.8s					
MBWA	Marble Bar	34.01 240	P	P	11 27 22.3	+0.3
MBWA			IAmb	IAmb	11 27 24.3	
	comp=Z,210nm,0.9s					
MBWA	Marble Bar	34.01 240	P	P	11 27 21.8	-0.2
	comp=Z,0.0nmcomp=Z,236nm,0.9s					
MBWA	Marble Bar	34.01 240	P	P	11 27 22.6	+0.6
MBWA			S	S	11 32 41.0	-2.5
MBWA	Marble Bar	34.01 240	P	P	11 27 22.6	+0.6
MBWA	Marble Bar	34.01 240	⇑P	P	11 27 22.1	+0.2
MBWA	Marble Bar	34.01 240	P	P	11 27 22.3	+0.3
MBWA			pP	pP	11 27 33.2	-3.6
PSA00	Pilbara Seismi	34.07 239	P	P	11 27 22.7	+0.2
PSA00			IAmb	IAmb	11 27 24.2	
	comp=Z,81nm,1.1s					
PSA00	Pilbara Seismi	34.07 239	IAmb	IAmb	11 27 24.2	
	comp=Z,188nm,1.0s					
PSA00	Pilbara Seismi	34.07 239	P	P	11 27 22.7	+0.2
	comp=Z,235nm,1.4s					
PSA00	Pilbara Seismi	34.07 239	P	P	11 27 23.0	+0.5
MYLDM	Lahad Datu	34.28 288	P	P	11 27 24.8	+0.4
MYLDM			IAmb	IAmb	11 28 08.7	
	comp=Z,122nm,1.1s					
MYLDM	Lahad Datu	34.28 288	P	P	11 27 26.1	+1.7
MYLDM	Lahad Datu	34.28 288	⇑P	P	11 27 24.4	0.0
GLAD	Gladstone	35.20 184	P	P	11 27 34.2	+2.2
SRBI	Singaraja	35.67 264	P	P	11 27 36.1	-0.2
	comp=Z,3μmcomp=Z,89nm,0.8s					
CORO	Coronation Par	35.73 185	P	P	11 27 38.4	+1.9
OUZ	Omahuta	35.94 148	P	P	11 27 40.7	+2.2
OUZ	Omahuta	35.94 148	⇑P	P	11 27 40.8	+2.4
ABJI	Asem Bagus	36.63 265	P	P	11 27 47.3	+2.7
	comp=Z,10μmcomp=Z,86nm,0.9s					
MOO	Moorlands	36.71 185	P	P	11 27 46.8	+1.9
JAGI	Jajag, Banyuwa	36.73 264	P	P	11 27 42.8	-2.7
JAGI			IAmb	IAmb	11 28 53.3	
	comp=Z,216nm,1.0s					
JAGI	Jajag, Banyuwa	36.73 264	P	P	11 27 44.3	-1.1
JAGI	Jajag, Banyuwa	36.73 264	P	P	11 27 43.9	-1.5
	comp=Z,3μmcomp=Z,152nm,0.8s					
JAGI	Jajag, Banyuwa	36.73 264	⇑P	P	11 27 42.7	-2.7
JMZ	Minamidaito 2	36.82 329	P	P	11 27 46.6	+0.6
JMZ	Minamidaito 2	36.82 329	P	P	11 27 47.7	+1.7
JMZ	Minamidaito 2	36.82 329	⇓P	P	11 27 48.0	+2.0
KMMI	Kalianget	36.89 266	P	P	11 27 48.2	+1.4
	comp=Z,9μmcomp=Z,2μmcomp=Z,57nm,1.1s					
TAU	Tasmania Unive	37.17 185	P	P	11 27 50.0	+1.3
TAU			IAmb	IAmb	11 27 53.0	
	comp=Z,289nm,1.4s					
TAU	Tasmania Unive	37.17 185	IAMs_20	IAMs_20	11 42 02.9	
	comp=Z,46μm,22.0s					
TAU	Tasmania Unive	37.17 185	P	P	11 27 50.9	+2.2
TAU	Tasmania Unive	37.17 185	P	P	11 27 50.0	+1.3
TAU			pmax	pmax		
	comp=Z,289nm,1.4s					
TAU			MLR	MLR		
	comp=Z,46μm,22.0s					
TAU	Tasmania Unive	37.17 185	⇑P	P	11 27 51.2	+2.5
MEEK	Meekatharra	37.27 232	P	P	11 27 50.5	+0.6
KMBL	Kambalda	37.39 223	P	P	11 27 51.3	+0.5
GMJI	Gumukmas	37.42 264	P	P	11 27 51.5	+0.2
	comp=Z,2μmcomp=Z,64nm,1.0s					
SZP	Santa	38.07 308	P	P	11 27 57.0	+0.3
SZP	Santa	38.07 308	⇑P	P	11 27 56.0	-0.7
TOZ	Tahuroa Road	38.84 148	IAMs_20	IAMs_20	11 41 29.2	
	comp=Z,23μm,20.0s					
HIZ	Hauiti	39.11 150	IAmb	IAmb	11 28 21.7	
	comp=Z,295nm,1.8s					
HIZ	Hauiti	39.11 150	P	P	11 28 07.8	+2.6
JOW	Kunigami	39.19 327	LR	LR	11 41 06.7	
	comp=Z,20μm,21.9s,baz=144,slow=31					
JOW	Kunigami	39.19 327	P	P	11 28 07.8	+1.9
JOW	Kunigami	39.19 327	⇑P	P	11 28 08.0	+2.0
GIRL	Giralia	39.31 241	IAMs_20	IAMs_20	11 46 59.1	
	comp=Z,28μm,18.0s					
GIRL	Giralia	39.31 241	P	P	11 28 08.3	+1.2
GIRL	Giralia	39.31 241	⇑P	P	11 28 08.2	+1.2
SBUM	Sibu	39.65 281	P	P	11 28 09.3	-0.6
SBUM	Sibu	39.65 281	P	P	11 28 10.8	+0.8
PCJI	Pacitan	39.66 264	P	P	11 28 10.4	+0.3
	comp=Z,8μmcomp=Z,4μmcomp=Z,269nm,0.9s					
QRZ	Quartz Range	39.87 154	IAMs_20	IAMs_20	11 44 06.9	
	comp=Z,25μm,18.0s					
QRZ	Quartz Range	39.87 154	P	P	11 28 17.3	+5.8
NNVZ	North Ngauruho	39.97 150	P	P	11 28 15.6	+3.1
NGZ	Ngauruhoe	39.99 150	P	P	11 28 15.2	+2.5
TMVZ	Te Maari	40.00 150	P	P	11 28 15.4	+2.6
OTVZ	Oturere	40.02 150	P	P	11 28 15.6	+2.7
ETVZ	East Tongariro	40.02 150	P	P	11 28 15.8	+2.9
SNVZ	South Ngauruho	40.02 150	P	P	11 28 15.8	+2.9
HAZ	Te Kaha	40.09 146	P	P	11 28 15.2	+2.0
URZ	Urewera	40.09 148	LR	LR	11 42 29.0	
	comp=Z,19μm,21.4s,baz=42,slow=32					
URZ	Urewera	40.09 148	P	P	11 28 15.5	+2.2
URZ	Urewera	40.09 148	P	P	11 28 14.4	+1.2
URZ	Urewera	40.09 148	⇑P	P	11 28 15.0	+1.7
JHJ	Hachijo jima 2	40.10 345	LR	LR	11 41 57.7	
	comp=Z,19μm,21.6s,baz=174,slow=32					
MXZ	Matakaoa Point	40.24 146	IAMs_20	IAMs_20	11 41 53.6	
	comp=Z,24μm,22.0s					
RTZ	Ruatahuna	40.28 148	IAmb	IAmb	11 28 41.3	
	comp=Z,216nm,1.4s					
RTZ			IAMs_20	IAMs_20	11 42 26.7	
	comp=Z,24μm,21.0s					
UGM	Wanagama	40.31 265	P	P	11 28 14.7	-0.8
UGM			IAmb	IAmb	11 29 09.9	
	comp=Z,315nm,1.2s					
UGM	Wanagama	40.31 265	P	P	11 28 17.6	+2.1
	comp=Z,8μmcomp=Z,4μmcomp=Z,119nm,1.4s					
DSZ	Denniston Nort	40.33 156	IAmb	IAmb	11 28 41.5	
	comp=Z,290nm,1.8s					
DSZ			IAMs_20	IAMs_20	11 44 06.1	
	comp=Z,25μm,19.0s					
DSZ	Denniston Nort	40.33 156	P	P	11 28 16.7	+1.4
MWZ	Matawai	40.37 147	P	P	11 28 18.1	+2.5
MTHZ	Maungataniwha	40.38 148	P	P	11 28 17.1	+1.3
SMRI	Semarang	40.39 266	P	P	11 28 16.5	+0.3
SMRI	Semarang	40.39 266	P	P	11 28 19.8	+3.6
	comp=Z,2μmcomp=Z,61nm,0.8s					
KLBR	Kellerberrin	40.41 226	P	P	11 28 16.3	+0.2
MORW	Morawa	40.42 231	P	P	11 28 16.6	+0.4
MORW			IAmb	IAmb	11 28 18.2	
	comp=Z,310nm,0.9s					
MORW	Morawa	40.42 231	P	P	11 28 16.7	+0.4
MORW	Morawa	40.42 231	⇑P	P	11 28 16.6	+0.4
BKZ	Black Stump Fm	40.44 149	P	P	11 28 18.2	+1.9
BKZ	Black Stump Fm	40.44 149	P	P	11 28 17.2	+1.0
YOGI	Yogyakarta	40.53 265	P	P	11 28 19.3	+1.9
	comp=Z,4μmcomp=Z,124nm,0.5s					
NNZ	Nelson	40.56 154	P	P	11 28 17.6	+0.4
NNZ			IAmb	IAmb	11 28 44.1	
	comp=Z,336nm,2.0s					
NNZ			IAMs_20	IAMs_20	11 43 12.2	
	comp=Z,21μm,20.0s					
NNZ	Nelson	40.56 154	P	P	11 28 19.7	+2.6
PUZ	Puketiti	40.57 146	P	P	11 28 18.8	+1.4
SNGZ	Shannon Statio	40.59 148	P	P	11 28 19.6	+2.1
YOJ	Yonaguni jima	40.60 319	P	P	11 28 20.3	+2.6
YOJ	Yonaguni jima	40.60 319	⇑P	P	11 28 19.6	+1.9
BLDU	Ballidu	40.67 228	P	P	11 28 18.5	+0.2
RIGZ	Rimuhau	40.76 147	P	P	11 28 20.6	+1.7
THZ	Tophouse	40.80 155	P	P	11 28 20.3	+1.0
TWGBT	Beinan	40.81 315	P	P	11 28 19.8	+0.3
TWG	Pinlang	40.82 315	IAmb	IAmb	11 28 21.2	
	comp=Z,119nm,0.8s					
TSZ	Takapari Road	40.85 150	P	P	11 28 20.5	+0.9
INZ	Inchbonnie	41.02 157	IAMs_20	IAMs_20	11 43 23.2	
	comp=Z,33μm,21.0s					
INZ	Inchbonnie	41.02 157	P	P	11 28 22.0	+1.1
INZ			PcP	PcP	11 30 19.3	-0.7
YULB	Yu-li	41.03 316	IAmb	IAmb	11 28 26.3	
	comp=Z,336nm,0.9s					
YULB			IAMs_20	IAMs_20	11 41 46.7	
	comp=Z,31μm,21.0s					
YULB	Yu-li	41.03 316	P	P	11 28 22.4	+1.1
WVZ	Waitaha Valley	41.05 158	P	P	11 28 23.7	+2.6
WVZ			PcP	PcP	11 30 23.4	+3.4
FOZ	Fox Glacier	41.11 159	P	P	11 28 24.8	+3.2
FOZ			PcP	PcP	11 30 23.2	+2.9
MRZ	Mangatainoka R	41.13 151	P	P	11 28 22.8	+0.9
JCZ	Jackson Bay	41.23 161	P	P	11 28 24.8	+2.0
JCZ	Jackson Bay	41.23 161	P	P	11 28 25.1	+2.3
JCZ			PcP	PcP	11 30 23.4	+2.6
SNZO	South Karori	41.23 153	P	P	11 28 23.4	+0.8
SNZO			IAmb	IAmb	11 28 49.5	
	comp=Z,470nm,1.6s					
SNZO	South Karori	41.23 153	P	P	11 28 24.7	+2.1
SNZO	South Karori	41.23 153	⇓P	P	11 28 24.7	+2.1
PXZ	Pawanui	41.27 150	P	P	11 28 23.9	+0.9
KSM	Kuching	41.33 279	P	P	11 28 24.2	+0.3
KSM	Kuching	41.33 279	P	P	11 28 24.8	+0.9
NACB	Ninganchiao	41.35 317	P	P	11 28 25.6	+1.8
BHW	Baring Head	41.38 153	IAmb	IAmb	11 28 53.8	
	comp=Z,349nm,1.9s					
BHW			IAMs_20	IAMs_20	11 44 00.9	
	comp=Z,21μm,20.0s					
LTZ	Lake Taylor	41.39 156	IAmb	IAmb	11 28 54.5	
	comp=Z,314nm,1.6s					
LTZ			IAMs_20	IAMs_20	11 44 09.1	
	comp=Z,29μm,21.0s					
LTZ	Lake Taylor	41.39 156	P	P	11 28 25.9	+1.9
TPUB	Ta-pu	41.44 315	P	P	11 28 24.6	-0.1
TPUB			IAmb	IAmb	11 28 27.5	
	comp=Z,385nm,0.9s					
TPUB			IAMs_20	IAMs_20	11 42 02.4	
	comp=Z,24μm,21.0s					
TPUB	Ta-pu	41.44 315	P	P	11 28 24.9	+0.3
BFZ	Birch Farm	41.47 151	IAmb	IAmb	11 28 38.4	
	comp=Z,492nm,2.0s					
BFZ			IAMs_20	IAMs_20	11 42 52.0	
	comp=Z,32μm,22.0s					
BFZ	Birch Farm	41.47 151	P	P	11 28 27.2	+2.6
BFZ	Birch Farm	41.47 151	P	P	11 28 25.4	+0.8
NWAO	Narrogin (SRO)	41.51 225	P	P	11 28 25.0	-0.1
NWAO			IAmb	IAmb	11 28 28.7	
	comp=Z,150nm,0.9s					
NWAO	Narrogin (SRO)	41.51 225	IAMs_20	IAMs_20	11 45 52.3	
	comp=Z,27μm,21.0s					
NWAO	Narrogin (SRO)	41.51 225	LR	LR	11 46 13.3	
	comp=Z,26μm,19.0s,baz=54,slow=37					
NWAO	Narrogin (SRO)	41.51 225	P	P	11 28 25.2	0.0
NWAO			P	P	11 28 25.2	0.0
NWAO			S	S	11 34 35.1	-1.6
NWAO			S	S	11 34 35.1	-1.6
NWAO	Narrogin (SRO)	41.51 225	P	P	11 28 25.4	+0.3
NWAO	Narrogin (SRO)	41.51 225	P	P	11 28 25.6	+0.5
NWAO	Narrogin (SRO)	41.51 225	P	P	11 28 25.0	-0.1
NWAO			pmax	pmax		
	comp=Z,150nm,1.0s					
NWAO			MLR	MLR		
	comp=Z,27μm,21.0s					
NWAO	Narrogin (SRO)	41.51 225	P	P	11 28 25.2	0.0
NWAO			pP	pP	11 28 36.5	-3.5
SSLB	Suanglung	41.53 316	IAmb	IAmb	11 28 35.0	
	comp=Z,329nm,0.9s					
SSLB			IAMs_20	IAMs_20	11 42 22.8	
	comp=Z,32μm,20.0s					
SSLB	Suanglung	41.53 316	P	P	11 28 26.2	+0.8
KHZ	Kahutara	41.61 155	IAMs_20	IAMs_20	11 45 04.9	
	comp=Z,23μm,18.0s					
KHZ	Kahutara	41.61 155	P	P	11 28 28.2	+2.5
KHZ	Kahutara	41.61 155	P	P	11 28 25.9	+0.2
KHZ	Kahutara	41.61 155	⇑P	P	11 28 26.8	+1.1
RPZ	Rata Peaks	41.71 158	P	P	11 28 28.4	+1.7
RPZ	Rata Peaks	41.71 158	LR	LR	11 44 33.5	
	comp=Z,39μm,19.1s,baz=304,slow=34					
MUN	Mundaring	41.74 227	P	P	11 28 27.5	+0.5
OXZ	Oxford	41.76 157	IAMs_20	IAMs_20	11 43 56.8	
	comp=Z,30μm,20.0s					
OXZ	Oxford	41.76 157	P	P	11 28 27.7	+0.7
YHNB	Yeheng	41.83 317	P	P	11 28 29.7	+1.8
GVZ	Greta Valley S	41.85 156	IAmb	IAmb	11 28 54.8	
	comp=Z,808nm,1.9s					
GVZ			IAMs_20	IAMs_20	11 45 49.4	
	comp=Z,31μm,18.0s					
GVZ	Greta Valley S	41.85 156	P	P	11 28 28.9	+1.1
TATO	Taipei	41.96 318	P	P	11 28 29.4	+0.6
TATO	Taipei	41.96 318	IAMs_20	IAMs_20	11 42 20.9	
	comp=Z,23μm,22.0s					
TATO	Taipei	41.96 318	P	P	11 28 30.1	+1.3
TATO			S	S	11 34 44.6	+1.1
TATO	Taipei	41.96 318	P	P	11 28 30.4	+1.6
TATO	Taipei	41.96 318	P	P	11 28 30.2	+1.3
DCZ	Deep Cove	41.98 163	P	P	11 28 30.7	+2.0
WKZ	Wanaka	41.98 161	P	P	11 28 30.7	+1.9
WKZ			IAMs_20	IAMs_20	11 43 58.7	
	comp=Z,20μm,20.0s					
WKZ	Wanaka	41.98 161	P	P	11 28 30.1	+1.3
LBZ	Lake Benmore	41.98 159	P	P	11 28 29.7	+0.9
LBZ			IAMs_20	IAMs_20	11 44 40.8	
	comp=Z,23μm,20.0s					
LBZ	Lake Benmore	41.98 159	P	P	11 28 29.3	+0.5
MTKN	Mount Kenneth	42.03 227	P	P	11 28 31.7	+2.3
MLZ	Mavora Lakes	42.17 162	P	P	11 28 32.3	+1.9
MLZ	Mavora Lakes	42.17 162	P	P	11 28 30.9	+0.5
TMZ	Timaru	42.27 159	P	P	11 28 31.0	-0.1
MQZ	McQueen's Vall	42.32 157	P	P	11 28 33.7	+2.2
MQZ			IAmb	IAmb	11 28 45.2	
	comp=Z,489nm,1.9s					
MQZ			IAMs_20	IAMs_20	11 44 13.6	
	comp=Z,20μm,20.0s					
MQZ	McQueen's Vall	42.32 157	P	P	11 28 32.9	+1.4
CMJI	Cimerak	42.36 265	P	P	11 28 32.0	-0.3
JMN	Monobe	42.50 339	IAmb	IAmb	11 28 49.6	
	comp=Z,202nm,1.1s					
JMN	Monobe	42.50 339	P	P	11 28 34.1	+1.0
JMN	Monobe	42.50 339	⇑P	P	11 28 33.6	+0.5
WHZ	Wether Hill Ro	42.60 163	P	P	11 28 35.9	+2.1
WHZ	Wether Hill Ro	42.60 163	P	P	11 28 34.3	+0.6
ODZ	Otahua Downs	42.72 160	IAMs_20	IAMs_20	11 45 13.2	
	comp=Z,20μm,20.0s					
ODZ	Otahua Downs	42.72 160	⇑P	P	11 28 37.2	+2.5
INU	Inuyama	42.96 343	P	P	11 28 36.3	-0.5
INU	Inuyama	42.96 343	⇑P	P	11 28 35.8	-1.0
JGF	Kuroka	43.09 344	P	P	11 28 38.5	+0.5
JGF	Kuroka	43.09 344	⇑P	P	11 28 36.9	-1.1
JNU	Nakatsue	43.14 335	LR	LR	11 44 39.5	
	comp=Z,8μm,22.0s,baz=172,slow=33					
JNU	Nakatsue	43.14 335	P	P	11 28 39.3	+0.9
JNU	Nakatsue	43.14 335	⇑P	P	11 28 39.1	+0.7
BBJI	Bungbulang	43.16 265	P	P	11 28 38.1	-0.7
TUZ	Tuapeka	43.18 161	P	P	11 28 39.7	+1.3
LEM	Lembang	43.20 266	LR	LR	11 51 05.6	
	comp=Z,6μm,19.1s,baz=94,slow=42					
LEM	Lembang	43.20 266	P	P	11 28 40.0	+0.7
	comp=Z,4μmcomp=Z,132nm,0.9s					
JWT	Wachi	43.39 341	P	P	11 28 43.9	+3.6
JWT	Wachi	43.39 341	⇑P	P	11 28 44.2	+4.0
TPI	Tanjungpandan	43.39 272	P	P	11 28 41.2	+0.5
	comp=Z,12μmcomp=Z,2μmcomp=Z,68nm,0.9s					
APZ	The Paps	43.46 163	P	P	11 28 41.7	+0.9
CNJI	Cibinong	43.67 265	P	P	11 28 42.6	-0.3
	comp=Z,3μmcomp=Z,287nm,1.1s					
MJAR	Matsushiro Arr	43.75 345	P	P	11 28 41.3	-1.9
	comp=Z,34nm,1.0s,baz=163,slow=8.8,SNR=29					
MJAR			ScP	ScP	11 34 15.3	-0.8
	comp=Z,12nm,1.0s,baz=175,slow=5.3,SNR=6.6					
MJAR			LR	LR	11 46 43.9	
	comp=Z,13μm,18.6s,baz=154,slow=36					
	comp=Z,34nm,1.0s					
MAJO	Matsushiro	43.75 345	P	P	11 28 41.5	-1.7
MAJO	Matsushiro	43.75 345	P	P	11 28 42.4	-0.8
MAJO	Matsushiro	43.75 345	*i* P	P	11 28 41.5	-1.7
MAJO			pmax	pmax		
	comp=Z,72nm,0.9s					
MAJO	Matsushiro	43.75 345	⇑P	P	11 28 41.5	-1.7
MAJO	Matsushiro	43.75 345	P	P	11 28 41.8	-1.4
MAJO			pP	pP	11 28 53.4	-4.8
MAJO			sP	sP	11 28 58.4	-6.5
MAJO			ScP	ScP	11 34 16.4	+0.3
QZH	Quanzhou	43.91 315	⇑*i* P	P	11 28 46.3	+1.6
QZH			PcS	PcS	11 34 24.8	+1.7
QZH			S	S	11 35 12.0	-0.2
QZH			SS	SS	11 38 18.3	-12
QZH			pmax	pmax		
	comp=Z,1μm,0.9s					
QZH			pmax	pmax		
	comp=Z,6μm,4.3s					
QZH			LR	LR		
	comp=Z,10μm,19.2s					
QZH			LR	LR		
	comp=Z,13μm,19.9s					
QZH			LR	LR		
	comp=Z,18μm,20.3s					
SKJI	Sukabumi	44.24 266	P	P	11 28 47.9	+0.4
JMM	Marumori	44.42 348	IAmb	IAmb	11 29 06.2	
	comp=Z,122nm,1.2s					
JMM	Marumori	44.42 348	⇑P	P	11 28 50.7	+2.2
H01W1	Cape Leeuwin H	44.72 225	P	P	11 28 53.1	+2.3
	baz=75,slow=8.3,SNR=6.1					
H01W3	Cape Leeuwin H	44.73 225	P	P	11 28 53.8	+3.0
	baz=75,slow=8.3,SNR=5.2					
H01W2	Cape Leeuwin H	44.74 225	P	P	11 28 53.1	+2.2
	baz=75,slow=8.3,SNR=3.7					
JOHN	Johnston Islan	44.90 59	IAMs_20	IAMs_20	11 44 55.8	
	comp=Z,27μm,21.0s					
JOHN	Johnston Islan	44.90 59	P	P	11 28 54.1	+1.5
CGJI	Cibinong	45.11 266	P	P	11 28 53.9	-0.5
	comp=Z,4μmcomp=Z,159nm,0.8s					
XMI	Christmas Isla	45.14 261	P	P	11 28 56.5	+1.8
XMI	Christmas Isla	45.14 261	⇑P	P	11 28 55.7	+1.0
JSD	Sado	45.15 346	IAmb	IAmb	11 29 26.5	
	comp=Z,303nm,1.8s					
JSD	Sado	45.15 346	P	P	11 28 54.8	+0.5
XMIS	Christmas Isla	45.18 261	P	P	11 28 55.9	+0.9
XMIS	Christmas Isla	45.18 261	P	P	11 28 57.1	+2.1
MIDW	Midway	45.45 40	IAMs_20	IAMs_20	11 44 11.1	
	comp=Z,11μm,22.0s					
HKPS	Hong Kong Po S	45.63 309	P	P	11 29 01.1	+2.7
HKPS			IAmb	IAmb	11 29 03.0	
	comp=Z,242nm,0.9s					
HKPS	Hong Kong Po S	45.63 309	IAMs_20	IAMs_20	11 44 53.6	
	comp=Z,21μm,21.0s					
HKPS	Hong Kong Po S	45.63 309	P	P	11 29 01.0	+2.7
DLV	Lat	45.85 293	IAmb	IAmb	11 29 25.4	
	comp=Z,126nm,1.2s					
DLV	Lat	45.85 293	P	P	11 29 01.5	+1.1
DLV	Lat	45.85 293	⇑P	P	11 28 59.8	-0.6
SSE	Sheshan	46.45 324	P	P	11 29 06.0	+1.4
SSE			S	S	11 35 47.3	-1.3
SSE			pmax	pmax		
	comp=Z,91nm,1.7s					
SSE			pmax	pmax		
	comp=Z,970nm,6.7s					
SSE			LR	LR		
	comp=Z,4μm,23.5s					
SSE			LR	LR		
	comp=Z,6μm,24.0s					
GZH	Guangzhou	46.69 309	P	P	11 29 08.8	+2.2
GZH			PP	PP	11 30 57.5	+0.3
GZH			S	S	11 35 55.5	+3.2
GZH			pmax	pmax		
	comp=Z,220nm,0.9s					
GZH			LR	LR		
	comp=Z,7μm,22.0s					
GZH			LR	LR		
	comp=Z,18μm,20.2s					
GZH			LR	LR		
	comp=Z,30μm,21.6s					
MDSI	Maura Dua	46.71 269	P	P	11 29 06.3	-0.8
	comp=Z,9μmcomp=Z,2μmcomp=Z,90nm,1.2s					
LWLI	Liwa	46.80 269	P	P	11 29 08.1	+0.2
	comp=Z,7μmcomp=Z,4μmcomp=Z

comp=Z,26μm,20.8s
NJ2 LR LR
comp=Z,23μm,23.4s
NJ2 LR LR
comp=Z,43μm,24.5s
INCN Inchon 48.66 334 P **P 11 29 22.1 +0.3**
INCN Inchon 48.66 334 P **P 11 29 23.5 +1.7**
INCN P **P 11 29 23.5 +1.7**
INCN S **S 11 36 20.0 0.0**
INCN S **S 11 36 20.0 0.0**
INCN Inchon 48.66 334 P **P 11 29 23.5 +1.7**
INCN Inchon 48.66 334 P **P 11 29 22.1 +0.3**
INCN pmax pmax
comp=Z,755nm,1.3s
INCN Inchon 48.66 334 ⇑P **P 11 29 23.0 +1.2**
INCN Inchon 48.66 334 P **P 11 29 23.1 +1.3**
INCN pP **pP 11 29 33.7 -3.3**
INCN sP **sP 11 29 38.0 -5.6**
INCN PcP **PcP 11 30 47.6 +1.2**
YUK Yuzh-Kuril'sk 49.77 355*c i*P **P 11 29 29.1 -0.9**
YUK *e*S **S 11 36 41.1 +6.0**
YUK pmax pmax
comp=Z,332nm,1.3s
YUK pmax pmax
comp=N,210nm,1.4s
YUK pmax pmax
comp=E,217nm,1.3s
YUK pmax pmax
comp=Z,544nm,1.9s
UBPT Khong Chiam 49.77 295 P **P 11 29 33.5 +3.0**
CNSH ChangSha 49.89 315 P **P 11 29 33.3 +2.0**
CNSH S **S 11 36 42.5 +5.0**
CNSH pmax pmax
comp=Z,180nm,1.1s
CNSH LR LR
comp=Z,7μm,20.3s
CNSH LR LR
comp=Z,10μm,27.5s
CNSH LR LR
comp=Z,20μm,28.2s
RAR Rarotonga 49.99 113 P **P 11 29 33.2 +1.0**
comp=Z,51nm,1.0s,baz=236,slow=9.7,SNR=3.4
RAR LR LR 11 50 15.2
comp=Z,850nm,19.6s,baz=277,slow=35
comp=Z,51nm,1.0s
JKA Kamikawa-asahi 50.21 352 P **P 11 29 33.1 -0.3**
JKA IAmb IAmb 11 29 53.6
comp=Z,329nm,1.5s
ASAJ Asahikawa 50.21 352 P **P 11 29 33.1 -0.3**
ASAJ pmax pmax
comp=Z,329nm,1.5s
BKNI Bangkinang 50.31 275 P **P 11 29 31.3 -3.5**
PYAG Pyongyang 50.35 334 P **P 11 29 35.3 +0.7**
PYAG S **S 11 36 47.1 +3.7**
PYAG AmB
comp=Z,849nm,2.1s
HHU Hamhung 50.36 336 P **P 11 29 34.8 +0.2**
HHU S **S 11 36 47.2 +3.7**
HHU AmB
comp=Z,1μm,3.1s
WHN Wuhan 50.37 318 P **P 11 29 36.5 +1.7**
WHN pP **pP 11 29 48.5 -1.6**
WHN PP **PP 11 31 32.5 +1.6**
WHN S **S 11 36 47.8 +3.9**
WHN sS **sS 11 37 14.3 +4.3**
WHN pmax pmax
comp=Z,880nm,1.1s
WHN pmax pmax
comp=Z,8μm,5.3s
WHN LR LR
comp=Z,30μm,22.7s
WHN LR LR
comp=Z,44μm,22.2s
WHN LR LR
comp=Z,47μm,21.0s
KUR Kuril'sk 50.82 357 P **P 11 29 36.6 -1.4**
KUR *e*S **S 11 36 55.5 +5.8**
KUR MLR MLR
comp=Z,5μm,18.0s
PPI Padang Panjang 50.85 274 P **P 11 29 37.7 -1.1**
comp=Z,10μmcomp=Z,2μmcomp=Z,98nm,1.4s
KULM Kulim 51.52 281 P **P 11 29 44.0 +0.2**
KULM Kulim 51.52 281 ⇑P **P 11 29 42.6 -1.3**
PSTR Posyet 51.57 341 *i* P **P 11 29 43.6 0.0**
VLA Vladivostok 51.65 342 *i* P **P 11 29 43.8 -0.4**
VLA pmax pmax
comp=Z,66nm,1.4s
SUJ Sinuiju 51.77 334 P **P 11 29 45.3 +0.1**
SUJ S **S 11 37 06.7 +3.8**
SUJ AmB
comp=Z,1μm,2.6s
SUJ AMS AMS
comp=Z,7μm,15.4s
MNSI Mandailing Nat 51.82 276 P **P 11 29 45.7 -0.4**
comp=Z,9μmcomp=Z,107nm,0.8s
XMAS Kiritimati 51.99 83 P **P 11 29 49.9 +2.5**
XMAS Kiritimati 51.99 83 IAMs_20 IAMs_20 11 49 20.2
comp=Z,15μm,20.0s
XMAS Kiritimati 51.99 83 P **P 11 29 49.8 +2.5**
XMAS Kiritimati 51.99 83 ⇑P **P 11 29 49.3 +2.0**
SISI Saibi 52.05 273 P **P 11 29 46.5 -1.3**
comp=Z,2μmcomp=Z,38nm,1.0s
DL2 Dalian 52.12 331⇓*i*P **P 11 29 49.3 +1.5**
DL2 pP **pP 11 30 05.8 +2.7**
DL2 S **S 11 37 10.0 +2.1**
DL2 sS **sS 11 37 34.0 -0.1**
DL2 pmax pmax
comp=Z,190nm,0.9s
DL2 pmax pmax
comp=Z,2μm,6.8s
DL2 LR LR
comp=Z,6μm,21.8s
DL2 LR LR
comp=Z,7μm,23.7s
DL2 LR LR
comp=Z,14μm,25.0s
TEY Ternei 52.19 347⇓*e*P **P 11 29 45.0 -3.2**
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=Z,100nm,17.5s
TEY MLR MLR
comp=E,100nm,16.0s
TEY MLR MLR
comp=N,100nm,21.0s
TEY MLR MLR
comp=Z,200nm,18.0s
TIA Tai'an 52.47 325 P **P 11 29 48.8 -1.7**
TIA PcP **PcP 11 31 01.8 +1.3**
TIA ScP **ScP 11 34 53.5 +0.5**
TIA S **S 11 37 16.3 +3.5**
TIA pmax pmax
comp=Z,170nm,1.2s
TIA LR LR
comp=Z,7μm,23.0s
TIA LR LR
comp=Z,8μm,19.1s
TIA LR LR
comp=Z,16μm,26.3s
USRK Ussuriysk Ar. 52.60 343 P **P 11 29 50.3 -1.0**
USRK Ussuriysk Ar. 52.60 343 P **P 11 29 50.5 -0.8**
comp=Z,43nm,0.8s,baz=165,slow=8.7,SNR=36
USRK LR LR 11 50 37.9
comp=Z,8μm,21.8s,baz=156,slow=34
comp=Z,43nm,0.8s
USA0B Ussuriysk Arra 52.60 343 P **P 11 29 50.7 -0.6**
USA0B IAmb IAmb 11 29 52.7
comp=Z,98nm,1.2s
USA0B Ussuriysk Arra 52.60 343 *i* P **P 11 29 49.4 -1.9**
RPSI Rantau Prapat 52.75 278 P **P 11 29 52.0 -1.0**
PSI Prapat 52.77 278 LR LR 11 54 58.7
comp=Z,5μm,21.9s,baz=126,slow=39
PSI Prapat 52.77 278 P **P 11 29 52.7 -0.5**
PSI Prapat 52.77 278 P **P 11 29 52.0 -1.2**
PSI pmax pmax
comp=Z,61nm,1.2s
PSI MLR MLR
comp=Z,3μm,21.0s
NONG Nongkai 52.86 298 P **P 11 29 54.0 +0.3**
YSS Yuzhno-Sakhali 52.98 353 P **P 11 29 53.0 -1.0**
YSS IAmb IAmb 11 30 13.6
comp=Z,84nm,1.1s
YSS Yuzhno-Sakhali 52.98 353 P **P 11 29 53.6 -0.4**
YSS Yuzhno-Sakhali 52.98 353 *e*P **P 11 29 53.0 -1.0**
YSS *e**PP **PP 11 31 51.8 -2.5**
YSS *e*S **S 11 37 16.4 -2.9**
YSS *e*SS **ScS 11 39 43.2 +4.8**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=Z,900nm,7.5s
YSS smax smax
comp=N,2μm,10.7s
YSS smax smax
comp=E,700nm,8.6s
YSS Yuzhno-Sakhali 52.98 353 ⇑P **P 11 29 53.0 -1.0**
YSS Yuzhno-Sakhali 52.98 353 P **P 11 29 53.1 -0.9**
YSS PcP **PcP 11 31 02.6 +0.4**
PBSI Pulau Batu 53.00 274 P **P 11 29 53.8 -1.0**
comp=E,9μmcomp=E,77nm,1.7s
NAYO Nakonayok 53.22 293 P **P 11 29 57.2 +0.9**
TSI Tuntungan 53.24 279 P **P 11 29 57.6 +1.1**
comp=E,10μmcomp=E,75nm,0.9s
SRIT Nakonsritamara 53.26 285 P **P 11 29 56.5 -0.1**
SRIT Nakonsritamara 53.26 285 P **P 11 29 57.0 +0.3**
SLVN Son La 53.50 302 P **P 11 30 01.3 +2.9**
ENH Enshi 53.55 314 IAmb IAmb 11 30 01.0
comp=Z,610nm,1.3s
ENH IAMs_20 IAMs_20 11 49 22.3
comp=Z,16μm,22.0s
ENH Enshi 53.55 314 P **P 11 29 59.7 +1.1**
SNY Shenyang 53.58 335 ⇑P **P 11 29 58.5 0.0**
SNY PP **PP 11 32 01.5 +1.7**
SNY S **S 11 37 25.0 -2.6**
SNY SS **SKiKP 11 41 05.5 -3.3**
SNY pmax pmax
comp=Z,30nm,1.2s
SNY LR LR
comp=Z,5μm,21.3s
SNY LR LR
comp=Z,6μm,21.6s
SNY LR LR
comp=Z,13μm,22.0s
GYA Guiyang 53.61 309 ⇓P **P 11 30 01.3 +2.0**
GYA pP sP 11 30 18.3 -2.9
GYA S **S 11 37 30.5 +1.6**
GYA pmax pmax
comp=Z,140nm,1.1s
GYA pmax pmax
comp=Z,2μm,8.9s
GYA LR LR
comp=Z,4μm,22.5s
GYA LR LR
comp=Z,9μm,23.4s
GYA LR LR
comp=Z,15μm,23.4s
MDJ Mudanjiang 53.72 341 IAmb IAmb 11 30 00.4
comp=Z,64nm,1.1s
MDJ IAMs_20 IAMs_20 11 50 29.9
comp=Z,9μm,22.0s
MDJ Mudanjiang 53.72 341 P **P 11 29 59.5 0.0**
MDJ S **S 11 37 31.5 +2.1**
MDJ pmax pmax
comp=Z,68nm,1.2s
MDJ pmax pmax
comp=Z,3μm,9.6s
MDJ LR LR
comp=Z,7μm,24.0s
MDJ LR LR
comp=Z,5μm,18.9s
MDJ LR LR
comp=Z,15μm,22.7s
MDJ Mudanjiang 53.72 341 P **P 11 29 59.8 +0.3**
MDJ Mudanjiang 53.72 341 P **P 11 29 59.5 0.0**
MDJ pP **pP 11 30 11.0 -3.9**
MDJ PcP **PcP 11 31 06.0 +1.0**
GSI Gunungsitoli 53.88 276 IAmb IAmb 11 30 02.5
comp=Z,111nm,0.8s
GSI Gunungsitoli 53.88 276 P **P 11 30 02.1 +0.8**
GSI Gunungsitoli 53.88 276 P **P 11 29 59.9 -1.4**
comp=Z,9μmcomp=Z,6μmcomp=Z,166nm,0.9s
GSI Gunungsitoli 53.88 276 ⇑P **P 11 30 00.5 -0.7**
COCO West Island 53.88 259 P **P 11 29 58.4 -2.8**
COCO P **P 11 29 58.4 -2.8**
COCO West Island 53.88 259 P **P 11 30 02.5 +1.3**
COCO West Island 53.88 259 ⇓P **P 11 30 01.4 +0.2**
LYN LuoYang 54.14 321⇑*i*P **P 11 30 03.5 +0.7**
LYN pP pP 11 30 20.0 +1.8
LYN PcP **PcP 11 31 09.5 +2.6**
LYN S **S 11 37 32.8 -2.7**
LYN SS **SS 11 41 18.0 -0.2**
LYN pmax pmax
comp=Z,270nm,1.3s
LYN pmax pmax
comp=Z,4μm,4.4s
LYN LR LR
comp=Z,13μm,22.7s
LYN LR LR
comp=Z,15μm,22.0s
LYN LR LR
comp=Z,30μm,21.3s
CN2 Changchun 54.47 337 P **P 11 30 05.0 0.0**
CN2 pP pP 11 30 20.8 +0.4
CN2 PcP **PcP 11 31 08.3 +0.4**
CN2 S **S 11 37 38.8 -0.8**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,2μm,5.0s
CN2 LR LR
comp=Z,6μm,21.0s
CN2 LR LR
comp=Z,4μm,21.0s
CN2 LR LR
comp=Z,10μm,23.0s
HNS HongShan 54.69 325 ⇑P **P 11 30 07.3 +0.6**
HNS pP **pP 11 30 20.3 -1.8**
HNS S **S 11 37 43.0 +0.3**
HNS sS **sS 11 38 12.5 +5.0**
HNS pmax pmax
comp=Z,300nm,1.3s
HNS pmax pmax
comp=Z,4μm,6.2s
HNS LR LR
comp=Z,9μm,20.8s
HNS LR LR
comp=Z,8μm,21.9s
HNS LR LR
comp=Z,16μm,22.4s
UGL Uglegorsk 55.15 353 *e*P **P 11 30 09.1 -0.7**
UGL *e* 11 30 28.9
UGL *e*S **S 11 37 49.2 +0.7**
UGL pmax pmax
comp=Z,100nm,0.9s
UGL smax smax
comp=E,900nm,6.6s
UGL smax smax
comp=N,4μm,11.0s
UGL MLR MLR
comp=E,4μm,21.0s
UGL MLR MLR
comp=N,4μm,18.0s
UGL MLR MLR
comp=Z,4μm,20.0s
SRDT SRDT 55.25 292 P **P 11 30 12.2 +1.0**
BNX BinXian 55.43 340 ⇑P **P 11 30 11.5 -0.4**
BNX pP **pP 11 30 27.0 -0.3**
BNX sP **sP 11 30 34.5 +0.6**
BNX PP **PP 11 32 18.8 +2.4**
BNX S **S 11 37 55.0 +2.5**
BNX sS **sS 11 38 22.0 +4.7**
BNX pmax pmax
comp=Z,190nm,1.0s
BNX pmax pmax
comp=Z,2μm,5.4s
BNX LR LR
comp=Z,6μm,24.4s
BNX LR LR
comp=Z,3μm,20.1s
BNX LR LR
comp=Z,10μm,22.8s
MLSI Meulaboh, Aceh 55.49 279 P **P 11 30 12.0 -0.9**
comp=Z,126nm,0.9s
KEKH Kekaha 55.51 59 P **P 11 30 14.7 +1.8**
BJT Baijiatuau 55.73 328 IAmb IAmb 11 30 32.2
comp=Z,103nm,1.1s
BJT Baijiatuau 55.73 328 P **P 11 30 16.7 +2.5**
BJI Beijing 55.74 328 P **P 11 30 14.5 +0.3**
BJI S **S 11 37 54.5 -2.3**
BJI pmax pmax
comp=Z,34nm,1.7s
BJI pmax pmax
comp=Z,1μm,6.1s
BJI LR LR
comp=Z,2μm,19.5s
BJI LR LR
comp=Z,3μm,21.1s
BJI LR LR
comp=Z,5μm,21.8s
KMI Kunming 56.10 305 ⇑P **P 11 30 18.3 +0.9**
KMI pP pP 11 30 30.8 -2.3
KMI PP **PP 11 32 21.5 -1.5**
KMI S **S 11 37 55.5 -7.0**
KMI pmax pmax
comp=Z,160nm,0.9s
KMI pmax pmax
comp=Z,2μm,9.2s
KMI LR LR
comp=Z,6μm,26.9s
KMI LR LR
comp=Z,6μm,25.9s
KMI LR LR
comp=Z,15μm,29.0s
XAN Xi'an 56.13 318 ⇑P **P 11 30 17.5 +0.2**
XAN pP pP 11 30 29.5 -3.2
XAN PP **PP 11 32 22.0 -1.0**
XAN S **S 11 38 01.5 -0.8**
XAN ScS **ScS 11 39 58.8 -2.9**
XAN SS **SS 11 41 48.3 -1.4**
XAN pmax pmax
comp=Z,280nm,1.3s
XAN pmax pmax
comp=Z,4μm,5.0s
XAN LR LR
comp=Z,10μm,18.7s
XAN LR LR
comp=Z,8μm,19.1s
XAN LR LR
comp=Z,22μm,20.1s
XAN Xi'an 56.13 318 P **P 11 30 17.4 +0.2**
XAN pP **pP 11 30 28.9 -3.9**
TIY Taiyuan 56.23 323 *e*P **P 11 30 18.3 +0.4**
TIY S **S 11 38 02.5 -1.0**
TIY SS **SS 11 41 50.3 -0.8**
TIY pmax pmax
comp=Z,72nm,1.0s
TIY pmax pmax
comp=Z,2μm,4.9s
TIY LR LR
comp=Z,7μm,20.0s
TIY LR LR
comp=Z,4μm,21.6s
TIY LR LR
comp=Z,11μm,22.4s
SKR Severo-Kuril's 56.36 4 *e*P P 11 30 09.5 -8.9
SKR *e*S **S 11 38 06.5 +1.9**
SKR pmax pmax
comp=Z,400nm,4.7s
SKR MLR MLR
comp=Z,6μm,17.0s
HON Honolulu 56.71 60 P **P 11 30 23.4 +1.9**
HON Honolulu 56.71 60 P **P 11 30 23.4 +1.9**
HON pmax pmax
comp=Z,1μm,1.3s
CM31 Chiang Mai Arr 56.73 296 P **P 11 30 21.9 +0.2**
CMAR Chiang Mai Arr 56.73 296 P **P 11 30 21.4 -0.3**
CMAR Chiang Mai Arr 56.73 296 P **P 11 30 21.8 0.0**
comp=Z,9.9nm,0.7s,baz=121,slow=5.0,SNR=49
CMAR PKiKP **PKiKP 11 37 45.8 +0.4**
comp=Z,2.5nm,0.9s,baz=286,slow=0.5,SNR=6.9
CMAR LR LR 11 54 37.7
comp=Z,3μm,20.0s,baz=105,slow=36
CMAR PKPPKP P'P'df 11 59 56.9 -19
comp=Z,0.5nm,0.5s,baz=319,slow=2.3,SNR=5.6
CMAR PKP2bc 12 00 27.6
comp=Z,9.2nm,0.9s,baz=290,slow=4.1,SNR=19
comp=Z,9.9nm,0.7s
KIP Kipapa 56.74 60 P **P 11 30 22.9 +1.1**
KIP Kipapa 56.74 60 P **P 11 30 23.0 +1.4**
KIP Kipapa 56.74 60 P **P 11 30 22.8 +1.1**
KIP Kipapa 56.74 60*ce*P **P 11 30 23.1 +1.4**
KIP pmax pmax
comp=Z,240nm,1.3s
KIP Kipapa 56.74 60 P **P 11 30 22.7 +1.0**
KIP sP **pP 11 30 38.8 +1.4**
BSI Banda Aceh 56.79 280 P **P 11 30 20.2 -2.1**
comp=Z,8μmcomp=Z,2μmcomp=Z,202nm,0.9s
TYV Tymovskoe 56.84 354 *e*P **P 11 30 21.4 -0.4**
TYV *e*S **S 11 38 09.5 -1.4**
TYV pmax pmax
comp=Z,65nm,1.1s
TYV pmax pmax
comp=Z,400nm,3.7s
TYV smax smax
comp=N,800nm,4.6s
TYV smax smax
comp=E,600nm,4.6s
CHTO Chiang Mai 56.85 297 P **P 11 30 22.3 -0.3**
CHTO IAmb IAmb 11 30 50.0
comp=Z,78nm,1.4s
CHTO Chiang Mai 56.85 297 P **P 11 30 23.0 +0.5**
CHTO P **P 11 30 23.0 +0.5**
CHTO S **S 11 38 07.7 -4.5**
CHTO S **S 11 38 07.7 -4.5**
CHTO Chiang Mai 56.85 297 P **P 11 30 23.3 +0.7**
CHTO Chiang Mai 56.85 297 P **P 11 30 22.3 -0.3**
CHTO pmax pmax
comp=Z,78nm,1.4s
CHTO Chiang Mai 56.85 297 ⇑P **P 11 30 22.4 -0.2**
KLR Kul'dur 57.28 345 LR LR 11 54 09.7
comp=Z,6μm,19.2s,baz=174,slow=35
KLR Kul'dur 57.28 345*ce*P **P 11 30 24.5 -0.5**
KLR pmax pmax
comp=Z,70nm,1.0s
PZH PanZhiHua 57.52 306 P **P 11 30 28.5 +1.2**
PZH S **S 11 38 20.8 -0.2**
PZH pmax pmax
comp=Z,50nm,1.1s
PZH pmax pmax
comp=Z,560nm,6.1s
PZH LR LR
comp=Z,4μm,20.0s
PZH LR LR
comp=Z,6μm,18.4s
PZH LR LR
comp=Z,9μm,24.0s
HLK Haleakala 58.02 61 P **P 11 30 33.2 +2.1**
CD2 Chengdu 58.06 312 P **P 11 30 31.5 +0.6**
CD2 pP pP 11 30 48.5 +2.0
CD2 PP **PP 11 32 38.5 -1.7**
CD2 S **S 11 38 27.3 -0.5**
CD2 sS sS 11 38 52.3 -1.3
CD2 pmax pmax
comp=Z,110nm,0.7s
CD2 pmax pmax
comp=Z,2μm,5.8s
CD2 LR LR
comp=Z,12μm,21.8s
CD2 LR LR
comp=Z,19μm,24.9s
POHA Pohakuloa 58.30 63 P **P 11 30 34.4 +1.4**
POHA Pohakuloa 58.30 63 IAMs_20 IAMs_20 11 51 17.0
comp=Z,13μm,21.0s
POHA Pohakuloa 58.30 63 P **P 11 30 34.7 +1.7**
POHA Pohakuloa 58.30 63 ⇑P **P 11 30 34.2 +1.2**
POHA Pohakuloa 58.30 63 P **P 11 30 34.2 +1.2**
POHA sP **pP 11 30 50.0 +1.2**
PUH Pauahi 58.45 63 P **P 11 30 35.2 +1.3**
XLT XiLinHaoTe 58.62 331 *e*P **P 11 30 34.5 -0.2**
XLT pP sP 11 30 54.0 -3.0
XLT S **S 11 38 33.3 -1.5**
XLT SS **SS 11 42 28.0 -0.6**
XLT pmax pmax
comp=Z,100nm,1.2s
XLT pmax pmax
comp=Z,2μm,8.9s
XLT LR LR
comp=Z,8μm,18.6s
XLT LR LR
comp=Z,12μm,21.0s
HHC Hu-ho-hao-te 58.82 326⇑*i*P **P 11 30 37.0 +0.9**
HHC pP pP 11 30 54.8 +2.9
HHC S **S 11 38 37.3 -0.2**

HHC			sS	sS	11 38 59.0	-3.9
HHC			SS	**SS**	**11 42 32.3**	**+0.4**
HHC			pmax	pmax		
	comp=Z,90nm,0.9s					
HHC			pmax	pmax		
	comp=Z,2μm,6.1s					
HHC			LR	LR		
	comp=Z,7μm,22.1s					
HHC			LR	LR		
	comp=Z,6μm,20.8s					
HHC			LR	LR		
	comp=Z,15μm,22.6s					
PET	**Petropavlovsk**	**58.89 5**	P	**P**	**11 30 35.4**	**-0.8**
PET			IAmb	IAmb	11 30 39.4	
	comp=Z,41nm,0.8s					
PET	**Petropavlovsk**	**58.89 5**	P	**P**	**11 30 36.2**	**0.0**
PET	**Petropavlovsk**	**58.89 5**	*e*P	**P**	**11 30 35.0**	**-1.1**
PET			*e*S	**S**	**11 38 40.0**	**+2.4**
PET			pmax	pmax		
	comp=Z,2μm,14.5s					
PET			pmax	pmax		
	comp=Z,51nm,0.7s					
PET			pmax	pmax		
	comp=Z,1μm,17.3s					
PET			MLR	MLR		
	comp=Z,5μm,17.0s					
PET			MLR	MLR		
	comp=Z,6μm,19.0s					
PET	**Petropavlovsk**	**58.89 5**	⇓P	**P**	**11 30 35.0**	**-1.1**
PET	**Petropavlovsk**	**58.89 5**	P	**P**	**11 30 34.7**	**-1.5**
	comp=Z,59nm,0.7s					
PEA0B	**Petropavlovsk-**	**58.89 5**	P	**P**	**11 30 35.8**	**-0.4**
PEA0B	**Petropavlovsk-**	**58.89 5**	P	**P**	**11 30 35.8**	**-0.4**
PEA0B			pmax	pmax		
	comp=Z,524nm,2.0s					
PETK	**Petropavlovsk-**	**58.89 5**	P	**P**	**11 30 35.6**	**-0.6**
PETK	**Petropavlovsk-**	**58.89 5**	P	**P**	**11 30 35.4**	**-0.9**
	comp=Z,61nm,0.7s,baz=170,slow=6.7,SNR=63					
PETK			LR	LR	11 52 22.3	
	comp=Z,11μm,21.9s,baz=189,slow=32					
PETK			PKP2bc		12 00 21.4	
	comp=Z,6.7nm,0.9s,baz=343,slow=4.6,SNR=4.0					
	comp=Z,61nm,0.7s					
PETK	**Petropavlovsk-**	**58.89 5**	P	**P**	**11 30 35.6**	**-0.6**
PPT	**Papeete**	**59.09 107**	P	**P**	**11 30 40.1**	**+1.8**
	comp=Z,45nm,0.9s,baz=275,slow=5.6,SNR=7.6					
PPT			PKP2bc		12 00 20.3	
	comp=Z,38nm,1.1s,baz=115,slow=5.8,SNR=3.7					
	comp=Z,45nm,0.9s					
PPT2	**Papeete2**	**59.09 107**	*e*P	**P**	**11 30 39.3**	**+0.9**
	comp=Z,160nm,1.5s					
PPT2	**Papeete2**	**59.09 107**	*e*PP	**PP**	**11 32 47.3**	**-2.2**
	comp=Z,1μm,25.0s					
PPT2			*e*S	**S**	**11 38 41.3**	**-0.4**
	comp=Z,4μm,26.2s					
PPT2			*e*SS	**SS**	**11 42 36.2**	**-0.5**
	comp=Z,3μm,31.0s					
PPT2			*e*LQ	LQ	11 45 37.3	
	comp=Z,22μm,33.5s					
PPT2			*e*LR	LR	11 48 03.4	
	comp=Z,6μm,25.0s					
PPT2			*e*LR	LR	11 48 04.4	
	comp=Z,4μm,27.0s					
PAE	**Paea**	**59.09 107**	*e*P	**P**	**11 30 38.4**	**+0.1**
	comp=Z,83nm,1.4s					
PAE	**Paea**	**59.09 107**	*e*PP	**PP**	**11 32 49.3**	**-0.2**
	comp=Z,275nm,24.7s					
PAE			*e*S	**S**	**11 38 38.2**	**-3.4**
	comp=Z,744nm,25.4s					
PAE			*e*LQ	LQ	11 45 30.6	
	comp=Z,901nm,27.4s					
PAE			*e*LR	LR	11 48 05.1	
	comp=Z,699nm,22.3s					
PPTF	**Pamatai, Papee**	**59.10 107**	P	**P**	**11 30 41.4**	**+2.9**
NKL	**Nikolayevsk**	**59.32 353**	*e*P	**P**	**11 30 36.9**	**-2.2**
NKL			*e*S	**S**	**11 38 41.1**	**-2.1**
NKL			pmax	pmax		
	comp=N,72nm,1.0s					
NKL			pmax	pmax		
	comp=E,109nm,1.2s					
NKL			pmax	pmax		
	comp=Z,347nm,1.2s					
NKL			smax	smax		
	comp=N,304nm,8.8s					
NKL			smax	smax		
	comp=E,630nm,8.8s					
NKL			MLR	MLR		
	comp=N,6μm,20.0s					
NKL			MLR	MLR		
	comp=E,12μm,21.0s					
NKL			MLR	MLR		
	comp=Z,13μm,21.0s					
HEH	**HeiHe**	**59.41 343**	*e*P	**P**	**11 30 39.0**	**-0.8**
HEH			pP	**pP**	**11 30 55.5**	**+0.1**
HEH			PcP	**PcP**	**11 31 26.5**	**-0.6**
HEH			S	**S**	**11 38 43.5**	**-1.0**
HEH			pmax	pmax		
	comp=Z,93nm,0.9s					
HEH			pmax	pmax		
	comp=Z,2μm,9.1s					
HEH			LR	LR		
	comp=Z,8μm,20.2s					
HEH			LR	LR		
	comp=Z,5μm,19.6s					
HEH			LR	LR		
	comp=Z,14μm,20.8s					
TVO	**Taravao**	**59.41 107**	*e*P	**P**	**11 30 40.8**	**+0.2**
	comp=Z,129nm,1.5s					
TVO			*e*S	**S**	**11 38 41.8**	**-4.1**
	comp=Z,845nm,25.1s					
TVO			*e*LQ	LQ	11 45 43.7	
	comp=Z,2μm,31.7s					
TVO			*e*LR	LR	11 48 14.0	
	comp=Z,1μm,25.0s					
TNCH	**TengChong**	**59.53 303**	⇑P	**P**	**11 30 41.5**	**+0.1**
TNCH			pP	pP	11 30 57.5	+0.3
TNCH			PP	**PP**	**11 32 55.3**	**+1.8**
TNCH			S	**S**	**11 38 41.3**	**-6.1**
TNCH			sS	sS	11 39 13.8	+0.3
TNCH			SS	**SS**	**11 42 41.8**	**-1.9**
TNCH			pmax	pmax		
	comp=Z,2μm,9.4s					
TNCH			LR	LR		
	comp=Z,3μm,31.5s					
TNCH			LR	LR		
	comp=Z,3μm,28.8s					
TNCH			LR	LR		
	comp=Z,14μm,24.2s					
BTO	**Baotou**	**59.54 325**	*e*P	**P**	**11 30 42.5**	**+1.4**
BTO			pP	**pP**	**11 30 58.0**	**+1.2**
BTO			sP	**sP**	**11 31 06.0**	**+2.5**
BTO			S	**S**	**11 38 49.0**	**+2.2**
BTO			SS	**SS**	**11 42 45.5**	**+2.3**
BTO			pmax	pmax		
	comp=Z,140nm,1.0s					
BTO			pmax	pmax		
	comp=Z,2μm,5.8s					
BTO			LR	LR		
	comp=Z,5μm,18.5s					
BTO			LR	LR		
	comp=Z,7μm,17.6s					
BTO			LR	LR		
	comp=Z,8μm,17.8s					
TBI	**Tubuai**	**59.75 114**	*e*PP	**PP**	**11 32 53.8**	**-1.4**
	comp=Z,4μm,26.2s					
TBI			*e*S	**S**	**11 38 51.9**	**+2.0**
	comp=Z,10μm,28.5s					
TBI			*e*SS	**SS**	**11 42 46.2**	**-0.6**
	comp=Z,18μm,28.5s					
TBI			*e*LQ	LQ	11 45 52.4	
	comp=Z,163μm,34.0s					
TBI			*e*LR	LR	11 48 21.2	
	comp=Z,67μm,35.5s					
TBI			*e*LR	LR	11 48 25.0	
	comp=Z,11μm,33.8s					
PBA	**Port Blair**	**60.53 287**	P	**P**	**11 30 47.5**	**-0.8**
PBA			IAmb	IAmb	11 31 42.0	
	comp=Z,41nm,0.7s					
PBA	**Port Blair**	**60.53 287**	*e*P	**P**	**11 30 46.7**	**-1.5**
PMOR	**Pomariorio Ree**	**60.58 104**	*e*P	**P**	**11 30 48.7**	**+0.2**
	comp=Z,550nm,1.3s					
PMOR	**Pomariorio Ree**	**60.58 104**	*e*PP	PP	11 32 50.0	-13
	comp=Z,2μm,26.5s					
PMOR			*e*S	**S**	**11 38 59.9**	**-0.8**
	comp=Z,2μm,24.4s					
PMOR			*e*SS	**SS**	**11 43 00.5**	**+0.5**
	comp=Z,3μm,25.9s					
PMOR			*e*LR	LR	11 48 48.7	
	comp=Z,6μm,21.9s					
LZH	**Lanzhou**	**60.72 317**	⇑P	**P**	**11 30 50.5**	**+1.2**
LZH			pP	pP	11 31 03.0	-2.0
LZH			sP	sP	11 31 11.3	-0.2
LZH			PP	**PP**	**11 33 09.5**	**+5.7**
LZH			S	**S**	**11 39 02.5**	**+0.3**
LZH			SS	**SS**	**11 43 02.5**	**+0.5**
LZH			pmax	pmax		
	comp=Z,240nm,1.2s					
LZH			pmax	pmax		
	comp=Z,3μm,8.9s					
LZH			LR	LR		
	comp=Z,5μm,20.0s					
LZH			LR	LR		
	comp=Z,5μm,20.0s					
LZH			LR	LR		
	comp=Z,9μm,21.4s					
DGPR	**DIGLIPUR**	**60.72 288**	*e*P	**P**	**11 30 48.1**	**-1.4**
DGPR			IAmb	IAmb	11 30 51.5	
	comp=Z,43nm,1.3s					
VAH	**Vaihoa**	**60.84 104**	*e*P	**P**	**11 30 49.5**	**-0.8**
	comp=Z,201nm,1.2s					
VAH			*e*S	**S**	**11 39 05.7**	**+1.6**
	comp=Z,4μm,30.1s					
VAH			*e*SS	**SS**	**11 43 00.5**	**-3.6**
	comp=Z,3μm,26.1s					
VAH			*e*LR	LR	11 48 55.7	
	comp=Z,6μm,24.3s					
HIA	**Hailar**	**61.20 337**	P	**P**	**11 30 52.5**	**+0.4**
HIA			IAmb	IAmb	11 30 53.8	
	comp=Z,127nm,1.0s					
HIA	**Hailar**	**61.20 337**	P	**P**	**11 30 52.7**	**+0.5**
HIA	**Hailar**	**61.20 337**	*i* P	**P**	**11 30 51.3**	**-0.9**
HIA			pmax	pmax		
	comp=Z,90nm,0.9s					
HIA	**Hailar**	**61.20 337**	P	**P**	**11 30 52.4**	**+0.2**
HIA			pP	**pP**	**11 31 04.6**	**-3.4**
SHEM	**Shemya Is, Ala**	**61.44 16**	P	**P**	**11 30 53.2**	**-0.4**
	comp=Z,72nm,0.8s,baz=321,slow=16,SNR=1.7					
SHEM			LR	LR	11 52 21.2	
	comp=Z,11μm,21.8s,baz=171,slow=31					
	comp=Z,72nm,0.8s					
ZEA	**Zeya**	**62.56 344**	*e*P	**P**	**11 31 00.9**	**-0.2**
ZEA			*e*S	**S**	**11 39 25.8**	**+1.4**
ZEA			pmax	pmax		
	comp=E,10.0nm,1.1s					
ZEA			pmax	pmax		
	comp=N,40nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,70nm,1.0s					
ZEA			pmax	pmax		
	comp=E,200nm,10.2s					
ZEA			pmax	pmax		
	comp=N,400nm,7.6s					
ZEA			pmax	pmax		
	comp=Z,900nm,9.2s					
ZEA			smax	smax		
	comp=E,800nm,16.7s					
ZEA			smax	smax		
	comp=N,2μm,15.6s					
IMP	**Imphal**	**63.30 301**	*e*P	**P**	**11 31 04.9**	**-1.9**
KOHI	**KOHIMA**	**63.48 302**	*e*P	**P**	**11 31 06.1**	**-1.9**
KOHI			IAmb	IAmb	11 31 28.8	
	comp=Z,109nm,1.2s					
ADK	**Adak**	**63.66 22**	IAMs_20	IAMs_20	11 53 04.7	
	comp=Z,15μm,22.0s					
ZIRO	**ZIRO**	**64.36 304**	*e*P	**P**	**11 31 12.4**	**-1.4**
BRDH	**Bariadhala**	**64.57 298**	LR	LR	12 00 29.5	
	comp=Z,3μm,19.7s,baz=126,slow=37					
ATKA	**Atka Island**	**64.85 23**	IAMs_20	IAMs_20	11 54 20.2	
	comp=Z,12μm,21.0s					
MA2	**Magadan**	**65.11 360**	P	**P**	**11 31 16.5**	**-1.3**
MA2			IAmb	IAmb	11 31 20.7	
	comp=Z,60nm,0.7s					
MA2			IAMs_20	IAMs_20	11 55 21.9	
	comp=Z,12μm,22.0s					
MA2	**Magadan**	**65.11 360**	P	**P**	**11 31 16.5**	**-1.3**
	comp=Z,54nm,0.7s,baz=165,slow=6.5,SNR=52					
MA2			LR	LR	11 55 55.2	
	comp=Z,10μm,21.8s,baz=191,slow=32					
	comp=Z,54nm,0.7s					
MA2	**Magadan**	**65.11 360**	P	**P**	**11 31 16.9**	**-0.9**
MA2	**Magadan**	**65.11 360**	⇑P	**P**	**11 31 16.3**	**-1.5**
MA2	**Magadan**	**65.11 360**	P	**P**	**11 31 16.2**	**-1.6**
	comp=Z,2μmcomp=Z,82nm,0.7s					
MA2	**Magadan**	**65.11 360**	P	**P**	**11 31 16.5**	**-1.3**
GTA	**Gaotai**	**65.19 318**	P	**P**	**11 31 20.5**	**+1.6**
GTA			pP	pP	11 31 32.3	-2.4
GTA			PP	**PP**	**11 33 42.8**	**-0.2**
GTA			S	**S**	**11 40 01.3**	**+3.3**
GTA			sS	sS	11 40 20.8	-3.4
GTA			pmax	pmax		
	comp=Z,72nm,1.1s					
GTA			pmax	pmax		
	comp=Z,2μm,9.6s					
GTA			LR	LR		
	comp=Z,3μm,21.5s					
GTA			LR	LR		
	comp=Z,4μm,20.7s					
GTA			LR	LR		
	comp=Z,6μm,22.3s					
AGT	**Agartala**	**65.30 299**	*e*P	**P**	**11 31 20.7**	**+1.0**
SHL	**Shillong**	**65.31 301**	P	**P**	**11 31 19.6**	**-0.4**
SHL			IAmb	IAmb	11 31 24.1	
	comp=Z,57nm,0.8s					
SHL	**Shillong**	**65.31 301**	P	**P**	**11 31 20.0**	**-0.1**
	SNR=28					
SHL	**Shillong**	**65.31 301**	*e*P	**P**	**11 31 19.1**	**-0.9**
SHL			IAmb	IAmb	11 31 23.9	
	comp=Z,42nm,0.6s					
SHL	**Shillong**	**65.31 301**	P	**P**	**11 31 19.6**	**-0.4**
SHL			pmax	pmax		
	comp=Z,57nm,0.8s					
CIT	**Chita**	**65.82 336**	*e*P	**P**	**11 31 23.4**	**+0.8**
CIT			*e*		11 31 35.0	
CIT			*e*		11 31 38.4	
CIT			*e*		11 31 52.8	
CIT			*e*		11 35 26.6	
CIT			*e*		11 40 23.6	
CIT			pmax	pmax		
	comp=Z,361nm,1.2s					
ULN	**Ulaanbaatar**	**65.90 329**	P	**P**	**11 31 24.2**	**+0.8**
ULN			IAmb	IAmb	11 31 25.7	
	comp=Z,66nm,0.9s					
ULN	**Ulaanbaatar**	**65.90 329**	IAMs_20	IAMs_20	11 59 29.5	
	comp=Z,11μm,21.0s					
ULN	**Ulaanbaatar**	**65.90 329**	P	**P**	**11 31 24.6**	**+1.2**
ULN			P	**P**	**11 31 24.6**	**+1.2**
ULN			S	**S**	**11 40 06.8**	**+0.5**
ULN			S	**S**	**11 40 06.8**	**+0.5**
ULN	**Ulaanbaatar**	**65.90 329**	⇑*i*P	**P**	**11 31 24.1**	**+0.8**
ULN			pmax	pmax		
	comp=Z,89nm,1.1s					
ULN	**Ulaanbaatar**	**65.90 329**	⇑P	**P**	**11 31 24.2**	**+0.8**
TAWA	**Tawang**	**66.02 303**	*e*P	**P**	**11 31 26.7**	**+1.9**
TAWA			IAmb	IAmb	11 31 30.3	
	comp=Z,74nm,0.5s					
SONM	**Songino Array**	**66.21 329**	P	**P**	**11 31 25.9**	**+0.6**
SONM			IAmb	IAmb	11 31 28.5	
	comp=Z,79nm,1.0s					
SONM	**Songino Array**	**66.21 329**	P	**P**	**11 31 26.0**	**+0.6**
	comp=Z,72nm,0.9s,baz=139,slow=6.4,SNR=210					
SONM			LR	LR	11 59 41.1	
	comp=Z,15μm,21.7s,baz=132,slow=35					
SONM			PKPPKP		11 59 53.4	
	comp=Z,8.5nm,1.4s,baz=276,slow=2.8,SNR=12					
SONM			PKP2bc		12 00 02.4	
	comp=Z,8.5nm,1.1s,baz=287,slow=0.9,SNR=9.1					
	comp=Z,72nm,0.9s					
CASY	**Casey**	**66.62 197**	P	**P**	**11 31 28.3**	**+0.9**
CASY			IAmb	IAmb	11 31 41.8	
	comp=Z,92nm,1.1s					
CASY	**Casey**	**66.62 197**	⇑P	**P**	**11 31 28.3**	**+0.9**
CASY	**Casey**	**66.62 197**	P	**P**	**11 31 28.5**	**+1.0**
CASY			pP	**pP**	**11 31 39.6**	**-3.7**
GOMU	**GeErMu**	**67.13 313**	P	**P**	**11 31 32.5**	**+0.8**
GOMU			S	**S**	**11 40 28.5**	**+6.4**
GOMU			pmax	pmax		
	comp=Z,92nm,1.0s					
GOMU			LR	LR		
	comp=Z,11μm,19.1s					
GOMU			LR	LR		
	comp=Z,24μm,19.9s					
GOMU			LR	LR		
	comp=Z,46μm,19.0s					
LSA	**Lhasa**	**67.36 305**	P	**P**	**11 31 33.6**	**+0.2**
LSA			IAmb	IAmb	11 31 35.8	
	comp=Z,84nm,1.1s					
LSA	**Lhasa**	**67.36 305**	P	**P**	**11 31 33.8**	**+0.4**
LSA			S	**S**	**11 40 30.8**	**+5.5**
LSA			LR	LR		
	comp=Z,3μm,21.6s					
LSA			LR	LR		
	comp=Z,5μm,23.7s					
LSA	**Lhasa**	**67.36 305**	P	**P**	**11 31 33.6**	**+0.2**
LSA			pmax	pmax		
	comp=Z,84nm,1.1s					
NIKH	**Nikolski High**	**67.58 25**	P	**P**	**11 31 32.5**	**-1.2**
	baz=224					
TAOE	**Nuku Hiva Isla**	**68.22 97**	*e*P	**P**	**11 31 37.8**	**-0.8**
	comp=Z,367nm,1.4s					
TAOE	**Nuku Hiva Isla**	**68.22 97**	*e*PP	**PP**	**11 34 06.6**	**-3.2**
	comp=Z,474nm,27.6s					
TAOE			*e*S	**S**	**11 40 31.3**	**-4.1**
	comp=Z,894nm,24.1s					
TAOE			*e*SS	**SS**	**11 44 55.7**	**-3.7**
	comp=Z,2μm,34.8s					
TAOE			*e*LQ	LQ	11 48 53.2	
	comp=Z,5μm,28.2s					
TAOE			*e*LR	LR	11 52 19.2	
	comp=Z,5μm,22.6s					
JPG	**JALPAIGURI**	**68.32 301**	*e*P	**P**	**11 31 37.4**	**-1.5**
SEY	**Seymchan**	**68.48 1**	P	**P**	**11 31 38.3**	**-0.9**
	comp=Z,44nm,1.1s,baz=177,slow=7.5,SNR=38					
SEY			LR	LR	11 56 10.1	
	comp=Z,7μm,21.5s,baz=180,slow=31					
	comp=Z,44nm,1.1s					
SEY	**Seymchan**	**68.48 1**	*c*e*P	**P**	**11 31 38.0**	**-1.2**
SEY			pmax	pmax		
	comp=Z,97nm,1.7s					
GTK	**Tadong**	**68.66 302**	*e*P	**P**	**11 31 42.0**	**+0.8**
GTK			IAmb	IAmb	11 31 46.3	
	comp=Z,31nm,0.8s					
UNV	**Unalaska Valle**	**69.19 25**	IAmb	IAmb	11 31 46.0	
	comp=Z,72nm,1.1s					
UNV	**Unalaska Valle**	**69.19 25**	P	**P**	**11 31 45.2**	**+1.5**
UNV	**Unalaska Valle**	**69.19 25**	P	**P**	**11 31 42.4**	**-1.3**
	baz=226					
ZAK	**Zakamensk**	**69.41 330**	*e*P	**P**	**11 31 45.1**	**-0.2**
ZAK			*e*		11 32 00.2	
ZAK			pmax	pmax		
	comp=Z,123nm,1.1s					
ZAK			pmax	pmax		
	comp=Z,89nm,1.2s					
YAK	**Yakutsk**	**69.56 349**	P	**P**	**11 31 45.1**	**-0.8**
YAK			IAmb	IAmb	11 31 50.3	
	comp=Z,167nm,0.8s					
YAK	**Yakutsk**	**69.56 349**	LR	LR	12 00 06.9	
	comp=Z,7μm,22.0s,baz=150,slow=34					
YAK	**Yakutsk**	**69.56 349**	*c i* P	**P**	**11 31 44.5**	**-1.4**
YAK			*e**PP	**pP**	**11 32 00.9**	**-1.2**
YAK			*e*		11 32 07.3	
YAK			*e*		11 34 18.2	
YAK			*e*PPP	PPP	11 35 59.8	
YAK			*e*S	**S**	**11 40 47.7**	**-1.5**
YAK			*e**SS	**sS**	**11 41 15.6**	**-0.2**
YAK			*e*		11 41 40.3	
YAK			*e*SS	**SS**	**11 45 16.8**	**-1.3**
YAK			pmax	pmax		
	comp=Z,281nm,1.3s					
YAK			pmax	pmax		
	comp=N,84nm,1.3s					
YAK			pmax	pmax		
	comp=E,27nm,1.4s					
YAK			pmax	pmax		
	comp=Z,367nm,4.3s					
YAK			pmax	pmax		
	comp=N,210nm,4.7s					
YAK			pmax	pmax		
	comp=E,55nm,2.0s					
YAK			smax	smax		
	comp=N,129nm,6.2s					
YAK			smax	smax		
	comp=E,104nm,3.3s					
YAK			MLR	MLR		
	comp=Z,3μm,16.0s					
YAK			MLR	MLR		
	comp=N,3μm,16.0s					
YAK			MLR	MLR		
	comp=E,932nm,20.0s					
YAK	**Yakutsk**	**69.56 349**	⇑P	**P**	**11 31 45.1**	**-0.8**
BOK	**Bokaro**	**69.96 298**	*e*P	**P**	**11 31 50.1**	**+1.0**
BOK			IAmb	IAmb	11 32 16.8	
	comp=Z,24nm,0.9s					
P08K	**Saint George I**	**69.97 22**	IAMs_20	IAMs_20	11 57 59.5	
	comp=Z,15μm,22.0s					
P08K	**Saint George I**	**69.97 22**	P	**P**	**11 31 47.2**	**-1.2**
	baz=222					
IRK	**Irkutsk**	**70.09 332**	*e*P	**P**	**11 31 47.6**	**-1.8**
IRK			*e*		11 32 05.1	
IRK			pmax	pmax		
	comp=Z,165nm,2.1s					
SPIA	**Saint Paul Isl**	**70.14 21**	P	**P**	**11 31 48.4**	**-1.1**
	baz=221					
KNTI	**KHUNTI**	**70.29 297**	*e*P	**P**	**11 31 49.7**	**-1.6**
VIS	**Vishakhapatnam**	**70.78 291**	*e*P	**P**	**11 31 57.1**	**+2.8**
RAGD	**RAYAGADA**	**71.00 292**	*e*P	**P**	**11 31 56.3**	**+0.7**
RAGD			IAmb	IAmb	11 31 58.9	
	comp=Z,32nm,0.7s					
FALS	**False Pass**	**71.21 26**	IAmb	IAmb	11 31 57.9	
	comp=Z,211nm,1.3s					
FALS	**False Pass**	**71.21 26**	P	**P**	**11 31 57.6**	**+1.6**
FALS	**False Pass**	**71.21 26**	P	**P**	**11 31 54.8**	**-1.3**
	baz=228					
JHSG	**JHARSUGUGA**	**71.31 295**	*e*P	P	11 31 52.5	-5.0
MOY	**Mondy**	**71.34 330**	*e*P	**P**	**11 31 57.0**	**-0.1**
MOY			pmax	pmax		
	comp=Z,134nm,1.0s					
PALK	**Pallekele**	**71.39 280**	P	**P**	**11 31 57.9**	**-0.2**
PALK	**Pallekele**	**71.39 280**	LR	LR	12 05 25.8	
	comp=Z,2μm,21.9s,baz=110,slow=38					
PALK	**Pallekele**	**71.39 280**	P	**P**	**11 31 58.4**	**+0.3**
PALK			S	**S**	**11 41 11.7**	**-0.7**
PALK	**Pallekele**	**71.39 280**	*i* P	**P**	**11 31 57.5**	**-0.6**
PALK			pmax	pmax		
	comp=Z,41nm,0.8s					
PALK	**Pallekele**	**71.39 280**	⇑P	**P**	**11 31 57.5**	**-0.6**
PALK	**Pallekele**	**71.39 280**	P	**P**	**11 31 58.2**	**+0.1**
PALK			PcP	**PcP**	**11 32 17.0**	**-0.5**
MALK	**Mahakanadarawa**	**71.71 281**	P	**P**	**11 31 58.3**	**-1.6**
MALK	**Mahakanadarawa**	**71.71 281**	⇑P	**P**	**11 31 59.0**	**-1.0**
VNDA	**Vanda**	**71.97 178**	P	**P**	**11 32 01.6**	**+1.3**
VNDA	**Vanda**	**71.97 178**	P	**P**	**11 32 01.4**	**+1.0**
	comp=Z,24nm,0.9s,baz=278,slow=7.9,SNR=3.3					
	comp=Z,24nm,0.9s					
VNDA	**Vanda**	**71.97 178**	P	**P**	**11 32 01.7**	**+1.3**
VNDA			pmax	pmax		
	comp=Z,56nm,1.2s					
VNDA	**Vanda**	**71.97 178**	P	**P**	**11 32 01.6**	**+1.3**
VNDA			PcP	**PcP**	**11 32 19.5**	**+0.9**
SBA	**Scott Base**	**72.54 177**	P	**P**	**11 32 05.5**	**+1.7**
SBA			IAmb	IAmb	11 32 22.2	
	comp=Z,211nm,1.8s					
SBA	**Scott Base**	**72.54 177**	P	**P**	**11 32 05.5**	**+1.7**
SBA			pmax	pmax		
	comp=Z,211nm,1.8s					
MDRS	**Chennai**	**72.77 286**	*e*P	**P**	**11 32 05.6**	**-0.7**
SDPT	**Sand Point**	**72.82 27**	P	**P**	**11 32 04.8**	**-0.9**
SDPT			IAmb	IAmb	11 32 07.3	
	comp=Z,144nm,1.1s					
SDPT	**Sand Point**	**72.82 27**	P	**P**	**11 32 06.3**	**+0.6**
SDPT	**Sand Point**	**72.82 27**	P	**P**	**11 32 04.4**	**-1.3**
	baz=231					
BLSP	**Bilaspur**	**72.88 295**	*e*P	**P**	**11 32 03.0**	**-3.8**
CNBA	**Chernabura Isl**	**72.89 27**	IAmb	IAmb	11 32 08.7	
	comp=Z,121nm,1.2s					
CHNA	**Chernabura Isl**	**72.90 27**	P	**P**	**11 32 05.2**	**-1.0**
	baz=232,SNR=5.4					
RKT	**Rikitea**	**73.03 112**	*e*P	**P**	**11 32 08.1**	**+0.5**
	comp=Z,113nm,1.0s					
RKT	**Rikitea**	**73.03 112**	*e*PP	**PP**	**11 34 50.4**	**-0.5**
	comp=Z,4μm,27.8s					
RKT			*e*S	**S**	**11 41 29.1**	**-1.7**
	comp=Z,12μm,33.8s					
RKT			*e*SS	**SS**	**11 46 10.4**	**-2.3**
	comp=Z,16μm,33.2s					
RKT			*e*LQ	LQ	11 51 30.4	
	comp=Z,63μm,38.0s					
RKT			*e*LR	LR	11 54 30.5	
	comp=Z,49μm,30.2s					
VJD	**Vijayawada**	**73.03 289**	*e*P	**P**	**11 32 06.5**	**-1.3**

AIS	Amsterdam Isla	73.47	232	P	P	11 32 11.8	+1.8	
S14K	Fog Glacier	73.81	26	P	P	11 32 10.9	-0.8	
	baz=232							
M11K	Mekoryuk	73.93	21	P	P	11 32 11.4	-0.7	
	baz=225							
ALBI	Allahabad	73.94	298	eP	P	11 32 12.7	-0.3	
CHGN	Chignik	74.32	27	IAmb	IAmb	11 32 16.8		
	comp=Z,86nm,1.2s							
CHGN	Chignik	74.32	27	P	P	11 32 13.2	-1.3	
	baz=233							
BILL	Bilibino	74.39	6	P	P	11 32 14.2	-0.4	
BILL	Bilibino	74.39	6	eP	P	11 32 14.1	-0.6	
BILL				pmax	pmax			
	comp=Z,61nm,1.0s							
SALM	Salem	74.50	284	eP	P	11 32 17.0	+0.6	
SALM				IAmb	IAmb	11 32 20.9		
	comp=Z,34nm,0.6s							
GAMB	Gambell	74.75	16	P	P	11 32 16.9	+0.1	
	baz=219							
M13K	Dall Lake	74.97	22	IAmb	IAmb	11 32 23.6		
	comp=Z,91nm,1.1s							
M13K				IAMs_20	IAMs_20	12 01 35.7		
	comp=Z,10μm,21.0s							
M13K	Dall Lake	74.97	22	P	P	11 32 18.4	+0.3	
	baz=227							
O14K	Tigyukauivet M	74.98	23	IAMs_20	IAMs_20	12 00 34.2		
	comp=Z,10μm,21.0s							
O14K	Tigyukauivet M	74.98	23	P	P	11 32 18.3	+0.1	
	baz=230,SNR=11							
KOD	Kodaikanal	74.99	282	eP	P	11 32 16.2	-3.4	
LKN	LUCKNOW	75.11	299	eP	P	11 32 17.4	-2.3	
HYB	Hyderabad	75.18	290	eP	P	11 32 18.6	-1.8	
HYB				IVmB_BB		11 32 21.4		
	comp=Z,654nm,2.3s							
HYB				IVMs_BB	IVMs_BB	11 59 03.0		
	comp=Z,1μm,26.6s							
TRD	Trivandrum	75.24	280	eP	P	11 32 21.7	+1.0	
N14K	Kuskokwak Cree	75.26	22	P	P	11 32 19.5	-0.3	
	baz=229							
WMQ	Urumqi	75.27	318	⇑P	P	11 32 21.0	+0.6	
WMQ				PcP	PcP	11 32 33.8	+0.3	
WMQ				S	S	11 41 55.0	-0.4	
WMQ				SS	SS	11 46 51.0	+4.6	
WMQ				pmax	pmax			
	comp=Z,98nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,930nm,3.8s							
WMQ				LR	LR			
	comp=Z,4μm,19.5s							
WMQ				LR	LR			
	comp=Z,4μm,18.5s							
WMQ				LR	LR			
	comp=Z,5μm,20.3s							
BNDA	BANDA	75.28	298	eP	P	11 32 16.4	-4.3	
CHIR	Chirikof Islan	75.31	28	IAMs_20	IAMs_20	12 02 06.0		
	comp=Z,8μm,21.0s							
CHIR	Chirikof Islan	75.31	28	P	P	11 32 20.9	+0.7	
CHIR	Chirikof Islan	75.31	28	P	P	11 32 19.7	-0.5	
	baz=236							
R16K	Pilot Point	75.45	26	P	P	11 32 20.3	-0.7	
	baz=233							
NGP	Nagpur	75.46	293	eP	P	11 32 18.5	-3.4	
O15K	Ungaliktiuk R	75.50	24	P	P	11 32 20.8	-0.5	
	baz=231,SNR=14							
K13K	Kusilvak Mount	75.56	20	IAMs_20	IAMs_20	12 00 43.2		
	comp=Z,11μm,22.0s							
K13K	Kusilvak Mount	75.56	20	P	P	11 32 21.5	0.0	
	baz=226							
M14K	Bethel	75.70	22	IAmb	IAmb	11 32 47.1		
	comp=Z,76nm,1.1s							
M14K				IAMs_20	IAMs_20	12 02 08.2		
	comp=Z,8μm,20.0s							
M14K	Bethel	75.70	22	P	P	11 32 22.4	+0.1	
	baz=229,SNR=15							
L14K	Kuka Creek	75.84	21	IAmb	IAmb	11 32 28.7		
	comp=Z,78nm,0.8s							
L14K				IAMs_20	IAMs_20	12 00 38.7		
	comp=Z,9μm,22.0s							
L14K	Kuka Creek	75.84	21	P	P	11 32 23.1	+0.1	
	baz=228,SNR=25							
N15K	Kwethluk River	76.03	23	IAMs_20	IAMs_20	12 01 37.8		
	comp=Z,14μm,22.0s							
N15K	Kwethluk River	76.03	23	P	P	11 32 24.3	0.0	
	baz=230,SNR=12							
M15K	Kasigluk River	76.14	22	P	P	11 32 24.4	-0.5	
	baz=230							
P16K	Nushagak River	76.16	24	P	P	11 32 24.1	-0.9	
	baz=233							
LGTI	Lohaghat	76.32	302	eP	P	11 32 27.0	+0.4	
LGTI				IAmb	IAmb	11 32 29.3		
	comp=Z,271nm,1.4s							
PTH	Pithoragarh	76.37	302	eP	P	11 32 26.2	-0.9	
PTH				IAmb	IAmb	11 32 33.0		
	comp=Z,167nm,1.3s							
FRKB	FARRUKHABAD	76.39	300	eP	P	11 32 24.9	-2.1	
SII	Sitkinak Islan	76.39	28	IAmb	IAmb	11 32 29.4		
	comp=Z,92nm,0.8s							
SII	Sitkinak Islan	76.39	28	P	P	11 32 26.7	+0.3	
SII	Sitkinak Islan	76.39	28	P	P	11 32 26.2	-0.2	
	baz=237,SNR=9.0							
O16K	Kokwok River B	76.46	24	IAMs_20	IAMs_20	12 02 08.3		
	comp=Z,12μm,20.0s							
O16K	Kokwok River B	76.46	24	P	P	11 32 25.9	-0.8	
	baz=232							
L15K	Ungalak Mounta	76.49	21	P	P	11 32 26.3	-0.5	
	baz=229							
J14K	Nanvaranak Lak	76.49	20	IAmb	IAmb	11 32 31.0		
	comp=Z,82nm,1.2s							
J14K				IAMs_20	IAMs_20	12 00 41.0		
	comp=Z,10μm,21.0s							
J14K	Nanvaranak Lak	76.49	20	P	P	11 32 26.7	0.0	
	baz=227,SNR=11							
Q16K	King Salmon	76.50	25	P	P	11 32 26.0	-1.0	
	baz=234							
N16K	Nishlik Lake	76.73	23	P	P	11 32 28.6	+0.3	
	baz=232,SNR=11							
R18K	Karluk	76.83	27	P	P	11 32 28.1	-0.6	
	baz=236							
K15K	Wolf Creek Mou	76.88	21	IAmb	IAmb	11 32 32.9		
	comp=Z,105nm,1.1s							
K15K				IAMs_20	IAMs_20	12 01 35.3		
	comp=Z,13μm,22.0s							
K15K	Wolf Creek Mou	76.88	21	P	P	11 32 29.0	0.0	
	baz=229,SNR=22							
P17K	Kvichak River	76.90	25	P	P	11 32 27.9	-1.3	
	baz=234							
O17K	Koliganek Bris	76.97	24	P	P	11 32 29.2	-0.4	
	baz=233,SNR=21							
M16K	Timber Creek	77.00	22	IAmb	IAmb	11 32 35.6		
	comp=Z,69nm,0.8s							
M16K				IAMs_20	IAMs_20	12 02 17.6		
	comp=Z,8μm,21.0s							
M16K	Timber Creek	77.00	22	P	P	11 32 30.0	+0.2	
	baz=231,SNR=44							
OHAK	Old Harbor	77.17	27	P	P	11 32 30.8	0.0	
OHAK				IAmb	IAmb	11 32 32.3		
	comp=Z,73nm,1.3s							
OHAK	Old Harbor	77.17	27	P	P	11 32 32.1	+1.4	
OHAK	Old Harbor	77.17	27	P	P	11 32 30.3	-0.4	
	baz=237,SNR=11							
TNA	Tin City	77.17	16	P	P	11 32 30.4	-0.1	
	baz=222							
JOSI	Joshimath	77.18	303	eP	P	11 32 31.5	-0.2	
JOSI				IAmb	IAmb	11 32 34.8		
	comp=Z,168nm,0.7s							
ANM	Nome	77.18	18	P	P	11 32 30.6	-0.1	
	baz=225							
Q18K	Katmai Hardscr	77.19	26	P	P	11 32 29.9	-1.1	
	baz=236,SNR=37							
AKL	Akola	77.23	293	eP	P	11 32 31.4	-0.6	
AKL				IAmb	IAmb	11 32 35.9		
	comp=Z,77nm,0.9s							
L16K	Owhat River	77.24	22	P	P	11 32 31.4	+0.3	
L16K				IAMs_20	IAMs_20	12 01 31.9		
	comp=Z,8μm,22.0s							
L16K	Owhat River	77.24	22	P	P	11 32 30.9	-0.1	
	baz=231,SNR=19							
BHPL	Bhopal	77.36	295	eP	P	11 32 32.2	-0.4	
BHPL				IAmb	IAmb	11 32 36.3		
	comp=Z,40nm,0.7s							
N17K	Nushagak Hills	77.39	23	IAMs_20	IAMs_20	12 01 57.8		
	comp=Z,13μm,21.0s							
N17K	Nushagak Hills	77.39	23	P	P	11 32 32.3	+0.4	
	baz=233,SNR=22							
TKRD	Thakurdwara	77.42	301	eP	P	11 32 30.3	-2.6	
NRDN	NARMADA NAGAR	77.49	295	eP	P	11 32 35.0	+1.6	
NRDN				IAmb	IAmb	11 32 40.4		
	comp=Z,83nm,0.8s							
P18K	Big Mountain,	77.52	25	P	P	11 32 31.4	-1.4	
	baz=235,SNR=11							
F14K	Arctic Creek	77.56	17	P	P	11 32 32.7	-0.1	
	baz=224							
GUNA	GUNA	77.74	297	eP	P	11 32 32.9	-1.8	
GUNA				IAmb	IAmb	11 32 36.2		
	comp=Z,98nm,1.1s							
KDAK	Kodiak Island	77.79	27	P	P	11 32 33.9	-0.3	
	comp=Z,31nm,0.9s,baz=19,slow=0.6,SNR=19							
KDAK				LR	LR	12 03 24.3		
	comp=Z,3μm,20.2s,baz=86,slow=33							
	comp=Z,31nm,0.9s							
KDAK	Kodiak Island	77.79	27	iP	P	11 32 34.0	-0.2	
KDAK				pmax	pmax			
	comp=Z,97nm,1.1s							
KDAK	Kodiak Island	77.79	27	⇑P	P	11 32 33.7	-0.5	
KDAK	Kodiak Island	77.79	27	P	P	11 32 33.8	-0.3	
	baz=236							
O18K	Koktuh Hills	77.79	25	P	P	11 32 33.1	-1.1	
	baz=235,SNR=9.6							
M17K	Holitna River	77.82	23	IAMs_20	IAMs_20	12 00 56.1		
	comp=Z,10μm,22.0s							
M17K	Holitna River	77.82	23	P	P	11 32 34.9	+0.6	
	baz=233,SNR=20							
J16K	Anvik River	77.85	20	IAmb	IAmb	11 32 38.7		
	comp=Z,94nm,1.4s							
J16K				IAMs_20	IAMs_20	12 02 15.0		
	comp=Z,11μm,22.0s							
J16K	Anvik River	77.85	20	P	P	11 32 34.9	+0.4	
	baz=229							
G15K	Niukluk	77.89	18	P	P	11 32 34.2	-0.4	
	baz=226							
Q19K	Cape Douglas,	77.94	26	P	P	11 32 34.6	-0.4	
	baz=237,SNR=15							
L17K	Donlin	77.94	22	P	P	11 32 35.4	+0.4	
	baz=232,SNR=18							
H08S2	Diego Garcia H	77.97	263	P	P	11 32 37.3	+1.5	
H08S3	Diego Garcia H	77.98	263	P	P	11 32 37.4	+1.5	
H08S1	Diego Garcia H	77.99	263	P	P	11 32 38.0	+2.1	
N18K	Kilae Creek	78.00	24	IAmb	IAmb	11 32 38.5		
	comp=Z,102nm,1.4s							
N18K				IAMs_20	IAMs_20	12 05 42.8		
	comp=Z,10μm,20.0s							
N18K	Kilae Creek	78.00	24	P	P	11 32 35.5	+0.2	
	baz=234,SNR=22							
DGAR	Diego Garcia	78.03	264	P	P	11 32 36.7	+0.2	
DGAR	Diego Garcia	78.03	264	P	P	11 32 37.4	+0.9	
DGAR	Diego Garcia	78.03	264	eP	P	11 32 37.1	+0.6	
DGAR				pmax	pmax			
	comp=Z,565nm,1.7s							
DGAR	Diego Garcia	78.03	264	⇑P	P	11 32 37.3	+0.9	
KAAM	Kaadhehdhoo	78.19	272	P	P	11 32 36.1	-1.3	
H16K	Elim	78.21	19	P	P	11 32 36.3	-0.1	
	baz=228							
F15K	North Star Dit	78.21	17	IAmb	IAmb	11 32 40.1		
	comp=Z,58nm,1.1s							
F15K				IAMs_20	IAMs_20	12 03 11.4		
	comp=Z,11μm,21.0s							
F15K	North Star Dit	78.21	17	P	P	11 32 36.3	-0.1	
	baz=225							
I17K	Unalakleet	78.22	20	IAmb	IAmb	11 32 40.6		
	comp=Z,64nm,1.1s							
I17K				IAMs_20	IAMs_20	12 01 43.5		
	comp=Z,10μm,22.0s							
I17K	Unalakleet	78.22	20	P	P	11 32 36.8	+0.4	
	baz=229,SNR=9.9							
HNLY	HANLEY	78.22	305	eP	P	11 32 37.5	-0.4	
HNLY				IAmb	IAmb	11 32 40.5		
	comp=Z,214nm,1.2s							
K17K	Iditarod	78.30	21	IAmb	IAmb	11 32 39.9		
	comp=Z,61nm,1.0s							
K17K	Iditarod	78.30	21	P	P	11 32 37.3	+0.3	
	baz=232,SNR=27							
Q20K	Shuyak Island	78.31	26	P	P	11 32 36.6	-0.5	
	baz=238,SNR=11							
SYI	Shuyak Island	78.31	26	IAMs_20	IAMs_20	12 01 46.3		
	comp=Z,10μm,22.0s							
O19K	Port Alsworth	78.36	25	P	P	11 32 36.5	-0.8	
	baz=236,SNR=8.6							
DDI	Dehra Dun	78.38	302	eP	P	11 32 38.5	+0.3	
J17K	VABM Dome	78.45	21	IAmb	IAmb	11 32 41.9		
	comp=Z,65nm,1.1s							
J17K				IAMs_20	IAMs_20	12 02 32.9		
	comp=Z,11μm,22.0s							
J17K	VABM Dome	78.45	21	P	P	11 32 38.3	+0.5	
	baz=231,SNR=21							
ZSN	Zaisan	78.49	321	eP	P	11 32 38.1	-0.3	
ZSN				pmax	pmax			
	comp=Z,98nm,1.5s							
ZSN	Zaisan	78.49	321	eP	P	11 32 38.1	-0.3	
	comp=Z,98nm,1.5s							
M18K	Stony River	78.50	23	P	P	11 32 38.6	+0.6	
	baz=234							
KLP	Kalpa	78.51	304	eP	P	11 32 38.2	-1.0	
KLP				IAmb	IAmb	11 32 41.3		
	comp=Z,238nm,1.1s							
P19K	Oil Pt	78.51	25	P	P	11 32 37.2	-1.0	
	baz=237,SNR=25							
L18K	Granite Mounta	78.60	22	P	P	11 32 39.0	+0.5	
L18K				IAMs_20	IAMs_20	12 03 49.7		
	comp=Z,8μm,20.0s							
L18K	Granite Mounta	78.60	22	P	P	11 32 39.1	+0.5	
	baz=233,SNR=48							
TIXI	Tiksi	78.60	353	P	P	11 32 36.7	-1.7	
TIXI	Tiksi	78.60	353	LR	LR	12 03 40.6		
	comp=Z,4μm,21.8s,baz=162,slow=33							
TIXI	Tiksi	78.60	353	eP	P	11 32 36.9	-1.5	
TIXI				pmax	pmax			
	comp=Z,51nm,1.0s							
TIXI	Tiksi	78.60	353	⇑P	P	11 32 36.7	-1.7	
JMIU	JAMIA UNIVERSI	78.62	301	eP	P	11 32 34.5	-5.0	
N19K	Bonanza Creek	78.64	24	P	P	11 32 38.5	-0.5	
N19K				IAMs_20	IAMs_20	12 04 43.8		
	comp=Z,11μm,20.0s							
N19K	Bonanza Creek	78.64	24	P	P	11 32 38.6	-0.4	
	baz=236,SNR=16							
G16K	Koyuk River	78.69	18	IAMs_20	IAMs_20	12 02 41.9		
	comp=Z,14μm,22.0s							
G16K	Koyuk River	78.69	18	P	P	11 32 38.9	-0.1	
	baz=227							
HMDM	Hanimaadhoo	78.71	278	P	P	11 32 39.0	-1.2	
NDI	New Delhi	78.71	301	eP	P	11 32 38.6	-1.3	
SONA	Sohna	78.73	300	eP	P	11 32 38.8	-1.3	
SONA				IAmb	IAmb	11 32 41.4		
	comp=Z,127nm,1.2s							
NPLP	NPLP New Delhi	78.75	301	eP	P	11 32 38.4	-1.8	
NPLP				IAmb	IAmb	11 32 40.8		
	comp=Z,39nm,0.8s							
AYAN	Aya Nagar	78.75	300	eP	P	11 32 38.8	-1.3	
GNR	GANAUR	78.98	301	eP	P	11 32 39.3	-2.1	
O20K	Slope Mountain	79.00	25	P	P	11 32 40.0	-1.0	
	baz=238,SNR=17							
H17K	Granite Mounta	79.16	19	IAMs_20	IAMs_20	12 02 24.4		
	comp=Z,13μm,22.0s							
H17K	Granite Mounta	79.16	19	P	P	11 32 41.8	+0.2	
	baz=230,SNR=20							
HOM	Homer	79.20	26	P	P	11 32 41.5	-0.4	
	baz=238,SNR=16							
KUDL	Kundal	79.22	300	eP	P	11 32 39.7	-3.1	
KUDL				IAmb	IAmb	11 32 43.8		
	comp=Z,54nm,1.2s							
KAD	Karad	79.26	289	eP	P	11 32 42.4	-0.9	
KAD				IAmb	IAmb	11 32 44.9		
	comp=Z,72nm,1.2s							
L19K	White Mountain	79.27	23	IAMs_20	IAMs_20	12 02 35.5		
	comp=Z,13μm,21.0s							
L19K	White Mountain	79.27	23	P	P	11 32 42.4	0.0	
	baz=235,SNR=49							
G17K	Kiwalik Mounta	79.29	18	P	P	11 32 42.5	+0.2	
	baz=229							
M19K	Big River Lodg	79.29	23	IAMs_20	IAMs_20	12 03 39.1		
	comp=Z,13μm,21.0s							
M19K	Big River Lodg	79.29	23	P	P	11 32 42.7	+0.3	
	baz=236							
CNPM	China Poot	79.30	26	IAMs_20	IAMs_20	12 06 47.5		
	comp=Z,7μm,20.0s							
SMLA	Simla	79.31	303	eP	P	11 32 42.1	-1.1	
SMLA				IAmb	IAmb	11 32 45.0		
	comp=Z,150nm,1.2s							
GOA	Goa	79.31	287	eP	P	11 32 42.6	-0.9	
J18K	Innoko River	79.33	21	IAMs_20	IAMs_20	12 02 25.1		
	comp=Z,8μm,22.0s							
J18K	Innoko River	79.33	21	P	P	11 32 42.4	-0.3	
	baz=233,SNR=31							
KKR	Kurukshetra	79.34	302	eP	P	11 32 42.7	-0.7	
BRSE	Bradley Lake S	79.63	26	P	P	11 32 43.8	-0.5	
	baz=239,SNR=9.8							
F17K	Baldwin Pennin	79.73	18	IAMs_20	IAMs_20	12 02 53.5		
	comp=Z,13μm,21.0s							
F17K	Baldwin Pennin	79.73	18	P	P	11 32 44.7	+0.1	
	baz=228							
M20K	Styx River	79.78	23	P	P	11 32 45.1	0.0	
	baz=237							
SPCR	Spurr Chakacha	79.78	24	P	P	11 32 43.7	-1.5	
	baz=238							
POO	Poona	79.78	290	eP	P	11 32 40.6	-5.5	
H18K	Honhosa River	79.80	19	IAMs_20	IAMs_20	12 03 07.5		
	comp=Z,8μm,22.0s							
H18K	Honhosa River	79.80	19	P	P	11 32 44.6	-0.6	
	baz=231,SNR=5.1							
L20K	Farewell, AK	79.81	23	P	P	11 32 45.4	+0.1	
	baz=236,SNR=19							
C16K	Lisburne Hills	79.85	15	IAmb	IAmb	11 32 48.5		
	comp=Z,92nm,1.7s							
C16K				IAMs_20	IAMs_20	12 02 34.7		
	comp=Z,12μm,22.0s							
C16K	Lisburne Hills	79.85	15	P	P	11 32 44.9	-0.4	
	baz=224							
MK31	Makanchi Array	79.91	319	P	P	11 32 46.1	-0.1	
MK31	Makanchi Array	79.91	319	eP	P	11 32 46.0	-0.1	
MKAR	Makanchi Array	79.91	319	P	P	11 32 46.0	-0.1	
MKAR	Makanchi Array	79.91	319	P	P	11 32 45.3	-0.8	
	comp=Z,22nm,0.8s,baz=101,slow=6.3,SNR=110							
MKAR				PP	PP	11 35 46.9	-1.5	
	comp=Z,18nm,1.0s,baz=98,slow=8.7,SNR=5.8							
MKAR				S	S	11 42 44.1	-1.2	
	comp=Z,0.1nm,0.4s,baz=100,slow=8.1,SNR=1.1							
MKAR				PKKPbc	PKKPbc	11 51 32.5	-1.2	
	comp=Z,0.6nm,0.6s,baz=300,slow=2.4,SNR=4.0							
MKAR				PKPPKP	P'P'df	11 59 32.2	-3.0	
	comp=Z,0.4nm,0.7s,baz=275,slow=4.3,SNR=4.6							
MKAR				LR	LR	12 06 41.2		
	comp=Z,6μm,21.8s,baz=88,slow=35							
	comp=Z,22nm,0.8s							
MKAR	Makanchi Array	79.91	319	P	P	11 32 46.0	-0.1	
CAPN	Captain Cook N	79.98	25	IAmb	IAmb	11 33 19.0		
	comp=Z,268nm,1.5s							
CAPN	Captain Cook N	79.98	25	P	P	11 32 46.7	+0.5	
	baz=239,SNR=7.9							
BHK	Bhakra	80.00	303	eP	P	11 32 45.9	-1.1	
J19K	Poorman	80.04	21	P	P	11 32 46.5	0.0	
	baz=234,SNR=19							
GCSA	Galena City Sc	80.05	20	P	P	11 32 46.2	-0.2	
	baz=233,SNR=17							
D17K	Noatak River	80.05	16	P	P	11 32 46.5	+0.1	
	baz=226							
MAKZ	Makanchi	80.11	319	P	P	11 32 47.2	0.0	
MAKZ				IAmb	IAmb	11 32 48.6		
	comp=Z,251nm,1.6s							
MAKZ	Makanchi	80.11	319	P	P	11 32 47.2	0.0	
MAKZ				pmax	pmax			
	comp=Z,251nm,1.6s							
MAKZ	Makanchi	80.11	319	⇑P	P	11 32 47.0	-0.3	
G18K	Tagagawik	80.18	19	IAMs_20	IAMs_20	12 03 17.3		
	comp=Z,10μm,22.0s							
G18K	Tagagawik	80.18	19	P	P	11 32 46.7	-0.4	
	baz=231							
K20K	Telida	80.24	22	IAMs_20	IAMs_20	12 03 18.1		
	comp=Z,8μm,22.0s							
K20K	Telida	80.24	22	P	P	11 32 47.6	+0.1	
	baz=236							
DHRM	DHARAMSHALA	80.29	304	eP	P	11 32 47.6	-1.2	
DHRM				IAmb	IAmb	11 32 55.2		
	comp=Z,94nm,0.7s							
WUS	Wushi	80.29	313	IAmb	IAmb	11 32 49.7		
	comp=Z,84nm,1.0s							
WUS	Wushi	80.29	313	IAMs_20	IAMs_20	12 07 21.2		
	comp=Z,8μm,22.0s							
F18K	Selawik	80.32	18	P	P	11 32 47.3	-0.5	
	baz=230,SNR=11							
RDOG	Red Dog Mine	80.35	16	P	P	11 32 47.9	-0.1	
	baz=227							
SEW	Seward	80.38	26	IAmb	IAmb	11 32 52.1		
	comp=Z,80nm,1.2s							
SEW	Seward	80.38	26	P	P	11 32 47.9	-0.4	
	baz=240,SNR=13							
O22K	Cooper Landing	80.45	26	IAMs_20	IAMs_20	12 03 10.7		
	comp=Z,10μm,22.0s							
O22K	Cooper Landing	80.45	26	P	P	11 32 47.9	-0.8	
	baz=240							
SKT	Skwentna	80.47	24	IAMs_20	IAMs_20	12 05 23.2		
	comp=Z,10μm,21.0s							
SKT	Skwentna	80.47	24	P	P	11 32 47.3	-1.5	
	baz=238,SNR=13							
AJM	Ajmer	80.49	298	eP	P	11 32 48.2	-1.6	
C17K	DeLong Mountai	80.57	16	P	P	11 32 48.9	-0.3	
	baz=226							
E18K	Tukpahlearik C	80.57	17	IAMs_20	IAMs_20	12 04 43.7		
	comp=Z,11μm,21.0s							
E18K	Tukpahlearik C	80.57	17	P	P	11 32 49.0	-0.2	
	baz=229							
FIS	Fire Island	80.57	25	IAmb	IAmb	11 32 52.0		
	comp=Z,81nm,0.8s							
H19K	Roundabout Mou	80.67	20	IAMs_20	IAMs_20	12 03 22.4		
	comp=Z,13μm,22.0s							
H19K	Roundabout Mou	80.67	20	P	P	11 32 49.5	-0.2	
	baz=233,SNR=33							
SHLS	Shalkode	80.67	315	eP	P	11 32 48.5	-1.9	
SHLS	Shalkode	80.67	315	eP	P	11 32 48.6	-1.9	
J20K	Nowinta River	80.68	21	IAMs_20	IAMs_20	12 07 07.6		
	comp=Z,7μm,20.0s							
J20K	Nowinta River	80.68	21	P	P	11 32 50.0	+0.2	
	baz=235,SNR=31							
PPLA	Purkeypile	80.70	23	IAmb	IAmb	11 33 41.3		
	comp=Z,133nm,1.7s							
PPLA	Purkeypile	80.70	23	P	P	11 32 49.0	-1.1	
	baz=237,SNR=12							
PDGK	Podgornoye	80.70	315	P	P	11 32 49.3	-1.3	
RC01	Rabbit Creek A	80.75	25	IAMs_20	IAMs_20	12 05 07.5		
	comp=Z,9μm,22.0s							
RC01	Rabbit Creek A	80.75	25	P	P	11 32 49.6	-0.7	
	baz=240,SNR=8.5							
THN	Thein Dam	80.81	304	eP	P	11 32 49.8	-1.4	
THN				IAmb	IAmb	11 32 52.8		
	comp=Z,236nm,1.2s							
G19K	Purcell Mounta	80.83	19	IAMs_20	IAMs_20	12 03 14.7		
	comp=Z,12μm,22.0s							
G19K	Purcell Mounta	80.83	19	P	P	11 32 50.6	-0.1	
	baz=232,SNR=34							
I20K	Naaghedeneel	80.91	21	IAMs_20	IAMs_20	12 03 46.8		
	comp=Z,10μm,22.0s					

baz=241
PMR Palmer 81.25 25 P **P 11 32 53.9 +1.0**
PMR Palmer 81.25 25 P **P 11 32 51.9 -1.0**
baz=240,SNR=18
KNK Knik Glacier 81.44 25 IAMs_20 IAMs_20 12 05 28.0
comp=Z,10µm,22.0s
KNK Knik Glacier 81.44 25 P **P 11 32 53.5 -0.5**
baz=241,SNR=18
KTH Kantishna Hill 81.53 23 IAMs_20 IAMs_20 12 05 20.3
comp=Z,11µm,21.0s
B18K Kokolik River 81.54 15 P **P 11 32 54.0 -0.3**
baz=228
JMU Jammu 81.54 304 *e*P **P 11 32 54.9 -0.2**
E19K Redstone River 81.60 18 IAmb IAmb 11 32 57.2
comp=Z,66nm,1.1s
E19K Redstone River 81.60 18 P **P 11 32 54.5 -0.2**
baz=232
SML Sawmill 81.69 25 IAmb IAmb 11 32 58.9
comp=Z,58nm,0.7s
SML Sawmill 81.69 25 P **P 11 32 54.7 -0.6**
baz=241,SNR=42
TRF Thorofare Moun 81.72 23 P **P 11 32 53.9 -1.7**
baz=239,SNR=23
GLI Glacier Island 81.77 26 P **P 11 32 54.8 -0.9**
baz=242,SNR=9.2
BPAW Bear Paw Mtn. 81.80 22 IAMs_20 IAMs_20 12 03 52.2
comp=Z,10µm,22.0s
BPAW Bear Paw Mtn. 81.80 22 P **P 11 32 54.6 -1.3**
baz=238,SNR=17
HIN Hinchinbrook I 81.81 26 IAmb IAmb 11 32 58.2
comp=Z,74nm,1.2s
F20K Avaraart Lake 81.81 18 IAMs_20 IAMs_20 12 04 07.7
comp=Z,12µm,22.0s
F20K Avaraart Lake 81.81 18 P **P 11 32 55.8 0.0**
baz=234
SRGN SRI GANGA NAGA 81.82 301 *e*P **P 11 32 54.3 -2.4**
SRNI Srinagar 81.88 306 *e*P **P 11 32 57.0 +0.1**
TDK Taldyqorghan 81.93 317 *e*P **P 11 32 56.8 -0.1**
TDK pmax pmax
comp=Z,230nm,1.7s
TDK Taldyqorghan 81.93 317 *e*P **P 11 32 56.9 -0.1**
comp=Z,230nm,1.7s
M23K Glacier View 81.93 25 P **P 11 32 55.8 -0.8**
baz=242,SNR=19
BKNR BIKANER 81.97 299 *e*P **P 11 32 55.4 -2.2**
H21K Melozitna Rive 81.98 20 IAMs_20 IAMs_20 12 05 25.1
comp=Z,9µm,21.0s
H21K Melozitna Rive 81.98 20 P **P 11 32 56.5 -0.3**
baz=236,SNR=15
D19K Kuna River 81.98 17 P **P 11 32 56.3 -0.4**
baz=231
KDJ Kajisay 82.01 314 IAmb IAmb 11 32 59.4
comp=Z,173nm,1.0s
SCM Sheep Creek Mo 82.12 25 IAMs_20 IAMs_20 12 04 03.9
comp=Z,8µm,22.0s
SCM Sheep Creek Mo 82.12 25 P **P 11 32 57.1 -0.5**
baz=242,SNR=24
EYAK Cordova Ski Ar 82.21 26 P **P 11 32 58.4 +0.4**
EYAK Cordova Ski Ar 82.21 26 P **P 11 32 57.6 -0.4**
baz=244
G21K Allakaket 82.22 19 IAMs_20 IAMs_20 12 04 08.5
comp=Z,13µm,22.0s
G21K Allakaket 82.22 19 P **P 11 32 57.5 -0.5**
baz=236
KSH Kashi 82.24 311 P **P 11 33 00.5 +1.6**
KSH PP **PP 11 36 10.0 +1.9**
KSH S **S 11 43 03.8 -6.3**
KSH pmax pmax
comp=Z,100nm,1.2s
KSH pmax pmax
comp=Z,2µm,9.1s
KSH LR LR
comp=Z,4µm,24.7s
KSH LR LR
comp=Z,5µm,22.3s
KSH LR LR
comp=Z,7µm,22.0s
RND Reindeer 82.26 23 IAmb IAmb 11 33 01.4
comp=Z,48nm,0.7s
A19K Wainwright 82.30 15 P **P 11 32 58.0 -0.2**
baz=228
MDOK Medeo 82.37 315 *e*P **P 11 32 59.3 -0.2**
MDOK Medeo 82.37 315 *e*P **P 11 32 59.4 -0.2**
MCK McKinley 82.39 23 IAmb IAmb 11 33 02.1
comp=Z,85nm,0.9s
MCK McKinley 82.39 23 P **P 11 32 57.6 -1.3**
baz=240,SNR=82
E20K Nigu River 82.40 17 P **P 11 32 58.7 -0.2**
baz=233
BWN Browne 82.41 22 IAmb IAmb 11 33 31.2
comp=Z,71nm,0.9s
BWN IAMs_20 IAMs_20 12 08 38.1
comp=Z,10µm,20.0s
TNSS Tian-Shan 82.41 315 *e*P **P 11 32 59.3 -0.7**
TNSS Tian-Shan 82.41 315 *e*P **P 11 32 59.4 -0.7**
AAA Alma-Ata 82.48 315 *e*P **P 11 32 59.9 0.0**
AAA pmax pmax
comp=Z,64nm,1.0s
AAA Alma-Ata 82.48 315 *e*P **P 11 32 59.9 0.0**
comp=Z,64nm,1.0s
KAIM Kayak Island 82.54 27 P **P 11 33 00.2 +0.4**
baz=245
D20K Etivluk River 82.55 17 P **P 11 32 59.0 -0.7**
baz=233
KLU Klutina 82.56 26 P **P 11 32 59.7 -0.3**
baz=243,SNR=16
CHKK Chushkaly 82.60 315 *e*P **P 11 33 00.1 -0.3**
CHKK Chushkaly 82.60 315 *e*P **P 11 33 00.2 -0.3**
H22K Ishtalitna Cre 82.61 20 P **P 11 32 59.8 -0.3**
baz=238,SNR=17
RAGM Ragged Mountai 82.62 27 IAMs_20 IAMs_20 12 04 43.2
comp=Z,8µm,21.0s
F21K Alatna River 82.63 19 P **P 11 32 59.5 -0.6**
baz=236,SNR=18
ULHL Ulahol 82.71 314 P **P 11 33 01.6 +0.2**
SNR=14
M24K Tolsona, Glenn 82.73 25 IAmb IAmb 11 33 07.2
comp=Z,49nm,0.7s
M24K IAMs_20 IAMs_20 12 04 45.0
comp=Z,8µm,22.0s
M24K Tolsona, Glenn 82.73 25 P **P 11 33 00.8 0.0**
baz=243,SNR=25
NEA2 Nenana 82.77 22 P **P 11 32 59.3 -1.6**
baz=240,SNR=38
BMRM Bremner River 82.90 26 IAmb IAmb 11 33 36.6
comp=Z,75nm,1.4s
BMRM Bremner River 82.90 26 P **P 11 33 01.5 -0.2**
baz=245,SNR=7.4
I23K Minto, Yukon-K 82.94 22 IAMs_20 IAMs_20 12 04 27.4
comp=Z,8µm,22.0s
I23K Minto, Yukon-K 82.94 22 P **P 11 33 00.7 -1.0**
baz=240,SNR=25
BOOM Boomskoye usch 82.99 314 IAmb IAmb 11 33 07.0
comp=Z,80nm,0.8s
WRH Wood River Hil 83.08 22 IAMs_20 IAMs_20 12 09 06.1
comp=Z,10µm,20.0s
NIL Nilore 83.09 305 P **P 11 33 02.8 -0.5**
NIL Nilore 83.09 305 P **P 11 33 02.5 -0.7**
NIL Nilore 83.09 305 P **P 11 33 02.8 -0.5**
NIL pmax pmax
comp=Z,541nm,1.5s
G22K Bettles 83.11 20 P **P 11 33 02.3 -0.3**
baz=238
BGLC Bering Glacier 83.14 27 P **P 11 33 03.1 +0.3**
baz=246
E21K Killik River 83.17 18 IAMs_20 IAMs_20 12 05 33.5
comp=Z,12µm,22.0s
E21K Killik River 83.17 18 P **P 11 33 02.6 -0.4**
baz=235
N25K Chitina, Valde 83.18 26 P **P 11 33 03.0 -0.2**
baz=245,SNR=16
B20K Meade River 83.19 16 IAMs_20 IAMs_20 12 09 04.0
comp=Z,10µm,20.0s
B20K Meade River 83.19 16 P **P 11 33 02.6 -0.3**
baz=232
F22K John River 83.21 19 P **P 11 33 03.1 0.0**
baz=237
H23K Yukon River 83.21 21 P **P 11 33 02.8 -0.4**
baz=240,SNR=21
CCB Clear Creek Bu 83.27 22 IAMs_20 IAMs_20 12 09 12.1
comp=Z,10µm,20.0s
HARP HAARP 83.29 25 P **P 11 33 03.4 -0.2**
baz=244,SNR=15
TKM2 Tokmak 2 83.34 314 P **P 11 33 04.7 +0.1**
SNR=49
TKM2 Tokmak 2 83.34 314 P **P 11 33 03.8 -0.8**
C21K Knifeblade Rid 83.35 17 P **P 11 33 03.6 -0.2**
baz=234,SNR=24
COLA College 83.36 22 P **P 11 33 02.2 -1.7**
COLA IAmb IAmb 11 33 21.9
comp=Z,47nm,0.8s
COLA College 83.36 22 IAMs_20 IAMs_20 12 09 04.5
comp=Z,6µm,20.0s
COLA College 83.36 22 P **P 11 33 03.0 -0.9**
COLA College 83.36 22 P **P 11 33 02.4 -1.5**
COLA College 83.36 22 ⇑P **P 11 33 02.1 -1.7**
COLA College 83.36 22 P **P 11 33 02.1 -1.7**
baz=241
SNH Sunshine Point 83.37 27 IAmb IAmb 11 33 09.7
comp=Z,139nm,1.5s
PAX Paxson 83.41 24 P **P 11 33 03.2 -1.1**
baz=244,SNR=17
KURK Kurchatov 83.45 322 P **P 11 33 04.0 -0.6**
KURK IAmb IAmb 11 33 08.5
comp=Z,100nm,0.9s
KURK Kurchatov 83.45 322 P **P 11 33 03.9 -0.8**
KURK Kurchatov 83.45 322 *ce*P **P 11 33 03.9 -0.8**
KURK pmax pmax
comp=Z,195nm,1.7s
KURK Kurchatov 83.45 322 ⇑P **P 11 33 03.9 -0.8**
KURBB Kurchatov Arra 83.48 322 P **P 11 33 04.0 -0.7**
comp=Z,48nm,0.9s,baz=111,slow=4.2,SNR=127
KURBB PKiKP **PKiKP 11 38 22.2 +0.4**
comp=Z,1.3nm,0.6s,baz=117,slow=1.6,SNR=4.6
KURBB S **S 11 43 19.8 -2.1**
comp=Z,0.2nm,0.3s,baz=110,slow=8.1,SNR=4.6
KURBB PKKPbc **PKKPbc 11 51 25.1 -0.5**
comp=Z,2.5nm,0.2s,baz=282,slow=2.9,SNR=6.5
KURBB PKPPKP **P'P'df 11 59 27.9 -0.5**
comp=Z,2.3nm,1.1s,baz=292,slow=3.1,SNR=12
KURBB LR LR 12 10 58.2
comp=Z,5µm,20.2s,baz=104,slow=36
comp=Z,48nm,0.9s
HDA Harding Lake 83.48 23 P **P 11 33 03.2 -1.4**
baz=242,SNR=34
G23K Bananza Creek 83.50 20 IAmb IAmb 11 33 05.1
comp=Z,37nm,1.2s
G23K IAMs_20 IAMs_20 12 04 24.2
comp=Z,11µm,22.0s
G23K Bananza Creek 83.50 20 P **P 11 33 04.4 -0.3**
baz=239,SNR=24
POKR Poker Plat Res 83.63 22 P **P 11 33 03.5 -1.8**
baz=242
K24K Donnelly Dome 83.66 23 P **P 11 33 04.7 -0.8**
baz=243,SNR=25
B21K Ikpikpuk River 83.67 17 P **P 11 33 05.0 -0.4**
baz=234
E22K Anaktuvuk Pass 83.67 18 P **P 11 33 05.2 -0.3**
baz=237,SNR=28
ILAR Eielson Array 83.67 22 P **P 11 33 03.5 -2.0**
ILAR Eielson Array 83.67 22 P **P 11 33 03.8 -1.7**
comp=Z,20nm,0.7s,baz=251,slow=4.7,SNR=168
ILAR PKiKP **PKiKP 11 38 22.4 +0.6**
comp=Z,1.4nm,0.8s,baz=271,slow=2.9,SNR=3.7
ILAR S **S 11 43 22.4 -1.0**
comp=Z,0.5nm,0.8s,baz=238,slow=7.1,SNR=6.4
ILAR PKKPbc **PKKPbc 11 51 23.1 -2.7**
comp=Z,1.0nm,0.5s,baz=357,slow=1.1,SNR=15
ILAR PKPPKP P'P'df 11 59 18.5 -8.6
comp=Z,0.7nm,0.9s,baz=341,slow=0.8,SNR=5.0
ILAR LR LR 12 08 17.8
comp=Z,8µm,19.6s,baz=256,slow=34
comp=Z,20nm,0.7s
COLD Coldfoot 83.71 20 P **P 11 33 05.6 -0.1**
baz=239,SNR=29
KBK Karagaybulak 83.74 314 P **P 11 33 06.9 +0.2**
SNR=29
MESA MESA 83.77 28 IAmb IAmb 11 35 45.9
comp=Z,30nm,0.6s
MESA MESA 83.77 28 P **P 11 33 06.3 -0.1**
baz=247
D22K Ayikyak River 83.81 18 IAmb IAmb 11 33 09.9
comp=Z,53nm,1.1s
D22K IAMs_20 IAMs_20 12 06 48.4
comp=Z,10µm,21.0s
D22K Ayikyak River 83.81 18 P **P 11 33 06.4 +0.2**
baz=236
H24K Noodor Dome 83.82 21 IAMs_20 IAMs_20 12 05 37.6
comp=Z,10µm,22.0s
H24K Noodor Dome 83.82 21 P **P 11 33 05.5 -0.8**
baz=241,SNR=24
JASL Jaisalmer 83.86 298 *e*P **P 11 33 05.6 -1.7**
UCH Uchtor 83.96 313 P **P 11 33 08.8 +0.7**
SNR=23
CHMS Chumysh 83.96 314 P **P 11 33 07.6 +0.1**
SNR=35
RIDG Independent Ri 84.00 24 IAmb IAmb 11 33 10.7
comp=Z,48nm,1.0s
RIDG Independent Ri 84.00 24 P **P 11 33 06.6 -0.7**
baz=244,SNR=32
FRU1 Bishkek 84.01 314 IAmb IAmb 11 33 09.6
comp=Z,214nm,1.4s
MAW Mawson 84.05 203 P **P 11 33 08.7 +1.3**
MAW IAmb IAmb 11 33 23.9
comp=Z,79nm,1.6s
MAW Mawson 84.05 203 P **P 11 33 07.8 +0.4**
comp=Z,60nm,0.9s,baz=101,slow=5.2,SNR=20
MAW LR LR 12 07 46.6
comp=Z,11µm,21.7s,baz=88,slow=34
comp=Z,60nm,0.9s
MAW Mawson 84.05 203 P **P 11 33 08.7 +1.3**
MAW pmax pmax
comp=Z,79nm,1.7s
MAW Mawson 84.05 203 ⇑P **P 11 33 08.5 +1.1**
AAK Ala-Archa 84.06 314 P **P 11 33 08.5 +0.2**
AAK IAmb IAmb 11 33 10.1
comp=Z,133nm,1.2s
AAK Ala-Archa 84.06 314 LR LR 12 10 11.0
comp=Z,9µm,21.2s,baz=94,slow=35
AAK Ala-Archa 84.06 314 P **P 11 33 08.4 +0.2**
AAK S **SKSac 11 43 24.1 -2.8**
AAK Ala-Archa 84.06 314 P **P 11 33 08.6 +0.2**
SNR=58
AAK Ala-Archa 84.06 314 *i* P **P 11 33 08.1 -0.1**
AAK pmax pmax
comp=Z,154nm,1.4s
AAK Ala-Archa 84.06 314 ⇑P **P 11 33 08.4 +0.2**
MENT Mentasta 84.12 25 P **P 11 33 08.1 +0.2**
A21K Barrow 84.15 15 P **P 11 33 07.2 -0.5**
baz=232
SGDS Sogindy 84.16 315 *e*P **P 11 33 08.3 -0.2**
SGDS Sogindy 84.16 315 *e*P **P 11 33 08.4 -0.2**
J25K Salcha River, 84.18 23 IAmb IAmb 11 33 09.6
comp=Z,69nm,1.1s
J25K Salcha River, 84.18 23 P **P 11 33 07.2 -1.1**
baz=244,SNR=106
M26K Nabesna, AK 84.20 25 P **P 11 33 07.8 -0.5**
baz=246,SNR=20
USP Ospenovka 84.20 314 P **P 11 33 08.9 +0.2**
SNR=115
QSPA South Pole Qui 84.23 180 P **P 11 33 09.5 +1.0**
QSPA IAmb IAmb 11 33 25.4
comp=Z,173nm,1.1s
QSPA South Pole Qui 84.23 180 P **P 11 33 09.4 +0.8**
comp=Z,101nm,1.0s,baz=210,slow=0.2,SNR=141
QSPA PKKPbc **PKKPbc 11 51 21.9 -2.9**
comp=Z,7.4nm,1.0s,baz=253,slow=2.2,SNR=7.3
QSPA LR LR 12 06 32.5
comp=Z,4µm,21.8s,baz=7.5,slow=33
comp=Z,101nm,1.0s
QSPA South Pole Qui 84.23 180 ⇑P **P 11 33 09.3 +0.8**
DOT Dot Lake 84.28 24 IAmb IAmb 11 33 10.7
comp=Z,48nm,0.9s
L26K Log Cabin Wild 84.31 25 IAmb IAmb 11 33 13.0
comp=Z,28nm,0.6s
L26K IAMs_20 IAMs_20 12 05 56.8
comp=Z,10µm,22.0s
L26K Log Cabin Wild 84.31 25 P **P 11 33 08.6 -0.2**
baz=246,SNR=43
E23K Chandalar 84.33 19 P **P 11 33 08.7 -0.2**
baz=239
G24K Hadweenzic Riv 84.38 21 IAmb IAmb 11 33 12.4
comp=Z,35nm,1.1s
G24K IAMs_20 IAMs_20 12 05 26.4
comp=Z,6µm,22.0s
G24K Hadweenzic Riv 84.38 21 P **P 11 33 08.7 -0.4**
baz=241
A22K Sinclair Lake 84.38 15 P **P 11 33 08.3 -0.6**
baz=234
BHUJ Bhuj 84.40 294 *e*P **P 11 33 09.2 -0.9**
B22K Teshekpuk Lake 84.42 16 P **P 11 33 08.5 -0.7**
baz=236
SCRK Sand Creek 84.45 24 IAMs_20 IAMs_20 12 05 17.4
comp=Z,8µm,22.0s
SCRK Sand Creek 84.45 24 P **P 11 33 09.1 -0.6**
baz=245,SNR=42
D23K Nanushuk River 84.47 18 IAmb IAmb 11 33 13.5
comp=Z,108nm,1.1s
D23K IAMs_20 IAMs_20 12 06 26.7
comp=Z,11µm,22.0s
D23K Nanushuk River 84.47 18 P **P 11 33 09.9 +0.4**
baz=238,SNR=76
AML Almayashu 84.53 313 P **P 11 33 11.4 +0.5**
SNR=353
PINM Pinnacle 84.53 28 P **P 11 33 10.1 0.0**
baz=249,SNR=10
PRP Porcupine Dome 84.53 22 IAMs_20 IAMs_20 12 09 50.5
comp=Z,7µm,20.0s
EKS2 Erkin-Say 84.58 314 P **P 11 33 11.4 +0.5**
SNR=157
F24K Squaw Lake 84.63 20 IAmb IAmb 11 33 14.1
comp=Z,53nm,1.1s
F24K IAMs_20 IAMs_20 12 05 22.1
comp=Z,12µm,22.0s
F24K Squaw Lake 84.63 20 P **P 11 33 10.6 +0.2**
baz=241,SNR=55
TOLK Toolik Lake Re 84.64 18 P **P 11 33 10.2 -0.2**
baz=239,SNR=35
M27K Edge Creek, AK 84.66 26 IAmb IAmb 11 33 16.2
comp=Z,73nm,0.9s
M27K Edge Creek, AK 84.66 26 P **P 11 33 11.0 +0.2**
baz=247,SNR=96
E24K Your Creek 84.70 19 IAMs_20 IAMs_20 12 05 39.0
comp=Z,12µm,22.0s
E24K Your Creek 84.70 19 P **P 11 33 10.4 -0.4**
baz=240
H25L Birch Creek 84.76 21 P **P 11 33 10.8 -0.1**
baz=243,SNR=19
PNL Peninsula 84.78 29 P **P 11 33 12.5 +1.2**
PNL Peninsula 84.78 29 P **P 11 33 11.2 0.0**
baz=249,SNR=15
O28M Mount Upton 84.81 27 P **P 11 33 11.7 0.0**
baz=249,SNR=24
J26L Joseph Creek 84.84 23 P **P 11 33 11.3 -0.3**
baz=245,SNR=28
G25K Bearman Lake 84.89 21 P **P 11 33 11.5 -0.1**
baz=243
BTLS Baital 84.93 316 *e*P **P 11 33 12.3 0.0**
BTLS pmax pmax
comp=Z,172nm,1.2s
BTLS Baital 84.93 316 *e*P **P 11 33 12.4 0.0**
comp=Z,172nm,1.2s
C23K Itkillik River 84.95 17 IAMs_20 IAMs_20 12 08 50.4
comp=Z,11µm,20.0s
C23K Itkillik River 84.95 17 P **P 11 33 11.8 -0.1**
baz=238,SNR=26
L27K Beaver Creek, 84.96 25 IAMs_20 IAMs_20 12 05 51.9
comp=Z,7µm,22.0s
L27K Beaver Creek, 84.96 25 P **P 11 33 12.1 0.0**
baz=247
BCAR Beaver Creek A 84.98 25 P **P 11 33 12.1 -0.2**
YUK3 Moose Creek 85.05 26 P **P 11 33 12.7 -0.2**
baz=248,SNR=43
FYU Fort Yukon 85.11 21 P **P 11 33 13.2 +0.5**
FYU IAmb IAmb 11 33 16.7
comp=Z,62nm,1.2s
BVCY Beaver Creek 85.12 26 P **P 11 33 13.2 +0.3**
baz=248,SNR=35
D24K Happy Valley 85.14 18 IAmb IAmb 11 33 16.5
comp=Z,62nm,1.1s
D24K Happy Valley 85.14 18 P **P 11 33 13.1 +0.3**
baz=240
YUK8 Steele Glacier 85.19 27 P **P 11 33 13.9 +0.4**
baz=249,SNR=24
K27K Chicken 85.24 24 IAMs_20 IAMs_20 12 07 30.3
comp=Z,8µm,21.0s
K27K Chicken 85.24 24 P **P 11 33 13.7 +0.2**
baz=247
I26K Coal Creek Min 85.33 23 P **P 11 33 13.2 -0.7**
baz=246
DRK Karamyk 85.38 310 IAmb IAmb 11 33 16.6
comp=Z,171nm,1.2s
O29M Mount Kennedy 85.39 28 P **P 11 33 15.0 +0.5**
baz=250,SNR=20
F25K Christian Rive 85.43 20 P **P 11 33 14.4 +0.1**
baz=243,SNR=25
C24K Franklin Bluff 85.46 18 IAMs_20 IAMs_20 12 08 54.9
comp=Z,8µm,20.0s
C24K Franklin Bluff 85.46 18 P **P 11 33 14.4 0.0**
baz=240
P29M Windy Craggy 85.56 29 P **P 11 33 15.3 +0.2**
baz=251
E25K Arctic Village 85.69 20 IAMs_20 IAMs_20 12 07 00.1
comp=Z,9µm,22.0s
E25K Arctic Village 85.69 20 P **P 11 33 15.6 -0.1**
baz=243,SNR=16
YUK6 Outpost Mounta 85.70 27 P **P 11 33 16.6 +0.5**
baz=250,SNR=8.8
YUK4 Talbot Arm 85.71 27 P **P 11 33 17.1 +0.9**
baz=250,SNR=32
BMAR Burnt Mountain 85.72 20 P **P 11 33 16.0 +0.2**
S31K Pelican 85.77 31 IAmb IAmb 11 33 17.4
comp=Z,95nm,1.4s
S31K IAMs_20 IAMs_20 12 05 33.8
comp=Z,11µm,20.0s
S31K Pelican 85.77 31 P **P 11 33 16.5 +0.3**
baz=252,SNR=7.3
G26K Porcupine Rive 85.79 21 P **P 11 33 16.6 +0.5**
baz=245
SIT Sitka 85.97 32 P **P 11 33 17.4 +0.2**
SIT IAmb IAmb 11 33 18.5
comp=Z,57nm,1.2s
SIT Sitka 85.97 32 P **P 11 33 18.2 +1.0**
SIT Sitka 85.97 32 P **P 11 33 17.4 +0.2**
SIT pmax pmax
comp=Z,57nm,1.2s
SIT Sitka 85.97 32 P **P 11 33 17.7 +0.6**
baz=253
D25K Kavik River 85.98 18 IAMs_20 IAMs_20 12 07 37.8
comp=Z,12µm,22.0s
D25K Kavik River 85.98 18 P **P 11 33 16.6 -0.5**
baz=242
F26K Sheenjek River 85.98 20 IAmb IAmb 11 33 18.3
comp=Z,49nm,1.3s
F26K IAMs_20 IAMs_20 12 06 14.9
comp=Z,8µm,22.0s
F26K Sheenjek River 85.98 20 P **P 11 33 17.6 +0.5**
baz=244
I27K Kandik River 86.04 23 P **P 11 33 17.5 0.0**
baz=247,SNR=56
HYT Haines Junctio 86.06 28 IAmb IAmb 11 33 23.5
comp=Z,57nm,0.9s
HYT Haines Junctio 86.06 28 P **P 11 33 18.2 +0.5**
baz=251,SNR=78
P30M Million Dollar 86.09 29 P **P 11 33 18.4 +0.5**
baz=252
R31K City Hall, Gus 86.16 30 P **P 11 33 18.3 +0.2**
baz=253
PLBC Pleasant Camp 86.17 29 P **P 11 33 18.3 +0.2**
baz=252
M29M Somme Creek 86.17 26 P **P 11 33 18.6 +0.3**
baz=250,SNR=37
BTK Batken 86.24 311 IAmb IAmb 11 33 20.1
comp=Z,128nm,1.2s
NRIK Noril'sk 86.30 341 P **P 11 33 17.5 -1.1**
NRIK IAmb IAmb 11 33 20.6
comp=Z,35nm,0.8s
NRIK Noril'sk 86.30 341 P **P 11 33 17.1 -1.5**
comp=Z,34nm,0.7s,baz=120,slow=4.9,SNR=39
NRIK LR LR 12 10 31.6
comp=Z,4µm,21.6s,baz=128,slow=35
comp=Z,34nm,0.7s
NRIK Noril'sk 86.30 341 *ce*P **P 11 33 17.4 -1.1**
NRIK pmax pmax
comp=Z,30nm,0.7s
H27K Steamboat Moun 86.32 22 P **P 11 33 18.8 0.0**
baz=247,SNR=66
DAWY Dawson 86.34 24 P **P 11 33 18.9 -0.1**
DAWY IAmb IAmb 11 33 24.6
comp=Z,67nm,1.2s
DAWY Dawson 86.34 24 P **P 11 33 19.1 +0.1**
baz=249,SNR=68
N30M Aishikik Lake 86.46 27 P **P 11 33 19.8 +0.2**
N30M IAmb IAmb 11 33 20.7
comp=Z,60nm,1.5s
N30M Aishikik Lake 86.46 27 P **P 11 33 19.9 +0.2**
baz=251,SNR=26
S32K Killisnoo 86.48 31 IAmb IAmb 11 33 21.0
comp=Z,44nm,1.1s
S32K Killisnoo 86.48 31 P **P 11 33 20.3 +0.7**
baz=254,SNR=9.0
G27K Doyon Strip 86.50 21 IAmb IAmb 11 33 20.6

comp=Z,29nm,1.2s
G27K IAMs_20 IAMs_20 12 07 22.6
comp=Z,6µm,22.0s
G27K Doyon Strip 86.50 21 P P 11 33 19.8 +0.1
baz=247,SNR=36
DIB Dawson Inlet, 86.51 36 IAmb IAmb 11 33 23.5
comp=Z,105nm,1.3s
H02S1 DAWSON INLET T 86.51 36 P P 11 33 20.2 +0.3
L29M L29M 86.54 25 IAmb IAmb 11 33 25.6
comp=Z,44nm,0.9s
L29M IAMs_20 IAMs_20 12 06 53.8
comp=Z,8µm,22.0s
L29M L29M 86.54 25 P P 11 33 20.4 +0.5
baz=250,SNR=43
KBU Kabul Universi 86.60 305 P P 11 33 18.4 -2.7
I28M Miner Creek 86.63 23 IAmb IAmb 11 33 24.3
comp=Z,41nm,1.1s
I28M Miner Creek 86.63 23 P P 11 33 20.2 -0.2
baz=248,SNR=34
BESE Bessie Mountai 86.65 30 IAmb IAmb 11 33 22.7
comp=Z,122nm,1.4s
SKAG Skagway 86.67 29 IAmb IAmb 11 33 22.8
comp=Z,112nm,1.6s
SKAG Skagway 86.67 29 P P 11 33 21.3 +0.7
SKAG Skagway 86.67 29 P P 11 33 21.2 +0.7
baz=253,SNR=20
KBL Kabul 86.68 305 P P 11 33 19.7 -1.8
KBL IAmb IAmb 11 33 23.6
comp=Z,35nm,0.8s
KBL Kabul 86.68 305 P P 11 33 20.0 -1.5
SNR=23
KBL Kabul 86.68 305 P P 11 33 19.7 -1.8
KBL pmax pmax
comp=Z,35nm,0.8s
O30N Mendenhall 86.70 28 IAmb IAmb 11 33 22.8
comp=Z,166nm,1.8s
O30N Mendenhall 86.70 28 P P 11 33 21.1 +0.3
baz=252,SNR=29
C26K Camden Bay 86.71 18 P P 11 33 21.1 +0.6
baz=244,SNR=148
CRAG Craig 86.72 34 IAmb IAmb 11 33 22.5
comp=Z,78nm,1.3s
CRAG Craig 86.72 34 P P 11 33 22.7 +1.8
CRAG Craig 86.72 34 P P 11 33 21.3 +0.4
baz=255,SNR=5.5
R32K Eaglecrest 86.73 31 IAmb IAmb 11 33 22.3
comp=Z,60nm,1.4s
R32K Eaglecrest 86.73 31 P P 11 33 21.6 +0.6
baz=254,SNR=12
OTUK Ortayu 86.78 319 P P 11 33 19.8 -1.7
MOBC Moresby Island 86.79 36 IAmb IAmb 11 33 22.9
comp=Z,112nm,1.2s
JIS Juneau Island 86.80 31 P P 11 33 22.6 +1.4
U33K Whale Pass 86.88 33 IAmb IAmb 11 33 23.2
comp=Z,71nm,1.1s
U33K IAMs_20 IAMs_20 12 03 49.3
comp=Z,11µm,22.0s
U33K Whale Pass 86.88 33 P P 11 33 22.3 +0.6
baz=255,SNR=9.1
M30M Minto, Yukon 86.94 26 P P 11 33 22.2 +0.3
baz=252
C27K Jago River 86.96 19 P P 11 33 22.2 +0.3
baz=245
J29N Klondike Camp 86.96 24 IAMs_20 IAMs_20 12 06 46.9
comp=Z,11µm,22.0s
J29N Klondike Camp 86.96 24 P P 11 33 22.4 +0.4
baz=250
KK31 Karatay Array 87.02 314 P P 11 33 22.4 -0.4
KK31 Karatay Array 87.02 314 *i* P **P 11 33 22.0 -0.8**
KKAR Karatay Array 87.02 314 P P 11 33 22.6 -0.1
KKAR Karatay Array 87.02 314 P P 11 33 22.6 -0.1
KKAR Karatay Array 87.02 314 ⇑P **P 11 33 22.3 -0.5**
K29M Barlow Dome 87.05 25 P P 11 33 22.6 +0.1
K29M IAmb IAmb 11 33 28.1
comp=Z,98nm,1.2s
K29M Barlow Dome 87.05 25 P P 11 33 22.9 +0.4
baz=251,SNR=75
HG4B Hotspring 87.05 37 IAmb IAmb 11 33 24.8
comp=Z,109nm,1.0s
N31M Braeburn, Yuko 87.06 27 IAmb IAmb 11 33 28.2
comp=Z,49nm,0.8s
N31M Braeburn, Yuko 87.06 27 P P 11 33 23.1 +0.6
baz=252,SNR=35
E27K Coleen River 87.07 20 IAmb IAmb 11 33 23.4
comp=Z,52nm,1.1s
E27K IAMs_20 IAMs_20 12 06 35.5
comp=Z,8µm,22.0s
E27K Coleen River 87.07 20 P P 11 33 22.7 +0.2
baz=247
T33K Petersburg 87.16 32 P P 11 33 23.6 +0.6
baz=255
I29M Ogilvie Camp, 87.24 23 IAMs_20 IAMs_20 12 08 37.1
comp=Z,10µm,22.0s
I29M Ogilvie Camp, 87.24 23 P P 11 33 23.1 -0.2
baz=250
WHY Whitehorse 87.24 28 P P 11 33 23.6 +0.1
WHY IAmb IAmb 11 33 24.6
comp=Z,91nm,1.1s
WHY Whitehorse 87.24 28 P P 11 33 23.9 +0.4
baz=253,SNR=22
SIMJ Simiganj 87.38 309 P P 11 33 23.7 -1.0
SIMJ IAmb IAmb 11 33 25.3
comp=Z,100nm,1.2s
WRAK Wrangell Islan 87.38 33 IAmb IAmb 11 33 26.3
comp=Z,104nm,1.3s
WRAK Wrangell Islan 87.38 33 P P 11 33 24.7 +0.6
baz=256,SNR=21
P32M Atlin 87.50 29 IAmb IAmb 11 33 25.9
comp=Z,36nm,1.0s
P32M IAMs_20 IAMs_20 12 08 39.3
comp=Z,9µm,21.0s
P32M Atlin 87.50 29 P P 11 33 25.1 +0.4
baz=254,SNR=25
BRLS Borolday 87.50 313 *e* P **P 11 33 24.9 -0.1**
BRLS Borolday 87.50 313 *e* P **P 11 33 25.0 -0.1**
H29M Whitestone 87.51 23 IAmb IAmb 11 34 23.2
comp=Z,61nm,1.4s
H29M Whitestone 87.51 23 P P 11 33 24.3 -0.2
baz=250,SNR=13
V35K Ketchikan 87.52 34 IAmb IAmb 11 33 26.8
comp=Z,91nm,1.2s
V35K IAMs_20 IAMs_20 12 06 59.0
comp=Z,9µm,20.0s
V35K Ketchikan 87.52 34 P P 11 33 25.2 +0.5
baz=256,SNR=16
MAYO Mayo, Yukon 87.65 25 IAmb IAmb 11 33 31.0
comp=Z,128nm,1.0s
MAYO Mayo, Yukon 87.65 25 P P 11 33 25.6 +0.3
baz=252,SNR=9.2
D27M Malcolm River 87.69 19 P P 11 33 25.6 +0.2
baz=247
J30M Hart River 87.77 24 IAmb IAmb 11 33 27.1
comp=Z,47nm,1.0s
J30M IAMs_20 IAMs_20 12 07 24.3
comp=Z,10µm,22.0s
J30M Hart River 87.77 24 P P 11 33 26.4 +0.4
baz=252,SNR=77
G29M Pine Creek 87.88 22 IAmb IAmb 11 33 27.0
comp=Z,74nm,1.2s
G29M IAMs_20 IAMs_20 12 12 06.9
comp=Z,8µm,20.0s
G29M Pine Creek 87.88 22 P P 11 33 26.2 -0.1
baz=250,SNR=31
M31M Drury Creek, Y 87.90 27 P P 11 33 26.6 +0.1
baz=254
E28M Babbage River 87.93 20 IAmb IAmb 11 33 30.9
comp=Z,44nm,1.0s
E28M IAMs_20 IAMs_20 12 12 58.3
comp=Z,8µm,20.0s
E28M Babbage River 87.93 20 P P 11 33 26.8 +0.3
baz=249
I30M Mount Dempster 87.96 24 IAmb IAmb 11 33 27.4
comp=Z,53nm,1.3s
I30M IAMs_20 IAMs_20 12 09 00.2
comp=Z,11µm,21.0s
I30M Mount Dempster 87.96 24 P P 11 33 26.6 -0.2
baz=252,SNR=37
Q32M Nakina River 88.05 30 IAmb IAmb 11 33 29.0
comp=Z,83nm,1.4s
Q32M IAMs_20 IAMs_20 12 05 01.0
comp=Z,11µm,22.0s
Q32M Nakina River 88.05 30 P P 11 33 28.2 +0.7
baz=256,SNR=19
P33M Teslin, Yukon 88.10 29 IAmb IAmb 11 33 28.4
comp=Z,51nm,1.3s
P33M IAMs_20 IAMs_20 12 09 49.1
comp=Z,7µm,20.0s
P33M Teslin, Yukon 88.10 29 P P 11 33 27.6 0.0
baz=255,SNR=23
GRNB Grenville Isla 88.12 36 IAmb IAmb 11 33 29.4
comp=Z,88nm,1.1s
EPYK Eagle Plains 88.19 23 IAmb IAmb 11 33 28.4
comp=Z,77nm,1.1s
EPYK IAMs_20 IAMs_20 12 10 07.2
comp=Z,10µm,20.0s
EPYK Eagle Plains 88.19 23 P P 11 33 27.6 -0.2
baz=251,SNR=48
N32M Quiet Lake 88.22 28 P P 11 33 28.6 +0.5
baz=255
FARO Faro, Yukon 88.38 27 P P 11 33 28.9 0.0
baz=255,SNR=51
S34M Telegraph Cree 88.38 31 IAmb IAmb 11 33 30.6
comp=Z,47nm,0.9s
S34M Telegraph Cree 88.38 31 P P 11 33 29.9 +1.0
baz=257,SNR=44
E29M Blow River 88.42 21 IAmb IAmb 11 33 30.3
comp=Z,73nm,1.9s
E29M IAMs_20 IAMs_20 12 07 28.3
comp=Z,7µm,22.0s
E29M Blow River 88.42 21 P P 11 33 28.5 -0.3
baz=250
D28M Stokes Point 88.46 20 P P 11 33 28.9 -0.1
baz=250
U35K Hyder 88.53 34 P P 11 33 29.8 +0.2
baz=258
G30M tAoh Zraii Nji 88.57 22 IAmb IAmb 11 33 30.6
comp=Z,57nm,1.2s
G30M tAoh Zraii Nji 88.57 22 P P 11 33 28.8 -0.8
baz=252,SNR=37
T35M Bob Quinn 88.64 32 IAmb IAmb 11 33 31.8
comp=Z,60nm,1.3s
T35M Bob Quinn 88.64 32 P P 11 33 31.1 +0.9
baz=257,SNR=32
R33M Jennings River 88.81 30 IAmb IAmb 11 33 32.5
comp=Z,77nm,1.3s
R33M IAMs_20 IAMs_20 12 10 12.9
comp=Z,9µm,20.0s
R33M Jennings River 88.81 30 P P 11 33 31.6 +0.6
baz=257,SNR=40
BBB Bella Bella 88.88 37 LR LR 12 06 00.5
comp=Z,8µm,21.8s,baz=268,slow=31
F30M Barrier River 88.92 22 P P 11 33 30.9 -0.3
baz=252,SNR=54
H31M Peel River 88.94 23 IAmb IAmb 11 33 31.8
comp=Z,66nm,1.4s
H31M IAMs_20 IAMs_20 12 10 11.1
comp=Z,7µm,20.0s
H31M Peel River 88.94 23 P P 11 33 31.1 -0.3
baz=254,SNR=36
BVA0 Borovoye Array 88.96 323 *i* P **P 11 33 29.2 -2.5**
BVAR Borovoye Array 88.96 323 P P 11 33 30.0 -1.7
comp=Z,34nm,0.8s,baz=104,slow=6.3,SNR=84
BVAR PP **PP 11 37 00.5 -1.5**
comp=Z,0.9nm,0.5s,baz=90,slow=8.6,SNR=2.3
BVAR S **SKSac 11 43 53.9 -2.6**
comp=Z,0.4nm,0.3s,baz=106,slow=7.4,SNR=6.3
BVAR LR LR 12 15 19.0
comp=Z,4µm,19.2s,baz=83,slow=37
comp=Z,34nm,0.8s
BRVK Borovoye 89.03 323 P P 11 33 30.4 -1.6
BRVK Borovoye 89.03 323 P P 11 33 30.2 -1.8
BRVK Borovoye 89.03 323 *ce* P **P 11 33 30.4 -1.6**
BRVK pmax pmax
comp=Z,54nm,1.7s
BRVK Borovoye 89.03 323 ⇑P **P 11 33 30.3 -1.6**
DLBC Dease Lake 89.07 31 P P 11 33 32.8 +0.7
DLBC IAmb IAmb 11 33 33.8
comp=Z,79nm,1.3s
DLBC Dease Lake 89.07 31 LR LR 12 06 25.8
comp=Z,16µm,21.7s,baz=262,slow=31
DLBC Dease Lake 89.07 31 ⇑P **P 11 33 32.2 +0.1**
DLBC Dease Lake 89.07 31 P P 11 33 32.9 +0.7
baz=258,SNR=38
G31M Satah River 89.28 22 IAmb IAmb 11 33 33.2
comp=Z,63nm,1.2s
G31M IAMs_20 IAMs_20 12 08 58.2
comp=Z,11µm,22.0s
G31M Satah River 89.28 22 P P 11 33 32.3 -0.5
baz=254,SNR=56
F31M Tsiigehtchic 89.63 22 IAmb IAmb 11 33 35.3
comp=Z,82nm,1.4s
F31M Tsiigehtchic 89.63 22 P P 11 33 33.8 -0.7
baz=254,SNR=28
KMPM Mount Pierce 89.74 49 IAmb IAmb 11 33 38.4
comp=Z,99nm,1.0s
JCC Jacoby Creek, 89.86 49 IAmb IAmb 11 33 38.9
comp=Z,161nm,1.4s
INK Inuvik 89.94 21 IAmb IAmb 11 33 39.8
comp=Z,59nm,1.2s
INK Inuvik 89.94 21 P P 11 33 34.8 -1.1
comp=Z,52nm,1.1s,baz=257,slow=3.9,SNR=52
INK PKiKP **PKiKP 11 38 32.1 +0.2**
comp=Z,3.6nm,1.0s,baz=256,slow=7.1,SNR=3.0
INK LR LR 12 10 53.2
comp=Z,5µm,20.6s,baz=256,slow=34
comp=Z,52nm,1.1s
INK Inuvik 89.94 21 ⇑P **P 11 33 34.7 -1.1**
INK Inuvik 89.94 21 P P 11 33 35.1 -0.8
baz=254,SNR=61
KMRM Mail Ridge 90.02 50 IAmb IAmb 11 33 39.8
comp=Z,127nm,1.2s
WTLY Watson Lake, Y 90.03 30 IAmb IAmb 11 33 38.8
comp=Z,99nm,1.3s
WTLY Watson Lake, Y 90.03 30 P P 11 33 37.1 +0.5
baz=259,SNR=65
KCPM Cahto Peak 90.05 50 IAmb IAmb 11 33 39.7
comp=Z,92nm,1.0s
KHMM Horse Mountain 90.09 49 IAmb IAmb 11 33 40.3
comp=Z,144nm,1.2s
L02F Cave Junction 90.37 48 IAmb IAmb 11 33 41.0
comp=Z,78nm,1.2s
K02D Willamette Mer 90.38 47 IAmb IAmb 11 33 40.9
comp=Z,125nm,1.2s
I02E Swisshome, OR 90.43 46 IAmb IAmb 11 33 40.5
comp=Z,58nm,1.0s
C03A Quillayute Air 90.45 42 IAmb IAmb 11 33 41.3
comp=Z,112nm,1.2s
GDXM Geysers 90.55 51 IAmb IAmb 11 33 42.2
comp=Z,42nm,1.2s
O02D Mt. Diablo Mer 90.72 50 IAmb IAmb 11 33 44.2
comp=Z,94nm,1.1s
O02D IAMs_20 IAMs_20 12 06 07.8
comp=Z,11µm,22.0s
I03D Drain, OR 90.73 46 IAmb IAmb 11 33 42.3
comp=Z,135nm,1.3s
DBO Dodson Butte 90.74 47 IAmb IAmb 11 33 42.6
comp=Z,82nm,1.3s
RADR Rader Ridge 90.76 44 IAmb IAmb 11 33 42.5
comp=Z,72nm,1.0s
NLWA Neilton Lookou 90.84 43 IAmb IAmb 11 33 42.8
comp=Z,63nm,1.1s
NLWA IAMs_20 IAMs_20 12 07 06.5
comp=Z,8µm,22.0s
NLWA Neilton Lookou 90.84 43 ⇑P **P 11 33 40.7 0.0**
CLRS Cowichan Lake 90.86 41 IAmb IAmb 11 35 30.6
comp=Z,51nm,0.9s
WISH Wishkah 90.87 43 IAmb IAmb 11 33 46.3
comp=Z,67nm,1.1s
COR Corvallis 90.88 45 P P 11 33 41.3 +0.5
COR Corvallis 90.88 45 IAMs_20 IAMs_20 12 06 04.6
comp=Z,10µm,22.0s
COR Corvallis 90.88 45 P P 11 33 41.3 +0.5
COR pmax pmax
comp=Z,166nm,1.5s
COR Corvallis 90.88 45 ⇑P **P 11 33 41.8 +1.0**
YBH Yreka Blue Hor 90.96 48 PKKPbc PKKPbc 11 51 08.0 +0.9
comp=Z,2.7nm,0.6s,baz=122,slow=6.8,SNR=3.8
YBH LR LR 12 08 30.5
comp=Z,7µm,20.1s,baz=282,slow=32
G03D McMinnville, O 90.98 45 IAmb IAmb 11 33 45.2
comp=Z,76nm,1.2s
BBOR Butler Butte 91.12 47 P P 11 33 42.0 -0.2
BBOR IAmb IAmb 11 33 44.4
comp=Z,80nm,1.2s
SHB Sechelt 91.12 40 ⇑P **P 11 33 42.1 +0.1**
LIRD Liard River Hi 91.25 31 P P 11 33 42.2 -0.1
baz=261,SNR=7.4
PGC Sidney 91.28 41 IAmb IAmb 11 33 44.3
comp=Z,48nm,1.1s
SAO San Andreas Ge 91.38 53 IAmb IAmb 11 33 46.1
comp=Z,134nm,1.6s
I04A Tendick Farm, 91.42 46 IAmb IAmb 11 33 44.5
comp=Z,70nm,1.1s
G04A Mulino 91.53 45 IAmb IAmb 11 33 47.0
comp=Z,123nm,1.3s
GNW Green Mountain 91.56 43 IAmb IAmb 11 33 45.8
comp=Z,35nm,0.9s
TOAD Toad River Com 91.61 31 P P 11 33 43.6 -0.3
baz=262,SNR=26
ORV Oroville 91.63 51 IAMs_20 IAMs_20 12 06 34.1
comp=Z,9µm,22.0s
H04A Detroit Lake 91.68 45 IAmb IAmb 11 33 46.4
comp=Z,152nm,1.6s
D05A Enumclaw 92.09 43 IAmb IAmb 11 33 52.6
comp=Z,108nm,1.2s
SYO Syowa Base 92.21 200 ||*i* P **P 11 33 46.0 -0.5**
SYO Syowa Base 92.21 200 ⇑*i* PcP **PcP 11 33 47.2 -0.1**
HRA Herat 92.23 304 IAmb IAmb 11 33 47.8
comp=Z,62nm,1.1s
I05D Terrebonne, OR 92.24 46 IAmb IAmb 11 33 48.6
comp=Z,72nm,1.1s
CMB Columbia Colle 92.35 52 IAmb IAmb 11 33 50.1
comp=Z,126nm,1.3s
CMB IAMs_20 IAMs_20 12 07 04.1
comp=Z,13µm,21.0s
NGCH Negor - Chabah 92.37 295 P P 11 33 48.0 -0.2
NGCH S **SKSac 11 44 15.2 -1.9**
KOTAN Kotaneelee Air 92.38 30 P P 11 33 47.6 +0.1
baz=263,SNR=24
LLLB Lilloet 92.52 40 IAmb IAmb 11 36 08.3
comp=Z,25nm,0.8s
G06A Carlson Farm, 92.83 45 IAmb IAmb 11 33 52.0
comp=Z,138nm,1.9s
LTY Liberty 92.99 43 IAmb IAmb 11 33 53.6
comp=Z,50nm,1.4s
WRGLY Wrigley 93.04 27 IAmb IAmb 11 34 06.4
comp=E,31nm,0.8s
WRGLY Wrigley 93.04 27 P P 11 33 50.4 0.0
baz=263
WAKR Walker 93.13 52 IAmb IAmb 11 33 54.4
comp=Z,89nm,1.1s
MXC Moxie City 93.19 44 IAmb IAmb 11 33 54.8
comp=Z,44nm,1.3s
F07A Phinny Hill Vi 93.38 44 IAmb IAmb 11 33 55.7
comp=Z,75nm,1.4s
A36M Sachs Harbour 93.46 18 IAmb IAmb 11 33 55.6
comp=Z,34nm,0.8s
A36M IAMs_20 IAMs_20 12 14 02.3
comp=Z,10µm,21.0s
A36M Sachs Harbour 93.46 18 P P 11 33 51.2 -0.9
baz=262,SNR=45
E07A Sunnyside 93.49 44 IAmb IAmb 11 33 56.2
comp=Z,58nm,1.3s
C36M Paulatuk 93.51 21 IAmb IAmb 11 33 55.8
comp=Z,25nm,0.7s
C36M IAMs_20 IAMs_20 12 11 17.8
comp=Z,7µm,22.0s
C36M Paulatuk 93.51 21 P P 11 33 51.2 -1.2
baz=263,SNR=30
JLN Jalan Bani Buh 93.67 292 P P 11 33 54.6 +0.3
HAWA Hanford 93.69 44 IAmb IAmb 11 33 57.1
comp=Z,58nm,1.3s
HAWA IAMs_20 IAMs_20 12 11 31.1
comp=Z,7µm,20.0s
HAWA Hanford 93.69 44 ⇑P **P 11 33 54.2 +0.3**
WAH2 Wahluke Slope 93.70 44 IAmb IAmb 11 33 57.0
comp=Z,62nm,1.3s
B08A Colville Reser 93.98 42 IAmb IAmb 11 33 58.0
comp=Z,69nm,1.5s
G08A Pilot Rock 94.01 45 IAmb IAmb 11 33 58.5
comp=Z,93nm,1.5s
NVAR Mina Array Bea 94.02 52 P P 11 33 56.4 +0.6
NVAR Mina Array Bea 94.02 52 P P 11 33 56.7 +0.9
comp=Z,113nm,1.1s,baz=257,slow=5.9,SNR=274
NVAR PP **PP 11 37 42.6 0.0**
comp=Z,0.8nm,0.8s,baz=282,slow=7.4,SNR=2.2
NVAR PKKPbc **PKKPdf 11 50 58.7 +0.3**
comp=Z,1.1nm,0.8s,baz=75,slow=3.4,SNR=5.5
NVAR PKPPKP 11 59 06.0
comp=Z,0.3nm,0.6s,baz=144,slow=4.5,SNR=3.8
NVAR LR LR 12 08 34.8
comp=Z,13µm,21.7s,baz=272,slow=30
E08A Dider Farm, El 94.03 44 IAmb IAmb 11 33 58.8
comp=Z,39nm,1.0s
WVOR Wild Horse Val 94.05 48 IAMs_20 IAMs_20 12 15 32.7
comp=Z,7µm,18.0s
WBK Wadi Bani Khal 94.11 292 P P 11 33 55.4 -0.9
SNR=6.1
D08A Wollman Farm, 94.16 43 IAmb IAmb 11 33 59.2
comp=Z,75nm,1.5s
J08A Circle Bar Ran 94.23 47 IAmb IAmb 11 33 58.6
comp=Z,98nm,1.4s
WSAR Wadi Sarin 94.47 293 LR LR 12 17 51.1
comp=Z,8.3nm,21.0s,baz=103,slow=36
LNOR Lincton Mounta 94.52 44 IAmb IAmb 11 33 58.6
comp=Z,56nm,1.7s
MZP Montezuma Peak 94.69 53 IAmb IAmb 11 34 01.3
comp=Z,91nm,1.1s
JMDO Jabal Madar 94.89 292 P P 11 33 59.7 -0.2
JMDO S **SKSac 11 44 27.8 -3.3**
MHTO MHTO 94.92 291 P P 11 33 58.6 -1.4
SNR=7.9
MHTO S **SKSac 11 44 29.0 -2.3**
BIDO Bidbid 94.95 293 P P 11 33 60.0 -0.2
SNR=6.0
SMDO Samad 94.99 293 P P 11 33 51.7 -8.7
SMDO S **SKSac 11 44 31.4 -0.4**
AB31 Akbulak array 95.04 319 *i* P **P 11 33 56.9 -3.0**
ABKAR Akbulak array 95.04 319 P P 11 33 57.4 -2.6
BMO Blue Mountains 95.16 46 IAmb IAmb 11 34 02.5
comp=Z,169nm,1.9s
BMO IAMs_20 IAMs_20 12 08 51.9
comp=Z,8µm,22.0s
BMO Blue Mountains 95.16 46 ⇑P **P 11 34 00.6 -0.1**
PFO Pinyon Flats O 95.19 57 P P 11 34 02.3 +1.1
PFO Pinyon Flats O 95.19 57 LR LR 12 09 27.7
comp=Z,13µm,20.9s,baz=282,slow=31
PFO Pinyon Flats O 95.19 57 *i* P **P 11 34 02.2 +1.0**
PFO pmax pmax
comp=Z,229nm,1.2s
NEW Newport 95.44 42 IAmb IAmb 11 34 04.9
comp=Z,49nm,1.2s
NEW Newport 95.44 42 IAMs_20 IAMs_20 12 09 52.3
comp=Z,8µm,22.0s
NEW Newport 95.44 42 LR LR 12 10 03.0
comp=Z,8µm,21.9s,baz=272,slow=31
NEW Newport 95.44 42 ⇑P **P 11 34 01.7 -0.1**
ELIB Princess Elisa 95.48 194 *d* P **P 11 34 02.2 +0.5**
comp=Z,27nm,1.2s
ESJX Sierra Juarez 95.53 58 IAmb IAmb 11 34 06.6
comp=Z,105nm,1.2s
TPNV Topopah Spring 95.55 54 ⇑P **P 11 34 03.7 +0.9**
YUH Yuha Desert 95.59 58 IAmb IAmb 11 34 07.1
comp=Z,86nm,1.1s
HOQ Hoqain 95.70 293 P P 11 34 02.2 -1.4
BSY Bisya 95.75 292 P P 11 34 03.8 0.0
S11A Rachel 95.98 53 IAmb IAmb 11 34 06.7
comp=Z,97nm,1.4s
R11B Troy Canyon, C 96.14 52 IAmb IAmb 11 34 08.0
comp=Z,84nm,1.4s
MFID Camas Ranch 96.16 47 IAmb IAmb 11 34 07.5
comp=Z,82nm,1.6s
MFID IAMs_20 IAMs_20 12 11 21.5
comp=Z,6µm,20.0s
ARTI Arti 96.23 326 P P 11 34 02.0 -3.2
ARTI Arti 96.23 326 LR LR 12 17 15.9
comp=Z,11µm,21.4s,baz=90,slow=35
ARTI Arti 96.23 326 *c i* P **P 11 34 03.3 -1.9**
ARTI 11 37 56.8
ARTI PPP PPP 11 39 57.4
ARTI S **SKSac 11 44 34.0 -2.7**
ARTI SP SP 11 46 41.9 +2.6
ARTI PS PS 11 47 29.4 +42
ARTI SSS SSS 11 55 42.9
ARTI pmax pmax
comp=Z,13nm,0.8s
ARTI MLR MLR
comp=Z,11µm,21.0s
AKTO Aktyubinsk 96.33 320 LR LR 12 18 01.1
comp=Z,6µm,20.4s,baz=82,slow=36
AKTO Aktyubinsk 96.33 320 P P 11 34 01.0 -4.8
SHPR Sheep Range 96.40 54 IAmb IAmb 11 34 09.7
comp=Z,73nm,1.3s
ARQ Araqi 96.41 293 P P 11 34 04.5 -2.3
BELA Belgrano 2 96.44 179 P P 11 34 05.8 -0.1
BELA IAmb IAmb 11 34 07.3
comp=Z,23nm,1.1s
SOHO SOHO 96.45 294 P P 11 34 05.7 -1.2
SOHO S **SKSac 11 44 39.1 -0.1**
ELK Elko 96.50 50 IAmb IAmb 11 34 10.7
comp=Z,46nm,1.4s

ELK IAMs_20 IAMs_20 12 09 53.9
comp=Z,8μm,22.0s
ELK Elko 96.50 50 LR LR 12 10 15.5
comp=Z,8μm,21.8s,baz=268,slow=31
ELK Elko 96.50 50 ⇑P **P** **11 34 07.6 +0.5**
MDH Madha 96.73 295 P **P** **11 34 06.5 -1.6**
BANOM Banah 96.76 295 P **P** **11 34 06.7 -1.6**
UOSS Minazif 96.79 294 P **P** **11 34 08.3 -0.1**
UOSS Minazif 96.79 294 ⇓P **P** **11 34 08.4 -0.1**
HATD Hatta, Dubai 96.85 294 P **P** **11 34 09.2 +0.4**
MASF Masafi 96.86 295 P **P** **11 34 08.6 -0.2**
SHME Shamm 96.91 295 P **P** **11 34 08.1 -0.8**
ASHO Ashiyiah 96.91 294 P **P** **11 34 09.0 0.0**
YKA Yellowknife Ar 97.05 28 P Pdif 11 34 08.8 0.0
YKA Yellowknife Ar 97.05 28 P **P** **11 34 08.2 -0.5**
comp=Z,8.5nm,1.0s,baz=270,slow=4.6,SNR=77
YKA PP **PP** **11 38 03.8 -1.3**
comp=Z,1.8nm,1.1s,baz=285,slow=5.8,SNR=3.8
YKA PKiKP **PKiKP** **11 38 44.7 +0.3**
comp=Z,0.9nm,0.6s,baz=271,slow=1.6,SNR=10
YKA PKKPbc **PKKPbc** **11 50 49.0 -2.7**
comp=Z,2.3nm,0.9s,baz=95,slow=2.6,SNR=17
YKA PKPPKP 11 59 00.7
comp=Z,1.3nm,1.2s,baz=95,slow=1.5,SNR=7.2
YKA LR LR 12 12 18.9
comp=Z,7μm,21.8s,baz=294,slow=32
comp=Z,8.5nm,1.0s
YKA Yellowknife Ar 97.05 28 P Pdif 11 34 08.8 0.0
SPR3 Spring Creek 3 97.15 52 IAmb IAmb 11 34 12.6
comp=Z,61nm,1.1s
HLID Hailey 97.19 47 IAmb IAmb 11 34 12.5
comp=Z,78nm,2.0s
HLID IAMs_20 IAMs_20 12 11 53.9
comp=Z,8μm,21.0s
HLID Hailey 97.19 47 ⇑P Pdif 11 34 10.4 +0.3
113A Mohawk Valley, 97.41 58 IAmb IAmb 11 34 13.6
comp=Z,22nm,1.1s
PSUT Pine Spring 97.51 52 IAmb IAmb 11 34 14.2
comp=Z,43nm,1.3s
MSO Missoula 97.56 44 IAMs_20 IAMs_20 12 14 19.5
comp=Z,6μm,19.0s
ASUD Al Ashush, Dub 97.57 294 P Pdif 11 34 12.1 +0.1
PIX Pinacate 97.63 59 IAmb IAmb 11 34 16.5
comp=Z,21nm,1.1s
LCMT Little Creek M 97.96 54 IAmb IAmb 11 34 16.6
comp=Z,110nm,1.5s
Y14A Wickenburg 98.08 57 IAmb IAmb 11 34 17.3
comp=Z,70nm,1.4s
BGU Big Grassy Mou 98.18 50 IAmb IAmb 11 34 19.2
comp=Z,50nm,1.7s
DUG Dugway, Tooele 98.34 50 IAmb IAmb 11 34 22.2
comp=Z,23nm,1.2s
DUG IAMs_20 IAMs_20 12 11 00.6
comp=Z,7μm,22.0s
DUG Dugway, Tooele 98.34 50 ⇑P Pdif 11 34 15.8 +0.4
DOK Doka 98.37 288 P **P** **11 34 14.0 -1.6**
HVU Hansel Valley 98.38 49 IAmb IAmb 11 34 18.5
comp=Z,40nm,1.2s
DLMT Dillon 98.50 45 IAMs_20 IAMs_20 12 10 47.4
comp=Z,7μm,22.0s
TCRU Three Creeks R 98.61 52 IAmb IAmb 11 35 59.0
comp=Z,17nm,0.3s
WHFO Wadi Hawf 98.67 287 P **P** **11 34 16.1 -1.0**
MVU Marysvale 98.80 52 IAmb IAmb 11 34 23.9
comp=Z,99nm,1.4s
MTPU Mount Pierson 98.81 53 IAmb IAmb 11 34 21.2
comp=Z,141nm,1.9s
NVL N'lazarevskaya 98.98 193 *e*P Pdif 11 34 17.9 +0.6
NVL *e*S **SKSac** **11 44 48.8 -1.5**
NVL pmax pmax
comp=Z,20nm,1.1s
NVL MLR MLR
comp=Z,5μm,17.0s
HWUT Hardware Ranch 99.29 49 IAMs_20 IAMs_20 12 12 28.5
comp=Z,7μm,21.0s
HWUT Hardware Ranch 99.29 49 ⇑P **Pdif** **11 34 19.4 -0.1**
TCUT Toone Canyon 99.41 49 IAmb IAmb 11 34 30.5
comp=Z,42nm,1.4s
WUAZ Wupatki 99.45 55 IAmb IAmb 11 34 23.8
comp=Z,70nm,1.2s
AHID Auburn Hatcher 99.61 48 IAMs_20 IAMs_20 12 11 43.1
comp=Z,6μm,21.0s
TPAW Teton Pass 99.71 47 IAMs_20 IAMs_20 12 13 35.4
comp=Z,8μm,20.0s
TROLL Troll, Antarti 99.75 189 ⇓P **Pdif** **11 34 21.7 +0.7**
comp=Z,511nm,0.7s
SNOW Snow King Moun 99.85 47 IAMs_20 IAMs_20 12 13 41.3
comp=Z,8μm,20.0s
TUC Tucson 99.92 58 IAMs_20 IAMs_20 12 11 30.9
comp=Z,7μm,21.0s
LOHW Long Hollow 99.96 47 IAMs_20 IAMs_20 12 13 45.1
comp=Z,8μm,20.0s
EGMT Eagleton 100.38 42 IAMs_20 IAMs_20 12 13 55.8
comp=Z,6μm,20.0s
BW06 Boulder Array 100.75 48 IAMs_20 IAMs_20 12 12 39.6
comp=Z,7μm,21.0s
PDAR Pinedale Array 100.75 48 P **Pdif** **11 34 25.6 -0.5**
comp=Z,15nm,1.0s,baz=233,slow=2.0,SNR=74
PDAR PP **PP** **11 38 32.4 -1.9**
comp=Z,1.6nm,1.0s,baz=260,slow=4.4,SNR=4.1
PDAR PKKPbc **PKKPbc** **11 50 40.1 -0.7**
comp=Z,1.3nm,0.7s,baz=105,slow=5.6,SNR=8.1
PDAR PKPPKP 11 58 54.3
comp=Z,1.1nm,1.1s,baz=338,slow=1.6,SNR=5.1
RLMT Red Lodge 100.86 45 IAMs_20 IAMs_20 12 15 49.8
comp=Z,5μm,20.0s
SNAA Sanae 100.87 188 ⇓P **Pdif** **11 34 26.3 +0.5**
comp=Z,146nm,1.0s
SNAA Sanae 100.87 188 P **Pdif** **11 34 25.8 0.0**
comp=Z,7.8nm,1.1s,baz=69,slow=6.3,SNR=6.1
SNAA PKiKP **PKiKP** **11 38 52.1 +1.0**
comp=Z,5.0nm,1.1s,baz=133,slow=15,SNR=3.2
SNAA PKKPbc **PKKPbc** **11 50 37.4 -3.7**
comp=Z,5.3nm,1.2s,baz=24,slow=3.9,SNR=5.5
KIRV Kirov 100.95 328 *i* P **Pdif** **11 34 24.9 -1.3**
MVCO Mesa Verde 101.75 53 IAMs_20 IAMs_20 12 14 07.2
comp=Z,8μm,21.0s
O20A White River Ci 101.84 50 IAMs_20 IAMs_20 12 13 06.3
comp=Z,8μm,22.0s
VNA3 Neumayer Olymp 102.12 186 ⇓P **Pdif** **11 34 33.0 +1.7**
comp=Z,6.7nm,0.8s
LAO LASA Array 102.87 44 IAMs_20 IAMs_20 12 21 52.8
comp=Z,5μm,19.0s
K22A Casper 102.99 48 IAMs_20 IAMs_20 12 23 40.4
comp=Z,4μm,18.0s
Y22D IRIS PASSCAL I 103.14 56 IAMs_20 IAMs_20 12 12 55.0
comp=Z,9μm,22.0s
ANMO Albuquerque 103.48 56 IAMs_20 IAMs_20 12 13 10.2
comp=Z,6μm,22.0s
ANMO Albuquerque 103.48 56 IAMs_20 IAMs_20 12 13 09.6
comp=Z,6μm,22.0s
ANMO Albuquerque 103.48 56 IAMs_20 IAMs_20 12 13 09.6
comp=Z,6μm,22.0s
ANMO Albuquerque 103.48 56 PP **PP** **11 38 52.9 -2.0**
comp=Z,3.2nm,1.1s,baz=61,slow=4.7,SNR=4.9
EPT El Paso 103.56 59 IAMs_20 IAMs_20 12 13 14.3
comp=Z,7μm,21.0s
MAK Makhachkala 103.81 313 *i* P **Pdif** **11 34 39.1 -0.3**
MAK *i* 11 38 56.7
MAK *e* 11 45 12.7
MAK *e*PS PS 11 48 06.4 -2.4
MAK *e*SS SS 11 53 36.8 -2.8
MAK *e*SSS SSS 11 57 35.7
MAK pmax pmax
comp=Z,21nm,0.3s
ISCO Idaho Springs 103.88 51 IAMs_20 IAMs_20 12 14 24.2
comp=Z,5μm,22.0s
SPA0 Spitsbergen Ar 103.98 351 *e*P **Pdif** **11 34 38.0 -1.5**
SPA0 *e*PP **PP** **11 38 57.5 +0.4**
SPA0 *e*SP SP 11 48 06.2 +5.0
SPA0 *e*SS **SS** **11 53 44.6 +4.7**
SPA0 IVMs_BB IVMs_BB 12 19 26.6
comp=Z,5μm,4.5s
SPITS Spitsbergen Ar 103.98 351 PKKPbc PKKPbc 11 50 30.4 -1.7
comp=Z,3.3nm,0.6s,baz=165,slow=6.7,SNR=10
DGMT Dagmar 104.04 42 IAMs_20 IAMs_20 12 14 50.6
comp=Z,6μm,22.0s
MNTX Cornudas Mount 104.52 59 IAMs_20 IAMs_20 12 13 22.2
comp=Z,7μm,22.0s
T25A Trinidad 105.01 53 IAMs_20 IAMs_20 12 14 35.1
comp=Z,5μm,21.0s
KLMR Klimovskoe 105.40 332 *e*P **Pdif** **11 34 42.3 -3.7**
KLMR *e* 11 39 03.9
KLMR 11 45 18.6
KLMR PS PS 11 48 20.5 -4.1
KLMR 11 54 11.4
KLMR SSS SSS 11 57 55.6
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR MLR MLR
comp=Z,11μm,23.0s
APA Apatity 105.61 339 ⇓*i* P **Pdif** **11 34 38.4 -8.4**
APA pmax pmax
comp=Z,12nm,0.9s
APA MLR MLR
comp=Z,7μm,23.0s
VADS Vadso 105.80 342 *e*PP **PKiKP** **11 39 06.1 +6.2**
VADS *e*SKSac **SKSac** **11 45 22.5 +0.1**
VADS *e*SP SP 11 48 22.7 +2.3
VADS *e*SS **SKKPbc** **11 54 07.2 +2.0**
VADS IVMs_BB IVMs_BB 12 21 13.3
comp=Z,6μm,4.6s
TXAR Lajitas Array 106.09 61 Pdiff **Pdif** **11 34 50.4 +0.4**
comp=Z,1.5nm,0.9s,baz=220,slow=2.3,SNR=12
TXAR PKiKP **PKiKP** **11 39 01.9 0.0**
comp=Z,1.6nm,0.9s,baz=212,slow=1.2,SNR=7.6
TXAR PP **PP** **11 39 14.4 +0.1**
comp=Z,9.2nm,1.1s,baz=291,slow=6.3,SNR=17
TXAR PKKPbc **PKKPbc** **11 50 23.7 -0.7**
comp=Z,0.7nm,0.7s,baz=102,slow=4.2,SNR=4.4
TXAR PKKPab **PKKPab** **11 50 41.0 +0.8**
comp=Z,4.9nm,0.9s,baz=115,slow=5.9,SNR=16
TXAR PKPPKP 11 58 47.7
comp=Z,0.3nm,0.8s,baz=94,slow=2.3,SNR=4.4
OGNE Ogallala 106.49 49 IAMs_20 IAMs_20 12 17 05.3
comp=Z,8μm,21.0s
MSTX Muleshoe 106.58 56 IAMs_20 IAMs_20 12 16 49.2
comp=Z,6μm,20.0s
E28A Huff 106.66 43 IAMs_20 IAMs_20 12 18 36.1
comp=Z,6μm,20.0s
KBZ Khabaz 107.06 314 Pdiff **Pdif** **11 34 52.9 -0.9**
comp=Z,2.0nm,1.0s,baz=137,slow=5.6,SNR=6.7
KBZ PKiKP **PKiKP** **11 39 03.3 +0.2**
comp=Z,1.1nm,0.7s,baz=186,slow=7.9,SNR=3.6
HAMF Hammerfest 107.16 344 *e*P **Pdif** **11 34 55.7 +2.0**
HAMF *e*PP **PP** **11 39 21.9 +1.3**
HAMF *e*SKSac **SKSac** **11 45 27.5 -1.0**
HAMF *e*SP **SP** **11 48 36.2 +1.8**
HAMF IVMs_BB IVMs_BB 12 19 04.9
comp=Z,5μm,4.7s
MDND Maddock 107.17 42 IAMs_20 IAMs_20 12 18 01.5
comp=Z,6μm,21.0s
KIV Kislovodsk 107.18 314 *i* P **Pdif** **11 34 51.7 -2.8**
KIV *e* 11 39 20.0
KIV *e* 11 45 28.9
KIV *e*PS PS 11 48 43.1 -0.8
KIV *e*SS SS 11 54 24.7 -0.9
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,3μm,21.0s
ARA0 ARCESS Array S 107.25 343 *e*P **Pdif** **11 34 54.6 +0.4**
ARA0 *e*PP **PP** **11 39 23.8 +2.4**
ARA0 *e*SKSac **SKSac** **11 45 31.1 +2.2**
ARA0 *e*SP **SP** **11 48 33.2 -2.1**
ARA0 *e*SS **SS** **11 54 30.6 +5.8**
ARA0 IVMs_BB IVMs_BB 12 19 54.6
comp=Z,4μm,4.2s
ARCES ARCESS Array B 107.25 343 Pdiff **Pdif** **11 34 52.4 -1.7**
comp=Z,7.2nm,0.9s,baz=67,slow=4.6,SNR=3.9
ARCES PKiKP **PKiKP** **11 39 02.6 -0.1**
comp=Z,3.2nm,0.4s,baz=97,slow=1.6,SNR=30
ARCES PKKPbc **PKKPbc** **11 50 18.9 -3.0**
comp=Z,1.9nm,0.6s,baz=324,slow=1.6,SNR=9.6
NEEM North Greenlan 107.37 5 *i* P **PKiKP** **11 39 01.4 -1.7**
AMTX Amarillo 107.41 55 IAMs_20 IAMs_20 12 16 29.4
comp=Z,8μm,21.0s
KTK1 Kautokeino 108.21 343 *e*P **Pdif** **11 34 59.5 +1.1**
KTK1 *e*PP **PP** **11 39 32.2 +3.9**
KTK1 *e*SP SP 11 48 45.6 +0.4
KTK1 *e*SS **SS** **11 54 36.4 -1.4**
KTK1 IVMs_BB IVMs_BB 12 23 26.8
comp=Z,3μm,4.0s
SUSD Miller 108.23 45 IAMs_20 IAMs_20 12 19 40.8
comp=Z,5μm,20.0s
JETT Jettan, Norway 108.71 344 *e*PP **PP** **11 39 35.3 +3.3**
ULM Lac du Bonnet 109.05 39 Pdiff **Pdif** **11 35 01.5 -1.0**
comp=Z,3.0nm,0.8s,baz=303,slow=5.7,SNR=4.6
ULM PKiKP **PKiKP** **11 39 06.2 -0.3**
comp=Z,7.1nm,0.9s,baz=282,slow=4.0,SNR=8.7
ULM PKKPbc **PKKPbc** **11 50 13.3 -2.4**
comp=Z,1.9nm,0.8s,baz=88,slow=3.5,SNR=4.0
ULM PKKPab **PKKPab** **11 50 25.6 -0.8**
comp=Z,4.0nm,1.0s,baz=102,slow=2.4,SNR=5.4
ABTX Abilene, Hawle 109.31 58 IAMs_20 IAMs_20 12 16 38.5
comp=Z,5μm,21.0s
BGNE Belgrade 109.33 48 IAMs_20 IAMs_20 12 19 17.2
comp=Z,5μm,20.0s
JCT Junction City 109.37 60 IAMs_20 IAMs_20 12 16 02.3
comp=Z,8μm,22.0s
AGMN Agassiz Nation 109.53 41 IAMs_20 IAMs_20 12 18 45.8
comp=Z,7μm,21.0s
WMOK Wichita Mounta 109.79 55 IAMs_20 IAMs_20 12 17 12.2
comp=Z,5μm,22.0s
F33A 5 Mile Ranch, 109.80 43 IAMs_20 IAMs_20 12 24 20.2
comp=Z,7μm,20.0s
OK032 Salt Plains WL 109.99 53 IAMs_20 IAMs_20 12 19 33.1
comp=Z,6μm,20.0s
ECSD EROS Data Cent 110.02 46 IAMs_20 IAMs_20 12 24 54.2
comp=Z,5μm,19.0s
OK048 Pawnee Station 111.05 53 IAMs_20 IAMs_20 12 18 14.3
comp=Z,6μm,22.0s
FINES FINESS Array B 111.18 335 Pdiff **Pdif** **11 35 10.0 -1.7**
comp=Z,4.7nm,0.8s,baz=56,slow=5.4,SNR=8.8
FINES PKiKP **PKiKP** **11 39 09.8 -0.5**
comp=Z,2.0nm,0.3s,baz=73,slow=1.9,SNR=17
FINES PKKPbc **PKKPbc** **11 50 06.9 -2.2**
comp=Z,1.3nm,0.8s,baz=214,slow=2.1,SNR=4.6
MG03 Isla Dawson 111.18 155 IAMs_20 IAMs_20 12 14 51.9
comp=Z,7μm,21.0s
STEI Steigen 111.20 344 *e*PP **PP** **11 39 53.8 +3.9**
Z35A Perchaven, San 111.22 57 IAMs_20 IAMs_20 12 17 52.2
comp=Z,6μm,22.0s
OK052 Battle Ridge R 111.23 54 IAMs_20 IAMs_20 12 18 56.0
comp=Z,7μm,21.0s
N35A Tabor 111.29 48 IAMs_20 IAMs_20 12 20 39.2
comp=Z,7μm,21.0s
LOF Lofoten 111.53 344 *e*PP **PP** **11 39 51.7 -0.6**
FAUS Fauske 111.56 343 *e* **PKiKP** **11 39 08.4 -2.4**
TUL3 Leonard 112.05 54 IAMs_20 IAMs_20 12 20 33.8
comp=Z,6μm,20.0s
I37A Lemond, Waseca 112.22 45 IAMs_20 IAMs_20 12 21 25.4
comp=Z,7μm,22.0s
SPMN Marine on St. 112.33 43 IAMs_20 IAMs_20 12 21 11.1
comp=Z,7μm,21.0s
EYMN Ely 112.44 40 IAMs_20 IAMs_20 12 19 58.8
comp=Z,7μm,22.0s
MOR8 Moi Rana 112.62 342 *e* **PKiKP** **11 39 12.7 -0.3**
KIBK Kibwezi 112.63 265 PP **PP** **11 40 00.1 -2.1**
E38A The Farm, Brul 112.79 42 IAMs_20 IAMs_20 12 19 20.2
comp=Z,6μm,22.0s
SCIA State Center 112.85 47 IAMs_20 IAMs_20 12 20 43.3
comp=Z,6μm,22.0s
SIM Simferopol' 112.97 317 *e*PKIKP **PKiKP** **11 39 13.0 -1.2**
SIM *e* 11 40 04.0
SIM *e*SP SP 11 49 34.0 +2.1
SIM pmax pmax
comp=Z,10.0nm,1.0s
SIM pmax pmax
comp=Z,300nm,11.0s
SIM pmax pmax
comp=Z,550nm,12.0s
SUMG Summit 112.98 3 *i* P **PKiKP** **11 39 13.0 -1.0**
LEIR Leirfjorden 113.06 343 *e* **PKiKP** **11 39 13.3 -0.4**
LEIR *e*PP **PP** **11 40 04.6 +1.4**
LEIR *e*SP SP 11 49 34.6 +3.3
LEIR *e*SS **SS** **11 55 46.3 +3.9**
LEIR IVMs_BB IVMs_BB 12 24 01.2
comp=Z,4μm,4.6s
U38A Gravette 113.08 53 IAMs_20 IAMs_20 12 19 26.0
comp=Z,7μm,22.0s
Z38A Mt. Pleasant 113.12 56 IAMs_20 IAMs_20 12 19 13.3
comp=Z,6μm,22.0s
P38A Dawn 113.12 49 IAMs_20 IAMs_20 12 23 13.7
comp=Z,5μm,20.0s
MNK Minsk 113.48 328 *i* P **Pdif** **11 35 20.6 -1.5**
MNK *i* 11 40 05.2
MNK *i* PPP PPP 11 42 29.0
MNK *i* 11 46 20.6
MNK *i* SS SS 11 55 48.2 -0.5
MNK *i* SSS SSS 12 00 01.5
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,19nm,0.8s
MNK MLR MLR
comp=E,3μm,20.0s
MNK MLR MLR
comp=Z,7μm,19.0s
MNK MLR MLR
comp=N,6μm,20.0s
KMBO Kilima Mbogo 113.57 266 PKiKP **PKiKP** **11 39 17.3 +0.7**
comp=N,1.3nm,0.3s,baz=55,slow=3.6,SNR=7.6
KMBO PKKPbc **PKKPbc** **11 49 59.7 -0.3**
comp=N,1.1nm,0.2s,baz=231,slow=24,SNR=1.6
NATX Nacogdoches 113.60 58 IAMs_20 IAMs_20 12 20 27.3
comp=Z,7μm,21.0s
G40A Rib Lake 114.08 43 IAMs_20 IAMs_20 12 27 03.5
comp=Z,6μm,19.0s
I40A Norwalk 114.19 44 IAMs_20 IAMs_20 12 23 05.5
comp=Z,6μm,20.0s
AKASG Malin Array Be 114.24 324 PKP PKPdf 11 39 15.8 -0.6
comp=Z,4.4nm,0.5s,baz=55,slow=2.7,SNR=21
AKASG PKKPbc **PKKPbc** **11 49 56.9 -1.6**
comp=Z,1.5nm,0.5s,baz=263,slow=3.7,SNR=10.0
KIEV Kiev 114.25 324 IAMs_20 IAMs_20 12 29 14.4
comp=Z,8μm,22.0s
KIEV Kiev 114.25 324 ⇓P PKPdf 11 39 16.0 -0.4
KIEV Kiev 114.25 324 PKIKP PKPdf 11 39 16.0 -0.4
L40A Anamosa 114.26 46 IAMs_20 IAMs_20 12 23 39.4
comp=Z,6μm,20.0s
P40A Paris 114.26 49 IAMs_20 IAMs_20 12 22 30.9
comp=Z,5μm,21.0s
NSS Namsos 114.51 342 *e* **PKiKP** **11 39 16.1 -0.4**
NSS *e*PKPdf **PKiKP** **11 39 16.1 -0.4**
COWI Conover 114.54 42 IAMs_20 IAMs_20 12 20 45.5
comp=Z,7μm,22.0s
KIRS Kirsehir-Merke 114.56 310 ⇑P **PKiKP** **11 39 17.8 +0.3**
MMAI Mount Meron Ar 114.58 304 PKP **PKiKP** **11 39 18.3 +0.5**
comp=Z,1.2nm,0.4s,baz=116,slow=2.9,SNR=5.3
BRTR Keskin Array B 114.63 311 PKP **PKPbc** 11 39 17.6 -0.2
comp=Z,6.1nm,1.1s,baz=124,slow=1.8,SNR=13
BRTR PKKPbc **PKKPbc** **11 49 57.8 +0.7**
comp=Z,1.8nm,0.8s,baz=218,slow=3.7,SNR=5.3
CMIG Matias Romero 114.63 74 PKKPab PKKPab 11 50 03.0 +0.6
comp=Z,3.1nm,0.8s,baz=67,slow=7.9,SNR=4.9
JFWS Jewell Farm 114.72 45 IAMs_20 IAMs_20 12 23 25.7
comp=Z,6μm,21.0s
ILULI Ilulissat 114.94 9 IAMs_20 IAMs_20 12 26 41.6
comp=Z,4μm,20.0s
SCO Scoresbysund 115.18 357 *i* P **PKiKP** **11 39 16.4 -1.3**
F42A Maple Grove Fa 115.31 42 IAMs_20 IAMs_20 12 22 24.9
comp=Z,7μm,21.0s
I42A Draeger Farm, 115.37 44 **PKiKP** **11 39 18.7 -0.1**
I42A IAMs_20 IAMs_20 12 27 26.7
comp=Z,6μm,20.0s
L42A Oliver, Polo 115.39 46 IAMs_20 IAMs_20 12 24 33.3
comp=Z,6μm,21.0s
SORM Soroca 115.72 321 ⇓P **PKiKP** **11 39 19.0 -0.4**
SORM Soroca 115.72 321 PKIKP **PKiKP** **11 39 18.9 -0.4**
H43A Windswept, Lux 115.97 43 IAMs_20 IAMs_20 12 23 01.5
comp=Z,7μm,22.0s
COYC Coyhaique 116.05 148 IAMs_20 IAMs_20 12 18 44.7
comp=Z,5μm,21.0s
HDIL Hopedale 116.06 47 IAMs_20 IAMs_20 12 30 49.1
comp=Z,5μm,20.0s
P43A Skaggs, Pawnee 116.13 49 IAMs_20 IAMs_20 12 23 18.2
comp=Z,6μm,20.0s
K43A Burlington 116.13 45 IAMs_20 IAMs_20 12 28 26.0
comp=Z,5μm,20.0s
SUW Suwalki 116.16 329 IAMs_20 IAMs_20 12 28 36.7
comp=Z,7μm,22.0s
143A Socs Landing, 116.18 56 IAMs_20 IAMs_20 12 22 23.3
comp=Z,5μm,21.0s
ICESG Greenland Ices 116.34 4 *i* P **PKPdf** **11 39 19.4 -1.0**
M44A Midewin, Midew 116.73 46 IAMs_20 IAMs_20 12 23 05.9
comp=Z,5μm,22.0s
TPGR Topolog 116.85 318 ⇑P **PKiKP** **11 39 21.8 +0.1**
HFS Hagfors 116.90 338 PKP **PKPdf** **11 39 20.9 -0.4**
comp=Z,4.3nm,0.6s,baz=63,slow=4.0,SNR=12
CFR Carcaliu 116.93 318 ⇑P **PKiKP** **11 39 22.1 +0.3**
CFR Carcaliu 116.93 318 PKIKP **PKiKP** **11 39 22.1 +0.3**
VBMS Vicksburg 117.00 57 IAMs_20 IAMs_20 12 22 48.2
comp=Z,6μm,21.0s
NB2 NORSAR Subarra 117.19 339 PKPdf **PKPdf** **11 39 20.9 -1.0**
comp=Z,9.6nm,0.9s,baz=49,slow=1.9
NB2 pPKP 11 42 52.8
comp=Z,1.5nm,0.9s,baz=65,slow=2.9
NB2 NORSAR Subarra 117.19 339 PKPdf **PKPdf** **11 39 20.9 -1.0**
baz=49,slow=1.9
NOA NORSAR Array B 117.19 339 PKP **PKPdf** **11 39 21.5 -0.4**
comp=Z,6.4nm,0.8s,baz=48,slow=1.9,SNR=15
NOA SKP 11 42 53.1
comp=Z,3.6nm,1.0s,baz=49,slow=2.1,SNR=3.9
DOMB Dombas 117.20 341 *e*PKPdf **PKiKP** **11 39 22.2 +0.3**
DOMB *e*PP **PP** **11 40 33.5 +1.1**
NC602 NORSAR Array S 117.29 339 *e*PKPdf **PKPdf** **11 39 21.5 -0.5**
NC602 *e*PP **PP** **11 40 32.9 -0.1**
NC602 *e*PS **PKKPdf** **11 50 18.8 +3.5**
NC602 *e*SS SS 11 56 43.3 +5.2
TESR Tescani 117.41 320 ⇑P **PKiKP** **11 39 22.9 +0.2**
ISP Isparta 117.46 310 IAMs_20 IAMs_20 12 31 42.5
comp=Z,4μm,20.0s
Y45A Yeager Farm, C 117.48 55 IAMs_20 IAMs_20 12 22 47.5
comp=Z,7μm,22.0s
E46A Sault Ste Mari 117.59 40 IAMs_20 IAMs_20 12 24 32.0
comp=Z,6μm,22.0s
VRI Vrincioaia 117.60 319 ⇑P **PKPdf** **11 39 22.2 -0.9**
VRI Vrincioaia 117.60 319 PKIKP **PKPdf** **11 39 22.2 -0.9**
ONER Baraj Valea Uz 117.64 320 ⇑P **PKiKP** **11 39 23.3 +0.1**
BOSA Boshof 117.69 234 PKP **PKiKP** **11 39 24.3 +0.3**
comp=Z,5.2nm,0.5s,baz=104,slow=1.7,SNR=20
BOSA PKKPbc **PKKPbc** **11 49 45.4 -0.6**
comp=Z,8.7nm,0.9s,baz=303,slow=2.8,SNR=10
SFIN Lafayette 117.71 47 IAMs_20 IAMs_20 12 26 06.0
comp=Z,4μm,20.0s
LL02 Futaleuf 117.72 146 IAMs_20 IAMs_20 12 20 43.0
comp=Z,5μm,21.0s
AKN Aaknes 117.76 342 *e*PKPdf **PKPdf** **11 39 22.0 -1.0**
AKN *e*SKSac **SKSac** **11 46 07.9 -3.3**
AKN *e*SS **SS** **11 56 51.4 +7.3**
AKN IVMs_BB IVMs_BB 12 22 05.8
comp=Z,4μm,4.6s
L46A Eue Claire 117.78 45 IAMs_20 IAMs_20 12 25 06.6
comp=Z,6μm,20.0s
P46A Rosedale 117.85 48 IAMs_20 IAMs_20 12 23 58.8
comp=Z,7μm,22.0s
BURAR Bucovina Array 117.87 322 **PKiKP** **11 39 24.7 +1.0**
BURAR Bucovina Array 117.87 322 ⇑P **PKiKP** **11 39 23.9 +0.1**
BURAR Bucovina Array 117.87 322 PKIKP **PKiKP** **11 39 23.8 +0.1**
146A Union 118.13 56 IAMs_20 IAMs_20 12 25 13.0
comp=Z,5μm,21.0s
MLR Muntele Rosu 118.25 319 ⇑P **PKPdf** **11 39 24.0 -0.6**
MLR Muntele Rosu 118.25 319 PKIKP **PKPdf** **11 39 23.9 -0.6**
WVT Waverly 118.32 52 **PKPdf** **11 39 24.7 -0.1**
WVT Waverly 118.32 52 PKIKP **PKPdf** **11 39 24.7 -0.1**
DOPR Dopca 118.42 320 ⇓P **PKiKP** **11 39 24.9 +0.2**
SKAR Skarslia 118.45 340 *e*PKPdf **PKiKP** **11 39 24.8 +0.4**
SKAR *e*SKSac **SKSac** **11 46 21.1 +7.4**
SKAR *e*PS PKKPdf 11 50 30.4 +17
SKAR *e*SS **SS** **11 56 58.3 +5.1**
SKAR IVMs_BB IVMs_BB 12 21 21.7
comp=Z,4μm,4.7s
H03S2 Juan Fernandez 118.51 133 T T 13 48 46.6
baz=239,slow=74,SNR=21
H03S1 Juan Fernandez 118.52 133 T T 13 48 48.8
baz=239,slow=74,SNR=16
H03S3 Juan Fernandez 118.53 133 T T 13 48 47.4
baz=239,slow=74,SNR=20
KONO Kongsberg 118.74 339 *e*PKPdf **PKPdf** **11 39 23.8 -1.1**
KONO *e*PP **PP** **11 40 45.6 +2.5**
KONO *e*SKSac **SKSac** **11 46 11.6 -3.1**
KONO *e*SP **SP** **11 50 26.0 +2.8**
KONO *e*SS **SS** **11 56 55.4 -1.4**
KONO IVMs_BB IVMs_BB 12 20 29.1
comp=Z,3μm,5.3s
KONO Kongsberg 118.74 339 IAMs_20 IAMs_20 12 30 21.0
comp=Z,4μm,21.0s
Z47A Carrollton 118.82 55 IAMs_20 IAMs_20 12 22 58.2
comp=Z,5μm,22.0s
LBTB Lobatse 118.83 237 **PKiKP** **11 39 26.6 +0.3**
LBTB Lobatse 118.83 237 PKIKP **PKiKP** **11 39 26.6 +0.3**
WCI Wyandotte Cave 118.94 49 **PKPdf** **11 39 25.7 -0.2**
WCI Wyandotte Cave 118.94 49 PKIKP **PKPdf** **11 39 25.7 -0.2**
KOLS Kolonicke sedl 119.07 324 *e*PKIKP **PKiKP** **11 39 26.7 +0.8**
KOLS Kolonicke sedl 119.07 324 *e*PKP **PKiKP** **11 39 26.7 +0.8**

ARR	Arges	119.15	320	⇓P		PKiKP		11 39 26.7	+0.5
O48B	Farmland	119.16	47	IAMs_20		IAMs_20		12 32 36.3	
	comp=Z,4μm,19.0s								
MAKGR	Makgori	119.18	236	*i* P		PKiKP		11 39 27.9	+1.0
LPHEP	Lephephe	119.22	239	*i* P		PKiKP		11 39 27.9	+0.8
P48A	Milroy	119.22	48	IAMs_20		IAMs_20		12 26 23.8	
	comp=Z,6μm,20.0s								
TNR	Turnu Rosu	119.27	320	⇑P		PKiKP		11 39 26.6	+0.2
TNR	Turnu Rosu	119.27	320	PKIKP		PKiKP		11 39 26.6	+0.2
X48A	Hartselle	119.36	54	IAMs_20		IAMs_20		12 23 36.3	
	comp=Z,5μm,21.0s								
NUUK	Nuuk	119.41	11	*i* P		PKPdf		11 39 24.4	-1.6
SUR	Sutherland	119.42	228	IAMs_20		IAMs_20		12 26 22.3	
	comp=Z,5μm,20.0s								
STHS	Stebnicka Huta	119.43	325	*e*PKIKP		PKiKP		11 39 26.6	0.0
STHS	Stebnicka Huta	119.43	325	*e*PKP		PKiKP		11 39 26.6	0.0
AAM	Ann Arbor	119.53	44	IAMs_20		IAMs_20		12 26 02.8	
	comp=Z,7μm,21.0s								
MARR	Marisel-Cluj	119.56	321	⇓P		PKPdf		11 39 26.5	-0.5
N49A	Columbus Grove	119.64	46	IAMs_20		IAMs_20		12 25 56.9	
	comp=Z,4μm,20.0s								
LOT	Lotru	119.67	320	⇓P		PKPdf		11 39 26.7	-0.6
LSZ	Lusaka	119.69	249			PKiKP		11 39 28.5	+0.3
LSZ	Lusaka	119.69	249	PKIKP		PKiKP		11 39 28.5	+0.3
LRAL	Lakeview Retre	119.73	55	IAMs_20		IAMs_20		12 23 37.4	
	comp=Z,6μm,22.0s								
DRGR		119.77	322	⇓P		PKPdf		11 39 27.1	-0.3
DRGR		119.77	322	PKIKP		PKPdf		11 39 27.0	-0.3
O49A	Covington	119.78	47	IAMs_20		IAMs_20		12 25 39.6	
	comp=Z,5μm,20.0s								
ISOG	Isortoq, Green	119.88	5	*i* P		PKPdf		11 39 25.4	-1.5
NIE	Niedzica	119.97	325	*e*PKP		PKiKP		11 39 28.1	+0.5
NIE				*e*L		L		12 27 07.5	
	comp=Z,5μm,28.4s								
PLCA	Paso Flores	120.05	144	PKP		PKiKP		11 39 28.9	+0.7
	comp=Z,3.2nm,0.5s,baz=241,slow=2.3,SNR=32								
PLCA				PKKPab		PKKPbc		11 49 37.7	-0.1
	comp=Z,4.3nm,0.8s,baz=60,slow=3.7,SNR=13								
BRAL	Brewton	120.11	57	IAMs_20		IAMs_20		12 25 49.5	
	comp=Z,6μm,22.0s								
KDWAN	Kaudwane	120.23	239	*i* P		PKiKP		11 39 30.2	+1.1
M50A	Fremont	120.28	45	IAMs_20		IAMs_20		12 28 38.7	
	comp=Z,6μm,21.0s								
GZR	Gura Zlata	120.33	320	⇑P		PKPdf		11 39 27.8	-0.7
GZR	Gura Zlata	120.33	320	PKIKP		PKPdf		11 39 27.7	-0.7
T50A	Nancy	120.39	50			PKPdf		11 39 28.2	-0.5
W50A	Signal Mountai	120.54	52	IAMs_20		IAMs_20		12 24 11.5	
	comp=Z,5μm,22.0s								
LANS	Liptovska Anna	120.58	325	*e*PKIKP		PKiKP		11 39 30.1	+1.2
LANS	Liptovska Anna	120.58	325	*e*PKP		PKiKP		11 39 30.1	+1.2
SURR	Surduc	120.59	321	⇑P		PKPdf		11 39 28.5	-0.3
SIRR	Siria	120.65	321	⇓P		PKPdf		11 39 28.5	-0.4
TEIG	Tepich	120.70	70			PKiKP		11 39 30.4	+0.5
ACSO	Alum Creek Sta	120.74	46	IAMs_20		IAMs_20		12 26 49.9	
	comp=Z,5μm,21.0s								
HERR	Herculane	120.78	320	⇓P		PKPdf		11 39 28.8	-0.4
BI05	Punta Hualpn	120.88	139	IAMs_20		IAMs_20		12 24 33.0	
	comp=Z,4μm,20.0s								
Q51A	Peebles	120.88	48	IAMs_20		IAMs_20		12 33 49.0	
	comp=Z,5μm,19.0s								
N51A	Ashland	120.93	45	IAMs_20		IAMs_20		12 29 09.8	
	comp=Z,6μm,22.0s								
PSZ	Piszkesteto	120.94	324	IAMs_20		IAMs_20		12 30 30.8	
	comp=Z,4μm,22.0s								
PSZ	Piszkesteto	120.94	324	⇑P		PKPdf		11 39 28.7	-0.8
PSZ	Piszkesteto	120.94	324	PKIKP		PKPdf		11 39 28.7	-0.8
OKC	Ostrava-Krasne	120.96	326	AMS		AMS		12 33 10.0	
	comp=Z,5μm,20.8s								
BZS	Buzias	120.97	321	⇓P		PKPdf		11 39 29.1	-0.5
BZS	Buzias	120.97	321	PKIKP		PKPdf		11 39 29.1	-0.5
X51A	Calhoun	121.07	53	IAMs_20		IAMs_20		12 29 42.6	
	comp=Z,4μm,20.0s								
STEB	Steborice	121.12	327	*e*PKPDF		PKiKP		11 39 30.2	+0.4
STEB				*ex*		x		11 39 41.5	
451A	Vernon	121.32	58	IAMs_20		IAMs_20		12 25 22.7	
	comp=Z,6μm,22.0s								
MORC	Moravsky Berou	121.33	327	*e*PKIKP		PKPdf		11 39 30.2	0.0
MORC	Moravsky Berou	121.33	327	⇓P		PKiKP		11 39 30.5	+0.2
MORC	Moravsky Berou	121.33	327	PKIKP		PKiKP		11 39 30.5	+0.2
MAUC	Maruska	121.39	326	*e*PKPDF		PKiKP		11 39 31.3	+0.9
KRLC	Kraliky	121.58	327	*e*PKPDF		PKiKP		11 39 31.0	+0.2
KRLC				AMS		AMS		12 33 10.0	
	comp=Z,8μm,21.1s								
KRLC	Kraliky	121.58	327	*e*PKIKP		PKiKP		11 39 31.0	+0.2
KRLC				MLR		MLR			
	comp=Z,8μm,21.1s								
O52A	Adamsville	121.60	46	IAMs_20		IAMs_20		12 27 36.3	
	comp=Z,5μm,20.0s								
OSTC	Ostas	121.61	328	*e*PKPDF		PKiKP		11 39 31.4	+0.6
OSTC				AMS		AMS		12 33 40.0	
	comp=Z,7μm,21.0s								
OSTC	Ostas	121.61	328	*e*PKIKP		PKiKP		11 39 31.4	+0.6
OSTC				MLR		MLR			
	comp=Z,7μm,21.0s								
W52A	Murphy	121.66	52	IAMs_20		IAMs_20		12 25 08.1	
	comp=Z,6μm,22.0s								
DPC	Dobruska-Polom	121.67	328	*e*PKPDF		PKiKP		11 39 31.2	+0.2
DPC				*e*SP		SP		11 50 56.6	+6.6
DPC				AMS		AMS		12 33 20.0	
	comp=Z,7μm,20.1s								
DPC	Dobruska-Polom	121.67	328	*e*PKIKP		PKiKP		11 39 31.2	+0.2
DPC				*e*SP		SP		11 50 56.6	+6.6
DPC				MLR		MLR			
	comp=Z,7μm,20.1s								
CHVC	Chvalec	121.68	328	*e*PKPDF		PKiKP		11 39 31.2	+0.2
CHVC				AMS		AMS		12 34 00.0	
	comp=Z,8μm,23.7s								
CHVC	Chvalec	121.68	328	*e*PKIKP		PKiKP		11 39 31.2	+0.2
CHVC				MLR		MLR			
	comp=Z,8μm,23.7s								
152A	Waverly Hall	121.68	55	IAMs_20		IAMs_20		12 24 58.0	
	comp=Z,7μm,22.0s								
Q52A	Bidwell	121.70	47	IAMs_20		IAMs_20		12 26 49.4	
	comp=Z,5μm,21.0s								
JAVC	Velka Javorina	121.74	326	*e*PKIKP		PKiKP		11 39 32.0	+0.8
UPC	Upice	121.75	328	*e*SP		SP		11 50 53.6	+3.0
UPC				AMS		AMS		12 33 50.0	
	comp=Z,7μm,19.0s								
BOVS	Bovan	121.77	319	⇓P		PKPdf		11 39 31.0	-0.2
352A	Blakely	121.81	56	IAMs_20		IAMs_20		12 26 25.6	
	comp=Z,6μm,22.0s								
Y52A	Lilburn	121.90	54	IAMs_20		IAMs_20		12 32 26.5	
	comp=Z,5μm,19.0s								
SRO	Srobarova	121.92	324	*e*PKIKP		PKiKP		11 39 32.2	+0.7
SRO	Srobarova	121.92	324	*e*PKP		PKiKP		11 39 32.2	+0.7
TGUH	Tegucigalpa,Un	122.06	77	IAMs_20		IAMs_20		12 24 11.8	
	comp=Z,4μm,20.0s								
VRAC	Vranov	122.10	327	*e*PKIKP		PKPdf		11 39 31.6	-0.1
VRAC	Vranov	122.10	327	⇓P		PKiKP		11 39 31.9	0.0
VRAC	Vranov	122.10	327	PKIKP		PKiKP		11 39 31.8	0.0
P53A	Whipple	122.15	46	IAMs_20		IAMs_20		12 27 35.3	
	comp=Z,4μm,21.0s								
MODS	Modra-Piesok	122.22	325	*e*PKIKP		PKiKP		11 39 32.3	+0.2
MODS	Modra-Piesok	122.22	325	*e*PKP		PKiKP		11 39 32.3	+0.2
FRGS	Fruska Gora	122.31	321	⇑*i*P		PKPdf		11 39 31.6	-0.6
KRUC	Moravsky	122.34	326	*e*PKIKP		PKPdf		11 39 31.9	-0.2
SCHQ	Schefferville	122.36	25	PKP		PKPdf		11 39 32.0	0.0
	comp=Z,11nm,0.8s,baz=288,slow=2.8,SNR=12								
SCHQ				PKKPab		PKKPab		11 49 28.0	+0.2
	comp=Z,9.7nm,1.0s,baz=107,slow=6.7,SNR=7.3								
PVCC	Panska Ves	122.49	329	AMS		AMS		12 32 20.0	
	comp=Z,7μm,21.6s								
GOGA	Godfrey	122.50	54	IAMs_20		IAMs_20		12 29 45.5	
	comp=Z,5μm,21.0s								
KGCAE	Kacgae	122.52	238	*i* P		PKiKP		11 39 34.6	+1.1
MORH	Mrgy, Hungar	122.52	323	⇑P		PKPdf		11 39 32.5	0.0
553A	Crawfordville	122.52	58	IAMs_20		IAMs_20		12 26 54.5	
	comp=Z,6μm,21.0s								
BRG	Berggiesshubel	122.61	329	*e*PKP		PKiKP		11 39 33.0	+0.3
BRG				Amp				11 39 35.4	
	comp=Z,49nm,1.0s								
BRG	Berggiesshubel	122.61	329	PS		PS		11 51 04.0	-2.1
BRG	Berggiesshubel	122.61	329	SS		SS		11 57 58.0	+11
TREC	Trest	122.71	327	*e*PKPDF		PKiKP		11 39 33.0	0.0
TREC				AMS		AMS		12 33 50.0	
	comp=Z,9μm,21.6s								
TREC	Trest	122.71	327	*e*PKIKP		PKiKP		11 39 33.0	0.0
TREC				MLR		MLR			
	comp=Z,9μm,21.6s								
RICC	Richard	122.72	329	AMS		AMS		12 33 20.0	
	comp=Z,6μm,21.1s								
GOPC	GO Pecny, Ondr	122.73	328	*e*PKPDF		PKPdf		11 39 32.9	0.0
GOPC				AMS		AMS		12 34 30.0	
	comp=Z,5μm,19.1s								
GOPC	GO Pecny, Ondr	122.73	328	*e*PKIKP		PKPdf		11 39 32.9	0.0
GOPC				MLR		MLR			
	comp=Z,5μm,19.1s								
TEKS	Tekeris	122.77	320	⇑*i*P		PKPdf		11 39 32.2	-0.9
CLL	Collm	122.82	330	IAMs_20		IAMs_20		12 32 50.7	
	comp=Z,6μm,22.0s								
CLL	Collm	122.82	330	*i* PKIKP		PKPdf		11 39 32.6	-0.3
CLL				*i*				11 39 47.9	
CLL				pmax		pmax			
	comp=Z,38nm,1.0s								
PRU	Pruhonice	122.82	328	*e*PKPDF		PKiKP		11 39 33.3	+0.1
PRU				*ex*		x		11 39 45.8	
PRU				AMS		AMS		12 32 20.0	
	comp=Z,7μm,20.6s								
PRU	Pruhonice	122.82	328	*e*PKIKP		PKiKP		11 39 33.3	+0.1
PRU				*e*				11 39 45.8	
PRU				MLR		MLR			
	comp=Z,7μm,20.6s								
PRA	Prague	122.83	328	AMS		AMS		12 32 20.0	
	comp=Z,9μm,23.0s								
LKGWB	Lokgwabe	122.84	237	*i* P		PKPdf		11 39 33.7	-0.3
TIGA	Tifton	122.92	56	IAMs_20		IAMs_20		12 26 57.9	
	comp=Z,4μm,22.0s								
HSKC	Hora Svate Kat	123.03	329	*e*SP		SP		11 51 03.2	+1.3
HSKC				AMS		AMS		12 34 10.0	
	comp=Z,5μm,22.7s								
SJES	Sjenica	123.07	319	⇑*i*P		PKPdf		11 39 33.6	-0.2
RONA	Rosalia, Austr	123.14	325	*i* PKP		PKPdf		11 39 33.5	-0.2
	comp=Z,33nm,1.0s,SNR=11								
RONA				*e*SKKP				11 53 07.7	
	comp=Z,7.7nm,1.2s								
BBLS	Lazi&#263i	123.16	320	⇑*i*P		PKPdf		11 39 33.7	-0.2
CONA	Conrad Observa	123.26	325	*i* PKP		PKPdf		11 39 33.9	-0.2
	comp=Z,26nm,1.1s,SNR=11								
CONA				*e*SKKP				11 53 06.8	
	comp=Z,10nm,1.7s								
RUDO	Rudo	123.30	320	⇑*i*P		PKPdf		11 39 33.3	-0.8
ZVC	Zvikov	123.32	328	*e*PKPDF		PKPdf		11 39 34.0	0.0
NRS	Narsarsuaq	123.33	9	IAMs_20		IAMs_20		12 31 38.5	
	comp=Z,5μm,21.0s								
NRS	Narsarsuaq	123.33	9	*i* P		PKPdf		11 39 31.3	-2.3
R55A	Marlinton	123.51	47	IAMs_20		IAMs_20		12 31 12.5	
	comp=Z,6μm,21.0s								
CKRC	Cesky Krumlov	123.62	327	*e*PKPDF		PKPdf		11 39 34.4	-0.2
CKRC				*e*SP		SP		11 51 14.8	+7.5
CKRC				AMS		AMS		12 34 20.0	
	comp=Z,7μm,21.8s								
CKRC	Cesky Krumlov	123.62	327	*e*PKIKP		PKPdf		11 39 34.4	-0.2
CKRC				*e*SP		SP		11 51 14.8	+7.5
CKRC				MLR		MLR			
	comp=Z,7μm,21.8s								
BOAB	BOACO BROADBAN	123.67	79	PKP		PKiKP		11 39 36.2	+0.3
NKC	Novy Kostel	123.75	329	*e*PKPDF		PKiKP		11 39 35.1	0.0
NKC				*ep*PKP		pPKPdf		11 39 48.6	-3.6
NKC				AMS		AMS		12 34 40.0	
	comp=Z,5μm,19.4s								
NKC	Novy Kostel	123.75	329	*e*PKIKP		PKiKP		11 39 35.1	0.0
NKC				*e*				11 39 48.6	
NKC				MLR		MLR			
	comp=Z,5μm,19.4s								
ARSA	Arzberg	123.82	325	*i* PKP		PKPdf		11 39 34.5	-0.5
	comp=Z,16nm,1.0s,SNR=7.0								
ARSA				*i* SKKP				11 53 04.2	
	comp=Z,7.1nm,1.5s								
KHC	Kasperske Hory	123.83	328	*e*PKPDF		PKiKP		11 39 35.3	0.0
KHC				*ep*PKP		pPKPdf		11 39 47.8	-4.6
KHC				*e*PP		PP		11 41 15.4	-2.8
KHC				*e*PKIKP		PKKPab		11 49 19.0	-2.7
KHC				*e*SP		SP		11 51 12.5	+3.4
KHC				*ex*		x		11 52 44.5	
KHC				AMS		AMS		12 33 00.0	
	comp=Z,8μm,21.5s								
KHC	Kasperske Hory	123.83	328	*e*PKIKP		PKiKP		11 39 35.3	0.0
KHC				*e*				11 39 47.8	
KHC				*e*				11 41 15.4	
KHC				*e*SP		SP		11 51 12.5	+3.4
KHC				*e*				11 52 44.5	
KHC				MLR		MLR			
	comp=Z,8μm,21.5s								
Q56A	Snyder Ridge,	123.90	46	IAMs_20		IAMs_20		12 33 39.6	
	comp=Z,6μm,21.0s								
PDG	Podgorica	123.91	318	IAMs_20		IAMs_20		12 34 39.0	
	comp=Z,6μm,22.0s								
PDG	Podgorica	123.91	318	*e*P		PKPdf		11 39 34.6	-0.7
GERES	GERESS Array B	123.93	327			PKPdf		11 39 35.2	-0.1
GERES	GERESS Array B	123.93	327	PKP		PKPdf		11 39 35.4	+0.1
	comp=Z,15nm,0.6s,baz=66,slow=1.3,SNR=67								
GERES				PKKPbc		PKKPab		11 49 21.8	+0.5
	comp=Z,1.5nm,0.9s,baz=198,slow=3.8,SNR=8.9								
GRTLG	Ghanzi	123.95	240	*i* P		PKiKP		11 39 37.2	+0.8
DRME	Dracevica, Mon	124.07	318	*e*P		PKPdf		11 39 32.4	-3.2
VA01	Torpederas	124.08	137	IAMs_20		IAMs_20		12 22 10.1	
	comp=Z,3μm,21.0s								
BLY	Banja Luka	124.14	322	*e*P		PKiKP		11 39 36.5	+0.5
KOOLE	Kule	124.16	237	*i* P		PKiKP		11 39 37.5	+0.7
BRY	Bratogost	124.17	319	*e*P		PKPdf		11 39 35.2	-0.8
SSPA	Standing Stone	124.17	44			PKPdf		11 39 35.9	0.0
A051A	Mrakovica	124.18	322	*e*P		PKPdf		11 39 35.3	-0.5
MOA	Molln	124.20	326	*i* PKP		PKPdf		11 39 35.5	-0.2
	comp=Z,13nm,1.0s,SNR=6.1								
MOA				*i* SKKP				11 53 02.5	
	comp=Z,7.0nm,1.1s								
656A	Willston	124.32	58	IAMs_20		IAMs_20		12 30 04.2	
	comp=Z,4μm,21.0s								
PERS	Pernice	124.39	325	*i* PKiKP		PKPdf		11 39 35.6	-0.6
JTS	Las Juntas de	124.39	81			PKiKP		11 39 38.0	+0.6
JTS	Las Juntas de	124.39	81	PKP		PKiKP		11 39 37.6	+0.3
	comp=Z,21nm,0.9s,baz=334,slow=3.6,SNR=9.1								
JTS	Las Juntas de	124.39	81	PKIKP		PKiKP		11 39 38.0	+0.6
456A	Hilliard	124.41	57	IAMs_20		IAMs_20		12 32 47.3	
	comp=Z,4μm,20.0s								
HCY	Herceg Novi	124.41	319	*e*P		PKPdf		11 39 35.1	-1.2
SOKA	Soboth	124.42	325	*i* PKP		PKPdf		11 39 35.6	-0.7
	comp=Z,21nm,1.1s,SNR=13								
SOKA				*i* SKKP				11 52 59.3	
	comp=Z,7.5nm,1.6s								
P57A	Homestead Farm	124.56	45	IAMs_20		IAMs_20		12 33 55.0	
	comp=Z,6μm,21.0s								
CRES	Cresnjevec Ost	124.63	324	*e*PKiKP		PKPdf		11 39 36.3	-0.3
BIOA	Bad Ischl, Aus	124.63	326	*i* PKP		PKPdf		11 39 35.9	-0.7
	comp=Z,16nm,1.1s								
BIOA				*i* SKKP				11 53 00.3	
	comp=Z,9.3nm,1.2s								
A050A	Klekovaca	124.68	322	⇑*i*P		PKPdf		11 39 35.9	-0.9
QNGWA	Qangwa	124.68	242	*i* P		PKiKP		11 39 39.4	+1.5
GRA1	Grafenberg Arr	124.71	329	IAMs_20		IAMs_20		12 33 56.9	
	comp=Z,6μm,22.0s								
GRFO	Grafenberg	124.71	329			PKiKP		11 39 36.8	-0.2
GRFO				IAMs_20		IAMs_20		12 33 57.9	
	comp=Z,6μm,22.0s								
GRFO	Grafenberg	124.71	329	PKIKP		PKiKP		11 39 36.8	-0.2
GRFO				MLR		MLR			
	comp=Z,6μm,22.0s								
STON	Ston	124.73	319	⇑*i*P		PKPdf		11 39 35.5	-1.3
OBKA	Obir	124.79	325	*i* PKP		PKPdf		11 39 36.3	-0.7
	comp=Z,10nm,1.1s								
OBKA	Obir	124.79	325	⇑*i*P		PKPdf		11 39 35.6	-1.4
257A	Skidaway Islan	124.88	55	IAMs_20		IAMs_20		12 26 55.6	
	comp=Z,5μm,22.0s								
BOJS	Bojanci	124.92	323	⇑*i*P		PKPdf		11 39 36.9	-0.3
VISS	Visnje	125.00	324	*i* PKiKP		PKPdf		11 39 37.1	-0.2
KBA	Koelnbreinsper	125.15	326	*i* PKP		PKPdf		11 39 36.6	-1.1
	comp=Z,16nm,1.0s,SNR=10								
NHSC	New Hope	125.22	53	IAMs_20		IAMs_20		12 33 20.5	
	comp=Z,4μm,20.0s								
MYKA	Terra Mystica	125.24	325	*i* PKP		PKPdf		11 39 36.9	-0.9
	comp=Z,14nm,0.9s,SNR=6.8								
CEY	Cerknica	125.28	324	⇑*i*P		PKPdf		11 39 37.0	-0.9
LESA	Schwarzleotal	125.32	326	*i* PKP		PKPdf		11 39 37.2	-0.8
	comp=Z,21nm,0.6s,SNR=16								
LESA				*i* SKKP				11 52 58.4	
	comp=Z,5.9nm,1.4s								
DWPF	Disney Wildern	125.56	59	IAMs_20		IAMs_20		12 30 12.2	
	comp=Z,4μm,22.0s								
SKDS	Skadanscina	125.63	324	⇑*i*P		PKPdf		11 39 37.4	-1.2
VT1	Waterbury	125.76	38	IAMs_20		IAMs_20		12 36 13.1	
	comp=Z,5μm,20.0s								
ABTA	Abfaltersbach	125.81	326	*i* PKP		PKPdf		11 39 37.9	-1.0
	comp=Z,48nm,1.1s,SNR=16								
ABTA				*i* SKKP				11 52 54.6	
	comp=Z,9.4nm,1.4s								
WATA	Walderalm	125.97	327	*i* PKP		PKPdf		11 39 38.8	-0.5
	comp=Z,63nm,1.4s,SNR=15								
WTTA	Wattenberg	125.98	327	*i* PKP		PKPdf		11 39 39.0	-0.4
	comp=Z,77nm,1.1s,SNR=22								
WTTA				*e*SKKP				11 52 55.4	
	comp=Z,9.6nm,1.4s								
MOTA	Moosalm	126.22	327	*i* PKP		PKPdf		11 39 39.3	-0.5
	comp=Z,42nm,0.7s								
MOTA				*i* SKKP				11 52 53.3	
	comp=Z,6.1nm,1.1s								
SQTA	Sankt Quirin	126.24	327	*i* PKP		PKPdf		11 39 39.5	-0.3
	comp=Z,38nm,0.8s,SNR=18								
RETA	Reutte	126.32	327	*i* PKP		PKPdf		11 39 39.5	-0.4
	comp=Z,33nm,1.2s,SNR=14								
RETA				*e*SKKP				11 52 50.8	
	comp=Z,5.9nm,1.3s								
STU	Stuttgart	126.32	330	IAMs_20		IAMs_20		12 35 04.4	
	comp=Z,5μm,22.0s								
EKA	Eskdalemuir Ar	126.41	342	PKhKP		PKPpre		11 39 25.2	
	comp=Z,0.7nm,0.5s,baz=42,slow=2.1,SNR=5.4								
EKA				PKP		PKPdf		11 39 39.7	0.0
	comp=Z,27nm,1.0s,baz=15,slow=3.8,SNR=29								
ESK	Eskdalemuir	126.44	342			PKiKP		11 39 40.0	-0.2
ESK	Eskdalemuir	126.44	342	PKIKP		PKiKP		11 39 40.0	-0.2
061Z	Ochoppi	126.54	62	IAMs_20		IAMs_20		12 29 01.2	
	comp=Z,4μm,22.0s								
BTNL	Ternell	126.57	333	*d*PKPdf		PKPdf		11 39 40.3	+0.1
H62A	Milan	126.59	37	IAMs_20		IAMs_20		12 34 59.7	
	comp=Z,5μm,21.0s								
MEM	Membach	126.61	333	*d*PKPdf		PKPdf		11 39 40.2	0.0
FETA	Feichten	126.62	327	*i* PKP		PKPdf		11 39 40.4	-0.2
	comp=Z,44nm,1.1s,SNR=29								
TRQA	Tornquist	126.69	148			PKiKP		11 39 41.3	0.0
TRQA				IAMs_20		IAMs_20		12 24 51.7	
	comp=Z,4μm,22.0s								
TRQA	Tornquist	126.69	148	PKIKP		PKiKP		11 39 41.3	0.0
060A	Indiantown	126.74	60	IAMs_20		IAMs_20		12 31 43.6	
	comp=Z,4μm,20.0s								
BHOU	Houvegnez	126.79	333	*d*PKPdf		PKPdf		11 39 40.7	+0.1
BSTI	Sart Tilman	126.82	333	*d*PKPdf		PKiKP		11 39 40.9	-0.2
I62A	Tamworth	126.87	38	IAMs_20		IAMs_20		12 37 50.1	
	comp=Z,6μm,22.0s								
DAVA	Damuels	126.92	328	*i* PKP		PKPdf		11 39 40.9	-0.3
	comp=Z,48nm,0.9s,SNR=17								
ZON	Zonda	126.97	137	IAMs_20		IAMs_20		12 26 28.1	
	comp=Z,3μm,19.0s								
LCO	Las Campanas	127.02	133			PKiKP		11 39 43.2	+0.6
LCO	Las Campanas	127.02	133	PKIKP		PKiKP		11 39 43.2	+0.6
BFO	Black Forest	127.05	330			PKPdf		11 39 40.3	-0.9
BFO	Black Forest	127.05	330	PKIKP		PKPdf		11 39 40.3	-0.9
BCLA	Clavier	127.06	333	*d*PKPdf		PKPdf		11 39 41.0	0.0
BGES	Gesves	127.18	333	*d*PKPdf		PKPdf		11 39 41.1	-0.2
UCC	Uccle	127.20	334	*d*PKPdf		PKPdf		11 39 41.4	+0.1
WLF	Walferdange	127.20	332	IAMs_20		IAMs_20		12 37 35.4	
	comp=Z,6μm,21.0s								
WLF	Walferdange	127.20	332	PKP		PKiKP		11

MTE				*e*PP	**PP**	**11 43 06.3**	**+1.3**
MTE				*e*SS	SS	12 02 07.4	+42
MTE				*e*LR	LR	12 28 06.8	
MTE				*i* AMs_20		12 45 21.1	
	comp=Z,3μm,22.0s						
PCBR	**Castelo Branco**	**140.94**	**333**	*e*PKPdf	**PKPdf**	**11 40 07.4**	**0.0**
PCBR				*e*PP	**PP**	**11 43 01.7**	**-5.9**
COI	**Coimbra**	**141.04**	**335**	IAMs_20	IAMs_20	12 48 18.3	
	comp=Z,3μm,20.0s						
COI	**Coimbra**	**141.04**	**335**	*e*PKPdf	**PKPdf**	**11 40 04.8**	**-2.7**
AOPR	**Arecibo Observ**	**141.04**	**68**		**PKPdf**	**11 40 07.3**	**-0.9**
BAUV	**El Baul**	**141.09**	**83**	*e*P	PKPdf	11 39 59.5	-8.8
PCAS	**Casmilo, Conde**	**141.21**	**335**	*e*PKPdf	**PKPdf**	**11 40 08.1**	**+0.2**
PCAS				*e*PP	**PP**	**11 43 11.5**	**+2.3**
PMRV	**Marv??o**	**141.23**	**333**	*e*PKPdf	**PKPdf**	**11 40 05.9**	**-2.1**
PMRV				*e*PP	**PP**	**11 43 11.5**	**+2.0**
PMRV				*e*SS	SS	12 01 17.2	-16
PMRV				*e*LR	LR	12 26 34.5	
PMRV				*i* AMs_20		12 46 23.8	
	comp=Z,3μm,22.0s						
OBIP	**Obispado Ponce**	**141.25**	**68**		PKPpre	11 40 02.6	
CELP	**Cerrillos**	**141.27**	**68**		PKPpre	11 40 01.6	
SJG	**San Juan**	**141.66**	**68**	IAMs_20	IAMs_20	12 41 14.4	
	comp=Z,3μm,22.0s						
SJG	**San Juan**	**141.66**	**68**	PKhKP	PKPpre	11 40 02.6	
	comp=Z,50nm,0.8s,baz=317,slow=3.2,SNR=7.0						
SJG				PKP	**PKPdf**	**11 40 09.5**	**+0.3**
	comp=Z,50nm,0.8s,baz=3.0,slow=4.5,SNR=6.7						
IGPR	**InterUniversit**	**141.73**	**68**		PKPpre	11 40 03.0	
PESTR	**Estremoz**	**141.78**	**333**	*e*PKPdf	**PKPdf**	**11 40 06.1**	**-2.9**
PESTR				*e*PP	**PP**	**11 43 13.0**	**+0.3**
PSBE	**So Bento**	**141.78**	**335**	*e*PKPdf	**PKPdf**	**11 40 09.3**	**+0.4**
PMTG	**Montargil**	**141.90**	**334**	*e*PKPdf	**PKPdf**	**11 40 09.1**	**-0.1**
PMTG				*e*PP	**PP**	**11 43 16.6**	**+3.2**
PBAR	**Barrancos**	**142.08**	**331**	*e*PKPdf	**PKPdf**	**11 40 08.3**	**-1.2**
PBAR				*e*PP	**PP**	**11 43 17.7**	**+3.1**
EVO	**Evora**	**142.24**	**333**	*e*PKPdf	**PKPdf**	**11 40 09.9**	**+0.1**
EVO				*e*PP	**PP**	**11 43 15.3**	**-0.3**
PBEJ	**Beja**	**142.59**	**332**	*e*PKPdf	**PKPdf**	**11 40 10.9**	**+0.6**
PBEJ				*e*PP	**PP**	**11 43 18.7**	**+1.1**
LIS	**Lisbon**	**142.59**	**334**	*e*PKPdf	**PKPdf**	**11 40 06.9**	**-3.4**
LIS				IAMs_20	IAMs_20	12 46 45.5	
	comp=E,7μm,31.7s						
LIS	**Lisbon**	**142.59**	**334**	*e*PKPdf	**PKPdf**	**11 40 09.5**	**-0.8**
LIS	**Lisbon**	**142.59**	**334**	*e*PKIKP	**PKPdf**	**11 40 06.9**	**-3.4**
MESJ	**Messejana**	**142.90**	**332**		**PKPdf**	**11 40 08.6**	**-2.4**
MESJ	**Messejana**	**142.90**	**332**	*e*PKPdf	**PKPdf**	**11 40 07.6**	**-3.3**
MESJ				*e*PP	**PP**	**11 43 17.6**	**-1.9**
MESJ				IAMs_20	IAMs_20	12 45 21.5	
	comp=Z,5μm,23.2s						
MESJ	**Messejana**	**142.90**	**332**	*e*PKPdf	**PKPdf**	**11 40 09.6**	**-1.3**
MESJ				*e*PP	**PP**	**11 43 25.4**	**+5.9**
MESJ	**Messejana**	**142.90**	**332**	PKIKP	**PKPdf**	**11 40 08.6**	**-2.4**
PCVE	**Castro Verde**	**142.98**	**332**	*e*PKPdf	**PKPdf**	**11 40 08.0**	**-3.1**
PVAQ	**Vaqueiros**	**143.01**	**331**		PKPbc	11 40 09.3	+1.3
PVAQ	**Vaqueiros**	**143.01**	**331**	*e*PKPdf	PKPbc	11 40 09.4	+1.4
PVAQ				*e*PP	**PP**	**11 43 23.4**	**+3.1**
PVAQ				*e*LR	LR	12 31 27.4	
PVAQ				*i* AMs_20		12 45 16.3	
	comp=Z,3μm,22.0s						
PBDV	**Barranco-do-Ve**	**143.25**	**331**	*e*PKPdf	**PKPdf**	**11 40 10.6**	**-1.0**
PBDV				*e*PP	**PP**	**11 43 20.2**	**-1.5**
PTEO	**Sao Teotonio**	**143.37**	**333**	*e*PKPdf	**PKPdf**	**11 40 13.1**	**+1.3**
PTLB	**Pontes e Lacer**	**143.41**	**126**		PKPbc	11 40 09.9	+0.2
PTLB				IAMs_20	IAMs_20	12 53 33.7	
	comp=Z,3μm,21.0s						
MORF	**Marmelete**	**143.53**	**332**	*e*PKPdf	PKPab	11 40 08.7	+0.1
MORF				*e*PP	**PP**	**11 43 21.2**	**-2.2**
MORF				IAMs_20	IAMs_20	12 44 16.8	
	comp=Z,5μm,19.1s						
MORF	**Marmelete**	**143.53**	**332**	*e*PKPdf	**PKPdf**	**11 40 13.2**	**+1.0**
MORF				*e*PP	**PP**	**11 43 23.3**	**-0.1**
MORF	**Marmelete**	**143.53**	**332**	*e*PKIKP	PKPab	11 40 08.7	+0.1
MORF				*e*		11 43 21.2	
PFVI	**Vila Bisbo**	**143.75**	**332**	*e*PKPdf	**PKPdf**	**11 40 11.9**	**-0.5**
PFVI				*e*PP	**PP**	**11 43 26.9**	**+2.3**
VILB	**Vilhena**	**143.81**	**121**		PKPbc	11 40 11.9	+1.0
PCRV	**Puerto La Cruz**	**144.38**	**81**	PKP	**PKPab**	**11 40 11.9**	**-0.5**
	comp=Z,103nm,1.0s,baz=320,slow=1.6,SNR=38						
PCRV	**Puerto La Cruz**	**144.38**	**81**	*e*P	**PKPab**	**11 40 07.5**	**-5.0**
SABA	**Saba**	**144.46**	**68**	IAMs_20	IAMs_20	12 40 03.6	
	comp=Z,3μm,21.0s						
SMRT	**St. Maarten**	**144.50**	**67**	IAMs_20	IAMs_20	12 41 09.6	
	comp=Z,3μm,21.0s						
SEUS	**St. Eustatius**	**144.73**	**68**	IAMs_20	IAMs_20	12 41 02.9	
	comp=Z,4μm,21.0s						
MDT	**Midelt**	**144.80**	**323**	PKP	**PKPab**	**11 40 13.3**	**-0.3**
	comp=Z,33nm,0.9s,baz=68,slow=4.7,SNR=18						
MDT				SKPbc	**SKPbc**	**11 43 47.8**	**-1.4**
	comp=Z,9.4nm,1.0s,baz=62,slow=3.7,SNR=3.5						
MBWH		**145.66**	**69**	*e*P	**PKPab**	**11 40 16.9**	**-0.2**
ANWB	**Willy Bob**	**145.78**	**67**	IAMs_20	IAMs_20	12 42 09.6	
	comp=Z,3μm,22.0s						
ANWB	**Willy Bob**	**145.78**	**67**	*e*P	**PKPbc**	**11 40 17.2**	**+0.2**
ANBD	**Bethesda, Anti**	**145.97**	**68**	*e*P	**PKPdf**	**11 40 15.7**	**-1.0**
GDHS	**Morne Mazeau,**	**146.17**	**69**	IAMs_20	IAMs_20	12 41 13.9	
	comp=Z,4μm,22.0s						
CBE	**Ff, Capester**	**146.36**	**70**	IAMs_20	IAMs_20	12 41 09.2	
	comp=Z,4μm,22.0s						
ABD	**La Joyeuse, An**	**146.37**	**69**	IAMs_20	IAMs_20	12 42 46.5	
	comp=Z,4μm,21.0s						
VAO	**Valinhos**	**146.43**	**149**	IAMs_20	IAMs_20	12 37 22.4	
	comp=Z,3μm,22.0s						
H07S1	**FLORES T-PHASB**	**146.45**	**3**	*e*PKP	**PKiKP**	**11 40 20.7**	**-0.7**
MAGL	**Barre de l'ile**	**146.70**	**70**	IAMs_20	IAMs_20	12 41 18.1	
	comp=Z,4μm,22.0s						
MAGL	**Barre de l'ile**	**146.70**	**70**	*e*P	**PKPab**	**11 40 20.9**	**-0.1**
MDN	**Morne-Daniel**	**146.74**	**71**	*e*P	**PKPab**	**11 40 20.6**	**-0.6**
GDSD	**La Dsirade Is**	**146.81**	**69**	IAMs_20	IAMs_20	12 52 52.0	
	comp=Z,4μm,21.0s						
H05N1	**Guadeloupe/Mar**	**146.81**	**69**	PKPbc	**PKPbc**	**11 40 20.7**	**+0.5**
	SNR=26						
PGRA	**Graciosa**	**146.85**	**359**	*e*PKP	PKiKP	11 40 32.0	+10
GRFF	**Grenada Fort F**	**147.01**	**77**	*e*P	PKPdf	11 40 06.9	-12
SVN	**Savane Anatole**	**147.06**	**72**	IAMs_20	IAMs_20	12 42 60.0	
	comp=Z,3μm,21.0s						
SVN	**Savane Anatole**	**147.06**	**72**	*e*P	**PKPdf**	**11 40 18.9**	**+0.2**
MACA	**Manacapuru-AM**	**147.08**	**105**		**PKPdf**	**11 40 19.6**	**+0.8**
GRGR	**Grenville**	**147.08**	**77**	*e*P	**PKPdf**	**11 40 18.9**	**+0.2**
PAGU	**Aguadva, Azore**	**147.08**	**357**	*e*PKP	**PKPab**	**11 40 21.6**	**-0.2**
PSBA	**Serra de Santa**	**147.09**	**358**	*e*PKP	**PKiKP**	**11 40 24.2**	**+1.4**
FDF	**Fort de France**	**147.10**	**72**	IAMs_20	IAMs_20	12 42 51.0	
	comp=Z,3μm,22.0s						
PSCM	**Serra do Cume**	**147.15**	**357**	*e*PKP	**PKiKP**	**11 40 27.7**	**+4.8**
ROSA	**Rosais**	**147.16**	**359**	*e*PKP	**PKPbc**	**11 40 21.2**	**+0.7**
BIM	**Bigot**	**147.22**	**72**	IAMs_20	IAMs_20	12 54 05.3	
	comp=Z,3μm,22.0s						
BIM	**Bigot**	**147.22**	**72**	*e*P	**PKPdf**	**11 40 19.9**	**+0.9**
GCMP	**Grenada, Carri**	**147.25**	**76**	*e*P	**PKPdf**	**11 40 15.4**	**-3.6**
SVB	**Belmont**	**147.28**	**74**	*e*P	**PKPbc**	**11 40 21.0**	**-0.5**
CALA	**Caldeira**	**147.31**	**360**	*e*PKP	**PKiKP**	**11 40 23.2**	**-0.1**
ILAM	**Ilet Lapin Mar**	**147.35**	**72**	IAMs_20	IAMs_20	12 42 44.6	
	comp=Z,5μm,21.0s						
ILAM	**Ilet Lapin Mar**	**147.35**	**72**	*e*P	**PKPbc**	**11 40 21.2**	**-0.4**
PICO	**Pico**	**147.38**	**359**	*e*PKP	**PKiKP**	**11 40 24.2**	**+0.8**
SLBI	**Saint Lucia, B**	**147.41**	**73**	*e*P	**PKPdf**	**11 40 18.7**	**-0.6**
PPNO	**Prainha do Nor**	**147.41**	**359**	*e*PKP	**PKiKP**	**11 40 24.6**	**+1.1**
MPOM	**Morne Pois Mar**	**147.43**	**72**	IAMs_20	IAMs_20	12 41 57.9	
	comp=Z,3μm,22.0s						
H05S1	**Guadeloupe/Mar**	**147.46**	**72**	PKPbc	**PKPbc**	**11 40 21.1**	**-0.8**
	SNR=12						
TRN	**Trinidad (W)**	**147.50**	**79**	*e*P	**PKPbc**	**11 40 22.2**	**+0.1**
BART	**Pico Bartolome**	**147.93**	**354**	*e*PKP	**PKPab**	**11 40 25.8**	**+0.5**
PSET	**Sete Cidades**	**147.93**	**355**	*e*PKP	**PKPbc**	**11 40 22.9**	**+0.3**
CMLA	**Cha da Macela**	**147.97**	**355**	*e*PKP	**PKPab**	**11 40 25.4**	**0.0**
BOAV	**Boa Vista**	**148.32**	**95**		**PKPdf**	**11 40 21.9**	**+1.1**
SHEL	**Horse Pasture**	**148.51**	**226**		**PKiKP**	**11 40 26.6**	**+0.4**
SHEL	**Horse Pasture**	**148.51**	**226**	IAMs_20	IAMs_20	12 39 15.9	
	comp=Z,3μm,20.0s						
SHEL	**Horse Pasture**	**148.51**	**226**	PKP2	**PKiKP**	**11 40 26.7**	**+0.4**
PSMN	**Pico do Norte,**	**148.68**	**354**	*e*PKP	**PKPbc**	**11 40 23.8**	**-0.8**
BBGH	**Gun Hill**	**148.93**	**74**	*e*P	**PKPdf**	**11 40 22.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**148.93**	**286**		**PKPdf**	**11 40 20.9**	**-0.9**
TORD				PKPbc	**PKPbc**	**11 40 26.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**148.93**	**286**	PKP	**PKPdf**	**11 40 21.3**	**-0.5**
	comp=Z,161nm,0.9s,baz=78,slow=1.9,SNR=67						
TORD				PKPbc	**PKPbc**	**11 40 26.1**	**+0.3**
	comp=Z,27nm,0.7s,baz=28,slow=4.4,SNR=4.2						
PMPST	**Porto Santo, M**	**150.38**	**338**	*e*PKPdf	**PKPdf**	**11 40 23.9**	**+0.3**
PMPST				*e*PP	**PP**	**11 44 00.5**	**-3.0**
PMAR	**Madeira**	**150.91**	**339**	*e*PKPdf	**PKPdf**	**11 40 25.1**	**+0.4**
PMAR				*e*PP	**PP**	**11 44 03.5**	**-3.1**
PMOZ	**Porto Moniz, M**	**150.92**	**339**	*e*PKPdf	**PKPbc**	**11 40 28.1**	**-2.3**
PMOZ				*e*PP	**PP**	**11 44 07.7**	**+1.0**
PMOZ				*e*SS	SS	12 03 37.1	+14
PMOZ				*e*LR	LR	12 35 18.0	
PMOZ				*i* AMs_20		13 08 07.6	
	comp=Z,2μm,18.0s						
FUL	**Funchal**	**150.97**	**339**	*e*PKPdf	**PKPdf**	**11 40 25.7**	**+1.1**
FUL				*e*PP	**PP**	**11 44 09.7**	**+3.0**
ACRG	**Accra**	**151.42**	**271**		**PKPdf**	**11 40 25.5**	**-0.3**
ACRG				PKPbc	**PKiKP**	**11 40 32.4**	**0.0**
BDFB	**Brasilia**	**151.57**	**139**	PKP	**PKPdf**	**11 40 26.4**	**+0.3**
	comp=Z,36nm,0.5s,baz=203,slow=1.6,SNR=15						
BDFB				PKPbc	**PKiKP**	**11 40 33.3**	**+0.6**
	comp=Z,67nm,0.9s,baz=213,slow=3.0,SNR=12						
MAL2	**Monte Alegre,**	**153.63**	**106**	IAMs_20	IAMs_20	13 04 54.4	
	comp=Z,4μm,19.0s						
DBIC	**Dimbokro**	**156.05**	**273**		**PKPdf**	**11 40 31.7**	**-0.6**
DBIC				PKPab	**PKPab**	**11 40 59.9**	**0.0**
DBIC	**Dimbokro**	**156.05**	**273**	PKP	**PKPdf**	**11 40 32.1**	**-0.2**
	comp=Z,38nm,1.0s,baz=70,slow=1.9,SNR=29						
MDP	**Montagnes des**	**156.39**	**90**	PKP	**PKPdf**	**11 40 32.8**	**0.0**
	comp=Z,29nm,0.9s,baz=278,slow=4.1,SNR=3.5						

IDC 30 11:36:37.9±45.0, 16°.91S×173°.40W, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=854.9km s-min=176.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.30**	**241**	P	P	11 44 42.3	+0.7
	0.8nm,0.3s,baz=78,slow=9.3,SNR=3.8						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**49.51**	**258**	P	P	11 45 30.2	-0.5
	1.1nm,0.3s,baz=97,slow=6.9,SNR=44						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**49.66**	**253**	P	P	11 45 31.5	-0.3
	7.8nm,0.5s,baz=88,slow=8.7,SNR=178						
	7.8nm,0.5s						

*IDC **30** 11:39:42.4±2.5, 9°.67S×66°.61E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=75.0km s-min=32.2km az=60.0*

ISC 30 11:39:43.5±2.5, 9°.7S±0°.3×66°.5E±0°.4, h10km, n12, σ0°.33/6, mb3.9/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.23**	**71**	T	T	11 47 53.8	
	baz=244,slow=78,SNR=22						
H08S3	**Diego Garcia H**	**6.25**	**71**	T	T	11 47 54.3	
	baz=244,slow=78,SNR=31						
H08S2	**Diego Garcia H**	**6.25**	**72**	T	T	11 47 49.8	
	baz=244,slow=78,SNR=26						
CMAR	**Chiang Mai Arr**	**42.50**	**49**	P	**P**	**11 47 39.6**	**+0.3**
	0.5nm,0.4s,baz=224,slow=9.0,SNR=4.2						
	0.5nm,0.4s						
H01W3	**Cape Leeuwin H**	**50.09**	**128**	T	T	12 42 19.0	
	baz=288,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**50.10**	**128**	T	T	12 42 34.6	
	baz=288,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**50.11**	**128**	T	T	12 42 19.8	
	baz=288,slow=75,SNR=14						
BVAR	**Borovoye Array**	**62.55**	**3**	P	**P**	**11 50 07.3**	**-0.1**
	0.4nm,0.4s,baz=182,slow=8.0,SNR=2.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**65.53**	**112**	P	**P**	**11 50 27.6**	**-0.1**
	0.6nm,0.6s,baz=275,slow=6.3,SNR=13						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**66.00**	**108**	P	**P**	**11 50 30.8**	**-0.1**
	0.7nm,0.8s,baz=271,slow=6.1,SNR=6.5						
	0.7nm,0.8s						
SONM	**Songino Array**	**67.28**	**28**	P	**P**	**11 50 38.3**	**-0.3**
	0.5nm,0.6s,baz=219,slow=7.3,SNR=2.6						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**146.87**	**355**	PKPbc	**PKPbc**	**11 59 27.1**	**+0.4**
	0.3nm,0.5s,baz=18,slow=2.8,SNR=4.9						

*SOME **30** 11:54:28.1, 39°.65N×74°.97E, h0km*
*KRNET **30** 11:54:30.0±0.1, 39°.67N×74°.97E, h17km, mb2.6*

ISC 30 11:54:28.9±2.8, 39°.5N±0°.2×74°.94E±0°.07, h1km±19km, n9, σ1°.01/18, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.22**	**296**	↑*i*P	**Pg**	**11 54 52.6**	**+0.3**
SFK				↑*i*S	**Sb**	**11 55 09.1**	**-0.2**
SALK	**Salom-Alik**	**1.63**	**329**	↓*i*P	**Pn**	**11 54 58.1**	**-0.8**
SALK				↓*i*S	**Sn**	**11 55 19.0**	**-1.7**
OHH	**Osh**	**1.95**	**303**	↓*i*P	**Pb**	**11 55 05.2**	**0.0**
OHH				↓*i*S	**Sb**	**11 55 30.7**	**+0.7**
ARLS	**Aral**	**2.42**	**349**	↑*e*P	**Pn**	**11 55 10.6**	**+0.9**
ARLS				↑*e*S	**Sn**	**11 55 40.4**	**+0.5**
AML	**Almayashu**	**2.80**	**341**	↓*i*P	**Pn**	**11 55 16.1**	**+0.9**
AML				↓*i*S	**Sn**	**11 55 49.8**	**0.0**
BOOM	**Boomskoye usch**	**3.09**	**14**	↓*e*P	**Pn**	**11 55 20.0**	**+1.0**
BOOM				↑*e*S	**Sn**	**11 55 56.4**	**-0.3**
MRKS	**Merke**	**3.50**	**339**	*e*P	**Pb**	**11 55 30.8**	**-0.9**
	0.8nm,0.3s						
MRKS				*e*S	**Sb**	**11 56 15.8**	**+1.1**
	1.4nm,0.2s						
KST	**Kastek**	**3.63**	**12**	*e*P	**Pb**	**11 55 32.4**	**-1.6**
	1.0nm,0.1s						
KST				*e*S	**Sb**	**11 56 18.6**	**0.0**
	7.3nm,0.6s						
TNSS	**Tian-Shan**	**3.85**	**23**	*e*P	**Pb**	**11 55 36.9**	**-1.0**
	0.7nm,0.1s						
TNSS				*e*S	**Sb**	**11 56 26.6**	**+1.3**
	1.2nm,0.6s						

*IDC **30** 12:12:37.9±1.3, 13°.03N×143°.87E, h114km±13km, mb3.5/11, mbtmp3.9/11, Error ellipse: s-maj=26.0km s-min=17.6km az=93.0*

ISC 30 12:12:39.8±0.7, 13°.1N±0°.1×144°.1E±0°.1, h138km, n16, σ1°.34/14, mb3.8/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.93**	**54**	P	**Pn**	**12 13 01.0**	**-1.8**
	383nm,0.3s,baz=150,slow=2.9,SNR=96						
GUMO				S	**Sn**	**12 13 18.0**	**-2.3**
	678nm,0.3s,baz=274,slow=23,SNR=11						
H11N1	**WAKE ISLAND Hy**	**22.84**	**70**	T	T	12 41 17.0	
	baz=256,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**22.85**	**70**	T	T	12 41 18.4	
	baz=256,slow=75,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**22.86**	**70**	T	T	12 41 18.4	
	baz=256,slow=75,SNR=5.9						
MJAR	**Matsushiro Arr**	**23.99**	**348**	P	**P**	**12 17 41.3**	**-0.4**
	2.1nm,0.7s,baz=165,slow=9.3,SNR=6.9						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**37.83**	**195**	P	**P**	**12 19 42.9**	**-0.3**
	0.8nm,0.7s,baz=20,slow=13,SNR=6.6						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.70**	**283**	P	**P**	**12 20 30.6**	**-1.0**
	0.9nm,0.3s,baz=86,slow=8.9,SNR=2.6						
	0.9nm,0.3s						
STKA	**Stephens Creek**	**44.73**	**183**	P	**P**	**12 20 39.1**	**-0.3**
	1.6nm,0.5s,baz=22,slow=5.0,SNR=3.6						
	1.6nm,0.5s						
SONM	**Songino Array**	**46.74**	**326**	P	**P**	**12 20 55.1**	**-0.1**
	0.4nm,0.4s,baz=128,slow=8.3,SNR=2.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.36**	**316**	P	**P**	**12 22 41.0**	**-0.1**
	0.3nm,0.4s,baz=91,slow=10,SNR=5.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.55**	**320**	P	**P**	**12 23 01.9**	**-0.2**
	0.6nm,0.3s,baz=105,slow=7.3,SNR=2.2						
ILAR	**Eielson Array**	**69.38**	**25**	P	**P**	**12 23 34.1**	**+1.7**
	0.4nm,1.0s,baz=253,slow=6.1,SNR=2.1						
	0.4nm,1.0s						
BVAR	**Borovoye Array**	**69.89**	**322**	P	**P**	**12 23 35.6**	**-0.1**
	1.2nm,0.5s,baz=100,slow=6.9,SNR=5.0						
	1.2nm,0.5s						
YKA	**Yellowknife Ar**	**83.68**	**27**	P	**P**	**12 24 54.1**	**+1.2**
	0.3nm,0.7s,baz=289,slow=5.7,SNR=4.7						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**87.84**	**51**	P	**P**	**12 25 16.6**	**+2.4**
	0.6nm,0.6s,baz=261,slow=6.3,SNR=6.2						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**91.33**	**335**	P	**P**	**12 25 29.5**	**-0.2**
	2.9nm,1.1s,baz=62,slow=4.6,SNR=5.2						
	2.9nm,1.1s						

DJA 30 12:13:22.8±0.3, 7°S±2°×12°9E±°, h97km±13km, M4.5/10, mB5.3/2, mb4.4/6, MLv4.5/10, Mw(mB)4.7/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.14**	**12**	P	Pn	12 13 56.4	-0.7
BNDI				S	Sn	12 14 23.3	-0.1
SAUI	**Saumlaki**	**2.27**	**126**	P	Pn	12 14 00.0	+1.1
SAUI				S	Sn	12 14 27.4	+0.9
FAKI	**Fak Fak**	**4.62**	**37**	P	Pn	12 14 31.1	+0.7
FAKI				S	Sn	12 15 24.5	+1.5
SOEI	**Soe**	**6.00**	**238**	P	Pn	12 14 49.1	-0.1
	0.6nm29nm,1.2s						
SOEI				S	Sn	12 15 57.6	+1.0
	0.6nm29nm,1.2s						
SWI	**Sorong**	**6.01**	**18**	P	Pn	12 14 49.6	+0.4
SWI				S	Sn	12 15 58.2	+1.6
RKPI	**Ransiki, Papua**	**6.93**	**43**	P	Pn	12 15 02.0	+0.1
	4μm79nm,1.0s						
RKPI				S	Sn	12 16 18.8	-0.5
	4μm79nm,1.0s						
EDFI	**Ende, Flores**	**7.97**	**254**	P	Pn	12 15 16.3	+0.2
EDFI				S	Sn	12 16 46.0	+1.2

*NEIC **30** 12:46:45.0±0.8, 32°.70S±0°.03×180°.0W±0°.2, h133km±11km, mb4.6/19, Error ellipse: s-maj=28.0km s-min=3.8km az=95.0*
*NOU **30** 12:46:45.9, 32°.79S×179°.04W, h202km, mb4.2/30, South of Kermadec Islands*
*WEL **30** 12:46:45.4±0.5, 33°S±5°×17°9W±1°.2, h12km, mB4.8/13, ML5.2/19, MLv4.9/19, Mw(mB)4.0/13, Error ellipse: s-maj=17.3km s-min=3.1km az=110.5, confirmed*
*IDC **30** 12:46:46.3±2.4, 32°.29S×179°.78W, h166km±20km, mb4.1/7, mbtmp4.6/10, Error ellipse: s-maj=18.2km s-min=14.5km az=36.0*

ISC 30 12:46:45.2±0.5, 32°.50S±0°.05×179°.70W±0°.08, h150km, n118, σ1°.84/137, mb4.5/21, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.57**	**26**	P	**Pn**	**12 47 41.2**	**+1.2**
GLKZ				S	**Sn**	**12 48 23.0**	**+0.7**
RIZ	**Raoul Island**	**3.58**	**26**	S	**Sn**	**12 48 26.2**	**+3.6**
MXZ	**Matakaoa Point**	**5.31**	**197**	P	**Pn**	**12 48 03.7**	**+1.1**
WMGZ	**Waiomatatini S**	**5.53**	**196**	P	**Pn**	**12 48 07.7**	**+2.1**
WMGZ				S	**Sn**	**12 49 08.3**	**-0.1**
HAZ	**Te Kaha**	**5.63**	**201**	P	**Pn**	**12 48 09.5**	**+2.6**
HAZ				S	**Sn**	**12 49 14.3**	**+3.4**
PKGZ	**Pakihiroa**	**5.65**	**198**	P	**Pn**	**12 48 08.8**	**+1.6**
PKGZ				S	**Sn**	**12 49 16.6**	**+5.2**
PUZ	**Puketiti**	**5.80**	**196**	P	**Pn**	**12 48 10.1**	**+0.8**
PUZ				S	**Sn**	**12 49 16.3**	**+1.3**
RUGZ	**Raukumara Rang**	**5.86**	**201**	P	**Pn**	**12 48 12.2**	**+2.1**
RUGZ				S	**Sn**	**12 49 18.2**	**+1.7**
TWGZ	**Tauwhareparae**	**5.97**	**198**	P	**Pn**	**12 48 13.3**	**+1.8**
TWGZ				S	**Sn**	**12 49 20.7**	**+1.6**
WCZ	**Waipu Caves**	**6.01**	**234**	P	Pn	12 48 18.8	+6.8
OUZ	**Omahuta**	**6.20**	**242**	P	Pn	12 48 20.2	+5.7
OUZ	**Omahuta**	**6.20**	**242**	P	Pn	12 48 20.6	+6.1
CNGZ	**Carnagh Statio**	**6.21**	**195**	P	**Pn**	**12 48 15.3**	**+0.6**
MKAZ	**Moumakai**	**6.24**	**221**	P	Pn	12 48 21.4	+6.3
MWZ	**Matawai**	**6.25**	**200**	P	**Pn**	**12 48 16.1**	**+0.9**
MWZ				S	**Sn**	**12 49 27.7**	**+

COEN	**Coen**	**38.53 290**	P	**P**	**12 53 53.6**	**+0.3**
OOD	**Oodnadatta**	**38.65 265**	P	**P**	**12 53 54.8**	**+0.6**
AS01	**Alice Springs**	**41.56 270**	P	**P**	**12 54 17.8**	**-0.5**
AS31	**Alice Springs**	**41.60 270**	P	**P**	**12 54 17.6**	**-0.9**
ASAR	**Alice Springs**	**41.60 270**	P	**P**	**12 54 17.2**	**-1.4**
ASAR	**Alice Springs**	**41.60 270**	P	**P**	**12 54 17.6**	**-1.0**
	comp=Z,5.0nm,0.4s,baz=109,slow=7.5,SNR=92					
ASAR			S	**S**	**13 00 17.5**	**-6.2**
	comp=Z,0.4nm,0.8s,baz=126,slow=15,SNR=4.3					
	comp=Z,5.0nm,0.4s					
WR0	**Warramunga Arr**	**42.60 275**	P	**P**	**12 54 25.8**	**-0.9**
WR0			IAmb	IAmb	12 54 26.2	
	comp=Z,16nm,1.3s					
WR8	**Warramunga Arr**	**42.64 275**	P	**P**	**12 54 25.9**	**-1.1**
WR8			IAmb	IAmb	12 54 26.5	
	comp=Z,10nm,0.9s					
WB2	**Warramunga Arr**	**42.77 275**	P	**P**	**12 54 26.8**	**-1.3**
WRAB	**Tennant Creek**	**42.77 275**	P	**P**	**12 54 26.6**	**-1.6**
WRAB			IAmb	IAmb	12 54 27.5	
	comp=Z,9.4nm,0.7s					
WRA	**Warramunga Arr**	**42.78 275**	P	**P**	**12 54 26.9**	**-1.2**
	comp=Z,10nm,0.3s,baz=115,slow=8.0,SNR=170					
WRA			S	**S**	**13 00 38.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=114,slow=16,SNR=4.8					
	comp=Z,10nm,0.3s					
WB0	**Warramunga Arr**	**42.81 276**	P	**P**	**12 54 27.3**	**-1.1**
FORT	**Forrest**	**44.14 258**	P	**P**	**12 54 38.1**	**-0.8**
FORT			IAmb	IAmb	12 54 57.8	
	comp=Z,15nm,0.9s					
FORT	**Forrest**	**44.14 258**	P	**P**	**12 54 37.9**	**-1.0**
WRKA	**Warakurna**	**45.81 265**	P	**P**	**12 54 50.7**	**-1.6**
SBA	**Scott Base**	**45.84 184**	IAmb	IAmb	12 54 55.8	
	comp=Z,16nm,1.5s					
VNDA	**Vanda**	**45.87 186**	P	**P**	**12 54 52.7**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=23,slow=16,SNR=1.7					
KDU	**Kakadu**	**47.90 283**	P	**P**	**12 55 07.1**	**-1.4**
MTN	**Manton Dam**	**48.93 282**	P	**P**	**12 55 14.9**	**-1.4**
MTN			IAmb	IAmb	12 55 15.4	
	comp=Z,5.3nm,0.7s					
MTN	**Manton Dam**	**48.93 282**	P	**P**	**12 55 15.1**	**-1.2**
KNRA	**Kununurra**	**49.46 277**	P	**P**	**12 55 19.4**	**-1.0**
KNRA			IAmb	IAmb	12 55 20.9	
	comp=Z,15nm,1.4s					
FITZ	**Fitzroy Crossi**	**50.95 272**	P	**P**	**12 55 30.4**	**-1.2**
CASY	**Casey**	**52.61 209**	P	**P**	**12 55 41.4**	**-1.8**
CASY			IAmb	IAmb	12 55 55.7	
	comp=Z,7.3nm,1.1s					
QSPA	**South Pole Qui**	**57.62 180**	P	**P**	**12 56 21.1**	**+1.9**
QSPA	**South Pole Qui**	**57.62 180**	P	**P**	**12 56 21.0**	**+1.7**
	comp=Z,16nm,0.7s,baz=157,slow=0.1,SNR=91					
	comp=Z,16nm,0.7s					
BELA	**Belgrano 2**	**67.90 172**	P	**P**	**12 57 27.9**	**+0.9**
TROLL	**Troll, Antarti**	**75.77 181**	⇑P	**P**	**12 58 13.9**	**-0.3**
	comp=Z,127nm,0.4s					
SNAA	**Sanae**	**76.10 179**	⇑P	**P**	**12 58 16.1**	**+0.2**
	comp=Z,59nm,0.4s					
SNAA	**Sanae**	**76.10 179**	P	**P**	**12 58 16.2**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=201,slow=17,SNR=25					
	comp=Z,5.1nm,0.8s					
VNA3	**Neumayer Olymp**	**76.31 177**	⇑P	**P**	**12 58 17.2**	**+0.2**
	comp=Z,20nm,0.7s					
VNA2	**Neumayer--Watz**	**76.72 177**	⇑P	**P**	**12 58 19.8**	**+0.4**
	comp=Z,18nm,0.7s,baz=182,slow=5.4					
H03S2	**Juan Fernandez**	**80.51 124**	T	T	14 27 51.9	
	baz=238,slow=74					
H03S1	**Juan Fernandez**	**80.52 124**	T	T	14 28 07.2	
	baz=238					
H03S3	**Juan Fernandez**	**80.53 124**	T	T	14 27 51.5	
	baz=238,slow=74					
H03N3	**Juan Fernandez**	**80.72 124**	T	T	14 28 01.3	
	baz=240,slow=72,SNR=11					
H03N2	**Juan Fernandez**	**80.72 124**	T	T	14 28 04.1	
	baz=240,slow=72,SNR=5.4					
H03N1	**Juan Fernandez**	**80.73 124**	T	T	14 28 00.3	
	baz=240,slow=72,SNR=18					
PLCA	**Paso Flores**	**82.13 134**	P	**P**	**12 58 50.0**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=254,slow=6.0,SNR=6.5					
	comp=Z,1.4nm,0.5s					
NVAR	**Mina Array Bea**	**90.76 44**	P	**P**	**12 59 30.8**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=221,slow=8.4,SNR=5.2					
	comp=Z,0.5nm,0.8s					
KURBB	**Kurchatov Arra**	**121.46 313**	PKhKP	PKPpre	13 05 16.6	
	comp=Z,0.1nm,0.3s,baz=116,slow=1.7,SNR=1.5					
KBZ	**Khabaz**	**145.01 301**	PKP	PKPbc	13 06 02.3	-1.8
	comp=Z,1.0nm,0.8s,baz=247,slow=16,SNR=2.1					
FINES	**FINESS Array B**	**146.57 338**	PKPbc	**PKPdf**	**13 06 05.2**	**-1.2**
	comp=Z,2.5nm,0.5s,baz=49,slow=3.1,SNR=17					
HFS	**Hagfors**	**150.97 346**	PKPbc	**PKPbc**	**13 06 16.6**	**-2.9**
	comp=Z,2.7nm,0.9s,baz=38,slow=2.3,SNR=6.2					
HFS			PKPab	**PKPab**	**13 06 25.6**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=27,slow=3.6,SNR=5.3					
TORD	**Torodi Ar. Bea**	**160.69 184**	PKPab	**PKPab**	**13 07 09.2**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=172,slow=3.0,SNR=3.8					

IDC 30 12:58:52.6±5.8, 26°.69N×143°.01E, h0km, mb3.4/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=248.0km s-min=26.3km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.63**	**339**	Pn	Pn	13 01 24.1	-2.2
	0.1nm,0.3s,baz=163,slow=12,SNR=8.0						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**47.12**	**191**	P	P	13 07 26.7	+0.1
	0.7nm,0.6s,baz=11,slow=8.5,SNR=6.1						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**50.83**	**191**	P	P	13 07 54.5	-0.6
	0.2nm,0.6s,baz=359,slow=5.4,SNR=5.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**53.84**	**315**	P	P	13 08 17.9	+0.7
	0.2nm,0.5s,baz=90,slow=7.8,SNR=4.9						
	0.2nm,0.5s						

*IDC **30** 13:32:56.9±9.9, 35°.36N×23°.08E, h0km, mb3.7/3, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=386.9km s-min=114.4km az=162.0*
*ATH **30** 13:33:05.0, 34°.85N×24°.19E, h12km±5km, ML3.0/4, Manual Solution by F.Xalaris First location: 2019/03/30 13:34:30, This location: 2019/03/30 14:53:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 6 km*

ISC 30 13:33:04.3±1.1, 34°.85N±0°.07×24°.21E±0°.04, h10km, n15, σ1°58/18, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.10**	**264**	P	**Pg**	**13 33 07.8**	**+0.8**
GVD				S	**Sg**	**13 33 09.8**	**+1.0**
TMBK	**Timbaki Herakl**	**0.51**	**64**	P	**Pg**	**13 33 15.1**	**+0.9**
PRNS	**Prines Rethymn**	**0.57**	**25**	P	**Pg**	**13 33 15.6**	**+0.3**
PRNS	**Prines Rethymn**	**0.57**	**25**	P	**Pg**	**13 33 15.8**	**+0.5**
IMMV	**Iera Moni Meta**	**0.64**	**343**	P	**Pg**	**13 33 17.1**	**+0.4**
IMMV	**Iera Moni Meta**	**0.64**	**343**	P	**Pg**	**13 33 17.1**	**+0.4**
IMMV				S	**Sb**	**13 33 27.3**	**+0.7**
CHAN	**Chania**	**0.68**	**348**	P	**Pg**	**13 33 17.7**	**+0.2**
IDI	**Anoyia**	**0.71**	**52**	P	**Pg**	**13 33 18.3**	**+0.3**
IDI	**Anoyia**	**0.71**	**52**	P	**Pg**	**13 33 18.6**	**+0.6**
IDI				S	**Sb**	**13 33 29.5**	**+0.9**
IACM	**Heraklion**	**0.84**	**57**	P	**Pn**	**13 33 23.2**	**+1.0**
KARP	**Karpathos**	**2.51**	**73**	P	**Pn**	**13 33 46.0**	**+0.8**
BRTR	**Keskin Array B**	**8.95**	**54**	Pn	**Pn**	**13 35 16.2**	**+2.5**
	0.1nm,0.3s,baz=225,slow=14,SNR=2.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**41.92**	**51**	P	**P**	**13 40 52.2**	**-2.7**
	0.5nm,0.5s,baz=279,slow=8.7,SNR=6.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.59**	**56**	P	**P**	**13 41 14.4**	**-2.2**
	0.4nm,0.5s,baz=267,slow=7.9,SNR=5.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.78**	**46**	P	**P**	**13 41 22.3**	**-3.5**
	0.8nm,0.4s,baz=272,slow=9.2,SNR=4.1						
	0.8nm,0.4s						

NEIC 30 13:36:05.6±0.2, 40°.46N±0°.07×104°.62W±0°.05, h6km±1km, ML2.3/19, Error ellipse: s-maj=11.6km s-min=0.7km az=149.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIGG	**Briggsdale**	**0.26**	**62**		Pg	13 36 11.4	+0.7
BRIGG				Sg	Sg	13 36 15.2	+1.1
BRIGG				IAML		13 36 15.6	
	comp=E,264nm,0.2s						
BRIGG				IAML		13 36 18.9	
	comp=N,258nm,0.4s						
ISCO	**Idaho Springs**	**1.01**	**229**	Pg	Pg	13 36 24.7	-0.3
Q24A	**Divide**	**1.55**	**195**		Pn	13 36 34.2	+0.2
OGNE	**Ogallala**	**2.02**	**75**	Pn	Pb	13 36 42.9	+0.1
K22A	**Casper**	**2.61**	**327**	Pn	Pn	13 36 49.6	+1.1
O20A	**White River Ci**	**2.79**	**264**	Pn	Pn	13 36 51.8	+0.8
S22A	**4UR Ranch, Cre**	**3.21**	**213**	Pn	Pn	13 36 58.3	+1.5
T25A	**Trinidad**	**3.32**	**177**	Pn	Pn	13 36 59.0	+0.7

*NEIC **30** 13:59:20.9±1.0, 35°.11N±0°.01×97°.58W±0°.01, h5km±1km, mb_Lg2.3/19, ML2.0/11, ML2.2/36, Error ellipse: s-maj=2.7km s-min=2.0km az=197.0*

NEIC 30 13:59:21.1±1.0, 35°.10N±0°.01×97°.60W±0°.02, h8km±8km, Error ellipse: s-maj=2.2km s-min=1.5km az=114.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.22**	**46**		Pg	13 59 25.8	+0.2
FNO				IAML		13 59 33.1	
	comp=E,626nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**0.33**	**23**	Pg	Pg	13 59 27.6	-0.1
OKCSW				IAML		13 59 36.2	
	comp=E,239nm,0.8s						
X34A	**Smith Ranch, M**	**0.54**	**201**		Pg	13 59 31.8	+0.2
X34A				IAML		13 59 40.9	
	comp=N,117nm,0.4s						
ADOK	**Arcadia Dam**	**0.58**	**18**	Pg	Pg	13 59 30.6	-1.7
W35A	**Tecumseh**	**0.59**	**85**		Pg	13 59 32.1	-0.5
W35A					Sg	13 59 41.2	+0.8
W35A				IAML		13 59 48.0	
	comp=E,67nm,0.5s						
OK029	**Liberty Lake**	**0.70**	**9**		Pg	13 59 32.8	-1.9
OK029					Sg	13 59 44.4	+0.5
OK029				IAML		13 59 49.0	
	comp=E,64nm,0.2s						
WMOK	**Wichita Mounta**	**1.04**	**250**		Pg	13 59 40.5	-0.7
WMOK	**Wichita Mounta**	**1.04**	**250**		Pg	13 59 40.3	-0.8
OK031	**S. Brethren Rd**	**1.05**	**36**	IAmb_Lg		13 59 52.9	
	comp=Z,20nm,0.7s						
OK052	**Battle Ridge R**	**1.10**	**36**		Pg	13 59 41.1	-1.1
DEOK	**Depew**	**1.16**	**50**	Pg	Pb	13 59 41.9	-1.5
CROK	**Carrier**	**1.44**	**347**		Pn	13 59 46.7	-0.7
WTFS	**Witchita Falls**	**1.51**	**209**		Pn	13 59 48.6	+0.1
TUL3	**Leonard**	**1.68**	**61**		Pn	13 59 50.5	-0.2
SMWD	**Samnorwood**	**2.17**	**271**	IAmb_Lg		14 00 34.5	
	comp=Z,12nm,0.9s						
APMT	**Aspermont**	**2.74**	**230**	IAmb_Lg		14 00 53.5	
	comp=Z,7.3nm,0.9s						
Z38A	**Mt. Pleasant**	**2.84**	**130**	IAmb_Lg		14 00 56.6	
	comp=Z,12nm,1.0s						
MIAR	**Mount Ida**	**3.35**	**98**	IAmb_Lg		14 01 13.6	
	comp=Z,4.7nm,0.7s						
BRDY	**Brady**	**3.98**	**198**	IAmb_Lg		14 01 29.5	
	comp=Z,4.0nm,0.7s						
KSU1	**Kansas State U**	**4.07**	**11**	IAmb_Lg		14 01 40.0	
	comp=Z,8.1nm,0.9s						
MGMO	**Mountain Grove**	**4.77**	**63**	IAmb_Lg		14 02 02.2	
	comp=Z,6.3nm,0.8s						
JCT	**Junction City**	**4.97**	**203**	IAmb_Lg		14 02 11.0	
	comp=Z,11nm,1.1s						
T42A	**Van Buren**	**5.61**	**68**	IAmb_Lg		14 02 29.0	
	comp=Z,7.9nm,1.3s						

*IDC **30** 14:01:14.3±1.5, 37°.47N×20°.67E, h0km, mb3.6/9, mbtmp3.6/14, ML3.3/4, Error ellipse: s-maj=29.4km s-min=17.9km az=31.0*
*BEO **30** 14:01:16.9±3.3, 37°.23N×20°.20E, h51km±3km, ML3.2/7*
*THE **30** 14:01:16.5, 37°.41N×20°.42E, h5km±1km, ML3.5/9, Error ellipse: s-maj=2.0km s-min=0.8km az=59.0*
*ATH **30** 14:01:19.6, 37°.54N×20°.58E, h12km±2km, ML3.5/6, Manual Solution by F.Xalaris First location: 2019/03/30 14:02:14, This location: 2019/03/30 15:31:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*

ISC 30 14:01:18.3±1.1, 37°.52N±0°.05×20°.56E±0°.04, h26km±7km, n73, σ1°45/95, mb3.6/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**55**	P	**Pb**	**14 01 24.5**	**-0.3**
KRI1				S	**Sn**	**14 01 30.3**	**-1.2**
	31μm,0.3s						
LTHK	**Lithakia**	**0.29**	**49**	P	**Pb**	**14 01 25.1**	**-0.2**
LTHK				S	**Sn**	**14 01 31.3**	**-1.2**
	19μm,0.4s						
LTHK	**Lithakia**	**0.29**	**49**	P	**Pb**	**14 01 25.1**	**-0.2**
LTHK				S	**Sb**	**14 01 29.2**	**-0.9**
ORTH	**Orthonies,Zaky**	**0.35**	**19**	P	**Pb**	**14 01 26.2**	**0.0**
ORTH				S	**Sb**	**14 01 31.2**	**-0.4**
KYPS	**Kipseli, Zakin**	**0.37**	**35**	P	**Pb**	**14 01 26.8**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.58**	**17**	P	**Pb**	**14 01 29.9**	**-0.1**
RTZL				S	**Sn**	**14 01 40.8**	**+1.1**
CLEM	**Kyllini,Ilia,G**	**0.59**	**51**	P	**Pn**	**14 01 31.0**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.60**	**2**	P	**Pb**	**14 01 30.1**	**-0.1**
PSDA				S	**Sn**	**14 01 40.6**	**+0.6**
	6μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.60**	**2**	P	**Pb**	**14 01 30.3**	**+0.1**
PSDA				S	**Sb**	**14 01 38.5**	**+0.3**
VLS	**Valsamata**	**0.66**	**2**	P	**Pb**	**14 01 31.0**	**-0.3**
VLS				S	**Sn**	**14 01 42.2**	**+0.6**
	6μm,0.5s						
VLS	**Valsamata**	**0.66**	**2**	P	**Pb**	**14 01 31.2**	**-0.1**
VLS				S	**Sb**	**14 01 40.9**	**+0.9**
DMLN	**Damoulianata-K**	**0.73**	**349**	P	**Pn**	**14 01 33.6**	**+0.6**
DMLN				S	**Sn**	**14 01 43.1**	**-0.3**
SMHA	**Samh**	**0.74**	**6**	P	**Pn**	**14 01 33.5**	**+0.4**
YRMI	**Loutra Irminis**	**0.86**	**47**	P	**Pn**	**14 01 35.2**	**+0.4**
RLS	**Riolos of Patr**	**0.90**	**53**	P	**Pn**	**14 01 35.3**	**0.0**
RLS				S	**Sn**	**14 01 51.4**	**+3.9**
	2μm,0.6s						
RLS	**Riolos of Patr**	**0.90**	**53**	P	**Pn**	**14 01 35.9**	**+0.6**
RLS				S	**Sn**	**14 01 48.2**	**+0.7**
AMT	**Artemida-Makis**	**0.92**	**89**	P	**Pn**	**14 01 36.2**	**+0.6**
AMT				S	**Sn**	**14 01 49.3**	**+1.4**
FSK	**Fiskardo**	**0.94**	**0**	P	**Pn**	**14 01 36.0**	**+0.1**
FSK				S	**Sn**	**14 01 52.0**	**+3.5**
	2μm,0.4s						
FSK	**Fiskardo**	**0.94**	**0**	P	**Pn**	**14 01 36.6**	**+0.7**
FSK				S	**Sn**	**14 01 49.5**	**+1.0**
DRO	**Drossia**	**1.01**	**64**	P	**Pn**	**14 01 38.0**	**+1.1**
EVGI	**Lefkada island**	**1.10**	**4**	P	**Pb**	**14 01 39.2**	**+0.5**
ITM	**Ithomi**	**1.14**	**107**	P	**Pb**	**14 01 39.1**	**-0.4**
ITM				S	**Sn**	**14 01 57.5**	**+4.0**
	808nm,0.5s						
ITM	**Ithomi**	**1.14**	**107**	P	**Pb**	**14 01 39.6**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.16**	**1**	P	**Pb**	**14 01 40.2**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.20**	**5**	P	**Pb**	**14 01 41.1**	**+0.7**
LKD2	**Lefkada island**	**1.27**	**4**	P	**Pb**	**14 01 41.9**	**+0.3**
LKD2				S	**Sb**	**14 02 00.8**	**+3.2**
	1μm,0.6s						
LKD2	**Lefkada island**	**1.27**	**4**	P	**Pb**	**14 01 42.2**	**+0.6**
TSLK	**Tsoukalades, L**	**1.31**	**3**	P	**Pb**	**14 01 42.7**	**+0.4**
KLV	**Kalavryta, Ach**	**1.37**	**67**	P	**Pb**	**14 01 44.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.37**	**67**	P	**Pb**	**14 01 43.8**	**+0.5**
EFP	**Efpalio**	**1.40**	**49**	P	**Pb**	**14 01 44.7**	**+0.9**
GUR	**Goura**	**1.48**	**73**	P	**Pb**	**14 01 45.2**	**+0.1**
ANX	**Ano Chora**	**1.52**	**45**	P	**Pb**	**14 01 46.8**	**+0.8**
KALE	**Kalithea**	**1.53**	**55**	P	**Pb**	**14 01 46.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.94**	**39**	P	**Pb**	**14 01 53.1**	**0.0**
LTK	**Loutraki**	**1.98**	**74**	P	**Pb**	**14 01 52.3**	**-1.3**
IGT	**Igoumenitsa**	**2.02**	**355**	P	**Pb**	**14 01 53.5**	**-0.9**
VLI	**Veliai**	**2.06**	**112**	P	**Pb**	**14 01 54.2**	**-0.9**
AXAR	**Agios Charalam**	**2.08**	**52**	P	**Pb**	**14 01 54.2**	**-1.1**
LKR	**Lokris**	**2.24**	**59**	P	**Pb**	**14 01 56.2**	**-1.8**
KEK	**Kerkira**	**2.27**	**345**	P	**Pb**	**14 01 57.1**	**-1.6**
FNA	**Florina**	**3.32**	**11**	*e*Pn	**Pn**	**14 02 11.3**	**+2.6**
FNA				*e*Sn	**Sn**	**14 02 49.0**	**+1.6**
OHR	**Ohrid**	**3.59**	**3**	*i* Pn	**Pn**	**14 02 18.6**	**-2.6**
OHR	**Ohrid**	**3.59**	**3**	*e*Pn	**Pn**	**14 02 14.2**	**+1.8**
VAY	**Valandovo**	**4.11**	**22**	*i* Pn	**Pn**	**14 02 22.0**	**+2.6**
IDI	**Anoyia**	**4.14**	**121**	Pn	**Pn**	**14 02 17.6**	**-2.5**
	17nm,0.9s,baz=52,slow=12,SNR=1.4						
IDI				Sn	**Sn**	**14 03 06.8**	**-0.8**
	1.3nm,0.3s,baz=333,slow=18,SNR=1.8						
SRS	**Serrai**	**4.30**	**32**	*e*Pn	**Pn**	**14 02 24.2**	**+2.2**
VAE	**Valguarnera**	**4.88**	**271**	Pn	**Pn**	**14 02 34.4**	**+4.2**
	1.3nm,0.3s,baz=324,slow=2.0,SNR=3.7						
BOSS	**Bosilegrad**	**5.19**	**16**	*e*Pn	**Pn**	**14 02 35.7**	**+1.4**
BARS	**Barje**	**5.38**	**10**	*e*Pn	**Pn**	**14 02 37.5**	**+0.6**
BARS				*e*Sn	**Sn**	**14 03 39.5**	**+1.5**
TREB	**Trebinje**	**5.46**	**343**	*e*Pn	**Pn**	**14 02 38.2**	**+0.2**
TREB				*e*Sn	**Sn**	**14 03 37.0**	**-3.0**
VTS	**Vitosha**	**5.49**	**21**	*e*Pn	**Pn**	**14 02 40.9**	**+2.3**
SELS	**Selova**	**5.71**	**4**	*e*Pn	**Pn**	**14 02 42.5**	**+1.0**
STON	**Ston**	**5.78**	**339**	*e*Pn	**Pn**	**14 02 41.0**	**-1.3**
STON				*e*Sn	**Sn**	**14 03 44.5**	**-3.2**
ZAPS	**Zavoj**	**5.96**	**15**	*e*Pn	**Pn**	**14 02 46.0**	**+1.0**
GRUS	**Gruza**	**6.37**	**1**	*e*Pn	**Pn**	**14 02 51.4**	**+1.0**
TEKS	**Tekeris**	**7.07**	**354**	*e*Pn	**Pn**	**14 02 59.3**	**-0.8**
MLR	**Muntele Rosu**	**8.93**	**25**	Pn	**Pn**	**14 03 26.5**	**+0.7**
	0.1nm,0.3s,baz=228,slow=5.0,SNR=6.0						
	1.0nm,0.6s						
BRTR	**Keskin Array B**	**10.47**	**74**	Pn	Pn	14 03 52.4	+5.5
	0.1nm,0.3s,baz=264,slow=14,SNR=2.1						
BRTR				Sn	**Sn**	**14 05 41.7**	**-1.8**
	0.1nm,0.3s,baz=306,slow=12,SNR=1.5						
GERES	**GERESS Array B**	**12.37**	**338**	Pn	**Pn**	**14 04 15.2**	**+2.4**
	baz=142,slow=14,SNR=1.2						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**14.56**	**22**	Pn	**Pn**	**14 04 44.8**	**+2.3**
	0.3nm,0.3s,baz=208,slow=8.7,SNR=1.7						
GNI	**Garni**	**19.01**	**75**	P	**P**	**14 05 37.2**	**-1.1**
	0.5nm,0.3s,baz=355,slow=20,SNR=1.9						
	3.5nm,0.7s						
ESDC	**Sonseca Array**	**19.27**	**284**	P	**Pn**	**14 05 42.0**	**-0.2**
	baz=92,slow=9.3,SNR=4.6						
	0.6nm,0.9s						
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**14 06 21.6**	**+0.2**
	2.0nm,0.6s,baz=156,slow=11,SNR=5.1						
	2.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.98**	**326**	P	**P**	**14 06 30.9**	**+0.3**
	1.2nm,0.7s,baz=117,slow=9.7,SNR=6.1						
	1.2nm,0.7s						
FINES	**FINESS Array B**	**24.20**	**6**	P	**P**	**14 06 31.9**	**-0.6**
	1.2nm,0.7s,baz=191,slow=9.1,SNR=5.4						
	1.2nm,0.7s						
NOA	**NORSAR Array B**	**24.27**	**349**	P	**P**	**14 06 33.1**	**-0.1**
	0.8nm,0.7s,baz=159,slow=9.9,SNR=3.3						
	0.8nm,0.7s						
ARCES	**ARCESS Array B**	**32.19**	**3**	P	**P**	**14 07 43.3**	**-0.5**
	3.9nm,1.0s,baz=186,slow=8.4,SNR=1.9						
	3.9nm,1.0s						
KURBB	**Kurchatov Arra**	**42.60**	**53**	P	**P**	**14 09 11.7**	**-0.4**
	0.3nm,0.6s,baz=283,slow=9.3,SNR=4.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**14 09 35.7**	**-0.7**
	0.4nm,0.5s,baz=282,slow=7.1,SNR=6.3						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.11**	**48**	P	**P**	**14 09 39.7**	**-0.4**
	0.5nm,0.4s,baz=296,slow=7.8,SNR=2.8						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**74.02**	**340**	P	**P**	**14 12 52.2**	**+0.9**
	0.3nm,0.9s,baz=39,slow=4.0,SNR=5.7						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**122.07**	**97**	PKP	**PKPdf**	**14 20 10.6**	**-0.3**
	0.2nm,0.9s,baz=332,slow=2.2,SNR=1.5						

NEIC 30 14:02:27.3±0.4, 40°.46N±0°.05×104°.63W±0°.07, h6km±2km, mb_Lg2.1/19, ML2.9/21, Error ellipse: s-maj=10.4km s-min=1.4km az=137.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIGG	**Briggsdale**	**0.27**	**64**		Pg	14 02 33.2	+0.7
BRIGG				Sg	Sg	14 02 37.1	+1.0
BRIGG				IAML		14 02 37.5	
	comp=N,2μm,0.3s						
BRIGG				IAML		14 02 40.6	
	comp=E,1μm,0.3s						
ISCO	**Idaho Springs**	**1.00**	**229**		Pg	14 02 46.5	-0.1
ISCO					Sg	14 02 58.9	-0.7
Q24A	**Divide**	**1.55**	**195**		Pn	14 02 55.6	-0.1
Q24A					Sn	14 03 15.3	-0.9
OGNE	**Ogallala**	**2.03**	**75**	Pn	Pb	14 03 03.4	-1.2
OGNE				IAmb_Lg		14 03 31.5	
	comp=Z,10nm,0.9s						
KSCO	**Kaye Shedlock'**	**2.12**	**133**		Pn	14 03 04.3	+1.0
K22A	**Casper**	**2.61**	**328**		Pn	14 03 11.0	+0.9
O20A	**White River Ci**	**2.78**	**264**	Pn	Pn	14 03 14.8	+2.3
SDCO	**Great Sand Dun**	**2.80**	**194**	Pn	Pn	14 03 12.4	-0.4
SDCO				IAmb_Lg		14 03 55.8	
	comp=Z,6.9nm,0.8s						
S22A	**4UR Ranch, Cre**	**3.21**	**213**	Pn	Pn	14 03 21.1	+2.6
T25A	**Trinidad**	**3.32**

CM31 Chiang Mai Arr 21.81 286 P **P** **14 07 35.5 -0.5**
CM31 IAmb IAmb 14 07 37.0
comp=Z,24nm,0.7s
CMAR Chiang Mai Arr 21.81 286 P **P** **14 07 35.5 -0.4**
comp=Z,15nm,0.8s,baz=95,slow=7.9,SNR=98
comp=Z,15nm,0.8s
CHTO Chiang Mai 21.87 287 P **P** **14 07 34.9 -1.7**
CHTO IAmb IAmb 14 07 37.0
comp=Z,12nm,0.8s
CHTO Chiang Mai 21.87 287 P **P** **14 07 36.3 -0.3**
PZH PanZhiHua 22.19 308 P **P** **14 07 39.0 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.4s
EDFI Ende, Flores 22.26 178 P **P** **14 07 40.6 0.0**
SRBI Singaraja 22.37 195 P **P** **14 07 42.7 +1.2**
comp=Z,63nm,1.0s
PLAI Plampang 22.57 189 P **P** **14 07 45.1 +1.6**
PLAI Plampang 22.57 189 P **P** **14 07 44.8 +1.3**
JAGI Jajag, Banyuwa 23.03 198 P **P** **14 07 47.1 -0.8**
JAGI Jajag, Banyuwa 23.03 198 P **P** **14 07 49.3 +1.4**
JAGI Jajag, Banyuwa 23.03 198 P **P** **14 07 48.7 +0.8**
GMJI Gumukmas 23.06 200 P **P** **14 07 49.3 +1.1**
comp=Z,42nm,1.1s
WBSI Waikabubak, Su 23.20 184 P **P** **14 07 50.0 +0.5**
comp=Z,45nm,0.7s
SOEI Soe 23.46 172 P **P** **14 07 52.0 0.0**
SOEI IAmb IAmb 14 08 01.8
comp=Z,26nm,0.9s
SOEI Soe 23.46 172 P **P** **14 07 55.7 +3.7**
SOEI Soe 23.46 172 P **P** **14 07 53.8 +1.8**
comp=Z,36nm,1.0s
PCJI Pacitan 23.83 205 P **P** **14 07 56.5 +1.3**
comp=Z,48nm,1.3s
PSI Prapat 24.42 246 P **P** **14 07 59.7 -1.0**
RPSI Rantau Prapat 24.46 246 P **P** **14 07 58.8 -2.2**
MDSI Maura Dua 24.63 224 P **P** **14 08 02.3 -0.2**
comp=Z,10nm,0.6s
MNSI Mandailing Nat 24.83 241 P **P** **14 08 04.0 -0.4**
BBJI Bungbulang 24.86 213 P **P** **14 08 05.6 +0.9**
LWLI Liwa 25.10 223 P **P** **14 08 07.0 +0.1**
comp=Z,85nm,0.8s
MNAI Manna 25.38 226 P **P** **14 08 08.3 -1.0**
GSI Gunungsitoli 26.31 244 P **P** **14 08 15.6 -2.1**
GSI Gunungsitoli 26.31 244 P **P** **14 08 15.9 -1.8**
GSI Gunungsitoli 26.31 244 P **P** **14 08 15.9 -1.8**
comp=Z,60nm,0.8s
SISI Saibi 26.41 237 P **P** **14 08 16.8 -1.8**
comp=Z,33nm,0.7s
LZH Lanzhou 27.19 328 *e*P **P** **14 08 24.0 -1.6**
LZH pmax pmax
comp=Z,19nm,0.8s
MTN Manton Dam 28.14 159 P **P** **14 08 33.0 -1.0**
MTN IAmb IAmb 14 09 01.2
comp=Z,14nm,1.4s
HHC Hu-ho-hao-te 28.36 345 *e*P **P** **14 08 37.3 +1.5**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,100nm,5.5s
KNRA Kununurra 30.11 165 P **P** **14 08 49.9 -1.5**
KNRA IAmb IAmb 14 08 59.6
comp=Z,15nm,1.5s
GTA Gaotai 31.79 328 P **P** **14 09 08.0 +1.8**
GTA pmax pmax
comp=Z,9.0nm,0.7s
FITZ Fitzroy Crossi 31.86 172 P **P** **14 09 05.6 -1.2**
LSA Lhasa 31.96 305 P **P** **14 09 07.6 -0.6**
LSA IAmb IAmb 14 09 10.2
comp=Z,7.8nm,0.6s
MBWA Marble Bar 34.61 182 P **P** **14 09 29.1 -1.6**
MBWA IAmb IAmb 14 09 30.9
comp=Z,9.8nm,0.8s
PSA00 Pilbara Seismi 35.02 182 P **P** **14 09 32.5 -1.7**
PSA00 IAmb IAmb 14 09 34.6
comp=Z,21nm,0.9s
COEN Coen 35.08 141 P **P** **14 09 33.4 -1.4**
COEN IAmb IAmb 14 09 36.1
comp=Z,9.8nm,1.3s
WB0 Warramunga Arr 35.69 158 P **P** **14 09 38.4 -1.6**
WRA Warramunga Arr 35.83 158 P **P** **14 09 39.2 -1.9**
WRA Warramunga Arr 35.83 158 P **P** **14 09 40.9 -0.2**
comp=Z,3.4nm,0.6s,baz=335,slow=9.7,SNR=25
WRA PcP **PcP** **14 12 05.7 -0.2**
comp=Z,0.3nm,0.7s,baz=331,slow=3.0,SNR=1.6
WRA ScP **ScP** **14 15 40.6 +0.9**
comp=Z,0.3nm,0.6s,baz=332,slow=3.8,SNR=1.6
comp=Z,3.4nm,0.6s
WB2 Warramunga Arr 35.84 158 P **P** **14 09 40.6 -0.6**
WB2 IAmb IAmb 14 09 41.6
comp=Z,4.4nm,0.6s
WR8 Warramunga Arr 35.90 158 P **P** **14 09 40.8 -0.9**
SONM Songino Array 36.22 343 P **P** **14 09 45.1 +0.8**
SONM Songino Array 36.22 343 P **P** **14 09 45.3 +1.0**
comp=Z,0.7nm,0.5s,baz=163,slow=10,SNR=6.8
SONM pP **pP** **14 10 13.8 +0.1**
comp=Z,0.8nm,0.5s,baz=164,slow=8.9,SNR=3.4
comp=Z,0.7nm,0.5s
GIRL Giralia 36.69 191 P **P** **14 09 47.6 -0.7**
AS31 Alice Springs 39.14 161 P **P** **14 10 07.9 -1.1**
ASAR Alice Springs 39.14 161 P **P** **14 10 08.4 -0.7**
ASAR PcP **PcP** **14 12 16.4 +0.4**
ASAR Alice Springs 39.14 161 P **P** **14 10 09.1 +0.1**
comp=Z,1.7nm,0.4s,baz=336,slow=6.8,SNR=108
ASAR pP **pP** **14 10 37.9 -1.0**
comp=Z,1.0nm,0.6s,baz=330,slow=6.2,SNR=2.8
ASAR PcP **PcP** **14 12 15.9 -0.1**
comp=Z,0.6nm,0.7s,baz=343,slow=4.0,SNR=3.8
ASAR ScP **ScP** **14 15 53.0 +0.9**
comp=Z,0.3nm,0.9s,baz=349,slow=5.3,SNR=1.7
comp=Z,1.7nm,0.4s
MORW Morawa 42.74 187 P **P** **14 10 36.7 -1.7**
MORW IAmb IAmb 14 10 39.6
comp=Z,25nm,1.3s
FORT Forrest 44.67 171 P **P** **14 10 51.8 -2.0**
MKAR Makanchi Array 46.30 323 P **P** **14 11 04.8 -1.8**
MKAR Makanchi Array 46.30 323 P **P** **14 11 07.0 +0.4**
comp=Z,2.0nm,0.7s,baz=128,slow=8.8,SNR=20
MKAR PcP **PcP** **14 12 37.8 -1.9**
comp=Z,0.3nm,0.6s,baz=136,slow=4.4,SNR=1.2
MKAR ScP **ScP** **14 16 21.5 +0.9**
comp=Z,0.1nm,0.3s,baz=103,slow=3.3,SNR=3.7
comp=Z,2.0nm,0.7s
NWAO Narrogin (SRO) 46.46 184 P **P** **14 11 06.3 -1.5**
NWAO IAmb IAmb 14 11 08.6
comp=Z,41nm,1.4s
KSH Kashi 47.22 312 P **P** **14 11 14.8 +0.9**
KSH pmax pmax
comp=Z,4.0nm,1.0s
BBOO Buckleboo 48.36 163 P **P** **14 11 20.2 -2.3**
ZAA0 Zalesovo Array 49.28 333 P **P** **14 11 29.1 -0.2**
ZALV Zalesovo Beam 49.28 333 P **P** **14 11 28.8 -0.6**
ZALV Zalesovo Beam 49.28 333 P **P** **14 11 29.4 0.0**
comp=Z,1.1nm,0.4s,baz=116,slow=7.6,SNR=6.7
ZALV PcP **PcP** **14 12 49.8 -0.3**
comp=Z,0.4nm,0.5s,baz=90,slow=2.9,SNR=1.5
comp=Z,1.1nm,0.4s
STKA Stephens Creek 49.35 157 P **P** **14 11 29.3 -0.7**
comp=Z,2.9nm,0.8s,baz=336,slow=12,SNR=2.5
comp=Z,2.9nm,0.8s
KURBB Kurchatov Arra 50.45 326 P **P** **14 11 38.6 +0.4**
comp=Z,4.1nm,0.8s,baz=122,slow=8.0,SNR=29
KURBB pP **pP** **14 12 09.0 -0.2**
comp=Z,1.3nm,0.7s,baz=123,slow=7.9,SNR=3.9
comp=Z,4.1nm,0.8s
KURK Kurchatov 50.45 326 P **P** **14 11 38.2 0.0**
KURK IAmb IAmb 14 11 39.7
comp=Z,11nm,0.8s
GAR Garm 51.25 309 P **P** **14 11 42.6 -2.0**
GAR IAmb IAmb 14 11 45.7
comp=Z,20nm,1.2s
KK31 Karatay Array 52.29 314 P **P** **14 11 51.1 -1.0**
KKAR Karatay Array 52.29 314 P **P** **14 11 50.4 -1.7**
H08S2 Diego Garcia H 52.68 249 P **P** **14 11 55.0 0.0**
baz=27,slow=8.1,SNR=4.3
H08S3 Diego Garcia H 52.68 249 P **P** **14 11 54.7 -0.4**
baz=27,slow=8.1,SNR=9.2
H08S1 Diego Garcia H 52.70 249 P **P** **14 11 54.6 -0.5**
baz=27,slow=8.1,SNR=4.3
BVAR Borovoye Array 56.03 326 P **P** **14 12 19.1 0.0**
comp=Z,0.7nm,0.4s,baz=130,slow=8.5,SNR=5.2
comp=Z,0.7nm,0.4s
AB31 Akbulak array 61.03 319 P **P** **14 12 52.8 -0.9**
AB31 IAmb IAmb 14 12 54.9
comp=Z,2.7nm,0.8s
ABKAR Akbulak array 61.03 319 P **P** **14 12 52.5 -1.2**
KBZ Khabaz 72.20 312 P **P** **14 14 05.3 +0.6**
comp=Z,1.2nm,0.7s,baz=167,slow=7.6,SNR=3.9
comp=Z,1.2nm,0.7s
INZ Inchbonnie 72.62 144 P **P** **14 14 05.3 -1.8**
INZ IAmb IAmb 14 14 12.7
comp=Z,30nm,1.4s
RTZ Ruatahuna 73.66 137 P **P** **14 14 12.5 -0.9**
I23K Minto, Yukon-K 77.54 26 P **P** **14 14 36.0 +1.0**
MCK McKinley 77.87 27 P **P** **14 14 35.8 -1.1**
ARCES ARCESS Array B 79.27 339 P **P** **14 14 44.5 0.0**
comp=Z,3.3nm,0.9s,baz=92,slow=9.0,SNR=1.3
comp=Z,3.3nm,0.9s
CASY Casey 80.08 184 P **P** **14 14 46.7 -2.0**
CASY IAmb IAmb 14 15 00.6
comp=Z,11nm,1.2s
FINES FINESS Array B 80.52 331 P **P** **14 14 51.6 +0.3**
comp=Z,2.5nm,0.9s,baz=68,slow=9.1,SNR=3.9
comp=Z,2.5nm,0.9s
YKA Yellowknife Ar 92.68 23 P **P** **14 15 52.8 +2.0**
comp=Z,0.5nm,1.0s,baz=308,slow=4.2,SNR=5.7
comp=Z,0.5nm,1.0s

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*IDC **30** 14:17:53.7±1.5, 13°64N×87°34W, h0km, mb3.3/3, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=66.0km s-min=22.1km az=48.0*
*SNET **30** 14:17:54.0±1.1, 12°46N×88°21W, h20km±8km, ML4.0*
*CATAC **30** 14:17:55.4±0.3, 12°N±3°×8°8W±°, h40km±8km, M4.0/37, MLv4.0/37, Error ellipse: s-maj=6.9km s-min=1.4km az=28.2, confirmed*
*GCG **30** 14:17:57.3±0.8, 12°74N×88°30W, h14km±12km, MD4.1*
ISC 30 14:17:51.8±1.3, 12°39N±0°04×88°22W±0°03, h18km±6km, n155, σ1°01/182, mb3.4/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.87**	**48**		S		**Sg**	**14 18 20.8**	**+0.4**
CSGN	**Cosiguina Volc**	**0.87**	**48**		P		**Pn**	**14 18 10.1**	**+0.8**
CSGN					S		**Sn**	**14 18 21.7**	**+0.1**
CSGN	**Cosiguina Volc**	**0.87**	**48**		P		**Pn**	**14 18 10.0**	**+0.7**
CNCH	**Conchagua**	**0.96**	**23**		P		**Pn**	**14 18 11.2**	**+0.7**
CNCH	**Conchagua**	**0.96**	**23**		S		**Sg**	**14 18 23.3**	**0.0**
CNCH	**Conchagua**	**0.96**	**23**		P		**Pn**	**14 18 11.2**	**+0.7**
LCND	**La Caada**	**0.97**	**19**		*e*P		**Pn**	**14 18 11.3**	**+0.7**
LCND					*e*S		**Sn**	**14 18 25.7**	**+1.7**
LCND	**La Caada**	**0.97**	**19**		P		**Pn**	**14 18 11.4**	**+0.7**
LCND	**La Caada**	**0.97**	**19**		P		**Pn**	**14 18 11.3**	**+0.7**
LCY	**Lacayo**	**1.03**	**356**		*e*P		**Pn**	**14 18 12.5**	**+0.9**
RANC	**El Ranchito**	**1.04**	**356**		*e*P		**Pn**	**14 18 12.6**	**+0.9**
RANC	**El Ranchito**	**1.04**	**356**		P		**Pn**	**14 18 12.5**	**+0.9**
RANC	**El Ranchito**	**1.04**	**356**		S		**Sg**	**14 18 25.6**	**-0.2**
RANC	**El Ranchito**	**1.04**	**356**		P		**Pn**	**14 18 12.7**	**+0.9**
BLLM	**Bellamira**	**1.05**	**359**		*e*P		**Pg**	**14 18 12.8**	**+0.6**
PACA	**Pacayal**	**1.08**	**355**		*e*P		**Pg**	**14 18 13.2**	**+0.4**
PACA					*e*S		**Sb**	**14 18 26.1**	**+0.2**
PACA	**Pacayal**	**1.08**	**355**		P		**Pg**	**14 18 13.3**	**+0.5**
PACA	**Pacayal**	**1.08**	**355**		S		**Sg**	**14 18 26.5**	**-0.5**
PACA	**Pacayal**	**1.08**	**355**		P		**Pg**	**14 18 13.3**	**+0.5**
PACA	**Pacayal**	**1.08**	**355**		S		**Sg**	**14 18 26.8**	**-0.3**
CNRM	**Centro Naciona**	**1.08**	**3**		*e*P		**Pg**	**14 18 13.0**	**+0.2**
CNRM					*e*S		**Sg**	**14 18 26.9**	**-0.2**
CNRM	**Centro Naciona**	**1.08**	**3**		P		**Pg**	**14 18 13.2**	**+0.4**
CNRM	**Centro Naciona**	**1.08**	**3**		S		**Sb**	**14 18 26.3**	**+0.4**
TECA	**Tecapa**	**1.14**	**346**		*e*P		**Pg**	**14 18 13.7**	**-0.1**
TECA					*e*P		**Pn**	**14 18 13.8**	**+0.8**
CRIN	**San Cristobal**	**1.19**	**75**		P		**Pg**	**14 18 15.5**	**+0.7**
CRIN	**San Cristobal**	**1.19**	**75**		S		**Sn**	**14 18 29.9**	**+0.5**
CRIN	**San Cristobal**	**1.19**	**75**		P		**Pg**	**14 18 15.4**	**+0.7**
TECO	**Alcaldia de Te**	**1.27**	**335**		*e*P		**Pb**	**14 18 15.3**	**+0.1**
TECO					*e*S		**Sb**	**14 18 30.4**	**-0.8**
TECO	**Alcaldia de Te**	**1.27**	**335**		S		**Sb**	**14 18 30.3**	**-0.8**
TECO	**Alcaldia de Te**	**1.27**	**335**		P		**Pb**	**14 18 15.5**	**+0.4**
TECO	**Alcaldia de Te**	**1.27**	**335**		S		**Sb**	**14 18 31.4**	**+0.3**
TECO	**Alcaldia de Te**	**1.27**	**335**		P		**Pb**	**14 18 15.6**	**+0.4**
PQSS	**Presa 15 de Se**	**1.27**	**345**		*e*P		**Pg**	**14 18 16.0**	**-0.4**
PQSS					*e*S		**Sb**	**14 18 30.9**	**-0.5**
PQSS	**Presa 15 de Se**	**1.27**	**345**		S		**Sb**	**14 18 31.3**	**0.0**
PQSS	**Presa 15 de Se**	**1.27**	**345**		P		**Pg**	**14 18 16.1**	**-0.4**
PQSS	**Presa 15 de Se**	**1.27**	**345**		S		**Sb**	**14 18 31.2**	**-0.2**
PQSS	**Presa 15 de Se**	**1.27**	**345**		P		**Pg**	**14 18 16.0**	**-0.4**
QUEN	**Al S del Volca**	**1.35**	**81**		P		**Pn**	**14 18 15.9**	**+0.1**
QUEN					S		**Sn**	**14 18 33.2**	**-0.2**
QUEN	**Al S del Volca**	**1.35**	**81**		P		**Pn**	**14 18 15.2**	**-0.6**
SNVI	**San Vicente**	**1.36**	**334**		*e*P		**Pb**	**14 18 16.9**	**+0.1**
UESV	**Universidad de**	**1.36**	**336**		S		**Sn**	**14 18 33.4**	**-0.1**
UESV	**Universidad de**	**1.36**	**336**		P		**Pb**	**14 18 16.9**	**+0.2**
UESV	**Universidad de**	**1.36**	**336**		S		**Sn**	**14 18 33.5**	**-0.1**
UESV	**Universidad de**	**1.36**	**336**		P		**Pb**	**14 18 17.1**	**+0.3**
CAHU	**Cacacuatique**	**1.38**	**0**		*e*P		**Pb**	**14 18 17.6**	**+0.4**
HERN	**Volcan Telica**	**1.38**	**81**		S		**Sn**	**14 18 34.3**	**+0.2**
HERN	**Volcan Telica**	**1.38**	**81**		S		**Sn**	**14 18 34.3**	**+0.2**
HERN	**Volcan Telica**	**1.38**	**81**		P		**Pb**	**14 18 17.2**	**+0.2**
HERN	**Volcan Telica**	**1.38**	**81**		P		**Pb**	**14 18 17.4**	**+0.3**
COEG	**Centro de Oper**	**1.38**	**332**		*e*P		**Pb**	**14 18 17.4**	**+0.2**
COEG					*e*S		**Sn**	**14 18 34.3**	**+0.1**
COEG	**Centro de Oper**	**1.38**	**332**		P		**Pb**	**14 18 17.8**	**+0.6**
COEG	**Centro de Oper**	**1.38**	**332**		P		**Pb**	**14 18 17.4**	**+0.2**
COEG	**Centro de Oper**	**1.38**	**332**		S		**Sb**	**14 18 35.1**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.40**	**339**		*e*P		**Pb**	**14 18 17.9**	**+0.5**
SCLA					*e*S		**Sb**	**14 18 35.1**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.40**	**339**		S		**Sn**	**14 18 34.9**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.40**	**339**		S		**Sb**	**14 18 35.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.40**	**339**		P		**Pg**	**14 18 18.1**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.40**	**339**		P		**Pb**	**14 18 18.0**	**+0.5**
POLN	**Al Sur del Vol**	**1.40**	**79**		P		**Pn**	**14 18 17.1**	**+0.6**
POLN					S		**Sn**	**14 18 33.8**	**-0.8**
POLN	**Al Sur del Vol**	**1.40**	**79**		P		**Pn**	**14 18 16.7**	**+0.2**
POLN					S		**Sn**	**14 18 34.0**	**-0.6**
PLRN	**Geotermica Pol**	**1.43**	**82**		P		**Pn**	**14 18 17.3**	**+0.4**
PLRN					S		**Sn**	**14 18 34.8**	**-0.6**
PLRN	**Geotermica Pol**	**1.43**	**82**		P		**Pn**	**14 18 14.5**	**-2.4**
LFRS	**El Faro**	**1.48**	**326**		*e*P		**Pb**	**14 18 18.6**	**-0.2**
CNGA	**Al SSO del Vol**	**1.49**	**86**		P		**Pb**	**14 18 19.3**	**+0.3**
CNGA					S		**Sn**	**14 18 36.7**	**0.0**
CNGA	**Al SSO del Vol**	**1.49**	**86**		P		**Pb**	**14 18 19.1**	**+0.1**
PAVA	**Las Pavas**	**1.49**	**332**		*e*P		**Pb**	**14 18 19.2**	**+0.2**
PAVA					*e*S		**Sn**	**14 18 37.2**	**+0.2**
PAVA	**Las Pavas**	**1.49**	**332**		S		**Sb**	**14 18 38.1**	**+0.4**
PAVA	**Las Pavas**	**1.49**	**332**		S		**Sn**	**14 18 36.9**	**-0.1**
PAVA	**Las Pavas**	**1.49**	**332**		P		**Pb**	**14 18 19.4**	**+0.4**
PAVA	**Las Pavas**	**1.49**	**332**		P		**Pb**	**14 18 19.3**	**+0.2**
CNGN	**Cerro Negro**	**1.49**	**85**		P		**Pb**	**14 18 18.8**	**-0.2**
CNGN	**Cerro Negro**	**1.49**	**85**		S		**Sb**	**14 18 38.2**	**+0.5**
CNGN	**Cerro Negro**	**1.49**	**85**		P		**Pb**	**14 18 19.2**	**+0.2**
PANCS	**Alcalda de**	**1.54**	**323**		P		**Pb**	**14 18 19.5**	**-0.2**
PANCS	**Alcalda de**	**1.54**	**323**		S		**Sb**	**14 18 39.2**	**+0.3**
LOMA	**Loma Larga**	**1.56**	**324**		*e*P		**Pb**	**14 18 19.9**	**-0.2**
LOMA					*e*S		**Sn**	**14 18 38.2**	**-0.3**
LOMA	**Loma Larga**	**1.56**	**324**		P		**Pb**	**14 18 20.0**	**-0.2**
LOMA	**Loma Larga**	**1.56**	**324**		P		**Pb**	**14 18 20.1**	**-0.1**
LOMA	**Loma Larga**	**1.56**	**324**		S		**Sn**	**14 18 38.9**	**+0.3**
LEVN	**Ruinas Leon Vi**	**1.57**	**89**		P		**Pb**	**14 18 20.0**	**-0.2**
LEVN					S		**Sn**	**14 18 38.4**	**-0.3**
UDBS	**Universidad Do**	**1.60**	**326**		S		**Sn**	**14 18 40.4**	**+0.7**
UDBS	**Universidad Do**	**1.60**	**326**		P		**Pb**	**14 18 20.7**	**-0.3**
COPN	**Copaltepe**	**1.61**	**97**		P		**Pb**	**14 18 20.8**	**-0.1**
COPN	**Copaltepe**	**1.61**	**97**		P		**Pb**	**14 18 20.7**	**-0.3**
LFU	**La Fuente**	**1.61**	**327**		*e*S		**Sn**	**14 18 39.5**	**-0.2**
UTEC	**Universidad Te**	**1.62**	**324**		P		**Pb**	**14 18 21.2**	**0.0**
UTEC	**Universidad Te**	**1.62**	**324**		S		**Sn**	**14 18 40.5**	**+0.5**
MOMN	**Momotombo**	**1.64**	**89**		P		**Pn**	**14 18 20.9**	**+1.0**
MOMN					S		**Sn**	**14 18 40.7**	**+0.1**
MOMN	**Momotombo**	**1.64**	**89**		P		**Pb**	**14 18 21.1**	**-0.5**
UEES	**Universidad Ev**	**1.65**	**323**		*e*P		**Pb**	**14 18 21.5**	**-0.2**
UEES	**Universidad Ev**	**1.65**	**323**		S		**Sn**	**14 18 41.9**	**+1.0**
UEES	**Universidad Ev**	**1.65**	**323**		P		**Pb**	**14 18 21.8**	**0.0**
PIC2	**El Picacho**	**1.69**	**323**		*e*P		**Pb**	**14 18 22.6**	**+0.1**
BOQS	**Boqueron**	**1.69**	**323**		*e*P		**Pb**	**14 18 22.1**	**-0.4**
PMON	**Piamonte**	**1.69**	**321**		*e*P		**Pb**	**14 18 22.6**	**+0.1**
PMON	**Piamonte**	**1.69**	**321**		P		**Pb**	**14 18 22.3**	**-0.3**
PMON	**Piamonte**	**1.69**	**321**		P		**Pb**	**14 18 22.2**	**-0.3**
PMON	**Piamonte**	**1.69**	**321**		S		**Sn**	**14 18 42.9**	**+1.0**
JAYA	**Jayaque - finc**	**1.74**	**317**		*e*P		**Pn**	**14 18 22.1**	**+0.9**
JAYA					*e*S		**Sn**	**14 18 43.6**	**+0.6**
JAYA	**Jayaque - finc**	**1.74**	**317**		P		**Pn**	**14 18 22.2**	**+0.9**
JAYA	**Jayaque - finc**	**1.74**	**317**		P		**Pb**	**14 18 22.7**	**-0.6**
JAYA	**Jayaque - finc**	**1.74**	**317**		S		**Sn**	**14 18 43.9**	**+0.8**
JAYA	**Jayaque - finc**	**1.74**	**317**		*e*P		**Pn**	**14 18 22.2**	**+0.9**
JAYA					*e*S		**Sn**	**14 18 42.4**	**-0.7**
JAYA	**Jayaque - finc**	**1.74**	**317**		*e*P		14 18 22.2	
JAYA					*e*S		14 18 42.4	
SAPS	**Ciudad Sandino**	**1.79**	**97**		P		**Pn**	**14 18 23.0**	**+1.2**
SAPS	**Ciudad Sandino**	**1.79**	**97**		S		**Sn**	**14 18 44.8**	**+0.6**
CEDA	**San Andres**	**1.81**	**321**		P		**Pb**	**14 18 23.7**	**-0.8**
CEDA	**San Andres**	**1.81**	**321**		S		**Sn**	**14 18 45.6**	**+0.8**
APYN	**Apoyeque**	**1.84**	**95**		P		**Pn**	**14 18 23.7**	**+1.2**
APYN					S		**Sn**	**14 18 44.9**	**-0.4**
APQ2	**Apoyeque**	**1.86**	**96**		P		**Pn**	**14 18 23.9**	**+1.0**
APQ2					S		**Sn**	**14 18 46.2**	**+0.3**
ABCN	**Banco Central**	**1.89**	**98**		S		**Sn**	**14 18 47.2**	**+0.6**
ABCN	**Banco Central**	**1.89**	**98**		P		**Pn**	**14 18 24.6**	**+1.5**
LLGN	**La Laguna**	**1.90**	**338**		S		**Sn**	**14 18 47.5**	**+0.4**
LLGN	**La Laguna**	**1.90**	**338**		P		**Pb**	**14 18 25.1**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.90**	**29**		P		**Pb**	**14 18 25.1**	**-1.0**
TISN	**Laguna Tiscapa**	**1.92**	**97**		P		**Pn**	**14 18 24.9**	**+1.2**
USIM	**UNAN**	**1.92**	**98**		P		**Pn**	**14 18 25.1**	**+1.5**
USIM	**UNAN**	**1.92**	**98**		S		**Sn**	**14 18 47.9**	**+0.4**
UNAN	**Cigeo UNAN**	**1.93**	**98**		P		**Pn**	**14 18 25.1**	**+1.4**
UNAN					S		**Sn**	**14 18 49.2**	**+1.6**
LIMN	**Finca el Limon**	**1.93**	**69**		P		**Pn**	**14 18 25.1**	**+1.2**
LIMN	**Finca el Limon**	**1.93**	**69**		P		**Pn**	**14 18 25.0**	**+1.2**
MGAN	**Managua**	**1.94**	**97**		P		**Pn**	**14 18 25.5**	**+1.5**
MGAN	**Managua**	**1.94**	**97**		S		**Sn**	**14 18 48.3**	**+0.4**
CEVE	**Cerro Verde**	**1.98**	**317**		*e*P		**Pb**	**14 18 27.1**	**-0.3**
CEVE	**Cerro Verde**	**1.98**	**317**		P		**Pn**	**14 18 26.1**	**+1.4**
CEVE	**Cerro Verde**	**1.98**	**317**		S		**Sn**	**14 18 50.7**	**+1.5**
SBLS	**San Blas**	**1.99**	**317**		*e*P		**Pb**	**14 18 27.3**	**-0.3**
SNJE	**San Jose**	**2.00**	**318**		*e*P		**Pn**	**14 18 26.5**	**+1.6**
MAS3	**Al N del Volca**	**2.03**	**100**		P		**Pn**	**14 18 26.5**	**+1.3**
MAS3					S		**Sn**	**14 18 50.8**	**+0.6**
UNIC	**Universidad Ca**	**2.05**	**321**		S		**Sn**	**14 18 51.0**	**+0.5**
UNIC	**Universidad Ca**	**2.05**	**321**		P		**Pn**	**14 18 26.7**	**+1.3**
MASN	**Masaya**	**2.06**	**101**		P		**Pb**	**14 18 27.6**	**-1.1**
MASN					S		**Sn**	**14 18 51.1**	**+0.2**
NUBE	**Las Nubes**	**2.14**	**315**		*e*P		**Pn**	**14 18 28.3**	**+1.6**
NUBE					*e*S		**Sn**	**14 18 52.8**	**-0.2**
NUBE	**Las Nubes**	**2.14**	**315**		P		**Pn**	**14 18 28.5**	**+1.7**
NUBE	**Las Nubes**	**2.14**	**315**		S		**Sn**	**14 18 53.5**	**+0.6**
NUBE	**Las Nubes**	**2.14**	**315**		P		**Pn**	**14 18 28.3**	**+1.6**
NUBE	**Las Nubes**	**2.14**	**315**		*e*P		**Pn**	**14 18 28.3**	**+1.6**
NUBE					*e*S		**Sn**	**14 18 52.5**	**-0.5**
NUBE	**Las Nubes**	**2.14**	**315**		*e*P		14 18 28.3	
NUBE					*e*S		14 18 52.5	
LOAL	**Lomas de Alarc**	**2.21**	**317**		P		**Pn**	**14 18 29.0**	**+1.4**
LOAL	**Lomas de Alarc**	**2.21**	**317**		S		**Sn**	**14 18 56.1**	**+1.6**
SLOZ	**Alcaldia de Sa**	**2.23**	**317**		P		**Pb**	**14 18 30.1**	**-1.5**
SLOZ	**Alcaldia de Sa**	**2.23**	**317**		S		**Sn**	**14 18 56.0**	**+1.0**
MTO3	**Montecristo**	**2.29**	**331**		*e*P		**Pn**	**14 18 30.7**	**+1.8**
MTO3	**Montecristo**	**2.29**	**331**		P		**Pn**	**14 18 30.8**	**+1.8**
MTO3	**Montecristo**	**2.29**	**331**		S		**Sn**	**14 18 56.6**	**-0.1**
MTO3	**Montecristo**	**2.29**	**331**		P		**Pn**	**14 18 30.6**	**+1.8**
MTO3	**Montecristo**	**2.29**	**331**		*e*P		**Pn**	**14 18 30.5**	**+1.7**
MTO3	**Montecristo**	**2.29**	**331**		*e*P		14 18 30.5	
RCVN	**Varillal2**	**2.31**	**59**		P		**Pn**	**14 18 30.7**	**+1.6**
RCPN	**Sur Rio San Ju**	**2.36**	**61**		P		**Pn**	**14 18 31.3**	**+1.5**
BOAB	**BOACO BROADBAN**	**2.50**	**88**		P		**Pn**	**14 18 32.8**	**+1.2**
STG0	**El Palmar, Qui**	**3.65**	**304**		*e*P		14 18 56.0	
STG0					*e*S		14 19 39.1	
STG8	**El Palmar, Qui**	**3.67**	**304**		*e*P		14 18 58.2	
STG8					*e*S		14 19 41.7	
JTS	**Las Juntas de**	**3.82**	**123**		Pn		**Pb**	**14 18 58.5**	**-0.3**
	5.2nm,0.3s,baz=324,slow=17,SNR=10								
JTS					Sn		**Sb**	**14 19 46.6**	**+1.8**
	5.5nm,0.3s,baz=266,slow=23,SNR=8.0								
	6.3nm,0.3s								
CMIG	**Matias Romero**	**7.96**	**307**		Pn		Pn	14 19 51.7	+5.0
	0.4nm,0.3s,baz=110,slow=11,SNR=2.4								
CMIG					Sn		**Sn**	**14 21 24.2**	**+7.8**
	0.5nm,0.3s,baz=24,slow=11,SNR=2.0								
	1.1nm,0.3s								
TXAR	**Lajitas Array**	**22.15**	**322**		P		**P**	**14 22 48.0**	**+1.2**
	0.9nm,0.6s,baz=140,slow=12,SNR=6.4								
	0.9nm,0.6s			

CRPR	**Cabo Rojo, PR**	**1.67 102**	*e*S		**Sn**	**14 21 22.5**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.67 102**	*i* P		**Pn**	**14 20 59.3**	**+0.5**
CRPR			IAML			14 21 31.5	
	comp=Z,52nm,0.3s						
MLPR	**Magueyes Islan**	**1.74 103⇑**	*e*P		**Pn**	**14 20 59.8**	**+0.3**
MLPR	**Magueyes Islan**	**1.74 103**	*e*S		**Sn**	**14 21 24.7**	**+0.1**
ABDR	**Alto Bandera**	**1.76 285⇓**	*e*Pg		**Pn**	**14 21 00.9**	**+0.8**
ABDR		⇓	*e*Sg		**Sn**	**14 21 25.3**	**-0.4**
ABDR			IAML			14 21 32.8	
	comp=N,62nm,0.2s						
ABDR			IAML			14 21 32.8	
	comp=N,62nm,0.2s						
GBPR	**Guanica, Bosqu**	**1.89 102**			**Pn**	**14 21 01.8**	**+0.5**
GBPR					**Sn**	**14 21 29.1**	**+1.5**
GBPR	**Guanica, Bosqu**	**1.89 102⇓**	*e*P		**Pn**	**14 21 01.8**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.89 102**	*e*S		**Sn**	**14 21 29.1**	**+1.5**
AOPR	**Arecibo Observ**	**1.97 90**			**Pn**	**14 21 03.0**	**+0.9**
AOPR					**Sn**	**14 21 28.3**	**-0.9**
AOPR	**Arecibo Observ**	**1.97 90**	*e*Pg		**Pn**	**14 21 02.8**	**+0.7**
AOPR		⇓	*e*Sg		**Sn**	**14 21 28.0**	**-1.2**
AOPR			IAML			14 21 33.8	
	comp=N,227nm,0.3s						
AOPR			IAML			14 21 33.8	
	comp=N,227nm,0.3s						
AOPR	**Arecibo Observ**	**1.97 90⇓**	*e*P		**Pn**	**14 21 03.0**	**+0.9**
AOPR	**Arecibo Observ**	**1.97 90**	*e*S		**Sn**	**14 21 28.3**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.01 93**			**Pn**	**14 21 03.8**	**+1.3**
UUPR					**Sn**	**14 21 28.6**	**-1.4**
UUPR	**Utuado, UPR, P**	**2.01 93⇑**	*e*P		**Pn**	**14 21 03.8**	**+1.3**
UUPR	**Utuado, UPR, P**	**2.01 93**	*e*S		**Sn**	**14 21 28.6**	**-1.4**
SC01	**Santiago de lo**	**2.08 301**	Pn		**Pn**	**14 21 03.9**	**+0.4**
SC01			IAML			14 21 34.1	
	comp=N,84nm,1.5s						
SC01			IAML			14 21 34.5	
	comp=E,82nm,0.9s						
OBIP	**Obispado Ponce**	**2.14 98**			**Pn**	**14 21 03.9**	**-0.1**
OBIP					**Sn**	**14 21 32.2**	**-0.4**
OBIP	**Obispado Ponce**	**2.14 98**	IAML			14 21 37.1	
	comp=E,44nm,0.5s						
OBIP	**Obispado Ponce**	**2.14 98⇑**	*e*P		**Pn**	**14 21 03.9**	**-0.1**
OBIP	**Obispado Ponce**	**2.14 98**	*e*S		**Sn**	**14 21 32.2**	**-0.4**
CELP	**Cerrillos**	**2.16 97**			**Pn**	**14 21 05.1**	**+0.8**
CELP					**Sn**	**14 21 33.2**	**+0.2**
CELP	**Cerrillos**	**2.16 97**	IAML			14 21 37.2	
	comp=N,68nm,0.5s						
CELP			IAML			14 21 38.6	
	comp=E,64nm,0.3s						
CELP	**Cerrillos**	**2.16 97⇓**	*e*Pg		**Pn**	**14 21 05.0**	**+0.8**
CELP		⇑	*e*Sg		**Sn**	**14 21 33.3**	**+0.2**
CELP			IAML			14 21 37.1	
	comp=N,65nm,0.3s						
CELP	**Cerrillos**	**2.16 97⇓**	*e*P		**Pn**	**14 21 05.1**	**+0.8**
CELP	**Cerrillos**	**2.16 97**	*e*S		**Sn**	**14 21 33.2**	**+0.2**
PODR	**Polo**	**2.34 265**	*i* P		**Pn**	**14 21 07.3**	**+0.7**
PODR			*e*S		**Sn**	**14 21 35.9**	**-1.3**
ECPR	**Experimental S**	**2.34 91⇓**	*e*P		**Pn**	**14 21 06.8**	**+0.3**
ECPR	**Experimental S**	**2.34 91**	*e*S		**Sn**	**14 21 34.7**	**-2.2**
SDDR	**Presa de Saban**	**2.41 285**			**Pn**	**14 21 08.5**	**+1.2**
SDDR	**Presa de Saban**	**2.41 285**	IAML			14 21 44.4	
	comp=N,39nm,0.9s						
SDDR	**Presa de Saban**	**2.41 285⇓**	*e*Pg		**Pn**	**14 21 08.2**	**+0.9**
SDDR			IAML			14 22 01.6	
	comp=N,25nm,2.6s						
SDDR	**Presa de Saban**	**2.41 285⇓**	*e*P		**Pn**	**14 21 08.5**	**+1.2**
SDDR	**Presa de Saban**	**2.41 285**	*e*S		**Sn**	**14 21 39.9**	**+1.3**
SDDR	**Presa de Saban**	**2.41 285**	*i* P		**Pn**	**14 21 08.3**	**+1.0**
SDDR			IAML			14 21 48.8	
	comp=Z,16nm,1.4s						
LOVI	**El Cajuil, Ovi**	**2.48 257**	*i* P		**Pn**	**14 21 08.4**	**+0.3**
LOVI			*e*S		**Sn**	**14 21 37.5**	**-2.5**
LOVI			IAML			14 21 39.3	
	comp=Z,101nm,0.5s						
LONE3	**El Aguacate, B**	**2.51 276**	*i* P		**Pn**	**14 21 09.1**	**+0.5**
LONE3			*e*S		**Sn**	**14 21 40.3**	**-0.4**
LODU1	**El Espartillar**	**2.51 270**	*i* P		**Pn**	**14 21 09.8**	**+1.3**
LODU1			IAML			14 21 45.5	
	comp=Z,81nm,0.4s						
PDPR	**Patillas Dam,**	**2.69 97**	Pn		**Pn**	**14 21 11.1**	**+0.4**
PDPR			IAML			14 21 50.2	
	comp=E,35nm,0.2s						
PDPR			IAML			14 21 51.2	
	comp=N,33nm,0.2s						
PDPR	**Patillas Dam,**	**2.69 97⇑**	*e*P		**Pn**	**14 21 11.4**	**+0.8**
PDPR	**Patillas Dam,**	**2.69 97**	*e*S		**Sn**	**14 21 44.4**	**-0.1**
LOBH	**Bahia de las A**	**2.72 260**	*i* P		**Pn**	**14 21 11.7**	**+0.7**
LOBH			*e*S		**Sn**	**14 21 43.9**	**-1.3**
LOBH			IAML			14 21 50.1	
	comp=Z,47nm,0.3s						
HUMP	**Col San Antoni**	**2.84 94**			**Pn**	**14 21 13.2**	**+0.7**
HUMP					**Sn**	**14 21 45.3**	**-2.5**
HUMP	**Col San Antoni**	**2.84 94**	IAML			14 21 51.4	
	comp=N,60nm,0.3s						
HUMP	**Col San Antoni**	**2.84 94⇓**	*e*P		**Pn**	**14 21 13.2**	**+0.7**
HUMP	**Col San Antoni**	**2.84 94**	*e*S		**Sn**	**14 21 45.3**	**-2.5**

RSNC 30 15:03:54.2±0.0, 5°N±1°×7°4W±°, h150km±2km, M3.0, mb3.8, ML2.8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.63**	**181**	P	Pn	15 04 16.6	-0.2
CHIC				S	Sn	15 04 33.1	-0.9
ROSC	**El Rosal**	**0.73**	**235**	P	Pn	15 04 18.3	+0.9
ROSC				S	Sn	15 04 35.3	+0.3
CVER	**Cruz Verde, Cu**	**0.81**	**206**	P	Pn	15 04 18.6	+0.5
CVER				S	Sn	15 04 37.2	+0.9
RUSC	**La Rusia**	**0.89**	**45**	P	Pn	15 04 18.9	+0.2
RUSC				S	Sn	15 04 37.5	+0.2
VILC	**Villavicencio,**	**1.14**	**179**	P	Pn	15 04 19.9	-0.5
VILC				S	Sn	15 04 40.1	-0.3
NORC	**Norcasia**	**1.18**	**285**	P	Pn	15 04 20.2	-0.5
NORC				S	Sn	15 04 39.9	-1.0
BARC	**Barichara**	**1.43**	**22**	P	Pn	15 04 22.6	-0.7
BARC				S	Sn	15 04 44.7	-0.9
PTBC	**PUERTO BERRIO,**	**1.47**	**330**	P	Pn	15 04 22.2	-1.3
PTBC				S	Sn	15 04 44.8	-1.1
GUY2C	**Guyana, Caldas**	**1.64**	**269**	P	Pn	15 04 25.4	-0.4
GUY2C				S	Sn	15 04 50.1	+0.3
RECRC	**Villamaria, Ca**	**1.65**	**260**	P	Pn	15 04 26.3	+0.3
RECRC				S	Sn	15 04 50.1	-0.1
BRJC	**Barrancabermej**	**1.70**	**359**	P	Pn	15 04 25.6	-0.4
BRJC				S	Sn	15 04 50.6	+0.2
NIZA	**Niza - Manizal**	**1.75**	**264**	P	Pn	15 04 27.1	+0.3
NIZA				S	Sn	15 04 52.0	+0.2
ANIL	**Santa Ana**	**1.84**	**246**	P	Pn	15 04 27.8	0.0
ANIL				S	Sn	15 04 52.9	-0.7
PTGC	**Puerto Gaitan,**	**1.90**	**124**	P	Pn	15 04 27.7	-0.5
PTGC				S	Sn	15 04 53.0	-1.3
PRAC	**Prado**	**1.93**	**217**	P	Pn	15 04 28.3	-0.3
PRAC				S	Sn	15 04 54.2	-0.7
HELC	**Santa Helena**	**2.02**	**297**	P	Pn	15 04 30.0	0.0
HELC				S	Sn	15 04 56.1	-1.3
ORTC	**Ortega, Tolima**	**2.03**	**229**	P	Pn	15 04 29.1	-0.6
ORTC				S	Sn	15 04 55.9	-1.1
URMC	**La Uribe, Meta**	**2.10**	**198**	P	Pn	15 04 30.4	-0.3
URMC				S	Sn	15 04 58.3	-0.4
TAMC	**Tame, Arauca**	**2.25**	**59**	P	Pn	15 04 32.3	0.0
TAMC				S	Sn	15 05 01.1	-0.5
PAMC	**Pamplona, Colo**	**2.30**	**26**	P	Pn	15 04 33.2	-0.2
PAMC				S	Sn	15 05 03.5	-0.1
CBOC	**Ciudad Bolivar**	**2.36**	**285**	P	Pn	15 04 33.8	0.0
CBOC				S	Sn	15 05 03.9	-0.3
ZARC	**Zaragoza, Cauc**	**2.49**	**333**	P	Pn	15 04 33.1	-2.1
ZARC				S	Sn	15 05 04.7	-2.2
OCAC	**Ocana**	**2.99**	**8**	P	Pn	15 04 41.2	-0.4
OCAC				S	Sn	15 05 17.9	-0.3
DBBC	**Dabeiba**	**3.03**	**305**	P	Pn	15 04 41.5	-0.5
DBBC				S	Sn	15 05 18.1	-0.9
UREC	**San Jos de Ur**	**3.06**	**324**	P	Pn	15 04 39.8	-2.6
UREC				S	Sn	15 05 16.0	-3.7
MACC	**Macarena, Meta**	**3.10**	**182**	P	Pn	15 04 41.2	-1.7
MACC				S	Sn	15 05 20.4	-0.1
APAC	**Apartado, Choc**	**3.87**	**313**	P	Pn	15 04 52.5	-0.2
APAC				S	Sn	15 05 37.6	-0.6
ARGC	**Ariguani, Magd**	**4.60**	**354**	P	Pn	15 05 01.6	-0.8
ARGC				S	Sn	15 05 52.9	-2.6
SJCC	**San Jacinto, C**	**4.83**	**343**	P	Pn	15 05 02.1	-3.4
SJCC				S	Sn	15 05 55.0	-6.0
CRJC	**Cerrejon, Guaj**	**5.78**	**8**	P	Pn	15 05 17.3	-0.8
	15nm,0.8s						
CRJC				S	Sn	15 06 18.6	-5.2
	15nm,0.8s						
SMRC	**Santa Marta, M**	**5.89**	**355**	P	Pn	15 05 18.2	-1.2
	15nm,0.9s						
SMRC				S	Sn	15 06 22.3	-3.8
	15nm,0.9s						
URIC	**Uribia, Colomb**	**6.62**	**15**	P	Pn	15 05 28.2	-1.1
URIC				S	Sn	15 06 37.4	-6.4

*TEH **30** 15:07:34.8, 36°.31N×45°.50E, h5km*
*ISN **30** 15:07:37.3±0.3, 36°.28N×45°.64E, h21km±5km, ML3.0*
ISC 30 15:07:36.5±0.9, 36°.29N±0°.03×45°.58E±0°.06, h10km, n21, σ1§61/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.16**	**210**	Pg	**Pg**	**15 07 37.9**	**-2.2**
MAHB	**Mahabad**	**0.49**	**12**	Pg	**Pg**	**15 07 44.8**	**-1.3**
IKRK	**Kirkuk**	**1.34**	**229**	*e*Pg	**Pg**	**15 08 02.0**	**-0.3**
IKRK				*e*Sg	**Sg**	**15 08 20.0**	**+0.3**
IKRK				AML	AML	15 08 23.8	
	comp=N,351nm,0.5s						
IKRK				AML	AML	15 08 26.1	
	comp=E,274nm,0.5s						
IAZR	**Azarshahr**	**1.43**	**13**	Pg	**Pg**	**15 08 04.1**	**+0.2**
IHSH	**Hashtrud**	**1.69**	**53**	Pg	**Pb**	**15 08 07.1**	**-0.8**
IDHR	**Dehrash**	**1.71**	**157**	Pg	**Pb**	**15 08 07.0**	**-1.2**
KGS1	**Ghasr-e-Shirin**	**1.78**	**180**	Pg	**Pb**	**15 08 08.7**	**-0.5**
ITBZ	**Tabriz**	**1.99**	**13**	Pn	**Pb**	**15 08 11.6**	**-1.4**
IGHG	**Ghaleghazi**	**2.11**	**157**	Pn	**Pb**	**15 08 14.2**	**-0.8**
GLG1	**Gilan-e-Gharb**	**2.19**	**173**	Pn	**Pb**	**15 08 14.7**	**-1.5**
SNQR	**Sonqor, Kerman**	**2.19**	**130**	Pn	**Pb**	**15 08 15.4**	**-1.1**
ISRB	**Sarab**	**2.27**	**47**	Pn	**Pb**	**15 08 16.5**	**-1.1**
KCHF	**Cheshme Sefid,**	**2.33**	**149**	Pn	**Pb**	**15 08 17.1**	**-1.7**
IHRS	**Heris**	**2.34**	**29**	Pn	**Pb**	**15 08 17.1**	**-1.8**
HGHA	**Hamedan- Ghaye**	**2.78**	**106**	Pn	**Pb**	**15 08 23.6**	**-2.8**
BHD	**Baghdad**	**3.17**	**199**	*e*Pn	**Pn**	**15 08 28.0**	**+1.6**
BHD				*e*Sn	**Sn**	**15 09 05.0**	**+0.7**
IBDR	**Badra**	**3.18**	**175**	*e*Pn	**Pn**	**15 08 28.0**	**+1.4**
IBDR				*e*Sn	**Sn**	**15 09 05.0**	**+0.4**
HAGD	**Aghdareh**	**3.25**	**116**	Pn	**Pn**	**15 08 29.8**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.29**	**99**	Pn	**Pn**	**15 08 30.5**	**+2.1**
IKFM	**Kafar-mosalman**	**3.33**	**145**	Pn	**Pn**	**15 08 30.9**	**+2.4**
BDRS	**Dareh Seyedi**	**3.57**	**130**	Pn	**Pn**	**15 08 34.1**	**+1.9**

IDC 30 15:18:51.4±3.1, 21°.39S×178°.30W, h460km±37km, mb2.8/4, mbtmp3.7/5, Error ellipse: s-maj=52.0km s-min=30.1km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.01**	**316**	P	P	15 20 16.4	-0.1
	8.7nm,0.4s,baz=232,slow=23,SNR=29						
ASAR	**Alice Springs**	**44.05**	**258**	P	P	15 26 17.4	0.0
	0.4nm,0.5s,baz=94,slow=7.9,SNR=15						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.21**	**263**	P	P	15 26 18.2	-0.4
	0.4nm,0.8s,baz=98,slow=8.0,SNR=2.3						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**68.68**	**180**	P	P	15 29 07.4	-0.1
	1.6nm,1.0s,baz=245,slow=14,SNR=2.7						
	1.6nm,1.0s						
TXAR	**Lajitas Array**	**87.77**	**57**	P	P	15 30 50.9	0.0
	0.4nm,0.7s,baz=242,slow=4.7,SNR=2.1						
	0.4nm,0.7s						

*IDC **30** 15:22:18.4±1.5, 16°.81S×167°.18E, h0km, mb3.9/6, mbtmp3.9/7, ML3.5/1, MS3.3/4, Error ellipse: s-maj=39.8km s-min=30.1km az=114.0*
*NEIC **30** 15:22:19.8±0.9, 16°.8S±0°.1×166°.9E±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=25.9km s-min=20.2km az=38.0*
*NOU **30** 15:22:20.6, 16°.90S×167°.32E, h19km, MLv4.3/16, Vanuatu Islands*
ISC 30 15:22:20.6±0.9, 16°.86S±0°.09×167°.27E±0°.07, h25km, n32, σ1§74/30, mb4.1/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.23**	**134**	P	**Pn**	**15 22 41.4**	**-0.8**
DVP	**Devils Point**	**1.23**	**134**	S	**Sn**	**15 22 57.2**	**-0.8**
KOUNC	**Koumac, New Ca**	**4.63**	**217**	P	**Pn**	**15 23 29.7**	**+0.7**
KOUNC	**Koumac, New Ca**	**4.63**	**217**	S	**Sn**	**15 24 23.7**	**+1.7**
YATNC	**Mamie plateau,**	**5.18**	**184**	P	**Pn**	**15 23 35.7**	**-0.9**
DZM	**Mont Dzumac**	**5.24**	**188**	Pn	**Pn**	**15 23 38.1**	**+0.6**
DZM	**Mont Dzumac**	**5.24**	**188**	Pn	**Pn**	**15 23 38.3**	**+0.9**
	1.5nm,0.3s,baz=6.9,slow=20,SNR=3.0						
DZM				Sn	**Sn**	**15 24 35.7**	**-1.4**
	1.4nm,0.3s,baz=109,slow=23,SNR=1.3						
	3.0nm,0.3s						
DZM	**Mont Dzumac**	**5.24**	**188**	P	**Pn**	**15 23 37.8**	**+0.3**
ONTNC	**Ouen Toro**	**5.47**	**188**	Pn	**Pn**	**15 23 41.0**	**+0.4**
ONTNC	**Ouen Toro**	**5.47**	**188**	P	**Pn**	**15 23 41.0**	**+0.4**
OUENC	**Ouen Island, N**	**5.54**	**184**	P	**Pn**	**15 23 42.3**	**+0.8**
PINNC	**Pines Island,**	**5.72**	**178**	Pn	**Pn**	**15 23 46.1**	**+2.1**
PINNC	**Pines Island,**	**5.72**	**178**	P	**Pn**	**15 23 44.6**	**+0.6**
HNR	**Honiara**	**10.26**	**315**	LR	LR	15 28 34.9	
	comp=Z,2nm,18.9s,baz=36,slow=37						
MSVF	**Nonsavu**	**10.34**	**96**	LR	LR	15 28 20.0	
	comp=Z,151nm,20.9s,baz=219,slow=35						
BKZ	**Black Stump Fm**	**23.64**	**162**	P	**P**	**15 27 30.5**	**+0.5**
BKZ				IAmb	IAmb	15 27 42.7	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**27.66**	**233**	P	**P**	**15 28 07.8**	**+1.3**
	comp=Z,4.1nm,0.9s,baz=63,slow=6.8,SNR=4.8						
	comp=Z,4.1nm,0.9s						
WB0	**Warramunga Arr**	**31.32**	**260**	P	**P**	**15 28 36.2**	**-2.9**
WB0				IAmb	IAmb	15 28 44.2	
	comp=Z,5.1nm,1.2s						
WRA	**Warramunga Arr**	**31.37**	**259**	P	**P**	**15 28 36.6**	**-3.0**
WRA	**Warramunga Arr**	**31.37**	**259**	P	**P**	**15 28 39.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=85,slow=8.5,SNR=4.6						
	comp=Z,0.7nm,0.8s						
AS31	**Alice Springs**	**31.97**	**252**	P	**P**	**15 28 43.0**	**-1.9**
AS31				IAmb	IAmb	15 28 46.3	
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**31.97**	**252**	P	**P**	**15 28 42.5**	**-2.5**
ASAR	**Alice Springs**	**31.97**	**252**	P	**P**	**15 28 45.8**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=84,slow=8.3,SNR=79						
ASAR				LR	LR	15 40 31.2	
	comp=Z,77nm,21.7s,baz=71,slow=34						
	comp=Z,3.9nm,0.7s						
KNRA	**Kununurra**	**36.94**	**266**	P	**P**	**15 29 25.4**	**-2.6**
KNRA				IAmb	IAmb	15 29 44.0	
	comp=Z,7.8nm,1.2s						
FORT	**Forrest**	**38.25**	**242**	P	**P**	**15 29 37.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.66**	**262**	P	**P**	**15 29 48.6**	**-2.2**
NWAO	**Narrogin (SRO)**	**47.68**	**241**	LR	LR	15 49 50.9	
	comp=Z,77nm,18.5s,baz=331,slow=35						
MORW	**Morawa**	**48.37**	**246**	P	**P**	**15 30 57.8**	**-2.9**
QSPA	**South Pole Qui**	**73.18**	**180**	P	**P**	**15 33 51.1**	**+2.0**
QSPA	**South Pole Qui**	**73.18**	**180**	P	**P**	**15 33 51.4**	**+2.3**
	comp=Z,1.3nm,0.9s,baz=326,slow=3.6,SNR=2.1						
	comp=Z,1.3nm,0.9s						
SONM	**Songino Array**	**84.20**	**324**	P	**P**	**15 34 52.3**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=2.5						
	comp=Z,0.2nm,0.3s						
ILAR	**Eielson Array**	**88.55**	**18**	P	**P**	**15 35 11.8**	**+1.1**
	comp=Z,0.1nm,0.7s,baz=214,slow=6.3,SNR=1.4						
	comp=Z,0.1nm,0.7s						

*IDC **30** 15:59:34.0±2.2, 24°.28S×179°.72W, h524km±25km, mb2.9/4, mbtmp4.0/7, Error ellipse: s-maj=32.3km s-min=25.6km az=45.0*
ISC 30 15:59:32.0±1.4, 24°.5S±0°.1×179°.6W±0°.2, h490km, n8, σ1§91/10, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.05**	**342**	P	**P**	**16 01 19.9**	**+1.3**
	2.8nm,0.4s,baz=194,slow=17,SNR=8.1						
DZM	**Mont Dzumac**	**13.03**	**278**	P	**P**	**16 02 22.8**	**+1.2**
	6.9nm,0.9s,baz=60,slow=13,SNR=2.3						
URZ	**Urewera**	**14.02**	**191**	P	**P**	**16 02 34.3**	**+2.5**
	5.6nm,0.7s,baz=39,slow=2.5,SNR=6.5						
URZ				S	**S**	**16 04 58.8**	**-1.4**
	11nm,0.8s,baz=155,slow=22,SNR=7.7						
STKA	**Stephens Creek**	**34.83**	**249**	P	**P**	**16 05 40.6**	**-0.5**
	1.6nm,0.6s,baz=93,slow=19,SNR=3.7						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**42.28**	**261**	P	**P**	**16 06 41.0**	**-1.0**
	0.6nm,0.9s,baz=92,slow=6.4,SNR=15						
ASAR				PcP	**PcP**	**16 08 24.1**	**-0.6**
	0.5nm,1.0s,baz=106,slow=4.5,SNR=2.7						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**42.71**	**267**	P	**P**	**16 06 44.0**	**-1.3**
	0.8nm,0.6s,baz=100,slow=7.4,SNR=7.5						
	0.8nm,0.6s						
QSPA	**South Pole Qui**	**65.61**	**180**	P	**P**	**16 09 27.0**	**+0.4**
	2.2nm,1.0s,baz=334,slow=1.2,SNR=8.1						
	2.2nm,1.0s						
HFS	**Hagfors**	**143.17**	**349**	PKP	**PKPdf**	**16 18 06.0**	**-3.2**
	2.4nm,0.9s,baz=57,slow=5.3,SNR=7.2						

IDC 30 16:02:43.0±4.2, 2°.50N×96°.19E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=176.3km s-min=24.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.70**	**247**	T	T	16 34 47.5	
	baz=67,slow=76,SNR=156						
H08S3	**Diego Garcia H**	**25.70**	**247**	T	T	16 34 44.8	
	baz=67,slow=76,SNR=130						
H08S1	**Diego Carcia H**	**25.71**	**247**	T	T	16 34 43.5	
	baz=67,slow=76,SNR=84						
WRA	**Warramunga Arr**	**43.58**	**123**	P	P	16 10 49.4	+0.1
	0.3nm,0.7s,baz=295,slow=7.9,SNR=1.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**44.98**	**127**	P	P	16 11 00.2	-0.3
	0.3nm,1.0s,baz=299,slow=8.1,SNR=2.1						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**45.75**	**347**	P	P	16 11 06.5	+0.3
	0.6nm,0.6s,baz=159,slow=7.4,SNR=9.5						
	0.6nm,0.6s						
SONM	**Songino Array**	**46.02**	**10**	P	P	16 11 08.2	-0.2
	0.3nm,0.5s,baz=187,slow=7.3,SNR=2.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**52.13**	**352**	P	P	16 11 54.3	-0.7
	0.8nm,0.5s,baz=164,slow=7.5,SNR=4.1						
	0.8nm,0.5s						
H04N2	**CROZET ISLANDS**	**62.28**	**213**	T	T	17 20 29.9	
	baz=53,slow=75,SNR=737						
H04N1	**CROZET ISLANDS**	**62.29**	**213**	T	T	17 20 30.4	
	baz=53,slow=75,SNR=861						
H04N3	**CROZET ISLANDS**	**62.30**	**213**	T	T	17 20 27.4	
	baz=53,slow=75,SNR=415						
H04S1	**CROZET ISLANDS**	**62.64**	**213**	T	T	17 20 53.6	
	baz=51,slow=76,SNR=22						
H04S3	**CROZET ISLANDS**	**62.65**	**213**	T	T	17 20 53.0	
	baz=51,slow=76,SNR=33						
H04S2	**CROZET ISLANDS**	**62.66**	**213**	T	T	17 20 54.2	
	baz=51,slow=76,SNR=18						

*ASIES **30** 16:07:08.8, 24°.53N×121°.59E, h66km, ML4.0, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.18; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$0.05; $M_{r\theta}$2.91; $M_{\theta\phi}$1.63; $M_{\phi r}$0.17; Fault plane solution: $M_0$3.34309×10^{21} NP1: ϕ_s355.43000°, δ29.29000°, λ176.66000°. NP2: ϕ_s88.34000°, δ88.37000°, λ60.76000°. Principal axes: T Plg39.5580°, Azm331.7210°; N Plg29.2350°, Azm89.2580°; P Plg36.6230°, Azm203.8420°;*
*TAP **30** 16:07:08.8, 24°.53N×121°.59E, h66km, ML4.0, B*
*JMA **30** 16:07:09.4±0.2, 24°.5N±0°.3×121°.6E±0°.8, h58km±2km, MV3.5/16, TAIWAN REGION*
*IDC **30** 16:07:11.8±8.9, 24°.52N×121°.85E, h117km±115km, mb3.2/5, mbtmp3.6/7, ML3.5/2, MS3.1/2, Error ellipse: s-maj=105.0km s-min=72.4km az=151.0*
ISC 30 16:07:08.6±0.8, 24°.56N±0°.02×121°.60E±0°.02, h69km±4km, n182, σ0§89/302, mb3.6/5, 27C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATG	**Datong**	**0.07**	**253**	⇑*i*P	**Pn**	**16 07 19.1**	**+0.4**
LATG				S	**Sn**	**16 07 26.4**	**+0.2**
ENTT	**Nioudou**	**0.09**	**340**	⇑*i*P	**Pn**	**16 07 19.1**	**+0.4**
ENTT				*e*S	**Sn**	**16 07 26.1**	**0.0**
NDS	**Dongshan**	**0.13**	**54**	⇑*i*P	**Pn**	**16 07 19.1**	**+0.3**
NDS				S	**Sn**	**16 07 26.2**	**-0.1**
TWE	**Neicheng**	**0.17**	**21**	⇑*i*P	**Pn**	**16 07 19.5**	**+0.6**
TWE				*i* S	**Sn**	**16 07 26.8**	**+0.3**
ENA	**Nanau**	**0.18**	**135**	⇑*i*P	**Pn**	**16 07 18.8**	**-0.2**
ENA				*e*S	**Sn**	**16 07 25.9**	**-0.6**
EWUT	**Wuta**	**0.20**	**124**	⇑*i*P	**Pn**	**16 07 18.9**	**-0.2**
EWUT				*e*S	**Sn**	**16 07 27.0**	**+0.4**
FUSB	**Fushanzhiwuy

SXI1 eS Sn 16 07 32.2 -0.1
EOS2 EOS2 0.59 103 eP Pn 16 07 23.8 +1.7
ETM Tongmen 0.60 189⇑eP Pn 16 07 21.4 -0.9
ETM eS Sn 16 07 32.3 0.0
ZUZH Zhuzihu 0.60 355⇑eP Pn 16 07 22.6 +0.2
ZUZH S Sn 16 07 32.2 -0.4
SBCB Hsinchu 0.61 293⇓iP Pn 16 07 22.9 +0.5
SBCB eS Sn 16 07 32.8 +0.3
TNOU National Taiwa 0.61 15 eP Pn 16 07 23.5 +1.1
TNOU eS Sn 16 07 32.8 +0.2
NTST Danshui 0.62 347 eP Pn 16 07 23.3 +0.7
NTST eS Sn 16 07 33.4 +0.6
HSN Hsinchu 0.62 293⇓eP Pn 16 07 22.8 +0.3
HSN eS Sn 16 07 32.5 -0.3
YM08 YM08 0.63 359 eP Pn 16 07 22.5 -0.2
YM08 eS Sn 16 07 32.0 -1.0
ANP Anpu 0.63 353 eP Pn 16 07 22.9 +0.1
ANP S Sn 16 07 32.6 -0.6
WHP Taichung City 0.66 245 iP Pn 16 07 23.9 +0.9
WHP iS Sn 16 07 34.1 +0.5
TEYL Yanliau Villag 0.69 180 eP Pn 16 07 20.7 -2.5
TEYL eS Sn 16 07 33.9 -0.1
EOS3 EOS3 0.71 112 eP Pn 16 07 24.6 +1.2
OWD Renai 0.71 213⇑P Pn 16 07 24.3 +0.5
OWD eS Sn 16 07 35.5 +0.7
WUSB Renai 0.71 218⇑iP Pn 16 07 24.6 +0.9
WUSB S Sn 16 07 35.3 +0.5
TWY Chenhua 0.72 0 eP Pn 16 07 22.0 -1.7
TWY eS Sn 16 07 34.2 -0.5
NMLH Miaoli 0.74 269⇓iP Pn 16 07 24.1 +0.3
NMLH iS Sn 16 07 35.6 +0.5
ESL Shilin 0.75 192⇑iP Pn 16 07 22.8 -1.3
ESL eS Sn 16 07 34.2 -1.2
SHUL Shoufeng 0.77 182 P Pn 16 07 23.8 -0.4
SHUL eS Sn 16 07 35.4 -0.2
NSY Sanyi 0.78 260⇓eP Pn 16 07 23.3 -1.1
NSY eS Sn 16 07 35.0 -0.9
TWQ1 Liyutan 0.78 255⇓iP Pn 16 07 24.9 +0.5
TWQ1 iS Sn 16 07 35.8 -0.2
EOS4 EOS4 0.79 123 eP Pn 16 07 24.5 +0.5
WCS Beigang Elemen 0.80 232 P Pn 16 07 25.5 +0.9
WCS iS Sn 16 07 37.2 +0.8
TEGC Jichi Village 0.84 184 eP Pn 16 07 24.7 -0.5
TEGC eS Sn 16 07 39.3 +2.0
WARBT Fenglin Townsh 0.86 193⇑iP Pn 16 07 23.9 -1.4
WARBT eS Sn 16 07 36.6 -1.0
EGFH Guangfu 0.90 190 eP Pn 16 07 24.4 -1.3
WDJ Dajia District 0.90 257 iP Pn 16 07 26.5 +0.8
WDJ eS Sn 16 07 39.1 +0.6
VWDT VWDT 0.90 208⇑P Pn 16 07 26.5 +0.7
VWDT iS Sn 16 07 39.5 +1.0
SMLT Sun Moon Lake 0.93 224 iP Pn 16 07 26.3 0.0
SMLT eS Sn 16 07 39.6 +0.3
TCU Taichung 0.94 244 eP Pn 16 07 26.9 +0.7
TCU eS Sn 16 07 39.5 +0.2
TYC Yuchr 0.94 226 eP Pn 16 07 27.2 +1.0
TYC iS Sn 16 07 40.4 +1.0
SSLB Suanglung 0.97 218 P Pn 16 07 27.6 +0.9
SSLB Suanglung 0.97 218 S Sn 16 07 41.4 +1.4
SSLB Suanglung 0.97 218⇓P Pn 16 07 27.5 +0.8
SSLB iS Sn 16 07 41.2 +1.2
WCHH Zhanghua 1.06 244 eP Pn 16 07 28.3 +0.5
WCHH iS Sn 16 07 42.3 +0.2
HGSD Ruisui 1.07 189 P Pn 16 07 27.2 -0.7
HGSD eS Sn 16 07 41.2 -1.1
WCH1 Changhua City 1.07 244 eP Pn 16 07 28.6 +0.7
WCH1 iS Sn 16 07 43.0 +0.7
WNT Mingjian 1.07 231 eP Pn 16 07 28.9 +0.9
WNT eS Sn 16 07 43.6 +1.2
EHY Hungye 1.08 194 eP Pn 16 07 27.6 -0.4
WJS Zhushan 1.08 228 P Pn 16 07 29.0 +0.9
WJS eS Sn 16 07 43.9 +1.3
EHYH Wanrong 1.08 192 eP Pn 16 07 26.6 -1.5
EHYH eS Sn 16 07 40.6 -2.0
WHYT Xinyi Township 1.09 219 iP Pn 16 07 29.5 +1.2
WHYT eS Sn 16 07 44.4 +1.5
PCYT Pengchaiyu 1.15 22 eP Pn 16 07 29.4 +0.4
PCYT eS Sn 16 07 44.4 +0.3
YULB Yu-li 1.19 193 P Pn 16 07 27.9 -1.6
YULB Yu-li 1.19 193 S Sn 16 07 44.7 -0.4
YULB Yu-li 1.19 193 P Pn 16 07 27.9 -1.6
YUS Yu-Shan 1.22 209 eP Pn 16 07 28.8 -1.5
YUS eS Sn 16 07 46.2 -0.2
TWF1 Yuli 1.23 193 eP Pn 16 07 28.4 -1.6
EYUL Yuli 1.23 192 eP Pn 16 07 28.9 -1.1
JYNG Yonagunijimaku 1.23 95 P Pn 16 07 30.4 +0.4
JYNG S Sn 16 07 46.3 +0.3
ECBN Changbin 1.24 186 eP Pn 16 07 29.6 -0.5
ECBN eS Sn 16 07 45.9 -0.3
ALS Alishan 1.27 215 P Pn 16 07 31.9 +1.1
ALS eS Sn 16 07 49.2 +1.9
CHN5 Tsauling 1.27 222 eP Pn 16 07 31.6 +0.9
CHN5 iS Sn 16 07 48.0 +0.9
WDL Douliou City 1.28 229 eP Pn 16 07 31.4 +0.8
WDL eS Sn 16 07 48.8 +1.6
WGK Gukeng 1.28 228 eP Pn 16 07 31.7 +1.0
WGK S Sn 16 07 48.7 +1.5
YOJ Yonaguni jima 1.29 94 iP Pn 16 07 31.3 +0.6
YOJ S Sn 16 07 47.8 +0.4
YOJ Yonaguni jima 1.29 94 P Pn 16 07 31.1 +0.4
YOJ eS Sn 16 07 47.3 0.0
WDLH Douliu 1.30 229 eP Pn 16 07 31.8 +0.9
WDLH eS Sn 16 07 49.4 +1.9
CHKH Chenggong 1.37 188 eP Pn 16 07 31.2 -0.7
CHKH eS Sn 16 07 48.6 -0.6
FULB Fuli 1.38 192 iP Pn 16 07 31.6 -0.4
FULB eS Sn 16 07 50.4 +0.8
WTCT Ta-ch'eng 1.39 240 iP Pn 16 07 32.4 +0.4
WTCT S Sn 16 07 49.9 +0.3
WTK Tuku 1.40 232 iP Pn 16 07 33.1 +0.8
WTK eS Sn 16 07 51.3 +1.3
WCKO Fanlu 1.44 219 P Pn 16 07 34.0 +1.3
WCKO iS Sn 16 07 52.2 +1.4
EHD Haiduan 1.45 194 eP Pn 16 07 32.2 -0.6
CHN2 Minshiung 1.45 225 eP Pn 16 07 33.8 +1.0
ELDTW Lidau 1.46 201 P Pn 16 07 32.7 -0.4
ELDTW eS Sn 16 07 51.9 +0.3
CHKT Chengkung 1.47 188 eP Pn 16 07 32.5 -0.6
CHKT iS Sn 16 07 50.7 -0.8
ECS Chishang 1.50 194 eP Pn 16 07 33.0 -0.5
CHY Chiayi 1.50 226 iP Pn 16 07 34.6 +1.0
CHY iS Sn 16 07 53.2 +0.8
CHN4 Tsaushan 1.51 218 eP Pn 16 07 35.1 +1.3
CHN4 eS Sn 16 07 54.6 +1.9
TPUB Ta-pu 1.53 216 P Pn 16 07 35.1 +1.1
TPUB Ta-pu 1.53 216 S Sn 16 07 54.9 +1.8
TPUB Ta-pu 1.53 216 eP Pn 16 07 35.2 +1.2
TPUB eS Sn 16 07 54.3 +1.2
WSF Szhu 1.56 234 eP Pn 16 07 34.6 +0.4
WSF S Sn 16 07 54.4 +0.8
STYH Taoyuan 1.57 209 iP Pn 16 07 34.9 +0.4
STYH S Sn 16 07 54.6 +0.6
WTP Ta-pu 1.59 215 eP Pn 16 07 35.8 +1.1
EDH Donghe 1.60 190 eP Pn 16 07 34.1 -0.7
EDH iS Sn 16 07 54.8 +0.1
WSL Shuilin Townsh 1.62 231 eP Pn 16 07 35.9 +0.7
WSL S Sn 16 07 56.0 +0.7
TWK Hsinying 1.64 219 eP Pn 16 07 36.7 +1.3
TWK eS Sn 16 07 55.9 +0.2
SNST Tainan City 1.67 217 eP Pn 16 07 37.4 +1.6
SNST eS Sn 16 07 57.0 +0.7
CHN1 Nanshi 1.68 216 eP Pn 16 07 37.0 +1.0
CHN1 S Sn 16 07 57.7 +1.0
ICHU Yijhu 1.69 226 eP Pn 16 07 37.0 +0.8
ICHU eS Sn 16 07 58.4 +1.4
LONT Longtian 1.70 195 eP Pn 16 07 34.9 -1.3
SGST Jiashian 1.74 213 eP Pn 16 07 37.6 +0.9
SGST eS Sn 16 07 58.3 +0.3
CHN8 Yiju 1.75 227 iP Pn 16 07 37.6 +0.7
CHN8 iS Sn 16 07 59.1 +0.9
TWG Pinlang 1.79 196 eP Pn 16 07 36.2 -1.3
TWGBT Beinan 1.79 195 eP Pn 16 07 35.8 -1.7
CHN3 Shinhua 1.86 218 eP Pn 16 07 38.7 +0.4
LDUT Ludao 1.88 184 eP Pn 16 07 37.8 -0.8
LDUT S Sn 16 07 59.8 -1.5
SCLT Jiali 1.88 223 eP Pn 16 07 39.6 +1.0
SCLT eS Sn 16 08 02.5 +1.0
SHHT Tainan City 1.91 217 eP Pn 16 07 40.7 +1.7
SCST Cishan 1.95 212 eP Pn 16 07 41.3 +1.7

IRIF Iriomote-Funau 1.96 96 eP Pn 16 07 39.7 +0.1
IRIF eS Sn 16 08 03.0 -0.2
TSCK Chigu Township 1.97 225 eP Pn 16 07 40.1 +0.3
TSCK iS Sn 16 08 03.4 -0.2
ECL Taimali 2.04 197 eP Pn 16 07 39.1 -1.6
TSMG Majia 2.04 206 eP Pn 16 07 42.2 +1.4
HATJ Hateruma jima 2.07 103 P Pn 16 07 42.4 +1.2
HATJ S Sn 16 08 06.8 +0.8
PNG Penghu 2.11 243 eP Pn 16 07 41.7 -0.1
PNG eS Sn 16 08 05.2 -1.8
PHUB P'eng-hu 2.12 241 iP Pn 16 07 41.4 -0.5
PHUB iS Sn 16 08 05.2 -2.1
MASBT Mashibuluo 2.13 205 eP Pn 16 07 43.1 +1.1
MASBT eS Sn 16 08 08.4 +1.0
MATB Ma-tsu 2.18 317 eP Pn 16 07 42.0 -0.7
WDGT Dungji 2.19 234 eP Pn 16 07 42.5 -0.3
WDGT eS Sn 16 08 08.0 -1.0
JKRS Kuro-shima 2.22 98 P Pn 16 07 44.0 +0.8
JKRS S Sn 16 08 09.5 -0.1
EAST Anshuo 2.27 198 eP Pn 16 07 43.0 -1.0
TAW Tawu 2.28 197 eP Pn 16 07 45.0 +1.0
TAWH Dawu Township 2.30 197 eP Pn 16 07 44.1 -0.2
PTMZ Houxiangcun 2.30 283 eP Pn 16 07 44.1 -0.2
JIJ Ishigaki jima 2.33 94 P Pn 16 07 44.7 +0.1
JIJ eS Sn 16 08 11.2 -1.0
SCZT Fangliau 2.35 203 eP Pn 16 07 46.2 +1.2
SCZT eS Sn 16 08 13.6 +0.7
VCHM Qimei 2.40 236 eP Pn 16 07 45.2 -0.4
SLIU Shizi 2.44 198 eP Pn 16 07 48.0 +1.7
JISG Ishigakijimahi 2.47 89 iP Pn 16 07 47.0 +0.4
JISG S Sn 16 08 15.2 -0.5
LAY Lan-yu 2.51 181 eP Pn 16 07 46.4 -0.7
LAY eS Sn 16 08 16.2 -0.5
LYUB Lan-yu 2.54 180 eP Pn 16 07 45.9 -1.7
XPSS Dashiqiu 2.68 332 eP Pn 16 07 48.9 -0.6
TWKBT Hengchun 2.70 196 eP Pn 16 07 49.0 -0.7
MHZQ Yeshan 2.79 304 eP Pn 16 07 50.3 -0.6
JTJ Tarama 2.83 88 P Pn 16 07 52.6 +1.2
JTJ S Sn 16 08 25.3 +1.0
KNM Kinmen 2.89 268 eP Pn 16 07 53.5 +1.2
KNMB Chin-men Tao 2.93 269 eP Pn 16 07 52.2 -0.6
JIRB Irabujima 3.26 84 P Pn 16 07 58.6 +1.3
AXDP Jialang 3.32 277 eP Pn 16 07 58.1 -0.1
JMJ2 Miyako jima3 3.40 86 P Pn 16 08 00.9 +1.7
ZPLA Ao Xicun 3.57 261 eP Pn 16 08 00.9 -0.7
DSXP Dongshan 3.91 258 eP Pn 16 08 06.0 -0.2
SXFK Yanhouchang 4.02 298 eP Pn 16 08 06.7 -1.0
JOW Kunigami 6.43 68 P Pn 16 08 41.0 +0.3
3.1nm,0.3s,baz=266,slow=15,SNR=9.4
JOW S Sn 16 09 52.5 -0.3
18nm,0.8s,baz=26,slow=26,SNR=2.3
12nm,0.5s
KSRS Korea Array 13.95 21 P Pn 16 10 23.9 +0.9
0.1nm,0.3s,baz=209,slow=12,SNR=5.2
1.2nm,1.0s
SONM Songino Array 26.18 336 P P 16 12 36.1 -0.6
0.7nm,0.8s,baz=142,slow=7.3,SNR=4.6
0.7nm,0.8s
MKAR Makanchi Array 38.34 315 P P 16 14 23.2 +0.5
0.4nm,0.5s,baz=108,slow=9.3,SNR=6.8
0.4nm,0.5s
ZALV Zalesovo Beam 40.14 327 P P 16 14 37.1 -0.5
0.6nm,0.4s,baz=120,slow=8.5,SNR=2.6
0.6nm,0.4s
KRVT Keravat (AS076 41.22 130 LR LR 16 30 29.3
comp=Z,26nm,20.1s,baz=107,slow=34
KURBB Kurchatov Arra 42.07 320 P P 16 14 53.5 0.0
0.2nm,0.5s,baz=108,slow=9.4,SNR=4.1
0.2nm,0.5s
BVAR Borovoye Array 47.63 320 P P 16 15 36.4 -1.3
0.4nm,0.5s,baz=101,slow=7.5,SNR=3.4
0.4nm,0.5s
ASAR Alice Springs 49.40 165 LR LR 16 36 54.5
comp=Z,17nm,21.0s,baz=248,slow=36

*BGR **30** 16:20:42.1±1.3, 48°.33N×6°.29E, h10km, ML2.0/8, Error ellipse: s-maj=13.3km s-min=3.3km az=55.0*
*STR **30** 16:20:42.6±0.3, 48°.N±2°.×°.±°., h0km, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=9.2, preliminary*
LDG 30 16:20:42.5±0.0, 48°.29N×6°.28E, h9km, Md2.5/3, Ml2.5/15, Error ellipse: s-maj=0.7km s-min=0.6km az=173.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETNF	**Estrennes**	**0.16**	**258**	Pg	Pg	16 20 46.6	+0.7
ETNF				Sg	Sg	16 20 49.2	+0.8
XAFF	**Xaffevillers**	**0.26**	**64**	Pg	Pg	16 20 47.7	+0.1
XAFF				Sg	Sg	16 20 51.1	+0.1
HAU	**Haudompre**	**0.29**	**171**	ePg	Pg	16 20 48.5	+0.2
HAU				eSg	Sg	16 20 51.9	-0.3
	128nm,0.2s						
PAGF	**Fort de Pagny**	**0.45**	**306**	ePg	Pg	16 20 51.6	+0.3
	baz=125						
PAGF				eSg	Sg	16 20 56.9	-0.3
	57nm,0.3s						
MANO	**Manonville**	**0.58**	**336**	Pg	Pg	16 20 54.1	+0.3
MANO				Sg	Sg	16 21 01.8	+0.3
ECH	**Echery**	**0.59**	**97**	Pg	Pg	16 20 53.7	-0.3
ECH				Sg	Sg	16 21 01.3	-0.4
ECH	**Echery**	**0.59**	**97**	Pg	Pg	16 20 53.9	-0.1
ECH				Sg	Sg	16 21 01.4	-0.3
ECH	**Echery**	**0.59**	**97**	ePg	Pg	16 20 54.0	0.0
ECH				eSg	Sg	16 21 01.3	-0.5
HINF	**Hinteralfeld**	**0.61**	**141**	ePg	Pg	16 20 54.2	-0.2
HINF				eSg	Sg	16 21 02.3	-0.1
	34nm,0.2s						
RONF	**Ronchamp**	**0.63**	**157**	Pg	Pg	16 20 54.9	+0.1
RONF				Sg	Sg	16 21 03.1	0.0
CDF	**Champ du Feu**	**0.68**	**80**	ePg	Pg	16 20 54.9	-0.7
CDF				eSg	Sg	16 21 03.7	-0.7
	65nm,0.3s						
WLS	**Welschbruch**	**0.73**	**80**	Pg	Pg	16 20 56.0	-0.6
WLS				Sg	Sg	16 21 05.5	-0.5
WALT	**Westhalten**	**0.75**	**116**	Pg	Pg	16 20 56.8	-0.1
WALT				Sg	Sg	16 21 06.5	0.0
SAVF	**Savonnieres en**	**0.83**	**293**	ePg	Pg	16 20 58.6	+0.1
SAVF				eSg	Sg	16 21 08.5	-0.8
	18nm,0.1s						
SAVF				eSg	Sb	16 21 09.3	-1.1
	31nm,0.2s						
SAVF	**Savonnieres en**	**0.83**	**293**	Pg	Pg	16 20 58.6	+0.1
SFTF	**Sexfontaines**	**0.83**	**264**	ePg	Pg	16 20 58.6	+0.1
	baz=85						
SFTF				eSg	Sg	16 21 09.1	-0.3
	185nm,0.2s						
MEZF	**Maizieres J'vi**	**0.84**	**285**	ePg	Pg	16 20 58.9	+0.2
	baz=106						
MEZF				eSg	Sg	16 21 09.5	-0.2
	21nm,0.2s						
VOEL	**Voellerdingen**	**0.88**	**39**	Pg	Pg	16 20 58.6	-0.8
VOEL				Sg	Sg	16 21 09.8	-1.0
HOHE	**HOHENGOEFT**	**0.88**	**65**	Pg	Pg	16 20 58.9	-0.5
HOHE				Sg	Sg	16 21 10.8	-0.1
ILLF	**Illfurth**	**0.90**	**133**	Pg	Pg	16 20 59.7	0.0
ILLF				Sg	Sg	16 21 11.7	+0.3
CIEL	**Dossenheim-sur**	**0.90**	**53**	Pg	Pg	16 20 58.9	-0.9
CIEL				Sg	Sg	16 21 10.7	-0.9
ZELS	**Zelsheim**	**0.90**	**89**	Pg	Pg	16 20 59.6	-0.3
ZELS				Sg	Sg	16 21 11.9	+0.3
VOGT	**Vogtsburg - To**	**0.96**	**102**	Pg	Pg	16 21 00.9	0.0
VOGT	**Vogtsburg - To**	**0.96**	**102**	Sg	Sg	16 21 13.5	+0.2
CHMF	**Charmoille**	**1.08**	**166**	Pg	Pg	16 21 03.0	-0.2
CHMF				Sg	Sg	16 21 17.2	0.0
BERGE	**Lenzkirch (DE)**	**1.34**	**108**	eSg	Sb	16 21 24.7	-0.5
BFO	**Black Forest**	**1.37**	**88**	ePn	Pn	16 21 05.6	-2.2
BFO				ePg	Pb	16 21 08.5	+0.2
BFO				eSg	Sb	16 21 25.5	-0.5
WLF	**Walferdange**	**1.37**	**357**	eSg	Sb	16 21 25.1	-1.0
METMA	**Mettma DE**	**1.45**	**113**	eSg	Sn	16 21 28.0	0.0
RIVT	**Riveris**	**1.45**	**13**	eSg	Sn	16 21 26.7	-1.3
SLE	**Schleitheim**	**1.58**	**109**	eSg	Sb	16 21 32.2	+0.3
CABF	**La Chapelle**	**1.69**	**184**	ePg	Pg	16 21 14.5	-0.4
CABF				eSg	Sb	16 21 35.5	+0.3
	46nm,0.7s						
EMING	**Emmingen-Lipti**	**1.77**	**102**	eSg	Sg	16 21 38.9	-0.3
LOR	**Lormes**	**1.93**	**239**	ePn	Pn	16 21 13.9	-1.6
LOR	**Lormes**	**1.93**	**239**	ePg	Pb	16 21 18.2	+0.4
	baz=56						
LOR				eSg	Sb	16 21 42.7	+0.8
	9.2nm,0.2s						
WILA	**Wila**	**1.98**	**115**	eSg	Sg	16 21 45.5	-0.5

GIVF Givet 2.05 333 ePg Pb 16 21 20.1 +0.3
GIVF eSg Sb 16 21 45.8 +0.5
3.9nm,0.2s
BAIF Baives 2.23 323 ePn Pn 16 21 18.1 -1.5
BAIF Baives 2.23 323 ePg Pb 16 21 23.5 +0.6
BAIF eSg Sb 16 21 51.3 +0.7
1.6nm,0.2s
SSF Saint Saulge 2.24 238 ePn Pn 16 21 18.0 -1.8
SSF Saint Saulge 2.24 238 ePg Pb 16 21 24.0 +0.8
SSF eSg Sb 16 21 52.7 +1.7
4.9nm,0.3s
SMF Signal de Mont 2.33 226 ePn Pn 16 21 19.7 -1.4
SMF Signal de Mont 2.33 226 ePg Pb 16 21 25.7 +1.0
SMF eSg Sg 16 21 55.7 -1.8
5.9nm,0.2s
AVF Avril sur Loir 2.49 234 ePn Pn 16 21 21.0 -2.1
AVF Avril sur Loir 2.49 234 ePg Pb 16 21 28.4 +1.1
AVF eSg Sg 16 22 00.7 -1.7
0.6nm,0.1s
HYF Humbligny 2.66 249 ePg Pg 16 21 32.8 -0.6
HYF eSg Sg 16 22 06.1 -1.8
LPL La Plagne 2.80 173 eSg Sg 16 22 12.2 -0.1
ORIF Oris-en-Rattie 3.39 185 eSg Sg 16 22 28.8 -2.5
2.6nm,0.4s
TCF Toulx Ste Croi 3.42 236 ePn Pn 16 21 33.8 -2.2
TCF Toulx Ste Croi 3.42 236 ePg Pg 16 21 45.8 -2.2
TCF eSg Sg 16 22 29.7 -2.6
1.4nm,0.2s
VIVF Saint-Julien-l 3.61 198 eSg Sg 16 22 35.1 -3.4
1.0nm,0.2s
LDF La Druitiere 4.27 276 eSg Sg 16 22 56.6 -3.0
1.1nm,0.2s
FLN La Foliniere 4.52 278 eSg Sg 16 23 04.4 -3.0
2.7nm,0.3s
LASF Ste Croix 4.54 203 eSg Sg 16 23 04.8 -3.5
0.4nm,0.2s

*IDC **30** 16:26:02.3±1.9, 10°.09S×124°.57E, h0km, mb3.4/1, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=110.1km s-min=28.3km az=64.0*
*DJA **30** 16:26:08.6±0.5, 10°S±3°×12°4E±°, h22km±4km, M3.9/8, mb4.2/3, MLv3.8/8*
ISC 30 16:26:04.3±0.8, 10°.41S±0°.06×124°.53E±0°.07, h10km, n17, σ2°46/27, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.70**	**338**	P	**Pb**	**16 26 19.9**	**+1.2**
SOEI	**Soe**	**0.70**	**338**	P	**Pn**	**16 26 20.1**	**-0.3**
SOEI				S	**Sg**	**16 26 27.2**	**0.0**
MMRI	**Maumere**	**2.87**	**308**	P	**Pn**	**16 26 51.2**	**+1.1**
MMRI	**Maumere**	**2.87**	**308**	S	**Sn**	**16 27 22.7**	**-2.1**
MMRI	**Maumere**	**2.87**	**308**	P	**Pn**	**16 26 51.2**	**+1.1**
MMRI				S	**Sn**	**16 27 22.6**	**-2.2**
EDFI	**Ende, Flores**	**3.25**	**300**	P	**Pn**	**16 26 55.9**	**+0.4**
EDFI				S	**Sn**	**16 27 31.2**	**-3.2**
BASI	**Baing, Sumba**	**3.89**	**272**	P	**Pn**	**16 27 05.3**	**+1.1**
BASI				S	**Sn**	**16 27 50.6**	**+0.6**
WSI	**Waingapu**	**4.23**	**280**	P	**Pn**	**16 27 10.4**	**+1.5**
WSI				S	**Sn**	**16 27 57.7**	**-0.7**
WBSI	**Waikabubak, Su**	**5.12**	**278**	P	**Pn**	**16 27 21.9**	**+0.8**
WBSI				S	**Sn**	**16 28 20.1**	**-0.3**
PLAI	**Plampang**	**6.84**	**283**	P	**Pn**	**16 27 45.1**	**+0.3**
PLAI	**Plampang**	**6.84**	**283**	P	**Pn**	**16 27 45.7**	**+0.9**
	0.1nm19nm,0.6s						
PLAI				S	**Sn**	**16 29 02.1**	**-0.7**
	0.1nm19nm,0.6s						
MTN	**Manton Dam**	**6.91**	**111**	P	**Pn**	**16 27 50.2**	**+4.6**
FITZ	**Fitzroy Crossi**	**7.71**	**172**	Pn	**Pn**	**16 28 00.8**	**+4.1**
	1.2nm,0.3s,baz=355,slow=13,SNR=66						
FITZ				Sn	**Sn**	**16 29 22.6**	**-1.7**
	3.3nm,0.3s,baz=258,slow=3.0,SNR=18						
	3.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**7.71**	**172**	P	**Pn**	**16 28 00.3**	**+3.5**
	8.6nm,0.6s						
WRA	**Warramunga Arr**	**13.39**	**136**	Pn	**Pn**	**16 29 16.6**	**+2.1**
	0.2nm,0.3s,baz=310,slow=11,SNR=9.4						
WRA				Sn	**Sn**	**16 31 39.0**	**-4.6**
	1.0nm,0.3s,baz=252,slow=21,SNR=9.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**15.93**	**147**	Pn	**Pn**	**16 29 50.5**	**+1.8**
	0.1nm,0.3s,baz=324,slow=13,SNR=16						
ASAR				Sn	**Sn**	**16 32 39.9**	**-5.6**
	0.3nm,0.3s,baz=314,slow=21,SNR=8.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.29**	**330**	P	**P**	**16 37 03.6**	**-1.9**
	0.2nm,0.5s,baz=141,slow=7.2,SNR=3.7						
	0.2nm,0.5s						

*IDC **30** 16:34:42.8±12.0, 37°.43N×72°.11E, h158km±124km, mb4.1/1, mbtmp3.9/5, ML3.2/3, Error ellipse: s-maj=112.6km s-min=67.4km az=149.0*
*NNC **30** 16:34:50.5±2.5, 37°.88N×72°.18E, h174km±41km, mb2.6, mpv3.6, Error ellipse: s-maj=27.6km s-min=12.3km az=22.0*
ISC 30 16:34:41.2±1.7, 37°.3N±0°.1×72°.0E±0°.1, h130km, n17, σ2°20/20, 1C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.97**	**14**	P	**Pn**	**16 35 57.0**	**+2.9**
	SNR=55						
UCH	**Uchtor**	**5.25**	**21**	P	**Sn**	**16 36 57.0**	**-0.8**
	SNR=5.9						
EKS2	**Erkin-Say**	**5.49**	**14**	P	**Pn**	**16 36 04.4**	**+3.5**
	SNR=10						
AAK	**Ala-Archa**	**5.63**	**19**	P	**Pn**	**16 36 05.5**	**+2.7**
	SNR=14						
AAK	**Ala-Archa**	**5.63**	**19**	P	**Pn**	**16 36 05.4**	**+2.6**
	4.5nm,0.4s						
AAK				S	**Sn**	**16 37 05.0**	**-1.5**
	15nm,0.7s						
KK31	**Karatay Array**	**5.88**	**349**	P	**Pn**	**16 36 09.4**	**+3.4**
	0.4nm,0.2s,baz=154,slow=11,SNR=20						
KK31				⇓S	**Sn**	**16 37 11.0**	**-1.3**
	10nm,0.3s,baz=156,slow=16,SNR=23						
CHMS	**Chumysh**	**6.04**	**19**	P	**Pn**	**16 36 10.6**	**+2.5**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.22**	**25**	P	**Pn**	**16 36 12.8**	**+2.1**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.22**	**25**	⇑P	**Pn**	**16 36 13.0**	**+2.3**
	4.8nm,0.6s						
MDOK	**Medeo**	**6.98**	**32**	⇓P	**Pn**	**16 36 22.5**	**+1.7**
	6.3nm,0.5s						
MK31	**Makanchi Array**	**12.14**	**36**	P	**Pn**	**16 37 31.7**	**+1.9**
	0.4nm,0.3s,baz=206,slow=9.3,SNR=8.0						
MKAR	**Makanchi Array**	**12.14**	**36**	P	**Pn**	**16 37 29.1**	**-0.6**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**14.08**	**17**	P	**Pn**	**16 37 53.5**	**-1.2**
	0.1nm,0.3s,baz=200,slow=11,SNR=14						
	1.5nm,0.7s						
AB31	**Akbulak array**	**14.79**	**328**	P	**P**	**16 38 07.0**	**+0.8**
	0.2nm,0.4s,baz=139,slow=14,SNR=7.8						
AB31				S	**Sn**	**16 40 45.9**	**-1.5**
	0.4nm,0.4s,baz=133,slow=25,SNR=4.9						
BVAR	**Borovoye Array**	**15.74**	**356**	P	**Pn**	**16 38 14.6**	**-0.8**
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	**16 38 49.0**	**-1.6**
	0.9nm,0.3s,baz=221,slow=10,SNR=20						
	4.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**66.56**	**269**	P	**P**	**16 45 16.6**	**-1.0**
	2.0nm,0.3s,baz=44,slow=5.8,SNR=1.3						
	2.0nm,0.3s						

*IDC **30** 16:42:04.2±4.7, 14°.38S×167°.26E, h193km±43km, mb3.4/6, mbtmp3.8/7, Error ellipse: s-maj=36.3km s-min=29.8km az=167.0*
ISC 30 16:42:04.7±1.0, 14°.39S±0°.10×167°.3E±0°.3, h200km, n9, σ0°66/11, mb3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.68**	**186**	P	**Pn**	**16 43 53.9**	**0.0**
	4.0nm,0.7s,baz=41,slow=8.4,SNR=15						
DZM				S	**Sn**	**16 45 20.7**	**-0.1**
	3.8nm,0.6s,baz=192,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**31.91**	**255**	P	**P**	**16 48 11.4**	**-0.3**
	0.2nm,0.4s,baz=85,slow=9.1,SNR=2.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**32.80**	**249**	P	**P**	**16 48 19.2**	**-0.2**
	0.6nm,0.3s,baz=74,slow=9.5,SNR=56						

ASAR PcP **PcP** **16 50 59.4 -0.4**
0.2nm,0.8s,baz=72,slow=3.0,SNR=1.4
0.6nm,0.3s
QSPA South Pole Qui 75.64 180 P **P** **16 53 28.0 +0.4**
1.0nm,1.0s,baz=20,slow=12,SNR=1.3
1.0nm,1.0s
ILAR Eielson Array 86.20 18 P **P** **16 54 22.5 -0.6**
0.4nm,0.8s,baz=224,slow=3.8,SNR=4.8
0.4nm,0.8s
MKAR Makanchi Array 96.96 316 P **P** **16 55 14.6 +1.1**
0.3nm,0.6s,baz=97,slow=4.8,SNR=4.6
0.3nm,0.6s
ZALV Zalesovo Beam 97.12 324 P **P** **16 55 14.1 +0.2**
0.7nm,0.7s,baz=98,slow=6.0,SNR=2.0
0.7nm,0.7s
ARCES ARCESS Array B 119.92 345 PKP **PKiKP** **17 00 31.5 +0.7**
3.4nm,0.9s,baz=98,slow=2.6,SNR=7.7
KEST Kesra 150.95 321 PKPbc **PKiKP** **17 01 33.9 -0.9**
3.1nm,0.6s,baz=63,slow=5.3,SNR=4.4

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*IDC **30** 16:58:06.0±2.7, 47.°60N×153.°00E, h126km±23km, mb3.5/4, mbtmp3.8/6, Error ellipse: s-maj=45.8km s-min=19.8km az=117.0*

ISC 30 16:58:08.0±1.5, 47.°7N±0.°2×152.°9E±0.°2, h150km, n12, σ1°61/7, mb3.8/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.23**	**28**	P		**Pn**		**16 59 36.3**	**-1.3**
	2.5nm,0.9s,baz=201,slow=14,SNR=6.3								
PETK				S		**Sn**		**17 00 47.0**	**-0.7**
	1.3nm,0.8s,baz=254,slow=13,SNR=1.0								
ASAJ	**Asahikawa**	**8.03**	**247**	P		**Pn**		**16 59 60.0**	**-1.7**
	1.8nm,0.5s,baz=163,slow=14,SNR=2.2								
H11N2	**WAKE ISLAND Hy 30.11**	**153**		T				17 35 53.4	
	baz=341,slow=75,SNR=4.5								
H11N1	**WAKE ISLAND Hy 30.13**	**153**		T				17 35 56.7	
	baz=341,slow=75,SNR=5.0								
H11N3	**WAKE ISLAND Hy 30.13**	**153**		T				17 36 04.6	
	baz=341,slow=75,SNR=4.4								
H11S1	**WAKE ISLAND Hy 31.21**	**154**		T				17 37 37.3	
	baz=342,slow=76,SNR=3.9								
H11S3	**WAKE ISLAND Hy 31.22**	**154**		T				17 37 19.3	
	baz=342,slow=76,SNR=6.6								
H11S2	**WAKE ISLAND Hy 31.23**	**154**		T				17 37 19.6	
	baz=342,slow=76,SNR=5.9								
FINES	**FINESS Array B**	**63.13**	**334**	P		**P**		**17 08 20.3**	**+1.2**
	3.8nm,1.0s,baz=28,slow=6.5,SNR=9.3								
	3.8nm,1.0s								
HFS	**Hagfors**	**67.53**	**339**	P		**P**		**17 08 48.9**	**+1.5**
	2.3nm,0.8s,baz=23,slow=4.7,SNR=5.4								
	2.3nm,0.8s								
AKASG	**Malin Array Be**	**70.69**	**326**	P		**P**		**17 09 08.2**	**+1.2**
	0.3nm,0.3s,baz=37,slow=6.1,SNR=3.1								
	0.3nm,0.3s								
ASAR	**Alice Springs**	**73.06**	**198**	P		**P**		**17 09 21.8**	**+0.4**
	0.2nm,0.8s,baz=19,slow=9.4,SNR=4.0								
	0.2nm,0.8s								

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*IDC **30** 17:05:34.1±6.5, 6.°11S×103.°79E, h75km±50km, mb3.4/7, mbtmp3.7/8, ML3.1/1, Error ellipse: s-maj=63.8km s-min=21.3km az=53.0*

ISC 30 17:05:36.0±1.7, 6.°2S±0.°3×103.°9E±0.°2, h100km, n15, σ1°59/10, mb3.7/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LEM	**Lembang**	**3.79**	**100**	P		**Pn**		**17 06 32.1**	**-0.5**
	1.5nm,0.3s,baz=135,slow=21,SNR=1.5								
LEM				S		**Sn**		**17 07 16.1**	**-0.3**
	14nm,0.6s,baz=331,slow=23,SNR=1.8								
	9.2nm,0.5s								
H08S2	**Diego Garcia H**	**31.17**	**265**	T		T		17 44 38.7	
	baz=90								
H08S3	**Diego Garcia H**	**31.18**	**265**	T		T		17 45 38.9	
	baz=90								
H08S1	**Diego Carcia H**	**31.19**	**265**	T		T		17 45 33.6	
	baz=90								
WRA	**Warramunga Arr**	**32.62**	**118**	P		**P**		**17 11 59.7**	**+1.2**
	0.1nm,0.2s,baz=294,slow=8.8,SNR=8.1								
	0.1nm,0.2s								
ASAR	**Alice Springs**	**33.72**	**124**	P		**P**		**17 12 09.5**	**+1.4**
	0.1nm,0.6s,baz=300,slow=8.3,SNR=4.7								
	0.1nm,0.6s								
SONM	**Songino Array**	**53.82**	**2**	P		**P**		**17 14 49.4**	**+0.8**
	1.2nm,0.8s,baz=170,slow=8.8,SNR=4.2								
	1.2nm,0.8s								
MKAR	**Makanchi Array**	**56.10**	**342**	P		**P**		**17 15 05.0**	**+0.1**
	0.5nm,0.6s,baz=151,slow=8.4,SNR=7.6								
	0.5nm,0.6s								
USRK	**Ussuriysk Ar.**	**56.19**	**24**	P		**P**		**17 15 06.0**	**+0.5**
	1.5nm,0.5s,baz=199,slow=4.5,SNR=6.3								
	1.5nm,0.5s								
H04N2	**CROZET ISLANDS**	**59.89**	**219**	T		T		18 19 58.6	
	baz=64,slow=75,SNR=15								
H04N1	**CROZET ISLANDS**	**59.90**	**219**	T		T		18 19 59.0	
	baz=64,slow=75,SNR=14								
H04N3	**CROZET ISLANDS**	**59.91**	**219**	T		T		18 19 57.6	
	baz=64,slow=75,SNR=14								
KURBB	**Kurchatov Arra**	**60.65**	**342**	P		**P**		**17 15 36.2**	**-0.2**
	0.3nm,0.5s,baz=155,slow=10,SNR=1.9								
	0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**62.00**	**347**	P		**P**		**17 15 45.3**	**-0.1**
	0.8nm,0.3s,baz=154,slow=6.1,SNR=4.2								
	0.8nm,0.3s								
TXAR	**Lajitas Array**	**145.28**	**45**	PKPbc		**PKiKP**		**17 25 03.3**	**-3.6**
	0.3nm,0.5s,baz=347,slow=6.1,SNR=1.7								

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*NOU **30** 17:35:48.5, 37.°12S×179.°88E, h0km, MLv4.5/11, Off E. Coast of N. Island, N.Z.*
*IDC **30** 17:35:54.5±1.0, 36.°77S×179.°00E, h0km, mb4.1/5, mbtmp4.1/6, ML4.1/1, MS3.4/3, Error ellipse: s-maj=33.6km s-min=25.3km az=35.0*
*WEL **30** 17:35:57.3±0.8, 37.°S±4.°×17.°9E±.°, h12km, M4.2/25, ML4.4/25, MLv4.2/25, Error ellipse: s-maj=7.9km s-min=5.5km az=88.2, confirmed*
*NEIC **30** 17:36:00.3±2.2, 37.°24S±0.°09×178.°7E±0.°1, h23km±5km, mb4.5/18, Error ellipse: s-maj=14.1km s-min=12.3km az=120.0*

ISC 30 17:35:59.9±1.7, 37.°20S±0.°06×179.°06E±0.°07, h32km±10km, n183, σ1°79/181, mb4.3/12, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**238**			**Pb**		**17 36 12.5**	**-1.1**
MXZ	**Matakaoa Point**	**0.70**	**238**	P		**Pb**		**17 36 12.5**	**-1.1**
MXZ	**Matakaoa Point**	**0.70**	**238**	P		**Pb**		**17 36 12.6**	**-1.1**
MXZ				S		**Sb**		**17 36 22.4**	**-0.7**
WMGZ	**Waiomatatini S**	**0.81**	**219**	P		**Pn**		**17 36 16.3**	**+1.2**
WMGZ				S		**Sn**		**17 36 29.3**	**+3.4**
PKGZ	**Pakihiroa**	**1.03**	**229**	P		**Pb**		**17 36 18.9**	**-0.2**
PKGZ				S		**Sn**		**17 36 34.8**	**+3.3**
PUZ	**Puketiti**	**1.08**	**216**	P		**Pb**		**17 36 19.8**	**-0.3**
PUZ				S		**Sn**		**17 36 36.0**	**+3.2**
HAZ	**Te Kaha**	**1.16**	**241**	P		**Pn**		**17 36 19.5**	**-0.4**
HAZ				S		**Sb**		**17 36 38.0**	**+2.0**
TWGZ	**Tauwhareparae**	**1.30**	**221**	P		**Pb**		**17 36 22.9**	**-0.8**
TWGZ				S		**Sb**		**17 36 42.1**	**+2.0**
RUGZ	**Raukumara Rang**	**1.34**	**235**	P		**Pb**		**17 36 23.6**	**-0.9**
RUGZ				S		**Sb**		**17 36 42.5**	**+1.2**
CNGZ	**Carnagh Statio**	**1.45**	**207**	P		**Pb**		**17 36 25.3**	**-0.9**
WIZ	**White Island**	**1.53**	**257**	P		**Pn**		**17 36 25.1**	**+0.1**
TKGZ	**Te Karaka**	**1.57**	**217**	P		**Pn**		**17 36 26.1**	**+0.6**
MWZ	**Matawai**	**1.66**	**226**	P		**Pn**		**17 36 27.8**	**+0.9**
WHRZ	**Whale Island**	**1.78**	**248**	P		**Pn**		**17 36 29.8**	**+1.3**
RIGZ	**Rimuhau**	**1.82**	**214**	P		**Pn**		**17 36 29.7**	**+0.6**
RAGZ	**Rawiri**	**1.84**	**225**	P		**Pn**		**17 36 30.1**	**+0.8**
URZ	**Urewera**	**1.88**	**235**	Pn		**Pn**		**17 36 30.7**	**+1.0**
	56nm,0.3s,baz=345,slow=3.6,SNR=92								
URZ				Sn		**Sn**		**17 36 53.6**	**+1.3**
	127nm,0.3s,baz=304,slow=22,SNR=31								
	260nm,0.6s								
URZ	**Urewera**	**1.88**	**235**	P		**Pn**		**17 36 31.0**	**+1.3**
URZ	**Urewera**	**1.88**	**235**	P		**Pn**		**17 36 30.7**	**+1.0**
SNGZ	**Shannon Statio**	**2.09**	**220**	P		**Pn**		**17 36 33.2**	**+0.5**
KNZ	**Kokohu**	**2.13**	**211**	P		**Pn**		**17 36 32.9**	**-0.2**
RTZ	**Ruatahuna**	**2.17**	**229**			**Pn**		**17 36 34.2**	**+0.3**
RTZ	**Ruatahuna**	**2.17**	**229**	P		**Pn**		**17 36 31.9**	**-2.0**
MUGZ	**Murupara**	**2.22**	**234**	P		**Pn**		**17 36 35.3**	**+0.9**
TARZ	**Mount Tarawera**	**2.28**	**242**	P		**Pn**		**17 36 37.1**	**+1.7**
TGRZ	**Tauranga**	**2.29**	**256**	P		**Pn**		**17 36 35.9**	**+0.4**
RRRZ	**Republican Roa**	**2.32**	**240**	P		**Pn**		**17 36 37.8**	**+2.0**
OMRZ	**Omania**	**2.32**	**246**	P		**Pn**		**17 36 37.2**	**+1.3**
RAHZ	**Arahi**	**2.32**	**222**	P		**Pn**		**17 36 36.6**	**+0.7**
WHHZ	**Waihua**	**2.37**	**217**	P		**Pn**		**17 36 36.9**	**+0.4**
KARZ	**Kaharoa**	**2.38**	**249**	P		**Pn**		**17 36 37.7**	**+1.0**
HLRZ	**Highlands Stat**	**2.39**	**243**	P		**Pn**		**17 36 38.4**	**+1.5**
MTHZ	**Maungataniwha**	**2.41**	**226**	P		**Pn**		**17 36 38.0**	**+0.9**
NGRZ	**Ngongotaha**	**2.45**	**247**	P		**Pn**		**17 36 39.2**	**+1.5**
PRRZ	**Plateau Road**	**2.48**	**238**	P		**Pn**		**17 36 39.2**	**+1.1**
HSRZ	**Hossack Road**	**2.49**	**243**	P		**Pn**		**17 36 40.0**	**+1.8**
ALRZ	**Allen Road**	**2.55**	**237**	P		**Pn**		**17 36 39.7**	**+0.8**
NMHZ	**Naumai**	**2.60**	**222**	P		**Pn**		**17 36 40.4**	**+0.7**
GRRZ	**Galatos Road**	**2.61**	**243**	P		**Pn**		**17 36 41.3**	**+1.5**
ARHZ	**Aropaoanui**	**2.63**	**218**	P		**Pn**		**17 36 40.4**	**+0.3**
WPRZ	**Whakapapatarin**	**2.65**	**239**	P		**Pn**		**17 36 41.6**	**+1.2**
MRHZ	**Matea Rd**	**2.65**	**231**	P		**Pn**		**17 36 41.3**	**+0.8**
BKZ	**Black Stump Fm**	**2.82**	**225**			**Pn**		**17 36 42.6**	**-0.2**
BKZ	**Black Stump Fm**	**2.82**	**225**	P		**Pn**		**17 36 42.7**	**-0.1**
BKZ	**Black Stump Fm**	**2.82**	**225**	P		**Pn**		**17 36 42.9**	**+0.1**
WHTZ	**Whakaora**	**2.86**	**238**	P		**Pb**		**17 36 47.1**	**-3.1**
KUTZ	**Kaahu Road**	**2.87**	**242**	P		**Pn**		**17 36 45.0**	**+1.5**
TOZ	**Tahuroa Road**	**2.88**	**258**			**Pn**		**17 36 42.9**	**-0.7**
TOZ	**Tahuroa Road**	**2.88**	**258**	P		**Pn**		**17 36 43.2**	**-0.3**
CKHZ	**Cape Kidnapper**	**2.91**	**212**	P		**Pn**		**17 36 43.3**	**-0.7**
MCHZ	**McNeill Hill**	**2.92**	**219**	P		**Pn**		**17 36 44.2**	**+0.1**
TLZ	**Tolley Road**	**3.01**	**247**	P		**Pn**		**17 36 46.2**	**+0.8**
WATZ	**Wairara**	**3.03**	**239**	P		**Pn**		**17 36 47.1**	**+1.5**
KWHZ	**Kaweka Forest**	**3.04**	**222**	P		**Pn**		**17 36 45.5**	**-0.3**
GRZ	**Great Barrier**	**3.04**	**287**	P		**Pn**		**17 36 45.3**	**-0.5**
RITZ	**Rihia Road**	**3.09**	**234**	P		**Pn**		**17 36 45.0**	**-1.5**
KAHZ	**Kahuranaki**	**3.11**	**213**	P		**Pn**		**17 36 45.9**	**-0.8**
MKAZ	**Moumakai**	**3.12**	**270**	P		**Pn**		**17 36 46.1**	**-0.6**
WIAZ	**Waiheke Island**	**3.17**	**276**	P		**Pn**		**17 36 46.9**	**-0.6**
KATZ	**Kakaramea**	**3.19**	**235**	P		**Pn**		**17 36 50.4**	**+2.4**
KRHZ	**Kereru**	**3.23**	**220**	P		**Pn**		**17 36 47.7**	**-0.7**
TMVZ	**Te Maari**	**3.27**	**233**	P		**Pn**		**17 36 49.2**	**+0.2**
ETVZ	**East Tongariro**	**3.27**	**233**	P		**Pn**		**17 36 49.2**	**+0.1**
NTVZ	**North Tongarir**	**3.27**	**234**	P		**Pn**		**17 36 49.6**	**+0.5**
ETAZ	**East Tamaki Re**	**3.31**	**273**	P		**Pn**		**17 36 49.5**	**0.0**
OTVZ	**Oturere**	**3.32**	**233**	P		**Pn**		**17 36 49.8**	**+0.1**
NNVZ	**North Ngauruho**	**3.33**	**233**	P		**Pn**		**17 36 50.7**	**+0.7**
KBAZ	**Karaka Road Bo**	**3.33**	**270**	P		**Pn**		**17 36 50.2**	**+0.5**
WTVZ	**West Tongariro**	**3.34**	**234**	P		**Pn**		**17 36 50.7**	**+0.7**
SNVZ	**South Ngauruho**	**3.35**	**233**	P		**Pn**		**17 36 50.3**	**+0.1**
MBAZ	**Motutapu North**	**3.36**	**276**	P		**Pn**		**17 36 50.1**	**0.0**
NGZ	**Ngauruhoe**	**3.37**	**233**	P		**Pn**		**17 36 50.6**	**+0.2**
TUVZ	**Tukino**	**3.39**	**231**	P		**Pn**		**17 36 51.1**	**+0.5**
MOVZ	**Moawhango**	**3.41**	**229**	P		**Pn**		**17 36 50.8**	**-0.2**
COVZ	**Chateau Observ**	**3.42**	**233**	P		**Pn**		**17 36 51.4**	**+0.4**
ABAZ	**Army Bay**	**3.44**	**279**	P		**Pn**		**17 36 52.3**	**+1.0**
FWVZ	**Far West T-bar**	**3.44**	**232**	P		**Pn**		**17 36 52.1**	**+0.6**
WNVZ	**Wahianoa**	**3.46**	**231**	P		**Pn**		**17 36 51.6**	**-0.1**
EPAZ	**Eden Park BICE**	**3.47**	**274**	P		**Pn**		**17 36 52.9**	**+1.3**
HBAZ	**Herne Bay Bore**	**3.48**	**274**	P		**Pn**		**17 36 52.3**	**+0.5**
PNHZ	**Pukenui**	**3.52**	**219**	P		**Pn**		**17 36 50.9**	**-1.5**
WPHZ	**Waipukurau**	**3.52**	**215**	P		**Pn**		**17 36 51.1**	**-1.3**
AWAZ	**Awhitu Peninsu**	**3.53**	**271**	P		**Pn**		**17 36 52.6**	**+0.1**
AWAZ				S		**Sn**		**17 37 32.6**	**-0.6**
MTVZ	**Mangateitei**	**3.57**	**231**	P		**Pn**		**17 36 53.1**	**0.0**
HIZ	**Hauiti**	**3.58**	**247**			**Pn**		**17 36 54.4**	**+1.3**
HIZ	**Hauiti**	**3.58**	**247**	P		**Pn**		**17 36 54.5**	**+1.3**
HIZ	**Hauiti**	**3.58**	**247**	P		**Pn**		**17 36 54.8**	**+1.6**
PKVZ	**Pokaka**	**3.59**	**233**	P		**Pn**		**17 36 54.1**	**+0.6**
WTAZ	**Waiatarua**	**3.60**	**273**	P		**Pn**		**17 36 53.9**	**+0.4**
PRHZ	**Porangahau**	**3.60**	**211**	P		**Pn**		**17 36 51.9**	**-1.6**
RVAZ	**Riverhead Bore**	**3.61**	**275**	P		**Pn**		**17 36 53.7**	**+0.1**
TSZ	**Takapari Road**	**3.75**	**219**	P		**Pn**		**17 36 53.6**	**-1.9**
ANWZ	**Angora Road**	**3.83**	**211**	P		**Pn**		**17 36 55.0**	**-1.7**
DVHZ	**Dannevirke**	**3.84**	**215**	P		**Pn**		**17 36 54.5**	**-2.2**
VRZ	**Vera Road**	**3.90**	**239**	P		**Pn**		**17 36 58.8**	**+1.3**
WCZ	**Waipu Caves**	**4.00**	**287**	P		**Pn**		**17 36 59.0**	**+0.1**
WAZ	**Wanganui**	**4.09**	**230**	P		**Pn**		**17 37 00.5**	**+0.3**
POWZ	**Post Office Ro**	**4.10**	**218**	P		**Pn**		**17 36 58.7**	**-1.6**
BFZ	**Birch Farm**	**4.12**	**211**			**Pn**		**17 36 57.5**	**-3.0**
BFZ	**Birch Farm**	**4.12**	**211**	P		**Pn**		**17 36 58.3**	**-2.2**
PRWZ	**Pori Road**	**4.13**	**215**	P		**Pn**		**17 36 59.3**	**-1.5**
LREZ	**Lake Rotokare**	**4.30**	**237**	P		**Pn**		**17 37 04.9**	**+1.8**
CPWZ	**Castlepoint**	**4.33**	**210**	P		**Pn**		**17 37 01.6**	**-1.8**
TIWZ	**Tintock**	**4.35**	**214**	P		**Pn**		**17 37 01.8**	**-2.0**
MRZ	**Mangatainoka R**	**4.40**	**217**			**Pn**		**17 37 01.6**	**-2.8**
NEZ	**North Egmont**	**4.42**	**241**	P		**Pn**		**17 37 07.8**	**+2.9**
KHEZ	**Kahui Hut**	**4.49**	**241**	P		**Pn**		**17 37 09.0**	**+3.2**
OUZ	**Omahuta**	**4.84**	**292**	P		**Pn**		**17 37 10.3**	**-0.1**
OUZ	**Omahuta**	**4.84**	**292**	P		**Pn**		**17 37 10.8**	**+0.3**
MSWZ	**Moikau Station**	**5.15**	**214**	Pn		**Pn**		**17 37 11.0**	**-3.7**
PLWZ	**Palliser**	**5.27**	**213**	Pn		**Pn**		**17 37 12.8**	**-3.6**
BHW	**Baring Head**	**5.32**	**216**	Pn		**Pn**		**17 37 13.3**	**-3.7**
SNZO	**South Karori**	**5.32**	**218**	Pn		**Pn**		**17 37 13.6**	**-3.5**
SNZO	**South Karori**	**5.32**	**218**	P		**Pn**		**17 37 15.8**	**-1.2**
DUWZ	**D'Urville Isla**	**5.38**	**226**	P		**Pn**		**17 37 16.1**	**-1.8**
TCW	**Tory Channel**	**5.46**	**221**			**Pn**		**17 37 16.0**	**-3.1**
TUWZ	**Tuamarina**	**5.80**	**222**	Pn		**Pn**		**17 37 20.1**	**-3.5**
CMWZ	**Cape Campbell**	**5.89**	**218**	Pn		**Pn**		**17 37 22.2**	**-2.8**
NNZ	**Nelson**	**5.96**	**226**	Pn		**Pn**		**17 37 23.1**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.04**	**220**	Pn		**Pn**		**17 37 23.2**	**-3.8**
TKNZ	**Takaka Hill**	**6.10**	**229**	Pn		**Pn**		**17 37 24.1**	**-3.7**
QRZ	**Quartz Range**	**6.24**	**233**	Pn		**Pn**		**17 37 27.5**	**-2.3**
QRZ	**Quartz Range**	**6.24**	**233**	P		**Pn**		**17 37 28.5**	**-1.3**
QRZ	**Quartz Range**	**6.24**	**233**	P		**Pn**		**17 37 27.6**	**-2.2**
MRNZ	**Matariki Terra**	**6.44**	**227**	Pn		**Pn**		**17 37 29.7**	**-2.8**
THZ	**Tophouse**	**6.59**	**224**	Pn		**Pn**		**17 37 30.9**	**-3.6**
KHZ	**Kahutara**	**6.72**	**217**	Pn		**Pn**		**17 37 33.1**	**-3.2**
KHZ	**Kahutara**	**6.72**	**217**	P		**Pn**		**17 37 35.6**	**-0.7**
DSZ	**Dennistón Nort**	**7.22**	**229**	Pn		**Pn**		**17 37 40.2**	**-3.0**
CTZ	**Chatham Island**	**7.32**	**155**			**Pn**		**17 37 43.8**	**-0.7**
CTZ	**Chatham Island**	**7.32**	**155**	P		**Pn**		**17 37 44.4**	**-0.1**
GVZ	**Greta Valley S**	**7.38**	**217**	Pn		**Pn**		**17 37 42.5**	**-2.9**
LTZ	**Lake Taylor**	**7.63**	**221**	Pn		Pn		17 37 43.7	-5.1
INZ	**Inchbonnie**	**8.04**	**224**	Pn		**Pn**		**17 37 49.9**	**-4.5**
MQZ	**McQueen's Vall**	**8.13**	**215**	Pn		Pn		17 37 50.7	-5.0
OXZ	**Oxford**	**8.14**	**219**	Pn		Pn		17 37 51.0	-4.8
RPZ	**Rata Peaks**	**8.92**	**221**	Pn		**Pn**		**17 38 02.1**	**-4.4**
	0.6nm,0.3s,baz=57,slow=19,SNR=2.0								
RPZ				Sn		Sn		17 39 36.6	-9.3
	4.6nm,0.3s,baz=334,slow=22,SNR=15								
RPZ	**Rata Peaks**	**8.92**	**221**	P		**Pn**		**17 38 05.5**	**-1.0**
FOZ	**Fox Glacier**	**9.47**	**225**	Pn		Pn		17 38 08.8	-5.2
LBZ	**Lake Benmore**	**9.84**	**220**	Pn		Pn		17 38 14.1	-5.0
ODZ	**Otahua Downs**	**10.08**	**216**	Pn		Pn		17 38 17.4	-4.9
ODZ	**Otahua Downs**	**10.08**	**216**	P		**Pn**		**17 38 19.7**	**-2.7**
WKZ	**Wanaka**	**10.75**	**222**	Pn		Pn		17 38 26.4	-5.2
WHZ	**Wether Hill Ro**	**12.02**	**220**	Pn		**Pn**		**17 38 45.7**	**-3.2**
PINNC	**Pines Island,**	**17.66**	**322**			**P**		**17 40 04.5**	**+0.4**
PINNC				IAmb		IAmb		17 40 38.1	
	comp=Z,79nm,1.5s								
DZM	**Mont Dzumac**	**18.61**	**321**	P		**Pn**		**17 40 15.8**	**+0.7**
MSVF	**Nonsavu**	**19.41**	**357**	LR		LR		17 46 11.2	
	comp=Z,103nm,18.9s,baz=166,slow=32								
AFI	**Afiamalu**	**24.59**	**22**	P		**P**		**17 41 20.6**	**+3.4**
BBOO	**Buckleboo**	**35.27**	**264**	P		**P**		**17 42 49.5**	**-2.2**
COEN	**Coen**	**39.43**	**296**	P		**P**		**17 43 26.0**	**-1.2**
COEN				IAmb		IAmb		17 43 27.3	
	comp=Z,14nm,1.1s								
AS31	**Alice Springs**	**40.84**	**276**	P		**P**		**17 43 36.6**	**-2.2**
ASAR	**Alice Springs**	**40.84**	**276**	P		**P**		**17 43 36.9**	**-1.9**
ASAR	**Alice Springs**	**40.84**	**276**	P		**P**		**17 43 37.4**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=120,slow=8.0,SNR=83								
ASAR				PcP		**PcP**		**17 45 38.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=129,slow=4.1,SNR=1.5								
ASAR				ScP		**ScP**		**17 49 23.6**	**-2.9**
	comp=Z,0.3nm,0.7s,baz=99,slow=3.6,SNR=4.8								
ASAR				LR		LR		18 02 03.5	
	comp=Z,28nm,18.3s,baz=142,slow=38								
	comp=Z,2.2nm,0.5s								
WR8	**Warramunga Arr**	**42.31**	**281**	P		**P**		**17 43 49.1**	**-1.7**
WR8				IAmb		IAmb		17 43 55.0	
	comp=Z,5.0nm,1.0s								
FORT	**Forrest**	**42.35**	**263**	P		**P**		**17 43 49.1**	**-1.9**
FORT				IAmb		IAmb		17 44 27.4	
	comp=Z,16nm,1.1s								
WB2	**Warramunga Arr**	**42.44**	**281**	P		**P**		**17 43 49.8**	**-2.1**
WRA	**Warramunga Arr**	**42.45**	**281**	P		**P**		**17 43 49.4**	**-2.6**
WRA	**Warramunga Arr**	**42.45**	**281**	P		**P**		**17 43 50.2**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=122,slow=7.6,SNR=19								
WRA				PcP		**PcP**		**17 45 43.9**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=122,slow=3.1,SNR=4.3								
WRA				LR		LR		18 01 37.4	
	comp=Z,65nm,18.1s,baz=50,slow=36								
	comp=Z,2.2nm,0.6s								
WB0	**Warramunga Arr**	**42.50**	**282**	P		**P**		**17 43 50.2**	**-2.2**
WB0				IAmb		IAmb		17 43 51.2	
	comp=Z,5.5nm,0.8s								
KNRA	**Kununurra**	**49.23**	**282**	P		**P**		**17 44 43.5**	**-2.0**
KNRA				IAmb		IAmb		17 45 04.3	
	comp=Z,8.1nm,1.4s								
FITZ	**Fitzroy Crossi**	**50.32**	**277**	P		**P**		**17 44 52.2**	**-1.6**
MORW	**Morawa**	**52.55**	**259**	P		**P**		**17 45 08.6**	**-1.8**
MORW				IAmb		IAmb		17 45 47.0	
	comp=Z,20nm,1.4s								
QSPA	**South Pole Qui**	**52.93**	**180**	P		**P**		**17 45 14.9**	**+2.0**
QSPA				IAmb		IAmb		17 45 41.0	
	comp=Z,3.8nm,1.0s								
QSPA	**South Pole Qui**	**52.93**	**180**	P		**P**		**17 45 15.4**	**+2.6**
	comp=Z,2.6nm,0.9s,baz=40,slow=1.7,SNR=11								
	comp=Z,2.6nm,0.9s								
SMAI	**San Martin Ant**	**64.07**	**158**	P		**P**		**17 46 31.6**	**+1.4**
SNAA	**Sanae**	**71.43**	**179**	P		**P**		**17 47 20.1**	**+3.5**
SNAA				IAmb		IAmb		17 47 34.5	
	comp=Z,8.4nm,1.3s								
H03S2	**Juan Fernandez**	**78.74**	**124**	T		T		19 14 31.0	
	baz=230								
H03S1	**Juan Fernandez**	**78.75**	**124**	T		T		19 14 31.5	
	baz=230								
H03S3	**Juan Fernandez**	**78.76**	**124**	T		T		19 14 35.8	
	baz=230								
H03N3	**Juan Fernandez**	**78.97**	**124**	T		T		19 14 37.5	
	baz=234,slow=72,SNR=16								
H03N2	**Juan Fernandez**	**78.97**	**124**	T		T		19 14 41.3	
	baz=234,slow=72,SNR=11								
H03N1	**Juan Fernandez**	**78.99**	**124**	T		T		19 14 41.9	
	baz=234,slow=72,SNR=14								
PLCA	**Paso Flores**	**79.64**	**134**	P		**P**		**17 48 06.0**	**+1.7**
PLCA				IAmb		IAmb		17 48 33.5	
	comp=Z,4.2nm,1.5s								
PLCA	**Paso Flores**	**79.64**	**134**	P		**P**		**17 48 05.8**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=242,slow=7.4,SNR=5.5								
	comp=Z,1.1nm,0.8s								
KSAR	**Wonju Array Be**	**88.05**

LTHK	**Lithakia**	**0.35**	**9**	P		**Pg**	**18 11 27.9**	**+0.4**
LTHK				S		**Sg**	**18 11 32.0**	**-0.4**
KYPS	**Kipseli, Zakin**	**0.45**	**5**	P		**Pb**	**18 11 30.0**	**0.0**
KYPS				S		**Sg**	**18 11 35.6**	**0.0**
ORTH	**Orthonies,Zaky**	**0.49**	**353**	P		**Pg**	**18 11 30.4**	**+0.3**
ORTH				S		**Sg**	**18 11 36.6**	**-0.1**
CLEM	**Kyllini,Ilia,G**	**0.60**	**29**	P		**Pg**	**18 11 32.1**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.71**	**0**	P		**Pg**	**18 11 34.0**	**-0.2**
RTZL				S		**Sn**	**18 11 46.0**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.76**	**349**	P		**Pg**	**18 11 34.9**	**-0.3**
PSDA				S		**Sn**	**18 11 47.4**	**-0.3**
	555nm,0.2s							
PSDA	**Pessada-Kefalo**	**0.76**	**349**	P		**Pg**	**18 11 34.9**	**-0.3**
PSDA				S		**Sg**	**18 11 45.0**	**-0.2**
AMT	**Artemida-Makis**	**0.77**	**77**	P		**Pb**	**18 11 35.2**	**-0.1**
AMT				S		**Sg**	**18 11 44.9**	**-0.4**
VLS	**Valsamata**	**0.82**	**350**	P		**Pb**	**18 11 35.9**	**-0.4**
VLS				S		**Sn**	**18 11 49.7**	**+0.4**
	350nm,0.1s							
VLS	**Valsamata**	**0.82**	**350**	P		**Pb**	**18 11 36.0**	**-0.3**
VLS				S		**Sb**	**18 11 46.7**	**-0.5**
YRMI	**Loutra Irminis**	**0.87**	**32**	P		**Pb**	**18 11 36.5**	**-0.6**
RLS	**Riolos of Patr**	**0.89**	**38**	P		**Pb**	**18 11 37.3**	**-0.1**
RLS				S		**Sn**	**18 11 51.8**	**+1.0**
	135nm,0.5s							
RLS	**Riolos of Patr**	**0.89**	**38**	P		**Pb**	**18 11 37.1**	**-0.3**
RLS				S		**Sb**	**18 11 47.7**	**-1.2**
DMLN	**Damoulianata-K**	**0.93**	**340**	P		**Pn**	**18 11 38.9**	**+0.1**
ITM	**Ithomi**	**0.94**	**101**	P		**Pb**	**18 11 37.8**	**-0.5**
ITM				S		**Sn**	**18 11 53.2**	**+1.0**
ITM	**Ithomi**	**0.94**	**101**	P		**Pb**	**18 11 38.2**	**-0.2**
AXS	**Araxos**	**0.96**	**30**	P		**Pb**	**18 11 38.6**	**0.0**
FSK	**Fiskardo**	**1.10**	**352**	P		**Pb**	**18 11 41.2**	**0.0**
EVGI	**Lefkada island**	**1.26**	**356**	P		**Pb**	**18 11 43.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.29**	**58**	P		**Pn**	**18 11 43.8**	**0.0**
NYDR	**Nydri-Lefkada**	**1.35**	**358**	P		**Pn**	**18 11 45.0**	**+0.4**
GUR	**Goura**	**1.37**	**65**	P		**Pn**	**18 11 45.0**	**0.0**

SJA ***30*** *18:33:08.4±0.7,23°.92S×70°.69W,h5km±5km,ML4.7, MW4.7*

NEIC ***30*** *18:33:14.8±1.9,23°.96S±0°.03×70°.23W±0°.07,h50km±5km, mb4.9/59,Mwr4.5/33,Error ellipse: s-maj=9.6km s-min=4.9km az=93.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.02; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-3.29; $M_{r\theta}$0.83; $M_{\theta\phi}$-1.01; $M_{\phi r}$-5.29; Fault plane solution: $M_0$6.30000×10^{15} NP1:ϕ_s35.50000°,δ19.31000°, λ129.21000°. NP2:ϕ_s174.66000°,δ75.15000°,λ77.51000°. Principal axes: T 6.2744, Plg58.0000°, Azm68.0000°; N 0.0556, Plg12.0000°, Azm178.0000°; P -6.3300, Plg29.0000°, Azm275.0000°;*

IDC ***30*** *18:33:15.9±0.4,23°.93S×70°.00W,h50km±3km,mb3.9/12, mbtmp4.1/16,MS3.6/14 Error ellipse: s-maj=19.4km s-min=11.0km az=78.0*

NEIC ***30*** *18:33:15.6,23°.96S×70°.25W,h47km*

GUC ***30*** *18:33:15.9±0.7,23°.99S×70°.15W,h46km±4km,ML4.4*

VAO ***30*** *18:33:21.6±0.8,23°.61S×69°.61W,h79km±7km,mb4.6*

ISC 30 18:33:14.9±0.3,23°.95S±0°.03×70°.18W±0°.05,h52km±3km, n230,σ1§78/249,mb4.8/40,MS3.6/11,3C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.70**	**197**		**Pn**	**18 33 29.3**	**+0.2**
PB14					**Sn**	**18 33 39.4**	**0.0**
PB14	**IPOC Station P**	**0.70**	**197**	⇑ *i* P	**Pn**	**18 33 29.7**	**+0.6**
PB14				*i* S	**Sn**	**18 33 39.6**	**+0.3**
PB14				IAML		18 33 41.6
	comp=E,11μm,0.6s					
PB14	**IPOC Station P**	**0.70**	**197**	*e*P	Pn	18 33 24.2	-4.9
PB14				IAML		18 33 41.8
	comp=Z,16μm,0.7s					
PB05	**IPOC Station P**	**1.10**	**359**		**Pn**	**18 33 35.2**	**+1.1**
PB05	**IPOC Station P**	**1.10**	**359**	⇑ *i* P	**Pn**	**18 33 35.7**	**+1.6**
PB05				*i* S	**Sn**	**18 33 51.1**	**+2.8**
PB05				IAML		18 33 57.8
	comp=E,7μm,0.5s					
PB05	**IPOC Station P**	**1.10**	**359**	*e*P	**Pn**	**18 33 30.2**	**-3.9**
GO02	**Mina Guanaco**	**1.32**	**156**	Pn	**Pn**	**18 33 38.4**	**+1.1**
GO02				Sn	**Sn**	**18 33 54.8**	**+0.8**
GO02	**Mina Guanaco**	**1.32**	**156**	⇓ *i* P	**Pn**	**18 33 38.3**	**+1.0**
GO02				*e*S	**Sn**	**18 33 54.6**	**+0.6**
GO02				IAML		18 33 56.1
	comp=N,16μm,0.5s					
GO02	**Mina Guanaco**	**1.32**	**156**	*e*P	**Pn**	**18 33 38.3**	**+1.0**
GO02				*e*S	**Sn**	**18 33 55.7**	**+1.8**
PB06	**IPOC Station P**	**1.36**	**24**	*e*P	**Pn**	**18 33 39.3**	**+1.5**
PB06				*e*S	**Sn**	**18 33 56.6**	**+1.8**
PB06				IAML		18 34 02.0
	comp=N,11μm,0.4s					
PB06	**IPOC Station P**	**1.36**	**24**	*e*P	**Pn**	**18 33 38.6**	**+0.8**
PB06				*e*S	**Sn**	**18 33 58.3**	**+3.5**
PB06				IAML		18 34 03.0
	comp=Z,7μm,0.3s					
PB03	**IPOC Station P**	**1.94**	**12**	*i* P	**Pn**	**18 33 46.9**	**+1.3**
PB03				IAML		18 34 14.7
	comp=E,6μm,0.3s					
PB03	**IPOC Station P**	**1.94**	**12**	*e*P	**Pn**	**18 33 46.2**	**+0.6**
PB03				*e*S	**Sn**	**18 34 14.7**	**+5.8**
PB03				IAML		18 34 17.5
	comp=Z,5μm,0.2s					
AF01	**San Pedro de A**	**2.09**	**62**		**Pn**	**18 33 50.2**	**+2.4**
AF01	**San Pedro de A**	**2.09**	**62**	*e*P	**Pn**	**18 33 50.5**	**+2.7**
AF01				*i* S	**Sn**	**18 34 16.1**	**+3.2**
AF01				IAML		18 34 49.6
	comp=N,11μm,0.6s					
AF01	**San Pedro de A**	**2.09**	**62**	*e*P	Pn	18 33 38.8	-9.0
AF01				IAML		18 34 41.4
	comp=Z,7μm,0.4s					
AC01	**Pan de Azucar**	**2.22**	**190**	Pn	**Pn**	**18 33 49.2**	**-0.1**
AC01	**Pan de Azucar**	**2.22**	**190**	*i* P	**Pn**	**18 33 49.3**	**-0.1**
AC01				IAML		18 34 23.0
	comp=E,3μm,0.5s					
AC01	**Pan de Azucar**	**2.22**	**190**	*e*P	**Pn**	**18 33 48.7**	**-0.6**
AC01				IAML		18 34 20.5
	comp=Z,2μm,0.9s					
AC01				*e*S	**Sn**	**18 34 20.6**	**+5.0**
PB09	**IPOC Station P**	**2.31**	**22**		**Pn**	**18 33 52.8**	**+2.0**
PB09				Sn	**Sn**	**18 34 21.0**	**+2.8**
PB09	**IPOC Station P**	**2.31**	**22**	*i* P	**Pn**	**18 33 53.2**	**+2.4**
PB09				IAML		18 34 40.5
	comp=N,5μm,0.7s					
PB09	**IPOC Station P**	**2.31**	**22**	*e*P	**Pn**	**18 33 52.6**	**+1.8**
PB09				*e*S	Sn	18 34 26.2	+8.0
PB09				IAML		18 34 39.5
	comp=Z,4μm,0.5s					
PB01	**IPOC Station P**	**2.97**	**13**		**Pn**	**18 34 00.3**	**+0.7**
PB01				Sn	**Sn**	**18 34 35.9**	**+1.8**
PB01	**IPOC Station P**	**2.97**	**13**	⇑ *i* P	**Pn**	**18 34 01.0**	**+1.3**
PB01				IAML		18 34 46.4
	comp=E,4μm,0.3s					
PB01	**IPOC Station P**	**2.97**	**13**	*e*P	**Pn**	**18 34 00.3**	**+0.7**
PB01				*e*P		18 34 00.7
PB01				*e*S	**Sn**	**18 34 38.2**	**+4.1**
PB01				IAML		18 34 45.7
	comp=Z,1μm,0.2s					
AC02	**Maricunga**	**3.02**	**162**	Pn	**Pn**	**18 34 02.6**	**+1.8**
AC02	**Maricunga**	**3.02**	**162**	*e*P	**Pn**	**18 34 03.4**	**+2.6**
AC02	**Maricunga**	**3.02**	**162**	*e*P	**Pn**	**18 34 02.9**	**+2.1**
AC02				IAML		18 34 56.9
	comp=Z,1μm,1.0s					
PATCX	**Punta Patache**	**3.12**	**0**		**Pn**	**18 34 01.8**	**0.0**
PATCX	**Punta Patache**	**3.12**	**0**	*e*P	**Pn**	**18 34 01.8**	**0.0**
PATCX	**Punta Patache**	**3.12**	**0**	*e*P	**Pn**	**18 34 01.4**	**-0.3**
PATCX				*e*S	**Sn**	**18 34 43.2**	**+5.4**
PATCX				IAML		18 35 01.8
	comp=Z,2μm,1.2s					
TA01	**Diego Aracena**	**3.37**	**360**	Pn	**Pn**	**18 34 05.0**	**-0.1**
TA01	**Diego Aracena**	**3.37**	**360**	*e*P	**Pn**	**18 34 05.0**	**-0.1**
TA01	**Diego Aracena**	**3.37**	**360**	*e*P	**Pn**	**18 34 00.7**	**-4.4**
TA01				*e*P		18 34 04.7
TA01				*e*S	**Sn**	**18 34 50.7**	**+6.8**
TA01				IAML		18 34 58.3
	comp=Z,2μm,0.9s					
AC06	**Mina Casimiro**	**3.39**	**183**	Pn	**Pn**	**18 34 05.2**	**-0.2**
AC06	**Mina Casimiro**	**3.39**	**183**	*e*P	**Pn**	**18 34 05.2**	**-0.2**
GO03	**Copiapo**	**3.62**	**181**		**Pn**	**18 34 08.5**	**-0.2**
GO03	**Copiapo**	**3.62**	**181**	*e*P	**Pn**	**18 34 08.7**	**0.0**
GO03	**Copiapo**	**3.62**	**181**	*e*P	**Pn**	**18 34 08.9**	**+0.3**
GO03				*e*P		18 34 09.5
GO03				*e*S	**Sn**	**18 34 54.2**	**+4.0**
TA02	**Huaiquique**	**3.67**	**1**		**Pn**	**18 34 08.6**	**-0.6**
TA02	**Huaiquique**	**3.67**	**1**	*e*P	**Pn**	**18 34 08.9**	**-0.3**
HMBC	**Humberstone**	**3.67**	**4**		**Pn**	**18 34 09.3**	**0.0**
HMBC	**Humberstone**	**3.67**	**4**	*e*P	**Pn**	**18 34 09.5**	**+0.2**
HMBC	**Humberstone**	**3.67**	**4**	*e*P	**Pn**	**18 34 09.5**	**+0.2**
HMBC				*e*S	Sn	18 35 00.7	+9.3
HMBC				IAML		18 35 19.0
	comp=Z,2μm,0.7s					
PB08	**IPOC Station P**	**3.91**	**14**		**Pn**	**18 34 13.8**	**+0.9**
PB11	**IPOC Station P**	**4.20**	**7**		**Pn**	**18 34 16.3**	**-0.4**
PB11	**IPOC Station P**	**4.20**	**7**	*e*P	**Pn**	**18 34 15.8**	**-0.8**
PB11				*e*S	Sn	18 35 22.7	+18
PB11				IAML		18 35 33.0
	comp=Z,1μm,0.8s					
AC04	**Llanos de Chal**	**4.31**	**191**	Pn	**Pn**	**18 34 16.0**	**-1.9**
AC04	**Llanos de Chal**	**4.31**	**191**	*e*P	**Pn**	**18 34 15.8**	**-2.2**
AC04	**Llanos de Chal**	**4.31**	**191**	*e*P	**Pn**	**18 34 16.4**	**-1.5**
AC04				*e*S	Sn	18 35 18.7	+12
AC04				IAML		18 35 38.8
	comp=Z,558nm,1.4s					
AC05	**El Transito**	**4.86**	**181**		**Pn**	**18 34 25.4**	**-0.3**
AC05	**El Transito**	**4.86**	**181**	*e*P	**Pn**	**18 34 26.0**	**+0.3**
AC05	**El Transito**	**4.86**	**181**	*e*P	**Pn**	**18 34 26.2**	**+0.5**
AC05				*e*S	Sn	18 35 30.7	+10
AC05				IAML		18 35 52.2
	comp=Z,839nm,1.2s					
LCO	**Las Campanas**	**5.06**	**185**		**Pn**	**18 34 27.0**	**-1.5**
LCO	**Las Campanas**	**5.06**	**185**	*e*P	**Pn**	**18 34 27.2**	**-1.3**
LCO				*e*S	Sn	18 35 39.2	+13
LCO				IAML		18 35 54.3
	comp=Z,964nm,0.7s					
VCA	**Vinchina**	**5.08**	**160**	*e*P	**Pn**	**18 34 31.2**	**+2.5**
VCA				*e*S	Sn	18 35 36.2	+10
VCA				IAML		18 35 45.0
	comp=Z,295nm,1.1s					
PB12	**IPOC Station P**	**5.32**	**358**	Pn	**Pn**	**18 34 31.1**	**-0.8**
PB12	**IPOC Station P**	**5.32**	**358**	*e*P	**Pn**	**18 34 31.5**	**-0.4**
PB12				*e*S	Sn	18 35 46.2	+14
PB12				IAML		18 36 12.3
	comp=Z,311nm,1.2s					
AP01	**Chacalluta**	**5.56**	**358**	Pn	**Pn**	**18 34 33.9**	**-1.2**
PB16	**IPOC Station P**	**5.63**	**7**		**Pn**	**18 34 36.4**	**-0.2**
CO01	**Juntas del Tor**	**6.00**	**179**	Pn	**Pn**	**18 34 39.0**	**-2.4**
GO04	**Tololo Observa**	**6.22**	**185**		**Pn**	**18 34 43.0**	**-1.4**
PB18	**Visviri**	**6.37**	**6**		**Pn**	**18 34 46.2**	**-0.5**
CO06	**Fray Jorge**	**6.82**	**191**	Pn	**Pn**	**18 34 49.5**	**-2.9**
CO03	**El Pedregal**	**6.87**	**184**		**Pn**	**18 34 50.8**	**-2.4**
ZON	**Zonda**	**7.68**	**170**	Pn	**Pn**	**18 35 03.9**	**-0.3**
CFA	**Coronel Fontan**	**7.81**	**168**	P	**Pn**	**18 35 06.3**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=358,slow=14,SNR=18						
CFA				S	**Sn**	**18 36 36.1**	**+3.0**
	comp=Z,88nm,1.0s,baz=254,slow=21,SNR=9.7						
LPAZ	**La Paz**	**7.87**	**15**		**Pn**	**18 35 06.8**	**-0.5**
LPAZ	**La Paz**	**7.87**	**15**	P	**Pn**	**18 35 09.3**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=186,slow=2.6,SNR=17						
LPAZ				LR	LR	18 38 37.6
	comp=Z,325nm,21.9s,baz=206,slow=41						
LPAZ	**La Paz**	**7.87**	**15**	*e*P	**Pn**	**18 35 06.3**	**-1.0**
VA03	**San Esteban**	**8.78**	**182**		**Pn**	**18 35 18.7**	**-0.7**
VA01	**Torpederas**	**9.13**	**188**	Pn	**Pn**	**18 35 23.4**	**-0.6**
MT02	**Curacav**	**9.31**	**185**	Pn	**Pn**	**18 35 22.4**	**-4.0**
MT08	**Bocatoma Ro**	**9.46**	**179**	Pn	**Pn**	**18 35 27.9**	**-0.8**
MT03	**Universidad Ad**	**9.51**	**182**	Pn	**Pn**	**18 35 25.9**	**-3.5**
MT13	**San Alfonso**	**9.76**	**181**	Pn	**Pn**	**18 35 30.4**	**-2.3**
BO04	**La Punta**	**10.01**	**182**	Pn	**Pn**	**18 35 35.5**	**-0.4**
BO02	**Sierra Bellavi**	**10.81**	**183**	Pn	**Pn**	**18 35 46.7**	**-0.5**
SIV	**San Ignacio**	**11.66**	**49**	P	**Pn**	**18 35 57.2**	**-1.5**
	comp=Z,13nm,0.4s,baz=237,slow=11,SNR=24						
SIV				S	**Sn**	**18 38 00.5**	**-7.0**
	comp=Z,3.0nm,0.5s,baz=235,slow=13,SNR=3.4						
CPUP	**Villa Florida**	**11.88**	**104**	Pn	**Pn**	**18 36 02.5**	**+0.9**
CPUP	**Villa Florida**	**11.88**	**104**	P	**Pn**	**18 36 00.8**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=276,slow=12,SNR=3.7						
CPUP				LR	LR	18 41 40.7
	comp=Z,58nm,18.7s,baz=261,slow=43						
H03N1	**Juan Fernandez**	**12.16**	**217**	T	T	18 48 30.8
	baz=41,slow=72,SNR=2124						
H03N2	**Juan Fernandez**	**12.17**	**217**	T	T	18 48 35.1
	baz=41,slow=72,SNR=1446						
H03N3	**Juan Fernandez**	**12.18**	**217**	T	T	18 48 31.8
	baz=41,slow=72,SNR=1284						
BI02	**San Fabin de**	**12.70**	**184**	Pn	**Pn**	**18 36 10.3**	**-2.6**
BDQN	**Bodoquena, MS**	**12.92**	**77**	*e*P	**Pn**	**18 36 14.1**	**-1.8**
PTLB	**Pontes e Lacer**	**13.40**	**53**		**Pn**	**18 36 19.5**	**-3.0**
PTLB	**Pontes e Lacer**	**13.40**	**53**	*e*P	**Pn**	**18 36 19.5**	**-3.0**
AQDB	**Aquidauana**	**13.85**	**78**		**P**	**18 36 32.1**	**-3.3**
AQDB	**Aquidauana**	**13.85**	**78**	*e*P	**Pn**	**18 36 26.8**	**-1.8**
AMBA	**Amambai (Brazi**	**13.98**	**89**	*e*P	**Pn**	**18 36 29.5**	**-0.9**
RPRD	**Ribas do Rio P**	**15.65**	**80**	*e*P	**Pn**	**18 36 51.3**	**-0.8**
TRQA	**Tornquist**	**15.71**	**155**	P	**Pn**	**18 36 53.4**	**+0.5**
CPSB	**Cacapava Do Su**	**16.21**	**117**	*e*P	**P**	**18 37 00.8**	**-0.9**
LR05	**Currie**	**16.30**	**185**		**P**	**18 37 01.6**	**-0.9**
LR05				IAmb	IAmb	18 37 17.4
	comp=Z,71nm,0.9s					
CZSB	**Cruzeiro do Su**	**16.31**	**351**	P	**P**	**18 37 02.0**	**-0.8**
CZSB				IAmb	IAmb	18 37 25.5
	comp=Z,74nm,1.2s					
CZSB	**Cruzeiro do Su**	**16.31**	**351**	*e*P	**P**	**18 37 03.9**	**+1.0**
PTGB	**Pitanga**	**16.53**	**96**	*e*P	**P**	**18 37 05.0**	**-0.3**
ITAB	**Concordia**	**16.61**	**105**		**P**	**18 37 04.9**	**-1.1**
ITAB	**Concordia**	**16.61**	**105**	*e*P	**P**	**18 37 04.4**	**-1.6**
PLCA	**Paso Flores**	**16.73**	**181**	P	**P**	**18 37 09.1**	**+1.7**
PLCA	**Paso Flores**	**16.73**	**181**	P	**P**	**18 37 09.5**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=341,slow=15,SNR=3.2						
PLCA				PcP	**PcP**	**18 41 59.0**	**+6.7**
	comp=Z,1.7nm,1.0s,baz=12,slow=11,SNR=2.8						
PLCA				LR	LR	18 43 28.6
	comp=Z,201nm,21.6s,baz=352,slow=37						
PLCA	**Paso Flores**	**16.73**	**181**	*e*P	P	18 37 14.8	+7.3
C2SB	**Chapadao do Su**	**16.95**	**76**	*e*P	**P**	**18 37 08.3**	**-1.6**
LDASE	**Londrina, Braz**	**17.47**	**92**	*e*P	**Pn**	**18 37 13.0**	**-2.1**
PDRB	**Porto dos Gac**	**17.72**	**48**	*e*P	**Pn**	**18 37 14.6**	**-3.5**
CNLB	**Canela**	**18.08**	**111**	*e*P	**Pn**	**18 37 23.1**	**+0.7**
ITRB	**Iturama**	**18.88**	**81**	*e*P	**Pn**	**18 37 31.0**	**-1.2**
CLDB	**Colider**	**18.89**	**49**	*e*P	**P**	**18 37 30.1**	**-1.1**
BB19B	**Bebedouro**	**20.21**	**86**	*e*P	**P**	**18 37 44.4**	**-1.2**
TEFE	**Tefe**	**21.02**	**16**	*e*P	**P**	**18 37 53.8**	**-0.6**
VAO	**Valinhos**	**21.31**	**92**	P	**P**	**18 37 54.8**	**-2.8**
VAO				IAmb	IAmb	18 38 15.2
	comp=Z,35nm,0.8s					
VAO	**Valinhos**	**21.31**	**92**	*e*P	**P**	**18 37 56.3**	**-1.3**
IPMB	**Ipameri, GO**	**21.34**	**78**	*e*P	**P**	**18 37 53.7**	**-4.3**
SNDB	**Serra Nova Dou**	**21.52**	**60**	*e*P	**P**	**18 37 56.3**	**-3.5**
NPGB	**Novo Progresso**	**22.02**	**43**	*e*P	**P**	**18 38 03.5**	**-1.7**
BDFB	**Brasilia**	**22.41**	**72**	LR	LR	18 48 20.0
	comp=Z,99nm,18.4s,baz=267,slow=41						
MACA	**Manacapuru-AM**	**22.62**	**25**		**P**	**18 38 08.7**	**-2.8**
MACA				IAmb	IAmb	18 38 27.6
	comp=Z,36nm,0.9s					
MACA	**Manacapuru-AM**	**22.62**	**25**	*e*P	**P**	**18 38 10.5**	**-1.0**
ITTB	**Itaituba**	**23.94**	**38**	*e*P	**P**	**18 38 22.0**	**-2.4**
OTAV	**Otavalo**	**25.35**	**340**	*e*P	**P**	**18 38 40.9**	**+3.1**
JANB	**Januaria**	**25.90**	**75**	*e*P	**P**	**18 38 41.6**	**-0.8**
PRPB	**Parauapebas**	**26.37**	**51**	*e*P	**P**	**18 38 45.2**	**-1.4**
SDBA	**SAO DESIDERIO**	**26.57**	**69**	*e*P	**P**	**18 38 46.8**	**-1.6**
MAL2	**Monte Alegre,**	**26.74**	**38**	P	**P**	**18 38 48.2**	**-1.7**
BOAV	**Boa Vista**	**27.82**	**21**	P	**P**	**18 38 58.9**	**-0.6**
BOAV	**Boa Vista**	**27.82**	**21**	*e*P	**P**	**18 38 58.7**	**-0.9**
MG02	**Cerro Sombrero**	**28.79**	**179**	P	**P**	**18 39 06.9**	**-0.9**
ROSC	**El Rosal**	**28.90**	**351**	LR	LR	18 50 38.1
	comp=Z,89nm,18.8s,baz=239,slow=36						
RUSC	**La Rusia**	**29.80**	**354**	P	**P**	**18 39 15.7**	**-1.9**
RUSC				IAmb	IAmb	18 39 39.4
	comp=Z,16nm,0.9s					
BAUV	**El Baul**	**32.76**	**4**	P	**P**	**18 39 41.9**	**-1.3**
MDP	**Montagnes des**	**33.56**	**33**	LR	LR	18 54 20.8
	comp=Z,98nm,18.4s,baz=236,slow=38						
PCRV	**Puerto La Cruz**	**34.35**	**10**	LR	LR	18 54 30.0
	comp=Z,79nm,21.9s,slow=37						
JTS	**Las Juntas de**	**36.97**	**335**	LR	LR	18 53 40.8
	comp=Z,40nm,20.6s,baz=152,slow=33						
RCBR	**Riachuelo**	**37.55**	**67**	P	**P**	**18 40 24.2**	**-0.2**
RCBR				IAmb	IAmb	18 40 26.4
	comp=Z,16nm,0.9s					
RCBR	**Riachuelo**	**37.55**	**67**		**P**	**18 40 25.1**	**+0.6**
RCBR	**Riachuelo**	**37.55**	**67**	*e*P	**P**	**18 40 23.3**	**-1.2**
IGPR	**InterUniversit**	**41.85**	**6**	P	**P**	**18 40 58.7**	**-1.4**
OBIP	**Obispado Ponce**	**41.89**	**5**	P	**P**	**18 40 58.8**	**-1.5**
PDPR	**Patillas Dam,**	**41.91**	**6**	P	**P**	**18 40 58.9**	**-1.6**
CELP	**Cerrillos**	**41.92**	**5**		**P**	**18 40 59.0**	**-1.6**
SJG	**San Juan**	**41.99**	**6**	P	**P**	**18 40 59.3**	**-1.9**
DR12	**Loma Pena Alta**	**42.49**	**1**	P	**P**	**18 41 04.0**	**-1.3**
BELA	**Belgrano 2**	**56.50**	**172**	P	**P**	**18 42 51.8**	**+0.5**
X48A	**Hartselle**	**60.25**	**344**	P	**P**	**18 43 16.7**	**-1.2**
SNAA	**Sanae**	**60.36**	**160**	P	**P**	**18 43 18.4**	**+0.1**
SNAA				IAmb	IAmb	18 43 39.9
	comp=Z,12nm,1.2s						
SNAA	**Sanae**	**60.36**	**160**	P	**P**	**18 43 18.3**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=286,slow=8.3,SNR=7.8						
SNAA				pP	**pP**	**18 43 33.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=267,slow=14,SNR=2.1						
	comp=Z,4.1nm,0.9s						
V55A	**Taylorsville**	**60.39**	**350**	P	**P**	**18 43 19.6**	**+0.7**
V55A				IAmb	IAmb	18 43 35.3
	comp=Z,6.5nm,1.0s						
V53A	**Saluda**	**60.49**	**348**	P	**P**	**18 43 19.8**	**+0.2**
V53A				IAmb	IAmb	18 43 35.0
	comp=Z,8.4nm,1.3s						
W50A	**Signal Mountai**	**60.55**	**346**	P	**P**	**18 43 20.4**	**+0.3**
W50A				IAmb	IAmb	18 43 36.0
	comp=Z,8.7nm,0.9s						
DRIO	**Del Rio**	**60.60**	**330**	P	**P**	**18 43 18.7**	**-1.8**
CPCT	**Cooper Cave**	**60.62**	**347**	P	**P**	**18 43 19.5**	**-0.9**
CPCT				IAmb	IAmb	18 43 35.8
	comp=Z,11nm,1.2s						
TKL	**Tuckaleechee C**	**60.67**	**347**	P	**P**	**18 43 20.6**	**-0.1**
TKL				IAmb	IAmb	18 43 35.9
	comp=Z,12nm,1.2s						
TKL	**Tuckaleechee C**	**60.67**	**347**	LR	LR	19 12 02.2
	comp=Z,39nm,18.1s,baz=120,slow=38						
JCT	**Junction City**	**61.13**	**331**	P	**P**	**18 43 23.4**	**-0.7**
JCT				IAmb	IAmb	18 43 40.3
	comp=Z,7.5nm,0.8s						
U54A	**Nelsons Funny**	**61.15**	**349**	P	**P**	**18 43 23.5**	**-0.5**
U54A				IAmb	IAmb	18 43 25.6
	comp=Z,7.6nm,0.8s						
T57A	**Hurt**	**61.23**	**352**	P	**P**	**18 43 24.0**	**-0.5**
T57A				IAmb	IAmb	18 43 41.3
	comp=Z,12nm,1.3s						
V48A	**Smith Brothers**	**61.42**	**345**	P	**P**	**18 43 25.3**	**-0.6**
V48A				IAmb	IAmb	18 43 41.2
	comp=Z,11nm,1.1s						
TXAR	**Lajitas Array**	**62.00**	**327**	P	**P**	**18 43 32.4**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=151,slow=6.2,SNR=2.3						
TXAR				pP	**pP**	**18 43 45.3**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=124,slow=2.7,SNR=4.0						
	comp=Z,0.5nm,0.6s						
TX31	**Lajitas Ar. Si**	**62.00**	**327**	P	**P**	**18 43 28.7**	**-1.3**
R58B	**Mineral**	**62.01**	**353**	P	**P**	**18 43 30.1**	**+0.3**
R58B				IAmb	IAmb	18 43 52.2
	comp=Z,8.9nm,1.0s						
WVT	**Waverly**	**62.04**	**344**	P	**P**	**18 43 28.9**	**-1.2**
WVT				IAmb	IAmb	18 43 44.8
	comp=Z,13nm,1.1s						
PLPT	**Palo Pinto**	**62.51**	**333**	P	**P**	**18 43 32.0**	**-1.2**
PLPT				IAmb	IAmb	18 43 51.3
	comp=Z,9.8nm,0.9s						
WHAR	**Wooly Hollow**	**62.54**	**340**	P	**P**	**18 43 32.1**	**-1.2**
WHAR				IAmb	IAmb	18 43 49.1
	comp=Z,8.4nm,0.9s						
T47A	**Sharon Grove**	**62.68**	**345**	P	**P**	**18 43 32.9**	**-1.4**
Q56A	**Snyder Ridge,**	**63.23**	**352**	P	**P**	**18 43 37.5**	**-0.4**
Q56A				IAmb	IAmb	18 44 00.5
	comp=Z,17nm,1.

MVO	**Moncorvo**	87.29	42	*e*P		**P**	18 45 56.9	+0.7
ESDC	**Sonseca Array**	88.39	45	P		**P**	18 46 03.0	+1.5
	comp=Z,0.4nm,0.8s,baz=229,slow=4.9,SNR=3.2							
ESDC				pP		**pP**	18 46 17.4	+0.5
	comp=Z,0.5nm,0.8s,baz=232,slow=5.2,SNR=2.6							
ESDC				LR		LR	19 25 52.0	
	comp=Z,33nm,18.1s,baz=187,slow=36							
	comp=Z,0.4nm,0.8s							
LSZ	**Lusaka**	91.31	107	LR		LR	19 25 02.7	
	comp=Z,94nm,18.5s,baz=154,slow=34							
URZ	**Urewera**	91.67	227	LR		LR	19 18 58.2	
	comp=Z,50nm,20.6s,baz=288,slow=30							
YKA	**Yellowknife Ar**	93.11	341	P		**P**	18 46 23.8	+1.0
	comp=Z,0.8nm,0.8s,baz=143,slow=4.6,SNR=13							
YKA				pP		**pP**	18 46 38.0	0.0
	comp=Z,1.4nm,0.7s,baz=142,slow=4.3,SNR=14							
	comp=Z,0.8nm,0.8s							
DZM	**Mont Dzumac**	108.42	235	*e*LR		LR	19 23 23.7	
	comp=Z,58nm,31.5s							
KBZ	**Khabaz**	122.55	52	PKP		**PKiKP**	18 52 05.7	+0.9
	comp=Z,1.1nm,0.8s,baz=17,slow=2.7,SNR=4.1							
KBZ				pPKP		**pPKPdf**	18 52 20.6	-0.1
	comp=Z,2.1nm,0.9s,baz=231,slow=4.6,SNR=4.7							
H11S2	**WAKE ISLAND Hyl**	26.98	276	T		T	21 11 54.6	
	baz=107,slow=75,SNR=224							
H11S1	**WAKE ISLAND Hyl**	26.99	276	T		T	21 11 56.8	
	baz=107,slow=75,SNR=170							
H11S3	**WAKE ISLAND Hyl**	27.00	276	T		T	21 11 53.6	
	baz=107,slow=75,SNR=198							
H11N3	**WAKE ISLAND Hyl**	27.14	277	T		T	21 12 07.0	
	baz=106,slow=75,SNR=69							
H11N2	**WAKE ISLAND Hyl**	27.15	277	T		T	21 12 02.0	
	baz=106,slow=75,SNR=46							
H11N1	**WAKE ISLAND Hyl**	27.15	277	T		T	21 12 08.2	
	baz=106,slow=75,SNR=56							
ASAR	**Alice Springs**	127.20	208	PKP		**PKiKP**	18 52 14.9	+0.1
	comp=Z,0.5nm,0.7s,baz=146,slow=2.5,SNR=6.0							
ASAR				pPKP		**pPKPdf**	18 52 30.1	-0.2
	comp=Z,3.3nm,0.8s,baz=144,slow=2.3,SNR=21							
WRA	**Warramunga Arr**	130.25	211	PKP		**PKiKP**	18 52 23.5	+2.5
	comp=Z,0.6nm,0.5s,baz=159,slow=1.3,SNR=4.7							
WRA				pPKP		**pPKPdf**	18 52 35.9	-0.2
	comp=Z,3.3nm,0.9s,baz=161,slow=1.6,SNR=13							
SEY	**Seymchan**	131.86	335	PKP		**PKiKP**	18 52 23.1	+0.3
	comp=Z,1.2nm,0.8s,baz=110,slow=4.3,SNR=5.9							
AKTO	**Aktyubinsk**	132.23	43	PKP		**PKiKP**	18 52 24.1	+0.1
	comp=Z,0.4nm,0.3s,baz=73,slow=13,SNR=1.5							
BVAR	**Borovoye Array**	138.47	35	PKP		**PKPdf**	18 52 34.8	+0.3
	comp=Z,0.4nm,0.6s,baz=316,slow=4.0,SNR=2.3							
BVAR				pPKP		**pPKPdf**	18 52 51.2	+0.8
	comp=Z,1.5nm,0.8s,baz=306,slow=3.5,SNR=5.2							
KURBB	**Kurchatov Arra**	144.02	34	PKP		**PKPdf**	18 52 43.9	-0.6
	comp=Z,2.1nm,0.8s,baz=301,slow=3.3,SNR=17							
KURBB				pPKP		**pPKPdf**	18 52 59.3	-1.2
	comp=Z,4.4nm,0.8s,baz=300,slow=3.3,SNR=23							
ZALV	**Zalesovo Beam**	144.66	26	PKP		**PKPdf**	18 52 45.6	+0.1
	comp=Z,7.2nm,0.8s,baz=308,slow=4.9,SNR=27							
ZALV				pPKP		**pPKPdf**	18 53 01.1	-0.4
	comp=Z,14nm,0.8s,baz=306,slow=5.0,SNR=21							
MKAR	**Makanchi Array**	148.29	37	PKPbc		**PKiKP**	18 52 56.2	-0.8
	comp=Z,4.5nm,0.8s,baz=322,slow=2.2,SNR=35							
MKAR				pPKPbc		**pPKPbc**	18 53 11.1	-0.1
	comp=Z,11nm,0.8s,baz=336,slow=2.7,SNR=29							
LEM	**Lembang**	149.33	176	PKPbc		**PKiKP**	18 52 59.5	-0.8
	comp=Z,7.1nm,0.5s,baz=300,slow=20,SNR=1.5							
LEM				pPKPbc		**pPKPbc**	18 53 15.6	+0.6
	comp=Z,31nm,0.9s,baz=64,slow=2.6,SNR=4.5							
KLR	**Kul'dur**	149.45	331	PKPbc		**PKiKP**	18 52 59.2	-0.1
	comp=Z,0.5nm,0.5s,baz=358,slow=4.9,SNR=3.8							
KLR				pPKPbc		**pPKPbc**	18 53 14.1	+0.1
	comp=Z,0.7nm,0.5s,baz=27,slow=2.7,SNR=3.5							
KAPI	**Kappang**	149.62	200	PKPbc		**PKiKP**	18 53 00.4	-0.3
	comp=Z,2.6nm,0.4s,baz=190,slow=19,SNR=1.1							
KAPI				pPKPbc		**pPKPbc**	18 53 16.0	+0.5
	comp=Z,3.2nm,0.3s,baz=190,slow=3.8,SNR=1.9							
MJAR	**Matsushiro Arr**	152.56	304	PKPbc		**PKiKP**	18 53 06.9	+0.8
	comp=Z,0.6nm,0.9s,baz=146,slow=21,SNR=1.6							
SONM	**Songino Array**	156.01	6	PKP		**PKPdf**	18 53 05.5	+1.9
	comp=Z,0.2nm,0.5s,baz=330,slow=2.3,SNR=2.2							
SONM				PKPab		**PKPab**	18 53 30.9	+0.1
	comp=Z,0.8nm,0.8s,baz=0.8,slow=1.8,SNR=3.7							
SONM				pPKPab		**pPKPab**	18 53 47.6	+1.4
	comp=Z,1.6nm,0.9s,baz=336,slow=3.4,SNR=6.1							
CMAR	**Chiang Mai Arr**	168.48	116	PKPab		**PKPab**	18 54 25.2	-0.9
	comp=Z,0.6nm,0.3s,baz=214,slow=5.7,SNR=2.2							

*NEIC **30** 18:40:20.7±2.0, 36°.69N±0°.06×71°.38E±0°.09, h186km±7km, mb3.9/25, Error ellipse: s-maj=10.9km s-min=7.9km az=118.0*
*NNC **30** 18:40:23.9±1.9, 37°.01N×71°.40E, h184km±22km, mb3.1, mpv4.3, Error ellipse: s-maj=18.9km s-min=10.6km az=27.0*
*IDC **30** 18:40:23.8±5.0, 37°.04N×71°.33E, h187km±35km, mb3.2/10, mbtmp3.8/16, MS3.2/1, Error ellipse: s-maj=48.3km s-min=18.8km az=171.0*
ISC 30 18:40:20.8±0.5, 36°.68N±0°.05×71°.55E±0°.05, h200km, n101, σ1§12/116, mb3.8/20, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	2.51	338		**Pn**	18 41 02.9	-2.0
GAR				Sn	**Sn**	18 41 33.8	-5.7
CHGR	**Chuyangaron**	2.74	317	Pn	**Pn**	18 41 04.9	-2.6
DRK	**Karamyk**	2.81	4		**Pn**	18 41 07.7	-0.7
SIMJ	**Simiganj**	2.82	315		**Pn**	18 41 06.0	-2.4
SIMJ				Sn	**Sn**	18 41 41.2	-4.6
KBL	**Kabul**	2.95	224	Pn	**Pn**	18 41 07.5	-2.7
KBL				Sn	**Sn**	18 41 43.4	-5.2
NIL	**Nilore**	3.33	155		**Pn**	18 41 14.6	+0.1
BTK	**Batken**	3.42	351		**Pn**	18 41 15.2	-0.3
BTK				Sn	**Sn**	18 41 54.7	-3.9
SRNI	**Srinagar**	3.73	133	*e*P	**Pn**	18 41 19.9	+0.7
SRNI				*e*S	**Sn**	18 42 03.8	-1.2
SRNI				IAML		18 42 06.6	
	comp=N,857nm,0.2s						
SRNI				IAML		18 42 08.3	
	comp=E,684nm,0.2s						
KSH	**Kashi**	4.50	50	P	**Pn**	18 41 25.0	-3.9
KSH				S	Sn	18 42 12.5	-10
KSH				smax	smax		
	comp=E,540nm,0.6s						
KSH				smax	smax		
	comp=E,400nm,0.5s						
ARSB	**Arslanbob**	4.77	13		**Pn**	18 41 31.4	-1.0
JMU	**Jammu**	4.82	144	*e*P	**Pn**	18 41 31.5	-1.5
JMU				*e*S	**Sn**	18 42 24.9	-4.8
JMU				IAML		18 42 36.6	
	comp=E,171nm,0.4s						
JMU				IAML		18 42 41.0	
	comp=E,272nm,0.6s						
THN	**Thein Dam**	5.46	140	*e*P	**Pn**	18 41 41.1	0.0
THN				*e*S	**Sn**	18 42 42.0	-2.4
THN				IAML		18 42 49.3	
	comp=E,128nm,0.4s						
THN				IAML		18 42 55.6	
	comp=E,172nm,0.3s						
AML	**Almayashu**	5.69	16	P	**Pn**	18 41 43.8	-0.6
	SNR=259						
DHRM	**DHARAMSHALA**	5.91	137	*e*S	**Sn**	18 42 51.9	-3.5
DHRM				IAML		18 42 55.3	
	comp=E,214nm,0.4s						
DHRM				IAML		18 45 11.2	
	comp=E,159nm,0.3s						
UCH	**Uchtor**	6.00	22	P	**Pn**	18 41 48.3	-0.1
	SNR=5.7						
EKS2	**Erkin-Say**	6.22	15	P	**Pn**	18 41 50.5	-0.4
	SNR=16						
AAK	**Ala-Archa**	6.37	20	P	**Pn**	18 41 53.1	+0.1
	comp=E,16nm,0.3s,baz=176,slow=6.8,SNR=124						
AAK				S	**Sn**	18 43 01.1	-4.8
	comp=E,22nm,0.4s,baz=131,slow=19,SNR=18						
AAK	**Ala-Archa**	6.37	20	P	**Pn**	18 41 53.0	0.0
	SNR=37						
AAK	**Ala-Archa**	6.37	20	⇓P	**Pn**	18 41 52.8	-0.1
	comp=E,6.4nm,0.3s						
KK31	**Karatay Array**	6.47	353	Pn	**Pn**	18 41 53.3	-0.8
KK31	**Karatay Array**	6.47	353	⇓P	**Pn**	18 41 53.0	-1.0
	comp=E,19nm,0.2s,baz=175,slow=11,SNR=895						
KK31				S	**Sn**	18 43 01.9	-6.1
	comp=E,13nm,0.4s,baz=179,slow=21,SNR=12						
KKAR	**Karatay Array**	6.47	353	Pn	**Pn**	18 41 53.1	-0.9
KKAR	**Karatay Array**	6.47	353	Pn	**Pn**	18 41 53.2	-0.9
KBK	**Karagaybulak**	6.52	23	P	**Pn**	18 41 55.6	+0.7
	SNR=10						
FRU1	**Bishkek**	6.57	20		**Pn**	18 41 55.5	+0.1
BHK	**Bhakra**	6.62	141	*e*P	**Pn**	18 41 55.6	-0.6
BHK				*e*S	**Sn**	18 43 08.0	-3.8
BHK				IAML		18 43 13.7	
	comp=E,105nm,0.2s						
BHK				IAML		18 43 22.5	
	comp=E,95nm,0.2s						
BOOM	**Boomskoye usch**	6.72	29		**Pn**	18 41 57.3	-0.2
CHMS	**Chumysh**	6.78	20	P	**Pn**	18 41 57.7	-0.4
	SNR=12						
CHMS	**Chumysh**	6.78	20	⇑P	**Pn**	18 41 57.5	-0.6
	comp=E,7.1nm,0.5s						
CHMS				⇓S	**Sn**	18 43 12.5	-2.8
	comp=E,18nm,0.7s						
USP	**Ospenovka**	6.96	18	P	**Pn**	18 42 00.6	+0.1
	SNR=10						
TKM2	**Tokmak 2**	6.97	25	P	**Pn**	18 42 01.7	+0.9
	SNR=8.8						
TKM2	**Tokmak 2**	6.97	25	⇓P	**Pn**	18 42 00.5	-0.3
KDJ	**Kajisay**	6.97	37	Pn	**Pn**	18 42 00.6	-0.2
TARG	**Taragay, Kyrgy**	7.00	42		**Pn**	18 42 00.4	-1.0
SMLA	**Simla**	7.24	138	*e*S	**Sn**	18 43 23.7	-2.7
SMLA				IAML		18 43 25.1	
	comp=E,95nm,0.5s						
SMLA				IAML		18 45 44.0	
	comp=E,169nm,0.4s						
WUS	**Wushi**	7.49	51	Pn	**Pn**	18 42 07.2	-0.4
KLP	**Kalpa**	7.56	131	*e*P	**Pn**	18 42 08.5	-0.3
KLP				*e*S	**Sn**	18 43 32.5	-2.0
KLP				IAML		18 43 36.0	
	comp=E,110nm,0.5s						
KLP				IAML		18 43 36.1	
	comp=E,88nm,0.6s						
MDOK	**Medeo**	7.73	31	P	**Pn**	18 42 10.8	+0.2
	comp=E,7.3nm,0.6s						
PDGK	**Podgornoye**	9.01	40	⇓P	**Pn**	18 42 27.6	+0.4
JOSI	**Joshimath**	9.05	130	*e*P	**Pn**	18 42 27.7	-0.3
JOSI				*e*S	**Sn**	18 44 04.3	-5.2
JOSI				IAML		18 44 07.9	
	comp=N,60nm,0.3s						
JOSI				IAML		18 44 08.5	
	comp=E,70nm,0.5s						
AYAN	**Aya Nagar**	9.43	148	*e*P	**Pn**	18 42 31.6	-1.1
KUDL	**Kundal**	9.48	152	*e*P	**Pn**	18 42 31.7	-1.6
KUDL				*e*S	Sn	18 44 06.3	-13
KUDL				IAML		18 44 18.4	
	comp=N,8.1nm,0.2s						
KUDL				IAML		18 44 20.4	
	comp=E,18nm,0.5s						
PTH	**Pithoragarh**	10.16	132	*e*P	**Pn**	18 42 40.0	-2.4
PTH				*e*S	**Sn**	18 44 28.6	-7.5
PTH				IAML		18 44 33.0	
	comp=N,9.1nm,0.5s						
PTH				IAML		18 44 36.2	
	comp=E,12nm,0.3s						
LGTI	**Lohaghat**	10.26	132	*e*P	**Pn**	18 42 40.9	-2.4
LGTI				*e*S	Sn	18 44 28.7	-9.2
LGTI				IAML		18 44 32.9	
	comp=E,23nm,0.4s						
LGTI				IAML		18 44 38.8	
	comp=E,18nm,0.3s						
OTUK	**Ortayu**	11.57	3	⇑P	**Pn**	18 42 58.8	-1.4
	comp=E,3.9nm,0.8s						
MAKZ	**Makanchi**	12.76	34		**Pn**	18 43 15.1	-0.1
MK31	**Makanchi Array**	12.89	35	Pn	**Pn**	18 43 16.4	-0.5
MK31	**Makanchi Array**	12.89	35	⇑P	**Pn**	18 43 17.4	+0.6
	comp=E,0.6nm,0.5s,baz=216,slow=12,SNR=18						
MKAR	**Makanchi Array**	12.89	35	Pn	**Pn**	18 43 16.0	-0.8
MKAR	**Makanchi Array**	12.89	35	P	**Pn**	18 43 18.3	+1.4
	comp=E,1.2nm,0.7s,baz=225,slow=12,SNR=12						
WMQ	**Urumqi**	14.24	55	*e*P	**P**	18 43 35.0	-0.2
KURBB	**Kurchatov Arra**	14.82	18	P	**Pn**	18 43 39.5	-1.1
	comp=E,1.3nm,0.6s,baz=208,slow=11,SNR=20						
KURK	**Kurchatov**	14.93	18		**Pn**	18 43 39.5	-2.4
AB31	**Akbulak array**	15.15	330	Pn	**Pn**	18 43 42.4	-2.2
AB31				IAmb	IAmb	18 43 46.1	
	comp=Z,4.2nm,0.8s						
AB31	**Akbulak array**	15.15	330	⇑P	**Pn**	18 43 43.4	-1.2
	comp=Z,1.6nm,0.4s,baz=144,slow=11,SNR=114						
AB31				S	**S**	18 46 30.6	-2.0
	comp=Z,0.2nm,0.2s,baz=152,slow=24,SNR=5.9						
ABKAR	**Akbulak array**	15.15	330	P	**Pn**	18 43 42.0	-2.6
ABKAR	**Akbulak array**	15.15	330		**Pn**	18 43 42.0	-2.6
ABKAR				IAmb	IAmb	18 43 46.1	
	comp=Z,4.3nm,0.8s						
BVA0	**Borovoye Array**	16.37	358	P	**Pn**	18 43 59.1	-0.2
	comp=Z,0.1nm,0.3s,baz=157,slow=10.0,SNR=31						
BVAR	**Borovoye Array**	16.37	358	P	**Pn**	18 43 59.3	0.0
	comp=Z,2.2nm,0.4s,baz=156,slow=10,SNR=23						
BRVK	**Borovoye**	16.40	357	P	**P**	18 43 57.9	-1.0
BRVK				IAmb	IAmb	18 44 02.0	
	comp=Z,4.7nm,0.9s						
AKTO	**Aktyubinsk**	16.85	329	P	**Pn**	18 44 05.3	+0.2
	comp=Z,5.8nm,0.4s,baz=133,slow=8.2,SNR=10						
AKTO	**Aktyubinsk**	16.85	329	⇓P	**Pn**	18 44 05.2	+0.2
ZAA0	**Zalesovo Array**	19.57	24	P	**P**	18 44 33.2	-0.1
ZAA0				IAmb	IAmb	18 44 41.8	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	19.57	24	P	**P**	18 44 33.6	+0.2
ZALV	**Zalesovo Beam**	19.57	24	P	**P**	18 44 34.6	+1.2
	comp=Z,1.5nm,0.3s,baz=213,slow=10.0,SNR=12						
ARTI	**Arti**	21.62	340	P	**P**	18 44 54.3	-0.7
ARTI				IAmb	IAmb	18 45 03.0	
	comp=Z,2.7nm,0.9s						
KBZ	**Khabaz**	22.91	297	P	**P**	18 45 08.7	+1.6
	comp=Z,0.9nm,0.7s,baz=90,slow=5.7,SNR=3.2						
	comp=Z,0.9nm,0.7s						
LZH	**Lanzhou**	25.95	82	*e*P	**P**	18 45 36.3	+1.3
LZH				pP	pP	18 46 14.8	-1.6
LZH				pmax	pmax		
	comp=Z,12nm,0.8s						
PZH	**PanZhiHua**	27.55	103	P	**P**	18 45 52.5	+3.2
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
BRTR	**Keskin Array B**	29.80	288	P	**P**	18 46 11.3	+2.2
	comp=Z,0.5nm,0.6s,baz=86,slow=9.0,SNR=2.8						
BRTR				LR	LR	19 03 42.8	
	comp=Z,37nm,18.1s,baz=113,slow=47						
	comp=Z,0.5nm,0.6s						
HHC	**Hu-ho-hao-te**	31.29	70	*e*P	**P**	18 46 24.3	+2.1
AKASG	**Malin Array Be**	33.18	309	P	**P**	18 46 38.5	+0.2
	comp=Z,0.2nm,0.3s,baz=81,slow=7.2,SNR=6.6						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	33.18	309	P	**P**	18 46 38.7	+0.4
AKBB				IAmb	IAmb	18 47 16.6	
	comp=Z,7.1nm,1.4s						
KIEV	**Kiev**	33.19	309	P	**P**	18 46 38.6	+0.2
KIEV				IAmb	IAmb	18 47 16.6	
	comp=Z,6.4nm,1.4s						
ELL	**Elmali**	33.19	283	P	**P**	18 46 38.7	0.0
MLR	**Muntele Rosu**	35.08	299	P	**P**	18 46 57.1	+2.2
MLR				IAmb	IAmb	18 47 18.8	
	comp=Z,5.3nm,1.2s						
BURAR	**Bucovina Array**	35.56	303	P	**P**	18 46 59.2	+0.3
BUR08	**Bucovina Ar. S**	35.57	303	P	**P**	18 46 58.9	-0.2
FINES	**FINESS Array B**	37.58	326	P	**P**	18 47 15.8	+0.1
	comp=Z,2.0nm,1.0s,baz=126,slow=5.9,SNR=6.8						
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	41.15	337	P	**P**	18 47 47.1	+2.1
	comp=Z,1.7nm,0.8s,baz=108,slow=7.8,SNR=1.0						
	comp=Z,1.7nm,0.8s						
HFS	**Hagfors**	43.20	322	P	**P**	18 48 03.3	+1.7
	comp=Z,1.4nm,0.3s,baz=90,slow=12,SNR=14						
	comp=Z,1.4nm,0.3s						
PRED	**Cave del Predi**	43.58	302	P	**P**	18 48 05.5	+0.5
SABO	**M.te Sabotino**	43.63	301	P	**P**	18 48 05.2	-0.1
NC405	**NORSAR Array S**	44.27	323	P	**P**	18 48 11.6	+1.4
CIMO	**Cimolais**	44.37	302	P	**P**	18 48 11.3	0.0
NC303	**NORSAR Array S**	44.44	323	P	**P**	18 48 13.0	+1.4
NB201	**NORSAR Array S**	44.47	323	P	**P**	18 48 12.4	+0.7
NB2	**NORSAR Subarra**	44.50	323	P	**P**	18 48 13.3	+1.2
	comp=Z,0.3nm,0.4s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	44.50	323	P	**P**	18 48 13.1	+1.0
	comp=Z,0.5nm,0.5s,baz=106,slow=7.2,SNR=6.6						
	comp=Z,0.5nm,0.5s						
KLR	**Kul'dur**	44.69	54	P	**P**	18 48 17.4	+3.8
	comp=Z,0.9nm,0.7s,baz=148,slow=6.0,SNR=3.6						
	comp=Z,0.9nm,0.7s						
NBO00	**NORSAR Array S**	44.71	323	P	**P**	18 48 14.5	+0.7
FUORN	**Ofenpass-Fuorn**	45.80	303	P	**P**	18 48 24.3	+1.5
TUE	**Stuetta**	46.45	302	P	**P**	18 48 29.3	+1.5
MSSA	**Maissana**	46.78	300	P	**P**	18 48 31.4	+1.1
MSSA				IAmb	IAmb	18 49 15.5	
	comp=Z,6.6nm,1.1s						
SENIN	**Lac Senin/Sane**	47.86	303	P	**P**	18 48 40.0	+1.3
BNI	**Bardonecchia**	48.58	301	P	**P**	18 48 45.7	+1.6
BNI				IAmb	IAmb	18 49 27.6	
	comp=Z,5.1nm,1.4s						
SSB	**Saint Sauveur**	49.99	302	P	**P**	18 48 55.8	+1.1
SSB				IAmb	IAmb	18 49 30.0	
	comp=Z,3.1nm,1.1s						
ESDC	**Sonseca Array**	57.76	298	P	**P**	18 49 52.4	+1.4
	comp=Z,0.7nm,0.6s,baz=62,slow=7.9,SNR=8.2						
	comp=Z,0.7nm,0.6s						
B20K	**Meade River**	67.91	16	P	**P**	18 50 55.8	-1.5
TOLK	**Toolik Lake Re**	70.64	15	P	**P**	18 51 16.3	+2.2
TOLK				IAmb	IAmb	18 51 41.9	
	comp=Z,5.3nm,1.4s						
YKA	**Yellowknife Ar**	81.05	3	P	**P**	18 52 15.2	+2.2
	comp=Z,0.3nm,0.6s,baz=350,slow=5.4,SNR=5.5						
	comp=Z,0.3nm,0.6s						

*DJA **30** 18:45:38.8±0.4, 4°.S±3°×10°.2E±°, h35km±6km, M3.8/6, MLv3.8/6*
*IDC **30** 18:45:49.2±19.0, 4°.24S×101°.87E, h153km±179km, mb3.2/7, mbtmp3.6/7, Error ellipse: s-maj=142.6km s-min=19.9km az=58.0*
ISC 30 18:45:37.4±1.1, 4°.34S±0°.08×102°.32E±0°.08, h35km, n16, σ1§92/17, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	0.64	92	P	**Pn**	18 45 51.0	+1.0
MNAI				S	**Sn**	18 45 59.2	+0.3
KSI	**Kapahiang**	0.74	22	P	**Pn**	18 45 53.4	+2.0
KSI				S	**Sn**	18 46 01.6	+0.1
LWLI	**Liwa**	1.86	111	P	**Pn**	18 46 07.8	+0.9
LWLI				S	**Sn**	18 46 28.1	-1.2
MDSI	**Maura Dua**	1.86	94	P	**Pn**	18 46 07.1	+0.3
MDSI				S	**Sn**	18 46 28.9	-0.2
CGJI	**Cibinong**	4.05	124	P	**Pn**	18 46 37.6	+0.7
SISI	**Saibi**	4.40	313	P	**Pn**	18 46 43.5	+1.8
CMAR	**Chiang Mai Arr**	22.90	352	P	**P**	18 50 37.7	-0.6
	0.5nm,0.6s,baz=184,slow=7.0,SNR=5.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	36.02	125	P	**P**	18 52 39.4	+3.8
	0.4nm,0.3s,baz=301,slow=8.5,SNR=18						
	0.4nm,0.3s						
SONM	**Songino Array**	52.08	3	P	**P**	18 54 43.2	-0.8
	0.7nm,0.8s,baz=183,slow=9.1,SNR=3.2						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	53.91	343	P	**P**	18 54 55.8	-1.6
	0.4nm,0.5s,baz=153,slow=8.7,SNR=5.9						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	58.45	342	P	**P**	18 55 26.8	-2.9
	0.4nm,0.7s,baz=167,slow=7.3,SNR=3.8						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	59.90	348	P	**P**	18 55 37.7	-2.0
	0.7nm,0.5s,baz=166,slow=6.2,SNR=2.9						
	0.7nm,0.5s						
H04N2	**CROZET ISLANDS**	60.34	218	T	T	20 00 39.0	
	baz=62,slow=74						
H04N1	**CROZET ISLANDS**	60.36	218	T	T	20 00 24.9	
	baz=62,slow=74						
H04N3	**CROZET ISLANDS**	60.36	218	T	T	20 00 29.0	
	baz=62						
BVAR	**Borovoye Array**	63.17	339	P	**P**	18 55 58.6	-3.2
	0.4nm,0.5s,baz=134,slow=7.2,SNR=3.1						
	0.4nm,0.5s						

*NEIC **30** 19:15:30.4±1.4, 43°.69N±0°.04×105°.20W±0°.05, h0km±1km, ML3.1/32, Error ellipse: s-maj=8.9km s-min=3.3km az=45.0*
*IDC **30** 19:15:31.7±2.1, 43°.71N×105°.40W, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=52.4km s-min=10.1km az=150.0*
ISC 30 19:15:31.3±1.3, 43°.68N±0°.06×105°.23W±0°.07, h0km, n19, σ1§26/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	1.40	223	Pg	**Pg**	19 15 57.5	-0.6
LAO	**LASA Array**	3.09	347	Pn	**Pn**	19 16 21.4	+0.1
LAO				IAML		19 17 41.6	
	73nm,0.8s						
RLMT	**Red Lodge**	3.23	298	Pn	**Pn**	19 16 25.5	+2.0
RLMT				IAML		19 17 34.9	
	34nm,1.2s						
RLMT				IAML		19 18 22.1	
	32nm,3.5s						
PD31	**Pinedale Array**	3.29	255		**Pn**	19 16 26.0	+1.7
PDAR	**Pinedale

ARE1	Arenal 1	2.14 220	eP	Pn	19 22 47.7 +1.3
CVTV	Tajo	2.14 191	eP	Pn	19 22 44.7 -2.0
SOCE	Pocosol	2.14 217	eP	Pn	19 22 47.5 +1.1
VARE2	V. Arenal	2.14 220	eP	Pn	19 22 47.8 +1.3
TENO	El Achiote	2.14 229	eP	Pb	19 22 50.0 +0.7
VTLA	Turrialba Volc	2.14 192	eP	Pn	19 22 46.8 0.0
VTCV	VTCV, Calle Va	2.15 191	eP	Pn	19 22 46.6 -0.2
VICA	Volcano Irazu	2.18 194	eP	Pn	19 22 47.5 +0.2
VMAR	Armenia, Volca	2.18 234	eP	Pn	19 22 48.0 +1.0
PRVC	Isla de Provid	2.29 57	P	Pn	19 22 49.1 +0.6
PRVC			S	Sn	19 23 16.0 -1.1
PRVC	Isla de Provid	2.29 57	P	Pn	19 22 49.1 +0.6
PRVC			S	Sn	19 23 16.0 -1.1
HORNC	Hornillas	2.29 233	eP	Pn	19 22 49.8 +1.3
CUI	Cuipilapa	2.31 231	eP	Pn	19 22 49.6 +0.8
JTS	Las Juntas de	2.42 222	P	Pn	19 22 51.2 +1.0
JTS	Las Juntas de	2.42 222	eP	Pn	19 22 51.9 +1.6
JTS	Las Juntas de	2.42 222	P	Pn	19 22 51.2 +1.0
LCR2	La Lucha 2	2.45 196	eP	Pn	19 22 51.7 +0.8
PISJ	San Jernim	2.59 198	eP	Pn	19 22 54.2 +1.5
PICV	PH. Pirrs	2.62 199	eP	Pn	19 22 54.1 +1.1
DRK0	Durika	2.83 178	eP	Pn	19 22 55.6 -0.5
EDP2	Potrero Grande	3.08 177	eP	Pn	19 22 59.3 -0.1
FIMO	Fila Mora	3.10 181	eP	Pn	19 23 01.0 +1.2

MOS ***30*** *19:43:49.2±1.4, 52°.39N×160°.77E, h13km, mb4.7/18, Error ellipse: s-maj=6.6km s-min=3.6km az=103.4*
KRSC ***30*** *19:43:50.2±1.5, 52°.48N×160°.81E, h18km±19km, Ml4.6*
NEIC ***30*** *19:43:51.3±2.4, 52°.52N±0°.10×160°.58E±0°.04, h10km±1km, mb4.4/37, Error ellipse: s-maj=16.5km s-min=4.3km az=180.0*
IDC ***30*** *19:43:57.8±2.2, 52°.70N×160°.32E, h58km±19km, mb3.7/31, mbtmp4.0/36, ML4.0/4, MS3.4/19, Error ellipse: s-maj=15.9km s-min=11.3km az=148.0*
ISC 30 19:43:52.5±1.5, 52°.54N±0°.04×160°.61E±0°.04, h19km±8km, n222, σ1§45/220, mb4.3/66, MS3.5/14, 8C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.66	328	PN		Pg		19 44 05.5	0.0
SPN				S		Sg		19 44 14.4	+0.1
SPN	Mys Shipunski	0.66	328	*i* P		Pg		19 44 05.6	0.0
SPN				*eS*		Sg		19 44 14.4	+0.1
NLC	Nalytchevo	0.99	310	PN		Pg		19 44 10.8	-0.9
NLC	Nalytchevo	0.99	310	*eP*		Pg		19 44 10.8	-0.9
DALK	Dalny	1.23	294	PN		Pn		19 44 14.9	+0.3
DALK				S		Sb		19 44 32.2	+1.7
DALK	Dalny	1.23	294	*eP*		Pn		19 44 15.0	+0.3
DALK				*eS*		Sb		19 44 32.2	+1.7
UGLR	Uglovaya	1.27	302	PN		Pn		19 44 15.7	+0.3
UGLR	Uglovaya	1.27	302	*eP*		Pn		19 44 15.7	+0.3
SDLR	Sedlovina	1.28	306	PN		Pn		19 44 15.5	0.0
SDLR	Sedlovina	1.28	306	*eP*		Pn		19 44 15.5	0.0
PET	Petropavlovsk	1.28	293			Pn		19 44 15.9	+0.4
PET	Petropavlovsk	1.28	293	⇓*i* PN		Pn		19 44 15.8	+0.4
PET				*eS*		Sb		19 44 33.5	+1.4
PET				pmax	pmax				
	comp=Z,602nm,0.4s								
PET				smax	smax				
	comp=E,2μm,0.6s								
PET				smax	smax				
	comp=N,4μm,0.5s								
PET	Petropavlovsk	1.28	293	*i* P		Pn		19 44 15.8	+0.4
PET				*eS*		Sb		19 44 33.3	+1.3
RUS	Russkaya	1.28	266	PN		Pn		19 44 16.2	+0.8
RUS				S		Sn		19 44 34.3	+2.2
RUS	Russkaya	1.28	266	*eP*		Pn		19 44 16.2	+0.8
RUS				*eS*		Sn		19 44 34.3	+2.2
INSR	Institute	1.32	294	PN		Pn		19 44 16.3	+0.3
INSR				S		Sb		19 44 33.9	+0.6
INSR	Institute	1.32	294	*eP*		Pn		19 44 16.4	+0.3
INSR				*eS*		Sb		19 44 33.9	+0.6
AVH	Avacha	1.34	303	PN		Pn		19 44 16.8	+0.5
AVH	Avacha	1.34	303	*eP*		Pn		19 44 16.9	+0.5
KRER	Koryakskii	1.36	305	PN		Pn		19 44 17.0	+0.3
KRER	Koryakskii	1.36	305	*eP*		Pn		19 44 17.0	+0.3
KOK	Koryaka	1.41	303	PN		Pn		19 44 18.2	+0.9
KOK	Koryaka	1.41	303	*eP*		Pn		19 44 18.2	+0.9
KRX	Arik	1.44	305	PN		Pn		19 44 17.7	0.0
KRX	Arik	1.44	305	*eP*		Pn		19 44 17.8	0.0
KRMR	Karymshinskiy	1.53	282	PN		Pn		19 44 19.3	+0.4
KRMR				S		Sg		19 44 41.9	-0.1
KRMR	Karymshinskiy	1.53	282	*eP*		Pn		19 44 19.3	+0.4
KRMR				*eS*		Sg		19 44 42.0	-0.1
GRL	Gorelyy	1.55	271	PN		Pn		19 44 20.5	+1.3
GRL	Gorelyy	1.55	271	*eP*		Pn		19 44 20.5	+1.3
KII	Karymskiy	1.65	336	PN		Pn		19 44 21.3	+0.7
KII	Karymskiy	1.65	336	*eP*		Pn		19 44 21.3	+0.7
KDTR	Khodutka, Kamc	1.72	246	PN		Pn		19 44 22.3	+0.9
KDTR				S		Sn		19 44 43.7	+0.8
KDTR	Khodutka, Kamc	1.72	246	*eP*		Pn		19 44 22.4	+0.9
KDTR				*eS*		Sn		19 44 43.7	+0.8
PEA0B	Petropavlovsk-	1.85	289	Pn		Pn		19 44 24.2	+0.9
PEA0B	Petropavlovsk-	1.85	289	PN		Pn		19 44 24.8	+1.5
PETK	Petropavlovsk-	1.85	289	Pn		Pn		19 44 24.2	+0.9
PETK	Petropavlovsk-	1.85	289	P		Sb		19 44 24.5	+1.2
	comp=N,206nm,0.4s,baz=262,slow=10,SNR=339								
PETK				S		Sb		19 44 49.5	+0.9
	comp=N,191nm,0.5s,baz=118,slow=22,SNR=9.5								
PETK				LR		LR		19 45 18.9	
	comp=N,1μm,18.0s,baz=99,slow=50								
GNL	Ganaly	1.98	307	PN		Pn		19 44 26.9	+1.8
GNL	Ganaly	1.98	307	*eP*		Pn		19 44 26.9	+1.8
MKZ	Mys Kozlova	2.12	18	PN		Pn		19 44 26.8	-0.2
MKZ	Mys Kozlova	2.12	18	*eP*		Pn		19 44 26.8	-0.2
APC	Apacha	2.13	282	PN		Pn		19 44 29.6	+2.6
APC	Apacha	2.13	282	*eP*		Pn		19 44 29.7	+2.6
PAU	Pauzhetka	2.58	247	PN		Pn		19 44 35.2	+1.9
PAU	Pauzhetka	2.58	247	*eP*		Pn		19 44 35.2	+1.9
TUMD	Tumrok D	2.67	357	PN		Pn		19 44 35.4	+0.9
TUMD				S		Sn		19 45 09.1	+2.8
TUMD	Tumrok D	2.67	357	*eP*		Pn		19 44 35.4	+0.9
TUMD				*eS*		Sn		19 45 09.2	+2.8
KMNR	Kamenistaya	3.23	356	PN		Pn		19 44 44.5	+2.3
KMNR	Kamenistaya	3.23	356	*eP*		Pn		19 44 44.5	+2.3
SKR	Severo-Kuril's	3.36	238	PN		Pn		19 44 45.0	+1.0
SKR	Severo-Kuril's	3.36	238	*eP*		Pn		19 44 45.0	+1.0
BZGR	Bezymyannyi-Gr	3.40	1	PN		Pn		19 44 47.2	+2.5
BZGR	Bezymyannyi-Gr	3.40	1	*eP*		Pn		19 44 47.3	+2.5
KIRR	Kirishev	3.42	358	PN		Pn		19 44 47.4	+2.5
KIRR	Kirishev	3.42	358	*eP*		Pn		19 44 47.5	+2.5
BZWR	Bezymyannyi-We	3.43	359	PN		Pn		19 44 48.4	+3.3
BZWR	Bezymyannyi-We	3.43	359	*eP*		Pn		19 44 48.4	+3.3
KPT	Kopyto	3.44	356	PN		Pn		19 44 47.6	+2.5
KPT	Kopyto	3.44	356	*eP*		Pn		19 44 47.6	+2.5
ZLN	Zelenaya	3.48	2	PN		Pn		19 44 49.3	+3.6
ZLN	Zelenaya	3.48	2	*eP*		Pn		19 44 49.4	+3.6
KOZ	Kozyrevsk	3.55	353	PN		Pn		19 44 49.4	+2.9
KOZ	Kozyrevsk	3.55	353	*eP*		Pn		19 44 49.5	+2.9
ESO	Esso	3.57	342	PN		Pn		19 44 48.4	+1.6
ESO	Esso	3.57	342	*eP*		Pn		19 44 48.5	+1.6
CIRR	Tsirk	3.58	1	PN		Pn		19 44 50.3	+3.2
CIRR	Tsirk	3.58	1	*eP*		Pn		19 44 50.3	+3.2
KRSR	Krestovskiy	3.68	360	PN		Pn		19 44 51.2	+2.7
KRSR	Krestovskiy	3.68	360	*eP*		Pn		19 44 51.2	+2.7
KLY	Klyuchi	3.78	0	PN		Pn		19 44 52.2	+2.5
KLY	Klyuchi	3.78	0	*eP*		Pn		19 44 52.3	+2.5
SRDR	Sredinnyy	3.82	353	PN		Pn		19 44 52.2	+1.9
SRDR	Sredinnyy	3.82	353	*eP*		Pn		19 44 52.2	+1.9
KBTR	Krutoberegovo	3.89	19	PN		Pn		19 44 52.7	+1.4
KBTR	Krutoberegovo	3.89	19	*eP*		Pn		19 44 52.7	+1.4
KBG	Krutoberegovo	3.92	17	PN		Pn		19 44 53.5	+1.9
KBG	Krutoberegovo	3.92	17	*eP*		Pn		19 44 53.6	+1.9
BKI	Bering	4.15	48	PN		Pn		19 44 54.6	-0.1
BKI	Bering	4.15	48	*eP*		Pn		19 44 54.7	-0.1
SHEM	Shemya Is, Ala	8.21	83	P		Pn		19 45 51.5	+1.0
	comp=N,30nm,0.3s,baz=158,slow=8.3,SNR=7.0								
SHEM				LR		LR		19 48 54.8	
	comp=N,93nm,20.1s,baz=96,slow=36								
SMY	Shemya	8.21	83	Pn		Pn		19 45 51.5	+1.0
SMY	Shemya	8.21	83	PN		Pn		19 45 51.6	+1.0
MA2	Magadan	8.93	326	Pn		Pn		19 46 01.8	+1.4
MA2	Magadan	8.93	326	P		Pn		19 46 02.4	+2.0
	comp=N,0.3nm,0.3s,baz=180,slow=6.5,SNR=4.3								
MA2				LR		LR		19 49 55.7	
	comp=N,201nm,18.9s,baz=164,slow=41								
	comp=N,1,6nm,0.6s								
MA2	Magadan	8.93	326	*i* PN		Pn		19 46 02.2	+1.8
SEY	Seymchan	11.29	340	P		Pn		19 46 34.5	+1.8
	comp=N,0.3nm,0.4s,baz=111,slow=19,SNR=3.7								
JKA	Kamikawa-asahi	14.62	242			Pn		19 47 18.1	-0.1
ASAJ	Asahikawa	14.62	242	P		Pn		19 47 18.4	+0.2
	comp=N,0.3nm,0.3s,baz=75,slow=20,SNR=5.6								
ASAJ				LR		LR		19 52 46.2	
	comp=N,52nm,18.9s,baz=348,slow=36								
	comp=N,5.1nm,0.9s								
BILL	Billbino	15.79	8	*i* P		Pn		19 47 34.9	+1.4
KLR	Kul'dur	18.45	271	P		P		19 48 06.5	-0.4
	comp=N,0.2nm,0.3s,baz=70,slow=8.7,SNR=7.1								
KLR				LR		LR		19 55 37.7	
	comp=N,141nm,19.4s,baz=75,slow=38								
	comp=N,2.1nm,0.6s								
KLR	Kul'dur	18.45	271	*i* P		P		19 48 07.5	+0.7
YAK	Yakutsk	19.04	312			P		19 48 10.8	-2.3
YAK				IAmb		IAmb		19 48 13.1	
	comp=Z,18nm,0.9s								
YAK	Yakutsk	19.04	312	P		P		19 48 11.0	-2.1
	comp=Z,1.1nm,0.3s,baz=309,slow=1.7,SNR=9.7								
YAK				LR		LR		19 55 19.6	
	comp=Z,74nm,19.5s,baz=94,slow=36								
	comp=Z,14nm,0.7s								
YAK	Yakutsk	19.04	312	*eP*		P		19 48 11.6	-1.5
YAK				pmax	pmax				
	comp=Z,17nm,0.8s								
YAK				pmax	pmax				
	comp=N,2.0nm,0.8s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.0s								
ZEA	Zeya	19.95	287	*eP*		P		19 48 22.3	-0.9
USRK	Ussuriysk Ar.	20.65	258	P		P		19 48 29.5	-1.4
	comp=E,4.5nm,0.8s,baz=48,slow=14,SNR=4.8								
	comp=E,4.5nm,0.8s								
HEH	HeiHe	20.73	277	*eP*		P		19 48 31.5	-0.3
HEH				pmax	pmax				
	comp=Z,7.0nm,0.7s								
K15K	Wolf Creek Mou	22.27	49	P		P		19 48 47.3	-0.9
MJB9	Matsu-Tunnel	22.46	233	P		P		19 48 51.2	+0.8
MJB9				IAmb		IAmb		19 48 57.8	
	comp=Z,12nm,0.8s								
MAJO	Matsushiro	22.46	233	P		P		19 48 50.0	-0.4
MAJO				IAmb		IAmb		19 48 56.9	
	comp=Z,12nm,0.8s								
MAJO	Matsushiro	22.46	233	P		P		19 48 50.0	-0.4
MAJO				pmax	pmax				
	comp=Z,12nm,0.8s								
MJAR	Matsushiro Arr	22.46	233	P		P		19 48 52.0	+1.6
	comp=Z,3.3nm,0.6s,baz=21,slow=12,SNR=34								
MJAR				LR		LR		19 57 56.4	
	comp=Z,96nm,19.6s,baz=70,slow=37								
	comp=Z,3.3nm,0.6s								
MJAR	Matsushiro Arr	22.46	233	P		P		19 48 52.0	+1.6
C16K	Lisburne Hills	22.59	33	P		P		19 48 51.8	+0.4
BNX	BinXian	22.61	266	⇓P		P		19 48 50.3	-1.7
BNX				pmax	pmax				
	comp=Z,6.0nm,1.0s								
N15K	Kwethluk River	22.77	55	P		P		19 48 54.4	+0.9
N15K				IAmb		IAmb		19 49 37.9	
	comp=Z,10nm,1.2s								
F17K	Baldwin Pennin	23.35	39	P		P		19 49 00.1	+0.8
F17K				IAmb		IAmb		19 49 15.9	
	comp=Z,11nm,1.2s								
H17K	Granite Mounta	23.48	43	P		P		19 49 00.9	+0.2
H17K				IAmb		IAmb		19 49 04.8	
	comp=Z,16nm,1.5s								
J17K	VABM Dome	23.55	47	P		P		19 49 03.1	+1.7
J17K				IAmb		IAmb		19 49 28.1	
	comp=Z,9.5nm,1.3s								
TIXI	Tiksi	23.71	336	P		P		19 49 01.2	-1.6
TIXI				IAmb		IAmb		19 49 02.1	
	comp=Z,7.8nm,1.1s								
TIXI	Tiksi	23.71	336	LR		LR		19 59 01.3	
	comp=Z,77nm,20.3s,baz=179,slow=38								
TIXI	Tiksi	23.71	336	*ceP*		P		19 49 01.3	-1.6
TIXI				pmax	pmax				
	comp=Z,6.0nm,0.8s								
C18K	Utukok River	24.13	34	P		P		19 49 06.7	-0.3
J19K	Poorman	25.16	46	P		P		19 49 15.9	-0.3
HIA	Hailar	25.73	279	P		P		19 49 20.5	-1.1
HIA				IAmb		IAmb		19 49 28.8	
	comp=Z,4.6nm,0.7s								
HIA	Hailar	25.73	279	P		P		19 49 20.5	-1.1
HIA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
B20K	Meade River	25.97	32	P		P		19 49 23.6	+0.1
B20K				IAmb		IAmb		19 49 29.4	
	comp=Z,16nm,1.4s								
KDAK	Kodiak Island	26.80	60	P		P		19 49 32.0	+0.8
KDAK				IAmb		IAmb		19 50 01.4	
	comp=Z,7.8nm,1.2s								
KDAK	Kodiak Island	26.80	60	P		P		19 49 32.0	+0.8
KDAK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
KSRS	Korea Array	27.31	250	LR		LR		20 01 23.3	
	comp=Z,45nm,19.5s,baz=40,slow=38								
ILAR	Eielson Array	28.98	45	P		P		19 49 51.3	+0.8
	comp=Z,0.3nm,0.7s,baz=273,slow=7.2,SNR=2.9								
	comp=Z,0.3nm,0.7s								
BMAR	Burnt Mountain	29.97	39	P		P		19 49 59.6	+0.3
L27K	Beaver Creek,	31.34	48	P		P		19 50 12.0	+0.6
H11N2	WAKE ISLAND Hy	33.11	169	T		T		20 25 47.0	
	baz=353,slow=76,SNR=72								
H11N3	WAKE ISLAND Hy	33.13	169	T		T		20 25 49.8	
	baz=353,slow=76,SNR=55								
H11N1	WAKE ISLAND Hy	33.13	169	T		T		20 25 50.2	
	baz=353,slow=76,SNR=57								
ULN	Ulaanbaatar	33.93	284	*ceP*		P		19 50 32.9	-1.5
ULN				pmax	pmax				
	comp=Z,2.0nm,1.0s								
INK	Inuvik	34.12	37	P		P		19 50 36.1	+0.5
	comp=Z,0.4nm,0.4s,baz=310,slow=8.1,SNR=5.4								
	comp=Z,0.4nm,0.4s								
H11S1	WAKE ISLAND Hy	34.30	170	T		T		20 28 18.5	
	baz=352,slow=74								
H11S3	WAKE ISLAND Hy	34.31	170	T		T		20 28 19.3	
	baz=352,slow=74								
H11S2	WAKE ISLAND Hy	34.32	170	T		T		20 28 19.9	
	baz=352								
SONM	Songino Array	34.33	284	P		P		19 50 36.7	-1.2
	comp=Z,0.7nm,0.5s,baz=71,slow=6.4,SNR=6.6								
SONM				LR		LR		20 05 54.3	
	comp=Z,119nm,18.9s,baz=62,slow=39								
	comp=Z,0.7nm,0.5s								
TIA	Tai'an	34.50	259	P		P		19 50 41.5	+2.2
HHC	Hu-ho-hao-te	34.95	270	*eP*		P		19 50 43.0	-0.3
HHC				pmax	pmax				
	comp=Z,12nm,0.6s								
HHC				pmax	pmax				
	comp=Z,75nm,3.7s								
A36M	Sachs Harbour	36.44	30	P		P		19 50 57.3	+1.7
NRIK	Noril'sk	36.54	325	LR		LR		20 07 22.6	
	comp=Z,173nm,18.7s,baz=62,slow=39								
DLBC	Dease Lake	38.13	53	P		P		19 51 09.9	-0.1
	comp=Z,0.3nm,0.4s,baz=258,slow=9.3,SNR=1.8								
DLBC				LR		LR		20 08 03.3	
	comp=Z,45nm,19.0s,baz=294,slow=38								
	comp=Z,0.3nm,0.4s								
EUNU	Eureka	42.41	14	P		P		19 51 46.4	+1.1
EUNU				IAmb		IAmb		19 51 49.0	
	comp=Z,8.9nm,0.7s								
LZH	Lanzhou	42.65	271	*eP*		P		19 51 49.8	+1.9
LZH				pmax	pmax				
	comp=Z,18nm,1.3s								
ZALV	Zalesovo Beam	43.34	303	P		P		19 51 50.6	-2.4
	comp=Z,0.9nm,0.5s,baz=58,slow=5.9,SNR=6.5								
ZALV				LR		LR		20 11 04.5	
	comp=Z,53nm,18.1s,baz=346,slow=38								
	comp=Z,0.9nm,0.5s								
ZALV	Zalesovo Beam	43.34	303	*i* P		P		19 51 50.4	-2.6
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.8s								
YKA	Yellowknife Ar	43.36	42	P		P		19 51 53.9	+0.8
	comp=Z,0.2nm,0.4s,baz=297,slow=8.4,SNR=3.6								
	comp=Z,0.2nm,0.4s								
RES	Resolute Bay	43.72	22	LR		LR		20 10 51.0	
	comp=Z,18nm,18.1s,baz=22,slow=37								
NOR	Nord	46.09	359	*eP*		P		19 51 59.5	-15
SPITS	Spitsbergen Ar	47.73	351	P		P		19 52 27.1	-0.4
	comp=Z,4.7nm,0.4s,baz=61,slow=8.7,SNR=34								
	comp=Z,4.7nm,0.4s								
SPITS	Spitsbergen Ar	47.73	351	P		P		19 52 27.8	+0.3
SPITS				pmax	pmax				
	comp=Z,40nm,1.4s								
SPA2	Spitsbergen Ar	47.73	351	P		P		19 52 27.9	+0.4
SPA3	Spitsbergen Ar	47.73	351	P		P		19 52 27.8	+0.3
SPB4	Spitsbergen Ar	47.73	351	P		P		19 52 27.8	+0.3
SPB3	Spitsbergen Ar	47.73	351	P		P		19 52 27.8	+0.3
KURK	Kurchatov	48.29	303	P		P		19 52 29.9	-2.2
KURK	Kurchatov	48.29	303	*ceP*		P		19 52 30.2	-1.9
KURK				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KURBB	Kurchatov Arra	48.39	302	P		P		19 52 30.7	-2.2
	comp=Z,3.7nm,0.2s,baz=61,slow=7.8,SNR=12								
	comp=Z,3.7nm,0.2s								
MK31	Makanchi Array	48.67	296	P		P		19 52 33.4	-1.9
MK31	Makanchi Array	48.67	296	*ceP*		P		19 52 33.0	-2.2
MKAR	Makanchi Array	48.67	296	P		P		19 52 33.1	-2.1
	comp=Z,0.8nm,0.5s,baz=61,slow=7.5,SNR=14								
	comp=Z,0.8nm,0.5s								
MKAR	Makanchi Array	48.67	296	*i* P		P		19 52 33.0	-2.2
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NEEM	North Greenlan	48.78	9	*i* P		P		19 52 35.5	-0.4
TGY	Tagaytay City	49.62	234	LR		LR		20 15 28.6	
	comp=Z,18nm,19.4s,baz=134,slow=38								
PZH	PanZhiHua	50.62	263	P		P		19 52 52.0	+1.6
PZH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,100nm,4.8s								
BVAR	Borovoye Array	50.98	309	P		P		19 52 50.4	-2.2
	comp=Z,1.6nm,0.6s,baz=59,slow=8.2,SNR=12								
BVAR				LR		LR		20 19 01.0	
	comp=Z,41nm,18.0s,baz=31,slow=42								
	comp=Z,1.6nm,0.6s								
BRVK	Borovoye	51.00	309	P		P		19 52 51.4	-1.4
BRVK	Borovoye	51.00	309	P		P		19 52 51.4	-1.4
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ARCES	ARCESS Array B	53.91	342	P		P		19 53 12.6	-1.4
	comp=Z,3.7nm,0.7s,baz=43,slow=7.5,SNR=10								
	comp=Z,3.7nm,0.7s								
SUMG	Summit	54.47	7	P		P		19 53 18.8	+0.2
SUMG	Summit	54.47	7	P		P		19 53 18.8	+0.2
SUMG				pmax	pmax				
	comp=Z,9.0nm,1.0s								
SUMG	Summit	54.47	7	*i* P		P		19 53 18.0	-0.6
SUMG				IAmb		IAmb		19 53 20.2	
	comp=Z,5.1nm,0.9s								
BOOM	Boomskoye usch	54.91	296	P		P		19 53 20.2	-1.7
BOOM				IAmb		IAmb		19 53 35.9	
	comp=Z,5.0nm,1.4s								
BOOM	Boomskoye usch	54.91	296	P		P		19 53 20.3	-1.7
BOOM				pmax	pmax				
	comp=Z,5.0nm,1.4s								
AAK	Ala-Archa	55.60	297	P		P		19 53 25.1	-1.9
AAK				IAmb		IAmb		19 53 34.0	
	comp=Z,5.2nm,1.2s								
AAK	Ala-Archa	55.60	297	*ceP*		P		19 53 25.7	-1.2
AAK				pmax	pmax				
	comp=Z,4.0nm,1.5s								
NVAR	Mina Array Bea	55.64	70	P		P		19 53 27.7	+0.3
	comp=Z,0.5nm,0.6s,baz=330,slow=9.0,SNR=2.2								
	comp=Z,0.5nm,0.6s								
KKAR	Karatay Array	57.42	300	P		P		19 53 38.6	-1.1
KKAR	Karatay Array	57.42	300	P		P		19 53 38.6	-1.1
PDAR	Pinedale Array	57.52	61	P		P		19 53 41.4	+0.7
	comp=Z,0.4nm,0.7s,baz=316,slow=1.4,SNR=4.4								
	comp=Z,0.4nm,0.7s								
KLMR	Klimovskoe	57.58	330	*eP*		P		19 53 37.8	-2.7
KLMR				pmax	pmax				
	comp=Z,26nm,1.5s								
CMAR	Chiang Mai Arr	58.38	259	P		P		19 53 46.4	-0.2
	comp=Z,1.0nm,0.3s,baz=39,slow=6.5,SNR=5.6								
	comp=Z,1.0nm,0.3s								
ABKAR	Akbulak array	58.39	311	P		P		19 53 44.8	-1.6
ULM	Lac du Bonnet	58.97	47	P		P		19 53 50.8	+0.4
	comp=Z,0.7nm,0.5s,baz=69,slow=9.3,SNR=1.7								
	comp=Z,0.7nm,0.5s								
PFO	Pinyon Flats O	60.07	73	LR		LR		20 16 43.2	
	comp=Z,40nm,18.8s,baz=15,slow=33								
FINES	FINESS Array B	60.75	337	P		P		19 54 02.1	-0.2
	comp=Z,5.9

ASAR	**Alice Springs**	**79.39 205**	P	**P**		**19 55 58.5**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=15,slow=5.5,SNR=28						
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**79.39 205**	P	**P**		**19 55 57.7**	**+0.6**
FDMO	**Fiordimonte**	**80.75 336**	P	**P**		**19 56 04.9**	**+0.5**
FDMO			IAmb	IAmb		19 56 13.4	
	comp=Z,9.0nm,1.5s						
NRCA	**Norcia**	**80.94 336**	P	**P**		**19 56 05.9**	**+0.4**
NRCA			IAmb	IAmb		19 56 22.9	
	comp=Z,4.6nm,1.0s						
MMAI	**Mount Meron Ar**	**82.32 316**	P	**P**		**19 56 11.5**	**-1.4**
	comp=Z,11nm,0.9s,baz=40,slow=4.3,SNR=4.3						
	comp=Z,11nm,0.9s						
ITM	**Ithomi**	**83.68 328**	P	P		19 56 17.0	-2.9
RAFF	**Raffo Rosso**	**85.89 334**	P	**P**		**19 56 28.6**	**-2.4**
ESDC	**Sonseca Array**	**87.18 348**	P	**P**		**19 56 36.8**	**-0.5**
	comp=Z,1.4nm,1.1s,baz=4.9,slow=4.8,SNR=5.6						
	comp=Z,1.4nm,1.1s						

*LDG **30** 19:53:02.8±0.1, 44°.62N×6°.79E, h8km, MI1.3/1, Error ellipse: s-maj=2.7km s-min=1.2km az=83.0*

STR 30 19:53:03.2±0.5, 45°.N±3°×°±°, h5km, MLv0.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=81.2, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.11**	**345**	*e*Pg	Pg	19 53 06.2	+0.6
MBDF				*e*Sg	Sg	19 53 07.1	-0.1
SURF	**Saint Ours**	**0.14**	**180**	Pg	Pg	19 53 06.0	-0.1
SURF				Sg	Sg	19 53 08.6	+0.6
JAUF	**Jausiers**	**0.20**	**193**	Pg	Pg	19 53 06.8	-0.3
JAUF				Sg	Sg	19 53 10.0	+0.3
PZZ	**Stroppo**	**0.24**	**118**	Pg	Pg	19 53 08.0	0.0
PZZ	**Stroppo**	**0.24**	**118**	Sg	Sg	19 53 11.5	+0.2
RRL	**Rocca Remolon**	**0.30**	**357**	Pg	Pg	19 53 08.9	-0.2
RRL	**Rocca Remolon**	**0.30**	**357**	Sg	Sg	19 53 13.5	+0.3
SBF	**Sospel**	**0.88**	**149**	*e*Pg	Pg	19 53 19.8	-0.2
SBF				*e*Sg	Sg	19 53 31.5	+0.1
	1.1nm,0.3s						

*GCG **30** 19:59:34.7±1.5, 15°.23N×94°.40W, h38km±38km, MD4.2*
*MEX **30** 19:59:36.5±1.7, 15°.19N×94°.35W, h16km±18km, MD4.1*

ISC 30 19:59:30.1±1.4, 15°.36N±0°.06×94°.38W±0°.03, h14km±11km, n11, σ1°.07/22, 2C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.17**	**73**	*i* P	**Pg**	**19 59 55.0**	**+2.3**
PCIG				*i* S	**Sg**	**20 00 08.4**	**+0.5**
HUIG	**Huatulco**	**1.72**	**284**	*e*P	**Pg**	**20 00 03.7**	**+0.6**
HUIG				*e*S	**Sb**	**20 00 22.3**	**-0.5**
HUIG	**Huatulco**	**1.72**	**284**	*e*P	**Pg**	**20 00 03.3**	**+0.2**
HUIG				*e*S	**Sb**	**20 00 22.5**	**-0.4**
HUIG	**Huatulco**	**1.72**	**284**	*e*P		20 00 03.3	
HUIG				*e*S		20 00 22.5	
CMIG	**Matias Romero**	**1.79**	**344**	*e*P	**Pg**	**20 00 05.2**	**+0.6**
CMIG				*e*S	**Sb**	**20 00 25.8**	**+0.8**
TGIG		**1.86**	**40**	*i* P	**Pg**	**20 00 05.5**	**-0.3**
TGIG				*i* S	**Sg**	**20 00 29.9**	**-0.2**
TGIG		**1.86**	**40⇑**	*e*P	**Pg**	**20 00 05.4**	**-0.4**
TGIG				*e*S	**Sg**	**20 00 29.8**	**-0.2**
TGIG		**1.86**	**40⇑**	*e*P		20 00 05.4	
TGIG				*e*S		20 00 29.8	
PATR	**El Naranjo**	**2.08**	**96**	*i* P	**Pb**	**20 00 07.5**	**-0.3**
PATR				*i* S	**Sn**	**20 00 30.0**	**-0.7**
PAVE	**Pavencul**	**2.13**	**94**	*i* P	**Pb**	**20 00 08.6**	**0.0**
PAVE				*i* S	**Sn**	**20 00 32.0**	**+0.2**
CCIG	**Comitan**	**2.34**	**67**	*e*P	**Pg**	**20 00 13.9**	**-1.2**
CCIG				*e*S	**Sg**	**20 00 45.0**	**-0.6**
CCIG	**Comitan**	**2.34**	**67**	*e*P		20 00 13.9	
CCIG				*e*S		20 00 45.0	
NEUV	**Arroyo Zacate**	**2.71**	**330**	*e*P	**Pb**	**20 00 17.5**	**-0.9**
NEUV				*e*S	**Sn**	**20 00 46.9**	**+1.0**
STG8	**El Palmar, Qui**	**3.06**	**107**	*e*P		20 00 17.4	
STG8				*e*S		20 00 49.3	
STG0	**El Palmar, Qui**	**3.08**	**107**	*e*P		20 00 17.9	
STG0				*e*S		20 00 47.8	
TXIG	**Tlaxiaco**	**3.76**	**301**	*e*P	**Pb**	**20 00 34.8**	**-1.6**
TXIG				*e*S	**Sn**	**20 01 14.6**	**+2.4**

*TRN **30** 20:00:42.1, 10°.25N×62°.18W, h16km, MD3.8, Gulf of Paria.*
*FUNV **30** 20:00:42.6, 10°.06N×62°.31W, h6km, MW3.6*

ISC 30 20:00:40.6±1.5, 10°.13N±0°.07×62°.27W±0°.04, h25km±15km, n28, σ1°.72/47, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.90**	**53**	*e*P	**Pb**	**20 00 57.2**	**-0.4**
PSMG				*e*S	**Sb**	**20 01 08.5**	**-0.7**
PSGH	**Port of Spain**	**0.91**	**55**	*e*P	**Pn**	**20 00 57.5**	**-0.4**
PSGH				*e*S	**Sb**	**20 01 08.4**	**-1.1**
TRN	**Trinidad (W)**	**0.99**	**59**	*e*P	**Pn**	**20 00 58.6**	**-0.4**
TRN				*e*S	**Sb**	**20 01 11.1**	**-0.7**
TBH	**Brigand Hill**	**1.23**	**73**	*e*P	**Pn**	**20 01 03.7**	**+1.4**
TBH				*e*S	**Sn**	**20 01 19.5**	**+1.4**
TPR	**Prospect**	**1.80**	**54**	*e*P	**Pn**	**20 01 11.2**	**+1.1**
TPR				*e*S	**Sn**	**20 01 30.9**	**-1.3**
GRFF	**Grenada Fort F**	**1.98**	**15**	*e*P	**Pn**	**20 01 14.1**	**+1.6**
GRFF				*e*S	**Sn**	**20 01 36.6**	**+0.1**
GRGR	**Grenville**	**2.08**	**17**	*e*P	**Pn**	**20 01 14.2**	**+0.3**
GRGR				*e*S	**Sn**	**20 01 38.5**	**-0.6**
PCRV	**Puerto La Cruz**	**2.33**	**271**	*e*P	**Pn**	**20 01 20.0**	**+2.6**
PCRV				*e*S	**Sn**	**20 01 46.9**	**+1.5**
PCRV	**Puerto La Cruz**	**2.33**	**271**	*e*P	**Pn**	**20 01 20.8**	**+3.4**
PCRV				*e*S	**Sb**	**20 01 50.8**	**+0.3**
GCMP	**Grenada, Carri**	**2.48**	**19**	*e*P	**Pn**	**20 01 20.1**	**+0.6**
GCMP				*e*S	**Sn**	**20 01 49.7**	**+0.7**
SVOC	**Richmond Hill,**	**3.17**	**19**	*e*P	**Pn**	**20 01 30.4**	**+1.4**
SVT	**Saint Vincent**	**3.18**	**18**	*e*P	**Pn**	**20 01 29.6**	**+0.4**
SVT				*e*S	**Sn**	**20 02 04.3**	**-2.0**
SVB	**Belmont**	**3.28**	**18**	*e*P	**Pn**	**20 01 31.2**	**+0.8**
SVB				*e*S	**Sn**	**20 02 07.9**	**-0.8**
SSV	**Crater Summit**	**3.35**	**18**	*e*P	**Pn**	**20 01 32.5**	**+1.1**
SLAC	**Saint Lucia, A**	**3.98**	**20**	*e*P	**Pn**	**20 01 41.2**	**+1.1**
SLBI	**Saint Lucia, B**	**4.07**	**18**	*e*P	**Pn**	**20 01 41.8**	**+0.5**
SLBI				*e*S	**Sn**	**20 02 27.2**	**-1.0**
FUNV	**FUNVISIS**	**4.48**	**275**	*e*P	**Pn**	**20 01 49.6**	**+2.5**
FUNV				*e*S	**Sn**	**20 02 38.7**	**+0.2**
BIM	**Bigot**	**4.51**	**15**	*e*P	**Pn**	**20 01 48.8**	**+1.3**
TACV	**Tcata**	**4.69**	**270**	*e*P	**Pn**	**20 01 51.8**	**+1.9**
TACV				*e*S	**Sn**	**20 02 43.2**	**-0.3**
SVN	**Savane Anatole**	**4.80**	**13**	*e*P	**Pn**	**20 01 52.4**	**+1.0**
CACV	**CAICARA DEL OR**	**4.93**	**239**	*e*P	Pn	20 01 48.5	-4.7
CACV				*e*S	Sn	20 02 38.5	-11
BENV	**Beln**	**5.25**	**269**	*e*P	**Pn**	**20 02 00.0**	**+2.3**
BENV				*e*S	**Sn**	**20 02 56.2**	**-1.3**
BAUV	**El Baul**	**5.82**	**259**	*e*P	**Pn**	**20 02 06.1**	**+0.7**
BAUV				*e*S	**Sn**	**20 03 08.9**	**-2.5**
MAPV	**Macapo**	**6.11**	**268**	*e*P	**Pn**	**20 02 11.1**	**+1.7**
MAPV				*e*S	**Sn**	**20 03 15.7**	**-2.8**
TEPV	**Terepaima**	**6.82**	**269**	*e*P	**Pn**	**20 02 20.4**	**+1.2**
TEPV				*e*S	**Sn**	**20 03 32.9**	**-3.2**
ANBD	**Bethesda, Anti**	**6.89**	**4**	*e*P	**Pn**	**20 02 22.0**	**+1.9**
ANWB	**Willy Bob**	**7.51**	**4**	*e*P	**Pn**	**20 02 30.4**	**+1.9**
SOCV	**Socops**	**8.68**	**258**	*e*P	**Pn**	**20 02 45.3**	**+0.6**
SOCV				*e*S	**Sn**	**20 04 16.7**	**-5.1**

*IDC **30** 20:08:35.2±0.9, 28°.86N×105°.39E, h0km, mb3.7/10, mbtmp3.7/11, ML3.3/1, Error ellipse: s-maj=38.9km s-min=17.0km az=60.0*

ISC 30 20:08:40.3±1.2, 28°.9N±0°.2×105°.4E±0°.2, h35km, n11, σ0°.49/11, mb3.7/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.93**	**2**	P	**P**	**20 12 57.6**	**-0.7**
	0.1nm,0.3s,baz=195,slow=11,SNR=4.0						
	0.3nm,0.5s						
KSRS	**Korea Array**	**20.65**	**60**	P	**P**	**20 13 17.6**	**+0.6**
	1.4nm,0.8s,baz=246,slow=10,SNR=5.2						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**25.40**	**321**	P	**P**	**20 14 05.2**	**+0.8**
	0.4nm,0.5s,baz=127,slow=11,SNR=5.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**29.20**	**335**	P	**P**	**20 14 38.4**	**0.0**
	0.7nm,0.6s,baz=151,slow=9.0,SNR=3.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**29.69**	**324**	P	**P**	**20 14 42.8**	**+0.1**
	0.7nm,0.2s,baz=126,slow=10,SNR=1.6						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**35.23**	**323**	P	**P**	**20 15 31.2**	**0.0**
	0.2nm,0.3s,baz=149,slow=8.4,SNR=2.2						
	0.2nm,0.3s						
NRIK	**Noril'sk**	**41.79**	**351**	P	**P**	**20 16 26.4**	**+0.3**
	1.0nm,0.3s,baz=130,slow=6.2,SNR=3.6						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**56.01**	**147**	P	**P**	**20 18 15.4**	**-0.3**
	0.6nm,0.8s,baz=335,slow=7.7,SNR=7.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**59.02**	**149**	P	**P**	**20 18 37.0**	**+0.2**
	0.6nm,0.5s,baz=330,slow=7.0,SNR=16						
	0.6nm,0.5s						
ARCES	**ARCESS Array B**	**59.74**	**336**	P	**P**	**20 18 41.3**	**+0.1**
	4.7nm,0.9s,baz=83,slow=9.2,SNR=2.2						
	4.7nm,0.9s						
YKA	**Yellowknife Ar**	**83.46**	**17**	P	**P**	**20 21 03.5**	**-0.6**
	0.2nm,0.6s,baz=327,slow=5.1,SNR=6.1						
	0.2nm,0.6s						

*IDC **30** 20:18:04.1±1.9, 42°.70N×104°.95W, h0km, mb2.6/1, mbtmp3.0/4, ML3.0/3, Error ellipse: s-maj=34.2km s-min=11.5km az=158.0*
*NEIC **30** 20:18:08.6±1.6, 43°.75N±0°.05×105°.25W±0°.06, h0km±1km, ML3.2/42, Error ellipse: s-maj=9.9km s-min=7.4km az=148.0*

ISC 30 20:18:10.3±1.2, 43°.70N±0°.06×105°.25W±0°.09, h0km, n28, σ1°.39/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.40**	**222**		**Pg**	**20 18 35.1**	**-2.0**
LAO	**LASA Array**	**3.07**	**347**		**Pn**	**20 19 00.8**	**+0.7**
LAO				IAML		20 19 58.4	
	80nm,1.0s						
LAO				IAML		20 20 12.1	
	84nm,1.0s						
RLMT	**Red Lodge**	**3.21**	**298**	Pn	**Pn**	**20 19 01.9**	**-0.3**
PD31	**Pinedale Array**	**3.29**	**255**	Pn	**Pn**	**20 19 03.3**	**+0.1**
PDAR	**Pinedale Array**	**3.29**	**255**	Pn	**Pn**	**20 19 02.8**	**-0.4**
	1.0nm,0.3s,baz=70,slow=15,SNR=27						
PDAR				Lg	Lg	20 19 48.0	
	0.9nm,0.3s,baz=85,slow=8.6,SNR=4.1						
	1.5nm,0.4s						
YNE	**Yellowstone No**	**3.66**	**293**		**Pn**	**20 19 08.0**	**-0.4**
YNE				IAML		20 20 09.1	
	comp=N,38nm,1.0s						
YNE				IAML		20 20 18.4	
	comp=E,29nm,0.8s						
YMP	**Mirror Lake Pl**	**3.68**	**288**	Pn	**Pn**	**20 19 08.2**	**-0.5**
YMP				IAML		20 20 11.7	
	comp=E,50nm,0.8s						
YMP				IAML		20 20 15.4	
	comp=N,53nm,1.0s						
LOHW	**Long Hollow**	**3.89**	**271**	Pn	**Pn**	**20 19 12.0**	**+0.5**
LOHW				IAML		20 20 28.7	
	comp=N,20nm,0.9s						
ISCO	**Idaho Springs**	**3.91**	**184**	Pn	**Pn**	**20 19 13.2**	**+1.4**
ISCO				IAML		20 20 19.4	
	comp=N,30nm,1.1s						
SNOW	**Snow King Moun**	**4.01**	**269**	Pn	**Pn**	**20 19 13.3**	**+0.2**
TPAW	**Teton Pass**	**4.15**	**269**	Pn	**Pn**	**20 19 14.7**	**-0.5**
TPAW				IAML		20 20 31.7	
	comp=N,18nm,0.9s						
TPAW				IAML		20 20 49.6	
	comp=N,31nm,1.1s						
FXWY	**Fox Creek**	**4.19**	**271**		**Pn**	**20 19 15.6**	**-0.1**
O20A	**White River Ci**	**4.20**	**213**	Pn	**Pn**	**20 19 15.7**	**-0.1**
AHID	**Auburn Hatcher**	**4.38**	**260**	Pn	**Pn**	**20 19 19.8**	**+1.6**
YHL	**Hebgen Lake**	**4.42**	**287**	Pn	**Pn**	**20 19 19.8**	**+1.0**
YHL				IAML		20 20 34.2	
	comp=N,20nm,1.5s						
YHL				IAML		20 20 44.8	
	comp=E,20nm,1.3s						
DGMT	**Dagmar**	**4.83**	**8**	Pn	**Pn**	**20 19 23.2**	**-1.0**
BOZ	**Bozeman (W)**	**4.93**	**295**	Pn	**Pn**	**20 19 24.8**	**-1.0**
BOZ				IAML		20 20 45.7	
	comp=E,10nm,1.6s						
HWUT	**Hardware Ranch**	**5.11**	**248**	Pn	**Pn**	**20 19 28.2**	**0.0**
BSUT	**Blindstream Ca**	**5.18**	**234**	Pn	**Pn**	**20 19 29.2**	**-0.2**
BSUT				IAML		20 21 00.5	
	comp=N,9.9nm,1.2s						
BSUT				IAML		20 21 02.1	
	comp=E,12nm,1.0s						
PV23	**Carpenter Ridg**	**5.96**	**210**	Pn	**Pn**	**20 19 40.8**	**+0.8**
ECSD	**EROS Data Cent**	**6.26**	**87**		**Pn**	**20 19 42.5**	**-1.3**
HLID	**Hailey**	**6.66**	**272**		**Pn**	**20 19 50.2**	**+0.8**
I10CA	**LAC DU BONNET**	**9.05**	**41**	I	I	21 17 40.0	
	baz=222,slow=325,SNR=7.5						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 20 21.0**	**-2.6**
	comp=E,0.4nm,0.3s,baz=221,slow=16,SNR=4.6						
ULM				Pg		20 20 57.8	
	comp=E,0.3nm,0.3s,baz=229,slow=14,SNR=4.5						
ULM				Lg	Lg	20 22 56.4	
	comp=E,0.1nm,0.3s,baz=305,slow=20,SNR=2.1						
	comp=E,0.9nm,0.3s						
NEW	**Newport**	**9.44**	**303**	Lg	Lg	20 23 13.4	
	comp=E,0.1nm,0.3s,baz=99,slow=11,SNR=3.2						
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn	Pn	20 20 45.0	-6.4
	comp=E,0.1nm,0.3s,baz=74,slow=8.3,SNR=1.4						
	comp=E,0.1nm,0.4s						
TXAR	**Lajitas Array**	**14.39**	**174**	Pg	P	20 22 09.3	+27
	comp=E,0.1nm,0.3s,baz=351,slow=18,SNR=3.6						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**Pn**	**20 22 45.3**	**+4.2**
	comp=E,0.2nm,0.8s,baz=154,slow=9.9,SNR=4.3						
	comp=E,0.2nm,0.8s						

*CNRM **30** 20:35:56.9, 36°.49N×7°.62W, h52km, ML3.0*
*INMG **30** 20:35:58.9±1.6, 36°.49N×7°.71W, h36km, ML1.5, Error ellipse: s-maj=6.0km s-min=3.4km az=79.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz*
*IGIL **30** 20:35:59.0, 36°.50N×7°.70W, h33km, ML1.3*

ISC 30 20:35:56.7±1.3, 36°.47N±0°.04×7°.61W±0°.06, h45km±39km, n29, σ0°.92/42, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.81**	**342⇓**	*e*P	**Pn**	**20 36 12.4**	**+0.6**
PBDV				*e*S	**Sn**	**20 36 21.8**	**-1.0**
PBDV				*i* AML	AML	20 36 22.5	
PBDV				*i* AML	AML	20 36 22.9	
PBDV				*i* AML	AML	20 36 24.1	
PVAQ	**Vaqueiros**	**0.94**	**355**	*e*P	**Pn**	**20 36 14.2**	**+0.8**
PVAQ				*e*S	**Sn**	**20 36 25.4**	**-0.3**
PVAQ				*i* AML	AML	20 36 26.3	
PVAQ	**Vaqueiros**	**0.94**	**355**	P	**Pn**	**20 36 13.9**	**+0.5**
PVAQ	**Vaqueiros**	**0.94**	**355**	S	**Sn**	**20 36 26.1**	**+0.4**
PFVI	**Vila Bisbo**	**1.18**	**305**	*e*P	**Pn**	**20 36 16.9**	**+0.2**
PFVI				*e*S	**Sn**	**20 36 30.2**	**-1.4**
PFVI				*i* AML	AML	20 36 30.4	
PFVI				*i* AML	AML	20 36 33.5	
PFVI				*i* AML	AML	20 36 34.9	
PFVI	**Vila Bisbo**	**1.18**	**305**	P	**Pn**	**20 36 16.6**	**-0.1**
PFVI	**Vila Bisbo**	**1.18**	**305**	S	**Sn**	**20 36 32.4**	**+0.8**
MORF	**Marmelete**	**1.18**	**315**	*e*P	**Pn**	**20 36 16.9**	**+0.1**
MORF				*e*S	**Sn**	**20 36 30.4**	**-1.3**
MORF				IAML		20 36 31.2	
	comp=N,6.8nm,0.3s						
MORF	**Marmelete**	**1.18**	**315**	*e*P	**Pn**	**20 36 17.0**	**+0.2**
MORF				*e*S	**Sn**	**20 36 30.6**	**-1.0**
MORF				*i* AML	AML	20 36 37.5	
MORF				*i* AML	AML	20 36 38.2	
MORF				*i* AML	AML	20 36 38.9	
PCVE	**Castro Verde**	**1.21**	**344**	*e*P	**Pn**	**20 36 18.2**	**+1.0**
PCVE				*e*S	**Sn**	**20 36 32.2**	**-0.1**
PCVE				*i* AML	AML	20 36 32.7	
PCVE				*i* AML	AML	20 36 32.8	
PCVE				*i* AML	AML	20 36 32.9	
PTEO	**Sao Teotonio**	**1.39**	**321**	*e*P	**Pn**	**20 36 20.1**	**+0.5**
PTEO				*e*S	**Sn**	**20 36 36.1**	**-0.8**
PTEO				*i* AML	AML	20 36 38.0	
PTEO				*i* AML	AML	20 36 40.8	
PTEO				*i* AML	AML	20 36 44.4	
MESJ	**Messejana**	**1.45**	**341**	*e*P	**Pn**	**20 36 21.1**	**+0.7**
MESJ				*e*S	**Sn**	**20 36 37.3**	**-1.0**
MESJ				IAML		20 36 38.2	
	comp=N,2.6nm,0.2s						
MESJ	**Messejana**	**1.45**	**341**	*e*P	**Pn**	**20 36 21.3**	**+0.8**
MESJ				*e*S	**Sn**	**20 36 38.2**	**0.0**
MESJ				*i* AML	AML	20 36 39.3	
MESJ				*i* AML	AML	20 36 39.5	
MESJ				*i* AML	AML	20 36 44.8	
PBEJ	**Beja**	**1.57**	**353**	*e*S	**Sn**	**20 36 41.0**	**-0.1**
PBEJ				*i* AML	AML	20 36 41.2	
PBEJ				*i* AML	AML	20 36 42.4	
PBEJ				*i* AML	AML	20 36 44.9	
PBAR	**Barrancos**	**1.76**	**15**	*e*S	**Sn**	**20 36 45.5**	**-0.4**
PBAR				*i* AML	AML	20 36 52.4	
PBAR				*i* AML	AML	20 36 55.2	
PBAR				*i* AML	AML	20 36 55.8	
EVO	**Evora**	**2.08**	**351**	*e*S	**Sn**	**20 36 53.5**	**-0.3**
EVO				*i* AML	AML	20 36 53.8	
EVO				*i* AML	AML	20 36 55.9	
EVO				*i* AML	AML	20 36 56.4	
PESTR	**Estremoz**	**2.39**	**0**	*e*P	**Pn**	**20 36 34.4**	**+1.0**
PESTR				*e*S	**Sn**	**20 36 59.9**	**-1.6**
PESTR				*i* AML	AML	20 37 01.9	
PESTR				*i* AML	AML	20 37 02.7	
PESTR				*i* AML	AML	20 37 03.2	
PESTR	**Estremoz**	**2.39**	**0**	P	**Pn**	**20 36 33.8**	**+0.4**
PESTR	**Estremoz**	**2.39**	**0**	S	**Sn**	**20 37 01.6**	**+0.1**
PMTG	**Montargil**	**2.64**	**350**	*e*P	**Pn**	**20 36 37.7**	**+0.9**
PMTG				*e*S	**Sn**	**20 37 06.5**	**-1.1**
PMTG				*i* AML	AML	20 37 08.1	
PMTG				*i* AML	AML	20 37 08.5	
PMTG				*i* AML	AML	20 37 08.5	
PMAFR	**Mafra**	**2.81**	**332**	*e*P	**Pn**	**20 36 40.1**	**+0.9**
PMRV	**Marv??o**	**2.96**	**3**	*e*P	**Pn**	**20 36 42.2**	**+1.0**
PMRV				*e*S	**Sn**	**20 37 13.4**	**-2.0**
PMRV				*i* AML	AML	20 37 15.4	
PMRV				*i* AML	AML	20 37 15.7	
PMRV				*i* AML	AML	20 37 17.0	
ZHG	**ZHG**	**3.12**	**165**	P	**Pn**	**20 36 44.8**	**+1.3**
PCBR	**Castelo Branco**	**3.37**	**2**	*e*P	**Pn**	**20 36 48.0**	**+1.3**
PCBR				*e*S	**Sn**	**20 37 24.8**	**-0.6**
AKLM	**AKL**	**3.63**	**121**	P	**Pn**	**20 36 49.4**	**-1.1**
MTE	**Manteigas**	**3.92**	**1**	*e*S	**Sn**	**20 37 37.8**	**-1.4**
MD31	**MD31**	**4.30**	**146**	P	**Pn**	**20 37 00.3**	**+0.8**
MDT	**Midelt**	**4.41**	**145**	P	**Pn**	**20 37 01.5**	**+0.3**
TIO	**Tiouine**	**5.54**	**177**	P	**Pn**	**20 37 17.5**	**+0.8**

DJA 30 20:44:16.1±0.3, 9°.S±5°×11°.8E±°, h128km±8km, M3.8/15, mb4.0/6, MLv3.8/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.55**	**256**	P	Pn	20 44 36.5	+1.2
WBSI	**Waikabubak, Su**	**1.42**	**132**	P	Pn	20 44 43.4	+0.2
WBSI				S	Sn	20 45 04.0	+0.2
WSI	**Waingapu**	**2.18**	**117**	P	Pn	20 44 52.6	+0.4
WSI				S	Sn	20 45 19.3	-0.6
BASI	**Baing, Sumba**	**2.70**	**124**	P	Pn	20 44 59.8	+1.1
BASI				S	Sn	20 45 32.5	+0.9
SRBI	**Singaraja**	**3.13**	**281**	P	Pn	20 45 05.6	+1.2
BSSI	**Bau Bau, Buton**	**3.32**	**41**	P	Pn	20 45 06.6	-0.3
EDFI	**Ende, Flores**	**3.33**	**91**	P	Pn	20 45 07.8	+0.7
EDFI				S	Sn	20 45 46.8	+0.3
BKSI	**Bulukumba**	**3.79**	**28**	P	Pn	20 45 12.9	-0.2
MMRI	**Maumere**	**3.87**	**89**	P	Pn	20 45 14.9	+0.7
JAGI	**Jajag, Banyuwa**	**4.13**	**273**	P	Pn	20 45 17.2	-0.3
JAGI				S	Sn	20 46 04.8	-0.4
GMJI	**Gumukmas**	**4.84**	**275**	P	Pn	20 45 26.6	-0.4
SOEI	**Soe**	**5.97**	**101**	P	Pn	20 45 42.2	-0.1
	0.1nm13nm,0.6s						
PCJI	**Pacitan**	**7.08**	**273**	P	Pn	20 45 57.9	+0.7
	18nm,1.0s						
UGM	**Wanagama**	**7.75**	**275**	P	Pn	20 46 05.7	-0.6
	38nm,1.4s						

*CNRM **30** 21:03:35.2, 36°.47N×7°.73W, h64km*
*SFS **30** 21:03:37.8, 36°.52N×7°.65W, h31km, ML2.5/7, ML3.3/7, MLv2.5/7*
*MDD **30** 21:03:38.0±0.9, 36°.51N×7°.67W, h36km±16km, mb_Lg2.4/6, Error ellipse: s-maj=9.6km s-min=4.3km az=16.0*
*INMG **30** 21:03:38.1±1.4, 36°.49N×7°.69W, h37km, ML1.8, Error ellipse: s-maj=4.0km s-min=2.7km az=68.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz*
*IGIL **30** 21:03:38.1, 36°.54N×7°.69W, h24km, ML1.3*

ISC 30 21:03:33.3±1.2, 36°.50N±0°.03×7°.59W±0°.03, h16km±9km, n47, σ1°.33/74, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.79**	**340⇓**	*i* P	**Pn**	**21 03 51.7**	**+1.7**
PBDV				*e*S	**Sn**	**21 04 01.6**	**+0.1**
PBDV				*i* AML	AML	21 04 02.1	
PBDV				*i* AML	AML	21 04 02.3	
PBDV				*i* AML	AML	21 04 03.3	
PVAQ	**Vaqueiros**	**0.91**	**354⇑**	*e*P	**Pn**	**21 03 53.6**	**+2.0**
PVAQ				*e*S	**Sn**	**21 04 04.7**	**+0.4**
PVAQ				*i* AML	AML	21 04 05.3	
PVAQ				*i* AML	AML	21 04 05.4	
PVAQ				*i* AML	AML	21 04 06.0	
PVAQ	**Vaqueiros**	**0.91**	**354**	P	**Pn**	**21 03 52.6**	**+1.1**
PVAQ	**Vaqueiros**	**0.91**	**354

ECAB	**El Cabril**	**2.34**	**47**	P	**Pb**	**21 04 13.4**	**-1.8**
ECAB				S	**Sn**	**21 04 39.3**	**-0.5**
ECAB	**El Cabril**	**2.34**	**47**	P	**Pb**	**21 04 13.9**	**-1.4**
ECAB				S	**Sn**	**21 04 40.2**	**+0.5**
PESTR	**Estremoz**	**2.37**	**0**	*eS*	**Sn**	**21 04 39.3**	**-1.0**
PESTR				*i* AML	AML	21 04 40.8	
PESTR				*i* AML	AML	21 04 41.2	
PESTR				*i* AML	AML	21 04 41.8	
PESTR	**Estremoz**	**2.37**	**0**	P	**Pn**	**21 04 11.8**	**+0.2**
PESTR	**Estremoz**	**2.37**	**0**	S	**Sn**	**21 04 41.5**	**+1.2**
PMTG	**Montargil**	**2.62**	**349**	*eP*	**Pn**	**21 04 17.0**	**+2.0**
PMTG				*eS*	**Sn**	**21 04 45.6**	**-0.9**
PMTG				*i* AML	AML	21 04 47.2	
PMTG				*i* AML	AML	21 04 47.6	
PMTG				*i* AML	AML	21 04 48.7	
PMAFR	**Mafra**	**2.80**	**332**	*eP*	**Pn**	**21 04 19.5**	**+2.0**
PMAFR				*eS*	**Sn**	**21 04 49.8**	**-1.1**
PMAFR	**Mafra**	**2.80**	**332**	P	**Pn**	**21 04 19.2**	**+1.7**
PMAFR				S	**Sn**	**21 04 50.1**	**-0.8**
EADA	**Adamuz**	**2.92**	**54**	P	**Pb**	**21 04 22.3**	**-2.9**
EADA				S	**Sn**	**21 04 55.7**	**+1.6**
EADA				*i* Vmb_Lg		21 04 57.8	
PMRV	**Marv??o**	**2.93**	**3**	*eP*	**Pn**	**21 04 21.6**	**+2.2**
PMRV				*eS*	**Sn**	**21 04 52.6**	**-1.7**
PMRV				*i* AML	AML	21 04 54.7	
PMRV				*i* AML	AML	21 04 54.8	
PMRV				*i* AML	AML	21 04 55.5	
ZHG	**ZHG**	**3.14**	**165**	P	**Pn**	**21 04 23.6**	**+1.3**
ZHG	**ZHG**	**3.14**	**165**	S	**Sn**	**21 05 02.6**	**+3.1**
PSBE	**So Bento**	**3.16**	**343**	*eP*	**Pn**	**21 04 24.9**	**+2.5**
PCBR	**Castelo Branco**	**3.34**	**2**	*eP*	**Pn**	**21 04 26.6**	**+1.7**
PCBR				*eS*	**Sn**	**21 05 03.6**	**-0.7**
PCBR				*i* AML	AML	21 05 04.6	
PCBR				*i* AML	AML	21 05 04.8	
PCBR				*i* AML	AML	21 05 05.0	
AKLM	**AKL**	**3.63**	**122**	P	**Pn**	**21 04 28.7**	**-0.3**
AKLM	**AKL**	**3.63**	**122**	S	**Sn**	**21 05 10.5**	**-1.1**
PAB	**San Pablo**	**3.98**	**39**	P	**Pn**	**21 04 36.5**	**+2.7**
PAB				S	**Sn**	**21 05 17.9**	**-2.2**
PAB				*i* Vmb_Lg		21 05 19.9	
PVIS	**Viseu**	**4.22**	**357**	*eS*	**Sn**	**21 05 24.2**	**-1.8**
MD31	**MD31**	**4.31**	**146**	P	**Pn**	**21 04 38.7**	**+0.4**
MD31	**MD31**	**4.31**	**146**	S	**Sn**	**21 05 29.0**	**+0.7**
MDT	**Midelt**	**4.42**	**145**	P	**Pn**	**21 04 40.4**	**+0.5**
MDT	**Midelt**	**4.42**	**145**	S	**Sn**	**21 05 31.6**	**+0.5**
UCM	**Universidad Co**	**5.11**	**41**	P	**Pn**	**21 04 52.1**	**+2.8**
UCM				S	**Sn**	**21 05 45.8**	**-2.2**

*IDC **30** 21:37:53.6±2.8, 38°.04N×22°.03E, h0km, mb3.4/7, mbtmp3.3/9, ML2.7/2, MS3.2/2, Error ellipse: s-maj=55.1km s-min=21.6km az=14.0*
*ATH **30** 21:37:55.0, 37°.98N×21°.96E, h14km±4km, ML3.4/24, Manual Solution by M.Kolligri First location: 2019/03/30 21:38:45, This location: 2019/03/30 21:51:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **30** 21:37:55.8, 38°.00N×21°.94E, h2km±39km, ML3.4/6, Error ellipse: s-maj=39.0km s-min=0.7km az=210.0*

ISC 30 21:37:54.8±1.1, 37°.99N±0°.02×21°.95E±0°.02, h13km±9km, n55, σ0s86/73, mb3.5/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.16**	**72**	P	**Pb**	**21 37 59.3**	**-0.5**
KLV				S	**Sb**	**21 38 02.0**	**-1.2**
	20μm,0.3s						
KLV	**Kalavryta, Ach**	**0.16**	**72**	P	**Pb**	**21 37 59.3**	**-0.5**
KLV				S	**Sb**	**21 38 01.9**	**-1.3**
ALIK	**Aliki, Aigiali**	**0.29**	**25**	P	**Pb**	**21 38 01.7**	**-0.3**
ALIK				S	**Sb**	**21 38 06.0**	**-0.8**
PATG	**Patra B**	**0.30**	**324**	P	**Pb**	**21 38 01.6**	**-0.5**
PATG				S	**Sb**	**21 38 06.1**	**-1.0**
GUR	**Goura**	**0.31**	**100**	P	**Pb**	**21 38 02.0**	**-0.4**
GUR				S	**Sb**	**21 38 06.2**	**-1.3**
	14μm,0.3s						
GUR	**Goura**	**0.31**	**100**	P	**Pb**	**21 38 02.0**	**-0.4**
GUR				S	**Sb**	**21 38 06.0**	**-1.4**
PATC	**Patra C**	**0.31**	**331**	P	**Pb**	**21 38 02.0**	**-0.4**
PATC				S	**Sb**	**21 38 06.8**	**-0.6**
UPR	**University Cam**	**0.32**	**336**	P	**Pb**	**21 38 01.7**	**-0.7**
UPR				S	**Sb**	**21 38 06.7**	**-0.8**
UPR	**University Cam**	**0.32**	**336**	P	**Pb**	**21 38 01.9**	**-0.5**
UPR				S	**Sb**	**21 38 06.5**	**-1.0**
RLS	**Riolos of Patr**	**0.39**	**280**	P	**Pg**	**21 38 02.8**	**+0.2**
RLS				S	**Sb**	**21 38 08.6**	**-0.9**
	13μm,0.3s						
RLS	**Riolos of Patr**	**0.39**	**280**	P	**Pg**	**21 38 02.5**	**-0.1**
RLS				S	**Sb**	**21 38 08.5**	**-1.0**
KALE	**Kalithea**	**0.42**	**20**	P	**Pb**	**21 38 03.9**	**-0.4**
KALE				S	**Sb**	**21 38 10.2**	**-0.4**
	9μm,0.3s						
KALE	**Kalithea**	**0.42**	**20**	P	**Pb**	**21 38 03.6**	**-0.7**
KALE				S	**Sb**	**21 38 09.6**	**-1.1**
SERG	**Sergoula**	**0.43**	**11**	P	**Pb**	**21 38 03.6**	**-0.7**
SERG				S	**Sb**	**21 38 09.8**	**-0.9**
EFP	**Efpalio**	**0.43**	**355**	P	**Pb**	**21 38 04.1**	**-0.3**
EFP				S	**Sg**	**21 38 08.8**	**-0.5**
	5μm,0.5s						
EFP	**Efpalio**	**0.43**	**355**	P	**Pb**	**21 38 04.0**	**-0.3**
EFP				S	**Sb**	**21 38 10.0**	**-0.9**
YRMI	**Loutra Irminis**	**0.49**	**283**	P	**Pg**	**21 38 04.1**	**-0.3**
YRMI				S	**Sb**	**21 38 11.9**	**-0.5**
AXS	**Araxos**	**0.50**	**294**	P	**Pg**	**21 38 04.3**	**-0.3**
AXS				S	**Sb**	**21 38 11.8**	**-0.8**
AMT	**Artemida-Makis**	**0.50**	**203**	P	**Pb**	**21 38 05.1**	**-0.4**
AMT				S	**Sb**	**21 38 12.0**	**-0.7**
LCHA	**Lechaina**	**0.55**	**264**	P	**Pb**	**21 38 05.9**	**-0.4**
LCHA				S	**Sb**	**21 38 13.7**	**-0.4**
ZARO	**Zacharo**	**0.56**	**205**	P	**Pb**	**21 38 06.6**	**+0.1**
ANX	**Ano Chora**	**0.60**	**358**	P	**Pb**	**21 38 06.8**	**-0.5**
DLFA	**Delphi**	**0.65**	**41**	P	**Pb**	**21 38 07.4**	**-0.7**
CLEM	**Kyllini,Ilia,G**	**0.66**	**261**	P	**Pg**	**21 38 07.4**	**-0.2**
PVO	**Paravola**	**0.71**	**332**	P	**Pb**	**21 38 08.8**	**-0.3**
VLX	**Vlachokerasia**	**0.71**	**151**	P	**Pb**	**21 38 08.8**	**-0.3**
LTK	**Loutraki**	**0.80**	**88**	P	**Pn**	**21 38 10.6**	**-1.3**
ITM	**Ithomi**	**0.81**	**181**	P	**Pb**	**21 38 10.7**	**-0.1**
ITM				S	**Sn**	**21 38 23.3**	**-0.7**
	1μm,0.4s						
ITM	**Ithomi**	**0.81**	**181**	P	**Pb**	**21 38 10.8**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.91**	**259**	P	**Pn**	**21 38 12.9**	**-0.4**
LTHK	**Lithakia**	**0.93**	**253**	P	**Pn**	**21 38 12.9**	**-0.7**
EVR	**Evrytania**	**0.93**	**353**	P	**Pn**	**21 38 13.5**	**-0.2**
AXAR	**Agios Charalam**	**0.95**	**36**	P	**Pg**	**21 38 12.9**	**-0.3**
ORTH	**Orthonies,Zaky**	**1.00**	**262**	P	**Pb**	**21 38 13.5**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.03**	**8**	P	**Pn**	**21 38 14.9**	**-0.1**
LKR	**Lokris**	**1.05**	**51**	P	**Pn**	**21 38 14.5**	**-0.8**
SMHA	**Samh**	**1.06**	**284**	P	**Pb**	**21 38 14.2**	**-0.8**
VIL2	**Platees**	**1.06**	**78**	P	**Pg**	**21 38 16.1**	**+0.8**
PSDA	**Pessada-Kefalo**	**1.09**	**277**	P	**Pb**	**21 38 15.0**	**-0.5**
VLS	**Valsamata**	**1.09**	**280**	P	**Pb**	**21 38 15.2**	**-0.4**
KRND	**KRANIDI**	**1.13**	**122**	P	**Pg**	**21 38 16.4**	**-0.1**
MET5	**Makryloggos,Me**	**1.17**	**108**	P	**Pg**	**21 38 17.2**	**-0.2**
FSK	**Fiskardo**	**1.19**	**293**	P	**Pb**	**21 38 17.0**	**-0.2**
EVGI	**Lefkada island**	**1.20**	**302**	P	**Pb**	**21 38 17.0**	**-0.4**
BRTR	**Keskin Array B**	**9.28**	**76**	Pn	**Pn**	**21 40 11.8**	**+3.3**
	0.1nm,0.3s,baz=262,slow=14,SNR=6.3						
	0.4nm,0.6s						
GERES	**GERESS Array B**	**12.38**	**334**	Pn	**Pn**	**21 40 53.3**	**+2.4**
	baz=150,slow=13,SNR=1.7						
	0.1nm,0.3s						
ESDC	**Sonseca Array**	**20.24**	**283**	P	Pn	21 42 30.9	-0.9
	0.3nm,0.8s,baz=85,slow=12,SNR=2.2						
	0.3nm,0.8s						
HFS	**Hagfors**	**22.77**	**349**	P	**P**	**21 42 57.5**	**+0.7**
	2.0nm,0.6s,baz=136,slow=14,SNR=2.1						
	2.0nm,0.6s						
FINES	**FINESS Array B**	**23.62**	**5**	P	**P**	**21 43 04.7**	**-0.6**
	2.7nm,1.1s,baz=187,slow=11,SNR=1.4						
	2.7nm,1.1s						
EKA	**Eskdalemuir Ar**	**24.24**	**324**	P	**P**	**21 43 12.1**	**+0.8**
	0.4nm,0.5s,baz=126,slow=9.5,SNR=3.7						
	0.4nm,0.5s						
ARTI	**Arti**	**30.35**	**41**	LR	LR	21 57 54.3	
	comp=Z,55nm,18.1s,baz=221,slow=40						
BBTS	**Babate**	**41.17**	**246**	LR	LR	22 06 55.0	
	comp=Z,26nm,18.3s,baz=22,slow=42						
KURBB	**Kurchatov Arra**	**41.43**	**53**	P	**P**	**21 45 41.4**	**+0.4**
	0.2nm,0.5s,baz=281,slow=8.7,SNR=4.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**44.44**	**59**	P	**P**	**21 46 05.9**	**+0.5**
	0.3nm,0.5s,baz=270,slow=8.8,SNR=7.8						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**44.97**	**48**	P	**P**	**21 46 07.6**	**-1.9**
	0.7nm,0.5s,baz=235,slow=5.1,SNR=3.9						
	0.7nm,0.5s						

JMA 30 21:39:25.5±0.1, 24°.N±2°.×123°.0E±0°.6, h47km, MV1.4/7, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.12**	**345**	P	Pn	21 39 32.9	-0.1
JYNG				*eS*	Sn	21 39 38.3	-0.1
YOJ	**Yonaguni jima**	**0.13**	**12**	*eP*	Pn	21 39 33.1	0.0
IRIF	**Iriomote-Funau**	**0.68**	**89**	*eS*	Sn	21 39 48.9	+0.3
JKRS	**Kuro-shima**	**0.94**	**95**	*eS*	Sn	21 39 55.7	+0.9
JIJ	**Ishigaki jima**	**1.06**	**88**	*eP*	Pn	21 39 43.9	0.0
JIJ				*eS*	Sn	21 39 57.4	-0.2

TAP 30 21:40:03.0, 24°.45N×121°.76E, h25km, ML2.5, 5C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.02**	**116**	⇑*iP*	Pb	21 40 07.3	+0.2
EWUT				*i* S	Sb	21 40 10.2	+0.3
ENA	**Nanau**	**0.03**	**216**	⇑*iP*	Pb	21 40 07.3	+0.1
ENA				*i* S	Sb	21 40 10.3	+0.3
EAHA	**Aohua**	**0.12**	**189**	*i* P	Pb	21 40 08.0	+0.2
EAHA				*i* S	Sb	21 40 11.1	+0.1
ESAO	**Su ao**	**0.14**	**32**	P	Pb	21 40 07.9	0.0
ESAO				S	Sb	21 40 11.3	0.0
TWC	**Suao**	**0.17**	**27**	⇑*iP*	Pb	21 40 08.5	+0.2
TWC				*i* S	Sb	21 40 12.1	+0.3
NDS	**Dongshan**	**0.18**	**347**	⇓*iP*	Pb	21 40 08.6	+0.1
NDS				*i* S	Sb	21 40 12.4	+0.3
LATG	**Datong**	**0.23**	**291**	⇓*iP*	Pb	21 40 09.2	+0.1
LATG				*i* S	Sb	21 40 14.1	+0.9
ENTT	**Nioudou**	**0.26**	**316**	⇓*iP*	Pb	21 40 09.6	+0.2
ENTT				*i* S	Sb	21 40 13.4	-0.3
TWE	**Neicheng**	**0.28**	**342**	⇑*iP*	Pb	21 40 10.1	+0.4
TWE				*i* S	Sb	21 40 14.7	+0.4
ILA	**Ilan**	**0.31**	**358**	*i* P	Pb	21 40 10.6	+0.4
ILA				*eS*	Sb	21 40 15.8	+0.8
NACB	**Ninganchiao**	**0.32**	**209**	*i* P	Pb	21 40 09.9	-0.3
NACB				*i* S	Sb	21 40 15.2	0.0
ETL	**Fush Village**	**0.32**	**203**	P	Pb	21 40 10.1	-0.1
ETL				S	Sn	21 40 16.7	-1.3
FUSB	**Fushanzhiwuyua**	**0.34**	**333**	⇓*iP*	Pb	21 40 10.9	+0.2
FUSB				*i* S	Sb	21 40 16.7	+0.7
NNSB	**Datong**	**0.35**	**266**	⇑*iP*	Pb	21 40 11.0	+0.3
NNSB				*i* S	Sb	21 40 16.2	+0.2
ETLH	**Xiulin Townshi**	**0.35**	**226**	P	Pb	21 40 10.7	-0.1
ETLH				S	Sb	21 40 16.6	+0.4
NNS	**Nan Shan**	**0.35**	**268**	*i* P	Pb	21 40 11.1	+0.2
NNS				*i* S	Sb	21 40 15.8	-0.4
NWLT	**Wulai**	**0.40**	**324**	P	Pb	21 40 11.8	+0.2
NWLT				S	Sb	21 40 17.6	+0.3
TWD	**Chiawan**	**0.40**	**202**	*i* P	Pb	21 40 11.4	-0.2
TWD				*i* S	Sb	21 40 17.9	+0.6
YHNB	**Yeheng**	**0.41**	**302**	⇓*iP*	Pb	21 40 12.0	+0.2
YHNB				S	Sb	21 40 17.8	0.0
NSK	**Sanguang**	**0.43**	**301**	*i* P	Pb	21 40 12.2	+0.2
NSK				*i* S	Sb	21 40 18.2	0.0
FUSS	**Fushou**	**0.51**	**247**	P	Pb	21 40 13.7	+0.1
FUSS				S	Sn	21 40 22.2	-1.0
TIPB	**Shuangxi**	**0.52**	**6**	P	Pb	21 40 13.4	-0.1
TIPB				S	Sb	21 40 20.6	-0.1
EOS3	**EOS3**	**0.53**	**108**	*eP*	Pn	21 40 14.5	-0.4
LXIB	**Xiulin Townshi**	**0.53**	**217**	P	Pb	21 40 13.2	-0.6
LXIB				S	Sn	21 40 22.8	-0.7
ETM	**Tongmen**	**0.54**	**207**	*eP*	Pb	21 40 14.4	+0.5
ETM				*eS*	Sn	21 40 23.8	+0.3
WHF	**Hehuan Shan**	**0.55**	**236**	*i* P	Pb	21 40 14.2	0.0
WHF				*i* S	Sb	21 40 22.3	+0.4
TWA	**Mucha**	**0.55**	**343**	*i* P	Pn	21 40 16.3	+1.0
TWA				*i* S	Sn	21 40 23.7	0.0
TWT	**Tachien**	**0.57**	**250**	P	Pn	21 40 15.2	-0.5
TWT				S	Sn	21 40 23.4	-1.0
TWB1	**Santiao Chiao**	**0.59**	**20**	P	Pb	21 40 15.0	+0.3
TWB1				S	Sb	21 40 22.6	0.0
EOS4	**EOS4**	**0.61**	**123**	*eP*	Pn	21 40 15.4	-0.2
NFF	**Wufeng Townshi**	**0.61**	**287**	*eP*	Pn	21 40 16.3	+0.1
NFF				*i* S	Sn	21 40 24.4	-0.9
NWF	**Wu-fen Shan**	**0.62**	**2**	*i* P	Pn	21 40 16.0	-0.3
NWF				*i* S	Sb	21 40 24.2	+0.7
WFSB	**Wu-fen Shan**	**0.62**	**2**	*eP*	Pn	21 40 16.4	+0.2
WFSB				S	Sb	21 40 24.2	+0.8
KSHI	**Guanxi Townshi**	**0.62**	**301**	*eP*	Pb	21 40 15.4	+0.2
TAP	**Taipei**	**0.63**	**338**	P	Pn	21 40 16.6	+0.2
TAP				*eS*	Sn	21 40 25.8	+0.2
SXI1	**Grass Mountain**	**0.65**	**9**	P	Pn	21 40 16.5	-0.2
SXI1				S	Sb	21 40 24.9	+0.5
SHUL	**Shoufeng**	**0.69**	**195**	*eP*	Pn	21 40 17.1	0.0
SHUL				*eS*	Sn	21 40 29.0	+2.0
ESL	**Shilin**	**0.70**	**205**	*i* P	Pb	21 40 16.6	0.0
ESL				S	Sn	21 40 27.2	-0.2
LIOB	**Emei**	**0.70**	**286**	*eP*	Pn	21 40 18.2	+0.7
LIOB				*eS*	Sn	21 40 28.0	+0.5
YM01	**YM01**	**0.71**	**346**	*eP*	Pn	21 40 18.1	+0.6
YM01				*eS*	Sn	21 40 27.1	-0.7
NSTT	**Nanjuang**	**0.71**	**285**	P	Pn	21 40 18.0	+0.5
NSTT				S	Sn	21 40 27.5	-0.2
TWS1	**Kuangyinshan**	**0.72**	**334**	*eP*	Pb	21 40 16.7	-0.1
TWS1				*eS*	Sn	21 40 28.3	+0.5
OWD	**Renai**	**0.73**	**227**	*eP*	Pn	21 40 17.5	-0.4
OWD				*eS*	Sn	21 40 27.8	-0.5
NCUH	**Zhongli**	**0.73**	**314**	*eP*	Pn	21 40 18.5	+0.7
ZUZH	**Zhuzihu**	**0.73**	**344**	*i* P	Pn	21 40 18.1	+0.3
ZUZH				*i* S	Sn	21 40 28.9	+0.6
WUSB	**Renai**	**0.75**	**232**	P	Pn	21 40 17.8	-0.3
WUSB				S	Sn	21 40 28.6	0.0
YM08	**YM08**	**0.75**	**348**	*eP*	Pn	21 40 18.5	+0.5
ANP	**Anpu**	**0.76**	**343**	*eP*	Pn	21 40 18.2	-0.1
NTST	**Danshui**	**0.76**	**338**	*eP*	Pn	21 40 18.5	+0.3
WHP	**Taichung City**	**0.76**	**257**	*eP*	Pb	21 40 17.4	-0.3
WHP				*eS*	Sn	21 40 29.3	+0.2
SBCB	**Hsinchu**	**0.78**	**296**	*eP*	Pn	21 40 20.1	+1.6
SBCB				*eS*	Sn	21 40 31.5	+2.1
HSN	**Hsinchu**	**0.80**	**296**	*eP*	Pn	21 40 19.8	+1.1
HSN				*i* S	Sn	21 40 30.9	+1.1
WARBT	**Fenglin Townsh**	**0.81**	**205**	*eP*	Pb	21 40 17.9	-0.5
WARBT				*eS*	Sb	21 40 29.4	+0.6
WCS	**Beigang Elemen**	**0.87**	**243**	*eP*	Pn	21 40 21.4	+1.8
NMLH	**Miaoli**	**0.89**	**276**	*eP*	Pn	21 40 21.2	+1.3
VWDT	**VWDT**	**0.90**	**219**	*eP*	Pn	21 40 20.1	0.0
TWQ1	**Liyutan**	**0.91**	**264**	P	Pn	21 40 22.4	+2.3
TWQ1				*eS*	Sn	21 40 35.1	+2.6
NSY	**Sanyi**	**0.91**	**268**	*eP*	Pn	21 40 20.5	+0.2
NSY				*eS*	Sn	21 40 35.2	+2.5
SMLT	**Sun Moon Lake**	**0.97**	**234**	*eP*	Pb	21 40 23.2	+2.0
TYC	**Yuchr**	**0.99**	**237**	*eP*	Pb	21 40 21.6	+0.2
SSLB	**Suanglung**	**0.99**	**228**	*eP*	Pb	21 40 21.6	+0.1
HGSD	**Ruisui**	**1.00**	**198**	*eP*	Pn	21 40 21.5	0.0
EHY	**Hungye**	**1.02**	**203**	*eP*	Pb	21 40 22.4	+0.4
WHYT	**Xinyi Township**	**1.12**	**228**	*eP*	Pb	21 40 23.8	+0.1
YULB	**Yu-li**	**1.14**	**202**	*eP*	Pn	21 40 22.0	-1.4
EYUL	**Yuli**	**1.17**	**200**	*eP*	Pn	21 40 23.6	-0.3
TWF1	**Yuli**	**1.18**	**201**	*eP*	Pb	21 40 24.9	+0.3
ALS	**Alishan**	**1.28**	**223**	*eP*	Pb	21 40 28.3	+1.6
CHN5	**Tsauling**	**1.31**	**230**	*eP*	Pb	21 40 27.8	+0.9
ELDTW	**Lidau**	**1.43**	**209**	*eP*	Pb	21 40 28.6	-0.4
ELDTW				*eS*	Sb	21 40 46.9	0.0
CHN4	**Tsaushan**	**1.53**	**224**	*eP*	Pb	21 40 32.4	+1.7
TPUB	**Ta-pu**	**1.55**	**222**	*eP*	Pb	21 40 30.6	-0.4
WTP	**Ta-pu**	**1.60**	**221**	*eP*	Pb	21 40 32.1	+0.3
CHN1	**Nanshi**	**1.69**	**222**	*eP*	Pb	21 40 33.4	0.0

DJA 30 21:51:11.1±1.1, 2°.S±10°.×13°.9E±°, h27km±6km, M4.0/6, mb4.6/2, MLv3.8/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.37**	**164**	P	Pn	21 51 20.4	-0.3
SMPI				S	Sn	21 51 27.0	-0.1
GENI	**Genyem**	**1.83**	**122**	P	Pn	21 51 41.9	+1.1
JAY	**Jayapura**	**2.27**	**113**	P	Pn	21 51 47.3	+0.4
JAY				S	Sn	21 52 13.0	-1.1
BAKI	**Biak**	**2.54**	**280**	P	Pn	21 51 51.3	+0.7
BAKI				S	Sn	21 52 19.8	-0.9
KMPI	**Kaimana, Papua**	**5.30**	**248**	P	Pn	21 52 29.0	+0.5
	0.4nm120nm,0.9s						
FAKI	**Fak Fak**	**6.48**	**258**	P	Pn	21 52 44.1	-0.7

*IDC **30** 21:56:33.5±3.4, 8°.99N×126°.51E, h127km±33km, mb3.4/9, mbtmp3.8/10, MS2.7/3, Error ellipse: s-maj=50.7km s-min=20.0km az=67.0*

ISC 30 21:56:30.6±0.8, 9°.09N±0°.10×126°.8E±0°.2, h100km, n18, σ1s18/12, mb3.8/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.33**	**211**	P	**Pn**	**21 57 07.6**	**+0.1**
	135nm,0.3s,baz=65,slow=6.9,SNR=4.9						
DAV				S	**Sn**	**21 57 36.8**	**+1.0**
	310nm,0.6s,baz=37,slow=20,SNR=6.8						
DAV				LR	LR	21 57 47.3	
	comp=Z,89nm,21.8s,baz=282,slow=35						
KAPI	**Kappang**	**15.66**	**207**	LR	LR	22 06 20.9	
	comp=Z,51nm,20.1s,baz=300,slow=38						
CMAR	**Chiang Mai Arr**	**28.55**	**292**	LR	LR	22 14 16.0	
	comp=Z,15nm,18.0s,baz=325,slow=38						
ASAR	**Alice Springs**	**33.30**	**168**	P	**P**	**22 02 57.4**	**-1.5**
	0.2nm,0.4s,baz=344,slow=7.5,SNR=6.6						
ASAR				PcP	**PcP**	**22 05 40.4**	**+1.4**
	0.4nm,0.8s,baz=0.0,slow=2.0,SNR=3.0						
	0.2nm,0.4s						
H11S3	**WAKE ISLAND Hy 39.80**	**72**		T	T	22 47 00.0	
	baz=262,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy 39.81**	**72**		T	T	22 47 00.9	
	baz=262,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy 39.81**	**72**		T	T	22 46 57.2	
	baz=262,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy 40.17**	**70**		T	T	22 47 33.8	
	baz=265,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy 40.18**	**70**		T	T	22 47 37.8	
	baz=265,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy 40.19**	**70**		T	T	22 47 36.6	
	baz=265,slow=75,SNR=18						
SONM	**Songino Array**	**42.29**	**340**	P	**P**	**22 04 15.8**	**+1.3**
	0.2nm,0.6s,baz=128,slow=9.3,SNR=1.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**53.26**	**323**	P	**P**	**22 05 38.1**	**-1.0**
	0.9nm,0.7s,baz=122,slow=8.5,SNR=12						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**57.32**	**326**	P	**P**	**22 06 06.7**	**-1.4**
	0.7nm,0.5s,baz=127,slow=6.7,SNR=8.4						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**62.91**	**326**	P	**P**	**22 06 45.6**	**-0.7**
	1.0nm,0.8s,baz=82,slow=10,SNR=4.7						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**80.28**	**26**	P	**P**	**22 08 31.4**	**+1.2**
	0.2nm,0.6s,baz=246,slow=4.9,SNR=5.4						
	0.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**85.26**	**349**	P	**P**	**22 08 56.0**	**+0.3**
	6.3nm,0.9s,baz=80,slow=10,SNR=1.7						
	6.3nm,0.9s						
FINES	**FINESS Array B**	**87.16**	**332**	P	**P**	**22 09 04.7**	**-0.6**
	1.9nm,1.0s,baz=67,slow=6.4,SNR=3.8						
	1.9nm,1.0s						
YKA	**Yellowknife Ar**	**94.62**	**24**	P	**P**	**22 09 40.1**	**0.0**
	0.1nm,0.7s,baz=304,slow=6.4,SNR=3.2						
	0.1nm,0.7s						

*AFAD **30** 22:09:06.7, 37°.41N×29°.42E, h7km±2km, MW3.8*
*ISK **30** 22:09:06.7, 37°.44N×29°.43E, h7km, ML3.8/24*
*IDC **30** 22:09:06.9±1.0, 37°.51N×29°.44E, h0km, mb3.8/7, mbtmp3.8/14, ML3.6/6, MS3.0/6, Error ellipse: s-maj=18.3km s-min=15.1km az=13.0*

ISC 30 22:09:07.4±1.0, 37°.43N±0°.02×29°.44E±0°.02, h7km±7km, n79, σ1s23/84, mb3.6/7, MS3.1/3, 14C-10D, Turkey

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

6.5nm,0.6s
DOPR Dopca 9.05 342 ⇑P **Pn 22 11 19.6 +1.0**
OZUR 9.08 344 ⇓P **Pn 22 11 20.2 +1.3**
TESR Tescani 9.31 348 ⇑P **Pn 22 11 22.6 +0.6**
GZR Gura Zlata 9.40 330 ⇑P **Pn 22 11 25.0 +1.7**
BZS Buzias 10.06 327 ⇑P **Pn 22 11 32.6 +0.3**
MARR Marisel-Cluj 10.36 335 ⇓P **Pn 22 11 38.5 +1.9**
BURAR Bucovina Array 10.65 344 ⇑P **Pn 22 11 42.9 +2.5**
GNI Garni 12.25 72 LR LR 22 17 01.0
comp=Z,28nm,18.1s,baz=268,slow=39
GERES GERESS Array B 16.16 320 Pn **P 22 12 56.7 -1.5**
baz=128,slow=12,SNR=12
GERES LR LR 22 20 37.0
comp=Z,17nm,18.3s,baz=98,slow=43
1.6nm,0.9s
FINES FINESS Array B 24.13 356 P **P 22 14 23.1 -0.5**
0.9nm,0.5s,baz=178,slow=11,SNR=8.4
0.9nm,0.5s
HFS Hagfors 24.85 341 P **P 22 14 30.1 -0.1**
6.0nm,1.1s,baz=203,slow=14,SNR=2.6
6.0nm,1.1s
ESDC Sonseca Array 26.14 285 P **P 22 14 42.6 +0.4**
1.3nm,0.9s,baz=72,slow=11,SNR=8.5
1.3nm,0.9s
ARTI Arti 27.08 36 LR LR 22 28 30.1
comp=Z,54nm,19.2s,baz=202,slow=43
BVAR Borovoye Array 32.28 48 LR LR 22 30 47.3
comp=Z,47nm,18.1s,baz=256,slow=40
KURBB Kurchatov Arra 37.01 53 P **P 22 16 18.0 +0.6**
0.9nm,0.5s,baz=276,slow=8.7,SNR=9.4
0.9nm,0.5s
MKAR Makanchi Array 39.65 59 P **P 22 16 39.8 0.0**
0.5nm,0.6s,baz=272,slow=8.0,SNR=9.1
0.5nm,0.6s
SPITS Spitsbergen Ar 41.23 356 P **P 22 16 52.8 +0.3**
12nm,1.1s,baz=186,slow=12,SNR=9.8
12nm,1.1s
BBTS Babate 46.55 253 LR LR 22 39 08.0
comp=Z,22nm,19.9s,baz=358,slow=39
SONM Songino Array 55.37 53 P **P 22 18 43.1 +1.0**
0.2nm,0.5s,baz=343,slow=4.5,SNR=1.9
0.2nm,0.5s

WEL 30 22:18:01.8±0.9,34°S±16″×17°9E±2°1,h301km±17km, M3.5/12,mB3.9/3,ML4.0/12,MLv3.6/12,Mw(mB)2.9/3, Error ellipse: s-maj=31.6km s-min=12.0km az=123.9, confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.17**	**195**	S	S	22 19 43.8	-1.2
WMGZ	**Waiomatatini S**	**3.40**	**192**	P	Pn	22 19 03.1	+1.7
WMGZ				S	S	22 19 50.2	+0.9
HAZ	**Te Kaha**	**3.48**	**200**	P	Pn	22 19 01.5	-0.9
HAZ				S	S	22 19 51.1	+0.2
PKGZ	**Pakihiroa**	**3.51**	**196**	P	Pn	22 19 02.5	-0.2
PKGZ				S	S	22 19 52.1	+0.6
PUZ	**Puketiti**	**3.67**	**193**	P	Pn	22 19 03.7	-0.7
PUZ				S	S	22 19 55.5	+0.9
RUGZ	**Raukumara Rang**	**3.71**	**200**	P	Pn	22 19 04.4	-0.5
RUGZ				S	S	22 19 54.2	-1.2
TWGZ	**Tauwhareparae**	**3.83**	**196**	P	Pn	22 19 06.9	+0.7
TWGZ				S	S	22 19 58.6	+0.9
TKGZ	**Te Karaka**	**4.11**	**196**	S	S	22 20 03.6	+0.5
URZ	**Urewera**	**4.15**	**205**	P	Pn	22 19 09.3	-0.3
URZ				S	S	22 20 04.0	0.0
RAGZ	**Rawiri**	**4.27**	**200**	P	Pn	22 19 11.0	0.0
RAGZ				S	S	22 20 08.7	+2.0
RIGZ	**Rimuhau**	**4.38**	**196**	P	Pn	22 19 12.3	0.0
RIGZ				S	S	22 20 09.0	+0.2
MUGZ	**Murupara**	**4.47**	**206**	P	Pn	22 19 14.8	+1.6
SNGZ	**Shannon Statio**	**4.56**	**200**	P	Pn	22 19 14.4	+0.2
SNGZ				S	S	22 20 14.1	+1.7
PRGZ	**Paritu Road**	**4.56**	**194**	S	S	22 20 12.7	+0.2
RAHZ	**Arahi**	**4.76**	**201**	P	Pn	22 19 16.2	-0.3
RAHZ				S	S	22 20 17.6	+1.1
MTHZ	**Maungataniwha**	**4.78**	**204**	P	Pn	22 19 17.2	+0.5
MTHZ				S	S	22 20 15.0	-1.9
MHGZ	**Mahia Peninsul**	**4.78**	**193**	S	S	22 20 16.1	-0.9
ARHZ	**Aropaoanui**	**5.11**	**201**	P	Pn	22 19 20.8	+0.3
ARHZ				S	S	22 20 26.1	+2.3
BKZ	**Black Stump Fm**	**5.18**	**205**	P	Pn	22 19 20.9	-0.5
BKZ				S	S	22 20 25.3	-0.1
HIZ	**Hauiti**	**5.38**	**221**	P	Pn	22 19 25.6	+1.9
KWHZ	**Kaweka Forest**	**5.43**	**204**	P	Pn	22 19 23.7	-0.6
KWHZ				S	S	22 20 31.8	+1.0
TMVZ	**Te Maari**	**5.44**	**211**	P	Pn	22 19 24.8	+0.3
ETVZ	**East Tongariro**	**5.46**	**211**	P	Pn	22 19 24.7	+0.1
OTVZ	**Oturere**	**5.50**	**211**	P	Pn	22 19 24.9	-0.3
KAHZ	**Kahuranaki**	**5.63**	**199**	P	Pn	22 19 26.7	0.0
KAHZ				S	S	22 20 38.8	+3.7
MOVZ	**Moawhango**	**5.67**	**209**	P	Pn	22 19 25.9	-1.2
MOVZ				S	S	22 20 34.8	-1.1
PNHZ	**Pukenui**	**5.95**	**204**	P	Pn	22 19 29.4	-1.0
PNHZ				S	S	22 20 41.0	-0.9

IDC 30 22:25:08.8±3.4,31°79S×178°07W,h0km,mb3.4/2, mbtmp3.5/3,ML2.9/1,Error ellipse: s-maj=77.1km s-min=38.1km az=112.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.56**	**210**	Pn	Pn	22 26 59.9	-0.4
	0.2nm,0.3s,baz=41,slow=3.9,SNR=1.4						
URZ				Sn	Sn	22 28 27.6	+0.8
	0.8nm,0.3s,baz=111,slow=8.6,SNR=9.9						
	11nm,1.1s						
ASAR	**Alice Springs**	**42.99**	**268**	P	P	22 33 11.8	+1.6
	0.3nm,0.6s,baz=113,slow=8.1,SNR=4.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.11**	**274**	P	P	22 33 17.6	-1.5
	0.3nm,0.4s,baz=113,slow=8.2,SNR=6.1						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**146.43**	**339**	PKPbc	PKPdf	22 44 50.2	+0.5
	5.2nm,1.1s,baz=59,slow=4.9,SNR=3.6						

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*UCR **30** 22:32:09.3±1.0, 10°.38N×86°.32W, h0km±5km, MW3.7*
*CATAC **30** 22:32:10.5±0.6, 10°N±2°×8°6W±°, h13km±3km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=8.4km s-min=3.2km az=57.6, confirmed*
ISC 30 22:32:09.4±1.8,10°34N±0°.05×86°31W±0°.06,h6km±11km, n60,σ0°68/69,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.80**	**72**	*e*P	**Pn**	**22 32 26.7**	**-0.5**
ALIBA				*e*S	**Sn**	**22 32 38.5**	**-0.9**
ELI1	**Hacienda Flor**	**0.81**	**68**	*e*P	**Pb**	**22 32 26.6**	**+0.8**
NICO	**Nicoya**	**0.88**	**103**	*e*P	**Pb**	**22 32 27.4**	**+0.3**
ERIA	**Liberia**	**0.91**	**71**	*e*P	**Pn**	**22 32 28.4**	**-0.3**
ERIA				*e*S	**Sn**	**22 32 41.6**	**-0.6**
INDI	**Punta indio, G**	**0.93**	**121**	P	**Pb**	**22 32 27.9**	**0.0**
INDI	**Punta indio, G**	**0.93**	**121**	S	**Sb**	**22 32 40.9**	**+0.4**
PLVR	**Palo Verde**	**0.95**	**89**	*e*P	**Pb**	**22 32 28.6**	**+0.3**
PLVR				*e*S	**Sb**	**22 32 42.5**	**+1.2**
GPS3	**Bodega del ICE**	**1.02**	**66**	*e*P	**Pn**	**22 32 30.5**	**+0.2**
GPS2	**Hotel Rincn d**	**1.03**	**66**	*e*P	**Pb**	**22 32 29.7**	**0.0**
VRLE	**La Escondida,**	**1.03**	**64**	*e*P	**Pg**	**22 32 29.6**	**+0.3**
BAGA	**Bagaces**	**1.05**	**80**	*e*P	**Pb**	**22 32 30.3**	**+0.3**
BAGA				*e*S	**Sn**	**22 32 46.3**	**+0.6**
VORI	**VORI**	**1.06**	**63**	*e*P	**Pg**	**22 32 30.1**	**+0.2**
COLC	**Colonia**	**1.14**	**73**	*e*P	**Pg**	**22 32 31.3**	**0.0**
CARN	**Rivas**	**1.15**	**43**	P	**Pb**	**22 32 31.8**	**+0.1**
CARN				S	**Sn**	**22 32 47.8**	**-0.2**
CUI	**Cuipilapa**	**1.17**	**74**	*e*P	**Pg**	**22 32 31.9**	**0.0**
CUI				*e*S	**Sg**	**22 32 47.1**	**-0.1**
HORNC	**Hornillas**	**1.18**	**72**	*e*P	**Pg**	**22 32 31.8**	**-0.2**
VMAR	**Armenia, Volca**	**1.27**	**68**	*e*P	**Pg**	**22 32 33.6**	**-0.2**
JAPN	**AI SSO del Vol**	**1.33**	**28**	P	**Pg**	**22 32 35.0**	**0.0**
JUNT	**Juntas**	**1.33**	**92**	*e*P	**Pn**	**22 32 31.1**	**-3.5**
JTS	**Las Juntas de**	**1.34**	**92**	*e*P	**Pn**	**22 32 34.2**	**-0.5**
TENO	**El Achiote**	**1.36**	**75**	*e*P	**Pn**	**22 32 34.2**	**-0.9**
CONN	**Concepcion**	**1.39**	**29**	P	**Pn**	**22 32 35.3**	**-0.1**
CONN				S	**Sb**	**22 32 53.5**	**-0.4**
ARE1	**Arenal 1**	**1.57**	**86**	*e*P	**Pb**	**22 32 39.0**	**+0.1**
VARE2	**V. Arenal**	**1.57**	**86**	*e*P	**Pb**	**22 32 38.9**	**-0.1**
CEDE	**Laguna Cedeo**	**1.59**	**85**	*e*P	**Pn**	**22 32 39.0**	**+0.7**
NANN	**Nandasmo**	**1.60**	**7**	P	**Pg**	**22 32 40.2**	**+0.1**
NANN	**Nandasmo**	**1.60**	**7**	S	**Sn**	**22 32 59.1**	**-0.3**
NANN	**Nandasmo**	**1.60**	**7**	P	**Pn**	**22 32 38.7**	**+0.4**
VACR	**Volcan Arenal**	**1.61**	**85**	*e*P	**Pg**	**22 32 40.9**	**+0.5**
FORC	**Fortuna**	**1.62**	**85**	*e*P	**Pg**	**22 32 40.5**	**0.0**
MASN	**Masaya**	**1.64**	**5**	P	**Pn**	**22 32 39.4**	**+0.4**
MASN				S	**Sb**	**22 33 00.9**	**-0.4**
SOCE	**Pocosol**	**1.67**	**88**	P	**Pb**	**22 32 40.8**	**+0.2**
SOCE	**Pocosol**	**1.67**	**88**	S	**Sg**	**22 33 03.5**	**+0.4**
SOCE	**Pocosol**	**1.67**	**88**	S	**Sn**	**22 33 01.4**	**+0.4**
SOCE	**Pocosol**	**1.67**	**88**	P	**Pn**	**22 32 40.0**	**+0.7**
SOCE	**Pocosol**	**1.67**	**88**	*e*P	**Pb**	**22 32 40.3**	**-0.3**
UNAN	**Cigeo UNAN**	**1.76**	**1**	P	**Pn**	**22 32 40.6**	**+0.1**
UNAN				S	**Sn**	**22 33 03.1**	**-0.2**
SAPS	**Ciudad Sandino**	**1.82**	**357**	P	**Pn**	**22 32 41.5**	**+0.2**
SAPS	**Ciudad Sandino**	**1.82**	**357**	S	**Sb**	**22 33 05.5**	**-0.7**
COPN	**Copaltepe**	**1.85**	**351**	P	**Pn**	**22 32 42.5**	**+0.8**
COPN	**Copaltepe**	**1.85**	**351**	*e*P	**Pn**	**22 32 41.6**	**-0.1**
TRB2	**Turrubares**	**1.88**	**103**	*i*P	**Pb**	**22 32 43.9**	**-0.4**
COVE	**Coope Vega, Sa**	**1.92**	**79**	S	**Sn**	**22 33 08.1**	**+1.0**
COVE	**Coope Vega, Sa**	**1.92**	**79**	P	**Pn**	**22 32 42.9**	**+0.2**
ACON	**Acoyapa**	**1.96**	**35**	P	**Pn**	**22 32 43.3**	**0.0**
ACON	**Acoyapa**	**1.96**	**35**	S	**Sn**	**22 33 08.8**	**+0.5**
ACON	**Acoyapa**	**1.96**	**35**	*e*P	**Pn**	**22 32 43.1**	**-0.3**
SBEN	**San Benito**	**1.97**	**7**	S	**Sb**	**22 33 09.6**	**-1.0**
SBEN	**San Benito**	**1.97**	**7**	P	**Pn**	**22 32 43.5**	**+0.1**
TCS1	**Tacares**	**2.00**	**98**	P	**Pn**	**22 32 43.9**	**0.0**
BOAB	**BOACO BROADBAN**	**2.19**	**17**	S	**Sn**	**22 33 14.9**	**+1.0**
BOAB	**BOACO BROADBAN**	**2.19**	**17**	P	**Pn**	**22 32 46.5**	**+0.1**
PICV	**PH. Pirrs**	**2.20**	**109**	*e*P	**Pb**	**22 32 49.3**	**-0.5**
LCR2	**La Lucha 2**	**2.35**	**104**	*e*P	**Pb**	**22 32 51.4**	**-0.9**
VICA	**Volcano Irazu**	**2.46**	**98**	*e*P	**Pb**	**22 32 53.3**	**-1.0**
CVTG	**V. Turrialba,**	**2.50**	**94**	*e*P	**Pb**	**22 32 53.7**	**-1.3**
OCHAL	**Ojochal**	**2.91**	**115**	S	**Sn**	**22 33 31.3**	**-0.2**
OCHAL	**Ojochal**	**2.91**	**115**	P	**Pn**	**22 32 56.7**	**+0.4**
CDITO	**Canoas**	**3.82**	**117**	P	**Pn**	**22 33 09.1**	**+0.3**
CDITO	**Canoas**	**3.82**	**117**	S	**Sn**	**22 33 54.8**	**+0.7**

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*OMAN **30** 22:44:09.6±1.2,29°74N×51°33E, h0km, mb5.7/31, Error ellipse: s-maj=13.5km s-min=5.1km az=149.0*
*MOS **30** 22:44:22.4±0.8,28°51N×51°61E, h11km, mb4.7/36, Error ellipse: s-maj=6.4km s-min=3.8km az=107.2*
*IDC **30** 22:44:22.4±0.6,28°52N×51°59E, h0km, mb4.4/26, mbtmp4.4/33, ML3.9/7, MS3.5/24, Error ellipse: s-maj=14.8km s-min=11.6km az=15.0*
*NEIC **30** 22:44:24.9±1.0,28°58N±0°07×51°61E±0°07, h10km±1km, mb4.6/96, Error ellipse: s-maj=11.8km s-min=10.7km az=214.0*
*TEH **30** 22:44:24.8, 28°60N×51°58E, h15km±10km*
*THR **30** 22:44:24.9±0.0, 28°56N×51°47E, h25km±2km, mb4.4*
*DSN **30** 22:44:29.1±1.8,28°22N×51°72E, h10km, ML3.9/12, Error ellipse: s-maj=25.0km s-min=10.4km az=6.0*
ISC 30 22:44:25.3±0.6,28°60N±0°03×51°60E±0°03,h16km±3km, h16km:pP-P,n691,σ1°09/720,mb4.6/127,MS3.6/20, 26C-17D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.38**	**315**	Pg	**Pg**	**22 44 32.2**	**-0.8**
DSBU	**Dashti - Bushe**	**0.38**	**232**	Pg	**Pg**	**22 44 32.6**	**-0.4**
KAZ2	**Kazeron-Fars-I**	**1.01**	**3**	Pg	**Pb**	**22 44 44.0**	**-0.6**
GHIR	**Ghir-Karzin**	**1.26**	**104**	*e*Pg	**Pg**	**22 44 49.8**	**+0.1**
GHIR				IAML		22 45 38.7	
	comp=Z,2.2nm,1.0s						
QIR1	**Qir**	**1.28**	**95**	Pg	**Pb**	**22 44 49.3**	**+0.2**
SHI	**Shiraz**	**1.32**	**37**	Pg	**Pb**	**22 44 49.7**	**-0.1**
JHRM	**Jahrom**	**1.75**	**92**	Pg	**Pb**	**22 44 56.7**	**-0.3**
LMD1	**Lamerd**	**1.87**	**132**	Pn	**Pb**	**22 44 58.0**	**-1.1**
LMD1	**Lamerd**	**1.87**	**132**	*e*Pn	**Pb**	**22 44 58.3**	**-0.8**
LMD1				IAML		22 45 47.2	
	comp=Z,10.0nm,1.0s						
KLNJ	**Kolanjah**	**2.40**	**360**	Pn	**Pn**	**22 45 05.9**	**+1.6**
KLNJ	**Kolanjah**	**2.40**	**360**	*e*Pn	**Pn**	**22 45 06.2**	**+1.9**
KLNJ				IAML		22 45 53.6	
	comp=Z,4.9nm,1.0s						
LAR1	**LAR**	**2.62**	**110**	Pn	**Pn**	**22 45 08.4**	**+1.4**
SAKB	**Bahrain**	**2.77**	**200**	P	**Pn**	**22 45 10.4**	**+1.4**
SAKB				S	**Sg**	**22 45 57.8**	**+3.4**
SHMA	**Al-Shehemyia**	**2.79**	**192**	P	**Pn**	**22 45 10.6**	**+1.4**
	SNR=26						
SHMA				S	**Sg**	**22 45 58.3**	**+3.4**
IRAM	**Ramesheh**	**3.27**	**12**	Pn	**Pn**	**22 45 18.2**	**+2.0**
IBRJ	**Brojen**	**3.31**	**355**	Pn	**Pn**	**22 45 17.9**	**+1.2**
TRNA	**Turayna**	**3.86**	**185**	P	**Pn**	**22 45 26.0**	**+2.0**
	SNR=32						
SMRA	**Abu-Samra**	**3.90**	**190**	P	**Pn**	**22 45 25.9**	**+1.4**
SMRA				S	**Sb**	**22 46 23.6**	**+3.0**
IPIR	**Pirpir**	**4.12**	**352**	Pn	**Pn**	**22 45 28.9**	**+1.0**
NASN	**Na'in**	**4.32**	**14**	*e*Pn	**Pn**	**22 45 31.6**	**+1.0**
NASN				IAML		22 46 58.6	
	comp=Z,0.5nm,1.0s						
IZEF	**Zefreh**	**4.33**	**8**	Pn	**Pn**	**22 45 32.8**	**+2.0**
GTMR	**Gotvand**	**4.42**	**332**	*e*Pn	**Pn**	**22 45 32.9**	**+1.2**
GTMR				IAML		22 47 14.3	
	comp=Z,1.2nm,1.0s						
SLWR	**Sila**	**4.51**	**179**	P	**Pn**	**22 45 34.8**	**+1.9**
IBND	**Bandar-abas**	**4.52**	**103**	Pn	**Pn**	**22 45 34.5**	**+1.4**
KHGB	**Koh Gabri**	**4.61**	**66**	Pn	**Pn**	**22 45 36.2**	**+1.6**
NGRK	**Negar Kerman**	**4.61**	**76**	Pn	**Pn**	**22 45 36.3**	**+1.6**
IKLH	**Kolahrood**	**4.71**	**360**	Pn	**Pn**	**22 45 37.4**	**+1.4**
KRBR	**Kerman**	**4.72**	**72**	Pn	**Pn**	**22 45 37.9**	**+1.8**
KRBR	**Kerman**	**4.72**	**72**	*e*Pn	**Pn**	**22 45 38.2**	**+2.1**
KRBR				IAML		22 47 13.0	
	comp=Z,0.7nm,1.0s						
GHWR	**Ruwais**	**4.75**	**166**	P	**Pn**	**22 45 38.9**	**+2.5**
SHME	**Shamm**	**4.77**	**121**	P	**Pn**	**22 45 36.7**	**+0.1**
	SNR=13						
SHME				P	**Pn**	**22 45 36.9**	**+0.3**
	SNR=13						
SHME	**Shamm**	**4.77**	**121**	*i*P	**Pn**	**22 45 36.2**	**-0.4**
	SNR=13						
ZRDN	**Zarand Kerman**	**4.90**	**60**	Pn	**Pn**	**22 45 40.3**	**+1.7**
ANAR	**Anarak**	**4.93**	**21**	Pn	**Pn**	**22 45 40.2**	**+1.3**
AJN	**Ajban**	**5.04**	**142**	P	**Pn**	**22 45 41.8**	**+1.6**
NAZ	**Nazwa, Dubai**	**5.11**	**134**	P	**Pn**	**22 45 42.4**	**+1.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**5.11**	**134**	*i*P	**Pn**	**22 45 42.2**	**+1.0**
	SNR=14						
ASUD	**Al Ashush, Dub**	**5.18**	**139**	P	**Pn**	**22 45 43.3**	**+1.2**
	SNR=32						
ASUD	**Al Ashush, Dub**	**5.18**	**139**	*i*P	**Pn**	**22 45 43.2**	**+1.0**
	SNR=32						
MASF	**Masafi**	**5.19**	**127**	P	**Pn**	**22 45 42.8**	**+0.5**
	SNR=18						
MSFE	**Esma-Masafi**	**5.19**	**127**	*i*P	**Pn**	**22 45 42.5**	**+0.1**
	SNR=18						
MZWR	**Madinat Zayed**	**5.23**	**156**	P	**Pn**	**22 45 45.2**	**+2.3**
FAQ	**Al Faqa, Dubai**	**5.24**	**136**	P	**Pn**	**22 45 44.0**	**+0.9**
	SNR=9.5						
FAQ	**Al Faqa, Dubai**	**5.24**	**136**	*i*P	**Pn**	**22 45 43.4**	**+0.3**
	SNR=9.3						
KRM1	**Kerman Provinc**	**5.30**	**68**	Pn	**Pn**	**22 45 45.5**	**+1.5**
KHMZ	**Khomeyn**	**5.32**	**345**	*e*Pn	**Pn**	**22 45 45.7**	**+1.5**
KHMZ				IAML		22 47 18.5	
	comp=Z,0.3nm,1.0s						
MDH	**Madha**	**5.33**	**127**	P	**Pn**	**22 45 44.1**	**-0.2**
	SNR=22						
MDH	**Madha**	**5.33**	**127**	*i*P	**Pn**	**22 45 44.1**	**-0.2**
	SNR=22						
CHMN	**Cheshme madani**	**5.35**	**75**	Pn	**Pn**	**22 45 46.3**	**+1.5**
KRSH	**Karshahi**	**5.38**	**5**	Pn	**Pn**	**22 45 46.0**	**+1.0**
KHNJ	**Kahnooj**	**5.43**	**95**	Pn	**Pn**	**22 45 47.1**	**+1.5**
UOSS	**Minazif**	**5.49**	**130**	Pn	**Pn**	**22 45 46.2**	**-0.3**
UOSS	**Minazif**	**5.49**	**130**	P	**Pn**	**22 45 46.6**	**+0.1**
UOSS	**Minazif**	**5.49**	**130**	*i*P	**Pn**	**22 45 46.2**	**-0.3**
	SNR=42						
HATD	**Hatta, Dubai**	**5.53**	**132**	P	**Pn**	**22 45 47.4**	**+0.4**
	SNR=40						
HATD	**Hatta, Dubai**	**5.53**	**132**	*i*P	**Pn**	**22 45 47.4**	**+0.4**
	SNR=40						
ASHO	**Ashiyiah**	**5.58**	**133**	P	**Pn**	**22 45 48.2**	**+0.5**
	SNR=42						
ASHO	**Ashiyiah**	**5.58**	**133**	*i*P	**Pn**	**22 45 47.8**	**0.0**
	SNR=42						
ASHO				S	**Sn**	**22 46 47.8**	**-3.7**
ISFB	**Sefidab**	**5.76**	**5**	Pn	**Pn**	**22 45 51.1**	**+0.8**
MZR	**Muzera**	**5.82**	**163**	P	**Pn**	**22 45 53.3**	**+2.3**
	SNR=82						
MZR	**Muzera**	**5.82**	**163**	*i*P	**Pn**	**22 45 52.1**	**+1.0**
	SNR=83						
BDRS	**Dareh Seyedi**	**5.83**	**337**	Pn	**Pn**	**22 45 52.4**	**+1.1**
ALNE	**Al Ain**	**5.86**	**140**	P	**Pn**	**22 45 52.5**	**+1.0**
	SNR=54						
ALNE	**Al Ain**	**5.86**	**140**	*i*P	**Pn**	**22 45 52.0**	**+0.5**
	SNR=53						
IKFM	**Kafar-mosalman**	**5.87**	**328**	Pn	**Pn**	**22 45 52.8**	**+1.2**
IDOB	**Doab**	**5.95**	**331**	Pn	**Pn**	**22 45 54.5**	**+1.6**
KBAM	**BAM**	**6.04**	**83**	Pn	**Pn**	**22 45 55.8**	**+1.8**
ASAO	**Ashtian**	**6.08**	**348**	*e*Pn	**Pn**	**22 45 56.4**	**+1.6**
ASAO				IAML		22 47 17.7	
	comp=Z,0.3nm,1.0s						
TPRV	**Parvadeh(Tabas**	**6.22**	**43**	Pn	**Pn**	**22 45 58.4**	**+1.8**
IQOM	**Qom**	**6.24**	**356**	Pn	**Pn**	**22 45 57.3**	**+0.3**
SOHO	**SOHO**	**6.27**	**134**	P	**Pn**	**22 45 57.3**	**+0.1**
SOHO	**SOHO**	**6.27**	**134**	*i*P	**Pn**	**22 45 57.0**	**-0.2**
	SNR=25						
IVRN	**Varamin**	**6.38**	**1**	Pn	**Pn**	**22 45 59.9**	**+1.1**
TNSJ	**Nastanj**	**6.86**	**37**	Pn	**Pn**	**22 46 07.0**	**+1.7**
ARQ	**Araqi**	**6.86**	**139**	P	**Pn**	**22 46 05.3**	**0.0**
	SNR=35						
KCHF	**Cheshme Sefid,**	**6.87**	**327**	Pn	**Pn**	**22 46 06.8**	**+1.2**
TKDS	**Koohdasht(Taba**	**6.89**	**42**	Pn	**Pn**	**22 46 07.3**	**+1.5**
TABS	**Tabas**	**6.91**	**42**	*e*Pn	**Pn**	**22 46 07.8**	**+1.7**
TABS				IAML		22 48 22.0	
	comp=Z,0.1nm,1.0s						
IRAZ	**Razeghan**	**6.93**	**349**	Pn	**Pn**	**22 46 07.7**	**+1.3**
IDMV	**Damavand**	**6.97**	**3**	Pn	**Pn**	**22 46 07.9**	**+0.9**
DAMV	**Damavand**	**7.02**	**3**	*e*Pn	**Pn**	**22 46 08.5**	**+0.8**
DAMV				IAML		22 47 49.1	
	comp=Z,0.0nm,1.0s						
SNQR	**Sonqor, Kerman**	**7.10**	**333**	Pn	**Pn**	**22 46 09.9**	**+1.2**
IGHG	**Ghaleghazi**	**7.15**	**324**	Pn	**Pn**	**22 46 11.2**	**+1.8**
HOQ	**Hoqain**	**7.16**	**133**	P	**Pn**	**22 46 09.8**	**+0.3**
	SNR=10						
HGHA	**Hamedan- Ghaye**	**7.25**	**342**	Pn	**Pn**	**22 46 12.0**	**+1.1**
QABG	**Abgarm-Qazvin**	**7.29**	**347**	Pn	**Pn**	**22 46 12.9**	**+1.5**
BSRN	**Basiran**	**7.33**	**61**	Pn	**Pn**	**22 46 12.9**	**+1.1**
BSRN	**Basiran**	**7.33**	**61**	*e*Pn	**Pn**	**22 46 14.3**	**+2.5**
BSRN				IAML		22 48 36.9	
	comp=Z,0.1nm,1.0s						
GLG1	**Gilan-e-Gharb**	**7.34**	**320**	Pn	**Pn**	**22 46 12.1**	**+0.1**
SNGE	**Sanandaj**	**7.42**	**332**	*e*Pn	**Pn**	**22 46 13.7**	**+0.6**
SNGE				IAML		22 47 49.9	
	comp=Z,0.2nm,1.0s						
RAYN	**Ar Rayn**	**7.45**	**229**		**Pn**	**22 46 12.9**	**-0.4**
RAYN	**Ar Rayn**	**7.45**	**229**	P	**Pn**	**22 46 13.0**	**-0.4**
RAYN	**Ar Rayn**	**7.45**	**229**	*i*P	**Pn**	**22 46 13.0**	**-0.4**
	SNR=61						
IDHR	**Dehrash**	**7.53**	**325**	Pn	**Pn**	**22 46 15.2**	**+0.6**
IALA	**Alasht**	**7.54**	**8**	Pn	**Pn**	**22 46 16.3**	**+1.5**
IPRN	**Peran**	**7.65**	**5**	Pn	**Pn**	**22 46 17.9**	**+1.7**
BSY	**Bisya**	**7.71**	**138**	P	**Pn**	**22 46 17.6**	**+0.6**
	SNR=57						
BIDO	**Bidbid**	**7.75**	**129**	P	**Pn**	**22 46 17.0**	**-0.4**
IKIA	**Kiasar**	**7.79**	**13**	Pn	**Pn**	**22 46 19.9**	**+1.7**
KGS1	**Ghasr-e-Shirin**	**7.81**	**320**	Pn	**Pn**	**22 46 18.8**	**+0.6**
MZPU	**Pul - Mazandar**	**7.82**	**360**	Pn	**Pn**	**22 46 20.3**	**+1.7**
NHDN	**Nehbandan**	**7.84**	**67**	Pn	**Pn**	**22 46 20.0**	**+1.1**
TAPT	**Tabas- Tapeh t**	**7.86**	**36**	Pn	**Pn**	**22 46 20.5**	**+1.4**
AFRZ	**Afriz**	**7.98**	**51**	Pn	**Pn**	**22 46 22.1**	**+1.3**
SMDO	**Samad**	**8.01**	**132**	P	**Pn**	**22 46 21.1**	**0.0**
	SNR=30						
ZHSF	**Zahedan**	**8.10**	**81**	Pn	**Pn**	**22 46 23.8**	**+1.4**
ZHSF	**Zahedan**	**8.10**	**81**	*e*Pn	**Pn**	**22 46 23.6**	**+1.2**
ZHSF				IAML		22 50 03.9	
	comp=Z,0.0nm,1.0s						
IGLO	**Ghalogh ah**	**8.11**	**13**	Pn	**Pn**	**22 46 24.5**	**+2.0**
SHRO	**Shahrood**	**8.26**	**26**	*e*Pn	**Pn**	**22 46 25.7**	**+1.1**
SHRO				IAML		22 49 08.9	
	comp=Z,0.0nm,1.0s						
WSAR	**Wadi Sarin**	**8.28**	**129**	Pn	**Pn**	**22 46 23.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=314,slow=24,SNR=44						
WSAR				Sn	**

KBZ Khabaz 16.64 337 Pn **Pn 22 48 18.2 +0.5**
comp=Z,0.4nm,0.3s,baz=147,slow=7.7,SNR=26
comp=Z,5.1nm,0.7s
KBZ Khabaz 16.64 337 *ce*P **P 22 48 19.7 -0.4**
SHA1 Shidzhatmaz 16.73 337 *i* P **Pn 22 48 20.1 +0.9**
CSS Mathiatis 16.77 297 Pn **Pn 22 48 19.2 -0.3**
KVAR Kislovodsk Arr 16.91 337 Pn **P 22 48 22.8 -0.4**
baz=193,slow=14
comp=Z,2.5nm,0.5s
KIV Kislovodsk 16.91 337 P 22 48 22.7 -0.6
KIV Kislovodsk 16.91 337 ⇑P **P 22 48 23.0 -0.3**
KIV Kislovodsk 16.91 337 P **P 22 48 23.0 -0.3**
KIV Kislovodsk 16.91 337 P **P 22 48 23.0 -0.3**
comp=Z,19nm,1.5s
VSLR Vesyoloye 17.51 331 *i* P **P 22 48 31.3 +1.5**
SIMJ Simiganj 17.61 51 P **Pn 22 48 28.1 -2.0**
GOF Gofitskoye 17.78 340 *ce*P **P 22 48 32.7 -0.1**
KIRS Kirsehir-Merke 18.02 310 ⇓P **Pn 22 48 35.3 +0.1**
LABN Labinsk 18.21 334 *e*P **P 22 48 37.8 +0.3**
LABN *e*S **Sn 22 52 00.8 +0.6**
LABN pmax pmax
comp=Z,12nm,0.9s
BR104 Keskin Array S 18.50 311 P **Pn 22 48 41.9 +0.8**
comp=Z,134nmcomp=Z,18nm,0.8s
BRTR Keskin Array B 18.51 312 P **P 22 48 40.8 -0.3**
comp=Z,0.6nm,0.3s,baz=134,slow=12,SNR=63
BRTR ScP **ScP 22 56 45.0 -0.6**
comp=Z,0.6nm,0.7s,baz=191,slow=5.8,SNR=4.4
comp=Z,11nm,0.8s
BR131 Keskin Array S 18.51 312 *i* P **Pn 22 48 41.4 +0.2**
BR105 Keskin Array S 18.52 311 P **Pn 22 48 41.7 +0.3**
comp=Z,134nmcomp=Z,16nm,0.8s
BR106 Keskin Array S 18.53 312 P **Pn 22 48 41.9 +0.5**
comp=Z,102nmcomp=Z,15nm,0.8s
ANTO Ankara 19.14 311 P **Pn 22 48 48.4 -0.4**
ANTO IAmb IAmb 22 48 51.3
comp=Z,19nm,0.9s
ANTO Ankara 19.14 311 P **Pn 22 48 48.4 -0.4**
ANTO pmax pmax
comp=Z,19nm,0.9s
ANTO Ankara 19.14 311 P **Pn 22 48 49.6 +0.8**
comp=Z,11nm,0.9s
ILGA Ilgaz 19.19 315 P **P 22 48 48.7 +0.2**
ILGA IAmb IAmb 22 48 50.9
comp=Z,38nm,0.7s
NIL Nilore 19.20 69 P **P 22 48 47.8 -0.8**
NIL Nilore 19.20 69 P **P 22 48 47.8 -0.8**
NIL pmax pmax
comp=Z,16nm,0.8s
ERBR Yeremizino-Bor 19.21 336 *e*P **Pn 22 48 49.6 +0.1**
ERBR pmax pmax
comp=Z,17nm,0.8s
BTK Batken 19.52 49 P **P 22 48 52.0 -0.1**
BTK IAmb IAmb 22 48 57.5
comp=Z,40nm,1.5s
BTK Batken 19.52 49 P **P 22 48 52.0 -0.1**
BTK pmax pmax
comp=Z,40nm,1.5s
ANN Anapa 19.71 329 *e*P **Pn 22 48 55.6 +0.2**
ANN *e*S **S 22 52 32.5 -3.1**
ANN pmax pmax
comp=Z,35nm,0.9s
DRK Karamyk 19.91 52 P **P 22 48 57.2 +0.7**
DRK Karamyk 19.91 52 P **P 22 48 57.2 +0.7**
DRK pmax pmax
comp=Z,13nm,0.8s
KK31 Karatay Array 21.02 41 P **P 22 49 07.9 -0.3**
KK31 IAmb IAmb 22 49 09.5
comp=Z,19nm,0.8s
KK31 Karatay Array 21.02 41 P **P 22 49 07.9 -0.3**
KK31 pmax pmax
comp=Z,19nm,0.8s
KKAR Karatay Array 21.02 41 P **P 22 49 08.0 -0.2**
KKAR Karatay Array 21.02 41 P **P 22 49 08.0 -0.2**
ARK Arkit 21.16 46 P **P 22 49 10.7 +0.8**
SIM Simferopol' 21.43 324 *e*P **P 22 49 13.5 +0.9**
SIM pmax pmax
comp=Z,34nm,0.8s
MANT Manisa 21.54 303 P **P 22 49 13.5 -0.6**
MANT IAmb IAmb 22 49 19.3
comp=Z,43nm,1.1s
ARSB Arslanbob 21.58 48 P **P 22 49 14.5 +0.1**
ARSB IAmb IAmb 22 49 17.9
comp=Z,58nm,1.4s
ARSB Arslanbob 21.58 48 P **P 22 49 14.5 +0.1**
ARSB pmax pmax
comp=Z,58nm,1.4s
ABKAR Akbulak array 21.60 15 P **P 22 49 14.8 +0.5**
ABKAR Akbulak array 21.60 15 P **P 22 49 15.0 +0.6**
ABKAR IAmb IAmb 22 49 22.7
comp=Z,7.1nm,0.8s
YLV Yalova 21.78 309 P **P 22 49 17.5 +1.0**
comp=Z,26nm,0.8s
AKTO Aktyubinsk 22.35 11 LR LR 22 59 37.9
comp=Z,75nm,19.2s,baz=34,slow=41
KSH Kashi 22.88 55 P **P 22 49 24.5 -3.8**
KSH pP pP 22 49 29.0 -4.2
KSH S **S 22 53 30.8 -6.6**
KSH pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 23.20 47 P **P 22 49 32.8 +1.1**
AAK Ala-Archa 23.20 47 LR LR 23 00 10.7
comp=Z,235nm,19.2s,baz=256,slow=41
AAK Ala-Archa 23.20 47 *ce*P **P 22 49 34.1 +2.5**
AAK pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 23.77 344 *e*P **P 22 49 37.4 +0.5**
VRH *e*S **S 22 53 54.2 +2.6**
VRH pmax pmax
comp=Z,57nm,0.5s
BOOM Boomskoye usch 24.07 48 P **P 22 49 41.0 +0.9**
BOOM IAmb IAmb 22 49 45.3
comp=Z,18nm,1.2s
BOOM Boomskoye usch 24.07 48 P **P 22 49 41.0 +0.9**
BOOM pmax pmax
comp=Z,18nm,1.2s
MFTR Murfatlar 24.17 316 ⇑P **P 22 49 43.1 +2.4**
VORD Divnogorie 24.20 341 *e*P **P 22 49 39.5 -1.4**
VORD pmax pmax
comp=Z,5.0nm,0.8s
JURR Jurilovca 24.22 318 ⇓P **P 22 49 42.1 +0.9**
NE56 Odesa 24.26 324 P **P 22 49 41.7 +0.2**
TIRR Tirgusor 24.32 317 P 22 49 43.3 +1.2
TIRR Tirgusor 24.32 317 ⇑P **P 22 49 42.6 +0.4**
TIRR Tirgusor 24.32 317 P **P 22 49 42.6 +0.4**
TIRR Tirgusor 24.32 317 P **P 22 49 42.8 +0.6**
comp=Z,7.7nm,1.3s
VSR Storozhevoye 24.45 341 *e*P **P 22 49 40.3 -3.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
TLCR 24.49 319 ⇓P **P 22 49 44.4 +0.7**
TLCR 24.49 319 P **P 22 49 44.4 +0.7**
ICOR Ion Corvin 24.52 316 ⇓P **P 22 49 44.3 +0.4**
TPGR Topolog 24.54 318 ⇑P **P 22 49 44.7 +0.5**
TLBR Topalu 24.59 317 ⇓P **P 22 49 46.1 +1.5**
RDO Rodhopi 24.67 307 P **P 22 49 46.0 +0.6**
PURM Purcari 24.71 322 ⇑P **P 22 49 45.8 +0.3**
PURM Purcari 24.71 322 P **P 22 49 45.9 +0.3**
comp=Z,30nm,0.7s
HARR Harsova 24.74 317 ⇓P **P 22 49 47.2 +1.3**
HARR Harsova 24.74 317 P **P 22 49 47.2 +1.3**
VORR Voronezh 24.85 341 *e*P **P 22 49 46.4 -0.4**
VORR S **S 22 54 08.1 -0.8**
VORR pmax pmax
comp=Z,30nm,0.4s
CFR Carcaliu 24.89 318 ⇑P **P 22 49 48.2 +0.9**
CFR Carcaliu 24.89 318 P **P 22 49 48.1 +0.9**
TARG Taragay, Kyrgy 25.00 51 P **P 22 49 48.5 -0.3**
TARG Taragay, Kyrgy 25.00 51 P **P 22 49 48.6 -0.3**
TARG pmax pmax
comp=Z,5.0nm,0.7s
RAZG Razgrad 25.05 313 ⇑P **P 22 49 50.3 +1.5**
SCTR Scanteiesti 25.25 319 ⇓P **P 22 49 52.2 +1.7**
VLDR Vladesti 25.29 319 ⇑P **P 22 49 51.9 +1.0**
VARL Varlezi 25.46 319 ⇑P **P 22 49 54.1 +1.7**
MILM Milestii Mici 25.52 322 ⇑P **P 22 49 53.3 +0.3**
MILM Milestii Mici 25.52 322 P **P 22 49 53.2 +0.3**
KIS Kishinev 25.57 322 P **P 22 49 55.0 +1.6**
comp=Z,31nm,0.7s
BAL3X Bal3x, Balta 25.75 325 P **P 22 49 56.1 +1.1**
LPSR Galich'ya Gora 25.76 342 *e*P **P 22 49 52.8 -2.3**
LPSR pmax pmax
comp=Z,40nm,0.9s
WUS Wushi 25.79 54 P **P 22 49 56.1 +0.4**
WUS IAmb IAmb 22 50 03.7
comp=Z,8.0nm,0.8s
BIR Birlad 25.79 320 ⇑P **P 22 49 56.8 +1.3**
BIR Birlad 25.79 320 P **P 22 49 56.7 +1.3**
GHRR 25.80 319 ⇑P **P 22 49 57.3 +1.8**
GHRR 25.80 319 P **P 22 49 57.3 +1.8**
VRI Vrincioaia 26.09 318 ⇓P **P 22 49 59.5 +1.3**
VRI Vrincioaia 26.09 318 P **P 22 49 59.5 +1.3**
VRI Vrincioaia 26.09 318 P **P 22 49 59.9 +1.7**
comp=Z,14nm,1.4s
NEHR Nehoiu 26.11 317 ⇓P **P 22 50 00.9 +2.5**
PLOR5 Plostina Array 26.12 318 P **P 22 50 00.0 +1.5**
comp=Z,18nm,1.1s
PLOR Plostina 26.13 318 ⇓P **P 22 49 60.0 +1.4**
PLOR Plostina 26.13 318 P **P 22 49 59.9 +1.4**
ITM Ithomi 26.26 297 P **P 22 49 59.6 -0.2**
IASR Iasi 26.35 321 ⇑P **P 22 50 02.9 +2.4**
COVR Voineasa-Covas 26.39 318 ⇓P **P 22 50 02.9 +2.0**
HUMR Humele 26.48 314 ⇑P **P 22 50 03.3 +1.6**
TESR Tescani 26.49 319 ⇑P **P 22 50 03.0 +1.2**
TESR Tescani 26.49 319 P **P 22 50 02.8 +1.0**
comp=Z,34nm,0.7s
SORM Soroca 26.52 324 P **P 22 50 02.4 +0.4**
comp=Z,19nm,0.4s
VOIR 26.88 316 ⇓P **P 22 50 06.7 +1.4**
VOIR 26.88 316 P **P 22 50 06.7 +1.4**
VOIR 26.88 316 P **P 22 50 06.8 +1.4**
comp=Z,10nm,0.7s
DOPR Dopca 26.94 317 ⇓P **P 22 50 06.9 +1.1**
ARR Arges 27.10 315 ⇓P **P 22 50 08.9 +1.6**
NDNU Novodnistrovsk 27.32 324 P **P 22 50 11.0 +1.8**
AKASG Malin Array Be 27.80 329 P **P 22 50 12.8 -0.7**
comp=Z,1.6nm,0.4s,baz=35,slow=3.5,SNR=15
comp=Z,1.6nm,0.4s
AKASG Malin Array Be 27.80 329 *i* P **P 22 50 15.3 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 27.80 329 P **P 22 50 13.5 0.0**
AKBB IAmb IAmb 22 50 14.2
comp=Z,16nm,1.2s
AKBB Malin Array Si 27.80 329 *ce*P **P 22 50 13.2 -0.3**
AKBB pmax pmax
comp=Z,14nm,1.3s
KIEV Kiev 27.80 329 ⇓P **P 22 50 13.5 -0.1**
KIEV Kiev 27.80 329 P **P 22 50 13.4 -0.1**
KIEV Kiev 27.80 329 P **P 22 50 13.4 -0.1**
comp=Z,50nm,1.4s
KIEV pP **pP 22 50 16.9 -1.6**
comp=Z,50nm,1.4s
BURAR Bucovina Array 27.92 320 P **P 22 50 15.9 +1.2**
BURAR Bucovina Array 27.92 320 ⇑P **P 22 50 16.0 +1.2**
BURAR Bucovina Array 27.92 320 P **P 22 50 15.9 +1.2**
LUBAR Lubar, Ukraine 27.97 326 P **P 22 50 14.9 -0.1**
LUBAR pP **pP 22 50 19.0 -1.0**
BRVK Borovoye 28.06 24 P **P 22 50 16.3 +0.5**
BRVK IAmb IAmb 22 50 17.9
comp=Z,7.7nm,1.1s
BRVK Borovoye 28.06 24 *ce*P **P 22 50 17.2 +1.4**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BVAR Borovoye Array 28.08 24 P **P 22 50 17.0 +1.0**
comp=Z,9.9nm,0.7s,baz=224,slow=7.5,SNR=38
BVAR PcP **PcP 22 53 30.2 0.0**
comp=Z,2.0nm,0.6s,baz=202,slow=2.7,SNR=6.3
BVAR LR LR 23 03 00.6
comp=Z,82nm,19.1s,baz=221,slow=40
comp=Z,9.9nm,0.7s
ARTI Arti 28.20 8 P **P 22 50 17.8 +0.8**
ARTI Arti 28.20 8 P **P 22 50 17.8 +0.8**
ARTI pmax pmax
comp=Z,4.0nm,0.8s
MI29 MI29, Kamyanyy 28.25 327 P **P 22 50 18.6 +1.1**
KSV Kosov 28.39 321 P **P 22 50 19.4 +0.6**
OBN Obninsk 28.64 342 *i* P **P 22 50 20.4 -0.5**
OBN *i* 22 53 30.6
OBN pmax pmax
comp=Z,11nm,1.3s
OBN Obninsk 28.64 342 P **P 22 50 21.5 +0.6**
comp=Z,28nm,1.0s
MARR Marisel-Cluj 28.65 317 ⇑P **P 22 50 22.6 +1.3**
STNU Starunia 28.92 321 P **P 22 50 23.7 +0.1**
BMR Baia Mare 28.93 319 ⇓P **P 22 50 24.8 +1.2**
BMR Baia Mare 28.93 319 P **P 22 50 24.8 +1.2**
SIRR Siria 29.36 315 ⇓P **P 22 50 29.0 +1.6**
KORU Korolevo 29.39 319 P **P 22 50 28.7 +1.0**
BRIU Brid 29.55 320 P **P 22 50 29.8 +0.7**
BRIU pP **pP 22 50 32.7 -1.4**
MAKZ Makanchi 29.87 44 P **P 22 50 32.5 +0.4**
MAKZ Makanchi 29.87 44 P **P 22 50 32.7 +0.7**
KURBB Kurchatov Arra 29.95 35 P **P 22 50 33.7 +1.1**
comp=Z,4.2nm,0.7s,baz=236,slow=9.1,SNR=5.7
KURBB PcP **PcP 22 53 34.6 -0.3**
comp=Z,1.4nm,0.3s,baz=228,slow=3.1,SNR=4.5
comp=Z,4.2nm,0.7s
KIRV Kirov 30.02 358 *i* P **P 22 50 34.1 +1.0**
KURK Kurchatov 30.06 35 P **P 22 50 33.5 -0.1**
KURK IAmb IAmb 22 50 35.5
comp=Z,9.5nm,1.1s
KURK Kurchatov 30.06 35 *i* P **P 22 50 34.4 +0.9**
KURK pmax pmax
comp=Z,11nm,1.2s
MK31 Makanchi Array 30.06 44 P **P 22 50 33.8 +0.1**
MK31 Makanchi Array 30.06 44 *ce*P **P 22 50 34.6 +0.9**
MKAR Makanchi Array 30.06 44 P **P 22 50 34.3 +0.6**
comp=Z,1.3nm,0.5s,baz=240,slow=8.4,SNR=21
MKAR PcP **PcP 22 53 35.0 -0.3**
comp=Z,0.6nm,0.5s,baz=243,slow=3.9,SNR=5.1
MKAR LR LR 23 04 25.9
comp=Z,113nm,21.0s,baz=240,slow=40
comp=Z,1.3nm,0.5s
KOLS Kolonicke sedl 30.28 320 *e*P **P 22 50 37.8 +2.2**
KOLS Kolonicke sedl 30.28 320 *e*P **P 22 50 37.8 +2.2**
TIP Timpagrande 30.62 299 P **P 22 50 38.7 0.0**
TIP IAmb IAmb 22 50 48.8
comp=Z,16nm,1.2s
CUC Castrocucco 31.47 301 P **P 22 50 47.8 +1.5**
CUC IAmb IAmb 22 50 49.3
comp=Z,8.4nm,0.8s
NACGM Noroch 31.82 333 *e*P **P 22 50 48.7 -0.4**
comp=Z,691nm,0.8s,baz=136
MPLH Magyarpolny 32.31 314 P **P 22 50 54.5 +1.0**
comp=Z,21nm,1.2s
OJC Ojcow 32.33 321 P **P 22 50 54.2 +0.6**
OJC Ojcow 32.33 321 P **P 22 50 54.2 +0.6**
OJC pmax pmax
comp=Z,13nm,0.8s
OJC Ojcow 32.33 321 P **P 22 50 54.4 +0.8**
comp=Z,20nm,1.9s
IIGN Ignalina 32.37 333 *e*P **P 22 50 54.1 +0.3**
WMQ Urumqi 32.56 52 *e*P **P 22 50 59.0 +3.2**
ISAL Salakas 32.56 333 *e*P **P 22 50 55.4 -0.1**
KMBO Kilima Mbogo 32.60 207 LR LR 23 05 48.7
comp=Z,94nm,18.3s,baz=46,slow=40
KLMR Klimovskoe 33.26 349 *e*P **P 22 50 58.4 -3.2**
KLMR pmax pmax
comp=Z,66nm,0.7s
INTR Introdacqua 33.27 304 P **P 22 51 02.4 +0.3**
MORC Moravsky Berou 33.40 319 P **P 22 51 02.8 -0.2**
MORC IAmb IAmb 22 51 04.4
comp=Z,7.1nm,1.0s
MORC Moravsky Berou 33.40 319 P **P 22 51 02.8 -0.2**
MORC pmax pmax
comp=Z,7.0nm,1.0s
PABE Paberze 33.40 331 *e*P **P 22 51 03.6 +0.7**
SOKA Soboth 33.73 312 *e*PcP **PcP 22 53 46.0 +0.7**
comp=Z,3.0nm,1.2s
KRLC Kraliky 33.97 319 *e*P **P 22 51 08.3 +0.3**
KRLC Kraliky 33.97 319 *e*P **P 22 51 08.3 +0.3**
DPC Dobruska-Polom 34.36 319 *e*P **P 22 51 11.8 +0.4**
DPC Dobruska-Polom 34.36 319 *e*P **P 22 51 11.8 +0.4**
DPC Dobruska-Polom 34.36 319 P **P 22 51 11.7 +0.4**
VSU Vasula 34.47 337 *ce*P **P 22 51 11.2 -0.9**
VSU pmax pmax
comp=Z,98nm,2.5s
VSU Vasula 34.47 337 *e*P **P 22 51 11.8 -0.3**
KSP Ksiaz 34.59 320 P **P 22 51 13.9 +0.6**
comp=Z,7.8nm,1.0s
CHVC Chvalec 34.62 319 *e*P **P 22 51 14.2 +0.7**
CHVC Chvalec 34.62 319 *e*P **P 22 51 14.2 +0.7**
MOA Molln 34.62 314 *e*P **P 22 51 13.7 0.0**
comp=Z,1.7nm,0.6s
KAAM Kaadhehdhoo 34.64 140 P **P 22 51 13.3 -0.7**
KBA Koelnbreinsper 34.96 312 *e*P **P 22 51 17.4 +0.7**
comp=Z,2.3nm,0.6s
BIOA Bad Ischl, Aus 34.97 314 *e*P **P 22 51 16.9 +0.3**
comp=Z,1.6nm,0.7s
ZAA0 Zalesovo Array 35.03 34 P **P 22 51 17.1 +0.1**
ZAA0 IAmb IAmb 22 51 18.1
comp=Z,8.4nm,0.9s
ZALV Zalesovo Beam 35.03 34 P **P 22 51 16.7 -0.3**
ZALV Zalesovo Beam 35.03 34 P **P 22 51 17.3 +0.3**
comp=Z,5.6nm,0.4s,baz=240,slow=9.3,SNR=41
ZALV LR LR 23 07 23.2
comp=Z,66nm,20.6s,baz=248,slow=39
comp=Z,5.6nm,0.4s
ZVC Zvikov 35.24 317 *e*P **P 22 51 19.2 +0.2**
GERES GERESS Array B 35.33 315 P **P 22 51 20.1 +0.3**
GERES GERESS Array B 35.33 315 P **P 22 51 19.2 -0.6**
comp=Z,0.4nm,0.5s,baz=107,slow=7.1,SNR=6.1
GERES PcP **PcP 22 53 50.0 +0.1**
comp=Z,0.7nm,0.6s,baz=126,slow=2.3,SNR=6.1
comp=Z,0.4nm,0.5s
CIMO Cimolais 35.33 311 P **P 22 51 19.6 -0.2**
ABTA Abfaltersbach 35.40 312 *e*P **P 22 51 20.7 +0.2**
comp=Z,2.6nm,0.9s
ABTA *e*PcP **PcP 22 53 50.1 0.0**
comp=Z,3.4nm,1.3s
ARBE Arbavere 35.46 338 *e*P **P 22 51 21.4 +0.7**
LESA Schwarzleotal 35.50 313 *e*P **P 22 51 21.5 +0.2**
comp=Z,2.7nm,0.5s
LESA *e*PcP **PcP 22 53 50.2 -0.2**
comp=Z,2.2nm,0.7s
KHC Kasperske Hory 35.50 316 *e*P **P 22 51 21.6 +0.4**
KHC Kasperske Hory 35.50 316 *ce*P **P 22 51 22.1 +0.9**
KHC pmax pmax
comp=Z,11nm,1.3s
KHC Kasperske Hory 35.50 316 P **P 22 51 21.6 +0.4**
comp=Z,4.9nm,2.0s
MTSE Matsula 35.69 335 *e*P **P 22 51 23.1 +0.5**
WTTA Wattenberg 36.13 312 *e*P **P 22 51 26.8 +0.1**
comp=Z,4.9nm,0.8s
WTTA *i* PcP **PcP 22 53 53.2 +0.8**
comp=Z,5.0nm,1.2s
WATA Walderalm 36.19 312 *e*P **P 22 51 27.3 +0.1**
comp=Z,2.9nm,0.7s
WATA *e*PcP **PcP 22 53 52.3 -0.2**
comp=Z,2.3nm,0.6s
KEST Kesra 36.25 292 P **P 22 51 29.5 +1.6**
KEST IAmb IAmb 22 51 31.3
comp=Z,7.0nm,1.1s
KEST Kesra 36.25 292 P **P 22 51 30.1 +2.2**
comp=Z,6.0nm,0.9s,baz=53,slow=2.8,SNR=12
VSL Villasalto 36.34 299 P **P 22 51 28.8 +0.4**
VSL IAmb IAmb 22 51 31.3
comp=Z,10nm,0.8s
SQTA Sankt Quirin 36.39 312 *e*P **P 22 51 28.9 -0.1**
comp=Z,4.3nm,0.7s
SQTA *i* PcP **PcP 22 53 52.9 -0.3**
comp=Z,3.4nm,1.0s
BRDH Bariadhala 36.46 90 LR LR 23 08 31.3
comp=Z,100nm,18.6s,baz=276,slow=40
MOTA Moosalm 36.50 312 *e*P **P 22 51 29.8 -0.1**
comp=Z,4.3nm,0.9s
MOTA *e*PcP **PcP 22 53 54.2 +0.7**
comp=Z,5.1nm,1.1s
MEF Metsahovi 36.58 337 *e*P **P 22 51 30.9 +0.7**
FETA Feichten 36.65 311 *e*P **P 22 51 31.2 0.0**
comp=Z,5.8nm,1.3s
FETA *e*PcP **PcP 22 53 54.1 +0.1**
comp=Z,3.9nm,1.1s
CLL Collm 36.67 319 *i* P **P 22 51 31.0 -0.1**
CLL *e**SP **sP 22 51 38.0 -0.3**
CLL Collm 36.67 319 *i* P **P 22 51 31.0 -0.1**
CLL *i* pP **pP 22 51 34.5 -1.7**
CLL *ex* x 22 51 38.0
RUE Ruedersdorf 36.72 321 *e*P **P 22 51 32.2 +0.7**
RETA Reutte 36.76 312 *e*P **P 22 51 32.0 -0.1**
comp=Z,2.9nm,0.7s
JOF Joensuu 36.79 345 *e*P **P 22 51 32.7 +0.8**
FUORN Ofenpass-Fuorn 36.86 311 P **P 22 51 33.6 +0.4**
FIA1 FINESS Array S 36.98 340 P **P 22 51 33.8 +0.2**
FINES FINESS Array B 36.98 340 P **P 22 51 33.8 +0.2**
comp=Z,15nm,0.4s,baz=147,slow=8.3,SNR=212
FINES PcP **PcP 22 53 52.8 -1.6**
comp=Z,1.7nm,0.6s,baz=108,slow=6.2,SNR=2.4
comp=Z,15nm,0.4s
DAVOX Davos/Dischmat 37.16 311 LR LR 23 12 44.6
comp=Z,33nm,18.8s,baz=72,slow=46
DAVA Damuels 37.28 312 *i* P **P 22 51 36.4 -0.2**
comp=Z,9.2nm,0.7s
KEF Keuruu 37.90 340 *e*P **P 22 51 42.1 +0.7**
RAF Rauma 38.06 337 *e*P **P 22 51 43.0 +0.3**
SENIN Lac Senin/Sane 38.80 309 P **P 22 51 49.1 -0.4**
SENIN IAmb IAmb 22 51 54.9
comp=Z,18nm,0.9s
BNI Bardonecchia 38.99 307 P **P 22 51 50.7 -0.3**
BNI Bardonecchia 38.99 307 P **P 22 51 50.7 -0.3**
BNI pmax pmax
comp=Z,4.0nm,0.9s
VAF Ylistaro 39.23 340 *e*P **P 22 51 53.2 +0.7**
HFS Hagfors 40.58 332 P **P 22 52 03.6 -0.3**
comp=Z,6.0nm,0.3s,baz=129,slow=8.4,SNR=55
comp=Z,6.0nm,0.3s
LVZ Lovozero 40.62 350 P **P 22 52 04.5 +0.4**
LVZ Lovozero 40.62 350 P **P 22 52 04.5 +0.4**
LVZ pmax pmax
comp=Z,53nm,1.3s
GTA Gaotai 40.98 62 P **P 22 52 08.5 +0.9**
GTA pmax pmax
comp=Z,14nm,0.9s
TAM Tamanrasset 41.72 273 P **P 22 52 13.8 -0.1**
TAM Tamanrasset 41.72 273 P **P 22 52 13.8 -0.1**
TAM pmax pmax
comp=Z,6.0nm,1.0s
OSL Oslo 41.74 330 *e*P **P 22 52 14.0 +0.6**
NC602 NORSAR Array S 41.80 332 *e*P **P 22 52 14.4 +0.5**
HOMB Homborsund 41.96 327 *e*P **P 22 52 15.4 +0.3**
KONO Kongsberg 42.09 330 *e*P **P 22 52 17.2 +1.0**
NB2 NORSAR Subarra 42.10 332 P **P 22 52 15.8 -0.6**
comp=Z,6.3nm,0.7s,baz=122,slow=8.6
NB2 NORSAR Subarra 42.10 332 P **P 22 52 15.8 -0.6**
baz=122,slow=8.6
NOA NORSAR Array B 42.10 332 P **P 22 52 15.5 -0.8**
comp=Z,4.0nm,0.6s,baz=121,slow=8.2,SNR=18
NOA LR LR 23 12 05.9
comp=Z,34nm,19.1s,baz=355,slow=40
comp=Z,4.0nm,0.6s
SKAR Skarslia 43.15 330 *e*P **P 22 52 26.0 +1.1**
MOY Mondy 43.20 44 *e*P **P 22 52 27.0 +1.5**
MOY pmax pmax
comp=Z,16nm,2.0s
VADS Vadso 43.46 349 *e*P **P 22 52 28.2 +1.0**
DOMB Dombas 43.50 332 *e*P **P 22 52 28.9 +1.2**
KEV Kevo 43.55 348 P **P 22 52 28.3 +0.3**
KEV Kevo 43.55 348 P **P 22 52 28.3 +0.3**
KEV pmax pmax
comp=Z,35nm,1.1s
ARA0 ARCESS Array S 43.66 347 *e*P **P 22 52 29.5 +0.7**
ARCES ARCESS Array B 43.66 347 P **P 22 52 29.1 +0.3**
ARCES IAmb IAmb 22 52 39.1
comp=Z,23nm,1.4s
ARCES ARCESS Array B 43.66 347 P **P 22 52 29.1 +0.3**
comp=Z,2.1nm,0.3s,baz=156,slow=7.3,SNR=47
ARCES PcP **PcP 22 54 15.3 -0.5**
comp=Z,1.7nm,0.5s,baz=153,slow=4.1,SNR=5.7
comp=Z,2.1nm,0.3s
KTK1 Kautokeino 43.70 346 *e*P **P 22 52 29.7 +0.6**
NSS Namsos 43.76 337 *e*P **P 22 52 30.2 +0.5**
MOR8 Moi Rana 43.96 339 *e*P **P 22 52 31.2 -0.1**
PZH PanZhiHua 44.25 80 P **P 22 52 34.5 +0.2**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.1s
CMAR Chiang Mai Arr 44.33 92 P **P 22 52 34.4 -0.5**
comp=Z,1.4nm,0.3s,baz=289,slow=8.9,SNR=12
CMAR PcP **PcP 22 54 18.8 -0.2**
comp=Z,1.4nm,0.3s,baz=286,slow=4.6,SNR=4.4
CMAR LR LR 23 16 07.9
comp=Z,37nm,18.1s,baz=285,slow=43
comp=Z,1.4nm,0.3s
CMAR Chiang Mai Arr 44.33 92 *i* P **P 22 52 34.9 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
LZH Lanzhou 44.33 66 *e*P **P 22 52 35.5 +0.6**
LZH pP pP 22 52 40.3 +0.1
LZH pmax pmax
comp=Z,21nm,0.8s
BER Bergen 44.34 329 *e*P **P 22 52 35.1 +0.8**
LEIR Leirfjorden 44.34 339 *e*P **P 22 52 35.1 +0.8**

AKN	Aaknes	44.42	332	eP		P	22 52 36.5 +1.5
FAUS	Fauske	44.51	341	eP		P	22 52 36.2 +0.6
STOK	Stokkvaagen	44.51	339	eP		P	22 52 36.1 +0.5
KONS	Konsvik	44.58	339	eP		P	22 52 36.5 +0.3
VAGH	Vaagaholmen	44.68	339	eP		P	22 52 38.2 +1.2
JETT	Jettan, Norway	44.76	345	eP		P	22 52 38.5 +0.8
STEI	Steigen	44.89	341	eP		P	22 52 38.8 +0.1
HAMF	Hammerfest	44.93	347	eP		P	22 52 40.0 +1.1
CRAI	Chiangrai	44.94	89	P		P	22 52 39.6 -0.2
CRAI				IAmb	IAmb		22 52 44.6
	comp=Z,6.6nm,1.0s						
FOO	Floro	44.98	331	eP		P	22 52 40.5 +1.0
TRO	Tromso	45.16	345	eP		P	22 52 41.1 +0.4
NRIK	Noril'sk	45.75	17	P		P	22 52 45.9 +0.4
NRIK				IAmb	IAmb		22 52 48.0
	comp=Z,11nm,1.1s						
NRIK	Noril'sk	45.75	17	P		P	22 52 46.1 +0.6
	comp=Z,5.7nm,0.7s,baz=232,slow=6.5,SNR=15						
NRIK				LR	LR		23 15 34.4
	comp=Z,52nm,18.9s,baz=278,slow=41						
	comp=Z,5.7nm,0.7s						
NRIK	Noril'sk	45.75	17	i P		P	22 52 46.5 +1.0
NRIK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	Songino Array	46.10	50	P		P	22 52 49.0 +0.2
SONM	Songino Array	46.10	50	P		P	22 52 49.2 +0.5
	comp=Z,1.5nm,0.8s,baz=266,slow=9.4,SNR=7.7						
SONM				PcP		PcP	22 54 24.3 -0.5
	comp=Z,1.0nm,0.7s,baz=264,slow=3.7,SNR=5.4						
SONM				LR	LR		23 15 14.7
	comp=Z,78nm,18.2s,baz=282,slow=40						
	comp=Z,1.5nm,0.8s						
SONM	Songino Array	46.10	50	P		P	22 52 49.0 +0.2
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	Ulaanbaatar	46.55	50	P		P	22 52 52.2 -0.1
ULN				IAmb	IAmb		22 53 12.5
	comp=Z,3.3nm,0.7s						
ULN	Ulaanbaatar	46.55	50	ceP		P	22 52 53.1 +0.8
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ESDC	Sonseca Array	46.64	299	P		P	22 52 53.3 +0.3
ESDC	Sonseca Array	46.64	299	P		P	22 52 53.0 0.0
	comp=Z,0.8nm,0.6s,baz=67,slow=7.9,SNR=16						
	comp=Z,0.8nm,0.6s						
PAB	San Pablo	46.94	299	P		P	22 52 55.2 -0.2
PAB				IAmb	IAmb		22 52 56.1
	comp=Z,4.0nm,1.1s						
PAB	San Pablo	46.94	299	P		P	22 52 55.2 -0.2
PAB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OPO	Ambohidratompo	47.08	186	LR	LR		23 12 48.0
	comp=Z,59nm,18.1s,baz=356,slow=36						
EKA	Eskdalemuir Ar	47.10	320	P		P	22 52 56.0 -0.3
	comp=Z,1.2nm,0.4s,baz=104,slow=8.1,SNR=17						
	comp=Z,1.2nm,0.4s						
EKA	Eskdalemuir Ar	47.10	320	P		P	22 52 56.0 -0.3
ESK	Eskdalemuir	47.12	320	P		P	22 52 56.2 -0.3
ESK	Eskdalemuir	47.12	320	P		P	22 52 56.2 -0.3
ESK				pmax	pmax		
	comp=Z,28nm,1.4s						
ABPO	Ambohimpanom	47.52	186	P		P	22 52 59.3 -0.8
ABPO				IAmb	IAmb		22 53 02.9
	comp=Z,4.6nm,0.8s						
ABPO	Ambohimpanom	47.52	186	P		P	22 52 59.3 -0.8
ABPO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DSB	Dublin	48.64	317	P		P	22 53 08.4 +0.2
TORD	Torodi Ar. Bea	48.75	262	P		P	22 53 09.6 0.0
TORD				IAmb	IAmb		22 53 13.2
	comp=Z,3.6nm,0.8s						
TORD	Torodi Ar. Bea	48.75	262	P		P	22 53 10.0 +0.4
	comp=Z,4.9nm,0.7s,baz=48,slow=8.2,SNR=9.5						
TORD				LR	LR		23 13 14.4
	comp=Z,76nm,20.6s,baz=78,slow=36						
	comp=Z,4.9nm,0.7s						
LSZ	Lusaka	49.14	210	LR	LR		23 15 26.9
	comp=Z,111nm,19.4s,baz=100,slow=38						
HOPEN	Hopen	49.65	352	eP		P	22 53 16.9 +1.2
HHC	Hu-ho-hao-te	49.90	59	eP		P	22 53 18.3 0.0
HHC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,61nm,5.1s						
VOI	Vohitsoka	50.42	186	P		P	22 53 23.0 +0.7
UBPT	Khong Chiam	51.31	93	P		P	22 53 30.0 +0.9
UBPT				IAmb	IAmb		22 53 36.0
	comp=Z,6.3nm,1.2s						
SPB2	Spitsbergen Ar	52.11	351	P		P	22 53 35.0 +0.8
SPA0	Spitsbergen Ar	52.12	351	eP		P	22 53 35.5 +1.2
SPITS	Spitsbergen Ar	52.12	351	P		P	22 53 35.0 +0.7
	comp=Z,3.9nm,0.5s,baz=137,slow=14,SNR=30						
	comp=Z,3.9nm,0.5s						
SPITS	Spitsbergen Ar	52.12	351	P		P	22 53 35.0 +0.7
TIA	Tai'an	54.92	64	P		P	22 53 56.0 +0.5
TIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NJ2	Nanjing	57.31	69	eP		P	22 54 12.5 0.0
NJ2				pmax	pmax		
	comp=Z,30nm,0.5s						
DBIC	Dimbokro	57.48	259	P		P	22 54 13.9 0.0
DBIC	Dimbokro	57.48	259	P		P	22 54 14.1 +0.2
	comp=Z,15nm,0.7s,baz=57,slow=8.8,SNR=16						
DBIC				LR	LR		23 19 45.3
	comp=Z,58nm,18.2s,baz=66,slow=37						
	comp=Z,15nm,0.7s						
TSUM	Tsumeb	57.78	219	P		P	22 54 15.9 -0.1
TSUM				IAmb	IAmb		22 54 22.8
	comp=Z,6.0nm,1.2s						
DBG	Daneborg	57.80	342	i P		P	22 54 15.5 +0.2
DBG				IAmb	IAmb		22 54 17.4
	comp=Z,2.9nm,0.7s						
SCO	Scoresbysund	57.85	338	P		P	22 54 16.9 +1.2
SCO	Scoresbysund	57.85	338	P		P	22 54 16.9 +1.2
SCO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOR	Nord	58.75	351	i P		P	22 54 21.5 -0.4
NOR				IAmb	IAmb		22 54 25.7
	comp=Z,2.2nm,0.6s						
LBTB	Lobatse	58.88	208	P		P	22 54 24.1 +0.5
LBTB				IAmb	IAmb		22 54 27.4
	comp=Z,4.5nm,1.0s						
LBTB	Lobatse	58.88	208	P		P	22 54 24.1 +0.5
LBTB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	Tiksi	59.14	21	P		P	22 54 24.8 +0.1
TIXI				IAmb	IAmb		22 54 26.5
	comp=Z,2.4nm,0.6s						
TIXI	Tiksi	59.14	21	LR	LR		23 23 08.9
	comp=Z,51nm,20.3s,baz=233,slow=39						
TIXI	Tiksi	59.14	21	i P		P	22 54 24.8 +0.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MDSI	Maura Dua	60.28	114	P		P	22 54 32.0 -1.4
	comp=Z,12nm,0.7s						
KSM	Kuching	62.05	105	P		P	22 54 44.2 -1.2
BOSA	Boshof	62.22	206	P		P	22 54 46.5 +0.1
BOSA	Boshof	62.22	206	P		P	22 54 46.9 +0.5
	comp=Z,2.8nm,0.9s,baz=16,slow=4.6,SNR=3.7						
	comp=Z,2.8nm,0.9s						
BOSA	Boshof	62.22	206	P		P	22 54 46.5 +0.1
BOSA				pmax	pmax		
	comp=Z,18nm,1.5s						
KLR	Kul'dur	62.73	47	LR	LR		23 24 49.6
	comp=Z,141nm,19.6s,baz=276,slow=39						
SUMG	Summit	63.01	340	P		P	22 54 52.1 +0.6
SUMG	Summit	63.01	340	P		P	22 54 52.1 +0.6
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SUMG	Summit	63.01	340	i P		P	22 54 52.0 +0.5
SUMG				IAmb	IAmb		22 54 53.4
	comp=Z,8.1nm,0.7s						
KSRS	Korea Array	63.02	60	P		P	22 54 50.6 -1.0
	comp=Z,1.9nm,0.8s,baz=279,slow=6.7,SNR=4.5						
KSRS				LR	LR		23 25 12.2
	comp=Z,49nm,20.1s,baz=280,slow=39						
	comp=Z,1.9nm,0.8s						
SBUM	Sibu	63.18	103	P		P	22 54 51.9 -1.1
SBUM				IAmb	IAmb		22 54 53.5
	comp=Z,2.6nm,0.9s						
ICESG	Greenland Ices	64.05	336	i P		P	22 54 58.4 0.0
ICESG				IAmb	IAmb		22 54 59.8
	comp=Z,10nm,0.6s						
USRK	Ussuriysk Ar.	64.13	52	P		P	22 54 58.8 0.0
	comp=Z,2.7nm,0.8s,baz=297,slow=5.7,SNR=4.1						
	comp=Z,2.7nm,0.8s						
NEEM	North Greenlan	65.01	346	i P		P	22 55 04.4 -0.1
NEEM				IAmb	IAmb		22 55 05.9
	comp=Z,5.7nm,0.7s						
SFJD	Kangerlussuaq	68.61	336	P		P	22 55 27.3 +0.2
SFJD	Kangerlussuaq	68.61	336	P		P	22 55 27.3 +0.2
SFJD				pmax	pmax		
	comp=Z,18nm,1.2s						
EUNU	Eureka	69.19	353	P		P	22 55 31.5 +0.9
EUNU				IAmb	IAmb		22 55 32.8
	comp=Z,4.5nm,0.8s						
SEY	Seymchan	69.63	29	eP		P	22 55 33.3 -0.2
SEY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MA2	Magadan	70.21	32	P		P	22 55 37.3 +0.1
MA2				IAmb	IAmb		22 55 38.4
	comp=Z,7.7nm,0.9s						
MA2	Magadan	70.21	32	LR	LR		23 29 40.2
	comp=Z,40nm,19.2s,baz=200,slow=39						
MA2	Magadan	70.21	32	P		P	22 55 37.3 +0.1
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MA2	Magadan	70.21	32	P		P	22 55 37.5 +0.3
	comp=Z,9.4nm,0.9s						
YSS	Yuzhno-Sakhali	70.45	47	eP		P	22 55 38.2 -0.6
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BILL	Bilibino	72.36	21	P		P	22 55 50.7 +0.7
BILL				IAmb	IAmb		22 55 52.2
	comp=Z,7.7nm,1.0s						
ILON	Igloolik, Nuna	76.64	345	P		P	22 56 15.2 +0.4
ILON				IAmb	IAmb		22 56 16.3
	comp=Z,5.4nm,0.7s						
A19K	Wainwright	78.73	11	P		P	22 56 27.2 +0.7
	baz=331						
GIRL	Giralia	78.98	123	P		P	22 56 28.2 -0.4
B18K	Kokolik River	79.34	11	P		P	22 56 30.4 +0.5
	baz=330						
B20K	Meade River	79.52	10	P		P	22 56 31.6 +0.8
B20K				IAmb	IAmb		22 56 33.3
	comp=Z,8.2nm,0.8s						
B20K	Meade River	79.52	10	P		P	22 56 31.2 +0.5
	baz=334						
C16K	Lisburne Hills	79.62	13	P		P	22 56 31.9 +0.5
	baz=328						
A36M	Sachs Harbour	79.67	359	P		P	22 56 32.0 +0.5
A36M	Sachs Harbour	79.67	359	P		P	22 56 32.2 +0.7
	baz=2.8,SNR=36						
B22K	Teshekpuk Lake	79.73	8	P		P	22 56 33.1 +1.1
	baz=338						
C17K	DeLong Mountai	79.86	12	P		P	22 56 33.4 +0.6
	baz=329						
C18K	Utukok River	80.08	12	P		P	22 56 34.5 +0.6
C18K				IAmb	IAmb		22 56 35.5
	comp=Z,7.9nm,0.8s						
C18K	Utukok River	80.08	12	P		P	22 56 34.6 +0.6
	baz=331						
B21K	Ikpikpuk River	80.23	9	P		P	22 56 35.7 +1.0
B21K				IAmb	IAmb		22 56 37.0
	comp=Z,10nm,0.8s						
B21K	Ikpikpuk River	80.23	9	P		P	22 56 35.6 +0.9
	baz=337						
C23K	Itkillik River	80.54	8	P		P	22 56 37.5 +1.1
	baz=340						
D17K	Noatak River	80.56	13	P		P	22 56 37.6 +1.2
	baz=330						
C21K	Knifeblade Rid	80.64	9	P		P	22 56 37.5 +0.6
	baz=337						
D19K	Kuna River	80.74	11	P		P	22 56 37.7 +0.2
	baz=334						
D20K	Etivluk River	80.78	10	P		P	22 56 37.7 0.0
	baz=335						
C24K	Franklin Bluff	80.87	7	P		P	22 56 38.3 +0.2
	baz=342						
D22K	Ayikyak River	81.19	9	P		P	22 56 40.2 +0.3
	baz=339						
E20K	Nigu River	81.26	10	P		P	22 56 40.5 +0.2
	baz=336						
E18K	Tukpahlearik C	81.27	12	P		P	22 56 40.9 +0.6
	baz=332						
E17K	Hotham Inlet	81.33	13	P		P	22 56 40.7 0.0
	baz=331						
D23K	Nanushuk River	81.36	8	P		P	22 56 41.1 +0.4
	baz=340						
D24K	Happy Valley	81.40	7	P		P	22 56 41.5 +0.6
	baz=342						
E21K	Killik River	81.42	9	P		P	22 56 42.0 +0.9
	baz=337						
C27K	Jago River	81.43	5	P		P	22 56 41.8 +0.7
	baz=346						
D25K	Kavik River	81.49	6	P		P	22 56 42.7 +1.2
	baz=344						
SCHQ	Schefferville	81.59	329	P		P	22 56 42.5 +0.2
SCHQ	Schefferville	81.59	329	P		P	22 56 42.3 0.0
	comp=Z,10nm,0.7s,baz=35,slow=4.3,SNR=28						
	comp=Z,10nm,0.7s						
F14K	Arctic Creek	81.77	15	P		P	22 56 43.8 +0.8
	baz=327						
TOLK	Toolik Lake Re	81.80	8	P		P	22 56 43.9 +0.8
TOLK				IAmb	IAmb		22 56 45.4
	comp=Z,9.6nm,1.1s						
TOLK	Toolik Lake Re	81.80	8	P		P	22 56 44.3 +1.2
	baz=341						
E19K	Redstone River	81.82	11	P		P	22 56 43.9 +0.7
	baz=335						
F15K	North Star Dit	81.95	14	P		P	22 56 44.9 +1.0
	baz=328						
E22K	Anaktuvuk Pass	82.00	9	P		P	22 56 44.9 +0.7
	baz=339						
F17K	Baldwin Pennin	82.01	13	P		P	22 56 44.3 +0.2
	baz=331						
D27M	Malcolm River	82.02	4	P		P	22 56 44.7 +0.4
	baz=349						
D28M	Stokes Point	82.07	4	P		P	22 56 44.6 +0.2
	baz=351						
C36M	Paulatuk	82.29	358	P		P	22 56 45.4 -0.2
C36M				IAmb	IAmb		22 56 46.5
	comp=Z,6.2nm,0.8s						
C36M	Paulatuk	82.29	358	P		P	22 56 45.3 -0.2
	baz=3.8						
F19K	Shaleruckik Mo	82.29	11	P		P	22 56 45.9 +0.2
	baz=334						
E23K	Chandalar	82.35	8	P		P	22 56 46.1 0.0
	baz=341,SNR=5.6						
F20K	Avaraart Lake	82.44	10	P		P	22 56 46.1 -0.3
	baz=336						
E24K	Your Creek	82.47	7	P		P	22 56 47.3 +0.6
	baz=342						
F22K	John River	82.54	9	P		P	22 56 47.3 +0.3
	baz=339,SNR=6.7						
F21K	Alatna River	82.62	10	P		P	22 56 48.1 +0.6
	baz=338						
G15K	Niukluk	82.69	14	P		P	22 56 48.0 +0.2
	baz=329						
G16K	Koyuk River	82.70	14	P		P	22 56 48.3 +0.5
	baz=330						
E25K	Arctic Village	82.73	6	P		P	22 56 48.6 +0.6
	baz=345,SNR=9.2						
E28M	Babbage River	82.74	4	P		P	22 56 49.0 +1.0
	baz=350						
G17K	Kiwalik Mounta	82.95	13	P		P	22 56 49.7 +0.5
	baz=332						
G18K	Tagagawik	82.98	12	P		P	22 56 49.8 +0.5
	baz=334						
E27K	Coleen River	83.01	5	P		P	22 56 49.8 +0.3
	baz=348						
E29M	Blow River	83.05	4	P		P	22 56 50.0 +0.3
	baz=352						
COLD	Coldfoot	83.06	8	P		P	22 56 50.7 +1.0
	baz=341						
F24K	Squaw Lake	83.07	7	P		P	22 56 50.5 +0.7
	baz=343						
F25K	Christian Rive	83.23	7	P		P	22 56 50.5 -0.2
	baz=345						
G21K	Allakaket	83.27	10	P		P	22 56 50.9 +0.1
	baz=338						
F26K	Sheenjek River	83.28	6	P		P	22 56 51.5 +0.6
	baz=346						
INK	Inuvik	83.32	2	P		P	22 56 51.2 +0.2
INK				IAmb	IAmb		22 56 52.3
	comp=Z,3.1nm,0.8s						
INK	Inuvik	83.32	2	P		P	22 56 51.2 +0.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	83.32	2	P		P	22 56 51.7 +0.7
	baz=356						
H16K	Elim	83.39	14	P		P	22 56 52.1 +0.7
	baz=330						
BMAR	Burnt Mountain	83.50	6	P		P	22 56 53.2 +1.2
G23K	Bananza Creek	83.58	8	P		P	22 56 53.0 +0.6
	baz=341						
H17K	Granite Mounta	83.60	13	P		P	22 56 53.0 +0.5
	baz=332						
H18K	Honhosa River	83.70	12	P		P	22 56 53.7 +0.6
	baz=334						
H19K	Roundabout Mou	83.71	11	P		P	22 56 53.6 +0.6
	baz=335						
G24K	Hadweenzic Riv	83.90	8	P		P	22 56 54.4 +0.4
	baz=343						
F30M	Barrier River	83.93	3	P		P	22 56 54.6 +0.4
	baz=354						
H20K	Anotleneega Mo	84.01	11	P		P	22 56 55.0 +0.4
	baz=337						
G26K	Porcupine Rive	84.04	6	P		P	22 56 55.3 +0.6
	baz=346						
H22K	Ishtalitna Cre	84.17	9	P		P	22 56 55.9 +0.5
	baz=340						
F31M	Tsiigehtchic	84.18	2	P		P	22 56 56.0 +0.7
	baz=355,SNR=5.2						
H21K	Melozitna Rive	84.18	10	P		P	22 56 56.1 +0.6
	baz=339						
G27K	Doyon Strip	84.36	5	P		P	22 56 57.2 +0.8
	baz=348						
I17K	Unalakleet	84.38	14	P		P	22 56 57.2 +0.8
	baz=332						
H23K	Yukon River	84.48	9	P		P	22 56 57.8 +0.8
	baz=341						
H25L	Birch Creek	84.50	7	P		P	22 56 58.2 +1.1
	baz=345						
G29M	Pine Creek	84.51	4	P		P	22 56 57.8 +0.6
	baz=352						
G31M	Satah River	84.68	2	P		P	22 56 58.6 +0.7
	baz=355,SNR=8.3						
H24K	Noodor Dome	84.68	8	P		P	22 56 58.5 +0.4
	baz=343						
J16K	Anvik River	84.93	14	P		P	22 57 00.2 +0.9
	baz=332						
H27K	Steamboat Moun	84.94	5	P		P	22 57 00.1 +0.8
	baz=348,SNR=8.9						
EPYK	Eagle Plains	85.12	3	P		P	22 57 00.7 +0.4
	baz=353						
J17K	VABM Dome	85.14	13	P		P	22 57 00.2 -0.2
	baz=333						
I23K	Minto, Yukon-K	85.15	9	P		P	22 57 00.3 0.0
	baz=342						
K13K	Kusilvak Mount	85.17	16	P		P	22 57 01.3 +0.8
	baz=329						
H29M	Whitestone	85.18	4	P		P	22 57 00.5 0.0
	baz=351						
FITZ	Fitzroy Crossi	85.25	113	P		P	22 57 01.2 -0.4
J19K	Poorman	85.26	12	P		P	22 57 01.1 +0.1
	baz=336						
PRP	Porcupine Dome	85.26	7	P		P	22 57 01.1 0.0
	baz=345						
J20K	Nowinta River	85.35	11	P		P	22 57 01.5 +0.1
	baz=338						
POKR	Poker Plat Res	85.43	8	P		P	22 57 01.8 0.0
	baz=343						
J18K	Innoko River	85.54	12	P		P	22 57 02.5 +0.1
	baz=335						
I27K	Kandik River	85.55	5	P		P	22 57 02.4 -0.1
	baz=348						
K15K	Wolf Creek Mou	85.60	15	P		P	22 57 02.5 -0.1
	baz=331						
I26K	Coal Creek Min	85.71	6	P		P	22 57 02.5 -0.7
	baz=347						
NEA2	Nenana	85.72	9	P		P	22 57 02.6 -0.7
	baz=342						
H31M	Peel River	85.79	2	P		P	22 57 03.2 -0.4
	baz=355						
ILAR	Eielson Array	85.83	8	P		P	22 57 03.4 -0.4
ILAR	Eielson Array	85.83	8	P		P	22 57 03.0 -0.8
	comp=Z,1.1nm,0.7s,baz=328,slow=4.3,SNR=14						
ILAR				PP		PP	23 00 26.1 +3.7
	comp=Z,0.3nm,0.8s,baz=352,slow=8.7,SNR=4.0						
	comp=Z,1.1nm,0.7s						
ILAR	Eielson Array	85.83	8	P		P	22 57 03.4 -0.4
CCB	Clear Creek Bu	85.83	8	P		P	22 57 03.4 -0.4
I28M	Miner Creek	85.84	5	P		P	22 57 03.6 -0.3
	baz=350						
K17K	Iditarod	85.91	13	P		P	22 57 04.0 -0.2
	baz=334						
BPAW	Bear Paw Mtn.	85.92	10	P		P	22 57 04.5 +0.2
BPAW	Bear Paw Mtn.	85.92	10	P		P	22 57 04.4 +0.2
	baz=340,SNR=11						
CHUM	Lake Minchumin	85.92	10	P		P	22 57 03.4 -0.8
	baz=339,SNR=12						
K20K	Telida	86.12	11	P		P	22 57 04.8 -0.5
	baz=338						
L15K	Ungalak Mounta	86.15	15	P		P	22 57 05.0 -0.3
	baz=331						
J25K	Salcha River,	86.16	7	P		P	22 57 05.2 -0.3
	baz=345,SNR=7.8						
L14K	Kuka Creek	86.17	16	P		P	22 57 05.5 0.0
	baz=330						
HDA	Harding Lake	86.17	8	P		P	22 57 05.2 -0.2
	baz=344						
I30M	Mount Dempster	86.28	3	P		P	22 57 05.7 -0.5
	baz=353,SNR=9.1						
CAST	Castle Rocks	86.39	10	P		P	22 57 07.0 +0.4
CAST				IAmb	IAmb		22 57 08.1
	comp=Z,7.0nm,0.9s						
CAST	Castle Rocks	86.39	10	P		P	22 57 06.8 +0.2
	baz=339,SNR=8.5						
L17K	Donlin	86.44	14	P		P	22 57 06.3 -0.5
	baz=334						
J26L	Joseph Creek	86.45	7	P		P	22 57 06.3 -0.7
	baz=347,SNR=8.0						
KNRA	Kununurra	86.55	110	P		P	22 57 07.5 -0.5
KNRA				IAmb	IAmb		22 57 10.2
	comp=Z,6.3nm,0.8s						
MCK	McKinley	86.56	9	P		P	22 57 07.5 +0.1
MCK				IAmb	IAmb		22 57 08.4
	comp=Z,9.0nm,1.2s						
MCK	McKinley	86.56	9	P		P	22 57 07.5 +0.1
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MCK	McKinley	86.56	9	P		P	22 57 07.3 -0.1
	baz=342,SNR=6.1						
L16K	Owhat River	86.57	14	P		P	22 57 07.4 0.0
	baz=333						
TRF	Thorofare Moun	86.64	10	P		P	22 57 07.5 -0.5
	baz=341						
L18K	Granite Mounta	86.69	13	P		P	22 57 07.9 -0.1
	baz=335						
M13K	Dall Lake	86.81	17	P		P	22 57 08.5 -0.1
	baz=330						
M14K	Bethel	86.85	16	P		P	22 57 08.8 0.0
	baz=331						
PPLA	Purkeypile	86.86	11	P		P	22 57 08.6 -0.4
	baz=339						
K24K	Donnelly Dome	86.89	8	P		P	22 57 09.2 +0.2
	baz=345						
SCRK	Sand Creek	86.92	7	P		P	22 57 10.2 +0.9
SCRK				IAmb	IAmb		22 57 11.4
	comp=Z,7.7nm,1.1s						
SCRK	Sand Creek	86.92	7	P		P	22 57 09.4 +0.1
	baz=346,SNR=7.0						
J30M	Hart River	86.93	3	P		P	22 57 09.3 -0.1
	baz=353						
J29N	Klondike Camp	86.94	4	P		P	22 57 09.3 0.0
	baz=351						
L20K	Farewell, AK	86.97	12	P		P	22 57 09.4 -0.1
	baz=338						
K27K	Chicken	87.06	6	P		P	22 57 09.7 -0.1
	baz=348						
RIDG	Independent Ri	87.06	7	P		P	22 57 09.9 0.0
	baz=346						
L19K	White Mountain	87.07	12	P		P	22 57 09.8 -0.2
	baz=337						
MTN	Manton Dam	87.10	106	P		P	22 57 11.1 +0.3
M15K	Kasigluk River	87.20	15	P		P	22 57 11.1 +0.6
	baz=332						
DOT	Dot Lake	87.23	7	P		P	22 57 10.9 +0.2
DOT				IAmb	IAmb		22 57 12.4
	comp=Z,3.2nm,0.9s						
DAWY	Dawson	87.25

K29M	Barlow Dome	87.59	4	P	P	22 57 13.6	+1.1
	baz=352						
CUT	Chulitna	87.63	10	P	P	22 57 14.2	+1.6
	baz=341						
N14K	Kuskokwak Cree	87.65	16	P	P	22 57 14.3	+1.6
	baz=331						
M20K	Styx River	87.66	11	P	P	22 57 13.4	+0.5
	baz=338						
PAX	Paxson	87.74	8	P	P	22 57 14.0	+0.8
	baz=345						
N15K	Kwethluk River	87.81	15	P	P	22 57 13.8	+0.3
	baz=332						
N16K	Nishlik Lake	87.83	15	P	P	22 57 13.7	0.0
	baz=334						
SKT	Skwentna	87.83	11	P	P	22 57 13.4	-0.2
	baz=340						
BCAR	Beaver Creek A	88.03	6	P	P	22 57 15.1	+0.5
L27K	Beaver Creek,	88.03	6	P	P	22 57 15.0	+0.5
	baz=348						
N17K	Nushagak Hills	88.12	14	P	P	22 57 15.4	+0.4
	baz=335						
N18K	Kilae Creek	88.25	13	P	P	22 57 15.6	0.0
	baz=336						
P08K	Saint George I	88.25	21	P	P	22 57 16.1	+0.4
	baz=325						
M22K	Willow	88.27	10	P	P	22 57 15.8	+0.2
	baz=341						
L29M	L29M	88.28	4	P	P	22 57 16.3	+0.6
	baz=352						
N19K	Bonanza Creek	88.40	12	P	P	22 57 16.9	+0.5
	baz=337						
WRGLY	Wrigley	88.41	358	P	P	22 57 16.8	+0.6
	baz=4.3						
SUA	Susitna One	88.45	11	P	P	22 57 17.1	+0.5
	baz=340						
M24K	Tolsona, Glenn	88.49	8	P	P	22 57 16.9	+0.1
	baz=344						
YKA	Yellowknife Ar	88.56	354	P	P	22 57 17.7	+0.7
YKA	Yellowknife Ar	88.56	354	P	P	22 57 17.1	+0.2
	comp=Z,3.7nm,0.7s,baz=8.2,slow=4.9,SNR=65						
YKA				PP	PP	23 00 42.2	-2.1
	comp=Z,0.3nm,0.8s,baz=12,slow=7.6,SNR=4.6						
	comp=Z,3.7nm,0.7s						
YKA	Yellowknife Ar	88.56	354	*i* P	P	22 57 17.7	+0.7
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
M26K	Nabesna, AK	88.57	7	P	P	22 57 17.1	0.0
	baz=347						
PMR	Palmer	88.58	10	P	P	22 57 17.3	+0.2
	baz=342						
M23K	Glacier View	88.58	9	P	P	22 57 17.1	-0.1
	baz=343						
SCM	Sheep Creek Mo	88.60	9	P	P	22 57 17.4	+0.1
	baz=343						
M27K	Edge Creek, AK	88.72	6	P	P	22 57 17.9	0.0
	baz=349						
O15K	Ungalikthiuk R	88.75	16	P	P	22 57 17.9	-0.1
	baz=333						
BVCY	Beaver Creek	88.76	6	P	P	22 57 17.9	-0.1
	baz=349						
O16K	Kokwok River B	88.78	15	P	P	22 57 18.4	+0.3
	baz=334						
O17K	Koliganek Bris	88.83	14	P	P	22 57 18.4	+0.1
	baz=335						
KNK	Knik Glacier	88.84	9	P	P	22 57 18.9	+0.5
	baz=342						
M30M	Minto, Yukon	88.90	4	P	P	22 57 19.3	+0.7
	baz=353						
M29M	Somme Creek	88.92	5	P	P	22 57 18.9	0.0
	baz=351						
RC01	Rabbit Creek A	88.96	10	P	P	22 57 19.1	+0.2
	baz=341						
MMPY	Sheldon Lake,	89.08	1	P	P	22 57 18.8	-0.7
	baz=358						
KLU	Klutina	89.11	8	P	P	22 57 19.1	-0.6
	baz=345						
O18K	Koktuh Hills	89.15	13	P	P	22 57 20.1	+0.2
	baz=337						
P16K	Nushagak River	89.31	15	P	P	22 57 20.5	0.0
	baz=334						
M31M	Drury Creek, Y	89.39	3	P	P	22 57 21.1	+0.1
	baz=355						
FARO	Faro, Yukon	89.41	2	P	P	22 57 21.3	+0.2
	baz=356						
YUK3	Moose Creek	89.42	6	P	P	22 57 21.6	+0.2
	baz=349						
O20K	Slope Mountain	89.43	12	P	P	22 57 21.4	+0.2
	baz=339						
P17K	Kvichak River	89.50	14	P	P	22 57 22.0	+0.5
	baz=336						
GLI	Glacier Island	89.55	9	P	P	22 57 21.0	-0.7
	baz=344						
BMRM	Bremner River	89.79	8	P	P	22 57 22.0	-0.8
	baz=346						
SEW	Seward	89.94	10	P	P	22 57 22.8	-0.7
	baz=342						
YUK8	Steele Glacier	89.97	5	P	P	22 57 23.0	-1.0
	baz=350						
N30M	Aishikik Lake	89.99	4	P	P	22 57 23.3	-0.5
	baz=352						
YUK4	Talbot Arm	90.00	5	P	P	22 57 22.6	-1.4
	baz=351						
HOM	Homer	90.00	12	P	P	22 57 23.3	-0.5
	baz=340						
N31M	Braeburn, Yuko	90.04	4	P	P	22 57 23.5	-0.6
	baz=354						
TGTN	Hyland Airport	90.20	360	P	P	22 57 25.0	+0.2
	baz=0.1						
Q19K	Cape Douglas,	90.31	13	P	P	22 57 24.7	-0.6
	baz=338						
HYT	Haines Junctio	90.59	4	P	P	22 57 26.5	-0.3
	baz=352						
O30N	Mendenhall	90.74	4	P	P	22 57 26.8	-0.5
	baz=353						
S14K	Fog Glacier	91.40	17	P	P	22 57 30.2	-0.3
	baz=333						
P33M	Teslin, Yukon	91.45	2	P	P	22 57 29.9	-0.7
	baz=356						
NIKH	Nikolski High	91.46	23	P	P	22 57 29.8	-0.9
	baz=325						
UNV	Unalaska Valle	91.52	21	P	P	22 57 30.7	-0.2
	baz=327						
WRA	Warramunga Arr	93.27	111	P	P	22 57 38.4	-1.2
	comp=Z,1.0nm,0.9s,baz=313,slow=4.2,SNR=5.7						
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	93.27	111	*i* P	P	22 57 41.7	+2.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FFC	Flin Flon	93.95	345	P	P	22 57 42.4	+0.2
FFC				IAmb	IAmb	22 57 43.5	
	comp=Z,5.8nm,1.5s						
FFC	Flin Flon	93.95	345	P	P	22 57 42.4	+0.2
FFC				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ASAR	Alice Springs	94.71	114	P	P	22 57 44.9	-1.3
	comp=Z,1.4nm,0.5s,baz=304,slow=4.8,SNR=23						
	comp=Z,1.4nm,0.5s						
QSPA	South Pole Qui	118.44	180	PKP	PKPdf	23 03 09.4	-2.0
	comp=Z,2.4nm,1.0s,baz=254,slow=1.0,SNR=6.1						

IDC ***30*** *22:45:12.3±0.7, 8°.39S×156°.37E, h0km, mb4.2/12, mbtmp4.1/14, ML0.9/1, MS3.4/5, Error ellipse: s-maj=25.1km s-min=19.2km az=126.0*

ISC 30 22:45:15.5±0.7, 8°.4S±0°.2×156°.4E±0°.1, h21km, n17, σ0°73/16, mb4.2/12, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.67	106	Pn	Pn	22 46 10.9	-0.2
	64nm,0.4s,baz=238,slow=3.8,SNR=2.3						
HNR				Sn	Sn	22 46 45.9	-8.0
	16nm,0.3s,baz=222,slow=15,SNR=1.7						
HNR				Lg	Lg	22 47 02.6	
	20nm,0.3s,baz=86,slow=19,SNR=5.7						
HNR				LR	LR	22 47 46.3	
	comp=Z,285nm,20.0s,baz=304,slow=42						
PMG	Port Moresby	9.15	263	Pn	Pn	22 47 25.9	-0.5
	0.1nm,0.3s,baz=66,slow=22,SNR=1.5						
	1.4nm,0.3s						
DZM	Mont Dzumac	16.67	146	LR	LR	22 53 54.6	
	comp=Z,102nm,19.2s,baz=106,slow=31						
WRA	Warramunga Arr	24.19	239	P	P	22 50 30.1	-0.7
	5.3nm,0.7s,baz=65,slow=10.0,SNR=18						
WRA				PcP	PcP	22 54 11.9	+0.5
	0.6nm,0.6s,baz=60,slow=1.8,SNR=3.7						
WRA				LR	LR	22 59 43.8	
	comp=Z,100nm,18.0s,baz=339,slow=36						
	5.3nm,0.7s						
ASAR	Alice Springs	26.31	232	P	P	22 50 50.2	+0.2
	0.8nm,0.9s,baz=61,slow=11,SNR=6.6						
ASAR				LR	LR	23 00 47.2	
	comp=Z,34nm,18.4s,baz=20,slow=36						
	0.8nm,0.9s						
STKA	Stephens Creek	27.07	208	P	P	22 50 58.1	+1.4
	11nm,0.8s,baz=22,slow=12,SNR=13						
	11nm,0.8s						
FITZ	Fitzroy Crossi	31.36	249	LR	LR	23 03 44.7	
	comp=Z,143nm,18.0s,baz=72,slow=35						
SONM	Songino Array	71.27	327	P	P	22 56 34.2	+0.7
	1.5nm,0.9s,baz=128,slow=5.8,SNR=6.6						
	1.5nm,0.9s						
QSPA	South Pole Qui	81.55	180	P	P	22 57 30.7	-0.9
	2.0nm,1.0s,baz=326,slow=3.6,SNR=2.9						
	2.0nm,1.0s						
ILAR	Eielson Array	84.21	21	P	P	22 57 44.2	-0.8
	0.9nm,0.9s,baz=281,slow=3.9,SNR=6.1						
	0.9nm,0.9s						
MKAR	Makanchi Array	85.37	318	P	P	22 57 52.0	+0.6
	2.5nm,0.7s,baz=98,slow=6.6,SNR=24						
	2.5nm,0.7s						
ZALV	Zalesovo Beam	86.12	326	P	P	22 57 54.4	-0.5
	1.5nm,0.5s,baz=109,slow=6.7,SNR=6.8						
	1.5nm,0.5s						
KURBB	Kurchatov Arra	88.83	321	P	P	22 58 08.0	+0.1
	0.4nm,0.6s,baz=98,slow=5.3,SNR=1.9						
	0.4nm,0.6s						
NVAR	Mina Array Bea	91.54	52	P	P	22 58 21.5	+0.2
	0.5nm,0.8s,baz=275,slow=7.3,SNR=2.5						
	0.5nm,0.8s						
BVAR	Borovoye Array	94.25	323	P	P	22 58 32.3	-0.8
	0.7nm,0.4s,baz=115,slow=7.0,SNR=4.7						
	0.7nm,0.4s						
YKA	Yellowknife Ar	96.96	28	P	P	22 58 45.8	+0.6
	0.6nm,0.7s,baz=267,slow=5.2,SNR=8.3						
	0.6nm,0.7s						
BDFB	Brasília	146.01	135	PKPbc	PKPdf	23 04 54.7	+0.5
	2.6nm,0.6s,baz=242,slow=2.5,SNR=4.5						

ISK ***30*** *23:00:00.2, 37°.44N×29°.42E, h7km, ML3.4/21*
AFAD ***30*** *23:00:00.5, 37°.42N×29°.40E, h7km±2km, MW3.4*
ATH ***30*** *23:00:00.5, 37°.49N×29°.63E, h15km±2km, ML3.5/5, Manual Solution by M.Kolligri First location: 2019/03/30 23:01:44, This location: 2020/06/30 05:02:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
IDC ***30*** *23:00:00.7±1.3, 37°.46N×29°.48E, h0km, mb3.4/3, mbtmp3.5/9, ML3.2/5, Error ellipse: s-maj=20.6km s-min=17.7km az=176.0*

ISC 30 23:00:00.7±1.0, 37°.46N±0°.02×29°.44E±0°.02, h4km±8km, n49, σ0°85/69, mb3.2/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	Acipayam-Deniz	0.11	275	Pg	Pg	23 00 03.1	0.0
APMY				Sg	Sg	23 00 05.2	+0.5
GOLH	Golhisar	0.24	157	P	Pg	23 00 05.9	+0.4
GOLH				S	Sg	23 00 09.9	+1.3
INCE	Denizli-Bozkur	0.27	23	P	Pb	23 00 06.9	-1.3
INCE				S	Sb	23 00 11.3	-1.8
CAEL	Denizli, Camel	0.35	196	P	Pg	23 00 07.0	-0.6
CAEL				S	Sg	23 00 12.9	+0.7
DNIZ	Denizli-Tavas-	0.36	297	P	Pg	23 00 08.0	+0.2
DNIZ				S	Sg	23 00 13.3	+0.7
DNZT	Denizli-Tavas-	0.38	242	P	Pg	23 00 07.7	-0.4
DNZT				P	Pg	23 00 07.7	-0.4
DNZT				S	Sg	23 00 12.7	-0.4
TAVA	DENIZLI_Tavas	0.42	271	P	Pg	23 00 08.9	0.0
TAVA				S	Sg	23 00 14.6	+0.1
CAME	Cameli-Denizli	0.53	192	Pg	Pg	23 00 10.1	-0.8
CAME				Sg	Sg	23 00 18.3	+0.5
KNIK	Mula-Seydike	0.62	170	P	Pg	23 00 12.4	-0.3
KNIK				S	Sg	23 00 21.0	+0.2
BASM	Basmaki-Afyon	0.66	46	Pg	Pb	23 00 13.6	-1.3
BASM				Sg	Sn	23 00 25.6	-2.2
SABU	Mula-Dalaman	0.74	211	P	Pg	23 00 13.6	-1.4
SABU				S	Sg	23 00 24.5	-0.1
ELL	Elmali	0.80	152	Pg	Pg	23 00 15.7	-0.4
ELL	Elmali	0.80	152	P	Pg	23 00 15.1	-1.0
ELL				S	Sg	23 00 26.2	-0.3
KORT	Korkueli	0.86	122	Pg	Pb	23 00 17.5	-0.7
FETY	Fethiye	0.87	199	Pg	Pg	23 00 16.8	-0.7
DALY	Dalyan (Mula)	0.90	225	Pg	Pg	23 00 17.4	-0.6
BCK	Bucak	0.91	90	Pg	Pb	23 00 18.5	-0.6
MULA	Mugla, Merkez-	0.92	257	P	Pg	23 00 17.7	-0.6
MULA				S	Sg	23 00 30.5	+0.2
ISP	Isparta	0.93	67	Pg	Pb	23 00 18.9	-0.5
ISP	Isparta	0.93	67	P	Pb	23 00 18.5	-0.9
ISP				S	Sb	23 00 30.6	-1.6
ESEN	Aydn-Nazilli	0.93	291	P	Pg	23 00 18.5	-0.1
ESEN				S	Sg	23 00 29.7	-1.0
YER	Yerkesik	0.98	251	Pg	Pg	23 00 19.2	-0.4
NAZL	Nazilli-Aydin	1.04	299	Pg	Pg	23 00 20.1	-0.6
ANTB	Antalya	1.12	120	Pn	Pn	23 00 22.4	-0.7
TURN	Turunc	1.18	235	Pn	Pg	23 00 22.7	-0.6
KULA	Kula-Manisa	1.22	330	Pn	Pg	23 00 23.8	-0.3
AKAS	Kas	1.23	174	Pn	Pn	23 00 24.3	-0.5
KSL	Kastellorizon	1.31	175	P	Pn	23 00 24.7	-1.1
KSL				S	Sb	23 00 41.9	-1.2
AYDB	Zeytinkoy-Aydi	1.32	292	Pn	Pn	23 00 25.4	-0.7
MLSB	Milas	1.34	263	Pn	Pn	23 00 25.8	-0.4
ODEM	Odemis-Izmir	1.35	307	Pn	Pn	23 00 25.7	-0.7
SHUT	Suhut-Afyon	1.40	38	Pn	Pg	23 00 27.2	-0.3
SHAP	Saphane-Kutahy	1.57	354	Pn	Pn	23 00 29.4	0.0
ARG	Arkhangelos	1.63	221	Pn	Pn	23 00 30.0	-0.2
ARG	Arkhangelos	1.63	221	P	Pn	23 00 30.3	+0.1
ARG				S	Sb	23 00 52.3	+0.1
DAT	Datca	1.66	244	Pn	Pn	23 00 30.1	-0.6
KLNA	Kalymnos	2.04	256	P	Pn	23 00 35.8	+0.1
DKL	Dikili	2.56	310	P	Pn	23 00 43.0	+0.1
KARP	Karpathos	2.65	225	P	Pn	23 00 44.8	+0.6
PRK	Paraskevi	3.06	307	P	Pn	23 00 50.0	+0.1
BRTR	Keskin Array B	3.99	54	Pn	Pn	23 01 04.1	+1.4
	0.7nm,0.3s,baz=241,slow=17,SNR=22						
BRTR				Sn	Sn	23 01 51.6	+1.7
	0.3nm,0.3s,baz=232,slow=27,SNR=7.6						
	2.8nm,0.5s						
IDI	Anoyia	4.27	241	Pn	Pn	23 01 06.9	+0.5
	14nm,0.5s,baz=58,slow=13,SNR=6.1						
IDI				Sn	Sn	23 01 57.1	+0.4
	3.9nm,0.3s,baz=86,slow=15,SNR=6.5						
MMAI	Mount Meron Ar	6.59	131	Pn	Pn	23 01 39.2	+0.8
	2.2nm,0.3s,baz=309,slow=12,SNR=12						
	4.3nm,0.5s						
MLR	Muntele Rosu	8.44	343	Pn	Pn	23 02 06.1	+2.3
	0.2nm,0.3s,baz=151,slow=19,SNR=4.0						
	0.5nm,0.4s						
EIL	Elat	9.03	148	Pn	Pn	23 02 13.1	+1.4
	0.6nm,0.3s,baz=331,slow=14,SNR=4.1						
	4.5nm,0.6s						
GERES	GERESS Array B	16.13	320	Pn	P	23 03 51.7	+0.1
	baz=125,slow=9.9,SNR=6.5						
	0.8nm,0.9s						
FINES	FINESS Array B	24.10	356	P	P	23 05 16.8	-0.2
	2.0nm,0.9s,baz=172,slow=10,SNR=3.8						
	2.0nm,0.9s						
ESDC	Sonseca Array	26.13	285	P	P	23 05 36.8	+1.0
	0.6nm,1.0s,baz=104,slow=11,SNR=2.5						
	0.6nm,1.0s						
MKAR	Makanchi Array	39.62	59	P	P	23 07 33.9	+0.6
	0.2nm,0.6s,baz=282,slow=6.9,SNR=2.1						
	0.2nm,0.6s						

CNRM ***30*** *23:17:51.0, 35°.09N×6°.73W, h94km*
SFS ***30*** *23:17:53.9, 35°.35N×6°.21W, h25km, ML2.9/6, ML3.0/6, MLv3.0/6*
MDD ***30*** *23:17:54.3±0.6, 35°.31N×6°.22W, h31km, mb_Lg2.3/5, Error ellipse: s-maj=6.3km s-min=4.4km az=61.0*
INMG ***30*** *23:17:55.0±1.2, 35°.32N×6°.17W, h31km±7km, ML1.6, Error ellipse: s-maj=4.5km s-min=2.1km az=83.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Costa de Marrocos*

ISC 30 23:17:52.9±1.2, 35°.30N±0°.03×6°.25W±0°.04, h35km, n35, σ1°55/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	ZHG	1.88	190	P	Pn	23 18 20.2	-2.3
ZHG	ZHG	1.88	190	S	Sn	23 18 43.5	-1.6
AKLM	AKL	2.12	111	P	Pn	23 18 27.5	+1.7
AKLM	AKL	2.12	111	S	Sn	23 18 56.1	+5.2
PBDV	Barranco-do-Ve	2.37	325	*e*P	Pn	23 18 30.6	+1.4
PBDV				*e*S	Sn	23 18 57.1	+0.1
PBDV				*i* AML	AML	23 18 59.1	
PBDV				*i* AML	AML	23 19 01.3	
PBDV				*i* AML	AML	23 19 01.3	
PVAQ	Vaqueiros	2.41	331	*e*P	Pn	23 18 31.2	+1.5
PVAQ				*e*S	Sn	23 18 57.8	-0.2
PVAQ				*i* AML	AML	23 19 06.2	
PVAQ	Vaqueiros	2.41	331	S	Sn	23 18 57.4	-0.7
PVAQ				P	Pn	23 18 31.0	+1.2
PVAQ	Vaqueiros	2.41	331	P	Pn	23 18 29.8	0.0
PVAQ	Vaqueiros	2.41	331	S	Sn	23 18 58.5	+0.4
EGRO	El Granado	2.44	336	S	Sn	23 18 57.5	-1.3
EGRO				P	Pn	23 18 31.2	+1.1
EGRO	El Granado	2.44	336	P	Pn	23 18 31.6	+1.4
EGRO				S	Sn	23 18 58.1	-0.7
EGRO				*i* Vmb_Lg		23 18 59.9	
EMIN	Mina Concepcio	2.48	352	S	Sn	23 18 58.6	-1.3
EMIN				*i* Vmb_Lg		23 19 03.9	
EGOR	Sierra Gorda,	2.50	43	P	Pn	23 18 32.1	+0.9
MD31	MD31	2.73	153	P	Pn	23 18 33.2	-1.0
PCVE	Castro Verde	2.74	329	*e*S	Sn	23 19 06.1	-0.1
PCVE				*i* AML	AML	23 19 06.6	
PCVE				*i* AML	AML	23 19 08.4	
PCVE	Castro Verde	2.74	329	S	Sn	23 19 05.3	-0.8
PFVI	Vila Bisbo	2.77	312	*e*P	Pn	23 18 36.2	+1.5
PFVI				*e*S	Sn	23 19 06.9	-0.1
PFVI	Vila Bisbo	2.77	312	P	Pn	23 18 34.6	-0.1
PFVI				S	Sn	23 19 07.4	+0.5
MORF	Marmelete	2.79	317	*e*P	Pn	23 18 35.8	+0.8
MORF				*e*S	Sn	23 19 07.2	-0.2
MDT	Midelt	2.83	151	P	Pn	23 18 35.1	-0.6
ECAB	El Cabril	2.85	13	P	Pn	23 18 34.6	-1.2
ECAB				S	Sn	23 19 07.0	-1.9
ECAB	El Cabril	2.85	13	P	Pn	23 18 35.5	-0.4
ECAB				S	Sn	23 19 07.1	-1.9
ECAB				*i* Vmb_Lg		23 19 08.2	
PBAR	Barrancos	2.94	348	*e*P	Pn	23 18 38.6	+1.6
PBAR				*e*S	Sn	23 19 10.2	-0.8
PBAR				*i* AML	AML	23 19 11.3	
PBAR				*i* AML	AML	23 19 11.5	
PBAR				*i* AML	AML	23 19 11.7	
PBAR	Barrancos	2.94	348	P	Pn	23 18 37.6	+0.6
MESJ	Messejana	2.99	329	*e*P	Pn	23 18 39.1	+1.4
MESJ				*e*S	Sn	23 19 12.2	-0.2
MESJ				*i* AML	AML	23 19 13.7	
MESJ				*i* AML	AML	23 19 14.0	
MESJ				*i* AML	AML	23 19 19.6	
PTEO	Sao Teotonio	3.00	319	*e*P	Pn	23 18 39.3	+1.4
PTEO				*e*S	Sn	23 19 12.4	-0.2
EADA	Adamuz	3.16	25	S	Sn	23 19 14.9	-1.8
EADA	Adamuz	3.16	25	S	Sn	23 19 14.7	-1.9
EADA				*i* Vmb_Lg		23 19 18.7	
EBAD	Badajoz	3.50	350	P	Pn	23 18 46.0	+1.2
EBAD				S	Sn	23 19 22.9	-2.1
EBAD	Badajoz	3.50	350	P	Pn	23 18 47.5	+2.7
EBAD				S	Sn	23 19 23.4	-1.6
EBAD				*i* Vmb_Lg		23 19 27.6	
EQES	Quesada	3.58	45	S	Sn	23 19 26.0	-0.9
PESTR	Estremoz	3.72	344	S	Sn	23 19 29.0	-1.3
PMTG	Montargil	4.08	338	*e*P	Pn	23 18 54.3	+1.6
TIO	Tiouine	4.45	191	P	Pn	23 18 59.3	+1.4
PAB	San Pablo	4.50	19	S	Sn	23 19 46.5	-3.2

TRN 30 23:19:17.3, 18°.91N×63°.01W, h40km, MD4.1, North of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	1.59	171	*e*P	Pn	23 19 44.9	+1.8
ANWB	Willy Bob	1.70	136	*e*P	Pn	23 19 45.2	+0.7
ANWB				*e*S	Sn	23 20 07.7	+2.6
ANBD	Bethesda, Anti	2.20	147	*e*P	Pn	23 19 52.3	+0.9
ANBD				*e*S	Sn	23 20 18.1	+0.7
MBFL	Flemmings, Mon	2.28	160	*e*P	Pn	23 19 54.6	+2.0
MBWH		2.30	160	*e*P	Pn	23 19 55.0	+2.3
SJG	San Juan	3.08	256	*e*P	Pn	23 20 05.2	+1.8
TBG	Guadaloupe-3	3.31	157	*e*P	Pn	23 20 09.1	+2.5
MAGL	Barre de l'ile	3.38	150	*e*P	Pn	23 20 08.8	+1.2
AOPR	Arecibo Observ	3.59	262	*e*P	Pn	23 20 11.9	+1.4
DSLB	Salisbury	3.77	156	*e*P	Pn	23 20 15.6	+2.6

BJI ***30*** *23:20:31.5, 41°.30N×142°.19E, h64km, mB4.7/4, mb4.4/9, Ms3.8/1, Ms7 3.7/1*
NEIC ***30*** *23:20:34.9±1.5, 41°.47N±0°.05×142°.00E±0°.07, h62km±9km, mb4.0/13, Error ellipse: s-maj=9.4km s-min=4.8km az=130.0*
JMA ***30*** *23:20:34.1±0.1, 41°.5N±0°.4×142°.0E±0°.6, h63km±1km, MV3.6/40, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
IDC ***30*** *23:20:35.8±2.4, 41°.53N×141°.94E, h73km±15km, mb3.6/11, mbtmp3.9/14, Error ellipse: s-maj=30.9km s-min=14.4km az=123.0*

ISC 30 23:20:34.7±0.8, 41°.46N±0°.03×142°.01E±0°.04, h63km±7km, n67, σ0°78/75, mb4.0/21, 12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	Aomorihigashid	0.55	249	⇓P	Pn	23 20 47.3	0.0
JAHD				⇓S	Sn	23 20 57.0	+0.5
JARK	Aomorirokkasho	0.67	227	⇓P	Pn	23 20 48.3	-0.3
JARK				⇓S	Sn	23 20 58.5	-0.4
JOT	Ohata	0.73	264	⇓P	Pn	23 20 49.1	-0.3
JOT				⇓S	Sn	23 21 00.2	0.0
JKB	Kayabe	0.85	300	⇓P	Pn	23 20 50.2	-0.7
JTM	Tenmabayashi	0.98	227	Pn	Pn	23 20 52.6	+0.1
JTM				Sn	Sn	23 21 05.3	-0.5
JTM	Tenmabayashi	0.98	227	⇓P	Pn	23 20 52.7	+0.1
JTM				⇓*e*S	Sn	23 21 05.8	-0.1
JNBK	Urakawa-nobuka	0.99	34	P	Pn	23 20 51.6	-1.0
ERM	Erimo	1.02	57	Pn	Pn	23 20 52.6	-0.4
ERM				Sn	Sn	23 21 07.5	+0.8
JEM	Erimo	1.02	57	P	Pn	23 20 52.5	-0.6
JEM				*e*S	Sn	23 21 06.9	+0.3
JANG	Nango	1.15	199	P	Pn	23 20 54.4	-0.4
JANG				S	Sn	23 21 09.2	-0.6
JIAM	Iburiatsuma	1.16	357	P	Pn	23 20 55.3	+0.4
JSR	Shiriuchi	1.20	274	P	Pn	23 20 55.4	0.0
JNB	Noboribetsu	1.24	324	⇓P	Pn	23 20 55.0	-0.9
JBT2	Biratori 2	1.34	11	P	Pn	23 20 57.1

comp=Z,19nm,1.1s
H11N2 WAKE ISLAND Hy 30.27 128 T T 23 59 10.4
baz=321,slow=75,SNR=54
H11N1 WAKE ISLAND Hy 30.28 128 T T 23 59 11.2
baz=321,slow=75,SNR=62
H11N3 WAKE ISLAND Hy 30.29 128 T T 23 59 11.7
baz=321,slow=75,SNR=49
H11S1 WAKE ISLAND Hy 31.11 130 T T 00 00 13.7
baz=323,slow=76,SNR=32
H11S3 WAKE ISLAND Hy 31.12 130 T T 00 00 14.0
baz=323,slow=76,SNR=23
H11S2 WAKE ISLAND Hy 31.13 130 T T 00 00 16.0
baz=323,slow=76,SNR=26
PZH PanZhiHua 36.23 259 P **P** **23 27 32.8 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.3s
ZAA0 Zalesovo Array 39.40 308 P **P** **23 27 58.0 0.0**
ZAA0 IAmb IAmb 23 28 00.5
comp=Z,2.2nm,1.0s
ZALV Zalesovo Beam 39.40 308 P **P** **23 27 57.4 -0.6**
ZALV Zalesovo Beam 39.40 308 P **P** **23 27 58.0 0.0**
comp=Z,1.4nm,0.5s,baz=100,slow=8.1,SNR=7.0
comp=Z,1.4nm,0.5s
WMQ Urumqi 39.42 292 *eP* **P** **23 28 00.5 +2.0**
MK31 Makanchi Array 42.30 298 P **P** **23 28 21.9 -0.1**
MKAR Makanchi Array 42.30 298 P **P** **23 28 21.7 -0.3**
MKAR Makanchi Array 42.30 298 P **P** **23 28 21.8 -0.2**
comp=Z,1.1nm,0.6s,baz=82,slow=12,SNR=16
MKAR PcP **PcP** **23 30 14.1 -0.5**
comp=Z,0.1nm,0.3s,baz=63,slow=4.2,SNR=2.1
comp=Z,1.1nm,0.6s
MAKZ Makanchi 42.50 298 P **P** **23 28 23.2 -0.4**
MAKZ IAmb IAmb 23 28 27.9
comp=Z,2.0nm,0.7s
KURK Kurchatov 43.68 305 P **P** **23 28 32.6 -0.5**
KURK IAmb IAmb 23 28 33.1
comp=Z,2.1nm,0.5s
KURBB Kurchatov Arra 43.76 305 P **P** **23 28 32.7 -1.0**
comp=Z,2.2nm,0.5s,baz=78,slow=8.8,SNR=20
KURBB PcP **PcP** **23 30 19.5 +0.1**
comp=Z,0.2nm,0.4s,baz=68,slow=6.1,SNR=1.6
comp=Z,2.2nm,0.5s
ILAR Eielson Array 45.55 35 P **P** **23 28 47.9 +0.2**
comp=Z,0.6nm,0.9s,baz=287,slow=9.6,SNR=7.0
comp=Z,0.6nm,0.9s
BOOM Boomskoye usch 47.98 294 P **P** **23 29 06.5 -0.7**
BCAR Beaver Creek A 48.02 37 P **P** **23 29 08.2 +1.1**
BVAR Borovoye Array 48.02 310 P **P** **23 29 06.1 -1.1**
comp=Z,1.2nm,0.4s,baz=77,slow=9.1,SNR=18
BVAR PcP **PcP** **23 30 34.6 +0.3**
comp=Z,0.6nm,0.7s,baz=52,slow=5.9,SNR=2.3
comp=Z,1.2nm,0.4s
BRVK Borovoye 48.08 310 P **P** **23 29 07.8 +0.2**
BRVK IAmb IAmb 23 29 15.7
comp=Z,2.9nm,1.3s
I28M Miner Creek 48.37 33 P **P** **23 29 11.1 +1.3**
AAK Ala-Archa 48.91 295 P **P** **23 29 14.0 -0.4**
AAK IAmb IAmb 23 29 17.9
comp=Z,1.5nm,1.1s
G31M Satah River 50.31 31 P **P** **23 29 24.4 0.0**
ABKAR Abkulak array 55.51 308 P **P** **23 30 03.0 0.0**
ABKAR Abkulak array 55.51 308 P **P** **23 30 02.8 -0.2**
ABKAR IAmb IAmb 23 30 24.0
comp=Z,1.1nm,0.8s
EUNU Eureka 55.74 9 P **P** **23 30 03.8 -0.6**
EUNU IAmb IAmb 23 30 12.8
comp=Z,1.3nm,1.1s
FINES FINESS Array B 65.13 332 P **P** **23 31 07.5 -1.0**
comp=Z,2.6nm,0.9s,baz=42,slow=7.0,SNR=6.1
comp=Z,2.6nm,0.9s
HFS Hagfors 70.26 335 P **P** **23 31 40.2 -0.5**
comp=Z,1.0nm,0.4s,baz=33,slow=5.5,SNR=1.6
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 70.29 337 P **P** **23 31 40.2 -0.8**
comp=Z,0.5nm,0.7s,baz=41,slow=5.0,SNR=1.3
comp=Z,0.5nm,0.7s
AKASG Malin Array Be 71.10 322 P **P** **23 31 45.5 -0.5**
comp=Z,0.6nm,0.4s,baz=44,slow=6.4,SNR=7.3
comp=Z,0.6nm,0.4s
BRTR Keskin Array B 76.28 311 P **P** **23 32 15.8 -1.0**
comp=Z,0.4nm,0.6s,baz=355,slow=6.1,SNR=1.8
comp=Z,0.4nm,0.6s
H03N2 Juan Fernandez 146.77 90 T T 02 24 52.1
baz=299,slow=77,SNR=5.2
H03N3 Juan Fernandez 146.78 90 T T 02 25 09.0
baz=299,slow=77,SNR=4.3
H03N1 Juan Fernandez 146.79 90 T T 02 24 53.4
baz=299,slow=77,SNR=5.7

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*IDC **30** 23:26:46.0±1.0, 6°.11S×143°.25E, h0km, mb3.9/6, mbtmp4.0/10, ML3.9/3, MS3.4/2, Error ellipse: s-maj=28.9km s-min=18.7km az=71.0*

ISC 30 23:26:51.2±0.8, 6°.22S±0°.10×143°.2E±0°.1, h35km±5.1km, n11, σ1§14/12, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.44**	**326**	Pn	**Pn**	**23 27 55.8**	**-0.5**
	4.7nm,0.3s,baz=161,slow=9.2,SNR=18						
JAY				Sn	**Sn**	**23 28 48.7**	**+1.9**
	3.0nm,0.3s,baz=123,slow=14,SNR=5.4						
JAY				LR	LR	23 29 50.7	
	comp=Z,282nm,19.2s,baz=112,slow=42						
	13nm,0.4s						
PMG	**Port Moresby**	**5.04**	**129**	Pn	**Pn**	**23 28 03.8**	**-0.5**
	12nm,0.4s,baz=315,slow=8.6,SNR=9.2						
PMG				Sn	**Sn**	**23 29 02.9**	**+1.6**
	2.7nm,0.3s,baz=252,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**16.14**	**211**	Pn	**Pn**	**23 30 34.4**	**-1.2**
	0.3nm,0.3s,baz=30,slow=13,SNR=9.2						
	2.4nm,0.7s						
ASAR	**Alice Springs**	**19.52**	**206**	P	**Pn**	**23 31 18.2**	**+0.9**
	0.8nm,0.3s,baz=25,slow=10,SNR=125						
	11nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.82**	**234**	P	**P**	**23 31 30.0**	**+0.1**
	3.9nm,0.6s,baz=67,slow=9.0,SNR=20						
	3.9nm,0.6s						
URZ	**Urewera**	**44.28**	**141**	LR	LR	23 54 54.3	
	comp=Z,62nm,18.7s,baz=316,slow=38						
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**	**23 38 31.5**	**+0.7**
	0.7nm,0.8s,baz=104,slow=7.6,SNR=5.9						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**79.17**	**324**	P	**P**	**23 38 52.8**	**+0.4**
	0.3nm,0.8s,baz=130,slow=2.4,SNR=4.0						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**23 39 17.0**	**+0.4**
	1.2nm,0.8s,baz=0.0,slow=1.0,SNR=6.0						
	1.2nm,0.8s						
BVAR	**Borovoye Array**	**84.74**	**325**	P	**P**	**23 39 20.7**	**-1.0**
	1.6nm,0.8s,baz=110,slow=8.1,SNR=8.3						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**87.18**	**24**	P	**P**	**23 39 32.5**	**-1.0**
	0.5nm,0.8s,baz=252,slow=5.5,SNR=5.4						
	0.5nm,0.8s						

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*IDC **30** 23:31:56.4±15.0, 40°.96N×144°.60E, h0km, mb3.5/7, mbtmp3.5/7, MS2.9/2, Error ellipse: s-maj=385.1km s-min=37.0km az=169.0*
*MOS **30** 23:32:04.2±1.3, 41°.79N×144°.50E, h38km, mb4.2/1, Error ellipse: s-maj=22.1km s-min=11.4km az=79.5*
*NIED **30** 23:32:07.3, 42°.05N×144°.54E, h34km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}3.33; $M_{\theta\theta}$-1.66; $M_{\phi\phi}$-1.68; $M_{r\theta}$0.62; $M_{\theta\phi}$-1.70; $M_{\phi r}$0.29; Fault plane solution: $M_0$3.42000×10^14^ NP1: ϕ_s221.00000°, δ40.00000°, λ84.00000°. NP2:ϕ_s49.00000°, δ51.00000°, λ95.00000°.*
*JMA **30** 23:32:07.3±0.1, 42°.1N±0°.2×144°.5E±0°.4, h34km±1km, MV3.8/34, SE OFF TOKACHI*

ISC 30 23:32:07.2±1.4, 42°.0N±0°.1×144°.58E±0°.06, h38km±3km, n29, σ1§11/29, mb3.4/7, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**1.00**	**289**	*i* P	**Pn**	**23 32 24.6**	**-0.1**
JTHR				S	**Sn**	**23 32 38.2**	**+0.6**
JAK	**Akkeshi**	**1.03**	**5**	*e*P	**Pn**	**23 32 24.6**	**-0.4**
JAK				*e*S	**Sn**	**23 32 38.3**	**0.0**
JEM	**Erimo**	**1.06**	**273**	*e*P	**Pn**	**23 32 25.8**	**+0.4**
JOB	**Onbets**	**1.08**	**330**	*i* P	**Pn**	**23 32 25.6**	**-0.2**
JCH	**Churui**	**1.11**	**306**	P	**Pn**	**23 32 25.8**	**-0.3**
JCH				*e*S	**Sn**	**23 32 41.0**	**+0.9**
JKHN	**Kushirohamanak**	**1.20**	**21**	↓P	**Pn**	**23 32 27.5**	**+0.1**
JAR	**Ashorobuto**	**1.46**	**336**	P	**Pn**	**23 32 30.1**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.64**	**31**	*e*P	**Pn**	**23 32 32.6**	**-0.8**
NMR				*e*S	**Sn**	**23 32 51.9**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**2.27**	**24**	*e*P	**Pn**	**23 32 42.5**	**+0.4**
YUK				*e*S	**Sn**	**23 33 09.0**	**+0.2**
YUK				pmax	pmax		
	comp=N,81nm,0.1s						
YUK				pmax	pmax		
	comp=E,52nm,0.1s						
YUK				pmax	pmax		
	comp=Z,155nm,0.1s						
YUK				smax	smax		
	comp=E,518nm,0.5s						
YUK				smax	smax		
	comp=N,600nm,0.4s						
SHO	**Shikotan**	**2.52**	**40**	*e*P	**Pn**	**23 32 45.6**	**0.0**
SHO				*e*S	**Sn**	**23 33 13.7**	**-1.3**
SHO				pmax	pmax		
	comp=Z,15nm,0.1s						
SHO				smax	smax		
	comp=E,83nm,0.3s						
SHO				smax	smax		
	comp=N,157nm,0.4s						
KUR	**Kuril'sk**	**4.05**	**35**	*e*P	**Pn**	**23 33 08.2**	**+1.7**
KUR				*e*S	**Sn**	**23 33 53.7**	**+1.1**
YSS	**Yuzhno-Sakhali**	**5.15**	**346**	*e*P	**Pn**	**23 33 23.7**	**+2.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
KSRS	**Korea Array**	**13.59**	**256**	LR	LR	23 40 13.5	
	comp=Z,24nm,18.4s,baz=50,slow=37						
SONM	**Songino Array**	**27.47**	**295**	P	**P**	**23 37 46.4**	**-3.2**
	comp=Z,0.2nm,0.5s,baz=89,slow=10,SNR=3.0						
	comp=Z,0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy 29.14**	**133**		T	T	00 08 48.7	
	baz=325,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy 29.15**	**133**		T	T	00 08 50.8	
	baz=325,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy 29.16**	**133**		T	T	00 08 47.9	
	baz=325,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy 30.03**	**134**		T	T	00 09 59.8	
	baz=326,slow=74						
H11S3	**WAKE ISLAND Hy 30.03**	**134**		T	T	00 09 60.0	
	baz=326						
H11S2	**WAKE ISLAND Hy 30.05**	**134**		T	T	00 10 00.3	
	baz=326,slow=74						
ZALV	**Zalesovo Beam**	**40.59**	**308**	P	**P**	**23 39 43.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=95,slow=7.2,SNR=2.4						
ZALV				LR	LR	23 59 55.7	
	comp=Z,27nm,18.0s,baz=13,slow=41						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**43.75**	**298**	P	**P**	**23 40 08.0**	**-0.7**
	comp=Z,0.7nm,1.1s,baz=84,slow=9.0,SNR=2.0						
	comp=Z,0.7nm,1.1s						
ILAR	**Eielson Array**	**44.04**	**35**	P	**P**	**23 40 12.0**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=276,slow=6.5,SNR=1.3						
	comp=Z,0.1nm,0.6s						
ILAR	**Eielson Array**	**44.04**	**35**	P	**P**	**23 40 12.0**	**+1.3**
KURK	**Kurchatov**	**44.97**	**305**	P	**P**	**23 40 18.6**	**+0.3**
KURBB	**Kurchatov Arra**	**45.05**	**305**	P	**P**	**23 40 18.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=75,slow=9.0,SNR=6.0						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**49.18**	**310**	P	**P**	**23 40 52.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=75,slow=9.3,SNR=6.2						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**49.18**	**310**	P	**P**	**23 40 52.0**	**+0.9**
FINES	**FINESS Array B**	**65.59**	**332**	P	**P**	**23 42 46.5**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=48,slow=6.6,SNR=6.8						
	comp=Z,1.1nm,0.7s						

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*IDC **30** 23:33:19.7±1.1, 6°.39N×72°.64W, h189km±12km, mb3.1/3, mbtmp3.8/6, Error ellipse: s-maj=37.0km s-min=14.4km az=138.0*
*RSNC **30** 23:33:21.6±0.0, 7°.N±1°.×7°.3W±°, h150km±2km, M3.4, mb3.9, mB5.9, ML3.2, Mw(mB)5.5*

ISC 30 23:33:20.0±0.8, 6°.85N±0°.03×73°.09W±0°.04, h157km±6km, n45, σ1§53/83, mb3.5/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**200**	P	**Pn**	**23 33 41.9**	**+0.2**
BARC				S	**Sn**	**23 33 56.9**	**-1.2**
PAMC	**Pamplona, Colo**	**0.62**	**39**	P	**Pn**	**23 33 44.7**	**+1.3**
PAMC				S	**Sn**	**23 34 01.6**	**+0.4**
BRJC	**Barrancabermej**	**0.66**	**280**	P	**Pn**	**23 33 43.6**	**+0.6**
BRJC				S	**Sn**	**23 34 00.4**	**-0.2**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**23 33 45.8**	**+0.1**
RUSC				S	**Sn**	**23 34 03.9**	**-1.4**
TAMC	**Tame, Arauca**	**1.35**	**108**	P	**Pn**	**23 33 50.3**	**+1.6**
TAMC				S	**Sn**	**23 34 11.7**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**23 33 48.5**	**-0.6**
PTBC				S	**Sn**	**23 34 09.3**	**-2.0**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**23 33 50.2**	**+1.0**
OCAC				S	**Sn**	**23 34 12.0**	**+0.3**
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	P	**Pn**	**23 33 54.3**	**+0.2**
ZARC				S	**Sn**	**23 34 19.2**	**-1.1**
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**23 33 57.8**	**0.0**
NORC				S	**Sn**	**23 34 25.2**	**-1.7**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**23 34 00.2**	**+0.7**
CHIC				S	**Sn**	**23 34 29.4**	**-0.6**
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**23 34 01.6**	**+1.6**
	186nm,0.3s,baz=52,slow=12,SNR=164						
ROSC				S	**Sn**	**23 34 32.9**	**+2.0**
	221nm,0.3s,baz=50,slow=20,SNR=11						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**23 34 01.6**	**+1.6**
ROSC				S	**Sn**	**23 34 31.2**	**+0.3**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**23 34 02.3**	**+0.3**
HELC				S	**Sn**	**23 34 33.5**	**-0.8**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**23 34 03.1**	**+0.9**
CVER				S	**Sn**	**23 34 35.2**	**+0.5**
UREC	**San Jos de Ur**	**2.58**	**290**	P	**Pn**	**23 34 01.8**	**-0.7**
UREC				S	**Sn**	**23 34 33.4**	**-2.0**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	**Pn**	**23 34 06.1**	**+0.7**
GUY2C				S	**Sn**	**23 34 40.8**	**+0.3**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**23 34 05.2**	**0.0**
VILC				S	**Sn**	**23 34 40.2**	**0.0**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	P	**Pn**	**23 34 05.0**	**-0.2**
PTGC				S	**Sn**	**23 34 37.2**	**-3.1**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**23 34 10.6**	**+3.2**
RECRC				S	**Sn**	**23 34 45.0**	**+1.0**
CBOC	**Ciudad Bolivar**	**3.07**	**251**	P	**Pn**	**23 34 09.5**	**+0.8**
CBOC				S	**Sn**	**23 34 45.6**	**-0.8**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**23 34 09.2**	**+0.2**
DBBC				S	**Sn**	**23 34 44.1**	**-2.9**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**23 34 11.3**	**+1.4**
	40nm,0.3s,baz=229,slow=8.7,SNR=117						
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**23 34 11.5**	**+1.3**
ARGC				S	**Sn**	**23 34 50.5**	**+1.4**
ANIL	**Santa Ana**	**3.29**	**225**	P	**Pn**	**23 34 12.4**	**+0.8**
ANIL				S	**Sn**	**23 34 50.4**	**-1.2**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**23 34 15.1**	**-0.2**
PRAC				S	**Sn**	**23 34 57.4**	**-0.9**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**23 34 15.6**	**+0.1**
APAC				S	**Sn**	**23 34 57.7**	**-0.9**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**23 34 16.2**	**+0.5**
ORTC				S	**Sn**	**23 34 57.8**	**-1.2**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**23 34 15.6**	**-0.6**
SJCC				S	**Sn**	**23 34 56.7**	**-3.2**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**23 34 18.3**	**+0.2**
URMC				S	**Sn**	**23 35 02.3**	**-0.9**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**23 34 22.0**	**-0.5**
CRJC				S	**Sn**	**23 35 09.0**	**-2.1**
GUVC	**San Jose del G**	**4.30**	**174**	P	**Pn**	**23 34 24.7**	**+0.2**
GUVC				S	**Sn**	**23 35 12.0**	**-2.8**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**23 34 24.4**	**-0.3**
YOTC				S	**Sn**	**23 35 14.1**	**-1.1**
SMRC	**Santa Marta, M**	**4.43**	**345**	P	**Pn**	**23 34 26.5**	**+0.4**
SMRC				S	**Sn**	**23 35 14.7**	**-2.9**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**23 34 29.4**	**-0.1**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**23 34 28.9**	**-1.3**
MACC				S	**Sn**	**23 35 18.9**	**-6.1**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**23 34 31.8**	**-0.9**
URIC				S	**Sn**	**23 35 27.5**	**-2.1**
MALC	**Bahia Malaga**	**5.08**	**236**	P	**Pn**	**23 34 36.1**	**+1.4**
MALC				S	**Sn**	**23 35 33.3**	**+0.3**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**23 34 41.3**	**-0.2**
	7.4nm,0.8s						
POPC				S	**Sn**	**23 35 43.0**	**-2.2**
	7.4nm,0.8s						
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**23 34 44.6**	**0.0**
	19nm,1.0s						
FLOC				S	**Sn**	**23 35 49.8**	**-1.0**
	19nm,1.0s						
BBAC	**Balboa, Cauca**	**6.34**	**221**	P	**Pn**	**23 34 52.6**	**+1.0**
BBAC				S	**Sn**	**23 36 02.4**	**-0.9**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**23 35 22.9**	**-3.7**
	19nm,1.1s,baz=290,slow=9.4,SNR=1.1						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**23 41 36.4**	**-0.9**
	0.8nm,0.5s,baz=159,slow=7.8,SNR=1.9						
	0.8nm,0.5s						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**23 41 45.9**	**+1.9**
	0.3nm,0.9s,baz=141,slow=8.6,SNR=2.1						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**23 43 32.1**	**+0.6**
	0.4nm,0.6s,baz=139,slow=6.6,SNR=10						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPdf**	**23 52 49.7**	**+1.2**
	0.4nm,0.9s,baz=95,slow=2.9,SNR=6.2						

IDC 30 23:34:26.5±1.6, 2°.32S×139°.28E, h0km, mb3.3/2, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=30.8km s-min=16.3km az=1.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.44**	**98**	Pg	Pn	23 34 52.7	-1.2
	7.6nm,0.3s,baz=252,slow=16,SNR=28						
JAY				Lg		23 35 12.6	
	12nm,0.3s,baz=307,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**18.17**	**195**	P	Pn	23 38 40.2	-0.2
	0.5nm,0.3s,baz=17,slow=13,SNR=8.7						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**21.85**	**193**	P	P	23 39 21.3	+0.4
	0.7nm,0.4s,baz=22,slow=11,SNR=10						
	0.7nm,0.4s						
H11S3	**WAKE ISLAND Hy 33.99**	**51**		T	T	00 16 42.7	
	baz=235,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy 34.01**	**51**		T	T	00 16 41.9	
	baz=235,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy 34.01**	**51**		T	T	00 16 41.8	
	baz=235,slow=75,SNR=51						
MKAR	**Makanchi Array**	**69.83**	**322**	P	P	23 45 39.0	-0.1
	0.2nm,0.8s,baz=103,slow=7.7,SNR=2.3						
	0.2nm,0.8s						

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*GII **30** 23:50:08.8±0.0, 36°.38N×34°.15E, h2km, Mws3.4, confirmed*
*ISK **30** 23:50:10.5, 36°.32N×34°.19E, h7km, ML3.4/30*
*AFAD **30** 23:50:11.0, 36°.42N×34°.12E, h18km, MW3.3*
*NIC **30** 23:50:13.4, 36°.17N×34°.28E, h22km±7km, Ml2.6/9*

ISC 30 23:50:10.5±0.9, 36°.37N±0°.02×34°.19E±0°.02, h15km±7km, n98, σ0§94/128, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.11**	**339**	Pg	**Pb**	**23 50 14.8**	**+0.4**
KIZK				Sg	**Sb**	**23 50 17.0**	**-0.1**
KIZK	**Mersin**	**0.11**	**339**	P	**Pb**	**23 50 14.9**	**+0.4**
KIZK				S	**Sb**	**23 50 16.9**	**-0.2**
KIZK				*i* AML	AML	23 50 18.0	
	comp=N,6μm,0.3s						
KIZK				*i* AML	AML	23 50 18.0	
	comp=E,3μm,0.2s						
SLFK	**Silifke-Mersin**	**0.20**	**276**	Pg	**Pg**	**23 50 15.2**	**+0.1**
SLFK				Sg	**Sg**	**23 50 18.3**	**+0.1**
SILI	**Silifke-Mersin**	**0.22**	**268**	Pg	**Pb**	**23 50 15.9**	**-0.3**
SILI				Sg	**Sg**	**23 50 19.4**	**+0.7**
KEBE	**Keben-Mersin**	**0.40**	**281**	Pg	**Pb**	**23 50 19.0**	**-0.3**
KEBE				Sg	**Sb**	**23 50 25.1**	**-0.1**
IKL	**Isikli**	**0.43**	**252**	Pg	**Pg**	**23 50 19.1**	**0.0**
TISA	**Tisan-Mersin**	**0.47**	**243**	Pg	**Pg**	**23 50 19.9**	**+0.1**
YESI	**Yesilovacik-Me**	**0.48**	**248**	Pg	**Pg**	**23 50 19.8**	**-0.2**
TEPK	**Tepekoy-MERSIN**	**0.55**	**254**	Pg	**Pg**	**23 50 20.9**	**-0.4**
GULN	**MERSIN_Gulnar**	**0.56**	**250**	P	**Pg**	**23 50 21.7**	**+0.2**
GULN				S	**Sg**	**23 50 29.2**	**+0.2**
GULN				*i* AML	AML	23 50 32.0	
	comp=N,824nm,0.4s						
GULN				*i* AML	AML	23 50 32.0	
	comp=E,766nm,0.3s						
MERS	**Mersin**	**0.56**	**28**	Pg	**Pb**	**23 50 22.7**	**+0.6**
AKKU	**Akkuyu-Mersin**	**0.56**	**248**	Pg	**Pg**	**23 50 21.8**	**+0.2**
AKK1	**Akkuyu-Mersin**	**0.58**	**247**	Pg	**Pg**	**23 50 21.6**	**-0.2**
TEVE	**Tevekalti-Mers**	**0.61**	**276**	Pg	**Pg**	**23 50 22.8**	**+0.3**
OREN	**Orenkoy-Mersin**	**0.62**	**255**	Pg	**Pg**	**23 50 22.2**	**-0.4**
YORU	**Yoruktepe-Mers**	**0.67**	**251**	Pg	**Pg**	**23 50 23.7**	**0.0**
DED	**Mersin**	**0.76**	**39**	P	**Pb**	**23 50 25.7**	**+0.1**
DED				S	**Sb**	**23 50 36.4**	**+0.7**
DED				*i* AML	AML	23 50 38.0	
	comp=N,316nm,0.3s						
DED				*i* AML	AML	23 50 38.0	
	comp=E,386nm,0.3s						
BERE	**Bereket-Mersin**	**0.79**	**268**	Pg	**Pg**	**23 50 25.8**	**0.0**
TEKE	**Tekeli-Mersin**	**0.90**	**256**	Pg	**Pg**	**23 50 27.7**	**-0.3**
BOZY	**Bozyazi-Mersin**	**1.02**	**255**	Pg	**Pb**	**23 50 29.9**	**0.0**
GULE	**Gulek**	**1.02**	**27**	P	**Pn**	**23 50 30.6**	**+0.1**
GULE				S	**Sn**	**23 50 44.4**	**-0.3**
GULE				*i* AML	AML	23 50 50.0	
	comp=N,331nm,0.4s						
GULE				*i* AML	AML	23 50 52.0	
	comp=E,368nm,0.4s						
KERG	**Konya-Eregli**	**1.04**	**357**	P	**Pg**	**23 50 30.6**	**-0.1**
KERG				S	**Sg**	**23 50 44.2**	**-0.1**
KERG				*i* AML	AML	23 50 47.0	
	comp=E,391nm,0.4s						
KERG				*i* AML	AML	23 50 52.0	
	comp=N,315nm,0.2s						
KRMN	**Karaman**	**1.09**	**317**	Pn	**Pn**	**23 50 32.5**	**+1.0**
LFK	**Lefkose**	**1.22**	**206**	Pn	**Pn**	**23 50 33.3**	**+0.2**
ASUZ	**Hatay-Arsuz**	**1.29**	**93**	P	**Pg**	**23 50 36.5**	**+1.2**
ASUZ				*i* AML	AML	23 51 00.0	
	comp=E,79nm,0.3s						
ASUZ				*i* AML	AML	23 51 05.0	
	comp=N,97nm,0.4s						
KKBE	**Karaman, Kazim**	**1.31**	**310**	P	**Pg**	**23 50 36.0**	**+0.1**
KKBE				*i* AML	AML	23 50 56.0	
	comp=N,78nm,0.6s						
KKBE				*i* AML

LEF	**Lefka**	**1.64**	**221**	P	**Pb**	**23 50 40.2**	**-0.3**
LEF				S	**Sn**	**23 50 59.7**	**0.0**
NIDE	**Nigde/Merkez-G**	**1.69**	**16**	P	**Pg**	**23 50 42.2**	**-0.8**
NIDE				S	**Sg**	**23 51 04.5**	**-0.4**
NIDE				*i* AML	AML	23 51 10.0	
	comp=E,222nm,0.3s						
NIDE				*i* AML	AML	23 51 12.0	
	comp=N,185nm,0.4s						
KOZT	**Kozan**	**1.71**	**49**	Pn	**Pb**	**23 50 41.9**	**+0.2**
ASGA	**Asgata**	**1.76**	**206**	P	**Pg**	**23 50 44.8**	**+0.5**
ASGA				S	**Sb**	**23 51 04.7**	**+0.2**
ASGA				AML	AML	23 51 18.7	
	0.2nm,0.5s						
ASGA				AML	AML	23 51 20.2	
	0.1nm,0.6s						
ALFC	**Alefka**	**1.78**	**227**	P	**Pn**	**23 50 40.1**	**-0.6**
ALFC				S	**Sn**	**23 51 02.0**	**-1.1**
ALFC				AML	AML	23 51 08.7	
	0.5nm,0.3s						
ALFC				AML	AML	23 51 09.9	
	0.2nm,0.3s						
HASA	**Hatay-Hassa-Ha**	**1.88**	**78**	P	**Pb**	**23 50 45.2**	**+0.6**
HASA				S	**Sb**	**23 51 09.2**	**+1.2**
HASA				*i* AML	AML	23 51 11.0	
	comp=E,221nm,0.3s						
HASA				*i* AML	AML	23 51 13.0	
	comp=N,120nm,0.3s						
BSIR	**Belisirma, Guz**	**1.89**	**2**	P	**Pg**	**23 50 46.1**	**-0.7**
BSIR				S	**Sg**	**23 51 11.3**	**-0.2**
BSIR				*i* AML	AML	23 51 22.0	
	comp=N,97nm,0.5s						
BSIR				*i* AML	AML	23 51 22.0	
	comp=E,55nm,0.4s						
SULT	**Sultanhani-AKS**	**1.90**	**344**	Pn	**Pb**	**23 50 44.9**	**-0.1**
RHAN	**Hatay/Reyhanl**	**1.95**	**93**	P	**Pg**	**23 50 46.7**	**-1.2**
RHAN				S	**Sg**	**23 51 12.1**	**-1.1**
RHAN				*i* AML	AML	23 51 16.0	
	comp=E,71nm,0.6s						
RHAN				*i* AML	AML	23 51 23.0	
	comp=N,63nm,0.4s						
APOL	**The Sanctuary**	**2.02**	**213**	P	**Pb**	**23 50 47.7**	**+0.8**
APOL				S	**Sg**	**23 51 15.2**	**-0.1**
APOL				AML	AML	23 51 29.0	
	0.1nm,0.4s						
APOL				AML	AML	23 51 29.3	
	0.1nm,0.5s						
AKMS	**Akamas**	**2.03**	**229**	P	**Pb**	**23 50 47.1**	**0.0**
AKMS				S	**Sb**	**23 51 11.3**	**-0.9**
AKMS				AML	AML	23 51 22.9	
	0.3nm,0.3s						
AKMS				AML	AML	23 51 23.7	
	0.3nm,0.5s						
NATA	**Nata**	**2.07**	**220**	P	**Pb**	**23 50 47.3**	**-0.6**
NATA				S	**Sg**	**23 51 15.7**	**-1.3**
NATA				AML	AML	23 51 29.7	
	0.4nm,0.4s						
NATA				AML	AML	23 51 32.3	
	0.5nm,1.0s						
KONT	**Konya--Tatoy**	**2.15**	**318**	P	**Pb**	**23 50 49.5**	**+0.4**
KONT				S	**Sg**	**23 51 19.5**	**-0.1**
KONT				*i* AML	AML	23 51 25.0	
	comp=E,31nm,0.5s						
KONT				*i* AML	AML	23 51 26.0	
	comp=N,25nm,0.3s						
KEPZ	**Antalya-Kepez**	**2.15**	**285**	P	**Pb**	**23 50 49.9**	**+0.7**
KEPZ				S	**Sb**	**23 51 14.5**	**-1.2**
KEPZ				*i* AML	AML	23 51 27.0	
	comp=N,73nm,0.9s						
KEPZ				*i* AML	AML	23 51 30.0	
	comp=E,76nm,0.8s						
ALIN	**Konya, Altinte**	**2.19**	**332**	P	**Pb**	**23 50 49.8**	**-0.1**
ALIN				S	**Sb**	**23 51 18.1**	**+1.2**
ALIN				*i* AML	AML	23 51 27.0	
	comp=N,13nm,0.5s						
ALIN				*i* AML	AML	23 51 29.0	
	comp=E,28nm,0.8s						
SEDI	**Konya, Seydise**	**2.23**	**300**	P	**Pb**	**23 50 51.7**	**+1.1**
SEDI				S	**Sn**	**23 51 16.4**	**+1.9**
SEDI				*i* AML	AML	23 51 24.0	
	comp=N,59nm,0.5s						
SEDI				*i* AML	AML	23 51 31.0	
	comp=E,72nm,0.6s						
GAZ	**Gaziantep**	**2.55**	**71**	P	**Pb**	**23 50 53.8**	**-2.2**
GAZ				S	**Sb**	**23 51 25.3**	**-2.0**
DOGA	**KONYA_Doganhis**	**2.66**	**311**	P	**Pb**	**23 50 56.9**	**-1.0**
DOGA				*i* AML	AML	23 51 39.0	
	comp=N,34nm,0.6s						
DOGA				*i* AML	AML	23 51 46.0	
	comp=E,30nm,0.6s						
KDHN	**Kadinhani**	**2.71**	**323**	P	**Pb**	**23 50 56.6**	**-2.1**
KDHN				*i* AML	AML	23 51 44.0	
	comp=E,13nm,0.5s						
KDHN				*i* AML	AML	23 51 55.0	
	comp=N,6.9nm,0.4s						
KESK	**Krkkale-Ke**	**3.29**	**352**	P	**Pb**	**23 51 05.8**	**-2.9**
KESK				*i* AML	AML	23 51 58.0	
	comp=N,5.0nm,0.6s						
KESK				*i* AML	AML	23 52 19.0	
	comp=E,8.6nm,1.1s						
NATI	**Neve Ativ**	**3.35**	**157**	P	**Pn**	**23 51 02.6**	**+0.2**
NATI	**Neve Ativ**	**3.35**	**157**	S	**Sn**	**23 51 43.2**	**+1.3**
GEM	**Giv'at Ha'Em**	**3.38**	**159**	P	**Pn**	**23 51 02.7**	**-0.1**
GEM	**Giv'at Ha'Em**	**3.38**	**159**	S	**Sn**	**23 51 44.1**	**+1.5**
HNTI	**Hanita**	**3.38**	**166**	P	**Pn**	**23 51 03.2**	**+0.4**
HNTI	**Hanita**	**3.38**	**166**	S	**Sn**	**23 51 43.6**	**+1.0**
MMA0B	**Mount Meron ar**	**3.50**	**163**	P	**Pn**	**23 51 04.8**	**+0.4**
MMA0B	**Mount Meron ar**	**3.50**	**163**	S	**Sn**	**23 51 46.9**	**+1.3**
KSHT	**Keshet**	**3.64**	**158**	P	**Pn**	**23 51 06.6**	**+0.3**
KSHT	**Keshet**	**3.64**	**158**	S	**Sn**	**23 51 50.6**	**+1.5**
BLGI	**Bet Lehem HaGe**	**3.72**	**167**	P	**Pn**	**23 51 08.0**	**+0.5**
BLGI	**Bet Lehem HaGe**	**3.72**	**167**	S	**Sn**	**23 51 52.2**	**+1.0**
OFRI	**`Ofer**	**3.80**	**170**	P	**Pn**	**23 51 09.1**	**+0.5**
OFRI	**`Ofer**	**3.80**	**170**	S	**Sn**	**23 51 54.2**	**+1.1**
MMLI	**Mount Malkishu**	**4.05**	**165**	P	**Pn**	**23 51 12.4**	**+0.3**
MMLI	**Mount Malkishu**	**4.05**	**165**	S	**Sn**	**23 52 00.9**	**+1.5**
SLTI	**Sal'it**	**4.18**	**170**	P	**Pn**	**23 51 13.7**	**-0.2**
SLTI	**Sal'it**	**4.18**	**170**	S	**Sn**	**23 52 04.0**	**+1.5**
HMDT	**Nahal Hemdat**	**4.25**	**165**	P	**Pn**	**23 51 15.2**	**+0.4**
HMDT	**Nahal Hemdat**	**4.25**	**165**	S	**Sn**	**23 52 06.1**	**+1.9**
AMAZ	**Amatzia**	**4.87**	**173**	P	**Pn**	**23 51 23.7**	**+0.4**
AMAZ	**Amatzia**	**4.87**	**173**	S	**Sn**	**23 52 21.4**	**+2.0**
DSI	**Dead Sea**	**4.89**	**168**	P	**Pn**	**23 51 23.5**	**0.0**
DSI	**Dead Sea**	**4.89**	**168**	S	**Sn**	**23 52 20.8**	**+0.9**
YTIR	**Yattir**	**5.06**	**171**	P	**Pn**	**23 51 26.3**	**+0.4**
YTIR	**Yattir**	**5.06**	**171**	S	**Sn**	**23 52 25.9**	**+1.7**
MSBI	**Mazada**	**5.14**	**169**	P	**Pn**	**23 51 27.1**	**+0.2**
MSBI	**Mazada**	**5.14**	**169**	S	**Sn**	**23 52 27.6**	**+1.6**
GHAJ	**Ghor Haditha**	**5.18**	**167**	P	**Pn**	**23 51 27.9**	**+0.3**
GHAJ	**Ghor Haditha**	**5.18**	**167**	S	**Sn**	**23 52 28.0**	**+0.9**
KZIT	**Kziot**	**5.46**	**178**	P	**Pn**	**23 51 31.0**	**-0.3**
KZIT	**Kziot**	**5.46**	**178**	S	**Sn**	**23 52 35.8**	**+1.9**
HRFI	**Mount Harif**	**6.36**	**173**	P	**Pn**	**23 51 44.4**	**+0.7**
HRFI	**Mount Harif**	**6.36**	**173**	S	**Sn**	**23 52 58.0**	**+1.8**
MBRI	**Mt Berech**	**6.59**	**175**	P	**Pn**	**23 51 46.8**	**-0.2**
MBRI	**Mt Berech**	**6.59**	**175**	S	**Sn**	**23 53 03.7**	**+1.8**

NEIC ***31*** *00:04:26.6±0.6, 19°.22N±0°.01×155°.48W±0°.02, h38km±3km, Error ellipse: s-maj=2.6km s-min=1.9km az=99.0*

HVO 31 00:04:28.1±1.3, 19°.19N±0°.05×155°.47W±0°.06, h31km±2km, ML2.9/41, ML3.0/44(NEIC), Error ellipse: s-maj=10.0km s-min=5.3km az=126.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**56**		Pb	00 04 33.3	-0.3
HPO	**Honuapo**	**0.13**	**218**		Pb	00 04 33.9	0.0
HPO					Sn	00 04 37.0	-0.4
KHU	**Kahuku**	**0.15**	**292**		Pb	00 04 33.6	-0.7
KHU					Sn	00 04 37.4	-0.9
KHU				IAML		00 04 37.8	
	comp=N,2μm,0.5s						
KHU				IAML		00 04 37.9	
	comp=E,1μm,0.2s						
HLP	**Hilina Pali**	**0.19**	**56**		Pb	00 04 34.0	-0.5
HLP					Sb	00 04 38.4	-0.4
HLP				IAML		00 04 38.6	
	comp=N,2μm,1.6s						
HLP				IAML		00 04 40.6	
	comp=E,2μm,0.2s						
SDHHI	**Sand Hill**	**0.26**	**40**		Pb	00 04 34.4	-0.9
SDHHI					Sb	00 04 39.2	-1.1
WRMHI	**West Rim**	**0.27**	**37**		Pb	00 04 34.5	-1.0
WRMHI					Sb	00 04 39.3	-1.2
RIM	**Rim**	**0.28**	**42**		Pb	00 04 34.6	-1.0
RIM					Sb	00 04 39.0	-1.6
KKO	**Keanakako'i**	**0.28**	**43**		Pb	00 04 34.7	-1.0
KKO					Sb	00 04 39.7	-1.1
UWE	**Uwekahuna**	**0.28**	**36**		Pb	00 04 34.6	-1.1
UWE					Sb	00 04 39.6	-1.2
OBL	**Observatory Le**	**0.29**	**38**		Pb	00 04 34.6	-1.1
OBL					Sb	00 04 39.5	-1.3
UWB	**Uwekahuna Bluf**	**0.29**	**38**		Pb	00 04 34.6	-1.2
UWB					Sb	00 04 39.4	-1.6
BYL	**Byron's Ledge**	**0.30**	**42**		Pb	00 04 34.7	-1.1
PUH	**Pauahi**	**0.30**	**53**		Pb	00 04 34.8	-1.1
PUH				IAML		00 04 40.0	
	comp=E,1μm,0.4s						
PUH				IAML		00 04 40.1	
	comp=N,1μm,0.2s						
SBLHI	**Steaming Bluff**	**0.30**	**39**		Pb	00 04 34.7	-1.2
SBLHI					Sb	00 04 39.6	-1.5
HATHI	**Halema'uma'u T**	**0.30**	**41**		Pb	00 04 34.8	-1.2
HATHI					Sb	00 04 39.6	-1.6
HATHI				IAML		00 04 41.8	
	comp=E,1μm,0.4s						
HATHI				IAML		00 04 44.4	
	comp=N,1μm,0.4s						
MLH	**Mauna Loa**	**0.31**	**15**		Pb	00 04 35.2	-1.0
MLH					Sb	00 04 40.0	-1.5
MLH				IAML		00 04 40.6	
	comp=E,2μm,0.4s						
MWH	**Mokuaweoweo**	**0.32**	**338**		Pb	00 04 35.2	-1.2
MWH					Sb	00 04 40.4	-1.7
MWH				IAML		00 04 40.7	
	comp=N,1μm,0.6s						
RSD	**Rainshed**	**0.33**	**34**		Pb	00 04 34.4	-1.8
RSD	**Rainshed**	**0.33**	**34**		Sb	00 04 40.3	-1.5
KNHH	**Kane Nui o Ham**	**0.34**	**57**		Pb	00 04 35.3	-1.1
MLOA	**Mauna Loa Obse**	**0.36**	**344**		Pb	00 04 35.6	-1.3
MLOA					Sb	00 04 41.1	-1.8
MLOA	**Mauna Loa Obse**	**0.36**	**344**	IAML		00 04 44.8	
	comp=E,48nm,4.6s						
MLOA				IAML		00 04 46.8	
	comp=N,76nm,2.5s						
STCH	**Steam Cracks**	**0.38**	**59**		Pb	00 04 35.5	-1.4
ALEP	**Alea Permanent**	**0.39**	**335**		Pb	00 04 35.7	-1.5
ALEP					Sb	00 04 41.7	-1.7
NPOC	**North of Pu'u**	**0.40**	**59**		Pb	00 04 35.8	-1.3
NPOC					Sb	00 04 41.4	-1.9
JCUZ	**Jacuzzi**	**0.40**	**61**		Pb	00 04 36.0	-1.2
JCUZ					Sb	00 04 41.8	-1.6
HMH	**Humu'ula Sheep**	**0.41**	**358**		Pb	00 04 36.5	-1.0
HMH				IAML		00 04 43.1	
	comp=E,1μm,0.3s						
JOKA	**Jonika Flow**	**0.50**	**61**		Pb	00 04 37.0	-1.7
JOKA					Sb	00 04 43.4	-2.5
CPH	**Captain Cook**	**0.52**	**305**		Pb	00 04 37.1	-1.8
POHA	**Pohakuloa**	**0.57**	**354**		Sb	00 04 45.0	-2.9
POHA	**Pohakuloa**	**0.57**	**354**		Pb	00 04 38.0	-2.0
POHA				IAML		00 04 51.2	
	comp=E,629nm,0.5s						
POHA				IAML		00 04 51.9	
	comp=E,464nm,0.6s						
HUH	**Hualalai**	**0.60**	**325**		Pb	00 04 38.7	-1.7
HUH				IAML		00 04 54.9	
	comp=E,981nm,0.4s						
KKH	**Kailua Kona**	**0.69**	**312**		Pn	00 04 39.5	-2.3
KKH					Sb	00 04 48.0	-3.1
HPAH	**Hawaii Prepara**	**0.86**	**346**		Pn	00 04 41.8	-2.4
HPAH					Sn	00 04 51.6	-4.2
HPAH	**Hawaii Prepara**	**0.86**	**346**	IAML		00 04 52.3	
	comp=E,437nm,0.3s						
HPAH				IAML		00 04 52.5	
	comp=N,364nm,0.2s						
MHA	**Mahukona**	**1.07**	**338**		Pn	00 04 44.8	-2.2
MHA					Sn	00 04 57.2	-3.6
HLK	**Haleakala**	**1.72**	**335**		Pn	00 04 53.4	-2.8
HLK					Sn	00 05 12.1	-5.1

IDC ***31*** *00:09:25.4±0.5, 8°.50S×156°.46E, h0km, mb4.7/21, mbtmp4.7/25, ML3.9/3, MS4.6/57, Error ellipse: s-maj=16.4km s-min=13.0km az=86.0*

BJI ***31*** *00:09:25.6, 8°.41S×156°.83E, h18km, mB5.5/50, mb4.9/68, Ms4.9/58, Ms7 4.8/61*

MOS ***31*** *00:09:26.0±0.8, 8°.54S×156°.47E, h16km, mb5.3/55, MS4.8/9, Error ellipse: s-maj=8.2km s-min=5.9km az=125.4*

NEIC ***31*** *00:09:26.9±1.2, 8°.58S±0°.08×156°.50E±0°.07, h10km±1km, mb5.3/143, Ms_20 5.2/462, Mww5.3/14, Error ellipse: s-maj=14.1km s-min=10.5km az=211.0*

NEIC ***31*** *00:09:27.1, 8°.58S×156°.52E, h18km*

DJA ***31*** *00:09:27.0±0.2, 9°S±3°×15°7E±°, h10km, M5.1/61, mb5.2/61, mB5.7/29, MLv4.1/1, Mw(mB)5.3/29, MwMwp5.2/3, Mwp5.4/3*

NEIC ***31*** *00:09:27.1, 8°.38S×157°.00E, h18km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 1017Nm; Mrr=0.04; Mθθ=0.73; Mφφ=-0.69; Mrθ=0.13; Mθφ=0.94; Mφr=0.30; Fault plane solution: M0=1.23000×1017 NP1: φs=108.63000°, δ=74.65000°, λ=0.52000°. NP2: φs=18.50000°, δ=89.49000°, λ=164.65000°. Principal axes: T 1.2516, Plg=11.0000°, Azm=333.0000°; N -0.0492, Plg=75.0000°, Azm=197.0000°; P -1.2024, Plg=10.0000°, Azm=65.0000°;*

GCMT ***31*** *00:09:28.9±0.1, 8°.55S±0°.01×156°.44E±0°.01, h14km, MW5.4/154, Moment Tensor Solution. s122,c212; s154,c290; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr=0.27±.01; Mθθ=0.71±.02; Mφφ=-0.97±.02; Mrθ=0.27±.03; Mθφ=1.20±.02; Mφr=-0.22±.03; Best double couple: M0=1.50200×1017 NP1: φs=18.00000°, δ=78.00000°, λ=-179.00000°. NP2: φs=288.00000°, δ=89.00000°, λ=-12.00000°. Principal axes: T 1.3520, Plg=8.0000°, Azm=333.0000°; N 0.3000, Plg=78.0000°, Azm=101.0000°; P -1.6520, Plg=10.0000°, Azm=242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 00:09:27.5±0.5, 8°.57S±0°.04×156°.50E±0°.04, h14km±3km, n1007, σ1°38/798, mb5.2/171, MS5.1/291, 10C-5D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATA	**Tatamba Isabel**	**3.27**	**87**	P	**Pn**	**00 10 20.0**	**+1.5**
SAVO	**Savo Central**	**3.33**	**100**	P	**Pn**	**00 10 18.6**	**-0.6**
HNR	**Honiara**	**3.51**	**104**	Pn	**Pn**	**00 10 20.1**	**-1.7**
HNR	**Honiara**	**3.51**	**104**	Pn	**Pn**	**00 10 20.6**	**-1.1**
	18nm,0.3s,baz=360,slow=0.8,SNR=12						
HNR				Sn	**Sn**	**00 11 03.7**	**+0.5**
	67nm,0.3s,baz=343,slow=19,SNR=3.9						
HNR				LR	LR	00 11 06.6	
	comp=Z,2μm,21.3s,baz=290,slow=28						
	161nm,0.6s						
HNR	**Honiara**	**3.51**	**104**	P	**Pn**	**00 10 24.6**	**+2.8**
ALEG	**Aligegeo Malai**	**4.15**	**93**	P	**Pn**	**00 10 33.4**	**+2.8**
NGOA	**Tingoa Renbel**	**4.60**	**131**	P	**Pn**	**00 10 38.6**	**+1.9**
HURO	**Huro Makira**	**5.65**	**110**	P	**Pn**	**00 10 52.8**	**+1.6**
RABL	**Rabaul**	**6.12**	**315**	Pn	**Pn**	**00 10 55.6**	**-2.1**
PMG	**Port Moresby**	**9.26**	**264**	Pn	**Pn**	**00 11 41.4**	**+0.6**
	26nm,0.7s,baz=70,slow=9.2,SNR=10						
PMG				Sn	**Sn**	**00 13 25.8**	**+0.9**
	0.4nm,0.3s,baz=94,slow=19,SNR=1.1						
PMG				LR	LR	00 15 19.8	
	comp=Z,15μm,18.6s,baz=74,slow=38						
LUES	**Luesalemba Tem**	**9.51**	**103**	P	**Pn**	**00 11 47.2**	**+2.9**
MANU	**Manus Island**	**11.16**	**305**		**Pn**	**00 12 05.0**	**-1.9**
KOUNC	**Koumac, New Ca**	**14.09**	**149**	P	**Pn**	**00 12 49.8**	**+2.9**
COEN	**Coen**	**14.12**	**247**	Pn	**Pn**	**00 12 47.5**	**+0.2**
COEN	**Coen**	**14.12**	**247**	P	**Pn**	**00 12 50.6**	**+3.2**
COEN	**Coen**	**14.12**	**247**	P	**P**	**00 12 51.1**	**-3.9**
TV1H	**Townsville Har**	**14.20**	**220**	P	**Pn**	**00 12 50.1**	**+1.8**
MTSU	**Mount Surprise**	**15.19**	**230**	P	**P**	**00 13 05.3**	**-1.5**
MTSU	**Mount Surprise**	**15.19**	**230**	P	**P**	**00 13 04.6**	**-2.2**
PATS	**Pohnpei**	**15.41**	**7**	Pn	**Pn**	**00 13 04.2**	**-0.5**
PATS	**Pohnpei**	**15.41**	**7**	P	**P**	**00 13 10.2**	**+1.0**
PATS	**Pohnpei**	**15.41**	**7**	P	**P**	**00 13 06.4**	**-2.9**
TABU	**Tabubil**	**15.51**	**281**	P	**P**	**00 13 08.1**	**-2.4**
GD1S	**Gladstone Soft**	**16.02**	**198**	P	**P**	**00 13 15.2**	**-0.9**
DZM	**Mont Dzumac**	**16.49**	**146**	Pn	**Pn**	**00 13 18.3**	**-0.4**
DZM	**Mont Dzumac**	**16.49**	**146**	*eP*	**Pn**	**00 13 18.4**	**-0.3**
	398nm,1.8s						
DZM				*e*LR	LR	00 17 02.4	
	8μm,27.9s						
DZM	**Mont Dzumac**	**16.49**	**146**	Pn	**P**	**00 13 20.3**	**-1.0**
	0.2nm,0.3s,baz=323,slow=14,SNR=11						
DZM				Sn	**Sn**	**00 16 26.5**	**+4.8**
	baz=119,slow=23,SNR=1.8						
DZM				LR	LR	00 18 23.1	
	comp=Z,3μm,20.8s,baz=321,slow=32						
	9.5nm,0.8s						
DZM	**Mont Dzumac**	**16.49**	**146**	P	**P**	**00 13 22.2**	**+0.9**
ONTNC	**Ouen Toro**	**16.68**	**146**		**Pn**	**00 13 20.9**	**-0.2**
ONTNC	**Ouen Toro**	**16.68**	**146**	P	**P**	**00 13 23.3**	**-0.1**
YATNC	**Mamie plateau,**	**16.73**	**144**	P	**P**	**00 13 24.8**	**+0.9**
JAY	**Jayapura**	**16.82**	**290**	Pn	**Pn**	**00 13 23.3**	**+0.3**
	0.7nm,0.3s,baz=124,slow=13,SNR=4.0						
	46nm,1.1s						
JAY	**Jayapura**	**16.82**	**290**	P	**P**	**00 13 24.2**	**-0.9**
OUENC	**Ouen Island, N**	**16.99**	**145**	P	**P**	**00 13 29.5**	**+2.8**
GENI	**Genyem**	**17.30**	**289**	P	**P**	**00 13 29.3**	**-1.0**
PINNC	**Pines Island,**	**17.48**	**144**		**Pn**	**00 13 29.3**	**-1.8**
PINNC	**Pines Island,**	**17.48**	**144**	P	**P**	**00 13 34.0**	**+1.8**
EIDS	**Eidsvold**	**17.49**	**197**		**Pn**	**00 13 30.9**	**-0.3**
EIDS				IAmb	IAmb	00 13 38.4	
	comp=Z,258nm,1.6s						
EIDS	**Eidsvold**	**17.49**	**197**	P	**Pn**	**00 13 31.5**	**+0.3**
	comp=Z,0.0nmcomp=Z,114nm,1.6s						
EIDS	**Eidsvold**	**17.49**	**197**	P	**P**	**00 13 33.8**	**+1.5**
SMPI	**Sarmi**	**18.87**	**289**	P	**Pn**	**00 13 49.5**	**+1.3**
	comp=Z,3μmcomp=Z,92nm,1.5s						
AUWSH	**Wavell State H**	**19.02**	**189**	P	**Pn**	**00 13 51.9**	**+2.1**
TW1H	**Toowoomba 1 Ha**	**19.36**	**192**	P	**Pn**	**00 13 54.4**	**+0.4**
QIS	**Mount Isa**	**20.21**	**232**	P	Pn	00 14 03.0	-1.2
	comp=Z,0.0nmcomp=Z,182nm,0.9s						
QIS	**Mount Isa**	**20.21**	**232**	P	Pn	00 14 03.2	-1.0
QLP	**Quilpie**	**21.36**	**211**	P	**P**	**00 14 16.0**	**+1.3**
	comp=Z,575nm,1.3s						
QLP	**Quilpie**	**21.36**	**211**	P	**P**	**00 14 16.1**	**+1.4**
BAKI	**Biak**	**21.59**	**289**	P	**P**	**00 14 17.6**	**+0.4**
	comp=Z,2μmcomp=Z,111nm,1.2s						
ARMA	**Armidale**	**22.21**	**191**	P	**P**	**00 14 23.1**	**-0.8**
ARMA				IAmb	IAmb	00 14 29.7	
	comp=Z,128nm,1.6s						
ARMA	**Armidale**	**22.21**	**191**	P	**P**	**00 14 24.7**	**+0.8**
ARMA	**Armidale**	**22.21**	**191**	P	**P**	**00 14 25.2**	**+1.3**
MSVF	**Nonsavu**	**22.86**	**116**	P	**P**	**00 14 29.1**	**-1.7**
MSVF				IAmb	IAmb	00 14 45.5	
	comp=Z,210nm,1.6s						
MSVF	**Nonsavu**	**22.86**	**116**	P	**P**	**00 14 34.1**	**+3.3**
MSVF	**Nonsavu**	**22.86**	**116**	*i* P	**P**	**00 14 32.7**	**+1.9**
RKPI	**Ransiki, Papua**	**23.30**	**286**	P	**P**	**00 14 38.4**	**+3.1**
	comp=Z,122nm,1.5s						
DGTI	**Dogotuki**	**23.94**	**111**	P	**P**	**00 14 43.2**	**+1.6**
KDU	**Kakadu**	**23.96**	**258**	P	**P**	**00 14 41.2**	**-0.5**
	comp=Z,0.0nmcomp=Z,138nm,2.0s						
KDU	**Kakadu**	**23.96**	**258**	P	**P**	**00 14 42.3**	**+0.6**
WR0	**Warramunga Arr**	**24.07**	**240**	P	**P**	**00 14 42.1**	**-0.6**
WB0	**Warramunga Arr**	**24.12**	**240**	P	**P**	**00 14 42.5**	**-0.7**
INKA	**Innaminka**	**24.19**	**216**	P	**P**	**00 14 45.8**	**+2.0**
WRAB	**Tennant Creek**	**24.22**	**240**	*i* P	**P**	**00 14 43.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,89nm,0.6s						
WRA	**Warramunga Arr**	**24.24**	**240**	P	**P**	**00 14 43.6**	**-0.7**
WRA	**Warramunga Arr**	**24.24**	**240**	P	**P**	**00 14 44.2**	**-0.1**
	comp=Z,76nm,0.8s,baz=64,slow=9.8,SNR=83						
WRA				PcP	**PcP**	**00 18 23.7**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=62,slow=2.4,SNR=3.4						
WRA				LR	LR	00 23 55.0	
	comp=Z,4μm,18.6s,baz=72,slow=36						
	comp=Z,76nm,0.8s						
WRA	**Warramunga Arr**	**24.24**	**240**	*i* P	**P**	**00 14 41.5**	**-2.8**
WRA				pmax	pmax		
	comp=Z,106nm,1.0s						
TAVE	**Taveuni**	**24.38**	**112**	P	**P**	**00 14 49.9**	**+4.2**
NTLH	**Newcastle Hard**	**24.62**	**190**	P	**P**	**00 14 49.3**	**+1.7**
FAKI	**Fak Fak**	**24.76**	**282**	P	**P**	**00 14 48.2**	**-0.9**
FAKI				IAmb	IAmb	00 15 08.6	
	comp=Z,81nm,0.9s						
FAKI	**Fak Fak**	**24.76**	**282**	P	**P**	**00 14 52.9**	**+3.8**
FAKI	**Fak Fak**	**24.76**	**282**	P	**P**	**00 14 51.3**	**+2.2**
	comp=Z,2μmcomp=Z,101nm,1.1s						
GUMO	**Guam**	**24.86**	**332**	LR	LR	00 23 22.7	
	comp=Z,1μm,21.9s,baz=148,slow=34						
SAUI	**Saumlaki**	**24.94**	**269**	P	**P**	**00 14 49.7**	**-1.1**
SAUI	**Saumlaki**	**24.94**	**269**	P	**P**	**00 14 54.3**	**+3.5**
SAUI	**Saumlaki**	**24.94**	**269**	P	**P**	**00 14 51.1**	**+0.3**
CMSA	**Cobar Meteorol**	**24.97**	**202**	P	**P**	**00 14 51.2**	**+0.3**
	comp=Z,126nm,1.3s						
CMSA	**Cobar Meteorol**	**24.97**	**202**	P	**P**	**00 14 51.1**	**+0.3**
MGCD	**Mangrove Creek**	**25.02**	**191**	P	**P**	**00 14 52.8**	**+1.6**
	comp=Z,72nm,1.1s						
MGCD	**Mangrove Creek**	**25.02**	**191**	P	**P**	**00 14 54.0**	**+2.7**
MTN	**Manton Dam**	**25.28**	**258**	P	**P**	**00 14 52.2**	**-1.5**
MTN				IAmb	IAmb	00 14 58.9	
	comp=Z,149nm,1.6s						
MTN	**Manton Dam**	**25.28**	**258**	P	**P**	**00 14 56.7**	**+2.9**
MTN	**Manton Dam**	**25.

comp=Z,57nm,1.1s
ARPS Mount Arapiles 31.08 203 P **P 00 15 48.0 +2.6**
FITZ Fitzroy Crossi 31.44 249 P **P 00 15 47.4 -1.4**
FITZ Fitzroy Crossi 31.44 249 LR LR 00 27 58.5
comp=Z,4µm,20.7s,baz=76,slow=35
FITZ Fitzroy Crossi 31.44 249 P **P 00 15 48.7 -0.1**
WRKA Warakurna 31.47 235 P **P 00 15 48.0 -1.1**
AFI Afiamalu 31.55 103 P **P 00 15 49.5 -0.4**
AFI Afiamalu 31.55 103 P **P 00 15 49.5 -0.4**
AFI pmax pmax
comp=Z,94nm,0.9s
SOEI Soe 31.84 265 P **P 00 15 51.1 -1.4**
SOEI IAmb IAmb 00 16 49.9
comp=Z,46nm,0.9s
SOEI Soe 31.84 265 P **P 00 15 49.8 -2.7**
comp=Z,33nm,1.7s
KMSI Cibinong 33.65 284 P **P 00 16 10.4 +2.1**
TOZ Tahuroa Road 33.74 152 P **P 00 16 07.4 -1.3**
TOZ IAmb IAmb 00 16 16.9
comp=Z,85nm,1.8s
BBSI Bau Bau 33.80 273 P **P 00 16 07.0 -2.6**
MMRI Maumere 33.87 267 P **P 00 16 07.1 -3.0**
MMRI Maumere 33.87 267 P **P 00 16 12.3 +2.1**
MMRI Maumere 33.87 267 P **P 00 16 13.0 +2.8**
comp=Z,91nm,1.4s
LUWI Luwuk 34.40 281 P **P 00 16 13.0 -1.8**
EDFI Ende, Flores 34.41 267 P **P 00 16 13.1 -1.8**
comp=Z,709nmcomp=Z,40nm,2.1s
DAV Davao City (W) 34.52 296 LR LR 00 31 09.1
comp=Z,859nm,18.1s,baz=119,slow=38
FORT Forrest 34.53 226 P **P 00 16 14.2 -1.5**
FORT IAmb IAmb 00 16 29.1
comp=Z,63nm,1.0s
FORT IAMs_20 IAMs_20 00 30 00.6
comp=Z,4µm,19.0s
FORT Forrest 34.53 226 P **P 00 16 15.3 -0.4**
comp=Z,68nm,1.0s
FORT Forrest 34.53 226 P **P 00 16 17.7 +2.0**
URZ Urewera 34.92 151 LR LR 00 29 16.0
comp=Z,2µm,18.4s,baz=49,slow=34
RTZ Ruatahuna 35.14 152 P **P 00 16 20.5 -0.5**
RTZ IAmb IAmb 00 16 24.8
comp=Z,30nm,1.0s
QRZ Quartz Range 35.14 159 P **P 00 16 23.9 +3.0**
TAU Tasmania Unive 35.15 192 P **P 00 16 20.1 -0.7**
TAU Tasmania Unive 35.15 192 P **P 00 16 20.1 -0.7**
TAU pmax pmax
comp=Z,114nm,1.3s
BASI Baing, Sumba 35.47 264 P **P 00 16 25.2 +1.2**
comp=Z,123nm,1.6s
TKNZ Takaka Hill 35.48 158 P **P 00 16 22.8 -1.0**
APSI Ampana 35.53 280 P P 00 16 34.0 +10
MRSI Marisa 35.59 283 P **P 00 16 25.9 +0.9**
comp=Z,1µmcomp=Z,24nm,1.0s
DSZ Dennistón Nort 35.71 160 IAMs_20 IAMs_20 00 29 22.9
comp=Z,4µm,19.0s
BSSI Bau Bau, Buton 35.78 271 P **P 00 16 27.2 +0.5**
comp=Z,1µmcomp=Z,77nm,1.7s
INZ Inchbonnie 36.47 161 IAMs_20 IAMs_20 00 29 56.1
comp=Z,4µm,20.0s
WBSI Waikabubak, Su 36.65 265 P **P 00 16 32.0 -2.1**
comp=Z,46nm,0.8s
KAPI Kappang 36.65 273 P **P 00 16 32.5 -1.7**
KAPI Kappang 36.65 273 LR LR 00 34 28.8
comp=Z,512nm,19.2s,baz=97,slow=41
KAPI Kappang 36.65 273 P **P 00 16 36.0 +1.9**
KAPI Kappang 36.65 273 *i* P **P 00 16 33.4 -0.7**
KAPI pmax pmax
comp=Z,34nm,1.3s
FOZ Fox Glacier 36.73 164 IAMs_20 IAMs_20 00 31 30.8
comp=Z,3µm,18.0s
LTZ Lake Taylor 36.79 160 IAMs_20 IAMs_20 00 30 18.5
comp=Z,4µm,20.0s
TOLI2 Tolitoli 36.87 283 P **P 00 16 34.4 -1.7**
TOLI2 Tolitoli 36.87 283 P **P 00 16 38.0 +2.0**
KHZ Kahutara 36.90 159 IAMs_20 IAMs_20 00 29 22.5
comp=Z,3µm,20.0s
JCZ Jackson Bay 36.96 165 P **P 00 16 39.3 +2.9**
OXZ Oxford 37.20 161 IAMs_20 IAMs_20 00 30 20.4
comp=Z,4µm,20.0s
GVZ Greta Valley S 37.21 160 IAMs_20 IAMs_20 00 30 11.7
comp=Z,3µm,20.0s
RPZ Rata Peaks 37.25 162 LR LR 00 31 16.9
comp=Z,3µm,18.1s,baz=327,slow=35
PCI Palu 37.29 280 P **P 00 16 41.3 +1.7**
comp=Z,52nm,1.1s
PSA00 Pilbara Seismi 37.57 246 P **P 00 16 38.7 -3.2**
PSA00 IAmb IAmb 00 16 55.4
comp=Z,57nm,1.6s
PSA00 Pilbara Seismi 37.57 246 P **P 00 16 41.3 -0.6**
comp=Z,45nm,1.2s
PSA00 Pilbara Seismi 37.57 246 P **P 00 16 41.1 -0.8**
MBWA Marble Bar 37.57 246 P **P 00 16 39.9 -2.0**
MBWA IAmb IAmb 00 16 55.3
comp=Z,74nm,1.4s
MBWA Marble Bar 37.57 246 P **P 00 16 41.2 -0.7**
comp=Z,37nm,1.2s
MBWA Marble Bar 37.57 246 P **P 00 16 43.8 +1.9**
LBZ Lake Benmore 37.62 164 IAMs_20 IAMs_20 00 32 07.4
comp=Z,3µm,18.0s
WKZ Wanaka 37.72 165 IAMs_20 IAMs_20 00 29 47.2
comp=Z,5µm,20.0s
MQZ McQueen's Vall 37.74 161 IAMs_20 IAMs_20 00 30 43.7
comp=Z,3µm,20.0s
DCZ Deep Cove 37.90 168 IAMs_20 IAMs_20 00 29 12.8
comp=Z,3µm,20.0s
MLZ Mavora Lakes 38.01 167 IAMs_20 IAMs_20 00 30 14.0
comp=Z,5µm,21.0s
JCJ Chichijima 38.07 339 LR LR 00 29 25.8
comp=Z,496nm,21.2s,baz=160,slow=32
PLAI Plampang 38.27 267 P **P 00 16 45.9 -1.9**
comp=Z,1µmcomp=Z,46nm,1.3s
ODZ Otahua Downs 38.35 164 IAMs_20 IAMs_20 00 32 49.8
comp=Z,3µm,18.0s
WHZ Wether Hill Ro 38.47 167 IAMs_20 IAMs_20 00 30 25.1
comp=Z,3µm,20.0s
KMBL Kambalda 39.39 230 P **P 00 16 56.9 -0.2**
comp=Z,50nm,0.8s
KMBL Kambalda 39.39 230 P **P 00 16 56.9 -0.2**
MEEK Meekatharra 40.12 239 P **P 00 17 02.4 -0.9**
comp=Z,31nm,0.8s
MEEK Meekatharra 40.12 239 P **P 00 17 03.3 0.0**
MYLDM Lahad Datu 40.28 288 P **P 00 17 03.7 -0.9**
MYLDM IAmb IAmb 00 17 27.2
comp=Z,49nm,1.1s
TGY Tagaytay City 41.86 302 LR LR 00 32 51.8
comp=Z,936nm,21.8s,baz=128,slow=34
JAGI Jajag, Banyuwa 41.86 267 P **P 00 17 15.2 -2.6**
JAGI IAmb IAmb 00 17 18.9
comp=Z,48nm,0.7s
JAGI Jajag, Banyuwa 41.86 267 P **P 00 17 18.6 +0.9**
JAGI Jajag, Banyuwa 41.86 267 P **P 00 17 16.1 -1.6**
comp=Z,73nm,0.9s
KLBR Kellerberrin 42.66 232 P **P 00 17 23.0 -1.0**
comp=Z,80nm,0.8s
KLBR Kellerberrin 42.66 232 P **P 00 17 25.1 +1.1**
KKM Kota Kinabalu 42.71 289 P **P 00 17 23.8 -0.9**
MORW Morawa 43.09 236 P **P 00 17 26.1 -1.5**
MORW IAMs_20 IAMs_20 00 35 25.4
comp=Z,2µm,19.0s
NWAO Narrogin (SRO) 43.61 231 P **P 00 17 31.0 -0.7**
NWAO Narrogin (SRO) 43.61 231 IAMs_20 IAMs_20 00 34 48.0
comp=Z,2µm,21.0s
NWAO Narrogin (SRO) 43.61 231 LR LR 00 36 24.5
comp=Z,2µm,18.2s,baz=66,slow=37
NWAO Narrogin (SRO) 43.61 231 P **P 00 17 31.0 -0.7**
NWAO pmax pmax
comp=Z,31nm,1.0s
NWAO MLR MLR
comp=Z,2µm,21.0s
RAR Rarotonga 43.94 112 LR LR 00 32 38.0
comp=Z,362nm,20.8s,baz=276,slow=32
JOW Kunigami 44.59 323 LR LR 00 33 19.3
comp=Z,468nm,21.4s,baz=292,slow=32
PCJI Pacitan 44.82 267 P **P 00 17 41.7 +0.1**
SBUM Sibu 45.48 282 P **P 00 17 46.1 -0.7**
SBUM Sibu 45.48 282 P **P 00 17 49.2 +2.3**
SMRI Semarang 45.64 269 P **P 00 17 47.5 -0.7**
SMRI IAmb IAmb 00 18 34.4
comp=Z,41nm,1.1s
KSM Kuching 47.11 280 P **P 00 17 59.0 -0.7**
KSM Kuching 47.11 280 P **P 00 18 00.6 +0.9**
NACB Ninganchiao 47.12 315 P **P 00 17 59.2 -0.3**
JMN Monobe 47.23 334 P **P 00 17 59.5 -0.8**
JMN Monobe 47.23 334 P **P 00 18 01.0 +0.7**
INU Inuyama 47.39 338 P **P 00 18 01.1 -0.4**

INU Inuyama 47.39 338 P **P 00 18 01.7 +0.2**
JGF Kuroka 47.50 339 P **P 00 18 02.2 -0.1**
JGF Kuroka 47.50 339 P **P 00 18 03.9 +1.5**
MJAR Matsushiro Arr 48.05 340 P **P 00 18 05.0 -1.6**
comp=Z,3.2nm,0.5s,baz=163,slow=6.8,SNR=12
MJAR PcP **PcP 00 19 34.8 +0.3**
comp=Z,2.6nm,0.9s,baz=158,slow=4.6,SNR=2.1
MJAR LR LR 00 37 28.7
comp=Z,296nm,20.7s,baz=200,slow=35
comp=Z,3.2nm,0.5s
JNU Nakatsue 48.10 331 P **P 00 18 06.3 -0.7**
JNU Nakatsue 48.10 331 LR LR 00 37 05.8
comp=Z,176nm,19.2s,baz=146,slow=35
JNU Nakatsue 48.10 331 P **P 00 18 08.4 +1.3**
BBJI Bungbulang 48.36 268 P **P 00 18 11.2 +1.7**
LEM Lembang 48.45 268 LR LR 00 41 34.1
comp=Z,618nm,18.8s,baz=104,slow=40
JHS Saijyo 48.64 334 P **P 00 18 12.7 +1.5**
CNJI Cibinong 48.89 268 P **P 00 18 15.7 +2.2**
comp=Z,26nm,0.9s
TPI Tanjungpandan 48.91 274 P **P 00 18 15.8 +2.1**
comp=Z,616nmcomp=Z,34nm,1.7s
QZH Quanzhou 49.73 313 *e*P **P 00 18 23.3 +3.6**
QZH S **S 00 25 28.0 -0.7**
QZH LR LR
comp=Z,900nm,24.0s
CGJI Cibinong 50.37 268 P **P 00 18 23.7 -1.1**
JTM Tenmabayashi 51.13 345 P **P 00 18 30.2 +0.2**
ERM Erimo 51.80 347 IAMs_20 IAMs_20 00 37 54.4
comp=Z,2µm,19.0s
ERM Erimo 51.80 347 *i* P **P 00 18 34.3 -0.7**
ERM pmax pmax
comp=Z,9.0nm,1.2s
DLV Lat 51.90 292 P **P 00 18 36.0 -0.5**
SSE Sheshan 51.96 321 P **P 00 18 37.0 +0.6**
SSE S **S 00 26 01.5 +2.2**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,180nm,10.8s
SSE LR LR
comp=Z,320nm,21.0s
SSE LR LR
comp=Z,280nm,20.8s
MDSI Maura Dua 52.11 271 P **P 00 18 36.9 -0.9**
comp=Z,620nmcomp=Z,32nm,1.4s
KSRS Korea Array 53.02 332 P **P 00 18 43.5 -0.6**
comp=Z,4.5nm,0.8s,baz=148,slow=7.9,SNR=9.0
KSRS LR LR 00 41 27.9
comp=Z,248nm,18.7s,baz=145,slow=36
comp=Z,4.5nm,0.8s
KSAR Wonju Array Be 53.03 332 P **P 00 18 43.8 -0.4**
KSAR Wonju Array Be 53.03 332 P **P 00 18 43.8 -0.4**
PPT Papeete 53.13 105 LR LR 00 38 18.2
comp=Z,215nm,18.9s,baz=294,slow=33
PPT2 Papeete2 53.14 106 *e*LQ LQ 00 31 47.6
comp=Z,3µm,28.8s
PPT2 *e*LR LR 00 34 07.0
comp=Z,2µm,34.5s
MYKOM Kota Tinggi 53.48 279 P **P 00 18 47.4 -0.6**
MYKOM Kota Tinggi 53.48 279 P **P 00 18 48.8 +0.8**
QIZ Qiongzhong 53.54 301 P **P 00 18 47.8 -0.5**
QIZ PcP **PcP 00 19 54.0 -1.1**
QIZ PcS **PcS 00 23 54.8 +0.4**
QIZ S **S 00 26 21.8 +0.4**
QIZ ScS **ScS 00 28 38.0 -0.2**
QIZ pmax pmax
comp=Z,170nm,3.9s
QIZ LR LR
comp=Z,320nm,20.1s
QIZ LR LR
comp=Z,240nm,20.1s
QIZ LR LR
comp=Z,460nm,18.6s
TBI Tubuai 53.70 113 *e*S **S 00 26 22.3 -1.1**
comp=Z,1µm,30.5s
TBI *e*LQ LQ 00 32 07.6
comp=Z,19µm,34.8s
TBI *e*LR LR 00 34 14.7
comp=Z,7µm,32.2s
TBI *e*LR LR 00 34 15.2
comp=Z,1µm,31.5s
KSI Kapaklang 53.78 272 P P 00 19 07.5 +17
JKA Kamikawa-asahi 53.93 348 P **P 00 18 50.0 -0.7**
ASAJ Asahikawa 53.93 348 LR LR 00 41 01.6
comp=Z,823nm,19.5s,baz=168,slow=35
ASAJ Asahikawa 53.93 348 P **P 00 18 50.0 -0.7**
ASAJ pmax pmax
comp=Z,128nm,2.0s
NJ2 Nanjing 54.07 320 *e*P **P 00 18 53.5 +1.6**
NJ2 pmax pmax
comp=Z,34nm,0.5s
KHU Kahuku 54.68 59 P **P 00 18 56.2 -0.7**
KHU Kahuku 54.68 59 P **P 00 18 56.2 -0.7**
KHU pmax pmax
comp=Z,323nm,1.6s
UBPT Khong Chiam 55.84 295 P **P 00 19 04.4 -0.6**
UBPT Khong Chiam 55.84 295 P **P 00 19 07.1 +2.1**
BKNI Bangkinang 55.95 276 P **P 00 19 04.7 -1.2**
WHN Wuhan 56.10 316 P **P 00 19 09.0 +2.3**
WHN S **S 00 26 58.5 +3.1**
WHN LR LR
comp=Z,3µm,21.9s
PSTR Posyet 56.11 337 *i* P **P 00 19 06.7 +0.2**
VLA Vladivostok 56.11 338 *i* P **P 00 19 07.2 +0.7**
VLA pmax pmax
comp=Z,44nm,1.5s
PPI Padang Panjang 56.45 275 P **P 00 19 10.9 +1.4**
comp=Z,20nm,0.8s
YSS Yuzhno-Sakhali 56.61 349 P **P 00 19 09.5 -0.5**
YSS IAmb IAmb 00 19 12.9
comp=Z,24nm,0.9s
YSS Yuzhno-Sakhali 56.61 349 P **P 00 19 10.8 +0.8**
YSS Yuzhno-Sakhali 56.61 349 *e*P **P 00 19 10.6 +0.6**
YSS *e* 00 20 07.5
YSS *e*S **S 00 27 00.6 -1.0**
YSS pmax pmax
comp=Z,300nm,4.7s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax smax
comp=N,100nm,0.9s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS MLR MLR
comp=N,600nm,18.0s
YSS MLR MLR
comp=E,500nm,15.0s
USA0B Ussuriysk Arra 57.02 339 P **P 00 19 13.3 +0.4**
USA0B IAmb IAmb 00 19 14.6
comp=Z,52nm,1.1s
USA0B Ussuriysk Arra 57.02 339 *i* P **P 00 19 12.9 0.0**
USRK Ussuriysk Ar. 57.02 339 P **P 00 19 12.8 -0.1**
USRK Ussuriysk Ar. 57.02 339 P **P 00 19 12.5 -0.4**
comp=Z,28nm,0.9s,baz=151,slow=6.1,SNR=21
USRK LR LR 00 39 45.2
comp=Z,445nm,21.8s,baz=155,slow=32
comp=Z,28nm,0.9s
USRK Ussuriysk Ar. 57.02 339 P **P 00 19 12.8 -0.1**
KULM Kulim 57.36 282 P **P 00 19 14.9 -1.1**
MNSI Mandailing Nat 57.47 276 P **P 00 19 18.3 +1.5**
comp=Z,22nm,0.6s
MDJ Mudanjiang 58.25 338 P **P 00 19 21.4 -0.1**
MDJ IAmb IAmb 00 19 28.5
comp=Z,44nm,1.3s
MDJ Mudanjiang 58.25 338 P **P 00 19 22.5 +0.9**
MDJ pmax pmax
comp=Z,27nm,1.0s
MDJ pmax pmax
comp=Z,610nm,7.2s
MDJ Mudanjiang 58.25 338 P **P 00 19 22.0 +0.4**
RPSI Rantau Prapat 58.48 278 P **P 00 19 23.0 -0.9**
PSI Prapat 58.50 279 LR LR 00 47 32.3
comp=Z,284nm,18.9s,baz=116,slow=39
PSI Prapat 58.50 279 P **P 00 19 23.0 -1.1**
PSI pmax pmax
comp=Z,15nm,1.2s
COCO West Island 58.70 261 P **P 00 19 25.0 -0.4**
COCO West Island 58.70 261 P **P 00 19 25.0 -0.4**
COCO pmax pmax
comp=Z,50nm,0.9s
NONG Nongkai 58.94 297 P **P 00 19 28.5 +1.6**
CN2 Changchun 59.24 334 *e*P **P 00 19 28.8 +0.3**
CN2 S **S 00 27 36.0 -0.2**
CN2 pmax pmax

comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,400nm,7.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,450nm,21.0s
CN2 LR LR
comp=Z,430nm,21.0s
NAYO Nakonayok 59.27 292 P **P 00 19 32.4 +3.2**
ENH Enshi 59.39 313 P **P 00 19 28.6 -1.3**
ENH IAmb IAmb 00 19 56.5
comp=Z,50nm,1.6s
ENH Enshi 59.39 313 P **P 00 19 31.8 +1.9**
GSI Gunungsitoli 59.53 277 P **P 00 19 29.8 -1.4**
GSI Gunungsitoli 59.53 277 P **P 00 19 33.3 +2.1**
GSI Gunungsitoli 59.53 277 P **P 00 19 33.1 +1.9**
comp=Z,53nm,1.5s
SLVN Son La 59.56 301 P **P 00 19 30.1 -1.2**
SLVN Son La 59.56 301 P **P 00 19 32.5 +1.2**
GYA Guiyang 59.59 307 ⇑P **P 00 19 34.5 +3.1**
GYA S **S 00 27 42.8 +1.3**
GYA SS **SS 00 31 37.3 0.0**
GYA pmax pmax
comp=Z,10.0nm,1.2s
GYA pmax pmax
comp=Z,190nm,5.8s
GYA LR LR
comp=Z,360nm,24.2s
GYA LR LR
comp=Z,380nm,17.8s
GYA LR LR
comp=Z,560nm,22.4s
BNX BinXian 60.03 337 ⇓P **P 00 19 34.0 +0.1**
BNX pmax pmax
comp=Z,34nm,1.2s
BNX pmax pmax
comp=Z,490nm,4.9s
HNS HongShan 60.15 322 ⇓P **P 00 19 35.3 +0.4**
HNS S **S 00 27 48.3 +0.2**
HNS pmax pmax
comp=Z,16nm,1.5s
HNS LR LR
comp=Z,320nm,14.7s
HNS LR LR
comp=Z,390nm,19.0s
HNS LR LR
comp=Z,560nm,22.4s
TYV Tymovskoe 60.39 350 *e*P **P 00 19 37.0 +0.7**
TYV *e*S **S 00 27 52.0 +1.3**
TYV pmax pmax
comp=Z,19nm,1.2s
TYV pmax pmax
comp=Z,400nm,5.5s
TYV smax smax
comp=N,300nm,6.0s
TYV smax smax
comp=E,700nm,6.0s
BJT Baijiatuau 61.04 325 P **P 00 19 39.5 -1.4**
BJT IAmb IAmb 00 19 52.8
comp=Z,38nm,1.9s
BJT Baijiatuau 61.04 325 P **P 00 19 39.5 -1.4**
BJT pmax pmax
comp=Z,38nm,1.9s
SRDT SRDT 61.30 291 P **P 00 19 45.1 +2.0**
PET Petropavlovsk 61.38 1 *e*P P 00 19 48.1 +5.2
PET *e*S **S 00 28 06.7 +3.5**
PET MLR MLR
comp=Z,500nm,15.0s
PET MLR MLR
comp=Z,300nm,16.0s
PEA0B Petropavlovsk- 61.44 1 P **P 00 19 42.0 -1.3**
PEA0B Petropavlovsk- 61.44 1 P **P 00 19 42.1 -1.3**
PEA0B pmax pmax
comp=Z,79nm,1.6s
PETK Petropavlovsk- 61.44 1 P **P 00 19 42.7 -0.7**
PETK Petropavlovsk- 61.44 1 P **P 00 19 42.3 -1.1**
comp=Z,3.5nm,0.9s,baz=222,slow=7.0,SNR=5.5
PETK LR LR 00 42 51.7
comp=Z,778nm,21.5s,baz=177,slow=33
comp=Z,3.5nm,0.9s
PETK Petropavlovsk- 61.44 1 P **P 00 19 42.7 -0.7**
KLR Kul'dur 61.51 342 LR LR 00 44 18.9
comp=Z,246nm,21.6s,baz=154,slow=34
KLR Kul'dur 61.51 342 *ce*P **P 00 19 44.6 +0.7**
KLR pmax pmax
comp=Z,89nm,2.5s
XAN Xi'an 61.87 316 P **P 00 19 46.3 -0.4**
XAN pP pwP 00 19 57.3 +2.9
XAN S **S 00 28 11.3 +1.0**
XAN pmax pmax
comp=Z,14nm,0.8s
XAN pmax pmax
comp=Z,470nm,5.0s
XAN LR LR
comp=Z,540nm,18.2s
XAN LR LR
comp=Z,640nm,18.0s
XAN LR LR
comp=Z,1µm,23.0s
KMI Kunming 62.13 304 P **P 00 19 50.0 +1.1**
KMI S **S 00 28 17.5 +3.3**
KMI pmax pmax
comp=Z,21nm,0.9s
KMI pmax pmax
comp=Z,240nm,5.4s
KMI LR LR
comp=Z,270nm,17.3s
KMI LR LR
comp=Z,420nm,20.9s
KMI LR LR
comp=Z,740nm,25.4s
CRAI Chiangrai 62.17 298 P **P 00 19 48.3 -0.8**
CRAI IAmb IAmb 00 19 58.1
comp=Z,36nm,1.4s
TAOE Nuku Hiva Isla 62.55 96 *e*S **S 00 28 20.2 +0.5**
comp=Z,120nm,30.0s
TAOE *e*SS **SS 00 32 20.5 -3.6**
comp=Z,118nm,32.3s
TAOE *e*LR LR 00 38 25.7
comp=Z,1µm,29.8s
CM31 Chiang Mai Arr 62.80 296 P **P 00 19 53.0 -0.2**
CM31 IAmb IAmb 00 20 02.0
comp=Z,24nm,1.3s
CMAR Chiang Mai Arr 62.80 296 P **P 00 19 52.8 -0.4**
CMAR Chiang Mai Arr 62.80 296 P **P 00 19 54.1 +0.9**
comp=Z,2.2nm,0.6s,baz=113,slow=6.4,SNR=14
CMAR LR LR 00 46 25.2
comp=Z,173nm,20.6s,baz=115,slow=35
comp=Z,2.2nm,0.6s
CMAR Chiang Mai Arr 62.80 296 *i* P **P 00 19 55.0 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
SHEM Shemya Is, Ala 62.88 12 LR LR 00 45 56.9
comp=Z,521nm,19.1s,baz=298,slow=35
CHTO Chiang Mai 62.93 296 P **P 00 19 53.4 -0.7**
CHTO IAmb IAmb 00 20 03.1
comp=Z,16nm,1.1s
CHTO Chiang Mai 62.93 296 P **P 00 19 55.1 +1.0**
CHTO Chiang Mai 62.93 296 P **P 00 19 53.4 -0.7**
CHTO pmax pmax
comp=Z,16nm,1.1s
PZH PanZhiHua 63.53 305 P **P 00 19 58.0 -0.1**
PZH S **S 00 28 32.0 +0.4**
PZH SS **SS 00 32 39.0 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,150nm,7.1s
PZH LR LR
comp=Z,270nm,22.6s
PZH LR LR
comp=Z,360nm,25.5s
PZH LR LR
comp=Z,490nm,25.5s
XLT XiLinHaoTe 63.77 328 *e*P **P 00 20 00.8 +1.6**
XLT S **S 00 28 35.5 +1.7**
XLT ScS **SKSac 00 29 51.0 -1.6**
XLT pmax pmax
comp=Z,26nm,1.1s
XLT pmax pmax
comp=Z,290nm,4.5s
XLT LR LR
comp=Z,450nm,23.8s
XLT LR LR
comp=Z,830nm,27.7s

HEH	**HeiHe**	**63.81 340**	*e*P	**P**	**00 19 59.0**	**-0.3**
HEH			sP	**pwP**	**00 20 05.0**	**-2.2**
HEH			S	**S**	**00 28 33.5**	**-0.4**
HEH			pmax	pmax		
	comp=Z,52nm,1.1s					
HEH			pmax	pmax		
	comp=Z,560nm,4.3s					
HEH			LR	LR		
	comp=Z,270nm,14.9s					
HEH			LR	LR		
	comp=Z,450nm,14.8s					
HEH			LR	LR		
	comp=Z,670nm,16.4s					
CD2	**Chengdu**	**63.96 310**	P	**P**	**00 20 00.8**	**0.0**
CD2			S	**S**	**00 28 37.5**	**+0.8**
CD2			pmax	pmax		
	comp=Z,20nm,0.5s					
CD2			pmax	pmax		
	comp=Z,330nm,7.8s					
CD2			LR	LR		
	comp=Z,510nm,19.6s					
CD2			LR	LR		
	comp=Z,600nm,17.6s					
HHC	**Hu-ho-hao-te**	**64.23 323**	*e*P	**P**	**00 20 03.3**	**+0.9**
HHC			pmax	pmax		
	comp=Z,10.0nm,0.7s					
HHC			pmax	pmax		
	comp=Z,270nm,6.3s					
HHC			LR	LR		
	comp=Z,360nm,17.1s					
HHC			LR	LR		
	comp=Z,380nm,20.8s					
HHC			LR	LR		
	comp=Z,630nm,17.9s					
BTO	**Baotou**	**65.00 322**	*e*P	**P**	**00 20 08.5**	**+1.1**
BTO			pP	**pwP**	**00 20 13.0**	**-2.2**
BTO			sP	**sP**	**00 20 16.0**	**+4.0**
BTO			S	**S**	**00 28 51.5**	**+2.2**
BTO			SS	**SS**	**00 33 00.5**	**-1.1**
BTO			pmax	pmax		
	comp=Z,26nm,0.6s					
BTO			pmax	pmax		
	comp=Z,410nm,4.7s					
BTO			LR	LR		
	comp=Z,840nm,16.7s					
BTO			LR	LR		
	comp=Z,550nm,15.3s					
BTO			LR	LR		
	comp=Z,530nm,13.9s					
CASY	**Casey**	**65.58 199**	P	**P**	**00 20 09.9**	**-0.7**
CASY			IAmb	IAmb	00 20 11.6	
	comp=Z,43nm,1.6s					
CASY	**Casey**	**65.58 199**	IAMs_20	IAMs_20	00 44 42.8	
	comp=Z,1μm,21.0s					
TNCH	**TengChong**	**65.58 302**	P	**P**	**00 20 12.3**	**+0.7**
TNCH			S	**S**	**00 28 57.0**	**-0.1**
TNCH			ScS	**SKSac**	**00 30 04.5**	**-2.9**
TNCH			SS	**SS**	**00 33 12.5**	**+1.2**
TNCH			pmax	pmax		
	comp=Z,420nm,3.2s					
TNCH			LR	LR		
	comp=Z,380nm,15.5s					
HIA	**Hailar**	**65.97 335**	P	**P**	**00 20 13.0**	**-0.4**
HIA			IAmb	IAmb	00 20 16.4	
	comp=Z,13nm,1.0s					
HIA	**Hailar**	**65.97 335**	P	**P**	**00 20 14.2**	**+0.8**
HIA	**Hailar**	**65.97 335**	P	**P**	**00 20 13.0**	**-0.4**
HIA			pmax	pmax		
	comp=Z,13nm,1.0s					
LZH	**Lanzhou**	**66.47 315**	*e*P	**P**	**00 20 18.3**	**+1.2**
LZH			sP	pwP	00 20 26.5	+1.7
LZH			S	**S**	**00 29 09.8**	**+2.2**
LZH			SS	**SS**	**00 33 29.8**	**+5.0**
LZH			pmax	pmax		
	comp=Z,27nm,1.0s					
LZH			LR	LR		
	comp=Z,390nm,16.8s					
LZH			LR	LR		
	comp=Z,310nm,19.2s					
LZH			LR	LR		
	comp=Z,810nm,23.7s					
ZEA	**Zeya**	**66.82 342**	*e*P	**P**	**00 20 19.7**	**+1.0**
ZEA			*e*S	**S**	**00 29 14.9**	**+4.2**
ZEA			pmax	pmax		
	comp=N,50nm,0.7s					
ZEA			pmax	pmax		
	comp=Z,70nm,1.1s					
ZEA			pmax	pmax		
	comp=Z,100nm,3.0s					
ZEA			smax	smax		
	comp=N,200nm,12.8s					
NIKH	**Nikolski High**	**68.03 22**	P	**P**	**00 20 26.6**	**+0.3**
	baz=217					
MA2	**Magadan**	**68.07 357**	P	**P**	**00 20 25.4**	**-1.1**
MA2	**Magadan**	**68.07 357**	LR	LR	00 48 23.4	
	comp=N,304nm,20.4s,baz=164,slow=34					
MA2	**Magadan**	**68.07 357**	P	**P**	**00 20 26.5**	**-0.1**
MA2	**Magadan**	**68.07 357**	*ce*P	**P**	**00 20 26.4**	**-0.1**
MA2			pmax	pmax		
	comp=Z,45nm,2.5s					
MA2	**Magadan**	**68.07 357**	P	**P**	**00 20 25.8**	**-0.7**
	comp=Z,17nm,1.6s					
VNDA	**Vanda**	**68.98 179**	P	**P**	**00 20 30.8**	**-1.2**
VNDA			IAmb	IAmb	00 20 39.4	
	comp=Z,26nm,1.4s					
VNDA	**Vanda**	**68.98 179**	P	**P**	**00 20 32.3**	**+0.2**
	comp=Z,7.0nm,1.1s,baz=340,slow=7.3,SNR=8.4					
VNDA			LR	LR	00 45 11.0	
	comp=Z,560nm,21.3s,baz=354,slow=31					
	comp=Z,7.0nm,1.1s					
SBA	**Scott Base**	**69.47 178**	P	**P**	**00 20 35.3**	**+0.3**
SBA	**Scott Base**	**69.47 178**	P	**P**	**00 20 35.3**	**+0.3**
SBA			pmax	pmax		
	comp=Z,102nm,1.9s					
UNV	**Unalaska Valle**	**69.58 22**	P	**P**	**00 20 36.5**	**+0.5**
	baz=219					
CIT	**Chita**	**70.67 334**	*e*P	**P**	**00 20 44.0**	**+1.1**
CIT			*e*		00 20 49.8	
CIT			*e*		00 21 05.6	
P08K	**Saint George I**	**70.71 19**	P	**P**	**00 20 43.0**	**+0.1**
	baz=216					
GTA	**Gaotai**	**70.90 317**	P	**P**	**00 20 45.8**	**+1.2**
GTA			pP	sP	00 20 50.0	+0.8
GTA			S	**S**	**00 30 01.5**	**+1.5**
GTA			pmax	pmax		
	comp=Z,14nm,1.8s					
GTA			LR	LR		
	comp=Z,200nm,19.9s					
GTA			LR	LR		
	comp=Z,290nm,24.3s					
GTA			LR	LR		
	comp=Z,550nm,24.5s					
SPIA	**Saint Paul Isl**	**70.95 18**	P	**P**	**00 20 44.9**	**+0.6**
	baz=215					
ULN	**Ulaanbaatar**	**71.12 327**	P	**P**	**00 20 46.3**	**+0.5**
ULN			IAmb	IAmb	00 20 54.4	
	comp=Z,37nm,1.4s					
ULN	**Ulaanbaatar**	**71.12 327**	P	**P**	**00 20 46.3**	**+0.5**
ULN			pmax	pmax		
	comp=Z,37nm,1.5s					
SEY	**Seymchan**	**71.36 358**	LR	LR	00 47 42.5	
	comp=Z,449nm,21.9s,baz=154,slow=32					
SEY	**Seymchan**	**71.36 358**	*ce*P	**P**	**00 20 45.8**	**-0.9**
SEY			pmax	pmax		
	comp=Z,37nm,2.5s					
SONM	**Songino Array**	**71.46 327**	P	**P**	**00 20 47.9**	**+0.1**
SONM	**Songino Array**	**71.46 327**	P	**P**	**00 20 48.5**	**+0.7**
	comp=Z,10nm,0.9s,baz=135,slow=5.9,SNR=36					
SONM			LR	LR	00 52 05.1	
	comp=Z,241nm,19.5s,baz=128,slow=36					
	comp=Z,10nm,0.9s					
SONM	**Songino Array**	**71.46 327**	P	**P**	**00 20 47.9**	**+0.1**
SONM			pmax	pmax		
	comp=Z,12nm,0.9s					
FALS	**False Pass**	**71.53 23**	P	**P**	**00 20 48.1**	**+0.2**
	baz=222					
CHNA	**Chernabura Isl**	**73.05 25**	P	**P**	**00 20 56.6**	**-0.3**
	baz=226					
SDPT	**Sand Point**	**73.05 24**	P	**P**	**00 20 57.1**	**+0.2**
	baz=225					
LSA	**Lhasa**	**73.38 304**	P	**P**	**00 20 60.0**	**-0.1**
LSA			IAmb	IAmb	00 21 12.6	
	comp=Z,30nm,1.2s					
LSA	**Lhasa**	**73.38 304**	P	**P**	**00 21 00.0**	**-0.1**
LSA			pmax	pmax		
	comp=Z,30nm,1.2s					
YAK	**Yakutsk**	**73.41 347**	P	**P**	**00 20 58.9**	**-0.1**
YAK			IAmb	IAmb	00 21 02.8	
	comp=Z,37nm,1.1s					
YAK	**Yakutsk**	**73.41 347**	P	**P**	**00 20 58.9**	**-0.1**
	comp=Z,14nm,0.6s,baz=156,slow=9.7,SNR=7.7					
YAK			LR	LR	00 55 08.4	
	comp=Z,197nm,18.4s,baz=158,slow=37					
	comp=Z,14nm,0.6s					
YAK	**Yakutsk**	**73.41 347**	*e*P	**P**	**00 20 58.8**	**-0.1**
YAK			*e**PP	**sP**	**00 21 03.4**	**0.0**
YAK			*e*		00 21 14.3	
YAK			*e*		00 23 39.8	
YAK			*e*PPP	PPP	00 25 26.2	
YAK			*e*S	**SKiKP**	**00 30 28.2**	**-1.6**
YAK			*e*		00 31 10.4	
YAK			*e*SS	**SS**	**00 35 08.7**	**-1.5**
YAK			*e*SSS	SSS	00 38 27.8	
YAK			pmax	pmax		
	comp=Z,18nm,1.1s					
YAK			pmax	pmax		
	comp=N,4.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,1.0nm,0.8s					
YAK			pmax	pmax		
	comp=Z,252nm,10.6s					
YAK			pmax	pmax		
	comp=N,93nm,4.8s					
YAK			pmax	pmax		
	comp=E,95nm,6.8s					
YAK			smax	smax		
	comp=N,170nm,4.8s					
YAK			smax	smax		
	comp=E,82nm,3.3s					
YAK			pmax	pmax		
	comp=E,307nm,25.0s					
YAK			pmax	pmax		
	comp=N,103nm,13.0s					
YAK			MLR	MLR		
	comp=Z,313nm,27.0s					
YAK			MLR	MLR		
	comp=N,263nm,22.0s					
YAK			MLR	MLR		
	comp=E,66nm,14.0s					
S14K	**Fog Glacier**	**74.08 24**	P	**P**	**00 21 02.9**	**-0.2**
	baz=226					
CHGN	**Chignik**	**74.55 24**	P	**P**	**00 21 04.9**	**-0.8**
	baz=226					
ZAK	**Zakamensk**	**74.61 328**	*e*P	**P**	**00 21 06.0**	**-0.4**
ZAK			pmax	pmax		
	comp=Z,13nm,1.5s					
BOD	**Bodaibo**	**74.62 338**	*e*P	**P**	**00 21 05.8**	**-0.3**
BOD			pmax	pmax		
	comp=Z,20nm,1.9s					
M11K	**Mekoryuk**	**74.79 18**	P	**P**	**00 21 06.9**	**-0.1**
	baz=218					
IRK	**Irkutsk**	**75.18 330**	*e*P	**P**	**00 21 09.1**	**-0.4**
IRK			pmax	pmax		
	comp=Z,50nm,2.9s					
CHIR	**Chirikof Islan**	**75.39 26**	P	**P**	**00 21 11.1**	**+0.4**
	baz=229					
O14K	**Tigyukauivet M**	**75.57 21**	P	**P**	**00 21 11.7**	**+0.2**
	baz=223					
M13K	**Dall Lake**	**75.72 19**	P	**P**	**00 21 12.4**	**0.0**
	baz=221					
R16K	**Pilot Point**	**75.76 24**	P	**P**	**00 21 12.0**	**-0.7**
	baz=227					
N14K	**Kuskokwak Cree**	**75.91 20**	P	**P**	**00 21 12.3**	**-1.2**
	baz=223					
O15K	**Ungalikthiuk R**	**76.03 21**	P	**P**	**00 21 13.0**	**-1.2**
	baz=225					
GAMB	**Gambell**	**76.06 14**	P	**P**	**00 21 12.9**	**-1.4**
	baz=212					
M14K	**Bethel**	**76.43 20**	P	**P**	**00 21 15.4**	**-1.0**
	baz=222					
K13K	**Kusilvak Mount**	**76.47 18**	P	**P**	**00 21 15.7**	**-1.0**
	baz=220					
SII	**Sitkinak Islan**	**76.48 26**	P	**P**	**00 21 15.3**	**-1.6**
	baz=230					
MOY	**Mondy**	**76.52 328**	*e*P	**P**	**00 21 17.8**	**+0.4**
MOY			pmax	pmax		
	comp=Z,43nm,2.9s					
P16K	**Nushagak River**	**76.60 22**	P	**P**	**00 21 15.4**	**-2.0**
	baz=226					
L14K	**Kuka Creek**	**76.64 19**	P	**P**	**00 21 15.9**	**-1.7**
	baz=222					
N15K	**Kwethluk River**	**76.64 21**	P	**P**	**00 21 16.2**	**-1.6**
	baz=224					
BILL	**Bilibino**	**76.73 4**	P	**P**	**00 21 17.9**	**-0.1**
BILL			IAmb	IAmb	00 21 34.6	
	comp=Z,19nm,1.0s					
BILL	**Bilibino**	**76.73 4**	*ce*P	**P**	**00 21 18.4**	**+0.4**
BILL			pmax	pmax		
	comp=Z,48nm,2.5s					
M15K	**Kasigluk River**	**76.82 20**	P	**P**	**00 21 16.9**	**-1.7**
	baz=224					
O16K	**Kokwok River B**	**76.95 22**	P	**P**	**00 21 18.1**	**-1.3**
	baz=226					
R18K	**Karluk**	**77.02 25**	P	**P**	**00 21 18.7**	**-1.1**
	baz=230					
ACHA	**Angle Creek He**	**77.08 24**	P	**P**	**00 21 20.9**	**+0.6**
ACHA			IAmb	IAmb	00 21 26.7	
	comp=Z,47nm,1.8s					
PALK	**Pallekele**	**77.17 279**	LR	LR	01 00 09.1	
	comp=Z,225nm,18.3s,baz=108,slow=40					
L15K	**Ungalak Mounta**	**77.27 19**	P	**P**	**00 21 20.2**	**-1.0**
	baz=223					
OHAK	**Old Harbor**	**77.29 25**	P	**P**	**00 21 19.5**	**-1.9**
	baz=231					
P17K	**Kvichak River**	**77.30 23**	P	**P**	**00 21 20.8**	**-0.6**
	baz=228					
N16K	**Nishlik Lake**	**77.32 21**	P	**P**	**00 21 20.5**	**-1.1**
	baz=226					
J14K	**Nanvaranak Lak**	**77.43 18**	P	**P**	**00 21 21.9**	**-0.1**
	baz=220					
O17K	**Koliganek Bris**	**77.44 22**	P	**P**	**00 21 22.2**	**0.0**
	baz=227					
Q18K	**Katmai Hardscr**	**77.50 24**	P	**P**	**00 21 22.3**	**-0.3**
	baz=229					
M16K	**Timber Creek**	**77.64 20**	P	**P**	**00 21 23.5**	**+0.2**
	baz=225					
K15K	**Wolf Creek Mou**	**77.71 19**	P	**P**	**00 21 23.7**	**+0.1**
	baz=223					
P18K	**Big Mountain,**	**77.90 23**	P	**P**	**00 21 24.1**	**-0.7**
P18K			IAmb	IAmb	00 21 29.4	
	comp=Z,40nm,1.7s					
P18K	**Big Mountain,**	**77.90 23**	P	**P**	**00 21 24.6**	**-0.2**
	baz=229					
N17K	**Nushagak Hills**	**77.93 21**	P	**P**	**00 21 24.4**	**-0.5**
	baz=227					
KDAK	**Kodiak Island**	**77.93 25**	P	**P**	**00 21 25.2**	**+0.3**
KDAK			IAmb	IAmb	00 22 10.9	
	comp=Z,24nm,1.4s					
KDAK	**Kodiak Island**	**77.93 25**	LR	LR	00 56 44.2	
	comp=Z,264nm,18.2s,baz=73,slow=36					
KDAK	**Kodiak Island**	**77.93 25**	P	**P**	**00 21 25.2**	**+0.3**
KDAK			pmax	pmax		
	comp=Z,24nm,1.5s					
KDAK	**Kodiak Island**	**77.93 25**	P	**P**	**00 21 25.2**	**+0.3**
	baz=232					
L16K	**Owhat River**	**77.96 20**	P	**P**	**00 21 26.3**	**+1.3**
	baz=225					
O18K	**Koktuh Hills**	**78.21 23**	P	**P**	**00 21 27.3**	**+0.8**
	baz=229					
Q19K	**Cape Douglas,**	**78.22 24**	P	**P**	**00 21 27.3**	**+0.7**
	baz=230					
ANM	**Nome**	**78.32 16**	P	**P**	**00 21 27.7**	**+0.8**
	baz=218					
M17K	**Holitna River**	**78.44 21**	P	**P**	**00 21 27.8**	**+0.1**
	baz=227					
TNA	**Tin City**	**78.46 14**	P	**P**	**00 21 28.1**	**+0.4**
	baz=216					
N18K	**Kilae Creek**	**78.50 22**	P	**P**	**00 21 28.6**	**+0.5**
	baz=228					
Q20K	**Shuyak Island**	**78.53 25**	P	**P**	**00 21 28.5**	**+0.2**
	baz=232					
L17K	**Donlin**	**78.65 20**	P	**P**	**00 21 28.2**	**-0.7**
	baz=226					
J16K	**Anvik River**	**78.73 18**	P	**P**	**00 21 29.5**	**+0.2**
J16K			IAmb	IAmb	00 21 44.2	
	comp=Z,21nm,1.1s					
J16K	**Anvik River**	**78.73 18**	P	**P**	**00 21 28.8**	**-0.5**
	baz=223					
O19K	**Port Alsworth**	**78.77 23**	P	**P**	**00 21 29.0**	**-0.5**
	baz=230					
F14K	**Arctic Creek**	**78.79 15**	P	**P**	**00 21 29.9**	**+0.4**
	baz=218					
P19K	**Oil Pt**	**78.84 23**	P	**P**	**00 21 30.0**	**-0.1**
	baz=231					
G15K	**Niukluk**	**79.01 16**	P	**P**	**00 21 31.1**	**+0.4**
	baz=220					
K17K	**Iditarod**	**79.06 19**	P	**P**	**00 21 31.8**	**+0.7**
	baz=226					
M18K	**Stony River**	**79.07 21**	P	**P**	**00 21 31.5**	**+0.3**
	baz=228					
N19K	**Bonanza Creek**	**79.11 22**	P	**P**	**00 21 30.9**	**-0.7**
	baz=229					
I17K	**Unalakleet**	**79.14 18**	P	**P**	**00 21 30.9**	**-0.6**
	baz=223					
H16K	**Elim**	**79.24 17**	P	**P**	**00 21 32.0**	**0.0**
	baz=222					
L18K	**Granite Mounta**	**79.26 20**	P	**P**	**00 21 32.3**	**+0.1**
	baz=227					
J17K	**VABM Dome**	**79.29 19**	P	**P**	**00 21 31.7**	**-0.7**
	baz=225					
O20K	**Slope Mountain**	**79.35 23**	P	**P**	**00 21 32.5**	**-0.3**
	baz=231					
F15K	**North Star Dit**	**79.40 15**	P	**P**	**00 21 32.9**	**0.0**
	baz=219					
CNPM	**China Poot**	**79.56 24**	P	**P**	**00 21 33.8**	**-0.2**
G16K	**Koyuk River**	**79.78 16**	P	**P**	**00 21 34.6**	**-0.3**
	baz=221					
BRLK	**Bradley Lake**	**79.85 24**	P	**P**	**00 21 34.8**	**-0.7**
BRLK			IAmb	IAmb	00 21 41.1	
	comp=Z,88nm,2.0s					
M19K	**Big River Lodg**	**79.86 21**	P	**P**	**00 21 35.3**	**-0.2**
	baz=229					
L19K	**White Mountain**	**79.87 21**	P	**P**	**00 21 35.6**	**0.0**
	baz=229					
BRSE	**Bradley Lake S**	**79.89 24**	P	**P**	**00 21 35.8**	**+0.1**
	baz=233					
J18K	**Innoko River**	**80.10 19**	P	**P**	**00 21 36.0**	**-0.8**
	baz=227					
H17K	**Granite Mounta**	**80.14 17**	P	**P**	**00 21 36.5**	**-0.5**
H17K			IAmb	IAmb	00 21 53.3	
	comp=Z,39nm,1.8s					
H17K	**Granite Mounta**	**80.14 17**	P	**P**	**00 21 36.8**	**-0.1**
	baz=224					
SPCR	**Spurr Chakacha**	**80.21 23**	P	**P**	**00 21 37.2**	**-0.3**
	baz=232					
M20K	**Styx River**	**80.30 22**	P	**P**	**00 21 38.2**	**+0.2**
	baz=231					
G17K	**Kiwalik Mounta**	**80.34 17**	P	**P**	**00 21 37.3**	**-0.7**
	baz=223					
CAPN	**Captain Cook N**	**80.35 23**	P	**P**	**00 21 37.9**	**-0.2**
	baz=232					
L20K	**Farewell, AK**	**80.41 21**	P	**P**	**00 21 38.1**	**-0.4**
	baz=230					
SLKM	**Skilak Lake**	**80.56 24**	P	**P**	**00 21 38.7**	**-0.7**
SLKM			IAmb	IAmb	00 21 46.8	
	comp=Z,21nm,1.0s					
SEW	**Seward**	**80.63 24**	P	**P**	**00 21 39.1**	**-0.6**
SEW			IAmb	IAmb	00 21 47.3	
	comp=Z,26nm,1.1s					
SEW	**Seward**	**80.63 24**	P	**P**	**00 21 39.6**	**0.0**
	baz=234					
O22K	**Cooper Landing**	**80.74 24**	IAMs_20	IAMs_20	00 53 10.1	
	comp=Z,732nm,19.0s					
O22K	**Cooper Landing**	**80.74 24**	P	**P**	**00 21 40.6**	**+0.3**
	baz=234					
H18K	**Honhosa River**	**80.76 18**	P	**P**	**00 21 40.5**	**+0.2**
	baz=225					
J19K	**Poorman**	**80.82 19**	P	**P**	**00 21 41.0**	**+0.4**
	baz=228					
F17K	**Baldwin Pennin**	**80.87 16**	P	**P**	**00 21 41.4**	**+0.6**
	baz=222					
K20K	**Telida**	**80.92 20**	P	**P**	**00 21 41.6**	**+0.5**
	baz=230					
GCSA	**Galena City Sc**	**80.93 18**	P	**P**	**00 21 41.4**	**+0.3**
	baz=227					
SUA	**Susitna One**	**80.93 23**	P	**P**	**00 21 39.9**	**-1.5**
SUA			IAmb	IAmb	00 21 52.7	
	comp=Z,29nm,1.5s					
SUA	**Susitna One**	**80.93 23**	P	**P**	**00 21 42.2**	**+0.7**
	baz=233					
FIS	**Fire Island**	**80.94 23**	IAMs_20	IAMs_20	00 52 48.3	
	comp=Z,863nm,19.0s					
SKT	**Skwentna**	**80.95 22**	P	**P**	**00 21 42.5**	**+1.1**
	baz=232					
WMQ	**Urumqi**	**80.98 317**	*e*P	**P**	**00 21 43.0**	**+1.0**
WMQ			S	**S**	**00 31 54.8**	**+3.9**
WMQ			pmax	pmax		
	comp=Z,18nm,2.1s					
WMQ			LR	LR		
	comp=Z,330nm,9.9s					
WMQ			LR	LR		
	comp=Z,620nm,22.5s					
WMQ			LR	LR		
	comp=Z,430nm,24.2s					
RC01	**Rabbit Creek A**	**81.10 23**	P	**P**	**00 21 41.7**	**-0.4**
RC01	**Rabbit Creek A**	**81.10 23**	P	**P**	**00 21 43.3**	**+1.1**
	baz=234					
E17K	**Hotham Inlet**	**81.19 15**	P	**P**	**00 21 43.6**	**+1.1**
	baz=222					
G18K	**Tagagawik**	**81.20 17**	P	**P**	**00 21 43.8**	**+1.2**
	baz=225					
C16K	**Lisburne Hills**	**81.25 13**	P	**P**	**00 21 43.9**	**+1.1**
	baz=218					
PPLA	**Purkeypile**	**81.28 21**	P	**P**	**00 21 42.8**	**-0.5**
	baz=231					
D17K	**Noatak River**	**81.34 14**	P	**P**	**00 21 44.4**	**+1.1**
	baz=220					
M22K	**Willow**	**81.34 23**	P	**P**	**00 21 43.9**	**+0.5**
	baz=233					
P23K	**Montague Islan**	**81.42 25**	P	**P**	**00 21 44.5**	**+0.6**
	baz=236					
QSPA	**South Pole Qui**	**81.42 180**	P	**P**	**00 21 43.6**	**-0.4**
QSPA			IAmb	IAmb	00 21 51.1	
	comp=Z,37nm,1.1s					
QSPA	**South Pole Qui**	**81.42 180**	P	**P**	**00 21 44.4**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=360,slow=2.4,SNR=15					
QSPA			PKiKP	**PKiKP**	**00 27 05.5**	**-3.2**
	comp=Z,1.8nm,1.1s,baz=100,slow=3.5,SNR=3.3					
QSPA			LR	LR	00 55 07.6	
	comp=Z,219nm,18.2s,baz=12,slow=34					
	comp=Z,9.7nm,0.8s					
J20K	**Nowinta River**	**81.42 20**	P	**P**	**00 21 44.8**	**+1.0**
	baz=229					
PWL	**Port Wells**	**81.52 24**	P	**P**	**00 21 45.3**	**+0.8**
	baz=235					
H19K	**Roundabout Mou**	**81.60 18**	P	**P**	**00 21 45.2**	**+0.6**
	baz=227					
PMR	**Palmer**	**81.63 23**	P	**P**	**00 21 45.0**	**+0.1**
PMR	**Palmer**	**81.63 23**	P	**P**	**00 21 48.8**	**+3.9**
PMR	**Palmer**	**81.63 23**	P	**P**	**00 21 45.0**	**+0.1**
PMR			pmax	pmax		
	comp=Z,94nm,2.0s					
PMR	**Palmer**	**81.63 23**	P	**P**	**00 21 45.8**	**+0.9**
	baz=234					
CAST	**Castle Rocks**	**81.64 21**	P	**P**	**00 21 44.9**	**-0.2**
CAST			IAmb	IAmb	00 21 51.2	
	comp=Z,21nm,1.2s					
CAST	**Castle Rocks**	**81.64 21**	P	**P**	**00 21 45.1**	**+0.1**
	baz=231,SNR=12					
RDOG	**Red Dog Mine**	**81.65 14**	P	**P**	**00 21 45.7**	**+0.7**
RDOG			IAmb	IAmb	00 22 02.1	
	comp=Z,26nm,1.3s					
RDOG	**Red Dog Mine**	**81.65 14**	P	**P**	**00 21 44.3**	**-0.6**
	baz=220					
CUT	**Chulitna**	**81.68 22**	P	**P**	**00 21 45.4**	**+0.2**
CUT			IAmb	IAmb	00 22 05.4	
	comp=Z,30nm,1.2s					
CUT	**Chulitna**	**81.68 22**	P	**P**	**00 21 45.4**	**+0.2**
	baz=233					
I20K	**Naaghedeneel**	**81.72 19**	P	**P**	**00 21 46.4**	**+1.0**
	baz=229					
E18K	**Tukpahlearik C**	**81.76 15**	P	**P**	**00 21 46.0**	**+0.5**
	baz=223					
KNK	**Knik Glacier**	**81.79 23**	P	**P**	**00 21 45.5**	**-0.4**
KNK			IAmb	IAmb	00 21 56.9	
	comp=Z,42nm,1.6s					
KNK	**Knik Glacier**	**81.79 23**	P	**P**	**00 21 46.4**	**+0.6**
	baz=235					
GHO	**Glory Hole Cre**	**81.82 23**	P	**P**	**00 21 46.0**	**0.0**
G19K	**Purcell Mounta**	**81.83 17**	P	**P**	**00 21 47.2**	**+1.2**
	baz=226					
CHUM	**Lake Minchumin**	**81.86 20**	P	**P**	**00 21 47.0**	**+1.0**
	baz=231					
C17K	**DeLong Mountai**	**81.91 14**	P	**P**	**00 21 46.8**	**+0.4**
	baz=220					
GLI	**Glacier Island**	**82.03 24**	P	**P**	**00 21 48.2**	**+1.1**
	baz=236					
H20K	**Anotleneega Mo**	**82.06 18**	P	**P**	**00 21 48.8**	**+1.6**
	baz=228					
SML	**Sawmill**	**82.07 23**	P	**P**	**00 21 47.2**	**-0.1**

SML	Sawmill	82.07	23	P	P	00 21 48.1	+0.8
	baz=235						
F19K	Shaleruckik Mo	82.11	17	P	P	00 21 48.2	+0.8
	baz=226						
TIXI	Tiksi	82.12	351	P	P	00 21 46.6	-0.7
TIXI	Tiksi	82.12	351	P	P	00 21 47.6	+0.3
	comp=Z,1.2nm,0.5s,baz=151,slow=6.5,SNR=9.4						
TIXI				LR	LR	00 57 59.4	
	comp=Z,236nm,19.8s,baz=170,slow=36						
	comp=Z,1.2nm,0.5s						
TIXI	Tiksi	82.12	351	P	P	00 21 46.6	-0.7
TIXI				pmax	pmax		
	comp=Z,23nm,1.8s						
KTH	Kantishna Hill	82.14	21	P	P	00 21 47.1	-0.6
M23K	Glacier View	82.30	23	P	P	00 21 49.1	+0.6
	baz=236						
TRF	Thorofare Moun	82.30	21	P	P	00 21 49.0	+0.3
	baz=233						
EYAK	Cordova Ski Ar	82.41	25	P	P	00 21 49.1	+0.1
	baz=238						
BPAW	Bear Paw Mtn.	82.45	21	P	P	00 21 49.4	+0.1
	baz=232						
SCM	Sheep Creek Mo	82.47	23	P	P	00 21 49.0	-0.5
SCM	Sheep Creek Mo	82.47	23	P	P	00 21 49.0	-0.5
SCM				pmax	pmax		
	comp=Z,77nm,1.7s						
SCM	Sheep Creek Mo	82.47	23	P	P	00 21 48.9	-0.6
	baz=236						
C18K	Utukok River	82.52	14	P	P	00 21 50.1	+0.5
	baz=222						
KAIM	Kayak Island	82.64	26	P	P	00 21 50.5	+0.2
	baz=239						
E19K	Redstone River	82.70	16	P	P	00 21 51.7	+1.2
	baz=226						
RND	Reindeer	82.80	22	P	P	00 21 50.7	-0.4
RND				IAmb	IAmb	00 21 57.3	
	comp=Z,28nm,1.3s						
RND	Reindeer	82.80	22	P	P	00 21 50.7	-0.4
RND				pmax	pmax		
	comp=Z,28nm,1.3s						
H21K	Melozitna Rive	82.82	19	P	P	00 21 52.5	+1.4
	baz=230						
KLU	Klutina	82.85	24	P	P	00 21 51.5	+0.1
KLU				IAmb	IAmb	00 22 01.3	
	comp=Z,30nm,1.2s						
KLU	Klutina	82.85	24	P	P	00 21 51.8	+0.3
	baz=237						
F20K	Avaraart Lake	82.85	17	P	P	00 21 52.7	+1.5
	baz=228						
B18K	Kokolik River	82.91	14	P	P	00 21 52.3	+0.8
	baz=222						
MCK	McKinley	82.96	21	P	P	00 21 51.2	-0.7
MCK				IAmb	IAmb	00 21 58.0	
	comp=Z,28nm,1.1s						
MCK	McKinley	82.96	21	P	P	00 21 51.2	-0.7
MCK				pmax	pmax		
	comp=Z,28nm,1.1s						
MCK	McKinley	82.96	21	P	P	00 21 52.0	+0.1
	baz=234,SNR=16						
M24K	Tolsona, Glenn	83.08	24	P	P	00 21 53.2	+0.5
	baz=237						
BMRM	Bremner River	83.11	25	P	P	00 21 52.9	+0.1
BMRM				IAmb	IAmb	00 22 01.9	
	comp=Z,29nm,1.2s						
BMRM	Bremner River	83.11	25	P	P	00 21 53.5	+0.7
	baz=238,SNR=8.2						
G21K	Allakaket	83.15	18	P	P	00 21 53.6	+0.7
	baz=230						
BERG	Berg Lake	83.19	26	P	P	00 21 53.2	0.0
BERG				IAmb	IAmb	00 22 01.3	
	comp=Z,27nm,1.0s						
D19K	Kuna River	83.19	15	P	P	00 21 53.2	+0.2
	baz=225						
BGLC	Bering Glacier	83.23	26	P	P	00 21 53.3	0.0
	baz=240						
NEA2	Nenana	83.42	21	P	P	00 21 55.6	+1.3
	baz=234						
H22K	Ishtalitna Cre	83.43	19	P	P	00 21 54.8	+0.5
	baz=232						
N25K	Chitina, Valde	83.44	24	P	P	00 21 54.2	-0.3
	baz=238,SNR=9.4						
SNH	Sunshine Point	83.45	26	P	P	00 21 54.9	+0.3
SNH				IAmb	IAmb	00 22 02.5	
	comp=Z,15nm,0.9s						
MAW	Mawson	83.53	203	LR	LR	00 58 52.7	
	comp=Z,205nm,18.1s,baz=86,slow=36						
E20K	Nigu River	83.54	16	P	P	00 21 55.0	+0.1
	baz=227						
F21K	Alatna River	83.62	17	P	P	00 21 55.2	-0.1
	baz=230						
HARP	HAARP	83.64	24	P	P	00 21 55.4	0.0
	baz=238						
I23K	Minto, Yukon-K	83.64	20	P	P	00 21 54.6	-0.8
	baz=234						
GLB	Gilahina Butte	83.68	25	P	P	00 21 56.0	+0.2
WRH	Wood River Hil	83.69	21	P	P	00 21 54.8	-0.8
A19K	Wainwright	83.71	13	P	P	00 21 56.1	+0.6
	baz=222						
D20K	Etivluk River	83.74	16	P	P	00 21 57.5	+1.6
	baz=226						
PAX	Paxson	83.82	23	P	P	00 21 57.3	+0.9
	baz=238						
MESA	MESA	83.84	26	P	P	00 21 57.6	+0.8
	baz=241						
CCB	Clear Creek Bu	83.89	21	P	P	00 21 56.0	-0.6
H23K	Yukon River	83.99	20	P	P	00 21 57.8	+0.6
	baz=234						
COLA	College	84.01	21	P	P	00 22 00.4	+3.2
COLA	College	84.01	21	*i* P	P	00 21 56.8	-0.4
COLA				pmax	pmax		
	comp=Z,24nm,1.5s						
COLA	College	84.01	21	P	P	00 21 57.5	+0.3
	baz=235						
HDA	Harding Lake	84.06	21	P	P	00 21 57.1	-0.5
HDA	Harding Lake	84.06	21	P	P	00 21 57.6	0.0
	baz=236						
ZSN	Zaisan	84.10	320	*e*P	P	00 21 57.9	-0.2
ZSN				pmax	pmax		
	comp=Z,17nm,1.1s						
ZSN	Zaisan	84.10	320	*e*P	P	00 21 58.0	-0.2
	comp=Z,17nm,1.1s						
K24K	Donnelly Dome	84.16	22	P	P	00 21 58.6	+0.6
	baz=237						
F22K	John River	84.19	18	P	P	00 21 59.0	+0.9
	baz=231						
E21K	Killik River	84.28	16	P	P	00 22 00.2	+1.6
	baz=229						
IL31		84.29	21	P	P	00 21 58.1	-0.5
IL31				IAmb	IAmb	00 22 04.6	
	comp=Z,17nm,1.4s						
ILAR	Eielson Array	84.29	21	P	P	00 21 57.2	-1.5
ILAR	Eielson Array	84.29	21	P	P	00 21 57.8	-0.9
	comp=Z,2.1nm,0.9s,baz=258,slow=5.7,SNR=11						
ILAR				LR	LR	00 57 00.8	
	comp=Z,279nm,18.6s,baz=230,slow=34						
	comp=Z,2.1nm,0.9s						
POKR	Poker Plat Res	84.29	21	P	P	00 21 59.3	+0.6
	baz=236						
G23K	Bananza Creek	84.36	19	P	P	00 21 59.3	+0.2
	baz=233						
RIDG	Independent Ri	84.47	22	P	P	00 22 00.5	+0.8
	baz=238,SNR=7.3						
B20K	Meade River	84.50	14	P	P	00 22 01.0	+1.4
	baz=226						
M26K	Nabesna, AK	84.50	24	P	P	00 22 00.7	+0.9
	baz=240,SNR=8.1						
C21K	Knifeblade Rid	84.53	16	P	P	00 22 01.0	+1.1
	baz=228						
H24K	Noodor Dome	84.55	20	P	P	00 22 00.1	0.0
	baz=235						
PINM	Pinnacle	84.55	27	P	P	00 22 00.2	0.0
	baz=242,SNR=8.3						
COLD	Coldfoot	84.62	18	P	P	00 22 00.0	-0.3
	baz=233						
L26K	Log Cabin Wild	84.68	23	P	P	00 22 00.7	-0.1
	baz=239						
E22K	Anaktuvuk Pass	84.69	17	P	P	00 22 00.2	-0.5
	baz=231						
DOT	Dot Lake	84.72	23	P	P	00 22 01.2	+0.2
DOT				IAmb	IAmb	00 22 06.6	
	comp=Z,49nm,1.8s						
PNL	Peninsula	84.74	27	P	P	00 22 03.6	+2.5
PNL	Peninsula	84.74	27	P	P	00 22 01.1	0.0
	baz=243						
J25K	Salcha River,	84.75	22	P	P	00 22 01.8	+0.7
	baz=238,SNR=12						
B21K	Ikpikpuk River	84.88	15	P	P	00 22 03.0	+1.4
	baz=228						
O28M	Mount Upton	84.89	26	P	P	00 22 03.0	+0.8
	baz=242						
D22K	Ayikyak River	84.92	16	P	P	00 22 03.4	+1.6
	baz=230						
SCRK	Sand Creek	84.92	22	P	P	00 22 01.4	-0.7
SCRK				IAmb	IAmb	00 22 06.8	
	comp=Z,54nm,1.9s						
SCRK	Sand Creek	84.92	22	P	P	00 22 03.4	+1.3
	baz=239,SNR=6.9						
M27K	Edge Creek, AK	84.93	24	P	P	00 22 03.9	+1.7
	baz=241,SNR=20						
G24K	Hadweenzic Riv	85.18	19	P	P	00 22 05.1	+2.0
	baz=235						
PRP	Porcupine Dome	85.18	21	P	P	00 22 04.2	+0.8
	baz=237						
YUK3	Moose Creek	85.24	25	P	P	00 22 05.7	+1.8
	baz=242,SNR=7.6						
L27K	Beaver Creek,	85.30	24	P	P	00 22 05.9	+2.1
	baz=241,SNR=9.6						
E23K	Chandalar	85.30	18	P	P	00 22 06.2	+2.4
	baz=233						
YUK8	Steele Glacier	85.31	26	P	P	00 22 06.8	+2.5
	baz=243,SNR=10.0						
BCAR	Beaver Creek A	85.32	24	P	P	00 22 03.9	-0.1
J26L	Joseph Creek	85.35	22	P	P	00 22 06.2	+2.1
	baz=239						
BVCY	Beaver Creek	85.38	25	P	P	00 22 05.9	+1.6
	baz=242						
O29M	Mount Kennedy	85.39	27	P	P	00 22 06.3	+1.8
	baz=244,SNR=5.5						
P29M	Windy Craggy	85.48	28	P	P	00 22 07.3	+2.5
	baz=245						
H25L	Birch Creek	85.49	20	P	P	00 22 06.7	+2.0
	baz=237						
S31K	Pelican	85.50	30	P	P	00 22 06.9	+2.0
	baz=246						
F24K	Squaw Lake	85.52	19	P	P	00 22 07.3	+2.4
	baz=235						
D23K	Nanushuk River	85.54	17	P	P	00 22 06.9	+2.0
	baz=232						
A21K	Barrow	85.55	14	P	P	00 22 06.5	+1.7
	baz=226						
MK31	Makanchi Array	85.56	318	P	P	00 22 05.0	-0.6
MK31				IAmb	IAmb	00 22 07.1	
	comp=Z,15nm,1.1s						
MK31	Makanchi Array	85.56	318	P	P	00 22 05.0	-0.6
MK31				pmax	pmax		
	comp=Z,15nm,1.1s						
MKAR	Makanchi Array	85.56	318	P	P	00 22 05.4	-0.1
MKAR	Makanchi Array	85.56	318	P	P	00 22 05.8	+0.3
	comp=Z,12nm,0.9s,baz=105,slow=5.7,SNR=77						
MKAR				LR	LR	00 58 30.0	
	comp=Z,258nm,21.9s,baz=96,slow=34						
	comp=Z,12nm,0.9s						
SIT	Sitka	85.59	31	P	P	00 22 04.7	-0.6
	baz=247						
E24K	Your Creek	85.65	18	P	P	00 22 07.0	+1.5
	baz=234						
TOLK	Toolik Lake Re	85.66	17	P	P	00 22 05.7	+0.1
TOLK	Toolik Lake Re	85.66	17	P	P	00 22 06.8	+1.3
	baz=233						
G25K	Bearman Lake	85.67	20	P	P	00 22 05.7	+0.1
	baz=237						
B22K	Teshekpuk Lake	85.67	15	P	P	00 22 06.4	+0.9
	baz=230						
K27K	Chicken	85.68	23	P	P	00 22 05.9	+0.2
	baz=240						
YUK6	Outpost Mounta	85.77	26	P	P	00 22 08.0	+1.5
	baz=244,SNR=11						
MAKZ	Makanchi	85.77	318	P	P	00 22 06.2	-0.4
MAKZ				IAmb	IAmb	00 22 08.1	
	comp=Z,24nm,1.1s						
MAKZ	Makanchi	85.77	318	P	P	00 22 06.2	-0.4
MAKZ				pmax	pmax		
	comp=Z,24nm,1.1s						
YUK4	Talbot Arm	85.82	26	P	P	00 22 07.7	+1.0
	baz=244,SNR=7.6						
I26K	Coal Creek Min	85.91	21	P	P	00 22 08.8	+1.9
	baz=240						
MOBC	Moresby Island	85.95	35	IAMs_20	IAMs_20	00 54 36.1	
	comp=Z,911nm,19.0s						
P30M	Million Dollar	86.04	27	P	P	00 22 08.9	+1.2
	baz=245						
C23K	Itkillik River	86.09	16	P	P	00 22 09.3	+1.7
	baz=232						
HYT	Haines Junctio	86.09	27	P	P	00 22 08.0	0.0
HYT	Haines Junctio	86.09	27	P	P	00 22 08.6	+0.6
	baz=245,SNR=7.9						
S32K	Killisnoo	86.12	30	P	P	00 22 09.2	+1.3
	baz=248						
CRAG	Craig	86.13	33	P	P	00 22 08.8	+0.7
	baz=249						
D24K	Happy Valley	86.19	17	P	P	00 22 09.5	+1.4
	baz=234						
F25K	Christian Rive	86.27	19	P	P	00 22 10.8	+2.1
	baz=237						
ZAA0	Zalesovo Array	86.31	326	P	P	00 22 07.5	-1.5
ZAA0				IAmb	IAmb	00 22 12.2	
	comp=Z,44nm,2.0s						
ZALV	Zalesovo Beam	86.31	326	P	P	00 22 07.6	-1.4
ZALV	Zalesovo Beam	86.31	326	P	P	00 22 08.1	-0.9
	comp=Z,4.9nm,0.6s,baz=104,slow=4.7,SNR=20						
ZALV				LR	LR	01 00 24.2	
	comp=Z,178nm,20.4s,baz=110,slow=36						
	comp=Z,4.9nm,0.6s						
U33K	Whale Pass	86.36	32	IAMs_20	IAMs_20	00 52 58.9	
	comp=Z,695nm,20.0s						
U33K	Whale Pass	86.36	32	P	P	00 22 10.7	+1.5
	baz=249						
M29M	Somme Creek	86.38	25	P	P	00 22 10.3	+1.0
	baz=244						
R32K	Eaglecrest	86.46	30	P	P	00 22 11.1	+1.5
	baz=248						
SHLS	Shalkode	86.47	314	*e*P	P	00 22 08.5	-1.7
SHLS				pmax	pmax		
	comp=Z,22nm,2.0s						
SHLS	Shalkode	86.47	314	*e*P	P	00 22 08.6	-1.7
	comp=Z,22nm,2.0s						
JIS	Juneau Island	86.53	30	P	P	00 22 13.5	+3.6
BMAR	Burnt Mountain	86.53	19	P	P	00 22 10.2	+0.3
SKAG	Skagway	86.53	28	P	P	00 22 12.3	+2.4
SKAG	Skagway	86.53	28	P	P	00 22 11.7	+1.8
	baz=247,SNR=11						
G26K	Porcupine Rive	86.54	20	P	P	00 22 11.6	+1.7
	baz=239						
N30M	Aishikik Lake	86.55	26	P	P	00 22 11.6	+1.5
	baz=245,SNR=5.8						
C24K	Franklin Bluff	86.56	17	P	P	00 22 10.9	+1.1
	baz=234						
E25K	Arctic Village	86.58	19	P	P	00 22 11.1	+0.9
	baz=237						
I27K	Kandik River	86.62	22	P	P	00 22 12.0	+1.6
	baz=241						
O30N	Mendenhall	86.70	27	P	P	00 22 11.9	+1.0
	baz=246,SNR=10						
DAWY	Dawson	86.73	23	P	P	00 22 10.8	-0.2
DAWY				IAmb	IAmb	00 22 16.5	
	comp=Z,48nm,1.7s						
DAWY	Dawson	86.73	23	P	P	00 22 13.0	+2.0
	baz=243,SNR=5.2						
UZB	Uzynbulak	86.78	314	*e*P	P	00 22 11.5	-0.3
UZB				pmax	pmax		
	comp=Z,12nm,1.4s						
UZB	Uzynbulak	86.78	314	*e*P	P	00 22 11.6	-0.3
	comp=Z,12nm,1.4s						
F26K	Sheenjek River	86.81	19	P	P	00 22 13.9	+2.6
	baz=238						
L29M	L29M	86.81	24	P	P	00 22 13.4	+2.0
	baz=244,SNR=7.2						
WRAK	Wrangell Islan	86.88	32	P	P	00 22 13.1	+1.4
	baz=250						
V35K	Ketchikan	86.89	33	IAMs_20	IAMs_20	00 52 04.8	
	comp=Z,940nm,22.0s						
V35K	Ketchikan	86.89	33	P	P	00 22 12.5	+0.7
	baz=250						
H27K	Steamboat Moun	86.96	21	P	P	00 22 13.6	+1.6
	baz=241						
D25K	Kavik River	87.00	17	P	P	00 22 13.6	+1.4
	baz=236						
N31M	Braeburn, Yuko	87.13	26	P	P	00 22 14.4	+1.5
	baz=246,SNR=9.5						
M30M	Minto, Yukon	87.14	25	P	P	00 22 14.7	+1.7
	baz=245,SNR=6.2						
I28M	Miner Creek	87.16	22	P	P	00 22 14.4	+1.3
	baz=242,SNR=5.3						
G27K	Doyon Strip	87.20	20	IAMs_20	IAMs_20	00 58 51.9	
	comp=Z,720nm,19.0s						
G27K	Doyon Strip	87.20	20	P	P	00 22 15.2	+2.0
	baz=241						
WHY	Whitehorse	87.20	27	P	P	00 22 12.8	-0.6
WHY	Whitehorse	87.20	27	P	P	00 22 15.0	+1.6
	baz=247,SNR=7.4						
TARG	Taragay, Kyrgy	87.31	313	P	P	00 22 13.9	-0.8
TARG				IAmb	IAmb	00 22 53.8	
	comp=Z,45nm,2.0s						
TARG	Taragay, Kyrgy	87.31	313	P	P	00 22 13.9	-0.8
TARG				pmax	pmax		
	comp=Z,45nm,2.0s						
P32M	Atlin	87.34	29	P	P	00 22 15.6	+1.6
	baz=248,SNR=6.2						
J29N	Klondike Camp	87.37	23	P	P	00 22 15.2	+1.1
	baz=244						
K29M	Barlow Dome	87.38	24	P	P	00 22 15.0	+0.9
	baz=245,SNR=7.2						
TDK	Taldyqorghan	87.68	316	*e*P	P	00 22 15.7	-0.2
TDK				pmax	pmax		
	comp=Z,22nm,1.1s						
TDK	Taldyqorghan	87.68	316	*e*P	P	00 22 15.8	-0.2
	comp=Z,22nm,1.1s						
I29M	Ogilvie Camp,	87.73	22	P	P	00 22 17.1	+1.3
	baz=244						
C26K	Camden Bay	87.76	17	P	P	00 22 17.2	+1.5
	baz=238						
Q32M	Nakina River	87.81	29	P	P	00 22 17.4	+0.9
	baz=250						
KDJ	Kajisay	87.85	313	P	P	00 22 15.9	-1.2
KDJ				IAmb	IAmb	00 22 41.9	
	comp=Z,47nm,2.0s						
KDJ	Kajisay	87.85	313	P	P	00 22 15.9	-1.2
KDJ				pmax	pmax		
	comp=Z,47nm,2.0s						
BBB	Bella Bella	87.88	37	LR	LR	00 55 12.5	
	comp=Z,883nm,19.9s,baz=270,slow=31						
E27K	Coleen River	87.89	19	P	P	00 22 18.3	+1.8
	baz=241						
U35K	Hyder	87.93	33	IAMs_20	IAMs_20	00 57 50.4	
	comp=Z,672nm,19.0s						
C27K	Jago River	87.96	18	P	P	00 22 18.6	+1.9
	baz=239						
P33M	Teslin, Yukon	87.99	28	P	P	00 22 17.7	+0.6
	baz=249,SNR=7.3						
S34M	Telegraph Cree	88.01	31	P	P	00 22 18.0	+0.8
	baz=250						
M31M	Drury Creek, Y	88.02	26	P	P	00 22 18.6	+1.5
	baz=248,SNR=7.4						
H29M	Whitestone	88.09	22	P	P	00 22 19.0	+1.6
	baz=244						
T35M	Bob Quinn	88.16	32	IAMs_20	IAMs_20	00 53 41.2	
	comp=Z,714nm,20.0s						
T35M	Bob Quinn	88.16	32	P	P	00 22 20.2	+2.3
	baz=251						
J30M	Hart River	88.16	23	P	P	00 22 18.7	+0.8
	baz=246						
KSH	Kashi	88.16	310	P	P	00 22 20.8	+2.3
KSH				pP	pwP	00 22 26.5	0.0
KSH				pmax	pmax		
	comp=Z,8.0nm,1.7s						
MDOK	Medeo	88.19	314	*e*P	P	00 22 18.3	-0.3
MDOK	Medeo	88.19	314	*e*P	P	00 22 18.3	-0.3
N32M	Quiet Lake	88.20	27	P	P	00 22 18.3	+0.2
	baz=249						
TNSS	Tian-Shan	88.23	314	*e*P	P	00 22 18.3	-0.8
TNSS	Tian-Shan	88.23	314	*e*P	P	00 22 18.3	-0.8
AAA	Alma-Ata	88.29	314	*e*P	P	00 22 18.9	-0.1
AAA	Alma-Ata	88.29	314	*e*P	P	00 22 18.9	-0.1
I30M	Mount Dempster	88.41	23	P	P	00 22 19.1	0.0
	baz=246						
FARO	Faro, Yukon	88.48	26	P	P	00 22 21.6	+2.2
	baz=248,SNR=5.9						
G29M	Pine Creek	88.52	21	P	P	00 22 21.5	+2.0
	baz=244						
R33M	Jennings River	88.58	29	P	P	00 22 21.9	+1.8
	baz=251,SNR=8.1						
D27M	Malcolm River	88.61	18	P	P	00 22 21.0	+1.2
	baz=241						
DLBC	Dease Lake	88.73	30	IAMs_20	IAMs_20	00 59 44.5	
	comp=Z,673nm,18.0s						
DLBC	Dease Lake	88.73	30	LR	LR	00 59 09.1	
	comp=Z,416nm,18.3s,baz=269,slow=34						
DLBC	Dease Lake	88.73	30	P	P	00 22 22.4	+1.7
	baz=252,SNR=5.3						
EPYK	Eagle Plains	88.75	22	P	P	00 22 21.5	+1.0
	baz=245						
E28M	Babbage River	88.76	19	P	P	00 22 21.0	+0.5
	baz=243						
BOOM	Boomskoye usch	88.83	313	P	P	00 22 21.4	-0.3
BOOM				IAmb	IAmb	00 22 42.5	
	comp=Z,40nm,2.0s						
BOOM	Boomskoye usch	88.83	313	P	P	00 22 21.4	-0.3
BOOM				pmax	pmax		
	comp=Z,40nm,2.0s						
YBH	Yreka Blue Hor	88.83	48	IAMs_20	IAMs_20	00 54 17.9	
	comp=Z,795nm,21.0s						
YBH	Yreka Blue Hor	88.83	48	LR	LR	00 54 28.5	
	comp=Z,698nm,21.9s,baz=258,slow=30						
KURK	Kurchatov	88.98	322	P	P	00 22 19.2	-2.7
KURK	Kurchatov	88.98	322	*c*eP	P	00 22 21.8	-0.1
KURK				pmax	pmax		
	comp=Z,18nm,2.5s						
KURBB	Kurchatov Arra	89.01	321	P	P	00 22 21.2	-0.9
	comp=Z,1.6nm,0.8s,baz=105,slow=2.9,SNR=16						
KURBB				PP	PP	00 25 53.9	+1.9
	comp=Z,0.8nm,0.9s,baz=108,slow=7.9,SNR=4.0						
KURBB				LR	LR	01 02 23.4	
	comp=Z,212nm,19.5s,baz=167,slow=36						
	comp=Z,1.6nm,0.8s						
COR	Corvallis	89.04	45	IAMs_20	IAMs_20	00 56 57.2	
	comp=Z,1μm,19.0s						
NIL	Nilore	89.12	304	P	P	00 22 21.6	-1.4
NIL	Nilore	89.12	304	P	P	00 22 21.6	-1.4
NIL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
F03A	Seaside	89.17	43	IAMs_20	IAMs_20	01 01 39.5	
	comp=Z,654nm,19.0s						
BUCK	Buck Mountain	89.17	45	IAMs_20	IAMs_20	00 52 59.8	
	comp=Z,767nm,21.0s						
G30M	tAoh Zraii Nji	89.19	21	P	P	00 22 23.2	+0.6
	baz=246						
E29M	Blow River	89.21	20	P	P	00 22 23.5	+0.9
	baz=244						
L04D	Klamath Falls	89.23	47	IAMs_20	IAMs_20	00 52 48.5	
	comp=Z,729nm,22.0s						
D28M	Stokes Point	89.35	19	P	P	00 22 23.3	+0.1
	baz=243						
H31M	Peel River	89.42	23	P	P	00 22 24.0	+0.3
	baz=248						
H04D	Lebanon	89.42	45	IAMs_20	IAMs_20	00 58 17.3	
	comp=Z,660nm,20.0s						
I04A	Tendick Farm,	89.49	46	IAMs_20	IAMs_20	01 00 17.2	
	comp=Z,730nm,18.0s						
MMPY	Sheldon Lake,	89.53	26	P	P	00 22 25.0	+0.7
	baz=250						
F04D	Rainier, OR	89.57	43	IAMs_20	IAMs_20	00 55 32.2	
	comp=Z,796nm,20.0s						
F30M	Barrier River	89.60	21	P	P	00 22 25.3	+0.8
	baz=246						
CMB	Columbia Colle	89.84	52	P	P	00 22 25.7	-0.6
CMB				IAmb	IAmb	00 22 32.0	
	comp=Z,27nm,2.0s						
CMB	Columbia Colle	89.84	52	P	P	00 22 25.7	-0.6
CMB				pmax	pmax		
	comp=Z,27nm,2.0s						
H04A	Detroit Lake	89.84	45	IAMs_20	IAMs_20	00 57 53.3	
	comp=Z,726nm,20.0s						
WTLY	Watson Lake, Y	89.85	29	P	P	00 22 25.5	-0.3
WTLY	Watson Lake, Y	89.85	29	P	P	00 22 26.8	+0.9
	baz=252						
G31M	Satah River	89.87	22	P	P	00 22 27.1	+1.4
	baz=248						
AAK	Ala-Archa	89.91	313	P	P	00 22 25.3	-1.4
AAK				IAmb	IAmb	00 22 43.7	
	comp=Z,24nm,2.0s						
AAK	Ala-Archa	89.91	313	LR	LR	01 03 05.1	
	comp=Z,214nm,21.4s,baz=94,slow=36						
AAK	Ala-Archa	89.91	313	*c*eP	P	00 22 28.0	+1.3
AAK				pmax	pmax		

comp=Z,736nm,20.0s
F31M Tsiigehtchic 90.26 21 P P 00 22 28.6 +1.1
baz=248
TGTN Hyland Airport 90.52 28 P P 00 22 29.8 +0.8
baz=253
LON Longmire 90.53 43 IAMs_20 IAMs_20 00 56 44.5
comp=Z,676nm,21.0s
PNTR Pine Nut 90.64 51 P P 00 22 29.5 -0.8
PNTR IAmb IAmb 00 22 38.8
comp=Z,26nm,1.5s
INK Inuvik 90.66 20 P P 00 22 29.3 0.0
INK Inuvik 90.66 20 LR LR 01 02 23.9
comp=Z,244nm,18.1s,baz=239,slow=35
INK Inuvik 90.66 20 P P 00 22 29.3 0.0
INK pmax pmax
comp=Z,47nm,1.8s
INK Inuvik 90.66 20 P P 00 22 30.5 +1.1
baz=248
NRIK Noril'sk 90.70 341 P P 00 22 28.3 -1.3
NRIK IAmb IAmb 00 22 36.2
comp=Z,20nm,1.6s
NRIK Noril'sk 90.70 341 P P 00 22 29.2 -0.4
comp=Z,2.6nm,0.6s,baz=85,slow=4.9,SNR=9.2
NRIK LR LR 01 03 43.0
comp=Z,332nm,19.9s,baz=106,slow=36
comp=Z,2.6nm,0.6s
NRIK Noril'sk 90.70 341 *ce*P **P 00 22 28.9 -0.7**
NRIK pmax pmax
comp=Z,14nm,1.5s
BTLS Baital 90.70 315 *e*P **P 00 22 29.9 -0.2**
BTLS Baital 90.70 315 *e*P **P 00 22 30.0 -0.2**
ARSB Arslanbob 90.76 312 P **P 00 22 30.1 -0.6**
ARSB Arslanbob 90.76 312 P **P 00 22 30.1 -0.6**
ARSB pmax pmax
comp=Z,32nm,1.2s
ARSB MLR MLR
comp=Z,400nm,21.0s
LIRD Liard River Hi 90.97 30 P P 00 22 31.6 +0.6
baz=255
LLLB Lilloet 91.27 39 IAMs_20 IAMs_20 00 56 56.0
comp=Z,767nm,21.0s
SYO Syowa Base 91.33 199‖ *ep*P pP 00 22 35.7 -0.5
SYO Syowa Base 91.33 199‖ *es*P sP 00 22 39.2 +2.1
LTY Liberty 91.39 43 IAMs_20 IAMs_20 00 58 31.4
comp=Z,741nm,22.0s
NVAR Mina Array Bea 91.52 52 P P 00 22 34.1 -0.3
NVAR Mina Array Bea 91.52 52 P P 00 22 34.5 +0.2
comp=Z,0.7nm,0.8s,baz=261,slow=4.3,SNR=13
NVAR LR LR 00 58 19.6
comp=Z,344nm,19.0s,baz=247,slow=32
comp=Z,0.7nm,0.8s
DSP Deep Springs 91.61 53 P P 00 22 34.0 -0.5
DSP IAmb IAmb 00 22 39.8
comp=Z,28nm,1.7s
I07A Izee 91.61 46 IAMs_20 IAMs_20 01 01 03.2
comp=Z,741nm,20.0s
E07A Sunnyside 91.81 43 IAMs_20 IAMs_20 00 56 56.4
comp=Z,592nm,19.0s
HAWA Hanford 92.00 44 P P 00 22 35.1 -1.0
KOTAN Kotaneelee Air 92.15 30 P P 00 22 37.0 +0.6
baz=257
G08A Pilot Rock 92.20 45 IAMs_20 IAMs_20 01 00 51.9
comp=Z,739nm,19.0s
J08A Circle Bar Ran 92.22 47 P P 00 22 37.2 -0.1
PFO Pinyon Flats O 92.23 57 LR LR 00 57 10.7
comp=Z,843nm,19.8s,baz=273,slow=31
GAR Garm 92.38 309 IAMs_20 IAMs_20 01 02 21.9
comp=Z,1μm,22.0s
B08A Colville Reser 92.48 42 IAMs_20 IAMs_20 00 57 22.0
comp=Z,637nm,20.0s
D08A Wollman Farm, 92.53 43 IAMs_20 IAMs_20 00 58 09.5
comp=Z,650nm,20.0s
BRZS Berezniki 92.54 320 *e*P **P 00 22 38.6 +0.1**
BRZS Berezniki 92.54 320 *e*P **P 00 22 38.6 +0.1**
KKAR Karatay Array 92.87 313 P **P 00 22 39.3 -0.9**
KKAR Karatay Array 92.87 313 P **P 00 22 39.1 -1.2**
KKAR Karatay Array 92.87 313 P **P 00 22 39.3 -0.9**
KKAR pmax pmax
comp=Z,4.0nm,1.1s
IUG Iuzhnay 93.07 312 *e*P **P 00 22 40.8 -0.5**
IUG pmax pmax
comp=Z,14nm,1.2s
IUG Iuzhnay 93.07 312 *e*P **P 00 22 40.8 -0.5**
comp=Z,14nm,1.2s
WRGLY Wrigley 93.12 27 P **P 00 22 42.2 +1.4**
baz=257
BMO Blue Mountains 93.29 45 IAMs_20 IAMs_20 00 56 43.6
comp=Z,648nm,20.0s
BRLS Borolday 93.35 313 *e*P **P 00 22 42.4 -0.1**
BRLS Borolday 93.35 313 *e*P **P 00 22 42.4 -0.1**
S11A Rachel 93.40 53 IAMs_20 IAMs_20 01 04 17.9
comp=Z,752nm,22.0s
BELA Belgrano 2 93.47 178 P P 00 22 42.6 +0.2
BELA IAmb IAmb 00 22 48.6
comp=Z,9.4nm,0.9s
NEW Newport 93.92 42 IAMs_20 IAMs_20 01 00 10.2
comp=Z,683nm,18.0s
NEW Newport 93.92 42 LR LR 01 00 13.0
comp=Z,537nm,19.2s,baz=254,slow=32
ELIB Princess Elisa 94.03 193 *d*P **P 00 22 43.9 -1.4**
comp=Z,3.9nm,1.1s
MFID Camas Ranch 94.13 47 IAMs_20 IAMs_20 00 57 50.1
comp=Z,590nm,20.0s
PLID Pearl Lake 94.24 45 IAMs_20 IAMs_20 00 56 59.8
comp=Z,635nm,21.0s
C36M Paulatuk 94.24 20 P P 00 22 46.9 +1.0
baz=257
BVAR Borovoye Array 94.44 323 P P 00 22 45.8 -1.4
comp=Z,4.8nm,0.9s,baz=102,slow=6.2,SNR=18
BVAR LR LR 01 04 37.8
comp=Z,220nm,22.0s,baz=97,slow=35
comp=Z,4.8nm,0.9s
A36M Sachs Harbour 94.47 18 P P 00 22 46.8 -0.1
A36M IAmb IAmb 00 22 50.5
comp=Z,8.7nm,0.9s
A36M Sachs Harbour 94.47 18 P P 00 22 47.9 +1.0
baz=256
BRVK Borovoye 94.51 323 P P 00 22 46.2 -1.3
BRVK Borovoye 94.51 323 *ce*P **P 00 22 47.3 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
SPR3 Spring Creek 3 94.68 51 IAMs_20 IAMs_20 01 03 26.8
comp=Z,593nm,18.0s
HLID Hailey 95.17 47 IAMs_20 IAMs_20 01 00 14.6
comp=Z,589nm,19.0s
LCMT Little Creek M 95.29 54 IAMs_20 IAMs_20 00 58 41.2
comp=Z,797nm,18.0s
KNB Kanab 95.63 54 IAMs_20 IAMs_20 00 58 48.1
comp=Z,818nm,20.0s
MSO Missoula 95.88 44 IAMs_20 IAMs_20 00 59 53.0
comp=Z,555nm,19.0s
PKCU Pink Cliffs 96.08 53 IAMs_20 IAMs_20 01 00 27.0
comp=Z,684nm,20.0s
LPIG La Paz 96.34 67 LR LR 00 58 11.1
comp=Z,372nm,21.5s,baz=252,slow=30
X16A Lo Mia Camp, P 96.47 56 IAMs_20 IAMs_20 00 58 54.3
comp=Z,885nm,21.0s
WUAZ Wupatki 96.64 55 IAMs_20 IAMs_20 01 08 02.8
comp=Z,533nm,18.0s
DLMT Dillon 96.66 45 IAMs_20 IAMs_20 00 58 24.9
comp=Z,618nm,20.0s
YKA Yellowknife Ar 97.02 28 P P 00 22 58.9 +0.2
YKA Yellowknife Ar 97.02 28 P P 00 22 59.6 +0.9
comp=Z,2.3nm,0.8s,baz=266,slow=4.8,SNR=27
YKA PKKPbc **PKKPbc 00 39 39.0 -3.0**
comp=Z,0.4nm,1.1s,baz=93,slow=2.6,SNR=4.3
YKA LR LR 01 01 32.5
comp=Z,238nm,20.9s,baz=292,slow=32
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 97.02 28 P P 00 22 58.9 +0.2
NVL N'lazarevskaya 97.34 191 *e*P P 00 22 52.9 -7.2
NVL *e*S **SKSac 00 33 30.6 -6.2**
NVL pmax pmax
comp=Z,7.0nm,1.0s
NVL MLR MLR
comp=Z,401nm,17.0s
YHB Horse Butte 97.60 46 IAMs_20 IAMs_20 01 04 00.6
comp=Z,804nm,19.0s
YHL Hebgen Lake 97.61 46 IAMs_20 IAMs_20 01 04 00.0
comp=Z,766nm,20.0s
FXWY Fox Creek 97.63 47 IAMs_20 IAMs_20 00 59 34.5
comp=Z,604nm,20.0s
YMR Madison River 97.75 46 IAMs_20 IAMs_20 01 04 24.8
comp=Z,772nm,20.0s
MOOW Moose Ponds 97.84 47 IAMs_20 IAMs_20 00 58 58.2
comp=Z,648nm,22.0s
YNM Yellowstone No 97.94 46 IAMs_20 IAMs_20 01 04 20.8
comp=Z,800nm,19.0s
YNR Norris Junctio 97.96 46 IAMs_20 IAMs_20 00 59 24.2
comp=Z,797nm,19.0s
YMP Mirror Lake Pl 98.33 46 IAMs_20 IAMs_20 00 59 25.1
comp=Z,728nm,22.0s
PDAR Pinedale Array 98.64 48 P Pdif 00 23 08.0 +1.2
comp=Z,1.0nm,1.0s,baz=286,slow=6.2,SNR=6.4
PDAR LR LR 01 01 31.3
comp=Z,108nm,21.6s,baz=260,slow=32
comp=Z,1.0nm,1.0s
SNAA Sanae 98.77 186 LR LR 01 07 04.0
comp=Z,307nm,18.5s,baz=136,slow=35
MVCO Mesa Verde 99.09 54 IAMs_20 IAMs_20 01 02 44.6
comp=Z,817nm,18.0s
VNA3 Neumayer Olymp 99.82 185 ⇑Pdiff **Pdif 00 23 10.5 -0.7**
comp=Z,7.0nm,1.0s
Y22D IRIS PASSCAL I 100.17 57 P **Pdif 00 23 13.7 0.0**
baz=266
SDCO Great Sand Dun 101.50 53 IAMs_20 IAMs_20 01 08 04.2
comp=Z,615nm,20.0s
Q24A Divide 101.81 52 IAMs_20 IAMs_20 01 03 50.5
comp=Z,749nm,19.0s
T25A Trinidad 102.35 54 IAMs_20 IAMs_20 01 07 07.2
comp=Z,567nm,20.0s
BRIGG Briggsdale 102.48 50 IAMs_20 IAMs_20 01 04 53.4
comp=Z,534nm,19.0s
FFC Flin Flon 103.60 36 IAMs_20 IAMs_20 01 05 10.8
comp=Z,857nm,20.0s
MSTX Muleshoe 103.61 57 IAMs_20 IAMs_20 01 02 08.4
comp=Z,870nm,21.0s
KSCO Kaye Shedlock' 103.78 52 IAMs_20 IAMs_20 01 05 40.5
comp=Z,757nm,19.0s
OGNE Ogallala 104.22 50 IAMs_20 IAMs_20 01 08 02.0
comp=Z,578nm,18.0s
K30B Basset 105.96 48 IAMs_20 IAMs_20 01 08 38.1
comp=Z,479nm,18.0s
CBKS Cedar Bluff 106.03 52 IAMs_20 IAMs_20 01 07 47.3
comp=Z,842nm,20.0s
R32A Long Quarter, 106.85 53 IAMs_20 IAMs_20 01 11 24.9
comp=Z,492nm,20.0s
WMOK Wichita Mounta 106.91 56 IAMs_20 IAMs_20 01 05 38.8
comp=Z,813nm,21.0s
OK032 Salt Plains WL 107.31 54 IAMs_20 IAMs_20 01 12 48.3
comp=Z,480nm,19.0s
FCC Fort Churchill 107.31 31 IAMs_20 IAMs_20 01 17 45.7
comp=Z,670nm,18.0s
OK029 Liberty Lake 107.96 55 IAMs_20 IAMs_20 01 06 47.5
comp=Z,787nm,19.0s
FNO Franklin 108.03 56 IAMs_20 IAMs_20 01 05 45.3
comp=Z,811nm,21.0s
WHTX Lake Whitney, 108.08 59 IAMs_20 IAMs_20 01 07 16.8
comp=Z,818nm,20.0s
FW14 Alvarado 108.29 59 IAMs_20 IAMs_20 01 07 29.4
comp=Z,776nm,20.0s
OK051 E0350 and S346 108.43 54 IAMs_20 IAMs_20 01 05 04.9
comp=Z,639nm,22.0s
KSU1 Kansas State U 108.45 52 IAMs_20 IAMs_20 01 10 52.3
comp=Z,534nm,19.0s
OK052 Battle Ridge R 108.48 55 IAMs_20 IAMs_20 01 06 51.3
comp=Z,693nm,19.0s
T35A Sooner Cattle 108.67 54 IAMs_20 IAMs_20 01 06 25.1
comp=Z,637nm,18.0s
TUL3 Leonard 109.31 55 IAMs_20 IAMs_20 01 07 29.1
comp=Z,564nm,20.0s
MAK Makhachkala 109.68 313 *i* P **Pdif 00 23 52.6 -3.0**
MAK *e* 00 34 25.2
MAK *e*PS **PS 00 37 52.3 -5.8**
MAK pmax pmax
comp=Z,28nm,1.2s
U38A Gravette 110.41 54 IAMs_20 IAMs_20 01 05 46.2
comp=Z,608nm,22.0s
SPMN Marine on St. 110.59 45 IAMs_20 IAMs_20 01 14 53.4
comp=Z,467nm,18.0s
HHAR Hobbs 110.78 55 IAMs_20 IAMs_20 01 06 19.0
comp=Z,611nm,21.0s
P38A Dawn 110.78 51 IAMs_20 IAMs_20 01 11 22.9
comp=Z,616nm,19.0s
R40A Maddies Statio 111.91 52 IAMs_20 IAMs_20 01 09 29.8
comp=Z,501nm,20.0s
P40A Paris 111.94 51 IAMs_20 IAMs_20 01 11 48.4
comp=Z,677nm,20.0s
MGMO Mountain Grove 112.03 53 IAMs_20 IAMs_20 01 17 26.2
comp=Z,505nm,19.0s
L40A Anamosa 112.21 48 IAMs_20 IAMs_20 01 12 17.4
comp=Z,613nm,19.0s
FCAR Ozark Folk Cen 112.28 55 IAMs_20 IAMs_20 01 07 00.7
comp=Z,787nm,22.0s
LL01 San Ignacio de 112.47 143 IAMs_20 IAMs_20 01 18 53.8
comp=Z,671nm,20.0s
CCM Cathedral Cave 112.74 52 IAMs_20 IAMs_20 01 15 40.8
comp=Z,587nm,19.0s
KIV Kislovodsk 113.00 314 *i* PKIKP **PKiKP 00 28 03.5 -1.3**
KIV pmax pmax
comp=Z,2.0nm,1.1s
KIV MLR MLR
comp=Z,147nm,21.0s
LCAR Lake Charles 113.04 55 IAMs_20 IAMs_20 01 09 52.9
comp=Z,667nm,21.0s
143A Socs Landing, 113.16 58 IAMs_20 IAMs_20 01 10 31.2
comp=Z,661nm,20.0s
FVM French Village 113.39 52 IAMs_20 IAMs_20 01 19 21.0
comp=Z,437nm,18.0s
SLM Saint Louis 113.45 52 IAMs_20 IAMs_20 01 17 12.5
comp=Z,504nm,19.0s
PBMO Poplar Bluff 113.54 54 IAMs_20 IAMs_20 01 09 13.1
comp=Z,716nm,21.0s
P43A Skaggs, Pawnee 113.85 50 IAMs_20 IAMs_20 01 08 30.1
comp=Z,562nm,21.0s
GNAR Gosnell 113.97 55 IAMs_20 IAMs_20 01 16 47.5
comp=Z,634nm,22.0s
CGM3 Cape Girardeau 114.09 53 IAMs_20 IAMs_20 01 07 46.5
comp=Z,458nm,21.0s
K43A Burlington 114.21 47 IAMs_20 IAMs_20 01 09 52.2
comp=Z,734nm,21.0s
S44A Carbondale 114.35 53 IAMs_20 IAMs_20 01 21 22.5
comp=Z,374nm,18.0s
SIUC Southern Illin 114.38 53 IAMs_20 IAMs_20 01 21 23.1
comp=Z,449nm,19.0s
M44A Midewin, Midew 114.67 48 IAMs_20 IAMs_20 01 10 01.5
comp=Z,651nm,20.0s
346A Big Creek Wild 114.91 59 IAMs_20 IAMs_20 01 11 14.7
comp=Z,697nm,20.0s
T45A Paducah 114.93 53 IAMs_20 IAMs_20 01 09 12.7
comp=Z,774nm,22.0s
SOC Sochi 115.18 314 *i* PKIKP **PKiKP 00 28 06.9 -1.9**
SOC *e* 00 29 06.3
SOC *e*PPP PPP 00 31 31.9
SOC *e*PS **PKKPbc 00 38 45.2 +0.1**
SOC MLR MLR
comp=Z,249nm,19.0s
SFIN Lafayette 115.56 49 IAMs_20 IAMs_20 01 12 41.2
comp=Z,433nm,18.0s
P46A Rosedale 115.62 50 IAMs_20 IAMs_20 01 11 14.8
comp=Z,570nm,19.0s
PLAL Pickwick Lake 115.67 55 IAMs_20 IAMs_20 01 09 08.5
comp=Z,813nm,22.0s
WVT Waverly 115.70 54 IAMs_20 IAMs_20 01 15 05.4
comp=Z,426nm,20.0s
Z47A Carrollton 115.90 57 IAMs_20 IAMs_20 01 17 08.7
comp=Z,648nm,18.0s
T47A Sharon Grove 116.15 53 IAMs_20 IAMs_20 01 09 48.1
comp=Z,664nm,21.0s
BLO Bloomington 116.22 51 IAMs_20 IAMs_20 01 12 18.8
comp=Z,537nm,19.0s
N47A Urbana 116.51 49 IAMs_20 IAMs_20 01 10 22.2
comp=Z,605nm,22.0s
TEIG Tepich 116.53 72 IAMs_20 IAMs_20 01 08 34.3
comp=Z,615nm,22.0s
V48A Smith Brothers 116.57 54 IAMs_20 IAMs_20 01 10 44.4
comp=Z,474nm,22.0s
WCI Wyandotte Cave 116.57 52 IAMs_20 IAMs_20 01 11 35.1
comp=Z,520nm,21.0s
X48A Hartselle 116.58 56 IAMs_20 IAMs_20 01 11 19.7
comp=Z,689nm,20.0s
LRAL Lakeview Retre 116.81 57 IAMs_20 IAMs_20 01 11 47.9
comp=Z,574nm,20.0s
BRAL Brewton 116.99 59 IAMs_20 IAMs_20 01 11 19.8
comp=Z,693nm,20.0s
P48A Milroy 117.00 50 IAMs_20 IAMs_20 01 12 05.4
comp=Z,745nm,21.0s
O48B Farmland 117.04 49 IAMs_20 IAMs_20 01 16 51.4
comp=Z,441nm,20.0s
U49A Red Boiling Sp 117.28 53 IAMs_20 IAMs_20 01 14 07.3
comp=Z,414nm,19.0s
TGUH Tegucigalpa,Un 117.38 79 IAMs_20 IAMs_20 01 10 28.9
comp=Z,452nm,21.0s
R49A Shelbyville 117.43 51 IAMs_20 IAMs_20 01 17 20.8
comp=Z,573nm,18.0s
N49A Columbus Grove 117.62 48 IAMs_20 IAMs_20 01 11 59.5
comp=Z,616nm,20.0s
KIBK Kibwezi 117.70 263 IAMs_20 IAMs_20 01 12 38.3
comp=Z,404nm,18.0s
FPAL Fort Paine 117.74 56 IAMs_20 IAMs_20 01 12 46.3
comp=Z,468nm,20.0s
W50A Signal Mountai 117.87 55 IAMs_20 IAMs_20 01 11 09.9
comp=Z,688nm,21.0s
T50A Nancy 117.93 53 IAMs_20 IAMs_20 01 11 40.2
comp=Z,562nm,21.0s
R50A Paris 118.08 51 IAMs_20 IAMs_20 01 17 05.1
comp=Z,644nm,19.0s
K50A Casco 118.28 46 IAMs_20 IAMs_20 01 16 29.0
comp=Z,622nm,18.0s
M50A Fremont 118.34 47 IAMs_20 IAMs_20 01 16 35.5
comp=Z,604nm,20.0s
CPCT Cooper Cave 118.47 54 IAMs_20 IAMs_20 01 12 44.6
comp=Z,575nm,19.0s
ACSO Alum Creek Sta 118.67 49 IAMs_20 IAMs_20 01 12 45.4
comp=Z,602nm,20.0s
Q51A Peebles 118.67 50 IAMs_20 IAMs_20 01 19 24.1
comp=Z,620nm,19.0s
MNK Minsk 118.70 329 *i* PKIKP **PKPdf 00 28 13.1 -2.1**
MNK *i* 00 29 30.5
MNK *i* PPP PPP 00 32 00.6
MNK *i* 00 35 25.6
MNK *i* SSS SSS 00 50 12.8
MNK pmax pmax
comp=N,10.0nm,1.1s
MNK pmax pmax
comp=Z,3.0nm,0.9s
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK MLR MLR
comp=Z,336nm,17.0s
MNK MLR MLR
comp=N,298nm,18.0s
MNK MLR MLR
comp=E,254nm,18.0s
MT05 Renca 118.73 136 IAMs_20 IAMs_20 01 02 37.4
comp=Z,452nm,18.0s
352A Blakely 118.75 59 IAMs_20 IAMs_20 01 13 06.7
comp=Z,733nm,21.0s
S51A Beattyville 118.78 52 IAMs_20 IAMs_20 01 11 04.6
comp=Z,621nm,21.0s
P51A Williamsport 118.78 50 IAMs_20 IAMs_20 01 19 01.0
comp=Z,508nm,18.0s
W52A Murphy 119.01 55 IAMs_20 IAMs_20 01 12 18.9
comp=Z,758nm,22.0s
TZTN Tazewell 119.04 53 IAMs_20 IAMs_20 01 19 26.5
comp=Z,549nm,18.0s
Y52A Lilburn 119.11 56 IAMs_20 IAMs_20 01 13 19.8
comp=Z,678nm,20.0s
VA03 San Esteban 119.21 135 IAMs_20 IAMs_20 01 19 04.2
comp=Z,521nm,22.0s
M52A Chesterland 119.52 47 IAMs_20 IAMs_20 01 15 22.4
comp=Z,680nm,20.0s
AKASG Malin Array Be 119.68 324 PKP **PKPdf 00 28 15.5 -1.7**
comp=Z,2.1nm,0.8s,baz=59,slow=2.0,SNR=6.5
V53A Saluda 119.80 54 IAMs_20 IAMs_20 01 12 25.2
comp=Z,648nm,22.0s
TIGA Tifton 119.89 59 IAMs_20 IAMs_20 01 14 42.1
comp=Z,645nm,20.0s
O53A New Philadelph 119.97 48 IAMs_20 IAMs_20 01 14 37.4
comp=Z,579nm,21.0s
N53A Lisbon 120.10 48 IAMs_20 IAMs_20 01 23 17.7
comp=Z,448nm,18.0s
ILGA Ilgaz 120.12 313 IAMs_20 IAMs_20 01 21 49.9
comp=Z,524nm,18.0s
ERPA Erie 120.34 46 IAMs_20 IAMs_20 01 16 03.9
comp=Z,675nm,21.0s
S54A Dingess, Beckl 120.51 51 IAMs_20 IAMs_20 01 19 20.8
comp=Z,594nm,20.0s
HODGE Hodges 120.52 55 IAMs_20 IAMs_20 01 13 02.5
comp=Z,673nm,21.0s
BRTR Keskin Array B 120.53 311 PKP **PKPdf 00 28 18.3 -1.2**
comp=Z,1.2nm,1.0s,baz=52,slow=2.4,SNR=3.3
O54A Avella 120.61 48 IAMs_20 IAMs_20 01 15 05.2
comp=Z,532nm,20.0s
V55A Taylorsville 121.03 53 IAMs_20 IAMs_20 01 13 03.8
comp=Z,611nm,22.0s
KMSC Kings Mountain 121.09 54 IAMs_20 IAMs_20 01 12 18.4
comp=Z,650nm,21.0s
MEDO Medina 121.09 44 IAMs_20 IAMs_20 01 17 48.7
comp=Z,473nm,18.0s
MCWV Mont Chateau 121.14 49 IAMs_20 IAMs_20 01 12 23.4
comp=Z,542nm,21.0s
DELO Deloro Mine 121.20 43 IAMs_20 IAMs_20 01 20 18.5
comp=Z,523nm,18.0s
JSC Jenkinsville 121.32 55 IAMs_20 IAMs_20 01 15 37.7
comp=Z,594nm,20.0s
BLA Blacksburg 121.34 52 IAMs_20 IAMs_20 01 12 54.8
comp=Z,662nm,22.0s
J55A Hilton 121.50 44 IAMs_20 IAMs_20 01 19 25.1
comp=Z,479nm,19.0s
Q56A Snyder Ridge, 121.80 49 IAMs_20 IAMs_20 01 13 19.9
comp=Z,441nm,20.0s
L56A Greenwood 122.05 45 IAMs_20 IAMs_20 01 18 35.1
comp=Z,636nm,19.0s
Y57A Sumter 122.08 55 IAMs_20 IAMs_20 01 13 59.8
comp=Z,617nm,21.0s
W57A Gilead 122.16 54 IAMs_20 IAMs_20 01 13 36.7
comp=Z,699nm,22.0s
DWPF Disney Wildern 122.22 62 IAMs_20 IAMs_20 01 16 24.1
comp=Z,543nm,21.0s
T57A Hurt 122.29 52 IAMs_20 IAMs_20 01 14 40.1
comp=Z,573nm,21.0s
SSPA Standing Stone 122.30 47 IAMs_20 IAMs_20 01 18 58.7
comp=Z,504nm,20.0s
S57A Dark Hollow, R 122.33 51 IAMs_20 IAMs_20 01 16 01.9
comp=Z,455nm,21.0s
P57A Homestead Farm 122.55 48 IAMs_20 IAMs_20 01 24 31.6
comp=Z,603nm,18.0s
TRQ Mont Tremblant 122.56 40 IAMs_20 IAMs_20 01 16 00.1
comp=Z,690nm,21.0s
K57A Scipio Center 122.58 44 IAMs_20 IAMs_20 01 16 23.0
comp=Z,647nm,20.0s
WBO Williamsburg 122.58 41 IAMs_20 IAMs_20 01 13 37.7
comp=Z,602nm,22.0s
Y58A Scranton 122.69 55 IAMs_20 IAMs_20 01 14 50.0
comp=Z,543nm,21.0s
V58A Windy Hill, Pi 122.70 53 IAMs_20 IAMs_20 01 14 49.0
comp=Z,402nm,21.0s
LONY Lake Ozonia 123.18 42 IAMs_20 IAMs_20 01 14 06.7
comp=Z,520nm,22.0s
KSPA Keystone Colle 123.51 45 IAMs_20 IAMs_20 01 26 33.7
comp=Z,565nm,19.0s
T59A Double "B" Far 123.61 51 IAMs_20 IAMs_20 01 15 29.0
comp=Z,613nm,22.0s
J59A Piesco 123.68 43 IAMs_20 IAMs_20 01 17 42.0
comp=Z,517nm,20.0s
FRNY Flat Rock 123.74 41 IAMs_20 IAMs_20 01 16 41.5
comp=Z,498nm,20.0s
Y60A Bolivia 123.85 55 IAMs_20 IAMs_20 01 15 13.5
comp=Z,542nm,20.0s
KOLS Kolonicke sedl 124.48 325 *e*PKIKP **PKiKP 00 28 28.4 +1.5**
KOLS Kolonicke sedl 124.48 325 *e*PKP **PKiKP 00 28 28.4 +1.5**
ODNJ Ogdensburg 124.49 46 IAMs_20 IAMs_20 01 18 09.8
comp=Z,418nm,20.0s
VT1 Waterbury 124.50 41 IAMs_20 IAMs_20 01 14 34.6
comp=Z,596nm,22.0s
TRY Troy 124.53 43 IAMs_20 IAMs_20 01 18 06.5
comp=Z,522nm,20.0s
TRNY Table Rock, Ra 124.74 45 IAMs_20 IAMs_20 01 32 37.3
comp=Z,549nm,18.0s
PAL Palisades 125.01 45 IAMs_20 IAMs_20 01 18 04.5
comp=Z,472nm,21.0s
HNH Hanover 125.06 42 IAMs_20 IAMs_20 01 23 44.5
comp=Z,518nm,19.0s
MBAR Mbarara 125.20 263 IAMs_20 IAMs_20 01 17 40.6
comp=Z,482nm,21.0s
ICQ Pointe Anglais 125.29 34 IAMs_20 IAMs_20 01 19 27.6
comp=Z,554nm,20.0s
L61B Northampton 125.31 43 IAMs_20 IAMs_20 01 19 49.2
comp=Z,583nm,20.0s
E62A Clayton Lake 125.49 38 IAMs_20 IAMs_20 01 18 45.4
comp=Z,428nm,20.0s
D62A Allapoint, All 125.55 37 IAMs_20 IAMs_20 01 21 43.8
comp=Z,484nm,19.0s
UCCT U. Connecticut 125.88 44 IAMs_20 IAMs_20 01 18 52.4
comp=Z,529nm,20.0s
M63A Gales Ferry 126.16 44 IAMs_20 IAMs_20 01 17 34.8
comp=Z,572nm,22.0s
L64A Middleborough 126.77 43 IAMs_20 IAMs_20 01 27 27.8
comp=Z,566nm,20.0s
DPC Dobruska-Polom 126.89 329 *e*PKP **PKiKP 00 28 34.5 +2.8**
DPC Dobruska-Polom 126.89 329 *e*PKIKP **PKiKP 00 28 34.5 +2.8**
VRAC Vranov 127.38 328 *e*PKP **PKPdf 00 28 31.3 -0.8**

MODS	Modra-Piesok	127.56	327	*e*PKIKP	PKiKP	00 28 33.0	0.0
MODS	Modra-Piesok	127.56	327	*e*PKP	PKiKP	00 28 33.0	0.0
KRUC	Moravsky	127.63	328	*e*PKP	PKiKP	00 28 33.0	-0.1
CHIV	Chivirico	127.68	71	IAMs_20	IAMs_20	01 12 48.1	
	comp=Z,463nm,22.0s						
BRG	Berggiesshubel	127.73	331	*e*PKP	PKiKP	00 28 35.6	+2.4
BRG				Amp		00 28 37.1	
	comp=Z,6.0nm,1.3s						
RONA	Rosalia, Austr	128.49	326	*e*PKiKP	PKiKP	00 28 35.8	+0.9
	comp=Z,1.7nm,0.8s						
ZVC	Zvikov	128.53	329	*e*PKP	PKiKP	00 28 35.2	+0.3
CONA	Conrad Observa	128.59	327	*e*PKiKP	PKiKP	00 28 35.7	+0.5
	comp=Z,3.3nm,1.6s						
LMN	Caledonia Moun	128.69	36	IAMs_20	IAMs_20	01 25 34.9	
	comp=Z,552nm,19.0s						
CKRC	Cesky Krumlov	128.86	329	*e*PKP	PKiKP	00 28 36.2	+0.6
CKRC	Cesky Krumlov	128.86	329	*e*PKIKP	PKiKP	00 28 36.2	+0.6
KHC	Kasperske Hory	129.04	329	*e*PKP	PKiKP	00 28 37.4	+1.4
KHC	Kasperske Hory	129.04	329	*e*PKIKP	PKiKP	00 28 37.4	+1.4
GERES	GERESS Array B	129.16	329	PKP	PKiKP	00 28 36.2	-0.1
	comp=Z,0.8nm,0.7s,baz=75,slow=1.5,SNR=8.5						
LPAZ	La Paz	129.40	119	PKP	PKiKP	00 28 38.8	+0.4
	comp=Z,2.2nm,1.0s,baz=294,slow=3.1,SNR=6.5						
MOA	Molln	129.49	328	*i* PKiKP	PKiKP	00 28 37.4	+0.4
	comp=Z,0.3nm,0.3s						
SOKA	Soboth	129.79	326	*e*PKiKP	PKiKP	00 28 37.9	+0.2
	comp=Z,2.8nm,1.4s						
KBA	Koelnbreinsper	130.46	327	*e*PKiKP	PKiKP	00 28 38.8	-0.3
	comp=Z,1.0nm,0.6s						
LESA	Schwarzleotal	130.59	328	*e*PKiKP	PKiKP	00 28 39.3	+0.1
	comp=Z,2.5nm,0.7s						
ABTA	Abfaltersbach	131.11	328	*e*PKiKP	PKiKP	00 28 40.2	-0.1
	comp=Z,2.6nm,1.1s						
CIMO	Cimolais	131.43	327		PKiKP	00 28 40.4	-0.5
MOTA	Moosalm	131.46	329	*e*PKiKP	PKiKP	00 28 40.4	-0.7
	comp=Z,2.1nm,0.6s						
SQTA	Sankt Quirin	131.49	329	*e*PKiKP	PKiKP	00 28 40.4	-0.7
	comp=Z,0.8nm,0.5s						
FETA	Feichten	131.86	329	*e*PKiKP	PKiKP	00 28 41.8	-0.1
	comp=Z,3.0nm,1.1s						
CTI	Castel Tesino	132.02	327	IAMs_20	IAMs_20	01 27 24.2	
	comp=Z,554nm,20.0s						
DAVA	Damuels	132.11	330	*e*PKiKP	PKiKP	00 28 42.3	-0.1
	comp=Z,3.4nm,0.8s						
CPUP	Villa Florida	132.22	138	PKP	PKPdf	00 28 41.6	-0.3
	comp=Z,3.1nm,1.0s,baz=194,slow=3.8,SNR=3.4						
PAOL	Paolisi	133.30	320	IAMs_20	IAMs_20	01 26 48.9	
	comp=Z,372nm,22.0s						
SMRT	St. Maarten	140.43	72	IAMs_20	IAMs_20	01 17 54.1	
	comp=Z,400nm,18.0s						
PBRG	Braganca	143.73	339	*e*PKP	PKPdf	00 29 02.6	-0.1
PGAV	Gavieira, Arco	144.12	340	*e*PKP	PKPdf	00 29 04.5	+1.1
MVO	Moncorvo	144.40	338	*e*PKP	PKPdf	00 29 03.6	-0.3
ESDC	Sonseca Array	144.43	334	PKPdf	PKPbc	00 29 01.9	-0.6
ESDC	Sonseca Array	144.43	334	PKP	PKPdf	00 29 02.6	-1.4
	comp=Z,1.7nm,1.0s,baz=30,slow=2.5,SNR=8.9						
POLO	Lamas de Olo	144.49	339	*e*PKP	PKPdf	00 29 03.8	-0.3
PVRL	Vila Real	144.55	339	*e*PKP	PKPdf	00 29 03.7	-0.4
PVIS	Viseu	145.10	339	*e*PKP	PKPdf	00 29 05.6	+0.5
MTE	Manteigas	145.26	338	*e*PKP	PKPdf	00 29 06.2	+0.8
PCBR	Castelo Branco	145.72	338	*e*PKP	PKiKP	00 29 07.9	-2.3
COI	Coimbra	145.74	339	*e*PKP	PKiKP	00 29 10.6	+0.4
BDFB	Brasilia	145.82	135	PKPbc	PKPab	00 29 08.9	+1.0
	comp=Z,82nm,1.2s,baz=238,slow=1.6,SNR=39						
BDFB	Brasilia	145.82	135	PKP2	PKPab	00 29 09.0	+1.0
PMRV	Marv??o	146.05	337	*e*PKP	PKiKP	00 29 09.4	-1.6
PSBE	So Bento	146.49	339	*e*PKP	PKiKP	00 29 10.7	-1.1
PESTR	Estremoz	146.61	337	*e*PKP	PKiKP	00 29 11.2	-0.9
PMTG	Montargil	146.68	338	*e*PKP	PKPab	00 29 09.2	-1.2
PBAR	Barrancos	146.99	336	*e*PKP	PKiKP	00 29 12.9	+0.1
EVO	Evora	147.07	337	*e*PKP	PKiKP	00 29 12.8	-0.2
PBEJ	Beja	147.45	337	*e*PKP	PKPdf	00 29 09.5	+0.4
MESJ	Messejana	147.75	337	*e*PKP	PKPab	00 29 16.0	+1.3
PCVE	Castro Verde	147.86	337	*e*PKP	PKPab	00 29 16.7	+1.6
PTEO	Sao Teotonio	148.20	337	*e*PKP	PKPbc	00 29 12.5	-1.1
PMPST	Porto Santo, M	154.72	346	*e*PKP	PKPbc	00 29 24.6	-4.4
PMAR	Madeira	155.20	347	*e*PKP	PKPdf	00 29 23.3	+2.0

*IDC **31** 00:14:58.5±1.0, 8°.41S×156°.39E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=41.2km s-min=23.2km az=117.0*

ISC 31 00:15:01.8±0.9, 8°.4S±0°.2×156°.4E±0°.3, h21km, n10, σ1ˢ09/10, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.25	239	P	P	00 20 17.2	-0.4
	13nm,0.8s,baz=66,slow=10.0,SNR=16						
	13nm,0.8s						
ASAR	Alice Springs	26.36	232	P	P	00 20 35.3	-1.4
	0.9nm,0.8s,baz=57,slow=9.5,SNR=4.1						
	0.9nm,0.8s						
STKA	Stephens Creek	27.10	209	P	P	00 20 44.8	+1.5
	5.5nm,0.8s,baz=30,slow=16,SNR=5.3						
	5.5nm,0.8s						
SONM	Songino Array	71.31	327	P	P	00 26 20.1	+0.1
	0.7nm,0.9s,baz=126,slow=7.3,SNR=2.2						
	0.7nm,0.9s						
QSPA	South Pole Qui	81.55	180	P	P	00 27 17.3	-0.4
	1.5nm,1.0s,baz=97,slow=0.6,SNR=4.0						
	1.5nm,1.0s						
ILAR	Eielson Array	84.19	21	P	P	00 27 30.0	-1.2
	0.2nm,0.8s,baz=265,slow=9.0,SNR=1.6						
	0.2nm,0.8s						
MKAR	Makanchi Array	85.42	318	P	P	00 27 38.5	+0.7
	0.8nm,0.7s,baz=100,slow=6.2,SNR=5.5						
	0.8nm,0.7s						
YKA	Yellowknife Ar	96.93	28	P	P	00 28 32.4	+1.0
	0.2nm,0.7s,baz=260,slow=5.3,SNR=5.4						
	0.2nm,0.7s						
ESDC	Sonseca Array	144.28	334	PKP	PKPdf	00 34 35.9	-0.8
	0.4nm,0.9s,baz=30,slow=2.1,SNR=2.2						
BDFB	Brasilia	145.96	135	PKPbc	PKPbc	00 34 41.2	+0.2
	2.3nm,0.7s,baz=230,slow=5.8,SNR=3.2						

IDC 31 00:15:53.6±1.4, 45°.78S×96°.50E, h0km, mb4.0/4, mbtmp4.0/4, MS4.2/6, Error ellipse: s-maj=51.6km s-min=29.2km az=132.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	17.25	57	T	T	00 38 05.7	
	baz=224,slow=74,SNR=102						
H01W3	Cape Leeuwin H	17.26	57	T	T	00 38 07.3	
	baz=224,slow=74,SNR=79						
H01W1	Cape Leeuwin H	17.26	57	T	T	00 38 07.5	
	baz=224,slow=74,SNR=96						
MAW	Mawson	27.99	207	P	P	00 21 45.3	-0.3
	5.8nm,0.7s,baz=33,slow=13,SNR=1.7						
	5.8nm,0.7s						
STKA	Stephens Creek	37.28	84	LR	LR	00 36 00.5	
	comp=Z,316nm,20.5s,baz=301,slow=32						
ASAR	Alice Springs	37.36	67	P	P	00 23 08.0	+0.1
	1.1nm,0.9s,baz=226,slow=7.7,SNR=6.8						
ASAR				PcP	PcP	00 25 27.6	+0.5
	0.5nm,0.8s,baz=211,slow=2.3,SNR=4.5						
	1.1nm,0.9s						
WRA	Warramunga Arr	40.35	63	P	P	00 23 32.4	-0.6
	1.8nm,0.8s,baz=216,slow=8.8,SNR=12						
WRA				LR	LR	00 38 23.9	
	comp=Z,689nm,20.1s,baz=245,slow=34						
	1.8nm,0.8s						
H08S2	Diego Garcia H	43.27	324	T	T	01 10 29.9	
	baz=156,slow=76						
H08S1	Diego Carcia H	43.28	324	T	T	01 10 29.4	
	baz=156,slow=76						
H08S3	Diego Garcia H	43.29	324	T	T	01 10 31.4	
	baz=156,slow=76						
JAY	Jayapura	57.84	55	LR	LR	00 50 04.0	
	comp=Z,331nm,20.8s,baz=186,slow=36						
CMAR	Chiang Mai Arr	63.96	3	P	P	00 26 28.5	0.0
	0.9nm,0.7s,baz=190,slow=7.1,SNR=5.9						
	0.9nm,0.7s						
HNR	Honiara	64.85	77	LR	LR	00 53 47.6	
	comp=Z,206nm,18.1s,baz=256,slow=35						
GUMO	Guam	73.42	49	LR	LR	00 58 27.9	
	comp=Z,38nm,21.5s,baz=99,slow=35						
PLCA	Paso Flores	93.10	190	LR	LR	01 12 20.8	
	comp=Z,127nm,18.1s,baz=211,slow=36						

*SJA **31** 00:21:07.3±0.7, 28°.93S×72°.42W, h10km±19km, ML3.1, MW3.5*
*GUC **31** 00:21:13.4±0.7, 29°.12S×71°.69W, h36km±4km, ML2.9*

ISC 31 00:21:08.0±1.8, 29°.07S±0°.03×71°.84W±0°.06, h0km±12km, n17, σ1ˢ76/32, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.00	87	*e*P	Pn	00 21 29.2	-0.3
LCO				*i* S	Sb	00 21 41.8	-0.3
AC04	Llanos de Chal	1.09	38	*e*P	Pn	00 21 30.8	+0.2
AC04				*i* S	Sg	00 21 43.7	+0.5
AC04				IAML		00 21 49.4	
	comp=N,246nm,0.2s						
AC05	El Transito	1.39	81	*e*P	Pg	00 21 36.1	+1.4
AC05				*i* S	Sb	00 21 52.2	-1.1
AC05				IAML		00 21 54.0	
	comp=N,375nm,0.5s						
GO04	Tololo Observa	1.42	141	↑*i*P	Pg	00 21 36.2	+0.9
GO04				*i* S	Sg	00 21 53.5	-0.3
CO06	Fray Jorge	1.61	174	*e*P	Pb	00 21 38.5	-0.2
CO06				*i* S	Sn	00 21 56.1	-3.0
CO01	Juntas del Tor	1.77	121	*e*P	Pg	00 21 41.7	-0.2
CO01				*i* S	Sb	00 22 03.2	-1.1
CO01				IAML		00 22 05.0	
	comp=N,473nm,0.2s						
CO03	El Pedregal	2.02	151	*e*P	Pb	00 21 44.6	-1.2
CO03				*i* S	Sn	00 22 07.9	-1.7
CO03				IAML		00 22 19.1	
	comp=E,97nm,0.4s						
GO03	Copiapo	2.04	44	*e*P	Pb	00 21 44.7	-1.3
GO03	Copiapo	2.04	44	*e*P	Pb	00 21 45.3	-0.7
GO03				*e*S	Sg	00 22 14.2	+0.7
AROD	Rodeo	2.33	119	*e*P	Pb	00 21 51.6	+0.5
AROD				*e*S	Sb	00 22 20.6	0.0
ACCO	Cerro Coronel	2.84	123	*e*P	Pb	00 22 00.5	+0.6
ACCO				*e*S	Sg	00 22 39.5	0.0
AGUA	GUANDACOL	2.95	99	*e*P	Pb	00 22 01.5	-0.1
AGUA				*e*S	Sg	00 22 41.0	-1.9
AGUA				IAML		00 22 54.0	
	comp=Z,42nm,1.0s						
AC01	Pan de Azucar	3.11	21	*e*P	Pn	00 21 58.1	-0.2
VCA	Vinchina	3.20	85	*e*P	Pb	00 22 04.5	-1.4
VCA				*e*S	Sb	00 22 46.5	+1.0
VCA				IAML		00 22 56.1	
	comp=Z,39nm,1.0s						
VA03	San Esteban	3.84	164	*e*P	Pn	00 22 11.0	+2.4
VA03				*i* S	Sn	00 22 54.4	-0.1
ACLC	CERRO LA CRUZ	4.28	96	*e*P	Pn	00 22 17.8	+3.1
ACLC				*e*S	Sn	00 23 07.4	+2.0
ACLC				IAML		00 23 26.8	
	comp=Z,12nm,1.2s						
APLL	PUNTA DE LOS L	4.80	107	*e*P	Pn	00 22 24.8	+3.1
APLL				*e*S	Sg	00 23 37.0	-5.4

IDC 31 00:29:50.6±1.9, 0°.86N×124°.99E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=194.1km s-min=26.8km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.61	157	P	P	00 34 53.5	+0.3
	1.1nm,0.4s,baz=334,slow=10,SNR=8.9						
	1.1nm,0.4s						
ASAR	Alice Springs	25.87	161	P	P	00 35 25.1	+0.8
	0.3nm,0.5s,baz=348,slow=8.9,SNR=8.6						
	0.3nm,0.5s						
STKA	Stephens Creek	36.16	156	P	P	00 36 53.3	-1.6
	1.0nm,0.3s,baz=320,slow=9.7,SNR=3.8						
	1.0nm,0.3s						
MKAR	Makanchi Array	58.96	327	P	P	00 39 52.1	+0.2
	0.2nm,0.6s,baz=125,slow=8.5,SNR=2.4						
	0.2nm,0.6s						

*NEIC **31** 00:51:00.2±1.2, 18°.1S±0°.1×174°.8W±0°.1, h239km±8km, mb4.3/15, Error ellipse: s-maj=15.6km s-min=14.2km az=160.0*
*IDC **31** 00:51:05.6±4.4, 18°.17S×175°.17W, h274km±35km, mb3.6/4, mbtmp4.2/5, Error ellipse: s-maj=42.9km s-min=28.8km az=130.0*

ISC 31 00:50:60.0±0.7, 18°.1S±0°.1×174°.88W±0°.10, h228km, n27, σ1ˢ54/27, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.80	103	Pn	Pn	00 52 14.0	+1.3
AFI	Afiamalu	5.10	36	Pn	Pn	00 52 16.3	-0.3
MSVF	Nonsavu	6.74	272	Pn	Pn	00 52 40.6	+3.4
MSVF	Nonsavu	6.74	272	P	Pn	00 52 40.4	+3.2
	20nm,0.7s,baz=107,slow=19,SNR=14						
DZM	Mont Dzumac	17.98	254	P	P	00 54 53.7	-0.3
DZM				IAmb	IAmb	00 55 13.4	
	comp=Z,17nm,1.3s						
BFZ	Birch Farm	23.79	197	P	P	00 55 51.0	-1.0
QRZ	Quartz Range	25.13	203	P	P	00 56 06.2	+2.1
BBOO	Buckleboo	46.27	242	P	P	00 59 01.2	-1.8
BBOO				IAmb	IAmb	00 59 24.1	
	comp=Z,15nm,1.2s						
WB0	Warramunga Arr	47.87	259	P	P	00 59 14.4	-1.1
WB0				IAmb	IAmb	00 59 14.8	
	comp=Z,4.4nm,0.6s						
WRA	Warramunga Arr	47.90	259	P	P	00 59 14.1	-1.6
WRA	Warramunga Arr	47.90	259	P	P	00 59 14.2	-1.6
	comp=Z,2.7nm,0.5s,baz=97,slow=7.6,SNR=38						
	comp=Z,2.7nm,0.5s						
AS31	Alice Springs	47.98	254	P	P	00 59 14.9	-1.4
ASAR	Alice Springs	47.98	254	P	P	00 59 14.7	-1.6
ASAR	Alice Springs	47.98	254	P	P	00 59 15.4	-0.9
	comp=Z,8.6nm,0.6s,baz=89,slow=8.6,SNR=156						
	comp=Z,8.6nm,0.6s						
FORT	Forrest	52.97	245	P	P	00 59 51.0	-2.4
FORT				IAmb	IAmb	01 00 11.0	
	comp=Z,30nm,1.3s						
KNRA	Kununurra	53.81	264	P	P	00 59 58.1	-1.6
KNRA				IAmb	IAmb	01 00 01.1	
	comp=Z,29nm,1.4s						
FITZ	Fitzroy Crossi	56.31	260	P	P	01 00 16.2	-1.3
JMN	Monobe	70.98	317	P	P	01 01 52.9	-0.1
QSPA	South Pole Qui	71.99	180	P	P	01 01 57.7	-1.0
QSPA				IAmb	IAmb	01 02 00.2	
	comp=Z,9.0nm,1.4s						
QSPA	South Pole Qui	71.99	180	P	P	01 01 58.9	+0.2
	comp=Z,1.6nm,0.9s,baz=90,slow=4.0,SNR=2.6						
	comp=Z,1.6nm,0.9s						
P18K	Big Mountain,	78.84	10	P	P	01 02 37.1	-0.3
P18K				IAmb	IAmb	01 03 00.1	
	comp=Z,11nm,1.4s						
K15K	Wolf Creek Mou	80.79	6	P	P	01 02 48.8	+1.1
K15K				IAmb	IAmb	01 03 04.4	
	comp=Z,9.0nm,1.4s						
N25K	Chitina, Valde	83.00	14	P	P	01 02 59.5	+0.1
N25K				IAmb	IAmb	01 03 21.1	
	comp=Z,4.8nm,1.4s						
ILAR	Eielson Array	85.33	12	P	P	01 03 11.3	+0.4
	comp=Z,0.3nm,0.7s,baz=215,slow=6.7,SNR=7.4						
	comp=Z,0.3nm,0.7s						
BRTR	Keskin Array B	147.23	317	PKPbc	PKPbc	01 10 17.0	+0.2
	comp=Z,0.9nm,0.9s,baz=38,slow=2.6,SNR=4.3						
GRFO	Grafenberg	148.08	352	PKPbc	PKPdf	01 10 15.3	+0.2
GERES	GERESS Array B	148.52	349	PKPbc	PKPbc	01 10 20.2	+0.3
	comp=Z,0.2nm,0.5s,baz=18,slow=5.9,SNR=3.6						

*IDC **31** 00:58:51.1±1.6, 27°.88N×54°.80E, h0km, mb3.7/9, mbtmp3.8/9, Error ellipse: s-maj=38.8km s-min=25.8km az=161.0*
*DSN **31** 00:58:52.4±1.4, 27°.87N×54°.79E, h10km, ML2.8/10, Error ellipse: s-maj=16.0km s-min=12.1km az=24.0*
*TEH **31** 00:58:53.7, 27°.73N×54°.86E, h19km±46km*

ISC 31 00:58:55.0±0.7, 27°.76N±0°.04×54°.80E±0°.06, h26km, n32, σ1ˢ30/33, mb3.6/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.39	256	Pg	Pb	00 59 01.9	-1.7
JHRM	Jahrom	1.31	305	Pg	Pb	00 59 20.0	+1.0
LMD1	Lamerd	1.51	254	Pg	Pb	00 59 23.4	+0.9
IBND	Bandar-abas	1.57	101	Pg	Pn	00 59 21.4	+0.1
QIR1	Qir	1.71	295	Pg	Pb	00 59 24.9	-0.9
SHME	Shamm	2.08	145	P	Pn	00 59 27.7	-0.6
NGRK	Negar Kerman	2.53	42	Pn	Pn	00 59 35.2	+0.4
KHNJ	Kahnooj	2.58	85	Pn	Pn	00 59 35.6	+0.4
MSFE	Esma-Masafi	2.69	153	P	Pn	00 59 36.5	-0.1
MDH	Madha	2.80	151	P	Pn	00 59 38.4	+0.2
KRBR	Kerman	2.80	37	Pn	Pn	00 59 39.6	+1.1
KHGB	Koh Gabri	2.99	29	Pn	Pn	00 59 42.4	+1.4
UOSS	Minazif	3.08	156	P	Pn	00 59 42.3	+0.4
ASUD	Al Ashush, Dub	3.16	171	P	Pn	00 59 45.1	+2.0
HATD	Hatta, Dubai	3.16	157	P	Pn	00 59 44.6	+1.5
CHMN	Cheshme madani	3.19	48	Pn	Pn	00 59 44.9	+1.1
ASHO	Ashiyiah	3.27	160	P	Pn	00 59 46.0	+1.3
ASHO				S	Sn	01 00 26.4	+3.6
KRM1	Kerman Provinc	3.48	38	Pn	Pn	00 59 49.2	+1.4
KBAM	BAM	3.49	66	Pn	Pn	00 59 49.0	+1.2
ALNE	Al Ain	3.79	167	P	Pn	00 59 52.2	+0.4
SOHO	SOHO	3.94	156	P	Pn	00 59 55.5	+1.7
IRAM	Ramesheh	4.55	333	Pn	Pn	01 00 04.3	+1.9
MZR	Muzera	4.89	194	P	Pn	01 00 07.1	+0.2
BRTR	Keskin Array B	21.20	310	P	P	01 03 39.2	+0.4
	1.2nm,0.9s,baz=135,slow=13,SNR=6.1						
	1.2nm,0.9s						
BVAR	Borovoye Array	27.76	20	P	P	01 04 39.9	-1.6
	1.2nm,0.8s,baz=203,slow=7.0,SNR=5.9						
	1.2nm,0.8s						
MKAR	Makanchi Array	28.74	41	P	P	01 04 49.7	-0.7
	0.2nm,0.4s,baz=229,slow=8.3,SNR=3.2						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	29.08	32	P	P	01 04 52.8	-0.5
	0.3nm,0.6s,baz=231,slow=8.8,SNR=5.6						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	34.18	32	P	P	01 05 37.1	-0.9
	1.6nm,0.5s,baz=242,slow=9.4,SNR=9.8						
	1.6nm,0.5s						
FINES	FINESS Array B	38.76	338	P	P	01 06 15.2	-1.8
	5.2nm,1.2s,baz=136,slow=7.7,SNR=4.1						
	5.2nm,1.2s						
TORD	Torodi Ar. Bea	51.47	265	P	P	01 07 57.9	-0.6
	1.5nm,0.4s,baz=58,slow=7.7,SNR=1.8						
	1.5nm,0.4s						
YKA	Yellowknife Ar	89.66	355	P	P	01 11 50.0	-0.3
	0.2nm,0.7s,baz=6.8,slow=4.8,SNR=6.0						
	0.2nm,0.7s						
ASAR	Alice Springs	91.80	116	P	P	01 12 01.8	+0.8
	0.2nm,0.7s,baz=288,slow=5.1,SNR=1.8						
	0.2nm,0.7s						

DJA 31 01:11:38.2±0.3, 3°.S±8°.×10°.1E±°, h42km±16km, M4.1/8, mB5.0/1, mb4.4/1, MLv4.0/8, Mw(mB)4.3/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.84	121	P	Pn	01 12 07.8	+0.4
KSI				S	Sn	01 12 29.7	+0.2
PPI	Padang Panjang	2.31	345	P	Pn	01 12 14.1	+0.3
SISI	Saibi	2.35	305	P	Pn	01 12 16.1	+1.7
SISI				S	Sn	01 12 40.7	-1.4
MNAI	Manna	2.55	130	P	Pn	01 12 18.1	+1.0
MNAI				S	Sn	01 12 45.8	-1.1
MDSI	Maura Dua	3.63	119	P	Pn	01 12 32.0	+0.1
PBSI	Pulau Batu	3.79	314	P	Pn	01 12 34.0	-0.1
GSI	Gunungsitoli	5.25	319	P	Pn	01 12 53.3	-1.0

TXNET 31 01:15:12.4, 31°.2N±0°.9×103°.5W±0°.6, h5km±1km, ML2.0/8, Error ellipse: s-maj=1.3km s-min=0.9km az=176.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	Saragosa	0.10	199	P	Pg	01 15 14.7	+0.2
TPB03				S	Sg	01 15 16.8	+0.9
TPB04	Verhalen	0.18	86	P	Pg	01 15 16.5	+0.6
TPB04				S	Sg	01 15 19.4	+1.0
TPB16	Coyonosa	0.20	104	P	Pg	01 15 17.1	+0.7
TPB16				S	Sg	01 15 20.7	+1.7
PCOS	Crockett Middl	0.23	353	S	Sg	01 15 23.0	+2.8
TPB10	Southeast of T	0.26	295	P	Pb	01 15 19.0	-0.8
TPB10				S	Sb	01 15 23.5	-1.1
TPB05	Hovey Rd	0.29	153	P	Pg	01 15 19.1	+1.0
TPB05				S	Sb	01 15 24.1	-1.2
TPB01	Permian Basin	0.35	229	P	Pg	01 15 19.9	+0.7
TPB01				S	Sb	01 15 25.5	-1.6
PECS	Pecos	0.39	300	P	Pg	01 15 20.6	+0.7
PECS				S	Sb	01 15 26.8	-1.4
TPB12	Southwest of T	0.41	275	P	Pg	01 15 21.3	+0.9
TPB12				S	Sb	01 15 27.5	-1.5
TPB06	Permian Basin	0.52	25	P	Pb	01 15 24.6	+0.4
TPB06				S	Sb	01 15 33.2	+1.2
MNHN	Monahans	0.63	75	P	Pg	01 15 24.5	-0.2
MNHN				S	Sb	01 15 34.4	-0.9
ALPN	Alpine	0.81	190	P	Pg	01 15 28.0	0.0
ALPN				S	Sg	01 15 39.0	+0.5
CLNB	Carlsbad	1.14	343	P	Pn	01 15 35.5	+0.3
ODSA	Odessa	1.23	40	P	Pg	01 15 35.2	-0.9
ODSA				S	Sb	01 15 52.3	-0.2
TMB02	Rankin	1.23	89	P	Pg	01 15 35.4	-0.7
TMB02				S	Sb	01 15 52.8	+0.2
CLN7	Carlsbad 7	1.27	347	P	Pn	01 15 36.9	0.0
GDL2	Guadalupe Moun	1.27	324	P	Pn	01 15 37.3	+0.3
VHRN	Van Horn	1.35	254	P	Pn	01 15 38.2	0.0
VHRN				S	Sb	01 15 56.3	+0.2
TMB04	Seminole	1.67	30	P	Pn	01 15 42.8	+0.3
TMB04				S	Sg	01 16 06.5	+0.3
SAND	Sanderson	1.69	136	P	Pb	01 15 43.8	-0.2
SAND				S	Sg	01 16 06.9	+0.3
TX31	Lajitas Ar. Si	1.84

0.7nm,0.7s
BBTS Babate 18.70 59 LR LR 03 14 11.9
comp=Z,222nm,22.0s,baz=126,slow=30
MDP Montagnes des 19.45 270 LR LR 03 16 21.5
comp=Z,92nm,18.8s,baz=104,slow=36
H10N3 ASCENSION HYDR 22.78 125 T T 03 33 13.4
baz=305,slow=75,SNR=16
H10N2 ASCENSION HYDR 22.79 125 T T 03 33 13.7
baz=305,slow=75,SNR=16
H10N1 ASCENSION HYDR 22.80 125 T T 03 33 14.9
baz=305,slow=75,SNR=28
H10S3 ASCENSION HYDR 23.30 128 T T 03 33 53.7
baz=304,slow=74,SNR=11
H10S2 ASCENSION HYDR 23.32 128 T T 03 34 03.9
baz=276,slow=74,SNR=14
BDFB Brasilia 25.63 215 LR LR 03 19 33.0
comp=Z,102nm,19.5s,baz=27,slow=35
DBIC Dimbokro 28.12 86 LR LR 03 19 27.4
comp=Z,65nm,20.1s,baz=246,slow=31
SJG San Juan 34.62 294 LR LR 03 22 49.8
comp=Z,89nm,19.2s,baz=102,slow=31
SIV San Ignacio 34.92 232 LR LR 03 24 54.6
comp=Z,159nm,21.2s,baz=99,slow=35
MDT Midelt 38.04 41 LR LR 03 26 57.8
comp=Z,80nm,18.6s,baz=246,slow=35
CPUP Villa Florida 39.36 215 LR LR 03 28 26.8
comp=Z,115nm,18.1s,baz=74,slow=36
LPAZ La Paz 40.82 237 P P 03 12 31.0 -0.7
0.9nm,0.8s,baz=61,slow=6.3,SNR=4.5
LPAZ LR LR 03 29 08.0
comp=Z,113nm,18.8s,baz=79,slow=36
0.9nm,0.8s
ROSC El Rosal 41.04 271 LR LR 03 28 13.4
comp=Z,118nm,21.1s,baz=76,slow=34
ESDC Sonseca Array 43.03 33 P P 03 12 48.5 -0.3
0.4nm,1.0s,baz=237,slow=6.9,SNR=4.0
ESDC LR LR 03 27 29.1
comp=Z,42nm,18.2s,baz=188,slow=32
0.4nm,1.0s
NNA Nana 46.81 248 LR LR 03 32 31.3
comp=Z,98nm,18.5s,baz=108,slow=36
JTS Las Juntas de 51.53 279 LR LR 03 37 03.6
comp=Z,47nm,19.0s,baz=102,slow=38
DAVOX Davos/Dischmat 55.32 35 LR LR 03 38 02.3
comp=Z,40nm,18.1s,baz=268,slow=36
TKL Tuckaleechee C 55.34 310 LR LR 03 35 15.6
comp=Z,34nm,19.2s,baz=117,slow=33
PLCA Paso Flores 57.36 213 LR LR 03 38 53.0
comp=Z,118nm,20.5s,baz=64,slow=36
VRAC Vranov 60.48 35 LR LR 03 38 44.6
comp=Z,30nm,19.7s,baz=290,slow=34
SFJD Kangerlussuaq 62.62 352 LR LR 03 36 31.7
comp=Z,25nm,20.9s,baz=120,slow=30
LSZ Lusaka 64.11 110 LR LR 03 38 34.3
comp=Z,42nm,18.5s,baz=140,slow=32
LBTB Lobatse 64.57 121 LR LR 03 38 15.7
comp=Z,68nm,20.9s,baz=197,slow=31
NOA NORSAR Array B 64.59 22 LR LR 03 41 27.2
comp=Z,30nm,19.0s,baz=350,slow=34
MLR Muntele Rosu 64.72 42 LR LR 03 41 32.3
comp=Z,43nm,20.2s,baz=38,slow=34
BOSA Boshof 65.54 125 LR LR 03 40 37.0
comp=Z,42nm,18.2s,baz=186,slow=33
EIL Elat 68.28 60 LR LR 03 46 46.6
comp=Z,34nm,18.1s,baz=247,slow=37
AKASG Malin Array Be 68.49 37 LR LR 03 45 31.8
comp=Z,25nm,19.6s,baz=260,slow=36
KMBO Kilima Mbogo 70.57 93 LR LR 03 44 22.8
comp=Z,34nm,18.6s,baz=246,slow=34
FINES FINESS Array B 70.87 26 LR LR 03 44 06.0
comp=Z,24nm,20.5s,baz=276,slow=33
ANMO Albuquerque 73.25 305 LR LR 03 44 31.1
comp=Z,36nm,22.0s,baz=220,slow=32
PDAR Pinedale Array 76.37 313 P P 03 16 40.0 +1.0
0.4nm,0.8s,baz=110,slow=8.5,SNR=4.5
0.4nm,0.8s
YKA Yellowknife Ar 81.26 332 P P 03 17 04.8 -0.3
0.3nm,1.0s,baz=103,slow=5.0,SNR=4.0
0.3nm,1.0s
NVAR Mina Array Bea 82.88 308 P P 03 17 14.1 -0.3
0.3nm,0.7s,baz=75,slow=7.4,SNR=2.9
0.3nm,0.7s

*IDC **31** 03:07:33.9±0.7,30.°39S×177.°85W,h0km,mb4.5/8,*
mbtmp4.4/9,ML3.8/1,MS3.4/7,Error ellipse: s-maj=24.9km
s-min=21.4km az=157.0
*NEIC **31** 03:07:40.8±1.8,30.°69S±0.°10×178.°1W±0.°1,h35km±1km,*
mb5.0/17,Error ellipse: s-maj=23.2km s-min=9.6km
az=130.0
ISC 31 03:07:40.1±0.5,**30.°61S**±0.°05×**178.°0W**±0.°1,**h46**km,**n81,**
σ2.9/03/86,mb4.8/16,MS3.4/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.34**	**4**	P	**Pn**	**03 08 00.9**	**-1.5**
GLKZ				S	**Sn**	**03 08 14.6**	**-4.5**
RIZ	**Raoul Island**	**1.36**	**4**	P	**Pn**	**03 08 00.4**	**-2.3**
RIZ				S	**Sn**	**03 08 15.6**	**-3.9**
PKGZ	**Pakihiroa**	**7.93**	**203**	P	**Pn**	**03 09 29.3**	**-3.5**
PKGZ				S	**Sn**	**03 10 59.6**	**-1.5**
HAZ	**Te Kaha**	**7.93**	**205**	P	**Pn**	**03 09 30.6**	**-2.2**
HAZ				S	**Sn**	**03 11 03.2**	**+2.1**
PUZ	**Puketiti**	**8.05**	**201**	P	**Pn**	**03 09 30.9**	**-3.6**
PUZ				S	**Sn**	**03 11 01.1**	**-3.1**
RUGZ	**Raukumara Rang**	**8.15**	**205**	P	**Pn**	**03 09 33.5**	**-2.5**
RUGZ				S	**Sn**	**03 11 06.4**	**-0.4**
TWGZ	**Tauwhareparae**	**8.24**	**203**	P	**Pn**	**03 09 35.5**	**-1.6**
TWGZ				S	**Sn**	**03 11 08.8**	**0.0**
WCZ	**Waipu Caves**	**8.31**	**228**	P	Pn	03 09 45.2	+7.2
OUZ	**Omahuta**	**8.41**	**235**	P	Pn	03 09 46.4	+7.1
TKGZ	**Te Karaka**	**8.52**	**202**	S	**Sn**	**03 11 13.6**	**-2.1**
MWZ	**Matawai**	**8.54**	**204**	P	**Pn**	**03 09 41.8**	**+0.7**
MWZ				S	**Sn**	**03 11 12.2**	**-3.9**
URZ	**Urewera**	**8.62**	**206**	Pn	**Pn**	**03 09 41.5**	**-0.8**
1.0nm,0.3s,baz=50,slow=16,SNR=6.5							
URZ				Sn	**Sn**	**03 11 16.6**	**-1.5**
3.0nm,0.3s,baz=302,slow=22,SNR=12							
5.1nm,0.6s							
URZ	**Urewera**	**8.62**	**206**	P	**Pn**	**03 09 40.6**	**-1.7**
URZ				S	**Sn**	**03 11 16.6**	**-1.5**
RAGZ	**Rawiri**	**8.72**	**204**	P	**Pn**	**03 09 41.6**	**-2.1**
RAGZ				S	**Sn**	**03 11 17.1**	**-3.6**
RTZ	**Ruatahuna**	**8.98**	**206**	Pn	**Pn**	**03 09 46.1**	**-1.2**
SNGZ	**Shannon Statio**	**9.00**	**204**	P	**Pn**	**03 09 47.0**	**-0.5**
SNGZ				S	**Sn**	**03 11 25.8**	**-1.7**
KNZ	**Kokohu**	**9.11**	**202**	P	**Pn**	**03 09 44.5**	**-4.3**
BFZ	**Birch Farm**	**11.08**	**203**	Pn	**Pn**	**03 10 14.6**	**-1.3**
CTZ	**Chatham Island**	**13.15**	**176**	P	**Pn**	**03 10 43.5**	**-0.6**
CTZ				S	Sn	03 12 53.8	-15
MSVF	**Nonsavu**	**13.30**	**344**	LR	LR	03 14 58.7	
comp=Z,146nm,21.3s,baz=325,slow=34							
DZM	**Mont Dzumac**	**16.30**	**298**	LR	LR	03 16 23.8	
comp=Z,169nm,19.7s,baz=206,slow=32							
ARMA	**Armidale**	**26.11**	**263**	P	**P**	**03 13 09.8**	**-0.1**
EIDS	**Eidsvold**	**27.72**	**273**	P	**P**	**03 13 23.8**	**-0.5**
EIDS				IAmb	IAmb	03 13 54.6	
comp=Z,30nm,1.4s							
PPT	**Papeete**	**28.94**	**70**	LR	LR	03 24 31.8	
comp=Z,21nm,18.5s,baz=158,slow=36							
TAU	**Tasmania Unive**	**30.15**	**236**	P	**P**	**03 13 43.5**	**-2.1**
STKA	**Stephens Creek**	**34.41**	**257**	P	**P**	**03 14 26.2**	**+3.1**
STKA	**Stephens Creek**	**34.41**	**257**	P	**P**	**03 14 26.2**	**+3.1**
comp=Z,28nm,0.7s,baz=100,slow=11,SNR=55							
STKA				LR	LR	03 27 52.2	
comp=Z,78nm,18.9s,baz=29,slow=35							
comp=Z,28nm,0.7s							
BBOO	**Buckleboo**	**38.89**	**254**	P	**P**	**03 15 02.8**	**+1.5**
BBOO				IAmb	IAmb	03 15 03.7	
comp=Z,97nm,2.0s							
COEN	**Coen**	**39.31**	**286**	P	**P**	**03 15 05.7**	**+0.9**
COEN				IAmb	IAmb	03 15 54.9	
comp=Z,26nm,1.5s							
KWJN	**Gagan, Kwajale**	**41.97**	**338**	P	**P**	**03 15 28.6**	**+1.9**
AS31	**Alice Springs**	**43.08**	**267**		**P**	**03 15 36.1**	**+0.3**
ASAR	**Alice Springs**	**43.08**	**267**	P	**P**	**03 15 35.3**	**-0.6**
ASAR	**Alice Springs**	**43.08**	**267**	P	**P**	**03 15 37.1**	**+1.3**
comp=Z,3.3nm,0.5s,baz=104,slow=7.3,SNR=60							
ASAR				ScP	**ScP**	**03 21 18.4**	**+5.8**
comp=Z,0.7nm,0.8s,baz=91,slow=4.2,SNR=7.5							
ASAR				LR	LR	03 32 58.1	
comp=Z,45nm,18.8s,baz=84,slow=35							
comp=Z,3.3nm,0.5s							
WB2	**Warramunga Arr**	**44.07**	**272**	P	**P**	**03 15 44.6**	**+0.7**
WB2				IAmb	IAmb	03 15 45.6	
comp=Z,10nm,0.6s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.08**	**272**	P	**P**	**03 15 45.2**	**+1.2**
comp=Z,6.0nm,0.4s,baz=112,slow=7.6,SNR=59							
comp=Z,6.0nm,0.4s							
WB0	**Warramunga Arr**	**44.11**	**273**	P	**P**	**03 15 44.7**	**+0.6**
WB0				IAmb	IAmb	03 15 46.1	
comp=Z,10nm,0.6s							
FORT	**Forrest**	**45.97**	**255**	P	**P**	**03 15 59.6**	**+0.8**
FORT				IAmb	IAmb	03 16 18.6	
comp=Z,22nm,1.1s							
SBA	**Scott Base**	**47.83**	**184**	P	**P**	**03 16 11.0**	**-1.7**
SBA				pP	**pP**	**03 16 21.2**	**-3.2**
SBA				sP	**pwP**	**03 16 25.6**	**-2.7**
VNDA	**Vanda**	**47.89**	**186**	P	**P**	**03 16 10.8**	**-2.3**
VNDA				pP	**pP**	**03 16 21.0**	**-3.8**
MTN	**Manton Dam**	**49.99**	**279**	P	**P**	**03 16 30.9**	**+0.8**
KNRA	**Kununurra**	**50.70**	**274**	P	**P**	**03 16 36.1**	**+0.7**
KNRA				IAmb	IAmb	03 16 59.2	
comp=Z,57nm,1.6s							
FITZ	**Fitzroy Crossi**	**52.34**	**270**	P	**P**	**03 16 49.1**	**+1.4**
FITZ	**Fitzroy Crossi**	**52.34**	**270**	P	**P**	**03 16 48.9**	**+1.3**
comp=Z,3.2nm,0.7s,baz=146,slow=6.3,SNR=6.3							
comp=Z,3.2nm,0.7s							
CCD	**Cocordia, Ant**	**52.75**	**196**	P	**P**	**03 16 53.1**	**+2.7**
CASY	**Casey**	**54.95**	**208**	P	**P**	**03 17 05.8**	**-0.2**
CASY	**Casey**	**54.95**	**208**	P	**P**	**03 17 06.2**	**+0.2**
CASY				pP	**pP**	**03 17 16.0**	**-2.0**
CASY				PcP	**PcP**	**03 18 10.7**	**+3.3**
QSPA	**South Pole Qui**	**59.50**	**180**	P	**P**	**03 17 40.7**	**+2.3**
QSPA				IAmb	IAmb	03 17 47.5	
comp=Z,11nm,0.8s							
QSPA	**South Pole Qui**	**59.50**	**180**	P	**P**	**03 17 40.8**	**+2.4**
comp=Z,2.5nm,0.7s,baz=41,slow=0.7,SNR=13							
comp=Z,2.5nm,0.7s							
QSPA	**South Pole Qui**	**59.50**	**180**	P	**P**	**03 17 40.5**	**+2.1**
BELA	**Belgrano 2**	**69.58**	**172**	P	**P**	**03 18 44.7**	**+0.9**
BELA				IAmb	IAmb	03 19 30.1	
comp=Z,22nm,1.7s							
MAW	**Mawson**	**72.11**	**201**	P	**P**	**03 19 01.1**	**+1.9**
LEM	**Lembang**	**73.10**	**272**	LR	LR	03 52 58.3	
comp=Z,59nm,18.3s,baz=273,slow=37							
H03S2	**Juan Fernandez**	**80.37**	**124**	T	T	04 49 24.2	
baz=239,slow=74,SNR=9.4							
H03S1	**Juan Fernandez**	**80.38**	**124**	T	T	04 49 25.6	
baz=239,slow=74,SNR=13							
H03S3	**Juan Fernandez**	**80.39**	**124**	T	T	04 49 24.5	
baz=239,slow=74,SNR=13							
H03N3	**Juan Fernandez**	**80.56**	**123**	T	T	04 49 09.2	
baz=242,slow=72,SNR=13							
H03N2	**Juan Fernandez**	**80.56**	**123**	T	T	04 49 15.2	
baz=242,slow=72,SNR=12							
H03N1	**Juan Fernandez**	**80.58**	**123**	T	T	04 49 11.7	
baz=242,slow=72,SNR=20							
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**03 19 59.1**	**+1.6**
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**03 19 58.6**	**+1.1**
comp=Z,1.8nm,0.9s,baz=229,slow=4.1,SNR=6.6							
comp=Z,1.8nm,0.9s							
KSRS	**Korea Array**	**84.49**	**320**	LR	LR	03 54 07.2	
comp=Z,9.0nm,20.1s,baz=35,slow=33							
MT01	**Popeta**	**85.76**	**127**	P	**P**	**03 20 16.0**	**+1.4**
PETK	**Petropavlovsk-**	**86.01**	**346**	P	**P**	**03 20 16.7**	**+1.6**
PETK	**Petropavlovsk-**	**86.01**	**346**	P	**P**	**03 20 16.1**	**+0.9**
comp=Z,1.6nm,0.6s,baz=102,slow=9.5,SNR=8.8							
comp=Z,1.6nm,0.6s							
NVAR	**Mina Array Bea**	**88.41**	**43**	P	**P**	**03 20 28.4**	**+1.0**
comp=Z,0.8nm,0.8s,baz=221,slow=8.7,SNR=6.2							
comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**117.89**	**310**	PKP	**PKPdf**	**03 26 20.7**	**-0.6**
comp=Z,0.2nm,0.5s,baz=114,slow=1.7,SNR=4.1							
KURBB	**Kurchatov Arra**	**121.21**	**314**	PKP	**PKPdf**	**03 26 26.6**	**-1.0**
comp=Z,0.5nm,0.5s,baz=104,slow=2.0,SNR=6.4							
BVAR	**Borovoye Array**	**126.54**	**316**	PKP	**PKPdf**	**03 26 37.0**	**-0.7**
comp=Z,1.1nm,0.6s,baz=107,slow=1.5,SNR=5.2							
KBZ	**Khabaz**	**145.21**	**304**	PKPbc	**PKPbc**	**03 27 12.2**	**0.0**
comp=Z,1.8nm,0.9s,baz=315,slow=1.4,SNR=5.0							
FINES	**FINESS Array B**	**145.33**	**340**	PKPdf	**PKPdf**	**03 27 11.3**	**-0.8**
FINES	**FINESS Array B**	**145.33**	**340**	PKPbc	**PKPdf**	**03 27 11.5**	**-0.6**
comp=Z,12nm,0.7s,baz=50,slow=3.2,SNR=42							
NC303	**NORSAR Array S**	**148.75**	**351**	PKPbc	**PKPbc**	**03 27 21.8**	**0.0**
NB2	**NORSAR Subarra**	**148.95**	**351**	PKP	**PKPbc**	**03 27 22.1**	**-0.2**
comp=Z,1.6nm,0.7s,baz=12,slow=2.7							
NOA	**NORSAR Array B**	**148.95**	**351**	PKPbc	**PKPbc**	**03 27 22.1**	**-0.2**
comp=Z,1.7nm,0.6s,baz=16,slow=4.3,SNR=7.3							
HFS	**Hagfors**	**149.44**	**348**	PKPbc	**PKPbc**	**03 27 22.9**	**-0.6**
comp=Z,4.8nm,0.7s,baz=59,slow=3.8,SNR=8.4							
KONO	**Kongsberg**	**150.50**	**352**	PKPbc	**PKPbc**	**03 27 26.3**	**+0.3**
PABE	**Paberze**	**150.63**	**334**	PKPbc	**PKPbc**	**03 27 26.9**	**+0.5**
AKASG	**Malin Array Be**	**151.45**	**322**	PKPbc	**PKPbc**	**03 27 28.3**	**-0.2**
comp=Z,2.6nm,0.6s,baz=49,slow=3.0,SNR=19							
KIEV	**Kiev**	**151.46**	**322**	PKPbc	**PKPbc**	**03 27 27.2**	**-1.3**
MMAI	**Mount Meron Ar**	**151.56**	**284**	PKPbc	**PKiKP**	**03 27 30.1**	**+0.2**
comp=Z,0.8nm,0.3s,baz=79,slow=3.1,SNR=4.7							
BRTR	**Keskin Array B**	**152.68**	**298**	PKPbc	**PKPbc**	**03 27 31.4**	**-0.5**
comp=Z,0.4nm,0.8s,baz=60,slow=3.5,SNR=4.5							

KRSC 31 03:23:03.1±1.8,**50.°47N**×**160.°14E,h62**km±37km,**MI3.8,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.87**	**317**	*eP*	Pn	03 23 34.8	+2.0
KDTR				*eS*	Sn	03 23 56.6	+1.3
RUS	**Russkaya**	**2.22**	**333**	*eP*	Pn	03 23 39.7	+2.2
RUS				*eS*	Sn	03 24 05.7	+2.0
PAU	**Pauzhetka**	**2.33**	**297**	*eP*	Pn	03 23 41.7	+2.7
PAU				*eS*	Sn	03 24 08.0	+1.5
GRL	**Gorelyy**	**2.46**	**329**	*eP*	Pn	03 23 44.1	+3.2
GRL				*eS*	Sn	03 24 13.1	+3.3
SKR	**Severo-Kuril's**	**2.57**	**276**	*eP*	Pn	03 23 44.2	+1.8
SKR				*eS*	Sn	03 24 12.7	+0.2
SPN	**Mys Shipunski**	**2.64**	**358**	*eP*	Pn	03 23 46.0	+2.8
SPN				*eS*	Sn	03 24 16.0	+2.1
DALK	**Dalny**	**2.71**	**342**	*eP*	Pn	03 23 48.6	+4.4
PET	**Petropavlovsk**	**2.72**	**341**	*eP*	Pn	03 23 46.5	+2.1
PET				*eS*	Sn	03 24 18.5	+2.4
NLC	**Nalytchevo**	**2.75**	**350**	*eS*	Sn	03 24 20.1	+3.3
UGLR	**Uglovaya**	**2.87**	**344**	*eP*	Pn	03 23 49.5	+3.1
SDLR	**Sedlovina**	**2.92**	**345**	*eP*	Pn	03 23 50.3	+3.1
AVH	**Avacha**	**2.93**	**343**	*eP*	Pn	03 23 50.6	+3.3
AVH				*eS*	Sn	03 24 25.3	+3.9
KOK	**Koryaka**	**2.98**	**342**	*eP*	Pn	03 23 51.3	+3.4
KOK				*eS*	Sn	03 24 25.9	+3.4
KRX	**Arik**	**3.04**	**343**	*eP*	Pn	03 23 52.0	+3.1
KRX				*eS*	Sn	03 24 28.3	+4.2
APC	**Apacha**	**3.08**	**324**	*eP*	Pn	03 23 52.7	+3.5
GNL	**Ganaly**	**3.51**	**338**	*eP*	Pn	03 23 59.0	+3.8
GNL				*eS*	Sn	03 24 38.8	+3.4
KII	**Karymskiy**	**3.60**	**354**	*eP*	Pn	03 24 00.3	+3.8
KII				*eS*	Sn	03 24 41.0	+3.4
MKZ	**Mys Kozlova**	**4.21**	**13**	*eP*	Pn	03 24 07.1	+2.5
MKZ				*eS*	Sn	03 24 53.9	+1.4
TUMD	**Tumrok D**	**4.75**	**2**	*eP*	Pn	03 24 15.8	+3.7
TUMD				*eS*	Sn	03 25 08.0	+2.3
KMNR	**Kamenistaya**	**5.30**	**1**	*eP*	Pn	03 24 24.8	+5.1
KIRR	**Kirishev**	**5.50**	**1**	*eP*	Pn	03 24 27.2	+4.8
KPT	**Kopyto**	**5.51**	**0**	*eP*	Pn	03 24 27.2	+4.6
BKI	**Bering**	**5.92**	**34**	*eP*	Pn	03 24 30.7	+2.7
KBTR	**Krutoberegovo**	**5.97**	**15**	*eP*	Pn	03 24 32.2	+3.4

*IDC **31** 03:32:30.2±1.4,4.°13N×126.°53E,h0km,mb3.6/6,*
mbtmp3.6/6,MS2.5/1,Error ellipse: s-maj=151.4km
s-min=19.3km az=68.0
*DJA **31** 03:32:35.5±0.6,4.°N±4.°×12.°7E±.°,h19km±4km,M4.1/7,*
mb4.2/2,MLv4.1/7
ISC 31 03:32:36.6±1.0,**4.°2N**±0.°1×**126.°5E**±0.°2,**h45**km,**n9,σ0.9/86/8,**
mb3.7/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.10**	**246**	P	**Pn**	**03 32 55.9**	**+0.2**
TNTI	**Ternate**	**3.45**	**166**	P	**Pn**	**03 33 28.5**	**+0.6**
KAPI	**Kappang**	**11.35**	**217**	LR	LR	03 39 04.1	
comp=Z,21nm,19.2s,baz=95,slow=35							
WRA	**Warramunga Arr**	**25.14**	**163**	P	**P**	**03 37 57.2**	**-0.4**
1.0nm,0.6s,baz=341,slow=10,SNR=10.0							
1.0nm,0.6s							
ASAR	**Alice Springs**	**28.56**	**166**	P	**P**	**03 38 27.8**	**-0.7**
0.3nm,0.6s,baz=348,slow=7.2,SNR=6.9							
0.3nm,0.6s							
SONM	**Songino Array**	**46.84**	**341**	P	**P**	**03 41 02.3**	**+0.1**
0.5nm,0.5s,baz=172,slow=8.1,SNR=2.4							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**57.10**	**325**	P	**P**	**03 42 19.7**	**+1.2**
0.3nm,0.3s,baz=118,slow=7.7,SNR=8.7							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**61.29**	**327**	P	**P**	**03 42 47.1**	**-0.2**
0.6nm,0.7s,baz=129,slow=6.4,SNR=6.5							
0.6nm,0.7s							
BVAR	**Borovoye Array**	**66.87**	**327**	P	**P**	**03 43 22.9**	**-1.1**
0.4nm,0.5s,baz=116,slow=8.2,SNR=1.7							
0.4nm,0.5s							

*NEIC **31** 03:53:39.9±0.6,17.°5S±0.°1×174.°86W±0.°05,h263km±14km,*
mb4.1/11,Error ellipse: s-maj=19.9km s-min=6.5km
az=179.0
*IDC **31** 03:53:43.5±3.6,17.°63S×175.°24W,h279km±32km,mb3.6/8,*
mbtmp4.2/10,Error ellipse: s-maj=27.6km s-min=19.1km
az=85.0
ISC 31 03:53:39.9±0.7,**17.°6S**±0.°1×**174.°96W**±0.°10,**h256**km,**n27,**
σ1.9/08/27,mb3.9/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.75**	**41**	Pn	**Pn**	**03 54 51.5**	**-1.4**
NIUE	**Niue**	**5.02**	**108**	Pn	**Pn**	**03 54 55.4**	**-0.7**
MSVF	**Nonsavu**	**6.67**	**267**	P	**Pn**	**03 55 18.3**	**+1.8**
21nm,0.7s,baz=96,slow=16,SNR=15							
DZM	**Mont Dzumac**	**18.06**	**253**	P	**P**	**03 57 31.2**	**-1.8**
4.1nm,1.0s,baz=146,slow=15,SNR=1.9							
URZ	**Urewera**	**21.77**	**197**	P	**P**	**03 58 10.7**	**-0.5**
5.9nm,0.4s,baz=356,slow=2.9,SNR=7.1							
5.9nm,0.4s							
MSWZ	**Moikau Station**	**25.23**	**197**	P	**P**	**03 58 40.7**	**-1.9**
TCW	**Tory Channel**	**25.33**	**199**	P	**P**	**03 58 42.7**	**-0.8**
ARMA	**Armidale**	**32.97**	**241**	P	**P**	**03 59 51.0**	**-0.2**
COEN	**Coen**	**40.39**	**269**	P	**P**	**04 00 53.5**	**-0.1**
COEN				IAmb	IAmb	04 01 38.1	
comp=Z,5.1nm,1.0s							
STKA	**Stephens Creek**	**41.68**	**242**	P	**P**	**04 01 03.8**	**-0.1**
STKA	**Stephens Creek**	**41.68**	**242**	P	**P**	**04 01 03.4**	**-0.6**
comp=Z,1.7nm,0.5s,baz=74,slow=7.6,SNR=8.0							
comp=Z,1.7nm,0.5s							
BBOO	**Buckleboo**	**46.45**	**241**	P	**P**	**04 01 41.0**	**-0.7**
BBOO				IAmb	IAmb	04 02 23.5	
comp=Z,27nm,1.5s							
WB0	**Warramunga Arr**	**47.89**	**259**	P	**P**	**04 01 52.5**	**-0.5**
WB0				IAmb	IAmb	04 02 14.1	
comp=Z,6.8nm,1.1s							
WB2	**Warramunga Arr**	**47.91**	**259**	P	**P**	**04 01 52.3**	**-0.8**
WB2				IAmb	IAmb	04 01 52.6	
comp=Z,5.5nm,0.7s							
WRA	**Warramunga Arr**	**47.93**	**259**	P	**P**	**04 01 52.4**	**-0.7**
comp=Z,1.5nm,0.3s,baz=98,slow=6.8,SNR=60							
comp=Z,1.5nm,0.3s							
AS31	**Alice Springs**	**48.05**	**254**	P	**P**	**04 01 53.3**	**-0.7**
AS31				IAmb	IAmb	04 01 54.4	
comp=Z,3.6nm,0.7s							
ASAR	**Alice Springs**	**48.05**	**254**	P	**P**	**04 01 53.5**	**-0.6**
comp=Z,14nm,0.6s,baz=89,slow=8.1,SNR=191							
comp=Z,14nm,0.6s							
FORT	**Forrest**	**53.13**	**244**	P	**P**	**04 02 30.9**	**-0.8**
FORT				IAmb	IAmb	04 02 38.7	
comp=Z,18nm,1.2s							
FITZ	**Fitzroy Crossi**	**56.33**	**260**	P	**P**	**04 02 54.1**	**-0.7**
VNDA	**Vanda**	**61.10**	**186**	P	**P**	**04 03 28.4**	**+1.8**
VNDA	**Vanda**	**61.10**	**186**	P	**P**	**04 03 28.0**	**+1.4**
comp=Z,1.1nm,0.8s,baz=19,slow=4.1,SNR=4.5							
comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**72.50**	**180**	P	**P**	**04 04 38.9**	**+0.2**
QSPA				IAmb	IAmb	04 04 57.8	
comp=Z,10nm,1.4s							
QSPA	**South Pole Qui**	**72.50**	**180**	P	**P**	**04 04 39.8**	**+1.1**
comp=Z,1.5nm,0.7s,baz=66,slow=0.4,SNR=7.1							
comp=Z,1.5nm,0.7s							
PETK	**Petropavlovsk-**	**74.23**	**343**	P	**P**	**04 04 49.3**	**+0.7**
comp=Z,1.2nm,0.8s,baz=158,slow=5.6,SNR=1.4							
comp=Z,1.2nm,0.8s							
ILAR	**Eielson Array**	**84.84**	**12**	P	**P**	**04 05 47.0**	**+1.6**
comp=Z,0.2nm,0.5s,baz=211,slow=5.4,SNR=6.8							
comp=Z,0.2nm,0.5s							
BRTR	**Keskin Array B**	**146.80**	**318**	PKPbc	**PKPab**	**04 12 54.1**	**0.0**
comp=Z,0.7nm,0.8s,baz=113,slow=2.8,SNR=3.8							
GERES	**GERESS Array B**	**148.00**	**349**	PKPbc	**PKPbc**	**04 12 54.5**	**-0.7**
comp=Z,0.1nm,0.3s,baz=356,slow=5.6,SNR=2.3							

*TRN **31** 04:24:21.4,18.°70N×65.°19W,h41km,MD0.0,North-west*
of the British Virgin Islands.
*NEIC **31** 04:24:22.5±0.6,18.°78N±0.°05×65.°12W±0.°08,h35km±2km,*
ML2.8/24,Md3.3/15(RSPR),Error ellipse: s-maj=13.2km
s-min=6.8km az=67.0
*RSPR **31** 04:24:23.5,18.°82N×65.°12W,h26km±11km,MD3.3/15*
ISC 31 04:24:20.4±1.9,**18.°8N**±0.°1×**65.°15W**±0.°03,**h16**km±10km,**
n59,σ0.9/73/69,12C-3D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.93**	**226**		**Pg**	**

AGPR				IAML		04 25 56.9	
	comp=E,88nm,2.0s						
AGPR	**Aguadilla, PR**	**1.89 260**	⇑*eP*		**Pn**	**04 24 52.4**	**+0.4**
AGPR	**Aguadilla, PR**	**1.89 260**	*eS*		**Sn**	**04 25 15.3**	**-0.2**
LSP	**Las Mesas**	**1.94 252**			**Pn**	**04 24 53.5**	**+0.8**
LSP					**Sn**	**04 25 16.8**	**0.0**
LSP	**Las Mesas**	**1.94 252**	⇑*eP*		**Pn**	**04 24 53.5**	**+0.8**
LSP	**Las Mesas**	**1.94 252**	*eS*		**Sn**	**04 25 16.8**	**0.0**
MLPR	**Magueyes Islan**	**1.98 246**	⇑*eP*		**Pn**	**04 24 54.0**	**+0.8**
MLPR	**Magueyes Islan**	**1.98 246**	*eS*		**Sn**	**04 25 17.7**	**0.0**
PRSN	**Puerto Rico Se**	**1.98 253**			**Sn**	**04 25 17.2**	**-0.5**
PRSN	**Puerto Rico Se**	**1.98 253**	*eS*		**Sn**	**04 25 17.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**2.02 247**			**Pn**	**04 24 54.6**	**+0.8**
CRPR					**Sn**	**04 25 18.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.02 247**	⇑*eP*		**Pn**	**04 24 54.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.02 247**	*eS*		**Sn**	**04 25 18.6**	**-0.1**
ANWB	**Willy Bob**	**3.39 109**	*eP*		**Pn**	**04 25 13.2**	**+0.5**
ANWB			*eS*		**Sn**	**04 25 51.8**	**-0.8**
MBFL	**Flemmings, Mon**	**3.46 126**	*eP*		**Pn**	**04 25 14.8**	**+1.1**
MBWH		**3.48 125**	*eP*		**Pn**	**04 25 15.5**	**+1.4**
ANBD	**Bethesda, Anti**	**3.66 118**	*eP*		**Pn**	**04 25 16.7**	**+0.2**
ANBD			*eS*		**Sn**	**04 25 57.0**	**-2.4**
MAGL	**Barre de l'ile**	**4.66 127**	*eP*		**Pn**	**04 25 32.0**	**+1.9**

*THE **31** 04:25:51.7, 37.°36N×20.°76E, h0km±2km, ML2.9/9, Error ellipse: s-maj=3.4km s-min=0.8km az=216.0*
*ATH **31** 04:25:53.8, 37.°47N×20.°82E, h6km±1km, ML3.0/14, Manual Solution by A.Papageorgiou First location: 2019/03/31 04:26:49, This location: 2020/07/09 14:12:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
ISC 31 04:25:53.3±1.4, 37.°44N±0.°05×20.°82E±0.°04, h6km±9km, n47, σ0.°75/88, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.22**	**1**	P	**Pg**	**04 25 58.1**	**+0.4**
KRI1				S	**Sg**	**04 26 02.4**	**+1.7**
	6μm,0.4s						
LTHK	**Lithakia**	**0.27**	**4**	P	**Pg**	**04 25 58.9**	**+0.3**
LTHK				S	**Sg**	**04 26 04.1**	**+1.9**
	7μm,0.4s						
LTHK	**Lithakia**	**0.27**	**4**	P	**Pg**	**04 25 58.6**	**0.0**
LTHK				S	**Sg**	**04 26 02.2**	**+0.1**
KYPS	**Kipseli, Zakin**	**0.38**	**1**	P	**Pg**	**04 26 00.9**	**+0.3**
KYPS				S	**Sg**	**04 26 05.3**	**-0.3**
ORTH	**Orthonies,Zaky**	**0.42**	**347**	P	**Pg**	**04 26 01.6**	**+0.1**
ORTH				S	**Sg**	**04 26 06.0**	**-1.0**
CLEM	**Kyllini,Ilia,G**	**0.51**	**29**	P	**Pg**	**04 26 03.2**	**0.0**
CLEM				S	**Sg**	**04 26 09.6**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.63**	**357**	P	**Pg**	**04 26 05.0**	**-0.5**
RTZL				S	**Sb**	**04 26 15.7**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.69**	**345**	P	**Pg**	**04 26 06.0**	**-0.7**
PSDA				S	**Sb**	**04 26 17.8**	**+0.1**
	5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.69**	**345**	P	**Pg**	**04 26 06.0**	**-0.7**
PSDA				S	**Sg**	**04 26 14.7**	**-1.0**
AMT	**Artemida-Makis**	**0.72**	**82**	P	**Pb**	**04 26 07.9**	**-0.4**
AMT				S	**Sg**	**04 26 16.8**	**+0.4**
VLS	**Valsamata**	**0.76**	**346**	P	**Pg**	**04 26 06.9**	**-0.9**
VLS				S	**Sb**	**04 26 19.9**	**+0.5**
	1μm,0.4s						
VLS	**Valsamata**	**0.76**	**346**	P	**Pg**	**04 26 07.0**	**-0.9**
VLS				S	**Sg**	**04 26 17.2**	**-0.5**
YRMI	**Loutra Irminis**	**0.78**	**33**	P	**Pg**	**04 26 07.6**	**-0.8**
YRMI				S	**Sg**	**04 26 18.0**	**-0.6**
RLS	**Riolos of Patr**	**0.80**	**40**	P	**Pg**	**04 26 08.0**	**-0.8**
RLS				S	**Sb**	**04 26 21.3**	**+0.5**
	315nm,0.4s						
RLS	**Riolos of Patr**	**0.80**	**40**	P	**Pg**	**04 26 07.7**	**-1.1**
RLS				S	**Sg**	**04 26 19.5**	**+0.3**
SMHA	**Samh**	**0.82**	**351**	P	**Pg**	**04 26 08.4**	**-0.7**
SMHA				S	**Sg**	**04 26 18.6**	**-1.1**
DMLN	**Damoulianata-K**	**0.87**	**336**	P	**Pg**	**04 26 09.2**	**-0.8**
DMLN				S	**Sb**	**04 26 23.7**	**+1.0**
DMLN	**Damoulianata-K**	**0.87**	**336**	P	**Pg**	**04 26 09.2**	**-0.8**
DMLN				S	**Sg**	**04 26 21.8**	**+0.4**
AXS	**Araxos**	**0.88**	**30**	P	**Pg**	**04 26 09.4**	**-0.7**
AXS				S	**Sg**	**04 26 20.6**	**-0.9**
ITM	**Ithomi**	**0.93**	**106**	P	**Pg**	**04 26 10.0**	**-1.1**
ITM				S	**Sb**	**04 26 24.4**	**+0.1**
	495nm,0.5s						
ITM	**Ithomi**	**0.93**	**106**	P	**Pg**	**04 26 11.1**	**0.0**
ITM				S	**Sb**	**04 26 24.1**	**-0.2**
FSK	**Fiskardo**	**1.03**	**349**	P	**Pg**	**04 26 11.9**	**-1.3**
FSK				S	**Sn**	**04 26 29.3**	**+0.2**
	530nm,0.7s						
FSK	**Fiskardo**	**1.03**	**349**	P	**Pg**	**04 26 13.2**	**0.0**
FSK				S	**Sg**	**04 26 25.8**	**-0.8**
EVGI	**Lefkada island**	**1.18**	**354**	P	**Pg**	**04 26 15.6**	**-0.5**
EVGI				S	**Sg**	**04 26 31.6**	**+0.2**
KLV	**Kalavryta, Ach**	**1.22**	**60**	P	**Pg**	**04 26 15.0**	**-1.7**
KLV				S	**Sn**	**04 26 35.6**	**+1.9**
	132nm,0.7s						
KLV	**Kalavryta, Ach**	**1.22**	**60**	P	**Pg**	**04 26 16.2**	**-0.5**
KLV				S	**Sg**	**04 26 31.8**	**-0.7**
VLX	**Vlachokerasia**	**1.25**	**93**	P	**Pg**	**04 26 17.0**	**-0.3**
VLX				S	**Sb**	**04 26 34.1**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.25**	**351**	P	**Pg**	**04 26 17.1**	**-0.3**
DRAG				S	**Sg**	**04 26 33.0**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.27**	**356**	P	**Pn**	**04 26 17.7**	**+0.1**
NYDR				S	**Sg**	**04 26 33.8**	**-0.4**
PVO	**Paravola**	**1.30**	**25**	P	**Pn**	**04 26 17.5**	**-0.5**
PVO				S	**Sg**	**04 26 33.7**	**-1.4**
EFP	**Efpalio**	**1.31**	**41**	P	**Pn**	**04 26 18.1**	**0.0**
EFP				S	**Sg**	**04 26 34.9**	**-0.5**
GUR	**Goura**	**1.31**	**67**	P	**Pg**	**04 26 17.9**	**-0.5**
GUR				S	**Sg**	**04 26 35.8**	**+0.4**
LKD2	**Lefkada island**	**1.35**	**355**	P	**Pn**	**04 26 18.0**	**-0.7**
LKD2				S	**Sn**	**04 26 38.4**	**+1.4**
	510nm,0.6s						
LKD2	**Lefkada island**	**1.35**	**355**	P	**Pn**	**04 26 18.7**	**0.0**
LKD2				S	**Sg**	**04 26 35.9**	**-0.8**
SERG	**Sergoula**	**1.38**	**45**	P	**Pn**	**04 26 19.1**	**0.0**
SERG				S	**Sg**	**04 26 36.8**	**-0.9**
TSLK	**Tsoukalades, L**	**1.39**	**355**	P	**Pn**	**04 26 19.3**	**+0.1**
TSLK				S	**Sg**	**04 26 37.2**	**-0.7**
KALE	**Kalithea**	**1.41**	**47**	P	**Pn**	**04 26 20.0**	**+0.4**
KALE				S	**Sb**	**04 26 38.3**	**-0.1**
ANX	**Ano Chora**	**1.44**	**37**	P	**Pn**	**04 26 20.6**	**+0.5**
ANX				S	**Sb**	**04 26 38.9**	**-0.4**
EVR	**Evrytania**	**1.67**	**28**	P	**Pn**	**04 26 23.8**	**+0.6**
EVR				S	**Sn**	**04 26 45.1**	**+0.2**
LTK	**Loutraki**	**1.80**	**71**	P	**Pn**	**04 26 25.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.88**	**33**	P	**Pn**	**04 26 26.9**	**+0.9**
TETR	**Tetrakomo, Epi**	**1.93**	**11**	P	**Pn**	**04 26 27.9**	**+1.1**
TETR				S	**Sn**	**04 26 51.2**	**-0.3**
AXAR	**Agios Charalam**	**1.97**	**47**	P	**Pn**	**04 26 28.1**	**+0.9**
AXAR				S	**Sn**	**04 26 52.6**	**+0.5**
VIL2	**Platees**	**2.09**	**68**	P	**Pn**	**04 26 29.4**	**+0.6**
IGT	**Igoumenitsa**	**2.12**	**350**	P	**Pn**	**04 26 29.6**	**+0.3**
THL	**Klokotos Trika**	**2.32**	**24**	P	**Pn**	**04 26 33.0**	**+1.0**
KEK	**Kerkira**	**2.40**	**341**	P	**Pn**	**04 26 33.3**	**+0.1**

*NIED **31** 05:00:44.9, 20.°61N×120.°50E, h0km, MW4.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=4.15; $M_{\theta\theta}$=-1.06; $M_{\phi\phi}$=-3.09; $M_{r\theta}$=1.95; $M_{\theta\phi}$=-4.65; $M_{\phi r}$=-1.45; Fault plane solution: M_0=6.39000×10^{15} NP1: ϕ_s=188.00000°, δ=55.00000°, λ=43.00000°. NP2: ϕ_s=70.00000°, δ=56.00000°, λ=136.00000°.*
*JMA **31** 05:00:44.9±0.6, 21.°N±2.°×12.°0E±.°, h0km, MV4.7/9, PHILIPPINE ISL REGION*
*BJI **31** 05:00:46.9, 20.°51N×120.°45E, h8km, mB4.6/6, mb4.3/16, ML3.7/1, Ms3.9/5, Ms7 3.6/5*
*NEIC **31** 05:00:47.9±1.3, 20.°52N±0.°04×120.°5E±0.°1, h10km±1km, mb4.4/25, Error ellipse: s-maj=18.0km s-min=7.3km az=272.0*
*IDC **31** 05:00:52.1±4.4, 20.°44N×120.°78E, h43km±44km, mb3.7/15, mbtmp4.0/17, ML4.0/2, MS3.1/10, Error ellipse: s-maj=21.3km s-min=13.9km az=70.0*
ISC 31 05:00:49.8±0.5, 20.°46N±0.°06×120.°57E±0.°06, h26km, n82, σ1.9/17/74, mb4.3/32, MS3.0/8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.39**	**11**	P	**Pn**	**05 01 26.0**	**-1.3**
TWG	**Pinlang**	**2.40**	**11**		**Pn**	**05 01 26.1**	**-1.3**
TPUB	**Ta-pu**	**2.83**	**1**		**Pn**	**05 01 31.1**	**-2.3**
TPUB	**Ta-pu**	**2.83**	**1**	P	**Pn**	**05 01 31.0**	**-2.3**
YULB	**Yu-li**	**3.00**	**13**	Pn	**Pn**	**05 01 34.3**	**-1.3**
YULB	**Yu-li**	**3.00**	**13**	P	**Pn**	**05 01 34.5**	**-1.1**
SSLB	**Suanglung**	**3.33**	**6**	Pn	**Pn**	**05 01 38.7**	**-1.5**
SSLB	**Suanglung**	**3.33**	**6**	P	**Pn**	**05 01 38.7**	**-1.5**
NACB	**Ninganchiao**	**3.82**	**14**		**Pn**	**05 01 45.7**	**-1.2**
NACB	**Ninganchiao**	**3.82**	**14**	P	**Pn**	**05 01 45.7**	**-1.2**
YHNB	**Yeheng**	**4.25**	**10**	Pn	**Pn**	**05 01 52.9**	**-0.1**
YHNB	**Yeheng**	**4.25**	**10**	P	**Pn**	**05 01 52.6**	**-0.4**
KNMB	**Chin-men Tao**	**4.47**	**334**	Pn	**Pn**	**05 01 54.2**	**-1.6**
IRIF	**Iriomote-Funau**	**4.84**	**37**	*eP*	**Pn**	**05 01 59.8**	**-1.1**
JKRS	**Kuro-shima**	**4.93**	**40**	P	**Pn**	**05 02 01.0**	**-1.1**
JIJ	**Ishigaki jima**	**5.10**	**40**	P	**Pn**	**05 02 03.8**	**-0.8**
QIZ	**Qiongzhong**	**10.20**	**264**	P	**Pn**	**05 03 13.3**	**-1.3**
QIZ				S	**Sn**	**05 05 09.0**	**+0.8**
QIZ				LR	LR		
	comp=N,200nm,11.1s						
QIZ				LR	LR		
	comp=E,180nm,8.7s						
QIZ				LR	LR		
	comp=Z,270nm,9.6s						
JNU	**Nakatsue**	**15.60**	**34**	P	**Pn**	**05 04 27.4**	**-0.5**
	0.5nm,0.3s,baz=254,slow=2.1,SNR=7.1						
JNU				LR	LR	05 10 38.4	
	comp=Z,64nm,20.6s,baz=180,slow=38						
	4.9nm,0.9s						
TIA	**Tai'an**	**15.98**	**350**	P	**P**	**05 04 40.3**	**+4.1**
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
KSRS	**Korea Array**	**18.10**	**19**	P	**P**	**05 04 59.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=199,slow=11,SNR=21						
KSRS				LR	LR	05 12 27.4	
	comp=Z,27nm,19.7s,baz=200,slow=39						
	comp=Z,7.3nm,0.7s						
PZH	**PanZhiHua**	**18.28**	**293**	P	**P**	**05 05 01.5**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
SBUM	**Sibu**	**19.67**	**206**		**P**	**05 05 15.3**	**-1.7**
BJT	**Baijiatuan**	**19.86**	**350**		**P**	**05 05 17.7**	**-1.1**
BJT				IAmb	IAmb	05 05 25.1	
	comp=Z,18nm,0.9s						
CHTO	**Chiang Mai**	**20.43**	**269**	P	**P**	**05 05 25.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.49**	**268**	P	**P**	**05 05 25.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**20.49**	**268**	P	Pn	05 05 28.4	+0.2
	comp=Z,1.0nm,0.5s,baz=76,slow=8.6,SNR=7.9						
CMAR				LR	LR	05 14 01.0	
	comp=Z,84nm,18.8s,baz=75,slow=38						
	comp=Z,1.0nm,0.5s						
JCJ	**Chichijima**	**20.84**	**67**	LR	LR	05 11 57.2	
	comp=Z,39nm,20.2s,baz=297,slow=32						
JGF	**Kuroka**	**21.10**	**41**	P	**P**	**05 05 30.6**	**-1.7**
JGF				IAmb	IAmb	05 05 41.2	
	comp=Z,29nm,1.2s						
LZH	**Lanzhou**	**21.38**	**320**	*eP*	**P**	**05 05 38.5**	**+2.9**
LZH				pP	sP	05 05 44.3	-0.5
LZH				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC	**Hu-ho-hao-te**	**21.73**	**341**	*eP*	**P**	**05 05 39.5**	**+0.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
MJAR	**Matsushiro Arr**	**22.23**	**40**	P	**P**	**05 05 43.8**	**-0.7**
	comp=Z,5.1nm,1.0s,baz=224,slow=7.0,SNR=6.3						
	comp=Z,5.1nm,1.0s						
XLT	**XiLinHaoTe**	**23.67**	**352**	*eP*	**P**	**05 06 00.8**	**+1.5**
XLT				pP	pP	05 06 04.5	-1.6
XLT				PP	**PnPn**	**05 06 28.0**	**+0.9**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,110nm,5.3s						
KAPI	**Kappang**	**25.33**	**182**	LR	LR	05 16 51.7	
	comp=Z,33nm,18.7s,baz=49,slow=38						
BNX	**BinXian**	**25.83**	**11**	⇓P	**P**	**05 06 19.0**	**0.0**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PSI	**Prapat**	**27.45**	**233**	LR	LR	05 16 07.3	
	comp=Z,44nm,21.9s,baz=58,slow=33						
SONM	**Songino Array**	**29.62**	**340**	P	**P**	**05 06 56.1**	**+3.0**
	comp=Z,4.2nm,0.7s,baz=153,slow=9.2,SNR=25						
	comp=Z,4.2nm,0.7s						
ASAJ	**Asahikawa**	**29.87**	**33**	LR	LR	05 19 52.7	
	comp=Z,36nm,20.4s,baz=298,slow=38						
KLR	**Kul'dur**	**30.07**	**15**	LR	LR	05 21 11.7	
	comp=Z,45nm,18.9s,baz=188,slow=41						
HEH	**HeiHe**	**30.22**	**9**	*eP*	P	05 07 02.3	+4.2
HEH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMQ	**Urumqi**	**35.92**	**318**	*eP*	**P**	**05 07 48.0**	**-0.1**
WMQ				pP	pP	05 07 54.8	-0.2
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
MK31	**Makanchi Array**	**40.69**	**319**	P	**P**	**05 08 27.4**	**-0.7**
MKAR	**Makanchi Array**	**40.69**	**319**	P	**P**	**05 08 27.3**	**-0.9**
MKAR	**Makanchi Array**	**40.69**	**319**	P	**P**	**05 08 29.4**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=113,slow=9.5,SNR=6.2						
	comp=Z,0.6nm,0.7s						
COEN	**Coen**	**40.79**	**145**	P	**P**	**05 08 30.5**	**+1.3**
WB0	**Warramunga Arr**	**42.21**	**160**	P	**P**	**05 08 40.8**	**0.0**
WB0				IAmb	IAmb	05 08 53.9	
	comp=Z,10.0nm,1.1s						
WRA	**Warramunga Arr**	**42.36**	**161**	P	**P**	**05 08 42.1**	**+0.1**
WRA	**Warramunga Arr**	**42.36**	**161**	P	**P**	**05 08 41.4**	**-0.6**
	comp=Z,3.3nm,0.5s,baz=342,slow=9.1,SNR=19						
	comp=Z,3.3nm,0.5s						
WB2	**Warramunga Arr**	**42.36**	**161**	P	**P**	**05 08 41.9**	**-0.1**
WB2				IAmb	IAmb	05 08 45.6	
	comp=Z,6.6nm,0.7s						
ZAA0	**Zalesovo Array**	**43.10**	**330**	P	**P**	**05 08 47.0**	**-0.6**
ZAA0				IAmb	IAmb	05 08 59.8	
	comp=Z,5.3nm,0.9s						
ZALV	**Zalesovo Beam**	**43.10**	**330**	P	**P**	**05 08 48.2**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=101,slow=7.7,SNR=9.2						
	comp=Z,2.2nm,0.7s						
PEA0B	**Petropavlovsk-**	**43.28**	**32**	P	**P**	**05 08 49.0**	**-0.2**
PETK	**Petropavlovsk-**	**43.28**	**32**	P	**P**	**05 08 49.5**	**+0.4**
PETK	**Petropavlovsk-**	**43.28**	**32**	P	**P**	**05 08 48.8**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=222,slow=7.3,SNR=1.9						
PETK				LR	LR	05 28 22.3	
	comp=Z,20nm,18.7s,baz=186,slow=38						
	comp=Z,2.1nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**43.41**	**84**	T	T	05 55 18.9	
	baz=281,slow=74,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**43.42**	**84**	T	T	05 55 24.5	
	baz=281,slow=74,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**43.43**	**84**	T	T	05 55 23.1	
	baz=281,slow=74,SNR=7.0						
KURK	**Kurchatov**	**44.64**	**323**	P	**P**	**05 08 59.9**	**-0.2**
MA2	**Magadan**	**44.64**	**21**	LR	LR	05 29 40.7	
	comp=Z,32nm,19.7s,baz=138,slow=39						
KURBB	**Kurchatov Arra**	**44.65**	**323**	P	**P**	**05 09 01.0**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=122,slow=7.7,SNR=13						
	comp=Z,2.3nm,0.9s						
ASAR	**Alice Springs**	**45.74**	**163**	P	**P**	**05 09 09.9**	**+0.7**
ASAR	**Alice Springs**	**45.74**	**163**	P	**P**	**05 09 08.9**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=339,slow=6.6,SNR=20						
	comp=Z,2.2nm,0.9s						
KK31	**Karatay Array**	**47.35**	**310**	P	**P**	**05 09 20.4**	**-1.2**
KK31				IAmb	IAmb	05 09 38.8	
	comp=Z,2.6nm,1.1s						
KKAR	**Karatay Array**	**47.35**	**310**	P	**P**	**05 09 20.5**	**-1.1**
MORW	**Morawa**	**49.43**	**185**	P	**P**	**05 09 37.4**	**-0.3**
BVAR	**Borovoye Array**	**50.23**	**323**	P	**P**	**05 09 44.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=97,slow=9.3,SNR=4.3						
BVAR				PcP	**PcP**	**05 11 02.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=81,slow=3.6,SNR=3.5						
	comp=Z,0.6nm,0.6s						
TIXI	**Tiksi**	**51.43**	**3**		**P**	**05 09 52.5**	**+0.3**
TIXI				IAmb	IAmb	05 09 53.1	
	comp=Z,2.0nm,0.6s						
FORT	**Forrest**	**51.45**	**172**	P	**P**	**05 09 53.5**	**+0.6**
NRIK	**Noril'sk**	**52.85**	**346**	P	**P**	**05 10 03.1**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=115,slow=7.2,SNR=3.9						
	comp=Z,1.4nm,0.4s						
BBOO	**Buckleboo**	**55.00**	**164**	P	**P**	**05 10 19.5**	**+0.5**
ABKAR	**Abkulak array**	**55.68**	**316**	P	**P**	**05 10 23.7**	**-0.1**
STKA	**Stephens Creek**	**55.80**	**158**	P	**P**	**05 10 24.4**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=310,slow=11,SNR=3.2						
	comp=Z,1.1nm,0.7s						
KBZ	**Khabaz**	**67.39**	**310**	P	**P**	**05 11 44.1**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=70,slow=2.8,SNR=4.6						
	comp=Z,1.7nm,0.9s						
J17K	**VABM Dome**	**67.60**	**29**	P	**P**	**05 11 43.8**	**-0.2**
J17K				IAmb	IAmb	05 11 51.2	
	comp=Z,6.2nm,1.2s						
K17K	**Iditarod**	**67.97**	**29**	P	**P**	**05 11 46.0**	**-0.3**
H19K	**Roundabout Mou**	**68.67**	**26**	P	**P**	**05 11 51.7**	**+1.1**
H19K				IAmb	IAmb	05 11 53.6	
	comp=Z,4.9nm,1.1s						
O18K	**Koktuh Hills**	**69.66**	**32**	P	**P**	**05 11 57.0**	**+0.2**
O18K				IAmb	IAmb	05 12 01.7	
	comp=Z,5.1nm,1.2s						
J20K	**Nowinta River**	**69.75**	**28**	P	**P**	**05 11 56.9**	**-0.4**
J20K				IAmb	IAmb	05 12 16.6	
	comp=Z,2.7nm,1.2s						
SUA	**Susitna One**	**71.63**	**30**	P	**P**	**05 12 09.6**	**+0.6**
SUA				IAmb	IAmb	05 12 10.2	
	comp=Z,5.1nm,1.1s						
RND	**Reindeer**	**72.18**	**28**	P	**P**	**05 12 12.3**	**+0.1**
RND				IAmb	IAmb	05 12 13.0	
	comp=Z,3.3nm,0.9s						
ILAR	**Eielson Array**	**72.77**	**27**	P	**P**	**05 12 14.4**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=281,slow=5.8,SNR=2.3						
	comp=Z,0.2nm,0.6s						
BMAR	**Burnt Mountain**	**73.14**	**24**	P	**P**	**05 12 18.6**	**+0.8**
YKA	**Yellowknife Ar**	**86.61**	**22**	P	**P**	**05 13 30.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=314,slow=4.8,SNR=17						
	comp=Z,0.9nm,0.8s						

*SJA **31** 05:01:35.9±0.7, 29.°72S×71.°82W, h55km, ML3.6, MW3.8*
*GUC **31** 05:01:37.7±0.8, 29.°80S×71.°62W, h32km±4km, ML3.6*
ISC 31 05:01:33.6±1.5, 29.°73S±0.°03×71.°77W±0.°06, h6km±11km, n52, σ2.°05/61, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.95**	**173**	*eP*	**Pn**	**05 01 53.4**	**-0.1**
CO06				*eS*	**Sg**	**05 02 04.7**	**+0.6**
CO06				IAML		05 02 05.9	
	comp=N,5μm,0.2s						
GO04	**Tololo Observa**	**0.95**	**118**	⇓*iP*	**Pb**	**05 01 52.7**	**0.0**
GO04				*eS*	**Sg**	**05 02 03.8**	**-0.5**
GO04				IAML		05 02 07.9	
	comp=N,18μm,0.5s						
LCO	**Las Campanas**	**1.18**	**53**	*eP*	**Pn**	**05 01 57.5**	**+0.6**
LCO				*eS*	**Sn**	**05 02 12.4**	**-0.9**
LCO				IAML		05 02 16.0	
	comp=N,18μm,0.3s						
LCO	**Las Campanas**	**1.18**	**53**	*eP*	**Pn**	**05 01 58.6**	**+1.7**
LCO				*eS*	**Sn**	**05 02 14.7**	**+1.3**
LCO				IAML		05 02 15.8	
	comp=Z,4μm,0.3s						
CO03	**El Pedregal**	**1.45**	**140**	*eP*	**Pn**	**05 01 59.9**	**-0.6**
CO03				*eS*	**Sn**	**05 02 16.7**	**-3.2**
CO03				IAML		05 02 20.2	
	comp=E,1μm,0.3s						
CO01	**Juntas del Tor**	**1.48**	**100**	*eP*	**Pb**	**05 02 01.2**	**-0.4**
CO01				*eS*	**Sn**	**05 02 18.3**	**-2.5**
CO01				IAML		05 02 19.5	
	comp=N,1μm,0.2s						
AC05	**El Transito**	**1.58**	**56**	*eP*	**Pg**	**05 02 04.0**	**+0.1**
AC05				*eS*	**Sg**	**05 02 23.7**	**-0.8**
AC05				IAML		05 02 27.1	
	comp=N,1μm,0.7s						
AC05	**El Transito**	**1.58**	**56**	*eP*	**Pb**	**05 02 03.3**	**0.0**
AC05				IAML		05 02 25.6	
	comp=Z,776nm,0.9s						
AC04	**Llanos de Chal**	**1.64**	**22**	*eP*	**Pg**	**05 02 05.0**	**+0.1**
AC04				*eS*	**Sg**	**05 02 25.8**	**-0.4**
AC04				IAML		05 02 35.0	
	comp=E,494nm,0.3s						
AC04	**Llanos de Chal**	**1.64**	**22**	*eP*	**Pb**	**05 02 04.2**	**0.0**
AC04				IAML		05 02 32.6	
	comp=Z,432nm,0.8s						
AROD	**Rodeo**	**2.04**	**103**	*eP*	**Pb**	**05 02 11.3**	**0.0**
AROD				*eS*	**Sb**	**05 02 36.8**	**-0.3**
ACDV	**Cuesta del Vie**	**2.34**	**101**	*eP*	**Pb**	**05 02 15.4**	**-1.0**
ACDV				*eS*	**Sb**	**05 02 46.5**	**+0.9**
ACDV				IAML		05 02 46.8	
	comp=Z,236nm,0.8s						
ACCO	**Cerro Coronel**	**2.50**	**111**	*eP*	**Pb**	**05 02 19.8**	**+0.7**
GO03	**Copiapo**	**2.52**	**33**	*eP*	**Pn**	**05 02 16.8**	**+1.7**
DOCA	**Reserva Natura**	**2.62**	**118**	*eP*	**Pb**	**05 02 19.1**	**-2.2**
DOCA				IAML	

σ0°73/19, mb3.8/14, MS3.2/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.72	332	Pn	Pn	05 18 43.8	-0.7
	264nm,0.3s,baz=160,slow=15,SNR=159						
GUMO				Sn	Sn	05 18 54.9	+0.6
	746nm,0.3s,baz=6.8,slow=20,SNR=13						
MJAR	Matsushiro Arr	24.32	346	LR	LR	05 32 32.1	
	comp=Z,26nm,18.3s,baz=212,slow=35						
WRA	Warramunga Arr	34.39	198	P	P	05 25 14.5	-0.3
	0.6nm,0.8s,baz=20,slow=8.9,SNR=2.7						
	0.6nm,0.8s						
KLR	Kul'dur	37.85	346	LR	LR	05 40 36.6	
	comp=Z,33nm,19.6s,baz=238,slow=35						
ASAR	Alice Springs	38.03	197	P	P	05 25 46.3	+0.3
	0.4nm,0.6s,baz=19,slow=11,SNR=5.7						
	0.4nm,0.6s						
CMAR	Chiang Mai Arr	44.79	283	P	P	05 26 41.4	-0.2
	0.8nm,0.3s,baz=82,slow=6.7,SNR=4.0						
	0.8nm,0.3s						
SHEM	Shemya Is, Ala	45.90	24	LR	LR	05 45 47.5	
	comp=Z,34nm,18.8s,baz=353,slow=36						
SONM	Songino Array	47.44	325	P	P	05 27 02.5	+0.3
	0.4nm,0.6s,baz=123,slow=5.9,SNR=3.5						
SONM				PcP	PcP	05 28 32.8	+0.5
	0.5nm,0.6s,baz=146,slow=3.3,SNR=4.7						
	0.4nm,0.6s						
MKAR	Makanchi Array	62.18	316	P	P	05 28 49.5	+0.7
	0.2nm,0.5s,baz=109,slow=6.6,SNR=2.1						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	62.34	325	P	P	05 28 49.7	0.0
	0.4nm,0.5s,baz=81,slow=9.5,SNR=1.8						
ZALV				PcP	PcP	05 29 27.8	-1.2
	0.7nm,0.6s,baz=151,slow=3.3,SNR=2.5						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	65.33	320	P	P	05 29 10.1	+0.6
	0.9nm,0.7s,baz=102,slow=7.0,SNR=8.8						
	0.9nm,0.7s						
ILAR	Eielson Array	69.00	25	P	P	05 29 31.8	-0.7
	0.6nm,0.5s,baz=250,slow=5.7,SNR=17						
	0.6nm,0.5s						
BVAR	Borovoye Array	70.63	322	P	P	05 29 43.4	+0.7
	0.7nm,0.4s,baz=88,slow=9.1,SNR=4.2						
BVAR				LR	LR	06 00 53.7	
	comp=Z,23nm,20.8s,baz=1.2,slow=36						
	0.7nm,0.4s						
YKA	Yellowknife Ar	83.27	27	P	P	05 30 54.2	+0.6
	0.6nm,0.9s,baz=286,slow=5.6,SNR=6.2						
	0.6nm,0.9s						
NVAR	Mina Array Bea	87.06	51	P	P	05 31 14.2	+0.8
	0.2nm,0.5s,baz=280,slow=5.0,SNR=3.6						
	0.2nm,0.5s						
ARCES	ARCESS Array B	87.79	342	P	P	05 31 16.2	+0.2
	1.5nm,0.7s,baz=59,slow=4.4,SNR=5.2						
	1.5nm,0.7s						
FINES	FINESS Array B	91.88	335	P	P	05 31 33.9	-1.4
	3.2nm,1.0s,baz=90,slow=4.4,SNR=8.6						
	3.2nm,1.0s						
PDAR	Pinedale Array	92.17	45	P	P	05 31 37.0	-0.4
	0.2nm,0.6s,baz=295,slow=4.4,SNR=2.5						
	0.2nm,0.6s						
DBIC	Dimbokro	144.44	302	PKP	PKPab	05 38 03.5	+0.7
	2.5nm,0.5s,baz=44,slow=3.8,SNR=5.7						

KRSC 31 05:21:50.2±1.8, 50°.48N×160°.15E, h45km±43km, Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.87	316	eP	Pn	05 22 22.4	+2.7
KDTR				eS	Sn	05 22 43.9	+1.9
RUS	Russkaya	2.21	333	eP	Pn	05 22 27.2	+2.9
RUS				eS	Sn	05 22 52.2	+1.8
PAU	Pauzhetka	2.33	296	eP	Pn	05 22 29.5	+3.4
PAU				eS	Sn	05 22 55.7	+2.2
GRL	Gorelyy	2.45	329	eP	Pn	05 22 31.4	+3.6
GRL				eS	Sn	05 23 00.2	+3.7
SKR	Severo-Kuril's	2.58	276	eP	Pn	05 22 31.9	+2.4
SKR				eS	Sn	05 23 00.4	+0.8
SPN	Mys Shipunski	2.62	358	eP	Pn	05 22 32.4	+2.3
KRMR	Karymshinskiy	2.67	333	eP	Pn	05 22 34.3	+3.6
KRMR				eS	Sn	05 23 04.9	+3.1
DALK	Dalny	2.70	342	eP	Pn	05 22 34.3	+3.2
DALK				eS	Sn	05 23 05.8	+3.4
PET	Petropavlovsk	2.71	340	eP	Pn	05 22 33.3	+2.0
PET				eS	Sn	05 23 05.3	+2.5
UGLR	Uglovaya	2.85	344	eP	Pn	05 22 37.4	+4.0
SDLR	Sedlovina	2.91	345	eP	Pn	05 22 38.0	+3.9
AVH	Avacha	2.92	343	eP	Pn	05 22 38.9	+4.6
AVH				eS	Sn	05 23 13.8	+5.7
KOK	Koryaka	2.97	342	eP	Pn	05 22 38.9	+3.9
KOK				eS	Sn	05 23 13.9	+4.6
KRX	Arik	3.03	343	eP	Pn	05 22 39.6	+3.8
APC	Apacha	3.08	324	eP	Pn	05 22 40.1	+3.8
APC				eS	Sn	05 23 16.1	+4.3
GNL	Ganaly	3.50	338	eP	Pn	05 22 46.5	+4.4
GNL				eS	Sn	05 23 26.0	+3.6
KII	Karymskiy	3.59	353	eP	Pn	05 22 48.1	+4.8
MKZ	Mys Kozlova	4.20	13	eP	Pn	05 22 54.5	+2.9
KMNR	Kamenistaya	5.29	1	eP	Pn	05 23 12.1	+5.4
KPT	Kopyto	5.50	0	eP	Pn	05 23 13.6	+4.0
KBTR	Krutoberegovo	5.96	15	eP	Pn	05 23 19.7	+3.9

IDC 31 05:31:01.8±1.6, 6°.77N×73°.04W, h167km±16km, mb3.2/7, mbtmp3.8/9, MS3.1/1, Error ellipse: s-maj=22.3km s-min=16.0km az=75.0
RSNC 31 05:31:02.5±0.0, 7°N±1°×7°3W±°, h146km±1km, M3.8, mB4.7, mb4.0, ML3.4, Mw(mB)4.0
ISC 31 05:31:00.5±0.7, 6°.86N±0°.03×73°.09W±0°.04, h157km±5km, n58, σ1°43/95, mb3.6/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	199	P	Pn	05 31 22.0	0.0
BARC				S	Sn	05 31 36.4	-2.1
PAMC	Pamplona, Colo	0.62	39	P	Pn	05 31 24.7	+0.9
PAMC				S	Sn	05 31 41.8	+0.2
BRJC	Barrancabermej	0.66	280	P	Pn	05 31 23.7	+0.3
BRJC				S	Sn	05 31 40.3	-0.6
RUSC	La Rusia	0.96	180	P	Pn	05 31 25.8	-0.3
RUSC				S	Sn	05 31 44.3	-1.4
TAMC	Tame, Arauca	1.36	108	P	Pn	05 31 30.1	+1.0
TAMC				S	Sn	05 31 51.6	+0.5
PTBC	PUERTO BERRIO,	1.39	257	P	Pn	05 31 28.4	-1.0
PTBC				S	Sn	05 31 49.5	-2.2
OCAC	Ocana	1.39	351	P	Pn	05 31 30.1	+0.5
OCAC				S	Sn	05 31 51.7	-0.4
ZARC	Zaragoza, Cauc	1.86	290	P	Pn	05 31 34.7	+0.2
ZARC				S	Sn	05 32 00.1	-0.5
NORC	Norcasia	2.18	234	P	Pn	05 31 37.5	-0.7
NORC				S	Sn	05 32 05.4	-1.9
CHIC	Chingaza	2.30	196	P	Pn	05 31 40.0	0.0
CHIC				S	Sn	05 32 09.2	-1.2
ROSC	El Rosal	2.35	211	P	Pn	05 31 42.0	+1.6
	141nm,0.3s,baz=354,slow=5.9,SNR=126						
ROSC				S	Sn	05 32 08.7	-2.6
	215nm,0.6s,baz=62,slow=15,SNR=9.6						
ROSC	El Rosal	2.35	211	P	Pn	05 31 41.6	+1.1
ROSC				S	Sn	05 32 12.1	+0.8
HELC	Santa Helena	2.51	255	P	Pn	05 31 43.2	+0.8
HELC				S	Sn	05 32 13.9	-0.8
CVER	Cruz Verde, Cu	2.52	203	P	Pn	05 31 43.5	+0.9
CVER				S	Sn	05 32 14.6	-0.5
UREC	San Jos de Ur	2.58	290	P	Pn	05 31 41.9	-1.0
UREC				S	Sn	05 32 13.8	-1.9
GUY2C	Guyana, Caldas	2.78	234	P	Pn	05 31 46.3	+0.5
GUY2C				S	Sn	05 32 21.2	+0.3
VILC	Villavicencio,	2.79	192	P	Pn	05 31 45.2	-0.4
VILC				S	Sn	05 32 19.6	-1.0
PTGC	Puerto Gaitan,	2.81	160	P	Pn	05 31 44.9	-0.8
PTGC				S	Sn	05 32 18.2	-2.5
RECRC	Villamaria, Ca	2.93	230	P	Pn	05 31 49.4	+1.6
RECRC				S	Sn	05 32 25.5	+1.1
NIZA	Niza - Manizal	2.96	233	P	Pn	05 31 49.8	+1.9
NIZA				S	Sn	05 32 25.2	+0.5
CBOC	Ciudad Bolivar	3.07	251	P	Pn	05 31 49.9	+0.8
CBOC				S	Sn	05 32 24.1	-2.6
DBBC	Dabeiba	3.10	273	P	Pn	05 31 49.5	+0.1
DBBC				S	Sn	05 32 25.3	-2.1
SDV	Santo Domingo	3.16	50	P	Pn	05 31 51.4	+1.1
SDV				S	Sn	05 32 28.5	-0.5
ARGC	Ariguani, Magd	3.19	339	P	Pn	05 31 52.3	+1.7
ARGC				S	Sn	05 32 30.0	+0.5
ANIL	Santa Ana	3.29	225	P	Pn	05 31 52.5	+0.5
ANIL				S	Sn	05 32 33.3	+1.3
PRAC	Prado	3.60	210	P	Pn	05 31 55.2	-0.6
PRAC				S	Sn	05 32 37.1	-1.6
APAC	Apartado, Choc	3.61	287	P	Pn	05 31 56.0	+0.1
APAC				S	Sn	05 32 37.3	-1.6
ORTC	Ortega, Tolima	3.63	216	P	Pn	05 31 56.1	-0.1
ORTC				S	Sn	05 32 38.9	-0.6
SJCC	San Jacinto, C	3.66	326	P	Pn	05 31 55.9	-0.7
SJCC				S	Sn	05 32 37.4	-2.8
LCBC	Los crdobas,	3.81	302	P	Pn	05 31 58.8	+0.4
LCBC				S	Sn	05 32 43.9	+0.4
URMC	La Uribe, Meta	3.81	200	P	Pn	05 31 58.9	+0.4
URMC				S	Sn	05 32 43.3	-0.4
CRJC	Cerrejon, Guaj	4.14	3	P	Pn	05 32 02.3	-0.6
CRJC				S	Sn	05 32 48.1	-3.4
GUVC	San Jose del G	4.31	174	P	Pn	05 32 04.7	-0.3
GUVC				S	Sn	05 32 53.6	-1.6
YOTC	Yotoco, Valle	4.32	229	P	Pn	05 32 04.6	-0.6
SMRC	Santa Marta, M	4.42	345	P	Pn	05 32 06.7	+0.2
SMRC				S	Sn	05 32 54.7	-3.3
CAPC	Capurgana	4.58	293	P	Pn	05 32 08.1	-0.3
CAPC				S	Sn	05 32 56.7	-4.8
PIZC	Pizarro, Choco	4.64	246	P	Pn	05 32 06.1	-3.2
MACC	Macarena, Meta	4.74	189	P	Pn	05 32 08.9	-1.7
MACC				S	Sn	05 33 01.3	-4.1
URIC	Uribia, Colomb	4.94	13	P	Pn	05 32 12.5	-0.7
MALC	Bahia Malaga	5.08	236	P	Pn	05 32 16.3	+1.2
	26μm92nm,1.1s						
GARC	Garzon, Huila	5.22	207	P	Pn	05 32 16.1	-1.1
POPC	Popayan, Colom	5.58	220	P	Pn	05 32 21.6	-0.3
	7.0nm,0.5s						
FLOC	Florencia	5.83	206	P	Pn	05 32 24.4	-0.6
	583nm13nm,0.8s						
GR1C	Gorgona, Isla	6.34	233	P	Pn	05 32 30.4	-1.4
BBAC	Balboa, Cauca	6.34	221	P	Pn	05 32 31.9	-0.1
PCRV	Puerto La Cruz	8.99	68	P	Pn	05 33 07.8	+0.7
	3.5nm,0.4s,baz=264,slow=3.0,SNR=14						
PCRV				S	Sn	05 34 44.7	-2.4
	10.0nm,0.9s,baz=31,slow=20,SNR=2.0						
LPAZ	La Paz	23.51	168	P	P	05 35 56.7	-0.5
	0.3nm,0.4s,baz=350,slow=11,SNR=2.0						
LPAZ				LR	LR	05 46 58.1	
	comp=Z,48nm,22.0s,baz=46,slow=41						
	0.3nm,0.4s						
BDFB	Brasilia	33.42	132	P	P	05 37 24.4	-0.3
	1.4nm,0.5s,baz=293,slow=13,SNR=4.6						
	1.4nm,0.5s						
TXAR	Lajitas Array	36.46	312	P	P	05 37 51.6	+1.0
	0.4nm,0.5s,baz=114,slow=10,SNR=2.8						
	0.4nm,0.5s						
ULM	Lac du Bonnet	47.26	340	P	P	05 39 18.3	+0.5
	1.0nm,0.4s,baz=127,slow=7.5,SNR=4.7						
	1.0nm,0.4s						
PDAR	Pinedale Array	48.07	324	P	P	05 39 24.9	+0.5
	0.1nm,0.4s,baz=139,slow=5.2,SNR=1.7						
	0.1nm,0.4s						
SCHQ	Schefferville	48.10	5	P	P	05 39 25.6	+1.4
	3.6nm,0.7s,baz=184,slow=7.3,SNR=8.6						
	3.6nm,0.7s						
YKA	Yellowknife Ar	63.24	340	P	P	05 41 12.9	+0.9
	0.4nm,0.5s,baz=136,slow=6.3,SNR=17						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	117.71	20	PKP	PKiKP	05 49 28.4	+0.2
	0.2nm,0.5s,baz=339,slow=2.4,SNR=2.1						
MKAR	Makanchi Array	122.28	20	PKP	PKiKP	05 49 36.9	-0.4
	0.2nm,0.4s,baz=266,slow=3.0,SNR=5.6						
ASAR	Alice Springs	149.15	234	PKPbc	PKPbc	05 50 30.6	-0.7
	0.7nm,0.6s,baz=121,slow=3.4,SNR=13						
WRA	Warramunga Arr	150.38	241	PKPbc	PKiKP	05 50 34.0	-1.0
	0.5nm,0.4s,baz=108,slow=2.8,SNR=7.2						
CMAR	Chiang Mai Arr	153.65	17	PKPbc	PKiKP	05 50 41.7	-0.1
	1.3nm,0.3s,baz=353,slow=0.8,SNR=2.3						

ISN 31 05:58:39.4±1.6, 34°.50N×45°.76E, h16km±20km, ML2.8
TEH 31 05:58:39.9, 34°.49N×45°.69E, h8km±50km
ISC 31 05:58:40.0±1.1, 34°.49N±0°.04×45°.70E±0°.04, h10km±11km, n9, σ0°61/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.10	282	Pg	Pg	05 58 42.3	-0.2
GLG1	Gilan-e-Gharb	0.41	155	Pg	Pg	05 58 48.1	0.0
IDHR	Dehrash	0.60	69	Pg	Pg	05 58 51.4	-0.3
IDHR				Sg	Sb	05 59 01.5	+0.1
IGHG	Ghaleghazi	0.73	102	Pg	Pb	05 58 54.7	-0.3
KCHF	Cheshme Sefid,	1.13	100	Pg	Pn	05 59 02.0	0.0
IBDR	Badra	1.39	172	ePn	Pn	05 59 05.0	-0.3
IBDR				eSn	Sg	05 59 26.0	+1.4
IKRK	Kirkuk	1.44	310	ePn	Pg	05 59 08.0	+0.3
IKRK				eSn	Sg	05 59 27.0	+0.6
IKRK				AML	AML	05 59 31.9	
	comp=N,150nm,0.5s						
IKRK				AML	AML	05 59 32.9	
	comp=E,150nm,0.5s						
BHD	Baghdad	1.64	223	ePn	Pb	05 59 10.0	-0.2
BHD				eSn	Sg	05 59 32.0	-0.6
IKFM	Kafar-mosalman	2.02	118	Pn	Pb	05 59 16.8	0.0

GCG 31 06:04:06.4±0.9, 13°.46N×90°.83W, h0km±16km, MD4.2
CATAC 31 06:04:08.2±0.5, 13°N±4°×9°1W±°, h0km, M3.7/24, MLv3.7/24, Error ellipse: s-maj=8.4km s-min=4.5km az=0.6, confirmed
SNET 31 06:04:09.1±3.2, 13°.48N×90°.90W, h31km, ML3.6
ISC 31 06:04:06.3±3.8, 13°.38N±0°.10×90°.9W±0°.1, h11km±15km, n73, σ0°66/79, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.96	61	P	Pb	06 04 24.3	-0.7
NUBE	Las Nubes	1.19	64	eP	Pn	06 04 27.9	-1.2
NUBE	Las Nubes	1.19	64	P	Pn	06 04 28.1	-1.0
NUBE	Las Nubes	1.19	64	S	Sb	06 04 44.0	-0.5
NUBE	Las Nubes	1.19	64	P	Pn	06 04 27.9	-1.2
NUBE	Las Nubes	1.19	64	iP	Pn	06 04 27.9	-1.2
NUBE				iS	Sb	06 04 44.3	-0.2
NUBE	Las Nubes	1.19	64	iP		06 04 27.9	
NUBE				iS		06 04 44.3	
LOAL	Lomas de Alarc	1.23	60	P	Pn	06 04 29.2	-0.4
LOAL	Lomas de Alarc	1.23	60	S	Sg	06 04 46.8	+0.7
LOAL	Lomas de Alarc	1.23	60	P	Pn	06 04 29.2	-0.4
SLOZ	Alcaldia de Sa	1.24	59	P	Pn	06 04 29.2	-0.5
SLOZ	Alcaldia de Sa	1.24	59	S	Sb	06 04 45.6	-0.4
SLOZ	Alcaldia de Sa	1.24	59	S	Sg	06 04 47.2	+0.7
SLOZ	Alcaldia de Sa	1.24	59	P	Pn	06 04 29.2	-0.5
CEVE	Cerro Verde	1.30	70	eP	Pn	06 04 30.1	-0.6
CEVE				eS	Sn	06 04 48.7	+0.5
CEVE	Cerro Verde	1.30	70	P	Pn	06 04 30.1	-0.6
CEVE	Cerro Verde	1.30	70	P	Pn	06 04 30.1	-0.6
RTAL	Retalhuleu	1.38	325	P	Pg	06 04 41.0	+8.0
JAYA	Jayaque - finc	1.42	79	eP	Pn	06 04 31.3	-0.9
JAYA				eS	Sn	06 04 51.1	0.0
JAYA	Jayaque - finc	1.42	79	P	Pn	06 04 31.4	-0.9
JAYA	Jayaque - finc	1.42	79	S	Sn	06 04 50.2	-0.8
JAYA	Jayaque - finc	1.42	79	P	Pn	06 04 31.3	-0.9
JAYA	Jayaque - finc	1.42	79	iP	Pn	06 04 31.3	-0.9
JAYA				iS	Sb	06 04 51.3	+0.2
JAYA	Jayaque - finc	1.42	79	iP		06 04 31.3	
JAYA				iS		06 04 51.3	
UNIC	Universidad Ca	1.43	65	P	Pn	06 04 31.8	-0.4
UNIC	Universidad Ca	1.43	65	S	Sb	06 04 51.6	+0.4
UNIC	Universidad Ca	1.43	65	P	Pn	06 04 31.9	-0.4
CEDA	San Andres	1.50	74	eP	Pn	06 04 32.9	-0.4
CEDA				eS	Sb	06 04 53.6	+0.1
CEDA	San Andres	1.50	74	P	Pn	06 04 33.1	-0.2
PMON	Piamonte	1.56	78	P	Pn	06 04 33.5	-0.6
PMON	Piamonte	1.56	78	S	Sb	06 04 55.5	+0.4
PMON	Piamonte	1.56	78	P	Pn	06 04 33.7	-0.5
ITCA	Escuela Especi	1.58	79	P	Pn	06 04 34.5	+0.1
BOQS	Boqueron	1.60	77	eP	Pn	06 04 35.1	+0.3
UEES	Universidad Ev	1.63	78	P	Pn	06 04 35.8	+0.7
UEES	Universidad Ev	1.63	78	S	Sn	06 04 55.8	-0.4
UEES	Universidad Ev	1.63	78	S	Sn	06 04 56.4	+0.3
UEES	Universidad Ev	1.63	78	P	Pn	06 04 35.9	+0.8
SEMO	Seminario San	1.64	79	P	Pn	06 04 34.2	-1.1
SEMO	Seminario San	1.64	79	S	Sn	06 04 56.1	-0.3
UTEC	Universidad Te	1.66	79	P	Pn	06 04 35.2	-0.3
LOMA	Loma Larga	1.68	81	P	Pn	06 04 35.9	0.0
LOMA	Loma Larga	1.68	81	S	Sb	06 04 59.3	+0.6
LOMA	Loma Larga	1.68	81	P	Pn	06 04 36.0	+0.2
IGN	Direccin Gen	1.70	79	P	Pn	06 04 36.4	+0.4
UDBS	Universidad Do	1.71	79	P	Pn	06 04 36.2	0.0
UDBS	Universidad Do	1.71	79	S	Sb	06 04 59.4	0.0
LFRS	El Faro	1.79	82	eP	Pn	06 04 37.7	+0.5
MTO3	Montecristo	1.79	55	eP	Pn	06 04 37.8	+0.4
MTO3				eS	Sb	06 05 02.6	+0.8
MTO3	Montecristo	1.79	55	P	Pn	06 04 38.0	+0.6
MTO3	Montecristo	1.79	55	S	Sb	06 05 03.0	+1.2
MTO3	Montecristo	1.79	55	P	Pn	06 04 37.7	+0.3
MTO3	Montecristo	1.79	55	iP	Pn	06 04 37.7	+0.3
MTO3	Montecristo	1.79	55	iP		06 04 37.7	
ESQI	Esquipulas	1.90	52	eP	Pn	06 04 39.6	+0.8
ESQI				eS	Sg	06 05 06.6	-0.9
ESQI	Esquipulas	1.90	52	P	Pn	06 04 40.0	+1.2
ESQI	Esquipulas	1.90	52	P	Pn	06 04 39.6	+0.8
PAVA	Las Pavas	1.92	80	P	Pn	06 04 39.6	+0.6
PAVA	Las Pavas	1.92	80	P	Pn	06 04 39.7	+0.6
COEG	Centro de Oper	1.96	83	eP	Pn	06 04 40.2	+0.6
COEG				eS	Sb	06 05 05.8	-0.8
COEG	Centro de Oper	1.96	83	P	Pn	06 04 39.9	+0.2
COEG	Centro de Oper	1.96	83	S	Sn	06 05 05.0	+0.7
COEG	Centro de Oper	1.96	83	P	Pn	06 04 40.0	+0.4
HUEH	Huehuetenango	2.02	343	P	Pg	06 04 51.2	+6.2
LLGN	La Laguna	2.04	67	P	Pn	06 04 40.9	+0.2
TECO	Alcaldia de Te	2.05	85	P	Pn	06 04 41.1	+0.4
TECO	Alcaldia de Te	2.05	85	P	Pn	06 04 41.0	+0.2
SCLA	Alcaldia de Sa	2.12	81	P	Pn	06 04 42.2	+0.4
SCLA	Alcaldia de Sa	2.12	81	P	Pn	06 04 42.1	+0.4
PQSS	Presa 15 de Se	2.27	84	P	Pn	06 04 45.1	+1.3
PQSS	Presa 15 de Se	2.27	84	P	Pn	06 04 43.9	+0.1
PACA	Pacayal	2.49	88	P	Pn	06 04 48.3	+1.3
PACA	Pacayal	2.49	88	P	Pn	06 04 48.0	+1.0
RANC	El Ranchito	2.52	89	P	Pn	06 04 48.0	+0.6
LCND	La Caada	2.91	91	P	Pn	06 04 53.0	+0.4
CNCH	Conchagua	2.97	92	P	Pn	06 04 53.9	+0.4

TXNET 31 06:10:58.7, 31°.6N±0°.6×103°.7W±0°.7, h4km±1km, ML1.9/10, 2D, Error ellipse: s-maj=1.1km s-min=0.8km az=84.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	Mentone	0.02	49	∥P	Pg	06 10 59.9	+0.3
TPB07				S	Sg	06 11 00.5	+0.3
PCOS	Crockett Middl	0.22	136	P	Pg	06 11 04.0	+1.0
PECS	Pecos	0.25	219	∥P	Pg	06 11 04.2	+0.7
PECS				S	Sg	06 11 08.1	+1.3
TPB10	Southeast of T	0.29	192	P	Pg	06 11 05.1	+0.8
TPB10				S	Sb	06 11 10.0	-1.7
TPB06	Permian Basin	0.41	78	S	Sb	06 11 13.7	-1.4
TPB12	Southwest of T	0.42	214	P	Pg	06 11 06.9	+0.1
TPB12				S	Sg	06 11 13.0	+0.7
TPB11	China Draw	0.47	321	S	Sb	06 11 16.0	-1.1
TPB03	Saragosa	0.50	163	P	Pg	06 11 09.3	+0.9
TPB03				S	Sb	06 11 16.7	-1.2
TPB04	Verhalen	0.52	137	P	Pb	06 11 09.8	-0.6
TPB04				S	Sb	06 11 17.1	-1.2
TPB16	Coyonosa	0.57	140	P	Pg	06 11 10.4	+0.7
TPB16				S	Sb	06 11 18.8	-1.1
TPB16	Coyonosa	0.57	140	P	Pg	06 11 10.4	+0.7
TPB16				S	Sb	06 11 18.8	-1.2
TPB01	Permian Basin	0.63	188	P	Pg	06 11 10.8	+0.1
TPB01				S	Sg	06 11 19.7	+0.8
CLNB	Carlsbad	0.71	347	S	Sb	06 11 23.1	-1.0
TPB05	Hovey Rd	0.71	154	P	Pg	06 11 12.6	+0.1
TPB05				S	Sb	06 11 22.9	-1.1
MNHN	Monahans	0.82	106	P	Pb	06 11 15.1	-0.5
MNHN				S	Sg	06 11 25.9	+0.8
HTMS	Hat Mesa	0.91	3	P	Pb	06 11 17.0	-0.1
HTMS	Hat Mesa	0.91	3	S	Sb	06 11 29.9	+0.4
TPB08	Permian Basin	0.95	135	S	Sb	06 11 30.1	-0.6
ODSA	Odessa	1.11	60	S	Sb	06 11 36.0	+0.5
ALPN	Alpine	1.19	178	P	Pg	06 11 20.8	-0.7
ALPN				S	Sg	06 11 37.1	+0.2
VHRN	Van Horn	1.36	235	P	Pn	06 11 24.3	-0.3
VHRN				S	Sn	06 11 43.0	-0.1
TMB02	Rankin	1.46	104	P	Pg	06 11 26.7	+0.1
TMB02				S	Sg	06 11 45.7	+0.2
TMB04	Seminole	1.47	44	P	Pb	06 11 26.7	+0.1
TMB04				S	Sg	06 11 47.2	+1.4
CPRX	Cap Rock	1.47	354	P	Pg	06 11 27.7	+0.8
TMB05	Klondike	1.88	55	P	Pb	06 11 33.7	+0.1
TMB05				S	Sg	06 11 59.6	+0.6
SAND	Sanderson	2.10	140	P	Pb	06 11 36.1	-1.2
SAND				S	Sg	06 12 05.0	-1.0
SGCY	Sterling City	2.21	80	P	Pb	06 11

comp=N,332nm,0.3s
SAIH IAML 06 44 01.2
comp=E,805nm,0.3s
BRDH Bariadhala 4.40 234 P **Pn 06 43 24.1 -0.6**
comp=E,86nm,0.3s,baz=55,slow=13,SNR=4.6
BRDH S **Sn 06 44 14.1 -1.2**
comp=E,268nm,0.3s,baz=226,slow=21,SNR=11
LSA Lhasa 5.82 319 Pn **Pn 06 43 46.1 +2.0**
GTK Tadong 6.49 289 *eP* **Pn 06 43 53.3 +0.3**
GTK *eS* **Sn 06 45 02.2 -3.6**
GTK IAML 06 45 05.1
comp=N,168nm,0.4s
GTK IAML 06 45 11.4
comp=E,146nm,0.3s
CHTO Chiang Mai 7.23 153 Pn **Pn 06 44 03.4 +0.5**
CMAR Chiang Mai Arr 7.55 154 P **Pn 06 44 06.8 -0.4**
comp=E,1.2nm,0.3s,baz=328,slow=13,SNR=16
ENH Enshi 13.32 65 Pn **Pn 06 45 22.9 -1.1**
MK31 Makanchi Array 23.87 337 P **P 06 47 22.0 +0.6**
MKAR Makanchi Array 23.87 337 P **P 06 47 21.8 +0.3**
MKAR Makanchi Array 23.87 337 P **P 06 47 23.4 +2.0**
comp=E,1.1nm,0.5s,baz=146,slow=10,SNR=9.0
MKAR ScP **ScP 06 54 25.5 -2.2**
comp=E,0.1nm,0.4s,baz=103,slow=3.1,SNR=4.2
comp=E,1.1nm,0.5s
MAKZ Makanchi 23.99 337 P **P 06 47 23.4 +0.9**
SONM Songino Array 24.06 18 P **P 06 47 23.4 +0.1**
SONM Songino Array 24.06 18 P **P 06 47 24.1 +0.8**
comp=E,1.9nm,0.7s,baz=198,slow=10.0,SNR=12
comp=E,1.9nm,0.7s
ULN Ulaanbaatar 24.28 19 P **P 06 47 25.5 +0.3**
ULN IAmb IAmb 06 47 27.1
comp=Z,5.2nm,1.1s
KURBB Kurchatov Arra 28.43 337 P **P 06 48 04.0 +1.6**
comp=Z,0.3nm,0.5s,baz=148,slow=9.5,SNR=4.2
KURBB ScP **ScP 06 54 38.4 -2.5**
comp=Z,0.3nm,0.4s,baz=139,slow=2.8,SNR=4.7
comp=Z,0.3nm,0.5s
ZAA0 Zalesovo Array 29.67 347 P **P 06 48 13.8 +0.5**
ZAA0 IAmb IAmb 06 48 15.2
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 29.67 347 P **P 06 48 13.9 +0.6**
ZALV Zalesovo Beam 29.67 347 P **P 06 48 14.4 +1.1**
comp=Z,0.6nm,0.3s,baz=170,slow=8.9,SNR=4.7
comp=Z,0.6nm,0.3s
MYLDM Lahad Datu 29.80 128 P **P 06 48 15.4 +0.6**
BVAR Borovoye Array 33.48 332 P **P 06 48 48.0 +1.3**
comp=Z,0.5nm,0.3s,baz=135,slow=11,SNR=4.4
comp=Z,0.5nm,0.3s
AB31 Akbulak array 36.50 320 P **P 06 49 13.5 +0.8**
AB31 IAmb IAmb 06 49 14.9
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 36.50 320 P **P 06 49 13.6 +0.9**
ABKAR IAmb IAmb 06 49 14.9
comp=Z,1.8nm,0.6s
ARTI Arti 40.98 329 P **P 06 49 50.9 +1.0**
NRIK Noril'sk 44.28 356 P **P 06 50 15.8 -0.6**
comp=Z,0.7nm,0.3s,baz=190,slow=4.0,SNR=1.5
comp=Z,0.7nm,0.3s
RAYN Ar Rayn 45.34 279 P **P 06 50 26.4 +0.9**
FAKI Fak Fak 45.36 123 P **P 06 50 25.6 -0.1**
BR131 Keskin Array S 53.12 302 P **P 06 51 24.9 +0.2**
BR131 IAmb IAmb 06 51 26.0
comp=Z,1.5nm,0.8s
BRTR Keskin Array B 53.12 302 P **P 06 51 25.2 +0.5**
BRTR Keskin Array B 53.12 302 P **P 06 51 25.0 +0.4**
comp=Z,0.7nm,0.7s,baz=104,slow=8.4,SNR=4.6
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 55.95 315 P **P 06 51 44.3 -0.3**
comp=Z,0.9nm,0.3s,baz=78,slow=6.7,SNR=16
comp=Z,0.9nm,0.3s
AKBB Malin Array Si 55.95 315 P **P 06 51 44.6 0.0**
AKBB IAmb IAmb 06 52 05.8
comp=Z,3.2nm,1.1s
KIEV Kiev 55.96 315 P **P 06 51 44.6 -0.1**
KIEV IAmb IAmb 06 52 05.8
comp=Z,2.9nm,1.1s
FIA1 FINESS Array S 58.26 328 P **P 06 52 01.8 +1.0**
FINES FINESS Array B 58.26 328 P **P 06 52 01.8 +1.0**
FINES FINESS Array B 58.26 328 P **P 06 52 01.1 +0.4**
comp=Z,1.2nm,0.5s,baz=84,slow=7.1,SNR=8.0
comp=Z,1.2nm,0.5s
WB0 Warramunga Arr 58.65 136 P **P 06 52 03.6 -0.4**
WB0 IAmb IAmb 06 52 21.6
comp=Z,4.5nm,1.1s
BURAR Bucovina Array 58.67 312 P **P 06 52 04.4 +0.4**
BURAR IAmb IAmb 06 52 04.9
comp=Z,0.9nm,0.8s
BUR08 Bucovina Ar. S 58.68 312 P **P 06 52 04.3 +0.3**
WRA Warramunga Arr 58.75 136 P **P 06 52 04.2 -0.4**
comp=Z,1.9nm,0.7s,baz=322,slow=7.4,SNR=12
comp=Z,1.9nm,0.7s
KARP Karpathos 58.75 298 P **P 06 52 04.6 0.0**
WR8 Warramunga Arr 58.86 136 P **P 06 52 04.9 -0.5**
WR8 IAmb IAmb 06 52 06.0
comp=Z,3.1nm,0.9s
ARCES ARCESS Array B 59.52 337 P **P 06 52 09.4 +0.1**
comp=Z,11nm,1.2s,baz=106,slow=6.9,SNR=1.6
ARCES PcP **sP 06 52 55.6 +1.3**
comp=Z,6.1nm,1.1s,baz=105,slow=4.5,SNR=2.1
comp=Z,11nm,1.2s
ASAR Alice Springs 61.29 139 P **P 06 52 22.2 +0.2**
ASAR Alice Springs 61.29 139 P **P 06 52 21.9 -0.1**
comp=Z,1.9nm,0.8s,baz=320,slow=6.8,SNR=24
comp=Z,1.9nm,0.8s
HFS Hagfors 64.34 327 P **P 06 52 41.9 +0.2**
comp=Z,1.1nm,0.4s,baz=96,slow=6.0,SNR=6.3
comp=Z,1.1nm,0.4s
NOA NORSAR Array B 65.44 328 P **P 06 52 48.7 -0.2**
comp=Z,0.5nm,0.5s,baz=83,slow=6.4,SNR=1.8
comp=Z,0.5nm,0.5s
NC204 NORSAR Array S 65.63 328 P **P 06 52 50.4 +0.3**
NC204 IAmb IAmb 06 53 05.5
comp=Z,3.1nm,0.8s
GERES GERESS Array B 66.12 314 P **P 06 52 54.1 +0.5**
comp=Z,1.4nm,0.6s,baz=66,slow=6.3,SNR=15
comp=Z,1.4nm,0.6s
EKA Eskdalemuir Ar 74.25 324 P **P 06 53 43.4 +0.6**
comp=Z,1.6nm,0.6s,baz=71,slow=5.7,SNR=8.9
comp=Z,1.6nm,0.6s
ESDC Sonseca Array 81.04 310 P **P 06 54 20.0 -0.8**
comp=Z,0.6nm,0.9s,baz=54,slow=4.6,SNR=3.2
comp=Z,0.6nm,0.9s
BOSA Boshof 86.20 236 P **P 06 54 46.5 -0.9**
comp=Z,1.5nm,1.1s,baz=90,slow=5.1,SNR=1.3
comp=Z,1.5nm,1.1s
BDFB Brasilia 144.58 279 PKP **PKPab 07 01 41.6 +0.6**
comp=Z,7.0nm,0.7s,baz=87,slow=5.2,SNR=13
PLCA Paso Flores 160.73 214 PKPab **PKPab 07 02 45.4 -2.1**
comp=Z,0.9nm,0.6s,baz=120,slow=5.3,SNR=5.4

*NOU **31** 06:46:27.7, 41.°06S×174.°95E, h48km, MLv4.0/19, Cook Strait, New Zealand*
*WEL **31** 06:46:28.1±0.6, 41.°S±3.°×17.°5E±.°, h46km±5km, M3.6/15, ML3.9/14, MLv3.6/15, Error ellipse: s-maj=4.9km s-min=4.3km az=95.3, confirmed*
ISC 31 06:46:28.1±1.3, 41.°02S±0.°03×174.°93E±0.°03, h59km±6km, n43, σ0.°67/54, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPS	**Paraparaumu Pr**	**0.12**	**27**	P	**Pn**	**06 46 37.0**	**0.0**
PAPS				S	**Sn**	**06 46 43.2**	**-0.2**
POKS	**Katoa Kinderga**	**0.13**	**217**	P	**Pn**	**06 46 35.8**	**-1.2**
POKS				S	**Sn**	**06 46 41.9**	**-1.6**
CAW	**Cannon Point**	**0.13**	**130**	P	**Pn**	**06 46 37.4**	**+0.4**
CAW				S	**Sn**	**06 46 43.9**	**+0.3**
UHCS	**Upper Hutt Col**	**0.13**	**142**	P	**Pn**	**06 46 37.1**	**+0.1**
UHCS				S	**Sn**	**06 46 43.8**	**+0.3**
KIW	**Kapiti Island**	**0.16**	**354**	P	**Pn**	**06 46 37.1**	**-0.1**
KIW				S	**Sn**	**06 46 43.1**	**-0.7**
OGWZ	**Otaki Gorge**	**0.27**	**41**	P	**Pn**	**06 46 37.9**	**+0.1**
OGWZ				S	**Sn**	**06 46 44.6**	**-0.3**
WEL	**Wellington**	**0.29**	**205**	P	**Pn**	**06 46 38.3**	**+0.4**
SNZO	**South Karori**	**0.34**	**211**	P	**Pn**	**06 46 38.4**	**+0.1**
SNZO	**South Karori**	**0.34**	**211**	S	**Sn**	**06 46 46.0**	**+0.3**
BHW	**Baring Head**	**0.39**	**187**	P	**Pn**	**06 46 39.3**	**+0.5**
BHW				S	**Sn**	**06 46 47.0**	**+0.4**
MTW	**Mount Morrison**	**0.45**	**108**	P	**Pn**	**06 46 39.9**	**+0.5**
MTW				S	**Sn**	**06 46 48.1**	**+0.4**
HOWZ	**Holdsworth Sta**	**0.46**	**74**	P	**Pn**	**06 46 39.8**	**+0.3**
MSWZ	**Moikau Station**	**0.46**	**149**	P	**Pn**	**06 46 40.2**	**+0.7**
MSWZ				S	**Sn**	**06 46 48.8**	**+0.9**
PAWZ	**Paruwai Farm**	**0.52**	**134**	P	**Pn**	**06 46 40.9**	**+0.8**
TCW	**Tory Channel**	**0.53**	**249**	P	**Pn**	**06 46 40.5**	**+0.2**
WRCS	**Masterton Wair**	**0.55**	**83**	P	**Pn**	**06 46 40.9**	**+0.5**
WRCS				S	**Sn**	**06 46 50.1**	**+0.7**
PLWZ	**Palliser**	**0.60**	**156**	P	**Pn**	**06 46 41.7**	**+0.7**
MRZ	**Mangatainoka R**	**0.61**	**54**	P	**Pn**	**06 46 41.2**	**0.0**
NWFS	**Ngawi Fire Sta**	**0.61**	**158**	P	**Pn**	**06 46 41.8**	**+0.7**
DUWZ	**D'Urville Isla**	**0.80**	**286**	P	**Pn**	**06 46 43.8**	**+0.4**
DUWZ				S	**Sn**	**06 46 55.2**	**+0.4**
TUWZ	**Tuamarina**	**0.85**	**241**	P	**Pn**	**06 46 44.4**	**+0.3**
BFZ	**Birch Farm**	**1.05**	**72**	P	**Pn**	**06 46 46.6**	**-0.2**
BFZ	**Birch Farm**	**1.05**	**72**	P	**Sn**	**06 47 00.5**	**-0.1**
BFZ	**Birch Farm**	**1.05**	**72**	P	**Pn**	**06 46 46.6**	**-0.2**
NNZ	**Nelson**	**1.19**	**260**	P	**Pn**	**06 46 48.8**	**+0.2**
TSZ	**Takapari Road**	**1.24**	**39**	P	**Pn**	**06 46 49.0**	**-0.3**
THZ	**Tophouse**	**1.69**	**243**	P	**Pn**	**06 46 55.2**	**-0.2**
KHZ	**Kahutara**	**1.74**	**216**	P	**Pn**	**06 46 55.9**	**0.0**
KHZ	**Kahutara**	**1.74**	**216**	S	**Sn**	**06 47 16.3**	**-0.7**
KHZ	**Kahutara**	**1.74**	**216**	P	**Pn**	**06 46 56.0**	**+0.1**
QRZ	**Quartz Range**	**1.83**	**275**	P	**Pn**	**06 46 57.3**	**+0.1**
QRZ	**Quartz Range**	**1.83**	**275**	S	**Sn**	**06 47 18.9**	**-0.4**
KHEZ	**Kahui Hut**	**1.86**	**338**	P	**Pn**	**06 46 59.0**	**+1.3**
KHEZ	**Kahui Hut**	**1.86**	**338**	S	**Sn**	**06 47 21.7**	**+1.5**
BKZ	**Black Stump Fm**	**2.21**	**33**	P	**Pn**	**06 47 01.1**	**-1.3**
BKZ	**Black Stump Fm**	**2.21**	**33**	S	**Sn**	**06 47 28.7**	**+0.1**
HIZ	**Hauiti**	**2.51**	**359**	P	**Pn**	**06 47 07.2**	**+0.8**
HIZ	**Hauiti**	**2.51**	**359**	S	**Sn**	**06 47 36.4**	**+0.6**
URZ	**Urewera**	**3.23**	**32**	P	**Pn**	**06 47 14.7**	**-1.6**
RPZ	**Rata Peaks**	**3.94**	**226**	P	**Pn**	**06 47 25.4**	**-0.6**
ODZ	**Otahua Downs**	**5.10**	**217**	P	**Pn**	**06 47 40.8**	**-1.1**
OUZ	**Omahuta**	**5.89**	**349**	P	**Pn**	**06 47 53.4**	**+0.7**
CTZ	**Chatham Island**	**6.82**	**116**	P	**Pn**	**06 48 04.9**	**-0.5**

TXNET 31 06:52:03.8, 31.°6N±1.°0×10.°4W±.°, h3km±1km, ML1.7/7, 2D, Error ellipse: s-maj=1.9km s-min=1.2km az=126.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.03**	**23**	⇓P	Pg	06 52 05.0	+0.4
TPB07				S	Sg	06 52 05.6	+0.4
PECS	**Pecos**	**0.24**	**221**	⇓P	Pg	06 52 09.3	+0.8
PECS				S	Sg	06 52 13.1	+1.4
PECS	**Pecos**	**0.24**	**221**	P	Pg	06 52 09.4	+0.9
PECS				S	Sg	06 52 10.2	-1.4
TPB10	**Southeast of T**	**0.28**	**193**	P	Pg	06 52 10.2	+1.1
TPB10				S	Sg	06 52 14.2	+1.4
TPB11	**China Draw**	**0.48**	**322**	S	Sg	06 52 20.5	+1.1
TPB03	**Saragosa**	**0.49**	**163**	P	Pg	06 52 14.1	+0.9
TPB03				S	Sb	06 52 21.5	-1.3
TPB01	**Permian Basin**	**0.61**	**188**	S	Sg	06 52 24.8	+1.3
TPB05	**Hovey Rd**	**0.70**	**154**	P	Pg	06 52 17.6	+0.3
TPB05				S	Sb	06 52 27.8	-1.1
MNHN	**Monahans**	**0.81**	**105**	P	Pb	06 52 20.0	-0.6
MNHN				S	Sb	06 52 31.0	-1.1
MNHN	**Monahans**	**0.81**	**105**	P	Pb	06 52 20.4	-0.3
MNHN				S	Sb	06 52 31.2	-0.8
NM01	**Eunice**	**0.83**	**17**	S	Sb	06 52 32.3	-0.4
HTMS	**Hat Mesa**	**0.92**	**2**	S	Sb	06 52 35.0	-0.1
ODSA	**Odessa**	**1.12**	**59**	S	Sb	06 52 40.9	+0.1
ALPN	**Alpine**	**1.18**	**178**	P	Pg	06 52 26.2	-0.1
ALPN				S	Sb	06 52 42.9	+0.3
ALPN	**Alpine**	**1.18**	**178**	P	Pg	06 52 26.4	+0.1
ALPN				S	Sn	06 52 43.4	-0.6
VHRN	**Van Horn**	**1.35**	**236**	P	Pg	06 52 29.5	-0.2
VHRN				S	Sn	06 52 48.4	+0.1
VHRN	**Van Horn**	**1.35**	**236**	P	Pn	06 52 29.8	0.0
VHRN				S	Sn	06 52 48.9	+0.5
TMB02	**Rankin**	**1.45**	**104**	P	Pg	06 52 31.8	+0.3
TMB02				S	Sn	06 52 50.9	+0.3
TMB04	**Seminole**	**1.47**	**43**	P	Pb	06 52 31.8	-0.1
TMB04				S	Sn	06 52 52.0	+0.8
TMB05	**Klondike**	**1.88**	**55**	S	Sg	06 53 04.5	+0.3
SAND	**Sanderson**	**2.08**	**140**	P	Pb	06 52 41.7	-0.6
SAND				S	Sg	06 53 10.0	-0.7
SAND	**Sanderson**	**2.08**	**140**	P	Pb	06 52 41.9	-0.4
SGCY	**Sterling City**	**2.21**	**80**	S	Sb	06 53 12.6	+0.4
TX31	**Lajitas Ar. Si**	**2.21**	**180**	P	Pb	06 52 43.1	-1.5
TX31				S	Sb	06 53 12.8	+0.4
TX31	**Lajitas Ar. Si**	**2.21**	**180**	P	Pb	06 52 43.2	-1.3
EF63	**Gonzales**	**5.71**	**109**	P	Pn	06 53 32.5	+2.9

*NOU **31** 07:02:54.8, 10.°95S×166.°60E, h148km, mb4.8/36, Santa Cruz Islands*
*IDC **31** 07:02:55.0±0.8, 11.°21S×166.°48E, h143km±6km, mb4.0/14, mbtmp4.4/17, MS3.1/1, Error ellipse: s-maj=15.2km s-min=12.1km az=101.0*
*NEIC **31** 07:02:57.0±0.9, 11.°13S±0.°03×166.°5E±0.°1, h151km±8km, mb4.5/104, Error ellipse: s-maj=18.9km s-min=3.3km az=95.0*
ISC 31 07:02:56.0±0.4, 11.°17S±0.°05×166.°47E±0.°06, h146km, n383, σ0.°83/361, mb4.5/70, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.75**	**313**	P	**Pn**	**07 03 17.7**	**-0.7**
LUES	**Luesalemba Tem**	**0.75**	**313**	S	**Sn**	**07 03 35.1**	**-0.3**
ALEG	**Aligegeo Malai**	**6.18**	**292**	P	**Pn**	**07 04 25.3**	**+0.2**
ALEG	**Aligegeo Malai**	**6.18**	**292**	S	**Sn**	**07 05 35.9**	**+1.1**
NGOA	**Tingoa Renbel**	**6.30**	**266**	P	**Pn**	**07 04 25.8**	**-0.9**
HNR	**Honiara**	**6.65**	**284**		**Pn**	**07 04 31.5**	**+0.1**
HNR	**Honiara**	**6.65**	**284**	P	**Pn**	**07 04 30.4**	**-1.0**
	148nm,0.8s,baz=135,slow=4.9,SNR=6.7						
HNR				S	**Sn**	**07 05 48.2**	**+2.1**
	62nm,0.7s,baz=134,slow=18,SNR=1.0						
DVP	**Devils Point**	**6.72**	**166**	P	**Pn**	**07 04 33.0**	**+0.6**
SAVO	**Savo Central**	**6.86**	**286**	P	**Pn**	**07 04 35.2**	**+1.0**
TATA	**Tatamba Isabel**	**7.13**	**292**	P	**Pn**	**07 04 38.1**	**+0.2**
KOUNC	**Koumac, New Ca**	**9.56**	**192**	P	**Pn**	**07 05 13.0**	**+2.7**
YATNC	**Mamie plateau,**	**10.84**	**178**	P	**Pn**	**07 05 27.8**	**+0.6**
DZM	**Mont Dzumac**	**10.84**	**180**	Pn	**Pn**	**07 05 28.1**	**+0.8**
DZM	**Mont Dzumac**	**10.84**	**180**	P	**Pn**	**07 05 26.7**	**-0.6**
	23nm,0.6s,baz=350,slow=17,SNR=45						
DZM				S	**Sn**	**07 07 24.5**	**-2.7**
	6.6nm,0.6s,baz=7.9,slow=4.2,SNR=2.2						
DZM				LR	LR	07 08 49.1	
	comp=Z,105nm,18.7s,baz=278,slow=33						
DZM	**Mont Dzumac**	**10.84**	**180**	P	**Pn**	**07 05 29.4**	**+2.1**
ONTNC	**Ouen Toro**	**11.07**	**180**	Pn	**Pn**	**07 05 31.3**	**+1.0**
OUENC	**Ouen Island, N**	**11.19**	**178**	P	**Pn**	**07 05 33.9**	**+2.0**
PINNC	**Pines Island,**	**11.42**	**175**		**Pn**	**07 05 36.1**	**+1.2**
MSVF	**Nonsavu**	**12.97**	**122**	P	**P**	**07 06 02.2**	**+2.0**
	10nm,0.7s,baz=299,slow=19,SNR=9.1						
PMG	**Port Moresby**	**19.08**	**273**	P	**P**	**07 07 08.2**	**+0.7**
	13nm,0.7s,baz=85,slow=12,SNR=3.8						
EIDS	**Eidsvold**	**20.29**	**224**	P	**P**	**07 07 21.6**	**+1.1**
EIDS				IAmb	IAmb	07 07 22.4	
	comp=Z,24nm,0.8s						
ARMA	**Armidale**	**23.60**	**214**	P	**P**	**07 07 54.9**	**+1.0**
ARMA				IAmb	IAmb	07 07 56.3	
	comp=Z,17nm,0.9s						
URZ	**Urewera**	**28.61**	**162**	P	**P**	**07 08 39.1**	**+0.5**
CAN	**Canberra**	**28.81**	**211**	P	**P**	**07 08 40.7**	**+0.2**
RTZ	**Ruatahuna**	**28.90**	**163**	P	**P**	**07 08 41.3**	**+0.1**
BKZ	**Black Stump Fm**	**29.27**	**164**	P	**P**	**07 08 44.8**	**+0.2**
BKZ	**Black Stump Fm**	**29.27**	**164**	P	**P**	**07 08 44.9**	**+0.4**
BFZ	**Birch Farm**	**30.64**	**165**	P	**P**	**07 08 55.9**	**-0.6**
STKA	**Stephens Creek**	**30.85**	**224**	P	**P**	**07 08 59.2**	**+0.7**
STKA	**Stephens Creek**	**30.85**	**224**	P	**P**	**07 08 58.9**	**+0.4**
	comp=Z,7.1nm,0.8s,baz=42,slow=12,SNR=14						
STKA				PcP	**PcP**	**07 11 52.0**	**0.0**
	comp=Z,2.4nm,0.6s,baz=23,slow=7.7,SNR=3.5						
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**30.85**	**224**	P	**P**	**07 08 58.9**	**+0.4**
TUWZ	**Tuamarina**	**30.85**	**169**	P	**P**	**07 08 59.2**	**+0.9**
SNZO	**South Karori**	**30.88**	**168**	P	**P**	**07 08 59.6**	**+1.0**
THZ	**Tophouse**	**30.99**	**171**	P	**P**	**07 09 02.3**	**+2.6**
MSWZ	**Moikau Station**	**31.10**	**167**	P	**P**	**07 08 59.8**	**-0.8**
KHZ	**Kahutara**	**31.73**	**170**	P	**P**	**07 09 06.7**	**+0.6**
LTZ	**Lake Taylor**	**31.90**	**172**	P	**P**	**07 09 08.2**	**+0.6**
WR0	**Warramunga Arr**	**31.93**	**250**	P	**P**	**07 09 09.3**	**+1.1**
WR0				IAmb	IAmb	07 09 25.1	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**32.03**	**251**		**P**	**07 09 08.5**	**-0.5**
WB0				IAmb	IAmb	07 09 08.8	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**32.10**	**250**	P	**P**	**07 09 09.2**	**-0.5**
WB2				IAmb	IAmb	07 09 18.2	
	comp=Z,9.2nm,1.3s						
WRA	**Warramunga Arr**	**32.11**	**250**	P	**P**	**07 09 09.1**	**-0.6**
WRA	**Warramunga Arr**	**32.11**	**250**	P	**P**	**07 09 07.4**	**-2.3**
	comp=Z,1.5nm,0.7s,baz=79,slow=8.4,SNR=15						
WRA				PcP	**PcP**	**07 11 55.0**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=78,slow=3.0,SNR=11						
	comp=Z,1.5nm,0.7s						
TOO	**Toolangi**	**32.34**	**212**	P	**P**	**07 09 12.0**	**+0.4**
TOO				IAmb	IAmb	07 09 23.5	
	comp=Z,7.9nm,1.2s						
LCRK	**Leigh Creek**	**32.49**	**230**	P	**P**	**07 09 12.7**	**-0.2**
RPZ	**Rata Peaks**	**32.67**	**174**	P	**P**	**07 09 14.9**	**+0.6**
OOD	**Oodnadatta**	**33.27**	**236**	P	**P**	**07 09 19.4**	**-0.3**
AS01	**Alice Springs**	**33.33**	**244**	P	**P**	**07 09 20.5**	**+0.1**
ASAR	**Alice Springs**	**33.38**	**244**	P	**P**	**07 09 20.0**	**-0.8**
ASAR	**Alice Springs**	**33.38**	**244**	P	**P**	**07 09 19.3**	**-1.5**
	comp=Z,2.6nm,1.0s,baz=76,slow=8.9,SNR=14						
ASAR				pP	**pP**	**07 09 50.3**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=82,slow=8.8,SNR=4.2						
ASAR				PcP	**PcP**	**07 11 58.7**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=75,slow=2.7,SNR=17						
ASAR				ScP	**ScP**	**07 15 31.5**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=83,slow=2.5,SNR=3.9						
	comp=Z,2.6nm,1.0s						
HTT	**Hallett**	**33.58**	**224**	P	**P**	**07 09 23.2**	**+0.8**
BBOO	**Buckleboo**	**35.27**	**228**	P	**P**	**07 09 37.0**	**+0.1**
BBOO	**Buckleboo**	**35.27**	**228**	P	**P**	**07 09 36.9**	**0.0**
KNRA	**Kununurra**	**36.92**	**259**	P	**P**	**07 09 51.0**	**-0.1**
KNRA				IAmb	IAmb	07 09 55.0	
	comp=Z,16nm,1.2s						
WRKA	**Warakurna**	**38.67**	**244**	P	**P**	**07 10 05.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.04**	**255**	P	**P**	**07 10 17.2**	**+0.1**
FORT	**Forrest**	**40.56**	**235**		**P**	**07 10 21.1**	**-0.1**
FORT	**Forrest**	**40.56**	**235**	P	**P**	**07 10 21.9**	**+0.6**
KMBL	**Kambalda**	**45.78**	**237**	P	**P**	**07 11 03.4**	**+0.2**
MBWA	**Marble Bar**	**45.83**	**251**	P	**P**	**07 11 04.0**	**+0.2**
MBWA				IAmb	IAmb	07 11 05.1	
	comp=Z,18nm,1.1s						
MEEK	**Meekatharra**	**47.53**	**244**	P	**P**	**07 11 17.5**	**+0.5**
PLAI	**Plampang**	**47.97**	**268**	P	**P**	**07 11 18.3**	**-2.2**
KLBR	**Kellerberrin**	**49.24**	**238**	P	**P**	**07 11 29.6**	**-0.4**
BLDU	**Ballidu**	**49.91**	**239**	P	**P**	**07 11 34.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**49.99**	**236**	P	**P**	**07 11 35.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**49.99**	**236**	P	**P**	**07 11 35.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**49.99**	**236**	P	**P**	**07 11 35.4**	**-0.2**
MORW	**Morawa**	**50.19**	**241**	P	**P**	**07 11 37.3**	**+0.1**
MORW				IAmb	IAmb	07 11 38.7	
	comp=Z,18nm,1.4s						
MORW	**Morawa**	**50.19**	**241**	P	**P**	**07 11 37.8**	**+0.6**
JKA	**Kamikawa-asahi**	**59.15**	**340**	P	**P**	**07 12 42.5**	**+1.2**
JKA				IAmb	IAmb	07 12 49.2	
	comp=Z,5.3nm,0.9s						
KSRS	**Korea Array**	**60.38**	**325**	P	**P**	**07 12 48.1**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=145,slow=8.5,SNR=2.8						
	comp=Z,0.8nm,0.6s						
NJ2	**Nanjing**	**62.61**	**315**	*eP*	**P**	**07 13 06.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,34nm,0.5s						
PETK	**Petropavlovsk-**	**64.46**	**354**	P	**P**	**07 13 15.9**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=162,slow=6.2,SNR=3.6						
	comp=Z,3.2nm,0.9s						
VNDA	**Vanda**	**66.38**	**181**	P	**P**	**07 13 28.3**	**-0.5**
VNDA				IAmb	IAmb	07 13 30.5	
	comp=Z,5.3nm,0.9s						
VNDA	**Vanda**	**66.38**	**181**	P	**P**	**07 13 27.8**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=345,slow=9.1,SNR=14						
	comp=Z,3.7nm,0.7s						
SBA	**Scott Base**	**66.67**	**180**	P	**P**	**07 13 31.8**	**+1.2**
NIKH	**Nikolski High**	**67.29**	**16**	P	**P**	**07 13 34.8**	**0.0**
	baz=206						
RPSI	**Rantau Prapat**	**68.57**	**277**	P	**P**	**07 13 42.2**	**-1.4**
PSI	**Prapat**	**68.59**	**277**	P	**P**	**07 13 42.2**	**-1.7**
	comp=Z,3.7nm,0.9s,baz=120,slow=20,SNR=3.6						
	comp=Z,3.7nm,0.9s						
UNV	**Unalaska Valle**	**68.72**	**17**	P	**P**	**07 13 44.2**	**+0.6**
	baz=208						
P08K	**Saint George I**	**70.40**	**14**	P	**P**	**07 13 54.6**	**+0.7**
	baz=205						
FALS	**False Pass**	**70.50**	**18**	P	**P**	**07 13 55.0**	**+0.4**
	baz=211						
SPIA	**Saint Paul Isl**	**70.76**	**13**	P	**P**	**07 13 56.6**	**+0.5**
	baz=204						
CHNA	**Chernabura Isl**	**71.70**	**20**	P	**P**	**07 14 01.9**	**+0.1**
	baz=215						
SDPT	**Sand Point**	**71.83**	**19**	P	**P**	**07 14 02.6**	**0.0**
	baz=214						
HHC	**Hu-ho-hao-te**	**72.39**	**319**	*eP*	**P**	**07 14 09.3**	**+2.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
CM31	**Chiang Mai Arr**	**72.82**	**293**	P	**P**	**07 14 08.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**72.82**	**293**		**P**	**07 14 07.8**	**-1.5**
S14K	**Fog Glacier**	**72.90**	**19**	P	**P**	**07 14 09.2**	**+0.2**
	baz=215						
PZH	**PanZhiHua**	**73.14**	**302**	P	**P**	**07 14 13.5**	**+2.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
CHGN	**Chignik**	**

baz=219,SNR=6.8
J14K Nanvaranak Lak 77.27 14 P P 07 14 33.9 +0.2
baz=210
K15K Wolf Creek Mou 77.36 15 IAmb IAmb 07 14 36.4
comp=Z,19nm,1.5s
K15K Wolf Creek Mou 77.36 15 P P 07 14 34.3 0.0
baz=212
L16K Owhat River 77.40 16 P P 07 14 34.9 +0.3
baz=214
N18K Kilae Creek 77.59 18 P P 07 14 36.0 +0.3
baz=218
P19K Oil Pt 77.63 20 P P 07 14 36.0 +0.1
baz=220
O19K Port Alsworth 77.69 19 IAmb IAmb 07 14 37.6
comp=Z,10.0nm,1.1s
O19K Port Alsworth 77.69 19 P P 07 14 36.4 +0.2
baz=219
M17K Holitna River 77.71 17 IAmb IAmb 07 14 38.8
comp=Z,17nm,1.4s
M17K Holitna River 77.71 17 P P 07 14 36.8 +0.5
baz=216
ILSW Iliamna Southw 77.91 19 P P 07 14 37.3 -0.3
ILSW IAmb IAmb 07 14 38.1
comp=Z,9.3nm,1.0s
L17K Donlin 78.07 16 P P 07 14 38.8 +0.5
baz=215
N19K Bonanza Creek 78.12 18 P P 07 14 38.7 0.0
baz=219
M18K Stony River 78.25 17 P P 07 14 40.2 +0.9
baz=218,SNR=7.2
J16K Anvik River 78.43 15 IAmb IAmb 07 14 42.6
comp=Z,10nm,0.9s
J16K Anvik River 78.43 15 P P 07 14 40.9 +0.6
baz=213
ANM Nome 78.46 12 P P 07 14 41.0 +0.6
baz=208
BRLK Bradley Lake 78.50 20 IAmb IAmb 07 14 42.0
comp=Z,9.3nm,0.8s
BRSE Bradley Lake S 78.54 21 P P 07 14 41.1 +0.1
baz=223
K17K Iditarod 78.55 16 IAmb IAmb 07 14 43.7
comp=Z,13nm,1.1s
K17K Iditarod 78.55 16 P P 07 14 41.7 +0.8
baz=215,SNR=6.1
L18K Granite Mounta 78.58 17 IAmb IAmb 07 14 43.5
comp=Z,16nm,1.1s
L18K Granite Mounta 78.58 17 P P 07 14 42.0 +0.9
baz=217,SNR=9.3
QSPA South Pole Qui 78.83 180 P P 07 14 42.4 -0.4
QSPA South Pole Qui 78.83 180 P P 07 14 41.0 -1.7
comp=Z,3.0nm,0.6s,baz=10,slow=8.9,SNR=21
comp=Z,3.0nm,0.6s
TNA Tin City 78.86 11 P P 07 14 43.1 +0.6
baz=206
J17K VABM Dome 78.90 15 IAmb IAmb 07 14 45.7
comp=Z,13nm,1.3s
J17K VABM Dome 78.90 15 P P 07 14 43.4 +0.6
baz=214,SNR=5.5
I17K Unalakleet 78.91 14 P P 07 14 43.6 +0.8
baz=213
M19K Big River Lodg 79.00 18 P P 07 14 43.9 +0.5
baz=219
BILL Bilibino 79.00 360 P P 07 14 43.9 +0.6
BILL IAmb IAmb 07 14 44.6
comp=Z,9.4nm,1.1s
L19K White Mountain 79.08 17 P P 07 14 45.1 +1.2
L19K IAmb IAmb 07 14 45.8
comp=Z,9.2nm,1.0s
L19K White Mountain 79.08 17 P P 07 14 44.4 +0.5
baz=219,SNR=6.2
F14K Arctic Creek 79.08 11 P P 07 14 44.2 +0.5
baz=207
G15K Niukluk 79.11 12 P P 07 14 44.7 +0.8
baz=209
SPCR Spurr Chakacha 79.14 19 P P 07 14 44.9 +0.7
baz=221
CAPN Captain Cook N 79.16 20 P P 07 14 45.3 +1.1
baz=222
SONM Songino Array 79.19 324 P P 07 14 44.0 -1.0
comp=Z,1.1nm,0.6s,baz=140,slow=7.5,SNR=7.9
SONM pP pP 07 15 20.3 -0.9
comp=Z,0.5nm,0.7s,baz=116,slow=3.4,SNR=2.5
comp=Z,1.1nm,0.6s
H16K Elim 79.19 13 P P 07 14 44.9 +0.6
baz=211
SEW Seward 79.25 21 P P 07 14 45.7 +1.0
baz=224
SLKM Skilak Lake 79.28 20 P P 07 14 45.1 +0.1
SLKM IAmb IAmb 07 14 46.1
comp=Z,8.6nm,1.1s
M20K Styx River 79.36 18 P P 07 14 46.4 +0.9
baz=220
O22K Cooper Landing 79.43 20 IAmb IAmb 07 14 52.3
comp=Z,16nm,0.9s
O22K Cooper Landing 79.43 20 P P 07 14 46.4 +0.7
baz=224
J18K Innoko River 79.58 16 IAmb IAmb 07 14 48.2
comp=Z,6.1nm,0.9s
J18K Innoko River 79.58 16 P P 07 14 47.6 +1.1
baz=217,SNR=6.3
L20K Farewell, AK 79.60 18 P P 07 14 47.8 +1.1
baz=220,SNR=9.7
F15K North Star Dit 79.62 12 P P 07 14 47.5 +0.9
baz=209
GTA Gaotai 79.66 314 eP P 07 14 49.0 +1.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
SUA Susitna One 79.80 19 IAmb IAmb 07 14 51.4
comp=Z,15nm,1.4s
SUA Susitna One 79.80 19 P P 07 14 48.7 +0.8
baz=223,SNR=5.7
G16K Koyuk River 79.82 13 P P 07 14 48.4 +0.7
baz=211
RC01 Rabbit Creek A 79.86 20 IAmb IAmb 07 14 50.0
comp=Z,5.0nm,0.7s
RC01 Rabbit Creek A 79.86 20 P P 07 14 48.6 +0.5
baz=224,SNR=5.2
SKT Skwentna 79.94 19 P P 07 14 48.7 +0.2
baz=222
H17K Granite Mounta 79.98 14 P P 07 14 49.0 +0.4
baz=213
PWL Port Wells 80.17 21 IAmb IAmb 07 14 51.0
comp=Z,18nm,1.2s
PWL Port Wells 80.17 21 P P 07 14 49.6 -0.1
baz=225,SNR=9.0
M22K Willow 80.22 19 P P 07 14 50.6 +0.7
baz=223
K20K Telida 80.22 17 P P 07 14 50.4 +0.4
baz=219
G17K Kiwalik Mounta 80.29 13 P P 07 14 51.0 +0.7
baz=213
J19K Poorman 80.30 16 P P 07 14 51.1 +0.8
baz=218,SNR=5.9
PPLA Purkeypile 80.42 18 P P 07 14 51.7 +0.4
baz=221
PMR Palmer 80.43 20 P P 07 14 51.3 +0.3
baz=224
KNK Knik Glacier 80.53 20 P P 07 14 52.2 +0.5
baz=225
H18K Honhosa River 80.53 14 P P 07 14 51.9 +0.3
baz=215
GCSA Galena City Sc 80.57 15 P P 07 14 52.0 +0.3
baz=216
GLI Glacier Island 80.62 21 P P 07 14 52.7 +0.5
baz=226
FID Port Fidalgo 80.75 21 IAmb IAmb 07 14 54.5
comp=Z,25nm,1.5s
J20K Nowinta River 80.84 16 P P 07 14 53.8 +0.5
baz=219
CAST Castle Rocks 80.85 18 IAmb IAmb 07 14 55.5
comp=Z,4.5nm,0.7s
CAST Castle Rocks 80.85 18 P P 07 14 53.1 -0.2
baz=221,SNR=8.1
SML Sawmill 80.85 20 IAmb IAmb 07 14 54.9
comp=Z,8.2nm,1.1s
SML Sawmill 80.85 20 P P 07 14 53.9 +0.5
baz=225
EYAK Cordova Ski Ar 80.88 22 P P 07 14 53.9 +0.4
baz=227
KAIM Kayak Island 80.95 23 P P 07 14 54.3 +0.4
baz=229
F17K Baldwin Pennin 80.95 13 P P 07 14 54.1 +0.3
baz=212
M23K Glacier View 81.04 20 P P 07 14 55.0 +0.6
baz=225
G18K Tagagawik 81.07 14 P P 07 14 54.7 +0.2
baz=215
CHUM Lake Minchumin 81.13 17 P P 07 14 55.5 +0.8
baz=221
SCM Sheep Creek Mo 81.21 20 IAmb IAmb 07 14 56.8
comp=Z,10nm,0.8s
SCM Sheep Creek Mo 81.21 20 P P 07 14 55.8 +0.4
baz=226,SNR=6.7
I20K Naaghedeneel 81.23 16 P P 07 14 55.8 +0.6
baz=219
DIV Divide 81.26 21 IAmb IAmb 07 14 57.0
comp=Z,9.8nm,0.9s
H19K Roundabout Mou 81.31 15 P P 07 14 56.2 +0.6
baz=217
E17K Hotham Inlet 81.38 12 P P 07 14 56.4 +0.4
baz=211
TRF Thorofare Moun 81.41 18 P P 07 14 56.8 +0.3
baz=223
F18K Selawik 81.43 13 P P 07 14 57.1 +0.9
baz=214
BMRM Bremner River 81.58 22 P P 07 14 57.7 +0.4
baz=228
G19K Purcell Mounta 81.65 14 P P 07 14 57.9 +0.4
baz=216
D17K Noatak River 81.66 11 P P 07 14 58.6 +1.1
baz=210
H20K Anotleneega Mo 81.68 15 P P 07 14 57.8 +0.2
baz=218
BPAW Bear Paw Mtn. 81.68 17 P P 07 14 58.5 +0.8
baz=222
C16K Lisburne Hills 81.76 10 P P 07 14 58.3 +0.3
baz=208
M24K Tolsona, Glenn 81.79 20 P P 07 14 58.4 0.0
baz=227
RND Reindeer 81.83 19 IAmb IAmb 07 15 01.3
comp=Z,4.7nm,0.8s
E18K Tukpahlearik C 81.92 12 P P 07 14 59.1 +0.2
baz=213
N25K Chitina, Valde 82.00 21 IAmb IAmb 07 15 00.7
comp=Z,6.2nm,0.6s
N25K Chitina, Valde 82.00 21 P P 07 14 59.7 +0.1
baz=228,SNR=7.7
RDOG Red Dog Mine 82.00 11 P P 07 14 59.8 +0.5
baz=210
MCK McKinley 82.03 18 P P 07 14 59.3 -0.2
MCK IAmb IAmb 07 15 02.3
comp=Z,7.3nm,1.0s
MCK McKinley 82.03 18 P P 07 14 59.6 +0.1
baz=224
F19K Shaleruckik Mo 82.05 13 P P 07 14 59.8 +0.2
baz=215
MESA MESA 82.06 23 P P 07 14 59.6 -0.4
baz=231
C17K DeLong Mountai 82.32 11 P P 07 15 00.7 -0.2
baz=210
HARP HAARP 82.34 21 P P 07 15 00.7 -0.4
baz=228
H21K Melozitna Rive 82.35 16 P P 07 15 01.2 0.0
baz=220
NEA2 Nenana 82.62 18 P P 07 15 02.9 +0.3
baz=224
PAX Paxson 82.62 20 P P 07 15 03.3 +0.6
baz=227
PINM Pinnacle 82.68 24 P P 07 15 03.1 +0.1
baz=232
E19K Redstone River 82.68 13 P P 07 15 03.2 +0.4
baz=216
F20K Avaraart Lake 82.70 14 P P 07 15 03.2 +0.3
baz=217
PNL Peninsula 82.76 24 P P 07 15 03.7 +0.2
baz=233
WRH Wood River Hil 82.82 18 IAmb IAmb 07 15 04.7
comp=Z,6.9nm,1.0s
G21K Allakaket 82.83 15 P P 07 15 04.7 +1.0
baz=219
C18K Utukok River 82.84 11 P P 07 15 04.7 +0.9
baz=212
H22K Ishtalitna Cre 82.92 16 P P 07 15 04.9 +0.8
baz=222
I23K Minto, Yukon-K 82.93 17 P P 07 15 04.5 +0.4
baz=224
SIT Sitka 83.03 28 P P 07 15 04.7 -0.1
baz=237
K24K Donnelly Dome 83.09 19 P P 07 15 05.0 0.0
baz=227,SNR=5.1
M26K Nabesna, AK 83.10 21 IAmb IAmb 07 15 06.8
comp=Z,10nm,0.9s
M26K Nabesna, AK 83.10 21 P P 07 15 06.0 +0.8
baz=230,SNR=9.8
O28M Mount Upton 83.11 23 P P 07 15 05.5 -0.1
baz=232,SNR=6.5
S31K Pelican 83.12 27 P P 07 15 05.2 0.0
baz=236
HDA Harding Lake 83.13 19 P P 07 15 05.3 +0.1
baz=226,SNR=16
COLA College 83.18 18 P P 07 15 05.1 -0.3
COLA IAmb IAmb 07 15 06.3
comp=Z,6.2nm,0.7s
COLA College 83.18 18 P P 07 15 05.9 +0.5
baz=225
MENT Mentasta 83.19 21 IAmb IAmb 07 15 07.4
comp=Z,6.1nm,0.9s
CRAG Craig 83.24 30 P P 07 15 05.9 0.0
baz=239
D19K Kuna River 83.34 12 P P 07 15 07.0 +0.8
baz=215
B18K Kokolik River 83.34 11 P P 07 15 06.7 +0.6
baz=211
RIDG Independent Ri 83.35 20 P P 07 15 06.6 +0.2
baz=228,SNR=8.6
H23K Yukon River 83.37 17 P P 07 15 07.1 +0.6
baz=223
L26K Log Cabin Wild 83.38 21 IAmb IAmb 07 15 08.4
comp=Z,13nm,1.2s
L26K Log Cabin Wild 83.38 21 P P 07 15 06.6 +0.1
baz=229,SNR=9.5
F21K Alatna River 83.38 15 P P 07 15 07.3 +0.8
baz=219
ILAR Eielson Array 83.41 18 P P 07 15 06.4 -0.2
ILAR Eielson Array 83.41 18 P P 07 15 06.1 -0.5
comp=Z,1.9nm,0.6s,baz=235,slow=5.9,SNR=35
ILAR pP pP 07 15 42.7 +0.3
comp=Z,1.2nm,0.7s,baz=228,slow=5.7,SNR=5.0
comp=Z,1.9nm,0.6s
P29M Windy Craggy 83.42 25 P P 07 15 07.6 +0.8
baz=235
M27K Edge Creek, AK 83.47 22 IAmb IAmb 07 15 09.1
comp=Z,8.5nm,1.1s
M27K Edge Creek, AK 83.47 22 P P 07 15 07.5 +0.4
baz=231,SNR=8.7
O29M Mount Kennedy 83.47 24 P P 07 15 08.1 +0.9
baz=234
POKR Poker Plat Res 83.48 18 P P 07 15 07.3 +0.3
baz=225
E20K Nigu River 83.56 13 P P 07 15 07.5 +0.1
baz=217
U33K Whale Pass 83.57 29 P P 07 15 07.3 -0.3
baz=239
YUK8 Steele Glacier 83.59 23 P P 07 15 08.4 +0.4
baz=233,SNR=8.4
S32K Killisnoo 83.60 28 P P 07 15 07.5 -0.1
baz=238
YUK3 Moose Creek 83.63 22 P P 07 15 09.0 +0.9
baz=232,SNR=5.5
J25K Salcha River, 83.77 19 P P 07 15 09.0 +0.5
baz=227,SNR=22
SCRK Sand Creek 83.79 20 P P 07 15 09.5 +0.8
baz=229,SNR=14
D20K Etivluk River 83.84 13 P P 07 15 09.8 +1.0
baz=216
H24K Noodor Dome 83.86 17 P P 07 15 09.6 +0.7
baz=225
BVCY Beaver Creek 83.88 22 P P 07 15 09.7 +0.6
baz=232
G23K Bananza Creek 83.89 16 P P 07 15 10.0 +0.9
baz=223
V35K Ketchikan 83.91 30 P P 07 15 09.4 +0.1
baz=240
F22K John River 83.93 15 P P 07 15 09.7 +0.4
baz=221
L27K Beaver Creek, 83.94 21 P P 07 15 09.9 +0.5
baz=231,SNR=7.9
YUK6 Outpost Mounta 83.94 24 P P 07 15 09.6 -0.1
baz=234
T33K Petersburg 84.01 29 P P 07 15 10.2 +0.4
baz=239
P30M Million Dollar 84.03 25 P P 07 15 10.5 +0.6
baz=235
R32K Eaglecrest 84.06 27 P P 07 15 10.4 +0.4
baz=238
YUK4 Talbot Arm 84.06 23 P P 07 15 10.7 +0.5
baz=234,SNR=5.8
WRAK Wrangell Islan 84.10 29 P P 07 15 10.2 -0.1
baz=240
HYT Haines Junctio 84.21 24 P P 07 15 11.2 +0.3
baz=235
COLD Coldfoot 84.23 16 P P 07 15 11.6 +0.9
baz=223
J26L Joseph Creek 84.28 19 IAmb IAmb 07 15 13.1
comp=Z,6.1nm,1.2s
J26L Joseph Creek 84.28 19 P P 07 15 11.6 +0.4
baz=229
PRP Porcupine Dome 84.34 18 P P 07 15 11.9 +0.4
baz=227
SKAG Skagway 84.34 26 P P 07 15 12.3 +0.9
baz=237
K27K Chicken 84.47 20 P P 07 15 12.8 +0.8
baz=230
E22K Anaktuvuk Pass 84.50 15 P P 07 15 12.3 +0.1
baz=221
G24K Hadweenzic Riv 84.59 17 P P 07 15 13.6 +1.1
baz=225
C21K Knifeblade Rid 84.59 13 P P 07 15 13.9 +1.4
baz=218
N30M Aishikik Lake 84.74 24 P P 07 15 14.0 +0.5
baz=235
O30N Mendenhall 84.75 25 P P 07 15 14.2 +0.7
baz=236
H25L Birch Creek 84.76 17 P P 07 15 14.4 +1.0
baz=227
B20K Meade River 84.78 12 P P 07 15 14.5 +1.1
baz=216
M29M Somme Creek 84.78 23 P P 07 15 14.4 +0.7
baz=234
D22K Ayikyak River 84.86 14 P P 07 15 15.0 +1.1
baz=220
I26K Coal Creek Min 84.94 19 IAmb IAmb 07 15 16.2
comp=Z,10nm,1.0s
I26K Coal Creek Min 84.94 19 P P 07 15 15.1 +0.8
baz=229
E23K Chandalar 84.99 15 P P 07 15 16.0 +1.3
baz=223
B21K Ikpikpuk River 85.00 13 P P 07 15 16.3 +1.8
baz=218
G25K Bearman Lake 85.03 17 P P 07 15 15.7 +1.0
baz=226
F24K Squaw Lake 85.06 16 P P 07 15 16.2 +1.2
baz=225
P32M Atlin 85.11 26 P P 07 15 15.7 +0.3
baz=238
WHY Whitehorse 85.18 25 P P 07 15 16.1 +0.3
baz=237
N31M Braeburn, Yuko 85.27 24 P P 07 15 17.1 +0.9
baz=236
E24K Your Creek 85.30 15 P P 07 15 16.4 +0.3
baz=224
L29M L29M 85.30 22 P P 07 15 16.5 +0.3
baz=234
D23K Nanushuk River 85.40 14 IAmb IAmb 07 15 19.4
comp=Z,5.9nm,0.9s
D23K Nanushuk River 85.40 14 P P 07 15 17.7 +1.2
baz=222
DAWY Dawson 85.42 21 P P 07 15 18.4 +1.6
baz=233
Q32M Nakina River 85.42 27 P P 07 15 17.5 +0.4
baz=240
TOLK Toolik Lake Re 85.43 15 P P 07 15 17.9 +1.1
baz=223
M30M Minto, Yukon 85.49 23 P P 07 15 18.3 +1.1
baz=235
NVAR Mina Array Bea 85.56 50 P P 07 15 19.3 +1.0
comp=Z,1.8nm,0.6s,baz=255,slow=6.6,SNR=1.3
comp=Z,1.8nm,0.6s
I27K Kandik River 85.62 19 P P 07 15 18.8 +1.0
baz=231
F25K Christian Rive 85.73 17 P P 07 15 19.5 +1.2
baz=227
P33M Teslin, Yukon 85.82 26 P P 07 15 19.6 +0.7
baz=239
B22K Teshekpuk Lake 85.82 13 P P 07 15 19.7 +1.2
baz=219
G26K Porcupine Rive 85.83 18 P P 07 15 19.7 +1.1
baz=229
BMAR Burnt Mountain 85.92 17 P P 07 15 20.1 +0.9
K29M Barlow Dome 85.95 22 P P 07 15 20.4 +0.9
baz=235
A21K Barrow 85.95 11 P P 07 15 21.1 +1.9
baz=216
D24K Happy Valley 85.99 15 P P 07 15 20.6 +1.2
baz=224
A22K Sinclair Lake 86.02 12 P P 07 15 20.3 +0.8
baz=218
H27K Steamboat Moun 86.05 19 P P 07 15 20.7 +0.8
baz=231
J29N Klondike Camp 86.06 21 IAmb IAmb 07 15 22.1
comp=Z,7.6nm,1.2s
J29N Klondike Camp 86.06 21 P P 07 15 20.8 +0.8
baz=234
C23K Itkillik River 86.06 14 P P 07 15 20.4 +0.7
baz=222
I28M Miner Creek 86.07 20 P P 07 15 20.8 +0.7
baz=232
E25K Arctic Village 86.11 16 P P 07 15 21.6 +1.4
baz=227
N32M Quiet Lake 86.19 25 P P 07 15 22.2 +1.6
baz=239
R33M Jennings River 86.22 27 P P 07 15 22.0 +1.1
baz=241
M31M Drury Creek, Y 86.22 24 P P 07 15 21.0 +0.2
baz=238
F26K Sheenjek River 86.22 17 P P 07 15 22.2 +1.5
baz=228
G27K Doyon Strip 86.38 18 P P 07 15 22.5 +1.0
baz=231
C24K Franklin Bluff 86.43 14 P P 07 15 22.8 +1.2
baz=224
I29M Ogilvie Camp, 86.56 20 IAmb IAmb 07 15 23.9
comp=Z,5.3nm,0.8s
I29M Ogilvie Camp, 86.56 20 P P 07 15 23.3 +0.9
baz=234
FARO Faro, Yukon 86.65 24 P P 07 15 23.1 +0.2
baz=238
D25K Kavik River 86.73 15 P P 07 15 24.1 +1.0
baz=226
J30M Hart River 86.80 21 P P 07 15 23.5 -0.2
baz=236
H29M Whitestone 87.05 19 P P 07 15 24.7 0.0
baz=234
I30M Mount Dempster 87.15 21 P P 07 15 25.9 +0.6
baz=236
E27K Coleen River 87.27 17 P P 07 15 26.4 +0.7
baz=231
C26K Camden Bay 87.51 15 P P 07 15 26.7 -0.1
baz=227
G29M Pine Creek 87.58 19 P P 07 15 28.2 +1.0
baz=234
C27K Jago River 87.62 16 P P 07 15 27.8 +0.4
baz=229
EPYK Eagle Plains 87.69 20 P P 07 15 28.7 +0.9
baz=235
D27M Malcolm River 88.12 16 P P 07 15 30.5 +0.7
baz=231
E28M Babbage River 88.13 17 P P 07 15 30.9 +1.1
baz=233
H31M Peel River 88.18 21 P P 07 15 31.0 +0.9
baz=237
G30M tAoh Zraii Nji 88.19 19 P P 07 15 30.4 +0.3
baz=236
E29M Blow River 88.48 18 P P 07 15 32.4 +0.9
baz=234
F30M Barrier River 88.69 19 P P 07 15 32.6 +0.2
baz=236
D28M Stokes Point 88.80 17 P P 07 15 33.4 +0.5
baz=233
G31M Satah River 88.81 20 P P 07 15 32.7 -0.2
baz=238
WMQ Urumqi 89.69 315 eP P 07 15 38.5 +0.8
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ LR LR
comp=N,580nm,14.5s
WMQ LR LR
comp=E,920nm,21.1s
WMQ LR LR
comp=Z,440nm,21.1s
INK Inuvik 89.79 19 P P 07 15 37.1 -0.3
baz=238
SYO Syowa Base 91.87 197 ePcP PcP 07 15 49.2 +1.1
Y22D IRIS PASSCAL I 93.39 56 P P 07 15 54.2 -1.0

baz=259
ZALV Zalesovo Beam 94.07 324 P P 07 15 57.0 -0.7
comp=Z,1.6nm,0.6s,baz=108,slow=4.7,SNR=9.6
comp=Z,1.6nm,0.6s
MK31 Makanchi Array 94.10 317 P P 07 15 58.1 +0.1
MK31 IAmb IAmb 07 15 58.9
comp=Z,3.7nm,0.9s
MKAR Makanchi Array 94.10 317 P P 07 15 58.1 +0.1
MKAR Makanchi Array 94.10 317 P P 07 15 57.8 -0.3
comp=Z,4.1nm,0.7s,baz=96,slow=6.4,SNR=39
MKAR pP pP 07 16 33.3 -1.6
comp=Z,0.8nm,0.7s,baz=94,slow=4.7,SNR=3.3
comp=Z,4.1nm,0.7s
MAKZ Makanchi 94.31 317 P P 07 15 58.5 -0.5
MAKZ IAmb IAmb 07 15 59.9
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 97.23 320 P P 07 16 10.3 -1.8
comp=Z,0.2nm,0.2s,baz=104,slow=3.9,SNR=2.6
comp=Z,0.2nm,0.2s
BVAR Borovoye Array 102.49 322 P Pdif 07 16 34.4 -1.2
BVAR pP PP 07 20 49.3 -0.9
comp=Z,0.3nm,0.5s,baz=84,slow=7.4,SNR=2.3
comp=Z,0.4nm,0.6s,baz=94,slow=5.8,SNR=2.1
ARCES ARCESS Array B 116.63 346 PKP PKPdf 07 21 20.7 -1.6
comp=Z,3.2nm,0.7s,baz=47,slow=2.3,SNR=16
FINES FINESS Array B 122.15 339 PKP PKPdf 07 21 32.0 -1.0
comp=Z,1.9nm,0.6s,baz=48,slow=2.1,SNR=13
BOSA Boshof 125.51 223 PKP PKPdf 07 21 39.6 -1.2
comp=Z,1.8nm,0.6s,baz=168,slow=2.8,SNR=6.7
NOA NORSAR Array B 127.00 345 PKP PKPdf 07 21 41.1 -1.4
comp=Z,0.8nm,0.8s,baz=30,slow=2.0,SNR=3.4
AKASG Malin Array Be 127.36 327 PKP PKPdf 07 21 42.9 -0.5
comp=Z,0.7nm,0.6s,baz=62,slow=0.7,SNR=1.9
EKA Eskdalemuir Ar 135.19 352 PKP PKPdf 07 21 58.3 +0.2
comp=Z,0.2nm,0.4s,baz=22,slow=3.1,SNR=1.3
GERES GERESS Array B 136.13 334 PKP PKPdf 07 22 00.3 +0.1
comp=Z,0.6nm,0.7s,baz=47,slow=4.5,SNR=1.5
KEST Kesra 147.94 323 PKPbc PKPbc 07 22 24.7 0.0
comp=Z,6.6nm,0.8s,baz=41,slow=3.3,SNR=4.5
ESDC Sonseca Array 150.37 345 PKPbc PKPbc 07 22 29.6 -1.0
comp=Z,1.8nm,0.8s,baz=14,slow=3.4,SNR=5.8

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*UPA **31** 07:03:49.9±2.9, 3˚.55S×80˚.50W, h142km±113km, MW6.3*
*RSNC **31** 07:04:01.2±0.4, 2˚S±3˚×8˚1W±˚, h4km, M6.1, mb6.1, mB6.4, ML5.7, Mw(mB)6.5, MwMwp6.1, Mwp6.2*
*OSUNB **31** 07:04:02.2±0.3, 2˚.00S×81˚.12W, h24km±2km, mb5.7/63, Error ellipse: s-maj=2.3km s-min=2.3km az=0.0*
*IGQ **31** 07:04:02.7±0.3, 2˚S±2˚×8˚1W±˚, h7km, MLv6.3/57*
*MOS **31** 07:04:02.5±1.1, 1˚.96S×80˚.87W, h19km, mb5.9/30, MS5.9/31, Error ellipse: s-maj=8.9km s-min=5.7km az=88.3*
*IDC **31** 07:04:03.1±1.2, 1˚.94S×80˚.94W, h19km±6km, mb4.9/30, mbtmp5.0/35, ML4.4/5, MS5.8/50, Error ellipse: s-maj=10.6km s-min=6.0km az=58.0*
*BJI **31** 07:04:03.7, 2˚.00S×81˚.00W, h20km, mB6.1/58, Ms6.2/86, Ms7 6.2/86*
*CATAC **31** 07:04:03.6±1.6, 3˚S±11˚×8˚1W±˚, h113km±16km, M6.1/24, mB6.2/22, mb5.7/24, MLv7.1/1, Mw(mB)5.9/22, MwMwp6.0/16, Mwp6.0/16, Error ellipse: s-maj=24.2km s-min=14.4km az=16.0, confirmed*
*ISC-PP **31** 07:04:04, 1˚.95S×80˚.81W, h14km, Mwppsm6.3, Moment Tensor Solution. s31 Moment tensor: Scale 10^{18}Nm; M_{rr}0.70±.10; $M_{\theta\theta}$-0.65±.14; $M_{\phi\phi}$-0.03±.13; $M_{r\theta}$-0.05±.13; $M_{\theta\phi}$0.20±.12; $M_{\phi r}$0.00±.27; Fault plane solution: $M_0$3.76000×10^{18} NP1:ϕ_s283.90000°, δ49.00000°, λ109.10000°. NP2:ϕ_s76.00000°, δ44.50000°, λ69.30000°.*
*NEIC **31** 07:04:04.2, 1˚.98S×80˚.82W, h20km*
*NEIC **31** 07:04:04.8±1.7, 1˚.95S±0˚.06×80˚.81W±0˚.06, h18km±1km, mb5.7/900, Ms_20 5.8/970, Mwb6.0/88, Mww6.2/81, Error ellipse: s-maj=11.1km s-min=9.8km az=227.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.66; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.77; $M_{r\theta}$0.24; $M_{\theta\phi}$0.00; $M_{\phi r}$-1.21; Fault plane solution: $M_0$1.43000×10^{18} NP1:ϕ_s12.87000°, δ15.98000°, λ112.29000°. NP2:ϕ_s169.78000°, δ75.25000°, λ83.80000°. Principal axes: T 1.3849, Plg59.0000°, Azm71.0000°; N 0.0927, Plg6.0000°, Azm171.0000°; P -1.4776, Plg30.0000°, Azm265.0000°;*
*IPGP **31** 07:04:04.0, 1˚.99S×80˚.81W, h8km, Mw6.4, Fault plane solution: NP1:ϕ_s330.00000°, δ16.00000°, λ67.00000°. NP2:ϕ_s173.00000°, δ76.00000°, λ96.00000°.*
*NEIC **31** 07:04:04.2, 2˚.18S×81˚.00W, h20km, Moment Tensor Solution. Duration: 6s1 Moment tensor: Scale 10^{18}Nm; M_{rr}1.43; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-1.29; $M_{r\theta}$0.47; $M_{\theta\phi}$0.15; $M_{\phi r}$-1.86; Fault plane solution: $M_0$2.36000×10^{18} NP1: ϕ_s356.92000°, δ18.02000°, λ99.27000°. NP2: ϕ_s167.18000°, δ72.23000°, λ87.00000°. Principal axes: T 2.4229, Plg63.0000°, Azm73.0000°; N -0.1309, Plg3.0000°, Azm168.0000°; P -2.2919, Plg27.0000°, Azm260.0000°;*
*NEIC **31** 07:04:04.3, 1˚.98S×80˚.81W, h16km*
*GCMT **31** 07:04:06.8±0.1, 1˚.99S×81˚.05W, h16km, MW6.2/174, Moment Tensor Solution. s168, c231; s174, c645; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}1.42±.01; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-1.40±.01; $M_{r\theta}$0.21±.02; $M_{\theta\phi}$0.17±.01; $M_{\phi r}$-2.45±.04; Best double couple: $M_0$2.84000×10^{18} NP1:ϕ_s351.00000°, δ15.00000°, λ87.00000°. NP2:ϕ_s175.00000°, δ75.00000°, λ91.00000°. Principal axes: T 2.8400, Plg60.0000°, Azm86.0000°; N -0.0010, Plg1.0000°, Azm355.0000°; P -2.8400, Plg30.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*VAO **31** 07:04:06.7±1.2, 1˚.96S×80˚.71W, h31km±8km, mb5.4*
ISC 31 07:04:02.5±0.4, 2˚.00S±0˚.02×80˚.97W±0˚.03, h14km±2km, h14km:pP-P, n2152, σ1º72/1589, mb5.7/487, MS5.8/568, 173C-76D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.19**	**188**	⇓P	**Pg**	**07 04 07.5**	**+0.6**
SALI				S	**Sb**	**07 04 11.2**	**-0.2**
ALIBE	**La Libertad**	**0.27**	**154**	⇓P	**Pb**	**07 04 09.6**	**+0.4**
ALIBE				S	**Sn**	**07 04 16.7**	**-1.4**
PPLP	**Puerto Lpez**	**0.49**	**23**	P	**Pg**	**07 04 12.1**	**-0.1**
PPLP	**Puerto Lpez**	**0.49**	**23**	⇓P	**Pg**	**07 04 12.2**	**0.0**
PPLP				S	**Sb**	**07 04 20.9**	**+0.9**
PPLP	**Puerto Lpez**	**0.49**	**23**	S	**Sb**	**07 04 21.0**	**+1.0**
PPLP				⇓P	**Pg**	**07 04 12.2**	**0.0**
ISPT	**Isla de la Pla**	**0.74**	**352**	P	**Pg**	**07 04 15.7**	**-1.3**
ISPT				S	**Sg**	**07 04 25.4**	**-1.3**
AGUAY	**Guayaquil**	**1.01**	**93**	P	**Pb**	**07 04 21.1**	**-0.8**
AMNT	**Manta-Manabi**	**1.08**	**12**	P	**Pb**	**07 04 21.8**	**-1.1**
GYE3	**Ecuador-Guayaq**	**1.08**	**98**	P	**Pb**	**07 04 22.5**	**-0.4**
ISPG	**Isla Puna-Puer**	**1.25**	**140**	⇑P	**Pg**	**07 04 26.8**	**+0.2**
MILO	**Milagro-Astudi**	**1.44**	**101**	⇑P	**Pn**	**07 04 27.5**	**-0.6**
MILO				S	**Sg**	**07 04 51.2**	**+2.3**
CAB1	**Cabo Pasado-Ma**	**1.69**	**19**	⇑P	**Pn**	**07 04 31.1**	**-0.6**
CAB1				S	**Sb**	**07 04 55.1**	**+0.5**
AQUE	**Quevedo**	**1.75**	**57**	⇑P	**Pn**	**07 04 33.0**	**+0.5**
AQUE				S	**Sb**	**07 04 57.7**	**+1.4**
COHC	**Cochancay**	**1.77**	**105**		**Pn**	**07 04 32.7**	**-0.1**
COHC	**Cochancay**	**1.77**	**105**	⇑P	**Pn**	**07 04 32.3**	**-0.5**
COHC				S	**Sg**	**07 04 59.8**	**+0.2**
ARNL	**Arenillas**	**1.78**	**150**	⇑P	**Pn**	**07 04 32.6**	**-0.4**
JAMA	**Jama**	**1.89**	**24**	P	**Pn**	**07 04 33.8**	**-0.7**
JAMA				S	**Sb**	**07 05 01.3**	**+1.0**
FLF1	**Flavio Alfaro-**	**1.98**	**35**	P	**Pn**	**07 04 36.5**	**+0.8**
FLF1	**Flavio Alfaro-**	**1.98**	**35**	⇑P	**Pn**	**07 04 35.6**	**-0.1**
FLF1	**Flavio Alfaro-**	**1.98**	**35**	P	**Pn**	**07 04 36.5**	**+0.8**
AGRD	**Ecuador-Guaran**	**2.00**	**78**	P	**Pn**	**07 04 36.5**	**+0.1**
JSCH	**Cashca Tororas**	**2.00**	**82**	P	**Pn**	**07 04 36.4**	**0.0**
JSCH				S	**Sb**	**07 05 05.0**	**+0.9**
CHSH	**Refugio Sur-Vo**	**2.15**	**77**	⇓P	**Pn**	**07 04 39.9**	**+1.3**
ACUE	**Ecuador-Cuenca**	**2.20**	**114**	P	**Pn**	**07 04 40.6**	**+1.6**
LAMO	**ALAMOR**	**2.21**	**155**	⇑P	**Pn**	**07 04 39.0**	**-0.1**
TAMH	**Tambohuasha Ch**	**2.23**	**78**	⇓P	**Pn**	**07 04 40.7**	**+1.1**
AZOG	**Ecuador-Azogue**	**2.24**	**110**	P	**Pb**	**07 04 42.9**	**-0.2**
PORT	**Chimborazo Vol**	**2.25**	**76**	⇓P	**Pn**	**07 04 41.3**	**+1.3**
ARIO	**Riobamba**	**2.29**	**81**	P	**Pn**	**07 04 41.9**	**+1.6**
IGUA	**Igualata**	**2.38**	**78**	⇓P	**Pn**	**07 04 43.4**	**+1.7**
AAM2	**Ambato 2 (Merc**	**2.46**	**73**	P	**Pb**	**07 04 45.2**	**-1.6**
BIL2	**Estacion Bilba**	**2.52**	**78**	P	**Pb**	**07 04 47.0**	**-0.8**
ASDO	**Santo Domingo**	**2.52**	**47**	P	**Pb**	**07 04 42.7**	**-0.5**
BBIL	**Ulba Tungurahu**	**2.54**	**78**	P	**Pb**	**07 04 46.2**	**-1.9**
ARRY	**Arrayan**	**2.56**	**79**	⇑P	**Pn**	**07 04 45.9**	**+1.9**
ASLC	**Ecuador-Salced**	**2.56**	**68**	P	**Pb**	**07 04 46.6**	**-1.9**
JUI6	**Juive**	**2.56**	**77**	⇓P	**Pb**	**07 04 46.5**	**-2.0**
ILLI	**Illinizas Sur**	**2.58**	**60**	⇑P	**Pn**	**07 04 45.1**	**+0.7**
POND	**Pondoa**	**2.58**	**77**	⇑P	**Pb**	**07 04 46.8**	**-2.0**
ALAT	**Latacunga**	**2.58**	**66**	P	**Pb**	**07 04 46.9**	**-1.9**
BULB	**Ulba Tungurahu**	**2.61**	**78**	⇑P	**Pn**	**07 04 47.3**	**+2.5**
PAST	**Pastocalle**	**2.66**	**61**	P	**Pn**	**07 04 47.7**	**+2.2**
GONZ	**Gonzanam**	**2.72**	**145**	⇑P	**Pn**	**07 04 47.6**	**+1.3**
AV18	**Acelerografo,**	**2.74**	**33**	P	**Pn**	**07 04 47.3**	**+1.2**
PIS1	**Pisayambo**	**2.74**	**70**	⇑P	**Pb**	**07 04 49.5**	**-2.2**
AMAC	**Ecuador-Machac**	**2.79**	**59**	P	**Pn**	**07 04 49.2**	**+2.0**
CAMI	**Rancho Maria**	**2.79**	**62**	P	**Pn**	**07 04 49.8**	**+2.5**
BMOR	**Cotopaxi Volca**	**2.80**	**63**	⇑P	**Pn**	**07 04 50.0**	**+2.4**
BNAS	**Cotopaxi Volca**	**2.81**	**62**	⇑P	**Pn**	**07 04 51.1**	**-1.8**
SUCR	**Mariscal Sucre**	**2.81**	**61**	⇑P	**Pn**	**07 04 49.8**	**+2.1**
VCES	**Cotopaxi**	**2.83**	**65**	⇑P	**Pn**	**07 04 50.7**	**+2.8**
BREF	**Cotopaxi Volca**	**2.85**	**62**	⇑P	**Pn**	**07 04 51.0**	**+2.8**
APR2	**Miler**	**2.87**	**44**	P	**Pn**	**07 04 49.0**	**+0.9**
AZAM	**Ecuador-Zamora**	**2.87**	**136**	P	**Pn**	**07 04 50.2**	**+2.1**
BVC2	**Cotopaxi Volca**	**2.88**	**62**	⇑P	**Pn**	**07 04 51.3**	**+2.7**
PIAT	**Ana Tenorio**	**2.88**	**70**	⇑P	**Pn**	**07 04 51.4**	**+3.0**
BTAM	**Cotopaxi Volca**	**2.88**	**63**	⇑P	**Pn**	**07 04 51.4**	**+2.8**
VC1	**Cotopaxi 1**	**2.89**	**62**	⇑P	**Pn**	**07 04 51.5**	**+2.7**
TAMB	**Tambo**	**2.90**	**64**	⇑P	**Pn**	**07 04 51.4**	**+2.6**
PITA	**Cotopaxi Volc**	**2.91**	**61**	⇑P	**Pn**	**07 04 51.1**	**+2.2**
HPAL	**Hacienda Las P**	**2.91**	**53**	P	**Pn**	**07 04 49.5**	**+0.6**
GGPT	**Toaza - Volcan**	**2.93**	**53**	⇑P	**Pn**	**07 04 50.2**	**+1.0**
JUA2	**San Juan 2**	**2.95**	**53**	P	**Pn**	**07 04 50.8**	**+1.3**
TERV	**Terraza Guagua**	**2.98**	**53**	⇑P	**Pn**	**07 04 50.9**	**+1.0**
GGPC	**Guagua Pichinc**	**2.98**	**53**	⇑P	**Pn**	**07 04 51.1**	**+1.1**
PUYO	**Puyo, Santa Ro**	**2.98**	**80**	⇑P	**Pb**	**07 04 53.2**	**-2.4**
PINO	**Pino**	**2.98**	**52**	⇑P	**Pn**	**07 04 51.0**	**+0.9**
AV21	**Acelerografo,**	**3.00**	**28**	P	**Pn**	**07 04 51.3**	**+1.6**
YANA	**Yana**	**3.04**	**52**	⇑P	**Pn**	**07 04 51.4**	**+0.7**
TING	**Casa Alexandra**	**3.04**	**56**	P	**Pn**	**07 04 53.2**	**+2.6**
CIVI	**Edificio de In**	**3.04**	**54**	P	**Pn**	**07 04 53.1**	**+2.4**
APR1	**Acelerografo,**	**3.05**	**50**	P	**Pn**	**07 04 52.9**	**+2.1**
ANTG	**Antisana-Guama**	**3.09**	**61**	⇑P	**Pn**	**07 04 54.2**	**+2.7**
FENY	**Casa Vinicio C**	**3.09**	**53**	P	**Pn**	**07 04 53.7**	**+2.4**
ANTM	**Antisana-La Mi**	**3.10**	**62**	⇑P	**Pn**	**07 04 54.3**	**+2.6**
PAC1	**Pacto, Paraso**	**3.13**	**44**	⇑P	**Pn**	**07 04 51.4**	**-0.2**
AMA1	**Acelerografo,**	**3.17**	**23**	P	**Pn**	**07 04 52.9**	**+0.8**
ANTS	**Antisana-Sarah**	**3.17**	**62**	⇑P	**Pn**	**07 04 55.4**	**+2.9**
PULU	**Pululahua**	**3.18**	**51**	⇑P	**Pn**	**07 04 53.4**	**+0.9**
ANTI	**Antisana**	**3.20**	**61**	⇑P	**Pn**	**07 04 56.1**	**+3.1**
AV11	**Acelerografo,**	**3.22**	**54**	P	**Pb**	**07 04 57.1**	**-2.7**
ATEN	**Tena**	**3.30**	**73**	P	**Pn**	**07 04 56.9**	**+2.9**
ARDO	**Archidona, Ten**	**3.32**	**73**	⇑P	**Pn**	**07 04 57.4**	**+3.3**
OTAV	**Otavalo**	**3.35**	**49**	Pn	**Pn**	**07 04 55.9**	**+0.8**
OTAV	**Otavalo**	**3.35**	**49**	P	**Pn**	**07 04 55.9**	**+0.8**
OTAV	**Otavalo**	**3.35**	**49**	⇑P	**Pn**	**07 04 55.6**	**+0.6**
OTAV	**Otavalo**	**3.35**	**49**	P	**Pn**	**07 04 55.8**	**+0.7**
OTAV	**Otavalo**	**3.35**	**49**	⇑P	**Pn**	**07 04 55.6**	**+0.6**
OTAV	**Otavalo**	**3.35**	**49**	*e*P	**Pn**	**07 04 54.7**	**-0.4**
ZUMB	**Zumba**	**3.38**	**147**	P	**Pn**	**07 04 57.3**	**+2.2**
RVRD	**Rio Verde**	**3.43**	**27**	⇑P	**Pn**	**07 04 55.5**	**-0.2**
CUSE	**Cuicocha Este**	**3.44**	**48**	⇑P	**Pn**	**07 04 57.0**	**+0.8**
CUSW	**Cuicocha Oeste**	**3.46**	**49**	⇑P	**Pn**	**07 04 59.7**	**+3.2**
CUIC	**Cuicocha-Domo**	**3.47**	**49**	⇑P	**Pn**	**07 04 57.7**	**+1.2**
COTA	**Cotacachi**	**3.50**	**49**	⇑P	**Pn**	**07 04 58.7**	**+1.6**
AOTA	**Otavalo**	**3.50**	**51**	P	**Pn**	**07 04 59.5**	**+2.5**
ACOT	**Cotacachi (Cas**	**3.52**	**50**	P	**Pn**	**07 04 60.0**	**+2.7**
IMBA	**Imbabura, San**	**3.57**	**51**	⇑P	**Pn**	**07 05 00.9**	**+2.9**
ANGU	**Angureal**	**3.59**	**56**	⇑P	**Pn**	**07 05 01.2**	**+2.8**
AAT1	**Ecuador-Atunta**	**3.59**	**50**	P	**Pn**	**07 05 01.6**	**+3.4**
CAYA	**Cayambe**	**3.62**	**55**	⇑P	**Pn**	**07 05 01.6**	**+2.9**
URCU	**Urcuqui**	**3.63**	**48**	⇑P	**Pn**	**07 05 00.9**	**+2.0**
AIB2	**Ibarra (Univer**	**3.69**	**51**	⇑P	**Pn**	**07 05 02.3**	**+2.9**
YAHU	**Yahuarcocha**	**3.73**	**51**	⇑P	**Pn**	**07 05 02.6**	**+2.5**
ALIT	**Ecuador-Imbabu**	**3.81**	**43**	P	**Pn**	**07 05 03.8**	**+2.8**
LITE1	**Lita**	**3.81**	**43**	P	**Pn**	**07 05 01.8**	**+0.9**
REVS	**Reventador Sur**	**3.84**	**61**	⇑P	**Pn**	**07 05 04.3**	**+2.8**
REVN	**San Rafael**	**3.85**	**60**	⇑P	**Pn**	**07 05 04.6**	**+3.0**
SNLR	**San Lorenzo-Es**	**3.90**	**33**	⇑P	**Pn**	**07 05 02.7**	**+0.6**
LNGL	**El Angel-Carch**	**4.02**	**47**	⇑P	**Pn**	**07 05 05.6**	**+1.3**
CHMA	**Chilma**	**4.06**	**46**	⇑P	**Pn**	**07 05 05.8**	**+1.1**
CHL1	**Volc¡n Chiles**	**4.10**	**47**	⇑P	**Pn**	**07 05 07.6**	**+2.2**
ECEN	**Cerro Negro**	**4.10**	**47**	⇑P	**Pn**	**07 05 07.3**	**+1.9**
CHL2	**Volc¡n Chiles**	**4.13**	**48**	⇑P	**Pn**	**07 05 07.9**	**+2.2**
TULM	**Tulcn-Chalpat**	**4.17**	**50**	P	**Pn**	**07 05 09.0**	**+2.8**
TULM	**Tulcn-Chalpat**	**4.17**	**50**	⇑P	**Pn**	**07 05 08.6**	**+2.3**
TULM	**Tulcn-Chalpat**	**4.17**	**50**	P	**Pn**	**07 05 09.0**	**+2.8**
AV03	**Acelerografo,**	**4.18**	**61**	P	**Pn**	**07 05 10.5**	**+4.5**
CASC	**Dorado de Casc**	**4.20**	**60**	⇑P	**Pn**	**07 05 08.8**	**+2.4**
BONI	**La Bonita**	**4.21**	**55**	⇑P	**Pn**	**07 05 08.9**	**+2.2**
ATUL	**Tulcn**	**4.25**	**50**	P	Pb	07 05 12.7	-4.6
CMBC	**Cumbal**	**4.29**	**47**	P	**Pn**	**07 05 11.1**	**+3.2**
CMBC	**Cumbal**	**4.29**	**47**	P	**Pn**	**07 05 10.0**	**+2.1**
CMBC	**Cumbal**	**4.29**	**47**	P	**Pn**	**07 05 11.1**	**+3.2**
ATLC	**Ecuador-Tulcan**	**4.30**	**49**	P	Pn	07 05 13.0	+5.0
TUMC	**Tumaco**	**4.41**	**31**		**Pn**	**07 05 09.3**	**+0.1**
TUMC	**Tumaco**	**4.41**	**31**	P	**Pn**	**07 05 11.9**	**+2.8**
TUMC	**Tumaco**	**4.41**	**31**	P	**Pn**	**07 05 09.7**	**+0.6**
TUMC	**Tumaco**	**4.41**	**31**	P	**Pb**	**07 05 16.9**	**-3.0**
TUMC				S	**Sb**	**07 06 18.0**	**+5.1**
TUMC	**Tumaco**	**4.41**	**31**	P	**Pn**	**07 05 11.9**	**+2.8**
BBAC	**Balboa, Cauca**	**5.46**	**43**	P	**Pn**	**07 05 24.7**	**+1.0**
	239µm97µm6µm,0.9s						
BBAC	**Balboa, Cauca**	**5.46**	**43**	⇑P	**Pn**	**07 05 24.0**	**+0.2**
BBAC	**Balboa, Cauca**	**5.46**	**43**	P	**Pn**	**07 05 24.7**	**+1.0**
	239µm97µm6µm,0.9s						
GR1C	**Gorgona, Isla**	**5.70**	**29**	P	**Pn**	**07 05 26.0**	**-0.9**
GR1C	**Gorgona, Isla**	**5.70**	**29**	P	**Pn**	**07 05 26.0**	**-0.9**
ATAH	**Atahualpa**	**5.71**	**153**	Pn	**Pn**	**07 05 29.9**	**+2.5**
	29nm,0.3s,baz=333,slow=15,SNR=82						
ATAH				Sn	**Sn**	**07 06 39.8**	**+6.8**
	148nm,0.3s,baz=319,slow=20,SNR=6.3						
ATAH				Lg	Lg	07 07 00.4	
	112nm,0.3s,baz=4.1,slow=14,SNR=5.0						
ATAH				LR	LR	07 07 58.9	
	comp=Z,149µm,19.5s,baz=321,slow=41						
	232nm,0.7s						
FLOC	**Florencia**	**6.39**	**56**	Pn	**Pn**	**07 05 36.7**	**+0.2**
FLOC	**Florencia**	**6.39**	**56**	⇑P	**Pn**	**07 05 36.7**	**+0.2**
FLOC	**Florencia**	**6.39**	**56**	P	Pb	07 05 46.4	-7.3
PTLC	**Puerto Leguiza**	**6.53**	**71**	⇑P	**Pn**	**07 05 38.5**	**+0.2**
MALC	**Bahia Malaga**	**6.99**	**31**	P	**Pn**	**07 05 49.1**	**+4.5**
MALC	**Bahia Malaga**	**6.99**	**31**	P	**Pn**	**07 05 44.6**	**0.0**
MALC	**Bahia Malaga**	**6.99**	**31**	P	**Pn**	**07 05 49.1**	**+4.5**
YOTC	**Yotoco, Valle**	**7.53**	**38**	P	**Pn**	**07 05 51.8**	**-0.3**
	108µm14µm895nm,1.0s						
YOTC	**Yotoco, Valle**	**7.53**	**38**	P	**Pn**	**07 05 51.8**	**-0.3**
	108µm14µm895nm,1.0s						
PIZC	**Pizarro, Choco**	**7.80**	**27**	P	Pn	07 06 03.2	+7.5
	113µm34µm3µm,0.9s						
PIZC	**Pizarro, Choco**	**7.80**	**27**	P	Pn	07 06 03.2	+7.5
	113µm34µm3µm,0.9s						
ORTC	**Ortega, Tolima**	**8.19**	**44**	P	**Pn**	**07 06 03.6**	**+2.4**
	104µm39µm4µm,1.0s						
ORTC	**Ortega, Tolima**	**8.19**	**44**	P	**Pn**	**07 06 03.6**	**+2.4**
	104µm39µm4µm,1.0s						
PRAC	**Prado**	**8.31**	**47**	P	Pn	07 06 09.8	+7.0
ANIL	**Santa Ana**	**8.51**	**41**	P	**Pn**	**07 06 04.6**	**-1.2**
	207µm16µm1µm,0.6s						
ANIL	**Santa Ana**	**8.51**	**41**	P	**Pn**	**07 06 04.6**	**-1.2**
	207µm16µm1µm,0.6s						
RECRC	**Villamaria, Ca**	**8.90**	**39**	P	**Pn**	**07 06 12.2**	**+0.8**
RECRC	**Villamaria, Ca**	**8.90**	**39**	P	**Pn**	**07 06 12.2**	**+0.8**
GUY2C	**Guyana, Caldas**	**9.10**	**38**	P	**Pn**	**07 06 12.8**	**-1.2**
	108µm13µm1µm,0.9s						
GUY2C	**Guyana, Caldas**	**9.10**	**38**	P	**Pn**	**07 06 12.8**	**-1.2**
	108µm13µm1µm,0.9s						
CBOC	**Ciudad Bolivar**	**9.24**	**32**	P	**Pn**	**07 06 15.1**	**-0.7**
	106µm18µm1µm,0.9s						
CBOC	**Ciudad Bolivar**	**9.24**	**32**	P	**Pn**	**07 06 15.1**	**-0.7**
	106µm18µm1µm,0.9s						
CACAO	**El Cacao, Vera**	**9.28**	**1**	P	**Pn**	**07 06 19.2**	**+3.1**
	39nm3.5nm,0.8s						
CACAO	**El Cacao, Vera**	**9.28**	**1**	P	**Pn**	**07 06 19.2**	**+3.1**
	39nm3.5nm,0.8s						
PAYG	**Puerto Ayora**	**9.41**	**278**	Pn	**Pn**	**07 06 18.6**	**+0.7**
VILC	**Villavicencio,**	**9.47**	**50**	P	**Pn**	**07 06 22.6**	**+3.8**
	1µm29µm4µm,0.9s						
VILC	**Villavicencio,**	**9.47**	**50**	P	**Pn**	**07 06 22.6**	**+3.8**
	1µm29µm4µm,0.9s						
ROSC	**El Rosal**	**9.50**	**44**	Pn	**Pn**	**07 06 18.2**	**-1.3**
ROSC	**El Rosal**	**9.50**	**44**	Pn	**Pn**	**07 06 18.6**	**-0.9**
	18nm,0.3s,baz=231,slow=11,SNR=22						
ROSC				Sn	**Sn**	**07 08 07.2**	**+0.9**
	1.4nm,0.3s,baz=180,slow=20,SNR=0.7						
	9.3nm,0.4s						
ROSC	**El Rosal**	**9.50**	**44**	P	**Pn**	**07 06 20.3**	**+0.9**
	115µm19µm1µm,1.3s						
ROSC	**El Rosal**	**9.50**	**44**	P	**Pn**	**07 06 20.3**	**+0.9**
	115µm19µm1µm,1.3s						
I20EC	**Galapagos**	**9.51**	**278**	I	I	08 00 50.0	
	baz=95,slow=316,SNR=2.5						
PEDA3	**Pedasi**	**9.51**	**6**	*e*P	**Pn**	**07 06 23.4**	**+4.2**
PTAC	**Punta Ardita,**	**9.62**	**19**	P	**Pn**	**07 06 23.1**	**+2.4**
	10µm488nm,0.9s						
PTAC	**Punta Ardita,**	**9.62**	**19**	⇑*i*P	**Pn**	**07 06 20.6**	**-0.1**
PTAC	**Punta Ardita,**	**9.62**	**19**	P	**Pn**	**07 06 23.1**	**+2.4**
	10µm488nm,0.9s						
NORC	**Norcasia**	**9.67**	**39**	P	**Pn**	**07 06 22.5**	**+1.0**
	85µm11µm832nm,1.0s						
NORC	**Norcasia**	**9.67**	**39**	P	**Pn**	**07 06 22.5**	**+1.0**
	85µm11µm832nm,1.0s						
GMAL	**Guarumal, Vera**	**9.70**	**358**	P	**Pn**	**07 06 24.7**	**+2.9**
	7µm339nm,1.5s						
GMAL	**Guarumal, Vera**	**9.70**	**358**	⇑*i*P	**Pn**	**07 06 24.7**	**+2.9**
GMAL	**Guarumal, Vera**	**9.70**	**358**	P	**Pn**	**07 06 24.7**	**+2.9**
	7µm339nm,1.5s						
AZU	**Azuero**	**9.75**	**4**	P	**Pn**	**07 06 24.2**	**+1.7**
	44µm14µm848nm,1.4s						
AZU	**Azuero**	**9.75**	**4**	⇑*i*P	**Pn**	**07 06 25.2**	**+2.7**
AZU	**Azuero**	**9.75**	**4**	P	**Pn**	**07 06 24.2**	**+1.7**
	44µm14µm848nm,1.4s						
CHIC	**Chingaza**	**9.78**	**48**	P	**Pn**	**07 06 23.5**	**+0.2**
	123µm21µm2µm,1.0s						
CHIC	**Chingaza**	**9.78**	**48**	P	**Pn**	**07 06 23.5**	**+0.2**
	123µm21µm2µm,1.0s						
HELC	**Santa Helena**	**9.78**	**34**	P	**Pn**	**07 06 26.7**	**+3.4**
	97µm12µm717nm,1.3s						
HELC	**Santa Helena**	**9.78**	**34**	P	**Pn**	**07 06 26.7**	**+3.4**
	97µm12µm717nm,1.3s						
CHIT3	**Chitre**	**9.90**	**3**	*e*P	**Pn**	**07 06 28.9**	**+4.3**
CZSB	**Cruzeiro do Su**	**10.01**	**125**	Pn	**Pn**	**07 06 25.4**	**-0.6**
CZSB	**C

SMRC Santa Marta, M 14.70 27 Pn 07 07 30.3 +0.1
NANN Nandasmo 14.77 340 P **Pn 07 07 31.7 +0.6**
MASN Masaya 14.82 340 P **Pn 07 07 34.0 +2.1**
SDV Santo Domingo 14.93 43 P Pn 07 07 28.9 -4.7
SDV Santo Domingo 14.93 43 *eP* **Pn 07 07 34.2 +0.6**
UNAN Cigeo UNAN 14.98 340 P **Pn 07 07 36.4 +2.4**
MGAN Managua 15.00 340 Pn **Pn 07 07 36.4 +2.1**
MGAN Managua 15.00 340 P **Pn 07 07 35.2 +0.8**
BOAB BOACO BROADBAN 15.10 342 Pn 07 07 37.4 +1.8
BOAB BOACO BROADBAN 15.10 342 P **Pn 07 07 36.8 +1.2**
BOAB BOACO BROADBAN 15.10 342 ⇓P **Pn 07 07 37.8 +2.2**
CRJC Cerrejon, Guaj 15.23 32 P **P 07 07 43.8 +1.4**
43µm8µm506nm,0.9s
CRJC Cerrejon, Guaj 15.23 32 P **P 07 07 43.8 +1.4**
43µm8µm506nm,0.9s
PRVC Isla de Provid 15.28 359 Pn 07 07 38.3 +0.3
PRVC Isla de Provid 15.28 359 ⇑*iP* **Pn 07 07 37.8 -0.2**
PRVC Isla de Provid 15.28 359 P **P 07 07 43.7 +0.8**
CNGN Cerro Negro 15.49 339 P 07 07 43.3 -1.9
CNGN Cerro Negro 15.49 339 P 07 07 43.2 -2.1
PACN Al O del Volca 15.53 338 P **Pn 07 07 42.8 +1.6**
ILCN San Idelfonso 15.56 339 P **Pn 07 07 43.8 +2.0**
MATN Matagalpa 15.63 342 P **Pn 07 07 44.6 +1.9**
HERN Volcan Telica 15.64 338 P 07 07 45.0 -2.0
HERN IAmb IAmb 07 07 51.5
comp=Z,312nm,1.3s
POLN Al Sur del Vol 15.67 338 P **Pn 07 07 44.1 +0.9**
CRIN San Cristobal 15.80 338 P 07 07 47.6 -1.2
CRIN San Cristobal 15.80 338 P **Pn 07 07 45.6 +0.7**
BILN Bilwi Airport 16.12 352 P **Pn 07 07 49.4 +0.4**
CSGN Cosiguina Volc 16.25 336 P **Pn 07 07 51.2 +0.5**
URIC Uribia, Colomb 16.27 33 P **P 07 07 56.3 +2.4**
comp=Z,53µmcomp=Z,7µmcomp=Z,376nm,1.1s
URIC Uribia, Colomb 16.27 33 P **P 07 07 56.3 +2.4**
comp=Z,53µmcomp=Z,7µmcomp=Z,376nm,1.1s
RCVN Varillal2 16.33 342 P **Pn 07 07 52.3 +0.5**
TEFE Tefe 16.38 96 P **Pn 07 07 47.3 -5.0**
TEFE Tefe 16.38 96 *eP* **Pn 07 07 48.7 -3.6**
BAUV El Baul 16.85 50 Pn 07 07 53.4 -4.9
TGUH Tegucigalpa,Un 17.13 339 P 07 08 04.1 +0.5
TGUH Tegucigalpa,Un 17.13 339 ⇓P **P 07 08 04.7 +1.1**
TGUH Tegucigalpa,Un 17.13 339 P 07 08 05.0 +1.5
MTO3 Montecristo 18.29 333 P 07 08 18.4 +2.0
ESQI Esquipulas 18.43 333 P **Pn 07 08 19.9 +2.0**
LPAZ La Paz 19.01 139 P 07 08 23.9 -0.9
LPAZ La Paz 19.01 139 P 07 08 24.6 -0.1
comp=Z,0.9nm,0.3s,baz=318,slow=11,SNR=52
LPAZ S **S 07 12 01.3 +0.5**
comp=Z,22nm,0.9s,baz=315,slow=19,SNR=1.1
LPAZ LR LR 07 17 17.4
comp=Z,167µm,18.3s,baz=320,slow=42
comp=Z,24nm,1.1s
LPAZ La Paz 19.01 139 ⇑P **Pn 07 08 25.3 -0.2**
LPAZ La Paz 19.01 139 P **P 07 08 25.2 +0.4**
LPAZ S **S 07 12 01.3 +0.5**
LPAZ La Paz 19.01 139 *eP* **Pn 07 08 25.7 +0.2**
PB18 Visviri 19.16 145 IAmb IAmb 07 08 37.8
comp=Z,994nm,1.6s
PB12 IPOC Station P 19.53 148 P **P 07 08 30.4 +0.4**
PB12 IAmb IAmb 07 08 44.1
comp=Z,572nm,1.3s
PB16 IPOC Station P 19.74 146 IAmb IAmb 07 08 44.8
comp=Z,1µm,1.9s
MCJ Malvern 20.06 9 *iP* Pn 07 08 43.3 +5.8
HUEH Huehuetenango 20.12 329 IAmb IAmb 07 08 52.1
comp=Z,302nm,1.0s
PCRV Puerto La Cruz 20.26 53 P **P 07 08 38.2 +0.2**
comp=Z,61nm,0.5s,baz=231,slow=11,SNR=51
PCRV S Sn 07 12 28.6 +0.5
comp=Z,33nm,1.2s,baz=248,slow=19,SNR=1.1
PCRV Lg Lg 07 14 29.2
baz=216,slow=19
PCRV LR LR 07 17 24.5
comp=Z,136µm,18.2s,slow=40
comp=Z,61nm,0.5s
PCRV Puerto La Cruz 20.26 53 *eP* Pn 07 08 40.6 +0.7
MACA Manacapuru-AM 20.29 94 P **P 07 08 36.8 -1.5**
MACA IAMs_20 IAMs_20 07 16 06.5
comp=Z,61µm,20.0s
MACA Manacapuru-AM 20.29 94 P **P 07 08 36.4 -1.8**
MACA S **S 07 12 24.9 -0.8**
MACA Manacapuru-AM 20.29 94 *eP* **P 07 08 37.3 -0.9**
HOJ Hope 20.31 12 *iP* Pn 07 08 41.6 +1.3
STH Stony Hill 20.36 11 ⇑*iP* Pn 07 08 41.5 +0.4
MTDJ Mount Denham 20.38 9 P Pn 07 08 40.4 -0.8
MTDJ Mount Denham 20.38 9 *eP* Pn 07 08 40.7 -0.6
MTDJ Mount Denham 20.38 9 ⇑P Pn 07 08 41.4 +0.1
MTDJ Mount Denham 20.38 9 ⇑*iP* Pn 07 08 41.4 +0.1
PETF Flores 20.75 335 P Pn 07 08 45.0 -0.4
PETF IAmb IAmb 07 09 03.8
comp=Z,365nm,1.1s
PB11 IPOC Station P 20.83 149 P **P 07 08 44.6 +0.5**
PB11 IAmb IAmb 07 09 00.6
comp=Z,326nm,0.9s
BOAV Boa Vista 20.90 78 P **P 07 08 43.5 -1.3**
BOAV IAmb IAmb 07 08 50.3
comp=Z,296nm,0.8s
BOAV Boa Vista 20.90 78 P **P 07 08 43.6 -1.3**
BOAV S Sn 07 12 44.0 +0.6
BOAV Boa Vista 20.90 78 *eP* **P 07 08 44.0 -0.8**
TA02 Huaiquique 21.02 151 P 07 08 49.0 +3.1
TA02 IAMs_20 IAMs_20 07 18 08.0
comp=Z,36µm,22.0s
HMBC Humberstone 21.14 150 P **P 07 08 47.1 -0.4**
HMBC IAmb IAmb 07 09 05.4
comp=Z,605nm,1.4s
TA01 Diego Aracena 21.25 151 P **P 07 08 49.2 +0.8**
TA01 IAMs_20 IAMs_20 07 18 23.0
comp=Z,44µm,20.0s
CCIG Comitan 21.25 329 ⇓P **P 07 08 50.3 +1.6**
PB08 IPOC Station P 21.41 148 IAmb IAmb 07 09 09.1
comp=Z,395nm,1.1s
PB08 IAMs_20 IAMs_20 07 17 56.1
comp=Z,41µm,19.0s
PB08 IPOC Station P 21.41 148 P **P 07 08 51.8 +1.2**
PATCX Punta Patache 21.48 151 IAMs_20 IAMs_20 07 18 31.2
comp=Z,40µm,20.0s
PAPH Port-au-Prince 22.10 22 *eP* **P 07 08 58.6 +1.0**
LMGC Las Mercedes 22.27 10 *eP* **P 07 08 59.1 -0.3**
CHIV Chivirico 22.29 11 IAmb IAmb 07 09 21.5
comp=Z,263nm,1.1s
CHIV Chivirico 22.29 11 *eP* **P 07 08 59.6 -0.1**
CHIV IVMs_BB IVMs_BB 07 13 23.2
comp=E,8µm,11.4s
CHIV IVMs_BB IVMs_BB 07 13 57.6
comp=N,4µm,10.3s
MARVS Santiago de Cu 22.42 13 *eP* **P 07 09 01.4 +0.3**
RCC Rio Carpintero 22.46 13 *eP* **P 07 08 58.9 -2.6**
GTBY Guantanamo Bay 22.53 15 P **P 07 09 03.1 +0.7**
GTBY Guantanamo Bay 22.53 15 *eP* **P 07 09 03.0 +0.7**
GTBY IVMs_BB IVMs_BB 07 13 29.1
comp=N,22µm,21.0s
GTBY IVMs_BB IVMs_BB 07 14 26.6
comp=N,10µm,10.3s
GTBY Guantanamo Bay 22.53 15 ⇑P **P 07 09 03.5 +1.2**
GTBY Guantanamo Bay 22.53 15 ⇑*iP* **P 07 09 03.5 +1.2**
PB09 IPOC Station P 22.75 151 IAMs_20 IAMs_20 07 18 47.8
comp=Z,25µm,18.0s
QMBU Quimbuelo 22.87 15 *eP* **P 07 09 05.5 -0.4**
PINC Pinares de May 22.91 13 *eP* **P 07 09 06.6 +0.3**
SDDR Presa de Saban 22.92 24 P **P 07 09 07.1 +0.7**
SDDR IAMs_20 IAMs_20 07 19 34.4
comp=Z,49µm,22.0s
SDDR Presa de Saban 22.92 24 ⇑P **P 07 09 07.8 +1.4**
SDDR Presa de Saban 22.92 24 ⇑*iP* **P 07 09 07.8 +1.4**
MASC Masc 23.00 16 *eP* **P 07 09 06.4 -0.8**
SDD Santo Domingo 23.06 28 IAmb IAmb 07 09 29.6
comp=Z,274nm,1.1s
TRN Trinidad (W) 23.17 57 *eP* **P 07 09 07.8 -1.2**
NMDO Nuevo Mundo 23.17 14 P **P 07 09 09.6 +0.7**
NMDO IAmb IAmb 07 09 28.6
comp=Z,190nm,1.1s
NMDO IAMs_20 IAMs_20 07 18 57.7
comp=Z,31µm,21.0s
NMDO Nuevo Mundo 23.17 14 *eP* **P 07 09 09.6 +0.7**
PB05 IPOC Station P 23.21 154 IAMs_20 IAMs_20 07 19 05.4
comp=Z,32µm,20.0s
TEIG Tepich 23.22 342 P **P 07 09 11.0 +1.6**
TEIG IAmb IAmb 07 09 30.1
comp=Z,540nm,1.4s
TEIG IAMs_20 IAMs_20 07 17 04.5
comp=Z,43µm,19.0s
TEIG Tepich 23.22 342 ⇑P **P 07 09 10.0 +0.6**
HLGC Holguin 23.25 12 *eP* **P 07 09 10.7 +1.0**

VILB Vilhena 23.26 119 P **P 07 09 09.3 -0.7**
VILB Vilhena 23.26 119 P **P 07 09 09.4 -0.5**
VILB Vilhena 23.26 119 *eP* **P 07 09 10.3 +0.4**
MOAC Moa 23.27 14 *eP* **P 07 09 10.7 +0.7**
CMIG Matias Romero 23.42 325 LR LR 07 16 20.4
comp=Z,13µm,21.3s,baz=156,slow=32
GRFF Grenada Fort F 23.66 53 *eP* **P 07 09 07.6 -6.3**
GRGR Grenville 23.77 53 *eP* **P 07 09 12.0 -3.0**
GRGR Grenville 23.77 53 ⇑P **P 07 09 11.6 -3.4**
SIV San Ignacio 24.03 127 P **P 07 09 17.4 0.0**
comp=Z,21nm,1.1s,baz=302,slow=13,SNR=19
SIV S **S 07 13 35.7 +1.2**
comp=Z,96nm,1.2s,baz=298,slow=18,SNR=3.1
SIV Lg Lg 07 16 23.3
comp=Z,0.1nm,0.3s,baz=255,slow=20,SNR=1.8
SIV LR LR 07 19 41.3
comp=Z,60µm,19.4s,baz=318,slow=39
comp=Z,21nm,1.1s
CRPR Cabo Rojo, PR 24.11 34 IAmb IAmb 07 09 42.5
comp=Z,348nm,1.0s
GCMP Grenada, Carri 24.16 53 *eP* **P 07 09 15.7 -2.9**
AF01 San Pedro de A 24.24 150 IAMs_20 IAMs_20 07 20 11.6
comp=Z,34µm,22.0s
OBIP Obispado Ponce 24.43 35 IAmb IAmb 07 09 33.7
comp=Z,249nm,0.8s
UUPR Utuado, UPR, P 24.53 34 IAmb IAmb 07 09 33.7
comp=Z,320nm,0.9s
PB14 IPOC Station P 24.70 156 P **P 07 09 24.9 +1.0**
SVT Saint Vincent 24.70 52 *eP* **P 07 09 25.9 +2.4**
SOR Soroa 24.72 355 IAmb IAmb 07 09 51.3
comp=Z,326nm,1.7s
SOR Soroa 24.72 355 *eP* **P 07 09 21.8 -1.8**
SJG San Juan 24.74 36 P **P 07 09 23.9 0.0**
SJG San Juan 24.74 36 LR LR 07 21 13.0
comp=Z,32µm,18.5s,baz=210,slow=42
SJG San Juan 24.74 36 P **P 07 09 23.9 0.0**
SJG pmax pmax
comp=Z,529nm,1.1s
SVB Belmont 24.75 52 *eP* **P 07 09 22.2 -1.8**
GCPR Guaynabo City 24.94 35 IAmb IAmb 07 09 39.1
comp=Z,198nm,0.8s
GRTK Grand Turk 25.27 22 *eP* **P 07 09 28.7 +0.1**
GRTK Grand Turk 25.27 22 ⇑P **P 07 09 29.3 +0.7**
ITTB Itaituba 25.30 96 P **P 07 09 28.5 -0.6**
ITTB S **S 07 13 55.2 +0.3**
ITTB Itaituba 25.30 96 *eP* **P 07 09 28.6 -0.4**
PTLB Pontes e Lacer 25.34 123 P **P 07 09 29.1 -0.1**
PTLB IAmb IAmb 07 09 47.8
comp=Z,188nm,0.9s
PTLB Pontes e Lacer 25.34 123 P **P 07 09 29.4 +0.2**
PTLB Pontes e Lacer 25.34 123 *eP* **P 07 09 30.0 +0.8**
SLAC Saint Lucia, A 25.40 51 *eP* **P 07 09 27.6 -2.3**
SLBI Saint Lucia, B 25.42 51 *eP* **P 07 09 28.4 -1.6**
GO02 Mina Guanaco 25.51 155 IAmb IAmb 07 09 51.4
comp=Z,350nm,1.4s
GO02 IAMs_20 IAMs_20 07 20 35.6
comp=Z,33µm,20.0s
GO02 Mina Guanaco 25.51 155 ⇑P **P 07 09 33.0 +1.8**
BIM Bigot 25.64 50 IAmb IAmb 07 09 44.8
comp=Z,244nm,0.9s
BIM IAMs_20 IAMs_20 07 20 26.6
comp=Z,39µm,20.0s
BIM Bigot 25.64 50 *eP* **P 07 09 28.8 -3.3**
FDF Fort de France 25.72 49 P **P 07 09 31.6 -1.2**
FDF Fort de France 25.72 49 P **P 07 09 31.6 -1.2**
FDF pmax pmax
comp=Z,434nm,1.0s
FDF MLR MLR
comp=Z,48µm,19.0s
FDF Fort de France 25.72 49 ⇑P **P 07 09 31.7 -1.1**
MPOM Morne Pois Mar 25.76 50 P **P 07 09 31.4 -1.7**
SVN Savane Anatole 25.77 49 P **P 07 09 31.4 -1.9**
SVN Savane Anatole 25.77 49 *eP* **P 07 09 33.6 +0.3**
PDRB Porto dos Gac 25.86 113 P **P 07 09 33.6 -0.5**
PDRB Porto dos Gac 25.86 113 *eP* **P 07 09 33.8 -0.4**
MDN Morne-Daniel 25.91 48 *eP* **P 07 09 36.2 +1.7**
ILAM Ilet Lapin Mar 25.95 49 P **P 07 09 33.7 -1.2**
ILAM Ilet Lapin Mar 25.95 49 *eP* **P 07 09 34.8 -0.1**
DSLB Salisbury 25.96 47 *eP* **P 07 09 35.6 +0.6**
AC01 Pan de Azucar 26.00 158 IAmb IAmb 07 09 53.3
comp=Z,180nm,1.1s
AC01 IAMs_20 IAMs_20 07 21 03.7
comp=Z,29µm,19.0s
NPGB Novo Progresso 26.01 102 P **P 07 09 34.5 -1.0**
NPGB Novo Progresso 26.01 102 *eP* **P 07 09 35.0 -0.4**
TLIG Tlapa 26.06 319 P **P 07 09 38.0 +2.1**
TLIG IAmb IAmb 07 10 03.9
comp=Z,412nm,1.9s
TLIG IAMs_20 IAMs_20 07 17 19.9
comp=Z,22µm,18.0s
TLIG Tlapa 26.06 319 ⇑P **P 07 09 38.1 +2.2**
TBG Guadaloupe-3 26.06 46 *eP* **P 07 09 35.2 -0.7**
TDBA Terre de Bas, 26.07 46 P **P 07 09 35.4 -0.6**
TDBA IAmb IAmb 07 09 49.7
comp=Z,329nm,1.1s
SABA Saba 26.18 41 IAmb IAmb 07 10 06.4
comp=Z,158nm,0.9s
CBE Ff, Capester 26.23 46 IAmb IAmb 07 09 53.9
comp=Z,291nm,1.0s
MBFL Flemmings, Mon 26.26 44 *eP* **P 07 09 36.9 -0.8**
MBWH 26.27 44 *eP* **P 07 09 34.2 -3.6**
SKOC St. Kitts, UWI 26.28 42 *eP* **P 07 09 37.8 0.0**
SKI Saint Kitts 26.31 42 *eP* P 07 09 46.9 +8.8
MAGL Barre de l'ile 26.39 47 *eP* **P 07 09 39.6 +0.7**
CLDB Colider 26.49 111 P **P 07 09 39.2 -0.7**
CLDB S **S 07 14 17.3 +3.4**
CLDB Colider 26.49 111 *eP* **P 07 09 39.6 -0.3**
SMRT St. Maarten 26.60 41 P **P 07 09 38.6 -2.1**
MAL2 Monte Alegre, 26.77 91 P **P 07 09 42.2 -0.2**
ANBD Bethesda, Anti 26.78 44 *eP* **P 07 09 40.0 -2.3**
GDSD La Dsirade Is 26.79 46 P **P 07 09 41.6 -0.9**
GDSD IAmb IAmb 07 10 13.7
comp=Z,224nm,1.0s
AC02 Maricunga 27.18 156 IAmb IAmb 07 10 14.1
comp=Z,161nm,1.1s
AC02 IAMs_20 IAMs_20 07 21 45.9
comp=Z,25µm,20.0s
AC06 Mina Casimiro 27.19 159 IAmb IAmb 07 10 07.8
comp=Z,306nm,1.4s
AC06 IAMs_20 IAMs_20 07 21 39.2
comp=Z,23µm,20.0s
ANWB Willy Bob 27.19 43 IAMs_20 IAMs_20 07 21 30.7
comp=Z,31µm,18.0s
ANWB Willy Bob 27.19 43 *eP* **P 07 09 44.2 -1.8**
ANWB Willy Bob 27.19 43 ⇑P **P 07 09 44.7 -1.3**
GO03 Copiapo 27.45 159 IAMs_20 IAMs_20 07 21 57.1
comp=Z,22µm,19.0s
061Z Ochoppi 27.70 0 IAmb IAmb 07 10 29.9
comp=Z,310nm,1.2s
FSA Cafayete 27.97 150 *eP* **P 07 09 54.3 +1.1**
SALV Santo Antonio 28.47 120 P **P 07 09 57.2 -0.4**
SALV S **S 07 14 51.5 +6.6**
SALV Santo Antonio 28.47 120 *eP* **P 07 09 57.7 +0.1**
AC05 El Transito 28.57 160 IAmb IAmb 07 11 02.2
comp=Z,138nm,1.2s
AC05 IAMs_20 IAMs_20 07 22 20.9
comp=Z,22µm,20.0s
BMO2 UHE Belo Monte 28.98 93 P **P 07 10 01.2 -0.9**
BMO2 S **S 07 14 52.9 0.0**
MDP Montagnes des 29.16 76 LR LR 07 22 16.0
comp=Z,114µm,18.1s,baz=258,slow=38
VCA Vinchina 29.24 157 *eP* **P 07 10 05.9 +1.5**
MOIG Morelia 29.30 318 IAMs_20 IAMs_20 07 19 01.9
comp=Z,19µm,21.0s
GO04 Tololo Observa 29.63 162 IAmb IAmb 07 10 42.6
comp=Z,118nm,1.1s
GO04 IAMs_20 IAMs_20 07 21 18.0
comp=Z,18µm,20.0s
GO04 Tololo Observa 29.63 162 ⇓P **P 07 10 11.7 +3.7**
CO01 Juntas del Tor 29.68 161 IAMs_20 IAMs_20 07 20 49.1
comp=Z,20µm,21.0s
AGUA GUANDACOL 29.80 158 *eP* **P 07 10 10.9 +1.6**
CO06 Fray Jorge 29.86 164 IAMs_20 IAMs_20 07 21 12.1
comp=Z,26µm,20.0s
BDQN Bodoquena, MS 29.92 130 *eP* **P 07 10 10.6 +0.3**
DWPF Disney Wildern 29.94 359 P **P 07 10 10.4 0.0**
DWPF Disney Wildern 29.94 359 ⇑*eP* **P 07 10 06.8 -3.6**
DWPF *eP* **pP 07 10 08.1 -6.4**
DWPF Disney Wildern 29.94 359 ⇑P **P 07 10 10.4 0.0**
CYA Choya 30.02 153 *eP* **P 07 10 11.3 +0.1**
AROD Rodeo 30.06 160 *eP* **P 07 10 13.9 +2.0**
ACDV Cuesta del Vie 30.19 159 *eP* **P 07 10 14.2 +1.4**
CO03 El Pedregal 30.29 162 IAMs_20 IAMs_20 07 21 37.4
comp=Z,20µm,20.0s

CO03 El Pedregal 30.29 162 *eP* **P 07 10 13.9 +0.3**
ACLC CERRO LA CRUZ 30.36 155 *eP* **P 07 10 15.2 +0.9**
ACCO Cerro Coronel 30.59 160 *eP* **P 07 10 18.6 +2.0**
AQDB Aquidauana 30.75 128 P **P 07 10 17.4 -0.3**
AQDB IAmb IAmb 07 10 34.7
comp=Z,149nm,0.9s
AQDB Aquidauana 30.75 128 P **P 07 10 17.7 0.0**
AQDB S **S 07 15 18.9 -1.7**
AQDB Aquidauana 30.75 128 *eP* **P 07 10 17.2 -0.5**
DOCA Reserva Natura 30.91 160 *eP* **P 07 10 20.9 +1.5**
SNDB Serra Nova Dou 31.04 110 P **P 07 10 20.2 -0.1**
SNDB S **S 07 15 27.0 +1.7**
SNDB Serra Nova Dou 31.04 110 *eP* **P 07 10 20.0 -0.3**
656A Willston 31.23 357 IAMs_20 IAMs_20 07 23 28.3
comp=Z,17µm,18.0s
H03N2 Juan Fernandez 31.34 177 T T 07 45 03.6
baz=354,slow=76,SNR=9.8
H03N1 Juan Fernandez 31.34 177 T T 07 45 06.1
baz=354,slow=76,SNR=18
PRPB Parauapebas 31.34 99 P **P 07 10 22.0 -1.0**
PRPB S **S 07 15 27.3 -2.8**
PRPB Parauapebas 31.34 99 *eP* **P 07 10 22.7 -0.3**
H03N3 Juan Fernandez 31.35 177 T T 07 44 57.3
baz=354,slow=76,SNR=12
APLL PUNTA DE LOS L 31.38 156 *eP* **P 07 10 23.6 +0.3**
VA04 Juan Fernndez 31.54 177 IAMs_20 IAMs_20 07 21 57.6
comp=Z,20µm,18.0s
ZON Zonda 31.59 160 IAmb IAmb 07 10 44.5
comp=Z,120nm,1.3s
ZON IAMs_20 IAMs_20 07 22 41.8
comp=Z,18µm,20.0s
ZON Zonda 31.59 160 *eP* **P 07 10 24.2 -0.9**
RTLS Leoncito 31.62 161 *eP* **P 07 10 26.2 +0.6**
ARAG Araguaiana, MT 31.79 117 P **P 07 10 26.9 -0.1**
ARAG S **S 07 15 36.1 -1.0**
ARAG Araguaiana, MT 31.79 117 *eP* **P 07 10 26.3 -0.7**
CFA Coronel Fontan 31.80 159 P **P 07 10 27.7 +0.8**
comp=Z,3.7nm,1.0s,baz=333,slow=11,SNR=10.0
CFA S **S 07 15 37.7 +0.7**
comp=Z,1.3nm,0.9s,baz=335,slow=17,SNR=1.5
comp=Z,3.7nm,1.0s
VA01 Torpederas 32.08 165 IAMs_20 IAMs_20 07 22 15.0
comp=Z,26µm,19.0s
VA03 San Esteban 32.13 163 IAmb IAmb 07 11 16.7
comp=Z,153nm,1.2s
VA03 IAMs_20 IAMs_20 07 22 21.2
comp=Z,25µm,20.0s
553A Crawfordville 32.18 354 IAMs_20 IAMs_20 07 23 40.7
comp=Z,24µm,19.0s
C2SB Chapadao do Su 32.20 123 *eP* **P 07 10 29.9 -0.6**
RPRD Ribas do Rio P 32.33 127 *eP* **P 07 10 29.9 -1.8**
ZAIG Zacatecas 32.40 321 IAmb IAmb 07 10 54.9
comp=Z,139nm,1.6s
ZAIG Zacatecas 32.40 321 ⇑P **P 07 10 35.8 +3.2**
MT02 Curacav 32.43 165 IAMs_20 IAMs_20 07 22 27.3
comp=Z,25µm,20.0s
PEL Peldehue 32.45 164 P **P 07 10 33.4 +0.8**
PEL IAmb IAmb 07 11 17.2
comp=Z,132nm,1.3s
PEL IAMs_20 IAMs_20 07 22 39.8
comp=Z,27µm,20.0s
PEL Peldehue 32.45 164 P **P 07 10 33.4 +0.8**
PEL pmax pmax
comp=Z,132nm,1.3s
PEL MLR MLR
comp=Z,27µm,20.0s
MT05 Renca 32.67 164 IAMs_20 IAMs_20 07 22 35.5
comp=Z,27µm,20.0s
AMBA Amambai (Brazi 32.68 132 *eP* **P 07 10 35.3 +0.7**
VA05 Santo Domingo 32.69 165 IAMs_20 IAMs_20 07 22 23.1
comp=Z,24µm,20.0s
MT16 CCHEN 32.76 164 IAmb IAmb 07 11 39.0
comp=Z,104nm,1.1s
MT16 IAMs_20 IAMs_20 07 22 49.0
comp=Z,26µm,19.0s
MT03 Universidad Ad 32.83 164 IAmb IAmb 07 11 13.2
comp=Z,77nm,1.0s
MT03 IAMs_20 IAMs_20 07 22 50.7
comp=Z,25µm,20.0s
TMAB Tom-Au,PA,Br 32.85 91 P **P 07 10 36.5 +0.2**
TMAB Tom-Au,PA,Br 32.85 91 *eP* **P 07 10 37.0 +0.7**
MT08 Bocatoma Ro 32.92 163 IAmb IAmb 07 10 59.5
comp=Z,137nm,0.9s
MT08 IAMs_20 IAMs_20 07 22 49.2
comp=Z,22µm,19.0s
MT09 Talagante 32.96 165 IAmb IAmb 07 11 42.8
comp=Z,143nm,1.4s
MT01 Popeta 32.98 165 IAMs_20 IAMs_20 07 22 13.8
comp=Z,25µm,19.0s
MT13 San Alfonso 33.12 164 IAmb IAmb 07 11 11.7
comp=Z,102nm,1.1s
MT13 IAMs_20 IAMs_20 07 23 01.6
comp=Z,21µm,20.0s
SJPY San Joaquin 33.13 136 *eP* **P 07 10 39.1 +0.4**
545A Edgard 33.14 345 IAMs_20 IAMs_20 07 23 09.8
comp=Z,18µm,22.0s
CPUP Villa Florida 33.18 139 P **P 07 10 38.8 -0.2**
comp=Z,2.8nm,1.0s,baz=319,slow=14,SNR=9.2
CPUP S **S 07 15 59.3 +0.8**
comp=Z,4.2nm,0.9s,baz=301,slow=5.9,SNR=1.3
CPUP Lg Lg 07 21 48.7
baz=288,slow=20,SNR=1.6
CPUP LR LR 07 27 12.9
comp=Z,55µm,18.4s,baz=322,slow=42
comp=Z,2.8nm,1.0s
CPUP Villa Florida 33.18 139 ⇑P **P 07 10 39.0 0.0**
CPUP Villa Florida 33.18 139 P **P 07 10 38.2 -0.8**
CPUP S **S 07 15 58.8 +0.4**
LMEL Las Melosas 33.24 164 IAmb IAmb 07 11 26.8
comp=Z,150nm,1.4s
LMEL IAMs_20 IAMs_20 07 23 05.7
comp=Z,21µm,20.0s
BO04 La Punta 33.27 164 IAmb IAmb 07 11 26.9
comp=Z,143nm,1.4s
BO04 IAMs_20 IAMs_20 07 22 53.3
comp=Z,25µm,20.0s
TIGA Tifton 33.35 356 IAMs_20 IAMs_20 07 26 37.6
comp=Z,16µm,19.0s
LAJE UHE Lajeado 33.39 105 P **P 07 10 40.8 -0.2**
BRAL Brewton 33.49 351 P **P 07 10 42.7 +1.1**
352A Blakely 33.51 354 IAMs_20 IAMs_20 07 24 42.6
comp=Z,24µm,19.0s
BO01 Tunca 33.52 165 P **P 07 10 43.2 +1.3**
PAL01 Palmeiras do T 33.62 99 P **P 07 10 42.9 -0.1**
PAL2 UHE Estreito - 33.86 99 P **P 07 10 41.8 -3.3**
BO02 Sierra Bellavi 33.98 165 P **P 07 10 46.8 +0.8**
BO02 IAmb IAmb 07 11 17.7
comp=Z,128nm,1.2s
BO02 Sierra Bellavi 33.98 165 ⇓P **P 07 10 47.5 +1.6**
CAN3 Cana Brava 34.16 110 P **P 07 10 47.6 -0.2**
SSV2 Sao Salvador 34.17 110 P **P 07 10 47.7 -0.1**
346A Big Creek Wild 34.17 347 IAmb IAmb 07 11 23.6
comp=Z,140nm,1.1s
154A Montrose 34.48 357 IAMs_20 IAMs_20 07 25 19.6
comp=Z,20µm,18.0s
152A Waverly Hall 34.66 354 IAmb IAmb 07 11 08.7
comp=Z,114nm,0.9s
ITRB Iturama 34.71 123 P **P 07 10 51.8 -0.7**
ITRB Iturama 34.71 123 *eP* **P 07 10 51.5 -0.9**
ML02 Panimavida 34.74 166 IAmb IAmb 07 11 26.9
comp=Z,112nm,0.9s
ML02 IAMs_20 IAMs_20 07 23 04.6
comp=Z,22µm,20.0s
HKT Hockley 34.80 337 P **P 07 10 54.2 +1.3**
HKT IAmb IAmb 07 11 14.2
comp=Z,148nm,1.4s
HKT Hockley 34.80 337 *ceP* **P 07 10 54.7 +1.8**
HKT pmax pmax
comp=Z,138nm,1.4s
HKT Hockley 34.80 337 ⇓P **P 07 10 55.5 +2.5**
CSU Charleston Sou 34.81 1 IAMs_20 IAMs_20 07 27 43.8
comp=Z,23µm,22.0s
NHSC New Hope 34.92 1 IAMs_20 IAMs_20 07 27 47.9
comp=Z,25µm,22.0s
NHSC New Hope 34.92 1 ⇑P **P 07 10 53.0 -1.0**
BDFB Brasilia 35.19 115 P **P 07 10 56.2 -0.5**
BDFB Brasilia 35.19 115 P **P 07 10 55.5 -1.3**
comp=Z,18nm,0.9s,baz=286,slow=12,SNR=18
BDFB S **S 07 16 26.3 -3.7**
comp=Z,23nm,0.9s,baz=356,slow=13,SNR=1.6
BDFB Lg Lg 07 22 20.8
comp=Z,0.1nm,0.3s,baz=221,slow=18,SNR=2.6
BDFB LR LR 07 27 12.7
comp=Z,88µm,18.2s,baz=290,slow=40
comp=Z,18nm,0.9s
VBMS Vicksburg 35.22 346 IAmb IAmb 07 11 17.5

comp=Z,107nm,1.1s
GOGA Godfrey 35.30 356 IAMs_20 IAMs_20 07 25 55.2
comp=Z,16µm,19.0s
GOGA Godfrey 35.30 356 IAmb IAmb 07 11 14.1
comp=Z,87nm,0.9s
GOGA Godfrey 35.30 356 ⇑P **P** **07 10 56.6 -0.6**
LRAL Lakeview Retre 35.31 351 IAmb IAmb 07 11 18.1
comp=Z,188nm,1.2s
LRAL Lakeview Retre 35.31 351 ⇑P **P** **07 10 56.9 -0.4**
ITU3 Corumbazu 35.36 119 P **P** **07 10 56.7 -1.4**
BI02 San Fabin de 35.64 167 IAmb IAmb 07 11 54.9
comp=Z,252nm,1.9s
BI02 IAMs_20 IAMs_20 07 23 31.3
comp=Z,21µm,20.0s
Y58A Scranton 35.73 2 IAmb IAmb 07 11 07.9
comp=Z,158nm,1.3s
Y58A IAMs_20 IAMs_20 07 28 07.3
comp=Z,16µm,21.0s
Y52A Lilburn 35.79 356 IAMs_20 IAMs_20 07 26 13.3
comp=Z,22µm,19.0s
Y57A Sumter 35.83 1 IAmb IAmb 07 11 12.7
comp=Z,81nm,1.0s
Y57A IAMs_20 IAMs_20 07 28 14.9
comp=Z,22µm,21.0s
IPMB Ipameri, GO 35.85 118 P **P** **07 11 01.0 -1.3**
IPMB S **S** **07 16 38.2 -1.8**
PTGB Pitanga 35.89 131 P **P** **07 11 01.8 -0.8**
PTGB S **S** **07 16 37.7 -2.9**
PTGB Pitanga 35.89 131 *eP* **P** **07 11 02.8 +0.1**
143A Socs Landing, 35.90 345 IAmb IAmb 07 11 23.7
comp=Z,120nm,1.1s
Y60A Bolivia 35.91 4 IAmb IAmb 07 11 19.7
comp=Z,146nm,1.0s
Y60A IAMs_20 IAMs_20 07 26 52.7
comp=Z,21µm,21.0s
HNDO Hondo 35.92 332 P **P** **07 11 04.0 +1.3**
NATX Nacogdoches 36.01 340 ⇓P **P** **07 11 05.3 +1.9**
Y49A Blount Mountai 36.03 352 IAMs_20 IAMs_20 07 26 58.9
comp=Z,15µm,19.0s
HODGE Hodges 36.06 358 IAMs_20 IAMs_20 07 26 26.2
comp=Z,13µm,19.0s
JSC Jenkinsville 36.09 360 IAmb IAmb 07 11 22.9
comp=Z,129nm,1.2s
JSC IAMs_20 IAMs_20 07 28 41.9
comp=Z,15µm,21.0s
BAT3 Ipameri 36.22 117 P **P** **07 11 05.1 -0.4**
BAT3 S **S** **07 16 44.7 -1.1**
435B Jarrell 36.24 335 IAmb IAmb 07 11 24.5
comp=Z,83nm,0.9s
BAT2 UHE Batalha 36.27 117 P **P** **07 11 05.1 -0.8**
PSAL Palomas, Salto 36.39 145 *eP* **P** **07 11 08.2 +1.5**
X58A Rowland 36.39 2 IAMs_20 IAMs_20 07 27 24.7
comp=Z,22µm,20.0s
BIRD Birdtown, Kers 36.45 1 IAmb IAmb 07 11 13.9
comp=Z,199nm,1.7s
BIRD IAMs_20 IAMs_20 07 28 44.5
comp=Z,21µm,21.0s
FPAL Fort Paine 36.61 354 IAMs_20 IAMs_20 07 26 30.1
comp=Z,12µm,20.0s
PAULI Pauline 36.63 359 IAmb IAmb 07 11 15.8
comp=Z,245nm,1.7s
Z41A Richland Creek 36.81 343 IAmb IAmb 07 11 35.7
comp=Z,137nm,1.1s
ROSB Rosrio 36.82 92 S **S** **07 16 56.4 +1.5**
BG3 Lake Jocassee 36.84 357 IAmb IAmb 07 11 37.8
comp=Z,134nm,1.0s
BG3 IAMs_20 IAMs_20 07 26 51.0
comp=Z,16µm,18.0s
BB19B Bebedouro 36.85 123 P **P** **07 11 09.6 -1.3**
BB19B S **S** **07 16 52.5 -2.8**
BB19B Bebedouro 36.85 123 *eP* **P** **07 11 10.6 -0.2**
RPN Rapa Nui 36.92 225 IAMs_20 IAMs_20 07 22 14.3
comp=Z,15µm,21.0s
KMSC Kings Mountain 36.95 359 IAmb IAmb 07 11 18.4
comp=Z,308nm,1.6s
KMSC IAMs_20 IAMs_20 07 29 15.6
comp=Z,18µm,22.0s
JCT Junction City 36.96 332 ⇓P **P** **07 11 12.9 +1.3**
W57A Gilead 36.97 1 IAMs_20 IAMs_20 07 29 07.1
comp=Z,13µm,20.0s
W52A Murphy 37.00 356 IAmb IAmb 07 11 31.4
comp=Z,96nm,1.0s
W52A IAMs_20 IAMs_20 07 26 50.3
comp=Z,18µm,18.0s
W59A Clinton 37.05 3 IAMs_20 IAMs_20 07 27 27.0
comp=Z,23µm,21.0s
FRTB Fartura 37.09 127 P **P** **07 11 11.4 -1.5**
FRTB S **S** **07 16 54.9 -4.0**
FRTB Fartura 37.09 127 *eP* **P** **07 11 11.5 -1.4**
SDBA SAO DESIDERIO 37.19 108 P **P** **07 11 12.9 -0.9**
SDBA S **S** **07 16 59.0 -1.5**
SDBA SAO DESIDERIO 37.19 108 *eP* **P** **07 11 13.1 -0.7**
W50A Signal Mountai 37.23 354 IAmb IAmb 07 11 30.6
comp=Z,112nm,1.0s
WHTX Lake Whitney, 37.25 337 P **P** **07 11 15.0 +1.0**
WHTX IAmb IAmb 07 11 35.5
comp=Z,230nm,1.1s
WLAR White Oak Lake 37.30 343 P **P** **07 11 15.2 +0.9**
WLAR IAmb IAmb 07 11 40.7
comp=Z,270nm,1.3s
ITAB Concordia 37.32 135 P **P** **07 11 14.8 +0.2**
ITAB IAmb IAmb 07 11 28.9
comp=Z,260nm,1.2s
ITAB Concordia 37.32 135 P **P** **07 11 13.8 -0.9**
ITAB S **S** **07 17 00.1 -2.0**
ITAB Concordia 37.32 135 *eP* **P** **07 11 14.4 -0.3**
HPIG 37.35 322 IAmb IAmb 07 11 35.7
comp=Z,111nm,1.2s
HPIG IAMs_20 IAMs_20 07 24 35.9
comp=Z,17µm,19.0s
PLAL Pickwick Lake 37.39 350 IAmb IAmb 07 11 34.2
comp=Z,211nm,1.6s
CPCT Cooper Cave 37.40 355 IAmb IAmb 07 11 30.9
comp=Z,154nm,1.1s
Z38A Mt. Pleasant 37.48 341 IAmb IAmb 07 11 38.5
comp=Z,232nm,1.2s
BBSR BB Station 37.50 23 P **P** **07 11 16.1 0.0**
BBSR IAmb IAmb 07 12 37.7
comp=Z,364nm,1.9s
V53A Saluda 37.51 358 IAMs_20 IAMs_20 07 27 10.7
comp=Z,17µm,19.0s
TKL Tuckaleechee C 37.55 356 IAmb IAmb 07 11 35.0
comp=Z,156nm,1.2s
TKL Tuckaleechee C 37.55 356 ⇑P **P** **07 11 15.1 -1.4**
FW13 Cleburne 37.56 337 IAmb IAmb 07 11 35.2
comp=Z,184nm,1.1s
PMNB Patos De Minas 37.62 118 ⇑P **P** **07 11 16.8 -0.7**
PMNB Patos De Minas 37.62 118 P **P** **07 11 16.7 -0.7**
PMNB S **S** **07 17 05.6 -1.4**
PMNB Patos De Minas 37.62 118 *eP* **P** **07 11 17.3 -0.1**
V58A Windy Hill, Pi 37.64 2 IAmb IAmb 07 11 39.5
comp=Z,128nm,1.2s
V58A IAMs_20 IAMs_20 07 27 59.7
comp=Z,22µm,22.0s
V55A Taylorsville 37.66 360 IAmb IAmb 07 11 31.4
comp=Z,253nm,1.8s
V55A IAMs_20 IAMs_20 07 29 13.4
comp=Z,19µm,21.0s
TBOT Tacuaremb 37.80 144 *eP* **P** **07 11 20.2 +1.5**
V48A Smith Brothers 37.94 352 IAMs_20 IAMs_20 07 27 13.4
comp=Z,13µm,20.0s
TXAR Lajitas Array 37.99 327 P **P** **07 11 21.4 +1.0**
TXAR Lajitas Array 37.99 327 P **P** **07 11 21.1 +0.8**
comp=Z,8.8nm,1.0s,baz=143,slow=7.0,SNR=18
TXAR PcP **PcP** **07 13 35.8 -0.3**
comp=Z,7.3nm,0.8s,baz=126,slow=4.0,SNR=4.3
TXAR S **S** **07 17 08.7 -3.7**
comp=Z,1.2nm,0.9s,baz=163,slow=11,SNR=1.1
comp=Z,8.8nm,1.0s
FW07 Weatherford 38.01 337 IAmb IAmb 07 11 42.0
comp=Z,234nm,1.2s
SLBS Sierra La Lagu 38.03 314 P **P** **07 11 22.6 +1.7**
SLBS IAmb IAmb 07 11 44.6
comp=Z,163nm,1.1s
SLBS Sierra La Lagu 38.03 314 ⇓P **P** **07 11 23.3 +2.4**
UALR University of 38.11 345 IAmb IAmb 07 11 42.4
comp=Z,207nm,1.2s
U56A King 38.15 1 IAMs_20 IAMs_20 07 29 45.5
comp=Z,15µm,21.0s
FW06 Azle 38.16 337 IAmb IAmb 07 11 44.7
comp=Z,174nm,1.0s
CLTN Cedars of Leba 38.22 353 IAmb IAmb 07 11 34.6
comp=Z,224nm,2.0s
MIAR Mount Ida 38.23 343 ⇑P **P** **07 11 22.1 -0.2**
U54A Nelsons Funny 38.33 359 IAmb IAmb 07 11 41.3
comp=Z,196nm,1.3s
U54A IAMs_20 IAMs_20 07 30 10.3
comp=Z,16µm,22.0s
JANB Januaria 38.41 112 P **P** **07 11 22.9 -1.3**
JANB S **S** **07 17 16.9 -2.2**
JANB Januaria 38.41 112 *eP* **P** **07 11 24.3 +0.2**
TZTN Tazewell 38.42 357 IAmb IAmb 07 11 43.0
comp=Z,204nm,1.2s
TZTN IAMs_20 IAMs_20 07 30 10.8
comp=Z,16µm,21.0s
TZTN Tazewell 38.42 357 ⇑P **P** **07 11 22.9 -0.9**
CPSB Cacapava Do Su 38.45 140 P **P** **07 11 23.4 -0.8**
CPSB S **S** **07 17 17.8 -1.5**
CPSB Cacapava Do Su 38.45 140 *eP* **P** **07 11 25.2 +1.0**
WVT Waverly 38.47 351 P **P** **07 11 23.2 -1.0**
WVT Waverly 38.47 351 P **P** **07 11 23.2 -1.0**
WVT pmax pmax
comp=Z,49nm,0.9s
WVT MLR MLR
comp=Z,11µm,20.0s
WVT Waverly 38.47 351 ⇑P **P** **07 11 22.5 -1.7**
TIJ01 Guaruva-PR 38.55 130 P **P** **07 11 26.8 +1.6**
TIJ01 S **S** **07 17 22.6 +1.6**
U49A Red Boiling Sp 38.58 354 P **P** **07 11 25.2 +0.1**
U49A IAmb IAmb 07 11 38.5
comp=Z,442nm,2.0s
U49A IAMs_20 IAMs_20 07 27 40.2
comp=Z,20µm,19.0s
WHAR Wooly Hollow 38.58 345 IAmb IAmb 07 11 46.2
comp=Z,171nm,1.2s
GNAR Gosnell 38.70 348 IAmb IAmb 07 11 50.8
comp=Z,193nm,1.1s
ABTX Abilene, Hawle 38.71 334 IAmb IAmb 07 11 48.0
comp=Z,173nm,1.1s
SGCY Sterling City 38.77 332 IAmb IAmb 07 11 46.3
comp=Z,218nm,1.0s
ALPN Alpine 38.78 328 IAmb IAmb 07 11 47.2
comp=Z,193nm,1.1s
UTMT University of 38.85 350 IAmb IAmb 07 11 45.8
comp=Z,166nm,1.1s
T50A Nancy 38.99 355 IAmb IAmb 07 11 40.7
comp=Z,286nm,2.0s
BLA Blacksburg 39.02 1 IAMs_20 IAMs_20 07 29 09.3
comp=Z,17µm,20.0s
VABB Valinhos 39.02 125 P **P** **07 11 27.6 -1.6**
VABB S **S** **07 17 24.1 -4.0**
VAO Valinhos 39.02 125 *eP* **P** **07 11 29.3 +0.1**
JQT1 Jequitai-MG 39.02 115 P **P** **07 11 28.5 -0.7**
LCAR Lake Charles 39.05 347 IAmb IAmb 07 11 53.7
comp=Z,134nm,0.9s
MNHN Monahans 39.10 330 IAmb IAmb 07 11 48.9
comp=Z,145nm,0.9s
HICK Hickman 39.11 349 IAmb IAmb 07 11 42.5
comp=Z,275nm,1.0s
T47A Sharon Grove 39.21 352 IAmb IAmb 07 11 48.3
comp=Z,362nm,1.9s
T47A IAMs_20 IAMs_20 07 30 18.0
comp=Z,14µm,19.0s
MC01 Montes Claros 39.24 114 P **P** **07 11 30.1 -1.0**
MC01 S **S** **07 17 28.7 -2.9**
PLTB Pedras Altas 39.27 142 P **P** **07 11 30.7 -0.3**
PLTB S **S** **07 17 32.5 +1.0**
PARMO Parma 39.33 349 IAmb IAmb 07 11 55.9
comp=Z,250nm,1.1s
PET01 Itanhaem-SP 39.38 127 P **P** **07 11 30.4 -1.6**
PET01 S **S** **07 17 28.9 -4.5**
PET01 Itanhaem-SP 39.38 127 *eP* **P** **07 11 31.8 -0.2**
CNLB Canela 39.47 136 P **P** **07 11 31.5 -1.4**
CNLB S **S** **07 17 32.5 -2.3**
CNLB Canela 39.47 136 *eP* **P** **07 11 33.1 +0.2**
APMT Aspermont 39.51 334 IAmb IAmb 07 11 54.3
comp=Z,145nm,1.0s
S51A Beattyville 39.51 357 IAMs_20 IAMs_20 07 31 03.8
comp=Z,16µm,20.0s
NBPS Pedro II - PI 39.52 94 P **P** **07 11 32.5 -1.0**
NBPS S **S** **07 17 35.5 -0.5**
PBMO Poplar Bluff 39.57 348 IAmb IAmb 07 11 53.0
comp=Z,258nm,1.8s
S54A Dingess, Beckl 39.60 360 IAmb IAmb 07 11 46.1
comp=Z,240nm,1.4s
S54A IAMs_20 IAMs_20 07 30 43.8
comp=Z,13µm,22.0s
S57A Dark Hollow, R 39.60 3 IAMs_20 IAMs_20 07 29 18.7
comp=Z,17µm,21.0s
ODSA Odessa 39.63 331 IAmb IAmb 07 11 55.5
comp=Z,197nm,1.2s
SN07 Snyder 07 39.65 333 IAmb IAmb 07 11 55.7
comp=Z,131nm,1.1s
MAJ01 Sao Joao Batis 39.66 133 *eP* **P** **07 11 34.7 +0.3**
PECS Pecos 39.69 329 IAmb IAmb 07 11 54.8
comp=Z,175nm,1.3s
PLCA Paso Flores 39.69 168 P **P** **07 11 34.5 -0.1**
comp=Z,28nm,1.1s,baz=344,slow=9.6,SNR=27
PLCA PcP **PcP** **07 13 41.2 0.0**
comp=Z,9.7nm,0.9s,baz=339,slow=5.2,SNR=1.3
PLCA S **S** **07 17 36.0 -1.8**
comp=Z,3.2nm,1.1s,baz=339,slow=8.6,SNR=1.4
PLCA Lg Lg 07 24 49.3
baz=257,slow=14,SNR=2.8
comp=Z,28nm,1.1s
PLCA Paso Flores 39.69 168 ⇓P **P** **07 11 34.9 +0.4**
PLCA Paso Flores 39.69 168 P **P** **07 11 35.7 +1.1**
PLCA S **S** **07 17 38.3 +0.5**
PLCA Paso Flores 39.69 168 *eP* **P** **07 11 35.5 +1.0**
LL03 Petrohue 39.72 170 IAmb IAmb 07 11 55.3
comp=Z,148nm,1.1s
S61A Accomac 39.78 7 IAMs_20 IAMs_20 07 27 49.2
comp=Z,11µm,22.0s
VHRN Van Horn 39.83 327 IAmb IAmb 07 11 56.7
comp=Z,297nm,1.2s
W35A Tecumseh 39.85 339 IAmb IAmb 07 11 55.8
comp=Z,206nm,1.4s
R58B Mineral 39.87 4 IAMs_20 IAMs_20 07 24 49.6
comp=Z,10µm,18.0s
TRQA Tornquist 39.89 156 P **P** **07 11 36.2 0.0**
TRQA IAmb IAmb 07 11 54.1
comp=Z,173nm,1.4s
TRQA IAMs_20 IAMs_20 07 27 31.2
comp=Z,17µm,21.0s
TRQA Tornquist 39.89 156 P **P** **07 11 36.2 0.0**
TRQA pmax pmax
comp=Z,173nm,1.4s
TRQA MLR MLR
comp=Z,17µm,21.0s
TRQA Tornquist 39.89 156 P **P** **07 11 36.1 0.0**
TRQA S **S** **07 17 40.3 -0.4**
POST Post 39.91 333 IAmb IAmb 07 11 55.7
comp=Z,166nm,1.1s
CGM3 Cape Girardeau 39.92 349 IAmb IAmb 07 11 43.0
comp=Z,225nm,1.4s
HHAR Hobbs 39.96 344 IAmb IAmb 07 11 57.4
comp=Z,180nm,1.3s
DIAM Diamantina, MG 39.99 116 P **P** **07 11 36.2 -1.2**
DIAM S **S** **07 17 40.1 -2.8**
DIAM Diamantina, MG 39.99 116 *eP* **P** **07 11 37.6 +0.2**
R55A Marlinton 40.09 1 IAMs_20 IAMs_20 07 29 50.7
comp=Z,15µm,20.0s
DKNS Dickens 40.16 334 IAmb IAmb 07 11 59.0
comp=Z,216nm,1.2s
TUL3 Leonard 40.18 341 IAmb IAmb 07 11 54.1
comp=Z,222nm,1.0s
WMOK Wichita Mounta 40.19 337 ⇑P **P** **07 11 39.6 +1.0**
R50A Paris 40.20 356 IAmb IAmb 07 11 56.9
comp=Z,259nm,1.7s
R50A IAMs_20 IAMs_20 07 31 29.0
comp=Z,19µm,21.0s
TER01 Tubaro-SC 40.22 134 P **P** **07 11 37.9 -1.1**
S44A Carbondale 40.23 350 IAmb IAmb 07 11 57.2
comp=Z,457nm,1.8s
U38A Grayette 40.23 343 IAmb IAmb 07 11 50.9
comp=Z,115nm,1.0s
USIN University of 40.24 352 IAmb IAmb 07 11 56.3
comp=Z,157nm,0.9s
USIN IAMs_20 IAMs_20 07 30 07.5
comp=Z,14µm,20.0s
SIUC Southern Illin 40.25 350 IAmb IAmb 07 11 58.3
comp=Z,355nm,1.6s
PARB Paraibuna 40.27 125 P **P** **07 11 38.7 -0.9**
PARB S **S** **07 17 43.6 -3.4**
PARB Paraibuna 40.27 125 *eP* **P** **07 11 40.5 +0.9**
OKCSW OKLAHOMA CITY 40.28 339 IAmb IAmb 07 12 01.4
comp=Z,286nm,1.1s
R49A Shelbyville 40.28 355 IAmb IAmb 07 11 58.0
comp=Z,129nm,1.1s
WCI Wyandotte Cave 40.33 354 P **P** **07 11 38.8 -0.9**
WCI Wyandotte Cave 40.33 354 IAMs_20 IAMs_20 07 28 44.6
comp=Z,17µm,21.0s
WCI Wyandotte Cave 40.33 354 P **P** **07 11 38.8 -0.9**
WCI pmax pmax
comp=Z,110nm,1.1s
WCI MLR MLR
comp=Z,17µm,21.0s
WCI Wyandotte Cave 40.33 354 ⇑P **P** **07 11 38.9 -0.9**
MGMO Mountain Grove 40.35 346 P **P** **07 11 40.0 +0.1**
MGMO IAmb IAmb 07 12 05.0
comp=Z,150nm,1.1s
DEOK Depew 40.35 340 IAmb IAmb 07 12 01.6
comp=Z,235nm,1.1s
OK031 S. Brethren Rd 40.56 340 IAmb IAmb 07 11 59.5
comp=Z,190nm,0.9s
LL06 Loncomilla 40.58 172 IAMs_20 IAMs_20 07 26 32.4
comp=Z,18µm,19.0s
OK052 Battle Ridge R 40.59 340 IAmb IAmb 07 12 03.7
comp=Z,355nm,1.3s
OK029 Liberty Lake 40.63 339 IAmb IAmb 07 12 04.2
comp=Z,260nm,1.0s
SBBR Sobral 40.68 93 P **P** **07 11 40.8 -2.2**
SBBR S **S** **07 17 59.7 +6.6**
QUOK Quay 40.72 340 IAmb IAmb 07 12 04.2
comp=Z,185nm,1.1s
MNTX Cornudas Mount 40.75 327 ⇑P **P** **07 11 44.9 +1.5**
Q52A Bidwell 40.78 358 IAmb IAmb 07 11 49.9
comp=Z,235nm,1.4s
Q52A IAMs_20 IAMs_20 07 31 47.1
comp=Z,13µm,20.0s
Q56A Snyder Ridge, 40.87 2 IAMs_20 IAMs_20 07 29 58.3
comp=Z,15µm,22.0s
Q51A Peebles 40.88 357 IAmb IAmb 07 12 03.0
comp=Z,128nm,1.1s
NBMO Morrinhos-CE 40.90 93 P **P** **07 11 43.1 -1.7**
LL01 San Ignacio de 40.93 170 IAMs_20 IAMs_20 07 26 14.5
comp=Z,17µm,20.0s
LL01 San Ignacio de 40.93 170 ⇑P **P** **07 11 44.9 +0.3**
CCM Cathedral Cave 40.97 348 P **P** **07 11 44.3 -0.7**
CCM IAmb IAmb 07 12 04.4
comp=Z,313nm,1.6s
CCM Cathedral Cave 40.97 348 P **P** **07 11 44.3 -0.7**
CCM pmax pmax
comp=Z,313nm,1.6s
CCM Cathedral Cave 40.97 348 ⇑P **P** **07 11 43.7 -1.3**
OK048 Pawnee Station 41.02 340 IAmb IAmb 07 12 08.7
comp=Z,328nm,1.5s
OK051 E0350 and S346 41.06 340 IAmb IAmb 07 12 08.1
comp=Z,270nm,1.4s
OLIL Olney 41.06 351 IAmb IAmb 07 12 03.6
comp=Z,125nm,0.9s
OLIL IAMs_20 IAMs_20 07 29 55.1
comp=Z,13µm,20.0s
LL07 Hotel Espejo d 41.20 172 IAMs_20 IAMs_20 07 25 53.9
comp=Z,17µm,20.0s
P53A Whipple 41.29 360 IAmb IAmb 07 12 03.8
comp=Z,132nm,1.2s
P53A IAMs_20 IAMs_20 07 29 47.5
comp=Z,13µm,21.0s
BLO Bloomington 41.29 353 IAmb IAmb 07 12 06.1
comp=Z,318nm,1.8s
P51A Williamsport 41.32 358 IAMs_20 IAMs_20 07 31 46.6
comp=Z,11µm,20.0s
P57A Homestead Farm 41.37 3 IAmb IAmb 07 12 05.3
comp=Z,236nm,1.9s
Q44A Meyer Farm, Va 41.37 350 IAmb IAmb 07 12 06.2
comp=Z,138nm,1.0s
NBPB Pedra_Branca-C 41.43 96 P **P** **07 11 48.4 -0.8**
NBPB S **S** **07 18 03.9 -0.5**
NBPB Pedra_Branca-C 41.43 96 *eP* **P** **07 11 48.4 -0.8**
P52A Corning 41.45 359 IAmb IAmb 07 12 08.1
comp=Z,153nm,1.1s
P52A IAMs_20 IAMs_20 07 29 42.7
comp=Z,15µm,19.0s
MAN01 Angra dos Reis 41.45 123 P **P** **07 11 48.5 -0.8**
MAN01 Angra dos Reis 41.45 123 *eP* **P** **07 11 49.3 0.0**
GO07 Milladeo Hill, 41.45 172 IAmb IAmb 07 12 05.2
comp=Z,186nm,1.3s
MCWV Mont Chateau 41.47 1 ⇑P **P** **07 11 49.0 0.0**
AMTX Amarillo 41.52 334 ⇓P **P** **07 11 50.2 +0.5**
VAS01 Vassouras-RJ 41.65 122 P **P** **07 11 47.3 -3.6**
VAS01 S **S** **07 18 06.3 -1.0**
VAS01 Vassouras-RJ 41.65 122 *eP* **P** **07 11 53.1 +2.2**
CAR01 Carai MG 41.71 114 P **P** **07 11 50.3 -1.2**
CAR01 S **S** **07 18 05.8 -2.6**
OK038 West end E0370 41.71 338 IAmb IAmb 07 12 06.1
comp=Z,147nm,0.9s
OK032 Salt Plains WL 41.81 339 P **P** **07 11 53.0 +1.1**
OK032 IAmb IAmb 07 12 14.2
comp=Z,178nm,1.0s
P46A Rosedale 41.81 353 IAMs_20 IAMs_20 07 29 21.8
comp=Z,14µm,21.0s
LL02 Futaleuf 41.81 170 P **P** **07 11 51.6 -0.3**
LL02 IAMs_20 IAMs_20 07 26 31.0
comp=Z,15µm,20.0s
LL02 Futaleuf 41.81 170 ⇑P **P** **07 11 51.6 -0.3**
KAN14 Manchester OK 41.86 339 IAmb IAmb 07 12 14.4
comp=Z,168nm,1.1s
KAN17 Caldwell West 41.87 340 IAmb IAmb 07 12 14.5
comp=Z,192nm,1.1s
KAN09 Caldwell North 41.90 340 IAmb IAmb 07 12 14.9
comp=Z,246nm,1.1s
O52A Adamsville 41.92 359 IAMs_20 IAMs_20 07 30 07.3
comp=Z,15µm,20.0s
KAN05 Bluff City Nor 41.96 340 IAmb IAmb 07 12 15.5
comp=Z,306nm,1.2s
KAN01 Argonia South 41.96 340 IAmb IAmb 07 12 09.0
comp=Z,156nm,1.0s
MVL Millersville 42.01 5 IAmb IAmb 07 12 10.3
comp=Z,166nm,1.3s
MVL IAMs_20 IAMs_20 07 30 33.2
comp=Z,11µm,21.0s
O53A New Philadelph 42.05 360 IAmb IAmb 07 12 12.6
comp=Z,119nm,1.0s
O53A IAMs_20 IAMs_20 07 29 30.0
comp=Z,13µm,21.0s
SIM2 UHE Simplicio 42.05 121 P **P** **07 11 54.0 -0.2**
ACSO Alum Creek Sta 42.07 358 IAmb IAmb 07 12 12.6
comp=Z,141nm,0.9s
ACSO IAMs_20 IAMs_20 07 32 28.3
comp=Z,13µm,20.0s
ACSO Alum Creek Sta 42.07 358 ⇑P **P** **07 11 53.4 -0.7**
O49A Covington 42.10 356 IAMs_20 IAMs_20 07 29 58.2
comp=Z,15µm,18.0s
KAN08 Anthony NE Sta 42.10 340 IAmb IAmb 07 12 16.7
comp=Z,186nm,1.1s
HSIG 42.15 319 ⇑P **P** **07 11 56.4 +1.6**
KAN12 Harper NE Stat 42.17 340 IAmb IAmb 07 12 21.4
comp=Z,174nm,1.2s
P43A Skaggs, Pawnee 42.18 350 IAmb IAmb 07 12 14.0
comp=Z,151nm,1.2s
P43A IAMs_20 IAMs_20 07 30 42.3
comp=Z,10µm,20.0s
O48B Farmland 42.23 355 IAmb IAmb 07 12 12.0
comp=Z,126nm,1.0s
SJMB Sao Joao De Ma 42.35 116 P **P** **07 11 55.9 -0.8**
SJMB S **S** **07 18 15.4 -2.4**
SJMB Sao Joao De Ma 42.35 116 *eP* **P** **07 11 55.6 -1.1**
NBMA Muriti-CE 42.38 99 P **P** **07 11 56.2 -0.8**
NBMA S **S** **07 18 22.2 +3.8**
DUB01 Friburgo-RJ 42.48 121 P **P** **07 11 57.0 -0.7**
DUB01 S **S** **07 18 21.5 +1.8**
DUB01 Friburgo-RJ 42.48 121 *eP* **P** **07 11 58.3 +0.5**
SSPA Standing Stone 42.52 3 P **P** **07 11 57.2 -0.5**
SSPA IAmb IAmb 07 12 04.6
comp=Z,171nm,1.4s
SSPA Standing Stone 42.52 3 ⇑P **P** **07 11 56.0 -1.7**
SFIN Lafayette 42.55 353 IAMs_20 IAMs_20 07 32 20.3
comp=Z,16µm,20.0s
N53A Lisbon 42.60 0 IAmb IAmb 07 12 17.4
comp=Z,149nm,1.3s
N53A IAMs_20 IAMs_20 07 31 10.3
comp=Z,17µm,21.0s
NBCL Cascavel-CE 42.66 94 P **P** **07 11 58.5 -0.8**
LUPA Lehigh Univers 42.70 6 IAmb IAmb 07 12 19.3
comp=Z,171nm,1.2s
319A Douglas 42.73 323 IAmb IAmb 07 12 39.0
comp=Z,194nm,1.2s
N51A Ashland 42.73 358 IAmb IAmb 07 12 17.7
comp=Z,158nm,1.0s
N51A IAMs_20 IAMs_20 07 32 55.8
comp=Z,12µm,21.0s
N49A Columbus Grove 42.82 356 IAMs_20 IAMs_20 07 27 54.2
comp=Z,10µm,20.0s
BRNJ Basking Ridge 42.88 7 IAmb IAmb 07 12 17.6
comp=Z,481nm,1.9s
BRNJ IAMs_20 IAMs_20 07 30 12.1
comp=Z,14µm,22.0s

AY01 Puyuhuapi 42.88 171 P **P** **07 12 01.0 +0.5**
AY01 IAms_20 IAms_20 07 26 57.3
comp=Z,14µm,20.0s
N47A Urbana 42.89 355 IAmb IAmb 07 12 17.1
comp=Z,128nm,1.2s
NBIT Itapeh - BA 42.94 110 P **P** **07 12 00.6 -0.8**
CMC01 Camacan, BA 42.96 110 P **P** **07 12 00.7 -1.0**
CMC01 Camacan, BA 42.96 110 *eP* **P** **07 11 59.5 -2.1**
GUA01 Guaratinga, BA 43.00 112 P **P** **07 12 01.0 -1.0**
GUA01 S **S** **07 18 24.9 -2.5**
GUA01 Guaratinga, BA 43.00 112 *eP* **P** **07 12 02.2 +0.3**
CAM01 Campos-RJ 43.00 120 P **P** **07 11 59.5 -2.4**
CAM01 Campos-RJ 43.00 120 *eP* **P** **07 12 01.6 -0.3**
HDIL Hopedale 43.03 351 IAMs_20 IAMs_20 07 31 06.3
comp=Z,9µm,19.0s
HDIL Hopedale 43.03 351 ⇑P **P** **07 12 00.6 -1.2**
M50A Fremont 43.24 358 IAmb IAmb 07 12 22.0
M50A IAMs_20 IAMs_20 07 33 03.3
comp=Z,193nm,1.0s
comp=Z,12µm,20.0s
RIB01 Linhares ES 43.25 116 P **P** **07 12 02.8 -1.1**
RIB01 Linhares ES 43.25 116 *eP* **P** **07 12 03.1 -0.9**
N62A Caumsett State 43.27 8 IAMs_20 IAMs_20 07 30 15.4
comp=Z,12µm,22.0s
BNM Barren Site 43.31 328 P **P** **07 12 06.3 +1.9**
M52A Chesterland 43.34 360 IAMs_20 IAMs_20 07 30 58.7
comp=Z,16µm,21.0s
KSU1 Kansas State U 43.36 342 ⇑P **P** **07 12 04.8 +0.2**
TRNY Table Rock, Ra 43.38 7 IAMs_20 IAMs_20 07 32 55.3
comp=Z,9µm,20.0s
Y22D IRIS PASSCAL I 43.40 328 P **P** **07 12 04.7 -0.4**
baz=140
R32A Long Quarter, 43.43 340 IAmb IAmb 07 12 23.6
comp=Z,218nm,1.1s
ALLY Alegheny Colle 43.45 1 IAmb IAmb 07 12 11.3
comp=Z,191nm,1.4s
WSPT Westport, CT 43.52 8 IAmb IAmb 07 12 22.0
comp=Z,377nm,1.9s
KSPA Keystone Colle 43.61 6 IAmb IAmb 07 12 23.1
comp=Z,281nm,1.4s
KSPA IAMs_20 IAMs_20 07 31 41.5
comp=Z,9µm,19.0s
M44A Midewin, Midew 43.66 352 IAMs_20 IAMs_20 07 32 55.9
comp=Z,17µm,21.0s
NBLA Lagarto - SE 43.77 104 P **P** **07 12 07.4 -0.8**
NBLA S **S** **07 18 36.2 -2.5**
ANMO Albuquerque 43.84 329 P **P** **07 12 10.2 +1.5**
ANMO IAmb IAmb 07 12 38.3
comp=Z,134nm,0.9s
ANMO Albuquerque 43.84 329 IAMs_20 IAMs_20 07 31 11.3
comp=Z,6µm,18.0s
ANMO Albuquerque 43.84 329 IAMs_20 IAMs_20 07 31 11.3
comp=Z,6µm,18.0s
ANMO Albuquerque 43.84 329*c iP* **P** **07 12 09.3 +0.6**
ANMO pmax pmax
comp=Z,76nm,0.9s
ANMO MLR MLR
comp=Z,3µm,17.0s
ANMO Albuquerque 43.84 329 ⇑P **P** **07 12 10.0 +1.3**
NBPA Parau_RN 43.90 96 P **P** **07 12 08.3 -1.0**
ERPA Erie 43.92 1 IAMs_20 IAMs_20 07 32 08.1
comp=Z,16µm,21.0s
L56A Greenwood 44.04 4 IAmb IAmb 07 12 31.4
comp=Z,112nm,1.2s
KSCT Kent School, K 44.05 8 IAmb IAmb 07 12 13.2
comp=Z,108nm,0.7s
COYC Coyhaique 44.09 171 P **P** **07 12 10.8 +0.5**
COYC IAmb IAmb 07 12 46.2
comp=Z,166nm,1.7s
COYC Coyhaique 44.09 171 IAMs_20 IAMs_20 07 28 20.4
comp=Z,12µm,19.0s
COYC Coyhaique 44.09 171 ⇓P **P** **07 12 10.8 +0.5**
CBKS Cedar Bluff 44.14 339 IAmb IAmb 07 12 26.3
comp=Z,118nm,1.0s
CBKS Cedar Bluff 44.14 339 ⇑P **P** **07 12 11.6 +0.7**
AAM Ann Arbor 44.16 357 IAmb IAmb 07 12 30.2
comp=Z,150nm,1.2s
AAM IAMs_20 IAMs_20 07 29 08.8
comp=Z,13µm,20.0s
BINY Binghamton 44.22 5 IAmb IAmb 07 12 35.8
comp=Z,126nm,0.9s
BINY IAMs_20 IAMs_20 07 31 38.8
comp=Z,10µm,22.0s
BINY Binghamton 44.22 5 ⇑P **P** **07 12 11.1 -0.4**
TUC Tucson 44.29 323 P **P** **07 12 13.6 +1.4**
TUC Tucson 44.29 323 P **P** **07 12 13.6 +1.4**
TUC pmax pmax
comp=Z,57nm,1.2s
TUC Tucson 44.29 323 ⇓P **P** **07 12 13.6 +1.4**
M65A Busby, Falmout 44.36 11 P **P** **07 12 11.4 -1.1**
baz=195
L42A Oliver, Polo 44.50 351 IAmb IAmb 07 12 32.1
comp=Z,274nm,1.5s
L42A IAMs_20 IAMs_20 07 32 02.3
comp=Z,10µm,22.0s
K50A Casco 44.59 358 IAMs_20 IAMs_20 07 31 30.1
comp=Z,14µm,21.0s
T25A Trinidad 44.61 333 P **P** **07 12 15.5 +0.6**
L64A Middleborough 44.69 11 IAmb IAmb 07 12 31.7
comp=Z,207nm,1.5s
K57A Scipio Center 44.71 5 IAMs_20 IAMs_20 07 31 53.6
comp=Z,11µm,22.0s
N35A Tabor 44.71 344 IAmb IAmb 07 12 38.5
comp=Z,168nm,1.1s
BCX Boston College 45.01 10 IAmb IAmb 07 12 33.6
comp=Z,72nm,1.0s
TRY Troy 45.01 8 P **P** **07 12 18.1 +0.5**
TRY IAmb IAmb 07 12 34.6
comp=Z,218nm,1.4s
TRY IAMs_20 IAMs_20 07 32 47.5
comp=Z,8µm,19.0s
MEDO Medina 45.02 3 IAMs_20 IAMs_20 07 32 31.9
comp=Z,8µm,19.0s
NBAN Anadia - AL 45.06 102 P **P** **07 12 18.0 -0.6**
NBAN Anadia - AL 45.06 102 *eP* **P** **07 12 17.6 -1.0**
SCIA State Center 45.09 347 IAmb IAmb 07 12 28.3
comp=Z,118nm,0.9s
RCBR Riachuelo 45.11 96 P **P** **07 12 18.7 -0.3**
RCBR IAmb IAmb 07 12 32.9
comp=Z,66nm,0.9s
RCBR Riachuelo 45.11 96 P **P** **07 12 18.6 -0.3**
comp=Z,6.8nm,0.8s,baz=276,slow=17,SNR=14
RCBR S **S** **07 18 54.6 -3.7**
comp=Z,2.9nm,1.0s,baz=319,slow=19,SNR=1.7
RCBR LR LR 07 32 54.4
comp=Z,42µm,19.1s,baz=288,slow=38
comp=Z,6.8nm,0.8s
RCBR Riachuelo 45.11 96 P **P** **07 12 18.7 -0.3**
RCBR pmax pmax
comp=Z,66nm,0.9s
RCBR MLR MLR
comp=Z,146µm,18.0s
RCBR Riachuelo 45.11 96 ⇑P **P** **07 12 18.8 -0.3**
RCBR Riachuelo 45.11 96 P **P** **07 12 18.5 -0.5**
RCBR Riachuelo 45.11 96 *eP* **P** **07 12 18.4 -0.5**
HRV Adam Dziewonsk 45.11 10 P **P** **07 12 19.0 +0.5**
HRV Adam Dziewonsk 45.11 10 P **P** **07 12 19.0 +0.5**
HRV pmax pmax
comp=Z,454nm,2.0s
HRV Adam Dziewonsk 45.11 10 ⇑P **P** **07 12 19.0 +0.5**
J47A Sunmer 45.17 356 IAMs_20 IAMs_20 07 31 53.4
comp=Z,12µm,18.0s
NBCA Caruaru-PE 45.17 100 P **P** **07 12 18.9 -0.6**
NBCA S **S** **07 18 59.9 +0.7**
NBCA Caruaru-PE 45.17 100 *eP* **P** **07 12 19.3 -0.2**
X18A Snowflake 45.40 326 IAmb IAmb 07 12 41.7
comp=Z,132nm,1.3s
X18A IAMs_20 IAMs_20 07 33 11.7
comp=Z,9µm,18.0s
KSCO Kaye Shedlock' 45.42 336 IAMs_20 IAMs_20 07 33 30.1
comp=Z,8µm,19.0s
J57A Williamstown 45.42 5 IAMs_20 IAMs_20 07 32 25.6
comp=Z,9µm,22.0s
PIX Pinacate 45.45 320 IAmb IAmb 07 12 43.4
comp=Z,184nm,1.4s
JFWS Jewell Farm 45.49 350 IAMs_20 IAMs_20 07 33 22.3
comp=Z,12µm,21.0s
JFWS Jewell Farm 45.49 350 IAmb IAmb 07 12 38.7
comp=Z,93nm,0.8s
JFWS Jewell Farm 45.49 350 ⇓P **P** **07 12 20.1 -1.4**
SDCO Great Sand Dun 45.61 333 IAmb IAmb 07 12 36.0
comp=Z,91nm,1.0s
SDCO Great Sand Dun 45.61 333 ⇑P **P** **07 12 23.8 +1.0**
ACCN Adirondack Com 45.65 7 IAmb IAmb 07 12 39.3
comp=Z,243nm,1.6s
ACCN IAMs_20 IAMs_20 07 33 07.5
comp=Z,8µm,20.0s
NBPV Pedro Velho 45.75 97 P **P** **07 12 22.7 -1.3**
I49A Point Hope 45.76 358 IAMs_20 IAMs_20 07 32 16.1
comp=Z,15µm,21.0s
J61A Chester 45.77 9 IAmb IAmb 07 12 40.6
comp=Z,245nm,1.7s
PECO Prince Edward 45.87 4 IAmb IAmb 07 12 30.2
comp=Z,90nm,1.0s
PECO IAMs_20 IAMs_20 07 33 06.4
comp=Z,8µm,21.0s
NBBL Bica de Lurdes 46.06 100 P **P** **07 12 25.6 -0.9**
HNH Hanover 46.16 9 IAmb IAmb 07 12 42.9
comp=Z,88nm,1.2s
X16A Lo Mia Camp, P 46.17 324 IAmb IAmb 07 12 40.7
comp=Z,60nm,0.9s
S22A 4UR Ranch, Cre 46.23 331 IAmb IAmb 07 12 48.7
comp=Z,117nm,1.4s
DELO Deloro Mine 46.41 3 IAmb IAmb 07 12 48.0
comp=Z,139nm,1.2s
113A Mohawk Valley, 46.44 321 IAmb IAmb 07 12 50.6
comp=Z,206nm,1.5s
Q24A Divide 46.45 334 IAmb IAmb 07 12 50.8
comp=Z,198nm,1.5s
I62A Tamworth 46.48 10 IAmb IAmb 07 12 46.2
comp=Z,211nm,1.6s
I40A Norwalk 46.50 350 IAmb IAmb 07 12 35.5
comp=Z,151nm,1.3s
I40A IAMs_20 IAMs_20 07 34 02.6
comp=Z,13µm,22.0s
SADO Sadowa 46.59 2 IAmb IAmb 07 12 49.2
comp=Z,136nm,1.3s
SADO IAMs_20 IAMs_20 07 31 46.7
comp=Z,11µm,19.0s
SADO Sadowa 46.59 2 ⇑P **P** **07 12 27.9 -2.2**
MVCO Mesa Verde 46.63 329 IAmb IAmb 07 13 08.2
comp=Z,108nm,1.1s
MVCO IAMs_20 IAMs_20 07 31 25.0
comp=Z,8µm,19.0s
MVCO Mesa Verde 46.63 329 ⇓P **P** **07 12 31.8 +0.9**
VT1 Waterbury 46.71 8 IAMs_20 IAMs_20 07 31 31.0
comp=Z,8µm,21.0s
Y14A Wickenburg 46.76 323 IAmb IAmb 07 12 52.2
comp=Z,143nm,1.4s
Y14A IAMs_20 IAMs_20 07 29 52.5
comp=Z,9µm,20.0s
LONY Lake Ozonia 46.76 6 IAMs_20 IAMs_20 07 31 30.9
comp=Z,8µm,18.0s
LONY Lake Ozonia 46.76 6 ⇑P **P** **07 12 30.4 -1.2**
I63A Otisfield 46.78 10 IAmb IAmb 07 12 47.9
comp=Z,75nm,1.0s
OGNE Ogallala 46.86 338 IAmb IAmb 07 12 52.7
comp=Z,133nm,1.2s
OGNE Ogallala 46.86 338 ⇑P **P** **07 12 35.1 +2.7**
WUAZ Wupatki 46.91 326 IAMs_20 IAMs_20 07 33 45.0
comp=Z,10µm,22.0s
WUAZ Wupatki 46.91 326 ⇓P **P** **07 12 34.8 +1.8**
WBO Williamsburg 47.07 6 IAmb IAmb 07 12 55.0
comp=Z,150nm,1.4s
FRNY Flat Rock 47.09 7 IAMs_20 IAMs_20 07 33 49.5
comp=Z,7µm,19.0s
H62A Milan 47.19 10 IAmb IAmb 07 12 60.0
comp=Z,69nm,0.9s
ISCO Idaho Springs 47.34 334 IAmb IAmb 07 13 11.3
comp=Z,72nm,1.2s
ISCO Idaho Springs 47.34 334 ⇑P **P** **07 12 38.5 +2.0**
ESJX Sierra Juarez 47.36 319 IAmb IAmb 07 12 58.3
comp=Z,95nm,1.3s
WVL Waterville 47.45 11 IAmb IAmb 07 13 03.0
comp=Z,75nm,1.0s
BLYC Blythe 47.57 321 IAmb IAmb 07 12 56.0
comp=Z,86nm,1.2s
ECSD EROS Data Cent 47.65 345 IAmb IAmb 07 12 48.5
comp=Z,118nm,1.0s
ECSD EROS Data Cent 47.65 345 ⇑P **P** **07 12 37.6 -0.8**
PV07 Paradox Valley 47.66 330 IAmb IAmb 07 13 00.3
comp=Z,116nm,1.1s
MNTQ Montreal, Queb 47.74 7 IAMs_20 IAMs_20 07 34 09.8
comp=Z,8µm,20.0s
YUH Yuha Desert 47.75 319 IAmb IAmb 07 13 01.1
comp=Z,134nm,1.4s
G40A Rib Lake 47.77 351 IAmb IAmb 07 12 45.8
comp=Z,81nm,1.2s
W13A Hualapai Mount 48.08 323 IAmb IAmb 07 12 55.7
comp=Z,52nm,0.9s
U15A North Rim 48.09 326 IAmb IAmb 07 13 12.1
comp=Z,124nm,1.2s
U15A IAMs_20 IAMs_20 07 31 50.4
comp=Z,12µm,18.0s
TKX Tecate 48.15 319 IAmb IAmb 07 13 04.1
comp=Z,154nm,1.4s
SPMN Marine on St. 48.18 349 IAmb IAmb 07 12 51.7
comp=Z,61nm,1.0s
PKME Peaks-Kenny Pk 48.19 11 IAMs_20 IAMs_20 07 35 16.4
comp=Z,9µm,19.0s
PKME Peaks-Kenny Pk 48.19 11 ⇑P **P** **07 12 42.5 0.0**
E46A Sault Ste Mari 48.25 357 IAmb IAmb 07 13 03.6
comp=Z,91nm,1.1s
TRQ Mont Tremblant 48.35 6 IAmb IAmb 07 12 59.3
comp=Z,54nm,1.0s
COWI Conover 48.44 352 IAmb IAmb 07 13 06.7
comp=Z,153nm,1.5s
COWI Conover 48.44 352 ⇑P **P** **07 12 43.9 -0.6**
G65A Princeton 48.48 13 IAmb IAmb 07 12 57.9
comp=Z,110nm,1.1s
G65A IAMs_20 IAMs_20 07 32 32.5
comp=Z,12µm,21.0s
GGN Saint George 48.57 13 IAMs_20 IAMs_20 07 35 29.2
comp=Z,12µm,19.0s
PFO Pinyon Flats O 48.70 320 P **P** **07 12 48.4 +1.5**
PFO IAmb IAmb 07 13 08.6
comp=Z,121nm,1.3s
PFO Pinyon Flats O 48.70 320 LR LR 07 31 38.4
comp=Z,5µm,18.2s,baz=126,slow=34
PFO Pinyon Flats O 48.70 320*d iP* **P** **07 12 48.6 +1.7**
PFO pmax pmax
comp=Z,169nm,1.4s
PFO MLR MLR
comp=Z,7µm,14.0s
O20A White River Ci 48.80 332 IAMs_20 IAMs_20 07 33 01.7
comp=Z,8µm,21.0s
KNB Kanab 48.80 326 IAmb IAmb 07 13 01.2
comp=Z,93nm,1.2s
KNB IAMs_20 IAMs_20 07 32 14.4
comp=Z,12µm,18.0s
PKCU Pink Cliffs 48.83 327 IAMs_20 IAMs_20 07 32 28.9
comp=Z,7µm,18.0s
F64A Sherman 48.95 12 IAmb IAmb 07 13 01.4
comp=Z,143nm,1.2s
F64A IAMs_20 IAMs_20 07 35 46.9
comp=Z,9µm,20.0s
HAL Halifax 48.95 16 IAmb IAmb 07 13 00.5
comp=Z,252nm,2.0s
HAL IAMs_20 IAMs_20 07 37 03.7
comp=Z,8µm,20.0s
LCMT Little Creek M 49.04 326 IAmb IAmb 07 13 04.6
comp=Z,86nm,1.2s
V12A Nelson 49.09 323 IAmb IAmb 07 13 11.1
comp=Z,98nm,1.2s
V12A IAMs_20 IAMs_20 07 33 32.1
comp=Z,8µm,18.0s
MTPU Mount Pierson 49.19 327 IAmb IAmb 07 13 11.1
comp=Z,144nm,1.8s
E38A The Farm, Brul 49.29 350 IAmb IAmb 07 12 57.3
comp=Z,64nm,1.1s
Q16A Castle Valley 49.30 329 IAmb IAmb 07 13 16.2
comp=Z,82nm,1.1s
Q16A IAMs_20 IAMs_20 07 32 47.3
comp=Z,10µm,20.0s
ELS Elsinore Mount 49.35 319 IAmb IAmb 07 13 13.4
comp=Z,103nm,1.4s
P18A Preston Nutter 49.37 330 IAmb IAmb 07 13 10.0
comp=Z,139nm,1.2s
TCRU Three Creeks R 49.74 328 IAmb IAmb 07 13 23.9
comp=Z,97nm,1.2s
LMN Caledonia Moun 49.75 15 IAMs_20 IAMs_20 07 36 00.9
comp=Z,10µm,20.0s
RDMU Red Mountain 49.77 331 IAmb IAmb 07 13 07.6
comp=Z,110nm,1.0s
RDMU IAMs_20 IAMs_20 07 36 59.4
comp=Z,10µm,18.0s
D62A Allapoint, All 49.99 11 IAmb IAmb 07 13 18.5
comp=Z,145nm,1.0s
D62A IAMs_20 IAMs_20 07 32 59.4
comp=Z,9µm,22.0s
VLDQ Val d'Or 50.00 3 IAmb IAmb 07 13 16.3
comp=Z,96nm,1.5s
VLDQ IAMs_20 IAMs_20 07 35 01.9
comp=Z,11µm,20.0s
GSC Goldstone, Bar 50.00 321 IAmb IAmb 07 13 15.6
comp=Z,95nm,1.1s
GSC IAMs_20 IAMs_20 07 33 38.5
comp=Z,7µm,20.0s
MG05 Puerto Natales 50.01 173 IAMs_20 IAMs_20 07 31 49.4
comp=Z,12µm,19.0s
K22A Casper 50.08 335 IAmb IAmb 07 13 23.8
comp=Z,120nm,1.6s
K22A IAMs_20 IAMs_20 07 35 44.3
comp=Z,7µm,18.0s
PASC Pasadena Art C 50.17 319 P **P** **07 12 59.5 +1.5**
PASC IAmb IAmb 07 13 19.6
comp=Z,142nm,1.4s
LMQ La Malbaie 50.22 9 IAmb IAmb 07 13 13.5
comp=Z,86nm,1.1s
GBN Guysborough 50.27 18 IAmb IAmb 07 13 24.5
comp=Z,112nm,1.2s
GBN IAMs_20 IAMs_20 07 36 11.3
comp=Z,13µm,20.0s
BSUT Blindstream Ca 50.32 331 IAmb IAmb 07 13 22.4
comp=Z,137nm,1.2s
PRN Pahroc Range 50.35 325 IAMs_20 IAMs_20 07 33 33.3
comp=Z,11µm,18.0s
PRN Pahroc Range 50.35 325 ⇑P **P** **07 13 01.8 +2.4**
MPU Maple Canyon 50.36 329 IAMs_20 IAMs_20 07 33 17.2
comp=Z,10µm,19.0s
PSUT Pine Spring 50.46 326 IAMs_20 IAMs_20 07 33 30.1
comp=Z,11µm,18.0s
LDAQ Lac Daran 50.48 8 P **P** **07 12 59.3 -0.8**
GWY Greenwater Val 50.49 322 IAMs_20 IAMs_20 07 34 02.4
comp=Z,10µm,18.0s
EYMN Ely 50.59 351 IAmb IAmb 07 13 07.2
comp=Z,81nm,1.2s
EYMN Ely 50.59 351 ⇓P **P** **07 12 59.7 -1.2**
TPNV Topopah Spring 50.74 323 ⇓P **P** **07 13 04.2 +1.8**
WCT Wildcat Mounta 50.87 323 IAmb IAmb 07 13 24.2
comp=Z,146nm,1.5s
S11A Rachel 50.91 324 IAmb IAmb 07 13 18.5
comp=Z,96nm,1.0s
S11A IAMs_20 IAMs_20 07 33 52.3
comp=Z,9µm,19.0s
SPR3 Spring Creek 3 51.05 327 IAmb IAmb 07 13 24.9
comp=Z,140nm,1.4s
TCUT Toone Canyon 51.08 331 IAmb IAmb 07 13 23.1
comp=Z,168nm,1.1s
TCUT IAMs_20 IAMs_20 07 36 00.2
comp=Z,8µm,20.0s
DUG Dugway, Tooele 51.10 329 IAmb IAmb 07 13 23.5
comp=Z,101nm,1.4s
DUG IAMs_20 IAMs_20 07 33 42.9
comp=Z,7µm,19.0s
DUG Dugway, Tooele 51.10 329 ⇑P **P** **07 13 06.2 +1.1**
BCW Bitter Crk WRg 51.45 319 IAmb IAmb 07 13 34.0
comp=Z,202nm,1.4s
GRAC Grapevine Rang 51.45 323 IAmb IAmb 07 13 26.6
comp=Z,180nm,1.4s
BW06 Boulder Array 51.48 333 IAMs_20 IAMs_20 07 34 59.3
comp=Z,12µm,20.0s
BW06 Boulder Array 51.48 333 ⇑P **P** **07 13 07.7 -0.3**
PDAR Pinedale Array 51.48 333 P **P** **07 13 08.0 0.0**
PDAR Pinedale Array 51.48 333 P **P** **07 13 07.5 -0.5**
comp=Z,19nm,1.0s,baz=141,slow=7.4,SNR=74
PDAR S **S** **07 20 29.3 +1.2**
comp=Z,0.3nm,0.8s,baz=113,slow=12,SNR=0.9
PDAR LR LR 07 35 10.6
comp=Z,7µm,20.1s,baz=134,slow=36
comp=Z,19nm,1.0s
HWUT Hardware Ranch 51.52 331 IAmb IAmb 07 13 27.9
comp=Z,120nm,1.1s
HWUT IAMs_20 IAMs_20 07 34 28.0
comp=Z,7µm,20.0s
HWUT Hardware Ranch 51.52 331 ⇑P **P** **07 13 08.3 0.0**
BGU Big Grassy Mou 51.75 329 IAmb IAmb 07 13 27.9
comp=Z,141nm,1.3s
BGU IAMs_20 IAMs_20 07 35 24.9
comp=Z,8µm,18.0s
AGMN Agassiz Nation 51.75 347 IAmb IAmb 07 13 16.2
comp=Z,135nm,1.0s
AGMN IAMs_20 IAMs_20 07 36 35.6
comp=Z,8µm,21.0s
AGMN Agassiz Nation 51.75 347 ⇑P **P** **07 13 09.1 -0.5**
DSP Deep Springs 52.05 323 IAMs_20 IAMs_20 07 34 55.7
comp=Z,6µm,18.0s
AHID Auburn Hatcher 52.19 332 IAMs_20 IAMs_20 07 35 43.5
comp=Z,8µm,19.0s
AHID Auburn Hatcher 52.19 332 ⇑P **P** **07 13 14.7 +1.4**
HVU Hansel Valley 52.25 330 IAMs_20 IAMs_20 07 36 22.3
comp=Z,9µm,18.0s
Q09A Carvers 52.55 324 IAMs_20 IAMs_20 07 34 55.6
comp=Z,8µm,18.0s
SNOW Snow King Moun 52.57 333 IAmb IAmb 07 13 37.0
comp=Z,220nm,1.5s
SNOW IAMs_20 IAMs_20 07 35 50.5
comp=Z,10µm,20.0s
PTCN Pitcairn Islan 52.58 240 IAMs_20 IAMs_20 07 29 37.3
comp=Z,9µm,20.0s
LOHW Long Hollow 52.62 333 IAMs_20 IAMs_20 07 36 04.8
comp=Z,10µm,18.0s
ICQ Pointe Anglais 52.66 11 IAMs_20 IAMs_20 07 35 05.2
comp=Z,9µm,22.0s
ELK Elko 52.77 327 IAmb IAmb 07 13 35.8
comp=Z,146nm,1.4s
ELK IAMs_20 IAMs_20 07 34 58.4
comp=Z,10µm,19.0s
ELK Elko 52.77 327 LR LR 07 35 18.5
comp=Z,11µm,18.5s,baz=146,slow=36
ELK Elko 52.77 327 ⇓P **P** **07 13 18.6 +0.9**
MOOW Moose Ponds 52.79 333 IAMs_20 IAMs_20 07 36 09.3
comp=Z,8µm,19.0s
FXWY Fox Creek 52.83 333 IAMs_20 IAMs_20 07 36 36.4
comp=Z,9µm,18.0s
NV11 Mina Array Sit 52.86 323 IAmb IAmb 07 13 36.2
comp=Z,164nm,1.4s
NVAR Mina Array Bea 52.94 323 P **P** **07 13 20.3 +1.4**
NVAR Mina Array Bea 52.94 323 P **P** **07 13 19.8 +0.9**
comp=Z,30nm,0.9s,baz=122,slow=5.4,SNR=107
NVAR S **S** **07 20 50.0 +1.8**
comp=Z,0.7nm,0.9s,baz=127,slow=8.0,SNR=1.4
NVAR LR LR 07 33 21.9
comp=Z,4µm,20.4s,baz=128,slow=33
NVAR PKPPKP **P'P'df** **07 43 42.8 -2.5**
comp=Z,0.9nm,1.0s,baz=273,slow=2.7,SNR=3.5
comp=Z,30nm,0.9s
LHV Little Huntoon 52.95 323 IAmb IAmb 07 13 37.7
comp=Z,145nm,1.3s
PMPB Monarch Peak 53.12 320 IAmb IAmb 07 13 41.9
comp=Z,147nm,1.2s
RYN Ryan 53.20 323 IAmb IAmb 07 13 39.2
comp=Z,89nm,1.3s
LKWY Lake 53.28 334 IAmb IAmb 07 13 39.7
comp=Z,78nm,1.1s
LKWY Lake 53.28 334 ⇓P **P** **07 13 24.4 +3.0**
YMP Mirror Lake Pl 53.31 334 IAMs_20 IAMs_20 07 36 07.0
comp=Z,8µm,19.0s
LAO LASA Array 53.34 339 IAmb IAmb 07 13 26.9
comp=Z,185nm,1.9s
LAO LASA Array 53.34 339 ⇓P **P** **07 13 22.8 +1.3**
YFT Old Faithful 53.38 334 IAmb IAmb 07 13 51.6
comp=Z,130nm,1.2s
YNE Yellowstone No 53.46 335 IAmb IAmb 07 13 39.7
comp=Z,76nm,1.2s
YNE IAMs_20 IAMs_20 07 36 12.9
comp=Z,7µm,20.0s
YNR Norris Junctio 53.52 334 IAMs_20 IAMs_20 07 36 33.5
comp=Z,9µm,19.0s
YNM Yellowstone No 53.54 334 IAMs_20 IAMs_20 07 36 35.1
comp=Z,9µm,18.0s
ULM Lac du Bonnet 53.60 348 P **P** **07 13 22.6 -0.7**
comp=Z,148nm,0.7s,baz=161,slow=9.2,SNR=98
ULM S **S** **07 20 52.9 -3.3**
comp=Z,2.9nm,1.0s,baz=149,slow=12,SNR=2.0
comp=Z,148nm,0.7s
ULM Lac du Bonnet 53.60 348*c iP* **P** **07 13 22.3 -0.9**
ULM Lac du Bonnet 53.60 348 ⇑P **P** **07 13 22.5 -0.7**
YMR Madison River 53.61 334 IAmb IAmb 07 13 43.7
comp=Z,83nm,1.1s
YMR IAMs_20 IAMs_20 07 36 25.9
comp=Z,7µm,19.0s
USHA Ushuaia 53.65 171 LR LR 07 35 04.3
comp=Z,18µm,18.2s,baz=354,slow=35
WAKR Walker 53.67 323 IAmb IAmb 07 13 43.0
comp=Z,122nm,1.2s
WAKR IAMs_20 IAMs_20 07 36 00.5
comp=Z,7µm,18.0s
YHB Horse Butte 53.78 334 IAmb IAmb 07 13 43.3
comp=Z,161nm,1.5s
YHB IAMs_20 IAMs_20 07 36 19.4
comp=Z,7µm,19.0s

YHL	Hebgen Lake	53.85	334	IAms_20	IAms_20	07 38 17.3	
	comp=Z,7µm,20.0s						
CMB	Columbia Colle	53.96	322	IAmb	IAmb	07 13 50.5	
	comp=Z,74nm,1.2s						
PNTR	Pine Nut	54.14	323	IAmb	IAmb	07 13 47.2	
	comp=Z,157nm,1.5s						
DGMT	Dagmar	54.17	341	IAms_20	IAms_20	07 39 13.3	
	comp=Z,6µm,18.0s						
HLID	Hailey	54.38	330	P	P	07 13 30.3	+0.9
HLID				IAmb	IAmb	07 13 42.3	
	comp=Z,71nm,1.1s						
HLID	Hailey	54.38	330	⇑P	P	07 13 29.9	+0.6
PAHR	Pah Rah Range	54.41	324	IAmb	IAmb	07 13 51.1	
	comp=Z,74nm,1.4s						
BOZ	Bozeman (W)	54.63	334	IAmb	IAmb	07 13 37.9	
	comp=Z,200nm,1.6s						
BOZ				IAms_20	IAms_20	07 38 48.9	
	comp=Z,6µm,20.0s						
BOZ	Bozeman (W)	54.63	334	⇑P	P	07 13 31.4	+0.3
DLMT	Dillon	54.88	333	IAmb	IAmb	07 13 59.0	
	comp=Z,83nm,1.2s						
DLMT				IAms_20	IAms_20	07 39 15.5	
	comp=Z,7µm,18.0s						
AFDM	Forest Hills D	54.88	322	IAmb	IAmb	07 13 45.7	
	comp=Z,68nm,1.2s						
DRLN	Deer Lake	54.94	19	IAmb	IAmb	07 13 58.8	
	comp=Z,120nm,1.1s						
DRLN				IAms_20	IAms_20	07 36 53.9	
	comp=Z,9µm,22.0s						
DRLN	Deer Lake	54.94	19	⇑P	P	07 13 32.3	-0.7
BEKR	Beckworth	55.09	323	IAmb	IAmb	07 13 52.9	
	comp=Z,147nm,1.4s						
BEKR				IAms_20	IAms_20	07 36 42.0	
	comp=Z,6µm,18.0s						
ORV	Oroville	55.58	322	IAms_20	IAms_20	07 37 08.1	
	comp=Z,6µm,19.0s						
WVOR	Wild Horse Val	55.78	327	IAms_20	IAms_20	07 36 57.0	
	comp=Z,9µm,18.0s						
WVOR	Wild Horse Val	55.78	327	⇓P	P	07 13 39.8	+0.4
EGMT	Eagleton	55.79	337	IAmb	IAmb	07 13 56.6	
	comp=Z,94nm,1.1s						
EGMT	Eagleton	55.79	337	⇑P	P	07 13 39.4	+0.1
PLID	Pearl Lake	56.27	331	IAms_20	IAms_20	07 38 11.7	
	comp=Z,9µm,19.0s						
J08A	Circle Bar Ran	56.32	328	IAmb	IAmb	07 14 00.0	
	comp=Z,64nm,1.1s						
HATC	Hat Creek Radi	56.34	324	IAms_20	IAms_20	07 37 31.1	
	comp=Z,7µm,18.0s						
MSO	Missoula	56.60	333	IAmb	IAmb	07 14 07.6	
	comp=Z,86nm,1.2s						
MSO	Missoula	56.60	333	⇓P	P	07 13 47.1	+2.0
BMO	Blue Mountains	56.75	330	⇑P	P	07 13 46.4	+0.2
KMRM	Mail Ridge	57.34	322	IAmb	IAmb	07 14 09.1	
	comp=Z,77nm,1.0s						
YBH	Yreka Blue Hor	57.65	324	IAmb	IAmb	07 14 08.5	
	comp=Z,86nm,1.1s						
YBH				IAms_20	IAms_20	07 38 22.6	
	comp=Z,7µm,18.0s						
YBH	Yreka Blue Hor	57.65	324	LR	LR	07 38 42.5	
	comp=Z,7µm,18.5s,baz=136,slow=36						
K04D	Chiloquin, OR	57.65	325	IAms_20	IAms_20	07 38 13.6	
	comp=Z,7µm,18.0s						
L04D	Klamath Falls	57.71	325	IAms_20	IAms_20	07 41 18.2	
	comp=Z,6µm,19.0s						
J05D	Fort Rock, OR	57.78	326	IAms_20	IAms_20	07 38 28.9	
	comp=Z,7µm,19.0s						
SCHQ	Schefferville	57.83	10	P	P	07 13 52.4	-1.2
	comp=Z,9.8nm,0.9s,baz=194,slow=5.9,SNR=9.4						
SCHQ				S	S	07 21 44.0	-8.5
	comp=Z,1.1nm,0.8s,baz=180,slow=20,SNR=0.9						
SCHQ				LR	LR	07 38 51.7	
	comp=Z,5µm,21.4s,baz=194,slow=36						
	comp=Z,9.8nm,0.9s						
SCHQ	Schefferville	57.83	10	⇑P	P	07 13 51.7	-1.9
G08A	Pilot Rock	57.90	329	IAms_20	IAms_20	07 38 16.8	
	comp=Z,8µm,18.0s						
PINE	Pine Mountain	57.95	327	IAms_20	IAms_20	07 39 24.3	
	comp=Z,6µm,18.0s						
LNOR	Lincton Mounta	57.96	330	IAmb	IAmb	07 14 09.9	
	comp=Z,79nm,1.0s						
J04A	Umpqua Nationa	58.24	326	IAms_20	IAms_20	07 38 45.2	
	comp=Z,7µm,19.0s						
E09A	Wood Farm, Sta	58.34	331	IAmb	IAmb	07 14 15.8	
	comp=Z,129nm,1.3s						
E09A				IAms_20	IAms_20	07 40 15.4	
	comp=Z,6µm,21.0s						
L02F	Cave Junction	58.39	324	IAmb	IAmb	07 14 15.5	
	comp=Z,131nm,1.4s						
YPT	Yellepit	58.42	330	IAmb	IAmb	07 14 49.0	
	comp=Z,72nm,1.2s						
I05D	Terrebonne, OR	58.52	327	IAms_20	IAms_20	07 38 38.5	
	comp=Z,7µm,19.0s						
G06A	Carlson Farm,	58.73	328	IAms_20	IAms_20	07 38 30.0	
	comp=Z,8µm,20.0s						
I04A	Tendick Farm,	58.76	326	IAmb	IAmb	07 14 18.4	
	comp=Z,87nm,1.1s						
I04A				IAms_20	IAms_20	07 39 02.0	
	comp=Z,5µm,20.0s						
E08A	Dider Farm, El	58.78	330	IAmb	IAmb	07 14 20.2	
	comp=Z,90nm,1.3s						
E08A				IAms_20	IAms_20	07 39 54.0	
	comp=Z,7µm,18.0s						
K02D	Willamette Mer	58.80	324	IAms_20	IAms_20	07 41 44.0	
	comp=Z,7µm,20.0s						
F07A	Phinny Hill Vi	58.81	329	IAmb	IAmb	07 14 19.2	
	comp=Z,129nm,1.3s						
F07A				IAms_20	IAms_20	07 38 53.9	
	comp=Z,8µm,19.0s						
DBO	Dodson Butte	58.81	325	IAmb	IAmb	07 14 24.8	
	comp=Z,136nm,1.3s						
KBO	Bosley Butte	58.84	323	IAms_20	IAms_20	07 36 58.1	
	comp=Z,5µm,18.0s						
HAWA	Hanford	58.95	330	⇓P	P	07 14 02.1	+0.6
D08A	Wollman Farm,	59.10	331	P	P	07 14 03.6	+1.0
D08A				IAms_20	IAms_20	07 41 37.6	
	comp=Z,6µm,18.0s						
NEW	Newport	59.11	333	IAms_20	IAms_20	07 40 22.6	
	comp=Z,6µm,18.0s						
NEW	Newport	59.11	333	IAmb	IAmb	07 14 20.1	
	comp=Z,106nm,1.4s						
NEW	Newport	59.11	333	LR	LR	07 40 23.7	
	comp=Z,5µm,18.6s,baz=148,slow=37						
NEW	Newport	59.11	333	⇑P	P	07 14 02.7	0.0
FFC	Flin Flon	59.14	346	P	P	07 14 02.4	-0.3
FFC	Flin Flon	59.14	346	IAms_20	IAms_20	07 43 37.2	
	comp=Z,9µm,19.0s						
FFC	Flin Flon	59.14	346	P	P	07 14 02.4	-0.3
FFC				pmax	pmax		
	comp=Z,206nm,1.7s						
FFC				MLR	MLR		
	comp=Z,9µm,19.0s						
FFC	Flin Flon	59.14	346	⇑P	P	07 14 02.1	-0.6
H04A	Detroit Lake	59.21	327	IAmb	IAmb	07 14 25.8	
	comp=Z,90nm,1.3s						
H04A				IAms_20	IAms_20	07 40 07.6	
	comp=Z,8µm,18.0s						
WAH2	Wahluke Slope	59.21	330	IAmb	IAmb	07 14 21.9	
	comp=Z,111nm,1.4s						
I03D	Drain, OR	59.23	325	IAms_20	IAms_20	07 39 44.4	
	comp=Z,6µm,18.0s						
J01E	Myrtle Point	59.24	325	IAms_20	IAms_20	07 42 16.6	
	comp=Z,6µm,22.0s						
TAOE	Nuku Hiva Isla	59.25	261	ePKIKP	P	07 14 06.6	+2.3
	comp=Z,1µm,26.0s						
TAOE				eS	S	07 22 08.3	-4.3
	comp=Z,4µm,28.4s						
TAOE				eLQ	LQ	07 28 55.4	
	comp=Z,4µm,30.6s						
TAOE				eLR	LR	07 31 34.0	
	comp=Z,8µm,27.5s						
HOOD	Mount Hood Mea	59.33	328	IAms_20	IAms_20	07 39 16.8	
	comp=Z,9µm,19.0s						
BUCK	Buck Mountain	59.34	326	IAms_20	IAms_20	07 39 30.2	
	comp=Z,5µm,18.0s						
H04D	Lebanon	59.41	326	IAmb	IAmb	07 14 32.3	
	comp=Z,133nm,1.5s						
MXC	Moxie City	59.46	329	IAmb	IAmb	07 14 28.6	
	comp=Z,120nm,1.2s						
MXC				IAms_20	IAms_20	07 39 25.1	
	comp=Z,8µm,19.0s						
COR	Corvallis	59.76	326	P	P	07 14 08.6	+1.5
COR	Corvallis	59.76	326	IAms_20	IAms_20	07 39 43.3	
	comp=Z,5µm,18.0s						
COR	Corvallis	59.76	326	P	P	07 14 08.6	+1.5
COR				pmax	pmax		
	comp=Z,472nm,1.7s						
COR				MLR	MLR		
	comp=Z,5µm,18.0s						
COR	Corvallis	59.76	326	⇓P	P	07 14 09.7	+2.5
LTY	Liberty	60.11	330	IAmb	IAmb	07 14 41.1	
	comp=Z,166nm,1.6s						
LTY				IAms_20	IAms_20	07 40 05.1	
	comp=Z,7µm,18.0s						
G03D	McMinnville, O	60.13	327	IAmb	IAmb	07 14 43.9	
	comp=Z,64nm,1.1s						
G03D				IAms_20	IAms_20	07 39 40.1	
	comp=Z,6µm,19.0s						
B08A	Colville Reser	60.21	332	P	P	07 14 11.8	+1.5
B08A				IAms_20	IAms_20	07 39 37.8	
	comp=Z,6µm,20.0s						
LON	Longmire	60.35	329	IAms_20	IAms_20	07 39 50.7	
	comp=Z,8µm,19.0s						
F04D	Rainier, OR	60.55	328	IAms_20	IAms_20	07 40 04.1	
	comp=Z,6µm,18.0s						
D05A	Enumclaw	60.73	329	IAms_20	IAms_20	07 43 01.8	
	comp=Z,9µm,20.0s						
F03A	Seaside	60.75	327	IAms_20	IAms_20	07 40 19.3	
	comp=Z,7µm,18.0s						
E03A	Lebam	61.14	328	IAms_20	IAms_20	07 42 48.7	
	comp=Z,7µm,20.0s						
RADR	Rader Ridge	61.19	328	IAms_20	IAms_20	07 40 24.9	
	comp=Z,9µm,19.0s						
GNW	Green Mountain	61.41	329	P	P	07 14 18.8	+0.5
GNW				IAmb	IAmb	07 14 40.0	
	comp=Z,85nm,1.3s						
GNW				IAms_20	IAms_20	07 40 35.7	
	comp=Z,7µm,19.0s						
FCC	Fort Churchill	61.47	352	P	P	07 14 17.2	-1.3
FCC				IAmb	IAmb	07 14 40.4	
	comp=Z,118nm,1.2s						
FCC	Fort Churchill	61.47	352	P	P	07 14 17.2	-1.3
FCC				pmax	pmax		
	comp=Z,118nm,1.2s						
FCC				MLR	MLR		
	comp=Z,12µm,20.0s						
FCC	Fort Churchill	61.47	352	⇑P	P	07 14 17.1	-1.4
PGC	Sidney	62.43	330	IAmb	IAmb	07 14 38.5	
	comp=Z,68nm,1.2s						
CALA	Caldeira	62.75	44	eP	P	07 14 29.4	+1.7
CALA				i Amb		07 14 37.2	
	comp=Z,382nm,1.1s						
CLRS	Cowichan Lake	62.89	329	IAmb	IAmb	07 14 47.4	
	comp=Z,55nm,1.2s						
PICO	Pico	62.91	44	eP	P	07 14 31.0	+2.3
PICO				i Amb		07 14 35.8	
	comp=Z,344nm,1.5s						
ROSA	Rosais	63.13	44	eP	P	07 14 34.0	+3.8
ROSA				i Amb		07 14 36.9	
	comp=Z,335nm,1.4s						
PGRA	Graciosa	63.45	44	eP	P	07 14 46.5	+14
PGRA				i Amb		07 14 52.3	
	comp=Z,177nm,1.0s						
OZB	Mount Ozzard	63.67	329	IAmb	IAmb	07 14 50.4	
	comp=Z,77nm,1.1s						
OZB	Mount Ozzard	63.67	329	⇑P	P	07 14 36.7	+3.2
PAGU	Agualva, Azore	63.89	45	eP	P	07 14 36.9	+1.8
PAGU				i Amb		07 14 41.9	
	comp=Z,176nm,1.2s						
CBB	Campbell River	64.28	330	P	P	07 14 39.0	+1.5
CBB				IAmb	IAmb	07 14 57.0	
	comp=Z,95nm,1.2s						
CBB				IAms_20	IAms_20	07 42 02.5	
	comp=Z,6µm,20.0s						
CMLA	Cha da Macela	64.65	46	IAms_20	IAms_20	07 41 42.1	
	comp=Z,8µm,19.0s						
CMLA	Cha da Macela	64.65	46	eP	P	07 14 40.8	+0.6
CMLA				i Amb		07 14 42.3	
	comp=Z,256nm,1.3s						
PSMN	Pico do Norte,	64.67	47	eP	P	07 14 40.6	+0.3
PSMN				i Amb		07 14 44.6	
	comp=Z,166nm,1.4s						
BBTS	Babate	65.87	73	P	P	07 14 48.0	-0.5
	comp=Z,15nm,0.4s,baz=245,slow=3.5,SNR=5.1						
BBTS				S	S	07 23 34.0	-1.6
	comp=Z,16nm,0.9s,baz=209,slow=2.9,SNR=1.5						
BBTS				LR	LR	07 40 22.2	
	comp=Z,20µm,21.6s,baz=132,slow=33						
	comp=Z,15nm,0.4s						
HOLB	Holberg	66.05	329	IAms_20	IAms_20	07 43 05.5	
	comp=Z,7µm,19.0s						
FRB	Frobisher Bay	66.23	6	LR	LR	07 45 09.8	
	comp=Z,4µm,19.1s,baz=188,slow=37						
ASCN	Ascension	66.56	98		P	07 14 52.3	-0.6
VAH	Vaihoa	66.97	254	eP	P	07 14 56.3	+0.8
	comp=Z,97nm,1.1s						
BBB	Bella Bella	66.97	331	P	P	07 14 56.1	+1.3
BBB	Bella Bella	66.97	331	LR	LR	07 46 11.4	
	comp=Z,3µm,18.6s,baz=127,slow=38						
BBB	Bella Bella	66.97	331	⇓P	P	07 14 57.2	+2.5
PMOR	Pomariorio Ree	67.21	255	eP	P	07 14 57.2	+0.2
	comp=Z,207nm,1.5s						
HG4B	Hotspring	68.57	330	IAmb	IAmb	07 15 13.0	
	comp=Z,121nm,1.5s						
HG4B				IAms_20	IAms_20	07 44 29.2	
	comp=Z,4µm,19.0s						
NRS	Narsarsuaq	68.66	18	IAms_20	IAms_20	07 47 31.8	
	comp=Z,7µm,20.0s						
MACI	Morro de la Ar	68.66	59	P	P	07 15 05.6	-0.6
GRNB	Grenville Isla	68.86	331	IAmb	IAmb	07 15 15.0	
	comp=Z,137nm,1.6s						
PPT	Papeete	69.02	252	LR	LR	07 37 36.1	
	comp=Z,3µm,20.6s,baz=69,slow=29						
PPT2	Papeete2	69.02	252	eP	P	07 15 13.0	+4.5
	comp=Z,95nm,1.4s						
PPT2				eS	S	07 24 11.2	-2.4
	comp=Z,2µm,22.2s						
PPT2	Papeete2	69.02	252	eLR	LR	07 35 59.4	
	comp=Z,12µm,26.0s						
PPT2				eLR	LR	07 36 05.4	
	comp=Z,9µm,28.5s						
PAE	Paea	69.03	252	eP	P	07 15 14.1	+5.7
	comp=Z,58nm,1.3s						
YKA	Yellowknife Ar	69.17	344	P	P	07 15 07.4	-0.9
YKA	Yellowknife Ar	69.17	344	P	P	07 15 07.3	-1.1
	comp=Z,12nm,0.9s,baz=145,slow=5.3,SNR=67						
YKA				S	S	07 24 12.2	-1.4
	comp=Z,0.5nm,1.0s,baz=144,slow=7.7,SNR=1.5						
YKA				PKPPKP	P'P'df	07 43 17.5	-0.7
	comp=Z,1.6nm,1.1s,baz=324,slow=3.1,SNR=4.7						
	comp=Z,12nm,0.9s						
PMOZ	Porto Moniz, M	69.31	54	eP	P	07 15 09.8	-0.2
PMOZ				i Amb		07 15 37.5	
	comp=Z,164nm,1.9s						
PMOZ				ePP	PP	07 17 43.6	+0.2
PMOZ				eS	S	07 24 21.8	+5.1
PMOZ	Porto Moniz, M	69.31	54	P	P	07 15 09.4	-0.7
PMOZ	Porto Moniz, M	69.31	54	⇑P	P	07 15 10.5	+0.4
EOSO	Osorio	69.44	59	P	P	07 15 10.8	-0.1
MOBC	Moresby Island	69.44	330	IAms_20	IAms_20	07 45 06.0	
	comp=Z,5µm,20.0s						
TBI	Tubuai	69.49	246	eP	P	07 15 13.9	+2.7
	comp=Z,4µm,26.2s						
TBI	Tubuai	69.49	246	ePP	PP	07 17 41.5	-3.4
	comp=Z,2µm,30.5s						
TBI				eS	S	07 24 15.9	-3.0
	comp=Z,15µm,27.0s						
TBI	Tubuai	69.49	246	eLR	LR	07 36 15.2	
	comp=Z,8µm,28.2s						
TBI				eLR	LR	07 36 18.7	
	comp=Z,34µm,28.8s						
PMAR	Madeira	69.51	54	eP	P	07 15 11.0	-0.4
PMAR				i Amb		07 15 34.6	
	comp=Z,134nm,1.5s						
DIB	Dawson Inlet,	69.73	330	IAmb	IAmb	07 15 20.1	
	comp=Z,109nm,1.3s						
TOAD	Toad River Com	69.98	337	P	P	07 15 13.2	-0.3
	baz=132,SNR=32						
PMPST	Porto Santo, M	70.08	54	eP	P	07 15 15.1	+0.4
PMPST				i Amb		07 15 36.1	
	comp=Z,259nm,1.2s						
U35K	Hyder	70.12	333	P	P	07 15 15.8	+1.5
U35K				IAmb	IAmb	07 15 43.1	
	comp=Z,33nm,0.7s						
U35K	Hyder	70.12	333	P	P	07 15 13.7	-0.7
	baz=126						
KOTAN	Kotaneelee Air	70.41	339	P	P	07 15 16.2	+0.1
	baz=133,SNR=25						
V35K	Ketchikan	70.51	332	P	P	07 15 17.3	+0.5
	baz=125						
LIRD	Liard River Hi	70.68	337	P	P	07 15 18.1	+0.3
	baz=131						
T35M	Bob Quinn	70.86	334	IAmb	IAmb	07 15 41.0	
	comp=Z,50nm,1.1s						
T35M				IAms_20	IAms_20	07 50 04.8	
	comp=Z,5µm,20.0s						
T35M	Bob Quinn	70.86	334	P	P	07 15 19.1	+0.2
	baz=127,SNR=28						
CRAG	Craig	71.30	332	IAms_20	IAms_20	07 51 31.7	
	comp=Z,4µm,19.0s						
CRAG	Craig	71.30	332	P	P	07 15 21.1	-0.5
	baz=124						
WRAK	Wrangell Islan	71.47	333	IAmb	IAmb	07 15 30.3	
	comp=Z,65nm,1.4s						
WRAK	Wrangell Islan	71.47	333	P	P	07 15 22.1	-0.5
	baz=124						
DLBC	Dease Lake	71.64	335	IAmb	IAmb	07 15 31.4	
	comp=Z,114nm,1.4s						
DLBC				IAms_20	IAms_20	07 51 36.4	
	comp=Z,5µm,20.0s						
DLBC	Dease Lake	71.64	335	⇑P	P	07 15 24.2	+0.5
DLBC	Dease Lake	71.64	335	P	P	07 15 23.4	-0.4
	baz=127,SNR=43						
U33K	Whale Pass	71.66	332	IAms_20	IAms_20	07 51 03.1	
	comp=Z,4µm,18.0s						
U33K	Whale Pass	71.66	332	P	P	07 15 22.7	-1.0
	baz=124						
S34M	Telegraph Cree	71.80	334	P	P	07 15 24.0	-0.6
	baz=126,SNR=13						
T33K	Petersburg	71.97	333	P	P	07 15 24.8	-0.7
	baz=124						
SFJD	Kangerlussuaq	72.11	12	P	P	07 15 26.5	+0.3
SFJD				IAmb	IAmb	07 15 53.9	
	comp=Z,126nm,1.4s						
SFJD	Kangerlussuaq	72.11	12	IAms_20	IAms_20	07 45 23.8	
	comp=Z,6µm,20.0s						
SFJD	Kangerlussuaq	72.11	12	LR	LR	07 47 08.1	
	comp=Z,3µm,20.9s,baz=209,slow=36						
SFJD	Kangerlussuaq	72.11	12	P	P	07 15 26.5	+0.3
SFJD				pmax	pmax		
	comp=Z,126nm,1.5s						
SFJD	Kangerlussuaq	72.11	12	i P	P	07 15 25.2	-1.1
SFJD				IAmb	IAmb	07 15 31.5	
	comp=Z,37nm,1.2s						
SFJD	Kangerlussuaq	72.11	12	⇑P	P	07 15 27.8	+1.5
WTLY	Watson Lake, Y	72.18	337	P	P	07 15 27.6	+0.7
	baz=129,SNR=18						
WRGLY	Wrigley	72.37	341	IAmb	IAmb	07 15 49.3	
WRGLY	comp=Z,133nm,1.3s			IAms_20	IAms_20	07 49 28.3	
	comp=Z,6µm,19.0s						
WRGLY	Wrigley	72.37	341	P	P	07 15 27.9	0.0
	baz=135,SNR=21						
R33M	Jennings River	72.61	336	IAms_20	IAms_20	07 53 30.0	
	comp=Z,5µm,19.0s						
R33M	Jennings River	72.61	336	P	P	07 15 29.9	+0.4
	baz=126,SNR=20						
CLRN	Clyde River	72.81	4	⇓P	P	07 15 29.5	-0.8
TGTN	Hyland Airport	72.88	338	P	P	07 15 31.6	+0.6
	baz=130,SNR=26						
Q32M	Nakina River	72.89	335	IAms_20	IAms_20	07 53 13.6	
	comp=Z,5µm,19.0s						
Q32M	Nakina River	72.89	335	P	P	07 15 32.1	+0.7
	baz=125,SNR=19						
S32K	Killisnoo	73.07	333	P	P	07 15 32.1	0.0
	baz=123,SNR=16						
SIT	Sitka	73.19	332	IAms_20	IAms_20	07 49 12.7	
	comp=Z,4µm,19.0s						
SIT	Sitka	73.19	332	P	P	07 15 33.1	+0.2
	baz=122						
R32K	Eaglecrest	73.48	334	P	P	07 15 35.0	+0.4
	baz=123,SNR=13						
BESE	Bessie Mountai	73.80	334	IAmb	IAmb	07 15 56.3	
	comp=Z,67nm,1.2s						
P33M	Teslin, Yukon	73.85	336	IAmb	IAmb	07 15 53.3	
	comp=Z,54nm,0.9s						
P33M				IAms_20	IAms_20	07 51 47.7	
	comp=Z,5µm,20.0s						
P33M	Teslin, Yukon	73.85	336	P	P	07 15 36.9	+0.1
	baz=125,SNR=62						
P32M	Atlin	73.86	335	IAms_20	IAms_20	07 54 23.3	
	comp=Z,5µm,20.0s						
P32M	Atlin	73.86	335	P	P	07 15 37.5	+0.7
	baz=124,SNR=35						
ILULI	Ilulissat	73.92	11	IAms_20	IAms_20	07 43 24.5	
	comp=Z,4µm,21.0s						
S31K	Pelican	74.08	333	IAms_20	IAms_20	07 52 38.3	
	comp=Z,4µm,18.0s						
S31K	Pelican	74.08	333	P	P	07 15 36.6	-1.5
	baz=121						
R31K	City Hall, Gus	74.10	333	P	P	07 15 38.4	+0.2
	baz=122						
ANGG	Ammassalik, Gr	74.32	17	IAms_20	IAms_20	07 45 52.9	
	comp=Z,4µm,20.0s						
ANGG	Ammassalik, Gr	74.32	17	i P	P	07 15 40.0	+0.8
ANGG				IAmb	IAmb	07 15 45.2	
	comp=Z,52nm,1.4s						
SKAG	Skagway	74.48	334	IAms_20	IAms_20	07 54 22.6	
	comp=Z,4µm,21.0s						
SKAG	Skagway	74.48	334	⇓P	P	07 15 41.0	+0.7
SKAG	Skagway	74.48	334	P	P	07 15 39.8	-0.5
	baz=122,SNR=17						
N32M	Quiet Lake	74.50	337	IAms_20	IAms_20	07 51 48.8	
	comp=Z,6µm,19.0s						
N32M	Quiet Lake	74.50	337	P	P	07 15 40.9	+0.3
	baz=125						
WHY	Whitehorse	74.95	336	IAmb	IAmb	07 15 50.2	
	comp=Z,117nm,1.7s						
WHY	Whitehorse	74.95	336	P	P	07 15 41.8	-1.4
	baz=123,SNR=14						
UMMG	Uummannaq	75.01	10	i P	P	07 15 41.0	-2.1
UMMG				IAmb	IAmb	07 15 44.9	
	comp=Z,31nm,1.2s						
FARO	Faro, Yukon	75.22	337	P	P	07 15 45.6	+0.9
	baz=125,SNR=25						
O30N	Mendenhall	75.51	335	IAms_20	IAms_20	07 53 02.6	
	comp=Z,5µm,21.0s						
O30N	Mendenhall	75.51	335	P	P	07 15 46.9	+0.5
	baz=122,SNR=22						
P30M	Million Dollar	75.53	335	P	P	07 15 46.3	-0.2
	baz=121						
NUUG	Nuugaatsiaq	75.59	9	i P	P	07 15 42.5	-4.0
NUUG				IAmb	IAmb	07 15 47.9	
	comp=Z,8.4nm,0.7s						
M31M	Drury Creek, Y	75.61	337	IAmb	IAmb	07 16 08.2	
	comp=Z,74nm,1.4s						
M31M	Drury Creek, Y	75.61	337	P	P	07 15 47.5	+0.6
	baz=124,SNR=24						
P29M	Windy Craggy	75.62	334	IAms_20	IAms_20	07 53 42.6	
	comp=Z,5µm,19.0s						
P29M	Windy Craggy	75.62	334	P	P	07 15 46.8	-0.2
	baz=120						
JOKA	Jonika Flow	75.65	291	IAms_20	IAms_20	07 40 37.2	
	comp=Z,5µm,21.0s						
N31M	Braeburn, Yuko	75.76	336	P	P	07 15 46.7	-1.1
	baz=122,SNR=20						
PUH	Pauahi	75.84	290	P	P	07 15 52.5	+3.3
PUH				IAmb	IAmb	07 16 03.3	
	comp=Z,100

comp=Z,17µm,19.0s,baz=251,slow=34
comp=Z,86nm,0.8s
DBIC Dimbokro 76.45 83 P **P 07 15 52.3 -0.3**
YUK6 Outpost Mounta 76.55 335 P **P 07 15 53.4 +0.8**
baz=120,SNR=16
BCPM Bancas Point 76.61 334 IAmb IAmb 07 16 14.3
comp=Z,94nm,1.2s
M30M Minto, Yukon 76.75 337 IAMs_20 IAMs_20 07 53 18.4
comp=Z,5µm,18.0s
M30M Minto, Yukon 76.75 337 P **P 07 15 53.3 -0.1**
baz=122,SNR=28
YUK4 Talbot Arm 76.87 335 P **P 07 15 55.3 +1.0**
baz=120,SNR=27
C36M Paulatuk 76.91 346 P **P 07 15 54.2 +0.2**
baz=135
MAYO Mayo, Yukon 76.95 338 IAmb IAmb 07 16 16.2
comp=Z,68nm,0.9s
MAYO Mayo, Yukon 76.95 338 P **P 07 15 55.3 +0.8**
baz=123
PINM Pinnacle 76.95 334 P **P 07 15 54.4 -0.3**
baz=118
RES Resolute Bay 77.03 356 LR LR 07 50 53.1
comp=Z,4µm,18.3s,baz=162,slow=36
PFVI Vila Bisbo 77.05 51 *eP* **P 07 15 55.8 +0.3**
PFVI *i* Amb 07 16 11.7
comp=Z,170nm,1.8s
PFVI Vila Bisbo 77.05 51 P **P 07 15 55.4 -0.2**
TIO Tiouine 77.10 58 P **P 07 15 56.2 +0.1**
PMAFR Mafra 77.10 49 P **P 07 15 55.7 -0.2**
LIS Lisbon 77.15 50 *eP* **P 07 15 56.8 +0.7**
LIS *eS* **S 07 25 45.1 -0.1**
LIS IAMs_20 IAMs_20 07 47 21.7
comp=Z,9µm,14.9s
LIS Lisbon 77.15 50 *eP* **P 07 15 56.5 +0.4**
LIS *i* Amb 07 16 00.3
comp=Z,149nm,1.6s
LIS Lisbon 77.15 50 *eP* **P 07 15 56.8 +0.7**
LIS *eS* **S 07 25 45.1 -0.1**
PTEO Sao Teotonio 77.22 51 *eP* **P 07 15 57.2 +0.7**
PTEO *i* Amb 07 16 21.0
comp=Z,113nm,1.6s
MORF Marmelete 77.22 51 IAmb IAmb 07 16 18.2
comp=Z,71nm,1.2s
MORF IAMs_20 IAMs_20 07 46 46.1
comp=Z,5µm,21.0s
MORF Marmelete 77.22 51 *eP* **P 07 15 57.1 +0.5**
MORF *eS* **S 07 25 46.1 0.0**
MORF IAMs_20 IAMs_20 07 56 46.0
comp=Z,6µm,17.2s
MORF Marmelete 77.22 51 *eP* **P 07 15 56.8 +0.2**
MORF *i* Amb 07 16 12.6
comp=Z,116nm,1.9s
MORF Marmelete 77.22 51 *eP* **P 07 15 57.1 +0.5**
MORF *eS* **S 07 25 46.1 0.0**
O28M Mount Upton 77.25 334 P **P 07 15 56.5 -0.1**
baz=118
YUK8 Steele Glacier 77.31 335 P **P 07 15 56.6 -0.3**
baz=119
M29M Somme Creek 77.35 336 IAmb IAmb 07 16 18.8
comp=Z,90nm,1.1s
M29M IAMs_20 IAMs_20 07 54 09.2
comp=Z,5µm,21.0s
M29M Somme Creek 77.35 336 P **P 07 15 57.2 +0.4**
baz=120,SNR=47
AVE Averroes 77.41 55 P **P 07 15 57.2 -0.4**
AVE IAmb IAmb 07 16 12.6
comp=Z,69nm,0.8s
AVE Averroes 77.41 55 P **P 07 15 57.7 0.0**
AVE Averroes 77.41 55 ⇑P **P 07 15 58.5 +0.9**
L29M L29M 77.55 337 P **P 07 15 58.2 +0.3**
baz=121,SNR=48
PSBE So Bento 77.60 49 *eP* **P 07 15 58.8 +0.1**
PSBE *i* Amb 07 16 22.1
comp=Z,96nm,1.4s
H31M Peel River 77.64 340 IAmb IAmb 07 16 20.0
comp=Z,108nm,1.3s
H31M IAMs_20 IAMs_20 07 52 21.5
comp=Z,5µm,19.0s
H31M Peel River 77.64 340 P **P 07 15 58.3 0.0**
baz=125,SNR=29
J30M Hart River 77.65 339 IAmb IAmb 07 16 20.3
comp=Z,73nm,1.2s
J30M IAMs_20 IAMs_20 07 57 07.9
comp=Z,5µm,20.0s
J30M Hart River 77.65 339 P **P 07 15 58.6 +0.1**
baz=122,SNR=38
MESJ Messejana 77.67 51 IAMs_20 IAMs_20 07 50 31.0
comp=Z,6µm,18.0s
MESJ Messejana 77.67 51 *eP* **P 07 15 59.8 +0.7**
MESJ *eS* **S 07 25 50.6 -0.3**
MESJ IAMs_20 IAMs_20 07 50 37.4
comp=Z,7µm,30.0s
MESJ Messejana 77.67 51 *eP* **P 07 15 59.3 +0.3**
MESJ *i* Amb 07 16 14.9
comp=Z,63nm,1.9s
K29M Barlow Dome 77.70 338 IAmb IAmb 07 16 20.1
comp=Z,65nm,1.1s
K29M IAMs_20 IAMs_20 07 51 38.4
comp=Z,5µm,22.0s
K29M Barlow Dome 77.70 338 P **P 07 15 58.5 -0.3**
baz=121,SNR=33
YAH Yahtse 77.74 334 IAmb IAmb 07 16 07.3
comp=Z,104nm,1.5s
MESA MESA 77.75 333 IAmb IAmb 07 16 21.7
comp=Z,78nm,1.2s
MESA IAMs_20 IAMs_20 07 55 47.0
comp=Z,5µm,19.0s
MESA MESA 77.75 333 P **P 07 16 00.2 +1.0**
baz=116,SNR=9.3
PCVE Castro Verde 77.77 51 *eP* **P 07 15 59.3 -0.2**
PCVE *i* Amb 07 16 15.5
comp=Z,74nm,1.9s
PCVE Castro Verde 77.77 51 P **P 07 15 59.4 -0.2**
PBDV Barranco-do-Ve 77.77 51 *eP* **P 07 16 00.3 +0.6**
PBDV *i* Amb 07 16 04.5
comp=Z,70nm,1.8s
KULLO Kullorsuaq 77.80 6 *i* P **P 07 15 58.4 -0.5**
KULLO IAmb IAmb 07 15 59.5
comp=Z,11nm,0.9s
YUK3 Moose Creek 77.84 335 P **P 07 16 00.2 +0.5**
baz=118,SNR=26
PMTG Montargil 77.93 49 *eP* **P 07 16 00.8 +0.3**
PMTG *i* Amb 07 16 17.0
comp=Z,71nm,1.5s
PCAS Casmilo, Conde 77.94 48 *eP* **P 07 16 00.8 +0.2**
PCAS *i* Amb 07 16 41.2
comp=Z,131nm,1.3s
PVAQ Vaqueiros 77.97 51 IAMs_20 IAMs_20 07 47 06.9
comp=Z,4µm,22.0s
PVAQ Vaqueiros 77.97 51 *eP* **P 07 16 00.4 -0.3**
PVAQ *i* Amb 07 16 20.8
comp=Z,59nm,1.8s
PVAQ Vaqueiros 77.97 51 P **P 07 16 00.5 -0.3**
EVO Evora 77.98 50 *eP* **P 07 16 00.8 0.0**
EVO *i* Amb 07 16 16.3
comp=Z,51nm,1.9s
EVO Evora 77.98 50 P **P 07 16 00.3 -0.4**
PBEJ Beja 77.98 51 *eP* **P 07 16 00.8 0.0**
PBEJ *i* Amb 07 16 20.6
comp=Z,70nm,1.7s
RTC Rabat Centre 77.99 55 P **P 07 16 00.8 -0.1**
I30M Mount Dempster 78.02 339 IAmb IAmb 07 16 22.2
comp=Z,87nm,1.1s
I30M Mount Dempster 78.02 339 P **P 07 16 00.7 +0.1**
baz=123,SNR=38
COI Coimbra 78.04 48 IAmb IAmb 07 16 10.1
comp=Z,104nm,0.9s
COI Coimbra 78.04 48 *eP* **P 07 16 00.9 -0.1**
COI *i* Amb 07 16 07.0
comp=Z,224nm,1.3s
SNH Sunshine Point 78.14 333 IAmb IAmb 07 16 23.8
comp=Z,89nm,1.1s
SNH IAMs_20 IAMs_20 07 57 21.5
comp=Z,6µm,19.0s
EGRO El Granado 78.18 51 P **P 07 16 01.2 -0.7**
G31M Satah River 78.25 341 IAmb IAmb 07 16 23.0
comp=Z,93nm,1.2s
G31M IAMs_20 IAMs_20 07 53 06.8
comp=Z,5µm,18.0s
G31M Satah River 78.25 341 P **P 07 16 01.4 -0.3**
baz=125,SNR=24
WAX Waxell Ridge 78.27 333 IAmb IAmb 07 16 18.8
comp=Z,82nm,1.2s
WAX IAMs_20 IAMs_20 07 56 12.8
comp=Z,5µm,18.0s
J29N Klondike Camp 78.28 338 IAMs_20 IAMs_20 07 50 54.6
comp=Z,5µm,22.0s
J29N Klondike Camp 78.28 338 P **P 07 16 02.1 +0.2**
baz=121
BVCY Beaver Creek 78.31 336 P **P 07 16 02.7 +0.6**
baz=118,SNR=14
BGLC Bering Glacier 78.32 333 P **P 07 16 02.7 +0.6**
baz=115
PESTR Estremoz 78.37 50 IAmb IAmb 07 16 17.6
comp=Z,125nm,1.5s
PESTR Estremoz 78.37 50 *eP* **P 07 16 03.0 0.0**
PESTR *i* Amb 07 16 19.3
comp=Z,124nm,1.8s
PESTR Estremoz 78.37 50 P **P 07 16 02.5 -0.5**
F31M Tsiigehtchic 78.39 342 IAmb IAmb 07 16 23.9
comp=Z,199nm,1.6s
F31M Tsiigehtchic 78.39 342 P **P 07 16 02.4 0.0**
baz=126,SNR=17
DAWY Dawson 78.52 338 IAMs_20 IAMs_20 07 52 02.2
comp=Z,5µm,22.0s
DAWY Dawson 78.52 338 P **P 07 16 03.1 -0.2**
baz=120,SNR=12
PVIS Viseu 78.54 48 *eP* **P 07 16 03.4 -0.4**
PGAV Gavieira, Arco 78.54 47 *eP* **P 07 16 04.1 +0.1**
PGAV *i* Amb 07 16 24.3
comp=Z,82nm,2.0s
PGAV *e*PP PP 07 18 53.8 -7.9
PGAV *e*S **S 07 26 00.1 -0.3**
BERG Berg Lake 78.62 333 IAmb IAmb 07 16 20.7
comp=Z,71nm,1.0s
PMRV Marv??o 78.64 49 *eP* **P 07 16 04.4 0.0**
PMRV *i* Amb 07 16 20.4
comp=Z,73nm,1.7s
PMRV *e*S **S 07 26 06.1 +4.7**
PBAR Barrancos 78.65 51 *eP* **P 07 16 04.7 +0.2**
PBAR *i* Amb 07 16 20.3
comp=Z,56nm,1.7s
PBAR Barrancos 78.65 51 P **P 07 16 04.6 +0.1**
PCBR Castelo Branco 78.66 49 *eP* **P 07 16 04.4 -0.1**
PCBR *i* Amb 07 16 24.0
comp=Z,81nm,1.7s
PCAB Cabril 78.66 47 *eP* **P 07 16 04.8 +0.2**
PCAB *i* Amb 07 16 28.3
comp=Z,63nm,1.4s
M27K Edge Creek, AK 78.70 335 IAmb IAmb 07 16 26.2
comp=Z,80nm,1.1s
M27K Edge Creek, AK 78.70 335 P **P 07 16 03.3 -1.1**
baz=117,SNR=15
MTE Manteigas 78.73 48 P **P 07 16 05.0 +0.1**
MTE Manteigas 78.73 48 *eP* **P 07 16 05.2 +0.2**
MTE *i* Amb 07 16 20.4
comp=Z,78nm,1.9s
MTE *e*PP **PP 07 19 04.0 +0.7**
MTE *e*S **S 07 26 06.3 +3.9**
MTE Manteigas 78.73 48 ⇑P **P 07 16 05.2 +0.2**
TULEG Thule 78.74 3 IAMs_20 IAMs_20 07 53 35.5
comp=Z,3µm,21.0s
KAIM Kayak Island 78.75 333 IAmb IAmb 07 16 12.6
comp=Z,162nm,1.5s
KAIM Kayak Island 78.75 333 P **P 07 16 04.6 0.0**
baz=114,SNR=11
EPYK Eagle Plains 78.76 340 IAmb IAmb 07 16 37.8
comp=Z,74nm,1.3s
EPYK IAMs_20 IAMs_20 07 53 03.1
comp=Z,4µm,19.0s
EPYK Eagle Plains 78.76 340 P **P 07 16 04.2 -0.3**
baz=122,SNR=15
POLO Lamas de Olo 78.76 47 *eP* **P 07 16 04.8 -0.4**
POLO *i* Amb 07 16 21.5
comp=Z,50nm,1.7s
I29M Ogilvie Camp, 78.78 339 IAMs_20 IAMs_20 07 51 50.8
comp=Z,4µm,21.0s
I29M Ogilvie Camp, 78.78 339 P **P 07 16 03.7 -0.9**
baz=121,SNR=14
EBAD Badajoz 78.79 50 P **P 07 16 04.6 -0.6**
PVRL Vila Real 78.79 47 *eP* **P 07 16 05.4 +0.1**
PVRL *i* Amb 07 16 21.7
comp=Z,86nm,1.7s
INK Inuvik 78.83 342 IAmb IAmb 07 16 26.2
comp=Z,84nm,1.1s
INK Inuvik 78.83 342 LR LR 07 53 24.2
comp=Z,5µm,19.6s,baz=119,slow=38
INK Inuvik 78.83 342 ⇑P **P 07 16 04.3 -0.5**
INK Inuvik 78.83 342 P **P 07 16 04.4 -0.4**
baz=126,SNR=48
RAR Rarotonga 78.84 249 LR LR 07 42 51.0
comp=Z,5µm,18.4s,baz=95,slow=30
HMT Hamilton 78.85 333 IAmb IAmb 07 16 21.8
comp=Z,102nm,1.1s
EMIN Mina Concepcio 78.86 51 P **P 07 16 05.2 -0.4**
VRDI Verde Repeater 78.87 334 IAmb IAmb 07 16 26.5
comp=Z,74nm,1.3s
VRDI IAMs_20 IAMs_20 07 50 53.7
comp=Z,4µm,21.0s
G30M tAoh Zraii Nji 78.92 341 IAMs_20 IAMs_20 07 57 57.5
comp=Z,5µm,20.0s
G30M tAoh Zraii Nji 78.92 341 P **P 07 16 04.5 -1.0**
baz=123
SFS San Fernando 78.97 52 P **P 07 16 06.3 +0.1**
BCAR Beaver Creek A 78.99 336 P **P 07 16 06.2 +0.3**
L27K Beaver Creek, 79.00 336 IAmb IAmb 07 16 13.4
comp=Z,90nm,1.4s
L27K IAMs_20 IAMs_20 07 55 53.0
comp=Z,5µm,18.0s
L27K Beaver Creek, 79.00 336 P **P 07 16 05.7 -0.3**
baz=117,SNR=16
RAGM Ragged Mountai 79.06 333 IAmb IAmb 07 16 27.8
comp=Z,90nm,1.1s
A36M Sachs Harbour 79.07 347 IAmb IAmb 07 16 12.1
comp=Z,143nm,1.1s
A36M IAMs_20 IAMs_20 07 52 37.3
comp=Z,11µm,21.0s
A36M Sachs Harbour 79.07 347 P **P 07 16 05.0 -1.0**
baz=135,SNR=53
SUMG Summit 79.11 12 P **P 07 16 06.4 -0.4**
SUMG Summit 79.11 12 P **P 07 16 05.9 -0.9**
SUMG Summit 79.11 12 P **P 07 16 06.4 -0.4**
SUMG pmax pmax
comp=Z,281nm,1.6s
SUMG MLR MLR
comp=Z,7µm,19.0s
SUMG Summit 79.11 12 *i* P **P 07 16 06.9 +0.1**
SUMG IAmb IAmb 07 16 07.9
comp=Z,18nm,0.6s
GLB Gilahina Butte 79.12 334 IAMs_20 IAMs_20 07 57 44.2
comp=Z,5µm,20.0s
F30M Barrier River 79.13 341 P **P 07 16 06.1 -0.4**
baz=124
M26K Nabesna, AK 79.19 335 P **P 07 16 05.5 -1.5**
baz=116,SNR=15
H29M Whitestone 79.24 340 IAmb IAmb 07 16 28.0
comp=Z,71nm,1.2s
H29M IAMs_20 IAMs_20 07 54 29.0
comp=Z,3µm,18.0s
H29M Whitestone 79.24 340 P **P 07 16 06.0 -1.2**
baz=121,SNR=20
BMRM Bremner River 79.27 334 IAmb IAmb 07 16 23.7
comp=Z,59nm,0.8s
BMRM Bremner River 79.27 334 P **P 07 16 06.2 -1.3**
baz=114,SNR=16
MVO Moncorvo 79.28 48 *eP* **P 07 16 07.7 -0.3**
MVO *i* Amb 07 16 24.3
comp=Z,119nm,1.8s
MVO *e*S **S 07 26 05.7 -2.5**
BORG Borgarnes 79.32 22 IAMs_20 IAMs_20 07 50 21.8
comp=Z,6µm,20.0s
BORG Borgarnes 79.32 22 LR LR 07 48 37.7
comp=Z,5µm,21.8s,baz=238,slow=34
ESPR Espera 79.32 52 P **P 07 16 08.9 +0.7**
IFR Ifrane 79.33 56 P **P 07 16 08.9 +0.3**
I28M Miner Creek 79.41 339 IAmb IAmb 07 16 28.9
comp=Z,79nm,1.2s
I28M IAMs_20 IAMs_20 07 52 44.5
comp=Z,5µm,20.0s
I28M Miner Creek 79.41 339 P **P 07 16 07.9 -0.3**
baz=119,SNR=33
G29M Pine Creek 79.48 340 IAMs_20 IAMs_20 07 52 17.4
comp=Z,5µm,20.0s
G29M Pine Creek 79.48 340 P **P 07 16 08.5 0.0**
baz=121
ECEU Ceuta 79.53 53 P **P 07 16 10.3 +0.9**
N25K Chitina, Valde 79.53 334 IAMs_20 IAMs_20 07 55 28.1
comp=Z,5µm,20.0s
N25K Chitina, Valde 79.53 334 P **P 07 16 06.4 -2.5**
baz=114,SNR=14
CEU Ceuta 79.53 53 P **P 07 16 10.3 +1.0**
K27K Chicken 79.55 337 IAMs_20 IAMs_20 07 58 26.2
comp=Z,4µm,19.0s
K27K Chicken 79.55 337 P **P 07 16 07.9 -1.0**
baz=117
L26K Log Cabin Wild 79.61 336 IAMs_20 IAMs_20 07 52 03.0
comp=Z,5µm,20.0s
L26K Log Cabin Wild 79.61 336 P **P 07 16 07.7 -1.5**
baz=116,SNR=13
EYAK Cordova Ski Ar 79.61 333 P **P 07 16 09.2 0.0**
baz=113
PBRG Braganca 79.62 47 *eP* **P 07 16 09.9 +0.1**
PBRG *i* Amb 07 16 26.4
comp=Z,94nm,1.8s
MDT Midelt 79.64 56 P **P 07 16 10.4 +0.2**
comp=Z,8.0nm,0.7s,baz=270,slow=3.7,SNR=18
MDT S **S 07 26 15.9 +3.5**
comp=Z,0.6nm,0.4s,baz=307,slow=15,SNR=1.5
MDT LR LR 07 50 05.9
comp=Z,6µm,19.2s,baz=264,slow=35
comp=Z,8.0nm,0.7s
ECAL Calabor 79.65 47 P **P 07 16 09.6 -0.4**
MENT Mentasta 79.72 336 IAMs_20 IAMs_20 07 55 16.0
comp=Z,4µm,19.0s
VAL Valentia 79.80 36 P **P 07 16 12.3 +1.9**
ECAB El Cabril 79.89 51 P **P 07 16 10.7 -0.6**
HIN Hinchinbrook I 79.90 333 IAMs_20 IAMs_20 07 56 48.0
comp=Z,6µm,20.0s
FID Port Fidalgo 80.02 333 IAMs_20 IAMs_20 07 57 03.5
comp=Z,6µm,21.0s
KLU Klutina 80.06 334 IAMs_20 IAMs_20 07 58 15.3
comp=Z,4µm,19.0s
KLU Klutina 80.06 334 P **P 07 16 10.4 -1.4**
baz=113,SNR=27
HARP HAARP 80.10 335 P **P 07 16 11.1 -0.8**
baz=114
I27K Kandik River 80.10 338 P **P 07 16 10.6 -1.3**
baz=118
E29M Blow River 80.22 342 P **P 07 16 11.9 -0.5**
baz=122
SCRK Sand Creek 80.28 336 IAMs_20 IAMs_20 07 53 27.7
comp=Z,4µm,19.0s
SCRK Sand Creek 80.28 336 P **P 07 16 12.9 0.0**
baz=115,SNR=15
J26L Joseph Creek 80.34 337 IAMs_20 IAMs_20 07 58 26.2
comp=Z,4µm,19.0s
J26L Joseph Creek 80.34 337 P **P 07 16 13.4 +0.2**
baz=116,SNR=18
GLI Glacier Island 80.35 333 IAMs_20 IAMs_20 07 57 22.0
comp=Z,6µm,20.0s
GLI Glacier Island 80.35 333 P **P 07 16 12.7 -0.5**
baz=112
H27K Steamboat Moun 80.36 339 P **P 07 16 12.5 -0.8**
baz=118,SNR=14
M24K Tolsona, Glenn 80.42 334 IAmb IAmb 07 16 23.1
comp=Z,129nm,1.1s
M24K IAMs_20 IAMs_20 07 56 03.5
comp=Z,4µm,18.0s
M24K Tolsona, Glenn 80.42 334 P **P 07 16 12.8 -0.9**
baz=113,SNR=15
EMAL Malaga-Limoner 80.43 52 P **P 07 16 14.7 +0.5**
PAX Paxson 80.46 335 IAmb IAmb 07 16 34.9
comp=Z,78nm,1.1s
PAX Paxson 80.46 335 P **P 07 16 13.5 -0.4**
baz=114,SNR=24
RIDG Independent Ri 80.52 336 IAMs_20 IAMs_20 07 52 14.1
comp=Z,5µm,20.0s
RIDG Independent Ri 80.52 336 P **P 07 16 13.3 -0.8**
baz=114,SNR=24
I26K Coal Creek Min 80.54 338 IAMs_20 IAMs_20 07 53 14.2
comp=Z,6µm,20.0s
I26K Coal Creek Min 80.54 338 P **P 07 16 13.2 -1.0**
baz=116,SNR=8.9
G27K Doyon Strip 80.68 340 IAMs_20 IAMs_20 07 57 42.0
comp=Z,5µm,19.0s
G27K Doyon Strip 80.68 340 P **P 07 16 14.9 -0.1**
baz=118
IGLA Glengowla, Co 80.73 35 P **P 07 16 17.6 +2.2**
SCM Sheep Creek Mo 80.81 334 P **P 07 16 15.4 -0.4**
SCM IAmb IAmb 07 16 37.1
comp=Z,70nm,1.0s
SCM IAMs_20 IAMs_20 07 55 01.1
comp=Z,4µm,19.0s
SCM Sheep Creek Mo 80.81 334 P **P 07 16 15.4 -0.4**
SCM pmax pmax
comp=Z,70nm,1.0s
SCM MLR MLR
comp=Z,4µm,19.0s
SCM Sheep Creek Mo 80.81 334 P **P 07 16 14.9 -0.9**
baz=112,SNR=14
E28M Babbage River 80.85 342 P **P 07 16 15.0 -0.8**
baz=120
PWL Port Wells 80.91 333 P **P 07 16 14.7 -1.6**
baz=111,SNR=17
K24K Donnelly Dome 80.93 336 P **P 07 16 15.2 -1.1**
baz=114,SNR=13
PAB San Pablo 80.97 50 P **P 07 16 17.2 0.0**
PAB San Pablo 80.97 50 IAMs_20 IAMs_20 07 48 00.4
comp=Z,6µm,20.0s
PAB San Pablo 80.97 50 P **P 07 16 17.2 0.0**
PAB pmax pmax
comp=Z,38nm,1.1s
PAB San Pablo 80.97 50 ⇑P **P 07 16 17.1 0.0**
D28M Stokes Point 80.97 342 P **P 07 16 15.2 -1.2**
baz=121
M23K Glacier View 80.97 334 P **P 07 16 16.0 -0.6**
baz=112,SNR=26
ACRG Accra 81.00 84 IAmb IAmb 07 16 24.2
comp=Z,112nm,1.2s
NEEM North Greenlan 81.04 6 *i* P **P 07 16 16.4 -0.7**
NEEM IAmb IAmb 07 16 18.5
comp=Z,35nm,1.1s
J25K Salcha River, 81.09 337 IAMs_20 IAMs_20 07 54 03.1
comp=Z,5µm,19.0s
J25K Salcha River, 81.09 337 P **P 07 16 17.1 -0.2**
baz=114,SNR=18
KNK Knik Glacier 81.16 333 IAmb IAmb 07 16 39.0
comp=Z,86nm,1.0s
KNK IAMs_20 IAMs_20 07 58 06.4
comp=Z,5µm,19.0s
KNK Knik Glacier 81.16 333 P **P 07 16 16.0 -1.6**
baz=111,SNR=17
SEW Seward 81.17 332 P **P 07 16 16.1 -1.5**
baz=110,SNR=16
SML Sawmill 81.25 334 IAmb IAmb 07 16 49.8
comp=Z,117nm,1.3s
SML IAMs_20 IAMs_20 07 56 35.6
comp=Z,4µm,21.0s
SML Sawmill 81.25 334 P **P 07 16 17.5 -0.6**
baz=111,SNR=25
ESDC Sonseca Array 81.29 50 P **P 07 16 18.9 0.0**
ESDC Sonseca Array 81.29 50 P **P 07 16 18.8 0.0**
comp=Z,23nm,0.9s,baz=260,slow=5.0,SNR=69
ESDC S S 07 26 17.6 -12
comp=Z,0.4nm,0.4s,baz=263,slow=32,SNR=1.3
ESDC LR LR 07 49 43.4
comp=Z,6µm,20.8s,baz=250,slow=34
comp=Z,23nm,0.9s
E27K Coleen River 81.31 341 P **P 07 16 18.2 -0.1**
baz=118
O22K Cooper Landing 81.42 332 IAmb IAmb 07 16 50.0
comp=Z,82nm,1.1s
O22K IAMs_20 IAMs_20 07 58 59.3
comp=Z,4µm,20.0s
O22K Cooper Landing 81.42 332 P **P 07 16 18.1 -0.8**
baz=110
G26K Porcupine Rive 81.49 339 P **P 07 16 18.2 -1.0**
baz=116
GHO Glory Hole Cre 81.50 334 IAMs_20 IAMs_20 07 56 56.2
comp=Z,5µm,21.0s
PRP Porcupine Dome 81.52 338 IAMs_20 IAMs_20 07 57 33.5
comp=Z,4µm,20.0s
PRP Porcupine Dome 81.52 338 P **P 07 16 18.9 -0.7**
baz=114
PMR Palmer 81.53 333 IAmb IAmb 07 19 20.8
comp=Z,54nm,0.6s
PMR Palmer 81.53 333 P **P 07 16 19.2 -0.3**
baz=110,SNR=17
D27M Malcolm River 81.62 342 IAmb IAmb 07 16 41.3
comp=Z,70nm,1.1s
D27M Malcolm River 81.62 342 P **P 07 16 19.1 -0.9**
baz=119
RC01 Rabbit Creek A 81.63 333 IAmb IAmb 07 16 39.5
comp=Z,51nm,1.0s
RC01 IAMs_20 IAMs_20 07 58 02.8
comp=Z,5µm,21.0s
RC01 Rabbit Creek A 81.63 333 P **P 07 16 19.5 -0.6**
baz=110,SNR=21
HDA Harding Lake 81.64 336 IAMs_20 IAMs_20 07 53 08.6
comp=Z,5µm,20.0s
HDA Harding Lake 81.64 336 P **P 07 16 19.2 -0.8**

baz=112,SNR=15
BRSE Bradley Lake S 81.66 331 P P 07 16 19.7 -0.5
baz=108,SNR=20
SLKM Skilak Lake 81.66 332 IAmb IAmb 07 16 36.0
comp=Z,53nm,1.0s
BRLK Bradley Lake 81.73 331 IAmb IAmb 07 16 36.3
comp=Z,53nm,0.9s
BRLK IAms_20 IAms_20 07 59 57.8
comp=Z,3μm,18.0s
ILAR Eielson Array 81.75 337 P P 07 16 19.8 -0.8
ILAR Eielson Array 81.75 337 P P 07 16 19.2 -1.5
comp=Z,8.3nm,1.0s,baz=121,slow=6.1,SNR=25
ILAR PP PP 07 19 28.6 +0.9
comp=Z,3.5nm,1.0s,baz=112,slow=8.6,SNR=4.7
ILAR S S 07 26 29.7 -3.3
comp=Z,0.1nm,0.7s,baz=110,slow=7.9,SNR=1.1
ILAR LR LR 07 55 59.5
comp=Z,4μm,19.1s,baz=106,slow=38
comp=Z,8.3nm,1.0s
ILAR Eielson Array 81.75 337 P P 07 16 19.8 -0.8
FYU Fort Yukon 81.85 339 IAmb IAmb 07 16 41.9
comp=Z,74nm,1.2s
FIS Fire Island 81.87 333 IAms_20 IAms_20 07 58 09.5
comp=Z,6μm,21.0s
SCO Scoresbysund 81.94 17 IAmb IAmb 07 16 33.2
comp=Z,103nm,1.6s
SCO IAms_20 IAms_20 07 55 04.2
comp=Z,4μm,20.0s
SCO Scoresbysund 81.94 17 *i* P P 07 16 21.9 +0.5
SCO IAmb IAmb 07 16 23.1
comp=Z,37nm,1.4s
H25L Birch Creek 81.94 338 P P 07 16 20.1 -1.5
baz=114,SNR=16
F26K Sheenjek River 81.95 340 P P 07 16 21.3 -0.4
baz=116
KDAK Kodiak Island 81.98 329 P P 07 16 22.7 +0.8
KDAK Kodiak Island 81.98 329 IAms_20 IAms_20 07 52 42.3
comp=Z,3μm,19.0s
KDAK Kodiak Island 81.98 329 P P 07 16 22.7 +0.8
KDAK pmax pmax
comp=Z,14nm,1.0s
KDAK MLR MLR
comp=Z,3μm,19.0s
KDAK Kodiak Island 81.98 329 P P 07 16 19.1 -2.8
baz=107
IWEX Carrickbyrne, 81.98 37 P P 07 16 22.1 0.0
BMAR Burnt Mountain 81.98 340 P P 07 16 21.9 +0.1
EUNU Eureka 82.02 359 IAmb IAmb 07 16 45.9
comp=Z,86nm,1.6s
M22K Willow 82.03 333 IAms_20 IAms_20 07 57 13.2
comp=Z,6μm,21.0s
M22K Willow 82.03 333 P P 07 16 20.1 -2.0
baz=109,SNR=13
RND Reindeer 82.05 335 IAmb IAmb 07 16 32.9
comp=Z,59nm,1.1s
RND IAms_20 IAms_20 07 56 51.6
comp=Z,5μm,21.0s
HOM Homer 82.07 331 IAms_20 IAms_20 08 00 08.6
comp=Z,3μm,18.0s
HOM Homer 82.07 331 P P 07 16 20.6 -1.8
baz=108
CCB Clear Creek Bu 82.07 336 P P 07 16 23.4 +1.1
CCB IAms_20 IAms_20 07 53 21.0
comp=Z,5μm,20.0s
POKR Poker Plat Res 82.10 337 IAms_20 IAms_20 07 58 06.8
comp=Z,5μm,20.0s
POKR Poker Plat Res 82.10 337 IAmb IAmb 07 16 45.2
comp=Z,121nm,1.9s
POKR Poker Plat Res 82.10 337 P P 07 16 21.9 -0.6
baz=112
WRH Wood River Hil 82.12 336 IAms_20 IAms_20 07 53 31.4
comp=Z,4μm,19.0s
SYI Shuyak Island 82.12 330 IAms_20 IAms_20 07 54 47.0
comp=Z,3μm,19.0s
Q20K Shuyak Island 82.12 330 P P 07 16 21.8 -0.9
baz=107
VNA3 Neumayer Olymp 82.16 162 ⇓P P 07 16 22.7 0.0
comp=Z,34nm,0.6s
COLA College 82.17 337 P P 07 16 22.6 -0.2
COLA College 82.17 337 IAms_20 IAms_20 07 53 25.9
comp=Z,5μm,19.0s
COLA College 82.17 337 ⇓*i* P P 07 16 23.1 +0.3
COLA pmax pmax
comp=Z,35nm,1.3s
COLA MLR MLR
comp=Z,5μm,16.0s
COLA College 82.17 337 P P 07 16 21.6 -1.2
baz=112
CAPN Captain Cook N 82.18 332 IAms_20 IAms_20 07 58 00.3
comp=Z,6μm,21.0s
CAPN Captain Cook N 82.18 332 P P 07 16 21.6 -1.3
baz=108
OHAK Old Harbor 82.18 328 P P 07 16 20.7 -2.3
baz=106,SNR=11
MCK McKinley 82.20 335 P P 07 16 20.7 -2.3
baz=111,SNR=15
SUA Susitna One 82.22 333 IAms_20 IAms_20 07 58 42.2
comp=Z,4μm,19.0s
SUA Susitna One 82.22 333 P P 07 16 21.8 -1.5
baz=109,SNR=28
IDGL Inch Island, C 82.22 34 P P 07 16 24.2 +0.9
G25K Bearman Lake 82.25 339 P P 07 16 21.7 -1.5
baz=114
CUT Chulitna 82.31 334 IAms_20 IAms_20 07 57 19.6
comp=Z,4μm,18.0s
CUT Chulitna 82.31 334 P P 07 16 23.0 -0.6
baz=109
DSB Dublin 82.42 36 P P 07 16 25.0 +0.6
F25K Christian Rive 82.42 340 IAms_20 IAms_20 07 58 47.1
comp=Z,5μm,18.0s
F25K Christian Rive 82.42 340 P P 07 16 23.8 -0.4
baz=114
VNA1 Neumayer--Stat 82.43 161 ⇓P P 07 16 21.9 -2.2
comp=Z,15nm,0.8s
OBBL Beni Bahdel 82.47 55 P P 07 16 26.3 +1.1
SII Sitkinak Islan 82.48 328 P P 07 16 23.0 -1.7
baz=105
H24K Noodor Dome 82.55 338 IAmb IAmb 07 16 45.4
comp=Z,96nm,1.5s
H24K IAms_20 IAms_20 07 54 38.5
comp=Z,6μm,21.0s
H24K Noodor Dome 82.55 338 P P 07 16 24.2 -0.7
baz=112,SNR=21
NEA2 Nenana 82.56 336 IAms_20 IAms_20 07 54 12.0
comp=Z,4μm,19.0s
NEA2 Nenana 82.56 336 P P 07 16 24.0 -0.9
baz=111,SNR=46
BWN Browne 82.57 336 IAmb IAmb 07 16 45.8
comp=Z,119nm,1.2s
BWN IAms_20 IAms_20 08 00 31.6
comp=Z,4μm,19.0s
E25K Arctic Village 82.61 340 P P 07 16 24.3 -0.9
baz=114,SNR=25
ILTH Belurgan, Co L 82.63 35 P P 07 16 26.4 +1.0
C27K Jago River 82.66 342 IAmb IAmb 07 16 46.8
comp=Z,60nm,1.1s
C27K Jago River 82.66 342 P P 07 16 25.2 -0.1
baz=116
O20K Slope Mountain 82.67 331 P P 07 16 24.6 -1.0
baz=107
TRF Thorofare Moun 82.67 335 P P 07 16 25.0 -0.7
TRF IAms_20 IAms_20 07 57 11.0
comp=Z,5μm,20.0s
TRF Thorofare Moun 82.67 335 P P 07 16 24.4 -1.3
baz=109,SNR=19
G24K Hadweenzic Riv 82.72 338 IAmb IAmb 07 16 47.6
comp=Z,189nm,1.9s
G24K IAms_20 IAms_20 07 55 47.1
comp=Z,3μm,18.0s
G24K Hadweenzic Riv 82.72 338 P P 07 16 24.6 -1.1
baz=112
SKT Skwentna 82.73 333 IAms_20 IAms_20 07 57 43.9
comp=Z,4μm,21.0s
SKT Skwentna 82.73 333 P P 07 16 25.5 -0.4
baz=108,SNR=50
SPCR Spurr Chakacha 82.80 332 P P 07 16 24.8 -1.5
baz=107
P19K Oil Pt 82.84 331 P P 07 16 24.8 -1.7
baz=106
Q19K Cape Douglas, 82.84 330 IAms_20 IAms_20 07 55 11.0
comp=Z,3μm,19.0s
Q19K Cape Douglas, 82.84 330 P P 07 16 25.3 -1.2
baz=106
I23K Minto, Yukon-K 82.87 337 IAmb IAmb 07 16 47.6
comp=Z,55nm,1.1s
I23K Minto, Yukon-K 82.87 337 P P 07 16 26.1 -0.3
baz=110,SNR=27
R18K Karluk 82.88 329 P P 07 16 26.0 -0.6
baz=105
KTH Kantishna Hill 82.97 335 IAmb IAmb 07 16 41.9
comp=Z,46nm,1.0s
KTH IAms_20 IAms_20 08 00 35.0
comp=Z,4μm,20.0s
CHIR Chirikof Islan 83.07 327 IAms_20 IAms_20 07 59 41.5
comp=Z,3μm,20.0s
CHIR Chirikof Islan 83.07 327 P P 07 16 26.3 -1.4
baz=104
C26K Camden Bay 83.16 342 P P 07 16 27.3 -0.5
baz=115
BPAW Bear Paw Mtn. 83.18 335 IAmb IAmb 07 16 48.8
comp=Z,86nm,1.2s
BPAW IAms_20 IAms_20 07 59 22.4
comp=Z,3μm,19.0s
BPAW Bear Paw Mtn. 83.18 335 P P 07 16 27.1 -1.0
baz=109,SNR=60
H23K Yukon River 83.18 337 IAms_20 IAms_20 07 54 23.2
comp=Z,5μm,20.0s
H23K Yukon River 83.18 337 P P 07 16 27.2 -0.9
baz=110
F24K Squaw Lake 83.19 339 IAms_20 IAms_20 07 56 40.2
comp=Z,5μm,21.0s
F24K Squaw Lake 83.19 339 P P 07 16 28.4 +0.3
baz=112
TORD Torodi Ar. Bea 83.31 77 P P 07 16 29.0 -0.8
TORD IAmb IAmb 07 16 44.2
comp=Z,78nm,1.4s
TORD Torodi Ar. Bea 83.31 77 P P 07 16 27.6 -2.2
comp=Z,5.3nm,0.8s,baz=285,slow=5.6,SNR=12
TORD S S 07 26 49.1 -1.7
comp=Z,1.2nm,0.3s,baz=288,slow=0.5,SNR=3.7
TORD LR LR 07 50 57.9
comp=Z,18μm,22.0s,baz=255,slow=34
comp=Z,5.3nm,0.8s
PPLA Purkeypile 83.31 334 IAmb IAmb 07 16 44.5
comp=Z,91nm,1.1s
PPLA Purkeypile 83.31 334 P P 07 16 28.6 -0.4
baz=108,SNR=21
D25K Kavik River 83.38 341 P P 07 16 27.9 -1.1
baz=114
CAST Castle Rocks 83.42 335 IAmb IAmb 07 16 50.0
comp=Z,64nm,1.1s
CAST IAms_20 IAms_20 07 57 36.0
comp=Z,4μm,18.0s
CAST Castle Rocks 83.42 335 P P 07 16 28.3 -1.1
baz=108,SNR=30
M20K Styx River 83.43 333 IAms_20 IAms_20 07 58 07.2
comp=Z,6μm,20.0s
M20K Styx River 83.43 333 P P 07 16 28.7 -0.8
baz=107,SNR=13
Q18K Katmai Hardscr 83.45 330 P P 07 16 28.4 -1.3
baz=105
O19K Port Alsworth 83.51 331 P P 07 16 28.0 -1.8
baz=105
E24K Your Creek 83.61 340 P P 07 16 30.3 0.0
baz=112,SNR=11
ODJA Bouhanifia 83.66 54 P P 07 16 38.0 +6.7
CHUM Lake Minchumin 83.66 335 P P 07 16 30.7 +0.1
baz=108,SNR=14
G23K Bananza Creek 83.67 338 IAmb IAmb 07 16 51.8
comp=Z,49nm,1.1s
G23K IAms_20 IAms_20 07 58 33.2
comp=Z,4μm,19.0s
G23K Bananza Creek 83.67 338 P P 07 16 30.7 0.0
baz=110
P18K Big Mountain, 83.75 330 P P 07 16 30.9 -0.3
baz=104
N19K Bonanza Creek 83.76 332 IAms_20 IAms_20 07 58 25.1
comp=Z,5μm,21.0s
N19K Bonanza Creek 83.76 332 P P 07 16 30.0 -1.3
baz=105
O18K Koktuh Hills 83.85 331 P P 07 16 30.9 -0.7
baz=104,SNR=8.3
H22K Ishtalitna Cre 83.91 337 P P 07 16 31.2 -0.7
baz=109
COLD Coldfoot 83.92 339 IAmb IAmb 07 16 53.2
comp=Z,51nm,1.2s
COLD Coldfoot 83.92 339 P P 07 16 32.0 +0.1
baz=110,SNR=29
L20K Farewell, AK 83.93 333 P P 07 16 31.6 -0.5
baz=106,SNR=10
E23K Chandalar 84.00 339 P P 07 16 30.4 -2.0
baz=110
M19K Big River Lodg 84.00 333 IAms_20 IAms_20 07 58 25.4
comp=Z,4μm,20.0s
M19K Big River Lodg 84.00 333 P P 07 16 31.0 -1.4
baz=106
OJBR Djebel Berber 84.09 54 P P 07 16 37.0 +3.5
D24K Happy Valley 84.12 341 IAms_20 IAms_20 07 56 54.6
comp=Z,5μm,19.0s
D24K Happy Valley 84.12 341 P P 07 16 31.9 -0.9
baz=111
TOLK Toolik Lake Re 84.19 340 P P 07 16 32.3 -0.9
baz=111,SNR=12
K20K Telida 84.26 334 IAmb IAmb 07 16 54.3
comp=Z,55nm,1.3s
K20K IAms_20 IAms_20 08 00 26.1
comp=Z,3μm,20.0s
K20K Telida 84.26 334 P P 07 16 32.8 -0.9
baz=106,SNR=16
DBG Daneborg 84.28 14 *i* P P 07 16 33.3 -0.2
DBG IAmb IAmb 07 16 35.3
comp=Z,9.8nm,0.9s
C24K Franklin Bluff 84.29 341 P P 07 16 33.0 -0.6
baz=112
L19K White Mountain 84.29 333 IAms_20 IAms_20 07 58 41.0
comp=Z,4μm,19.0s
L19K White Mountain 84.29 333 P P 07 16 31.2 -2.7
baz=105,SNR=9.8
Q16K King Salmon 84.29 329 P P 07 16 32.4 -1.4
baz=103
P17K Kvichak River 84.30 330 P P 07 16 32.5 -1.4
baz=103
SNAA Sanae 84.38 162 ⇓P P 07 16 34.0 -0.2
comp=Z,314nm,0.9s
SNAA Sanae 84.38 162 P P 07 16 32.5 -1.7
comp=Z,37nm,0.9s,baz=278,slow=8.8,SNR=22
SNAA S S 07 27 01.1 +1.4
comp=Z,3.2nm,1.0s,baz=322,slow=19,SNR=2.1
comp=Z,37nm,0.9s
SNAA Sanae 84.38 162 *ce* P P 07 16 34.7 +0.5
SNAA pmax pmax
comp=Z,103nm,1.0s
SNAA MLR MLR
comp=Z,8μm,21.0s
OKGL Djebel Kef Gue 84.38 54 P P 07 16 36.0 +1.1
N18K Kilae Creek 84.39 331 P P 07 16 33.5 -0.8
N18K IAms_20 IAms_20 08 01 52.7
comp=Z,4μm,21.0s
N18K Kilae Creek 84.39 331 P P 07 16 33.6 -0.8
baz=104,SNR=12
H21K Melozitna Rive 84.40 337 IAms_20 IAms_20 07 59 34.6
comp=Z,3μm,20.0s
H21K Melozitna Rive 84.40 337 P P 07 16 33.4 -0.9
baz=107
OJGS Djebel Guires 84.41 54 P P 07 16 36.6 +1.5
R16K Pilot Point 84.52 328 P P 07 16 33.6 -1.4
baz=102
J20K Nowinta River 84.52 335 IAmb IAmb 07 16 55.0
comp=Z,48nm,1.2s
J20K IAms_20 IAms_20 07 58 28.9
comp=Z,3μm,20.0s
J20K Nowinta River 84.52 335 P P 07 16 34.0 -1.0
baz=106,SNR=14
M18K Stony River 84.56 332 P P 07 16 34.2 -0.9
baz=104,SNR=6.9
D23K Nanushuk River 84.68 340 IAmb IAmb 07 16 43.0
comp=Z,64nm,1.2s
D23K Nanushuk River 84.68 340 P P 07 16 35.2 -0.4
baz=110
ESK Eskdalemuir 84.68 34 P P 07 16 35.5 -0.4
ESK Eskdalemuir 84.68 34 P P 07 16 35.5 -0.4
ESK pmax pmax
comp=Z,162nm,1.9s
CHGN Chignik 84.70 327 P P 07 16 34.5 -1.5
baz=102
EKA Eskdalemuir Ar 84.71 34 P P 07 16 33.7 -2.4
comp=Z,7.0nm,0.6s,baz=261,slow=4.9,SNR=40
comp=Z,7.0nm,0.6s
F22K John River 84.73 339 P P 07 16 35.3 -0.7
baz=108
O17K Koliganek Bris 84.76 330 P P 07 16 34.1 -2.2
baz=103
E22K Anaktuvuk Pass 84.80 339 IAms_20 IAms_20 07 57 15.7
comp=Z,5μm,20.0s
E22K Anaktuvuk Pass 84.80 339 P P 07 16 35.4 -1.0
baz=108
I20K Naaghedeneel 84.83 336 IAmb IAmb 07 16 57.4
comp=Z,79nm,1.4s
I20K IAms_20 IAms_20 08 01 39.0
comp=Z,3μm,21.0s
I20K Naaghedeneel 84.83 336 P P 07 16 34.6 -1.9
baz=106
G21K Allakaket 84.93 337 IAmb IAmb 07 16 57.7
comp=Z,42nm,1.1s
G21K Allakaket 84.93 337 P P 07 16 34.6 -2.4
baz=107
C23K Itkillik River 84.95 341 IAmb IAmb 07 16 57.9
comp=Z,67nm,1.2s
C23K Itkillik River 84.95 341 P P 07 16 35.9 -1.1
baz=110
N17K Nushagak Hills 84.97 331 IAms_20 IAms_20 07 57 43.4
comp=Z,4μm,20.0s
N17K Nushagak Hills 84.97 331 P P 07 16 35.6 -1.7
baz=103
EADEB Ain Deheb 85.00 55 P P 07 16 39.0 +0.8
P16K Nushagak River 85.05 330 P P 07 16 35.5 -2.2
baz=102
CHNA Chernabura Isl 85.08 325 P P 07 16 36.9 -1.0
baz=100
J19K Poorman 85.10 335 IAms_20 IAms_20 07 58 26.2
comp=Z,4μm,20.0s
J19K Poorman 85.10 335 P P 07 16 37.4 -0.5
baz=105
F21K Alatna River 85.12 338 IAms_20 IAms_20 07 55 57.6
comp=Z,3μm,19.0s
F21K Alatna River 85.12 338 P P 07 16 38.0 0.0
baz=107
L18K Granite Mounta 85.13 333 IAms_20 IAms_20 07 57 08.3
comp=Z,4μm,19.0s
L18K Granite Mounta 85.13 333 P P 07 16 37.1 -1.0
baz=104
H20K Anotleneega Mo 85.18 336 P P 07 16 37.8 -0.5
baz=105,SNR=19
O16K Kokwok River B 85.22 330 P P 07 16 34.9 -3.6
baz=102
M17K Holitna River 85.29 332 P P 07 16 36.0 -2.9
baz=103
S14K Fog Glacier 85.33 327 P P 07 16 35.9 -3.3
baz=100
D22K Ayikyak River 85.33 340 P P 07 16 36.8 -2.2
baz=108,SNR=8.3
J18K Innoko River 85.44 334 IAms_20 IAms_20 07 59 35.3
comp=Z,3μm,19.0s
J18K Innoko River 85.44 334 P P 07 16 36.7 -2.9
baz=104
EDDR Deurdeur 85.64 54 P P 07 16 42.5 +1.2
E21K Killik River 85.66 339 IAms_20 IAms_20 08 02 38.4
comp=Z,5μm,20.0s
E21K Killik River 85.66 339 P P 07 16 39.9 -0.8
baz=106
SDPT Sand Point 85.67 326 P P 07 16 40.3 -0.6
baz=100
N16K Nishlik Lake 85.73 331 P P 07 16 40.1 -1.1
baz=102
GCSA Galena City Sc 85.81 335 P P 07 16 40.9 -0.4
baz=104
H19K Roundabout Mou 85.82 336 IAmb IAmb 07 16 54.8
comp=Z,103nm,1.8s
H19K IAms_20 IAms_20 07 56 22.3
comp=Z,4μm,21.0s
H19K Roundabout Mou 85.82 336 P P 07 16 41.2 -0.2
baz=104,SNR=11
L17K Donlin 85.85 333 P P 07 16 40.2 -1.5
baz=102
F20K Avaraart Lake 85.92 338 IAms_20 IAms_20 07 56 07.7
comp=Z,5μm,21.0s
F20K Avaraart Lake 85.92 338 P P 07 16 40.7 -1.2
baz=105
M16K Timber Creek 85.93 331 IAms_20 IAms_20 07 59 50.6
comp=Z,4μm,21.0s
M16K Timber Creek 85.93 331 P P 07 16 42.0 -0.1
baz=101
K17K Iditarod 85.97 333 IAms_20 IAms_20 08 02 51.5
comp=Z,3μm,20.0s
K17K Iditarod 85.97 333 P P 07 16 41.0 -1.2
baz=102
O15K Ungalikthiuk R 86.00 330 P P 07 16 41.4 -1.0
baz=100
B22K Teshekpuk Lake 86.02 341 IAmb IAmb 07 17 03.0
comp=Z,109nm,1.3s
B22K Teshekpuk Lake 86.02 341 P P 07 16 42.1 -0.2
baz=107
TROLL Troll, Antarti 86.09 162 ⇓P P 07 16 43.0 +0.1
C21K Knifeblade Rid 86.14 340 P P 07 16 42.2 -0.7
baz=106
ADJF Tadmit 86.20 56 P P 07 16 44.4 +0.2
B21K Ikpikpuk River 86.21 340 IAmb IAmb 07 16 50.2
comp=Z,71nm,1.2s
B21K Ikpikpuk River 86.21 340 P P 07 16 42.1 -1.2
baz=106
JMIC Jan Mayen 86.22 18 LR LR 07 52 19.1
comp=Z,2μm,21.3s,baz=256,slow=34
G19K Purcell Mounta 86.22 337 IAmb IAmb 07 17 05.2
comp=Z,81nm,1.7s
G19K IAms_20 IAms_20 07 56 44.8
comp=Z,4μm,20.0s
G19K Purcell Mounta 86.22 337 P P 07 16 43.2 -0.3
baz=103
L16K Owhat River 86.31 332 IAms_20 IAms_20 08 00 31.5
comp=Z,4μm,19.0s
L16K Owhat River 86.31 332 P P 07 16 43.4 -0.5
baz=101,SNR=13
N15K Kwethluk River 86.32 331 IAms_20 IAms_20 08 02 14.9
comp=Z,4μm,21.0s
N15K Kwethluk River 86.32 331 P P 07 16 43.0 -1.1
baz=100
ABRIN Birine 86.34 54 P P 07 16 47.9 +3.1
E20K Nigu River 86.40 339 P P 07 16 43.5 -0.8
baz=104
J17K VABM Dome 86.46 334 IAms_20 IAms_20 08 00 16.3
comp=Z,3μm,19.0s
J17K VABM Dome 86.46 334 P P 07 16 43.4 -1.3
baz=101
H18K Honhosa River 86.52 336 IAmb IAmb 07 17 06.5
comp=Z,82nm,1.4s
H18K Honhosa River 86.52 336 P P 07 16 44.1 -0.8
baz=102,SNR=13
E19K Redstone River 86.59 338 IAms_20 IAms_20 07 56 41.3
comp=Z,4μm,20.0s
E19K Redstone River 86.59 338 P P 07 16 43.7 -1.5
baz=103
F19K Shaleruckik Mo 86.65 337 P P 07 16 43.5 -1.9
baz=103
D20K Etivluk River 86.66 339 P P 07 16 44.8 -0.8
baz=104
M15K Kasigluk River 86.70 331 P P 07 16 45.3 -0.6
baz=100
A22K Sinclair Lake 86.71 342 P P 07 16 45.5 -0.2
baz=106
O14K Tigyukauivet M 86.74 330 P P 07 16 45.3 -0.8
baz=99
G18K Tagagawik 86.79 336 IAms_20 IAms_20 07 57 02.9
comp=Z,4μm,22.0s
G18K Tagagawik 86.79 336 P P 07 16 45.2 -1.0
baz=102,SNR=15
CLF Chambon-Foret 86.94 42 IAms_20 IAms_20 07 56 18.2
comp=Z,5μm,20.0s
CLF Chambon-Foret 86.94 42 ⇑P P 07 16 47.4 +0.1
N14K Kuskokwak Cree 87.06 330 P P 07 16 47.1 -0.5
baz=99,SNR=14
J16K Anvik River 87.11 334 IAms_20 IAms_20 07 59 24.7
comp=Z,3μm,19.0s
J16K Anvik River 87.11 334 P P 07 16 48.2 +0.4
baz=100
H17K Granite Mounta 87.12 335 IAms_20 IAms_20 07 54 38.6
comp=Z,4μm,21.0s
H17K Granite Mounta 87.12 335 P P 07 16 48.0 +0.2
baz=101,SNR=12
D19K Kuna River 87.15 339 IAmb IAmb 07 17 14.8
comp=Z,68nm,1.3s
D19K Kuna River 87.15 339 P P 07 16 47.9 -0.1
baz=102
B20K Meade River 87.16 340 IAmb IAmb 07 16 55.2
comp=Z,112nm,1.4s
B20K IAms_20 IAms_20 07 58 27.1
comp=Z,5μm,20.0s
B20K Meade River 87.16 340 P P 07 16 47.9 0.0
baz=104
ABSD Ouled Sidi Bra 87.20 55 P P 07 16 49.5 +0.6
ATKJ Tikjda 87.22 54 P P 07 16 48.0 -1.2
L15K Ungalak Mounta 87.25 332 P P 07 16 48.4 -0.1
baz=99
I17K Unalakleet 87.26 334 IAmb IAmb 07 17 10.1
comp=Z,57nm,1.6s

I17K					IAMs_20	IAMs_20	08 03 08.5	
	comp=Z,4μm,18.0s							
I17K	**Unalakleet**	**87.26**	**334**	P		**P**	**07 16 48.7**	**+0.2**
	baz=100							
FALS	**False Pass**	**87.27**	**325**	P		**P**	**07 16 47.6**	**-1.1**
	baz=97							
ATAF	**Djebel Tarf**	**87.30**	**54**	P		**P**	**07 16 50.1**	**+0.6**
A21K	**Barrow**	**87.31**	**342**	P		**P**	**07 16 48.6**	**0.0**
	baz=104							
M14K	**Bethel**	**87.33**	**331**	IAmb		IAmb	07 17 03.9	
	comp=Z,32nm,1.0s							
M14K					IAMs_20	IAMs_20	07 59 15.6	
	comp=Z,4μm,19.0s							
M14K	**Bethel**	**87.33**	**331**	P		**P**	**07 16 48.6**	**-0.3**
	baz=99							
F18K	**Selawik**	**87.33**	**337**	P		**P**	**07 16 48.5**	**-0.3**
	baz=101,SNR=22							
K15K	**Wolf Creek Mou**	**87.37**	**333**	IAmb		IAmb	07 17 03.3	
	comp=Z,80nm,1.8s							
K15K					IAMs_20	IAMs_20	08 01 24.5	
	comp=Z,3μm,21.0s							
K15K	**Wolf Creek Mou**	**87.37**	**333**	P		**P**	**07 16 48.3**	**-0.8**
	baz=99							
G17K	**Kiwalik Mounta**	**87.53**	**336**	P		**P**	**07 16 49.7**	**-0.1**
	baz=100							
MAHO	**Mahon**	**87.61**	**50**	IAMs_20		IAMs_20	07 57 40.0	
	comp=Z,4μm,18.0s							
L14K	**Kuka Creek**	**87.76**	**331**	IAMs_20		IAMs_20	07 58 29.0	
	comp=Z,3μm,19.0s							
L14K	**Kuka Creek**	**87.76**	**331**	P		**P**	**07 16 50.6**	**-0.3**
	baz=98							
E18K	**Tukpahlearik C**	**87.85**	**338**	IAmb		IAmb	07 16 58.3	
	comp=Z,39nm,1.2s							
E18K					IAMs_20	IAMs_20	08 04 09.8	
	comp=Z,3μm,20.0s							
E18K	**Tukpahlearik C**	**87.85**	**338**	P		**P**	**07 16 50.7**	**-0.6**
	baz=100							
CDCN	**Doucen**	**87.89**	**55**	P		**P**	**07 16 53.0**	**+0.7**
F17K	**Baldwin Pennin**	**87.93**	**337**	IAmb		IAmb	07 17 07.5	
	comp=Z,30nm,0.9s							
F17K					IAMs_20	IAMs_20	08 00 55.0	
	comp=Z,3μm,18.0s							
F17K	**Baldwin Pennin**	**87.93**	**337**	P		**P**	**07 16 52.1**	**+0.4**
	baz=100							
M13K	**Dall Lake**	**87.96**	**331**	IAmb		IAmb	07 16 59.6	
	comp=Z,82nm,1.3s							
M13K					IAMs_20	IAMs_20	08 03 37.3	
	comp=Z,4μm,20.0s							
M13K	**Dall Lake**	**87.96**	**331**	P		**P**	**07 16 52.8**	**+0.9**
	baz=98							
CAZD	**Ain Tagrout**	**88.03**	**54**	P		**P**	**07 16 54.1**	**+1.1**
H16K	**Elim**	**88.05**	**335**	P		**P**	**07 16 52.9**	**+0.6**
	baz=99							
QSPA	**South Pole Qui**	**88.06**	**180**	P		**P**	**07 16 53.1**	**+0.6**
QSPA	**South Pole Qui**	**88.06**	**180**	P		**P**	**07 16 52.7**	**+0.2**
	comp=Z,27nm,0.9s,baz=149,slow=4.0,SNR=36							
QSPA				S		**SKSac**	**07 27 19.9**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=135,slow=4.3,SNR=1.8							
	comp=Z,27nm,0.9s							
G16K	**Koyuk River**	**88.21**	**336**	IAMs_20		IAMs_20	07 57 49.5	
	comp=Z,4μm,19.0s							
G16K	**Koyuk River**	**88.21**	**336**	P		**P**	**07 16 52.9**	**-0.1**
	baz=98							
SSB	**Saint Sauveur**	**88.24**	**45**	IAMs_20		IAMs_20	07 54 08.7	
	comp=Z,3μm,20.0s							
SSB	**Saint Sauveur**	**88.24**	**45**	IAmb		IAmb	07 17 05.9	
	comp=Z,103nm,1.9s							
E17K	**Hotham Inlet**	**88.27**	**337**	P		**P**	**07 16 52.7**	**-0.6**
	baz=99							
C18K	**Utukok River**	**88.29**	**339**	IAmb		IAmb	07 17 14.2	
	comp=Z,39nm,1.1s							
C18K	**Utukok River**	**88.29**	**339**	P		**P**	**07 16 52.5**	**-0.9**
	baz=100							
NOR	**Nord**	**88.31**	**8**	*i* P		**P**	**07 16 49.3**	**-4.0**
NOR				IAmb		IAmb	07 16 55.2	
	comp=Z,54nm,1.7s							
J14K	**Nanvaranak Lak**	**88.36**	**333**	IAmb		IAmb	07 17 16.5	
	comp=Z,64nm,1.2s							
J14K					IAMs_20	IAMs_20	08 04 14.7	
	comp=Z,4μm,19.0s							
J14K	**Nanvaranak Lak**	**88.36**	**333**	P		**P**	**07 16 53.7**	**-0.1**
	baz=97,SNR=10							
A19K	**Wainwright**	**88.52**	**340**	P		**P**	**07 16 54.3**	**-0.1**
	baz=100							
UCC	**Uccle**	**88.57**	**39**	*d*P		**P**	**07 16 55.0**	**-0.1**
B18K	**Kokolik River**	**88.62**	**340**	P		**P**	**07 16 54.3**	**-0.6**
	baz=99							
DFRA	**Djebel Bou Aff**	**88.64**	**54**	P		**P**	**07 16 57.1**	**+1.2**
CJSR	**Ain Djasser**	**88.65**	**54**	P		**P**	**07 16 57.5**	**+1.6**
DOU	**Dourbes**	**88.66**	**40**	*d*P		**P**	**07 16 54.8**	**-0.7**
K13K	**Kusilvak Mount**	**88.77**	**332**	IAmb		IAmb	07 17 17.9	
	comp=Z,51nm,1.3s							
K13K					IAMs_20	IAMs_20	08 02 41.7	
	comp=Z,3μm,20.0s							
K13K	**Kusilvak Mount**	**88.77**	**332**	P		**P**	**07 16 55.8**	**+0.1**
	baz=96							
BMRD	**Maredsous**	**88.79**	**40**	*d*P		**P**	**07 16 56.5**	**+0.4**
RDOG	**Red Dog Mine**	**88.82**	**338**	IAmb		IAmb	07 17 22.7	
	comp=Z,55nm,1.2s							
RDOG					IAMs_20	IAMs_20	08 02 33.3	
	comp=Z,5μm,20.0s							
RDOG	**Red Dog Mine**	**88.82**	**338**	P		**P**	**07 16 55.3**	**-0.6**
	baz=98							
D17K	**Noatak River**	**88.84**	**338**	P		**P**	**07 16 55.8**	**-0.1**
	baz=98,SNR=27							
G15K	**Niukluk**	**88.86**	**335**	P		**P**	**07 16 56.2**	**+0.1**
	baz=97							
CBHR	**Beni Haroun da**	**88.95**	**54**	P		**P**	**07 16 59.1**	**+1.9**
UNV	**Unalaska Valle**	**88.96**	**324**	P		**P**	**07 16 56.8**	**0.0**
	baz=95							
C17K	**DeLong Mountai**	**88.98**	**339**	P		**P**	**07 16 55.3**	**-1.4**
	baz=98							
BGES	**Gesves**	**89.00**	**40**	*d*P		**P**	**07 16 58.2**	**+1.1**
NVL	**N'lazarevskaya**	**89.05**	**161⇑**	*i* P		**P**	**07 16 57.9**	**+1.0**
NVL				*e*S		**SKSac**	**07 27 25.6**	**-0.5**
NVL				pmax		pmax		
	comp=Z,35nm,1.0s							
NVL				MLR		MLR		
	comp=Z,3μm,20.0s							
RCHB	**Rochefort**	**89.08**	**40**	*d*P		**P**	**07 16 57.3**	**-0.1**
BCLA	**Clavier**	**89.14**	**40**	*d*P		**P**	**07 16 58.9**	**+1.1**
F15K	**North Star Dit**	**89.20**	**336**	IAmb		IAmb	07 17 20.2	
	comp=Z,53nm,1.1s							
F15K					IAMs_20	IAMs_20	07 58 28.6	
	comp=Z,3μm,20.0s							
F15K	**North Star Dit**	**89.20**	**336**	P		**P**	**07 16 57.8**	**+0.1**
	baz=96							
CSGS	**Sigus**	**89.29**	**54**	P		**P**	**07 16 59.6**	**+0.7**
BSTI	**Sart Tilman**	**89.32**	**40**	*d*P		**P**	**07 17 00.0**	**+1.4**
M11K	**Mekoryuk**	**89.36**	**330**	IAMs_20		IAMs_20	08 04 18.4	
	comp=Z,4μm,21.0s							
M11K	**Mekoryuk**	**89.36**	**330**	P		**P**	**07 16 58.4**	**-0.2**
	baz=95							
ANM	**Nome**	**89.38**	**335**	IAMs_20		IAMs_20	08 00 47.5	
	comp=Z,4μm,19.0s							
ANM	**Nome**	**89.38**	**335**	P		**P**	**07 16 58.9**	**+0.3**
	baz=96							
BEBN	**Eben Emael**	**89.41**	**39**	*d*P		**P**	**07 16 58.9**	**-0.1**
CAEH	**'Ain El Ouahch**	**89.43**	**53**	P		**P**	**07 16 59.7**	**+0.2**
BHOU	**Houvegnez**	**89.59**	**40**	*d*P		**P**	**07 17 00.1**	**+0.2**
MEM	**Membach**	**89.61**	**40**	*d*P		**P**	**07 17 00.7**	**+0.8**
CBST	**Bordj Sabath**	**89.61**	**54**	P		**P**	**07 17 01.5**	**+1.1**
CBBAR	**Babar**	**89.63**	**55**	P		**P**	**07 17 00.8**	**+0.2**
WLF	**Walferdange**	**89.64**	**40**	P		**P**	**07 16 59.0**	**-1.1**
WLF	**Walferdange**	**89.64**	**40**	*d*P		**P**	**07 17 00.0**	**-0.1**
BTNL	**Ternell**	**89.68**	**40**	*d*P		**P**	**07 17 01.4**	**+1.1**
BNI	**Bardonecchia**	**89.73**	**45**	P		**P**	**07 17 01.5**	**+0.6**
BNI				IAmb		IAmb	07 17 08.1	
	comp=Z,36nm,0.9s							
BNI	**Bardonecchia**	**89.73**	**45**	P		**P**	**07 17 01.5**	**+0.6**
BNI				pmax		pmax		
	comp=Z,36nm,1.0s							
C16K	**Lisburne Hills**	**89.75**	**338**	IAMs_20		IAMs_20	08 00 29.8	
	comp=Z,4μm,21.0s							
C16K	**Lisburne Hills**	**89.75**	**338**	P		**P**	**07 17 00.6**	**+0.4**
	baz=96							
F14K	**Arctic Creek**	**89.87**	**335**	P		**P**	**07 17 00.7**	**-0.2**
	baz=95							
CMAH	**Djebel Manchou**	**89.88**	**54**	P		**P**	**07 17 01.1**	**-0.6**
ABSA	**Djebel Ababsia**	**89.91**	**54**	P		**P**	**07 17 02.1**	**+0.3**
ECH	**Echery**	**90.22**	**42**	P		**P**	**07 17 02.8**	**-0.1**
ECH				IAmb		IAmb	07 17 25.1	
	comp=Z,63nm,1.2s							
ECH				IAMs_20		IAMs_20	07 53 01.1	
	comp=Z,3μm,21.0s							
ECH	**Echery**	**90.22**	**42**	P		**P**	**07 17 02.8**	**-0.1**
ECH				pmax		pmax		
	comp=Z,63nm,1.2s							
SENIN	**Lac Senin/Sane**	**90.23**	**44**	P		**P**	**07 17 03.5**	**+0.3**
NIKH	**Nikolski High**	**90.31**	**323**	P		**P**	**07 17 03.3**	**+0.2**
	baz=93							
TNA	**Tin City**	**90.54**	**335**	P		**P**	**07 17 03.8**	**-0.2**
	baz=93							
P08K	**Saint George I**	**90.87**	**326**	IAMs_20		IAMs_20	08 05 08.8	
	comp=Z,3μm,21.0s							
BFO	**Black Forest**	**91.01**	**42**	P		**P**	**07 17 06.2**	**-0.4**
BFO				IAMs_20		IAMs_20	07 53 22.9	
	comp=Z,3μm,22.0s							
BFO	**Black Forest**	**91.01**	**42**	P		**P**	**07 17 06.2**	**-0.4**
BFO				pmax		pmax		
	comp=Z,18nm,1.2s							
KEST	**Kesra**	**91.41**	**54**	IAmb		IAmb	07 17 16.6	
	comp=Z,84nm,1.5s							
KEST	**Kesra**	**91.41**	**54**	P		**P**	**07 17 08.5**	**-0.3**
	comp=Z,14nm,0.7s,baz=251,slow=5.3,SNR=21							
KEST				LR		LR	08 00 51.6	
	comp=Z,3μm,18.1s,baz=254,slow=37							
	comp=Z,14nm,0.7s							
VSL	**Villasalto**	**91.52**	**51**	IAmb		IAmb	07 17 15.9	
	comp=Z,53nm,1.0s							
VSL				IAMs_20		IAMs_20	07 55 40.8	
	comp=Z,3μm,21.0s							
STU	**Stuttgart**	**91.59**	**41**	IAmb		IAmb	07 17 30.4	
	comp=Z,36nm,1.1s							
STU				IAMs_20		IAMs_20	07 58 45.4	
	comp=Z,3μm,19.0s							
TUE	**Stuetta**	**91.65**	**44**	P		**P**	**07 17 09.7**	**-0.1**
TUE				IAmb		IAmb	07 17 16.5	
	comp=Z,24nm,0.9s							
TUE	**Stuetta**	**91.65**	**44**	P		**P**	**07 17 09.8**	**-0.1**
	comp=Z,5μmcomp=Z,134nm,0.9s							
MSSA	**Maissana**	**91.73**	**46**	IAmb		IAmb	07 17 15.8	
	comp=Z,25nm,1.0s							
MSSA				IAMs_20		IAMs_20	07 55 36.1	
	comp=Z,4μm,20.0s							
DAVOX	**Davos/Dischmat**	**92.02**	**43**	LR		LR	07 57 42.9	
	comp=Z,2μm,18.1s,baz=270,slow=35							
DAVA	**Damuels**	**92.03**	**43**	*e*P		**P**	**07 17 11.8**	**+0.3**
	comp=Z,32nm,1.1s,SNR=23							
FUORN	**Ofenpass-Fuorn**	**92.28**	**44**	IAmb		IAmb	07 17 38.8	
	comp=Z,52nm,1.4s							
FUORN				IAMs_20		IAMs_20	07 58 26.7	
	comp=Z,3μm,20.0s							
VLC	**Villacollemand**	**92.35**	**46**	P		**P**	**07 17 09.8**	**-3.1**
ELIB	**Princess Elisa**	**92.53**	**162**	*d*P		**P**	**07 17 13.4**	**+0.1**
	comp=Z,28nm,1.0s							
FETA	**Feichten**	**92.61**	**43**	*e*P		**P**	**07 17 14.6**	**+0.4**
	comp=Z,27nm,1.1s,SNR=22							
FETA				*e*PKiKP		**PKiKP**	**07 22 03.1**	**+0.4**
	comp=Z,4.6nm,0.8s							
RETA	**Reutte**	**92.63**	**43**	*e*P		**P**	**07 17 15.0**	**+0.9**
	comp=Z,21nm,1.6s,SNR=10							
SBA	**Scott Base**	**92.66**	**191**	P		**P**	**07 17 15.1**	**+1.5**
SBA				IAmb		IAmb	07 17 32.2	
	comp=Z,31nm,1.1s							
SBA	**Scott Base**	**92.66**	**191**	P		**P**	**07 17 15.1**	**+1.5**
SBA				pmax		pmax		
	comp=Z,31nm,1.1s							
CASP	**Castiglione de**	**92.69**	**47**	IAmb		IAmb	07 17 21.6	
	comp=Z,52nm,1.2s							
CTZ	**Chatham Island**	**92.72**	**226**	IAMs_20		IAMs_20	07 49 56.1	
	comp=Z,4μm,20.0s							
NB2	**NORSAR Subarra**	**92.80**	**29**	P		**P**	**07 17 12.7**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=270,slow=4.8							
NOA	**NORSAR Array B**	**92.80**	**29**	P		**P**	**07 17 12.8**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=268,slow=4.4,SNR=3.8							
NOA				LR		LR	07 59 07.8	
	comp=Z,3μm,18.8s,baz=270,slow=36							
	comp=Z,2.3nm,0.8s							
MOTA	**Moosalm**	**92.86**	**43**	*e*P		**P**	**07 17 15.8**	**+0.4**
	comp=Z,20nm,1.2s							
MOTA				*i* PKiKP		**PKiKP**	**07 22 04.2**	**+1.1**
	comp=Z,0.8nm,0.4s							
GRFO	**Grafenberg**	**92.93**	**41**	P		**P**	**07 17 15.1**	**-0.3**
GRFO				IAmb		IAmb	07 17 39.0	
	comp=Z,56nm,1.4s							
GRFO				IAMs_20		IAMs_20	08 00 22.7	
	comp=Z,4μm,19.0s							
GRFO	**Grafenberg**	**92.93**	**41**	P		**P**	**07 17 15.1**	**-0.3**
GRFO				pmax		pmax		
	comp=Z,56nm,1.4s							
GRFO				MLR		MLR		
	comp=Z,4μm,19.0s							
GRA1	**Grafenberg Arr**	**92.93**	**41**	IAmb		IAmb	07 17 39.0	
	comp=Z,60nm,1.4s							
GRA1				IAMs_20		IAMs_20	08 00 22.7	
	comp=Z,4μm,19.0s							
SQTA	**Sankt Quirin**	**92.93**	**43**	*e*P		**P**	**07 17 15.8**	**+0.2**
	comp=Z,26nm,1.3s,SNR=24							
SQTA				*i* PKiKP		**PKiKP**	**07 22 04.0**	**+0.7**
	comp=Z,0.3nm,0.2s							
OSSC	**Osservatorio P**	**92.97**	**47**	IAmb		IAmb	07 17 22.3	
	comp=Z,58nm,1.8s							
WATA	**Walderalm**	**93.18**	**43**	*e*P		**P**	**07 17 17.1**	**+0.2**
	comp=Z,10nm,0.6s,SNR=11							
WATA				*e*PKiKP		**PKiKP**	**07 22 04.0**	**+0.3**
	comp=Z,0.3nm,0.2s							
WTTA	**Wattenberg**	**93.22**	**43**	*e*P		**P**	**07 17 17.6**	**+0.5**
	comp=Z,21nm,1.2s,SNR=15							
WTTA				*e*PKiKP		**PKiKP**	**07 22 04.2**	**+0.4**
	comp=Z,0.9nm,0.4s							
CTI	**Castel Tesino**	**93.25**	**44**	IAmb		IAmb	07 17 23.8	
	comp=Z,33nm,0.9s							
CTI				IAMs_20		IAMs_20	08 03 13.2	
	comp=Z,4μm,19.0s							
SPITS	**Spitsbergen Ar**	**93.45**	**12**	P		**P**	**07 17 15.8**	**-1.5**
	comp=Z,7.5nm,0.9s,baz=255,slow=5.7,SNR=6.6							
SPITS				LR		LR	07 59 46.4	
	comp=Z,2μm,20.5s,baz=242,slow=36							
	comp=Z,7.5nm,0.9s							
NKC	**Novy Kostel**	**93.71**	**40**	AMS		AMS	07 58 30.0	
	comp=Z,4μm,17.6s							
VNDA	**Vanda**	**93.75**	**191**	P		**P**	**07 17 20.1**	**+1.4**
VNDA	**Vanda**	**93.75**	**191**	P		**P**	**07 17 20.1**	**+1.4**
	comp=Z,5.0nm,1.0s,baz=118,slow=6.0,SNR=9.4							
VNDA				LR		LR	07 52 19.4	
	comp=Z,2μm,19.6s,baz=132,slow=31							
	comp=Z,5.0nm,1.0s							
VNDA	**Vanda**	**93.75**	**191**	P		**P**	**07 17 20.1**	**+1.4**
VNDA				pmax		pmax		
	comp=Z,17nm,1.0s							
CIMO	**Cimolais**	**93.79**	**44**	IAmb		IAmb	07 17 28.2	
	comp=Z,32nm,1.1s							
CIMO				IAMs_20		IAMs_20	07 59 31.7	
	comp=Z,3μm,19.0s							
ABTA	**Abfaltersbach**	**93.83**	**43**	*i* P		**P**	**07 17 20.1**	**+0.4**
	comp=Z,19nm,1.3s,SNR=17							
ABTA				*e*PKiKP		**PKiKP**	**07 22 08.5**	**+3.7**
	comp=Z,3.8nm,1.0s							
LESA	**Schwarzleotal**	**93.93**	**43**	*i* P		**P**	**07 17 20.4**	**+0.2**
	comp=Z,8.3nm,0.8s,SNR=22							
LESA				*e*pPKiKP		**pPKiKP**	**07 22 08.9**	**-0.7**
	comp=Z,0.6nm,0.3s							
CESX	**Cesi**	**93.96**	**48**	IAmb		IAmb	07 17 33.7	
	comp=Z,50nm,1.5s							
CESX				IAMs_20		IAMs_20	07 55 18.2	
	comp=Z,4μm,22.0s							
CLL	**Collm**	**94.04**	**39⇑**	*i* P		**P**	**07 17 20.5**	**+0.1**
CLL				*i*			07 17 24.4	
CLL				*e*S		**S**	**07 28 35.0**	**+4.3**
CLL				pmax		pmax		
	comp=Z,47nm,1.7s							
CLL				MLR		MLR		
	comp=Z,5μm,20.0s							
HFS	**Hagfors**	**94.05**	**30**	P		**P**	**07 17 19.3**	**-1.0**
	comp=Z,4.7nm,1.0s,baz=270,slow=4.3,SNR=2.5							
HFS				LR		LR	07 56 47.4	
	comp=Z,2μm,20.6s,baz=266,slow=34							
	comp=Z,4.7nm,1.0s							
FDMO	**Fiordimonte**	**94.32**	**47**	IAmb		IAmb	07 17 35.8	
	comp=Z,35nm,1.3s							
FDMO				IAMs_20		IAMs_20	07 54 23.7	
	comp=Z,4μm,22.0s							
HSKC	**Hora Svate Kat**	**94.33**	**40**	AMS		AMS	07 58 20.0	
	comp=Z,4μm,17.7s							
KBA	**Koelnbreinsper**	**94.39**	**43**	*e*P		**P**	**07 17 22.7**	**+0.3**
	comp=Z,9.9nm,1.1s,SNR=14							
KHC	**Kasperske Hory**	**94.48**	**41**	*e*P		**P**	**07 17 23.0**	**+0.4**
KHC				*e*SKS		**SKSac**	**07 27 59.2**	**+1.5**
KHC				AMS		AMS	08 06 40.0	
	comp=Z,4μm,16.6s							
KHC	**Kasperske Hory**	**94.48**	**41⇑**	*e*P		**P**	**07 17 22.8**	**+0.2**
KHC				pmax		pmax		
	comp=Z,71nm,1.3s							
KHC	**Kasperske Hory**	**94.48**	**41**	P		**P**	**07 17 23.2**	**+0.6**
	comp=Z,26nm,1.2s							
PRED	**Cave del Predi**	**94.57**	**44**	IAmb		IAmb	07 17 31.1	
	comp=Z,40nm,1.1s							
PRED				IAMs_20		IAMs_20	08 00 25.1	
	comp=Z,4μm,20.0s							
AQU	**L'Aquila**	**94.57**	**48**	P		**P**	**07 17 22.9**	**-0.3**
CAMP	**Campotosto**	**94.57**	**48**	P		**P**	**07 17 22.5**	**-0.8**
CAMP				IAmb		IAmb	07 17 37.5	
	comp=Z,40nm,1.4s							
CAMP				IAMs_20		IAMs_20	08 01 04.3	
	comp=Z,3μm,19.0s							
BIOA	**Bad Ischl, Aus**	**94.57**	**42**	*e*P		**P**	**07 17 23.2**	**+0.1**
	comp=Z,32nm,1.1s,SNR=18							
BIOA				*i* pPKiKP		**pPKiKP**	**07 22 13.0**	**+2.4**
	comp=Z,1.2nm,0.3s							
GEC2	**GERESS Array S**	**94.57**	**41**	IAmb		IAmb	07 17 35.3	
	comp=Z,63nm,1.8s							
GERES	**GERESS Array B**	**94.57**	**41**	P		**P**	**07 17 22.8**	**-0.3**
GERES	**GERESS Array B**	**94.57**	**41**	P		**P**	**07 17 22.6**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=260,slow=1.8,SNR=22							
GERES				PKKP		**PKKPdf**	**07 34 21.5**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=92,slow=5.3,SNR=3.8							
GERES				LR		LR	07 59 52.0	
	comp=Z,2μm,18.6s,baz=250,slow=35							
	comp=Z,5.1nm,0.7s							
GERES	**GERESS Array B**	**94.57**	**41**	P		**P**	**07 17 22.8**	**-0.3**
SABO	**M.te Sabotino**	**94.61**	**44**	P		**P**	**07 17 22.9**	**-0.3**
SABO				IAmb		IAmb	07 17 27.6	
	comp=Z,29nm,0.8s							
SABO				IAMs_20		IAMs_20	07 58 28.8	
	comp=Z,4μm,22.0s							
MYKA	**Terra Mystica**	**94.61**	**44**	*e*P		**P**	**07 17 23.6**	**+0.3**
	comp=Z,6.5nm,0.5s							
BRG	**Berggiesshubel**	**94.64**	**39**	*e*P		**P**	**07 17 23.6**	**+0.4**
BRG				Amp			07 17 31.0	
	comp=Z,17nm,0.9s							
BRG	**Berggiesshubel**	**94.64**	**39**	S		**S**	**07 28 42.0**	**+5.9**
BRG	**Berggiesshubel**	**94.64**	**39**	PS		PS	07 29 46.0	-7.5
CADS	**Cadrg**	**94.69**	**44**	*i* SKSac		**SKSac**	**07 27 56.0**	**-3.0**
RICC	**Richard**	**94.76**	**40**	AMS		AMS	07 59 20.0	
	comp=Z,5μm,19.2s							
ZVC	**Zvikov**	**94.87**	**41**	*e*P		**P**	**07 17 25.0**	**+0.7**
ZVC				AMS		AMS	08 00 40.0	
	comp=Z,5μm,18.1s							
INTR	**Introdacqua**	**94.95**	**48**	IAmb		IAmb	07 17 50.4	
	comp=Z,32nm,1.2s							
CKRC	**Cesky Krumlov**	**94.97**	**41**	*e*P		**P**	**07 17 24.8**	**-0.1**
CKRC				AMS		AMS	08 00 20.0	
	comp=Z,5μm,19.5s							
CKRC	**Cesky Krumlov**	**94.97**	**41**	*e*P		**P**	**07 17 24.8**	**-0.1**
CKRC				MLR		MLR		
	comp=Z,5μm,19.5s							
MOA	**Molln**	**94.99**	**42**	*e*P		**P**	**07 17 25.4**	**+0.5**
	comp=Z,42nm,1.4s,SNR=20							
PRA	**Prague**	**95.00**	**40**	*e*SKS		SKSac	07 28 11.0	+11
PRA				AMS		AMS	07 55 30.0	
	comp=Z,4μm,19.6s							
PVCC	**Panska Ves**	**95.06**	**40**	*e*P		**P**	**07 17 26.4**	**+1.2**
PVCC				AMS		AMS	07 59 40.0	
	comp=Z,4μm,17.8s							
PVCC	**Panska Ves**	**95.06**	**40**	*e*P		**P**	**07 17 26.4**	**+1.2**
PVCC				MLR		MLR		
	comp=Z,4μm,17.8s							
PRU	**Pruhonice**	**95.07**	**40**	*e*P		**P**	**07 17 26.2**	**+1.0**
PRU				AMS		AMS	08 00 50.0	
	comp=Z,4μm,19.8s							
PRU	**Pruhonice**	**95.07**	**40**	*e*P		**P**	**07 17 26.2**	**+1.0**
PRU				MLR		MLR		
	comp=Z,4μm,19.8s							
CEY	**Cerknica**	**95.19**	**44**	*i* P		**P**	**07 17 25.9**	**-0.1**
GOPC	**GO Pecny, Ondr**	**95.23**	**40**	AMS		AMS	08 01 00.0	
	comp=Z,5μm,19.4s							
OBKA	**Obir**	**95.24**	**44**	*i* P		**P**	**07 17 26.6**	**+0.3**
	comp=Z,6.5nm,0.8s							
OBKA				*i* pPKiKP		**pPKiKP**	**07 22 15.3**	**+3.4**
	comp=Z,6.4nm,1.1s							
LJU	**Ljubljana**	**95.25**	**44**	*e*P		**P**	**07 17 26.2**	**0.0**
LJU				*e*			07 20 44.2	
LJU				*e*			07 21 26.9	
LJU				*e*SKSac		**SKSac**	**07 28 00.1**	**-1.8**
LJU				*e*S		**ScS**	**07 28 46.8**	**+4.4**
LJU				*e*PS		**PS**	**07 29 58.1**	**-2.3**
LJU				*e*SS		**SS**	**07 35 14.2**	**+6.1**
RAFF	**Raffo Rosso**	**95.45**	**53**	IAMs_20		IAMs_20	08 01 56.7	
	comp=Z,4μm,19.0s							
VAE	**Valguarnera**	**95.48**	**53**	LR		LR	08 01 50.3	
	comp=Z,4μm,18.5s,baz=266,slow=36							
PAOL	**Paolisi**	**95.48**	**49**	IAMs_20		IAMs_20	08 04 21.5	
	comp=Z,3μm,19.0s							
SOKA	**Soboth**	**95.57**	**43**

TIP IAMs_20 IAMs_20 07 59 59.3
comp=Z,4μm,21.0s
MXZ Matakaoa Point 97.28 232 IAMs_20 IAMs_20 07 58 03.6
comp=Z,4μm,18.0s
OKC Ostrava-Krasne 97.41 40 AMS AMS 08 02 20.0
comp=Z,4μm,22.5s
TSUM Tsumeb 97.42 110 P **P** **07 17 36.5 -0.2**
TSUM Tsumeb 97.42 110 LR LR 08 01 16.9
comp=Z,25μm,18.4s,baz=262,slow=35
ARCES ARCESS Array B 97.59 20 P **P** **07 17 35.6 -0.6**
comp=Z,7.6nm,1.1s,baz=268,slow=3.4,SNR=2.9
ARCES LR LR 08 00 26.5
comp=Z,1μm,19.1s,baz=281,slow=35
comp=Z,7.6nm,1.1s
MORH Mrgy, Hungar 98.09 44 P Pdif 07 17 39.6 +0.6
comp=Z,738nmcomp=Z,12nm,2.1s
URZ Urewera 98.12 231 LR LR 07 53 09.2
comp=Z,4μm,19.9s,baz=204,slow=30
RTZ Ruatahuna 98.16 231 IAMs_20 IAMs_20 07 52 40.7
comp=Z,4μm,20.0s
BFZ Birch Farm 98.38 229 IAMs_20 IAMs_20 07 51 44.2
comp=Z,3μm,21.0s
OJC Ojcow 98.42 40 *e*P Pdif 07 17 41.3 +0.9
OJC Ojcow 98.42 40 IAmb IAmb 07 17 46.2
comp=Z,16nm,1.0s
OJC Ojcow 98.42 40 P Pdif 07 17 41.6 +1.2
SCTE Santa Cesarea 98.50 50 IAMs_20 IAMs_20 07 57 41.5
comp=Z,4μm,22.0s
SYO Syowa Base 98.67 162‖ *e*Pdiff **P** **07 17 40.6 -0.5**
PSZ Piszkesteto 98.76 42 IAmb IAmb 07 17 56.1
comp=Z,25nm,1.3s
PSZ IAMs_20 IAMs_20 08 01 57.0
comp=Z,3μm,20.0s
BEL Belsk 98.83 38 *e*P Pdif 07 17 43.3 +1.1
NIE Niedzica 98.84 40 *e*P Pdif 07 17 42.6 +0.3
SUR Sutherland 98.87 123 LR LR 08 01 01.7
comp=Z,9μm,18.2s,baz=258,slow=35
MRZ Mangatainoka R 98.88 228 IAMs_20 IAMs_20 07 51 59.5
comp=Z,4μm,22.0s
PDG Podgorica 98.89 48 IAMs_20 IAMs_20 07 58 51.8
comp=Z,3μm,22.0s
BHW Baring Head 99.27 228 IAMs_20 IAMs_20 07 52 31.7
comp=Z,2μm,20.0s
SNZO South Karori 99.41 228 IAMs_20 IAMs_20 07 53 06.5
comp=Z,4μm,20.0s
TIR Tirane 99.45 49 IAMs_20 IAMs_20 08 11 00.5
comp=Z,2μm,18.0s
TOZ Tahuroa Road 99.46 231 IAMs_20 IAMs_20 07 53 44.1
comp=Z,3μm,20.0s
KEK Kerkira 99.56 50 IAMs_20 IAMs_20 08 09 52.3
comp=Z,3μm,19.0s
HIZ Hauiti 99.82 231 IAMs_20 IAMs_20 07 53 52.6
comp=Z,3μm,20.0s
MSVF Nonsavu 99.85 252 LR LR 07 53 48.1
comp=Z,2μm,20.8s,baz=109,slow=30
FINES FINESS Array B 99.85 28 P **Pdif** **07 17 44.7 -1.8**
comp=Z,5.8nm,0.8s,baz=289,slow=4.3,SNR=9.6
FINES LR LR 08 00 35.6
comp=Z,4μm,20.4s,baz=286,slow=34
comp=Z,5.8nm,0.8s
PABE Paberze 100.08 34 IAMs_20 IAMs_20 08 05 30.7
comp=Z,3μm,19.0s
BILL Bilibino 100.23 339 IAMs_20 IAMs_20 08 07 42.7
comp=Z,4μm,20.0s
BILL Bilibino 100.23 339 *ce*P **Pdif** **07 17 48.0 -0.1**
BILL pmax pmax
comp=Z,11nm,1.5s
NNZ Nelson 100.41 228 IAMs_20 IAMs_20 07 55 05.8
comp=Z,4μm,20.0s
BERU Beregovo 100.55 41 P **Pdif** **07 17 50.4 +0.5**
APA Apatity 100.97 21‖ *i*P **Pdif** **07 17 53.1 +1.7**
APA *i* 07 21 57.0
APA pmax pmax
comp=Z,7.0nm,1.1s
QRZ Quartz Range 101.12 228 IAMs_20 IAMs_20 07 55 38.7
comp=Z,4μm,20.0s
OUZ Omahuta 101.42 234 IAMs_20 IAMs_20 07 53 21.2
comp=Z,3μm,22.0s
ITM Ithomi 101.47 53 IAMs_20 IAMs_20 08 11 52.2
comp=Z,3μm,19.0s
LIT Litokhoron 101.57 50 IAMs_20 IAMs_20 07 59 00.7
comp=Z,3μm,22.0s
RNPP8 Varash 102.03 38 P **Pdif** **07 17 57.4 +1.0**
RNPP9 Sopachiv 102.03 38 P **Pdif** **07 17 57.4 +0.9**
PUL Pulkovo 102.33 29‖ *e*P **Pdif** **07 17 58.2 +0.7**
PUL pmax pmax
comp=Z,56nm,0.5s
MNK Minsk 102.50 34 *i* P **Pdif** **07 17 56.9 -1.6**
MNK *i* 07 22 07.6
MNK *i* S **SKSac** **07 28 36.5 -1.3**
MNK *i* SS **SS** **07 36 48.2 -0.9**
MNK *i* SSS SSS 07 40 43.4
MNK pmax pmax
comp=E,18nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=N,16nm,0.9s
MNK MLR MLR
comp=N,3μm,20.0s
MNK MLR MLR
MNK MLR MLR
comp=E,2μm,18.0s
BOSA Boshof 103.23 120 Pdiff **Pdif** **07 18 03.3 +0.8**
comp=E,3.8nm,1.1s,baz=270,slow=4.0,SNR=2.6
MLR Muntele Rosu 103.25 44 IAMs_20 IAMs_20 08 02 07.7
comp=Z,3μm,21.0s
LUBAR Lubar, Ukraine 103.52 39 P **Pdif** **07 18 03.9 +0.8**
RDO Rodhopi 103.72 48 IAMs_20 IAMs_20 08 07 54.3
comp=Z,2μm,20.0s
ALN Alexandroupoli 104.14 48 IAMs_20 IAMs_20 08 08 27.6
comp=Z,3μm,18.0s
AKASG Malin Array Be 104.25 38 Pdiff **Pdif** **07 18 07.7 +1.3**
comp=Z,0.3nm,0.4s,baz=266,slow=3.7,SNR=4.7
TIRR Tirgusor 105.17 44 IAMs_20 IAMs_20 08 03 05.6
comp=Z,2μm,20.0s
KLMR Klimovskoe 106.17 26 *e*P **Pdif** **07 18 13.0 -1.6**
KLMR PS **PS** **07 32 01.7 +5.5**
KLMR SS SS 07 37 41.1 +2.3
KLMR SSS SSS 07 41 39.9
KLMR pmax pmax
comp=Z,37nm,1.8s
OBN Obninsk 107.08 32 *i* P **Pdif** **07 18 22.4 +3.6**
OBN *e* 07 22 44.1
OBN *i* PS **PS** **07 32 05.7 -0.2**
OBN *e*SS SS 07 37 52.6 +1.0
OBN *i* SSS SSS 07 41 51.7
OBN pmax pmax
comp=Z,237μm,21.0s
OBN pmax pmax
comp=Z,11μm,1.8s
OBN MLR MLR
comp=Z,4μm,20.0s
MOS Moscow 107.40 31 *i* P **Pdif** **07 18 21.1 +0.9**
MOS *e* 07 22 53.2
MOS *e*PPP PPP 07 25 07.0
MOS *e* 07 28 57.8
MOS *e*SS SS 07 37 57.4 +1.5
MOS MLR MLR
comp=Z,4μm,19.0s
BORA Eskisehir 107.64 49 IAMs_20 IAMs_20 08 13 09.1
comp=Z,2μm,19.0s
ISP Isparta 108.12 51 IAMs_20 IAMs_20 08 12 32.7
comp=Z,3μm,20.0s
SIM Simferopol' 108.98 43 *i* P **Pdif** **07 18 30.0 +2.5**
SIM *e* 07 23 01.0
SIM pmax pmax
comp=Z,160nm,14.0s
SIM pmax pmax
comp=Z,500nm,13.0s
SIM pmax pmax
comp=N,1μm,16.0s
SIM MLR MLR
comp=Z,3μm,19.0s
PET Petropavlovsk 109.45 326 *e*P **Pdif** **07 18 45.9 +17**
PET *e* 07 23 13.2
PET *e* 07 29 06.8
PET *e*PS **PS** **07 32 30.7 +0.5**
PET *e*SS SS 07 38 33.5 +10
PET pmax pmax
comp=Z,500nm,14.3s
PET pmax pmax
comp=Z,300nm,14.5s
DZM Mont Dzumac 110.07 246 *e*P **Pdif** **07 18 29.1 -3.9**
comp=Z,142nm,26.1s
DZM Mont Dzumac 110.07 246 *e*PP **PP** **07 23 04.9 -3.3**
comp=Z,684nm,26.1s
DZM *e*SKSac **SKSac** **07 29 07.1 -5.9**
comp=Z,673nm,29.6s
DZM *e*SS **SS** **07 38 35.7 +1.4**
comp=Z,4μm,27.1s
DZM Mont Dzumac 110.07 246 *e*LQ LQ 07 50 31.6
comp=Z,1μm,29.4s
DZM *e*LR LR 07 55 07.2
comp=Z,3μm,24.0s
MA2 Magadan 110.17 335 IAMs_20 IAMs_20 08 16 40.0
comp=Z,3μm,20.0s
ANN Anapa 111.27 42 *i* PKIKP **PKiKP** **07 22 34.7 -1.6**
ANN *e* 07 22 38.1
ANN *e* 07 29 15.6
ANN pmax pmax
comp=Z,18nm,1.1s
KIRV Kirov 111.63 25‖ *i*PKIKP **PKiKP** **07 22 37.1 +0.5**
H11S2 WAKE ISLAND Hyl 11.79 289 T T 09 23 46.1
baz=85,slow=75,SNR=89
H11S1 WAKE ISLAND Hyl 11.80 289 T T 09 23 36.9
baz=85,slow=75,SNR=76
H11S3 WAKE ISLAND Hyl 11.81 289 T T 09 23 37.9
baz=85,slow=75,SNR=69
NRIK Noril'sk 112.33 4 PKKPab PKKPab 07 33 37.5 +0.3
comp=Z,12nm,1.1s,baz=147,slow=4.7,SNR=6.9
NRIK Noril'sk 112.33 4‖ *i*PKIKP **PKiKP** **07 22 40.1 +2.4**
NRIK MLR MLR
comp=Z,3μm,18.0s
ERBR Yeremizino-Bor 112.96 40 *i* PKIKP **PKiKP** **07 22 37.8 -1.8**
ERBR *e* 07 22 41.3
ERBR *e* 07 29 20.9
ERBR pmax pmax
comp=Z,16nm,0.9s
SOC Sochi 113.23 43 *i* PKIKP **PKiKP** **07 22 36.8 -3.3**
LABN Labinsk 113.52 41 *i* PKIKP **PKiKP** **07 22 39.0 -1.7**
LABN *e* 07 22 42.1
LABN *e* 07 29 24.0
LABN pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 115.08 42 IAMs_20 IAMs_20 08 14 35.8
comp=Z,3μm,21.0s
KIV Kislovodsk 115.08 42 *i* P **Pdif** **07 18 52.7 -2.1**
KIV *i* 07 22 42.5
KIV *e* 07 23 41.1
KIV *e*PS **PKKPbc** **07 33 21.4 +0.6**
KIV *e*SS SS 07 39 37.7 -1.6
KIV *e*SSS SSS 07 43 55.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
SHA1 Shidzhatmaz 115.15 42‖ *i*PKIKP **PKiKP** **07 22 43.8 -0.3**
KBZ Khabaz 115.31 42 PKP **PKiKP** **07 22 43.7 -0.4**
comp=Z,5.6nm,0.8s,baz=302,slow=2.1,SNR=11
KBZ Khabaz 115.31 42‖ *i*PKIKP **PKpdf** **07 22 44.8 +0.7**
ARTI Arti 116.78 24 *i* PKIKP **PKiKP** **07 22 47.0 +0.4**
ARTI 07 23 51.5
ARTI 07 29 59.1
GNI Garni 117.99 45⇑ *i*PKIKP **PKpdf** **07 22 47.1 -2.5**
KMBO Kilima Mbogo 118.15 92 PKP **PKiKP** **07 22 51.1 +0.3**
comp=Z,0.7nm,0.3s,baz=275,slow=2.5,SNR=4.4
HNR Honiara 118.28 258 IAMs_20 IAMs_20 08 02 11.7
comp=Z,2μm,20.0s
MAK Makhachkala 118.68 41 *i* P **Pdif** **07 19 07.6 -3.1**
MAK *e* 07 24 06.0
MAK *e* 07 29 40.3
MAK *e*PS **PS** **07 33 54.3 -1.3**
MAK *e*SS SS 07 40 27.7 +1.8
MAK *e*SSS SSS 07 44 44.7
MAK pmax pmax
comp=Z,21nm,0.3s
KIBK Kibwezi 118.87 94 PP PP 07 24 06.9 -3.9
AKT Akhty 119.49 42 *i* PKIKP **PKPdf** **07 22 51.4 -1.0**
AKT *e* 07 24 10.7
AKT pmax pmax
comp=Z,11nm,1.2s
AKT MLR MLR
comp=Z,4μm,19.0s
ARMA Armidale 120.46 233 IAMs_20 IAMs_20 08 17 44.5
comp=Z,2μm,18.0s
YSS Yuzhno-Sakhali 121.33 326 IAMs_20 IAMs_20 08 23 00.3
comp=Z,3μm,20.0s
YSS Yuzhno-Sakhali 121.33 326 *i* PKIKP **PKPdf** **07 22 53.6 -2.0**
YSS *e* 07 24 28.0
YSS *e* 07 29 54.7
YSS *e*PS **PS** **07 34 21.5 +2.4**
YSS *e*SS SS 07 41 05.4 +5.9
TOO Toolangi 121.74 223 IAMs_20 IAMs_20 08 05 58.6
comp=Z,2μm,20.0s
AB31 Akbulak array 122.30 29 *i* PKIKP **PKPdf** **07 22 57.2 -0.2**
ABKAR Akbulak array 122.30 29 PKPdf **PKiKP** **07 22 58.0 +0.4**
EIDS Eidsvold 122.77 238 IAMs_20 IAMs_20 08 08 49.4
comp=Z,2μm,19.0s
JKA Kamikawa-asahi 123.07 324 IAMs_20 IAMs_20 08 28 06.8
comp=Z,2μm,22.0s
ZEA Zeya 123.44 340 *e*PKIKP **PKiKP** **07 23 05.4 +5.7**
ZEA *e* 07 24 40.1
ZEA *e* 07 41 22.7
ZEA pmax pmax
comp=Z,300nm,5.2s
BRVK Borovoye 123.81 20 PKPdf **PKiKP** **07 23 01.1 +0.6**
BRVK Borovoye 123.81 20 IAMs_20 IAMs_20 08 16 31.0
comp=Z,3μm,20.0s
BRVK Borovoye 123.81 20‖ *i*PKIKP **PKiKP** **07 23 00.8 +0.3**
BVA0 Borovoye Array 123.88 20 PKIKP **PKPdf** **07 22 59.9 -0.4**
BVAR Borovoye Array 123.88 20 PKP **PKPdf** **07 23 00.0 -0.3**
comp=Z,4.0nm,0.8s,baz=318,slow=1.9,SNR=17
ERM Erimo 123.90 321 IAMs_20 IAMs_20 08 23 11.1
comp=Z,2μm,20.0s
CMSA Cobar Meteorol 124.59 229 P **PKPdf** **07 23 02.5 +0.1**
CMSA P **pPKPdf** **07 23 07.6 +0.6**
KLR Kul'dur 125.27 334⇑ *e*PKIKP **PKPdf** **07 23 01.4 -1.7**
KLR MLR MLR
comp=Z,4μm,22.0s
HEH HeiHe 126.23 338 PKP **PKiKP** **07 23 09.3 +4.0**
HEH AMB AMB
comp=Z,810nm,6.8s
HEH LR LR
comp=Z,3μm,20.2s
HEH LR LR
comp=Z,2μm,20.1s
HEH LR LR
comp=Z,5μm,19.0s
ZAA0 Zalesovo Array 126.91 10 PKPdf **PKPdf** **07 23 06.0 -0.1**
ZALV Zalesovo Beam 126.91 10 PKP **PKPdf** **07 23 05.5 -0.6**
comp=Z,7.6nm,0.7s,baz=264,slow=2.9,SNR=27
BRZS Berezniki 127.20 21 *e*PKIKP **PKPdf** **07 23 06.6 -0.2**
BRZS *e* 07 25 04.9
BRZS Berezniki 127.20 21 *e*PKP **PKPdf** **07 23 06.7 -0.2**
BRZS *e*PP **PP** **07 25 05.0 0.0**
STKA Stephens Creek 127.45 226 PKPdf **PKPdf** **07 23 07.8 0.0**
STKA Stephens Creek 127.45 226 P **PKiKP** **07 23 08.4 +0.1**
STKA Stephens Creek 127.45 226 PKP **PKPdf** **07 23 07.6 -0.3**
comp=Z,12nm,0.9s,baz=107,slow=1.9,SNR=10
STKA Stephens Creek 127.45 226⇑ *e*PKIKP **PKPdf** **07 23 05.6 -2.2**
QLP Quilpie 127.97 234 P **PKiKP** **07 23 13.6 +4.1**
KURK Kurchatov 128.48 16 PKPdf **PKPdf** **07 23 09.0 -0.1**
KURK Kurchatov 128.48 16‖ *e*PKIKP **PKPdf** **07 23 08.9 -0.3**
KURK MLR MLR
comp=Z,3μm,25.0s
OTUK Ortayu 128.51 23 PKIKP **PKPdf** **07 23 09.3 -0.1**
KURBB Kurchatov Arra 128.53 17 PKP **PKPdf** **07 23 08.6 -0.7**
comp=Z,11nm,0.8s,baz=327,slow=2.3,SNR=30
USRK Ussuriysk Ar. 128.85 330 PKPdf **PKPdf** **07 23 10.2 +0.1**
USRK Ussuriysk Ar. 128.85 330 PKP **PKPdf** **07 23 07.7 -2.4**
comp=Z,3.0nm,0.9s,baz=20,slow=2.1,SNR=4.2
USRK Ussuriysk Ar. 128.85 330 PKIKP **PKPdf** **07 23 10.2 +0.1**
HIA Hailar 129.68 342 IAMs_20 IAMs_20 08 27 16.9
comp=Z,2μm,20.0s
MDJ Mudanjiang 129.71 332 PKP **PKiKP** **07 23 14.0 +1.5**
MDJ PP **PP** **07 25 29.0 +7.4**
MDJ AMB AMB
comp=Z,760nm,10.3s
MDJ LR LR
comp=Z,3μm,19.2s
MDJ LR LR
comp=Z,3μm,24.5s
MDJ LR LR
comp=Z,5μm,22.0s
IRK Irkutsk 129.74 356 *e*PKIKP **PKPdf** **07 23 11.6 0.0**
IRK pmax pmax
comp=Z,75nm,2.4s
BNX BinXian 129.84 334 PKP **PKPdf** **07 23 10.8 -1.1**
BNX SS SS 07 42 44.8 -0.9
BNX AMB AMB
comp=Z,440nm,6.8s
BNX LR LR
comp=Z,2μm,21.7s
BNX LR LR
comp=Z,2μm,19.5s
BNX LR LR
comp=Z,4μm,19.5s
MJAR Matsushiro Arr 130.13 318 PKP **PKPdf** **07 23 12.2 -0.6**
comp=Z,2.6nm,0.8s,baz=73,slow=0.6,SNR=5.9
MAJO Matsushiro 130.13 318 IAMs_20 IAMs_20 08 09 45.5
comp=Z,2μm,21.0s
MOY Mondy 130.48 358 *e*PKIKP **PKiKP** **07 23 14.2 +0.2**
MOY pmax pmax
comp=Z,61nm,2.1s
PMG Port Moresby 130.74 256 IAMs_20 IAMs_20 08 08 58.5
comp=Z,2μm,20.0s
BBOO Buckleboo 130.79 222 P **PKiKP** **07 23 19.6 +4.5**
MTSU Mount Surprise 131.15 244 P **PKPdf** **07 23 14.6 -0.6**
BRLS Borolday 131.55 29 *e*PKIKP **PKPdf** **07 23 15.0 -0.3**
BRLS *e* 07 25 34.1
BRLS Borolday 131.55 29 *e*PKP **PKPdf** **07 23 15.1 -0.3**
BRLS *e*PP **PP** **07 25 34.2 +0.5**
ZAK Zakamensk 131.66 356 *e*PKIKP **PKPdf** **07 23 15.4 0.0**
ZAK *e* 07 25 32.4
ZAK pmax pmax
comp=Z,15nm,1.4s
ZAK pmax pmax
comp=Z,9.0nm,2.2s
JCJ Chichijima 131.74 305 IAMs_20 IAMs_20 08 22 04.3
comp=Z,2μm,20.0s
BTLS Baital 131.81 24 *e*PKIKP **PKPdf** **07 23 15.4 -0.3**
BTLS *e* 07 25 35.4
BTLS Baital 131.81 24 *e*PKP **PKPdf** **07 23 15.5 -0.3**
BTLS *e*PP **PP** **07 25 35.5 +0.4**
KK31 Karatay Array 131.81 28 *i* PKIKP **PKPdf** **07 23 15.9 +0.1**
KKAR Karatay Array 131.81 28 PKPdf **PKPdf** **07 23 16.2 +0.4**
KKAR Karatay Array 131.81 28 PKIKP **PKPdf** **07 23 16.2 +0.4**
CN2 Changchun 132.22 334 PKP **PKPdf** **07 23 13.5 -3.0**
CN2 PP **PP** **07 25 41.5 +3.7**
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,3μm,19.0s
UOSS Minazif 132.83 57 **PKPdf** **07 23 18.4 +0.1**
MAKZ Makanchi 132.96 16 PKPdf **PKPdf** **07 23 16.9 -0.9**
MAKZ Makanchi 132.96 16 PKIKP **PKPdf** **07 23 16.9 -0.9**
MK31 Makanchi Array 133.06 16‖ *e*PKIKP **PKPdf** **07 23 18.0 -0.1**
MKAR Makanchi Array 133.06 16 PKPdf **PKPdf** **07 23 16.9 -1.2**
MKAR Makanchi Array 133.06 16 PKP **PKPdf** **07 23 16.4 -1.7**
comp=Z,2.5nm,0.7s,baz=337,slow=2.2,SNR=11
MKAR Makanchi Array 133.06 16 PKIKP **PKPdf** **07 23 16.9 -1.2**
ZSN Zaisan 133.09 13 *e*PKIKP **PKPdf** **07 23 17.8 -0.2**
ZSN Zaisan 133.09 13 *e*PKP **PKPdf** **07 23 17.9 -0.2**
SGDS Sogindy 133.36 24 *e*PKIKP **PKPdf** **07 23 18.2 -0.6**
SGDS *e* 07 25 45.2
SGDS Sogindy 133.36 24 *e*PKP **PKPdf** **07 23 18.2 -0.6**
SGDS *e*PP **PP** **07 25 45.2 +0.1**
USP Ospenovka 133.45 25 P **PKiKP** **07 23 20.8 +0.7**
SNR=10
TDK Taldyqorghan 133.47 20 *e*PKIKP **PKPdf** **07 23 18.6 -0.3**
TDK Taldyqorghan 133.47 20 *e*PKP **PKPdf** **07 23 18.6 -0.3**
COEN Coen 133.47 249 P **PKiKP** **07 23 27.0 +6.1**
EKS2 Erkin-Say 133.64 26 P **PKiKP** **07 23 21.6 +0.9**
SNR=19
ULN Ulaanbaatar 133.79 353‖ *e*PKIKP **PKiKP** **07 23 20.4 -0.5**
SONM Songino Array 133.90 353 PKPdf **PKPdf** **07 23 20.1 +0.3**
SONM Songino Array 133.90 353 PKhKP PKPpre 07 23 14.0
comp=Z,1.2nm,0.6s,baz=2.6,slow=3.2,SNR=5.8
SONM PKP **PKPdf** **07 23 19.0 -0.7**
comp=Z,1.2nm,0.6s,baz=17,slow=1.5,SNR=5.7
SONM PP **PP** **07 25 46.1 -2.2**
comp=Z,5.5nm,1.1s,baz=1.4,slow=5.8,SNR=4.4
SONM SKPbc **SKPbc** **07 26 46.0 -2.6**
comp=Z,3.6nm,1.1s,baz=35,slow=2.1,SNR=3.5
SONM Songino Array 133.90 353 PKIKP **PKPdf** **07 23 20.1 +0.3**
ARXS Arharly 133.95 21 *e*PKIKP **PKiKP** **07 23 20.6 -0.6**
AAK Ala-Archa 133.97 25 PKPdf **PKPdf** **07 23 20.5 +0.5**
AAK Ala-Archa 133.97 25 P **PKiKP** **07 23 22.1 +0.8**
SNR=14
AAK Ala-Archa 133.97 25⇑ *e*PKIKP **PKPdf** **07 23 20.4 +0.3**
AAK MLR MLR
comp=Z,2μm,23.0s
AML Almayashu 134.03 26 P **PKiKP** **07 23 22.7 +0.9**
SNR=12
TKM2 Tokmak 2 134.19 24 PKIKP **PKiKP** **07 23 21.3 -0.6**
SIMJ Simiganj 134.35 33 PKPdf **PKPdf** **07 23 20.7 -0.2**
QIS Mount Isa 134.37 238 P **PKiKP** **07 23 22.3 -0.4**
AAA Alma-Ata 134.47 23 *e*PKIKP **PKPdf** **07 23 20.4 -0.5**
AAA Alma-Ata 134.47 23 *e*PKP **PKPdf** **07 23 20.4 -0.5**
MDOK Medeo 134.56 23 *e*PKIKP **PKPdf** **07 23 21.1 -0.1**
MDOK *e* 07 25 52.8
MDOK Medeo 134.56 23 *e*PKP **PKPdf** **07 23 21.1 -0.1**
MDOK *e*PP **PP** **07 25 52.8 0.0**
TNSS Tian-Shan 134.63 23 *e*PKIKP **PKPdf** **07 23 20.7 -0.9**
TNSS Tian-Shan 134.63 23 *e*PKP **PKPdf** **07 23 20.7 -0.9**
JMN Monobe 134.65 318 IAMs_20 IAMs_20 08 25 50.1
comp=Z,2μm,18.0s
ULHL Ulahol 135.02 24 P **PKiKP** **07 23 24.4 +0.8**
SNR=7.7
ZHN Zhinishke 135.08 21 *e*PKIKP **PKPdf** **07 23 21.6 -0.4**
ZHN Zhinishke 135.08 21 *e*PKP **PKPdf** **07 23 21.7 -0.4**
UZB Uzynbulak 135.31 21 *e*PKIKP **PKPdf** **07 23 22.1 -0.4**
UZB Uzynbulak 135.31 21 *e*PKP **PKPdf** **07 23 22.2 -0.4**
PDGK Podgornoye 135.31 20 PKIKP **PKPdf** **07 23 22.6 +0.1**
SHLS Shalkode 135.45 20 *e*PKIKP **PKPdf** **07 23 22.5 -0.3**
SHLS Shalkode 135.45 20 *e*PKP **PKPdf** **07 23 22.6 -0.3**
XLT XiLinHaoTe 135.62 342 *e*PKP **PKPdf** **07 23 22.8 -0.2**
XLT AMB AMB
comp=Z,520nm,7.3s
XLT LR LR
comp=Z,1μm,21.4s
XLT LR LR
comp=Z,2μm,24.7s
KSRS Korea Array 135.84 327 PKP **PKPdf** **07 23 23.3 -0.1**
comp=Z,4.5nm,0.9s,baz=12,slow=1.7,SNR=5.7
WMQ Urumqi 137.15 12 *e*PKP **PKiKP** **07 23 27.3 -0.4**
WMQ LR LR
comp=Z,2μm,17.5s
WMQ LR LR
comp=Z,1μm,14.5s
WMQ LR LR
comp=Z,3μm,23.8s
KSH Kashi 137.16 26 PKP **PKPdf** **07 23 24.5 -1.6**
KSH PP **PP** **07 26 10.8 +1.5**
KSH AMB AMB
comp=Z,1μm,7.9s
KSH LR LR
comp=Z,1μm,24.0s
KSH LR LR
comp=Z,2μm,20.6s
KSH LR LR
comp=Z,3μm,22.0s
KBL Kabul 137.23 37 PKPdf **PKiKP** **07 23 27.9 -0.4**
KBL Kabul 137.23 37 PKIKP **PKiKP** **07 23 27.9 -0.4**
FORT Forrest 137.26 218 PKPdf **PKPdf** **07 23 24.8 -1.6**
FORT Forrest 137.26 218 P **PKPdf** **07 23 24.2 -2.2**
KBU Kabul Universi 137.30 37 PKP **PKPdf** **07 23 25.7 -0.9**
AS31 Alice Springs 137.56 231 P **PKPdf** **07 23 26.5 -0.7**
ASAR Alice Springs 137.56 231 PKPpre 07 23 20.8
ASAR Alice Springs 137.56 231 PKhKP PKPpre 07 23 18.9
comp=Z,1.4nm,0.6s,baz=123,slow=2.7,SNR=13
ASAR PKP **PKPdf** **07 23 25.7 -1.4**
comp=Z,6.1nm,0.8s,baz=121,slow=1.9,SNR=21
DL2 Dalian 137.87 333 PKP **PKPdf** **07 23 27.8 +0.6**
DL2 PP **PP** **07 26 19.3 +5.8**
DL2 PKS **PKSdf** **07 26 58.8 -4.5**
DL2 SKKS 07 33 05.3
DL2 SS **SS** **07 44 25.0 +2.3**
DL2 AMB AMB
comp=Z,660nm,5.2s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,2μm,18.9s
DL2 LR LR
comp=Z,4μm,20.1s
BJI Beijing 139.06 340 PKP **PKPdf** **07 23 28.3 -1.0**
BJI sPKP 07 23 42.8
BJI PKS **PKSdf** **07 27 03.3 -2.1**
BJI SS SS 07 44 35.0 -1.5
BJI LR LR
comp=Z,900nm,20.0s

BJI				LR	LR		
	comp=Z,1μm,20.1s						
BJI				LR	LR		
	comp=Z,1μm,18.9s						
WB2	**Warramunga Arr**	**139.06**	**236**	P	**PKiKP**	**07 23 31.2**	**-1.0**
WRA	**Warramunga Arr**	**139.07**	**236**	PKPdf	**PKPdf**	**07 23 25.7**	**-4.3**
WRA	**Warramunga Arr**	**139.07**	**236**	PKhKP	PKPpre	07 23 22.2	
	comp=Z,6.1nm,0.8s,baz=117,slow=1.9,SNR=18						
WRA				PKP	**PKPdf**	**07 23 27.7**	**-2.3**
	comp=Z,5.7nm,0.7s,baz=116,slow=2.2,SNR=15						
HHC	**Hu-ho-hao-te**	**139.70**	**345**	*e*PKP	**PKPdf**	**07 23 27.5**	**-3.2**
HHC				sPKP		07 23 38.5	
HHC				PP	**PP**	**07 26 25.0**	**+0.3**
HHC				PKS	**PKSdf**	**07 27 05.3**	**-1.5**
HHC				LR	LR		
	comp=Z,2μm,20.4s						
HHC				LR	LR		
	comp=Z,970nm,22.6s						
HHC				LR	LR		
	comp=Z,3μm,22.0s						
BTO	**Baotou**	**140.30**	**347**	*e*PKP	**PKPdf**	**07 23 28.8**	**-3.0**
BTO				SS	SS	07 44 50.0	-1.0
BTO				AMB	AMB		
	comp=Z,2μm,6.5s						
BTO				LR	LR		
	comp=Z,3μm,18.8s						
BTO				LR	LR		
	comp=Z,4μm,20.6s						
BTO				LR	LR		
	comp=Z,4μm,18.6s						
KMBL	**Kambalda**	**140.34**	**211**	P	**PKiKP**	**07 23 33.9**	**-0.6**
WRKA	**Warakurna**	**140.92**	**225**	P	**PKPdf**	**07 23 34.3**	**+1.0**
HNS	**HongShan**	**141.93**	**340**	⇑PKP	**PKPdf**	**07 23 33.8**	**-0.8**
HNS				PP	PP	07 26 47.0	+8.7
HNS				SKS	**SKSdf**	**07 30 44.0**	**-0.5**
HNS				SKKS	**SKKSac**	**07 33 31.5**	**-1.1**
HNS				LR	LR		
	comp=Z,3μm,18.6s						
HNS				LR	LR		
	comp=Z,1μm,16.3s						
HNS				LR	LR		
	comp=Z,3μm,20.0s						
TIA	**Tai'an**	**142.06**	**336**	PKP	**PKPdf**	**07 23 29.0**	**-5.9**
TIA				PP	**PP**	**07 26 40.5**	**+1.2**
TIA				AMB	AMB		
	comp=Z,930nm,6.7s						
TIA				LR	LR		
	comp=Z,2μm,19.4s						
TIA				LR	LR		
	comp=Z,1μm,17.7s						
TIA				LR	LR		
	comp=Z,5μm,18.6s						
KLBR	**Kellerberrin**	**142.16**	**207**	P	**PKPdf**	**07 23 34.2**	**-1.1**
TIY	**Taiyuan**	**142.38**	**342**	*e*PKP	**PKPdf**	**07 23 34.5**	**-1.1**
TIY				PP	**PP**	**07 26 46.0**	**+4.9**
TIY				AMB	AMB		
	comp=Z,460nm,9.0s						
TIY				LR	LR		
	comp=Z,2μm,20.0s						
TIY				LR	LR		
	comp=Z,1μm,22.1s						
TIY				LR	LR		
	comp=Z,3μm,18.4s						
MUN	**Mundaring**	**142.49**	**204**	P	**PKPdf**	**07 23 36.1**	**+0.3**
THN	**Thein Dam**	**142.62**	**33**	*e*P	**PKPdf**	**07 23 37.1**	**+1.1**
JOW	**Kunigami**	**142.63**	**314**	IAMs_20	IAMs_20	08 22 22.4	
	comp=Z,2μm,20.0s						
GTA	**Gaotai**	**142.76**	**359**	PKP	**PKPdf**	**07 23 37.0**	**+0.8**
GTA				PP	**PP**	**07 26 42.5**	**-0.7**
GTA				SS	SS	07 45 17.0	-2.4
GTA				AMB	AMB		
	comp=Z,980nm,13.5s						
GTA				LR	LR		
	comp=Z,740nm,24.1s						
GTA				LR	LR		
	comp=Z,1μm,24.1s						
GTA				LR	LR		
	comp=Z,2μm,24.9s						
BLDU	**Ballidu**	**143.45**	**206**	P	**PKiKP**	**07 23 40.1**	**-0.8**
KDU	**Kakadu**	**143.74**	**245**	P	**PKiKP**	**07 23 42.6**	**+0.8**
BHK	**Bhakra**	**143.77**	**34**	*e*P	**PKPdf**	**07 23 38.1**	**0.0**
HNLY	**HANLEY**	**144.05**	**29**	*e*P	**PKPdf**	**07 23 38.6**	**-0.6**
HNLY				IAmb	IAmb	07 23 42.4	
	comp=Z,60nm,1.1s						
SSE	**Sheshan**	**144.28**	**326**	PKP	**PKPab**	**07 23 34.8**	**-2.0**
SSE				AMB	AMB		
	comp=Z,120nm,5.9s						
SSE				LR	LR		
	comp=Z,380nm,21.0s						
SSE				LR	LR		
	comp=Z,1μm,20.9s						
BKNR	**BIKANER**	**144.29**	**41**	*e*P	PKPbc	07 23 38.2	+0.9
KLP	**Kalpa**	**144.67**	**32**	*e*P	**PKPab**	**07 23 38.5**	**-0.2**
KLP				IAmb	IAmb	07 23 45.8	
	comp=Z,359nm,0.9s						
NJ2	**Nanjing**	**144.75**	**330**	⇓PKP	**PKPab**	**07 23 37.8**	**-0.7**
NJ2				sPKP		07 23 45.3	
NJ2				SS	SS	07 45 48.8	+5.6
NJ2				LR	LR		
	comp=Z,3μm,19.6s						
NJ2				LR	LR		
	comp=Z,4μm,18.1s						
NJ2				LR	LR		
	comp=Z,8μm,21.6s						
MTN	**Manton Dam**	**144.89**	**244**		**PKPab**	**07 23 39.1**	**-0.4**
MTN	**Manton Dam**	**144.89**	**244**	P	**PKPdf**	**07 23 40.9**	**+0.5**
KMPI	**Kaimana, Papua**	**144.90**	**261**	PKP	**PKPdf**	**07 23 41.1**	**+0.6**
KMPI				PKP	PKPbc	07 23 41.5	+1.9
MORW	**Morawa**	**145.07**	**207**		**PKPbc**	**07 23 39.1**	**-0.7**
MORW	**Morawa**	**145.07**	**207**	P	**PKPbc**	**07 23 39.3**	**-0.5**
LYN	**LuoYang**	**145.28**	**340**	PKPbc	**PKPbc**	**07 23 40.0**	**-0.2**
LYN				PP	**PP**	**07 27 01.3**	**+2.9**
LYN				SKKS		07 33 54.3	
LYN				SS	**SS**	**07 45 49.0**	**+0.4**
LYN				AMB	AMB		
	comp=Z,540nm,6.1s						
LYN				LR	LR		
	comp=Z,2μm,18.2s						
LYN				LR	LR		
	comp=Z,2μm,19.2s						
LYN				LR	LR		
	comp=Z,3μm,19.6s						
GOMU	**GeErMu**	**145.75**	**6**	PKPbc	**PKPab**	**07 23 42.8**	**+0.3**
GOMU				SS	SS	07 45 59.5	+5.2
GOMU				AMB	AMB		
	comp=Z,1μm,12.4s						
GOMU				LR	LR		
	comp=Z,3μm,17.4s						
GOMU				LR	LR		
	comp=Z,3μm,17.2s						
GOMU				LR	LR		
	comp=Z,5μm,17.2s						
KNRA	**Kununurra**	**145.76**	**238**	P	**PKPbc**	**07 23 42.1**	**-0.2**
LZH	**Lanzhou**	**145.79**	**353**	⇑PKPbc	**PKPdf**	**07 23 41.0**	**-0.7**
LZH				AMB	AMB		
	comp=Z,1μm,9.4s						
LZH				LR	LR		
	comp=Z,2μm,21.3s						
LZH				LR	LR		
	comp=Z,2μm,19.9s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
MEEK	**Meekatharra**	**145.83**	**212**	P	**PKiKP**	**07 23 45.2**	**-0.7**
GNR	**GANAUR**	**145.83**	**36**	*e*P	**PKPbc**	**07 23 42.1**	**0.0**
JOSI	**Joshimath**	**146.13**	**31**	*e*P	**PKPab**	**07 23 44.0**	**0.0**
JOSI				IAmb	IAmb	07 24 05.5	
	comp=Z,725nm,1.9s						
AJM	**Ajmer**	**146.22**	**42**	*e*P	**PKPdf**	**07 23 42.1**	**-0.4**
AJM				IAmb	IAmb	07 23 56.2	
	comp=Z,137nm,1.3s						
KUDL	**Kundal**	**146.24**	**38**	*e*P	**PKPdf**	**07 23 42.9**	**+0.5**
KUDL				IAmb	IAmb	07 23 48.4	
	comp=Z,206nm,0.9s						
NDI	**New Delhi**	**146.28**	**36**	*e*P	**PKPbc**	**07 23 43.4**	**-0.1**
NDI				IAmb	IAmb	07 23 47.1	
	comp=Z,84nm,0.9s						
NPLP	**NPLP New Delhi**	**146.28**	**36**	*e*P	**PKPab**	**07 23 44.5**	**+0.2**
NPLP				IAmb	IAmb	07 23 50.1	
	comp=Z,50nm,0.6s						
LDR	**Lodi Road**	**146.35**	**36**	*e*P	**PKPdf**	**07 23 41.9**	**-0.7**
MERT	**Meerut**	**146.36**	**35**	*e*P	**PKPdf**	**07 23 42.6**	**+0.1**
AYAN	**Aya Nagar**	**146.38**	**36**	*e*P	**PKPbc**	**07 23 44.3**	**+0.4**
FAKI	**Fak Fak**	**146.44**	**262**	PKP	**PKiKP**	**07 23 46.7**	**-0.8**
SONA	**Sohna**	**146.52**	**37**	*e*P	**PKPbc**	**07 23 43.6**	**-0.6**
SONA				IAmb	IAmb	07 23 50.7	
	comp=Z,91nm,0.9s						
XAN	**Xi'an**	**146.81**	**345**	PKPbc	**PKPdf**	**07 23 43.3**	**0.0**
XAN				sPKP		07 23 55.0	
XAN				SKKS		07 33 58.5	
XAN				AMB	AMB		
	comp=Z,1μm,9.3s						
XAN				LR	LR		
	comp=Z,2μm,20.6s						
XAN				LR	LR		
	comp=Z,3μm,21.1s						
XAN				LR	LR		
	comp=Z,5μm,19.9s						
TKRD	**Thakurdwara**	**146.86**	**34**	*e*P	**PKPbc**	**07 23 45.7**	**+0.5**
UGON	**Onchagaon**	**146.96**	**36**	*e*P	**PKPab**	**07 23 46.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**147.06**	**232**	P	**PKPdf**	**07 23 45.0**	**+0.9**
PTH	**Pithoragarh**	**147.28**	**31**	*e*P	**PKPbc**	**07 23 45.6**	**-1.1**
PTH				IAmb	IAmb	07 23 52.9	
	comp=Z,147nm,1.1s						
LGTI	**Lohaghat**	**147.37**	**31**	*e*P	**PKPdf**	**07 23 45.5**	**+1.2**
LGTI				IAmb	IAmb	07 23 53.0	
	comp=Z,112nm,0.9s						
SWI	**Sorong**	**147.66**	**265**	PKP	**PKiKP**	**07 23 49.4**	**-0.6**
SWI				PKP	**PKPab**	**07 23 49.7**	**-0.4**
WHN	**Wuhan**	**148.12**	**334**	PKPbc	**PKPbc**	**07 23 48.5**	**-0.1**
WHN				PKPab	**sPKPbc**	**07 23 56.3**	**+1.4**
WHN				PP	**PP**	**07 27 20.5**	**+5.1**
WHN				LR	LR		
	comp=Z,9μm,21.3s						
WHN				LR	LR		
	comp=Z,5μm,19.8s						
WHN				LR	LR		
	comp=Z,8μm,24.9s						
PSA00	**Pilbara Seismi**	**148.97**	**220**	P	**PKPbc**	**07 23 51.0**	**-0.1**
NACB	**Ninganchiao**	**148.99**	**317**		**PKPab**	**07 23 55.4**	**+0.3**
GUNA	**GUNA**	**149.24**	**41**	*e*P	**PKPdf**	**07 23 48.2**	**+0.7**
GUNA				IAmb	IAmb	07 23 58.1	
	comp=Z,100nm,0.8s						
MBWA	**Marble Bar**	**149.34**	**220**		**PKPbc**	**07 23 51.4**	**-0.6**
MBWA	**Marble Bar**	**149.34**	**220**	P	**PKiKP**	**07 23 52.9**	**-0.3**
YULB	**Yu-li**	**149.71**	**316**	IAMs_20	IAMs_20	08 41 30.3	
	comp=Z,2μm,21.0s						
TPUB	**Ta-pu**	**150.23**	**317**		**PKPab**	**07 24 00.1**	**-0.1**
QZH	**Quanzhou**	**150.40**	**322**	PKPbc	**PKPdf**	**07 23 49.5**	**+0.2**
QZH				PP	PP	07 27 38.0	+8.9
QZH				SS	SS	07 46 47.5	0.0
QZH				LR	LR		
	comp=Z,2μm,20.3s						
QZH				LR	LR		
	comp=Z,3μm,20.3s						
QZH				LR	LR		
	comp=Z,5μm,19.6s						
NRDN	**NARMADA NAGAR**	**150.42**	**44**	*e*P	**PKPdf**	**07 23 49.9**	**+0.5**
NRDN				IAmb	IAmb	07 24 05.9	
	comp=Z,101nm,1.1s						
CNSH	**ChangSha**	**150.77**	**334**	PKPbc	**PKPdf**	**07 23 47.8**	**-2.0**
CNSH				SS	SS	07 46 54.0	+3.2
CNSH				LR	LR		
	comp=Z,650nm,13.1s						
CNSH				LR	LR		
	comp=Z,980nm,28.2s						
CNSH				LR	LR		
	comp=Z,810nm,22.6s						
CD2	**Chengdu**	**150.90**	**352**	PKPbc	**PKPdf**	**07 23 50.3**	**+0.3**
CD2				pPKP	sPKPdf	07 23 58.3	+2.0
CD2				PP	**PP**	**07 27 35.8**	**+4.6**
CD2				AMB	AMB		
	comp=Z,940nm,8.0s						
CD2				LR	LR		
	comp=Z,2μm,19.2s						
CD2				LR	LR		
	comp=Z,2μm,20.2s						
KAD	**Karad**	**151.23**	**57**	*e*P	**PKPdf**	**07 23 52.5**	**+1.7**
GIRL	**Giralia**	**151.37**	**210**	P	**PKiKP**	**07 24 00.9**	**+3.5**
LSA	**Lhasa**	**151.45**	**14**	IAMs_20	IAMs_20	08 39 09.3	
	comp=Z,2μm,22.0s						
LSA	**Lhasa**	**151.45**	**14**	PKPbc	**PKPdf**	**07 23 53.3**	**+1.9**
LSA				LR	LR		
	comp=Z,2μm,20.2s						
LSA				LR	LR		
	comp=Z,4μm,20.0s						
ALBI	**Allahabad**	**151.49**	**34**	*e*P	**PKPdf**	**07 23 51.9**	**+0.9**
ALBI				IAmb	IAmb	07 24 03.4	
	comp=Z,163nm,0.8s						
AKL	**Akola**	**151.59**	**48**	*e*P	**PKPdf**	**07 23 52.9**	**+1.6**
AKL				IAmb	IAmb	07 24 11.5	
	comp=Z,239nm,1.6s						
DGAR	**Diego Garcia**	**151.88**	**110**	PKPab	**PKPab**	**07 24 06.4**	**-1.0**
DGAR	**Diego Garcia**	**151.88**	**110**	PKiKP	**PKPab**	**07 24 06.4**	**-1.0**
VAR	**Varanasi**	**152.16**	**32**	*e*P	**PKPdf**	**07 23 53.8**	**+1.8**
SOEI	**Soe**	**152.29**	**245**		**PKPbc**	**07 23 57.3**	**-2.1**
SOEI	**Soe**	**152.29**	**245**	PKP	**PKPdf**	**07 23 51.8**	**-0.8**
SANI	**Sanana**	**152.75**	**262**	PKP	**PKPdf**	**07 23 52.7**	**-0.5**
NGP	**Nagpur**	**152.77**	**44**	*e*P	**PKPdf**	**07 23 53.6**	**+0.6**
NGP				IAmb	IAmb	07 24 19.4	
	comp=Z,42nm,0.8s						
GTK	**Tadong**	**152.91**	**21**	*e*P	**PKPdf**	**07 23 55.0**	**+1.7**
GTK				IAmb	IAmb	07 24 07.7	
	comp=Z,154nm,1.0s						
DAV	**Davao City (W)**	**153.07**	**282**	IAMs_20	IAMs_20	08 31 27.4	
	comp=Z,1μm,20.0s						
KAAM	**Kaadhehdhoo**	**153.92**	**93**		**PKPdf**	**07 23 58.8**	**+3.9**
BLSP	**Bilaspur**	**154.11**	**38**	*e*P	**PKPdf**	**07 23 55.4**	**+0.5**
BLSP				IAmb	IAmb	07 24 23.6	
	comp=Z,84nm,1.2s						
DIBR	**DIBRUGARH**	**154.37**	**8**	*e*P	**PKPdf**	**07 23 55.5**	**+0.4**
GULI	**GuiLin**	**154.40**	**336**	⇓PKPbc	**PKPdf**	**07 23 55.3**	**+0.1**
GULI				AMB	AMB		
	comp=Z,590nm,8.1s						
GULI				LR	LR		
	comp=Z,2μm,19.3s						
GULI				LR	LR		
	comp=Z,1μm,21.6s						
GULI				LR	LR		
	comp=Z,3μm,21.3s						
ITAN	**ITANAGAR**	**154.48**	**11**	*e*P	**PKPdf**	**07 23 56.4**	**+1.1**
MMRI	**Maumere**	**154.57**	**245**	IAMs_20	IAMs_20	08 49 01.5	
	comp=Z,2μm,22.0s						
GYA	**Guiyang**	**154.60**	**344**	⇑PKPbc	**PKPdf**	**07 23 54.5**	**-1.1**
GYA				PP	**PP**	**07 27 52.8**	**+0.4**
GYA				SKKS		07 34 40.8	
GYA				SS	**SS**	**07 47 32.5**	**-0.1**
GYA				AMB	AMB		
	comp=Z,660nm,11.8s						
GYA				LR	LR		
	comp=Z,1μm,20.5s						
GYA				LR	LR		
	comp=Z,1μm,21.8s						
GYA				LR	LR		
	comp=Z,2μm,29.6s						
LKP	**Lekhapani**	**154.62**	**7**	*e*P	**PKPdf**	**07 23 57.4**	**+2.0**
HYB	**Hyderabad**	**154.71**	**51**	*e*P	**PKPdf**	**07 23 55.1**	**-0.8**
HYB				IVmB_BB		07 23 56.6	
	comp=Z,858nm,3.5s						
HYB				IVMs_BB	IVMs_BB	08 31 29.4	
	comp=Z,1μm,21.9s						
JHSG	**JHARSUGUGA**	**155.37**	**36**	*e*P	**PKPdf**	**07 23 56.9**	**+0.3**
PZH	**PanZhiHua**	**155.50**	**354**	PKP	**PKPdf**	**07 23 57.0**	**+0.1**
PZH				PKPab	**PKPab**	**07 24 20.5**	**-1.8**
PZH				PP	**PP**	**07 27 57.0**	**-0.2**
PZH				AMB	AMB		
	comp=Z,680nm,8.3s						
PZH				LR	LR		
	comp=Z,1μm,21.1s						
PZH				LR	LR		
	comp=Z,2μm,24.0s						
PZH				LR	LR		
	comp=Z,2μm,21.6s						
KOHI	**KOHIMA**	**155.94**	**11**	*e*P	**PKPdf**	**07 23 59.6**	**+2.1**
KOHI				IAmb	IAmb	07 24 34.7	
	comp=Z,106nm,1.1s						
LUWI	**Luwuk**	**156.08**	**263**	PKP	**PKPdf**	**07 23 56.7**	**-1.1**
KMI	**Kunming**	**156.73**	**351**	⇑PKP	**PKPdf**	**07 23 57.8**	**-0.9**
KMI				pPKP	pPKPdf	07 24 04.8	+1.4
IMP	**Imphal**	**156.78**	**12**	*e*P	**PKPdf**	**07 23 59.9**	**+1.3**
IMP				IAmb	IAmb	07 24 13.7	
	comp=Z,29nm,1.0s						
AGT	**Agartala**	**156.98**	**18**	*e*P	**PKPdf**	**07 24 01.0**	**+2.3**
RAGD	**RAYAGADA**	**157.06**	**41**	*e*P	**PKPdf**	**07 23 59.5**	**+0.6**
KOD	**Kodaikanal**	**157.06**	**68**	*e*P	**PKPdf**	**07 24 01.2**	**+1.7**
KOD				IAmb	IAmb	07 24 30.6	
	comp=Z,22nm,1.0s						
TNCH	**TengChong**	**157.10**	**1**	PKP	**PKPdf**	**07 23 59.5**	**+0.4**
TNCH				pPKP	sPKPdf	07 24 07.0	+1.6
TNCH				PP	**PP**	**07 28 11.5**	**+5.3**
TNCH				SS	SS	07 48 00.0	+0.6
TNCH				AMB	AMB		
	comp=Z,930nm,8.4s						
TNCH				LR	LR		
	comp=Z,2μm,20.6s						
TNCH				LR	LR		
	comp=Z,2μm,22.1s						
TNCH				LR	LR		
	comp=Z,5μm,21.4s						
SAIH	**SAIHA**	**158.80**	**16**	*e*P	**PKPdf**	**07 24 02.4**	**+1.2**
SAIH				IAmb	IAmb	07 24 16.4	
	comp=Z,468nm,2.4s						
QIZ	**Qiongzhong**	**160.04**	**329**	PKP	**PKPdf**	**07 24 02.5**	**0.0**
QIZ				PKPab	**pPKPab**	**07 24 45.5**	**-1.0**
QIZ				PKS	**PKSdf**	**07 27 35.0**	**-1.2**
QIZ				PP	**PP**	**07 28 26.0**	**+3.3**
QIZ				SS	SS	07 48 36.3	+4.8
QIZ				AMB	AMB		
	comp=Z,480nm,7.1s						
QIZ				LR	LR		
	comp=Z,2μm,18.6s						
QIZ				LR	LR		
	comp=Z,3μm,17.7s						
QIZ				LR	LR		
	comp=Z,5μm,18.1s						
MALK	**Mahakanadarawa**	**160.53**	**70**	PKP	**PKPdf**	**07 24 01.5**	**-1.7**
PALK	**Pallekele**	**161.00**	**73**		**PKPdf**	**07 24 02.0**	**-1.7**
PALK				PKPab	**PKPab**	**07 24 43.4**	**-3.2**
PALK	**Pallekele**	**161.00**	**73**	PKP2	**PKPab**	**07 24 43.4**	**-3.2**
PALK						08 24 02.0	
CHTO	**Chiang Mai**	**163.29**	**0**		**PKPdf**	**07 24 04.7**	**-1.2**
CHTO	**Chiang Mai**	**163.29**	**0**	PKIKP	**PKPdf**	**07 24 04.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**163.64**	**0**		**PKPdf**	**07 24 05.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**163.64**	**0**	PKP	**PKPdf**	**07 24 04.3**	**-1.9**
	comp=Z,7.0nm,1.0s,baz=354,slow=0.5,SNR=24						
CMAR				PKPab	**PKPab**	**07 24 58.5**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=358,slow=2.5,SNR=4.3						
CMAR				PP	**PP**	**07 28 39.7**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=347,slow=5.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**163.64**	**0**	PKIKP	**PKPdf**	**07 24 05.4**	**-0.9**
UBPT	**Khong Chiam**	**165.36**	**335**		**PKPdf**	**07 24 07.7**	**-0.1**
SBUM	**Sibu**	**166.82**	**272**		**PKPdf**	**07 24 09.8**	**+0.8**
KSM	**Kuching**	**168.72**	**268**		**PKPdf**	**07 24 09.4**	**-1.0**
MDSI	**Maura Dua**	**171.76**	**219**	PKP	**PKPdf**	**07 24 09.8**	**-2.3**
MDSI				PKP	**pPKPdf**	**07 24 10.4**	**-6.4**
KULM	**Kulim**	**176.35**	**334**		**PKPdf**	**07 24 12.5**	**-1.2**
BKNI	**Bangkinang**	**177.40**	**230**	PKP	**PKPdf**	**07 24 10.3**	**-3.6**
PSI	**Prapat**	**179.20**	**8**	PKP	**PKPdf**	**07 24 13.0**	**-1.2**
	comp=Z,12nm,0.8s,baz=29,slow=2.2,SNR=11						
PSI				PKPab	pPKPab	07 26 06.0	-5.3
	comp=Z,12nm,1.0s,baz=350,slow=5.0,SNR=3.6						
PSI	**Prapat**	**179.20**	**8**	PKIKP	**PKPdf**	**07 24 13.0**	**-1.2**

*IDC **31** 07:08:48.5±0.6, 1°.86S×80°.76W, h0km, mb4.6/19, mbtmp4.6/22, ML4.2/3, MS5.8/3, Error ellipse: s-maj=24.2km s-min=14.8km az=69.0*
*MOS **31** 07:08:49.2±1.3, 2°.01S×81°.00W, h11km, mb5.0/12, Error ellipse: s-maj=14.8km s-min=8.8km az=97.4*
*IGQ **31** 07:08:50.5±1.1, 2°.3S±3°.8×8°.1W±°, h8km, MLv5.1/47*
*NEIC **31** 07:08:51.6±1.5, 2°.00S±0°.06×81°.00W±0°.02, h10km±1km, mb4.9/100, Error ellipse: s-maj=10.8km s-min=3.4km az=170.0*

ISC 31 07:08:50.6±0.3, 1°.94S±0°.02×81°.00W±0°.05, h10km, n254, σ2°.20/244, mb4.9/68, 11C-7D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SALI	**Salins**	**0.24**	**179**	⇓P	**Pg**	**07 08 56.9**	**+1.4**
SALI				S	**Sg**	**07 09 01.5**	**+2.6**
ALIBE	**La Libertad**	**0.33**	**153**	P	**Pb**	**07 08 58.9**	**+0.3**
PPLP	**Puerto Lpez**	**0.45**	**29**	P	**Pg**	**07 09 00.1**	**+0.6**
PPLP	**Puerto Lpez**	**0.45**	**29**	P	**Pg**	**07 09 00.2**	**+0.6**
ISPT	**Isla de la Pla**	**0.68**	**353**	P	**Pg**	**07 09 03.5**	**-0.4**
ISPT				S	**Sg**	**07 09 13.8**	**+1.0**
AMNT	**Manta-Manabi**	**1.03**	**15**	P	**Pb**	**07 09 09.3**	**-1.3**
AMNT				S	**Sg**	**07 09 25.8**	**+1.9**
AGUAY	**Guayaquil**	**1.05**	**96**	P	**Pg**	**07 09 10.0**	**-0.8**
GYE3	**Ecuador-Guayaq**	**1.11**	**101**	⇓P	**Pb**	**07 09 11.8**	**-0.2**
ISPG	**Isla Puna-Puer**	**1.31**	**141**	P	**Pg**	**07 09 15.9**	**0.0**
MILO	**Milagro-Astudi**	**1.48**	**103**	P	**Pn**	**07 09 16.6**	**-0.7**
CAB1	**Cabo Pasado-Ma**	**1.65**	**20**	P	**Pn**	**07 09 19.9**	**+0.2**
AQUE	**Quevedo**	**1.75**	**59**	P	**Pn**	**07 09 21.5**	**+0.4**
COHC	**Cochancay**	**1.81**	**107**	Pn	**Pn**	**07 09 22.3**	**+0.4**
COHC	**Cochancay**	**1.81**	**107**	P	**Pn**	**07 09 21.8**	**-0.1**
ARNL	**Arenillas**	**1.84**	**150**	P	**Pn**	**07 09 21.8**	**-0.5**
JAMA	**Jama**	**1.85**	**25**	P	**Pn**	**07 09 22.2**	**-0.3**
FLF1	**Flavio Alfaro-**	**1.95**	**36**	P	**Pn**	**07 09 24.9**	**+1.0**
AGRD	**Ecuador-Guaran**	**2.02**	**79**	P	**Pn**	**07 09 25.3**	**+0.1**
JSCH	**Cashca Tororas**	**2.03**	**84**	P	**Pn**	**07 09 25.5**	**+0.2**
CHSH	**Refugio Sur-Vo**	**2.17**	**78**	P	**Pn**	**07 09 28.6**	**+1.2**
ACUE	**Ecuador-Cuenca**	**2.25**	**115**	P	**Pb**	**07 09 30.8**	**-0.8**
TAMH	**Tambohuasha Ch**	**2.25**	**80**	P	**Pn**	**07 09 29.6**	**+1.2**
PORT	**Chimborazo Vol**	**2.27**	**78**	P	**Pn**	**07 09 30.0**	**+1.3**
LAMO	**ALAMOR**	**2.27**	**155**	P	**Pb**	**07 09 30.6**	**-1.4**
IGUA	**Igualata**	**2.40**	**79**	P	**Pn**	**07 09 32.5**	**+2.0**
ASDO	**Santo Domingo**	**2.51**	**48**	P	**Pn**	**07 09 31.5**	**0.0**
BBIL	**Ulba Tungurahu**	**2.55**	**79**	P	**Pn**	**07 09 35.2**	**+2.7**
ASLC	**Ecuador-Salced**	**2.56**	**70**	P	**Pn**	**07 09 35.2**	**+2.6**
ILLI	**Illinizas Sur**	**2.57**	**62**	P	**Pn**	**07 09 34.0**	**+1.1**
ARRY	**Arrayan**	**2.58**	**80**	P	**Pn**	**07 09 35.1**	**+2.4**
JUI6	**Juive**	**2.58**	**78**	P	**Pn**	**07 09 35.4**	**+2.6**
POND	**Pondoa**	**2.59**	**78**	P	**Pn**	**07 09 35.7**	**+2.7**
BULB	**Ulba Tungurahu**	**2.63**	**79**	P	**Pn**	**07 09 36.3**	**+2.7**
PAST	**Pastocalle**	**2.66**	**62**	P	**Pn**	**07 09 36.8**	**+2.8**
PIS1	**Pisayambo**	**2.75**	**71**	P	**Pn**	**07 09 38.3**	**+3.0**
BOSC	**San Juan Bosco**	**2.77**	**116**	P	**Pb**	**07 09 40.0**	**-0.4**
GONZ	**Gonzanam**	**2.78**	**145**	P	**Pn**	**07 09 37.2**	**+1.6**
CAMI	**Rancho Maria**	**2.79**	**63**	P	**Pn**	**07 09 39.1**	**+3.3**
BMOR	**Cotopaxi Volca**	**2.81**	**65**	P	**Pn**	**07 09 38.9**	**+2.8**
BNAS	**Cotopaxi Volca**	**2.81**	**63**	P	**Pb**	**07 09 40.5**	**-0.9**
VCES	**Cotopaxi**	**2.84**	**66**	P	**Pn**	**07 09 39.6**	**+3.0**

CZSB Cruzeiro do Su 10.06 125 Pn **Pn 07 11 17.1 +1.8**
NNA Nana 10.79 158 Pn **Pn 07 11 26.1 +0.7**
NNA Nana 10.79 158 Pn **Pn 07 11 23.7 -1.7**
6.7nm,0.3s,baz=334,slow=7.4,SNR=1.0
NNA Sn **Sn 07 13 22.6 -3.8**
14nm,0.3s,baz=248,slow=16,SNR=7.7
70nm,0.7s
NNA Nana 10.79 158⇑ *e*P **Pn 07 11 26.0 +0.6**
JTS Las Juntas de 12.78 342 Pn **Pn 07 11 50.6 -2.0**
0.2nm,0.3s,baz=142,slow=12,SNR=2.0
3.0nm,0.4s
HERN Volcan Telica 15.58 338 Pn 07 12 32.0 +1.5
HERN IAmb IAmb 07 12 43.8
comp=Z,141nm,0.6s
BAUV El Baul 16.84 50 Pn **Pn 07 12 46.9 +0.2**
TGUH Tegucigalpa,Un 17.07 339 P 07 12 52.2 +0.7
MTO3 Montecristo 18.23 333 P **Pn 07 13 05.3 +1.1**
LPAZ La Paz 19.07 139 P **P 07 13 11.1 -2.9**
comp=Z,0.5nm,0.3s,baz=255,slow=16,SNR=1.8
comp=Z,48nm,1.1s
PCRV Puerto La Cruz 20.25 53 P **P 07 13 24.6 -1.8**
comp=Z,25nm,1.0s,baz=218,slow=19,SNR=8.0
comp=Z,25nm,1.0s
MACA Manacapuru-AM 20.33 94 P **P 07 13 27.8 +0.6**
DR12 Loma Pena Alta 23.56 29 P **P 07 14 01.9 +0.4**
DR12 IAmb IAmb 07 14 05.4
comp=Z,24nm,0.9s
PRSN Puerto Rico Se 24.23 34 P **P 07 14 09.1 +1.2**
UUPR Utuado, UPR, P 24.50 34 P **P 07 14 11.8 +1.5**
AOPR Arecibo Observ 24.56 34 P **P 07 14 12.7 +1.8**
IGPR InterUniversit 24.63 36 P **P 07 14 13.2 +1.7**
SJG San Juan 24.72 36 P **P 07 14 13.6 +1.3**
SJG San Juan 24.72 36 P **P 07 14 13.6 +1.3**
SJG pmax pmax
comp=Z,59nm,0.8s
PDPR Patillas Dam, 24.72 36 P **P 07 14 13.5 +1.2**
PDPR IAmb IAmb 07 14 14.2
comp=Z,49nm,0.9s
GCPR Guaynabo City 24.91 35 P **P 07 14 15.6 +1.6**
HUMP Col San Antoni 24.92 36 P **P 07 14 14.9 +0.8**
H03N2 Juan Fernandez 31.39 177 T T 07 49 49.4
baz=355
H03N1 Juan Fernandez 31.39 177 T T 07 49 50.3
baz=355,slow=74
H03N3 Juan Fernandez 31.41 177 T T 07 49 48.8
baz=355,slow=74
MT09 Talagante 33.02 165 P **P 07 15 27.8 +1.5**
MT09 IAmb IAmb 07 15 40.8
comp=Z,20nm,1.3s
HKT Hockley 34.74 337⇓ *e*P **P 07 15 41.3 +0.2**
HKT pmax pmax
comp=Z,18nm,1.5s
GOGA Godfrey 35.24 356 P **P 07 15 45.1 -0.3**
GOGA IAmb IAmb 07 15 49.7
comp=Z,17nm,1.1s
GOGA Godfrey 35.24 356 P **P 07 15 45.1 -0.3**
GOGA pmax pmax
comp=Z,17nm,1.1s
LRAL Lakeview Retre 35.25 351 P **P 07 15 45.5 0.0**
LRAL IAmb IAmb 07 15 49.5
comp=Z,9.9nm,0.7s
Z47A Carrollton 35.59 350 P **P 07 15 49.8 +1.4**
Z47A IAmb IAmb 07 15 56.2
comp=Z,19nm,1.0s
JSC Jenkinsville 36.03 360 P **P 07 15 51.7 -0.5**
JSC IAmb IAmb 07 15 55.1
comp=Z,16nm,1.2s
JSC Jenkinsville 36.03 360 P **P 07 15 51.7 -0.5**
JSC pmax pmax
comp=Z,16nm,1.2s
X48A Hartselle 36.65 352 P **P 07 15 58.1 +0.6**
ITAB Concordia 37.38 135 P **P 07 16 03.3 -0.5**
ITAB IAmb IAmb 07 16 21.3
comp=Z,51nm,1.3s
TXAR Lajitas Array 37.92 327 P **P 07 16 09.0 +0.5**
comp=Z,1.2nm,0.7s,baz=134,slow=8.1,SNR=1.8
TXAR PcP **PcP 07 18 24.0 -0.6**
comp=Z,1.4nm,0.7s,baz=147,slow=2.5,SNR=4.6
comp=Z,1.2nm,0.7s
PLPT Palo Pinto 38.25 336 P **P 07 16 13.8 +2.7**
WHAR Wooly Hollow 38.52 345 P **P 07 16 14.2 +0.8**
LR05 Currie 38.97 169 P **P 07 16 16.9 -0.2**
LR05 IAmb IAmb 07 16 27.2
comp=Z,43nm,1.5s
FCAR Ozark Folk Cen 39.05 346 P **P 07 16 18.2 +0.5**
VAO Valinhos 39.08 125 P **P 07 16 18.4 +0.1**
VAO IAmb IAmb 07 16 27.7
comp=Z,33nm,1.3s
RCRC Randolf College 39.21 2 P **P 07 16 18.8 -0.3**
T45A Paducah 39.41 350 P **P 07 16 20.3 -0.5**
LL04 Puerto Octay 39.56 170 P **P 07 16 21.6 -0.4**
PLCA Paso Flores 39.75 168 P **P 07 16 24.4 +0.7**
PLCA Paso Flores 39.75 168 P **P 07 16 24.2 +0.5**
comp=Z,2.5nm,0.7s,baz=341,slow=7.3,SNR=2.2
PLCA PcP **PcP 07 18 30.3 +0.2**
comp=Z,1.4nm,0.8s,baz=0.0,slow=5.1,SNR=5.3
comp=Z,2.5nm,0.7s
CGM3 Cape Girardeau 39.86 349 P **P 07 16 25.1 +0.6**
LL05 Los Muermos 39.87 171 P **P 07 16 23.3 -1.2**
LL05 IAmb IAmb 07 16 39.5
comp=Z,42nm,1.4s
T42A Van Buren 39.90 347 P **P 07 16 23.7 -1.1**
HHAR Hobbs 39.90 344 P **P 07 16 24.6 -0.2**
TRQA Tornquist 39.95 156 P **P 07 16 24.8 -0.5**
TRQA Tornquist 39.95 156 P **P 07 16 24.8 -0.5**
TRQA pmax pmax
comp=Z,13nm,1.1s
SIUC Southern Illin 40.19 350 P **P 07 16 27.0 -0.2**
SIUC IAmb IAmb 07 16 36.3
comp=Z,30nm,1.2s
MGMO Mountain Grove 40.29 346 P **P 07 16 29.2 +1.1**
MGMO IAmb IAmb 07 16 44.5
comp=Z,34nm,1.2s
OK031 S. Brethren Rd 40.50 340 P **P 07 16 30.3 +0.4**
OK031 IAmb IAmb 07 16 37.8
comp=Z,23nm,1.0s
OK052 Battle Ridge R 40.52 340 P **P 07 16 31.0 +1.0**
OK052 IAmb IAmb 07 16 32.7
comp=Z,27nm,0.9s
OK029 Liberty Lake 40.57 339 P **P 07 16 31.3 +0.9**
OK029 IAmb IAmb 07 16 33.5
comp=Z,32nm,0.8s
CSTR Hydro, Custer 40.89 338 P **P 07 16 35.3 +2.2**
SMWD Samnorwood 41.03 336 P **P 07 16 37.0 +2.7**
SMWD IAmb IAmb 07 16 39.5
comp=Z,53nm,1.4s
NOKA Waynoka 41.86 338 P **P 07 16 43.1 +2.1**
NOKA IAmb IAmb 07 16 43.8
comp=Z,24nm,0.8s
N58A Sunbury 42.76 5 P **P 07 16 49.3 +1.1**
N58A IAmb IAmb 07 16 49.6
comp=Z,20nm,0.9s
KSU1 Kansas State U 43.30 342 P **P 07 16 53.0 +0.3**
TRNY Table Rock, Ra 43.33 7 IAmb IAmb 07 16 54.2
comp=Z,19nm,0.9s
ANMO Albuquerque 43.77 329 P **P 07 16 57.0 +0.2**
ANMO IAmb IAmb 07 17 12.5
comp=Z,28nm,1.4s
ANMO Albuquerque 43.77 329 P **P 07 16 57.3 +0.4**
ANMO IAmb IAmb 07 17 12.5
comp=Z,27nm,1.4s
ANMO Albuquerque 43.77 329⇑ *e*P **P 07 16 58.3 +1.4**
ANMO pmax pmax
comp=Z,10.0nm,1.4s
COYC Coyhaique 44.15 171 P **P 07 16 59.4 0.0**
BINY Binghamton 44.17 5 P **P 07 16 58.9 -0.8**
BINY IAmb IAmb 07 17 01.0
comp=Z,32nm,0.9s
K57A Scipio Center 44.66 5 P **P 07 17 03.4 -0.1**
113A Mohawk Valley, 46.38 321 IAmb IAmb 07 17 25.0
comp=Z,25nm,1.5s
PV15 Paradox Valley 47.44 330 P **P 07 17 28.4 +2.5**
PV15 IAmb IAmb 07 17 30.9
comp=Z,18nm,1.0s
G62A West of Eustis 47.87 10 P **P 07 17 29.9 +1.1**
TKX Tecate 48.09 319 P **P 07 17 33.5 +2.8**
PKCU Pink Cliffs 48.76 327 P **P 07 17 39.8 +3.6**
RDMU Red Mountain 49.70 331 P **P 07 17 44.7 +1.4**
RDMU IAmb IAmb 07 17 46.4
comp=Z,11nm,0.8s
CCAC Calif City Air 50.61 320 P **P 07 17 52.1 +2.0**
CCAC IAmb IAmb 07 17 58.3
comp=Z,24nm,1.1s
BATG Bathurst New B 50.74 13 P **P 07 17 51.4 +0.7**
BATG IAmb IAmb 07 17 52.8
comp=Z,14nm,0.8s
SPR3 Spring Creek 3 50.99 327 P **P 07 17 54.9 +1.8**
PDAR Pinedale Array 51.42 333 P **P 07 17 56.2 0.0**
comp=Z,3.0nm,0.8s,baz=141,slow=7.4,SNR=6.4
PDAR PcP **PcP 07 19 08.7 -2.0**
comp=Z,0.6nm,0.8s,baz=151,slow=4.5,SNR=1.1
comp=Z,3.0nm,0.8s
HWUT Hardware Ranch 51.46 331 P **P 07 17 57.0 +0.5**
HWUT IAmb IAmb 07 18 08.4
comp=Z,13nm,1.0s
AGMN Agassiz Nation 51.69 347 P **P 07 17 57.6 -0.2**
AGMN IAmb IAmb 07 17 59.2
comp=Z,20nm,0.8s
ELK Elko 52.71 327 P **P 07 18 10.1 +4.2**
ELK Elko 52.71 327 P **P 07 18 10.1 +4.2**
ELK pmax pmax
comp=Z,7.0nm,1.1s
NVAR Mina Array Bea 52.88 323 P **P 07 18 08.3 +1.1**
NVAR Mina Array Bea 52.88 323 P **P 07 18 07.7 +0.6**
comp=Z,5.0nm,0.7s,baz=124,slow=5.5,SNR=9.8
NVAR PcP **PcP 07 19 15.4 -0.8**
comp=Z,1.8nm,0.7s,baz=112,slow=3.2,SNR=2.0
comp=Z,5.0nm,0.7s
LHV Little Huntoon 52.89 323 IAmb IAmb 07 18 15.7
comp=Z,20nm,1.3s
ULM Lac du Bonnet 53.54 348 P **P 07 18 10.5 -1.0**
comp=Z,41nm,0.8s,baz=157,slow=9.3,SNR=17
comp=Z,41nm,0.8s
PNTR Pine Nut 54.08 323 IAmb IAmb 07 18 25.8
comp=Z,7.7nm,0.7s
HLID Hailey 54.32 330 P **P 07 18 18.7 +1.1**
BOZ Bozeman (W) 54.57 334 P **P 07 18 20.5 +1.2**
BOZ IAmb IAmb 07 18 24.5
comp=Z,13nm,1.1s
BOZ Bozeman (W) 54.57 334 P **P 07 18 20.5 +1.2**
BOZ pmax pmax
comp=Z,13nm,1.2s
DRLN Deer Lake 54.89 19 P **P 07 18 21.8 +0.4**
DRLN IAmb IAmb 07 18 23.5
comp=Z,15nm,0.8s
BEKR Beckworth 55.03 323 P **P 07 18 23.8 +1.0**
BEKR IAmb IAmb 07 18 36.9
comp=Z,13nm,1.2s
L04D Klamath Falls 57.65 325 IAmb IAmb 07 19 01.4
comp=Z,18nm,0.9s
J05D Fort Rock, OR 57.72 326 IAmb IAmb 07 18 49.4
comp=Z,22nm,1.2s
SCHQ Schefferville 57.78 10 P **P 07 18 38.8 -3.1**
comp=Z,4.2nm,0.9s,baz=198,slow=19,SNR=1.7
comp=Z,4.2nm,0.9s
G08A Pilot Rock 57.84 329 IAmb IAmb 07 18 50.7
comp=Z,23nm,1.2s
PINE Pine Mountain 57.88 327 IAmb IAmb 07 18 53.5
comp=Z,15nm,0.8s
CBB Campbell River 64.22 330 P **P 07 19 26.7 +0.9**
MACI Morro de la Ar 68.66 59 P **P 07 19 55.0 +0.1**
YKA Yellowknife Ar 69.11 344 P **P 07 19 55.9 -0.8**
comp=Z,2.5nm,0.8s,baz=141,slow=5.4,SNR=6.4
comp=Z,2.5nm,0.8s
T35M Bob Quinn 70.80 334 P **P 07 20 09.2 +1.9**
T35M IAmb IAmb 07 20 09.8
comp=Z,6.6nm,0.8s
DBIC Dimbokro 76.47 83 P **P 07 20 39.1 -2.3**
comp=Z,17nm,0.9s,baz=245,slow=9.3,SNR=5.0
comp=Z,17nm,0.9s
M29M Somme Creek 77.28 336 IAmb IAmb 07 20 47.5
comp=Z,9.2nm,0.8s
L29M L29M 77.49 337 P **P 07 20 46.4 +0.1**
L29M IAmb IAmb 07 20 47.9
comp=Z,12nm,0.8s
COI Coimbra 78.03 48 P **P 07 20 51.3 +1.7**
COI Coimbra 78.03 48 P **P 07 20 51.3 +1.7**
COI pmax pmax
comp=Z,19nm,0.8s
M27K Edge Creek, AK 78.64 335 P **P 07 20 53.5 +0.8**
M27K IAmb IAmb 07 20 54.5
comp=Z,7.9nm,0.8s
HMT Hamilton 78.79 333 IAmb IAmb 07 20 57.9
comp=Z,13nm,0.8s
MDT Midelt 79.64 56 P **P 07 20 57.0 -1.8**
comp=Z,4.5nm,1.0s,baz=271,slow=5.4,SNR=5.0
comp=Z,4.5nm,1.0s
BELA Belgrano 2 79.70 171 P **P 07 20 58.4 +0.2**
J26L Joseph Creek 80.28 337 P **P 07 21 00.0 -1.6**
ESDC Sonseca Array 81.28 50 P **P 07 21 08.2 +0.8**
ESDC IAmb IAmb 07 21 21.2
comp=Z,30nm,1.5s
ESDC Sonseca Array 81.28 50 P **P 07 21 07.1 -0.3**
comp=Z,6.3nm,0.8s,baz=259,slow=5.6,SNR=14
comp=Z,6.3nm,0.8s
ILAR Eielson Array 81.69 337 P **P 07 21 09.0 0.0**
comp=Z,2.3nm,0.9s,baz=111,slow=6.6,SNR=1.8
comp=Z,2.3nm,0.9s
ILAR Eielson Array 81.69 337 P **P 07 21 09.0 0.0**
KDAK Kodiak Island 81.92 329⇓ *e*P **P 07 21 12.0 +1.7**
KDAK pmax pmax
comp=Z,12nm,1.1s
VNA3 Neumayer Olymp 82.22 162 ⇑P **P 07 21 12.0 +0.3**
comp=Z,30nm,0.7s
SNAA Sanae 84.44 162 P **P 07 21 23.5 +0.3**
SNAA Sanae 84.44 162 ⇑P **P 07 21 23.1 -0.2**
comp=Z,118nm,0.7s
SNAA Sanae 84.44 162 P **P 07 21 23.3 +0.1**
comp=Z,5.4nm,0.8s,baz=288,slow=6.4,SNR=3.6
comp=Z,5.4nm,0.8s
SNAA Sanae 84.44 162 *de*P **P 07 21 23.0 -0.2**
SNAA pmax pmax
comp=Z,58nm,4.0s
EKA Eskdalemuir Ar 84.68 34 P **P 07 21 23.9 -0.7**
comp=Z,3.3nm,0.8s,baz=265,slow=3.6,SNR=6.6
comp=Z,3.3nm,0.8s
TROLL Troll, Antarti 86.16 162 ⇑P **P 07 21 32.1 +0.2**
comp=Z,207nm,0.6s
QSPA South Pole Qui 88.12 180 P **P 07 21 42.0 +0.5**
QSPA IAmb IAmb 07 21 49.6
comp=Z,8.1nm,0.9s
QSPA South Pole Qui 88.12 180 P **P 07 21 41.3 -0.2**
comp=Z,5.8nm,0.8s,baz=156,slow=3.8,SNR=6.5
comp=Z,5.8nm,0.8s
BNI Bardonecchia 89.71 45 P **P 07 21 50.4 +0.9**
BNI IAmb IAmb 07 21 51.4
comp=Z,8.7nm,1.0s
BNI Bardonecchia 89.71 45 P **P 07 21 50.4 +0.9**
BNI pmax pmax
comp=Z,9.0nm,1.0s
KEST Kesra 91.40 54 P **P 07 21 55.1 -2.4**
comp=Z,5.4nm,0.8s,baz=315,slow=2.9,SNR=4.1
comp=Z,5.4nm,0.8s
ELIB Princess Elisa 92.59 162 *d*P **P 07 22 03.0 +0.8**
comp=Z,3.7nm,0.9s
VNDA Vanda 93.80 191 P **P 07 22 07.6 0.0**
comp=Z,1.2nm,0.8s,baz=126,slow=5.2,SNR=2.4
comp=Z,1.2nm,0.8s
CLL Collm 94.01 39 *e*P **P 07 22 11.0 +2.0**
CLL Collm 94.01 39 *e*P **P 07 22 11.0 +2.0**
HFS Hagfors 94.02 30 P **P 07 22 06.7 -2.2**
comp=Z,3.1nm,0.9s,baz=298,slow=3.1,SNR=2.0
comp=Z,3.1nm,0.9s
KHC Kasperske Hory 94.46 41⇑ *e*P **P 07 22 12.3 +1.1**
KHC pmax pmax
comp=Z,63nm,3.6s
GERES GERESS Array B 94.55 41 P **P 07 22 10.5 -1.2**
comp=Z,1.5nm,0.8s,baz=253,slow=3.0,SNR=5.3
comp=Z,1.5nm,0.8s
KRUC Moravsky 96.31 41 *e*P **P 07 22 20.2 +0.6**
VRAC Vranov 96.42 41 *e*P **P 07 22 21.9 +1.8**
MORC Moravsky Berou 97.00 40 *e*P **P 07 22 20.7 -2.1**
LPSR Galich'ya Gora 109.32 34 *e*P **Pdif 07 23 22.6 +5.1**
LPSR pmax pmax
comp=Z,17nm,0.7s
VORR Voronezh 109.84 35 *e*P **Pdif 07 23 31.0 +11**
VORR pmax pmax
comp=Z,52nm,0.4s
BR131 Keskin Array S 110.04 48⇑ *e*PKIKP **PKiKP 07 27 22.1 -1.0**
VRH Novokhopyorsk 111.47 35 *e*P **Pdif 07 23 33.5 +6.4**
VRH pmax pmax
comp=Z,37nm,2.0s
H11S2 WAKE ISLAND Hyl 11.75 289 T T 09 28 28.3
baz=86,slow=75,SNR=18
H11S1 WAKE ISLAND Hyl 11.75 289 T T 09 28 25.4
baz=86,slow=75,SNR=28
H11S3 WAKE ISLAND Hyl 11.77 289 T T 09 28 26.4
baz=86,slow=75,SNR=29
GOF Gofitskoye 114.85 40 *ce*P **Pdif 07 23 29.3 -13**
ARTI Arti 116.74 24⇑ *e*PKIKP **PKPdf 07 27 32.5 -2.7**
BVAR Borovoye Array 123.84 20 PKP **PKPdf 07 27 47.8 -1.2**
comp=Z,0.9nm,0.8s,baz=350,slow=1.6,SNR=1.8
KLR Kul'dur 125.20 334⇑ *i*PKIKP **PKPdf 07 27 52.1 +0.4**
ZALV Zalesovo Beam 126.86 10 PKP **PKPdf 07 27 53.6 -1.2**
comp=Z,1.5nm,0.5s,baz=273,slow=2.8,SNR=6.1
STKA Stephens Creek 127.47 227⇓ *e*PKIKP **PKPdf 07 27 55.9 -0.7**
KURK Kurchatov 128.43 16⇑ *e*PKIKP **PKPdf 07 27 56.5 -1.3**
KURBB Kurchatov Arra 128.49 17 PKP **PKPdf 07 27 56.7 -1.3**
comp=Z,1.8nm,0.8s,baz=329,slow=2.2,SNR=5.2
MKAR Makanchi Array 133.01 16 PKP **PKPdf 07 28 06.1 -0.6**
comp=Z,0.8nm,0.8s,baz=314,slow=2.9,SNR=1.6
SONM Songino Array 133.84 353 PKP **PKPdf 07 28 08.4 0.0**
comp=Z,1.3nm,0.8s,baz=16,slow=1.7,SNR=1.9
WMQ Urumqi 137.11 12 *e*PKP **PKPdf 07 28 15.8 +1.3**
ASAR Alice Springs 137.57 231 PKP **PKPdf 07 28 14.5 -1.4**
comp=Z,1.9nm,0.7s,baz=122,slow=1.8,SNR=8.8
WRA Warramunga Arr 139.08 236 PKP **PKPdf 07 28 17.8 -0.9**
comp=Z,2.6nm,0.8s,baz=112,slow=1.9,SNR=7.2
HHC Hu-ho-hao-te 139.64 345 *e*P **PKPdf 07 28 15.3 -4.0**
H01W1 Cape Leeuwin H 140.70 200 T T 10 05 43.0
baz=151,slow=76,SNR=19
H01W2 Cape Leeuwin H 140.70 200 T T 10 05 42.1
baz=151,slow=76,SNR=18
H01W3 Cape Leeuwin H 140.71 200 T T 10 05 43.2
baz=151,slow=76,SNR=14
NJ2 Nanjing 144.69 330 *e*P **PKPdf 07 28 30.8 +2.4**
NJ2 pmax pmax
comp=Z,23nm,0.5s
LZH Lanzhou 145.73 353 *e*PKPbc **PKPdf 07 28 28.0 -2.3**
LZH pPKP sPKPab 07 28 41.0 +5.5
XAN Xi'an 146.75 345 PKPbc **PKPdf 07 28 26.8 -5.1**
PZH PanZhiHua 155.44 354 PKP **PKPdf 07 28 44.5 -1.0**

MEX ***31*** *07:11:30.0±1.5, 17°.04N×95°.24W, h114km±12km, MD4.1*
GCG ***31*** *07:11:32.7±3.4, 16°.79N×95°.10W, h65km±248km, MD4.4*
ISC 31 07:11:27.9±1.3, 16°.97N±0°.04×95°.21W±0°.02, h118km±8km, n38, σ2°.71/69, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**69**	*e*P	**Pn**	**07 11 45.6**	**+0.8**
CMIG				*e*S	**Sn**	**07 11 56.6**	**-0.9**
NEUV	**Arroyo Zacate**	**0.93**	**323**	*e*P	**Pn**	**07 11 50.3**	**+1.2**
NEUV				*e*S	**Sn**	**07 12 02.4**	**-2.8**
UXUV	**UXUV**	**1.07**	**71**	*e*P	**Pn**	**07 11 51.8**	**+1.3**
UXUV				*e*S	**Sn**	**07 12 07.3**	**-0.3**
TUIG	**Tuzandepetl**	**1.30**	**35**	*e*P	Pn	07 11 48.8	-4.1
TUIG				*e*S	**Sn**	**07 12 10.3**	**-1.6**
OXLC	**Oaxaca**	**1.43**	**274**	*i* P	**Pn**	**07 11 56.8**	**+2.1**
OXLC				*e*S	**Sn**	**07 12 16.9**	**+1.9**
OXBJ	**Oaxaca**	**1.45**	**274**	*i* P	**Pn**	**07 11 57.3**	**+2.4**
OXBJ				*e*S	**Sn**	**07 12 16.7**	**+1.4**
VHO	**Vista Hermosa**	**1.46**	**274**	*e*P	**Pn**	**07 11 57.5**	**+2.5**
VHO				*e*S	**Sn**	**07 12 17.5**	**+1.9**
HUIG	**Huatulco**	**1.47**	**216**	*e*P	**Pn**	**07 11 54.5**	**-0.4**
HUIG				*e*S	**Sn**	**07 12 14.6**	**-0.9**
HUIG	**Huatulco**	**1.47**	**216**	*i* P	**Pn**	**07 11 54.1**	**-0.8**
HUIG				*i* S	**Sn**	**07 12 14.4**	**-1.1**
HUIG	**Huatulco**	**1.47**	**216**	*i* P		07 11 54.1	
HUIG				*i* S		07 12 14.4	
PMUV	**Sontecomapan**	**1.57**	**3**	*e*P	**Pn**	**07 11 57.6**	**+1.5**
PMUV				*e*S	**Sn**	**07 12 14.2**	**-3.4**
PANG	**Puerto Angel**	**1.78**	**223**	*i* P	**Pn**	**07 11 57.4**	**-1.1**
PANG				*e*S	**Sn**	**07 12 20.4**	**-1.5**
TGIG		**2.01**	**95**	*e*P	**Pn**	**07 12 02.2**	**+0.8**
TGIG				*e*S	**Sn**	**07 12 26.1**	**-0.9**
TGIG		**2.01**	**95**	*i* P	**Pn**	**07 12 03.0**	**+1.6**
TGIG				*i* S	**Sn**	**07 12 26.5**	**-0.5**
TGIG		**2.01**	**95**	*i* P		07 12 03.0	
TGIG				*i* S		07 12 26.5	
TOIG	**Toxpalan**	**2.10**	**303**	*e*P	**Pn**	**07 12 05.6**	**+3.0**
TOIG				*e*S	**Sn**	**07 12 30.3**	**+1.2**
PEIG	**Puerto Escondi**	**2.10**	**243**	*e*P	**Pn**	**07 12 02.2**	**-0.3**
PEIG				*e*S	**Sn**	**07 12 26.5**	**-2.5**
YOIG	**Yosondua**	**2.24**	**267**	*e*P	**Pn**	**07 12 06.5**	**+1.9**
YOIG				*e*S	**Sn**	**07 12 31.5**	**-1.1**
PCIG		**2.29**	**123**	*e*P	**Pn**	**07 12 06.5**	**+1.6**
PCIG				*e*S	**Sn**	**07 12 30.6**	**-2.7**
TXIG	**Tlaxiaco**	**2.46**	**277**	*e*P	**Pn**	**07 12 09.8**	**+2.4**
TXIG				*e*S	**Sn**	**07 12 34.6**	**-3.1**
TPIG	**Tehuac#an**	**2.51**	**305**	*e*P	**Pn**	**07 12 11.2**	**+3.3**
TPIG				*e*S	**Sn**	**07 12 37.6**	**-1.0**
HLIG	**Huajuapan de L**	**2.62**	**289**	*e*P	**Pn**	**07 12 12.6**	**+3.2**
HLIG				*e*S	**Sn**	**07 12 38.4**	**-2.9**
JAUV	**Jalcomulco**	**2.83**	**328**	*e*P	**Pn**	**07 12 13.2**	**+1.4**
JAUV				*e*S	**Sn**	**07 12 40.5**	**-5.2**
PNIG	**Pinotepa**	**2.86**	**259**	*e*P	**Pn**	**07 12 12.9**	**+0.6**
PNIG				*e*S	**Sn**	**07 12 41.5**	**-5.0**
POHV	**Veracruz**	**2.87**	**317**	*e*P	**Pn**	**07 12 15.8**	**+2.8**
POHV				*e*S	**Sn**	**07 12 45.4**	**-2.2**
FTIG	**Fresnillo de T**	**2.94**	**289**	*e*P	**Pn**	**07 12 17.1**	**+3.6**
FTIG				*e*S	Sn	07 12 40.5	-8.2
CCIG	**Comitan**	**3.02**	**103**	*e*P	**Pn**	**07 12 15.2**	**+0.6**
CCIG				*e*S	**Sn**	**07 12 45.8**	**-4.8**
CCIG	**Comitan**	**3.02**	**103**	*i* P	**Pn**	**07 12 18.5**	**+3.9**
CCIG				*i* S	**Sn**	**07 12 51.2**	**+0.6**
CCIG	**Comitan**	**3.02**	**103**	*i* P		07 12 18.5	
CCIG				*i* S		07 12 51.2	
TLIG	**Tlapa**	**3.26**	**281**	*e*P	**Pn**	**07 12 20.6**	**+2.9**
TLIG				*e*S	Sn	07 12 49.6	-6.6
MGIG	**Malinaltepec**	**3.29**	**275**	*i* P	**Pn**	**07 12 20.5**	**+2.4**
MGIG				*i* S	**Sn**	**07 12 52.5**	**-4.4**
PATR	**El Naranjo**	**3.40**	**122**	*e*P	**Pn**	**07 12 23.1**	**+3.4**
PATR				*e*S	**Sn**	**07 13 01.2**	**+1.6**
PAVE	**Pavencul**	**3.41**	**121**	*e*P	**Pn**	**07 12 22.7**	**+3.0**
PAVE				*e*S	**Sn**	**07 13 00.3**	**+0.5**
PPM	**Popocatepetl**	**3.86**	**303**	*e*P	**Pn**	**07 12 30.0**	**+3.9**
PPM				*e*S	Sn	07 13 04.4	-6.7
CXUV	**Coxquihui**	**3.91**	**325**	*e*P	**Pn**	**07 12 28.8**	**+2.7**
CXUV				*e*S	Sn	07 13 01.2	-10
YAIG	**Yautepec**	**4.13**	**298**	*e*P	**Pn**	**07 12 33.3**	**+4.1**
YAIG				*e*S	**Sn**	**07 13 11.6**	**-5.2**
DAIG	**Los Arroyos**	**4.25**	**271**	*e*P	**Pn**	**07 12 32.4**	**+1.6**
DAIG				*e*S	Sn	07 13 12.3	-7.3
SCIG	**Sabancuy**	**4.31**	**62**	*e*P	**Pn**	**07 12 32.1**	**+0.5**
SCIG				*e*S	**Sn**	**07 13 15.4**	**-5.6**
MEIG	**Mezcala**	**4.32**	**283**	*e*P	**Pn**	**07 12 35.1**	**+3.4**
MEIG				*e*S	**Sn**	**07 13 16.9**	**-4.4**
PLIG	**Platanillo**	**4.33**	**290**	*e*P	**Pn**	**07 12 36.2**	**+4.3**
PLIG				*e*S	Sn	07 13 15.2	-6.4
PETF	**Flores**	**5.11**	**90**	*i* P	**Pn**	**07 12 41.7**	**-0.6**
PETF				*i* S	**Sn**	**07 13 38.0**	**-2.3**

IDC ***31*** *07:12:12.6±0.8, 1°.87S×80°.50W, h0km, mb4.1/11, mbtmp4.3/13, MLA4.2/2, Error ellipse: s-maj=34.2km s-min=18.9km az=68.0*
NEIC ***31*** *07:12:14.6±1.4, 2°.03S±0°.05×80°.88W±0°.05, h10km±1km, mb4.4/14, Error ellipse: s-maj=11.9km s-min=4.0km az=135.0*
IGQ ***31*** *07:12:14.8±0.6, 2°.S±2°.×8°.1W±°, h7km, MLv4.7/49*
ISC 31 07:12:14.6±0.9, 1°.93S±0°.02×80°.85W±0°.04, h13km±6km, n122, σ2°.01/128, mb4.3/18, 7C-11D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.29**	**208**	⇑P	**Pg**	**07 12 20.8**	**+0.2**
SALI				S	**Sg**	**07 12 24.4**	**-0.3**
ALIBE	**La Libertad**	**0.31**	**179**	P	**Pb**	**07 12 22.2**	**+0.1**
PPLP	**Puerto Lpez**	**0.39**	**12**	⇓P	**Pg**	**07 12 22.5**	**0.0**
PPLP				S	**Sg**	**07 12 28.6**	**+0.9**
PPLP	**Puerto Lpez**	**0.39**	**12**	⇓P	**Pg**	**07 12 22.5**	**0.0**
PPLP				S	**Sg**	**07 12 28.4**	**+0.7**
ISPT	**Isla de la Pla**	**0.70**	**342**	⇓P	**Pg**	**07 12 27.2**	**-1.0**
ISPT				S	**Sg**	**07 12 36.9**	**-0.5**
AGUAY	**Guayaquil**	**0.91**	**98**	P	**Pg**	**07 12 31.5**	**-0.7**
GYE3	**Ecuador-Guayaq**	**0.98**	**103**	P	**Pg**	**07 12 33.0**	**-0.6**
AMNT	**Manta-Manabi**	**0.99**	**7**	P	**Pg**	**07 12 32.6**	**-1.1**
AMNT				S	**Sg**	**07 12 46.9**	**+0.3**
ISPG	**Isla Puna-Puer**	**1.24**	**147**	P	**Pg**	**07 12 39.0**	**+0.5**
MILO	**Milagro-Astudi**	**1.34**	**105**	P	**Pn**	**07 12 38.3**	**-0.8**
CAB1	**Cabo Pasado-Ma**	**1.59**	**15**	⇑P	**Pn**	**07 12 42.9**	**+0.4**
CAB1				S	**Sb**	**07 13 05.4**	**+1.5**
AQUE	**Quevedo**	**1.62**	**57**	P	**Pn**	**07 12 42.8**	**-0.1**
COHC	**Cochancay**	**1.68**	**109**	Pn	**Pn**	**07 12 43.1**	**-0.7**
COHC	**Cochancay**	**1.68**	**109**	P	**Pn**	**07 12 43.2**	**-0.6**
JAMA	**Jama**	**1.78**	**21**	P	**Pn**	**07 12 45.4**	**+0.3**
ARNL	**Arenillas**	**1.79**	**154**	P	**Pn**	**07 12 45.0**	**-0.2**
FLF1	**Flavio Alfaro-**	**1.86**	**33**	P	**Pn**	**07 12 46.3**	**0.0**
JSCH	**Cashca Tororas**	**1.89**	**84**	P	**Pn**	**07 12 46.7**	**-0.2**

CHSH	Refugio Sur-Vo	2.03	78	⇓P		Pn	07 12 50.1 +1.0
TAMH	Tambohuasha Ch	2.11	80	⇓P		Pn	07 12 50.9 +0.9
PORT	Chimborazo Vol	2.13	77	⇑P		Pn	07 12 52.0 +1.6
LAMO	ALAMOR	2.23	158	P		Pn	07 12 51.8 +0.3
IGUA	Igualata	2.26	79	⇓P		Pn	07 12 53.7 +1.5
BBIL	Ulba Tungurahu	2.41	79	P		Pn	07 12 56.3 +2.2
ASLC	Ecuador-Salced	2.43	69	P		Pn	07 12 56.7 +2.4
ARRY	Arrayan	2.43	80	⇓P		Pn	07 12 55.9 +1.5
JUI6	Juive	2.44	78	⇓P		Pn	07 12 56.8 +2.4
ILLI	Illinizas Sur	2.44	60	P		Pn	07 12 56.4 +1.7
POND	Pondoa	2.45	78	P		Pn	07 12 56.9 +2.2
BULB	Ulba Tungurahu	2.49	79	⇓P		Pn	07 12 57.4 +2.2
PIS1	Pisayambo	2.61	71	P		Pn	07 13 00.1 +3.1
BOSC	San Juan Bosco	2.65	117	P		Pb	07 13 01.2 -0.9
CAMI	Rancho Maria	2.66	62	P		Pn	07 13 00.4 +2.8
BMOR	Cotopaxi Volca	2.67	64	P		Pn	07 13 00.3 +2.4
BNAS	Cotopaxi Volca	2.68	62	⇓P		Pb	07 13 01.7 -1.1
SUCR	Mariscal Sucre	2.68	62	P		Pn	07 13 00.3 +2.3
VCES	Cotopaxi	2.70	66	P		Pn	07 13 00.6 +2.3
GONZ	Gonzanam	2.72	148	P		Pn	07 12 59.8 +1.5
BREF	Cotopaxi Volca	2.72	63	P		Pn	07 13 01.7 +3.1
BVC2	Cotopaxi Volca	2.75	63	P		Pn	07 13 02.4 +3.5
PIAT	Ana Tenorio	2.75	70	P		Pn	07 13 01.9 +3.0
BTAM	Cotopaxi Volca	2.75	63	P		Pn	07 13 01.9 +2.9
VC1	Cotopaxi 1	2.76	62	⇑P		Pb	07 13 03.0 -1.2
PITA	Cotopaxi Volc	2.78	61	P		Pn	07 13 02.6 +3.4
HPAL	Hacienda Las P	2.78	52	P		Pn	07 12 59.9 +0.7
GGPT	Toaza - Volcan	2.80	53	P		Pn	07 13 00.5 +1.0
JUA2	San Juan 2	2.82	53	P		Pn	07 13 01.4 +1.6
TERV	Terraza Guagua	2.84	52	P		Pn	07 13 02.2 +1.9
GGPC	Guagua Pichinc	2.85	52	P		Pn	07 13 01.6 +1.2
PINO	Pino	2.85	52	P		Pn	07 13 01.6 +1.3
PUYO	Puyo, Santa Ro	2.86	81	⇑P		Pb	07 13 04.4 -1.3
YANA	Yana	2.91	52	P		Pn	07 13 02.1 +1.1
TING	Casa Alexandra	2.91	56	P		Pn	07 13 04.5 +3.6
ANTG	Antisana-Guama	2.96	61	⇑P		Pn	07 13 05.4 +3.6
FENY	Casa Vinicio C	2.96	53	P		Pn	07 13 04.2 +2.6
ANTM	Antisana-La Mi	2.97	62	P		Pb	07 13 06.0 -1.8
PAC1	Pacto, Paraso	3.00	43	P		Pn	07 13 02.1 +0.1
ANTS	Antisana-Sarah	3.04	62	P		Pb	07 13 07.1 -1.8
PULU	Pululahua	3.05	51	P		Pn	07 13 04.4 +1.5
ANTI	Antisana	3.07	61	⇓P		Pn	07 13 07.4 +4.0
ARDO	Archidona, Ten	3.19	73	⇑P		Pn	07 13 08.3 +3.7
OTAV	Otavalo	3.23	48	Pn		Pn	07 13 06.7 +1.3
OTAV	Otavalo	3.23	48	P		Pn	07 13 06.5 +1.1
CUSE	Cuicocha Este	3.31	48	P		Pn	07 13 08.5 +2.0
RVRD	Rio Verde	3.32	26	P		Pn	07 13 06.5 +0.3
CUSW	Cuicocha Oeste	3.33	49	P		Pb	07 13 11.4 -2.4
CUIC	Cuicocha-Domo	3.33	48	P		Pn	07 13 08.9 +2.0
ZUMB	Zumba	3.38	150	P		Pn	07 13 09.5 +2.3
ACOT	Cotacachi (Cas	3.40	49	P		Pn	07 13 10.0 +2.4
IMBA	Imbabura, San	3.44	50	P		Pn	07 13 12.4 +4.0
ANGU	Angureal	3.46	55	P		Pn	07 13 12.9 +4.2
CAYA	Cayambe	3.48	55	P		Pn	07 13 13.4 +4.3
URCU	Urcuqui	3.50	48	P		Pn	07 13 13.0 +3.8
AIB2	Ibarra (Univer	3.56	51	P		Pb	07 13 15.1 -2.5
YAHU	Yahuarcocha	3.60	51	P		Pn	07 13 14.1 +3.6
LITE1	Lita	3.68	43	P		Pn	07 13 12.8 +1.5
REVS	Reventador Sur	3.71	61	P		Pn	07 13 15.9 +4.1
LNGL	El Angel-Carch	3.89	47	P		Pn	07 13 17.5 +2.9
CHMA	Chilma	3.93	45	P		Pn	07 13 17.5 +2.5
CHL1	Volc¡n Chiles	3.97	47	P		Pn	07 13 19.4 +3.7
ECEN	Cerro Negro	3.97	47	P		Pn	07 13 18.9 +3.1
CHL2	Volc¡n Chiles	4.00	47	P		Pn	07 13 20.0 +3.9
CASC	Dorado de Casc	4.07	60	P		Pn	07 13 21.0 +4.3
TUMC	Tumaco	4.29	30	Pn		Pn	07 13 20.9 +1.3
BBAC	Balboa, Cauca	5.33	43	P		Pn	07 13 35.5 +1.4
ATAH	Atahualpa	5.72	155	Pn		Pn	07 13 42.0 +2.2
	3.4nm,0.3s,baz=352,slow=14,SNR=1.1						
ATAH				Sn		Sn	07 14 48.6 +3.0
	4.6nm,0.3s,baz=133,slow=23,SNR=1.6						
PAYG	Puerto Ayora	9.51	277	Pn		Pn	07 14 31.5 0.0
CZSB	Cruzeiro do Su	9.95	126	Pn		Pn	07 14 36.6 -0.9
NNA	Nana	10.76	158	Pn		Pn	07 14 48.0 -0.6
NNA	Nana	10.76	158	Pn		Pn	07 14 47.2 -1.3
	3.5nm,0.3s,baz=337,slow=14,SNR=2.4						
NNA				Sn		Sn	07 16 44.5 -4.4
	2.1nm,0.3s,baz=202,slow=22,SNR=2.1						
TBTG	Tabatinga, AM	11.16	102	Pn		Pn	07 14 54.5 +0.6
PCRV	Puerto La Cruz	20.13	53	Pn		P	07 16 46.8 -1.9
	0.6nm,0.3s,baz=217,slow=20,SNR=1.5						
	58nm,1.1s						
MACA	Manacapuru-AM	20.19	94	P		P	07 16 49.0 -0.2
PATCX	Punta Patache	21.48	152	P		P	07 17 01.5 -1.8
PATCX				IAmb		IAmb	07 17 08.7
	comp=Z,18nm,0.8s						
CELP	Cerrillos	24.35	35	P		P	07 17 33.2 +0.7
CELP				IAmb		IAmb	07 17 33.4
	comp=Z,11nm,0.9s						
PDPR	Patillas Dam,	24.62	36	P		P	07 17 35.3 +0.3
PDPR				IAmb		IAmb	07 17 48.2
	comp=Z,12nm,1.1s						
AQDB	Aquidauana	30.70	129	P		P	07 18 28.7 -0.8
LRAL	Lakeview Retre	35.26	351	P		P	07 19 08.9 -0.1
LRAL				IAmb		IAmb	07 19 27.2
	comp=Z,4.3nm,1.0s						
FPAL	Fort Paine	36.55	353	P		P	07 19 21.2 +1.0
KMSC	Kings Mountain	36.88	359	P		P	07 19 22.9 0.0
TXAR	Lajitas Array	37.99	327	P		P	07 19 35.7 +3.1
	comp=Z,0.9nm,0.8s,baz=130,slow=6.5,SNR=1.9						
TXAR				PcP		PcP	07 21 48.1 -0.2
	comp=Z,0.7nm,0.8s,baz=107,slow=4.2,SNR=2.6						
	comp=Z,0.9nm,0.8s						
WHAR	Wooly Hollow	38.54	345	P		P	07 19 36.6 -0.4
PLCA	Paso Flores	39.74	168	P		P	07 19 47.0 -0.1
	comp=Z,2.0nm,1.1s,baz=352,slow=5.3,SNR=2.0						
	comp=Z,2.0nm,1.1s						
MGMO	Mountain Grove	40.30	346	P		P	07 19 52.5 +0.8
MGMO				IAmb		IAmb	07 19 57.5
	comp=Z,8.0nm,1.0s						
T35A	Sooner Cattle	41.30	341	P		P	07 20 00.8 +0.9
T35A				IAmb		IAmb	07 20 06.0
	comp=Z,16nm,1.0s						
PDAR	Pinedale Array	51.47	333	P		P	07 21 22.2 +2.1
	comp=Z,1.3nm,0.8s,baz=140,slow=7.1,SNR=5.1						
	comp=Z,1.3nm,0.8s						
NVAR	Mina Array Bea	52.95	323	P		P	07 21 32.8 +1.6
	comp=Z,3.6nm,0.8s,baz=116,slow=4.0,SNR=3.7						
	comp=Z,3.6nm,0.8s						
ULM	Lac du Bonnet	53.55	348	P		P	07 21 34.2 -0.8
ULM	Lac du Bonnet	53.55	348	P		P	07 21 33.7 -1.3
	comp=Z,9.5nm,0.6s,baz=160,slow=8.7,SNR=16						
	comp=Z,9.5nm,0.6s						
YKA	Yellowknife Ar	69.13	344	P		P	07 23 19.3 -1.0
	comp=Z,0.6nm,0.8s,baz=135,slow=6.6,SNR=2.7						
	comp=Z,0.6nm,0.8s						
DBIC	Dimbokro	76.33	83	P		P	07 24 03.0 -1.2
	comp=Z,5.6nm,0.8s,baz=259,slow=15,SNR=3.9						
	comp=Z,5.6nm,0.8s						
BELA	Belgrano 2	79.70	171	P		P	07 24 21.3 -0.3
BELA				IAmb		IAmb	07 24 25.1
	comp=Z,4.0nm,1.1s						
ESDC	Sonseca Array	81.16	50	P		P	07 24 29.9 -0.4
	comp=Z,1.3nm,1.1s,baz=263,slow=3.6,SNR=3.6						
	comp=Z,1.3nm,1.1s						
ILAR	Eielson Array	81.73	337	P		P	07 24 33.3 +0.5
	comp=Z,2.1nm,1.2s,baz=104,slow=7.3,SNR=3.8						
	comp=Z,2.1nm,1.2s						
EKA	Eskdalemuir Ar	84.59	34	P		P	07 24 46.1 -1.5
	comp=Z,0.8nm,0.7s,baz=237,slow=9.2,SNR=1.9						
	comp=Z,0.8nm,0.7s						
QSPA	South Pole Qui	88.14	180	P		P	07 25 05.4 +0.3
QSPA	South Pole Qui	88.14	180	P		P	07 25 05.0 0.0
	comp=Z,3.1nm,0.7s,baz=182,slow=2.3,SNR=9.2						
	comp=Z,3.1nm,0.7s						
H11S2	WAKE ISLAND Hyl	11.88	289	T		T	09 31 50.4
	baz=86						
H11S1	WAKE ISLAND Hyl	11.88	289	T		T	09 31 51.6
	baz=86						
H11S3	WAKE ISLAND Hyl	11.89	289	T		T	09 31 54.0
	baz=86						
ASAR	Alice Springs	137.69	231	PKP		PKPdf	07 31 39.5 0.0
	comp=Z,1.0nm,0.6s,baz=122,slow=2.2,SNR=5.4						
WRA	Warramunga Arr	139.21	236	PKP		PKPdf	07 31 43.2 +0.8
	comp=Z,2.1nm,0.7s,baz=113,slow=2.0,SNR=8.9						

*IDC **31** 07:12:42.3±1.1, 22°.21N×101°.62E, h0km, mb3.6/5, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=29.2km s-min=16.9km az=98.0*
*PLV **31** 07:12:42.4±0.8, 22°.13N×101°.78E, h5km±8km, ML3.9*
*BKK **31** 07:12:46.4±0.8, 22°N±10°×10°.2E±°, h10km, M4.1/11, mB4.1/1, mb4.2/1, Mjma3.9/11, ML4.2/4, MLv4.2/6, Mw(mB)3.2/1*

ISC 31 07:12:43.8±1.1, 22°.2N±0°.1×101°.8E±0°.1, h10km, n17, σ1§64/15, mb3.6/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLVB	It Ong	2.15	108	*e*Pg	Pn	07 13 06.1	-14
MLVB				*e*Sg	Sn	07 13 23.5	-23
MLVB				IAML		07 13 26.9	
	comp=E,2μm,0.2s						
MLVB				IAML		07 13 30.6	
	comp=N,1μm,0.9s						
PAYA	Payao	3.35	214	Pn	Pn	07 13 34.3	-2.0
LAMP	Lampang	4.18	210	Pn	Pn	07 13 47.0	-0.7
CM09	Chiang Mai Arr	4.58	216	Pn	Pn	07 13 51.8	-1.3
CMAR	Chiang Mai Arr	4.59	217	Pn	Pn	07 13 51.4	-1.9
	comp=N,3.7nm,0.3s,baz=32,slow=13,SNR=23						
CMAR				Pg		Pb	07 14 06.2 +1.8
	comp=N,7.2nm,0.3s,baz=33,slow=17,SNR=43						
CMAR				Lg	Lg	07 15 03.7	
	comp=N,4.3nm,0.3s,baz=49,slow=34,SNR=5.0						
	comp=N,3.8nm,0.3s						
CM02	Chiang Mai Arr	4.61	217	Pn	Pn	07 13 51.9	-1.7
CM01	Chiang Mai Arr	4.61	216	Pn	Pn	07 13 52.3	-1.3
CM04	Chiang Mai Arr	4.62	216	Pn	Pn	07 13 52.2	-1.5
CM05	Chiang Mai Arr	4.63	216	Pn	Pn	07 13 52.6	-1.4
CM13	Chiang Mai Arr	4.64	217	Pn	Pn	07 13 52.3	-1.7
MHMT	Maesarieng	5.41	223	Pn	Pn	07 14 10.6	+6.0
CHAI	Chaiyaphum	6.25	179	Pn	Pn	07 14 14.0	-2.1
SONM	Songino Array	25.86	7	P	P	07 18 15.9	+0.3
	comp=N,0.3nm,0.3s,baz=188,slow=8.7,SNR=3.7						
	comp=N,0.3nm,0.3s						
MKAR	Makanchi Array	29.20	332	P	P	07 18 45.1	-0.5
	comp=N,0.5nm,0.6s,baz=145,slow=9.2,SNR=4.3						
	comp=N,0.5nm,0.6s						
ZALV	Zalesovo Beam	34.24	342	P	P	07 19 28.0	-1.7
	comp=N,0.8nm,0.6s,baz=149,slow=9.2,SNR=4.8						
	comp=N,0.8nm,0.6s						
WRA	Warramunga Arr	52.55	140	P	P	07 21 58.0	+0.3
	comp=N,0.7nm,0.9s,baz=323,slow=7.7,SNR=4.5						
	comp=N,0.7nm,0.9s						
ASAR	Alice Springs	55.23	144	P	P	07 22 18.9	+1.7
	comp=N,0.6nm,0.9s,baz=323,slow=7.8,SNR=6.1						
	comp=N,0.6nm,0.9s						

*UCR **31** 07:19:42.0±1.1, 6°.89N×82°.44W, h26km±33km, MW3.9*
*CATAC **31** 07:19:44.5±1.0, 7°N±10°×8°.2W±1°.0, h81km±16km, M4.0/7, MLv4.0/7, Error ellipse: s-maj=26.5km s-min=13.9km az=47.3, confirmed*

ISC 31 07:19:40.3±2.2, 7°.1N±0°.1×82°.42W±0°.06, h10km, n56, σ2§40/56, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	Canoas	1.55	343	P	Pb	07 20 08.5	-0.6
CDITO	Canoas	1.55	343	S	Sn	07 20 28.3	+0.1
PIRO	Carate, Puerto	1.60	325	P	Pb	07 20 08.9	-1.1
PIRO	Carate, Puerto	1.60	325	S	Sg	07 20 32.8	+1.0
BRU2	Volcan	1.72	351	P	Pb	07 20 11.1	-1.0
BRU2	Volcan	1.72	351	S	Sb	07 20 35.1	+1.1
BRU2	Volcan	1.72	351	*e*P	Pg	07 20 20.2	+6.8
AZU	Azuero	2.24	71	*e*P	Pb	07 20 19.4	-1.5
BURE	Buenos Aires	2.27	336	*e*P	Pb	07 20 19.5	-1.9
DRK0	Durika	2.32	339	P	Pb	07 20 20.5	-1.8
OCHAL	Ojochal	2.34	329	P	Pb	07 20 20.6	-2.1
OCHAL	Ojochal	2.34	329	S	Sn	07 20 49.7	+2.0
BRIBI	Bribri	2.56	350	*e*P	Pb	07 20 24.8	-1.6
LLNJ	Naranjito	2.90	325	*e*P	Pn	07 20 28.2	+1.6
RAZU	San Marcos de	3.01	328	*e*P	Pn	07 20 30.3	+2.0
PISJ	San Jernim	3.04	326	*e*P	Pn	07 20 30.7	+2.1
ABE2	San Pablo	3.07	328	*e*P	Pn	07 20 31.3	+2.2
LCR2	La Lucha 2	3.08	329	P	Pn	07 20 30.8	+1.7
LCR2	La Lucha 2	3.08	329	S	Sn	07 21 03.6	-2.5
LCR2	La Lucha 2	3.08	329	*e*P	Pn	07 20 31.2	+2.0
TURIB	Turrialba	3.08	336	*e*P	Pb	07 20 31.9	-3.3
PICV	PH. Pirrs	3.08	325	*e*P	Pn	07 20 30.9	+1.8
REPA	Paraso	3.08	332	*e*P	Pb	07 20 32.2	-3.1
VERB	Verbena	3.11	336	*e*P	Pn	07 20 32.1	+2.5
RVSTA	Santa Teresita	3.12	337	*e*P	Pb	07 20 32.7	-3.3
PCAYA	Pacayas	3.14	334	*e*P	Pb	07 20 33.5	-2.8
ZANG	Zanguenga, Cho	3.14	53	*e*P	Pn	07 20 31.4	+1.6
VTCV	VTCV, Calle Va	3.16	336	*e*P	Pn	07 20 33.0	+2.6
RAFA	San Farael, Vo	3.17	334	*e*P	Pg	07 20 40.0	-1.2
IRES	Siquirres	3.18	340	*e*P	Pb	07 20 34.1	-2.8
CVTV	Tajo	3.19	336	*e*P	Pb	07 20 33.6	-3.7
VTLA	Turrialba Volc	3.20	335	*e*P	Pn	07 20 33.7	+2.7
ACOS	Acosta	3.20	328	*e*P	Pn	07 20 33.0	+2.1
CVTR	Volcan Turrial	3.21	336	*e*P	Pn	07 20 33.9	+2.8
TRIO	Tres Rios	3.21	331	*e*P	Pn	07 20 32.9	+2.0
VICA	Volcano Irazu	3.21	334	*e*P	Pn	07 20 33.7	+2.5
RVLA	Villa Bonita	3.22	339	*e*P	Pb	07 20 34.2	-3.5
AMPA	Desamparados	3.24	330	*e*P	Pn	07 20 33.5	+2.2
SJS3	Mercedes San J	3.27	330	*e*P	Pn	07 20 34.6	+2.9
BCIP	Isla Barro Col	3.29	51	*e*P	Pn	07 20 33.4	+1.5
CVIMO	Finca Echandi	3.29	333	*e*P	Pn	07 20 33.7	+1.6
CVTG	V. Turrialba,	3.33	336	*e*P	Pn	07 20 35.6	-3.9
SANTA	Santa Ana	3.33	328	*e*P	Pn	07 20 34.5	+1.9
HDC	Heredia	3.35	330	P	Pn	07 20 35.3	+2.4
HDC				S	Sn	07 21 12.4	-0.4
HDC	Heredia	3.35	330	*e*P	Pn	07 20 35.5	+2.7
BELE	Belen	3.37	329	*e*P	Pn	07 20 35.5	+2.5
VBV1	V. Barva	3.44	331	*e*P	Pn	07 20 37.0	+2.7
TRB2	Turrubares	3.46	325	*e*P	Pn	07 20 36.1	+1.8
ITAL	Pital	3.82	331	*e*P	Pn	07 20 41.7	+2.6
SOCE	Pocosol	3.94	327	*e*P	Pn	07 20 44.0	+3.2
NYURE	Nandayure	4.03	316	*e*P	Pn	07 20 44.4	+2.3
ARE1	Arenal 1	4.06	326	*e*P	Pn	07 20 45.7	+3.2
JTS	Las Juntas de	4.06	322	*e*P	Pn	07 20 44.5	+2.0
VARE2	V. Arenal	4.06	326	*e*P	Pn	07 20 45.7	+3.2
COLC	Colonia	4.50	323	*e*P	Pn	07 20 51.4	+2.8
ALIBA	Liberia Airpor	4.66	319	*e*P	Pn	07 20 53.2	+2.4

*NEIC **31** 07:22:58.6±1.1, 24°.58N±0°.08×127°.09E±0°.07, h10km±1km, mb4.3/12, Error ellipse: s-maj=17.1km s-min=5.0km az=143.0*
*IDC **31** 07:23:01.3±0.7, 25°.16N×126°.77E, h0km, mb4.1/19, mbtmp4.1/21, ML3.3/3, MS4.8/2, Error ellipse: s-maj=20.4km s-min=15.9km az=72.0*
*JMA **31** 07:23:05.3±0.2, 25°.2N±0°.9×127°.0E±0°.9, h66km, MV3.8/23, NEAR OKINAWAJIMA ISLAND*
*NIED **31** 07:23:05.3, 25°.15N×126°.96E, h66km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; M_{rr}=0.15; $M_{\theta\theta}$=0.02; $M_{\phi\phi}$=0.13; $M_{r\theta}$=-0.72; $M_{\theta\phi}$=-0.09; $M_{\phi r}$=-0.70; Fault plane solution: M_0=1.00000×10^16 NP1: ϕ_s=164.00000°, δ=4.00000°, λ=-151.00000°. NP2: ϕ_s=45.00000°, δ=88.00000°, λ=-87.00000°.*

ISC 31 07:23:03.5±1.6, 25°.16N±0°.06×127°.02E±0°.04, h20km±7km, n71, σ1§57/79, mb4.3/25, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.18	350	P	Pg	07 23 26.2	-0.3
JKE				S	Sg	07 23 41.7	-0.4
JJT3	Tamagusuku3	1.20	35	P	Pg	07 23 27.0	+0.1
JJT3				S	Sg	07 23 41.9	-0.7
JAGN	Aguni-jima	1.44	8	P	Pg	07 23 30.1	-1.3
JOGS	Gusukube	1.51	255	P	Pb	07 23 30.2	-0.8
JOGS				S	Sb	07 23 49.1	-0.7
JMJ2	Miyako jima3	1.59	255	P	Pn	07 23 30.8	+0.2
JMJ	Miyako jima 2	1.60	258	P	Pn	07 23 31.3	+0.6
JIKM	Ikemajima	1.62	262	P	Pn	07 23 31.6	+0.6
JNTH	Nagotoyohara	1.63	34	P	Pb	07 23 32.5	-0.5
JIRB	Irabujima	1.71	259	P	Pn	07 23 32.4	+0.2
JIRB				S	Sn	07 23 52.6	-0.8
JOW	Kunigami	2.02	34		Pb	07 23 39.0	-0.6
JOW	Kunigami	2.02	34	Pn	Pb	07 23 39.0	-0.6
	4.6nm,0.3s,baz=43,slow=19,SNR=8.2						
JOW				Sn	Sb	07 24 02.4	-1.9
	58nm,0.3s,baz=243,slow=18,SNR=7.8						
JOW				Lg	Lg	07 24 16.8	
	46nm,0.3s,baz=288,slow=20,SNR=6.6						
JOW	Kunigami	2.02	34	P	Pb	07 23 40.2	+0.6
JOW	Kunigami	2.02	34	P	Pb	07 23 38.8	-0.8
JIH	Iheya	2.06	24	*e*P	Pb	07 23 38.4	-1.8
JTJ	Tarama	2.16	257	P	Pn	07 23 38.5	+0.1
JYRO	Yoronjima	2.26	34	P	Pb	07 23 41.9	-1.9
JISG	Ishigakijimahi	2.52	258	P	Pn	07 23 43.6	+0.2
JIJ	Ishigaki jima	2.73	254	P	Pn	07 23 46.2	-0.1
JIJ				S	Sn	07 24 17.9	-0.8
JTK	Tokunoshima	3.14	33	P	Pn	07 23 53.4	+1.4
JAMN	Amaminishikomi	3.63	32	P	Pn	07 24 00.3	+1.7
YOJ	Yonaguni jima	3.71	260	Pn	Pn	07 23 55.5	-4.2
JMZ	Minamidaito 2	3.86	79	Pn	Pn	07 23 59.2	-2.6
JMZ	Minamidaito 2	3.86	79	P	Pn	07 24 05.1	+3.3
JMZ	Minamidaito 2	3.86	79	P	Pn	07 24 01.0	-0.8
JKDJ	Kitadaitoujima	3.95	78	P	Pn	07 24 02.5	-0.5
JKDJ				S	Sn	07 24 45.0	-3.7
JAM	Amami Oshima	3.98	35	P	Pn	07 24 04.7	+1.2
NACB	Ninganchiao	5.03	260	P	Pn	07 24 17.0	-0.9
YHNB	Yeheng	5.14	266	P	Pn	07 24 20.9	+1.3
SSLB	Suanglung	5.69	257	P	Pn	07 24 28.0	+1.0
TWGBT	Beinan	5.91	248	P	Pn	07 24 30.2	+0.2
TPUB	Ta-pu	6.12	254	P	Pn	07 24 32.8	-0.1
JNU	Nakatsue	8.62	22	Pn	Pn	07 25 09.4	+2.1
JNU	Nakatsue	8.62	22	Pn	Pn	07 25 09.7	+2.4
	1.2nm,0.3s,baz=224,slow=7.4,SNR=10						
	6.1nm,0.5s						
JNU	Nakatsue	8.62	22	P	Pn	07 25 10.4	+3.1
MJAR	Matsushiro Arr	14.86	38	Pn	P	07 26 36.5	-1.6
	baz=232,slow=8.6,SNR=4.2						
	1.0nm,0.9s						
JKA	Kamikawa-asahi	22.78	30	P	P	07 28 05.8	+1.1
JKA				IAmb	IAmb	07 28 25.1	
	comp=Z,18nm,1.3s						
CM31	Chiang Mai Arr	26.87	261	P	P	07 28 37.3	-5.9
CM31				IAmb	IAmb	07 29 03.6	
	comp=Z,14nm,1.3s						
CMAR	Chiang Mai Arr	26.87	261	P	P	07 28 38.4	-4.8
GTA	Gaotai	26.91	309	*e*P	P	07 28 43.0	-0.5
GTA				pmax	pmax		
	comp=Z,11nm,0.6s						
SONM	Songino Array	27.89	330	P	P	07 28 51.6	-0.6
SONM	Songino Array	27.89	330	P	P	07 28 51.4	-0.8
	comp=Z,2.3nm,0.5s,baz=147,slow=11,SNR=10						
SONM				PcP	PcP	07 32 09.0	+1.3
	comp=Z,0.4nm,0.5s,baz=160,slow=4.6,SNR=2.2						
	comp=Z,2.3nm,0.5s						
PETK	Petropavlovsk-	36.18	31	P	P	07 30 06.8	+2.1
	comp=Z,2.3nm,0.9s,baz=236,slow=11,SNR=2.5						
	comp=Z,2.3nm,0.9s						
MK31	Makanchi Array	41.45	313	P	P	07 30 48.6	-0.3
MK31				IAmb	IAmb	07 30 49.3	
	comp=Z,4.9nm,0.7s						
MKAR	Makanchi Array	41.45	313	P	P	07 30 48.6	-0.4
MKAR	Makanchi Array	41.45	313	P	P	07 30 48.4	-0.6
	comp=Z,6.5nm,0.6s,baz=99,slow=10,SNR=39						
MKAR				PcP	PcP	07 32 46.1	-0.4
	comp=Z,0.3nm,0.7s,baz=103,slow=3.1,SNR=1.8						
	comp=Z,6.5nm,0.6s						
MAKZ	Makanchi	41.66	313	P	P	07 30 50.6	-0.1
ZAA0	Zalesovo Array	42.45	324	P	P	07 30 56.3	-0.7
ZALV	Zalesovo Beam	42.45	324	P	P	07 30 56.5	-0.4
ZALV	Zalesovo Beam	42.45	324	P	P	07 30 55.9	-1.1
	comp=Z,2.0nm,0.7s,baz=108,slow=8.6,SNR=6.4						
	comp=Z,2.0nm,0.7s						
KURK	Kurchatov	44.86	318	P	P	07 31 16.0	-0.4
KURBB	Kurchatov Arra	44.89	317	P	P	07 31 16.0	-0.6
	comp=Z,1.6nm,0.4s,baz=105,slow=9.0,SNR=15						
	comp=Z,1.6nm,0.4s						
WRA	Warramunga Arr	45.39	170	P	P	07 31 21.4	+0.5
	comp=Z,2.7nm,0.7s,baz=350,slow=7.8,SNR=9.3						
WRA				PcP	PcP	07 33 02.

FLF1	Flavio Alfaro-	1.78	31	P		Pn	07 27 43.9	+0.3	
FLF1	Flavio Alfaro-	1.78	31	P		Pn	07 27 44.0	+0.3	
AGRD	Ecuador-Guaran	1.78	80	⇓P		Pn	07 27 44.2	+0.3	
ARNL	Arenillas	1.78	157	⇓P		Pn	07 27 43.1	-0.5	
JSCH	Cashca Tororas	1.79	84	⇓P		Pn	07 27 44.3	+0.3	
CHSH	Refugio Sur-Vo	1.93	78	⇓P		Pb	07 27 47.8	-0.8	
TAMH	Tambohuasha Ch	2.01	80	⇓P		Pb	07 27 48.6	-1.2	
TAMH				S		Sb	07 28 14.4	-0.5	
ACUE	Ecuador-Cuenca	2.06	119	P		Pn	07 27 48.5	+0.7	
ARIO	Riobamba	2.07	83	P		Pb	07 27 49.6	-1.3	
AZOG	Ecuador-Azogue	2.09	114	P		Pg	07 27 52.0	-1.5	
IGUA	Igualata	2.15	79	⇓P		Pb	07 27 51.3	-1.1	
LAMO	ALAMOR	2.23	161	⇓P		Pn	07 27 50.2	+0.2	
BIL2	Estacion Bilba	2.29	79	P		Pb	07 27 53.7	-0.9	
ASDO	Santo Domingo	2.30	45	P		Pn	07 27 51.6	+0.8	
BBIL	Ulba Tungurahu	2.31	79	⇓P		Pb	07 27 54.0	-1.0	
ASLC	Ecuador-Salced	2.33	69	P		Pb	07 27 55.0	-0.2	
ARRY	Arrayan	2.33	81	⇓P		Pb	07 27 53.8	-1.5	
JUI6	Juive	2.33	79	⇓P		Pb	07 27 54.2	-1.1	
ILLI	Illinizas Sur	2.34	60	⇓P		Pn	07 27 53.3	+1.4	
POND	Pondoa	2.35	79	⇓P		Pb	07 27 54.6	-1.1	
POND				S		Sb	07 28 24.6	-0.1	
BULB	Ulba Tungurahu	2.39	79	⇓P		Pb	07 27 55.2	-1.1	
PAST	Pastocalle	2.43	61	P		Pb	07 27 55.3	-1.7	
PIS1	Pisayambo	2.51	71	⇓P		Pb	07 27 57.2	-1.2	
AV18	Acelerografo,	2.54	30	P		Pn	07 27 56.1	+2.1	
CAMI	Rancho Maria	2.56	62	P		Pb	07 27 57.8	-1.4	
BMOR	Cotopaxi Volca	2.57	63	⇓P		Pb	07 27 58.0	-1.5	
BNAS	Cotopaxi Volca	2.58	62	P		Pb	07 27 59.0	-0.6	
BOSC	San Juan Bosco	2.58	119	⇑P		Pb	07 27 58.8	-0.7	
SUCR	Mariscal Sucre	2.58	61	⇓P		Pb	07 27 57.9	-1.8	
VCES	Cotopaxi	2.60	65	⇓P		Pb	07 27 58.5	-1.5	
BREF	Cotopaxi Volca	2.62	62	⇓P		Pb	07 27 59.1	-1.2	
BVC2	Cotopaxi Volca	2.65	62	⇓P		Pb	07 27 59.3	-1.5	
PIAT	Ana Tenorio	2.65	70	P		Pb	07 27 59.3	-1.4	
PIAT	Ana Tenorio	2.65	70	⇓P		Pb	07 27 59.3	-1.4	
PIAT	Ana Tenorio	2.65	70	P		Pb	07 27 59.3	-1.4	
APR2	Miler	2.65	42	P		Pn	07 27 57.0	+1.3	
BTAM	Cotopaxi Volca	2.65	63	⇓P		Pb	07 27 59.4	-1.5	
VC1	Cotopaxi 1	2.66	62	⇑P		Pb	07 28 00.1	-0.9	
TAMB	Tambo	2.67	64	⇓P		Pb	07 27 59.5	-1.7	
PITA	Cotopaxi Volc	2.68	60	⇑P		Pb	07 27 59.5	-1.8	
HPAL	Hacienda Las P	2.68	52	P		Pn	07 27 57.7	+1.3	
GGPT	Toaza - Volcan	2.71	52	⇓P		Pn	07 27 58.2	+1.5	
JUA2	San Juan 2	2.72	52	⇓P		Pn	07 27 58.8	+1.8	
TERV	Terraza Guagua	2.75	52	⇓P		Pn	07 27 59.1	+1.6	
GGPC	Guagua Pichinc	2.75	52	⇓P		Pn	07 27 59.2	+1.7	
PINO	Pino	2.75	51	⇑P		Pn	07 27 59.1	+1.5	
PUYO	Puyo, Santa Ro	2.76	82	⇓P		Pb	07 28 01.4	-1.1	
YANA	Yana	2.81	51	P		Pn	07 27 59.9	+1.7	
TING	Casa Alexandra	2.81	55	P		Pb	07 28 02.0	-1.5	
APR1	Acelerografo,	2.82	49	P		Pn	07 28 00.3	+2.0	
ANTG	Antisana-Guama	2.86	61	P		Pb	07 28 02.2	-2.2	
FENY	Casa Vinicio C	2.86	53	P		Pb	07 28 02.3	-2.0	
ANTM	Antisana-La Mi	2.87	62	P		Pb	07 28 02.7	-1.9	
PAC1	Pacto, Paraso	2.91	43	P		Pn	07 28 00.2	+0.9	
PAC1	Pacto, Paraso	2.91	43	⇑P		Pn	07 28 00.3	+0.9	
PAC1	Pacto, Paraso	2.91	43	P		Pn	07 28 00.2	+0.9	
ANTS	Antisana-Sarah	2.94	62	P		Pb	07 28 04.0	-1.8	
PULU	Pululahua	2.95	50	P		Pn	07 28 02.1	+2.0	
ANTI	Antisana	2.97	61	⇑P		Pn	07 28 03.2	+2.7	
AV11	Acelerografo,	2.99	53	P		Pb	07 28 05.9	-0.6	
ATEN	Tena	3.07	73	P		Pb	07 28 05.9	-1.9	
ARDO	Archidona, Ten	3.09	73	P		Pb	07 28 05.4	-2.6	
OTAV	Otavalo	3.13	47	Pn		Pn	07 28 04.9	+2.3	
OTAV	Otavalo	3.13	47	P		Pn	07 28 04.6	+2.0	
OTAV	Otavalo	3.13	47	⇑P		Pn	07 28 04.2	+1.6	
OTAV	Otavalo	3.13	47	eP		Pn	07 28 02.3	-0.3	
OTAV	Otavalo	3.13	47	P		Pn	07 28 04.6	+2.0	
CUSE	Cuicocha Este	3.21	47	P		Pn	07 28 06.8	+3.0	
CUSE	Cuicocha Este	3.21	47	⇑P		Pn	07 28 06.0	+2.3	
CUSE	Cuicocha Este	3.21	47	P		Pn	07 28 06.8	+3.0	
CUSW	Cuicocha Oeste	3.24	48	P		Pb	07 28 09.0	-1.8	
CUIC	Cuicocha-Domo	3.24	48	⇑P		Pn	07 28 06.8	+2.7	
RVRD	Rio Verde	3.25	25	⇑P		Pn	07 28 04.7	+0.9	
COTA	Cotacachi	3.28	48	⇑P		Pn	07 28 07.0	+2.3	
ACOT	Cotacachi (Cas	3.30	49	P		Pb	07 28 09.1	-2.7	
IMBA	Imbabura, San	3.34	50	⇑P		Pb	07 28 10.3	-2.4	
ANGU	Angureal	3.36	55	⇓P		Pb	07 28 10.0	-3.0	
ZUMB	Zumba	3.36	151	⇓P		Pn	07 28 07.6	+2.0	
CAYA	Cayambe	3.39	55	P		Pb	07 28 10.8	-2.6	
URCU	Urcuqui	3.41	47	P		Pn	07 28 09.2	+2.8	
AIB2	Ibarra (Univer	3.46	50	P		Pb	07 28 11.6	-3.0	
YAHU	Yahuarcocha	3.50	50	⇑P		Pb	07 28 12.0	-3.4	
LITE1	Lita	3.59	42	P		Pn	07 28 09.5	+0.9	
ALIT	Ecuador-Imbabu	3.59	42	P		Pn	07 28 12.3	+3.6	
REVS	Reventador Sur	3.60	61	P		Pb	07 28 13.5	-3.5	
REVN	San Rafael	3.62	60	P		Pb	07 28 13.2	-3.9	
SNLR	San Lorenzo-Es	3.70	31	P		Pn	07 28 12.0	+2.0	
LNGL	El Angel-Carch	3.80	46	P		Pn	07 28 15.1	+3.2	
CHMA	Chilma	3.84	45	P		Pn	07 28 15.5	+3.2	
CHL1	Volc¡n Chiles	3.88	47	P		Pn	07 28 17.3	+4.4	
ECEN	Cerro Negro	3.88	46	⇓P		Pn	07 28 16.7	+3.7	
CHL2	Volc¡n Chiles	3.90	47	⇑P		Pb	07 28 17.8	-4.4	
TULM	Tulcn-Chalpat	3.94	49	P		Pb	07 28 18.6	-4.3	
TULM	Tulcn-Chalpat	3.94	49	P		Pb	07 28 18.5	-4.4	
TULM	Tulcn-Chalpat	3.94	49	P		Pb	07 28 18.6	-4.3	
CASC	Dorado de Casc	3.97	59	⇑P		Pn	07 28 18.4	+4.5	
BONI	La Bonita	3.98	54	P		Pn	07 28 18.4	+4.2	
BONI	La Bonita	3.98	54	P		Pn	07 28 18.1	+4.0	
BONI	La Bonita	3.98	54	P		Pn	07 28 18.4	+4.2	
ATUL	Tulcn	4.03	49	⇓P		Pb	07 28 20.4	-3.8	
CMBC	Cumbal	4.07	46	P		Pb	07 28 20.3	-4.6	
CMBC	Cumbal	4.07	46	P		Pb	07 28 20.6	-4.3	
CMBC	Cumbal	4.07	46	P		Pb	07 28 20.3	-4.6	
ATLC	Ecuador-Tulcan	4.08	48	P		Pb	07 28 21.1	-4.0	
TUMC	Tumaco	4.21	29			Pn	07 28 19.9	+2.8	
TUMC	Tumaco	4.21	29	P		Pn	07 28 17.2	+0.1	
TUMC	Tumaco	4.21	29	P		Pn	07 28 17.2	+0.1	
GCUF	Volcan Galeras	4.61	48	P		Pn	07 28 27.4	+4.4	
GCUF	Volcan Galeras	4.61	48	P		Pn	07 28 27.4	+4.4	
CRUC	La Cruz	5.13	48	P		Pn	07 28 34.4	+4.4	
CRUC	La Cruz	5.13	48	P		Pn	07 28 34.4	+4.4	
BBAC	Balboa, Cauca 6µm613nm,0.9s	5.24	42	P		Pn	07 28 33.0	+1.6	
BBAC	Balboa, Cauca	5.24	42	⇓P		Pn	07 28 32.7	+1.3	
BBAC	Balboa, Cauca 6µm613nm,0.9s	5.24	42	P		Pn	07 28 33.0	+1.6	
GR1C	Gorgona, Isla 10µm482nm,0.9s	5.51	28	P		Pn	07 28 40.0	+5.0	
GR1C	Gorgona, Isla 10µm482nm,0.9s	5.51	28	P		Pn	07 28 40.0	+5.0	
ATAH	Atahualpa 5.1nm,0.3s,baz=8.2,slow=8.0,SNR=29	5.71	156	Pn		Pn	07 28 40.7	+2.5	
ATAH				Sn		Sn	07 29 45.2	+1.4	
	18nm,0.3s,baz=331,slow=19,SNR=6.8								
POPC	Popayan, Colom 235nm,0.8s	6.00	43	P		Pn	07 28 43.1	+1.1	
POPC	Popayan, Colom 235nm,0.8s	6.00	43	P		Pn	07 28 43.1	+1.1	
FLOC	Florencia	6.16	56	Pn		Pn	07 28 46.2	+2.2	
FLOC	Florencia 275nm,1.3s	6.16	56	P		Pn	07 28 45.4	+1.4	
FLOC	Florencia	6.16	56	P		Pn	07 28 48.6	+4.6	
FLOC	Florencia 275nm,1.3s	6.16	56	P		Pn	07 28 45.4	+1.4	
PTLC	Puerto Leguiza 333nm,0.8s	6.30	71	P		Pn	07 28 47.3	+1.4	
PTLC	Puerto Leguiza	6.30	71	P		Pn	07 28 46.8	+1.0	
PTLC	Puerto Leguiza 333nm,0.8s	6.30	71	P		Pn	07 28 47.3	+1.4	
GARC	Garzon, Huila 421nm,0.8s	6.64	52	P		Pn	07 28 53.4	+2.6	
GARC	Garzon, Huila 421nm,0.8s	6.64	52	P		Pn	07 28 53.4	+2.6	
MALC	Bahia Malaga	6.79	30	P		Pn	07 28 54.3	+1.7	
MALC	Bahia Malaga	6.79	30	P		Pn	07 28 57.1	+4.5	
MALC	Bahia Malaga	6.79	30	P		Pn	07 28 54.3	+1.7	
BETC	Betania	6.99	49	P		Pn	07 29 01.3	+5.9	
BETC	Betania	6.99	49	P		Pn	07 29 01.3	+5.9	
YOTC	Yotoco, Valle 82nm,0.8s	7.32	37	P		Pn	07 28 57.5	-2.4	
YOTC	Yotoco, Valle 82nm,0.8s	7.32	37	P		Pn	07 28 57.5	-2.4	
ORTC	Ortega, Tolima 258nm,1.1s	7.97	44	P		Pn	07 29 11.8	+3.0	
ORTC	Ortega, Tolima 258nm,1.1s	7.97	44	P		Pn	07 29 11.8	+3.0	
MACC	Macarena, Meta 323nm,0.8s	7.99	60	P		Pn	07 29 11.1	+2.0	
MACC	Macarena, Meta	7.99	60	P		Pn	07 29 11.1	+2.0	
	323nm,0.8s								
PRAC	Prado 176nm,1.4s	8.09	46	P		Pn	07 29 12.8	+2.3	
PRAC	Prado 176nm,1.4s	8.09	46	P		Pn	07 29 12.8	+2.3	
URMC	La Uribe, Meta 215nm,1.0s	8.17	51	P		Pn	07 29 15.1	+3.5	
URMC	La Uribe, Meta 215nm,1.0s	8.17	51	P		Pn	07 29 15.1	+3.5	
ANIL	Santa Ana 167nm,0.5s	8.30	40	P		Pn	07 29 17.9	+4.4	
ANIL	Santa Ana 167nm,0.5s	8.30	40	P		Pn	07 29 17.9	+4.4	
GUY2C	Guyana, Caldas 70nm,1.1s	8.89	37	P		Pn	07 29 23.2	+1.4	
GUY2C	Guyana, Caldas 70nm,1.1s	8.89	37	P		Pn	07 29 23.2	+1.4	
CBOC	Ciudad Bolivar 155nm,1.0s	9.05	32	P		Pn	07 29 24.7	+1.0	
CBOC	Ciudad Bolivar 155nm,1.0s	9.05	32	P		Pn	07 29 24.7	+1.0	
VILC	Villavicencio, 2µm239nm,0.7s	9.24	50	P		Pn	07 29 32.4	+6.0	
VILC	Villavicencio, 2µm239nm,0.7s	9.24	50	P		Pn	07 29 32.4	+6.0	
GUVC	San Jose del G 231nm,1.1s	9.25	62	P		Pn	07 29 29.9	+3.6	
GUVC	San Jose del G 231nm,1.1s	9.25	62	P		Pn	07 29 29.9	+3.6	
ROSC	El Rosal 2.5nm,0.3s,baz=220,slow=17,SNR=11	9.28	44	Pn		Pn	07 29 28.1	+1.0	
	14nm,0.6s								
ROSC	El Rosal 70nm,1.0s	9.28	44	P		Pn	07 29 30.9	+3.8	
ROSC	El Rosal 70nm,1.0s	9.28	44	P		Pn	07 29 30.9	+3.8	
NORC	Norcasia 66nm,0.9s	9.46	38	P		Pn	07 29 31.4	+2.1	
NORC	Norcasia 66nm,0.9s	9.46	38	P		Pn	07 29 31.4	+2.1	
CHIC	Chingaza 103nm,0.8s	9.55	47	P		Pn	07 29 35.2	+4.3	
CHIC	Chingaza 103nm,0.8s	9.55	47	P		Pn	07 29 35.2	+4.3	
HELC	Santa Helena 55nm,1.0s	9.58	33	P		Pn	07 29 37.3	+6.1	
HELC	Santa Helena 55nm,1.0s	9.58	33	P		Pn	07 29 37.3	+6.1	
PAYG	Puerto Ayora	9.60	277	Pn		Pn	07 29 33.0	+1.8	
AZU	Azuero 108nm,1.0s	9.63	3	P		Pn	07 29 34.3	+2.7	
AZU	Azuero 108nm,1.0s	9.63	3	P		Pn	07 29 34.3	+2.7	
CZSB	Cruzeiro do Su	9.90	126	Pn		Pn	07 29 35.5	+0.3	
CZSB	Cruzeiro do Su 275nm,0.8s	9.90	126	P		Pn	07 29 35.8	+0.6	
CZSB	Cruzeiro do Su	9.90	126	eP		Pn	07 29 35.6	+0.3	
CZSB	Cruzeiro do Su 275nm,0.8s	9.90	126	P		Pn	07 29 35.8	+0.6	
DBBC	Dabeiba	9.95	27	P		Pn	07 29 42.0	+6.0	
DBBC	Dabeiba	9.95	27	P		Pn	07 29 42.0	+6.0	
PTBC	PUERTO BERRIO, 222nm32nm,0.9s	10.48	37	P		Pn	07 29 45.8	+2.6	
PTBC	PUERTO BERRIO, 222nm32nm,0.9s	10.48	37	P		Pn	07 29 45.8	+2.6	
PTGC	Puerto Gaitan, 165nm,1.0s	10.53	55	P		Pn	07 29 45.8	+1.9	
PTGC	Puerto Gaitan, 165nm,1.0s	10.53	55	P		Pn	07 29 45.8	+1.9	
NNA	Nana	10.75	159	Pn		Pn	07 29 47.0	0.0	
NNA	Nana 8.3nm,0.3s,baz=337,slow=12,SNR=10 29nm,0.4s	10.75	159	Pn		Pn	07 29 47.3	+0.3	
NNA	Nana 65nm,0.9s	10.75	159	P		Pn	07 29 47.0	0.0	
NNA	Nana 65nm,0.9s	10.75	159	P		Pn	07 29 47.0	0.0	
BRU2	Volcan	10.79	350	Pn		Pn	07 29 50.8	+3.2	
TBTG	Tabatinga, AM	11.07	102	Pn		Pn	07 29 51.0	-0.3	
TBTG	Tabatinga, AM 197nm,0.9s	11.07	102	P		Pn	07 29 51.5	+0.2	
TBTG	Tabatinga, AM	11.07	102	eP		Pn	07 29 50.3	-1.0	
TBTG	Tabatinga, AM 197nm,0.9s	11.07	102	P		Pn	07 29 51.5	+0.2	
LCR2	La Lucha 2	12.00	344	Pn		Pn	07 30 06.9	+2.6	
HDC	Heredia	12.28	344	Pn		Pn	07 30 09.2	+1.2	
HDC	Heredia	12.28	344	eP		Pn	07 30 12.1	+4.1	
SOCE	Pocosol	12.79	343	Pn		Pn	07 30 15.9	+1.1	
JTS	Las Juntas de	12.80	341	Pn		Pn	07 30 16.3	+1.3	
JTS	Las Juntas de 0.3nm,0.3s,baz=156,slow=7.2,SNR=5.5 5.9nm,0.9s	12.80	341	Pn		Pn	07 30 14.1	-1.0	
ESPN	Las Esperanzas	14.43	346			Pn	07 30 39.1	+1.8	
ACON	Acoyapa	14.45	342			Pn	07 30 40.0	+2.4	
SDV	Santo Domingo	14.71	43	P		P	07 30 47.4	0.0	
SDV	Santo Domingo	14.71	43	eP		Pn	07 30 41.8	+0.4	
SDV	Santo Domingo	14.71	43	P		P	07 30 47.4	0.0	
HERN	Volcan Telica	15.62	337	Pn		Pn	07 30 55.0	+1.8	
HERN				IAmb		IAmb	07 30 59.5		
	comp=Z,39nm,0.6s								
CRIN	San Cristobal	15.79	337	Pn		Pn	07 30 57.5	+2.1	
CRIN				IAmb		IAmb	07 31 02.4		
	comp=Z,135nm,1.2s								
TEFE	Tefe	16.18	96	eP		Pn	07 30 58.0	-2.4	
BAUV	El Baul	16.63	49			Pn	07 31 07.1	+1.0	
TGUH	Tegucigalpa,Un	17.11	338	P		P	07 31 14.0	0.0	
MTO3	Montecristo	18.29	332	P		P	07 31 27.8	+0.6	
LPAZ	La Paz	18.95	140			P	07 31 34.1	-0.7	
LPAZ	La Paz comp=Z,0.5nm,0.3s,baz=320,slow=9.0,SNR=21 comp=Z,7.9nm,0.8s	18.95	140	P		Pn	07 31 35.2	-0.3	
LPAZ	La Paz	18.95	140	eP		Pn	07 31 35.9	+0.4	
PB16	IPOC Station P	19.72	147			P	07 31 43.0	-0.1	
PCRV	Puerto La Cruz comp=Z,26nm,0.7s,baz=234,slow=7.6,SNR=15 comp=Z,26nm,0.7s	20.03	53	P		Pn	07 31 47.2	-0.6	
MACA	Manacapuru-AM	20.09	94	P		P	07 31 46.2	-0.6	
MACA	Manacapuru-AM	20.09	94	eP		P	07 31 46.3	-0.4	
MTDJ	Mount Denham	20.24	9	P		P	07 31 49.0	+0.6	
MTDJ				IAmb		IAmb	07 31 56.5		
	comp=Z,120nm,1.6s								
BOAV	Boa Vista	20.67	78	P		P	07 31 52.4	-0.6	
BOAV	Boa Vista	20.67	78	eP		P	07 31 53.2	+0.2	
PB11	IPOC Station P	20.81	149	P		P	07 31 55.0	+0.3	
PB08	IPOC Station P	21.39	149	P		P	07 32 01.1	0.0	
PATCX	Punta Patache	21.47	152	P		P	07 32 01.4	-0.2	
PATCX				IAmb		IAmb	07 32 12.1		
	comp=Z,54nm,1.0s								
PAPH	Port-au-Prince	21.93	22	P		P	07 32 07.4	+0.9	
PAPH				IAmb		IAmb	07 32 19.3		
	comp=Z,155nm,1.5s								
CHIV	Chivirico	22.15	11	P		P	07 32 09.8	+1.1	
CHIV				IAmb		IAmb	07 32 12.4		
	comp=Z,35nm,1.2s								
GTBY	Guantanamo Bay	22.38	14	P		P	07 32 11.9	+0.6	
GTBY				IAmb		IAmb	07 32 16.5		
	comp=Z,79nm,1.1s								
SDDR	Presa de Saban	22.74	24	P		P	07 32 14.9	-0.3	
VILB	Vilhena	23.13	119	P		P	07 32 19.1	-0.2	
VILB				IAmb		IAmb	07 32 43.9		
	comp=Z,50nm,0.8s								
VILB	Vilhena	23.13	119	eP		P	07 32 19.2	-0.1	
DR12	Loma Pena Alta	23.40	28	P		P	07 32 22.4	+0.4	
DR12				IAmb		IAmb	07 32 36.2		
	comp=Z,61nm,1.2s								
SIV	San Ignacio comp=Z,12nm,1.0s,baz=299,slow=11,SNR=7.2 comp=Z,12nm,1.0s	23.92	127	P		P	07 32 27.3	+0.2	
PRSN	Puerto Rico Se comp=Z,73nm,0.9s	24.06	33	IAmb		IAmb	07 32 30.2		
OBIP	Obispado Ponce comp=Z,58nm,1.3s	24.22	35	IAmb		IAmb	07 32 53.7		
CELP	Cerrillos comp=Z,30nm,0.9s	24.26	35	IAmb		IAmb	07 32 49.7		
UUPR	Utuado, UPR, P comp=Z,34nm,0.8s	24.33	34	IAmb		IAmb	07 32 33.3		
AOPR	Arecibo Observ comp=Z,53nm,0.8s	24.38	34	IAmb		IAmb	07 32 34.3		
IGPR	InterUniversit comp=Z,36nm,0.8s	24.45	36	IAmb		IAmb	07 32 34.5		
PDPR	Patillas Dam, comp=Z,33nm,0.8s	24.54	36	IAmb		IAmb	07 32 34.2		
SJG	San Juan comp=Z,46nm,0.7s	24.54	35	P		P	07 32 33.0	+0.4	
SJG				IAmb		IAmb	07 32 34.3		
PB14	IPOC Station P	24.71	157	P		P	07 32 37.3	+2.7	
GCPR	Guaynabo City comp=Z,25nm,0.8s	24.73	35	IAmb		IAmb	07 32 36.2		
HUMP	Col San Antoni comp=Z,43nm,0.8s	24.74	36	IAmb		IAmb	07 32 36.3		
ITTB	Itaituba	25.10	96	eP		P	07 32 37.7	-0.2	
PTLB	Pontes e Lacer	25.22	123	eP		P	07 32 39.6	+0.7	
PDRB	Porto dos Gac	25.71	113	eP		P	07 32 44.3	+0.9	
NPGB	Novo Progresso	25.82	102	eP		P	07 32 43.8	-0.7	
TDBA	Terre de Bas,	25.85	46	eP		PKiKP	07 44 01.5	+7.4	
CLDB	Colider	26.34	111	eP		P	07 32 50.0	+0.9	
MAL2	Monte Alegre, comp=Z,59nm,0.9s	26.56	91	P		P	07 32 50.3	-0.9	
MAL2				IAmb		IAmb	07 32 52.4		
PTET	Porto Estrela	26.85	121	eP		P	07 32 53.4	-0.3	
CCRS	Cacerres, MT,	27.18	126	eP		P	07 32 57.4	+0.8	
NBRS	Nobres	27.60	118	eP		P	07 33 01.6	+1.2	
AQDB	Aquidauana	30.65	129	eP		P	07 33 28.4	+0.9	
SNDB	Serra Nova Dou	30.88	110	eP		P	07 33 29.6	0.0	
H03N2	Juan Fernandez baz=355	31.43	177	T		T	08 07 56.0		
H03N1	Juan Fernandez baz=355	31.43	177	T		T	08 07 49.0		
H03N3	Juan Fernandez baz=355	31.45	177	T		T	08 07 51.9		
CFA	Coronel Fontan comp=Z,0.9nm,0.9s,baz=326,slow=11,SNR=3.9 comp=Z,0.9nm,0.9s	31.83	159	P		P	07 33 38.8	+1.0	
TMAB	Tom-Au,PA,Br	32.64	91	eP		P	07 33 45.7	+0.6	
CPUP	Villa Florida comp=Z,1.3nm,1.1s,baz=288,slow=3.2,SNR=1.5 comp=Z,1.3nm,1.1s	33.12	139	P		P	07 33 47.9	-1.3	
TIGA	Tifton comp=Z,14nm,0.8s	33.26	356	IAmb		IAmb	07 33 56.3		
250A	Grady comp=Z,36nm,1.2s	34.09	352	IAmb		IAmb	07 33 58.6		
154A	Montrose comp=Z,24nm,0.8s	34.39	356	IAmb		IAmb	07 34 00.9		
BDFB	Brasilia comp=Z,2.4nm,0.8s,baz=295,slow=14,SNR=3.6 comp=Z,2.4nm,0.8s	35.04	115	P		P	07 34 05.6	-0.5	
HNDO	Hondo	35.92	332	P		P	07 34 14.1	+0.7	
HODGE	Hodges	35.96	358	P		P	07 34 13.3	-0.2	
PAULI	Pauline comp=Z,56nm,1.8s	36.53	359	IAmb		IAmb	07 34 19.2		
SDBA	SAO DESIDERIO	37.02	108	eP		P	07 34 20.6	-2.5	
TXAR	Lajitas Array comp=Z,0.6nm,0.7s,baz=149,slow=8.1,SNR=4.3 comp=Z,0.6nm,0.7s	38.01	326	P		P	07 34 30.5	-0.7	
PLPT	Palo Pinto	38.30	336	P		P	07 34 33.8	+0.2	
PLPT				IAmb		IAmb	07 34 35.3		
	comp=Z,27nm,0.9s								
Z35A	Perchaven, San	38.34	337	P		P	07 34 34.5	+0.6	
Z35A				IAmb		IAmb	07 34 35.6		
	comp=Z,38nm,1.2s								
WTFS	Witchita Falls	39.20	336	P		P	07 34 41.8	+0.7	
ODSA	Odessa	39.64	330	P		P	07 34 45.1	+0.2	
SN07	Snyder 07	39.65	333	P		P	07 34 45.2	+0.3	
X34A	Smith Ranch, M	39.69	338	P		P	07 34 45.6	+0.5	
PECS	Pecos	39.71	328	P		P	07 34 46.2	+0.8	
PLCA	Paso Flores	39.75	168	P		P	07 34 45.6	0.0	
PLCA	Paso Flores comp=Z,3.1nm,1.0s,baz=346,slow=12,SNR=5.4 comp=Z,3.1nm,1.0s	39.75	168	P		P	07 34 46.6	+0.9	
PLCA	Paso Flores	39.75	168	eP		P	07 34 47.2	+1.5	
W35A	Tecumseh	39.83	339	P		P	07 34 46.3	+0.1	
FNO	Franklin comp=Z,37nm,1.2s	40.11	339	IAmb		IAmb	07 34 49.8		
TUL3	Leonard	40.14	341	P		P	07 34 48.9	0.0	
TUL3				IAmb		IAmb	07 34 50.0		
	comp=Z,28nm,0.9s								
CLN7	Carlsbad 7	40.50	329	P		P	07 34 52.8	+0.7	
O

SNAA Sanae 84.42 162 P P 07 39 44.4 -0.7
comp=Z,2.9nm,0.8s,baz=270,slow=8.1,SNR=1.9
comp=Z,2.9nm,0.8s
EKA Eskdalemuir Ar 84.51 34 P P 07 39 45.0 -0.7
comp=Z,2.0nm,0.8s,baz=267,slow=4.3,SNR=4.5
comp=Z,2.0nm,0.8s
QSPA South Pole Qui 88.17 180 P P 07 40 02.9 -0.8
comp=Z,3.0nm,0.7s,baz=137,slow=19,SNR=20
comp=Z,3.0nm,0.7s
DOU Dourbes 88.45 40 *dP* P 07 39 51.3 -14
BGES Gesves 88.79 40 *dP* **P 07 40 06.7 -0.1**
BCLA Clavier 88.93 40 *dP* **P 07 40 07.5 +0.1**
BHOU Houvegnez 89.37 40 *dP* **P 07 40 10.1 +0.6**
KEST Kesra 91.18 54 P P 07 40 18.6 +0.3
comp=Z,3.3nm,0.8s,baz=270,slow=1.0,SNR=3.5
comp=Z,3.3nm,0.8s
TUE Stuetta 91.43 44 P P 07 40 18.5 -1.0
FETA Feichten 92.39 43 *i* P **P 07 40 23.9 +0.1**
comp=Z,1.9nm,0.9s
ELIB Princess Elisa 92.56 162 *dP* **P 07 40 24.2 +0.1**
comp=Z,4.2nm,1.2s
ELIB *dp*P **sP 07 40 32.4 +1.9**
MOTA Moosalm 92.64 43 *i* P **P 07 40 25.3 +0.3**
comp=Z,0.8nm,0.4s
SQTA Sankt Quirin 92.72 43 *eP* **P 07 40 25.2 -0.1**
comp=Z,0.3nm,0.2s
WTTA Wattenberg 93.01 43 *eP* **P 07 40 27.0 +0.3**
comp=Z,1.1nm,0.5s
CTI Castel Tesino 93.03 44 P P 07 40 26.4 -0.4
CTI IAmb IAmb 07 42 03.5
comp=Z,11nm,0.9s
ABTA Abfaltersbach 93.61 43 *i* **P P 07 40 29.2 -0.2**
comp=Z,0.4nm,0.5s
CLL Collm 93.82 39 *i* **P P 07 40 30.5 +0.4**
comp=Z,21nm,2.0s
VNDA Vanda 93.90 191 P P 07 40 30.9 +0.9
comp=Z,1.0nm,1.0s,baz=92,slow=2.3,SNR=2.3
comp=Z,1.0nm,1.0s
BIOA Bad Ischl, Aus 94.36 42 *eP* **P 07 40 32.9 +0.2**
comp=Z,2.5nm,0.8s
GERES GERESS Array B 94.36 41 P P 07 40 32.1 -0.7
comp=Z,0.7nm,0.7s,baz=242,slow=4.1,SNR=6.6
comp=Z,0.7nm,0.7s
SOKA Soboth 95.35 43 *i* **P P 07 40 37.1 -0.3**
comp=Z,0.4nm,0.4s
ARSA Arzberg 95.65 43 *i* **P P 07 40 38.4 -0.2**
comp=Z,0.5nm,0.3s
CONA Conrad Observa 95.84 42 *i* **P P 07 40 39.6 0.0**
comp=Z,0.3nm,0.3s
KRUC Moravsky 96.12 41 *eP* **P 07 40 41.2 +0.5**
VRAC Vranov 96.23 41 *eP* **P 07 40 41.9 +0.7**
MODS Modra-Piesok 96.75 42 *e*PDIFF **P 07 40 43.9 +0.3**
MORC Moravsky Berou 96.81 40 *eP* **P 07 40 43.5 -0.4**
SYO Syowa Base 98.70 162‖*e*sP sP 07 40 55.5 -2.9
H11S2 WAKE ISLAND Hyl 11.96 289 T T 09 46 50.5
baz=86
H11S1 WAKE ISLAND Hyl 11.96 289 T T 09 46 53.0
baz=86
H11S3 WAKE ISLAND Hyl 11.97 289 T T 09 46 54.3
baz=86
BVAR Borovoye Array 123.71 21 PKP **PKPdf 07 46 09.7 -0.9**
comp=Z,1.3nm,0.7s,baz=329,slow=2.5,SNR=6.0
ZAA0 Zalesovo Array 126.77 11 PKPdf 07 46 15.5 -1.0
ZALV Zalesovo Beam 126.77 11 PKPdf **PKPdf 07 46 15.5 -1.0**
ZALV Zalesovo Beam 126.77 11 PKP **PKPdf 07 46 15.0 -1.5**
comp=Z,1.9nm,0.7s,baz=336,slow=3.2,SNR=12
KURK Kurchatov 128.32 17 PKPdf **PKPdf 07 46 19.2 -0.3**
KURBB Kurchatov Arra 128.37 17 PKP **PKPdf 07 46 18.8 -0.9**
comp=Z,3.4nm,0.8s,baz=329,slow=2.1,SNR=31
MAKZ Makanchi 132.80 16 PKPdf **PKPdf 07 46 26.8 -1.4**
MKAR Makanchi Array 132.90 16 PKPdf 07 46 27.8 -0.6
MKAR Makanchi Array 132.90 16 PKP **PKPdf 07 46 26.7 -1.7**
comp=Z,1.1nm,0.9s,baz=350,slow=2.5,SNR=8.4
AAK Ala-Archa 133.78 25 PKP **PKPdf 07 46 29.7 -0.7**
comp=Z,1.3nm,0.8s,baz=292,slow=19,SNR=5.0
SONM Songino Array 133.82 353 PKP **PKPdf 07 46 28.9 -1.3**
comp=Z,0.2nm,0.4s,baz=360,slow=2.4,SNR=3.3
KSRS Korea Array 135.86 327 PKP **PKPdf 07 46 32.9 -1.2**
comp=Z,1.5nm,0.8s,baz=341,slow=2.6,SNR=3.6
WMQ Urumqi 137.01 12 *e*PKP **PKiKP 07 46 41.3 +3.2**
ASAR Alice Springs 137.79 231 PKP **PKPdf 07 46 35.7 -2.5**
comp=Z,1.1nm,0.8s,baz=122,slow=2.3,SNR=11
WRA Warramunga Arr 139.30 236 PKPdf 07 46 41.8 +0.7
WRA Warramunga Arr 139.30 236 PKP **PKPdf 07 46 39.9 -1.2**
comp=Z,2.3nm,0.8s,baz=119,slow=1.8,SNR=8.1
HHC Hu-ho-hao-te 139.65 346 *eP* **PKPdf 07 46 38.3 -2.9**
MTN Manton Dam 145.12 244 PKPbc 07 46 50.1 -0.9
LZH Lanzhou 145.71 353 *e*PKPbc **PKPdf 07 46 52.3 +0.1**
LZH sPKP 07 47 09.0
XAN Xi'an 146.76 345 PKPbc **PKPdf 07 46 53.5 -0.4**
XAN *p*PKP sPKPab 07 47 02.0 -1.2
FITZ Fitzroy Crossi 147.28 231 PKPab **PKPbc 07 46 57.2 -0.1**
CD2 Chengdu 150.82 352 PKPbc **PKPdf 07 46 58.5 -2.0**
SOEI Soe 152.52 245 PKPab **PKPab 07 47 19.3 -1.5**
HYB Hyderabad 154.48 52 *e*PKPbc **PKPbc 07 47 13.9 -0.7**
PZH PanZhiHua 155.41 355 PKP **PKPdf 07 47 05.8 -1.6**
CMAR Chiang Mai Arr 163.54 1 PKP **PKPdf 07 47 15.6 -1.2**
comp=Z,0.6nm,0.3s,baz=354,slow=0.9,SNR=6.9

IDC ***31*** *07:28:46.4±0.4, 1°.85S×80°.74W, h0km, mb4.7/26, mbtmp4.8/29, ML5.2/2, MS5.3/18, Error ellipse: s-maj=18.1km s-min=9.3km az=62.0*
MOS ***31*** *07:28:47.4±0.9, 1°.90S×80°.76W, h12km, mb5.3/25, Error ellipse: s-maj=9.5km s-min=5.6km az=98.8*
RSNC ***31*** *07:28:49.0±0.5, 2°S±3°×8°1W±°, h3km, M5.7, mB6.2, mb5.7, ML4.9, Mw(mB)5.3*
NEIC ***31*** *07:28:49.6, 1°.95S×80°.71W, h22km*
NEIC ***31*** *07:28:49.6, 1°.95S×80°.00W, h22km, Moment Tensor Solution. Duration: 2ts5 Moment tensor: Scale 1017Nm; Mrr2.00; Mθθ0.13; Mφφ-2.14; Mrθ0.46; Mθφ0.57; Mφr-0.91; Fault plane solution: M0 2.37000×10 17 NP1: φs353.80000°, δ32.95000°, λ101.39000°. NP2: φs160.30000°, δ57.78000°, λ82.71000°. Principal axes: T 2.2491, Plg76.0000°, Azm48.0000°; N 0.2451, Plg6.0000°, Azm164.0000°; P -2.4942, Plg12.0000°, Azm256.0000°;*
IGQ ***31*** *07:28:50.8±0.4, 2°S±2°×8°1W±°, h7km, MLv5.6/45*
NEIC ***31*** *07:28:50.6±1.6, 1°.94S±0°.07×80°.73W±0°.02, h19km±3km, mb5.2/687, Mww5.5/22, Error ellipse: s-maj=9.8km s-min=2.2km az=182.0*
VAO ***31*** *07:28:51.8±1.3, 2°.02S×80°.58W, h22km±8km, mb5.4*
GCMT ***31*** *07:28:54.6±0.2, 1°.99S±0°.01×80°.92W±0°.01, h23km, MW5.7/149, Moment Tensor Solution. s83,c120; s149,c282; Duration: 1ts6 Moment tensor: Scale 1017 Nm; Mrr2.52±.08; Mθθ-0.12±.04; Mφφ-2.40±.05; Mrθ0.18±.06; Mθφ0.29±.03; Mφr-2.84±.10; Best double couple: M0 3.77400×10 17 NP1:φs350.00000°, δ21.00000°, λ85.00000°. NP2:φs175.00000°, δ69.00000°, λ92.00000°. Principal axes: T 3.8180, Plg65.0000°, Azm89.0000°; N -0.0850, Plg2.0000°, Azm355.0000°; P -3.7300, Plg24.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UCR ***31*** *07:29:12.5±2.3, 0°.52S×80°.93W, h19km, MW4.5*
ISC 31 07:28:51.0±0.5, 1°.97S±0°.02×80°.85W±0°.02, h28km±3km, n1190, σ1ts31/828, mb5.2/366, MS5.4/19, 28C-38D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.26**	**214**	⇑P	**Pb**	**07 28 55.4**	**-2.2**
ALIBE	**La Libertad**	**0.27**	**180**	⇑P	**Pb**	**07 28 55.9**	**-1.9**
ALIBE				S	**Sb**	**07 29 01.7**	**-0.7**
PPLP	**Puerto Lpez**	**0.43**	**10**	P	**Pb**	**07 28 57.5**	**-2.7**
PPLP	**Puerto Lpez**	**0.43**	**10**	⇓P	**Pb**	**07 28 57.0**	**-3.3**
PPLP				S	**Sb**	**07 29 03.7**	**-2.8**
PPLP	**Puerto Lpez**	**0.43**	**10**	P	**Pb**	**07 28 57.5**	**-2.7**
ISPT	**Isla de la Pla**	**0.74**	**342**	⇑P	**Pn**	**07 29 02.4**	**-3.3**
ISPT				S	**Sb**	**07 29 12.9**	**-2.2**
AGUAY	**Guayaquil**	**0.90**	**95**	⇓P	**Pn**	**07 29 05.0**	**-2.8**
AGUAY				S	**Sn**	**07 29 16.8**	**-3.0**
GYE3	**Ecuador-Guayaq**	**0.96**	**101**	⇓P	**Pn**	**07 29 06.3**	**-2.4**
AMNT	**Manta-Manabi**	**1.03**	**6**	P	**Pn**	**07 29 07.3**	**-2.3**
AMNT				S	**Sn**	**07 29 22.6**	**-0.5**
ISPG	**Isla Puna-Puer**	**1.20**	**146**	⇓P	**Pb**	**07 29 13.4**	**+0.3**
MILO	**Milagro-Astudi**	**1.33**	**103**	P	**Pn**	**07 29 12.0**	**-1.7**
MILO				S	**Sn**	**07 29 29.4**	**-1.0**
CAB1	**Cabo Pasado-Ma**	**1.63**	**15**	⇑P	**Pn**	**07 29 17.9**	**0.0**
AQUE	**Quevedo**	**1.64**	**56**	⇓P	**Pn**	**07 29 16.4**	**-1.5**
COHC	**Cochancay**	**1.67**	**107**	Pn	**Pn**	**07 29 17.0**	**-1.3**
COHC	**Cochancay**	**1.67**	**107**	P	**Pn**	**07 29 16.6**	**-1.7**
COHC	**Cochancay**	**1.67**	**107**	⇑P	**Pn**	**07 29 17.2**	**-1.1**
COHC	**Cochancay**	**1.67**	**107**	P	**Pn**	**07 29 16.6**	**-1.7**
ARNL	**Arenillas**	**1.75**	**154**	⇑P	**Pn**	**07 29 19.1**	**-0.3**
JAMA	**Jama**	**1.82**	**21**	P	**Pn**	**07 29 20.2**	**-0.3**
AGRD	**Ecuador-Guaran**	**1.88**	**78**	⇓P	**Pn**	**07 29 20.2**	**-1.5**
JSCH	**Cashca Tororas**	**1.89**	**82**	⇓P	**Pn**	**07 29 20.3**	**-1.4**
FLF1	**Flavio Alfaro-**	**1.89**	**32**	P	**Pn**	**07 29 22.6**	**+1.1**
FLF1	**Flavio Alfaro-**	**1.89**	**32**	P	**Pn**	**07 29 21.4**	**-0.1**
FLF1	**Flavio Alfaro-**	**1.89**	**32**	P	**Pn**	**07 29 22.6**	**+1.1**
CHSH	**Refugio Sur-Vo**	**2.03**	**77**	⇓P	**Pn**	**07 29 23.7**	**-0.2**
ACUE	**Ecuador-Cuenca**	**2.10**	**116**	P	**Pn**	**07 29 25.0**	**+0.3**
TAMH	**Tambohuasha Ch**	**2.11**	**78**	⇓P	**Pn**	**07 29 24.7**	**-0.2**
PORT	**Chimborazo Vol**	**2.13**	**76**	⇓P	**Pn**	**07 29 25.2**	**-0.1**
AZOG	**Ecuador-Azogue**	**2.14**	**111**	P	**Pn**	**07 29 26.2**	**+1.0**
ARIO	**Riobamba**	**2.17**	**82**	P	**Pn**	**07 29 25.5**	**-0.1**
LAMO	**ALAMOR**	**2.19**	**158**	P	**Pn**	**07 29 26.9**	**+1.1**
IGUA	**Igualata**	**2.26**	**78**	⇓P	**Pn**	**07 29 27.4**	**+0.4**
AAM2	**Ambato 2 (Merc**	**2.34**	**73**	P	**Pn**	**07 29 29.9**	**+1.9**
BIL2	**Estacion Bilba**	**2.40**	**78**	⇓P	**Pn**	**07 29 30.6**	**+1.9**
BBIL	**Ulba Tungurahu**	**2.42**	**78**	⇓P	**Pn**	**07 29 30.0**	**+1.1**
ASDO	**Santo Domingo**	**2.42**	**45**	⇑P	**Pn**	**07 29 28.6**	**-0.2**
ARRY	**Arrayan**	**2.44**	**79**	⇓P	**Pn**	**07 29 29.7**	**+0.5**
ASLC	**Ecuador-Salced**	**2.44**	**68**	P	**Pn**	**07 29 31.6**	**+2.3**
JUI6	**Juive**	**2.44**	**77**	⇓P	**Pn**	**07 29 30.6**	**+1.3**
POND	**Pondoa**	**2.46**	**77**	⇓P	**Pn**	**07 29 30.6**	**+1.0**
ALAT	**Latacunga**	**2.46**	**65**	P	**Pn**	**07 29 31.9**	**+2.3**
BULB	**Ulba Tungurahu**	**2.49**	**78**	P	**Pn**	**07 29 31.3**	**+1.2**
PAST	**Pastocalle**	**2.54**	**60**	P	**Pn**	**07 29 31.3**	**+0.5**
ALJ1	**Ecuador-Loja-U**	**2.59**	**141**	P	**Pn**	**07 29 32.6**	**+1.3**
PIS1	**Pisayambo**	**2.62**	**70**	⇑P	**Pn**	**07 29 34.0**	**+2.0**
BOSC	**San Juan Bosco**	**2.62**	**117**	P	**Pb**	**07 29 35.1**	**-2.4**
AV18	**Acelerografo,**	**2.65**	**31**	P	**Pn**	**07 29 33.8**	**+1.9**
GONZ	**Gonzanam**	**2.68**	**147**	⇑P	**Pn**	**07 29 33.9**	**+1.3**
BMOR	**Cotopaxi Volca**	**2.69**	**63**	P	**Pn**	**07 29 35.2**	**+2.3**
BNAS	**Cotopaxi Volca**	**2.70**	**61**	P	**Pb**	**07 29 36.9**	**-2.0**
SUCR	**Mariscal Sucre**	**2.70**	**61**	P	**Pn**	**07 29 34.7**	**+1.7**
VCES	**Cotopaxi**	**2.71**	**65**	P	**Pn**	**07 29 35.8**	**+2.6**
BREF	**Cotopaxi Volca**	**2.73**	**62**	P	**Pb**	**07 29 37.6**	**-1.9**
PIAT	**Ana Tenorio**	**2.76**	**69**	P	**Pn**	**07 29 35.3**	**+1.5**
PIAT	**Ana Tenorio**	**2.76**	**69**	⇓P	**Pn**	**07 29 35.0**	**+1.2**
PIAT	**Ana Tenorio**	**2.76**	**69**	P	**Pn**	**07 29 35.3**	**+1.5**
BVC2	**Cotopaxi Volca**	**2.76**	**62**	P	**Pn**	**07 29 37.2**	**+3.3**
BTAM	**Cotopaxi Volca**	**2.77**	**62**	⇓P	**Pb**	**07 29 37.7**	**-2.4**
APR2	**Miler**	**2.77**	**43**	P	**Pn**	**07 29 33.4**	**-0.2**
TAMB	**Tambo**	**2.79**	**63**	P	**Pn**	**07 29 36.4**	**+2.1**
PITA	**Cotopaxi Volc**	**2.79**	**60**	P	**Pn**	**07 29 35.8**	**+1.5**
HPAL	**Hacienda Las P**	**2.80**	**52**	P	**Pn**	**07 29 34.8**	**+0.4**
GGPT	**Toaza - Volcan**	**2.82**	**52**	P	**Pn**	**07 29 35.8**	**+1.1**
JUA2	**San Juan 2**	**2.84**	**52**	P	**Pn**	**07 29 36.5**	**+1.5**
PUYO	**Puyo, Santa Ro**	**2.86**	**80**	⇑P	**Pn**	**07 29 38.2**	**+3.2**
TERV	**Terrazza Guagua**	**2.87**	**51**	P	**Pn**	**07 29 36.5**	**+1.1**
GGPC	**Guagua Pichinc**	**2.87**	**52**	P	**Pn**	**07 29 35.6**	**+0.2**
AV21	**Acelerografo,**	**2.92**	**26**	P	**Pn**	**07 29 39.5**	**+3.8**
TING	**Casa Alexandra**	**2.93**	**55**	P	**Pn**	**07 29 38.7**	**+2.8**
YANA	**Yana**	**2.93**	**51**	P	**Pn**	**07 29 37.2**	**+1.0**
CIVI	**Edificio de In**	**2.93**	**53**	P	**Pn**	**07 29 38.0**	**+1.9**
APR1	**Acelerografo,**	**2.94**	**49**	P	**Pn**	**07 29 36.5**	**+0.2**
ANTG	**Antisana-Guama**	**2.98**	**61**	⇑P	**Pn**	**07 29 39.2**	**+2.4**
FENY	**Casa Vinicio C**	**2.98**	**53**	P	**Pn**	**07 29 38.5**	**+1.7**
ANTM	**Antisana-La Mi**	**2.99**	**61**	⇑P	**Pn**	**07 29 39.6**	**+2.6**
PAC1	**Pacto, Paraso**	**3.03**	**43**	P	**Pn**	**07 29 36.6**	**-0.6**
PAC1	**Pacto, Paraso**	**3.03**	**43**	P	**Pn**	**07 29 37.4**	**+0.2**
PAC1	**Pacto, Paraso**	**3.03**	**43**	P	**Pn**	**07 29 36.6**	**-0.6**
ANTS	**Antisana-Sarah**	**3.05**	**61**	⇑P	**Pn**	**07 29 40.5**	**+2.6**
PULU	**Pululahua**	**3.07**	**50**	⇑P	**Pn**	**07 29 39.1**	**+1.1**
ANTI	**Antisana**	**3.08**	**61**	⇑P	**Pn**	**07 29 40.9**	**+2.5**
AMA1	**Acelerografo,**	**3.10**	**21**	P	**Pn**	**07 29 42.3**	**+4.2**
AV11	**Acelerografo,**	**3.11**	**53**	P	**Pn**	**07 29 41.8**	**+3.4**
ATEN	**Tena**	**3.18**	**72**	P	**Pn**	**07 29 42.2**	**+2.9**
ARDO	**Archidona, Ten**	**3.20**	**72**	⇑P	**Pn**	**07 29 42.0**	**+2.5**
OTAV	**Otavalo**	**3.25**	**48**	Pn	**Pn**	**07 29 40.5**	**0.0**
OTAV	**Otavalo**	**3.25**	**48**	P	**Pn**	**07 29 42.4**	**+1.8**
OTAV	**Otavalo**	**3.25**	**48**	P	**Pn**	**07 29 40.5**	**0.0**
OTAV	**Otavalo**	**3.25**	**48**	P	**Pn**	**07 29 41.4**	**+0.9**
OTAV	**Otavalo**	**3.25**	**48**	*eP*	**Pn**	**07 29 38.7**	**-1.8**
OTAV	**Otavalo**	**3.25**	**48**	P	**Pn**	**07 29 42.4**	**+1.8**
CUSE	**Cuicocha Este**	**3.33**	**47**	P	**Pn**	**07 29 44.3**	**+2.6**
CUSE	**Cuicocha Este**	**3.33**	**47**	P	**Pn**	**07 29 43.9**	**+2.2**
CUSE	**Cuicocha Este**	**3.33**	**47**	P	**Pn**	**07 29 44.3**	**+2.6**
CUSW	**Cuicocha Oeste**	**3.36**	**48**	P	Pn	07 29 46.3	+4.3
CUIC	**Cuicocha-Domo**	**3.36**	**48**	⇑P	**Pn**	**07 29 44.9**	**+2.8**
AOTA	**Otavalo**	**3.40**	**50**	P	**Pb**	**07 29 47.4**	**-3.3**
COTA	**Cotacachi**	**3.40**	**48**	P	**Pn**	**07 29 45.4**	**+2.7**
IMBA	**Imbabura, San**	**3.46**	**50**	P	Pn	07 29 48.0	+4.5
ANGU	**Angureal**	**3.48**	**55**	P	**Pn**	**07 29 46.8**	**+2.8**
AAT1	**Ecuador-Atunta**	**3.49**	**49**	P	Pn	07 29 47.9	+4.2
CAYA	**Caambe**	**3.50**	**55**	⇑P	**Pn**	**07 29 47.0**	**+2.8**
URCU	**Urcuqui**	**3.53**	**47**	P	**Pb**	**07 29 49.2**	**-3.8**
AIB2	**Ibarra (Univer**	**3.58**	**50**	P	Pn	07 29 49.2	+4.3
YAHU	**Yahuarcocha**	**3.62**	**50**	⇑P	**Pn**	**07 29 48.5**	**+2.8**
ALIT	**Ecuador-Imbabu**	**3.71**	**42**	P	**Pn**	**07 29 48.9**	**+2.3**
LITE1	**Lita**	**3.71**	**42**	P	**Pn**	**07 29 47.9**	**+1.3**
REVS	**Reventador Sur**	**3.72**	**60**	P	**Pn**	**07 29 49.7**	**+2.8**
REVN	**San Rafael**	**3.73**	**60**	P	Pn	07 29 51.0	+4.0
SNLR	**San Lorenzo-Es**	**3.81**	**32**	P	**Pn**	**07 29 51.1**	**+3.2**
LNGL	**El Angel-Carch**	**3.92**	**47**	P	**Pn**	**07 29 53.1**	**+3.3**
CHMA	**Chilma**	**3.96**	**45**	P	**Pn**	**07 29 52.5**	**+2.3**
CHL1	**Volc¡n Chiles**	**4.00**	**47**	P	**Pn**	**07 29 54.6**	**+3.7**
ECEN	**Cerro Negro**	**4.00**	**46**	P	**Pn**	**07 29 54.4**	**+3.5**
CHL2	**Volc¡n Chiles**	**4.02**	**47**	P	**Pn**	**07 29 54.4**	**+3.2**
TULM	**Tulcn-Chalpat**	**4.06**	**49**	P	**Pn**	**07 29 54.2**	**+2.5**
TULM	**Tulcn-Chalpat**	**4.06**	**49**	P	Pn	07 29 55.8	+4.0
TULM	**Tulcn-Chalpat**	**4.06**	**49**	P	**Pn**	**07 29 54.2**	**+2.5**
CASC	**Dorado de Casc**	**4.09**	**59**	P	**Pn**	**07 29 55.6**	**+3.8**
BONI	**La Bonita**	**4.10**	**54**	P	**Pn**	**07 29 55.7**	**+3.6**
BONI	**La Bonita**	**4.10**	**54**	P	Pn	07 29 57.1	+5.0
BONI	**La Bonita**	**4.10**	**54**	P	**Pn**	**07 29 55.7**	**+3.6**
CMBC	**Cumbal**	**4.18**	**46**	P	Pn	07 29 58.3	+4.9
CMBC	**Cumbal**	**4.18**	**46**	P	Pn	07 29 58.3	+4.9
ATLC	**Ecuador-Tulcan**	**4.20**	**48**	P	Pn	07 29 58.0	+4.5
GCUF	**Volcan Galeras**	**4.73**	**48**	P	Pn	07 30 04.9	+4.0
GCUF	**Volcan Galeras**	**4.73**	**48**	P	Pn	07 30 04.9	+4.0
CRUC	**La Cruz**	**5.25**	**48**	P	**Pn**	**07 30 11.5**	**+3.5**
CRUC	**La Cruz**	**5.25**	**48**	P	**Pn**	**07 30 11.5**	**+3.5**
BBAC	**Balboa, Cauca**	**5.36**	**42**	P	**Pn**	**07 30 11.1**	**+1.7**
GR1C	**Gorgona, Isla**	**5.62**	**28**	P	**Pn**	**07 30 14.8**	**+2.0**
774nm,0.7s
GR1C Gorgona, Isla 5.62 28 P Pn 07 30 14.8 +2.0
774nm,0.7s
ATAH Atahualpa 5.68 155 Pn **Pn 07 30 16.5 +2.6**
80nm,0.3s,baz=358,slow=5.0,SNR=24
ATAH Sn **Sn 07 31 21.1 +2.6**
60nm,0.3s,baz=345,slow=18,SNR=5.4
ATAH Lg Lg 07 31 45.2
82nm,0.3s,baz=336,slow=20,SNR=4.3
POPC Popayan, Colom 6.12 43 P Pn 07 30 19.3 -0.6
9µm630nm,0.9s
POPC Popayan, Colom 6.12 43 P Pn 07 30 19.3 -0.6
9µm630nm,0.9s
FLOC Florencia 6.28 56 P Pn 07 30 24.0 +2.1
12µm1µm,1.1s
FLOC Florencia 6.28 56 P Pn 07 30 25.3 +3.4
FLOC Florencia 6.28 56 P Pn 07 30 24.0 +2.1
12µm1µm,1.1s
PTLC Puerto Leguiza 6.41 71 P Pn 07 30 24.6 +0.9
18µm1µm,1.1s
PTLC Puerto Leguiza 6.41 71 P Pn 07 30 24.6 +0.9
18µm1µm,1.1s
GARC Garzon, Huila 6.76 52 P Pn 07 30 30.0 +1.3
21µm2µm,0.9s
GARC Garzon, Huila 6.76 52 P Pn 07 30 30.0 +1.3
21µm2µm,0.9s
MALC Bahia Malaga 6.91 31 P Pn 07 30 33.2 +2.8
MALC Bahia Malaga 6.91 31 P Pn 07 30 33.2 +2.8
BETC Betania 7.11 49 P Pn 07 30 34.9 +1.6
BETC Betania 7.11 49 P Pn 07 30 34.9 +1.6
YOTC Yotoco, Valle 7.43 37 P Pn 07 30 31.3 -6.5
4µm306nm,1.2s
YOTC Yotoco, Valle 7.43 37 P Pn 07 30 31.3 -6.5
4µm306nm,1.2s
ORTC Ortega, Tolima 8.09 44 P Pn 07 30 47.6 +0.8
635nm,0.9s
ORTC Ortega, Tolima 8.09 44 P Pn 07 30 47.6 +0.8
635nm,0.9s
MACC Macarena, Meta 8.11 60 P Pn 07 30 49.5 +2.6
9µm1µm,0.8s
MACC Macarena, Meta 8.11 60 P Pn 07 30 49.5 +2.6
9µm1µm,0.8s
PRAC Prado 8.21 47 P Pn 07 30 49.5 +1.1
295nm,0.6s
PRAC Prado 8.21 47 P Pn 07 30 49.5 +1.1
295nm,0.6s
URMC La Uribe, Meta 8.29 51 P Pn 07 30 51.9 +2.4
10µm876nm,0.9s
URMC La Uribe, Meta 8.29 51 P Pn 07 30 51.9 +2.4
10µm876nm,0.9s
GUY2C Guyana, Caldas 9.01 37 P Pn 07 31 03.3 +3.6
5µm219nm,0.8s
GUY2C Guyana, Caldas 9.01 37 P Pn 07 31 03.3 +3.6
5µm219nm,0.8s
CBOC Ciudad Bolivar 9.16 32 P Pn 07 31 05.6 +4.1
438nm,1.0s
CBOC Ciudad Bolivar 9.16 32 P Pn 07 31 05.6 +4.1
438nm,1.0s
CACAO El Cacao, Vera 9.26 360 P Pn 07 31 06.3 +3.6
1.0nm,0.9s
CACAO El Cacao, Vera 9.26 360 P Pn 07 31 06.3 +3.6
1.0nm,0.9s
VILC Villavicencio, 9.36 50 P Pn 07 31 08.7 +4.4
7µm594nm,0.5s
VILC Villavicencio, 9.36 50 P Pn 07 31 08.7 +4.4
7µm594nm,0.5s
GUVC San Jose del G 9.36 61 P Pn 07 31 05.4 +1.2
GUVC San Jose del G 9.36 61 P Pn 07 31 05.4 +1.2
ROSC El Rosal 9.40 44 Pn **Pn 07 31 04.4 -0.6**
ROSC El Rosal 9.40 44 Pn **Pn 07 31 03.1 -1.9**
37nm,0.7s,baz=196,slow=7.4,SNR=12
ROSC Sn **Sn 07 32 51.4 +1.3**
baz=246,slow=18
ROSC Lg Lg 07 33 33.6
1.5nm,0.3s,baz=198,slow=19,SNR=3.7
ROSC El Rosal 9.40 44 P Pn 07 31 06.7 +1.7
331nm,1.3s
ROSC El Rosal 9.40 44 P Pn 07 31 06.7 +1.7
331nm,1.3s
PAYG Puerto Ayora 9.52 278 Pn **Pn 07 31 07.7 +1.3**
NORC Norcasia 9.58 39 P Pn 07 31 06.9 -0.2
142nm,0.9s
NORC Norcasia 9.58 39 P Pn 07 31 06.9 -0.2
142nm,0.9s
CHIC Chingaza 9.67 47 P Pn 07 31 10.8 +2.0
7µm348nm,1.3s
CHIC Chingaza 9.67 47 P Pn 07 31 10.8 +2.0
7µm348nm,1.3s
GMAL Guarumal, Vera 9.68 358 P Pn 07 31 12.9 +4.4
12µm42nm,0.9s
GMAL Guarumal, Vera 9.68 358 *eP* **Pn 07 31 10.8 +2.3**
GMAL Guarumal, Vera 9.68 358 P Pn 07 31 12.9 +4.4
12µm42nm,0.9s
HELC Santa Helena 9.69 33 P Pn 07 31 12.0 +3.0
112nm,1.4s
HELC Santa Helena 9.69 33 P Pn 07 31 12.0 +3.0
112nm,1.4s
AZU Azuero 9.72 3 P Pn 07 31 12.5 +3.5
233nm,1.1s
AZU Azuero 9.72 3 *eP* **Pn 07 31 11.9 +2.9**
AZU Azuero 9.72 3 P Pn 07 31 12.5 +3.5
233nm,1.1s
CZSB Cruzeiro do Su 9.92 125 Pn **Pn 07 31 11.2 -0.7**
CZSB Cruzeiro do Su 9.92 125 P Pn 07 31 12.3 +0.4
15µm1µm,0.7s
CZSB Cruzeiro do Su 9.92 125 *eP* **Pn 07 31 10.0 -1.9**
CZSB *e*S **Sn 07 32 59.0 -3.5**
CZSB Cruzeiro do Su 9.92 125 P Pn 07 31 12.3 +0.4
15µm1µm,0.7s
DBBC Dabeiba 10.06 27 P Pn 07 31 18.1 +4.3
168nm,1.2s
DBBC Dabeiba 10.06 27 P Pn 07 31 18.1 +4.3
168nm,1.2s
VCH1 Volcn Chico 10.31 276 P Pn 07 31 19.2 +1.8
PTGC Puerto Gaitan, 10.65 55 P Pn 07 31 23.8 +2.0
7µm417nm,1.0s
PTGC Puerto Gaitan, 10.65 55 P Pn 07 31 23.8 +2.0
7µm417nm,1.0s
APAC Apartado, Choc 10.69 23 P Pn 07 31 33.2 +11
APAC Apartado, Choc 10.69 23 P Pn 07 31 33.2 +11
NNA Nana 10.71 158 Pn **Pn 07 31 23.1 +0.4**
43nm,0.3s,baz=334,slow=13,SNR=26
NNA Sn **Sn 07 33 16.3 -5.5**
22nm,0.3s,baz=302,slow=19,SNR=7.2
NNA Lg Lg 07 34 02.8
1.8nm,0.3s,baz=0.0,slow=9.1,SNR=5.1
NNA LR LR 07 35 28.8
comp=Z,7µm,18.3s,baz=330,slow=37
153nm,0.4s
NNA Nana 10.71 158 P Pn 07 31 23.2 +0.5
331nm,0.6s
NNA Nana 10.71 158 P Pn 07 31 23.2 +0.5
331nm,0.6s
NELY Ciudad Neily 10.76 349 *eP* **Pn 07 31 25.2 +2.0**
BRU2 Volcan 10.85 350 Pn **Pn 07 31 26.0 +1.2**
ZANG Zanguenga, Cho 10.90 5 *eP* **Pn 07 31 28.1 +2.8**
RUSC La Rusia 11.01 45 Pn **Pn 07 31 23.8 -3.4**
ALCO Alturas Coton, 11.03 350 *eP* **Pn 07 31 31.1 +3.9**
BCIP Isla Barro Col 11.11 5 Pn 07 31 27.7 -0.4
BCIP Isla Barro Col 11.11 5 P Pn 07 31 32.9 +4.8
154nm,1.1s
BCIP Isla Barro Col 11.11 5 P Pn 07 31 27.7 -0.4
BCIP Isla Barro Col 11.11 5 P Pn 07 31 32.9 +4.8
154nm,1.1s
TBTG Tabatinga, AM 11.14 102

PB12 IAmb IAmb 07 33 25.8
comp=Z,80nm,0.9s
PCRV Puerto La Cruz 20.15 53 P P 07 33 22.8 -0.5
comp=Z,25nm,0.5s,baz=234,slow=12,SNR=15
PCRV S **S 07 37 04.1 -4.4**
comp=Z,3.6nm,0.5s,baz=221,slow=20,SNR=1.0
PCRV Lg Lg 07 39 20.2
comp=Z,0.1nm,0.3s,baz=284,slow=19,SNR=0.8
PCRV LR LR 07 41 45.2
comp=Z,11µm,21.4s,slow=39
comp=Z,25nm,0.5s
MACA Manacapuru-AM 20.18 94 P P 07 33 22.2 -1.4
MACA Manacapuru-AM 20.18 94 *eP* **P 07 33 22.7 -0.8**
MTDJ Mount Denham 20.34 9 P 07 33 25.6 +0.3
MTDJ IAmb IAmb 07 33 38.6
comp=Z,111nm,1.1s
PETF Flores 20.77 335 P **P 07 33 30.3 +0.4**
PETF IAmb IAmb 07 33 42.6
comp=Z,98nm,1.3s
BOAV Boa Vista 20.78 78 P **P 07 33 29.0 -1.1**
BOAV IAmb IAmb 07 33 34.4
comp=Z,82nm,0.8s
BOAV Boa Vista 20.78 78 *eP* **P 07 33 29.1 -1.0**
PB11 IPOC Station P 20.79 149 P **P 07 33 30.5 +0.2**
TA02 Huaiquique 20.98 151 P **P 07 33 32.6 +0.4**
HMBC Humberstone 21.11 150 P **P 07 33 32.9 -0.8**
HMBC IAmb IAmb 07 33 52.2
comp=Z,107nm,0.9s
TA01 Diego Aracena 21.21 151 IAmb IAmb 07 33 46.3
comp=Z,124nm,1.1s
PB08 IPOC Station P 21.37 148 IAmb IAmb 07 33 48.1
comp=Z,146nm,1.1s
PAPH Port-au-Prince 22.04 22 P **P 07 33 41.9 -1.6**
CHIV Chivirico 22.24 11 IAmb IAmb 07 33 50.0
comp=Z,146nm,1.5s
GTBY Guantanamo Bay 22.48 14 P **P 07 33 48.9 +0.6**
VILB Vilhena 23.17 119 P **P 07 33 54.8 -0.8**
VILB Vilhena 23.17 119 *eP* **P 07 33 55.5 -0.1**
PB05 IPOC Station P 23.19 154 IAmb IAmb 07 34 11.7
comp=Z,134nm,1.3s
TEIG Tepich 23.23 342 P **P 07 33 54.6 -1.5**
TEIG IAmb IAmb 07 34 07.8
comp=Z,97nm,1.1s
DR12 Loma Pena Alta 23.51 28 P **P 07 33 58.5 -0.4**
SIV San Ignacio 23.95 127 P **P 07 34 02.0 -1.1**
comp=Z,44nm,1.1s,baz=303,slow=9.9,SNR=10
SIV LR LR 07 44 46.4
comp=Z,12µm,18.2s,baz=341,slow=40
comp=Z,44nm,1.1s
CRPR Cabo Rojo, PR 24.03 34 IAmb IAmb 07 34 10.9
comp=Z,66nm,0.9s
OBIP Obispado Ponce 24.34 35 P **P 07 34 05.4 -1.2**
CELP Cerrillos 24.38 35 P **P 07 34 06.3 -0.7**
CELP IAmb IAmb 07 34 09.0
comp=Z,66nm,0.8s
IGPR InterUniversit 24.56 36 IAmb IAmb 07 34 11.6
comp=Z,73nm,0.8s
SJG San Juan 24.65 35 P **P 07 34 09.1 -0.4**
SJG San Juan 24.65 35 LR LR 07 45 46.6
comp=Z,4µm,19.0s,baz=220,slow=42
SJG San Juan 24.65 35 P **P 07 34 09.1 -0.4**
SJG pmax pmax
comp=Z,129nm,0.9s
GCPR Guaynabo City 24.85 35 IAmb IAmb 07 34 12.5
comp=Z,85nm,0.9s
ITTB Itaituba 25.18 96 *eP* **P 07 34 13.9 -0.5**
PTLB Pontes e Lacer 25.25 123 P **P 07 34 14.7 -0.3**
PTLB IAmb IAmb 07 34 25.9
comp=Z,66nm,1.0s
PTLB Pontes e Lacer 25.25 123 *eP* **P 07 34 15.1 +0.2**
GO02 Mina Guanaco 25.48 156 P **P 07 34 18.4 +1.0**
FDF Fort de France 25.61 49 P **P 07 34 16.8 -1.5**
FDF Fort de France 25.61 49 P **P 07 34 16.8 -1.5**
FDF pmax pmax
comp=Z,150nm,1.0s
PDRB Porto dos Gac 25.77 113 *eP* **P 07 34 20.3 +0.6**
NPGB Novo Progresso 25.90 102 *eP* **P 07 34 20.5 -0.4**
TLIG Tlapa 26.11 319 P **P 07 34 24.1 +1.2**
CLDB Colider 26.39 111 *eP* **P 07 34 24.7 -0.7**
SMRT St. Maarten 26.50 41 P **P 07 34 24.3 -2.0**
SMRT IAmb IAmb 07 34 25.6
comp=Z,72nm,0.8s
MAL2 Monte Alegre, 26.65 91 P **P 07 34 27.1 -0.7**
AC02 Maricunga 27.16 157 IAmb IAmb 07 34 47.2
comp=Z,78nm,1.3s
SALV Santo Antonio 28.39 121 *eP* **P 07 34 45.6 +2.4**
MDP Montagnes des 29.04 76 LR LR 07 46 48.5
comp=Z,21µm,18.8s,baz=270,slow=37
BDQN Bodoquena, MS 29.84 130 *eP* **P 07 34 55.5 -0.6**
MURT Porto Murtinho 29.91 133 *eP* **P 07 34 56.3 -0.3**
DWPF Disney Wildern 29.92 359 P **P 07 34 56.6 0.0**
DWPF IAmb IAmb 07 35 06.9
comp=Z,50nm,0.8s
CO03 El Pedregal 30.28 162 IAmb IAmb 07 35 16.0
comp=Z,28nm,0.9s
AQDB Aquidauana 30.67 129 P **P 07 35 02.8 -0.7**
AQDB Aquidauana 30.67 129 *eP* **P 07 35 03.3 -0.1**
SNDB Serra Nova Dou 30.93 110 *eP* **P 07 35 05.3 -0.5**
656A Willston 31.21 357 P **P 07 35 07.8 -0.2**
656A IAmb IAmb 07 35 09.2
comp=Z,64nm,1.2s
PRPB Parauapebas 31.23 99 *eP* **P 07 35 07.5 -0.9**
H03N2 Juan Fernandez 31.36 177 T T 08 09 47.7
baz=354,slow=74,SNR=1.7
H03N1 Juan Fernandez 31.36 177 T T 08 09 51.2
baz=354
H03N3 Juan Fernandez 31.37 177 T T 08 09 47.5
baz=354,slow=74,SNR=2.8
ARAG Araguaiana, MT 31.70 117 *eP* **P 07 35 12.1 -0.5**
CFA Coronel Fontan 31.79 159 P **P 07 35 12.9 -0.3**
comp=Z,1.8nm,0.7s,baz=338,slow=10,SNR=5.1
CFA S **S 07 40 19.4 -2.5**
comp=Z,0.7nm,0.8s,baz=359,slow=16,SNR=1.3
CFA LR LR 07 46 22.6
comp=Z,2µm,21.0s,baz=8.5,slow=33
comp=Z,1.8nm,0.7s
C2SB Chapadao do Su 32.12 123 *eP* **P 07 35 15.9 -0.3**
RPRD Ribas do Rio P 32.26 127 *eP* **P 07 35 17.5 +0.1**
AMBA Amambai (Brazi 32.61 132 *eP* **P 07 35 20.1 -0.3**
TMAB Tom-Au,PA,Br 32.73 91 *eP* **P 07 35 21.7 +0.1**
SJPY San Joaquin 33.07 136 *eP* **P 07 35 24.7 +0.2**
CPUP Villa Florida 33.12 139 P **P 07 35 26.1 +1.2**
comp=Z,2.0nm,0.8s,baz=288,slow=9.6,SNR=3.0
CPUP LR LR 07 51 51.9
comp=Z,7µm,18.6s,baz=338,slow=42
comp=Z,2.0nm,0.8s
CPUP Villa Florida 33.12 139 *eP* **P 07 35 24.8 -0.1**
TIGA Tifton 33.33 356 IAmb IAmb 07 35 27.9
comp=Z,30nm,0.7s
BRAL Brewton 33.48 350 P **P 07 35 27.6 -0.4**
352A Blakely 33.49 354 IAmb IAmb 07 35 31.9
comp=Z,43nm,1.3s
BO01 Tunca 33.52 165 P **P 07 35 28.8 +0.6**
BO02 Sierra Bellavi 33.97 165 P **P 07 35 35.1 +2.7**
BO02 IAmb IAmb 07 35 46.4
comp=Z,44nm,1.2s
346A Big Creek Wild 34.17 347 IAmb IAmb 07 35 43.7
comp=Z,39nm,1.0s
154A Montrose 34.47 357 P **P 07 35 36.2 -0.3**
152A Waverly Hall 34.65 354 IAmb IAmb 07 35 39.2
comp=Z,38nm,0.8s
ML02 Panimavida 34.74 166 IAmb IAmb 07 35 53.2
comp=Z,43nm,0.9s
HKT Hockley 34.82 337 P **P 07 35 40.5 +0.9**
HKT Hockley 34.82 337 ⇑ *iP* **P 07 35 40.3 +0.8**
BDFB Brasilia 35.09 115 P **P 07 35 41.9 -0.4**
BDFB IAmb IAmb 07 35 42.4
comp=Z,30nm,1.2s
BDFB Brasilia 35.09 115 P **P 07 35 41.7 -0.6**
comp=Z,9.7nm,0.8s,baz=288,slow=8.7,SNR=11
BDFB LR LR 07 51 44.5
comp=Z,11µm,18.6s,baz=329,slow=39
comp=Z,9.7nm,0.8s
GOGA Godfrey 35.28 356 IAmb IAmb 07 35 44.5
comp=Z,28nm,0.8s
LRAL Lakeview Retre 35.30 351 IAmb IAmb 07 35 44.6
comp=Z,49nm,1.2s
Z47A Carrollton 35.64 350 IAmb IAmb 07 35 55.8
comp=Z,40nm,0.9s
Y58A Scranton 35.70 2 IAmb IAmb 07 35 47.7
comp=Z,53nm,1.1s
IPMB Ipameri, GO 35.76 119 *eP* **P 07 35 47.3 -0.6**
Y52A Lilburn 35.77 355 IAmb IAmb 07 35 48.2
comp=Z,23nm,1.1s
Y57A Sumter 35.80 1 IAmb IAmb 07 35 48.5
comp=Z,44nm,1.0s

LDASE Londrina, Braz 35.82 129 *eP* **P 07 35 48.1 -0.2**
PTGB Pitanga 35.82 132 *eP* **P 07 35 48.9 +0.5**
HNDO Hondo 35.95 332 P **P 07 35 49.6 +0.2**
HNDO IAmb IAmb 07 35 54.1
comp=Z,27nm,0.9s
HODGE Hodges 36.04 358 IAmb IAmb 07 35 51.0
comp=Z,27nm,0.9s
JSC Jenkinsville 36.06 359 IAmb IAmb 07 36 03.0
comp=Z,35nm,1.1s
435B Jarrell 36.27 335 IAmb IAmb 07 36 03.5
comp=Z,78nm,1.5s
PSAL Palomas, Salto 36.35 145 *eP* **P 07 35 53.5 +0.8**
DRIO Del Rio 36.51 330 IAmb IAmb 07 35 56.9
comp=Z,42nm,1.0s
X51A Calhoun 36.54 354 IAmb IAmb 07 35 54.8
comp=Z,28nm,1.1s
FPAL Fort Paine 36.59 353 P **P 07 35 53.9 -0.9**
FPAL IAmb IAmb 07 35 55.5
comp=Z,21nm,0.8s
PAULI Pauline 36.61 359 IAmb IAmb 07 35 56.0
comp=Z,20nm,0.8s
Z41A Richland Creek 36.81 343 IAmb IAmb 07 36 07.1
comp=Z,88nm,1.4s
BG3 Lake Jocassee 36.82 357 IAmb IAmb 07 35 58.0
comp=Z,33nm,0.8s
KMSC Kings Mountain 36.92 359 IAmb IAmb 07 35 58.6
comp=Z,31nm,0.7s
W57A Gilead 36.94 1 IAmb IAmb 07 35 58.4
comp=Z,25nm,0.8s
W52A Murphy 36.98 356 IAmb IAmb 07 35 58.8
comp=Z,38nm,1.2s
JCT Junction City 36.99 332 P **P 07 35 59.0 +0.7**
JCT IAmb IAmb 07 36 10.4
comp=Z,54nm,0.9s
JCT Junction City 36.99 332 P **P 07 35 59.0 +0.7**
JCT pmax pmax
comp=Z,54nm,1.0s
FRTB Fartura 37.01 128 *eP* **P 07 35 56.5 -2.0**
SDBA SAO DESIDERIO 37.08 108 *eP* **P 07 35 58.3 -1.0**
W50A Signal Mountai 37.22 354 IAmb IAmb 07 36 00.4
comp=Z,32nm,1.1s
ITAB Concordia 37.25 135 P **P 07 35 59.7 -0.8**
ITAB Concordia 37.25 135 *eP* **P 07 35 59.5 -1.0**
WHTX Lake Whitney, 37.27 336 P **P 07 36 01.3 +0.7**
PLAL Pickwick Lake 37.38 350 IAmb IAmb 07 36 10.1
comp=Z,47nm,1.4s
CPCT Cooper Cave 37.39 355 IAmb IAmb 07 36 02.6
comp=Z,38nm,0.9s
V53A Saluda 37.49 357 P **P 07 36 01.8 -0.6**
Z38A Mt. Pleasant 37.50 340 IAmb IAmb 07 36 04.9
comp=Z,59nm,0.9s
PMNB Patos De Minas 37.52 118 *eP* **P 07 36 02.1 -0.9**
TKL Tuckaleechee C 37.53 356 P **P 07 36 01.8 -1.0**
TKL IAmb IAmb 07 36 04.3
comp=Z,41nm,1.2s
TKL Tuckaleechee C 37.53 356 P **P 07 36 01.8 -1.0**
TKL pmax pmax
comp=Z,41nm,1.3s
FW13 Cleburne 37.58 337 P **P 07 36 03.8 +0.6**
FW13 IAmb IAmb 07 36 05.5
comp=Z,41nm,0.8s
V58A Windy Hill, Pi 37.61 2 IAmb IAmb 07 36 03.6
comp=Z,34nm,1.0s
TBOT Tacuaremb 37.75 144 *eP* **P 07 36 03.5 -1.1**
V48A Smith Brothers 37.93 352 IAmb IAmb 07 36 15.7
comp=Z,32nm,1.0s
OZNA Ozona 37.99 331 IAmb IAmb 07 36 21.1
comp=Z,27nm,1.0s
FW07 Weatherford 38.03 337 IAmb IAmb 07 36 17.4
comp=Z,55nm,0.9s
TXAR Lajitas Array 38.03 327 P **P 07 36 07.3 +0.2**
comp=Z,1.7nm,0.5s,baz=142,slow=6.7,SNR=10.0
TXAR PcP **PcP 07 38 22.8 +0.4**
comp=Z,3.4nm,0.8s,baz=147,slow=2.9,SNR=5.2
TXAR LR LR 07 49 48.3
comp=Z,1µm,20.7s,baz=98,slow=33
comp=Z,1.7nm,0.5s
SLBS Sierra La Lagu 38.10 314 P **P 07 36 07.8 0.0**
SLBS IAmb IAmb 07 36 21.5
comp=Z,29nm,0.9s
UALR University of 38.11 345 P **P 07 36 07.8 +0.2**
UALR IAmb IAmb 07 36 09.2
comp=Z,37nm,1.1s
U56A King 38.13 1 IAmb IAmb 07 36 08.6
comp=Z,37nm,1.0s
FW06 Azle 38.18 337 IAmb IAmb 07 36 10.9
comp=Z,64nm,1.0s
JANB Januaria 38.31 112 *eP* **P 07 36 08.7 -1.0**
CPSB Cacapava Do Su 38.40 140 *eP* **P 07 36 09.5 -0.6**
TZTN Tazewell 38.40 356 IAmb IAmb 07 36 10.8
comp=Z,30nm,0.8s
HBAR Harrisburg 38.44 347 IAmb IAmb 07 36 18.2
comp=Z,78nm,1.2s
WVT Waverly 38.46 351 P **P 07 36 09.0 -1.5**
WVT Waverly 38.46 351 P **P 07 36 09.0 -1.5**
WVT pmax pmax
comp=Z,12nm,0.7s
WHAR Wooly Hollow 38.59 345 IAmb IAmb 07 36 20.3
comp=Z,30nm,0.8s
LPIG La Paz 38.62 314 LR LR 07 47 50.0
comp=Z,2µm,21.0s,baz=102,slow=30
ABTX Abilene, Hawle 38.73 334 IAmb IAmb 07 36 16.0
comp=Z,36nm,0.9s
T57A Hurt 38.80 2 IAmb IAmb 07 36 13.7
comp=Z,42nm,1.0s
SGCY Sterling City 38.81 332 IAmb IAmb 07 36 25.1
comp=Z,58nm,0.9s
ALPN Alpine 38.83 328 P **P 07 36 14.8 +0.9**
ALPN IAmb IAmb 07 36 25.2
comp=Z,83nm,1.4s
LR05 Currie 38.92 169 P **P 07 36 14.6 +0.3**
LR05 IAmb IAmb 07 36 26.4
comp=Z,38nm,1.1s
VAO Valinhos 38.94 125 IAmb IAmb 07 36 22.4
comp=Z,59nm,1.2s
VAO Valinhos 38.94 125 *eP* **P 07 36 13.6 -1.3**
T50A Nancy 38.97 355 P **P 07 36 14.7 -0.2**
BLA Blacksburg 38.99 1 P **P 07 36 14.7 -0.3**
BLA Blacksburg 38.99 1 P **P 07 36 14.7 -0.3**
BLA pmax pmax
comp=Z,29nm,0.9s
LCAR Lake Charles 39.05 347 P **P 07 36 15.1 -0.4**
PVMO Portageville 39.07 349 P **P 07 36 15.5 -0.2**
FCAR Ozark Folk Cen 39.11 345 IAmb IAmb 07 36 24.5
comp=Z,46nm,0.9s
MNHN Monahans 39.14 330 IAmb IAmb 07 36 28.3
comp=Z,39nm,0.8s
PLTB Pedras Altas 39.21 142 P **P 07 36 16.3 -0.7**
PLTB Pedras Altas 39.21 142 *eP* **P 07 36 16.5 -0.5**
WTFS Witchita Falls 39.23 337 IAmb IAmb 07 36 19.6
comp=Z,75nm,1.0s
PET01 Itanhaem-SP 39.30 127 *eP* **P 07 36 17.5 -0.3**
CNLB Canela 39.41 137 *eP* **P 07 36 19.9 +1.2**
S51A Beattyville 39.49 357 IAmb IAmb 07 36 19.7
comp=Z,28nm,0.8s
SN05 Snyder 5 39.50 333 IAmb IAmb 07 36 30.5
comp=Z,102nm,1.3s
LL04 Puerto Octay 39.50 170 IAmb IAmb 07 36 28.4
comp=Z,61nm,1.3s
APMT Aspermont 39.54 334 IAmb IAmb 07 36 30.2
comp=Z,38nm,0.8s
MAJ01 Sao Joao Batis 39.60 133 *eP* **P 07 36 19.9 -0.3**
ODSA Odessa 39.66 331 P **P 07 36 21.3 +0.5**
ODSA IAmb IAmb 07 36 32.1
comp=Z,40nm,1.0s
SN07 Snyder 07 39.68 333 IAmb IAmb 07 36 32.4
comp=Z,36nm,1.0s
PLCA Paso Flores 39.69 168 P **P 07 36 21.2 +0.2**
PLCA Paso Flores 39.69 168 P **P 07 36 21.1 +0.2**
comp=Z,6.6nm,0.9s,baz=345,slow=11,SNR=8.2
PLCA PcP **PcP 07 38 27.5 +0.1**
comp=Z,3.7nm,0.8s,baz=337,slow=7.3,SNR=3.0
PLCA S **S 07 42 21.8 -1.1**
comp=Z,0.9nm,1.0s,baz=326,slow=11,SNR=1.5
comp=Z,6.6nm,0.9s
PLCA Paso Flores 39.69 168 P **P 07 36 21.2 +0.2**
PLCA pmax pmax
comp=Z,36nm,1.2s
PLCA Paso Flores 39.69 168 *eP* **P 07 36 21.9 +1.0**
TRQA Tornquist 39.87 157 P **P 07 36 21.9 -0.5**
TRQA IAmb IAmb 07 36 32.3
comp=Z,36nm,1.1s
TRQA Tornquist 39.87 157 P **P 07 36 21.9 -0.5**
TRQA pmax pmax
comp=Z,36nm,1.1s
W35A Tecumseh 39.87 339 IAmb IAmb 07 36 33.4
comp=Z,66nm,1.1s
VHRN Van Horn 39.87 327 IAmb IAmb 07 36 34.6
comp=Z,60nm,1.1s
DIAM Diamantina, MG 39.89 116 *eP* **P 07 36 21.9 -1.1**
CGM3 Cape Girardeau 39.92 349 IAmb IAmb 07 36 22.9
comp=Z,56nm,1.1s
POST Post 39.94 333 IAmb IAmb 07 36 25.7
comp=Z,46nm,0.9s
T42A Van Buren 39.96 347 IAmb IAmb 07 36 31.6
comp=Z,42nm,0.8s
TER01 Tubaro-SC 40.16 134 *eP* **P 07 36 26.2 +1.4**
DKNS Dickens 40.18 334 IAmb IAmb 07 36 36.5
comp=Z,93nm,1.4s
PARB Paraibuna 40.19 125 *eP* **P 07 36 23.6 -1.7**
WMOK Wichita Mounta 40.21 337 IAmb IAmb 07 36 35.9
comp=Z,31nm,0.9s
WMOK Wichita Mounta 40.21 337 P **P 07 36 25.1 -0.1**
S44A Carbondale 40.23 350 IAmb IAmb 07 36 42.9
comp=Z,35nm,1.0s
USIN University of 40.24 352 IAmb IAmb 07 36 33.6
comp=Z,110nm,1.4s
SIUC Southern Illin 40.24 350 IAmb IAmb 07 36 25.4
comp=Z,55nm,1.1s
U38A Gravette 40.24 343 IAmb IAmb 07 36 36.0
comp=Z,89nm,1.4s
WCI Wyandotte Cave 40.32 353 P **P 07 36 24.4 -1.6**
WCI Wyandotte Cave 40.32 353 P **P 07 36 24.4 -1.6**
WCI pmax pmax
comp=Z,31nm,1.1s
DEOK Depew 40.36 340 IAmb IAmb 07 36 35.3
comp=Z,56nm,0.8s
QUOK Quay 40.73 340 IAmb IAmb 07 36 38.6
comp=Z,43nm,0.7s
FVM French Village 40.73 348 IAmb IAmb 07 36 30.2
comp=Z,63nm,1.2s
Q52A Bidwell 40.76 358 IAmb IAmb 07 36 30.2
comp=Z,62nm,1.3s
Q51A Peebles 40.86 357 IAmb IAmb 07 36 30.9
comp=Z,42nm,0.9s
LL01 San Ignacio de 40.93 170 P **P 07 36 31.1 0.0**
CCM Cathedral Cave 40.97 347 P **P 07 36 30.2 -1.3**
CCM IAmb IAmb 07 36 42.6
comp=Z,34nm,1.0s
CCM Cathedral Cave 40.97 347 **P 07 36 30.3 -1.1**
CCM Cathedral Cave 40.97 347 P **P 07 36 30.2 -1.3**
CCM *PP pP 07 36 30.3 -9.5
CCM pmax pmax
comp=Z,34nm,1.0s
OK048 Pawnee Station 41.03 340 IAmb IAmb 07 36 44.4
comp=Z,55nm,1.2s
OLIL Olney 41.05 351 IAmb IAmb 07 36 48.1
comp=Z,53nm,1.0s
OK051 E0350 and S346 41.08 340 IAmb IAmb 07 36 35.8
comp=Z,103nm,1.4s
P53A Whipple 41.26 359 IAmb IAmb 07 36 34.0
comp=Z,36nm,1.1s
NBPB Pedra_Branca-C 41.32 96 *eP* **P 07 36 34.5 -0.2**
SLM Saint Louis 41.33 349 IAmb IAmb 07 36 34.3
comp=Z,46nm,1.1s
MAN01 Angra dos Reis 41.36 123 *eP* **P 07 36 33.2 -1.7**
Q44A Meyer Farm, Va 41.37 350 IAmb IAmb 07 36 50.7
comp=Z,66nm,1.0s
P52A Corning 41.42 358 IAmb IAmb 07 36 35.9
comp=Z,36nm,1.0s
R40A Maddies Statio 41.43 346 IAmb IAmb 07 36 44.0
comp=Z,33nm,1.1s
VAS01 Vassouras-RJ 41.56 122 *eP* **P 07 36 35.0 -1.6**
ELIS Ellis County 41.62 337 IAmb IAmb 07 36 51.4
comp=Z,52nm,0.9s
OK038 West end E0370 41.73 338 IAmb IAmb 07 36 49.3
comp=Z,49nm,0.7s
KAN13 South Haven SW 41.75 340 IAmb IAmb 07 36 49.3
comp=Z,68nm,1.0s
LL02 Futaleuf 41.82 170 P **P 07 36 38.7 +0.3**
LL02 IAmb IAmb 07 36 47.6
comp=Z,38nm,1.1s
OK032 Salt Plains WL 41.82 339 IAmb IAmb 07 36 48.4
comp=Z,54nm,0.9s
KAN14 Manchester OK 41.87 339 IAmb IAmb 07 36 49.4
comp=Z,54nm,0.9s
KAN17 Caldwell West 41.88 340 IAmb IAmb 07 36 48.9
comp=Z,59nm,0.8s
O52A Adamsville 41.90 359 IAmb IAmb 07 36 38.8
comp=Z,40nm,1.0s
KAN09 Caldwell North 41.91 340 IAmb IAmb 07 36 48.1
comp=Z,50nm,0.7s
O54A Avella 41.95 1 IAmb IAmb 07 36 39.9
comp=Z,34nm,1.0s
KAN05 Bluff City Nor 41.98 340 IAmb IAmb 07 36 51.1
comp=Z,61nm,1.0s
KAN01 Argonia South 41.98 340 IAmb IAmb 07 36 49.8
comp=Z,52nm,0.8s
O53A New Philadelph 42.02 360 IAmb IAmb 07 36 40.5
comp=Z,44nm,1.1s
ACSO Alum Creek Sta 42.05 358 IAmb IAmb 07 36 40.4
comp=Z,64nm,1.0s
O48B Farmland 42.21 355 IAmb IAmb 07 36 41.2
comp=Z,31nm,0.9s
SJMB Sao Joao De Ma 42.26 116 *eP* **P 07 36 41.5 -0.7**
DUB01 Friburgo-RJ 42.40 121 *eP* **P 07 36 41.8 -1.7**
SSPA Standing Stone 42.49 3 P **P 07 36 43.1 -0.7**
P40A Paris 42.56 347 P **P 07 36 43.2 -1.2**
LUPA Lehigh Univers 42.66 6 IAmb IAmb 07 36 57.3
comp=Z,30nm,0.9s
N51A Ashland 42.71 358 IAmb IAmb 07 36 45.5
comp=Z,34nm,0.7s
319A Douglas 42.78 323 IAmb IAmb 07 36 58.4
comp=Z,106nm,1.4s
CMC01 Camacan, BA 42.86 111 *eP* **P 07 36 45.8 -1.5**
AY01 Puyuhuapi 42.89 171 P **P 07 36 46.4 -0.5**
CAM01 Campos-RJ 42.91 120 *eP* **P 07 36 46.9 -0.7**
HDIL Hopedale 43.02 351 IAmb IAmb 07 36 47.4
comp=Z,64nm,1.3s
RIB01 Linhares ES 43.16 116 *eP* **P 07 36 48.5 -1.2**
TRNY Table Rock, Ra 43.34 7 IAmb IAmb 07 37 05.8
comp=Z,31nm,1.1s
KSU1 Kansas State U 43.37 342 IAmb IAmb 07 37 00.3
comp=Z,180nm,1.0s
ALLY Alegheny Colle 43.42 1 IAmb IAmb 07 36 56.4
comp=Z,47nm,1.1s
Y22D IRIS PASSCAL I 43.44 328 P **P 07 36 51.4 -0.4**
baz=140
R32A Long Quarter, 43.45 339 IAmb IAmb 07 37 02.3
comp=Z,68nm,1.0s
N41A Harden Midland 43.45 349 IAmb IAmb 07 36 51.1
comp=Z,38nm,1.1s
DUN6 Lazy B Ranch 43.51 325 IAmb IAmb 07 37 04.4
comp=Z,162nm,1.2s
KSPA Keystone Colle 43.57 6 IAmb IAmb 07 36 59.9
comp=Z,31nm,1.0s
ANMO Albuquerque 43.88 329 P **P 07 36 56.3 +1.0**
ANMO IAmb IAmb 07 37 07.7
comp=Z,51nm,0.9s
ANMO Albuquerque 43.88 329 LR LR 07 56 59.1
comp=Z,1µm,18.8s,baz=286,slow=39
ANMO Albuquerque 43.88 329 *ceP* **P 07 36 56.4 +1.0**
ANMO pmax pmax
comp=Z,31nm,0.9s
L56A Greenwood 44.01 4 IAmb IAmb 07 37 08.3
comp=Z,33nm,1.0s
CBKS Cedar Bluff 44.16 339 IAmb IAmb 07 37 07.0
comp=Z,44nm,0.8s
CBKS Cedar Bluff 44.16 339 P **P 07 36 58.5 +1.1**
BINY Binghamton 44.19 5 IAmb IAmb 07 37 09.1
comp=Z,39nm,0.9s
L59A Walton 44.27 6 IAmb IAmb 07 36 59.0
comp=Z,36nm,1.2s
M65A Busby, Falmout 44.31 11 P **P 07 36 57.9 -0.5**
baz=194
TUC Tucson 44.34 323 P **P 07 36 59.4 +0.4**
TUC Tucson 44.34 323 P **P 07 36 59.4 +0.4**
TUC pmax pmax
comp=Z,13nm,1.0s
N35A Tabor 44.72 344 IAmb IAmb 07 37 11.2
comp=Z,65nm,0.9s
L40A Anamosa 44.83 349 IAmb IAmb 07 37 02.8
comp=Z,39nm,0.9s
NBAN Anadia - AL 44.95 102 *eP* **P 07 37 03.0 -1.1**
TRY Troy 44.97 7 IAmb IAmb 07 37 19.9
comp=Z,47nm,1.1s
RCBR Riachuelo 44.99 96 *eP* **P 07 37 03.9 -0.6**
NBCA Caruaru-PE 45.06 100 *eP* **P 07 37 04.5 -0.5**
X18A Snowflake 45.44 326 IAmb IAmb 07 37 20.3
comp=Z,30nm,0.9s
KSCO Kaye Shedlock' 45.44 336 IAmb IAmb 07 37 19.9
comp=Z,72nm,1.2s
PIX Pinacate 45.51 320 IAmb IAmb 07 37 20.3

comp=Z,34nm,1.3s
J59A **Piesco** 45.59 6 IAmb IAmb 07 37 23.8
comp=Z,18nm,0.9s
ACCN **Adirondack Com** 45.61 7 IAmb IAmb 07 37 24.6
comp=Z,49nm,1.3s
J61A **Chester** 45.73 8 IAmb IAmb 07 37 19.0
comp=Z,30nm,1.1s
SFX **San Felipe** 46.08 318 IAmb IAmb 07 37 16.2
comp=Z,34nm,1.0s
X16A **Lo Mia Camp, P** 46.21 324 IAmb IAmb 07 37 26.9
comp=Z,24nm,0.9s
S22A **4UR Ranch, Cre** 46.26 331 IAmb IAmb 07 37 26.0
comp=Z,37nm,1.3s
DELO **Deloro Mine** 46.38 3 IAmb IAmb 07 37 22.2
comp=Z,26nm,1.0s
Q24A **Divide** 46.47 334 IAmb IAmb 07 37 29.0
comp=Z,17nm,1.0s
I40A **Norwalk** 46.49 350 IAmb IAmb 07 37 15.8
comp=Z,33nm,1.0s
113A **Mohawk Valley,** 46.50 321 IAmb IAmb 07 37 27.6
comp=Z,47nm,1.3s
SADO **Sadowa** 46.56 2 IAmb IAmb 07 37 24.1
comp=Z,26nm,1.1s
VT1 **Waterbury** 46.66 8 IAmb IAmb 07 37 33.5
comp=Z,28nm,1.0s
MVCO **Mesa Verde** 46.67 329 IAmb IAmb 07 37 28.1
comp=Z,21nm,0.9s
LONY **Lake Ozonia** 46.72 6 IAmb IAmb 07 37 32.7
comp=Z,31nm,1.3s
I63A **Otisfield** 46.73 10 P **P** **07 37 18.5 +0.9**
I63A IAmb IAmb 07 37 18.9
comp=Z,43nm,1.2s
Y14A **Wickenburg** 46.81 323 IAmb IAmb 07 37 30.2
comp=Z,28nm,1.1s
VTX **Valle De La Tr** 46.93 318 IAmb IAmb 07 37 31.1
comp=Z,43nm,1.3s
WUAZ **Wupatki** 46.96 325 IAmb IAmb 07 37 32.5
comp=Z,70nm,1.1s
WBO **Williamsburg** 47.03 5 IAmb IAmb 07 37 34.3
comp=Z,20nm,1.1s
FRNY **Flat Rock** 47.05 7 IAmb IAmb 07 37 29.7
comp=Z,23nm,1.1s
I37A **Lemond, Waseca** 47.14 348 IAmb IAmb 07 37 20.4
comp=Z,25nm,1.0s
GLA **Glamis** 47.35 320 IAmb IAmb 07 37 35.0
comp=Z,23nm,1.0s
ISCO **Idaho Springs** 47.37 334 IAmb IAmb 07 37 38.7
comp=Z,20nm,1.0s
ISCO **Idaho Springs** 47.37 334 P **P** **07 37 23.3 +0.3**
ESJX **Sierra Juarez** 47.42 318 IAmb IAmb 07 37 34.6
comp=Z,27nm,1.3s
PV15 **Paradox Valley** 47.54 330 IAmb IAmb 07 37 36.6
comp=Z,77nm,1.1s
K30B **Basset** 47.56 341 IAmb IAmb 07 37 34.5
comp=Z,177nm,1.4s
PV13 **Radium Mtn., P** 47.56 330 IAmb IAmb 07 37 36.5
comp=Z,50nm,0.8s
BLYC **Blythe** 47.62 321 IAmb IAmb 07 37 36.6
comp=Z,25nm,1.1s
ECSD **EROS Data Cent** 47.65 345 IAmb IAmb 07 37 25.3
comp=Z,67nm,1.1s
PV07 **Paradox Valley** 47.69 330 IAmb IAmb 07 37 37.6
comp=Z,59nm,1.2s
PV11 **David Mesa, Pa** 47.70 330 IAmb IAmb 07 37 37.4
comp=Z,64nm,1.0s
MNTQ **Montreal, Queb** 47.70 7 IAmb IAmb 07 37 42.1
comp=Z,17nm,0.9s
YUH **Yuha Desert** 47.80 319 P **P** **07 37 27.4 +1.2**
YUH IAmb IAmb 07 37 38.7
comp=Z,33nm,1.4s
PV14 **Lion Creek, Pa** 47.83 330 P **P** **07 37 26.4 -0.2**
PV10 **Paradox Valley** 47.84 330 IAmb IAmb 07 37 37.4
comp=Z,157nm,1.5s
PV23 **Carpenter Ridg** 47.88 330 IAmb IAmb 07 37 38.2
comp=Z,61nm,1.1s
U15A **North Rim** 48.13 326 IAmb IAmb 07 37 41.8
comp=Z,19nm,1.1s
W13A **Hualapai Mount** 48.13 323 IAmb IAmb 07 37 41.5
comp=Z,22nm,1.0s
PKME **Peaks-Kenny Pk** 48.14 11 IAmb IAmb 07 37 29.9
comp=Z,29nm,1.1s
SPMN **Marine on St.** 48.18 349 IAmb IAmb 07 37 28.8
comp=Z,24nm,0.9s
TRQ **Mont Tremblant** 48.31 6 IAmb IAmb 07 37 40.4
comp=Z,16nm,0.9s
PFO **Pinyon Flats O** 48.76 320 P **P** **07 37 35.8 +2.1**
PFO IAmb IAmb 07 37 49.7
comp=Z,40nm,1.4s
PFO **Pinyon Flats O** 48.76 320 LR LR 07 56 37.5
comp=Z,2μm,18.7s,baz=114,slow=34
PFO **Pinyon Flats O** 48.76 320 *d iP* **P** **07 37 35.5 +1.8**
PFO pmax pmax
comp=Z,44nm,1.2s
O20A **White River Ci** 48.83 332 IAmb IAmb 07 37 47.9
comp=Z,34nm,1.1s
KNB **Kanab** 48.85 326 IAmb IAmb 07 37 46.4
comp=Z,44nm,1.2s
PKCU **Pink Cliffs** 48.87 327 IAmb IAmb 07 37 47.4
comp=Z,73nm,1.1s
F64A **Sherman** 48.90 12 P **P** **07 37 33.7 -0.7**
F64A IAmb IAmb 07 37 50.6
comp=Z,29nm,1.0s
LCMT **Little Creek M** 49.08 325 IAmb IAmb 07 37 48.6
comp=Z,35nm,1.4s
V12A **Nelson** 49.14 323 IAmb IAmb 07 37 48.3
comp=Z,15nm,0.9s
SRU **San Rafael Swe** 49.15 329 IAmb IAmb 07 37 48.5
comp=Z,60nm,1.3s
MTPU **Mount Pierson** 49.23 327 IAmb IAmb 07 37 45.0
comp=Z,10nm,1.1s
E38A **The Farm, Brul** 49.29 350 IAmb IAmb 07 37 38.1
comp=Z,25nm,1.3s
Q16A **Castle Valley** 49.34 329 IAmb IAmb 07 37 49.7
comp=Z,28nm,1.0s
P18A **Preston Nutter** 49.40 330 IAmb IAmb 07 37 50.7
comp=Z,40nm,1.3s
F33A **5 Mile Ranch,** 49.53 346 IAmb IAmb 07 37 39.9
comp=Z,40nm,0.8s
MVU **Marysvale** 49.58 328 IAmb IAmb 07 37 52.3
comp=Z,88nm,1.1s
LMN **Caledonia Moun** 49.70 15 IAmb IAmb 07 37 51.9
comp=Z,40nm,1.4s
TCRU **Three Creeks R** 49.79 327 IAmb IAmb 07 37 56.2
comp=Z,25nm,0.9s
RDMU **Red Mountain** 49.80 331 IAmb IAmb 07 37 53.3
comp=Z,41nm,0.9s
SHPR **Sheep Range** 49.85 324 IAmb IAmb 07 37 53.9
comp=Z,14nm,1.2s
D62A **Allapoint, All** 49.94 11 IAmb IAmb 07 37 57.9
comp=Z,31nm,1.0s
GSC **Goldstone, Bar** 50.06 321 IAmb IAmb 07 37 56.1
comp=Z,47nm,1.2s
K22A **Casper** 50.10 335 IAmb IAmb 07 37 54.9
comp=Z,24nm,1.3s
LMQ **La Malbaie** 50.17 9 IAmb IAmb 07 37 55.8
comp=Z,21nm,0.9s
PASC **Pasadena Art C** 50.23 319 P **P** **07 37 45.1 +0.3**
PASC IAmb IAmb 07 37 51.7
comp=Z,26nm,1.3s
BSUT **Blindstream Ca** 50.35 330 IAmb IAmb 07 37 57.4
comp=Z,76nm,1.4s
MPU **Maple Canyon** 50.40 329 IAmb IAmb 07 37 59.4
comp=Z,14nm,1.0s
PSUT **Pine Spring** 50.50 326 IAmb IAmb 07 38 02.6
comp=Z,18nm,0.9s
GWY **Greenwater Val** 50.55 322 IAmb IAmb 07 37 58.0
comp=Z,29nm,1.4s
CCAC **Calif City Air** 50.73 320 IAmb IAmb 07 37 56.0
comp=Z,35nm,0.8s
TPNV **Topopah Spring** 50.79 323 IAmb IAmb 07 38 05.6
comp=Z,17nm,1.1s
TPNV **Topopah Spring** 50.79 323 P **P** **07 37 49.9 +0.7**
WCT **Wildcat Mounta** 50.91 323 IAmb IAmb 07 38 02.7
comp=Z,26nm,1.1s
S11A **Rachel** 50.96 324 IAmb IAmb 07 38 04.2
comp=Z,21nm,0.9s
SPR3 **Spring Creek 3** 51.09 326 IAmb IAmb 07 38 02.9
comp=Z,25nm,1.0s
TCUT **Toone Canyon** 51.11 330 IAmb IAmb 07 38 03.1
comp=Z,104nm,1.3s
DUG **Dugway, Tooele** 51.14 329 IAmb IAmb 07 38 03.4
comp=Z,34nm,1.4s
DUG **Dugway, Tooele** 51.14 329 P **P** **07 37 52.6 +0.9**
ISA **Isabella, Lake** 51.34 320 IAmb IAmb 07 38 10.0
comp=Z,20nm,1.2s
R11B **Troy Canyon, C** 51.35 325 IAmb IAmb 07 38 10.3
comp=Z,12nm,1.0s
E28A **Huff** 51.41 343 IAmb IAmb 07 38 04.6
comp=Z,112nm,1.1s
GRAC **Grapevine Rang** 51.50 322 IAmb IAmb 07 38 05.8
comp=Z,44nm,1.2s
PD31 **Pinedale Array** 51.51 333 IAmb IAmb 07 38 05.8
comp=Z,26nm,1.3s
PDAR **Pinedale Array** 51.51 333 P **P** **07 37 53.8 -0.7**
comp=Z,5.3nm,0.9s,baz=142,slow=7.3,SNR=14
PDAR LR LR 08 00 18.8
comp=Z,2μm,18.4s,baz=122,slow=37
comp=Z,5.3nm,0.9s
GMN **Gold Mountain** 51.63 323 IAmb IAmb 07 38 07.3
comp=Z,29nm,1.3s
AGMN **Agassiz Nation** 51.75 347 IAmb IAmb 07 37 57.2
comp=Z,40nm,0.8s
BGU **Big Grassy Mou** 51.78 329 IAmb IAmb 07 38 08.5
comp=Z,32nm,1.2s
DSP **Deep Springs** 52.11 322 IAmb IAmb 07 38 10.8
comp=Z,34nm,1.3s
AHID **Auburn Hatcher** 52.22 332 IAmb IAmb 07 38 10.6
comp=Z,21nm,0.9s
MDND **Maddock** 52.25 344 IAmb IAmb 07 38 01.8
comp=Z,121nm,1.0s
HVU **Hansel Valley** 52.29 330 IAmb IAmb 07 38 14.2
comp=Z,21nm,1.1s
SNOW **Snow King Moun** 52.60 333 IAmb IAmb 07 38 14.4
comp=Z,46nm,1.3s
LOHW **Long Hollow** 52.65 333 IAmb IAmb 07 38 15.2
comp=Z,13nm,1.0s
TPAW **Teton Pass** 52.71 333 IAmb IAmb 07 38 15.6
comp=Z,28nm,1.1s
ELK **Elko** 52.82 327 IAmb IAmb 07 38 16.5
comp=Z,34nm,1.2s
ELK **Elko** 52.82 327 P **P** **07 38 04.8 +0.5**
MOOW **Wild Horse Ponds** 52.82 333 IAmb IAmb 07 38 14.3
comp=Z,28nm,1.4s
NV11 **Mina Array Sit** 52.91 323 IAmb IAmb 07 38 16.8
comp=Z,77nm,1.4s
NVAR **Mina Array Bea** 52.99 323 P **P** **07 38 06.9 +1.2**
NVAR **Mina Array Bea** 52.99 323 P **P** **07 38 06.7 +1.0**
comp=Z,14nm,0.9s,baz=123,slow=5.4,SNR=21
comp=Z,14nm,0.9s
LHV **Little Huntoon** 53.00 323 IAmb IAmb 07 38 17.6
comp=Z,88nm,1.4s
H17A **Grant Village** 53.25 334 IAmb IAmb 07 38 21.8
comp=Z,24nm,1.3s
RYN **Ryan** 53.25 323 IAmb IAmb 07 38 19.1
comp=Z,32nm,1.2s
LKWY **Lake** 53.31 334 IAmb IAmb 07 38 24.1
comp=Z,27nm,1.2s
YFT **Old Faithful** 53.41 334 IAmb IAmb 07 38 28.5
comp=Z,34nm,1.1s
YNE **Yellowstone No** 53.49 335 IAmb IAmb 07 38 26.1
comp=Z,23nm,1.2s
ULM **Lac du Bonnet** 53.60 348 P **P** **07 38 08.7 -0.8**
comp=Z,75nm,0.8s,baz=162,slow=8.6,SNR=34
comp=Z,75nm,0.8s
YMR **Madison River** 53.64 334 IAmb IAmb 07 38 22.8
comp=Z,37nm,1.3s
WAKR **Walker** 53.72 323 IAmb IAmb 07 38 23.6
comp=Z,41nm,1.2s
YHB **Horse Butte** 53.80 334 IAmb IAmb 07 38 33.0
comp=Z,29nm,1.4s
YHL **Hebgen Lake** 53.88 334 IAmb IAmb 07 38 25.6
comp=Z,54nm,1.1s
CMB **Columbia Colle** 54.01 322 IAmb IAmb 07 38 28.2
comp=Z,24nm,1.4s
DGMT **Dagmar** 54.19 341 IAmb IAmb 07 38 28.4
comp=Z,33nm,1.2s
PNTR **Pine Nut** 54.19 323 IAmb IAmb 07 38 25.5
comp=Z,22nm,1.0s
HLID **Hailey** 54.42 330 P **P** **07 38 16.6 +0.7**
HLID IAmb IAmb 07 38 29.6
comp=Z,17nm,1.0s
PAHR **Pah Rah Range** 54.46 324 IAmb IAmb 07 38 32.4
comp=Z,29nm,1.4s
BOZ **Bozeman (W)** 54.66 334 IAmb IAmb 07 38 34.6
comp=Z,28nm,1.1s
DRLN **Deer Lake** 54.87 19 IAmb IAmb 07 38 29.2
comp=Z,24nm,1.2s
DLMT **Dillon** 54.91 333 IAmb IAmb 07 38 38.1
comp=Z,28nm,1.2s
AFDM **Forest Hills D** 54.94 322 IAmb IAmb 07 38 30.8
comp=Z,34nm,1.2s
MFID **Camas Ranch** 55.02 329 IAmb IAmb 07 38 33.2
comp=Z,40nm,1.1s
BEKR **Beckworth** 55.14 323 IAmb IAmb 07 38 33.4
comp=Z,30nm,1.1s
EGMT **Eagleton** 55.81 337 IAmb IAmb 07 38 44.1
comp=Z,58nm,1.3s
WVOR **Wild Horse Val** 55.83 327 IAmb IAmb 07 38 42.2
comp=Z,34nm,1.4s
WVOR **Wild Horse Val** 55.83 327 P **P** **07 38 26.6 +0.5**
GDXM **Geysers** 55.98 321 IAmb IAmb 07 38 43.8
comp=Z,19nm,1.1s
PLID **Pearl Lake** 56.31 331 IAmb IAmb 07 38 44.5
comp=Z,14nm,1.1s
J08A **Circle Bar Ran** 56.36 328 IAmb IAmb 07 38 45.1
comp=Z,18nm,1.1s
RKT **Rikitea** 56.46 244 *e*SS **SS** **07 50 11.7 +3.6**
comp=Z,6μm,25.0s
RKT *e*LR LR 07 55 01.5
comp=Z,16μm,27.0s
MSO **Missoula** 56.63 333 IAmb IAmb 07 38 48.6
comp=Z,20nm,1.1s
BMO **Blue Mountains** 56.79 330 IAmb IAmb 07 38 43.9
comp=Z,15nm,1.2s
I07A **Izee** 57.40 328 IAmb IAmb 07 38 54.5
comp=Z,18nm,1.0s
YBH **Yreka Blue Hor** 57.70 324 IAmb IAmb 07 38 54.2
comp=Z,24nm,0.9s
L04D **Klamath Falls** 57.76 324 IAmb IAmb 07 38 56.2
comp=Z,60nm,1.0s
KMPM **Mount Pierce** 57.76 322 IAmb IAmb 07 38 52.1
comp=Z,35nm,1.0s
SCHQ **Schefferville** 57.78 10 P **P** **07 38 38.7 -0.8**
comp=Z,7.6nm,1.2s,baz=182,slow=7.8,SNR=5.1
comp=Z,7.6nm,1.2s
J05D **Fort Rock, OR** 57.82 326 IAmb IAmb 07 38 56.9
comp=Z,68nm,1.2s
G08A **Pilot Rock** 57.94 329 IAmb IAmb 07 38 57.4
comp=Z,43nm,1.1s
PINE **Pine Mountain** 57.99 327 IAmb IAmb 07 38 53.4
comp=Z,34nm,0.8s
LNOR **Lincton Mounta** 58.00 330 IAmb IAmb 07 38 52.4
comp=Z,21nm,0.8s
J04A **Umpqua Nationa** 58.29 325 IAmb IAmb 07 38 59.9
comp=Z,59nm,1.0s
E09A **Wood Farm, Sta** 58.38 331 IAmb IAmb 07 38 54.9
comp=Z,19nm,0.8s
BBOR **Butler Butte** 58.39 325 IAmb IAmb 07 38 54.5
comp=Z,30nm,1.4s
L02F **Cave Junction** 58.44 324 IAmb IAmb 07 38 56.1
comp=Z,36nm,1.1s
YPT **Yellepit** 58.46 330 IAmb IAmb 07 38 55.3
comp=Z,20nm,1.2s
I05D **Terrebonne, OR** 58.56 327 IAmb IAmb 07 38 57.0
comp=Z,37nm,0.9s
G06A **Carlson Farm,** 58.77 328 IAmb IAmb 07 39 04.1
comp=Z,46nm,1.0s
I04A **Tendick Farm,** 58.81 326 IAmb IAmb 07 38 57.5
comp=Z,22nm,1.0s
E08A **Dider Farm, El** 58.81 330 IAmb IAmb 07 38 51.9
comp=Z,31nm,1.4s
K02D **Willamette Mer** 58.84 324 IAmb IAmb 07 39 03.8
comp=Z,65nm,1.1s
F07A **Phinny Hill Vi** 58.85 329 IAmb IAmb 07 39 04.2
comp=Z,43nm,1.5s
DBO **Dodson Butte** 58.86 325 IAmb IAmb 07 39 03.4
comp=Z,30nm,1.1s
NEW **Newport** 59.14 333 IAmb IAmb 07 39 07.0
comp=Z,20nm,1.1s
NEW **Newport** 59.14 333 P **P** **07 38 49.3 +0.1**
FFC **Flin Flon** 59.14 346 P **P** **07 38 48.7 -0.3**
FFC **Flin Flon** 59.14 346 P **P** **07 38 48.7 -0.3**
FFC pmax pmax
comp=Z,11nm,1.0s
H04A **Detroit Lake** 59.25 327 IAmb IAmb 07 39 06.1
comp=Z,18nm,1.0s
WAH2 **Wahluke Slope** 59.25 330 IAmb IAmb 07 39 06.2
comp=Z,14nm,0.9s
E07A **Sunnyside** 59.26 330 IAmb IAmb 07 38 59.1
comp=Z,31nm,1.0s
I03D **Drain, OR** 59.28 325 IAmb IAmb 07 39 06.7
comp=Z,37nm,1.2s
HOOD **Mount Hood Mea** 59.37 328 IAmb IAmb 07 39 08.0
comp=Z,44nm,0.9s
TAOE **Nuku Hiva Isla** 59.37 261 *e*LR LR 07 56 20.6
comp=Z,2μm,28.3s
MXC **Moxie City** 59.49 329 IAmb IAmb 07 39 08.8
comp=Z,32nm,0.9s
COR **Corvallis** 59.80 326 P **P** **07 38 55.7 +1.9**
COR **Corvallis** 59.80 326 P **P** **07 38 55.7 +1.9**
COR pmax pmax
comp=Z,51nm,1.1s
LTY **Liberty** 60.15 330 P **P** **07 38 56.6 +0.4**
LTY IAmb IAmb 07 39 12.6
comp=Z,13nm,0.9s
LON **Longmire** 60.39 329 P **P** **07 38 58.0 +0.2**
LON **Longmire** 60.39 329 P **P** **07 38 58.0 +0.2**
LON pmax pmax
comp=Z,11nm,0.9s
D05A **Enumclaw** 60.77 329 IAmb IAmb 07 39 07.2
comp=Z,33nm,0.9s
GNW **Green Mountain** 61.45 329 P **P** **07 39 04.8 -0.1**
GNW IAmb IAmb 07 39 14.7
comp=Z,16nm,1.1s
FCC **Fort Churchill** 61.46 352 P **P** **07 39 03.5 -1.2**
FCC IAmb IAmb 07 39 16.8
comp=Z,22nm,1.1s
FCC **Fort Churchill** 61.46 352 P **P** **07 39 03.6 -1.2**
FCC pmax pmax
comp=Z,22nm,1.1s
NLWA **Neilton Lookou** 61.88 328 IAmb IAmb 07 39 18.2
comp=Z,23nm,1.1s
PGC **Sidney** 62.47 330 IAmb IAmb 07 39 14.4
comp=Z,20nm,1.1s
LLLB **Lillooet** 63.00 332 IAmb IAmb 07 39 33.8
comp=Z,25nm,1.1s
PMSA **Palmer Station** 63.84 172 *e*P **P** **07 39 21.8 +1.3**
MACI **Morro de la Ar** 68.55 59 P **P** **07 39 50.4 -1.4**
GRNB **Grenville Isla** 68.89 331 IAmb IAmb 07 40 11.3
comp=Z,16nm,1.2s
PPT2 **Papeete2** 69.14 252 *e*LR LR 08 00 54.2
comp=Z,4μm,26.0s
PPT2 *e*LR LR 08 00 54.6
comp=Z,3μm,27.5s
YKA **Yellowknife Ar** 69.18 344 P **P** **07 39 54.2 -0.5**
YKA **Yellowknife Ar** 69.18 344 P **P** **07 39 53.7 -1.0**
comp=Z,7.4nm,1.0s,baz=144,slow=6.4,SNR=16
comp=Z,7.4nm,1.0s
YKA **Yellowknife Ar** 69.18 344 P **P** **07 39 54.2 -0.5**
PMOZ **Porto Moniz, M** 69.20 54 *e*P **P** **07 39 56.3 +0.7**
TBI **Tubuai** 69.61 246 *e*LR LR 08 01 03.3
comp=Z,3μm,28.0s
TBI *e*LR LR 08 01 09.5
comp=Z,12μm,26.8s
DIB **Dawson Inlet,** 69.76 330 P **P** **07 39 59.4 +0.9**
DIB IAmb IAmb 07 40 17.7
comp=Z,13nm,0.9s
TOAD **Toad River Com** 70.00 337 P **P** **07 39 59.8 -0.1**
baz=132
KOTAN **Kotaneelee Air** 70.42 339 P **P** **07 40 02.7 +0.2**
baz=133
V35K **Ketchikan** 70.54 332 P **P** **07 40 03.7 +0.5**
baz=125
LIRD **Liard River Hi** 70.70 337 P **P** **07 40 04.5 +0.3**
baz=131
T35M **Bob Quinn** 70.89 334 IAmb IAmb 07 40 23.4
comp=Z,12nm,0.9s
T35M **Bob Quinn** 70.89 334 P **P** **07 40 06.0 +0.7**
baz=126
CRAG **Craig** 71.33 332 P **P** **07 40 08.2 +0.2**
baz=123
WRAK **Wrangell Islan** 71.50 333 P **P** **07 40 08.7 -0.3**
baz=124
DLBC **Dease Lake** 71.67 335 IAmb IAmb 07 40 28.4
comp=Z,17nm,1.1s
DLBC **Dease Lake** 71.67 335 P **P** **07 40 10.7 +0.6**
baz=127
U33K **Whale Pass** 71.69 332 P **P** **07 40 10.4 +0.3**
baz=124
S34M **Telegraph Cree** 71.82 334 P **P** **07 40 11.8 +0.8**
baz=126
WTLY **Watson Lake, Y** 72.20 337 P **P** **07 40 13.8 +0.6**
baz=129
WRGLY **Wrigley** 72.39 341 IAmb IAmb 07 40 31.7
comp=Z,28nm,1.1s
WRGLY **Wrigley** 72.39 341 P **P** **07 40 14.4 +0.2**
baz=135
R33M **Jennings River** 72.63 336 IAmb IAmb 07 40 34.1
comp=Z,8.1nm,1.0s
R33M **Jennings River** 72.63 336 P **P** **07 40 15.9 0.0**
baz=126
TGTN **Hyland Airport** 72.90 338 P **P** **07 40 18.3 +0.9**
baz=130
Q32M **Nakina River** 72.92 335 P **P** **07 40 18.2 +0.4**
baz=125
S32K **Killisnoo** 73.10 333 P **P** **07 40 19.1 +0.6**
baz=122
R32K **Eaglecrest** 73.51 334 P **P** **07 40 21.8 +0.8**
baz=123
P33M **Teslin, Yukon** 73.87 336 P **P** **07 40 23.9 +0.7**
baz=125
P32M **Atlin** 73.89 335 P **P** **07 40 24.3 +1.1**
baz=124
S31K **Pelican** 74.12 333 P **P** **07 40 25.1 +0.6**
baz=121
SKAG **Skagway** 74.51 334 P **P** **07 40 27.8 +1.0**
baz=122
N32M **Quiet Lake** 74.52 337 P **P** **07 40 28.3 +1.4**
baz=125
PLBC **Pleasant Camp** 74.95 334 P **P** **07 40 30.6 +1.2**
baz=121
WHY **Whitehorse** 74.97 336 P **P** **07 40 30.1 +0.5**
baz=123
FARO **Faro, Yukon** 75.24 337 P **P** **07 40 31.6 +0.6**
baz=125,SNR=5.5
O30N **Mendenhall** 75.53 335 P **P** **07 40 33.6 +0.9**
baz=122,SNR=5.9
P30M **Million Dollar** 75.56 335 P **P** **07 40 33.7 +0.8**
baz=121
M31M **Drury Creek, Y** 75.63 337 P **P** **07 40 34.2 +0.9**
baz=124
P29M **Windy Craggy** 75.64 334 P **P** **07 40 34.2 +0.8**
baz=120
N31M **Braeburn, Yuko** 75.79 336 P **P** **07 40 34.7 +0.5**
baz=122
HYT **Haines Junctio** 76.15 335 P **P** **07 40 36.4 0.0**
baz=121
N30M **Aishikik Lake** 76.31 336 IAmb IAmb 07 40 54.8
comp=Z,14nm,1.1s
N30M **Aishikik Lake** 76.31 336 P **P** **07 40 37.8 +0.6**
baz=121,SNR=7.9
DBIC **Dimbokro** 76.33 83 P **P** **07 40 37.6 -0.5**
DBIC **Dimbokro** 76.33 83 P **P** **07 40 37.4 -0.8**
comp=Z,38nm,0.9s,baz=264,slow=7.3,SNR=23
DBIC LR LR 08 12 24.3
comp=Z,2μm,19.2s,baz=263,slow=34
comp=Z,38nm,0.9s
O29M **Mount Kennedy** 76.35 334 P **P** **07 40 38.1 +0.5**
baz=120
PNL **Peninsula** 76.40 334 P **P** **07 40 38.3 +0.6**
baz=119,SNR=5.2
YUK6 **Outpost Mounta** 76.57 335 P **P** **07 40 39.7 +0.8**
baz=120,SNR=6.6
M30M **Minto, Yukon** 76.77 337 P **P** **07 40 40.1 +0.3**
baz=122,SNR=9.7
YUK4 **Talbot Arm** 76.89 335 P **P** **07 40 41.3 +0.6**
baz=120,SNR=9.2
C36M **Paulatuk** 76.92 346 P **P** **07 40 42.3 +2.0**
baz=135
MAYO **Mayo, Yukon** 76.97 338 P **P** **07 40 42.1 +1.3**
baz=123
PINM **Pinnacle** 76.98 334 P **P** **07 40 42.4 +1.4**
baz=118
MORF **Marmelete** 77.11 51 *e*P **P** **07 40 42.3 +0.1**
MORF IAmb IAmb 07 40 45.8
comp=Z,214nm,2.3s
MORF **Marmelete** 77.11 51 *e*P **P** **07 40 42.8 +0.5**
MORF **Marmelete** 77.11 51 *e*P **P** **07 40 42.3 +0.1**
O28M **Mount Upton** 77.27 334 P **P** **07 40 44.1 +1.1**
baz=118
YUK8 **Steele Glacier** 77.33 335 P **P** **07 40 44.0 +0.8**
baz=119,SNR=7.2
M29M **Somme Creek** 77.37 336 IAmb IAmb 07 41 01.1
comp=Z,21nm,0.9s
M29M **Somme Creek** 77.37 336 P **P** **07 40 44.1 +0.8**
baz=120,SNR=13
PSBE **So Bento** 77.49 49 *e*P **P** **07 40 44.6 +0.3**
MESJ **Messejana** 77.56 51 *e*P **P** **07 40 44.8 +0.1**
MESJ IAmb IAmb 07 40 48.1
comp=Z,249nm,2.9s
MESJ **Messejana** 77.56 51 *e*P **P** **07 40 44.8 +0.1**
MESJ *i* Amb 07 40 48.9
comp=Z,32nm,1.8s

MESJ **Messejana** 77.56 51 *eP* P 07 40 44.8 +1.0
L29M **L29M** 77.57 337 IAmb IAmb 07 41 02.3
comp=Z,26nm,1.0s
L29M **L29M** 77.57 337 P P 07 40 44.8 +0.5
baz=120,SNR=11
H31M **Peel River** 77.65 340 IAmb IAmb 07 41 00.8
comp=Z,36nm,1.4s
H31M **Peel River** 77.65 340 P P 07 40 45.2 +0.6
baz=125,SNR=6.0
PCVE **Castro Verde** 77.66 51 *eP* P 07 40 45.5 +0.3
J30M **Hart River** 77.67 339 P P 07 40 45.6 +0.8
baz=122,SNR=14
K29M **Barlow Dome** 77.72 338 IAmb IAmb 07 41 02.5
comp=Z,16nm,1.0s
K29M **Barlow Dome** 77.72 338 P P 07 40 45.4 +0.3
baz=121,SNR=13
YAH **Yahtse** 77.77 334 IAmb IAmb 07 41 03.4
comp=Z,25nm,1.3s
MESA **MESA** 77.77 333 P P 07 40 46.1 +0.4
baz=116
PMTG **Montargil** 77.83 49 *eP* P 07 40 45.9 -0.3
PCAS **Casmilo, Conde** 77.84 48 *eP* P 07 40 45.9 -0.3
PCAS *i* Amb 07 41 00.8
comp=Z,28nm,1.4s
YUK3 **Moose Creek** 77.86 335 P P 07 40 46.3 +0.2
baz=118,SNR=14
EVO **Evora** 77.87 50 *eP* P 07 40 46.3 -0.1
PBEJ **Beja** 77.88 51 *eP* P 07 40 46.7 +0.3
COI **Coimbra** 77.94 48 IAmb IAmb 07 40 47.8
comp=Z,31nm,1.0s
COI **Coimbra** 77.94 48 *eP* P 07 40 47.1 +0.4
I30M **Mount Dempster** 78.03 339 IAmb IAmb 07 41 04.5
comp=Z,24nm,1.1s
I30M **Mount Dempster** 78.03 339 P P 07 40 47.4 +0.6
baz=122,SNR=15
PESTR **Estremoz** 78.27 50 *eP* P 07 40 48.5 -0.1
PESTR *i* Amb 07 41 21.4
comp=Z,26nm,1.6s
G31M **Satah River** 78.27 341 P P 07 40 47.6 -0.4
baz=125,SNR=8.3
J29N **Klondike Camp** 78.30 338 P P 07 40 48.2 -0.1
baz=121
WAX **Waxell Ridge** 78.30 333 IAmb IAmb 07 41 04.5
comp=Z,28nm,1.4s
BVCY **Beaver Creek** 78.33 336 P P 07 40 48.7 +0.2
baz=118
F31M **Tsiigehtchic** 78.40 342 IAmb IAmb 07 41 05.4
comp=Z,20nm,1.2s
F31M **Tsiigehtchic** 78.40 342 P P 07 40 48.8 +0.2
baz=125,SNR=5.8
PVIS **Viseu** 78.44 48 *eP* P 07 40 49.3 -0.3
PMRV **Marv??o** 78.53 49 *eP* P 07 40 50.0 -0.1
PMRV *i* Amb 07 41 23.1
comp=Z,17nm,1.6s
DAWY **Dawson** 78.54 337 IAmb IAmb 07 40 58.5
comp=Z,8.8nm,0.9s
DAWY **Dawson** 78.54 337 P P 07 40 49.4 -0.2
baz=120,SNR=8.8
PBAR **Barrancos** 78.55 51 *eP* P 07 40 50.1 -0.1
PCBR **Castelo Branco** 78.56 49 *eP* P 07 40 50.4 +0.3
MTE **Manteigas** 78.63 48 *eP* P 07 40 50.6 0.0
BERG **Berg Lake** 78.65 333 IAmb IAmb 07 41 08.4
comp=Z,15nm,1.0s
POLO **Lamas de Olo** 78.65 47 *eP* P 07 40 50.6 -0.2
POLO *i* Amb 07 40 51.7
comp=Z,8.8nm,1.7s
PVRL **Vila Real** 78.69 47 *eP* P 07 40 51.0 +0.1
PVRL *i* Amb 07 41 26.4
comp=Z,30nm,1.7s
M27K **Edge Creek, AK** 78.72 335 IAmb IAmb 07 41 09.0
comp=Z,18nm,1.0s
M27K **Edge Creek, AK** 78.72 335 P P 07 40 50.3 -0.5
baz=117,SNR=9.0
EPYK **Eagle Plains** 78.77 340 P P 07 40 50.5 -0.4
baz=122,SNR=5.5
KAIM **Kayak Island** 78.78 333 P P 07 40 50.6 -0.4
baz=114
I29M **Ogilvie Camp,** 78.80 339 IAmb IAmb 07 41 07.8
comp=Z,18nm,1.1s
I29M **Ogilvie Camp,** 78.80 339 P P 07 40 51.1 +0.1
baz=121,SNR=12
INK **Inuvik** 78.84 342 P P 07 40 51.3 +0.2
baz=126,SNR=8.2
HMT **Hamilton** 78.88 333 IAmb IAmb 07 41 05.3
comp=Z,23nm,0.9s
VRDI **Verde Repeater** 78.90 334 IAmb IAmb 07 41 08.9
comp=Z,24nm,1.1s
BCAR **Beaver Creek A** 79.01 336 P P 07 40 51.8 -0.4
L27K **Beaver Creek,** 79.03 336 P P 07 40 52.1 -0.2
baz=117,SNR=6.9
SUMG **Summit** 79.06 12 P P 07 40 52.0 -0.8
SUMG IAmb IAmb 07 41 04.4
comp=Z,30nm,1.1s
SUMG **Summit** 79.06 12 P P 07 40 52.0 -0.8
SUMG pmax pmax
comp=Z,30nm,1.1s
A36M **Sachs Harbour** 79.07 347 IAmb IAmb 07 41 01.2
comp=Z,30nm,0.8s
A36M **Sachs Harbour** 79.07 347 P P 07 40 51.5 -0.8
baz=134,SNR=18
RAGM **Ragged Mountai** 79.09 333 IAmb IAmb 07 41 10.7
comp=Z,22nm,1.2s
F30M **Barrier River** 79.14 341 P P 07 40 52.1 -0.7
baz=124
MVO **Moncorvo** 79.17 48 *eP* P 07 40 53.5 -0.1
MVO *i* Amb 07 40 54.7
comp=Z,25nm,1.6s
M26K **Nabesna, AK** 79.21 335 P P 07 40 52.6 -0.8
baz=116,SNR=8.2
H29M **Whitestone** 79.26 340 P P 07 40 53.0 -0.5
baz=121,SNR=7.7
BMRM **Bremner River** 79.30 334 IAmb IAmb 07 41 11.4
comp=Z,22nm,0.9s
BMRM **Bremner River** 79.30 334 P P 07 40 53.5 -0.4
baz=114
I28M **Miner Creek** 79.43 339 IAmb IAmb 07 41 10.7
comp=Z,22nm,1.4s
I28M **Miner Creek** 79.43 339 P P 07 40 54.3 -0.3
baz=119
G29M **Pine Creek** 79.50 340 P P 07 40 54.7 -0.1
baz=121
PBRG **Braganca** 79.52 47 *eP* P 07 40 55.4 -0.1
PBRG *i* Amb 07 41 50.1
comp=Z,21nm,1.8s
N25K **Chitina, Valde** 79.56 334 P P 07 40 54.8 -0.5
baz=114
K27K **Chicken** 79.57 337 P P 07 40 55.3 +0.1
baz=117
L26K **Log Cabin Wild** 79.63 336 P P 07 40 55.5 -0.1
baz=116,SNR=10
EYAK **Cordova Ski Ar** 79.64 333 P P 07 40 55.0 -0.6
baz=113
BELA **Belgrano 2** 79.65 171 P P 07 40 56.0 +0.6
KLU **Klutina** 80.09 334 IAmb IAmb 07 41 12.1
comp=Z,22nm,1.2s
KLU **Klutina** 80.09 334 P P 07 40 57.9 -0.3
baz=113,SNR=8.2
I27K **Kandik River** 80.12 338 P P 07 40 57.7 -0.6
baz=118
HARP **HAARP** 80.12 335 P P 07 40 58.0 -0.2
baz=114
E29M **Blow River** 80.23 342 IAmb IAmb 07 41 15.1
comp=Z,18nm,1.2s
E29M **Blow River** 80.23 342 P P 07 40 58.7 0.0
baz=122
SCRK **Sand Creek** 80.30 336 P P 07 40 59.6 +0.3
baz=115,SNR=6.4
J26L **Joseph Creek** 80.36 337 IAmb IAmb 07 41 14.9
comp=Z,12nm,1.0s
J26L **Joseph Creek** 80.36 337 P P 07 40 60.0 +0.4
baz=116,SNR=6.6
H27K **Steamboat Moun** 80.38 339 P P 07 41 00.4 +0.8
baz=118,SNR=6.5
M24K **Tolsona, Glenn** 80.44 334 IAmb IAmb 07 41 18.1
comp=Z,32nm,1.0s
M24K **Tolsona, Glenn** 80.44 334 P P 07 40 59.9 -0.2
baz=113
PAX **Paxson** 80.49 335 P P 07 40 59.9 -0.3
baz=114,SNR=7.8
RIDG **Independent Ri** 80.55 336 IAmb IAmb 07 41 14.4
comp=Z,21nm,1.0s
RIDG **Independent Ri** 80.55 336 P P 07 40 60.0 -0.6
baz=114,SNR=8.7
I26K **Coal Creek Min** 80.56 338 P P 07 40 60.0 -0.5
baz=116
G27K **Doyon Strip** 80.70 339 P P 07 41 00.8 -0.4
baz=118

SCM **Sheep Creek Mo** 80.84 334 IAmb IAmb 07 41 11.2
comp=Z,20nm,0.8s
SCM **Sheep Creek Mo** 80.84 334 P P 07 41 01.8 -0.4
baz=112,SNR=6.6
E28M **Babbage River** 80.86 341 P P 07 41 01.6 -0.5
baz=120
PAB **San Pablo** 80.87 50 P P 07 41 02.7 -0.1
PAB **San Pablo** 80.87 50 P P 07 41 02.7 -0.1
PAB pmax pmax
comp=Z,7.0nm,0.9s
PWL **Port Wells** 80.94 333 P P 07 41 02.3 -0.4
baz=111
K24K **Donnelly Dome** 80.95 336 P P 07 41 02.2 -0.5
baz=113
D28M **Stokes Point** 80.99 342 P P 07 41 02.6 -0.1
baz=121
M23K **Glacier View** 81.00 334 P P 07 41 02.9 -0.1
baz=111,SNR=6.1
J25K **Salcha River,** 81.11 337 P P 07 41 03.5 -0.1
baz=114
ESDC **Sonseca Array** 81.18 50 P P 07 41 03.9 -0.6
ESDC IAmb IAmb 07 41 07.5
comp=Z,36nm,1.2s
ESDC **Sonseca Array** 81.18 50 P P 07 41 04.3 -0.2
comp=Z,6.1nm,0.8s,baz=264,slow=5.5,SNR=23
comp=Z,6.1nm,0.8s
KNK **Knik Glacier** 81.19 333 IAmb IAmb 07 41 17.8
comp=Z,16nm,1.0s
KNK **Knik Glacier** 81.19 333 P P 07 41 04.1 +0.1
baz=111,SNR=7.1
SEW **Seward** 81.20 332 P P 07 41 03.4 -0.5
baz=110,SNR=5.0
SML **Sawmill** 81.28 334 IAmb IAmb 07 41 22.5
comp=Z,17nm,0.9s
SML **Sawmill** 81.28 334 P P 07 41 04.3 -0.2
baz=111,SNR=8.1
E27K **Coleen River** 81.33 341 IAmb IAmb 07 41 14.1
comp=Z,11nm,1.2s
E27K **Coleen River** 81.33 341 P P 07 41 04.5 -0.1
baz=118,SNR=5.3
O22K **Cooper Landing** 81.45 332 P P 07 41 05.0 -0.3
baz=109
G26K **Porcupine Rive** 81.51 339 P P 07 41 05.6 +0.1
baz=116
GHO **Glory Hole Cre** 81.53 334 IAmb IAmb 07 41 18.8
comp=Z,23nm,0.9s
PRP **Porcupine Dome** 81.54 338 P P 07 41 05.7 -0.3
baz=114
PMR **Palmer** 81.56 333 P P 07 41 05.1 -0.8
baz=110
D27M **Malcolm River** 81.63 342 IAmb IAmb 07 41 23.6
comp=Z,21nm,1.4s
D27M **Malcolm River** 81.63 342 P P 07 41 05.6 -0.6
baz=119
HDA **Harding Lake** 81.66 336 P P 07 41 05.7 -0.7
baz=112
RC01 **Rabbit Creek A** 81.66 333 IAmb IAmb 07 41 19.2
comp=Z,13nm,0.8s
RC01 **Rabbit Creek A** 81.66 333 P P 07 41 06.1 -0.4
baz=110
BRSE **Bradley Lake S** 81.69 331 P P 07 41 06.4 -0.3
baz=108,SNR=5.5
ILAR **Eielson Array** 81.78 337 P P 07 41 06.5 -0.5
ILAR **Eielson Array** 81.78 337 P P 07 41 05.6 -1.4
comp=Z,2.2nm,1.1s,baz=116,slow=3.0,SNR=8.9
ILAR PP PP 07 44 12.7 -1.6
comp=Z,3.8nm,1.0s,baz=108,slow=8.1,SNR=11
comp=Z,2.2nm,1.1s
ILAR **Eielson Array** 81.78 337 P P 07 41 06.5 -0.5
SCO **Scoresbysund** 81.88 17 P P 07 41 07.1 -0.3
SCO **Scoresbysund** 81.88 17 P P 07 41 07.1 -0.3
SCO pmax pmax
comp=Z,11nm,0.9s
H25L **Birch Creek** 81.96 338 P P 07 41 08.1 +0.2
baz=114
F26K **Sheenjek River** 81.96 340 P P 07 41 07.6 -0.4
baz=116
BMAR **Burnt Mountain** 82.00 340 P P 07 41 08.1 -0.1
KDAK **Kodiak Island** 82.02 329 P P 07 41 08.4 +0.1
baz=106
M22K **Willow** 82.06 333 IAmb IAmb 07 41 15.2
comp=Z,32nm,1.1s
M22K **Willow** 82.06 333 P P 07 41 08.8 +0.3
baz=109,SNR=7.2
RND **Reindeer** 82.07 335 IAmb IAmb 07 41 25.3
comp=Z,30nm,1.2s
HOM **Homer** 82.10 331 P P 07 41 09.2 +0.4
baz=108
POKR **Poker Plat Res** 82.12 337 P P 07 41 09.4 +0.6
baz=112
Q20K **Shuyak Island** 82.16 330 P P 07 41 09.1 0.0
baz=107
COLA **College** 82.20 337⇓ *eP* P 07 41 11.6 +2.4
COLA pmax pmax
comp=Z,11nm,1.1s
COLA **College** 82.20 337 P P 07 41 09.4 +0.3
baz=112
CAPN **Captain Cook N** 82.21 332 P P 07 41 09.1 -0.2
baz=108
MCK **McKinley** 82.22 335 IAmb IAmb 07 41 26.2
comp=Z,15nm,1.0s
MCK **McKinley** 82.22 335 P P 07 41 09.0 -0.4
baz=110
OHAK **Old Harbor** 82.22 328 P P 07 41 09.1 -0.4
baz=106
SUA **Susitna One** 82.25 333 IAmb IAmb 07 41 23.4
comp=Z,16nm,1.0s
SUA **Susitna One** 82.25 333 P P 07 41 09.4 -0.3
baz=109
G25K **Bearman Lake** 82.27 339 P P 07 41 09.4 -0.1
baz=114
CUT **Chulitna** 82.34 334 P P 07 41 09.7 -0.2
baz=109
F25K **Christian Rive** 82.44 340 P P 07 41 10.1 -0.4
baz=114
H24K **Noodor Dome** 82.57 338 P P 07 41 11.0 -0.2
baz=112,SNR=6.1
NEA2 **Nenana** 82.58 336 IAmb IAmb 07 41 23.7
comp=Z,11nm,0.9s
NEA2 **Nenana** 82.58 336 P P 07 41 10.8 -0.5
baz=110,SNR=9.4
E25K **Arctic Village** 82.63 340 P P 07 41 11.5 +0.1
baz=114
C27K **Jago River** 82.67 342 IAmb IAmb 07 41 30.3
comp=Z,18nm,1.1s
C27K **Jago River** 82.67 342 P P 07 41 11.7 +0.1
baz=116
TRF **Thorofare Moun** 82.69 335 P P 07 41 11.2 -0.8
baz=109
O20K **Slope Mountain** 82.70 331 P P 07 41 11.5 -0.5
baz=107
G24K **Hadweenzic Riv** 82.74 338 P P 07 41 11.6 -0.5
baz=112
SKT **Skwentna** 82.76 333 IAmb IAmb 07 41 29.8
comp=Z,27nm,1.0s
SKT **Skwentna** 82.76 333 P P 07 41 11.8 -0.5
baz=108,SNR=11
SPCR **Spurr Chakacha** 82.83 332 P P 07 41 12.2 -0.5
baz=107
P19K **Oil Pt** 82.87 331 P P 07 41 12.2 -0.7
baz=106
Q19K **Cape Douglas,** 82.87 330 P P 07 41 11.8 -1.1
baz=106
I23K **Minto, Yukon-K** 82.89 337 IAmb IAmb 07 41 21.8
comp=Z,11nm,0.9s
I23K **Minto, Yukon-K** 82.89 337 P P 07 41 12.4 -0.4
baz=110,SNR=7.1
ILSW **Iliamna Southw** 82.92 331 IAmb IAmb 07 41 26.2
comp=Z,16nm,1.0s
R18K **Kaliuk** 82.92 329 P P 07 41 12.4 -0.6
baz=105
KTH **Kantishna Hill** 83.00 335 IAmb IAmb 07 41 22.4
comp=Z,14nm,0.9s
CHIR **Chirikof Islan** 83.11 327 P P 07 41 13.3 -0.8
baz=104
C26K **Camden Bay** 83.17 342 P P 07 41 13.6 -0.5
baz=115
TORD **Torodi Ar. Bea** 83.19 77 P P 07 41 14.1 -1.3
TORD **Torodi Ar. Bea** 83.19 77 P P 07 41 14.2 -1.2
comp=Z,1.7nm,0.4s,baz=268,slow=3.6,SNR=5.9
comp=Z,1.7nm,0.4s
BPAW **Bear Paw Mtn.** 83.20 335 IAmb IAmb 07 41 27.2
comp=Z,17nm,0.8s
BPAW **Bear Paw Mtn.** 83.20 335 P P 07 41 14.0 -0.5
baz=109,SNR=8.0
F24K **Squaw Lake** 83.20 339 P P 07 41 13.8 -0.6
baz=112
H23K **Yukon River** 83.20 337 P P 07 41 13.7 -0.8
baz=110

PPLA **Purkeypile** 83.34 334 IAmb IAmb 07 41 27.7
comp=Z,15nm,0.8s
PPLA **Purkeypile** 83.34 334 P P 07 41 14.6 -0.7
baz=108
D25K **Kavik River** 83.39 341 IAmb IAmb 07 41 29.3
comp=Z,12nm,1.0s
D25K **Kavik River** 83.39 341 P P 07 41 14.5 -0.9
baz=114
CAST **Castle Rocks** 83.45 335 IAmb IAmb 07 41 24.6
comp=Z,19nm,1.0s
CAST **Castle Rocks** 83.45 335 P P 07 41 15.0 -0.8
baz=108,SNR=10
M20K **Styx River** 83.46 333 P P 07 41 14.9 -1.0
baz=106
Q18K **Katmai Hardscr** 83.48 330 P P 07 41 14.8 -1.4
baz=104
O19K **Port Alsworth** 83.55 331 P P 07 41 15.3 -1.0
baz=105
E24K **Your Creek** 83.62 340 P P 07 41 15.7 -0.9
baz=111
CHUM **Lake Minchumin** 83.69 335 P P 07 41 16.7 -0.2
baz=108,SNR=7.8
G23K **Bananza Creek** 83.69 338 IAmb IAmb 07 41 31.9
comp=Z,13nm,1.1s
G23K **Bananza Creek** 83.69 338 P P 07 41 16.9 -0.1
baz=110,SNR=7.9
P18K **Big Mountain,** 83.78 330 P P 07 41 16.8 -0.7
baz=104
N19K **Bonanza Creek** 83.79 332 P P 07 41 16.7 -0.9
baz=105
O18K **Koktuh Hills** 83.89 331 IAmb IAmb 07 41 31.2
comp=Z,9.8nm,0.9s
O18K **Koktuh Hills** 83.89 331 P P 07 41 18.3 +0.2
baz=104
COLD **Coldfoot** 83.93 339 P P 07 41 17.6 -0.5
baz=110
H22K **Ishtalitna Cre** 83.94 337 P P 07 41 18.6 +0.4
baz=108
L20K **Farewell, AK** 83.96 333 P P 07 41 17.8 -0.6
baz=106
E23K **Chandalar** 84.01 339 P P 07 41 18.6 -0.1
baz=110
M19K **Big River Lodg** 84.04 333 P P 07 41 18.9 +0.1
baz=105
D24K **Happy Valley** 84.13 341 P P 07 41 19.4 +0.3
baz=111
TOLK **Toolik Lake Re** 84.20 340 P P 07 41 19.4 -0.1
baz=110
K20K **Telida** 84.29 334 P P 07 41 19.5 -0.6
baz=106
C24K **Franklin Bluff** 84.30 341 P P 07 41 19.6 -0.3
baz=111
L19K **White Mountain** 84.32 333 P P 07 41 19.8 -0.5
baz=105
Q16K **King Salmon** 84.33 329 P P 07 41 20.0 -0.2
baz=103
P17K **Kvichak River** 84.34 330 P P 07 41 20.0 -0.3
baz=103
SNAA **Sanae** 84.37 162 P P 07 41 20.4 0.0
SNAA IAmb IAmb 07 41 32.8
comp=Z,16nm,1.0s
SNAA **Sanae** 84.37 162 P P 07 41 19.8 -0.6
comp=Z,9.6nm,0.7s,baz=298,slow=6.6,SNR=13
comp=Z,9.6nm,0.7s
SNAA **Sanae** 84.37 162⇑ *eP* P 07 41 20.2 -0.2
SNAA pmax pmax
comp=Z,20nm,1.1s
N18K **Kilae Creek** 84.42 331 P P 07 41 21.0 +0.2
baz=104
H21K **Melozitna Rive** 84.42 337 P P 07 41 22.2 +1.5
H21K **Melozitna Rive** 84.42 337 P P 07 41 20.9 +0.2
baz=107
J20K **Nowinta River** 84.55 335 P P 07 41 20.9 -0.4
baz=106
R16K **Pilot Point** 84.56 328 P P 07 41 20.9 -0.6
baz=102
M18K **Stony River** 84.59 332 P P 07 41 21.5 -0.1
baz=104
EKA **Eskdalemuir Ar** 84.62 34 P P 07 41 19.6 -2.3
comp=Z,3.5nm,0.5s,baz=259,slow=3.6,SNR=32
comp=Z,3.5nm,0.5s
D23K **Nanushuk River** 84.69 340 IAmb IAmb 07 41 38.3
comp=Z,18nm,1.3s
D23K **Nanushuk River** 84.69 340 P P 07 41 21.6 -0.4
baz=110
CHGN **Chignik** 84.75 327 P P 07 41 22.1 -0.4
baz=101
F22K **John River** 84.75 339 P P 07 41 22.0 -0.3
baz=108
O17K **Koliganek Bris** 84.80 330 P P 07 41 22.0 -0.6
baz=103
E22K **Anaktuvuk Pass** 84.81 339 IAmb IAmb 07 41 40.5
comp=Z,17nm,1.2s
E22K **Anaktuvuk Pass** 84.81 339 P P 07 41 22.1 -0.6
baz=108
I20K **Naaghedeneel** 84.85 336 P P 07 41 22.5 -0.3
baz=106
G21K **Allakaket** 84.95 337 IAmb IAmb 07 41 41.2
comp=Z,15nm,1.1s
G21K **Allakaket** 84.95 337 P P 07 41 22.9 -0.4
baz=107
C23K **Itkillik River** 84.96 341 IAmb IAmb 07 41 37.4
comp=Z,19nm,1.2s
C23K **Itkillik River** 84.96 341 P P 07 41 23.0 -0.3
baz=110
N17K **Nushagak Hills** 85.01 331 P P 07 41 23.6 -0.2
baz=103
P16K **Nushagak River** 85.08 330 P P 07 41 23.9 -0.1
baz=102
J19K **Poorman** 85.12 335 P P 07 41 23.6 -0.6
baz=104
CHNA **Chernabura Isl** 85.12 325 P P 07 41 23.9 -0.4
baz=100
F21K **Alatna River** 85.14 338 IAmb IAmb 07 41 38.4
comp=Z,11nm,0.9s
F21K **Alatna River** 85.14 338 P P 07 41 23.9 -0.4
baz=107,SNR=7.0
L18K **Granite Mounta** 85.16 333 P P 07 41 23.7 -0.7
baz=103
H20K **Anotleneega Mo** 85.20 336 P P 07 41 24.1 -0.5
baz=105
O16K **Kokwok River B** 85.25 330 P P 07 41 24.4 -0.5
baz=102
M17K **Holitna River** 85.32 332 P P 07 41 24.0 -1.3
baz=103
D22K **Ayikyak River** 85.35 340 P P 07 41 24.7 -0.6
baz=108
S14K **Fog Glacier** 85.37 327 P P 07 41 24.9 -0.8
baz=100
J18K **Innoko River** 85.47 334 P P 07 41 25.1 -0.8
baz=103
CEST **Esterri de Car** 85.51 47 IAmb IAmb 07 41 28.6
comp=Z,22nm,1.1s
E21K **Killik River** 85.67 339 P P 07 41 26.1 -0.8
baz=106
SDPT **Sand Point** 85.72 326 P P 07 41 26.2 -1.1
baz=100
N16K **Nishlik Lake** 85.76 331 P P 07 41 26.7 -0.8
baz=101
GCSA **Galena City Sc** 85.84 335 P P 07 41 27.0 -0.7
baz=103
H19K **Roundabout Mou** 85.85 336 P P 07 41 27.4 -0.3
baz=104
L17K **Donlin** 85.88 333 P P 07 41 26.5 -1.5
baz=102
F20K **Avaraart Lake** 85.94 338 P P 07 41 27.5 -0.7
baz=105
M16K **Timber Creek** 85.96 331 P P 07 41 28.0 -0.4
baz=101
K17K **Iditarod** 86.00 333 P P 07 41 28.2 -0.4
baz=102
B22K **Teshekpuk Lake** 86.04 341 IAmb IAmb 07 41 37.4
comp=Z,13nm,0.9s
B22K **Teshekpuk Lake** 86.04 341 P P 07 41 29.0 +0.4
baz=107
O15K **Ungalikthiuk R** 86.04 330 P P 07 41 29.2 +0.4
baz=100
C21K **Knifeblade Rid** 86.16 340 P P 07 41 29.6 +0.3
baz=106
JMIC **Jan Mayen** 86.16 18 LR LR 08 16 27.7
comp=Z,825nm,21.9s,baz=244,slow=33
B21K **Ikpikpuk River** 86.22 340 IAmb IAmb 07 41 44.9
comp=Z,12nm,1.0s
B21K **Ikpikpuk River** 86.22 340 P P 07 41 30.2 +0.6
baz=106
G19K **Purcell Mounta** 86.25 337 P P 07 41 29.5 -0.3
baz=103

L16K	Owhat River	86.34 332	P	P	07 41 30.6	+0.3
	baz=101					
N15K	Kwethluk River	86.35 331	P	P	07 41 29.8	-0.6
	baz=100					
E20K	Nigu River	86.42 339	P	P	07 41 30.3	-0.3
	baz=104					
J17K	VABM Dome	86.49 334	P	P	07 41 31.4	+0.4
	baz=101					
H18K	Honhosa River	86.54 336	P	P	07 41 31.2	-0.1
	baz=102					
E19K	Redstone River	86.61 338	P	P	07 41 31.4	-0.2
	baz=103					
F19K	Shaleruckik Mo	86.67 337	P	P	07 41 31.5	-0.3
	baz=103					
D20K	Etivluk River	86.68 339	P	P	07 41 31.7	-0.2
	baz=104					
A22K	Sinclair Lake	86.72 342	P	P	07 41 32.1	+0.2
	baz=106					
M15K	Kasigluk River	86.73 331	P	P	07 41 33.0	+0.7
	baz=100					
O14K	Tigyukauivet M	86.78 330	P	P	07 41 32.5	0.0
	baz=99					
G18K	Tagagawik	86.82 336	P	P	07 41 32.7	+0.2
	baz=102					
N14K	Kuskokwak Cree	87.10 330	P	P	07 41 34.4	+0.4
	baz=99					
J16K	Anvik River	87.14 334	P	P	07 41 34.8	+0.6
	baz=100					
H17K	Granite Mounta	87.14 335	P	P	07 41 34.6	+0.4
	baz=101					
D19K	Kuna River	87.17 339	IAmb	IAmb	07 41 55.4	
	comp=Z,14nm,1.2s					
D19K	Kuna River	87.17 339	P	P	07 41 34.6	+0.4
	baz=102					
B20K	Meade River	87.18 340	IAmb	IAmb	07 41 48.7	
	comp=Z,11nm,0.9s					
B20K	Meade River	87.18 340	P	P	07 41 35.2	+1.0
	baz=103					
L15K	Ungalak Mounta	87.28 332	P	P	07 41 35.8	+0.9
	baz=99					
I17K	Unalakleet	87.29 334	P	P	07 41 35.8	+1.0
	baz=100					
FALS	False Pass	87.32 325	P	P	07 41 36.1	+1.0
	baz=97					
A21K	Barrow	87.32 342	P	P	07 41 35.7	+0.8
	baz=104					
F18K	Selawik	87.36 337	P	P	07 41 36.3	+1.2
	baz=101					
M14K	Bethel	87.36 331	P	P	07 41 36.1	+0.8
	baz=99					
K15K	Wolf Creek Mou	87.40 333	P	P	07 41 36.2	+0.8
	baz=99					
G17K	Kiwalik Mounta	87.55 336	P	P	07 41 37.2	+1.1
	baz=100					
L14K	Kuka Creek	87.80 331	P	P	07 41 38.1	+0.8
	baz=98					
E18K	Tukpahlearik C	87.87 338	P	P	07 41 38.7	+1.1
	baz=100					
F17K	Baldwin Pennin	87.96 337	P	P	07 41 38.7	+0.7
	baz=100					
M13K	Dall Lake	87.99 331	P	P	07 41 39.0	+0.7
	baz=97					
H16K	Elim	88.08 335	P	P	07 41 39.1	+0.5
	baz=98					
QSPA	South Pole Qui	88.09 180	P	P	07 41 39.0	+0.1
QSPA	South Pole Qui	88.09 180	P	P	07 41 39.0	+0.1
	comp=Z,10nm,0.6s,baz=148,slow=3.4,SNR=46					
	comp=Z,10nm,0.6s					
G16K	Koyuk River	88.24 336	P	P	07 41 39.4	0.0
	baz=98					
E17K	Hotham Inlet	88.29 337	P	P	07 41 39.5	-0.1
	baz=99					
C18K	Utukok River	88.31 339	IAmb	IAmb	07 41 57.8	
	comp=Z,7.6nm,0.9s					
C18K	Utukok River	88.31 339	P	P	07 41 39.9	+0.2
	baz=100					
J14K	Nanvaranak Lak	88.39 333	IAmb	IAmb	07 41 47.8	
	comp=Z,22nm,1.3s					
J14K	Nanvaranak Lak	88.39 333	P	P	07 41 41.2	+1.0
	baz=97					
UCC	Uccle	88.48 39	*d*P	P	07 41 40.7	-0.1
A19K	Wainwright	88.53 340	P	P	07 41 41.7	+1.1
	baz=100					
DOU	Dourbes	88.57 40	*d*P	P	07 41 41.3	0.0
	comp=Z,13nm,1.0s					
B18K	Kokolik River	88.64 340	P	P	07 41 42.4	+1.2
	baz=99					
BMRD	Maredsous	88.70 40	*d*P	P	07 41 41.9	+0.1
K13K	Kusilvak Mount	88.81 332	P	P	07 41 43.2	+1.1
	baz=96					
RDOG	Red Dog Mine	88.84 338	P	P	07 41 43.0	+0.8
	baz=98					
D17K	Noatak River	88.86 338	P	P	07 41 43.1	+0.8
	baz=98					
G15K	Niukluk	88.89 335	P	P	07 41 43.7	+1.2
	baz=97					
BGES	Gesves	88.91 40	*d*P	P	07 41 43.3	+0.4
RCHB	Rochefort	88.98 40	*d*P	P	07 41 43.0	-0.2
	comp=Z,7.0nm,1.1s					
C17K	DeLong Mountai	89.00 339	P	P	07 41 44.2	+1.2
	baz=98					
UNV	Unalaska Valle	89.01 324	P	P	07 41 44.0	+0.8
	baz=94					
NVL	N'lazarevskaya	89.04 161	*e*P	P	07 41 42.1	-1.0
NVL			*e*S	SKSac	07 52 08.7	-1.9
NVL			pmax	pmax		
	comp=Z,9.0nm,1.1s					
NVL			MLR	MLR		
	comp=Z,2μm,17.0s					
BCLA	Clavier	89.05 40	*d*P	P	07 41 42.7	-0.8
BSTI	Sart Tilman	89.23 40	*d*P	P	07 41 44.4	+0.1
F15K	North Star Dit	89.23 336	P	P	07 41 45.4	+1.3
	baz=96					
M11K	Mekoryuk	89.40 330	P	P	07 41 46.6	+1.7
	baz=95					
ANM	Nome	89.41 335	P	P	07 41 46.3	+1.4
	baz=96					
BHOU	Houvegnez	89.49 40	*d*P	P	07 41 45.8	+0.1
WLF	Walferdange	89.54 40	*d*P	P	07 41 46.2	+0.3
	comp=Z,16nm,1.0s					
BTNL	Ternell	89.58 40	*d*P	P	07 41 47.2	+1.1
BNI	Bardonecchia	89.63 45	IAmb	IAmb	07 41 48.2	
	comp=Z,11nm,0.8s					
C16K	Lisburne Hills	89.77 338	P	P	07 41 47.8	+1.3
	baz=96					
F14K	Arctic Creek	89.90 335	P	P	07 41 48.6	+1.4
	baz=95					
ECH	Echery	90.12 42	IAmb	IAmb	07 41 49.5	
	comp=Z,15nm,0.9s					
TNA	Tin City	90.57 335	P	P	07 41 51.3	+1.0
	baz=93					
BFO	Black Forest	90.91 42	P	P	07 41 51.6	-0.8
BFO	Black Forest	90.91 42	P	P	07 41 51.6	-0.8
BFO			pmax	pmax		
	comp=Z,4.0nm,0.9s					
P08K	Saint George I	90.91 326	P	P	07 41 53.3	+1.2
	baz=92					
KEST	Kesra	91.30 54	IAmb	IAmb	07 41 56.4	
	comp=Z,14nm,1.0s					
KEST	Kesra	91.30 54	P	P	07 41 51.7	-2.8
	comp=Z,10nm,0.9s,baz=250,slow=1.0,SNR=8.1					
	comp=Z,10nm,0.9s					
SPIA	Saint Paul Isl	91.32 327	P	P	07 41 55.4	+1.4
	baz=91					
TUE	Stuetta	91.55 44	IAmb	IAmb	07 41 56.7	
	comp=Z,8.3nm,0.9s					
DAVA	Damuels	91.93 43	*e*P	P	07 41 57.7	+0.4
	comp=Z,14nm,1.1s,SNR=6.8					
FUORN	Ofenpass-Fuorn	92.19 44	P	P	07 41 58.2	-0.4
FETA	Feichten	92.51 43	*e*P	P	07 42 00.1	+0.1
	comp=Z,15nm,1.1s,SNR=11					
ELIB	Princess Elisa	92.52 162	*d*P	P	07 42 00.0	+0.6
	comp=Z,7.9nm,1.0s					
RETA	Reutte	92.53 43	*i*P	P	07 42 00.1	+0.1
	comp=Z,9.6nm,1.4s					
NOA	NORSAR Array B	92.72 29	P	P	07 41 59.6	-0.8
	comp=Z,1.3nm,0.8s,baz=273,slow=4.4,SNR=2.5					
	comp=Z,1.3nm,0.8s					
MOTA	Moosalm	92.76 43	*e*P	P	07 42 01.1	0.0
	comp=Z,9.7nm,1.1s					
SQTA	Sankt Quirin	92.83 43	*e*P	P	07 42 01.4	0.0
	comp=Z,12nm,0.9s,SNR=7.0					
WATA	Walderalm	93.08 43	*e*P	P	07 42 02.3	-0.3
	comp=Z,5.7nm,1.1s					
WTTA	Wattenberg	93.13 43	*e*P	P	07 42 02.8	-0.1
	comp=Z,9.1nm,1.0s					
CIMO	Cimolais	93.69 44	IAmb	IAmb	07 42 08.0	
	comp=Z,7.9nm,1.0s					
ABTA	Abfaltersbach	93.73 43	*e*P	P	07 42 05.6	+0.1
	comp=Z,9.1nm,1.0s,SNR=6.2					
VNDA	Vanda	93.80 191	P	P	07 42 06.2	+1.1
VNDA	Vanda	93.80 191	P	P	07 42 05.9	+0.8
	comp=Z,1.4nm,0.8s,baz=114,slow=4.5,SNR=6.9					
	comp=Z,1.4nm,0.8s					
LESA	Schwarzleotal	93.83 43	*i*P	P	07 42 06.1	+0.2
	comp=Z,7.7nm,1.0s,SNR=5.5					
CLL	Collm	93.94 39	P	P	07 42 06.1	-0.1
CLL			IAmb	IAmb	07 42 10.3	
	comp=Z,5.5nm,0.8s					
CLL	Collm	93.94 39	*i*P	P	07 42 06.3	+0.1
CLL			pmax	pmax		
	comp=Z,15nm,1.4s					
HFS	Hagfors	93.97 30	P	P	07 42 05.2	-0.9
	comp=Z,6.3nm,1.1s,baz=242,slow=3.1,SNR=2.3					
	comp=Z,6.3nm,1.1s					
KBA	Koelnbreinsper	94.30 43	*e*P	P	07 42 08.1	-0.1
	comp=Z,5.6nm,1.1s					
KHC	Kasperske Hory	94.38 41	*e*P	P	07 42 08.7	+0.3
KHC	Kasperske Hory	94.38 41	*e*P	P	07 42 08.3	-0.1
KHC			pmax	pmax		
	comp=Z,19nm,1.0s					
PRED	Cave del Predi	94.47 44	IAmb	IAmb	07 42 10.3	
	comp=Z,9.4nm,0.9s					
BIOA	Bad Ischl, Aus	94.47 42	*e*P	P	07 42 08.6	-0.2
	comp=Z,9.2nm,1.1s					
GERES	GERESS Array B	94.48 41	P	P	07 42 07.2	-1.7
	comp=Z,2.7nm,0.8s,baz=264,slow=2.7,SNR=20					
	comp=Z,2.7nm,0.8s					
SABO	M.te Sabotino	94.50 44	IAmb	IAmb	07 42 10.2	
	comp=Z,12nm,0.9s					
MYKA	Terra Mystica	94.51 44	*e*P	P	07 42 09.1	0.0
	comp=Z,7.9nm,0.9s					
BRG	Berggiesshubel	94.55 39	P	P	07 42 17.8	+8.8
BRG			Amp		07 42 18.6	
	comp=Z,8.4nm,1.0s					
CKRC	Cesky Krumlov	94.88 41	*e*P	P	07 42 10.9	+0.3
CKRC	Cesky Krumlov	94.88 41	*e*P	P	07 42 10.9	+0.3
MOA	Molln	94.89 42	*e*P	P	07 42 10.4	-0.3
	comp=Z,8.4nm,1.1s					
PRU	Pruhonice	94.97 40	*e*P	P	07 42 11.9	+0.9
PRU	Pruhonice	94.97 40	*e*P	P	07 42 11.9	+0.9
OBKA	Obir	95.14 44	*e*P	P	07 42 11.9	-0.1
	comp=Z,3.7nm,0.7s					
SOKA	Soboth	95.47 43	*e*P	P	07 42 13.0	-0.4
	comp=Z,4.5nm,0.9s					
ARSA	Arzberg	95.77 43	*e*P	P	07 42 14.3	-0.5
	comp=Z,5.6nm,1.1s					
UPC	Upice	95.89 40	*e*P	P	07 42 15.9	+0.7
UPC	Upice	95.89 40	*e*P	P	07 42 15.9	+0.7
CHVC	Chvalec	95.91 40	*e*P	P	07 42 15.9	+0.6
CHVC	Chvalec	95.91 40	*e*P	P	07 42 15.9	+0.6
CONA	Conrad Observa	95.96 42	*e*P	P	07 42 15.7	0.0
	comp=Z,2.5nm,0.7s					
OSTC	Ostas	96.01 40	*e*P	P	07 42 16.5	+0.7
OSTC	Ostas	96.01 40	*e*P	P	07 42 16.5	+0.7
DPC	Dobruska-Polom	96.09 40	*e*P	P	07 42 17.0	+0.8
DPC	Dobruska-Polom	96.09 40	*e*P	P	07 42 17.0	+0.8
RONA	Rosalia, Austr	96.27 42	*e*P	P	07 42 16.6	-0.4
	comp=Z,5.5nm,1.0s					
KRLC	Kraliky	96.41 40	*e*P	P	07 42 18.4	+0.8
KRLC	Kraliky	96.41 40	*e*P	P	07 42 18.4	+0.8
MODS	Modra-Piesok	96.87 42	*i*P	P	07 42 19.8	+0.1
MODS	Modra-Piesok	96.87 42	*e*PDIFF	P	07 42 19.8	+0.1
MORC	Moravsky Berou	96.92 40	IAmb	IAmb	07 42 21.8	
	comp=Z,5.7nm,0.9s					
STEB	Steborice	97.06 40	*e*P	Pdif	07 42 21.0	+0.4
TSUM	Tsumeb	97.31 110	P	P	07 42 21.7	-0.8
TSUM	Tsumeb	97.31 110	LR	LR	08 25 01.3	
	comp=Z,4μm,19.2s,baz=292,slow=35					
ARCES	ARCESS Array B	97.53 20	P	P	07 42 21.1	-1.1
	comp=Z,3.3nm,0.9s,baz=282,slow=4.3,SNR=5.8					
	comp=Z,3.3nm,0.9s					
FINES	FINESS Array B	99.78 28	P	Pdif	07 42 30.9	-1.5
	comp=Z,2.5nm,0.8s,baz=274,slow=2.1,SNR=3.9					
	comp=Z,2.5nm,0.8s					
DZM	Mont Dzumac	110.19 246	*e*LR	LR	08 19 50.0	
	comp=Z,1μm,24.1s					
KIRV	Kirov	111.56 25	*i*PKIKP	PKiKP	07 47 24.9	+2.3
H11S2	WAKE ISLAND Hyl	11.90 289	T	T	09 48 32.1	
	baz=85,slow=74,SNR=18					
H11S1	WAKE ISLAND Hyl	11.90 289	T	T	09 48 32.9	
	baz=85,slow=74,SNR=25					
H11S3	WAKE ISLAND Hyl	11.91 289	T	T	09 48 32.7	
	baz=85,slow=74,SNR=19					
KIV	Kislovodsk	114.98 42	*e*PKIKP	PKiKP	07 47 28.2	-1.6
KIV			pmax	pmax		
	comp=Z,4.0nm,1.1s					
KBZ	Khabaz	115.22 42	PKP	PKPdf	07 47 30.2	+0.2
	comp=Z,0.8nm,0.6s,baz=270,slow=4.0,SNR=5.3					
KBZ	Khabaz	115.22 42	*i*PKIKP	PKPdf	07 47 30.9	+0.8
ABKAR	Akbulak array	122.22 29	PKPdf	PKiKP	07 47 43.6	+0.1
BRVK	Borovoye	123.75 21	*de*PKIKP	PKPdf	07 47 45.9	-0.3
BVAR	Borovoye Array	123.81 20	PKP	PKPdf	07 47 46.0	-0.4
	comp=Z,4.9nm,0.7s,baz=302,slow=2.3,SNR=20					
BVAR	Borovoye Array	123.81 20	PKIKP	PKPdf	07 47 46.0	-0.4
KLR	Kul'dur	125.29 334	*e*PKIKP	PKPdf	07 47 49.1	-0.2
ZALV	Zalesovo Beam	126.87 11	PKPdf	PKPdf	07 47 51.5	-0.6
ZALV	Zalesovo Beam	126.87 11	PKP	PKPdf	07 47 51.3	-0.9
	comp=Z,9.2nm,0.6s,baz=278,slow=2.1,SNR=27					
STKA	Stephens Creek	127.55 226	PKP	PKiKP	07 47 54.5	-0.2
	comp=Z,3.7nm,0.8s,baz=66,slow=2.9,SNR=6.2					
STKA	Stephens Creek	127.55 226	*e*PKIKP	PKPdf	07 47 54.1	-0.1
KURK	Kurchatov	128.42 17	PKPdf	PKPdf	07 47 55.1	-0.1
KURK	Kurchatov	128.42 17	*c i*PKIKP	PKPdf	07 47 54.9	-0.3
KURBB	Kurchatov Arra	128.47 17	PKP	PKPdf	07 47 55.1	-0.2
	comp=Z,14nm,0.8s,baz=327,slow=2.3,SNR=48					
MAJO	Matsushiro	130.19 318	*e*PKIKP	PKiKP	07 48 00.3	+0.4
MJAR	Matsushiro Arr	130.19 318	PKP	PKPdf	07 47 58.5	-0.5
	comp=Z,2.3nm,0.9s,baz=56,slow=1.8,SNR=4.3					
MAKZ	Makanchi	132.90 16	PKPdf	PKPdf	07 48 03.2	-0.7
MAKZ	Makanchi	132.90 16	PKIKP	PKPdf	07 48 03.2	-0.7
MK31	Makanchi Array	133.00 16	*e*PKIKP	PKPdf	07 48 03.5	-0.6
MKAR	Makanchi Array	133.00 16	PKPdf	PKPdf	07 48 04.0	-0.1
MKAR	Makanchi Array	133.00 16	PKP	PKPdf	07 48 03.1	-1.0
	comp=Z,4.6nm,0.8s,baz=327,slow=2.4,SNR=19					
ULN	Ulaanbaatar	133.78 353	*e*PKIKP	PKPdf	07 48 05.6	-0.1
SONM	Songino Array	133.89 353	PKP	PKPdf	07 48 05.2	-0.7
	comp=Z,1.4nm,0.5s,baz=0.0,slow=0.4,SNR=8.6					
SONM			SKPbc	SKPab	07 51 34.2	-1.4
	comp=Z,1.5nm,1.1s,baz=332,slow=2.1,SNR=4.1					
AAK	Ala-Archa	133.89 25		PKPdf	07 48 05.9	-0.2
AAK	Ala-Archa	133.89 25	*ce*PKIKP	PKiKP	07 48 06.8	-0.6
KSRS	Korea Array	135.88 327	PKP	PKPdf	07 48 08.7	-1.0
	comp=Z,3.8nm,0.8s,baz=3.7,slow=2.1,SNR=7.6					
KSH	Kashi	137.08 27	PKP	PKiKP	07 48 13.0	-0.9
WMQ	Urumqi	137.10 12	*e*PKP	PKiKP	07 48 13.5	-0.2
ASAR	Alice Springs	137.67 231	PKPdf	PKPdf	07 48 14.2	+0.7
ASAR	Alice Springs	137.67 231	PKhKP	PKPpre	07 48 05.9	
	comp=Z,0.9nm,0.5s,baz=125,slow=3.7,SNR=20					
ASAR			PKP	PKPdf	07 48 13.1	-0.3
	comp=Z,4.6nm,0.9s,baz=121,slow=2.6,SNR=14					
WRAB	Tennant Creek	139.18 236	*e*PKIKP	PKPdf	07 48 15.5	-0.8
WRA	Warramunga Arr	139.19 236	PKhKP	PKPpre	07 48 08.9	
	comp=Z,1.4nm,0.8s,baz=120,slow=2.2,SNR=6.3					
WRA			PKP	PKPdf	07 48 16.2	-0.2
	comp=Z,4.2nm,0.5s,baz=114,slow=2.0,SNR=24					
BTO	Baotou	140.30 347	*e*PKP	PKPdf	07 48 16.5	-1.4
BTO			AMB	AMB		
	comp=Z,650nm,7.5s					
BTO			LR	LR		
	comp=Z,2μm,20.4s					
BTO			LR	LR		
	comp=Z,2μm,15.8s					
BTO			LR	LR		
	comp=Z,4μm,23.3s					
H01W1	Cape Leeuwin H	140.72 200	T	T	10 25 45.0	
	baz=154,slow=75,SNR=7.4					
H01W2	Cape Leeuwin H	140.72 200	T	T	10 25 32.7	
	baz=154,slow=75,SNR=5.9					
H01W3	Cape Leeuwin H	140.74 200	T	T	10 25 37.4	
	baz=154,slow=75,SNR=4.8					
GTA	Gaotai	142.73 359	PKP	PKPdf	07 48 22.5	+0.1
NJ2	Nanjing	144.79 330	*e*PKP	PKPdf	07 48 26.5	+0.5
MTN	Manton Dam	145.01 244		PKPdf	07 48 26.6	-0.1
MORW	Morawa	145.15 206		PKPdf	07 48 26.7	0.0
LYN	LuoYang	145.29 340	PKPbc	PKPbc	07 48 24.5	-2.0
LYN			SS	SS	08 10 37.3	+3.7
LYN			LR	LR		
	comp=Z,3μm,19.6s					
LYN			LR	LR		
	comp=Z,2μm,18.6s					
LYN			LR	LR		
	comp=Z,3μm,17.9s					
GOMU	GeErMu	145.71 6	PKPbc	PKPbc	07 48 28.0	-0.2
GOMU			SS	SS	08 10 44.5	+5.8
GOMU			AMB	AMB		
	comp=Z,1μm,12.7s					
GOMU			LR	LR		
	comp=Z,2μm,19.9s					
GOMU			LR	LR		
	comp=Z,3μm,19.0s					
GOMU			LR	LR		
	comp=Z,8μm,19.0s					
LZH	Lanzhou	145.78 353	PKPbc	PKPdf	07 48 27.8	0.0
XAN	Xi'an	146.82 345	PKPbc	PKPdf	07 48 29.5	0.0
PSA00	Pilbara Seismi	149.06 220		PKPbc	07 48 37.9	+0.4
MBWA	Marble Bar	149.44 220		PKiKP	07 48 38.9	-0.7
CD2	Chengdu	150.89 352	PKPbc	PKPdf	07 48 35.0	-1.1
LSA	Lhasa	151.40 15		PKiKP	07 48 43.8	-0.2
LSA			PKPab	PKPab	07 48 52.6	+1.0
LSA	Lhasa	151.40 15	PKIKP	PKiKP	07 48 43.8	-0.2
LSA					07 48 52.6	
HYB	Hyderabad	154.60 52	*e*PKPbc	PKPbc	07 48 49.8	-0.6
HYB			*e*PKPab	sPKPbc	07 49 04.1	+1.4
PZH	PanZhiHua	155.48 354	PKP	PKPdf	07 48 42.0	-1.0
CMAR	Chiang Mai Arr	163.62 1		PKPdf	07 48 51.5	-0.8
CMAR	Chiang Mai Arr	163.62 1	PKP	PKPdf	07 48 52.2	-0.1
	comp=Z,1.8nm,0.3s,baz=337,slow=0.8,SNR=15					
CMAR			PKPab	PKPab	07 49 42.0	-1.7
	comp=Z,1.6nm,0.4s,baz=341,slow=3.7,SNR=5.9					
CMAR	Chiang Mai Arr	163.62 1	PKIKP	PKPdf	07 48 51.5	-0.8

UCR ***31*** *07:38:26.6±0.8, 10°.55N×86°.41W, h13km±8km, MW3.7*
CATAC ***31*** *07:38:27.9±0.6, 11°.N±3°.×8°.6W±°, h10km±4km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=8.1km s-min=5.5km az=63.7, confirmed*
ISC 31 07:38:29.5±1.4, 10°.62N±0°.05×86°.31W±0°.06, h23km, n50, σ1°.17/54, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	Hacienda Flor	0.75	88	*e*P	Pb	07 38 43.7	-0.2
ALIBA	Liberia Airpor	0.76	92	*e*P	Pb	07 38 43.8	-0.2
ALIBA				*e*S	Sn	07 38 56.2	+0.6
LCRUZ	La Cruz	0.81	56	*e*P	Pb	07 38 44.5	-0.6
ERIA	Liberia	0.86	89	*e*P	Pb	07 38 45.4	-0.4
VRLE	La Escondida,	0.95	80	*e*P	Pn	07 38 45.8	-1.8
GPS2	Hotel Rincn d	0.95	82	*e*P	Pn	07 38 46.0	-1.6
CARN	Rivas	0.96	54	P	Pn	07 38 46.8	-0.8
CARN				S	Sn	07 39 01.4	+0.7
CARN	Rivas	0.96	54	P	Pn	07 38 46.3	-1.4
VORI	VORI	0.97	78	*e*P	Pn	07 38 46.5	-1.4
NICO	Nicoya	0.98	119	*e*P	Pn	07 38 46.0	-1.9
BAGA	Bagaces	1.04	95	*e*P	Pb	07 38 48.9	+0.1
COLC	Colonia	1.09	87	*e*P	Pn	07 38 48.1	-1.3
COLC				*e*S	Sn	07 39 03.7	-0.2
INDI	Punta indio, G	1.09	133	P	Pn	07 38 47.9	-1.5
INDI	Punta indio, G	1.09	133	S	Sn	07 39 07.2	+3.4
INDI	Punta indio, G	1.09	133	P	Pn	07 38 47.4	-2.1
JAPN	AI SSO del Vol	1.10	35	P	Pn	07 38 49.2	-0.4
JAPN	AI SSO del Vol	1.10	35	P	Pn	07 38 49.3	-0.2
CUI	Cuipilapa	1.13	88	*e*P	Pn	07 38 48.9	-1.1
CONN	Concepcion	1.16	36	P	Pn	07 38 48.5	-1.9
CONN	Concepcion	1.16	36	P	Pn	07 38 48.5	-1.9
NADN	Granada	1.16	14	*e*P	Pn	07 38 49.3	-1.1
NADN				*e*S	Sb	07 39 06.7	+1.2
VMAR	Armenia, Volca	1.20	81	*e*P	Pn	07 38 50.3	-0.6
TENO	El Achiote	1.32	86	*e*P	Pn	07 38 51.8	-0.7
NANN	Nandasmo	1.33	8	P	Pn	07 38 51.6	-1.1
NANN	Nandasmo	1.33	8	S	Sb	07 39 11.8	+1.4
NANN	Nandasmo	1.33	8	P	Pb	07 38 52.8	-1.0
JUNT	Juntas	1.37	104	*e*P	Pn	07 38 52.8	-0.5
VERA	Finca Concepci	1.44	80	*e*P	Pn	07 38 53.7	-0.5
COPN	Copaltepe	1.58	350	P	Pn	07 38 55.6	-0.5
COPN	Copaltepe	1.58	350	P	Pn	07 38 55.1	-1.0
COPN	Copaltepe	1.58	350	*e*P	Pn	07 38 55.0	-1.2
SOCE	Pocosol	1.68	98	P	Pb	07 38 59.1	-0.8
SOCE	Pocosol	1.68	98	P	Pn	07 38 58.6	+1.0
ACON	Acoyapa	1.75	40	P	Pn	07 38 57.4	-1.0
ACON	Acoyapa	1.75	40	S	Sn	07 39 20.3	+0.3
ACON	Acoyapa	1.75	40	P	Pn	07 38 57.6	-0.9
BOAB	BOACO BROADBAN	.93	19	P	Pn	07 39 00.0	-0.9
BOAB	BOACO BROADBAN	.93	19	P	Pn	07 38 59.9	-1.1
PACN	AI O del Volca	1.93	346	P	Pn	07 39 00.6	-0.4
PACN	AI O del Volca	1.93	346	P	Pn	07 39 00.3	-0.7
POLN	AI Sur del Vol	2.08	346	P	Pn	07 39 02.5	-0.5
MATN	Matagalpa	2.33	9	P	Pn	07 39 05.6	-1.0
MATN	Matagalpa	2.33	9	S	Sn	07 39 36.0	+1.4
MATN	Matagalpa	2.33	9	P	Pn	07 39 05.9	-0.7
LIMN	Finca el Limon	2.43	359	P	Pn	07 39 06.4	-1.6
LIMN	Finca el Limon	2.43	359	P	Pn	07 39 06.9	-1.1
CSGN	Cosiguina Volc	2.64	333	P	Pn	07 39 10.5	-0.4
CSGN	Cosiguina Volc	2.64	333	P	Pn	07 39 10.2	-0.7
BLUN	Bluefields	2.85	61	P	Pn	07 39 13.0	-0.5
BLUN	Bluefields	2.85	61	P	Pn	07 39 13.1	-0.5

CATAC ***31*** *07:40:30.3±0.3, 9°N±2°.×8°3W±°, h21km±2km, M3.8/7, MLv3.8/7, Error ellipse: s-maj=7.0km s-min=3.6km az=49.8, confirmed*
UCR ***31*** *07:40:30.5±1.0, 8°.84N×83°.42W, h47km±4km, MW3.6*
ISC 31 07:40:30.0±1.0, 8°.82N±0°.03×83°.48W±0°.03, h25km, n63, σ0°93/72, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIMO	Fila Mora	0.21	36	*e*P	Pn	07 40 37.9	+0.1
FIMO				*e*S	Sb	07 40 44.2	+4.2
JIME	Puerto Jimenez	0.32	151	*e*P	Pn	07 40 38.9	-0.2
JIME				*e*S	Sn	07 40 46.6	+1.7
OCHAL	Ojochal	0.32	329	P	Pn	07 40 38.5	-0.6
OCHAL	Ojochal	0.32	329	S	Sn	07 40 45.5	+0.4

RVLA	Villa Bonita	1.29	355	*e*P	Pb	07 40 52.6 -1.0
SANTA	Santa Ana	1.31	328	*e*P	Pn	07 40 52.6 -0.3
HDC	Heredia	1.33	332	P	Pb	07 40 53.9 -0.5
HDC				S	Sb	07 41 11.2 +0.1
BELE	Belen	1.34	329	*e*P	Pb	07 40 53.6 -1.0
CVTG	V. Turrialba,	1.35	348	*e*P	Pb	07 40 53.4 -1.3
TRB2	Turrubares	1.45	319	*e*P	Pn	07 40 55.1 +0.4
TCS1	Tacares	1.46	326	P	Pb	07 40 55.5 -1.1
TCS1	Tacares	1.46	326	*e*P	Pn	07 40 55.4 +0.4
CARI	Cariari	1.56	351	*e*P	Pb	07 40 57.5 -0.7
SRA1	San Ramn	1.60	322	*e*P	Pb	07 40 57.7 -1.3
ARZA	Esparza	1.65	315	*e*P	Pb	07 40 58.7 -1.2
ITAL	Pital	1.80	334	*e*P	Pn	07 41 00.2 +0.7
SOCE	Pocosol	1.92	324	*e*P	Pn	07 41 02.3 +1.2
COVE	Coope Vega, Sa	2.10	334	P	Pb	07 41 05.5 -1.9

IGQ 31 07:45:22.4±0.8, 2°S±2°×8°1W±°, h4km±1km, MLv4.1/49, 13C-3D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	0.27	155	⇓P	Pg	07 45 28.5	+1.0
SALI				S	Sb	07 45 33.4	-1.2
ALIBE	La Libertad	0.39	139	P	Pg	07 45 30.6	+0.6
ALIBE				S	Sb	07 45 38.1	-0.1
PPLP	Puerto Lpez	0.52	40	P	Pg	07 45 31.1	-1.2
PPLP				S	Sg	07 45 39.0	-0.1
PPLP	Puerto Lpez	0.52	40	S	Sb	07 45 41.1	-0.7
PPLP				⇓P	Pg	07 45 31.2	-1.1
ISPT	Isla de la Pla	0.68	3	⇑P	Pg	07 45 34.9	-0.5
ISPT				S	Sg	07 45 45.0	+0.8
AMNT	Manta-Manabi	1.06	20	S	Sg	07 45 56.0	-0.6
AMNT				P	Pg	07 45 41.1	-1.7
AGUAY	Guayaquil	1.16	95	P	Pg	07 45 41.1	-3.5
GYE3	Ecuador-Guayaq	1.22	100	P	Pg	07 45 42.8	-3.1
ISPG	Isla Puna-Puer	1.38	137	P	Pn	07 45 47.5	-1.0
MILO	Milagro-Astudi	1.58	102	P	Pn	07 45 47.7	-3.5
CAB1	Cabo Pasado-Ma	1.69	24	P	Pn	07 45 51.3	-1.3
AQUE	Quevedo	1.84	61	P	Pn	07 45 52.2	-2.5
JAMA	Jama	1.93	28	P	Pn	07 45 53.0	-2.6
ARNL	Arenillas	1.90	147	P	Pn	07 45 53.0	-2.6
ARNL				S	Sn	07 46 19.9	0.0
COHC	Cochancay	1.92	106	⇑P	Pn	07 45 52.7	-3.1
FLF1	Flavio Alfaro-	2.02	39	⇑P	Pn	07 45 55.8	-1.4
AGRD	Ecuador-Guaran	2.13	80	⇓P	Pn	07 45 55.9	-3.1
JSCH	Cashca Tororas	2.14	84	⇑P	Pn	07 45 56.2	-2.9
CHSH	Refugio Sur-Vo	2.28	79	⇑P	Pn	07 45 59.6	-1.7
TAMH	Tambohuasha Ch	2.36	80	P	Pn	07 46 00.2	-2.1
PORT	Chimborazo Vol	2.38	78	⇑P	Pn	07 46 01.0	-1.6
IGUA	Igualata	2.50	80	⇑P	Pn	07 46 03.2	-1.2
BBIL	Ulba Tungurahu	2.66	79	P	Pn	07 46 05.7	-0.7
ILLI	Illinizas Sur	2.67	63	P	Pn	07 46 05.0	-1.7
ARRY	Arrayan	2.68	81	⇑P	Pn	07 46 05.4	-1.2
JUI6	Juive	2.68	79	P	Pn	07 46 06.0	-0.6
POND	Pondoa	2.70	79	⇑P	Pn	07 46 06.2	-0.7
BULB	Ulba Tungurahu	2.74	79	⇑P	Pn	07 46 07.0	-0.5
PAST	Pastocalle	2.76	63	P	Pn	07 46 07.7	-0.1
PIS1	Pisayambo	2.86	72	⇑P	Pn	07 46 09.6	+0.4
BOSC	San Juan Bosco	2.87	115	P	Pn	07 46 10.3	+1.3
CAMI	Rancho Maria	2.89	64	P	Pn	07 46 09.6	0.0
BMOR	Cotopaxi Volca	2.91	66	P	Pn	07 46 09.9	0.0
BNAS	Cotopaxi Volca	2.91	64	P	Pn	07 46 11.5	+1.6
SUCR	Mariscal Sucre	2.91	64	P	Pn	07 46 09.7	-0.2
VCES	Cotopaxi	2.94	67	⇑P	Pn	07 46 10.1	-0.2
BREF	Cotopaxi Volca	2.95	65	P	Pn	07 46 10.7	+0.1
BVC2	Cotopaxi Volca	2.98	65	⇑P	Pn	07 46 11.0	+0.1
BTAM	Cotopaxi Volca	2.98	65	P	Pn	07 46 11.5	+0.5
PIAT	Ana Tenorio	2.99	72	P	Pn	07 46 11.1	+0.2
VC1	Cotopaxi 1	2.99	64	P	Pn	07 46 11.7	+0.6
PITA	Cotopaxi Volc	3.00	63	P	Pn	07 46 11.2	+0.1
TAMB	Tambo	3.00	66	P	Pn	07 46 11.5	+0.3
GGPT	Toaza - Volcan	3.01	55	P	Pn	07 46 09.7	-1.5
JUA2	San Juan 2	3.03	55	P	Pn	07 46 10.5	-1.0
TERV	Terraza Guagua	3.06	55	P	Pn	07 46 10.8	-1.1
GGPC	Guagua Pichinc	3.06	55	P	Pn	07 46 11.1	-1.0
PINO	Pino	3.06	55	P	Pn	07 46 10.7	-1.4
PUYO	Puyo, Santa Ro	3.11	82	P	Pn	07 46 13.3	+1.0
YANA	Yana	3.12	54	P	Pn	07 46 11.3	-1.4
ANTG	Antisana-Guama	3.19	63	P	Pn	07 46 14.0	+0.2
PAC1	Pacto, Paraso	3.19	47	P	Pn	07 46 11.6	-1.8
ANTM	Antisana-La Mi	3.20	64	P	Pn	07 46 14.3	+0.4
PULU	Pululahua	3.25	53	P	Pn	07 46 14.0	-0.6
ANTS	Antisana-Sarah	3.27	64	P	Pn	07 46 15.8	+0.9
ANTI	Antisana	3.29	63	P	Pn	07 46 16.2	+0.9
ATEN	Tena	3.42	74	P	Pn	07 46 16.2	-0.3
OTAV	Otavalo	3.42	51	P	Pn	07 46 16.6	-0.3
ARDO	Archidona, Ten	3.43	74	P	Pn	07 46 17.3	+0.5
ZUMB	Zumba	3.50	146	P	Pn	07 46 17.9	+0.2
CUSE	Cuicocha Este	3.51	50	P	Pn	07 46 18.3	+0.2
CUIC	Cuicocha-Domo	3.54	51	P	Pn	07 46 19.3	+0.8
COTA	Cotacachi	3.57	51	P	Pn	07 46 19.5	+0.5
IMBA	Imbabura, San	3.65	53	P	Pn	07 46 21.6	+1.6
ANGU	Angureal	3.67	57	P	Pn	07 46 21.8	+1.3
URCU	Urcuqui	3.70	50	P	Pn	07 46 22.4	+1.6
YAHU	Yahuarcocha	3.81	53	P	Pn	07 46 22.7	+0.6
LITE1	Lita	3.86	45	P	Pn	07 46 22.5	-0.2
CHMA	Chilma	4.13	48	P	Pn	07 46 26.8	+0.4
CHL1	Volc¡n Chiles	4.17	49	P	Pn	07 46 28.2	+0.9
ECEN	Cerro Negro	4.17	49	P	Pn	07 46 27.8	+0.5
CHL2	Volc¡n Chiles	4.19	49	P	Pn	07 46 28.5	+0.9
TULM	Tulcn-Chalpat	4.24	51	P	Pn	07 46 29.8	+1.6
BBAC	Balboa, Cauca	5.51	44	P	Pn	07 46 43.8	-1.6

*IDC **31** 07:45:22.4±1.1, 15°.08S×70°.51W, h181km±11km, mb3.5/6, mbtmp4.0/11, Error ellipse: s-maj=37.7km s-min=12.2km az=27.0*
*NEIC **31** 07:45:23.3±1.3, 15°.54S±0°.09×70°.72W±0°.04, h200km±12km, mb4.5/14, Error ellipse: s-maj=12.8km s-min=6.1km az=172.0*
ISC 31 07:45:22.3±0.5, 15°.46S±0°.07×70°.69W±0°.07, h193km, n46, σ1°21/49, mb4.1/10, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	2.42	151	Pn	Pn	07 46 08.4	+2.9
LPAZ	La Paz	2.60	109	P	Pn	07 46 08.6	+1.1
	101nm,0.3s,baz=291,slow=8.6,SNR=1633						
LPAZ				S	Sn	07 46 41.5	-1.2
	14nm,0.6s,baz=210,slow=20,SNR=1.0						
AP01	Chacalluta	2.92	173	Pn	Pn	07 46 11.7	+1.1
AP01				Sn	Sn	07 46 47.9	-0.6
PB16	IPOC Station P	3.08	159	Pn	Pn	07 46 15.3	+2.1
PB12	IPOC Station P	3.16	174	Pn	Pn	07 46 13.8	+0.2
PB11	IPOC Station P	4.39	167	Pn	Pn	07 46 29.0	0.0
TA02	Huaiquique	4.82	174	Pn	Pn	07 46 33.7	-0.5
HMBC	Humberstone	4.86	171	Pn	Pn	07 46 34.4	-0.4
PB08	IPOC Station P	4.88	163	Pn	Pn	07 46 36.4	+1.0
TA01	Diego Aracena	5.11	175	Pn	Pn	07 46 37.3	-0.6
PATCX	Punta Patache	5.36	175		Pn	07 46 40.8	-0.5
PB09	IPOC Station P	6.45	168	Pn	Pn	07 46 55.9	+0.4
NNA	Nana	6.90	299	Pn	Pn	07 47 02.3	+1.0
NNA	Nana	6.90	299	P	Pn	07 47 01.3	0.0
	15nm,0.3s,baz=123,slow=13,SNR=10						
NNA				S	Sn	07 48 17.3	-2.4
	5.9nm,0.3s,baz=128,slow=11,SNR=1.6						
PB05	IPOC Station P	7.37	176	Pn	Pn	07 47 07.2	-0.3
PB14	IPOC Station P	9.13	178		Pn	07 47 30.2	-0.4
SIV	San Ignacio	9.28	95	P	Pn	07 47 29.9	-2.4
	2.6nm,0.4s,baz=273,slow=13,SNR=25						
GO02	Mina Guanaco	9.71	174	Pn	Pn	07 47 37.8	-0.4
VILB	Vilhena	10.47	78	Pn	Pn	07 47 49.2	+1.3
AC01	Pan de Azucar	10.64	180	Pn	Pn	07 47 49.6	-0.3
AC04	Llanos de Chal	12.69	182	Pn	Pn	07 48 14.8	-1.3
MACA	Manacapuru-AM	15.70	40	P	P	07 48 52.7	-0.8
CFA	Coronel Fontan	16.23	172	P	Pn	07 49 03.2	+3.4
	0.3nm,0.3s,baz=16,slow=15,SNR=2.6						
CPUP	Villa Florida	16.51	133	P	P	07 49 01.7	-0.6
CPUP	Villa Florida	16.51	133	P	P	07 49 03.6	+1.3
	1.8nm,0.6s,baz=310,slow=8.9,SNR=7.8						
BOAV	Boa Vista	20.39	30	P	P	07 49 45.1	+0.6
BOAV				IAmb	IAmb	07 49 47.1	
	comp=Z,5.1nm,0.7s						
ITAB	Concordia	20.85	127	P	P	07 49 47.7	-1.6
ITAB				IAmb	IAmb	07 49 49.4	
	comp=Z,26nm,1.5s						
MAL2	Monte Alegre,	21.06	52	P	P	07 49 52.4	+0.8
MAL2				IAmb	IAmb	07 50 08.3	
	comp=Z,16nm,1.0s						
RUSC	La Rusia	21.34	353	P	P	07 49 55.4	+0.3
RUSC				IAmb	IAmb	07 49 58.5	
	comp=Z,11nm,1.2s						
PLTB	Pedras Altas	22.50	139	P	P	07 50 05.2	-0.6
SDV	Santo Domingo	24.18	0	P	P	07 50 20.2	-1.2
BAUV	El Baul	24.38	6	P	P	07 50 22.0	-0.9
TEIG	Tepich	39.45	333	P	P	07 52 35.3	+1.4
TXAR	Lajitas Array	54.74	324	P	P	07 54 31.3	-0.8
	comp=Z,0.3nm,0.6s,baz=149,slow=4.8,SNR=1.6						
	comp=Z,0.3nm,0.6s						
OK031	S. Brethren Rd	56.80	335	P	P	07 54 47.8	+1.2
OK031				IAmb	IAmb	07 54 48.0	
	comp=Z,7.9nm,0.8s						
SMWD	Samnorwood	57.58	331	P	P	07 54 52.6	+0.6
SMWD				IAmb	IAmb	07 54 54.7	
	comp=Z,6.7nm,0.8s						
PDAR	Pinedale Array	68.06	330	P	P	07 56 02.3	+1.0
	comp=Z,0.3nm,0.4s,baz=136,slow=8.1,SNR=8.3						
	comp=Z,0.3nm,0.4s						
ULM	Lac du Bonnet	69.07	343	P	P	07 56 06.4	-0.7
	comp=Z,1.7nm,0.4s,baz=152,slow=6.3,SNR=6.8						
	comp=Z,1.7nm,0.4s						
TORD	Torodi Ar. Bea	77.03	72	P	P	07 56 53.6	-1.0
	comp=Z,1.4nm,0.4s,baz=276,slow=5.7,SNR=1.9						
	comp=Z,1.4nm,0.4s						
ESDC	Sonseca Array	82.78	46	P	P	07 57 23.8	-1.2
	comp=Z,0.5nm,0.8s,baz=253,slow=7.1,SNR=4.6						
	comp=Z,0.5nm,0.8s						
YKA	Yellowknife Ar	84.95	341	P	P	07 57 35.8	+0.5
	comp=Z,1.2nm,0.7s,baz=141,slow=4.9,SNR=29						
	comp=Z,1.2nm,0.7s						
KURBB	Kurchatov Arra	137.04	29	PKP	PKPdf	08 04 22.5	+0.4
	comp=Z,0.5nm,0.8s,baz=326,slow=3.1,SNR=4.7						
ZALV	Zalesovo Beam	137.08	21	PKP	PKPdf	08 04 21.8	-0.3
	comp=Z,1.4nm,0.5s,baz=307,slow=2.9,SNR=6.7						
MKAR	Makanchi Array	141.50	30	PKP	PKPdf	08 04 31.1	+0.6
	comp=Z,0.1nm,0.4s,baz=343,slow=1.5,SNR=1.8						
MJAR	Matsushiro Arr	146.81	315	PKPbc	PKPbc	08 04 43.3	+1.2
	comp=Z,0.9nm,0.6s,baz=77,slow=1.1,SNR=1.8						
SONM	Songino Array	147.62	4	PKPbc	PKPbc	08 04 44.1	-0.1
	comp=Z,1.9nm,0.6s,baz=338,slow=1.8,SNR=8.2						

*ATH **31** 07:51:40.8±0.3, 41°.54N×19°.34E, h10km, ML3.0/12, Manual Solution by N.Liadopoulou First location: 2019/03/31 07:52:58, This location: 2020/07/01 11:23:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*RHSSO **31** 07:51:40.6±0.6, 41°.48N×19°.42E, h8km±2km, ML3.3/9*
*PDG **31** 07:51:41.3±0.2, 41°.55N×19°.43E, h10km, MD3.2/3, ML3.1/12, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*BEO **31** 07:51:42.0±0.3, 41°.58N×19°.43E, h10km±2km, ML2.9/18*
*THE **31** 07:51:45.6, 41°.46N×19°.42E, h24km±24km, ML2.8/4, Error ellipse: s-maj=30.0km s-min=3.2km az=321.0*
ISC 31 07:51:41.0±1.0, 41°.52N±0°.02×19°.37E±0°.02, h11km±8km, n138, σ0°.94/197, 26C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.41	115	⇓P	Pg	07 51 48.9	-0.2
TIR				⇓S	Sg	07 51 54.5	-0.2
TIR	Tirane	0.41	115	*e*Pg	Pg	07 51 49.0	-0.2
TIR				*e*Sg	Sb	07 51 55.2	-1.3
TIR	Tirane	0.41	115	P	Pg	07 51 49.0	-0.2
ULC	Ulcinj	0.45	348	⇑*i*Pg	Pg	07 51 49.4	-0.5
ULC				*e*Sg	Sg	07 51 56.5	+0.6
DRME	Dracevica, Mon	0.68	348	⇑*i*Pg	Pg	07 51 53.3	-0.9
DRME				*e*Sg	Sb	07 52 04.4	+0.2
DRME	Dracevica, Mon	0.68	348	⇓*i*Pg	Pg	07 51 53.2	-0.9
DRME				*i* Sg	Sb	07 52 04.2	0.0
PDG	Podgorica	0.91	355	⇑*i*Pg	Pg	07 51 57.4	-1.2
PDG				*e*Sg	Sb	07 52 11.1	+0.2
PDG	Podgorica	0.91	355	⇓P	Pg	07 51 57.7	-0.8
PDG				⇑S	Sb	07 52 11.2	+0.3
PDG	Podgorica	0.91	355	*e*Pg	Pg	07 51 57.0	-1.6
PDG				*e*Sg	Sb	07 52 11.6	+0.7
PDG	Podgorica	0.91	355	⇓*i*Pg	Pg	07 51 58.0	-0.6
PDG				*e*Sg	Sn	07 52 12.2	-0.6
PDG	Podgorica	0.91	355	P	Pg	07 51 57.6	-1.0
CEME	Cevo	1.08	342	*e*Pg	Pg	07 52 00.8	-0.9
CEME				*e*Sg	Sn	07 52 18.0	+1.0
HCY	Herceg Novi	1.13	325	⇑*i*Pg	Pb	07 52 02.4	-0.1
HCY				*e*Sg	Sg	07 52 18.2	+0.7
HCY	Herceg Novi	1.13	325	*e*Pg	Pb	07 52 02.6	+0.1
HCY				*i* Sg	Sn	07 52 20.1	+1.8
OHR	Ohrid	1.15	110	*i* Pn	Pb	07 52 02.0	-0.9
OHR	Ohrid	1.15	110	*e*Pg	Pb	07 52 02.1	-0.9
OHR				*e*Sg	Sn	07 52 19.2	+0.3
PVY	Plav	1.16	22	⇓*i*Pg	Pb	07 52 02.3	-0.8
PVY				*e*Sg	Sn	07 52 20.3	+1.2
NKME	Niksic	1.28	346	*e*Pg	Pn	07 52 04.7	-0.2
NKME				*i* Sg	Sn	07 52 23.9	+1.9
KOME	Kolasin	1.33	5	⇓*i*Pg	Pn	07 52 05.3	-0.3
KOME				*e*Sg	Sg	07 52 26.0	+2.1
IVA	Berane	1.40	16	⇓*i*Pg	Pn	07 52 06.3	-0.3
IVA				*e*Sg	Sg	07 52 28.3	+2.1
TREB	Trebinje	1.41	328	⇑*i*Pg	Pn	07 52 07.0	+0.4
TREB				*e*Sg	Sg	07 52 27.0	+0.5
TREB	Trebinje	1.41	328	*e*Pg	Pn	07 52 07.1	+0.4
TREB				*e*Sg	Sg	07 52 26.8	+0.3
DBRK	Dubrovnik	1.46	322	*e*Pn	Pn	07 52 07.5	+0.2
MESG	Mesagne	1.48	231	P	Pn	07 52 06.9	-0.6
MESG				S	Sn	07 52 26.9	+0.1
BRY	Bratogost	1.51	336	⇑*i*Pn	Pn	07 52 08.2	+0.1
BRY				*e*Sn	Sb	07 52 29.3	+1.0
BRY	Bratogost	1.51	336	*e*Pg	Pn	07 52 08.9	+0.8
BRY				*e*Sg	Sg	07 52 31.6	+2.0
SCTE	Santa Cesarea	1.60	206	P	Pn	07 52 09.1	-0.1
SCTE				S	Sn	07 52 30.1	+0.2
FNA	Florina	1.69	115	P	Pb	07 52 11.9	-0.1
FNA				S	Sb	07 52 32.7	-0.6
	475nm,0.6s						
FNA	Florina	1.69	115	*e*Pn	Pb	07 52 11.6	-0.4
FNA				*e*Sn	Sb	07 52 33.7	+0.4
FNA	Florina	1.69	115	P	Pb	07 52 11.3	-0.7
FNA				S	Sb	07 52 32.9	-0.3
NEST	Nestorio	1.69	130	P	Pb	07 52 12.4	+0.3
NEST				S	Sn	07 52 32.1	0.0
	232nm,0.5s						
NEST	Nestorio	1.69	130	P	Pn	07 52 11.0	+0.5
NEST				S	Sb	07 52 33.2	-0.1
UPM	Unac-Piva	1.71	349	⇑*i*Pn	Pn	07 52 11.8	+0.9
UPM				*e*Sn	Sb	07 52 34.4	+0.2
UPM	Unac-Piva	1.71	349	*e*Pn	Pb	07 52 12.2	-0.4
UPM				*i* Sn	Sg	07 52 36.8	+0.6
PLE	Pljevlja	1.81	0	*e*Pn	Pb	07 52 13.3	-0.8
PLE				*i* Sn	Sg	07 52 38.3	-0.8
STON	Ston	1.83	318	*e*Pn	Pn	07 52 13.7	+1.4
STON				*e*Sn	Sb	07 52 37.3	-0.1
STON	Ston	1.83	318	*e*Pn	Pn	07 52 12.2	-0.1
STON	Ston	1.83	318	*e*Pn	Pn	07 52 12.9	+0.6
STON				*e*Sn	Sb	07 52 37.5	+0.1
KEK	Kerkira	1.84	170	P	Pn	07 52 14.1	+1.7
KEK				S	Sn	07 52 36.9	+1.3
	188nm,0.5s						
KEK	Kerkira	1.84	170	P	Pn	07 52 13.4	+1.0
KEK				S	Sn	07 52 36.9	+1.3
PENT	Pentalofos	1.89	134	P	Pb	07 52 15.5	0.0
PENT	Pentalofos	1.89	134	P	Pn	07 52 14.2	+1.0
KALIN	Kalinovik	2.09	341	*e*Pn	Pn	07 52 17.1	+1.1
KALIN				*e*Sn	Sn	07 52 43.3	+1.2
RUDO	Rudo	2.09	0	⇑*i*Pn	Pn	07 52 16.7	+0.7
RUDO				*e*Sn	Sb	07 52 43.5	-1.5
IGT	Igoumenitsa	2.12	159	P	Pn	07 52 16.9	+0.6
IGT	Igoumenitsa	2.12	159	P	Pn	07 52 17.4	+1.0
LTRZ	Laterza	2.13	245	P	Pn	07 52 16.4	-0.2
SELS	Selova	2.13	37	*e*Pn	Pn	07 52 17.4	+0.8
SELS				*e*Sn	Sn	07 52 41.7	-1.4
JAN	Janina	2.18	148	P	Pn	07 52 18.2	+1.0
JAN				S	Sn	07 52 45.1	+1.0
	50nm,1.4s						
JAN	Janina	2.18	148	P	Pn	07 52 17.5	+0.3
KPRO	Kipourio	2.18	135	P	Pb	07 52 19.1	-1.3
KPRO	Kipourio	2.18	135	P	Pn	07 52 17.5	+0.3
KZN	Kozani	2.19	123	P	Pb	07 52 20.3	-0.3
KZN	Kozani	2.19	123	P	Pn	07 52 18.5	+1.2
MATE	Matera	2.19	247	⇓P	Pn	07 52 16.4	-0.9
MATE				⇓S	Sn	07 52 44.1	-0.3
LSTV	Lastovo	2.22	305	*e*Pn	Pn	07 52 17.5	-0.3
BARS	Barje	2.23	54	*e*Pn	Pn	07 52 18.2	+0.3
BARS				*e*Sn	Sn	07 52 44.6	-0.8
BBLS	Lazi&#263i	2.34	1	⇑*i*Pn	Pn	07 52 20.2	+0.7
BBLS				*e*Sn	Sn	07 52 49.5	+1.3
BBLS	Lazi&#263i	2.34	1	*e*Pn	Pn	07 52 20.5	+1.0
BBLS				*e*Sn	Sn	07 52 48.5	+0.3
GRG	Griva	2.36	103	P	Pn	07 52 19.9	+0.3
VAY	Valandovo	2.42	94	*i* Pn	Pn	07 52 21.4	+1.1
VAY	Valandovo	2.42	94	*e*Pn	Pn	07 52 21.1	+0.7
VAY				*e*Sn	Sn	07 52 49.8	-0.1
MAKA	Makarska	2.48	316	*e*Pn	Pn	07 52 21.2	0.0
BOSS	Bosilegrad	2.51	66	*e*Pn	Pn	07 52 22.6	+0.8
BOSS				*e*Sn	Sn	07 52 52.3	-0.1
GRUS	Gruza	2.56	22	*e*Pn	Pn	07 52 23.4	+1.0
GRUS				*e*Sn	Sn	07 52 54.0	+0.4
DIVS	Divibare	2.62	10	*e*Pn	Pn	07 52 23.5	+0.3
KNT	Kendrikon	2.68	97	P	Pn	07 52 23.9	-0.2
BOVS	Bovan	2.73	38	⇑P	Pn	07 52 25.2	+0.5
BOVS	Bovan	2.73	38	*e*Sn	Sn	07 52 57.2	-0.4
LIT	Litokhoron	2.76	120	P	Pn	07 52 25.6	+0.4
TRUS	Trudelj	2.81	15	*e*Pn	Pn	07 52 26.1	+0.3
THL	Klokotos Trika	2.81	133	P	Pn	07 52 26.1	+0.3
THL				S	Sn	07 53 00.7	+1.1
TSLK	Tsoukalades, L	2.87	159	P	Pn	07 52 26.9	+0.3
LKD2	Lefkada island	2.90	160	P	Pn	07 52 27.1	0.0
HORT	Hortiatis	2.97	107	P	Pn	07 52 28.7	+0.6
NYDR	Nydri-Lefkada	2.98	160	P	Pn	07 52 28.1	-0.1
ZAPS	Zavoj	2.98	53	*e*Pn	Pn	07 52 29.0	+0.7
ZAPS				*e*Sn	Sn	07 53 04.1	+0.1
TEKS	Tekeris	3.03	2	*e*Pn	Pn	07 52 28.8	0.0
TEKS	Tekeris	3.03	2	*e*Pn	Pn	07 52 28.8	0.0
TEKS				*e*Sn	Sn	07 53 04.0	-1.1
EVGI	Lefkada island	3.06	161	P	Pn	07 52 28.8	-0.4
TIP	Timpagrande	3.08	221	⇑P	Pn	07 52 29.2	-0.3
TIP	Timpagrande	3.08	221	P	Pn	07 52 29.0	-0.5
VTS	Vitosha	3.08	68	*e*Pn	Pn	07 52 30.6	+0.9
VTS				*e*Sn	Sn	07 53 05.3	-1.2
CUC	Castrocucco	3.10	242	P	Pn	07 52 29.7	-0.1
ZAGS	Zajecar	3.11	42	*e*Pn	Pn	07 52 30.4	+0.4
FSK	Fiskardo	3.19	163	P	Pn	07 52 30.4	-0.7
EVR	Evrytania	3.20	144	P	Pn	07 52 32.2	+0.9
SRS	Serrai	3.21	96	*e*Pn	Pn	07 52 31.8	+0.5
BLKB	Belogradchik	3.22	48	⇓S	Sn	07 53 12.7	+2.8
BORS2	Bor- Borsko je	3.22	36	*e*Pn	Pn	07 52 30.8	-0.7
BORS2				*e*Sn	Sn	07 53 08.1	-1.8
MAKR	Makrakomi, Fth	3.28	139	P	Pn	07 52 33.2	+0.9
KIJV	Kijevo	3.30	320	*e*Pn	Pn	07 52 33.2	+0.5
PVO	Paravola	3.34	150	P	Pn	07 52 34.3	+1.2
KUBS	Kucevo	3.35	30	*e*Pn	Pn	07 52 32.2	-1.0
KUBS				*e*Sn	Sn	07 53 10.5	-2.4
VLS	Valsamata	3.47	164	P	Pn	07 52 34.1	-0.8
ZIRJ	Zirje	3.48	309	*e*Pn	Pn	07 52 34.9	-0.1
ANX	Ano Chora	3.52	145	P	Pn	07 52 36.3	+0.6
PSDA	Pessada-Kefalo	3.53	164	P	Pn	07 52 35.1	-0.6
MORI	Morici	3.57	312	*e*Pn	Pn	07 52 37.4	+1.1
BLY	Banja Luka	3.60	334	*e*Pn	Pn	07 52 37.6	+0.9
BLY				*e*Sn	Sn	07 53 20.4	+1.3
A050A	Klekovaca	3.62	326	*e*Pn	Pn	07 52 38.0	+1.0
A050A				*e*Sn	Sn	07 53 19.8	+0.1
FRGS	Fruska Gora	3.65	5	⇑*i*Pn	Pn	07 52 37.1	-0.2
FRGS	Fruska Gora	3

RBU	**Red Butte Cany**	**0.33**	**19**		Pg	07 58 52.3	0.0
RBU	**Red Butte Cany**	**0.33**	**19**		Sg	07 58 56.9	+0.2
WMUT	**West Mountain**	**0.40**	**167**		Pg	07 58 53.8	+0.4
SAIU	**Southern Antel**	**0.43**	**336**		Pg	07 58 54.1	+0.2
RCJ	**Ross Creek**	**0.44**	**63**		Pg	07 58 54.4	+0.2
KLJ	**Keetly**	**0.45**	**68**		Pg	07 58 54.7	+0.3
MPU	**Maple Canyon**	**0.51**	**151**	Pg	Pg	07 58 56.0	+0.5
MPU				Sg	Sg	07 59 03.1	+0.9
DAU	**Daniels Canyon**	**0.53**	**95**		Pg	07 58 56.5	+0.6
FPU	**Francis Peak**	**0.57**	**9**		Pg	07 58 56.7	+0.1
N16A	**Rees Ranch, Co**	**0.57**	**43**		Pb	07 58 57.4	-0.6
NAIU	**Northern Antel**	**0.59**	**339**		Pg	07 58 57.0	0.0
HTU	**Hoyt Peak**	**0.60**	**69**		Pg	07 58 57.7	+0.6
DUG	**Dugway, Tooele**	**0.71**	**248**	Pg	Pg	07 58 59.2	-0.1
TCUT	**Toone Canyon**	**0.77**	**32**		Pg	07 59 00.5	0.0
LHUT	**Little Humpy P**	**0.84**	**59**		Pb	07 59 02.7	+0.1
BSUT	**Blindstream Ca**	**0.91**	**85**	Pg	Pg	07 59 02.9	-0.2
BGU	**Big Grassy Mou**	**0.94**	**300**		Pg	07 59 03.7	+0.1
BGU				Sg	Sg	07 59 15.5	-0.4
BGU				IAML		07 59 19.1	
	comp=N,65nm,0.3s						
EPU	**East Promontor**	**0.99**	**340**		Pg	07 59 04.6	0.0
MCU	**Monte Cristo P**	**1.05**	**19**		Pb	07 59 06.0	-0.2
FLU	**Fool Peak**	**1.10**	**189**		Pg	07 59 06.7	+0.1
WVUT	**Wellsville**	**1.14**	**360**		Pg	07 59 07.2	-0.4
HWUT	**Hardware Ranch**	**1.18**	**14**		Pg	07 59 07.5	-0.7
HWUT				Sg	Sb	07 59 23.9	+0.1
HWUT				IAML		07 59 25.6	
	comp=N,57nm,0.6s						
HWUT				IAML		07 59 27.5	
	comp=N,36nm,0.3s						
TMUT	**Trail Mountain**	**1.30**	**154**		Pb	07 59 10.4	0.0
TMUT				IAML		07 59 35.2	
	comp=E,19nm,0.5s						
SGU	**Sterling**	**1.30**	**169**		Pg	07 59 10.9	+0.3
HVU	**Hansel Valley**	**1.45**	**335**		Pn	07 59 11.2	-1.0
HVU				IAML		07 59 35.3	
	comp=E,32nm,0.3s						
HVU				IAML		07 59 36.7	
	comp=N,36nm,0.6s						
PTU	**Portage**	**1.49**	**349**		Pn	07 59 12.3	-0.5
P18A	**Preston Nutter**	**1.55**	**122**		Pb	07 59 14.5	-0.2
P18A				IAML		07 59 38.0	
	comp=N,17nm,0.3s						
P18A				IAML		07 59 39.3	
	comp=E,16nm,0.5s						
Q16A	**Castle Valley**	**1.66**	**158**		Pn	07 59 15.7	+0.6
SRU	**San Rafael Swe**	**1.74**	**140**		Pb	07 59 17.6	-0.3
SRU				IAML		07 59 43.0	
	comp=N,11nm,0.4s						
SRU				IAML		07 59 47.3	
	comp=E,12nm,0.6s						
RDMU	**Red Mountain**	**1.82**	**86**		Pb	07 59 18.4	-0.7
RDMU				IAML		07 59 46.2	
	comp=E,11nm,0.4s						
RDMU				IAML		07 59 46.7	
	comp=N,11nm,4.7s						
TCRU	**Three Creeks R**	**1.89**	**192**	Pn	Pb	07 59 19.7	-0.7
TCRU				IAML		08 00 15.0	
	comp=E,11nm,0.4s						
MSU	**Marysvale**	**1.96**	**185**		Pb	07 59 21.7	+0.1
AHID	**Auburn Hatcher**	**2.39**	**15**		Pn	07 59 26.2	+1.2
PSUT	**Pine Spring**	**2.43**	**218**		Pn	07 59 26.3	+0.6
PSUT				IAML		07 59 55.0	
	comp=E,6.2nm,4.9s						
PSUT				IAML		08 00 14.7	
	comp=N,5.8nm,4.0s						
ELK	**Elko**	**2.52**	**277**		Pb	07 59 30.4	-0.7
ELK				IAML		08 00 08.5	
	comp=N,7.5nm,0.3s						
PD31	**Pinedale Array**	**2.92**	**37**		Pn	07 59 31.0	-1.5
PDAR	**Pinedale Array**	**2.92**	**37**	Pn	Pn	07 59 32.8	+0.3
TPAW	**Teton Pass**	**3.11**	**14**	Pn	Pn	07 59 34.8	-0.4
TPAW				IAML		08 00 30.0	
	comp=N,8.7nm,1.3s						
TPAW				IAML		08 00 41.6	
	comp=N,6.5nm,3.5s						
SNOW	**Snow King Moun**	**3.13**	**16**		Pn	07 59 36.4	+1.1
FXWY	**Fox Creek**	**3.25**	**12**	Pn	Pn	07 59 37.8	+0.9
FXWY				IAML		08 00 33.1	
	comp=N,3.6nm,4.4s						
LOHW	**Long Hollow**	**3.30**	**17**		Pn	07 59 38.8	+1.1
LOHW				IAML		08 00 30.8	
	comp=N,4.4nm,0.4s						
R11B	**Troy Canyon, C**	**3.52**	**234**		Pn	07 59 43.1	+2.4
HLID	**Hailey**	**3.60**	**330**	Pn	Pn	07 59 42.2	+0.4
HLID				IAML		08 00 16.5	
	comp=N,3.1nm,3.7s						
HLID				IAML		08 01 08.7	
	comp=N,3.2nm,4.2s						

*SOME **31** 08:00:22.1,39.70N×75.72E,h10km*
*NNC **31** 08:00:24.6±1.6,39.80N×75.71E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=10.5km s-min=8.5km az=168.0
*KRNET **31** 08:00:30.2±0.1,39.81N×75.60E,mb3.4*
ISC 31 08:00:29.6±1.8,39.73N±0.08×75.70E±0.04,h10km,n44,
σ2°33/68,21C-20D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.71**	**280**	⇓*eP*	**Pb**	**08 01 00.3**	**-1.0**
SFK				⇓*eS*	**Sb**	**08 01 22.1**	**-0.8**
SALK	**Salom-Alik**	**1.84**	**309**	⇑*eP*	**Pb**	**08 01 02.0**	**-1.4**
SALK				⇑*eS*	**Sb**	**08 01 25.4**	**-1.1**
ARLS	**Aral**	**2.37**	**334**	⇓*eP*	**Pb**	**08 01 09.9**	**-2.5**
ARLS				⇓*eS*	**Sn**	**08 01 38.9**	**+1.0**
OHH	**Osh**	**2.37**	**290**	⇓*eP*	**Pb**	**08 01 10.0**	**-2.4**
OHH				⇓*eS*	**Sb**	**08 01 39.1**	**-2.6**
ULHL	**Ulahol**	**2.54**	**9**	P	**Pb**	**08 01 14.0**	**-1.5**
	SNR=14						
ULHL	**Ulahol**	**2.54**	**9**	⇓*eP*	**Pb**	**08 01 13.1**	**-2.3**
ULHL				⇓*eS*	**Sb**	**08 01 44.4**	**-2.5**
TARG	**Taragay, Kyrgy**	**2.56**	**38**	⇑*eP*	**Pb**	**08 01 14.1**	**-1.7**
TARG				⇑*eS*	**Sb**	**08 01 46.1**	**-1.4**
ARSB	**Arslanbob**	**2.61**	**308**	⇑*eP*	**Pb**	**08 01 13.6**	**-2.9**
ARSB				⇑*eS*	**Sn**	**08 01 44.5**	**+0.7**
KDJ	**Kajisay**	**2.65**	**25**	⇓*eP*	**Pb**	**08 01 14.9**	**-2.2**
KDJ				⇓*eS*	**Sb**	**08 01 47.4**	**-2.4**
UCH	**Uchtor**	**2.65**	**341**	P	**Pb**	**08 01 16.3**	**-1.1**
	SNR=8.2						
UCH	**Uchtor**	**2.65**	**341**	⇑*eP*	**Pb**	**08 01 14.2**	**-3.2**
UCH				⇑*eS*	**Sn**	**08 01 46.4**	**+1.2**
BOOM	**Boomskoye usch**	**2.76**	**4**	⇑*eP*	**Pb**	**08 01 15.9**	**-3.2**
BOOM				⇑*eS*	**Sn**	**08 01 49.3**	**+1.7**
AML	**Almayashu**	**2.84**	**328**	P	**Pn**	**08 01 16.5**	**+1.3**
	SNR=9.4						
AML	**Almayashu**	**2.84**	**328**	⇑*eP*	**Pn**	**08 01 16.6**	**+1.3**
AML				⇑*eS*	**Sn**	**08 01 50.6**	**+0.9**
KBK	**Karagaybulak**	**2.98**	**349**	P	**Pb**	**08 01 22.1**	**-0.7**
	SNR=17						
KBK	**Karagaybulak**	**2.98**	**349**	⇓*eP*	**Pn**	**08 01 18.7**	**+1.7**
KBK				⇓*eS*	**Sn**	**08 01 54.1**	**+1.3**
AAK	**Ala-Archa**	**3.04**	**343**	P	**Pb**	**08 01 20.0**	**-3.9**
	SNR=8.8						
AAK	**Ala-Archa**	**3.04**	**343**	⇑Pg	**Pn**	**08 01 19.2**	**+1.3**
	12nm,0.5s						
AAK				⇑Lg	Lg	08 01 55.4	
	32nm,0.9s						
AAK	**Ala-Archa**	**3.04**	**343**	⇑*eP*	**Pn**	**08 01 19.5**	**+1.6**
AAK				⇑*eS*	**Sn**	**08 01 55.4**	**+1.0**
FRU1	**Bishkek**	**3.18**	**346**	⇑*eP*	**Pn**	**08 01 21.7**	**+2.0**
FRU1				⇑*eS*	**Sn**	**08 01 59.4**	**+1.7**
TKM2	**Tokmak 2**	**3.19**	**359**	Pg	**Pn**	**08 01 21.7**	**+1.8**
	6.0nm,0.6s						
TKM2				Lg	Lg	08 02 04.7	
	13nm,0.5s						
TKM2	**Tokmak 2**	**3.19**	**359**	⇓*eP*	**Pn**	**08 01 21.7**	**+1.8**
TKM2				⇓*eS*	**Sn**	**08 01 59.4**	**+1.3**
EKS2	**Erkin-Say**	**3.27**	**334**	⇓*eP*	**Pn**	**08 01 22.4**	**+1.5**
EKS2				⇓*eS*	**Sn**	**08 02 00.6**	**+0.7**
KST	**Kastek**	**3.31**	**3**	Pg	**Pn**	**08 01 23.9**	**+2.3**
	4.9nm,0.3s						
KST				Lg	Lg	08 02 07.8	
	20nm,0.6s						
KST	**Kastek**	**3.31**	**3**	*eP*	**Pn**	**08 01 23.9**	**+2.3**
	5.9nm,0.3s						
KST				*eS*	**Sb**	**08 02 09.0**	**+0.1**
	23nm,0.6s						
CHMS	**Chumysh**	**3.34**	**348**	⇓*eP*	**Pn**	**08 01 23.5**	**+1.6**
CHMS				⇓*eS*	**Sn**	**08 02 02.6**	**+1.0**
ANVS	**Anan'yevo**	**3.39**	**25**	⇓*eP*	**Pb**	**08 01 25.1**	**-4.7**
ANVS				⇓*eS*	**Sn**	**08 02 05.3**	**+2.2**
TNSS	**Tian-Shan**	**3.43**	**15**	Pg	**Pn**	**08 01 25.7**	**+2.2**
	4.6nm,0.5s						
TNSS				Lg	Lg	08 02 12.5	
	6.5nm,0.5s						
TNSS	**Tian-Shan**	**3.43**	**15**	*eP*	**Pn**	**08 01 25.7**	**+2.2**
	4.6nm,0.5s						
TNSS				*eS*	**Sb**	**08 02 11.9**	**-0.8**
	6.5nm,0.5s						
MTBS	**Maitube**	**3.44**	**9**	Pg	**Pn**	**08 01 25.7**	**+2.4**
	4.1nm,0.5s						
MTBS				Lg	Lg	08 02 12.5	
	8.9nm,0.5s						
MTBS	**Maitube**	**3.44**	**9**	*eP*	**Pn**	**08 01 25.7**	**+2.4**
	4.1nm,0.2s						
MTBS				*eS*	**Sb**	**08 02 12.1**	**-0.4**
	10nm,0.3s						
DGS	**Degeres**	**3.51**	**1**	Pg	**Pn**	**08 01 26.8**	**+2.6**
	10nm,0.6s						
DGS				Lg	Lg	08 02 14.8	
	16nm,0.7s						
MRKS	**Merke**	**3.54**	**329**	Pg	**Pb**	**08 01 27.9**	**-4.5**
	6.1nm,0.4s						
MRKS				Lg	Lg	08 02 15.7	
	12nm,0.8s						
MRKS	**Merke**	**3.54**	**329**	*eP*	**Pb**	**08 01 27.9**	**-4.5**
	6.1nm,0.4s						
MRKS				*eS*	**Sb**	**08 02 15.7**	**+0.3**
	20nm,0.5s						
MDOK	**Medeo**	**3.58**	**16**	Pg	**Pb**	**08 01 28.5**	**-4.4**
	9.5nm,0.5s						
MDOK				Lg	Lg	08 02 16.8	
	13nm,0.7s						
MNAS	**Manas**	**3.66**	**320**	⇑*eP*	**Pn**	**08 01 28.1**	**+1.7**
MNAS				⇑*eS*	**Sn**	**08 02 10.1**	**+0.4**
SATY	**Saty**	**3.90**	**31**	*eP*	Pg	08 01 50.4	+6.2
	2.6nm,0.5s						
SATY				*eS*	Sg	08 02 54.3	+20
	4.3nm,0.4s						
KURS	**Kuram**	**4.18**	**25**	*eP*	**Pb**	**08 01 40.8**	**-2.6**
	0.9nm,0.0s						
KURS				*eS*	**Sb**	**08 02 37.8**	**+3.8**
	4.2nm,0.1s						
UZB	**Uzynbulak**	**4.23**	**35**	Pg	**Pb**	**08 01 40.1**	**-4.0**
	3.0nm,0.3s						
UZB				Lg	Lg	08 02 36.9	
	3.3nm,0.8s						
UZB	**Uzynbulak**	**4.23**	**35**	*eP*	**Pb**	**08 01 40.1**	**-4.0**
	1.5nm,0.1s						
UZB				*eS*	**Sb**	**08 02 36.5**	**+1.2**
	6.1nm,0.5s						
CHKK	**Chushkaly**	**4.23**	**13**	Pg	**Pb**	**08 01 40.9**	**-3.1**
	5.5nm,0.4s						
CHKK				Lg	Lg	08 02 37.8	
	19nm,0.5s						
CHKK	**Chushkaly**	**4.23**	**13**	*eP*	**Pb**	**08 01 40.8**	**-3.3**
	0.9nm,0.0s						
CHKK				*eS*	**Sb**	**08 02 37.8**	**+2.6**
	4.2nm,0.1s						
KPKS	**Kokpek**	**4.35**	**30**	*eP*	Pn	08 01 26.8	-9.0
	7.7nm,0.3s						
KPKS				*eS*	Sn	08 02 13.8	-13
	16nm,0.7s						
KK31	**Karatay Array**	**5.15**	**313**	⇑Pg	**Pb**	**08 02 00.9**	**+1.1**
	2.6nm,0.6s,baz=127,slow=16,SNR=4.1						
KK31				Lg	Lg	08 03 08.7	
	1.5nm,0.5s,baz=121,slow=27,SNR=3.9						

IDC 31 08:07:24.3±1.6,2.91S×139.09E,h0km,mb3.6/2,
mbtmp3.7/3,ML3.8/1,Error ellipse: s-maj=33.9km
s-min=21.8km az=149.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.66**	**76**	Pg	Pn	08 07 54.5	-0.3
	13nm,0.3s,baz=255,slow=20,SNR=28						
JAY				Lg	Lg	08 08 11.2	
	24nm,0.3s,baz=229,slow=11,SNR=12						
WRA	**Warramunga Arr**	**17.55**	**195**	P	Pn	08 11 30.5	-0.1
	0.4nm,0.3s,baz=15,slow=12,SNR=14						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**21.23**	**193**	P	P	08 12 11.9	-0.2
	0.9nm,0.8s,baz=18,slow=11,SNR=13						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**70.18**	**322**	P	P	08 18 39.2	+0.2
	1.1nm,0.7s,baz=134,slow=5.1,SNR=1.5						
	1.1nm,0.7s						

*IDC **31** 08:07:44.8±3.2,0.81N×126.53E,h35km±25km,mb4.1/17,*
mbtmp4.3/19,ML4.3/2,Error ellipse: s-maj=28.8km
s-min=9.2km az=77.0
*DJA **31** 08:07:48.3±1.3,1.1N±3.1×12.6E±.1,h25km±13km,M4.7/15,*
mB5.2/7,mb4.8/8,MLv4.5/15,Mw(mB)4.7/7
*NEIC **31** 08:07:48.5±1.5,0.85N±0.08×126.41E±0.05,h60km±7km,*
mb4.7/53,Error ellipse: s-maj=11.9km s-min=7.9km
az=179.0
ISC 31 08:07:47.2±0.4,0.81N±0.05×126.41E±0.05,h50km,n100,
σ1°63/97,mb4.6/47,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.96**	**93**		**Pn**	**08 08 06.9**	**+2.6**
TNTI	**Ternate**	**0.96**	**93**	P	**Pn**	**08 08 06.8**	**+2.5**
TNTI				S	**Sn**	**08 08 21.0**	**+4.1**
KMSI	**Cibinong**	**2.44**	**264**	P	**Pn**	**08 08 26.3**	**+1.7**
KMSI				S	**Sn**	**08 08 55.7**	**+2.4**
SANI	**Sanana**	**2.88**	**188**	P	**Pn**	**08 08 31.1**	**+0.6**
LUWI	**Luwuk**	**4.08**	**243**	Pn	**Pn**	**08 08 49.9**	**+2.8**
LUWI	**Luwuk**	**4.08**	**243**	P	**Pn**	**08 08 50.1**	**+3.0**
NLAI	**Namlea**	**4.08**	**170**	P	**Pn**	**08 08 48.8**	**+1.7**
MRSI	**Marisa**	**4.48**	**266**	P	**Pn**	**08 08 54.2**	**+1.6**
APSI	**Ampana**	**5.06**	**250**	P	**Pn**	**08 09 02.0**	**+1.5**
	1.2nm4μm162nm,0.5s						
TOLI2	**Tolitoli**	**5.64**	**273**	Pn	**Pn**	**08 09 09.5**	**+1.1**
KDI	**Kendari**	**6.07**	**219**	P	**Pn**	**08 09 16.1**	**+1.7**
FAKI	**Fak Fak**	**6.91**	**122**	Pn	**Pn**	**08 09 28.6**	**+2.6**
FAKI	**Fak Fak**	**6.91**	**122**	P	**Pn**	**08 09 29.4**	**+3.4**
	0.1nm40nm,0.8s						
SPSI	**Sidrap Palu**	**8.16**	**234**	P	**Pn**	**08 09 45.2**	**+2.1**
	2μm86nm,0.6s						
BKSI	**Bulukumba**	**8.75**	**226**	P	**Pn**	**08 09 53.4**	**+2.2**
	1μm42nm,0.6s						
KAPI	**Kappang**	**8.82**	**229**		**Pn**	**08 09 54.8**	**+2.7**
KAPI	**Kappang**	**8.82**	**229**	Pn	**Pn**	**08 09 53.2**	**+1.1**
	9.1nm,0.3s,baz=148,slow=23,SNR=6.4						
KAPI				Sn	**Sn**	**08 11 28.0**	**-2.2**
	5.6nm,0.3s,baz=176,slow=22,SNR=7.6						
	18nm,0.3s						
MYLDM	**Lahad Datu**	**9.01**	**299**	Pn	**Pn**	**08 09 56.5**	**+1.7**
BSSI	**Bau Bau, Buton**	**9.09**	**220**	P	**Pn**	**08 09 59.2**	**+3.3**
SBUM	**Sibu**	**14.28**	**277**	Pn	**Pn**	**08 11 08.6**	**+2.0**
KSM	**Kuching**	**16.11**	**272**		**Pn**	**08 11 32.5**	**+2.0**
KSM				IAmb	IAmb	08 11 35.8	
	comp=Z,34nm,0.7s						
KNRA	**Kununurra**	**16.55**	**172**	P	**Pn**	**08 11 36.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.81**	**182**	P	**P**	**08 12 01.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**18.81**	**182**	P	**P**	**08 12 01.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=23,slow=10,SNR=9.7						
	comp=Z,2.0nm,0.5s						
DLV	**Lat**	**20.94**	**303**	P	**P**	**08 12 26.0**	**-0.3**
DLV				IAmb	IAmb	08 12 27.1	
	comp=Z,18nm,0.5s						
WB0	**Warramunga Arr**	**21.90**	**159**	P	**P**	**08 12 36.0**	**-0.3**
WRAB	**Tennant Creek**	**22.04**	**160**	P	**P**	**08 12 37.5**	**-0.2**
WRAB				IAmb	IAmb	08 12 42.8	
	comp=Z,21nm,1.1s						
WRA	**Warramunga Arr**	**22.04**	**160**	P	**P**	**08 12 36.8**	**-1.0**
WRA	**Warramunga Arr**	**22.04**	**160**	P	**P**	**08 12 36.8**	**-1.0**
	comp=Z,5.3nm,0.4s,baz=339,slow=11,SNR=42						
WRA				S	**S**	**08 16 32.7**	**-5.6**
	comp=Z,2.1nm,0.7s,baz=332,slow=21,SNR=6.2						
	comp=Z,5.3nm,0.4s						
WB2	**Warramunga Arr**	**22.05**	**160**	P	**P**	**08 12 36.9**	**-1.0**
WB2				IAmb	IAmb	08 12 43.0	
	comp=Z,23nm,1.1s						
WR0	**Warramunga Arr**	**22.13**	**159**	P	**P**	**08 12 38.3**	**-0.4**
COEN	**Coen**	**22.16**	**132**	P	**P**	**08 12 38.1**	**-1.0**
AS31	**Alice Springs**	**25.40**	**164**	P	**P**	**08 13 10.2**	**0.0**
ASAR	**Alice Springs**	**25.40**	**164**	P	**P**	**08 13 10.3**	**+0.2**
ASAR	**Alice Springs**	**25.40**	**164**	P	**P**	**08 13 09.5**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=347,slow=12,SNR=24						
ASAR				PcP	**PcP**	**08 16 41.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=352,slow=2.4,SNR=5.2						
ASAR				S	**S**	**08 17 38.2**	**+4.6**
	comp=Z,1.3nm,0.9s,baz=341,slow=21,SNR=6.9						
	comp=Z,3.4nm,0.4s						
KULM	**Kulim**	**26.10**	**280**	P	**P**	**08 13 15.5**	**-1.1**
RPSI	**Rantau Prapat**	**27.54**	**274**	P	**P**	**08 13 28.3**	**-1.2**
MORW	**Morawa**	**31.33**	**198**	P	**P**	**08 14 03.3**	**+0.3**
MORW				IAmb	IAmb	08 14 23.6	
	comp=Z,19nm,1.5s						
FORT	**Forrest**	**31.46**	**177**	P	**P**	**08 14 04.0**	**-0.1**
FORT				IAmb	IAmb	08 14 05.0	
	comp=Z,15nm,0.8s						
NJ2	**Nanjing**	**31.88**	**348**	*eP*	P	08 14 00.8	-6.9
NJ2				pmax	pmax		
	comp=Z,33nm,0.5s						
NWAO	**Narrogin (SRO)**	**34.66**	**194**	P	**P**	**08 14 32.4**	**+0.5**
BBOO	**Buckleboo**	**34.66**	**166**	P	**P**	**08 14 31.5**	**-0.5**
PZH	**PanZhiHua**	**34.87**	**319**	P	**P**	**08 14 35.8**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
STKA	**Stephens Creek**	**35.55**	**157**	P	**P**	**08 14 39.6**	**-0.1**
STKA	**Stephens Creek**	**35.55**	**157**	P	**P**	**08 14 39.2**	**-0.5**
	comp=Z,7.6nm,0.7s,baz=333,slow=6.9,SNR=15						
	comp=Z,7.6nm,0.7s						
JGF	**Kuroka**	**36.08**	**15**	P	**P**	**08 14 43.8**	**-0.4**
XAN	**Xi'an**	**36.89**	**335**	P	**P**	**08 14 52.5**	**+1.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MJAR	**Matsushiro Arr**	**37.19**	**16**	P	**P**	**08 14 51.9**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=191,slow=8.9,SNR=4.7						
	comp=Z,1.5nm,0.6s						
JMM	**Marumori**	**39.18**	**18**	P	**P**	**08 15 09.3**	**-1.0**
LZH	**Lanzhou**	**40.87**	**332**	*eP*	**P**	**08 15 27.0**	**+2.4**
LZH				pP	sP	08 15 43.5	+0.4
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
CAN	**Canberra**	**41.68**	**152**	P	**P**	**08 15 31.6**	**+0.4**
JTM	**Tenmabayashi**	**41.95**	**17**	P	**P**	**08 15 32.6**	**-0.6**
HHC	**Hu-ho-hao-te**	**42.06**	**343**	*eP*	**P**	**08 15 37.0**	**+2.8**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,5.3s						
USRK	**Ussuriysk Ar.**	**43.48**	**6**	P	**P**	**08 15 45.6**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=181,slow=6.3,SNR=5.6						
	comp=Z,2.9nm,0.6s						
JKA	**Kamikawa-asahi**	**45.46**	**16**	P	**P**	**08 16 01.1**	**-0.2**
JKA				IAmb	IAmb	08 16 18.8	
	comp=Z,16nm,1.3s						
KLR	**Kul'dur**	**48.45**	**5**	P	**P**	**08 16 24.1**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=230,slow=5.1,SNR=7.8						
	comp=Z,1.4nm,0.4s						
SONM	**Songino Array**	**49.95**	**342**	P	**P**	**08 16 35.6**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=154,slow=9.5,SNR=6.9						
	comp=Z,0.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.24**	**22**	P	**P**	**08 17 36.5**	**+0.1**
PETK	**Petropavlovsk-**	**58.24**	**22**	P	**P**	**08 17 36.0**	**-0.3**
PETK	**Petropavlovsk-**	**58.24**	**22**	P	**P**	**08 17 35.9**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=186,slow=5.2,SNR=23						
	comp=Z,2.6nm,0.5s						
MK31	**Makanchi Array**	**59.77**	**326**	P	**P**	**08 17 46.3**	**-0.9**
MK31				IAmb	IAmb	08 17 49.5	
	comp=Z,3.8nm,0.4s						
MKAR	**Makanchi Array**	**59.77**	**326**	P	**P**	**08 17 46.1**	**-1.0**
	comp=Z,4.2nm,0.4s,baz=122,slow=7.4,SNR=28						
	comp=Z,4.2nm,0.4s						
MAKZ	**Makanchi**	**59.95**	**326**		**P**	**08 17 47.4**	**-1.0**
MAKZ				IAmb	IAmb	08 17 50.9	
	comp=Z,4.7nm,0.5s						
TUWZ	**Tuamarina**	**60.11**	**140**	P	**P**	**08 17 48.6**	**-0.9**
KDJ	**Kajisay**	**60.32**	**320**	IAmb	IAmb	08 17 54.1	
	comp=Z,3.1nm,0.7s						
MA2	**Magadan**	**61.59**	**14**	P	**P**	**08 17 59.9**	**+0.7**
MA2				IAmb	IAmb	08 18 00.8	
	comp=Z,5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**63.04**	**334**	P	**P**	**08 18 07.6**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=135,slow=7.5,SNR=4.8						
	comp=Z,1.0nm,0.5s						
KBL	**Kabul**	**63.06**	**309**	P	**P**	**08 18 08.9**	**-1.0**
GAR	**Garm**	**63.68**	**314**	P	**P**	**08 18 12.2**	**-1.5**
GAR				IAmb	IAmb	08 18 24.2	
	comp=Z,16nm,1.4s						
KURBB	**Kurchatov Arra**	**64.02**	**328**	P	**P**	**08 18 14.6**	**-1.0**
	comp=Z,4.6nm,0.7s,baz=131,slow=6.5,SNR=33						
	comp=Z,4.6nm,0.7s						
KURK	**Kurchatov**	**64.03**	**328**	P	**P**	**08 18 14.8**	**-0.8**
KURK				IAmb	IAmb	08 18 18.4	
	comp=Z,6.8nm,0.5s						
KK31	**Karatay Array**	**65.15**	**318**	P	**P**	**08 18 21.6**	**-1.6**
KKAR	**Karatay Array**	**65.15**	**318**	P	**P**	**08 18 22.2**	**-0.9**
NIUE	**Niue**	**65.48**	**111**	P	**P**	**08 18 24.0**	**-1.6**
BVAR	**Borovoye Array**	**69.59**	**328**	P	**P**	**08 18 50.3**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=134,slow=8.6,SNR=8.2						
	comp=Z,1.9nm,0.5s						
BRVK	**Borovoye**	**69.66**	**328**	P	**P**	**08

ANCK	Angle Creek	0.30	39		Pn	08 12 18.1 +0.2
ANCK					Sn	08 12 30.7 +0.5
ACHA	Angle Creek He	0.37	49		Pn	08 12 18.4 +0.1
ACHA					Sn	08 12 31.4 +0.6
PLK1	Peulik 1	0.43	248		Pn	08 12 18.3 -0.1
PLBL	Peulik Blue Cr	0.58	243		Pn	08 12 19.2 -0.3
KAHC	Katmai Hardscr	0.82	33		Pn	08 12 21.7 +0.2
Q16K	King Salmon	0.83	330		Pn	08 12 21.5 0.0
Q16K					Sn	08 12 36.2 -0.2
R18K	Karluk	0.85	117		Pn	08 12 21.7 +0.1
R18K					Sn	08 12 37.1 +0.4
KAHG	Katmai Hook Gl	0.87	52		Pn	08 12 22.6 +0.6
R16K	Pilot Point	1.00	247		Pn	08 12 22.8 -0.4
R16K				IAML		08 12 40.2
	comp=N,138nm,1.1s					
R16K				IAML		08 12 40.7
	comp=E,123nm,1.0s					
P17K	Kvichak River	1.27	346		Pn	08 12 26.0 0.0
P17K					Sn	08 12 44.6 +0.2
P18K	Big Mountain,	1.47	13		Pn	08 12 28.6 +0.3
P18K				IAML		08 12 48.9
	comp=E,51nm,0.9s					
Q19K	Cape Douglas,	1.51	49		Pn	08 12 29.6 +0.8
Q19K				IAML		08 12 55.5
	comp=N,251nm,0.9s					
P16K	Nushagak River	1.55	315		Pn	08 12 29.0 -0.2
OHAK	Old Harbor	1.57	117	Pn	Pn	08 12 29.4 0.0
OHAK					Sn	08 12 49.9 -0.7
OHAK				IAML		08 12 50.6
	comp=N,108nm,0.4s					
OHAK				IAML		08 12 57.5
	comp=E,78nm,0.3s					
ANNE	Aniakchak Nort	1.59	229		Pn	08 12 29.4 -0.4
SII	Sitkinak Islan	1.68	146	Pn	Pn	08 12 30.3 -0.5
SII					Sn	08 12 52.4 -0.6
ANPB	Aniakchak Plen	1.76	229		Pn	08 12 31.2 -0.6
KDAK	Kodiak Island	1.76	95	Pn	Pn	08 12 32.1 +0.4
KDAK				IAML		08 12 55.8
	comp=E,138nm,0.5s					
KDAK				IAML		08 12 55.9
	comp=E,194nm,0.5s					
KDAK	Kodiak Island	1.76	95		Sn	08 12 54.2 -0.5
KDAK	Kodiak Island	1.76	95	P	Pn	08 12 31.8 0.0
	comp=E,49nm,0.2s,baz=291,slow=3.4,SNR=715					
KDAK				S	Sn	08 12 54.6 -0.1
	comp=E,37nm,0.3s,baz=261,slow=4.3,SNR=23					
O17K	Koliganek Bris	1.92	341		Pn	08 12 33.6 -0.2
O18K	Koktuh Hills	1.92	10		Pn	08 12 34.2 +0.4
O18K				IAML		08 13 00.1
	comp=E,40nm,1.1s					
O18K				IAML		08 13 00.2
	comp=N,34nm,1.1s					
SYI	Shuyak Island	1.94	69		Pn	08 12 34.6 +0.6
SYI					Sn	08 12 59.7 +1.0
O16K	Kokwok River B	2.01	325	Pn	Pn	08 12 34.4 -0.4
O16K				IAML		08 13 00.3
	comp=N,35nm,0.9s					
CHIR	Chirikof Islan	2.15	176	Pn	Pn	08 12 35.1 -1.6
CHIR					Sn	08 13 01.4 -2.2
CHIR				IAML		08 13 02.1
	comp=N,104nm,0.5s					
CHIR				IAML		08 13 14.1
	comp=E,62nm,1.1s					
CHGN	Chignik	2.17	221		Pn	08 12 36.5 -0.4
CHGN				IAML		08 13 04.5
	comp=N,106nm,0.1s					
CHGN				IAML		08 13 04.5
	comp=E,162nm,0.2s					
P19K	Oil Pt	2.17	38		Pn	08 12 38.1 +1.2
P19K				IAML		08 13 06.3
	comp=E,122nm,0.8s					
P19K				IAML		08 13 07.2
	comp=N,151nm,0.6s					
O19K	Port Alsworth	2.37	19		Pn	08 12 40.1 +0.6
O19K				IAML		08 13 10.8
	comp=N,58nm,0.5s					
O19K				IAML		08 13 31.6
	comp=E,68nm,0.5s					
O15K	Ungalikthiuk R	2.41	302		Pn	08 12 39.5 -0.4
ILSW	Iliamna Southw	2.46	34		Pn	08 12 41.6 +0.8
ILSW				IAML		08 13 12.2
	comp=E,55nm,0.8s					
ILSW				IAML		08 13 12.3
	comp=N,47nm,0.7s					
N17K	Nushagak Hills	2.66	346		Pn	08 12 43.5 +0.3
O20K	Slope Mountain	2.70	37		Pn	08 12 44.9 +1.1
N18K	Kilae Creek	2.72	360		Pn	08 12 44.2 +0.1
HOM	Homer	2.77	50		Pn	08 12 46.1 +1.4
CNPM	China Poot	2.87	55		Pn	08 12 46.6 +0.6
CNPM				IAML		08 13 21.0
	comp=E,46nm,0.5s					
CNPM				IAML		08 13 23.9
	comp=N,38nm,0.6s					
RED	Redoubt Volcan	2.93	32		Pn	08 12 47.3 +0.5
N19K	Bonanza Creek	2.94	13	Pn	Pn	08 12 47.8 +0.8
DFR	Drift River	3.10	30		Pn	08 12 49.8 +0.7
N15K	Kwethluk River	3.11	317	Pn	Pn	08 12 49.1 0.0
N15K				IAML		08 13 52.1
	comp=E,13nm,0.8s					
N15K				IAML		08 13 52.0
	comp=N,12nm,0.8s					
O14K	Tigyukauivet M	3.11	297		Pn	08 12 48.9 -0.2
BRLK	Bradley Lake	3.15	53		Pn	08 12 50.2 +0.6
BRLK				IAML		08 13 28.6
	comp=E,54nm,0.2s					
M16K	Timber Creek	3.45	334		Pn	08 12 53.8 +0.1
M17K	Holitna River	3.54	348	Pn	Pn	08 12 55.1 +0.3
M17K				IAML		08 14 06.3
	comp=N,16nm,1.0s					
M17K				IAML		08 14 08.6
	comp=E,13nm,0.8s					
SDPT	Sand Point	3.66	226	Pn	Pn	08 12 56.1 -0.2
SDPT				IAML		08 13 46.2
	comp=N,43nm,0.5s					
CKL	Chakachamna La	3.70	27		Pn	08 12 58.4 +1.3
SLKM	Skilak Lake	3.86	46		Pn	08 12 59.1 0.0
SLKM				IAML		08 13 43.6
	comp=N,30nm,0.4s					
SLKM				IAML		08 13 44.0
	comp=E,26nm,0.3s					
SEW	Seward	3.94	54		Pn	08 13 00.5 +0.3
M19K	Big River Lodg	4.02	10		Pn	08 13 01.6 +0.4
O22K	Cooper Landing	4.04	49		Pn	08 13 02.4 +1.0
STLK	Strandline Lak	4.09	28		Pn	08 13 03.7 +1.5
M20K	Styx River	4.16	18		Pn	08 13 04.6 +1.4
M14K	Bethel	4.19	314	Pn	Pn	08 13 03.5 0.0
M14K				IAML		08 14 17.2
	comp=E,7.1nm,1.1s					
M14K				IAML		08 15 01.1
	comp=N,5.2nm,1.2s					
L19K	White Mountain	4.26	6	Pn	Pn	08 13 05.8 +1.3
L19K				IAML		08 13 55.4
	comp=N,4.4nm,0.9s					
SUA	Susitna One	4.36	34		Pn	08 13 06.6 +0.7
SUA				IAML		08 13 56.5
	comp=N,17nm,0.5s					
SUA				IAML		08 13 57.1
	comp=E,23nm,0.9s					
RC01	Rabbit Creek A	4.42	42	Pn	Pn	08 13 07.0 +0.5
RC01				IAML		08 13 57.8
	comp=E,24nm,0.4s					
RC01				IAML		08 14 01.6
	comp=N,19nm,0.3s					
M13K	Dall Lake	4.57	306	Pn	Pn	08 13 07.7 -0.9
M13K				IAML		08 15 18.3
	comp=N,11nm,1.1s					
SKT	Skwentna	4.58	27		Pn	08 13 09.6 +0.9
SKT				IAML		08 14 05.5
	comp=N,6.4nm,0.5s					
SKT				IAML		08 14 06.6
	comp=E,5.4nm,0.4s					
L20K	Farewell, AK	4.63	11		Pn	08 13 09.8 +0.3
PWL	Port Wells	4.81	50		Pn	08 13 12.4 +0.5
L14K	Kuka Creek	4.84	317	Pn	Pn	08 13 12.3 +0.1
L14K				IAML		08 14 48.6
	comp=E,5.9nm,1.1s					
L14K				IAML		08 15 00.6
	comp=N,6.2nm,1.0s					
K17K	Iditarod	4.92	347	Pn	Pn	08 13 14.3 +1.0
K17K				IAML		08 14 47.1
	comp=E,5.1nm,0.9s					
K17K				IAML		08 14 54.1
	comp=N,3.8nm,0.9s					
KNK	Knik Glacier	5.10	44		Pn	08 13 16.2 +0.5
KNK				IAML		08 14 11.7
	comp=E,15nm,0.4s					
GHO	Glory Hole Cre	5.17	40		Pn	08 13 16.3 -0.5
GHO				IAML		08 14 16.3
	comp=N,12nm,0.4s					
K15K	Wolf Creek Mou	5.18	329	Pn	Pn	08 13 18.4 +1.5
K15K				IAML		08 15 02.6
	comp=N,3.8nm,0.9s					
CUT	Chulitna	5.25	30		Pn	08 13 18.1 +0.4
GLI	Glacier Island	5.34	53		Pn	08 13 18.4 -0.6
HIN	Hinchinbrook I	5.39	59		Pn	08 13 20.4 +0.7
K20K	Telida	5.48	8	Pn	Pn	08 13 22.0 +1.1
J18K	Innoko River	5.54	356	Pn	Pn	08 13 22.7 +1.1
FID	Port Fidalgo	5.55	56		Pn	08 13 21.4 -0.4
M23K	Glacier View	5.61	43		Pn	08 13 21.6 -1.0
CAST	Castle Rocks	5.78	17		Pn	08 13 26.1 +1.2
SCM	Sheep Creek Mo	5.78	44		Pn	08 13 25.1 0.0
EYAK	Cordova Ski Ar	5.79	59		Pn	08 13 25.0 -0.1
K13K	Kusilvak Mount	5.95	316	Pn	Pn	08 13 27.6 +0.5
DIV	Divide	6.03	54		Pn	08 13 28.8 +0.4
J19K	Poorman	6.05	1	Pn	Pn	08 13 29.7 +1.1
KTH	Kantishna Hill	6.10	21	Pn	Pn	08 13 29.8 +0.4
KLU	Klutina	6.14	51		Pn	08 13 30.2 +0.3
TRF	Thorofare Moun	6.14	24		Pn	08 13 30.4 +0.4
J20K	Nowinta River	6.29	7	Pn	Pn	08 13 32.6 +0.9
M24K	Tolsona, Glenn	6.38	45		Pn	08 13 33.5 +0.4
RND	Reindeer	6.45	29	Pn	Pn	08 13 32.9 -1.1
BMRM	Bremner River	6.47	58	Pn	Pn	08 13 34.5 +0.2
NICHA	Nichawak Mount	6.53	65		Pn	08 13 34.5 -0.6
BPAW	Bear Paw Mtn.	6.59	19	Pn	Pn	08 13 35.8 -0.1
BERG	Berg Lake	6.70	64		Pn	08 13 37.7 +0.3
N25K	Chitina, Valde	6.75	53		Pn	08 13 38.2 0.0
WACK	Wrangell Chich	7.05	50		Pn	08 13 42.2 -0.1
VRDI	Verde Repeater	7.09	57	Pn	Pn	08 13 43.1 +0.3
WAX	Waxell Ridge	7.12	64		Pn	08 13 43.7 +0.5
NEA2	Nenana	7.41	23		Pn	08 13 45.7 -1.2
KIAG	Kiagna River	7.49	61		Pn	08 13 47.9 -0.3
MESA	MESA	7.50	67		Pn	08 13 49.1 +0.7
WRH	Wood River Hil	7.52	27	Pn	Pn	08 13 47.0 -1.5
BALM	Baldy	7.53	60		Pn	08 13 48.1 -0.6
YAH	Yahtse	7.64	66		Pn	08 13 50.4 +0.1
CCB	Clear Creek Bu	7.74	27		Pn	08 13 49.7 -1.6
RKAV	Rock Avalanche	7.82	66		Pn	08 13 52.7 0.0
I23K	Minto, Yukon-K	7.84	21		Pn	08 13 52.3 -0.4
H21K	Melozitna Rive	7.85	9	Pn	Pn	08 13 54.0 +1.1
COLA	College	7.92	26		Pn	08 13 52.8 -0.9
IL31		8.06	28		Pn	08 13 54.5 -1.3
ILAR	Eielson Array	8.06	28	P	Pn	08 13 53.8 -2.0
	comp=N,2.0nm,0.4s,baz=215,slow=13,SNR=45					
ILAR				S	Sn	08 15 19.1 -6.1
	comp=N,0.7nm,0.5s,baz=197,slow=20,SNR=7.4					
SAMH	Samovar Hills	8.07	68		Pn	08 13 55.6 -0.4
J25K	Salcha River,	8.35	33		Pn	08 13 58.5 -1.2
YUK2	White River	8.46	57		Pn	08 14 01.8 +0.5
O28M	Mount Upton	8.48	64		Pn	08 14 02.0 +0.4
L27K	Beaver Creek,	8.59	48	Pn	Pn	08 14 03.5 +0.5
YUK3	Moose Creek	8.63	57		Pn	08 14 04.4 +0.7
H24K	Noodor Dome	8.74	22		Pn	08 14 03.5 -1.5
O29M	Mount Kennedy	9.18	68	Pn	Pn	08 14 12.3 +1.2
P29M	Windy Craggy	9.55	72	Pn	Pn	08 14 17.3 +1.4
M29M	Somme Creek	9.74	55	Pn	Pn	08 14 19.6 +1.1
HYT	Haines Junctio	9.78	65	Pn	Pn	08 14 20.9 +1.8
M30M	Minto, Yukon	10.52	56	Pn	Pn	08 14 29.3 +0.3
I28M	Miner Creek	10.62	38	Pn	Pn	08 14 30.0 -0.4
INK	Inuvik	14.36	35	P	Pn	08 15 17.4 -1.8
	comp=N,0.5nm,0.7s,baz=236,slow=11,SNR=6.4					
YKA	Yellowknife Ar	20.70	60	P	P	08 16 32.6 +0.3
	comp=N,0.5nm,0.6s,baz=277,slow=10,SNR=12					
	comp=N,0.5nm,0.6s					
NVAR	Mina Array Bea	31.17	112	P	P	08 18 10.2 +0.3
	comp=N,0.3nm,0.6s,baz=333,slow=12,SNR=3.2					
	comp=N,0.3nm,0.6s					
PDAR	Pinedale Array	32.48	97	P	P	08 18 22.6 +1.4
	comp=N,0.2nm,0.5s,baz=292,slow=4.7,SNR=4.2					
	comp=N,0.2nm,0.5s					

*NEIC **31** 08:14:04.3±1.1, 40°.455N±0°.005×111°.93W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.6km az=68.0*

UUSS 31 08:14:04.3±0.8, 40°.463N±0°.006×111°.95W±0°.01, h9km±5km, ML1.9/5, ML1.7/32(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	Western Traver	0.01	206		Pg	08 14 06.1	0.0
CWU	Camp Williams	0.12	262		Pg	08 14 07.5	+0.3
GMU	Granite Mounta	0.18	51		Pg	08 14 08.3	+0.1
GMU					Sg	08 14 10.8	0.0
MHD	Mile High Driv	0.23	29		Pg	08 14 09.1	+0.2
NOQ	North Oquirrh	0.23	325		Pg	08 14 09.5	+0.5
NOQ					Sg	08 14 12.8	+0.5
AAU	Alta	0.27	61		Pg	08 14 09.9	+0.1
DCU	Deer Creek Res	0.33	99		Pg	08 14 11.1	+0.3
RBU	Red Butte Cany	0.33	18		Pg	08 14 11.1	+0.1
WMUT	West Mountain	0.40	167		Pg	08 14 12.6	+0.5
SAIU	Southern Antel	0.43	336		Pg	08 14 12.8	+0.1
RCJ	Ross Creek	0.43	63		Pg	08 14 13.1	+0.3
MPU	Maple Canyon	0.51	152	Pg	Pg	08 14 14.3	+0.1
MPU				Sg	Sg	08 14 21.4	+0.5
DAU	Daniels Canyon	0.53	95		Pg	08 14 15.3	+0.6
NAIU	Northern Antel	0.59	339		Pg	08 14 15.7	-0.2
HTU	Hoyt Peak	0.59	69		Pb	08 14 16.5	-0.6
DUG	Dugway, Tooele	0.71	248	Pg	Pg	08 14 18.1	0.0
TCUT	Toone Canyon	0.77	32	Pg	Pg	08 14 19.3	+0.1
LHUT	Little Humpy P	0.84	59		Pb	08 14 21.4	+0.1
BSUT	Blindstream Ca	0.91	85	Pg	Pg	08 14 21.8	0.0
BSUT				Sg	Sg	08 14 33.9	+0.2
BGU	Big Grassy Mou	0.94	300	Pg	Pg	08 14 22.5	+0.1
BGU				Sg	Sb	08 14 36.0	+0.4
BGU				IAML		08 14 37.8	
	comp=N,24nm,0.3s						
EPU	East Promontor	0.99	339		Pg	08 14 23.5	+0.1
MCU	Monte Cristo P	1.05	18		Pb	08 14 24.8	-0.1
HWUT	Hardware Ranch	1.18	14	Pg	Pg	08 14 26.4	-0.6
HWUT				Sg	Sg	08 14 42.2	0.0
HWUT				IAML		08 14 44.3	
	comp=N,21nm,0.7s						
HWUT				IAML		08 14 46.2	
	comp=N,16nm,0.5s						
TMUT	Trail Mountain	1.30	154	Pn	Pg	08 14 29.3	+0.1
TMUT				IAML		08 14 49.4	
	comp=E,15nm,0.6s						
HVU	Hansel Valley	1.46	335	Pn	Pn	08 14 30.0	-1.0
HVU				IAML		08 14 55.5	
	comp=N,15nm,0.6s						
P18A	Preston Nutter	1.55	122	Pn	Pb	08 14 33.1	-0.2
P18A				IAML		08 14 56.6	
	comp=N,9.9nm,0.4s						
P18A				IAML		08 14 58.0	
	comp=E,8.0nm,0.4s						
SRU	San Rafael Swe	1.74	140	Pn	Pn	08 14 35.6	+0.7
SRU				IAML		08 15 03.8	
	comp=N,6.5nm,0.5s						
SRU				IAML		08 15 04.7	
	comp=E,7.5nm,0.5s						
RDMU	Red Mountain	1.82	86	Pn	Pn	08 14 36.8	+0.8
RDMU				IAML		08 15 05.0	
	comp=E,6.0nm,0.4s						
RDMU				IAML		08 15 38.4	
	comp=N,5.5nm,5.0s						
MVU	Marysvale	1.97	186	Pn	Pn	08 14 37.8	-0.3
SPR3	Spring Creek 3	2.35	232	Pn	Pn	08 14 43.3	-0.1
SPR3				IAML		08 15 32.3	
	comp=E,4.0nm,4.0s						
SPR3				IAML		08 15 33.5	
	comp=N,4.5nm,3.1s						
PSUT	Pine Spring	2.43	218	Pn	Pn	08 14 44.4	0.0
PSUT				IAML		08 15 37.1	
	comp=E,5.0nm,4.2s						
PSUT				IAML		08 15 38.1	
	comp=N,3.2nm,4.7s						
PDAR	Pinedale Array	2.92	37	Pn	Pn	08 14 50.1	-1.0
TPAW	Teton Pass	3.11	13	Pn	Pn	08 14 53.8	-0.1

*THE **31** 08:15:00.3, 37°.29N×20°.61E, h6km±16km, ML2.6/4, Error ellipse: s-maj=16.4km s-min=0.7km az=45.0*
*ATH **31** 08:15:02.4, 37°.40N×20°.76E, h17km±4km, ML2.7/7, Manual Solution by N.Liadopoulou First location:*
2019/03/31 08:16:07, This location: 2019/03/31 09:15:44
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 9 km

ISC 31 08:15:01.8±2.1, 37°.36N±0°.08×20°.72E±0°.09, h12km±10km, n18, σ0°.63/27, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.31	15	P	Pg	08 15 08.3	+0.1
KRI1				S	Sb	08 15 13.9	-0.4
LTHK	Lithakia	0.36	15	P	Pg	08 15 08.9	-0.1
LTHK				S	Sb	08 15 15.3	-0.4
	3μm,0.2s						
LTHK	Lithakia	0.36	15	P	Pg	08 15 09.0	-0.1
LTHK				S	Sg	08 15 14.7	+0.7
RTZL	Ratzakli, Kefa	0.71	3	P	Pg	08 15 15.0	-0.7
RTZL				S	Sb	08 15 26.7	+0.7
PSDA	Pessada-Kefalo	0.76	352	P	Pg	08 15 15.8	-0.7
PSDA				S	Sb	08 15 27.8	+0.6
	475nm,0.1s						
AMT	Artemida-Makis	0.81	78	P	Pg	08 15 17.5	0.0
AMT				S	Sg	08 15 28.3	+0.3
VLS	Valsamata	0.82	353	P	Pg	08 15 16.7	-1.0
VLS				S	Sb	08 15 29.5	+0.5
	342nm,0.1s						
SMHA	Samh	0.89	357	P	Pb	08 15 19.2	0.0
ITM	Ithomi	0.98	100	P	Pg	08 15 19.5	-1.3
ITM				S	Sn	08 15 35.9	+0.7
	180nm,0.4s						
ITM	Ithomi	0.98	100	P	Pg	08 15 20.0	-0.7
ITM				S	Sg	08 15 33.8	+0.2
FSK	Fiskardo	1.10	354	P	Pn	08 15 23.2	+0.1
KLV	Kalavryta, Ach	1.33	59	P	Pn	08 15 25.9	-0.2
PVO	Paravola	1.41	27	P	Pn	08 15 27.2	0.0
GUR	Goura	1.41	66	P	Pn	08 15 27.2	-0.2
EFP	Efpalio	1.42	41	P	Pn	08 15 26.8	-0.6
ANX	Ano Chora	1.56	37	P	Pn	08 15 28.5	-0.9
VLI	Veliai	1.89	109	P	Pn	08 15 34.8	+0.9
LTK	Loutraki	1.90	69	P	Pn	08 15 33.8	-0.2

*CATAC **31** 08:21:22.8±0.7, 13°.N±4°.4×9°.0W±°, h25km±3km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=9.1km s-min=6.3km az=25.0, confirmed*
*GCG **31** 08:21:22.9±0.3, 13°.21N×89°.70W, h53km±6km, MD3.7*

ISC 31 08:21:23.8±2.8, 13°.2N±0°.1×89°.65W±0°.10, h43km, n48, σ0°.86/46, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.43	48	P	Pn	08 21 40.5	+6.7
LALI	Alcalda de L	0.43	48	P	Pn	08 21 34.6	+0.8
LALI	Alcalda de L	0.43	48	S	Sn	08 21 41.2	+0.3
JAYA	Jayaque - finc	0.49	24	P	Pn	08 21 34.4	-0.4
JAYA	Jayaque - finc	0.49	24	P	Pn	08 21 34.4	-0.4
JAYA	Jayaque - finc	0.49	24	S	Sn	08 21 42.3	-0.1
JAYA	Jayaque - finc	0.49	24	*i* P	Pn	08 21 34.4	-0.4
JAYA				*i* S	Sn	08 21 43.3	+0.9
JAYA	Jayaque - finc	0.49	24	*i* P		08 21 34.4	
JAYA				*i* S		08 21 43.3	
ITCA	Escuela Especi	0.59	38	P	Pn	08 21 44.5	+8.4
PMON	Piamonte	0.60	33	P	Pn	08 21 35.8	-0.3
PMON	Piamonte	0.60	33	P	Pn	08 21 35.5	-0.7
PMON	Piamonte	0.60	33	S	Sn	08 21 45.5	+0.6
CEVE	Cerro Verde	0.62	2	P	Pn	08 21 37.7	+1.1
CEVE	Cerro Verde	0.62	2	P	Pn	08 21 36.3	-0.2
CEVE	Cerro Verde	0.62	2	S	Sn	08 21 46.1	+0.5
LOMA	Loma Larga	0.64	47	P	Pn	08 21 36.1	-0.6
LOMA	Loma Larga	0.64	47	P	Pn	08 21 35.7	-1.0
LOMA	Loma Larga	0.64	47	S	Sn	08 21 46.2	+0.4
UEES	Universidad Ev	0.65	38	P	Pn	08 21 36.2	-0.6
UEES	Universidad Ev	0.65	38	P	Pn	08 21 36.3	-0.4
UEES	Universidad Ev	0.65	38	S	Sn	08 21 46.6	+0.6
UTEC	Universidad Te	0.66	41	P	Pn	08 21 36.4	-0.5
UTEC	Universidad Te	0.66	41	S	Sn	08 21 46.9	+0.7
IGN	Direccin Gen	0.69	43	P	Pn	08 21 47.2	+10
NUBE	Las Nubes	0.71	350	P	Pn	08 21 37.3	-0.3
NUBE	Las Nubes	0.71	350	P	Pn	08 21 37.0	-0.6
NUBE	Las Nubes	0.71	350	*i* P	Pn	08 21 37.2	-0.3
NUBE				*i* S	Sn	08 21 48.4	+0.9
NUBE	Las Nubes	0.71	350	*i* P		08 21 37.2	
NUBE				*i* S		08 21 48.4	
UNIC	Universidad Ca	0.78	7	P	Pn	08 21 38.0	-0.5
UNIC	Universidad Ca	0.78	7	P	Pn	08 21 38.5	-0.1
COEG	Centro de Oper	0.86	61	P	Pn	08 21 38.7	-0.8
COEG	Centro de Oper	0.86	61	P	Pn	08 21 38.9	-0.6
COEG	Centro de Oper	0.86	61	S	Sn	08 21 50.8	-0.1
PAVA	Las Pavas	0.86	54	P	Pn	08 21 39.4	-0.2
PAVA	Las Pavas	0.86	54	P	Pn	08 21 39.3	-0.4
PAVA	Las Pavas	0.86	54	S	Sn	08 21 52.1	+1.0
SCLA	Alcaldia de Sa	1.02	61	P	Pn	08 21 41.5	-0.3
SCLA	Alcaldia de Sa	1.02	61	P	Pn	08 21 41.5	-0.3
PQSS	Presa 15 de Se	1.14	68	P	Pn	08 21 42.0	-1.4
PQSS	Presa 15 de Se	1.14	68	P	Pn	08 21 43.3	-0.1
PQSS	Presa 15 de Se	1.14	68	S	Sn	08 21 58.4	+0.6
MTO3	Montecristo	1.22	13	P	Pn	08 21 44.6	-0.1
MTO3	Montecristo	1.22	13	P	Pn	08 21 44.6	-0.1
MTO3	Montecristo	1.22	13	S	Sn	08 22 01.6	+1.4
MTO3	Montecristo	1.22	13	*i* P	Pn	08 21 44.6	-0.1
MTO3	Montecristo	1.22	13	*i* P		08 21 44.6	
PACA	Pacayal	1.32	78	P	Pn	08 21 46.0	+0.1
PACA	Pacayal	1.32	78	P	Pn	08 21 45.6	-0.3
ESQI	Esquipulas	1.38	12	P	Pn	08 21 42.6	-4.2
ESQI	Esquipulas	1.38	12	P	Pn	08 21 42.8	-4.0
LCND	La Caada	1.72	86	P	Pn	08 21 50.8	-0.4

*IDC **31** 08:30:25.9±1.7, 8°.36S×121°.22E, h0km, mb3.5/2, mbtmp3.6/6, ML3.3/4, Error ellipse: s-maj=148.2km s-min=19.3km az=60.0*
*DJA **31** 08:30:26.8±1.0, 9°.5±2°.×12°.1E±°, h19km±8km, M3.9/9, mb4.3/1, MLv3.8/9*

ISC 31 08:30:26.3±2.0, 8°.69S±0°.04×120°.59E±0°.05, h13km±14km, n15, σ1°.21/24, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.02	196	P	Pb	08 30 45.2	-0.6
WSI				S	Sg	08 30 58.7	-0.6
EDFI	Ende, Flores	1.09	93	P	Pb	08 30 47.2	+0.1
WBSI	Waikabubak, Su	1.52	231	P	Pn	08 30 52.1	-1.1
WBSI				S	Sn	08 31 11.8	-1.0

*NEIC **31** 08:38:13.3±1.7, 25°.10N±0°.07×126°.93E±0°.06, h10km±1km, mb4.4/26, Error ellipse: s-maj=15.4km s-min=3.0km az=144.0*
*JMA **31** 08:38:15.0±0.2, 25°N±1°×12°7E±°, h77km±4km, MV3.6/22, NEAR OKINAWAJIMA ISLAND*
ISC 31 08:38:12.2±1.7, 25°.05N±0°.06×127°.04E±0°.04, h10km±10km, n91, σ1§45/101, mb4.2/35, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	1.28	32	eP	Pb	08 38 37.2	+0.8
JJT3				eS	Sg	08 38 53.7	+0.1
JKE	**Kume jima 2**	1.29	350	iP	Pg	08 38 36.4	-0.6
JAGN	**Aguni-jima**	1.54	7	eP	Pb	08 38 40.7	-0.2
JMJ2	**Miyako jima3**	1.58	259	P	Pb	08 38 41.3	-0.2
JMJ2				eS	Sn	08 38 58.2	-2.6
JMJ	**Miyako jima 2**	1.60	262	P	Pb	08 38 41.4	-0.4
JIKM	**Ikemajima**	1.63	266	P	Pb	08 38 41.9	-0.5
JIRB	**Irabujima**	1.71	263	P	Pn	08 38 42.6	+0.7
JIRB				eS	Sn	08 39 03.2	-0.6
JNTH	**Nagotoyohara**	1.71	31	eP	Pn	08 38 42.7	+0.7
JNTH				eS	Sn	08 39 03.4	-0.6
JOW	**Kunigami**	2.10	32	Pn	Pn	08 38 49.0	+1.7
JOW	5.6nm,0.3s,baz=114,slow=30,SNR=13			Sn	Sn	08 39 11.9	-1.6
JOW	47nm,0.3s,baz=121,slow=27,SNR=11 **Kunigami**	2.10	32	P	Pn	08 38 49.5	+2.1
JOW	**Kunigami**	2.10	32	eS	Sn	08 39 12.7	-0.9
JIH	**Iheya**	2.15	23	eP	Pn	08 38 48.9	+0.8
JTJ	**Tarama**	2.16	260	P	Pn	08 38 48.8	+0.6
JYRO	**Yoronjima**	2.34	33	eP	Pn	08 38 51.5	+0.7
JISG	**Ishigakijimahi**	2.52	260	P	Pn	08 38 53.2	+0.1
JISG				eS	Sn	08 39 23.0	-0.9
JIJ	**Ishigaki jima**	2.72	256	eS	Sn	08 39 28.0	-0.8
JTK	**Tokunoshima**	3.22	32	eP	Pn	08 39 03.6	+0.8
JTK				eS	Sn	08 39 39.1	-2.1
JAMN	**Amaminishikomi**	3.71	31	eS	Sn	08 39 52.9	-0.5
JMZ	**Minamidaito 2**	3.86	78	Pn	Pn	08 39 11.6	-0.1
JMZ	**Minamidaito 2**	3.86	78	P	Pn	08 39 11.7	+0.1
JMZ	**Minamidaito 2**	3.86	78	eP	Pn	08 39 11.3	-0.3
JMZ				eS	Sn	08 39 52.5	-4.6
JKDJ	**Kitadaitoujima**	3.95	76	P	Pn	08 39 12.7	-0.1
JKDJ				eS	Sn	08 39 55.1	-4.2
JAM	**Amami Oshima**	4.06	34	P	Pn	08 39 14.9	+0.5
JAM				eS	Sn	08 39 57.8	-4.2
NACB	**Ninganchiao**	5.03	261	Pn	Pn	08 39 26.9	-0.8
NACB	**Ninganchiao**	5.03	261	P	Pn	08 39 27.0	-0.7
YHNB	**Yeheng**	5.16	267	Pn	Pn	08 39 29.1	-0.4
YHNB	**Yeheng**	5.16	267	P	Pn	08 39 30.7	+1.2
YULB	**Yu-li**	5.49	254	Pn	Pn	08 39 32.2	-1.9
SSLB	**Suanglung**	5.69	259	Pn	Pn	08 39 36.0	-0.8
SSLB	**Suanglung**	5.69	259	P	Pn	08 39 37.1	+0.4
TPUB	**Ta-pu**	6.10	255	Pn	Pn	08 39 42.8	+0.3
TPUB	**Ta-pu**	6.10	255	P	Pn	08 39 42.7	+0.2
JNU	**Nakatsue**	8.72	22	Pn	Pn	08 40 20.1	+1.7
JNU	**Nakatsue**	8.72	22	Pn	Pn	08 40 19.8	+1.4
JNU	0.9nm,0.3s,baz=221,slow=9.7,SNR=8.9 **Nakatsue**	8.72	22	P	Pn	08 40 20.6	+2.2
	7.5nm,0.6s						
JMN	**Monobe**	10.50	33	Pn	Pn	08 40 43.1	+0.2
ASAJ	**Asahikawa**	22.86	30	P	P	08 43 15.2	-0.5
	3.0nm,0.8s,baz=211,slow=18,SNR=2.3						
JKA	3.0nm,0.8s **Kamikawa-asahi**	22.86	30	P	P	08 43 14.7	-0.9
JKA				IAmb	IAmb	08 43 26.4	
	comp=Z,8.2nm,0.9s						
CMAR	**Chiang Mai Arr**	26.87	261	P	P	08 43 52.7	-0.6
	comp=Z,0.6nm,0.3s,baz=66,slow=8.0,SNR=5.2						
	comp=Z,0.6nm,0.3s						
ULN	**Ulaanbaatar**	27.71	330	P	P	08 43 59.1	-1.7
SONM	**Songino Array**	27.99	330		P	08 44 01.9	-1.3
SONM	**Songino Array**	27.99	330	P	P	08 44 01.6	-1.6
	comp=Z,1.7nm,0.5s,baz=144,slow=11,SNR=11						
	comp=Z,1.7nm,0.5s						
PETK	**Petropavlovsk-**	36.26	31	P	P	08 45 16.4	+1.0
MTN	**Manton Dam**	37.87	173	P	P	08 45 30.4	+0.9
KNRA	**Kununurra**	40.51	177	P	P	08 45 53.1	+1.6
KNRA				IAmb	IAmb	08 45 55.3	
	comp=Z,17nm,1.4s						
SEY	**Seymchan**	41.46	17	P	P	08 45 59.8	+1.0
	comp=Z,1.8nm,0.8s,baz=217,slow=9.1,SNR=9.7						
	comp=Z,1.8nm,0.8s						
MK31	**Makanchi Array**	41.53	313	P	P	08 45 58.9	-0.9
MK31				IAmb	IAmb	08 45 59.5	
	comp=Z,3.8nm,0.7s						
MKAR	**Makanchi Array**	41.53	313	P	P	08 45 58.9	-0.9
MKAR	**Makanchi Array**	41.53	313	P	P	08 45 58.6	-1.1
	comp=Z,5.1nm,0.6s,baz=98,slow=10,SNR=63						
	comp=Z,5.1nm,0.6s						
MAKZ	**Makanchi**	41.75	313	P	P	08 46 00.6	-0.9
MAKZ				IAmb	IAmb	08 46 01.4	
	comp=Z,6.5nm,0.8s						
ZAA0	**Zalesovo Array**	42.55	324	P	P	08 46 07.0	-0.9
ZALV	**Zalesovo Beam**	42.55	324	P	P	08 46 06.4	-1.5
ZALV	**Zalesovo Beam**	42.55	324	P	P	08 46 06.1	-1.7
	comp=Z,1.3nm,0.6s,baz=120,slow=7.3,SNR=5.3						
	comp=Z,1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	42.91	182	P	P	08 46 12.9	+1.8
FITZ	**Fitzroy Crossi**	42.91	182	P	P	08 46 11.8	+0.8
	comp=Z,2.5nm,0.8s,baz=23,slow=13,SNR=5.5						
	comp=Z,2.5nm,0.8s						
KURK	**Kurchatov**	44.95	318	P	P	08 46 26.0	-1.2
KURK				IAmb	IAmb	08 46 26.4	
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	44.98	318	P	P	08 46 25.7	-1.8
	comp=Z,1.4nm,0.5s,baz=107,slow=9.1,SNR=14						
	comp=Z,1.4nm,0.5s						
WB0	**Warramunga Arr**	45.12	170	P	P	08 46 30.8	+1.9
WRA	**Warramunga Arr**	45.28	170	P	P	08 46 32.6	+2.5
WRA	**Warramunga Arr**	45.28	170	P	P	08 46 31.7	+1.6
	comp=Z,2.5nm,0.7s,baz=353,slow=8.6,SNR=11						
	comp=Z,2.5nm,0.7s						
WR8	**Warramunga Arr**	45.32	170	P	P	08 46 32.3	+1.8
WR8				IAmb	IAmb	08 46 42.6	
	comp=Z,3.7nm,0.8s						
AAK	**Ala-Archa**	46.27	306	P	P	08 46 37.8	-0.3
AAK				IAmb	IAmb	08 46 38.9	
	comp=Z,4.4nm,1.3s						
AS31	**Alice Springs**	48.88	172	P	P	08 47 01.0	+2.8
ASAR	**Alice Springs**	48.88	172	P	P	08 47 00.8	+2.5
ASAR	**Alice Springs**	48.88	172	P	P	08 47 00.3	+2.0
	comp=Z,1.1nm,0.8s,baz=356,slow=14,SNR=17						
	comp=Z,1.1nm,0.8s						
KK31	**Karatay Array**	49.22	306	P	P	08 46 59.3	-1.5
KK31				IAmb	IAmb	08 47 01.8	
	comp=Z,1.7nm,0.8s						
KKAR	**Karatay Array**	49.22	306	P	P	08 47 00.8	0.0
GAR	**Garm**	49.33	301	P	P	08 47 01.2	-0.6
GAR				IAmb	IAmb	08 47 02.8	
	comp=Z,5.9nm,1.0s						
SIMJ	**Simiganj**	50.36	300	P	P	08 47 08.9	-0.7
SIMJ				IAmb	IAmb	08 47 10.9	
	comp=Z,7.8nm,1.4s						
BVAR	**Borovoye Array**	50.45	319	P	P	08 47 09.2	-0.7
	comp=Z,1.1nm,0.6s,baz=103,slow=10.0,SNR=4.7						
	comp=Z,1.1nm,0.6s						
KBL	**Kabul**	50.62	295	P	P	08 47 11.1	-0.6
ABKAR	**Akbulak array**	56.67	314	P	P	08 47 55.2	-0.4
K17K	**Iditarod**	61.04	31	P	P	08 48 27.5	+1.7
K17K				IAmb	IAmb	08 48 44.9	
	comp=Z,6.2nm,1.3s						
B20K	**Meade River**	61.84	22	P	P	08 48 33.3	+2.2
B20K				IAmb	IAmb	08 48 46.4	
	comp=Z,2.1nm,0.7s						
B22K	**Teshekpuk Lake**	63.13	22	P	P	08 48 41.4	+1.7
M20K	**Styx River**	63.47	31	P	P	08 48 44.5	+2.3
CAST	**Castle Rocks**	63.85	30	P	P	08 48 46.9	+2.3
CAST				IAmb	IAmb	08 48 57.4	
	comp=Z,1.7nm,1.0s						
C24K	**Franklin Bluff**	64.77	23	P	P	08 48 52.3	+1.8
C24K				IAmb	IAmb	08 48 56.3	
	comp=Z,4.9nm,1.1s						
NEA2	**Nenana**	65.07	28	P	P	08 48 53.9	+1.3
RND	**Reindeer**	65.30	30	P	P	08 48 55.1	+0.9
ILAR	**Eielson Array**	65.98	28	P	P	08 48 59.6	+1.2
	comp=Z,0.4nm,0.7s,baz=264,slow=5.4,SNR=6.1						
	comp=Z,0.4nm,0.7s						
KBZ	**Khabaz**	69.07	309	P	P	08 49 18.6	+0.3
	comp=Z,1.6nm,0.7s,baz=67,slow=5.1,SNR=5.2						
	comp=Z,1.6nm,0.7s						
ARCES	**ARCESS Array B**	70.71	339	P	P	08 49 27.5	-0.4
	comp=Z,4.1nm,0.9s,baz=63,slow=5.6,SNR=3.5						
	comp=Z,4.1nm,0.9s						
FINES	**FINESS Array B**	73.36	331	P	P	08 49 43.9	0.0
	comp=Z,5.9nm,1.1s,baz=83,slow=6.0,SNR=7.7						
	comp=Z,5.9nm,1.1s						
AKASG	**Malin Array Be**	75.73	319	P	P	08 49 57.3	-0.6
	comp=Z,0.6nm,0.4s,baz=61,slow=6.1,SNR=5.8						
	comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	76.91	308	P	P	08 50 05.4	+0.4
	comp=Z,1.3nm,1.0s,baz=90,slow=4.9,SNR=6.1						
	comp=Z,1.3nm,1.0s						
HFS	**Hagfors**	79.36	332	P	P	08 50 17.8	-0.2
	comp=Z,1.9nm,0.8s,baz=65,slow=6.8,SNR=1.6						
	comp=Z,1.9nm,0.8s						
NOA	**NORSAR Array B**	79.89	334	P	P	08 50 19.9	-1.0
	comp=Z,1.2nm,0.8s,baz=42,slow=6.8,SNR=3.5						
	comp=Z,1.2nm,0.8s						
YKA	**Yellowknife Ar**	80.04	25	P	P	08 50 22.7	+1.0
	comp=Z,0.5nm,0.7s,baz=300,slow=5.5,SNR=11						
	comp=Z,0.5nm,0.7s						
CLL	**Collm**	84.50	325	eP	P	08 50 46.0	+0.8
GERES	**GERESS Array B**	85.48	323	P	P	08 50 50.5	+0.1
	comp=Z,0.4nm,0.8s,baz=61,slow=6.0,SNR=1.8						
	comp=Z,0.4nm,0.8s						

*RSNC **31** 08:54:00.1±0.9, 2°S±6°×8°1W±°, h5km, M4.0, mB5.2, mb4.9, ML3.7, MLv4.6, Mw(mB)4.0*
*NEIC **31** 08:54:18.3±0.9, 1°.92S±0°.05×80°.82W±0°.07, h10km±1km, mb4.4/7, Error ellipse: s-maj=14.1km s-min=6.0km az=238.0*
*IDC **31** 08:54:18.6±0.9, 1°.45S×80°.65W, h0km, mb4.0/6, mbtmp4.0/10, ML4.1/3, Error ellipse: s-maj=32.4km s-min=19.9km az=63.0*
*IGQ **31** 08:54:19.2±0.4, 2°S±2°×8°1W±°, h4km±2km, MLv4.1/13*
*VAO **31** 08:55:07.9±0.7, 2°.87S×77°.51W, h172km±7km, mb4.2*
ISC 31 08:54:18.6±1.0, 1°.86S±0°.03×80°.85W±0°.04, h12km±7km, n107, σ1§29/112, mb4.4/7, 2C-3D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLP	**Puerto Lpez**	0.32	13	⇓P	Pb	08 54 27.0	+0.7
PPLP	**Puerto Lpez**	0.32	13	⇓P	Pb	08 54 26.8	+0.5
SALI	**Salinas**	0.35	204	⇑P	Pg	08 54 25.1	-0.6
SALI				S	Sg	08 54 29.9	-0.6
ISPT	**Isla de la Pla**	0.64	339	⇑P	Pg	08 54 31.5	+0.5
ISPT				S	Sb	08 54 41.4	+0.8
AGUAY	**Guayaquil**	0.91	102	P	Pn	08 54 37.1	-0.2
AMNT	**Manta-Manabi**	0.92	7	P	Pn	08 54 37.5	+0.1
AMNT				S	Sn	08 54 51.9	+1.3
GYE3	**Ecuador-Guayaq**	0.99	107	P	Pn	08 54 38.4	0.0
ISPG	**Isla Puna-Puer**	1.29	148	P	Pg	08 54 44.6	+1.2
MILO	**Milagro-Astudi**	1.35	108	P	Pb	08 54 43.5	-0.4
MILO				S	Sg	08 55 04.1	+1.8
CAB1	**Cabo Pasado-Ma**	1.52	16	P	Pg	08 54 47.6	-0.2
CAB1				S	Sg	08 55 09.8	+2.2
AQUE	**Quevedo**	1.58	59	P	Pb	08 54 47.9	+0.2
AQUE				S	Sg	08 55 10.4	+1.1
COHC	**Cochancay**	1.70	111	Pn	Pn	08 54 48.3	+0.2
COHC	**Cochancay**	1.70	111	P	Pb	08 54 48.8	-1.0
COHC				S	Sb	08 55 11.8	+0.6
COHC	**Cochancay**	1.70	111	P	Pn	08 54 48.5	+0.3
COHC	**Cochancay**	1.70	111	P	Pb	08 54 48.8	-1.0
COHC				S	Sb	08 55 11.8	+0.6
JAMA	**Jama**	1.71	22	P	Pb	08 54 49.8	-0.3
FLF1	**Flavio Alfaro-**	1.80	34	P	Pn	08 54 50.3	+0.8
ARNL	**Arenillas**	1.85	155	P	Pn	08 54 50.3	+0.2
AGRD	**Ecuador-Guaran**	1.86	81	P	Pb	08 54 51.8	-1.0
JSCH	**Cashca Tororas**	1.87	86	P	Pb	08 54 51.9	-1.1
CHSH	**Refugio Sur-Vo**	2.01	80	P	Pb	08 54 55.0	-0.4
TAMH	**Tambohuasha Ch**	2.09	81	P	Pb	08 54 55.8	-1.0
PORT	**Chimborazo Vol**	2.11	79	P	Pb	08 54 56.6	-0.5
BBIL	**Ulba Tungurahu**	2.39	80	P	Pb	08 55 01.1	-0.8
ASLC	**Ecuador-Salced**	2.40	70	P	Pb	08 55 02.1	+0.2
ILLI	**Illinizas Sur**	2.40	62	P	Pb	08 55 00.8	-1.4
ARRY	**Arrayan**	2.42	82	P	Pb	08 55 00.8	-1.5
JUI6	**Juive**	2.42	80	P	Pb	08 55 02.0	-0.2
POND	**Pondoa**	2.43	80	P	Pb	08 55 01.7	-0.8
SANGA	**Volcan Sangay**	2.48	94	P	Pb	08 55 02.5	-0.9
PIS1	**Pisayambo**	2.58	72	P	Pb	08 55 05.2	0.0
CAMI	**Rancho Maria**	2.62	63	P	Pb	08 55 05.8	0.0
BNAS	**Cotopaxi Volca**	2.64	63	P	Pb	08 55 06.8	+0.6
SUCR	**Mariscal Sucre**	2.65	63	P	Pb	08 55 06.2	0.0
VCES	**Cotopaxi**	2.67	67	P	Pb	08 55 06.3	-0.4
BOSC	**San Juan Bosco**	2.67	119	P	Pb	08 55 07.0	+0.5
BREF	**Cotopaxi Volca**	2.68	64	P	Pb	08 55 07.1	+0.2
BVC2	**Cotopaxi Volca**	2.71	64	P	Pb	08 55 07.5	+0.1
BTAM	**Cotopaxi Volca**	2.72	64	P	Pb	08 55 07.2	-0.3
PIAT	**Ana Tenorio**	2.72	72	P	Pb	08 55 06.9	-0.6
VC1	**Cotopaxi 1**	2.73	64	P	Pb	08 55 07.6	-0.1
HPAL	**Hacienda Las P**	2.73	53	P	Pb	08 55 06.0	-1.6
TAMB	**Tambo**	2.73	65	P	Pb	08 55 07.0	-0.7
PITA	**Cotopaxi Volc**	2.74	62	P	Pb	08 55 07.0	-0.8
GGPT	**Toaza - Volcan**	2.75	54	P	Pb	08 55 05.8	-2.3
TERV	**Terraza Guagua**	2.80	53	P	Pb	08 55 07.8	-1.1
GGPC	**Guagua Pichinc**	2.80	53	P	Pn	08 55 06.0	+2.2
PINO	**Pino**	2.81	53	P	Pn	08 55 06.1	+2.2
PUYO	**Puyo, Santa Ro**	2.84	83	P	Pb	08 55 09.2	-0.2
TING	**Casa Alexandra**	2.86	57	P	Pb	08 55 09.3	-0.5
ANTG	**Antisana-Guama**	2.92	63	P	Pb	08 55 09.7	-1.3
ANTM	**Antisana-La Mi**	2.93	63	P	Pb	08 55 10.1	-1.1
PULU	**Pululahua**	3.00	51	P	Pb	08 55 09.9	-2.3
ANTS	**Antisana-Sarah**	3.00	63	P	Pb	08 55 11.2	-1.2
ANTI	**Antisana**	3.03	62	P	Pb	08 55 11.2	-1.6
ARDO	**Archidona, Ten**	3.16	74	P	Pb	08 55 13.0	-1.8
OTAV	**Otavalo**	3.17	49	Pn	Pn	08 55 08.8	-0.1
OTAV	**Otavalo**	3.17	49	P	Pb	08 55 12.5	-2.8
OTAV	**Otavalo**	3.17	49	eP	Sg	08 55 59.4	-1.3
RVRD	**Rio Verde**	3.25	27	P	Pb	08 55 15.4	-0.9
CUSE	**Cuicocha Este**	3.26	49	P	Pb	08 55 14.2	-2.5
CUSW	**Cuicocha Oeste**	3.28	49	P	Pb	08 55 17.3	+0.3
CUIC	**Cuicocha-Domo**	3.29	49	P	Pb	08 55 14.4	-2.7
COTA	**Cotacachi**	3.32	49	P	Pb	08 55 16.0	-1.9
IMBA	**Imbabura, San**	3.39	51	P	Pb	08 55 17.4	-1.5
ANGU	**Angureal**	3.41	56	⇓P	Pb	08 55 17.8	-1.6
ZUMB	**Zumba**	3.43	150	P	Pn	08 55 14.4	+2.3
URCU	**Urcuqui**	3.45	49	P	Pb	08 55 18.2	-1.8
YAHU	**Yahuarcocha**	3.55	51	P	Pb	08 55 19.1	-2.6
TUMC	**Tumaco**	4.23	30	Pn	Pn	08 55 24.4	+1.5
FLOC	**Florencia**	6.22	57	Pn	Pn	08 55 49.0	-1.3
ROSC	**El Rosal**	9.32	44	Pn	Pn	08 56 33.0	-0.2
ROSC	**El Rosal**	9.32	44	Pn	Pn	08 56 29.9	-3.3
	2.9nm,0.5s,baz=259,slow=19,SNR=1.3						
PAYG	**Puerto Ayora**	9.51	277	Pn	Pn	08 56 35.4	-0.2
CZSB	**Cruzeiro do Su**	9.99	126	Pn	Pn	08 56 40.7	-1.4
CZSB	**Cruzeiro do Su**	9.99	126	eP	Pn	08 56 43.2	+1.2
NNA	**Nana**	10.82	159	Pn	Pn	08 56 58.6	+5.1
	2.4nm,0.3s,baz=302,slow=8.9,SNR=4.2						
	5.3nm,0.3s						
RUSC	**La Rusia**	10.93	45	Pn	Pn	08 56 54.2	-1.2
TBTG	**Tabatinga, AM**	11.16	102	Pn	Pn	08 56 56.6	-1.6
TBTG	**Tabatinga, AM**	11.16	102	eP	Pn	08 56 57.5	-0.6
SDV	**Santo Domingo**	14.75	43		Pn	08 57 47.4	0.0
TEFE	**Tefe**	16.27	96	eP	Pn	08 58 04.9	-2.3
LPAZ	**La Paz**	19.04	140	P	P	08 58 40.1	-1.2
LPAZ	**La Paz**	19.04	140	P	Pn	08 58 44.8	+2.7
	0.3nm,0.3s,baz=304,slow=3.6,SNR=8.0						
	2.2nm,0.7s						
LPAZ	**La Paz**	19.04	140	eP	Pn	08 58 45.8	+3.7
PCRV	**Puerto La Cruz**	20.09	53	P	P	08 58 51.5	-0.8
	0.4nm,0.3s,baz=190,slow=4.2,SNR=5.4						
	5.5nm,0.9s						
MACA	**Manacapuru-AM**	20.18	94	P	P	08 58 53.1	-0.2
MACA	**Manacapuru-AM**	20.18	94	eP	P	08 58 53.2	-0.2
BOAV	**Boa Vista**	20.75	78	P	P	08 58 59.4	-0.1
BOAV				IAmb	IAmb	08 59 17.1	
	comp=Z,4.2nm,0.9s						
PB11	**IPOC Station P**	20.89	149	P	P	08 58 59.6	-1.4
PB11				IAmb	IAmb	08 59 08.4	
	comp=Z,14nm,0.9s						
VILB	**Vilhena**	23.22	119	eP	P	08 59 25.6	-0.3
ITTB	**Itaituba**	25.20	96	eP	P	08 59 45.6	+1.2
PTLB	**Pontes e Lacer**	25.31	123	eP	P	08 59 47.3	+1.9
NPGB	**Novo Progresso**	25.92	102	eP	P	08 59 50.7	-0.3
CLDB	**Colider**	26.43	111	eP	P	08 59 57.3	+1.6
PDAR	**Pinedale Array**	51.41	333	P	P	09 03 22.8	-1.0
	comp=Z,0.3nm,0.7s,baz=160,slow=4.7,SNR=4.6						
	comp=Z,0.3nm,0.7s						
AGMN	**Agassiz Nation**	51.64	347	P	P	09 03 25.3	+0.2
AGMN				IAmb	IAmb	09 03 25.5	
	comp=Z,4.8nm,1.0s						
NVAR	**Mina Array Bea**	52.90	323	P	P	09 03 36.4	+1.4
	comp=Z,0.5nm,0.7s,baz=134,slow=8.6,SNR=5.4						
	comp=Z,0.5nm,0.7s						
ULM	**Lac du Bonnet**	53.49	348	P	P	09 03 38.8	0.0
ULM				IAmb	IAmb	09 03 39.2	
	comp=Z,7.1nm,0.7s						
ULM	**Lac du Bonnet**	53.49	348	P	P	09 03 38.2	-0.6
	comp=Z,6.8nm,0.6s,baz=158,slow=7.8,SNR=15						
	comp=Z,6.8nm,0.6s						
YKA	**Yellowknife Ar**	69.07	344	P	P	09 05 23.3	-0.8
	comp=Z,0.4nm,0.8s,baz=141,slow=5.7,SNR=7.0						
	comp=Z,0.4nm,0.8s						
DBIC	**Dimbokro**	76.31	83	P	P	09 06 08.0	-0.3
	comp=Z,6.2nm,1.0s,baz=244,slow=4.5,SNR=3.7						
	comp=Z,6.2nm,1.0s						
QSPA	**South Pole Qui**	88.20	180	P	P	09 07 09.0	-0.5
QSPA				IAmb	IAmb	09 07 36.5	
	comp=Z,5.0nm,1.4s						
QSPA	**South Pole Qui**	88.20	180	P	P	09 07 15.0	+5.5
	comp=Z,2.2nm,0.8s,baz=136,slow=2.4,SNR=6.9						
	comp=Z,2.2nm,0.8s						
KURBB	**Kurchatov Arra**	128.37	17	PKP	PKPdf	09 13 24.6	-0.7
	comp=Z,0.4nm,0.8s,baz=331,slow=2.9,SNR=4.5						
ASAR	**Alice Springs**	137.74	231	PKhKP	PKPpre	09 13 41.7	
	comp=Z,0.6nm,0.9s,baz=113,slow=1.9,SNR=6.9						
WRA	**Warramunga Arr**	139.25	236	PKP	PKPdf	09 13 47.2	+0.6
	comp=Z,0.4nm,0.5s,baz=116,slow=1.9,SNR=5.3						

*SNET **31** 08:56:05.4±9.1, 13°.36N×89°.13W, h78km, ML2.4*
*CATAC **31** 08:56:06.3±0.7, 13°N±6°×8°9W±°, h57km±6km, M2.5/11, MLv2.5/11, Error ellipse: s-maj=14.4km s-min=7.5km az=20.4, confirmed*
*GCG **31** 08:56:07.1±1.0, 13°.37N×89°.26W, h81km±11km, MD3.5*
ISC 31 08:56:07.0±2.5, 13°.3N±0°.1×89°.18W±0°.06, h76km±13km, n39, σ0§62/45, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA	**Loma Larga**	0.33	1	eP	Pn	08 56 19.0	-0.3
LOMA				eS	Sn	08 56 28.7	+0.4
LOMA	**Loma Larga**	0.33	1	P	Pn	08 56 19.0	-0.3
LOMA	**Loma Larga**	0.33	1	P	Pn	08 56 19.0	-0.3
UEES	**Universidad Ev**	0.41	351	P	Pn	08 56 19.4	-0.3
UEES	**Universidad Ev**	0.41	351	S	Sn	08 56 29.5	+0.4
COEG	**Centro de Oper**	0.42	43	eP	Pn	08 56 19.1	-0.7
COEG				eS	Sn	08 56 29.2	0.0
COEG	**Centro de Oper**	0.42	43	P	Pn	08 56 19.5	-0.3
COEG	**Centro de Oper**	0.42	43	P	Pn	08 56 19.2	-0.7
PMON	**Piamonte**	0.42	341	eP	Pn	08 56 19.6	-0.2
PMON	**Piamonte**	0.42	341	P	Pn	08 56 19.7	-0.2
PMON	**Piamonte**	0.42	341	S	Sn	08 56 29.9	+0.5
PMON	**Piamonte**	0.42	341	P	Pn	08 56 19.6	-0.2
JAYA	**Jayaque - finc**	0.43	322	eP	Pn	08 56 19.7	-0.3
JAYA				eS	Sn	08 56 29.7	+0.1
JAYA	**Jayaque - finc**	0.43	322	P	Pn	08 56 19.8	-0.2
JAYA	**Jayaque - finc**	0.43	322	S	Sn	08 56 30.2	+0.6
JAYA	**Jayaque - finc**	0.43	322	P	Pn	08 56 19.7	-0.3
JAYA	**Jayaque - finc**	0.43	322	iP	Pn	08 56 19.7	-0.3
JAYA				iS	Sn	08 56 29.5	0.0
JAYA	**Jayaque - finc**	0.43	322	iP		08 56 19.7	
JAYA				iS		08 56 29.5	
BOQS	**Boqueron**	0.43	347	eP	Pn	08 56 20.5	+0.4
TECO	**Alcaldia de Te**	0.45	60	P	Pn	08 56 19.2	-0.7
TECO	**Alcaldia de Te**	0.45	60	S	Sn	08 56 29.5	0.0
PAV

KKH					Sg		09 46 44.8	0.0
STCH	**Steam Cracks**	**0.46**	**96**		Pg		09 46 38.4	-0.8
STCH				IAML			09 46 54.4	
comp=E,2μm,0.5s								
STCH	**Steam Cracks**	**0.46**	**96**		Sg		09 46 45.5	+0.3
NPOC	**North of Pu'u**	**0.47**	**95**		Pg		09 46 39.2	-0.2
NPOC					Sg		09 46 46.1	+0.5
JCUZ	**Jacuzzi**	**0.48**	**96**		Pg		09 46 39.3	-0.2
JCUZ					Sg		09 46 46.1	+0.3
JOKA	**Jonika Flow**	**0.57**	**90**		Pg		09 46 40.3	-0.9
JOKA				IAML			09 46 55.0	
comp=N,2μm,0.6s								
JOKA	**Jonika Flow**	**0.57**	**90**		Sg		09 46 49.0	+0.4
HPAH	**Hawaii Prepara**	**0.60**	**352**		Sg		09 46 49.3	-0.5
HPAH	**Hawaii Prepara**	**0.60**	**352**		Pg		09 46 41.0	-0.9
HPAH				IAML			09 47 04.0	
comp=E,3μm,0.8s								
HPAH				IAML			09 47 04.2	
comp=N,1μm,1.0s								
MHA	**Mahukona**	**0.80**	**340**	Pg	Pg		09 46 44.1	-1.6
HLK	**Haleakala**	**1.45**	**336**	Pn	Pn		09 46 52.8	-4.6

*NEIC **31** 09:51:35.7±1.0, 59°.80N±0°.03×152°.96W±0°.07, h110km±5km, Error ellipse: s-maj=5.2km s-min=4.6km az=142.0*

*AEIC **31** 09:51:36.7±1.1, 59°.80N±0°.03×153°.00W±0°.06, h109km±3km, ML2.9, ML3.1/138(NEIC), Error ellipse: s-maj=5.2km s-min=4.4km az=146.0*

ISC 31 09:51:35.6±1.5, 59°.80N±0°.05×152°.97W±0°.05, h112km±8km, n160, σ0°62/160, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.17**	**342**		**Pn**	**09 51 51.3**	**0.0**
ILS					**Sn**	**09 52 02.6**	**-0.5**
OPT	**Oil Point**	**0.20**	**223**		**Pn**	**09 51 51.4**	**+0.1**
P19K	**Oil Pt**	**0.20**	**223**		**Pn**	**09 51 50.5**	**-0.8**
P19K				IAML		09 52 03.4	
comp=N,1μm,0.5s							
P19K				IAML		09 52 04.3	
comp=E,1μm,0.5s							
P19K	**Oil Pt**	**0.20**	**223**		**Sn**	**09 52 02.9**	**-0.2**
ILSW	**Iliamna Southw**	**0.21**	**335**		**Pn**	**09 51 50.6**	**-0.8**
ILSW				IAML		09 52 04.6	
comp=N,482nm,0.8s							
ILSW				IAML		09 52 04.7	
comp=E,670nm,0.6s							
ILSW	**Iliamna Southw**	**0.21**	**335**		**Sn**	**09 52 02.7**	**-0.6**
O20K	**Slope Mountain**	**0.33**	**31**		**Pn**	**09 51 51.9**	**+0.1**
O20K					**Sn**	**09 52 04.2**	**+0.1**
AU22	**Augustine Moun**	**0.47**	**205**		**Pn**	**09 51 52.5**	**+0.1**
AUL	**Augustine Lava**	**0.48**	**210**		**Pn**	**09 51 52.8**	**+0.2**
AUL					**Sn**	**09 52 05.3**	**+0.1**
AUCH	**Augustine Cone**	**0.50**	**209**		**Pn**	**09 51 53.0**	**+0.2**
RED	**Redoubt Volcan**	**0.63**	**9**		**Pn**	**09 51 53.7**	**0.0**
RED					**Sn**	**09 52 06.6**	**-0.8**
HOM	**Homer**	**0.69**	**101**		**Pn**	**09 51 53.6**	**-0.3**
HOM				IAML		09 52 10.4	
comp=N,761nm,0.3s							
HOM				IAML		09 52 11.5	
comp=E,645nm,0.4s							
HOM	**Homer**	**0.69**	**101**		**Sn**	**09 52 08.6**	**+0.7**
RDWB	**Redoubt West**	**0.70**	**5**		**Pn**	**09 51 54.2**	**-0.1**
O19K	**Port Alsworth**	**0.79**	**301**		**Pn**	**09 51 54.6**	**-0.2**
O19K				IAML		09 52 11.0	
comp=E,864nm,0.5s							
O19K	**Port Alsworth**	**0.79**	**301**		**Sn**	**09 52 09.1**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.80**	**6**		**Pn**	**09 51 55.2**	**+0.1**
RDT	**Redoubt**	**0.83**	**20**		**Pn**	**09 51 55.3**	**0.0**
CNPM	**China Poot**	**0.92**	**106**		**Pn**	**09 51 56.2**	**0.0**
CNPM					**Sn**	**09 52 11.1**	**-0.5**
CNPM	**China Poot**	**0.92**	**106**	IAML		09 52 11.5	
comp=N,411nm,0.6s							
CNPM				IAML		09 52 13.4	
comp=E,453nm,0.3s							
Q19K	**Cape Douglas,**	**0.94**	**202**		**Pn**	**09 51 56.2**	**-0.2**
Q19K				IAML		09 52 14.0	
comp=E,207nm,0.7s							
Q19K				IAML		09 52 16.8	
comp=N,291nm,0.7s							
BRLK	**Bradley Lake**	**1.05**	**91**		**Pn**	**09 51 57.0**	**-0.5**
BRLK				IAML		09 52 16.0	
comp=N,686nm,0.1s							
BRSE	**Bradley Lake S**	**1.13**	**92**		**Pn**	**09 51 58.0**	**-0.3**
O18K	**Koktuh Hills**	**1.13**	**274**		**Pn**	**09 51 58.1**	**-0.2**
P18K	**Big Mountain,**	**1.22**	**252**	Pn	**Pn**	**09 51 58.8**	**-0.5**
SYI	**Shuyak Island**	**1.23**	**166**		**Pn**	**09 51 59.4**	**0.0**
SYI				IAML		09 52 17.7	
comp=N,332nm,0.6s							
SYI				IAML		09 52 18.4	
comp=E,460nm,0.4s							
N19K	**Bonanza Creek**	**1.27**	**324**	Pn	**Pn**	**09 51 59.7**	**-0.2**
N19K				IAML		09 52 18.9	
comp=N,71nm,0.8s							
CAPN	**Captain Cook N**	**1.33**	**42**	Pn	**Pn**	**09 52 01.9**	**+1.5**
CKL	**Chakachamna La**	**1.44**	**12**		**Pn**	**09 52 02.2**	**+0.3**
SPCR	**Spurr Chakacha**	**1.46**	**15**		**Pn**	**09 52 02.2**	**+0.2**
SPBG	**Spurr Blockage**	**1.50**	**11**		**Pn**	**09 52 03.0**	**+0.5**
KAHG	**Katmai Hook Gl**	**1.54**	**213**		**Pn**	**09 52 03.3**	**+0.3**
SLKM	**Skilak Lake**	**1.55**	**61**	Pn	**Pn**	**09 52 03.1**	**0.0**
KAHC	**Katmai Hardscr**	**1.56**	**223**		**Pn**	**09 52 03.5**	**+0.2**
N18K	**Kilae Creek**	**1.71**	**303**		**Pn**	**09 52 04.8**	**-0.1**
O22K	**Cooper Landing**	**1.76**	**66**		**Pn**	**09 52 05.7**	**+0.1**
SEW	**Seward**	**1.79**	**79**		**Pn**	**09 52 05.6**	**-0.4**
STLK	**Strandline Lak**	**1.80**	**18**		**Pn**	**09 52 06.7**	**+0.6**
STLK				IAML		09 52 32.4	
comp=N,104nm,0.6s							
STLK				IAML		09 52 32.7	
comp=E,45nm,0.5s							
P17K	**Kvichak River**	**1.87**	**253**		**Pn**	**09 52 07.5**	**+0.6**
SUA	**Susitna One**	**2.00**	**32**		**Pn**	**09 52 09.0**	**+0.3**
SUA				IAML		09 52 35.8	
comp=N,189nm,0.9s							
ACHA	**Angle Creek He**	**2.01**	**219**	Pn	**Pn**	**09 52 09.0**	**+0.3**
RC01	**Rabbit Creek A**	**2.06**	**50**	Pn	**Pn**	**09 52 09.6**	**+0.3**
RC01				IAML		09 52 37.0	
comp=N,266nm,0.4s							
ANCK	**Angle Creek**	**2.07**	**220**		**Pn**	**09 52 10.1**	**+0.5**
Q16K	**King Salmon**	**2.20**	**241**		**Pn**	**09 52 11.8**	**+0.7**
M18K	**Stony River**	**2.21**	**322**		**Pn**	**09 52 11.2**	**0.0**
M19K	**Big River Lodg**	**2.23**	**342**		**Pn**	**09 52 11.2**	**-0.3**
N17K	**Nushagak Hills**	**2.23**	**291**	Pn	**Pn**	**09 52 11.5**	**0.0**
SKT	**Skwentna**	**2.30**	**17**	Pn	**Pn**	**09 52 12.0**	**-0.4**
SKT				IAML		09 52 45.3	
comp=N,36nm,0.4s							
SKT				IAML		09 52 48.6	
comp=E,45nm,0.3s							
M22K	**Willow**	**2.41**	**34**		**Pn**	**09 52 13.6**	**-0.1**
PWL	**Port Wells**	**2.54**	**63**		**Pn**	**09 52 15.7**	**+0.2**
PWL				IAML		09 52 45.0	
comp=E,184nm,0.4s							
L19K	**White Mountain**	**2.56**	**340**	Pn	**Pn**	**09 52 15.9**	**+0.1**
L19K				IAML		09 52 48.6	
comp=E,20nm,0.8s							
OHAK	**Old Harbor**	**2.59**	**184**	Pn	**Pn**	**09 52 14.9**	**-1.3**
OHAK				IAML		09 52 45.5	
comp=N,64nm,0.3s							
OHAK				IAML		09 52 46.6	
comp=E,70nm,0.5s							
OHAK	**Old Harbor**	**2.59**	**184**	P	**Pn**	**09 52 14.9**	**-1.3**
O16K	**Kokwok River B**	**2.61**	**268**	Pn	**Pn**	**09 52 16.9**	**+0.5**
PMR	**Palmer**	**2.61**	**45**	Pn	**Pn**	**09 52 15.9**	**-0.4**
PMR				IAML		09 52 46.6	
comp=N,58nm,0.3s							
PMR				IAML		09 52 50.8	
comp=E,67nm,0.4s							
PMR	**Palmer**	**2.61**	**45**	P	**Pn**	**09 52 15.5**	**-0.9**
P16K	**Nushagak River**	**2.68**	**256**		**Pn**	**09 52 18.4**	**+1.0**
L20K	**Farewell, AK**	**2.73**	**351**		**Pn**	**09 52 18.6**	**+0.6**
M17K	**Holitna River**	**2.73**	**308**	Pn	**Pn**	**09 52 18.1**	**+0.1**
M17K				IAML		09 53 10.3	
comp=N,20nm,0.7s							
M17K				IAML		09 53 24.7	
comp=E,20nm,0.7s							
KNK	**Knik Glacier**	**2.75**	**52**		**Pn**	**09 52 17.5**	**-0.8**
PLK1	**Peulik 1**	**2.76**	**225**		**Pn**	**09 52 18.7**	**+0.4**
GHO	**Glory Hole Cre**	**2.80**	**43**		**Pn**	**09 52 18.8**	**-0.3**
GHO				IAML		09 52 51.6	
comp=N,110nm,0.3s							
GHO				IAML		09 52 58.7	
comp=E,90nm,0.7s							
CUT	**Chulitna**	**2.93**	**25**		**Pn**	**09 52 20.1**	**-0.5**
CUT				IAML		09 52 59.1	
comp=E,83nm,0.5s							
CUT				IAML		09 53 00.8	
comp=N,71nm,0.3s							
N16K	**Nishlik Lake**	**2.98**	**286**		**Pn**	**09 52 21.4**	**+0.1**
L18K	**Granite Mounta**	**3.03**	**325**		**Pn**	**09 52 21.4**	**-0.6**
SML	**Sawmill**	**3.04**	**46**		**Pn**	**09 52 21.2**	**-0.9**
SML				IAML		09 52 57.0	
comp=E,50nm,0.4s							
SML				IAML		09 53 04.0	
comp=N,55nm,0.8s							
GLI	**Glacier Island**	**3.11**	**67**	Pn	**Pn**	**09 52 22.3**	**-0.8**
GLI				IAML		09 52 59.8	
comp=N,84nm,0.2s							
PPLA	**Purkeypile**	**3.13**	**7**	Pn	**Pn**	**09 52 23.9**	**+0.5**
M16K	**Timber Creek**	**3.22**	**295**	Pn	**Pn**	**09 52 24.9**	**+0.5**
M23K	**Glacier View**	**3.26**	**50**		**Pn**	**09 52 24.4**	**-0.6**
HIN	**Hinchinbrook I**	**3.29**	**77**		**Pn**	**09 52 25.5**	**0.0**
HIN	**Hinchinbrook I**	**3.29**	**77**	IAML		09 53 05.2	
comp=E,63nm,0.5s							
SII	**Sitkinak Islan**	**3.31**	**192**		**Pn**	**09 52 24.6**	**-1.1**
SII	**Sitkinak Islan**	**3.31**	**192**	IAML		09 53 04.9	
comp=N,62nm,0.4s							
SII				IAML		09 53 12.7	
comp=E,56nm,0.9s							
SII	**Sitkinak Islan**	**3.31**	**192**	P	**Pn**	**09 52 24.5**	**-1.2**
FID	**Port Fidalgo**	**3.37**	**71**		**Pn**	**09 52 25.5**	**-1.0**
SCM	**Sheep Creek Mo**	**3.44**	**51**		**Pn**	**09 52 26.6**	**-0.8**
SCM				IAML		09 53 08.4	
comp=E,76nm,0.6s							
SCM				IAML		09 53 09.2	
comp=N,64nm,0.8s							
L17K	**Donlin**	**3.50**	**314**		**Pn**	**09 52 28.2**	**0.0**
O15K	**Ungalikthiuk R**	**3.55**	**263**		**Pn**	**09 52 29.7**	**+0.8**
N15K	**Kwethluk River**	**3.60**	**279**		**Pn**	**09 52 30.4**	**+0.9**
K20K	**Telida**	**3.61**	**352**		**Pn**	**09 52 30.1**	**+0.4**
CAST	**Castle Rocks**	**3.66**	**6**	Pn	**Pn**	**09 52 30.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.68**	**75**		**Pn**	**09 52 30.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.68**	**75**	P	**Pn**	**09 52 30.3**	**-0.3**
DIV	**Divide**	**3.81**	**66**		**Pn**	**09 52 31.8**	**-0.6**
KLU	**Klutina**	**3.86**	**61**		**Pn**	**09 52 32.3**	**-0.8**
TRF	**Thorofare Moun**	**3.88**	**18**	Pn	**Pn**	**09 52 33.6**	**+0.2**
TRF				IAML		09 53 39.3	
comp=N,15nm,0.8s							
TRF				IAML		09 53 39.6	
comp=E,11nm,0.9s							
KTH	**Kantishna Hill**	**3.89**	**14**	Pn	**Pn**	**09 52 33.5**	**0.0**
KTH				IAML		09 53 52.0	
comp=N,15nm,1.1s							
KTH				IAML		09 53 54.7	
comp=E,12nm,0.9s							
K17K	**Iditarod**	**3.90**	**321**	Pn	**Pn**	**09 52 33.3**	**-0.2**
K17K				IAML		09 53 20.4	
comp=N,7.5nm,1.1s							
K17K				IAML		09 53 36.2	
comp=E,8.7nm,1.1s							
M24K	**Tolsona, Glenn**	**4.04**	**52**		**Pn**	**09 52 34.9**	**-0.6**
M24K				IAML		09 53 25.8	
comp=E,43nm,0.6s							
J18K	**Innoko River**	**4.09**	**336**	Pn	**Pn**	**09 52 35.9**	**-0.2**
RND	**Reindeer**	**4.12**	**27**	Pn	**Pn**	**09 52 36.3**	**-0.2**
RND				IAML		09 53 24.5	
comp=N,9.4nm,0.8s							
RND				IAML		09 53 26.8	
comp=E,11nm,0.5s							
BMRM	**Bremner River**	**4.31**	**71**	Pn	**Pn**	**09 52 39.4**	**+0.3**
MCK	**McKinley**	**4.39**	**24**	Pn	**Pn**	**09 52 39.9**	**-0.1**
J19K	**Poorman**	**4.39**	**345**	Pn	**Pn**	**09 52 40.1**	**-0.1**
HMT	**Hamilton**	**4.40**	**79**		**Pn**	**09 52 40.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**4.42**	**11**	Pn	**Pn**	**09 52 40.6**	**+0.1**
BPAW				IAML		09 53 28.5	
comp=N,5.1nm,0.8s							
J20K	**Nowinta River**	**4.43**	**353**	Pn	**Pn**	**09 52 41.0**	**+0.4**
N25K	**Chitina, Valde**	**4.50**	**63**	Pn	**Pn**	**09 52 42.5**	**+0.9**
N25K				IAML		09 53 33.6	
comp=N,27nm,0.5s							
N25K				IAML		09 53 34.6	
comp=E,32nm,0.5s							
HARP	**HAARP**	**4.60**	**52**		**Pn**	**09 52 42.8**	**-0.1**
SUCK	**Suckling Hills**	**4.63**	**83**	Pn	**Pn**	**09 52 43.5**	**+0.2**
SUCK				IAML		09 53 36.3	
comp=N,18nm,0.5s							
SUCK				IAML		09 53 40.5	
comp=E,9.0nm,0.5s							
BWN	**Browne**	**4.69**	**19**		**Pn**	**09 52 44.6**	**+0.5**
BWN	**Browne**	**4.69**	**19**	IAML		09 53 31.8	
comp=N,14nm,0.9s							
BWN				IAML		09 54 17.3	
comp=E,11nm,1.1s							
WACK	**Wrangell Chich**	**4.76**	**59**		**Pn**	**09 52 45.7**	**+0.4**
GLB	**Gilahina Butte**	**4.80**	**66**	Pn	**Pn**	**09 52 45.4**	**-0.2**
GLB				IAML		09 53 39.5	
comp=N,18nm,0.5s							
GLB				IAML		09 53 41.0	
comp=E,18nm,0.3s							
PAX	**Paxson**	**4.81**	**45**		**Pn**	**09 52 45.8**	**0.0**
KHIT	**Khitrov Hills**	**4.90**	**78**		**Pn**	**09 52 46.5**	**-0.5**
VRDI	**Verde Repeater**	**4.92**	**69**		**Pn**	**09 52 48.0**	**+0.6**
VRDI				IAML		09 53 41.8	
comp=N,21nm,0.4s							
VRDI				IAML		09 53 42.0	
comp=E,13nm,0.4s							
L14K	**Kuka Creek**	**5.04**	**292**	Pn	**Pn**	**09 52 50.1**	**+1.3**
L14K				IAML		09 54 38.3	
comp=E,4.6nm,1.1s							
L14K				IAML		09 54 46.7	
comp=N,4.2nm,1.1s							
I20K	**Naaghedeneel**	**5.07**	**353**	Pn	**Pn**	**09 52 49.9**	**+0.7**
I20K				IAML		09 54 38.5	
comp=N,14nm,0.9s							
I20K				IAML		09 54 40.4	
comp=E,9.8nm,1.1s							
SNH	**Sunshine Point**	**5.10**	**81**		**Pn**	**09 52 50.0**	**+0.3**
SNH	**Sunshine Point**	**5.10**	**81**	IAML		09 53 48.9	
comp=E,18nm,0.4s							
SNH				IAML		09 53 49.0	
comp=N,19nm,0.6s							
WAX	**Waxell Ridge**	**5.10**	**78**		**Pn**	**09 52 49.5**	**-0.3**
NEA2	**Nenana**	**5.15**	**19**		**Pn**	**09 52 49.5**	**-0.8**
NEA2				IAML		09 53 46.5	
comp=E,2.9nm,0.7s							
WRH	**Wood River Hil**	**5.22**	**24**	Pn	**Pn**	**09 52 50.5**	**-0.7**
WRH				IAML		09 53 49.1	
comp=N,4.9nm,0.6s							
WRH				IAML		09 53 49.2	
comp=E,4.7nm,0.4s							
K24K	**Donnelly Dome**	**5.27**	**37**		**Pn**	**09 52 52.7**	**+0.8**
KIAG	**Kiagna River**	**5.39**	**73**		**Pn**	**09 52 54.1**	**+0.5**
BALM	**Baldy**	**5.41**	**72**		**Pn**	**09 52 54.2**	**+0.2**
HDA	**Harding Lake**	**5.42**	**29**		**Pn**	**09 52 53.3**	**-0.7**
CCB	**Clear Creek Bu**	**5.43**	**24**	Pn	**Pn**	**09 52 53.1**	**-1.0**
M26K	**Nabesna, AK**	**5.50**	**57**		**Pn**	**09 52 55.7**	**+0.7**
MESA	**MESA**	**5.54**	**81**		**Pn**	**09 52 56.1**	**+0.2**
COLA	**College**	**5.62**	**23**	P	**Pn**	**09 52 56.3**	**-0.3**
I23K	**Minto, Yukon-K**	**5.62**	**16**		**Pn**	**09 52 56.5**	**-0.1**
YAH	**Yahtse**	**5.65**	**79**		**Pn**	**09 52 57.5**	**+0.3**
IL31		**5.74**	**27**	Pn	**Pn**	**09 52 57.6**	**-0.6**
ILAR	**Eielson Array**	**5.74**	**27**		**Pn**	**09 52 57.5**	**-0.8**
H20K	**Anotleneega Mo**	**5.79**	**352**		**Pn**	**09 52 59.6**	**+0.7**
H21K	**Melozitna Rive**	**5.88**	**1**		**Pn**	**09 53 00.4**	**+0.2**
H18K	**Honhosa River**	**5.93**	**337**	Pn	**Pn**	**09 53 00.3**	**-0.5**
M27K	**Edge Creek, AK**	**5.96**	**60**		**Pn**	**09 53 02.6**	**+1.2**
SCRK	**Sand Creek**	**5.96**	**42**	Pn	**Pn**	**09 52 59.9**	**-1.5**
J25K	**Salcha River,**	**6.00**	**33**		**Pn**	**09 53 00.7**	**-1.1**
H17K	**Granite Mounta**	**6.08**	**331**		**Pn**	**09 53 03.2**	**+0.3**
SAMH	**Samovar Hills**	**6.13**	**82**		**Pn**	**09 53 04.1**	**+0.5**
H22K	**Ishtalitna Cre**	**6.16**	**6**		**Pn**	**09 53 05.0**	**+1.0**
H23K	**Yukon River**	**6.25**	**13**		**Pn**	**09 53 05.2**	**0.0**
YUK2	**White River**	**6.26**	**66**		**Pn**	**09 53 06.5**	**+1.1**
L27K	**Beaver Creek,**	**6.26**	**54**		**Pn**	**09 53 06.0**	**+0.6**
PCA	**Pinnacle**	**6.39**	**82**		**Pn**	**09 53 08.1**	**+0.8**
O28M	**Mount Upton**	**6.43**	**76**		**Pn**	**09 53 08.8**	**+1.0**
YUK3	**Moose Creek**	**6.44**	**67**		**Pn**	**09 53 08.1**	**+0.2**
J26L	**Joseph Creek**	**6.45**	**39**		**Pn**	**09 53 07.9**	**-0.1**
H24K	**Noodor Dome**	**6.49**	**19**		**Pn**	**09 53 07.8**	**-0.7**
PRP	**Porcupine Dome**	**6.68**	**28**	Pn	**Pn**	**09 53 10.7**	**-0.4**
BCPM	**Bancas Point**	**6.71**	**83**		**Pn**	**09 53 12.2**	**+0.7**
G21K	**Allakaket**	**6.75**	**358**	Pn	**Pn**	**09 53 12.4**	**+0.5**
PNL	**Peninsula**	**6.86**	**85**		**Pn**	**09 53 13.5**	**-0.1**
PNL	**Peninsula**	**6.86**	**85**	P	**Pn**	**09 53 13.4**	**-0.1**
G23K	**Bananza Creek**	**7.07**	**10**	Pn	**Pn**	**09 53 16.1**	**-0.1**
O29M	**Mount Kennedy**	**7.22**	**80**	Pn	**Pn**	**09 53 19.6**	**+1.1**
F21K	**Alatna River**	**7.46**	**358**	Pn	**Pn**	**09 53 21.8**	**+0.3**
M29M	**Somme Creek**	**7.51**	**63**	Pn	**Pn**	**09 53 23.2**	**+1.0**
COLD	**Coldfoot**	**7.56**	**8**	Pn	**Pn**	**09 53 22.8**	**0.0**
DAWY	**Dawson**	**7.70**	**50**	Pn	**Pn**	**09 53 24.9**	**+0.1**
P29M	**Windy Craggy**	**7.70**	**85**	Pn	**Pn**	**09 53 24.2**	**-0.7**
F24K	**Squaw Lake**	**8.07**	**14**	Pn	**Pn**	**09 53 29.5**	**-0.3**
SKAG	**Skagway**	**8.94**	**85**	P	**Pn**	**09 53 43.4**	**+1.8**
J30M	**Hart River**	**9.12**	**51**		**Pn**	**09 53 44.4**	**+0.3**
JIS	**Juneau Island**	**9.70**	**91**	P	**Pn**	**09 53 54.0**	**+2.2**

*NEIC **31** 10:12:44.7±0.6, 36°.819N±0°.010×97°.72W±0°.01, h5km±4km, mb_Lg2.2/14, ML2.5/30, ML2.6/52, Error ellipse: s-maj=1.5km s-min=1.3km az=68.0*

NEIC 31 10:12:44.9±0.6, 36°.817N±0°.005×97°.71W±0°.01, h7km±4km, Error ellipse: s-maj=1.5km s-min=0.8km az=100.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.12**	**286**		Pg	10 12 47.6	+0.1
KAN17	**Caldwell West**	**0.23**	**349**		Pg	10 12 49.8	+0.3
KAN17				IAML		10 12 53.6	
comp=E,737nm,0.3s							
KAN14	**Manchester OK**	**0.24**	**305**		Pg	10 12 49.9	+0.1
KAN13	**South Haven SW**	**0.27**	**44**		Pg	10 12 50.3	+0.1
KAN13				IAML		10 12 54.9	
comp=E,1μm,0.3s							
KAN05	**Bluff City Nor**	**0.32**	**336**		Pg	10 12 51.4	+0.2
KAN09	**Caldwell North**	**0.33**	**13**		Pg	10 12 51.6	+0.3
KAN09				IAML		10 12 57.1	
comp=N,861nm,0.2s							
KAN01	**Argonia South**	**0.34**	**354**		Pg	10 12 51.8	+0.3
KAN01					Sg	10 12 56.8	+0.8
CROK	**Carrier**	**0.38**	**215**		Pg	10 12 52.4	+0.1
CROK					Sg	10 12 58.0	+0.7
CROK				IAML		10 12 59.9	
comp=N,658nm,0.3s							
OK032	**Salt Plains WL**	**0.40**	**268**		Pg	10 12 52.8	+0.1
OK032					Sg	10 12 58.6	+0.7
OK032				IAML		10 13 01.2	
comp=N,599nm,0.2s							
OK032				IAML		10 13 02.8	
comp=N,406nm,0.2s							
KAN10	**Anthony SW Sta**	**0.43**	**315**		Pg	10 12 53.7	+0.4
KAN10					Sg	10 12 59.8	+0.8
KAN08	**Anthony NE Sta**	**0.46**	**333**		Pg	10 12 53.9	+0.1
KAN08					Sg	10 13 00.7	+0.9
KAN08				IAML		10 13 00.9	
comp=E,442nm,0.4s							
KAN12	**Harper NE Stat**	**0.53**	**335**		Pg	10 12 55.3	+0.2
KAN12				IAML		10 13 03.3	
comp=E,523nm,0.3s							
KAN12				IAML		10 13 06.8	
comp=N,479nm,0.3s							
OK048	**Pawnee Station**	**0.74**	**123**		Pg	10 12 58.8	-0.2
OK048				IAML		10 13 08.9	
comp=N,188nm,0.2s							
OK048				IAML		10 13 09.1	
comp=N,178nm,0.3s							
OK051	**E0350 and S346**	**0.77**	**114**		Pg	10 12 59.4	-0.3
OK051				IAML		10 13 11.7	
comp=N,268nm,0.2s							
OK038	**West end E0370**	**0.90**	**248**		Pg	10 13 01.8	-0.3
T35A	**Sooner Cattle**	**0.97**	**84**		Pg	10 13 03.1	-0.3
T35A					Sg	10 13 16.3	+0.3
NOKA	**Waynoka**	**1.00**	**260**		Pg	10 13 03.8	-0.2
NOKA					Sb	10 13 17.7	-0.1
NOKA				IAML		10 13 21.8	
comp=E,208nm,0.3s							
NOKA				IAML		10 13 28.6	
comp=N,170nm,0.3s							
QUOK	**Quay**	**1.03**	**128**		Pg	10 13 04.3	-0.4
OK029	**Liberty Lake**	**1.04**	**168**		Pg	10 13 04.2	-0.6
OK029					Sb	10 13 19.2	+0.2
OK029				IAML		10 13 20.7	
comp=N,102nm,0.1s							
OK052	**Battle Ridge R**	**1.10**	**138**		Pg	10 13 05.5	-0.5
OK052				IAML		10 13 25.6	
comp=N,172nm,0.3s							
OK031	**S. Brethren Rd**	**1.11**	**140**		Pg	10 13 05.8	-0.5
OK031				IAML		10 13 21.8	
comp=N,162nm,0.2s							
BCOK	**Bluff Creek, N**	**1.16**	**176**		Pg	10 13 06.8	-0.4
BCOK					Sn	10 13 23.2	-0.4
DEOK	**Depew**	**1.38**	**134**		Pn	10 13 10.3	-0.2
CSTR	**Hydro, Custer**	**1.41**	**214**		Pn	10 13 10.3	-0.6
OKCSW	**OKLAHOMA CITY**	**1.43**	**171**		Pn	10 13 11.1	-0.1
ELIS	**Ellis County**	**1.57**	**242**		Pn	10 13 13.2	+0.1
FNO	**Franklin**	**1.58**	**171**		Pn	10 13 13.6	+0.4
R32A	**Long Quarter,**	**1.79**	**334**		Pb	10 13 17.6	-0.3
TUL3	**Leonard**	**1.79**	**120**		Pb	10 13 17.2	-0.9
W35A	**Tecumseh**	**1.79**	**158**		Pn	10 13 16.7	+0.5
X34A	**Smith Ranch, M**	**2.21**	**183**		Pn	10 13 21.8	-0.2
WMOK	**Wichita Mounta**	**2.25**	**203**		Pn	10 13 22.7	+0.2
KSU1	**Kansas State U**	**2.44**	**21**		Pn	10 13 25.9	+0.8

DAWY	Dawson	146.59	312	PKPdf	PKPdf	10 43 36.4	+0.8
G29M	Pine Creek	146.88	317	PKPdf	PKPbc	10 43 37.6	-0.5
ILAR	Eielson Array	149.91	312	PKPbc	PKPbc	10 43 45.5	-0.4
	comp=Z,1.0nm,0.7s,baz=118,slow=1.3,SNR=9.6						
SONM	Songino Array	150.93	87	PKPbc	PKPbc	10 43 48.4	-0.6
	comp=Z,1.2nm,0.5s,baz=259,slow=1.5,SNR=2.5						

WEL ***31*** *10:25:59.6±0.3,39°S±2°×17°5E±°, h18km±3km, M3.3/16, ML3.6/16, MLv3.3/16, Error ellipse: s-maj=3.2km s-min=2.1km az=171.2, confirmed*
NOU ***31*** *10:26:01.1,39.°14S×174.°67E, h26km, MLv3.3/12, North Island, New Zealand*
ISC 31 10:26:00.4±0.9**,39.°17S**±0.°03×**174.°76E**±0.°02**, h27**km±6km**,
n32, σ0.°**74/52, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.05	1	P	Pb	10 26 04.9	-0.2
VRZ				S	Sb	10 26 08.8	+0.6
MHEZ	Mangahewa	0.35	286	P	Pn	10 26 08.8	-0.9
MHEZ				S	Sn	10 26 15.6	-0.2
LREZ	Lake Rotokare	0.40	224	P	Pb	10 26 08.5	-0.6
LREZ				S	Sb	10 26 15.5	+0.5
DREZ	Durham Road	0.43	268	P	Pn	10 26 10.0	-0.8
DREZ				S	Sn	10 26 17.3	-0.6
PKVZ	Pokaka	0.47	104	P	Pb	10 26 09.4	-0.9
PKVZ				S	Sb	10 26 16.3	-0.7
TUHS	Taumarunui Hig	0.49	51	P	Pb	10 26 09.7	-0.9
TUHS				S	Sb	10 26 17.2	-0.2
PREZ	Palmer Road	0.49	250	P	Pb	10 26 10.5	-0.1
PREZ				S	Sn	10 26 19.2	-0.3
NEZ	North Egmont	0.52	259	P	Pb	10 26 11.3	+0.1
KHEZ	Kahui Hut	0.59	258	P	Pb	10 26 12.5	+0.2
KHEZ	Kahui Hut	0.59	258	P	Pb	10 26 12.4	+0.2
KHEZ				S	Sn	10 26 22.1	+0.2
MTVZ	Mangateitei	0.59	111	P	Pb	10 26 11.1	-1.3
MTVZ				S	Sb	10 26 20.1	-0.3
WAZ	Wanganui	0.61	163	P	Pb	10 26 11.4	-1.1
FWVZ	Far West T-bar	0.62	98	P	Pb	10 26 12.0	-1.0
FWVZ				S	Sb	10 26 21.0	-0.5
WTVZ	West Tongariro	0.65	85	P	Pb	10 26 12.5	-0.8
WTVZ				S	Sb	10 26 21.6	-0.4
NGZ	Ngauruhoe	0.66	91	P	Pb	10 26 12.7	-0.8
NGZ				S	Sb	10 26 22.4	+0.1
HIZ	Hauiti	0.66	7	P	Pb	10 26 13.4	-0.1
HIZ	Hauiti	0.66	7	P	Pb	10 26 13.7	+0.2
HIZ				S	Sn	10 26 24.0	+0.4
NBEZ	Newall Road No	0.70	262	P	Pn	10 26 14.4	-0.1
NBEZ				S	Sn	10 26 24.3	-0.1
NMEZ	Namu Road	0.72	250	P	Pb	10 26 14.2	-0.3
NMEZ				S	Sn	10 26 24.8	-0.2
TLZ	Tolley Road	1.04	36	P	Pn	10 26 19.0	-0.3
TLZ				S	Sb	10 26 32.9	-0.2
TSZ	Takapari Road	1.28	134	P	Pn	10 26 22.2	-0.4
TSZ				S	Sn	10 26 39.1	+0.1
BKZ	Black Stump Fm	1.35	90	P	Pb	10 26 25.0	-0.1
BKZ	Black Stump Fm	1.35	90	S	Sb	10 26 42.8	+0.9
BKZ	Black Stump Fm	1.35	90	P	Pb	10 26 25.2	+0.1
BKZ				S	Sn	10 26 41.6	+1.0
TOZ	Tahuroa Road	1.55	22	P	Pn	10 26 26.4	+0.1
TOZ				S	Sn	10 26 46.7	+1.1
MRZ	Mangatainoka R	1.61	157	P	Pn	10 26 27.4	+0.3
MRZ				S	Sn	10 26 47.3	+0.2
BFZ	Birch Farm	1.89	143	P	Pn	10 26 32.9	+1.9
URZ	Urewera	2.06	64	P	Pb	10 26 36.1	-0.9
SNZO	South Karori	2.13	181	P	Pn	10 26 36.5	+2.2
QRZ	Quartz Range	2.38	225	P	Pn	10 26 36.6	-1.0
KHZ	Kahutara	3.37	196	P	Pn	10 26 51.9	+0.7
OUZ	Omahuta	4.05	346	P	Pn	10 27 01.1	+0.4

IDC ***31*** *10:36:31.9±0.7,43.°25N×87.°25E, h0km, mb3.9/13, mbtmp3.8/18, ML3.4/5, Error ellipse: s-maj=22.7km s-min=11.2km az=43.0*
SOME ***31*** *10:36:32.7,43.°55N×85.°73E, h5km*
MOS ***31*** *10:36:35.6±1.1,43.°35N×87.°28E, h36km, mb4.4/6, Error ellipse: s-maj=13.2km s-min=6.9km az=127.9*
NNC ***31*** *10:36:38.2±3.8,43.°52N×86.°98E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=28.7km s-min=19.3km az=109.0*
ISC 31 10:36:35.1±0.6**,43.°32N**±0.°06×**87.°29E**±0.°06**, h18**km**, n52,**
σ1.°95/62, mb4.0/18, 12C-13D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	4.47	338	*e*P	Pn	10 37 45.2	+3.2
ZSN	7.3nm,0.2s			*e*S	Sn	10 38 37.0	+3.5
	130nm,0.4s						
MK31	Makanchi Array	4.96	316	⇑Pn	Pn	10 37 51.1	+2.4
MK31	1.5nm,0.2s,baz=133,slow=14,SNR=211			Sn	Sn	10 38 48.1	+2.5
	7.4nm,0.2s,baz=130,slow=23,SNR=5.4						
MK31	Makanchi Array	4.96	316	*d i*P	Pn	10 37 51.1	+2.4
MKAR	Makanchi Array	4.96	316	Pn	Pn	10 37 50.3	+1.6
	3.5nm,0.3s,baz=129,slow=14,SNR=106						
MKAR				Sn	Sn	10 38 47.4	+1.8
	6.2nm,0.3s,baz=154,slow=17,SNR=5.1						
MKAR				Lg	Lg	10 39 06.1	
	10.0nm,0.3s,baz=299,slow=5.4,SNR=5.3						
	5.8nm,0.3s						
MKAR	Makanchi Array	4.96	316	*i* P	Pn	10 37 50.7	+2.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAKZ	Makanchi	5.13	315	⇑Pn	Pn	10 37 53.5	+2.5
	comp=Z,5.3nm,0.4s						
MAKZ				⇑Sn	Sn	10 38 51.3	+1.5
	comp=Z,8.8nm,0.4s						
MAKZ				⇑Lg	Lg	10 39 09.6	
	comp=Z,23nm,0.6s						
MAKZ	Makanchi	5.13	315	P	Pn	10 37 52.7	+1.7
MAKZ						10 38 51.1	
DJR	Jarkent	5.52	283	*e*P	Pn	10 37 53.1	-3.3
	comp=Z,0.2nm,0.1s						
DJR				*e*S	Sn	10 38 50.7	-8.7
	comp=Z,8.1nm,0.2s						
PDGK	Podgornoye	5.69	273	⇑Pn	Pn	10 38 01.3	+2.5
	comp=Z,10.0nm,0.5s						
PDGK				⇑Pg	Pb	10 38 20.9	+7.0
	comp=Z,15nm,0.6s						
PDGK				⇓Sn	Sn	10 39 06.5	+2.7
	comp=Z,49nm,0.5s						
PDGK				⇑Lg	Lg	10 39 27.7	
	comp=Z,29nm,0.4s						
PDGK	Podgornoye	5.69	273	P	Pn	10 38 00.8	+2.0
PDGK						10 39 06.4	
MDOK	Medeo	7.48	272	⇓Pn	Pn	10 38 26.1	+2.6
	comp=Z,2.5nm,0.4s						
MDOK				Sn	Sn	10 39 47.4	-0.4
	comp=Z,12nm,0.6s						
MDOK				Lg	Lg	10 40 27.5	
	comp=Z,13nm,0.6s						
MDOK	Medeo	7.48	272	P	Pn	10 38 26.0	+2.6
TKM2	Tokmak 2	8.56	271	⇑Pn	Pn	10 38 40.1	+1.7
	comp=Z,1.9nm,0.4s						
TKM2				⇑Sn	Sn	10 40 18.1	+3.6
	comp=Z,14nm,0.6s						
TKM2	Tokmak 2	8.56	271	P	Pn	10 38 40.0	+1.7
GOMU	GeErMu	9.17	138	Pn	Pn	10 38 46.5	-0.3
GOMU				Pg		10 38 53.5	
GOMU				Sn	Sn	10 40 28.5	-1.2
GOMU				Sg		10 40 45.0	
GOMU				smax	smax		
	comp=N,14nm,0.5s						
GOMU				smax	smax		
	comp=E,15nm,0.7s						
AAK	Ala-Archa	9.41	270	Pn	Pn	10 38 49.0	-0.8
	comp=E,0.4nm,0.3s,baz=160,slow=10,SNR=4.8						
AAK				Lg	Lg	10 41 29.0	
	comp=E,0.5nm,0.3s,baz=346,slow=19,SNR=3.6						
	comp=E,0.7nm,0.4s						
AAK	Ala-Archa	9.41	270	⇓*e*P	Pn	10 38 50.5	+0.7
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURBB	Kurchatov Arra	9.44	324	Pn	Pn	10 38 49.2	-0.9
	comp=Z,0.2nm,0.3s,baz=133,slow=13,SNR=40						
KURBB				Sn	Sn	10 40 34.0	-1.6
	comp=Z,0.8nm,0.3s,baz=355,slow=32,SNR=8.7						
	comp=Z,1.3nm,0.3s						
KURBB	Kurchatov Arra	9.44	324	⇑Pn	Pn	10 38 50.0	-0.1
	comp=Z,3.1nm,0.7s						
KURBB				⇓Sn	Sn	10 40 33.8	-1.9
	comp=Z,16nm,0.6s						
KURBB	Kurchatov Arra	9.44	324	P	Pn	10 38 49.9	-0.1
KURK	Kurchatov	9.47	324	⇓Pn	Pn	10 38 48.7	-1.7
	comp=Z,0.6nm,0.3s						
KURK				⇓Sn	Sn	10 40 32.9	-3.5
	comp=Z,4.1nm,0.4s						
KURK	Kurchatov	9.47	324	⇓*i*P	Pn	10 38 50.8	+0.3
ZALV	Zalesovo Beam	10.76	352	Pn	Pn	10 39 08.5	+0.3
	comp=Z,0.6nm,0.3s,baz=173,slow=13,SNR=7.4						
ZALV				Sn	Sn	10 41 07.3	-0.7
	comp=Z,2.6nm,0.3s,baz=170,slow=26,SNR=13						
	comp=Z,1.2nm,0.3s						
ZALV	Zalesovo Beam	10.76	352	*e*P	Pn	10 39 10.2	+2.1
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OTUK	Ortayu	11.54	300	⇑Pn	Pn	10 39 15.5	-3.4
	comp=Z,2.3nm,0.8s						
OTUK				⇓Sn	Sn	10 41 21.0	-6.2
	comp=Z,4.3nm,0.7s						
OTUK	Ortayu	11.54	300	P	Pn	10 39 15.5	-3.4
OTUK				SN	Sn	10 41 21.0	-6.2
SONM	Songino Array	14.11	65	Pn	Pn	10 39 55.4	+1.3
	comp=Z,0.2nm,0.3s,baz=328,slow=18,SNR=2.1						
	comp=Z,0.2nm,0.3s						
BVA0	Borovoye Array	14.85	317	*i* P	P	10 40 10.1	+0.5
BVAR	Borovoye Array	14.85	317	Pn	Pn	10 40 04.6	+0.6
	comp=Z,0.1nm,0.3s,baz=116,slow=10,SNR=14						
BVAR				Sn	Sn	10 42 38.2	-10
	comp=Z,0.1nm,0.3s,baz=111,slow=23,SNR=6.2						
BRVK	Borovoye	14.92	317	⇓*e*P	Pn	10 40 03.4	-1.5
AB31	Akbulak array	19.75	297	*e*P	P	10 41 03.4	-0.3
AKTO	Aktyubinsk	21.14	300	P	P	10 41 18.6	-0.2
	comp=Z,2.4nm,0.6s,baz=84,slow=10,SNR=5.9						
	comp=Z,2.4nm,0.6s						
ARTI	Arti	22.56	316	P	P	10 41 34.4	+0.4
	comp=Z,6.8nm,0.7s,baz=96,slow=8.2,SNR=7.0						
	comp=Z,6.8nm,0.7s						
ARTI	Arti	22.56	316	*d i*P	P	10 41 34.4	+0.4
ARTI				S	S	10 45 32.2	-8.2
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NRIK	Noril'sk	26.09	0	⇓*e*P	P	10 42 08.7	+1.4
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	26.67	155	P	P	10 42 13.6	+0.6
	comp=Z,1.7nm,0.8s,baz=332,slow=8.9,SNR=14						
	comp=Z,1.7nm,0.8s						
KSRS	Korea Array	31.27	87	P	P	10 42 54.1	+0.4
	comp=Z,0.5nm,0.4s,baz=295,slow=8.9,SNR=1.8						
	comp=Z,0.5nm,0.4s						
KIV	Kislovodsk	31.99	287	*e*P	P	10 43 01.1	+0.9
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	Obninsk	34.41	308	*e*P	P	10 43 22.2	+1.2
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKBB	Malin Array Si	39.37	302	⇑*e*P	P	10 44 02.4	-0.8
AKBB				pmax	pmax		
	comp=Z,13nm,1.8s						
VSU	Vasula	39.63	314	⇓*e*P	P	10 44 06.8	+1.5
VSU				pmax	pmax		
	comp=Z,57nm,2.0s						
FINES	FINESS Array B	39.79	319	P	P	10 44 06.5	-0.1
	comp=Z,3.9nm,1.0s,baz=108,slow=6.2,SNR=4.7						
	comp=Z,3.9nm,1.0s						
FINES	FINESS Array B	39.79	319	*e*P	P	10 44 07.3	+0.7
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	40.42	331	P	P	10 44 12.3	+0.6
	comp=Z,2.6nm,0.7s,baz=68,slow=2.0,SNR=5.9						
	comp=Z,2.6nm,0.7s						
ARCES	ARCESS Array B	40.42	331	*e*P	P	10 44 11.9	+0.1
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	Hagfors	45.97	318	P	P	10 44 56.5	-0.3
	comp=Z,1.6nm,0.6s,baz=119,slow=8.6,SNR=4.5						
	comp=Z,1.6nm,0.6s						
NOA	NORSAR Array B	46.95	320	P	P	10 45 03.7	-0.7
	comp=Z,0.6nm,0.6s,baz=77,slow=7.3,SNR=1.4						
	comp=Z,0.6nm,0.6s						
ILAR	Eielson Array	64.24	23	P	P	10 47 08.1	-0.4
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=4.6						
	comp=Z,0.3nm,0.8s						
ESDC	Sonseca Array	65.02	302	P	P	10 47 13.4	-0.7
	comp=Z,0.3nm,0.5s,baz=74,slow=6.4,SNR=2.5						
	comp=Z,0.3nm,0.5s						
YKA	Yellowknife Ar	73.08	10	P	P	10 48 03.1	-0.5
	comp=Z,0.4nm,0.8s,baz=340,slow=5.7,SNR=8.5						
	comp=Z,0.4nm,0.8s						
WRA	Warramunga Arr	76.35	135	P	P	10 48 22.0	-1.1
	comp=Z,1.0nm,0.7s,baz=340,slow=6.1,SNR=15						
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	79.23	137	P	P	10 48 38.5	-0.6
	comp=Z,0.8nm,0.6s,baz=333,slow=5.8,SNR=16						
	comp=Z,0.8nm,0.6s						

GCG ***31*** *10:38:34.4±1.3,14.°76N×94.°13W, h35km±999km, MD4.4*
MEX ***31*** *10:38:36.6±0.6,14.°91N×94.°12W, h15km±11km, MD4.2*
ISC 31 10:38:33.1±1.6**,14.°98N**±0.°06×**94.°12W**±0.°03**, h31**km±14km**,**
n23, σ2.°**38/44, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.13	50	*e*P	Pb	10 38 54.8	+0.7
PCIG				*e*S	Sb	10 39 08.9	+0.6
THIG		1.79	92	*e*P	Pn	10 39 03.7	+1.8
THIG				*e*S	Sn	10 39 21.9	-1.6
PATR	El Naranjo	1.82	85	*e*P	Pn	10 39 04.0	+1.5
PATR				*e*S	Sn	10 39 23.8	-0.9
PAVE	Pavencul	1.89	83	*e*P	Pn	10 39 05.1	+1.7
PAVE				*e*S	Sn	10 39 24.6	-1.7
SMCA	Catarina	1.98	93	*i* P	Pn	10 39 06.3	+1.8
SMCA				*i* S	Sn	10 39 29.4	+1.2
SMCA	Catarina	1.98	93	*i* P		10 39 06.3	
SMCA				*i* S		10 39 29.4	
TGIG		2.03	28	*e*P	Pb	10 39 08.9	-0.5
TGIG				*i* S	Sb	10 39 32.4	-1.9
TGIG		2.03	28	*i* P	Pb	10 39 08.9	-0.5
TGIG				*i* S	Sb	10 39 36.0	+1.8
TGIG		2.03	28	*i* P		10 39 08.9	
TGIG				*i* S		10 39 36.0	
HUIG	Huatulco	2.08	292	*e*P	Pn	10 39 07.7	+1.9
HUIG				*e*S	Sn	10 39 26.5	-4.2
HUIG	Huatulco	2.08	292	*i* P	Pn	10 39 07.6	+1.7
HUIG	Huatulco	2.08	292	*i* P		10 39 07.6	
CMIG	Matias Romero	2.23	341	*e*P	Pn	10 39 11.1	+3.1
CMIG				*e*S	Sn	10 39 34.4	0.0
CCIG	Comitan	2.31	56	*e*P	Pb	10 39 13.6	-0.6
CCIG				*e*S	Sb	10 39 40.8	-1.5
CCIG	Comitan	2.31	56	*i* P	Pb	10 39 13.6	-0.6
CCIG	Comitan	2.31	56	*i* P		10 39 13.6	
UXUV	UXUV	2.33	359	*e*P	Pb	10 39 13.7	-0.8
UXUV				*e*S	Sb	10 39 40.8	-2.0
RTAL	Retalhuleu	2.38	101	*e*P	Pn	10 39 10.7	+0.6
RTAL				*e*S	Sn	10 39 39.8	+1.5
HUEH	Huehuetenango	2.55	82	*e*P	Pn	10 39 15.5	+3.0
HUEH				*e*S	Sb	10 39 46.9	-2.4
STG8	El Palmar, Qui	2.73	101	*i* P		10 39 13.0	
STG0	El Palmar, Qui	2.74	101	*i* P		10 39 13.2	
STG0				*i* S		10 39 42.4	
PEIG	Puerto Escondi	3.09	290	*e*P	Pn	10 39 21.5	+1.6
PEIG				*e*S	Sn	10 39 51.9	-3.9
NEUV	Arroyo Zacate	3.16	329	*e*P	Pn	10 39 23.8	+3.0
NEUV				*e*S	Sn	10 39 58.5	+1.0
VHO	Vista Hermosa	3.27	310	*e*P	Pn	10 39 25.6	+3.2
VHO				*i* S	Sn	10 40 02.7	+2.4
PMUV	Sontecomapan	3.67	345	*e*P	Pn	10 39 30.0	+2.0
PMUV				*e*S	Sn	10 40 07.6	-2.7
PETF	Flores	4.52	64	*e*P	Pn	10 39 43.3	+3.9
PETF				*e*S	Sn	10 40 26.3	-4.6
SCIG	Sabancuy	4.86	35	*e*P	Pn	10 39 47.1	+3.0
SCIG				*e*S	Sn	10 40 34.4	-4.9
JAUV	Jalcomulco	5.06	330	*e*P	Pn	10 39 48.6	+1.6
JAUV				*e*S	Sn	10 40 41.6	-2.8
CXUV	Coxquihui	6.14	328	*e*P	Pn	10 40 04.1	+2.4
CXUV				*e*S	Sn	10 41 10.9	0.0

NEIC ***31*** *10:42:43.2±1.7,14.°9S±0.°1×177.°3W±0.°1, h367km±6km, mb4.4/61, Error ellipse: s-maj=17.9km s-min=13.3km az=146.0*
NOU ***31*** *10:42:44.2,14.°89S×177.°17W, h359km, MLv3.9/5, Fiji Islands Region*
IDC ***31*** *10:42:46.0±1.4,14.°82S×177.°59W, h397km±14km, mb3.4/12, mbtmp4.2/14, Error ellipse: s-maj=28.7km s-min=11.4km az=145.0*
ISC 31 10:42:41.9±0.5**,14.°7S**±0.°1×**177.°4W**±0.°1**, h350**km**, n332,**
σ0.°99/334, mb4.4/44, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	0.80	299	Pn	Pn	10 43 30.6	+3.7
FUTU	Fugatoga	0.80	299	P	Pn	10 43 31.3	+4.3
TAVE	Taveuni	3.13	230	P	Pn	10 43 46.2	+3.8
DGTI	Dogotuki	3.19	240	P	Pn	10 43 46.9	+3.9
LKBA	Tubou, Lakemba	3.77	201	P	Pn	10 43 50.6	+2.1
MSVF	Nonsavu	5.31	235	Pn	Pn	10 44 07.9	+2.8
MSVF	Nonsavu	5.31	235	P	Pn	10 44 08.3	+3.3
	18nm,0.5s,baz=330,slow=23,SNR=51						
MSVF				S	S	10 45 17.7	+5.5
	8.8nm,0.9s,baz=52,slow=19,SNR=1.0						
MSVF	Nonsavu	5.31	235	P	Pn	10 44 08.6	+3.6
AFI	Afiamalu	5.51	82	Pn	Pn	10 44 07.3	+0.1
PINNC	Pines Island,	16.36	239	P	P	10 46 13.2	+1.9
PINNC				IAmb	IAmb	10 46 52.0	
	comp=Z,33nm,1.3s						
DZM	Mont Dzumac	16.98	242	P	P	10 46 18.7	+0.5
DZM	Mont Dzumac	16.98	242	P	P	10 46 17.8	-0.4
	comp=Z,3.3nm,0.5s,baz=66,slow=20,SNR=12						
ONTNC	Ouen Toro	17.07	241	P	P	10 46 19.4	+0.5
COEN	Coen	38.17	266	P	P	10 49 28.9	-0.4
COEN				IAmb	IAmb	10 50 02.6	
	comp=Z,33nm,1.5s						
TOO	Toolangi	39.98	228	P	P	10 49 43.3	-0.6
STKA	Stephens Creek	41.08	238	P	P	10 49 51.1	-1.7
	comp=Z,1.0nm,0.4s,baz=95,slow=13,SNR=3.8						
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	46.24	256	P	P	10 50 31.8	-2.0
	comp=Z,1.1nm,0.8s,baz=94,slow=8.5,SNR=19						
WRA				PcP	PcP	10 52 01.4	-1.5
	comp=Z,0.6nm,0.8s,baz=92,slow=3.4,SNR=2.7						
	comp=Z,1.1nm,0.8s						
AS31	Alice Springs	46.66	251	P	P	10 50 35.4	-1.6
ASAR	Alice Springs	46.66	251	P	P	10 50 35.5	-1.4
ASAR	Alice Springs	46.66	251	P	P	10 50 35.2	-1.8
	comp=Z,8.1nm,0.7s,baz=84,slow=8.2,SNR=209						
ASAR				PcP	PcP	10 52 02.8	-1.5
	comp=Z,0.3nm,0.5s,baz=96,slow=3.5,SNR=1.5						
ASAR				S	S	10 56 53.4	-6.1
	comp=Z,0.7nm,0.9s,baz=84,slow=15,SNR=5.6						
	comp=Z,8.1nm,0.7s						
NIKH	Nikolski High	67.80	6	P	P	10 53 04.4	+1.7
	baz=189						
UNV	Unalaska Valle	68.90	7	P	P	10 53 10.8	+1.3
	baz=192						
FALS	False Pass	70.29	9	P	P	10 53 18.4	+0.6
	baz=195						
PETK	Petropavlovsk-	70.85	344	P	P	10 53 21.9	+0.6
	comp=Z,3.1nm,0.8s,baz=119,slow=7.6,SNR=7.1						
	comp=Z,3.1nm,0.8s						
CHNA	Chernabura Isl	70.89	11	P	P	10 53 22.1	+0.7
	baz=199						
SDPT	Sand Point	71.23	10	P	P	10 53 25.1	+1.6
	baz=198						
SPIA	Saint Paul Isl	71.86	4	P	P	10 53 28.1	+1.0
	baz=188						
KMRM	Mail Ridge	73.95	40	P	P	10 53 41.4	+1.6
OHAK	Old Harbor	74.41	13	P	P	10 53 42.5	+0.6
	baz=204						
R18K	Karluk	74.47	13	P	P	10 53 42.7	+0.5
	baz=203						
O02D	Mt. Diablo Mer	74.50	40	P	P	10 53 42.9	0.0
O02D				IAmb	IAmb	10 53 45.3	
	comp=Z,6.0nm,0.8s						
Q16K	King Salmon	75.06	11	P	P	10 53 46.1	+0.5
	baz=201						
KDAK	Kodiak Island	75.07	13	P	P	10 53 46.4	+0.7
	baz=205						
P16K	Nushagak River	75.16	10	P	P	10 53 46.6	+0.5
	baz=200						
QSPA	South Pole Qui	75.34	180	P	P	10 53 46.5	-0.9
	comp=Z,0.9nm,0.9s,baz=27,slow=4.5,SNR=2.0						
	comp=Z,0.9nm,0.9s						
Q18K	Katmai Hardscr	75.36	12	P	P	10 53 48.0	+0.5
	baz=203						
M11K	Mekoryuk	75.37	6	P	P	10 53 47.8	+0.5
	baz=192						
YBH	Yreka Blue Hor	75.44	39	P	P	10 53 49.6	+1.3
YBH				IAmb	IAmb	10 53 50.5	
	comp=Z,6.0nm,0.8s						
N14K	Kuskokwak Cree	75.44	8	P	P	10 53 47.7	0.0
	baz=196						
P17K	Kvichak River	75.59	11	P	P	10 53 48.7	+0.1
	baz=201						
O16K	Kokwok River B	75.67	10	P	P	10 53 48.7	-0.4
	baz=200						
M13K	Dall Lake	75.71	7	P	P	10 53 49.7	+0.5
	baz=194						
BEKR	Beckworth	75.87	42	P	P	10 53 51.4	+0.6
Q20K	Shuyak Island	75.87	13	P	P	10 53 51.1	+0.9
	baz=205						
Q19K	Cape Douglas,	75.89	12	P	P	10 53 50.9	+0.5
	baz=204						
N15K	Kwethluk River	75.91	9	P	P	10 53 50.2	-0.2
	baz=198						
PNTR	Pine Nut	75.94	43	P	P	10 53 52.0	+0.7
PNTR				IAmb	IAmb	10 53 53.1	
	comp=Z,6.7nm,1.0s						
P18K	Big Mountain,	76.00	11	P	P	10 53 50.6	-0.3
P18K	Big Mountain,	76.00	11	P	P	10 53 50.9	-0.1
	baz=202						
O17K	Koliganek Bris	76.02	10	P	P	10 53 51.2	+0.2
	baz=200						
M14K	Bethel	76.21	8	P	P	10 53 52.5	+0.5
	baz=196						
LHV	Little Huntoon	76.23	44	P	P	10 53 54.4	+1.8
LHV				IAmb	IAmb	10 53 59.5	
	comp=Z,11nm,1.5s						
M15K	Kasigluk River	76.33	8	P	P	10 53 53.8	+1.2
	baz=197						
N

	baz=196							
M18K	Stony River	77.85	10	P	P	10 54	02.1	+1.1
	baz=202							
SEW	Seward	77.88	14	P	P	10 54	02.0	+0.8
	baz=208							
J14K	Nanvaranak Lak	77.96	6	P	P	10 54	01.7	+0.1
	baz=194							
L17K	Donlin	78.05	9	P	P	10 54	03.4	+1.3
	baz=199							
SLKM	Skilak Lake	78.06	13	P	P	10 54	01.9	-0.5
SLKM				IAmb	IAmb	10 54	03.4	
	comp=Z,5.5nm,0.8s							
O22K	Cooper Landing	78.15	14	P	P	10 54	03.3	+0.6
	baz=208							
PRN	Pahroc Range	78.17	46	P	P	10 54	05.0	+1.4
PRN				IAmb	IAmb	10 54	10.1	
	comp=Z,3.0nm,0.6s							
SPCR	Spurr Chakacha	78.27	12	P	P	10 54	04.0	+0.5
	baz=205							
WVOR	Wild Horse Val	78.35	40	P	P	10 54	04.6	+0.2
GAMB	Gambell	78.35	3	P	P	10 54	03.9	+0.2
	baz=186							
L18K	Granite Mounta	78.39	10	P	P	10 54	04.8	+0.9
L18K	Granite Mounta	78.39	10	P	P	10 54	04.9	+0.9
	baz=201,SNR=10.0							
M19K	Big River Lodg	78.49	11	P	P	10 54	04.9	+0.3
	baz=203							
K17K	Iditarod	78.60	9	P	P	10 54	05.8	+0.7
K17K				IAmb	IAmb	10 54	07.2	
	comp=Z,5.7nm,0.7s							
K17K	Iditarod	78.60	9	P	P	10 54	06.4	+1.2
	baz=199							
STLK	Strandline Lak	78.61	12	P	P	10 54	04.2	-1.1
L19K	White Mountain	78.66	11	P	P	10 54	06.8	+1.2
	baz=202							
RC01	Rabbit Creek A	78.69	13	P	P	10 54	06.8	+1.1
	baz=208							
M20K	Styx River	78.71	11	P	P	10 54	06.6	+0.7
	baz=204							
I07A	Izee	78.71	39	P	P	10 54	06.8	+0.5
SUA	Susitna One	78.81	13	P	P	10 54	06.3	-0.2
SUA				IAmb	IAmb	10 54	07.2	
	comp=Z,5.1nm,0.8s							
SUA	Susitna One	78.81	13	P	P	10 54	06.0	-0.5
	baz=207							
PWL	Port Wells	78.81	14	P	P	10 54	06.4	0.0
	baz=209							
J16K	Anvik River	78.83	8	P	P	10 54	07.1	+0.8
J16K	Anvik River	78.83	8	P	P	10 54	06.9	+0.5
	baz=197,SNR=6.3							
KAIM	Kayak Island	78.99	16	P	P	10 54	07.7	+0.4
	baz=213							
SKT	Skwentna	79.11	12	P	P	10 54	07.9	0.0
	baz=206							
L20K	Farewell, AK	79.11	11	P	P	10 54	08.3	+0.3
	baz=203							
GLI	Glacier Island	79.12	15	P	P	10 54	08.2	+0.2
	baz=210							
J17K	VABM Dome	79.14	8	P	P	10 54	09.1	+1.1
J17K				IAmb	IAmb	10 54	09.9	
	comp=Z,5.3nm,0.7s							
J17K	VABM Dome	79.14	8	P	P	10 54	09.1	+1.1
	baz=198,SNR=5.2							
EYAK	Cordova Ski Ar	79.17	15	P	P	10 54	08.5	+0.2
	baz=211							
CRAG	Craig	79.21	24	P	P	10 54	08.6	+0.1
	baz=224							
KNK	Knik Glacier	79.27	14	P	P	10 54	08.9	+0.1
	baz=209							
PMR	Palmer	79.28	13	P	P	10 54	08.5	-0.2
PMR				IAmb	IAmb	10 54	09.8	
	comp=Z,6.9nm,1.4s							
PMR	Palmer	79.28	13	P	P	10 54	08.4	-0.4
	baz=208							
I17K	Unalakleet	79.40	7	P	P	10 54	08.6	-0.8
	baz=197							
BGLC	Bering Glacier	79.47	17	P	P	10 54	09.5	-0.3
	baz=214							
PSUT	Pine Spring	79.53	46	P	P	10 54	11.5	+0.5
J18K	Innoko River	79.55	9	P	P	10 54	11.1	+0.8
J18K	Innoko River	79.55	9	P	P	10 54	10.3	+0.1
	baz=201,SNR=12							
ANM	Nome	79.56	5	P	P	10 54	09.8	-0.4
	baz=192							
SIT	Sitka	79.56	22	P	P	10 54	09.5	-0.8
	baz=222							
SML	Sawmill	79.64	14	P	P	10 54	10.2	-0.6
	baz=209							
U33K	Whale Pass	79.68	23	P	P	10 54	10.7	-0.4
	baz=224							
V35K	Ketchikan	79.71	25	P	P	10 54	10.9	-0.3
	baz=225							
CUT	Chulitna	79.75	12	P	P	10 54	11.0	-0.3
	baz=207							
M23K	Glacier View	79.77	14	P	P	10 54	10.5	-1.0
	baz=209							
PPLA	Purkeypile	79.81	11	P	P	10 54	10.6	-1.2
	baz=205							
BMRM	Bremner River	79.83	16	P	P	10 54	11.8	0.0
BMRM				IAmb	IAmb	10 54	12.4	
	comp=Z,4.8nm,0.8s							
BMRM	Bremner River	79.83	16	P	P	10 54	11.8	0.0
	baz=212							
WAX	Waxell Ridge	79.86	17	P	P	10 54	12.4	+0.4
WAX				IAmb	IAmb	10 54	13.1	
	comp=Z,6.2nm,0.7s							
MESA	MESA	79.89	17	P	P	10 54	12.6	+0.3
	baz=215							
K20K	Telida	79.89	10	P	P	10 54	12.4	+0.3
	baz=203,SNR=7.3							
SCM	Sheep Creek Mo	79.90	14	P	P	10 54	12.5	+0.3
	baz=210							
S31K	Pelican	79.92	21	P	P	10 54	12.3	+0.1
	baz=221							
H16K	Elim	79.94	7	P	P	10 54	12.3	+0.1
	baz=195							
KLU	Klutina	79.94	15	P	P	10 54	13.2	+0.7
	baz=211							
G15K	Niukluk	80.10	6	P	P	10 54	13.5	+0.4
	baz=193							
S32K	Killisnoo	80.14	22	P	P	10 54	14.1	+0.6
	baz=222							
WRAK	Wrangell Islan	80.20	24	P	P	10 54	15.0	+1.2
	baz=224							
J19K	Poorman	80.22	10	P	P	10 54	14.5	+0.6
	baz=202							
PNL	Peninsula	80.23	18	P	P	10 54	14.4	+0.5
	baz=218							
CAST	Castle Rocks	80.31	11	P	P	10 54	13.4	-0.9
CAST				IAmb	IAmb	10 54	15.6	
	comp=Z,6.1nm,1.3s							
CAST	Castle Rocks	80.31	11	P	P	10 54	13.8	-0.5
	baz=205							
PINM	Pinnacle	80.31	18	P	P	10 54	15.2	+0.8
	baz=217							
TNA	Tin City	80.34	4	P	P	10 54	15.0	+0.7
	baz=190							
VRDI	Verde Repeater	80.35	16	P	P	10 54	14.9	+0.1
VRDI				IAmb	IAmb	10 54	15.8	
	comp=Z,7.1nm,1.4s							
N25K	Chitina, Valde	80.37	15	P	P	10 54	14.9	+0.2
	baz=212							
F14K	Arctic Creek	80.37	5	P	P	10 54	14.2	-0.3
	baz=191							
M24K	Tolsona, Glenn	80.41	14	P	P	10 54	15.0	+0.1
	baz=211							
R31K	City Hall, Gus	80.44	21	P	P	10 54	15.3	+0.3
	baz=221							
H17K	Granite Mounta	80.50	7	P	P	10 54	15.3	0.0
	baz=197							
J20K	Nowinta River	80.64	10	P	P	10 54	15.9	0.0
J20K				IAmb	IAmb	10 54	17.5	
	comp=Z,4.2nm,0.7s							
J20K	Nowinta River	80.64	10	P	P	10 54	16.3	+0.3
	baz=203,SNR=6.6							
G16K	Koyuk River	80.66	6	P	P	10 54	16.0	-0.1
	baz=195							
TRF	Thorofare Moun	80.69	12	P	P	10 54	15.8	-0.6
TRF				IAmb	IAmb	10 54	18.1	
	comp=Z,5.1nm,0.7s							
TRF	Thorofare Moun	80.69	12	P	P	10 54	16.3	-0.1
	baz=207,SNR=8.0							
CHUM	Lake Minchumin	80.69	11	P	P	10 54	16.2	-0.1
	baz=205,SNR=5.6							
P29M	Windy Craggy	80.72	19	P	P	10 54	17.4	+0.8
	baz=219							
GCSA	Galena City Sc	80.74	9	P	P	10 54	17.3	+0.9
	baz=200							
F15K	North Star Dit	80.74	5	P	P	10 54	16.7	+0.2
	baz=193							
O28M	Mount Upton	80.88	17	P	P	10 54	18.1	+0.5
	baz=217,SNR=5.9							
SEY	Seymchan	80.89	347	P	P	10 54	17.4	+0.1
	comp=Z,3.8nm,0.7s,baz=126,slow=8.7,SNR=12							
	comp=Z,3.8nm,0.7s							
HARP	HAARP	80.91	15	P	P	10 54	18.1	+0.7
	baz=212							
H18K	Honhosa River	80.91	8	P	P	10 54	17.8	+0.4
	baz=199							
RND	Reindeer	80.94	13	P	P	10 54	17.6	-0.1
G17K	Kiwalik Mounta	80.96	7	P	P	10 54	18.2	+0.6
	baz=197							
O29M	Mount Kennedy	80.98	18	P	P	10 54	18.6	+0.6
	baz=218							
BPAW	Bear Paw Mtn.	81.14	11	P	P	10 54	18.7	+0.1
	baz=206							
MCK	McKinley	81.22	12	P	P	10 54	19.1	0.0
	baz=208,SNR=5.1							
PAX	Paxson	81.32	14	P	P	10 54	20.0	+0.3
	baz=212							
P30M	Million Dollar	81.35	19	P	P	10 54	20.4	+0.5
	baz=220							
SKAG	Skagway	81.37	20	P	P	10 54	20.8	+0.9
	baz=221							
T35M	Bob Quinn	81.42	24	P	P	10 54	20.3	+0.1
	baz=226							
YUK8	Steele Glacier	81.42	17	P	P	10 54	20.7	+0.3
	baz=217,SNR=6.7							
M26K	Nabesna, AK	81.45	15	P	P	10 54	20.6	+0.3
M26K				IAmb	IAmb	10 54	21.6	
	comp=Z,6.2nm,0.9s							
M26K	Nabesna, AK	81.45	15	P	P	10 54	19.8	-0.5
	baz=214,SNR=9.2							
H19K	Roundabout Mou	81.54	9	P	P	10 54	21.3	+0.7
H19K	Roundabout Mou	81.54	9	P	P	10 54	20.9	+0.3
	baz=201,SNR=6.5							
YUK6	Outpost Mounta	81.56	18	P	P	10 54	20.9	-0.3
	baz=218							
G18K	Tagagawik	81.58	8	P	P	10 54	21.1	+0.2
G18K	Tagagawik	81.58	8	P	P	10 54	20.9	0.0
	baz=199							
HLID	Hailey	81.59	41	P	P	10 54	22.1	+0.5
YUK3	Moose Creek	81.61	17	P	P	10 54	21.4	0.0
	baz=216,SNR=5.8							
M27K	Edge Creek, AK	81.71	16	P	P	10 54	22.0	+0.2
	baz=215,SNR=5.4							
HYT	Haines Junctio	81.72	19	P	P	10 54	22.6	+0.7
	baz=219							
S34M	Telegraph Cree	81.73	23	P	P	10 54	22.1	+0.3
	baz=225,SNR=6.9							
H20K	Anotleneega Mo	81.74	9	P	P	10 54	21.9	+0.1
	baz=202							
YUK4	Talbot Arm	81.79	18	P	P	10 54	23.4	+1.1
	baz=218							
HVU	Hansel Valley	81.79	43	P	P	10 54	23.0	+0.3
F17K	Baldwin Pennin	81.80	6	P	P	10 54	22.0	0.0
	baz=196							
L26K	Log Cabin Wild	81.88	15	P	P	10 54	23.1	+0.5
	baz=214							
NEA2	Nenana	81.95	12	P	P	10 54	22.9	+0.1
	baz=208							
K24K	Donnelly Dome	81.97	14	P	P	10 54	23.5	+0.5
	baz=211							
P32M	Atlin	82.02	21	P	P	10 54	23.7	+0.3
	baz=223							
BVCY	Beaver Creek	82.03	16	P	P	10 54	24.0	+0.8
	baz=216							
G19K	Purcell Mounta	82.03	8	P	P	10 54	24.0	+0.8
	baz=200							
WRH	Wood River Hil	82.05	12	P	P	10 54	23.2	-0.1
WRH				IAmb	IAmb	10 54	24.2	
	comp=Z,7.4nm,1.0s							
Q32M	Nakina River	82.06	22	P	P	10 54	24.1	+0.4
	baz=224							
O30N	Mendenhall	82.12	19	P	P	10 54	24.2	+0.3
	baz=220							
RIDG	Independent Ri	82.13	14	P	P	10 54	24.3	+0.5
	baz=212							
F18K	Selawik	82.13	7	P	P	10 54	24.2	+0.5
	baz=198							
H21K	Melozitna Rive	82.23	10	P	P	10 54	24.7	+0.5
	baz=204							
HDA	Harding Lake	82.23	13	P	P	10 54	23.9	-0.4
HDA				IAmb	IAmb	10 54	24.6	
	comp=Z,4.5nm,0.7s							
HDA	Harding Lake	82.23	13	P	P	10 54	24.3	+0.1
	baz=210,SNR=8.2							
CCB	Clear Creek Bu	82.26	12	P	P	10 54	23.8	-0.6
L27K	Beaver Creek,	82.30	16	P	P	10 54	24.6	-0.1
	baz=215							
N30M	Aishikik Lake	82.35	18	P	P	10 54	24.9	-0.1
	baz=220							
E17K	Hotham Inlet	82.36	6	P	P	10 54	25.0	+0.2
	baz=196							
I23K	Minto, Yukon-K	82.39	12	P	P	10 54	25.4	+0.3
	baz=208							
WHY	Whitehorse	82.43	20	P	P	10 54	24.8	-0.7
	baz=222							
COLA	College	82.45	12	P	P	10 54	25.8	+0.5
COLA	College	82.45	12	P	P	10 54	24.5	-0.8
	baz=209							
DLBC	Dease Lake	82.52	23	P	P	10 54	25.6	-0.4
	baz=226							
SCRK	Sand Creek	82.53	14	P	P	10 54	25.5	-0.4
	baz=213,SNR=6.4							
ILAR	Eielson Array	82.56	13	P	P	10 54	25.6	-0.4
	comp=Z,4.0nm,0.8s,baz=219,slow=5.8,SNR=49							
	comp=Z,4.0nm,0.8s							
F19K	Shaleruckik Mo	82.59	8	P	P	10 54	26.4	+0.4
	baz=199							
H22K	Ishtalitna Cre	82.69	10	P	P	10 54	26.2	-0.5
	baz=206,SNR=10							
M29M	Somme Creek	82.72	17	P	P	10 54	26.6	-0.4
	baz=218							
POKR	Poker Plat Res	82.75	12	P	P	10 54	26.4	-0.5
	baz=209							
J25K	Salcha River,	82.76	13	P	P	10 54	27.0	0.0
J25K				IAmb	IAmb	10 54	28.0	
	comp=Z,6.3nm,0.7s							
J25K	Salcha River,	82.76	13	P	P	10 54	26.8	-0.2
	baz=211,SNR=9.5							
N31M	Braeburn, Yuko	82.77	19	P	P	10 54	27.3	+0.2
	baz=221,SNR=7.4							
P33M	Teslin, Yukon	82.78	21	P	P	10 54	27.4	+0.1
	baz=224							
E18K	Tukpahlearik C	82.81	6	P	P	10 54	27.8	+0.6
E18K				IAmb	IAmb	10 54	28.9	
	comp=Z,5.7nm,0.8s							
E18K	Tukpahlearik C	82.81	6	P	P	10 54	26.9	-0.3
	baz=197							
D17K	Noatak River	82.83	5	P	P	10 54	27.3	+0.1
	baz=194							
R33M	Jennings River	82.84	22	P	P	10 54	28.2	+0.5
	baz=225							
G21K	Allakaket	82.91	9	P	P	10 54	28.1	+0.5
	baz=204							
H23K	Yukon River	82.96	11	P	P	10 54	28.0	0.0
	baz=207							
K27K	Chicken	83.04	15	P	P	10 54	29.2	+0.8
	baz=215							
F20K	Avaraart Lake	83.07	8	P	P	10 54	28.9	+0.5
	baz=201							
J26L	Joseph Creek	83.07	14	P	P	10 54	29.2	+0.6
J26L	Joseph Creek	83.07	14	P	P	10 54	29.6	+0.9
	baz=213,SNR=14							
C16K	Lisburne Hills	83.21	4	P	P	10 54	29.4	+0.3
	baz=192							
E19K	Redstone River	83.25	8	P	P	10 54	30.1	+0.6
E19K	Redstone River	83.25	8	P	P	10 54	29.0	-0.4
	baz=200							
H24K	Noodor Dome	83.29	12	P	P	10 54	29.7	0.0
	baz=209							
M30M	Minto, Yukon	83.30	18	P	P	10 54	30.4	+0.6
	baz=220,SNR=6.9							
L29M	L29M	83.34	17	P	P	10 54	30.3	+0.3
L29M				IAmb	IAmb	10 54	31.6	
	comp=Z,6.7nm,0.9s							
L29M	L29M	83.34	17	P	P	10 54	30.9	+0.9
	baz=218,SNR=8.5							
TXAR	Lajitas Array	83.47	58	P	P	10 54	32.3	+0.8
	comp=Z,1.8nm,0.7s,baz=224,slow=6.4,SNR=9.6							
	comp=Z,1.8nm,0.7s							
PRP	Porcupine Dome	83.50	13	P	P	10 54	31.5	+0.7
	baz=211							
F21K	Alatna River	83.56	9	P	P	10 54	31.4	+0.4
F21K				IAmb	IAmb	10 54	32.2	
	comp=Z,3.7nm,0.7s							
F21K	Alatna River	83.56	9	P	P	10 54	30.6	-0.4
	baz=204							
C17K	DeLong Mountai	83.58	5	P	P	10 54	31.8	+0.7
	baz=194							
G23K	Bananza Creek	83.67	11	P	P	10 54	32.2	+0.6
	baz=207							
M31M	Drury Creek, Y	83.74	19	P	P	10 54	32.7	+0.6
	baz=222							
DAWY	Dawson	83.75	16	P	P	10 54	32.6	+0.6
	baz=217,SNR=7.3							
I26K	Coal Creek Min	83.85	14	P	P	10 54	33.1	+0.6
	baz=214							
C18K	Utukok River	83.94	6	P	P	10 54	33.0	+0.1
	baz=196							
F22K	John River	84.03	9	P	P	10 54	34.2	+0.9
	baz=205							
K29M	Barlow Dome	84.08	17	P	P	10 54	34.4	+0.6
K29M				IAmb	IAmb	10 54	35.3	
	comp=Z,5.3nm,1.1s							
K29M	Barlow Dome	84.08	17	P	P	10 54	34.7	+0.9
	baz=219,SNR=5.2							
FARO	Faro, Yukon	84.09	19	P	P	10 54	33.9	+0.2
	baz=223							
COLD	Coldfoot	84.10	10	P	P	10 54	34.6	+0.9
	baz=207							
D19K	Kuna River	84.12	7	P	P	10 54	34.6	+0.8
	baz=199							
G24K	Hadweenzic Riv	84.13	12	P	P	10 54	34.6	+0.8
	baz=209							
MAYO	Mayo, Yukon	84.35	17	P	P	10 54	35.9	+0.8
	baz=220							
PDAR	Pinedale Array	84.37	43	P	P	10 54	35.5	-0.4
	comp=Z,0.9nm,0.7s,baz=226,slow=2.4,SNR=8.2							
	comp=Z,0.9nm,0.7s							
J29N	Klondike Camp	84.38	16	P	P	10 54	35.8	+0.6
	baz=218							
I27K	Kandik River	84.45	14	P	P	10 54	35.6	+0.1
	baz=215							
E22K	Anaktuvuk Pass	84.66	9	P	P	10 54	36.8	+0.4
	baz=205							
TOAD	Toad River Com	84.66	24	P	P	10 54	37.1	+0.4
	baz=230							
LIRD	Liard River Hi	84.68	24	P	P	10 54	37.3	+0.6
	baz=230							
I28M	Miner Creek	84.73	15	P	P	10 54	37.1	+0.1
	baz=216							
F24K	Squaw Lake	84.77	11	P	P	10 54	37.5	+0.4
	baz=209							
E23K	Chandalar	84.95	10	P	P	10 54	38.4	+0.4
	baz=207							
J30M	Hart River	84.98	17	P	P	10 54	39.0	+0.7
	baz=220							
H27K	Steamboat Moun	84.99	14	P	P	10 54	38.6	+0.4
	baz=215							
I29M	Ogilvie Camp,	85.07	15	P	P	10 54	38.3	-0.2
	baz=218							
G26K	Porcupine Rive	85.09	13	P	P	10 54	39.9	+1.3
	baz=213							
E24K	Your Creek	85.16	10	P	P	10 54	39.7	+0.7
	baz=208							
C21K	Knifeblade Rid	85.17	8	P	P	10 54	39.8	+0.8
	baz=202							
D22K	Ayikyak River	85.21	9	P	P	10 54	39.9	+0.7
	baz=204							
F25K	Christian Rive	85.27	12	P	P	10 54	40.2	+0.7
	baz=211							
TGTN	Hyland Airport	85.29	21	P	P	10 54	40.4	+0.7
	baz=228							
G27K	Doyon Strip	85.44	13	P	P	10 54	40.8	+0.4
	baz=215							
A19K	Wainwright	85.45	6	P	P	10 54	40.8	+0.5
	baz=196							
I30M	Mount Dempster	85.47	16	P	P	10 54	41.2	+0.5
	baz=220							
TOLK	Toolik Lake Re	85.48	10	P	P	10 54	41.0	+0.5
	baz=207							
D23K	Nanushuk River	85.59	9	P	P	10 54	41.4	+0.3
D23K	Nanushuk River	85.59	9	P	P	10 54	41.6	+0.6
	baz=206							
B21K	Ikpikpuk River	85.62	8	P	P	10 54	41.0	-0.1
	baz=202							
F26K	Sheenjek River	85.65	12	P	P	10 54	41.6	+0.3
	baz=212							
B20K	Meade River	85.67	7	P	P	10 54	41.5	+0.2
	baz=200							
E25K	Arctic Village	85.74	11	P	P	10 54	42.3	+0.5
	baz=211							
H29M	Whitestone	85.74	15	P	P	10 54	41.2	-0.6
	baz=218							
HHC	Hu-ho-hao-te	85.74	314	eP	P	10 54	40.5	-2.0
HHC				pmax	pmax			
	comp=Z,9.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,4.4s							
KOTAN	Kotaneelee Air	85.94	24	P	P	10 54	43.4	+0.5
	baz=231							
D24K	Happy Valley	86.06	10	P	P	10 54	43.9	+0.6
	baz=208							
EPYK	Eagle Plains	86.27	15	P	P	10 54	44.4	-0.1
	baz=220							
G29M	Pine Creek	86.37	15	P	P	10 54	44.7	-0.2
	baz=218							
C23K	Itkillik River	86.39	9	P	P	10 54	45.1	+0.3
	baz=206							
B22K	Teshekpuk Lake	86.45	8	P	P	10 54	45.3	+0.2
	baz=204							
H31M	Peel River	86.47	16	P	P	10 54	45.6	+0.3
	baz=222							
C24K	Franklin Bluff	86.58	10	P	P	10 54	46.0	+0.3
	baz=208							
E27K	Coleen River	86.59	13	P	P	10 54	46.2	+0.2
	baz=215							
D25K	Kavik River	86.63	11	P	P	10 54	45.9	-0.1
	baz=210							
A22K	Sinclair Lake	86.87	7	P	P	10 54	46.5	-0.5
	baz=202							
G31M	Satah River	87.33	16	P	P	10 54	49.3	0.0
	baz=222							
C27K	Jago River	87.38	11	P	P	10 54	49.0	-0.5
	baz=213							
E28M	Babbage River	87.38	13	P	P	10 54	49.1	-0.5
	baz=217							
C26K	Camden Bay	87.41	11	P	P	10 54	49.2	-0.4
	baz=212							
F30M	Barrier River	87.47	15	P	P	10 54	49.4	-0.6
	baz=220							
E29M	Blow River	87.57	14	P	P	10 54	50.7	+0.2
	baz=218							
D27M	Malcolm River	87.60	12	P	P	10 54	49.5	-1.2
	baz=215							
F31M	Tsiigehtchic	87.85	15	P	P	10 54	51.8	0.0
	baz=222							
WRGLY	Wrigley	88.10	21	P	P	10 54	52.9	-0.2
	baz=232							
D28M	Stokes Point	88.13	13	P	P	10 54	52.5	-0.6
	baz=218							
PZH	PanZhiHua	88.52	298	P	P	10 54	55.5	-0.6
PZH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,110nm,4.7s							
INK	Inuvik	88.55	15	P	P	10 54	54.7	-0.4
	baz=222							
LZH	Lanzhou	89.72	307	eP	P	10 55	00.5	-1.0
LZH				pP	pwP	10 56	29.8	+4.6
LZH				pmax	pmax			
	comp=Z,20nm,0.3s							
YKA	Yellowknife Ar	91.03	24	P	P	10 55	06.3	-0.4
	comp=Z,0.2nm,0.7s,baz=240,slow=5.0,SNR=4.5							
	comp=Z,0.2nm,0.7s							
C36M	Paulatuk	91.76	17	P	P	10 55	09.8	-0.1
	baz=231							
SONM	Songino Array	91.77	319	P	P	10 55	09.0	-1.7
	comp=Z,0.3nm,0.4s,baz=116,slow

comp=Z,1.6nm,0.6s,baz=24,slow=3.6,SNR=15
CONA Conrad Observa 145.09 344 *i* PKP **PKPdf 11 01 38.4 +0.2**
comp=Z,1.4nm,0.5s
MMAI Mount Meron Ar 145.10 307 PKPbc **PKPdf 11 01 38.6 0.0**
comp=Z,4.0nm,0.5s,baz=64,slow=3.7,SNR=3.5
RONA Rosalia, Austr 145.19 344 *i* PKP **PKPdf 11 01 39.2 +1.0**
comp=Z,0.6nm,0.3s
MOA Molln 145.56 346 *i* PKP **PKPdf 11 01 39.5 +0.6**
comp=Z,0.5nm,0.3s
KBA Koelnbreinsper 146.50 347 *e*PKP **PKPdf 11 01 41.6 +0.9**
comp=Z,1.5nm,0.5s
WTTA Wattenberg 146.67 349 *i* PKP **PKPdf 11 01 42.6 +1.7**
comp=Z,1.7nm,0.4s
MOTA Moosalm 146.69 349 *e*PKP **PKPdf 11 01 42.4 +1.5**
comp=Z,0.6nm,0.4s
OBKA Obir 146.74 345 *i* PKP **PKPdf 11 01 41.9 +0.9**
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach 146.99 347 *i* PKP **PKPdf 11 01 42.8 +1.4**
comp=Z,1.5nm,0.5s
FETA Feichten 147.07 350 *i* PKP **PKPdf 11 01 43.8 +2.2**
comp=Z,0.8nm,0.5s

WEL 31 11:02:60.0±0.3, 42°S±2″×17°4E±°, h10km±3km, M3.4/44, ML3.5/18, MLv3.4/44, Error ellipse: s-maj=3.3km s-min=2.4km az=149.2, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDS	**Seddon Fire St**	**0.08**	**261**	P	Pg	11 03 03.2	+1.0
SEDS				S	Sg	11 03 05.8	+1.9
CMWZ	**Cape Campbell**	**0.09**	**165**	P	Pg	11 03 03.3	+0.8
WDFS	**Ward Fire Stat**	**0.17**	**191**	P	Pg	11 03 04.2	+0.5
WDFS				S	Sg	11 03 07.7	+1.5
BSWZ	**Blackbirch Sta**	**0.24**	**256**	P	Pg	11 03 05.3	+0.5
BSWZ				S	Sg	11 03 09.5	+1.5
TUWZ	**Tuamarina**	**0.29**	**322**	P	Pb	11 03 06.9	-0.4
BWRS	**Waikakaho Road**	**0.30**	**317**	P	Pb	11 03 07.0	-0.5
BWRS				S	Sb	11 03 12.0	-0.5
TCW	**Tory Channel**	**0.46**	**9**	P	Pg	11 03 09.4	+0.6
TCW				S	Sb	11 03 16.2	-0.7
HAVS	**Havelock**	**0.49**	**322**	P	Pg	11 03 10.0	+0.5
HAVS				S	Sb	11 03 17.2	-0.7
BHW	**Baring Head**	**0.57**	**64**	P	Pb	11 03 11.7	-0.4
BHW				S	Sb	11 03 20.8	+0.4
WEL	**Wellington**	**0.58**	**50**	P	Pb	11 03 11.8	-0.4
WEL				S	Sb	11 03 20.7	+0.2
MKBS	**Makara Bunker**	**0.58**	**42**	P	Pb	11 03 11.8	-0.5
MKBS				S	Sb	11 03 20.5	-0.1
MISS	**Wellington Mir**	**0.59**	**54**	P	Pg	11 03 11.9	+0.5
POTA	**Wellington Pot**	**0.59**	**49**	P	Pg	11 03 11.8	+0.4
NEWS	**Newlands**	**0.64**	**49**	P	Pb	11 03 12.9	-0.4
NNZ	**Nelson**	**0.75**	**306**	P	Pg	11 03 14.6	+0.2
PLWZ	**Palliser**	**0.81**	**84**	P	Pb	11 03 16.3	+0.1
PLWZ				S	Sn	11 03 29.1	-0.6
MOLW	**Molesworth Sta**	**0.81**	**238**	P	Pb	11 03 16.0	-0.3
UHCS	**Upper Hutt Col**	**0.84**	**51**	P	Pg	11 03 16.2	+0.1
MSWZ	**Moikau Station**	**0.84**	**73**	P	Pb	11 03 16.6	0.0
KIKS	**Kaikoura**	**0.85**	**206**	P	Pb	11 03 16.8	0.0
CAW	**Cannon Point**	**0.86**	**51**	P	Pg	11 03 16.7	0.0
CAW				S	Sn	11 03 30.0	-0.9
DUWZ	**D'Urville Isla**	**0.88**	**347**	P	Pg	11 03 16.9	0.0
KHZ	**Kahutara**	**0.90**	**212**	P	Pb	11 03 17.5	-0.1
THZ	**Tophouse**	**0.96**	**263**	P	Pg	11 03 18.2	-0.3
KIW	**Kapiti Island**	**0.97**	**35**	P	Pg	11 03 18.6	0.0
PAWZ	**Paruwai Farm**	**0.97**	**74**	P	Pg	11 03 18.6	-0.1
MOTS	**Motueka DOC wo**	**1.03**	**301**	P	Pb	11 03 20.1	+0.1
MRNZ	**Matariki Terra**	**1.10**	**283**	P	Pb	11 03 21.1	0.0
MTW	**Mount Morrison**	**1.11**	**64**	P	Pb	11 03 20.6	-0.7
TKNZ	**Takaka Hill**	**1.11**	**304**	P	Pg	11 03 21.2	-0.1
OGWZ	**Otaki Gorge**	**1.12**	**42**	P	Pb	11 03 21.1	-0.4
TRWZ	**Traveller**	**1.16**	**77**	P	Pb	11 03 21.0	-1.2
HOWZ	**Holdsworth Sta**	**1.26**	**53**	P	Pn	11 03 22.8	-0.9
TMWZ	**Te Maipa**	**1.40**	**67**	P	Pn	11 03 24.2	-1.4
MRZ	**Mangatainoka R**	**1.45**	**47**	P	Pn	11 03 25.7	-0.7
QRZ	**Quartz Range**	**1.50**	**303**	P	Pb	11 03 27.6	-0.4
TIWZ	**Tintock**	**1.56**	**56**	P	Pn	11 03 26.7	-1.2
OHWZ	**Ohakea**	**1.69**	**31**	P	Pb	11 03 31.3	+0.2
CPWZ	**Castlepoint**	**1.70**	**64**	P	Pg	11 03 34.4	+1.9
POWZ	**Post Office Ro**	**1.75**	**44**	P	Pn	11 03 29.8	-0.5
PRWZ	**Pori Road**	**1.75**	**51**	P	Pn	11 03 29.3	-1.1
DSZ	**Denniston Nort**	**1.78**	**266**	P	Pb	11 03 32.3	-0.4
LTZ	**Lake Taylor**	**1.81**	**231**	P	Pn	11 03 30.4	-0.9
BFZ	**Birch Farm**	**1.84**	**59**	P	Pn	11 03 29.8	-1.9
AMCZ	**Amberley**	**1.89**	**216**	P	Pg	11 03 36.3	+0.1
WAZ	**Wanganui**	**2.00**	**18**	P	Pg	11 03 37.5	-0.7
DVHZ	**Dannevirke**	**2.03**	**49**	P	Pn	11 03 32.7	-1.6
TSZ	**Takapari Road**	**2.09**	**41**	P	Pn	11 03 34.5	-0.7
ANWZ	**Angora Road**	**2.11**	**56**	P	Pn	11 03 33.6	-1.7
LREZ	**Lake Rotokare**	**2.20**	**4**	P	Pb	11 03 40.2	+0.3
INZ	**Inchbonnie**	**2.30**	**241**	P	Pn	11 03 38.5	+0.6
OXZ	**Oxford**	**2.30**	**223**	P	Pb	11 03 40.8	-0.7
PNHZ	**Pukenui**	**2.32**	**42**	P	Pn	11 03 37.4	-1.0
WPHZ	**Waipukurau**	**2.34**	**48**	P	Pn	11 03 38.4	-0.2
NEZ	**North Egmont**	**2.39**	**358**	P	Pg	11 03 44.9	-0.9
NBEZ	**Newall Road No**	**2.40**	**354**	P	Pg	11 03 44.8	-1.2
DREZ	**Durham Road**	**2.47**	**0**	P	Pb	11 03 44.0	-0.5
MOVZ	**Moawhango**	**2.55**	**29**	P	Pb	11 03 45.7	-0.2
WNVZ	**Wahianoa**	**2.57**	**25**	P	Pb	11 03 46.3	+0.1
VRZ	**Vera Road**	**2.57**	**10**	P	Pn	11 03 43.9	+2.2
KRHZ	**Kereru**	**2.61**	**40**	P	Pn	11 03 41.1	-1.2
TUVZ	**Tukino**	**2.64**	**26**	P	Pb	11 03 48.0	+0.5
COVZ	**Chateau Observ**	**2.67**	**23**	P	Pb	11 03 48.5	+0.6
NGZ	**Ngauruhoe**	**2.71**	**24**	P	Pb	11 03 50.2	+1.5
SNVZ	**South Ngauruho**	**2.71**	**25**	P	Pb	11 03 49.7	+1.0
OTVZ	**Oturere**	**2.74**	**25**	P	Pb	11 03 48.1	-1.1
NNVZ	**North Ngauruho**	**2.75**	**24**	P	Pb	11 03 50.6	+1.3
WTVZ	**West Tongariro**	**2.76**	**23**	P	Pb	11 03 50.3	+0.8
ETVZ	**East Tongariro**	**2.78**	**25**	P	Pb	11 03 49.5	-0.3
TMVZ	**Te Maari**	**2.79**	**25**	P	Pb	11 03 49.3	-0.8
NTVZ	**North Tongarir**	**2.80**	**25**	P	Pb	11 03 49.6	-0.6
KWHZ	**Kaweka Forest**	**2.81**	**38**	P	Pb	11 03 51.5	+1.1
RITZ	**Rihia Road**	**2.97**	**26**	P	Pb	11 03 53.2	+0.1
RPZ	**Rata Peaks**	**3.09**	**227**	P	Pb	11 03 55.8	+0.7
HIZ	**Hauiti**	**3.19**	**10**	P	Pn	11 03 53.0	+2.9
TLZ	**Tolley Road**	**3.49**	**18**	P	Pb	11 04 00.2	-1.6
CTZ	**Chatham Island**	**7.09**	**110**	P	Pn	11 04 41.8	-1.9

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*IDC **31** 11:03:55.6±1.0, 1°.94S×81°.09W, h0km, mb3.8/8, mbtmp3.8/10, ML3.8/2, MS3.5/4, Error ellipse: s-maj=48.1km s-min=20.6km az=62.0*
*RSNC **31** 11:03:57.3±4.5, 2°S±10″×8°1W±1°0, h6km, M5.0, mb5.0, mB5.5, Mw(mB)4.1, MwMwp5.1, Mwp5.4*
*IGQ **31** 11:03:57.2±0.7, 2°S±2″×8°1W±°, h4km±1km, MLv4.1/37*
ISC 31 11:03:56.9±0.7, 1.99S±0°.03×81°.17W±0°.07, h10km, n96, σ1§64/95, mb3.6/8, MS3.3/3, 7C-8D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.27**	**137**	⇓P	**Pb**	**11 04 04.1**	**+0.3**
SALI				S	**Sb**	**11 04 08.4**	**-0.1**
ALIBE	**La Libertad**	**0.41**	**127**	P	**Pb**	**11 04 06.9**	**+0.6**
PPLP	**Puerto Lpez**	**0.60**	**42**	P	**Pg**	**11 04 07.7**	**-0.8**
PPLP				S	**Sb**	**11 04 17.5**	**-0.5**
PPLP	**Puerto Lpez**	**0.60**	**42**	⇓P	**Pg**	**11 04 07.6**	**-0.8**
ISPT	**Isla de la Pla**	**0.73**	**8**	P	**Pg**	**11 04 11.2**	**+0.1**
ISPT				S	**Sb**	**11 04 21.4**	**-0.5**
AMNT	**Manta-Manabi**	**1.13**	**23**	P	**Pb**	**11 04 17.4**	**-1.1**
AMNT				S	**Sb**	**11 04 32.9**	**-0.5**
AGUAY	**Guayaquil**	**1.22**	**93**	P	**Pn**	**11 04 17.7**	**-2.4**
GYE3	**Ecuador-Guayaq**	**1.28**	**97**	P	**Pn**	**11 04 19.2**	**-1.7**
ISPG	**Isla Puna-Puer**	**1.40**	**134**	P	**Pn**	**11 04 23.1**	**+0.6**
MILO	**Milagro-Astudi**	**1.64**	**100**	P	**Pn**	**11 04 23.9**	**-1.9**
CAB1	**Cabo Pasado-Ma**	**1.76**	**25**	P	**Pn**	**11 04 26.9**	**-0.6**
ARNL	**Arenillas**	**1.90**	**144**	⇑P	**Pn**	**11 04 28.9**	**-0.5**
AQUE	**Quevedo**	**1.93**	**61**	P	**Pn**	**11 04 28.8**	**-1.0**
JAMA	**Jama**	**1.97**	**29**	P	**Pn**	**11 04 29.4**	**-1.1**
COHC	**Cochancay**	**1.98**	**104**	⇓P	**Pn**	**11 04 29.2**	**-1.3**
FLF1	**Flavio Alfaro-**	**2.10**	**39**	P	**Pn**	**11 04 32.2**	**0.0**
AGRD	**Ecuador-Guaran**	**2.21**	**79**	P	**Pn**	**11 04 32.4**	**-1.6**
JSCH	**Cashca Tororas**	**2.21**	**83**	P	**Pn**	**11 04 32.7**	**-1.3**
CHSH	**Refugio Sur-Vo**	**2.36**	**78**	⇑P	**Pn**	**11 04 36.0**	**-0.3**
TAMH	**Tambohuasha Ch**	**2.43**	**80**	⇓P	**Pn**	**11 04 36.7**	**-0.5**
PORT	**Chimborazo Vol**	**2.46**	**78**	⇓P	**Pn**	**11 04 37.2**	**-0.4**
IGUA	**Igualata**	**2.58**	**79**	⇓P	**Pn**	**11 04 39.6**	**+0.3**
BBIL	**Ulba Tungurahu**	**2.74**	**79**	P	**Pn**	**11 04 41.0**	**-0.3**
ILLI	**Illinizas Sur**	**2.75**	**63**	P	**Pn**	**11 04 41.5**	**-0.1**
ARRY	**Arrayan**	**2.76**	**80**	⇑P	**Pn**	**11 04 41.9**	**+0.3**
JUI6	**Juive**	**2.76**	**78**	⇓P	**Pn**	**11 04 42.5**	**+0.9**
POND	**Pondoa**	**2.78**	**78**	⇑P	**Pn**	**11 04 42.8**	**+0.9**
BULB	**Ulba Tungurahu**	**2.82**	**79**	⇑P	**Pn**	**11 04 43.4**	**+1.0**
PAST	**Pastocalle**	**2.84**	**63**	P	**Pn**	**11 04 43.8**	**+1.1**
BOSC	**San Juan Bosco**	**2.91**	**113**	P	**Pn**	**11 04 46.3**	**+2.8**
PIS1	**Pisayambo**	**2.94**	**72**	P	**Pn**	**11 04 45.4**	**+1.2**
CAMI	**Rancho Maria**	**2.97**	**64**	P	**Pn**	**11 04 45.7**	**+1.2**
BMOR	**Cotopaxi Volca**	**2.99**	**65**	P	**Pn**	**11 04 46.5**	**+1.6**
BNAS	**Cotopaxi Volca**	**3.00**	**64**	P	**Pn**	**11 04 47.1**	**+2.2**
SUCR	**Mariscal Sucre**	**3.00**	**63**	P	**Pn**	**11 04 46.4**	**+1.4**
VCES	**Cotopaxi**	**3.02**	**67**	P	**Pn**	**11 04 46.8**	**+1.4**
BREF	**Cotopaxi Volca**	**3.03**	**64**	P	**Pn**	**11 04 47.3**	**+1.7**
BVC2	**Cotopaxi Volca**	**3.06**	**64**	P	**Pn**	**11 04 47.7**	**+1.8**
BTAM	**Cotopaxi Volca**	**3.07**	**65**	P	**Pn**	**11 04 47.6**	**+1.6**
PIAT	**Ana Tenorio**	**3.07**	**71**	⇑P	**Pn**	**11 04 47.6**	**+1.7**
HPAL	**Hacienda Las P**	**3.08**	**55**	P	**Pn**	**11 04 45.7**	**-0.2**
VC1	**Cotopaxi 1**	**3.08**	**64**	P	**Pn**	**11 04 47.9**	**+1.8**
TAMB	**Tambo**	**3.09**	**65**	⇓P	**Pn**	**11 04 48.0**	**+1.7**
PITA	**Cotopaxi Volc**	**3.09**	**63**	P	**Pn**	**11 04 47.7**	**+1.5**
GGPT	**Toaza - Volcan**	**3.10**	**56**	P	**Pn**	**11 04 46.1**	**-0.2**
JUA2	**San Juan 2**	**3.12**	**56**	P	**Pn**	**11 04 46.6**	**0.0**
TERV	**Terraza Guagua**	**3.14**	**55**	P	**Pn**	**11 04 47.2**	**+0.2**
GGPC	**Guagua Pichinc**	**3.14**	**55**	P	**Pn**	**11 04 47.0**	**-0.1**
PINO	**Pino**	**3.15**	**55**	P	**Pn**	**11 04 47.0**	**-0.1**
PUYO	**Puyo, Santa Ro**	**3.19**	**81**	P	**Pn**	**11 04 49.3**	**+2.1**
YANA	**Yana**	**3.20**	**54**	P	**Pn**	**11 04 47.5**	**-0.2**
PAC1	**Pacto, Paraso**	**3.27**	**47**	P	**Pn**	**11 04 47.3**	**-1.1**
ANTG	**Antisana-Guama**	**3.27**	**63**	P	**Pn**	**11 04 50.5**	**+1.7**
ANTM	**Antisana-La Mi**	**3.29**	**64**	P	**Pn**	**11 04 50.8**	**+1.8**
PULU	**Pululahua**	**3.34**	**53**	P	**Pn**	**11 04 51.6**	**+2.0**
ANTS	**Antisana-Sarah**	**3.35**	**64**	⇑P	**Pn**	**11 04 52.0**	**+2.1**
ANTI	**Antisana**	**3.38**	**63**	P	**Pn**	**11 04 52.1**	**+1.8**
ZUMB	**Zumba**	**3.50**	**145**	P	**Pn**	**11 04 53.6**	**+2.1**
OTAV	**Otavalo**	**3.51**	**51**	P	**Pn**	**11 04 52.2**	**+0.3**
ARDO	**Archidona, Ten**	**3.52**	**74**	P	**Pn**	**11 04 53.1**	**+1.4**
RVRD	**Rio Verde**	**3.52**	**31**	P	**Pn**	**11 04 51.4**	**-0.4**
CUSE	**Cuicocha Este**	**3.59**	**51**	P	**Pn**	**11 04 54.4**	**+1.3**
CUSW	**Cuicocha Oeste**	**3.62**	**51**	P	**Pn**	**11 04 56.1**	**+2.7**
CUIC	**Cuicocha-Domo**	**3.62**	**51**	P	**Pn**	**11 04 54.8**	**+1.3**
COTA	**Cotacachi**	**3.66**	**51**	P	**Pn**	**11 04 55.9**	**+1.8**
IMBA	**Imbabura, San**	**3.73**	**53**	P	**Pn**	**11 04 57.6**	**+2.6**
ANGU	**Angureal**	**3.76**	**57**	P	**Pn**	**11 04 58.1**	**+2.6**
CAYA	**Cayambe**	**3.79**	**57**	P	**Pn**	**11 04 58.5**	**+2.6**
URCU	**Urcuqui**	**3.79**	**50**	P	**Pn**	**11 04 57.6**	**+1.8**
YAHU	**Yahuarcocha**	**3.89**	**53**	P	**Pn**	**11 04 59.7**	**+2.5**
LNGL	**El Angel-Carch**	**4.17**	**49**	P	**Pn**	**11 05 05.8**	**+4.6**
CHMA	**Chilma**	**4.21**	**48**	P	**Pn**	**11 05 02.8**	**+1.3**
CHL1	**Volc¡n Chiles**	**4.25**	**49**	P	**Pn**	**11 05 04.6**	**+2.3**
CHL2	**Volc¡n Chiles**	**4.28**	**50**	P	**Pn**	**11 05 05.1**	**+2.5**
TULM	**Tulcn-Chalpat**	**4.32**	**52**	P	**Pn**	**11 05 07.8**	**+4.6**
CASC	**Dorado de Casc**	**4.38**	**61**	P	**Pn**	**11 05 07.5**	**+3.9**
BONI	**La Bonita**	**4.38**	**56**	P	**Pn**	**11 05 07.4**	**+3.6**
BBAC	**Balboa, Cauca**	**5.59**	**45**	P	**Pn**	**11 05 20.1**	**-0.4**
NNA	**Nana**	**10.82**	**157**	Pn	**Pn**	**11 06 32.1**	**0.0**
1.2nm,0.3s,baz=310,slow=10,SNR=2.2							
NNA				Sn	**Sn**	**11 08 29.9**	**-3.4**
1.3nm,0.3s,baz=330,slow=20,SNR=1.7							
6.6nm,0.4s							
LPAZ	**La Paz**	**19.15**	**139**	P	**P**	**11 08 21.2**	**-0.1**
0.1nm,0.3s,baz=318,slow=6.0,SNR=4.5							
LPAZ				LR	LR	11 15 15.7	
comp=Z,79nm,21.9s,baz=354,slow=36							
0.6nm,0.6s							
MDP	**Montagnes des**	**29.36**	**76**	LR	LR	11 20 43.7	
comp=Z,69nm,21.6s,baz=94,slow=34							
BDFB	**Brasilia**	**35.38**	**114**	LR	LR	11 27 33.7	
comp=Z,61nm,21.5s,baz=336,slow=40							
PDAR	**Pinedale Array**	**51.38**	**333**	P	**P**	**11 13 02.3**	**+0.1**
0.4nm,0.8s,baz=139,slow=9.9,SNR=4.0							
0.4nm,0.8s							
NVAR	**Mina Array Bea**	**52.81**	**323**	P	**P**	**11 13 13.1**	**+0.2**
0.5nm,0.7s,baz=143,slow=7.1,SNR=3.7							
0.5nm,0.7s							
ULM	**Lac du Bonnet**	**53.55**	**348**	P	**P**	**11 13 17.9**	**+0.1**
5.9nm,0.8s,baz=170,slow=8.3,SNR=12							
5.9nm,0.8s							
YKA	**Yellowknife Ar**	**69.10**	**344**	P	**P**	**11 15 03.3**	**+0.3**
0.3nm,0.9s,baz=146,slow=5.7,SNR=5.7							
0.3nm,0.9s							
ESDC	**Sonseca Array**	**81.44**	**50**	P	**P**	**11 16 15.2**	**+0.6**
0.8nm,0.9s,baz=249,slow=7.0,SNR=4.2							
0.8nm,0.9s							
ILAR	**Eielson Array**	**81.66**	**337**	P	**P**	**11 16 15.4**	**+0.2**
0.2nm,0.8s,baz=118,slow=6.0,SNR=2.3							
0.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.51**	**77**	P	**P**	**11 16 24.9**	**-0.9**
0.5nm,0.3s,baz=246,slow=7.1,SNR=1.0							
0.5nm,0.3s							
QSPA	**South Pole Qui**	**88.07**	**180**	P	**P**	**11 16 48.8**	**+1.2**
1.3nm,0.8s,baz=127,slow=0.8,SNR=5.5							
1.3nm,0.8s							
SPITS	**Spitsbergen Ar**	**93.49**	**12**	LR	LR	11 57 00.2	
comp=Z,128nm,21.2s,baz=140,slow=34							
H11S2	**WAKE ISLAND Hyl**	**11.59**	**289**	T	T	13 23 32.3	
baz=86,slow=75,SNR=7.1							
H11S1	**WAKE ISLAND Hyl**	**11.60**	**289**	T	T	13 23 32.6	
baz=86,slow=75,SNR=4.9							
H11S3	**WAKE ISLAND Hyl**	**11.61**	**289**	T	T	13 23 33.6	
baz=86,slow=75,SNR=5.7							
ASAR	**Alice Springs**	**137.40**	**231**	PKP	**PKPdf**	**11 23 20.8**	**-1.1**
0.2nm,0.6s,baz=102,slow=1.8,SNR=4.4							
WRA	**Warramunga Arr**	**138.90**	**236**	PKP	**PKPdf**	**11 23 24.3**	**-0.4**
0.2nm,0.5s,baz=120,slow=2.1,SNR=1.8							

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*KRNET **31** 11:08:08.3±0.1, 43°.67N×69°.58E, mb2.9*
*SOME **31** 11:08:09.9, 43°.68N×69°.80E*
*NNC **31** 11:08:10.9±1.5, 43°.62N×69°.82E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=10.5km s-min=3.3km az=134.0, Suspected Mining explosion.*
ISC 31 11:08:11.9±2.3, 43°.50N±0°.07×69°.7E±0°.1, h0km, n18, σ1§29/27, 17C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.48**	**166**	P	**Pn**	**11 08 26.5**	**+0.3**
2.6nm,0.3s							
BRLS				S		11 08 38.7	
16nm,0.4s							
KK31	**Karatay Array**	**0.73**	**123**	⇑P	**Pg**	**11 08 25.0**	**-0.9**
0.6nm,0.2s,baz=319,slow=17,SNR=32							
KK31				S	**Sg**	**11 08 35.4**	**0.0**
5.8nm,0.3s,baz=317,slow=34,SNR=41							
KKAR	**Karatay Array**	**0.73**	**123**	⇑*e*P	**Pg**	**11 08 25.4**	**-0.5**
KKAR				⇑*e*S	**Sb**	**11 08 37.7**	**-0.4**
TRKS	**Terek-Say**	**2.25**	**151**	⇑*e*P	**Pb**	**11 08 52.2**	**-1.3**
TRKS				⇑*e*S	**Sg**	**11 09 24.8**	**+0.6**
MNAS	**Manas**	**2.31**	**115**	⇑*e*P	**Pn**	**11 08 51.9**	**+0.5**
MNAS				⇑*e*S	**Sb**	**11 09 23.3**	**-0.4**
ARK	**Arkit**	**2.40**	**134**	⇓*e*P	**Pn**	**11 08 53.0**	**+0.4**
ARK				⇓*e*S	**Sb**	**11 09 26.3**	**+0.1**
MRKS	**Merke**	**2.71**	**105**	Pg	**Pb**	**11 08 58.9**	**-2.5**
3.6nm,0.5s							
MRKS				Lg	Lg	11 09 36.4	
4.4nm,0.6s							
EKS2	**Erkin-Say**	**3.12**	**104**	⇑*e*P	**Pn**	**11 09 02.6**	**+0.1**
EKS2				⇑*e*S	**Pn**	**11 09 42.2**	**+1.6**
AML	**Almayashu**	**3.26**	**113**	⇑*e*P	**Pn**	**11 09 05.0**	**+0.3**
AML				⇑*e*S	**Sn**	**11 09 46.4**	**+2.0**
ARSB	**Arslanbob**	**3.28**	**130**	⇑*e*P	**Pn**	**11 09 05.5**	**+0.8**
ARSB				⇑*e*S	**Sn**	**11 09 47.1**	**+2.7**
BTLS	**Baital**	**3.50**	**62**	Pg	**Pb**	**11 09 14.5**	**-0.2**
9.2nm,0.5s							
BTLS				Lg	Lg	11 10 03.0	
5.0nm,0.7s							
AAK	**Ala-Archa**	**3.64**	**102**	⇑Pg	**Pb**	**11 09 15.6**	**-1.5**
3.8nm,0.6s							
AAK				⇑Lg	Lg	11 10 05.7	
5.2nm,0.9s							
ARLS	**Aral**	**3.80**	**114**	⇑*e*P	**Pn**	**11 09 12.3**	**+0.4**
ARLS				⇑*e*S	**Sn**	**11 09 59.2**	**+1.8**
KRBS	**Karabastau**	**4.37**	**85**	Pg	**Pb**	**11 09 28.5**	**-1.0**
3.0nm,0.6s							
KRBS				Lg	Lg	11 10 29.0	
2.5nm,0.5s							
DGS	**Degeres**	**4.46**	**91**	Pg	**Pb**	**11 09 29.1**	**-2.0**
1.8nm,0.3s							
DGS				Lg	Lg	11 10 28.6	
5.3nm,0.6s							
KST	**Kastek**	**4.62**	**94**	Pg	**Pb**	**11 09 32.8**	**-1.1**
3.4nm,0.7s							
KST				Lg	Lg	11 10 35.8	
5.2nm,0.5s							
KTBS	**Karatobe**	**5.10**	**85**	Pg	**Pb**	**11 09 40.2**	**-1.7**
2.5nm,0.4s							
KTBS				Lg	Lg	11 10 48.6	
2.6nm,0.5s							
CHKK	**Chushkaly**	**5.32**	**84**	Pg	**Pb**	**11 09 45.5**	**-0.2**
0.5nm,0.1s							

IDC 31 11:08:56.5±1.3, 14°.96S×173°.35W, h0km, mb3.6/5, mbtmp3.6/5, MS3.1/1, Error ellipse: s-maj=52.3km s-min=30.5km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.70**	**250**	LR	LR	11 14 13.9	
comp=Z,136nm,20.4s,baz=153,slow=36							
H11S2	**WAKE ISLAND Hy**	**38.61**	**329**	T	T	11 57 01.0	
baz=146,slow=76,SNR=6.5							
H11S3	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	11 56 56.6	
baz=146,slow=76,SNR=8.6							
H11S1	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	11 56 59.0	
baz=146,slow=76,SNR=6.9							
H11N3	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	11 59 01.5	
baz=148,slow=76,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**39.56**	**330**	T	T	11 59 02.1	
baz=148,slow=76,SNR=2.0							
H11N2	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	11 59 03.1	
baz=148,slow=76,SNR=4.0							
WRA	**Warramunga Arr**	**49.99**	**256**	P	P	11 17 52.6	-0.4
0.4nm,0.7s,baz=93,slow=8.2,SNR=5.9							
0.4nm,0.7s							
ASAR	**Alice Springs**	**50.29**	**252**	P	P	11 17 55.3	0.0
0.8nm,0.6s,baz=92,slow=7.4,SNR=16							
0.8nm,0.6s							
QSPA	**South Pole Qui**	**75.08**	**180**	P	P	11 20 40.4	+0.2
2.2nm,0.9s,baz=72,slow=3.2,SNR=3.8							
2.2nm,0.9s							
ILAR	**Eielson Array**	**82.00**	**11**	P	P	11 21 18.1	+0.1
0.2nm,0.8s,baz=215,slow=7.2,SNR=4.9							
0.2nm,0.8s							
YKA	**Yellowknife Ar**	**89.68**	**23**	P	P	11 21 55.9	-0.2
0.2nm,0.9s,baz=230,slow=4.4,SNR=4.0							
0.2nm,0.9s							

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*IDC **31** 11:20:07.5±2.0, 8°.13N×104°.09W, h0km, mb3.4/5, mbtmp3.4/5, MS3.2/5, Error ellipse: s-maj=89.8km s-min=28.7km az=60.0*
ISC 31 11:20:12.7±1.9, 8°.2N±0°.3×104°.0W±0°.5, h35km, n13, σ0§66/6, mb3.6/5, MS3.1/3, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.58**	**44**	LR	LR	11 26 36.2	
comp=Z,196nm,21.4s,baz=180,slow=31							
JTS	**Las Juntas de**	**18.95**	**82**	LR	LR	11 28 48.8	
comp=Z,27nm,20.3s,baz=264,slow=27							
TXAR	**Lajitas Array**	**21.06**	**1**	P	**P**	**11 24 53.3**	**-0.6**
0.8nm,0.8s,baz=183

GOLH S Sg 11 30 25.3 -1.7
GOLH i AML AML 11 30 37.0
comp=E,10μm,0.6s
GOLH i AML AML 11 30 45.0
comp=N,9μm,0.9s
DNIZ Denizli-Tavas- 0.31 299 P Pg 11 30 23.1 -0.5
DNIZ S Sg 11 30 27.3 -0.5
DNIZ i AML AML 11 30 28.0
comp=N,53μm,0.5s
DNIZ i AML AML 11 30 28.0
comp=E,54μm,0.4s
DNZT Denizli-Tavas- 0.34 235 P Pg 11 30 23.7 -0.6
DNZT S Sg 11 30 28.1 -0.8
CAEL Denizli, Camel 0.36 187 P Pg 11 30 23.7 -0.9
CAEL S Sg 11 30 29.2 -0.2
CAEL i AML AML 11 30 36.0
comp=E,8μm,0.8s
CAEL i AML AML 11 30 40.0
comp=N,11μm,1.4s
TAVA DENIZLI_Tavas 0.37 268 P Pg 11 30 23.7 -1.1
TAVA S Sg 11 30 29.1 -0.6
TAVA i AML AML 11 30 31.0
comp=N,6μm,0.4s
TAVA i AML AML 11 30 32.0
comp=E,5μm,0.5s
CAME Cameli-Denizli 0.54 186 Pg Pg 11 30 26.3 -1.6
CAME Sg Sg 11 30 34.4 -0.6
BRDR BURDUR-Merkez 0.59 68 P Pg 11 30 26.9 -1.9
KNIK Mula-Seydike 0.65 166 P Pg 11 30 29.2 -0.9
KNIK S Sg 11 30 37.7 -0.9
KNIK i AML AML 11 30 41.0
comp=E,1μm,0.5s
KNIK i AML AML 11 30 52.0
comp=N,1μm,0.9s
BASM Basmaki-Afyon 0.69 50 Pg Pg 11 30 29.6 -1.2
SABU Mula-Dalaman 0.73 207 P Pg 11 30 31.4 -0.1
SABU S Sg 11 30 38.8 -2.3
SABU i AML AML 11 30 42.0
comp=E,2μm,0.6s
SABU i AML AML 11 30 51.0
comp=N,1μm,0.7s
FETI Fethiye-Mugla 0.82 196 Pg Pg 11 30 31.8 -1.4
ELL Elmali 0.84 150 Pg Pg 11 30 32.2 -1.5
ELL Elmali 0.84 150 Pg Pg 11 30 32.6 -1.1
ELL Elmali 0.84 150 P Pg 11 30 32.6 -1.1
KHL Karahalli 0.85 8 Pg Pg 11 30 32.9 -0.9
MULA Mugla, Merkez- 0.87 256 P Pg 11 30 33.0 -1.1
MULA S Sg 11 30 43.8 -1.8
MULA i AML AML 11 30 50.0
comp=E,5μm,1.1s
MULA i AML AML 11 30 51.0
comp=N,4μm,0.9s
PASA Karahalli, USA 0.87 6 P Pg 11 30 33.3 -0.9
FETY Fethiye 0.87 196 Pg Pg 11 30 32.7 -1.6
FETY Fethiye 0.87 196 S Sg 11 30 45.7 +0.1
ESEN Aydn-Nazilli 0.88 292 P Pg 11 30 33.0 -1.3
DALY Dalyan (Mula) 0.88 221 Pg Pg 11 30 33.1 -1.2
KORT Korkueli 0.91 121 Pg Pg 11 30 33.6 -1.4
KORT Korkueli 0.91 121 P Pg 11 30 32.5 -2.5
YER Yerkesik 0.94 249 Pg Pg 11 30 34.2 -1.3
BUCA Burdur, Bucak- 0.95 99 P Pg 11 30 33.3 -2.5
BCK Bucak 0.96 91 Pg Pg 11 30 34.5 -1.5
ISP Isparta 0.97 69 Pg Pg 11 30 34.5 -1.6
ISP Isparta 0.97 69 Pg Pg 11 30 34.9 -1.3
ISP Isparta 0.97 69 *c iP* Pg 11 30 33.9 -2.2
ISP Isparta 0.97 69 P Pg 11 30 33.7 -2.4
KZIL AFYON_Kizioren 0.98 38 P Pg 11 30 33.7 -2.7
NAZL Nazilli-Aydin 0.99 300 Pg Pg 11 30 35.3 -1.1
NAZL Sg Sb 11 30 49.5 -0.1
IZZE Mula-Seydike 1.05 187 P Pg 11 30 36.6 -0.9
KIRA zmir-Kiraz 1.05 313 P Pg 11 30 36.1 -1.5
TURN Turunc 1.15 233 Pn Pb 11 30 38.1 -1.1
TURN Turunc 1.15 233 P Pb 11 30 37.8 -1.4
ANTB Antalya 1.17 119 Pn Pb 11 30 38.5 -1.2
KULA Kula-Manisa 1.18 332 Pn Pb 11 30 38.9 -1.0
KULA Sn Sn 11 30 55.9 -0.2
MANT Manisa 1.20 328 Pn Pb 11 30 39.3 -1.1
MANT Manisa 1.20 328 P Pb 11 30 38.4 -1.9
MANT S Sg 11 30 56.4 +0.3
AYDN Tasoluk 1.20 279 P Pb 11 30 39.1 -1.1
BAGO Egridir - ISPA 1.23 65 P Pn 11 30 37.6 -3.1
AKAS Kas 1.26 172 Pn Pn 11 30 40.2 -0.8
AKAS Kas 1.26 172 Pn 11 30 40.6 -0.4
AKAS Kas 1.26 172 P Pn 11 30 40.3 -0.8
BNAZ Uak-Banaz 1.26 18 P Pn 11 30 39.6 -1.6
USAK Uak-Merkez 1.27 347 P Pn 11 30 39.6 -1.6
AYDB Zeytinkoy-Aydi 1.27 292 Pn Pn 11 30 40.6 -0.6
KEMT Kemer-ANTALYA 1.29 132 Pn Pn 11 30 40.7 -0.6
MLSB Milas 1.29 262 Pn Pn 11 30 40.7 -0.7
ODEM Odemis-Izmir 1.30 308 Pn Pn 11 30 40.9 -0.7
IZMR zmir-demi 1.30 301 P Pn 11 30 40.7 -0.9
IZMR P Pb 11 30 42.1 +0.2
DEMR Demre-Antalya 1.31 161 Pn Pn 11 30 40.9 -0.8
KSL Kastellorizon 1.34 173 P Pb 11 30 42.4 -0.1
KSL S Sg 11 31 03.2 +2.8
34μm,1.4s
AKUM Antalya-Kumluc 1.39 146 P Pn 11 30 42.0 -0.8
SHUT Suhut-Afyon 1.42 41 Pn Pn 11 30 42.8 -0.5
AFYO Afyonkarahisar 1.50 29 P Pn 11 30 43.7 -0.7
SHAP Saphane-Kutahy 1.55 356 Pn Pn 11 30 44.7 -0.3
DATC Datca-Mugla 1.55 243 Pn Pn 11 30 44.7 -0.2
GEDZ Gediz 1.56 1 Pn Pn 11 30 45.0 -0.2
BDRM Kayabasi 1.59 256 P Pn 11 30 45.4 -0.2
ARG Arkhangelos 1.61 219 Pn Pn 11 30 45.5 -0.3
ARG Arkhangelos 1.61 219 P Pn 11 30 45.7 -0.1
ARG S Sb 11 31 08.3 +0.8
27μm,0.6s
ARG Arkhangelos 1.61 219 Pn 11 30 46.4 +0.6
ARG Arkhangelos 1.61 219 P Pn 11 30 46.4 +0.6
GDZ Gediz 1.61 3 P Pn 11 30 45.5 -0.4
DAT Datca 1.62 243 Pn Pn 11 30 45.5 -0.6
SIMA Simav-Kutahya 1.63 349 Pn Pn 11 30 46.0 -0.2
DEMI Demirci 1.65 342 P Pn 11 30 45.5 -0.9
SMAA Simav-Kutahya 1.65 349 Pn Pn 11 30 46.1 -0.3
GOMA Golmarmara-Man 1.68 317 Pn Pn 11 30 46.5 -0.3
BODT Bodrum 1.70 256 Pn Pn 11 30 46.1 -0.9
DDIM Aydin, Didim 1.70 270 P Pn 11 30 45.6 -1.4
KUSD Kusadasi-Aydin 1.70 284 Pn Pn 11 30 47.6 +0.5
DIDI Didim-Aydin 1.70 267 Pn Pn 11 30 46.7 -0.4
YKAV Yalikavak-Bodr 1.71 259 Pn Pn 11 30 47.1 0.0
GORD Gordes-Manisa 1.71 327 Pn Pn 11 30 47.9 +0.6
GCAM G?zelcaml? 1.72 278 Pn Pn 11 30 47.2 0.0
YAZI Mula-Dat§a- 1.73 243 P Pn 11 30 47.1 -0.4
KURO Afyon-Bolvadin 1.75 44 P Pn 11 30 46.5 -1.4
MNVG Manavgat-Antal 1.77 112 Pn Pn 11 30 48.2 +0.2
AKS Akhisar 1.86 319 Pn Pn 11 30 49.9 +0.6
EMET Ktahya-Emet 1.89 359 P Pn 11 30 49.1 -0.8
DOGA KONYA_Doganhis 1.92 70 P Pn 11 30 49.8 -0.5
BYAT Afyon-Bayat 1.94 40 P Pn 11 30 48.5 -1.9
SEYD Seydisehir-KON 1.96 91 Pn Pn 11 30 50.9 +0.2
TVSB Tavsanli 1.97 2 Pn Pn 11 30 51.0 +0.1
NISR Nisiros 2.00 245 P Pn 11 30 51.3 +0.2
NISR S Sb 11 31 18.1 -0.5
62μm,2.2s
AUKIR Kırka- Seyitga 2.01 26 P Pn 11 30 49.5 -2.0
GMLD Gumuldur 2.04 288 Pn Pn 11 30 52.2 +0.5
BLCB Balcova 2.06 297 Pn Pn 11 30 52.1 +0.2
DST Dursunbey 2.20 345 Pn Pn 11 30 53.2 -0.8
CIFT Cifteler, Eski 2.30 35 Pn Pn 11 30 54.8 -0.6
ZEDA zmir-Bergama 2.34 310 P Pn 11 30 54.2 -1.7
ESKT Eskisehir 2.34 29 Pn Pn 11 30 55.9 -0.1
KONT Konya--Tatoy 2.41 78 Pn Pn 11 30 56.9 0.0
KONT Konya--Tatoy 2.41 78 P Pn 11 30 56.4 -0.4
KIZT Kizilcal 2.42 54 Pn Pn 11 30 55.5 -1.5
FOCM Foa 2.42 301 Pn Pn 11 30 57.4 +0.4
KRBN Karaburun 2.49 297 Pn Pn 11 30 58.1 +0.2
CAND Candarli 2.50 307 Pn Pn 11 30 57.7 -0.4
DKL Dikili 2.51 310 Pn Pn 11 30 58.1 -0.1
AUKUT KUTAHYA 2.52 11 P Pn 11 30 49.3 -9.1
HDMB Hadim 2.54 101 Pn Pn 11 30 58.6 -0.1
BORA Eskisehir 2.54 19 Pn Pn 11 30 57.8 -0.9
SVRH Sivrihisar-ESK 2.59 40 Pn Pn 11 30 59.6 +0.2
ORLT Orhaneli 2.59 352 Pn Pn 11 30 59.5 +0.2
KARP Karpathos 2.63 223 Pn Pn 11 30 59.9 +0.1
KARP Karpathos 2.63 223 P Pn 11 31 00.4 +0.6
KARP S Sn 11 31 33.3 +1.6
17μm,0.7s
KARP Karpathos 2.63 223 Pn Pn 11 30 59.6 -0.2
KARP Karpathos 2.63 223 Pn Pn 11 30 59.6 -0.2
GAZI Gazipasa 2.67 117 Pn Pn 11 31 00.4 +0.1
GAZI Gazipasa 2.67 117 P Pn 11 30 58.3 -2.0

SUSR Susurluk-Balik 2.68 338 Pn Pn 11 31 00.6 +0.1
CAVI Cavuskoy 2.74 7 Pn Pn 11 31 01.8 +0.4
YAYO Edremit-Balk 2.79 320 Pn Pn 11 31 02.6 +0.6
GONE Gonen-Balikesi 2.88 333 Pn Pn 11 31 03.7 +0.4
KCTX Karacabey (Bur 2.89 344 Pn Pn 11 31 02.8 -0.7
GPA Golpazari 2.90 14 Pn Pn 11 31 04.0 +0.4
MDNY Mudanya-Bursa 2.91 353 Pn Pn 11 31 03.7 0.0
ADVT Abdulvahap 2.96 5 Pn Pn 11 31 04.8 +0.4
YENI Yenice-Canakka 2.97 326 Pn Pn 11 31 05.1 +0.6
CHBY Cihanbeyli 2.98 67 Pn Pn 11 31 05.1 +0.3
PRK Paraskevi 3.01 307 P Pn 11 31 04.4 -0.7
BAND Balkesir-Ban 3.04 341 ⇑P Pn 11 31 06.2 +0.7
BAND ⇓S Sn 11 31 44.4 +2.6
GULT Gulveren 3.08 16 Pn Pn 11 31 06.7 +0.6
YLV Yalova 3.08 360 Pn Pn 11 31 06.6 +0.5
YLV Yalova 3.08 360 Pn Pn 11 31 05.0 -1.1
APE Apeiranthos 3.09 264 Pn Pn 11 31 05.7 -0.6
APE Apeiranthos 3.09 264 P Pn 11 31 06.3 0.0
APE S Sn 11 31 45.7 +2.4
4μm,1.7s
APE Apeiranthos 3.09 264 ⇑P Pn 11 31 06.6 +0.3
APE Apeiranthos 3.09 264 *d iP* Pn 11 31 06.4 +0.1
APE Apeiranthos 3.09 264 P Pn 11 31 06.0 -0.3
EDC Edincik 3.10 338 Pn Pn 11 31 06.5 +0.2
ARMT Armutlu 3.11 353 Pn Pn 11 31 06.7 +0.3
CANM Can-anakkale 3.11 325 Pn Pn 11 31 07.1 +0.6
KRMN Karaman 3.11 94 Pn Pn 11 31 06.6 0.0
OSMT Osmaniye 3.13 5 Pn Pn 11 31 07.9 +1.1
BOZY Bozyazi-Mersin 3.20 114 Pn Pn 11 31 07.9 +0.3
GPNR Gulpinar-Canak 3.22 309 Pn Pn 11 31 08.5 +0.6
KULU Kulu 3.25 60 Pn Pn 11 31 08.4 -0.1
SIGR SIGRI 3.26 303 Pn Pn 11 31 08.8 +0.3
SIGR SIGRI 3.26 303 P Pn 11 31 08.0 -0.5
SIGR S Sn 11 31 47.5 +0.1
13μm,0.9s
EZNE Ezine-Canakkal 3.27 315 Pn Pn 11 31 08.7 0.0
BERE Bereket-Mersin 3.28 109 Pn Pn 11 31 09.1 +0.1
TEKE Tekeli-Mersin 3.28 113 Pn Pn 11 31 09.3 +0.5
MDUB Mudurnu 3.31 25 Pn Pn 11 31 09.6 +0.3
MDUB Mudurnu 3.31 25 Pn Pn 11 31 08.7 -0.5
SFIR Foira Santorin 3.33 253 P Pn 11 31 10.1 +0.6
SAUV Serdivan-Sakar 3.34 13 Pn Pn 11 31 10.1 +0.5
EZN Ezine 3.35 315 Pn Pn 11 31 09.6 0.0
EZN Ezine 3.35 315 P Pn 11 31 09.3 -0.3
EZN S Sn 11 31 50.7 +1.3
4μm,1.1s
EZN Ezine 3.35 315 P Pn 11 31 09.6 0.0
EZN Ezine 3.35 315 Pn Pn 11 31 08.8 -0.8
HRT Hereke 3.35 4 Pn Pn 11 31 09.8 +0.1
SULT Sultanhani-AKS 3.35 76 Pn Pn 11 31 10.3 +0.4
MRMT Marmara Adasi 3.41 337 Pn Pn 11 31 11.4 +0.7
TEVE Tevekalti-Mers 3.42 106 Pn Pn 11 31 11.1 +0.3
YUVA Yuva-Kibriscik 3.42 31 Pn Pn 11 31 11.4 +0.6
COMU Canakkale 3.46 320 Pn Pn 11 31 11.6 +0.3
ZKR Zakros 3.48 228 Pn Pn 11 31 11.6 +0.1
ZKR Zakros 3.48 228 P Pn 11 31 12.8 +1.3
ZKR S Sn 11 31 55.3 +2.7
3μm,1.0s
YESY Yesilyurt 3.48 84 Pn Pn 11 31 12.0 +0.4
AFSR Afar-Bala (An 3.50 55 Pn Pn 11 31 12.2 +0.3
OREN Orenkoy-Mersin 3.51 110 Pn Pn 11 31 12.3 +0.4
LPK Lapseki 3.54 326 Pn Pn 11 31 12.4 +0.1
ANTO Ankara 3.58 47 Pn 11 31 13.1 +0.1
ANTO Ankara 3.58 47 P Pn 11 31 13.7 +0.7
ANTO Ankara 3.58 47 ⇑P Pn 11 31 13.6 +0.6
ANTO Ankara 3.58 47 P Pn 11 31 13.1 +0.1
ANTO Ankara 3.58 47 Pn Pn 11 31 12.4 -0.6
KAVV Kandilli-Istan 3.59 356 Pn Pn 11 31 12.9 -0.1
ISK Istanbul-Kandi 3.59 356 Pn Pn 11 31 13.5 +0.5
ISK Istanbul-Kandi 3.59 356 P Pn 11 31 12.5 -0.5
KLYT Kilyos 3.78 356 Pn Pn 11 31 15.5 -0.1
KIRS Kirsehir-Merke 3.94 64 ⇓P Pn 11 31 17.9 +0.1
BR105 Keskin Array S 4.00 55 Pn Pn 11 31 18.4 -0.5
BR106 Keskin Array S 4.01 55 Pn Pn 11 31 18.4 -0.6
BR104 Keskin Array S 4.01 55 Pn Pn 11 31 18.6 -0.4
BR131 Keskin Array S 4.02 55 Pn Pn 11 31 19.2 +0.1
BR131 Keskin Array S 4.02 55 P Pn 11 31 19.4 +0.2
SNR=123
BR131 Keskin Array S 4.02 55 *de*P Pn 11 31 19.0 -0.1
BRTR Keskin Array B 4.02 55 Pn 11 31 19.0 -0.1
BRTR Keskin Array B 4.02 55 Pn Pn 11 31 18.9 -0.3
16nm,0.3s,baz=235,slow=17,SNR=369
BRTR Sn Sn 11 32 06.5 +0.2
18nm,0.3s,baz=228,slow=24,SNR=8.8
BRTR LR LR 11 33 22.5
comp=Z,16μm,18.8s,baz=237,slow=47
143nm,0.7s
BRTR Keskin Array B 4.02 55 *i* P Pn 11 31 18.7 -0.4
BRTR pmax pmax
comp=Z,41nm,0.4s
CAVK Edirne/Enez-Ca 4.07 323 ⇓P Pn 11 31 20.3 +0.8
CSS Mathiatis 4.07 127 Pn Pn 11 31 20.2 +0.6
CSS Mathiatis 4.07 127 Pn 11 31 19.1 -0.5
CSS Mathiatis 4.07 127 P Pn 11 31 18.8 -0.8
CTYL Yalikoy Yolu 4.08 348 Pn Pn 11 31 18.4 -1.3
IDI Anoyia 4.23 240 P Pn 11 31 22.1 +0.2
IDI Anoyia 4.23 240 Pn Pn 11 31 22.7 +0.9
comp=Z,560nm,0.8s,baz=57,slow=14,SNR=110
IDI Sn Sn 11 32 11.8 +0.5
comp=Z,48nm,0.3s,baz=108,slow=20,SNR=6.0
ALN Alexandroupoli 4.28 324 Pn 11 31 22.6 +0.1
ALN Alexandroupoli 4.28 324 *eP* Pn 11 31 22.2 -0.3
RDO Rodhopi 4.72 322 Pn Pn 11 31 28.8 +0.2
ILGA Ilgaz 4.91 42 Pn Pn 11 31 31.5 +0.2
CIDE Kastamonu/Cide 5.19 31 ⇑P Pn 11 31 35.5 +0.5
BNN Bunyan 5.28 73 Pn 11 31 37.3 +0.9
BZK Bozkurt 5.72 37 Pn 11 31 43.2 +0.9
BZK Bozkurt 5.72 37 ⇓P Pn 11 31 43.4 +1.1
SRS Serrai 5.77 311 *e*Pn Pn 11 31 43.1 +0.1
PLD Plovdiv 5.87 324 *e*Pn Pn 11 31 44.8 +0.5
PLD *e*Sn Sn 11 32 49.8 -1.7
ITM Ithomi 5.94 269 Pn 11 31 47.5 +2.1
LIT Litokhoron 5.98 298 Pn Pn 11 31 47.0 +1.1
LIT Litokhoron 5.98 298 P Pn 11 31 47.0 +1.1
DIKM Dikmen 6.16 46 ⇑P Pn 11 31 49.5 +1.2
DIKM Dikmen 6.16 46 Pn Pn 11 31 47.9 -0.5
comp=Z,1.5nmcomp=Z,3μmcomp=Z,126nm,1.8s
HWQ Hawqa 6.22 119 *eP* Pn 11 31 51.2 +1.9
BHL Bhannes 6.23 123 *eP* Pn 11 31 49.6 +0.2
GAZ Gaziantep 6.25 90 Pn 11 31 50.9 +1.2
DQRL Deir Qamar 6.29 125 *eP* Pn 11 31 50.8 +0.5
MANR Mangalia 6.36 355 ⇑P Pn 11 31 51.8 +0.8
ZAHL Zahle 6.41 122 *eP* Pn 11 31 52.5 +0.6
HNTI Hanita 6.46 131 P Pn 11 31 51.2 -1.3
HNTI Hanita 6.46 131 S Sn 11 33 03.7 -2.5
RAZG Razgrad 6.46 341 ⇑P Pn 11 31 52.6 +0.1
QRWL Qaraoun 6.47 125 *eP* Pn 11 31 52.8 +0.1
VAY Valandovo 6.52 308 *i* Pn Pn 11 31 55.1 +1.9
VAY Valandovo 6.52 308 *e*Pn Pn 11 31 55.2 +1.9
VAY *e*Sn Sn 11 33 10.0 +2.4
RCY Rachaya 6.60 125 *eP* Pn 11 31 54.5 0.0
SHBL Chebaa 6.63 127 *eP* Pn 11 31 55.5 +0.5
MMA0B Mount Meron ar 6.64 130 P Pn 11 31 54.1 -1.0
MMA0B Mount Meron ar 6.64 130 S Sn 11 33 07.4 -3.4
MMAI Mount Meron Ar 6.64 130 Pn Pn 11 31 54.9 -0.2
comp=Z,94nm,0.3s,baz=323,slow=12,SNR=151
MMAI Sn Sn 11 33 08.9 -1.9
comp=Z,70nm,0.3s,baz=331,slow=25,SNR=7.0
MMAI LR LR 11 35 04.8
comp=Z,4μm,18.9s,baz=306,slow=43
GEM Giv'at Ha'Em 6.67 128 P Pn 11 31 54.3 -1.0
GEM Giv'at Ha'Em 6.67 128 S Sn 11 33 08.9 -2.5
OFRI `Ofer 6.68 135 P Pn 11 31 53.6 -2.0
OFRI `Ofer 6.68 135 S Sn 11 33 08.7 -3.0
NATI Neve Ativ 6.69 127 P Pn 11 31 54.7 -0.8
NATI Neve Ativ 6.69 127 S Sn 11 33 09.2 -2.5
BLGI Bet Lehem HaGe 6.72 133 P Pn 11 31 54.2 -1.8
BLGI Bet Lehem HaGe 6.72 133 S Sn 11 33 10.2 -2.4
MFTR Murfatlar 6.73 354 ⇓P Pn 11 31 57.5 +1.3
ICOR Ion Corvin 6.74 350 ⇑P Pn 11 31 57.4 +1.1
SLUM Salum 6.89 211 P Pn 11 31 57.8 -0.6
SLUM S Sn 11 33 06.2 -11
KSHT Keshet 6.92 129 P Pn 11 31 58.0 -0.9
KSHT Keshet 6.92 129 S Sn 11 33 15.7 -1.9
VTS Vitosha 6.96 319 *e*Pn Pn 11 32 00.8 +1.3
VTS *e*Sn Sn 11 33 19.4 +0.6
SLTI Sal'it 7.00 137 P Pn 11 31 58.0 -1.9
SLTI Sal'it 7.00 137 S Sn 11 33 16.4 -3.0
TIRR Tirgusor 7.01 354 Pn 11 31 59.8 -0.2
TIRR Tirgusor 7.01 354 ⇓P Pn 11 31 60.0 0.0
TIRR Tirgusor 7.01 354 P Pn 11 32 00.1 +0.1

TIRR Tirgusor 7.01 354 Pn Pn 11 31 59.5 -0.5
comp=Z,0.5nmcomp=Z,1μmcomp=Z,105nm,0.5s
FNA Florina 7.04 300 Pn 11 32 02.0 +1.5
FNA Florina 7.04 300 P Pn 11 32 02.0 +1.5
FNA Florina 7.04 300 *e*Pn Pn 11 32 02.5 +2.0
FNA *e*Sn Sn 11 33 25.3 +4.8
MMLI Mount Malkishu 7.06 134 P Pn 11 31 59.9 -0.9
MMLI Mount Malkishu 7.06 134 S Sn 11 33 17.7 -3.5
SGRR Singureni 7.21 340 ⇓P Pn 11 32 03.1 +0.3
HMDT Nahal Hemdat 7.26 134 P Pn 11 32 02.0 -1.4
HMDT Nahal Hemdat 7.26 134 S Sn 11 33 22.9 -3.0
HARR Harsova 7.29 352 ⇑P Pn 11 32 05.6 +1.9
HARR Harsova 7.29 352 P Pn 11 32 05.6 +1.9
BOSS Bosilegrad 7.29 316 *e*Pn Pn 11 32 05.8 +2.0
BOSS *e*Sn Sn 11 33 25.9 -0.7
COPA Copaceanca 7.36 336 ⇑P Pn 11 32 05.8 +1.0
IGT Igoumenitsa 7.38 289 *e*Pn Pn 11 32 08.9 +3.8
TPGR Topolog 7.41 355 ⇓P Pn 11 32 05.5 +0.1
AMAZ Amatzia 7.49 141 P Pn 11 32 04.8 -1.8
AMAZ Amatzia 7.49 141 S Sn 11 33 28.4 -3.1
SULR 7.57 343 ⇑P Pn 11 32 08.4 +0.8
OHR Ohrid 7.58 301 *i* Pn Pn 11 32 10.6 +2.7
OHR Ohrid 7.58 301 *e*Pn Pn 11 32 13.1 +5.3
DSI Dead Sea 7.70 138 P Pn 11 32 08.3 -1.2
DSI Dead Sea 7.70 138 S Sn 11 33 33.7 -3.0
TLCR 7.71 357 ⇓P Pn 11 32 10.6 +0.9
TLCR 7.71 357 P Pn 11 32 10.5 +0.9
YTIR Yattir 7.72 140 P Pn 11 32 07.9 -2.0
ZAPS Zavoj 7.74 320 *e*Pn Pn 11 32 11.5 +1.4
CFR Carcaliu 7.75 353 ⇑P Pn 11 32 10.3 +0.1
CFR Carcaliu 7.75 353 P Pn 11 32 10.2 +0.1
KZIT Kziot 7.76 146 P Pn 11 32 08.4 -2.0
KZIT Kziot 7.76 146 S Sn 11 33 34.9 -3.4
SEV Sevastopol' 7.77 23 *i* P Pn 11 32 09.8 -0.6
SEV *i* S Sn 11 33 33.3 -5.0
SEV Sevastopol' 7.77 23 *i* P Pn 11 32 09.8 -0.6
SEV Pm 11 32 17.0
comp=Z,190nm,0.9s
SEV *i* S Sn 11 33 33.3 -5.0
SEV Sm 11 33 35.8
comp=N,40nm,1.0s
SEV Sm 11 33 35.8
comp=E,31nm,1.0s
HUMR Humele 7.79 336 ⇓P Pn 11 32 12.5 +1.8
KOT Kottamia 7.80 164 P Pn 11 32 10.7 -0.2
KEK Kerkira 7.83 289 Pn Pn 11 32 13.4 +2.2
HHAG Hagoal 7.84 162 P Pn 11 32 11.2 -0.3
BARS Barje 7.87 315 *e*Pn Pn 11 32 13.0 +1.2
BARS *e*Sn Sn 11 33 39.6 -1.2
YAL Yalta 7.88 26 *e*P Pn 11 32 12.5 +0.6
YAL *i* S Sn 11 33 38.6 -2.4
YAL Yalta 7.88 26 ⇓*e*P Pn 11 32 12.5 +0.6
YAL Pm 11 32 17.2
comp=Z,178nm,1.0s
YAL *i* S Sn 11 33 38.6 -2.4
YAL Sm 11 33 49.3
comp=N,22nm,1.0s
YAL Sm 11 33 49.3
comp=E,34nm,0.9s
YAL x x 11 37 42.1
comp=Z,712nm,13.8s
MDBI Mazsada 7.89 139 P Pn 11 32 10.0 -2.0
MDBI Mazsada 7.89 139 S Sn 11 33 37.2 -4.1
MSBI Mazada 7.89 139 P Pn 11 32 09.4 -2.7
MSBI Mazada 7.89 139 S Sn 11 33 37.9 -3.4
HNAT Natroun 7.89 172 P Pn 11 32 12.0 -0.2
HNAT S Sn 11 33 30.5 -11
ISR Istrita 7.92 345 ⇑P Pn 11 32 13.7 +1.0
ISR Istrita 7.92 345 P Pn 11 32 13.6 +1.0
ISR Istrita 7.92 345 Pn Pn 11 32 12.0 -0.6
comp=Z,0.7nmcomp=Z,93nm,1.8s
GHAJ Ghor Haditha 8.01 138 Pn 11 32 13.7 0.0
GHAJ Ghor Haditha 8.01 138 P Pn 11 32 12.5 -1.1
GHAJ Ghor Haditha 8.01 138 S Sn 11 33 41.2 -3.0
GIUM Giurgiulesti 8.05 354 ⇓P Pn 11 32 16.4 +2.2
STFAR Stefanesti-Arg 8.09 337 ⇓P Pn 11 32 16.2 +1.4
GRER 8.10 348 ⇓P Pn 11 32 17.3 +2.4
ALU Alushta 8.13 26 *e*P Pn 11 32 15.2 -0.2
ALU *e*S Sn 11 33 45.5 -1.8
ALU Alushta 8.13 26 ⇓*e*P Pn 11 32 15.2 -0.2
ALU Pm 11 32 22.3
comp=Z,80nm,0.8s
ALU *e*S Sn 11 33 45.5 -1.8
ALU Sm 11 33 54.0
comp=N,114nm,0.8s
ALU Sm 11 33 54.0
comp=E,86nm,0.9s
ASF Jabal al Asfar 8.14 128 Pn Pn 11 32 16.1 +0.5
comp=E,6.4nm,0.3s,baz=330,slow=5.8,SNR=21
ASF Sn Sn 11 33 48.1 +0.5
comp=E,3.4nm,0.3s,baz=332,slow=23,SNR=1.0
ASF LR LR 11 36 03.3
comp=E,2μm,19.1s,baz=339,slow=43
comp=E,20nm,0.4s
TATR Tatarca 8.17 353 ⇑P Pn 11 32 17.3 +1.4
TARU Tarkhankut 8.24 16 ⇓*e*P Pn 11 32 16.7 -0.1
TARU Pm 11 32 21.6
comp=Z,270nm,0.9s
TARU *i* S Sn 11 33 46.8 -3.1
TARU Sm 11 33 53.2
comp=N,95nm,1.0s
TARU Sm 11 33 53.2
comp=E,124nm,0.9s
TARU x x 11 37 55.3
comp=Z,1μm,15.3s
SCTR Scanteiesti 8.25 353 ⇑P Pn 11 32 18.0 +1.0
SIM Simferopol' 8.27 24 *e*P Pn 11 32 18.6 +1.3
SIM *e* 11 33 50.9
SIM pmax pmax
comp=Z,160nm,1.0s
SIM smax smax
comp=E,174nm,0.9s
SIM Simferopol' 8.27 24 *e*P Pn 11 32 16.9 -0.4
SIM Pm 11 32 22.8
comp=Z,136nm,0.8s
SIM *e*S Sn 11 33 47.3 -3.4
SIM Sm 11 33 57.4
comp=N,100nm,0.7s
SIM Sm 11 33 57.4
comp=E,353nm,1.3s
SIM x x 11 37 52.7
comp=Z,2μm,16.1s
TIR Tirane 8.31 301 ⇑P Pn 11 32 18.7 +0.8
TIR Tirane 8.31 301 P Pn 11 32 18.7 +0.8
TIR Tirane 8.31 301 *e*Pn Pn 11 32 22.5 +4.6
ZAGS Zajecar 8.33 322 *e*Pn Pn 11 32 18.2 0.0
MTUR Matau 8.39 339 ⇑P Pn 11 32 19.5 +0.5
MTUR Matau 8.39 339 P Pn 11 32 19.5 +0.5
DNZ2 Donuzlav2 8.40 19 ⇓*e*P Pn 11 32 19.5 +0.5
DNZ2 Pm 11 32 23.8
comp=Z,168nm,1.1s
DNZ2 *i* S Sn 11 33 47.9 -5.9
DNZ2 Sm 11 33 55.8
comp=N,157nm,0.9s
DNZ2 Sm 11 33 55.8
comp=E,138nm,1.0s
DNZ2 x x 11 37 51.0
comp=Z,1μm,15.3s
MLR Muntele Rosu 8.41 343 Pn Pn 11 32 20.3 +0.9
comp=Z,4.9nm,0.3s,baz=149,slow=6.8,SNR=23
MLR Sn Sn 11 33 54.9 +0.7
baz=164,slow=13
MLR Lg Lg 11 34 42.9
baz=177,slow=19
MLR LR LR 11 35 48.7
comp=Z,2μm,18.1s,baz=178,slow=40
comp=Z,14nm,0.4s
MLR Muntele Rosu 8.41 343 ⇑P Pn 11 32 20.6 +1.3
MLR Muntele Rosu 8.41 343 P Pn 11 32 20.1 +0.8
MLR Muntele Rosu 8.41 343 *e*Pn Pn 11 32 20.2 +0.9
RYAN Fayoum 8.41 175 P Pn 11 32 18.9 -0.3
VLDR Vladesti 8.41 354 ⇑P Pn 11 32 21.2 +2.0
ODBI Odobesti 8.46 349 ⇓P Pn 11 32 21.5 +1.6
BOVS Bovan 8.48 319 ⇑P Pn 11 32 21.1 +0.9
PRNI Paran 8.51 145 P Pn 11 32 19.0 -1.6
SELS Selova 8.52 315 *e*Pn Pn 11 32 21.8 +1.1
SELS *e*Sn Sn 11 33 55.5 -1.4
SUDU Sudak 8.53 28 ⇓*i P* Pn 11 32 20.8 0.0
SUDU *e*S Sn 11 33 53.4 -3.6
SUDU Sudak 8.53 28 ⇓*i P* Pn 11 32 20.8 0.0
SUDU Pm 11 32 27.2
comp=Z,42nm,0.9s
SUDU *e*S Sn 11 33 53.4 -3.6

SUDU Sm 11 34 00.8
comp=N,78nm,0.8s
SUDU Sm 11 34 00.8
comp=E,58nm,0.8s
SRE Strehaia 8.55 329 ⇑P Pn 11 32 20.9 -0.3
SRE Strehaia 8.55 329 P Pn 11 32 20.9 -0.3
VOIR 8.59 339 ⇓P Pn 11 32 22.1 +0.4
VOIR 8.59 339 P Pn 11 32 22.1 +0.4
VOIR 8.59 339 Pn **Pn 11 32 21.9 +0.2**
comp=E,885nmcomp=E,76nm,1.0s
PLOR5 Plostina Array 8.60 347 Pn **Pn 11 32 22.0 +0.1**
comp=E,101nm,0.7s
PLOR Plostina 8.61 347 ⇓P Pn 11 32 23.1 +1.1
PLOR Plostina 8.61 347 P Pn 11 32 23.1 +1.1
VRI Vrincioaia 8.61 348 ⇑P Pn 11 32 23.0 +1.0
VRI Vrincioaia 8.61 348 P Pn 11 32 22.8 +0.8
BORS2 Bor- Borsko je 8.64 322 *e*Pn **Pn 11 32 21.8 -0.6**
ARR Arges 8.65 337 ⇓P Pn 11 32 23.4 +0.8
COVR Voineasa-Covas 8.69 345 ⇓P Pn 11 32 24.6 +1.5
GHRR 8.70 351 ⇑P Pn 11 32 24.9 +1.7
FEO Feodosiya 8.79 29 *e*P **Pn 11 32 23.7 -0.6**
FEO Feodosiya 8.79 29 *e*P **Pn 11 32 23.7 -0.6**
FEO Pm 11 32 28.9
comp=Z,27nm,0.9s
HRFI Mount Harif 8.79 146 P **Pn 11 32 22.9 -1.6**
HRFI Mount Harif 8.79 146 S **Sn 11 34 00.4 -3.2**
SWA2 8.84 203 P **Pn 11 32 24.8 -0.4**
SCTE Santa Cesarea 8.90 290 Pn 11 32 28.2 +2.2
MBRI Mt Berech 8.95 147 P **Pn 11 32 25.5 -1.1**
MBRI Mt Berech 8.95 147 S **Sn 11 34 05.0 -2.5**
DOPR Dopca 8.99 342 ⇑P Pn 11 32 28.1 +0.9
LOT Lotru 9.00 334 ⇑P Pn 11 32 27.1 -0.3
TNR Turnu Rosu 9.02 337 ⇑P Pn 11 32 29.0 +1.4
TNR Turnu Rosu 9.02 337 P **Pn 11 32 28.9 +1.4**
OZUR 9.02 344 ⇑P Pn 11 32 28.7 +1.1
KUBS Kucevo 9.05 322 *e*Pn **Pn 11 32 26.9 -1.1**
HERR Herculane 9.06 327 ⇑P Pn 11 32 30.1 +1.9
EIL Elat 9.07 148 Pn **Pn 11 32 28.1 -0.2**
comp=Z,9.0nm,0.3s,baz=341,slow=13,SNR=36
EIL Sn **Sn 11 34 05.1 -5.3**
comp=Z,10nm,0.3s,baz=338,slow=18,SNR=5.2
EIL LR LR 11 36 21.6
comp=Z,1µm,21.3s,baz=328,slow=40
comp=Z,36nm,0.4s
EIL Elat 9.07 148 P **Pn 11 32 26.3 -2.0**
MARD Mardin 9.08 88 Pn 11 32 30.3 +1.8
ONER Baraj Valea Uz 9.12 347 ⇓P Pn 11 32 29.7 +0.7
DRME Dracevica, Mon 9.14 304 *e*Pn **Pn 11 32 32.8 +3.6**
GRUS Gruza 9.18 317 *e*Pn **Pn 11 32 31.6 +1.9**
GRUS *e*Sn **Sn 11 34 11.7 -1.2**
PDG Podgorica 9.21 306 Pn 11 32 32.3 +2.2
PDG Podgorica 9.21 306 *e*Pn **Pn 11 32 33.3 +3.2**
PDG Podgorica 9.21 306 ⇑P Pn 11 32 30.9 +0.7
SJES Sjenica 9.21 312 *e*Pn **Pn 11 32 31.7 +1.5**
SJES Sjenica 9.21 312 *e*Pn **Pn 11 32 31.8 +1.5**
TESR Tescani 9.25 348 ⇓P Pn 11 32 31.1 +0.4
TESR Tescani 9.25 348 Pn **Pn 11 32 30.2 -0.5**
comp=Z,61nm,0.7s
GZR Gura Zlata 9.33 330 ⇑P Pn 11 32 31.0 -0.9
GZR Gura Zlata 9.33 330 P **Pn 11 32 30.9 -0.9**
GZR Gura Zlata 9.33 330 *e*Pn **Pn 11 32 31.5 -0.3**
GZR *e*Sn **Sn 11 34 12.4 -4.4**
MDB Medias 9.42 338 ⇓P Pn 11 32 34.4 +1.3
MDB Medias 9.42 338 P **Pn 11 32 34.4 +1.3**
MILM Milestii Mici 9.44 358 *e*P **Pn 11 32 32.0 -1.3**
MILM *e*S **Sn 11 34 18.0 -1.4**
MILM *e*Lq LQ 11 34 31.0
comp=Z,1µm,6.7s
MILM *e*LR LR 11 36 14.0
comp=Z,2µm,10.3s
MILM Milestii Mici 9.44 358 ⇑P Pn 11 32 32.6 -0.8
MILM Milestii Mici 9.44 358 P **Pn 11 32 32.5 -0.8**
ANN Anapa 9.51 37 *e*P **Pn 11 32 32.5 -1.7**
ANN *e*S **Sn 11 34 20.0 -1.0**
ANN pmax pmax
comp=Z,51nm,1.2s
KIS Kishinev 9.52 358 *e*P **Pn 11 32 32.0 -2.4**
KIS *e*S **Sn 11 34 17.0 -4.4**
KIS *e*Lq LQ 11 34 24.0
KIS LRM MLR 11 37 01.0
comp=Z,900nm,9.4s
KIS Kishinev 9.52 358 *e*P **Pn 11 32 32.0 -2.4**
KIS *e*S **Sn 11 34 17.0 -4.4**
KIS MLR MLR
comp=N,900nm,9.4s
KIS MLR MLR
comp=Z,800nm,12.5s
TRUS Trudelj 9.56 318 *e*Pn **Pn 11 32 36.4 +1.4**
DEV Deva 9.69 332 ⇑P Pn 11 32 37.7 +0.9
DEV Deva 9.69 332 P **Pn 11 32 37.6 +0.9**
DIVS Divibare 9.71 316 *e*Pn **Pn 11 32 38.0 +0.9**
HCY Herceg Novi 9.71 304 *e*Pn Pn 11 32 44.7 +7.6
RUDO Rudo 9.77 312 *e*Pn **Pn 11 32 38.7 +0.8**
UPM Unac-Piva 9.82 309 *e*Pn **Pn 11 32 41.3 +2.5**
SURR Surduc 9.89 329 ⇑P Pn 11 32 39.8 +0.4
BBLS Lazi&#263i 9.90 313 *e*Pn **Pn 11 32 40.3 +0.6**
BBLS Lazi&#263i 9.90 313 *e*Pn **Pn 11 32 42.7 +3.0**
BRY Bratogost 9.90 307 *e*Pn **Pn 11 32 41.8 +2.0**
TREB Trebinje 9.93 305 *e*Pn **Pn 11 32 41.4 +1.3**
SOC Sochi 9.95 49 *e*P **Pn 11 32 38.9 -1.4**
SOC *e* 11 34 31.9
SOC pmax pmax
comp=Z,30nm,1.0s
SOC MLR MLR
comp=Z,4µm,14.0s
BZS Buzias 9.99 327 ⇑P Pn 11 32 40.2 -0.7
BZS Buzias 9.99 327 P **Pn 11 32 40.2 -0.7**
BZS Buzias 9.99 327 *e*Pn **Pn 11 32 40.1 -0.8**
GURO Guroymak-BITLI 10.05 80 Pn 11 32 45.5 +3.7
TIP Timpagrande 10.06 284 Pn 11 32 42.3 +0.4
TIP Timpagrande 10.06 284 ⇑P Pn 11 32 43.5 +1.6
TIP Timpagrande 10.06 284 Pn **Pn 11 32 42.6 +0.7**
comp=Z,2µmcomp=Z,138nm,1.1s
VSLR Vesyoloye 10.08 50*c i*P **Pn 11 32 45.4 +3.3**
TEKS Tekeris 10.25 317 *e*Pn **Pn 11 32 46.9 +2.4**
TEKS Tekeris 10.25 317 *e*Pn **Pn 11 32 46.8 +2.3**
MARR Marisel-Cluj 10.29 335 ⇑P Pn 11 32 46.6 +1.5
MATE Matera 10.35 292 ⇑P Pn 11 32 46.1 +0.3
MATE Matera 10.35 292 *e*P **Pn 11 32 45.4 -0.4**
STON Ston 10.43 305 *e*Pn **Pn 11 32 44.0 -2.8**
STON Ston 10.43 305 *e*Pn **Pn 11 32 48.0 +1.2**
SIRR Siria 10.49 329 *e*Pn **Pn 11 32 47.6 -0.1**
FRGS Fruska Gora 10.51 320 *e*Pn **Pn 11 32 45.4 -2.6**
FRGS Fruska Gora 10.51 320 *e*Pn **Pn 11 32 48.5 +0.5**
DRGR 10.54 334 ⇓P Pn 11 32 49.3 +0.9
DRGR 10.54 334 P **Pn 11 32 49.2 +0.9**
DRGR 10.54 334 *e*Pn **Pn 11 32 49.1 +0.7**
BURAR Bucovina Array 10.58 345 Pn 11 32 49.8 +0.7
BURAR Bucovina Array 10.58 345 ⇓P Pn 11 32 50.7 +1.6
BURAR Bucovina Array 10.58 345 P **Pn 11 32 50.6 +1.6**
BUR08 Bucovina Ar. S 10.61 344 Pn 11 32 49.8 +0.3
SORM Soroca 10.68 356 ⇑P Pn 11 32 49.6 -0.7
SORM Soroca 10.68 356 P **Pn 11 32 49.5 -0.7**
SORM Soroca 10.68 356 P **Pn 11 32 49.6 -0.7**
comp=Z,75nm,0.8s
CEL Celeste 10.69 278 Pn 11 32 51.1 +0.6
CEL Celeste 10.69 278 P **Pn 11 32 50.4 -0.1**
comp=Z,2µmcomp=Z,133nm,1.2s
GEVA Gevas 10.85 81 Pn 11 32 56.1 +3.4
CUC Castrocucco 10.89 287 Pn 11 32 54.1 +0.9
BMR Baia Mare 11.07 339 ⇓P Pn 11 32 56.5 +0.9
BMR Baia Mare 11.07 339 P **Pn 11 32 56.5 +0.9**
LABN Labinsk 11.15 47 *e*P **Pn 11 32 55.1 -1.7**
LABN *e*S **Sn 11 35 00.6 -0.9**
LABN pmax pmax
comp=Z,16nm,0.9s
NDNU Novodnistrovsk 11.21 353 P **Pn 11 32 56.5 -1.0**
RAKU Rahkiv 11.21 342 P **Pn 11 32 58.7 +1.1**
SGRT San Giovanni R 11.35 296 Pn 11 32 58.8 -0.7
ERBR Yeremizino-Bor 11.69 42 *e*P **Pn 11 33 01.9 -2.2**
ERBR *e*S **Sn 11 35 13.2 -1.3**
ERBR pmax pmax
comp=Z,35nm,1.1s
BLY Banja Luka 11.71 312 *e*Pn **Pn 11 33 06.8 +2.4**
BRIU Brid 11.80 339 P **Pn 11 33 05.7 0.0**
MEZ Mezhgor'ye 11.83 341 P **Pn 11 33 04.9 -1.1**
MORH Mrgy, Hungar 11.83 321 ⇓P Pn 11 33 06.0 -0.1
MORH Mrgy, Hungar 11.83 321 P **Pn 11 33 05.7 -0.3**
comp=Z,24nm,0.9s
SHA1 Shidzhatmaz 11.87 54*de*P **Pn 11 33 10.5 +3.7**
VAE Valguarnera 11.89 275 Pn **Pn 11 33 09.8 +2.9**
comp=Z,0.8nm,0.3s,baz=111,slow=18,SNR=11
VAE Sn **Sn 11 35 14.6 -5.1**
comp=Z,1.9nm,0.3s,baz=90,slow=20,SNR=1.4
VAE LR LR 11 38 31.1
comp=Z,1µm,19.4s,baz=82,slow=42
RAFF Raffo Rosso 11.95 273 Pn 11 33 07.6 -0.2
A050A Klekovaca 11.96 310 *e*Pn **Pn 11 33 08.6 +0.8**
KIV Kislovodsk 11.99 53 Pn 11 33 10.8 +2.5
KIV Kislovodsk 11.99 53 *e*P **Pn 11 33 11.3 +3.0**
KIV *e*S **Sn 11 35 25.8 +3.8**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,1µm,13.0s
KVAR Kislovodsk Arr 11.99 53 Pn **Pn 11 33 09.6 +1.2**
baz=238,slow=19
KVAR Sn **Sn 11 35 22.3 +0.1**
baz=229,slow=19
comp=Z,2.1nm,0.4s
PAOL Paolisi 12.02 292 Pn 11 33 08.8 +0.1
KBZ Khabaz 12.02 54 Pn **Pn 11 33 11.1 +2.6**
comp=Z,5.9nm,1.0s,baz=254,slow=12,SNR=12
KBZ Khabaz 12.02 54*c i*P **Pn 11 33 10.6 +2.0**
KBZ pmax pmax
comp=Z,67nm,2.6s
A051A Mrakovica 12.02 313 *e*Pn **Pn 11 33 10.9 +2.2**
WDD Wied Dalam 12.04 267 Pn 11 33 10.1 +1.1
GNI Garni 12.28 73 Pn **Pn 11 33 15.8 +3.4**
comp=Z,1.1nm,0.3s,baz=283,slow=8.4,SNR=4.9
comp=Z,12nm,1.0s
GNI Garni 12.28 73*c i*P **Pn 11 33 16.3 +3.9**
GNI pmax pmax
comp=Z,82nm,1.6s
NCK Nalchik 12.38 57⇑*e*P **Pn 11 33 17.1 +3.6**
NCK pmax pmax
comp=Z,136nm,1.4s
LUBAR Lubar, Ukraine 12.49 355 P **Pn 11 33 14.2 -0.8**
PSZ Piszkesteto 12.54 329 Pn 11 33 16.7 +1.0
PSZ Piszkesteto 12.54 329 ⇑P Pn 11 33 16.8 +1.0
PSZ Piszkesteto 12.54 329 P **Pn 11 33 16.7 +1.0**
PSZ Piszkesteto 12.54 329 *e*P **Pn 11 33 15.3 -0.5**
KOLS Kolonicke sedl 12.56 338 *e*P **Pn 11 33 18.1 +2.1**
KOLS Kolonicke sedl 12.56 338 *e*PN **Pn 11 33 18.1 +2.1**
INTR Introdacqua 12.74 296 Pn 11 33 18.5 0.0
GOF Gofitskoye 12.76 49*ce*P **Pn 11 33 19.3 +0.6**
BEHE Becsehely 12.97 318 Pn 11 33 21.7 +0.1
SRO Srobarova 13.14 325 *e*P **Pn 11 33 26.0 +2.2**
SRO Srobarova 13.14 325 *e*PN **Pn 11 33 26.0 +2.2**
AQU L'Aquila 13.19 297 P **Pn 11 33 25.5 +0.8**
AQU L'Aquila 13.19 297 P **Pn 11 33 24.6 -0.1**
comp=Z,770nmcomp=Z,83nm,1.2s
KIEV Kiev 13.21 360 Pn 11 33 23.8 -1.1
KIEV Kiev 13.21 360 P **Pn 11 33 23.8 -1.1**
KIEV Kiev 13.21 360 *i* P **Pn 11 33 28.4 +3.5**
SNR=7.1
KIEV Kiev 13.21 360 P **Pn 11 33 24.8 -0.1**
comp=Z,145nm,1.1s
AKASG Malin Array Be 13.22 360 Pn **Pn 11 33 23.6 -1.3**
comp=Z,0.8nm,0.3s,baz=183,slow=13,SNR=18
AKASG Sn **Sn 11 35 48.4 -3.5**
comp=Z,0.8nm,0.3s,baz=176,slow=27,SNR=4.1
AKASG LR LR 11 38 40.0
comp=Z,339nm,19.2s,baz=186,slow=38
comp=Z,7.2nm,0.9s
AKASG Malin Array Be 13.22 360 *i* P **Pn 11 33 24.7 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 13.22 360⇓*e*P **Pn 11 33 25.4 +0.4**
AKBB pmax pmax
comp=Z,20nm,1.1s
CAMP Campotosto 13.24 297 Pn 11 33 25.7 +0.3
KOGS Kog 13.24 317 *e*Pn **Pn 11 33 25.5 +0.2**
BOJS Bojanci 13.27 312 *e*Pn **Pn 11 33 26.1 +0.4**
GUMA Gualdo di Mace 13.45 299 Pn 11 33 28.9 +0.7
MI28 Mi28,Pidlybu 13.50 355 P **Pn 11 33 27.7 -1.1**
NRCA Norcia 13.53 298 Pn 11 33 28.7 -0.7
FDMO Fiordimonte 13.62 299 Pn 11 33 29.5 -0.9
CESX Cesi 13.85 297 Pn 11 33 34.0 +0.4
CEY Cerknica 13.88 311 *e*Pn **Pn 11 33 32.8 -1.3**
CEY Cerknica 13.88 311 *e*Pn **Pn 11 33 35.4 +1.3**
RNPP5 Staryi Chortor 13.97 351 P **Pn 11 33 34.0 -1.2**
LJU Ljubljana 13.98 312 *e*Pn **Pn 11 33 35.5 0.0**
LJU *e* 11 36 39.6
LJU *e* 11 38 10.1
MODS Modra-Piesok 14.02 325 *e*P **Pn 11 33 36.5 +0.6**
MODS Modra-Piesok 14.02 325 *e*PN **Pn 11 33 36.5 +0.6**
MODS Modra-Piesok 14.02 325 *e*P **P 11 33 45.3 +1.4**
RONA Rosalia, Austr 14.02 321 *e*Pn **Pn 11 33 36.6 +0.6**
comp=Z,36nm,1.5s,SNR=14
SKDS Skadanscina 14.04 310 *e*Pn **Pn 11 33 34.4 -1.8**
SKDS Skadanscina 14.04 310 *e*Pn **Pn 11 33 35.7 -0.5**
SOKA Soboth 14.05 315 *e*Pn **Pn 11 33 37.2 +0.8**
comp=Z,18nm,1.3s,SNR=7.8
SMOL Smolenice 14.05 325 *e*P **P 11 33 45.9 +1.6**
RNPP8 Varash 14.08 351 P **Pn 11 33 35.7 -1.0**
ARSA Arzberg 14.13 318 *e*Pn **Pn 11 33 38.0 +0.6**
comp=Z,29nm,1.4s,SNR=18
ARSA Arzberg 14.13 318 Pn 11 33 37.9 +0.5
ARSA Arzberg 14.13 318 *e*Pn **Pn 11 33 38.0 +0.6**
JAVC Velka Javorina 14.20 327 *e*PN **Pn 11 33 39.2 +0.7**
JAVC *ep*P **P 11 33 48.0 +2.0**
OBKA Obir 14.23 314 *e*Pn **Pn 11 33 38.2 -0.7**
CONA Conrad Observa 14.39 321 *e*Pn **Pn 11 33 41.3 +0.1**
comp=Z,29nm,1.4s,SNR=15
OJC Ojcow 14.47 335 *e*P **Pn 11 33 41.0 -1.1**
OJC *e*L L 11 40 25.4
comp=Z,4µm,14.2s
OJC Ojcow 14.47 335 Pn 11 33 41.8 -0.3
OJC Ojcow 14.47 335 P **Pn 11 33 41.8 -0.3**
OJC Ojcow 14.47 335 P **Pn 11 33 41.5 -0.6**
comp=Z,43nm,1.5s
SABO M.te Sabotino 14.50 311 Pn 11 33 42.0 -0.6
AKT Akhty 14.72 69 *e*P **P 11 33 52.9 +1.0**
AKT pmax pmax
comp=Z,10.0nm,0.7s
AKT MLR MLR
comp=Z,2µm,13.0s
OKC Ostrava-Krasne 14.76 330 *e*P **P 11 33 54.2 +2.1**
OKC AMS AMS 11 40 20.0
comp=Z,4µm,13.4s
OKC Ostrava-Krasne 14.76 330 *e*P **P 11 33 54.2 +2.1**
OKC MLR MLR
comp=Z,4µm,13.4s
MYKA Terra Mystica 14.82 313 *e*P **Pn 11 33 48.3 +1.4**
comp=Z,51nm,1.5s
MAK Makhachkala 14.88 63 *e*P **P 11 33 53.7 +0.2**
MAK pmax pmax
comp=Z,202nm,1.2s
MAK MLR MLR
comp=Z,2µm,9.0s
KRUC Moravsky 14.92 325 *e*PN **Pn 11 33 47.9 -0.3**
KRUC *ep*P **P 11 33 55.2 +1.3**
MORC Moravsky Berou 14.96 329 Pn 11 33 49.0 +0.3
MORC Moravsky Berou 14.96 329 *e*PN **Pn 11 33 48.7 -0.1**
MORC *ep*P **P 11 33 55.9 +1.5**
MORC Moravsky Berou 14.96 329 ⇑P Pn 11 33 49.9 +1.2
MORC Moravsky Berou 14.96 329 P **Pn 11 33 49.1 +0.3**
STEB Steborice 14.99 330 *e*P **P 11 33 56.0 +1.4**
VRAC Vranov 15.01 326 Pn **Pn 11 33 49.3 -0.1**
comp=Z,0.6nm,0.3s,baz=142,slow=21,SNR=7.1
VRAC LR LR 11 39 44.6
comp=Z,1µm,19.4s,baz=149,slow=38
comp=Z,3.8nm,0.7s
VRAC Vranov 15.01 326 *e*PN **Pn 11 33 49.0 -0.4**
VRAC *ep*P **P 11 33 56.3 +1.4**
OSSC Osservatorio P 15.04 299 Pn 11 33 50.4 +0.5
OSSC IAmb IAmb 11 33 57.5
comp=Z,149nm,1.3s
CASP Castiglione de 15.11 296 Pn 11 33 51.7 +0.9
MOA Molln 15.17 318 *e*P **Pn 11 33 53.1 +1.5**
comp=Z,71nm,1.2s,SNR=27
MOA Molln 15.17 318 *e*Pn **Pn 11 33 53.1 +1.5**
VORD Divnogorie 15.22 25 *e*P **Pn 11 33 51.0 -1.2**
VORD pmax pmax
comp=Z,20nm,1.1s
KBA Koelnbreinsper 15.23 314 *e*Pn **Pn 11 33 52.3 -0.2**
comp=Z,47nm,1.4s,SNR=14
CIMO Cimolais 15.37 310 Pn 11 33 53.4 -0.8
VSR Storozhevoye 15.39 24 *e*P **Pn 11 33 53.1 -1.4**
VSR pmax pmax
comp=Z,40nm,1.1s
BIOA Bad Ischl, Aus 15.41 316 *e*Pn **Pn 11 33 55.7 +0.9**
comp=Z,46nm,1.1s,SNR=17
TEOL Teolo 15.42 306 Pn 11 33 53.9 -1.0
TEOL IAmb IAmb 11 34 01.7
comp=Z,191nm,1.3s
KRLC Kraliky 15.50 328 AMS AMS 11 40 40.0
comp=Z,2µm,9.2s
TREC Trest 15.51 324 AMS AMS 11 40 40.0
comp=Z,5µm,11.4s
ABTA Abfaltersbach 15.54 312 *e*Pn **Pn 11 33 56.8 +0.3**
comp=Z,28nm,1.3s
BEL Belsk 15.58 340 *e*P **P 11 34 00.9 -0.2**
BEL *e*L L 11 41 36.8
comp=Z,5µm,12.7s
CTI Castel Tesino 15.73 309 Pn 11 33 57.6 -1.4
CTI IAmb IAmb 11 34 05.6
comp=Z,247nm,1.4s
CTI Castel Tesino 15.73 309 P **Pn 11 33 57.6 -1.4**
CTI pmax pmax
comp=Z,247nm,1.4s
CKRC Cesky Krumlov 15.76 321 *e*P **P 11 34 04.7 +1.5**
CKRC AMS AMS 11 40 40.0
comp=Z,5µm,11.1s
CKRC Cesky Krumlov 15.76 321 *e*P **P 11 34 04.7 +1.5**
CKRC MLR MLR
comp=Z,5µm,11.1s
VSL Villasalto 15.79 283 Pn 11 33 59.4 -0.3
LESA Schwarzleotal 15.80 314 *e*Pn **Pn 11 33 59.8 -0.1**
comp=Z,52nm,1.4s,SNR=28
VORR Voronezh 15.80 23 *e*P **Pn 11 34 01.1 +1.3**
VORR pmax pmax
comp=Z,20nm,1.0s
VLC Villacollemand 15.83 301 P **Pn 11 33 59.6 -0.7**
R9F13 Warsaw-Wawer 15.84 341 *e*P **Pn 11 33 59.4 -0.8**
DPC Dobruska-Polom 15.90 328 *e*P **P 11 34 06.0 +1.1**
DPC AMS AMS 11 41 20.0
comp=Z,2µm,11.9s
DPC Dobruska-Polom 15.90 328 *e*P **P 11 34 06.0 +1.1**
DPC MLR MLR
comp=Z,2µm,11.9s
PRMA PARMA 16.08 303 Pn 11 34 03.6 +0.2
PRMA IAmb IAmb 11 34 10.4
comp=Z,346nm,1.5s
GEC2 GERESS Array S 16.08 320 P **Pn 11 34 03.7 +0.2**
GEC2 IAmb IAmb 11 34 09.7
comp=Z,160nm,1.2s
GERES GERESS Array B 16.08 320 Pn 11 34 03.2 -0.3
GERES GERESS Array B 16.08 320 Pn **Pn 11 34 03.8 +0.2**
comp=Z,5.4nm,1.0s,baz=126,slow=10,SNR=47
GERES PcP **PcP 11 38 59.4 +0.1**
comp=Z,2.5nm,1.0s,baz=151,slow=2.2,SNR=5.2
GERES GERESS Array B 16.08 320 P **Pn 11 34 03.2 -0.3**
OSTC Ostas 16.11 328 *e*P **P 11 34 08.1 +1.1**
OSTC AMS AMS 11 41 50.0
comp=Z,3µm,9.3s
OSTC Ostas 16.11 328 *e*P **P 11 34 08.1 +1.1**
OSTC MLR MLR
comp=Z,3µm,9.3s
UPC Upice 16.15 328 *e*P **P 11 34 08.6 +1.0**
UPC AMS AMS 11 41 30.0
comp=Z,4µm,9.5s
UPC Upice 16.15 328 *e*P **P 11 34 08.6 +1.0**
UPC MLR MLR
comp=Z,4µm,9.5s
KEST Kesra 16.18 270 Pn 11 34 05.5 +0.6
KEST Kesra 16.18 270 Pn **Pn 11 34 05.4 +0.6**
comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=64
KEST LR LR 11 40 51.0
comp=Z,785nm,21.7s,baz=62,slow=39
comp=Z,91nm,1.1s
KEST Kesra 16.18 270 P **Pn 11 34 06.1 +1.3**
SNR=55
CHVC Chvalec 16.20 328 *e*P **P 11 34 09.4 +1.3**
CHVC AMS AMS 11 41 30.0
comp=Z,3µm,10.4s
CHVC Chvalec 16.20 328 *e*P **P 11 34 09.4 +1.3**
CHVC MLR MLR
comp=Z,3µm,10.4s
ZVC Zvikov 16.22 322 AMS AMS 11 40 50.0
comp=Z,4µm,9.9s
GOPC GO Pecny, Ondr 16.27 324 *e*P **P 11 34 10.3 +1.5**
GOPC AMS AMS 11 41 10.0
comp=Z,4µm,10.6s
GOPC GO Pecny, Ondr 16.27 324 *e*P **P 11 34 10.3 +1.5**
GOPC MLR MLR
comp=Z,4µm,10.6s
VRH Novokhopyorsk 16.28 29 *e*P **Pn 11 34 04.8 -1.1**
VRH pmax pmax
comp=Z,26nm,0.5s
KSP Ksiaz 16.29 329 *e*P **P 11 34 10.2 +1.1**
WTTA Wattenberg 16.32 312 *e*Pn **Pn 11 34 07.7 +1.0**
comp=Z,161nm,1.3s,SNR=52
KHC Kasperske Hory 16.33 320 *e*P **P 11 34 10.3 +0.8**
KHC AMS AMS 11 41 10.0
comp=Z,7µm,10.4s
KHC Kasperske Hory 16.33 320*ce*P **Pn 11 34 06.0 -0.6**
KHC pmax pmax
comp=Z,218nm,1.3s
KHC Kasperske Hory 16.33 320 P **Pn 11 34 06.4 -0.2**
comp=Z,69nm,1.5s
WATA Walderalm 16.39 313 *e*Pn **P 11 34 09.0 -1.4**
comp=Z,121nm,1.2s,SNR=37
PRU Pruhonice 16.43 324 *e*P **P 11 34 11.2 +0.6**
PRU AMS AMS 11 41 20.0
comp=Z,4µm,10.1s
PRU Pruhonice 16.43 324 *e*P **P 11 34 11.2 +0.6**
PRU MLR MLR
comp=Z,4µm,10.1s
MSSA Maissana 16.48 301 Pn 11 34 08.4 -0.2
LPSR Galich'ya Gora 16.54 21 *e*P **Pn 11 34 08.7 -0.4**
LPSR pmax pmax
comp=Z,89nm,1.1s
PRA Prague 16.54 324 AMS AMS 11 41 20.0
comp=Z,4µm,9.9s
SQTA Sankt Quirin 16.55 312 *e*Pn **P 11 34 11.1 -1.0**
comp=Z,97nm,1.3s,SNR=35
MOTA Moosalm 16.67 312 *i* Pn **Pn 11 34 11.6 +0.4**
comp=Z,72nm,1.2s
FETA Feichten 16.74 311 *e*P **P 11 34 14.0 -0.3**
comp=Z,176nm,1.5s,SNR=103
FUORN Ofenpass-Fuorn 16.84 309 Pn 11 34 13.0 -0.4
FUORN IAmb IAmb 11 34 20.1
comp=Z,181nm,1.6s
RETA Reutte 16.95 312 *e*Pn **Pn 11 34 15.1 +0.6**
comp=Z,62nm,1.4s,SNR=22
MNK Minsk 17.06 357 *i* P **Pn 11 34 14.3 -1.5**
comp=E,42nm,1.0s
MNK *i* P **Pn 11 34 14.3 -1.5**
comp=N,20nm,0.9s
MNK *i* P **Pn 11 34 14.3 -1.5**
comp=Z,36nm,1.0s,baz=176
MNK *i* PP **sP 11 34 23.0 +0.6**
MNK *i* PPP PPP 11 34 30.9
MNK *i* S **Sn 11 37 22.9 -2.3**
MNK *i* SS **SnSn 11 37 37.2 -1.3**
MNK *i* SSS SSS 11 37 50.1
MNK *i* LQ LQ 11 39 24.4
MNK *i* LR LR 11 40 23.5
MNK *i* LRM MLR 11 41 03.0
MNK *i* LRM MLR 11 41 21.3
comp=E,445nm,15.7s
MNK *i* LRM MLR 11 41 25.3
comp=Z,483nm,13.7s
MNK Minsk 17.06 357 *i* P **Pn 11 34 14.2 -1.5**
MNK *i* S **Sn 11 37 22.9 -2.3**
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=Z,36nm,1.0s
MNK pmax pmax
comp=E,42nm,1.0s
MNK MLR MLR
comp=E,445nm,16.0s
MNK MLR MLR
comp=Z,483nm,14.0s
SUW Suwalki 17.08 347 *e*P **P 11 34 17.4 -0.4**
SUW Suwalki 17.08 347 Pn 11 34 15.0 -1.0
SUW IAmb IAmb 11 34 21.3
comp=Z,130nm,1.1s
SUW Suwalki 17.08 347 P **Pn 11 34 15.0 -1.0**
SUW pmax pmax
comp=Z,130nm,1.1s
SUW Suwalki 17.08 347 *e*P **P 11 34 17.3 -0.4**
DAVOX Davos/Dischmat 17.15 309 P **P 11 34 19.2 +0.3**
comp=Z,52nm,1.2s,baz=123,slow=9.8,SNR=53
DAVOX LR LR 11 41 58.6
comp=Z,2µm,20.9s,baz=107,slow=41
BRG Berggiesshubel 17.32 326 *e*P **P 11 34 19.9 -0.6**
BRG Amp 11 34 20.8
comp=Z,9.1nm,1.3s

BRG Berggiesshubel 17.32 326 P **P** **11 34 22.2 +1.7**
BRG Amp 11 34 23.8
comp=Z,130nm,1.5s
BRG Berggiesshubel 17.32 326 S **Sn** **11 37 32.0 +0.3**
TUE Stuetta 17.36 307 P **P** **11 34 21.0 -0.1**
HSKC Hora Svate Kat 17.37 324 AMS AMS 11 41 50.0
comp=Z,4µm,8.9s
DAVA Damuels 17.38 310 *e*P **P** **11 34 22.0 +0.7**
comp=Z,59nm,1.2s,SNR=34
KBD Kabd 17.38 113 P **P** **11 34 22.4 +1.1**
NACGM Naroch 17.52 355 *e*P **Pn** **11 34 19.3 -2.2**
comp=Z,24nm,0.8s,baz=173
CMAH Djebel Manchou 17.55 274 P **P** **11 34 23.2 +0.1**
ABSA Djebel Ababsia 17.56 273 P **P** **11 34 23.7 +0.4**
NKC Novy Kostel 17.60 322 AMS AMS 11 42 00.0
comp=Z,4µm,11.2s
GKP Gorka Klasztor 17.90 336 *e*P **P** **11 34 26.7 -0.1**
IDID Didziasalis 17.93 355 *e*P **P** **11 34 27.1 -0.1**
CAEH 'Ain El Ouahch 17.97 275 P **P** **11 34 28.2 +0.4**
CLL Collm 18.05 325 *e*P **Pn** **11 34 28.0 -0.1**
CLL pmax pmax
comp=Z,493nm,3.0s
CLL Collm 18.05 325 P **P** **11 34 28.4 -0.1**
comp=Z,41nm,1.6s
CLL Collm 18.05 325 *e*P **Pn** **11 34 28.0 -0.1**
comp=Z,493nm,3.0s
CLL *e*x x 11 34 33.0
CLL *i* PP **PnPn** **11 34 39.8 +0.7**
CLL *e*x x 11 35 56.0
CLL *e*S **S** **11 37 56.0 +0.7**
CLL AMS AMS 11 42 00.0
comp=N,1µm,21.9s
CLL AMS AMS 11 42 00.0
comp=E,1µm,19.6s
CLL AMS AMS 11 42 00.0
CKFL Kef-Lekhel 18.14 273 P **P** **11 34 30.9 +1.1**
OBN Obninsk 18.31 13 P **Pn** **11 34 30.6 -0.6**
comp=E,3.2nm,0.3s,baz=225,slow=4.3,SNR=3.0
OBN LR LR 11 42 22.3
comp=E,502nm,20.1s,baz=186,slow=40
comp=E,24nm,0.5s
OBN Obninsk 18.31 13‖ *i*P **P** **11 34 32.1 +0.8**
OBN *e*S **S** **11 38 00.9 +0.5**
OBN pmax pmax
comp=Z,80nm,1.4s
OBN MLR MLR
comp=Z,475nm,16.0s
PABE Paberze 18.40 350 *e*P **P** **11 34 31.1 -1.2**
STU Stuttgart 18.50 314 P **Pn** **11 34 33.6 0.0**
STU Stuttgart 18.50 314 P **Pn** **11 34 33.6 0.0**
STU pmax pmax
comp=Z,60nm,0.9s
STU Stuttgart 18.50 314 *e*P **P** **11 34 33.4 -0.1**
RUE Ruedersdorf 18.56 329 *e*P **P** **11 34 33.7 -0.3**
SENIN Lac Senin/Sane 18.62 305 P **Pn** **11 34 35.4 0.0**
BNI Bardonecchia 18.63 301 P **Pn** **11 34 35.4 +0.1**
BNI IAmb IAmb 11 34 45.9
comp=Z,311nm,2.0s
BNI Bardonecchia 18.63 301 P **Pn** **11 34 35.4 +0.1**
BNI pmax pmax
comp=Z,311nm,2.0s
DFRA Djebel Bou Aff 18.78 274 P **Pn** **11 34 39.1 +1.8**
BFO Black Forest 18.79 312 P **Pn** **11 34 37.2 0.0**
BFO IAmb IAmb 11 34 40.7
comp=Z,164nm,1.2s
BFO Black Forest 18.79 312 P **Pn** **11 34 37.2 0.0**
BFO pmax pmax
comp=Z,164nm,1.2s
MOS Moscow 19.10 14 *e*P **Pn** **11 34 40.9 +0.1**
MOS *e* 11 38 07.8
MOS pmax pmax
comp=Z,68nm,0.7s
MOS MLR MLR
comp=Z,600nm,15.0s
ECH Echery 19.44 311 P **Pn** **11 34 44.5 -0.5**
ECH IAmb IAmb 11 34 47.1
comp=Z,102nm,1.0s
ECH Echery 19.44 311 P **Pn** **11 34 44.5 -0.5**
ECH pmax pmax
comp=Z,102nm,1.0s
RAYN Ar Rayn 19.62 131 P **Pn** **11 34 47.2 -0.2**
RAYN Ar Rayn 19.62 131 P **Pn** **11 34 48.9 +1.5**
RAYN Ar Rayn 19.62 131 P **Pn** **11 34 47.2 -0.2**
RAYN pmax pmax
comp=Z,29nm,0.9s
RAYN Ar Rayn 19.62 131 *i* P **Pn** **11 34 47.2 -0.2**
SNR=23
MAHO Mahon 19.73 285 P **P** **11 34 47.8 +0.7**
SSB Saint Sauveur 20.14 301 P **P** **11 34 51.6 0.0**
SSB Saint Sauveur 20.14 301 P **P** **11 34 51.6 0.0**
SSB pmax pmax
comp=Z,20nm,1.0s
BSD Bornholm Skovb 20.20 335 *e*P **P** **11 34 51.7 -0.3**
BSD Bornholm Skovb 20.20 335 *i* P **P** **11 34 49.7 -2.3**
WLF Walferdange 20.68 313 P **P** **11 34 57.1 -0.1**
WLF IAmb IAmb 11 35 06.7
comp=Z,80nm,1.0s
WLF Walferdange 20.68 313 P **P** **11 34 55.2 -2.0**
WLF Walferdange 20.68 313 *d*P **P** **11 34 56.3 -0.9**
comp=Z,50nm,0.9s
WLF Walferdange 20.68 313 P **P** **11 34 57.1 -0.1**
WLF pmax pmax
comp=Z,80nm,1.0s
ETOS Mallorca 20.86 285 P **P** **11 34 58.3 -1.0**
EJON La Jonquera 20.86 292 P **P** **11 34 58.3 -1.1**
VSU Vasula 21.07 356 *d* *i* P **P** **11 35 01.8 +0.4**
VSU pmax pmax
comp=Z,150nm,1.4s
VSU Vasula 21.07 356 *e*P **P** **11 35 00.9 -0.4**
BHOU Houvegnez 21.08 315 *d*P **P** **11 35 02.6 +1.0**
comp=Z,22nm,1.2s
LUNU Lund 21.11 334 *i* P **P** **11 35 00.8 -1.0**
BTNL Ternell 21.13 316 *d*P **P** **11 35 02.8 +0.7**
comp=Z,24nm,1.4s
MEM Membach 21.20 316 *d*P **P** **11 35 03.6 +0.7**
comp=Z,28nm,1.5s
SAKB Bahrain 21.29 117 P **P** **11 35 06.1 +2.0**
RCHB Rochefort 21.43 314 *d*P **P** **11 35 05.7 +0.4**
comp=Z,32nm,1.3s
BSTI Sart Tilman 21.44 315 *d*P **P** **11 35 06.6 +1.2**
BCLA Clavier 21.51 315 *d*P **P** **11 35 07.0 +0.8**
comp=Z,35nm,1.4s
COP Copenhagen 21.51 333 *i* P **P** **11 35 07.1 +1.0**
BJUU Bjuv 21.61 335 *i* P **P** **11 35 06.1 -1.1**
BGES Gesves 21.62 314 *d*P **P** **11 35 08.1 +0.8**
comp=Z,49nm,0.0s
SHMA Al-Shehemyia 21.67 116 P **P** **11 35 10.2 +2.1**
BMRD Maredsous 21.76 314 *d*P **P** **11 35 09.1 +0.2**
comp=Z,52nm,1.3s
DOU Dourbes 21.77 313 *d*P **P** **11 35 08.8 -0.2**
comp=Z,38nm,1.1s
CEST Esterri de Car 22.08 292 P **P** **11 35 12.5 -0.1**
CEST IAmb IAmb 11 35 15.8
comp=Z,102nm,1.4s
ARBE Arbavere 22.08 355 *e*P **P** **11 35 13.2 +1.0**
UCC Uccle 22.22 315 P **P** **11 35 13.8 0.0**
UCC Uccle 22.22 315 *d*P **P** **11 35 13.4 -0.4**
comp=Z,20nm,1.3s
UCC Uccle 22.22 315 P **P** **11 35 13.8 0.0**
UCC pmax pmax
comp=Z,69nm,1.4s
SMRA Abu-Samra 22.26 119 P **P** **11 35 17.5 +3.0**
PUL Pulkovo 22.32 1‖ *e*P **P** **11 35 14.7 -0.1**
PUL pmax pmax
comp=Z,95nm,1.1s
CLF Chambon-Foret 22.42 307 P **P** **11 35 15.7 -0.3**
TRNA Turayna 22.54 118 P **P** **11 35 19.5 +2.1**
BORU Boraas 22.95 337 *i* P **P** **11 35 19.9 -1.6**
MEF Metsahovi 22.98 354 *e*P **P** **11 35 21.8 0.0**
OKGL Djebel Kef Gue 23.03 275 P **P** **11 35 26.0 +3.4**
OJGS Djebel Guires 23.06 274 P **P** **11 35 25.0 +2.0**
MUD Monsted U'grnd 23.30 331 *i* P **P** **11 35 24.0 -1.1**
OJBR Djebel Berber 23.37 274 P **P** **11 35 27.0 +0.9**
ECHE Chera 23.78 284 P **P** **11 35 29.3 -0.8**
ODJA Bouhanifia 23.82 274 P **P** **11 35 32.0 +1.5**
USTO Oran 24.04 275 P **P** **11 35 34.0 +1.5**
FIA1 FINESS Array S 24.08 356 P **P** **11 35 31.8 -0.8**
FINES FINESS Array B 24.08 356 P **P** **11 35 32.0 -0.5**
comp=Z,15nm,0.7s,baz=154,slow=11,SNR=33
FINES PcP **PcP** **11 39 13.9 +0.3**
comp=Z,6.7nm,1.1s,baz=169,slow=1.4,SNR=2.4
FINES LR LR 11 46 23.7
comp=Z,502nm,18.1s,baz=210,slow=40
comp=Z,15nm,0.7s

FINES FINESS Array B 24.08 356 *i* P **P** **11 35 32.4 -0.2**
FINES pmax pmax
comp=Z,15nm,0.7s
AKTO Aktyubinsk 24.17 48 P **P** **11 35 33.0 -0.6**
comp=Z,32nm,1.1s,baz=262,slow=7.1,SNR=29
AKTO LR LR 11 48 32.7
comp=Z,893nm,18.1s,baz=241,slow=45
comp=Z,32nm,1.1s
EMUR La Murta 24.19 280 P **P** **11 35 31.8 -2.2**
GHWR Ruwais 24.20 117 P **P** **11 35 35.3 +1.3**
KLMR Klimovskoe 24.26 12 *e*P **P** **11 35 32.3 -2.0**
KLMR S **S** **11 39 52.3 -0.3**
KLMR pmax pmax
comp=Z,91nm,1.2s
HFS Hagfors 24.78 341 P **P** **11 35 38.8 -0.3**
comp=Z,26nm,0.8s,baz=146,slow=9.0,SNR=21
HFS LR LR 11 47 11.6
comp=Z,1µm,18.2s,baz=155,slow=41
comp=Z,26nm,0.8s
KIRV Kirov 24.82 25 P **P** **11 35 39.1 -0.2**
comp=Z,19nm,0.7s,baz=237,slow=4.3,SNR=7.0
KIRV LR LR 11 45 44.5
comp=Z,227nm,21.4s,baz=150,slow=38
comp=Z,19nm,0.7s
KIRV Kirov 24.82 25 *i* P **P** **11 35 38.5 -0.9**
KEF Keuruu 24.87 355 *e*P **P** **11 35 39.4 -0.4**
AB31 Akbulak array 24.97 52 *i* P **P** **11 35 40.4 -0.4**
ABKAR Akbulak array 24.97 52 P **P** **11 35 40.2 -0.6**
ABKAR IAmb IAmb 11 35 46.4
comp=Z,34nm,0.8s
ENIJ Nijar 25.10 279 P **P** **11 35 40.2 -2.0**
TAM Tamanrasset 25.20 241 P **P** **11 35 43.0 -0.3**
TAM Tamanrasset 25.20 241 P **P** **11 35 43.0 -0.3**
TAM pmax pmax
comp=Z,106nm,1.2s
MZR Muzera 25.24 118 P **P** **11 35 44.4 +0.9**
SNR=5.3
MZR Muzera 25.24 118 *i* P **P** **11 35 43.5 0.0**
SNR=6.1
AJN Ajban 25.35 113 P **P** **11 35 45.3 +0.8**
SHME Shamm 25.36 109 P **P** **11 35 45.1 +0.5**
UCM Universidad Co 25.47 287 P **P** **11 35 43.5 -2.0**
JOF Joensuu 25.50 2 *e*P **P** **11 35 45.0 -0.5**
BANOM Banah 25.55 109 P **P** **11 35 45.8 -0.6**
BANOM Banah 25.55 109 *i* P **P** **11 35 45.4 -0.9**
SNR=11
KONO Kongsberg 25.56 337‖ *i*P **P** **11 35 45.7 -0.4**
KONO pmax pmax
comp=Z,85nm,1.7s
ASUD Al Ashush, Dub 25.57 113 P **P** **11 35 46.8 +0.3**
ASUD Al Ashush, Dub 25.57 113 P **P** **11 35 46.6 +0.2**
NAZ Nazwa, Dubai 25.60 112 P **P** **11 35 46.6 -0.2**
NAZ Nazwa, Dubai 25.60 112 P **P** **11 35 45.4 -1.3**
MASF Masafi 25.75 110 P **P** **11 35 47.9 -0.3**
MSFE Esma-Masafi 25.76 110 P **P** **11 35 47.0 -1.3**
MDH Madha 25.90 110 P **P** **11 35 50.0 +0.5**
MDH Madha 25.90 110 P **P** **11 35 48.5 -1.0**
VAF Ylistaro 25.92 353 *e*P **P** **11 35 49.1 -0.2**
UOSS Minazif 26.03 111 P **P** **11 35 50.6 -0.1**
UOSS IAmb IAmb 11 36 03.4
comp=Z,73nm,1.4s
UOSS Minazif 26.03 111 P **P** **11 35 50.9 +0.3**
HATD Hatta, Dubai 26.04 111 P **P** **11 35 50.1 -0.7**
HATD Hatta, Dubai 26.04 111 P **P** **11 35 49.5 -1.3**
ASHO Ashiyiah 26.07 112 P **P** **11 35 50.3 -0.8**
ASHO Ashiyiah 26.07 112 *i* P **P** **11 35 49.1 -2.0**
SNR=7.2
ESBB Sonseca Array 26.07 285 P **P** **11 35 50.4 -0.6**
ESBB IAmb IAmb 11 35 53.5
comp=Z,52nm,1.1s
ESDC Sonseca Array 26.07 285 P **P** **11 35 50.5 -0.6**
ESDC Sonseca Array 26.07 285 P **P** **11 35 50.7 -0.3**
comp=Z,28nm,1.1s,baz=78,slow=8.4,SNR=57
ESDC PcP **PcP** **11 39 18.0 -0.6**
comp=Z,2.1nm,1.0s,baz=90,slow=2.6,SNR=5.1
ESDC ScP **ScP** **11 42 59.2 +1.0**
comp=Z,0.4nm,0.8s,baz=83,slow=4.6,SNR=4.2
comp=Z,28nm,1.1s
NB2 NORSAR Subarra 26.21 340 P **P** **11 35 51.6 -0.4**
comp=Z,52nm,1.4s,baz=146,slow=9.3
NB2 NORSAR Subarra 26.21 340 P **P** **11 35 51.6 -0.4**
baz=146,slow=9.3
NOA NORSAR Array B 26.21 340 P **P** **11 35 51.4 -0.6**
comp=Z,8.2nm,1.0s,baz=148,slow=11,SNR=15
NOA LR LR 11 48 27.4
comp=Z,1µm,18.3s,baz=145,slow=42
comp=Z,8.2nm,1.0s
ALNE Al Ain 26.21 113 P **P** **11 35 52.1 -0.3**
SNR=8.3
ALNE Al Ain 26.21 113 P **P** **11 35 51.5 -0.9**
PAB San Pablo 26.38 285 P **P** **11 35 54.6 +0.8**
PAB IAmb IAmb 11 35 56.6
comp=Z,50nm,1.2s
PAB San Pablo 26.38 285 P **P** **11 35 54.6 +0.8**
PAB pmax pmax
comp=Z,51nm,1.3s
NC204 NORSAR Array S 26.53 340 P **P** **11 35 56.0 +1.1**
NC204 IAmb IAmb 11 35 57.2
comp=Z,30nm,1.0s
SOHO SOHO 26.74 112 P **P** **11 35 56.6 -0.5**
SOHO SOHO 26.74 112 *i* P **P** **11 35 56.2 -0.9**
SNR=21
ARTI Arti 27.07 36 P **P** **11 35 59.2 -0.6**
ARTI IAmb IAmb 11 36 07.8
comp=Z,28nm,0.7s
ARTI Arti 27.07 36 LR LR 11 49 48.9
comp=Z,499nm,19.3s,baz=276,slow=43
ARTI Arti 27.07 36*c* *i*P **P** **11 35 59.7 0.0**
ARTI 11 36 40.9
ARTI S **S** **11 40 40.8 +3.4**
ARTI SS **SnSn** **11 41 47.5 +4.0**
ARTI pmax pmax
comp=Z,40nm,2.0s
ARQ Araqi 27.21 113 P **P** **11 36 03.2 +1.8**
HOQ Hoqain 27.64 112 P **P** **11 36 06.8 +1.6**
PBRG Braganca 28.01 290 *e*P **P** **11 36 08.2 -0.2**
PBRG *i* Amb 11 36 13.9
comp=Z,34nm,1.5s
BSY Bisya 28.06 114 P **P** **11 36 10.9 +1.9**
MDT Midelt 28.08 271 P **P** **11 36 08.4 -0.8**
comp=Z,27nm,1.1s,baz=87,slow=12,SNR=24
comp=Z,27nm,1.1s
MVO Moncorvo 28.27 289 *e*P **P** **11 36 10.6 -0.1**
MVO *i* Amb 11 36 16.1
comp=Z,47nm,1.6s
MVO *e*S S 11 41 08.3 +11
MVO *e*LR LR 11 48 20.0
MVO *i* AMs_20 11 49 16.7
comp=Z,504nm,16.0s
EKA Eskdalemuir Ar 28.30 320 P **P** **11 36 09.4 -1.4**
comp=Z,19nm,1.1s,baz=113,slow=8.5,SNR=20
EKA PcP **PcP** **11 39 20.9 -2.6**
comp=Z,4.7nm,1.0s,baz=116,slow=1.7,SNR=4.7
comp=Z,19nm,1.1s
SVE Sverdlovsk 28.36 37 *e*P **P** **11 36 14.4 +3.1**
SMDO Samad 28.50 112 P **P** **11 36 12.8 -0.1**
SNR=5.2
ATD Arta Tunnel 28.53 151 LR LR 11 47 12.4
comp=Z,9.5nm,20.5s,baz=354,slow=36
PBAR Barrancos 28.66 283 *e*P **P** **11 36 13.9 -0.2**
PBAR *i* Amb 11 36 16.7
comp=Z,63nm,1.7s
DOK Doka 28.67 124 P **P** **11 36 14.1 -0.3**
SNR=5.2
DOK P **P** **11 36 14.1 -0.3**
SNR=5.2
MTE Manteigas 28.73 287 P **P** **11 36 13.9 -1.0**
MTE Manteigas 28.73 287 *e*P **P** **11 36 14.6 -0.3**
MTE *i* Amb 11 36 36.4
comp=Z,25nm,1.4s
MTE *e*S S 11 41 13.5 +9.4
MTE *e*LR LR 11 47 26.1
MTE *i* AMs_20 11 49 16.5
comp=Z,893nm,16.0s
MTE Manteigas 28.73 287 *e*P **P** **11 36 14.2 -0.7**
PMRV Marv??o 28.73 285 *e*P **P** **11 36 14.1 -0.8**
PMRV *i* Amb 11 36 17.0
comp=Z,23nm,1.4s
PMRV *e*S S 11 41 15.4 +11
PMRV *e*LR LR 11 47 10.2
PMRV *i* AMs_20 11 48 56.6
comp=Z,594nm,18.0s
PCBR Castelo Branco 28.75 286 *e*P **P** **11 36 14.8 -0.2**
PCBR *i* Amb 11 36 16.3
comp=Z,39nm,1.8s

PVRL Vila Real 28.78 289 *e*P **P** **11 36 14.7 -0.6**
PVRL *i* Amb 11 36 15.8
comp=Z,27nm,1.5s
WSAR Wadi Sarin 28.82 111 LR LR 11 50 21.8
comp=Z,5.2nm,18.2s,baz=314,slow=42
WSAR Wadi Sarin 28.82 111 P **P** **11 36 16.2 +0.5**
POLO Lamas de Olo 28.83 289 *e*P **P** **11 36 15.3 -0.5**
POLO *i* Amb 11 36 43.6
comp=Z,15nm,1.6s
WHFO Wadi Hawf 28.94 126 P **P** **11 36 19.4 +2.5**
JMDO Jabal Madar 28.95 113 P **P** **11 36 17.4 +0.5**
SNR=5.9
PVIS Viseu 28.96 288 *e*P **P** **11 36 17.1 +0.2**
PESTR Estremoz 28.97 284 *e*P **P** **11 36 15.5 -1.5**
PESTR *i* Amb 11 36 24.0
comp=Z,34nm,1.5s
ABTO Aybut 29.06 127 P **P** **11 36 18.4 +0.5**
SNR=5.1
PGAV Gavieira, Arco 29.14 291 *e*S S 11 41 24.0 +13
PGAV *e*LR LR 11 48 09.7
PGAV *i* AMs_20 11 51 17.6
comp=Z,549nm,18.0s
PBEJ Beja 29.33 283 *e*P **P** **11 36 20.1 -0.1**
PBEJ *i* Amb 11 36 22.7
comp=Z,79nm,1.8s
PVAQ Vaqueiros 29.33 281 *e*P **P** **11 36 19.7 -0.4**
PVAQ *i* Amb 11 36 21.7
comp=Z,100nm,1.6s
WBK Wadi Bani Khal 29.44 112 P **P** **11 36 21.7 +0.4**
PBDV Barranco-do-Ve 29.53 281 *e*P **P** **11 36 22.5 +0.5**
PBDV *i* Amb 11 36 24.4
comp=Z,120nm,1.7s
NGCH Negor - Chabah 29.53 105 P **P** **11 36 22.8 +0.8**
PCVE Castro Verde 29.54 282 *e*P **P** **11 36 21.8 -0.1**
PCVE *i* Amb 11 36 23.5
comp=Z,54nm,1.7s
MESJ Messejana 29.64 282 *e*P **P** **11 36 22.1 -0.7**
MHTO MHTO 29.72 116 P **P** **11 36 24.1 +0.5**
SNR=8.4
DMTO DMTO 29.86 124 P **P** **11 36 24.5 -0.4**
JLN Jalan Bani Buh 30.05 112 P **P** **11 36 28.7 +2.1**
MORF Marmelete 30.08 281 *e*P **P** **11 36 24.5 -2.3**
MORF *i* Amb 11 36 37.4
comp=Z,51nm,1.7s
DQM DQM 30.10 118 P **P** **11 36 27.5 +0.4**
DQM P **P** **11 36 27.5 +0.4**
AVE Averroes 30.16 273 P **P** **11 36 27.9 +0.4**
CHGR Chuyangaron 31.18 75 P **P** **11 36 36.1 -0.5**
CHGR Chuyangaron 31.18 75 P **P** **11 36 36.1 -0.5**
KK31 Karatay Array 31.64 67 P **P** **11 36 40.0 -0.5**
KK31 Karatay Array 31.64 67 *i* P **P** **11 36 40.3 -0.2**
KKAR Karatay Array 31.64 67 P **P** **11 36 40.5 0.0**
KKAR Karatay Array 31.64 67 P **P** **11 36 40.0 -0.5**
KKAR Karatay Array 31.64 67 P **P** **11 36 40.5 0.0**
KKAR pmax pmax
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 32.18 357 P **P** **11 36 45.0 0.0**
comp=Z,11nm,0.9s,baz=169,slow=8.7,SNR=8.6
ARCES LR LR 11 50 29.5
comp=Z,332nm,19.6s,baz=172,slow=38
comp=Z,11nm,0.9s
BRVK Borovoye 32.22 48 P **P** **11 36 45.5 +0.1**
BRVK IAmb IAmb 11 36 52.6
comp=Z,32nm,1.7s
BRVK Borovoye 32.22 48‖ *i*P **P** **11 36 45.7 +0.2**
BRVK pmax pmax
comp=Z,20nm,1.7s
BVAR Borovoye Array 32.28 48 P **P** **11 36 47.2 +1.2**
comp=Z,6.1nm,1.0s,baz=242,slow=6.4,SNR=15
BVAR LR LR 11 52 58.9
comp=Z,1µm,19.8s,baz=266,slow=42
comp=Z,6.1nm,1.0s
LODK Lodwar 34.34 169 P **P** **11 37 04.5 +0.2**
LODK Lodwar 34.34 169 P **P** **11 37 06.5 +2.1**
SNR=5.9
TOA0 Torodi Ar. Sit 34.59 233 P **P** **11 37 06.5 0.0**
TORD Torodi Ar. Bea 34.59 233 P **P** **11 37 05.3 -1.2**
TORD Torodi Ar. Bea 34.59 233 P **P** **11 37 06.0 -0.5**
comp=Z,22nm,0.5s,baz=34,slow=9.1,SNR=160
TORD PP **PnPn** **11 38 20.4 -1.6**
comp=Z,4.9nm,1.0s,baz=41,slow=12,SNR=0.9
TORD PcP **PcP** **11 39 41.3 +0.2**
comp=Z,3.0nm,0.8s,baz=23,slow=4.4,SNR=3.8
TORD LR LR 11 55 09.7
comp=Z,482nm,18.6s,baz=36,slow=43
comp=Z,22nm,0.5s
AAK Ala-Archa 34.60 67 P **P** **11 37 06.8 +0.3**
AAK Ala-Archa 34.60 67 LR LR 11 54 28.0
comp=Z,837nm,19.9s,baz=292,slow=42
AAK Ala-Archa 34.60 67 P **P** **11 37 07.6 +1.1**
AAK P **P** **11 37 07.6 +1.1**
AAK Ala-Archa 34.60 67*de*P **P** **11 37 07.2 +0.7**
AAK pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 34.60 67 *i* P **P** **11 37 06.6 +0.1**
SNR=13
KDJ Kajisay 36.64 67 P **P** **11 37 24.3 +0.2**
KDJ Kajisay 36.64 67 P **P** **11 37 24.3 +0.2**
KDJ pmax pmax
comp=Z,16nm,1.0s
KURBB Kurchatov Arra 37.01 53 P **P** **11 37 27.0 +0.1**
comp=Z,36nm,0.9s,baz=277,slow=8.9,SNR=24
KURBB PP **PnPn** **11 38 51.6 +0.3**
comp=Z,1.6nm,0.2s,baz=272,slow=11,SNR=6.6
KURBB ScP **ScP** **11 43 33.6 -0.9**
comp=Z,1.7nm,0.2s,baz=284,slow=3.7,SNR=4.1
KURBB LR LR 11 56 30.1
comp=Z,540nm,19.4s,baz=278,slow=43
comp=Z,36nm,0.9s
KURK Kurchatov 37.07 53 P **P** **11 37 27.6 +0.2**
KURK IAmb IAmb 11 37 32.8
comp=Z,35nm,1.0s
KURK Kurchatov 37.07 53‖ *e*P **P** **11 37 27.4 0.0**
KURK pmax pmax
comp=Z,34nm,1.0s
PMAR Madeira 37.87 277 *e*P **P** **11 37 35.5 +0.8**
PMAR *i* Amb 11 37 37.0
comp=Z,176nm,1.4s
MBAR Mbarara 37.91 178 P **P** **11 37 35.7 +0.7**
MBAR IAmb IAmb 11 37 37.5
comp=Z,46nm,1.6s
MBAR Mbarara 37.91 178 P **P** **11 37 37.1 +2.1**
MBAR Mbarara 37.91 178*ce*P **P** **11 37 37.1 +2.1**
MBAR pmax pmax
comp=Z,35nm,1.7s
PDGK Podgornoye 38.14 65 *i* P **P** **11 37 35.7 -1.0**
PDGK pmax pmax
comp=Z,25nm,1.0s
JMIC Jan Mayen 38.90 341 LR LR 11 53 49.6
comp=Z,182nm,18.7s,baz=112,slow=36
KMBO Kilima Mbogo 39.10 167 P **P** **11 37 45.6 +0.5**
comp=Z,0.9nm,0.7s,baz=359,slow=9.8,SNR=5.4
KMBO LR LR 11 56 52.6
comp=Z,188nm,18.5s,baz=296,slow=41
MACI Morro de la Ar 39.30 270 P **P** **11 37 46.6 -0.1**
MAKZ Makanchi 39.45 59 P **P** **11 37 46.8 -0.7**
MAKZ Makanchi 39.45 59 P **P** **11 37 46.8 -0.7**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 39.66 59 P **P** **11 37 48.7 -0.6**
MK31 Makanchi Array 39.66 59 *i* P **P** **11 37 48.9 -0.4**
MKAR Makanchi Array 39.66 59 P **P** **11 37 49.2 -0.1**
comp=Z,14nm,0.9s,baz=280,slow=6.9,SNR=41
MKAR PP **PP** **11 39 21.2 +1.0**
comp=Z,2.6nm,0.9s,baz=268,slow=10,SNR=1.3
MKAR LR LR 11 56 23.2
comp=Z,361nm,20.5s,baz=266,slow=40
comp=Z,14nm,0.9s
MKAR Makanchi Array 39.66 59 *i* P **P** **11 37 49.0 -0.3**
MKAR pmax pmax
comp=Z,14nm,0.9s
BORG Borgarnes 40.23 329 LR LR 11 57 12.0
comp=Z,513nm,18.2s,baz=111,slow=40
ZAA0 Zalesovo Array 40.94 48 P **P** **11 37 59.5 -0.3**
ZALV Zalesovo Beam 40.94 48 P **P** **11 37 58.6 -1.1**
ZALV Zalesovo Beam 40.94 48 P **P** **11 37 59.6 -0.2**
comp=Z,6.1nm,0.8s,baz=276,slow=6.6,SNR=12
ZALV PP **PP** **11 39 34.7 +0.8**
comp=Z,0.3nm,0.3s,baz=243,slow=9.5,SNR=1.0
ZALV LR LR 11 58 41.7
comp=Z,428nm,18.3s,baz=265,slow=42
comp=Z,6.1nm,0.8s
ZALV Zalesovo Beam 40.94 48 *i* P **P** **11 38 00.5 +0.8**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
SPITS Spitsbergen Ar 41.17 356 P **P** **11 38 02.1 +0.6**

comp=Z,16nm,1.1s,baz=159,slow=7.2,SNR=2.4
comp=Z,16nm,1.1s
SCO Scoresbysund 42.46 337 *i* P **P 11 38 11.5 -0.4**
SCO IAmb IAmb 11 38 13.2
comp=Z,27nm,1.5s
DBIC Dimbokro 43.68 234 P **P 11 38 21.2 -1.2**
DBIC Dimbokro 43.68 234 P **P 11 38 21.0 -1.4**
comp=Z,18nm,1.1s,baz=14,slow=10,SNR=6.8
DBIC PcP **PcP 11 40 09.2 -0.5**
comp=Z,5.0nm,0.8s,baz=62,slow=3.4,SNR=3.7
DBIC LR LR 12 00 54.8
comp=Z,419nm,18.8s,baz=37,slow=42
comp=Z,18nm,1.1s
DBIC Dimbokro 43.68 234 P **P 11 38 21.3 -1.2**
DBIC pmax pmax
comp=Z,23nm,1.1s
WMQ Urumqi 43.91 63 *e*P **P 11 38 28.0 +3.9**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=Z,540nm,17.3s
WMQ LR LR
comp=Z,460nm,18.3s
WMQ LR LR
comp=Z,350nm,16.1s
NRIK Noril'sk 44.33 26 P **P 11 38 28.1 +1.0**
NRIK Noril'sk 44.33 26 P **P 11 38 26.4 -0.7**
comp=Z,3.7nm,0.7s,baz=243,slow=7.7,SNR=18
NRIK PcP **PcP 11 40 10.9 0.0**
comp=Z,7.1nm,1.0s,baz=202,slow=2.1,SNR=4.6
NRIK LR LR 11 59 16.5
comp=Z,203nm,18.1s,baz=254,slow=39
comp=Z,3.7nm,0.7s
NRIK Noril'sk 44.33 26 *ce*P **P 11 38 27.8 +0.7**
NRIK pmax pmax
comp=Z,17nm,0.8s
BBTS Babate 46.52 253 LR LR 12 01 18.1
comp=Z,506nm,18.2s,baz=304,slow=40
NOR Nord 47.12 352 *i* P **P 11 38 48.0 -1.0**
NOR IAmb IAmb 11 38 49.9
comp=Z,8.0nm,1.0s
HYB Hyderabad 47.41 101 *e*P **P 11 38 53.4 +1.4**
SUMG Summit 48.07 338 P **P 11 38 56.7 -0.3**
SUMG IAmb IAmb 11 39 01.4
comp=Z,17nm,1.0s
SUMG Summit 48.07 338 P **P 11 38 56.7 -0.3**
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 48.07 338 *i* P **P 11 38 56.0 -1.0**
SUMG IAmb IAmb 11 38 58.6
comp=Z,10nm,0.8s
ICESG Greenland Ices 48.11 333 *i* P **P 11 38 57.4 +0.2**
NRS Narsarsuaq 50.87 323 *i* P **P 11 39 18.3 +0.4**
NRS IAmb IAmb 11 39 19.4
comp=Z,204nm,1.5s
MOY Mondy 50.93 50 *e*P **P 11 39 19.8 +1.1**
MOY pmax pmax
comp=Z,20nm,2.1s
SFJD Kangerlussuaq 52.31 331 LR LR 12 04 02.6
comp=Z,378nm,19.2s,baz=96,slow=39
SFJD Kangerlussuaq 52.31 331 *i* P **P 11 39 27.3 -1.3**
SFJD IAmb IAmb 11 39 29.5
comp=Z,13nm,0.8s
LSZ Lusaka 52.48 181 P **P 11 39 31.3 +0.7**
LSZ IAmb IAmb 11 39 33.4
comp=Z,41nm,1.9s
LSZ Lusaka 52.48 181 LR LR 12 03 05.9
comp=Z,153nm,18.6s,baz=352,slow=38
LSZ Lusaka 52.48 181 P **P 11 39 31.3 +0.7**
LSZ pmax pmax
comp=Z,41nm,2.0s
ZAK Zakamensk 52.65 51 *e*P **P 11 39 31.4 -0.2**
ZAK pmax pmax
comp=Z,12nm,1.1s
UPNV Upernavik 53.35 338 *i* P **P 11 39 36.2 0.0**
UPNV IAmb IAmb 11 39 37.0
comp=Z,18nm,1.1s
GTA Gaotai 53.88 65 P **P 11 39 43.0 +2.2**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA LR LR
comp=Z,220nm,17.9s
GTA LR LR
comp=Z,270nm,16.7s
GTA LR LR
comp=Z,330nm,19.1s
BRDH Bariadhala 54.96 87 LR LR 12 07 55.4
comp=Z,360nm,19.1s,baz=174,slow=41
PALK Pallekele 55.29 110 LR LR 12 07 03.5
comp=Z,167nm,18.4s,baz=316,slow=40
SONM Songino Array 55.38 53 P **P 11 39 52.1 +0.5**
SONM Songino Array 55.38 53 P **P 11 39 50.3 -1.3**
comp=Z,4.4nm,1.1s,baz=285,slow=7.4,SNR=22
SONM LR LR 12 06 59.4
comp=Z,270nm,20.0s,baz=292,slow=40
comp=Z,4.4nm,1.1s
SONM Songino Array 55.38 53 P **P 11 39 52.1 +0.5**
SONM pmax pmax
comp=Z,13nm,1.4s
TULEG Thule 55.77 344 *i* P **P 11 39 52.2 -1.6**
TULEG IAmb IAmb 11 39 54.1
comp=Z,33nm,1.0s
ULN Ulaanbaatar 55.79 53 P **P 11 39 54.5 -0.1**
ULN Ulaanbaatar 55.79 53⇑ *e*P **P 11 39 54.8 +0.3**
ULN pmax pmax
comp=Z,14nm,1.1s
BOD Bodaibo 56.52 40 *e*P **P 11 39 58.4 -1.0**
BOD pmax pmax
comp=Z,21nm,0.9s
TSUM Tsumeb 57.46 193 LR LR 12 07 51.4
comp=Z,369nm,18.8s,baz=336,slow=39
EUNU Eureka 57.55 349 P **P 11 40 06.9 +0.4**
TIXI Tiksi 57.78 22 P **P 11 40 07.9 -0.2**
TIXI Tiksi 57.78 22 LR LR 12 08 43.7
comp=Z,247nm,19.1s,baz=297,slow=40
TIXI Tiksi 57.78 22⇑ *e*P **P 11 40 08.4 +0.3**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 58.14 67 *e*P **P 11 40 14.5 +3.1**
LZH sP sP 11 40 21.5 +4.9
LZH pmax pmax
comp=Z,31nm,1.0s
LZH LR LR
comp=Z,390nm,15.8s
LZH LR LR
comp=Z,490nm,16.4s
LZH LR LR
comp=Z,550nm,18.2s
FRB Frobisher Bay 60.40 330 P **P 11 40 25.7 -0.7**
comp=Z,47nm,1.0s,baz=70,slow=7.7,SNR=59
FRB LR LR 12 09 49.3
comp=Z,281nm,18.6s,baz=61,slow=39
comp=Z,47nm,1.0s
CD2 Chengdu 60.41 72 *e*P **P 11 40 25.0 -2.1**
BTO Baotou 60.58 60 *e*P **P 11 40 26.8 -1.3**
BTO pP **pP 11 40 31.3 -0.6**
BTO sP **sP 11 40 34.0 +0.7**
BTO S **S 11 48 43.5 -0.6**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,270nm,5.2s
BTO LR LR
comp=Z,310nm,5.9s
BTO LR LR
comp=Z,410nm,8.8s
BTO LR LR
comp=Z,220nm,9.0s
PZH PanZhiHua 60.99 78 P **P 11 40 32.3 +1.1**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.4s
HHC Hu-ho-hao-te 61.52 59 *e*P **P 11 40 33.5 -1.1**
HHC pP pP 11 40 38.0 -0.3
HHC sP sP 11 40 40.0 +0.2
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,140nm,6.2s
HHC LR LR
comp=Z,320nm,19.1s
HHC LR LR
comp=Z,190nm,16.2s
HHC LR LR
comp=Z,220nm,16.9s

YAK Yakutsk 62.15 32 P **P 11 40 37.4 -0.8**
comp=Z,9.1nm,0.4s,baz=105,slow=8.8,SNR=6.0
YAK LR LR 12 11 52.3
comp=Z,162nm,18.8s,baz=288,slow=40
comp=Z,9.1nm,0.4s
YAK Yakutsk 62.15 32 *e*P **P 11 40 38.2 0.0**
YAK *e**PP **sP 11 40 47.1 +3.7**
YAK *e* 11 41 18.3
YAK *e* 11 42 52.0
YAK *e*S **S 11 49 04.2 +1.1**
YAK *e*SS **SS 11 53 08.6 +3.4**
YAK *e*SSS SSS 11 55 51.6
YAK pmax pmax
comp=Z,31nm,1.4s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,15nm,1.8s
YAK pmax pmax
comp=Z,196nm,7.7s
YAK pmax pmax
comp=N,63nm,5.4s
YAK pmax pmax
comp=E,69nm,5.1s
YAK smax smax
comp=E,239nm,8.5s
YAK smax smax
comp=N,152nm,5.2s
LBTB Lobatse 62.26 184 P **P 11 40 40.1 +0.6**
LBTB Lobatse 62.26 184 LR LR 12 10 02.0
comp=N,280nm,18.3s,baz=360,slow=38
LBTB Lobatse 62.26 184 P **P 11 40 40.1 +0.6**
LBTB pmax pmax
comp=Z,57nm,1.8s
RES Resolute Bay 62.29 346 P **P 11 40 38.9 -0.1**
RES Resolute Bay 62.29 346 LR LR 12 07 56.5
comp=Z,140nm,19.0s,baz=16,slow=36
RES Resolute Bay 62.29 346 P **P 11 40 38.9 -0.1**
RES pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 62.78 67 P **P 11 40 45.3 +2.3**
XAN pmax pmax
comp=Z,13nm,0.9s
XAN pmax pmax
comp=Z,560nm,13.7s
XAN LR LR
comp=Z,420nm,13.7s
XAN LR LR
comp=Z,700nm,14.3s
CHTO Chiang Mai 62.79 86 P **P 11 40 43.8 +0.6**
CHTO Chiang Mai 62.79 86 P **P 11 40 43.8 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
CMAR Chiang Mai Arr 62.98 87 P **P 11 40 43.4 -1.1**
CMAR Chiang Mai Arr 62.98 87 P **P 11 40 43.1 -1.4**
comp=Z,2.0nm,0.4s,baz=300,slow=7.8,SNR=27
CMAR PP **PP 11 43 03.5 +0.6**
comp=Z,0.7nm,0.4s,baz=302,slow=6.4,SNR=1.4
CMAR LR LR 12 13 44.1
comp=Z,220nm,20.3s,baz=295,slow=41
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 62.98 87 *i* P **P 11 40 46.0 +1.5**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
SCHQ Schefferville 63.62 320 P **P 11 40 47.0 -1.2**
SCHQ Schefferville 63.62 320 P **P 11 40 47.5 -0.6**
comp=Z,7.4nm,0.7s,baz=81,slow=5.3,SNR=11
SCHQ LR LR 12 08 06.6
comp=Z,198nm,18.8s,baz=28,slow=36
comp=Z,7.4nm,0.7s
ZEA Zeya 65.00 40 *e*P **P 11 40 59.6 +2.4**
ZEA *e*S **S 11 49 44.8 +5.9**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA smax smax
comp=E,100nm,5.8s
HNS HongShan 65.29 61 ⇓P **P 11 41 03.0 +3.6**
HNS S **S 11 49 45.5 +2.5**
HNS pmax pmax
comp=E,11nm,1.0s
HNS LR LR
comp=E,230nm,14.7s
HNS LR LR
comp=E,210nm,13.7s
HNS LR LR
comp=E,370nm,16.1s
BOSA Boshof 65.86 184 P **P 11 41 03.3 +0.2**
comp=E,4.4nm,1.0s,baz=32,slow=8.0,SNR=4.4
comp=E,4.4nm,1.0s
HEH HeiHe 66.85 44 *e*P **P 11 41 09.0 -0.2**
HEH pmax pmax
comp=E,46nm,1.0s
HEH LR LR
comp=E,350nm,15.2s
HEH LR LR
comp=E,440nm,15.0s
HEH LR LR
comp=E,630nm,14.4s
TIA Tai'an 67.56 61 P **P 11 41 17.0 +3.0**
TIA pmax pmax
comp=E,13nm,1.2s
D62A Allapoint, All 68.74 313 P **P 11 41 20.4 -0.7**
CN2 Changchun 69.08 50 *e*P **P 11 41 23.0 -0.4**
CN2 pmax pmax
comp=E,10.0nm,0.7s
CN2 LR LR
comp=E,300nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=E,500nm,15.0s
BNX BinXian 69.23 48 ⇓P **P 11 41 23.5 -0.7**
BNX pmax pmax
comp=E,11nm,1.1s
A36M Sachs Harbour 69.38 352 P **P 11 41 24.7 +0.1**
A36M IAmb IAmb 11 41 26.1
comp=Z,25nm,1.1s
A36M Sachs Harbour 69.38 352 P **P 11 41 23.9 -0.8**
baz=21
KLR Kul'dur 69.77 43 P **P 11 41 27.1 -0.4**
comp=Z,14nm,1.0s,baz=305,slow=6.1,SNR=8.4
KLR LR LR 12 16 29.0
comp=Z,283nm,18.4s,baz=308,slow=40
comp=Z,14nm,1.0s
KLR Kul'dur 69.77 43⇓ *e*P **P 11 41 28.3 +0.8**
KLR pmax pmax
comp=Z,16nm,1.0s
UBPT Khong Chiam 69.93 86 P **P 11 41 29.5 +0.6**
BILL Bilibino 69.94 16 *de*P **P 11 41 28.5 +0.2**
BILL pmax pmax
comp=Z,31nm,1.4s
SUR Sutherland 69.96 188 LR LR 12 13 43.3
comp=Z,232nm,19.4s,baz=8.5,slow=37
SEY Seymchan 70.09 24 P **P 11 41 30.0 +0.8**
comp=Z,17nm,1.1s,baz=302,slow=5.7,SNR=20
comp=Z,17nm,1.1s
SEY Seymchan 70.09 24⇑ *i* P **P 11 41 30.4 +1.2**
SEY pmax pmax
comp=Z,15nm,1.0s
NJ2 Nanjing 70.97 64 *e*P **P 11 41 35.0 -0.1**
NJ2 pmax pmax
comp=Z,28nm,0.5s
MDJ Mudanjiang 71.14 48 P **P 11 41 37.0 +1.1**
MDJ pmax pmax
comp=Z,16nm,1.6s
QIZ Qiongzhong 71.28 80 P **P 11 41 36.8 -0.4**
QIZ S **S 11 50 57.5 +2.6**
QIZ pmax pmax
comp=Z,23nm,1.6s
QIZ LR LR
comp=Z,180nm,7.1s
QIZ LR LR
comp=Z,200nm,9.8s
QIZ LR LR
comp=Z,230nm,31.6s
A21K Barrow 71.42 2 P **P 11 41 36.2 -1.0**
baz=355
C36M Paulatuk 71.70 350 P **P 11 41 37.9 -0.9**
C36M IAmb IAmb 11 41 39.9
comp=Z,20nm,1.2s
C36M Paulatuk 71.70 350 P **P 11 41 37.7 -1.2**
baz=22,SNR=8.8
A22K Sinclair Lake 71.78 1 P **P 11 41 38.2 -1.1**
baz=356
MA2 Magadan 71.90 27 P **P 11 41 41.8 +1.5**
MA2 IAmb IAmb 11 41 51.8
comp=Z,29nm,1.3s

MA2 Magadan 71.90 27 LR LR 12 18 07.6
comp=Z,212nm,18.2s,baz=307,slow=40
MA2 Magadan 71.90 27⇓ *e*P **P 11 41 42.4 +2.1**
MA2 pmax pmax
comp=Z,26nm,1.4s
PSI Prapat 72.12 100 LR LR 12 17 40.4
comp=Z,140nm,19.2s,baz=284,slow=39
PSI Prapat 72.12 100 P **P 11 41 42.9 +0.5**
PSI pmax pmax
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 72.18 101 P **P 11 41 42.9 +0.3**
A19K Wainwright 72.36 4 P **P 11 41 42.0 -0.7**
baz=351
B22K Teshekpuk Lake 72.47 1 P **P 11 41 42.6 -0.9**
baz=358
B20K Meade River 72.72 2 P **P 11 41 43.7 -1.2**
baz=355
USA0B Ussuriysk Arra 72.78 47 P **P 11 41 45.0 -0.9**
USA0B IAmb IAmb 11 41 49.5
comp=Z,22nm,0.9s
USA0B Ussuriysk Arra 72.78 47 *de*P **P 11 41 46.1 +0.3**
USRK Ussuriysk Ar. 72.78 47 P **P 11 41 44.7 -1.1**
USRK Ussuriysk Ar. 72.78 47 P **P 11 41 44.9 -0.9**
comp=Z,23nm,0.9s,baz=319,slow=6.5,SNR=17
USRK LR LR 12 18 15.9
comp=Z,144nm,18.1s,baz=304,slow=40
comp=Z,23nm,0.9s
VLDQ Val d'Or 72.82 318 P **P 11 41 45.7 -0.2**
VLDQ IAmb IAmb 11 41 47.5
comp=Z,14nm,1.0s
C26K Camden Bay 72.83 358 P **P 11 41 44.7 -1.0**
baz=4.7
PSTR Posyet 72.98 49⇓ *e*P **P 11 41 49.6 +2.6**
C23K Itkillik River 73.00 360 P **P 11 41 47.3 +0.6**
C23K Itkillik River 73.00 360 P **P 11 41 45.9 -0.8**
baz=0.0
C27K Jago River 73.08 357 P **P 11 41 46.5 -0.7**
baz=5.7
C24K Franklin Bluff 73.10 359 P **P 11 41 46.5 -0.8**
baz=1.6
D28M Stokes Point 73.14 356 P **P 11 41 47.2 -0.3**
baz=9.8
B18K Kokolik River 73.15 4 P **P 11 41 46.4 -1.1**
baz=351
B21K Ikpikpuk River 73.17 1 P **P 11 41 45.6 -2.0**
baz=357
FCC Fort Churchill 73.23 333 P **P 11 41 47.6 -0.6**
FCC IAmb IAmb 11 41 49.1
comp=Z,28nm,1.3s
FCC Fort Churchill 73.23 333 P **P 11 41 47.6 -0.6**
FCC pmax pmax
comp=Z,28nm,1.3s
D27M Malcolm River 73.35 356 P **P 11 41 47.2 -1.7**
baz=8.0
VLA Vladivostok 73.35 48⇑ *e*P **P 11 41 46.9 -2.3**
VLA pmax pmax
comp=Z,30nm,1.1s
D25K Kavik River 73.47 358 P **P 11 41 48.4 -1.1**
baz=3.5
C21K Knifeblade Rid 73.63 2 P **P 11 41 50.2 -0.3**
baz=357
D24K Happy Valley 73.67 359 P **P 11 41 49.8 -0.8**
baz=1.5
INK Inuvik 73.75 353 P **P 11 41 50.6 -0.5**
INK Inuvik 73.75 353 P **P 11 41 50.6 -0.5**
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 73.75 353 P **P 11 41 50.3 -0.8**
baz=14,SNR=13
D23K Nanushuk River 73.87 0 P **P 11 41 50.9 -0.9**
baz=360
C18K Utukok River 73.89 4 P **P 11 41 50.1 -1.9**
baz=351
E28M Babbage River 73.91 356 P **P 11 41 50.8 -1.3**
baz=9.2
C17K DeLong Mountai 73.94 5 P **P 11 41 52.2 0.0**
baz=350,SNR=13
D22K Ayikyak River 73.94 1 P **P 11 41 52.6 +0.3**
baz=358,SNR=16
C16K Lisburne Hills 73.99 6 P **P 11 41 51.8 -0.7**
baz=348
E29M Blow River 74.02 355 P **P 11 41 52.5 -0.2**
E29M IAmb IAmb 11 41 59.0
comp=Z,28nm,0.9s
E29M Blow River 74.02 355 P **P 11 41 52.0 -0.7**
baz=10,SNR=40
D20K Etivluk River 74.03 2 P **P 11 41 51.5 -1.3**
baz=355
KSAR Wonju Array Be 74.15 55 P **P 11 41 54.9 +0.9**
KSAR Wonju Array Be 74.15 55 P **P 11 41 54.9 +0.9**
KSRS Korea Array 74.17 55 P **P 11 41 53.4 -0.7**
comp=Z,14nm,1.0s,baz=304,slow=5.4,SNR=22
KSRS LR LR 12 19 09.1
comp=Z,391nm,18.6s,baz=305,slow=40
comp=Z,14nm,1.0s
TOLK Toolik Lake Re 74.19 360 P **P 11 41 54.7 +0.9**
TOLK Toolik Lake Re 74.19 360 P **P 11 41 52.2 -1.6**
baz=0.9,SNR=9.2
D19K Kuna River 74.19 3 P **P 11 41 53.2 -0.5**
baz=354
RCBR Riachuelo 74.34 250 LR LR 12 15 01.5
comp=Z,154nm,20.1s,baz=68,slow=36
E21K Killik River 74.37 1 P **P 11 41 54.8 0.0**
baz=357
TYV Tymovskoe 74.37 37 *e*P **P 11 41 59.1 +4.1**
TYV pmax pmax
comp=Z,15nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.4s
RDOG Red Dog Mine 74.38 5 P **P 11 41 54.2 -0.6**
baz=350
E27K Coleen River 74.44 357 P **P 11 41 55.1 -0.1**
baz=7.4,SNR=14
E20K Nigu River 74.50 2 P **P 11 41 55.2 -0.3**
baz=355
F31M Tsiigehtchic 74.62 353 P **P 11 41 55.9 -0.3**
F31M IAmb IAmb 11 41 57.3
comp=Z,32nm,1.1s
F31M Tsiigehtchic 74.62 353 P **P 11 41 55.7 -0.4**
baz=14,SNR=19
F30M Barrier River 74.63 354 P **P 11 41 55.7 -0.6**
baz=12,SNR=16
E25K Arctic Village 74.65 358 P **P 11 41 57.3 +0.9**
E25K IAmb IAmb 11 41 58.6
comp=Z,34nm,1.4s
E25K Arctic Village 74.65 358 P **P 11 41 56.7 +0.3**
baz=4.2,SNR=21
E22K Anaktuvuk Pass 74.70 0 P **P 11 41 56.6 -0.1**
E22K IAmb IAmb 11 42 03.0
comp=Z,13nm,0.9s
E22K Anaktuvuk Pass 74.70 0 P **P 11 41 56.6 -0.1**
baz=359,SNR=20
D17K Noatak River 74.72 5 P **P 11 41 56.4 -0.3**
baz=350,SNR=11
E24K Your Creek 74.75 359 P **P 11 41 56.7 -0.3**
baz=1.8
E23K Chandalar 74.78 360 P **P 11 41 57.4 +0.2**
baz=0.8
F26K Sheenjek River 75.03 357 P **P 11 41 58.9 +0.3**
baz=5.3,SNR=27
E18K Tukpahlearik C 75.15 4 P **P 11 41 59.1 -0.1**
baz=352,SNR=8.6
G31M Satah River 75.17 353 P **P 11 41 59.0 -0.4**
baz=13,SNR=8.9
F25K Christian Rive 75.18 358 P **P 11 41 59.6 +0.1**
baz=4.1,SNR=21
E19K Redstone River 75.27 3 P **P 11 42 00.1 +0.2**
baz=355
G30M tAoh Zraii Nji 75.28 354 P **P 11 41 59.4 -0.7**
baz=12,SNR=8.7
F24K Squaw Lake 75.30 359 P **P 11 42 00.6 +0.4**
F24K IAmb IAmb 11 42 07.2
comp=Z,20nm,0.9s
F24K Squaw Lake 75.30 359 P **P 11 42 00.9 +0.7**
baz=2.2,SNR=42
BMAR Burnt Mountain 75.31 358 P **P 11 42 00.9 +0.7**
F22K John River 75.33 1 P **P 11 42 00.2 -0.2**
baz=359
E17K Hotham Inlet 75.41 5 P **P 11 42 00.6 -0.1**
baz=351
G29M Pine Creek 75.49 355 P **P 11 42 00.7 -0.5**
baz=10,SNR=8.7
F21K Alatna River 75.60 1 P **P 11 42 01.6 -0.3**
baz=358,SNR=47
COLD Coldfoot 75.62 360 P **P 11 42 01.9 0.0**
baz=0.3,SNR=27
F20K Avaraart Lake 75.72 2 P **P 11 42 02.9 +0.3**

baz=356
G26K Porcupine Rive 75.76 357 P P 11 42 03.3 +0.6
baz=5.6,SNR=28
SADO Sadowa 75.80 316 P P 11 42 02.1 -1.3
comp=Z,11nm,1.0s,baz=8.5,slow=1.7,SNR=3.1
SADO LR LR 12 15 56.2
comp=Z,106nm,18.5s,baz=70,slow=36
comp=Z,11nm,1.0s
G27K Doyon Strip 75.81 356 P P 11 42 03.1 0.0
baz=7.3,SNR=20
F19K Shaleruckik Mo 75.87 3 P P 11 42 02.6 -0.8
baz=354,SNR=19
EPYK Eagle Plains 75.92 354 P P 11 42 03.8 0.0
baz=11,SNR=15
F18K Selawik 76.02 4 P P 11 42 03.6 -0.6
baz=353,SNR=11
G25K Bearman Lake 76.02 358 P P 11 42 04.2 0.0
baz=3.7
F17K Baldwin Pennin 76.08 4 P P 11 42 03.7 -0.9
baz=351
G24K Hadweenzic Riv 76.12 359 P P 11 42 05.0 +0.2
baz=2.6,SNR=11
G23K Bananza Creek 76.14 360 P P 11 42 05.4 +0.4
G23K IAmb IAmb 11 42 11.6
comp=Z,13nm,0.9s
G23K Bananza Creek 76.14 360 P P 11 42 05.5 +0.4
baz=0.5,SNR=25
H29M Whitestone 76.20 355 P P 11 42 05.5 +0.2
baz=10.0,SNR=15
YKA Yellowknife Ar 76.24 344 P P 11 42 04.1 -1.4
comp=Z,4.9nm,1.0s,baz=30,slow=5.5,SNR=57
YKA LR LR 12 17 37.7
comp=Z,117nm,18.2s,baz=355,slow=37
comp=Z,4.9nm,1.0s
YKA Yellowknife Ar 76.24 344 *i* P P 11 42 05.4 -0.2
YKA pmax pmax
comp=Z,5.0nm,1.0s
H31M Peel River 76.27 353 P P 11 42 05.7 -0.1
baz=13,SNR=6.4
G21K Allakaket 76.31 1 P P 11 42 06.5 +0.6
baz=358,SNR=31
H27K Steamboat Moun 76.38 356 P P 11 42 06.8 +0.5
baz=7.4,SNR=20
TNA Tin City 76.41 7 P P 11 42 06.5 0.0
baz=346
H25L Birch Creek 76.52 358 P P 11 42 07.4 +0.3
baz=3.9,SNR=27
F15K North Star Dit 76.57 6 P P 11 42 07.1 -0.3
baz=349
G19K Purcell Mounta 76.58 3 P P 11 42 07.2 -0.3
baz=355,SNR=10
F14K Arctic Creek 76.65 7 P P 11 42 07.1 -0.7
baz=347
G18K Tagagawik 76.77 3 P P 11 42 08.4 -0.2
baz=353
H22K Ishtalitna Cre 76.95 0 P P 11 42 10.1 +0.5
baz=359,SNR=24
YSS Yuzhno-Sakhali 76.99 40α *i* P P 11 42 12.2 +2.1
YSS *e*S S 11 52 01.2 +3.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,200nm,4.5s
YSS pmax pmax
comp=E,300nm,5.2s
YSS smax smax
comp=N,200nm,3.1s
H24K Noodor Dome 76.99 359 P P 11 42 10.2 +0.4
H24K Noodor Dome 76.99 359 P P 11 42 09.6 -0.2
baz=2.2,SNR=13
I27K Kandik River 77.01 356 P P 11 42 09.8 -0.1
baz=7.3,SNR=29
H23K Yukon River 77.02 360 P P 11 42 09.1 -0.9
baz=0.9
I30M Mount Dempster 77.03 354 P P 11 42 09.7 -0.4
baz=12,SNR=29
I29M Ogilvie Camp, 77.04 355 P P 11 42 09.9 -0.2
baz=10.0,SNR=42
G16K Koyuk River 77.05 5 P P 11 42 09.6 -0.5
baz=350
G17K Kiwalik Mounta 77.05 4 P P 11 42 08.9 -1.2
baz=352
I28M Miner Creek 77.06 355 P P 11 42 09.8 -0.5
baz=8.7,SNR=14
H21K Melozitna Rive 77.18 1 P P 11 42 11.8 +0.9
H21K IAmb IAmb 11 42 13.4
comp=Z,30nm,1.2s
H21K Melozitna Rive 77.18 1 P P 11 42 11.5 +0.6
baz=358,SNR=24
H19K Roundabout Mou 77.22 2 P P 11 42 11.2 +0.1
baz=355,SNR=15
PRP Porcupine Dome 77.26 358 P P 11 42 11.2 -0.3
PRP IAmb IAmb 11 42 16.9
comp=Z,18nm,1.4s
PRP Porcupine Dome 77.26 358 P P 11 42 11.3 -0.1
baz=4.2,SNR=8.4
H20K Anotleneega Mo 77.31 2 P P 11 42 11.4 -0.2
baz=356,SNR=14
WRGLY Wrigley 77.31 348 P P 11 42 12.0 +0.4
baz=22,SNR=8.6
G15K Niukluk 77.32 6 P P 11 42 11.6 0.0
baz=349
I26K Coal Creek Min 77.38 357 P P 11 42 12.1 +0.2
baz=6.1
H18K Honhosa River 77.52 3 P P 11 42 12.8 0.0
baz=354,SNR=7.2
ANM Nome 77.63 6 P P 11 42 12.9 -0.5
baz=348
H17K Granite Mounta 77.66 4 P P 11 42 12.0 -1.5
baz=352
J30M Hart River 77.66 354 P P 11 42 13.4 -0.3
J30M Hart River 77.66 354 P P 11 42 13.6 -0.1
baz=12,SNR=53
GAMB Gambell 77.70 9 P P 11 42 13.8 +0.1
baz=343
I23K Minto, Yukon-K 77.70 359 P P 11 42 13.8 +0.1
baz=1.0,SNR=12
POKR Poker Plat Res 77.71 359 P P 11 42 13.9 0.0
baz=2.6,SNR=11
H16K Elim 77.81 5 P P 11 42 14.6 +0.3
baz=351,SNR=6.4
J29N Klondike Camp 77.93 355 P P 11 42 15.1 0.0
baz=10,SNR=8.0
COLA College 77.96 359 *d* *i* P P 11 42 15.1 -0.1
COLA pmax pmax
comp=Z,34nm,1.7s
COLA College 77.96 359 P P 11 42 15.3 +0.1
baz=2.2
GCSA Galena City Sc 77.99 3 P P 11 42 15.4 +0.1
baz=355,SNR=8.3
I20K Naaghedeneel 78.01 2 P P 11 42 15.1 -0.4
baz=357
ILAR Eielson Array 78.04 358 P P 11 42 14.9 -0.7
comp=Z,2.7nm,0.9s,baz=355,slow=3.1,SNR=19
comp=Z,2.7nm,0.9s
ILAR Eielson Array 78.04 358 P P 11 42 15.0 -0.7
J25K Salcha River, 78.16 358 P P 11 42 15.2 -1.2
baz=4.3
CCB Clear Creek Bu 78.19 359 P P 11 42 15.9 -0.5
CCB IAmb IAmb 11 42 22.9
comp=Z,20nm,1.2s
J26L Joseph Creek 78.20 357 P P 11 42 16.2 -0.5
baz=5.7,SNR=18
NEA2 Nenana 78.26 359 P P 11 42 16.8 -0.1
baz=1.3,SNR=22
DAWY Dawson 78.40 355 P P 11 42 17.9 +0.1
baz=9.1,SNR=31
HDA Harding Lake 78.41 358 P P 11 42 17.3 -0.4
baz=3.0,SNR=21
K29M Barlow Dome 78.48 354 P P 11 42 18.8 +0.5
K29M IAmb IAmb 11 42 26.3
comp=Z,13nm,1.0s
K29M Barlow Dome 78.48 354 P P 11 42 18.0 -0.2
baz=11,SNR=10
MAYO Mayo, Yukon 78.58 353 P P 11 42 18.7 0.0
baz=12
K27K Chicken 78.60 356 P P 11 42 18.5 -0.3
baz=6.9
J20K Nowinta River 78.64 2 P P 11 42 18.4 -0.6
baz=357,SNR=23
I17K Unalakleet 78.66 5 P P 11 42 19.2 +0.2
baz=352
JNU Nakatsue 78.67 57 LR LR 12 21 40.1
comp=Z,173nm,18.5s,baz=303,slow=39
SCRK Sand Creek 78.75 357 P P 11 42 19.9 +0.1
SCRK IAmb IAmb 11 42 21.7
comp=Z,32nm,1.4s
SCRK Sand Creek 78.75 357 P P 11 42 18.8 -0.9
baz=5.4,SNR=23
BPAW Bear Paw Mtn. 78.76 0 P P 11 42 19.5 -0.2
BPAW IAmb IAmb 11 42 25.7
comp=Z,17nm,1.0s
BPAW Bear Paw Mtn. 78.76 0 P P 11 42 19.1 -0.6
baz=360,SNR=14
J19K Poorman 78.79 2 P P 11 42 19.6 -0.2
baz=356,SNR=18
ASAJ Asahikawa 78.79 42 P P 11 42 19.8 -0.4
comp=Z,9.4nm,0.9s,baz=300,slow=8.1,SNR=5.6
ASAJ LR LR 12 23 51.3
comp=Z,225nm,20.0s,baz=320,slow=41
comp=Z,9.4nm,0.9s
CHUM Lake Minchumin 78.97 1 P P 11 42 20.6 -0.2
baz=359,SNR=16
K24K Donnelly Dome 78.98 358 P P 11 42 20.5 -0.5
baz=3.9,SNR=23
RIDG Independent Ri 79.02 357 P P 11 42 21.1 0.0
baz=4.7,SNR=17
DOT Dot Lake 79.08 357 P P 11 42 22.1 +0.6
DOT IAmb IAmb 11 42 27.9
comp=Z,17nm,0.9s
MCK McKinley 79.12 359 P P 11 42 21.4 -0.2
baz=1.4,SNR=17
FFC Flin Flon 79.13 334 P P 11 42 21.1 -0.7
FFC IAmb IAmb 11 42 27.8
comp=Z,21nm,1.1s
FFC Flin Flon 79.13 334 P P 11 42 21.2 -0.7
FFC pmax pmax
comp=Z,21nm,1.2s
J17K VABM Dome 79.24 4 P P 11 42 22.5 +0.3
baz=353,SNR=9.6
L29M L29M 79.25 354 P P 11 42 23.1 +0.6
L29M IAmb IAmb 11 42 24.3
comp=Z,28nm,1.4s
L29M L29M 79.25 354 P P 11 42 22.4 0.0
baz=10,SNR=9.4
J16K Anvik River 79.26 5 P P 11 42 22.4 0.0
baz=352,SNR=6.6
J18K Innoko River 79.28 3 P P 11 42 23.2 +0.7
J18K IAmb IAmb 11 42 24.5
comp=Z,24nm,1.4s
J18K Innoko River 79.28 3 P P 11 42 22.4 -0.1
baz=355,SNR=9.7
PEA0B Petropavlovsk- 79.28 29⇓ *e*P P 11 42 24.5 +1.8
PETK Petropavlovsk- 79.28 29 P P 11 42 22.8 +0.1
comp=Z,4.1nm,1.1s,baz=17,slow=5.4,SNR=3.8
PETK LR LR 12 24 25.3
comp=Z,143nm,19.7s,baz=315,slow=41
comp=Z,4.1nm,1.1s
TRF Thorofare Moun 79.41 360 P P 11 42 22.8 -0.6
baz=0.3,SNR=8.4
CAST Castle Rocks 79.44 1 P P 11 42 23.3 -0.1
baz=359,SNR=24
K20K Telida 79.47 2 P P 11 42 23.1 -0.5
baz=357
BCAR Beaver Creek A 79.55 356 P P 11 42 24.6 +0.6
L27K Beaver Creek, 79.55 356 P P 11 42 24.3 +0.2
baz=7.1,SNR=24
J14K Nanvaranak Lak 79.57 6 P P 11 42 24.2 +0.1
baz=350
FARO Faro, Yukon 79.66 352 P P 11 42 24.6 0.0
baz=14,SNR=22
L26K Log Cabin Wild 79.67 357 P P 11 42 25.0 +0.3
baz=5.9,SNR=23
M30M Minto, Yukon 79.67 354 P P 11 42 24.8 +0.1
baz=11,SNR=9.5
PET Petropavlovsk 79.71 28 *e*P P 11 42 13.6 -11
MENT Mentasta 79.77 357 P P 11 42 26.0 +0.8
MENT IAmb IAmb 11 42 36.9
comp=Z,19nm,0.9s
M31M Drury Creek, Y 79.80 352 P P 11 42 25.7 +0.3
baz=13,SNR=16
PAX Paxson 79.81 358 P P 11 42 25.6 +0.1
baz=4.2
M29M Somme Creek 79.94 354 P P 11 42 26.6 +0.3
baz=9.8,SNR=61
K17K Iditarod 79.96 4 P P 11 42 26.1 -0.1
baz=354,SNR=7.8
PPLA Purkeypile 79.96 1 P P 11 42 27.4 +1.0
PPLA IAmb IAmb 11 42 32.6
comp=Z,18nm,0.8s
PPLA Purkeypile 79.96 1 P P 11 42 26.2 -0.2
baz=359,SNR=16
BVCY Beaver Creek 80.14 355 P P 11 42 27.7 +0.4
baz=7.8,SNR=19
K15K Wolf Creek Mou 80.18 5 P P 11 42 27.6 +0.1
baz=351
ULM Lac du Bonnet 80.22 328 P P 11 42 26.8 -1.0
comp=Z,9.3nm,0.9s,baz=33,slow=5.6,SNR=14
ULM LR LR 12 19 28.9
comp=Z,343nm,18.4s,baz=0.0,slow=37
comp=Z,9.3nm,0.9s
M27K Edge Creek, AK 80.26 356 P P 11 42 28.4 +0.4
baz=7.0,SNR=15
M26K Nabesna, AK 80.27 356 P P 11 42 28.1 +0.1
baz=6.1,SNR=22
K13K Kusilvak Mount 80.28 7 P P 11 42 27.4 -0.5
baz=349
KOTAN Kotaneelee Air 80.31 347 P P 11 42 27.7 -0.4
baz=21
L20K Farewell, AK 80.35 2 P P 11 42 28.4 0.0
baz=357,SNR=8.0
HARP HAARP 80.37 357 P P 11 42 28.1 -0.4
baz=4.4
CUT Chulitna 80.46 360 P P 11 42 28.4 -0.5
CUT IAmb IAmb 11 42 49.6
comp=Z,35nm,1.2s
CUT Chulitna 80.46 360 P P 11 42 28.1 -0.8
baz=0.3,SNR=7.7
L18K Granite Mounta 80.53 3 P P 11 42 28.9 -0.3
baz=355,SNR=9.8
L17K Donlin 80.54 4 P P 11 42 29.2 -0.1
baz=354,SNR=6.8
MDP Montagnes des 80.59 269 LR LR 12 15 34.8
comp=Z,99nm,21.7s,baz=114,slow=34
L19K White Mountain 80.62 2 P P 11 42 29.7 -0.1
baz=357,SNR=11
N31M Braeburn, Yuko 80.64 353 P P 11 42 29.2 -0.8
baz=12
N32M Quiet Lake 80.68 351 P P 11 42 29.9 -0.3
baz=14
M24K Tolsona, Glenn 80.69 358 P P 11 42 30.8 +0.5
baz=3.6,SNR=14
YUK3 Moose Creek 80.75 355 P P 11 42 31.4 +0.6
baz=8.2,SNR=42
N30M Aishikik Lake 80.79 353 P P 11 42 30.1 -0.8
baz=11,SNR=11
L15K Ungalak Mounta 80.80 5 P P 11 42 28.6 -2.1
baz=351
SKT Skwentna 80.88 0 P P 11 42 30.2 -1.0
SKT IAmb IAmb 11 42 36.8
comp=Z,27nm,1.3s
SKT Skwentna 80.88 0 P P 11 42 30.5 -0.7
baz=359,SNR=20
L16K Owhat River 80.89 4 P P 11 42 29.7 -1.6
baz=353
M19K Big River Lodg 80.92 2 P P 11 42 30.4 -1.0
baz=357
M20K Styx River 80.96 1 P P 11 42 29.7 -2.0
baz=358
SCM Sheep Creek Mo 81.00 358 P P 11 42 30.7 -1.2
baz=2.6,SNR=30
L14K Kuka Creek 81.04 6 P P 11 42 30.8 -1.2
baz=350
YUK4 Talbot Arm 81.04 354 P P 11 42 29.9 -2.4
baz=9.7,SNR=19
SML Sawmill 81.04 359 P P 11 42 31.6 -0.5
baz=1.8,SNR=8.0
M23K Glacier View 81.05 359 P P 11 42 31.1 -1.0
baz=2.3,SNR=20
GHO Glory Hole Cre 81.09 359 P P 11 42 32.3 -0.1
WTLY Watson Lake, Y 81.11 349 P P 11 42 32.7 +0.2
baz=17,SNR=17
M22K Willow 81.11 360 P P 11 42 31.8 -0.6
baz=0.4
N25K Chitina, Valde 81.14 357 P P 11 42 32.6 -0.1
baz=4.8,SNR=12
GDHS Morne Mazeau, 81.17 284 P P 11 42 33.3 -0.2
YUK8 Steele Glacier 81.19 355 P P 11 42 33.1 -0.1
baz=8.7
MJB9 Matsu-Tunnel 81.23 50 P P 11 42 33.5 -0.1
MJB9 IAmb IAmb 11 42 38.6
comp=Z,36nm,1.2s
MAJO Matsushiro 81.23 50⇑ *e*P P 11 42 36.2 +2.6
MAJO pmax pmax
comp=Z,94nm,3.2s
MJAR Matsushiro Arr 81.24 50 P P 11 42 34.0 +0.4
comp=Z,24nm,1.1s,baz=315,slow=3.8,SNR=7.2
MJAR LR LR 12 23 40.9
comp=Z,196nm,19.3s,baz=316,slow=40
comp=Z,24nm,1.1s
MJAR Matsushiro Arr 81.24 50 P P 11 42 34.0 +0.4
PMR Palmer 81.27 359 P P 11 42 33.0 -0.3
PMR IAmb IAmb 11 42 39.6
comp=Z,28nm,1.2s
PMR Palmer 81.27 359 P P 11 42 33.0 -0.3
PMR pmax pmax
comp=Z,28nm,1.2s
PMR Palmer 81.27 359 P P 11 42 32.9 -0.3
baz=1.2,SNR=16
M18K Stony River 81.29 3 P P 11 42 33.8 +0.5
baz=356,SNR=8.2
KLU Klutina 81.30 358 P P 11 42 33.3 -0.2
baz=3.8,SNR=17
M17K Holitna River 81.31 3 P P 11 42 33.6 +0.1
baz=354,SNR=9.4
LIRD Liard River Hi 81.34 348 P P 11 42 33.5 -0.2
baz=20,SNR=19
WHY Whitehorse 81.36 352 P P 11 42 32.9 -1.0
WHY IAmb IAmb 11 42 39.4
comp=Z,17nm,1.0s
WHY Whitehorse 81.36 352 P P 11 42 33.7 -0.3
baz=13
STLK Strandline Lak 81.36 1 P P 11 42 32.9 -0.9
O30N Mendenhall 81.38 353 P P 11 42 33.7 -0.2
baz=12,SNR=9.8
SUA Susitna One 81.41 0 P P 11 42 33.5 -0.6
baz=360,SNR=34
YUK6 Outpost Mounta 81.41 354 P P 11 42 34.6 +0.3
baz=9.8,SNR=12
KNK Knik Glacier 81.44 359 P P 11 42 34.3 +0.1
KNK IAmb IAmb 11 42 40.5
comp=Z,22nm,0.8s
KNK Knik Glacier 81.44 359 P P 11 42 34.3 +0.1
baz=1.7,SNR=22
HYT Haines Junctio 81.46 354 P P 11 42 34.5 +0.1
baz=10,SNR=30
VRDI Verde Repeater 81.47 356 P P 11 42 34.1 -0.4
VRDI IAmb IAmb 11 42 37.0
comp=Z,23nm,1.4s
P33M Teslin, Yukon 81.56 351 P P 11 42 33.7 -1.2
baz=14
M16K Timber Creek 81.61 4 P P 11 42 35.5 +0.5
baz=353,SNR=5.8
M11K Mekoryuk 81.65 8 P P 11 42 35.2 -0.1
baz=348
SPCR Spurr Chakacha 81.66 1 P P 11 42 35.1 -0.3
baz=359
M14K Bethel 81.68 6 P P 11 42 34.8 -0.6
baz=351
TOAD Toad River Com 81.72 347 P P 11 42 35.6 -0.2
baz=20,SNR=38
O28M Mount Upton 81.73 355 P P 11 42 35.7 -0.4
baz=8.3,SNR=14
RC01 Rabbit Creek A 81.78 360 P P 11 42 36.2 +0.2
RC01 Rabbit Creek A 81.78 360 P P 11 42 35.4 -0.6
baz=0.7
BMRM Bremner River 81.78 357 P P 11 42 35.7 -0.3
baz=4.8,SNR=9.1
M15K Kasigluk River 81.83 5 P P 11 42 36.0 -0.2
baz=352,SNR=6.8
M13K Dall Lake 81.90 6 P P 11 42 36.3 -0.3
baz=350
GLI Glacier Island 81.95 358 P P 11 42 35.9 -0.9
baz=2.8,SNR=9.7
PWL Port Wells 81.99 359 P P 11 42 36.8 -0.4
baz=1.8,SNR=11
N19K Bonanza Creek 82.01 2 P P 11 42 37.5 +0.2
N19K IAmb IAmb 11 42 44.0
comp=Z,22nm,0.9s
N19K Bonanza Creek 82.01 2 P P 11 42 36.9 -0.4
baz=357,SNR=17
O29M Mount Kennedy 82.07 354 P P 11 42 37.3 -0.4
baz=9.6,SNR=10
N18K Kilae Creek 82.10 3 P P 11 42 38.3 +0.6
baz=356,SNR=6.9
P30M Million Dollar 82.10 353 P P 11 42 38.1 +0.4
baz=11
CAPN Captain Cook N 82.10 0 P P 11 42 38.1 +0.5
baz=360
R33M Jennings River 82.11 350 P P 11 42 38.6 +0.7
R33M Jennings River 82.11 350 P P 11 42 37.9 -0.1
baz=16,SNR=35
N16K Nishlik Lake 82.17 4 P P 11 42 38.1 +0.1
baz=354
N17K Nushagak Hills 82.20 3 P P 11 42 37.9 -0.2
baz=355
WAX Waxell Ridge 82.21 356 P P 11 42 38.5 +0.1
EYAK Cordova Ski Ar 82.24 358 P P 11 42 39.0 +0.7
EYAK Cordova Ski Ar 82.24 358 P P 11 42 38.6 +0.3
baz=3.9,SNR=18
P32M Atlin 82.28 351 P P 11 42 38.6 0.0
baz=14,SNR=12
O22K Cooper Landing 82.39 360 P P 11 42 39.2 0.0
baz=0.7
N15K Kwethluk River 82.39 5 P P 11 42 39.3 +0.1
baz=352
PINM Pinnacle 82.40 355 P P 11 42 39.6 +0.2
baz=8.3,SNR=17
MESA MESA 82.43 356 P P 11 42 40.0 +0.3
baz=6.9,SNR=5.7
N14K Kuskokwak Cree 82.52 6 P P 11 42 38.0 -1.8
baz=351
BGLC Bering Glacier 82.56 356 P P 11 42 38.7 -1.3
baz=5.9
SKAG Skagway 82.58 352 P P 11 42 39.4 -0.8
baz=12
O19K Port Alsworth 82.63 2 P P 11 42 39.7 -0.7
baz=357
SUCK Suckling Hills 82.64 357 P P 11 42 41.6 +1.2
P29M Windy Craggy 82.66 353 P P 11 42 40.0 -0.6
baz=10,SNR=5.4
Q32M Nakina River 82.71 351 P P 11 42 39.7 -1.4
baz=15,SNR=9.9
PNL Peninsula 82.76 354 P P 11 42 40.6 -0.6
baz=8.9
SEW Seward 82.76 359 P P 11 42 41.0 -0.1
SEW Seward 82.76 359 P P 11 42 40.2 -0.9
baz=0.9,SNR=14
O20K Slope Mountain 82.78 1 P P 11 42 40.2 -1.1
baz=358
TGY Tagaytay City 82.78 78 LR LR 12 25 17.7
comp=Z,108nm,20.5s,baz=211,slow=40
KAIM Kayak Island 82.81 357 P P 11 42 39.2 -2.2
baz=5.0
DLBC Dease Lake 82.90 349 LR LR 12 20 49.6
comp=Z,267nm,19.9s,baz=57,slow=37
DLBC Dease Lake 82.90 349 P P 11 42 40.0 -1.9
baz=16,SNR=9.4
O18K Koktuh Hills 82.95 2 P P 11 42 42.0 -0.1
O18K IAmb IAmb 11 42 43.7
comp=Z,23nm,1.3s
O18K Koktuh Hills 82.95 2 P P 11 42 40.9 -1.2
baz=356,SNR=8.8
O17K Koliganek Bris 82.95 3 P P 11 42 42.0 -0.1
baz=355
O16K Kokwok River B 83.08 4 P P 11 42 42.7 -0.1
baz=354
BRSE Bradley Lake S 83.13 0 P P 11 42 42.9 -0.2
baz=360
P19K Oil Pt 83.20 1 P P 11 42 42.7 -0.7
baz=358
HOM Homer 83.21 1 P P 11 42 42.2 -1.2
baz=359
O14K Tigyukauivet M 83.22 5 P P 11 42 41.9 -1.6
baz=352
O15K Ungalikthiuk R 83.40 5 P P 11 42 43.5 -0.9
baz=353
P18K Big Mountain, 83.41 2 P P 11 42 43.3 -1.2
baz=356
SJG San Juan 83.43 288 LR LR 12 14 30.5
comp=Z,117nm,20.2s,baz=48,slow=32
P17K Kvichak River 83.56 3 P P 11 42 42.9 -2.4
baz=355
S34M Telegraph Cree 83.57 350 P P 11 42 46.2 +0.9
S34M IAmb IAmb 11 42 52.4
comp=Z,15nm,0.8s
S34M Telegraph Cree 83.57 350 P P 11 42 43.4 -1.9
baz=15,SNR=23
P16K Nushagak River 83.65 4 P P 11 42 44.1 -1.6
baz=354
R32K Eaglecrest 83.65 352 P P 11 42 44.0 -1.7
baz=13
R31K City Hall, Gus 83.66 352 P P 11 42 44.4 -1.3
baz=12

Q19K	**Cape Douglas,**	83.92	2	P	**P**	**11 42 45.2**	**-1.9**
	baz=358						
Q16K	**King Salmon**	84.07	3	P	**P**	**11 42 46.4**	**-1.5**
	baz=355						
WCI	**Wyandotte Cave**	84.15	314	P	**P**	**11 42 48.0**	**-0.7**
WCI	**Wyandotte Cave**	84.15	314	P	**P**	**11 42 48.0**	**-0.7**
WCI				pmax	pmax		
	comp=Z,24nm,1.1s						
S31K	**Pelican**	84.15	352	P	**P**	**11 42 47.3**	**-1.0**
	baz=11						
Q18K	**Katmai Hardscr**	84.16	2	P	**P**	**11 42 47.4**	**-1.1**
	baz=356						
Q20K	**Shuyak Island**	84.26	1	P	**P**	**11 42 48.1**	**-0.7**
	baz=359						
SPIA	**Saint Paul Isl**	84.26	11	P	**P**	**11 42 48.2**	**-0.7**
	baz=344						
T35M	**Bob Quinn**	84.33	349	P	**P**	**11 42 48.6**	**-0.7**
	baz=16,SNR=9.1						
TKL	**Tuckaleechee C**	84.44	311	P	**P**	**11 42 49.5**	**-0.7**
	comp=Z,5.6nm,0.7s,baz=70,slow=6.8,SNR=9.6						
TKL				LR	LR	12 23 07.0	
	comp=Z,100nm,18.8s,baz=56,slow=38						
	comp=Z,5.6nm,0.7s						
S32K	**Killisnoo**	84.45	351	P	**P**	**11 42 48.1**	**-1.7**
	baz=13						
LEM	**Lembang**	84.87	103	LR	LR	12 24 55.5	
	comp=Z,140nm,19.3s,baz=304,slow=39						
SIT	**Sitka**	84.94	352	P	**P**	**11 42 51.4**	**-0.9**
	baz=12						
SHEM	**Shemya Is, Ala**	85.07	21	LR	LR	12 26 24.5	
	comp=Z,74nm,19.0s,baz=332,slow=40						
KDAK	**Kodiak Island**	85.08	1	P	**P**	**11 42 52.3**	**-0.7**
	baz=358						
R16K	**Pilot Point**	85.13	4	P	**P**	**11 42 52.1**	**-1.1**
	baz=354						
WRAK	**Wrangell Islan**	85.18	350	P	**P**	**11 42 51.8**	**-1.7**
	baz=14,SNR=5.5						
R18K	**Karluk**	85.26	2	P	**P**	**11 42 51.8**	**-2.0**
	baz=357						
U33K	**Whale Pass**	85.59	350	P	**P**	**11 42 54.6**	**-0.9**
	baz=14						
OHAK	**Old Harbor**	85.63	1	P	**P**	**11 42 54.1**	**-1.6**
	baz=358						
X51A	**Calhoun**	85.83	311	P	**P**	**11 42 56.9**	**-0.3**
V35K	**Ketchikan**	86.14	349	P	**P**	**11 42 57.4**	**-0.9**
	baz=15						
CRAG	**Craig**	86.21	350	P	**P**	**11 42 56.6**	**-2.0**
	baz=14						
SII	**Sitkinak Islan**	86.28	2	P	**P**	**11 42 57.2**	**-1.8**
	baz=357						
S14K	**Fog Glacier**	86.29	5	P	**P**	**11 42 57.1**	**-2.1**
	baz=353						
CHGN	**Chignik**	86.35	4	P	**P**	**11 42 57.7**	**-1.6**
	baz=354						
CHIR	**Chirikof Islan**	86.97	3	P	**P**	**11 43 00.5**	**-1.9**
	baz=356						
PCRV	**Puerto La Cruz**	87.05	280	LR	LR	12 17 06.0	
	comp=Z,51nm,21.9s,slow=32						
SDPT	**Sand Point**	87.15	6	P	**P**	**11 43 01.7**	**-1.5**
	baz=352						
FALS	**False Pass**	87.38	7	P	**P**	**11 43 02.7**	**-1.6**
	baz=350						
CHNA	**Chernabura Isl**	87.73	5	P	**P**	**11 43 03.1**	**-3.0**
	baz=353						
UNV	**Unalaska Valle**	88.01	9	P	**P**	**11 43 05.0**	**-2.4**
	baz=347						
NIKH	**Nikolski High**	88.54	11	P	**P**	**11 43 07.6**	**-2.3**
	baz=346						
BBB	**Bella Bella**	88.57	346	LR	LR	12 25 09.4	
	comp=Z,170nm,18.4s,baz=1.5,slow=37						
NEW	**Newport**	89.57	338	P	**P**	**11 43 14.9**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=58,slow=5.7,SNR=8.0						
NEW				LR	LR	12 24 09.1	
	comp=Z,214nm,19.7s,baz=359,slow=36						
	comp=Z,6.9nm,0.9s						
BDFB	**Brasilia**	89.71	250	P	**P**	**11 43 16.7**	**+0.6**
	comp=Z,51nm,1.1s,baz=50,slow=6.5,SNR=42						
BDFB				LR	LR	12 25 41.4	
	comp=Z,328nm,18.4s,baz=111,slow=37						
	comp=Z,51nm,1.1s						
JCJ	**Chichijima**	90.03	55	LR	LR	12 27 11.3	
	comp=Z,152nm,21.7s,baz=322,slow=38						
DAV	**Davao City (W)**	90.64	81	LR	LR	12 30 19.5	
	comp=Z,111nm,19.2s,baz=332,slow=40						
PDAR	**Pinedale Array**	91.82	331	P	**P**	**11 43 24.8**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=64,slow=5.1,SNR=13						
PDAR				LR	LR	12 29 02.2	
	comp=Z,130nm,18.4s,baz=16,slow=38						
	comp=Z,2.1nm,0.8s						
SDV	**Santo Domingo**	92.50	283	LR	LR	12 20 43.2	
	comp=Z,58nm,21.0s,baz=72,slow=33						
KAPI	**Kappang**	93.31	94	LR	LR	12 29 39.6	
	comp=Z,72nm,21.8s,baz=294,slow=38						
ELK	**Elko**	95.67	334	P	**P**	**11 43 42.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=356,slow=6.5,SNR=4.1						
	comp=Z,0.4nm,0.4s						
ANMO	**Albuquerque**	97.08	325	LR	LR	12 29 49.2	
	comp=Z,116nm,18.1s,baz=212,slow=37						
YBH	**Yreka Blue Hor**	97.14	339	LR	LR	12 30 49.2	
	comp=Z,225nm,18.2s,baz=15,slow=37						
ROSC	**El Rosal**	97.87	282	LR	LR	12 24 27.4	
	comp=Z,134nm,20.8s,baz=72,slow=33						
NVAR	**Mina Array Bea**	98.80	335	P	**P**	**11 43 56.5**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=18,slow=3.5,SNR=1.8						
NVAR				LR	LR	12 32 11.7	
	comp=Z,102nm,21.4s,baz=6.5,slow=38						
	comp=Z,0.4nm,0.9s						
SIV	**San Ignacio**	99.90	257	LR	LR	12 30 04.0	
	comp=Z,196nm,20.5s,baz=98,slow=36						
TXAR	**Lajitas Array**	100.30	320	P	**Pdif**	**11 44 03.2**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=96,slow=3.9,SNR=5.5						
CPUP	**Villa Florida**	103.08	247	PP	**PP**	**11 48 29.6**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=76,slow=6.7,SNR=2.2						
SYO	**Syowa Base**	106.44	176	‖ *e*PDdiff	pPdif	11 44 36.7	+2.5
WRA	**Warramunga Arr**	113.50	98	PKKPbc	PKKPbc	11 59 38.2	-0.7
	comp=Z,0.7nm,0.9s,baz=129,slow=3.3,SNR=3.4						
ASAR	**Alice Springs**	115.14	101	PKP	**PKPdf**	**11 48 56.9**	**-2.2**
	comp=Z,0.2nm,0.9s,baz=314,slow=2.2,SNR=2.3						
ASAR				PKKPbc	**PKKPbc**	**11 59 32.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=112,slow=3.7,SNR=8.8						
PLCA	**Paso Flores**	119.87	240	PKP	**PKPdf**	**11 49 06.6**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=132,slow=2.1,SNR=9.8						
QSPA	**South Pole Qui**	127.33	180	PKP	**PKPdf**	**11 49 20.1**	**-1.1**
	comp=Z,3.8nm,1.0s,baz=308,slow=3.4,SNR=6.0						
DZM	**Mont Dzumac**	140.05	80	*e*LR	LR	12 35 12.3	
	comp=Z,196nm,26.6s						
TAOE	**Nuku Hiva Isla**	149.97	339	*e*LR	LR	12 39 36.0	
	comp=Z,86nm,23.6s						
PPT2	**Papeete2**	160.16	357	*e*LR	LR	12 44 21.4	
	comp=Z,123nm,30.8s						
PPT2				*e*LR	LR	12 44 24.5	
	comp=Z,112nm,24.0s						
TBI	**Tubuai**	165.88	356	*e*LR	LR	12 47 05.6	
	comp=Z,729nm,27.8s						

*VIE **31** 11:30:26.9±0.3, 45°.48N×14°.98E, h8km, mb1.5/1, ml1.8/1, Error ellipse: s-maj=2.6km s-min=1.1km az=173.0*

LJU 31 11:30:26.2, 45°.46N×14°.98E, h11km, ML1.0, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.14**	**302**	⇑ *i* Pg	Pg	11 30 30.0	+0.4
GBRS				*i* Sg	Sg	11 30 32.2	+0.2
GBRS				IAML		11 30 32.3	
	comp=Z,30nm,0.1s						
BOJS	**Bojanci**	**0.20**	**76**	⇑ *i* Pg	Pg	11 30 30.7	+0.2
BOJS				*i* Sg	Sg	11 30 33.5	+0.1
BOJS				IAML		11 30 33.8	
	comp=Z,15nm,0.1s						
VISS	**Visnje**	**0.36**	**344**	*i* Pg	Pg	11 30 33.7	+0.3
VISS				IAML		11 30 40.7	
	comp=Z,2.4nm,0.0s						
OZLJ	**Ozalj**	**0.38**	**65**	*e*Pg	Pg	11 30 33.9	+0.2
OZLJ				Sg	Sg	11 30 38.9	+0.2
KNDS	**Knezji Dol**	**0.43**	**280**	*i* Pg	Pg	11 30 35.0	+0.3
KNDS				IAML		11 30 43.3	
	comp=Z,1.3nm,0.1s						
CEY	**Cerknica**	**0.48**	**306**	*i* Pg	Pg	11 30 36.1	+0.4
CEY				IAML		11 30 44.9	
	comp=Z,6.6nm,0.2s						
LEGS	**Legarje**	**0.55**	**26**	*i* Pg	Pb	11 30 37.4	-0.4
PDKS	**Podkum**	**0.60**	**1**	*i* Pg	Pb	11 30 38.6	-0.2
PDKS				IAML		11 30 51.5	
	comp=Z,2.1nm,0.1s						
GBAS	**Gorenja Brezov**	**0.61**	**322**	*i* Pg	Pg	11 30 37.7	-0.3
GBAS				IAML		11 30 47.6	
	comp=Z,2.7nm,0.1s						
SKDS	**Skadanscina**	**0.69**	**278**	*i* Pg	Pg	11 30 39.1	-0.4
SKDS				IAML		11 30 54.7	
	comp=Z,1.5nm,0.1s						
JAVS	**Javornik**	**0.78**	**305**	*i* Sg	Sb	11 30 52.5	+0.1
JAVS				IAML		11 30 54.6	
	comp=Z,1.3nm,0.1s						
OBKA	**Obir**	**1.09**	**344**	*e*Pg	Pn	11 30 48.1	+0.5
	comp=Z,0.4nm,0.2s						
OBKA				*e*Sg	Sn	11 31 02.6	-0.1
	comp=Z,2.3nm,0.4s						

*NEIC **31** 11:33:26.5±0.8, 19°.25N±0°.02×155°.41W±0°.02, h41km±2km, Error ellipse: s-maj=3.1km s-min=2.4km az=160.0*

HVO 31 11:33:28.3±0.9, 19°.24N±0°.05×155°.39W±0°.04, h32km±7km, ML3.0/45, ML3.3/46(NEIC), Error ellipse: s-maj=7.2km s-min=5.7km az=150.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.01**	**225**		Pb	11 33 33.5	-0.3
HLP	**Hilina Pali**	**0.09**	**56**		Pb	11 33 33.7	-0.4
HLP					Sb	11 33 37.7	-0.3
HLP	**Hilina Pali**	**0.09**	**56**	IAML		11 33 39.8	
	comp=N,6μm,0.2s						
HLP				IAML		11 33 44.0	
	comp=E,5μm,0.6s						
SDHHI	**Sand Hill**	**0.17**	**32**		Pb	11 33 34.0	-0.7
SDHHI					Sn	11 33 38.2	-0.6
WRMHI	**West Rim**	**0.18**	**28**		Pb	11 33 34.0	-0.8
WRMHI					Sn	11 33 38.4	-0.7
RIM	**Rim**	**0.19**	**36**		Pb	11 33 34.1	-0.8
RIM					Sn	11 33 38.5	-0.7
KKO	**Keanakako'i**	**0.19**	**38**		Pb	11 33 34.2	-0.8
KKO					Sn	11 33 38.2	-1.1
UWE	**Uwekahuna**	**0.20**	**28**		Pb	11 33 34.2	-0.8
UWE					Sn	11 33 38.4	-1.1
UWE	**Uwekahuna**	**0.20**	**28**	IAML		11 33 42.0	
	comp=N,4μm,0.3s						
UWE				IAML		11 33 43.5	
	comp=E,4μm,0.5s						
OBL	**Observatory Le**	**0.20**	**30**		Pb	11 33 34.1	-0.9
OBL					Sb	11 33 38.4	-1.1
BYL	**Byron's Ledge**	**0.21**	**36**		Pb	11 33 34.2	-0.9
BYL					Sb	11 33 38.7	-0.9
BYL	**Byron's Ledge**	**0.21**	**36**	IAML		11 33 38.8	
	comp=N,3μm,0.5s						
BYL				IAML		11 33 43.7	
	comp=E,2μm,0.7s						
PUH	**Pauahi**	**0.21**	**52**		Pb	11 33 34.2	-0.8
PUH					Sb	11 33 38.6	-1.1
PUH	**Pauahi**	**0.21**	**52**	IAML		11 33 38.8	
	comp=E,4μm,0.3s						
PUH				IAML		11 33 40.6	
	comp=N,2μm,0.3s						
UWB	**Uwekahuna Bluf**	**0.21**	**31**		Pb	11 33 34.1	-1.0
UWB					Sb	11 33 38.1	-1.5
KHU	**Kahuku**	**0.21**	**271**		Pb	11 33 34.3	-0.9
KHU					Sb	11 33 38.7	-1.2
KHU	**Kahuku**	**0.21**	**271**	IAML		11 33 39.0	
	comp=E,8μm,0.4s						
KHU				IAML		11 33 39.2	
	comp=N,4μm,0.5s						
HATHI	**Halema'uma'u T**	**0.22**	**35**		Pb	11 33 34.2	-0.9
HATHI					Sb	11 33 38.9	-0.9
HATHI	**Halema'uma'u T**	**0.22**	**35**	IAML		11 33 39.1	
	comp=E,3μm,0.5s						
HATHI				IAML		11 33 41.4	
	comp=N,2μm,0.7s						
HPO	**Honuapo**	**0.22**	**225**		Pb	11 33 34.2	-0.8
SBLHI	**Steaming Bluff**	**0.22**	**33**		Pb	11 33 34.2	-1.0
SBLHI					Sb	11 33 38.6	-1.2
RSD	**Rainshed**	**0.24**	**26**		Pb	11 33 34.5	-1.0
RSD					Sb	11 33 38.9	-1.4
KNHH	**Kane Nui o Ham**	**0.25**	**57**		Pb	11 33 34.7	-0.8
MLH	**Mauna Loa**	**0.25**	**1**		Pb	11 33 34.9	-0.8
MLH					Sb	11 33 39.5	-1.1
MLH	**Mauna Loa**	**0.25**	**1**	IAML		11 33 39.9	
	comp=E,3μm,0.3s						
MLH				IAML		11 33 45.8	
	comp=N,3μm,0.4s						
STCH	**Steam Cracks**	**0.29**	**61**		Pb	11 33 35.0	-0.9
STCH					Sb	11 33 39.9	-1.2
STCH	**Steam Cracks**	**0.29**	**61**	IAML		11 33 40.0	
	comp=E,2μm,0.2s						
STCH				IAML		11 33 41.0	
	comp=N,2μm,0.2s						
NPOC	**North of Pu'u**	**0.30**	**61**		Pb	11 33 35.2	-0.9
NPOC					Sb	11 33 40.2	-1.2
JCUZ	**Jacuzzi**	**0.31**	**63**		Pb	11 33 35.2	-0.9
JCUZ					Sb	11 33 40.4	-1.1
MWH	**Mokuaweoweo**	**0.31**	**321**		Pb	11 33 35.4	-1.2
MWH					Sb	11 33 40.9	-1.3
MWH	**Mokuaweoweo**	**0.31**	**321**	IAML		11 33 41.2	
	comp=E,3μm,0.5s						
MWH				IAML		11 33 46.2	
	comp=N,2μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.34**	**329**		Pb	11 33 35.8	-1.2
MLOA					Sb	11 33 41.0	-1.8
HMH	**Humu'ula Sheep**	**0.37**	**346**		Pb	11 33 36.4	-0.8
HMH					Sb	11 33 42.1	-1.1
HMH	**Humu'ula Sheep**	**0.37**	**346**	IAML		11 33 42.5	
	comp=N,1μm,0.3s						
HMH				IAML		11 33 42.6	
	comp=E,1μm,0.3s						
ALEP	**Alea Permanent**	**0.38**	**321**		Pb	11 33 35.9	-1.5
ALEP					Sb	11 33 41.9	-1.7
JOKA	**Jonika Flow**	**0.41**	**63**		Pb	11 33 36.3	-1.2
JOKA					Sb	11 33 42.4	-1.5
JOKA	**Jonika Flow**	**0.41**	**63**	IAML		11 33 42.5	
	comp=E,959nm,0.4s						
JOKA				IAML		11 33 42.9	
	comp=N,2μm,0.4s						
POHA	**Pohakuloa**	**0.53**	**345**		Sb	11 33 44.9	-2.3
POHA	**Pohakuloa**	**0.53**	**345**		Pb	11 33 37.2	-2.3
POHA				IAML		11 33 58.3	
	comp=N,606nm,0.3s						
POHA				IAML		11 33 59.9	
	comp=N,438nm,0.7s						
CPH	**Captain Cook**	**0.55**	**296**		Pb	11 33 37.7	-2.0
HUH	**Hualalai**	**0.61**	**316**		Pb	11 33 39.1	-1.6
HUH					Sb	11 33 47.1	-2.3
HUH	**Hualalai**	**0.61**	**316**	IAML		11 33 58.2	
	comp=E,1μm,0.3s						
HUH				IAML		11 34 01.2	
	comp=N,1μm,0.3s						
HPAH	**Hawaii Prepara**	**0.83**	**340**		Pn	11 33 41.6	-2.3
HPAH					Sn	11 33 51.0	-4.1
HPAH	**Hawaii Prepara**	**0.83**	**340**	IAML		11 33 51.8	
	comp=N,914nm,0.2s						
KHLH	**Kahului Airpor**	**1.91**	**330**	Pn	Pn	11 33 56.0	-2.6
DHH	**Diamond Head**	**3.03**	**312**	Pn	Pn	11 34 10.0	-3.9
HON	**Honolulu**	**3.21**	**311**	Pn	Pn	11 34 12.7	-3.8
KIP	**Kipapa**	**3.28**	**312**	Pn	Pn	11 34 14.0	-3.5
KEKH	**Kekaha**	**4.88**	**305**	Pn	Pn	11 34 35.2	-4.2

*IDC **31** 11:45:32.4±0.8, 37°.49N×29°.50E, h0km, mb3.7/11, mbtmp3.8/21, ML3.7/7, MS3.4/2, Error ellipse: s-maj=17.2km s-min=12.3km az=163.0*
*AFAD **31** 11:45:32.8, 37°.50N×29°.37E, h7km±3km, ML4.1*
*ISK **31** 11:45:32.9, 37°.47N×29°.33E, h6km, ML4.1/94*
*THE **31** 11:45:33.3, 37°.59N×29°.53E, h0km±1km, ML4.2/4, Error ellipse: s-maj=2.9km s-min=0.7km az=38.0*
*GII **31** 11:45:34.2±0.0, 37°.441N±0°.003×29°.445E±0°.001, h10km, Mws4.0, confirmed*

ISC 31 11:45:33.5±0.9, 37°.50N±0°.02×29°.39E±0°.02, h8km±6km, n221, σ1§23/251, mb3.5/11, 15C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.07**	**245**	Pg	**Pg**	**11 45 34.4**	**-1.2**
INCE	**Denizli-Bozkur**	**0.26**	**36**	P	**Pg**	**11 45 38.0**	**-0.7**
INCE				S	**Sg**	**11 45 42.5**	**+0.4**
INCE				*i* AML	AML	11 45 43.0	
	comp=N,3μm,0.6s						
INCE				*i* AML	AML	11 45 43.0	
	comp=E,3μm,0.4s						
GOLH	**Golhisar**	**0.30**	**152**	P	**Pg**	**11 45 39.4**	**-0.1**
GOLH				S	**Sg**	**11 45 42.9**	**-0.6**
GOLH				*i* AML	AML	11 45 50.0	
	comp=N,2μm,0.7s						
GOLH				*i* AML	AML	11 45 50.0	
	comp=E,3μm,0.6s						
DNIZ	**Denizli-Tavas-**	**0.30**	**294**	P	**Pg**	**11 45 39.2**	**-0.3**
DNIZ				S	**Sg**	**11 45 43.4**	**-0.2**
DNIZ				*i* AML	AML	11 45 46.0	
	comp=E,8μm,0.3s						
DNIZ				*i* AML	AML	11 45 47.0	
	comp=N,4μm,0.3s						
DNZT	**Denizli-Tavas-**	**0.36**	**232**	P	**Pg**	**11 45 40.8**	**+0.1**
DNZT				S	**Sg**	**11 45 45.3**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.38**	**265**	P	**Pg**	**11 45 40.5**	**-0.5**
TAVA				S	**Sg**	**11 45 45.8**	**-0.2**
CAEL	**Denizli, Camel**	**0.38**	**188**	P	**Pg**	**11 45 40.8**	**-0.3**
CAEL				S	**Sg**	**11 45 46.6**	**+0.5**
CAEL				*i* AML	AML	11 45 56.0	
	comp=E,2μm,0.9s						
CAEL				*i* AML	AML	11 45 57.0	
	comp=N,2μm,0.8s						
CAME	**Cameli-Denizli**	**0.56**	**187**	P	**Pg**	**11 45 43.6**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.57**	**70**	P	**Pg**	**11 45 43.8**	**-0.8**
BRDR				S	**Sg**	**11 45 52.0**	**0.0**
BRDR				*i* AML	AML	11 45 56.0	
	comp=E,1μm,0.5s						
BASM	**Basmaki-Afyon**	**0.67**	**51**	Pg	**Pg**	**11 45 45.8**	**-0.7**
BASM				Sg	**Sb**	**11 45 58.1**	**+1.0**
KNIK	**Mula-Seydike**	**0.67**	**167**	P	**Pg**	**11 45 45.1**	**-1.4**
KNIK				S	**Sg**	**11 45 55.1**	**-0.2**
SABU	**Mula-Dalaman**	**0.76**	**206**	P	**Pg**	**11 45 48.3**	**+0.2**
SABU				S	**Sg**	**11 45 57.8**	**-0.1**
KHL	**Karahalli**	**0.83**	**7**	Pg	**Pg**	**11 45 49.9**	**+0.5**
FETI	**Fethiye-Mugla**	**0.84**	**196**	Pg	**Pg**	**11 45 48.9**	**-0.8**
PASA	**Karahalli, USA**	**0.85**	**5**	P	**Pg**	**11 45 48.6**	**-1.3**
ELL	**Elmali**	**0.86**	**151**	Pg	**Pg**	**11 45 49.9**	**-0.2**
ESEN	**Aydn-Nazilli**	**0.88**	**290**	P	**Pg**	**11 45 49.6**	**-0.7**
ESEN				S	**Sg**	**11 46 01.0**	**-0.7**
ESEN				*i* AML	AML	11 46 05.0	
	comp=N,8μm,0.3s						
ESEN				*i* AML	AML	11 46 06.0	
	comp=E,5μm,0.5s						
MULA	**Mugla, Merkez-**	**0.88**	**254**	P	**Pg**	**11 45 50.4**	**-0.1**
MULA				*i* AML	AML	11 46 09.0	
	comp=E,5μm,0.7s						
FETY	**Fethiye**	**0.90**	**196**	Pg	**Pg**	**11 45 49.9**	**-0.9**
FETY	**Fethiye**	**0.90**	**196**	P	**Pg**	**11 45 51.4**	**+0.6**
DALY	**Dalyan (Mula)**	**0.90**	**221**	Pg	**Pg**	**11 45 49.7**	**-1.1**
KORT	**Korkueli**	**0.92**	**123**	Pg	**Pb**	**11 45 51.4**	**-0.4**
KORT	**Korkueli**	**0.92**	**123**	P	**Pg**	**11 45 50.3**	**-0.9**
BUCA	**Burdur, Bucak-**	**0.95**	**100**	P	**Pg**	**11 45 50.1**	**-1.7**
YER	**Yerkesik**	**0.95**	**248**	Pg	**Pg**	**11 45 50.6**	**-1.3**
ISP	**Isparta**	**0.96**	**70**	Pg	**Pg**	**11 45 51.5**	**-0.4**
ISP				Sg	**Sn**	**11 46 07.2**	**-0.1**
ISP	**Isparta**	**0.96**	**70**	P	**Pg**	**11 45 50.5**	**-1.4**
ISP				S	**Sn**	**11 46 05.8**	**-1.5**
BCK	**Bucak**	**0.96**	**92**	Pg	**Pb**	**11 45 52.6**	**+0.2**
KZIL	**AFYON_Kizioren**	**0.96**	**38**	P	**Pg**	**11 45 50.6**	**-1.4**
NAZL	**Nazilli-Aydin**	**0.98**	**298**	Pg	**Pg**	**11 45 51.6**	**-0.8**
KIRA	**zmir-Kiraz**	**1.04**	**312**	P	**Pg**	**11 45 52.4**	**-1.2**
KIRA				S	**Sg**	**11 46 06.0**	**-1.2**
KIRA				*i* AML	AML	11 46 11.0	
	comp=E,4μm,0.4s						
IZZE	**Mula-Seydike**	**1.07**	**187**	P	**Pb**	**11 45 53.8**	**-0.6**
IZZE				*i* AML	AML	11 46 16.0	
	comp=N,6μm,0.3s						
IZZE				*i* AML	AML	11 46 24.0	
	comp=E,7μm,0.5s						
KULA	**Kula-Manisa**	**1.16**	**331**	Pn	**Pb**	**11 45 55.6**	**-0.3**
KULA				Sn	**Sb**	**11 46 12.3**	**+1.1**
TURN	**Turunc**	**1.17**	**232**	Pn	**Pb**	**11 45 54.7**	**-1.2**
TURN	**Turunc**	**1.17**	**232**	P	**Pb**	**11 45 55.9**	**0.0**
TURN				S	**Sg**	**11 46 12.5**	**+1.4**
ANTB	**Antalya**	**1.18**	**120**	Pn	**Pn**	**11 45 56.4**	**+0.1**
MANT	**Manisa**	**1.18**	**327**	P	**Pb**	**11 45 55.4**	**-1.0**
AYDN	**Tasoluk**	**1.21**	**278**	P	**Pn**	**11 45 56.0**	**-0.9**
AYDN				S	**Sb**	**11 46 11.7**	**-0.8**
AYDN				*i* AML	AML	11 46 16.0	
	comp=N,3μm,0.6s						
AYDN				*i* AML	AML	11 46 21.0	
	comp=E,3μm,0.6s						
BNAZ	**Uak-Banaz**	**1.24**	**18**	P	**Pn**	**11 45 56.0**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**291**	Pn	**Pn**	**11 45 57.1**	**-0.6**
AKAS	**Kas**	**1.28**	**172**	Pn	**Pb**	**11 45 58.1**	**+0.1**
ODEM	**Odemis-Izmir**	**1.29**	**307**	Pn	**Pn**	**11 45 57.7**	**-0.3**
KEMT	**Kemer-ANTALYA**	**1.30**	**133**	Pn	**Pg**	**11 45 58.4**	**0.0**
MLSB	**Milas**	**1.30**	**261**	Pn	**Pn**	**11 45 56.9**	**-1.1**
IZMR	**zmir-demi**	**1.30**	**300**	P	**Pn**	**11 45 57.4**	**-0.7**
IZMR				P	**Pb**	**11 45 58.0**	**-0.3**
IZMR				S	**Sb**	**11 46 15.2**	**+0.1**
DEMR	**Demre-Antalya**	**1.33**	**162**	Pn	**Pn**	**11 45 58.5**	**+0.1**
KSL	**Kastellorizon**	**1.36**	**173**	P	**Pb**	**11 45 59.2**	**0.0**
KSL				S	**Sg**	**11 46 19.2**	**+2.0**
	5μm,0.9s						
SHUT	**Suhut-Afyon**	**1.39**	**41**	Pn	**Pg**	**11 46 00.3**	**0.0**
SHAP	**Saphane-Kutahy**	**1.52**	**355**	Pn	**Pn**	**11 46 01.7**	**+0.5**
GEDZ	**Gediz**	**1.54**	**1**	Pn	**Pn**	**11 46 02.1**	**+0.7**
DATC	**Datca-Mugla**	**1.57**	**242**	Pn	**Pn**	**11 46 01.3**	**-0.4**
SIMA	**Simav-Kutahya**	**1.61**	**349**	Pn	**Pn**	**11 46 02.9**	**+0.5**
SMAA	**Simav-Kutahya**	**1.63**	**349**	Pn	**Pn**	**11 46 03.2**	**+0.6**
ARG	**Arkhangelos**	**1.64**	**219**	Pn	**Pn**	**11 46 02.3**	**-0.3**
ARG	**Arkhangelos**	**1.64**	**219**	P	**Pb**	**11 46 04.0**	**+0.1**

MDUB Mudurnu 3.28 25 Pn **Pn 11 46 26.9 +1.5**
SAUV Serdivan-Sakar 3.31 12 Pn **Pn 11 46 27.4 +1.7**
HRT Hereke 3.32 4 Pn **Pn 11 46 27.2 +1.3**
EZN Ezine 3.33 315 Pn **Pn 11 46 27.1 +1.1**
SULT Sultanhani-AKS 3.34 77 Pn **Pn 11 46 27.9 +1.7**
MRMT Marmara Adasi 3.40 336 Pn **Pn 11 46 28.4 +1.5**
YUVA Yuva-Kibriscik 3.40 31 Pn **Pn 11 46 29.3 +2.4**
AFSR Afar-Bala (An 3.48 55 Pn **Pn 11 46 29.3 +1.2**
ZKR Zakros 3.50 228 Pn **Pn 11 46 28.9 +0.7**
LPK Lapseki 3.52 325 Pn **Pn 11 46 30.2 +1.6**
ANTO Ankara 3.56 47 ⇑P **Pn 11 46 30.2 +1.0**
KAVV Kandilli-Istan 3.56 356 Pn **Pn 11 46 31.3 +2.1**
ISK Istanbul-Kandi 3.57 356 Pn **Pn 11 46 31.4 +2.2**
RKY Sarkoy-Tekirda 3.62 332 Pn **Pn 11 46 31.4 +1.5**
SILT Sile 3.65 3 Pn **Pn 11 46 32.2 +1.9**
GELI Tayfur-Gelibol 3.68 323 Pn **Pn 11 46 32.5 +1.8**
BGKT Bogazkoy 3.70 353 Pn **Pn 11 46 32.9 +1.8**
KLYT Kilyos 3.75 356 Pn **Pn 11 46 33.7 +2.0**
TKR Tekirdag 3.77 338 Pn **Pn 11 46 33.6 +1.7**
CTKS Kestanelik-??a 3.79 350 Pn **Pn 11 46 34.4 +2.2**
GADA Gvkgeada 3.82 316 Pn **Pn 11 46 33.9 +1.2**
SLVT Silivri 3.83 347 Pn **Pn 11 46 34.9 +2.1**
CRLT Corlu 3.84 341 Pn **Pn 11 46 34.7 +1.7**
ERIK Erikli-Kesan 3.87 326 Pn **Pn 11 46 33.4 0.0**
KIRS Kirsehir-Merke 3.92 64 ⇑P **Pn 11 46 34.5 +0.4**
BRTR Keskin Array B 4.00 55 Pn **Pn 11 46 35.9 +0.6**
6.7nm,0.3s,baz=237,slow=18,SNR=152
BRTR Sn **Sn 11 47 23.3 +0.8**
4.7nm,0.3s,baz=226,slow=25,SNR=9.8
BRTR LR LR 11 48 37.7
comp=Z,820nm,18.7s,baz=244,slow=47
18nm,0.5s
CAVK Edirne/Enez-Ca 4.05 323 ⇑P **Pn 11 46 37.2 +1.3**
CSS Mathiatis 4.07 127 P **Pn 11 46 35.8 -0.3**
CSS Mathiatis 4.07 127 S **Sn 11 47 22.9 -1.2**
IDI Anoyia 4.25 240 Pn **Pn 11 46 40.4 +1.7**
35nm,0.3s,baz=11,slow=9.4,SNR=21
IDI Sn **Sn 11 47 28.2 -0.2**
7.4nm,0.3s,baz=48,slow=17,SNR=5.6
CIDE Kastamonu/Cide 5.16 31 ⇑P **Pn 11 46 53.5 +2.4**
DIKM Dikmen 6.14 46 ⇓P **Pn 11 47 04.9 +0.3**
HWQ Hawqa 6.22 119 *e*P **Pn 11 47 08.1 +2.3**
DQRL Deir Qamar 6.30 125 *e*P **Pn 11 47 08.2 +1.4**
ZAHL Zahle 6.42 123 *e*P **Pn 11 47 10.0 +1.5**
RCY Rachaya 6.61 125 *e*P **Pn 11 47 12.2 +1.1**
MMC7 Mount Meron ar 6.64 131 P **Pn 11 47 11.7 +0.2**
MMC7 Mount Meron ar 6.64 131 S **Sn 11 48 26.7 -0.8**
SHBL Chebaa 6.64 127 *e*P **Pn 11 47 12.3 +0.7**
MMA0B Mount Meron ar 6.65 131 P **Pn 11 47 12.0 +0.3**
MMA0B Mount Meron ar 6.65 131 S **Sn 11 48 26.4 -1.3**
MMAI Mount Meron Ar 6.65 131 Pn **Pn 11 47 11.9 +0.3**
17nm,0.3s,baz=323,slow=12,SNR=37
MMAI Sn **Sn 11 48 26.0 -1.7**
28nm,0.3s,baz=308,slow=24,SNR=16
GEM Giv'at Ha'Em 6.68 128 P **Pn 11 47 11.9 -0.1**
GEM Giv'at Ha'Em 6.68 128 S **Sn 11 48 27.7 -0.6**
NATI Neve Ativ 6.69 127 P **Pn 11 47 12.1 0.0**
NATI Neve Ativ 6.69 127 S **Sn 11 48 27.2 -1.4**
KSHT Keshet 6.92 129 P **Pn 11 47 14.9 -0.5**
KSHT Keshet 6.92 129 S **Sn 11 48 33.9 -0.5**
TIRR Tirgusor 6.99 354 ⇑P **Pn 11 47 18.2 +2.0**
MMLI Mount Malkishu 7.08 134 P **Pn 11 47 16.9 -0.6**
MMLI Mount Malkishu 7.08 134 S **Sn 11 48 36.2 -1.9**
SALP Salfit 7.22 137 P **Pn 11 47 19.4 -0.1**
SALP Salfit 7.22 137 S **Sn 11 48 40.4 -1.3**
HMDT Nahal Hemdat 7.27 134 P **Pn 11 47 21.0 +0.9**
HMDT Nahal Hemdat 7.27 134 S **Sn 11 48 41.9 -0.9**
TPGR Topolog 7.38 355 ⇓P **Pn 11 47 23.2 +1.6**
UJAP Al Uja 7.46 136 P **Pn 11 47 22.4 -0.3**
UJAP Al Uja 7.46 136 S **Sn 11 48 45.9 -1.5**
AMAZ Amatzia 7.50 141 P **Pn 11 47 23.1 -0.1**
AMAZ Amatzia 7.50 141 S **Sn 11 48 46.9 -1.6**
DSI Dead Sea 7.71 138 P **Pn 11 47 25.4 -0.7**
DSI Dead Sea 7.71 138 S **Sn 11 48 52.0 -1.7**
CFR Carcaliu 7.73 353 ⇑P **Pn 11 47 28.5 +2.2**
YTIR Yattir 7.74 141 P **Pn 11 47 26.1 -0.5**
YTIR Yattir 7.74 141 S **Sn 11 48 53.2 -1.3**
SEV Sevastopol' 7.74 23⇓*e*P **Pn 11 47 27.3 +0.8**
SEV Pm 11 47 32.0
comp=Z,5.0nm,0.4s
SEV *e*S **Sn 11 48 51.8 -2.5**
SEV Sm 11 48 56.9
comp=N,1.0nm,0.3s
SEV Sm 11 48 56.9
comp=E,3.0nm,0.4s
KZIT Kziot 7.78 146 P **Pn 11 47 26.6 -0.4**
KZIT Kziot 7.78 146 S **Sn 11 48 54.0 -1.4**
MSBI Mazada 7.90 140 P **Pn 11 47 28.8 +0.1**
MSBI Mazada 7.90 140 S **Sn 11 48 57.5 -0.8**
GHAJ Ghor Haditha 8.02 139 P **Pn 11 47 30.4 +0.1**
GHAJ Ghor Haditha 8.02 139 S **Sn 11 48 59.5 -1.7**
ASF Jabal al Asfar 8.15 129 Pn **Pn 11 47 34.1 +1.9**
comp=E,1.7nm,0.3s,baz=330,slow=11,SNR=6.7
ASF Sn **Sn 11 49 04.4 -0.1**
comp=E,1.0nm,0.3s,baz=334,slow=23,SNR=1.4
SIM Simferopol' 8.25 24⇓*e*P **Pn 11 47 32.4 -1.0**
SIM Pm 11 47 38.1
comp=Z,12nm,0.8s
MLR Muntele Rosu 8.39 343 Pn **Pn 11 47 37.7 +2.2**
comp=Z,0.9nm,0.3s,baz=140,slow=16,SNR=6.5
comp=Z,1.7nm,0.4s
MLR Muntele Rosu 8.39 343 ⇑P **Pn 11 47 36.3 +0.8**
PRNI Paran 8.52 145 P **Pn 11 47 36.3 -1.0**
PRNI Paran 8.52 145 S **Sn 11 49 12.5 -1.2**
VOIR 8.57 339 ⇑P **Pn 11 47 39.8 +1.9**
PLOR Plostina 8.59 347 ⇓P **Pn 11 47 40.4 +2.3**
VRI Vrincioaia 8.59 347 ⇑P **Pn 11 47 40.0 +1.9**
COVR Voineasa-Covas 8.67 345 ⇓P **Pn 11 47 41.2 +2.0**
HRFI Mount Harif 8.80 146 P **Pn 11 47 41.1 0.0**
HRFI Mount Harif 8.80 146 S **Sn 11 49 18.7 -1.9**
MBRI Mt Berech 8.96 147 P **Pn 11 47 42.9 -0.5**
MBRI Mt Berech 8.96 147 S **Sn 11 49 23.0 -1.6**
DOPR Dopca 8.97 342 ⇑P **Pn 11 47 45.0 +1.6**
HERR Herculane 9.05 327 ⇑P **Pn 11 47 46.8 +2.4**
EIL Elat 9.08 148 Pn **Pn 11 47 44.5 -0.6**
comp=Z,3.4nm,0.3s,baz=328,slow=9.0,SNR=20
EIL Sn **Sn 11 49 21.6 -5.9**
comp=Z,2.6nm,0.3s,baz=331,slow=15,SNR=4.9
comp=Z,12nm,0.5s
EIL Elat 9.08 148 P **Pn 11 47 44.4 -0.6**
EIL Elat 9.08 148 S **Sn 11 49 25.2 -2.2**
ONER Baraj Valea Uz 9.10 347 ⇓P **Pn 11 47 47.4 +2.3**
BZS Buzias 9.98 327 ⇑P **Pn 11 47 59.0 +1.8**
SORM Soroca 10.65 356 ⇑P **Pn 11 48 07.8 +1.4**
KVAR Kislovodsk Arr 11.97 53 Pn **Pn 11 48 26.0 +1.4**
baz=262,slow=7.1
KVAR Sn **Sn 11 50 35.0 -3.3**
baz=300,slow=18
comp=Z,2.4nm,0.4s
KBZ Khabaz 12.00 55 Pn **Pn 11 48 27.6 +2.8**
comp=Z,0.1nm,0.3s,baz=225,slow=17,SNR=2.2
comp=Z,1.1nm,0.8s
GNI Garni 12.26 73 LR LR 11 53 00.1
comp=Z,99nm,19.7s,baz=239,slow=37
GERES GERESS Array B 16.07 320 Pn **P 11 49 23.3 0.0**
comp=Z,0.9nm,0.9s,baz=130,slow=11,SNR=19
KEST Kesra 16.19 270 Pn **Pn 11 49 23.5 +2.1**
comp=Z,0.1nm,0.3s,baz=102,slow=7.2,SNR=5.2
comp=Z,8.1nm,1.2s
DAVOX Davos/Dischmat 17.14 309 P **P 11 49 36.0 +0.7**
comp=Z,0.1nm,0.3s,baz=127,slow=10,SNR=3.6
comp=Z,0.9nm,0.8s
FINES FINESS Array B 24.05 356 P **P 11 50 48.7 -0.2**
comp=Z,3.2nm,1.0s,baz=191,slow=7.0,SNR=5.0
comp=Z,3.2nm,1.0s
AKTO Aktyubinsk 24.15 48 P **P 11 50 48.5 -1.5**
comp=Z,1.3nm,0.7s,baz=249,slow=12,SNR=5.1
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 26.08 285 P **P 11 51 07.7 +0.1**
comp=Z,0.9nm,0.9s,baz=87,slow=10,SNR=5.3
comp=Z,0.9nm,0.9s
ARTI Arti 27.04 36 P **P 11 51 16.2 +0.1**
comp=Z,1.2nm,0.5s,baz=177,slow=12,SNR=1.9
comp=Z,1.2nm,0.5s
TORD Torodi Ar. Bea 34.62 233 P **P 11 52 23.3 0.0**
comp=Z,2.8nm,0.5s,baz=34,slow=9.1,SNR=24
comp=Z,2.8nm,0.5s
KURBB Kurchatov Arra 36.99 53 P **P 11 52 43.0 -0.3**
comp=Z,0.8nm,0.2s,baz=274,slow=8.8,SNR=5.3
comp=Z,0.8nm,0.2s
MKAR Makanchi Array 39.64 59 P **P 11 53 05.2 -0.5**
comp=Z,0.6nm,0.5s,baz=278,slow=7.6,SNR=10
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 40.91 48 P **P 11 53 16.6 +0.5**
comp=Z,0.3nm,0.3s,baz=280,slow=8.6,SNR=1.9
comp=Z,0.3nm,0.3s
SONM Songino Array 55.36 53 P **P 11 55 08.2 +0.1**
comp=Z,0.3nm,0.6s,baz=296,slow=7.9,SNR=3.6
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 76.22 344 P **P 11 57 21.8 -0.3**
comp=Z,0.3nm,0.9s,baz=33,slow=5.3,SNR=3.7
comp=Z,0.3nm,0.9s
ILAR Eielson Array 78.02 358 P **P 11 57 32.3 +0.1**
comp=Z,0.2nm,0.9s,baz=349,slow=3.7,SNR=2.4
comp=Z,0.2nm,0.9s

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*AEIC **31** 11:47:45.7±0.5,53°.12N±0°.04×164°.53W±0°.03,h26km±7km, Error ellipse: s-maj=6.4km s-min=2.1km az=194.0*
NEIC 31 11:47:43.9±0.6,53°.1N±0°.2×164°.5W±0°.1,h18km±19km, ML2.7(AEIC)**, Error ellipse: s-maj=25.3km s-min=5.6km az=163.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.29**	**328**		Pn	11 48 06.7	-0.4
AKSA					Sn	11 48 22.4	-1.4
AHB	**Akutan Harbor**	**1.31**	**325**		Pn	11 48 07.5	+0.1
AKBBA	**Akutan Broad B**	**1.34**	**322**		Pn	11 48 07.7	0.0
AKBBA					Sn	11 48 24.4	-0.7
AKV	**Akutan Volcano**	**1.37**	**322**		Pn	11 48 08.3	+0.1
AKV					Sn	11 48 26.1	+0.1
UNV	**Unalaska Valle**	**1.42**	**305**		Pn	11 48 09.0	+0.1
LVA	**Lava Point**	**1.42**	**322**	Pn	Pn	11 48 07.8	-1.2
AKGG	**Akutan Green G**	**1.44**	**324**		Pn	11 48 09.3	+0.2
WECS	**Westdahl Cape**	**1.49**	**355**		Pn	11 48 09.8	-0.1
MREP	**Makushin Rep't**	**1.52**	**301**		Pn	11 48 10.8	+0.4
MREP					Sn	11 48 29.5	-0.2
ISLZ	**Isanotski Laza**	**1.75**	**16**		Pn	11 48 13.1	-0.4
ISNN	**Isanotski Nort**	**1.84**	**14**		Pn	11 48 15.1	+0.4
ISNN					Sn	11 48 37.3	-0.3
FALS	**False Pass**	**1.93**	**20**		Pn	11 48 15.8	-0.1
HAG	**Hague Volcano**	**2.75**	**33**		Pn	11 48 27.1	-0.1
SDPT	**Sand Point**	**3.32**	**44**		Pn	11 48 35.7	+0.7
SDPT					Sn	11 49 13.3	-0.6

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*IDC **31** 11:51:26.1±0.7,38°.87N×70°.83E,h0km,mb3.9/18, mbtmp4.0/25,ML3.4/4,MS3.8/3, Error ellipse: s-maj=12.1km s-min=9.4km az=139.0*
*KRNET **31** 11:51:26.9±0.1,39°.06N×70°.82E,h10km,mb4.5*
*NEIC **31** 11:51:27.9±1.7,38°.95N±0°.05×70°.78E±0°.03,h6km±5km, mb4.4/19, Error ellipse: s-maj=8.0km s-min=3.7km az=186.0*
*MOS **31** 11:51:27.5±1.1,38°.97N×70°.83E,h13km,mb4.5/15, Error ellipse: s-maj=7.2km s-min=3.8km az=64.8*
*BJI **31** 11:51:28.7,39°.08N×70°.80E,h20km,mb4.3/3,ML3.8/3, Ms4.0/2,Ms7 3.9/3*
*NNC **31** 11:51:28.4±1.3,38°.60N×70°.58E,h94km±27km,mb4.0, mpv4.4, Error ellipse: s-maj=11.3km s-min=7.4km az=18.0*
ISC 31 11:51:28.0±1.0,39°.06N±0°.03×70°.82E±0°.02,h7km±6km, n193,σ2§13/243,mb4.0/41,MS3.9/4,54C-24D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.39**	**261**		**Pg**	**11 51 35.0**	**-0.7**
GAR	**Garm**	**0.39**	**261**	⇓*i*P	**Pg**	**11 51 34.7**	**-1.0**
GAR				⇓*i*S	**Sg**	**11 51 40.3**	**-0.6**
GAR	**Garm**	**0.39**	**261**	*i* PG	**Pg**	**11 51 34.7**	**-1.0**
GAR				*i* S	**Sg**	**11 51 40.3**	**-0.6**
DRK	**Karamyk**	**0.87**	**61**	⇓*i*P	**Pg**	**11 51 43.3**	**-1.4**
DRK				⇓*i*S	**Sg**	**11 51 55.7**	**-0.3**
DRK	**Karamyk**	**0.87**	**61**	*i* PG	**Pg**	**11 51 43.3**	**-1.4**
DRK				*i* S	**Sg**	**11 51 55.7**	**-0.3**
BTK	**Batken**	**0.99**	**0**	⇑*e*P	**Pb**	**11 51 45.8**	**-1.8**
BTK				⇑*e*S	**Sb**	**11 51 59.5**	**-1.4**
SIMJ	**Simiganj**	**1.47**	**255**		**Pn**	**11 51 54.2**	**-0.8**
SIMJ				Sn	**Sb**	**11 52 13.5**	**-1.1**
OHH	**Osh**	**2.10**	**46**	⇑*i*P	**Pn**	**11 52 04.5**	**+0.8**
OHH				⇑*i*S	**Sn**	**11 52 32.0**	**+1.8**
OHH	**Osh**	**2.10**	**46**	*i* PN	**Pn**	**11 52 04.5**	**+0.8**
OHH				*i* S	**Sn**	**11 52 32.0**	**+1.8**
SFK	**Sufi-Kurgan**	**2.28**	**65**	⇑*i*P	**Pn**	**11 52 07.5**	**+1.2**
SFK				⇑*i*S	**Sn**	**11 52 36.1**	**+1.2**
SFK	**Sufi-Kurgan**	**2.28**	**65**	*i* PN	**Pn**	**11 52 07.8**	**+1.5**
SFK				*i* S	**Sb**	**11 52 37.6**	**-0.6**
TRKS	**Terek-Say**	**2.48**	**6**	⇓*e*P	**Pn**	**11 52 09.1**	**+0.2**
TRKS				⇓*e*S	**Sn**	**11 52 39.7**	**+0.2**
ARSB	**Arslanbob**	**2.80**	**36**	⇑*i*P	**Pn**	**11 52 14.1**	**+0.7**
ARSB				⇑*i*S	**Sn**	**11 52 49.0**	**+1.5**
ARSB	**Arslanbob**	**2.80**	**36**	*i* PN	**Pn**	**11 52 14.1**	**+0.7**
ARSB				*i* S	**Sn**	**11 52 48.4**	**+0.9**
ARK	**Arkit**	**2.87**	**17**	⇑*i*P	**Pn**	**11 52 15.2**	**+0.9**
ARK				⇑*i*S	**Sn**	**11 52 50.2**	**+1.1**
ARK	**Arkit**	**2.87**	**17**	*i* PN	**Pn**	**11 52 14.5**	**+0.2**
ARK				*i* S	**Sn**	**11 52 49.2**	**+0.1**
SALK	**Salom-Alik**	**2.94**	**51**	⇑*i*P	**Pn**	**11 52 16.3**	**+1.0**
SALK				⇑*i*S	**Sn**	**11 52 52.6**	**+1.7**
SALK	**Salom-Alik**	**2.94**	**51**	*i* PN	**Pn**	**11 52 16.3**	**+1.0**
SALK				*i* S	**Sn**	**11 52 52.6**	**+1.7**
MNAS	**Manas**	**3.65**	**20**	⇓*e*P	**Pn**	**11 52 26.4**	**+1.3**
MNAS				⇓*e*S	**Sn**	**11 53 09.9**	**+1.4**
AML	**Almayashu**	**3.77**	**35**	P	**Pn**	**11 52 31.4**	**+4.5**
SNR=88							
AML	**Almayashu**	**3.77**	**35**	⇑*e*P	**Pn**	**11 52 27.6**	**+0.7**
AML				⇑*i*S	**Sn**	**11 53 11.8**	**+0.1**
AML	**Almayashu**	**3.77**	**35**	*i* PN	**Pn**	**11 52 27.6**	**+0.7**
AML				*i* S	**Sn**	**11 53 11.8**	**+0.1**
ARLS	**Aral**	**3.87**	**43**	⇑*i*P	**Pn**	**11 52 29.1**	**+1.1**
ARLS				⇑*i*S	**Sn**	**11 53 14.4**	**+0.6**
ARLS	**Aral**	**3.87**	**43**	*i* PN	**Pn**	**11 52 29.1**	**+1.1**
ARLS				*i* S	**Sn**	**11 53 14.4**	**+0.6**
KSH	**Kashi**	**4.03**	**82**	Pn	**Pn**	**11 52 29.0**	**-1.2**
KSH				Sn	**Sn**	**11 53 16.5**	**-1.2**
KSH				smax	smax		
comp=N,380nm,0.9s							
KSH				smax	smax		
comp=E,250nm,0.8s							
KK31	**Karatay Array**	**4.04**	**357**		**Pn**	**11 52 33.4**	**+3.1**
KK31	**Karatay Array**	**4.04**	**357**	⇑Pn	**Pn**	**11 52 34.3**	**+3.9**
17nm,0.3s,baz=177,slow=12,SNR=394							
KK31				⇓Sn	**Sb**	**11 53 25.9**	**-2.7**
192nm,0.7s,baz=181,slow=22,SNR=5.6							
KK31	**Karatay Array**	**4.04**	**357**	*e*PN	**Pn**	**11 52 34.2**	**+3.9**
KK31				S	**Sb**	**11 53 25.3**	**-3.3**
KKAR	**Karatay Array**	**4.04**	**357**		**Pn**	**11 52 33.6**	**+3.3**
KKAR	**Karatay Array**	**4.04**	**357**	⇑*i*P	**Pn**	**11 52 30.5**	**+0.2**
KKAR				⇑*i*S	**Sn**	**11 53 18.6**	**+0.7**
KKAR	**Karatay Array**	**4.04**	**357**	PN	**Pn**	**11 52 33.6**	**+3.3**
UCH	**Uchtor**	**4.23**	**40**	P	Pn	11 52 38.2	+4.9
SNR=21							
UCH	**Uchtor**	**4.23**	**40**	⇑*i*P	**Pn**	**11 52 34.3**	**+1.0**
UCH				⇑*i*S	**Sn**	**11 53 23.3**	**+0.1**
UCH	**Uchtor**	**4.23**	**40**	*e*PN	**Pn**	**11 52 34.3**	**+1.0**
EKS2	**Erkin-Say**	**4.24**	**31**	P	Pb	11 52 38.8	-4.1
SNR=22							
EKS2	**Erkin-Say**	**4.24**	**31**	⇓*i*P	**Pn**	**11 52 33.8**	**+0.7**
EKS2				⇓*i*S	**Sn**	**11 53 23.4**	**+0.5**
EKS2	**Erkin-Say**	**4.24**	**31**	*e*PN	**Pn**	**11 52 33.8**	**+0.7**
AAK	**Ala-Archa**	**4.53**	**37**		**Pn**	**11 52 41.1**	**+4.0**
AAK	**Ala-Archa**	**4.53**	**37**	Pn	**Pn**	**11 52 41.4**	**+4.2**
69nm,0.3s,baz=192,slow=4.3,SNR=202							
AAK				Sn	**Sn**	**11 53 37.4**	**+7.3**
4.6nm,0.3s,baz=226,slow=15,SNR=4.7							
AAK	**Ala-Archa**	**4.53**	**37**	P	Pn	11 52 42.3	+5.2
SNR=87							
AAK	**Ala-Archa**	**4.53**	**37**	⇑Pn	**Pn**	**11 52 41.9**	**+4.8**
41nm,0.4s							
AAK				⇓Sn	**Sb**	**11 53 38.4**	**-4.4**
130nm,0.7s							
AAK	**Ala-Archa**	**4.53**	**37**	⇑*i*P	**Pn**	**11 52 38.2**	**+1.1**
AAK				⇑*i*S	**Sn**	**11 53 30.0**	**-0.2**
AAK	**Ala-Archa**	**4.53**	**37**	PN	**Pn**	**11 52 41.6**	**+4.5**
AAK				S	**Sb**	**11 53 38.1**	**-4.7**
FRU1	**Bishkek**	**4.73**	**36**	⇑*i*P	**Pn**	**11 52 40.9**	**+1.1**
FRU1				⇑*i*S	**Sn**	**11 53 34.8**	**-0.1**
FRU1	**Bishkek**	**4.73**	**36**	*i* PN	**Pn**	**11 52 40.9**	**+1.1**
FRU1				*i* S	**Sn**	**11 53 34.8**	**-0.1**
KBL	**Kabul**	**4.73**	**198**		**Pn**	**11 52 41.3**	**+1.3**
KBL	**Kabul**	**4.73**	**198**	PN	**Pn**	**11 52 41.3**	**+1.3**
KBK	**Karagaybulak**	**4.76**	**40**	P	Pn	11 52 45.4	+5.0
SNR=40							
KBK	**Karagaybulak**	**4.76**	**40**	⇑*i*P	**Pn**	**11 52 41.5**	**+1.1**
KBK				⇑*i*S	**Sn**	**11 53 35.8**	**-0.1**
KBK	**Karagaybulak**	**4.76**	**40**	*i* PN	**Pn**	**11 52 41.5**	**+1.1**
KBK				*i* S	**Sn**	**11 53 35.8**	**-0.1**
CHMS	**Chumysh**	**4.93**	**36**	P	**Pn**	**11 52 47.2**	**+4.7**
SNR=11							
CHMS	**Chumysh**	**4.93**	**36**	⇑*i*P	**Pn**	**11 52 43.3**	**+0.8**
CHMS				⇑*i*S	**Sn**	**11 53 39.3**	**-0.5**
CHMS	**Chumysh**	**4.93**	**36**	*e*PN	**Pn**	**11 52 43.3**	**+0.8**
USP	**Ospenovka**	**5.04**	**32**	P	**Pn**	**11 52 47.9**	**+3.9**
SNR=116							
USP	**Ospenovka**	**5.04**	**32**	⇑*i*P	**Pn**	**11 52 44.9**	**+0.9**
USP				⇑*i*S	**Sn**	**11 53 41.7**	**-0.7**
USP	**Ospenovka**	**5.04**	**32**	*i* PN	**Pn**	**11 52 44.9**	**+0.9**
BOOM	**Boomskoye usch**	**5.18**	**47**	⇓*i*P	**Pn**	**11 52 47.5**	**+1.4**
BOOM				⇓*i*S	**Sn**	**11 53 46.1**	**-0.1**
BOOM	**Boomskoye usch**	**5.18**	**47**	*i* PN	**Pn**	**11 52 47.5**	**+1.4**
BOOM				*i* S	**Sn**	**11 53 46.1**	**-0.1**
ULHL	**Ulahol**	**5.21**	**51**	P	Pn	11 52 51.9	+5.4
SNR=32							
ULHL	**Ulahol**	**5.21**	**51**	⇑*i*P	**Pn**	**11 52 47.8**	**+1.3**
ULHL				⇑*i*S	**Sn**	**11 53 46.8**	**-0.1**
ULHL	**Ulahol**	**5.21**	**51**	*i* PN	**Pn**	**11 52 47.8**	**+1.3**
ULHL				*i* S	**Sn**	**11 53 46.8**	**-0.1**
TKM2	**Tokmak 2**	**5.29**	**42**	P	Pn	11 52 53.2	+5.7
SNR=9.4							
TKM2	**Tokmak 2**	**5.29**	**42**	⇑Pn	**Pn**	**11 52 51.3**	**+3.7**
25nm,0.4s							
TKM2				⇑Sn	**Sn**	**11 53 57.3**	**+8.4**
78nm,0.8s							
TKM2	**Tokmak 2**	**5.29**	**42**	⇑*i*P	**Pn**	**11 52 48.5**	**+0.9**
TKM2				⇑*i*S	**Sn**	**11 53 48.2**	**-0.6**
TKM2	**Tokmak 2**	**5.29**	**42**	*i* PN	**Pn**	**11 52 51.3**	**+3.7**
TKM2				pmax	pmax		
comp=Z,31nm,0.4s							
KDJ	**Kajisay**	**5.73**	**56**	⇑*i*P	**Pn**	**11 52 55.1**	**+1.4**
KDJ				⇑*i*S	**Sn**	**11 53 59.0**	**-0.8**
KDJ	**Kajisay**	**5.73**	**56**	*i* PN	**Pn**	**11 52 55.1**	**+1.4**
KDJ				*i* S	**Sn**	**11 53 59.8**	**0.0**
NIL	**Nilore**	**5.75**	**159**	Pn	**Pn**	**11 52 54.6**	**+0.8**
NIL	**Nilore**	**5.75**	**159**	PN	**Pn**	**11 52 54.6**	**+0.8**
TARG	**Taragay, Kyrgy**	**5.96**	**61**	Pn	**Pn**	**11 52 58.6**	**+1.6**
TARG	**Taragay, Kyrgy**	**5.96**	**61**	PN	**Pn**	**11 52 58.7**	**+1.6**
ANVS	**Anan'yevo**	**6.38**	**52**	⇑*i*P	**Pn**	**11 53 04.1**	**+1.5**
ANVS				⇑*e*S	**Sn**	**11 54 14.9**	**-0.9**
ANVS	**Anan'yevo**	**6.38**	**52**	*i* PN	**Pn**	**11 53 04.1**	**+1.5**
BTLS	**Baital**	**6.44**	**21**	*e*PN	**Pn**	**11 53 07.1**	**+3.9**
WUS	**Wushi**	**6.78**	**69**	Pn	**Pn**	**11 53 09.2**	**+1.2**
JMU	**Jammu**	**7.15**	**151**	*e*P	**Pn**	**11 53 15.1**	**+2.1**
ARXS	**Arharly**	**7.35**	**43**	*e*P	**Pn**	**11 53 19.0**	**+3.2**
SHLS	**Shalkode**	**7.70**	**55**	*e*P	**Pb**	**11 53 40.3**	**-1.6**
THN	**Thein Dam**	**7.72**	**147**	*e*P	**Pn**	**11 53 23.1**	**+2.3**
THN				*e*S	**Sn**	**11 54 48.9**	**+0.4**
THN				IAML		11 54 55.1	
THN				IAML		11 55 08.5	
comp=E,204nm,0.5s							
PDGK	**Podgornoye**	**7.80**	**54**	⇑P	**Pn**	**11 53 24.6**	**+2.5**
comp=E,8.3nm,0.7s							
PDGK	**Podgornoye**	**7.80**	**54**	P	**Pn**	**11 53 24.5**	**+2.5**
HRA	**Herat**	**8.31**	**238**	Pn	**Pn**	**11 53 29.3**	**+0.2**
BHK	**Bhakra**	**8.90**	**147**	*e*S	**Sn**	**11 55 17.2**	**-0.3**
HNLY	**HANLEY**	**9.11**	**131**	*e*P	Pn	11 53 44.2	+3.8
HNLY				*e*S	**Sn**	**11 55 19.6**	**-3.9**
HNLY				IAML		11 55 30.1	
comp=E,106nm,0.7s							
HNLY				IAML		11 55 44.8	
comp=E,104nm,0.8s							
OTUK	**Ortayu**	**9.24**	**6**	⇑P	**Pn**	**11 53 44.6**	**+2.9**
comp=E,8.0nm,1.4s							
OTUK	**Ortayu**	**9.24**	**6**	P	**Pn**	**11 53 44.6**	**+2.9**
KLP	**Kalpa**	**9.66**	**139**	*e*P	**Pn**	**11 53 47.9**	**+0.2**
KLP				*e*S	**Sn**	**11 55 33.2**	**-3.4**
KLP				IAML		11 55 41.1	
comp=E,102nm,0.5s							
KLP				IAML		11 55 51.8	
comp=E,118nm,0.9s							
JOSI	**Joshimath**	**11.11**	**137**	*e*P	Pn	11 54 10.7	+3.2
MAKZ	**Makanchi**	**11.25**	**43**		**Pn**	**11 54 12.2**	**+3.0**
MAKZ	**Makanchi**	**11.25**	**43**	P	**Pn**	**11 54 12.2**	**+3.0**
MK31	**Makanchi Array**	**11.41**	**44**		**Pn**	**11 54 13.7**	**+2.3**
MK31	**Makanchi Array**	**11.41**	**44**	⇑P	**Pn**	**11 54 14.5**	**+3.2**
comp=E,5.3nm,0.8s,baz=226,slow=13,SNR=24							
MK31	**Makanchi Array**	**11.41**	**44**	*d* iP	**Pn**	**11 54 15.0**	**+3.6**
MKAR	**Makanchi Array**	**11.41**	**44**		**Pn**	**11 54 14.5**	**+3.1**
MKAR	**Makanchi Array**	**11.41**	**44**	Pn	**Pn**	**11 54 14.2**	**+2.9**
comp=E,0.3nm,0.3s,baz=228,slow=14,SNR=14							
comp=E,5.1nm,0.9s							
MKAR	**Makanchi Array**	**11.41**	**44**	*i* P	**Pn**	**11 54 15.1**	**+3.7**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
KUDL	**Kundal**	**11.87**	**155**	*e*P

KIV IAmb IAmb 11 56 30.3
comp=Z,13nm,0.6s
KIV Kislovodsk 21.57 292 *e*P **P 11 56 21.1 +2.9**
KIV *e*S **S 12 00 20.8 +3.3**
KIV pmax pmax
comp=Z,14nm,1.0s
SHA1 Shidzhatmaz 21.58 292⇑ *e*P **P 11 56 21.6 +3.2**
GURO Guroymak-BITLI 22.40 278 P **P 11 56 27.3 +0.2**
ZAK Zakamensk 25.49 53 *e*P **P 11 56 57.7 +0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
RAYN Ar Rayn 26.48 242 P **P 11 57 05.1 -0.9**
RAYN IAmb IAmb 11 57 08.2
comp=Z,4.0nm,0.7s
RAYN Ar Rayn 26.48 242 P **P 11 57 05.1 -0.9**
RAYN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 27.08 59 P **P 11 57 10.8 -0.4**
comp=Z,0.5nm,0.5s,baz=268,slow=9.9,SNR=5.4
comp=Z,0.5nm,0.5s
ULN Ulaanbaatar 27.52 59⇑ *e*P **P 11 57 20.4 +5.1**
ULN pmax pmax
comp=Z,4.0nm,1.4s
BR131 Keskin Array S 28.61 283 P **P 11 57 23.9 -1.1**
BR131 IAmb IAmb 11 57 35.5
comp=Z,5.1nm,0.5s
BR131 Keskin Array S 28.61 283 *c*eP P 11 57 30.4 +5.4
BRTR Keskin Array B 28.61 283 P **P 11 57 24.1 -0.9**
BRTR Keskin Array B 28.61 283 P **P 11 57 24.1 -0.9**
AKASG Malin Array Be 31.28 306 P **P 11 57 48.5 +0.1**
comp=Z,0.3nm,0.4s,baz=82,slow=7.6,SNR=4.3
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 31.28 306 *c*eP **P 11 57 52.7 +4.3**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 31.28 306⇓ *e*P **P 11 57 52.5 +4.1**
AKBB pmax pmax
comp=Z,10.0nm,1.8s
NRIK Noril'sk 31.64 11 P **P 11 57 52.8 +1.4**
comp=Z,1.9nm,0.4s,baz=292,slow=1.8,SNR=3.7
comp=Z,1.9nm,0.4s
NRIK Noril'sk 31.64 11⇑ *e*P **P 11 57 55.0 +3.7**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 31.88 122 P **P 11 57 52.9 -1.0**
comp=Z,0.5nm,0.3s,baz=298,slow=8.7,SNR=2.3
comp=Z,0.5nm,0.3s
MNK Minsk 32.62 313 *i* P **P 11 57 56.5 -3.6**
comp=E,13nm,0.8s
MNK *i* P **P 11 57 56.5 -3.6**
comp=N,16nm,0.9s
MNK *i* P **P 11 57 56.5 -3.6**
comp=Z,9.0nm,0.7s,baz=100
MNK *i* PP **PnPn 11 59 04.9 -2.6**
MNK *i* PPP PPP 11 59 12.8
MNK *i* S **S 12 03 12.0 -4.1**
MNK *i* SS **SnSn 12 05 08.7 -1.3**
MNK *i* SSS SSS 12 05 25.4
MNK *i* LQ LQ 12 08 33.6
MNK *i* LRM MLR 12 12 51.2
comp=E,826nm,20.6s
MNK *i* LRM MLR 12 12 53.0
comp=N,660nm,18.7s
MNK Minsk 32.62 313 *i* P **P 11 57 56.5 -3.6**
MNK *i* PPP PPP 11 59 12.8
MNK *i* S **S 12 03 11.9 -4.1**
MNK *i* SS **SnSn 12 05 08.7 -1.3**
MNK 12 08 33.5
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,13nm,0.8s
MNK MLR MLR
comp=E,826nm,21.0s
MNK MLR MLR
comp=N,660nm,19.0s
BURAR Bucovina Array 33.83 300 P **P 11 58 10.7 -0.1**
FINES FINESS Array B 35.30 324 P **P 11 58 23.1 -0.2**
FINES FINESS Array B 35.30 324 P **P 11 58 23.9 +0.6**
comp=N,6.6nm,1.1s,baz=108,slow=8.6,SNR=7.5
comp=N,6.6nm,1.1s
FINES FINESS Array B 35.30 324 *i* P **P 11 58 23.8 +0.5**
FINES pmax pmax
comp=Z,7.0nm,1.1s
ARCES ARCESS Array B 38.73 336 P **P 11 58 52.7 +0.3**
comp=Z,3.4nm,0.8s,baz=94,slow=7.3,SNR=4.3
comp=Z,3.4nm,0.8s
CONA Conrad Observa 40.08 301 *i* pP **P 11 59 05.0 +1.0**
comp=Z,0.2nm,0.2s
ARSA Arzberg 40.41 300 *e*P **P 11 59 07.2 +0.5**
comp=Z,0.6nm,0.4s
ZEA Zeya 40.48 50⇑ *e*P **P 11 59 10.6 +3.5**
HFS Hagfors 40.98 320 P **P 11 59 11.5 +0.3**
comp=Z,3.4nm,0.5s,baz=96,slow=11,SNR=17
comp=Z,3.4nm,0.5s
OBKA Obir 41.20 299 *e*P **P 11 59 13.5 +0.2**
comp=Z,2.4nm,0.9s
GERES GERESS Array B 41.37 303 P **P 11 59 15.1 +0.4**
comp=Z,0.5nm,0.7s,baz=61,slow=6.3,SNR=3.7
comp=Z,0.5nm,0.7s
KHC Kasperske Hory 41.41 303 *e*P **P 11 59 14.5 -0.4**
KHC Kasperske Hory 41.41 303⇓ *e*P **P 11 59 16.1 +1.2**
KHC pmax pmax
comp=Z,42nm,4.3s
SABO M.te Sabotino 41.94 299 P **P 11 59 19.4 +0.1**
SABO IAmb IAmb 11 59 25.0
comp=Z,6.7nm,0.9s
NB201 NORSAR Array S 42.23 321 P **P 11 59 21.6 +0.2**
NB201 IAmb IAmb 11 59 51.2
comp=Z,16nm,1.1s
NOA NORSAR Array B 42.27 321 P **P 11 59 22.3 +0.5**
comp=Z,1.1nm,0.7s,baz=93,slow=8.1,SNR=3.9
comp=Z,1.1nm,0.7s
ABTA Abfaltersbach 42.53 300 *i* P **P 11 59 24.2 +0.1**
comp=Z,0.3nm,0.3s
WTTA Wattenberg 43.01 301 *i* P **P 11 59 28.0 -0.2**
comp=Z,1.1nm,0.5s
WATA Walderalm 43.04 301 *e*P **P 11 59 28.4 +0.1**
comp=Z,0.8nm,0.4s
MOTA Moosalm 43.35 301 *e*P **P 11 59 30.1 -0.8**
comp=Z,1.0nm,0.4s
TIXI Tiksi 43.47 23 P **P 11 59 31.2 -0.1**
TIXI IAmb IAmb 11 59 34.2
comp=Z,8.9nm,1.1s
TIXI Tiksi 43.47 23⇓ *i* P **P 11 59 31.8 +0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
FETA Feichten 43.67 301 *i* P **P 11 59 33.4 0.0**
comp=Z,0.1nm,0.2s
DAVOX Davos/Dischmat 44.29 301 P **P 11 59 38.0 -0.4**
comp=Z,1.7nm,0.5s,baz=69,slow=8.6,SNR=5.7
comp=Z,1.7nm,0.5s
JOW Kunigami 49.01 86 LR LR 12 23 52.8
comp=Z,137nm,18.1s,baz=315,slow=40
EKA Eskdalemuir Ar 50.37 315 P **P 12 00 25.5 +0.1**
comp=Z,1.8nm,0.7s,baz=81,slow=11,SNR=3.8
comp=Z,1.8nm,0.7s
ESDC Sonseca Array 56.16 296 P **P 12 01 08.2 -0.2**
comp=Z,0.9nm,0.9s,baz=57,slow=9.0,SNR=6.7
comp=Z,0.9nm,0.9s
BILL Bilibino 56.38 27⇓ *i* P **P 12 01 13.5 +4.1**
BILL pmax pmax
comp=Z,1.0nm,0.4s
NEEM North Greenlan 58.50 347 *i* P **P 12 01 24.5 -0.2**
SUMG Summit 58.60 341 P **P 12 01 27.2 +1.7**
SUMG Summit 58.60 341 P **P 12 01 27.2 +1.7**
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 58.60 341 *i* P **P 12 01 26.8 +1.3**
KULLO Kullorsuaq 61.55 346 *i* P P 12 01 32.7 -12
B21K Ikpikpuk River 66.64 16 P **P 12 02 19.1 +0.4**
TOLK Toolik Lake Re 68.48 15 P **P 12 02 30.7 +0.3**
E23K Chandalar 68.97 15 P **P 12 02 34.8 +1.2**
E23K IAmb IAmb 12 02 40.5
comp=Z,2.4nm,0.8s
GUMO Guam 69.24 89 LR LR 12 35 57.8
comp=Z,58nm,19.1s,baz=3.0,slow=39
F25K Christian Rive 70.15 14 P **P 12 02 41.7 +0.9**
F25K IAmb IAmb 12 02 50.9
comp=Z,2.0nm,1.1s
C36M Paulatuk 71.34 6 P **P 12 02 48.2 +0.3**
INK Inuvik 71.40 9 P **P 12 02 49.0 +0.7**
INK IAmb IAmb 12 02 55.9
comp=Z,4.7nm,1.2s
INK Inuvik 71.40 9 P **P 12 02 49.0 +0.7**
INK pmax pmax
comp=Z,5.0nm,1.3s
COLA College 72.06 16⇑ *e*P **P 12 02 53.8 +1.5**
COLA pmax pmax
comp=Z,5.0nm,1.0s
ILAR Eielson Array 72.36 16 P **P 12 02 54.2 +0.1**
comp=Z,0.6nm,0.8s,baz=341,slow=5.2,SNR=8.0
comp=Z,0.6nm,0.8s
SML Sawmill 74.60 18 P **P 12 03 07.8 +0.3**
SML IAmb IAmb 12 03 21.2
comp=Z,7.1nm,1.2s
YKA Yellowknife Ar 78.69 3 P **P 12 03 31.1 +0.6**
comp=Z,1.3nm,1.0s,baz=349,slow=5.5,SNR=16
comp=Z,1.3nm,1.0s
WRA Warramunga Arr 83.47 122 P **P 12 03 54.9 -1.6**
comp=Z,0.4nm,0.6s,baz=328,slow=5.0,SNR=6.0
comp=Z,0.4nm,0.6s
ASAR Alice Springs 85.84 125 P **P 12 04 06.3 -2.1**
comp=Z,0.3nm,0.8s,baz=315,slow=4.8,SNR=5.0
comp=Z,0.3nm,0.8s
HNR Honiara 95.19 98 LR LR 12 48 32.4
comp=Z,35nm,19.9s,baz=42,slow=36
PLCA Paso Flores 150.47 254 PKPbc **PKiKP 12 11 19.9 -1.0**
comp=Z,1.9nm,1.0s,baz=63,slow=2.3,SNR=5.2

*AEIC **31** 12:04:36.5±0.8, 53°.77N±0°.08×164°.70W±0°.06, h36km±10km, Error ellipse: s-maj=12.4km s-min=4.6km az=164.0*
NEIC 31 12:04:36.6±0.6, 53°.73N±0°.08×164°.70W±0°.04, h35km±2km, ML2.7(AEIC), Error ellipse: s-maj=13.7km s-min=3.1km az=343.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.72**	**305**		Pn	12 04 49.9	-0.3
AKSA					Sn	12 05 00.3	+0.2
AKBBA	**Akutan Broad B**	**0.82**	**298**		Pn	12 04 51.5	-0.1
AKMO	**Akutan Morgan**	**0.86**	**296**		Pn	12 04 52.0	-0.2
AKMO					Sn	12 05 03.7	+0.2
AKGG	**Akutan Green G**	**0.90**	**302**		Pn	12 04 52.6	-0.1
LVA	**Lava Point**	**0.90**	**299**	Pn	Pn	12 04 52.3	-0.5
LVA				Sn	Sn	12 05 04.4	-0.2
UNV	**Unalaska Valle**	**1.08**	**277**		Pn	12 04 55.1	-0.1
ISLZ	**Isanotski Laza**	**1.16**	**30**		Pn	12 04 55.9	-0.4
ISLZ					Sn	12 05 10.9	0.0
MTBL	**Makushin Table**	**1.20**	**283**		Pn	12 04 57.0	+0.1
MTBL					Sn	12 05 12.2	+0.2
ISNN	**Isanotski Nort**	**1.23**	**25**		Pn	12 04 57.2	-0.1
FALS	**False Pass**	**1.36**	**33**		Pn	12 04 59.0	+0.1
FALS					Sn	12 05 16.1	+0.3
OKSP	**Okmok Steeple**	**2.20**	**259**		Pn	12 05 11.4	+0.8
HAG	**Hague Volcano**	**2.28**	**44**		Pn	12 05 12.2	+0.5
SDPT	**Sand Point**	**2.95**	**55**	Pn	Pn	12 05 20.1	-0.8

*GCG **31** 12:10:39.6±0.7, 13°.37N×89°.93W, h51km±8km, MD4.0*
*CATAC **31** 12:10:39.1±0.6, 13°N±4°×9°0W±°, h30km±4km, M3.3/17, MLv3.3/17, Error ellipse: s-maj=7.8km s-min=6.4km az=16.7, confirmed*
*SNET **31** 12:10:40.6±1.3, 13°.39N×89°.91W, h44km, ML3.5*
ISC 31 12:10:39.7±2.6, 13°.3N±0°.1×89°.95W±0°.10, h46km±21km, n71, σ0°.47/79, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.54**	**353**	P	**Pn**	**12 10 51.0**	**-0.2**
FAME	**Alcaldia de Sa**	**0.54**	**353**	S	**Sn**	**12 10 60.0**	**+0.4**
JAYA	**Jayaque - finc**	**0.60**	**54**	*e*P	**Pn**	**12 10 51.4**	**-0.7**
JAYA				*e*S	**Sn**	**12 11 01.1**	**0.0**
JAYA	**Jayaque - finc**	**0.60**	**54**	P	**Pn**	**12 10 51.6**	**-0.5**
JAYA	**Jayaque - finc**	**0.60**	**54**	S	**Sn**	**12 11 01.0**	**0.0**
JAYA	**Jayaque - finc**	**0.60**	**54**	P	**Pn**	**12 10 51.5**	**-0.7**
JAYA	**Jayaque - finc**	**0.60**	**54**	*i* P	**Pn**	**12 10 51.4**	**-0.7**
JAYA				*i* S	**Sn**	**12 11 01.0**	**0.0**
JAYA	**Jayaque - finc**	**0.60**	**54**	*i* P		12 10 51.4	
JAYA				*i* S		12 11 01.0	
CEVE	**Cerro Verde**	**0.61**	**31**	*e*P	**Pn**	**12 10 52.0**	**-0.3**
CEVE				*e*S	**Sn**	**12 11 02.2**	**+0.8**
CEVE	**Cerro Verde**	**0.61**	**31**	P	**Pn**	**12 10 52.2**	**-0.2**
CEVE	**Cerro Verde**	**0.61**	**31**	P	**Pn**	**12 10 52.0**	**-0.3**
NUBE	**Las Nubes**	**0.62**	**15**	*e*P	**Pn**	**12 10 52.0**	**-0.4**
NUBE				*e*S	**Sn**	**12 11 01.5**	**+0.1**
NUBE	**Las Nubes**	**0.62**	**15**	P	**Pn**	**12 10 51.9**	**-0.4**
NUBE	**Las Nubes**	**0.62**	**15**	P	**Pn**	**12 10 52.0**	**-0.4**
NUBE	**Las Nubes**	**0.62**	**15**	*i* P	**Pn**	**12 10 52.0**	**-0.4**
NUBE				*i* S	**Sn**	**12 11 01.3**	**-0.1**
NUBE	**Las Nubes**	**0.62**	**15**	*i* P		12 10 52.0	
NUBE				*i* S		12 11 01.3	
SBLS	**San Blas**	**0.62**	**30**	*e*P	**Pn**	**12 10 52.1**	**-0.3**
SNJE	**San Jose**	**0.65**	**30**	*e*P	**Pn**	**12 10 52.5**	**-0.4**
SNJE				*e*S	**Sn**	**12 11 02.9**	**+0.6**
LOAL	**Lomas de Alarc**	**0.71**	**13**	P	**Pn**	**12 10 53.2**	**-0.3**
LOAL	**Lomas de Alarc**	**0.71**	**13**	S	**Sn**	**12 11 04.4**	**+1.0**
LOAL	**Lomas de Alarc**	**0.71**	**13**	P	**Pn**	**12 10 53.5**	**0.0**
CEDA	**San Andres**	**0.73**	**47**	*e*P	**Pn**	**12 10 53.3**	**-0.4**
CEDA				*e*S	**Sn**	**12 11 04.5**	**+0.5**
CEDA	**San Andres**	**0.73**	**47**	P	Pn	12 11 05.0	+11
CEDA	**San Andres**	**0.73**	**47**	P	**Pn**	**12 10 53.5**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.74**	**12**	P	**Pn**	**12 10 53.7**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.74**	**12**	S	**Sn**	**12 11 05.0**	**+0.9**
SLOZ	**Alcaldia de Sa**	**0.74**	**12**	P	**Pn**	**12 10 53.6**	**-0.2**
PMON	**Piamonte**	**0.74**	**56**	*e*P	**Pn**	**12 10 53.4**	**-0.6**
PMON	**Piamonte**	**0.74**	**56**	P	**Pn**	**12 10 53.5**	**-0.4**
PMON	**Piamonte**	**0.74**	**56**	S	**Sn**	**12 11 04.5**	**+0.3**
PMON	**Piamonte**	**0.74**	**56**	P	**Pn**	**12 10 53.5**	**-0.4**
BOQS	**Boqueron**	**0.78**	**56**	*e*P	**Pn**	**12 10 54.2**	**-0.4**
UNIC	**Universidad Ca**	**0.78**	**30**	S	**Sn**	**12 11 05.6**	**+0.6**
UNIC	**Universidad Ca**	**0.78**	**30**	P	**Pn**	**12 10 54.1**	**-0.3**
UNIC	**Universidad Ca**	**0.78**	**30**	S	**Sn**	**12 11 05.6**	**+0.6**
UNIC	**Universidad Ca**	**0.78**	**30**	P	**Pn**	**12 10 54.2**	**-0.3**
UEES	**Universidad Ev**	**0.80**	**59**	S	**Sn**	**12 11 05.9**	**+0.2**
UEES	**Universidad Ev**	**0.80**	**59**	P	**Pn**	**12 10 54.4**	**-0.3**
UEES	**Universidad Ev**	**0.80**	**59**	S	**Sn**	**12 11 05.5**	**-0.1**
UEES	**Universidad Ev**	**0.80**	**59**	P	**Pn**	**12 10 54.5**	**-0.3**
LOMA	**Loma Larga**	**0.83**	**66**	*e*P	**Pn**	**12 10 55.0**	**-0.2**
LOMA				*e*S	**Sn**	**12 11 07.5**	**+1.1**
LOMA	**Loma Larga**	**0.83**	**66**	P	**Pn**	**12 10 54.8**	**-0.2**
LOMA	**Loma Larga**	**0.83**	**66**	S	**Sn**	**12 11 06.9**	**+0.5**
LOMA	**Loma Larga**	**0.83**	**66**	P	**Pn**	**12 10 54.9**	**-0.2**
IGN	**Direccin Gen**	**0.86**	**62**	P	**Sn**	**12 11 07.5**	**+0.5**
UDBS	**Universidad Do**	**0.87**	**62**	P	**Sn**	**12 11 07.4**	**+0.1**
LFRS	**El Faro**	**0.92**	**70**	*e*P	**Pn**	**12 10 56.4**	**0.0**
PAVA	**Las Pavas**	**1.06**	**67**	P	**Pn**	**12 10 58.1**	**-0.2**
PAVA	**Las Pavas**	**1.06**	**67**	S	**Sn**	**12 11 13.3**	**+1.2**
PAVA	**Las Pavas**	**1.06**	**67**	P	**Pn**	**12 10 58.7**	**+0.4**
COEG	**Centro de Oper**	**1.08**	**73**	*e*P	**Pn**	**12 10 58.2**	**-0.3**
COEG				*e*S	**Sn**	**12 11 12.6**	**+0.1**
COEG	**Centro de Oper**	**1.08**	**73**	P	**Pn**	**12 10 58.2**	**-0.3**
COEG	**Centro de Oper**	**1.08**	**73**	P	**Pn**	**12 10 58.4**	**-0.2**
TECO	**Alcaldia de Te**	**1.16**	**78**	P	**Pn**	**12 10 59.2**	**-0.3**
TECO	**Alcaldia de Te**	**1.16**	**78**	S	**Sn**	**12 11 14.0**	**-0.2**
UESV	**Universidad de**	**1.18**	**73**	P	**Pn**	**12 10 59.7**	**-0.1**
UESV	**Universidad de**	**1.18**	**73**	S	**Sn**	**12 11 15.1**	**+0.5**
MTO3	**Montecristo**	**1.23**	**27**	P	**Pn**	**12 11 00.2**	**-0.5**
MTO3	**Montecristo**	**1.23**	**27**	S	**Sn**	**12 11 15.6**	**-0.6**
MTO3	**Montecristo**	**1.23**	**27**	P	**Pn**	**12 11 00.0**	**-0.7**
MTO3	**Montecristo**	**1.23**	**27**	*i* P	**Pn**	**12 11 00.0**	**-0.7**
MTO3	**Montecristo**	**1.23**	**27**	*i* P		12 11 00.0	
SCLA	**Alcaldia de Sa**	**1.25**	**71**	P	**Pn**	**12 11 00.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.25**	**71**	S	**Sn**	**12 11 17.3**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.25**	**71**	P	**Pn**	**12 11 00.4**	**-0.4**
PQSS	**Presa 15 de Se**	**1.39**	**77**	P	**Pn**	**12 11 02.2**	**-0.4**
PQSS	**Presa 15 de Se**	**1.39**	**77**	P	**Pn**	**12 11 01.9**	**-0.7**
PQSS	**Presa 15 de Se**	**1.39**	**77**	S	**Sn**	**12 11 19.2**	**-0.5**
PACA	**Pacayal**	**1.59**	**84**	P	**Pn**	**12 11 06.2**	**+0.8**
PACA	**Pacayal**	**1.59**	**84**	P	**Pn**	**12 11 05.0**	**-0.5**
PACA	**Pacayal**	**1.59**	**84**	S	**Sn**	**12 11 25.1**	**+0.2**
RANC	**El Ranchito**	**1.62**	**85**	P	**Pn**	**12 11 05.6**	**-0.3**
STG0	**El Palmar, Qui**	**1.76**	**310**	*i* P		12 11 12.8	
STG0				*i* S		12 11 38.7	
STG8	**El Palmar, Qui**	**1.78**	**310**	*i* P		12 11 13.3	
STG8				*i* S		12 11 39.7	
CNCH	**Conchagua**	**2.06**	**90**	P	**Pn**	**12 11 11.8**	**-0.1**
CNCH	**Conchagua**	**2.06**	**90**	S	**Sn**	**12 11 36.7**	**+0.2**

*FUNV **31** 12:12:57.7, 10°.25N×68°.07W, h4km, MW3.5*
*RSNC **31** 12:13:00.6±4.3, 10°N±15°×6°8W±3°6, h164km±19km, M3.4, mB4.7, mb4.1, ML3.0, Mw(mB)3.9*
ISC 31 12:12:56.9±1.4, 10°.27N±0°.07×68°.09W±0°.04, h11km±12km, n36, σ1°01/38, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENV	**Beln**	**0.57**	**122**	*e*P	**Pb**	**12 13 08.7**	**-0.3**
BENV				*e*S	**Sb**	**12 13 16.5**	**-0.6**
TACV	**Tcata**	**1.05**	**97**	*e*P	**Pg**	**12 13 17.5**	**+0.3**
TACV				*e*S	**Sg**	**12 13 31.2**	**+0.4**
TEPV	**Terepaima**	**1.13**	**254**	*e*P	**Pg**	**12 13 18.5**	**-0.1**
TEPV				*e*S	**Sn**	**12 13 34.5**	**+0.2**
FUNV	**FUNVISIS**	**1.27**	**81**	*e*P	**Pn**	**12 13 20.2**	**-0.5**
FUNV				*e*S	**Sb**	**12 13 36.7**	**-0.7**
BAUV	**El Baul**	**1.32**	**178**	*e*P	**Pb**	**12 13 21.4**	**-0.3**
BAUV				*e*S	**Sn**	**12 13 39.4**	**+0.4**
SDV	**Santo Domingo**	**2.86**	**242**	P	**Pn**	**12 13 44.0**	**+1.2**
SDV	**Santo Domingo**	**2.86**	**242**	P	**Pn**	**12 13 44.0**	**+1.2**
CACV	**CAICARA DEL OR**	**3.09**	**150**	*e*P	**Pb**	**12 13 50.2**	**-1.7**
CACV				*e*S	**Sb**	**12 14 29.7**	**0.0**
SOCV	**Socops**	**3.37**	**234**	*e*P	**Pn**	**12 13 51.1**	**+1.4**
SOCV				*e*S	**Sn**	**12 14 29.3**	**-0.4**
PCRV	**Puerto La Cruz**	**3.40**	**91**	*e*P	**Pn**	**12 13 52.3**	**+2.3**
PCRV				*e*S	**Sn**	**12 14 30.4**	**0.0**
CRJC	**Cerrejon, Guaj**	**4.77**	**279**	P	**Pn**	**12 14 09.8**	**+0.8**
CRJC	**Cerrejon, Guaj**	**4.77**	**279**	P	**Pn**	**12 14 09.8**	**+0.8**
TAMC	**Tame, Arauca** 913nm42nm,0.6s	**5.29**	**224**	P	**Pn**	**12 14 17.2**	**+1.2**
TAMC	**Tame, Arauca** 913nm42nm,0.6s	**5.29**	**224**	P	**Pn**	**12 14 17.2**	**+1.2**
BARC	**Barichara**	**6.23**	**234**	P	**Pn**	**12 14 30.0**	**+0.9**
BARC	**Barichara**	**6.23**	**234**	P	**Pn**	**12 14 30.0**	**+0.9**
RUSC	**La Rusia**	**6.59**	**229**	P	**Pn**	**12 14 35.5**	**+1.2**
RUSC	**La Rusia**	**6.59**	**229**	P	**Pn**	**12 14 35.5**	**+1.2**
PTBC	**PUERTO BERRIO,** 71nm4.1nm,0.6s	**7.31**	**240**	P	**Pn**	**12 14 42.0**	**-1.8**
PTBC	**PUERTO BERRIO,** 71nm4.1nm,0.6s	**7.31**	**240**	P	**Pn**	**12 14 42.0**	**-1.8**
CHIC	**Chingaza** 4.1nm,0.6s	**7.92**	**225**	P	**Pn**	**12 14 52.2**	**-0.3**
CHIC	**Chingaza** 4.1nm,0.6s	**7.92**	**225**	P	**Pn**	**12 14 52.2**	**-0.3**
ROSC	**El Rosal** 2μm21nm,0.5s	**8.20**	**229**	P	Pn	12 14 51.6	-4.8
ROSC	**El Rosal** 2μm21nm,0.5s	**8.20**	**229**	P	Pn	12 14 51.6	-4.8
CVER	**Cruz Verde, Cu** 23nm,0.6s	**8.24**	**227**	P	**Pn**	**12 14 58.2**	**+1.3**
CVER	**Cruz Verde, Cu** 23nm,0.6s	**8.24**	**227**	P	**Pn**	**12 14 58.2**	**+1.3**
VILC	**Villavicencio,** 324nm18nm,0.5s	**8.27**	**223**	P	Pn	12 14 52.2	-4.8
VILC	**Villavicencio,** 324nm18nm,0.5s	**8.27**	**223**	P	Pn	12 14 52.2	-4.8
ANIL	**Santa Ana**	**9.25**	**232**	P	Pn	12 15 04.8	-5.9
ANIL	**Santa Ana**	**9.25**	**232**	P	Pn	12 15 04.8	-5.9
URMC	**La Uribe, Meta**	**9.37**	**222**	P	**Pn**	**12 15 11.7**	**-0.4**
URMC	**La Uribe, Meta**	**9.37**	**222**	P	**Pn**	**12 15 11.7**	**-0.4**
PRAC	**Prado**	**9.38**	**226**	P	**Pn**	**12 15 12.2**	**0.0**
PRAC	**Prado**	**9.38**	**226**	P	**Pn**	**12 15 12.2**	**0.0**
ORTC	**Ortega, Tolima**	**9.51**	**229**	P	**Pn**	**12 15 13.7**	**-0.3**
ORTC	**Ortega, Tolima**	**9.51**	**229**	P	**Pn**	**12 15 13.7**	**-0.3**

*NEIC **31** 12:15:16.4±1.2, 61°.744N±0°.003×149°.85W±0°.04, h35km±2km, Error ellipse: s-maj=3.5km s-min=3.1km az=271.0*
AEIC 31 12:15:16.9±1.2, 61°.73N±0°.03×149°.86W±0°.05, h46km±6km, ML2.3, ML2.5/7(NEIC), Error ellipse: s-maj=3.8km s-min=3.4km az=177.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.13**	**279**		Pn	12 15 23.4	-1.0
M22K	**Willow**	**0.13**	**279**		Sn	12 15 29.7	+0.1
PMR	**Palmer**	**0.37**	**112**		Pn	12 15 25.1	-1.3
PMR				IAML		12 15 33.1	
PMR	comp=E,374nm,0.3s			IAML		12 15 33.2	
PMR	comp=N,230nm,0.3s **Palmer**	**0.37**	**112**		Sn	12 15 32.5	-0.7
GHO	**Glory Hole Cre**	**0.45**	**85**		Pn	12 15 26.2	-1.2
GHO				IAML		12 15 35.0	
GHO	comp=E,237nm,0.6s			IAML		12 15 35.2	
GHO	comp=N,233nm,0.6s **Glory Hole Cre**	**0.45**	**85**		Sn	12 15 34.5	-0.3
SUA	**Susitna One**	**0.51**	**238**		Pn	12 15 27.1	-0.9
SUA				IAML		12 15 36.4	
SUA	comp=N,328nm,0.7s **Susitna One**	**0.51**	**238**		Sn	12 15 36.0	0.0
FIS	**Fire Island**	**0.62**	**197**		Pn	12 15 29.2	-0.1
FIS				IAML		12 15 41.8	
RC01	comp=N,340nm,0.8s **Rabbit Creek A**	**0.65**	**175**		Pn	12 15 28.9	-0.9
RC01				IAML		12 15 40.0	
RC01	comp=E,171nm,0.3s			IAML		12 15 41.1	
RC01	comp=N,281nm,0.4s **Rabbit Creek A**	**0.65**	**175**		Sn	12 15 38.8	-0.2
CUT	**Chulitna**	**0.70**	**344**		Pn	12 15 29.3	-1.2
CUT	**Chulitna**	**0.70**	**344**		Sn	12 15 39.7	-0.6
SML	**Sawmill**	**0.73**	**83**		Pn	12 15 29.4	-1.5
SML				IAML		12 15 41.6	
SML	comp=E,180nm,0.4s			IAML		12 15 42.0	
SML	comp=N,146nm,0.5s **Sawmill**	**0.73**	**83**		Sn	12 15 40.5	-0.5
KNK	**Knik Glacier**	**0.74**	**115**		Pn	12 15 29.8	-1.2
KNK				IAML		12 15 43.5	
SKT	comp=N,290nm,0.3s **Skwentna**	**0.83**	**288**		Pn	12 15 30.5	-1.7
SKT				IAML		12 15 43.7	
SKT	comp=E,191nm,0.3s **Skwentna**	**0.83**	**288**		Sn	12 15 42.4	-1.0
STLK	**Strandline Lak**	**0.97**	**257**		Pn	12 15 32.8	-1.4
STLK				IAML		12 15 48.0	
STLK	comp=N,96nm,0.3s **Strandline Lak**	**0.97**	**257**		Sn	12 15 46.8	-0.1
M23K	**Glacier View**	**1.01**	**86**		Pn	12 15 33.7	-1.0
PWL	**Port Wells**	**1.14**	**139**		Pn	12 15 35.4	-1.0
CAPN	**Captain Cook N**	**1.15**	**214**	Pn	Pn	12 15 36.9	+0.4
CAPN				IAML		12 15 57.6	
SCM	comp=E,156nm,0.5s **Sheep Creek Mo**	**1.21**	**84**		Pn	12 15 36.5	-0.9
SCM				IAML		12 15 55.1	
SCM	comp=N,122nm,0.7s **Sheep Creek Mo**	**1.21**	**84**		Sn	12 15 53.3	+0.7
SLKM	**Skilak Lake**	**1.24**	**188**	Pn	Pn	12 15 36.7	-1.1
SLKM				IAML		12 15 55.8	
SLKM	comp=N,72nm,0.3s			IAML		12 15 56.7	
SPCR	comp=E,109nm,0.5s **Spurr Chakacha**	**1.25**	**246**		Pn	12 15 37.6	-0.3
O22K	**Cooper Landing**	**1.26**	**177**		Pn	12 15 36.6	-1.3
SPBG	**Spurr Blockage**	**1.30**	**250**		Pn	12 15 38.6	0.0
SPBG					Sn	12 15 56.0	+1.2
CKL	**Chakachamna La**	**1.31**	**247**		Pn	12 15 38.4	-0.4
M20K	**Styx River**	**1.56**	**277**		Pn	12 15 42.0	-0.3
M20K				IAML	

comp=E,45nm,0.5s
FID Port Fidalgo 1.91 120 Pn 12 15 45.3 -1.6
FID IAML 12 16 20.6
comp=N,66nm,0.4s
RDWB Redoubt West 1.91 231 Pn 12 15 47.4 +0.3
CAST Castle Rocks 1.98 330 Pn 12 15 47.5 -0.4
CAST IAML 12 16 13.3
comp=E,51nm,0.4s
CAST IAML 12 16 13.5
comp=N,35nm,0.3s
L20K Farewell, AK 2.04 293 Pn 12 15 47.9 -0.8
BRLK Bradley Lake 2.04 195 Pn 12 15 48.8 +0.1
BRLK IAML 12 16 21.4
comp=N,23nm,0.3s
BRSE Bradley Lake S 2.04 193 Pn 12 15 48.1 -0.7
MCK McKinley 2.05 12 Pn 12 15 48.7 -0.2
DIV Divide 2.05 105 Pn 12 15 48.5 -0.4
HIN Hinchinbrook I 2.11 128 Pn 12 15 48.5 -1.1
HIN IAML 12 16 24.2
comp=N,41nm,0.9s
M19K Big River Lodg 2.16 277 Pn 12 15 49.5 -0.8
M19K IAML 12 16 20.1
comp=E,22nm,0.6s
HARP HAARP 2.31 71 Pn 12 15 52.8 +0.4
CNPM China Point 2.32 198 Pn 12 15 53.4 +0.9
EYAK Cordova Ski Ar 2.32 119 Pn 12 15 51.9 -0.6
PAX Paxson 2.39 57 Pn 12 15 54.2 +0.6
L19K White Mountain 2.40 283 Pn 12 15 52.8 -0.9
BPAW Bear Paw Mtn. 2.43 348 Pn 12 15 52.9 -1.1
BPAW IAML 12 16 26.1
comp=E,16nm,0.4s
N25K Chitina, Valde 2.51 91 Pn 12 15 54.4 -0.8
N25K IAML 12 16 32.6
comp=E,20nm,0.5s
N25K IAML 12 16 33.4
comp=N,26nm,0.7s
K20K Telida 2.54 312 Pn 12 15 53.9 -1.7
WACK Wrangell Chich 2.63 82 Pn 12 15 56.7 -0.3
BMRM Bremner River 2.64 105 Pn 12 15 57.3 +0.3
M18K Stony River 2.86 268 Pn 12 15 59.3 -0.6
WRH Wood River Hil 2.86 16 Pn Pn 12 15 59.1 -0.9
NEA2 Nenana 2.89 7 Pn 12 15 59.4 -1.0
GLB Gilahina Butte 2.91 93 Pn 12 15 60.0 -0.6
GLB IAML 12 16 44.6
comp=N,18nm,0.3s
HDA Harding Lake 2.99 25 Pn 12 16 01.1 -0.6
HDA IAML 12 16 42.9
comp=E,16nm,0.3s
HDA IAML 12 16 43.4
comp=N,16nm,0.3s
RIDG Independent Ri 3.06 47 Pn 12 16 03.0 +0.3
RIDG IAML 12 16 46.1
comp=N,13nm,1.1s
RIDG IAML 12 16 58.1
comp=E,14nm,1.5s
CCB Clear Creek Bu 3.07 17 Pn Pn 12 16 01.8 -1.0
O18K Koktuh Hills 3.23 237 Pn Pn 12 16 05.3 +0.3
L18K Granite Mounta 3.26 282 Pn Pn 12 16 04.2 -1.2
BERG Berg Lake 3.28 111 Pn 12 16 06.7 +1.0
COLA College 3.28 15 Pn 12 16 05.4 -0.2
L26K Log Cabin Wild 3.30 64 Pn 12 16 04.0 -1.9
L26K IAML 12 16 58.4
comp=E,12nm,0.4s
L26K IAML 12 18 04.8
comp=N,17nm,0.3s
M26K Nabesna, AK 3.30 75 Pn 12 16 05.4 -0.6
M26K IAML 12 17 00.7
comp=N,7.5nm,0.6s
M26K IAML 12 17 04.7
comp=E,10nm,0.8s
IL31 3.33 22 Pn 12 16 06.2 -0.1
I23K Minto, Yukon-K 3.44 3 Pn 12 16 07.2 -0.5
I23K IAML 12 17 02.9
comp=N,7.5nm,0.8s
J19K Poorman 3.48 313 Pn 12 16 07.7 -0.8
J19K Poorman 3.48 313 IAML 12 17 04.5
comp=E,11nm,0.4s
J25K Salcha River, 3.53 33 Pn 12 16 09.0 -0.2
J25K Salcha River, 3.53 33 IAML 12 16 56.6
comp=E,11nm,0.5s
J25K IAML 12 16 58.4
comp=N,12nm,1.1s
POKR Poker Plat Res 3.57 17 Pn 12 16 09.7 0.0
POKR Poker Plat Res 3.57 17 IAML 12 17 11.1
comp=N,6.4nm,0.8s
BALM Baldy 3.68 98 Pn 12 16 09.8 -1.5
KIAG Kiagna River 3.70 99 Pn 12 16 11.6 -0.1
BARK Barkley Ridge 3.82 107 Pn 12 16 12.7 -0.5
L17K Donlin 4.01 279 Pn 12 16 15.1 -0.5
K17K Iditarod 4.07 288 Pn 12 16 15.9 -0.6
K17K Iditarod 4.07 288 IAML 12 17 27.5
comp=N,4.8nm,0.9s
K17K IAML 12 17 35.8
comp=E,4.6nm,1.4s
YUK3 Moose Creek 4.47 85 Pn 12 16 21.7 -0.5
H18K Honhosa River 5.13 316 Pn 12 16 30.8 -0.3
H18K Honhosa River 5.13 316 IAML 12 17 30.1
comp=E,3.9nm,1.5s
H18K IAML 12 18 13.6
comp=N,2.3nm,1.2s

*CATAC **31** 12:16:51.7±0.7, 14°N±4°×9°2W±°, h30km±5km, M3.8/10, MLv3.8/10, Error ellipse: s-maj=10.8km s-min=5.2km az=41.5, confirmed*
*GCG **31** 12:16:52.6±1.5, 14°15N×91°49W, h43km±27km, MD4.1, ML4.1, MW3.5*
*SNET **31** 12:16:53.0±1.9, 14°12N×91°52W, h32km, ML3.8*
ISC 31 12:16:49.9±2.0, 14°07N±0°08×91°50W±0°06, h1km±13km, n34, σ1s09/45, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG0	**El Palmar, Qui**	**0.38**	**23**	*i* P		12 17 04.8	
STG0				IAML		12 17 16.8	
comp=N,31μm,0.2s							
STG8	**El Palmar, Qui**	**0.40**	**21**	*i* P		12 17 05.3	
STG8				IAML		12 17 16.3	
comp=N,11μm,0.2s							
RTAL	**Retalhuleu**	**0.49**	**337**	*e*P	**Pn**	**12 17 03.4**	**-0.6**
RTAL				*e*S	**Sb**	**12 17 12.3**	**+3.3**
RTAL	**Retalhuleu**	**0.49**	**337**	P	**Pn**	**12 17 03.4**	**-0.6**
RTAL	**Retalhuleu**	**0.49**	**337**	P	**Pn**	**12 17 03.5**	**-0.5**
RTAL				S	**Sb**	**12 17 12.2**	**+3.3**
SOKI	**Kika Raxquin**	**0.75**	**7**	*i* P	**Pn**	**12 17 07.0**	**-1.0**
SOKI				*i* S	**Sb**	**12 17 17.7**	**+0.9**
SOKI				IAML		12 17 25.0	
comp=N,8μm,0.6s							
SOKI	**Kika Raxquin**	**0.75**	**7**	*i* P		12 17 07.0	
SOKI				*i* S		12 17 17.7	
SOKI				IAML		12 17 25.0	
comp=N,8μm,0.6s							
SMCA	**Catarina**	**0.96**	**324**	*i* P	**Pb**	**12 17 08.6**	**-0.7**
SMCA				*i* S	**Sg**	**12 17 20.1**	**-0.7**
SMCA	**Catarina**	**0.96**	**324**	*i* P		12 17 08.6	
SMCA				*i* S		12 17 20.1	
THIG		**1.11**	**318**	*i* P	**Pb**	**12 17 10.7**	**-1.2**
THIG		**1.11**	**318**	*i* P		12 17 10.7	
HUEH	**Huehuetenango**	**1.24**	**360**	*e*P	**Pn**	**12 17 14.0**	**-0.5**
HUEH				*e*S	**Sn**	**12 17 31.2**	**-0.8**
HUEH	**Huehuetenango**	**1.24**	**360**	P	**Pn**	**12 17 14.1**	**-0.4**
HUEH	**Huehuetenango**	**1.24**	**360**	*i* P	**Pg**	**12 17 13.8**	**+0.2**
HUEH				*i* S	**Sg**	**12 17 30.0**	**+0.3**
HUEH	**Huehuetenango**	**1.24**	**360**	*i* P		12 17 13.8	
HUEH				*i* S		12 17 30.0	
SLOZ	**Alcaldia de Sa**	**1.66**	**91**	P	**Pn**	**12 17 20.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.66**	**91**	S	**Sn**	**12 17 42.7**	**+0.5**
NUBE	**Las Nubes**	**1.67**	**96**	*e*P	**Pn**	**12 17 20.1**	**-0.3**
NUBE				*e*S	**Sn**	**12 17 42.3**	**-0.4**
NUBE	**Las Nubes**	**1.67**	**96**	P	**Pn**	**12 17 20.2**	**-0.3**
NUBE	**Las Nubes**	**1.67**	**96**	P	**Pn**	**12 17 20.2**	**-0.3**
NUBE	**Las Nubes**	**1.67**	**96**	S	**Sn**	**12 17 41.3**	**-1.4**
NUBE	**Las Nubes**	**1.67**	**96**	*i* P	**Pn**	**12 17 19.9**	**-0.5**
NUBE	**Las Nubes**	**1.67**	**96**	*i* P		12 17 19.9	
SBLS	**San Blas**	**1.83**	**97**	*e*P	**Pn**	**12 17 23.0**	**+0.2**
SBLS				*e*P		12 17 23.1	
SBLS				*e*S	**Sn**	**12 17 46.7**	**0.0**
CEVE	**Cerro Verde**	**1.83**	**97**	*e*P	**Pn**	**12 17 23.1**	**+0.4**
CEVE				*e*S	**Sn**	**12 17 47.2**	**+0.5**
CEVE	**Cerro Verde**	**1.83**	**97**	P	**Pn**	**12 17 22.9**	**+0.1**
CEVE	**Cerro Verde**	**1.83**	**97**	P	**Pn**	**12 17 22.9**	**+0.1**
CEVE	**Cerro Verde**	**1.83**	**97**	S	**Sn**	**12 17 46.2**	**-0.6**
SNJE	**San Jose**	**1.85**	**96**	*e*P	**Pn**	**12 17 23.0**	**+0.1**
SNJE				*e*P		12 17 23.4	
JAYA	**Jayaque - finc**	**2.03**	**102**	*e*P	**Pn**	**12 17 25.3**	**-0.1**
JAYA				*e*S	**Sn**	**12 17 50.2**	**-1.3**
JAYA	**Jayaque - finc**	**2.03**	**102**	P	**Pn**	**12 17 25.2**	**-0.2**
JAYA	**Jayaque - finc**	**2.03**	**102**	P	**Pn**	**12 17 25.2**	**-0.2**
JAYA	**Jayaque - finc**	**2.03**	**102**	*i* P	**Pn**	**12 17 25.2**	**-0.2**
JAYA				*i* S	**Sn**	**12 17 48.2**	**-3.3**
JAYA				IAML		12 17 56.0	
comp=E,857nm,0.2s							
JAYA	**Jayaque - finc**	**2.03**	**102**	*i* P		12 17 25.2	
JAYA				*i* S		12 17 48.2	
JAYA				IAML		12 17 56.0	
comp=E,857nm,0.2s							
MTO3	**Montecristo**	**2.10**	**81**	P	**Pn**	**12 17 25.3**	**-1.1**
MTO3	**Montecristo**	**2.10**	**81**	S	**Pb**	**12 17 27.7**	**-1.2**
MTO3	**Montecristo**	**2.10**	**81**	P	**Pn**	**12 17 25.2**	**-1.1**
PMON	**Piamonte**	**2.15**	**99**	P	**Pn**	**12 17 27.6**	**+0.6**
PMON	**Piamonte**	**2.15**	**99**	P	**Pn**	**12 17 27.6**	**+0.6**
PMON	**Piamonte**	**2.15**	**99**	S	**Sn**	**12 17 54.5**	**+0.2**
CCIG	**Comitan**	**2.28**	**344**	P	**Pn**	**12 17 29.1**	**+0.2**
PACA	**Pacayal**	**3.14**	**101**	P	**Pb**	**12 17 47.2**	**+0.6**

*THE **31** 12:24:06.8, 35°30N×24°17E, h22km±4km, ML2.5/3, Error ellipse: s-maj=4.4km s-min=0.7km az=16.0*
*ATH **31** 12:24:06.4, 35°20N×24°17E, h13km±4km, ML2.6/4, Manual Solution by S.Liakopoulos First location: 2019/03/31 12:25:39, This location: 2019/03/31 13:31:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
ISC 31 12:24:06.2±1.0, 35°25N±0°04×24°20E±0°04, h17km±8km, n12, σ0s66/24, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNB	**Souda**	**0.26**	**336**	P	**Pb**	**12 24 12.4**	**+0.1**
CHNB				S	**Sb**	**12 24 17.2**	**+0.7**
IMMV	**Iera Moni Meta**	**0.27**	**320**	P	**Pb**	**12 24 12.6**	**0.0**
IMMV				S	**Sb**	**12 24 16.9**	**-0.1**
2μm,0.5s							
IMMV	**Iera Moni Meta**	**0.27**	**320**	P	**Pb**	**12 24 12.5**	**-0.1**
IMMV				S	**Sb**	**12 24 17.2**	**+0.2**
PRNS	**Prines Rethymn**	**0.27**	**66**	P	**Pg**	**12 24 12.0**	**-0.2**
PRNS				S	**Sg**	**12 24 15.3**	**-1.0**
CHAN	**Chania**	**0.29**	**335**	P	**Pb**	**12 24 13.2**	**+0.2**
CHAN				S	**Sg**	**12 24 16.9**	**+0.1**
CHAN	**Chania**	**0.29**	**335**	P	**Pb**	**12 24 13.2**	**+0.2**
CHAN				S	**Sb**	**12 24 18.0**	**+0.5**
KNDR	**Palaiochora Ch**	**0.42**	**267**	P	**Pb**	**12 24 15.6**	**+0.5**
KNDR				S	**Sn**	**12 24 23.2**	**-1.6**
365nm,0.4s							
GVD	**Gavdhos**	**0.42**	**192**	P	**Pb**	**12 24 15.8**	**+0.6**
GVD				S	**Sn**	**12 24 23.4**	**-1.5**
792nm,0.3s							
TMBK	**Timbaki Herakl**	**0.50**	**111**	P	**Pg**	**12 24 16.4**	**+0.2**
TMBK				S	**Sb**	**12 24 23.6**	**+0.1**
IDI	**Anoyia**	**0.57**	**86**	P	**Pb**	**12 24 17.9**	**+0.2**
IDI				S	**Sb**	**12 24 26.5**	**+0.9**
IACM	**Heraklion**	**0.72**	**86**	P	**Pn**	**12 24 21.5**	**-0.1**
IACM				S	**Sg**	**12 24 30.3**	**+0.6**
ANKY	**Antikythira Is**	**0.95**	**310**	P	**Pn**	**12 24 25.4**	**+0.6**
ANKY				S	**Sn**	**12 24 37.9**	**-0.1**

*KRSC **31** 12:32:27.4±1.8, 52°88N×154°83E, h511km±23km, Ml4.1*
*IDC **31** 12:32:27.5±0.7, 53°29N×153°87E, h483km±10km, mb2.6/10, mbtmp3.5/15, Error ellipse: s-maj=19.0km s-min=12.7km az=141.0*
ISC 31 12:32:27.2±0.6, 53°13N±0°09×154°20E±0°08, h500km, n40, σ1s74/47, mb3.0/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.80**	**95**	*e*P	**P**	**12 33 31.6**	**+0.4**
PETK	**Petropavlovsk-**	**2.11**	**89**	P	**P**	**12 33 32.8**	**0.0**
9.5nm,0.7s,baz=231,slow=6.2,SNR=94							
PETK				S	**S**	**12 34 25.3**	**-1.0**
0.6nm,0.5s,baz=288,slow=9.8,SNR=2.3							
GNL	**Ganaly**	**2.31**	**74**	*e*P	**P**	**12 33 34.7**	**+0.7**
KRMR	**Karymshinskiy**	**2.40**	**96**	*e*P	**P**	**12 33 35.0**	**+0.7**
GRL	**Gorelyy**	**2.42**	**102**	*e*P	**P**	**12 33 35.7**	**+1.1**
INSR	**Institute**	**2.66**	**90**	*e*P	**P**	**12 33 36.8**	**+1.0**
KOK	**Koryaka**	**2.68**	**85**	*e*P	**P**	**12 33 37.4**	**+1.3**
KRX	**Arik**	**2.69**	**83**	*e*P	**P**	**12 33 37.3**	**+1.1**
PET	**Petropavlovsk**	**2.69**	**90**	*e*P	**P**	**12 33 36.9**	**+0.9**
RUS	**Russkaya**	**2.71**	**103**	*e*P	**P**	**12 33 36.0**	**-0.2**
RUS				*e*S	**S**	**12 34 29.9**	**-2.6**
KDTR	**Khodutka, Kamc**	**2.72**	**117**	*e*P	**P**	**12 33 35.3**	**-0.9**
KDTR				*e*S	**S**	**12 34 28.7**	**-3.8**
SKR	**Severo-Kuril's**	**2.72**	**153**	*e*P	**P**	**12 33 36.7**	**+0.3**
AVH	**Avacha**	**2.74**	**85**	*e*P	**P**	**12 33 37.8**	**+1.4**
DALK	**Dalny**	**2.75**	**90**	*e*P	**P**	**12 33 37.3**	**+0.9**
DALK				*e*S	**S**	**12 34 32.4**	**-0.5**
UGLR	**Uglovaya**	**2.79**	**86**	*e*P	**P**	**12 33 38.1**	**+1.3**
SDLR	**Sedlovina**	**2.83**	**85**	*e*P	**P**	**12 33 37.9**	**+0.8**
SPN	**Mys Shipunski**	**3.51**	**88**	*e*P	**P**	**12 33 41.4**	**-0.3**
SPN				*e*S	**S**	**12 34 37.9**	**-4.7**
ESO	**Esso**	**3.84**	**41**	*e*P	**P**	**12 33 45.8**	**+1.6**
TUMD	**Tumrok D**	**4.20**	**58**	*e*P	**P**	**12 33 49.2**	**+2.1**
KMNR	**Kamenistaya**	**4.40**	**51**	*e*P	**P**	**12 33 50.2**	**+1.3**
KOZ	**Kozyrevsk**	**4.42**	**46**	*e*P	**P**	**12 33 50.8**	**+1.9**
KPT	**Kopyto**	**4.52**	**49**	*e*P	**P**	**12 33 51.4**	**+1.5**
KIRR	**Kirishev**	**4.56**	**49**	*e*P	**P**	**12 33 51.2**	**+0.9**
MKZ	**Mys Kozlova**	**4.69**	**69**	*e*P	**P**	**12 33 51.0**	**-0.2**
MKZ				*e*S	**S**	**12 34 55.3**	**-4.6**
BZGR	**Bezymyannyi-Gr**	**4.72**	**51**	*e*P	**P**	**12 33 53.4**	**+1.7**
KBTR	**Krutoberegovo**	**5.88**	**55**	*e*P	**P**	**12 34 01.3**	**-0.9**
KBTR				*e*S	**S**	**12 35 16.8**	**-3.2**
MA2	**Magadan**	**6.74**	**345**	P	**P**	**12 34 09.2**	**-1.3**
4.9nm,0.6s,baz=153,slow=9.1,SNR=11							
SEY	**Seymchan**	**9.88**	**355**	P	**P**	**12 34 42.7**	**-0.2**
3.2nm,0.6s,baz=164,slow=10,SNR=25							
ASAJ	**Asahikawa**	**11.82**	**225**	P	**P**	**12 35 03.9**	**+0.1**
6.1nm,1.1s,baz=296,slow=14,SNR=2.0							
KLR	**Kul'dur**	**14.59**	**264**	P	**P**	**12 35 31.6**	**-1.3**
0.4nm,0.4s,baz=101,slow=5.2,SNR=1.9							
MJAR	**Matsushiro Arr**	**20.01**	**220**	P	**P**	**12 36 27.5**	**+1.6**
2.4nm,0.6s,baz=18,slow=9.4,SNR=9.4							
2.4nm,0.6s							
TIXI	**Tiksi**	**21.65**	**338**	P	**P**	**12 36 39.0**	**-1.2**
1.3nm,0.4s,baz=146,slow=7.8,SNR=9.1							
1.3nm,0.4s							
SONM	**Songino Array**	**30.41**	**280**	P	**P**	**12 37 58.3**	**+0.3**
0.2nm,0.5s,baz=76,slow=12,SNR=1.7							
0.2nm,0.5s							
ILAR	**Eielson Array**	**31.31**	**45**	P	**P**	**12 38 07.0**	**+1.7**
0.2nm,0.5s,baz=271,slow=9.5,SNR=7.0							
0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**44.75**	**299**	P	**P**	**12 39 53.8**	**-1.2**
0.3nm,0.4s,baz=60,slow=7.3,SNR=5.6							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**44.89**	**292**	P	**P**	**12 39 55.1**	**-1.2**
0.2nm,0.5s,baz=52,slow=6.3,SNR=2.2							
0.2nm,0.5s							
YKA	**Yellowknife Ar**	**45.50**	**41**	P	**P**	**12 40 02.6**	**+2.0**
0.3nm,0.6s,baz=304,slow=7.6,SNR=5.1							
0.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**54.75**	**253**	P	**P**	**12 41 09.8**	**+0.7**
0.4nm,0.4s,baz=39,slow=8.2,SNR=4.2							
0.4nm,0.4s							
EKA	**Eskdalemuir Ar**	**70.30**	**346**	P	**P**	**12 42 48.4**	**-0.9**
0.1nm,0.3s,baz=24,slow=6.3,SNR=3.7							
0.1nm,0.3s							
TXAR	**Lajitas Array**	**73.84**	**63**	P	**P**	**12 43 12.8**	**+2.4**
0.2nm,0.4s,baz=284,slow=5.1,SNR=2.0							
0.2nm,0.4s							

*GCG **31** 12:55:09.5±2.0, 14°48N×90°68W, h1km±6km, MD4.4, ML4.2*
*NEIC **31** 12:55:10.2±2.3, 14°53N±0°08×90°73W±0°02, h10km±2km, ML3.9/22, Error ellipse: s-maj=13.1km s-min=3.7km az=185.0*
*CATAC **31** 12:55:10.9±0.2, 14°N±3°×9°1W±°, h0km, M3.9/17, MLv3.9/17, Error ellipse: s-maj=5.8km s-min=2.4km az=25.1, confirmed*
ISC 31 12:55:10.0±1.2, 14°48N±0°04×90°71W±0°03, h6km±10km, n69, σ0s82/72, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG4	**OSOP**	**0.20**	**58**	*i* P	**Pg**	**12 55 13.9**	**-0.1**
GCG4				*i* S	**Sg**	**12 55 16.4**	**-0.4**
GCG4	**OSOP**	**0.20**	**58**	*i* P		12 55 13.9	
GCG4				*i* S		12 55 16.4	
PS001	**Antigua, Sacat**	**0.31**	**123**	*e*P		12 55 11.1	
PS001				*e*S		12 55 11.8	
STG8	**El Palmar, Qui**	**0.62**	**267**	*i* P		12 55 26.9	
SOKI	**Kika Raxquin**	**0.75**	**297**	*i* P	**Pg**	**12 55 24.9**	**+0.4**
SOKI	**Kika Raxquin**	**0.75**	**297**	*i* P		12 55 24.9	
RTAL	**Retalhuleu**	**0.96**	**273**	Pg	**Pg**	**12 55 28.4**	**0.0**
RTAL	**Retalhuleu**	**0.96**	**273**	P	**Pb**	**12 55 28.7**	**-0.2**
RTAL	**Retalhuleu**	**0.96**	**273**	P	**Pb**	**12 55 28.8**	**-0.2**
RTAL	**Retalhuleu**	**0.96**	**273**	S	**Sn**	**12 55 42.7**	**-1.2**
SLOZ	**Alcaldia de Sa**	**1.00**	**117**	P	**Pn**	**12 55 29.9**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.00**	**117**	P	**Pb**	**12 55 29.6**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.00**	**117**	S	**Sn**	**12 55 43.7**	**-1.4**
LOAL	**Lomas de Alarc**	**1.02**	**118**	P	**Pg**	**12 55 29.5**	**-0.1**
LOAL	**Lomas de Alarc**	**1.02**	**118**	P	**Pg**	**12 55 29.5**	**-0.1**
NUBE	**Las Nubes**	**1.07**	**123**	S	**Sn**	**12 55 45.5**	**-1.3**
NUBE	**Las Nubes**	**1.07**	**123**	P	**Pg**	**12 55 30.4**	**-0.2**
NUBE	**Las Nubes**	**1.07**	**123**	P	**Pb**	**12 55 30.7**	**-0.3**
NUBE	**Las Nubes**	**1.07**	**123**	S	**Sn**	**12 55 45.8**	**-1.0**
NUBE	**Las Nubes**	**1.07**	**123**	*i* P	**Pg**	**12 55 30.2**	**-0.3**
NUBE	**Las Nubes**	**1.07**	**123**	*i* P		12 55 30.2	
HUEH	**Huehuetenango**	**1.13**	**317**		**Pg**	**12 55 31.1**	**-0.6**
HUEH				IAML		12 55 57.5	
comp=N,5μm,0.7s							
HUEH				IAML		12 55 57.7	
comp=E,4μm,0.6s							
HUEH	**Huehuetenango**	**1.13**	**317**	P	**Pg**	**12 55 31.4**	**-0.3**
HUEH	**Huehuetenango**	**1.13**	**317**	P	**Pg**	**12 55 31.6**	**-0.2**
HUEH	**Huehuetenango**	**1.13**	**317**	S	**Sb**	**12 55 47.1**	**0.0**
HUEH	**Huehuetenango**	**1.13**	**317**	*i* S	**Sg**	**12 55 46.2**	**-0.3**
HUEH				IAML		12 55 57.3	
comp=N,5μm,0.4s							
HUEH	**Huehuetenango**	**1.13**	**317**	*i* S		12 55 46.2	
HUEH				IAML		12 55 57.3	
comp=N,5μm,0.4s							
UNIC	**Universidad Ca**	**1.23**	**114**	P	**Pn**	**12 55 32.6**	**-1.1**
UNIC	**Universidad Ca**	**1.23**	**114**	P	**Pn**	**12 55 32.6**	**-1.1**
CEVE	**Cerro Verde**	**1.24**	**122**	P	**Pb**	**12 55 33.5**	**-0.3**
CEVE	**Cerro Verde**	**1.24**	**122**	P	**Pg**	**12 55 33.7**	**0.0**
MTO3	**Montecristo**	**1.31**	**93**	Pn	**Pn**	**12 55 34.1**	**-0.9**
MTO3	**Montecristo**	**1.31**	**93**	P	**Pn**	**12 55 34.1**	**-0.9**
MTO3	**Montecristo**	**1.31**	**93**	P	**Pn**	**12 55 34.3**	**-0.7**
MTO3	**Montecristo**	**1.31**	**93**	*i* P	**Pn**	**12 55 34.0**	**-0.9**
MTO3	**Montecristo**	**1.31**	**93**	*i* P		12 55 34.0	
ESQI	**Esquipulas**	**1.32**	**86**	Pn	**Pn**	**12 55 34.4**	**-0.7**
ESQI				IAML		12 55 57.1	
comp=N,1μm,0.9s							
ESQI				IAML		12 56 00.3	
comp=E,1μm,0.7s							
ESQI	**Esquipulas**	**1.32**	**86**	P	**Pb**	**12 55 34.8**	**-0.5**
ESQI	**Esquipulas**	**1.32**	**86**	P	**Pb**	**12 55 34.9**	**-0.5**
SMCA	**Catarina**	**1.38**	**286**	*i* P	**Pn**	**12 55 34.9**	**-0.8**
SMCA	**Catarina**	**1.38**	**286**	*i* P		12 55 34.9	
JAYA	**Jayaque - finc**	**1.47**	**124**	P	**Pb**	**12 55 37.5**	**-0.4**
JAYA	**Jayaque - finc**	**1.47**	**124**	P	**Pb**	**12 55 37.2**	**-0.6**
JAYA	**Jayaque - finc**	**1.47**	**124**	*i* P	**Pn**	**12 55 36.9**	**-0.3**
JAYA				*i* S	**Sn**	**12 55 55.7**	**-1.1**
JAYA				IAML		12 55 58.9	
comp=N,4μm,0.5s							
JAYA	**Jayaque - finc**	**1.47**	**124**	*i* P		12 55 36.9	
JAYA				*i* S		12 55 55.7	
JAYA				IAML		12 55 58.9	
comp=N,4μm,0.5s							
PMON	**Piamonte**	**1.55**	**119**	P	**Pb**	**12 55 39.2**	**0.0**
PMON	**Piamonte**	**1.55**	**119**	P	**Pb**	**12 55 39.3**	**0.0**
THIG		**1.57**	**286**	*i* P	**Pb**	**12 55 39.3**	**0.0**
THIG		**1.57**	**286**	*i* P		12 55 39.3	
UEES	**Universidad Ev**	**1.61**	**118**	P	**Pg**	**12 55 40.6**	**-0.4**
UEES	**Universidad Ev**	**1.61**	**118**	P	**Pb**	**12 55 40.3**	**0.0**
LOMA	**Loma Larga**	**1.71**	**119**	P	**Pb**	**12 55 41.9**	**0.0**
LOMA	**Loma Larga**	**1.71**	**119**	P	**Pb**	**12 55 41.5**	**-0.3**
LLGN	**La Laguna**	**1.74**	**100**	P	**Pb**	**12 55 41.8**	**-0.5**
LLGN	**La Laguna**	**1.74**	**100**	P	**Pb**	**12 55 41.4**	**-0.9**
PAVA	**Las Pavas**	**1.88**	**114**	P	**Pb**	**12 55 44.5**	**-0.3**
PAVA	**Las Pavas**	**1.88**	**114**	P	**Pb**	**12 55 44.3**	**-0.5**
COEG	**Centro de Oper**	**1.97**	**116**	P	**Pg**	**12 55 47.6**	**-0.2**
COEG	**Centro de Oper**	**1.97**	**116**	P	**Pb**	**12 55 44.9**	**-1.4**
SCLA	**Alcaldia de Sa**	**2.07**	**112**	P	**Pb**	**12 55 47.6**	**-0.4**
PQSS	**Presa 15 de Se**	**2.25**	**112**	P	**Pb**	**12 55 50.3**	**-0.8**
PQSS	**Presa 15 de Se**	**2.25**	**112**	P	**Pb**	**12 55 50.1**	**-0.9**
CCIG	**Comitan**	**2.26**	**323**	Pn	**Pn**	**12 55 48.0**	**0.0**
CCIG				IAML		12 56 28.4	
comp=E,722nm,0.6s							
CCIG				IAML		12 56 28.5	
comp=N,539nm,0.6s							
CCIG	**Comitan**	**2.26**	**323**	P	**Pb**	**12 55 50.6**	**-0.7**
CCIG				S	**Sg**	**12 56 22.4**	**-0.2**
CCIG	**Comitan**	**2.26**	**323**	*i* S	**Sb**	**12 56 20.8**	**+1.2**
CCIG	**Comitan**	**2.26**	**323**	*i* S		12 56 20.8	
PACA	**Pacayal**	**2.52**	**113**	P	**Pg**	**12 55 59.0**	**+0.6**
PETF	**Flores**	**2.55**	**18**	Pn	**Pn**	**12 55 52.3**	**+0.4**
PETF				IAML		12 56 32.5	
comp=E,1μm,0.7s							
PETF	**Flores**	**2.55**	**18**	*i* P	**Pn**	**12 55 52.2**	**+0.3**
PETF	**Flores**	**2.55**	**18**	*i* P		12 55 52.2	
LCND	**La Caada**	**2.97**	**113**	P	**Pb**	**12 56 04.1**	**+0.8**
TGIG		**3.26**	**315**	*i* P	**Pn**	**12 56 02.7**	**+1.0**
TGIG		**3.26**	**315**	*i* P		12 56 02.7	
TGUH	**Tegucigalpa,Un**	**3.36**	**97**	Pn	**Pn**	**12 56 04.0**	**+0.9**
TGUH				IAML		12 57 09.5	
comp=E,234nm,1.3s							
TGUH				IAML		12 57 12.5	
comp=E,184nm,1.1s							
CRIN	**San Cristobal**	**3.97**	**116**	Pn	**Pn**	**12 56 11.9**	**+0.4**
CRIN				IAML		12 57 08.7	
comp=N,271nm,0.7s							
CRIN				IAML		12 57 12.8	
comp

OPO S **Sn** **13 16 05.6 -5.3**
FIRM Firavahana 5.91 166 P **Pn** **13 15 05.1 +1.0**
FIRM S **Sn** **13 16 08.1 -3.9**
ATG Ambohiby 5.96 172 P **Pn** **13 15 05.2 +0.5**
ABPO Ambohimpanom 6.30 164 Pn **Pn** **13 15 09.7 +0.3**
ABPO Ambohimpanom 6.30 164 P **Pn** **13 15 09.8 +0.3**
ABPO S **Sn** **13 16 16.9 -4.8**
MDSM Mandiavato 6.32 165 P **Pn** **13 15 10.5 +0.9**
MDSM S **Sn** **13 16 17.3 -4.7**
DGRM Ambatolahisoa 6.36 171 P **Pn** **13 15 11.0 +0.7**
DGRM S **Sn** **13 16 19.8 -3.3**
AVY Angavokely 6.38 159 P **Pn** **13 15 10.6 +0.1**
ABM Ambohimiarambe 7.07 164 P **Pn** **13 15 20.6 +0.6**
VOI Vohitsoka 9.02 171 Pn **Pn** **13 15 46.9 +0.2**
FOMA Nahampoana Res 12.07 173 Pn **Pn** **13 18 28.2 -0.1**
KIBK Kibwezi 12.78 325 Pn **Pn** **13 16 34.0 -4.2**
RER Riviere de l'E 12.86 131 Pn **Pn** **13 16 38.4 -0.9**
KMBO Kilima Mbogo 14.22 325 Pn **Pn** **13 16 53.8 -4.3**
KMBO Kilima Mbogo 14.22 325 Pn **Pn** **13 16 54.7 -3.4**
1.2nm,0.3s,baz=129,slow=14,SNR=9.2
KMBO Sn **Sn** **13 19 36.0 -0.2**
0.9nm,0.3s,baz=45,slow=4.0,SNR=4.2
KMBO LR LR 13 21 10.4
comp=Z,122nm,20.1s,baz=74,slow=32
LSZ Lusaka 16.82 260 Pn **Pn** **13 17 31.3 -0.8**
LSZ IAmb IAmb 13 17 37.3
comp=Z,75nm,0.9s
LSZ Lusaka 16.82 260 Pn **Pn** **13 17 31.6 -0.5**
comp=Z,2.3nm,0.3s,baz=79,slow=9.1,SNR=34
LSZ Sn Sn 13 20 27.8 -11
comp=Z,0.6nm,0.3s,baz=344,slow=17,SNR=2.5
LSZ LR LR 13 23 47.6
comp=Z,118nm,18.4s,baz=125,slow=36
comp=Z,19nm,0.6s
LSZ Lusaka 16.82 260 *i* P **Pn** **13 17 30.1 -2.0**
MOPA Mopani 16.91 230 *i* P **Pn** **13 17 33.9 +0.7**
MUSN Musina, Limpop 17.44 236 *i* P **Pn** **13 17 40.0 +0.2**
BLWY Bulawayo 17.57 244 *i* P **P** **13 17 42.9 +0.2**
MBAR Mbarara 18.98 309 **P** **13 17 57.6 -0.6**
BROLN Tlhalogang 19.04 242 *i* P **Pn** **13 17 59.9 +0.5**
LODK Lodwar 19.05 328 **P** **13 17 58.1 -0.8**
LPHEP Lephephe 21.21 238 *i* P **P** **13 18 23.9 +1.6**
LBTB Lobatse 22.18 234 P **P** **13 18 33.3 +0.5**
LBTB IAmb IAmb 13 18 37.0
comp=Z,32nm,1.1s
LBTB Lobatse 22.18 234 LR LR 13 27 24.7
comp=Z,109nm,18.0s,baz=62,slow=37
LBTB Lobatse 22.18 234 *i* P **P** **13 18 32.8 0.0**
KDWAN Kaudwane 22.21 239 *i* P **P** **13 18 34.2 +1.1**
MAKGR Makgori 23.20 243 *i* P **P** **13 18 44.4 +0.8**
BOSA Boshof 24.36 227 P **P** **13 18 54.9 +0.1**
BOSA Boshof 24.36 227 P **P** **13 18 55.0 +0.3**
comp=Z,5.0nm,0.5s,baz=58,slow=9.0,SNR=22
BOSA LR LR 13 29 22.1
comp=Z,108nm,18.7s,baz=42,slow=39
comp=Z,5.0nm,0.5s
BOSA Boshof 24.36 227 *i* P **P** **13 18 54.7 -0.1**
GRTLG Ghanzi 24.52 247 *i* P **P** **13 18 57.4 +1.2**
GRHM Grahamstown, E 26.64 217 P **P** **13 19 16.9 +1.6**
SOE Somerset East 26.75 219 P **P** **13 19 16.1 -0.1**
SOE IAmb IAmb 13 19 36.9
comp=Z,32nm,1.3s
SUR Sutherland 29.66 225 P **P** **13 19 43.9 +1.5**
SUR IAmb IAmb 13 19 45.2
comp=Z,12nm,0.8s
SUR Sutherland 29.66 225 LR LR 13 31 16.7
comp=Z,95nm,18.7s,baz=20,slow=36
WSAR Wadi Sarin 38.23 20 P **P** **13 20 56.6 0.0**
comp=Z,0.1nm,0.7s,baz=217,slow=23,SNR=6.8
TORD Torodi Ar. Bea 50.45 299 LR LR 13 43 40.2
comp=Z,59nm,19.8s,baz=91,slow=36
GNI Garni 52.82 359 P **P** **13 22 51.1 -0.9**
GNI Garni 52.82 359 LR LR 13 44 25.7
comp=Z,28nm,21.6s,baz=154,slow=35
BRTR Keskin Array B 53.52 349 P **P** **13 22 57.2 0.0**
comp=Z,0.7nm,0.7s,baz=163,slow=7.6,SNR=4.5
comp=Z,0.7nm,0.7s
LHMI Lhok Sumawe 54.33 74 P **P** **13 23 01.7 -1.7**
SIMJ Simiganj 55.89 22 P **P** **13 23 15.3 +0.9**
SIMJ IAmb IAmb 13 23 25.3
comp=Z,8.0nm,1.0s
SYO Syowa Base 56.15 182⇑ *ep*P pP 13 23 21.7 +3.4
KBZ Khabaz 56.44 358 P **P** **13 23 18.3 +0.3**
comp=Z,1.7nm,0.9s,baz=121,slow=13,SNR=3.6
comp=Z,1.7nm,0.9s
GAR Garm 56.68 23 P **P** **13 23 19.8 -0.2**
TIP Timpagrande 58.31 334 P **P** **13 23 30.6 -0.8**
KEST Kesra 59.19 326 P **P** **13 23 37.1 -0.6**
comp=Z,4.6nm,1.1s,baz=304,slow=7.4,SNR=3.6
comp=Z,4.6nm,1.1s
KK31 Karatay Array 60.34 21 P **P** **13 23 45.7 +0.4**
KK31 IAmb IAmb 13 23 52.5
comp=Z,7.6nm,1.3s
KKAR Karatay Array 60.34 21 P **P** **13 23 45.1 -0.3**
KKAR Karatay Array 60.34 21 P **P** **13 23 45.4 0.0**
KKAR IAmb IAmb 13 23 52.5
comp=Z,7.9nm,1.3s
ELIB Princess Elisa 60.45 188 *d*P **P** **13 23 48.4 +2.5**
comp=Z,3.8nm,1.0s
CM31 Chiang Mai Arr 61.36 60 P **P** **13 23 52.4 -0.4**
CM31 IAmb IAmb 13 23 59.7
comp=Z,3.7nm,1.0s
CMAR Chiang Mai Arr 61.36 60 P **P** **13 23 52.6 -0.1**
CMAR Chiang Mai Arr 61.36 60 P **P** **13 23 52.9 +0.1**
comp=Z,0.9nm,0.7s,baz=249,slow=7.0,SNR=8.6
comp=Z,0.9nm,0.7s
BURAR Bucovina Array 62.91 345 P **P** **13 24 02.6 -0.1**
ABKAR Akbulak array 63.25 11 **P** **13 24 04.2 -0.6**
AKTO Aktyubinsk 64.07 9 P **P** **13 24 09.7 -0.5**
comp=Z,3.3nm,0.9s,baz=209,slow=3.7,SNR=9.1
comp=Z,3.3nm,0.9s
TROLL Troll, Antarti 64.30 194 ⇓P **P** **13 24 14.9 +3.2**
comp=Z,467nm,0.8s
OBKA Obir 65.33 337 *i* P **P** **13 24 19.3 +0.6**
comp=Z,0.3nm,0.2s
SNAA Sanae 65.37 195 ⇓P **P** **13 24 21.8 +3.2**
comp=Z,105nm,1.0s
ARSA Arzberg 65.59 338 P **P** **13 24 20.4 +0.2**
ARSA IAmb IAmb 13 24 24.2
comp=Z,8.3nm,1.4s
STHS Stebnicka Huta 65.63 343 *e*P **P** **13 24 21.4 +1.0**
RONA Rosalia, Austr 65.70 339 *e*P **P** **13 24 20.9 0.0**
comp=Z,2.8nm,0.8s
MODS Modra-Piesok 65.94 340 *e*P **P** **13 24 22.5 0.0**
CIMO Cimolais 65.99 336 P **P** **13 24 22.8 -0.1**
CIMO IAmb IAmb 13 24 23.6
comp=Z,4.0nm,1.1s
CONA Conrad Observa 66.05 339 *i* P **P** **13 24 24.1 +0.8**
comp=Z,0.7nm,0.6s
CTI Castel Tesino 66.10 335 P **P** **13 24 22.9 -0.7**
CTI IAmb IAmb 13 24 38.9
comp=Z,8.3nm,1.4s
KBA Koelnbreinsper 66.26 337 *i* P **P** **13 24 24.7 0.0**
comp=Z,0.2nm,0.2s
MOA Molln 66.56 338 *e*P **P** **13 24 26.1 -0.3**
comp=Z,0.6nm,0.3s
BIOA Bad Ischl, Aus 66.66 337 *e*P **P** **13 24 27.2 +0.1**
comp=Z,1.5nm,0.3s
OJC Ojcow 66.77 342 P **P** **13 24 28.1 +0.4**
OJC IAmb IAmb 13 24 29.0
comp=Z,7.2nm,1.3s
LESA Schwarzleotal 66.81 336 *e*P **P** **13 24 28.4 +0.3**
comp=Z,0.4nm,0.2s
MORC Moravsky Berou 67.07 341 P **P** **13 24 29.6 -0.1**
MORC IAmb IAmb 13 24 32.6
comp=Z,7.2nm,1.3s
FETA Feichten 67.26 335 *e*P **P** **13 24 31.1 0.0**
comp=Z,1.1nm,0.6s
PZH PanZhiHua 67.36 54 P **P** **13 24 34.8 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.4s
TUE Stuetta 67.41 334 P **P** **13 24 32.4 +0.3**
TUE IAmb IAmb 13 24 56.6
comp=Z,6.6nm,1.4s
GEC2 GERESS Array S 67.59 338 P **P** **13 24 32.8 -0.3**
GEC2 IAmb IAmb 13 24 35.8
comp=Z,4.6nm,1.2s
GERES GERESS Array B 67.59 338 P **P** **13 24 32.5 -0.7**
comp=Z,1.3nm,0.8s,baz=142,slow=5.0,SNR=11
comp=Z,1.3nm,0.8s
RETA Reutte 67.62 335 *e*P **P** **13 24 33.6 +0.3**
comp=Z,0.5nm,0.3s
MAKZ Makanchi 67.93 26 P **P** **13 24 35.3 +0.1**
MAKZ IAmb IAmb 13 24 46.7
comp=Z,4.1nm,1.0s
MK31 Makanchi Array 68.05 26 P **P** **13 24 36.0 0.0**
MKAR Makanchi Array 68.05 26 P **P** **13 24 36.0 +0.1**
MKAR Makanchi Array 68.05 26 P **P** **13 24 36.2 +0.2**
comp=Z,0.5nm,0.5s,baz=215,slow=6.9,SNR=8.2
comp=Z,0.5nm,0.5s
WMQ Urumqi 68.40 32 *e*P **P** **13 24 41.8 +3.5**
WMQ pmax pmax
comp=Z,16nm,0.7s
BFO Black Forest 69.29 335 P **P** **13 24 44.2 +0.6**
ESBB Sonseca Array 69.58 321 P **P** **13 24 46.2 +0.6**
ESBB IAmb IAmb 13 25 09.0
comp=Z,12nm,1.5s
ESDC Sonseca Array 69.58 321 P **P** **13 24 46.1 +0.4**
ESDC IAmb IAmb 13 24 49.4
comp=Z,9.4nm,1.1s
ESDC Sonseca Array 69.58 321 P **P** **13 24 45.7 +0.1**
comp=Z,2.1nm,0.7s,baz=127,slow=5.6,SNR=19
comp=Z,2.1nm,0.7s
KURBB Kurchatov Arra 69.62 22 P **P** **13 24 45.1 -0.4**
comp=Z,0.4nm,0.4s,baz=222,slow=6.8,SNR=4.0
comp=Z,0.4nm,0.4s
ARTI Arti 69.92 8 P **P** **13 24 48.2 +0.9**
ARTI IAmb IAmb 13 24 50.0
comp=Z,7.3nm,1.0s
ARTI Arti 69.92 8 LR LR 13 58 06.2
comp=Z,29nm,19.4s,baz=206,slow=38
LZH Lanzhou 73.60 46 *e*P P 13 25 16.0 +5.9
LZH pP PcP 13 25 24.3 -1.7
LZH pmax pmax
comp=Z,19nm,1.4s
KAPI Kappang 73.70 91 LR LR 13 55 59.2
comp=Z,29nm,18.1s,baz=218,slow=34
ZALV Zalesovo Beam 74.61 23 P **P** **13 25 15.7 +0.4**
comp=Z,0.8nm,0.5s,baz=217,slow=7.1,SNR=5.6
comp=Z,0.8nm,0.5s
BELA Belgrano 2 75.33 192 P **P** **13 25 20.9 +1.6**
FINES FINESS Array B 75.70 351 P **P** **13 25 21.6 +0.1**
comp=Z,2.6nm,0.9s,baz=180,slow=5.7,SNR=3.7
comp=Z,2.6nm,0.9s
FITZ Fitzroy Crossi 76.98 106 P **P** **13 25 30.6 +0.8**
QSPA South Pole Qui 77.16 180 P **P** **13 25 31.0 +0.9**
comp=Z,5.9nm,1.0s,baz=252,slow=2.4,SNR=11
comp=Z,5.9nm,1.0s
FORT Forrest 77.30 119 P **P** **13 25 32.0 +0.7**
NC204 NORSAR Array S 78.88 344 P **P** **13 25 40.0 +0.6**
EKA Eskdalemuir Ar 79.26 334 P **P** **13 25 42.1 +0.5**
comp=Z,2.6nm,0.9s,baz=128,slow=5.4,SNR=6.3
comp=Z,2.6nm,0.9s
SONM Songino Array 81.16 37 P **P** **13 25 52.5 +0.3**
comp=Z,0.9nm,0.7s,baz=239,slow=7.3,SNR=6.9
comp=Z,0.9nm,0.7s
HHC Hu-ho-hao-te 81.17 45 *e*P **P** **13 25 53.5 +1.1**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.5s
NACB Ninganchiao 83.03 63 P **P** **13 26 02.8 +0.4**
NJ2 Nanjing 83.24 55 *e*P **P** **13 26 04.0 +0.7**
NJ2 pmax pmax
comp=Z,19nm,0.5s
ASAR Alice Springs 83.60 113 P **P** **13 26 05.8 +0.4**
ASAR Alice Springs 83.60 113 P **P** **13 26 05.6 +0.1**
comp=Z,2.4nm,0.6s,baz=263,slow=4.8,SNR=48
comp=Z,2.4nm,0.6s
AS31 Alice Springs 83.60 113 P **P** **13 26 05.7 +0.2**
WRA Warramunga Arr 84.73 109 P **P** **13 26 11.3 0.0**
WRA Warramunga Arr 84.73 109 P **P** **13 26 11.8 +0.5**
comp=Z,2.4nm,0.7s,baz=263,slow=3.5,SNR=23
comp=Z,2.4nm,0.7s
WB2 Warramunga Arr 84.74 109 P **P** **13 26 11.3 0.0**
WB0 Warramunga Arr 84.82 109 P **P** **13 26 11.7 0.0**
WB0 IAmb IAmb 13 26 12.2
comp=Z,4.2nm,0.8s
YKA Yellowknife Ar 128.49 348 PKP **PKPdf** **13 32 42.7 -0.3**
comp=Z,0.2nm,0.9s,baz=16,slow=2.0,SNR=5.2
PDAR Pinedale Array 143.21 329 PKP **PKPdf** **13 33 11.1 -0.1**
comp=Z,0.6nm,0.8s,baz=53,slow=1.8,SNR=8.2
TXAR Lajitas Array 146.97 304 PKPbc **PKPbc** **13 33 19.3 -0.6**
comp=Z,1.2nm,0.6s,baz=76,slow=3.0,SNR=5.4
NVAR Mina Array Bea 150.75 333 PKP **PKPdf** **13 33 23.7 -0.3**
comp=Z,1.1nm,0.7s,baz=60,slow=1.8,SNR=6.3

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*SKHL **31** 13:15:47.8±0.5, 47°.10N×153°.50E, h72km±4km, mb4.9/8*
*MOS **31** 13:15:49.6±1.0, 47°.28N×153°.21E, h84km, mb4.3/7, Error ellipse: s-maj=10.0km s-min=6.7km az=73.1*
*IDC **31** 13:15:51.5±2.1, 47°.33N×153°.12E, h86km±18km, mb3.5/16, mbtmp3.8/23, MS2.9/6, Error ellipse: s-maj=19.9km s-min=11.0km az=130.0*
*NEIC **31** 13:15:54.4±0.9, 47°.5N±0°.1×152°.8E±0°.2, h98km±9km, mb4.2/28, Error ellipse: s-maj=24.3km s-min=12.3km az=130.0*
ISC 31 13:15:52.7±0.5, 47°.30N±0°.06×153°.09E±0°.06, h100km, n127, σ1§63/127, mb4.0/42, 6C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.93**	**29**⇑	*ep*PN		**Pn**		**13 16 47.6**	**-3.3**
SKR	**Severo-Kuril's**	**3.93**	**29**	*ep*P		**Pn**		**13 16 47.3**	**-3.6**
SKR				AMB		AMB		13 16 50.0	
SKR	50nm,0.5s			AMB		AMB		13 16 50.9	
SKR	400nm,2.5s			*e*S		**Sn**		**13 17 31.6**	**-4.3**
SKR				A		A		13 17 41.3	
SKR	120nm,0.3s			A		A		13 17 41.3	
SKR	160nm,0.3s			A		A		13 17 43.8	
SKR	500nm,3.0s			A		A		13 17 43.8	
SKR	800nm,3.0s								
KUR	**Kuril'sk**	**4.17**	**242**	*d i*PN		**Pn**		**13 16 52.2**	**-1.9**
KUR	**Kuril'sk**	**4.17**	**242**	*e*P		**Pn**		**13 16 51.7**	**-2.4**
KUR				AMB		AMB		13 16 52.5	
KUR	130nm,0.5s			AMB		AMB		13 16 56.0	
KUR	1μm,3.0s			*e*S		**Sn**		**13 17 39.5**	**-2.3**
KUR				A		A		13 17 46.4	
KUR	700nm,3.0s			A		A		13 17 46.4	
KUR	900nm,3.0s			A		A		13 17 59.2	
KUR	90nm,0.3s			A		A		13 17 59.2	
KUR	280nm,0.3s								
PAU	**Pauzhetka**	**4.83**	**29**	*e*P		**Pn**		**13 16 59.7**	**-3.3**
PAU				AMB		AMB		13 17 26.7	
PAU	30nm,0.3s			*e*S		**Sn**		**13 17 53.3**	**-4.4**
PAU				A		A		13 18 14.2	
PAU	180nm,0.6s			A		A		13 18 14.2	
PAU	120nm,0.6s								
SHO	**Shikotan**	**5.57**	**234**	*e*P		Pn		13 17 08.4	-4.7
SHO				AMB		AMB		13 17 09.5	
SHO	30nm,0.4s			AMB		AMB		13 17 11.2	
SHO	500nm,3.5s			*e*S		**Sn**		**13 18 10.3**	**-5.5**
SHO				A		A		13 18 14.1	
SHO	500nm,5.0s			A		A		13 18 14.1	
SHO	800nm,5.0s			A		A		13 18 30.6	
SHO	160nm,0.6s			A		A		13 18 30.6	
SHO	250nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**6.03**	**240**	*ce*PN		**Pn**		**13 17 16.8**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**6.03**	**240**	*i* P		**Pn**		**13 17 16.8**	**-2.5**
YUK				AMB		AMB		13 17 17.5	
YUK	50nm,0.3s			AMB		AMB		13 17 17.5	
YUK	30nm,0.3s			AMB		AMB		13 17 17.5	
YUK	80nm,0.3s			AMB		AMB		13 17 25.6	
YUK	200nm,1.1s			*e*S		**Sn**		**13 18 23.9**	**-2.9**
YUK				A		A		13 18 30.7	
YUK	400nm,1.2s			A		A		13 18 30.7	
YUK	300nm,1.2s								
YUK				A		A		13 18 38.7	
YUK	110nm,0.5s			A		A		13 18 38.7	
YUK	160nm,0.5s								
NMR	**Nemuro--Hokkai**	**6.51**	**236**	*e*P		Pn		13 17 20.6	-5.2
PEA0B	**Petropavlovsk-**	**6.53**	**25**	Pn		**Pn**		**13 17 23.6**	**-2.5**
PEA0B	**Petropavlovsk-**	**6.53**	**25**⇓	*e*PN		**Pn**		**13 17 24.5**	**-1.5**
PETK	**Petropavlovsk-**	**6.53**	**25**			**Pn**		**13 17 23.9**	**-2.1**
PETK	**Petropavlovsk-**	**6.53**	**25**	P		**Pn**		**13 17 24.2**	**-1.8**
PETK	7.8nm,0.8s,baz=209,slow=13,SNR=13			*e*S		**Sn**		**13 18 36.3**	**-2.6**
PETK	1.4nm,0.8s,baz=199,slow=14,SNR=0.7			LR		LR		13 19 26.0	
PETK	comp=Z,30nm,20.5s,baz=124,slow=33								
PET	**Petropavlovsk**	**6.75**	**30**	Pn		**Pn**		**13 17 27.2**	**-1.9**
PET	**Petropavlovsk**	**6.75**	**30**	*e*PN		**Pn**		**13 17 33.5**	**+4.4**
PET	**Petropavlovsk**	**6.75**	**30**	*e*P		**Pn**		**13 17 27.1**	**-1.9**
PET				*e*S		**Sn**		**13 18 40.2**	**-4.2**
PET	40nm,0.2s			A		A		13 18 47.4	
PET	10.0nm,0.2s			A		A		13 18 47.4	
YSS	**Yuzhno-Sakhali**	**7.06**	**271**			**Pn**		**13 17 31.6**	**-1.8**
YSS	**Yuzhno-Sakhali**	**7.06**	**271**	*e*PN		**Pn**		**13 17 33.3**	**0.0**
YSS				*e*S		**Sn**		**13 18 51.9**	**-0.1**
YSS	comp=Z,20nm,1.0s			pmax		pmax			
YSS	comp=N,20nm,0.7s			smax		smax			
YSS	comp=E,20nm,0.5s			smax		smax			
YSS	**Yuzhno-Sakhali**	**7.06**	**271**	*e*P		**Pn**		**13 17 33.3**	**0.0**
YSS				AMB		AMB		13 17 38.3	
YSS	comp=E,200nm,1.0s			*e*S		**Sn**		**13 18 51.9**	**-0.1**
YSS				A		A		13 18 54.7	
YSS	comp=E,200nm,0.6s			A		A		13 18 54.7	
YSS	comp=E,200nm,0.6s								
AKK	**Akkeshi**	**7.23**	**237**	*e*P		Pn		13 17 30.5	-5.2
AKK				AMB		AMB		13 17 38.2	
AKK	comp=E,20nm,0.4s								
TYV	**Tymovskoe**	**7.73**	**301**	*e*PN		**Pn**		**13 17 42.3**	**0.0**
TYV				*e*S		**Sn**		**13 19 07.9**	**-0.2**
TYV	comp=Z,200nm,3.7s			pmax		pmax			
TYV	comp=Z,19nm,1.2s			pmax		pmax			
TYV	comp=N,400nm,5.0s			smax		smax			
TYV	comp=E,300nm,5.0s			smax		smax			
TYV	comp=N,11nm,1.4s			smax		smax			
TYV	comp=E,9.0nm,1.4s			smax		smax			
TYV	**Tymovskoe**	**7.73**	**301**	*e*P		**Pn**		**13 17 42.3**	**0.0**
TYV				AMB		AMB		13 17 42.5	
TYV	comp=E,200nm,3.7s			AMB		AMB		13 17 45.5	
TYV	comp=E,20nm,0.8s			*e*S		**Sn**		**13 19 08.1**	**0.0**
TYV				A		A		13 19 08.3	
TYV	comp=E,400nm,5.0s			A		A		13 19 08.3	
TYV	comp=E,300nm,5.0s			A		A		13 19 12.6	
TYV	comp=E,30nm,0.8s			A		A		13 19 12.6	
TYV	comp=E,20nm,0.8s								
JKA	**Kamikawa-asahi**	**8.00**	**250**	Pn		**Pn**		**13 17 46.3**	**+0.1**
JKA	**Kamikawa-asahi**	**8.00**	**250**	*e*P		**Pn**		**13 17 46.3**	**+0.1**
ASAJ	**Asahikawa**	**8.00**	**250**	P		**Pn**		**13 17 45.2**	**-1.0**
ASAJ	**Asahikawa**	**8.00**	**250**	PN		**Pn**		**13 17 46.3**	**+0.1**
ERM	**Erimo**	**8.83**	**237**	*ce*PN		Pn		13 17 53.2	-4.2
OKH	**Okha**	**9.01**	**318**	*e*P		**Pn**		**13 18 00.6**	**+0.9**
OKH				AMB		AMB		13 18 01.7	
MA2	**Magadan**	**12.38**	**354**			**Pn**		**13 18 44.0**	**-1.2**
MA2	**Magadan**	**12.38**	**354**	P		**Pn**		**13 18 44.4**	**-0.7**
MA2	comp=E,7.8nm,0.6s,baz=162,slow=12,SNR=22			LR		LR		13 23 12.9	
MA2	comp=E,31nm,20.7s,baz=87,slow=36								
MA2	**Magadan**	**12.38**	**354**	*de*PN		**Pn**		**13 18 44.2**	**-1.0**
MA2	**Magadan**	**12.38**	**354**	*e*P		**Pn**		**13 18 44.2**	**-1.0**
EKMR	**Ekimchan**	**14.12**	**302**	*e*P		**Pn**		**13 19 08.5**	**+0.5**
KLR	**Kul'dur**	**14.34**	**286**	P		**Pn**		**13 19 11.2**	**+0.4**
KLR	comp=E,0.6nm,0.5s,baz=96,slow=11,SNR=6.1			LR		LR		13 24 44.7	
KLR	comp=E,42nm,19.5s,baz=112,slow=37								
KLR	**Kul'dur**	**14.34**	**286**⇑	*e*P		**P**		**13 19 12.0**	**-2.9**
KLR				pmax		pmax			
KLR	comp=Z,5.0nm,1.2s			MLR		MLR			
KLR	comp=Z,50nm,11.0s								
KLR	**Kul'dur**	**14.34**	**286**	*e*P		**Pn**		**13 19 10.2**	**-0.7**
USA0B	**Ussuriysk Arra**	**15.05**	**266**	Pn		**Pn**		**13 19 18.8**	**-1.1**
USA0B	**Ussuriysk Arra**	**15.05**	**266**	P		**Pn**		**13 19 18.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**15.05**	**266**	P		**Pn**		**13 19 20.2**	**+0.3**
MJAR	**Matsushiro Arr**	**15.40**	**231**	P		**Pn**		**13 19 25.1**	**+0.7**
MAJO	**Matsushiro**	**15.41**	**231**	Pn		**Pn**		**13 19 26.0**	**+1.5**
MAJO	**Matsushiro**	**15.41**	**231**	P		**Pn**		**13 19 26.0**	**+1.5**
MAJO	comp=Z,7.0nm,0.7s			pmax		pmax			
SEY	**Seymchan**	**15.68**	**359**	P		**P**		**13 19 27.8**	**-1.9**
ZEA	**Zeya**	**17.59**	**301**⇓	*e*P		**Pn**		**13 19 51.6**	**+0.4**
ZEA	**Zeya**	**17.59**	**301**	*e*P		**Pn**		**13 19 51.6**	**+0.4**
KSRS	**Korea Array**	**20.95**	**251**	P		**P**		**13 20 28.3**	**+0.8**
KSRS	comp=Z,2.0nm,0.8s,baz=50,slow=12,SNR=5.1			LR		LR		13 27 45.0	
KSRS	comp=Z,22nm,20.3s,baz=75,slow=34								
BILL	**Bilibino**	**21.86**	**13**	P		**P**		**13 20 36.4**	**-0.5**
BILL	**Bilibino**	**21.86**	**13**⇓	*i* P		**P**		**13 20 37.5**	**+0.6**
BILL	comp=Z,6.0nm,1.9s			pmax		pmax			
BILL	**Bilibino**	**21.86**	**13**	*i* P		**P**		**13 20 37.5**	**+0.6**
JOW	**Kunigami**	**28.24**	**232**	P		**P**		**13 21 35.2**	**-1.1**
L14K	**Kuka Creek**	**28.72**	**44**	P		**P**		**13 21 41.4**	**+1.3**
L14K	comp=Z,4.5nm,0.5s			IAmb		IAmb		13 21 43.0	
C16K	**Lisburne Hills**	**29.59**	**30**	P		**P**		**13 21 47.9**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**29.71**	**153**	T		T		13 53 37.8	
H11N1	baz=341,slow=76,SNR=574 **WAKE ISLAND Hy**	**29.73**	**153**	T		T		13 53 38.9	
H11N3	baz=341,slow=76,SNR=713 **WAKE ISLAND Hy**	**29.73**	**153**	T		T		13 53 35.2	
F17K	baz=341,slow=76,SNR=542 **Baldwin Pennin**	**30.45**	**35**	P		**P**		**13 21 56.4**	**+1.0**
F17K				IAmb		IAmb		13 22 22.4	
H11S1	comp=Z,5.3nm,1.1s **WAKE ISLAND Hy**	**30.80**	**154**	T		T		13 55 01.7	
H11S3	baz=342,slow=76,SNR=1020 **WAKE ISLAND Hy**	**30.81**	**154**	T		T		13 55 01.3	
H11S2	baz=342,slow=76,SNR=673 **WAKE ISLAND Hy**	**30.82**	**154**	T		T		13 55 04.6	
SONM	baz=342,slow=76,SNR=897 **Songino Array**	**31.14**	**289**	LR		LR		13 35 09.7	
C18K	comp=Z,49nm,18.3s,baz=100,slow=37 **Utukok River**	**31.16**	**30**	P		**P**		**13 22 02.5**	**+0.8**
C18K				IAmb		IAmb		13 22 03.9	
N19K	comp=Z,3.9nm,1.2s **Bonanza Creek**	**32.65**	**46**	P		**P**		**13 22 16.1**	**+1.3**
N19K				IAmb		IAmb		13 22 22.2	
B20K	comp=Z,7.8nm,1.4s **Meade River**	**32.95**	**29**	P		**P**		**13 22 18.1**	**+1.0**
B20K				IAmb		IAmb		13 22 19.5	
B21K	comp=Z,5.0nm,0.9s **Ikpikpuk River**	**33.70**	**30**	P		**P**		**13 22 25.0**	**+1.3**
E22K	**Anaktuvuk Pass**	**34.40**	**33**	P		**P**		**13 22 30.9**	**+1.0**
E22K				IAmb		IAmb		13 22 31.8	
NEA2	comp=Z,4.1nm,0.6s **Nenana**	**35.19**	**39**	P		**P**		**13 22 37.5**	**+0.8**
NEA2				IAmb		IAmb		13 22 39.0	
D24K	comp=Z,2.1nm,0.7s **Happy Valley**	**35.62**	**31**	P		**P**		**13 22 41.5**	**+1.2**
E24K	**Your Creek**	**35.63**	**33**	P		**P**		**13 22 41.8**	**+1.4**
E24K				IAmb		IAmb		13 22 42.6	
COLA	comp=Z,5.9nm,1.2s **College**	**35.72**	**39**⇑	*i* P		**P**		**13 22 42.0**	**+0.9**
COLA				pmax		pmax			

comp=Z,2.0nm,0.8s
ILAR Eielson Array 36.13 39 P P 13 22 44.4 -0.3
comp=Z,0.4nm,0.8s,baz=256,slow=6.9,SNR=6.6
comp=Z,0.4nm,0.8s
D25K Kavik River 36.51 31 P P 13 22 49.3 +1.3
D25K IAmb IAmb 13 22 49.8
comp=Z,3.9nm,0.7s
BMAR Burnt Mountain 37.08 35 P P 13 22 54.5 +1.8
BCAR Beaver Creek A 38.50 42 P P 13 23 06.7 +1.9
I30M Mount Dempster 40.54 38 P P 13 23 22.8 +1.0
I30M IAmb IAmb 13 23 24.4
comp=Z,2.4nm,0.9s
G31M Satah River 41.12 35 P P 13 23 27.5 +1.3
G31M IAmb IAmb 13 23 53.1
comp=Z,3.6nm,1.2s
INK Inuvik 41.20 33 P P 13 23 28.4 +1.5
INK IAmb IAmb 13 23 48.1
comp=Z,5.4nm,1.5s
INK Inuvik 41.20 33 P P 13 23 28.4 +1.5
INK pmax pmax
comp=Z,5.0nm,1.5s
O30N Mendenhall 41.58 44 P P 13 23 32.1 +1.8
A36M Sachs Harbour 43.37 27 P P 13 23 46.3 +1.8
C36M Paulatuk 44.35 30 P P 13 23 53.7 +1.4
C36M IAmb IAmb 13 23 55.1
comp=Z,4.6nm,1.2s
MKAR Makanchi Array 46.68 297 P P 13 24 11.7 +0.6
comp=Z,0.2nm,0.4s,baz=72,slow=6.0,SNR=3.7
MKAR PcP **PcP 13 25 43.4 +0.3**
comp=Z,0.5nm,0.6s,baz=69,slow=3.7,SNR=4.7
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 46.68 297 *i* P **P 13 24 14.0 +2.9**
MKAR Makanchi Array 46.68 297 *eP* **P 13 24 14.0 +2.9**
KURK Kurchatov 47.05 303 P P 13 24 14.1 +0.2
KURK 13 25 43.6
KURBB Kurchatov Arra 47.14 303 P P 13 24 14.1 -0.5
comp=Z,0.3nm,0.3s,baz=64,slow=8.0,SNR=1.6
KURBB PcP **PcP 13 25 43.6 -1.0**
comp=Z,0.2nm,0.3s,baz=84,slow=4.2,SNR=1.6
comp=Z,0.3nm,0.3s
EUNU Eureka 48.59 12 P P 13 24 25.9 +0.5
RES Resolute Bay 50.32 19 P P 13 24 39.1 +0.6
RES Resolute Bay 50.32 19 P P 13 24 39.2 +0.6
RES pmax pmax
comp=Z,1.0nm,1.2s
YKA Yellowknife Ar 50.49 37 P P 13 24 40.3 +0.3
comp=Z,1.1nm,0.8s,baz=298,slow=7.4,SNR=17
YKA PcP **PcP 13 25 56.7 +0.2**
comp=Z,0.1nm,0.4s,baz=292,slow=3.3,SNR=2.7
comp=Z,1.1nm,0.8s
BVAR Borovoye Array 50.50 309 P P 13 24 39.5 -0.7
comp=Z,0.2nm,0.3s,baz=62,slow=7.7,SNR=4.1
BVAR PcP **PcP 13 25 56.9 +0.1**
comp=Z,3.2nm,0.6s,baz=90,slow=3.4,SNR=2.7
comp=Z,0.2nm,0.3s
BRVK Borovoye 50.54 309 *eP* **P 13 24 43.6 +3.1**
BRVK pmax pmax
comp=Z,17nm,4.3s
BRVK Borovoye 50.54 309 *eP* **P 13 24 43.6 +3.1**
CMAR Chiang Mai Arr 52.49 256 P P 13 24 57.1 +1.6
comp=Z,1.1nm,0.7s,baz=34,slow=7.1,SNR=9.9
comp=Z,1.1nm,0.7s
AAK Ala-Archa 53.58 296 LR LR 13 48 51.9
comp=Z,34nm,18.8s,baz=304,slow=37
SUMG Summit 60.16 4 P P 13 25 50.1 +0.4
SUMG Summit 60.16 4 P P 13 25 50.1 +0.4
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 62.48 358 P P 13 26 05.5 +0.7
SCO Scoresbysund 62.48 358 P P 13 26 05.5 +0.7
SCO pmax pmax
comp=Z,7.0nm,1.4s
FIA1 FINESS Array S 63.54 335 P P 13 26 11.9 0.0
FINES FINESS Array B 63.54 335 P P 13 26 12.2 +0.2
comp=Z,1.0nm,0.5s,baz=22,slow=7.9,SNR=12
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 67.71 341 P P 13 26 38.9 +0.1
comp=Z,1.2nm,0.8s,baz=28,slow=6.5,SNR=4.4
comp=Z,1.2nm,0.8s
HFS Hagfors 67.94 339 P P 13 26 40.6 +0.4
comp=Z,1.8nm,0.4s,baz=46,slow=6.4,SNR=14
comp=Z,1.8nm,0.4s
WRA Warramunga Arr 69.03 199 P P 13 26 47.1 -0.4
comp=Z,0.4nm,0.7s,baz=16,slow=6.9,SNR=2.1
comp=Z,0.4nm,0.7s
AKASG Malin Array Be 71.08 326 P P 13 26 59.5 -0.2
comp=Z,0.9nm,0.5s,baz=36,slow=5.8,SNR=3.7
comp=Z,0.9nm,0.5s
AS31 Alice Springs 72.72 198 P P 13 27 10.1 +0.3
ASAR Alice Springs 72.72 198 P P 13 27 10.8 +1.0
comp=Z,1.2nm,0.7s,baz=13,slow=5.2,SNR=16
comp=Z,1.2nm,0.7s
BURAR Bucovina Array 75.12 326 P P 13 27 23.9 +0.2
EKA Eskdalemuir Ar 75.81 346 P P 13 27 27.6 +0.3
comp=Z,0.2nm,0.4s,baz=26,slow=4.2,SNR=3.7
comp=Z,0.2nm,0.4s
ESK Eskdalemuir 75.83 346 P P 13 27 26.6 -0.8
ESK Eskdalemuir 75.83 346 P P 13 27 26.6 -0.8
ESK pmax pmax
comp=Z,19nm,1.5s
CLL Collm 75.96 335 P P 13 27 28.3 0.0
CLL IAmb IAmb 13 27 47.3
comp=Z,6.4nm,1.4s
CLL Collm 75.96 335 P P 13 27 28.3 0.0
CLL pmax pmax
comp=Z,6.0nm,1.4s
CLL Collm 75.96 335 *eP* **P 13 27 29.0 +0.7**
TXAR Lajitas Array 77.24 61 P P 13 27 36.0 +0.1
comp=Z,0.7nm,0.6s,baz=312,slow=4.5,SNR=4.0
comp=Z,0.7nm,0.6s
GERES GERESS Array B 77.96 334 P P 13 27 40.0 +0.3
comp=Z,0.5nm,0.5s,baz=35,slow=4.9,SNR=4.3
comp=Z,0.5nm,0.5s
GERES GERESS Array B 77.96 334 P P 13 27 40.0 +0.3
CONA Conrad Observa 78.11 332 *eP* **P 13 27 41.9 +1.4**
comp=Z,0.5nm,0.4s
MOA Molln 78.67 333 *i* P **P 13 27 44.2 +0.7**
comp=Z,0.1nm,0.2s
LESA Schwarzleotal 79.54 334 *i* P **P 13 27 49.3 +1.0**
comp=Z,0.5nm,0.3s
KBA Koelnbreinsper 79.64 333 *eP* **P 13 27 50.4 +1.4**
comp=Z,1.9nm,0.6s
OBKA Obir 79.78 332 *eP* **P 13 27 50.4 +0.7**
comp=Z,1.2nm,0.4s
WTTA Wattenberg 79.99 334 *eP* **P 13 27 52.1 +1.3**
comp=Z,1.7nm,0.5s
MOTA Moosalm 80.07 335 *eP* **P 13 27 52.4 +1.1**
comp=Z,1.8nm,0.7s
H03N2 Juan Fernandez 138.77 90 T T 16 10 00.8
baz=309,slow=77,SNR=29
H03N1 Juan Fernandez 138.78 90 T T 16 10 03.6
baz=309,slow=77,SNR=28
H03N3 Juan Fernandez 138.78 90 T T 16 09 59.5
baz=309,slow=77,SNR=40
CPUP Villa Florida 148.21 60 PKPbc **PKPbc 13 35 27.4 +0.5**
comp=Z,0.7nm,0.5s,baz=254,slow=2.6,SNR=3.8

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*GCMT **31** 13:27:30.0±0.4, 46°.54S±0°.02×96°.07E±0°.03, h14km±2km, MW4.7/75, Moment Tensor Solution. s11,c13; s75,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.19±.09; $M_{\theta\theta}$-1.37±.08; $M_{\phi\phi}$ 1.56±.10; $M_{r\theta}$0.06±.17; $M_{\theta\phi}$-0.56±.07; $M_{\phi r}$-0.55±.20; Best double couple: $M_0$1.64500×10^{16} NP1:ϕ_s123.00000°, δ78.00000°, λ170.00000°. NP2: ϕ_s216.00000°, δ80.00000°, λ12.00000°. Principal axes: T 1.8160, Plg15.0000°, Azm80.0000°; N -0.3450, Plg74.0000°, Azm252.0000°; P -1.4740, Plg2.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 31 13:27:26.0±1.7, 46°.49S×96°.09E, h0km, mb3.7/5, mbtmp3.7/5, MS4.0/22 Error ellipse: s-maj=43.9km s-min=32.7km az=105.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.88**	**56**	T	T	13 49 53.2	
	baz=224,slow=74,SNR=59						
H01W3	**Cape Leeuwin H**	**17.89**	**56**	T	T	13 49 57.0	
	baz=224,slow=74,SNR=71						
H01W1	**Cape Leeuwin H**	**17.89**	**56**	T	T	13 49 56.0	
	baz=224,slow=74,SNR=55						
NWAO	**Narrogin (SRO)**	**21.08**	**58**	LR	LR	13 38 26.5	
	comp=Z,508nm,19.9s,baz=274,slow=31						
FITZ	**Fitzroy Crossi**	**37.35**	**51**	LR	LR	13 49 14.3	
	comp=Z,118nm,18.3s,baz=237,slow=35						
STKA	**Stephens Creek**	**37.64**	**84**	P	P	13 34 43.0	+0.5
	1.3nm,0.7s,baz=231,slow=6.5,SNR=2.9						
STKA				LR	LR	13 47 45.6	
	comp=Z,221nm,20.5s,baz=209,slow=32						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**37.90**	**66**	P	P	13 34 44.6	-0.3
	0.3nm,0.8s,baz=210,slow=7.3,SNR=2.2						
ASAR				LR	LR	13 48 02.3	
	comp=Z,266nm,21.5s,baz=232,slow=33						
	0.3nm,0.8s						
VNDA	**Vanda**	**39.89**	**162**	LR	LR	13 50 05.2	
	comp=Z,290nm,18.4s,baz=273,slow=34						
LEM	**Lembang**	**40.74**	**18**	LR	LR	13 48 32.5	
	comp=Z,103nm,21.7s,baz=202,slow=31						
WRA	**Warramunga Arr**	**40.92**	**63**	P	P	13 35 09.7	-0.5
	0.8nm,0.8s,baz=220,slow=8.6,SNR=5.7						
WRA				LR	LR	13 50 29.5	
	comp=Z,436nm,19.3s,baz=235,slow=34						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**43.66**	**180**	P	P	13 35 31.9	-0.2
	2.4nm,1.1s,baz=34,slow=15,SNR=2.6						
QSPA				LR	LR	13 52 26.2	
	comp=Z,372nm,19.4s,baz=311,slow=34						
	2.4nm,1.1s						
H08S2	**Diego Garcia H**	**43.68**	**325**	T	T	14 22 03.8	
	baz=156,slow=76,SNR=15						
H08S1	**Diego Carcia H**	**43.69**	**325**	T	T	14 22 07.4	
	baz=156,slow=76,SNR=8.9						
H08S3	**Diego Garcia H**	**43.70**	**325**	T	T	14 22 06.5	
	baz=156,slow=76,SNR=23						
PALK	**Pallekele**	**55.25**	**341**	LR	LR	13 55 08.7	
	comp=Z,80nm,21.0s,baz=164,slow=30						
BOSA	**Boshof**	**57.05**	**262**	LR	LR	13 56 00.7	
	comp=Z,188nm,21.3s,baz=192,slow=30						
SUR	**Sutherland**	**57.73**	**255**	LR	LR	13 57 37.8	
	comp=Z,142nm,18.2s,baz=166,slow=31						
URZ	**Urewera**	**57.95**	**113**	LR	LR	13 57 47.5	
	comp=Z,84nm,18.8s,baz=314,slow=31						
JAY	**Jayapura**	**58.47**	**55**	LR	LR	14 02 11.4	
	comp=Z,210nm,19.4s,baz=229,slow=36						
LBTB	**Lobatse**	**59.11**	**265**	LR	LR	13 58 12.2	
	comp=Z,127nm,19.9s,baz=160,slow=31						
LSZ	**Lusaka**	**63.89**	**275**	LR	LR	14 00 03.5	
	comp=Z,131nm,19.9s,baz=168,slow=31						
CMAR	**Chiang Mai Arr**	**64.69**	**3**	P	P	13 38 05.7	+0.1
	0.4nm,0.3s,baz=199,slow=6.0,SNR=8.1						
CMAR				LR	LR	14 01 39.6	
	comp=Z,87nm,21.2s,baz=195,slow=32						
	0.4nm,0.3s						
HNR	**Honiara**	**65.29**	**77**	LR	LR	14 05 23.6	
	comp=Z,201nm,18.3s,baz=218,slow=35						
KMBO	**Kilima Mbogo**	**68.19**	**293**	LR	LR	14 01 30.9	
	comp=Z,62nm,21.7s,baz=96,slow=30						
TSUM	**Tsumeb**	**68.50**	**264**	LR	LR	14 02 48.4	
	comp=Z,124nm,22.0s,baz=138,slow=31						
MSVF	**Nonsavu**	**71.88**	**97**	LR	LR	14 05 41.1	
	comp=Z,59nm,20.2s,baz=249,slow=32						
ASF	**Jabal al Asfar**	**94.76**	**313**	LR	LR	14 17 49.7	
	comp=Z,53nm,18.4s,baz=128,slow=32						
MMAI	**Mount Meron Ar**	**96.19**	**313**	LR	LR	14 18 56.9	
	comp=Z,30nm,18.3s,baz=143,slow=32						

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*UPA **31** 13:28:29.8±1.3, 5°.71N×78°.43W, h0km±12km, MW4.6*
*IDC **31** 13:28:30.0±0.6, 5°.62N×78°.41W, h0km, mb4.1/15, mbtmp4.1/21, ML3.7/5, MS3.8/32, Error ellipse: s-maj=20.1km s-min=12.0km az=54.0*
*RSNC **31** 13:28:30.4±0.0, 6°N±2°×7°W±°, h7km±5km, M4.3, mb4.9, mB5.3, ML3.8, Mw(mB)4.7, MwMwp4.5, Mwp4.9*
*NEIC **31** 13:28:32.2±1.7, 5°.67N±0°.04×78°.29W±0°.06, h10km±1km, mb4.6/117, Error ellipse: s-maj=12.7km s-min=3.0km az=236.0*
*GCMT **31** 13:28:35.2±0.2, 5°.71N±0°.01×78°.34W±0°.02, h24km±1km, MW5.0/114, Moment Tensor Solution. s47,c62; s114,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.73±.13; $M_{\theta\theta}$1.20±.10; $M_{\phi\phi}$-0.47±.13; $M_{r\theta}$0.57±.14; $M_{\theta\phi}$3.59±.09; $M_{\phi r}$0.46±.16; Best double couple: $M_0$3.74200×10^{16} NP1:ϕ_s97.00000°, δ84.00000°, λ6.00000°. NP2:ϕ_s6.00000°, δ84.00000°, λ174.00000°. Principal axes: T 4.1580, Plg9.0000°, Azm322.0000°; N -0.8360, Plg81.0000°, Azm143.0000°; P -3.3250, Plg0.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **31** 13:28:37.3±2.2, 5°.34N×78°.18W, h44km±9km, mb4.9*
ISC 31 13:28:30.8±0.4, 5°.61N±0°.03×78°.33W±0°.03, h10km, n242, σ1§93/212, mb4.6/62, MS3.8/28, 4C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**1.10**	**56**	P	**Pb**	**13 28 49.7**	**-2.2**
SOLC				S	**Sb**	**13 29 03.2**	**-3.2**
PIZC	**Pizarro, Choco**	**1.15**	**123**	P	**Pb**	**13 28 51.5**	**-1.3**
PIZC				S	**Sb**	**13 29 05.7**	**-2.2**
PTAC	**Punta Ardita,**	**1.61**	**19**	P	**Pn**	**13 28 56.7**	**-2.7**
PTAC				S	**Sn**	**13 29 13.4**	**-6.9**
MALC	**Bahia Malaga**	**1.86**	**148**	P	**Pn**	**13 29 02.5**	**-0.3**
MALC				S	**Sn**	**13 29 25.6**	**-0.9**
CBOC	**Ciudad Bolivar**	**2.32**	**84**	P	**Pn**	**13 29 07.3**	**-1.9**
CBOC				S	**Sn**	**13 29 32.5**	**-5.3**
DBBC	**Dabeiba**	**2.53**	**56**	P	**Pn**	**13 29 11.5**	**-0.5**
DBBC				S	**Sn**	**13 29 43.1**	**+0.2**
YOTC	**Yotoco, Valle**	**2.55**	**129**	P	**Pn**	**13 29 11.4**	**-0.9**
YOTC				S	**Sn**	**13 29 40.8**	**-2.7**
ACHO3	**Achotines, Los**	**2.57**	**314**	*eP*	**Pn**	**13 29 09.9**	**-2.6**
ACHO3				*eS*	**Sn**	**13 29 39.6**	**-4.2**
GR1C	**Gorgona, Isla**	**2.59**	**176**	P	**Pn**	**13 29 10.7**	**-2.1**
GR1C				S	**Sn**	**13 29 39.3**	**-5.1**
HELC	**Santa Helena**	**2.84**	**78**	P	**Pn**	**13 29 16.1**	**-0.5**
HELC				S	**Sn**	**13 29 50.6**	**-0.5**
APAC	**Apartado, Choc**	**2.86**	**37**	P	**Pn**	**13 29 17.2**	**+0.6**
APAC				S	**Sn**	**13 29 50.9**	**-0.2**
NIZA	**Niza - Manizal**	**2.89**	**101**	P	**Pn**	**13 29 18.3**	**+1.1**
NIZA				S	**Sn**	**13 29 53.6**	**+1.3**
AZU	**Azuero**	**2.91**	**318**	P	**Pn**	**13 29 14.3**	**-2.9**
AZU				S	**Sn**	**13 29 47.9**	**-4.3**
AZU	**Azuero**	**2.91**	**318**	*eP*	**Pn**	**13 29 14.4**	**-2.8**
AZU				*eS*	**Sn**	**13 29 47.1**	**-5.1**
GUY2C	**Guyana, Caldas**	**2.97**	**97**	P	**Pn**	**13 29 18.0**	**-0.5**
RECRC	**Villamaria, Ca**	**3.03**	**102**	P	**Pn**	**13 29 20.5**	**+1.2**
CACAO	**El Cacao, Vera**	**3.06**	**305**	P	**Pn**	**13 29 16.8**	**-2.4**
CACAO				S	**Sn**	**13 29 50.2**	**-5.6**
ANIL	**Santa Ana**	**3.12**	**111**	P	**Pn**	**13 29 20.9**	**+0.6**
CHIT3	**Chitre**	**3.12**	**318**	*eP*	**Pn**	**13 29 17.6**	**-2.6**
CHIT3				*eS*	**Sn**	**13 29 52.5**	**-5.1**
CAPC	**Capurgana**	**3.16**	**18**	P	**Pn**	**13 29 20.4**	**-0.2**
CAPC				S	**Sn**	**13 29 52.7**	**-5.8**
TOTI	**Torti**	**3.30**	**0**	*eP*	**Pn**	**13 29 20.7**	**-1.9**
TOTI				*eS*	**Sn**	**13 30 00.0**	**-1.9**
TABO3	**Taboga, Panama**	**3.39**	**339**	*eP*	**Pn**	**13 29 22.9**	**-0.9**
NORC	**Norcasia**	**3.44**	**91**	P	**Pn**	**13 29 25.3**	**+0.8**
POPC	**Popayan, Colom**	**3.46**	**152**	P	**Pn**	**13 29 24.7**	**-0.3**
CRIS3	**El Cristo, Coc**	**3.48**	**319**	*eS*	**Sn**	**13 30 03.3**	**-3.0**
PNME	**Penonome**	**3.48**	**325**	‖*eP*	**Pn**	**13 29 23.8**	**-1.3**
PNME				*eS*	**Sn**	**13 30 07.0**	**+0.6**
UREC	**San Jos de Ur**	**3.50**	**52**	P	**Pn**	**13 29 25.8**	**+0.5**
UREC				S	**Sn**	**13 30 06.6**	**-0.2**
UREC	**San Jos de Ur**	**3.50**	**52**	‖*i* P	**Pn**	**13 29 25.8**	**+0.5**
ORTC	**Ortega, Tolima**	**3.50**	**119**	P	**Pn**	**13 29 26.7**	**+1.3**
UPA	**Univ. de Panam**	**3.56**	**340**	*eP*	**Pn**	**13 29 24.1**	**-2.0**
UPA				*eS*	**Sn**	**13 30 04.3**	**-4.0**
ARRA3	**Arraijan, Pana**	**3.59**	**338**	*eS*	**Sn**	**13 30 06.3**	**-2.7**
GMAL	**Guarumal, Vera**	**3.60**	**307**	P	**Pn**	**13 29 25.7**	**-0.9**
GMAL				S	**Sn**	**13 30 06.3**	**-2.9**
GMAL	**Guarumal, Vera**	**3.60**	**307**	*eS*	**Sn**	**13 30 05.4**	**-3.8**
STIA3	**Santiago, Vera**	**3.61**	**313**	*eP*	**Pn**	**13 29 27.1**	**+0.3**
STIA3				*eS*	**Sn**	**13 30 08.5**	**-1.1**
CNTA3	**Canitas, Panam**	**3.63**	**351**	*eP*	**Pn**	**13 29 25.5**	**-1.6**
ZANG	**Zanguenga, Cho**	**3.66**	**335**	‖*eP*	**Pn**	**13 29 25.8**	**-1.8**
ZANG				*eS*	**Sn**	**13 30 10.8**	**-0.1**
CALO3	**Calobre, Verag**	**3.67**	**317**	‖*eP*	**Pn**	**13 29 26.5**	**-1.2**
CALO3				*eS*	**Sn**	**13 30 09.7**	**-1.5**
BBAC	**Balboa, Cauca**	**3.72**	**163**	P	**Pn**	**13 29 27.6**	**-0.9**
LCBC	**Los crdobas,**	**3.77**	**31**	P	**Pn**	**13 29 30.6**	**+1.6**
TUMC	**Tumaco**	**3.78**	**186**	Pn	**Pn**	**13 29 30.9**	**+1.8**
TUMC	**Tumaco**	**3.78**	**186**	P	**Pn**	**13 29 29.5**	**+0.3**
MESA3	**La Mesa, Verag**	**3.80**	**312**	‖*eP*	**Pn**	**13 29 28.8**	**-0.6**
MESA3				*eS*	**Sn**	**13 30 11.5**	**-2.7**
BCIP	**Isla Barro Col**	**3.84**	**337**	Pn	**Pn**	**13 29 27.6**	**-2.4**
BCIP	**Isla Barro Col**	**3.84**	**337**	P	**Pn**	**13 29 27.7**	**-2.3**
BCIP	**Isla Barro Col**	**3.84**	**337**	‖*eP*	**Pn**	**13 29 27.8**	**-2.3**
BCIP				*eS*	**Sb**	**13 30 19.9**	**-5.4**
PRAC	**Prado**	**3.91**	**119**	P	**Pn**	**13 29 32.8**	**+1.8**
ZARC	**Zaragoza, Cauc**	**3.92**	**61**	P	**Pn**	**13 29 32.0**	**+0.9**
PTBC	**PUERTO BERRIO,**	**3.96**	**76**	P	**Pn**	**13 29 32.8**	**+1.2**
ROSC	**El Rosal**	**4.06**	**101**	Pn	**Pn**	**13 29 33.6**	**+0.2**
ROSC	**El Rosal**	**4.06**	**101**	Pn	**Pn**	**13 29 36.6**	**+3.2**
	12nm,0.3s,baz=240,slow=19,SNR=8.2						
ROSC				Sn	**Sb**	**13 30 27.0**	**-5.0**
	16nm,0.3s,baz=295,slow=23,SNR=4.5						
ROSC				LR	LR	13 31 14.6	
	comp=Z,1μm,19.4s,baz=340,slow=40						
	17nm,0.3s						
BETC	**Betania**	**4.09**	**135**	P	**Pn**	**13 29 35.7**	**+2.2**
CRUC	**La Cruz**	**4.24**	**161**	P	**Pn**	**13 29 37.7**	**+1.9**
CVER	**Cruz Verde, Cu**	**4.37**	**104**	P	**Pb**	**13 29 43.4**	**-4.6**
GARC	**Garzon, Huila**	**4.42**	**140**	P	**Pn**	**13 29 40.4**	**+2.2**
GCUF	**Volcan Galeras**	**4.46**	**167**	P	**Pn**	**13 29 40.2**	**+1.2**
URMC	**La Uribe, Meta**	**4.58**	**121**	P	**Pn**	**13 29 42.0**	**+1.7**
CHIC	**Chingaza**	**4.68**	**102**	P	Pb	13 29 47.0	-6.2
FLOC	**Florencia**	**4.80**	**146**	Pn	**Pn**	**13 29 45.2**	**+1.9**
FLOC	**Florencia**	**4.80**	**146**	P	**Pn**	**13 29 45.3**	**+2.0**
VILC	**Villavicencio,**	**4.85**	**108**	P	Pn	13 29 48.4	+4.4
PTPM	**Petroterminale**	**5.21**	**300**	*eP*	Pn	13 29 04.2	-45
PTPM				*eS*	Sn	13 29 59.8	-49
BARC	**Barichara**	**5.21**	**79**	P	**Pn**	**13 29 50.9**	**+1.9**
RUSC	**La Rusia**	**5.22**	**87**	Pn	**Pn**	**13 29 50.3**	**+0.8**
RUSC	**La Rusia**	**5.22**	**87**	P	**Pn**	**13 29 51.6**	**+2.1**
	884nm55nm,0.8s						
CUSE	**Cuicocha Este**	**5.27**	**181**	P	**Pn**	**13 29 51.1**	**+1.1**
SJCC	**San Jacinto, C**	**5.28**	**36**	P	**Pn**	**13 29 50.3**	**+0.4**
	2μm109nm,0.7s						
PAC1	**Pacto, Paraso**	**5.33**	**185**	P	**Pn**	**13 29 50.1**	**-0.5**
OTAV	**Otavalo**	**5.33**	**181**	Pn	**Pn**	**13 29 51.2**	**+0.3**
OTAV	**Otavalo**	**5.33**	**181**	P	**Pn**	**13 29 51.0**	**0.0**
	2μm38nm,0.7s						
OTAV	**Otavalo**	**5.33**	**181**	*eP*	**Pn**	**13 29 51.0**	**0.0**
BRU2	**Volcan**	**5.37**	**306**	Pn	**Pn**	**13 29 50.4**	**-0.8**
BRU2	**Volcan**	**5.37**	**306**	*i* P	**Pn**	**13 29 51.1**	**0.0**
BRU2				*eS*	**Sn**	**13 30 53.0**	**-0.1**
OCAC	**Ocana**	**5.62**	**62**	P	**Pn**	**13 29 55.2**	**+0.6**
	2μm183nm,0.6s						
MACC	**Macarena, Meta**	**5.64**	**127**	P	**Pn**	**13 29 56.0**	**+1.3**
	4μm298nm,0.8s						
PIRO	**Carate, Puerto**	**5.70**	**299**	*eS*	**Sn**	**13 30 59.9**	**-1.1**
ARGC	**Ariguani, Magd**	**5.85**	**43**	P	**Pn**	**13 29 59.9**	**+2.3**
	66nm,0.6s						
PAMC	**Pamplona, Colo**	**5.85**	**73**	P	**Pn**	**13 29 59.8**	**+1.7**
SLOR	**San Lorenzo -**	**6.30**	**182**	Pn	**Pn**	**13 30 06.3**	**+2.1**
PTGC	**Puerto Gaitan,**	**6.33**	**102**	P	**Pn**	**13 30 07.0**	**+2.8**
	67nm,0.7s						
TAMC	**Tame, Arauca**	**6.55**	**82**	P	**Pn**	**13 30 09.0**	**+1.7**
SMRC	**Santa Marta, M**	**6.85**	**36**	Pn	**Pn**	**13 30 12.3**	**+0.9**
SMRC	**Santa Marta, M**	**6.85**	**36**	P	**Pn**	**13 30 12.4**	**+0.9**
	69nm,0.6s						
LCR2	**La Lucha 2**	**6.97**	**306**	Pn	**Pn**	**13 30 13.5**	**+0.3**
HDC	**Heredia**	**7.21**	**308**		**Pn**	**13 30 17.6**	**+1.1**
CRJC	**Cerrejon, Guaj**	**7.61**	**45**	P	**Pn**	**13 30 21.8**	**-0.1**
SAIC	**Isla e San And**	**7.66**	**334**	P	**Pn**	**13 30 21.0**	**-1.4**
	44nm,0.9s						
SOCE	**Pocosol**	**7.83**	**308**		**Pn**	**13 30 25.8**	**+0.8**
JTS	**Las Juntas de**	**8.04**	**306**	Pn	**Pn**	**13 30 28.6**	**+0.7**
JTS	**Las Juntas de**	**8.04**	**306**	Pn	**Pn**	**13 30 27.1**	**-0.7**
	1.2nm,0.3s,baz=115,slow=8.3,SNR=19						
JTS				Sn	**Sn**	**13 31 58.3**	**-0.6**
	0.8nm,0.3s,baz=345,slow=23,SNR=1.5						
JTS				LR	LR	13 33 20.6	
	comp=Z,2μm,19.7s,baz=133,slow=36						
	20nm,0.7s						
ACON	**Acoyapa**	**9.26**	**314**		**Pn**	**13 30 45.4**	**+0.9**
BOAB	**BOACO BROADBAN**	**9.94**	**314**	Pn	**Pn**	**13 30 54.7**	**+0.9**
BAUV	**El Baul**	**10.73**	**71**	Pn	**Pn**	**13 31 02.8**	**-1.8**
ATAH	**Atahualpa**	**12.66**	**180**	Pn	**Pn**	**13 31 32.2**	**+0.8**
	1.9nm,0.3s,baz=356,slow=7.3,SNR=9.6						
ATAH				Sn	**Sn**	**13 33 47.0**	**-5.8**
	0.2nm,0.3s,baz=122,slow=2.6,SNR=1.9						
ATAH				LR	LR	13 36 45.4	
	comp=Z,709nm,18.1s,baz=359,slow=39						
	13nm,0.6s						
TBTG	**Tabatinga, AM**	**12.86**	**139**	Pn	**Pn**	**13 31 35.1**	**+1.3**
TBTG	**Tabatinga, AM**	**12.86**	**139**	*eP*	**Pn**	**13 31 34.0**	**+0.3**
MTO3	**Montecristo**	**13.94**	**310**		**Pn**	**13 31 47.8**	**-1.0**
PCRV	**Puerto La Cruz**	**14.30**	**71**	Pn	**Pn**	**13 31 54.2**	**+0.7**
	1.5nm,0.3s,baz=237,slow=2.3,SNR=6.8						
PCRV				Sn	**Sn**	**13 34 32.6**	**+0.2**
	0.2nm,0.3s,baz=125,slow=18,SNR=1.7						
PCRV				LR	LR	13 39 08.7	
	comp=Z,428nm,20.4s,slow=44						
	9.3nm,0.8s						
CZSB	**Cruzeiro do Su**	**14.39**	**157**	Pn	**Pn**	**13 31 55.5**	**+0.8**
CZSB	**Cruzeiro do Su**	**14.39**	**157**	*eP*	**Pn**	**13 31 53.6**	**-1.1**
SDDR	**Presa de Saban**	**14.96**	**27**		**Pn**	**13 32 03.1**	**+0.5**
DR12	**Loma Pena Alta**	**15.74**	**33**		**Pn**	**13 32 11.5**	**-1.4**
DR12				IAmb	IAmb	13 32 21.7	
	comp=Z,41nm,0.9s						
CELP	**Cerrillos**	**16.89**	**42**	Pn	**Pn**	**13 32 26.7**	**-0.7**
UUPR	**Utuado, UPR, P**	**16.92**	**41**	IAmb	IAmb	13 32 29.1	
	comp=Z,24nm,0.4s						
SJG	**San Juan**	**17.20**	**43**	P	**Pn**	**13 32 28.8**	**-2.5**
	comp=Z,11nm,0.4s,baz=223,slow=10,SNR=10						
CCIG	**Comitan**	**17.20**	**309**	P	**P**	**13 32 34.4**	**+1.2**
GCPR	**Guaynab

MSTX Muleshoe 36.20 324 IAmb IAmb 13 35 44.1
comp=Z,7.9nm,1.0s
AMBA Amambai (Brazi 36.40 142 *e*P **P 13 35 34.0 -1.6**
BDFB Brasilia 36.70 126 P **P 13 35 38.2 -0.2**
comp=Z,7.4nm,1.1s,baz=298,slow=13,SNR=7.8
BDFB LR LR 13 51 19.0
comp=Z,271nm,20.0s,baz=311,slow=37
comp=Z,7.4nm,1.1s
ITRB Iturama 37.28 133 *e*P **P 13 35 43.5 +0.3**
SJPY San Joaquin 37.32 146 *e*P **P 13 35 42.5 -1.1**
CPUP Villa Florida 37.71 148 P **P 13 35 44.3 -2.5**
comp=Z,2.0nm,0.9s,baz=350,slow=9.2,SNR=4.5
CPUP LR LR 13 53 17.7
comp=Z,196nm,19.1s,baz=322,slow=39
SDBA SAO DESIDERIO 37.74 118 *e*P **P 13 35 46.7 -0.6**
IPMB Ipameri, GO 37.85 129 *e*P **P 13 35 45.1 -3.0**
CBKS Cedar Bluff 38.33 333 IAmb IAmb 13 35 55.0
comp=Z,23nm,1.2s
SADO Sadowa 39.01 359 LR LR 13 54 49.3
comp=Z,121nm,18.8s,baz=244,slow=40
ANMO Albuquerque 39.07 322 LR LR 13 54 14.9
comp=Z,35nm,20.2s,baz=268,slow=40
LDASE Londrina, Braz 39.20 138 *e*P **P 13 35 58.1 -1.3**
JANB Januaria 39.47 122 *e*P **P 13 36 02.5 +0.8**
PTGB Pitanga 39.52 141 *e*P **P 13 36 00.7 -1.4**
PMNB Patos De Minas 39.55 128 *e*P **P 13 36 03.1 +0.7**
TUC Tucson 40.29 315 P **P 13 36 09.3 +0.8**
ITAB Concordia 41.32 143 P **P 13 36 17.1 +0.2**
ITAB IAmb IAmb 13 36 18.2
comp=Z,15nm,0.9s
ITAB Concordia 41.32 143 *e*P **P 13 36 17.5 +0.6**
DIAM Diamantina, MG 41.62 126 *e*P **P 13 36 20.6 +0.9**
VAO Valinhos 41.81 134 P **P 13 36 21.2 +0.2**
VAO Valinhos 41.81 134 *e*P **P 13 36 20.8 -0.2**
PV15 Paradox Valley 42.55 324 P **P 13 36 27.9 +0.7**
PV15 IAmb IAmb 13 36 31.5
comp=Z,9.8nm,1.0s
PV13 Radium Mtn., P 42.63 324 P **P 13 36 28.4 +0.6**
PV13 IAmb IAmb 13 36 39.1
comp=Z,7.8nm,0.9s
CPSB Cacapava Do Su 43.02 148 *e*P **P 13 36 30.1 -0.6**
CMC01 Camacan, BA 43.72 119 *e*P **P 13 36 36.9 +0.2**
PLTB Pedras Altas 44.01 149 *e*P **P 13 36 37.8 -0.9**
NBAN Anadia - AL 44.56 110 *e*P **P 13 36 43.2 -0.2**
V12A Nelson 44.99 317 IAmb IAmb 13 36 51.1
comp=Z,5.5nm,0.8s
PFO Pinyon Flats O 45.03 313 LR LR 13 57 27.7
comp=Z,103nm,19.0s,baz=153,slow=39
TCRU Three Creeks R 45.10 322 IAmb IAmb 13 37 02.8
comp=Z,6.3nm,0.9s
BSUT Blindstream Ca 45.33 325 IAmb IAmb 13 36 56.2
comp=Z,9.5nm,1.4s
PDAR Pinedale Array 46.18 328 P **P 13 36 57.2 +1.0**
comp=Z,0.6nm,0.7s,baz=125,slow=11,SNR=7.2
PDAR LR LR 13 59 12.6
comp=Z,38nm,21.4s,baz=134,slow=40
comp=Z,0.6nm,0.7s
DUG Dugway, Tooele 46.31 323 P **P 13 36 57.7 +0.6**
DUG IAmb IAmb 13 37 01.2
comp=Z,9.6nm,1.4s
SPR3 Spring Creek 3 46.51 321 IAmb IAmb 13 37 02.8
comp=Z,4.5nm,1.0s
TPNV Topopah Spring 46.60 317 IAmb IAmb 13 37 04.0
comp=Z,3.9nm,0.9s
PLCA Paso Flores 46.66 172 P **P 13 37 00.8 +1.1**
PLCA IAmb IAmb 13 37 06.4
comp=Z,3.3nm,0.8s
PLCA Paso Flores 46.66 172 P **P 13 37 00.5 +0.8**
comp=Z,1.6nm,0.7s,baz=348,slow=10,SNR=10
comp=Z,1.6nm,0.7s
ULM Lac du Bonnet 46.87 345 IAmb IAmb 13 37 16.6
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 46.87 345 P **P 13 37 00.1 -1.1**
comp=Z,2.6nm,0.6s,baz=162,slow=7.3,SNR=6.5
ULM LR LR 13 56 38.1
comp=Z,169nm,21.6s,baz=161,slow=36
comp=Z,2.6nm,0.6s
RLMT Red Lodge 47.71 331 IAmb IAmb 13 37 11.1
comp=Z,9.1nm,1.5s
YHL Hebgen Lake 48.48 329 IAmb IAmb 13 37 29.8
comp=Z,5.2nm,1.0s
NV11 Mina Array Sit 48.67 318 IAmb IAmb 13 37 27.3
comp=Z,5.1nm,1.1s
NVAR Mina Array Bea 48.77 318 P **P 13 37 16.2 -0.2**
NVAR Mina Array Bea 48.77 318 P **P 13 37 18.0 +1.7**
comp=Z,2.8nm,0.7s,baz=110,slow=5.7,SNR=16
comp=Z,2.8nm,0.7s
LHV Little Huntoon 48.81 318 IAmb IAmb 13 37 24.7
comp=Z,7.6nm,1.2s
SCHQ Schefferville 49.95 9 P **P 13 37 27.2 +2.4**
comp=Z,1.4nm,0.8s,baz=218,slow=8.0,SNR=7.5
comp=Z,1.4nm,0.8s
WVOR Wild Horse Val 51.16 322 IAmb IAmb 13 37 37.9
comp=Z,8.2nm,1.1s
YBH Yreka Blue Hor 53.36 319 LR LR 14 02 58.3
comp=Z,118nm,20.1s,baz=154,slow=39
NEW Newport 53.81 329 LR LR 14 05 45.9
comp=Z,64nm,18.5s,baz=172,slow=42
FCC Fort Churchill 54.41 350 IAmb IAmb 13 37 59.7
comp=Z,8.6nm,1.4s
FRB Frobisher Bay 58.46 5 LR LR 14 05 59.1
comp=Z,96nm,19.0s,baz=153,slow=38
BBB Bella Bella 61.83 328 LR LR 14 09 01.2
comp=Z,88nm,19.6s,baz=16,slow=39
YKA Yellowknife Ar 62.71 342 P **P 13 38 56.3 +0.6**
YKA Yellowknife Ar 62.71 342 P **P 13 38 54.4 -1.3**
comp=Z,1.9nm,0.8s,baz=134,slow=7.1,SNR=37
YKA LR LR 14 07 46.3
comp=Z,94nm,19.3s,baz=34,slow=38
comp=Z,1.9nm,0.8s
SFJD Kangerlussuaq 64.18 12 LR LR 14 09 17.7
comp=Z,50nm,18.0s,baz=216,slow=38
DLBC Dease Lake 65.98 333 P **P 13 39 17.9 +0.6**
DLBC IAmb IAmb 13 39 31.6
comp=Z,4.6nm,0.8s
S34M Telegraph Cree 66.22 332 IAmb IAmb 13 39 36.7
comp=Z,3.9nm,0.8s
RES Resolute Bay 69.69 355 LR LR 14 12 19.4
comp=Z,82nm,18.8s,baz=27,slow=38
O30N Mendenhall 69.81 334 IAmb IAmb 13 39 55.7
comp=Z,4.5nm,0.8s
SUMG Summit 71.18 12 *i* P **P 13 39 50.0 +0.1**
L29M L29M 71.70 336 IAmb IAmb 13 40 07.4
comp=Z,4.3nm,0.8s
K29M Barlow Dome 71.77 336 P **P 13 39 54.4 +1.1**
K29M IAmb IAmb 13 40 07.6
comp=Z,4.2nm,0.8s
G31M Satah River 72.01 340 IAmb IAmb 13 40 08.1
comp=Z,5.5nm,0.8s
F31M Tsiigehtchic 72.09 340 IAmb IAmb 13 40 02.3
comp=Z,8.4nm,1.3s
INK Inuvik 72.47 341 IAmb IAmb 13 40 15.5
comp=Z,4.5nm,1.2s
INK Inuvik 72.47 341 LR LR 14 13 44.2
comp=Z,155nm,19.9s,baz=234,slow=38
DBIC Dimbokro 72.99 85 P **P 13 40 02.2 +0.8**
comp=Z,1.6nm,0.8s,baz=12,slow=23,SNR=1.7
comp=Z,1.6nm,0.8s
BCAR Beaver Creek A 73.21 335 P **P 13 40 03.8 +1.9**
L27K Beaver Creek, 73.22 335 IAmb IAmb 13 40 21.7
comp=Z,5.7nm,1.1s
NEEM North Greenlan 73.25 6 *i* P P 13 40 07.5 +5.4
G29M Pine Creek 73.31 339 IAmb IAmb 13 40 15.7
comp=Z,4.1nm,0.8s
I28M Miner Creek 73.39 337 IAmb IAmb 13 40 17.0
comp=Z,3.8nm,0.9s
E29M Blow River 73.93 341 IAmb IAmb 13 40 12.4
comp=Z,7.4nm,1.1s
ESDC Sonseca Array 74.41 50 P **P 13 40 09.7 +0.4**
comp=Z,0.9nm,1.1s,baz=252,slow=5.3,SNR=8.8
ESDC LR LR 14 11 58.9
comp=Z,21nm,19.3s,baz=262,slow=35
comp=Z,0.9nm,1.1s
J26L Joseph Creek 74.46 336 IAmb IAmb 13 40 24.1
comp=Z,3.9nm,0.8s
RIDG Independent Ri 74.73 335 IAmb IAmb 13 40 30.2
comp=Z,8.5nm,1.0s
J25K Salcha River, 75.23 336 IAmb IAmb 13 40 27.5
comp=Z,2.9nm,0.7s
HDA Harding Lake 75.82 335 IAmb IAmb 13 40 30.8
comp=Z,6.3nm,0.8s
ILAR Eielson Array 75.90 336 P **P 13 40 17.2 -0.2**
comp=Z,0.5nm,0.7s,baz=119,slow=4.0,SNR=10.0
ILAR LR LR 14 17 27.3
comp=Z,38nm,18.4s,baz=137,slow=39
comp=Z,0.5nm,0.7s
GHO Glory Hole Cre 75.96 332 IAmb IAmb 13 40 30.6
comp=Z,8.9nm,1.3s
RND Reindeer 76.35 334 IAmb IAmb 13 40 55.8
comp=Z,6.6nm,1.0s
EKA Eskdalemuir Ar 76.98 35 P **P 13 40 25.7 +2.0**
comp=Z,1.0nm,0.8s,baz=260,slow=5.2,SNR=3.8
comp=Z,1.0nm,0.8s
COLD Coldfoot 77.88 338 IAmb IAmb 13 40 42.9
comp=Z,6.5nm,1.4s
JMIC Jan Mayen 78.22 18 LR LR 14 15 02.1
comp=Z,21nm,19.1s,baz=258,slow=36
D23K Nanushuk River 78.50 339 IAmb IAmb 13 40 53.4
comp=Z,8.2nm,1.2s
C23K Itkillik River 78.69 340 IAmb IAmb 13 40 57.4
comp=Z,5.9nm,0.9s
N18K Kilae Creek 79.05 331 IAmb IAmb 13 40 52.8
comp=Z,13nm,1.4s
B22K Teshekpuk Lake 79.75 341 IAmb IAmb 13 40 53.2
comp=Z,9.3nm,1.0s
NOA NORSAR Array B 84.91 29 LR LR 14 14 40.6
comp=Z,22nm,21.7s,baz=345,slow=33
SPITS Spitsbergen Ar 85.52 12 LR LR 14 20 05.9
comp=Z,52nm,19.6s,baz=266,slow=36
GERES GERESS Array B 87.16 41 P **P 13 41 20.1 +2.7**
comp=Z,0.3nm,0.5s,baz=248,slow=5.2,SNR=1.9
comp=Z,0.3nm,0.5s
QSPA South Pole Qui 95.62 180 P **P 13 41 57.4 +1.0**
comp=Z,1.7nm,1.1s,baz=142,slow=1.9,SNR=7.2
comp=Z,1.7nm,1.1s
AKASG Malin Array Be 96.66 38 LR LR 14 23 20.9
comp=Z,41nm,18.6s,baz=245,slow=34
TSUM Tsumeb 97.39 109 LR LR 14 23 09.7
comp=Z,87nm,20.5s,baz=146,slow=34
KURBB Kurchatov Arra 120.54 17 PKP **PKiKP 13 47 23.4 +0.5**
comp=Z,0.2nm,0.3s,baz=321,slow=2.0,SNR=1.6
MKAR Makanchi Array 125.07 16 PKP **PKiKP 13 47 33.1 +1.0**
comp=Z,0.2nm,0.8s,baz=11,slow=1.5,SNR=1.2
SONM Songino Array 126.62 356 PKP **PKiKP 13 47 36.8 +1.5**
comp=Z,0.2nm,0.3s,baz=333,slow=1.9,SNR=1.8
ASAR Alice Springs 144.16 237 PKP **PKPdf 13 48 06.4 -1.5**
comp=Z,4.0nm,0.7s,baz=112,slow=3.3,SNR=34
WRA Warramunga Arr 145.20 243 PKPbc **PKPdf 13 48 09.9 +0.1**
comp=Z,2.0nm,0.8s,baz=99,slow=3.3,SNR=8.5
CMAR Chiang Mai Arr 155.94 6 PKP **PKPdf 13 48 28.6 +2.2**
comp=Z,0.6nm,0.4s,baz=26,slow=2.0,SNR=2.5

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*NEIC **31** 13:39:38.5±1.1, 10°.7S±0°.1×165°.68E±0°.09, h35km±2km, mb4.4/7, Error ellipse: s-maj=24.1km s-min=6.4km az=35.0*
*IDC **31** 13:39:41.7±3.9, 10°.83S×165°.61E, h66km±34km, mb3.3/3, mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=32.9km s-min=21.5km az=49.0*
ISC 31 13:39:38.0±1.1, 10.7S±0°.1×165.8E±0°.1, h35km, n21, σ1§53/17, mb4.2/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.87**	**282**	Pn	**Pn**	**13 41 03.2**	**+0.6**
HNR	**Honiara**	**5.87**	**282**	P	**Pn**	**13 41 05.3**	**+2.7**
	7.8nm,0.3s,baz=101,slow=2.7,SNR=4.6						
HNR				S	**Sn**	**13 42 09.1**	**+0.4**
	12nm,0.4s,baz=6.7,slow=20,SNR=1.6						
	18nm,0.4s						
DZM	**Mont Dzumac**	**11.29**	**177**	Pn	**Pn**	**13 42 18.9**	**+1.8**
DZM	**Mont Dzumac**	**11.29**	**177**	P	**Pn**	**13 42 19.3**	**+2.2**
	0.4nm,0.3s,baz=341,slow=9.4,SNR=7.5						
DZM				S	**Sn**	**13 44 22.5**	**+0.3**
	2.2nm,0.8s,baz=36,slow=19,SNR=3.0						
	2.8nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**29.05**	**2**	T	T	14 15 59.0	
	baz=181,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.06**	**2**	T	T	14 16 04.0	
	baz=181,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.07**	**2**	T	T	14 16 00.3	
	baz=181,slow=76,SNR=13						
BKZ	**Black Stump Fm**	**29.89**	**163**	P	**P**	**13 45 41.6**	**-0.9**
BKZ				IAmb	IAmb	13 45 53.0	
	comp=Z,32nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**30.27**	**2**	T	T	14 17 20.1	
	baz=182,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.28**	**2**	T	T	14 17 19.9	
	baz=182,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**30.29**	**2**	T	T	14 17 22.1	
	baz=182,slow=76,SNR=16						
WB0	**Warramunga Arr**	**31.52**	**250**	P	**P**	**13 45 56.0**	**-1.1**
WB0				IAmb	IAmb	13 46 00.1	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**31.61**	**249**	P	**P**	**13 45 57.8**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=81,slow=9.0,SNR=3.1						
	comp=Z,0.9nm,1.0s						
ASAR	**Alice Springs**	**32.95**	**243**	P	**P**	**13 46 08.5**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=65,slow=10.0,SNR=12						
	comp=Z,0.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**49.65**	**236**	P	**P**	**13 48 23.1**	**-3.4**
WAX	**Waxell Ridge**	**81.76**	**23**	P	**P**	**13 51 53.4**	**+0.3**
WAX				IAmb	IAmb	13 51 54.4	
	comp=Z,9.2nm,1.5s						
VRDI	**Verde Repeater**	**82.03**	**22**	P	**P**	**13 51 54.9**	**+0.3**
ILAR	**Eielson Array**	**83.21**	**19**	P	**P**	**13 52 01.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=239,slow=5.1,SNR=6.3						
	comp=Z,0.3nm,0.6s						
J25K	**Salcha River,**	**83.59**	**19**	P	**P**	**13 52 03.1**	**+0.7**
J25K				IAmb	IAmb	13 52 03.9	
	comp=Z,3.1nm,1.3s						
BCAR	**Beaver Creek A**	**83.80**	**21**	P	**P**	**13 52 03.5**	**0.0**
L29M	**L29M**	**85.16**	**22**	P	**P**	**13 52 11.0**	**+0.6**
L29M				IAmb	IAmb	13 52 17.0	
	comp=Z,3.9nm,1.4s						

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*SOME **31** 13:40:47.2, 40°.25N×77°.50E, h5km*
*KRNET **31** 13:40:50.0±0.1, 40°.35N×77°.69E, mb3.4*
*NNC **31** 13:40:49.5±0.9, 40°.28N×77°.49E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.0km s-min=4.8km az=165.0*
ISC 31 13:40:55.3±1.9, 40.57N±0°.09×77.41E±0°.04, h10km, n47, σ1§67/76, 22C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.57**	**354**	⇑*e*P	**Pn**	**13 41 23.4**	**-0.1**
KDJ				⇑*e*S	**Sg**	**13 41 47.9**	**+1.9**
ULHL	**Ulahol**	**1.90**	**333**	⇑*e*P	**Pb**	**13 41 29.1**	**-1.0**
ULHL				⇑*e*S	**Sg**	**13 41 57.6**	**+1.3**
PRZ	**Przheval'sk**	**2.06**	**21**	⇑*e*P	**Pn**	**13 41 29.6**	**-0.5**
PRZ				⇑*e*S	**Sb**	**13 41 58.2**	**-0.4**
BOOM	**Boomskoye usch**	**2.22**	**331**	⇑*e*P	**Pb**	**13 41 33.5**	**-2.1**
BOOM				⇑*e*S	**Sg**	**13 42 05.3**	**-1.3**
ANVS	**Anan'yevo**	**2.23**	**5**	⇑*e*P	**Pn**	**13 41 32.8**	**+0.3**
ANVS				⇑*e*S	**Sb**	**13 42 03.9**	**+0.5**
TNSS	**Tian-Shan**	**2.49**	**352**	Pg	**Pb**	**13 41 40.7**	**+0.2**
TNSS				Lg	Lg	13 42 18.9	
TNSS	**Tian-Shan**	**2.49**	**352**	*e*P	**Pb**	**13 41 39.7**	**-0.8**
	56nm,0.3s						
TNSS				*e*S	**Sg**	**13 42 17.5**	**+1.9**
	42nm,0.4s						
SATY	**Saty**	**2.60**	**16**	*e*P	Pg	13 42 00.8	+16
	6.0nm,0.4s						
SATY				*e*S	Sg	13 42 53.6	+35
	20nm,0.3s						
MDOK	**Medeo**	**2.61**	**354**	⇑Pg	**Pb**	**13 41 42.6**	**+0.3**
	18nm,0.5s						
MDOK				Pg	**Pg**	**13 41 42.7**	**-2.7**
	21nm,0.3s						
MDOK				Lg	Lg	13 42 22.6	
	29nm,0.4s						
MDOK				⇑Lg	Lg	13 42 22.9	
	42nm,0.9s						
ARLS	**Aral**	**2.66**	**300**	⇑*e*P	**Pn**	**13 41 39.4**	**+0.9**
ARLS				⇑*e*S	**Sb**	**13 42 15.5**	**-0.5**
MTBS	**Maitube**	**2.67**	**344**	Pg	**Pb**	**13 41 43.3**	**+0.1**
	9.1nm,0.3s						
MTBS				Lg	Lg	13 42 24.0	
	38nm,0.2s						
MTBS	**Maitube**	**2.67**	**344**	*e*P	**Pb**	**13 41 42.7**	**-0.5**
	8.7nm,0.2s						
MTBS				*e*S	**Sg**	**13 42 22.8**	**+1.8**
	38nm,0.3s						
AAA	**Alma-Ata**	**2.67**	**352**	*e*P	**Pb**	**13 41 43.0**	**-0.2**
	21nm,0.1s						
AAA				*e*S	**Sg**	**13 42 23.0**	**+1.9**
	11nm,0.1s						
KNDC	**Almaty**	**2.67**	**353**	⇑Pg	**Pb**	**13 41 44.2**	**+0.9**
	24nm,0.4s						
KNDC				⇑Lg	Lg	13 42 24.9	
	73nm,0.6s						
KOTS	**Kotyrbulak**	**2.68**	**355**	Pg	**Pb**	**13 41 44.1**	**+0.7**
	28nm,0.3s						
KOTS				Lg	Lg	13 42 24.7	
	71nm,0.5s						
KOTS	**Kotyrbulak**	**2.68**	**355**	*e*P	**Pb**	**13 41 42.8**	**-0.6**
	30nm,0.3s						
KOTS				*e*S	**Sg**	**13 42 22.8**	**+1.5**
	83nm,0.2s						
KST	**Kastek**	**2.70**	**337**	Pg	**Pb**	**13 41 44.0**	**+0.2**
	8.4nm,0.5s						
KST				Lg	Lg	13 42 24.9	
	52nm,0.6s						
KST	**Kastek**	**2.70**	**337**	*e*P	**Pb**	**13 41 42.9**	**-1.0**
	5.0nm,0.3s						
KST				*e*S	**Sg**	**13 42 23.0**	**+0.8**
	40nm,0.3s						
ZHN	**Zhinishke**	**2.71**	**16**	Pg	**Pb**	**13 41 44.3**	**+0.2**
ZHN				Lg	Lg	13 42 24.4	
ZHN	**Zhinishke**	**2.71**	**16**	*e*P	**Pb**	**13 41 43.3**	**-0.7**
	2.7nm,0.1s						
ZHN				*e*S	**Sg**	**13 42 23.7**	**+1.2**
	86nm,0.2s						
TKM2	**Tokmak 2**	**2.72**	**331**	⇑Pg	**Pb**	**13 41 43.8**	**-0.4**
	4.4nm,0.3s						
TKM2				⇑Lg	Lg	13 42 24.6	
	8.5nm,0.3s						
TKM2	**Tokmak 2**	**2.72**	**331**	⇓*e*P	**Pn**	**13 41 40.5**	**+1.3**
TKM2				⇓*e*S	**Sb**	**13 42 17.4**	**-0.2**
UCH	**Uchtor**	**2.74**	**308**	⇓*e*P	**Pn**	**13 41 40.9**	**+1.1**
UCH				⇓*e*S	**Sb**	**13 42 18.0**	**-0.5**
KBK	**Karagaybulak**	**2.79**	**319**	⇓*e*P	**Pn**	**13 41 41.4**	**+1.2**
KBK				⇓*e*S	**Sb**	**13 42 19.1**	**-0.5**
UZB	**Uzynbulak**	**2.85**	**25**	Pg	**Pb**	**13 41 46.5**	**+0.1**
UZB				Lg	Lg	13 42 28.3	
UZB	**Uzynbulak**	**2.85**	**25**	*e*P	**Pb**	**13 41 44.9**	**-1.5**
	1.7nm,0.1s						
UZB				*e*S	**Sg**	**13 42 26.4**	**-0.4**
	18nm,0.4s						
DGS	**Degeres**	**2.94**	**336**	Pg	**Pb**	**13 41 48.3**	**+0.4**
	11nm,0.5s						
DGS				Lg	Lg	13 42 31.8	
	53nm,0.5s						
KURS	**Kuram**	**2.98**	**11**	*e*P	**Pg**	**13 41 53.9**	**+1.5**
	9.0nm,0.3s						
KURS				*e*S	Sg	13 42 41.9	+11
	36nm,0.4s						
AAK	**Ala-Archa**	**3.01**	**314**	⇑Pg	**Pb**	**13 41 48.1**	**-1.0**
	6.0nm,0.6s						
AAK				⇑Lg	Lg	13 42 31.8	
	30nm,0.8s						
AAK	**Ala-Archa**	**3.01**	**314**	⇓*e*P	**Pn**	**13 41 44.5**	**+1.3**
AAK				⇓*e*S	**Sb**	**13 42 24.4**	**-1.6**
SHLS	**Shalkode**	**3.01**	**30**	*e*P	**Pb**	**13 41 49.9**	**+0.8**
	3.5nm,0.1s						
SHLS				*e*S	**Sg**	**13 42 35.0**	**+3.0**
	16nm,0.3s						
KPKS	**Kokpek**	**3.05**	**18**	*e*P	**Pb**	**13 41 48.0**	**-1.7**
	8.8nm,0.3s						
KPKS				*e*S	**Sg**	**13 42 31.9**	**-1.4**
	52nm,0.4s						
PDGK	**Podgornoye**	**3.17**	**29**	⇓Pg	**Pb**	**13 41 51.1**	**-0.7**
	6.7nm,0.5s						
PDGK				⇑Lg	Lg	13 42 36.2	
	34nm,0.8s						
KTBS	**Karatobe**	**3.19**	**351**	Pg	**Pb**	**13 41 51.8**	**-0.4**
	7.5nm,0.3s						
KTBS				Pg	**Pg**	**13 41 52.6**	**-3.8**
	7.4nm,0.5s						
KTBS				Lg	Lg	13 42 38.9	
	67nm,0.4s						
KTBS				Lg	Lg	13 42 39.4	
	28nm,0.4s						
CHKK	**Chushkaly**	**3.30**	**355**	Pg	**Pb**	**13 41 54.5**	**+0.5**
	9.0nm,0.3s						
CHKK				Lg	Lg	13 42 42.9	
	46nm,0.4s						
CHKK	**Chushkaly**	**3.30**	**355**	*e*P	**Pb**	**13 41 53.9**	**-0.1**
	9.0nm,0.3s						
CHKK				*e*S	**Sg**	**13 42 41.9**	**+0.6**
	36nm,0.4s						
KRBS	**Karabastau**	**3.38**	**338**	Pg	**Pb**	**13 41 56.0**	**+0.6**
	5.8nm,0.4s						
KRBS				Pg	**Pg**	**13 41 56.2**	**-4.0**
	8.5nm,0.3s						
KRBS				Lg	Lg	13 42 45.0	
	22nm,0.7s						
KRBS				Lg	Lg	13 42 45.7	
	27nm,0.4s						
EKS2	**Erkin-Say**	**3.44**	**309**	⇓*e*P	**Pn**	**13 41 50.3**	**+1.3**
EKS2				⇓*e*S	**Sb**	**13 42 34.4**	**-3.8**
USP	**Ospenovka**	**3.46**	**322**	⇓*e*P	**Pn**	**13 41 50.7**	**+1.4**
USP				⇓*e*S	**Sb**	**13 42 35.2**	**-3.7**
BLB	**Baldybastay**	**3.62**	**12**	Pg	**Pb**	**13 41 59.9**	**+0.5**
	14nm,0.3s						
BLB				Pg	**Pg**	**13 42 00.8**	**-3.9**
BLB				Lg	Lg	13 42 52.6	
	29nm,0.5s						
BLB				Lg	Lg	13 42 52.7	
ARXS	**Arharly**	**3.66**	**5**	Pg	**Pb**	**13 42 01.8**	**+1.7**
ARXS				Lg	Lg	13 42 56.8	
	28nm,0.5s						
MRKS	**Merke**	**3.82**	**306**	*e*P	**Pb**	**13 42 02.4**	**-0.4**
	3.4nm,0.4s						
MRKS				*e*S	**Sg**	**13 42 56.5**	**-1.4**
	10nm,0.4s						
DJR	**Jarkent**	**4.16**	**24**	Pg	**Pb**	**13 42 09.2**	**+0.6**
	2.4nm,0.3s						
DJR				Lg	Lg	13 43 08.3	
	13nm,0.5s						
DJR	**Jarkent**	**4.16**	**24**	*e*P	**Pb**	**13 42 09.2**	**+0.6**
	0.5nm,0.1s						
DJR				*e*S	**Sg**	**13 43 08.3**	**-0.5**
	13nm,0.5s						
BTLS	**Baital**	**5.11**	**332**	Pg	**Pb**	**13 42 26.9**	**+2.1**
	4.1nm,0.5s						
BTLS				Lg	Lg	13 43 38.4	
	8.0nm,0.8s						
BTLS	**Baital**	**5.11**	**332**	*e*P	**Pb**	**13 42 28.4**	**+3.6**
	2.0nm,0.4s						
BTLS				*e*S	**Sg**	**13 43 41.3**	**+2.0**
	8.0nm,0.8s						
KK31	**Karatay Array**	**5.74**	**298**	⇓Pg	**Pb**	**13 42 37.1**	**+1.6**
	1.4nm,0.7s,baz=134,slow=16,SNR=4.5						
KK31				⇑Sn	**Sn**	**13 43 31.5**	**+5.0**
	0.6nm,0.5s						
KK31				⇓Lg	Lg	13 43 53.7	
	3.0nm,0.7s,baz=116,slow=25,SNR=5.5						

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*IDC **31** 13:44:08.2±3.8, 5°.49N×127°.20E, h48km±29km, mb3.8/9, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=117.3km s-min=13.8km az=67.0*
*NEIC **31** 13:44:08.8±1.1, 5°.50N±0°.07×127°.0E±0°.1, h49km±5km, mb4.0/13, Error ellipse: s-maj=17.6km s-min=8.5km az=65.0*
*DJA **31** 13:44:12.7±0.8, 5°N±6°×12°7E±°, h86km±12km, M4.4/10, mB5.0/3, mb4.5/7, MLv4.3/10, Mw(mB)4.3/3*
ISC 31 13:44:08.9±0.7, 5.32N±0°.06×127°.02E±0°.10, h50km, n37, σ1§28/42, mb4.0/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.20**	**222**	P	**Pn**	**13 44 43.7**	**+0.6**
SGSI				S	**Sn**	**13 45 09.3**	**+0.1**
DAV	**Davao City (W)**	**2.25**	**321**	Pn	**Pn**	**13 44 42.0**	**-1.7**
DAV	**Davao City (W)**	**2.25**	**321**	P	**Pn**	**13 44 43.4**	**-0.3**
	56nm,0.3s,baz=100,slow=4.4,SNR=6.3						
DAV				S	**Sn**	**13 45 13.7**	**+3.4**
	810nm,0.7s,baz=252,slow=21,SNR=26						
	307nm,0.6s						
TNTI	**Ternate**	**4.54**	**176**	Pn	**Pn**	**13 45 17.3**	**+2.2**
TNTI	**Ternate**	**4.54**	**176**	P	**Pn**	**13 45 17.3**	**+2.2**
KMSI	**Cibinong**	**5.61**	**213**	P	**Pn**	**13 45 30.4**	**+0.6**
SANI	**Sanana**	**7.40**	**188**	P	**Pn**	**13 45 52.7**	**-1.6**
	0.1nm952nm17nm,0.5s						
SANI				S	**Sn**	**13 47 14.6**	**-2.4**
	0.1nm952nm17nm,0.5s						
TOLI2	**Tolitoli**	**7.50**	**236**	Pn	**Pn**	**13 45 55.8**	**0.0**
LUWI	**Luwuk**	**7.62**	**214**	Pn	**Pn**	**13 45 58.5**	**+1.1**
LUWI	**Luwuk**	**7.62**	**214**	P	**Pn**	**13 45 57.9**	**+0.6**
	63nm,0.8s						
MYLDM	**

MTN				IAmb	IAmb	13 48 41.2	
	comp=Z,10nm,0.9s						
KNRA	**Kununurra**	**20.94 175**	P	**P**	**P**	**13 48 48.0**	**+0.4**
KNRA				IAmb	IAmb	13 49 02.9	
	comp=Z,7.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.31 183**	P	**P**	**P**	**13 49 13.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.31 183**	P	**P**	**P**	**13 49 13.4**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=93,slow=0.8,SNR=4.4						
	comp=Z,3.1nm,0.6s						
WB0	**Warramunga Arr**	**25.97 164**	P	**P**	**P**	**13 49 37.9**	**+0.9**
WRA	**Warramunga Arr**	**26.12 164**	P	**P**	**P**	**13 49 38.7**	**+0.3**
WRA	**Warramunga Arr**	**26.12 164**	P	**P**	**P**	**13 49 38.8**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=344,slow=10,SNR=31						
	comp=Z,3.1nm,0.5s						
WB2	**Warramunga Arr**	**26.12 164**	P	**P**	**P**	**13 49 39.0**	**+0.6**
WB2				IAmb	IAmb	13 49 41.5	
	comp=Z,6.2nm,0.8s						
WR0	**Warramunga Arr**	**26.19 164**	P	**P**	**P**	**13 49 39.7**	**+0.6**
WR0				IAmb	IAmb	13 49 43.2	
	comp=Z,3.7nm,0.8s						
AS31	**Alice Springs**	**29.59 167**	P	**P**	**P**	**13 50 10.3**	**+1.0**
AS31				IAmb	IAmb	13 50 24.4	
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**29.59 167**	P	**P**	**P**	**13 50 10.6**	**+1.2**
ASAR	**Alice Springs**	**29.59 167**	P	**P**	**P**	**13 50 09.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=348,slow=7.4,SNR=12						
ASAR				PcP	**PcP**	**13 53 11.6**	**-1.9**
	comp=Z,0.2nm,0.8s,baz=347,slow=2.6,SNR=2.2						
ASAR				ScP	**ScP**	**13 56 52.1**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=339,slow=2.6,SNR=2.0						
	comp=Z,0.3nm,0.5s						
BBOO	**Buckleboo**	**38.88 168**	P	**P**	**P**	**13 51 29.8**	**+0.1**
STKA	**Stephens Creek**	**39.52 160**	P	**P**	**P**	**13 51 36.1**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=340,slow=7.5,SNR=7.2						
	comp=Z,3.7nm,0.7s						
MK31	**Makanchi Array**	**56.43 325**	P	**P**	**P**	**13 53 44.1**	**-1.4**
MK31				IAmb	IAmb	13 53 59.2	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**56.43 325**	P	**P**	**P**	**13 53 44.2**	**-1.3**
MKAR	**Makanchi Array**	**56.43 325**	P	**P**	**P**	**13 53 45.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.3,SNR=7.4						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**59.31 333**	P	**P**	**P**	**13 54 04.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=127,slow=6.3,SNR=2.6						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**60.56 327**	P	**P**	**P**	**13 54 13.3**	**-0.9**
KURBB	**Kurchatov Arra**	**60.57 327**	P	**P**	**P**	**13 54 13.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=124,slow=6.3,SNR=7.8						
	comp=Z,0.7nm,0.5s						
BVAR	**Borovoye Array**	**66.15 327**	P	**P**	**P**	**13 54 50.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=118,slow=6.7,SNR=2.8						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**71.11 320**	P	**P**	**P**	**13 55 19.9**	**-2.3**
FINES	**FINESS Array B**	**90.57 332**	P	**P**	**P**	**13 57 03.9**	**-1.6**
	comp=Z,4.0nm,1.1s,baz=79,slow=5.6,SNR=3.4						
	comp=Z,4.0nm,1.1s						

AFAD ***31*** *13:54:04.4, 37.°49N×29.°35E, h7km±2km, ML3.5*
ISK ***31*** *13:54:04.1, 37.°50N×29.°35E, h4km, ML3.5/28*
ISC 31 13:54:04.6±0.9, 37.°51N±0.°02×29.°35E±0.°02, h7km±7km, n57, σ0.°77/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.05**	**228**	Pg	**Pg**	**13 54 05.7**	**-0.6**
INCE	**Denizli-Bozkur**	**0.27**	**41**	P	**Pg**	**13 54 10.3**	**+0.3**
INCE				S	**Sg**	**13 54 14.7**	**+1.0**
INCE				*i* AML	AML	13 54 15.0	
	comp=E,2μm,0.3s						
INCE				*i* AML	AML	13 54 16.0	
	comp=N,2μm,0.5s						
DNIZ	**Denizli-Tavas-**	**0.27**	**296**	P	**Pg**	**13 54 10.8**	**+0.7**
DNIZ				S	**Sg**	**13 54 14.8**	**+1.0**
DNIZ				*i* AML	AML	13 54 17.0	
	comp=N,8μm,0.6s						
DNIZ				*i* AML	AML	13 54 17.0	
	comp=E,1μm,0.3s						
GOLH	**Golhisar**	**0.32**	**148**	P	**Pg**	**13 54 10.8**	**-0.1**
GOLH				S	**Sg**	**13 54 15.3**	**+0.3**
GOLH				*i* AML	AML	13 54 19.0	
	comp=N,6μm,0.4s						
GOLH				*i* AML	AML	13 54 22.0	
	comp=E,8μm,0.4s						
DNZT	**Denizli-Tavas-**	**0.34**	**229**	P	**Pg**	**13 54 11.6**	**+0.3**
DNZT				S	**Sg**	**13 54 16.0**	**+0.2**
DNZT				*i* AML	AML	13 54 17.0	
	comp=N,3μm,0.4s						
DNZT				*i* AML	AML	13 54 17.0	
	comp=E,3μm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.35**	**264**	P	**Pg**	**13 54 11.9**	**+0.4**
TAVA				S	**Sg**	**13 54 16.7**	**+0.7**
CAEL	**Denizli, Camel**	**0.38**	**183**	P	**Pg**	**13 54 12.0**	**-0.1**
CAEL				S	**Sb**	**13 54 18.3**	**-1.6**
CAEL				*i* AML	AML	13 54 24.0	
	comp=E,4μm,0.3s						
CAEL				*i* AML	AML	13 54 26.0	
	comp=N,4μm,0.5s						
BRDR	**BURDUR-Merkez**	**0.60**	**71**	P	**Pg**	**13 54 16.2**	**0.0**
BRDR				S	**Sg**	**13 54 24.6**	**+0.7**
BRDR				*i* AML	AML	13 54 28.0	
	comp=N,2μm,0.6s						
BRDR				*i* AML	AML	13 54 28.0	
	comp=E,3μm,0.3s						
KNIK	**Mula-Seydike**	**0.68**	**165**	P	**Pg**	**13 54 17.0**	**-0.7**
KNIK				S	**Sb**	**13 54 27.8**	**-0.8**
BASM	**Basmaki-Afyon**	**0.69**	**53**	Pg	**Pg**	**13 54 17.9**	**-0.1**
SABU	**Mula-Dalaman**	**0.74**	**204**	P	**Pg**	**13 54 18.4**	**-0.5**
SABU				S	**Sb**	**13 54 29.4**	**-0.8**
SABU				*i* AML	AML	13 54 30.0	
	comp=N,1μm,0.2s						
SABU				*i* AML	AML	13 54 30.0	
	comp=E,2μm,0.4s						
ESEN	**Aydn-Nazilli**	**0.85**	**291**	P	**Pb**	**13 54 21.2**	**-0.3**
ESEN				S	**Sb**	**13 54 32.5**	**-0.6**
PASA	**Karahalli, USA**	**0.85**	**7**	P	**Pg**	**13 54 20.0**	**-0.9**
PASA				S	**Sb**	**13 54 33.0**	**-0.3**
MULA	**Mugla, Merkez-**	**0.86**	**253**	P	**Pb**	**13 54 21.1**	**-0.7**
MULA				S	**Sb**	**13 54 33.8**	**+0.3**
MULA				*i* AML	AML	13 54 39.0	
	comp=E,2μm,0.4s						
ELL	**Elmali**	**0.88**	**149**	Pg	**Pg**	**13 54 21.1**	**-0.4**
ELL				Sg	**Sb**	**13 54 34.2**	**0.0**
DALY	**Dalyan (Mula)**	**0.88**	**219**	Pg	**Pb**	**13 54 21.5**	**-0.7**
FETY	**Fethiye**	**0.89**	**194**	Pg	**Pg**	**13 54 21.1**	**-0.7**
YER	**Yerkesik**	**0.93**	**247**	Pg	**Pg**	**13 54 22.3**	**-0.1**
KORT	**Korkueli**	**0.94**	**122**	Pg	**Pb**	**13 54 22.8**	**-0.5**
KORT	**Korkueli**	**0.94**	**122**	P	**Pg**	**13 54 22.1**	**-0.7**
KORT				S	**Sn**	**13 54 37.2**	**-0.9**
KORT				*i* AML	AML	13 54 39.0	
	comp=N,1μm,1.0s						
KORT				*i* AML	AML	13 54 40.0	
	comp=E,2μm,0.6s						
NAZL	**Nazilli-Aydin**	**0.95**	**299**	Pg	**Pb**	**13 54 23.1**	**-0.4**
KZIL	**AFYON_Kizioren**	**0.98**	**40**	P	**Pg**	**13 54 22.8**	**-0.6**
BUCA	**Burdur, Bucak-**	**0.98**	**100**	P	**Pg**	**13 54 22.8**	**-0.6**
ISP	**Isparta**	**0.98**	**71**	Pg	**Pg**	**13 54 22.6**	**-0.9**
ISP				Sg	**Sb**	**13 54 37.9**	**+0.7**
BCK	**Bucak**	**0.99**	**92**	Pg	**Pb**	**13 54 23.6**	**-0.4**
IZZE	**Mula-Seydike**	**1.07**	**185**	P	**Pg**	**13 54 24.5**	**-0.7**
IZZE				S	**Sn**	**13 54 43.8**	**+2.8**
IZZE				*i* AML	AML	13 54 46.0	
	comp=E,2μm,0.4s						
IZZE				*i* AML	AML	13 54 47.0	
	comp=N,2μm,0.4s						
KULA	**Kula-Manisa**	**1.14**	**332**	Pn	**Pb**	**13 54 26.7**	**0.0**
TURN	**Turunc**	**1.14**	**231**	Pn	**Pb**	**13 54 26.5**	**-0.2**
TURN	**Turunc**	**1.14**	**231**	P	**Pb**	**13 54 26.4**	**-0.2**
TURN				S	**Sn**	**13 54 42.8**	**0.0**
AYDN	**Tasoluk**	**1.18**	**278**	P	**Pn**	**13 54 27.3**	**-0.2**
AYDN				S	**Sg**	**13 54 42.0**	**-0.5**
AYDN				*i* AML	AML	13 54 47.0	
	comp=E,519nm,0.3s						
ANTB	**Antalya**	**1.21**	**120**	Pn	**Pn**	**13 54 27.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**291**	Pn	**Pn**	**13 54 28.3**	**-0.1**
ODEM	**Odemis-Izmir**	**1.27**	**308**	Pn	**Pb**	**13 54 28.9**	**+0.1**
MLSB	**Milas**	**1.27**	**261**	Pn	**Pb**	**13 54 28.9**	**+0.1**
IZMR	**zmir-demi**	**1.27**	**300**	P	**Pg**	**13 54 29.1**	**+0.1**
AKAS	**Kas**	**1.29**	**171**	Pn	**Pb**	**13 54 29.2**	**0.0**
AKAS	**Kas**	**1.29**	**171**	P	**Pb**	**13 54 29.4**	**+0.2**
AKAS				S	**Sn**	**13 54 48.4**	**+1.8**
AKAS				*i* AML	AML	13 54 52.0	
	comp=E,760nm,0.4s						
AKAS				*i* AML	AML	13 54 54.0	
	comp=N,1μm,0.5s						

KEMT	**Kemer-ANTALYA**	**1.32**	**133**	Pn	**Pg**	**13 54 29.9**	**0.0**
DEMR	**Demre-Antalya**	**1.34**	**160**	Pn	**Pg**	**13 54 30.2**	**-0.1**
KSL	**Kastellorizon**	**1.37**	**172**	P	**Pg**	**13 54 30.2**	**-0.6**
SHUT	**Suhut-Afyon**	**1.41**	**42**	Pn	**Pg**	**13 54 31.4**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.42**	**146**	P	**Pg**	**13 54 32.7**	**+0.8**
SHAP	**Saphane-Kutahy**	**1.52**	**356**	Pn	**Pb**	**13 54 32.9**	**-0.2**
GEDZ	**Gediz**	**1.54**	**2**	Pn	**Pb**	**13 54 33.2**	**-0.2**
BDRM	**Kayabasi**	**1.58**	**254**	P	**Pb**	**13 54 34.1**	**0.0**
SIMA	**Simav-Kutahya**	**1.60**	**350**	Pn	**Pn**	**13 54 33.2**	**-0.2**
DAT	**Datca**	**1.61**	**242**	Pn	**Pb**	**13 54 34.2**	**-0.5**
ARG	**Arkhangelos**	**1.62**	**218**	Pn	**Pb**	**13 54 34.1**	**-0.6**
ARG	**Arkhangelos**	**1.62**	**218**	P	**Pb**	**13 54 34.6**	**-0.1**
GORD	**Gordes-Manisa**	**1.68**	**327**	Pn	**Pb**	**13 54 35.1**	**-0.7**
BODT	**Bodrum**	**1.69**	**255**	Pn	**Pb**	**13 54 35.1**	**-0.8**
YAZI	**Mula-Dat§a-**	**1.72**	**242**	P	**Pb**	**13 54 36.5**	**0.0**
TVSB	**Tavsanli**	**1.94**	**3**	Pn	**Pn**	**13 54 38.2**	**+0.1**
SEYD	**Seydisehir-KON**	**1.98**	**92**	Pn	**Pn**	**13 54 39.4**	**+0.8**
BLCB	**Balcova**	**2.02**	**296**	Pn	**Pn**	**13 54 39.9**	**+0.8**
KARP	**Karpathos**	**2.63**	**223**	P	**Pn**	**13 54 48.4**	**+0.9**
PRK	**Paraskevi**	**2.98**	**307**	P	**Pn**	**13 54 49.1**	**-3.1**

GUC ***31*** *14:03:57.9±0.7, 22.°82S×68.°65W, h111km±4km, ML3.4*
SJA ***31*** *14:03:57.0±1.5, 22.°76S×68.°76W, h129km, ML3.4, MW3.5*
ISC 31 14:03:58.9±1.5, 22.°78S±0.°04×68.°70W±0.°06, h114km±11km, n27, σ0.°96/35, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.51**	**110**	*i* P	**Pn**	**14 04 14.9**	**-1.7**
AF01				IAML		14 04 34.1	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**0.81**	**275**	*i* P	**Pn**	**14 04 18.8**	**0.0**
PB06				*e*S	**Sn**	**14 04 34.1**	**+0.3**
PB06	**IPOC Station P**	**0.81**	**275**	*i* P	**Pn**	**14 04 18.0**	**-0.8**
PB06				⇓*e*S	**Sn**	**14 04 34.0**	**+0.3**
PB06				IAML		14 04 36.5	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**1.10**	**333**	*e*P	**Pn**	**14 04 21.9**	**+0.3**
PB09				*e*S	**Sn**	**14 04 39.7**	**+0.8**
PB09				IAML		14 04 43.3	
	comp=E,489nm,0.3s						
PB09	**IPOC Station P**	**1.10**	**333**	*i* P	**Pn**	**14 04 21.3**	**-0.4**
PB09				IAML		14 04 43.7	
	comp=Z,354nm,0.4s						
PB03	**IPOC Station P**	**1.21**	**307**	⇑*i* P	**Pn**	**14 04 23.1**	**+0.2**
PB03				*e*S	**Sn**	**14 04 41.6**	**+0.6**
PB03				IAML		14 04 42.1	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.21**	**307**	*i* P	**Pn**	**14 04 22.3**	**-0.6**
PB03				*e*S	**Sn**	**14 04 41.2**	**+0.1**
PB03				IAML		14 04 44.0	
	comp=Z,883nm,0.2s						
PB05	**IPOC Station P**	**1.39**	**267**	*e*P	**Pn**	**14 04 24.9**	**+0.1**
PB05				*i* S	**Sn**	**14 04 45.0**	**+0.6**
PB05				IAML		14 04 49.1	
	comp=E,336nm,0.2s						
PB05	**IPOC Station P**	**1.39**	**267**	*i* P	**Pn**	**14 04 24.3**	**-0.5**
PB05				IAML		14 04 48.8	
	comp=Z,276nm,0.2s						
PB01	**IPOC Station P**	**1.87**	**337**	*e*P	**Pn**	**14 04 31.0**	**+0.4**
PB01				*i* S	**Sn**	**14 04 56.1**	**+1.3**
PB01				IAML		14 04 59.6	
	comp=E,709nm,0.3s						
PB01	**IPOC Station P**	**1.87**	**337**	*i* P	**Pn**	**14 04 30.4**	**-0.2**
PB01				IAML		14 04 59.7	
	comp=Z,467nm,0.2s						
PATCX	**Punta Patache**	**2.37**	**325**	*i* P	**Pn**	**14 04 36.0**	**-0.8**
PATCX				IAML		14 05 12.6	
	comp=Z,279nm,1.2s						
PB14	**IPOC Station P**	**2.41**	**220**	*e*P	**Pn**	**14 04 38.3**	**+0.7**
PB14				IAML		14 05 16.8	
	comp=N,132nm,0.3s						
PB14	**IPOC Station P**	**2.41**	**220**	*i* P	**Pn**	**14 04 38.6**	**+1.0**
PB14				IAML		14 05 17.3	
	comp=Z,189nm,0.4s						
GO02	**Mina Guanaco**	**2.51**	**199**	*e*P	**Pn**	**14 04 39.0**	**+0.1**
GO02				*e*S	**Sn**	**14 05 09.7**	**+0.1**
GO02	**Mina Guanaco**	**2.51**	**199**	*i* P	**Pn**	**14 04 38.4**	**-0.5**
GO02				IAML		14 05 21.5	
	comp=Z,192nm,0.1s						
TA01	**Diego Aracena**	**2.60**	**328**	*e*S	**Sn**	**14 05 12.2**	**+1.1**
TA01				IAML		14 05 19.6	
	comp=E,291nm,0.2s						
TA01	**Diego Aracena**	**2.60**	**328**	*i* P	**Pn**	**14 04 38.3**	**-1.4**
TA01				IAML		14 05 24.7	
	comp=Z,137nm,0.3s						
PB08	**IPOC Station P**	**2.66**	**351**	*e*P	**Pn**	**14 04 41.7**	**+0.8**
PB08				IAML		14 05 28.5	
	comp=N,126nm,0.1s						
PB08	**IPOC Station P**	**2.66**	**351**	*i* P	**Pn**	**14 04 41.0**	**+0.1**
PB08				IAML		14 05 30.2	
	comp=Z,76nm,0.3s						
HMBC	**Humberstone**	**2.72**	**336**	*i* P	**Pn**	**14 04 40.1**	**-1.4**
HMBC				IAML		14 05 24.5	
	comp=Z,299nm,0.4s						
PB11	**IPOC Station P**	**3.13**	**343**	⇑*e*P	**Pn**	**14 04 46.3**	**-0.7**
PB11	**IPOC Station P**	**3.13**	**343**	*i* P	**Pn**	**14 04 45.6**	**-1.3**
PB11				IAML		14 05 29.9	
	comp=Z,64nm,0.2s						
AZAP	**Zapla**	**3.63**	**114**	*i* P	**Pn**	**14 04 54.3**	**+0.7**
AZAP				IAML		14 06 19.6	
	comp=Z,10nm,2.6s						
AC01	**Pan de Azucar**	**3.77**	**207**	*i* P	**Pn**	**14 04 53.5**	**-1.8**
AC01				IAML		14 05 53.5	
	comp=Z,75nm,0.7s						
PB12	**IPOC Station P**	**4.41**	**340**	*i* P	**Pn**	**14 05 01.6**	**-2.4**
PB12				IAML		14 06 10.5	
	comp=Z,68nm,0.4s						
PB16	**IPOC Station P**	**4.48**	**350**	*i* P	**Pn**	**14 05 05.4**	**0.0**
PB16				IAML		14 06 25.6	
	comp=Z,15nm,0.5s						

MOS ***31*** *14:09:08.9±1.1, 2.°00S×80.°93W, h10km, mb5.2/13, Error ellipse: s-maj=12.0km s-min=7.0km az=106.1*
NEIC ***31*** *14:09:10.9±1.4, 2.°03S±0.°04×80.°89W±0.°06, h10km±1km, mb4.9/336, Error ellipse: s-maj=10.5km s-min=7.4km az=100.0*
IGQ ***31*** *14:09:11.2±0.6, 2.°S±3.°×8.°1W±.°, h6km±3km, MLv4.7/5*
RSNC ***31*** *14:09:13.9±1.8, 2.°S±6.°×8.°1W±1.°0, h10km, M5.2, mb5.7, mB5.8, ML4.8, Mw(mB)5.2, MwMwp5.0, Mwp5.3*
GCMT ***31*** *14:09:14.9±0.3, 1.°89S±0.°02×81.°11W±0.°02, h22km±1km, MW5.0/97, Moment Tensor Solution. s45,c49; s97,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.81±.17; $M_{\theta\theta}$-0.07±.09; $M_{\phi\phi}$-2.73±.12; $M_{r\theta}$0.22±.14; $M_{\theta\phi}$0.25±.06; $M_{\phi r}$-3.19±.22; Best double couple: M_0=4.23800×10^{16} NP1:ϕ_s354.00000°, δ21.00000°, λ88.00000°. NP2: ϕ_s176.00000°, δ69.00000°, λ91.00000°. Principal axes: T 4.2670, Plg66.0000°, Azm87.0000°; N -0.0520, Plg1.0000°, Azm355.0000°; P -4.2090, Plg24.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
VAO ***31*** *14:09:14.9±1.6, 1.°92S×80.°65W, h32km±9km, mb5.0*
IDC ***31*** *14:09:16.9±2.0, 1.°88S×80.°81W, h60km±17km, mb4.2/24, mbtmp4.4/28, MS4.1/35, Error ellipse: s-maj=16.4km s-min=9.1km az=67.0*
ISC 31 14:09:11.3±0.8, 1.°91S±0.°02×80.°85W±0.°03, h17km±5km, n472, σ1.°65/331, mb4.8/181, MS4.1/33, 24C-35D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.31**	**208**	P	**Pg**	**14 09 17.6**	**-0.4**
SALI				S	**Sg**	**14 09 22.6**	**+0.1**
SALI	**Salinas**	**0.31**	**208**	P	**Pg**	**14 09 17.5**	**-0.5**
SALI				S	**Sg**	**14 09 21.8**	**-0.8**
ALIBE	**La Libertad**	**0.34**	**180**	P	**Pb**	**14 09 18.7**	**-0.2**
ALIBE				S	**Sb**	**14 09 24.7**	**+0.7**
PPLP	**Puerto Lpez**	**0.36**	**11**	P	**Pb**	**14 09 19.3**	**-0.1**
PPLP				S	**Sb**	**14 09 25.2**	**+0.3**
PPLP	**Puerto Lpez**	**0.36**	**11**	⇓P	**Pb**	**14 09 19.2**	**-0.1**
PPLP	**Puerto Lpez**	**0.36**	**11**	⇓P	**Pb**	**14 09 19.2**	**-0.2**
PPLP				S	**Sg**	**14 09 24.2**	**+0.2**
ISPT	**Isla de la Pla**	**0.68**	**340**	P	**Pg**	**14 09 23.6**	**-1.1**
ISPT	**Isla de la Pla**	**0.68**	**340**	P	**Pg**	**14 09 23.7**	**-0.9**
ISPT				S	**Sg**	**14 09 33.5**	**-0.2**
AGUAY	**Guayaquil**	**0.91**	**99**	P	**Pb**	**14 09 28.4**	**-0.2**
AGUAY				S	**Sn**	**14 09 43.0**	**+1.0**

AMNT	**Manta-Manabi**	**0.96**	**7**	P	**Pb**	**14 09 29.4**	**-0.2**
AMNT				S	**Sn**	**14 09 43.8**	**+0.4**
GYE3	**Ecuador-Guayaq**	**0.98**	**105**	P	**Pg**	**14 09 30.1**	**-0.1**
ISPG	**Isla Puna-Puer**	**1.25**	**147**	⇑P	**Pg**	**14 09 35.8**	**+0.3**
MILO	**Milagro-Astudi**	**1.34**	**106**	⇓P	**Pn**	**14 09 35.2**	**-0.1**
MILO				S	**Sn**	**14 09 52.0**	**-0.8**
CAB1	**Cabo Pasado-Ma**	**1.57**	**15**	P	**Pb**	**14 09 39.4**	**-0.5**
AQUE	**Quevedo**	**1.60**	**58**	P	**Pb**	**14 09 39.8**	**-0.6**
COHC	**Cochancay**	**1.69**	**109**	Pn	**Pn**	**14 09 40.0**	**-0.1**
COHC	**Cochancay**	**1.69**	**109**	⇓P	**Pn**	**14 09 39.9**	**-0.1**
JAMA	**Jama**	**1.75**	**21**	P	**Pn**	**14 09 41.9**	**+0.8**
ARNL	**Arenillas**	**1.81**	**155**	⇑P	**Pn**	**14 09 41.7**	**0.0**
AGRD	**Ecuador-Guaran**	**1.87**	**80**	P	**Pn**	**14 09 43.6**	**+0.7**
JSCH	**Cashca Tororas**	**1.88**	**84**	⇓P	**Pn**	**14 09 43.6**	**+0.6**
CHSH	**Refugio Sur-Vo**	**2.02**	**78**	⇓P	**Pb**	**14 09 47.0**	**-0.9**
TAMH	**Tambohuasha Ch**	**2.10**	**80**	⇓P	**Pb**	**14 09 47.9**	**-1.3**
PORT	**Chimborazo Vol**	**2.12**	**78**	⇓P	**Pb**	**14 09 48.3**	**-1.3**
ACUE	**Ecuador-Cuenca**	**2.13**	**118**	P	**Pn**	**14 09 48.0**	**+1.5**
IGUA	**Igualata**	**2.24**	**79**	⇓P	**Pb**	**14 09 50.6**	**-1.2**
BBIL	**Ulba Tungurahu**	**2.40**	**79**	⇓P	**Pb**	**14 09 53.2**	**-1.0**
ARRY	**Arrayan**	**2.42**	**81**	⇓P	**Pb**	**14 09 53.0**	**-1.7**
JUI6	**Juive**	**2.42**	**79**	⇓P	**Pb**	**14 09 53.6**	**-1.1**
ILLI	**Illinizas Sur**	**2.42**	**61**	P	**Pn**	**14 09 52.5**	**+1.8**
POND	**Pondoa**	**2.44**	**79**	⇓P	**Pb**	**14 09 53.8**	**-1.1**
SANGA	**Volcan Sangay**	**2.48**	**93**	P	**Pn**	**14 09 53.0**	**+1.7**
BULB	**Ulba Tungurahu**	**2.48**	**79**	⇓P	**Pb**	**14 09 54.5**	**-1.2**
PAST	**Pastocalle**	**2.51**	**61**	P	**Pb**	**14 09 54.8**	**-1.4**
SRAM	**San Ramn-Vol**	**2.55**	**63**	⇑P	**Pb**	**14 09 55.5**	**-1.4**
PIS1	**Pisayambo**	**2.60**	**71**	⇓P	**Pb**	**14 09 56.4**	**-1.3**
BRRN	**Barrancas-Volc**	**2.62**	**65**	⇓P	**Pb**	**14 09 56.4**	**-1.7**
SLOR	**San Lorenzo -**	**2.62**	**64**		**Pn**	**14 09 54.8**	**+1.5**
SLOR	**San Lorenzo -**	**2.62**	**64**	⇓P	**Pb**	**14 09 56.7**	**-1.4**
CAMI	**Rancho Maria**	**2.64**	**62**	P	**Pb**	**14 09 56.9**	**-1.6**
BOSC	**San Juan Bosco**	**2.65**	**118**	⇑P	**Pb**	**14 09 57.9**	**-0.6**
BMOR	**Cotopaxi Volca**	**2.66**	**64**	⇓P	**Pb**	**14 09 57.1**	**-1.7**
BNAS	**Cotopaxi Volca**	**2.66**	**63**	⇑P	**Pb**	**14 09 58.4**	**-0.5**
SUCR	**Mariscal Sucre**	**2.67**	**62**	P	**Pb**	**14 09 57.3**	**-1.6**
VCES	**Cotopaxi**	**2.69**	**66**	⇓P	**Pb**	**14 09 57.6**	**-1.7**
BREF	**Cotopaxi Volca**	**2.70**	**63**	⇑P	**Pb**	**14 09 58.6**	**-1.0**
BVC2	**Cotopaxi Volca**	**2.73**	**63**	⇓P	**Pb**	**14 09 58.2**	**-1.8**
GONZ	**Gonzanam**	**2.73**	**148**	P	**Pn**	**14 09 56.2**	**+1.4**
GONZ	**Gonzanam**	**2.73**	**148**	P	**Pn**	**14 09 56.9**	**+2.1**
BTAM	**Cotopaxi Volca**	**2.74**	**63**	⇓P	**Pb**	**14 09 58.4**	**-1.7**
PIAT	**Ana Tenorio**	**2.74**	**71**	⇓P	**Pb**	**14 09 58.5**	**-1.5**
VC1	**Cotopaxi 1**	**2.75**	**63**	P	**Pb**	**14 09 58.6**	**-1.7**
TAMB	**Tambo**	**2.75**	**64**	P	**Pb**	**14 09 58.9**	**-1.6**
PITA	**Cotopaxi Volc**	**2.76**	**61**	P	**Pb**	**14 09 58.8**	**-1.7**
HPAL	**Hacienda Las P**	**2.76**	**53**	P	**Pn**	**14 09 56.6**	**+1.5**
GGPT	**Toaza - Volcan**	**2.78**	**53**	⇓P	**Pn**	**14 09 57.2**	**+1.7**
JUA2	**San Juan 2**	**2.80**	**53**	P	**Pn**	**14 09 57.9**	**+2.1**
TERV	**Terraza Guagua**	**2.83**	**53**	P	**Pn**	**14 09 57.8**	**+1.6**
GGPC	**Guagua Pichinc**	**2.83**	**53**	⇓P	**Pn**	**14 09 58.2**	**+1.9**
PINO	**Pino**	**2.83**	**52**	⇓P	**Pn**	**14 09 57.9**	**+1.6**
PUYO	**Puyo, Santa Ro**	**2.85**	**82**	⇓P	**Pb**	**14 10 00.7**	**-1.2**
ANTG	**Antisana-Guama**	**2.94**	**62**	P	**Pb**	**14 10 01.8**	**-1.9**
ANTM	**Antisana-La Mi**	**2.95**	**63**	P	**Pb**	**14 10 02.1**	**-1.8**
PAC1	**Pacto, Paraso**	**2.98**	**44**	P	**Pn**	**14 09 59.1**	**+1.2**
ANTS	**Antisana-Sarah**	**3.02**	**62**	P	**Pb**	**14 10 03.1**	**-1.9**
PULU	**Pululahua**	**3.

LPAZ pmax pmax
comp=Z,29nm,0.8s
LPAZ La Paz 19.00 140 *e*P **P 14 13 33.3 +0.3**
PB12 IPOC Station P 19.55 149 P **P 14 13 37.4 -1.0**
PB16 IPOC Station P 19.76 146 IAmb IAmb 14 13 52.4
comp=Z,41nm,0.7s
PCRV Puerto La Cruz 20.11 53 P Pn 14 13 46.5 +0.1
comp=Z,28nm,0.8s,baz=212,slow=7.8,SNR=13
PCRV LR LR 14 23 55.2
comp=Z,995nm,18.0s,slow=44
comp=Z,28nm,0.8s
MACA Manacapuru-AM 20.18 94 P **P 14 13 45.8 +0.5**
MACA Manacapuru-AM 20.18 94 *e*P **P 14 13 44.2 -1.2**
BOAV Boa Vista 20.76 78 P **P 14 13 51.8 +0.2**
BOAV Boa Vista 20.76 78 *e*P **P 14 13 52.1 +0.4**
PB11 IPOC Station P 20.85 149 P **P 14 13 53.0 +0.3**
PB11 IAmb IAmb 14 14 01.1
comp=Z,61nm,0.9s
PB08 IPOC Station P 21.43 149 IAmb IAmb 14 14 07.7
comp=Z,34nm,0.9s
PATCX Punta Patache 21.50 152 P **P 14 13 58.5 -1.1**
PATCX IAmb IAmb 14 14 08.6
comp=Z,57nm,1.1s
CHIV Chivirico 22.18 11 IAmb IAmb 14 14 11.3
comp=Z,50nm,1.5s
VILB Vilhena 23.20 119 P **P 14 14 16.9 -0.8**
VILB Vilhena 23.20 119 *e*P **P 14 14 18.2 +0.5**
CMIG Matias Romero 23.41 324 LR LR 14 21 27.5
comp=Z,331nm,21.9s,baz=170,slow=31
SIV San Ignacio 23.99 127 LR LR 14 24 46.6
comp=Z,843nm,20.3s,baz=312,slow=39
OBIP Obispado Ponce 24.28 35 P **P 14 14 27.6 -0.4**
OBIP IAmb IAmb 14 14 48.7
comp=Z,41nm,1.1s
CELP Cerrillos 24.32 35 P **P 14 14 28.2 -0.1**
CELP IAmb IAmb 14 14 31.6
comp=Z,37nm,1.1s
AOPR Arecibo Observ 24.44 34 P **P 14 14 30.1 +0.6**
SJG San Juan 24.60 35 LR LR 14 26 17.1
comp=Z,397nm,18.2s,baz=210,slow=42
SJG San Juan 24.60 35 P **P 14 14 31.8 +0.9**
GCPR Guaynabo City 24.79 35 IAmb IAmb 14 14 34.6
comp=Z,27nm,0.8s
ITTB Itaituba 25.19 96 *e*P **P 14 14 36.3 0.0**
PTLB Pontes e Lacer 25.29 123 P **P 14 14 37.5 +0.4**
PTLB IAmb IAmb 14 14 51.7
comp=Z,22nm,1.0s
PTLB Pontes e Lacer 25.29 123 *e*P **P 14 14 37.9 +0.8**
PDRB Porto dos Gac 25.79 113 *e*P **P 14 14 42.7 +1.0**
NPGB Novo Progresso 25.91 102 *e*P **P 14 14 42.7 -0.2**
CLDB Colider 26.41 111 *e*P **P 14 14 47.5 +0.1**
MAL2 Monte Alegre, 26.65 91 P **P 14 14 49.6 +0.1**
AC02 Maricunga 27.22 157 IAmb IAmb 14 15 32.7
comp=Z,22nm,1.2s
SALV Santo Antonio 28.42 121 *e*P **P 14 15 06.1 +0.8**
MDP Montagnes des 29.02 76 LR LR 14 26 29.4
comp=Z,1μm,19.1s,baz=270,slow=36
PANT Pantanal (Braz 29.18 127 *e*P **P 14 15 12.6 +0.5**
SNDB Serra Nova Dou 30.95 110 *e*P **P 14 15 28.5 +0.6**
PRPB Parauapebas 31.23 99 *e*P **P 14 15 30.0 -0.4**
ARAG Araguaiana, MT 31.73 117 *e*P **P 14 15 34.5 -0.2**
RPRD Ribas do Rio P 32.29 127 *e*P **P 14 15 39.7 +0.1**
AMBA Amambai (Brazi 32.65 132 *e*P **P 14 15 42.3 -0.4**
TMAB Tom-Au,PÀ,Br 32.73 91 *e*P **P 14 15 44.8 +1.3**
MT08 Bocatoma Ro 32.98 163 P **P 14 15 45.4 -0.3**
SJPY San Joaquin 33.12 136 *e*P **P 14 15 46.6 -0.2**
CPUP Villa Florida 33.17 139 P **P 14 15 49.1 +1.8**
comp=Z,1.1nm,0.8s,baz=347,slow=9.5,SNR=3.7
CPUP LR LR 14 32 00.7
comp=Z,328nm,19.3s,baz=317,slow=41
comp=Z,1.1nm,0.8s
HKT Hockley 34.76 337‖ *e*P **P 14 16 00.4 -0.5**
HKT pmax pmax
comp=Z,19nm,1.5s
BDFB Brasilia 35.12 115 P **P 14 16 04.3 -0.1**
comp=Z,3.2nm,0.8s,baz=297,slow=10,SNR=6.5
BDFB LR LR 14 32 18.3
comp=Z,1μm,18.1s,baz=309,slow=39
comp=Z,3.2nm,0.8s
IPMB Ipameri, GO 35.79 119 *e*P **P 14 16 09.6 -0.4**
PTGB Pitanga 35.86 132 *e*P **P 14 16 10.0 -0.7**
PSAL Palomas, Salto 36.40 145 *e*P **P 14 16 15.8 +0.7**
DRIO Del Rio 36.45 330 IAmb IAmb 14 16 34.9
comp=Z,28nm,1.5s
JCT Junction City 36.93 332 IAmb IAmb 14 16 27.7
comp=Z,30nm,1.4s
JCT Junction City 36.93 332 P **P 14 16 22.7 +3.1**
FRTB Fartura 37.05 128 *e*P **P 14 16 19.9 -0.9**
SDBA SAO DESIDERIO 37.10 108 *e*P **P 14 16 20.9 -0.5**
BRDY Brady 37.25 334 IAmb IAmb 14 16 29.1
comp=Z,27nm,1.7s
ITAB Concordia 37.30 135 IAmb IAmb 14 16 31.8
comp=Z,34nm,1.3s
ITAB Concordia 37.30 135 *e*P **P 14 16 22.5 -0.3**
CPCT Cooper Cave 37.32 355 IAmb IAmb 14 16 24.0
comp=Z,24nm,1.2s
TKL Tuckaleechee C 37.47 356 IAmb IAmb 14 16 37.3
comp=Z,29nm,1.4s
PMNB Patos De Minas 37.55 118 *e*P **P 14 16 25.0 -0.2**
V48A Smith Brothers 37.87 352 IAmb IAmb 14 16 33.2
comp=Z,50nm,1.6s
TXAR Lajitas Array 37.97 327 P **P 14 16 28.2 -0.4**
comp=Z,0.5nm,0.7s,baz=141,slow=8.2,SNR=5.5
TXAR PcP **PcP 14 18 43.7 -0.6**
comp=Z,1.1nm,0.8s,baz=170,slow=7.6,SNR=3.5
TXAR LR LR 14 30 38.8
comp=Z,91nm,21.1s,baz=142,slow=34
comp=Z,0.5nm,0.7s
PLPT Palo Pinto 38.28 336 IAmb IAmb 14 16 39.4
comp=Z,38nm,1.2s
TZTN Tazewell 38.34 356 IAmb IAmb 14 16 44.4
comp=Z,20nm,1.1s
JANB Januaria 38.34 112 *e*P **P 14 16 31.1 -0.7**
WVT Waverly 38.40 351 P **P 14 16 32.9 +1.0**
CPSB Cacapava Do Su 38.45 140 *e*P **P 14 16 32.5 +0.1**
WHAR Wooly Hollow 38.52 345 IAmb IAmb 14 16 38.4
comp=Z,40nm,1.6s
LR05 Currie 38.98 169 P **P 14 16 36.3 -0.5**
LR05 IAmb IAmb 14 16 40.1
comp=Z,25nm,1.2s
LCAR Lake Charles 38.99 347 IAmb IAmb 14 16 42.6
comp=Z,21nm,0.8s
PLTB Pedras Altas 39.27 142 *e*P **P 14 16 38.5 -0.8**
X34A Smith Ranch, M 39.66 338 P **P 14 16 42.6 0.0**
X34A IAmb IAmb 14 16 52.5
comp=Z,30nm,1.2s
PLCA Paso Flores 39.76 168 P **P 14 16 42.6 -0.8**
PLCA IAmb IAmb 14 16 46.9
comp=Z,28nm,1.5s
PLCA Paso Flores 39.76 168 P **P 14 16 43.5 +0.1**
comp=Z,5.8nm,0.9s,baz=346,slow=9.3,SNR=16
PLCA PcP **PcP 14 18 49.6 -0.1**
comp=Z,3.3nm,1.1s,baz=27,slow=6.6,SNR=3.1
comp=Z,5.8nm,0.9s
PLCA Paso Flores 39.76 168 *e*P **P 14 16 43.7 +0.4**
W35A Tecumseh 39.81 339 P **P 14 16 44.1 +0.4**
T42A Van Buren 39.89 347 IAmb IAmb 14 16 49.8
comp=Z,15nm,0.8s
DIAM Diamantina, MG 39.92 117 *e*P **P 14 16 44.4 -0.7**
TRQA Tornquist 39.93 157 P **P 14 16 44.2 -0.5**
TRQA IAmb IAmb 14 17 30.5
comp=Z,41nm,1.8s
TRQA Tornquist 39.93 157 P **P 14 16 44.2 -0.5**
TRQA pmax pmax
comp=Z,41nm,1.8s
FNO Franklin 40.09 339 IAmb IAmb 14 16 52.6
comp=Z,36nm,1.1s
DKNS Dickens 40.12 334 IAmb IAmb 14 17 15.5
comp=Z,19nm,0.5s
TUL3 Leonard 40.13 341 IAmb IAmb 14 16 52.8
comp=Z,32nm,1.3s
U38A Gravette 40.18 343 IAmb IAmb 14 16 54.0
comp=Z,49nm,1.7s
MGMO Mountain Grove 40.28 346 IAmb IAmb 14 16 53.9
comp=Z,30nm,1.1s
OK031 S. Brethren Rd 40.52 340 IAmb IAmb 14 16 55.6
comp=Z,25nm,1.1s
OK052 Battle Ridge R 40.54 340 IAmb IAmb 14 16 55.9
comp=Z,23nm,1.0s
OK029 Liberty Lake 40.59 339 IAmb IAmb 14 16 56.3
comp=Z,25nm,0.9s
CCM Cathedral Cave 40.91 347 P **P 14 16 52.9 +0.1**
CCM IAmb IAmb 14 16 58.4
comp=Z,46nm,1.6s
CCM Cathedral Cave 40.91 347 P **P 14 16 52.9 +0.1**
CCM pmax pmax
comp=Z,46nm,1.6s
LL01 San Ignacio de 41.00 170 P **P 14 16 52.5 -0.9**
LL01 IAmb IAmb 14 17 01.1
comp=Z,27nm,1.4s
SMWD Samnorwood 41.06 336 IAmb IAmb 14 17 01.6
comp=Z,30nm,1.0s
MSTX Muleshoe 41.22 332 IAmb IAmb 14 17 03.6
comp=Z,39nm,1.2s
T35A Sooner Cattle 41.28 341 IAmb IAmb 14 17 02.6
comp=Z,26nm,0.9s
P48A Milroy 41.38 355 IAmb IAmb 14 16 56.1
comp=Z,30nm,1.3s
CROK Carrier 41.41 339 IAmb IAmb 14 17 03.2
comp=Z,32nm,1.0s
OK032 Salt Plains WL 41.76 339 IAmb IAmb 14 17 06.2
comp=Z,18nm,0.9s
KAN14 Manchester OK 41.81 339 IAmb IAmb 14 17 06.5
comp=Z,34nm,1.5s
LL02 Futaleuf 41.88 170 P **P 14 17 00.7 -0.1**
CMC01 Camacan, BA 42.88 111 *e*P **P 14 17 09.2 -0.1**
AY01 Puyuhuapi 42.95 171 P **P 14 17 09.2 -0.2**
RIB01 Linhares ES 43.19 116 *e*P **P 14 17 11.3 -0.4**
RTBA Rita Blanca 43.26 334 IAmb IAmb 14 17 19.9
comp=Z,33nm,1.4s
R32A Long Quarter, 43.38 339 IAmb IAmb 14 17 20.3
comp=Z,26nm,1.1s
ANMO Albuquerque 43.82 329 P **P 14 17 17.3 +0.5**
ANMO IAmb IAmb 14 17 24.0
comp=Z,14nm,1.0s
ANMO Albuquerque 43.82 329 P **P 14 17 18.5 +1.7**
comp=Z,10nm,1.0s,baz=170,slow=6.1,SNR=15
ANMO LR LR 14 36 47.5
comp=Z,65nm,18.3s,baz=290,slow=38
comp=Z,10nm,1.0s
ANMO Albuquerque 43.82 329‖ *i*P **P 14 17 17.7 +0.9**
ANMO pmax pmax
comp=Z,12nm,1.4s
CBKS Cedar Bluff 44.10 339 P **P 14 17 20.3 +1.5**
BINY Binghamton 44.12 5 P **P 14 17 19.0 +0.1**
T25A Trinidad 44.58 333 IAmb IAmb 14 17 30.4
comp=Z,18nm,1.0s
X18A Snowflake 45.39 326 IAmb IAmb 14 17 36.6
comp=Z,22nm,1.4s
ACCN Adirondack Com 45.55 7 P **P 14 17 30.4 +0.2**
SDCO Great Sand Dun 45.58 332 IAmb IAmb 14 17 38.1
comp=Z,11nm,0.9s
X16A Lo Mia Camp, P 46.16 324 IAmb IAmb 14 17 42.7
comp=Z,10nm,1.2s
113A Mohawk Valley, 46.45 321 IAmb IAmb 14 17 45.3
comp=Z,25nm,1.5s
MVCO Mesa Verde 46.62 329 IAmb IAmb 14 17 55.8
comp=Z,15nm,1.2s
Y14A Wickenburg 46.76 323 IAmb IAmb 14 17 47.1
comp=Z,18nm,1.3s
ISCO Idaho Springs 47.31 334 P **P 14 17 44.5 0.0**
ECSD EROS Data Cent 47.59 345 IAmb IAmb 14 17 52.1
comp=Z,13nm,0.8s
PV07 Paradox Valley 47.64 330 IAmb IAmb 14 17 54.0
comp=Z,15nm,1.0s
G62A West of Eustis 47.81 10 P **P 14 17 48.3 +0.4**
U15A North Rim 48.08 326 IAmb IAmb 14 17 58.2
comp=Z,14nm,1.2s
W13A Hualapai Mount 48.08 323 IAmb IAmb 14 17 57.8
comp=Z,12nm,1.4s
PFO Pinyon Flats O 48.71 320 P **P 14 17 55.8 +0.5**
comp=Z,3.6nm,1.0s,baz=126,slow=3.7,SNR=4.2
PFO LR LR 14 36 45.1
comp=Z,162nm,18.8s,baz=126,slow=34
comp=Z,3.6nm,1.0s
PFO Pinyon Flats O 48.71 320‖ *e*P **P 14 17 56.2 +0.9**
PFO pmax pmax
comp=Z,17nm,1.1s
KNB Kanab 48.79 326 IAmb IAmb 14 18 03.4
comp=Z,11nm,1.2s
V12A Nelson 49.09 323 IAmb IAmb 14 18 05.1
comp=Z,13nm,1.2s
SRU San Rafael Swe 49.09 329 IAmb IAmb 14 18 05.0
comp=Z,16nm,1.2s
P18A Preston Nutter 49.35 330 IAmb IAmb 14 18 13.8
comp=Z,12nm,1.1s
TCRU Three Creeks R 49.73 327 IAmb IAmb 14 18 10.2
comp=Z,8.4nm,0.9s
GSC Goldstone, Bar 50.01 321 IAmb IAmb 14 18 13.1
comp=Z,26nm,1.2s
BSUT Blindstream Ca 50.29 330 IAmb IAmb 14 18 14.6
comp=Z,11nm,0.9s
CCAC Calif City Air 50.68 320 IAmb IAmb 14 18 17.3
comp=Z,19nm,0.9s
TPNV Topopah Spring 50.74 323 P **P 14 18 13.5 +2.8**
WCT Wildcat Mounta 50.86 323 IAmb IAmb 14 18 19.0
comp=Z,13nm,1.1s
S11A Rachel 50.91 324 IAmb IAmb 14 18 19.1
comp=Z,8.7nm,0.8s
TCUT Toone Canyon 51.05 330 IAmb IAmb 14 18 22.6
comp=Z,15nm,0.9s
PDAR Pinedale Array 51.45 333 P **P 14 18 16.3 +0.2**
comp=Z,2.1nm,0.8s,baz=133,slow=8.3,SNR=14
PDAR LR LR 14 40 26.6
comp=Z,167nm,19.1s,baz=136,slow=36
comp=Z,2.1nm,0.8s
HWUT Hardware Ranch 51.50 331 IAmb IAmb 14 18 22.9
comp=Z,18nm,1.0s
AGMN Agassiz Nation 51.68 347 IAmb IAmb 14 18 18.4
comp=Z,21nm,0.9s
BGU Big Grassy Mou 51.73 329 IAmb IAmb 14 18 24.9
comp=Z,11nm,0.9s
DSP Deep Springs 52.05 322 IAmb IAmb 14 18 27.8
comp=Z,13nm,1.2s
TPAW Teton Pass 52.65 333 IAmb IAmb 14 18 35.1
comp=Z,11nm,1.0s
ELK Elko 52.76 327 IAmb IAmb 14 18 32.8
comp=Z,12nm,1.1s
ELK Elko 52.76 327 P **P 14 18 26.4 +0.6**
comp=Z,3.4nm,1.1s,baz=126,slow=5.9,SNR=13
comp=Z,3.4nm,1.1s
NV11 Mina Array Sit 52.85 323 IAmb IAmb 14 18 33.8
comp=Z,12nm,0.9s
NVAR Mina Array Bea 52.94 323 P **P 14 18 28.2 +1.1**
comp=Z,3.0nm,0.8s,baz=135,slow=6.9,SNR=17
NVAR LR LR 14 40 17.7
comp=Z,101nm,19.7s,baz=165,slow=35
comp=Z,3.0nm,0.8s
LHV Little Huntoon 52.94 323 IAmb IAmb 14 18 34.7
comp=Z,16nm,1.0s
RYN Ryan 53.20 323 IAmb IAmb 14 18 36.2
comp=Z,15nm,1.4s
YFT Old Faithful 53.35 334 IAmb IAmb 14 18 51.6
comp=Z,23nm,1.2s
YNE Yellowstone No 53.43 335 IAmb IAmb 14 18 37.6
comp=Z,11nm,1.0s
ULM Lac du Bonnet 53.53 348 P **P 14 18 30.7 -0.4**
comp=Z,30nm,0.8s,baz=159,slow=8.3,SNR=54
comp=Z,30nm,0.8s
YMR Madison River 53.58 334 IAmb IAmb 14 18 45.4
comp=Z,12nm,1.1s
WAKR Walker 53.67 323 IAmb IAmb 14 18 39.9
comp=Z,14nm,1.0s
HLID Hailey 54.36 330 IAmb IAmb 14 18 44.9
comp=Z,9.3nm,0.8s
BOZ Bozeman (W) 54.60 334 IAmb IAmb 14 18 46.1
comp=Z,17nm,1.0s
BEKR Beckworth 55.09 323 IAmb IAmb 14 18 49.8
comp=Z,13nm,0.9s
EGMT Eagleton 55.75 337 IAmb IAmb 14 18 54.0
comp=Z,17nm,1.0s
RKT Rikitea 56.49 243 *e*LR LR 14 35 15.1
comp=Z,1μm,26.2s
MSO Missoula 56.57 333 IAmb IAmb 14 18 59.6
comp=Z,9.7nm,1.1s
I07A Izee 57.35 328 IAmb IAmb 14 19 06.2
comp=Z,8.3nm,0.9s
YBH Yreka Blue Hor 57.64 324 IAmb IAmb 14 19 06.2
comp=Z,8.6nm,0.9s
YBH Yreka Blue Hor 57.64 324 P **P 14 19 01.3 +0.4**
comp=Z,7.4nm,0.9s,baz=167,slow=3.8,SNR=10
YBH LR LR 14 43 33.1
comp=Z,121nm,18.0s,baz=140,slow=36
comp=Z,7.4nm,0.9s
SCHQ Schefferville 57.72 10 P **P 14 19 02.1 +1.0**
comp=Z,4.7nm,1.1s,baz=174,slow=13,SNR=3.7
SCHQ LR LR 14 46 57.9
comp=Z,65nm,18.1s,baz=280,slow=39
comp=Z,4.7nm,1.1s
G08A Pilot Rock 57.88 329 IAmb IAmb 14 19 09.5
comp=Z,18nm,1.0s
LNOR Lincton Mounta 57.94 330 IAmb IAmb 14 19 09.5
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 58.32 331 IAmb IAmb 14 19 13.1
comp=Z,13nm,0.9s
L02F Cave Junction 58.39 324 IAmb IAmb 14 19 13.1
comp=Z,12nm,1.1s
FFC Flin Flon 59.08 346 P **P 14 19 10.4 -0.1**
FFC IAmb IAmb 14 19 31.3
comp=Z,18nm,1.6s
FFC Flin Flon 59.08 346 P **P 14 19 10.5 -0.1**
FFC pmax pmax
comp=Z,18nm,1.7s
NEW Newport 59.08 333 IAmb IAmb 14 19 17.4
comp=Z,17nm,1.4s
NEW Newport 59.08 333 LR LR 14 44 35.7
comp=Z,52nm,19.3s,baz=207,slow=36
H04A Detroit Lake 59.19 327 IAmb IAmb 14 19 18.0
comp=Z,6.6nm,0.9s
TAOE Nuku Hiva Isla 59.38 261 *e*S **S 14 27 15.4 -6.9**
comp=Z,113nm,27.5s
TAOE *e*LR LR 14 36 31.5
comp=Z,222nm,27.0s
MXC Moxie City 59.44 329 IAmb IAmb 14 19 20.9
comp=Z,11nm,1.0s
LTY Liberty 60.09 330 IAmb IAmb 14 19 24.7
comp=Z,7.0nm,1.0s
D05A Enumclaw 60.71 329 P **P 14 19 22.2 +0.3**
GNW Green Mountain 61.39 329 IAmb IAmb 14 19 33.0
comp=Z,8.6nm,1.0s
FCC Fort Churchill 61.39 352 IAmb IAmb 14 19 26.6
comp=Z,9.0nm,0.9s
NLWA Neilton Lookou 61.82 328 IAmb IAmb 14 19 37.0
comp=Z,12nm,1.1s
CBB Campbell River 64.26 330 IAmb IAmb 14 19 53.5
comp=Z,12nm,1.0s
BBTS Babate 65.73 73 LR LR 14 45 26.7
comp=Z,295nm,21.5s,baz=136,slow=33
MACI Morro de la Ar 68.51 59 P **P 14 20 14.2 +0.7**
YKA Yellowknife Ar 69.11 344 P **P 14 20 16.7 +0.4**
YKA Yellowknife Ar 69.11 344 P **P 14 20 15.4 -0.9**
comp=Z,2.0nm,0.9s,baz=142,slow=5.7,SNR=30
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 69.11 344 P **P 14 20 16.7 +0.4**
PPT Papeete 69.16 252 LR LR 14 42 05.1
comp=Z,169nm,19.9s,baz=94,slow=28
PPT2 Papeete2 69.16 252 *e*S **S 14 29 18.1 -5.2**
comp=Z,73nm,25.5s
PPT2 Papeete2 69.16 252 *e*LR LR 14 41 10.4
comp=Z,321nm,26.0s
PPT2 *e*LR LR 14 41 11.5
comp=Z,212nm,27.8s
PMAR Madeira 69.36 54 *e*P **P 14 20 18.6 -0.2**
TBI Tubuai 69.64 246 *e*LR LR 14 41 18.8
comp=Z,766nm,31.8s
TBI *e*LR LR 14 41 26.1
comp=Z,893nm,25.5s
PMPST Porto Santo, M 69.93 54 *e*P **P 14 20 21.8 -0.2**
T35M Bob Quinn 70.83 334 IAmb IAmb 14 20 34.6
comp=Z,6.7nm,1.0s
SFJD Kangerlussuaq 72.00 12 LR LR 14 52 24.4
comp=Z,52nm,20.9s,baz=218,slow=36
N30M Aishikik Lake 76.25 336 IAmb IAmb 14 21 05.7
comp=Z,6.8nm,0.8s
DBIC Dimbokro 76.32 83 P **P 14 20 59.9 -0.2**
DBIC Dimbokro 76.32 83 P **P 14 20 59.4 -0.8**
comp=Z,20nm,0.8s,baz=256,slow=5.5,SNR=23
DBIC LR LR 14 52 48.3
comp=Z,243nm,19.1s,baz=258,slow=34
comp=Z,20nm,0.8s
DBIC Dimbokro 76.32 83 P **P 14 20 59.9 -0.2**
DBIC pmax pmax
comp=Z,34nm,1.0s
MORF Marmelete 77.07 51 *e*P **P 14 21 02.9 -1.1**
M29M Somme Creek 77.31 336 IAmb IAmb 14 21 11.9
comp=Z,10nm,0.9s
L29M L29M 77.51 337 IAmb IAmb 14 21 12.6
comp=Z,10nm,0.8s
H31M Peel River 77.59 340 IAmb IAmb 14 21 13.0
comp=Z,10nm,1.3s
J30M Hart River 77.60 339 IAmb IAmb 14 21 13.5
comp=Z,6.7nm,0.9s
PMTG Montargil 77.78 49 *e*P **P 14 21 07.5 -0.4**
PCAS Casmilo, Conde 77.79 48 *e*P **P 14 21 08.2 +0.3**
PCAS *i* Amb 14 21 10.7
comp=Z,32nm,1.4s
EVO Evora 77.83 50 *e*P **P 14 21 06.9 -1.3**
EVO *i* Amb 14 21 15.5
comp=Z,15nm,1.8s
I30M Mount Dempster 77.97 339 IAmb IAmb 14 21 15.4
comp=Z,7.6nm,0.9s
G31M Satah River 78.20 341 IAmb IAmb 14 21 15.6
comp=Z,6.3nm,0.8s
PESTR Estremoz 78.22 50 *e*P **P 14 21 10.8 +0.4**
PESTR *i* Amb 14 21 12.9
comp=Z,19nm,1.4s
J29N Klondike Camp 78.23 338 IAmb IAmb 14 21 17.0
comp=Z,12nm,1.6s
F31M Tsiigehtchic 78.34 342 IAmb IAmb 14 21 16.8
comp=Z,22nm,1.8s
PVIS Viseu 78.39 48 *e*P **P 14 21 12.1 +0.8**
DAWY Dawson 78.48 337 IAmb IAmb 14 21 17.5
comp=Z,29nm,2.0s
PCBR Castelo Branco 78.51 49 *e*P **P 14 21 12.6 +0.6**
PCBR *i* Amb 14 21 14.7
comp=Z,28nm,1.8s
POLO Lamas de Olo 78.61 47 *e*P **P 14 21 13.3 +0.8**
POLO *i* Amb 14 21 14.1
comp=Z,13nm,1.6s
EPYK Eagle Plains 78.71 340 IAmb IAmb 14 21 14.9
comp=Z,13nm,1.4s
INK Inuvik 78.78 342 IAmb IAmb 14 21 19.3
comp=Z,13nm,1.3s
VRDI Verde Repeater 78.84 334 IAmb IAmb 14 21 20.3
comp=Z,13nm,1.2s
BCAR Beaver Creek A 78.95 336 P **P 14 21 14.1 +0.2**
L27K Beaver Creek, 78.97 336 IAmb IAmb 14 21 20.9
comp=Z,22nm,1.8s
RAR Rarotonga 78.99 249 LR LR 14 48 28.1
comp=Z,169nm,20.0s,baz=76,slow=30
SUMG Summit 79.00 12 P **P 14 21 15.0 +0.6**
SUMG IAmb IAmb 14 21 22.3
comp=Z,18nm,1.2s
SUMG Summit 79.00 12 P **P 14 21 15.0 +0.6**
SUMG pmax pmax
comp=Z,19nm,1.2s
A36M Sachs Harbour 79.00 347 IAmb IAmb 14 21 21.4
comp=Z,16nm,0.8s
MVO Moncorvo 79.13 48 *e*P **P 14 21 16.0 +0.6**
MVO *i* Amb 14 21 17.0
comp=Z,26nm,1.4s
M26K Nabesna, AK 79.15 335 IAmb IAmb 14 21 21.6
comp=Z,12nm,1.4s
BORG Borgarnes 79.19 22 LR LR 14 51 46.1
comp=Z,80nm,19.4s,baz=246,slow=32
I28M Miner Creek 79.37 339 IAmb IAmb 14 21 54.8
comp=Z,16nm,1.5s
PBRG Braganca 79.47 47 *e*P **P 14 21 17.6 +0.4**
PBRG *i* Amb 14 21 26.9
comp=Z,22nm,1.7s
MDT Midelt 79.49 56 LR LR 14 56 39.9
comp=Z,82nm,18.2s,baz=347,slow=36
BELA Belgrano 2 79.72 171 P **P 14 21 17.9 0.0**
BELA IAmb IAmb 14 21 20.3
comp=Z,22nm,1.5s
PAB San Pablo 80.82 50 P **P 14 21 24.2 -0.4**
PAB IAmb IAmb 14 21 25.6
comp=Z,20nm,1.4s
PAB San Pablo 80.82 50 P **P 14 21 24.2 -0.4**
PAB pmax pmax
comp=Z,20nm,1.4s
ESDC Sonseca Array 81.14 50 P **P 14 21 26.4 +0.2**
comp=Z,5.5nm,1.0s,baz=265,slow=5.2,SNR=20
ESDC LR LR 14 54 48.0
comp=Z,80nm,21.0s,baz=242,slow=34
comp=Z,5.5nm,1.0s
ESBB Sonseca Array 81.14 50 IAmb IAmb 14 21 28.1
comp=Z,13nm,1.2s
E27K Coleen River 81.26 341 IAmb IAmb 14 21 32.5
comp=Z,12nm,1.4s
GHO Glory Hole Cre 81.47 334 IAmb IAmb 14 21 33.5
comp=Z,8.5nm,0.8s
BRLK Bradley Lake 81.71 331 IAmb IAmb 14 21 34.7
comp=Z,6.6nm,0.7s
ILAR Eielson Array 81.72 337 P **P 14 21 27.7 -1.0**
comp=Z,1.0nm,1.0s,baz=112,slow=5.8,SNR=8.3
comp=Z,1.0nm,1.0s
F26K Sheenjek River 81.90 340 IAmb IAmb 14 21 30.1
comp=Z,15nm,1.8s
RND Reindeer 82.01 335 IAmb IAmb 14 21 36.2
comp=Z,6.9nm,0.8s

SUA	Susitna One	82.19	333	IAmb	IAmb	14 21 37.7
	comp=Z,8.6nm,1.0s					
VNA3	Neumayer Olymp	82.21	162	⇓P	P	14 21 31.8 +0.6
	comp=Z,56nm,0.9s					
H24K	Noodor Dome	82.51	338	IAmb	IAmb	14 21 50.3
	comp=Z,15nm,1.6s					
NEA2	Nenana	82.52	336	IAmb	IAmb	14 21 39.0
	comp=Z,16nm,1.5s					
TRF	Thorofare Moun	82.64	335	IAmb	IAmb	14 21 39.6
	comp=Z,8.1nm,1.1s					
SKT	Skwentna	82.70	333	IAmb	IAmb	14 21 40.0
	comp=Z,11nm,1.0s					
I23K	Minto, Yukon-K	82.83	337	IAmb	IAmb	14 21 51.8
	comp=Z,11nm,1.4s					
KTH	Kantishna Hill	82.94	335	IAmb	IAmb	14 21 40.9
	comp=Z,6.8nm,0.8s					
BPAW	Bear Paw Mtn.	83.14	335	IAmb	IAmb	14 21 42.0
	comp=Z,7.9nm,0.9s					
TORD	Torodi Ar. Bea	83.17	77	P	P	14 21 36.5 -0.8
TORD				IAmb	IAmb	14 21 38.2
	comp=Z,9.0nm,1.4s					
TORD	Torodi Ar. Bea	83.17	77	P	P	14 21 37.5 +0.2
	comp=Z,1.4nm,0.3s,baz=258,slow=4.1,SNR=1.5					
TORD				LR	LR	14 56 02.4
	comp=Z,272nm,21.9s,baz=256,slow=34					
	comp=Z,1.4nm,0.3s					
PPLA	Purkeypile	83.28	334	IAmb	IAmb	14 21 43.8
	comp=Z,6.7nm,0.9s					
CAST	Castle Rocks	83.39	335	IAmb	IAmb	14 21 43.0
	comp=Z,9.4nm,1.0s					
COLD	Coldfoot	83.87	339	IAmb	IAmb	14 21 49.1
	comp=Z,5.9nm,1.2s					
K20K	Telida	84.23	334	IAmb	IAmb	14 21 58.4
	comp=Z,12nm,1.6s					
SNAA	Sanae	84.43	162	⇓P	P	14 21 42.8 +0.1
	comp=Z,205nm,0.7s					
SNAA	Sanae	84.43	162	P	P	14 21 42.5 -0.2
	comp=Z,10nm,0.9s,baz=281,slow=6.0,SNR=9.9					
	comp=Z,10nm,0.9s					
SNAA	Sanae	84.43	162⇑	eP	P	14 21 42.1 -0.6
SNAA				pmax	pmax	
	comp=Z,81nm,3.7s					
EKA	Eskdalemuir Ar	84.57	34	P	P	14 21 42.2 -1.4
	comp=Z,1.8nm,0.8s,baz=261,slow=4.7,SNR=5.6					
	comp=Z,1.8nm,0.8s					
E22K	Anaktuvuk Pass	84.75	339	IAmb	IAmb	14 21 50.8
	comp=Z,11nm,1.5s					
G21K	Allakaket	84.89	337	IAmb	IAmb	14 21 51.4
	comp=Z,5.9nm,1.0s					
C23K	Itkillik River	84.90	341	IAmb	IAmb	14 21 51.5
	comp=Z,18nm,1.6s					
CEST	Esterri de Car	85.46	47	P	P	14 21 49.3 +0.7
JMIC	Jan Mayen	86.09	18	LR	LR	14 57 13.1
	comp=Z,48nm,21.4s,baz=253,slow=33					
D19K	Kuna River	87.11	339	IAmb	IAmb	14 22 21.9
	comp=Z,7.3nm,1.2s					
QSPA	South Pole Qui	88.16	180	P	P	14 22 01.7 +0.5
	comp=Z,8.2nm,0.7s,baz=171,slow=1.2,SNR=47					
	comp=Z,8.2nm,0.7s					
NVL	N'lazarevskaya	89.10	161	eP	P	14 22 05.9 +0.5
NVL				pmax	pmax	
	comp=Z,10.0nm,0.9s					
BNI	Bardonecchia	89.58	45	IAmb	IAmb	14 22 10.1
	comp=Z,5.3nm,0.8s					
ECH	Echery	90.07	42	P	P	14 22 12.4 +1.9
KEST	Kesra	91.26	54	P	P	14 22 16.9 +0.6
	comp=Z,6.8nm,0.9s,baz=348,slow=3.2,SNR=7.2					
	comp=Z,6.8nm,0.9s					
TUE	Stuetta	91.50	44	IAmb	IAmb	14 22 19.8
	comp=Z,5.1nm,1.0s					
DAVOX	Davos/Dischmat	91.87	43	LR	LR	15 00 45.9
	comp=Z,28nm,20.4s,baz=233,slow=34					
FUORN	Ofenpass-Fuorn	92.14	44	IAmb	IAmb	14 22 26.3
	comp=Z,14nm,1.7s					
FETA	Feichten	92.46	43	eP	P	14 22 22.4 +0.7
	comp=Z,2.8nm,0.8s					
ELIB	Princess Elisa	92.58	162	dP	P	14 22 21.6 -0.2
	comp=Z,5.5nm,0.9s					
MOTA	Moosalm	92.71	43	i P	P	14 22 23.6 +0.6
	comp=Z,0.7nm,0.4s					
SQTA	Sankt Quirin	92.78	43	i P	P	14 22 23.8 +0.6
	comp=Z,1.0nm,0.4s					
WTTA	Wattenberg	93.08	43	i P	P	14 22 25.4 +0.8
	comp=Z,1.3nm,0.5s					
CTI	Castel Tesino	93.10	44	IAmb	IAmb	14 22 25.2
	comp=Z,5.2nm,0.8s					
SPITS	Spitsbergen Ar	93.34	12	LR	LR	15 04 03.8
	comp=Z,35nm,21.9s,baz=258,slow=35					
CIMO	Cimolais	93.64	44	IAmb	IAmb	14 22 29.7
	comp=Z,5.6nm,1.0s					
ABTA	Abfaltersbach	93.68	43	i P	P	14 22 27.9 +0.6
	comp=Z,1.0nm,0.4s					
VNDA	Vanda	93.87	191	P	P	14 22 27.5 +0.1
	comp=Z,0.5nm,0.6s,baz=152,slow=4.5,SNR=4.8					
VNDA				LR	LR	15 00 56.8
	comp=Z,61nm,18.4s,baz=155,slow=33					
	comp=Z,0.5nm,0.6s					
CLL	Collm	93.89	39	i P	P	14 22 29.0 +1.0
CLL				e		14 33 05.0
CLL				eS	ScS	14 33 43.0 +4.2
CLL				pmax	pmax	
	comp=Z,11nm,1.5s					
CLL	Collm	93.89	39	i P	P	14 22 29.0 +1.0
	comp=Z,11nm,1.5s					
CLL				eSKSac	SKSac	14 33 05.0 +2.8
CLL				eS	ScS	14 33 43.0 +4.2
CLL				ePS	PS	14 34 58.0 +4.6
CLL				ePPS	PPS	14 35 30.0
KBA	Koelnbreinsper	94.25	43	eP	P	14 22 30.5 +0.4
	comp=Z,0.5nm,0.5s					
KHC	Kasperske Hory	94.33	41⇑	eP	P	14 22 30.7 +0.5
KHC				pmax	pmax	
	comp=Z,12nm,1.5s					
PRED	Cave del Predi	94.42	44	IAmb	IAmb	14 22 32.1
	comp=Z,7.0nm,1.0s					
GERES	GERESS Array B	94.42	41	P	P	14 22 31.2 +0.5
	comp=Z,0.9nm,0.7s,baz=268,slow=4.7,SNR=9.2					
	comp=Z,0.9nm,0.7s					
BRG	Berggiesshubel	94.50	39	eP	P	14 22 31.8 +0.9
BRG				Amp		14 22 33.6
	comp=Z,9.2nm,1.3s					
ARSA	Arzberg	95.72	43	eP	P	14 22 36.7 +0.1
	comp=Z,0.3nm,0.2s					
CONA	Conrad Observa	95.91	42	eP	P	14 22 37.8 +0.3
	comp=Z,0.2nm,0.3s					
KRUC	Moravsky	96.19	41	eP	P	14 22 39.0 +0.4
VRAC	Vranov	96.30	41	LR	LR	14 59 57.2
	comp=Z,50nm,21.8s,baz=276,slow=32					
VRAC	Vranov	96.30	41	eP	P	14 22 39.6 +0.5
MORC	Moravsky Berou	96.87	40	eP	P	14 22 41.5 -0.3
TSUM	Tsumeb	97.33	110	P	P	14 22 43.5 -1.1
TSUM	Tsumeb	97.33	110	LR	LR	15 05 45.0
	comp=Z,354nm,19.2s,baz=322,slow=35					
ARCES	ARCESS Array B	97.46	20	LR	LR	15 04 40.2
	comp=Z,29nm,19.2s,baz=208,slow=34					
URZ	Urewera	98.27	231	LR	LR	14 58 19.5
	comp=Z,171nm,20.4s,baz=228,slow=30					
SUR	Sutherland	98.82	123	LR	LR	15 03 27.7
	comp=Z,150nm,20.4s,baz=268,slow=33					
STHS	Stebnicka Huta	99.31	40	i P	Pdif	14 22 54.3 +1.6
STHS	Stebnicka Huta	99.31	40	ePDIFF	Pdif	14 22 54.2 +1.6
BILL	Bilibino	100.18	339⇑	eP	Pdif	14 22 56.1 0.0
BILL				pmax	pmax	
	comp=Z,10.0nm,3.0s					
DZM	Mont Dzumac	110.22	246	eLR	LR	15 00 06.0
	comp=Z,66nm,22.2s					
H11S2	WAKE ISLAND Hyl	11.88	289	T	T	16 28 51.8
	baz=85,slow=74					
H11S1	WAKE ISLAND Hyl	11.88	289	T	T	16 28 48.4
	baz=85					
H11S3	WAKE ISLAND Hyl	11.89	289	T	T	16 28 51.1
	baz=85,slow=74					
KIV	Kislovodsk	114.93	42	ePKIKP	PKiKP	14 27 51.3 -0.5
KIV				pmax	pmax	
	comp=Z,4.0nm,1.1s					
SHA1	Shidzhatmaz	115.00	42⇑	iPKIKP	PKPdf	14 27 52.6 +0.5
KBZ	Khabaz	115.16	42⇑	iPKIKP	PKPdf	14 27 52.3 +0.3
ARTI	Arti	116.64	24	i PKIKP	PKPdf	14 27 54.1 -0.5
ARTI						14 28 59.4
ARTI						14 35 06.3
ZEA	Zeya	123.39	340⇑	ePKIKP	PKiKP	14 28 08.0 +0.2
BRVK	Borovoye	123.68	21	⇓iPKIKP	PKiKP	14 28 09.2 +0.8
BVAR	Borovoye Array	123.75	20	PKP	PKiKP	14 28 08.5 -0.1
	comp=Z,0.9nm,0.6s,baz=321,slow=1.3,SNR=5.8					
KLR	Kul'dur	125.23	334⇑	ePKIKP	PKPdf	14 28 09.5 -1.8
ZALV	Zalesovo Beam	126.80	11	PKP	PKPdf	14 28 12.8 -1.3
	comp=Z,1.8nm,0.8s,baz=0.0,slow=1.6,SNR=8.8					
STKA	Stephens Creek	127.60	226	PKP	PKPdf	14 28 15.6 -0.8
	comp=Z,2.8nm,0.8s,baz=154,slow=5.1,SNR=4.6					
KURK	Kurchatov	128.35	17	PKIKP	PKPdf	14 28 16.9 -0.3
KURBB	Kurchatov Arra	128.41	17	PKP	PKPdf	14 28 16.9 -0.4
	comp=Z,2.5nm,0.8s,baz=324,slow=2.3,SNR=22					
MK31	Makanchi Array	132.94	16	d iPKIKP	PKPdf	14 28 25.4 -0.7
MKAR	Makanchi Array	132.94	16	PKP	PKPdf	14 28 23.2 -2.8
	comp=Z,2.3nm,1.1s,baz=337,slow=1.5,SNR=11					
MKAR	Makanchi Array	132.94	16	e iPKIKP	PKPdf	14 28 25.3 -0.8
MKAR				pmax	pmax	
	comp=Z,2.0nm,1.1s					
SONM	Songino Array	133.82	353	PKP	PKPdf	14 28 26.7 -1.1
	comp=Z,0.5nm,0.6s,baz=27,slow=1.8,SNR=4.9					
AAK	Ala-Archa	133.83	25⇑	iPKIKP	PKiKP	14 28 28.8 -0.6
KSRS	Korea Array	135.82	327	PKP	PKPdf	14 28 31.2 -0.5
	comp=Z,0.9nm,0.8s,baz=63,slow=1.8,SNR=2.7					
KSH	Kashi	137.02	27	PKP	PKiKP	14 28 35.5 -0.4
ASAR	Alice Springs	137.71	231	PKP	PKPdf	14 28 33.5 -2.2
	comp=Z,2.1nm,0.7s,baz=122,slow=2.2,SNR=20					
WRA	Warramunga Arr	139.22	236	PKP	PKPdf	14 28 37.8 -0.7
	comp=Z,4.4nm,0.9s,baz=112,slow=1.6,SNR=11					
HHC	Hu-ho-hao-te	139.64	345	ePKP	PKiKP	14 28 43.3 +2.1
GTA	Gaotai	142.67	359	PKP	PKPdf	14 28 44.5 +0.2
NJ2	Nanjing	144.73	330	ePKP	PKPbc	14 28 47.0 +0.2
GOMU	GeErMu	145.64	6	PKPbc	PKPdf	14 28 49.5 -0.4
LZH	Lanzhou	145.71	353	ePKPbc	PKPdf	14 28 49.5 -0.3
XAN	Xi'an	146.75	345	P	PKiKP	14 29 00.0 +4.1
XAN				pmax	pmax	
	comp=Z,10.0nm,0.8s					
FITZ	Fitzroy Crossi	147.21	232	PKPbc	PKPbc	14 28 54.2 -0.5
	comp=Z,10nm,0.8s,baz=170,slow=5.1,SNR=19					
PZH	PanZhiHua	155.42	354	PKP	PKPdf	14 29 03.5 -1.5
CMAR	Chiang Mai Arr	163.55	1	PKP	PKPdf	14 29 14.2 -0.2
	comp=Z,0.7nm,0.5s,baz=315,slow=2.3,SNR=10					

DJA 31 14:09:53.3±0.2, 3°S±1°×12°2E±°, h10km, M3.8/14, mb4.1/3, MLv3.6/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.61	2	S		Sb	14 10 43.7	+0.2
KDI	Kendari	1.75	144	P		Pb	14 10 25.0	-0.6
KDI				S		Sb	14 10 47.3	-0.3
TTSI	Tana Toraja	1.84	254	P		Pn	14 10 25.0	0.0
TTSI				S		Sb	14 10 49.8	-0.4
LUWI	Luwuk	1.89	39	P		Pn	14 10 24.8	-0.9
LUWI				S		Sn	14 10 50.4	+0.8
SPSI	Sidrap Palu	2.31	232	P		Pn	14 10 32.2	+0.8
SPSI				S		Sn	14 11 01.6	+1.7
PCI	Palu	2.38	313	P		Pb	14 10 34.5	-1.8
PCI				S		Sn	14 11 03.4	+1.6
MRSI	Marisa	3.01	7	P		Pn	14 10 40.6	-0.4
MRSI				S		Sn	14 11 17.0	-0.2
BBSI	Bau Bau	3.10	162	P		Pn	14 10 42.9	+0.6
BKSI	Bulukumba	3.14	208	P		Pn	14 10 42.5	-0.3
BKSI				S		Sn	14 11 20.9	+0.6
BSSI	Bau Bau, Buton	3.75	197	P		Pn	14 10 51.0	-0.3
EDFI	Ende, Flores	6.18	179	P		Pn	14 11 23.9	-0.9

*NEIC **31** 14:20:31.4±1.1, 18°.1S±0°.1×178°.4W±0°.1, h636km±11km, mb4.1/20, Error ellipse: s-maj=19.8km s-min=16.8km az=87.0*
*IDC **31** 14:20:32.3±1.2, 18°.03S×178°.59W, h641km±12km, mb3.0/7, mbtmp4.0/9, Error ellipse: s-maj=24.2km s-min=19.5km az=131.0*

ISC 31 14:20:32.1±0.6, 18°.0S±0°.1×178°.5W±0°.1, h650km, n43, σ1§15/46, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.28	274	P		P	14 21 55.7	-1.4
MSVF	Nonsavu	3.28	274	P		P	14 21 56.0	-1.0
	16nm,0.6s,baz=104,slow=3.0,SNR=25							
MSVF				S		S	14 23 04.9	-1.3
	7.5nm,1.1s,baz=279,slow=17,SNR=1.3							
FUTU	Fugatoga	3.71	6	P		P	14 21 57.7	-1.9
AFI	Afiamalu	7.66	59	P		P	14 22 28.1	-2.3
PINNC	Pines Island,	13.94	249	P		P	14 23 28.4	-0.2
DZM	Mont Dzumac	14.69	252	P		P	14 23 35.9	+0.2
DZM	Mont Dzumac	14.69	252	P		P	14 23 35.6	-0.1
	2.4nm,0.4s,baz=109,slow=21,SNR=16							
URZ	Urewera	20.53	190	P		P	14 24 24.4	-3.8
	11nm,1.0s,baz=236,slow=3.3,SNR=6.7							
TCW	Tory Channel	23.93	193	P		P	14 24 56.8	-1.6
INZ	Inchbonnie	26.06	197	P		P	14 25 15.5	-1.6
WHZ	Wether Hill Ro	29.98	199	P		P	14 25 50.3	-0.6
COEN	Coen	37.00	271	P		P	14 26 50.7	+0.9
TOO	Toolangi	37.02	231	P		P	14 26 50.5	+0.7
TOO				IAmb		IAmb	14 27 16.6	
	comp=Z,9.1nm,1.4s							
STKA	Stephens Creek	38.48	241	P		P	14 27 02.5	+0.9
STKA	Stephens Creek	38.48	241	P		P	14 27 02.2	+0.6
	comp=Z,1.9nm,0.5s,baz=60,slow=8.3,SNR=5.4							
	comp=Z,1.9nm,0.5s							
BBOO	Buckleboo	43.26	241	P		P	14 27 39.3	+0.1
BBOO				IAmb		IAmb	14 28 22.3	
	comp=Z,17nm,1.3s							
WB0	Warramunga Arr	44.48	260	P		P	14 27 48.5	-0.1
WB0				IAmb		IAmb	14 28 06.8	
	comp=Z,9.2nm,1.4s							
WB2	Warramunga Arr	44.50	260	P		P	14 27 48.4	-0.3
WB2				IAmb		IAmb	14 27 50.9	
	comp=Z,12nm,1.3s							
WRA	Warramunga Arr	44.51	260	P		P	14 27 48.0	-0.9
	comp=Z,0.7nm,0.5s,baz=96,slow=7.1,SNR=8.0							
WRA				PcP		PcP	14 29 18.4	+1.0
	comp=Z,0.3nm,0.3s,baz=92,slow=3.2,SNR=5.0							
	comp=Z,0.7nm,0.5s							
AS31	Alice Springs	44.66	254	P		P	14 27 49.6	-0.4
ASAR	Alice Springs	44.66	254	P		P	14 27 49.5	-0.5
ASAR	Alice Springs	44.66	254	P		P	14 27 50.4	+0.4
	comp=Z,1.9nm,0.5s,baz=86,slow=8.8,SNR=88							
ASAR				PcP		PcP	14 29 18.7	+0.8
	comp=Z,0.8nm,0.5s,baz=104,slow=3.6,SNR=6.2							
	comp=Z,1.9nm,0.5s							
FORT	Forrest	49.87	245	P		P	14 28 28.2	-0.3
SBA	Scott Base	60.30	184	P		P	14 29 41.7	+1.9
VNDA	Vanda	60.33	185	P		P	14 29 41.4	+1.4
VNDA	Vanda	60.33	185	P		P	14 29 40.9	+1.0
	comp=Z,0.7nm,0.7s,baz=89,slow=10,SNR=2.1							
	comp=Z,0.7nm,0.7s							
KIWB	Kanaga Island	69.58	1	P		P	14 30 37.8	0.0
QSPA	South Pole Qui	72.04	180	P		P	14 30 53.1	+0.8
QSPA				IAmb		IAmb	14 30 53.7	
	comp=Z,3.6nm,0.7s							
QSPA	South Pole Qui	72.04	180	P		P	14 30 53.0	+0.8
	comp=Z,4.1nm,0.8s,baz=19,slow=0.7,SNR=26							
	comp=Z,4.1nm,0.8s							
O18K	Koktuh Hills	79.88	12	P		P	14 31 35.8	+0.8
O18K				IAmb		IAmb	14 32 06.3	
	comp=Z,5.8nm,1.4s							
CNPM	China Poot	80.41	14	P		P	14 31 39.0	+1.3
CNPM				IAmb		IAmb	14 32 05.4	
	comp=Z,4.2nm,1.0s							
BELA	Belgrano 2	82.07	173	P		P	14 31 46.2	+0.2
BELA				IAmb		IAmb	14 32 08.6	
	comp=Z,17nm,1.5s							
GHO	Glory Hole Cre	82.94	14	P		P	14 31 51.2	+0.6
GHO				IAmb		IAmb	14 31 52.5	
	comp=Z,3.2nm,1.0s							
N25K	Chitina, Valde	83.83	16	P		P	14 31 55.9	+0.9
CCB	Clear Creek Bu	85.71	13	P		P	14 32 04.1	+0.3
CCB				IAmb		IAmb	14 32 04.9	
	comp=Z,3.4nm,1.4s							
ILAR	Eielson Array	86.02	13	P		P	14 32 06.1	+0.8
ILAR	Eielson Array	86.02	13	P		P	14 32 05.8	+0.6
	comp=Z,0.4nm,0.8s,baz=225,slow=4.8,SNR=6.9							
	comp=Z,0.4nm,0.8s							
TXAR	Lajitas Array	86.14	58	P		P	14 32 07.9	+1.0
	comp=Z,0.4nm,0.6s,baz=246,slow=4.3,SNR=5.6							
	comp=Z,0.4nm,0.6s							
J25K	Salcha River,	86.21	14	P		P	14 32 07.2	+0.9
BMAR	Burnt Mountain	88.79	12			P	14 32 19.9	+1.6
BVAR	Borovoye Array	116.86	321	PKP		PKiKP	14 38 04.8	+0.4
	comp=Z,0.5nm,0.4s,baz=90,slow=2.0,SNR=4.4							
BRTR	Keskin Array B	144.78	315	PKP		PKPab	14 38 58.3	-0.7
	comp=Z,0.5nm,0.6s,baz=68,slow=2.2,SNR=2.5							
GERES	GERESS Array B	147.69	345	PKPbc		PKiKP	14 39 06.7	-0.2
	comp=Z,0.7nm,0.5s,baz=35,slow=4.9,SNR=6.8							

*IDC **31** 14:21:41.5±9.6, 0°.21N×122°.18E, h218km±98km, mb2.8/5, mbtmp3.3/5, MS2.2/1, Error ellipse: s-maj=132.0km s-min=18.9km az=64.0*
*DJA **31** 14:21:45.3±0.7, 0°N±4°×12°2E±°, h123km±8km, M3.5/6, MLv3.5/6*

ISC 31 14:21:39.3±0.9, 0°.11N±0°.09×121°.99E±0°.10, h202km, n11, σ1§69/13, mb3.2/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.37	352	P		Pn	14 22 04.6	-1.7
APSI	Ampana	1.07	199	P		Pn	14 22 09.6	-0.2
LUWI	Luwuk	1.38	146	P		Pn	14 22 12.4	+0.2
LUWI				S		S	14 22 33.5	-4.0
KMSI	Cibinong	2.04	77	P		Pn	14 22 20.3	+1.8
KMSI				S		S	14 22 47.1	-1.2
TTSI	Tana Toraja	3.81	215	P		Pn	14 22 40.5	+1.6
KAPI	Kappang	5.56	204	LR		LR	14 25 52.0	
	comp=Z,23nm,18.0s,baz=251,slow=44							
WRA	Warramunga Arr	23.31	149	P		P	14 26 29.5	0.0
	0.5nm,0.9s,baz=330,slow=8.6,SNR=3.0							
	0.5nm,0.9s							
ASAR	Alice Springs	26.31	155	P		P	14 26 58.1	+1.5
	0.1nm,0.5s,baz=332,slow=9.0,SNR=6.4							
ASAR				PcP		PcP	14 30 17.5	0.0
	0.2nm,0.3s,baz=346,slow=2.2,SNR=4.1							
	0.1nm,0.5s							
SONM	Songino Array	49.44	346	P		P	14 30 09.1	+0.1
	0.4nm,0.6s,baz=152,slow=6.5,SNR=2.0							
	0.4nm,0.6s							
MKAR	Makanchi Array	58.00	329	P		P	14 31 11.4	+0.5
	0.4nm,0.4s,baz=127,slow=7.8,SNR=7.4							
	0.4nm,0.4s							
KURBB	Kurchatov Arra	62.37	330	P		P	14 31 40.7	+0.2
	0.2nm,0.4s,baz=117,slow=6.2,SNR=4.1							
	0.2nm,0.4s							

*GUC **31** 14:30:21.0±0.8, 22°.28S×67°.98W, h219km±8km, ML3.4*
*SCB **31** 14:30:22.3±1.4, 22°.18S×67°.62W, h163km±17km, ML3.1/3, Error ellipse: s-maj=12.3km s-min=4.6km az=0.0*

ISC 31 14:30:19.8±2.6, 22°.28S±0°.09×67°.65W±0°.05, h190km±21km, n18, σ1§25/30, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.55	288⇑	iP		Pn	14 30 54.5	+1.2
PB09				i S		Sn	14 31 20.4	+1.2
PB09	IPOC Station P	1.55	288	Pg		Pn	14 30 54.8	+1.5
PB06	IPOC Station P	1.83	256⇑	iP		Pn	14 30 56.5	+0.5
PB06				i S		Sn	14 31 23.5	-0.5
PB06				IAML			14 31 26.1	
	comp=N,142nm,0.4s							
PB03	IPOC Station P	1.96	276⇑	iP		Pn	14 30 58.1	+0.7
PB03				i S		Sn	14 31 25.4	-1.1
PB03				IAML			14 31 27.2	
	comp=N,105nm,0.1s							
YJA	Yavi	1.98	88	Pg		Pn	14 30 58.4	+0.5
PB01	IPOC Station P	2.10	305⇑	iP		Pn	14 30 59.6	+0.8
PB01				i S		Sn	14 31 28.3	-0.8
PB01				IAML			14 31 29.6	
	comp=N,171nm,0.2s							
PB01	IPOC Station P	2.10	305	Pg		Pn	14 30 59.9	+1.1
PB01				Sg		Sn	14 31 27.8	-1.3
PB01				IAML			14 31 29.6	
	comp=N,172nm,0.2s							
MOCB	Mochara	2.13	62	Pg		Pn	14 31 00.4	+0.9
MOCB				Sg		Sn	14 31 28.2	-2.0
MOCB				IAML			14 31 31.1	
	comp=N,32nm,0.4s							
PB05	IPOC Station P	2.43	256⇑	iP		Pn	14 31 03.1	+0.7
PB05				IAML			14 31 35.6	
	comp=N,44nm,0.3s							
PB08	IPOC Station P	2.54	326⇑	iP		Pn	14 31 05.9	+1.9
PB08				i S		Sn	14 31 38.8	+0.4
PB08				IAML			14 31 41.1	
	comp=E,85nm,0.2s							
PB08	IPOC Station P	2.54	326	Pg		Pn	14 31 05.8	+1.7
PATCX	Punta Patache	2.74	301	eP		Pn	14 31 06.4	+0.4
PATCX				i S		Sn	14 31 40.5	-1.5
HMBC	Humberstone	2.88	313⇑	iP		Pn	14 31 07.8	+0.1
HMBC				i S		Sn	14 31 43.4	-1.7
HMBC				IAML			14 31 44.7	
	comp=E,119nm,0.3s							
TA01	Diego Aracena	2.91	305	eP		Pn	14 31 08.2	+0.3
TA01				eS		Sn	14 31 43.3	-2.0
TA01				IAML			14 31 44.3	
	comp=E,58nm,0.2s							
PB11	IPOC Station P	3.12	323⇑	iP		Pn	14 31 11.2	+0.4
PB11				i S		Sn	14 31 48.8	-1.5
PB11				IAML			14 31 50.5	
	comp=E,160nm,0.2s							
PB11	IPOC Station P	3.12	323	Pg		Pn	14 31 11.1	+0.4
PB11				Sg		Sn	14 31 49.0	-1.3
PB11				IAML			14 31 51.2	
	comp=E,74nm,0.2s							
PB12	IPOC Station P	4.42	325	Pg		Pn	14 31 27.3	+0.5
LPAZ	La Paz	5.97	356	Pg		Pn	14 31 49.0	+1.7

IDC 31 14:35:31.7±3.1, 3°.41S×146°.52E, h0km, mb3.6/4, mbtmp3.7/5, ML1.7/1, MS3.1/5, Error ellipse: s-maj=81.7km s-min=26.4km az=84.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.99	174	Pn		Pn	14 37 00.9	-0.8
	1.3nm,0.3s,baz=9.5,slow=6.1,SNR=5.9							

WUSB	**Renai**	**0.29**	**45**⇑	*i* P	Pg	14 35 48.3	+0.3
WUSB				S	Sg	14 35 52.2	+0.2
OWD	**Renai**	**0.31**	**57** ⇑P		Pg	14 35 48.8	+0.5
OWD				S	Sg	14 35 53.0	+0.5
WWF	**Wufeng**	**0.31**	**325**	*i* P	Pb	14 35 49.8	+0.2
WWF				*e*S	Sb	14 35 54.7	+0.1
WDLH	**Douliu**	**0.34**	**254**	P	Pb	14 35 49.9	-0.1
WDLH				S	Sb	14 35 56.0	+0.7
WCHH	**Zhanghua**	**0.42**	**314**	*i* P	Pb	14 35 51.5	+0.1
WCKO	**Fanlu**	**0.43**	**218**	P	Pb	14 35 52.1	+0.5
WCKO				*i* S	Sb	14 35 58.9	+0.8
WARBT	**Fenglin Townsh**	**0.46**	**98**	⇓P	Pb	14 35 51.6	-0.4
WARBT				S	Sb	14 35 57.9	-0.8
WTK	**Tuku**	**0.47**	**258**	*e*P	Pb	14 35 52.2	0.0
WTK				*i* S	Sb	14 35 59.8	+0.6
EHY	**Hungye**	**0.48**	**125**⇓	*i*P	Pb	14 35 52.3	-0.1
EHY				*i* S	Sb	14 35 59.4	-0.1
WHP	**Taichung City**	**0.49**	**6**⇑	*i*P	Pb	14 35 52.8	+0.1
WHP				*e*S	Sb	14 36 00.7	+0.8
CHN4	**Tsaushan**	**0.51**	**213**	⇑P	Pb	14 35 53.4	+0.5
CHN4				*e*S	Sb	14 36 01.9	+1.6
LXIB	**Xiulin Townshi**	**0.53**	**64**	*e*P	Pb	14 35 53.5	+0.1
TPUB	**Ta-pu**	**0.54**	**207**	P	Pb	14 35 53.9	+0.5
TPUB	**Ta-pu**	**0.54**	**207**	*e*P	Pb	14 35 53.4	-0.1
TPUB				*e*S	Sb	14 36 02.4	+1.2
YULB	**Yu-li**	**0.54**	**136**	P	Pb	14 35 53.3	-0.1
YULB	**Yu-li**	**0.54**	**136**	⇓P	Pb	14 35 53.0	-0.4
YULB				S	Sb	14 36 00.6	-0.5
HGSD	**Ruisui**	**0.57**	**121**	P	Pg	14 35 53.3	+0.3
HGSD				S	Sb	14 36 01.6	-0.3
TWF1	**Yuli**	**0.57**	**139**⇓	*i*P	Pb	14 35 53.9	0.0
TWF1				*i* S	Sb	14 36 02.0	0.0
EYUL	**Yuli**	**0.58**	**138**	P	Pg	14 35 53.6	+0.3
EYUL				*i* S	Sb	14 36 02.3	-0.1
WTP	**Ta-pu**	**0.59**	**206**	P	Pb	14 35 54.3	0.0
WTP				S	Sb	14 36 03.5	+0.8
ELDTW	**Lidau**	**0.60**	**169**	⇑P	Pb	14 35 54.6	0.0
ELDTW				S	Sb	14 36 03.1	0.0
SHUL	**Shoufeng**	**0.61**	**90**	*i* P	Pb	14 35 54.4	-0.2
STYH	**Taoyuan**	**0.62**	**190**⇓	*e*P	Pg	14 35 53.3	-0.7
STYH				*e*S	Sg	14 36 01.8	-0.5
STYT	**Tauyuan**	**0.63**	**191**⇓	*e*P	Pg	14 35 53.9	-0.3
STYT				*e*S	Sg	14 36 02.8	+0.2
TWK	**Hsinying**	**0.64**	**216**	P	Pb	14 35 55.1	0.0
TWK				*i* S	Sb	14 36 05.0	+1.0
CHN1	**Nanshi**	**0.69**	**209**	*i* P	Pb	14 35 56.0	+0.1
CHN1				*e*S	Sb	14 36 06.4	+1.0
SGST	**Jiashian**	**0.76**	**202**	P	Pg	14 35 56.7	+0.1
SGST				S	Sb	14 36 08.4	+1.1
CHKT	**Chengkung**	**0.81**	**147**	*e*P	Pg	14 35 57.1	-0.5
LIOB	**Emei**	**0.86**	**7**	P	Pn	14 35 59.9	-0.1
LIOB				*e*S	Sn	14 36 12.7	0.0
NFF	**Wufeng Townshi**	**0.87**	**14**	*e*P	Pb	14 35 59.1	+0.1

TAP 31 14:35:46.3,24°.24N×121°.73E,h11km,ML1.9,2C-2D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**11**	*e*P	Pg	14 35 49.8	+1.0
EAHA	**Aohua**	**0.09**	**8**	*i* P	Pg	14 35 49.6	+0.8
EAHA				S	Sg	14 35 52.4	+1.5
ETL	**Fush Village**	**0.12**	**229**	*i* P	Pb	14 35 50.1	-0.6
ETL				S	Sg	14 35 52.9	+1.2
NACB	**Ninganchiao**	**0.14**	**241**	P	Pg	14 35 50.1	+0.5
NACB	**Ninganchiao**	**0.14**	**241**	P	Pb	14 35 50.3	-0.6
NACB				S	Sg	14 35 53.5	+1.6
ENA	**Nanau**	**0.19**	**4**	P	Pg	14 35 51.0	+0.7
ENA				*i* S	Sg	14 35 54.7	+1.5
TWD	**Chiawan**	**0.20**	**216**	P	Pg	14 35 51.1	+0.6
TWD				S	Sg	14 35 54.8	+1.2
EWUT	**Wuta**	**0.21**	**13**	*e*P	Pg	14 35 50.9	+0.1
EWUT				S	Sg	14 35 54.6	+0.8
ETLH	**Xiulin Townshi**	**0.23**	**261**	*e*P	Pg	14 35 51.7	+0.7
ETLH				*i* S	Sg	14 35 56.0	+1.7
HWA	**Hwalien**	**0.29**	**203**	P	Pb	14 35 53.2	-0.2
HWA				S	Sb	14 35 58.2	+0.1
LATG	**Datong**	**0.34**	**328**	*i* P	Pb	14 35 54.2	-0.3
LATG				*i* S	Sb	14 35 59.8	-0.2
ETM	**Tongmen**	**0.35**	**218**	*i* P	Pg	14 35 53.8	+0.5
ETM				*e*S	Sb	14 35 59.5	-0.5
ETM	**Tongmen**	**0.35**	**218**	*e*P	Pg	14 35 53.8	+0.5
ETM				S	Sb	14 35 59.5	-0.4
ESAO	**Su ao**	**0.35**	**18**	*e*P	Pg	14 35 53.8	+0.5
ESAO				*e*S	Sg	14 35 58.8	+0.8
LXIB	**Xiulin Townshi**	**0.36**	**232**	*e*P	Pg	14 35 54.0	+0.4
LXIB				S	Sb	14 35 59.9	-0.6
NNSB	**Datong**	**0.36**	**301**	P	Pb	14 35 54.7	-0.1
NNSB				*i* S	Sb	14 36 00.5	-0.1
NNS	**Nan Shan**	**0.38**	**302**	P	Pb	14 35 54.8	-0.2
NNS				S	Sb	14 36 00.9	-0.1
TWC	**Suao**	**0.38**	**17**⇓	*i*P	Pb	14 35 54.9	-0.2
TWC				*e*S	Sb	14 36 00.9	-0.9
NDS	**Dongshan**	**0.39**	**359**	*i* P	Pb	14 35 54.9	-0.3
NDS				S	Sb	14 36 00.8	-0.4
ENTT	**Nioudou**	**0.42**	**340**	*i* P	Pb	14 35 55.5	-0.2
ENTT				S	Sb	14 36 02.0	-0.1
WHF	**Hehuan Shan**	**0.43**	**257**	*i* P	Pb	14 35 55.6	-0.5
WHF				S	Sb	14 36 02.3	-0.5
FUSS	**Fushou**	**0.44**	**271**	*e*P	Pb	14 35 56.0	-0.2
FUSS				*e*S	Sb	14 36 02.9	0.0
FUSS	**Fushou**	**0.44**	**271**	*e*P	Pb	14 35 56.1	-0.1
FUSS				S	Sb	14 36 02.9	0.0
SHUL	**Shoufeng**	**0.48**	**198**	⇓P	Pb	14 35 56.5	-0.2
SHUL				*e*S	Sb	14 36 05.1	+1.5
TWE	**Neicheng**	**0.48**	**354**	P	Pb	14 35 56.5	-0.2
TWE				S	Sb	14 36 03.9	+0.1
EOS2	**EOS2**	**0.49**	**69**	P	Pb	14 35 57.1	+0.2
EOS2				*e*S	Sb	14 36 05.8	+1.7
ESL	**Shilin**	**0.50**	**212**	*e*P	Pg	14 35 56.2	+0.1
ESL				*e*S	Sg	14 36 03.4	+0.6
TDCB	**Techi**	**0.52**	**271**	P	Pb	14 35 57.7	+0.3
TDCB				S	Sb	14 36 06.0	+1.0
FUSB	**Fushanzhiwuyua**	**0.53**	**346**	*i* P	Pb	14 35 57.4	-0.2
FUSB				S	Sb	14 36 06.0	+0.6
YHNB	**Yeheng**	**0.53**	**323**	S	Sb	14 36 04.9	-0.5
YHNB	**Yeheng**	**0.53**	**323**	*e*P	Pb	14 35 57.8	+0.2
YHNB				*i* S	Sb	14 36 05.6	+0.3
EOS3	**EOS3**	**0.54**	**85**	*e*P	Pb	14 35 58.5	+0.8
EOS3				*e*S	Sn	14 36 07.1	-1.6
NSK	**Sanguang**	**0.55**	**322**	⇑P	Pb	14 35 57.8	-0.1
NSK				S	Sb	14 36 06.1	+0.3
NWLT	**Wulai**	**0.57**	**339**⇑	*i*P	Pb	14 35 58.3	0.0
NWLT				S	Sb	14 36 06.3	-0.1
OWD	**Renai**	**0.58**	**240**	*i* P	Pb	14 35 58.4	0.0
OWD				S	Sb	14 36 06.6	-0.1
WARBT	**Fenglin Townsh**	**0.61**	**211**	P	Pb	14 35 58.8	-0.1
WARBT				S	Sb	14 36 07.5	+0.1
WUSB	**Renai**	**0.61**	**246**	*e*P	Pb	14 35 58.2	+0.2
WUSB				*e*S	Sb	14 36 07.5	-0.1
EGFH	**Guangfu**	**0.63**	**206**	*e*P	Pb	14 35 59.7	+0.4
EGFH				S	Sb	14 36 09.2	+1.1
NFF	**Wufeng Townshi**	**0.68**	**305**	P	Pb	14 36 00.5	+0.3
NFF				S	Sb	14 36 10.6	+1.0
WHP	**Taichung City**	**0.71**	**273**	*e*P	Pn	14 36 01.7	-0.6
WHP				*e*S	Sb	14 36 11.7	+1.1
VWDT	**VWDT**	**0.72**	**228**	P	Pb	14 36 01.1	+0.3
VWDT				*i* S	Sb	14 36 11.7	+0.9
KSHI	**Guanxi Townshi**	**0.73**	**317**	*i* P	Pb	14 36 01.2	+0.2
KSHI				S	Sb	14 36 12.1	+1.0
TIPB	**Shuangxi**	**0.73**	**7**	P	Pb	14 36 00.8	-0.2
TIPB				*e*S	Sb	14 36 10.6	-0.5
LIOB	**Emei**	**0.76**	**302**	*e*P	Pn	14 36 03.3	+0.3
LIOB				*e*S	Sn	14 36 13.2	-1.2
WCS	**Beigang Elemen**	**0.77**	**256**	*e*P	Pb	14 36 02.0	+0.4
WCS				*e*S	Sb	14 36 12.2	+0.2

*MOS **31** 14:41:34.8±0.8, 62°.33N×151°.23W, h92km, mb4.1/14,*
Error ellipse: s-maj=13.7km s-min=7.3km az=90.0
*ANF **31** 14:41:35.8±0.1, 62°.20N×151°.21W, h74km±1km, ML4.3/116,*
Error ellipse: s-maj=0.9km s-min=0.8km az=12.0
*NEIC **31** 14:41:35.4±1.0, 62°.22N±0°.03×151°.27W±0°.07, h82km±5km,*
mb4.2/26, ML4.2/216, Mwr4.3/75, ML4.0(AEIC), Error
ellipse: s-maj=4.6km s-min=4.4km az=212.0, Moment
Tensor Solution. Moment tensor: Scale 10^{15}Nm;
M_{rr}0.70; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-0.25; $M_{r\theta}$-0.77; $M_{\theta\phi}$0.88; $M_{\phi r}$2.88;

Fault plane solution: $M_0$3.17000×10^{15} NP1:$\phi_0$98.10000°,
δ16.06000°, λ25.37000°. NP2:$\phi_0$343.60000°, δ83.19000°,
λ104.58000°. Principal axes: T 3.1413, Plg50.0000°,
Azm270.0000°; N 0.0517, Plg14.0000°, Azm162.0000°; P
-3.1931, Plg37.0000°, Azm61.0000°;
*AEIC **31** 14:41:36.7±1.0, 62°.21N±0°.03×151°.25W±0°.07, h77km±6km*
Error ellipse: s-maj=4.5km s-min=4.3km az=217.0
*NEIC **31** 14:41:36.6, 62°.21N×151°.22W, h74km*
*IDC **31** 14:41:37.5±1.1, 62°.44N×151°.24W, h99km±11km, mb3.7/22,*
mbtmp4.0/27, MS3.1/5, Error ellipse: s-maj=11.7km
s-min=8.3km az=107.0
ISC 31 14:41:35.3±0.6, 62°.25N±0°.03×151°.23W±0°.03, h85km±5km,
n481, σ0:99/473, mb4.1/44, 5C-8D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.30**	**209**		**Pn**	**14 41 47.7**	**-0.5**
SKT	**Skwentna**	**0.30**	**209**		**Sn**	**14 41 57.0**	**-0.7**
SKT	**Skwentna**	**0.30**	**209**	P	**Pn**	**14 41 47.8**	**-0.4**
SKT	baz=34,SNR=1000			S	**Sn**	**14 41 57.0**	**-0.7**
CUT	**Chulitna**	**0.47**	**70**		**Pn**	**14 41 49.3**	**+0.1**
CUT	**Chulitna**	**0.47**	**70**		**Sn**	**14 41 59.9**	**+0.2**
CUT	**Chulitna**	**0.47**	**70**	P	**Pn**	**14 41 49.4**	**+0.1**
CUT	baz=246,SNR=1000			S	**Sn**	**14 42 00.0**	**+0.3**
M22K	**Willow**	**0.72**	**133**		**Pn**	**14 41 51.0**	**-0.5**
M22K	**Willow**	**0.72**	**133**		**Sn**	**14 42 03.6**	**+0.1**
M22K	**Willow**	**0.72**	**133**	P	**Pn**	**14 41 51.2**	**-0.3**
M22K	baz=312,SNR=1000			S	**Sn**	**14 42 03.2**	**-0.3**
PPLA	**Purkeypile**	**0.79**	**326**		**Pn**	**14 41 52.7**	**+0.2**
PPLA	**Purkeypile**	**0.79**	**326**		**Sn**	**14 42 05.5**	**+0.2**
PPLA	**Purkeypile**	**0.79**	**326**	P	**Pn**	**14 41 52.7**	**+0.2**
PPLA	baz=146,SNR=444			S	**Sn**	**14 42 05.3**	**0.0**
STLK	**Strandline Lak**	**0.80**	**201**		**Pn**	**14 41 52.0**	**-0.5**
STLK				IAML		14 42 05.8	
STLK	comp=E,7μm,0.6s			IAML		14 42 07.3	
STLK	comp=N,3μm,0.6s **Strandline Lak**	**0.80**	**201**		**Sn**	**14 42 04.9**	**-0.4**
SUA	**Susitna One**	**0.82**	**164**		**Pn**	**14 41 52.3**	**-0.4**
SUA				IAML		14 42 06.6	
SUA	comp=E,9μm,0.9s			IAML		14 42 07.9	
SUA	comp=N,6μm,1.1s **Susitna One**	**0.82**	**164**		**Sn**	**14 42 05.4**	**-0.3**
SUA	**Susitna One**	**0.82**	**164**	P	**Pn**	**14 41 52.5**	**-0.2**
SUA	baz=344,SNR=1000			S	**Sn**	**14 42 05.1**	**-0.6**
M20K	**Styx River**	**0.97**	**249**		**Pn**	**14 41 53.9**	**-0.5**
M20K					**Sn**	**14 42 07.9**	**-0.7**
M20K	**Styx River**	**0.97**	**249**	IAML		14 42 08.9	
M20K	comp=N,3μm,0.5s			IAML		14 42 09.1	
M20K	comp=E,3μm,0.2s **Styx River**	**0.97**	**249**	P	**Pn**	**14 41 53.9**	**-0.5**
M20K	baz=69			S	**Sn**	**14 42 07.8**	**-0.7**
SPBG	**Spurr Blockage**	**1.13**	**209**		**Pn**	**14 41 56.1**	**-0.2**
SPCR	**Spurr Chakacha**	**1.15**	**204**		**Pn**	**14 41 56.0**	**-0.5**
SPCR					**Sn**	**14 42 12.2**	**-0.2**
SPCR	**Spurr Chakacha**	**1.15**	**204**	P	**Pn**	**14 41 56.0**	**-0.5**
SPCR	baz=25,SNR=610			S	**Sn**	**14 42 11.6**	**-0.8**
GHO	**Glory Hole Cre**	**1.19**	**113**		**Pn**	**14 41 56.9**	**0.0**
GHO				IAML		14 42 15.9	
GHO	comp=E,5μm,0.9s			IAML		14 42 17.1	
PMR	comp=N,4μm,0.4s **Palmer**	**1.19**	**123**	Pn	**Pn**	**14 41 56.2**	**-0.6**
PMR				IAML		14 42 16.8	
PMR	comp=E,3μm,0.4s			IAML		14 42 20.0	
PMR	comp=N,2μm,1.1s **Palmer**	**1.19**	**123**	P	**Pn**	**14 41 56.3**	**-0.6**
PMR	**Palmer**	**1.19**	**123**	S	**Sn**	**14 42 12.4**	**-0.6**
PMR	**Palmer**	**1.19**	**123**	P	**Pn**	**14 41 56.2**	**-0.6**
PMR	**Palmer**	**1.19**	**123**	P	**Pn**	**14 41 56.3**	**-0.6**
PMR	baz=303,SNR=829			S	**Sn**	**14 42 12.9**	**-0.1**
FIS	**Fire Island**	**1.20**	**156**		**Pn**	**14 41 57.8**	**+0.8**
FIS				IAML		14 42 21.2	
FIS	comp=N,6μm,0.7s						
CAST	**Castle Rocks**	**1.24**	**342**		**Pn**	**14 41 57.9**	**+0.4**
CAST	**Castle Rocks**	**1.24**	**342**		**Sn**	**14 42 14.1**	**-0.2**
CAST	**Castle Rocks**	**1.24**	**342**	P	**Pn**	**14 41 58.0**	**+0.4**
CAST	baz=161,SNR=490			S	**Sn**	**14 42 13.9**	**-0.5**
L20K	**Farewell, AK**	**1.26**	**282**		**Pn**	**14 41 57.5**	**-0.3**
L20K	**Farewell, AK**	**1.26**	**282**	P	**Pn**	**14 41 57.6**	**-0.1**
L20K	baz=101,SNR=1000			S	**Sn**	**14 42 14.1**	**-0.6**
TRF	**Thorofare Moun**	**1.28**	**19**	Pn	**Pn**	**14 41 58.8**	**+0.6**
TRF				IAML		14 42 19.3	
TRF	comp=E,5μm,0.7s						
TRF	**Thorofare Moun**	**1.28**	**19**		**Sn**	**14 42 16.8**	**+1.3**
TRF	**Thorofare Moun**	**1.28**	**19**	P	**Pn**	**14 41 59.0**	**+0.8**
TRF	baz=199,SNR=1000			S	**Sn**	**14 42 16.7**	**+1.2**
KTH	**Kantishna Hill**	**1.32**	**6**	Pn	**Pn**	**14 41 59.3**	**+0.7**
KTH				IAML		14 42 17.9	
KTH	comp=E,2μm,0.9s			IAML		14 42 19.6	
KTH	comp=N,4μm,0.8s **Kantishna Hill**	**1.32**	**6**		**Sn**	**14 42 17.8**	**+1.6**
RC01	**Rabbit Creek A**	**1.36**	**148**		**Pn**	**14 41 58.2**	**-0.8**
RC01				IAML		14 42 19.7	
RC01	comp=N,3μm,0.3s			IAML		14 42 21.4	
RC01	comp=E,3μm,0.3s **Rabbit Creek A**	**1.36**	**148**	P	**Pn**	**14 41 58.4**	**-0.6**
RC01	baz=329,SNR=270			S	**Sn**	**14 42 17.2**	**+0.3**
SML	**Sawmill**	**1.43**	**107**		**Pn**	**14 41 59.8**	**-0.2**
SML				IAML		14 42 37.3	
SML	comp=N,3μm,1.0s						
SML	**Sawmill**	**1.43**	**107**	P	**Pn**	**14 41 59.9**	**-0.1**
SML	baz=288,SNR=408			S	**Sn**	**14 42 18.5**	**-0.1**
CAPN	**Captain Cook N**	**1.48**	**179**	P	**Pn**	**14 42 01.9**	**+1.4**
M19K	**Big River Lodg**	**1.53**	**258**		**Pn**	**14 42 00.8**	**-0.3**
M19K					**Sn**	**14 42 20.3**	**-0.4**
M19K	**Big River Lodg**	**1.53**	**258**	P	**Pn**	**14 42 00.8**	**-0.3**
M19K	baz=77			S	**Sn**	**14 42 20.0**	**-0.7**
KNK	**Knik Glacier**	**1.56**	**121**		**Pn**	**14 42 01.1**	**-0.5**
KNK				IAML		14 42 23.4	
KNK	comp=N,3μm,0.6s			IAML		14 42 25.6	
KNK	comp=E,3μm,0.9s **Knik Glacier**	**1.56**	**121**	P	**Pn**	**14 42 01.2**	**-0.4**
KNK	baz=303,SNR=472			S	**Sn**	**14 42 20.9**	**-0.5**
RND	**Reindeer**	**1.60**	**42**		**Pn**	**14 42 02.5**	**+0.4**
RND				IAML		14 42 24.9	
RND	comp=N,2μm,0.4s			IAML		14 42 25.1	
RND	comp=E,3μm,0.4s **Reindeer**	**1.60**	**42**	P	**Pn**	**14 42 02.5**	**+0.4**
L19K	**White Mountain**	**1.70**	**269**		**Sn**	**14 42 24.8**	**0.0**
L19K	**White Mountain**	**1.70**	**269**		**Pn**	**14 42 03.4**	**0.0**
L19K				IAML		14 42 25.4	
L19K	comp=N,2μm,0.7s			IAML		14 42 25.5	
L19K	comp=E,3μm,0.9s **White Mountain**	**1.70**	**269**	P	**Pn**	**14 42 03.5**	**+0.1**
L19K	baz=88			S	**Sn**	**14 42 24.2**	**-0.5**
M23K	**Glacier View**	**1.71**	**104**	P	**Pn**	**14 42 03.1**	**-0.4**
CHUM	baz=286,SNR=617 **Lake Minchumin**	**1.72**	**344**		**Pn**	**14 42 04.4**	**+0.8**
CHUM					**Sn**	**14 42 25.2**	**+0.2**
CHUM	**Lake Minchumin**	**1.72**	**344**	P	**Pn**	**14 42 04.3**	**+0.8**
CHUM	baz=163,SNR=362			S	**Sn**	**14 42 25.2**	**+0.2**
K20K	**Telida**	**1.72**	**312**		**Pn**	**14 42 03.7**	**+0.1**
K20K	**Telida**	**1.72**	**312**	P	**Pn**	**14 42 04.0**	**+0.3**
K20K	baz=130,SNR=348			S	**Sn**	**14 42 23.9**	**-1.2**
DFR	**Drift River**	**1.80**	**204**		**Pn**	**14 42 04.4**	**-0.4**
SLKM	**Skilak Lake**	**1.81**	**164**		**Pn**	**14 42 04.5**	**-0.3**
SLKM				IAML		14 42 33.1	
SLKM	comp=N,2μm,0.3s			IAML		14 42 33.6	
MCK	comp=E,2μm,0.3s **McKinley**	**1.82**	**34**		**Pn**	**14 42 05.7**	**+0.7**
MCK	**McKinley**	**1.82**	**34**	P	**Pn**	**14 42 05.7**	**+0.7**
MCK	**McKinley**	**1.82**	**34**	P	**Pn**	**14 42 05.8**	**+0.8**
MCK	baz=215,SNR=473			S	**Sn**	**14 42 28.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**1.87**	**3**	Pn	**Pn**	**14 42 05.8**	**+0.2**
BPAW				IAML		14 42 29.5	
BPAW	comp=N,1μm,0.6s			IAML		14 42 31.0	
BPAW	comp=E,1μm,0.5s **Bear Paw Mtn.**	**1.87**	**3**	P	**Pn**	**14 42 06.0**	**+0.5**
BPAW	baz=183,SNR=168			S	**Sn**	**14 42 27.9**	**-0.7**
SCM	baz=183 **Sheep Creek Mo**	**1.88**	**101**		**Pn**	**14 42 05.4**	**-0.4**
SCM	**Sheep Creek Mo**	**1.88**	**101**	P	**Pn**	**14 42 05.4**	**-0.4**
SCM	**Sheep Creek Mo**	**1.88**	**101**	P	**Pn**	**14 42 05.4**	**-0.4**
SCM	baz=283,SNR=515			S	**Sn**	**14 42 28.8**	**-0.2**
O22K	**Cooper Landing**	**1.91**	**157**	P	**Pn**	**14 42 05.6**	**-0.5**
O22K	baz=338,SNR=218			S	**Sn**	**14 42 28.4**	**-1.1**
PWL	baz=338 **Port Wells**	**1.96**	**134**		**Pn**	**14 42 05.9**	**-0.9**
PWL	**Port Wells**	**1.96**	**134**	IAML		14 42 39.1	
PWL	comp=N,3μm,0.7s **Port Wells**	**1.96**	**134**	P	**Pn**	**14 42 05.5**	**-1.3**
PWL	baz=316			S	**Sn**	**14 42 29.1**	**-1.7**
BWN	baz=316 **Browne**	**2.09**	**22**	IAML		14 42 40.8	
BWN	comp=N,2μm,1.2s			IAML		14 43 02.0	
N19K	comp=E,2μm,1.0s **Bonanza Creek**	**2.12**	**229**	P	**Pn**	**14 42 08.8**	**-0.2**
O20K	baz=47,SNR=230 **Slope Mountain**	**2.27**	**198**	P	**Pn**	**14 42 11.4**	**+0.4**
M18K	baz=17,SNR=81 **Stony River**	**2.31**	**253**		**Pn**	**14 42 11.4**	**0.0**
M18K	**Stony River**	**2.31**	**253**	P	**Pn**	**14 42 11.4**	**0.0**
M18K	baz=70			S	**Sn**	**14 42 38.1**	**-0.9**
SEW	baz=70 **Seward**	**2.31**	**157**		**Pn**	**14 42 10.9**	**-0.6**
SEW	**Seward**	**2.31**	**157**	P	**Pn**	**14 42 11.0**	**-0.4**
J20K	baz=339,SNR=80 **Nowinta River**	**2.35**	**327**		**Pn**	**14 42 12.2**	**+0.3**
J20K				IAML		14 42 41.8	
J20K	comp=E,972nm,0.9s			IAML		14 42 41.9	
J20K	comp=N,1μm,0.9s **Nowinta River**	**2.35**	**327**	P	**Pn**	**14 42 12.2**	**+0.3**
M24K	baz=145,SNR=175 **Tolsona, Glenn**	**2.37**	**91**	P	**Pn**	**14 42 12.7**	**+0.4**
M24K	baz=275,SNR=245			S	**Sn**	**14 42 40.0**	**-0.7**
GLI	**Glacier Island**	**2.41**	**123**	IAML		14 42 52.0	
GLI	comp=N,2μm,0.8s **Glacier Island**	**2.41**	**123**	P	**Pn**	**14 42 11.2**	**-1.5**
ILSW	baz=306,SNR=122 **Iliamna Southw**	**2.45**	**203**		**Pn**	**14 42 13.1**	**-0.4**
ILSW				IAML		14 42 50.7	
BRLK	comp=N,506nm,0.7s **Bradley Lake**	**2.50**	**176**		**Pn**	**14 42 14.2**	**+0.3**
BRLK				IAML		14 42 50.6	
BRLK	comp=E,1μm,0.4s			IAML		14 42 51.0	
BRSE	comp=N,1μm,0.6s **Bradley Lake S**	**2.52**	**174**	P	**Pn**	**14 42 14.7**	**+0.4**
O19K	baz=355,SNR=136 **Port Alsworth**	**2.54**	**217**	IAML		14 42 46.0	
O19K	comp=N,729nm,0.4s			IAML		14 42 46.5	
O19K	comp=E,863nm,0.4s **Port Alsworth**	**2.54**	**217**	P	**Pn**	**14 42 14.2**	**-0.3**
NEA2	baz=35,SNR=135 **Nenana**	**2.55**	**21**		**Pn**	**14 42 14.8**	**+0.2**
NEA2				IAML		14 42 47.4	
NEA2	comp=E,530nm,0.8s **Nenana**	**2.55**	**21**	P	**Pn**	**14 42 14.9**	**+0.3**
L18K	baz=203,SNR=246 **Granite Mounta**	**2.56**	**272**	P	**Pn**	**14 42 14.8**	**+0.1**
HOM	baz=88,SNR=190 **Homer**	**2.60**	**185**	P	**Pn**	**14 42 16.2**	**+0.9**
KLU	baz=4.7,SNR=16 **Klutina**	**2.62**	**104**		**Pn**	**14 42 14.7**	**-1.0**
KLU				IAML		14 42 58.5	
KLU	comp=N,1μm,0.6s			IAML		14 42 58.8	
KLU	comp=E,970nm,0.8s **Klutina**	**2.62**	**104**	P	**Pn**	**14 42 14.8**	**-1.0**
WRH	baz=288,SNR=182 **Wood River Hil**	**2.65**	**31**		**Pn**	**14 42 16.1**	**+0.3**
WRH				IAML		14 43 03.5	
WRH	comp=N,475nm,0.8s			IAML		14 43 04.0	
J19K	comp=E,484nm,0.7s **Poorman**	**2.66**	**313**	P	**Pn**	**14 42 16.5**	**+0.4**
FID	baz=130,SNR=98 **Port Fidalgo**	**2.73**	**121**		**Pn**	**14 42 15.3**	**-1.7**
FID	**Port Fidalgo**	**2.73**	**121**	IAML		14 43 01.1	
CNPM	comp=N,1μm,0.6s **China Poot**	**2.73**	**180**	IAML		14 42 55.7	
N18K	comp=E,1μm,0.5s **Kilae Creek**	**2.73**	**237**	P	**Pn**	**14 42 16.8**	**-0.3**
PAX	baz=54,SNR=373 **Paxson**	**2.76**	**72**		**Pn**	**14 42 17.9**	**+0.4**
PAX	**Paxson**	**2.76**	**72**	P	**Pn**	**14 42 17.9**	**+0.4**
PAX	**Paxson**	**2.76**	**72**	P	**Pn**	**14 42 18.0**	**+0.4**
P19K	baz=256,SNR=260 **Oil Pt**	**2.78**	**202**	IAML		14 42 59.2	
P19K	comp=N,1μm,0.5s			IAML		14 43 04.3	
P19K	comp=E,1μm,0.4s **Oil Pt**	**2.78**	**202**	P	**Pn**	**14 42 18.2**	**+0.5**
J18K	baz=20,SNR=109 **Innoko River**	**2.80**	**298**	P	**Pn**	**14 42 18.5**	**+0.5**
DIV	baz=114,SNR=260 **Divide**	**2.83**	**111**		**Pn**	**14 42 17.7**	**-0.7**
HARP	**HAARP**	**2.84**	**84**	P	**Pn**	**14 42 19.1**	**+0.6**
CCB	baz=269,SNR=101 **Clear Creek Bu**	**2.86**	**31**	IAML		14 42 52.6	
HDA	comp=N,366nm,1.0s **Harding Lake**	**2.91**	**40**		**Pn**	**14 42 19.6**	**+0.2**
HDA	**Harding Lake**	**

COLA	College	3.04	28	P	Pn	14 42 21.7 +0.5
	baz=211					
M17K	Holitna River	3.07	257	IAML		14 42 58.3
	comp=E,518nm,1.0s					
M17K				IAML		14 43 32.2
	comp=N,521nm,0.8s					
M17K	Holitna River	3.07	257	P	Pn	14 42 21.1 -0.5
	baz=72,SNR=168					
AU22	Augustine Moun	3.07	201		Pn	14 42 22.1 +0.5
O18K	Koktuh Hills	3.08	221		Pn	14 42 21.5 -0.3
O18K	Koktuh Hills	3.08	221	P	Pn	14 42 21.5 -0.3
	baz=38,SNR=156					
AUCH	Augustine Cone	3.09	202		Pn	14 42 22.0 0.0
EYAK	Cordova Ski Ar	3.14	120		Pn	14 42 21.1 -1.3
EYAK	Cordova Ski Ar	3.14	120	P	Pn	14 42 21.1 -1.3
EYAK	Cordova Ski Ar	3.14	120	P	Pn	14 42 20.8 -1.7
	baz=305,SNR=20					
ILAR	Eielson Array	3.20	36	P	Pn	14 42 23.5 +0.2
	comp=N,178nm,0.7s,baz=222,slow=14,SNR=1328					
ILAR				S	Sn	14 42 60.0 -0.4
	comp=N,87nm,0.3s,baz=221,slow=14,SNR=35					
ILAR				LR	LR	14 43 55.9
	comp=N,173nm,21.9s,baz=111,slow=45					
N25K	Chitina, Valde	3.20	99	IAML		14 43 02.0
	comp=E,562nm,0.8s					
N25K				IAML		14 43 17.6
	comp=N,522nm,0.8s					
N25K	Chitina, Valde	3.20	99	P	Pn	14 42 22.9 -0.5
	baz=284,SNR=145					
RIDG	Independent Ri	3.27	60	P	Pn	14 42 25.5 +1.1
	baz=245,SNR=401					
L17K	Donlin	3.32	271	P	Pn	14 42 25.0 0.0
	baz=86,SNR=162					
K17K	Iditarod	3.32	281	IAML		14 43 03.0
	comp=E,389nm,1.1s					
K17K				IAML		14 43 03.0
	comp=N,402nm,1.0s					
K17K	Iditarod	3.32	281	P	Pn	14 42 25.4 +0.4
	baz=96,SNR=206					
POKR	Poker Plat Res	3.34	29	IAML		14 43 24.2
	comp=E,359nm,1.0s					
POKR				IAML		14 43 24.5
	comp=N,363nm,1.0s					
POKR	Poker Plat Res	3.34	29	P	Pn	14 42 25.9 +0.7
	baz=212,SNR=64					
N17K	Nushagak Hills	3.34	242	P	Pn	14 42 25.2 -0.1
	baz=57,SNR=232					
BMRM	Bremner River	3.41	109		Pn	14 42 24.9 -1.4
BMRM	Bremner River	3.41	109	P	Pn	14 42 24.9 -1.4
	baz=294,SNR=15					
P18K	Big Mountain,	3.47	216	P	Pn	14 42 27.0 0.0
	baz=33,SNR=94					
H21K	Melozitna Rive	3.50	349	P	Pn	14 42 28.1 +0.7
	baz=168,SNR=172					
Q19K	Cape Douglas,	3.53	201	IAML		14 43 31.1
	comp=E,819nm,1.0s					
Q19K				IAML		14 43 56.4
	comp=N,597nm,1.0s					
Q19K	Cape Douglas,	3.53	201	P	Pn	14 42 28.0 0.0
	baz=19,SNR=56					
MENT	Mentasta	3.54	75	P	Pn	14 42 28.5 +0.5
J25K	Salcha River,	3.55	45	IAML		14 43 16.4
	comp=E,739nm,0.7s					
J25K	Salcha River,	3.55	45	P	Pn	14 42 28.4 +0.4
	baz=230,SNR=340					
GCSA	Galena City Sc	3.57	317	P	Pn	14 42 29.1 +0.8
	baz=132,SNR=88					
GLB	Gilahina Butte	3.61	100	IAML		14 43 27.1
	comp=N,451nm,0.7s					
GLB				IAML		14 43 33.3
	comp=E,300nm,1.1s					
H20K	Anotleneega Mo	3.64	335	P	Pn	14 42 30.6 +1.3
	baz=152,SNR=97					
H22K	Ishtalitna Cre	3.67	359	P	Pn	14 42 30.6 +0.9
	baz=179,SNR=95					
H23K	Yukon River	3.67	11	IAML		14 43 13.7
	comp=E,229nm,0.8s					
H23K	Yukon River	3.67	11	P	Pn	14 42 30.6 +0.8
	baz=192					
SYI	Shuyak Island	3.69	190	IAML		14 43 21.8
	comp=E,539nm,0.8s					
SYI				IAML		14 43 23.1
	comp=N,572nm,0.7s					
Q20K	Shuyak Island	3.69	190	P	Pn	14 42 30.5 +0.5
	baz=8.8,SNR=62					
SCRK	Sand Creek	3.72	59		Pn	14 42 30.6 +0.1
SCRK				IAML		14 43 20.6
	comp=E,536nm,0.9s					
SCRK				IAML		14 43 32.5
	comp=N,605nm,1.0s					
SCRK	Sand Creek	3.72	59	P	Pn	14 42 30.9 +0.4
	baz=245,SNR=148					
L26K	Log Cabin Wild	3.72	74	P	Pn	14 42 30.8 +0.4
	baz=261,SNR=80					
O17K	Koliganek Bris	3.78	232	P	Pn	14 42 31.2 0.0
	baz=47,SNR=117					
J17K	VABM Dome	3.78	291		Pn	14 42 31.4 +0.1
J17K				IAML		14 43 13.7
	comp=N,227nm,1.0s					
J17K				IAML		14 43 16.1
	comp=E,295nm,1.1s					
J17K	VABM Dome	3.78	291	P	Pn	14 42 31.7 +0.5
	baz=105,SNR=94					
VRDI	Verde Repeater	3.84	102		Pn	14 42 30.8 -1.3
VRDI				IAML		14 43 33.4
	comp=N,398nm,0.9s					
VRDI				IAML		14 43 43.4
	comp=E,260nm,0.9s					
M26K	Nabesna, AK	3.84	84	IAML		14 43 35.5
	comp=E,400nm,0.8s					
M26K				IAML		14 43 39.1
	comp=N,505nm,0.7s					
M26K	Nabesna, AK	3.84	84	P	Pn	14 42 31.8 -0.3
	baz=271,SNR=29					
HMT	Hamilton	3.87	117		Pn	14 42 30.7 -1.7
M16K	Timber Creek	3.89	255		Pn	14 42 32.2 -0.5
M16K	Timber Creek	3.89	255	P	Pn	14 42 32.3 -0.4
	baz=69,SNR=48					
H24K	Noodor Dome	3.90	21	IAML		14 43 19.0
	comp=N,158nm,1.0s					
H24K				IAML		14 43 20.3
	comp=E,244nm,1.1s					
H24K	Noodor Dome	3.90	21	P	Pn	14 42 33.4 +0.6
	baz=203,SNR=173					
L16K	Owhat River	3.93	266		Pn	14 42 33.0 -0.2
L16K	Owhat River	3.93	266	P	Pn	14 42 33.3 +0.1
	baz=79,SNR=96					
P17K	Kvichak River	3.99	222	P	Pn	14 42 34.4 +0.4
	baz=38,SNR=42					
H19K	Roundabout Mou	4.02	327	P	Pn	14 42 35.1 +0.7
	baz=143,SNR=72					
KAIM	Kayak Island	4.04	122		Pn	14 42 34.2 -0.5
KAIM				IAML		14 43 52.3
	comp=E,353nm,1.1s					
KAIM				IAML		14 43 52.3
	comp=N,298nm,1.1s					
KAIM	Kayak Island	4.04	122	P	Pn	14 42 34.5 -0.2
	baz=308					
N16K	Nishlik Lake	4.04	247	P	Pn	14 42 34.9 +0.1
	baz=61,SNR=67					
NICHA	Nichawak Mount	4.04	117		Pn	14 42 33.5 -1.3
Q18K	Katmai Hardscr	4.07	209	P	Pn	14 42 35.2 +0.1
	baz=26,SNR=41					
KAHG	Katmai Hook Gl	4.11	205		Pn	14 42 36.3 +0.6
J26L	Joseph Creek	4.13	53	P	Pn	14 42 36.8 +0.8
	baz=240,SNR=289					
PRP	Porcupine Dome	4.14	35	IAML		14 43 24.5
	comp=N,391nm,0.7s					
PRP				IAML		14 43 25.7
	comp=E,280nm,0.8s					
PRP	Porcupine Dome	4.14	35	P	Pn	14 42 36.5 +0.3
	baz=220,SNR=156					
SUCK	Suckling Hills	4.21	118	IAML		14 43 48.0
	comp=N,477nm,0.7s					
SUCK				IAML		14 43 55.2
	comp=E,268nm,0.9s					
O16K	Kokwok River B	4.28	235		Pn	14 42 37.5 -0.4
O16K	Kokwok River B	4.28	235	P	Pn	14 42 37.8 -0.2
	baz=49,SNR=56					
H18K	Honhosa River	4.31	316	P	Pn	14 42 39.2 +0.8
	baz=130,SNR=45					
M27K	Edge Creek, AK	4.37	84	IAML		14 44 00.0
	comp=N,337nm,1.1s					
M27K				IAML		14 44 06.0
	comp=E,241nm,1.0s					
M27K	Edge Creek, AK	4.37	84	P	Pn	14 42 39.7 +0.4
	baz=272,SNR=43					
BGLC	Bering Glacier	4.39	115	P	Pn	14 42 38.7 -0.8
	baz=302					
G21K	Allakaket	4.40	348	IAML		14 43 30.8
	comp=E,112nm,1.1s					
G21K				IAML		14 43 31.1
	comp=N,146nm,0.9s					
G21K	Allakaket	4.40	348	P	Pn	14 42 40.7 +1.0
	baz=166,SNR=161					
BALM	Baldy	4.41	102		Pn	14 42 38.9 -0.9
L27K	Beaver Creek,	4.41	75	IAML		14 43 57.0
	comp=E,173nm,1.1s					
L27K				IAML		14 43 57.9
	comp=N,245nm,1.0s					
L27K	Beaver Creek,	4.41	75	P	Pn	14 42 39.5 -0.3
	baz=263,SNR=42					
BCAR	Beaver Creek A	4.43	75		Pn	14 42 39.7 -0.4
J16K	Anvik River	4.43	288		Pn	14 42 40.2 +0.1
J16K				IAML		14 43 31.4
	comp=E,109nm,0.9s					
J16K	Anvik River	4.43	288	P	Pn	14 42 40.5 +0.5
	baz=100,SNR=54					
KIAG	Kiagna River	4.44	103		Pn	14 42 39.7 -0.6
Q16K	King Salmon	4.47	219		Pn	14 42 41.1 +0.5
Q16K	King Salmon	4.47	219	P	Pn	14 42 41.1 +0.5
	baz=35,SNR=21					
G23K	Bananza Creek	4.51	6	P	Pn	14 42 42.0 +0.8
	baz=187,SNR=138					
K27K	Chicken	4.52	63		Pn	14 42 41.3 0.0
K27K	Chicken	4.52	63	IAML		14 43 41.2
	comp=E,292nm,0.9s					
K27K				IAML		14 43 60.0
	comp=N,280nm,1.0s					
K27K	Chicken	4.52	63	P	Pn	14 42 41.2 0.0
	baz=250					
KDAK	Kodiak Island	4.53	189		Pn	14 42 40.2 -1.1
KDAK				IAML		14 43 42.8
	comp=N,279nm,1.1s					
KDAK				IAML		14 43 47.1
	comp=N,223nm,1.0s					
KDAK	Kodiak Island	4.53	189	P	Pn	14 42 46.1 +4.8
	comp=N,22nm,0.2s,baz=227,slow=6.2,SNR=27					
KDAK				S	Sn	14 43 40.2 +7.5
	comp=N,151nm,0.8s,baz=22,slow=20,SNR=16					
KDAK	Kodiak Island	4.53	189	P	Pn	14 42 40.8 -0.6
	baz=8.3					
ACHA	Angle Creek He	4.53	209		Pn	14 42 41.8 +0.3
SNH	Sunshine Point	4.55	113	IAML		14 44 03.6
	comp=N,202nm,1.1s					
SNH				IAML		14 44 06.2
	comp=E,207nm,1.1s					
ANCK	Angle Creek	4.58	210		Pn	14 42 42.3 +0.1
BARK	Barkley Ridge	4.60	110		Pn	14 42 41.9 -0.5
I17K	Unalakleet	4.61	295		Pn	14 42 43.1 +0.7
I17K				IAML		14 43 35.3
	comp=E,94nm,1.0s					
I17K	Unalakleet	4.61	295	P	Pn	14 42 43.3 +0.9
	baz=107,SNR=51					
P16K	Nushagak River	4.63	229		Pn	14 42 42.8 0.0
P16K	Nushagak River	4.63	229	P	Pn	14 42 43.1 +0.4
	baz=43,SNR=24					
H25L	Birch Creek	4.67	28		Pn	14 42 44.3 +0.9
H25L	Birch Creek	4.67	28	P	Pn	14 42 44.2 +0.9
	baz=212					
G19K	Purcell Mounta	4.68	329	P	Pn	14 42 43.7 +0.3
	baz=144,SNR=30					
I26K	Coal Creek Min	4.72	46	P	Pn	14 42 44.6 +0.6
	baz=233					
H17K	Granite Mounta	4.73	309		Pn	14 42 45.1 +1.1
H17K	Granite Mounta	4.73	309	P	Pn	14 42 44.9 +0.8
	baz=121,SNR=64					
G24K	Hadweenzic Riv	4.76	18	IAML		14 43 52.9
	comp=N,183nm,1.1s					
G24K				IAML		14 44 19.6
	comp=E,127nm,0.9s					
G24K	Hadweenzic Riv	4.76	18	P	Pn	14 42 45.1 +0.6
	baz=201,SNR=211					
N15K	Kwethluk River	4.77	248	IAML		14 43 51.1
	comp=E,143nm,1.1s					
N15K				IAML		14 44 08.8
	comp=N,115nm,1.0s					
N15K	Kwethluk River	4.77	248	P	Pn	14 42 44.2 -0.4
	baz=61,SNR=37					
M15K	Kasigluk River	4.80	255	P	Pn	14 42 44.5 -0.5
	baz=67,SNR=9.9					
K15K	Wolf Creek Mou	4.81	275	P	Pn	14 42 45.6 +0.3
	baz=86,SNR=64					
BVCY	Beaver Creek	4.84	83	P	Pn	14 42 45.7 +0.1
	baz=272,SNR=17					
L15K	Ungalak Mounta	4.88	268	P	Pn	14 42 45.9 -0.1
	baz=79					
G18K	Tagagawik	4.90	322	P	Pn	14 42 47.3 +0.9
	baz=135					
MESA	MESA	4.94	111	P	Pn	14 42 46.9 -0.3
	baz=298,SNR=13					
R18K	Karluk	4.97	201	P	Pn	14 42 47.3 0.0
	baz=18					
COLD	Coldfoot	5.02	5	P	Pn	14 42 49.1 +1.0
	baz=185,SNR=140					
G25K	Bearman Lake	5.05	24		Pn	14 42 49.1 +0.8
G25K	Bearman Lake	5.05	24	P	Pn	14 42 49.2 +0.8
	baz=208,SNR=52					
FYU	Fort Yukon	5.06	28	IAML		14 44 07.5
	comp=E,200nm,1.2s					
FYU				IAML		14 44 14.6
	comp=N,166nm,0.8s					
F21K	Alatna River	5.09	350	P	Pn	14 42 50.4 +1.4
	baz=168,SNR=133					
YUK3	Moose Creek	5.09	91	P	Pn	14 42 48.9 -0.4
	baz=280,SNR=46					
OHAK	Old Harbor	5.14	193		Pn	14 42 48.4 -1.3
OHAK				IAML		14 44 02.6
	comp=E,77nm,0.9s					
OHAK				IAML		14 44 04.3
	comp=N,97nm,1.1s					
OHAK	Old Harbor	5.14	193	P	Pn	14 42 48.6 -1.1
OHAK	Old Harbor	5.14	193	S	Sn	14 43 46.7 -1.0
OHAK	Old Harbor	5.14	193	P	Pn	14 42 49.1 -0.6
	baz=11,SNR=14					
F20K	Avaraart Lake	5.20	340	P	Pn	14 42 51.5 +1.1
	baz=156					
O15K	Ungalikthiuk R	5.22	238	P	Pn	14 42 51.0 +0.2
	baz=51,SNR=12					
G17K	Kiwalik Mounta	5.29	312	P	Pn	14 42 52.9 +1.2
	baz=124					
F22K	John River	5.30	356	P	Pn	14 42 53.2 +1.3
	baz=175					
M14K	Bethel	5.36	259		Pn	14 42 52.5 0.0
M14K				IAML		14 44 41.5
	comp=N,59nm,1.2s					
M14K				IAML		14 44 45.3
	comp=E,59nm,1.2s					
M14K	Bethel	5.36	259	P	Pn	14 42 52.9 +0.3
	baz=70,SNR=9.0					
F19K	Shaleruckik Mo	5.40	331	P	Pn	14 42 54.2 +1.0
	baz=146					
I27K	Kandik River	5.41	47	P	Pn	14 42 54.5 +1.0
	baz=236,SNR=202					
F24K	Squaw Lake	5.48	14		Pn	14 42 55.3 +0.9
F24K	Squaw Lake	5.48	14	P	Pn	14 42 55.2 +0.8
	baz=196,SNR=139					
O28M	Mount Upton	5.49	101	P	Pn	14 42 54.7 0.0
	baz=290,SNR=35					
H16K	Elim	5.49	301		Pn	14 42 54.9 +0.5
H16K	Elim	5.49	301	P	Pn	14 42 55.7 +1.2
	baz=111,SNR=13					
L14K	Kuka Creek	5.51	266	P	Pn	14 42 55.4 +0.7
	baz=76,SNR=52					
YUK8	Steele Glacier	5.53	95	P	Pn	14 42 55.7 +0.5
	baz=285,SNR=7.4					
N14K	Kuskokwak Cree	5.58	250	P	Pn	14 42 55.8 +0.1
	baz=61,SNR=14					
DAWY	Dawson	5.67	66	P	Pn	14 42 56.8 -0.1
	baz=256,SNR=96					
F18K	Selawik	5.69	324		Pn	14 42 57.9 +0.8
F18K	Selawik	5.69	324	P	Pn	14 42 58.5 +1.4
	baz=136,SNR=12					
G26K	Porcupine Rive	5.70	31		Pn	14 42 58.0 +0.7
G26K	Porcupine Rive	5.70	31	P	Pn	14 42 57.9 +0.6
	baz=217,SNR=21					
PINM	Pinnacle	5.73	107	P	Pn	14 42 57.3 -0.5
	baz=297,SNR=6.9					
J14K	Nanvaranak Lak	5.74	281	P	Pn	14 42 58.3 +0.6
	baz=90,SNR=13					
O14K	Tigyukauivet M	5.76	243	P	Pn	14 42 58.2 +0.1
	baz=55,SNR=9.0					
H27K	Steamboat Moun	5.82	42	P	Pn	14 43 00.0 +1.1
	baz=231,SNR=349					
E19K	Redstone River	5.82	337	P	Pn	14 42 59.8 +0.8
	baz=151					
G16K	Koyuk River	5.85	308	P	Pn	14 43 00.3 +1.0
	baz=118					
F25K	Christian Rive	5.87	21	P	Pn	14 43 00.2 +0.6
	baz=206,SNR=68					
E23K	Chandalar	5.88	6	P	Pn	14 43 01.0 +1.2
	baz=187					
SII	Sitkinak Islan	5.90	196	P	Pn	14 43 00.5 +0.4
SII	Sitkinak Islan	5.90	196	S	Sn	14 44 05.3 -0.9
SII	Sitkinak Islan	5.90	196	P	Pn	14 43 00.7 +0.6
	baz=14					
E22K	Anaktuvuk Pass	5.92	358		Pn	14 43 01.4 +1.1
E22K	Anaktuvuk Pass	5.92	358	P	Pn	14 43 01.8 +1.5
	baz=177,SNR=13					
BMAR	Burnt Mountain	5.92	26		Pn	14 43 01.1 +0.8
I28M	Miner Creek	5.94	52	P	Pn	14 43 01.1 +0.5
	baz=242,SNR=133					
M29M	Somme Creek	5.95	82	P	Pn	14 43 00.9 +0.1
	baz=273,SNR=55					
E24K	Your Creek	5.97	10	P	Pn	14 43 02.1 +1.1
	baz=192					
YUK4	Talbot Arm	6.04	93	P	Pn	14 43 01.9 -0.1
	baz=283,SNR=10					
F17K	Baldwin Pennin	6.05	318	P	Pn	14 43 03.3 +1.2
	baz=130					
L29M	L29M	6.09	76	P	Pn	14 43 02.8 0.0
	baz=267,SNR=11					
M13K	Dall Lake	6.12	258	P	Pn	14 43 04.0 +1.0
	baz=68					
G27K	Doyon Strip	6.16	38	P	Pn	14 43 04.5 +0.9
	baz=226,SNR=56					
F26K	Sheenjek River	6.24	26		Pn	14 43 05.3 +0.7
F26K	Sheenjek River	6.24	26	P	Pn	14 43 05.4 +0.7
	baz=212,SNR=97					
J29N	Klondike Camp	6.26	64	P	Pn	14 43 05.1 +0.1
	baz=255,SNR=21					
YUK6	Outpost Mounta	6.28	96	P	Pn	14 43 05.3 -0.1
	baz=287					
PNL	Peninsula	6.31	109	P	Pn	14 43 05.1 -0.6
PNL	Peninsula	6.31	109	S	Sn	14 44 14.9 -1.4
PNL	Peninsula	6.31	109	P	Pn	14 43 05.3 -0.4
	baz=299					
K13K	Kusilvak Mount	6.32	273	P	Pn	14 43 06.1 +0.5
	baz=82,SNR=12					
E21K	Killik River	6.33	351	P	Pn	14 43 07.4 +1.6
	baz=168					
G15K	Niukluk	6.34	301	P	Pn	14 43 07.3 +1.3
	baz=110					
E25K	Arctic Village	6.36	19		Pn	14 43 07.0 +0.8
E25K	Arctic Village	6.36	19	P	Pn	14 43 06.7 +0.5
	baz=204,SNR=58					
E20K	Nigu River	6.38	343	P	Pn	14 43 08.7 +2.0
	baz=159					
O29M	Mount Kennedy	6.40	102	P	Pn	14 43 06.9 -0.1
	baz=293					
K29M	Barlow Dome	6.43	70	P	Pn	14 43 07.1 -0.4
	baz=261					
TOLK	Toolik Lake Re	6.46	5		Pn	14 43 09.8 +2.1
TOLK	Toolik Lake Re	6.46	5	P	Pn	14 43 08.5 +0.9
	baz=187,SNR=40					
I29M	Ogilvie Camp,	6.52	56	P	Pn	14 43 08.7 +0.3
	baz=247					
E18K	Tukpahlearik C	6.55	327		Pn	14 43 09.8 +0.9
E18K	Tukpahlearik C	6.55	327	P	Pn	14 43 10.4 +1.6
	baz=138,SNR=15					
E17K	Hotham Inlet	6.65	322	P	Pn	14 43 11.5 +1.3
	baz=132					
D22K	Ayikyak River	6.69	355		Pn	14 43 12.2 +1.4
D22K	Ayikyak River	6.69	355	P	Pn	14 43 12.8 +2.0
	baz=174,SNR=10					
HYT	Haines Junctio	6.71	96	P	Pn	14 43 10.8 -0.5
	baz=288					
M30M	Minto, Yukon	6.71	81	P	Pn	14 43 10.9 -0.3
	baz=273					
N30M	Aishikik Lake	6.74	90	P	Pn	14 43 10.8 -0.7
	baz=283,SNR=9.4					
D23K	Nanushuk River	6.75	2	P	Pn	14 43 13.5 +1.9
	baz=182					
ANM	Nome	6.76	296		Pn	14 43 12.5 +0.8
ANM	Nome	6.76	296	P	Pn	14 43 12.5 +0.8
ANM	Nome	6.76	296	P	Pn	14 43 12.9 +1.2
	baz=104					
F15K	North Star Dit	6.85	306		Pn	14 43 13.1 +0.2
F15K	North Star Dit	6.85	306	P	Pn	14 43 14.2 +1.3
	baz=114,SNR=5.6					
D20K	Etivluk River	6.87	343	P	Pn	14 43 14.7 +1.5
	baz=158					
H29M	Whitestone	6.87	49		Pn	14 43 14.0 +0.7
H29M	Whitestone	6.87	49	P	Pn	14 43 14.0 +0.7
	baz=240,SNR=27					
D19K	Kuna River	6.90	338	P	Pn	14 43 15.2 +1.6
	baz=152					
CHGN	Chignik	7.00	215	P	Pn	14 43 16.1 +1.1
	baz=29					
D24K	Happy Valley	7.01	7	P	Pn	14 43 17.1 +2.0
	baz=189					
P29M	Windy Craggy	7.07	106	P	Pn	14 43 16.0 0.0
	baz=297					
J30M	Hart River	7.08	64	P	Pn	14 43 16.7 +0.5
	baz=257,SNR=37					
C21K	Knifeblade Rid	7.09	350	P	Pn	14 43 17.9 +1.6
	baz=166					
MAYO	Mayo, Yukon	7.13	72	P	Pn	14 43 17.6 +0.8
	baz=266					
E27K	Coleen River	7.20	30	P	Pn	14 43 18.6 +0.9
	baz=218,SNR=11					
P30M	Million Dollar	7.22	101	P	Pn	14 43 17.7 -0.4
	baz=293					
I30M	Mount Dempster	7.23	59	P	Pn	14 43 18.5 +0.3
	baz=252,SNR=19					
S14K	Fog Glacier	7.34	219	P	Pn	14 43 19.6 -0.1
	baz=32					
N31M	Braeburn, Yuko	7.34	89	P	Pn	14 43 20.4 +0.6
	baz=282					
G29M	Pine Creek	7.35	45	P	Pn	14 43 20.4 +0.6
	baz=236,SNR=39					
D25K	Kavik River	7.38	14	P	Pn	14 43 21.7 +1.5
	baz=198					
F14K	Arctic Creek	7.41	303	P	Pn	14 43 22.1 +1.6
	baz=109					
D17K	Noatak River	7.42	323	P	Pn	14 43 22.5 +1.8
	baz=132					
M11K	Mekoryuk	7.44	262	P	Pn	14 43 21.7 +0.7
	baz=69					
EPYK	Eagle Plains	7.53	50	P	Pn	14 43 22.2 -0.1
	baz=243,SNR=30					
B21K	Ikpikpuk River	7.54	351	P	Pn	14 43 23.3 +1.0
	baz=168					
C24K	Franklin Bluff	7.58	7	P	Pn	14 43 24.3 +1.5
	baz=189					
RDOG	Red Dog Mine	7.62	325	P	Pn	14 43 24.1 +0.7
	baz=134					
C23K	Itkillik River	7.63	2	P	Pn	14 43 25.4 +1.9
	baz=182					
C18K	Utukok River	7.64	332	P	Pn	14 43 25.0 +1.2
	baz=142					
M31M	Drury Creek, Y	7.87	83	P	Pn	14 43 26.6 -0.2
	baz=278,SNR=5.2					
C17K	DeLong Mountai	7.99	327		Pn	14 43 29.1 +0.7
C17K	DeLong Mountai	7.99	327	P	Pn	14 43 29.4 +1.0
	baz=136,SNR=6.6					
G30M	tAoh Zraii Nji	8.00	47	P	Pn	14 43 28.4 -0.1
	baz=240,SNR=40					
C27K	Jago River	8.02	19	P	Pn	14 43 29.6 +0.8
	baz=206					
E28M	Babbage River	8.02	32	P	Pn	14 43 29.6 +0.8
	baz=223					
TNA	Tin City	8.07	302	P	Pn	14 43 30.3 +0.8
	baz=107					
C26K	Camden Bay	8.12	16	P	Pn	14 43 30.9 +0.8
	baz=201					
B20K	Meade River	8.15	345	P	Pn	14 43 32.4 +1.8
	baz=160					
B22K	Teshekpuk Lake	8.18	355	P	Pn	14 43 32.2 +1.2
	baz=173					
D27M	Malcolm River	8.19	26	P	Pn	14 43 31.6 +0.5
	baz=216					
H31M	Peel River	8.22	57		Pn	14 43 31.4 -0.2
H31M	Peel River	8.22	57	P	Pn	14 43 31.8 +0.2
	baz=252,SNR=18					
SKAG	Skagway	8.24	103	P	Pn	14 43 31.5 -0.4
SKAG	Skagway	8.24	103	P	Pn	14 43 31.7 -0.3
	baz=296					
E29M	Blow River	8.30	36	P	Pn	14 43 34.1 +1.5
	baz=228,SNR=10					
FARO	Faro, Yukon	8.35	82	P	Pn	14 43 33.2 -0.2

baz=278
B18K Kokolik River 8.35 333 P Pn 14 43 33.8 +0.4
baz=144
C16K Lisburne Hills 8.45 322 Pn 14 43 36.3 +1.7
C16K Lisburne Hills 8.45 322 P Pn 14 43 36.4 +1.8
baz=129,SNR=7.2
F30M Barrier River 8.46 44 Pn 14 43 35.0 +0.1
F30M Barrier River 8.46 44 P Pn 14 43 35.2 +0.3
baz=238,SNR=26
CHNA Chernabura Isl 8.62 214 P Pn 14 43 37.8 +0.7
baz=27
G31M Satah River 8.65 50 Pn 14 43 36.7 -0.8
G31M Satah River 8.65 50 P Pn 14 43 36.5 -1.0
baz=245,SNR=23
A19K Wainwright 8.91 338 P Pn 14 43 42.2 +1.2
baz=149
A22K Sinclair Lake 8.92 352 P Pn 14 43 41.2 +0.1
baz=169
P32M Atlin 8.93 100 P Pn 14 43 40.8 -0.6
baz=295
F31M Tsiigehtchic 9.06 47 P Pn 14 43 42.2 -0.9
baz=243,SNR=27
P33M Teslin, Yukon 9.10 95 P Pn 14 43 43.2 -0.5
baz=291
R32K Eaglecrest 9.20 108 P Pn 14 43 45.2 +0.2
baz=302
JIS Juneau Island 9.26 108 P Pn 14 43 46.2 +0.5
A21K Barrow 9.36 349 P Pn 14 43 47.5 +0.5
baz=164
GAMB Gambell 9.43 288 P Pn 14 43 48.6 +0.6
baz=90
INK Inuvik 9.56 43 Pn 14 43 49.6 -0.2
INK Inuvik 9.56 43 P Pn 14 43 50.1 +0.3
comp=E,41nm,0.9s,baz=231,slow=16,SNR=124
INK S **Sn 14 45 33.8 -1.4**
comp=E,13nm,0.6s,baz=336,slow=18,SNR=6.2
INK LR LR 14 47 44.7
comp=E,107nm,21.2s,baz=213,slow=39
INK Inuvik 9.56 43 P Pn 14 43 49.3 -0.5
baz=239,SNR=54
SIT Sitka 9.57 116 P Pn 14 43 48.8 -1.2
SIT Sitka 9.57 116 P Pn 14 43 49.1 -0.8
baz=309
S32K Killisnoo 9.63 112 P Pn 14 43 49.6 -1.3
baz=307
Q32M Nakina River 9.87 101 P Pn 14 43 53.1 -1.3
baz=297
R33M Jennings River 10.28 97 Pn 14 43 58.0 -1.8
R33M Jennings River 10.28 97 P Pn 14 43 59.3 -0.6
baz=295
S34M Telegraph Cree 10.91 104 Pn 14 44 07.1 -1.2
DLBC Dease Lake 11.15 100 P Pn 14 44 14.8 +3.2
comp=E,0.8nm,0.5s,baz=259,slow=19,SNR=3.3
CRAG Craig 11.54 118 P Pn 14 44 16.6 -0.2
C36M Paulatuk 13.11 46 Pn 14 44 34.3 -3.4
C36M Paulatuk 13.11 46 P Pn 14 44 34.6 -3.1
baz=250,SNR=27
A36M Sachs Harbour 13.90 35 Pn 14 44 46.5 -1.6
A36M Sachs Harbour 13.90 35 P Pn 14 44 46.4 -1.7
baz=238,SNR=11
YKA Yellowknife Ar 16.85 73 Pn **Pn 14 45 24.7 -0.7**
YKA Yellowknife Ar 16.85 73 P **Pn 14 45 24.5 -0.9**
comp=E,2.7nm,0.9s,baz=284,slow=11,SNR=24
YKA S **Sn 14 48 33.0 +1.0**
comp=E,0.9nm,0.9s,baz=293,slow=23,SNR=4.7
YKA Yellowknife Ar 16.85 73 *i* P **Pn 14 45 25.2 -0.2**
YKA pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 18.45 307⇓ *e*P **P 14 45 44.3 +0.5**
BILL pmax pmax
comp=Z,8.0nm,1.7s
CLRS Cowichan Lake 20.18 119 IAmb IAmb 14 46 25.2
comp=Z,13nm,1.5s
SHEM Shemya Is, Ala 20.68 259 LR LR 14 55 16.1
comp=Z,36nm,18.5s,baz=88,slow=40
A04D Lummi Island 20.85 117 IAmb IAmb 14 46 13.2
comp=Z,10nm,0.8s
RES Resolute Bay 22.95 35 P **P 14 46 30.9 -1.0**
RES Resolute Bay 22.95 35 P **P 14 46 30.9 -1.0**
RES pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 23.59 111 P **P 14 46 38.4 +0.2**
NEW Newport 23.59 111 P **P 14 46 38.4 +0.2**
NEW pmax pmax
comp=Z,7.0nm,1.2s
D08A Wollman Farm, 23.74 115 P **P 14 46 40.3 +0.8**
D08A IAmb IAmb 14 46 41.8
comp=Z,7.1nm,1.1s
H04A Detroit Lake 24.32 123 P **P 14 46 45.9 +1.1**
H04A IAmb IAmb 14 46 49.2
comp=Z,7.7nm,1.2s
EUNU Eureka 25.20 22 P **P 14 46 54.6 +2.2**
EUNU IAmb IAmb 14 46 56.8
comp=Z,6.7nm,0.8s
SEY Seymchan 25.27 297⇓ *e*P **P 14 46 53.3 +0.2**
SEY pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 26.23 84 P **P 14 47 02.5 +0.7**
FFC IAmb IAmb 14 47 06.5
comp=Z,6.9nm,1.2s
FFC Flin Flon 26.23 84 P **P 14 47 02.6 +0.7**
FFC pmax pmax
comp=Z,7.0nm,1.2s
YBH Yreka Blue Hor 26.63 127 P **P 14 47 06.1 +0.3**
YBH Yreka Blue Hor 26.63 127 P **P 14 47 06.1 +0.3**
YBH pmax pmax
comp=Z,6.0nm,1.2s
EGMT Eagleton 27.07 102 IAmb IAmb 14 47 32.5
comp=Z,8.8nm,0.9s
FCC Fort Churchill 27.56 71 P **P 14 47 14.3 +0.6**
FCC IAmb IAmb 14 47 15.7
comp=Z,5.1nm,0.8s
FCC Fort Churchill 27.56 71 P **P 14 47 14.3 +0.6**
FCC pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 28.07 275 P **P 14 47 18.6 +0.1**
comp=Z,1.4nm,0.9s,baz=52,slow=12,SNR=1.8
comp=Z,1.4nm,0.9s
RLMT Red Lodge 29.48 106 IAmb IAmb 14 47 55.4
comp=Z,6.0nm,1.1s
TIXI Tiksi 30.22 322⇓ *e*P **P 14 47 36.8 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.8s
NVAR Mina Array Bea 31.17 124 P **P 14 47 48.6 +2.4**
comp=Z,2.1nm,0.8s,baz=320,slow=9.4,SNR=9.9
comp=Z,2.1nm,0.8s
PDAR Pinedale Array 31.20 109 P **P 14 47 48.2 +1.8**
comp=Z,0.3nm,0.5s,baz=316,slow=4.3,SNR=6.7
PDAR LR LR 15 01 22.5
comp=Z,38nm,18.5s,baz=310,slow=38
comp=Z,0.3nm,0.5s
ULM Lac du Bonnet 31.96 86 P **P 14 47 53.2 +0.5**
comp=Z,1.4nm,0.5s,baz=289,slow=10,SNR=5.5
comp=Z,1.4nm,0.5s
NEEM North Greenlan 32.42 24 *i* P **P 14 47 56.5 -0.3**
NEEM IAmb IAmb 14 47 58.1
comp=Z,6.8nm,0.8s
KULLO Kullorsuaq 32.58 30 *i* P **P 14 48 00.6 +2.8**
KULLO IAmb IAmb 14 48 01.6
comp=Z,5.6nm,0.6s
AGMN Agassiz Nation 33.34 89 IAmb IAmb 14 48 06.6
comp=Z,5.4nm,1.1s
SRU San Rafael Swe 33.77 114 IAmb IAmb 14 48 11.6
comp=Z,4.1nm,1.0s
YAK Yakutsk 34.81 306 *d i* P **P 14 48 17.0 -0.3**
YAK pmax pmax
comp=Z,8.0nm,0.6s
UMMG Uummannaq 36.04 34 *i* P **P 14 48 29.1 +1.4**
ECSD EROS Data Cent 36.37 95 P **P 14 48 30.4 -0.5**
ECSD IAmb IAmb 14 48 32.2
comp=Z,5.7nm,1.0s
SUMG Summit 38.00 27 P **P 14 48 45.1 +0.4**
SUMG Summit 38.00 27 P **P 14 48 45.2 +0.4**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 38.00 27 *i* P **P 14 48 45.0 +0.2**
SFJD Kangerlussuaq 38.86 38 *i* P **P 14 48 51.7 +0.1**
SPITS Spitsbergen Ar 39.61 4 P **P 14 48 56.9 -0.9**
comp=Z,0.7nm,0.3s,baz=354,slow=8.0,SNR=19
comp=Z,0.7nm,0.3s
DBG Daneborg 39.94 19 *i* P **P 14 49 00.7 +0.2**
ICESG Greenland Ices 40.28 31 *i* P **P 14 49 04.0 +0.2**
ZEA Zeya 41.25 297 *e*P **P 14 49 11.4 -0.1**
MSTX Muleshoe 41.45 110 P **P 14 49 14.3 +0.8**
MSTX IAmb IAmb 14 49 15.8
comp=Z,6.8nm,0.8s

HOPEN Hopen 41.47 1 *e*S **S 14 55 26.8 +5.3**
HOPEN IAML 14 55 43.2
comp=Z,3.8nm,0.8s
NRIK Noril'sk 42.27 333 P **P 14 49 19.4 -0.2**
comp=Z,2.1nm,0.6s,baz=82,slow=2.7,SNR=4.5
comp=Z,2.1nm,0.6s
NRIK Noril'sk 42.27 333⇑ *e*P **P 14 49 20.5 +0.9**
NRIK pmax pmax
comp=Z,19nm,4.2s
KLR Kul'dur 42.59 289⇑ *i*P **P 14 49 21.8 -0.7**
KLR pmax pmax
comp=Z,2.0nm,0.8s
MGMO Mountain Grove 43.59 97 P **P 14 49 30.5 -0.2**
PBMO Poplar Bluff 44.75 95 P **P 14 49 39.9 0.0**
TXAR Lajitas Array 45.05 114 P **P 14 49 44.1 +1.6**
comp=Z,1.0nm,0.8s,baz=334,slow=7.7,SNR=5.7
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 48.48 2 P **P 14 50 08.0 -0.7**
comp=Z,11nm,1.1s,baz=1.4,slow=7.5,SNR=2.6
comp=Z,11nm,1.1s
ARCES ARCESS Array B 48.48 2 P **P 14 50 08.0 -0.7**
MAJO Matsushiro 49.51 273⇑ *e*P **P 14 50 18.4 +1.5**
MAJO pmax pmax
comp=Z,72nm,3.6s
KSRS Korea Array 53.53 282 P **P 14 50 47.3 +0.4**
comp=Z,1.5nm,0.7s,baz=37,slow=6.4,SNR=5.0
comp=Z,1.5nm,0.7s
ULN Ulaanbaatar 53.90 305⇓ *e*P **P 14 50 50.1 +0.5**
ULN pmax pmax
comp=Z,6.0nm,2.3s
SONM Songino Array 54.17 306 P **P 14 50 52.4 +0.8**
comp=Z,2.6nm,0.9s,baz=47,slow=7.4,SNR=14
comp=Z,2.6nm,0.9s
ZAA0 Zalesovo Array 56.07 324 P **P 14 51 04.2 -0.7**
ZAA0 IAmb IAmb 14 51 05.2
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 56.07 324 P **P 14 51 04.1 -0.8**
ZALV Zalesovo Beam 56.07 324 P **P 14 51 04.6 -0.3**
comp=Z,2.2nm,0.5s,baz=28,slow=6.5,SNR=12
comp=Z,2.2nm,0.5s
ZALV Zalesovo Beam 56.07 324 *i* P **P 14 51 04.5 -0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 56.62 2 P **P 14 51 08.2 -0.5**
comp=Z,1.4nm,0.7s,baz=2.9,slow=6.7,SNR=4.7
comp=Z,1.4nm,0.7s
FINES FINESS Array B 56.62 2 *i* P **P 14 51 08.8 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 57.40 9 P **P 14 51 13.0 -1.3**
comp=Z,3.1nm,0.9s,baz=356,slow=6.5,SNR=6.9
comp=Z,3.1nm,0.9s
HFS Hagfors 57.40 9 P **P 14 51 13.0 -1.3**
HHC Hu-ho-hao-te 57.91 297 *e*P **P 14 51 20.8 +2.5**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.1s
ARTI Arti 59.47 341 P **P 14 51 28.2 -0.5**
comp=Z,2.4nm,0.3s,baz=318,slow=24,SNR=8.0
comp=Z,2.4nm,0.3s
ARTI Arti 59.47 341 *d i*P P 14 51 24.5 -4.2
ARTI S **S 14 59 25.7 -5.3**
ARTI pmax pmax
comp=Z,23nm,3.8s
EKA Eskdalemuir Ar 60.12 20 P **P 14 51 32.6 -0.6**
comp=Z,0.3nm,0.3s,baz=335,slow=5.6,SNR=15
comp=Z,0.3nm,0.3s
BVAR Borovoye Array 60.48 333 P **P 14 51 35.3 -0.3**
comp=Z,1.0nm,0.6s,baz=27,slow=6.8,SNR=7.5
comp=Z,1.0nm,0.6s
KURK Kurchatov 60.65 326 P **P 14 51 37.0 +0.2**
KURBB Kurchatov Arra 60.76 326 P **P 14 51 37.0 -0.5**
comp=Z,1.0nm,0.5s,baz=28,slow=7.0,SNR=12
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 63.20 322⇑ *e*P **P 14 51 51.5 -2.6**
MKAR Makanchi Array 63.20 322 P **P 14 51 53.3 -0.7**
comp=Z,1.1nm,0.5s,baz=28,slow=6.9,SNR=21
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 63.20 322 *ce*P **P 14 51 53.2 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
LZH Lanzhou 65.13 300 *e*P **P 14 52 08.5 +1.5**
LZH sP PcP 14 52 39.5 +0.5
LZH pmax pmax
comp=Z,19nm,1.3s
AKASG Malin Array Be 67.40 360 P **P 14 52 20.3 -0.7**
comp=Z,0.4nm,0.3s,baz=2.0,slow=6.2,SNR=5.4
comp=Z,0.4nm,0.3s
GERES GERESS Array B 68.61 11 P **P 14 52 28.3 -0.5**
comp=Z,0.2nm,0.5s,baz=355,slow=7.9,SNR=2.7
comp=Z,0.2nm,0.5s
AAK Ala-Archa 69.19 326 LR LR 15 28 41.7
comp=Z,32nm,18.2s,baz=338,slow=41
AAK Ala-Archa 69.19 326⇓ *e*P **P 14 52 32.9 +0.3**
AAK pmax pmax
comp=Z,11nm,5.1s
ESDC Sonseca Array 75.05 26 P **P 14 53 07.3 -0.1**
comp=Z,0.8nm,0.8s,baz=344,slow=5.9,SNR=7.4
comp=Z,0.8nm,0.8s
CMAR Chiang Mai Arr 82.69 296 P **P 14 53 48.8 -0.6**
comp=Z,0.5nm,0.6s,baz=20,slow=4.8,SNR=4.9
comp=Z,0.5nm,0.6s
QSPA South Pole Qui 152.05 180 PKPbc **PKPbc 15 01 19.1 +0.2**
comp=Z,1.9nm,0.6s,baz=157,slow=0.3,SNR=12

TRN 31 15:02:04.5, 10.83N×61.75W, h7km, MD3.8, North-west of Triniad., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.39**	**118**	*e*P	Pg	15 02 10.5	-1.5
TRN				*e*S	Sg	15 02 18.3	+1.2
GRFF	**Grenada Fort F**	**1.21**	**1**	*e*P	Pg	15 02 27.1	-0.7
GRFF				*e*S	Sn	15 02 45.9	+1.2
GRGR	**Grenville**	**1.30**	**4**	*e*P	Pn	15 02 28.3	-0.8
GRGR				*e*S	Sn	15 02 47.4	+0.6
GCMP	**Grenada, Carri**	**1.68**	**11**	*e*P	Pn	15 02 33.8	-0.5
GCMP				*e*S	Sn	15 02 56.5	+0.4
SVOC	**Richmond Hill,**	**2.37**	**13**	*e*P	Pn	15 02 43.8	-0.1
SVOC				*e*S	Sn	15 03 12.3	-0.8
SVT	**Saint Vincent**	**2.38**	**12**	*e*P	Pn	15 02 44.4	+0.4
SVT				*e*S	Sn	15 03 13.1	-0.3
SVB	**Belmont**	**2.48**	**11**	*e*P	Pn	15 02 45.4	+0.1
SVB				*e*S	Sn	15 03 15.9	0.0
PCRV	**Puerto La Cruz**	**2.91**	**257**	*e*P	Pn	15 02 51.8	+0.4
SLAC	**Saint Lucia, A**	**3.16**	**15**	*e*P	Pn	15 02 55.2	+0.4
SLBI	**Saint Lucia, B**	**3.26**	**13**	*e*P	Pn	15 02 56.7	+0.5
BAUV	**El Baul**	**6.48**	**254**	*e*P	Pn	15 03 40.3	-0.1
BAUV				*e*S	Sn	15 04 52.7	-1.9

*IDC **31** 15:25:32.3±0.6, 52.°07N×159.°16E, h0km, mb4.1/25, mbtmp4.1/29, ML4.1/4, MS3.6/9, Error ellipse: s-maj=15.9km s-min=11.8km az=147.0*
*KRSC **31** 15:25:34.6±1.7, 51.°94N×159.°48E, h41km±22km, Ml4.5*
*MOS **31** 15:25:36.8±0.9, 51.°95N×159.°19E, h44km, mb4.6/19, MS3.7/9, Error ellipse: s-maj=8.7km s-min=3.5km az=91.5*
*NEIC **31** 15:25:41.2±0.9, 52.°23N±0.°07×159.°0E±0.°2, h56km±7km, mb4.4/97, Error ellipse: s-maj=13.9km s-min=10.0km az=86.0*

ISC 31 15:25:38.0±0.9, 51.°98N±0.°04×159.°33E±0.°04, h40km±9km, n499, σ1$35/484, mb4.4/102, MS4.0/10, 22C-26D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.68**	**313**	PN	**Pn**	**15 25 49.9**	**-1.2**
RUS				S	**Sn**	**15 25 58.9**	**-1.6**
RUS	**Russkaya**	**0.68**	**313**	*e*P	**Pn**	**15 25 49.9**	**-1.2**
RUS				*e*S	**Sn**	**15 25 59.0**	**-1.6**
KDTR	**Khodutka, Kamc**	**0.80**	**258**	PN	**Pn**	**15 25 51.3**	**-1.4**
KDTR				S	**Sn**	**15 26 01.8**	**-1.5**
KDTR	**Khodutka, Kamc**	**0.80**	**258**	*e*P	**Pn**	**15 25 51.3**	**-1.4**
KDTR				*e*S	**Sn**	**15 26 01.9**	**-1.5**
GRL	**Gorelyy**	**0.96**	**307**	PN	**Pn**	**15 25 55.1**	**0.0**
GRL				S	**Sn**	**15 26 08.7**	**+1.0**
GRL	**Gorelyy**	**0.96**	**307**	*e*P	**Pn**	**15 25 55.1**	**0.0**
GRL				*e*S	**Sn**	**15 26 08.7**	**+1.0**
DALK	**Dalny**	**1.11**	**342**	PN	**Pn**	**15 25 56.0**	**-1.0**
DALK				S	**Sn**	**15 26 09.7**	**-1.5**
DALK	**Dalny**	**1.11**	**342**	*e*P	**Pn**	**15 25 56.1**	**-1.0**
DALK				*e*S	**Sn**	**15 26 09.7**	**-1.5**
KRMR	**Karymshinskiy**	**1.13**	**320**	PN	**Pn**	**15 25 56.5**	**-0.7**
KRMR				S	**Sn**	**15 26 10.6**	**-0.9**
KRMR	**Karymshinskiy**	**1.13**	**320**	*e*P	**Pn**	**15 25 56.6**	**-0.7**
KRMR				*e*S	**Sn**	**15 26 10.7**	**-0.9**
PET	**Petropavlovsk**	**1.13**	**339**		**Pn**	**15 25 56.4**	**-0.9**
PET				Sn	**Sn**	**15 26 08.3**	**-3.2**
PET	**Petropavlovsk**	**1.13**	**339**⇓	*i*PN	**Pn**	**15 25 56.6**	**-0.7**
PET				*e*S	**Sn**	**15 26 12.2**	**+0.7**
PET				pmax	pmax		
comp=Z,544nm,0.6s
PET smax smax
comp=N,4μm,0.6s
PET smax smax
comp=E,2μm,0.5s
PET Petropavlovsk 1.13 339 *e*P **Pn 15 25 56.6 -0.7**
PET *e*S **Sn 15 26 10.1 -1.5**
PET Petropavlovsk 1.13 339 Pn **Pn 15 25 56.5 -0.7**
INSR Institute 1.18 338 PN **Pn 15 25 57.4 -0.5**
INSR S **Sn 15 26 11.8 -0.9**
INSR Institute 1.18 338 *e*P **Pn 15 25 57.4 -0.5**
INSR *e*S **Sn 15 26 11.9 -0.9**
NLC Nalytchevo 1.20 0 PN **Pn 15 25 56.9 -1.3**
NLC Nalytchevo 1.20 0 *e*P **Pn 15 25 56.9 -1.3**
SPN Mys Shipunski 1.20 20 PN **Pn 15 25 58.2 0.0**
SPN Mys Shipunski 1.20 20 *e*P **Pn 15 25 58.3 0.0**
UGLR Uglovaya 1.27 346 PN **Pn 15 25 58.9 -0.5**
UGLR S **Sn 15 26 14.5 -0.8**
UGLR Uglovaya 1.27 346 *e*P **Pn 15 25 58.9 -0.5**
UGLR *e*S **Sn 15 26 14.5 -0.8**
SDLR Sedlovina 1.33 348 PN **Pn 15 25 59.3 -0.9**
SDLR Sedlovina 1.33 348 *e*P **Pn 15 25 59.3 -0.9**
AVH Avacha 1.34 345 PN **Pn 15 26 00.0 -0.2**
AVH Avacha 1.34 345 *e*P **Pn 15 26 00.0 -0.2**
KRER Koryakskii 1.38 345 PN **Pn 15 26 01.4 +0.6**
KRER Koryakskii 1.38 345 *e*P **Pn 15 26 01.5 +0.6**
KOK Koryaka 1.38 342 PN **Pn 15 26 00.7 -0.2**
KOK S **Sn 15 26 17.4 -0.6**
KOK Koryaka 1.38 342 *e*P **Pn 15 26 00.8 -0.2**
KOK *e*S **Sn 15 26 17.4 -0.6**
KRX Arik 1.45 344 PN **Pn 15 26 01.3 -0.5**
KRX Arik 1.45 344 *e*P **Pn 15 26 01.3 -0.5**
PEA0B Petropavlovsk- 1.51 319 **Pn 15 26 02.1 -0.4**
PEA0B Petropavlovsk- 1.51 319 *d i*PN **Pn 15 26 02.9 +0.4**
PETK Petropavlovsk- 1.51 319 **Pn 15 26 01.8 -0.7**
PETK Petropavlovsk- 1.51 319 Pn **Pn 15 26 01.6 -0.9**
comp=E,63nm,0.3s,baz=119,slow=19,SNR=827
PETK Sn **Sn 15 26 23.6 +2.7**
comp=E,138nm,0.3s,baz=122,slow=17,SNR=5.4
PETK Petropavlovsk- 1.51 319 PN **Pn 15 26 01.8 -0.7**
APC Apacha 1.63 306 PN **Pn 15 26 05.1 +0.9**
APC S **Sn 15 26 26.4 +2.5**
APC Apacha 1.63 306 *e*P **Pn 15 26 05.1 +0.9**
APC *e*S **Sn 15 26 26.5 +2.5**
PAU Pauzhetka 1.65 253 PN **Pn 15 26 03.7 -0.6**
PAU S **Sn 15 26 25.3 +1.0**
PAU Pauzhetka 1.65 253 *e*P **Pn 15 26 03.8 -0.6**
PAU *e*S **Sn 15 26 25.3 +1.0**
GNL Ganaly 1.92 334 PN **Pn 15 26 08.7 +0.5**
GNL Ganaly 1.92 334 *e*P **Pn 15 26 08.7 +0.5**
SKR Severo-Kuril's 2.40 239 *e*PN **Pn 15 26 13.8 -0.8**
SKR *e*S **Sn 15 26 43.5 +0.8**
SKR pmax pmax
comp=Z,288nm,0.6s
SKR smax smax
comp=N,2μm,0.5s
SKR smax smax
comp=E,3μm,0.5s
SKR MLR MLR
comp=Z,3μm,14.0s
SKR Severo-Kuril's 2.40 239 *e*P **Pn 15 26 13.4 -1.2**
SKR *e*S **Sn 15 26 42.6 -0.2**
MKZ Mys Kozlova 2.96 28 PN **Pn 15 26 22.1 -0.2**
MKZ S **Sn 15 26 56.0 -0.5**
MKZ Mys Kozlova 2.96 28 *e*P **Pn 15 26 22.1 -0.2**
MKZ *e*S **Sn 15 26 56.1 -0.5**
TUMD Tumrok D 3.29 11 PN **Pn 15 26 28.4 +1.4**
TUMD S **Sn 15 27 07.6 +2.7**
TUMD Tumrok D 3.29 11 *e*P **Pn 15 26 28.5 +1.4**
TUMD *e*S **Sn 15 27 07.6 +2.7**
KMNR Kamenistaya 3.83 8 PN **Pn 15 26 35.8 +1.5**
KMNR Kamenistaya 3.83 8 *e*P **Pn 15 26 35.9 +1.5**
KIRR Kirishev 4.03 8 PN Pn 15 26 39.8 +2.6
KIRR Kirishev 4.03 8 *e*P Pn 15 26 39.9 +2.6
KPT Kopyto 4.03 7 PN Pn 15 26 39.7 +2.5
KPT Kopyto 4.03 7 *e*P Pn 15 26 39.8 +2.5
BZGR Bezymyannyi-Gr 4.05 11 PN Pn 15 26 40.3 +2.8
BZGR Bezymyannyi-Gr 4.05 11 *e*P Pn 15 26 40.3 +2.8
ZLN Zelenaya 4.14 12 PN Pn 15 26 41.7 +3.0
ZLN Zelenaya 4.14 12 *e*P Pn 15 26 41.7 +3.0
LGNR Loginova 4.19 10 PN **Pn 15 26 38.5 -1.1**
LGNR Loginova 4.19 10 *e*P **Pn 15 26 38.5 -1.1**
KLY Klyuchi 4.41 10 PN Pn 15 26 45.5 +3.2
KLY Klyuchi 4.41 10 *e*P Pn 15 26 45.6 +3.2
KBTR Krutoberegovo 4.71 24 PN **Pn 15 26 47.3 +0.9**
KBTR Krutoberegovo 4.71 24 *e*P **Pn 15 26 47.3 +0.9**
KBTR *e*S **Sn 15 27 40.7 +1.0**
KBG Krutoberegovo 4.72 24 PN **Pn 15 26 47.5 +1.0**
KBG Krutoberegovo 4.72 24 *e*P **Pn 15 26 47.6 +1.0**
SMKR Semkarok 4.78 14 PN **Pn 15 26 49.5 +2.0**
SMKR Semkarok 4.78 14 *e*P **Pn 15 26 49.5 +2.0**
BKI Bering 5.11 48 PN **Pn 15 26 49.9 -1.9**
BKI Bering 5.11 48 *e*P **Pn 15 26 49.9 -1.9**
BKI *e*S **Sn 15 27 44.4 -5.1**
MA2 Magadan 9.01 331 LR LR 15 31 40.7
comp=Z,203nm,19.3s,baz=154,slow=42
MA2 Magadan 9.01 331 *e*PN **Pn 15 27 46.0 +0.7**
SHEM Shemya Is, Ala 9.07 79 Pn **Pn 15 27 45.8 -0.4**
comp=Z,5.0nm,0.3s,baz=256,slow=1.4,SNR=4.3
SHEM Sn **Sn 15 29 21.7 -5.3**
comp=Z,3.9nm,0.3s,baz=4.4,slow=20,SNR=1.7
SHEM LR LR 15 31 06.5
comp=Z,319nm,21.7s,baz=300,slow=36
comp=Z,32nm,0.5s
SEY Seymchan 11.60 344 Pn **Pn 15 28 21.4 +0.7**
baz=141,slow=15,SNR=3.9
YSS Yuzhno-Sakhali 11.89 252 Pn **Pn 15 28 27.1 +2.3**
YSS Yuzhno-Sakhali 11.89 252 *e*PN Pn 15 28 29.1 +4.3
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,200nm,17.0s
JKA Kamikawa-asahi 13.66 241 Pn **Pn 15 28 50.1 +1.2**
ASAJ Asahikawa 13.66 241 Pn **Pn 15 28 49.8 +0.9**
comp=E,0.9nm,0.3s,baz=69,slow=17,SNR=11
ASAJ LR LR 15 33 45.8
comp=E,141nm,18.4s,baz=81,slow=36
ASAJ Asahikawa 13.66 241 P **Pn 15 28 50.1 +1.2**
ERM Erimo 14.84 234⇓ *e*P **Pn 15 29 02.6 -2.2**
BILL Bilibino 16.46 9 P **P 15 29 27.7 -0.2**
BILL Bilibino 16.46 9⇓ *e*P **P 15 29 27.5 -0.4**
BILL MLR MLR
comp=Z,133nm,12.0s
KLR Kul'dur 17.68 272 P **P 15 29 40.4 -1.1**
comp=Z,0.2nm,0.3s,baz=75,slow=13,SNR=11
KLR LR LR 15 37 07.3
comp=Z,223nm,18.3s,baz=72,slow=40
comp=Z,1.2nm,0.7s
KLR Kul'dur 17.68 272⇓ *e*P **P 15 29 41.3 -0.2**
KLR pmax pmax
comp=Z,15nm,1.3s
KLR MLR MLR
comp=Z,269nm,15.0s
SPIA Saint Paul Isl 18.29 61 P **Pn 15 29 50.8 +2.5**
baz=267
P08K Saint George I 18.65 63 P **Pn 15 29 54.4 +1.8**
baz=270
YAK Yakutsk 18.85 314 **Pn 15 29 53.1 -1.9**
YAK Yakutsk 18.85 314 P **Pn 15 29 53.4 -1.6**
comp=Z,0.8nm,0.3s,baz=63,slow=3.0,SNR=6.4
YAK LR LR 15 37 49.2
comp=Z,98nm,18.7s,baz=111,slow=39
comp=Z,9.4nm,0.7s
YAK Yakutsk 18.85 314 *e*P **Pn 15 29 53.0 -2.0**
YAK pmax pmax
comp=Z,10.0nm,1.4s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.9s
GAMB Gambell 19.20 41 P **Pn 15 29 59.9 +0.7**

	baz=247						
NIKH	Nikolski High	19.33	74	P	Pn	15 30 01.9	+1.1
	baz=281						
ZEA	Zeya	19.37	288	*e*P	Pn	15 30 04.7	+3.4
ZEA				MLR	MLR		
	comp=N,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
USA0B	Ussuriysk Arra	19.77	258⇓	*e*P	Pn	15 30 04.5	-1.6
USRK	Ussuriysk Ar.	19.77	258	P	P	15 30 02.9	-1.4
	comp=Z,0.2nm,0.3s,baz=63,slow=8.8,SNR=4.9						
USRK				LR	LR	15 38 17.6	
	comp=Z,331nm,18.3s,baz=34,slow=39						
	comp=Z,2.4nm,0.6s						
HEH	HeiHe	20.03	278	*e*P	Pn	15 30 07.5	-1.7
HEH				pmax	pmax		
	comp=Z,12nm,1.3s						
HEH				LR	LR		
	comp=N,230nm,13.9s						
HEH				LR	LR		
	comp=E,380nm,14.0s						
HEH				LR	LR		
	comp=Z,470nm,14.2s						
UNV	Unalaska Valle	20.57	71	P	Pn	15 30 15.5	0.0
	baz=280						
M11K	Mekoryuk	20.73	53	P	Pn	15 30 16.9	-0.3
	baz=262						
TNA	Tin City	21.41	38	P	P	15 30 23.9	+1.9
	baz=247						
MJB9	Matsu-Tunnel	21.49	232	P	P	15 30 24.1	+1.1
MAJO	Matsushiro	21.49	232	P	P	15 30 24.2	+1.2
MAJO	Matsushiro	21.49	232	*d i*P	P	15 30 22.2	-0.9
MAJO				pmax	pmax		
	comp=Z,37nm,0.8s						
MJAR	Matsushiro Arr	21.49	232	P	P	15 30 23.9	+0.8
	comp=Z,14nm,0.8s,baz=23,slow=11,SNR=35						
MJAR				LR	LR	15 38 48.5	
	comp=Z,164nm,21.1s,baz=39,slow=37						
	comp=Z,14nm,0.8s						
K13K	Kusilvak Mount	21.73	49	P	P	15 30 26.1	+0.7
K13K				IAmb	IAmb	15 30 42.2	
	comp=Z,16nm,1.4s						
K13K	Kusilvak Mount	21.73	49	P	P	15 30 27.3	+1.9
	baz=260						
BNX	BinXian	21.79	266	⇓P	P	15 30 28.3	+2.1
BNX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
F14K	Arctic Creek	22.00	39	P	P	15 30 29.5	+1.2
	baz=250						
ANM	Nome	22.07	42	P	P	15 30 30.6	+1.5
	baz=253						
M13K	Dall Lake	22.14	53	P	P	15 30 31.2	+1.4
	baz=265						
J14K	Nanvaranak Lak	22.39	47	P	P	15 30 32.8	+0.3
	baz=259						
L14K	Kuka Creek	22.57	51	P	P	15 30 35.5	+1.2
	baz=264						
F15K	North Star Dit	22.73	39	P	P	15 30 37.2	+1.1
	baz=251						
G15K	Niukluk	22.75	41	P	P	15 30 37.2	+1.0
	baz=253						
M14K	Bethel	22.85	52	P	P	15 30 39.1	+1.7
M14K				IAmb	IAmb	15 30 39.8	
	comp=Z,14nm,1.0s						
M14K	Bethel	22.85	52	P	P	15 30 38.6	+1.2
	baz=266						
N14K	Kuskokwak Cree	22.93	54	P	P	15 30 39.0	+0.9
	baz=268						
INU	Inuyama	23.02	233	P	P	15 30 40.9	+1.5
O14K	Tigyukauivet M	23.12	56	P	P	15 30 40.8	+0.7
O14K				IAmb	IAmb	15 30 42.9	
	comp=Z,19nm,1.1s						
O14K	Tigyukauivet M	23.12	56	P	P	15 30 41.3	+1.2
	baz=270						
L15K	Ungalak Mounta	23.18	50	P	P	15 30 41.4	+0.7
	baz=264						
K15K	Wolf Creek Mou	23.24	48	P	P	15 30 42.2	+1.0
K15K				IAmb	IAmb	15 30 59.9	
	comp=Z,24nm,1.4s						
K15K	Wolf Creek Mou	23.24	48	P	P	15 30 42.1	+0.8
	baz=262						
H16K	Elim	23.39	42	P	P	15 30 43.1	+0.4
	baz=256						
M15K	Kasigluk River	23.47	53	P	P	15 30 44.7	+1.2
	baz=267,SNR=11						
C16K	Lisburne Hills	23.49	33	P	P	15 30 43.8	+0.2
C16K				IAmb	IAmb	15 30 59.0	
	comp=Z,11nm,1.1s						
C16K	Lisburne Hills	23.49	33	P	P	15 30 43.9	+0.3
	baz=245						
G16K	Koyuk River	23.54	41	P	P	15 30 45.3	+1.1
	baz=254						
N15K	Kwethluk River	23.74	54	P	P	15 30 47.4	+1.3
N15K				IAmb	IAmb	15 30 48.4	
	comp=Z,16nm,1.1s						
N15K	Kwethluk River	23.74	54	P	P	15 30 47.6	+1.5
	baz=269						
J16K	Anvik River	23.81	46	P	P	15 30 48.1	+1.4
	baz=261						
SDPT	Sand Point	23.82	66	P	P	15 30 48.5	+1.7
	baz=280						
O15K	Ungalikthiuk R	23.86	56	P	P	15 30 49.0	+1.7
	baz=271						
I17K	Unalakleet	23.88	45	P	P	15 30 48.7	+1.4
	baz=260						
TIXI	Tiksi	23.91	337	P	P	15 30 45.7	-1.9
TIXI	Tiksi	23.91	337	LR	LR	15 41 09.6	
	comp=Z,154nm,20.8s,baz=158,slow=39						
TIXI	Tiksi	23.91	337	⇑*i*P	P	15 30 47.6	0.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
D17K	Noatak River	24.03	35	P	P	15 30 49.8	+1.1
	baz=249						
L16K	Owhat River	24.14	50	P	P	15 30 50.7	+1.0
	baz=266						
S14K	Fog Glacier	24.20	63	P	P	15 30 51.7	+1.2
	baz=278						
RDOG	Red Dog Mine	24.23	34	P	P	15 30 51.5	+1.0
	baz=248						
G17K	Kiwalik Mounta	24.26	41	P	P	15 30 51.3	+0.5
	baz=256						
E17K	Hotham Inlet	24.27	37	P	P	15 30 52.1	+1.2
	baz=252						
F17K	Baldwin Pennin	24.28	38	P	P	15 30 52.2	+1.2
	baz=254						
C17K	DeLong Mountai	24.30	33	P	P	15 30 52.1	+0.9
	baz=247						
M16K	Timber Creek	24.34	52	P	P	15 30 52.5	+0.9
	baz=268						
N16K	Nishlik Lake	24.41	53	P	P	15 30 54.0	+1.7
	baz=269						
H17K	Granite Mounta	24.43	42	P	P	15 30 53.9	+1.5
H17K				IAmb	IAmb	15 31 10.6	
	comp=Z,12nm,1.2s						
H17K	Granite Mounta	24.43	42	P	P	15 30 53.3	+0.9
	baz=258,SNR=5.0						
J17K	VABM Dome	24.51	46	P	P	15 30 54.0	+0.9
	baz=262						
L17K	Donlin	24.73	49	P	P	15 30 56.6	+1.5
	baz=266						
O16K	Kokwok River B	24.74	55	P	P	15 30 57.5	+2.2
	baz=272						
K17K	Iditarod	24.78	48	P	P	15 30 57.4	+1.8
	baz=265						
P16K	Nushagak River	24.81	57	P	P	15 30 57.5	+1.6
	baz=273,SNR=7.3						
E18K	Tukpahlearik C	24.82	36	P	P	15 30 57.4	+1.4
	baz=252						
CHGN	Chignik	24.83	63	P	P	15 30 58.1	+2.0
	baz=279						
F18K	Selawik	24.94	38	P	P	15 30 58.7	+1.8
	baz=255						
C18K	Utukok River	25.04	33	P	P	15 30 59.5	+1.5
	baz=249						
HIA	Hailar	25.05	280	P	P	15 30 57.2	-1.0
HIA				IAmb	IAmb	15 31 01.1	
	comp=Z,8.5nm,0.8s						
HIA	Hailar	25.05	280	P	P	15 30 57.2	-1.0
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
M17K	Holitna River	25.09	51	P	P	15 30 59.6	+1.1
M17K				IAmb	IAmb	15 31 02.3	
	comp=Z,21nm,0.9s						
M17K	Holitna River	25.09	51	P	P	15 30 59.5	+1.1
	baz=268,SNR=11						
H18K	Honhosa River	25.12	42	P	P	15 30 59.6	+1.0
	baz=260						
B18K	Kokolik River	25.12	32	P	P	15 30 59.2	+0.6
	baz=247						
G18K	Tagagawik	25.16	40	P	P	15 31 00.5	+1.5
	baz=258						
N17K	Nushagak Hills	25.19	53	P	P	15 31 01.0	+1.7
N17K	Nushagak Hills	25.19	53	P	P	15 31 01.1	+1.7
	baz=270,SNR=5.9						
O17K	Koliganek Bris	25.25	55	P	P	15 31 02.0	+2.2
	baz=272,SNR=6.6						
L18K	Granite Mounta	25.48	49	P	P	15 31 04.0	+2.1
	baz=267						
Q16K	King Salmon	25.53	57	P	P	15 31 04.4	+2.1
	baz=275						
J18K	Innoko River	25.57	46	P	P	15 31 04.0	+1.2
	baz=265						
P17K	Kvichak River	25.60	56	P	P	15 31 04.7	+1.7
	baz=274						
F19K	Shaleruckik Mo	25.72	38	P	P	15 31 05.3	+1.3
F19K	Shaleruckik Mo	25.72	38	P	P	15 31 05.4	+1.4
	baz=257						
N18K	Kilae Creek	25.83	53	IAmb	IAmb	15 31 08.3	
	comp=Z,9.6nm,0.9s						
N18K	Kilae Creek	25.83	53	P	P	15 31 07.5	+2.4
	baz=271,SNR=7.0						
G19K	Purcell Mounta	25.83	40	P	P	15 31 06.9	+1.8
	baz=259						
M18K	Stony River	25.87	51	P	P	15 31 07.2	+1.8
	baz=270						
H19K	Roundabout Mou	25.98	42	P	P	15 31 08.4	+2.0
	baz=261						
D19K	Kuna River	26.05	35	P	P	15 31 08.9	+1.7
	baz=253						
E19K	Redstone River	26.08	37	P	P	15 31 09.3	+2.0
	baz=256						
J19K	Poorman	26.11	45	P	P	15 31 09.1	+1.5
	baz=265						
O18K	Koktuh Hills	26.20	55	IAmb	IAmb	15 31 26.1	
	comp=Z,9.9nm,1.1s						
O18K	Koktuh Hills	26.20	55	P	P	15 31 10.1	+1.7
	baz=274						
P18K	Big Mountain,	26.21	56	IAmb	IAmb	15 31 24.2	
	comp=Z,12nm,0.9s						
P18K	Big Mountain,	26.21	56	P	P	15 31 10.5	+1.8
	baz=274,SNR=6.4						
L19K	White Mountain	26.34	49	P	P	15 31 11.5	+1.8
	baz=269						
KSRS	Korea Array	26.37	249	P	P	15 31 10.5	+0.3
	comp=Z,3.6nm,0.9s,baz=41,slow=8.9,SNR=8.0						
	comp=Z,3.6nm,0.9s						
Q18K	Katmai Hardscr	26.39	57	P	P	15 31 11.5	+1.2
	baz=276,SNR=10.0						
CHIR	Chirikof Islan	26.45	64	P	P	15 31 13.3	+2.5
	baz=281						
N19K	Bonanza Creek	26.52	52	P	P	15 31 13.2	+1.7
N19K				IAmb	IAmb	15 31 34.1	
	comp=Z,8.2nm,1.0s						
N19K	Bonanza Creek	26.52	52	P	P	15 31 14.0	+2.6
	baz=272,SNR=5.9						
M19K	Big River Lodg	26.55	50	P	P	15 31 13.4	+1.7
	baz=270						
H20K	Anotleneega Mo	26.61	42	P	P	15 31 13.4	+1.3
	baz=262						
O19K	Port Alsworth	26.62	54	P	P	15 31 14.6	+2.4
	baz=274						
D20K	Etivluk River	26.64	34	P	P	15 31 14.2	+1.7
	baz=254						
E20K	Nigu River	26.67	36	P	P	15 31 14.4	+1.7
	baz=256						
I20K	Naaghedeneel	26.69	43	P	P	15 31 15.2	+2.4
	baz=264						
K20K	Telida	26.75	47	P	P	15 31 15.5	+2.0
	baz=268						
J20K	Nowinta River	26.77	45	P	P	15 31 15.6	+2.0
	baz=266						
L20K	Farewell, AK	26.80	49	P	P	15 31 15.8	+1.8
	baz=269						
R18K	Karluk	26.81	60	P	P	15 31 16.1	+2.2
	baz=279						
B20K	Meade River	26.86	32	P	P	15 31 15.8	+1.5
	baz=251						
Q19K	Cape Douglas,	27.07	57	P	P	15 31 18.2	+1.9
	baz=277						
SII	Sitkinak Islan	27.11	62	P	P	15 31 18.8	+2.0
	baz=281						
M20K	Styx River	27.15	50	P	P	15 31 18.6	+1.5
	baz=271						
P19K	Oil Pt	27.21	55	P	P	15 31 19.9	+2.3
	baz=276						
G21K	Allakaket	27.32	40	P	P	15 31 20.4	+1.9
	baz=262						
C21K	Knifeblade Rid	27.40	34	P	P	15 31 20.8	+1.6
	baz=255						
O20K	Slope Mountain	27.48	54	P	P	15 31 21.6	+1.6
	baz=275						
OHAK	Old Harbor	27.48	60	P	P	15 31 21.9	+1.9
	baz=280						
A21K	Barrow	27.49	29	P	P	15 31 21.6	+1.7
	baz=249						
H21K	Melozitna Rive	27.49	42	P	P	15 31 21.5	+1.4
	baz=264						
E21K	Killik River	27.51	36	P	P	15 31 21.5	+1.3
	baz=258						
CHUM	Lake Minchumin	27.56	46	P	P	15 31 21.8	+1.1
	baz=268						
B21K	Ikpikpuk River	27.59	33	IAmb	IAmb	15 31 36.7	
	comp=Z,7.6nm,0.8s						
B21K	Ikpikpuk River	27.59	33	P	P	15 31 21.9	+1.1
	baz=255						
PPLA	Purkeypile	27.59	48	P	P	15 31 22.3	+1.2
	baz=270						
CAST	Castle Rocks	27.65	47	P	P	15 31 23.4	+1.9
	baz=269						
Q20K	Shuyak Island	27.75	57	P	P	15 31 23.7	+1.3
	baz=278						
KDAK	Kodiak Island	27.77	59	P	P	15 31 23.2	+0.6
	baz=280						
H22K	Ishtalitna Cre	28.10	41	P	P	15 31 26.8	+1.3
	baz=265						
BPAW	Bear Paw Mtn.	28.15	45	P	P	15 31 27.3	+1.3
	baz=269						
B22K	Teshekpuk Lake	28.18	32	P	P	15 31 27.3	+1.2
	baz=255						
E22K	Anaktuvuk Pass	28.24	37	P	P	15 31 27.7	+1.0
E22K	Anaktuvuk Pass	28.24	37	P	P	15 31 28.2	+1.5
	baz=260						
SUA	Susitna One	28.30	51	P	P	15 31 29.2	+1.7
	baz=274						
BRSE	Bradley Lake S	28.45	54	P	P	15 31 30.4	+1.7
	baz=277						
TRF	Thorofare Moun	28.45	47	P	P	15 31 30.3	+1.5
	baz=271						
G23K	Bananza Creek	28.73	40	P	P	15 31 32.2	+1.1
	baz=265						
D23K	Nanushuk River	28.80	35	P	P	15 31 32.4	+0.8
	baz=260						
RC01	Rabbit Creek A	28.82	52	P	P	15 31 33.1	+1.2
	baz=276						
H23K	Yukon River	28.85	42	P	P	15 31 33.4	+1.3
	baz=267						
I23K	Minto, Yukon-K	28.89	43	P	P	15 31 33.4	+0.9
	baz=268						
C23K	Itkillik River	28.99	33	IAmb	IAmb	15 31 48.7	
	comp=Z,6.1nm,0.8s						
C23K	Itkillik River	28.99	33	P	P	15 31 34.1	+0.8
	baz=259						
NEA2	Nenana	29.00	44	P	P	15 31 34.0	+0.6
	baz=270						
E23K	Chandalar	29.04	37	P	P	15 31 34.4	+0.5
	baz=263						
SEW	Seward	29.06	54	P	P	15 31 35.1	+1.2
	baz=278						
MCK	McKinley	29.06	46	P	P	15 31 34.5	+0.4
	baz=271						
PMR	Palmer	29.07	50	P	P	15 31 35.0	+1.0
	baz=275						
TOLK	Toolik Lake Re	29.14	36	P	P	15 31 35.3	+0.5
	baz=262						
KNK	Knik Glacier	29.40	51	P	P	15 31 38.2	+1.1
	baz=276						
SML	Sawmill	29.43	50	IAmb	IAmb	15 31 55.3	
	comp=Z,7.0nm,0.8s						
SML	Sawmill	29.43	50	P	P	15 31 38.2	+0.8
	baz=275						
E24K	Your Creek	29.46	37	P	P	15 31 38.3	+0.6
	baz=264						
D24K	Happy Valley	29.49	35	P	P	15 31 39.0	+1.2
	baz=262						
PWL	Port Wells	29.52	52	P	P	15 31 39.1	+0.9
	baz=277						
COLA	College	29.53	44⇓	*e*P	P	15 31 38.6	+0.5
COLA				pmax	pmax		
	comp=Z,27nm,5.1s						
H24K	Noodor Dome	29.53	42	P	P	15 31 39.2	+1.0
	baz=269						
C24K	Franklin Bluff	29.62	34	P	P	15 31 39.7	+0.8
	baz=261						
F24K	Squaw Lake	29.64	38	P	P	15 31 40.4	+1.2
	baz=266						
POKR	Poker Plat Res	29.70	43	P	P	15 31 41.1	+1.4
	baz=270						
M23K	Glacier View	29.72	50	P	P	15 31 41.2	+1.3
	baz=276						
G24K	Hadweenzic Riv	29.74	40	P	P	15 31 41.7	+1.7
	baz=268						
SCM	Sheep Creek Mo	29.90	50	P	P	15 31 42.6	+1.0
	baz=276						
HDA	Harding Lake	29.92	45	P	P	15 31 43.1	+1.4
	baz=272						
ILAR	Eielson Array	29.94	44	P	P	15 31 42.1	+0.3
	comp=Z,1.6nm,0.8s,baz=261,slow=7.9,SNR=20						
	comp=Z,1.6nm,0.8s						
GLI	Glacier Island	30.12	52	P	P	15 31 44.4	+1.0
	baz=278						
D25K	Kavik River	30.38	35	IAmb	IAmb	15 32 01.3	
	comp=Z,8.0nm,0.8s						
D25K	Kavik River	30.38	35	P	P	15 31 46.3	+0.7
	baz=264						
K24K	Donnelly Dome	30.46	46	P	P	15 31 47.5	+1.1
	baz=274						
F25K	Christian Rive	30.50	38	P	P	15 31 47.7	+1.0
	baz=268						
PRP	Porcupine Dome	30.50	42	P	P	15 31 47.9	+1.0
	baz=271,SNR=5.4						
E25K	Arctic Village	30.56	37	P	P	15 31 48.1	+0.9
	baz=267						
J25K	Salcha River,	30.59	44	P	P	15 31 48.2	+0.5
	baz=273						
KLU	Klutina	30.61	50	P	P	15 31 48.6	+0.8
	baz=278						
PAX	Paxson	30.66	47	P	P	15 31 48.7	+0.5
	baz=276						
EYAK	Cordova Ski Ar	30.82	52	P	P	15 31 50.6	+1.1
	baz=280						
RIDG	Independent Ri	30.88	46	P	P	15 31 50.9	+0.8
	baz=275						
C26K	Camden Bay	30.95	34	P	P	15 31 51.1	+0.5
	baz=264						
F26K	Sheenjek River	31.08	38	P	P	15 31 52.7	+0.8
	baz=269						
G26K	Porcupine Rive	31.20	40	P	P	15 31 54.2	+1.3
	baz=270						
SCRK	Sand Creek	31.24	45	IAmb	IAmb	15 32 07.3	
	comp=Z,8.2nm,1.2s						
SCRK	Sand Creek	31.24	45	P	P	15 31 54.4	+1.0
	baz=275						
BMRM	Bremner River	31.31	51	P	P	15 31 55.4	+1.5
	baz=280						
C27K	Jago River	31.34	34	P	P	15 31 54.9	+0.8
	baz=266						
J26L	Joseph Creek	31.38	44	P	P	15 31 56.1	+1.5
	baz=275						
KAIM	Kayak Island	31.58	53	P	P	15 31 57.9	+1.6
	baz=282						
L26K	Log Cabin Wild	31.61	47	P	P	15 31 58.1	+1.5
	baz=277						
M26K	Nabesna, AK	31.86	48	IAmb	IAmb	15 32 14.5	
	comp=Z,5.4nm,1.1s						
M26K	Nabesna, AK	31.86	48	P	P	15 31 59.9	+1.1
	baz=279						
E27K	Coleen River	32.05	37	P	P	15 32 01.6	+1.2
	baz=270						
G27K	Doyon Strip	32.05	40	P	P	15 32 01.5	+1.2
	baz=273						
K27K	Chicken	32.07	45	P	P	15 32 01.4	+0.9
	baz=277						
H27K	Steamboat Moun	32.12	41	P	P	15 32 02.1	+1.1
	baz=274						
I27K	Kandik River	32.13	42	P	P	15 32 02.1	+1.0
	baz=275						
D27M	Malcolm River	32.29	35	P	P	15 32 03.9	+1.4
	baz=269						
L27K	Beaver Creek,	32.30	47	IAmb	IAmb	15 32 18.8	
	comp=Z,7.8nm,0.8s						
L27K	Beaver Creek,	32.30	47	P	P	15 32 03.8	+1.2
	baz=278,SNR=14						
BCAR	Beaver Creek A	32.32	47	P	P	15 32 04.1	+1.3
M27K	Edge Creek, AK	32.38	48	IAmb	IAmb	15 32 19.3	
	comp=Z,6.6nm,1.1s						
M27K	Edge Creek, AK	32.38	48	P	P	15 32 04.8	+1.4
	baz=280						
H11N2	WAKE ISLAND Hy	32.72	167	T	T	16 07 04.9	
	baz=350,slow=76,SNR=143						
H11N3	WAKE ISLAND Hy	32.74	167	T	T	16 07 03.1	
	baz=350,slow=76,SNR=91						
H11N1	WAKE ISLAND Hy	32.74	167	T	T	16 07 05.6	
	baz=350,slow=76,SNR=175						
MESA	MESA	32.74	52	P	P	15 32 07.1	+0.3
	baz=283						
E28M	Babbage River	32.81	36	P	P	15 32 07.6	+0.6
	baz=272						
BVCY	Beaver Creek	32.84	48	P	P	15 32 08.7	+1.3
	baz=280						
I28M	Miner Creek	32.84	42	P	P	15 32 08.4	+1.0
	baz=276						
YUK3	Moose Creek	33.14	49	P	P	15 32 11.6	+1.5
	baz=282						
DAWY	Dawson	33.24	45	P	P	15 32 12.2	+1.4
	baz=279						
H29M	Whitestone	33.40	41	P	P	15 32 13.2	+1.0
	baz=276						
E29M	Blow River	33.42	37	P	P	15 32 12.8	+0.5
	baz=274						
O28M	Mount Upton	33.47	51	P	P	15 32 14.2	+1.1
	baz=283						
G29M	Pine Creek	33.47	39	IAmb	IAmb	15 32 28.7	
	comp=Z,5.0nm,0.8s						
G29M	Pine Creek	33.47	39	P	P	15 32 13.6	+0.8
	baz=276						
I29M	Ogilvie Camp,	33.52	42	P	P	15 32 14.3	+1.1
	baz=278						
PINM	Pinnacle	33.59	52	P	P	15 32 15.2	+1.2
	baz=284						
SONM	Songino Array	33.72	284	P	P	15 32 13.5	-1.8
	comp=Z,0.3nm,0.4s,baz=95,slow=3.2,SNR=2.4						
SONM				PcP	PcP	15 34 55.1	+1.1
	comp=Z,1.6nm,0.8s,baz=75,slow=1.8,SNR=8.6						
SONM				LR	LR	15 47 29.0	
	comp=Z,173nm,18.1s,baz=72,slow=39						
	comp=Z,0.3nm,0.4s						
H11S1	WAKE ISLAND Hy	33.90	167	T	T	16 08 35.8	
	baz=349,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	33.91	167	T	T	16 08 37.0	
	SNR=25						
H11S2	WAKE ISLAND Hy	33.92	167	T	T	16 08 35.8	
	baz=340,slow=76,SNR=12						
M29M	Somme Creek	33.93	47	IAmb	IAmb	15 32 33.1	
	comp=Z,4.3nm,0.7s						
M29M	Somme Creek	33.93	47	P	P	15 32 17.9	+0.9
	baz=282						
L29M	L29M	33.95	46	P	P	15 32 18.0	+1.0
	baz=281,SNR=8.1						
EPYK	Eagle Plains	34.05	40	P	P	15 32 18.4	+0.6
	baz=278						
K29M	Barlow Dome	34.09	45	P	P	15 32 19.0	+0.7
	baz=281						
PNL	Peninsula	34.12	53	P	P	15 32 19.6	+1.2
	baz=285						
G30M	tAoh Zraii Nji	34.17	39	P	P	15 32 19.7	+0.8
	baz=277						
F30M	Barrier River	34.27	38	P	P	15 32 20.8	+1.1
	baz=276						
YUK6	Outpost Mounta	34.30	50	P	P	15 32 21.4	+1.1
	baz=284						
I30M	Mount Dempster	34.35	42	IAmb	IAmb	15 32 41.0	
	comp=Z,3.7nm,0.9s						
I30M	Mount Dempster	34.35	42	P	P	15 32 21.6	+1.1
	baz=280,SNR=6.4						
O29M	Mount Kennedy	34.35	51	P	P	15 32 22.1	+1.4
	baz=285						
J30M	Hart River	34.47	43	P	P	15 32 22.4	+0.8
	baz=280						
M30M	Minto, Yukon	34.66	47	P	P	15 32 24.9	+1.8
	baz=283						
HYT	Haines Junctio	34.74	50	IAmb	IAmb	15 32 39.8	
	comp=Z,8.3nm,1.0s						
HYT	Haines Junctio	34.74	50	P	P	15 32 25.2	+1.3
	baz=285						

MAYO Mayo, Yukon 34.85 45 P P 15 32 26.3 +1.5
baz=282
P29M Windy Craggy 34.94 52 P P 15 32 26.8 +1.2
baz=286
G31M Satah River 34.94 39 P P 15 32 27.1 +1.7
baz=279
INK Inuvik 35.04 37 P P 15 32 26.9 +0.6
baz=278
F31M Tsiigehtchic 35.07 38 P P 15 32 27.5 +1.0
F31M IAmb IAmb 15 32 47.2
comp=Z,6.5nm,1.2s
F31M Tsiigehtchic 35.07 38 P P 15 32 27.4 +0.8
baz=278
H31M Peel River 35.09 41 P P 15 32 28.2 +1.4
baz=280
O30N Mendenhall 35.42 50 P P 15 32 31.1 +1.3
baz=286
PLBC Pleasant Camp 35.66 52 P P 15 32 33.1 +1.4
baz=288
M31M Drury Creek, Y 35.84 47 IAmb IAmb 15 32 49.5
comp=Z,7.3nm,0.9s
M31M Drury Creek, Y 35.84 47 P P 15 32 35.0 +1.7
baz=285
WHY Whitehorse 36.02 50 P P 15 32 36.7 +1.7
baz=287
SKAG Skagway 36.16 52 P P 15 32 37.6 +1.6
baz=288
S31K Pelican 36.19 55 P P 15 32 38.3 +2.1
baz=290
R31K City Hall, Gus 36.29 54 P P 15 32 39.4 +2.3
baz=289
FARO Faro, Yukon 36.30 47 P P 15 32 38.8 +1.6
baz=286
P32M Atlin 36.90 51 P P 15 32 44.1 +1.7
baz=289
R32K Eaglecrest 36.94 54 P P 15 32 44.6 +1.9
baz=290
MMPY Sheldon Lake, 37.13 46 P P 15 32 46.0 +1.7
baz=287
P33M Teslin, Yukon 37.13 50 P P 15 32 46.2 +1.8
baz=289
R33M Jennings River 38.29 51 IAmb IAmb 15 33 11.5
comp=Z,8.9nm,0.9s
R33M Jennings River 38.29 51 P P 15 32 55.8 +1.6
baz=291
U33K Whale Pass 38.44 56 P P 15 32 57.2 +1.9
baz=294
WRAK Wrangell Islan 38.72 56 P P 15 32 59.6 +1.9
baz=294
S34M Telegraph Cree 38.75 53 P P 15 32 59.9 +1.9
baz=293
TGTN Hyland Airport 38.80 47 P P 15 32 59.9 +1.5
baz=290
WTLY Watson Lake, Y 39.06 49 P P 15 33 02.2 +1.7
baz=292
DLBC Dease Lake 39.09 52 IAmb IAmb 15 33 17.9
comp=Z,6.2nm,0.9s
DLBC Dease Lake 39.09 52 P P 15 33 02.4 +1.5
baz=293
T35M Bob Quinn 39.55 54 IAmb IAmb 15 33 22.2
comp=Z,7.3nm,0.9s
T35M Bob Quinn 39.55 54 P P 15 33 05.8 +1.1
baz=294,SNR=5.8
WRGLY Wrigley 40.31 43 P P 15 33 11.9 +1.1
baz=292
TOAD Toad River Com 41.23 50 P P 15 33 19.7 +1.2
baz=295
LZH Lanzhou 41.87 270 *e*P **P 15 33 22.8 -1.4**
LZH sP sP 15 33 48.5 +9.3
LZH pmax pmax
comp=Z,16nm,1.2s
EUNU Eureka 43.15 13 P P 15 33 34.5 +0.6
EUNU IAmb IAmb 15 33 52.3
comp=Z,7.1nm,0.8s
YKA Yellowknife Ar 44.30 42 P P 15 33 42.7 -0.6
comp=Z,0.8nm,0.8s,baz=300,slow=8.2,SNR=10
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 44.30 42 *i* P **P 15 33 45.0 +1.7**
YKA pmax pmax
comp=Z,1.0nm,0.9s
RES Resolute Bay 44.53 21 P P 15 33 45.3 +0.3
RES Resolute Bay 44.53 21 P P 15 33 45.3 +0.3
RES pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 47.93 302 P P 15 34 10.2 -1.8
KURK IAmb IAmb 15 34 11.9
comp=Z,3.6nm,0.7s
KURK Kurchatov 47.93 302⇓ *e*P **P 15 34 09.5 -2.5**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK MLR MLR
comp=Z,128nm,18.0s
KURBB Kurchatov Arra 48.03 302 P P 15 34 11.4 -1.4
comp=Z,2.6nm,0.7s,baz=60,slow=7.9,SNR=22
KURBB PcP **PcP 15 35 40.1 0.0**
comp=Z,0.5nm,0.8s,baz=62,slow=4.0,SNR=4.3
comp=Z,2.6nm,0.7s
SPITS Spitsbergen Ar 48.16 350 P P 15 34 13.0 -0.4
comp=Z,9.0nm,1.0s,baz=57,slow=9.2,SNR=9.3
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 48.22 296 P P 15 34 12.1 -2.3
MK31 Makanchi Array 48.22 296 *de*P **P 15 34 12.5 -1.9**
MKAR Makanchi Array 48.22 296 P **P 15 34 12.4 -1.9**
comp=Z,0.6nm,0.6s,baz=55,slow=6.6,SNR=9.1
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 48.22 296 *i* P **P 15 34 12.6 -1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
B08A Colville Reser 49.64 60 IAmb IAmb 15 34 40.7
comp=Z,5.5nm,0.9s
PZH PanZhiHua 49.77 262 P P 15 34 27.8 +1.2
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
BVAR Borovoye Array 50.72 309 P P 15 34 30.7 -2.5
comp=Z,1.6nm,0.6s,baz=50,slow=7.9,SNR=8.6
BVAR PcP **PcP 15 35 49.2 -0.7**
comp=Z,0.5nm,0.4s,baz=78,slow=3.3,SNR=1.7
comp=Z,1.6nm,0.6s
BRVK Borovoye 50.75 309⇑ *e*P **P 15 34 32.3 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK MLR MLR
comp=Z,210nm,17.0s
J05D Fort Rock, OR 51.71 66 P P 15 34 42.8 +1.8
L04D Klamath Falls 51.78 68 P P 15 34 43.7 +2.2
SLVN Son La 52.31 256 P P 15 34 45.9 +0.3
SLVN IAmb IAmb 15 34 47.6
comp=Z,6.7nm,0.9s
BMO Blue Mountains 52.90 62 IAmb IAmb 15 35 05.5
comp=Z,2.3nm,0.7s
WVOR Wild Horse Val 53.72 65 IAmb IAmb 15 34 59.3
comp=Z,5.4nm,1.1s
PAHR Pah Rah Range 55.09 68 IAmb IAmb 15 35 22.0
comp=Z,4.4nm,0.8s
AAK Ala-Archa 55.15 296⇓ *e*P **P 15 35 03.4 -2.9**
AAK pmax pmax
comp=Z,6.0nm,2.6s
AAK MLR MLR
comp=Z,84nm,15.0s
UBPT Khong Chiam 56.09 250 P P 15 35 13.8 +0.7
RYN Ryan 56.31 69 IAmb IAmb 15 35 32.1
comp=Z,4.3nm,0.9s
NVAR Mina Array Bea 56.57 69 P P 15 35 17.9 +1.4
comp=Z,1.6nm,0.7s,baz=293,slow=8.1,SNR=11
comp=Z,1.6nm,0.7s
LHV Little Huntoon 56.58 69 IAmb IAmb 15 35 33.4
comp=Z,6.7nm,0.9s
CHTO Chiang Mai 57.22 258 P P 15 35 21.4 +0.3
CHTO Chiang Mai 57.22 258 P P 15 35 21.4 +0.3
CHTO pmax pmax
comp=Z,8.0nm,0.8s
LOHW Long Hollow 57.35 60 IAmb IAmb 15 35 38.9
comp=Z,4.5nm,0.9s
CMAR Chiang Mai Arr 57.49 258 P P 15 35 24.0 +1.0
CMAR Chiang Mai Arr 57.49 258 P P 15 35 23.5 +0.5
comp=Z,5.0nm,0.8s,baz=22,slow=7.2,SNR=32
comp=Z,5.0nm,0.8s
R11B Troy Canyon, C 58.19 67 IAmb IAmb 15 35 43.9
comp=Z,2.5nm,0.8s
PDAR Pinedale Array 58.48 60 P P 15 35 31.6 +1.6
PDAR Pinedale Array 58.48 60 P P 15 35 30.8 +0.9
comp=Z,1.3nm,0.7s,baz=319,slow=2.4,SNR=17
comp=Z,1.3nm,0.7s
ULM Lac du Bonnet 59.93 46 P P 15 35 39.8 +0.2
comp=Z,0.6nm,0.4s,baz=290,slow=1.9,SNR=2.0
comp=Z,0.6nm,0.4s

GAR Garm 59.95 296 P P 15 35 39.4 -0.6
GAR IAmb IAmb 15 35 40.1
comp=Z,4.3nm,0.8s
LCMT Little Creek M 60.45 67 IAmb IAmb 15 35 59.9
comp=Z,4.4nm,0.9s
SRU San Rafael Swe 60.50 63 P P 15 35 45.7 +1.9
SRU San Rafael Swe 60.50 63 P P 15 35 45.7 +1.9
SRU pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 60.96 336 P P 15 35 45.4 -1.0
comp=Z,1.9nm,0.6s,baz=19,slow=6.5,SNR=6.5
comp=Z,1.9nm,0.6s
FINES FINESS Array B 60.96 336 *i* P **P 15 35 46.2 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
PV23 Carpenter Ridg 61.80 63 P P 15 35 55.5 +2.7
OBN Obninsk 63.20 327⇑ *e*P **P 15 36 01.7 +0.2**
OBN *e* 15 38 19.4
OBN pmax pmax
comp=Z,85nm,3.7s
OBN MLR MLR
comp=Z,100nm,17.0s
NB2 NORSAR Subarra 64.48 343 P P 15 36 09.8 -0.1
comp=Z,30nm,1.2s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.48 343 P P 15 36 09.8 -0.1
baz=23,slow=6.9
NOA NORSAR Array B 64.48 343 P P 15 36 09.6 -0.4
comp=Z,3.6nm,0.8s,baz=21,slow=6.7,SNR=12
comp=Z,3.6nm,0.8s
HFS Hagfors 64.87 342 P P 15 36 12.0 -0.3
comp=Z,3.1nm,0.6s,baz=60,slow=5.8,SNR=15
comp=Z,3.1nm,0.6s
SCHQ Schefferville 66.86 27 P P 15 36 24.6 -0.7
comp=Z,3.0nm,0.9s,baz=339,slow=5.7,SNR=4.3
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 69.33 329 P P 15 36 39.5 -1.3
comp=Z,2.9nm,0.6s,baz=30,slow=6.2,SNR=16
comp=Z,2.9nm,0.6s
AKASG Malin Array Be 69.33 329 *i* P **P 15 36 40.0 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 69.33 329⇑ *e*P **P 15 36 40.4 -0.4**
KIEV Kiev 69.34 329 P P 15 36 39.9 -1.0
comp=Z,37nm,1.0s
MI28 Mi28,Pidlybu 69.62 330 P P 15 36 42.8 +0.2
KIV Kislovodsk 69.93 317 *e*P **P 15 36 45.3 +0.5**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,71nm,17.0s
KBZ Khabaz 70.02 316 P P 15 36 43.5 -1.7
comp=Z,1.2nm,0.7s,baz=86,slow=3.5,SNR=3.8
comp=Z,1.2nm,0.7s
LUBAR Lubar, Ukraine 70.47 329 P P 15 36 47.2 -0.7
EKA Eskdalemuir Ar 72.07 350 P P 15 36 57.8 +0.4
comp=Z,0.5nm,0.4s,baz=17,slow=5.2,SNR=9.2
comp=Z,0.5nm,0.4s
KMPD K-Podol'skiy 72.08 329 P P 15 36 56.9 -0.6
STNU Starunia 72.55 331 P P 15 36 59.3 -1.1
STHS Stebnicka Huta 72.88 333 *e*P **P 15 37 01.9 -0.5**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 72.88 333 *e*P **P 15 37 01.9 -0.5**
KOLS Kolonicke sedl 73.02 332 *e*P **P 15 37 03.6 +0.4**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 73.02 332 *e*P **P 15 37 03.6 +0.4**
KOLS *e* 15 57 48.2
CLL Collm 73.23 339 *i* P **P 15 37 04.8 +0.5**
CLL *e*PP **PcP 15 37 19.0 -1.7**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 73.23 339 P P 15 37 04.1 -0.2
CLL Collm 73.23 339 *i* P **P 15 37 04.8 +0.5**
comp=Z,8.0nm,1.1s
CLL *e*pP **PcP 15 37 19.0 -1.7**
BUR08 Bucovina Ar. S 73.28 330 IAmb IAmb 15 37 07.6
comp=Z,3.7nm,0.8s
BURAR Bucovina Array 73.31 330 ⇑P P 15 37 04.1 -0.9
BURAR Bucovina Array 73.31 330 ⇑P P 15 37 04.1 -0.9
DPC Dobruska-Polom 73.33 336 *e*P **P 15 37 06.7 +1.6**
DPC Dobruska-Polom 73.33 336 *e*P **P 15 37 06.7 +1.6**
DPC MLR MLR
comp=Z,800nm,20.4s
BRG Berggiesshubel 73.42 338 *e*P **P 15 37 06.6 +1.1**
BRG Amp 15 37 07.4
comp=Z,5.7nm,1.1s
BRG ⇓*i*Pif 15 41 39.7
BRG Amp 15 41 40.7
comp=Z,12nm,1.1s
BERU Beregovo 73.54 331 P P 15 37 05.7 -0.5
MORC Moravsky Berou 73.55 335 P P 15 37 05.9 -0.5
MORC IAmb IAmb 15 37 08.4
comp=Z,6.8nm,0.9s
MORC Moravsky Berou 73.55 335 *e*P **P 15 37 07.3 +0.9**
MORC Moravsky Berou 73.55 335 ⇓P P 15 37 07.5 +1.1
MORC Moravsky Berou 73.55 335 ⇓P P 15 37 07.5 +1.1
TESR Tescani 73.82 328 ⇑P P 15 37 07.8 -0.1
VRAC Vranov 74.22 336 *e*P **P 15 37 11.2 +1.0**
VRAC Vranov 74.22 336 ⇑P P 15 37 11.3 +1.0
VRAC Vranov 74.22 336 ⇑P P 15 37 11.3 +1.0
JAVC Velka Javorina 74.36 335 *e*P **P 15 37 12.8 +1.7**
VRI Vrincioaia 74.36 328 ⇓P P 15 37 07.7 -3.5
VRI Vrincioaia 74.36 328 ⇓P P 15 37 07.7 -3.5
KRUC Moravsky 74.50 336 *e*P **P 15 37 13.4 +1.5**
TPGR Topolog 74.68 326 ⇓P P 15 37 13.2 +0.3
ZVC Zvikov 74.70 337 *e*P **P 15 37 13.9 +0.9**
DRGR 74.81 331 ⇓P P 15 37 13.5 -0.3
DRGR 74.81 331 ⇓P P 15 37 13.5 -0.3
WRA Warramunga Arr 74.87 204 P P 15 37 13.9 -0.3
comp=Z,2.5nm,0.8s,baz=17,slow=6.1,SNR=8.4
comp=Z,2.5nm,0.8s
WRA Warramunga Arr 74.87 204 *i* P **P 15 37 15.0 +0.8**
WRA pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 74.95 328 ⇑P P 15 37 15.5 +0.8
MLR Muntele Rosu 74.95 328 ⇑P P 15 37 15.5 +0.8
TIRR Tirgusor 75.03 326 ⇓P P 15 37 14.5 -0.4
TIRR Tirgusor 75.03 326 ⇓P P 15 37 14.5 -0.4
ISR Istrita 75.08 327 ⇑P P 15 37 16.6 +1.2
ISR Istrita 75.08 327 ⇑P P 15 37 16.6 +1.2
KHC Kasperske Hory 75.13 338 *e*P **P 15 37 15.9 +0.4**
KHC Kasperske Hory 75.13 338 *ce*P **P 15 37 17.1 +1.6**
KHC pmax pmax
comp=Z,12nm,1.3s
VOIR 75.29 329 ⇑P P 15 37 16.8 +0.2
VOIR 75.29 329 ⇑P P 15 37 16.8 +0.2
GERES GERESS Array B 75.37 337 P P 15 37 16.6 -0.4
comp=Z,1.3nm,0.6s,baz=32,slow=5.3,SNR=13
comp=Z,1.3nm,0.6s
ARR Arges 75.49 329 ⇑P P 15 37 18.7 +1.0
SIRR Siria 75.60 331 ⇑P P 15 37 19.0 +0.7
CONA Conrad Observa 75.69 336 *e*P **P 15 37 19.6 +0.8**
comp=Z,1.0nm,0.5s
RONA Rosalia, Austr 75.79 335 *i* P **P 15 37 19.8 +0.4**
comp=Z,1.1nm,0.5s
GZR Gura Zlata 76.05 330 ⇓P P 15 37 20.3 -0.6
GZR Gura Zlata 76.05 330 ⇓P P 15 37 20.3 -0.6
MOA Molln 76.16 337 *e*P **P 15 37 21.7 +0.3**
comp=Z,0.4nm,0.3s
BZS Buzias 76.20 331 ⇑P P 15 37 20.3 -1.3
BZS Buzias 76.20 331 ⇑P P 15 37 20.3 -1.3
ARSA Arzberg 76.40 336 *e*P **P 15 37 23.1 +0.3**
comp=Z,0.4nm,0.3s
MORH Mrgy, Hungar 76.52 333 ⇓P P 15 37 23.7 +0.3
HERR Herculane 76.62 330 ⇑P P 15 37 23.7 -0.3
LESA Schwarzleotal 76.94 337 *i* P **P 15 37 27.4 +1.4**
comp=Z,0.8nm,0.5s
SOKA Soboth 77.06 336 *i* P **P 15 37 27.1 +0.5**
comp=Z,0.9nm,0.4s,SNR=5.1
KBA Koelnbreinsper 77.10 337 *i* P **P 15 37 28.4 +1.4**
comp=Z,7.2nm,0.9s
BRTR Keskin Array B 77.18 320 P P 15 37 27.1 -0.4
comp=Z,1.0nm,0.7s,baz=1.9,slow=3.7,SNR=6.0
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 77.18 320 *i* P **P 15 37 27.7 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
WATA Walderalm 77.28 338 *i* P **P 15 37 28.8 +0.9**
comp=Z,0.3nm,0.2s
PALK Pallekele 77.30 266 ⇑P P 15 37 27.8 -0.6
WTTA Wattenberg 77.33 338 *i* P **P 15 37 30.1 +1.9**
comp=Z,0.6nm,0.3s
OBKA Obir 77.34 336 *i* P **P 15 37 28.7 +0.5**
comp=Z,0.6nm,0.3s

MOTA Moosalm 77.38 338 *i* P **P 15 37 29.8 +1.3**
comp=Z,0.4nm,0.3s
SQTA Sankt Quirin 77.47 338 *i* P **P 15 37 30.1 +1.1**
comp=Z,0.8nm,0.3s
ABTA Abfaltersbach 77.61 337 *i* P **P 15 37 30.8 +1.1**
comp=Z,1.7nm,0.6s
PRED Cave del Predi 77.64 337 P P 15 37 29.4 -0.5
PRED IAmb IAmb 15 37 31.4
comp=Z,3.7nm,0.9s
FETA Feichten 77.77 339 *i* P **P 15 37 31.8 +1.1**
comp=Z,1.5nm,0.7s
ASAR Alice Springs 78.55 204 P P 15 37 35.5 +0.6
comp=Z,1.5nm,0.7s,baz=13,slow=5.3,SNR=32
comp=Z,1.5nm,0.7s
TUE Stuetta 78.60 339 P P 15 37 35.0 -0.3
TUE IAmb IAmb 15 37 56.4
comp=Z,4.5nm,1.1s
ESDC Sonseca Array 87.57 347 P P 15 38 21.2 -0.4
comp=Z,1.1nm,0.7s,baz=1.0,slow=4.4,SNR=9.8
comp=Z,1.1nm,0.7s
H03N2 Juan Fernandez 134.67 89 T T 18 15 23.9
baz=314,slow=77,SNR=48
H03N1 Juan Fernandez 134.68 89 T T 18 15 25.2
baz=314,slow=77,SNR=91
H03N3 Juan Fernandez 134.69 90 T T 18 15 24.9
baz=314,slow=77,SNR=43
PLCA Paso Flores 144.45 92 PKP **PKPdf 15 45 07.6 -1.6**
comp=Z,1.0nm,0.7s,baz=309,slow=3.7,SNR=4.5

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*UCR **31** 15:27:48.6±1.7, 10°.69S×78°.30W, h29km, MB5.5(NEIC)*
*IDC **31** 15:27:53.5±0.4, 9°.84S×79°.28W, h0km, mb5.4/24, mbtmp5.3/27, ML4.7/3, MS5.2/45, Error ellipse: s-maj=16.4km s-min=9.5km az=54.0*
*VAO **31** 15:27:55.4±0.3, 9°.89S×79°.31W, h10km, mb5.4*
*MOS **31** 15:27:56.8±1.0, 9°.81S×79°.32W, h27km, mb5.8/31, MS5.1/12, Error ellipse: s-maj=12.0km s-min=7.0km az=105.2*
*RSNC **31** 15:27:56.3±1.0, 10°S±9°×7°9W±°, h21km, M5.7, mB6.1, mb5.8, Mw(mB)5.4, MwMwp5.5, Mwp5.6*
*NEIC **31** 15:27:57.9±1.3, 9°.97S±0°.06×79°.3W±0°.1, h29km±1km, mb5.8/902, Ms_20 5.2/542, Mwb5.4/50, Mww5.5/56, Error ellipse: s-maj=22.3km s-min=7.8km az=252.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.70; Mθθ-1.41; Mφφ-0.29; Mrθ-0.05; Mθφ-0.58; Mφr0.41; Fault plane solution: M0 1.73000×10¹⁷ NP1: φs258.89000°, δ44.35000°, λ107.40000°. NP2: φs55.22000°, δ48.16000°, λ73.70000°. Principal axes: T 1.7903, Plg78.0000°, Azm256.0000°; N -0.1286, Plg12.0000°, Azm66.0000°; P -1.6618, Plg2.0000°, Azm157.0000°;*
*NEIC **31** 15:27:57.6, 9°.95S×79°.33W, h30km*
*NEIC **31** 15:27:57.6, 9°.85S×79°.23W, h30km, Moment Tensor Solution. Duration: 2±9 Moment tensor: Scale 10¹⁷Nm; Mrr2.69; Mθθ-2.27; Mφφ-0.42; Mrθ0.11; Mθφ-0.34; Mφr0.62; Fault plane solution: M0 2.57000×10¹⁷ NP1: φs269.92000°, δ43.40000°, λ105.36000°. NP2: φs69.21000°, δ48.51000°, λ75.94000°. Principal axes: T 2.8095, Plg79.0000°, Azm273.0000°; N -0.4721, Plg10.0000°, Azm79.0000°; P -2.3374, Plg3.0000°, Azm169.0000°;*
*NEIC **31** 15:27:57.8, 9°.95S×79°.33W, h28km*
*GCMT **31** 15:28:00.9±0.1, 9°.81S±0°.01×79°.48W±0°.01, h29km, MW5.6/161, Moment Tensor Solution. s148, c256; s161, c286; Duration: 1±5 Moment tensor: Scale 10¹⁷ Nm; Mrr2.66±.03; Mθθ-2.40±.02; Mφφ-0.25±.03; Mrθ-0.48±.04; Mθφ-0.58±.02; Mφr0.66±.05; Best double couple: M0 2.71800×10¹⁷ NP1: φs62.00000°, δ43.00000°, λ69.00000°. NP2: φs270.00000°, δ50.00000°, λ109.00000°. Principal axes: T 2.8720, Plg75.0000°, Azm243.0000°; N -0.3070, Plg14.0000°, Azm78.0000°; P -2.5640, Plg4.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 15:27:59.5±0.4, 9°.94S±0°.04×79°.36W±0°.04, h41km±3km, h41km:pP-P, n1576, σ1.9±20/1005, mb5.8/474, MS5.2/331, 28C-39D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.95**	**19**	Pn			**Pn**	**15 28 44.9**	**+0.6**
	259nm,0.3s,baz=220,slow=9.0,SNR=247								
ATAH				Sn			**Sn**	**15 29 20.5**	**+1.8**
	2μm,0.3s,baz=300,slow=20,SNR=6.0								
ATAH				Lg			Lg	15 29 26.5	
	1μm,0.3s,baz=105,slow=20,SNR=8.9								
ATAH				LR			LR	15 30 03.0	
	comp=Z,80μm,18.6s,baz=223,slow=46								
NNA	**Nana**	**3.20**	**130**	Pn			**Pn**	**15 28 47.0**	**-0.4**
NNA	**Nana**	**3.20**	**130**	Pn			**Pn**	**15 28 45.3**	**-2.1**
	581nm,0.3s,baz=313,slow=12,SNR=621								
NNA				Sn			**Sn**	**15 29 26.0**	**+1.6**
	723nm,0.3s,baz=54,slow=6.5,SNR=5.5								
NNA				LR			LR	15 29 31.9	
	comp=Z,11μm,18.3s,baz=318,slow=31								
NNA				Lg			Lg	15 29 37.6	
	1μm,0.3s,baz=266,slow=21,SNR=8.4								
	2μm,0.4s								
NNA	**Nana**	**3.20**	**130**	*d*			**Pn**	**15 28 47.3**	**-0.1**
CZSB	**Cruzeiro do Su**	**6.94**	**72**	Pn			**Pn**	**15 29 37.6**	**-1.0**
CZSB	**Cruzeiro do Su**	**6.94**	**72**	*e*P			**Pn**	**15 29 37.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**6.94**	**72**	P			**Pn**	**15 29 38.4**	**-0.3**
	18μm52μm4μm,0.5s								
COHC	**Cochancay**	**7.43**	**1**				**Pn**	**15 29 44.9**	**-0.5**
COHC	**Cochancay**	**7.43**	**1**	P			**Pn**	**15 29 44.7**	**-0.7**
	23μm51μm6μm,0.8s								
PPLP	**Puerto Lpez**	**8.46**	**350**	P			**Pn**	**15 29 58.4**	**-1.2**
	19μm2μm,0.8s								
PIAT	**Ana Tenorio**	**8.96**	**7**	P			**Pn**	**15 30 05.9**	**-0.8**
	22μm20μm3μm,1.1s								
SLOR	**San Lorenzo -**	**9.19**	**5**				**Pn**	**15 30 09.4**	**-0.7**
OTAV	**Otavalo**	**10.15**	**5**				**Pn**	**15 30 21.6**	**-1.6**
OTAV	**Otavalo**	**10.15**	**5**	P			**Pn**	**15 30 21.6**	**-1.6**
OTAV	**Otavalo**	**10.15**	**5**	*e*P			**Pn**	**15 30 21.9**	**-1.3**
OTAV	**Otavalo**	**10.15**	**5**	P			**Pn**	**15 30 22.3**	**-0.9**
	18μm11μm719nm,1.5s								
PAC1	**Pacto, Paraso**	**10.16**	**3**	P			**Pn**	**15 30 22.0**	**-1.0**
CUSE	**Cuicocha Este**	**10.23**	**5**	P			**Pn**	**15 30 24.5**	**+0.3**
	13μm848nm,0.7s								
BONI	**La Bonita**	**10.49**	**10**	P			**Pn**	**15 30 25.6**	**-2.0**
	17μm9μm974nm,1.1s								
TULM	**Tulcn-Chalpat**	**10.71**	**9**	P			**Pn**	**15 30 31.2**	**+0.4**
	20μm2μm,1.2s								
CMBC	**Cumbal**	**10.92**	**8**	P			**Pn**	**15 30 34.5**	**+0.8**
TBTG	**Tabatinga, AM**	**10.98**	**59**				**Pn**	**15 30 32.4**	**-1.8**
TBTG	**Tabatinga, AM**	**10.98**	**59**	*e*P			**Pn**	**15 30 32.4**	**-1.8**
PTLC	**Puerto Leguiza**	**11.03**	**25**	P			Pn	15 30 28.2	-6.6
	12μm19μm2μm,0.8s								
CRUC	**La Cruz**	**11.68**	**12**	P			**Pn**	**15 30 44.5**	**+0.4**
TUMC	**Tumaco**	**11.71**	**3**				**Pn**	**15 30 43.3**	**-0.8**
FLOC	**Florencia**	**12.03**	**18**	Pn			**Pn**	**15 30 44.5**	**-4.0**
FLOC	**Florencia**	**12.03**	**18**	P			**Pn**	**15 30 45.1**	**-3.4**
	11μm8μm650nm,1.0s								
BBAC	**Balboa, Cauca**	**12.07**	**10**	P			**Pn**	**15 30 48.6**	**-0.6**
	15μm5μm383nm,1.4s								
PB12	**IPOC Station P**	**12.28**	**136**	Pn			**Pn**	**15 30 49.1**	**-2.9**
LPAZ	**La Paz**	**12.62**	**121**	Pn			**Pn**	**15 30 54.3**	**-2.8**
LPAZ	**La Paz**	**12.62**	**121**	Pn			**Pn**	**15 30 54.4**	**-2.7**
	0.9nm,0.3s,baz=302,slow=11,SNR=14								
LPAZ				Lg			Lg	15 34 30.5	
	0.8nm,0.3s,baz=189,slow=16,SNR=1.8								
LPAZ				LR			LR	15 36 18.9	
	comp=Z,35μm,18.9s,baz=308,slow=40								
	5.0nm,0.6s								
LPAZ	**La Paz**	**12.62**	**121**	P			**Pn**	**15 30 54.3**	**-2.8**
LPAZ	**La Paz**	**12.62**	**121**	*e*P			**Pn**	**15 30 55.1**	**-2.0**
GARC	**Garzon, Huila**	**12.65**	**18**	P			**Pn**	**15 30 53.8**	**-3.4**
	10μm8μm695nm,0.5s								
PB16	**IPOC Station P**	**12.68**	**132**				**Pn**	**15 30 54.9**	**-2.9**
POPC	**Popayan, Colom**	**12.69**	**12**	P			**Pn**	**15 30 57.2**	**-0.5**
	14μm6μm331nm,1.6s								
MACC	**Macarena, Meta**	**13.21**	**25**	P			**Pn**	**15 31 02.1**	**-2.5**
	8μm7μm797nm,1.0s								
PB11	**IPOC Station P**	**13.53**	**137**				**Pn**	**15 31 06.0**	**-3.1**
TA02	**Huaiquique**	**13.59**	**140**				**Pn**	**15 31 08.0**	**-1.7**
HMBC	**Humberstone**	**13.75**	**139**				**Pn**	**15 31 09.5**	**-2.5**
TA01	**Diego Aracena**	**13.78**	**141**	Pn			**Pn**	**15 31 09.6**	**-2.7**
PATCX	**Punta Patache**	**13.98**	**142**				**Pn**	**15 31 12.8**	**-2.4**
GUVC	**San Jose del G**	**14.10**	**29**	P			**Pn**	**15 31 14.4**	**-2.4**

YOTC Yotoco, Valle 14.16 12 P Pn 15 31 16.9 -0.7
8µm2µm160nm,1.3s
PAYG Puerto Ayora 14.24 310 Pn **Pn 15 31 17.7 -1.0**
PRAC Prado 14.28 18 P Pn 15 31 17.7 -1.5
7µm4µm233nm,1.7s
ORTC Ortega, Tolima 14.36 17 P Pn 15 31 20.8 +0.5
8µm8µm698nm,1.3s
PB01 IPOC Station P 14.56 140 Pn 15 31 20.8 -2.3
VILC Villavicencio, 15.06 22 P Pn 15 31 29.2 -0.5
211nm5µm468nm,0.9s
CVER Cruz Verde, Cu 15.30 20 P P 15 31 36.4 -1.1
ROSC El Rosal 15.52 19 Pn **Pn 15 31 35.5 -0.4**
8.0nm,0.3s,baz=191,slow=6.7,SNR=37
ROSC LR LR 15 38 44.0
comp=Z,43µm,18.5s,baz=191,slow=42
ROSC El Rosal 15.52 19 P P 15 31 38.0 -1.8
7µm693nm,1.3s
CHIC Chingaza 15.53 21 P P 15 31 40.6 +0.7
PB05 IPOC Station P 15.54 147 Pn **Pn 15 31 34.5 -1.5**
GUY2C Guyana, Caldas 15.58 15 P P 15 31 39.0 -1.6
PTGC Puerto Gaitan, 15.79 27 P P 15 31 41.8 -0.6
TEFE Tefe 15.95 67 *eP* **Pn 15 31 39.4 -1.8**
CBOC Ciudad Bolivar 16.05 12 P Pn 15 31 42.2 -0.4
10µm7µm560nm,1.0s
HELC Santa Helena 16.48 14 P Pn 15 31 47.5 -0.6
15µm7µm345nm,1.5s
PB14 IPOC Station P 16.91 151 P Pn 15 31 52.4 -1.1
RUSC La Rusia 16.93 22 P P 15 31 54.8 -0.7
8µm22µm2µm,1.8s
PTAC Punta Ardita, 17.05 5 *i* P **Pn 15 31 53.1 -1.9**
PTAC Punta Ardita, 17.05 5 P Pn 15 31 54.5 -0.5
7µm408nm,1.8s
PTBC PUERTO BERRIO, 17.09 17 P Pn 15 31 54.7 -0.8
1µm101nm,1.2s
DBBC Dabeiba 17.14 11 P P 15 31 56.5 -0.9
CACAO El Cacao, Vera 17.24 355 P P 15 31 58.9 +0.5
BARC Barichara 17.54 21 P P 15 32 02.2 +0.2
AZU Azuero 17.64 357 *eP* **Pn 15 32 01.8 -0.5**
AZU Azuero 17.64 357 P Pn 15 32 02.2 -0.1
10µm8µm572nm,1.2s
GMAL Guarumal, Vera 17.69 354 *eP* **Pn 15 32 03.1 +0.2**
GMAL Guarumal, Vera 17.69 354 P P 15 32 03.2 -0.2
8µm430nm,1.7s
ZARC Zaragoza, Cauc 17.89 15 P P 15 32 06.0 +0.3
6µm371nm,1.5s
TAMC Tame, Arauca 17.93 25 P P 15 32 06.0 -0.2
9µm497nm,1.0s
APAC Apartado, Choc 17.94 9 P P 15 32 06.8 +0.6
10µm18µm1µm,1.7s
UREC San Jos de Ur 17.99 12 ⇓ *iP* **Pn 15 32 04.6 -2.0**
UREC San Jos de Ur 17.99 12 P Pn 15 32 05.6 -1.0
11µm4µm339nm,1.4s
YJA Yavi 18.01 134 *iP* **P 15 32 10.0 +2.7**
PNME Penonome 18.33 357 *eP* **P 15 32 09.7 -0.8**
PAMC Pamplona, Colo 18.41 21 P Pn 15 32 11.8 -0.3
CAPC Capurgana 18.57 6 P Pn 15 32 16.7 +3.1
12µm635nm,1.5s
PIRO Carate, Puerto 18.65 348 *eP* **Pn 15 32 14.5 -0.1**
JIME Puerto Jimenez 18.78 348 *eP* Pn 15 32 24.5 +8.4
TOTI Torti 18.78 3 *eP* **P 15 32 15.3 -0.1**
TOTI *eS* **S 15 35 47.5 +0.4**
ZANG Zanguenga, Cho 18.78 358 *eP* **Pn 15 32 15.7 -0.5**
UPA Univ. de Panam 18.80 359 ⇓ *iP* **P 15 32 15.2 -0.4**
SIV San Ignacio 18.80 111 P P 15 32 14.2 -1.5
0.2nm,0.3s,baz=287,slow=11,SNR=166
SIV Lg Lg 15 37 35.2
0.2nm,0.3s,baz=103,slow=17,SNR=3.5
SIV LR LR 15 39 56.2
comp=Z,15µm,18.2s,baz=300,slow=38
93nm,0.9s
NELY Ciudad Neily 18.81 349 *eP* **Pn 15 32 17.0 +0.4**
SALTA 18.86 140 *iP* **Pn 15 32 19.0 +1.4**
BRU2 Volcan 18.91 350 P P 15 32 16.5 -0.5
BRU2 Volcan 18.91 350 *iP* **Pn 15 32 18.3 +0.4**
BRU2 *eS* **S 15 35 53.9 +4.0**
BRU2 Volcan 18.91 350 ⇓ *iP* **Pn 15 32 18.2 +0.4**
GAMB1 Gamboa 18.94 359 *eP* **P 15 32 17.3 +0.1**
BCIP Isla Barro Col 18.99 359 ⇓ *iP* **P 15 32 17.3 -0.4**
BCIP *eS* **S 15 35 52.8 +1.4**
BCIP Isla Barro Col 18.99 359 ⇓ *eP* **P 15 32 16.4 -1.3**
BCIP Isla Barro Col 18.99 359 P Pn 15 32 18.2 -0.5
6µm313nm,1.6s
VILB Vilhena 19.02 101 P P 15 32 16.9 -1.2
VILB Vilhena 19.02 101 *eP* **P 15 32 17.0 -1.0**
OCAC Ocana 19.04 19 P P 15 32 17.7 -0.7
7µm11µm1µm,1.1s
ALCO Alturas Coton, 19.09 349 *eP* **Pn 15 32 19.8 -0.2**
EDP2 Potrero Grande 19.21 348 *eP* **Pn 15 32 21.4 0.0**
FIMO Fila Mora 19.22 348 *eP* **Pn 15 32 21.7 +0.1**
AC02 Maricunga 19.39 151 *iP* **Pn 15 32 25.6 +1.7**
DRK0 Durika 19.47 348 *eP* **P 15 32 23.3 +0.2**
GO03 Copiapo 19.55 155 *iP* **Pn 15 32 27.4 +2.0**
MACA Manacapuru-AM 19.73 71 P P 15 32 24.9 -0.9
MACA Manacapuru-AM 19.73 71 *eP* **P 15 32 25.0 -0.9**
SLA San Lorenzo 19.74 140 *iP* **Pn 15 32 29.9 +2.0**
PISJ San Jernim 20.02 346 *eP* **Pn 15 32 30.6 -0.5**
PICV PH. Pirrs 20.03 346 *eP* **P 15 32 29.8 +0.7**
ABE2 San Pablo 20.07 346 *eP* Pn 15 32 31.4 -0.4
LCR2 La Lucha 2 20.09 347 P 15 32 30.9 +0.9
LCR2 La Lucha 2 20.09 347 *eP* **P 15 32 30.4 +0.3**
SJCC San Jacinto, C 20.14 12 P Pn 15 32 31.5 -1.0
13µm12µm415nm,1.2s
ACOS Acosta 20.18 346 *eP* Pn 15 32 32.5 -0.6
VERB Verbena 20.22 348 *eP* **P 15 32 32.5 +1.1**
AMPA Desamparados 20.26 347 *eP* Pn 15 32 33.4 -0.5
RAFA San Farael, Vo 20.26 347 *eP* **P 15 32 32.8 +0.9**
VTCV VTCV, Calle Va 20.27 347 *eP* **P 15 32 33.0 +1.1**
CVTV Tajo 20.29 347 ⇓ *iP* Pn 15 32 33.7 -0.8
VICA Volcano Irazu 20.29 347 *eP* **P 15 32 32.5 +0.1**
CVTQ Turrialba Volc 20.30 347 ⇓ *iP* Pn 15 32 33.7 -0.9
VTLA Turrialba Volc 20.30 347 *eP* Pn 15 32 33.7 -0.9
VTR0 Volcan Turrial 20.31 347 *eP* Pn 15 32 34.1 -0.7
CVTR Volcan Turrial 20.31 347 ⇓ *iP* **P 15 32 33.5 +1.0**
ARGC Ariguani, Magd 20.32 15 P Pn 15 32 34.8 +0.3
12µm14µm367nm,1.1s
IRES Siquirres 20.33 348 *eP* Pn 15 32 33.7 -0.9
CVIMO Finca Echandi 20.35 347 *eP* Pn 15 32 34.8 -0.3
RVLA Villa Bonita 20.36 348 *eP* **P 15 32 33.2 +0.5**
BELE Belen 20.36 346 *eP* **P 15 32 34.0 +1.2**
TRB2 Turrubares 20.37 345 *eP* Pn 15 32 36.8 +1.8
HDC Heredia 20.37 346 Pn 15 32 34.3 -0.9
HDC IAMs_20 IAMs_20 15 38 57.5
comp=Z,10µm,21.0s
HDC Heredia 20.37 346 *eP* **P 15 32 33.4 +0.4**
HDC Heredia 20.37 346 ⇓ *iP* Pn 15 32 34.2 -1.0
CVTG V. Turrialba, 20.44 347 *eP* Pn 15 32 35.3 -0.6
TCS1 Tacares 20.45 346 *eP* **P 15 32 34.8 +1.0**
PTLB Pontes e Lacer 20.47 108 P P 15 32 33.8 -0.1
PTLB Pontes e Lacer 20.47 108 *eP* **P 15 32 33.9 0.0**
FSA Cafayete 20.48 143 *iP* Pn 15 32 37.0 +0.5
VBV1 V. Barva 20.48 347 *eP* **P 15 32 35.5 +1.2**
SRA1 San Ramn 20.54 345 *eP* Pn 15 32 36.5 -0.7
SDV Santo Domingo 20.62 25 *eP* **P 15 32 34.6 -1.1**
AC05 El Transito 20.64 157 Pn 15 32 38.2 -0.1
NYURE Nandayure 20.66 343 *eP* **P 15 32 37.0 +1.1**
ITAL Pital 20.84 346 *eP* Pn 15 32 39.9 -0.7
NICO Nicoya 20.84 343 *eP* **P 15 32 39.2 +1.2**
JTS Las Juntas de 20.86 344 P P 15 32 38.8 +0.7
JTS Las Juntas de 20.86 344 IAMs_20 IAMs_20 15 39 21.2
comp=Z,11µm,20.0s
JTS Las Juntas de 20.86 344 P P 15 32 38.0 -0.1
comp=Z,73nm,1.0s,baz=168,slow=3.2,SNR=29
JTS LR LR 15 39 41.0
comp=Z,11µm,19.1s,baz=172,slow=34
comp=Z,73nm,1.0s
JTS Las Juntas de 20.86 344 P P 15 32 38.0 -0.1
JTS Las Juntas de 20.86 344 ⇓ *iP* **P 15 32 39.4 +1.3**
JTS Las Juntas de 20.86 344 *eP* **P 15 32 38.5 +0.4**
SOCE Pocosol 20.86 345 Pn 15 32 39.8 -1.1
SOCE IAmb IAmb 15 32 51.9
comp=Z,611nm,1.5s
SOCE Pocosol 20.86 345 *eP* **P 15 32 39.7 +1.6**
ARE1 Arenal 1 20.96 345 *eP* **P 15 32 39.9 +0.7**
VARE2 V. Arenal 20.96 345 *eP* **P 15 32 40.0 +0.8**
VACR Volcan Arenal 20.96 345 *eP* **P 15 32 40.2 +1.0**
CEDE Laguna Cedeo 20.98 345 ⇓ *iP* **P 15 32 40.8 +1.3**
BAGA Bagaces 21.17 344 *eP* **P 15 32 47.3 +5.9**
CUI Cuipilapa 21.27 344 *eP* **P 15 32 44.1 +1.6**
COLC Colonia 21.28 344 *eP* **P 15 32 43.2 +0.5**
ALIBA Liberia Airpor 21.31 343 *eP* **P 15 32 45.0 +2.1**
HORNC Hornillas 21.32 344 *eP* **P 15 32 45.9 +2.7**
ELI1 Hacienda Flor 21.36 343 *eP* **P 15 32 45.3 +1.9**
VERA Finca Concepci 21.38 345 *eP* **P 15 32 44.6 +1.0**

VMAR Armenia, Volca 21.40 344 *eP* **P 15 32 45.0 +1.1**
GPS2 Hotel Rincn d 21.41 344 *eP* **P 15 32 45.7 +1.7**
VCA Vinchina 21.43 152 *iP* **P 15 32 47.5 +3.2**
VRLE La Escondida, 21.44 344 *eP* **P 15 32 46.0 +1.6**
VORI VORI 21.47 344 *eP* **P 15 32 46.6 +1.8**
SMRC Santa Marta, M 21.58 14 P P 15 32 45.4 -0.4
SMRC Santa Marta, M 21.58 14 P P 15 32 46.4 +0.6
comp=Z,7µmcomp=Z,6µmcomp=Z,371nm,1.4s
GO04 Tololo Observa 21.66 160 *iP* **P 15 32 48.5 +1.8**
CRJC Cerrejon, Guaj 21.80 17 P P 15 32 47.2 -1.1
comp=Z,6µmcomp=Z,6µmcomp=Z,502nm,1.1s
AGUA GUANDACOL 21.94 154 *iP* **P 15 32 52.1 +2.4**
AROD Rodeo 22.14 157 *iP* **P 15 32 54.7 +2.7**
BLUN Bluefields 22.24 349 P P 15 32 53.5 +0.6
comp=Z,3µmcomp=Z,186nm,1.5s
ACDV Cuesta del Vie 22.28 156 *iP* **P 15 32 56.0 +2.6**
PDRB Porto dos Gac 22.29 96 *eP* **P 15 32 52.2 -1.3**
CO03 El Pedregal 22.30 160 *iP* **P 15 32 55.3 +1.7**
CYA Choya 22.38 147 *iP* **P 15 32 50.4 -3.9**
BOAV Boa Vista 22.41 58 P P 15 32 54.0 -0.8
BOAV IAmb IAmb 15 33 12.6
comp=Z,332nm,1.1s
BOAV Boa Vista 22.41 58 *eP* **P 15 32 54.0 -0.8**
BOAV Boa Vista 22.41 58 P P 15 32 54.8 0.0
comp=Z,3µmcomp=Z,3µmcomp=Z,323nm,1.2s
SAIC Isla e San And 22.46 354 P P 15 32 55.9 +0.7
comp=Z,7µmcomp=Z,457nm,1.2s
ACON Acoyapa 22.52 345 IAMs_20 IAMs_20 15 40 32.7
comp=Z,10µm,19.0s
ACON Acoyapa 22.52 345 *eP* **P 15 32 55.2 -0.7**
ACON Acoyapa 22.52 345 P P 15 32 56.7 +0.8
comp=Z,4µmcomp=Z,179nm,1.2s
ESPN Las Esperanzas 22.54 347 IAMs_20 IAMs_20 15 40 27.0
comp=Z,9µm,20.0s
ESPN Las Esperanzas 22.54 347 *eP* **P 15 32 56.5 +0.4**
ESPN Las Esperanzas 22.54 347 P P 15 32 56.9 +0.9
comp=Z,5µmcomp=Z,248nm,1.2s
ACLC CERRO LA CRUZ 22.59 151 *iP* **P 15 32 58.7 +1.9**
ACCO Cerro Coronel 22.67 156 *iP* **P 15 33 01.2 +3.5**
URIC Uribia, Colomb 22.72 19 P P 15 32 57.3 -0.7
comp=Z,5µmcomp=Z,6µmcomp=Z,533nm,1.2s
DOCA Reserva Natura 22.98 157 *iP* **P 15 33 03.3 +2.3**
MGAN Managua 22.99 343 IAMs_20 IAMs_20 15 40 54.2
comp=Z,10µm,20.0s
MGAN Managua 22.99 343 *eP* **P 15 33 01.7 +0.9**
MGAN Managua 22.99 343 P P 15 33 02.1 +1.3
comp=Z,8µmcomp=Z,471nm,1.3s
BOAB BOACO BROADBAND 23.11 344 P P 15 33 01.2 -0.8
BOAB BOACO BROADBAND 23.11 344 P P 15 33 02.5 +0.5
CLDB Colider 23.19 94 *eP* **P 15 33 01.0 -2.0**
PRVC Isla de Provid 23.25 355 ⇑ *iP* **P 15 33 03.7 +0.3**
PRVC *eS* **S 15 37 16.7 +3.9**
H03N2 Juan Fernandez 23.39 179 T T 15 57 25.6
baz=359,slow=75,SNR=3458
H03N1 Juan Fernandez 23.39 179 T T 15 57 26.3
baz=359,slow=75,SNR=5277
H03N3 Juan Fernandez 23.40 179 T T 15 57 25.1
baz=359,slow=75,SNR=4805
RTLL Cerro Villicun 23.56 156 *iP* **P 15 33 07.9 +1.5**
HERN Volcan Telica 23.60 342 IAmb IAmb 15 33 21.0
comp=Z,976nm,1.5s
HERN IAMs_20 IAMs_20 15 40 53.4
comp=Z,8µm,20.0s
APLL PUNTA DE LOS L 23.61 151 *iP* **P 15 33 08.2 +1.4**
RTLS Leoncito 23.66 158 *iP* **P 15 33 09.9 +2.3**
CRIN San Cristobal 23.76 341 IAMs_20 IAMs_20 15 41 05.4
comp=Z,8µm,20.0s
PANT Pantanal (Braz 23.76 115 *eP* **P 15 33 08.4 0.0**
H03S3 Juan Fernandez 23.77 179 T T 15 58 03.1
baz=160,slow=76,SNR=25
H03S2 Juan Fernandez 23.78 179 T T 15 58 06.4
baz=160,slow=76,SNR=26
H03S1 Juan Fernandez 23.79 179 T T 15 57 58.2
baz=160,slow=76,SNR=27
SALV Santo Antonio 23.80 107 *eP* **P 15 33 08.0 -0.7**
CFA Coronel Fontan 23.90 156 LR LR 15 41 08.2
comp=Z,2µm,19.3s,baz=21,slow=33
NPGB Novo Progresso 23.91 85 *eP* **P 15 33 07.8 -2.0**
MURT Porto Murtinho 23.91 122 *eP* **P 15 33 10.0 +0.3**
ITTB Itatuba 24.08 78 *eP* **P 15 33 10.1 -1.2**
BDQN Bodoquena, MS 24.16 118 *eP* **P 15 33 11.9 -0.1**
PEL Peldehue 24.43 162 P P 15 33 15.3 +0.9
PEL Peldehue 24.43 162 P P 15 33 15.4 +0.9
PEL pmax pmax
comp=Z,115nm,1.0s
PEL MLR MLR
comp=Z,5µm,20.0s
PCRV Puerto La Cruz 24.78 37 LR LR 15 44 37.8
comp=Z,14µm,18.7s,slow=41
AQDB Aquidauana 25.08 117 P P 15 33 20.1 -0.3
AQDB Aquidauana 25.08 117 *eP* **P 15 33 20.5 +0.1**
TGUH Tegucigalpa,Un 25.10 342 P P 15 33 21.0 +0.3
TGUH IAmb IAmb 15 33 52.3
comp=Z,442nm,1.1s
TGUH IAMs_20 IAMs_20 15 41 50.2
comp=Z,7µm,20.0s
MT13 San Alfonso 25.11 162 P P 15 33 21.6 +0.9
TCA Tanti 25.32 149 *iP* **P 15 33 23.4 +0.8**
BO01 Tunca 25.49 164 P P 15 33 24.8 +0.9
MRA San Martin 25.68 153 *iP* **P 15 33 27.2 +1.4**
MTO3 Montecristo 26.14 338 IAmb IAmb 15 33 46.8
comp=Z,616nm,1.8s
MAL2 Monte Alegre, 26.23 74 P P 15 33 29.7 -1.2
MAL2 IAmb IAmb 15 33 46.1
comp=Z,352nm,1.4s
CPUP Villa Florida 26.46 131 P P 15 33 32.9 +0.1
CPUP Villa Florida 26.46 131 P P 15 33 32.3 -0.5
comp=Z,16nm,0.9s,baz=318,slow=10,SNR=27
CPUP PcP **PcP 15 36 58.5 +1.1**
comp=Z,14nm,1.0s,baz=189,slow=2.1,SNR=4.2
CPUP LR LR 15 46 01.2
comp=Z,6µm,19.8s,baz=316,slow=41
comp=Z,16nm,0.9s
CPUP Villa Florida 26.46 131 *eP* **P 15 33 33.2 +0.4**
AMBA Amambai (Brazi 26.65 122 *eP* **P 15 33 34.9 +0.3**
SJPY San Joaquin 26.70 127 *eP* **P 15 33 35.7 +0.7**
RPRD Ribas do Rio P 26.84 116 *eP* **P 15 33 36.5 +0.1**
C2SB Chapadao do Su 27.12 112 *eP* **P 15 33 38.8 -0.1**
RTAL Retalhuleu 27.21 333 IAMs_20 IAMs_20 15 42 13.2
comp=Z,7µm,21.0s
BI05 Punta Hualpn 27.26 169 IAMs_20 IAMs_20 15 42 17.3
comp=Z,6µm,19.0s
ARAG Araguaiana, MT 27.45 105 *eP* **P 15 33 41.1 -0.7**
SNDB Serra Nova Dou 27.62 97 *eP* **P 15 33 43.0 -0.5**
HUEH Huehuetenango 27.83 334 IAMs_20 IAMs_20 15 42 56.6
comp=Z,6µm,20.0s
MTDJ Mount Denham 28.05 4 P P 15 33 48.3 +1.1
MTDJ IAmb IAmb 15 34 20.9
comp=Z,367nm,1.2s
CCIG Comitan 28.96 334 IAMs_20 IAMs_20 15 43 11.6
comp=Z,9µm,22.0s
PSAL Palomas, Salto 29.17 139 *eP* **P 15 33 55.3 -1.7**
PRPB Parauapebas 29.48 85 *eP* **P 15 33 58.6 -1.5**
ITRB Iturama 29.62 112 *eP* **P 15 33 59.7 -1.5**
PTGB Pitanga 29.83 123 *eP* **P 15 34 04.6 +1.6**
CHIV Chivirico 29.87 6 IAmb IAmb 15 35 06.1
comp=Z,89nm,1.3s
GTBY Guantanamo Bay 29.98 8 IAmb IAmb 15 34 06.3
comp=Z,105nm,0.9s
LDASE Londrina, Braz 30.10 120 *eP* **P 15 34 05.4 -0.1**
DR12 Loma Pena Alta 30.20 19 IAmb IAmb 15 35 05.3
comp=Z,175nm,1.1s
LR03 Panguipulli 30.22 169 IAMs_20 IAMs_20 15 44 07.6
comp=Z,6µm,19.0s
LR04 Corral 30.28 171 IAmb IAmb 15 34 09.7
comp=Z,227nm,1.8s
CRPR Cabo Rojo, PR 30.29 24 IAMs_20 IAMs_20 15 47 59.9
comp=Z,5µm,20.0s
BIM Bigot 30.32 37 IAMs_20 IAMs_20 15 47 48.6
comp=Z,6µm,19.0s
MPOM Morne Pois Mar 30.39 37 IAMs_20 IAMs_20 15 48 00.4
comp=Z,7µm,19.0s
PRSN Puerto Rico Se 30.47 23 IAMs_20 IAMs_20 15 48 02.6
comp=Z,6µm,20.0s
MDP Montagnes des 30.53 62 LR LR 15 47 04.8
comp=Z,6µm,19.5s,baz=261,slow=38
OBIP Obispado Ponce 30.53 24 IAmb IAmb 15 34 22.4
comp=Z,190nm,1.4s
CELP Cerrillos 30.57 24 IAmb IAmb 15 34 24.6
comp=Z,224nm,1.4s
NMDO Nuevo Mundo 30.62 8 IAmb IAmb 15 35 16.3
comp=Z,74nm,1.3s
TBOT Tacuaremb 30.64 138 *eP* **P 15 34 10.7 +0.6**
IGPR InterUniversit 30.66 25 IAmb IAmb 15 35 04.2
comp=Z,283nm,1.7s

IGPR IAMs_20 IAMs_20 15 48 33.8
comp=Z,5µm,19.0s
UUPR Utuado, UPR, P 30.67 24 IAmb IAmb 15 34 24.6
comp=Z,278nm,1.5s
AGPR Aguadilla, PR 30.71 23 IAMs_20 IAMs_20 15 48 10.0
comp=Z,6µm,20.0s
AOPR Arecibo Observ 30.74 24 P P 15 34 10.2 -0.8
PDPR Patillas Dam, 30.75 25 IAMs_20 IAMs_20 15 48 45.0
comp=Z,6µm,19.0s
SJG San Juan 30.78 25 IAMs_20 IAMs_20 15 48 39.7
comp=Z,7µm,19.0s
SJG San Juan 30.78 25 LR LR 15 48 51.0
comp=Z,7µm,18.8s,baz=211,slow=41
SJG San Juan 30.78 25 P P 15 34 10.5 -0.8
SJG San Juan 30.78 25 P P 15 34 10.7 -0.6
LR05 Currie 30.86 169 IAmb IAmb 15 34 26.9
comp=Z,317nm,1.6s
LR05 IAMs_20 IAMs_20 15 44 46.6
comp=Z,5µm,18.0s
ITAB Concordia 30.90 128 *eP* **P 15 34 12.2 -0.2**
HUMP Col San Antoni 30.93 26 IAMs_20 IAMs_20 15 48 41.8
comp=Z,7µm,19.0s
CMIG Matias Romero 30.94 330 LR LR 15 44 46.1
comp=Z,2µm,20.8s,baz=156,slow=33
BDFB Brasilia 31.07 104 P P 15 34 13.6 -0.5
BDFB Brasilia 31.07 104 P P 15 34 13.3 -0.8
comp=Z,34nm,0.9s,baz=266,slow=9.0,SNR=53
BDFB LR LR 15 47 25.5
comp=Z,9µm,20.0s,baz=274,slow=38
comp=Z,34nm,0.9s
IPMB Ipameri, GO 31.23 108 *eP* **P 15 34 12.4 -3.1**
TEIG Tepich 31.24 344 P P 15 34 15.4 +0.1
TEIG IAmb IAmb 15 34 29.2
comp=Z,329nm,1.9s
TEIG IAMs_20 IAMs_20 15 45 33.7
comp=Z,6µm,20.0s
TEIG Tepich 31.24 344 P P 15 34 15.4 +0.1
TEIG pP **pP 15 34 27.5 +1.0**
TEIG PcP **PcP 15 37 09.7 +0.3**
GDHS Morne Mazeau, 31.33 34 IAmb IAmb 15 34 36.8
comp=Z,132nm,1.0s
MAGL Barre de l'ile 31.34 35 IAMs_20 IAMs_20 15 48 45.5
comp=Z,6µm,18.0s
FRTB Fartura 31.42 119 *eP* **P 15 34 16.5 -0.6**
CPSB Cacapava Do Su 31.58 134 *eP* **P 15 34 18.6 +0.3**
BB19B Bebedouro 31.64 114 *eP* **P 15 34 18.1 -1.0**
PLCA Paso Flores 31.64 167 IAmb IAmb 15 34 33.9
comp=Z,133nm,1.3s
PLCA Paso Flores 31.64 167 P P 15 34 20.8 +1.9
comp=Z,51nm,0.9s,baz=339,slow=10,SNR=125
PLCA PcP **PcP 15 37 11.7 +1.4**
comp=Z,17nm,1.0s,baz=320,slow=3.9,SNR=4.0
PLCA LR LR 15 44 43.3
comp=Z,3µm,20.4s,baz=18,slow=32
comp=Z,51nm,0.9s
PLCA Paso Flores 31.64 167 *eP* **P 15 34 19.8 +1.0**
PLCA Paso Flores 31.64 167 P P 15 34 20.7 +1.9
PLCA pP **pP 15 34 31.7 +1.9**
PLCA PcP **PcP 15 37 11.6 +1.4**
LL03 Petrohue 31.67 170 IAMs_20 IAMs_20 15 44 42.0
comp=Z,5µm,19.0s
SEUS St. Eustatius 31.70 31 IAMs_20 IAMs_20 15 49 20.2
comp=Z,6µm,18.0s
GDSD La Dsirade Is 31.75 35 IAmb IAmb 15 34 38.3
comp=Z,150nm,1.2s
GDSD IAMs_20 IAMs_20 15 48 58.5
comp=Z,5µm,18.0s
TMAB Tom-Au,PA,Br 31.96 78 *eP* **P 15 34 21.9 +0.1**
TRQA Tornquist 32.06 154 P P 15 34 22.8 +0.3
TRQA Tornquist 32.06 154 P P 15 34 22.8 +0.3
TRQA pmax pmax
comp=Z,39nm,1.0s
TRQA MLR MLR
comp=Z,4µm,19.0s
TRQA Tornquist 32.06 154 *eP* **P 15 34 22.7 +0.3**
SMRT St. Maarten 32.13 30 IAmb IAmb 15 34 24.5
comp=Z,88nm,0.8s
SMRT IAMs_20 IAMs_20 15 49 48.5
comp=Z,5µm,18.0s
PLTB Pedras Altas 32.26 136 IAMs_20 IAMs_20 15 49 25.1
comp=Z,7µm,20.0s
PLTB Pedras Altas 32.26 136 *eP* **P 15 34 24.7 +0.4**
ANWB Willy Bob 32.47 32 IAmb IAmb 15 34 40.0
comp=Z,129nm,0.8s
ANWB IAMs_20 IAMs_20 15 48 34.4
comp=Z,4µm,21.0s
LL06 Loncomilla 32.54 172 IAMs_20 IAMs_20 15 44 12.0
comp=Z,4µm,20.0s
LL01 San Ignacio de 32.88 170 IAmb IAmb 15 34 44.2
comp=Z,140nm,1.4s
CNLB Canela 32.90 130 *eP* **P 15 34 30.1 +0.2**
PMNB Patos De Minas 32.99 109 *eP* **P 15 34 29.0 -2.0**
LL07 Hotel Espejo d 33.16 172 IAMs_20 IAMs_20 15 44 50.5
comp=Z,4µm,20.0s
GO07 Milladeo Hill, 33.42 172 IAMs_20 IAMs_20 15 45 25.2
comp=Z,6µm,20.0s
VAO Valinhos 33.58 117 IAMs_20 IAMs_20 15 49 28.1
comp=Z,6µm,20.0s
VAO Valinhos 33.58 117 *eP* **P 15 34 36.4 +0.4**
PET01 Itanhaem-SP 33.71 119 *eP* **P 15 34 36.8 -0.3**
LL02 Futaleuf 33.76 170 IAmb IAmb 15 34 52.0
comp=Z,296nm,1.7s
LL02 IAMs_20 IAMs_20 15 45 18.4
comp=Z,5µm,21.0s
SDBA SAO DESIDERIO 33.88 97 *eP* **P 15 34 38.3 -0.4**
JANB Januaria 34.57 102 *eP* **P 15 34 43.4 -1.3**
PARB Paraibuna 34.86 117 *eP* **P 15 34 47.1 0.0**
DIAM Diamantina, MG 35.54 108 *eP* **P 15 34 52.7 -0.4**
COYC Coyhaique 36.05 171 IAmb IAmb 15 35 12.1
comp=Z,146nm,1.2s
COYC Coyhaique 36.05 171 P P 15 34 58.9 +2.0
COYC pP **pP 15 35 10.8 +2.9**
COYC sP **sP 15 35 16.4 +3.7**
COYC PcP **PcP 15 37 24.2 +1.7**
MAN01 Angra dos Reis 36.20 115 *eP* **P 15 34 58.3 -0.3**
MOIG Morelia 36.45 324 IAmb IAmb 15 35 04.1
comp=Z,197nm,1.4s
VAS01 Vassouras-RJ 36.52 114 *eP* **P 15 35 01.6 +0.3**
DUB01 Friburgo-RJ 37.44 113 *eP* **P 15 35 09.2 0.0**
AY03 Cochrane 37.62 172 IAmb IAmb 15 35 25.6
comp=Z,191nm,1.6s
AY03 IAMs_20 IAMs_20 15 47 52.6
comp=Z,5µm,19.0s
DWPF Disney Wildern 37.88 357 IAMs_20 IAMs_20 15 49 14.4
comp=Z,3µm,21.0s
CAM01 Campos-RJ 38.03 113 *eP* **P 15 35 14.5 +0.4**
RIB01 Linhares ES 38.76 108 *eP* **P 15 35 19.1 -1.1**
GUA01 Guaratinga, BA 39.01 104 *eP* **P 15 35 21.7 -0.7**
CMC01 Camacan, BA 39.20 102 *eP* **P 15 35 22.8 -1.2**
656A Willston 39.20 356 IAMs_20 IAMs_20 15 49 54.4
comp=Z,4µm,21.0s
NBPB Pedra_Branca-C 39.64 87 *eP* **P 15 35 27.7 0.0**
553A Crawfordville 40.20 353 IAMs_20 IAMs_20 15 49 57.8
comp=Z,4µm,22.0s
456A Hilliard 40.52 356 IAMs_20 IAMs_20 15 51 38.2
comp=Z,3µm,20.0s
HBVL Hebbronville 41.28 333 IAmb IAmb 15 35 59.2
comp=Z,289nm,1.4s
TIGA Tifton 41.34 355 IAMs_20 IAMs_20 15 51 22.2
comp=Z,5µm,22.0s
352A Blakely 41.53 353 IAMs_20 IAMs_20 15 50 49.8
comp=Z,4µm,22.0s
257A Skidaway Islan 41.71 358 IAMs_20 IAMs_20 15 52 14.8
comp=Z,3µm,19.0s
MG05 Puerto Natales 41.99 174 P P 15 35 48.4 +1.9
346A Big Creek Wild 42.22 347 IAmb IAmb 15 35 51.4
comp=Z,198nm,0.9s
NBAN Anadia - AL 42.44 93 *eP* **P 15 35 49.1 -1.6**
154A Montrose 42.47 355 IAmb IAmb 15 36 07.2
comp=Z,212nm,1.1s
154A IAMs_20 IAMs_20 15 52 28.9
comp=Z,4µm,20.0s
735A Kenedy 42.49 336 IAmb IAmb 15 35 53.1
comp=Z,577nm,1.8s
152A Waverly Hall 42.68 353 IAMs_20 IAMs_20 15 52 21.6
comp=Z,4µm,20.0s
CSU Charleston Sou 42.69 359 IAmb IAmb 15 35 53.2
comp=Z,300nm,1.1s
HKT Hockley 42.72 339 P P 15 35 53.3 +0.7
HKT Hockley 42.72 339 *c iP* **P 15 35 53.5 +0.9**
HKT pmax pmax
comp=Z,119nm,1.5s
HKT Hockley 42.72 339 P P 15 35 53.5 +0.9
HKT pP **pP 15 36 06.2 +2.4**
HKT PcP **PcP 15 37 44.1 +0.3**
NHSC New Hope 42.82 359 IAmb IAmb 15 35 54.3

comp=Z,207nm,1.0s
NBCA Caruaru-PE 42.82 91 *e*P **P 15 35 53.8 -0.1**
146A Union 43.34 348 IAmb IAmb 15 35 59.8
comp=Z,173nm,1.1s
Y58A Scranton 43.61 360 IAMs_20 IAMs_20 15 54 50.0
comp=Z,3µm,19.0s
Z47A Carrollton 43.70 349 IAmb IAmb 15 36 01.4
comp=Z,464nm,1.8s
Y60A Bolivia 43.72 1 IAMs_20 IAMs_20 15 53 42.9
comp=Z,3µm,20.0s
Y57A Sumter 43.73 359 IAmb IAmb 15 36 01.2
comp=Z,148nm,1.2s
Y57A IAMs_20 IAMs_20 15 53 07.2
comp=Z,3µm,20.0s
HODGE Hodges 44.02 357 IAMs_20 IAMs_20 15 54 40.9
comp=Z,3µm,19.0s
JSC Jenkinsville 44.02 358 IAmb IAmb 15 36 21.5
comp=Z,194nm,1.2s
JSC IAMs_20 IAMs_20 15 53 36.9
comp=Z,4µm,20.0s
DRIO Del Rio 44.18 333 IAmb IAmb 15 36 06.0
comp=Z,150nm,1.1s
BBSR BB Station 44.35 18 P **P 15 36 05.3 -0.4**
BBSR BB Station 44.35 18 IAMs_20 IAMs_20 15 54 42.3
comp=Z,3µm,22.0s
BBSR BB Station 44.35 18 P **P 15 36 05.5 -0.3**
BIRD Birdtown, Kers 44.36 359 IAMs_20 IAMs_20 15 53 36.8
comp=Z,3µm,20.0s
MG03 Isla Dawson 44.37 172 P **P 15 36 07.3 +1.6**
X51A Calhoun 44.57 354 IAMs_20 IAMs_20 15 53 30.6
comp=Z,3µm,20.0s
PAULI Pauline 44.58 357 IAmb IAmb 15 36 08.2
comp=Z,124nm,1.2s
PAULI IAMs_20 IAMs_20 15 54 02.8
comp=Z,3µm,19.0s
HPIG 44.67 326 IAmb IAmb 15 36 11.1
comp=Z,136nm,1.0s
X48A Hartselle 44.75 351 IAmb IAmb 15 36 09.4
comp=Z,182nm,1.8s
Z41A Richland Creek 44.83 344 IAmb IAmb 15 36 24.7
comp=Z,148nm,1.1s
SLBS Sierra La Lagu 44.85 319 P **P 15 36 10.9 +0.9**
SLBS Sierra La Lagu 44.85 319 P **P 15 36 11.2 +1.2**
W57A Gilead 44.85 359 IAmb IAmb 15 36 10.0
comp=Z,118nm,1.1s
W59A Clinton 44.87 1 IAMs_20 IAMs_20 15 54 28.5
comp=Z,3µm,20.0s
KMSC Kings Mountain 44.88 358 IAmb IAmb 15 36 10.5
comp=Z,164nm,1.2s
KMSC IAMs_20 IAMs_20 15 54 01.7
comp=Z,3µm,20.0s
W52A Murphy 45.00 355 IAmb IAmb 15 36 11.5
comp=Z,182nm,1.7s
W50A Signal Mountai 45.25 353 IAMs_20 IAMs_20 15 52 53.6
comp=Z,4µm,22.0s
SAND Sanderson 45.32 332 IAmb IAmb 15 36 15.6
comp=Z,114nm,1.1s
TREL Terrell 45.34 340 IAmb IAmb 15 36 16.8
comp=Z,114nm,0.8s
PLAL Pickwick Lake 45.44 350 IAmb IAmb 15 36 14.4
comp=Z,128nm,1.3s
FW13 Cleburne 45.46 338 IAmb IAmb 15 36 16.1
comp=Z,81nm,0.8s
Z38A Mt. Pleasant 45.47 342 IAmb IAmb 15 36 16.7
comp=Z,108nm,0.8s
V53A Saluda 45.48 356 IAMs_20 IAMs_20 15 53 37.7
comp=Z,3µm,22.0s
TXAR Lajitas Array 45.54 330 P **P 15 36 15.6 +0.1**
TXAR Lajitas Array 45.54 330 P **P 15 36 15.0 -0.4**
comp=Z,38nm,0.9s,baz=148,slow=9.7,SNR=169
TXAR PcP **PcP 15 37 54.5 +0.8**
comp=Z,11nm,0.9s,baz=150,slow=8.2,SNR=6.1
TXAR PKPPKP **P'P'df 16 07 47.0 +0.9**
comp=Z,0.4nm,0.8s,baz=356,slow=1.6,SNR=4.5
comp=Z,38nm,0.9s
TKL Tuckaleechee C 45.55 355 IAmb IAmb 15 36 15.4
comp=Z,140nm,1.4s
TKL Tuckaleechee C 45.55 355 LR LR 15 54 24.5
comp=Z,5µm,20.9s,baz=172,slow=35
V55A Taylorsville 45.58 358 IAmb IAmb 15 36 16.2
comp=Z,238nm,2.0s
OZNA Ozona 45.69 334 IAmb IAmb 15 36 18.2
comp=Z,144nm,1.2s
FW07 Weatherford 45.91 338 IAmb IAmb 15 36 19.8
comp=Z,180nm,0.9s
V48A Smith Brothers 45.98 352 IAmb IAmb 15 36 18.8
comp=Z,247nm,1.5s
U56A King 46.05 359 IAmb IAmb 15 36 19.9
comp=Z,104nm,1.0s
FW06 Azle 46.07 339 IAmb IAmb 15 36 21.2
comp=Z,147nm,0.9s
PLPT Palo Pinto 46.20 338 IAmb IAmb 15 36 22.2
comp=Z,206nm,1.4s
MIAR Mount Ida 46.25 344 IAmb IAmb 15 36 22.4
comp=Z,119nm,1.2s
U54A Nelsons Funny 46.27 357 IAmb IAmb 15 36 21.3
comp=Z,108nm,1.0s
U54A IAMs_20 IAMs_20 15 54 56.6
comp=Z,3µm,20.0s
ALPN Alpine 46.39 331 IAmb IAmb 15 36 24.0
comp=Z,145nm,1.1s
WVT Waverly 46.52 351 P **P 15 36 20.9 -2.0**
WVT IAmb IAmb 15 36 22.3
comp=Z,140nm,1.5s
WVT Waverly 46.52 351 P **P 15 36 20.9 -2.0**
WVT pmax pmax
comp=Z,141nm,1.5s
SGCY Sterling City 46.54 334 IAmb IAmb 15 36 24.7
comp=Z,154nm,1.0s
U49A Red Boiling Sp 46.60 353 IAmb IAmb 15 36 23.5
comp=Z,114nm,1.5s
T57A Hurt 46.69 0 IAmb IAmb 15 36 24.5
comp=Z,134nm,0.9s
T59A Double "B" Far 46.70 2 IAmb IAmb 15 36 24.9
comp=Z,128nm,1.0s
T47A Sharon Grove 47.25 352 IAmb IAmb 15 37 59.5
comp=Z,75nm,0.8s
PECS Pecos 47.32 331 IAmb IAmb 15 36 31.3
comp=Z,153nm,1.2s
VHRN Van Horn 47.38 330 IAmb IAmb 15 36 31.6
comp=Z,124nm,0.9s
S57A Dark Hollow, R 47.45 0 IAmb IAmb 15 36 30.6
comp=Z,128nm,1.2s
S51A Beattyville 47.50 355 IAmb IAmb 15 36 42.4
comp=Z,93nm,1.2s
S54A Dingess, Beckl 47.53 358 IAmb IAmb 15 36 30.9
comp=Z,135nm,1.0s
PBMO Poplar Bluff 47.62 348 IAmb IAmb 15 36 32.1
comp=Z,185nm,1.4s
R55A Marlinton 47.98 359 IAmb IAmb 15 36 35.0
comp=Z,83nm,1.0s
HHAR Hobbs 47.98 344 IAmb IAmb 15 36 35.7
comp=Z,162nm,1.1s
T42A Van Buren 48.01 347 IAmb IAmb 15 36 35.0
comp=Z,158nm,1.2s
WMOK Wichita Mounta 48.10 338 IAmb IAmb 15 36 36.2
comp=Z,206nm,1.6s
R50A Paris 48.20 355 IAmb IAmb 15 36 36.0
comp=Z,110nm,1.2s
USIN University of 48.29 351 IAmb IAmb 15 36 36.4
comp=Z,214nm,1.4s
R49A Shelbyville 48.29 354 IAmb IAmb 15 36 37.1
comp=Z,77nm,1.1s
DEOK Depew 48.33 341 IAmb IAmb 15 38 04.6
comp=Z,63nm,0.8s
WCI Wyandotte Cave 48.36 353 P **P 15 36 35.0 -2.2**
WCI Wyandotte Cave 48.36 353 P **P 15 36 35.0 -2.2**
WCI pmax pmax
comp=Z,40nm,0.7s
WCI Wyandotte Cave 48.36 353 P **P 15 36 35.4 -1.7**
WCI pP **pP 15 36 47.0 -1.6**
WCI PcP **PcP 15 38 03.0 -0.3**
SSFO Shawnee State 48.52 356 IAmb IAmb 15 36 38.5
comp=Z,141nm,1.2s
OK052 Battle Ridge R 48.56 341 IAmb IAmb 15 36 40.4
comp=Z,210nm,1.3s
QUOK Quay 48.69 341 IAmb IAmb 15 36 40.8
comp=Z,154nm,1.4s
Q56A Snyder Ridge, 48.73 0 IAmb IAmb 15 36 41.0
comp=Z,103nm,1.0s
FVM French Village 48.79 348 IAmb IAmb 15 36 41.0
comp=Z,145nm,1.2s
SRIG Santa Rosalia 48.87 320 P **P 15 36 42.0 +0.7**
SRIG IAmb IAmb 15 36 43.6
comp=Z,122nm,1.4s
EPT El Paso 48.95 329 IAmb IAmb 15 36 43.4
comp=Z,100nm,1.1s
OK048 Pawnee Station 48.99 341 IAmb IAmb 15 36 43.0
comp=Z,163nm,1.1s
CCM Cathedral Cave 49.02 348 P **P 15 36 41.1 -1.2**
CCM Cathedral Cave 49.02 348 P **P 15 36 41.1 -1.2**
CCM pmax pmax
comp=Z,254nm,1.2s
CCM Cathedral Cave 49.02 348 P **P 15 36 41.4 -0.9**
CCM PcP **PcP 15 38 06.3 +0.6**
OK051 E0350 and S346 49.04 341 IAmb IAmb 15 36 43.4
comp=Z,131nm,0.9s
OLIL Olney 49.11 351 IAmb IAmb 15 38 06.5
comp=Z,77nm,1.0s
P53A Whipple 49.21 358 IAmb IAmb 15 36 43.9
comp=Z,122nm,1.2s
P51A Williamsport 49.29 356 IAmb IAmb 15 36 44.1
comp=Z,164nm,1.1s
P51A IAMs_20 IAMs_20 15 56 31.5
comp=Z,3µm,20.0s
BLO Bloomington 49.31 353 IAMs_20 IAMs_20 15 55 32.2
comp=Z,3µm,22.0s
SLM Saint Louis 49.38 349 IAmb IAmb 15 36 45.4
comp=Z,173nm,1.2s
CROK Carrier 49.41 340 IAmb IAmb 15 36 46.1
comp=Z,117nm,0.9s
P48A Milroy 49.47 354 IAmb IAmb 15 36 45.1
comp=Z,123nm,1.3s
KAN13 South Haven SW 49.71 341 IAmb IAmb 15 36 48.5
comp=Z,140nm,1.0s
OK032 Salt Plains WL 49.76 340 IAmb IAmb 15 36 48.8
comp=Z,148nm,1.0s
MVL Millersville 49.77 3 IAmb IAmb 15 36 49.2
comp=Z,227nm,1.4s
KAN14 Manchester OK 49.82 340 IAmb IAmb 15 36 49.1
comp=Z,109nm,1.2s
KAN17 Caldwell West 49.83 341 IAmb IAmb 15 36 49.4
comp=Z,126nm,1.1s
P46A Rosedale 49.84 352 IAmb IAmb 15 36 48.9
comp=Z,109nm,0.9s
KAN09 Caldwell North 49.87 341 IAmb IAmb 15 36 49.7
comp=Z,105nm,1.0s
O54A Avella 49.88 359 IAmb IAmb 15 36 57.8
comp=Z,121nm,1.7s
KAN05 Bluff City Nor 49.93 341 IAmb IAmb 15 36 50.3
comp=Z,164nm,1.1s
KAN01 Argonia South 49.93 341 IAmb IAmb 15 36 50.3
comp=Z,111nm,1.1s
O53A New Philadelph 49.97 358 IAmb IAmb 15 36 49.4
comp=Z,96nm,1.1s
ACSO Alum Creek Sta 50.03 356 IAMs_20 IAMs_20 15 57 15.2
comp=Z,3µm,20.0s
KAN08 Anthony NE Sta 50.07 341 IAmb IAmb 15 36 51.4
comp=Z,140nm,1.0s
KAN12 Harper NE Stat 50.14 341 IAmb IAmb 15 36 52.0
comp=Z,158nm,1.0s
SSPA Standing Stone 50.34 1 P **P 15 36 51.2 -1.0**
SSPA IAmb IAmb 15 36 52.9
comp=Z,228nm,1.6s
SSPA Standing Stone 50.34 1 IAMs_20 IAMs_20 15 57 54.2
comp=Z,2µm,20.0s
SSPA Standing Stone 50.34 1 P **P 15 36 51.5 -0.7**
SSPA PcP **PcP 15 38 09.4 -1.1**
LUPA Lehigh Univers 50.42 4 IAmb IAmb 15 36 54.2
comp=Z,162nm,1.0s
N53A Lisbon 50.51 359 IAmb IAmb 15 36 53.4
comp=Z,73nm,0.9s
SFIN Lafayette 50.58 352 IAmb IAmb 15 36 53.4
comp=Z,160nm,1.0s
SFIN IAMs_20 IAMs_20 15 56 10.6
comp=Z,3µm,22.0s
N58A Sunbury 50.59 3 IAmb IAmb 15 36 54.9
comp=Z,99nm,0.9s
P40A Paris 50.61 347 IAmb IAmb 15 36 54.9
comp=Z,144nm,1.0s
Y22D IRIS PASSCAL I 51.00 330 P **P 15 36 58.8 +1.2**
baz=144
M50A Fremont 51.20 356 IAMs_20 IAMs_20 15 57 51.1
comp=Z,3µm,20.0s
M52A Chesterland 51.26 358 IAmb IAmb 15 36 58.7
comp=Z,83nm,0.8s
M52A IAMs_20 IAMs_20 15 59 15.6
comp=Z,3µm,20.0s
ALLY Alegheny Colle 51.34 359 IAmb IAmb 15 36 59.6
comp=Z,328nm,1.9s
KSPA Keystone Colle 51.35 3 IAmb IAmb 15 37 00.9
comp=Z,145nm,1.1s
KSU1 Kansas State U 51.37 343 IAmb IAmb 15 37 00.7
comp=Z,115nm,0.9s
ANMO Albuquerque 51.49 331 P **P 15 37 01.7 +0.5**
ANMO IAmb IAmb 15 37 03.3
comp=Z,131nm,1.0s
ANMO Albuquerque 51.49 331 *c i*P **P 15 37 02.0 +0.8**
ANMO pmax pmax
comp=Z,89nm,1.2s
ANMO Albuquerque 51.49 331 P **P 15 37 02.1 +0.8**
TUC Tucson 51.64 326 P **P 15 37 02.6 +0.3**
TUC IAmb IAmb 15 37 04.2
comp=Z,74nm,0.8s
TUC Tucson 51.64 326 P **P 15 37 02.6 +0.3**
TUC pmax pmax
comp=Z,75nm,0.9s
TUC Tucson 51.64 326 P **P 15 37 02.9 +0.6**
TUC PcP **PcP 15 38 15.8 +0.2**
ERPA Erie 51.81 359 IAmb IAmb 15 37 02.9
comp=Z,81nm,0.9s
ERPA IAMs_20 IAMs_20 15 58 41.1
comp=Z,3µm,20.0s
L56A Greenwood 51.85 2 IAmb IAmb 15 37 03.8
comp=Z,85nm,0.8s
M65A Busby, Falmout 51.87 8 P **P 15 37 03.7 0.0**
baz=191
BINY Binghamton 51.98 3 IAmb IAmb 15 37 05.4
comp=Z,148nm,0.8s
L46A Eue Claire 52.09 353 IAmb IAmb 15 37 04.5
comp=Z,171nm,1.2s
L46A IAMs_20 IAMs_20 15 57 54.7
comp=Z,3µm,20.0s
AAM Ann Arbor 52.14 356 IAmb IAmb 15 37 05.5
comp=Z,103nm,0.9s
T25A Trinidad 52.40 335 IAmb IAmb 15 37 10.0
comp=Z,147nm,1.2s
L44A Lake County Fo 52.46 352 IAMs_20 IAMs_20 15 57 19.4
comp=Z,2µm,21.0s
K57A Scipio Center 52.48 3 IAMs_20 IAMs_20 16 00 36.9
comp=Z,2µm,19.0s
L61B Northampton 52.49 6 IAmb IAmb 15 37 09.3
comp=Z,190nm,1.9s
K50A Casco 52.55 357 IAMs_20 IAMs_20 15 58 40.7
comp=Z,2µm,20.0s
L42A Oliver, Polo 52.55 350 IAmb IAmb 15 37 08.4
comp=Z,152nm,1.2s
PIX Pinacate 52.62 323 IAmb IAmb 15 37 11.4
comp=Z,112nm,1.1s
HRV Adam Dziewonsk 52.68 7 P **P 15 37 09.4 -0.3**
HRV IAmb IAmb 15 37 11.2
comp=Z,188nm,1.9s
HRV Adam Dziewonsk 52.68 7 ⇑P **P 15 37 09.9 +0.2**
K62A Royalston 52.76 7 IAmb IAmb 15 37 11.8
comp=Z,171nm,1.8s
X18A Snowflake 52.89 328 IAMs_20 IAMs_20 15 58 34.4
comp=Z,3µm,18.0s
K43A Burlington 53.03 352 IAmb IAmb 15 37 11.8
comp=Z,152nm,1.1s
SFX San Felipe 53.09 321 IAmb IAmb 15 37 15.2
comp=Z,119nm,0.8s
SFX IAMs_20 IAMs_20 15 55 55.0
comp=Z,2µm,20.0s
J47A Sunmer 53.16 355 IAmb IAmb 15 37 12.7
comp=Z,174nm,0.9s
J57A Williamstown 53.19 3 IAmb IAmb 15 37 13.6
comp=Z,126nm,1.1s
KSCO Kaye Shedlock' 53.30 337 IAmb IAmb 15 37 15.9
comp=Z,143nm,1.1s
J59A Piesco 53.34 4 IAmb IAmb 15 37 15.1
comp=Z,78nm,0.9s
SDCO Great Sand Dun 53.38 334 IAmb IAmb 15 37 17.1
comp=Z,88nm,0.9s
J61A Chester 53.40 6 IAmb IAmb 15 37 16.6
comp=Z,164nm,1.4s
JFWS Jewell Farm 53.53 350 IAmb IAmb 15 37 15.8
comp=Z,201nm,1.7s
X16A Lo Mia Camp, P 53.59 327 IAmb IAmb 15 37 19.2
comp=Z,88nm,0.9s
X16A IAMs_20 IAMs_20 15 57 22.0
comp=Z,3µm,22.0s
PECO Prince Edward 53.66 2 IAmb IAmb 15 37 16.7
comp=Z,97nm,0.8s
PECO IAMs_20 IAMs_20 16 01 05.1
comp=Z,2µm,20.0s
I49A Point Hope 53.72 357 IAMs_20 IAMs_20 15 59 18.7
comp=Z,3µm,19.0s
HNH Hanover 53.78 6 IAmb IAmb 15 37 19.4
comp=Z,180nm,1.5s
VTX Valle De La Tr 53.91 321 IAMs_20 IAMs_20 15 55 23.8
comp=Z,2µm,21.0s
Y14A Wickenburg 54.09 325 IAmb IAmb 15 37 22.4
comp=Z,62nm,0.9s
DELO Deloro Mine 54.23 2 IAmb IAmb 15 37 20.6
comp=Z,91nm,0.8s
Q24A Divide 54.26 335 IAmb IAmb 15 37 23.4
comp=Z,102nm,1.2s
I42A Draeger Farm, 54.28 352 IAmb IAmb 15 37 21.4
comp=Z,90nm,0.9s
I42A IAMs_20 IAMs_20 15 58 25.6
comp=Z,2µm,21.0s
MVCO Mesa Verde 54.29 331 IAmb IAmb 15 37 25.2
comp=Z,102nm,1.2s
MVCO IAMs_20 IAMs_20 15 59 55.1
comp=Z,2µm,18.0s
WUAZ Wupatki 54.39 328 IAMs_20 IAMs_20 15 58 14.2
comp=Z,3µm,20.0s
ESJX Sierra Juarez 54.44 322 IAMs_20 IAMs_20 15 55 52.6
comp=Z,2µm,20.0s
SADO Sadowa 54.46 0 IAmb IAmb 15 37 22.0
comp=Z,108nm,1.1s
SADO Sadowa 54.46 0 LR LR 16 00 24.1
comp=Z,3µm,20.7s,baz=190,slow=36
LONY Lake Ozonia 54.48 4 IAmb IAmb 15 37 24.1
comp=Z,131nm,1.0s
I40A Norwalk 54.55 350 IAmb IAmb 15 37 23.3
comp=Z,107nm,1.0s
RKT Rikitea 54.60 249 *e*P P 15 37 18.5 -5.8
comp=Z,1µm,25.5s
RKT *e*S **S 15 44 59.9 -1.5**
comp=Z,3µm,29.5s
RKT *e*SS **SS 15 48 43.8 -0.8**
comp=Z,1µm,27.8s
RKT *e*LR LR 15 53 14.4
comp=Z,9µm,26.2s
OGNE Ogallala 54.79 339 IAmb IAmb 15 37 26.5
comp=Z,124nm,1.2s
BLYC Blythe 54.82 324 IAmb IAmb 15 37 27.9
comp=Z,86nm,0.9s
BLYC IAMs_20 IAMs_20 15 59 13.6
comp=Z,2µm,20.0s
CBX Cerro Bola 55.09 321 IAmb IAmb 15 37 30.4
comp=Z,129nm,1.2s
I37A Lemond, Waseca 55.20 348 IAmb IAmb 15 37 28.0
comp=Z,126nm,0.9s
TKX Tecate 55.23 322 IAmb IAmb 15 37 30.9
comp=Z,85nm,1.2s
BRIGG Briggsdale 55.31 337 IAmb IAmb 15 37 31.1
comp=Z,168nm,1.1s
PV11 David Mesa, Pa 55.34 332 IAmb IAmb 15 37 31.3
comp=Z,148nm,1.1s
PV07 Paradox Valley 55.35 332 IAmb IAmb 15 37 31.6
comp=Z,151nm,1.1s
W13A Hualapai Mount 55.44 326 IAmb IAmb 15 37 32.9
comp=Z,116nm,1.0s
G62A West of Eustis 55.48 8 IAmb IAmb 15 37 31.9
comp=Z,178nm,1.3s
PV23 Carpenter Ridg 55.53 332 IAmb IAmb 15 37 32.6
comp=Z,126nm,1.0s
ECSD EROS Data Cent 55.68 345 IAmb IAmb 15 37 31.7
comp=Z,107nm,0.9s
PKME Peaks-Kenny Pk 55.70 9 IAmb IAmb 15 37 33.3
comp=Z,288nm,1.8s
PMSA Palmer Station 55.79 172 LR LR 15 58 50.7
comp=Z,2µm,18.4s,baz=308,slow=33
PFO Pinyon Flats O 55.86 323 P **P 15 37 33.6 +0.4**
PFO IAMs_20 IAMs_20 15 57 03.2
comp=Z,2µm,21.0s
PFO Pinyon Flats O 55.86 323 *c i*P **P 15 37 34.0 +0.8**
PFO pmax pmax
comp=Z,74nm,0.9s
PFO Pinyon Flats O 55.86 323 P **P 15 37 34.2 +1.0**
PFO pP **pP 15 37 46.7 +1.8**
PFO PcP **PcP 15 38 32.1 +0.3**
G65A Princeton 55.91 10 IAmb IAmb 15 37 34.9
comp=Z,82nm,0.9s
G65A IAMs_20 IAMs_20 16 04 07.5
comp=Z,2µm,18.0s
GGN Saint George 55.96 11 IAmb IAmb 15 37 35.3
comp=Z,129nm,1.4s
GGN IAMs_20 IAMs_20 16 05 40.7
comp=Z,2µm,18.0s
F42A Maple Grove Fa 56.00 353 IAmb IAmb 15 37 34.0
comp=Z,159nm,1.1s
F42A IAMs_20 IAMs_20 15 59 27.2
comp=Z,2µm,22.0s
TRQ Mont Tremblant 56.07 4 IAmb IAmb 15 37 34.6
comp=Z,79nm,0.8s
E46A Sault Ste Mari 56.23 356 IAmb IAmb 15 37 34.6
comp=Z,116nm,1.0s
KNB Kanab 56.29 328 IAmb IAmb 15 37 39.0
comp=Z,135nm,1.0s
KNB IAMs_20 IAMs_20 16 01 12.4
comp=Z,2µm,18.0s
PKCU Pink Cliffs 56.35 329 IAMs_20 IAMs_20 15 59 40.0
comp=Z,2µm,19.0s
F64A Sherman 56.42 9 IAmb IAmb 15 37 38.6
comp=Z,146nm,1.4s
V12A Nelson 56.43 325 IAmb IAmb 15 37 39.5
comp=Z,127nm,1.0s
COWI Conover 56.47 352 IAMs_20 IAMs_20 15 59 41.7
comp=Z,2µm,22.0s
LCMT Little Creek M 56.51 328 IAmb IAmb 15 37 40.3
comp=Z,99nm,1.1s
LCMT IAMs_20 IAMs_20 16 01 10.2
comp=Z,2µm,18.0s
O20A White River Ci 56.55 334 IAmb IAmb 15 37 39.9
comp=Z,137nm,1.0s
O20A IAMs_20 IAMs_20 16 01 07.2
comp=Z,2µm,18.0s
MTPU Mount Pierson 56.74 329 IAMs_20 IAMs_20 15 59 55.4
comp=Z,3µm,20.0s
SRU San Rafael Swe 56.77 331 IAmb IAmb 15 37 41.4
comp=Z,164nm,1.2s
SRU IAMs_20 IAMs_20 16 01 02.9
comp=Z,2µm,19.0s
P18A Preston Nutter 57.05 332 IAmb IAmb 15 37 43.8
comp=Z,106nm,1.2s
LMN Caledonia Moun 57.06 12 IAmb IAmb 15 37 42.6
comp=Z,84nm,1.0s
SHPR Sheep Range 57.17 326 IAmb IAmb 15 37 45.0
comp=Z,67nm,1.0s
TMUT Trail Mountain 57.24 331 IAmb IAmb 15 37 45.1
comp=Z,122nm,1.4s
GSC Goldstone, Bar 57.24 324 IAmb IAmb 15 37 45.5
comp=Z,78nm,0.9s
PASC Pasadena Art C 57.29 322 IAmb IAmb 15 37 45.9
comp=Z,167nm,1.7s
TCRU Three Creeks R 57.31 329 IAmb IAmb 15 37 45.9
comp=Z,90nm,1.0s
E38A The Farm, Brul 57.34 350 IAmb IAmb 15 37 43.6
comp=Z,148nm,1.3s
GBN Guysborough 57.40 15 IAMs_20 IAMs_20 16 02 25.7
comp=Z,2µm,20.0s
RDMU Red Mountain 57.49 333 IAMs_20 IAMs_20 16 02 23.2
comp=Z,2µm,18.0s
D62A Allapoint, All 57.51 8 IAmb IAmb 15 37 46.2
comp=Z,209nm,1.3s
PRN Pahroc Range 57.77 327 IAmb IAmb 15 37 49.3
comp=Z,80nm,1.1s
PRN IAMs_20 IAMs_20 15 59 55.6
comp=Z,2µm,22.0s
LMQ La Malbaie 57.80 7 IAmb IAmb 15 37 47.5
comp=Z,97nm,1.2s
VLDQ Val d'Or 57.82 2 IAmb IAmb 15 37 46.5
comp=Z,72nm,0.9s
VLDQ IAMs_20 IAMs_20 16 02 28.1
comp=Z,2µm,21.0s
CCAC Calif City Air 57.85 323 IAmb IAmb 15 37 49.6
comp=Z,118nm,0.8s
K22A Casper 57.94 337 IAmb IAmb 15 37 49.0
comp=Z,137nm,1.0s
PSUT Pine Spring 57.97 328 IAmb IAmb 15 37 50.6
comp=Z,71nm,1.0s
PSUT IAMs_20 IAMs_20 16 02 18.9
comp=Z,2µm,18.0s
BSUT Blindstream Ca 58.01 332 IAmb IAmb 15 37 50.7
comp=Z,108nm,1.0s
WCT Wildcat Mounta 58.19 325 IAmb IAmb 15 37 52.2
comp=Z,81nm,0.9s
S11A Rachel 58.32 326 IAmb IAmb 15 37 52.9
comp=Z,103nm,0.9s
ISA Isabella, Lake 58.47 323 IAmb IAmb 15 37 54.1
comp=Z,74nm,1.0s

BCW	Bitter Crk WRg	58.55	322	IAmb	IAmb	15 37 54.7	
	comp=Z,142nm,1.2s						
SPR3	Spring Creek 3	58.56	328	IAmb	IAmb	15 37 54.4	
	comp=Z,124nm,1.2s						
SPR3				IAMs_20	IAMs_20	16 02 43.7	
	comp=Z,2µm,18.0s						
EYMN	Ely	58.63	350	IAmb	IAmb	15 37 52.5	
	comp=Z,85nm,1.0s						
DUG	Dugway, Tooele	58.71	330	IAMs_20	IAMs_20	16 01 25.5	
	comp=Z,2µm,19.0s						
R11B	Troy Canyon, C	58.74	327	IAmb	IAmb	15 37 56.1	
	comp=Z,64nm,1.0s						
GRAC	Grapevine Rang	58.76	325	IAmb	IAmb	15 37 56.1	
	comp=Z,207nm,1.9s						
HWUT	Hardware Ranch	59.23	332	IAMs_20	IAMs_20	16 04 12.0	
	comp=Z,2µm,21.0s						
PD31	Pinedale Array	59.27	334	IAmb	IAmb	15 37 58.1	
	comp=Z,74nm,1.0s						
PDAR	Pinedale Array	59.27	334	P	P	15 37 56.5	-0.7
PDAR	Pinedale Array	59.27	334	P	P	15 37 56.6	-0.6
	comp=Z,54nm,0.9s,baz=132,slow=6.6,SNR=187						
PDAR				PcP	PcP	15 38 44.5	-0.6
	comp=Z,16nm,0.9s,baz=155,slow=4.9,SNR=4.2						
PDAR				LR	LR	16 03 31.7	
	comp=Z,832nm,19.4s,baz=142,slow=36						
PDAR				PKPPKP	P'P'df	16 07 24.3	-2.4
	comp=Z,0.1nm,0.2s,baz=48,slow=2.2,SNR=3.9						
PDAR				PKP2bc		16 07 35.8	
	comp=Z,1.2nm,0.9s,baz=284,slow=1.2,SNR=5.8						
	comp=Z,54nm,0.9s						
BGU	Big Grassy Mou	59.38	331	IAmb	IAmb	15 37 59.7	
	comp=Z,74nm,1.0s						
TAOE	Nuku Hiva Isla	59.91	265	*e*PKP1	P	15 38 00.8	-1.2
	comp=Z,314nm,25.1s						
TAOE	Nuku Hiva Isla	59.91	265	*e*PP	PP	15 40 09.4	-5.1
	comp=Z,98nm,27.6s						
TAOE				*e*S	S	15 46 10.9	-0.7
	comp=Z,372nm,29.5s						
TAOE				*e*SS	SS	15 50 03.1	-5.5
	comp=Z,161nm,36.6s						
TAOE				*e*LR	LR	15 55 33.7	
	comp=Z,2µm,23.5s						
AHID	Auburn Hatcher	59.94	333	IAmb	IAmb	15 38 02.9	
	comp=Z,117nm,1.1s						
AHID				IAMs_20	IAMs_20	16 04 43.9	
	comp=Z,2µm,20.0s						
Q09A	Carvers	59.96	326	IAMs_20	IAMs_20	16 00 38.6	
	comp=Z,2µm,22.0s						
ICQ	Pointe Anglais	60.16	9	P	P	15 38 02.0	-0.8
NV11	Mina Array Sit	60.21	325	IAmb	IAmb	15 38 06.0	
	comp=Z,74nm,0.9s						
PMPB	Monarch Peak	60.24	322	IAmb	IAmb	15 38 06.3	
	comp=Z,113nm,1.2s						
LHV	Little Huntoon	60.28	325	IAmb	IAmb	15 38 06.6	
	comp=Z,93nm,0.9s						
NVAR	Mina Array Bea	60.29	325	P	P	15 38 05.0	+0.7
NVAR	Mina Array Bea	60.29	325	P	P	15 38 05.2	+0.9
	comp=Z,55nm,0.8s,baz=140,slow=6.7,SNR=229						
NVAR				PcP	PcP	15 38 49.9	+0.6
	comp=Z,16nm,0.8s,baz=149,slow=5.0,SNR=4.6						
NVAR				LR	LR	16 00 26.0	
	comp=Z,1µm,21.9s,baz=153,slow=32						
NVAR				PKPPKP	P'P'df	16 07 24.0	-1.8
	comp=Z,0.8nm,0.7s,baz=316,slow=4.1,SNR=4.1						
NVAR				PKP2bc		16 07 34.3	
	comp=Z,2.3nm,1.0s,baz=304,slow=2.7,SNR=5.1						
	comp=Z,55nm,0.8s						
ELK	Elko	60.33	329	P	P	15 38 05.0	+0.4
ELK				IAmb	IAmb	15 38 06.6	
	comp=Z,102nm,1.0s						
ELK				IAMs_20	IAMs_20	16 01 59.4	
	comp=Z,2µm,20.0s						
ELK	Elko	60.33	329	P	P	15 38 05.0	+0.4
ELK				pmax	pmax		
	comp=Z,102nm,1.0s						
SNOW	Snow King Moun	60.35	334	IAmb	IAmb	15 38 06.1	
	comp=Z,124nm,1.5s						
LOHW	Long Hollow	60.41	334	IAmb	IAmb	15 38 06.2	
	comp=Z,47nm,0.8s						
TPAW	Teton Pass	60.45	334	IAmb	IAmb	15 38 12.5	
	comp=Z,72nm,1.1s						
TPAW				IAMs_20	IAMs_20	16 04 02.6	
	comp=Z,2µm,20.0s						
RYN	Ryan	60.55	325	IAmb	IAmb	15 38 08.1	
	comp=Z,57nm,0.9s						
MOOW	Moose Ponds	60.58	334	IAMs_20	IAMs_20	16 04 29.7	
	comp=Z,2µm,19.0s						
FXWY	Fox Creek	60.61	334	IAMs_20	IAMs_20	16 04 18.0	
	comp=Z,2µm,20.0s						
WAKR	Walker	60.98	325	IAmb	IAmb	15 38 11.6	
	comp=Z,90nm,0.9s						
H17A	Grant Village	61.03	335	IAmb	IAmb	15 38 13.2	
	comp=Z,92nm,1.4s						
RLMT	Red Lodge	61.09	336	IAmb	IAmb	15 38 10.8	
	comp=Z,102nm,1.1s						
YMP	Mirror Lake Pl	61.13	335	IAmb	IAmb	15 38 22.4	
	comp=Z,80nm,1.0s						
YFT	Old Faithful	61.18	335	IAmb	IAmb	15 38 21.9	
	comp=Z,97nm,1.2s						
YFT				IAMs_20	IAMs_20	16 04 37.2	
	comp=Z,2µm,18.0s						
YNE	Yellowstone No	61.29	336	IAmb	IAmb	15 38 12.3	
	comp=Z,110nm,1.0s						
YNR	Norris Junctio	61.33	335	IAMs_20	IAMs_20	16 05 03.1	
	comp=Z,1µm,18.0s						
YNM	Yellowstone No	61.35	335	IAMs_20	IAMs_20	16 04 55.6	
	comp=Z,1µm,18.0s						
YMR	Madison River	61.41	335	IAmb	IAmb	15 38 14.0	
	comp=Z,94nm,1.0s						
PNTR	Pine Nut	61.48	325	IAmb	IAmb	15 38 14.9	
	comp=Z,87nm,0.9s						
YHB	Horse Butte	61.58	335	IAmb	IAmb	15 38 15.1	
	comp=Z,119nm,1.0s						
YHB				IAMs_20	IAMs_20	16 04 48.6	
	comp=Z,1µm,19.0s						
ULM	Lac du Bonnet	61.65	348	P	P	15 38 11.9	-1.0
	comp=Z,222nm,0.9s,baz=163,slow=6.7,SNR=275						
ULM				PKP2bc		16 07 31.2	
	comp=Z,5.3nm,1.1s,baz=326,slow=4.3,SNR=5.8						
	comp=Z,222nm,0.9s						
ULM	Lac du Bonnet	61.65	348	P	P	15 38 12.0	-1.0
PAHR	Pah Rah Range	61.78	326	IAmb	IAmb	15 38 16.9	
	comp=Z,119nm,0.9s						
MPK	Martis Peak	61.86	325	IAmb	IAmb	15 38 17.7	
	comp=Z,132nm,1.3s						
HLID	Hailey	62.07	332	IAmb	IAmb	15 38 18.3	
	comp=Z,63nm,0.8s						
AFDM	Forest Hills D	62.16	324	P	P	15 38 16.9	+0.2
BEKR	Beckworth	62.44	325	IAmb	IAmb	15 38 21.1	
	comp=Z,74nm,1.0s						
BOZ	Bozeman (W)	62.44	335	IAmb	IAmb	15 38 20.1	
	comp=Z,104nm,1.0s						
MFID	Camas Ranch	62.62	331	IAMs_20	IAMs_20	16 06 18.7	
	comp=Z,2µm,18.0s						
DLMT	Dillon	62.66	334	IAMs_20	IAMs_20	16 05 31.6	
	comp=Z,1µm,18.0s						
MCCM	Marconi Confer	62.76	322	IAmb	IAmb	15 38 22.9	
	comp=Z,77nm,1.0s						
WVOR	Wild Horse Val	63.30	328	IAmb	IAmb	15 38 26.2	
	comp=Z,114nm,1.2s						
WVOR				IAMs_20	IAMs_20	16 03 26.8	
	comp=Z,2µm,20.0s						
HATC	Hat Creek Radi	63.70	325	IAmb	IAmb	15 38 29.0	
	comp=Z,95nm,0.9s						
J08A	Circle Bar Ran	63.89	329	IAMs_20	IAMs_20	16 04 13.6	
	comp=Z,2µm,19.0s						
O02D	Mt. Diablo Mer	64.03	324	P	P	15 38 29.1	0.0
KCPM	Cahto Peak	64.17	323	IAmb	IAmb	15 38 33.0	
	comp=Z,131nm,1.0s						
BMO	Blue Mountains	64.40	331	IAMs_20	IAMs_20	16 04 55.2	
	comp=Z,2µm,19.0s						
KMRM	Mail Ridge	64.59	324	IAmb	IAmb	15 38 35.5	
	comp=Z,140nm,1.1s						
I07A	Izee	64.92	329	IAMs_20	IAMs_20	16 04 36.1	
	comp=Z,2µm,21.0s						
KMPM	Mount Pierce	64.96	324	IAmb	IAmb	15 38 37.9	
	comp=Z,123nm,1.1s						
YBH	Yreka Blue Hor	65.01	325	IAmb	IAmb	15 38 36.4	
	comp=Z,69nm,0.8s						
YBH	Yreka Blue Hor	65.01	325	LR	LR	16 05 33.5	
	comp=Z,1µm,20.8s,baz=146,slow=35						
KHMM	Horse Mountain	65.03	324	IAmb	IAmb	15 38 38.2	
	comp=Z,99nm,1.0s						
L04D	Klamath Falls	65.11	326	IAmb	IAmb	15 38 37.8	
	comp=Z,107nm,0.8s						
J05D	Fort Rock, OR	65.26	328	IAmb	IAmb	15 38 39.4	
	comp=Z,96nm,1.0s						
SCHQ	Schefferville	65.39	8	IAmb	IAmb	15 38 38.2	
	comp=Z,108nm,0.9s						
SCHQ	Schefferville	65.39	8	P	P	15 38 36.8	-0.8
	comp=Z,79nm,0.9s,baz=191,slow=4.7,SNR=67						
	comp=Z,79nm,0.9s						
PINE	Pine Mountain	65.46	328	IAmb	IAmb	15 38 42.4	
	comp=Z,110nm,0.9s						
G08A	Pilot Rock	65.52	330	IAMs_20	IAMs_20	16 05 19.9	
	comp=Z,2µm,20.0s						
LNOR	Lincton Mounta	65.62	331	IAmb	IAmb	15 38 43.8	
	comp=Z,65nm,1.1s						
L02F	Cave Junction	65.75	325	IAmb	IAmb	15 38 42.4	
	comp=Z,184nm,1.4s						
E09A	Wood Farm, Sta	66.03	332	IAmb	IAmb	15 38 43.3	
	comp=Z,63nm,1.0s						
I05D	Terrebonne, OR	66.04	328	IAMs_20	IAMs_20	16 08 13.7	
	comp=Z,1µm,18.0s						
DBO	Dodson Butte	66.23	326	IAmb	IAmb	15 38 45.4	
	comp=Z,71nm,1.0s						
I04A	Tendick Farm,	66.23	327	IAmb	IAmb	15 38 44.7	
	comp=Z,57nm,0.9s						
I04A				IAMs_20	IAMs_20	16 03 56.8	
	comp=Z,1µm,21.0s						
G06A	Carlson Farm,	66.31	329	IAMs_20	IAMs_20	16 05 40.8	
	comp=Z,2µm,20.0s						
F07A	Phinny Hill Vi	66.43	330	IAmb	IAmb	15 38 47.1	
	comp=Z,91nm,1.0s						
F07A				IAMs_20	IAMs_20	16 05 56.9	
	comp=Z,2µm,19.0s						
MBO	M'Bour	66.43	70	IAMs_20	IAMs_20	16 06 41.4	
	comp=Z,2µm,20.0s						
HAWA	Hanford	66.60	331	IAmb	IAmb	15 38 47.7	
	comp=Z,97nm,1.4s						
J01E	Myrtle Point	66.63	326	IAmb	IAmb	15 38 48.5	
	comp=Z,81nm,1.0s						
I03D	Drain, OR	66.67	327	IAmb	IAmb	15 38 48.2	
	comp=Z,68nm,1.0s						
H04A	Detroit Lake	66.72	328	IAmb	IAmb	15 38 48.0	
	comp=Z,83nm,0.9s						
H04A				IAMs_20	IAMs_20	16 04 52.6	
	comp=Z,2µm,22.0s						
E07A	Sunnyside	66.87	331	IAmb	IAmb	15 38 49.7	
	comp=Z,107nm,0.9s						
NEW	Newport	66.87	334	IAmb	IAmb	15 38 48.9	
	comp=Z,81nm,0.9s						
NEW	Newport	66.87	334	IAMs_20	IAMs_20	16 06 46.5	
	comp=Z,1µm,21.0s						
NEW	Newport	66.87	334	LR	LR	16 09 59.4	
	comp=Z,559nm,18.3s,baz=144,slow=38						
WAH2	Wahluke Slope	66.87	331	IAmb	IAmb	15 38 49.3	
	comp=Z,64nm,0.9s						
HOOD	Mount Hood Mea	66.89	329	IAmb	IAmb	15 38 50.0	
	comp=Z,142nm,1.2s						
HOOD				IAMs_20	IAMs_20	16 05 46.0	
	comp=Z,2µm,21.0s						
BBTS	Babate	66.90	69	LR	LR	16 07 06.3	
	comp=Z,2µm,20.0s,baz=132,slow=35						
FFC	Flin Flon	67.18	346	IAmb	IAmb	15 38 49.7	
	comp=Z,74nm,0.9s						
FFC	Flin Flon	67.18	346	P	P	15 38 48.3	-0.8
FFC				pP	pP	15 39 01.6	+0.5
FFC				PcP	PcP	15 39 16.3	-0.5
I02E	Swisshome, OR	67.21	327	IAmb	IAmb	15 38 52.0	
	comp=Z,148nm,1.3s						
COR	Corvallis	67.24	327	P	P	15 38 51.0	+1.3
COR				pP	pP	15 39 03.6	+2.0
G03D	McMinnville, O	67.64	328	IAmb	IAmb	15 39 07.7	
	comp=Z,136nm,1.6s						
LTY	Liberty	67.76	331	IAMs_20	IAMs_20	16 07 09.0	
	comp=Z,1µm,21.0s						
TBI	Tubuai	67.93	249	*e*PKP1	P	15 38 53.7	-0.8
	comp=Z,1µm,27.5s						
TBI				*e*S	S	15 47 52.2	+1.5
	comp=Z,2µm,26.0s						
TBI				*e*LQ	LQ	15 56 16.5	
	comp=Z,1µm,26.5s						
TBI				*e*LR	LR	15 59 25.0	
	comp=Z,2µm,25.5s						
TBI				*e*LR	LR	15 59 27.6	
	comp=Z,8µm,25.0s						
B08A	Colville Reser	67.93	332	IAMs_20	IAMs_20	16 06 51.5	
	comp=Z,1µm,21.0s						
LON	Longmire	67.96	330	IAMs_20	IAMs_20	16 06 01.3	
	comp=Z,2µm,22.0s						
F04D	Rainier, OR	68.10	329	IAMs_20	IAMs_20	16 05 51.1	
	comp=Z,2µm,22.0s						
F03A	Seaside	68.28	328	IAmb	IAmb	15 39 00.3	
	comp=Z,83nm,1.0s						
F03A				IAMs_20	IAMs_20	16 10 39.9	
	comp=Z,2µm,21.0s						
PPT2	Papeete2	68.31	255	*e*PKP1	P	15 38 57.2	+0.1
	comp=Z,349nm,24.8s						
PPT2	Papeete2	68.31	255	*e*PP	PP	15 41 23.6	-4.6
	comp=Z,102nm,25.5s						
PPT2				*e*S	S	15 47 56.9	+1.3
	comp=Z,446nm,25.0s						
PPT2				*e*SS	SS	15 52 06.2	-13
	comp=Z,252nm,24.2s						
PPT2				*e*LR	LR	15 59 36.3	
	comp=Z,3µm,24.2s						
PPT2				*e*LR	LR	15 59 38.0	
	comp=Z,3µm,26.0s						
PPT	Papeete	68.31	255	P	P	15 38 58.4	+1.4
	comp=Z,90nm,1.2s,baz=72,slow=11,SNR=6.8						
PPT				LR	LR	16 01 20.3	
	comp=Z,2µm,18.9s,baz=98,slow=29						
	comp=Z,90nm,1.2s						
D05A	Enumclaw	68.35	330	IAmb	IAmb	15 38 58.5	
	comp=Z,108nm,0.8s						
D05A				IAMs_20	IAMs_20	16 06 46.7	
	comp=Z,2µm,21.0s						
E03A	Lebam	68.70	329	IAmb	IAmb	15 39 01.2	
	comp=Z,121nm,1.1s						
E03A				IAMs_20	IAMs_20	16 06 42.9	
	comp=Z,2µm,20.0s						
RADR	Rader Ridge	68.73	329	IAmb	IAmb	15 39 01.7	
	comp=Z,108nm,0.9s						
RADR				IAMs_20	IAMs_20	16 10 25.9	
	comp=Z,2µm,18.0s						
GNW	Green Mountain	69.02	330	IAmb	IAmb	15 39 02.5	
	comp=Z,68nm,1.1s						
GNW				IAMs_20	IAMs_20	16 07 18.3	
	comp=Z,1µm,19.0s						
WISH	Wishkah	69.19	329	IAmb	IAmb	15 39 04.8	
	comp=Z,74nm,1.0s						
WISH				IAMs_20	IAMs_20	16 06 57.8	
	comp=Z,2µm,21.0s						
NLWA	Neilton Lookou	69.42	329	IAmb	IAmb	15 39 06.0	
	comp=Z,116nm,0.9s						
NLWA				IAMs_20	IAMs_20	16 07 29.3	
	comp=Z,2µm,22.0s						
FCC	Fort Churchill	69.50	352	IAMs_20	IAMs_20	16 12 37.8	
	comp=Z,1µm,20.0s						
PGC	Sidney	70.07	331	IAmb	IAmb	15 39 09.7	
	comp=Z,68nm,1.0s						
PGC				IAMs_20	IAMs_20	16 06 41.5	
	comp=Z,1µm,22.0s						
CLRS	Cowichan Lake	70.52	330	IAmb	IAmb	15 39 12.5	
	comp=Z,211nm,1.9s						
CLRS				IAMs_20	IAMs_20	16 07 33.3	
	comp=Z,1µm,20.0s						
OZB	Mount Ozzard	71.28	330	IAmb	IAmb	15 39 17.4	
	comp=Z,97nm,1.0s						
MACI	Morro de la Ar	71.59	56	IAMs_20	IAMs_20	16 07 37.2	
	comp=Z,1µm,20.0s						
EOSO	Osorio	72.31	56	P	P	15 39 22.4	+1.1
PMOZ	Porto Moniz, M	72.86	51	*e*P	P	15 39 23.1	-1.4
PMOZ				*i* Amb		15 39 31.0	
	comp=Z,138nm,1.2s						
PMOZ				*e*S	SKiKP	15 48 59.8	+4.9
PMOZ				*e*LR	LR	16 06 45.5	
PMOZ				*i* AMs_20		16 10 20.3	
	comp=Z,488nm,20.0s						
PMPST	Porto Santo, M	73.62	51	*e*P	P	15 39 29.5	+0.6
PMPST				*i* Amb		15 39 33.2	
	comp=Z,183nm,1.3s						
HOLB	Holberg	73.67	330	IAmb	IAmb	15 39 31.5	
	comp=Z,162nm,1.6s						
FRB	Frobisher Bay	73.94	5	LR	LR	16 13 42.8	
	comp=Z,1µm,20.1s,baz=172,slow=37						
BBB	Bella Bella	74.65	331	IAmb	IAmb	15 39 37.0	
	comp=Z,110nm,1.2s						
NRS	Narsarsuaq	75.75	16	*i* P	P	15 39 40.0	-0.5
NRS				IAmb	IAmb	15 39 41.4	
	comp=Z,76nm,0.7s						
DBIC	Dimbokro	76.02	81	IAmb	IAmb	15 39 45.0	
	comp=Z,124nm,1.1s						
DBIC	Dimbokro	76.02	81	P	P	15 39 43.0	-0.2
	comp=Z,52nm,1.0s,baz=242,slow=6.8,SNR=44						
DBIC				LR	LR	16 11 44.6	
	comp=Z,2µm,19.2s,baz=240,slow=35						
	comp=Z,52nm,1.0s						
DBIC	Dimbokro	76.02	81	⇑P	P	15 39 43.8	+0.7
SNAA	Sanae	76.39	162	IAmb	IAmb	15 39 58.3	
	comp=Z,295nm,1.8s						
SNAA	Sanae	76.39	162	⇑P	P	15 39 44.3	0.0
	comp=Z,445nm,0.6s						
SNAA	Sanae	76.39	162	P	P	15 39 44.2	0.0
	comp=Z,22nm,0.7s,baz=262,slow=6.8,SNR=30						
SNAA				LR	LR	16 08 57.2	
	comp=Z,926nm,21.1s,baz=300,slow=32						
	comp=Z,22nm,0.7s						
SNAA	Sanae	76.39	162	*ce*P	P	15 39 45.5	+1.2
SNAA				pmax	pmax		
	comp=Z,168nm,2.5s						
GRNB	Grenville Isla	76.56	332	IAmb	IAmb	15 39 48.2	
	comp=Z,111nm,1.3s						
NUUK	Nuuk	76.82	12	*i* P	P	15 39 45.5	-1.1
NUUK				IAmb	IAmb	15 39 47.7	
	comp=Z,136nm,1.2s						
MOBC	Moresby Island	77.09	331	IAmb	IAmb	15 39 51.2	
	comp=Z,142nm,1.3s						
YKA	Yellowknife Ar	77.20	344	P	P	15 39 47.7	-1.0
YKA	Yellowknife Ar	77.20	344	P	P	15 39 48.0	-0.8
	comp=Z,38nm,0.8s,baz=146,slow=5.8,SNR=422						
YKA				PKKP	PKKPdf	15 58 47.5	+1.3
	comp=Z,0.2nm,0.9s,baz=350,slow=2.1,SNR=3.6						
YKA				PKKPbc	PKKPbc	15 58 58.1	-0.5
	comp=Z,0.2nm,0.8s,baz=278,slow=5.6,SNR=4.1						
YKA				PKP2bc		16 06 46.7	
	comp=Z,0.1nm,0.7s,baz=358,slow=3.7,SNR=4.2						
	comp=Z,38nm,0.8s						
YKA	Yellowknife Ar	77.20	344	P	P	15 39 47.7	-1.0
DIB	Dawson Inlet,	77.37	330	IAmb	IAmb	15 39 53.0	
	comp=Z,82nm,1.1s						
TOAD	Toad River Com	77.88	338	P	P	15 39 52.3	-0.4
	baz=134,SNR=98						
U35K	Hyder	77.89	334	P	P	15 39 53.5	+0.7
	baz=129						
V35K	Ketchikan	78.24	333	IAmb	IAmb	15 39 57.3	
	comp=Z,149nm,1.2s						
V35K	Ketchikan	78.24	333	P	P	15 39 55.9	+1.3
	baz=127,SNR=22						
KOTAN	Kotaneelee Air	78.34	339	P	P	15 39 55.5	+0.3
	baz=135,SNR=48						
LIRD	Liard River Hi	78.59	338	P	P	15 39 56.5	-0.1
	baz=133						
T35M	Bob Quinn	78.66	334	IAmb	IAmb	15 39 59.6	
	comp=Z,106nm,1.1s						
T35M	Bob Quinn	78.66	334	P	P	15 39 58.3	+1.3
	baz=129						
CRAG	Craig	79.01	332	P	P	15 39 59.9	+1.0
	baz=126,SNR=10.0						
WRAK	Wrangell Islan	79.23	333	IAmb	IAmb	15 40 02.4	
	comp=Z,107nm,1.4s						
WRAK	Wrangell Islan	79.23	333	P	P	15 40 00.9	+0.8
	baz=127,SNR=15						
U33K	Whale Pass	79.39	333	P	P	15 40 01.8	+0.8
	baz=126,SNR=15						
DLBC	Dease Lake	79.48	336	IAmb	IAmb	15 40 03.9	
	comp=Z,113nm,1.1s						
DLBC	Dease Lake	79.48	336	P	P	15 40 02.3	+0.8
	baz=129						
SFJD	Kangerlussuaq	79.53	11	LR	LR	16 15 05.5	
	comp=Z,1µm,21.4s,baz=204,slow=36						
SFJD	Kangerlussuaq	79.53	11	*i* P	P	15 40 00.0	-1.5
SFJD				IAmb	IAmb	15 40 01.6	
	comp=Z,66nm,1.1s						
S34M	Telegraph Cree	79.61	335	P	P	15 40 03.0	+0.8
	baz=128,SNR=39						
T33K	Petersburg	79.73	333	P	P	15 40 04.0	+1.2
	baz=126						
TIO	Tiouine	80.07	56	P	P	15 40 06.3	+0.8
WTLY	Watson Lake, Y	80.08	337	P	P	15 40 05.1	+0.4
	baz=131,SNR=48						
QSPA	South Pole Qui	80.17	180	P	P	15 40 06.5	+1.1
	comp=Z,49nm,1.0s,baz=150,slow=2.2,SNR=67						
	comp=Z,49nm,1.0s						
HATHI	Halema'uma'u T	80.22	292	IAmb	IAmb	15 40 08.8	
	comp=Z,162nm,1.0s						
UWE	Uwekahuna	80.25	292	IAmb	IAmb	15 40 09.2	
	comp=Z,147nm,1.1s						
ACRG	Accra	80.34	83	IAmb	IAmb	15 40 20.3	
	comp=Z,61nm,0.7s						
MLH	Mauna Loa	80.36	292	IAmb	IAmb	15 40 10.9	
	comp=Z,198nm,1.2s						
WRGLY	Wrigley	80.36	341	IAmb	IAmb	15 40 07.6	
	comp=Z,117nm,1.3s						
WRGLY	Wrigley	80.36	341	P	P	15 40 06.1	0.0
	baz=136,SNR=25						
R33M	Jennings River	80.47	336	IAmb	IAmb	15 40 09.1	
	comp=Z,99nm,1.1s						
R33M	Jennings River	80.47	336	P	P	15 40 07.7	+0.7
	baz=128,SNR=81						
HMH	Humu'ula Sheep	80.47	292	IAmb	IAmb	15 40 11.5	
	comp=Z,124nm,1.1s						
AVE	Averroes	80.68	54	IAmb	IAmb	15 40 11.5	
	comp=Z,163nm,1.0s						
AVE				IAMs_20	IAMs_20	16 13 14.8	
	comp=Z,1µm,19.0s						
AVE	Averroes	80.68	54	P	P	15 40 10.1	+1.6
Q32M	Nakina River	80.73	335	IAmb	IAmb	15 40 10.9	
	comp=Z,92nm,1.2s						
Q32M	Nakina River	80.73	335	P	P	15 40 09.5	+1.0
	baz=127,SNR=51						
HPAH	Hawaii Prepara	80.77	292	IAmb	IAmb	15 40 11.5	
	comp=Z,108nm,1.0s						
TGTN	Hyland Airport	80.81	339	P	P	15 40 09.4	+0.8
	baz=131,SNR=49						
S32K	Killisnoo	80.83	333	IAmb	IAmb	15 40 11.2	
	comp=Z,155nm,1.6s						
S32K	Killisnoo	80.83	333	P	P	15 40 09.8	+1.0
	baz=125,SNR=14						
PFVI	Vila Bisbo	80.84	50	IAmb	IAmb	15 40 12.1	
	comp=Z,133nm,1.0s						
PFVI				IAMs_20	IAMs_20	16 12 57.9	
	comp=Z,1µm,20.0s						
PFVI	Vila Bisbo	80.84	50	*e*P	P	15 40 11.0	+1.7
PFVI				*i* Amb		15 40 12.9	
	comp=Z,185nm,1.4s						
PFVI				*e*PP	PP	15 43 13.2	-0.9
PFVI	Vila Bisbo	80.84	50	P	P	15 40 09.3	0.0
SIT	Sitka	80.93	333	P	P	15 40 10.1	+0.8
	baz=124						
ISOG	Isortoq, Green	81.00

PCVE *i* Amb 15 40 16.2
comp=Z,120nm,1.2s
PCVE Castro Verde 81.59 49 P **P 15 40 13.9 +0.6**
PSBE So Bento 81.67 47 *e*P **P 15 40 14.6 +0.9**
PSBE *i* Amb 15 40 15.9
comp=Z,95nm,1.2s
P32M Atlin 81.70 335 P **P 15 40 14.0 +0.6**
baz=126,SNR=31
P33M Teslin, Yukon 81.71 336 IAmb IAmb 15 40 15.3
comp=Z,83nm,1.2s
P33M Teslin, Yukon 81.71 336 P **P 15 40 13.9 +0.4**
baz=127,SNR=54
PVAQ Vaqueiros 81.76 50 IAMs_20 IAMs_20 16 16 50.3
comp=Z,1µm,19.0s
PVAQ Vaqueiros 81.76 50 *e*P **P 15 40 15.7 +1.5**
PVAQ *e*LR LR 16 07 11.0
PVAQ *i* AMs_20 16 17 14.7
comp=Z,1µm,18.0s
PVAQ Vaqueiros 81.76 50 P **P 15 40 14.8 +0.6**
S31K Pelican 81.84 333 IAmb IAmb 15 40 16.5
comp=Z,124nm,1.6s
S31K Pelican 81.84 333 P **P 15 40 14.7 +0.7**
baz=124,SNR=6.5
PBEJ Beja 81.85 49 *e*P **P 15 40 15.5 +0.8**
PBEJ *i* Amb 15 40 18.2
comp=Z,74nm,1.4s
R31K City Hall, Gus 81.88 334 P **P 15 40 14.9 +0.7**
baz=124
EVO Evora 81.91 49 *e*P **P 15 40 15.6 +0.7**
EVO *i* Amb 15 40 17.3
comp=Z,70nm,1.6s
EVO Evora 81.91 49 P **P 15 40 14.8 -0.2**
PMTG Montargil 81.94 48 *e*P **P 15 40 15.8 +0.8**
PMTG *i* Amb 15 40 17.2
comp=Z,71nm,2.0s
EGRO El Granado 81.98 50 P **P 15 40 15.8 +0.5**
PCAS Casmilo, Conde 82.07 47 *e*P **P 15 40 16.2 +0.5**
PCAS *i* Amb 15 40 18.7
comp=Z,86nm,1.5s
COI Coimbra 82.19 47 IAmb IAmb 15 40 18.4
comp=Z,126nm,0.9s
COI Coimbra 82.19 47 *e*P **P 15 40 16.9 +0.6**
COI *i* Amb 15 40 18.5
comp=Z,169nm,1.1s
SKAG Skagway 82.30 335 P **P 15 40 17.0 +0.6**
baz=124,SNR=15
PESTR Estremoz 82.33 48 IAmb IAmb 15 40 19.5
comp=Z,99nm,1.2s
PESTR Estremoz 82.33 48 *e*P **P 15 40 17.6 +0.4**
PESTR *i* Amb 15 40 20.2
comp=Z,126nm,1.6s
PESTR Estremoz 82.33 48 P **P 15 40 17.3 +0.2**
PTO Porto 82.37 46 *e*P P 15 40 22.0 +4.7
PTO *i* Amb 15 40 23.5
comp=Z,101nm,1.0s
N32M Quiet Lake 82.38 337 P **P 15 40 17.2 +0.3**
baz=127
PBAR Barrancos 82.52 49 *e*P **P 15 40 18.9 +0.8**
PBAR *i* Amb 15 40 21.5
comp=Z,95nm,1.7s
PBAR Barrancos 82.52 49 P **P 15 40 18.9 +0.8**
UMMG Uummannaq 82.54 9 *i* P **P 15 40 16.8 -0.7**
UMMG IAmb IAmb 15 40 18.0
comp=Z,78nm,1.0s
IFR Ifrane 82.57 54 P **P 15 40 19.3 +0.6**
MMPY Sheldon Lake, 82.59 338 IAmb IAmb 15 40 19.9
comp=Z,91nm,1.3s
MMPY IAMs_20 IAMs_20 16 17 58.1
comp=Z,1µm,20.0s
MMPY Sheldon Lake, 82.59 338 P **P 15 40 18.5 +0.4**
baz=129,SNR=76
SFS San Fernando 82.61 51 P **P 15 40 19.8 +1.1**
EMIN Mina Concepcio 82.66 50 P **P 15 40 19.6 +0.7**
PMRV Marv??o 82.67 48 *e*P **P 15 40 18.9 0.0**
PMRV *i* Amb 15 40 20.6
comp=Z,46nm,1.2s
EBAD Badajoz 82.72 49 P **P 15 40 19.5 +0.3**
PVIS Viseu 82.73 47 *e*P **P 15 40 19.6 +0.4**
PLBC Pleasant Camp 82.73 334 P **P 15 40 19.5 +0.7**
baz=124
PCBR Castelo Branco 82.74 48 *e*P **P 15 40 19.4 +0.2**
PCBR *i* Amb 15 40 22.0
comp=Z,74nm,1.3s
WHY Whitehorse 82.80 336 IAmb IAmb 15 40 20.7
comp=Z,134nm,1.4s
WHY Whitehorse 82.80 336 P **P 15 40 19.3 +0.1**
baz=125,SNR=16
MTE Manteigas 82.88 47 *e*P **P 15 40 20.2 +0.2**
MTE *i* Amb 15 40 41.8
comp=Z,59nm,1.2s
MTE *e*PP **PP 15 43 29.8 -1.1**
MTE *e*S **SKSac 15 50 41.9 +3.3**
MTE *e*LR LR 16 08 07.6
MTE *i* AMs_20 16 14 18.9
comp=Z,1µm,20.0s
PGAV Gavieira, Arco 82.89 45 *e*P **P 15 40 20.5 +0.4**
PGAV *i* Amb 15 40 22.8
comp=Z,89nm,1.4s
PGAV *e*LR LR 16 10 06.9
PGAV *i* AMs_20 16 15 43.1
comp=Z,918nm,20.0s
PCAB Cabril 82.97 46 *e*P **P 15 40 20.3 -0.2**
PCAB *i* Amb 15 40 23.8
comp=Z,96nm,1.6s
ESPR Espera 83.00 51 P **P 15 40 21.5 +0.8**
POLO Lamas de Olo 83.02 46 *e*P **P 15 40 21.1 +0.3**
POLO *i* Amb 15 40 22.7
comp=Z,37nm,1.3s
PVRL Vila Real 83.04 46 *e*P **P 15 40 21.1 +0.3**
PVRL *i* Amb 15 40 23.3
comp=Z,66nm,1.5s
ALJ Aljibe 83.06 51 P **P 15 40 22.7 +1.7**
ECEU Ceuta 83.08 52 P **P 15 40 22.5 +1.4**
CEU Ceuta 83.08 52 P **P 15 40 22.5 +1.4**
FARO Faro, Yukon 83.12 338 IAmb IAmb 15 40 22.6
comp=Z,74nm,1.3s
FARO IAMs_20 IAMs_20 16 19 17.2
comp=E,930nm,19.0s
FARO Faro, Yukon 83.12 338 P **P 15 40 21.2 +0.4**
baz=127,SNR=48
KIP Kipapa 83.21 293|| *e*P **P 15 40 23.9 +1.9**
P30M Million Dollar 83.35 335 P **P 15 40 22.6 +0.6**
baz=123
O30N Mendenhall 83.35 336 IAmb IAmb 15 40 24.1
comp=Z,130nm,1.6s
O30N Mendenhall 83.35 336 P **P 15 40 22.4 +0.4**
baz=124,SNR=29
P29M Windy Craggy 83.41 334 IAMs_20 IAMs_20 16 16 00.9
comp=Z,1µm,21.0s
P29M Windy Craggy 83.41 334 P **P 15 40 22.9 +0.6**
baz=122
MVO Moncorvo 83.50 46 *e*P **P 15 40 23.5 +0.2**
MVO *i* Amb 15 40 25.2
comp=Z,128nm,1.3s
MVO *e*S **S 15 50 48.1 +6.0**
MVO *e*LR LR 16 10 06.0
MVO *i* AMs_20 16 16 06.1
comp=Z,1µm,20.0s
M31M Drury Creek, Y 83.50 337 IAmb IAmb 15 40 24.6
comp=Z,134nm,1.6s
M31M IAMs_20 IAMs_20 16 19 04.2
comp=Z,1µm,19.0s
M31M Drury Creek, Y 83.50 337 P **P 15 40 23.2 +0.5**
baz=126,SNR=28
ICESG Greenland Ices 83.57 13 *i* P **P 15 40 21.8 -1.5**
ICESG IAmb IAmb 15 40 24.1
comp=Z,139nm,1.0s
N31M Braeburn, Yuko 83.63 336 IAmb IAmb 15 40 25.2
comp=Z,100nm,1.1s
N31M Braeburn, Yuko 83.63 336 P **P 15 40 23.8 +0.4**
baz=124,SNR=22
TOA0 Torodi Ar. Sit 83.66 76 P **P 15 40 24.7 +0.2**
TORD Torodi Ar. Bea 83.66 76 P **P 15 40 24.7 +0.2**
comp=Z,19nm,0.9s,baz=287,slow=5.0,SNR=25
TORD LR LR 16 16 02.3
comp=Z,1µm,19.7s,baz=249,slow=35
comp=Z,19nm,0.9s
ECAB El Cabril 83.70 50 P **P 15 40 24.2 -0.1**
PBRG Braganca 83.91 46 *e*P **P 15 40 25.5 +0.2**
PBRG *i* Amb 15 40 28.0
comp=Z,196nm,1.6s
UPNV Upernavik 83.92 7 *i* P **P 15 40 23.8 -0.8**
UPNV IAmb IAmb 15 40 25.1
comp=Z,76nm,1.3s
ECAL Calabor 83.96 46 P **P 15 40 25.4 -0.1**
HYT Haines Junctio 83.96 335 IAmb IAmb 15 40 27.6
comp=Z,106nm,1.8s
HYT IAMs_20 IAMs_20 16 19 11.4
comp=Z,1µm,20.0s
HYT Haines Junctio 83.96 335 P **P 15 40 25.9 +0.7**
baz=123,SNR=20
EMAL Malaga-Limoner 84.06 51 P **P 15 40 27.1 +1.0**
O29M Mount Kennedy 84.13 335 IAMs_20 IAMs_20 16 19 56.9
comp=Z,1µm,20.0s
O29M Mount Kennedy 84.13 335 P **P 15 40 26.4 +0.3**
baz=122,SNR=18
N30M Aishikik Lake 84.14 336 IAMs_20 IAMs_20 16 18 55.0
comp=Z,1µm,20.0s
N30M Aishikik Lake 84.14 336 P **P 15 40 26.9 +0.9**
baz=123,SNR=34
PNL Peninsula 84.15 334 P **P 15 40 26.5 +0.5**
baz=121,SNR=10
EADA Adamuz 84.36 50 P **P 15 40 27.6 -0.1**
YUK6 Outpost Mounta 84.38 335 P **P 15 40 28.3 +0.8**
baz=122,SNR=44
EGOR Sierra Gorda, 84.41 51 P **P 15 40 28.7 +0.6**
ELIB Princess Elisa 84.52 162 *d*P **P 15 40 29.3 +1.3**
comp=Z,19nm,1.3s
M30M Minto, Yukon 84.64 337 P **P 15 40 28.5 0.0**
baz=124
YUK4 Talbot Arm 84.71 335 P **P 15 40 29.8 +0.7**
baz=122,SNR=55
ELGU Los Guajares, 84.71 51 P **P 15 40 28.7 -0.8**
PINM Pinnacle 84.74 334 P **P 15 40 29.4 +0.3**
baz=120
PCA Pinnacle 84.74 334 IAmb IAmb 15 40 31.0
comp=Z,90nm,1.5s
MAYO Mayo, Yukon 84.87 338 IAmb IAmb 15 40 31.3
comp=Z,94nm,1.1s
MAYO IAMs_20 IAMs_20 16 19 40.2
comp=Z,1µm,20.0s
MAYO Mayo, Yukon 84.87 338 P **P 15 40 29.8 +0.2**
baz=124,SNR=11
PAB San Pablo 84.94 49 IAmb IAmb 15 40 32.7
comp=Z,79nm,1.2s
EQTA Presa de Quent 84.95 51 P **P 15 40 32.4 +1.7**
C36M Paulatuk 84.95 345 IAMs_20 IAMs_20 16 19 53.1
comp=Z,1µm,20.0s
C36M Paulatuk 84.95 345 P **P 15 40 28.3 -1.5**
baz=136,SNR=9.0
RES Resolute Bay 85.02 356 IAMs_20 IAMs_20 16 17 46.6
comp=Z,1µm,20.0s
RES Resolute Bay 85.02 356 LR LR 16 19 03.6
comp=Z,1µm,18.6s,baz=174,slow=36
O28M Mount Upton 85.06 335 P **P 15 40 31.5 +0.6**
baz=120,SNR=16
YUK8 Steele Glacier 85.14 335 P **P 15 40 31.6 +0.3**
baz=121,SNR=17
M29M Somme Creek 85.22 336 IAmb IAmb 15 40 33.4
comp=Z,76nm,1.1s
M29M Somme Creek 85.22 336 P **P 15 40 32.0 +0.5**
baz=122,SNR=64
SBA Scott Base 85.23 191 IAmb IAmb 15 40 44.3
comp=Z,109nm,1.8s
VAL Valentia 85.26 35 P **P 15 40 31.9 +0.2**
ESDC Sonseca Array 85.26 49 P **P 15 40 32.6 +0.4**
comp=Z,15nm,0.8s,baz=259,slow=4.8,SNR=64
ESDC LR LR 16 18 06.4
comp=Z,731nm,18.2s,baz=254,slow=35
comp=Z,15nm,0.8s
ESBB Sonseca Array 85.26 49 IAmb IAmb 15 40 35.3
comp=Z,155nm,1.8s
L29M L29M 85.44 337 P **P 15 40 32.9 +0.3**
baz=122,SNR=74
KULLO Kullorsuaq 85.48 6 *i* P **P 15 40 32.1 -0.3**
KULLO IAmb IAmb 15 40 33.2
comp=Z,93nm,1.0s
MESA MESA 85.52 334 P **P 15 40 33.6 +0.4**
baz=119,SNR=7.7
J30M Hart River 85.58 339 IAmb IAmb 15 40 35.0
comp=Z,59nm,1.0s
J30M Hart River 85.58 339 P **P 15 40 33.5 +0.2**
baz=124,SNR=68
H31M Peel River 85.60 340 IAmb IAmb 15 40 34.7
comp=Z,78nm,1.1s
H31M IAMs_20 IAMs_20 16 22 04.6
comp=Z,910nm,18.0s
H31M Peel River 85.60 340 P **P 15 40 33.4 +0.1**
baz=126,SNR=28
K29M Barlow Dome 85.61 338 IAmb IAmb 15 40 34.9
comp=Z,73nm,1.1s
K29M IAMs_20 IAMs_20 16 19 41.8
comp=Z,1µm,19.0s
K29M Barlow Dome 85.61 338 P **P 15 40 33.5 0.0**
baz=123,SNR=52
YUK3 Moose Creek 85.67 335 P **P 15 40 34.1 +0.2**
baz=120,SNR=77
I30M Mount Dempster 85.96 339 IAmb IAmb 15 40 36.7
comp=Z,86nm,1.0s
I30M Mount Dempster 85.96 339 P **P 15 40 35.4 +0.2**
baz=124,SNR=139
BORG Borgarnes 86.06 21 LR LR 16 16 03.4
comp=Z,828nm,22.0s,baz=233,slow=34
BGLC Bering Glacier 86.08 333 P **P 15 40 36.6 +1.0**
baz=118
BVCY Beaver Creek 86.16 336 P **P 15 40 36.5 +0.4**
baz=120,SNR=19
J29N Klondike Camp 86.19 338 P **P 15 40 36.5 +0.2**
baz=122,SNR=24
G31M Satah River 86.24 341 IAmb IAmb 15 40 37.3
comp=Z,82nm,0.8s
G31M Satah River 86.24 341 P **P 15 40 36.1 -0.2**
baz=126,SNR=69
IGLA Glengowla, Co 86.31 34 P **P 15 40 37.2 +0.3**
VNDA Vanda 86.32 191 P **P 15 40 36.3 -0.4**
comp=Z,6.8nm,1.2s,baz=100,slow=4.8,SNR=10.0
VNDA LR LR 16 11 38.3
comp=Z,1µm,20.3s,baz=125,slow=30
comp=Z,6.8nm,1.2s
F31M Tsiigehtchic 86.38 342 IAmb IAmb 15 40 38.0
comp=Z,90nm,0.9s
F31M IAMs_20 IAMs_20 16 26 25.1
comp=Z,990nm,19.0s
F31M Tsiigehtchic 86.38 342 P **P 15 40 36.7 -0.3**
baz=127,SNR=65
DAWY Dawson 86.43 338 IAmb IAmb 15 40 38.5
comp=Z,69nm,1.1s
DAWY Dawson 86.43 338 P **P 15 40 37.2 -0.2**
baz=121,SNR=46
KAIM Kayak Island 86.50 333 P **P 15 40 38.4 +0.6**
baz=116,SNR=31
SUMG Summit 86.52 11 *i* P **P 15 40 37.0 -1.1**
SUMG IAmb IAmb 15 40 39.4
comp=Z,231nm,1.0s
M27K Edge Creek, AK 86.54 336 IAMs_20 IAMs_20 16 20 49.7
comp=Z,1µm,19.0s
M27K Edge Creek, AK 86.54 336 P **P 15 40 38.3 +0.2**
baz=119,SNR=70
VRDI Verde Repeater 86.67 334 IAMs_20 IAMs_20 16 21 39.1
comp=Z,1µm,21.0s
I29M Ogilvie Camp, 86.72 339 P **P 15 40 38.6 -0.1**
baz=122,SNR=54
EPYK Eagle Plains 86.72 340 IAmb IAmb 15 40 40.1
comp=Z,110nm,1.1s
EPYK Eagle Plains 86.72 340 P **P 15 40 38.7 -0.1**
baz=124,SNR=61
RAGM Ragged Mountai 86.82 333 IAmb IAmb 15 40 41.0
comp=Z,98nm,1.3s
INK Inuvik 86.84 342 IAMs_20 IAMs_20 16 19 19.1
comp=Z,1µm,22.0s
INK Inuvik 86.84 342 LR LR 16 20 04.7
comp=Z,1µm,21.8s,baz=120,slow=36
INK Inuvik 86.84 342 P **P 15 40 39.0 -0.2**
baz=127,SNR=133
BCAR Beaver Creek A 86.85 336 P **P 15 40 39.4 -0.1**
L27K Beaver Creek, 86.86 336 IAmb IAmb 15 40 41.1
comp=Z,102nm,1.1s
L27K IAMs_20 IAMs_20 16 20 30.1
comp=Z,1µm,20.0s
L27K Beaver Creek, 86.86 336 P **P 15 40 39.7 +0.2**
baz=119,SNR=102
G30M tAoh Zraii Nji 86.90 341 P **P 15 40 39.0 -0.6**
baz=124,SNR=18
GLB Gilahina Butte 86.92 334 IAmb IAmb 15 40 41.2
comp=Z,106nm,1.3s
GLB IAMs_20 IAMs_20 16 17 54.7
comp=Z,1µm,22.0s
M26K Nabesna, AK 87.02 335 IAmb IAmb 15 40 41.4
comp=Z,61nm,1.2s
M26K IAMs_20 IAMs_20 16 18 23.4
comp=Z,1µm,22.0s
M26K Nabesna, AK 87.02 335 P **P 15 40 40.0 -0.4**
baz=118,SNR=36
BMRM Bremner River 87.05 334 IAmb IAmb 15 40 41.8
comp=Z,106nm,1.3s
BMRM Bremner River 87.05 334 P **P 15 40 40.4 -0.1**
baz=116,SNR=33
A36M Sachs Harbour 87.12 347 IAMs_20 IAMs_20 16 24 23.3
comp=Z,1µm,20.0s
A36M Sachs Harbour 87.12 347 P **P 15 40 39.5 -1.0**
baz=135,SNR=27
F30M Barrier River 87.12 341 P **P 15 40 40.5 -0.2**
baz=125,SNR=58
H29M Whitestone 87.20 340 IAmb IAmb 15 40 42.4
comp=Z,99nm,1.1s
H29M Whitestone 87.20 340 P **P 15 40 41.0 -0.1**
baz=122,SNR=64
N25K Chitina, Valde 87.33 334 IAmb IAmb 15 40 43.3
comp=Z,54nm,1.2s
N25K Chitina, Valde 87.33 334 P **P 15 40 41.8 -0.1**
baz=116,SNR=31
I28M Miner Creek 87.34 339 P **P 15 40 41.8 -0.1**
baz=121,SNR=129
EYAK Cordova Ski Ar 87.37 333 P **P 15 40 41.7 -0.3**
baz=115,SNR=9.1
IWEX Carrickbyrne, 87.41 36 *e*P **P 15 40 41.8 -0.5**
IWEX IAmb IAmb 15 40 42.9
comp=Z,90nm,1.1s
IWEX Carrickbyrne, 87.41 36 P **P 15 40 41.2 -1.1**
K27K Chicken 87.43 337 IAMs_20 IAMs_20 16 21 55.1
comp=Z,972nm,18.0s
K27K Chicken 87.43 337 P **P 15 40 42.9 +0.7**
baz=119
G29M Pine Creek 87.45 340 P **P 15 40 42.2 -0.1**
baz=123,SNR=89
L26K Log Cabin Wild 87.46 336 IAmb IAmb 15 40 43.5
comp=Z,80nm,1.3s
L26K IAMs_20 IAMs_20 16 21 25.8
comp=Z,1µm,20.0s
L26K Log Cabin Wild 87.46 336 P **P 15 40 42.2 -0.2**
baz=118,SNR=38
MENT Mentasta 87.57 336 IAmb IAmb 15 40 44.1
comp=Z,98nm,1.5s
DIV Divide 87.63 334 IAmb IAmb 15 40 44.2
comp=Z,58nm,1.1s
HIN Hinchinbrook I 87.64 333 IAmb IAmb 15 40 44.1
comp=Z,83nm,1.2s
FID Port Fidalgo 87.78 333 IAmb IAmb 15 40 44.8
comp=Z,44nm,1.1s
KLU Klutina 87.85 334 IAMs_20 IAMs_20 16 21 09.4
comp=Z,1µm,22.0s
KLU Klutina 87.85 334 P **P 15 40 44.1 -0.3**
baz=115,SNR=99
HARP HAARP 87.92 335 P **P 15 40 44.3 -0.3**
baz=116,SNR=12
DSB Dublin 87.93 35 IAmb IAmb 15 40 46.0
comp=Z,50nm,1.1s
DSB Dublin 87.93 35 P **P 15 40 44.5 -0.3**
IDGL Inch Island, C 87.93 33 P **P 15 40 44.4 -0.3**
I27K Kandik River 88.03 338 P **P 15 40 44.9 -0.3**
baz=119,SNR=92
DOT Dot Lake 88.03 336 IAmb IAmb 15 40 46.2
comp=Z,80nm,1.0s
GLI Glacier Island 88.11 333 IAmb IAmb 15 40 46.0
comp=Z,55nm,1.2s
GLI IAMs_20 IAMs_20 16 22 05.2
comp=Z,1µm,20.0s
GLI Glacier Island 88.11 333 P **P 15 40 44.8 -0.7**
baz=114,SNR=18
SCRK Sand Creek 88.15 336 IAmb IAmb 15 40 46.8
comp=Z,63nm,1.0s
SCRK Sand Creek 88.15 336 P **P 15 40 45.5 -0.3**
baz=117,SNR=84
ILTH Belurgan, Co L 88.21 34 *e*P **P 15 40 45.0 -1.1**
ILTH Belurgan, Co L 88.21 34 P **P 15 40 45.3 -0.8**
E29M Blow River 88.22 342 P **P 15 40 45.6 -0.3**
baz=123
M24K Tolsona, Glenn 88.22 334 P **P 15 40 46.3 +0.2**
baz=115,SNR=59
J26L Joseph Creek 88.23 337 IAMs_20 IAMs_20 16 20 15.1
comp=Z,1µm,20.0s
J26L Joseph Creek 88.23 337 P **P 15 40 46.2 +0.1**
baz=118,SNR=124
PAX Paxson 88.30 335 P **P 15 40 45.9 -0.6**
baz=116,SNR=98
H27K Steamboat Moun 88.30 339 P **P 15 40 46.1 -0.3**
baz=119,SNR=97
RIDG Independent Ri 88.39 336 IAMs_20 IAMs_20 16 22 21.3
comp=Z,1µm,19.0s
RIDG Independent Ri 88.39 336 P **P 15 40 46.6 -0.2**
baz=116,SNR=82
I26K Coal Creek Min 88.45 338 P **P 15 40 46.5 -0.5**
baz=118
RSBS Rosebush, Pemb 88.45 37 *e*P **P 15 40 47.0 -0.4**
RSBS IAmb IAmb 15 40 48.0
comp=Z,51nm,1.0s
SCM Sheep Creek Mo 88.61 334 IAMs_20 IAMs_20 16 23 15.2
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 88.61 334 P **P 15 40 47.6 -0.3**
baz=114,SNR=36
G27K Doyon Strip 88.63 339 IAmb IAmb 15 40 48.6
comp=Z,39nm,0.8s
G27K IAMs_20 IAMs_20 16 21 46.7
comp=Z,1µm,19.0s
G27K Doyon Strip 88.63 339 P **P 15 40 47.3 -0.6**
baz=119
PWL Port Wells 88.66 333 IAmb IAmb 15 40 48.9
comp=Z,59nm,1.4s
PWL IAMs_20 IAMs_20 16 24 14.7
comp=Z,890nm,19.0s
PWL Port Wells 88.66 333 P **P 15 40 47.4 -0.8**
baz=113
NEEM North Greenlan 88.72 6 *i* P **P 15 40 48.1 -0.3**
NEEM IAmb IAmb 15 40 50.0
comp=Z,232nm,0.9s
M23K Glacier View 88.76 334 P **P 15 40 48.3 -0.3**
baz=114,SNR=43
K24K Donnelly Dome 88.78 336 P **P 15 40 48.4 -0.3**
baz=115,SNR=23
E28M Babbage River 88.84 341 P **P 15 40 48.1 -0.8**
baz=121
SEW Seward 88.88 332 IAmb IAmb 15 40 49.9
comp=Z,58nm,1.2s
SEW Seward 88.88 332 P **P 15 40 48.4 -0.7**
baz=112,SNR=16
KNK Knik Glacier 88.93 333 IAmb IAmb 15 40 50.6
comp=Z,105nm,1.7s
KNK IAMs_20 IAMs_20 16 22 52.9
comp=Z,1µm,20.0s
KNK Knik Glacier 88.93 333 P **P 15 40 49.1 -0.3**
baz=113,SNR=16
J25K Salcha River, 88.98 337 IAmb IAmb 15 40 50.8
comp=Z,58nm,0.9s
J25K IAMs_20 IAMs_20 16 20 22.9
comp=Z,1µm,21.0s
J25K Salcha River, 88.98 337 P **P 15 40 49.5 -0.1**
baz=116,SNR=63
D28M Stokes Point 88.98 342 P **P 15 40 49.3 0.0**
baz=122
SML Sawmill 89.03 334 P **P 15 40 49.5 -0.4**
baz=113,SNR=45
SCO Scoresbysund 89.04 16 IAmb IAmb 15 40 51.2
comp=Z,47nm,1.0s
SCO Scoresbysund 89.04 16 *i* P **P 15 40 49.4 -0.3**
SCO IAmb IAmb 15 40 50.4
comp=Z,70nm,1.2s
O22K Cooper Landing 89.15 332 IAmb IAmb 15 41 25.6
comp=Z,114nm,1.6s
O22K IAMs_20 IAMs_20 16 23 26.6
comp=Z,926nm,20.0s
O22K Cooper Landing 89.15 332 P **P 15 40 49.8 -0.6**
baz=112,SNR=5.7
WIM Isle of Man 89.18 35 *e*P **P 15 40 50.5 -0.3**
IOMK Kirk Michael 89.27 34 *e*P **P 15 40 50.4 -0.7**
IOMK IAmb IAmb 15 40 52.2
comp=Z,60nm,1.2s
GHO Glory Hole Cre 89.28 334 IAmb IAmb 15 40 51.9
comp=Z,70nm,1.3s
E27K Coleen River 89.29 341 IAmb IAmb 15 40 52.2
comp=Z,96nm,1.4s
E27K Coleen River 89.29 341 P **P 15 40 50.9 -0.1**
baz=119
PMR Palmer 89.30 333 P **P 15 40 50.5 -0.6**
baz=112,SNR=16
BRSE Bradley Lake S 89.35 331 P **P 15 40 51.0 -0.4**
baz=111,SNR=34
LLW Llanuwychllyn 89.36 36 *e*P **P 15 40 51.0 -0.5**
RC01 Rabbit Creek A 89.38 333 IAmb IAmb 15 40 52.6
comp=Z,92nm,1.4s
RC01 Rabbit Creek A 89.38 333 P **P 15 40 51.4 -0.1**
baz=112,SNR=16
GAL1 Galloway 89.38 34 *e*P **P 15 40 51.2 -0.4**

GAL1 IAmb IAmb 15 40 52.9
comp=Z,22nm,0.9s
SLKM Skilak Lake 89.38 332 IAmb IAmb 15 40 52.5
comp=Z,88nm,1.2s
BRLK Bradley Lake 89.42 331 IAmb IAmb 15 40 52.7
comp=Z,76nm,1.1s
PRP Porcupine Dome 89.43 338 P **P** **15 40 51.5 -0.3**
baz=116,SNR=38
G26K Porcupine Rive 89.44 339 P **P** **15 40 51.5 -0.2**
baz=117,SNR=37
MCH1 Michaelchurch 89.50 37 *e*P **P** **15 40 51.5 -0.7**
MCH1 IAmb IAmb 15 40 52.7
comp=Z,32nm,0.9s
CNPM China Poot 89.51 331 IAmb IAmb 15 40 53.2
comp=Z,52nm,1.3s
HDA Harding Lake 89.51 336 IAmb IAmb 15 40 52.7
comp=Z,68nm,1.1s
HDA IAMs_20 IAMs_20 16 23 22.0
comp=Z,946nm,18.0s
HDA Harding Lake 89.51 336 P **P** **15 40 51.3 -0.7**
baz=114,SNR=48
KDAK Kodiak Island 89.57 329 IAmb IAmb 15 40 53.6
comp=Z,58nm,1.3s
KDAK Kodiak Island 89.57 329*c i*P **P** **15 40 52.2 -0.2**
KDAK pmax pmax
comp=Z,67nm,1.4s
KDAK Kodiak Island 89.57 329 P **P** **15 40 52.1 -0.4**
baz=109
D27M Malcolm River 89.61 342 IAMs_20 IAMs_20 16 26 16.6
comp=Z,1µm,20.0s
D27M Malcolm River 89.61 342 P **P** **15 40 52.5 0.0**
baz=120
IL31 89.63 337 IAmb IAmb 15 40 53.3
comp=Z,45nm,1.0s
ILAR Eielson Array 89.63 337 P **P** **15 40 51.6 -1.0**
ILAR Eielson Array 89.63 337 P **P** **15 40 51.8 -0.9**
comp=Z,24nm,1.0s,baz=149,slow=3.5,SNR=152
ILAR PP **PP** **15 44 25.7 +0.8**
comp=Z,4.9nm,1.0s,baz=115,slow=6.5,SNR=9.5
ILAR LR LR 16 22 44.2
comp=Z,1µm,20.7s,baz=98,slow=37
comp=Z,24nm,1.0s
ILAR Eielson Array 89.63 337 P **P** **15 40 51.6 -1.0**
FOEL Foel Wylfa 89.64 36 *e*P **P** **15 40 52.4 -0.5**
FOEL IAmb IAmb 15 40 54.1
comp=Z,32nm,0.8s
KPL Plockton 89.67 31 *e*P **P** **15 40 52.1 -0.8**
KPL IAmb IAmb 15 40 53.6
comp=Z,100nm,1.3s
HLM1 Long Mynd 89.72 36 *e*P **P** **15 40 53.0 -0.2**
HLM1 IAmb IAmb 15 40 55.0
comp=Z,55nm,0.9s
NEWG New Galloway 89.72 34 *e*P **P** **15 40 52.6 -0.6**
NEWG IAmb IAmb 15 40 54.1
comp=Z,46nm,1.1s
HOM Homer 89.75 331 P **P** **15 40 53.2 -0.1**
baz=110
OHAK Old Harbor 89.75 328 IAmb IAmb 15 40 54.8
comp=Z,95nm,1.3s
OHAK Old Harbor 89.75 328 P **P** **15 40 53.3 +0.1**
baz=109,SNR=17
SYI Shuyak Island 89.75 330 IAmb IAmb 15 40 54.7
comp=Z,72nm,1.3s
Q20K Shuyak Island 89.75 330 P **P** **15 40 53.3 0.0**
baz=110,SNR=10
M22K Willow 89.80 333 IAMs_20 IAMs_20 16 22 22.8
comp=Z,1µm,21.0s
M22K Willow 89.80 333 P **P** **15 40 53.1 -0.2**
baz=112,SNR=35
H25L Birch Creek 89.86 338 P **P** **15 40 54.2 +0.6**
baz=115
F26K Sheenjek River 89.91 340 IAmb IAmb 15 40 55.6
comp=Z,47nm,0.9s
F26K IAMs_20 IAMs_20 16 28 49.4
comp=Z,783nm,20.0s
F26K Sheenjek River 89.91 340 P **P** **15 40 54.2 +0.4**
baz=117
CAPN Captain Cook N 89.91 332 P **P** **15 40 55.0 +1.1**
baz=111
BMAR Burnt Mountain 89.94 339 P **P** **15 40 54.4 +0.3**
CCB Clear Creek Bu 89.94 336 IAmb IAmb 15 40 54.9
comp=Z,48nm,1.0s
CCB IAMs_20 IAMs_20 16 22 42.5
comp=Z,824nm,20.0s
SUA Susitna One 89.97 333 IAMs_20 IAMs_20 16 22 19.4
comp=Z,1µm,22.0s
SUA Susitna One 89.97 333 P **P** **15 40 54.3 -0.1**
baz=111,SNR=32
WRH Wood River Hil 89.98 336 IAmb IAmb 15 40 55.2
comp=Z,55nm,0.9s
WRH IAMs_20 IAMs_20 16 23 54.6
comp=Z,900nm,18.0s
POKR Poker Plat Res 89.99 337 P **P** **15 40 54.4 +0.1**
baz=114,SNR=18
SII Sitkinak Islan 90.00 328 IAmb IAmb 15 40 56.0
comp=Z,74nm,1.1s
SII Sitkinak Islan 90.00 328 P **P** **15 40 54.5 0.0**
baz=108
MCK McKinley 90.04 335 IAmb IAmb 15 40 55.7
comp=Z,101nm,1.4s
MCK McKinley 90.04 335 P **P** **15 40 54.2 -0.3**
baz=113,SNR=43
COLA College 90.05 337 IAMs_20 IAMs_20 16 22 44.5
comp=Z,966nm,20.0s
COLA College 90.05 337*c i*P **P** **15 40 54.0 -0.5**
COLA pmax pmax
comp=Z,151nm,1.1s
COLA College 90.05 337 P **P** **15 40 54.3 -0.2**
baz=114
CUT Chulitna 90.10 334 P **P** **15 40 54.6 -0.2**
baz=111,SNR=8.6
G25K Bearman Lake 90.18 339 P **P** **15 40 55.9 +0.9**
baz=115,SNR=59
KESW Keswick, Cumbr 90.19 34 *e*P **P** **15 40 55.5 +0.1**
KESW IAmb IAmb 15 40 56.4
comp=Z,100nm,1.1s
ESK Eskdalemuir 90.34 34 IAmb IAmb 15 40 57.3
comp=Z,51nm,1.2s
ESK Eskdalemuir 90.34 34 *e*P **P** **15 40 55.4 -0.7**
ESK IAmb IAmb 15 40 57.4
comp=Z,16nm,1.1s
O20K Slope Mountain 90.36 331 P **P** **15 40 56.1 -0.1**
baz=109,SNR=28
EKA Eskdalemuir Ar 90.37 34 P **P** **15 40 55.6 -0.6**
comp=Z,26nm,1.1s,baz=243,slow=4.6,SNR=31
comp=Z,26nm,1.1s
F25K Christian Rive 90.37 339 IAmb IAmb 15 40 58.0
comp=Z,39nm,0.9s
F25K IAMs_20 IAMs_20 16 25 42.8
comp=Z,981nm,19.0s
F25K Christian Rive 90.37 339 P **P** **15 40 56.8 +0.7**
baz=116,SNR=59
BWN Browne 90.42 336 IAMs_20 IAMs_20 16 20 36.4
comp=Z,1µm,22.0s
NEA2 Nenana 90.42 336 IAMs_20 IAMs_20 16 24 08.2
comp=Z,926nm,18.0s
NEA2 Nenana 90.42 336 P **P** **15 40 55.9 -0.4**
baz=112,SNR=120
H24K Noodor Dome 90.45 337 P **P** **15 40 56.4 -0.1**
baz=114,SNR=84
R18K Karluk 90.45 329 P **P** **15 40 56.7 +0.2**
baz=108
Q19K Cape Douglas, 90.47 330 P **P** **15 40 56.5 -0.1**
baz=108,SNR=17
TRF Thorofare Moun 90.49 335 P **P** **15 40 56.3 -0.6**
baz=111,SNR=28
SKT Skwentna 90.50 333 IAmb IAmb 15 40 57.7
comp=Z,84nm,1.0s
SKT Skwentna 90.50 333 P **P** **15 40 56.4 -0.4**
baz=110,SNR=74
P19K Oil Pt 90.51 331 IAmb IAmb 15 40 57.8
comp=Z,46nm,1.1s
P19K Oil Pt 90.51 331 P **P** **15 40 56.5 -0.3**
baz=109,SNR=11
SPCR Spurr Chakacha 90.54 332 P **P** **15 40 56.4 -0.6**
baz=110,SNR=13
E25K Arctic Village 90.58 340 IAmb IAmb 15 40 58.9
comp=Z,85nm,1.0s
E25K IAMs_20 IAMs_20 16 29 19.1
comp=Z,933nm,20.0s
E25K Arctic Village 90.58 340 P **P** **15 40 57.5 +0.5**
baz=116,SNR=121
LBWR Ladybower, Pea 90.64 36 *e*P **P** **15 40 57.6 0.0**
LBWR IAmb IAmb 15 40 58.9
comp=Z,78nm,0.8s
G24K Hadweenzic Riv 90.65 338 IAMs_20 IAMs_20 16 20 49.1
comp=Z,1µm,22.0s
G24K Hadweenzic Riv 90.65 338 P **P** **15 40 57.6 +0.3**
baz=114,SNR=89
C27K Jago River 90.65 342 P **P** **15 40 57.6 +0.4**
baz=117
SYO Syowa Base 90.68 162*‖ e*P **P** **15 40 53.2 -4.3**
SYO Syowa Base 90.68 162*‖ i*pP pP 15 41 05.0 -4.7
CWF Charnwood Fore 90.70 37 *e*P **P** **15 40 57.6 -0.2**
CWF IAmb IAmb 15 40 59.6
comp=Z,21nm,0.9s
I23K Minto, Yukon-K 90.75 337 IAMs_20 IAMs_20 16 20 36.8
comp=Z,1µm,21.0s
I23K Minto, Yukon-K 90.75 337 P **P** **15 40 57.4 -0.3**
baz=112,SNR=56
KTH Kantishna Hill 90.80 335 IAmb IAmb 15 40 58.9
comp=Z,61nm,1.1s
KTH IAMs_20 IAMs_20 16 23 54.1
comp=Z,1µm,20.0s
HPK Haverah Park 90.84 35 *e*P **P** **15 40 58.7 +0.2**
EDMD Edmundbyers 90.89 34 *e*P **P** **15 40 58.5 -0.2**
EDMD IAmb IAmb 15 41 00.2
comp=Z,27nm,1.1s
BPAW Bear Paw Mtn. 91.02 335 IAMs_20 IAMs_20 16 22 00.9
comp=Z,956nm,22.0s
BPAW Bear Paw Mtn. 91.02 335 P **P** **15 40 58.6 -0.5**
baz=111,SNR=23
Q18K Katmai Hardscr 91.06 330 P **P** **15 40 59.2 -0.3**
baz=107,SNR=12
H23K Yukon River 91.08 337 IAmb IAmb 15 41 00.2
comp=Z,75nm,1.7s
H23K IAMs_20 IAMs_20 16 22 32.3
comp=Z,1µm,21.0s
H23K Yukon River 91.08 337 P **P** **15 40 59.0 -0.4**
baz=112,SNR=8.0
ACHA Angle Creek He 91.09 329 IAmb IAmb 15 41 01.2
comp=Z,58nm,1.5s
PPLA Purkeypile 91.11 334 P **P** **15 40 59.3 -0.4**
baz=110,SNR=29
F24K Squaw Lake 91.13 339 IAmb IAmb 15 41 01.4
comp=Z,50nm,1.1s
F24K IAMs_20 IAMs_20 16 23 52.7
comp=Z,979nm,20.0s
F24K Squaw Lake 91.13 339 P **P** **15 41 00.0 +0.5**
baz=114,SNR=63
C26K Camden Bay 91.16 342 P **P** **15 41 00.2 +0.7**
baz=116
M20K Styx River 91.18 333 P **P** **15 40 59.2 -0.8**
baz=109
O19K Port Alsworth 91.20 331 IAmb IAmb 15 41 00.3
comp=Z,36nm,1.1s
O19K Port Alsworth 91.20 331 P **P** **15 40 59.0 -1.0**
baz=108,SNR=13
CAST Castle Rocks 91.24 335 IAMs_20 IAMs_20 16 24 21.8
comp=Z,1µm,21.0s
CAST Castle Rocks 91.24 335 P **P** **15 40 59.4 -0.7**
baz=110,SNR=111
D25K Kavik River 91.36 341 IAmb IAmb 15 41 01.9
comp=Z,36nm,0.8s
D25K Kavik River 91.36 341 P **P** **15 41 00.6 -0.1**
baz=115
P18K Big Mountain, 91.39 330 IAmb IAmb 15 41 01.6
comp=Z,50nm,1.3s
P18K Big Mountain, 91.39 330 P **P** **15 41 00.2 -0.8**
baz=107,SNR=14
N19K Bonanza Creek 91.46 332 IAmb IAmb 15 41 01.8
comp=Z,42nm,1.2s
N19K Bonanza Creek 91.46 332 P **P** **15 41 00.4 -1.0**
baz=108,SNR=15
CHUM Lake Minchumin 91.49 335 P **P** **15 41 00.5 -0.7**
baz=110,SNR=32
O18K Koktuh Hills 91.52 331 IAmb IAmb 15 41 02.4
comp=Z,76nm,1.1s
O18K Koktuh Hills 91.52 331 P **P** **15 41 00.9 -0.6**
baz=107,SNR=33
E24K Your Creek 91.56 339 IAMs_20 IAMs_20 16 26 09.0
comp=Z,982nm,20.0s
E24K Your Creek 91.56 339 P **P** **15 41 01.8 +0.3**
baz=113
G23K Bananza Creek 91.59 338 IAmb IAmb 15 41 03.4
comp=Z,72nm,1.1s
G23K Bananza Creek 91.59 338 P **P** **15 41 02.1 +0.4**
baz=112,SNR=63
L20K Farewell, AK 91.71 333 P **P** **15 41 01.4 -0.9**
baz=108,SNR=27
M19K Big River Lodg 91.76 333 P **P** **15 41 02.2 -0.4**
baz=108
CLF Chambon-Foret 91.76 42 IAmb IAmb 15 41 03.9
comp=Z,70nm,1.1s
H22K Ishtalitna Cre 91.81 337 P **P** **15 41 02.1 -0.6**
baz=110,SNR=10
COLD Coldfoot 91.84 338 IAmb IAmb 15 41 04.7
comp=Z,30nm,1.0s
COLD Coldfoot 91.84 338 P **P** **15 41 03.3 +0.5**
baz=111,SNR=40
Q16K King Salmon 91.90 329 P **P** **15 41 03.1 -0.1**
baz=106,SNR=9.8
P17K Kvichak River 91.93 330 P **P** **15 41 03.1 -0.3**
baz=106,SNR=7.4
E23K Chandalar 91.94 339 IAmb IAmb 15 41 04.8
comp=Z,96nm,1.7s
E23K IAMs_20 IAMs_20 16 26 54.3
comp=Z,986nm,18.0s
E23K Chandalar 91.94 339 P **P** **15 41 03.5 +0.1**
baz=112
L19K White Mountain 92.05 333 IAmb IAmb 15 41 04.3
comp=Z,33nm,1.1s
L19K IAMs_20 IAMs_20 16 23 44.4
comp=Z,1µm,21.0s
L19K White Mountain 92.05 333 P **P** **15 41 03.0 -0.9**
baz=107,SNR=22
K20K Telida 92.06 334 IAmb IAmb 15 41 04.5
comp=Z,52nm,1.1s
K20K IAMs_20 IAMs_20 16 25 07.7
comp=Z,1µm,20.0s
K20K Telida 92.06 334 P **P** **15 41 03.2 -0.8**
baz=108
N18K Kilae Creek 92.08 331 IAmb IAmb 15 41 04.8
comp=Z,68nm,1.4s
N18K Kilae Creek 92.08 331 P **P** **15 41 03.5 -0.6**
baz=106,SNR=21
D24K Happy Valley 92.09 340 IAmb IAmb 15 41 05.1
comp=Z,52nm,1.4s
D24K IAMs_20 IAMs_20 16 30 13.1
comp=Z,883nm,18.0s
D24K Happy Valley 92.09 340 P **P** **15 41 03.6 -0.3**
baz=113
TOLK Toolik Lake Re 92.15 340 IAmb IAmb 15 41 05.3
comp=Z,31nm,1.0s
TOLK Toolik Lake Re 92.15 340 P **P** **15 41 04.1 -0.2**
baz=112,SNR=27
CHGN Chignik 92.19 327 P **P** **15 41 04.3 -0.3**
baz=104
C24K Franklin Bluff 92.27 341 P **P** **15 41 04.9 +0.2**
baz=113
H21K Melozitna Rive 92.28 337 IAMs_20 IAMs_20 16 24 14.3
comp=Z,976nm,20.0s
H21K Melozitna Rive 92.28 337 P **P** **15 41 04.1 -0.8**
baz=109,SNR=23
M18K Stony River 92.29 332 P **P** **15 41 04.1 -0.9**
baz=106,SNR=6.6
J20K Nowinta River 92.35 335 IAmb IAmb 15 41 05.6
comp=Z,57nm,1.4s
J20K IAMs_20 IAMs_20 16 24 49.2
comp=Z,793nm,20.0s
J20K Nowinta River 92.35 335 P **P** **15 41 04.4 -0.8**
baz=108,SNR=33
O17K Koliganek Bris 92.41 330 P **P** **15 41 05.2 -0.4**
baz=106,SNR=16
D23K Nanushuk River 92.64 340 IAmb IAmb 15 41 08.2
comp=Z,62nm,1.2s
D23K Nanushuk River 92.64 340 P **P** **15 41 06.9 +0.4**
baz=111
F22K John River 92.66 338 P **P** **15 41 06.7 +0.1**
baz=110
N17K Nushagak Hills 92.66 331 IAmb IAmb 15 41 07.8
comp=Z,68nm,1.9s
N17K Nushagak Hills 92.66 331 P **P** **15 41 06.5 -0.2**
baz=105,SNR=6.3
P16K Nushagak River 92.66 330 P **P** **15 41 06.6 -0.2**
baz=105,SNR=8.1
I20K Naaghedeneel 92.68 336 IAmb IAmb 15 42 16.0
comp=Z,32nm,1.1s
I20K Naaghedeneel 92.68 336 P **P** **15 41 05.9 -0.8**
baz=108
SSB Saint Sauveur 92.73 45 IAMs_20 IAMs_20 16 21 36.4
comp=Z,885nm,18.0s
E22K Anaktuvuk Pass 92.74 339 IAmb IAmb 15 41 08.1
comp=Z,47nm,1.1s
E22K Anaktuvuk Pass 92.74 339 P **P** **15 41 06.8 -0.2**
baz=110,SNR=40
G21K Allakaket 92.83 337 IAmb IAmb 15 41 08.7
comp=Z,49nm,1.1s
G21K IAMs_20 IAMs_20 16 23 46.7
comp=Z,1µm,22.0s
G21K Allakaket 92.83 337 P **P** **15 41 07.3 -0.1**
baz=108,SNR=42
O16K Kokwok River B 92.85 330 P **P** **15 41 06.9 -0.8**
baz=105
L18K Granite Mounta 92.88 333 IAMs_20 IAMs_20 16 25 20.5
comp=Z,1µm,21.0s
L18K Granite Mounta 92.88 333 P **P** **15 41 07.1 -0.7**
baz=106,SNR=14
J19K Poorman 92.91 335 IAMs_20 IAMs_20 16 25 10.2
comp=Z,1µm,22.0s
J19K Poorman 92.91 335 P **P** **15 41 07.1 -0.7**
baz=107,SNR=17
C23K Itkillik River 92.93 341 IAmb IAmb 15 41 09.1
comp=Z,58nm,1.0s
C23K IAMs_20 IAMs_20 16 24 33.3
comp=Z,891nm,19.0s
C23K Itkillik River 92.93 341 P **P** **15 41 07.7 -0.1**
baz=111
M17K Holitna River 93.01 332 IAmb IAmb 15 41 27.0
comp=Z,76nm,2.0s
M17K Holitna River 93.01 332 P **P** **15 41 07.9 -0.4**
baz=105,SNR=5.5
F21K Alatna River 93.04 338 IAmb IAmb 15 41 09.8
comp=Z,40nm,1.4s
F21K IAMs_20 IAMs_20 16 23 04.4
comp=Z,1µm,22.0s
F21K Alatna River 93.04 338 P **P** **15 41 08.4 -0.1**
baz=108
H20K Anotleneega Mo 93.05 336 P **P** **15 41 08.1 -0.3**
baz=107,SNR=50
SDPT Sand Point 93.09 326 P **P** **15 41 09.2 +0.4**
baz=103
SUR Sutherland 93.20 123 LR LR 16 20 59.6
comp=Z,1µm,18.2s,baz=250,slow=34
SUR Sutherland 93.20 123 P **P** **15 41 11.8 +1.6**
JMIC Jan Mayen 93.22 18 LR LR 16 18 22.0
comp=Z,494nm,22.0s,baz=236,slow=32
J18K Innoko River 93.23 334 IAmb IAmb 15 41 10.3
comp=Z,34nm,1.1s
J18K IAMs_20 IAMs_20 16 25 53.7
comp=Z,951nm,20.0s
J18K Innoko River 93.23 334 P **P** **15 41 09.1 -0.3**
baz=106,SNR=30
TSUM Tsumeb 93.24 110 IAmb IAmb 15 41 12.8
comp=Z,72nm,1.2s
TSUM Tsumeb 93.24 110 LR LR 16 21 27.3
comp=Z,2µm,18.7s,baz=310,slow=34
D22K Ayikyak River 93.29 340 IAmb IAmb 15 41 10.9
comp=Z,35nm,1.1s
D22K IAMs_20 IAMs_20 16 23 27.9
comp=Z,920nm,20.0s
D22K Ayikyak River 93.29 340 P **P** **15 41 09.5 0.0**
baz=109,SNR=16
N16K Nishlik Lake 93.40 331 P **P** **15 41 10.0 -0.2**
baz=104
L17K Donlin 93.59 332 P **P** **15 41 11.1 +0.1**
baz=104,SNR=12
E21K Killik River 93.60 339 P **P** **15 41 10.9 -0.1**
baz=108
M16K Timber Creek 93.62 331 P **P** **15 41 11.6 +0.4**
baz=104,SNR=8.1
GCSA Galena City Sc 93.65 335 P **P** **15 41 11.4 +0.2**
baz=106,SNR=43
UCC Uccle 93.68 39 IAMs_20 IAMs_20 16 19 36.3
comp=Z,901nm,20.0s
UCC Uccle 93.68 39 *d*P **P** **15 41 11.2 -0.4**
H19K Roundabout Mou 93.69 336 IAmb IAmb 15 41 12.7
comp=Z,54nm,1.1s
H19K Roundabout Mou 93.69 336 P **P** **15 41 11.3 0.0**
baz=106,SNR=40
DOU Dourbes 93.69 40 *d*P **P** **15 41 11.1 -0.6**
comp=Z,17nm,1.1s
K17K Iditarod 93.74 333 IAmb IAmb 15 41 12.9
comp=Z,39nm,1.3s
K17K IAMs_20 IAMs_20 16 25 21.0
comp=Z,1µm,20.0s
K17K Iditarod 93.74 333 P **P** **15 41 11.6 -0.1**
baz=104,SNR=10
F20K Avaraart Lake 93.83 338 IAMs_20 IAMs_20 16 31 33.1
comp=Z,793nm,18.0s
F20K Avaraart Lake 93.83 338 P **P** **15 41 11.8 -0.2**
baz=106
BMRD Maredsous 93.84 40 *d*P **P** **15 41 12.3 -0.1**
N15K Kwethluk River 93.97 330 P **P** **15 41 13.0 +0.2**
baz=103
B22K Teshekpuk Lake 94.01 341 IAmb IAmb 15 41 13.7
comp=Z,60nm,1.0s
B22K IAMs_20 IAMs_20 16 25 26.7
comp=Z,853nm,19.0s
B22K Teshekpuk Lake 94.01 341 P **P** **15 41 12.5 -0.2**
baz=108
L16K Owhat River 94.03 332 IAMs_20 IAMs_20 16 26 56.8
comp=Z,892nm,20.0s
L16K Owhat River 94.03 332 P **P** **15 41 13.5 +0.5**
baz=103,SNR=6.6
BGES Gesves 94.06 40 *d*P **P** **15 41 13.1 -0.3**
comp=Z,16nm,1.0s
C21K Knifeblade Rid 94.10 340 P **P** **15 41 13.3 +0.1**
baz=107
G19K Purcell Mounta 94.10 337 IAmb IAmb 15 41 14.5
comp=Z,114nm,1.9s
G19K IAMs_20 IAMs_20 16 22 19.5
comp=Z,842nm,20.0s
G19K Purcell Mounta 94.10 337 P **P** **15 41 13.1 -0.2**
baz=105,SNR=25
RCHB Rochefort 94.11 40 *d*P **P** **15 41 13.2 -0.5**
B21K Ikpikpuk River 94.18 340 IAmb IAmb 15 41 14.6
comp=Z,38nm,1.1s
B21K Ikpikpuk River 94.18 340 P **P** **15 41 13.5 0.0**
baz=107
J17K VABM Dome 94.24 334 IAmb IAmb 15 41 15.8
comp=Z,62nm,1.5s
J17K IAMs_20 IAMs_20 16 24 09.4
comp=Z,775nm,21.0s
J17K VABM Dome 94.24 334 P **P** **15 41 14.4 +0.4**
baz=104,SNR=12
E20K Nigu River 94.33 339 P **P** **15 41 14.5 +0.1**
baz=106
URZ Urewera 94.34 230 LR LR 16 14 28.4
comp=Z,2µm,20.6s,baz=198,slow=30
H18K Honhosa River 94.36 335 P **P** **15 41 15.3 +0.8**
baz=104,SNR=46
M15K Kasigluk River 94.38 331 P **P** **15 41 14.9 +0.3**
baz=102,SNR=7.3
BSTI Sart Tilman 94.40 40 *d*P **P** **15 41 14.9 -0.1**
E19K Redstone River 94.50 338 IAMs_20 IAMs_20 16 24 14.0
comp=Z,956nm,22.0s
E19K Redstone River 94.50 338 P **P** **15 41 14.7 -0.4**
baz=105
BEBN Eben Emael 94.50 39 *d*P **P** **15 41 15.3 -0.1**
F19K Shaleruckik Mo 94.55 337 IAmb IAmb 15 41 16.2
comp=Z,30nm,1.0s
F19K IAMs_20 IAMs_20 16 24 49.2
comp=Z,892nm,21.0s
F19K Shaleruckik Mo 94.55 337 P **P** **15 41 14.9 -0.4**
baz=104
WLF Walferdange 94.61 41 IAmb IAmb 15 41 17.3
comp=Z,46nm,1.1s
WLF Walferdange 94.61 41 *d*P **P** **15 41 15.6 -0.4**
comp=Z,21nm,1.1s
D20K Etivluk River 94.61 339 P **P** **15 41 15.5 -0.1**
baz=105
G18K Tagagawik 94.66 336 IAMs_20 IAMs_20 16 26 48.3
comp=Z,1µm,20.0s
G18K Tagagawik 94.66 336 P **P** **15 41 16.2 +0.3**
baz=104
MEM Membach 94.68 40 *d*P **P** **15 41 13.9 -2.3**
KEST Kesra 94.68 55 P **P** **15 41 16.7 0.0**
comp=Z,9.3nm,0.9s,baz=296,slow=3.1,SNR=10.0
comp=Z,9.3nm,0.9s
KEST Kesra 94.68 55 P **P** **15 41 17.3 +0.5**
A22K Sinclair Lake 94.70 341 P **P** **15 41 15.7 -0.1**
baz=107
N14K Kuskokwak Cree 94.70 330 P **P** **15 41 16.3 +0.2**
baz=102,SNR=6.8
BTNL Ternell 94.75 40 *d*P **P** **15 41 16.6 0.0**
comp=Z,9.3nm,1.1s
BTNL *dp*P **pP** **15 41 24.3 -4.7**
J16K Anvik River 94.89 333 P **P** **15 41 17.6 +0.6**
baz=102,SNR=9.1
H17K Granite Mounta 94.95 335 IAmb IAmb 15 41 18.6
comp=Z,37nm,1.3s
H17K IAMs_20 IAMs_20 16 23 16.0
comp=Z,720nm,20.0s

H17K	**Granite Mounta**	**94.95**	**335**	P	**P**	**15 41 17.3**	**+0.1**
	baz=103,SNR=13						
L15K	**Ungalak Mounta**	**94.96**	**332**	P	**P**	**15 41 17.5**	**+0.2**
	baz=102						
M14K	**Bethel**	**95.00**	**331**	IAmb	IAmb	15 41 19.0	
M14K	comp=Z,42nm,1.1s			IAms_20	IAms_20	16 26 07.5	
	comp=Z,756nm,19.0s						
M14K	**Bethel**	**95.00**	**331**	P	**P**	**15 41 17.7**	**+0.3**
	baz=101,SNR=12						
I17K	**Unalakleet**	**95.06**	**334**	P	**P**	**15 41 18.2**	**+0.5**
	baz=102,SNR=7.4						
D19K	**Kuna River**	**95.08**	**339**	IAmb	IAmb	15 41 19.0	
	comp=Z,33nm,0.9s						
D19K	**Kuna River**	**95.08**	**339**	P	**P**	**15 41 17.9**	**+0.1**
	baz=104						
K15K	**Wolf Creek Mou**	**95.10**	**332**	IAms_20	IAms_20	16 27 34.2	
	comp=Z,756nm,21.0s						
K15K	**Wolf Creek Mou**	**95.10**	**332**	P	**P**	**15 41 18.5**	**+0.6**
	baz=102,SNR=6.7						
B20K	**Meade River**	**95.13**	**340**	P	**P**	**15 41 17.9**	**0.0**
	baz=105						
F18K	**Selawik**	**95.22**	**337**	P	**P**	**15 41 18.4**	**+0.1**
	baz=103,SNR=37						
A21K	**Barrow**	**95.30**	**342**	P	**P**	**15 41 18.3**	**-0.3**
	baz=105						
G17K	**Kiwalik Mounta**	**95.38**	**336**	P	**P**	**15 41 19.2**	**+0.1**
	baz=102						
L14K	**Kuka Creek**	**95.46**	**331**	P	**P**	**15 41 19.5**	**0.0**
	baz=101						
M13K	**Dall Lake**	**95.61**	**330**	P	**P**	**15 41 20.5**	**+0.3**
	baz=100						
E18K	**Tukpahlearik C**	**95.76**	**337**	IAmb	IAmb	15 41 21.9	
	comp=Z,34nm,1.1s						
E18K	**Tukpahlearik C**	**95.76**	**337**	P	**P**	**15 41 20.8**	**0.0**
	baz=102						
F17K	**Baldwin Pennin**	**95.81**	**336**	IAms_20	IAms_20	16 29 17.6	
	comp=Z,783nm,19.0s						
F17K	**Baldwin Pennin**	**95.81**	**336**	P	**P**	**15 41 21.2**	**+0.1**
	baz=101						
H16K	**Elim**	**95.87**	**335**	P	**P**	**15 41 21.6**	**+0.2**
	baz=101,SNR=12						
NOR	**Nord**	**95.92**	**8**	*i* P	**P**	**15 41 19.7**	**-1.6**
NOR				IAmb	IAmb	15 41 21.3	
	comp=Z,20nm,1.2s						
G16K	**Koyuk River**	**96.06**	**335**	IAms_20	IAms_20	16 27 58.2	
	comp=Z,700nm,20.0s						
G16K	**Koyuk River**	**96.06**	**335**	P	**P**	**15 41 22.5**	**+0.3**
	baz=100						
MSSA	**Maissana**	**96.06**	**46**	IAms_20	IAms_20	16 23 14.7	
	comp=Z,990nm,20.0s						
J14K	**Nanvaranak Lak**	**96.11**	**333**	IAmb	IAmb	15 41 24.5	
	comp=Z,35nm,1.1s						
J14K	**Nanvaranak Lak**	**96.11**	**333**	P	**P**	**15 41 23.2**	**+0.8**
	baz=100,SNR=10						
E17K	**Hotham Inlet**	**96.16**	**337**	P	**P**	**15 41 22.8**	**+0.2**
	baz=101						
C18K	**Utukok River**	**96.22**	**339**	IAmb	IAmb	15 41 23.9	
C18K	comp=Z,46nm,1.7s			IAms_20	IAms_20	16 25 45.4	
	comp=Z,1μm,21.0s						
C18K	**Utukok River**	**96.22**	**339**	P	**P**	**15 41 22.5**	**-0.5**
	baz=101						
TUE	**Stuetta**	**96.24**	**44**	IAms_20	IAms_20	16 23 25.2	
	comp=Z,971nm,20.0s						
K13K	**Kusilvak Mount**	**96.48**	**332**	IAms_20	IAms_20	16 24 48.8	
	comp=Z,948nm,22.0s						
K13K	**Kusilvak Mount**	**96.48**	**332**	P	**P**	**15 41 24.5**	**+0.3**
	baz=99,SNR=6.6						
B18K	**Kokolik River**	**96.57**	**339**	P	**P**	**15 41 24.6**	**+0.1**
	baz=100						
G15K	**Niukluk**	**96.69**	**335**	P	**P**	**15 41 25.4**	**+0.3**
	baz=99						
DAVA	**Damuels**	**96.71**	**43**	*i* PcP	**PcP**	**15 41 25.7**	**-0.2**
	comp=Z,11nm,1.0s,SNR=6.4						
RDOG	**Red Dog Mine**	**96.74**	**338**	IAmb	IAmb	15 41 26.3	
	comp=Z,29nm,1.1s						
RDOG				IAms_20	IAms_20	16 25 37.1	
	comp=Z,1μm,22.0s						
RDOG	**Red Dog Mine**	**96.74**	**338**	P	**P**	**15 41 25.1**	**-0.1**
	baz=100						
D17K	**Noatak River**	**96.75**	**338**	P	**P**	**15 41 25.3**	**+0.1**
	baz=100						
C17K	**DeLong Mountai**	**96.91**	**338**	P	**P**	**15 41 26.0**	**0.0**
	baz=99						
M11K	**Mekoryuk**	**97.00**	**330**	P	**P**	**15 41 26.8**	**+0.2**
	baz=98						
F15K	**North Star Dit**	**97.05**	**335**	IAmb	IAmb	15 41 28.3	
	comp=Z,25nm,0.9s						
F15K	**North Star Dit**	**97.05**	**335**	P	**P**	**15 41 26.9**	**+0.2**
	baz=98						
ZCCA	**Zocca**	**97.10**	**46**	IAmb	IAmb	15 41 28.8	
	comp=Z,31nm,0.9s						
ANM	**Nome**	**97.19**	**334**	IAms_20	IAms_20	16 27 54.2	
	comp=Z,993nm,20.0s						
ANM	**Nome**	**97.19**	**334**	P	**P**	**15 41 27.4**	**+0.1**
	baz=98						
OSSC	**Osservatorio P**	**97.20**	**47**	IAms_20	IAms_20	16 25 08.8	
	comp=Z,842nm,20.0s						
FETA	**Feichten**	**97.25**	**44**	*i* PcP	Pdif	15 41 28.2	-0.1
	comp=Z,14nm,1.1s,SNR=12						
RETA	**Reutte**	**97.33**	**43**	*i* P	**P**	**15 41 28.1**	**-0.4**
	comp=Z,12nm,1.3s,SNR=5.6						
MUD	**Monsted U'grnd**	**97.39**	**34**	*i* P	Pdif	15 41 28.4	-0.1
MUD				IAmb	IAmb	15 41 30.7	
	comp=Z,72nm,1.2s						
MOTA	**Moosalm**	**97.54**	**43**	*i* PcP	Pdif	15 41 29.4	-0.2
	comp=Z,18nm,1.1s						
NIKH	**Nikolski High**	**97.55**	**322**	P	**P**	**15 41 28.7**	**-0.6**
	baz=96						
SQTA	**Sankt Quirin**	**97.60**	**43**	*i* PcP	Pdif	15 41 29.7	-0.1
	comp=Z,19nm,1.1s,SNR=13						
C16K	**Lisburne Hills**	**97.67**	**338**	IAms_20	IAms_20	16 27 05.8	
	comp=Z,1μm,22.0s						
C16K	**Lisburne Hills**	**97.67**	**338**	P	**P**	**15 41 29.4**	**-0.1**
	baz=97						
F14K	**Arctic Creek**	**97.71**	**335**	P	**P**	**15 41 29.9**	**+0.2**
	baz=97						
TEOL	**Teolo**	**97.71**	**45**	IAmb	IAmb	15 41 31.3	
	comp=Z,27nm,0.8s						
CTI	**Castel Tesino**	**97.77**	**45**	IAmb	IAmb	15 41 31.4	
	comp=Z,26nm,1.0s						
WATA	**Walderalm**	**97.86**	**43**	*i* P	**P**	**15 41 30.4**	**-0.5**
	comp=Z,11nm,1.0s,SNR=9.3						
BOSA	**Boshof**	**97.86**	**121**	P	**P**	**15 41 31.3**	**-0.2**
	comp=Z,8.7nm,1.1s,baz=288,slow=3.4,SNR=6.2						
BOSA				PKKPbc	**PKKPbc**	**15 58 05.6**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=28,slow=2.1,SNR=5.9						
BOSA				LR	LR	16 22 35.9	
	comp=Z,2μm,21.6s,baz=236,slow=34						
	comp=Z,8.7nm,1.1s						
GRFO	**Grafenberg**	**97.87**	**41**	IAms_20	IAms_20	16 23 45.3	
	comp=Z,901nm,20.0s						
GRA1	**Grafenberg Arr**	**97.87**	**41**	IAms_20	IAms_20	16 23 45.3	
	comp=Z,879nm,20.0s						
WTTA	**Wattenberg**	**97.89**	**43**	*i* PcP	Pdif	15 41 31.0	-0.2
	comp=Z,21nm,1.1s,SNR=14						
MAW	**Mawson**	**98.05**	**166**	LR	LR	16 23 32.9	
	comp=Z,915nm,19.4s,baz=238,slow=34						
CESX	**Cesi**	**98.07**	**48**	IAms_20	IAms_20	16 25 08.0	
	comp=Z,974nm,20.0s						
CIMO	**Cimolais**	**98.34**	**44**	IAms_20	IAms_20	16 25 02.0	
	comp=Z,882nm,20.0s						
ABTA	**Abfaltersbach**	**98.44**	**44**	*e*Pdiff	Pdif	15 41 33.6	+0.1
	comp=Z,17nm,1.0s,SNR=11						
FDMO	**Fiordimonte**	**98.48**	**48**	IAmb	IAmb	15 41 34.5	
	comp=Z,42nm,1.8s						
FDMO				IAms_20	IAms_20	16 24 51.8	
	comp=Z,780nm,20.0s						
LESA	**Schwarzleotal**	**98.61**	**43**	*e*Pdiff	Pdif	15 41 34.1	-0.2
	comp=Z,13nm,1.1s,SNR=10						
NKC	**Novy Kostel**	**98.71**	**40**	AMS	AMS	16 26 00.0	
	comp=Z,1μm,15.7s						
MSVF	**Nonsavu**	**98.78**	**250**	LR	LR	16 15 54.5	
	comp=Z,635nm,21.8s,baz=109,slow=29						
WDD	**Wied Dalam**	**98.87**	**55**	IAms_20	IAms_20	16 25 47.5	
	comp=Z,968nm,20.0s						
NB2	**NORSAR Subarra**	**98.90**	**30**	P	Pdif	15 41 35.1	-0.1
	comp=Z,5.9nm,1.1s,baz=269,slow=4.8						
NOA	**NORSAR Array B**	**98.90**	**30**	P	Pdif	15 41 35.4	+0.2
	comp=Z,3.8nm,1.0s,baz=268,slow=4.8,SNR=4.7						
NOA				LR	LR	16 22 43.6	
	comp=Z,504nm,21.9s,baz=260,slow=33						
	comp=Z,3.8nm,1.0s						
VAE	**Valguarnera**	**98.95**	**53**	LR	LR	16 25 11.3	
	comp=Z,2μm,21.0s,baz=325,slow=35						
INTR	**Introdacqua**	**98.99**	**49**	IAmb	IAmb	15 41 37.1	
	comp=Z,34nm,1.3s						
KBA	**Koelnbreinsper**	**99.03**	**44**	*e*Pdiff		15 41 35.8	
	comp=Z,12nm,1.0s,SNR=7.5						
SABO	**M.te Sabotino**	**99.12**	**45**	IAmb	IAmb	15 41 38.0	
	comp=Z,27nm,1.0s						
SABO				IAMs_20	IAMs_20	16 23 45.1	
	comp=Z,889nm,21.0s						
LBTB	**Lobatse**	**99.12**	**117**	LR	LR	16 22 29.2	
	comp=Z,1μm,21.8s,baz=249,slow=33						
PRED	**Cave del Predi**	**99.13**	**44**	IAmb	IAmb	15 41 37.8	
	comp=Z,24nm,1.1s						
PRED				IAMs_20	IAMs_20	16 22 33.8	
	comp=Z,738nm,21.0s						
CLL	**Collm**	**99.15**	**39**	*i* P	**Pdif**	**15 41 36.3**	**-0.2**
CLL				*e*		15 45 39.0	
CLL				*e*		15 52 15.0	
CLL				pmax	pmax		
	comp=Z,17nm,1.3s						
CLL				MLR	MLR		
	comp=Z,600nm,19.5s						
MYKA	**Terra Mystica**	**99.20**	**44**	*i* Pdiff	**Pdif**	**15 41 36.8**	**-0.1**
	comp=Z,16nm,1.1s,SNR=7.5						
CADS	**Cadrg**	**99.23**	**45**	*i* P	**Pdif**	**15 41 36.9**	**-0.1**
BIOA	**Bad Ischl, Aus**	**99.28**	**43**	*e*Pdiff	**Pdif**	**15 41 36.9**	**-0.3**
	comp=Z,14nm,1.3s,SNR=10						
KHC	**Kasperske Hory**	**99.35**	**42**	*e*PDIFF	**Pdif**	**15 41 37.8**	**+0.3**
KHC				AMS	AMS	16 30 00.0	
	comp=Z,700nm,20.9s						
KHC	**Kasperske Hory**	**99.35**	**42**	*i* P	**Pdif**	**15 41 37.8**	**+0.3**
KHC				MLR	MLR		
	comp=Z,700nm,20.9s						
HSKC	**Hora Svate Kat**	**99.37**	**40**	*e*PDIFF	**Pdif**	**15 41 38.2**	**+0.7**
HSKC				AMS	AMS	16 27 00.0	
	comp=Z,900nm,20.3s						
PAOL	**Paolisi**	**99.39**	**50**	IAMs_20	IAMs_20	16 24 24.1	
	comp=Z,673nm,20.0s						
GERES	**GERESS Array B**	**99.41**	**42**	P	**Pdif**	**15 41 37.1**	**-0.7**
GERES	**GERESS Array B**	**99.41**	**42**	P	**Pdif**	**15 41 37.8**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=254,slow=3.9,SNR=16						
GERES				PKKPbc	**PKKPbc**	**15 58 02.3**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=107,slow=1.4,SNR=12						
	comp=Z,2.6nm,1.0s						
GERES	**GERESS Array B**	**99.41**	**42**	P	**Pdif**	**15 41 37.1**	**-0.7**
BRG	**Berggiesshubel**	**99.71**	**40**	P	**PKiKP**	**15 46 07.4**	**-0.1**
BRG				Amp		15 46 07.9	
	comp=Z,5.1nm,1.3s						
MOA	**Molln**	**99.72**	**43**	*e*Pdiff	**Pdif**	**15 41 38.9**	**-0.2**
	comp=Z,13nm,1.1s,SNR=8.9						
LJU	**Ljubljana**	**99.77**	**45**	*e*P	**Pdif**	**15 41 39.6**	**+0.2**
ZVC	**Zvikov**	**99.78**	**41**	*e*PDIFF	**Pdif**	**15 41 39.5**	**+0.2**
ZVC				AMS	AMS	16 27 50.0	
	comp=Z,800nm,19.9s						
CKRC	**Cesky Krumlov**	**99.81**	**42**	AMS	AMS	16 26 30.0	
	comp=Z,1μm,21.0s						
OBKA	**Obir**	**99.81**	**44**	*i* Pdiff	**Pdif**	**15 41 39.5**	**-0.2**
	comp=Z,7.2nm,0.9s,SNR=5.8						
PRU	**Pruhonice**	**100.04**	**41**	AMS	AMS	16 25 30.0	
	comp=Z,900nm,16.8s						
HFS	**Hagfors**	**100.07**	**31**	P	**Pdif**	**15 41 40.3**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=197,slow=14,SNR=3.5						
HFS				LR	LR	16 23 20.0	
	comp=Z,692nm,21.9s,baz=272,slow=33						
	comp=Z,5.4nm,0.9s						
SOKA	**Soboth**	**100.16**	**44**	*e*Pdiff	**Pdif**	**15 41 40.8**	**-0.4**
	comp=Z,6.9nm,1.1s,SNR=5.1						
GOPC	**GO Pecny, Ondr**	**100.19**	**41**	AMS	AMS	16 25 10.0	
	comp=Z,800nm,23.0s						
CUC	**Castrocucco**	**100.26**	**51**	IAMs_20	IAMs_20	16 29 43.0	
	comp=Z,658nm,19.0s						
CRES	**Cresnjevec Ost**	**100.40**	**45**	*i* P	**Pdif**	**15 41 42.4**	**+0.2**
ARSA	**Arzberg**	**100.53**	**44**	*i* Pdiff	**Pdif**	**15 41 42.5**	**-0.2**
	comp=Z,10.0nm,1.0s,SNR=5.9						
CONA	**Conrad Observa**	**100.79**	**43**	*e*Pdiff	**Pdif**	**15 41 44.2**	**+0.2**
	comp=Z,12nm,1.0s,SNR=6.8						
UPC	**Upice**	**101.01**	**40**	AMS	AMS	16 27 50.0	
	comp=Z,1μm,19.1s						
RONA	**Rosalia, Austr**	**101.08**	**43**	*e*Pdiff	**Pdif**	**15 41 45.0**	**-0.2**
	comp=Z,10.0nm,1.0s,SNR=5.9						
OSTC	**Ostas**	**101.14**	**40**	*e*PDIFF	**Pdif**	**15 41 46.6**	**+1.2**
OSTC				AMS	AMS	16 27 50.0	
	comp=Z,1μm,17.0s						
OSTC	**Ostas**	**101.14**	**40**	*i* P	**Pdif**	**15 41 46.6**	**+1.2**
OSTC				MLR	MLR		
	comp=Z,1μm,17.0s						
DPC	**Dobruska-Polom**	**101.20**	**41**	*e*PDIFF	**Pdif**	**15 41 46.8**	**+1.1**
DPC				AMS	AMS	16 23 20.0	
	comp=Z,800nm,20.4s						
DPC	**Dobruska-Polom**	**101.20**	**41**	*i* P	**Pdif**	**15 41 46.8**	**+1.1**
DPC				MLR	MLR		
	comp=Z,800nm,20.4s						
KRUC	**Moravsky**	**101.20**	**42**	*e*PDIFF	**Pdif**	**15 41 46.1**	**+0.4**
VRAC	**Vranov**	**101.34**	**42**	*e*PDIFF	**Pdif**	**15 41 46.6**	**+0.3**
KRLC	**Kraliky**	**101.48**	**41**	*e*PDIFF	**Pdif**	**15 41 48.2**	**+1.2**
KRLC	**Kraliky**	**101.48**	**41**	*i* P	**Pdif**	**15 41 48.2**	**+1.2**
MODS	**Modra-Piesok**	**101.76**	**43**	*i* P	**Pdif**	**15 41 48.2**	**0.0**
MODS	**Modra-Piesok**	**101.76**	**43**	*e*PDIFF	**Pdif**	**15 41 48.2**	**0.0**
MORC	**Moravsky Berou**	**101.97**	**41**	*e*PDIFF	**Pdif**	**15 41 49.7**	**+0.6**
JAVC	**Velka Javorina**	**102.03**	**42**	*e*PDIFF	**Pdif**	**15 41 50.5**	**+1.0**
STEB	**Steborice**	**102.12**	**41**	*e*PDIFF	**Pdif**	**15 41 51.1**	**+1.4**
PDG	**Podgorica**	**102.98**	**49**	IAMs_20	IAMs_20	16 29 01.0	
	comp=Z,702nm,20.0s						
RDO	**Rodhopi**	**107.68**	**50**	IAMs_20	IAMs_20	16 31 32.4	
	comp=Z,678nm,20.0s						
MNK	**Minsk**	**108.04**	**36**	*i* P	**Pdif**	**15 42 14.8**	**-1.1**
MNK				*i*		15 46 44.4	
MNK				*i* PPP	PPP	15 49 04.9	
MNK				*i*		15 53 32.7	
MNK				*i* SS	SS	16 01 58.5	+2.8
MNK				*i* SSS	SSS	16 06 01.5	
MNK				MLR	MLR		
	comp=Z,569nm,18.0s						
MNK				MLR	MLR		
	comp=E,388nm,19.0s						
MNK				MLR	MLR		
	comp=N,404nm,17.0s						
DZM	**Mont Dzumac**	**108.09**	**243**	*e*P	**Pdif**	**15 42 17.4**	**+0.3**
	comp=N,81nm,23.1s						
DZM	**Mont Dzumac**	**108.09**	**243**	*e*SS	SS	16 01 56.2	-1.6
	comp=N,275nm,30.0s						
DZM	**Mont Dzumac**	**108.09**	**243**	*e*LR	LR	16 18 03.2	
	comp=N,824nm,23.1s						
KIEV	**Kiev**	**109.39**	**40**	P	**PKiKP**	**15 46 24.8**	**-0.5**
AKASG	**Malin Array Be**	**109.39**	**40**	PKiKP	**PKiKP**	**15 46 24.8**	**-0.5**
	comp=N,1.8nm,0.9s,baz=265,slow=2.8,SNR=4.5						
AKASG				PKKPbc	**PKKPbc**	**15 57 32.2**	**-0.3**
	comp=N,0.9nm,0.8s,baz=79,slow=2.5,SNR=4.4						
BORA	**Eskisehir**	**111.50**	**51**	IAMs_20	IAMs_20	16 40 47.6	
	comp=Z,520nm,19.0s						
ISP	**Isparta**	**111.72**	**53**	‖ *i*PKIKP	**PKiKP**	**15 46 30.1**	**-0.2**
OBN	**Obninsk**	**112.83**	**34**	‖ *i*PKIKP	**PKiKP**	**15 46 31.4**	**-0.3**
OBN				*e*		15 47 20.4	
OBN				*i* SS	SS	16 03 17.7	+18
OBN				pmax	pmax		
	comp=Z,28nm,1.7s						
OBN				MLR	MLR		
	comp=Z,613nm,19.0s						
MOS	**Moscow**	**113.22**	**33**	*e*PKIKP	**PKiKP**	**15 46 31.1**	**-1.3**
MOS				MLR	MLR		
	comp=Z,800nm,18.0s						
ANTO	**Ankara**	**113.30**	**51**	P	**PKiKP**	**15 46 32.4**	**-0.8**
BZK	**Bozkurt**	**113.93**	**49**	IAMs_20	IAMs_20	16 34 37.7	
	comp=Z,785nm,20.0s						
BR131	**Keskin Array S**	**113.96**	**51**	P	**PKiKP**	**15 46 34.8**	**+0.2**
BR131	**Keskin Array S**	**113.96**	**51**	*d* PKIKP	**PKiKP**	**15 46 34.5**	**-0.1**
BRTR	**Keskin Array B**	**113.96**	**51**	PKiKP	**PKiKP**	**15 46 34.5**	**-0.1**
	comp=Z,6.2nm,1.0s,baz=208,slow=2.1,SNR=23						
BRTR				PKKPbc	**PKKPbc**	**15 57 16.2**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=143,slow=4.9,SNR=5.3						
BRTR				PKKPab	**PKKPab**	**15 57 23.7**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=174,slow=1.2,SNR=4.0						
LPSR	**Galich'ya Gora**	**114.88**	**36**	*e*PKIKP	**PKiKP**	**15 46 32.8**	**-2.9**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LODK	**Lodwar**	**114.93**	**91**	P	**PKiKP**	**15 46 38.1**	**+1.1**
VORR	**Voronezh**	**115.32**	**37**	*e*PKIKP	**PKiKP**	**15 46 34.1**	**-2.5**
VORR				pmax	pmax		
	comp=Z,46nm,0.4s						
VSR	**Storozhevoye**	**115.42**	**38**	*e*PKIKP	**PKiKP**	**15 46 33.8**	**-3.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
H11N3	**WAKE ISLAND Hyl**	**115.53**	**287**	T	T	17 52 14.3	
	baz=92,slow=74,SNR=407						
H11N2	**WAKE ISLAND Hyl**	**115.55**	**287**	T	T	17 52 21.9	
	baz=92,slow=74,SNR=508						
H11N1	**WAKE ISLAND Hyl**	**115.55**	**287**	T	T	17 52 22.2	
	baz=92,slow=74,SNR=370						
SEY	**Seymchan**	**115.57**	**337**	‖ *i*PKIKP	**PKiKP**	**15 46 36.8**	**+0.1**
SEY				pmax	pmax		
	comp=Z,12nm,1.0s						
VORD	**Divnogorie**	**115.57**	**38**	*e*PKIKP	**PKiKP**	**15 46 34.9**	**-2.2**
VORD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
H11S2	**WAKE ISLAND Hyl**	**15.68**	**286**	T	T	17 52 35.2	
	baz=93,slow=75,SNR=390						
H11S1	**WAKE ISLAND Hyl**	**15.69**	**286**	T	T	17 52 36.9	
	baz=93,slow=75,SNR=169						
H11S3	**WAKE ISLAND Hyl**	**15.70**	**286**	T	T	17 52 33.9	
	baz=93,slow=75,SNR=186						
ANN	**Anapa**	**115.89**	**45**	*i* PKIKP	**PKiKP**	**15 46 36.2**	**-1.7**
ANN				*e*		15 46 40.0	
ANN				*e*		15 53 24.7	
ANN				*e*SS	SS	16 03 44.8	+4.2
ANN				pmax	pmax		
	comp=Z,24nm,0.9s						
TIXI	**Tiksi**	**115.95**	**350**	IAMs_20	IAMs_20	16 38 09.5	
	comp=Z,630nm,20.0s						
TIXI	**Tiksi**	**115.95**	**350**	‖ *i*PKIKP	**PKiKP**	**15 46 36.4**	**-0.8**
KMBO	**Kilima Mbogo**	**115.97**	**96**	PKP	**PKiKP**	**15 46 39.7**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=176,slow=4.2,SNR=5.3						
KIBK	**Kibwezi**	**116.50**	**98**	P	**PKiKP**	**15 46 42.1**	**+2.0**
VRH	**Novokhopyorsk**	**116.96**	**37**	*e*PKIKP	**PKPdf**	**15 46 37.4**	**-2.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PEA0B	**Petropavlovsk-**	**117.38**	**325**	*c i*PKIKP	**PKPdf**	**15 46 39.6**	**-0.9**
PETK	**Petropavlovsk-**	**117.38**	**325**		**PKPdf**	**15 46 40.0**	**-0.5**
PETK	**Petropavlovsk-**	**117.38**	**325**	PKP	**PKPdf**	**15 46 40.1**	**-0.4**
	comp=Z,10.0nm,0.9s,baz=100,slow=4.2,SNR=12						
PETK	**Petropavlovsk-**	**117.38**	**325**	PKIKP	**PKPdf**	**15 46 40.0**	**-0.5**
SOC	**Sochi**	**117.76**	**46**	*i* PKIKP	**PKPdf**	**15 46 40.5**	**-1.1**
SOC				*e*		15 47 53.8	
SOC				*e*PPP	PPP	15 50 27.9	
SOC				*e*PS	**PKKPdf**	**15 57 36.4**	**+4.1**
SOC				*e*SS	SS	16 04 08.0	+3.0
SOC				*e*SSS	SSS	16 08 27.3	
SOC				pmax	pmax		
	comp=Z,17nm,0.7s						
KIRV	**Kirov**	**117.99**	**28**	‖ *i*PKIKP	**PKiKP**	**15 46 41.6**	**+0.1**
VOI	**Vohitsoka**	**118.43**	**121**	P	**PKiKP**	**15 46 44.3**	**+0.6**
KIV	**Kislovodsk**	**119.75**	**45**	P	**PKPdf**	**15 46 45.1**	**-0.4**
KIV	**Kislovodsk**	**119.75**	**45**	*i* PKIKP	**PKPdf**	**15 46 44.5**	**-1.0**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV				MLR	MLR		
	comp=Z,210nm,22.0s						
KIV	**Kislovodsk**	**119.75**	**45**	P	**PKiKP**	**15 46 46.1**	**+0.5**
SHA1	**Shidzhatmaz**	**119.79**	**45**	*c i*PKIKP	**PKiKP**	**15 46 45.9**	**+0.1**
KBZ	**Khabaz**	**119.96**	**45**	PKP	**PKiKP**	**15 46 45.9**	**+0.1**
	comp=Z,31nm,0.9s,baz=262,slow=1.9,SNR=62						
NRIK	**Noril'sk**	**120.06**	**5**	PKP	**PKiKP**	**15 46 45.5**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=47,slow=1.9,SNR=7.2						
NRIK				PKKPbc	**PKKPab**	**15 56 54.9**	**-0.2**
	comp=Z,5.3nm,1.0s,baz=176,slow=4.1,SNR=9.0						
NRIK	**Noril'sk**	**120.06**	**5**	*d i*PKIKP	**PKPdf**	**15 46 45.2**	**0.0**
NCK	**Nalchik**	**120.51**	**45**	‖ *i*PKIKP	**PKiKP**	**15 46 47.3**	**+0.3**
GNI	**Garni**	**122.25**	**49**	P	**PKiKP**	**15 46 51.1**	**+0.4**
GNI	**Garni**	**122.25**	**49**	‖ *i*PKIKP	**PKiKP**	**15 46 51.5**	**+0.8**
GNI				pmax	pmax		
	comp=Z,13nm,0.8s						
GNI	**Garni**	**122.25**	**49**	P	**PKiKP**	**15 46 50.9**	**+0.2**
STKA	**Stephens Creek**	**122.88**	**222**	PKKPbc	PKKPbc	15 56 44.0	-0.7
	comp=Z,1.5nm,0.7s,baz=48,slow=5.0,SNR=2.9						
ARTI	**Arti**	**123.24**	**27**	*i* PKIKP	**PKPdf**	**15 46 51.3**	**-0.4**
ARTI						15 48 32.1	
ARTI						15 54 02.9	
ARTI				SS	SS	16 05 18.7	+4.7
ATD	**Arta Tunnel**	**123.28**	**83**	IAMs_20	IAMs_20	16 47 41.1	
	comp=Z,663nm,18.0s						
MAK	**Makhachkala**	**123.39**	**45**	*i* P	**Pdif**	**15 43 21.7**	**-2.8**
MAK				*i*		15 46 51.1	
MAK				*e*		15 48 31.5	
MAK				*e*PPP	PPP	15 51 08.0	
MAK				*e*		15 53 52.0	
MAK				*e*PS	**PS**	**15 58 35.2**	**+4.1**
MAK				*e*SSS	SSS	16 09 54.5	
MAK				pmax	pmax		
	comp=Z,216nm,1.4s						
YAK	**Yakut

UMZA	Um Al Zommool	134.72	68	P	PKiKP	15 47 15.7	-0.2
FAQ	Al Faqa, Dubai	134.77	65	P	PKPdf	15 47 13.5	-1.1
FAQ	Al Faqa, Dubai	134.77	65	P	PKPdf	15 47 13.9	-0.6
NAZ	Nazwa, Dubai	134.79	65	P	PKPdf	15 47 14.8	+0.2
NAZ	Nazwa, Dubai	134.79	65	P	PKPdf	15 47 14.6	0.0
SHME	Shamm	135.00	63	P	PKPdf	15 47 14.7	-0.3
SHME	Shamm	135.00	63	*i* P	PKPdf	15 47 14.7	-0.3
	SNR=6.4						
OTUK	Ortayu	135.03	27	PKIKP	PKPdf	15 47 12.8	-1.6
ALNE	Al Ain	135.04	66	P	PKPdf	15 47 15.8	+0.7
	SNR=8.2						
ALNE	Al Ain	135.04	66	*i* P	PKPdf	15 47 14.9	-0.2
	SNR=9.0						
DMTO	DMTO	135.06	75	P	PKiKP	15 47 16.3	-0.5
MASF	Masafi	135.15	64	P	PKPdf	15 47 15.8	+0.4
MSFE	Esma-Masafi	135.16	64	P	PKPdf	15 47 15.7	+0.4
ASHO	Ashiyiah	135.20	65	P	PKPdf	15 47 16.0	+0.5
ASHO	Ashiyiah	135.20	65	P	PKPdf	15 47 15.6	+0.2
HATD	Hatta, Dubai	135.24	65	P	PKPdf	15 47 16.0	+0.5
HATD	Hatta, Dubai	135.24	65	*i* P	PKPdf	15 47 14.7	-0.7
	SNR=6.7						
UOSS	Minazif	135.28	65	P	PKPdf	15 47 14.8	-0.7
UOSS	Minazif	135.28	65	*i* P	PKPdf	15 47 14.6	-0.9
	SNR=8.0						
MDH	Madha	135.29	64	P	PKPdf	15 47 14.7	-0.8
WRAB	Tennant Creek	135.47	228	*de*PKIKP	PKPdf	15 47 14.1	-2.0
WRA	Warramunga Arr	135.47	228	PKhKP	PKPpre	15 47 08.4	
	comp=Z,3.1nm,1.0s,baz=181,slow=1.6,SNR=11						
WRA				PKP	PKPdf	15 47 17.2	+1.1
	comp=Z,15nm,0.7s,baz=125,slow=1.9,SNR=40						
KURK	Kurchatov	135.48	20	IAMs_20	IAMs_20	16 49 55.5	
	comp=Z,637nm,21.0s						
KURK	Kurchatov	135.48	20	P	PKPdf	15 47 14.7	-0.4
KURK	Kurchatov	135.48	20	*c i*PKIKP	PKPdf	15 47 15.2	+0.1
KURBB	Kurchatov Arra	135.53	20	PKhKP	PKPpre	15 47 06.0	
	comp=Z,1.2nm,0.2s,baz=322,slow=3.0,SNR=5.1						
KURBB				PKP	PKPdf	15 47 15.1	-0.1
	comp=Z,23nm,0.9s,baz=308,slow=2.3,SNR=62						
SOHO	SOHO	135.73	66	P	PKPdf	15 47 16.7	+0.3
SOHO	SOHO	135.73	66	*i* P	PKPdf	15 47 15.7	-0.7
	SNR=13						
ARQ	Araqi	135.86	67	P	PKPdf	15 47 17.3	+0.6
USRK	Ussuriysk Ar.	136.41	327		PKPdf	15 47 15.8	-1.3
USRK	Ussuriysk Ar.	136.41	327	PKhKP	PKPpre	15 47 09.5	
	comp=Z,2.3nm,0.6s,baz=90,slow=10,SNR=2.6						
USRK				PKP	PKPdf	15 47 17.5	+0.4
	comp=Z,24nm,0.9s,baz=80,slow=2.3,SNR=18						
USRK	Ussuriysk Ar.	136.41	327	PKIKP	PKPdf	15 47 15.8	-1.3
HOQ	Hoqain	136.53	66	P	PKPdf	15 47 17.5	-0.4
BSY	Bisya	136.58	67	P	PKPdf	15 47 18.4	+0.4
	SNR=9.8						
CIT	Chita	136.74	348	*e*PKHKP	PKPpre	15 47 03.0	
CIT				*e*		15 47 18.0	
CIT				*e*		15 47 29.0	
CIT				*e*		15 49 57.6	
CIT				pmax	pmax		
	comp=Z,61nm,2.5s						
MJAR	Matsushiro Arr	136.93	314	PKhKP	PKPpre	15 47 06.0	
	comp=Z,3.9nm,0.9s,baz=110,slow=1.3,SNR=6.7						
MJAR				PKP	PKPdf	15 47 18.4	+0.1
	comp=Z,34nm,0.9s,baz=75,slow=1.7,SNR=34						
MAJO	Matsushiro	136.93	314	*ce*PKIKP	PKPdf	15 47 17.8	-0.5
VLA	Vladivostok	137.19	326⇑	*e*PKIKP	PKPdf	15 47 18.7	+0.2
BIDO	Bidbid	137.28	66	P	PKPdf	15 47 19.7	+0.4
SMDO	Samad	137.29	67	P	PKPdf	15 47 19.4	-0.1
	SNR=16						
DQM	DQM	137.30	71	P	PKPdf	15 47 19.7	+0.4
MDJ	Mudanjiang	137.37	329	PKP	PKPdf	15 47 19.3	+0.5
JMDO	Jabal Madar	137.47	68	P	PKPdf	15 47 19.5	-0.1
BRLS	Borolday	137.49	34	*e*PKIKP	PKPdf	15 47 19.4	+0.3
BRLS	Borolday	137.49	34	*e*PKP	PKPdf	15 47 19.5	+0.3
MHTO	MHTO	137.56	70	P	PKPdf	15 47 20.0	+0.2
	SNR=11						
BNX	BinXian	137.60	332	⇑P	PKPdf	15 47 06.0	-13
BNX				pmax	pmax		
	comp=Z,42nm,1.1s						
HIA	Hailar	137.68	341	*c i*PKIKP	PKPdf	15 47 18.4	-0.9
IRK	Irkutsk	137.72	357	*e*PKIKP	PKPdf	15 47 16.3	-3.0
IRK				pmax	pmax		
	comp=Z,88nm,1.8s						
WSAR	Wadi Sarin	137.79	66	PKP	PKPdf	15 47 20.4	+0.1
	comp=Z,0.4nm,0.9s,baz=312,slow=7.2,SNR=24						
WSAR	Wadi Sarin	137.79	66	P	PKPdf	15 47 20.8	+0.5
	SNR=7.9						
KK31	Karatay Array	137.81	33	PKIKP	PKPdf	15 47 18.7	-1.0
MSHR	Mys Shultsa	137.94	326⇓	*e*PKIKP	PKPdf	15 47 20.2	+0.3
PSTR	Posyet	138.09	326⇑	*e*PKIKP	PKPdf	15 47 20.0	-0.2
IUG	Iuzhnay	138.18	35	*e*PKIKP	PKPdf	15 47 20.7	+0.2
IUG	Iuzhnay	138.18	35	*e*PKP	PKPdf	15 47 20.7	+0.2
BTLS	Baital	138.21	28	*e*PKIKP	PKPdf	15 47 20.8	+0.4
BTLS	Baital	138.21	28	*e*PKP	PKPdf	15 47 20.8	+0.4
WBK	Wadi Bani Khal	138.21	67	P	PKPdf	15 47 22.1	+1.0
	SNR=13						
MOY	Mondy	138.40	360	*e*PKHKP	PKPpre	15 47 14.2	
MOY				pmax	pmax		
	comp=Z,78nm,2.6s						
JLN	Jalan Bani Buh	138.70	68	P	PKPdf	15 47 22.2	+0.3
	SNR=6.3						
ZAK	Zakamensk	139.63	357	*e*PKHKP	PKPpre	15 47 13.6	
ZAK				pmax	pmax		
	comp=Z,15nm,1.4s						
SGDS	Sogindy	139.67	30	*e*PKIKP	PKPdf	15 47 23.4	+0.2
SGDS	Sogindy	139.67	30	*e*PKP	PKPdf	15 47 23.4	+0.2
USP	Ospenovka	139.75	30	P	PKPdf	15 47 24.4	+1.1
	SNR=17						
SIMJ	Simiganj	139.77	39		PKPpre	15 47 17.4	
EKS2	Erkin-Say	139.83	31	P	PKiKP	15 47 25.5	-0.5
	SNR=11						
MAKZ	Makanchi	139.98	20		PKPpre	15 47 14.4	
MAKZ	Makanchi	139.98	20	PKHKP	PKPpre	15 47 14.4	
MAKZ				MLR	MLR		
	comp=Z,600nm,20.0s						
CN2	Changchun	139.98	332	PKP	PKPdf	15 47 22.3	-1.3
CN2				LR	LR		
	comp=Z,400nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
BTK	Batken	139.99	36		PKPpre	15 47 16.6	
BTK				IAMs_20	IAMs_20	16 54 38.4	
	comp=Z,571nm,20.0s						
BTK	Batken	139.99	36	PKHKP	PKPpre	15 47 16.6	
BTK				MLR	MLR		
	comp=Z,600nm,20.0s						
CHMS	Chumysh	140.07	30	P	PKPdf	15 47 25.1	+1.2
	SNR=10						
MK31	Makanchi Array	140.10	20		PKPpre	15 47 15.2	
MK31	Makanchi Array	140.10	20	*c i*PKIKP	PKPdf	15 47 23.3	-0.5
MKAR	Makanchi Array	140.10	20	PKhKP	PKPpre	15 47 14.4	
	comp=Z,4.7nm,0.9s,baz=326,slow=2.8,SNR=16						
MKAR				PKP	PKPdf	15 47 22.4	-1.4
	comp=Z,23nm,1.1s,baz=322,slow=2.8,SNR=30						
MKAR				PP	PP	15 50 16.4	-3.8
	comp=Z,2.7nm,0.9s,baz=319,slow=3.4,SNR=4.1						
TDK	Taldyqorghan	140.16	25	*e*PKIKP	PKPdf	15 47 23.9	0.0
TDK	Taldyqorghan	140.16	25	*e*PKP	PKPdf	15 47 24.0	0.0
AML	Almayashu	140.17	32	P	PKPdf	15 47 25.9	+1.3
	SNR=9.9						
AAK	Ala-Archa	140.21	31		PKPpre	15 47 16.9	
AAK	Ala-Archa	140.21	31	P	PKPdf	15 47 25.6	+1.3
AAK	Ala-Archa	140.21	31	P	PKiKP	15 47 26.1	-0.7
	SNR=14						
AAK	Ala-Archa	140.21	31	*ce*PKIKP	PKPdf	15 47 23.0	-1.3
ZSN	Zaisan	140.30	17	*e*PKIKP	PKPdf	15 47 24.2	+0.1
ZSN	Zaisan	140.30	17	*e*PKP	PKPdf	15 47 24.3	+0.1
GAR	Garm	140.37	38		PKPpre	15 47 17.2	
KBK	Karagaybulak	140.42	30	P	PKPdf	15 47 25.9	+1.2
	SNR=10						
CHKK	Chushkaly	140.47	27	*e*PKIKP	PKPdf	15 47 24.7	+0.2
CHKK	Chushkaly	140.47	27	*e*PKP	PKPdf	15 47 24.7	+0.2
UCH	Uchtor	140.52	31	P	PKiKP	15 47 27.2	-0.7
	SNR=5.0						
TKM2	Tokmak 2	140.54	29	P	PKiKP	15 47 26.4	-1.2
	SNR=13						
TKM2	Tokmak 2	140.54	29	PKHKP	PKPpre	15 47 19.1	
ARXS	Arharly	140.56	26	*e*PKIKP	PKPdf	15 47 25.0	+0.2
AAA	Alma-Ata	140.94	28	*e*PKIKP	PKPdf	15 47 25.4	-0.1
AAA	Alma-Ata	140.94	28	*e*PKP	PKPdf	15 47 25.4	-0.1
MDOK	Medeo	141.04	28	PKIKP	PKPdf	15 47 21.6	-4.2
MDOK	Medeo	141.04	28	*e*PKP	PKPdf	15 47 25.7	-0.1
TNSS	Tian-Shan	141.09	28	*e*PKIKP	PKPdf	15 47 25.7	-0.5
TNSS	Tian-Shan	141.09	28	*e*PKP	PKPdf	15 47 25.8	-0.5
ULHL	Ulahol	141.36	29	P	PKiKP	15 47 28.6	-0.7
	SNR=18						
JMN	Monobe	141.40	313		PKPpre	15 47 21.3	
ZHN	Zhinishke	141.66	26	*e*PKIKP	PKPdf	15 47 26.8	0.0
ZHN	Zhinishke	141.66	26	*e*PKP	PKPdf	15 47 26.9	0.0
ULN	Ulaanbaatar	141.82	353		PKPpre	15 47 21.1	
ULN	Ulaanbaatar	141.82	353	IAMs_20	IAMs_20	16 53 49.9	
	comp=Z,476nm,20.0s						
ULN	Ulaanbaatar	141.82	353	*ce*PKIKP	PKPdf	15 47 27.9	+0.9
SONM	Songino Array	141.92	354		PKPpre	15 47 20.9	
SONM	Songino Array	141.92	354	PKhKP	PKPpre	15 47 20.7	
	comp=Z,17nm,0.9s,baz=341,slow=2.7,SNR=66						
SONM				PP	PP	15 50 30.1	-1.2
	comp=Z,13nm,1.2s,baz=345,slow=4.6,SNR=8.0						
SONM	Songino Array	141.92	354	PKHKP	PKPpre	15 47 20.9	
UZB	Uzynbulak	141.93	26	*e*PKIKP	PKPdf	15 47 27.2	-0.2
UZB	Uzynbulak	141.93	26	*e*PKP	PKPdf	15 47 27.2	-0.2
PDGK	Podgornoye	141.98	25	PKHKP	PKPpre	15 47 21.7	
SHLS	Shalkode	142.11	25	*e*PKIKP	PKPdf	15 47 27.9	+0.3
SHLS	Shalkode	142.11	25	*e*PKP	PKPdf	15 47 28.0	+0.3
KBL	Kabul	142.14	45	P	PKPdf	15 47 26.2	-1.9
	SNR=12						
FITZ	Fitzroy Crossi	142.78	222	PKhKP	PKPpre	15 47 25.0	
	comp=Z,34nm,1.0s,baz=172,slow=4.7,SNR=43						
KSRS	Korea Array	143.19	322	PKhKP	PKPpre	15 47 25.6	
	comp=Z,59nm,0.9s,baz=51,slow=3.3,SNR=114						
KSH	Kashi	143.25	33	PKP	PKPbc	15 47 27.5	+0.7
KSH				LR	LR		
	comp=Z,360nm,19.2s						
KSH				LR	LR		
	comp=Z,370nm,22.0s						
KSH				LR	LR		
	comp=Z,640nm,21.3s						
PSA00	Pilbara Seismi	143.44	211		PKPab	15 47 27.7	+1.0
XLT	XiLinHaoTe	143.61	341	*e*PKP	PKPab	15 47 26.5	-0.3
XLT				pPKP	PKiKP	15 47 33.3	-0.3
XLT				LR	LR		
	comp=Z,45nm,22.6s						
XLT				LR	LR		
	comp=Z,400nm,19.2s						
XLT				LR	LR		
	comp=Z,630nm,21.8s						
MBWA	Marble Bar	143.84	211	P	PKPbc	15 47 29.9	+1.0
INCN	Inchon	143.94	324	P	PKPab	15 47 27.9	-0.3
TJN	Taejon	144.24	322		PKPab	15 47 29.1	-0.2
TJN	Taejon	144.24	322	PKIKP	PKPab	15 47 29.1	-0.2
WMQ	Urumqi	144.42	16	*e*PKP	PKPbc	15 47 30.0	-0.1
WMQ				LR	LR		
	comp=Z,610nm,20.7s						
WMQ				LR	LR		
	comp=Z,380nm,17.1s						
WMQ				LR	LR		
	comp=Z,680nm,19.7s						
DL2	Dalian	145.59	330⇑	*i*PKPbc	PKPdf	15 47 32.8	-0.9
DL2				*e*PP	PP	15 50 58.8	+5.2
DL2				AMB	AMB		
	comp=Z,270nm,4.6s						
DL2				LR	LR		
	comp=Z,620nm,18.5s						
DL2				LR	LR		
	comp=Z,360nm,17.0s						
DL2				LR	LR		
	comp=Z,710nm,21.2s						
BJI	Beijing	147.00	338	PKPbc	PKPdf	15 47 36.0	0.0
BJI				PKS	PKSdf	15 51 10.0	-1.3
BJI				LR	LR		
	comp=Z,320nm,21.6s						
BJI				LR	LR		
	comp=Z,220nm,18.2s						
BJI				LR	LR		
	comp=Z,480nm,17.8s						
HHC	Hu-ho-hao-te	147.74	344⇑	*i*PKPbc	PKPdf	15 47 37.8	+0.4
HHC				LR	LR		
	comp=Z,460nm,20.4s						
HHC				LR	LR		
	comp=Z,390nm,17.7s						
HHC				LR	LR		
	comp=Z,600nm,20.1s						
BTO	Baotou	148.35	346	*e*PKPbc	PKPdf	15 47 39.0	+0.6
BTO				PKPab	PKPab	15 47 46.5	+1.5
BTO				PP	PP	15 51 17.0	+7.4
BTO				AMB	AMB		
	comp=Z,270nm,5.3s						
BTO				LR	LR		
	comp=Z,380nm,8.5s						
BTO				LR	LR		
	comp=Z,900nm,15.2s						
BTO				LR	LR		
	comp=Z,680nm,14.3s						
HNS	HongShan	149.86	337	⇑PKPbc	PKPdf	15 47 41.5	+0.7
HNS				PP	PP	15 51 18.0	-0.4
HNS				LR	LR		
	comp=Z,860nm,21.1s						
HNS				LR	LR		
	comp=Z,1μm,20.6s						
TIA	Tai'an	149.87	333	PKPbc	PKPdf	15 47 39.8	-1.1
TIA				PP	PP	15 51 19.3	+0.6
TIA				AMB	AMB		
	comp=Z,300nm,4.5s						
TIA				LR	LR		
	comp=Z,440nm,21.6s						
TIA				LR	LR		
	comp=Z,370nm,16.2s						
TIA				LR	LR		
	comp=Z,860nm,22.0s						
TIY	Taiyuan	150.38	341	PKPbc	PKPbc	15 47 46.8	-0.2
GTA	Gaotai	150.65	1	PKPbc	PKPdf	15 47 42.5	+0.3
GTA				pPKP	PKPbc	15 47 47.5	-0.1
GTA				PP	PP	15 51 21.5	-1.3
GTA				SS	SS	16 10 37.0	-2.3
GTA				LR	LR		
	comp=Z,240nm,23.1s						
GTA				LR	LR		
	comp=Z,230nm,24.3s						
GTA				LR	LR		
	comp=Z,560nm,24.1s						
KAAM	Kaadhehdhoo	150.94	107	P	PKPdf	15 47 45.1	+1.9
	SNR=9.9						
MMRI	Maumere	151.66	230	IAMs_20	IAMs_20	16 48 26.2	
	comp=Z,509nm,20.0s						
NJ2	Nanjing	152.28	325	⇑PKPbc	PKPdf	15 47 44.5	-0.2
NJ2				sPKP		15 47 50.8	
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
NJ2				LR	LR		
	comp=Z,1μm,16.1s						
NJ2				LR	LR		
	comp=Z,1μm,17.6s						
HMDM	Hanimaadhoo	152.66	94	P	PKPdf	15 47 47.3	+1.6
LYN	LuoYang	153.22	338	PKPbc	PKPdf	15 47 46.3	+0.3
LYN				PKPab	sPKPdf	15 48 04.3	+1.1
LYN				PP	PP	15 51 37.5	-0.1
LYN				AMB	AMB		
	comp=Z,420nm,6.0s						
LYN				LR	LR		
	comp=Z,660nm,18.9s						
LYN				LR	LR		
	comp=Z,710nm,19.6s						
LYN				LR	LR		
	comp=Z,930nm,17.5s						
GOMU	GeErMu	153.33	11	PKPbc	PKPdf	15 47 47.3	+0.7
GOMU				SS	SS	16 11 14.0	+4.5
GOMU				LR	LR		
	comp=Z,910nm,16.3s						
GOMU				LR	LR		
	comp=Z,630nm,16.2s						
GOMU				LR	LR		
	comp=Z,1μm,16.6s						
LZH	Lanzhou	153.81	354	*e*PKPbc	PKPdf	15 47 48.5	+1.5
LZH				PP	PP	15 51 44.0	+3.1
LZH				LR	LR		
	comp=Z,620nm,20.6s						
LZH				LR	LR		
	comp=Z,410nm,21.3s						
LZH				LR	LR		
	comp=Z,850nm,20.6s						
XAN	Xi'an	154.84	344	PKPbc	PKPdf	15 47 47.8	-0.6
XAN				PKPab	PKPab	15 48 12.0	-0.1
XAN				PP	PP	15 51 49.3	+2.6
XAN				AMB	AMB		
	comp=Z,460nm,6.0s						
XAN				LR	LR		
	comp=Z,1μm,18.2s						
XAN				LR	LR		
	comp=Z,380nm,16.3s						
XAN				LR	LR		
	comp=Z,2μm,21.5s						
DAV	Davao City (W)	155.17	265	PKPab	PKPab	15 48 16.4	+2.2
	comp=Z,101nm,0.4s,baz=61,slow=9.7,SNR=5.0						
KAPI	Kappang	155.85	233	IAMs_20	IAMs_20	16 51 11.5	
	comp=Z,495nm,20.0s						
KAPI	Kappang	155.85	233	PKP	PKPdf	15 47 48.9	-1.3
	comp=Z,5.7nm,0.4s,baz=116,slow=1.6,SNR=6.7						
KAPI				PKPab	PKPab	15 48 18.0	+1.0
	comp=Z,6.6nm,0.3s,baz=57,slow=5.9,SNR=4.2						
WHN	Wuhan	155.85	330	PKP	PKPdf	15 47 50.0	+0.3
WHN				sPKP		15 47 58.5	
WHN				PKPab	PKPab	15 48 15.5	-0.9
WHN				PP	PP	15 51 55.0	+2.4
WHN				LR	LR		
	comp=Z,2μm,17.3s						
HYB	Hyderabad	157.31	69	*e*PKPdf	PKPdf	15 47 51.4	-0.6
LSA	Lhasa	158.43	23	IAMs_20	IAMs_20	17 13 27.9	
	comp=Z,400nm,19.0s						
LSA	Lhasa	158.43	23	PKP	PKPdf	15 47 52.8	-0.9
LSA				LR	LR		
	comp=Z,270nm,19.6s						
LSA				LR	LR		
	comp=Z,300nm,18.6s						
CNSH	ChangSha	158.49	329	PKP	PKPdf	15 47 53.0	-0.2
CD2	Chengdu	158.94	353	PKP	PKPdf	15 47 51.5	-2.2
PALK	Pallekele	160.11	96	PKP	PKPdf	15 47 55.1	-0.4
	comp=Z,7.2nm,0.8s,baz=193,slow=4.4,SNR=6.3						
LEM	Lembang	161.95	203	PKP	PKPdf	15 47 57.9	+0.3
	comp=Z,27nm,0.9s,baz=164,slow=5.5,SNR=16						
LEM				PKPab	PKPab	15 48 43.1	-0.4
	comp=Z,14nm,0.5s,baz=207,slow=2.4,SNR=7.0						
GULI	GuiLin	162.16	330⇓	PKP	PKPdf	15 47 58.3	+1.0
GYA	Guiyang	162.61	342⇑	PKP	PKPdf	15 47 55.5	-2.4
GYA				PP	PP	15 52 27.8	-1.4
GYA				SKKS		15 59 13.5	
GYA				AMB	AMB		
	comp=Z,210nm,4.8s						
GYA				LR	LR		
	comp=Z,140nm,4.7s						
GYA				LR	LR		
	comp=Z,180nm,4.5s						
GYA				LR	LR		
	comp=Z,120nm,9.0s						
PZH	PanZhiHua	163.50	357	PKP	PKPdf	15 47 58.0	-0.8
PZH				PP	PP	15 52 36.0	+2.4
PZH				AMB	AMB		
	comp=Z,200nm,6.3s						
PZH				LR	LR		
	comp=Z,310nm,20.1s						
PZH				LR	LR		
	comp=Z,240nm,20.4s						
PZH				LR	LR		
	comp=Z,450nm,21.0s						
KMI	Kunming	164.77	353	PKP	PKPdf	15 48 00.5	+0.4
TNCH	TengChong	164.86	7	PKP	PKPdf	15 48 00.5	+0.4
TNCH				PKPab	PKPab	15 48 55.8	-0.1
TNCH				PP	PP	15 52 41.5	+0.6
TNCH				SKKS		15 59 26.0	
TNCH				AMB	AMB		
	comp=Z,250nm,4.5s						
TNCH				LR	LR		
	comp=Z,460nm,18.7s						
TNCH				LR	LR		
	comp=Z,240nm,13.1s						
TNCH				LR	LR		
	comp=Z,980nm,21.3s						
QIZ	Qiongzhong	167.32	316	PKP	PKPdf	15 48 01.5	-0.5
QIZ				sPKP		15 48 10.8	
QIZ				PP	PP	15 52 53.8	-0.8
QIZ				SS	SS	16 13 40.8	+3.0
QIZ				LR	LR		
	comp=Z,340nm,17.2s						
QIZ				LR	LR		
	comp=Z,440nm,17.2s						
QIZ				LR	LR		
	comp=Z,580nm,21.1s						
CHTO	Chiang Mai	171.03	10	P	PKPdf	15 48 04.4	+0.1
CMAR	Chiang Mai Arr	171.38	11	PKPdf	PKPdf	15 48 04.4	-0.1
CMAR	Chiang Mai Arr	171.38	11	PKP	PKPdf	15 48 03.7	-0.8
	comp=Z,14nm,1.0s,baz=294,slow=1.8,SNR=91						
CMAR				PKPab	PKPab	15 49 21.8	-2.9
	comp=Z,0.6nm,0.3s,baz=340,slow=3.1,SNR=4.2						
CMAR				PP	PP	15 53 13.3	-0.6
	comp=Z,5.7nm,1.1s,baz=339,slow=5.3,SNR=7.3						
PSI	Prapat	172.70	166	PKPab	PKPab	15 49 28.8	-1.9
	comp=Z,5.4nm,0.2s,baz=214,slow=3.6,SNR=7.8						

NEIC ***31*** *15:29:53.7±1.1,22°.06S±0°.04×176°.1W±0°.1,h164km±16km, mb4.5/14, Error ellipse: s-maj=19.0km s-min=5.4km az=80.0*

IDC ***31*** *15:29:57.0±5.1,22°.00S×176°.49W,h181km±36km,mb3.7/3, mbtmp4.4/5, Error ellipse: s-maj=52.6km s-min=32.8km az=100.0*

ISC 31 15:29:52.3±0.7,**22°.1S**±0°.1×**176°.16W**±0°.09,**h150**km,**n23,** σ1°**36**/25,**mb4.5**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.54	64		Pn	15 31 28.9	+2.6
NIUE				Sn	Sn	15 32 36.8	-3.1
MSVF	Nonsavu	6.94	307		Pn	15 31 32.8	+1.1
MSVF	Nonsavu	6.94	307	P	Pn	15 31 32.7	+1.0
	16nm,0.6s,baz=127,slow=15,SNR=33						
URZ	Urewera	17.16	198	P	Pn	15 33 44.8	+1.7
	13nm,0.5s,baz=23,slow=5.8,SNR=26						
BKZ	Black Stump Fm	18.19	199	P	P	15 33 53.5	-0.2
BKZ				IAmb	IAmb	15 34 30.4	
	comp=Z,39nm,1.4s						
KHZ	Kahutara	22.07	201	P	P	15 34 34.8	-0.3
STKA	Stephens Creek	38.70	246	P	P	15 37 02.2	+0.4
STKA	Stephens Creek	38.70	246	P	P	15 37 02.0	+0.2
	comp=Z,1.9nm,0.5s,baz=82,slow=12,SNR=6.3						
	comp=Z,1.9nm,0.5s						
COEN	Coen	39.41	275	P	P	15 37 07.9	0.0
COEN				IAmb	IAmb	15 37 44.2	
	comp=Z,17nm,1.4s						
BBOO	Buckleboo	43.43	245	P	P	15 37 39.3	-1.2
BBOO				IAmb	IAmb	15 37 51.0	
	comp=Z,36nm,1.4s						
AS31	Alice Springs	45.86	258		P	15 37 59.0	-0.9
ASAR	Alice Springs	45.86	258	P	P	15 37 58.9	-1.0
ASAR	Alice Springs	45.86	258	P	P	15 37 59.1	-0.8
	comp=Z,6.2nm,0.8s,baz=95,slow=7.8,SNR=37						
ASAR				PcP	PcP	15 39 35.0	+0.4
	comp=Z,0.6nm,0.6s,baz=101,slow=4.0,SNR=4.3						
	comp=Z,6.2nm,0.8s						
WR0	Warramunga Arr	45.92	263	P	P	15 37 59.8	-0.5
WR0				IAmb	IAmb	15 38 42.0	
	comp=Z,11nm,1.5s						
WB0	Warram

LKBA Tubou, Lakemba 0.73 221 P **P** **15 41 10.1 +2.3**
TAVE Taveuni 1.80 302 P **P** **15 41 13.1 +2.1**
DGTI Dogotuki 2.31 306 P **P** **15 41 14.7 +1.3**
FUTU Fugatoga 3.36 3 **P** **15 41 20.1 +0.4**
FUTU Fugatoga 3.36 3 P **P** **15 41 20.7 +1.1**
MSVF Nonsavu 3.46 269 **P** **15 41 22.9 +2.6**
MSVF Nonsavu 3.46 269 P **P** **15 41 22.7 +2.4**
704nm,0.7s,baz=89,slow=5.6,SNR=488
MSVF S **S** **15 42 28.0 +4.3**
39nm,1.0s,baz=103,slow=24,SNR=7.3
MSVF Nonsavu 3.46 269 P **P** **15 41 22.8 +2.4**
YSA Yasawairara 4.04 283 P **P** **15 41 25.7 +1.3**
NIUE Niue 8.09 101 **P** **15 42 00.5 -0.5**
NIUE Niue 8.09 101 P **P** **15 42 02.0 +1.1**
GLKZ Green Lake 11.53 178 P **P** **15 42 35.5 -0.5**
DVP Devils Point 12.86 268 P **P** **15 42 49.4 -0.5**
PINNC Pines Island, 14.24 248 P **P** **15 43 04.5 +0.4**
PINNC Pines Island, 14.24 248 P **P** **15 43 04.6 +0.5**
YATNC Mamie plateau, 14.58 250 P **P** **15 43 07.5 -0.1**
OUENC Ouen Island, N 14.72 249 P **P** **15 43 08.4 -0.7**
DZM Mont Dzumac 14.98 251 **P** **15 43 11.1 -0.8**
DZM Mont Dzumac 14.98 251 P **P** **15 43 11.0 -0.9**
9.8nm,0.4s,baz=104,slow=21,SNR=27
DZM S **S** **15 45 46.8 -1.2**
15nm,1.0s,baz=1.9,slow=11,SNR=4.6
DZM Mont Dzumac 14.98 251 P **S** **15 43 11.2 -0.8**
ONTNC Ouen Toro 15.04 250 **P** **15 43 11.9 -0.4**
ONTNC IAmb IAmb 15 43 15.2
comp=Z,20nm,0.5s
ONTNC Ouen Toro 15.04 250 P **P** **15 43 12.6 +0.3**
KOUNC Koumac, New Ca 16.69 257 P **P** **15 43 28.6 +0.1**
RAR Rarotonga 17.84 104 P **P** **15 43 38.6 -0.3**
comp=Z,48nm,0.9s,baz=253,slow=6.9,SNR=3.8
OUZ Omahuta 18.89 201 P **P** **15 43 48.7 +0.3**
OUZ Omahuta 18.89 201 P **P** **15 43 51.3 +2.9**
GRZ Great Barrier 19.30 195 P **P** **15 43 52.6 +0.4**
WCZ Waipu Caves 19.32 198 P **P** **15 43 54.2 +1.9**
WIAZ Waiheke Island 19.90 196 P **P** **15 43 60.0 +2.4**
MBAZ Motutapu North 19.94 196 P **P** **15 44 00.4 +2.5**
MXZ Matakaoa Point 20.03 188 P **P** **15 43 58.7 0.0**
MXZ Matakaoa Point 20.03 188 P **P** **15 43 57.6 -1.1**
ETAZ East Tamaki Re 20.10 196 P **P** **15 44 01.8 +2.4**
MKAZ Moumakai 20.18 195 P **P** **15 44 02.3 +2.2**
KBAZ Karaka Road Bo 20.25 196 P **P** **15 44 03.5 +2.8**
WMGZ Waiomatatini S 20.27 187 P **P** **15 44 00.4 -0.5**
AWAZ Awhitu Peninsu 20.28 196 P **P** **15 44 03.2 +2.2**
HAZ Te Kaha 20.29 189 P **P** **15 44 00.6 -0.5**
PKGZ Pakihiroa 20.36 188 P **P** **15 44 00.4 -1.3**
RUGZ Raukumara Rang 20.51 189 P **P** **15 44 03.4 +0.2**
TGRZ Tauranga 20.53 192 P **P** **15 44 05.7 +2.4**
PUZ Puketiti 20.54 188 P **P** **15 44 03.7 +0.3**
TWGZ Tauwhareparae 20.68 188 P **P** **15 44 03.6 -1.1**
TOZ Tahuroa Road 20.70 194 P **P** **15 44 06.7 +1.9**
KARZ Kaharoa 20.82 192 P **P** **15 44 07.4 +1.5**
URZ Urewera 20.89 190 P **P** **15 44 04.5 -2.0**
comp=Z,60nm,0.5s,baz=29,slow=1.7,SNR=66
comp=Z,60nm,0.5s
URZ Urewera 20.89 190 P **P** **15 44 05.1 -1.4**
URZ Urewera 20.89 190 P **P** **15 44 04.1 -2.4**
MWZ Matawai 20.90 189 P **P** **15 44 05.0 -1.7**
CNGZ Carnagh Statio 20.95 188 P **P** **15 44 06.9 -0.1**
TKGZ Te Karaka 20.95 188 P **P** **15 44 05.9 -1.1**
RAGZ Rawiri 21.07 189 P **P** **15 44 08.4 +0.2**
RRRZ Republican Roa 21.07 191 P **P** **15 44 08.1 -0.1**
GRRZ Galatos Road 21.16 192 P **P** **15 44 11.0 +2.0**
RIGZ Rimuhau 21.23 188 P **P** **15 44 08.0 -1.6**
PRRZ Plateau Road 21.25 192 P **P** **15 44 08.5 -1.3**
RTZ Ruatahuna 21.26 190 **P** **15 44 08.7 -1.3**
RTZ IAmb IAmb 15 44 19.6
comp=Z,34nm,0.7s
RTZ Ruatahuna 21.26 190 P **P** **15 44 08.9 -1.1**
TLZ Tolley Road 21.26 193 P **P** **15 44 11.3 +1.3**
KUTZ Kaahu Road 21.36 193 P **P** **15 44 11.3 +0.5**
SNGZ Shannon Statio 21.36 189 P **P** **15 44 09.8 -1.1**
PRGZ Paritu Road 21.42 188 P **P** **15 44 11.7 +0.3**
MTHZ Maungataniwha 21.51 190 P **P** **15 44 11.4 -0.8**
RAHZ Arahi 21.54 190 P **P** **15 44 11.2 -1.2**
KNZ Kokohu 21.55 189 P **P** **15 44 11.8 -0.7**
MRHZ Matea Rd 21.57 191 P **P** **15 44 11.6 -1.1**
WATZ Wairara 21.59 193 P **P** **15 44 13.2 +0.4**
HIZ Hauiti 21.60 195 P **P** **15 44 14.4 +1.5**
HIZ Hauiti 21.60 195 P **P** **15 44 15.2 +2.4**
MHGZ Mahia Peninsul 21.65 188 P **P** **15 44 12.2 -1.2**
NMHZ Naumai 21.76 190 P **P** **15 44 14.1 -0.4**
NGOA Tingoa Renbel 21.78 283 P **P** **15 44 14.9 0.0**
RITZ Rihia Road 21.82 192 P **P** **15 44 14.4 -0.5**
BKZ Black Stump Fm 21.88 191 P **P** **15 44 13.3 -2.1**
BKZ IAmb IAmb 15 44 26.6
comp=Z,26nm,0.9s
BKZ Black Stump Fm 21.88 191 P **P** **15 44 13.9 -1.6**
BKZ Black Stump Fm 21.88 191 P **P** **15 44 13.7 -1.8**
ARHZ Aropaoanui 21.89 190 P **P** **15 44 15.4 -0.1**
NTVZ North Tongarir 21.97 193 P **P** **15 44 15.4 -1.0**
TMVZ Te Maari 21.98 193 P **P** **15 44 15.0 -1.5**
ETVZ East Tongariro 22.00 192 P **P** **15 44 15.4 -1.3**
NNVZ North Ngauruho 22.02 193 P **P** **15 44 16.3 -0.5**
OTVZ Oturere 22.04 193 P **P** **15 44 16.1 -0.9**
SNVZ South Ngauruho 22.07 193 P **P** **15 44 16.7 -0.6**
COVZ Chateau Observ 22.10 193 P **P** **15 44 15.5 -2.0**
KWHZ Kaweka Forest 22.14 191 P **P** **15 44 16.5 -1.4**
KRHZ Kereru 22.37 191 P **P** **15 44 17.0 -2.8**
KAHZ Kahuranaki 22.43 190 P **P** **15 44 19.5 -0.9**
HNR Honiara 22.65 288 P **P** **15 44 22.1 -0.5**
comp=Z,28nm,0.4s,baz=106,slow=4.3,SNR=6.4
comp=Z,28nm,0.4s
HNR Honiara 22.65 288 P **P** **15 44 22.6 0.0**
PNHZ Pukenui 22.66 191 P **P** **15 44 20.4 -2.1**
PXZ Pawanui 22.66 190 P **P** **15 44 21.5 -0.9**
WPHZ Waipukurau 22.76 190 P **P** **15 44 22.0 -1.3**
TSZ Takapari Road 22.84 191 P **P** **15 44 22.7 -1.4**
SAVO Savo Central 22.88 289 P **P** **15 44 24.8 +0.1**
DVHZ Dannevirke 23.04 191 P **P** **15 44 23.4 -2.4**
ANWZ Angora Road 23.14 190 P **P** **15 44 24.7 -2.0**
TATA Tatamba Isabel 23.21 291 P **P** **15 44 26.6 -1.0**
BFZ Birch Farm 23.40 190 P **P** **15 44 27.7 -1.3**
BFZ Birch Farm 23.40 190 P **P** **15 44 27.6 -1.3**
MRZ Mangatainoka R 23.50 192 P **P** **15 44 27.6 -2.2**
MRZ Mangatainoka R 23.50 192 P **P** **15 44 27.6 -2.2**
OGWZ Otaki Gorge 23.73 192 P **P** **15 44 29.9 -2.0**
HOWZ Holdsworth Sta 23.74 192 P **P** **15 44 29.9 -2.1**
TMWZ Te Maipa 23.87 191 P **P** **15 44 31.0 -2.2**
DUWZ D'Urville Isla 23.99 195 P **P** **15 44 32.9 -1.4**
CAW Cannon Point 24.03 192 P **P** **15 44 33.3 -1.3**
TRWZ Traveller 24.19 191 P **P** **15 44 35.7 -0.3**
PAWZ Paruwai Farm 24.23 192 P **P** **15 44 34.9 -1.4**
MSWZ Moikau Station 24.29 192 P **P** **15 44 35.4 -1.5**
TCW Tory Channel 24.30 194 P **P** **15 44 35.5 -1.4**
TCW Tory Channel 24.30 194 P **P** **15 44 36.1 -0.9**
SNZO South Karori 24.30 193 P **P** **15 44 35.2 -1.7**
SNZO South Karori 24.30 193 P **P** **15 44 35.7 -1.2**
BHW Baring Head 24.36 192 P **P** **15 44 36.4 -1.1**
BHW Baring Head 24.36 192 P **P** **15 44 36.1 -1.4**
QRZ Quartz Range 24.38 197 P **P** **15 44 38.6 +0.9**
QRZ Quartz Range 24.38 197 P **P** **15 44 38.6 +0.9**
PLWZ Palliser 24.44 192 P **P** **15 44 36.8 -1.4**
PLWZ Palliser 24.44 192 P **P** **15 44 36.5 -1.8**
TKNZ Takaka Hill 24.45 196 P **P** **15 44 37.4 -0.9**
NNZ Nelson 24.52 195 P **P** **15 44 38.3 -0.5**
TUWZ Tuamarina 24.58 194 P **P** **15 44 38.5 -0.9**
TUWZ Tuamarina 24.58 194 P **P** **15 44 38.5 -0.9**
MRNZ Matariki Terra 24.85 196 P **P** **15 44 41.5 -0.4**
BSWZ Blackbirch Sta 24.87 194 P **P** **15 44 41.7 -0.3**
THZ Tophouse 25.15 196 P **P** **15 44 43.7 -0.9**
THZ IAmb IAmb 15 44 49.3
comp=Z,37nm,0.8s
THZ Tophouse 25.15 196 P **P** **15 44 44.1 -0.5**
KHZ Kahutara 25.61 194 P **P** **15 44 47.4 -1.2**
KHZ Kahutara 25.61 194 P **P** **15 44 47.3 -1.2**
KHZ Kahutara 25.61 194 P **P** **15 44 47.5 -1.0**
CTZ Chatham Island 26.01 177 P **P** **15 44 52.4 +0.4**
CTZ Chatham Island 26.01 177 P **P** **15 44 55.8 +3.7**
GVZ Greta Valley S 26.26 194 P **P** **15 44 52.3 -1.9**
GVZ Greta Valley S 26.26 194 P **P** **15 44 52.1 -2.2**
LTZ Lake Taylor 26.27 196 P **P** **15 44 52.9 -1.5**
LTZ Lake Taylor 26.27 196 P **P** **15 44 53.2 -1.2**
INZ Inchbonnie 26.44 197 P **P** **15 44 55.2 -0.6**
INZ Inchbonnie 26.44 197 P **P** **15 44 55.7 -0.1**
AMCZ Amberley 26.55 195 P **P** **15 44 56.5 -0.2**
OXZ Oxford 26.84 196 P **P** **15 44 58.8 -0.6**
OKCZ Okains Bay 26.97 194 P **P** **15 45 00.3 -0.2**
MQZ McQueen's Vall 27.05 194 P **P** **15 45 00.5 -0.5**

RACZ Rakaia 27.19 195 P **P** **15 45 02.2 -0.1**
PPT Papeete 27.38 94 P **P** **15 45 05.3 +0.8**
comp=Z,57nm,0.6s,baz=208,slow=15,SNR=16
comp=Z,57nm,0.6s
PPTF Pamatai, Papee 27.39 94 P **P** **15 45 05.1 +0.5**
PPTF Pamatai, Papee 27.39 94 P **P** **15 45 05.3 +0.7**
RPZ Rata Peaks 27.46 197 P **P** **15 45 03.4 -1.4**
RPZ Rata Peaks 27.46 197 P **P** **15 45 03.2 -1.6**
comp=Z,16nm,0.4s,baz=28,slow=4.9,SNR=9.8
comp=Z,16nm,0.4s
RPZ Rata Peaks 27.46 197 P **P** **15 45 03.8 -1.0**
RPZ Rata Peaks 27.46 197 P **P** **15 45 03.6 -1.2**
WACZ Wakanui South 27.47 196 P **P** **15 45 04.2 -0.6**
ARCZ Arundel 27.65 196 P **P** **15 45 05.3 -1.1**
FOZ Fox Glacier 27.66 199 P **P** **15 45 05.7 -0.8**
TMZ Timaru 28.10 196 P **P** **15 45 09.6 -0.7**
LBZ Lake Benmore 28.33 198 P **P** **15 45 10.8 -1.6**
JCZ Jackson Bay 28.47 200 P **P** **15 45 13.5 -0.2**
JCZ Jackson Bay 28.47 200 P **P** **15 45 13.9 +0.2**
ODZ Otahua Downs 28.81 196 P **P** **15 45 15.7 -0.7**
ODZ Otahua Downs 28.81 196 P **P** **15 45 15.8 -0.7**
WKZ Wanaka 29.07 199 P **P** **15 45 18.2 -0.7**
EAZ Earnscleugh 29.35 198 P **P** **15 45 20.8 -0.4**
MLZ Mavora Lakes 29.84 199 P **P** **15 45 25.2 -0.3**
TUZ Tuapeka 29.92 197 P **P** **15 45 26.6 +0.5**
ARMA Armidale 30.13 240 P **P** **15 45 29.0 +0.7**
ARMA IAmb IAmb 15 45 30.0
comp=Z,28nm,0.7s
ARMA Armidale 30.13 240 P **P** **15 45 28.9 +0.6**
DCZ Deep Cove 30.24 201 P **P** **15 45 28.9 +0.1**
WHZ Wether Hill Ro 30.36 199 P **P** **15 45 30.5 +0.6**
SYZ Scrubby Hill 30.59 197 P **P** **15 45 32.2 +0.3**
SYZ Scrubby Hill 30.59 197 P **P** **15 45 32.6 +0.7**
PYZ Puysegur Point 31.02 200 P **P** **15 45 35.9 +0.4**
PYZ Puysegur Point 31.02 200 P **P** **15 45 37.3 +1.8**
APZ The Paps 31.19 198 P **P** **15 45 37.9 +0.8**
MGCD Mangrove Creek 31.50 235 P **P** **15 45 40.6 +0.7**
SYDH Sydney Hard Ro 31.99 234 P **P** **15 45 45.2 +1.2**
CNB Canberra Magne 33.63 232 P **P** **15 45 58.8 +0.8**
CAN Canberra 33.91 232 P **P** **15 46 00.7 +0.3**
CMSA Cobar Meteorol 35.34 240 P **P** **15 46 12.3 0.0**
MTSU Mount Surprise 35.52 263 P **P** **15 46 13.8 -0.2**
QLP Quilpie 35.70 249 P **P** **15 46 15.2 -0.1**
GLAD Gladstone 37.07 224 P **P** **15 46 27.0 +0.6**
COEN Coen 37.19 270 P **P** **15 46 27.9 +0.1**
TOO Toolangi 37.38 231 P **P** **15 46 29.4 +0.4**
TOO IAmb IAmb 15 46 30.9
comp=Z,38nm,0.9s
CORO Coronation Par 37.87 224 P **P** **15 46 34.0 +1.1**
MOO Moorlands 38.32 223 P **P** **15 46 37.4 +0.9**
TAU Tasmania Unive 38.47 222 P **P** **15 46 38.2 +0.5**
STKA Stephens Creek 38.82 241 P **P** **15 46 41.3 +0.5**
STKA Stephens Creek 38.82 241 P **P** **15 46 41.1 +0.3**
comp=Z,26nm,0.5s,baz=88,slow=9.7,SNR=77
comp=Z,26nm,0.5s
STKA Stephens Creek 38.82 241 P **P** **15 46 41.4 +0.6**
INKA Innaminka 38.91 248 P **P** **15 46 42.3 +0.7**
QIS Mount Isa 39.78 259 P **P** **15 46 48.5 -0.2**
ARPS Mount Arapiles 39.86 233 P **P** **15 46 49.1 +0.1**
HTT Hallett 41.34 239 P **P** **15 47 01.3 +0.3**
LCRK Leigh Creek 41.43 244 P **P** **15 47 00.1 -1.6**
JAY Jayapura 42.93 286 P **P** **15 47 13.5 -0.2**
comp=Z,6.2nm,0.7s,baz=134,slow=4.6,SNR=6.7
comp=Z,6.2nm,0.7s
OOD Oodnadatta 43.38 248 P **P** **15 47 17.5 +0.5**
BBOO Buckleboo 43.59 241 P **P** **15 47 18.7 +0.1**
BBOO IAmb IAmb 15 47 19.5
comp=Z,56nm,0.9s
BBOO Buckleboo 43.59 241 P **P** **15 47 18.6 0.0**
WRA Warramunga Arr 44.76 259 P **P** **15 47 27.0 -0.8**
comp=Z,11nm,0.7s,baz=94,slow=6.9,SNR=73
WRA PcP **PcP** **15 48 58.0 -0.2**
comp=Z,2.0nm,0.7s,baz=100,slow=2.5,SNR=1.0
WRA S **S** **15 53 24.4 -1.0**
comp=Z,2.3nm,0.8s,baz=95,slow=14,SNR=6.7
comp=Z,11nm,0.7s
AS01 Alice Springs 44.89 254 P **P** **15 47 28.4 -0.4**
ASAR Alice Springs 44.94 254 P **P** **15 47 28.2 -0.9**
comp=Z,61nm,0.4s,baz=89,slow=7.9,SNR=131
ASAR PcP **PcP** **15 48 58.4 -0.4**
comp=Z,2.7nm,0.5s,baz=86,slow=8.2,SNR=3.4
ASAR ScP **ScP** **15 52 01.0 +1.6**
comp=Z,0.5nm,0.6s,baz=99,slow=4.8,SNR=1.9
ASAR S **S** **15 53 24.6 -3.2**
comp=Z,4.5nm,0.8s,baz=93,slow=16,SNR=15
comp=Z,61nm,0.4s
WRKA Warakurna 50.00 252 P **P** **15 48 06.7 -0.4**
FORT Forrest 50.18 244 P **P** **15 48 07.3 -0.9**
FORT IAmb IAmb 15 48 08.3
comp=Z,50nm,0.6s
FORT Forrest 50.18 244 P **P** **15 48 07.5 -0.8**
FITZ Fitzroy Crossi 53.15 260 P **P** **15 48 29.8 -0.1**
comp=Z,17nm,1.0s,baz=117,slow=5.3,SNR=15
comp=Z,17nm,1.0s
KMBL Kambalda 55.49 244 P **P** **15 48 45.2 -0.9**
PSA00 Pilbara Seismi 58.05 255 P **P** **15 49 03.0 -0.8**
MBWA Marble Bar 58.22 256 P **P** **15 49 04.1 -0.8**
MEEK Meekatharra 58.60 249 P **P** **15 49 06.6 -0.9**
KLBR Kellerberrin 59.01 243 P **P** **15 49 09.4 -0.7**
NWAO Narrogin (SRO) 59.40 242 P **P** **15 49 12.2 -0.4**
NWAO Narrogin (SRO) 59.40 242 P **P** **15 49 12.3 -0.4**
BLDU Ballidu 59.96 244 P **P** **15 49 15.7 -0.8**
MUN Mundaring 60.30 243 P **P** **15 49 18.7 0.0**
MORW Morawa 60.65 246 P **P** **15 49 20.4 -0.7**
VNDA Vanda 60.68 185 **P** **15 49 21.1 +0.8**
VNDA Vanda 60.68 185 P **P** **15 49 21.2 +0.9**
comp=Z,4.2nm,0.8s,baz=357,slow=7.7,SNR=18
comp=Z,4.2nm,0.8s
PLAI Plampang 62.59 269 P **P** **15 49 33.8 -0.1**
GIRL Giralia 63.04 253 P **P** **15 49 36.8 +0.1**
MJAR Matsushiro Arr 67.78 323 P **P** **15 50 05.0 -1.1**
comp=Z,1.4nm,0.8s,baz=145,slow=6.2,SNR=4.6
comp=Z,1.4nm,0.8s
UGM Wanagama 69.74 268 P **P** **15 50 17.8 -0.6**
QSPA South Pole Qui 72.37 180 P **P** **15 50 33.4 +0.4**
comp=Z,16nm,0.7s,baz=33,slow=3.4,SNR=81
comp=Z,16nm,0.7s
CMB Columbia Colle 77.61 43 P **P** **15 51 02.3 -0.3**
PNTR Pine Nut 78.71 43 IAmb IAmb 15 51 10.2
comp=Z,7.5nm,0.8s
LHV Little Huntoon 78.97 44 IAmb IAmb 15 51 11.6
comp=Z,6.3nm,0.9s
NVAR Mina Array Bea 79.20 44 P **P** **15 51 11.2 -0.1**
NVAR Mina Array Bea 79.20 44 P **P** **15 51 11.9 +0.6**
comp=Z,2.4nm,0.7s,baz=225,slow=8.5,SNR=14
comp=Z,2.4nm,0.7s
J04A Umpqua Nationa 79.55 38 P **P** **15 51 13.4 +0.4**
J04A IAmb IAmb 15 51 14.3
comp=Z,9.8nm,0.6s
J05D Fort Rock, OR 80.09 38 P **P** **15 51 16.3 +0.6**
J05D IAmb IAmb 15 51 17.2
comp=Z,7.5nm,0.6s
PINE Pine Mountain 80.56 38 P **P** **15 51 18.6 +0.3**
PINE IAmb IAmb 15 51 19.8
comp=Z,4.7nm,0.9s
TUC Tucson 81.49 52 P **P** **15 51 23.7 +0.5**
TUC IAmb IAmb 15 51 25.6
comp=Z,4.6nm,0.8s
LCMT Little Creek M 81.91 47 IAmb IAmb 15 51 26.9
comp=Z,3.8nm,0.9s
X16A Lo Mia Camp, P 81.97 50 IAmb IAmb 15 51 27.8
comp=Z,4.5nm,0.9s
KNB Kanab 82.21 47 IAmb IAmb 15 51 28.3
comp=Z,4.2nm,0.7s
U15A North Rim 82.30 48 IAmb IAmb 15 51 29.4
comp=Z,7.7nm,0.8s
BELA Belgrano 2 82.38 173 P **P** **15 51 26.5 -0.3**
BELA IAmb IAmb 15 51 28.0
comp=Z,14nm,0.8s
WUAZ Wupatki 82.53 49 IAmb IAmb 15 51 30.9
comp=Z,5.6nm,1.1s
G08A Pilot Rock 82.58 38 IAmb IAmb 15 51 29.5
comp=Z,5.9nm,1.3s
PKCU Pink Cliffs 82.77 47 IAmb IAmb 15 51 32.4
comp=Z,10.0nm,1.1s
PPLA Purkeypile 82.89 12 IAmb IAmb 15 51 32.1
comp=Z,17nm,1.4s
MTPU Mount Pierson 83.15 47 IAmb IAmb 15 51 34.1
comp=Z,4.5nm,1.0s
O30N Mendenhall 85.21 19 IAmb IAmb 15 52 19.3
comp=Z,4.1nm,0.9s
N30M Aishikik Lake 85.44 19 IAmb IAmb 15 52 21.8
comp=Z,13nm,1.4s
ILAR Eielson Array 85.65 13 P **P** **15 51 41.4 -1.5**
comp=Z,0.3nm,0.4s,baz=225,slow=5.6,SNR=12

TX31 Lajitas Ar. Si 85.80 58 IAmb IAmb 15 51 47.1
comp=Z,5.4nm,0.9s
TXAR Lajitas Array 85.80 58 P **P** **15 51 46.1 +1.5**
comp=Z,3.9nm,0.8s,baz=218,slow=6.0,SNR=26
comp=Z,3.9nm,0.8s
DLMT Dillon 86.43 40 IAmb IAmb 15 51 48.6
comp=Z,5.6nm,0.6s
YHL Hebgen Lake 87.06 41 IAmb IAmb 15 51 52.4
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 87.13 43 P **P** **15 51 50.5 -0.3**
comp=Z,1.2nm,0.6s,baz=211,slow=3.1,SNR=18
comp=Z,1.2nm,0.6s
HHC Hu-ho-hao-te 87.18 314 *e*P **P** **15 51 52.0 +1.1**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.5s
DRIO Del Rio 88.30 59 IAmb IAmb 15 51 58.0
comp=Z,9.3nm,1.0s
PZH PanZhiHua 89.13 298 P P 15 52 07.0 +6.7
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.1s
ELIB Princess Elisa 89.39 187 *d*P **P** **15 52 00.3 -0.5**
comp=Z,8.4nm,0.8s
HNDO Hondo 89.43 59 IAmb IAmb 15 52 03.7
comp=Z,8.3nm,0.8s
BRTR Keskin Array B 144.69 315 PKP **PKPdf** **15 58 36.8 -0.7**
comp=Z,0.6nm,0.6s,baz=123,slow=4.6,SNR=3.6
CLL Collm 145.26 348 *e*PKPbc **PKPab** **15 58 40.0 -0.1**
MMAI Mount Meron Ar 146.09 303 PKPbc **PKPbc** **15 58 42.2 +0.2**
comp=Z,4.7nm,0.9s,baz=68,slow=7.4,SNR=4.3
GERES GERESS Array B 147.42 345 PKPbc **PKPbc** **15 58 44.4 -0.7**
comp=Z,0.3nm,0.4s,baz=17,slow=2.8,SNR=2.1

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*NEIC **31** 15:45:03.9±1.4, 3°.32N±0°.09×124°.40E±0°.09, h352km±9km, mb4.2/39, Error ellipse: s-maj=14.9km s-min=11.5km az=222.0*
*IDC **31** 15:45:04.0±2.0, 3°.32N×124°.32E, h362km±21km, mb3.7/19, mbtmp4.4/19, Error ellipse: s-maj=30.7km s-min=9.0km az=72.0*
*DJA **31** 15:45:06.2±0.6, 3°N±4°×12°4E±°, h318km±6km, M4.2/13, mB4.7/4, mb4.2/4, MLv4.3/13, Mw(mB)3.9/4, MwMwp4.5/1, Mwp4.9/1*
ISC 31 15:45:01.6±0.4, 3°.38N±0°.05×124°.41E±0°.07, h331km, n76, σ1§48/80, mb4.1/37, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.82**	**189**	P	**Pn**	**15 46 00.5**	**+2.5**
MRSI	**Marisa**	**3.79**	**221**	P	**Pn**	**15 46 10.1**	**+2.7**
TNTI	**Ternate**	**3.94**	**131**		**Pn**	**15 46 11.5**	**+2.6**
TNTI	**Ternate**	**3.94**	**131**	P	**Pn**	**15 46 11.4**	**+2.6**
TNTI				S	**S**	**15 47 04.1**	**+1.1**
TOLI2	**Tolitoli**	**4.27**	**238**	Pn	**Pn**	**15 46 14.5**	**+2.1**
LUWI	**Luwuk**	**4.69**	**200**	Pn	**Pn**	**15 46 20.6**	**+3.6**
LUWI	**Luwuk**	**4.69**	**200**	P	**Pn**	**15 46 19.4**	**+2.4**
LUWI				S	**S**	**15 47 16.2**	**-1.5**
SANI	**Sanana**	**5.62**	**164**	P	**Pn**	**15 46 27.8**	**+0.3**
	0.6nm1μm53nm,0.8s						
MYLDM	**Lahad Datu**	**6.15**	**287**		**Pn**	**15 46 37.4**	**+3.8**
NLAI	**Namlea**	**7.11**	**158**	P	**Pn**	**15 46 47.8**	**+2.9**
	2μm1μm25nm,0.6s						
KKM	**Kota Kinabalu**	**8.58**	**288**	Pn	**Pn**	**15 47 04.2**	**+1.6**
KAPI	**Kappang**	**9.55**	**209**		**Pn**	**15 47 15.9**	**+1.6**
FAKI	**Fak Fak**	**10.03**	**129**	P	**P**	**15 47 23.5**	**+1.2**
MMRI	**Maumere**	**12.13**	**190**	P	**Pn**	**15 47 45.2**	**-0.1**
SBUM	**Sibu**	**12.21**	**266**	P	**P**	**15 47 48.1**	**+1.6**
KSM	**Kuching**	**14.21**	**263**	P	**P**	**15 48 09.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**15.60**	**221**	P	**P**	**15 48 23.7**	**-0.1**
KNRA	**Kununurra**	**19.42**	**167**	P	**P**	**15 49 05.0**	**+0.2**
KNRA				IAmb	IAmb	15 49 38.3	
	comp=Z,25nm,1.2s						
TPUB	**Ta-pu**	**20.13**	**350**	P	**P**	**15 49 13.5**	**+1.4**
MYKOM	**Kota Tinggi**	**20.59**	**266**	P	**P**	**15 49 17.2**	**+0.6**
QIZ	**Qiongzhong**	**21.08**	**319**	P	**P**	**15 49 21.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**21.38**	**177**	P	**P**	**15 49 23.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.38**	**177**	P	**P**	**15 49 23.3**	**-0.4**
	comp=Z,9.1nm,0.5s,baz=343,slow=4.2,SNR=16						
	comp=Z,9.1nm,0.5s						
UBPT	**Khong Chiam**	**22.08**	**304**	P	**P**	**15 49 30.4**	**+0.3**
WB0	**Warramunga Arr**	**25.01**	**157**	P	**P**	**15 49 55.6**	**-1.0**
WRAB	**Tennant Creek**	**25.15**	**158**	P	**P**	**15 49 56.9**	**-0.9**
WRA	**Warramunga Arr**	**25.15**	**158**	P	**P**	**15 49 56.9**	**-1.0**
	comp=Z,9.8nm,0.4s,baz=336,slow=10.0,SNR=31						
	comp=Z,9.8nm,0.4s						
WB2	**Warramunga Arr**	**25.16**	**158**	P	**P**	**15 49 56.9**	**-1.0**
PSA00	**Pilbara Seismi**	**25.20**	**190**	P	**P**	**15 49 57.2**	**-1.0**
PSA00				IAmb	IAmb	15 49 58.5	
	comp=Z,18nm,1.2s						
WR0	**Warramunga Arr**	**25.25**	**157**	P	**P**	**15 49 58.0**	**-0.7**
WR0				IAmb	IAmb	15 49 58.6	
	comp=Z,4.6nm,0.5s						
COEN	**Coen**	**25.37**	**133**	P	**P**	**15 49 59.4**	**-0.4**
COEN				IAmb	IAmb	15 50 29.2	
	comp=Z,11nm,1.1s						
GSI	**Gunungsitoli**	**26.89**	**266**	P	**P**	**15 50 12.9**	**-0.5**
GSI				IAmb	IAmb	15 50 19.2	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**28.43**	**161**	P	**P**	**15 50 26.4**	**-0.6**
ASAR	**Alice Springs**	**28.43**	**161**	P	**P**	**15 50 26.4**	**-0.5**
	comp=Z,2.4nm,0.4s,baz=340,slow=7.5,SNR=14						
ASAR				ScP	**ScP**	**15 56 34.8**	**-4.4**
	comp=Z,0.3nm,0.4s,baz=344,slow=3.3,SNR=7.9						
	comp=Z,2.4nm,0.4s						
CRAI	**Chiangrai**	**28.80**	**307**	P	**P**	**15 50 31.3**	**+1.1**
CHTO	**Chiang Mai**	**29.24**	**304**	P	**P**	**15 50 34.8**	**+0.7**
CHTO				IAmb	IAmb	15 50 47.2	
	comp=Z,14nm,1.5s						
MORW	**Morawa**	**33.25**	**193**	P	**P**	**15 51 07.9**	**-1.0**
MORW				IAmb	IAmb	15 51 12.4	
	comp=Z,28nm,1.5s						
FORT	**Forrest**	**34.15**	**174**	P	**P**	**15 51 15.8**	**-0.7**
FORT				IAmb	IAmb	15 51 16.6	
	comp=Z,18nm,0.7s						
MJAR	**Matsushiro Arr**	**35.37**	**19**	P	**P**	**15 51 27.6**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=189,slow=11,SNR=4.4						
	comp=Z,1.1nm,0.7s						
BBOO	**Buckleboo**	**37.65**	**164**	P	**P**	**15 51 45.5**	**-0.5**
BBOO				IAmb	IAmb	15 52 15.9	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**38.69**	**156**	P	**P**	**15 51 54.9**	**+0.3**
STKA	**Stephens Creek**	**38.69**	**156**	P	**P**	**15 51 54.8**	**+0.2**
	comp=Z,5.7nm,0.4s,baz=342,slow=7.5,SNR=15						
	comp=Z,5.7nm,0.4s						
CAN	**Canberra**	**44.88**	**151**	P	**P**	**15 52 45.7**	**+1.3**
CAN				IAmb	IAmb	15 52 54.8	
	comp=Z,41nm,1.5s						
TOO	**Toolangi**	**45.21**	**156**	P	**P**	**15 52 48.3**	**+1.5**
SONM	**Songino Array**	**46.92**	**343**	P	**P**	**15 53 01.9**	**+1.9**
SONM	**Songino Array**	**46.92**	**343**	P	**P**	**15 53 00.9**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=162,slow=8.4,SNR=4.3						
	comp=Z,1.9nm,0.8s						
MK31	**Makanchi Array**	**56.54**	**326**	P	**P**	**15 54 10.3**	**-0.1**
MKAR	**Makanchi Array**	**56.54**	**326**	P	**P**	**15 54 10.2**	**-0.2**
MKAR	**Makanchi

KURBB Kurchatov Arra 60.80 328 P **P 15 54 38.7 -0.7**
comp=Z,2.7nm,0.6s,baz=130,slow=6.3,SNR=31
comp=Z,2.7nm,0.6s
KK31 Karatay Array 61.91 318 P **P 15 54 46.9 -0.2**
KKAR Karatay Array 61.91 318 P **P 15 54 47.0 0.0**
BVAR Borovoye Array 66.36 328 P **P 15 55 14.1 -1.4**
comp=Z,0.7nm,0.3s,baz=143,slow=9.4,SNR=7.0
comp=Z,0.7nm,0.3s
BRVK Borovoye 66.43 328 P **P 15 55 15.7 -0.2**
BRVK IAmb IAmb 15 55 41.5
comp=Z,3.8nm,1.1s
TIXI Tiksi 68.23 2 P **P 15 55 26.4 -0.3**
TIXI IAmb IAmb 15 55 26.9
comp=Z,2.1nm,0.8s
NRIK Noril'sk 70.22 347 P **P 15 55 38.7 -0.2**
NRIK IAmb IAmb 15 55 40.9
comp=Z,3.2nm,0.6s
NRIK Noril'sk 70.22 347 P **P 15 55 38.8 -0.2**
comp=Z,2.8nm,0.6s,baz=133,slow=6.2,SNR=8.7
comp=Z,2.8nm,0.6s
ABKAR Akbulak array 70.96 321 P **P 15 55 43.3 -0.5**
ABKAR IAmb IAmb 15 55 44.1
comp=Z,1.9nm,0.8s
ARTI Arti 74.08 328 P **P 15 56 01.6 -0.2**
ARTI IAmb IAmb 15 56 02.2
comp=Z,3.5nm,0.7s
VNDA Vanda 83.39 172 P **P 15 56 51.4 -0.4**
comp=Z,2.2nm,0.8s,baz=43,slow=5.2,SNR=7.0
comp=Z,2.2nm,0.8s
KNK Knik Glacier 85.68 29 P **P 15 57 03.8 +0.4**
KNK IAmb IAmb 15 57 19.7
comp=Z,7.6nm,1.4s
BMAR Burnt Mountain 87.29 23 P **P 15 57 12.3 +1.2**
ARCES ARCESS Array B 89.97 340 P **P 15 57 22.0 -1.6**
comp=Z,9.7nm,1.1s,baz=18,slow=4.2,SNR=3.8
comp=Z,9.7nm,1.1s
SPITS Spitsbergen Ar 90.36 349 P **P 15 57 23.6 -1.7**
comp=Z,5.5nm,0.8s,baz=93,slow=11,SNR=1.0
comp=Z,5.5nm,0.8s
AKASG Malin Array Be 90.69 321 P **P 15 57 26.3 -0.9**
comp=Z,0.7nm,0.6s,baz=76,slow=4.8,SNR=2.6
comp=Z,0.7nm,0.6s
FINES FINESS Array B 91.03 332 P **P 15 57 26.4 -2.2**
comp=Z,1.2nm,0.6s,baz=42,slow=6.2,SNR=7.6
comp=Z,1.2nm,0.6s
HFS Hagfors 97.23 332 P **P 15 57 54.7 -2.3**
comp=Z,2.6nm,0.9s,baz=189,slow=18,SNR=2.0
comp=Z,2.6nm,0.9s

IDC 31 15:55:58.7±999.0, 28°.42N×102°.34E, h0km, Error ellipse: s-maj=814.7km s-min=231.0km az=81.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	USSURIYSK INFR	28.41	48	I	I	18 49 20.0	
baz=238,slow=308,SNR=1.7							
I39PW	PALAU INFRASON	36.81	118	I	I	19 41 40.0	
baz=310,slow=309,SNR=1.3							
I53US	FAIRBANKS INFR	72.50	25	I	I	23 26 50.0	
baz=309,slow=324,SNR=3.2							

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*IDC **31** 16:22:55.6±1.1, 5°.56S×146°.62E, h0km, mb3.7/7, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=40.4km s-min=22.2km az=100.0*
*NEIC **31** 16:23:06.9±1.0, 5°.7S±0°.1×146°.5E±0°.2, h73km±9km, mb4.0/21, Error ellipse: s-maj=31.7km s-min=12.6km az=107.0*

ISC 31 16:23:08.2±0.7, 5°.81S±0°.06×146°.5E±0°.1, h100km, n35, σ1§49/37, mb3.9/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.63**	**170**	Pn	**Pn**	**16 24 00.9**	**-1.5**
5.7nm,0.3s,baz=30,slow=7.9,SNR=30							
PMG				Sn	**Sn**	**16 24 40.9**	**-3.5**
7.8nm,0.3s,baz=1.5,slow=12,SNR=4.3							
PMG				Lg	Lg	16 25 00.6	
8.1nm,0.3s,baz=12,slow=18,SNR=3.7							
MANU	**Manus Island**	**3.85**	**13**	Pn	**Pn**	**16 24 02.6**	**-2.8**
COEN	**Coen**	**8.73**	**202**		**Pn**	**16 25 11.3**	**-0.3**
MTN	**Manton Dam**	**16.68**	**244**		**P**	**16 26 55.9**	**-0.8**
MTN				IAmb	IAmb	16 27 01.9	
comp=Z,31nm,1.4s							
WB0	**Warramunga Arr**	**18.19**	**219**	P	**Pn**	**16 27 13.8**	**-0.6**
WB0				IAmb	IAmb	16 27 50.9	
comp=Z,9.1nm,1.4s							
WR0	**Warramunga Arr**	**18.24**	**218**	P	**Pn**	**16 27 13.9**	**-1.0**
WB2	**Warramunga Arr**	**18.35**	**219**	P	**Pn**	**16 27 15.1**	**-1.1**
WB2				IAmb	IAmb	16 27 23.3	
comp=Z,8.8nm,1.4s							
WRA	**Warramunga Arr**	**18.35**	**219**	P	**Pn**	**16 27 15.0**	**-1.4**
WRA	**Warramunga Arr**	**18.35**	**219**	P	**Pn**	**16 27 14.9**	**-1.4**
comp=Z,0.3nm,0.3s,baz=35,slow=11,SNR=16							
comp=Z,0.5nm,0.4s							
KNRA	**Kununurra**	**19.97**	**239**	P	**P**	**16 27 32.1**	**-0.5**
KNRA				IAmb	IAmb	16 27 40.5	
comp=Z,5.0nm,1.0s							
AS31	**Alice Springs**	**21.49**	**213**	P	**P**	**16 27 49.1**	**0.0**
ASAR	**Alice Springs**	**21.49**	**213**	P	**P**	**16 27 49.4**	**+0.3**
ASAR	**Alice Springs**	**21.49**	**213**	P	**P**	**16 27 49.2**	**+0.2**
comp=Z,0.5nm,0.6s,baz=45,slow=8.1,SNR=17							
ASAR				PcP	**PcP**	**16 31 50.1**	**+1.8**
comp=Z,0.2nm,0.5s,baz=70,slow=1.4,SNR=1.8							
comp=Z,0.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**23.74**	**237**	P	**P**	**16 28 11.2**	**-0.3**
MMRI	**Maumere**	**24.22**	**262**	P	**P**	**16 28 16.2**	**+0.4**
MMRI				IAmb	IAmb	16 28 47.5	
comp=Z,18nm,1.0s							
BBOO	**Buckleboo**	**28.57**	**199**	P	**P**	**16 28 57.0**	**+2.2**
FORT	**Forrest**	**30.28**	**213**	P	**P**	**16 29 12.0**	**+2.0**
USA0B	**Ussuriysk Arra**	**51.47**	**347**	P	**P**	**16 32 03.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**51.47**	**347**	P	**P**	**16 32 03.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**51.47**	**347**	P	**P**	**16 32 01.5**	**-1.9**
comp=Z,0.7nm,0.5s,baz=170,slow=7.1,SNR=5.4							
comp=Z,0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**52.72**	**298**	P	**P**	**16 32 12.0**	**-1.0**
comp=Z,0.5nm,0.3s,baz=130,slow=6.9,SNR=6.2							
comp=Z,0.5nm,0.3s							
SONM	**Songino Array**	**64.00**	**331**	P	**P**	**16 33 31.3**	**+0.1**
comp=Z,0.4nm,0.8s,baz=148,slow=8.5,SNR=2.3							
comp=Z,0.4nm,0.8s							
MKAR	**Makanchi Array**	**77.03**	**321**	P	**P**	**16 34 49.0**	**-1.3**
comp=Z,0.4nm,0.8s,baz=102,slow=6.1,SNR=3.1							
comp=Z,0.4nm,0.8s							
K15K	**Wolf Creek Mou**	**78.61**	**22**	P	**P**	**16 35 00.2**	**+1.5**
BOOM	**Boomskoye usch**	**79.79**	**315**	P	**P**	**16 35 06.9**	**+1.1**
E18K	**Tukpahlearik C**	**82.02**	**18**	P	**P**	**16 35 18.3**	**+1.4**
E18K				IAmb	IAmb	16 35 53.4	
comp=Z,2.2nm,1.3s							
C18K	**Utukok River**	**82.58**	**17**	P	**P**	**16 35 21.3**	**+1.4**
C18K				IAmb	IAmb	16 35 44.1	
comp=Z,2.3nm,1.2s							
E19K	**Redstone River**	**83.10**	**19**	P	**P**	**16 35 23.9**	**+1.3**
E19K				IAmb	IAmb	16 35 24.7	
comp=Z,1.9nm,0.7s							
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**16 35 29.7**	**+1.6**
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**16 35 29.5**	**+1.4**
comp=Z,1.6nm,1.1s,baz=74,slow=9.6,SNR=2.0							
comp=Z,1.6nm,1.1s							
G23K	**Bananza Creek**	**85.17**	**21**	P	**P**	**16 35 34.3**	**+1.2**
G23K				IAmb	IAmb	16 35 35.1	
comp=Z,1.2nm,0.8s							
ILAR	**Eielson Array**	**85.51**	**23**	P	**P**	**16 35 33.3**	**-1.5**
comp=Z,0.7nm,0.6s,baz=251,slow=5.1,SNR=16							
comp=Z,0.7nm,0.6s							
D23K	**Nanushuk River**	**85.97**	**19**	P	**P**	**16 35 38.8**	**+1.8**
D23K				IAmb	IAmb	16 36 00.1	
comp=Z,3.0nm,1.2s							
F24K	**Squaw Lake**	**86.27**	**21**	P	**P**	**16 35 40.3**	**+1.8**
F24K				IAmb	IAmb	16 36 04.6	
comp=Z,2.2nm,1.4s							
PLCA	**Paso Flores**	**122.55**	**147**	PKP	**PKiKP**	**16 41 54.4**	**+1.6**
comp=Z,0.4nm,0.6s,baz=229,slow=6.5,SNR=3.8							

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*IDC **31** 16:37:24.5±0.7, 1°.58N×126°.24E, h0km, mb3.9/10, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=51.7km s-min=15.0km az=74.0*
*DJA **31** 16:37:30.5±0.2, 2°.N±2°.×12°.6E±°, h10km, M4.0/12, mb4.2/3, MLv3.9/12*
*NEIC **31** 16:37:31.5±0.9, 1°.7N±0°.1×126°.46E±0°.08, h51km±8km, mb4.1/16, Error ellipse: s-maj=16.0km s-min=10.0km az=209.0*

ISC 31 16:37:31.4±0.5, 1°.68N±0°.05×126°.50E±0°.06, h47km, n41, σ1§43/44, mb4.0/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**136**		**Pn**	**16 37 53.1**	**+0.6**
TNTI	**Ternate**	**1.25**	**136**	P	**Pn**	**16 37 53.3**	**+0.8**
TNTI				S	**Sn**	**16 38 12.9**	**+4.7**
SGSI	**Sangihe**	**2.22**	**334**	P	**Pn**	**16 38 07.1**	**+1.3**
SGSI				S	**Sn**	**16 38 35.0**	**+3.0**
KMSI	**Cibinong**	**2.75**	**247**	P	**Pn**	**16 38 13.9**	**+0.9**
SANI	**Sanana**	**3.74**	**188**	P	**Pn**	**16 38 26.7**	**+0.1**
LUWI	**Luwuk**	**4.60**	**234**	Pn	**Pn**	**16 38 40.6**	**+2.1**
LUWI	**Luwuk**	**4.60**	**234**	P	**Pn**	**16 38 40.8**	**+2.3**
MRSI	**Marisa**	**4.71**	**255**	P	**Pn**	**16 38 41.7**	**+1.7**
APSI	**Ampana**	**5.49**	**242**	P	**Pn**	**16 38 52.6**	**+1.9**
TOLI2	**Tolitoli**	**5.75**	**264**	Pn	**Pn**	**16 38 53.5**	**-0.7**
MTN	**Manton Dam**	**15.14**	**162**	Pn	**Pn**	**16 41 01.8**	**-0.6**
MTN				IAmb	IAmb	16 41 24.9	
comp=Z,27nm,1.5s							
KNRA	**Kununurra**	**17.39**	**173**	P	**Pn**	**16 41 30.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.67**	**182**	P	**P**	**16 41 55.1**	**-1.6**
comp=Z,0.2nm,0.3s,baz=14,slow=9.8,SNR=5.6							
comp=Z,2.2nm,1.1s							
TPUB	**Ta-pu**	**22.24**	**346**	P	**P**	**16 42 22.6**	**-1.8**
WB0	**Warramunga Arr**	**22.68**	**160**	P	**P**	**16 42 27.2**	**-1.9**
WB0				IAmb	IAmb	16 42 33.4	
comp=Z,10nm,1.2s							
WRAB	**Tennant Creek**	**22.82**	**161**	P	**P**	**16 42 29.7**	**-0.9**
WRAB				IAmb	IAmb	16 42 34.5	
comp=Z,6.9nm,1.0s							
WRA	**Warramunga Arr**	**22.82**	**161**	P	**P**	**16 42 28.9**	**-1.6**
WRA	**Warramunga Arr**	**22.82**	**161**	P	**P**	**16 42 29.1**	**-1.4**
comp=Z,2.5nm,0.5s,baz=339,slow=11,SNR=32							
comp=Z,2.5nm,0.5s							
WB2	**Warramunga Arr**	**22.82**	**161**	P	**P**	**16 42 29.5**	**-1.1**
WB2				IAmb	IAmb	16 42 49.4	
comp=Z,13nm,1.3s							
WR0	**Warramunga Arr**	**22.90**	**160**	P	**P**	**16 42 30.7**	**-0.8**
WR0				IAmb	IAmb	16 42 37.1	
comp=Z,5.9nm,1.2s							
AS31	**Alice Springs**	**26.20**	**164**	P	**P**	**16 43 02.0**	**0.0**
ASAR	**Alice Springs**	**26.20**	**164**	P	**P**	**16 43 02.0**	**0.0**
ASAR	**Alice Springs**	**26.20**	**164**	P	**P**	**16 43 00.7**	**-1.2**
comp=Z,0.5nm,0.4s,baz=344,slow=8.4,SNR=45							
ASAR				PcP	**PcP**	**16 46 27.6**	**-0.6**
comp=Z,0.4nm,0.8s,baz=346,slow=2.2,SNR=5.6							
comp=Z,0.5nm,0.4s							
STKA	**Stephens Creek**	**36.31**	**158**	P	**P**	**16 44 29.8**	**-0.9**
SONM	**Songino Array**	**49.16**	**342**	P	**P**	**16 46 15.9**	**+1.0**
comp=Z,0.4nm,0.5s,baz=157,slow=9.1,SNR=3.8							
comp=Z,0.4nm,0.5s							
PETK	**Petropavlovsk-**	**57.41**	**22**	P	**P**	**16 47 16.2**	**+1.0**
PETK	**Petropavlovsk-**	**57.41**	**22**	P	**P**	**16 47 16.3**	**+1.2**
comp=Z,0.4nm,0.5s,baz=188,slow=3.5,SNR=6.4							
comp=Z,0.4nm,0.5s							
MK31	**Makanchi Array**	**59.11**	**326**	P	**P**	**16 47 25.8**	**-1.4**
MK31				IAmb	IAmb	16 47 28.4	
comp=Z,1.5nm,1.1s							
MKAR	**Makanchi Array**	**59.11**	**326**	P	**P**	**16 47 26.0**	**-1.2**
MKAR	**Makanchi Array**	**59.11**	**326**	P	**P**	**16 47 26.3**	**-0.9**
comp=Z,0.8nm,0.4s,baz=122,slow=8.1,SNR=24							
comp=Z,0.8nm,0.4s							
MAKZ	**Makanchi**	**59.29**	**326**	P	**P**	**16 47 27.3**	**-1.1**
MAKZ				IAmb	IAmb	16 47 30.2	
comp=Z,0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**63.34**	**328**	P	**P**	**16 47 54.5**	**-1.2**
comp=Z,1.0nm,0.5s,baz=127,slow=6.3,SNR=22							
comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**63.34**	**328**	P	**P**	**16 47 54.7**	**-1.0**
BVAR	**Borovoye Array**	**68.91**	**327**	P	**P**	**16 48 31.1**	**-0.3**
comp=Z,0.5nm,0.5s,baz=90,slow=5.9,SNR=4.2							
comp=Z,0.5nm,0.5s							
BRVK	**Borovoye**	**68.98**	**327**	P	**P**	**16 48 31.2**	**-0.6**
BRVK				IAmb	IAmb	16 48 51.9	
comp=Z,2.3nm,1.2s							
TIXI	**Tiksi**	**69.89**	**1**	P	**P**	**16 48 37.0**	**0.0**
comp=Z,1.5nm,0.3s,baz=184,slow=2.1,SNR=2.4							
comp=Z,1.5nm,0.3s							
NRIK	**Noril'sk**	**72.36**	**346**	P	**P**	**16 48 51.8**	**-0.3**
comp=Z,1.0nm,0.5s,baz=120,slow=5.4,SNR=4.1							
comp=Z,1.0nm,0.5s							
ABKAR	**Akbulak array**	**73.59**	**321**	P	**P**	**16 48 58.7**	**-1.1**
VNDA	**Vanda**	**81.43**	**173**	P	**P**	**16 49 43.1**	**+0.1**
VNDA	**Vanda**	**81.43**	**173**	P	**P**	**16 49 43.1**	**+0.1**
comp=Z,0.5nm,0.4s,baz=315,slow=2.9,SNR=2.5							
comp=Z,0.5nm,0.4s							
SKT	**Skwentna**	**84.75**	**28**	P	**P**	**16 50 00.8**	**+0.3**

IDC 31 16:43:47.2±1.8, 15°.92N×123°.21E, h0km, mb3.1/4, mbtmp3.1/4, Error ellipse: s-maj=183.2km s-min=23.1km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**34.72**	**340**	P	P	16 50 38.8	-0.2
0.2nm,0.3s,baz=158,slow=4.2,SNR=3.0							
0.2nm,0.3s							
WRA	**Warramunga Arr**	**37.28**	**163**	P	P	16 51 00.3	-0.8
0.1nm,0.3s,baz=342,slow=9.2,SNR=8.6							
0.1nm,0.3s							
ASAR	**Alice Springs**	**40.71**	**165**	P	P	16 51 30.6	+0.8
0.1nm,0.6s,baz=341,slow=8.9,SNR=4.2							
0.1nm,0.6s							
MKAR	**Makanchi Array**	**45.77**	**321**	P	P	16 52 10.6	0.0
0.2nm,0.6s,baz=132,slow=6.0,SNR=2.5							
0.2nm,0.6s							

IDC 31 16:59:42.4±2.3, 6°.73S×129°.01E, h0km, mb3.3/1, mbtmp3.1/3, ML3.1/2, MS3.7/1, Error ellipse: s-maj=127.4km s-min=33.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**12.39**	**71**	LR	LR	17 09 36.5	
comp=Z,308nm,19.0s,baz=170,slow=48							
WRA	**Warramunga Arr**	**14.11**	**159**	Pn	Pn	17 03 04.0	+0.3
0.1nm,0.3s,baz=338,slow=12,SNR=8.1							
0.1nm,0.3s							
ASAR	**Alice Springs**	**17.48**	**165**	P	Pn	17 03 47.5	-0.3
0.1nm,0.3s,baz=348,slow=11,SNR=11							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	17 10 40.2	+0.1
0.1nm,0.4s,baz=111,slow=7.6,SNR=2.5							
0.1nm,0.4s							

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*IDC **31** 17:10:13.8±1.4, 19°.30N×66°.40W, h0km, mb3.6/5, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=46.0km s-min=11.1km az=72.0*
*NEIC **31** 17:10:17.2±1.8, 19°.12N±0°.05×66°.74W±0°.04, h20km±12km, mb3.9/2, ML3.6/32, Md3.1/16(RSPR), Error ellipse: s-maj=7.4km s-min=4.7km az=190.0*
*SDD **31** 17:10:18.6±2.6, 19°.16N×66°.69W, h34km±107km, MD3.6, ML3.3, MW3.4*
*RSPR **31** 17:10:18.9, 19°.14N×66°.78W, h47km±8km, MD3.1/16*

ISC 31 17:10:14.9±1.3, 19°.18N±0°.04×66°.68W±0°.03, h10km±9km, n89, σ1§12/100, mb3.7/4, 11C-23D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.71**	**168**		**Pn**	**17 10 31.6**	**+0.5**
EMPR					**Sn**	**17 10 41.2**	**-0.9**
EMPR	**Esperanza - Ma**	**0.71**	**168**	IAML		17 10 42.3	
comp=E,3μm,0.5s							
EMPR				IAML		17 10 46.0	
comp=N,4μm,0.5s							
EMPR	**Esperanza - Ma**	**0.71**	**168⇑**	*e*P	**Pn**	**17 10 31.6**	**+0.5**
EMPR	**Esperanza - Ma**	**0.71**	**168**	*e*S	**Sn**	**17 10 41.2**	**-0.9**
AGPR	**Aguadilla, PR**	**0.81**	**210**		**Pg**	**17 10 31.3**	**+0.6**
AGPR					**Sg**	**17 10 40.9**	**-0.3**
AGPR	**Aguadilla, PR**	**0.81**	**210**	IAML		17 10 42.0	
comp=E,2μm,0.3s							
AGPR				IAML		17 10 48.6	
comp=N,2μm,0.2s							
AGPR	**Aguadilla, PR**	**0.81**	**210⇓**	*e*Pg	**Pg**	**17 10 31.2**	**+0.6**
AGPR			**⇑**	*e*Sg	**Sg**	**17 10 40.9**	**-0.3**
AGPR				IAML		17 10 48.5	
comp=N,2μm,0.2s							
AGPR	**Aguadilla, PR**	**0.81**	**210⇑**	*e*P	**Pg**	**17 10 31.3**	**+0.6**
AGPR	**Aguadilla, PR**	**0.81**	**210**	*e*S	**Sg**	**17 10 40.9**	**-0.3**
AOPR	**Arecibo Observ**	**0.83**	**185**		**Pn**	**17 10 32.3**	**-0.5**
AOPR					**Sn**	**17 10 40.9**	**+0.7**
AOPR				IAML		17 10 48.6	
comp=N,4μm,0.3s							
AOPR	**Arecibo Observ**	**0.83**	**185⇓**	*e*Pg	**Pn**	**17 10 32.3**	**-0.5**
AOPR			**⇓**	*e*Sg	**Sb**	**17 10 43.4**	**+0.7**
AOPR				IAML		17 10 48.5	
comp=N,4μm,0.3s							
AOPR	**Arecibo Observ**	**0.83**	**185**	*e*P	**Pn**	**17 10 32.2**	**-0.5**
AOPR				*e*S	**Sb**	**17 10 43.5**	**+0.8**
AOPR	**Arecibo Observ**	**0.83**	**185⇓**	*e*P	**Pn**	**17 10 32.3**	**-0.5**
AOPR	**Arecibo Observ**	**0.83**	**185**	*e*S	**Sn**	**17 10 45.6**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.92**	**182**		**Pn**	**17 10 33.5**	**-0.5**
GCPR	**Guaynabo City**	**1.03**	**147**		**Pn**	**17 10 36.5**	**+1.0**
GCPR					**Sn**	**17 10 49.9**	**-0.2**
GCPR	**Guaynabo City**	**1.03**	**147**	IAML		17 10 50.2	
comp=N,899nm,0.4s							
GCPR	**Guaynabo City**	**1.03**	**147⇑**	*e*P	**Pn**	**17 10 36.5**	**+1.0**
GCPR	**Guaynabo City**	**1.03**	**147**	*e*S	**Sn**	**17 10 49.9**	**-0.2**
PRSN	**Puerto Rico Se**	**1.05**	**205**		**Pb**	**17 10 34.8**	**-0.5**
PRSN					**Sb**	**17 10 49.3**	**+0.2**
PRSN	**Puerto Rico Se**	**1.05**	**205⇓**	*e*Pg	**Pb**	**17 10 34.8**	**-0.5**
PRSN	**Puerto Rico Se**	**1.05**	**205⇓**	*e*P	**Pb**	**17 10 34.8**	**-0.5**
PRSN	**Puerto Rico Se**	**1.05**	**205**	*e*S	**Sb**	**17 10 49.3**	**+0.2**
IDE	**Isla Desecheo**	**1.09**	**224**		**Pb**	**17 10 35.3**	**-0.6**
IDE					**Sb**	**17 10 49.5**	**-0.6**
IDE	**Isla Desecheo**	**1.09**	**224⇑**	*e*P	**Pb**	**17 10 35.3**	**-0.6**
IDE	**Isla Desecheo**	**1.09**	**224**	*e*S	**Sb**	**17 10 49.5**	**-0.6**
CELP	**Cerrillos**	**1.10**	**175**		**Pg**	**17 10 36.7**	**+0.6**
CELP					**Sb**	**17 10 49.7**	**-0.8**
CELP	**Cerrillos**	**1.10**	**175⇓**	*e*Pg	**Pg**	**17 10 36.5**	**+0.5**
CELP			**⇓**	*e*Sg	**Sb**	**17 10 49.2**	**-1.4**
CELP				IAML		17 10 56.0	
comp=N,790nm,0.2s							
CELP	**Cerrillos**	**1.10**	**175⇓**	*e*P	**Pg**	**17 10 36.7**	**+0.6**
CELP	**Cerrillos**	**1.10**	**175**	*e*S	**Sb**	**17 10 49.7**	**-0.8**
OBIP	**Obispado Ponce**	**1.13**	**176**		**Pb**	**17 10 36.3**	**-0.3**
OBIP					**Sb**	**17 10 51.2**	**-0.2**
OBIP	**Obispado Ponce**	**1.13**	**176**	IAML		17 10 54.1	
comp=N,867nm,0.7s							
OBIP	**Obispado Ponce**	**1.13**	**176⇓**	*e*P	**Pb**	**17 10 36.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.13**	**176**	*e*S	**Sb**	**17 10 51.2**	**-0.2**
SJG	**San Juan**	**1.17**	**154**		**Pg**	**17 10 38.9**	**+1.4**
SJG	**San Juan**	**1.17**	**154**	IAML		17 10 58.0	
comp=N,771nm,0.4s							
SJG				IAML		17 11 00.0	
comp=N,846nm,0.5s							
SJG	**San Juan**	**1.17**	**154**	Pg	**Pg**	**17 10 37.7**	**+0.2**
comp=N,44nm,0.3s,baz=345,slow=20,SNR=70							
SJG				Lg	Lg	17 10 51.8	
comp=N,154nm,0.3s,baz=260,slow=22,SNR=15							
SJG	**San Juan**	**1.17**	**154⇓**	*e*Pg	**Pg**	**17 10 38.0**	**+0.5**
SJG			**⇓**	*e*Sg	**Sb**	**17 10 49.8**	**-2.8**
SJG	**San Juan**	**1.17**	**154**	*e*P	**Pg**	**17 10 37.9**	**+0.4**
SJG				*e*S	**Sb**	**17 10 52.1**	**-0.5**
SJG	**San Juan**	**1.17**	**154⇓**	*e*Pg	**Pg**	**17 10 38.9**	**+1.4**
SJG	**San Juan**	**1.17**	**154**	*e*S	**Sn**	**17 10 53.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.21**	**189**		**Pb**	**17 10 38.1**	**+0.1**
GBPR					**Sb**	**17 10 52.8**	**-0.8**
GBPR	**Guanica, Bosqu**	**1.21**	**189⇑**	*e*P	**Pb**	**17 10 38.1**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.21**	**189**	*e*S	**Sb**	**17 10 52.8**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.23**	**199**		**Pn**	**17 10 37.8**	**-0.5**
CRPR					**Sb**	**17 10 52.4**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.23**	**199⇓**	*e*Pg	**Pn**	**17 10 37.8**	**-0.5**
CRPR			**⇓**	*e*Sg	**Sb**	**17 10 52.5**	**-1.9**
CRPR				IAML		17 10 58.4	
comp=N,495nm,0.3s							
CRPR	**Cabo Rojo, PR**	**1.23**	**199⇓**	*e*P	**Pn**	**17 10 37.8**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.23**	**199**	*e*S	**Sb**	**17 10 52.4**	**-1.9**
MLPR	**Magueyes Islan**	**1.25**	**196⇓**	*e*P	**Pn**	**17 10 38.0**	**-0.5**
MLPR	**Magueyes Islan**	**1.25**	**196**	*e*S	**Sb**	**17 10 53.0**	**-1.8**
HUMP	**Col San Antoni**	**1.30**	**142**		**Pg**	**17 10 40.1**	**+0.3**
HUMP					**Sg**	**17 10 56.6**	**-0.1**
HUMP	**Col San Antoni**	**1.30**	**142**	IAML		17 11 02.1	
comp=E,693nm,0.3s							
HUMP				IAML		17 11 02.8	
comp=N,669nm,0.2s							
HUMP	**Col San Antoni**	**1.30**	**142⇓**	*e*P	**Pg**	**17 10 40.1**	**+0.3**
HUMP	**Col San Antoni**	**1.30**	**142**	*e*S	**Sg**	**17 10 56.6**	**-0.1**
PDPR	**Patillas Dam,**	**1.31**	**151**		**Pg**	**17 10 40.1**	**0.0**
PDPR				IAML		17 11 01.1	
comp=N,611nm,0.3s							
PDPR	**Patillas Dam,**	**1.31**	**151⇓**	*e*P	**Pg**	**17 10 40.1**	**0.0**
PDPR	**Patillas Dam,**	**1.31**	**151**	*e*S	**Sg**	**17 10 57.4**	**+0.2**
IGPR	**InterUniversit**	**1.32**	**156**		**Pg**	**17 10 40.3**	**-0.1**
IGPR					**Sn**	**17 10 56.8**	**-0.4**
IGPR	**InterUniversit**	**1.32**	**156**	IAML		17 10 58.7	
comp=E,2μm,0.3s							
IGPR				IAML		17 11 05.2	
comp=N,2μm,0.3s							
IGPR	**InterUniversit**	**1.32**	**156⇓**	*e*P	**Pg**	**17 10 40.3**	**-0.1**
IGPR	**InterUniversit**	**1.32**	**156**	*e*S	**Sn**	**17 10 56.8**	**-0.4**
PCDR	**Punta Cana, DR**	**1.74**	**248**		**Pn**	**17 10 46.1**	**+0.9**
PCDR					**Sb**	**17 11 09.2**	**+0.3**

AAK				⇑S		Sn	17 24 30.4	+1.9
	5.7nm,0.5s							
CHMS	Chumysh	6.79	24	P		Pn	17 23 23.5	+1.0
	SNR=11							
USP	Ospenovka	6.95	22	P		Pn	17 23 25.7	+1.0
	SNR=5.8							
TKM2	Tokmak 2	7.02	29	P		Pn	17 23 27.2	+1.4
	SNR=6.8							
TKM2	Tokmak 2	7.02	29	⇓P		Pn	17 23 26.7	+0.9
	2.5nm,0.5s							
TKM2				⇑S		Sn	17 24 40.2	-4.0
	1.2nm,0.5s							
AB31	Akbulak array	14.79	330	⇓P		Pn	17 25 08.0	-1.4
	0.5nm,0.4s,baz=157,slow=12,SNR=20							

*SDD **31** 17:24:52.4±0.9, 19°.08N×67°.30W, h22km±38km, MD2.9, ML2.2, MW2.6*
*RSPR **31** 17:24:53.5, 18°.97N×67°.38W, h6km±1km, MD3.0/12*
*NEIC **31** 17:24:53.4±1.3, 18°.93N±0°.06×67°.38W±0°.03, h20km±3km, ML2.1/24, Md3.0/12(RSPR), Error ellipse: s-maj=8.4km s-min=3.8km az=184.0*

ISC 31 17:24:50.8±1.4, **19°.06N**±0°.06×**67°.34W**±0°.03, **h19**km±3km, **n61**, σ0°**62**/67, **13C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.63	160		Pn	17 25 04.0	-0.6
AGPR					Sg	17 25 12.7	+0.9
AGPR	Aguadilla, PR	0.63	160	IAML		17 25 14.1	
	comp=E,153nm,0.3s						
AGPR				IAML		17 25 15.1	
	comp=N,118nm,0.3s						
AGPR	Aguadilla, PR	0.63	160	⇑ePg	Pn	17 25 04.0	-0.6
AGPR				⇓eSg	Sg	17 25 11.9	+0.2
AGPR				IAML		17 25 15.0	
	comp=N,123nm,0.2s						
AGPR	Aguadilla, PR	0.63	160	⇓eP	Pn	17 25 04.0	-0.6
AGPR	Aguadilla, PR	0.63	160	eS	Sg	17 25 12.7	+0.9
IDE	Isla Desecheo	0.68	191		Pg	17 25 04.5	+0.1
IDE					Sg	17 25 13.3	-0.2
IDE	Isla Desecheo	0.68	191	⇑eP	Pg	17 25 04.5	+0.1
IDE	Isla Desecheo	0.68	191	eS	Sg	17 25 13.3	-0.2
PRSN	Puerto Rico Se	0.86	168	Pg	Pg	17 25 07.2	-0.4
PRSN	Puerto Rico Se	0.86	168	ePg	Pn	17 25 08.1	+0.3
PRSN				⇑eSg	Sn	17 25 19.3	-0.5
PRSN				IAML		17 25 27.9	
	comp=N,192nm,0.2s						
AOPR	Arecibo Observ	0.90	142		Pn	17 25 08.4	0.0
AOPR					Sg	17 25 20.0	-0.3
AOPR	Arecibo Observ	0.90	142	IAML		17 25 30.9	
	comp=N,61nm,0.2s						
AOPR	Arecibo Observ	0.90	142	⇑ePg	Pn	17 25 08.4	0.0
AOPR				eSg	Sn	17 25 20.5	-0.4
AOPR				IAML		17 25 30.8	
	comp=N,58nm,0.2s						
AOPR	Arecibo Observ	0.90	142	⇓iP	Pn	17 25 08.4	0.0
AOPR	Arecibo Observ	0.90	142	eS	Sg	17 25 20.0	-0.3
LSP	Las Mesas	0.91	165		Pn	17 25 08.8	+0.2
LSP					Sn	17 25 21.1	-0.1
LSP	Las Mesas	0.91	165	⇑eP	Pn	17 25 08.8	+0.2
LSP	Las Mesas	0.91	165	eS	Sn	17 25 21.1	-0.1
EMPR	Esperanza - Ma	0.96	127		Sn	17 25 25.0	+2.7
EMPR	Esperanza - Ma	0.96	127	eS	Sn	17 25 25.0	+2.7
UUPR	Utuado, UPR, P	0.99	144		Pg	17 25 10.5	+0.3
UUPR					Sg	17 25 22.5	-0.8
UUPR	Utuado, UPR, P	0.99	144	⇓eP	Pg	17 25 10.5	+0.3
UUPR	Utuado, UPR, P	0.99	144	eS	Sg	17 25 22.5	-0.8
CRPR	Cabo Rojo, PR	1.07	168		Sb	17 25 24.3	0.0
CRPR	Cabo Rojo, PR	1.07	168		Pn	17 25 11.0	+0.3
CRPR	Cabo Rojo, PR	1.07	168	IAML		17 25 20.6	
	comp=N,26nm,3.8s						
CRPR	Cabo Rojo, PR	1.07	168	⇑eP	Pn	17 25 11.0	+0.3
CRPR	Cabo Rojo, PR	1.07	168	eS	Sb	17 25 24.3	0.0
MLPR	Magueyes Islan	1.12	166	⇑eP	Pb	17 25 11.7	+0.2
MLPR	Magueyes Islan	1.12	166	eS	Sb	17 25 25.4	-0.4
PCDR	Punta Cana, DR	1.13	241		Pb	17 25 12.0	+0.3
PCDR					Sb	17 25 25.2	-0.7
PCDR	Punta Cana, DR	1.13	241	IAML		17 25 32.4	
	comp=E,65nm,3.2s						
PCDR	Punta Cana, DR	1.13	241	⇑eP	Pb	17 25 12.0	+0.3
PCDR	Punta Cana, DR	1.13	241	eS	Sb	17 25 25.2	-0.7
GBPR	Guanica, Bosqu	1.16	158		Pb	17 25 12.6	+0.3
GBPR					Sn	17 25 27.7	+0.4
GBPR	Guanica, Bosqu	1.16	158	⇑eP	Pb	17 25 12.6	+0.3
GBPR	Guanica, Bosqu	1.16	158	eS	Sn	17 25 27.7	+0.4
ECPR	Experimental S	1.18	128	⇑eP	Pg	17 25 13.5	-0.3
ECPR	Experimental S	1.18	128	eS	Sg	17 25 29.1	-0.2
CELP	Cerrillos	1.22	144		Sn	17 25 28.8	+0.1
CELP	Cerrillos	1.22	144		Pb	17 25 13.3	+0.1
CELP				IAML		17 25 29.1	
	comp=N,32nm,0.3s						
CELP	Cerrillos	1.22	144	IAML		17 25 28.8	
	comp=E,26nm,2.2s						
CELP	Cerrillos	1.22	144	⇑ePg	Pb	17 25 13.2	+0.1
CELP				⇓eSg	Sn	17 25 28.9	+0.2
CELP	Cerrillos	1.22	144	⇓eP	Pb	17 25 13.3	+0.1
CELP	Cerrillos	1.22	144	eS	Sn	17 25 28.8	+0.1
OBIP	Obispado Ponce	1.23	145		Pn	17 25 12.9	0.0
OBIP	Obispado Ponce	1.23	145		Sb	17 25 28.0	-0.8
OBIP	Obispado Ponce	1.23	145	IAML		17 25 21.6	
	comp=E,20nm,3.6s						
OBIP	Obispado Ponce	1.23	145	⇑eP	Pn	17 25 12.9	0.0
OBIP	Obispado Ponce	1.23	145	eS	Sb	17 25 28.0	-0.8
GCPR	Guaynabo City	1.40	122	Pn	Pg	17 25 17.5	-0.4
SJG	San Juan	1.47	130	Pn	Pb	17 25 17.5	0.0
SJG				IAML		17 25 36.6	
	comp=E,29nm,0.4s						
SJG				IAML		17 25 42.5	
	comp=E,19nm,0.2s						
MIDR	Miches	1.62	268	ePg	Pb	17 25 20.7	+0.6
MIDR				eSg	Sg	17 25 42.5	-0.7
MIDR				IAML		17 25 43.7	
	comp=N,18nm,1.0s						
PDPR	Patillas Dam,	1.62	129	Pn	Pb	17 25 19.9	-0.2
PDPR				IAML		17 25 45.0	
	comp=N,22nm,0.5s						
PDPR				IAML		17 25 47.8	
	comp=E,19nm,0.2s						
PDPR	Patillas Dam,	1.62	129	⇑eP	Pb	17 25 19.8	-0.3
PDPR	Patillas Dam,	1.62	129	eS	Sb	17 25 39.6	-0.6
HUMP	Col San Antoni	1.68	123		Pg	17 25 22.9	-0.3
HUMP					Sb	17 25 41.7	-0.1
HUMP	Col San Antoni	1.68	123	IAML		17 25 47.6	
	comp=E,23nm,0.3s						
HUMP				IAML		17 25 48.4	
	comp=N,21nm,0.3s						
HUMP	Col San Antoni	1.68	123	⇓eP	Pg	17 25 22.9	-0.3
HUMP	Col San Antoni	1.68	123	eS	Sb	17 25 41.7	-0.1
DR12	Loma Pena Alta	1.95	262	Pn	Pb	17 25 25.9	+0.1

*NEIC **31** 17:49:01.0±0.4, 19°.27N±0°.03×155°.43W±0°.02, h35km±3km, Error ellipse: s-maj=4.2km s-min=2.3km az=178.0*

HVO 31 17:49:02.3±0.9, **19°.25N**±0°.06×**155°.4W**±0°.1, **h31**km±8km, **ML3.4**/50, **ML3.6**/44(NEIC), **Error ellipse: s-maj=16.0km s-min=8.8km az=88.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.01	189		Pb	17 49 07.3	-0.2
HLP	Hilina Pali	0.09	61		Pb	17 49 07.5	-0.3
HLP				IAML		17 49 11.8	
	comp=N,13μm,0.5s						
HLP				IAML		17 49 17.9	
	comp=E,12μm,0.6s						
SDHHI	Sand Hill	0.17	35		Pb	17 49 07.9	-0.6
SDHHI					Sb	17 49 12.0	-0.7
WRMHI	West Rim	0.18	30		Pb	17 49 07.8	-0.7
WRMHI					Sb	17 49 12.2	-0.7
RIM	Rim	0.18	38		Pb	17 49 07.9	-0.7
RIM					Sb	17 49 12.1	-0.8
KKO	Keanakako'i	0.19	40		Pb	17 49 08.0	-0.7
KKO					Sb	17 49 11.9	-1.1
UWE	Uwekahuna	0.20	30		Pb	17 49 08.0	-0.7
UWE				IAML		17 49 12.9	
	comp=E,8μm,0.4s						
UWE				IAML		17 49 15.8	
	comp=N,7μm,0.5s						
OBL	Observatory Le	0.20	32		Pb	17 49 08.0	-0.8
OBL					Sb	17 49 12.1	-1.1
BYL	Byron's Ledge	0.21	38		Pb	17 49 08.0	-0.8
BYL					Sb	17 49 12.3	-0.9
BYL	Byron's Ledge	0.21	38	IAML		17 49 12.7	
	comp=N,4μm,0.6s						
BYL				IAML		17 49 17.6	
	comp=E,4μm,0.6s						
UWB	Uwekahuna Bluf	0.21	33		Pb	17 49 07.9	-0.9
UWB					Sb	17 49 12.1	-1.2
KHU	Kahuku	0.21	269		Pb	17 49 08.1	-0.9
KHU				IAML		17 49 13.1	
	comp=N,10μm,0.4s						
PUH	Pauahi	0.21	54		Pb	17 49 08.1	-0.8
PUH					Sb	17 49 12.4	-0.9
PUH	Pauahi	0.21	54	IAML		17 49 12.7	
	comp=E,9μm,0.3s						
PUH				IAML		17 49 12.8	
	comp=N,7μm,0.5s						
SBLHI	Steaming Bluff	0.21	34		Pb	17 49 08.0	-0.9
SBLHI					Sb	17 49 12.2	-1.2
HATHI	Halema'uma'u T	0.21	36		Pb	17 49 08.1	-0.9
HATHI					Sb	17 49 12.5	-0.9
HATHI	Halema'uma'u T	0.21	36	IAML		17 49 12.9	
	comp=E,5μm,0.7s						
HATHI				IAML		17 49 15.3	
	comp=N,4μm,0.7s						
HPO	Honuapo	0.22	223		Pb	17 49 08.1	-0.8
HPO					Sb	17 49 12.6	-0.6
RSD	Rainshed	0.24	28		Pb	17 49 08.3	-0.9
RSD					Sb	17 49 12.7	-1.2
MLH	Mauna Loa	0.24	2		Pb	17 49 08.7	-0.6
MLH					Sb	17 49 13.2	-0.9
MLH	Mauna Loa	0.24	2	IAML		17 49 13.8	
	comp=E,5μm,0.3s						
MLH				IAML		17 49 19.7	
	comp=N,6μm,0.5s						
KNHH	Kane Nui o Ham	0.25	59		Pb	17 49 08.5	-0.8
STCH	Steam Cracks	0.29	62		Pb	17 49 08.9	-0.9
STCH					Sb	17 49 13.5	-1.4
STCH	Steam Cracks	0.29	62	IAML		17 49 13.8	
	comp=E,4μm,0.1s						
STCH				IAML		17 49 14.9	
	comp=N,4μm,0.2s						
MWH	Mokuaweoweo	0.30	321		Sb	17 49 14.0	-1.8
MWH	Mokuaweoweo	0.30	321		Pb	17 49 09.2	-1.1
MWH				IAML		17 49 14.8	
	comp=E,6μm,0.5s						
MWH				IAML		17 49 20.1	
	comp=N,5μm,0.4s						
NPOC	North of Pu'u	0.30	62		Pb	17 49 09.0	-0.9
NPOC					Sb	17 49 14.1	-1.1
JCUZ	Jacuzzi	0.31	64		Pb	17 49 09.1	-0.9
JCUZ					Sb	17 49 14.3	-1.0
MLOA	Mauna Loa Obse	0.33	329		Sb	17 49 14.9	-1.4
HMH	Humu'ula Sheep	0.36	347		Sb	17 49 15.6	-1.2
HMH	Humu'ula Sheep	0.36	347		Pb	17 49 10.2	-0.7
HMH				IAML		17 49 16.5	
	comp=N,4μm,0.3s						
HMH				IAML		17 49 16.6	
	comp=E,2μm,0.2s						
ALEP	Alea Permanent	0.37	321		Pb	17 49 09.8	-1.4
ALEP					Sb	17 49 15.3	-1.9
JOKA	Jonika Flow	0.41	64		Pb	17 49 10.2	-1.3
JOKA					Sb	17 49 16.2	-1.5
JOKA	Jonika Flow	0.41	64	IAML		17 49 16.4	
	comp=E,2μm,0.4s						
JOKA				IAML		17 49 16.7	
	comp=N,3μm,0.5s						
POHA	Pohakuloa	0.52	346		Pn	17 49 18.7	+4.9
POHA	Pohakuloa	0.52	346		Pb	17 49 11.5	-1.8
POHA	Pohakuloa	0.52	346	IAML		17 49 19.1	
	comp=N,2μm,0.5s						
POHA				IAML		17 49 33.8	
	comp=N,1μm,0.4s						
CPH	Captain Cook	0.55	296		Pb	17 49 11.6	-1.9
HUH	Hualalai	0.60	316		Pb	17 49 13.0	-1.5
HUH					Sb	17 49 20.6	-2.4
HUH	Hualalai	0.60	316	IAML		17 49 25.5	
	comp=E,3μm,0.3s						
HUH				IAML		17 49 30.1	
	comp=N,3μm,0.2s						
KKH	Kailua Kona	0.71	305		Pn	17 49 13.8	-2.4
KKH					Sb	17 49 22.5	-3.3
HPAH	Hawaii Prepara	0.83	340		Sb	17 49 24.8	-4.3
HPAH	Hawaii Prepara	0.83	340		Pn	17 49 15.4	-2.5
HPAH				IAML		17 49 25.6	
	comp=N,3μm,0.1s						
HPAH				IAML		17 49 26.1	
	comp=E,2μm,0.1s						
MHA	Mahukona	1.05	333	Pn	Pn	17 49 18.6	-2.3
MHA	Mahukona	1.05	333		Sn	17 49 30.6	-3.9
HLK	Haleakala	1.70	332		Pn	17 49 27.2	-2.9
KHLH	Kahului Airpor	1.90	330		Pn	17 49 30.7	-1.9
WMR	Waimanalo Ridg	2.98	314		Pn	17 49 44.3	-3.1
WMR					Sn	17 50 16.1	-5.9
HON	Honolulu	3.20	311		Pn	17 49 47.4	-3.1
KIP	Kipapa	3.27	312		Pn	17 49 48.8	-2.7

*ISN **31** 17:52:26.2±1.1, 33°.78N×45°.61E, h8km±6km, ML2.8*
*TEH **31** 17:52:27.3, 33°.78N×45°.67E, h10km*

ISC 31 17:52:27.1±1.9, **33°.77N**±0°.04×**45°.7E**±0°.1, **h5**km±21km, **n7**, σ0°**84**/12, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.41	32	Pg	Pg	17 52 35.1	+0.1
GLG1				Sg	Sg	17 52 41.0	+0.5
IBDR	Badra	0.69	160	ePg	Pb	17 52 41.0	-0.7
IBDR				eSg	Sg	17 52 50.0	+0.5
IBDR				AML	AML	17 53 05.4	
	comp=N,94nm,0.5s						
BHD	Baghdad	1.17	245	ePn	Pn	17 52 50.0	-0.2
BHD				eSn	Sn	17 53 08.0	+1.4
KCHF	Cheshme Sefid,	1.26	66	Pg	Pg	17 52 52.1	+0.7
IKFM	Kafar-mosalman	1.85	97	Pn	Pg	17 53 01.8	-0.7
IKRK	Kirkuk	1.96	327	ePn	Pn	17 53 01.0	-0.1
IKRK				eSn	Sb	17 53 27.0	-1.0
IKRK				AML	AML	17 53 41.9	
	comp=E,14nm,0.7s						
IKRK				AML	AML	17 53 45.5	
	comp=N,8.3nm,0.9s						
RAFI	Al-Rafai	2.07	169	ePn	Pn	17 53 03.0	+0.4
RAFI				eSn	Sb	17 53 31.0	-0.3

*IDC **31** 17:56:15.3±1.4, 8°.57S×126°.96E, h0km, mb3.6/6, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=80.9km s-min=23.3km az=70.0*
*DJA **31** 17:56:36.8±1.2, 9°.S±4°×12°.6E±1°0, h54km±18km, M3.2/6, MLv3.2/6*

ISC 31 17:56:20.6±0.8, **8°.81S**±0°.08×**126°.8E**±0°.1, **h35**km, **n13**, σ1°**47**/16, **mb3.6/6, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.68	249	P	Pn	17 57 02.7	+1.4
SOEI				S	Sn	17 57 22.9	-10
MMRI	Maumere	4.52	272	P	Pn	17 57 25.3	-1.3
EDFI	Ende, Flores	5.06	270	P	Pn	17 57 33.7	-0.4
BBSI	Bau Bau	5.34	308	P	Pn	17 57 41.2	+3.3
FITZ	Fitzroy Crossi	9.30	187	Pn	Pn	17 58 33.2	+1.0
	0.6nm,0.3s,baz=19,slow=10.0,SNR=31						
FITZ				Sn	Sn	18 00 16.4	+0.6
	0.3nm,0.3s,baz=68,slow=9.3,SNR=7.4						
	7.1nm,0.8s						
WRA	Warramunga Arr	13.25	147	Pn	Pn	17 59 27.2	+0.8
	0.2nm,0.3s,baz=317,slow=13,SNR=15						
WRA				Sn	Sn	18 01 51.9	-0.7
	0.1nm,0.3s,baz=328,slow=22,SNR=6.6						
	1.8nm,0.9s						
ASAR	Alice Springs	16.26	156	Pn	P	18 00 08.3	-0.9
	0.1nm,0.3s,baz=322,slow=12,SNR=26						
ASAR				Sn	Sn	18 03 07.9	+2.0
	baz=319,slow=18,SNR=4.5						
	1.5nm,0.8s						
CMAR	Chiang Mai Arr	38.60	315	P	P	18 03 40.8	+0.2
	0.4nm,0.4s,baz=126,slow=8.1,SNR=1.3						
	0.4nm,0.4s						
SONM	Songino Array	59.23	344	P	P	18 06 17.0	-1.4
	0.5nm,0.8s,baz=145,slow=5.3,SNR=2.2						
	0.5nm,0.8s						
MKAR	Makanchi Array	68.06	329	P	P	18 07 16.6	-0.1
	0.6nm,0.8s,baz=134,slow=8.2,SNR=5.3						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	71.85	335	P	P	18 07 38.5	-1.2
	0.4nm,0.4s,baz=149,slow=9.4,SNR=2.2						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	72.44	330	P	P	18 07 41.9	-1.4
	0.3nm,0.7s,baz=129,slow=6.2,SNR=2.0						
	0.3nm,0.7s						
BVAR	Borovoye Array	77.94	329	P	P	18 08 14.0	-0.9
	0.3nm,0.5s,baz=114,slow=9.7,SNR=2.3						
	0.3nm,0.5s						

*PDG **31** 17:59:10.3±0.2, 41°.56N×19°.40E, h10km, ML2.8/13, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*TIR **31** 17:59:10.5, 41°.54N×19°.40E, h16km±1km, Md3.0/3, Ml3.1/9*
*ATH **31** 17:59:10.3, 41°.52N×19°.29E, h6km±1km, ML2.9/13, Manual Solution by F.Xalaris First location: 2019/03/31 17:59:50, This location: 2020/10/03 07:06:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*RHSSO **31** 17:59:10.5±0.6, 41°.44N×19°.33E, h9km±2km, ML3.1/11*
*THE **31** 17:59:13.9, 41°.57N×19°.36E, h19km±22km, ML2.8/3, Error ellipse: s-maj=27.6km s-min=2.5km az=323.0*

ISC 31 17:59:11.1±1.0, **41°.53N**±0°.02×**19°.38E**±0°.02, **h9**km±8km, **n112**, σ0°**80**/169, **28C-18D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.41	117	Pg	Pg	17 59 19.3	+0.2
TIR				Sg	Sg	17 59 25.0	+0.4
TIR				AML	AML	17 59 25.7	
	3.9nm,0.5s						
TIR	Tirane	0.41	117	⇓P	Pg	17 59 19.5	+0.3
TIR				⇓S	Sb	17 59 25.9	-1.1
TIR	Tirane	0.41	117	P	Pg	17 59 19.3	+0.2
TIR				S	Sb	17 59 25.8	-1.1
ULC	Ulcinj	0.44	347	⇑Pg	Pg	17 59 19.7	-0.1
ULC	Ulcinj	0.44	347	⇑iPg	Pg	17 59 19.7	-0.1
ULC				iSg	Sg	17 59 26.1	+0.5
PUK	Puka	0.64	37	Pg	Pg	17 59 23.0	-0.4
PUK				Sg	Sg	17 59 32.1	+0.3
PUK				AML	AML	17 59 35.7	
	2.9nm,0.4s						
PUK				AML	AML	17 59 40.2	
	2.4nm,0.3s						
PUK				AMd		18 00 23.1	
DRME	Dracevica, Mon	0.67	347	Pg	Pg	17 59 23.4	-0.6
DRME	Dracevica, Mon	0.67	347	⇑iPg	Pg	17 59 23.3	-0.8
DRME				eSg	Sb	17 59 34.9	+0.5
DRME	Dracevica, Mon	0.67	347	⇑iPg	Pg	17 59 23.3	-0.8
DRME				iSg	Sg	17 59 33.3	+0.5
PHP	Peshkopia	0.81	79	Pg	Pg	17 59 25.8	-0.9
PHP				Sg	Sb	17 59 37.8	-0.7
PHP				AMd		18 00 28.3	
BUM	Brajici-Budva	0.85	335	Pg	Pg	17 59 27.2	-0.2
BUM	Brajici-Budva	0.85	335	ePg	Pg	17 59 26.9	-0.6
BUM				iSg	Sb	17 59 39.7	+0.1
PDG	Podgorica	0.90	354	⇑iPg	Pg	17 59 27.7	-0.8
PDG				eSg	Sb	17 59 42.4	+1.4
PDG	Podgorica	0.90	354	⇑P	Pg	17 59 27.7	-0.8
PDG				⇓S	Sg	17 59 38.7	-1.4
PDG	Podgorica	0.90	354	ePg	Pg	17 59 27.1	-1.4
PDG				eSg	Sb	17 59 40.9	-0.1
PDG	Podgorica	0.90	354	P	Pg	17 59 27.7	-0.8
PDG				S	Sg	17 59 39.9	-0.2
BCI	Bajram Curri	0.98	31	Pg	Pg	17 59 28.5	-1.4
BCI				Sg	Sb	17 59 43.1	-0.2
BCI				AML	AML	17 59 47.6	
	1.5nm,0.3s						
BCI				AML	AML	17 59 51.3	
	1.9nm,0.6s						
BCI				AMd		18 00 39.1	
CEME	Cevo	1.07	341	ePg	Pg	17 59 30.3	-1.4
CEME				iSg	Sb	17 59 46.5	+0.5
HCY	Herceg Novi	1.13	324	⇑Pg	Pg	17 59 33.0	+0.3
HCY	Herceg Novi	1.13	324	ePg	Pg	17 59 32.4	-0.4
HCY				eSg	Sb	17 59 48.3	+0.8
HCY	Herceg Novi	1.13	324	ePg	Pg	17 59 32.3	-0.5
HCY				iSg	Sb	17 59 48.1	+0.6
PVY	Plav	1.14	22	Pg	Pg	17 59 31.8	-1.3
PVY	Plav	1.14	22	⇓iPg	Pg	17 59 31.6	-1.5
PVY				iSg	Sb	17 59 48.2	0.0
OHR	Ohrid	1.15	111	iPn	Pg	17 59 32.3	-0.9
NKME	Niksic	1.27	346	Pg	Pn	17 59 35.0	-0.2
NKME	Niksic	1.27	346	⇓iPg	Pn	17 59 34.7	-0.5
NKME				iSg	Sn	17 59 52.6	+0.2
KOME	Kolasin	1.32	4	Pg	Pn	17 59 35.2	-0.6
KOME	Kolasin	1.32	4	⇑iPg	Pn	17 59 35.4	-0.4
KOME				iSg	Sn	17 59 54.1	+0.5
BEY	Berane	1.39	16	Pn	Pn	17 59 36.6	-0.2
IVA	Berane	1.39	16	⇓iPg	Pn	17 59 36.5	-0.3
IVA				iSg	Sn	17 59 56.5	+1.1
KBN	Korca	1.40	130	AML	AML	18 00 01.7	
	1.1nm,0.5s						
TREB	Trebinje	1.41	327	⇑iPg	Pn	17 59 37.2	+0.2
TREB				eSg	Sn	17 59 56.4	+0.7
DBRK	Dubrovnik	1.46	321	ePn	Pn	17 59 37.6	0.0
MESG	Mesagne	1.49	231	P	Pn	17 59 36.9	-1.2
MESG				S	Sn	17 59 56.2	-1.5
BRY	Bratogost	1.50	336	Pn	Pn	17 59 39.2	+0.8
BRY	Bratogost	1.50	336	⇑iPn	Pn	17 59 38.4	0.0
BRY				eSn	Sb	17 59 59.2	+0.7
BRY	Bratogost	1.50	336	ePg	Pn	17 59 38.8	+0.4
BRY				iSg	Sg	18 00 00.0	+0.5
SCTE	Santa Cesarea	1.62	206	Pn	Pn	17 59 41.2	+1.4
SCTE				Sn	Sg	18 00 03.5	+0.5
SCTE				AML	AML	18 00 06.2	
	1.6nm,0.4s						
SCTE	Santa Cesarea	1.62	206	P	Pn	17 59 38.9	-0.9
SCTE				S	Sn	17 59 59.9	-0.8
LSK	Leskovik	1.66	146	Pn	Pb	17 59 41.9	-0.1
LSK				Sn	Sg	18 00 04.9	+0.3
LSK				AML	AML	18 00 13.3	
	1.7nm,0.7s						
FNA	Florina	1.68	116	Pn	Pb	17 59 42.2	-0.1
FNA				Sn	Sg	18 00 05.2	-0.1
FNA				AML	AML	18 00 07.5	
	0.6nm,0.5s						
FNA				AML	AML	18 00 12.0	
	1.0nm,0.4s						
FNA	Florina	1.68	116	P	Pn	17 59 41.7	+0.9
FNA				S	Sb	18 00 04.1	+0.5
	278nm,0.5s						
FNA	Florina	1.68	116	P	Pn	17 59 41.3	+0.5
FNA				S	Sb	18 00 04.3	+0.7
NEST	Nestorio	1.

IGT	Igoumenitsa	2.13	160	P	Pn	17 59 47.2 +0.4
MATE	Matera	2.21	247	⇓P	Pb	17 59 51.6 +0.5
MATE				⇓S	Sb	18 00 20.0 +1.4
LSTV	Lastovo	2.22	305	*e*Pn	Pn	17 59 47.7 -0.5
BBLS	Lazi&#263i	2.33	0	⇑*i*Pn	Pn	17 59 50.4 +0.7
BBLS				*e*Sn	Sn	18 00 20.7 +2.2
GRG	Griva	2.35	103	P	Pn	17 59 50.8 +0.8
VAY	Valandovo	2.41	94	*i* Pn	Pn	17 59 51.8 +1.1
MAKA	Makarska	2.48	316	*e*Pn	Pn	17 59 52.1 +0.5
TETR	Tetrakomo, Epi	2.62	146	P	Pn	17 59 54.1 +0.4
KNT	Kendrikon	2.67	97	P	Pn	17 59 54.8 +0.4
BOVS	Bovan	2.71	39	⇓P	Pn	17 59 55.6 +0.7
BOVS				⇓S	Sn	18 00 27.8 0.0
LIT	Litokhoron	2.76	120	P	Pn	17 59 55.5 -0.1
THL	Klokotos Trika	2.81	134	P	Pn	17 59 56.5 +0.3
TSLK	Tsoukalades, L	2.88	160	P	Pn	17 59 57.3 +0.2
LKD2	Lefkada island	2.91	160	P	Pn	17 59 57.3 -0.4
HORT	Hortiatis	2.96	107	P	Pn	17 59 58.8 +0.4
NYDR	Nydri-Lefkada	2.99	160	P	Pn	17 59 58.3 -0.4
NYDR				S	Sn	18 00 35.3 +0.6
TEKS	Tekeris	3.02	2	*e*Pn	Pn	17 59 59.4 +0.3
TEKS				*e*Sn	Sn	18 00 37.4 +2.1
TIP	Timpagrande	3.09	221	P	Pn	17 59 59.2 -0.9
BLKB	Belogradchik	3.21	48	⇓S	Sn	18 00 40.7 +0.7
MAKR	Makrakomi, Fth	3.28	139	P	Pn	18 00 03.0 +0.2
KIJV	Kijevo	3.30	319	*e*Pn	Pn	18 00 03.6 +0.6
MORI	Morici	3.57	312	*e*Pn	Pn	18 00 07.3 +0.6
BLY	Banja Luka	3.59	334	⇑*i*Pn	Pn	18 00 06.7 -0.3
BLY				*e*Sn	Sn	18 00 49.9 +0.4
A050A	Klekovaca	3.61	326	⇑*i*Pn	Pn	18 00 07.9 +0.6
A050A				*e*Sn	Sn	18 00 50.2 +0.1
FRGS	Fruska Gora	3.64	5	*e*Pn	Pn	18 00 07.4 -0.2
FRGS				*e*Sn	Sn	18 00 51.6 +1.0
A051A	Mrakovica	3.92	333	⇑*i*Pn	Pn	18 00 11.5 0.0
A051A				*e*Sn	Sn	18 00 57.1 -0.5
HERR	Herculane	4.01	33	⇓P	Pn	18 00 13.5 +0.7
HERR				⇓S	Sn	18 00 59.5 -0.4
DUGI	Dugi Otok	4.02	309	*e*Pn	Pn	18 00 13.2 +0.4
VIRC	Vir	4.21	312	*e*Pn	Pn	18 00 15.2 -0.2
BZS	Buzias	4.39	21	⇑P	Pn	18 00 18.3 +0.3
BZS				⇑S	Sn	18 01 09.2 0.0
GZR	Gura Zlata	4.58	32	⇓P	Pn	18 00 20.5 -0.2
GZR				⇓S	Sn	18 01 14.6 +0.6
SURR	Surduc	4.67	24	⇑P	Pn	18 00 22.5 +0.8
MORH	Mrgy, Hungar	4.71	354	⇑P	Pn	18 00 22.3 0.0
BOJS	Bojanci	4.97	324	*e*Pn	Pn	18 00 25.5 -0.5
BOJS				*e*Sn	Sn	18 01 21.6 -2.0
SIRR	Siria	5.01	18	⇓P	Pn	18 00 26.4 0.0
CEY	Cerknica	5.53	321	*e*Pn	Pn	18 00 33.4 -0.2
CEY				*e*Sn	Sn	18 01 35.0 -2.3
SKDS	Skadanscina	5.59	318	⇑*i*Pn	Pn	18 00 33.6 -0.9
SKDS				*e*Sn	Sn	18 01 35.6 -3.3
VOIR		5.68	45	⇑P	Pn	18 00 35.4 -0.3
DRGR		5.78	23	⇓P	Pn	18 00 37.2 +0.2
MARR	Marisel-Cluj	5.80	26	⇓P	Pn	18 00 37.7 +0.3
SOKA	Soboth	6.02	330	*e*Pn	Pn	18 00 41.0 +0.6
	0.7nm,0.3s					
OBKA	Obir	6.07	327	*e*Pn	Pn	18 00 42.1 +1.0
	0.3nm,0.3s					
OBKA	Obir	6.07	327	⇑*i*Pn	Pn	18 00 40.3 -0.8
MLR	Muntele Rosu	6.20	48	⇑P	Pn	18 00 43.0 +0.1
ARSA	Arzberg	6.35	336	*i* Pn	Pn	18 00 44.9 0.0
	0.9nm,0.4s					
VRI	Vrincioaia	6.86	48	⇑P	Pn	18 00 52.9 +1.0
MODS	Modra-Piesok	7.00	348	*e*PN	Pn	18 00 53.9 +0.1
ABTA	Abfaltersbach	7.18	319	*e*Pn	Pn	18 00 57.1 +0.8
	0.2nm,0.3s					
LANS	Liptovska Anna	7.62	0	*e*PN	Pn	18 01 02.2 -0.1
WTTA	Wattenberg	7.97	319	*e*Pn	Pn	18 01 08.2 +1.0
	0.6nm,0.2s					

*NOU **31** 18:04:37.7, 37°.04S×177°.93E, h198km, mb3.9/9, Off E. Coast of N. Island, N.Z.*
*WEL **31** 18:04:38.7±1.0, 37°S±7°×17°8E±°, h182km±9km, M2.9/13, ML3.1/13, MLv2.9/13, Error ellipse: s-maj=12.2km s-min=8.8km az=116.9, confirmed*

ISC 31 18:04:36.9±3.3, 36°.9S±0°.1×177°.67E±0°.10, h199km±16km, n31, σ1§05/42, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.87	145	P	Pn	18 05 05.8	+0.1
MXZ	Matakaoa Point	0.87	145	P	Pn	18 05 04.8	-0.9
MXZ				S	Sn	18 05 27.5	-0.7
HAZ	Te Kaha	0.90	175	P	Pn	18 05 05.3	-0.5
HAZ				S	Sn	18 05 29.9	+1.3
PKGZ	Pakihiroa	1.06	162	P	Pn	18 05 07.3	+0.3
RUGZ	Raukumara Rang	1.11	180	P	Pn	18 05 06.9	-0.6
WMGZ	Waiomatatini S	1.13	149	P	Pn	18 05 07.0	-0.4
WMGZ				S	Sn	18 05 31.0	-0.3
PUZ	Puketiti	1.30	159	P	Pn	18 05 09.1	+0.4
TWGZ	Tauwhareparae	1.34	170	P	Pn	18 05 10.2	+1.0
TWGZ				S	Sn	18 05 35.7	+1.2
URZ	Urewera	1.47	198	P	Pn	18 05 10.3	+0.1
URZ	Urewera	1.47	198	S	Sn	18 05 34.8	-1.5
URZ	Urewera	1.47	198	P	Pn	18 05 10.1	-0.1
MWZ	Matawai	1.48	184	P	Pn	18 05 10.6	+0.2
TKGZ	Te Karaka	1.59	175	P	Pn	18 05 11.9	+0.7
TKGZ				S	Sn	18 05 38.1	-0.1
CNGZ	Carnagh Statio	1.68	166	P	Pn	18 05 13.5	+1.4
MUGZ	Murupara	1.77	204	P	Pn	18 05 13.7	+0.7
MUGZ				S	Sn	18 05 39.7	-1.6
RIGZ	Rimuhau	1.85	178	P	Pn	18 05 14.6	+0.8
RIGZ				S	Sn	18 05 44.2	+1.4
TOZ	Tahuroa Road	1.94	243	P	Pn	18 05 14.9	+0.3
SNGZ	Shannon Statio	1.94	188	P	Pn	18 05 14.7	0.0
SNGZ				S	Sn	18 05 43.5	-0.9
PRGZ	Paritu Road	2.07	175	P	Pn	18 05 16.8	+0.8
MTHZ	Maungataniwha	2.10	198	P	Pn	18 05 18.0	+1.6
MTHZ				S	Sn	18 05 45.4	-1.9
RAHZ	Arahi	2.11	193	P	Pn	18 05 17.6	+1.2
RAHZ				S	Sn	18 05 47.0	-0.5
MRHZ	Matea Rd	2.21	206	P	Pn	18 05 18.5	+1.0
MHGZ	Mahia Peninsul	2.30	175	P	Pn	18 05 20.0	+1.5
MHGZ				S	Sn	18 05 51.2	+0.1
BKZ	Black Stump Fm	2.49	202	P	Pn	18 05 21.2	+0.6
BKZ	Black Stump Fm	2.49	202	P	Sn	18 05 55.2	+0.3
HIZ	Hauiti	2.78	233	P	Pn	18 05 25.3	+1.4
HIZ	Hauiti	2.78	233	P	Pn	18 05 25.5	+1.6
OTVZ	Oturere	2.80	214	P	Pn	18 05 25.5	+1.3
BFZ	Birch Farm	3.98	196	P	Pn	18 05 37.9	-0.4
BFZ	Birch Farm	3.98	196	S	Sn	18 06 24.7	-2.0
KHZ	Kahutara	6.41	209	P	Pn	18 06 08.3	-0.9

*IDC **31** 18:05:40.2±0.8, 29°.32S×177°.00W, h0km, mb4.1/6, mbtmp4.0/8, ML5.1/1, MS3.5/11, Error ellipse: s-maj=28.5km s-min=25.1km az=144.0*

ISC 31 18:05:44.8±0.7, 29°.47S±0°.09×177°.1W±0°.1, h31km, n27, σ1§20/26, mb4.2/6, MS3.6/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	10.01	207	Pn	Pn	18 08 03.0	-3.5
	0.3nm,0.3s,baz=39,slow=6.5,SNR=1.4						
URZ				Sn	Sn	18 09 58.9	+1.2
	3.1nm,0.3s,baz=332,slow=24,SNR=11						
MSVF	Nonsavu	12.52	338	Pn	Pn	18 08 39.9	-1.0
	0.4nm,0.3s,baz=242,slow=23,SNR=4.7						
MSVF				LR	LR	18 12 48.5	
	comp=Z,131nm,20.0s,baz=148,slow=35						
	0.6nm,0.3s						
DZM	Mont Dzumac	16.58	293	Pn	Pn	18 09 35.7	+0.6
	2.1nm,0.9s,baz=92,slow=9.4,SNR=3.8						
DZM				LR	LR	18 14 59.8	
	comp=Z,349nm,18.2s,baz=108,slow=34						
RAR	Rarotonga	17.64	66	LR	LR	18 16 09.5	
	comp=Z,26nm,18.8s,baz=258,slow=36						
PPT	Papeete	27.77	71	LR	LR	18 21 21.3	
	comp=Z,31nm,18.1s,baz=273,slow=34						
HNR	Honiara	29.34	308	LR	LR	18 21 41.3	
	comp=Z,88nm,18.1s,baz=8.0,slow=33						
STKA	Stephens Creek	35.49	255	P	P	18 12 39.8	+1.1
	1.7nm,0.7s,baz=102,slow=10,SNR=4.1						
STKA				LR	LR	18 26 02.8	
	comp=Z,98nm,18.9s,baz=159,slow=34						
	1.7nm,0.7s						
ASAR	Alice Springs	43.98	266	P	P	18 13 50.0	+0.5
	1.9nm,0.6s,baz=101,slow=6.2,SNR=59						
ASAR				PcP	PcP	18 15 37.4	+2.4
	0.2nm,0.6s,baz=107,slow=4.0,SNR=1.5						
ASAR				LR	LR	18 31 30.8	
	comp=Z,185nm,18.7s,baz=94,slow=35						
	1.9nm,0.6s						
WRA	Warramunga Arr	44.89	271	P	P	18 13 56.9	+0.1
	3.2nm,0.8s,baz=110,slow=6.2,SNR=16						
WRA				LR	LR	18 31 32.1	
	comp=Z,108nm,21.2s,baz=42,slow=34						
	3.2nm,0.8s						
GUMO	Guam	56.41	314	LR	LR	18 37 42.3	
	comp=Z,18nm,20.3s,baz=80,slow=34						
QSPA	South Pole Qui	60.63	180	P	P	18 15 54.0	+1.4
	3.0nm,0.9s,baz=19,slow=1.6,SNR=8.1						
	3.0nm,0.9s						
ASAJ	Asahikawa	82.00	332	LR	LR	18 49 08.6	
	comp=Z,24nm,19.9s,baz=170,slow=32						
PLCA	Paso Flores	82.53	133	LR	LR	18 53 08.4	
	comp=Z,87nm,18.0s,baz=184,slow=34						
PETK	Petropavlovsk-	85.13	345	P	P	18 18 17.1	-0.3
	2.1nm,0.9s,baz=100,slow=7.5,SNR=7.0						
	2.1nm,0.9s						
NVAR	Mina Array Bea	87.01	42	P	P	18 18 27.5	+0.2
	0.3nm,0.5s,baz=238,slow=8.5,SNR=2.0						
	0.3nm,0.5s						
MKAR	Makanchi Array	117.80	310	PKP	PKPdf	18 24 27.0	-0.9
	0.5nm,0.7s,baz=102,slow=2.1,SNR=5.7						
KURBB	Kurchatov Arra	121.04	314	PKP	PKPdf	18 24 33.6	-0.3
	0.9nm,0.8s,baz=106,slow=2.2,SNR=12						
BVAR	Borovoye Array	126.31	316	PKP	PKPdf	18 24 43.8	-0.2
	1.3nm,0.7s,baz=119,slow=1.7,SNR=9.4						
ARCES	ARCESS Array B	137.85	348	PKP	PKPdf	18 25 05.9	+0.7
	9.4nm,1.0s,baz=0.0,slow=6.7,SNR=2.6						
FINES	FINESS Array B	144.55	341	PKP	PKPab	18 25 15.4	-0.5
	2.6nm,0.6s,baz=64,slow=4.4,SNR=11						
KBZ	Khabaz	145.26	305	PKPbc	PKPab	18 25 18.8	-0.3
	2.5nm,0.9s,baz=104,slow=8.3,SNR=3.5						
NB2	NORSAR Subarra	147.95	352	PKP	PKPbc	18 25 25.4	-1.0
	comp=Z,3.8nm,1.2s,baz=10,slow=3.2						
NOA	NORSAR Array B	147.95	352	PKPbc	PKPbc	18 25 25.0	-1.4
	comp=Z,0.9nm,1.0s,baz=0.1,slow=4.0,SNR=1.8						
HFS	Hagfors	148.49	350	PKP	PKPdf	18 25 25.4	+1.2
	comp=Z,5.1nm,1.0s,baz=108,slow=9.3,SNR=3.0						
HFS				PKPbc	PKiKP	18 25 29.0	-0.3
	comp=Z,3.0nm,0.9s,baz=94,slow=4.5,SNR=8.4						
AKASG	Malin Array Be	151.04	324	PKPbc	PKPbc	18 25 34.1	-0.1
	comp=Z,2.3nm,0.6s,baz=46,slow=2.9,SNR=15						
AKASG				PKPab	sPKPdf	18 25 40.8	+0.1
	comp=Z,2.0nm,0.6s,baz=46,slow=3.0,SNR=8.4						
MMAI	Mount Meron Ar	152.08	286	PKPbc	PKiKP	18 25 39.1	+1.4
	comp=Z,2.0nm,0.5s,baz=68,slow=7.3,SNR=4.7						
BRTR	Keskin Array B	152.86	300	PKPbc	PKPbc	18 25 38.4	-0.6
	comp=Z,0.3nm,0.6s,baz=176,slow=8.7,SNR=4.9						
BRTR				PKPab	pPKPbc	18 25 47.6	-0.5
	comp=Z,0.8nm,0.7s,baz=100,slow=5.1,SNR=4.6						

IDC 31 18:31:06.6±42.0, 5°.80N×123°.47E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=727.1km s-min=388.1km az=145.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.73	158	P	P	18 36 55.9	-1.1
	1.0nm,0.4s,baz=337,slow=8.6,SNR=5.1						
	1.0nm,0.4s						
ASAR	Alice Springs	31.01	161	P	P	18 37 26.7	+0.5
	1.1nm,0.3s,baz=334,slow=9.1,SNR=7.6						
	1.1nm,0.3s						
LZH	Lanzhou	35.12	332	*e*P	P	18 38 03.0	+0.9
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
STKA	Stephens Creek	41.26	156	P	P	18 38 54.1	+0.4
	comp=Z,0.7nm,0.6s,baz=338,slow=14,SNR=1.3						
	comp=Z,0.7nm,0.6s						

GUC 31 18:31:12.5±0.6, 29°.62S×71°.31W, h52km±6km, ML2.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	Tololo Observa	0.71	142	*i* P	Pn	18 31 27.7	+1.0
GO04				*e*S	Sn	18 31 39.7	+2.7
GO04				IAML		18 31 42.3	
	comp=E,457nm,0.3s						
GO04	Tololo Observa	0.71	142	*e*P	Pn	18 31 27.7	+1.0
GO04				*e*S	Sn	18 31 39.9	+2.9
GO04				IAML		18 31 42.3	
	comp=E,434nm,0.4s						
LCO	Las Campanas	0.80	41	*e*P	Pn	18 31 29.3	+1.3
LCO				*e*S	Sn	18 31 42.4	+3.2
LCO	Las Campanas	0.80	41	*e*P	Pn	18 31 29.5	+1.6
LCO				*e*S	Sn	18 31 42.9	+3.8
LCO				IAML		18 31 43.4	
	comp=E,1μm,0.2s						
CO06	Fray Jorge	1.09	195	*e*P	Pn	18 31 30.0	-1.5
CO06				*i* S	Sn	18 31 43.5	-2.1
CO06	Fray Jorge	1.09	195	*e*P	Pn	18 31 30.2	-1.3
CO01	Juntas del Tor	1.11	109	⇓*i*P	Pn	18 31 34.8	+2.8
CO01				IAML		18 31 52.4	
	comp=N,304nm,0.1s						
AC05	El Transito	1.19	50	*e*P	Pn	18 31 35.2	+2.3
AC05				*e*S	Sn	18 31 52.5	+4.3
AC05				IAML		18 31 53.3	
	comp=E,69nm,0.2s						
CO03	El Pedregal	1.33	156	*i* P	Pn	18 31 35.2	+0.3
CO03				*i* S	Sn	18 31 52.6	+1.1
CO03				IAML		18 31 53.8	
	comp=E,297nm,0.1s						
CO03	El Pedregal	1.33	156	*e*P	Pn	18 31 35.2	+0.3
CO03				IAML		18 31 53.1	
	comp=N,132nm,0.2s						
VA03	San Esteban	3.20	169	*e*P	Pn	18 32 00.2	-0.2
VA03				*e*S	Sn	18 32 38.4	+0.9
VA03				IAML		18 32 41.0	
	comp=E,41nm,0.1s						
FCH	Farellones	3.80	167	*e*S	Sn	18 32 53.9	+1.5

*DJA **31** 18:31:19.0±0.4, 2°N±1°×9°8E±°, h27km±4km, M4.5/19, mB5.2/1, mb4.7/13, MLv4.5/19, Mw(mB)4.6/1*
*NEIC **31** 18:31:19.2±2.4, 2°.09N±0°.05×97°.86E±0°.06, h61km±7km, mb4.5/30, Error ellipse: s-maj=9.8km s-min=6.7km az=125.0*
*IDC **31** 18:31:20.8±1.9, 2°.14N×97°.96E, h69km±14km, mb3.9/18, mbtmp4.2/20, MS3.2/6, Error ellipse: s-maj=21.2km s-min=11.6km az=55.0*
*BKK **31** 18:31:27.1±0.7, 3°N±5°×9°8E±°, h47km±18km, M4.2/9, mB4.6/3, mb4.4/5, Mjma3.9/9, ML4.4/5, MLv4.3/8, Mw(mB)3.8/3*

ISC 31 18:31:19.1±0.8, 2°.11N±0°.04×97°.87E±0°.04, h58km±8km, n90, σ1§64/96, mb4.4/35, MS3.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.86	200	Pn	Pn	18 31 35.6	+0.3
GSI	Gunungsitoli	0.86	200	P	Pn	18 31 35.6	+0.3
GSI				S	Sn	18 31 46.5	-0.6
RPSI	Rantau Prapat	1.20	61	Pn	Pn	18 31 40.8	+1.1
PSI	Prapat	1.25	57	P	Pn	18 31 40.6	0.0
	186nm,0.3s,baz=233,slow=5.0,SNR=215						
PSI				S	Sn	18 31 55.9	-0.7
	204nm,0.5s,baz=159,slow=23,SNR=6.0						
PSI				LR	LR	18 31 58.7	
	comp=Z,102nm,20.3s,baz=286,slow=34						
TSI	Tuntungan	1.54	27	P	Pn	18 31 45.9	+1.5
TSI				S	Sn	18 32 06.6	+3.2
SNSI	Sinabang, Aceh	1.57	281	P	Pn	18 31 44.6	-0.2
MNSI	Mandailing Nat	2.15	127	P	Pn	18 31 53.7	+1.1
PBSI	Pulau Batu	2.19	169	P	Pn	18 31 53.6	+0.4
PBSI				S	Sn	18 32 21.4	+2.2
MLSI	Meulaboh, Aceh	2.59	326	P	Pn	18 31 59.4	+0.7
MLSI				S	Sn	18 32 30.1	+1.0
LHMI	Lhok Sumawe	3.23	343	Pn	Pn	18 32 08.8	+1.4
LHMI	Lhok Sumawe	3.23	343	P	Pn	18 32 09.2	+1.8
PPI	Padang Panjang	3.59	135	P	Pn	18 32 15.4	+3.1
SISI	Saibi	3.62	160	P	Pn	18 32 12.4	-0.4
BKNI	Bangkinang	3.63	119	P	Pn	18 32 15.2	+2.4
KULM	Kulim	4.20	41	Pn	Pn	18 32 18.8	-1.9
BSI	Banda Aceh	4.23	323	P	Pn	18 32 20.5	-0.7
BSI				S	Sn	18 33 08.2	-1.1
MYKOM	Kota Tinggi	5.98	93		Pn	18 32 45.7	+0.6
SRIT	Nakonsritamara	6.67	15	P	Pn	18 32 52.9	-1.6
TPRI	Tanjung Pinang	6.75	100	P	Pn	18 32 58.6	+2.9
	0.1nm22nm,0.5s						
RNTT	Ranong	7.26	5	P	Pn	18 33 02.6	0.0
	0.1nm0.2nm11nm,0.7s						
KSI	Kapahiang	7.42	141	P	Pn	18 33 06.8	+1.9
	46nm,0.6s						
MNAI	Manna	8.19	142	Pn	Pn	18 33 12.4	-3.0
MDSI	Maura Dua	9.09	136	P	Pn	18 33 28.5	+0.8
	16nm,0.7s						
STKI	Sintang	13.75	98	P	P	18 34 41.9	+3.8
SBUM	Sibu	14.34	88	P	P	18 34 41.7	-2.9
UGM	Wanagama	16.07	128	Pn	Pn	18 34 58.7	-2.8
UGM				IAmb	IAmb	18 35 03.6	
	comp=Z,80nm,1.3s						
CM31	Chiang Mai Arr	16.28	4	Pn	Pn	18 35 02.7	-1.4
CMAR	Chiang Mai Arr	16.28	4	Pn	Pn	18 35 03.1	-0.9
CMAR	Chiang Mai Arr	16.28	4	P	P	18 35 05.5	-0.6
	comp=Z,1.0nm,0.6s,baz=195,slow=12,SNR=16						
PALK	Pallekele	17.86	287	P	P	18 35 20.4	-3.3
PALK	Pallekele	17.86	287	P	Pn	18 35 26.9	+3.2
	comp=Z,5.2nm,0.7s,baz=109,slow=11,SNR=5.9						
PALK				LR	LR	18 42 00.7	
	comp=Z,91nm,18.5s,baz=133,slow=36						
KMMI	Kalianget	18.46	120	P	Pn	18 35 31.7	+0.7
	comp=Z,18nm,0.9s						
KKM	Kota Kinabalu	18.70	77	P	P	18 35 29.8	-3.3
KKM				IAmb	IAmb	18 35 37.1	
	comp=Z,18nm,0.9s						
BKB	Balikpapan	19.31	100	P	Pn	18 35 43.2	+2.0
JAGI	Jajag, Banyuwa	19.34	123	P	Pn	18 35 43.4	+1.9
SRBI	Singaraja	20.04	121	P	Pn	18 35 54.0	+4.2
	comp=Z,50nm,0.7s						
QIZ	Qiongzhong	20.50	34	P	Pn	18 35 53.5	-1.6
QIZ				S	Sn	18 39 40.5	-5.1
QIZ				LR	LR		
	comp=N,170nm,8.0s						
QIZ				LR	LR		
	comp=E,170nm,8.4s						
QIZ				LR	LR		
	comp=Z,160nm,6.3s						
MYLDM	Lahad Datu	20.81	81	P	P	18 35 52.6	-3.3
MYLDM				IAmb	IAmb	18 35 59.9	
	comp=Z,12nm,0.8s						
TOLI2	Tolitoli	22.92	92	P	P	18 36 17.4	-1.1
TOLI2				IAmb	IAmb	18 36 19.2	
	comp=Z,11nm,0.8s						
KAPI	Kappang	22.97	108	P	P	18 36 20.2	+1.2
	comp=Z,4.2nm,0.4s,baz=274,slow=8.3,SNR=5.3						
KAPI				LR	LR	18 46 09.7	
	comp=Z,63nm,19.4s,baz=260,slow=39						
	comp=Z,4.2nm,0.4s						
BKSI	Bulukumba	23.42	108	P	P	18 36 25.3	+2.0
	comp=Z,25nm,0.7s						
PZH	PanZhiHua	24.54	8	P	P	18 36 35.8	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
FITZ	Fitzroy Crossi	33.93	127	P	P	18 37 56.1	-0.9
	comp=Z,2.9nm,0.7s,baz=278,slow=3.8,SNR=4.5						
	comp=Z,2.9nm,0.7s						
NJ2	Nanjing	35.74	31	*e*P	P	18 38 13.5	+1.1
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NWAO	Narrogin (SRO)	39.36	154	P	P	18 38 43.2	+0.2
HHC	Hu-ho-hao-te	40.50	16	*e*P	P	18 38 56.0	+3.5
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
WB0	Warramunga Arr	41.92	123		P	18 39 03.2	-1.2
WB0				IAmb	IAmb	18 39 05.1	
	comp=Z,9.4nm,0.6s						
WRA	Warramunga Arr	41.95	123	P	P	18 39 03.0	-1.6
WRA	Warramunga Arr	41.95	123	P	P	18 39 04.6	-0.1
	comp=Z,4.7nm,0.3s,baz=301,slow=9.2,SNR=22						
	comp=Z,4.7nm,0.3s						
WRAB	Tennant Creek	41.96	123	P	P	18 39 02.7	-2.0
WRAB				IAmb	IAmb	18 39 09.3	
	comp=Z,10nm,0.6s						
WB2	Warramunga Arr	41.97	123	P	P	18 39 01.9	-2.8
WB2				IAmb	IAmb	18 39 09.0	
	comp=Z,7.7nm,0.7s						
WR8	Warramunga Arr	42.10	123	P	P	18 39 04.8	-1.0
WR0	Warramunga Arr	42.13	123	P	P	18 39 05.1	-1.0
AS31	Alice Springs	43.42	128	P	P	18 39 13.1	-3.4
ASAR	Alice Springs	43.42	128	P	P	18 39 16.2	-0.2
	comp=Z,1.5nm,0.4s,baz=299,slow=7.6,SNR=18						
ASAR				PcP	PcP	18 41 05.4	+1.3
	comp=Z,1.1nm,0.7s,baz=315,slow=3.9,SNR=4.7						
ASAR				LR	LR	18 59 02.2	
	comp=Z,51nm,19.4s,baz=270,slow=38						
	comp=Z,1.5nm,0.4s						
FORT	Forrest	43.55	141	P	P	18 39 16.7	-0.6
FORT				IAmb	IAmb	18 39 37.1	
	comp=Z,20nm,1.1s						
JNU	Nakatsue	43.68	41	LR	LR	18 57 53.7	
	comp=Z,11nm,19.2s,baz=226,slow=36						
DRK	Karamyk	44.12	331	P	P	18 39 21.7	-0.5
KSRS	Korea Array	44.72	34	P	P	18 39 25.8	-0.9
	comp=Z,0.6nm,0.6s,baz=239,slow=6.8,SNR=4.2						
	comp=Z,0.6nm,0.6s						
SONM	Songino Array	46.14	8	P	P	18 39 36.1	-1.8
SONM	Songino Array	46.14

comp=Z,7.6nm,0.9s
C18K Utukok River 92.03 21 P **P** **18 44 20.6 -0.9**
C18K IAmb IAmb 18 44 50.7
comp=Z,4.1nm,1.3s
QSPA South Pole Qui 92.05 180 P **P** **18 44 20.6 -1.1**
B20K Meade River 93.12 19 P **P** **18 44 26.2 -0.2**
B20K IAmb IAmb 18 44 29.8
comp=Z,5.3nm,1.4s
D19K Kuna River 93.16 21 P **P** **18 44 25.2 -1.5**
D19K IAmb IAmb 18 44 27.9
comp=Z,1.4nm,0.8s
F20K Avaraart Lake 94.42 22 P **P** **18 44 32.7 +0.3**
F20K IAmb IAmb 18 44 34.0
comp=Z,1.7nm,0.8s

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*IDC **31** 18:31:51.1±1.5,3°.72S×135°.59E, h0km, mb3.4/3, mbtmp3.5/6, ML3.7/3, MS3.6/1, Error ellipse: s-maj=33.7km s-min=27.5km az=173.0*
*DJA **31** 18:31:55.5±0.4,3°S±2°×13°6E±°, h19km±4km, M4.3/11, mb4.4/6, mB5.3/4, MLv4.2/11, Mw(mB)4.8/4*
ISC 31 18:31:54.8±0.8,3°.54S±0°.07×135°.69E±0°.04, h22km, n18, σ1§85/24, mb3.3/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.75**	**18**	P	**Pn**	**18 32 23.2**	**-0.7**
SRPI				S	**Sn**	**18 32 45.2**	**-0.3**
KMPI	**Kaimana, Papua**	**1.98**	**267**	P	**Pn**	**18 32 29.4**	**+2.4**
KMPI				S	**Sb**	**18 32 54.8**	**+0.3**
BAKI	**Biak**	**2.37**	**10**	P	**Pn**	**18 32 33.5**	**+1.1**
BAKI				S	**Sn**	**18 33 01.5**	**+0.6**
RKPI	**Ransiki, Papua**	**2.52**	**323**	P	**Pn**	**18 32 35.4**	**+1.0**
SMPI	**Sarmi**	**3.39**	**63**	P	**Pn**	**18 32 48.2**	**+1.8**
SMPI				S	**Sn**	**18 33 26.8**	**+0.8**
FAKI	**Fak Fak**	**3.49**	**280**	P	**Pn**	**18 32 49.0**	**+1.2**
FAKI				S	**Sn**	**18 33 31.0**	**+2.6**
GENI	**Genyem**	**4.57**	**78**	P	**Pn**	**18 33 03.8**	**+1.1**
JAY	**Jayapura**	**5.11**	**79**	Pn	**Pn**	**18 33 12.0**	**+1.8**
	1.4nm,0.3s,baz=200,slow=19,SNR=8.6						
JAY				Sn	**Sn**	**18 34 11.7**	**+3.1**
	0.8nm,0.3s,baz=320,slow=21,SNR=1.6						
	2.9nm,0.3s						
JAY	**Jayapura**	**5.11**	**79**	P	**Pn**	**18 33 11.9**	**+1.8**
	20nm,1.2s						
SWI	**Sorong**	**5.16**	**301**	P	**Pn**	**18 33 11.3**	**+0.5**
SWI				S	**Sn**	**18 34 11.2**	**+1.5**
SOEI	**Soe**	**12.91**	**241**	P	**Pn**	**18 34 55.4**	**-1.8**
WRA	**Warramunga Arr**	**16.35**	**185**	Pn	**Pn**	**18 35 39.0**	**-4.2**
	0.3nm,0.3s,baz=7.8,slow=13,SNR=15						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.50**	**213**	P	**Pn**	**18 35 55.3**	**-2.2**
	0.3nm,0.3s,baz=35,slow=14,SNR=30						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**20.08**	**185**	P	**P**	**18 36 27.9**	**+0.9**
	15nm,0.8s,baz=8.0,slow=10,SNR=203						
CMAR	**Chiang Mai Arr**	**42.28**	**302**	P	**P**	**18 39 45.2**	**-1.8**
	0.2nm,0.5s,baz=123,slow=9.2,SNR=1.7						
	0.2nm,0.5s						
PALK	**Pallekele**	**55.91**	**281**	LR	LR	19 09 44.8	
	comp=Z,52nm,18.2s,baz=153,slow=41						
MKAR	**Makanchi Array**	**68.64**	**324**	P	**P**	**18 42 57.2**	**+0.9**
	0.4nm,0.5s,baz=121,slow=6.6,SNR=5.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.69**	**326**	P	**P**	**18 43 21.8**	**+0.9**
	0.2nm,0.6s,baz=124,slow=4.8,SNR=2.3						
	0.2nm,0.6s						

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*ATH **31** 18:35:29.4, 37°.60N×20°.51E, h14km±1km, ML3.6/15, Manual Solution by A.Agalos First location: 2019/03/31 18:36:26, This location: 2019/03/31 18:47:22 All Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **31** 18:35:30.6, 37°.62N×20°.56E, h6km±7km, ML3.6/6, Error ellipse: s-maj=8.0km s-min=0.7km az=58.0*
*IDC **31** 18:35:40.9±9.8, 39°.04N×21°.55E, h0km, mb3.4/3, mbtmp3.3/5, ML2.7/2, MS3.8/1, Error ellipse: s-maj=176.0km s-min=27.6km az=31.0*
ISC 31 18:35:29.4±1.5,37°.62N±0°.05×20°.51E±0°.05, h11km±8km, n69, σ1§03/95, mb3.7/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**79**	P	**Pb**	**18 35 35.0**	**-0.9**
KRI1				S	**Sg**	**18 35 37.3**	**-0.7**
LTHK	**Lithakia**	**0.28**	**70**	P	**Pg**	**18 35 35.3**	**+0.3**
LTHK				S	**Sg**	**18 35 38.8**	**0.0**
	30μm,0.3s						
LTHK	**Lithakia**	**0.28**	**70**	P	**Pg**	**18 35 35.4**	**+0.3**
LTHK				S	**Sg**	**18 35 39.2**	**+0.4**
ORTH	**Orthonies,Zaky**	**0.28**	**32**	P	**Pb**	**18 35 35.8**	**-0.7**
ORTH				S	**Sg**	**18 35 39.5**	**+0.6**
KYPS	**Kipseli, Zakin**	**0.32**	**51**	P	**Pb**	**18 35 36.6**	**-0.6**
KYPS				S	**Sg**	**18 35 41.1**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.50**	**7**	P	**Pb**	**18 35 39.9**	**-0.3**
PSDA				S	**Sb**	**18 35 47.5**	**0.0**
	10μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.50**	**7**	P	**Pb**	**18 35 39.8**	**-0.4**
PSDA				S	**Sb**	**18 35 47.0**	**-0.6**
RTZL	**Ratzakli, Kefa**	**0.50**	**24**	P	**Pg**	**18 35 39.6**	**+0.3**
RTZL				S	**Sb**	**18 35 47.0**	**-0.6**
VLS	**Valsamata**	**0.56**	**6**	P	**Pb**	**18 35 40.8**	**-0.5**
VLS				S	**Sb**	**18 35 49.2**	**-0.2**
	6μm,0.3s						
VLS	**Valsamata**	**0.56**	**6**	P	**Pb**	**18 35 40.8**	**-0.5**
VLS				S	**Sb**	**18 35 48.8**	**-0.6**
CLEM	**Kyllini,Ilia,G**	**0.56**	**61**	P	**Pb**	**18 35 40.8**	**-0.6**
CLEM				S	**Sg**	**18 35 48.7**	**+0.8**
LXR1	**Lixouri, Cepha**	**0.59**	**355**	P	**Pb**	**18 35 41.9**	**+0.2**
LXR1				S	**Sb**	**18 35 51.3**	**+1.3**
DMLN	**Damoulianata-K**	**0.63**	**350**	P	**Pb**	**18 35 42.7**	**+0.2**
DMLN				S	**Sb**	**18 35 51.1**	**-0.2**
SMHA	**Samh**	**0.64**	**10**	P	**Pg**	**18 35 41.2**	**-0.7**
SMHA				S	**Sb**	**18 35 51.1**	**-0.5**
LCHA	**Lechaina**	**0.68**	**62**	P	**Pg**	**18 35 42.6**	**0.0**
LCHA				S	**Sb**	**18 35 52.5**	**-0.2**
YRMI	**Loutra Irminis**	**0.82**	**54**	P	**Pg**	**18 35 45.0**	**-0.3**
YRMI				S	**Sg**	**18 35 55.7**	**-0.4**
FSK	**Fiskardo**	**0.84**	**3**	P	**Pg**	**18 35 45.5**	**-0.2**
FSK				S	**Sb**	**18 35 58.2**	**+0.8**
	5μm,0.2s						
FSK	**Fiskardo**	**0.84**	**3**	P	**Pb**	**18 35 45.6**	**-0.4**
FSK				S	**Sb**	**18 35 57.4**	**0.0**
RLS	**Riolos of Patr**	**0.88**	**60**	P	**Pg**	**18 35 46.0**	**-0.3**
RLS				S	**Sb**	**18 35 58.6**	**+0.2**
	3μm,0.6s						
RLS	**Riolos of Patr**	**0.88**	**60**	P	**Pg**	**18 35 46.0**	**-0.3**
AXS	**Araxos**	**0.90**	**50**	P	**Pg**	**18 35 46.2**	**-0.5**
AXS				S	**Sg**	**18 35 58.5**	**+0.1**
ZARO	**Zacharo**	**0.92**	**98**	P	**Pn**	**18 35 48.0**	**-0.2**
AMT	**Artemida-Makis**	**0.96**	**95**	P	**Pb**	**18 35 47.8**	**-0.2**
AMT				S	**Sb**	**18 36 01.0**	**+0.2**
EVGI	**Lefkada island**	**1.01**	**7**	P	**Pg**	**18 35 48.6**	**-0.2**
EVGI				S	**Sn**	**18 36 03.1**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.07**	**3**	P	**Pb**	**18 35 49.6**	**-0.3**
DRAG				S	**Sn**	**18 36 04.9**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.10**	**8**	P	**Pb**	**18 35 50.1**	**-0.5**
NYDR				S	**Sn**	**18 36 06.0**	**-0.1**
LKD2	**Lefkada island**	**1.18**	**6**	P	**Pn**	**18 35 51.4**	**-0.4**
LKD2				S	**Sg**	**18 36 07.6**	**+0.2**
PATC	**Patra C**	**1.18**	**56**	P	**Pn**	**18 35 51.6**	**-0.3**
UPR	**University Cam**	**1.21**	**56**	P	**Pn**	**18 35 51.9**	**-0.4**
ITM	**Ithomi**	**1.21**	**111**	P	**Pg**	**18 35 52.3**	**-0.4**
ITM				S	**Sn**	**18 36 10.1**	**+1.4**
	1μm,0.4s						
ITM	**Ithomi**	**1.21**	**111**	P	**Pg**	**18 35 52.1**	**-0.6**
ITM				S	**Sn**	**18 36 08.6**	**-0.1**
TSLK	**Tsoukalades, L**	**1.21**	**5**	P	**Pb**	**18 35 52.1**	**-0.3**
PVO	**Paravola**	**1.28**	**38**	P	**Pb**	**18 35 53.6**	**+0.1**
EFP	**Efpalio**	**1.37**	**53**	P	**Pn**	**18 35 54.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.37**	**71**	P	**Pn**	**18 35 54.2**	**-0.3**
SERG	**Sergoula**	**1.46**	**56**	P	**Pn**	**18 35 55.6**	**-0.1**
ANX	**Ano Chora**	**1.48**	**48**	P	**Pn**	**18 35 56.1**	**0.0**
GUR	**Goura**	**1.49**	**77**	P	**Pn**	**18 35 55.6**	**-0.6**
KALE	**Kalithea**	**1.50**	**59**	P	**Pn**	**18 35 56.4**	**0.0**
VLX	**Vlachokerasia**	**1.51**	**99**	P	**Pb**	**18 35 57.0**	**-0.4**
OHR	**Ohrid**	**3.50**	**4**	*i* Pn	**Pn**	**18 36 27.0**	**+3.2**
VAY	**Valandovo**	**4.03**	**23**	*e*Pn	**Pn**	**18 36 35.4**	**+4.4**
DRME	**Dracevica, Mon**	**4.68**	**348**	*e*Pn	**Pn**	**18 36 41.2**	**+1.3**
PDG	**Podgorica**	**4.90**	**349**	*e*Pn	**Pn**	**18 36 41.9**	**-1.1**
HCY	**Herceg Novi**	**5.07**	**343**	*e*Pn	**Pn**	**18 36 43.3**	**-2.0**
TREB	**Trebinje**	**5.36**	**343**	*e*Pn	**Pn**	**18 36 48.6**	**-0.7**
BRY	**Bratogost**	**5.49**	**345**	*e*Pn	**Pn**	**18 36 48.9**	**-2.3**
SJES	**Sjenica**	**5.65**	**356**	*e*Pn	**Pn**	**18 36 55.0**	**+1.5**
STON	**Ston**	**5.67**	**339**	*e*Pn	**Pn**	**18 36 53.0**	**-0.6**
RUDO	**Rudo**	**6.06**	**352**	*e*Pn	**Pn**	**18 37 00.9**	**+2.0**
BBLS	**Lazi&#263i**	**6.30**	**353**	*e*Pn	**Pn**	**18 36 57.7**	**-4.6**
A050A	**Klekovaca**	**7.49**	**338**	*e*Pn	**Pn**	**18 37 19.8**	**+1.2**
BLY	**Banja Luka**	**7.55**	**342**	*e*Pn	**Pn**	**18 37 20.1**	**+0.7**
A051A	**Mrakovica**	**7.87**	**341**	*e*Pn	**Pn**	**18 37 23.2**	**-0.6**
BOJS	**Bojanci**	**8.81**	**335**	*e*Pn	**Pn**	**18 37 36.4**	**-0.2**
SKDS	**Skadanscina**	**9.29**	**331**	*e*Pn	**Pn**	**18 37 43.4**	**+0.1**
CEY	**Cerknica**	**9.30**	**333**	*e*Pn	**Pn**	**18 37 43.6**	**+0.2**
SOKA	**Soboth**	**9.92**	**338**	*e*Pn	**Pn**	**18 37 51.9**	**0.0**
	1.5nm,0.4s						
OBKA	**Obir**	**9.93**	**335**	*e*Pn	**Pn**	**18 37 52.1**	**+0.1**
	0.8nm,0.4s						
OBKA	**Obir**	**9.93**	**335**	*e*Pn	**Pn**	**18 37 52.1**	**+0.1**
ARSA	**Arzberg**	**10.30**	**341**	*e*Pn	**Pn**	**18 37 58.8**	**+1.6**
	0.7nm,0.4s						
BRTR	**Keskin Array B**	**10.48**	**74**	Pn	**Pn**	**18 37 59.1**	**-0.6**
	0.1nm,0.3s,baz=276,slow=17,SNR=1.5						
	0.4nm,0.7s						
MOA	**Molln**	**11.20**	**338**	*e*Pn	**Pn**	**18 38 10.5**	**+1.1**
	0.4nm,0.3s						
LESA	**Schwarzleotal**	**11.37**	**332**	*e*Pn	**Pn**	**18 38 12.3**	**+0.5**
	1.2nm,0.3s						
GERES	**GERESS Array B**	**12.26**	**338**	Pn	**Pn**	**18 38 24.2**	**+0.2**
	baz=156,slow=14,SNR=2.7						
	0.5nm,0.8s						
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**18 40 33.0**	**-0.5**
	2.1nm,0.7s,baz=162,slow=10,SNR=5.5						
	2.1nm,0.7s						
FINES	**FINESS Array B**	**24.11**	**7**	P	**P**	**18 40 44.3**	**-0.5**
	1.0nm,0.5s,baz=188,slow=8.2,SNR=5.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**18 43 51.2**	**+1.7**
	0.1nm,0.4s,baz=273,slow=7.7,SNR=4.1						
	0.1nm,0.4s						
LSZ	**Lusaka**	**53.10**	**171**	LR	LR	19 12 02.6	
	comp=Z,89nm,20.5s,baz=163,slow=40						

KRSC 31 18:36:17.4±1.7,50°.76N×157°.50E, h62km±22km, MI3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.83**	**329**	*e*P	Pn	18 36 34.8	+1.4
PAU				*e*S	Sn	18 36 46.8	+1.6
SKR	**Severo-Kuril's**	**0.88**	**266**	*e*P	Pn	18 36 35.0	+1.0
SKR				*e*S	Sn	18 36 46.9	+0.6
KDTR	**Khodutka, Kamc**	**1.11**	**19**	*e*P	Pn	18 36 39.2	+2.2
KDTR				*e*S	Sn	18 36 53.7	+2.1
RUS	**Russkaya**	**1.79**	**20**	*e*P	Pn	18 36 47.9	+1.8
RUS				*e*S	Sn	18 37 09.2	+1.4
GRL	**Gorelyy**	**1.83**	**11**	*e*P	Pn	18 36 49.4	+2.6
GRL				*e*S	Sn	18 37 11.7	+2.7
APC	**Apacha**	**2.18**	**355**	*e*P	Pn	18 36 52.7	+1.4
PET	**Petropavlovsk**	**2.38**	**17**	*e*S	Sn	18 37 25.5	+3.4
DALK	**Dalny**	**2.41**	**18**	*e*P	Pn	18 36 57.2	+2.8
DALK				*e*S	Sn	18 37 26.0	+3.3
UGLR	**Uglovaya**	**2.59**	**18**	*e*P	Pn	18 37 00.8	+3.8
AVH	**Avacha**	**2.63**	**16**	*e*P	Pn	18 37 01.7	+4.3
KOK	**Koryaka**	**2.63**	**15**	*e*P	Pn	18 37 01.7	+4.1
SDLR	**Sedlovina**	**2.67**	**18**	*e*P	Pn	18 37 00.7	+2.7
NLC	**Nalytchevo**	**2.67**	**25**	*e*S	Sn	18 37 29.6	+0.5
KRX	**Arik**	**2.70**	**15**	*e*P	Pn	18 37 02.3	+3.7
SPN	**Mys Shipunski**	**2.82**	**33**	*e*S	Sn	18 37 35.4	+2.7
MKZ	**Mys Kozlova**	**4.59**	**32**	*e*P	Pn	18 37 26.5	+2.3
KBTR	**Krutoberegovo**	**6.32**	**28**	*e*P	Pn	18 37 49.8	+2.0

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*IDC **31** 18:39:50.2±1.0, 1°.61N×126°.10E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=60.3km s-min=19.4km az=70.0*
*DJA **31** 18:39:55.9±0.2,2°N±2°×12°6E±°, h10km, M3.7/12, mb3.7/4, MLv3.6/12*
ISC 31 18:39:57.4±1.0,1°.7N±0°.1×126°.46E±0°.07, h50km, n10, σ1§26/13, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.30**	**136**	P	**Pn**	**18 40 18.9**	**-0.4**
TNTI				S	**Sn**	**18 40 38.2**	**+2.6**
KMSI	**Cibinong**	**2.73**	**245**	P	**Pn**	**18 40 39.3**	**+0.5**
KMSI				S	**Sn**	**18 41 11.1**	**+0.5**
SANI	**Sanana**	**3.77**	**187**	P	**Pn**	**18 40 52.1**	**-1.0**
LUWI	**Luwuk**	**4.60**	**233**	P	**Pn**	**18 41 04.9**	**+0.5**
BBSI	**Bau Bau**	**8.14**	**208**	P	**Pn**	**18 41 53.5**	**+0.4**
WRA	**Warramunga Arr**	**22.87**	**161**	P	**P**	**18 44 55.1**	**-1.8**
	0.8nm,0.4s,baz=338,slow=11,SNR=13						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**26.25**	**164**	P	**P**	**18 45 27.6**	**-0.6**
	0.3nm,0.4s,baz=345,slow=9.0,SNR=10						
ASAR				PcP	**PcP**	**18 48 53.9**	**0.0**
	0.1nm,0.4s,baz=348,slow=2.4,SNR=1.8						
	0.3nm,0.4s						
PETK	**Petropavlovsk-**	**57.38**	**22**	P	**P**	**18 49 41.8**	**+1.2**
	1.9nm,0.9s,baz=200,slow=7.1,SNR=5.0						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**59.06**	**326**	P	**P**	**18 49 51.6**	**-0.9**
	0.4nm,0.4s,baz=123,slow=8.5,SNR=9.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.29**	**328**	P	**P**	**18 50 19.9**	**-1.1**
	0.4nm,0.5s,baz=128,slow=6.2,SNR=11						
	0.4nm,0.5s						

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*SKHL **31** 18:46:32.5±0.9, 42°.70N×134°.00E, h354km±4km, mb3.7/2*
IDC 31 18:46:24.6±15.0, 42°.78N×135°.39E, h380km±19km, mb2.6/4, mbtmp3.3/5, 1C, Error ellipse: s-maj=295.7km s-min=83.9km az=152.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**2.54**	**293**	*i* P	Pn	18 47 21.5	-0.9
GRTR				AMB	AMB	18 47 22.0	
	10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**2.86**	**301**	P	Pn	18 47 24.9	0.0
	5.0nm,0.4s,baz=120,slow=9.2,SNR=22						
MKAR	**Makanchi Array**	**37.31**	**295**	P	P	18 53 02.3	+0.4
	0.1nm,0.6s,baz=92,slow=7.2,SNR=1.8						
	0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**38.92**	**302**	P	P	18 53 14.7	-0.4
	0.4nm,0.6s,baz=81,slow=8.5,SNR=4.6						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**43.35**	**307**	P	P	18 53 50.0	-0.6
	0.3nm,0.5s,baz=79,slow=7.5,SNR=2.5						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**61.55**	**329**	P	P	18 56 02.5	+0.2
	0.7nm,0.7s,baz=67,slow=11,SNR=1.1						
	0.7nm,0.7s						

TXNET 31 18:51:26.7, 31°.2N±0°.9×103°.5W±0°.6, h5km±1km, ML2.3/12, Error ellipse: s-maj=1.3km s-min=0.9km az=179.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.10**	**205**	P	Pg	18 51 29.5	+0.4
TPB03				S	Sg	18 51 31.5	+0.9
TPB04	**Verhalen**	**0.17**	**87**	P	Pg	18 51 30.4	+0.4
TPB04				S	Sg	18 51 33.7	+1.4
TPB16	**Coyonosa**	**0.19**	**107**	P	Pg	18 51 31.2	+0.7
TPB16				S	Sg	18 51 34.1	+1.1
TPB16	**Coyonosa**	**0.19**	**107**	P	Pg	18 51 31.2	+0.7
TPB16				S	Sg	18 51 34.1	+1.1
PCOS	**Crockett Middl**	**0.23**	**350**	P	Pg	18 51 32.2	+0.9
PCOS				S	Sg	18 51 36.5	+2.0
TPB11	**Southeast of T**	**0.27**	**293**	P	Pg	18 51 32.9	+0.8
TPB10				S	Sb	18 51 37.6	-1.5
TPB05	**Hovey Rd**	**0.28**	**156**	P	Pb	18 51 33.7	-0.6
TPB05				S	Sb	18 51 38.6	-0.9
TPB01	**Permian Basin**	**0.36**	**229**	P	Pg	18 51 34.4	+0.6
TPB01				S	Sb	18 51 40.4	-1.2
PECS	**Pecos**	**0.40**	**299**	P	Pg	18 51 35.0	+0.5
PECS				S	Sg	18 51 40.9	+1.2
TPB12	**Southwest of T**	**0.43**	**275**	P	Pg	18 51 35.6	+0.6
TPB12				S	Sg	18 51 42.0	+1.4
TPB07	**Mentone**	**0.44**	**336**	P	Pb	18 51 36.2	-0.8
TPB07				S	Sg	18 51 42.3	+1.4
TPB06	**Permian Basin**	**0.51**	**24**	P	Pb	18 51 39.3	+1.1
TPB08	**Permian Basin**	**0.56**	**121**	P	Pn	18 51 40.6	-0.7
TPB08				S	Sb	18 51 46.8	-0.4
MNHN	**Monahans**	**0.62**	**75**	P	Pg	18 51 38.3	-0.3
MNHN				S	Sg	18 51 47.4	+0.6
ALPN	**Alpine**	**0.82**	**191**	P	Pg	18 51 42.4	0.0
ALPN				S	Sg	18 51 53.8	+0.7
CLNB	**Carlsbad**	**1.14**	**342**	P	Pg	18 51 48.2	-0.4
CLNB				S	Sn	18 52 04.9	-0.6
NM01	**Eunice**	**1.17**	**3**	P	Pg	18 51 48.8	-0.4
NM01				Sg	Sn	18 52 08.0	+1.8
NM01				S	Sb	18 52 08.5	+3.5
ODSA	**Odessa**	**1.22**	**39**	P	Pg	18 51 49.1	-1.0
ODSA				S	Sg	18 52 05.8	-0.1
TMB02	**Rankin**	**1.22**	**89**	P	Pg	18 51 49.8	-0.4
TMB02				S	Sb	18 52 06.5	+0.2
CLN7	**Carlsbad 7**	**1.27**	**347**	P	Pg	18 51 50.5	-0.5
GDL2	**Guadalupe Moun**	**1.28**	**323**	P	Pn	18 51 51.6	+0.3
HTMS	**Hat Mesa**	**1.30**	**354**	P	Pb	18 51 51.8	+0.2
HTMS				S	Sn	18 52 11.7	+2.3
VHRN	**Van Horn**	**1.37**	**254**	P	Pn	18 51 52.5	-0.1
VHRN				S	Sb	18 52 10.6	-0.1
VHRN				Sg	Sn	18 52 11.5	+0.4
TMB04	**Seminole**	**1.66**	**30**	P	Pn	18 51 56.8	+0.2
TMB04				S	Sg	18 52 20.3	+0.1
SAND	**Sanderson**	**1.68**	**136**	P	Pb	18 51 57.9	-0.2
SAND				S	Sg	18 52 21.2	+0.5
MNTX	**Cornudas Mount**	**1.72**	**288**	P	Pb	18 51 58.4	-0.4
MNTX				S	Sb	18 52 20.4	-0.4
TX31	**Lajitas Ar. Si**	**1.85**	**186**	P	Pb	18 52 00.5	-0.5
TX31				S	Sg	18 52 26.0	-0.1
CPRX	**Cap Rock**	**1.88**	**350**	P	Pb	18 52 00.6	-1.0
TMB05	**Klondike**	**1.98**	**43**	P	Pb	18 52 02.3	-1.1
TMB05				S	Sb	18 52 29.0	+0.6
OZNA	**Ozona**	**2.02**	**97**	P	Pb	18 52 03.2	-0.8
OZNA				S	Sb	18 52 30.5	+1.1
SGCY	**Sterling City**	**2.12**	**69**	P	Pn	18 52 04.3	+1.4
SGCY				S	Sb	18 52 31.7	-0.7
SGCY				Sg	Sg	18 52 33.7	-1.3
POST	**Post**	**2.51**	**41**	P	Pn	18 52 09.1	+0.9
POST				S	Sb	18 52 44.6	+1.1
SN08	**Arah**	**2.59**	**51**	P	Pn	18 52 10.5	+1.2
SN08				S	Sb	18 52 45.0	-0.9
SN01	**Snyder 1**	**2.75**	**52**	P	Pn	18 52 13.1	+1.5
SN01				S	Sb	18 52 49.5	-1.0
SN03	**Snyder 3**	**2.76**	**50**	P	Pn	18 52 12.3	+0.7
SN05	**Snyder 5**	**2.77**	**52**	P	Pn	18 52 13.0	+1.2
SN05				S	Sb	18 52 50.1	-0.8
MSTX	**Muleshoe**	**2.84**	**12**	P	Pb	18 52 16.3	-1.7
MSTX				S	Sb	18 52 53.8	+0.7
DRIO	**Del Rio**	**3.02**	**125**	P	Pb	18 52 19.0	-1.9
DRIO				S	Sb	18 52 59.5	+1.5
JCT	**Junction City**	**3.22**	**102**	S	Sn	18 53 00.3	+3.5
DKNS	**Dickens**	**3.28**	**40**	S	Sb	18 53 07.1	+1.5
APMT	**Aspermont**	**3.55**	**52**	P	Pn	18 52 23.6	+1.1
APMT				S	Sb	18 53 12.8	-0.6
BRDY	**Brady**	**3.82**	**87**	P	Pn	18 52 27.5	+1.3
BRDY				S	Sg	18 53 26.7	-2.9
HNDO	**Hondo**	**3.97**	**113**	P	Pb	18 52 38.5	+1.3
HNDO				S	Sg	18 53 30.6	-3.7
Y22A	**Socorro**	**4.04**	**314**	S	Sg	18 53 33.1	-3.4
ANMO	**Albuquerque**	**4.52**	**327**	S	Sg	18 53 47.5	-4.4
PLPT	**Palo Pinto**	**4.67**	**68**	P	Pn	18 52 38.3	+0.5

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*IDC **31** 18:53:20.9±2.0, 17°.96S×178°.37W, h546km±20km, mb3.1/7, mbtmp3.9/9, Error ellipse: s-maj=38.2km s-min=21.8km az=147.0*
ISC 31 18:53:23.6±1.0,18°.0S±0°.2×178°.5W±0°.2, h579km, n9, σ0§57/9, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**274**	P	P	18 54 38.4	-4.6
	29nm,0.7s,baz=112,slow=7.8,SNR=21						
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**18 56 29.4**	**-0.6**
	0.8nm,0.5s,baz=64,slow=9.5,SNR=1.2						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**18 59 57.9**	**+0.3**
	1.3nm,0.5s,baz=87,slow=6.5,SNR=4.2						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**44.54**	**260**	P	**P**	**19 00 45.1**	**-0.1**
	1.1nm,0.7s,baz=97,slow=7.7,SNR=20						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**19 00 46.8**	**+0.4**
	6.1nm,0.6s,baz=89,slow=8.4,SNR=130						
ASAR				PcP	**PcP**	**19 02 17.2**	**+1.1**
	0.4nm,1.0s,baz=91,slow=5.0,SNR=1.6						
	6.1nm,0.6s						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**19 03 49.6**	**-0.3**

ARCES	**ARCESS Array B**	55.70	342	P		**P**	**19 18 52.8 +0.5**
	3.4nm,0.8s,baz=19,slow=8.6,SNR=1.6						
	3.4nm,0.8s						
TXAR	**Lajitas Array**	71.73	66	P		**P**	**19 20 38.9 +0.1**
	0.3nm,0.5s,baz=298,slow=5.6,SNR=5.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	77.39	204	P		**P**	**19 21 11.3 -0.1**
	0.3nm,0.8s,baz=16,slow=6.1,SNR=2.3						
	0.3nm,0.8s						

*IDC **31** 19:18:55.3±1.1,50°.49N×160°.10E, h0km, mb3.7/7, mbtmp3.7/9, ML2.9/2, MS2.8/2, Error ellipse: s-maj=30.4km s-min=20.9km az=18.0*
*KRSC **31** 19:18:57.0±2.3,50°.53N×160°.18E, h62km±40km, Ml4.6*
*MOS **31** 19:19:03.0±1.0,50°.78N×159°.80E, h81km, mb4.2/4, Error ellipse: s-maj=12.6km s-min=3.8km az=94.5*

ISC 31 19:18:59.6±0.8, 50°.45N±0°.06×160°.21E±0°.05, h35km, n100, σ1§54/121, mb4.0/12, 3C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.91**	**316**	PN	**Pn**	**19 19 27.8**	**-1.9**
KDTR				S	**Sn**	**19 19 49.7**	**-2.8**
KDTR	**Khodutka, Kamc**	**1.91**	**316**	*e*P	**Pn**	**19 19 27.9**	**-1.9**
KDTR				*e*S	**Sn**	**19 19 49.7**	**-2.8**
RUS	**Russkaya**	**2.25**	**333**	PN	**Pn**	**19 19 32.5**	**-1.9**
RUS				S	**Sn**	**19 19 58.5**	**-2.4**
RUS	**Russkaya**	**2.25**	**333**	*e*P	**Pn**	**19 19 32.5**	**-1.9**
RUS				*e*S	**Sn**	**19 19 58.6**	**-2.4**
PAU	**Pauzhetka**	**2.38**	**297**	PN	**Pn**	**19 19 34.5**	**-1.6**
PAU	**Pauzhetka**	**2.38**	**297**	*e*P	**Pn**	**19 19 34.6**	**-1.6**
GRL	**Gorelyy**	**2.50**	**328**	PN	**Pn**	**19 19 37.1**	**-0.7**
GRL	**Gorelyy**	**2.50**	**328**	*e*P	**Pn**	**19 19 37.1**	**-0.7**
GRL				*e*S	**Sn**	**19 20 06.6**	**-0.5**
SKR	**Severo-Kuril's**	**2.62**	**277**	*i*PN	**Pn**	**19 19 37.5**	**-1.9**
SKR				*e*S	**Sn**	**19 20 05.8**	**-4.1**
SKR				pmax	pmax		
	comp=Z,958nm,0.4s						
SKR				smax	smax		
	comp=E,3μm,0.9s						
SKR				smax	smax		
	comp=N,3μm,0.6s						
SKR	**Severo-Kuril's**	**2.62**	**277**	*e*P	**Pn**	**19 19 37.4**	**-2.0**
SKR				*e*S	**Sn**	**19 20 05.8**	**-4.1**
SPN	**Mys Shipunski**	**2.66**	**358**	PN	**Pn**	**19 19 38.7**	**-1.2**
SPN				S	**Sn**	**19 20 08.5**	**-2.3**
SPN	**Mys Shipunski**	**2.66**	**358**	*e*P	**Pn**	**19 19 38.7**	**-1.2**
SPN				*e*S	**Sn**	**19 20 08.6**	**-2.3**
KRMR	**Karymshinskiy**	**2.71**	**332**	PN	**Pn**	**19 19 40.1**	**-0.6**
KRMR				S	**Sn**	**19 20 11.0**	**-1.3**
KRMR	**Karymshinskiy**	**2.71**	**332**	*e*P	**Pn**	**19 19 40.2**	**-0.6**
KRMR				*e*S	**Sn**	**19 20 11.1**	**-1.3**
DALK	**Dalny**	**2.74**	**341**	PN	**Pn**	**19 19 39.7**	**-1.3**
DALK				S	**Sn**	**19 20 10.5**	**-2.4**
DALK	**Dalny**	**2.74**	**341**	*e*P	**Pn**	**19 19 39.8**	**-1.3**
DALK				*e*S	**Sn**	**19 20 10.6**	**-2.4**
PET	**Petropavlovsk**	**2.76**	**340**	*e*PN	**Pn**	**19 19 41.0**	**-0.3**
PET				*e*S	**Sn**	**19 20 11.1**	**-2.2**
PET				smax	smax		
	comp=N,523nm,0.5s						
PET	**Petropavlovsk**	**2.76**	**340**	*e*P	**Pn**	**19 19 40.4**	**-0.8**
PET				*e*S	**Sn**	**19 20 11.0**	**-2.3**
NLC	**Nalytchevo**	**2.78**	**349**	PN	**Pn**	**19 19 41.3**	**-0.3**
NLC	**Nalytchevo**	**2.78**	**349**	*e*P	**Pn**	**19 19 41.4**	**-0.3**
UGLR	**Uglovaya**	**2.90**	**343**	PN	**Pn**	**19 19 42.6**	**-0.7**
UGLR	**Uglovaya**	**2.90**	**343**	*e*P	**Pn**	**19 19 42.6**	**-0.7**
SDLR	**Sedlovina**	**2.95**	**344**	PN	**Pn**	**19 19 43.3**	**-0.8**
SDLR	**Sedlovina**	**2.95**	**344**	*e*P	**Pn**	**19 19 43.4**	**-0.8**
AVH	**Avacha**	**2.97**	**343**	PN	**Pn**	**19 19 44.8**	**+0.6**
AVH	**Avacha**	**2.97**	**343**	*e*P	**Pn**	**19 19 44.9**	**+0.6**
AVH				*e*S	**Sn**	**19 20 19.8**	**+1.2**
KOK	**Koryaka**	**3.01**	**342**	PN	**Pn**	**19 19 44.7**	**-0.2**
KOK	**Koryaka**	**3.01**	**342**	*e*P	**Pn**	**19 19 44.7**	**-0.2**
KRX	**Arik**	**3.07**	**342**	PN	**Pn**	**19 19 45.4**	**-0.3**
KRX				S	**Sn**	**19 20 19.8**	**-1.5**
KRX	**Arik**	**3.07**	**342**	*e*P	**Pn**	**19 19 45.5**	**-0.3**
KRX				*e*S	**Sn**	**19 20 19.8**	**-1.5**
PEA0B	**Petropavlovsk-**	**3.09**	**331**	*d i*PN	**Pn**	**19 19 45.6**	**-0.3**
PETK	**Petropavlovsk-**	**3.09**	**331**	Pn	**Pn**	**19 19 44.7**	**-1.2**
	comp=N,2.9nm,0.3s,baz=137,slow=15,SNR=54						
PETK				Sn	**Sn**	**19 20 21.9**	**+0.4**
	comp=N,17nm,0.3s,baz=147,slow=17,SNR=9.1						
	comp=N,10.0nm,0.5s						
APC	**Apacha**	**3.12**	**324**	PN	**Pn**	**19 19 45.6**	**-0.7**
APC	**Apacha**	**3.12**	**324**	*e*P	**Pn**	**19 19 45.7**	**-0.7**
APC				*e*S	**Sn**	**19 20 22.5**	**+0.1**
GNL	**Ganaly**	**3.54**	**338**	PN	**Pn**	**19 19 52.5**	**+0.3**
GNL	**Ganaly**	**3.54**	**338**	*e*P	**Pn**	**19 19 52.5**	**+0.3**
MKZ	**Mys Kozlova**	**4.22**	**12**	PN	**Pn**	**19 20 00.2**	**-1.1**
MKZ				S	**Sn**	**19 20 46.2**	**-3.1**
MKZ	**Mys Kozlova**	**4.22**	**12**	*e*P	**Pn**	**19 20 00.3**	**-1.1**
MKZ				*e*S	**Sn**	**19 20 46.2**	**-3.1**
TUMD	**Tumrok D**	**4.77**	**1**	PN	**Pn**	**19 20 08.6**	**-0.3**
TUMD				S	**Sn**	**19 21 00.2**	**-2.6**
TUMD	**Tumrok D**	**4.77**	**1**	*e*P	**Pn**	**19 20 08.6**	**-0.3**
TUMD				*e*S	**Sn**	**19 21 00.3**	**-2.6**
KMNR	**Kamenistaya**	**5.32**	**0**	PN	**Pn**	**19 20 17.6**	**+1.1**
KMNR	**Kamenistaya**	**5.32**	**0**	*e*P	**Pn**	**19 20 17.7**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**5.51**	**3**	PN	**Pn**	**19 20 20.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**5.51**	**3**	*e*P	**Pn**	**19 20 20.0**	**+0.8**
KIRR	**Kirishev**	**5.52**	**1**	PN	**Pn**	**19 20 20.0**	**+0.7**
KIRR	**Kirishev**	**5.52**	**1**	*e*P	**Pn**	**19 20 20.1**	**+0.7**
KPT	**Kopyto**	**5.53**	**0**	PN	**Pn**	**19 20 20.1**	**+0.7**
KPT	**Kopyto**	**5.53**	**0**	*e*P	**Pn**	**19 20 20.2**	**+0.7**
BZWR	**Bezymyannyi-We**	**5.53**	**2**	PN	**Pn**	**19 20 20.8**	**+1.3**
BZWR	**Bezymyannyi-We**	**5.53**	**2**	*e*P	**Pn**	**19 20 20.9**	**+1.3**
ESO	**Esso**	**5.56**	**351**	PN	**Pn**	**19 20 20.1**	**+0.3**
ESO	**Esso**	**5.56**	**351**	*e*P	**Pn**	**19 20 20.2**	**+0.3**
ZLN	**Zelenaya**	**5.59**	**3**	PN	**Pn**	**19 20 21.0**	**+0.7**
ZLN	**Zelenaya**	**5.59**	**3**	*e*P	**Pn**	**19 20 21.1**	**+0.7**
KOZ	**Kozyrevsk**	**5.62**	**358**	PN	**Pn**	**19 20 21.1**	**+0.5**
KOZ	**Kozyrevsk**	**5.62**	**358**	*e*P	**Pn**	**19 20 21.2**	**+0.5**
LGNR	**Loginova**	**5.65**	**3**	PN	**Pn**	**19 20 22.1**	**+0.8**
LGNR	**Loginova**	**5.65**	**3**	*e*P	**Pn**	**19 20 22.2**	**+0.8**
CIRR	**Tsirk**	**5.69**	**3**	PN	**Pn**	**19 20 22.7**	**+1.0**
CIRR	**Tsirk**	**5.69**	**3**	*e*P	**Pn**	**19 20 22.7**	**+1.0**
KRSR	**Krestovskiy**	**5.78**	**2**	PN	**Pn**	**19 20 23.5**	**+0.6**
KRSR	**Krestovskiy**	**5.78**	**2**	*e*P	**Pn**	**19 20 23.6**	**+0.6**
KLY	**Klyuchi**	**5.88**	**2**	PN	**Pn**	**19 20 24.8**	**+0.6**
KLY	**Klyuchi**	**5.88**	**2**	*e*P	**Pn**	**19 20 24.8**	**+0.6**
BKI	**Bering**	**5.91**	**34**	PN	**Pn**	**19 20 23.5**	**-1.0**
BKI	**Bering**	**5.91**	**34**	*e*P	**Pn**	**19 20 23.6**	**-1.0**
BKI				*e*S	**Sn**	**19 21 24.8**	**-6.1**
KBTR	**Krutoberegovo**	**5.98**	**14**	PN	**Pn**	**19 20 25.0**	**-0.5**
KBTR				S	**Sn**	**19 21 30.8**	**-1.8**
KBTR	**Krutoberegovo**	**5.98**	**14**	*e*P	**Pn**	**19 20 25.0**	**-0.5**
KBTR				*e*S	**Sn**	**19 21 30.9**	**-1.8**
KBG	**Krutoberegovo**	**6.01**	**13**	PN	**Pn**	**19 20 25.5**	**-0.3**
KBG				S	**Sn**	**19 21 30.7**	**-2.6**
KBG	**Krutoberegovo**	**6.01**	**13**	*e*P	**Pn**	**19 20 25.6**	**-0.3**
KBG				*e*S	**Sn**	**19 21 30.8**	**-2.6**
SHEM	**Shemya Is, Ala**	**8.95**	**70**	Pn	**Pn**	**19 21 05.8**	**-0.4**
	comp=N,10.0nm,0.3s,baz=168,slow=0.4,SNR=7.0						
SHEM				Sn	Sn	19 22 39.0	-6.6
	comp=N,21nm,0.3s,baz=252,slow=23,SNR=15						
YSS	**Yuzhno-Sakhali**	**12.05**	**260**	*e*PN	**Pn**	**19 21 49.9**	**+1.2**
KMSK	**Kamenskaya**	**12.49**	**13**	PN	**Pn**	**19 21 55.4**	**+0.9**
KMSK	**Kamenskaya**	**12.49**	**13**	*e*P	**Pn**	**19 21 55.5**	**+0.9**
BILL	**Bilibino**	**17.90**	**7**	*e*P	**P**	**19 23 06.4**	**+0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KLR	**Kul'dur**	**18.35**	**277**	P	**P**	**19 23 12.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=11,SNR=5.6						
	comp=Z,1.7nm,0.9s						
KLR	**Kul'dur**	**18.35**	**277**	*i*P	**P**	**19 23 11.9**	**+1.0**
KLR				pmax	pmax		
	comp=Z,10.0nm,2.6s						
YAK	**Yakutsk**	**20.32**	**316**	LR	LR	19 31 30.3	
	comp=Z,39nm,20.8s,baz=82,slow=37						
YAK	**Yakutsk**	**20.32**	**316**	*e*P	**P**	**19 23 29.5**	**-2.8**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.9s						
HEH	**HeiHe**	**20.84**	**282**	*e*P	Pn	19 23 36.5	-4.2
HEH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAJO	**Matsushiro**	**21.06**	**237**	*e*P	**P**	**19 23 40.4**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,27nm,1.7s						
TIXI	**Tiksi**	**25.54**	**338**	*e*P	**P**	**19 24 25.2**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSRS	**Korea Array**	**26.40**	**253**	LR	LR	19 34 55.8	
	comp=Z,14nm,21.0s,baz=225,slow=36						
H11S1	**WAKE ISLAND Hy**	**32.28**	**168**	T	T	20 00 37.6	
	baz=355,slow=74						
H11S3	**WAKE ISLAND Hy**	**32.30**	**168**	T	T	20 01 00.6	
	baz=355,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.30**	**168**	T	T	20 00 50.8	
	baz=355						
SONM	**Songino Array**	**34.66**	**287**	P	**P**	**19 25 46.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=78,slow=8.7,SNR=4.3						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**34.66**	**287**	*e*P	**P**	**19 25 46.9**	**+1.2**
ZALV	**Zalesovo Beam**	**44.31**	**305**	P	**P**	**19 27 04.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=52,slow=7.5,SNR=1.9						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**49.23**	**304**	*de*P	**P**	**19 27 44.9**	**+0.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**49.33**	**304**	P	**P**	**19 27 44.8**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=62,slow=7.6,SNR=23						
	comp=Z,1.8nm,0.5s						
MK31	**Makanchi Array**	**49.41**	**298**	*ce*P	**P**	**19 27 46.3**	**+0.6**
MKAR	**Makanchi Array**	**49.41**	**298**	P	**P**	**19 27 46.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=59,slow=7.3,SNR=15						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**49.41**	**298**	*e*P	**P**	**19 27 46.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SPITS	**Spitsbergen Ar**	**49.76**	**351**	P	P	19 27 52.4	+4.4
	comp=Z,0.8nm,0.4s,baz=66,slow=8.4,SNR=5.6						
BVAR	**Borovoye Array**	**52.12**	**310**	P	**P**	**19 28 05.8**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=54,slow=7.8,SNR=11						
	comp=Z,0.9nm,0.4s						
AAK	**Ala-Archa**	**56.34**	**298**	*e*P	**P**	**19 28 37.9**	**+0.8**
AAK				pmax	pmax		
	comp=Z,8.0nm,3.6s						
TXAR	**Lajitas Array**	**71.62**	**66**	P	**P**	**19 30 19.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=325,slow=7.0,SNR=6.3						
	comp=Z,0.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**73.68**	**350**	P	P	19 30 33.9	+4.6
	comp=Z,1.8nm,1.1s,baz=17,slow=5.4,SNR=4.0						
ASAR	**Alice Springs**	**77.38**	**205**	P	**P**	**19 30 51.6**	**+0.8**
	comp=Z,0.4nm,1.0s,baz=17,slow=5.4,SNR=4.6						
	comp=Z,0.4nm,1.0s						

*NEIC **31** 19:22:00.2±1.1,60°.13N±0°.03×152°.08W±0°.06, h74km±6km, Error ellipse: s-maj=4.8km s-min=3.9km az=53.0*

AEIC 31 19:22:01.3±1.2, 60°.13N±0°.03×152°.08W±0°.07, h64km±6km, ML2.5, ML2.7/134(NEIC), Error ellipse: s-maj=5.3km s-min=3.7km az=65.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.28**	**261**		Pn	19 22 11.6	-0.2
O20K					Sn	19 22 20.5	+1.1
RED	**Redoubt Volcan**	**0.45**	**311**		Pn	19 22 12.7	-0.5
RED					Sn	19 22 22.5	+0.5
RDT	**Redoubt**	**0.48**	**340**		Pn	19 22 12.5	-1.0
RDT					Sn	19 22 22.1	-0.3
HOM	**Homer**	**0.52**	**155**		Pn	19 22 13.3	-0.5
HOM				IAML		19 22 26.2	
	comp=N,480nm,0.5s						
HOM	**Homer**	**0.52**	**155**		Sn	19 22 23.8	+0.9
RDWB	**Redoubt West**	**0.52**	**314**		Pn	19 22 13.4	-0.6
RDWB					Sn	19 22 23.6	+0.4
ILS	**Iliamna Low So**	**0.52**	**251**		Pn	19 22 13.5	-0.5
ILSW	**Iliamna Southw**	**0.55**	**255**		Pn	19 22 13.5	-0.8
ILSW				IAML		19 22 26.4	
	comp=E,174nm,0.5s						
ILSW	**Iliamna Southw**	**0.55**	**255**		Sn	19 22 23.9	+0.1
DFR	**Drift River**	**0.55**	**327**		Sn	19 22 24.2	+0.5
RDJH	**Redoubt Jeurge**	**0.59**	**323**		Pn	19 22 14.2	-0.4
NCT	**North Crescent**	**0.61**	**316**		Pn	19 22 14.4	-0.5
NCT					Sn	19 22 25.3	+0.5
BRLK	**Bradley Lake**	**0.70**	**121**		Pn	19 22 14.6	-1.3
CNPM	**China Poot**	**0.74**	**144**		Pn	19 22 15.5	-0.8
CNPM				IAML		19 22 28.5	
	comp=N,363nm,0.4s						
CNPM				IAML		19 22 29.6	
	comp=E,317nm,0.1s						
CNPM	**China Poot**	**0.74**	**144**		Sn	19 22 26.9	-0.5
P19K	**Oil Pt**	**0.75**	**231**		Pn	19 22 16.3	-0.1
P19K				IAML		19 22 30.0	
	comp=N,283nm,0.5s						
BRSE	**Bradley Lake S**	**0.78**	**119**		Pn	19 22 15.6	-1.1
CAPN	**Captain Cook N**	**0.79**	**35**		Pn	19 22 17.4	+0.5
SLKM	**Skilak Lake**	**1.00**	**67**		Pn	19 22 18.1	-1.5
SLKM	**Skilak Lake**	**1.00**	**67**	IAML		19 22 35.5	
	comp=E,253nm,0.1s						
AUL	**Augustine Lava**	**1.01**	**223**		Pn	19 22 19.4	-0.3
AUCH	**Augustine Cone**	**1.03**	**223**		Pn	19 22 19.6	-0.4
O19K	**Port Alsworth**	**1.12**	**274**		Pn	19 22 20.4	-0.6
O19K	**Port Alsworth**	**1.12**	**274**		Sn	19 22 35.5	-0.3
O22K	**Cooper Landing**	**1.23**	**72**		Pn	19 22 21.2	-1.2
SEW	**Seward**	**1.32**	**90**		Pn	19 22 23.3	-0.3
FIS	**Fire Island**	**1.37**	**41**		Pn	19 22 24.6	+0.2
FIS	**Fire Island**	**1.37**	**41**	IAML		19 22 47.9	
	comp=N,111nm,0.2s						
FIS				IAML		19 22 53.4	
	comp=E,138nm,0.6s						
N19K	**Bonanza Creek**	**1.37**	**301**		Pn	19 22 23.6	-0.9
N19K				IAML		19 22 41.8	
	comp=E,84nm,0.2s						
N19K	**Bonanza Creek**	**1.37**	**301**		Sn	19 22 41.2	-0.7
STLK	**Strandline Lak**	**1.38**	**5**		Pn	19 22 24.4	-0.2
STLK				IAML		19 22 43.0	
	comp=E,69nm,0.4s						
STLK				IAML		19 22 43.5	
	comp=N,78nm,0.7s						
Q19K	**Cape Douglas,**	**1.44**	**214**		Pn	19 22 24.8	-0.6
Q19K				IAML		19 22 45.7	
	comp=N,184nm,0.6s						
Q19K				IAML		19 22 47.1	
	comp=E,184nm,0.9s						
SUA	**Susitna One**	**1.49**	**25**		Pn	19 22 25.7	-0.4
SUA				IAML		19 22 46.9	
	comp=E,147nm,0.8s						
SUA				IAML		19 22 47.9	
	comp=N,163nm,0.8s						
RC01	**Rabbit Creek A**	**1.51**	**49**		Pn	19 22 25.3	-0.8
RC01				IAML		19 22 48.9	
	comp=N,123nm,0.4s						
RC01				IAML		19 22 49.8	
	comp=E,100nm,0.4s						
SYI	**Shuyak Island**	**1.53**	**186**		Pn	19 22 26.4	-0.1
SYI				IAML		19 22 50.0	
	comp=N,108nm,0.4s						
SYI				IAML		19 22 50.6	
	comp=E,128nm,0.5s						
O18K	**Koktuh Hills**	**1.59**	**261**		Pn	19 22 26.3	-1.1
O18K				IAML		19 22 47.0	
	comp=N,67nm,0.8s						
O18K				IAML		19 22 47.1	
	comp=E,100nm,0.5s						
M20K	**Styx River**	**1.83**	**344**		Pn	19 22 30.1	-0.5
SKT	**Skwentna**	**1.88**	**8**		Pn	19 22 30.7	-0.5
SKT				IAML		19 22 57.0	
	comp=E,55nm,0.5s						
N18K	**Kilae Creek**	**1.97**	**288**		Pn	19 22 31.2	-1.2
N18K				IAML		19 22 55.7	
	comp=E,41nm,0.6s						
PWL	**Port Wells**	**1.99**	**67**		Pn	19 22 31.1	-1.7
PMR	**Palmer**	**2.06**	**43**		Pn	19 22 32.5	-1.1
PMR				IAML		19 23 03.2	
	comp=E,42nm,0.4s						
PMR				IAML		19 23 06.0	
	comp=N,33nm,0.3s						
KAHG	**Katmai Hook Gl**	**2.07**	**219**		Pn	19 22 33.4	-0.5
M19K	**Big River Lodg**	**2.11**	**329**		Pn	19 22 33.6	-0.6
M19K				IAML		19 22 59.9	
	comp=E,36nm,0.4s						
KAHC	**Katmai Hardscr**	**2.11**	**227**		Pn	19 22 33.4	-1.0
KNK	**Knik Glacier**	**2.20**	**52**	IAML		19 23 07.2	
	comp=N,59nm,0.4s						
KNK				IAML		19 23 08.5	
	comp=E,66nm,0.5s						
GHO	**Glory Hole Cre**	**2.26**	**42**	IAML		19 23 08.5	
	comp=E,61nm,0.7s						
GHO				IAML		19 23 09.2	
	comp=N,59nm,0.7s						
M18K	**Stony River**	**2.29**	**308**		Pn	19 22 35.6	-1.1
KDAK	**Kodiak Island**	**2.37**	**187**		Pn	19 22 36.2	-1.5
KDAK				IAML		19 23 12.0	
	comp=N,36nm,0.5s						
KDAK				IAML		19 23 13.6	
	comp=N,33nm,0.8s						
P17K	**Kvichak River**	**2.40**	**249**		Pn	19 22 37.7	-0.5
L19K	**White Mountain**	**2.46**	**328**		Pn	19 22 38.3	-0.7
SML	**Sawmill**	**2.49**	**46**	IAML		19 23 16.6	
	comp=E,42nm,0.7s						
SML				IAML		19 23 16.6	
	comp=N,37nm,0.7s						
ACHA	**Angle Creek He**	**2.55**	**222**	Pn	Pn	19 22 40.3	0.0
N17K	**Nushagak Hills**	**2.57**	**281**		Pn	19 22 39.6	-0.9
N17K	**Nushagak Hills**	**2.57**	**281**	IAML		19 23 22.4	
	comp=N,25nm,0.9s						
GLI	**Glacier Island**	**2.58**	**71**		Pn	19 22 37.6	-3.1
GLI				IAML		19 23 08.1	
	comp=N,40nm,0.5s						
M23K	**Glacier View**	**2.70**	**50**		Pn	19 22 42.0	-0.4
PPLA	**Purkeypile**	**2.78**	**359**	Pn	Pn	19 22 44.1	+0.6
HIN	**Hinchinbrook I**	**2.79**	**82**		Pn	19 22 42.5	-1.1
HIN	**Hinchinbrook I**	**2.79**	**82**	IAML		19 23 15.2	
	comp=N,37nm,0.4s						
HIN				IAML		19 23 15.2	
	comp=E,44nm,0.6s						
FID	**Port Fidalgo**	**2.85**	**75**	IAML		19 23 13.6	
	comp=E,49nm,0.3s						
SCM	**Sheep Creek Mo**	**2.88**	**52**		Pn	19 22 43.9	-1.0
SCM				IAML		19 23 32.0	
	comp=E,26nm,1.0s						
SCM				IAML		19 23 34.2	
	comp=N,25nm,1.1s						
M17K	**Holitna River**	**2.92**	**298**		Pn	19 22 44.8	-0.5
OHAK	**Old Harbor**	**2.98**	**193**		Pn	19 22 45.1	-1.0
OHAK	**Old Harbor**	**2.98**	**193**	IAML		19 23 31.7	
	comp=E,13nm,0.6s						
OHAK				IAML		19 23 35.7	
	comp=N,14nm,0.7s						
L18K	**Granite Mounta**	**3.06**	**315**		Pn	19 22 46.5	-0.8
L18K				IAML		19 23 22.4	
	comp=N,14nm,0.7s						
O16K	**Kokwok River B**	**3.08**	**263**		Pn	19 22 46.8	-0.7
O16K				IAML		19 23 24.2	
	comp=N,15nm,0.4s						
O16K				IAML		19 23 35.6	
	comp=E,14nm,0.8s						
P16K	**Nushagak River**	**3.20**	**252**		Pn	19 22 48.7	-0.4
CAST	**Castle Rocks**	**3.30**	**360**		Pn	19 22 49.6	-0.9
K20K	**Telida**	**3.38**	**345**	Pn	Pn	19 22 51.3	-0.2
KTH	**Kantishna Hill**	**3.48**	**9**		Pn	19 22 54.1	+1.1
KTH				IAML		19 23 40.4	
	comp=N,21nm,0.8s						
KTH				IAML		19 23 41.1	
	comp=E,14nm,1.0s						
M24K	**Tolsona, Glenn**	**3.49**	**53**	IAML		19 23 45.4	
	comp=N,24nm,1.0s						
M24K				IAML		19 24 03.5	
	comp=E,22nm,0.9s						
M16K	**Timber Creek**	**3.51**	**288**	IAML		19 23 33.1	
	comp=N,8.9nm,0.8s						
RND	**Reindeer**	**3.63**	**24**		Pn	19 22 55.6	+0.6
RND				IAML		19 23 48.8	
	comp=N,11nm,0.8s						
RND				IAML		19 23 51.8	
	comp=E,9.7nm,1.1s						
KAIM	**Kayak Island**	**3.85**	**90**	Pn	Pn	19 22 55.2	-2.8
KAIM				IAML		19 23 40.4	
	comp=E,12nm,0.7s						
KAIM				IAML		19 24 08.7	
	comp=N,9.4nm,1.1s						
L16K	**Owhat River**	**3.94**	**297**	Pn	Pn	19 22 58.3	-0.9
L16K				IAML		19 23 43.5	
	comp=E,6.1nm,0.4s						
N25K	**Chitina, Valde**	**3.95**	**65**	IAML		19 23 43.6	
	comp=E,12nm,0.5s						
N25K				IAML		19 23 43.6	
	comp=N,14nm,0.3s						
K17K	**Iditarod**	**3.96**	**314**	Pn	Pn	19 22 58.9	-0.6
K17K				IAML		19 24 00.3	
	comp=E,12nm,0.8s						
N15K	**Kwethluk River**	**4.00**	**274**		Pn	19 22 60.0	-0.2
N15K	**Kwethluk River**	**4.00**	**274**	IAML		19 23 46.5	
	comp=E,14nm,0.6s						
BPAW	**Bear Paw Mtn.**	**4.02**	**7**		Pn	19 23 00.3	-0.1
O15K	**Ungalikthiuk R**	**4.04**	**260**		Pn	19 23 00.5	-0.1
HARP	**HAARP**	**4.05**	**53**		Pn	19 22 59.9	-0.8
GLB	**Gilahina Butte**	**4.26**	**68**	IAML		19 23 49.2	
	comp=N,12nm,0.4s						
GLB				IAML		19 23 49.9	
	comp=E,12nm,0.4s						
WAX	**Waxell Ridge**	**4.

*IDC **31** 19:35:05.0±1.2, 19°.95S×177°.83W, h577km±12km, mb3.6/15, mbtmp4.6/18, Error ellipse: s-maj=15.4km s-min=10.8km az=102.0*

ISC 31 19:35:02.6±0.4, 19°.88S±0°.07×177°.72W±0°.08, h550km, n159, σ1°51/163, mb4.5/36, 20C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**297**	P	**P**	**19 36 32.0**	**+3.2**
	45nm,0.5s,baz=154,slow=4.6,SNR=96						
MSVF				S	**S**	**19 37 43.6**	**+4.6**
	26nm,1.0s,baz=149,slow=19,SNR=5.5						
MSVF	**Nonsavu**	**4.54**	**297**	P	**P**	**19 36 31.9**	**+3.1**
FUTU	**Fugatoga**	**5.55**	**356**	P	**P**	**19 36 38.9**	**+1.6**
NIUE	**Niue**	**7.39**	**85**	P	**P**	**19 36 56.4**	**+2.0**
AFI	**Afiamalu**	**8.22**	**45**	P	**P**	**19 37 01.6**	**-1.1**
INH	**Isangel**	**12.26**	**269**	P	**P**	**19 37 47.2**	**+3.4**
DVP	**Devils Point**	**13.52**	**277**	P	**P**	**19 37 58.1**	**+1.3**
PINNC	**Pines Island,**	**14.10**	**256**	P	**P**	**19 38 04.3**	**+1.5**
YATNC	**Mamie plateau,**	**14.54**	**259**	P	**P**	**19 38 09.9**	**+2.6**
OUENC	**Ouen Island, N**	**14.62**	**257**	P	**P**	**19 38 11.2**	**+3.0**
DZM	**Mont Dzumac**	**14.95**	**259**	P	**P**	**19 38 14.2**	**+2.5**
DZM	**Mont Dzumac**	**14.95**	**259**	P	**P**	**19 38 12.9**	**+1.2**
	11nm,0.6s,baz=66,slow=7.3,SNR=19						
DZM	**Mont Dzumac**	**14.95**	**259**	P	**P**	**19 38 14.1**	**+2.4**
KOUNC	**Koumac, New Ca**	**16.90**	**265**	P	**P**	**19 38 32.1**	**+1.6**
OUZ	**Omahuta**	**17.10**	**205**	P	**P**	**19 38 35.0**	**+3.0**
MXZ	**Matakaoa Point**	**17.96**	**190**	P	**P**	**19 38 42.2**	**+2.3**
TOZ	**Tahuroa Road**	**18.74**	**197**	P	**P**	**19 38 49.5**	**+2.4**
URZ	**Urewera**	**18.86**	**193**	P	**P**	**19 38 46.6**	**-1.5**
	41nm,0.3s,baz=7.7,slow=2.8,SNR=53						
URZ				S	**S**	**19 41 45.4**	**-6.0**
	15nm,1.0s,baz=314,slow=7.5,SNR=1.8						
URZ	**Urewera**	**18.86**	**193**	P	**P**	**19 38 47.8**	**-0.3**
RTZ	**Ruatahuna**	**19.23**	**193**	P	**P**	**19 38 50.6**	**-1.0**
RTZ				IAmb	IAmb	19 38 53.7	
	comp=Z,20nm,0.7s						
BKZ	**Black Stump Fm**	**19.86**	**193**	P	**P**	**19 38 55.8**	**-1.4**
BKZ				IAmb	IAmb	19 38 59.3	
	comp=Z,50nm,1.4s						
BKZ	**Black Stump Fm**	**19.86**	**193**	P	**P**	**19 38 56.8**	**-0.5**
BFZ	**Birch Farm**	**21.37**	**193**	P	**P**	**19 39 11.1**	**+0.3**
TCW	**Tory Channel**	**22.33**	**196**	P	**P**	**19 39 19.5**	**+0.1**
QRZ	**Quartz Range**	**22.48**	**200**	P	**P**	**19 39 22.2**	**+1.4**
THZ	**Tophouse**	**23.22**	**198**	P	**P**	**19 39 27.4**	**0.0**
KHZ	**Kahutara**	**23.65**	**196**	P	**P**	**19 39 31.5**	**+0.4**
RPZ	**Rata Peaks**	**25.56**	**199**	P	**P**	**19 39 49.7**	**+1.6**
	comp=Z,16nm,0.5s,baz=23,slow=1.9,SNR=5.5						
	comp=Z,16nm,0.5s						
JCZ	**Jackson Bay**	**26.63**	**202**	P	**P**	**19 39 58.3**	**+0.7**
ODZ	**Otahua Downs**	**26.89**	**198**	P	**P**	**19 40 00.8**	**+1.1**
WHZ	**Wether Hill Ro**	**28.51**	**201**	P	**P**	**19 40 16.3**	**+2.5**
PMG	**Port Moresby**	**35.47**	**282**	P	**P**	**19 41 11.4**	**-2.1**
PATS	**Pohnpei**	**35.51**	**316**	P	**P**	**19 41 13.7**	**-0.1**
MTSU	**Mount Surprise**	**35.89**	**266**	P	**P**	**19 41 17.0**	**0.0**
TOO	**Toolangi**	**36.48**	**233**	P	**P**	**19 41 21.7**	**+0.1**
TAU	**Tasmania Unive**	**37.25**	**224**	P	**P**	**19 41 29.5**	**+1.7**
COEN	**Coen**	**37.81**	**273**	P	**P**	**19 41 33.1**	**+0.3**
STKA	**Stephens Creek**	**38.30**	**243**	P	**P**	**19 41 36.6**	**+0.1**
STKA				IAmb	IAmb	19 42 09.8	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**38.30**	**243**	P	**P**	**19 41 37.5**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=82,slow=11,SNR=6.5						
	comp=Z,1.9nm,0.6s						
STKA	**Stephens Creek**	**38.30**	**243**	P	**P**	**19 41 37.7**	**+1.2**
HTT	**Hallett**	**40.75**	**242**	P	**P**	**19 41 57.1**	**+0.9**
LCRK	**Leigh Creek**	**41.02**	**246**	P	**P**	**19 41 59.2**	**+0.8**
BBOO	**Buckleboo**	**43.06**	**243**	P	**P**	**19 42 14.8**	**+0.5**
BBOO				IAmb	IAmb	19 42 15.8	
	comp=Z,13nm,1.0s						
BBOO	**Buckleboo**	**43.06**	**243**	P	**P**	**19 42 14.5**	**+0.1**
JAY	**Jayapura**	**44.10**	**288**	P	**P**	**19 42 22.9**	**+0.2**
	comp=Z,27nm,0.6s,baz=163,slow=5.1,SNR=17						
	comp=Z,27nm,0.6s						
AS31	**Alice Springs**	**44.92**	**256**	P	**P**	**19 42 28.9**	**0.0**
AS31				IAmb	IAmb	19 42 30.5	
	comp=Z,8.2nm,0.3s						
ASAR	**Alice Springs**	**44.92**	**256**	P	**P**	**19 42 28.9**	**0.0**
	comp=Z,18nm,0.7s,baz=85,slow=8.1,SNR=269						
ASAR				PcP	**PcP**	**19 43 58.2**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=105,slow=4.0,SNR=5.0						
	comp=Z,18nm,0.7s						
WB0	**Warramunga Arr**	**44.92**	**262**	P	**P**	**19 42 28.2**	**-0.8**
WB0				IAmb	IAmb	19 42 29.1	
	comp=Z,15nm,0.4s						
WB2	**Warramunga Arr**	**44.94**	**261**	P	**P**	**19 42 28.5**	**-0.6**
WB2				IAmb	IAmb	19 42 29.9	
	comp=Z,9.5nm,0.7s						
WRAB	**Tennant Creek**	**44.94**	**261**	P	**P**	**19 42 28.2**	**-0.9**
WRAB				IAmb	IAmb	19 42 29.9	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**44.95**	**261**	P	**P**	**19 42 27.3**	**-1.9**
WRA	**Warramunga Arr**	**44.95**	**261**	P	**P**	**19 42 28.7**	**-0.5**
	comp=Z,7.1nm,0.3s,baz=97,slow=7.5,SNR=151						
WRA				PcP	**PcP**	**19 43 57.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=97,slow=3.9,SNR=1.7						
	comp=Z,7.1nm,0.3s						
MTN	**Manton Dam**	**49.42**	**270**	P	**P**	**19 43 01.9**	**-0.9**
MTN				IAmb	IAmb	19 43 03.2	
	comp=Z,14nm,0.5s						
FORT	**Forrest**	**49.78**	**246**	P	**P**	**19 43 03.2**	**-2.0**
FORT				IAmb	IAmb	19 43 05.6	
	comp=Z,22nm,0.7s						
FORT	**Forrest**	**49.78**	**246**	P	**P**	**19 43 05.5**	**+0.2**
KNRA	**Kununurra**	**50.96**	**266**	P	**P**	**19 43 13.5**	**-0.6**
KNRA				IAmb	IAmb	19 43 14.0	
	comp=Z,8.4nm,0.7s						
FAKI	**Fak Fak**	**51.62**	**282**	P	**P**	**19 43 19.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**53.37**	**262**	P	**P**	**19 43 31.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.37**	**262**	P	**P**	**19 43 31.1**	**-0.2**
	comp=Z,5.8nm,0.4s,baz=86,slow=4.6,SNR=84						
	comp=Z,5.8nm,0.4s						
SOEI	**Soe**	**56.75**	**271**	P	**P**	**19 43 54.8**	**-0.2**
SOEI				IAmb	IAmb	19 43 56.9	
	comp=Z,34nm,0.7s						
SOEI	**Soe**	**56.75**	**271**	P	**P**	**19 43 56.2**	**+1.1**
PSA00	**Pilbara Seismi**	**58.06**	**256**	P	**P**	**19 44 02.8**	**-1.0**
PSA00				IAmb	IAmb	19 44 04.0	
	comp=Z,22nm,0.7s						
PSA00				PcP	**PcP**	**19 44 47.5**	**-0.7**
MBWA	**Marble Bar**	**58.25**	**257**	P	**P**	**19 44 04.4**	**-0.6**
MBWA	**Marble Bar**	**58.25**	**257**	P	**P**	**19 44 04.8**	**-0.2**
VNDA	**Vanda**	**58.55**	**185**	P	**P**	**19 44 07.5**	**+1.4**
MMRI	**Maumere**	**58.99**	**272**	P	**P**	**19 44 07.3**	**-2.9**
MMRI				IAmb	IAmb	19 44 09.7	
	comp=Z,23nm,0.5s						
MMRI	**Maumere**	**58.99**	**272**	P	**P**	**19 44 10.2**	**0.0**
MORW	**Morawa**	**60.31**	**247**	P	**P**	**19 44 17.3**	**-1.4**
GIRL	**Giralia**	**62.97**	**254**	P	**P**	**19 44 34.9**	**-1.2**
PLAI	**Plampang**	**63.13**	**270**	P	**P**	**19 44 37.3**	**0.0**
TOLI2	**Tolitoli**	**63.74**	**282**	P	**P**	**19 44 37.4**	**-3.7**
TOLI2	**Tolitoli**	**63.74**	**282**	P	**P**	**19 44 41.7**	**+0.5**
JGF	**Kuroka**	**69.69**	**322**	P	**P**	**19 45 17.1**	**-0.3**
KKM	**Kota Kinabalu**	**69.86**	**284**	P	**P**	**19 45 19.3**	**+0.3**
MJAR	**Matsushiro Arr**	**69.87**	**323**	P	**P**	**19 45 17.4**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=161,slow=5.9,SNR=34						
	comp=Z,6.1nm,0.6s						
MAJO	**Matsushiro**	**69.87**	**323**	P	**P**	**19 45 15.9**	**-2.6**
MAJO				IAmb	IAmb	19 45 18.3	
	comp=Z,11nm,0.7s						
MAJO	**Matsushiro**	**69.87**	**323**	P	**P**	**19 45 18.2**	**-0.3**
QSPA	**South Pole Qui**	**70.19**	**180**	P	**P**	**19 45 21.4**	**+1.3**
QSPA	**South Pole Qui**	**70.19**	**180**	P	**P**	**19 45 21.3**	**+1.3**
	comp=Z,6.1nm,0.7s,baz=333,slow=1.0,SNR=26						
	comp=Z,6.1nm,0.7s						
UGM	**Wanagama**	**70.24**	**269**	P	**P**	**19 45 19.9**	**-1.3**
UGM	**Wanagama**	**70.24**	**269**	P	**P**	**19 45 20.9**	**-0.3**
JMN	**Monobe**	**70.49**	**319**	P	**P**	**19 45 21.1**	**-1.2**
JMN				IAmb	IAmb	19 45 28.6	
	comp=Z,63nm,1.5s						
YULB	**Yu-li**	**73.38**	**303**	P	**P**	**19 45 36.9**	**-2.3**
SSLB	**Suanglung**	**73.85**	**303**	P	**P**	**19 45 39.0**	**-3.0**
SSLB				IAmb	IAmb	19 45 40.9	
	comp=Z,75nm,1.5s						
SSLB	**Suanglung**	**73.85**	**303**	P	**P**	**19 45 40.7**	**-1.2**
YHNB	**Yeheng**	**73.97**	**304**	P	**P**	**19 45 42.4**	**-0.2**
PETK	**Petropavlovsk-**	**75.74**	**345**	P	**P**	**19 45 51.1**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=122,slow=7.3,SNR=4.3						
	comp=Z,4.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**78.60**	**326**	P	**P**	**19 46 08.2**	**+0.7**
	comp=Z,6.3nm,0.9s,baz=100,slow=3.9,SNR=9.4						
	comp=Z,6.3nm,0.9s						
YBH	**Yreka Blue Hor**	**79.64**	**39**	P	**P**	**19 46 14.6**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=138,slow=4.2,SNR=6.3						
	comp=Z,1.7nm,0.6s						
NJ2	**Nanjing**	**79.69**	**309**	*eP*	**P**	**19 46 12.8**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
MDJ	**Mudanjiang**	**80.17**	**325**	P	**P**	**19 46 16.5**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NVAR	**Mina Array Bea**	**80.40**	**43**	P	**P**	**19 46 18.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=227,slow=8.8,SNR=4.1						
	comp=Z,0.5nm,0.5s						
BNX	**BinXian**	**82.07**	**325**	⇑P	**P**	**19 46 25.3**	**-0.2**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TXAR	**Lajitas Array**	**86.50**	**57**	P	**P**	**19 46 49.4**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=207,slow=5.8,SNR=5.8						
	comp=Z,0.4nm,0.6s						
ELIB	**Princess Elisa**	**87.28**	**186**	*dP*	**P**	**19 46 50.2**	**-0.6**
	comp=Z,2.2nm,0.6s						
SYO	**Syowa Base**	**87.39**	**193**	⇓*eP*	**P**	**19 46 50.8**	**-0.3**
XAN	**Xi'an**	**87.97**	**307**	P	**P**	**19 46 55.0**	**+0.5**
XAN				pmax	pmax		
	comp=Z,20nm,0.8s						
PDAR	**Pinedale Array**	**88.33**	**43**	P	**P**	**19 46 56.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=233,slow=2.4,SNR=4.7						
	comp=Z,0.3nm,0.5s						
HHC	**Hu-ho-hao-te**	**89.11**	**314**	*eP*	**P**	**19 46 56.8**	**-2.9**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,6.4s						
CMAR	**Chiang Mai Arr**	**90.16**	**289**	P	**P**	**19 47 05.8**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=118,slow=2.6,SNR=24						
	comp=Z,2.8nm,0.9s						
PZH	**PanZhiHua**	**90.65**	**298**	P	**P**	**19 47 06.3**	**-0.9**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.5s						
MKAR	**Makanchi Array**	**110.96**	**314**	PKiKP	**PKiKP**	**19 52 31.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=182,slow=0.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**113.77**	**317**	PKiKP	**PKiKP**	**19 52 36.8**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=101,slow=1.8,SNR=7.4						
BVAR	**Borovoye Array**	**118.77**	**320**	PKP	**PKPdf**	**19 52 47.1**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=114,slow=2.3,SNR=13						
ARCES	**ARCESS Array B**	**128.36**	**350**	PKP	**PKPdf**	**19 53 05.6**	**-0.6**
	comp=Z,13nm,1.2s,baz=350,slow=2.8,SNR=6.9						
FINES	**FINESS Array B**	**135.25**	**344**	PKP	**PKPdf**	**19 53 18.6**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=116,slow=4.4,SNR=4.2						
HFS	**Hagfors**	**138.97**	**351**	PKhKP	PKPpre	19 53 15.9	
	comp=Z,1.0nm,0.5s,baz=63,slow=3.6,SNR=7.8						
HFS				PKP	**PKPdf**	**19 53 25.1**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=343,slow=3.0,SNR=2.1						
AKASG	**Malin Array Be**	**142.60**	**332**	PKhKP	PKPpre	19 53 28.8	
	comp=Z,1.5nm,0.3s,baz=44,slow=4.0,SNR=20						
KIEV	**Kiev**	**142.61**	**332**	⇑P	**PKPdf**	**19 53 28.8**	**-4.3**
RNPP9	**Sopachiv**	**143.47**	**335**	PKP	PKPab	19 53 31.5	-1.6
LUBAR	**Lubar, Ukraine**	**143.81**	**332**	PKP	PKPbc	19 53 32.6	-1.8
EKA	**Eskdalemuir Ar**	**144.37**	**5**	PKP	PKPbc	19 53 35.0	-0.8
	comp=Z,0.3nm,0.3s,baz=326,slow=2.5,SNR=6.9						
SORM	**Soroca**	**144.81**	**329**	⇑P	**PKPdf**	**19 53 36.5**	**-0.5**
VLDR	**Vladesti**	**146.51**	**327**	⇑P	**PKPbc**	**19 53 42.4**	**-0.1**
BRTR	**Keskin Array B**	**146.61**	**313**	PKPbc	**PKPdf**	**19 53 42.1**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=140,slow=3.9,SNR=15						
BURAR	**Bucovina Array**	**146.65**	**331**	⇑P	**PKPbc**	**19 53 42.9**	**0.0**
KIRS	**Kirsehir-Merke**	**146.69**	**312**	⇓P	**PKPdf**	**19 53 42.5**	**+1.9**
GHRR		**146.71**	**327**	⇑P	**PKPbc**	**19 53 43.6**	**+0.6**
TESR	**Tescani**	**146.78**	**329**	⇓P	**PKiKP**	**19 53 45.5**	**+0.3**
KOLS	**Kolonicke sedl**	**146.86**	**336**	*e*PKP	**PKPbc**	**19 53 43.3**	**0.0**
TPGR	**Topolog**	**146.99**	**325**	⇓P	**PKPbc**	**19 53 44.0**	**+0.2**
ONER	**Baraj Valea Uz**	**147.03**	**329**	⇑P	**PKPbc**	**19 53 44.1**	**+0.3**
VRI	**Vrincioaia**	**147.19**	**328**	⇑P	**PKPdf**	**19 53 43.6**	**+2.5**
OSTC	**Ostas**	**147.46**	**343**	⇑*e*PKP	**PKPbc**	**19 53 44.5**	**-0.3**
CLL	**Collm**	**147.52**	**347**	*e*PKPdf	**PKPdf**	**19 53 40.0**	**-1.4**
CLL				⇓*i*PKPbc	**PKPbc**	**19 53 44.4**	**-0.5**
	comp=Z,5.0nm,0.8s						
CLL				*i* PKPab	**PKiKP**	**19 53 47.8**	**+1.3**
	comp=Z,3.0nm,0.6s						
CLL				*e*pPKPab	**pPKPab**	**19 55 56.0**	**+3.8**
UPC	**Upice**	**147.56**	**344**	⇓*e*PKP	**PKPbc**	**19 53 44.5**	**-0.6**
STEB	**Steborice**	**147.57**	**341**	⇑*e*PKP	**PKPbc**	**19 53 44.8**	**-0.3**
LANS	**Liptovska Anna**	**147.70**	**339**	*e*PKP	**PKPbc**	**19 53 46.3**	**+0.7**
NEHR	**Nehoiu**	**147.71**	**328**	⇓P	**PKPbc**	**19 53 45.5**	**-0.2**
MMAI	**Mount Meron Ar**	**147.73**	**301**	PKPbc	**PKPbc**	**19 53 46.1**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=61,slow=6.9,SNR=12						
DOPR	**Dopca**	**147.78**	**329**	⇑P	**PKPbc**	**19 53 46.0**	**+0.2**
MLR	**Muntele Rosu**	**147.84**	**328**	⇑P	**PKPdf**	**19 53 45.1**	**+2.8**
MAUC	**Maruska**	**148.05**	**341**	⇑*e*PKP	**PKPbc**	**19 53 46.5**	**+0.1**
MARR	**Marisel-Cluj**	**148.29**	**332**	⇑P	**PKPbc**	**19 53 46.7**	**-0.5**
DRGR		**148.38**	**333**	⇓P	**PKPbc**	**19 53 47.3**	**-0.1**
VRAC	**Vranov**	**148.48**	**342**	*e*PKP	**PKPbc**	**19 53 47.1**	**-0.3**
JAVC	**Velka Javorina**	**148.55**	**340**	*e*PKP	**PKPbc**	**19 53 48.6**	**+0.9**
KRUC	**Moravsky**	**148.75**	**342**	*e*PKP	**PKPbc**	**19 53 47.8**	**-0.3**
MODS	**Modra-Pìesok**	**149.10**	**340**	*e*PKP	**PKPbc**	**19 53 49.4**	**+0.4**
GZR	**Gura Zlata**	**149.43**	**331**	⇓P	**PKPbc**	**19 53 49.5**	**-0.4**
KHC	**Kasperske Hory**	**149.44**	**345**	⇑*e*PKP	**PKPbc**	**19 53 49.7**	**-0.1**
SURR	**Surduc**	**149.45**	**332**	⇑P	**PKPbc**	**19 53 49.3**	**-0.6**
CKRC	**Cesky Krumlov**	**149.55**	**344**	⇑*e*PKP	**PKPbc**	**19 53 49.9**	**-0.2**
GERES	**GERESS Array B**	**149.68**	**345**	PKPbc	**PKPbc**	**19 53 49.9**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=41,slow=2.5,SNR=16						
BZS	**Buzias**	**149.78**	**333**	⇑P	**PKPbc**	**19 53 50.2**	**-0.5**
CONA	**Conrad Observa**	**149.93**	**342**	*i* PKiKP	**PKPbc**	**19 53 50.7**	**-0.4**
	comp=Z,1.0nm,0.5s						
HERR	**Herculane**	**149.99**	**331**	⇑P	**PKPbc**	**19 53 50.7**	**-0.5**
RONA	**Rosalia, Austr**	**150.00**	**341**	*i* PKiKP	**PKPbc**	**19 53 50.8**	**-0.4**
	comp=Z,4.2nm,0.5s						
MOA	**Molln**	**150.45**	**344**	*i* PKiKP	**PKPbc**	**19 53 51.5**	**-0.7**
	comp=Z,0.8nm,0.4s						
ARSA	**Arzberg**	**150.64**	**341**	*i* PKiKP	**PKPbc**	**19 53 51.1**	**-1.6**
	comp=Z,0.2nm,0.3s						
BIOA	**Bad Ischl, Aus**	**150.76**	**344**	*i* PKiKP	**PKPbc**	**19 53 51.7**	**-1.2**
	comp=Z,1.0nm,0.4s						
LESA	**Schwarzleotal**	**151.25**	**345**	*i* PKiKP	**PKPbc**	**19 53 53.2**	**-1.0**
	comp=Z,0.6nm,0.3s						
SOKA	**Soboth**	**151.30**	**342**	*i* PKiKP	**PKPbc**	**19 53 52.4**	**-1.9**
	comp=Z,0.7nm,0.5s						
KBA	**Koelnbreinsper**	**151.40**	**344**	*i* PKiKP	**PKPbc**	**19 53 53.1**	**-1.5**
	comp=Z,0.8nm,0.4s						
WATA	**Walderalm**	**151.58**	**347**	*i* PKiKP	**PKPbc**	**19 53 53.8**	**-1.1**
	comp=Z,0.4nm,0.2s						
WTTA	**Wattenberg**	**151.64**	**347**	*e*PKiKP	**PKPbc**	**19 53 54.2**	**-0.9**
	comp=Z,1.4nm,0.3s						
MOTA	**Moosalm**	**151.68**	**347**	*i* PKiKP	**PKPbc**	**19 53 54.0**	**-1.2**
	comp=Z,0.2nm,0.3s						
SQTA	**Sankt Quirin**	**151.77**	**347**	*i* PKiKP	**PKPbc**	**19 53 54.3**	**-1.0**
	comp=Z,0.3nm,0.2s						
ABTA	**Abfaltersbach**	**151.92**	**345**	*i* PKiKP	**PKPbc**	**19 53 54.3**	**-1.3**
	comp=Z,1.7nm,0.4s						

*SKO **31** 20:04:30.7, 41°.40N×18°.99E, h45km*
*TIR **31** 20:04:34.9, 41°.57N×19°.45E, h12km±1km, Md2.9/3, Ml3.1/5*
*THE **31** 20:04:34.8, 41°.75N×19°.40E, h10km±30km, ML3.0/3, Error ellipse: s-maj=40.8km s-min=3.8km az=327.0*
*RHSSO **31** 20:04:35.1±0.6, 41°.48N×19°.37E, h8km±2km, ML3.2/11*
*PDG **31** 20:04:36.0±0.3, 41°.61N×19°.43E, h10km, MD2.9/1, ML2.8/13, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*

ISC 31 20:04:35.5±1.0, 41°.55N±0°.02×19°.40E±0°.03, h10km±8km, n95, σ0°86/139, 20C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**120**	⇑Pg	**Pg**	**20 04 43.2**	**-0.2**
TIR				Sg	**Sg**	**20 04 49.1**	**+0.3**
TIR	**Tirane**	**0.41**	**120**	⇓P	**Pg**	**20 04 43.6**	**+0.2**
TIR				⇓S	**Sb**	**20 04 50.7**	**-0.3**
ULC	**Ulcinj**	**0.43**	**345**	⇑Pg	**Pg**	**20 04 43.8**	**-0.1**
ULC	**Ulcinj**	**0.43**	**345**	*i* Pg	**Pg**	**20 04 43.8**	**-0.1**
ULC	**Ulcinj**	**0.43**	**345**	*e*Pg	**Pg**	**20 04 43.7**	**-0.2**
ULC				*i* Sg	**Sg**	**20 04 49.8**	**+0.2**
PUK	**Puka**	**0.62**	**37**	⇑Pg	**Pg**	**20 04 46.9**	**-0.6**
PUK				Sg	**Sb**	**20 04 57.2**	**0.0**
PUK				AML	AML	20 05 00.9	
	2.8nm,0.3s						
PUK				AML	AML	20 05 04.6	
	3.3nm,0.2s						
PUK				AMd		20 05 45.2	
DRME	**Dracevica, Mon**	**0.66**	**346**	Pg	**Pg**	**20 04 47.6**	**-0.7**
DRME	**Dracevica, Mon**	**0.66**	**346**	⇑*i*Pg	**Pg**	**20 04 47.3**	**-0.9**
DRME				*e*Sg	**Sb**	**20 04 59.0**	**+0.7**
DRME	**Dracevica, Mon**	**0.66**	**346**	⇓*i*Pg	**Pg**	**20 04 47.5**	**-0.7**
DRME				*i* Sg	**Sg**	**20 04 57.3**	**+0.5**
PHP	**Peshkopia**	**0.80**	**80**	Pg	**Pg**	**20 04 49.8**	**-1.0**
PHP				Sg	**Sg**	**20 05 00.6**	**-0.6**
PHP				AML	AML	20 05 06.7	
	3.5nm,0.4s						
PHP				AMd		20 05 47.8	
BUM	**Brajici-Budva**	**0.84**	**334**	Pg	**Pg**	**20 04 51.5**	**-0.1**
BUM	**Brajici-Budva**	**0.84**	**334**	⇑*i*Pg	**Pg**	**20 04 51.2**	**-0.5**
BUM				*i* Sg	**Sg**	**20 05 03.5**	**+0.9**
PDG	**Podgorica**	**0.89**	**353**	⇑*i*Pg	**Pg**	**20 04 51.8**	**-0.7**
PDG				*e*Sg	**Sb**	**20 05 05.3**	**+0.4**
PDG	**Podgorica**	**0.89**	**353**	⇓P	**Pg**	**20 04 52.0**	**-0.5**
PDG				⇓S	**Sb**	**20 05 04.9**	**0.0**
PDG	**Podgorica**	**0.89**	**353**	⇑*i*Pg	**Pg**	**20 04 51.5**	**-1.0**
PDG				*i* Sg	**Sb**	**20 05 04.8**	**0.0**
BCI	**Bajram Curri**	**0.96**	**31**	Pg	**Pg**	**20 04 52.7**	**-1.2**
BCI				Sg	**Sb**	**20 05 06.8**	**-0.2**
BCI				AML	AML	20 05 15.6	
	2.4nm,0.6s						
BCI				AMd		20 05 45.6	
CEME	**Cevo**	**1.06**	**340**	Pn	**Pb**	**20 04 55.0**	**-0.9**
CEME	**Cevo**	**1.06**	**340**	⇓*i*Pg	**Pb**	**20 04 54.5**	**-1.5**
CEME				*i* Sg	**Sg**	**20 05 10.2**	**+0.6**
HCY	**Herceg Novi**	**1.12**	**323**	Pn	**Pb**	**20 04 57.1**	**+0.1**
HCY	**Herceg Novi**	**1.12**	**323**	*e*Pg	**Pb**	**20 04 56.3**	**-0.7**
HCY				*e*Sg	**Sb**	**20 05 12.1**	**+0.4**
HCY	**Herceg Novi**	**1.12**	**323**	⇓*i*Pg	**Pb**	**20 04 56.9**	**-0.1**
HCY				*i* Sg	**Sn**	**20 05 13.1**	**+0.3**
PVY	**Plav**	**1.13**	**22**	Pn	**Pb**	**20 04 55.8**	**-1.4**
PVY	**Plav**	**1.13**	**22**	⇑*i*Pg	**Pb**	**20 04 55.0**	**-2.1**
PVY				*i* Sg	**Sb**	**20 05 11.6**	**-0.3**
OHR	**Ohrid**	**1.14**	**112**	*i* Pg	**Pb**	**20 04 56.3**	**-1.1**
OHR				*i* Sg	**Sn**	**20 05 15.2**	**+1.8**
NKME	**Niksic**	**1.26**	**345**	Pn	**Pn**	**20 04 59.1**	**-0.2**
NKME	**Niksic**	**1.26**	**345**	⇑*i*Pg	**Pn**	**20 04 58.5**	**-0.7**
NKME				*i* Sg	**Sg**	**20 05 17.2**	**+1.1**
KOME	**Kolasin**	**1.30**	**4**	Pn	**Pn**	**20 04 59.7**	**-0.1**
KOME	**Kolasin**	**1.30**	**4**	*e*Pg	**Pn**	**20 04 59.5**	**-0.4**
KOME				*i* Sg	**Sg**	**20 05 18.6**	**+1.2**
BEY	**Berane**	**1.37**	**15**	Pn	**Pn**	**20 05 00.5**	**-0.3**
BEY	**Berane**	**1.37**	**15**	*i* Pg	**Pn**	**20 05 00.6**	**-0.3**
IVA	**Berane**	**1.37**	**15**

ESEN	**Aydn-Nazilli**	**0.58**	**251**	P	Pg	20 09 35.0	+0.2
ESEN				S	Sg	20 09 42.8	+0.4
ESEN				*i* AML	AML	20 09 55.0	
	comp=N,18nm,3.0s						

AFAD 31 20:09:24.2, 37°.47N×29°.40E, h7km±3km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.27**	**151**	P	Pg	20 09 30.1	+0.6
GOLH				*i* AML	AML	20 09 34.0	
	comp=N,30nm,1.3s						
GOLH				S	Sg	20 09 34.3	+1.3
GOLH				*i* AML	AML	20 09 42.0	
	comp=E,33nm,2.1s						
INCE	**Denizli-Bozkur**	**0.28**	**31**	P	Pg	20 09 29.9	+0.2
INCE				S	Sg	20 09 33.8	+0.4
DNIZ	**Denizli-Tavas-**	**0.33**	**299**	P	Pg	20 09 31.4	+0.8
DNIZ				S	Sb	20 09 36.5	-1.4
DNIZ				*i* AML	AML	20 09 39.0	
	comp=N,49nm,0.2s						
DNIZ				*i* AML	AML	20 09 39.0	
	comp=E,55nm,0.2s						
DNIZ	**Denizli-Tavas-**	**0.33**	**299**	P	Pb	20 09 31.6	-0.8
DNIZ				S	Sg	20 09 36.3	+1.4
DNIZ				*i* AML	AML	20 09 39.0	
	comp=N,49nm,0.2s						
DNIZ				*i* AML	AML	20 09 39.0	
	comp=E,55nm,0.2s						
CAEL	**Denizli, Camel**	**0.35**	**190**	P	Pg	20 09 31.4	+0.3
CAEL				S	Sg	20 09 37.2	+1.4
CAEL				*i* AML	AML	20 09 40.0	
	comp=E,48nm,1.7s						
DNZT	**Denizli-Tavas-**	**0.35**	**237**	P	Pg	20 09 30.9	-0.2
DNZT				S	Sg	20 09 35.6	-0.1
DNZT				*i* AML	AML	20 09 45.0	
	comp=N,18nm,2.4s						
TAVA	**DENIZLI_Tavas**	**0.39**	**270**	P	Pg	20 09 31.6	-0.1

IDC 31 20:13:50.0±1.8, 31°.33S×177°.77W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=52.8km s-min=39.6km az=27.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.47**	**258**	P	P	20 20 40.1	+0.4
	0.8nm,0.5s,baz=103,slow=9.7,SNR=3.2						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**43.26**	**268**	P	P	20 21 52.8	-0.7
	0.4nm,0.5s,baz=106,slow=7.1,SNR=6.4						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.33**	**273**	P	P	20 22 02.1	-0.1
	0.7nm,0.3s,baz=112,slow=7.8,SNR=16						
	0.7nm,0.3s						
QSPA	**South Pole Qui**	**58.78**	**180**	P	P	20 23 49.3	-0.5
	0.6nm,0.7s,baz=34,slow=3.6,SNR=1.4						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**146.08**	**340**	PKPbc	PKPdf	20 33 30.4	0.0
	2.7nm,0.9s,baz=50,slow=3.0,SNR=5.7						
MMAI	**Mount Meron Ar**	**151.93**	**282**	PKPbc	PKiKP	20 33 47.9	+0.3
	1.0nm,0.6s,baz=104,slow=4.6,SNR=1.8						

IDC 31 20:32:00.4±2.3, 7°.74N×125°.19E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=233.8km s-min=21.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.94**	**162**	P	P	20 38 01.9	+0.2
	0.4nm,0.3s,baz=341,slow=9.1,SNR=22						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**32.35**	**165**	P	P	20 38 31.5	-0.3
	0.3nm,0.3s,baz=357,slow=6.6,SNR=5.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**53.42**	**324**	P	P	20 41 22.8	+0.6
	0.3nm,0.4s,baz=127,slow=7.5,SNR=9.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**57.56**	**327**	P	P	20 41 51.2	-0.7
	0.4nm,0.6s,baz=127,slow=6.1,SNR=8.2						
	0.4nm,0.6s						

IGQ 31 20:34:54.3±0.2, 2°.S±1°.×8°.1W±°, h8km, MLv3.7/43, 2C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.26**	**206**	⇑P	Pg	20 34 59.7	+0.2
SALI				S	Sg	20 35 03.9	+0.9
ALIBE	**La Libertad**	**0.29**	**174**	P	Pg	20 35 00.3	+0.2
ALIBE				S	Sb	20 35 05.9	-0.9
PPLP	**Puerto Lpez**	**0.42**	**14**	P	Pg	20 35 01.1	-1.4
PPLP				S	Sg	20 35 07.4	-0.6
PPLP	**Puerto Lpez**	**0.42**	**14**	⇓P	Pg	20 35 01.2	-1.3
PPLP				S	Sg	20 35 07.1	-0.9
ISPT	**Isla de la Pla**	**0.71**	**344**	⇑P	Pg	20 35 06.6	-1.5
ISPT				S	Sg	20 35 17.1	-0.3
AGUAY	**Guayaquil**	**0.93**	**96**	P	Pg	20 35 09.7	-2.5
AMNT	**Manta-Manabi**	**1.01**	**8**	P	Pg	20 35 11.5	-2.3
ISPG	**Isla Puna-Puer**	**1.23**	**145**	P	Pb	20 35 17.5	-0.4
MILO	**Milagro-Astudi**	**1.36**	**104**	P	Pn	20 35 16.0	-3.6
MILO				S	Sb	20 35 33.0	-4.6
CAB1	**Cabo Pasado-Ma**	**1.62**	**16**	P	Pn	20 35 21.8	-1.4
AQUE	**Quevedo**	**1.65**	**57**	P	Pn	20 35 20.7	-2.9
AQUE				S	Sn	20 35 41.9	-3.1
COHC	**Cochancay**	**1.70**	**108**	P	Pn	20 35 24.0	-0.3
ARNL	**Arenillas**	**1.78**	**153**	P	Pn	20 35 23.1	-2.3
JSCH	**Cashca Tororas**	**1.91**	**83**	P	Pn	20 35 24.1	-3.4
CHSH	**Refugio Sur-Vo**	**2.06**	**77**	P	Pn	20 35 27.4	-2.4
TAMH	**Tambohuasha Ch**	**2.13**	**79**	P	Pn	20 35 28.0	-2.7
PORT	**Chimborazo Vol**	**2.16**	**77**	⇓P	Pn	20 35 28.7	-2.4
IGUA	**Igualata**	**2.28**	**78**	P	Pn	20 35 31.1	-1.7
BBIL	**Ulba Tungurahu**	**2.44**	**78**	P	Pn	20 35 33.1	-1.7
ARRY	**Arrayan**	**2.46**	**80**	P	Pn	20 35 33.7	-1.4
ILLI	**Illinizas Sur**	**2.48**	**60**	P	Pn	20 35 34.6	-0.8
POND	**Pondoa**	**2.48**	**78**	P	Pn	20 35 34.1	-1.3
SANGA	**Volcan Sangay**	**2.51**	**92**	P	Pn	20 35 34.7	-1.1
BULB	**Ulba Tungurahu**	**2.52**	**78**	P	Pn	20 35 34.8	-1.1
PIS1	**Pisayambo**	**2.64**	**70**	P	Pn	20 35 38.3	+0.6
BOSC	**San Juan Bosco**	**2.66**	**117**	P	Pn	20 35 38.8	+1.2
BRRN	**Barrancas-Volc**	**2.67**	**64**	P	Pn	20 35 38.7	+0.7
SLOR	**San Lorenzo -**	**2.67**	**63**	P	Pn	20 35 38.0	0.0
CAMI	**Rancho Maria**	**2.69**	**62**	P	Pn	20 35 38.5	+0.2
BMOR	**Cotopaxi Volca**	**2.71**	**63**	P	Pn	20 35 39.1	+0.5
BNAS	**Cotopaxi Volca**	**2.71**	**62**	P	Pn	20 35 40.1	+1.4
VCES	**Cotopaxi**	**2.73**	**65**	P	Pn	20 35 39.8	+0.8
BREF	**Cotopaxi Volca**	**2.75**	**62**	P	Pn	20 35 40.0	+0.7
BVC2	**Cotopaxi Volca**	**2.78**	**62**	P	Pn	20 35 40.1	+0.4
PIAT	**Ana Tenorio**	**2.78**	**70**	P	Pn	20 35 40.3	+0.8
BTAM	**Cotopaxi Volca**	**2.79**	**63**	P	Pn	20 35 40.4	+0.7
VC1	**Cotopaxi 1**	**2.79**	**62**	P	Pn	20 35 40.7	+0.8
TAMB	**Tambo**	**2.80**	**64**	P	Pn	20 35 40.1	+0.1
PITA	**Cotopaxi Volc**	**2.81**	**60**	P	Pn	20 35 40.6	+0.6
HPAL	**Hacienda Las P**	**2.81**	**52**	P	Pn	20 35 38.8	-1.1
GGPT	**Toaza - Volcan**	**2.83**	**53**	P	Pn	20 35 39.2	-1.1
JUA2	**San Juan 2**	**2.85**	**53**	P	Pn	20 35 39.8	-0.8
TERV	**Terraza Guagua**	**2.88**	**52**	P	Pn	20 35 40.0	-1.0
GGPC	**Guagua Pichinc**	**2.88**	**52**	P	Pn	20 35 40.1	-1.0
PINO	**Pino**	**2.88**	**52**	P	Pn	20 35 39.2	-2.0
YANA	**Yana**	**2.94**	**52**	P	Pn	20 35 40.6	-1.2
ANTG	**Antisana-Guama**	**2.99**	**61**	P	Pn	20 35 43.8	+1.3
PAC1	**Pacto, Paraso**	**3.03**	**43**	P	Pn	20 35 41.0	-1.8
ANTS	**Antisana-Sarah**	**3.07**	**62**	P	Pn	20 35 44.2	+0.6
PULU	**Pululahua**	**3.08**	**50**	P	Pn	20 35 43.9	+0.2
ANTI	**Antisana**	**3.10**	**61**	P	Pn	20 35 44.6	+0.5
ARDO	**Archidona, Ten**	**3.22**	**73**	P	Pn	20 35 45.3	+0.1
OTAV	**Otavalo**	**3.26**	**48**	P	Pn	20 35 45.0	-1.1
CUSE	**Cuicocha Este**	**3.34**	**48**	P	Pn	20 35 46.8	-0.5
RVRD	**Rio Verde**	**3.35**	**26**	P	Pn	20 35 48.3	+1.2
CUSW	**Cuicocha Oeste**	**3.37**	**49**	P	Pn	20 35 50.0	+2.4
CUIC	**Cuicocha-Domo**	**3.37**	**48**	P	Pn	20 35 47.6	-0.1
ZUMB	**Zumba**	**3.37**	**149**	P	Pn	20 35 47.6	+0.2
COTA	**Cotacachi**	**3.41**	**48**	P	Pn	20 35 49.5	+1.3
CAYR	**Refugio Cayamb**	**3.47**	**56**	P	Pn	20 35 50.3	+1.0
IMBA	**Imbabura, San**	**3.47**	**50**	P	Pn	20 35 51.5	+2.4
ANGU	**Angureal**	**3.49**	**55**	P	Pn	20 35 50.1	+0.6
URCU	**Urcuqui**	**3.54**	**48**	P	Pn	20 35 49.6	-0.3
YAHU	**Yahuarcocha**	**3.63**	**51**	P	Pn	20 35 52.6	+1.4
LITE1	**Lita**	**3.71**	**43**	P	Pn	20 35 51.6	-0.5
CHMA	**Chilma**	**3.97**	**45**	P	Pn	20 35 56.5	+0.8
CHL1	**Volc¡n Chiles**	**4.00**	**47**	P	Pn	20 35 58.1	+1.6
CHL2	**Volc¡n Chiles**	**4.03**	**47**	P	Pn	20 35 58.9	+2.1
BONI	**La Bonita**	**4.11**	**55**	P	Pn	20 36 00.5	+2.8
BBAC	**Balboa, Cauca**	**5.36**	**43**	P	Pn	20 36 14.5	-0.3

*IDC **31** 20:38:44.2±1.1, 41°.49N×19°.25E, h0km, mb3.3/7, mbtmp3.4/14, ML3.3/6, MS2.7/2, Error ellipse: s-maj=19.5km s-min=12.8km az=29.0*
*SKO **31** 20:38:44.7, 41°.41N×19°.09E, h10km*
*TIR **31** 20:38:45.4, 41°.49N×19°.36E, h25km±1km, Md3.4/2, Ml3.6/8*
*PRU **31** 20:38:46.2, 41°.40N×19°.57E, h10km*
*PDG **31** 20:38:46.2±0.1, 41°.49N×19°.35E, h10km, MD3.5/5, ML3.4/13, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*RHSSO **31** 20:38:47.2±0.6, 41°.49N×19°.33E, h7km±2km, ML3.6/9*
*THE **31** 20:38:48.7, 41°.67N×19°.21E, h31km±50km, ML3.3/5, Error ellipse: s-maj=50.5km s-min=2.8km az=0.0*

ISC 31 20:38:46.8±1.0, 41°.51N±0°.02×19°.33E±0°.02, h14km±7km, n149, σ1§41/201, mb3.4/6, 47C-23D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.43**	**112**	⇓*i*Pg	**Pg**	**20 38 55.1**	**-0.3**
TIR				Sg	**Sg**	**20 39 01.0**	**-0.2**
TIR				AML	AML	20 39 01.5	
	11nm,0.5s						
ULC	**Ulcinj**	**0.46**	**352**	⇑*i*Pg	**Pg**	**20 38 55.8**	**-0.2**
ULC				AMd		20 40 24.1	
ULC	**Ulcinj**	**0.46**	**352**	*i* Pg	**Pg**	**20 38 55.8**	**-0.2**
ULC	**Ulcinj**	**0.46**	**352**	*e*Pg	**Pg**	**20 38 55.3**	**-0.7**
ULC				*i* Sg	**Sg**	**20 39 02.9**	**+0.7**
PUK	**Puka**	**0.68**	**38**	⇑*e*Pg	**Pg**	**20 38 58.1**	**-2.0**
PUK				Sg	**Sg**	**20 39 09.0**	**-0.1**
PUK				AML	AML	20 39 16.3	
	8.0nm,0.3s						
DRME	**Dracevica, Mon**	**0.69**	**351**	⇑*i*P	**Pg**	**20 38 59.4**	**-0.8**
DRME	**Dracevica, Mon**	**0.69**	**351**	⇑*i*Pg	**Pg**	**20 38 59.4**	**-0.8**
DRME				*e*Sg	**Sb**	**20 39 10.3**	**+0.3**
DRME	**Dracevica, Mon**	**0.69**	**351**	⇑*i*Pg	**Pg**	**20 38 59.4**	**-0.8**
DRME				*e*Sg	**Sb**	**20 39 10.4**	**+0.4**
PHP	**Peshkopia**	**0.85**	**78**	⇑*e*Pg	**Pg**	**20 39 01.5**	**-1.8**
PHP				Sg	**Sg**	**20 39 13.6**	**-0.8**
PHP				AML	AML	20 39 18.6	
	7.8nm,0.5s						
PHP				AMd		20 40 47.6	
BUM	**Brajici-Budva**	**0.86**	**338**	⇑*i*P	**Pg**	**20 39 03.2**	**-0.3**
BUM	**Brajici-Budva**	**0.86**	**338**	*e*Pg	**Pg**	**20 39 02.6**	**-0.9**
BUM				*i* Sg	**Sb**	**20 39 15.5**	**+0.5**
PDG	**Podgorica**	**0.93**	**356**	⇑*i*Pg	**Pg**	**20 39 03.3**	**-1.5**
PDG				*e*Sg	**Sg**	**20 39 17.3**	**+0.5**
PDG	**Podgorica**	**0.93**	**356**	⇑⇑P	**Pg**	**20 39 03.6**	**-1.1**
PDG	**Podgorica**	**0.93**	**356**	⇓*i*Pg	**Pg**	**20 39 03.2**	**-1.5**
PDG				*i* Sg	**Sb**	**20 39 18.4**	**+1.6**
BCI	**Bajram Curri**	**1.02**	**32**	⇑*i*Pg	**Pg**	**20 39 04.7**	**-1.8**
BCI				Sg	**Sg**	**20 39 20.1**	**+0.3**
BCI				AML	AML	20 39 25.3	
	6.3nm,0.7s						
VLO	**Vlora**	**1.04**	**173**	⇓*e*Pg	**Pn**	**20 39 09.0**	**+2.0**
CEME	**Cevo**	**1.08**	**344**	⇑*i*P	**Pg**	**20 39 06.6**	**-1.2**
CEME	**Cevo**	**1.08**	**344**	⇑*i*Pg	**Pg**	**20 39 06.4**	**-1.4**
CEME				*e*Sg	**Sn**	**20 39 24.1**	**+1.6**
HCY	**Herceg Novi**	**1.13**	**327**	⇑*i*P	**Pg**	**20 39 07.8**	**-0.9**
HCY	**Herceg Novi**	**1.13**	**327**	*e*Pg	**Pg**	**20 39 08.3**	**-0.3**
HCY				*e*Sg	**Sb**	**20 39 23.7**	**+1.0**
HCY	**Herceg Novi**	**1.13**	**327**	*e*Pg	**Pg**	**20 39 07.7**	**-0.9**
HCY				*e*Sg	**Sn**	**20 39 25.2**	**+1.6**
OHR	**Ohrid**	**1.17**	**109**	*i* Pg	**Pg**	**20 39 08.2**	**-1.2**
OHR				*i* Sg	**Sn**	**20 39 26.8**	**+2.2**
PVY	**Plav**	**1.18**	**23**	⇑*i*Pn	**Pg**	**20 39 07.7**	**-1.9**
PVY	**Plav**	**1.18**	**23**	⇑*i*Pg	**Pg**	**20 39 07.7**	**-1.9**
PVY				*i* Sg	**Sb**	**20 39 26.5**	**+2.2**
NKME	**Niksic**	**1.29**	**347**	⇑*i*P	**Pg**	**20 39 10.5**	**-1.2**
NKME	**Niksic**	**1.29**	**347**	⇓*i*Pg	**Pg**	**20 39 10.3**	**-1.4**
NKME				*e*Sg	**Sn**	**20 39 30.3**	**+2.7**
KOME	**Kolasin**	**1.35**	**6**	⇑*i*P	**Pn**	**20 39 10.8**	**-0.5**
KOME	**Kolasin**	**1.35**	**6**	⇓*i*Pg	**Pn**	**20 39 11.4**	**+0.1**
KOME				*i* Sg	**Sn**	**20 39 32.6**	**+3.5**
KBN	**Korca**	**1.41**	**128**	⇑*e*Pg	**Pg**	**20 39 14.3**	**+0.4**
KBN				Sg	**Sb**	**20 39 30.8**	**0.0**
KBN				AML	AML	20 39 38.2	
	3.4nm,0.7s						
TREB	**Trebinje**	**1.41**	**329**	⇑*i*Pg	**Pn**	**20 39 12.7**	**+0.6**
TREB				*e*Sg	**Sn**	**20 39 32.4**	**+1.8**
BEY	**Berane**	**1.43**	**17**	⇓*e*P	**Pn**	**20 39 11.7**	**-0.7**
BEY	**Berane**	**1.43**	**17**	*i* Pg	**Pn**	**20 39 12.4**	**0.0**
IVA	**Berane**	**1.43**	**17**	⇓*i*Pg	**Pn**	**20 39 12.3**	**0.0**
IVA				*e*Sg	**Sg**	**20 39 35.1**	**+2.3**
DBRK	**Dubrovnik**	**1.46**	**323**	*e*Pn	**Pn**	**20 39 13.5**	**+0.7**
BRY	**Bratogost**	**1.51**	**337**	⇑*e*P	**Pn**	**20 39 14.6**	**+0.9**
BRY	**Bratogost**	**1.51**	**337**	*e*Pn	**Pn**	**20 39 14.8**	**+1.2**
BRY				*e*Sn	**Sn**	**20 39 34.7**	**+1.5**
BRY	**Bratogost**	**1.51**	**337**	*e*Pg	**Pn**	**20 39 14.5**	**+0.9**
BRY				*e*Sg	**Sg**	**20 39 37.5**	**+1.9**
SCTE	**Santa Cesarea**	**1.58**	**205**	⇑*e*Pn	**Pn**	**20 39 14.7**	**+0.3**
SCTE				Sn	**Sb**	**20 39 36.1**	**+0.6**
SCTE				AML	AML	20 39 39.4	
	3.8nm,0.5s						
LSK	**Leskovik**	**1.66**	**144**	⇑*i*Pn	**Pn**	**20 39 15.5**	**-0.1**
LSK				Sn	**Sn**	**20 39 38.1**	**+1.4**
LSK				AML	AML	20 39 52.6	
	3.7nm,0.7s						
NEST	**Nestorio**	**1.70**	**129**	⇓*e*P	**Pn**	**20 39 16.3**	**+0.2**
NEST				S	**Sn**	**20 39 39.4**	**+1.8**
NEST				AML	AML	20 39 45.0	
	1.8nm,0.7s						
NEST	**Nestorio**	**1.70**	**129**	P	**Pb**	**20 39 18.4**	**+0.6**
NEST				S	**Sg**	**20 39 41.3**	**-0.1**
	500nm,0.5s						
SRN	**Sarande**	**1.70**	**162**	⇑*e*P	**Pn**	**20 39 17.5**	**+1.4**
SRN				Sn	**Sb**	**20 39 40.3**	**+1.2**
FNA	**Florina**	**1.70**	**114**	P	**Pn**	**20 39 17.3**	**+1.1**
FNA				S	**Sb**	**20 39 40.7**	**+1.5**
	900nm,0.5s						
UPM	**Unac-Piva**	**1.73**	**350**	⇓*i*P	**Pn**	**20 39 17.9**	**+1.3**
UPM	**Unac-Piva**	**1.73**	**350**	*e*Pn	**Pn**	**20 39 18.1**	**+1.5**
UPM				*e*Sn	**Sn**	**20 39 40.3**	**+1.8**
UPM	**Unac-Piva**	**1.73**	**350**	⇑*i*Pn	**Pn**	**20 39 17.8**	**+1.2**
UPM				*e*Sn	**Sg**	**20 39 42.7**	**+0.3**
SJES	**Sjenica**	**1.82**	**15**	⇑*i*Pn	**Pn**	**20 39 18.8**	**+1.0**
SJES				*e*Sn	**Sn**	**20 39 42.5**	**+1.8**
PLE	**Pljevlja**	**1.82**	**1**	⇓*e*Pn	**Pn**	**20 39 18.9**	**+1.0**
PLE	**Pljevlja**	**1.82**	**1**	⇑*i*Pn	**Pn**	**20 39 18.9**	**+1.0**
PLE				*e*Sn	**Sb**	**20 39 44.6**	**+1.8**
KEK	**Kerkira**	**1.83**	**169**	P	**Pb**	**20 39 20.4**	**+0.4**
KEK				S	**Sb**	**20 39 43.7**	**+1.0**
	360nm,0.5s						
STON	**Ston**	**1.83**	**319**	*e*Pn	**Pn**	**20 39 19.5**	**+1.7**
STON				*e*Sn	**Sb**	**20 39 43.2**	**+0.5**
STON	**Ston**	**1.83**	**319**	*e*Pn	**Pn**	**20 39 19.0**	**+1.2**
NOCI	**Noci**	**1.86**	**248**	⇑*i*Pn	**Pn**	**20 39 19.0**	**+0.7**
NOCI				Sn	**Sg**	**20 39 46.3**	**-0.3**
PENT	**Pentalofos**	**1.89**	**133**	P	**Pb**	**20 39 21.3**	**+0.1**
KALIN	**Kalinovik**	**2.10**	**342**	*e*Pn	**Pn**	**20 39 23.6**	**+1.9**
KALIN				*e*Sn	**Sn**	**20 39 49.4**	**+1.8**
RUDO	**Rudo**	**2.11**	**1**	⇑*i*Pn	**Pn**	**20 39 22.9**	**+1.2**
RUDO				*e*Sn	**Sn**	**20 39 50.5**	**+2.7**
IGT	**Igoumenitsa**	**2.11**	**159**	P	**Pn**	**20 39 23.0**	**+1.2**
IGT				S	**Sb**	**20 39 52.5**	**+1.5**
	312nm,0.7s						
MATE	**Matera**	**2.17**	**248**	⇑P	**Pn**	**20 39 23.2**	**+0.8**
JAN	**Janina**	**2.18**	**148**	P	**Pb**	**20 39 25.6**	**-0.4**
JAN				S	**Sb**	**20 39 52.7**	**-0.2**
	355nm,1.1s						
KPRO	**Kipourio**	**2.19**	**134**	P	**Pb**	**20 39 25.7**	**-0.5**
KZN	**Kozani**	**2.20**	**122**	P	**Pn**	**20 39 25.6**	**+2.6**
LSTV	**Lastovo**	**2.21**	**306**	*e*Pn	**Pn**	**20 39 23.7**	**+0.6**
BBLS	**Lazi&#263i**	**2.36**	**1**	⇑*i*Pn	**Pn**	**20 39 26.6**	**+1.4**
BBLS				*e*Sn	**Sn**	**20 39 56.7**	**+2.7**
GRG	**Griva**	**2.38**	**102**	P	**Pn**	**20 39 26.7**	**+1.3**
KTI	**Kastanea**	**2.38**	**117**	P	**Pn**	**20 39 27.0**	**+1.4**
MRVN	**Minervino Murg**	**2.41**	**260**	⇓*i*P	**Pn**	**20 39 26.7**	**+0.9**
VAY	**Valandovo**	**2.44**	**93**	*i* Pn	**Pn**	**20 39 27.3**	**+1.0**
MAKA	**Makarska**	**2.47**	**317**	*e*Pn	**Pn**	**20 39 27.6**	**+1.0**
SGRT	**San Giovanni R**	**2.70**	**276**	⇓*e*P	**Pn**	**20 39 30.1**	**+0.1**
HVAR	**Hvar**	**2.71**	**309**	*e*Pn	**Pn**	**20 39 30.8**	**+0.8**
BOVS	**Bovan**	**2.75**	**39**	⇑⇑P	**Pn**	**20 39 31.8**	**+1.2**
THE	**Thessaloniki**	**2.88**	**106**	P	**Pn**	**20 39 33.3**	**+1.1**
LKD2	**Lefkada island**	**2.90**	**159**	P	**Pn**	**20 39 33.6**	**+1.0**
TEKS	**Tekeris**	**3.04**	**3**	*e*Pn	**Pn**	**20 39 36.6**	**+2.0**
TIP	**Timpagrande**	**3.05**	**221**	⇑P	**Pn**	**20 39 35.4**	**+0.7**
KIJV	**Kijevo**	**3.30**	**320**	*e*Pn	**Pn**	**20 39 39.2**	**+1.2**
ZIRJ	**Zirje**	**3.47**	**309**	*e*Pn	**Pn**	**20 39 41.4**	**+1.0**
MORI	**Morici**	**3.56**	**313**	*e*Pn	**Pn**	**20 39 43.6**	**+1.9**
BLY	**Banja Luka**	**3.60**	**335**	*e*Pn	**Pn**	**20 39 44.1**	**+1.9**
BLY				*e*Sn	**Sn**	**20 40 25.4**	**+0.9**
A050A	**Klekovaca**	**3.62**	**326**	⇑*i*Pn	**Pn**	**20 39 44.2**	**+1.7**
A050A				*e*Sn	**Sn**	**20 40 26.1**	**+1.1**
FRGS	**Fruska Gora**	**3.67**	**5**	*e*Pn	**Pn**	**20 39 43.6**	**+0.5**
FRGS				*e*Sn	**Sn**	**20 40 27.1**	**+1.0**
A051A	**Mrakovica**	**3.93**	**334**	⇑*i*Pn	**Pn**	**20 39 47.8**	**+1.1**
A051A				*e*Sn	**Sn**	**20 40 33.0**	**+0.4**
DUGI	**Dugi Otok**	**4.01**	**310**	*e*Pn	**Pn**	**20 39 49.2**	**+1.4**
HERR	**Herculane**	**4.06**	**33**	⇓P	**Pn**	**20 39 49.5**	**+1.0**
VIRC	**Vir**	**4.20**	**313**	*e*Pn	**Pn**	**20 39 51.3**	**+1.0**
SRE	**Strehaia**	**4.24**	**41**	⇑P	**Pn**	**20 39 53.3**	**+2.3**
PLIT	**Plitvice**	**4.33**	**322**	*e*Pn	**Pn**	**20 39 53.9**	**+1.7**
BZS	**Buzias**	**4.43**	**21**	⇑P	**Pn**	**20 39 54.0**	**+0.4**
NVLJ	**Novalja**	**4.48**	**315**	*e*Pn	**Pn**	**20 39 54.9**	**+0.7**
GZR	**Gura Zlata**	**4.62**	**32**	⇓P	**Pn**	**20 39 57.9**	**+1.6**
RABC	**Rab**	**4.65**	**316**	*e*Pn	**Pn**	**20 39 57.8**	**+1.3**
SURR	**Surduc**	**4.70**	**25**	⇓P	**Pn**	**20 39 59.6**	**+2.3**
MORH	**Mrgy, Hungar**	**4.73**	**354**	⇓*i*Pn	**Pn**	**20 39 58.0**	**+0.3**
MORH	**Mrgy, Hungar**	**4.73**	**354**	⇓P	**Pn**	**20 39 58.2**	**+0.5**
BOJS	**Bojanci**	**4.98**	**325**	⇑*i*Pn	**Pn**	**20 40 02.0**	**+0.9**
BOJS				*e*Sn	**Sn**	**20 40 57.8**	**-0.6**
SIRR	**Siria**	**5.05**	**19**	⇑P	**Pn**	**20 40 02.6**	**+0.6**
LOT	**Lotru**	**5.09**	**38**	⇓P	**Pn**	**20 40 04.3**	**+1.5**
HUMR	**Humele**	**5.12**	**52**	⇓P	**Pn**	**20 40 04.9**	**+1.9**
BEHE	**Becsehely**	**5.29**	**340**	*e*Pn	**Pn**	**20 40 06.4**	**+1.0**
ARR	**Arges**	**5.46**	**43**	⇓P	**Pn**	**20 40 09.7**	**+2.0**
CEY	**Cerknica**	**5.53**	**322**	⇑*i*Pn	**Pn**	**20 40 09.2**	**+0.5**
CEY				*e*Sn	**Sn**	**20 41 11.0**	**-1.1**
SKDS	**Skadanscina**	**5.59**	**318**	*e*Pn	**Pn**	**20 40 09.5**	**0.0**
SKDS				*e*Sn	**Sn**	**20 41 12.2**	**-1.4**
VOIR		**5.72**	**45**	⇑P	**Pn**	**20 40 13.6**	**+2.2**
DRGR		**5.81**	**24**	⇓P	**Pn**	**20 40 13.6**	**+0.9**
MARR	**Marisel-Cluj**	**5.84**	**27**	⇑P	**Pn**	**20 40 15.0**	**+1.9**
SULR		**5.98**	**56**	⇓P	**Pn**	**20 40 17.5**	**+2.7**
SOKA	**Soboth**	**6.03**	**331**	*i* Pn	**Pn**	**20 40 16.1**	**+0.5**
	3.5nm,0.4s,SNR=11						
OBKA	**Obir**	**6.08**	**327**	*e*Pn	**Pn**	**20 40 17.0**	**+0.7**
	2.0nm,0.5s						
OBKA	**Obir**	**6.08**	**327**	*e*Pn	**Pn**	**20 40 16.9**	**+0.6**
OBKA				*e*Sn	**Sn**	**20 41 23.9**	**-1.7**
MLR	**Muntele Rosu**	**6.24**	**48**	Pn	**Pn**	**20 40 22.0**	**+3.5**
	1.2nm,0.3s,baz=166,slow=7.7,SNR=16						
MLR				Sn	**Sn**	**20 41 28.0**	**-1.8**
	0.2n

*IDC **31** 21:01:33.3±1.2, 50°.43N×159°.97E, h0km, mb3.4/7, mbtmp3.4/8, ML2.6/1, MS3.1/1, Error ellipse: s-maj=29.5km s-min=24.0km az=10.0*
*KRSC **31** 21:01:35.0±1.6, 50°.52N×160°.10E, h63km±34km, Ml3.7*
ISC 31 21:01:34.7±0.9, **50°.54N**±0°.06×**160°.01E**±0°.05, **h10**km, **n35**, σ1§**65**/53, **mb3.4**/7, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.76**	**317**	*eP*	**Pb**	**21 02 05.8**	**-1.2**
KDTR				*eS*	**Sn**	**21 02 27.3**	**-0.3**
RUS	**Russkaya**	**2.12**	**334**	*eP*	**Pb**	**21 02 10.8**	**-2.3**
RUS				*eS*	**Sn**	**21 02 35.9**	**-0.5**
PAU	**Pauzhetka**	**2.22**	**296**	*eP*	**Pb**	**21 02 13.5**	**-1.4**
PAU				*eS*	**Sn**	**21 02 39.1**	**0.0**
GRL	**Gorelyy**	**2.35**	**330**	*eP*	**Pb**	**21 02 15.2**	**-2.0**
GRL				*eS*	**Sb**	**21 02 44.2**	**-2.1**
SKR	**Severo-Kuril's**	**2.48**	**275**	*eP*	**Pn**	**21 02 15.1**	**0.0**
SKR				*eS*	**Sn**	**21 02 43.3**	**-2.1**
SPN	**Mys Shipunski**	**2.56**	**0**	*eP*	**Pn**	**21 02 16.8**	**+0.6**
SPN				*eS*	**Sn**	**21 02 47.1**	**-0.3**
KRMR	**Karymshinskiy**	**2.58**	**334**	*eP*	**Pn**	**21 02 17.6**	**+1.1**
KRMR				*eS*	**Sn**	**21 02 48.7**	**+0.9**
DALK	**Dalny**	**2.62**	**343**	*eP*	**Pn**	**21 02 18.1**	**+1.2**
DALK				*eS*	**Sn**	**21 02 49.2**	**+0.4**
PET	**Petropavlovsk**	**2.63**	**342**	*eP*	**Pn**	**21 02 18.1**	**+1.0**
PET				*eS*	**Sn**	**21 02 49.4**	**+0.4**
NLC	**Nalytchevo**	**2.67**	**351**	*eP*	**Pb**	**21 02 19.6**	**-2.9**
NLC				*eS*	**Sn**	**21 02 49.9**	**-0.2**
UGLR	**Uglovaya**	**2.77**	**345**	*eP*	**Pn**	**21 02 20.9**	**+1.7**
SDLR	**Sedlovina**	**2.83**	**346**	*eP*	**Pn**	**21 02 21.5**	**+1.5**
AVH	**Avacha**	**2.84**	**344**	*eP*	**Pb**	**21 02 22.2**	**-3.4**
AVH				*eS*	**Sn**	**21 02 55.0**	**+0.5**
KOK	**Koryaka**	**2.88**	**343**	*eP*	**Pn**	**21 02 22.6**	**+1.9**
KOK				*eS*	**Sn**	**21 02 56.5**	**+0.9**
PETK	**Petropavlovsk-**	**2.94**	**332**	Pn	**Pn**	**21 02 23.3**	**+1.8**
	4.1nm,0.3s,baz=119,slow=18,SNR=74						
PETK				Sn	**Sn**	**21 02 59.3**	**+2.4**
	3.1nm,0.3s,baz=198,slow=32,SNR=6.0 12nm,0.5s						
KRX	**Arik**	**2.95**	**344**	*eP*	**Pn**	**21 02 23.0**	**+1.4**
KRX				*eS*	**Sn**	**21 02 57.9**	**+0.7**
APC	**Apacha**	**2.98**	**325**	*eP*	**Pb**	**21 02 24.0**	**-3.8**
APC				*eS*	**Sn**	**21 02 59.6**	**+2.0**
GNL	**Ganaly**	**3.41**	**339**	*eP*	**Pn**	**21 02 29.9**	**+1.9**
GNL				*eS*	**Sn**	**21 03 09.8**	**+1.4**
MKZ	**Mys Kozlova**	**4.16**	**14**	*eP*	**Pn**	**21 02 38.5**	**+0.3**
MKZ				*eS*	**Sn**	**21 03 25.2**	**-1.5**
TUMD	**Tumrok D**	**4.68**	**3**	*eP*	**Pn**	**21 02 46.9**	**+1.5**
TUMD				*eS*	**Sn**	**21 03 38.5**	**-1.2**
KMNR	**Kamenistaya**	**5.23**	**1**	*eP*	**Pn**	**21 02 56.2**	**+3.2**
BZGR	**Bezymyannyi-Gr**	**5.43**	**4**	*eP*	**Pn**	**21 02 57.9**	**+2.2**
BZGR				*eS*	**Sn**	**21 03 57.3**	**-0.9**
KIRR	**Kirishev**	**5.43**	**2**	*eP*	**Pn**	**21 02 58.6**	**+2.9**
KPT	**Kopyto**	**5.44**	**1**	*eP*	**Pn**	**21 02 58.6**	**+2.7**
KRSR	**Krestovskiy**	**5.70**	**3**	*eP*	**Pn**	**21 03 01.3**	**+1.9**
BKI	**Bering**	**5.90**	**35**	*eP*	**Pn**	**21 03 01.9**	**-0.2**
KBTR	**Krutoberegovo**	**5.92**	**15**	*eP*	**Pn**	**21 03 03.0**	**+0.6**
ILAR	**Eielson Array**	**30.70**	**42**	P	**P**	**21 07 50.1**	**+0.8**
	0.3nm,0.7s,baz=253,slow=8.5,SNR=4.3 0.3nm,0.7s						
SONM	**Songino Array**	**34.51**	**287**	LR	LR	21 25 26.8	
	comp=Z,30nm,19.0s,baz=258,slow=42						
YKA	**Yellowknife Ar**	**45.11**	**41**	P	**P**	**21 09 51.3**	**+0.7**
	0.3nm,0.9s,baz=293,slow=7.2,SNR=3.4 0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**49.17**	**304**	P	**P**	**21 10 22.7**	**+0.3**
	0.5nm,0.5s,baz=62,slow=7.6,SNR=6.7 0.5nm,0.5s						
MKAR	**Makanchi Array**	**49.25**	**298**	P	**P**	**21 10 23.7**	**+0.5**
	0.2nm,0.5s,baz=57,slow=7.2,SNR=2.8 0.2nm,0.5s						
BVAR	**Borovoye Array**	**51.96**	**310**	P	**P**	**21 10 43.9**	**+0.3**
	0.6nm,0.5s,baz=65,slow=8.4,SNR=4.6 0.6nm,0.5s						
TXAR	**Lajitas Array**	**71.71**	**66**	P	**P**	**21 12 57.9**	**+0.9**
	0.3nm,0.5s,baz=312,slow=3.3,SNR=4.3 0.3nm,0.5s						
ASAR	**Alice Springs**	**77.41**	**204**	P	**P**	**21 13 29.4**	**-0.3**
	0.2nm,0.6s,baz=16,slow=4.8,SNR=1.7 0.2nm,0.6s						

*IDC **31** 21:05:25.4±1.8, 37°.41N×29°.42E, h0km, mb2.9/1, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=36.0km s-min=22.3km az=142.0*
*ISK **31** 21:05:25.2, 37°.49N×29°.41E, h5km, ML3.0/30*
*AFAD **31** 21:05:25.6, 37°.48N×29°.38E, h7km±2km, ML3.0*
ISC 31 21:05:25.9±1.0, **37°.49N**±0°.02×**29°.40E**±0°.02, **h6**km±7km, **n57**, σ0§**97**/76, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.08**	**254**	Pg	**Pg**	**21 05 27.6**	**-0.2**
INCE	**Denizli-Bozkur**	**0.26**	**33**	P	**Pg**	**21 05 31.2**	**+0.2**
INCE				S	**Sg**	**21 05 35.9**	**+1.4**
INCE				*i* AML	AML	21 05 37.0	
	comp=N,2μm,0.2s						
INCE				*i* AML	AML	21 05 37.0	
	comp=E,2μm,0.4s						
GOLH	**Golhisar**	**0.29**	**153**	P	**Pg**	**21 05 31.7**	**+0.1**
GOLH				S	**Sb**	**21 05 36.1**	**-2.6**
GOLH				*i* AML	AML	21 05 37.0	
	comp=E,3μm,0.2s						
GOLH				*i* AML	AML	21 05 41.0	
	comp=N,2μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.31**	**295**	P	**Pg**	**21 05 32.4**	**+0.3**
DNIZ				S	**Sg**	**21 05 36.8**	**+0.5**
DNIZ				*i* AML	AML	21 05 45.0	
	comp=N,3μm,0.6s						
DNIZ				*i* AML	AML	21 05 45.0	
	comp=E,3μm,0.2s						
DNZT	**Denizli-Tavas-**	**0.36**	**234**	P	**Pg**	**21 05 32.9**	**-0.1**
DNZT				S	**Sg**	**21 05 38.4**	**+0.6**
CAEL	**Denizli, Camel**	**0.38**	**189**	P	**Pg**	**21 05 33.1**	**-0.1**
CAEL				S	**Sg**	**21 05 38.6**	**+0.4**
CAEL				*i* AML	AML	21 05 42.0	
	comp=E,2μm,0.4s						
CAEL				*i* AML	AML	21 05 44.0	
	comp=N,3μm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.39**	**266**	P	**Pg**	**21 05 33.5**	**+0.1**
CAME	**Cameli-Denizli**	**0.55**	**188**	Pg	**Pg**	**21 05 36.0**	**-0.6**
CAME				Sg	**Sb**	**21 05 44.6**	**-1.8**
BRDR	**BURDUR-Merkez**	**0.57**	**69**	P	**Pg**	**21 05 36.9**	**0.0**
BRDR				S	**Sb**	**21 05 45.4**	**-1.3**
BRDR				*i* AML	AML	21 05 50.0	
	comp=E,704nm,0.5s						
KNIK	**Mula-Seydike**	**0.66**	**168**	P	**Pg**	**21 05 37.7**	**-1.0**
BASM	**Basmaki-Afyon**	**0.67**	**50**	Pg	**Pg**	**21 05 38.3**	**-0.5**
SABU	**Mula-Dalaman**	**0.75**	**207**	P	**Pg**	**21 05 39.3**	**-1.0**
SABU				S	**Sb**	**21 05 50.2**	**-1.8**
ELL	**Elmali**	**0.85**	**151**	Pg	**Pg**	**21 05 41.8**	**-0.4**
PASA	**Karahalli, USA**	**0.86**	**5**	P	**Pg**	**21 05 41.5**	**-0.8**
PASA				S	**Sb**	**21 05 54.4**	**-0.7**
ESEN	**Aydn-Nazilli**	**0.89**	**290**	P	**Pg**	**21 05 42.9**	**0.0**
ESEN				S	**Sg**	**21 05 53.8**	**-0.6**
MULA	**Mugla, Merkez-**	**0.89**	**255**	P	**Pg**	**21 05 42.8**	**-0.2**
FETY	**Fethiye**	**0.89**	**196**	Pg	**Pg**	**21 05 42.4**	**-0.7**
DALY	**Dalyan (Mula)**	**0.90**	**222**	Pg	**Pg**	**21 05 42.5**	**-0.7**
KORT	**Korkueli**	**0.91**	**123**	Pg	**Pb**	**21 05 43.7**	**-0.5**
KORT	**Korkueli**	**0.91**	**123**	P	**Pg**	**21 05 42.9**	**-0.4**
KORT				S	**Sn**	**21 05 57.5**	**-1.4**
BUCA	**Burdur, Bucak-**	**0.94**	**100**	P	**Pb**	**21 05 43.7**	**-1.0**
BUCA				S	**Sb**	**21 05 57.7**	**+0.2**
BCK	**Bucak**	**0.95**	**92**	Pg	**Pg**	**21 05 43.6**	**-0.6**
ISP	**Isparta**	**0.95**	**69**	Pg	**Pg**	**21 05 43.5**	**-0.7**
YER	**Yerkesik**	**0.96**	**248**	Pg	**Pg**	**21 05 44.0**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.96**	**37**	P	**Pg**	**21 05 44.0**	**-0.5**
KZIL				S	**Sn**	**21 05 59.4**	**-0.9**
NAZL	**Nazilli-Aydin**	**0.99**	**299**	Pg	**Pg**	**21 05 45.0**	**0.0**
KIRA	**zmir-Kiraz**	**1.05**	**312**	P	**Pg**	**21 05 45.8**	**-0.4**
IZZE	**Mula-Seydike**	**1.06**	**187**	P	**Pb**	**21 05 45.9**	**-0.8**
IZZE				S	**Sn**	**21 06 02.7**	**+0.2**
IZZE				*i* AML	AML	21 06 07.0	
	comp=E,901nm,0.4s						
ANTB	**Antalya**	**1.17**	**120**	Pn	**Pb**	**21 05 47.7**	**-0.8**
TURN	**Turunc**	**1.17**	**232**	Pn	**Pb**	**21 05 48.1**	**-0.4**
TURN	**Turunc**	**1.17**	**232**	P	**Pb**	**21 05 47.9**	**-0.6**
TURN				S	**Sb**	**21 06 03.8**	**-0.1**
TURN				*i* AML	AML	21 06 10.0	
	comp=N,253nm,0.4s						
AFYN	**Afyon-Dinar-K**	**1.17**	**48**	P	**Pg**	**21 05 46.9**	**-1.5**
KULA	**Kula-Manisa**	**1.17**	**331**	Pn	**Pg**	**21 05 48.3**	**-0.1**
BAGO	**Egridir - ISPA**	**1.21**	**65**	P	**Pg**	**21 05 47.7**	**-1.4**
BAGO				S	**Sb**	**21 06 05.4**	**+0.1**
AYDN	**Tasoluk**	**1.22**	**278**	P	**Pg**	**21 05 49.0**	**-0.3**
AYDN				*i* AML	AML	21 06 11.0	
	comp=N,249nm,0.6s						
AKAS	**Kas**	**1.27**	**172**	Pn	**Pn**	**21 05 51.7**	**+1.3**
AKAS	**Kas**	**1.27**	**172**	P	**Pn**	**21 05 50.4**	**0.0**
AKAS				*i* AML	AML	21 06 14.0	
	comp=N,495nm,0.5s						
AKAS				*i* AML	AML	21 06 16.0	
	comp=E,301nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.28**	**291**	Pn	**Pn**	**21 05 50.2**	**-0.3**
KEMT	**Kemer-ANTALYA**	**1.28**	**133**	Pn	**Pb**	**21 05 49.9**	**-0.6**
MLSB	**Milas**	**1.30**	**262**	Pn	**Pg**	**21 05 50.7**	**-0.3**
ODEM	**Odemis-Izmir**	**1.30**	**307**	Pn	**Pg**	**21 05 50.8**	**-0.2**
DEMR	**Demre-Antalya**	**1.32**	**162**	Pn	**Pg**	**21 05 50.7**	**-0.5**
AKUM	**Antalya-Kumluc**	**1.39**	**147**	P	**Pg**	**21 05 54.8**	**+2.2**
AKUM				S	**Sn**	**21 06 14.4**	**+3.7**
SHUT	**Suhut-Afyon**	**1.40**	**40**	Pn	**Pn**	**21 05 51.9**	**-0.2**
SHAP	**Saphane-Kutahy**	**1.53**	**355**	Pn	**Pn**	**21 05 54.0**	**0.0**
GEDZ	**Gediz**	**1.55**	**0**	Pn	**Pn**	**21 05 54.2**	**0.0**
DATC	**Datca-Mugla**	**1.57**	**243**	Pn	**Pg**	**21 05 57.0**	**+1.0**
SIMA	**Simav-Kutahya**	**1.62**	**349**	Pn	**Pn**	**21 05 55.2**	**0.0**
ARG	**Arkhangelos**	**1.63**	**219**	Pn	**Pb**	**21 05 55.3**	**-1.1**
DAT	**Datca**	**1.64**	**243**	Pn	**Pn**	**21 05 55.5**	**0.0**
BODT	**Bodrum**	**1.72**	**256**	Pn	**Pn**	**21 05 56.6**	**+0.2**
TVSB	**Tavsanli**	**1.95**	**1**	Pn	**Pn**	**21 06 00.0**	**+0.2**
BLCB	**Balcova**	**2.06**	**296**	Pn	**Pn**	**21 06 01.5**	**+0.3**
BRTR	**Keskin Array B**	**4.00**	**55**	Pn	**Pn**	**21 06 28.9**	**+1.0**
	0.9nm,0.3s,baz=233,slow=17,SNR=18						
BRTR				Sn	**Sn**	**21 07 16.3**	**+1.1**
	0.3nm,0.3s,baz=232,slow=24,SNR=8.0 1.3nm,0.3s						
MMAI	**Mount Meron Ar**	**6.64**	**131**	Pn	**Pn**	**21 07 04.6**	**+0.4**
	3.9nm,0.3s,baz=313,slow=12,SNR=32						
MMAI				Sn	**Sn**	**21 08 19.5**	**-0.7**
	1.2nm,0.3s,baz=306,slow=26,SNR=1.5 2.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**34.62**	**233**	P	**P**	**21 12 15.4**	**-0.6**
	144nm,0.4s,baz=30,slow=8.7,SNR=1.8						
MKAR	**Makanchi Array**	**39.64**	**59**	P	**P**	**21 13 00.6**	**+2.1**
	0.1nm,0.6s,baz=274,slow=8.4,SNR=1.9 0.1nm,0.6s						

*IDC **31** 21:53:40.9±1.4, 33°.87N×24°.67E, h0km, mb3.8/8, mbtmp3.7/11, ML3.1/3, MS2.5/1, Error ellipse: s-maj=32.4km s-min=21.1km az=162.0*
*ISK **31** 21:53:44.3, 33°.82N×24°.63E, h84km, ML2.9/15*
*ATH **31** 21:53:51.6, 34°.31N×24°.76E, h26km±8km, ML2.7/4, Manual Solution by F.Xalaris First location: 2019/03/31 21:55:23, This location: 2019/03/31 22:12:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 29 km; Longitude uncertainty: 14 km*
*AFAD **31** 21:53:53.0, 34°.31N×25°.34E, h6km±4km, ML3.0*
ISC 31 21:53:44.1±0.9, **33°.93N**±0°.07×**24°.82E**±0°.04, **h20**km, **n53**, σ2§**72**/66, **mb4.0**/9, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.10**	**327**	Pn	**Pb**	**21 54 05.7**	**+1.3**
GVD	**Gavdhos**	**1.10**	**327**	P	**Pb**	**21 54 06.0**	**+1.6**
GVD				S	**Sb**	**21 54 16.6**	**-1.6**
IDI	**Anoyia**	**1.36**	**2**	Pn	**Pb**	**21 54 09.9**	**+1.0**
IDI				Sn	**Sb**	**21 54 29.6**	**+3.7**
IDI	**Anoyia**	**1.36**	**2**	P	**Pb**	**21 54 10.4**	**+1.4**
IDI				S	**Sn**	**21 54 23.3**	**-2.2**
KNDR	**Palaiochora Ch**	**1.61**	**325**	Pn	**Pb**	**21 54 12.8**	**-0.3**
ZKR	**Zakros**	**1.66**	**44**	Pn	**Pb**	**21 54 15.5**	**+1.6**
ZKR	**Zakros**	**1.66**	**44**	P	**Pb**	**21 54 16.2**	**+2.3**
IMMV	**Iera Moni Meta**	**1.68**	**336**	Pn	**Pb**	**21 54 13.8**	**-0.5**
IMMV	**Iera Moni Meta**	**1.68**	**336**	P	**Pb**	**21 54 14.6**	**+0.3**
KARP	**Karpathos**	**2.52**	**49**	Pn	**Pb**	**21 54 27.3**	**-1.3**
KARP				Sn	**Sb**	**21 54 58.9**	**-0.3**
KARP	**Karpathos**	**2.52**	**49**	P	**Pb**	**21 54 28.1**	**-0.5**
APE	**Apeiranthos**	**3.19**	**10**	Pn	**Pn**	**21 54 34.6**	**+1.4**
APE	**Apeiranthos**	**3.19**	**10**	P	**Pn**	**21 54 35.3**	**+2.1**
ARG	**Arkhangelos**	**3.55**	**49**	Pn	**Pn**	**21 54 41.1**	**+3.1**
DAT	**Datca**	**3.59**	**38**	Pn	**Pn**	**21 54 41.6**	**+2.9**
DAT	**Datca**	**3.59**	**38**	P	**Pn**	**21 54 42.1**	**+3.3**
DAT				S	**Sn**	**21 55 15.3**	**-5.4**
DATC	**Datca-Mugla**	**3.66**	**39**	Pn	**Pn**	**21 54 42.3**	**+2.8**
TURN	**Turunc**	**3.99**	**44**	Pn	**Pn**	**21 54 46.9**	**+2.9**
TURN	**Turunc**	**3.99**	**44**	P	**Pn**	**21 54 47.0**	**+2.9**
TURN				S	**Sn**	**21 55 23.5**	**-6.8**
ITM	**Ithomi**	**4.01**	**325**	Pn	**Pn**	**21 54 44.9**	**+0.4**
DALY	**Dalyan (Mula)**	**4.26**	**46**	Pn	**Pn**	**21 54 50.7**	**+2.9**
YER	**Yerkesik**	**4.27**	**40**	Pn	**Pn**	**21 54 50.8**	**+2.8**
MULA	**Mugla, Merkez-**	**4.38**	**40**	P	**Pn**	**21 54 51.5**	**+1.9**
IZZE	**Mula-Seydike**	**4.39**	**54**	P	**Pn**	**21 54 51.8**	**+2.2**
IZZE				S	**Sn**	**21 55 35.9**	**-4.4**
IZZE				*i* AML	AML	21 55 49.0	
	comp=N,28nm,0.6s						
FETY	**Fethiye**	**4.41**	**51**	Pn	**Pn**	**21 54 52.4**	**+2.5**
FETY	**Fethiye**	**4.41**	**51**	P	**Pn**	**21 54 53.8**	**+3.9**
FETY				S	**Sn**	**21 55 40.0**	**-0.8**
SABU	**Mula-Dalaman**	**4.46**	**48**	P	**Pn**	**21 54 53.2**	**+2.7**
SABU				*i* AML	AML	21 56 42.0	
	comp=N,30nm,1.7s						
AKAS	**Kas**	**4.55**	**58**	P	**Pn**	**21 54 54.3**	**+2.4**
AKAS				S	**Sn**	**21 55 41.6**	**-2.6**
AYDB	**Zeytinkoy-Aydi**	**4.72**	**31**	Pn	**Pn**	**21 54 56.7**	**+2.4**
DNZT	**Denizli-Tavas-**	**4.79**	**44**	P	**Pn**	**21 54 56.9**	**+1.8**
DNZT				S	**Sn**	**21 55 46.5**	**-3.6**
KNIK	**Mula-Seydike**	**4.85**	**52**	P	**Pn**	**21 54 57.8**	**+1.7**
TAVA	**DENIZLI_Tavas**	**4.86**	**42**	P	**Pn**	**21 54 59.1**	**+3.0**
TAVA				S	**Sn**	**21 55 48.6**	**-3.1**
CAEL	**Denizli, Camel**	**4.86**	**48**	P	**Pn**	**21 54 55.6**	**-0.7**
CAEL				*i* AML	AML	21 56 45.0	
	comp=E,58nm,1.9s						
DNIZ	**Denizli-Tavas-**	**5.04**	**42**	P	**Pn**	**21 55 02.4**	**+3.8**
GOLH	**Golhisar**	**5.08**	**48**	P	**Pn**	**21 55 02.2**	**+3.0**
GOLH				*i* AML	AML	21 57 28.0	
	comp=E,24nm,0.7s						
GOLH				*i* AML	AML	21 57 29.0	
	comp=N,26nm,0.7s						
AKUM	**Antalya-Kumluc**	**5.12**	**61**	P	**Pn**	**21 55 01.5**	**+1.9**
AKUM				S	**Sn**	**21 55 54.7**	**-3.4**
AKUM				*i* AML	AML	21 56 47.0	
	comp=N,22nm,2.6s						
AKUM				*i* AML	AML	21 56 58.0	
	comp=E,25nm,2.2s						
INCE	**Denizli-Bozkur**	**5.40**	**44**	P	**Pn**	**21 55 06.7**	**+3.1**
INCE				S	**Sn**	**21 55 57.0**	**-8.2**
KORT	**Korkueli**	**5.46**	**54**	P	**Pn**	**21 55 06.5**	**+2.1**
KORT				S	**Sn**	**21 56 02.3**	**-4.3**
KORT				*i* AML	AML	21 56 16.0	
	comp=E,13nm,0.5s						
KORT				*i* AML	AML	21 57 32.0	
	comp=N,16nm,2.3s						
BUCA	**Burdur, Bucak-**	**5.78**	**52**	P	**Pn**	**21 55 11.4**	**+2.7**
BUCA				*i* AML	AML	21 56 44.0	
	comp=N,13nm,0.9s						
BUCA				*i* AML	AML	21 57 29.0	
	comp=E,11nm,0.8s						
KEPZ	**Antalya-Kepez**	**6.28**	**60**	P	**Pn**	**21 55 18.0**	**+2.3**
KEPZ				S	Sn	21 56 16.6	-10
MMAI	**Mount Meron Ar**	**8.89**	**93**	LR	LR	22 01 36.2	
	comp=Z,26nm,19.1s,baz=240,slow=53						
BRTR	**Keskin Array B**	**9.13**	**48**	Pn	**Pn**	**21 55 57.1**	**+2.3**
	0.1nm,0.3s,baz=207,slow=10,SNR=4.2 0.4nm,0.7s						
GERES	**GERESS Array B**	**17.05**	**334**	P	**Pn**	**21 57 41.9**	**+0.5**
	baz=147,slow=13,SNR=2.2 0.2nm,0.5s						
AKASG	**Malin Array Be**	**17.07**	**10**	P	**P**	**21 57 43.1**	**0.0**
	0.6nm,0.3s,baz=203,slow=10,SNR=4.1 0.2nm,0.3s						
ESDC	**Sonseca Array**	**23.70**	**292**	P	**P**	**21 58 53.2**	**-1.3**
	0.3nm,0.7s,baz=113,slow=13,SNR=1.7 0.3nm,0.7s						
HFS	**Hagfors**	**27.22**	**348**	P	**P**	**21 59 26.1**	**-0.2**
	3.6nm,1.0s,baz=156,slow=10,SNR=4.1 3.6nm,1.0s						
NOA	**NORSAR Array B**	**28.52**	**346**	P	**P**	**21 59 37.9**	**-0.2**
	0.8nm,0.9s,baz=152,slow=9.0,SNR=1.5 0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.49**	**231**	P	**P**	**21 59 45.6**	**-1.4**
	207nm,0.3s,baz=35,slow=7.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**42.12**	**50**	P	**P**	**22 01 35.8**	**+1.0**
	1.0nm,0.5s,baz=278,slow=8.9,SNR=13 1.0nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.51**	**358**	P	**P**	**22 01 53.5**	**-0.1**
	9.0nm,1.1s,baz=144,slow=12,SNR=1.0 9.0nm,1.1s						
MKAR	**Makanchi Array**	**44.70**	**55**	P	**P**	**22 01 56.9**	**+1.3**
	1.0nm,0.5s,baz=271,slow=7.3,SNR=34 1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**46.06**	**45**	P	**P**	**22 02 06.8**	**+0.4**
	1.5nm,0.4s,baz=269,slow=8.4,SNR=7.7 1.5nm,0.4s						
SONM	**Songino Array**	**60.49**	**50**	P	**P**	**22 03 53.9**	**+1.3**
	0.1nm,0.4s,baz=286,slow=9.1,SNR=1.6 0.1nm,0.4s						

*IDC **31** 22:03:32.2±1.1, 30°.69N×141°.99E, h0km, mb3.7/12, mbtmp3.8/15, ML3.3/3, MS2.6/1, Error ellipse: s-maj=40.1km s-min=14.2km az=74.0*
*NEIC **31** 22:03:33.7±1.8, 30°.88N±0°.06×142°.2E±0°.1, h10km±1km, mb4.4/15, Error ellipse: s-maj=19.0km s-min=5.5km az=60.0*
ISC 31 22:03:35.2±0.7, **30°.76N**±0°.06×**142°.2E**±0°.1, **h24**km, **n41**, σ1§**08**/42, **mb3.9**/17, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.13**	**319**	Pn	**Pn**	**22 04 20.5**	**-2.5**
	6.9nm,0.3s,baz=55,slow=23,SNR=2.1						
JHJ				Sn	**Sn**	**22 04 58.1**	**-1.5**
	9.1nm,0.3s,baz=96,slow=22,SNR=1.6 168nm,0.8s						
JCJ	**Chichijima**	**3.65**	**180**	Pn	**Pn**	**22 04 31.1**	**+0.9**
JCJ	**Chichijima**	**3.65**	**180**	Pn	**Pn**	**22 04 29.1**	**-1.1**
	5.3nm,0.3s,baz=308,slow=21,SNR=1.4						
JCJ				Sn	**Sn**	**22 05 11.4**	**-1.1**
	17nm,0.3s,baz=276,slow=21,SNR=4.7 40nm,0.6s						
JGF	**Kuroka**	**6.32**	**321**	Pn	**Pn**	**22 05 06.0**	**-0.8**
MJAR	**Matsushiro Arr**	**6.66**	**331**	Pn	**Pn**	**22 05 12.2**	**+0.6**
	0.4nm,0.3s,baz=160,slow=11,SNR=36						
MJAR				Sn	**Sn**	**22 06 27.5**	**+0.7**
	0.1nm,0.3s,baz=153,slow=16,SNR=1.5 5.7nm,0.6s						
MAJO	**Matsushiro**	**6.67**	**331**	Pn	**Pn**	**22 05 11.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**6.67**	**331**	Pn	**Pn**	**22 05 11.6**	**-0.1**
JMM	**Marumori**	**7.19**	**351**	Pn	**Pn**	**22 05 17.2**	**-1.6**
KSRS	**Korea Array**	**13.59**	**303**	LR	LR	22 12 08.4	
	comp=Z,22nm,18.3s,baz=320,slow=38						
YULB	**Yu-li**	**20.00**	**254**	P	**P**	**22 08 05.2**	**-0.9**
YULB				IAmb	IAmb	22 08 27.9	
	comp=Z,50nm,1.4s						
KLR	**Kul'dur**	**20.08**	**340**	P	Pn	22 08 08.2	-0.4
	comp=Z,1.6nm,0.7s,baz=211,slow=4.1,SNR=4.2 comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**32.18**	**312**	P	**P**	**22 10 01.1**	**-0.2**
SONM	**Songino Array**	**32.18**	**312**	P	**P**	**22 10 01.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=110,slow=8.5,SNR=5.0 comp=Z,0.5nm,0.6s						
UNV	**Unalaska Valle**	**43.20**	**42**	P	**P**	**22 11 33.2**	**-0.8**
ZALV	**Zalesovo Beam**	**46.79**	**317**	P	**P**	**22 12 02.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=91,slow=7.6,SNR=1.8 comp=Z,0.4nm,0.5s						
MK31	**Makanchi Array**	**48.23**	**307**	P	**P**	**22 12 14.1**	**+0.2**
MKAR	**Makanchi Array**	**48.23**	**307**	P	**P**	**22 12 13.4**	**-0.5**
MKAR	**Makanchi Array**	**48.23**	**307**	P	**P**	**22 12 14.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=92,slow=9.7,SNR=8.5 comp=Z,0.5nm,0.6s						
R16K	**Pilot Point**	**48.77**	**38**	P	**P**	**22 12 16.1**	**-1.8**
M17K	**Holitna River**	**49.38**	**33**	P	**P**	**22 12 20.6**	**-2.0**
KURK	**Kurchatov**	**50.49**	**312**	P	**P**	**22 12 30.5**	**-0.6**
KURBB	**Kurchatov Arra**	**50.55**	**312**	P	**P**	**22 12 30.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=87,slow=7.9,SNR=12 comp=Z,0.7nm,0.6s						
WR8	**Warramunga Arr**	**50.96**	**189**	P	**P**	**22 12 35.0**	**+0.1**
WR8				IAmb	IAmb	22 12 37.4	

PDG	Podgorica	0.94	357	⇑P	Pg	22 14 45.4	-1.4
PDG	Podgorica	0.94	357	⇑iPg	Pg	22 14 45.3	-1.6
PDG				eSg	Sb	22 15 00.7	+1.7
BCI	Bajram Curri	1.04	32	P	Pg	22 14 46.7	-2.0
BCI				S	Sb	22 15 02.1	+0.3
BCI				AML	AML	22 15 09.7	
	12nm,0.5s						
CEME	Cevo	1.10	344	⇓iPg	Pg	22 14 48.6	-1.3
CEME				i Sg	Sn	22 15 06.0	+1.4
HCY	Herceg Novi	1.14	327	P	Pb	22 14 50.2	+0.1
HCY	Herceg Novi	1.14	327	ePg	Pb	22 14 50.4	+0.3
HCY				eSg	Sn	22 15 06.5	+1.0
HCY	Herceg Novi	1.14	327	ePg	Pb	22 14 49.9	-0.2
HCY				eSg	Sn	22 15 07.6	+2.1
OHR	Ohrid	1.17	108	i Pg	Pb	22 14 50.4	-0.2
OHR				i Sg	Sn	22 15 09.4	+3.0
PVY	Plav	1.20	23	P	Pb	22 14 49.8	-1.4
PVY	Plav	1.20	23	⇓iPg	Pb	22 14 49.8	-1.4
PVY				eSg	Sn	22 15 07.9	+0.7
NKME	Niksic	1.31	348	P	Pn	22 14 52.7	+0.3
NKME	Niksic	1.31	348	⇓iPg	Pn	22 14 52.4	0.0
NKME				eSg	Sg	22 15 12.5	+1.7
KOME	Kolasin	1.37	6	⇑iPg	Pn	22 14 53.3	0.0
KOME				i Sg	Sg	22 15 13.9	+1.1
KBN	Korca	1.40	127	P	Pb	22 14 55.2	+0.6
KBN				S	Sn	22 15 12.8	+0.7
KBN				AML	AML	22 15 18.4	
	5.4nm,0.6s						
TREB	Trebinje	1.43	330	⇑iPg	Pn	22 14 54.4	+0.4
TREB				eSg	Sg	22 15 14.8	+0.2
BEY	Berane	1.45	17	P	Pn	22 14 54.7	+0.3
BEY	Berane	1.45	17	i Pg	Pn	22 14 54.7	+0.3
IVA	Berane	1.45	17	⇑iPg	Pn	22 14 54.3	-0.1
IVA				eSg	Sg	22 15 16.3	+1.0
DBRK	Dubrovnik	1.47	324	ePg	Pn	22 14 55.6	+0.9
BRY	Bratogost	1.53	338	P	Pb	22 14 57.0	+0.3
BRY	Bratogost	1.53	338	ePn	Pn	22 14 56.7	+1.1
BRY				eSn	Sb	22 15 17.5	+1.5
BRY	Bratogost	1.53	338	ePg	Pn	22 14 56.7	+1.1
BRY				eSg	Sg	22 15 19.7	+1.8
SCTE	Santa Cesarea	1.56	205	P	Pn	22 14 57.1	+1.3
SCTE				S	Sg	22 15 18.8	+0.1
LSK	Leskovik	1.65	144	P	Pg	22 15 00.1	-0.2
LSK				S	Sb	22 15 20.8	+1.4
LSK				AML	AML	22 15 36.3	
	8.7nm,1.2s						
SRN	Sarande	1.69	162	P	Pb	22 14 59.5	+0.2
SRN				S	Sg	22 15 22.4	-0.5
NEST	Nestorio	1.69	129	P	Pg	22 15 00.7	-0.4
NEST				S	Sb	22 15 21.1	+0.5
	862nm,0.6s						
FNA	Florina	1.70	114	P	Pb	22 14 59.8	+0.1
FNA				S	Sb	22 15 21.3	+0.4
	1µm,0.7s						
UPM	Unac-Piva	1.74	350	P	Pb	22 15 00.8	+0.4
UPM	Unac-Piva	1.74	350	⇑iPn	Pn	22 14 59.9	+1.4
UPM				eSn	Sb	22 15 22.7	+0.5
UPM	Unac-Piva	1.74	350	⇓iPn	Pn	22 14 59.8	+1.3
UPM				eSn	Sg	22 15 24.8	+0.1
KEK	Kerkira	1.81	168	P	Pg	22 15 02.9	-0.4
KEK				S	Sg	22 15 27.3	+0.5
	730nm,0.6s						
STON	Ston	1.84	319	⇑iPn	Pn	22 15 00.9	+1.3
STON				eSn	Sb	22 15 25.2	+0.5
STON	Ston	1.84	319	ePn	Pn	22 15 01.1	+1.5
SJES	Sjenica	1.84	15	⇑iPn	Pn	22 15 01.0	+1.2
SJES				eSn	Sn	22 15 24.5	+1.6
PLE	Pljevlja	1.84	1	P	Pb	22 15 02.7	+0.6
PLE	Pljevlja	1.84	1	⇓iPn	Pb	22 15 01.9	-0.2
PLE				eSn	Sg	22 15 26.9	-1.0
PENT	Pentalofos	1.89	133	P	Pb	22 15 02.7	-0.1
IGT	Igoumenitsa	2.10	158	P	Pb	22 15 06.4	0.0
IGT				S	Sb	22 15 33.8	+1.5
	520nm,0.9s						
KALIN	Kalinovik	2.12	342	ePn	Pn	22 15 05.7	+2.1
KALIN				eSn	Sn	22 15 31.8	+2.1
RUDO	Rudo	2.13	1	⇑iPn	Pn	22 15 05.2	+1.5
RUDO				eSn	Sn	22 15 31.9	+2.0
MATE	Matera	2.15	248	⇓P	Pn	22 15 05.1	+1.2
JAN	Janina	2.17	147	P	Pb	22 15 07.3	-0.3
KPRO	Kipourio	2.18	134	P	Pb	22 15 07.8	0.0
LSTV	Lastovo	2.22	306	ePn	Pn	22 15 05.9	+1.1
BBLS	Lazi&#263i	2.38	1	⇑iPn	Pn	22 15 08.8	+1.6
BBLS				eSn	Sn	22 15 38.5	+2.4
MRVN	Minervino Murg	2.40	261	P	Pn	22 15 08.9	+1.5
VAY	Valandovo	2.45	93	i Pn	Pn	22 15 09.5	+1.4
MAKA	Makarska	2.48	317	ePn	Pn	22 15 09.8	+1.3
SGRT	San Giovanni R	2.70	277	P	Pn	22 15 12.7	+1.2
SGRT				S	Sb	22 15 48.5	-1.0
HVAR	Hvar	2.72	309	ePn	Pn	22 15 12.8	+1.0
BOVS	Bovan	2.78	39	⇓P	Pn	22 15 13.8	+1.2
TIP	Timpagrande	3.03	221	⇑P	Pn	22 15 17.7	+1.6
KIJV	Kijevo	3.31	320	ePn	Pn	22 15 21.7	+1.8
DOB	Doboj	3.37	345	ePn	Pn	22 15 21.5	+0.8
DOB				eSn	Sn	22 16 01.5	+1.1
ZIRJ	Zirje	3.48	310	ePn	Pn	22 15 23.4	+1.3
MORI	Morici	3.57	313	ePn	Pn	22 15 25.8	+2.3
BLY	Banja Luka	3.62	335	⇑iPn	Pn	22 15 25.6	+1.5
BLY				eSn	Sn	22 16 07.6	+1.0
A050A	Klekovaca	3.63	327	⇑iPn	Pn	22 15 26.0	+1.7
A050A				eSn	Sn	22 16 08.4	+1.5
FRGS	Fruska Gora	3.69	5	ePn	Pn	22 15 25.6	+0.5
FRGS				eSn	Sn	22 16 09.4	+1.1
A051A	Mrakovica	3.94	334	⇑iPn	Pn	22 15 30.0	+1.4
A051A				eSn	Sn	22 16 15.5	+0.8
PRIJ	Prijedor	3.97	332	ePn	Pn	22 15 30.8	+1.8
PRIJ				eSn	Sn	22 16 15.8	+0.4
DUGI	Dugi Otok	4.02	310	ePn	Pn	22 15 31.2	+1.6
HERR	Herculane	4.08	33	⇑P	Pn	22 15 31.5	+1.0
VIRC	Vir	4.21	313	ePn	Pn	22 15 33.9	+1.7
SRE	Strehaia	4.26	41	⇑P	Pn	22 15 35.0	+2.1
PLIT	Plitvice	4.34	323	ePn	Pn	22 15 36.1	+2.0
BZS	Buzias	4.45	21	⇑P	Pn	22 15 36.1	+0.5
NVLJ	Novalja	4.48	315	ePn	Pn	22 15 37.2	+1.2
MOSL	Moslavina	4.53	337	ePn	Pn	22 15 37.6	+1.0
GZR	Gura Zlata	4.64	32	⇑P	Pn	22 15 40.2	+1.9
RABC	Rab	4.66	316	ePn	Pn	22 15 39.4	+1.0
SURR	Surduc	4.72	25	⇓P	Pn	22 15 39.7	+0.3
MORH	Mrgy, Hungar	4.75	354	ePn	Pn	22 15 40.0	+0.3
MORH				eSn	Sn	22 16 34.9	+0.4
MORH	Mrgy, Hungar	4.75	354	⇓P	Pn	22 15 40.3	+0.6
OZLJ	Ozalj	4.99	327	i Pn	Pn	22 15 44.6	+1.7
BOJS	Bojanci	4.99	325	⇑iPn	Pn	22 15 44.0	+1.0
BOJS				eSn	Sn	22 16 40.2	-0.2
PTJ	Puntijarka	5.04	332	ePn	Pn	22 15 44.6	+0.8
SIRR	Siria	5.07	19	⇑P	Pn	22 15 44.4	+0.3
COPA	Copaceanca	5.08	57	⇑P	Pn	22 15 45.7	+1.5
KALN	Kalnik	5.08	337	ePn	Pn	22 15 45.2	+0.9
LOT	Lotru	5.11	38	⇑P	Pn	22 15 46.3	+1.6
HUMR	Humele	5.14	52	⇑P	Pn	22 15 47.5	+2.4
CRES	Cresnjevec Ost	5.16	328	i Pn	Pn	22 15 46.4	+1.0
CRES				i Sn	Sn	22 16 43.4	-1.3
RIY	Rijeka	5.21	319	ePn	Pn	22 15 47.5	+1.6
LOBO	Lobor	5.23	334	ePn	Pn	22 15 47.5	+1.3
BEHE	Becsehely	5.31	341	ePn	Pn	22 15 48.5	+1.1
ARR	Arges	5.48	43	⇑P	Pn	22 15 52.1	+2.3
VAE	Valguarnera	5.52	225	P	Pg	22 16 10.4	-3.8
	10nm,0.5s,baz=272,slow=2.0,SNR=9.3						
CEY	Cerknica	5.54	322	⇑iPn	Pn	22 15 51.6	+1.0
CEY				eSn	Sn	22 16 53.2	-0.8
SKDS	Skadanscina	5.60	318	⇑iPn	Pn	22 15 51.4	0.0
SKDS				eSn	Sn	22 16 54.8	-0.7
VOIR		5.74	45	⇑P	Pn	22 15 56.2	+2.8
DRGR		5.84	24	⇑P	Pn	22 15 55.6	+1.0
MARR	Marisel-Cluj	5.86	27	⇑P	Pn	22 15 56.1	+1.1
SOKA	Soboth	6.04	331	i Pn	Pn	22 15 58.2	+0.8
	5.4nm,0.6s,SNR=9.3						
SOKA				eSn	Sn	22 17 03.5	-2.9
	17nm,0.9s						
OBKA	Obir	6.09	327	i Pn	Pn	22 15 59.6	+1.5
	2.8nm,0.5s,SNR=6.0						
OBKA	Obir	6.09	327	ePn	Pn	22 15 58.8	+0.7
OBKA				eSn	Sn	22 17 06.2	-1.4
MLR	Muntele Rosu	6.26	48	P	Pn	22 16 04.1	+3.5
	4.2nm,0.4s,baz=165,slow=4.3,SNR=21						
MLR				S	Sn	22 17 08.3	-3.6
	7.8nm,0.8s,baz=214,slow=6.7,SNR=4.1						
MLR				LR	LR	22 18 25.6	
	comp=Z,86nm,20.2s,baz=267,slow=40						
MLR	Muntele Rosu	6.26	48	⇓P	Pn	22 16 03.6	+3.0
DOPR	Dopca	6.27	42	⇓P	Pn	22 16 03.0	+2.4
ARSA	Arzberg	6.37	336	ePn	Pn	22 16 02.8	+0.9
	5.1nm,0.4s,SNR=4.1						
ARSA	Arzberg	6.37	336	⇑iPn	Pn	22 16 02.9	+0.9
ISR	Istrita	6.40	53	⇑P	Pn	22 16 04.6	+2.3
PSZ	Piszkesteto	6.44	3	⇑P	Pn	22 16 04.0	+1.0
RONA	Rosalia, Austr	6.58	342	ePn	Pn	22 16 06.4	+1.6
	1.7nm,0.4s						
ICOR	Ion Corvin	6.77	64	⇑P	Pn	22 16 10.0	+2.7
PLOR	Plostina	6.87	48	⇑P	Pn	22 16 11.3	+2.4
CONA	Conrad Observa	6.89	340	ePn	Pn	22 16 09.2	0.0
	0.7nm,0.3s						
VRI	Vrinciooaia	6.92	48	⇓P	Pn	22 16 11.8	+2.2
MODS	Modra-Piesok	7.04	349	ePN	Pn	22 16 14.4	+3.3
KBA	Koelnbreinsper	7.04	325	i Pn	Pn	22 16 12.6	+1.2
	4.5nm,0.6s,SNR=9.6						
KECS	Kecovo	7.04	6	ePN	Pn	22 16 13.1	+1.9
KECS				eSN	Sn	22 17 30.1	-0.9
HARR	Harsova	7.07	60	⇑P	Pn	22 16 13.6	+2.1
TLBR	Topalu	7.09	62	⇑P	Pn	22 16 14.4	+2.7
ABTA	Abfaltersbach	7.19	319	ePn	Pn	22 16 13.3	0.0
	1.9nm,0.3s,SNR=8.2						
ABTA				eSn	Sn	22 17 36.0	+1.4
	22nm,0.8s						
MOA	Molln	7.31	332	ePn	Pn	22 16 16.0	+1.2
	1.2nm,0.4s						
MOA				eSn	Sn	22 17 40.5	+3.0
	12nm,0.6s						
BIOA	Bad Ischl, Aus	7.41	329	i Pn	Pn	22 16 17.7	+1.5
	2.0nm,0.3s						
BURAR	Bucovina Array	7.43	32	⇓P	Pn	22 16 18.5	+1.9
TPGR	Topolog	7.45	60	⇑P	Pn	22 16 17.3	+0.5
JAVC	Velka Javorina	7.46	352	ePN	Pn	22 16 19.5	+2.5
LESA	Schwarzleotal	7.60	324	ePn	Pn	22 16 19.7	+0.8
	2.6nm,0.5s						
LESA				eSn	Sn	22 17 44.0	-0.8
	6.5nm,0.7s						
KOLS	Kolonicke sedl	7.73	15	ePN	Pn	22 16 24.9	+4.3
KOLS				eSN	Sn	22 17 49.0	+1.1
TLCR		7.84	59	⇑P	Pn	22 16 24.7	+2.6
WTTA	Wattenberg	7.98	319	ePn	Pn	22 16 25.8	+1.7
	6.0nm,0.3s,SNR=11						
WTTA				eSn	Sn	22 17 53.7	-0.5
	13nm,0.7s						
VRAC	Vranov	8.05	347	LR	LR	22 19 50.4	
	comp=Z,56nm,18.6s,baz=177,slow=42						
WATA	Walderalm	8.05	319	ePn	Pn	22 16 26.9	+1.7
	3.4nm,0.3s,SNR=7.7						
WATA				eSn	Sn	22 17 54.4	-1.7
	4.2nm,0.4s						
CKRC	Cesky Krumlov	8.14	336	ePN	Pn	22 16 28.0	+1.7
SQTA	Sankt Quirin	8.16	317	ePn	Pn	22 16 28.0	+1.4
	3.8nm,0.3s,SNR=11						
SQTA				eSn	Sn	22 17 57.6	-1.0
	5.6nm,0.5s						
FETA	Feichten	8.28	315	ePn	Pn	22 16 29.7	+1.3
	1.0nm,0.3s						
FETA				eSn	Sn	22 18 02.3	+0.6
	4.1nm,0.6s						
MOTA	Moosalm	8.30	318	ePn	Pn	22 16 29.5	+1.0
	1.4nm,0.3s						
MOTA				eSn	Sn	22 18 02.2	+0.1
	15nm,0.8s						
GERES	GERESS Array B	8.36	334	P	Pn	22 16 29.8	+0.5
	0.7nm,0.3s,baz=153,slow=13,SNR=14						
GERES				S	Sn	22 17 56.7	-6.7
	0.9nm,0.6s,baz=150,slow=26,SNR=1.4						
DAVOX	Davos/Dischmat	8.61	311	P	Pn	22 16 35.5	+2.7
	1.4nm,0.3s,baz=144,slow=19,SNR=7.1						
DAVOX				LR	LR	22 20 39.6	
	comp=Z,91nm,18.2s,baz=126,slow=44						
KHC	Kasperske Hory	8.65	334	ePN	Pn	22 16 34.0	+0.8
KHC				eSN	Sn	22 18 10.5	+0.1
DAVA	Damuels	8.90	314	ePn	Pn	22 16 37.3	+0.5
	1.1nm,0.2s						
DAVA				eSn	Sn	22 18 15.4	-1.6
	8.4nm,0.7s						
BRTR	Keskin Array B	11.03	94	P	Pn	22 17 15.0	+9.0
	0.4nm,0.5s,baz=290,slow=15,SNR=2.0						
AKASG	Malin Array Be	11.49	33	P	Pn	22 17 11.2	-0.8
	0.1nm,0.3s,baz=225,slow=10,SNR=1.1						
HFS	Hagfors	18.99	351	P	P	22 18 47.7	-1.7
	0.8nm,0.3s,baz=165,slow=13,SNR=6.2						
NOA	NORSAR Array B	20.20	349	P	P	22 19 01.3	-1.3
	0.5nm,0.7s,baz=159,slow=11,SNR=1.7						
NOA				LR	LR	22 26 38.4	
	comp=Z,14nm,18.4s,baz=155,slow=37						
EKA	Eskdalemuir Ar	20.24	321	P	P	22 19 03.4	+0.4
	0.6nm,0.4s,baz=114,slow=9.1,SNR=12						
FINES	FINESS Array B	20.40	9	P	P	22 19 03.6	-1.1
	3.4nm,0.8s,baz=177,slow=10,SNR=11						
ZALV	Zalesovo Beam	44.23	50	P	P	22 22 35.6	-1.4
	0.5nm,0.3s,baz=281,slow=7.1,SNR=4.3						
	0.5nm,0.3s						
MKAR	Makanchi Array	44.43	61	P	P	22 22 38.2	-0.6
	0.4nm,0.5s,baz=277,slow=7.8,SNR=12						
	0.4nm,0.5s						
SONM	Songino Array	59.10	52	P	P	22 24 27.4	-1.0
	0.2nm,0.4s,baz=305,slow=5.1,SNR=1.8						
	0.2nm,0.4s						
YKA	Yellowknife Ar	69.97	339	P	P	22 25 38.4	-0.6
	0.3nm,0.8s,baz=38,slow=5.5,SNR=5.7						
	0.3nm,0.8s						
PDAR	Pinedale Array	84.31	325	P	P	22 27 01.0	+0.8
	0.4nm,0.9s,baz=52,slow=6.9,SNR=2.8						
	0.4nm,0.9s						
TXAR	Lajitas Array	92.04	313	P	P	22 27 38.7	+1.4
	0.2nm,0.7s,baz=42,slow=6.6,SNR=2.4						
	0.2nm,0.7s						

IDC 31 22:43:00.1±2.2, 6°83S×129°09E, h0km, mb3.7/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=92.7km s-min=28.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.69	196	Pn	Pn	22 45 49.1	+0.7
	0.1nm,0.3s,baz=296,slow=23,SNR=1.8						
FITZ				Sn	Sn	22 47 48.0	-12
	0.5nm,0.3s,baz=265,slow=22,SNR=5.8						
	1.6nm,0.8s						
WRA	Warramunga Arr	13.99	159	Pn	Pn	22 46 18.8	-1.0
	0.2nm,0.3s,baz=342,slow=13,SNR=1.9						
WRA				Sn	Sn	22 48 41.2	-15
	0.4nm,0.3s,baz=332,slow=22,SNR=6.0						
	0.2nm,0.4s						
ASAR	Alice Springs	17.37	165	P	Pn	22 47 04.2	+0.1
	0.2nm,0.3s,baz=335,slow=10,SNR=4.5						
ASAR				S	Sn	22 50 02.6	-16
	0.2nm,0.5s,baz=349,slow=30,SNR=1.5						
	0.2nm,0.3s						
MKAR	Makanchi Array	67.59	327	P	P	22 53 58.7	0.0
	0.4nm,0.6s,baz=120,slow=6.9,SNR=6.3						
	0.4nm,0.6s						

KRSC 31 22:49:05.9±2.0, 50°53N×160°14E, h67km±36km, Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.82	315	eP	Pn	22 49 36.9	+1.8
KDTR				eS	Sn	22 49 58.5	+1.4
RUS	Russkaya	2.16	333	eP	Pn	22 49 41.6	+2.0
RUS				eS	Sn	22 50 07.4	+2.1
PAU	Pauzhetka	2.30	295	eP	Pn	22 49 43.8	+2.3
GRL	Gorelyy	2.40	328	eP	Pn	22 49 46.4	+3.4
GRL				eS	Sn	22 50 13.7	+2.3
SKR	Severo-Kuril's	2.57	275	eP	Pn	22 49 46.4	+1.4
SKR				eS	Sn	22 50 14.6	-0.6
SPN	Mys Shipunski	2.58	358	eP	Pn	22 49 47.7	+2.5
SPN				eS	Sn	22 50 17.7	+2.3
KRMR	Karymshinskiy	2.62	332	eP	Pn	22 49 48.7	+2.8
KRMR				eS	Sn	22 50 19.6	+3.1
DALK	Dalny	2.65	342	eP	Pn	22 49 48.8	+2.6
DALK				eS	Sn	22 50 19.9	+2.7
UGLR	Uglovaya	2.81	344	eP	Pn	22 49 51.9	+3.4
SDLR	Sedlovina	2.86	345	eP	Pn	22 49 52.5	+3.2
AVH	Avacha	2.88	343	eP	Pn	22 49 53.4	+4.0
AVH				eS	Sn	22 50 25.6	+2.7
KOK	Koryaka	2.92	342	eP	Pn	22 49 53.9	+3.9
KOK				eS	Sn	22 50 26.8	+2.8
KRX	Arik	2.98	343	eP	Pn	22 49 54.1	+3.2
KRX				eS	Sn	22 50 28.4	+2.9
APC	Apacha	3.03	323	eP	Pn	22 49 54.9	+3.4
APC				eS	Sn	22 50 30.3	+3.8
GNL	Ganaly	3.45	338	eP	Pn	22 50 00.9	+3.7
MKZ	Mys Kozlova	4.15	13	eP	Pn	22 50 09.4	+2.8
MKZ				eS	Sn	22 50 54.8	+0.9
TUMD	Tumrok D	4.69	2	eP	Pn	22 50 17.3	+3.2
TUMD				eS	Sn	22 51 10.0	+2.9
KMNR	Kamenistaya	5.24	1	eP	Pn	22 50 27.0	+5.4
BZGR	Bezymyannyi-Gr	5.43	3	eP	Pn	22 50 29.5	+5.2
KIRR	Kirishev	5.44	1	eP	Pn	22 50 29.1	+4.7
KPT	Kopyto	5.45	1	eP	Pn	22 50 28.5	+4.0
BZWR	Bezymyannyi-We	5.45	2	eP	Pn	22 50 29.8	+5.2
BKI	Bering	5.87	35	eP	Pn	22 50 32.8	+2.7
BKI				eS	Sn	22 51 35.4	-0.4
KBTR	Krutoberegovo	5.91	15	eP	Pn	22 50 34.2	+3.4
KBTR				eS	Sn	22 51 39.8	+2.8

IDC 31 22:49:24.8±2.6, 6°56N×94°36E, h0km, mb3.6/4, mbtmp3.6/5, ML4.0/1, MS3.0/1, Error ellipse: s-maj=94.2km s-min=30.2km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.64	20	Pn	Pn	22 52 26.4	+0.3
	0.3nm,0.3s,baz=207,slow=12,SNR=0.9						
	1.0nm,0.3s						
PALK	Pallekele	13.58	274	LR	LR	22 57 21.0	
	comp=Z,62nm,20.8s,baz=142,slow=35						
H08S3	Diego Garcia H	25.97	237	T	T	23 21 49.1	
	baz=54,slow=76,SNR=35						
H08S2	Diego Garcia H	25.98	237	T	T	23 21 57.4	
	baz=54,slow=76,SNR=28						
H08S1	Diego Carcia H	25.99	237	T	T	23 21 59.9	
	baz=54,slow=76,SNR=20						
MKAR	Makanchi Array	41.41	347	P	P	22 57 12.3	-0.7
	0.8nm,0.8s,baz=162,slow=7.2,SNR=8.6						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	45.87	346	P	P	22 57 48.9	+0.1
	0.8nm,0.7s,baz=168,slow=7.1,SNR=10						
	0.8nm,0.7s						
WRA	Warramunga Arr	47.33	125	P	P	22 58 00.5	-0.2
	0.2nm,0.6s,baz=304,slow=8.0,SNR=1.8						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	47.88	352	P	P	22 58 04.7	+0.2
	0.6nm,0.4s,baz=164,slow=7.5,SNR=2.8						
	0.6nm,0.4s						
H04N2	CROZET ISLANDS	64.72	211	T	T	00 11 20.3	
	baz=47,slow=75,SNR=16						
H04N1	CROZET ISLANDS	64.73	211	T	T	00 11 21.0	
	baz=47,slow=75,SNR=15						
H04N3	CROZET ISLANDS	64.74	211	T	T	00 11 19.8	
	baz=47,slow=75,SNR=14						

*NOU **31** 23:00:17.4, 37°.85S×176°.06E, h293km, ML4.1/17, North Island, New Zealand*
*WEL **31** 23:00:20.3±0.7, 38°S±5°×17°6E±°, h270km±6km, M3.2/37, MLv3.2/37, Error ellipse: s-maj=6.9km s-min=6.1km az=163.7, confirmed*

ISC 31 23:00:15.0±2.0, 37.78S±0°.06×176°.19E±0°.06, h308km±12km, n118, o1°62/143, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	Tahuroa Road	0.55	275	P	Pn	23 00 56.4	+1.8
WPRZ	Whakapapatarin	0.74	182	P	Pn	23 00 56.8	+1.6
TLZ	Tolley Road	0.75	223	P	Pn	23 00 57.3	+2.1
URZ	Urewera	0.87	123	P	Pn	23 00 56.3	+0.7
URZ	Urewera	0.87	123	P	Pn	23 00 56.4	+0.7
URZ				S	S	23 01 26.5	-1.5
WATZ	Wairara	0.99	201	P	Pn	23 00 58.0	+1.8
RTZ	Ruatahuna	1.04	143	P	Pn	23 00 58.0	+1.5
RTZ				S	S	23 01 28.0	-1.5
MKAZ	Moumakai	1.06	309	P	Pn	23 00 58.3	+1.7
MRHZ	Matea Rd	1.07	170	P	Pn	23 00 57.9	+1.4
MRHZ				S	S	23 01 27.1	-2.6
MTHZ	Maungataniwha	1.19	154	P	Pn	23 00 58.6	+1.5
MTHZ				S	S	23 01 29.6	-1.2
MWZ	Matawai	1.19	118	P	Pn	23 00 58.5	+1.2
MWZ				S	S	23 01 29.2	-1.6
RUGZ	Raukumara Rang	1.19	99	P	Pn	23 00 57.5	+0.1
RUGZ				S	S	23 01 26.4	-4.6
RAGZ	Rawiri	1.20	127	P	Pn	23 00 58.8	+1.5
RAGZ				S	S	23 01 30.0	-1.0
RITZ	Rihia Road	1.22	192	P	Pn	23 00 59.3	+2.0
HAZ	Te Kaha	1.27	89	P	Pn	23 00 57.9	+0.4
HAZ				S	S	23 01 28.4	-3.0
HIZ	Hauiti	1.28	235	P	Pn	23 00 59.8	+2.2
WIAZ	Waiheke Island	1.30	319	P	Pn	23 00 59.4	+1.5
ETAZ	East Tamaki Re	1.30	309	P	Pn	23 00 59.5	+1.7
RAHZ	Arahi	1.33	148	P	Pn	23 00 59.8	+1.9
RAHZ				S	S	23 01 30.8	-1.4
SNGZ	Shannon Statio	1.35	138	P	Pn	23 00 59.7	+1.7
SNGZ				S	S	23 01 30.9	-1.5
NTVZ	North Tongarir	1.38	197	P	Pn	23 01 00.1

HOWZ	Holdsworth Sta	3.15	189	P	Pn	23 01 13.8	+1.1
KIW	Kapiti Island	3.23	197	P	Pn	23 01 14.7	+1.2
OUZ	Omahuta	3.30	320	P	Pn	23 01 15.8	+1.5
OUZ	Omahuta	3.30	320	P	Pn	23 01 15.9	+1.5
TMWZ	Te Maipa	3.33	184	P	Pn	23 01 15.5	+1.0
MTW	Mount Morrison	3.41	189	P	Pn	23 01 16.4	+1.0
DUWZ	D'Urville Isla	3.49	210	P	Pn	23 01 17.2	+1.0
TRWZ	Traveller	3.63	186	P	Pn	23 01 19.0	+1.4
PAWZ	Paruwai Farm	3.64	189	P	Pn	23 01 18.9	+1.2
WEL	Wellington	3.67	197	P	Pn	23 01 19.4	+1.4
MSWZ	Moikau Station	3.70	191	P	Pn	23 01 19.4	+1.1
SNZO	South Karori	3.71	198	P	Pn	23 01 19.4	+1.1
SNZO	South Karori	3.71	198	P	S	23 02 08.7	-0.4
TCW	Tory Channel	3.73	203	P	Pn	23 01 19.7	+1.1
BHW	Baring Head	3.76	195	P	Pn	23 01 19.8	+0.9
BHW				S	S	23 02 08.3	-1.9
PLWZ	Palliser	3.85	190	P	Pn	23 01 21.0	+1.0
PLWZ				S	S	23 02 11.7	-0.4
TUWZ	Tuamarina	4.03	205	P	Pn	23 01 23.2	+1.3
TUWZ				S	S	23 02 14.1	-1.5
NNZ	Nelson	4.06	211	P	Pn	23 01 22.8	+0.7
NNZ				S	S	23 02 13.8	-2.2
TKNZ	Takaka Hill	4.10	217	P	Pn	23 01 22.6	0.0
TKNZ				S	S	23 02 14.8	-2.1
QRZ	Quartz Range	4.16	222	P	Pn	23 01 23.1	-0.2
QRZ	Quartz Range	4.16	222	P	S	23 02 18.0	-0.1
QRZ	Quartz Range	4.16	222	P	Pn	23 01 23.2	0.0
QRZ				S	S	23 02 17.3	-0.7
BSWZ	Blackbirch Sta	4.31	204	P	Pn	23 01 26.2	+1.3
MRNZ	Matariki Terra	4.48	215	P	Pn	23 01 26.8	0.0
THZ	Tophouse	4.71	211	P	Pn	23 01 29.8	+0.3
KHZ	Kahutara	5.05	203	P	Pn	23 01 34.4	+1.1
KHZ	Kahutara	5.05	203	S	S	23 02 35.3	-1.0
KHZ	Kahutara	5.05	203	P	Pn	23 01 34.5	+1.2
DSZ	Denniston Nort	5.20	219	P	Pn	23 01 34.9	-0.2
GVZ	Greta Valley S	5.71	204	P	Pn	23 01 41.8	+0.9
LTZ	Lake Taylor	5.82	210	P	Pn	23 01 43.1	+0.8
AMCZ	Amberley	6.03	205	P	Pn	23 01 45.4	+0.7
AMCZ				S	S	23 02 55.8	-1.3
OKCZ	Okains Bay	6.39	201	P	Pn	23 01 50.4	+1.3
OKCZ				S	S	23 03 04.4	-0.7
RPZ	Rata Peaks	7.09	212	P	Pn	23 01 58.1	+0.6
RPZ	Rata Peaks	7.09	212	S	S	23 03 18.7	-1.8
ODZ	Otahua Downs	8.36	208	P	Pn	23 02 14.4	+1.5
JCZ	Jackson Bay	8.42	219	P	Pn	23 02 14.0	+0.3

*NOU **31** 23:11:40.9, 42.75S×172.68E, h4km, MLv3.9/12, South Island, New Zealand*
*WEL **31** 23:11:41.7±0.3, 43.2°S±2.×17.3°E±., h10km±2km, M3.3/12, ML3.5/13, MLv3.3/12, Error ellipse: s-maj=3.1km s-min=2.8km az=119.5, confirmed*

ISC 31 23:11:42.1±0.9, 42.72S±0.02×172.71E±0.02, h18km±3km, n66, σ0.95/80, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSRC	Lake Sumner Ro	0.19	219	P	Pg	23 11 46.5	-0.4
LSRC				S	Sg	23 11 50.7	+0.5
HSES	Hanmer Springs	0.22	25	P	Pg	23 11 46.2	-1.1
WAKC	Waikari	0.24	180	P	Pg	23 11 48.2	+0.5
WAKC				S	Sg	23 11 53.0	+1.5
SCAC	Scargill	0.27	144	P	Pg	23 11 47.1	-1.0
SCAC				S	Sb	23 11 52.1	-0.4
WTMC	Te Mara Farm W	0.28	68	P	Pg	23 11 47.6	-0.6
WTMC				S	Sb	23 11 52.3	-0.4
LTZ	Lake Taylor	0.33	259	P	Pb	23 11 49.3	-0.1
LTZ				S	Sb	23 11 54.6	+0.2
GVZ	Greta Valley S	0.34	136	P	Pb	23 11 49.8	+0.1
GVZ				S	Sb	23 11 55.7	+0.8
CECS	Cheviot Emerge	0.43	103	P	Pb	23 11 51.2	0.0
CECS				S	Sb	23 11 58.3	+1.0
AMBC	Amberley HDC	0.43	178	P	Pb	23 11 51.0	-0.2
AMBC				S	Sb	23 11 58.4	+0.9
AMCZ	Amberley	0.46	185	P	Pb	23 11 52.6	+0.9
SJFS	Springs Juncti	0.55	315	P	Pb	23 11 52.6	-0.5
SJFS				S	Sg	23 11 59.9	-0.6
ASHY	Ashley	0.56	188	P	Pb	23 11 52.8	-0.5
ASHY				S	Sb	23 12 02.1	+1.2
SMHS	Summerhill	0.60	207	P	Pn	23 11 55.5	-0.3
KHZ	Kahutara	0.69	64	P	Pg	23 11 54.9	-0.7
KHZ	Kahutara	0.69	64	S	Sg	23 12 04.7	0.0
KHZ	Kahutara	0.69	64	P	Pg	23 11 55.1	-0.5
OXZ	Oxford	0.78	219	P	Pn	23 11 57.9	-0.3
OXZ				S	Sn	23 12 09.6	+0.2
INZ	Inchbonnie	0.93	269	P	Pn	23 12 00.1	-0.1
THZ	Tophouse	0.97	9	P	Pg	23 11 59.4	-1.5
MQZ	McQueen's Vall	0.98	182	P	Pg	23 12 00.2	-1.0
MQZ				S	Sb	23 12 14.3	+1.0
OKCZ	Okains Bay	1.03	166	P	Pb	23 12 01.6	+0.1
OKCZ				S	Sb	23 12 15.8	+1.1
RACZ	Rakaia	1.09	202	P	Pg	23 12 01.9	-1.2
AKCZ	Akaroa Harbour	1.16	173	P	Pg	23 12 02.7	-1.8
AKCZ				S	Sg	23 12 18.5	-1.3
MHCZ	Mount Hutt	1.16	225	P	Pg	23 12 03.2	-1.4
DSZ	Denniston Nort	1.18	325	P	Pn	23 12 04.3	+0.5
MRNZ	Matariki Terra	1.32	2	P	Pn	23 12 05.7	+0.1
BSWZ	Blackbirch Sta	1.33	41	P	Pn	23 12 06.1	+0.4
WACZ	Wakanui South	1.38	207	P	Pn	23 12 05.8	-0.5
WVZ	Waitaha Valley	1.49	256	P	Pb	23 12 09.0	-0.2
RPZ	Rata Peaks	1.56	230	P	Pn	23 12 08.8	-0.2
RPZ	Rata Peaks	1.56	230	S	Sn	23 12 29.2	+0.4
RPZ	Rata Peaks	1.56	230	P	Pn	23 12 08.9	-0.2
NNZ	Nelson	1.58	19	P	Pn	23 12 09.7	+0.5
TUWZ	Tuamarina	1.58	36	P	Pn	23 12 09.8	+0.6
ARCZ	Arundel	1.66	222	P	Pn	23 12 10.4	+0.1
TKNZ	Takaka Hill	1.70	6	P	Pn	23 12 11.6	+0.7
GCSZ	Gaunt Creek Bo	1.84	250	P	Pn	23 12 13.9	+1.1
QRZ	Quartz Range	1.90	356	P	Pb	23 12 15.4	-0.8
QRZ	Quartz Range	1.90	356	S	Sn	23 12 38.8	+1.8
QRZ	Quartz Range	1.90	356	P	Pn	23 12 14.2	+0.6
TCW	Tory Channel	1.91	38	P	Pn	23 12 13.6	-0.1
SNZO	South Karori	2.05	47	P	Pn	23 12 16.9	+1.3
TMZ	Timaru	2.07	216	P	Pn	23 12 15.6	-0.3
BHW	Baring Head	2.08	52	P	Pn	23 12 15.2	-0.8
DUWZ	D'Urville Isla	2.12	26	P	Pn	23 12 18.0	+1.3
PLWZ	Palliser	2.22	60	P	Pn	23 12 16.9	-1.1
FOZ	Fox Glacier	2.27	248	P	Pn	23 12 20.4	+1.8
MSWZ	Moikau Station	2.30	56	P	Pn	23 12 17.9	-1.2
LBZ	Lake Benmore	2.48	227	P	Pn	23 12 21.5	-0.1
KIW	Kapiti Island	2.48	42	P	Pn	23 12 23.9	+2.2
MTW	Mount Morrison	2.60	54	P	Pn	23 12 22.1	-1.2
OGWZ	Otaki Gorge	2.65	45	P	Pn	23 12 23.1	-0.8
ODZ	Otahua Downs	2.76	212	P	Pn	23 12 24.6	-0.8
ODZ	Otahua Downs	2.76	212	P	Pn	23 12 24.8	-0.6
MRZ	Mangatainoka R	2.98	47	P	Pn	23 12 27.0	-1.4
JCZ	Jackson Bay	3.16	243	P	Pn	23 12 30.8	-0.2
JCZ	Jackson Bay	3.16	243	P	Pn	23 12 31.8	+0.8
BFZ	Birch Farm	3.34	54	P	Pn	23 12 34.3	+0.9
PREZ	Palmer Road	3.55	18	P	Pn	23 12 34.5	-1.8
TUZ	Tuapeka	3.91	213	P	Pn	23 12 40.6	-0.6
VRZ	Vera Road	3.92	24	P	Pn	23 12 43.1	+1.9
HIZ	Hauiti	4.51	22	P	Pn	23 12 50.5	+1.0
HIZ	Hauiti	4.51	22	P	Pn	23 12 50.5	+1.0
SYZ	Scrubby Hill	4.59	213	P	Pn	23 12 50.1	-0.4
TLZ	Tolley Road	4.89	27	P	Pn	23 12 56.3	+1.6
MKAZ	Moumakai	5.92	19	P	Pn	23 13 09.7	+0.9

*IDC **31** 23:15:47.0±11.0, 7.23N×93.94E, h0km, mb3.8/5, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=233.4km s-min=72.8km az=139.0*

ISC 31 23:15:55.4±10.0, 8.N±1.×93.3E±0.8, h10km, n12, σ0.61/6, mb4.0/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.69	27	Pn	Pn	23 18 42.4	-0.1
	0.6nm,0.3s,baz=204,slow=14,SNR=4.4 0.8nm,0.3s						
H08S3	Diego Garcia H	25.96	234	T	T	23 48 05.3	
	baz=55,slow=76,SNR=5.7						
H08S2	Diego Garcia H	25.96	234	T	T	23 48 05.8	
	baz=55,slow=76,SNR=4.8						
H08S1	Diego Carcia H	25.98	234	T	T	23 48 12.5	
	baz=55,slow=76,SNR=4.0						
MKAR	Makanchi Array	39.73	348	P	P	23 23 28.5	+0.3
	0.8nm,0.7s,baz=167,slow=8.2,SNR=12 0.8nm,0.7s						
KURBB	Kurchatov Arra	44.16	347	P	P	23 24 05.1	+0.8
	0.7nm,0.2s,baz=168,slow=7.3,SNR=5.5 0.7nm,0.2s						
ZALV	Zalesovo Beam	46.26	353	P	P	23 24 21.4	+0.5
	0.8nm,0.5s,baz=179,slow=8.9,SNR=4.9 0.8nm,0.5s						
BVAR	Borovoye Array	48.54	342	P	P	23 24 38.5	-0.2
	0.5nm,0.7s,baz=140,slow=7.5,SNR=3.5 0.5nm,0.7s						
H04N2	CROZET ISLANDS	65.47	210	T	T	00 37 12.6	
	baz=48						
H04N1	CROZET ISLANDS	65.48	210	T	T	00 37 09.1	
	baz=48						
H04N3	CROZET ISLANDS	65.49	210	T	T	00 37 05.6	
	baz=48						
FINES	FINESS Array B	72.16	332	P	P	23 27 20.0	-0.1
	1.0nm,0.7s,baz=126,slow=7.1,SNR=2.9 1.0nm,0.7s						

*IDC **31** 23:22:43.7±0.9, 37.76N×20.46E, h0km, mb3.7/9, mbtmp3.6/16, ML2.9/5, MS3.0/5, Error ellipse: s-maj=18.0km s-min=15.9km az=166.0*
*THE **31** 23:22:44.9, 37.61N×20.55E, h0km±2km, ML3.7/11, Error ellipse: s-maj=3.4km s-min=0.7km az=227.0*
*NEIC **31** 23:22:45.0±2.8, 37.47N±0.05×20.47E±0.02, h10km±2km, mb4.3/5, Error ellipse: s-maj=8.7km s-min=3.0km az=341.0*
*ATH **31** 23:22:46.4, 37.71N×20.60E, h12km±3km, ML3.7/13, Manual Solution by F.Xalaris First location: 2019/03/31 23:23:43, This location: 2019/03/31 23:32:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*

ISC 31 23:22:45.4±1.0, 37.69N±0.03×20.53E±0.04, h13km±6km, n140, σ1.81/166, mb3.9/13, 7C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	Orthonies,Zaky	0.21	39	P	Pg	23 22 50.5	+0.4
ORTH				S	Sg	23 22 52.9	-0.4
KRI1	kERI	0.23	96	P	Pg	23 22 49.8	-0.6
KRI1				S	Sg	23 22 52.7	-1.1
LTHK	Lithakia	0.24	85	P	Pg	23 22 50.1	-0.5
LTHK				S	Sg	23 22 53.3	-0.9
	33μm,0.3s						
LTHK	Lithakia	0.24	85	P	Pg	23 22 50.0	-0.7
LTHK				S	Sg	23 22 53.7	-0.4
KYPS	Kipseli, Zakin	0.27	61	P	Pg	23 22 51.3	+0.3
KYPS				S	Sg	23 22 54.2	-0.6
PSDA	Pessada-Kefalo	0.43	6	P	Pb	23 22 54.6	-0.2
PSDA				S	Sb	23 23 02.1	+1.0
	15μm,0.4s						
PSDA	Pessada-Kefalo	0.43	6	P	Pb	23 22 54.5	-0.3
RTZL	Ratzakli, Kefa	0.43	26	P	Pb	23 22 54.5	-0.4
RTZL				S	Sb	23 23 01.3	0.0
	17μm,0.5s						
VLS	Valsamata	0.49	6	P	Pb	23 22 55.5	-0.4
VLS				S	Sb	23 23 03.7	+0.7
	11μm,0.4s						
VLS	Valsamata	0.49	6	P	Pb	23 22 55.5	-0.4
VLS				S	Sb	23 23 02.5	-0.5
LXR1	Lixouri, Cepha	0.52	352	P	Pb	23 22 56.7	+0.4
LXR1				S	Sn	23 23 05.8	-1.3
	37μm,0.6s						
DMLN	Damoulianata-K	0.56	347	P	Pb	23 22 57.0	-0.1
DMLN				S	Sn	23 23 07.4	-0.9
DMLN	Damoulianata-K	0.56	347	P	Pb	23 22 57.2	+0.1
DMLN				S	Sb	23 23 05.2	+0.2
FSK	Fiskardo	0.77	2	P	Pb	23 23 00.3	-0.3
FSK				S	Sn	23 23 12.6	-0.8
	8μm,0.7s						
FSK	Fiskardo	0.77	2	P	Pb	23 23 00.6	-0.1
FSK				S	Sb	23 23 11.4	+0.4
RLS	Riolos of Patr	0.83	63	P	Pg	23 23 00.6	-0.9
RLS				S	Sb	23 23 12.9	+0.2
	6μm,0.6s						
RLS	Riolos of Patr	0.83	63	P	Pg	23 23 00.8	-0.6
RLS				S	Sb	23 23 12.0	-0.7
EVGI	Lefkada island	0.94	6	P	Pb	23 23 03.1	-0.4
EVGI	Lefkada island	0.94	6	P	Pb	23 23 03.5	0.0
EVGI				S	Sn	23 23 16.7	-0.8
AMT	Artemida-Makis	0.95	99	P	Pg	23 23 02.7	-1.1
AMT				S	Sb	23 23 16.4	+0.3
DRAG	Dragano-Lefkad	0.99	2	P	Pn	23 23 04.5	-0.6
DRAG				S	Sn	23 23 18.9	-0.1
NYDR	Nydri-Lefkada	1.03	7	P	Pn	23 23 05.0	-0.5
LKD2	Lefkada island	1.10	5	P	Pn	23 23 06.2	-0.3
LKD2				S	Sn	23 23 24.1	+2.4
	3μm,0.7s						
LKD2	Lefkada island	1.10	5	P	Pn	23 23 06.3	-0.3
TSLK	Tsoukalades, L	1.14	5	P	Pn	23 23 07.0	0.0
PVO	Paravola	1.22	40	P	Pg	23 23 08.4	-0.4
ITM	Ithomi	1.22	114	P	Pn	23 23 07.0	-1.2
ITM				S	Sn	23 23 24.7	+0.1
	3μm,0.8s						
ITM	Ithomi	1.22	114		Pn	23 23 06.9	-1.3
ITM					Sn	23 23 25.1	+0.5
ITM	Ithomi	1.22	114	P	Pn	23 23 07.7	-0.4
ITM				S	Sn	23 23 25.2	+0.7
EFP	Efpalio	1.31	55	P	Pn	23 23 09.1	-0.3
EFP				S	Sg	23 23 30.1	+2.3
	2μm,0.7s						
EFP	Efpalio	1.31	55	P	Pn	23 23 09.2	-0.2
KLV	Kalavryta, Ach	1.33	74	P	Pn	23 23 09.2	-0.5
KLV				S	Sg	23 23 30.0	+1.7
	948nm,0.9s						
KLV	Kalavryta, Ach	1.33	74	P	Pn	23 23 09.3	-0.5
ANX	Ano Chora	1.42	50	P	Pb	23 23 11.3	-0.5
KALE	Kalithea	1.45	61	P	Pn	23 23 11.3	-0.1
GUR	Goura	1.46	80	P	Pn	23 23 11.4	-0.1
EVR	Evrytania	1.59	39	P	Pg	23 23 15.4	-0.4
IGT	Igoumenitsa	1.85	355	P	Pb	23 23 18.4	-0.6
LTK	Loutraki	1.96	79	P	Pb	23 23 20.1	-0.8
KEK	Kerkira	2.10	344		Pb	23 23 22.5	-0.8
LIT	Litokhoron	2.85	32		Pb	23 23 33.2	-2.9
SCTE	Santa Cesarea	2.87	327	Pn	Pn	23 23 31.9	+1.1
SCTE				Sn	Sn	23 24 06.0	+0.8
FNA	Florina	3.16	12	Pn	Pn	23 23 37.0	+2.1
TIP	Timpagrande	3.31	298		Pn	23 23 38.0	+1.1
OHR	Ohrid	3.42	3	*i* Pn	Pn	23 23 41.8	+3.3
TIR	Tirane	3.69	352		Pn	23 23 44.7	+2.6
CEL	Celeste	3.71	280	Pn	Pn	23 23 42.1	-0.2
VAY	Valandovo	3.96	23	*i* Pn	Pn	23 23 49.5	+3.8
IDI	Anoyia	4.25	123	Pn	Pn	23 23 53.0	+3.1
	8.9nm,0.8s,baz=274,slow=5.9,SNR=6.1						
IDI				Sn	Sn	23 24 39.4	0.0
	3.4nm,0.3s,baz=188,slow=4.8,SNR=8.3						
CUC	Castrocucco	4.34	303		Pn	23 23 52.7	+1.6
DRME	Dracevica, Mon	4.61	347	*e*Pn	Pn	23 23 55.8	+1.1
PDG	Podgorica	4.84	349		Pn	23 23 58.9	+1.1
PDG	Podgorica	4.84	349	*e*Pn	Pn	23 23 57.6	-0.2
VAE	Valguarnera	4.86	269	Pn	Pn	23 23 59.1	+0.9
	4.7nm,0.2s,baz=40,slow=16,SNR=6.1						
RAFF	Raffo Rosso	4.93	266		Pn	23 23 58.5	-0.6
HCY	Herceg Novi	5.00	342	*e*Pn	Pn	23 23 59.4	-0.7
WDD	Wied Dalam	5.16	251	Pn	Pn	23 23 59.0	-3.3
RDO	Rodhopi	5.19	47	Pn	Pn	23 24 04.2	+1.5
TREB	Trebinje	5.29	342	*e*Pn	Pn	23 24 02.9	-1.2
ALN	Alexandroupoli	5.35	51	Pn	Pn	23 24 07.4	+2.6
BRY	Bratogost	5.42	344	*e*Pn	Pn	23 24 04.1	-1.9
SGRT	San Giovanni R	5.49	319	Pn	Pn	23 24 08.1	+1.3
SGRT				Sn	Sn	23 25 10.8	+0.9
SJES	Sjenica	5.58	356	*e*Pn	Pn	23 24 09.1	+0.9
STON	Ston	5.61	338	*e*Pn	Pn	23 24 07.9	-0.5
UPM	Unac-Piva	5.65	348	*e*Pn	Pn	23 24 08.0	-1.1
PAOL	Paolisi	5.70	308		Pn	23 24 11.7	+2.0
RUDO	Rudo	5.99	352	*e*Pn	Pn	23 24 13.1	-0.6
BOVS	Bovan	6.01	8	⇑P	Pn	23 24 14.9	+1.0
BBLS	Lazi&#263i	6.23	352	*e*Pn	Pn	23 24 16.0	-1.0
INTR	Introdacqua	6.68	312	Pn	Pn	23 24 25.6	+2.4
TEKS	Tekeris	6.90	354	*e*Pn	Pn	23 24 24.5	-1.6
CAMP	Campotosto	7.29	314		Pn	23 24 34.7	+3.0
AKAS	Kas	7.41	99	Pn	Pn	23 24 32.1	-1.2
A050A	Klekovaca	7.43	337	*e*Pn	Pn	23 24 33.7	+0.2
FRGS	Fruska Gora	7.48	356	*e*Pn	Pn	23 24 37.6	+3.4
BLY	Banja Luka	7.49	341	*e*Pn	Pn	23 24 34.2	-0.1
ELL	Elmali	7.54	94	Pn	Pn	23 24 33.8	-1.4
NRCA	Norcia	7.65	315		Pn	23 24 39.1	+2.5
GUMA	Gualdo di Mace	7.68	317		Pn	23 24 40.0	+3.1
FDMO	Fiordimonte	7.80	316	Pn	Pn	23 24 40.6	+2.1
A051A	Mrakovica	7.81	341	*e*Pn	Pn	23 24 38.3	-0.4
GZR	Gura Zlata	7.88	12	⇑P	Pn	23 24 40.0	+0.3
BZS	Buzias	7.96	6	⇑P	Pn	23 24 44.3	+3.6
LOT	Lotru	8.12	16	⇑P	Pb	23 24 57.6	-8.4
VOIR		8.45	22	⇑P	Pn	23 24 49.9	+2.4
BOJS	Bojanci	8.75	335	*e*Pn	Pn	23 24 51.8	+0.3
MLR	Muntele Rosu	8.79	26		Pn	23 24 57.6	+5.5
MLR	Muntele Rosu	8.79	26	Pn	Pn	23 24 56.9	+4.8
	0.2nm,0.3s,baz=127,slow=22,SNR=9.7						
MLR				LR	LR	23 28 12.1	
	comp=Z,56nm,19.4s,baz=197,slow=38						
MLR	Muntele Rosu	8.79	26	⇑P	Pn	23 24 56.6	+4.5
VSL	Villasalto	8.92	285	Pn	Pn	23 24 54.0	+0.2
KEST	Kesra	9.19	261	Pn	Pn	23 24 56.8	-0.9
KEST	Kesra	9.19	261	Pn	Pn	23 24 58.0	+0.3
	0.1nm,0.3s,baz=95,slow=10,SNR=4.0 1.8nm,0.6s						
SKDS	Skadanscina	9.24	330	*e*Pn	Pn	23 24 57.3	-1.0
CEY	Cerknica	9.24	332	*e*Pn	Pn	23 24 58.9	+0.6
PLOR	Plostina	9.35	27	⇑P	Pn	23 25 03.7	+4.0
VRI	Vrincioaia	9.39	28	⇓P	Pn	23 25 04.6	+4.3
SABO	M.te Sabotino	9.76	330	Pn	Pn	23 25 05.4	0.0
ZCCA	Zocca	9.81	316	Pn	Pn	23 25 08.9	+2.7
SOKA	Soboth	9.86	337	*e*Pn	Pn	23 25 06.5	-0.3
	4.8nm,0.9s						
SOKA				*e*Sn	Sn	23 26 51.1	-6.3
	3.1nm,0.7s						
OBKA	Obir	9.87	335	*e*Pn	Pn	23 25 07.4	+0.5
	3.1nm,0.5s						
OBKA				*e*Sn	Sn	23 26 54.0	-3.5
	10nm,0.7s						
OBKA	Obir	9.87	335	*e*Pn	Pn	23 25 07.2	+0.3
PRED	Cave del Predi	10.16	332	Pn	Pn	23 25 12.4	+1.5
BRTR	Keskin Array B	10.45	75	Pn	Pn	23 25 19.6	+4.7
	0.1nm,0.3s,baz=254,slow=13,SNR=2.5 0.3nm,0.5s						
BURAR	Bucovina Array	10.50	18	Pn	Pn	23 25 19.9	+4.3
MSSA	Maissana	10.63	312	Pn	Pn	23 25 20.1	+2.8
CTI	Castel Tesino	10.65	324		Pn	23 25 20.7	+3.0
KBA	Koelnbreinsper	10.78	333	*e*Pn	Pn	23 25 19.9	+0.4
	1.5nm,0.6s						
KBA				*e*Sn	Sn	23 27 15.6	-4.4
	3.0nm,0.7s						
ABTA	Abfaltersbach	10.82	329	*e*Sn	Sn	23 27 16.8	-4.2
	7.8nm,0.9s						
MOA	Molln	11.14	338	*e*Pn	Pn	23 25 25.1	+0.7
	1.7nm,0.5s						
BIOA	Bad Ischl, Aus	11.20	335	*e*Pn	Pn	23 25 26.2	+1.0
	2.0nm,0.5s						
KOLS	Kolonicke sedl	11.31	6	*e*PN	Pn	23 25 31.2	+4.6
LESA	Schwarzleotal	11.31	332	*e*Pn	Pn	23 25 27.8	+1.0
	2.4nm,0.6s						
LESA				*e*Sn	Sn	23 27 29.2	-3.8
	3.5nm,0.5s						
WTTA	Wattenberg	11.60	328	*e*Pn	Pn	23 25 31.7	+1.0
	1.2nm,0.4s						
WTTA				*e*Sn	Sn	23 27 33.0	-7.1
	6.5nm,0.6s						
WATA	Walderalm	11.68	328	*e*Sn	Sn	23 27 38.9	-3.0
	2.9nm,0.7s						
FUORN	Ofenpass-Fuorn	11.72	323	Pn	Pn	23 25 35.4	+2.9
SQTA	Sankt Quirin	11.74	327	*e*Sn	Sn	23 27 41.9	-1.7
	2.7nm,0.5s						
DAVOX	Davos/Dischmat	12.02	322	Pn	Pn	23 25 36.6	+0.1
	0.1nm,0.3s,baz=155,slow=19,SNR=3.0						
DAVOX				LR	LR	23 31 07.0	
	comp=Z,63nm,18.6s,baz=128,slow=42 0.4nm,0.4s						
TUE	Stuetta	12.07	320	Pn	Pn	23 25 39.0	+1.8
GERES	GERESS Array B	12.20	338	Pn	Pn	23 25 38.5	-0.4
	baz=158,slow=14,SNR=4.8 0.7nm,0.7s						
MMAI	Mount Meron Ar	13.00	107	Pn	Pn	23 25 52.1	+2.3
	0.3nm,0.3s,baz=293,slow=9.1,SNR=2.5 5.3nm,1.0s						
SENIN	Lac Senin/Sane	13.10	316	Pn	Pn	23 25 53.1	+1.9
AKASG	Malin Array Be	14.41	23	LR	LR	23 32 44.1	
	comp=Z,97nm,18.8s,baz=213,slow=42						
ASF	Jabal al Asfar	14.51	107	LR	LR	23 33 21.2	
	comp=Z,65nm,19.0s,baz=309,slow=44						
ESDC	Sonseca Array	19.21	284	P	Pn	23 27 11.2	+1.2
	0.7nm,0.9s,baz=89,slow=10,SNR=3.2						
OBN	Obninsk	20.55	27	LR	LR	23 36 26.5	
	comp=Z,30nm,18.9s,baz=140,slow=40						
HFS	Hagfors	22.88	351	P	P	23 27 48.2	-0.2
	2.6nm,0.6s,baz=183,slow=11,SNR=6.7 2.6nm,0.6s						
NC602	NORSAR Array S	23.76	349	P	P	23 27 57.2	0.0
NC602				IAmb	IAmb	23 28 41.3	
	comp=Z,7.7nm,1.1s						
EKA	Eskdalemuir Ar	23.83

baz=47,slow=75,SNR=8.3
FINES FINESS Array B 73.18 332 P P 23 39 37.3 +0.6
2.1nm,1.0s,baz=140,slow=6.7,SNR=3.5
2.1nm,1.0s
HFS Hagfors 78.91 330 P P 23 40 08.5 -0.9
1.5nm,0.8s,baz=153,slow=9.7,SNR=1.7
1.5nm,0.8s

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*ISN **31** 23:29:40.4±1.5, 35°.83N×44°.86E, h10km±22km, ML2.8*
*TEH **31** 23:29:42.9, 35°.76N×45°.00E, h8km±52km*
*AFAD **31** 23:29:43.4, 35°.69N×44°.79E, h5km±3km, ML3.0*
ISC 31 23:29:42.6±0.8, 35°.75N±0°.03×44°.92E±0°.03, h10km, n25, σ1§69/38, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.59**	**233**	*e*Pg	**Pg**	**23 29 53.0**	**-1.0**
IKRK				*e*Sg	**Sg**	**23 30 00.0**	**-1.7**
IKRK				AML	AML	23 30 04.9	
	comp=N,661nm,0.5s						
IKRK				AML	AML	23 30 07.6	
	comp=E,424nm,0.4s						
SDS1	**Sardasht. Az.**	**0.61**	**49**	Pg	**Pg**	**23 29 53.7**	**-0.7**
MAHB	**Mahabad**	**1.20**	**32**	Pg	**Pn**	**23 30 05.5**	**0.0**
KGS1	**Ghasr-e-Shirin**	**1.36**	**156**	Pg	**Pg**	**23 30 08.9**	**+0.2**
IDHR	**Dehrash**	**1.60**	**131**	Pg	**Pg**	**23 30 12.5**	**-0.7**
CUKT	**Cukurca**	**1.83**	**325**	P	**Pn**	**23 30 14.9**	**+0.8**
CUKT				S	**Sn**	**23 30 38.6**	**+1.2**
CUKT				*i* AML	AML	23 30 46.0	
	comp=E,185nm,0.4s						
CUKT				*i* AML	AML	23 30 49.0	
	comp=E,175nm,0.6s						
GLG1	**Gilan-e-Gharb**	**1.83**	**153**	Pn	**Pb**	**23 30 16.1**	**-0.1**
YOVA	**Hakkari_Yksek**	**1.90**	**345**	P	**Pn**	**23 30 16.6**	**+1.4**
YOVA				S	**Sb**	**23 30 42.9**	**+1.6**
IGHG	**Ghaleghazi**	**1.96**	**136**	Pn	**Pb**	**23 30 18.8**	**+0.3**
IAZR	**Azarshahr**	**2.10**	**24**	Pn	**Pb**	**23 30 19.9**	**-1.1**
KCHF	**Cheshme Sefid,**	**2.28**	**130**	Pn	**Pb**	**23 30 22.2**	**-1.8**
SNQR	**Sonqor, Kerman**	**2.39**	**111**	Pn	**Pb**	**23 30 24.3**	**-1.6**
BHD	**Baghdad**	**2.52**	**190**	*e*Pn	**Pn**	**23 30 24.0**	**+0.5**
BHD				*e*Sn	**Sn**	**23 30 56.0**	**+1.8**
BHD				AML	AML	23 31 08.2	
	comp=E,90nm,0.4s						
SIRN	**Sirnak**	**2.66**	**312**	P	**Pn**	**23 30 26.0**	**+0.4**
SIRN				S	**Sn**	**23 30 58.8**	**+0.8**
SIRN				*i* AML	AML	23 31 16.0	
	comp=E,50nm,0.6s						
SIRN				*i* AML	AML	23 31 20.0	
	comp=E,69nm,0.7s						
IBDR	**Badra**	**2.77**	**162**	*e*Pn	**Pn**	**23 30 27.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**23 31 03.0**	**+2.6**
IBDR				AML	AML	23 31 18.1	
	comp=E,55nm,0.8s						
IBDR				AML	AML	23 31 19.4	
	comp=N,52nm,0.6s						
PERV	**Siirt/Pervari-**	**2.90**	**320**	P	**Pn**	**23 30 32.6**	**+3.6**
PERV				S	**Sn**	**23 31 03.5**	**-0.4**
PERV				*i* AML	AML	23 31 23.0	
	comp=N,39nm,0.5s						
PERV				*i* AML	AML	23 31 33.0	
	comp=N,35nm,0.6s						
GEVA	**Gevas**	**2.96**	**330**	P	**Pn**	**23 30 31.1**	**+1.4**
GEVA				S	**Sn**	**23 31 02.1**	**-3.2**
IMRD	**Marand**	**3.02**	**12**	Pn	**Pn**	**23 30 32.8**	**+2.2**
TVAN	**Van**	**3.02**	**337**	P	**Pn**	**23 30 33.0**	**+2.3**
MIDY	**Mardin/Midyat-**	**3.28**	**301**	P	**Pn**	**23 30 35.4**	**+1.3**
MIDY				S	**Sn**	**23 31 14.8**	**+1.6**
MIDY				*i* AML	AML	23 31 35.0	
	comp=N,49nm,0.5s						
MIDY				*i* AML	AML	23 31 40.0	
	comp=N,39nm,0.6s						
SRTM	**Siirt_Merkez**	**3.28**	**314**	P	**Pb**	**23 30 40.8**	**-0.1**
SRTM				S	**Sb**	**23 31 24.5**	**+3.6**
SRTM				*i* AML	AML	23 31 34.0	
	comp=N,59nm,0.6s						
SRTM				*i* AML	AML	23 31 38.0	
	comp=N,35nm,0.7s						
BTMN	**Batman**	**3.62**	**307**	P	**Pb**	**23 30 46.5**	**-0.2**
BTMN				S	**Sb**	**23 31 30.8**	**+0.1**
BTMN				*i* AML	AML	23 31 46.0	
	comp=N,45nm,0.8s						
BTMN				*i* AML	AML	23 31 52.0	
	comp=N,32nm,0.7s						
MARD	**Mardin**	**3.68**	**296**	P	**Pn**	**23 30 39.9**	**+0.3**
MARD				S	**Sb**	**23 31 32.1**	**-0.4**
MARD				*i* AML	AML	23 31 45.0	
	comp=N,55nm,0.7s						
MARD				*i* AML	AML	23 31 59.0	
	comp=N,51nm,0.6s						
MUSM	**Mu-Merkez**	**4.02**	**319**	P	**Pn**	**23 30 45.1**	**+0.8**
HANI	**Diyarbakir_Han**	**4.48**	**308**	P	**Pb**	**23 31 00.0**	**-1.4**
HANI				S	**Sb**	**23 31 51.7**	**-3.8**

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*SKO **31** 23:32:07.4, 41°.40N×19°.06E, h0km*
*PDG **31** 23:32:08.5±0.4, 41°.47N×19°.33E, h15km, ML2.4/13, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
*RHSSO **31** 23:32:09.8±0.7, 41°.51N×19°.40E, h4km±2km, ML2.5/7*
ISC 31 23:32:09.0±1.6, 41°.50N±0°.06×19°.35E±0°.04, h2km±10km, n33, σ0§70/61, 14C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.47**	**350**	*i* Pg	**Pg**	**23 32 17.7**	**-0.3**
ULC	**Ulcinj**	**0.47**	**350**	⇑*i*Pg	**Pg**	**23 32 17.3**	**-0.7**
ULC				*i* Sg	**Sb**	**23 32 26.4**	**-1.1**
DRME	**Dracevica, Mon**	**0.70**	**350**	*e*Pg	**Pg**	**23 32 21.5**	**-0.9**
DRME				*e*Sg	**Sg**	**23 32 32.8**	**+1.3**
DRME	**Dracevica, Mon**	**0.70**	**350**	⇓*i*Pg	**Pg**	**23 32 22.3**	**-0.1**
DRME				*i* Sg	**Sb**	**23 32 34.1**	**+0.1**
BUM	**Brajici-Budva**	**0.87**	**337**	⇓*i*Pg	**Pb**	**23 32 26.7**	**-0.2**
BUM				*i* Sg	**Sb**	**23 32 39.9**	**+0.9**
PDG	**Podgorica**	**0.93**	**356**	⇑*i*Pg	**Pg**	**23 32 25.6**	**-1.3**
PDG				*e*Sg	**Sg**	**23 32 39.4**	**+0.4**
PDG	**Podgorica**	**0.93**	**356**	*e*Pg	**Pg**	**23 32 25.6**	**-1.3**
PDG				*i* Sg	**Sb**	**23 32 41.5**	**+0.8**
CEME	**Cevo**	**1.10**	**343**	⇑*i*Pg	**Pg**	**23 32 29.8**	**-0.2**
CEME				*i* Sg	**Sb**	**23 32 46.1**	**+0.6**
HCY	**Herceg Novi**	**1.14**	**326**	⇑*i*Pg	**Pg**	**23 32 30.7**	**-0.2**
HCY				*e*Sg	**Sg**	**23 32 46.2**	**+0.5**
HCY	**Herceg Novi**	**1.14**	**326**	⇑*i*Pg	**Pb**	**23 32 31.2**	**-0.3**
HCY				*i* Sg	**Sn**	**23 32 48.0**	**-0.3**
OHR	**Ohrid**	**1.16**	**109**	*i* Pg	**Pn**	**23 32 31.5**	**-0.8**
OHR				*i* Sg	**Sn**	**23 32 50.0**	**+1.4**
PVY	**Plav**	**1.19**	**22**	⇓*i*Pg	**Pg**	**23 32 31.4**	**-0.3**
PVY				*i* Sg	**Sn**	**23 32 50.3**	**+0.8**
NKME	**Niksic**	**1.30**	**347**	*e*Pg	**Pn**	**23 32 33.2**	**-1.0**
NKME				*i* Sg	**Sn**	**23 32 52.4**	**+0.2**
KOME	**Kolasin**	**1.36**	**5**	⇑*i*Pg	**Pn**	**23 32 34.5**	**-0.5**
KOME				*i* Sg	**Sn**	**23 32 54.8**	**+1.1**
TREB	**Trebinje**	**1.43**	**329**	*e*Pg	**Pn**	**23 32 35.6**	**-0.3**
TREB				*e*Sg	**Sg**	**23 32 55.2**	**+0.4**
BEY	**Berane**	**1.43**	**16**	*i* Pg	**Pn**	**23 32 36.0**	**-0.1**
IVA	**Berane**	**1.43**	**16**	⇓*i*Pg	**Pn**	**23 32 35.3**	**-0.7**
IVA				*i* Sg	**Sg**	**23 32 56.8**	**+1.8**
DBRK	**Dubrovnik**	**1.47**	**323**	*e*Pg	**Pg**	**23 32 37.2**	**0.0**
BRY	**Bratogost**	**1.53**	**337**	⇑*i*Pn	**Pn**	**23 32 37.4**	**0.0**
BRY				*e*Sn	**Sb**	**23 32 58.0**	**+0.1**
BRY	**Bratogost**	**1.53**	**337**	⇓*i*Pg	**Pn**	**23 32 37.4**	**0.0**
BRY				*i* Sg	**Sb**	**23 32 58.1**	**+0.1**
UPM	**Unac-Piva**	**1.74**	**349**	*e*Pn	**Pn**	**23 32 40.4**	**+0.1**
UPM				*e*Sn	**Sn**	**23 33 02.5**	**-0.6**
UPM	**Unac-Piva**	**1.74**	**349**	⇑*i*Pn	**Pn**	**23 32 39.1**	**-1.2**
UPM				*i* Sn	**Sb**	**23 33 03.7**	**-0.3**
SJES	**Sjenica**	**1.82**	**14**	⇑*i*Pn	**Pn**	**23 32 40.9**	**-0.5**
SJES				*e*Sn	**Sn**	**23 33 05.4**	**+0.3**
PLE	**Pljevlja**	**1.83**	**1**	⇑*i*Pn	**Pb**	**23 32 42.8**	**-0.5**
PLE				*i* Sn	**Sb**	**23 33 06.5**	**-0.2**
STON	**Ston**	**1.84**	**319**	⇑*i*Pn	**Pb**	**23 32 42.5**	**-0.8**
STON				*e*Sn	**Sb**	**23 33 06.0**	**-0.8**
STON	**Ston**	**1.84**	**319**	*e*Pn	**Pb**	**23 32 43.0**	**-0.3**
KALIN	**Kalinovik**	**2.11**	**342**	⇑*i*Pn	**Pn**	**23 32 46.1**	**+0.7**
KALIN				*e*Sn	**Sn**	**23 33 12.6**	**+0.3**
RUDO	**Rudo**	**2.12**	**0**	⇑*i*Pn	**Pn**	**23 32 45.9**	**+0.5**
RUDO				*e*Sn	**Sn**	**23 33 11.8**	**-0.5**
BBLS	**Lazi&#263i**	**2.37**	**1**	⇑*i*Pn	**Pn**	**23 32 49.4**	**+0.5**
BBLS				*e*Sn	**Sn**	**23 33 18.5**	**0.0**
HVAR	**Hvar**	**2.73**	**309**	*e*Pn	**Pn**	**23 32 54.5**	**+0.8**
BLY	**Banja Luka**	**3.62**	**335**	*e*Pn	**Pn**	**23 33 06.3**	**+0.3**
BLY				*e*Sn	**Sn**	**23 33 48.9**	**-0.3**
A050A	**Klekovaca**	**3.63**	**326**	*e*Pn	**Pn**	**23 33 07.1**	**+0.9**
A050A				*e*Sn	**Sn**	**23 33 49.0**	**-0.7**
A051A	**Mrakovica**	**3.94**	**334**	*e*Pn	**Pn**	**23 33 11.3**	**+0.8**
A051A				*e*Sn	**Sn**	**23 33 56.9**	**-0.4**

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*IDC **31** 23:32:11.8±0.7, 7°.31N×93°.97E, h0km, mb4.0/21, mbtmp4.0/23, ML4.1/2, MS3.6/2, Error ellipse: s-maj=24.8km s-min=15.4km az=58.0*
*NEIC **31** 23:32:15.6±1.5, 7°.58N±0°.08×94°.44E±0°.10, h10km±1km, mb4.5/27, Error ellipse: s-maj=17.1km s-min=12.6km az=246.0*
*DJA **31** 23:32:19.3±1.5, 8°.N±5°.×9°.4E±1°.1, h17km±16km, M4.5/7, mB5.0/2, mb4.5/5, MLv4.5/7, Mw(mB)4.3/2*
*NDI **31** 23:32:36.9±3.1, 8°.42N×93°.66E, h131km±357km, mb4.4, MW4.4, mb4.5(NEIC)*
ISC 31 23:32:16.6±0.4, 7°.46N±0°.05×94°.33E±0°.06, h24km, n83, σ2§26/78, mb4.3/35, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.17**	**154**	P	**Pb**	**23 32 55.5**	**+0.2**
BSI				S	**Sb**	**23 33 25.8**	**+3.9**
LHMI	**Lhok Sumawe**	**3.42**	**130**	Pn	**Pn**	**23 33 08.6**	**+0.2**
LHMI	**Lhok Sumawe**	**3.42**	**130**	S	**Sb**	**23 33 54.4**	**-3.2**
MLSI	**Meulaboh, Aceh**	**3.78**	**147**	P	**Pb**	**23 33 22.3**	**-0.5**
SRIT	**Nakonsritamara**	**5.34**	**77**	Pn	**Pn**	**23 33 34.8**	**-0.1**
PSI	**Prapat**	**6.51**	**135**	Pn	**Pn**	**23 33 53.5**	**+2.5**
	0.8nm,0.3s,baz=275,slow=11,SNR=4.2						
PSI				LR	LR	23 36 45.3	
	comp=Z,568nm,19.6s,baz=302,slow=41 4.2nm,0.4s						
RPSI	**Rantau Prapat**	**6.58**	**136**		**Pn**	**23 33 50.8**	**-1.2**
KULM	**Kulim**	**6.64**	**109**		**Pn**	**23 33 51.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**11.81**	**22**	Pn	**Pn**	**23 35 04.2**	**+0.5**
	1.2nm,0.3s,baz=201,slow=13,SNR=9.7 2.3nm,0.3s						
CHTO	**Chiang Mai**	**12.14**	**21**	Pn	**Pn**	**23 35 06.7**	**-1.6**
CRAI	**Chiangrai**	**13.98**	**24**		**Pn**	**23 35 31.4**	**-1.9**
BRDH	**Bariadhala**	**15.35**	**351**		LR	23 42 42.5	
	comp=Z,154nm,19.3s,baz=158,slow=41						
MDSI	**Maura Dua**	**15.41**	**140**	P	**P**	**23 36 02.7**	**+5.7**
SALM	**Salem**	**16.44**	**286**	*e*P	**P**	**23 36 09.6**	**+1.1**
SLVN	**Son La**	**16.60**	**33**		**Pn**	**23 36 06.7**	**-1.3**
KSM	**Kuching**	**16.99**	**110**	Pn	**Pn**	**23 36 12.7**	**-0.2**
TNCH	**TengChong**	**17.92**	**12**	⇓*e*P	**P**	**23 36 25.8**	**+0.8**
TNCH				sP	pP	23 36 31.0	-0.1
TNCH				PP	**PnPn**	**23 36 45.0**	**+9.2**
TNCH				S	**Sn**	**23 39 45.0**	**+1.1**
TNCH				sS	S	23 39 50.0	0.0
TNCH				SS	**SnSn**	**23 40 09.0**	**+11**
TNCH				pmax	pmax		
	comp=Z,35nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,130nm,3.0s						
TNCH				LR	LR		
	comp=N,250nm,9.5s						
TNCH				LR	LR		
	comp=E,430nm,8.7s						
TNCH				LR	LR		
	comp=Z,230nm,11.2s						
SBUM	**Sibu**	**18.50**	**105**	P	**P**	**23 36 29.4**	**-1.9**
PZH	**PanZhiHua**	**20.21**	**20**	P	Pn	23 36 52.8	+0.8
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
KAD	**Karad**	**21.96**	**298**	*e*P	**P**	**23 37 09.3**	**+0.3**
KAD				IAmb	IAmb	23 37 13.9	
	comp=Z,14nm,1.1s						
LSA	**Lhasa**	**22.32**	**353**	P	**P**	**23 37 12.5**	**-0.7**
LSA				IAmb	IAmb	23 37 26.7	
	comp=Z,10nm,0.8s						
LGTI	**Lohaghat**	**25.58**	**331**	*e*P	**P**	**23 37 43.9**	**-0.1**
PTH	**Pithoragarh**	**25.68**	**331**	*e*P	**P**	**23 37 44.5**	**-0.5**
PTH				IAmb	IAmb	23 37 52.6	
	comp=Z,17nm,0.6s						
H08S3	**Diego Garcia H**	**26.45**	**236**	T	T	00 04 27.4	
	baz=55,slow=75,SNR=32						
H08S2	**Diego Garcia H**	**26.45**	**236**	T	T	00 04 48.3	
	baz=55,slow=75,SNR=32						
H08S1	**Diego Garcia H**	**26.46**	**236**	T	T	00 04 28.7	
	baz=55,slow=75,SNR=8.6						
LZH	**Lanzhou**	**29.79**	**16**	*e*P	P	23 38 28.0	+6.2
LZH				pP	pwP	23 38 41.5	+10
LZH				pmax	pmax		
	comp=Z,12nm,0.6s						
KSH	**Kashi**	**35.93**	**335**	P	**P**	**23 39 18.0**	**+2.6**
HHC	**Hu-ho-hao-te**	**36.62**	**22**	*e*P	**P**	**23 39 23.5**	**+2.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,63nm,4.7s						
WMQ	**Urumqi**	**36.68**	**352**	*e*P	**P**	**23 39 24.5**	**+2.8**
GAR	**Garm**	**38.13**	**329**	P	**P**	**23 39 32.8**	**-1.3**
GAR				IAmb	IAmb	23 39 39.3	
	comp=Z,13nm,1.2s						
SIMJ	**Simiganj**	**38.55**	**327**	P	**P**	**23 39 35.7**	**-2.0**
SIMJ				IAmb	IAmb	23 39 44.7	
	comp=Z,4.4nm,0.8s						
AAK	**Ala-Archa**	**39.16**	**337**	P	**P**	**23 39 43.2**	**+0.5**
AAK	**Ala-Archa**	**39.16**	**337**	P	**P**	**23 39 41.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=201,slow=8.8,SNR=3.5 comp=Z,0.9nm,0.7s						
FAKI	**Fak Fak**	**39.21**	**104**	P	**P**	**23 39 43.4**	**0.0**
JMZ	**Minamidaito 2**	**39.58**	**58**	P	**P**	**23 39 44.3**	**-2.0**
MK31	**Makanchi Array**	**40.53**	**347**	P	**P**	**23 39 53.1**	**-0.8**
MK31				IAmb	IAmb	23 39 59.1	
	comp=Z,4.6nm,1.1s						
MKAR	**Makanchi Array**	**40.53**	**347**	P	**P**	**23 39 53.1**	**-0.8**
MKAR	**Makanchi Array**	**40.53**	**347**	P	**P**	**23 39 53.3**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=163,slow=8.2,SNR=27 comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**40.61**	**347**	P	**P**	**23 39 53.6**	**-1.0**
KKAR	**Karatay Array**	**41.22**	**333**	P	**P**	**23 39 59.5**	**-0.2**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**23 40 02.3**	**+0.1**
SONM	**Songino Array**	**41.52**	**12**	P	**P**	**23 40 03.3**	**+1.1**
	comp=Z,2.0nm,1.0s,baz=196,slow=6.9,SNR=6.8 comp=Z,2.0nm,1.0s						
KURBB	**Kurchatov Arra**	**44.99**	**346**	P	**P**	**23 40 29.6**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=167,slow=7.0,SNR=20 comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**45.05**	**346**	P	**P**	**23 40 29.8**	**-0.7**
KURK				IAmb	IAmb	23 40 36.3	
	comp=Z,8.6nm,1.1s						
ZAA0	**Zalesovo Array**	**46.99**	**352**	P	**P**	**23 40 45.9**	**+0.2**
ZAA0				IAmb	IAmb	23 40 51.0	
	comp=Z,9.1nm,1.3s						
ZALV	**Zalesovo Beam**	**46.99**	**352**	P	**P**	**23 40 45.2**	**-0.5**
ZALV	**Zalesovo Beam**	**46.99**	**352**	P	**P**	**23 40 45.6**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=185,slow=7.6,SNR=10 comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**47.87**	**125**	P	**P**	**23 40 52.5**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=303,slow=7.3,SNR=5.9 comp=Z,0.4nm,0.6s						
RAYN	**Ar Rayn**	**49.43**	**295**	P	**P**	**23 41 06.0**	**+0.8**
RAYN				IAmb	IAmb	23 41 12.5	
	comp=Z,3.8nm,0.8s						
BVAR	**Borovoye Array**	**49.44**	**341**	P	**P**	**23 41 03.6**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=148,slow=8.4,SNR=9.1 comp=Z,2.1nm,0.9s						
BRVK	**Borovoye**	**49.50**	**341**	P	**P**	**23 41 04.6**	**-0.5**
BRVK				IAmb	IAmb	23 41 10.2	
	comp=Z,3.5nm,0.8s						
ASAR	**Alice Springs**	**49.51**	**130**	P	**P**	**23 41 05.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=306,slow=7.6,SNR=5.9						
ASAR				PcP	**PcP**	**23 42 28.4**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=314,slow=5.2,SNR=2.0 comp=Z,0.5nm,0.5s						
FORT	**Forrest**	**49.90**	**141**	P	**P**	**23 41 09.3**	**+0.8**
ABKAR	**Akbulak array**	**50.68**	**331**	P	**P**	**23 41 13.7**	**-0.4**
ARTI	**Arti**	**56.38**	**337**	P	**P**	**23 41 54.1**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=32,slow=1.1,SNR=3.7 comp=Z,2.6nm,0.8s						
KBZ	**Khabaz**	**57.52**	**318**	P	**P**	**23 42 02.6**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=73,slow=6.9,SNR=3.6 comp=Z,1.8nm,0.9s						
KMBO	**Kilima Mbogo**	**57.57**	**264**	P	**P**	**23 42 07.3**	**+2.0**
KMBO				IAmb	IAmb	23 42 14.6	
	comp=Z,3.4nm,1.0s						
KMBO	**Kilima Mbogo**	**57.57**	**264**	P	P	23 42 00.0	-5.3
	comp=Z,0.5nm,0.8s,baz=65,slow=14,SNR=6.3 comp=Z,0.5nm,0.8s						
NRIK	**Noril'sk**	**61.96**	**357**	P	**P**	**23 42 35.2**	**+0.9**
NRIK				IAmb	IAmb	23 42 41.6	
	comp=Z,3.5nm,0.9s						
NRIK	**Noril'sk**	**61.96**	**357**	P	**P**	**23 42 33.0**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=152,slow=3.1,SNR=6.1 comp=Z,1.2nm,0.6s						
BR131	**Keskin Array S**	**62.84**	**311**	P	**P**	**23 42 41.5**	**+0.7**
BR131				IAmb	IAmb	23 43 23.9	
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**62.84**	**311**	P	**P**	**23 42 42.4**	**+1.5**
BRTR	**Keskin Array B**	**62.84**	**311**	P	**P**	**23 42 37.6**	**-3.3**
	comp=Z,0.6nm,0.7s,baz=129,slow=8.2,SNR=7.0 comp=Z,0.6nm,0.7s						
ILGA	**Ilgaz**	**63.10**	**312**	P	**P**	**23 42 43.1**	**+0.4**
H04N2	**CROZET ISLANDS**	**65.47**	**211**	T	T	00 54 06.7	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.48**	**211**	T	T	00 53 59.5	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.49**	**211**	T	T	00 53 56.3	
	baz=47						
TIXI	**Tiksi**	**67.60**	**11**	P	**P**	**23 43 10.4**	**-0.5**
LIT	**Litokhoron**	**71.35**	**310**	P	**P**	**23 43 34.7**	**-0.1**
LIT				IAmb	IAmb	23 43 35.8	
	comp=Z,8.7nm,1.1s						
FINES	**FINESS Array B**	**73.16**	**332**	P	**P**	**23 43 43.9**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=101,slow=9.9,SNR=7.1 comp=Z,2.7nm,0.8s						
GERES	**GERESS Array B**	**78.26**	**318**	P	**P**	**23 44 13.8**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=90,slow=6.7,SNR=6.4 comp=Z,1.1nm,0.8s						
HFS	**Hagfors**	**78.91**	**330**	P	**P**	**23 44 17.1**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=124,slow=7.4,SNR=5.0 comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**80.18**	**331**	P	**P**	**23 44 23.7**	**-1.2**
	comp=Z,6.6nm,1.2s,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**80.18**	**331**	P	**P**	**23 44 23.9**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=93,slow=5.5,SNR=4.9 comp=Z,1.3nm,0.8s						
SPITS	**Spitsbergen Ar**	**80.28**	**348**	P	**P**	**23 44 24.5**	**-0.6**
	comp=Z,6.3nm,0.8s,baz=205,slow=6.4,SNR=4.5 comp=Z,6.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**88.17**	**325**	P	**P**	**23 45 02.8**	**-2.7**
	comp=Z,1.1nm,0.8s,baz=74,slow=5.4,SNR=2.3 comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**90.88**	**283**	P	**P**	**23 45 18.3**	**-0.8**
	comp=Z,188nm,0.3s,baz=66,slow=5.6,SNR=2.0						
ESDC	**Sonseca Array**	**91.63**	**310**	P	**P**	**23 45 21.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=69,slow=4.1,SNR=4.6 comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**95.05**	**22**	P	**P**	**23 45 38.3**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=281,slow=6.3,SNR=2.2 comp=Z,0.2nm,0.7s						
TXAR	**Lajitas Array**	**139.52**	**25**	PKP	**PKPdf**	**23 51 40.0**	**-3.1**
	comp=Z,0.3nm,0.9s,baz=138,slow=0.7,SNR=2.0						
PLCA	**Paso Flores**	**144.23**	**200**	PKP	**PKPab**	**23 51 47.9**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=319,slow=2.5,SNR=4.8						
CPUP	**Villa Florida**	**147.16**	**232**	PKPbc	**PKPdf**	**23 51 57.9**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=162,slow=3.2,SNR=1.3						

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*IDC **31** 23:34:10.8±7.0, 7°.85N×93°.26E, h0km, mb3.9/8, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=154.3km s-min=46.4km az=143.0*
ISC 31 23:34:18.3±7.8, 8°.2N±1°.0×93°.3E±0°.7, h35km, n9, σ1§06/9, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**28**	Pn	**Pn**	**23 36 59.9**	**-1.1**
	0.6nm,0.3s,baz=204,slow=14,SNR=1.9 1.4nm,0.3s						
MKAR	**Makanchi Array**	**39.58**	**348**	P	**P**	**23 41 46.6**	**+0.4**
	1.2nm,0.8s,baz=166,slow=7.5,SNR=5.7 1.2nm,0.8s						
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**23 42 00.1**	**+1.8**
	0.3nm,0.5s,baz=192,slow=7.5,SNR=2.1 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**44.02**	**346**	P	**P**	**23 42 23.2**	**+0.9**
	0.9nm,0.4s,baz=173,slow=7.0,SNR=6.3 0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**46.12**	**353**	P	**P**	**23 42 39.2**	**+0.3**
	1.3nm,0.3s,baz=176,slow=7.8,SNR=7.4 1.3nm,0.3s						
BVAR	**Borovoye Array**	**48.41**	**342**	P	**P**	**23 42 56.7**	**-0.1**
	0.3nm,0.3s,baz=152,slow=9.8,SNR=3.6 0.3nm,0.3s						
BRTR	**Keskin Array B**	**61.58**	**311**	P	**P**	**23 44 32.0**	**-0.5**
	0.2nm,0.5s,baz=129,slow=8.1,SNR=3.1 0.2nm,0.5s						
FINES	**FINESS Array B**	**72.03**	**332**	P	**P**	**23 45 37.8**	**-0.6**
	1.6nm,0.7s,baz=111,slow=7.2,SNR=5.8 1.6nm,0.7s						
HFS	**Hagfors**	**77.75**	**330**	P	**P**	**23 46 10.8**	**-0.7**
	1.2nm,0.5s,baz=134,slow=4.2,SNR=4.7 1.2nm,0.5s						

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*IDC **31** 23:

KBZ Khabaz 71.36 317 P P 23 45 48.8 +0.8
1.1nm,0.7s,baz=270,slow=1.0,SNR=2.0
1.1nm,0.7s

TXAR Lajitas Array 71.68 66 P P 23 45 50.8 +0.5
0.5nm,0.5s,baz=297,slow=4.5,SNR=8.4
0.5nm,0.5s

*IDC **31** 23:34:31.0±1.4, 7.78N×93.16E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=57.3km s-min=24.8km az=53.0*

ISC 31 23:34:38.0±1.4, 7.8N±0.3×93.2E±0.3, h50km, n17, σ0§59/11, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.75**	**234**	T	T	00 06 38.2	
	baz=55,slow=76,SNR=6.5						
H08S2	**Diego Garcia H**	**25.75**	**234**	T	T	00 06 36.5	
	baz=55,slow=76,SNR=4.8						
H08S1	**Diego Garcia H**	**25.77**	**234**	T	T	00 06 41.3	
	baz=55,slow=76,SNR=6.0						
AAK	**Ala-Archa**	**38.40**	**338**	P	**P**	**23 41 53.8**	**-1.0**
	0.8nm,0.5s,baz=207,slow=5.5,SNR=4.3						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**39.94**	**348**	P	**P**	**23 42 07.0**	**-0.4**
	1.2nm,0.7s,baz=163,slow=7.7,SNR=5.7						
	1.2nm,0.7s						
SONM	**Songino Array**	**41.41**	**13**	P	**P**	**23 42 20.3**	**+0.6**
	0.8nm,0.9s,baz=193,slow=5.8,SNR=2.9						
	0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**44.37**	**347**	P	**P**	**23 42 43.9**	**+0.5**
	1.2nm,0.4s,baz=170,slow=7.1,SNR=5.2						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.49**	**353**	P	**P**	**23 43 00.3**	**+0.3**
	1.4nm,0.3s,baz=171,slow=8.5,SNR=5.2						
	1.4nm,0.3s						
BVAR	**Borovoye Array**	**48.74**	**342**	P	**P**	**23 43 17.5**	**-0.2**
	0.9nm,0.6s,baz=133,slow=10,SNR=3.0						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**48.98**	**125**	P	**P**	**23 43 19.8**	**-0.2**
	0.3nm,0.3s,baz=300,slow=8.0,SNR=8.8						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**61.77**	**311**	P	**P**	**23 44 52.9**	**+1.0**
	0.6nm,0.6s,baz=108,slow=4.7,SNR=4.0						
	0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.22**	**210**	T	T	00 55 51.7	
	baz=47,slow=75,SNR=8.8						
H04N1	**CROZET ISLANDS**	**65.23**	**210**	T	T	00 55 36.6	
	baz=47,slow=75,SNR=1.8						
H04N3	**CROZET ISLANDS**	**65.24**	**210**	T	T	00 55 51.8	
	baz=47,slow=75,SNR=10						
FINES	**FINESS Array B**	**72.33**	**332**	P	**P**	**23 45 58.1**	**-0.1**
	2.5nm,0.7s,baz=106,slow=4.6,SNR=2.4						
	2.5nm,0.7s						
HFS	**Hagfors**	**78.04**	**330**	P	**P**	**23 46 31.2**	**0.0**
	1.1nm,0.5s,baz=91,slow=9.1,SNR=1.7						
	1.1nm,0.5s						
NOA	**NORSAR Array B**	**79.32**	**331**	P	**P**	**23 46 38.2**	**-0.1**
	1.2nm,0.9s,baz=91,slow=5.3,SNR=2.4						
	1.2nm,0.9s						

IDC 31 23:35:45.6±11.0, 7.88N×94.13E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=614.8km s-min=31.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.08**	**347**	P	P	23 43 22.1	-0.7
	0.8nm,0.6s,baz=165,slow=7.1,SNR=3.4						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**44.53**	**346**	P	P	23 43 59.0	0.0
	0.9nm,0.4s,baz=168,slow=6.5,SNR=3.3						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**46.55**	**352**	P	P	23 44 15.2	+0.3
	0.7nm,0.4s,baz=168,slow=7.4,SNR=1.4						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**49.93**	**130**	P	P	23 44 41.4	-0.1
	0.4nm,0.7s,baz=310,slow=7.2,SNR=1.5						
	0.4nm,0.7s						

*IDC **31** 23:36:15.9±1.2, 7.47N×93.85E, h0km, mb3.9/10, mbtmp3.9/11, ML4.5/1, Error ellipse: s-maj=53.3km s-min=21.2km az=54.0*

ISC 31 23:36:19.3±1.2, 7.6N±0.2×94.0E±0.2, h20km, n17, σ1§05/11, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.83**	**23**	Pn	**Pn**	**23 39 06.3**	**-0.6**
	0.8nm,0.3s,baz=203,slow=14,SNR=3.0						
	1.0nm,0.3s						
H08S3	**Diego Garcia H**	**26.25**	**235**	T	T	00 08 42.2	
	baz=55,slow=75,SNR=3.5						
H08S2	**Diego Garcia H**	**26.25**	**235**	T	T	00 08 43.3	
	baz=55,slow=75,SNR=4.0						
H08S1	**Diego Garcia H**	**26.26**	**235**	T	T	00 08 43.9	
	baz=55,slow=75,SNR=2.8						
MKAR	**Makanchi Array**	**40.34**	**348**	P	**P**	**23 43 55.5**	**-0.1**
	1.3nm,0.8s,baz=165,slow=7.3,SNR=4.9						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**44.79**	**346**	P	**P**	**23 44 32.6**	**+1.0**
	0.9nm,0.4s,baz=164,slow=7.5,SNR=5.0						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**46.82**	**353**	P	**P**	**23 44 48.8**	**+1.2**
	1.0nm,0.3s,baz=172,slow=7.6,SNR=4.2						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**23 45 00.3**	**+1.4**
	0.4nm,0.5s,baz=309,slow=8.0,SNR=5.3						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**49.22**	**341**	P	**P**	**23 45 07.4**	**+1.2**
	0.9nm,0.7s,baz=147,slow=8.1,SNR=2.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**23 45 10.1**	**-1.3**
	0.3nm,0.5s,baz=319,slow=7.1,SNR=1.8						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**23 46 41.1**	**-0.8**
	0.4nm,0.6s,baz=142,slow=7.9,SNR=4.0						
	0.4nm,0.6s						
H04N2	**CROZET ISLANDS**	**65.41**	**211**	T	T	00 57 41.6	
	baz=48						
H04N1	**CROZET ISLANDS**	**65.42**	**211**	T	T	00 57 42.2	
	baz=48						
H04N3	**CROZET ISLANDS**	**65.43**	**211**	T	T	00 57 43.7	
	baz=48						
FINES	**FINESS Array B**	**72.90**	**332**	P	**P**	**23 47 46.8**	**0.0**
	2.1nm,0.9s,baz=96,slow=5.7,SNR=3.4						
	2.1nm,0.9s						
HFS	**Hagfors**	**78.64**	**330**	P	**P**	**23 48 19.2**	**-0.5**
	1.9nm,0.9s,baz=111,slow=11,SNR=1.2						
	1.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**80.09**	**348**	P	**P**	**23 48 27.5**	**+0.2**
	11nm,1.0s,baz=247,slow=3.0,SNR=1.3						
	11nm,1.0s						

*IDC **31** 23:38:43.8±0.8, 7.61N×93.80E, h0km, mb4.0/17, mbtmp4.0/19, ML4.0/2, Error ellipse: s-maj=31.0km s-min=16.7km az=59.0*

*NEIC **31** 23:38:45.1±0.9, 7.81N±0.05×94.46E±0.09, h10km±1km, mb4.4/38, Error ellipse: s-maj=16.2km s-min=7.1km az=252.0*

ISC 31 23:38:44.7±0.5, 7.83N±0.07×94.39E±0.08, h10km, n72, σ1§21/65, mb4.3/35, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.62**	**135**	Pn	**Pn**	**23 39 40.1**	**-0.8**
SRIT	**Nakonsritamara**	**5.21**	**81**	Pn	**Pn**	**23 40 01.6**	**-1.2**
KULM	**Kulim**	**6.71**	**112**	Pn	**Pn**	**23 40 22.1**	**-1.2**
PSI	**Prapat**	**6.73**	**138**	Pn	**Pn**	**23 40 26.5**	**+2.7**
	1.2nm,0.3s,baz=276,slow=11,SNR=3.9						
	8.0nm,0.7s						
RPSI	**Rantau Prapat**	**6.81**	**138**	Pn	**Pn**	**23 40 24.7**	**0.0**
CMAR	**Chiang Mai Arr**	**11.46**	**22**	Pn	**Pn**	**23 41 28.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**11.46**	**22**	Pn	Pn	23 41 33.7	+5.2
	0.6nm,0.3s,baz=204,slow=13,SNR=4.0						
	1.0nm,0.3s						
KSM	**Kuching**	**17.07**	**111**	Pn	**Pn**	**23 42 42.1**	**-1.5**
SBUM	**Sibu**	**18.54**	**106**	P	**P**	**23 43 00.5**	**-1.1**
LSA	**Lhasa**	**21.97**	**352**	P	**P**	**23 43 38.9**	**-0.5**
LSA				IAmb	IAmb	23 43 50.7	
	comp=Z,8.0nm,0.7s						
DGAR	**Diego Garcia**	**26.60**	**236**	P	**P**	**23 44 23.3**	**-0.2**
H08S3	**Diego Garcia H**	**26.70**	**235**	T	T	00 10 55.4	
	baz=55,slow=76,SNR=5.4						
H08S2	**Diego Garcia H**	**26.70**	**235**	T	T	00 10 56.6	
	baz=55,slow=76,SNR=5.5						
H08S1	**Diego Garcia H**	**26.71**	**235**	T	T	00 10 56.1	
	baz=55,slow=76,SNR=6.3						
TOLI2	**Tolitoli**	**27.13**	**103**	P	**P**	**23 44 27.7**	**-0.6**
TOLI2				IAmb	IAmb	23 45 08.2	
	comp=Z,12nm,1.1s						
NIL	**Nilore**	**32.28**	**326**	P	**P**	**23 45 12.8**	**-1.0**
KBL	**Kabul**	**35.36**	**322**	P	**P**	**23 45 40.8**	**0.0**
KBL				IAmb	IAmb	23 45 48.0	
	comp=Z,4.5nm,1.1s						
WUS	**Wushi**	**35.87**	**340**	P	**P**	**23 45 45.9**	**+0.9**
WUS				IAmb	IAmb	23 45 52.4	
	comp=Z,5.8nm,0.7s						
JOW	**Kunigami**	**37.28**	**55**	P	**P**	**23 45 56.2**	**-0.9**
KDJ	**Kajisay**	**37.40**	**339**	P	**P**	**23 45 57.4**	**-0.7**
GAR	**Garm**	**37.85**	**329**	P	**P**	**23 46 01.8**	**-0.1**
GAR				IAmb	IAmb	23 46 08.6	
	comp=Z,10nm,1.0s						
SIMJ	**Simiganj**	**38.28**	**327**	P	**P**	**23 46 05.0**	**-0.5**
SIMJ				IAmb	IAmb	23 46 12.3	
	comp=Z,5.7nm,1.1s						
ARSB	**Arslanbob**	**38.40**	**334**	P	**P**	**23 46 06.9**	**+0.4**
ARSB				IAmb	IAmb	23 46 14.5	
	comp=Z,7.2nm,1.0s						
BTK	**Batken**	**38.40**	**330**	P	**P**	**23 46 07.0**	**+0.5**
BTK				IAmb	IAmb	23 46 14.9	
	comp=Z,5.2nm,0.9s						
AAK	**Ala-Archa**	**38.85**	**336**	P	**P**	**23 46 09.9**	**-0.4**
AAK	**Ala-Archa**	**38.85**	**336**	P	**P**	**23 46 09.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=79,slow=5.2,SNR=2.4						
	comp=Z,0.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.19**	**130**	P	**P**	**23 46 21.2**	**-0.3**
MK31	**Makanchi Array**	**40.19**	**347**	P	**P**	**23 46 21.3**	**+0.1**
MKAR	**Makanchi Array**	**40.19**	**347**	P	**P**	**23 46 21.2**	**0.0**
MKAR	**Makanchi Array**	**40.19**	**347**	P	**P**	**23 46 22.1**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=165,slow=8.3,SNR=11						
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**40.27**	**347**	P	**P**	**23 46 22.3**	**+0.4**
KKAR	**Karatay Array**	**40.92**	**333**	P	**P**	**23 46 27.2**	**-0.1**
SONM	**Songino Array**	**41.16**	**12**	P	**P**	**23 46 29.4**	**0.0**
SONM	**Songino Array**	**41.16**	**12**	P	**P**	**23 46 32.7**	**+3.3**
	comp=Z,2.5nm,1.1s,baz=202,slow=8.6,SNR=6.4						
	comp=Z,2.5nm,1.1s						
KURBB	**Kurchatov Arra**	**44.65**	**346**	P	**P**	**23 46 59.1**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=165,slow=7.0,SNR=4.0						
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**44.72**	**346**	P	**P**	**23 46 58.6**	**+0.7**
KURK				IAmb	IAmb	23 47 05.6	
	comp=Z,7.5nm,0.9s						
ZAA0	**Zalesovo Array**	**46.64**	**352**	P	**P**	**23 47 13.9**	**+0.8**
ZAA0				IAmb	IAmb	23 47 22.7	
	comp=Z,4.6nm,0.9s						
ZALV	**Zalesovo Beam**	**46.64**	**352**	P	**P**	**23 47 13.5**	**+0.3**
ZALV	**Zalesovo Beam**	**46.64**	**352**	P	**P**	**23 47 15.2**	**+2.1**
	comp=Z,2.3nm,0.7s,baz=165,slow=6.2,SNR=6.3						
	comp=Z,2.3nm,0.7s						
WRA	**Warramunga Arr**	**48.03**	**126**	P	**P**	**23 47 28.8**	**+4.2**
	comp=Z,0.9nm,0.8s,baz=302,slow=7.8,SNR=4.5						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**49.12**	**341**	P	**P**	**23 47 33.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=141,slow=7.6,SNR=9.8						
	comp=Z,1.0nm,0.7s						
RAYN	**Ar Rayn**	**49.33**	**294**	P	**P**	**23 47 34.5**	**-0.1**
RAYN				IAmb	IAmb	23 47 36.7	
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**49.69**	**130**	P	**P**	**23 47 40.6**	**+3.3**
	comp=Z,1.1nm,0.8s,baz=301,slow=8.2,SNR=6.3						
	comp=Z,1.1nm,0.8s						
ABKAR	**Akbulak array**	**50.39**	**331**	P	**P**	**23 47 42.9**	**+0.7**
ABKAR	**Akbulak array**	**50.39**	**331**	P	**P**	**23 47 42.6**	**+0.4**
ABKAR				IAmb	IAmb	23 48 21.5	
	comp=Z,4.7nm,1.2s						
AKTO	**Aktyubinsk**	**52.11**	**331**	P	**P**	**23 47 56.4**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=45,slow=17,SNR=2.4						
	comp=Z,1.1nm,0.6s						
ABPO	**Ambohimpanom**	**53.59**	**240**	P	**P**	**23 48 06.0**	**-0.6**
ABPO				IAmb	IAmb	23 48 34.2	
	comp=Z,2.4nm,0.7s						
GURO	**Guroymak-BITLI**	**56.05**	**312**	P	**P**	**23 48 23.9**	**-0.3**
GURO				IAmb	IAmb	23 48 31.8	
	comp=Z,3.4nm,1.1s						
ARTI	**Arti**	**56.07**	**337**	P	**P**	**23 48 24.7**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=164,slow=9.4,SNR=3.6						
	comp=Z,2.5nm,0.7s						
NRIK	**Noril'sk**	**61.60**	**357**	P	**P**	**23 49 03.2**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=356,slow=7.3,SNR=1.4						
	comp=Z,0.8nm,0.4s						
BR131	**Keskin Array S**	**62.65**	**311**	P	**P**	**23 49 09.5**	**-0.4**
BR131				IAmb	IAmb	23 49 10.6	
	comp=Z,2.3nm,1.1s						
BRTR	**Keskin Array B**	**62.65**	**311**	P	**P**	**23 49 09.1**	**-0.8**
BRTR	**Keskin Array B**	**62.65**	**311**	P	**P**	**23 49 08.4**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=118,slow=7.3,SNR=4.7						
	comp=Z,0.6nm,0.8s						
H04N2	**CROZET ISLANDS**	**65.81**	**211**	T	T	01 00 05.7	
	baz=47						
H04N1	**CROZET ISLANDS**	**65.82**	**211**	T	T	01 00 06.5	
	baz=47						
H04N3	**CROZET ISLANDS**	**65.83**	**211**	T	T	01 00 06.0	
	baz=47						
TIXI	**Tiksi**	**67.23**	**11**	P	**P**	**23 49 39.5**	**+0.6**
BURAR	**Bucovina Array**	**70.25**	**318**	P	**P**	**23 49 58.3**	**0.0**
FINES	**FINESS Array B**	**72.87**	**332**	P	**P**	**23 50 13.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=99,slow=4.6,SNR=7.4						
	comp=Z,2.3nm,0.8s						
KEK	**Kerkira**	**73.19**	**309**	P	**P**	**23 50 16.1**	**0.0**
BOSA	**Boshof**	**75.77**	**238**	P	**P**	**23 50 28.2**	**-3.2**
	comp=Z,2.9nm,1.0s,baz=157,slow=7.7,SNR=1.5						
	comp=Z,2.9nm,1.0s						
DZM	**Mont Dzumac**	**76.55**	**115**	P	**P**	**23 50 35.0**	**-0.8**
DZM				IAmb	IAmb	23 50 53.6	
	comp=Z,5.1nm,1.1s						
GERES	**GERESS Array B**	**78.03**	**318**	P	**P**	**23 50 43.3**	**-0.4**
GERES	**GERESS Array B**	**78.03**	**318**	P	**P**	**23 50 43.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=76,slow=8.2,SNR=4.5						
	comp=Z,0.7nm,0.7s						
PRED	**Cave del Predi**	**78.06**	**316**	P	**P**	**23 50 44.0**	**+0.1**
PRED				IAmb	IAmb	23 50 53.1	
	comp=Z,3.4nm,0.9s						
HFS	**Hagfors**	**78.62**	**330**	P	**P**	**23 50 47.2**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=98,slow=10,SNR=1.7						
	comp=Z,1.8nm,0.7s						
CIMO	**Cimolais**	**78.83**	**316**	P	**P**	**23 50 48.4**	**+0.3**
CIMO				IAmb	IAmb	23 50 56.4	
	comp=Z,3.7nm,0.9s						
GRA1	**Grafenberg Arr**	**79.67**	**319**	P	**P**	**23 50 52.7**	**+0.1**
GRFO	**Grafenberg**	**79.67**	**319**	P	**P**	**23 50 53.3**	**+0.7**
GRFO				IAmb	IAmb	23 51 27.6	
	comp=Z,6.2nm,0.9s						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**23 50 52.5**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=94,slow=5.0,SNR=3.5						
	comp=Z,0.9nm,0.8s						
CASP	**Castiglione de**	**79.99**	**312**	P	**P**	**23 50 54.4**	**-0.1**
DCZ	**Deep Cove**	**83.65**	**137**	P	**P**	**23 51 13.1**	**-0.5**

IDC 31 23:39:14.8±6.3, 7.43N×93.57E, h0km, mb3.9/5, mbtmp3.9/5, MS4.2/1, Error ellipse: s-maj=348.1km s-min=30.3km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**38.18**	**55**	LR	LR	00 03 04.0	
	comp=Z,330nm,20.8s,baz=297,slow=37						
MKAR	**Makanchi Array**	**40.40**	**348**	P	P	23 46 53.7	-0.9
	1.5nm,0.7s,baz=165,slow=8.0,SNR=4.0						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**44.84**	**346**	P	P	23 47 30.6	0.0
	1.2nm,0.6s,baz=172,slow=7.2,SNR=2.1						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**46.93**	**353**	P	P	23 47 47.2	+0.2
	2.0nm,0.7s,baz=168,slow=9.1,SNR=3.5						
	2.0nm,0.7s						
BVAR	**Borovoye Array**	**49.23**	**342**	P	P	23 48 05.2	+0.3
	1.0nm,0.8s,baz=144,slow=8.4,SNR=1.9						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**50.07**	**129**	P	P	23 48 11.7	-0.1
	0.7nm,0.8s,baz=302,slow=8.1,SNR=2.3						
	0.7nm,0.8s						

*IDC **31** 23:41:59.5±0.7, 7.62N×94.21E, h0km, mb4.1/19, mbtmp4.1/22, ML3.9/3, Error ellipse: s-maj=23.2km s-min=16.4km az=67.0*

*NEIC **31** 23:42:01.5±1.2, 7.56N±0.08×94.4E±0.1, h10km±1km, mb5.0/32, Error ellipse: s-maj=19.5km s-min=13.1km az=261.0*

ISC 31 23:42:03.0±0.5, 7.59N±0.07×94.29E±0.08, h24km, n68, σ1§04/64, mb4.3/28, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.54**	**131**	Pn	**Pn**	**23 42 54.8**	**-1.7**
SRIT	**Nakonsritamara**	**5.36**	**79**	Pn	**Pn**	**23 43 20.6**	**-1.0**
PSI	**Prapat**	**6.63**	**136**	Pn	**Pn**	**23 43 40.1**	**+1.0**
	1.4nm,0.3s,baz=306,slow=11,SNR=3.8						
	6.7nm,0.4s						
RPSI	**Rantau Prapat**	**6.71**	**136**	Pn	**Pn**	**23 43 38.1**	**-2.0**
RPSI	**Rantau Prapat**	**6.71**	**136**		**Pn**	**23 43 40.1**	**0.0**
KULM	**Kulim**	**6.72**	**110**	Pn	**Pn**	**23 43 38.1**	**-2.2**
CMAR	**Chiang Mai Arr**	**11.71**	**22**	Pn	**Pn**	**23 44 49.0**	**+0.2**
	0.8nm,0.3s,baz=216,slow=14,SNR=5.2						
	1.2nm,0.4s						
CHTO	**Chiang Mai**	**12.04**	**22**	Pn	**Pn**	**23 44 52.9**	**-0.4**
PALK	**Pallekele**	**13.47**	**270**	Pn	**Pn**	**23 45 09.9**	**-3.0**
	0.2nm,0.3s,baz=113,slow=13,SNR=2.0						
	4.3nm,0.7s						
LSA	**Lhasa**	**22.19**	**353**	P	**P**	**23 46 58.5**	**+0.4**
H08S3	**Diego Garcia H**	**26.48**	**236**	T	T	00 14 40.2	
	baz=55,slow=76,SNR=21						
H08S2	**Diego Garcia H**	**26.48**	**236**	T	T	00 14 57.9	
	baz=55,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**26.50**	**236**	T	T	00 14 55.4	
	baz=55,slow=76,SNR=24						
NIL	**Nilore**	**32.41**	**326**	P	**P**	**23 48 30.9**	**-0.4**
NIL				IAmb	IAmb	23 49 12.2	
	comp=Z,17nm,0.8s						
GAR	**Garm**	**37.99**	**329**	P	**P**	**23 49 20.1**	**+0.7**
SIMJ	**Simiganj**	**38.42**	**327**	P	**P**	**23 49 22.6**	**-0.3**
BTK	**Batken**	**38.55**	**331**	P	**P**	**23 49 24.7**	**+0.7**
ARSB	**Arslanbob**	**38.56**	**334**	P	**P**	**23 49 24.5**	**+0.4**
AAK	**Ala-Archa**	**39.02**	**337**	P	**P**	**23 49 28.2**	**+0.2**
MK31	**Makanchi Array**	**40.39**	**347**	P	**P**	**23 49 39.6**	**+0.4**
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**23 49 39.3**	**+0.1**
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**23 49 38.6**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=162,slow=8.4,SNR=12						
	comp=Z,3.1nm,0.8s						
MAKZ	**Makanchi**	**40.48**	**347**	P	**P**	**23 49 40.2**	**+0.3**
MSEY	**Mahe Island**	**40.59**	**254**	P	**P**	**23 49 41.5**	**+0.1**
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**23 49 47.9**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=197,slow=8.8,SNR=4.9						
	comp=Z,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**44.85**	**346**	P	**P**	**23 50 15.1**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=174,slow=7.0,SNR=15						
	comp=Z,3.5nm,0.8s						
KURK	**Kurchatov**	**44.92**	**346**	P	**P**	**23 50 16.4**	**+0.6**
ZAA0	**Zalesovo Array**	**46.85**	**352**	P	**P**	**23 50 31.2**	**+0.2**
ZALV	**Zalesovo Beam**	**46.85**	**352**	P	**P**	**23 50 31.4**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=179,slow=7.0,SNR=8.6						
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**47.98**	**125**	P	**P**	**23 50 39.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=299,slow=8.1,SNR=3.3						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**49.30**	**341**	P	**P**	**23 50 49.6**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=142,slow=5.4,SNR=5.7						
	comp=Z,2.7nm,0.9s						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**23 50 54.0**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=311,slow=7.8,SNR=5.8						
	comp=Z,0.7nm,0.7s						
ABKAR	**Akbulak array**	**50.55**	**331**	P	**P**	**23 50 59.6**	**+0.1**
ABKAR				IAmb	IAmb	23 51 40.1	
	comp=Z,30nm,1.8s						
AKTO	**Aktyubinsk**	**52.27**	**331**	P	**P**	**23 51 12.2**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=115,slow=10,SNR=4.2						
	comp=Z,1.5nm,0.6s						
FOMA	**Nahampoana Res**	**56.29**	**233**	P	**P**	**23 51 42.6**	**+0.5**
KMBO	**Kilima Mbogo**	**57.54**	**264**	P	**P**	**23 51 52.1**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=47,slow=16,SNR=3.9						
	comp=Z,1.7nm,0.9s						
NRIK	**Noril'sk**	**61.83**	**357**	P	**P**	**23 52 20.7**	**+0.9**
NRIK	**Noril'sk**	**61.83**	**357**	P	**P**	**23 52 19.7**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=175,slow=3.3,SNR=6.3						
	comp=Z,1.0nm,0.5s						
MGBR	**Mount Gambier**	**62.40**	**140**	P	**P**	**23 52 22.5**	**-1.6**
BRTR	**Keskin Array B**	**62.72**	**311**	P	**P**	**23 52 24.4**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=136,slow=7.1,SNR=5.2						
	comp=Z,0.6nm,0.8s						
BR131	**Keskin Array S**	**62.72**	**311**	P	**P**	**23 52 25.9**	**-0.6**
TIXI	**Tiksi**	**67.48**	**11**	P	**P**	**23 52 56.3**	**-0.2**
TIXI				IAmb	IAmb	23 53 32.9	
	comp=Z,11nm,0.6s						
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**23 53 30.6**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=109,slow=5.8,SNR=7.7						
	comp=Z,2.1nm,0.7s						
BOSA	**Boshof**	**75.56**	**238**	P	**P**	**23 53 46.7**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=90,slow=4.0,SNR=4.1						
	comp=Z,2.2nm,0.8s						
GERES	**GERESS Array B**	**78.13**	**318**	P	**P**	**23 53 59.8**	**-0.6**
	comp=Z,0.9nm,0.8s,ba

8.8nm,0.3s
KULM Kulim 6.79 110 Pn **Pn 23 44 09.7 -1.2**
RPSI Rantau Prapat 6.81 137 Pn 23 44 10.6 -0.5
PPI Padang Panjang 10.16 143 P **Pn 23 45 00.1 +3.1**
51nm,1.2s
PPI S **Pn 23 45 00.4 +3.4**
51nm,1.2s
CM31 Chiang Mai Arr 11.63 23 Pn **Pn 23 45 18.3 +1.1**
CMAR Chiang Mai Arr 11.63 23 Pn **Pn 23 45 18.3 +1.1**
CMAR Chiang Mai Arr 11.63 23 Pn **Pn 23 45 19.2 +2.1**
1.3nm,0.3s,baz=204,slow=13,SNR=4.6
CHTO Chiang Mai 11.95 22 Pn **Pn 23 45 23.2 +1.6**
CRAI Chiangrai 13.80 25 Pn **Pn 23 45 49.5 +2.7**
MDSI Maura Dua 15.64 140 P **P 23 46 18.7 +3.0**
22nm,1.2s
SLVN Son La 16.45 34 P **P 23 46 25.3 +0.6**
KSM Kuching 17.15 110 Pn **Pn 23 46 28.0 -2.9**
SBUM Sibu 18.64 105 P **Pn 23 46 49.7 +0.5**
STKI Sintang 18.78 113 P Pn 23 46 58.8 +7.9
SMRI Semarang 21.80 132 P **P 23 47 22.5 -0.7**
LSA Lhasa 22.08 353 P 23 47 27.5 +0.9
LSA IAmb IAmb 23 47 40.4
comp=Z,24nm,0.8s
NGJI Ngawi 22.77 131 P P 23 47 42.0 +8.4
XAN Xi'an 29.50 25 P **P 23 48 37.5 +2.2**
XAN pP pwP 23 48 45.3 +1.7
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN LR LR
comp=N,980nm,12.0s
XAN LR LR
comp=E,690nm,13.9s
XAN LR LR
comp=Z,680nm,13.1s
GTA Gaotai 31.97 8 *e*P P 23 49 02.3 +5.2
GTA pP pwP 23 49 06.0 +0.6
GTA pmax pmax
comp=Z,3.0nm,1.0s
NIL Nilore 32.30 326 P **P 23 48 59.5 -0.5**
WUS Wushi 35.94 341 P **P 23 49 31.7 +0.2**
WUS IAmb IAmb 23 49 39.8
comp=Z,12nm,0.7s
GAR Garm 37.88 329 P **P 23 49 47.4 -0.7**
GAR IAmb IAmb 23 49 59.8
comp=Z,18nm,0.9s
PSA00 Pilbara Seismi 38.43 140 P **P 23 49 51.0 -1.8**
PSA00 IAmb IAmb 23 50 00.2
comp=Z,19nm,1.0s
BTK Batken 38.44 331 P **P 23 49 52.9 +0.2**
ARSB Arslanbob 38.45 334 P **P 23 49 52.5 -0.3**
ARSB IAmb IAmb 23 50 02.7
comp=Z,12nm,0.8s
AAK Ala-Archa 38.91 337 P 23 49 56.5 -0.3
FRU1 Bishkek 39.00 337 P **P 23 49 56.5 -0.9**
FAKI Fak Fak 39.35 104 P **P 23 50 00.1 -0.5**
FAKI IAmb IAmb 23 50 08.2
comp=Z,28nm,1.1s
JMZ Minamidaito 2 39.53 58 P **P 23 50 00.5 -1.5**
MK31 Makanchi Array 40.28 347 P **P 23 50 09.1 +1.2**
MK31 IAmb IAmb 23 50 16.3
comp=Z,12nm,0.9s
MKAR Makanchi Array 40.28 347 P **P 23 50 08.4 +0.4**
MKAR Makanchi Array 40.28 347 P **P 23 50 09.0 +1.0**
comp=Z,5.4nm,0.8s,baz=161,slow=7.4,SNR=14
comp=Z,5.4nm,0.8s
MAKZ Makanchi 40.36 347 P **P 23 50 08.6 -0.1**
SONM Songino Array 41.31 12 P **P 23 50 16.1 -0.5**
SONM Songino Array 41.31 12 P **P 23 50 19.6 +3.0**
comp=Z,1.9nm,1.0s,baz=198,slow=6.5,SNR=6.9
comp=Z,1.9nm,1.0s
ULN Ulaanbaatar 41.48 13 P **P 23 50 17.2 -0.8**
KURBB Kurchatov Arra 44.74 346 P **P 23 50 45.8 +1.6**
comp=Z,6.8nm,0.8s,baz=164,slow=7.5,SNR=6.8
comp=Z,6.8nm,0.8s
KURK Kurchatov 44.80 346 P **P 23 50 45.6 +1.0**
KURK IAmb IAmb 23 50 52.9
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 46.74 352 P **P 23 51 00.5 +0.6**
ZAA0 IAmb IAmb 23 51 08.3
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 46.74 352 P **P 23 51 00.6 +0.8**
ZALV Zalesovo Beam 46.74 352 P **P 23 51 02.4 +2.5**
comp=Z,2.1nm,0.4s,baz=171,slow=7.8,SNR=8.0
comp=Z,2.1nm,0.4s
BNX BinXian 47.46 31 ⇓P **P 23 51 09.3 +3.7**
BNX pmax pmax
comp=Z,7.0nm,1.3s
WRA Warramunga Arr 48.07 125 P **P 23 51 11.4 +0.6**
comp=Z,1.5nm,0.8s,baz=299,slow=7.3,SNR=6.5
comp=Z,1.5nm,0.8s
WR8 Warramunga Arr 48.21 125 P **P 23 51 10.9 -1.0**
WR8 IAmb IAmb 23 51 20.1
comp=Z,9.0nm,1.1s
BVAR Borovoye Array 49.19 341 P **P 23 51 19.6 +0.7**
comp=Z,3.1nm,0.9s,baz=126,slow=7.5,SNR=12
comp=Z,3.1nm,0.9s
RAYN Ar Rayn 49.26 294 P 23 51 18.5 -1.4
RAYN IAmb IAmb 23 51 32.2
comp=Z,9.4nm,0.8s
ASAR Alice Springs 49.72 130 P **P 23 51 22.9 -0.5**
comp=Z,1.1nm,0.8s,baz=307,slow=8.0,SNR=7.1
comp=Z,1.1nm,0.8s
FORT Forrest 50.14 141 P **P 23 51 22.9 -3.5**
AB31 Akbulak array 50.44 331 P **P 23 51 28.3 -0.1**
ABKAR Akbulak array 50.44 331 P **P 23 51 27.8 -0.6**
ABKAR Akbulak array 50.44 331 P 23 51 27.8 -0.6
AKTO Aktyubinsk 52.15 331 P **P 23 51 41.4 +0.2**
comp=Z,1.5nm,0.5s,baz=135,slow=1.4,SNR=4.7
comp=Z,1.5nm,0.5s
ARTI Arti 56.13 337 P 23 52 08.8 -1.3
ARTI IAmb IAmb 23 52 18.0
comp=Z,9.2nm,0.7s
KBZ Khabaz 57.29 318 P **P 23 52 20.0 +1.4**
comp=Z,1.8nm,0.9s,baz=135,slow=9.8,SNR=4.0
comp=Z,1.8nm,0.9s
KMBO Kilima Mbogo 57.51 264 P 23 52 19.6 -1.5
KMBO Kilima Mbogo 57.51 264 P **P 23 52 22.2 +1.2**
comp=Z,1.9nm,0.9s,baz=69,slow=13,SNR=5.0
comp=Z,1.9nm,0.9s
NRIK Noril'sk 61.72 357 P **P 23 52 48.2 -0.6**
NRIK IAmb IAmb 23 52 56.6
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 62.62 311 P **P 23 52 54.9 -0.7**
comp=Z,0.7nm,0.7s,baz=127,slow=6.9,SNR=4.4
comp=Z,0.7nm,0.7s
H04N2 CROZET ISLANDS 65.63 211 T T 01 03 45.9
H04N1 CROZET ISLANDS 65.64 211 T T 01 03 45.9
baz=50
H04N3 CROZET ISLANDS 65.65 211 T T 01 03 45.9
AKASG Malin Array Be 68.36 322 P **P 23 53 31.7 -0.5**
comp=Z,0.3nm,0.4s,baz=96,slow=4.6,SNR=4.8
comp=Z,0.3nm,0.4s
FINES FINESS Array B 72.92 332 P **P 23 54 00.2 +0.4**
comp=Z,3.8nm,0.7s,baz=102,slow=6.1,SNR=3.9
comp=Z,3.8nm,0.7s
BOSA Boshof 75.58 238 P **P 23 54 18.6 +2.4**
comp=Z,5.1nm,1.0s,baz=88,slow=7.3,SNR=5.4
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 77.95 320 *e*P P 23 54 37.6 +8.6
BRG Amp 23 54 44.4
comp=Z,3.8nm,0.9s
GERES GERESS Array B 78.03 318 P **P 23 54 30.6 +1.0**
comp=Z,1.1nm,0.6s,baz=79,slow=5.7,SNR=5.7
comp=Z,1.1nm,0.6s
HFS Hagfors 78.66 330 P **P 23 54 33.7 +1.0**
comp=Z,2.5nm,0.7s,baz=95,slow=7.2,SNR=5.4
comp=Z,2.5nm,0.7s
CIMO Cimolais 78.83 316 P **P 23 54 33.5 -0.5**
CIMO IAmb IAmb 23 54 49.9
comp=Z,7.7nm,1.0s
NOA NORSAR Array B 79.94 331 P **P 23 54 39.8 +0.1**
comp=Z,1.3nm,0.8s,baz=93,slow=5.3,SNR=4.1
comp=Z,1.3nm,0.8s
SYO Syowa Base 85.27 197⇓*e*P **P 23 55 07.2 +0.1**
C16K Lisburne Hills 86.74 22 P **P 23 55 14.5 0.0**
C18K Utukok River 88.13 21 P **P 23 55 18.6 -2.7**
C18K IAmb IAmb 23 55 29.7
comp=Z,4.1nm,0.9s
MRZ Mangatainoka R 88.44 131 P **P 23 55 20.4 -2.8**
K13K Kusilvak Mount 88.45 28 P **P 23 55 21.7 -1.2**
K13K IAmb IAmb 23 55 25.0
comp=Z,3.9nm,1.1s
G16K Koyuk River 88.58 24 P **P 23 55 22.1 -1.3**
G16K IAmb IAmb 23 55 31.8
comp=Z,5.6nm,1.1s
E18K Tukpahlearik C 88.70 22 P **P 23 55 22.7 -1.3**
E18K IAmb IAmb 23 55 32.7
comp=Z,7.4nm,1.1s
D19K Kuna River 89.25 21 P **P 23 55 24.6 -2.1**
D19K IAmb IAmb 23 55 36.5
comp=Z,5.4nm,0.9s
E19K Redstone River 89.92 21 P **P 23 55 27.7 -2.0**
E19K IAmb IAmb 23 55 40.4
comp=Z,7.1nm,1.1s
F19K Shaleruckik Mo 89.93 22 P **P 23 55 28.3 -1.5**
F19K IAmb IAmb 23 55 38.1
comp=Z,7.5nm,1.1s
B21K Bipkpuk River 90.03 19 P **P 23 55 28.2 -1.9**
B22K Teshekpuk Lake 90.13 18 P **P 23 55 28.2 -2.4**
B22K IAmb IAmb 23 55 40.5
comp=Z,6.2nm,1.1s
F20K Avaraart Lake 90.61 22 P **P 23 55 33.1 +0.2**
E21K Killik River 90.70 20 P **P 23 55 33.5 +0.1**
E21K IAmb IAmb 23 55 44.5
comp=Z,9.4nm,1.1s
TORD Torodi Ar. Bea 90.74 283 P **P 23 55 32.6 -2.0**
H19K Roundabout Mou 90.89 23 P **P 23 55 33.4 -0.8**
D22K Ayikyak River 90.96 19 P **P 23 55 33.9 -0.7**
D22K IAmb IAmb 23 55 43.2
comp=Z,4.0nm,0.9s
K17K Iditarod 91.08 26 P **P 23 55 32.4 -2.8**
K17K IAmb IAmb 23 55 46.9
comp=Z,9.1nm,1.1s
F21K Alatna River 91.36 21 P **P 23 55 35.8 -0.6**
F21K IAmb IAmb 23 55 45.3
comp=Z,5.5nm,1.1s
ESDC Sonseca Array 91.41 310 P **P 23 55 38.8 +1.4**
comp=Z,1.1nm,0.9s,baz=61,slow=3.5,SNR=4.2
comp=Z,1.1nm,0.9s
J18K Innoko River 91.50 25 P **P 23 55 36.4 -0.7**
J18K IAmb IAmb 23 55 46.3
comp=Z,5.8nm,1.1s
E22K Anaktuvuk Pass 91.56 20 P **P 23 55 38.6 +1.2**
D23K Nanushuk River 91.58 19 P **P 23 55 37.7 +0.3**
D23K IAmb IAmb 23 55 46.3
comp=Z,5.2nm,1.1s
G21K Allakaket 91.63 22 P **P 23 55 38.3 +0.6**
J19K Poorman 91.77 24 P **P 23 55 37.7 -0.7**
J19K IAmb IAmb 23 55 47.4
comp=Z,7.5nm,1.1s
I20K Naaghedeneel 91.93 24 P **P 23 55 38.4 -0.7**
L18K Granite Mounta 91.95 26 P **P 23 55 39.7 +0.5**
L18K IAmb IAmb 23 55 54.7
comp=Z,4.2nm,1.1s
TOLK Toolik Lake Re 92.08 19 P 23 55 38.1 -1.7
TOLK IAmb IAmb 23 55 52.2
comp=Z,4.5nm,1.1s
D24K Happy Valley 92.08 19 P **P 23 55 38.6 -1.1**
D24K IAmb IAmb 23 55 48.1
comp=Z,2.8nm,0.8s
H21K Melozitna Rive 92.24 22 P **P 23 55 40.4 -0.1**
H21K IAmb IAmb 23 55 49.5
comp=Z,5.9nm,0.9s
J20K Nowinta River 92.30 24 P **P 23 55 39.6 -1.2**
J20K IAmb IAmb 23 55 50.0
comp=Z,6.0nm,0.9s
N17K Nushagak Hills 92.31 28 P **P 23 55 38.1 -2.9**
N17K IAmb IAmb 23 55 53.3
comp=Z,5.2nm,1.1s
E23K Chandalar 92.33 20 P **P 23 55 41.3 +0.3**
E23K IAmb IAmb 23 55 49.3
comp=Z,2.9nm,0.9s
K20K Telida 92.65 25 P **P 23 55 42.6 +0.1**
E24K Your Creek 92.70 20 P **P 23 55 41.1 -1.6**
E24K IAmb IAmb 23 55 51.1
comp=Z,3.3nm,1.0s
D25K Kavik River 92.77 18 P **P 23 55 42.1 -0.9**
L19K White Mountain 92.77 26 P 23 55 41.6 -1.5
L19K IAmb IAmb 23 55 52.6
comp=Z,7.5nm,1.1s
G23K Bananza Creek 92.81 21 P **P 23 55 43.9 +0.7**
G23K IAmb IAmb 23 55 51.9
comp=Z,3.0nm,1.1s
M19K Big River Lodg 93.08 26 P **P 23 55 44.9 +0.4**
M19K IAmb IAmb 23 55 55.1
comp=Z,4.0nm,0.9s
F24K Squaw Lake 93.17 20 P **P 23 55 43.5 -1.3**
F24K IAmb IAmb 23 55 53.4
comp=Z,1.9nm,0.8s
H23K Yukon River 93.38 22 P **P 23 55 47.6 +1.8**
H23K IAmb IAmb 23 56 04.3
comp=Z,2.6nm,0.9s
C27K Jago River 93.41 17 P **P 23 55 44.6 -1.3**
C27K IAmb IAmb 23 55 54.5
comp=Z,2.8nm,1.1s
CAST Castle Rocks 93.45 24 P 23 55 44.8 -1.4
N19K Bonanza Creek 93.45 27 P **P 23 55 45.3 -1.1**
BPAW Bear Paw Mtn. 93.60 24 P 23 55 45.4 -1.5
BPAW IAmb IAmb 23 55 58.0
comp=Z,7.9nm,1.1s
E25K Arctic Village 93.63 19 P **P 23 55 45.8 -1.1**
ACHA Angle Creek He 94.02 30 P **P 23 55 45.7 -3.3**
ACHA IAmb IAmb 23 56 01.4
comp=Z,3.2nm,1.0s
BWN Browne 94.16 23 P **P 23 55 47.6 -1.8**
SKT Skwentna 94.28 26 P 23 55 51.0 +0.9
BMAR Burnt Mountain 94.31 19 P **P 23 55 48.8 -1.4**
F26K Sheenjek River 94.32 19 P **P 23 55 50.9 +0.8**
CCB Clear Creek Bu 94.58 22 P **P 23 55 50.9 -0.4**
RND Reindeer 94.76 24 P 23 55 51.1 -1.1
SUA Susitna One 94.84 26 P **P 23 55 51.2 -1.6**
E27K Coleen River 94.85 18 P **P 23 55 51.1 -1.4**
M22K Willow 94.98 26 P **P 23 55 53.7 +0.5**
PRP Porcupine Dome 94.99 21 P **P 23 55 52.8 -0.6**
PRP IAmb IAmb 23 56 04.4
comp=Z,3.2nm,1.0s
E28M Babbage River 95.22 17 P **P 23 55 53.8 -0.4**
RC01 Rabbit Creek A 95.45 26 P **P 23 55 54.1 -1.3**
CNPM China Poot 95.46 28 P **P 23 55 53.4 -2.0**
CNPM IAmb IAmb 23 56 01.6
comp=Z,4.9nm,1.1s
SLKM Skilak Lake 95.49 27 P **P 23 55 56.0 +0.4**
BRLK Bradley Lake 95.52 27 P **P 23 55 55.6 -0.1**
KDAK Kodiak Island 95.54 30 P **P 23 55 53.8 -2.0**
PFVI Vila Bisbo 95.69 309 P **P 23 55 52.4 -4.6**
SEW Seward 96.01 27 P **P 23 55 56.9 -1.0**
SEW IAmb IAmb 23 56 06.4
comp=Z,5.8nm,1.0s
PWL Port Wells 96.16 26 P **P 23 55 58.8 +0.2**
KLU Klutina 96.88 25 P **P 23 56 01.8 -0.2**
KLU IAmb IAmb 23 56 07.8
comp=Z,2.4nm,1.2s
K27K Chicken 97.03 22 P **P 23 56 02.0 -0.5**
L27K Beaver Creek, 97.67 22 P **P 23 56 04.9 -0.6**
G31M Satah River 97.84 17 P Pdif 23 56 06.9 +0.8
VRDI Verde Repeater 98.03 24 P **P 23 56 04.3 -3.0**
ANGG Ammassalik, Gr 98.84 342 P Pdif 23 56 12.1 +1.6
YAH Yahtse 99.21 25 P **Pdif 23 56 09.8 -2.9**
YAH IAmb IAmb 23 56 22.3
comp=Z,5.2nm,1.1s
M29M Somme Creek 99.29 22 P **Pdif 23 56 12.8 0.0**
N30M Aishikik Lake 100.41 22 Pdif **Pdif 23 56 15.8 -1.9**
N31M Braeburn, Yuko 100.88 22 Pdif **Pdif 23 56 18.6 -1.2**
PLCA Paso Flores 144.42 200 PKP **PKPdf 00 02 09.1 +1.5**
comp=Z,1.6nm,0.8s,baz=210,slow=4.6,SNR=3.1
CPUP Villa Florida 147.24 232 PKPbc **PKPab 00 02 16.8 +0.1**
comp=Z,2.3nm,0.7s,baz=86,slow=3.9,SNR=6.1

*IDC **31** 23:44:39.1±0.5, 7°.52N×94°.14E, h0km, mb4.3/27, mbtmp4.3/31, ML4.2/4, MS4.3/1, Error ellipse: s-maj=17.7km s-min=12.6km az=54.0*
*BJI **31** 23:44:39.2, 7°.42N×94°.06E, h10km, mB5.0/12, mb4.6/45, Ms5.0/41, Ms7 4.7/40*
*MOS **31** 23:44:42.7±1.1, 7°.76N×94°.12E, h18km, mb5.1/42, MS4.6/4, Error ellipse: s-maj=11.2km s-min=5.0km az=108.9*
*GCMT **31** 23:44:42.8±0.4, 7°.50N±0°.02×94°.30E±0°.02, h12km, MW5.0/83, Moment Tensor Solution. s23,c27; s83,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.20±.15; $M_{\theta\theta}$-2.95±.17; $M_{\phi\phi}$3.15±.17; $M_{r\theta}$-1.64±.45; $M_{\theta\phi}$2.63±.13; $M_{\phi r}$-0.45±.40; Best double couple: $M_0$4.37500×10^{16} NP1:ϕ_s156.00000°, δ67.00000°, λ-176.00000°. NP2: ϕ_s65.00000°, δ86.00000°, λ-23.00000°. Principal axes: T 4.3560, Plg13.0000°, Azm113.0000°; N 0.0380, Plg67.0000°, Azm235.0000°; P -4.3940, Plg19.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 23:44:43.8±1.7, 7°.78N±0°.06×94°.31E±0°.06, h10km±1km, mb5.2/159, Mww4.9/9 Error ellipse: s-maj=13.1km s-min=5.1km az=46.0*
*NDI **31** 23:44:46.6±3.2, 7°.46N×94°.53E, h68km, mb5.0, MW5.0, mb5.2(NEIC)*
*DJA **31** 23:44:48.7±0.8, 8°.N±2°.×9°.5E±1°.1, h10km, M5.1/8, mb4.7/8, mB5.5/3, MLv5.4/7, Mw(mB)5.0/3*
ISC 31 23:44:43.2±0.6, 7°.59N±0°.04×94°.13E±0°.04, h13km±3km, h12km:pP-P, n650,σ1§52/647, mb4.9/133, MS4.8/21, 5C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.38**	**151**	P	**Pb**	**23 45 26.5**	**+0.4**
BSI				S	**Sg**	**23 45 59.4**	**-0.5**
LHMI	**Lhok Sumawe**	**3.66**	**130**	Pn	**Pn**	**23 45 37.2**	**-2.4**
SRIT	**Nakonsritamara**	**5.51**	**79**	Pn	**Pn**	**23 46 01.6**	**-3.5**
PSI	**Prapat**	**6.74**	**135**	Pn	**Pn**	**23 46 21.1**	**-1.0**
	1.4nm,0.3s,baz=327,slow=8.2,SNR=6.2						
	27nm,0.7s						
PSI	**Prapat**	**6.74**	**135**	P	**Pn**	**23 46 25.6**	**+3.5**
	70nm,1.1s						
PSI	**Prapat**	**6.74**	**135**	P	**Pn**	**23 46 22.4**	**+0.3**
RPSI	**Rantau Prapat**	**6.82**	**135**	Pn	**Pn**	**23 46 22.4**	**-0.7**
KULM	**Kulim**	**6.88**	**109**		**Pn**	**23 46 20.6**	**-3.2**
KULM	**Kulim**	**6.88**	**109**	P	**Pn**	**23 46 26.9**	**+3.1**
	117nm,0.8s						
GSI	**Gunungsitoli**	**7.13**	**151**	Pn	**Pn**	**23 46 28.5**	**+1.2**
SRDT	**SRDT**	**8.32**	**36**	P	**Pn**	**23 46 42.4**	**-1.2**
MNSI	**Mandailing Nat**	**8.67**	**141**	P	Pn	23 46 53.2	+4.8
	0.4nm66nm,1.1s						
NAYO	**Nakonayok**	**9.72**	**46**	P	**Pn**	**23 47 01.7**	**-1.2**
BKNI	**Bangkinang**	**9.98**	**136**	Pn	**Pn**	**23 47 05.8**	**-0.7**
PPI	**Padang Panjang**	**10.15**	**142**	P	**Pn**	**23 47 09.7**	**+0.9**
MYKOM	**Kota Tinggi**	**11.27**	**120**	Pn	**Pn**	**23 47 22.7**	**-1.5**
CM31	**Chiang Mai Arr**	**11.78**	**23**	Pn	**Pn**	**23 47 29.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**11.78**	**23**	Pn	**Pn**	**23 47 28.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**11.78**	**23**	Pn	**Pn**	**23 47 29.6**	**-1.5**
	0.8nm,0.3s,baz=205,slow=13,SNR=6.6						
	4.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.78**	**23**	*i* P	**Pn**	**23 47 31.7**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHTO	**Chiang Mai**	**12.10**	**22**	Pn	**Pn**	**23 47 31.9**	**-3.6**
CHTO	**Chiang Mai**	**12.10**	**22**	P	**Pn**	**23 47 36.3**	**+0.8**
CHTO	**Chiang Mai**	**12.10**	**22**	P	**Pn**	**23 47 31.9**	**-3.6**
PALK	**Pallekele**	**13.31**	**270**	Pn	**Pn**	**23 47 48.4**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=56,slow=15,SNR=3.7						
	comp=Z,3.5nm,0.5s						
NONG	**Nongkai**	**13.62**	**39**	P	**Pn**	**23 47 57.8**	**+1.5**
	comp=Z,24nm,1.1s						
CRAI	**Chiangrai**	**13.95**	**25**	Pn	**Pn**	**23 47 58.8**	**-1.9**
RAGD	**RAYAGADA**	**15.54**	**319**	*e*P	**P**	**23 48 26.9**	**+0.3**
RAGD				IAmb	IAmb	23 48 36.8	
	comp=Z,54nm,0.8s						
MDSI	**Maura Dua**	**15.64**	**140**	P	**P**	**23 48 26.1**	**-1.5**
	comp=Z,35nm,1.0s						
SALM	**Salem**	**16.21**	**286**	*e*P	**P**	**23 48 37.4**	**+3.4**
SLVN	**Son La**	**16.61**	**34**	Pn	**Pn**	**23 48 33.7**	**-2.4**
KOD	**Kodaikanal**	**16.66**	**280**	*e*P	**P**	**23 48 40.2**	**+0.8**
KOD				IAmb	IAmb	23 48 55.7	
	comp=Z,68nm,0.9s						
TPI	**Tanjungpandan**	**16.97**	**127**	P	**Pn**	**23 48 38.4**	**-2.1**
IMP	**Imphal**	**17.14**	**359**	*e*P	**Pn**	**23 48 42.9**	**+0.2**
IMP				IAmb	IAmb	23 48 53.6	
	comp=Z,78nm,1.1s						
KSM	**Kuching**	**17.23**	**110**		**Pn**	**23 48 43.4**	**-0.5**
TNCH	**TengChong**	**17.84**	**13**	⇓P	**P**	**23 48 52.5**	**+0.3**
TNCH				pP	pwP	23 48 57.0	-0.8
TNCH				sP	sP	23 49 00.5	+3.5
TNCH				PP	**PnPn**	**23 49 08.0**	**+5.5**
TNCH				S	**Sn**	**23 52 09.5**	**-1.0**
TNCH				sS	S	23 52 14.8	-2.5
TNCH				SS	**SnSn**	**23 52 34.0**	**+9.5**
TNCH				pmax	pmax		
	comp=Z,97nm,1.4s						
TNCH				LR	LR		
	comp=Z,2μm,14.0s						
TNCH				LR	LR		
	comp=Z,2μm,11.0s						
TNCH				LR	LR		
	comp=Z,3μm,21.0s						
BLSP	**Bilaspur**	**18.51**	**323**	*e*P	**Pn**	**23 49 00.8**	**+1.2**
SBUM	**Sibu**	**18.73**	**105**	P	**P**	**23 49 00.4**	**-1.5**
STKI	**Sintang**	**18.85**	**113**	P	**Pn**	**23 49 04.3**	**+0.6**
QIZ	**Qiongzhong**	**19.04**	**52**	P	**P**	**23 49 05.0**	**-0.3**
QIZ				S	**Sn**	**23 52 29.0**	**-10**
QIZ				pmax	pmax		
	comp=Z,24nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,280nm,4.3s						
QIZ				LR	LR		
	comp=Z,7μm,18.9s						
QIZ				LR	LR		
	comp=Z,3μm,15.9s						
QIZ				LR	LR		
	comp=Z,1μm,13.1s						
KMI	**Kunming**	**19.28**	**24**	P	**Pn**	**23 49 10.0**	**+0.9**
KMI				sP	pwP	23 49 15.0	+1.3
KMI				S	**Sn**	**23 52 42.8**	**-2.5**
KMI				pmax	pmax		
	comp=Z,23nm,1.2s						
KMI				LR	LR		
	comp=Z,2μm,16.8s						
KMI				LR	LR		
	comp=Z,2μm,18.6s						
KMI				LR	LR		
	comp=Z,3μm,16.2s						
LEM	**Lembang**	**19.65**	**136**	P	**P**	**23 49 08.0**	**-4.2**
	comp=Z,3.2nm,0.3s,baz=336,slow=17,SNR=3.7						
	comp=Z,11nm,0.3s						
GTK	**Tadong**	**20.31**	**346**	*e*P	**P**	**23 49 19.7**	**+0.5**
GTK				IAmb	IAmb	23 49 27.9	
	comp=Z,63nm,1.1s						
AKL	**Akola**	**21.07**	**310**	*e*P	**P**	**23 49 28.4**	**+1.1**
AKL				IAmb	IAmb	23 49 34.5	
	comp=Z,56nm,0.9s						
ALBI	**Allahabad**	**21.18**	**328**	*e*P	**P**	**23 49 30.0**	**+1.4**
ALBI				IAmb	IAmb	23 49 35.5	
	comp=Z,87nm,1.0s						
XMIS	**Christmas Isla**	**21.31**	**147**	P	**P**	**23 49 32.6**	**+2.6**
XMIS				IAmb	IAmb	23 49 37.2	
	comp=Z,64nm,0.9s						
KAD	**Karad**	**21.71**	**298**	*e*P	**P**	**23 49 36.9**	**+2.5**
KAD				IAmb	IAmb	23 49 45.0	
	comp=Z,58nm,0.9s						
LSA	**Lhasa**	**22.17**	**353**	P	**P**	**23 49 38.8**	**-0.8**
LSA	**Lhasa**	**22.17**	**353**	P	**P**	**23 49 38.8**	**-0.8**
LSA				pmax	pmax		
	comp=Z,38nm,0.8s						
NRDN	**NARMADA NAGAR**	**22.19**	**315**	*e*P	**P**	**23 49 42.7**	**+3.3**
KAAM	**Kaadhehdhoo**	**22.21**	**252**	P	**P**	**23 49 41.1**	**+1.4**
NGJI	**Ngawi**	**22.80**	**130**	P	**P**	**23 49 51.7**	**+5.8**
MYLDM	**Lahad Datu**	**24.34**	**94**	P	**P**	**23 50 01.4**	**+0.3**
MYLDM				IAmb	IAmb	23 50 14.3	
	comp=Z,78nm,1.3s						
KMMI	**Kalianget**	**24.56**	**126**	P	P	23 50 13.1	+10
CD2	**Chengdu**	**24.89**	**20**	*e*P	**P**	**23 50 06.0**	**0.0**
CD2				S	**S**	**23 54 33.0**	**+4.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=Z,3μm,12.7s						
CD2				LR	LR		
	comp=Z,2μm,13.7s						
LGTI	**Lohaghat**	**25.36**	**331**	*e*P	**P**	**23 50 13.1**	**+2.9**
PTH	**Pithoragarh**	**25.46**	**331**	*e*P	**P**	**23 50 11.4**	**0.0**
PTH				IAmb	IAmb	23 50 18.3	
	comp=Z,105nm,0.9s						
SRBI	**Singaraja**	**26.16**	**126**	P	P	23 50 26.0	+8.4
AYAN	**Aya Nagar**	**26.26**	**324**	*e*P	**P**	**23 50 18.5**	**+0.2**
H08S3	**Diego Garcia H**	**26.35**	**235**	T	T	00 16 53.7	
	baz=55,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**26.35**	**235**	T	T	00 17 15.6	
	baz=55,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**26.36**	**235**	T	T	00 16 56.3	
	baz=55,slow=75,SNR=12						
KUDL	**Kundal**	**26.38**	**323**	*e*P	**P**	**23 50 18.9**	**-0.5**
KUDL				IAmb	IAmb	23 50 28.8	
	comp=Z,53nm,1.1s						
JOSI	**Joshimath**	**26.61**	**331**	*e*P	**P**	**23 50 19.9**	**-1.9**
KLP	**Kalpa**	**28.05**	**330**	*e*P	**P**	**23 50 37.0**	**+2.1**

GOMU GeErMu 28.48 1 P **P** **23 50 41.8 +3.1**
GOMU pP pwP 23 50 44.8 +0.6
GOMU sP sP 23 50 49.0 +5.4
GOMU S **S** **23 55 26.0 -0.3**
GOMU pmax pmax
comp=Z,7.0nm,0.5s
GOMU LR LR
comp=Z,1μm,12.0s
GOMU LR LR
comp=Z,1μm,11.8s
GOMU LR LR
comp=Z,2μm,11.9s
BKSI Bulukumba 28.94 116 P P 23 50 49.7 +7.2
XAN Xi'an 29.65 25 P **P** **23 50 47.0 -1.7**
XAN pP pwP 23 50 54.5 +2.2
XAN S **S** **23 55 41.8 -2.3**
XAN pmax pmax
comp=Z,14nm,1.3s
XAN pmax pmax
comp=Z,220nm,6.4s
XAN LR LR
comp=Z,4μm,14.1s
XAN LR LR
comp=Z,6μm,13.7s
XAN LR LR
comp=Z,7μm,16.0s
WHN Wuhan 29.67 37 P **P** **23 50 50.0 +1.2**
WHN S **S** **23 55 46.0 +1.7**
WHN LR LR
comp=Z,5μm,10.6s
WHN LR LR
comp=Z,6μm,15.2s
WHN LR LR
comp=Z,6μm,12.4s
LZH Lanzhou 29.72 16 *e*P **P** **23 50 49.8 +0.3**
LZH pP pwP 23 50 55.5 +2.5
LZH sP sP 23 50 59.8 +5.4
LZH pmax pmax
comp=Z,9.0nm,1.0s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,2μm,13.1s
LZH LR LR
comp=Z,2μm,18.2s
LYN LuoYang 31.70 30 P **P** **23 51 07.5 +0.7**
LYN S **S** **23 56 20.5 +4.3**
LYN sS sS 23 56 23.8 +1.6
LYN SS **SnSn** **23 58 12.8 +10**
LYN pmax pmax
comp=Z,18nm,0.7s
LYN LR LR
comp=Z,3μm,14.8s
LYN LR LR
comp=Z,4μm,15.5s
LYN LR LR
comp=Z,4μm,17.2s
GTA Gaotai 32.09 8 *e*P **P** **23 51 10.8 +0.5**
GTA pP sP 23 51 15.0 -0.2
GTA sP pwP 23 51 18.3 +4.5
GTA S **S** **23 56 26.5 +4.1**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,880nm,18.7s
GTA LR LR
comp=Z,1μm,21.5s
GTA LR LR
comp=Z,1μm,23.5s
NIL Nilore 32.32 326 P **P** **23 51 11.0 -1.3**
NIL IAmb IAmb 23 51 17.1
comp=Z,30nm,0.8s
NIL Nilore 32.32 326 P **P** **23 51 11.0 -1.3**
NIL pmax pmax
comp=Z,30nm,0.8s
SOEI Soe 34.62 119 P **P** **23 51 32.6 0.0**
SOEI IAmb IAmb 23 51 43.8
comp=Z,20nm,0.8s
HNS HongShan 35.07 29 ⇑P **P** **23 51 36.5 +0.5**
HNS S **S** **23 57 05.5 -2.7**
HNS pmax pmax
comp=Z,15nm,0.9s
HNS LR LR
comp=Z,1μm,16.4s
HNS LR LR
comp=Z,2μm,16.6s
HNS LR LR
comp=Z,2μm,17.5s
KBL Kabul 35.39 323 P **P** **23 51 39.0 -0.2**
KBL Kabul 35.39 323 P **P** **23 51 39.0 -0.2**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KSH Kashi 35.72 336 P **P** **23 51 41.8 -0.1**
KSH pP pP 23 51 44.3 -1.0
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,560nm,18.6s
KSH LR LR
comp=Z,1μm,17.9s
KSH LR LR
comp=Z,1μm,22.3s
BTO Baotou 35.81 21 *e*P **P** **23 51 43.5 +1.0**
BTO pP **pwP** **23 51 48.0 +1.9**
BTO sP **sP** **23 51 50.8 +3.3**
BTO S **S** **23 57 22.0 +2.2**
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,390nm,5.2s
BTO LR LR
comp=Z,840nm,12.4s
BTO LR LR
comp=Z,920nm,12.2s
BTO LR LR
comp=Z,2μm,14.7s
WUS Wushi 36.00 341 P **P** **23 51 43.0 -1.2**
WUS IAmb IAmb 23 51 48.9
comp=Z,29nm,0.7s
WMQ Urumqi 36.52 352 *e*P **P** **23 51 49.8 +1.2**
WMQ pP sP 23 51 53.3 -0.2
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ LR LR
comp=Z,880nm,14.9s
WMQ LR LR
comp=Z,2μm,24.7s
WMQ LR LR
comp=Z,670nm,24.7s
KDJ Kajisay 37.52 339 P **P** **23 51 57.2 0.0**
KDJ Kajisay 37.52 339 P **P** **23 51 57.2 0.0**
KDJ pmax pmax
comp=Z,16nm,0.8s
SHLS Shalkode 37.70 342 *e*P **P** **23 51 56.9 -1.7**
SHLS Shalkode 37.70 342 *e*P **P** **23 51 57.0 -1.7**
BJT Baijiatuau 37.84 28 P **P** **23 51 59.0 -0.7**
BJT Baijiatuau 37.84 28 P **P** **23 51 59.0 -0.7**
BJT pmax pmax
comp=Z,19nm,1.1s
BJI Beijing 37.86 28 P **P** **23 51 59.0 -0.9**
BJI pP **sP** **23 52 03.3 -1.6**
BJI sP **pwP** **23 52 06.0 +2.5**
BJI S **S** **23 57 49.3 -1.6**
BJI pmax pmax
comp=Z,3.0nm,0.9s
BJI LR LR
comp=Z,500nm,19.6s
BJI LR LR
comp=Z,650nm,18.6s
BJI LR LR
comp=Z,620nm,26.9s
GAR Garm 37.91 329 P **P** **23 52 00.4 -0.1**
GAR IAmb IAmb 23 52 05.6
comp=Z,66nm,1.3s
ZHN Zhinishke 38.02 341 *e*P **P** **23 52 00.8 -0.6**
ZHN Zhinishke 38.02 341 *e*P **P** **23 52 00.8 -0.6**
CHGR Chuyangaron 38.25 328 P **P** **23 52 02.6 -0.7**
CHGR Chuyangaron 38.25 328 P **P** **23 52 02.6 -0.7**
BOOM Boomskoye usch 38.28 338 P **P** **23 52 03.6 0.0**
BOOM Boomskoye usch 38.28 338 P **P** **23 52 03.6 0.0**
BOOM pmax pmax
comp=Z,8.0nm,0.9s
SIMJ Simiganj 38.34 328 P **P** **23 52 03.5 -0.6**
TNSS Tian-Shan 38.40 340 *e*P **P** **23 52 03.8 -1.1**
TNSS Tian-Shan 38.40 340 *e*P **P** **23 52 03.9 -1.1**

BTK Batken 38.47 331 P **P** **23 52 05.8 +0.6**
BTK Batken 38.47 331 P **P** **23 52 05.8 +0.6**
BTK pmax pmax
comp=Z,13nm,0.7s
MDOK Medeo 38.48 340 *e*P **P** **23 52 04.5 -0.7**
MDOK Medeo 38.48 340 *e*P **P** **23 52 04.6 -0.7**
ARSB Arslanbob 38.49 334 P **P** **23 52 04.5 -0.9**
ARSB IAmb IAmb 23 52 11.1
comp=Z,46nm,1.2s
ARSB Arslanbob 38.49 334 P **P** **23 52 04.5 -0.9**
ARSB pmax pmax
comp=Z,46nm,1.2s
DZET Dzherino 38.54 328 P **P** **23 52 05.2 -0.6**
AAA Alma-Ata 38.56 340 *e*P **P** **23 52 05.1 -0.7**
AAA pmax pmax
comp=Z,20nm,0.6s
AAA Alma-Ata 38.56 340 *e*P **P** **23 52 05.2 -0.7**
comp=Z,20nm,0.6s
AAK Ala-Archa 38.96 337 P **P** **23 52 08.5 -0.8**
AAK Ala-Archa 38.96 337 *d i*P **P** **23 52 09.7 +0.4**
AAK pmax pmax
comp=Z,19nm,1.1s
FRU1 Bishkek 39.05 337 P **P** **23 52 10.0 0.0**
FRU1 Bishkek 39.05 337 P **P** **23 52 10.0 0.0**
FRU1 pmax pmax
comp=Z,15nm,1.1s
TDK Taldyqorghan 39.69 342 *e*P **P** **23 52 14.5 -0.7**
TDK Taldyqorghan 39.69 342 *e*P **P** **23 52 14.6 -0.7**
DL2 Dalian 39.81 34 P **P** **23 52 16.5 +0.3**
DL2 *e*S **S** **23 58 20.0 -0.3**
DL2 pmax pmax
comp=Z,24nm,1.3s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,1μm,12.9s
FITZ Fitzroy Crossi 40.24 130 P **P** **23 52 20.4 +0.3**
MK31 Makanchi Array 40.36 347 P **P** **23 52 20.2 -0.5**
MK31 Makanchi Array 40.36 347 *c i*P **P** **23 52 19.5 -1.2**
MKAR Makanchi Array 40.36 347 P **P** **23 52 20.0 -0.8**
MKAR Makanchi Array 40.36 347 P **P** **23 52 19.1 -1.6**
comp=Z,9.0nm,0.8s,baz=163,slow=7.7,SNR=20
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 40.36 347 P **P** **23 52 20.0 -0.8**
MAKZ Makanchi 40.44 347 P **P** **23 52 21.2 -0.2**
MAKZ Makanchi 40.44 347 P **P** **23 52 21.2 -0.2**
MAKZ pmax pmax
comp=Z,26nm,1.2s
IUG Iuzhnay 40.47 332 *e*P **P** **23 52 21.0 -0.8**
IUG pmax pmax
comp=Z,21nm,1.0s
IUG Iuzhnay 40.47 332 *e*P **P** **23 52 21.1 -0.8**
comp=Z,21nm,1.0s
ZSN Zaisan 40.50 350 *e*P **P** **23 52 21.1 -0.8**
ZSN pmax pmax
comp=Z,18nm,1.1s
ZSN Zaisan 40.50 350 *e*P **P** **23 52 21.2 -0.7**
comp=Z,18nm,1.1s
KK31 Karatay Array 41.01 333 P **P** **23 52 25.8 -0.3**
KK31 Karatay Array 41.01 333 P **P** **23 52 25.8 -0.3**
KK31 pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 41.01 333 P **P** **23 52 25.9 -0.2**
KKAR Karatay Array 41.01 333 P **P** **23 52 25.2 -0.9**
KKAR IAmb IAmb 23 52 31.3
comp=Z,7.8nm,1.1s
KKAR Karatay Array 41.01 333 P **P** **23 52 25.3 -0.9**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
BTLS Baital 41.18 338 *e*P **P** **23 52 27.0 -0.5**
BTLS Baital 41.18 338 *e*P **P** **23 52 27.0 -0.5**
BRLS Boroldoy 41.25 333 *e*P **P** **23 52 26.3 -1.8**
BRLS Boroldoy 41.25 333 *e*P **P** **23 52 26.4 -1.8**
SONM Songino Array 41.44 12 P **P** **23 52 28.2 -1.6**
SONM Songino Array 41.44 12 P **P** **23 52 28.6 -1.1**
comp=Z,3.4nm,0.9s,baz=202,slow=6.7,SNR=5.0
comp=Z,3.4nm,0.9s
SONM Songino Array 41.44 12 P **P** **23 52 28.2 -1.6**
SONM pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 41.61 13 P **P** **23 52 29.8 -1.5**
ULN Ulaanbaatar 41.61 13 ⇓*e*P **P** **23 52 32.6 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.0s
KSAR Wonju Array Be 42.66 41 P **P** **23 52 38.0 -1.7**
KSAR Wonju Array Be 42.66 41 P **P** **23 52 38.0 -1.7**
KSRS Korea Array 42.69 41 P **P** **23 52 38.6 -1.3**
comp=Z,3.1nm,0.9s,baz=234,slow=8.4,SNR=6.9
comp=Z,3.1nm,0.9s
KURBB Kurchatov Arra 44.82 346 P **P** **23 52 55.4 -1.4**
comp=Z,13nm,0.8s,baz=164,slow=7.0,SNR=18
comp=Z,13nm,0.8s
KURK Kurchatov 44.88 346 P **P** **23 52 57.1 -0.3**
KURK IAmb IAmb 23 53 02.1
comp=Z,44nm,0.9s
KURK Kurchatov 44.88 346 P **P** **23 52 57.1 -0.3**
KURK pmax pmax
comp=Z,44nm,1.0s
CN2 Changchun 45.28 32 *e*P **P** **23 53 03.0 +2.4**
CN2 *es*P pwP 23 53 09.8 +5.5
CN2 *e*S **S** **23 59 43.0 +2.3**
CN2 *es*S sS 23 59 50.5 +3.6
CN2 LR LR
comp=Z,880nm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,18.0s
BRZS Berezniki 45.90 341 *e*P **P** **23 53 04.6 -0.9**
BRZS Berezniki 45.90 341 *e*P **P** **23 53 04.7 -0.9**
NWAO Narrogin (SRO) 45.90 153 P **P** **23 53 07.1 +1.4**
NWAO IAmb IAmb 23 53 16.9
comp=Z,27nm,1.1s
NWAO Narrogin (SRO) 45.90 153 P **P** **23 53 07.1 +1.4**
NWAO pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 46.79 23 P **P** **23 53 11.4 -1.1**
HIA Hailar 46.79 23 ⇓*e*P **P** **23 53 12.6 +0.1**
HIA pmax pmax
comp=Z,10.0nm,1.0s
ZAA0 Zalesovo Array 46.83 352 P **P** **23 53 12.4 -0.3**
ZAA0 IAmb IAmb 23 53 17.4
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 46.83 352 P **P** **23 53 12.7 0.0**
ZALV Zalesovo Beam 46.83 352 P **P** **23 53 11.6 -1.1**
comp=Z,8.2nm,0.7s,baz=171,slow=7.9,SNR=16
comp=Z,8.2nm,0.7s
BNX BinXian 47.62 31 ⇑P P 23 53 11.3 -7.7
BNX pmax pmax
comp=Z,8.0nm,1.0s
AIS Amsterdam Isla 47.73 198 P **P** **23 53 22.9 +3.0**
MDJ Mudanjiang 48.05 34 P **P** **23 53 21.7 -0.7**
MDJ IAmb IAmb 23 53 32.9
comp=Z,54nm,1.8s
MDJ Mudanjiang 48.05 34 P **P** **23 53 22.5 +0.1**
MDJ pmax pmax
comp=Z,10.0nm,1.4s
WRA Warramunga Arr 48.11 125 P **P** **23 53 24.7 +1.5**
WRA Warramunga Arr 48.11 125 P **P** **23 53 19.4 -3.8**
comp=Z,1.4nm,0.8s,baz=302,slow=7.9,SNR=6.7
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 48.11 125 P **P** **23 53 24.7 +1.5**
WRA pmax pmax
comp=Z,1.0nm,1.3s
WB2 Warramunga Arr 48.12 125 P **P** **23 53 24.9 +1.6**
JSG Sagara 48.59 50 P **P** **23 53 25.6 -1.1**
USRK Ussuriysk Ar. 49.15 36 P **P** **23 53 30.6 -0.3**
USRK Ussuriysk Ar. 49.15 36 P **P** **23 53 30.6 -0.3**
RAYN Ar Rayn 49.19 294 P **P** **23 53 32.8 +1.2**
RAYN IAmb IAmb 23 53 38.8
comp=Z,13nm,0.8s
RAYN Ar Rayn 49.19 294 P **P** **23 53 32.8 +1.2**
RAYN pmax pmax
comp=Z,13nm,0.8s
BVAR Borovoye Array 49.25 341 P **P** **23 53 28.6 -2.9**
comp=Z,7.6nm,0.8s,baz=139,slow=7.3,SNR=14
BVAR PcP **PcP** **23 54 53.0 -1.4**
comp=Z,4.0nm,0.7s,baz=143,slow=3.1,SNR=4.4
comp=Z,7.6nm,0.8s
BRVK Borovoye 49.31 341 P **P** **23 53 31.6 -0.3**
BRVK IAmb IAmb 23 53 36.6
comp=Z,14nm,0.9s
BRVK Borovoye 49.31 341 *d i*P **P** **23 53 34.1 +2.2**

BRVK pmax pmax
comp=Z,17nm,1.1s
MJAR Matsushiro Arr 49.36 48 P **P** **23 53 31.8 -0.9**
comp=Z,2.9nm,0.9s,baz=237,slow=7.8,SNR=5.7
comp=Z,2.9nm,0.9s
ASAR Alice Springs 49.75 130 P **P** **23 53 36.3 +0.5**
ASAR Alice Springs 49.75 130 P **P** **23 53 32.2 -3.5**
comp=Z,1.3nm,0.8s,baz=302,slow=8.0,SNR=6.0
ASAR PcP **PcP** **23 54 54.8 -2.0**
comp=Z,1.9nm,0.8s,baz=311,slow=4.3,SNR=1.5
comp=Z,1.3nm,0.8s
ASAR Alice Springs 49.75 130 P **P** **23 53 36.3 +0.5**
AS31 Alice Springs 49.75 130 P **P** **23 53 37.7 +1.9**
FORT Forrest 50.13 141 P **P** **23 53 39.8 +1.3**
GUMO Guam 50.16 79 LR LR 00 13 29.9
comp=Z,348nm,21.6s,baz=270,slow=34
ABKAR Akbulak array 50.47 331 P **P** **23 53 39.3 -1.5**
HEH HeiHe 50.76 27 *e*P **P** **23 53 46.5 +3.5**
HEH LR LR
comp=Z,450nm,15.8s
HEH LR LR
comp=Z,830nm,16.8s
HEH LR LR
comp=Z,500nm,24.7s
KLR Kul'dur 52.13 30 ⇑*e*P **P** **23 53 51.5 -1.8**
KLR pmax pmax
comp=Z,8.0nm,2.0s
AKTO Aktyubinsk 52.19 332 P **P** **23 53 52.0 -1.7**
comp=Z,3.7nm,0.9s,baz=111,slow=4.7,SNR=6.2
AKTO PcP **PcP** **23 55 04.1 -1.2**
comp=Z,5.0nm,0.8s,baz=150,slow=4.6,SNR=4.2
comp=Z,3.7nm,0.9s
ZEA Zeya 53.22 24 *e*P **P** **23 54 01.6 +0.4**
ZEA MLR MLR
comp=N,1μm,21.0s
ZEA MLR MLR
comp=Z,900nm,20.0s
GNI Garni 54.62 314 P **P** **23 54 12.9 +0.9**
comp=Z,19nm,1.3s
SVE Sverdlovsk 55.66 338 *e*P **P** **23 54 18.3 -0.6**
SVE pmax pmax
comp=Z,67nm,0.9s
ARTI Arti 56.18 337 P **P** **23 54 21.0 -1.7**
ARTI IAmb IAmb 23 54 27.7
comp=Z,23nm,0.9s
ARTI Arti 56.18 337 *c i*P **P** **23 54 21.8 -0.9**
ARTI 23 56 26.1
ARTI S **S** **00 02 13.8 +2.1**
ARTI SS **SS** **00 06 00.8 +2.6**
ARTI pmax pmax
comp=Z,14nm,1.0s
KIBK Kibwezi 56.81 262 P **P** **23 54 29.2 +1.2**
YSS Yuzhno-Sakhali 57.01 38 *e*P P 23 54 33.4 +4.6
YSS *e*S S 00 02 35.0 +12
YSS *e* 00 08 22.9
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS MLR MLR
comp=N,600nm,18.0s
YSS MLR MLR
comp=E,300nm,16.0s
KBZ Khabaz 57.29 318 P **P** **23 54 29.7 -1.1**
comp=E,3.3nm,0.9s,baz=152,slow=6.9,SNR=4.6
comp=E,3.3nm,0.9s
KBZ Khabaz 57.29 318 ⇓*i*P **P** **23 54 29.7 -1.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 57.38 264 P **P** **23 54 34.0 +1.7**
KMBO Kilima Mbogo 57.38 264 P **P** **23 54 31.9 -0.3**
comp=Z,2.4nm,0.8s,baz=56,slow=11,SNR=5.4
comp=Z,2.4nm,0.8s
KMBO Kilima Mbogo 57.38 264 P **P** **23 54 34.0 +1.7**
KMBO pmax pmax
comp=Z,49nm,1.8s
KIV Kislovodsk 57.52 318 P **P** **23 54 32.6 0.0**
KIV Kislovodsk 57.52 318 *e*P **P** **23 54 30.5 -2.0**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 57.52 318 P **P** **23 54 33.0 +0.5**
comp=Z,14nm,0.9s
SOC Sochi 59.38 317 *e*P **P** **23 54 41.6 -3.8**
SOC *e* 23 56 52.4
SOC *e*S **S** **00 02 49.7 -4.3**
SOC *e*SS **SS** **00 06 46.5 -2.4**
SOC MLR MLR
comp=Z,210nm,16.0s
STKA Stephens Creek 59.92 134 P **P** **23 54 47.5 -1.8**
comp=Z,1.6nm,0.6s,baz=306,slow=12,SNR=3.0
comp=Z,1.6nm,0.6s
YAK Yakutsk 60.27 18 *de*P **P** **23 54 52.9 +1.8**
YAK pmax pmax
comp=Z,24nm,0.7s
VRH Novokhopyorsk 61.15 325 *e*P **P** **23 54 54.3 -3.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 61.26 335 ⇓*e*P **P** **23 54 58.0 0.0**
ANN Anapa 61.33 317 *e*P **P** **23 54 55.6 -3.1**
ANN *e**PP **pP** **23 54 58.6 -3.7**
ANN *e* 23 57 10.1
ANN *e*S **S** **00 03 16.4 -2.6**
ANN *e*SS **SS** **00 07 21.5 +1.9**
ANN pmax pmax
comp=Z,22nm,0.9s
NRIK Noril'sk 61.82 357 P **P** **23 55 01.6 -0.1**
NRIK Noril'sk 61.82 357 P **P** **23 54 59.1 -2.5**
comp=Z,3.5nm,0.7s,baz=135,slow=4.4,SNR=11
comp=Z,3.5nm,0.7s
NRIK Noril'sk 61.82 357 *d i*P **P** **23 55 02.5 +0.9**
NRIK pmax pmax
comp=Z,11nm,0.7s
VORD Divnogorie 62.44 324 *e*P **P** **23 55 03.4 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
MGBR Mount Gambier 62.51 140 P **P** **23 55 07.4 +0.7**
BR131 Keskin Array S 62.60 311 P **P** **23 55 05.3 -2.3**
BR131 Keskin Array S 62.60 311 P **P** **23 55 05.3 -2.3**
BR131 pmax pmax
comp=Z,9.0nm,0.7s
BRTR Keskin Array B 62.60 311 P **P** **23 55 06.0 -1.6**
BRTR Keskin Array B 62.60 311 P **P** **23 55 05.0 -2.7**
comp=Z,1.3nm,0.6s,baz=134,slow=7.2,SNR=6.4
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 62.60 311 P **P** **23 55 06.0 -1.6**
VSR Storozhevoye 62.61 325 *e*P **P** **23 55 03.8 -3.4**
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORR Voronezh 62.77 325 *e*P P 23 55 02.2 -6.1
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 63.31 326 *e*P **P** **23 55 08.2 -3.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 65.31 329 *e*P **P** **23 55 22.6 -2.3**
MOS *e* 23 57 45.6
MOS pmax pmax
comp=Z,38nm,0.7s
H04N2 CROZET ISLANDS 65.48 211 T T 01 05 54.9
baz=48,slow=75,SNR=17
H04N1 CROZET ISLANDS 65.49 211 T T 01 06 04.6
baz=48,slow=75,SNR=16
H04N3 CROZET ISLANDS 65.50 211 T T 01 05 55.6
baz=48,slow=75,SNR=6.0
OBN Obninsk 65.61 328 ⇓*e*P **P** **23 55 27.0 +0.2**
OBN *e* 23 55 34.2
OBN pmax pmax
comp=Z,35nm,1.3s
OBN Obninsk 65.61 328 P **P** **23 55 27.3 +0.5**
comp=Z,13nm,1.6s
KLMR Klimovskoe 66.70 334 *e*P **P** **23 55 31.4 -2.4**
KLMR pmax pmax
comp=Z,44nm,1.5s
TIXI Tiksi 67.51 11 P **P** **23 55 37.0 -1.6**
TIXI Tiksi 67.51 11 ⇓*i*P **P** **23 55 37.1 -1.6**
TIXI pmax pmax
comp=Z,24nm,0.7s
AK09 Malin Array Si 68.31 322 P **P** **23 55 43.9 -0.2**
AKASG Malin Array Be 68.36 322 P **P** **23 55 41.3 -3.1**
comp=Z,0.5nm,0.5s,baz=92,slow=4.9,SNR=7.1
comp=Z,0.5nm,0.5s
AK12 Malin Array Si 68.39 322 P **P** **23 55 44.3 -0.4**
VRI Vrincioaia 68.89 316 P **P** **23 55 47.0 -0.9**
comp=Z,12nm,0.8s
PLOR5 Plostina Array 68.93 316 P **P** **23 55 47.2 -1.0**
comp=Z,24nm,0.8s

LUBAR **Lubar, Ukraine** 69.08 321 P **P** 23 55 47.0 -2.0
LSZ **Lusaka** 69.16 251 P **P** 23 55 52.5 +2.3
LSZ **Lusaka** 69.16 251 P **P** 23 55 52.5 +2.3
LSZ pmax pmax
comp=Z,71nm,1.9s
SEY **Seymchan** 69.19 25‖ *e*P **P** 23 55 52.2 +2.8
SEY pmax pmax
comp=Z,10.0nm,1.5s
MLR **Muntele Rosu** 69.36 316 P **P** 23 55 50.5 -0.5
MLR **Muntele Rosu** 69.36 316 P **P** 23 55 50.5 -0.5
MLR pmax pmax
comp=Z,29nm,1.2s
MLR **Muntele Rosu** 69.36 316 P **P** 23 55 50.5 -0.5
comp=Z,14nm,1.3s
MNK **Minsk** 70.15 325 *i* PP PP 23 58 26.7 -4.0
MNK **Minsk** 70.15 325 *i* P **P** 23 55 52.7 -2.8
MNK *i* 23 58 26.7
MNK pmax pmax
comp=N,6.0nm,1.0s
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=E,12nm,1.0s
MNK **Minsk** 70.15 325 *i* PPP PPP 00 00 08.8
MNK **Minsk** 70.15 325 *i* SS SS 00 09 34.5 -1.7
MNK **Minsk** 70.15 325 *i* SSS SSS 00 12 54.1
MNK **Minsk** 70.15 325 *i* LQ LQ 00 21 59.7
MNK **Minsk** 70.15 325 *i* LR LR 00 26 27.0
MNK **Minsk** 70.15 325 *i* LRM MLR 00 28 18.8
comp=Z,313nm,19.1s
MNK **Minsk** 70.15 325 *i* LRM MLR 00 28 26.0
comp=N,340nm,22.0s
MNK **Minsk** 70.15 325 *i* LRM MLR 00 28 29.8
comp=E,724nm,30.2s
MNK **Minsk** 70.15 325 *i* P **P** 23 55 52.7 -2.8
comp=E,12nm,1.0s
MNK **Minsk** 70.15 325 *i* P **P** 23 55 52.7 -2.8
comp=N,6.0nm,1.0s
MNK **Minsk** 70.15 325 *i* P **P** 23 55 52.7 -2.8
comp=Z,23nm,0.9s,baz=105
BURAR **Bucovina Array** 70.25 318 P **P** 23 55 56.6 +0.2
BUR08 **Bucovina Ar. S** 70.26 318 P **P** 23 55 57.0 +0.5
NACGM **Naroch** 70.87 326 *e*P **P** 23 55 57.8 -2.1
comp=Z,2µm,1.3s,baz=104
JOF **Joensuu** 71.10 335 *e*P **P** 23 56 00.6 -0.5
IIGN **Ignalina** 71.29 326 *e*P **P** 23 56 01.6 -0.8
IZAR **Zarasai** 71.38 326 *e*P **P** 23 56 02.3 -0.6
VSU **Vasula** 71.82 329 *e*P **P** 23 56 03.2 -2.3
KOLS **Kolonicke sedl** 72.41 319 *e*P P 23 56 19.7 +10
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS **Kolonicke sedl** 72.41 319 *e*P P 23 56 19.7 +10
ARBE **Arbavere** 72.46 330 *e*P **P** 23 56 09.9 +0.6
PABE **Paberze** 72.58 326 P **P** 23 56 10.9 +0.8
PABE **Paberze** 72.58 326 *e*P **P** 23 56 10.2 +0.1
SUW **Suwalki** 72.72 324 P **P** 23 56 10.7 -0.3
SUW **Suwalki** 72.72 324 P **P** 23 56 10.7 -0.3
SUW pmax pmax
comp=Z,100nm,1.4s
SUW **Suwalki** 72.72 324 *e*P **P** 23 56 10.2 -0.8
FINES **FINESS Array B** 72.95 332 P **P** 23 56 09.9 -2.3
comp=Z,6.8nm,0.8s,baz=90,slow=5.6,SNR=10
comp=Z,6.8nm,0.8s
MTSE **Matsula** 73.37 329 *e*P **P** 23 56 15.5 +0.8
MEF **Metsahovi** 73.43 331 *e*P **P** 23 56 16.4 +1.3
KEF **Keuruu** 73.70 333 *e*P **P** 23 56 16.6 0.0
PBUR **Paburge** 73.81 326 *e*P **P** 23 56 17.6 +0.2
PSZ **Piszkesteto** 73.84 318 *e*P **P** 23 56 18.0 +0.1
OJC **Ojcow** 74.18 320 P **P** 23 56 21.1 +1.4
OJC IAmb IAmb 23 58 33.3
comp=Z,14nm,0.9s
OJC **Ojcow** 74.18 320 P **P** 23 56 21.1 +1.4
OJC pmax pmax
comp=Z,14nm,0.9s
MORH **Mrgy, Hungar** 74.51 316 P **P** 23 56 22.8 +1.1
comp=Z,3.0nm,0.9s
VAF **Ylistaro** 74.90 333 *e*P **P** 23 56 23.8 +0.2
MPLH **Magyarpolny** 75.35 317 P **P** 23 56 25.6 -1.0
BOSA **Boshof** 75.42 238 P **P** 23 56 24.3 -3.2
comp=Z,3.3nm,1.1s,baz=88,slow=5.6,SNR=6.0
comp=Z,3.3nm,1.1s
STEB **Steborice** 75.45 320 *e*P **P** 23 56 24.9 -2.1
ARCES **ARCESS Array B** 75.53 340 P **P** 23 56 25.4 -1.8
comp=Z,2.7nm,0.8s,baz=101,slow=4.5,SNR=7.2
comp=Z,2.7nm,0.8s
MORC **Moravsky Berou** 75.58 319 *e*P **P** 23 56 30.4 +2.5
KRLC **Kraliky** 76.09 320 *e*P **P** 23 56 29.6 -1.2
KRLC **Kraliky** 76.09 320 *e*P **P** 23 56 29.6 -1.2
KRLC *e* 23 56 30.0
VRAC **Vranov** 76.16 319 *e*P **P** 23 56 31.4 +0.3
BILL **Bilibino** 76.35 22‖ *e*P **P** 23 56 32.8 +0.9
BILL pmax pmax
comp=Z,4.0nm,0.9s
DPC **Dobruska-Polom** 76.41 320 *e*P **P** 23 56 31.9 -0.7
DPC **Dobruska-Polom** 76.41 320 *e*P **P** 23 56 31.9 -0.7
CHVC **Chvalec** 76.60 320 *e*P **P** 23 56 34.3 +0.6
CHVC **Chvalec** 76.60 320 *e*P **P** 23 56 34.3 +0.6
ARSA **Arzberg** 76.73 317 *e*P **P** 23 56 35.5 +1.0
comp=Z,4.0nm,1.0s
SOKA **Soboth** 77.04 316 *e*P **P** 23 56 34.8 -1.5
comp=Z,4.9nm,1.4s
MOA **Molln** 77.61 317 *e*P **P** 23 56 40.5 +1.1
comp=Z,4.4nm,1.1s
BRG **Berggiesshubel** 77.96 320 *e*P **P** 23 56 44.0 +2.8
BRG Amp 23 56 54.8
comp=Z,2.7nm,0.9s
GEC2 **GERESS Array S** 78.03 318 P **P** 23 56 40.4 -1.4
GERES **GERESS Array B** 78.03 318 P **P** 23 56 40.6 -1.2
GERES **GERESS Array B** 78.03 318 P **P** 23 56 40.4 -1.4
comp=Z,1.7nm,0.7s,baz=86,slow=5.5,SNR=6.6
comp=Z,1.7nm,0.7s
GERES **GERESS Array B** 78.03 318 P **P** 23 56 40.6 -1.2
BIOA **Bad Ischl, Aus** 78.03 317 *e*P **P** 23 56 43.0 +1.2
comp=Z,1.7nm,0.6s
PRED **Cave del Predi** 78.04 316 P **P** 23 56 40.8 -1.1
KHC **Kasperske Hory** 78.12 319 *e*P **P** 23 56 38.3 -3.9
KHC **Kasperske Hory** 78.12 319 *e*P **P** 23 56 38.3 -3.9
KBA **Koelnbreinsper** 78.21 316 P **P** 23 56 41.0 -1.9
comp=Z,3.8nm,0.9s
CLL **Collm** 78.57 321 *e*P **P** 23 56 45.0 +0.4
CLL MLR MLR
comp=Z,300nm,18.3s
HFS **Hagfors** 78.69 330 P **P** 23 56 43.4 -1.7
comp=Z,2.9nm,0.5s,baz=114,slow=6.5,SNR=16
comp=Z,2.9nm,0.5s
ABTA **Abfaltersbach** 78.77 316 P **P** 23 56 43.9 -2.0
comp=Z,1.6nm,1.0s
CIMO **Cimolais** 78.82 316 P **P** 23 56 45.3 -0.8
CTI **Castel Tesino** 79.36 315 P **P** 23 56 48.8 -0.4
CTI **Castel Tesino** 79.36 315 P **P** 23 56 48.8 -0.4
CTI pmax pmax
comp=Z,58nm,1.7s
WTTA **Wattenberg** 79.38 317 *e*P **P** 23 56 47.2 -2.2
comp=Z,1.6nm,0.6s
WATA **Walderalm** 79.42 317 *e*P **P** 23 56 47.5 -2.1
comp=Z,2.9nm,1.1s
SQTA **Sankt Quirin** 79.67 317 *e*P **P** 23 56 48.6 -2.3
comp=Z,2.4nm,0.7s
MOTA **Moosalm** 79.74 317 *e*P **P** 23 56 48.7 -2.6
comp=Z,3.1nm,1.1s
NC602 **NORSAR Array S** 79.80 330 P **P** 23 56 50.9 -0.2
NC602 IAmb IAmb 23 59 01.7
comp=Z,25nm,1.1s
NB2 **NORSAR Subarra** 79.97 331 P P 23 56 45.6 -6.5
comp=Z,5.2nm,0.9s,baz=88,slow=5.9
NOA **NORSAR Array B** 79.97 331 P **P** 23 56 50.2 -1.9
comp=Z,2.5nm,0.8s,baz=91,slow=5.3,SNR=5.8
comp=Z,2.5nm,0.8s
RETA **Reutte** 79.97 317 *e*P **P** 23 56 50.7 -1.7
comp=Z,5.0nm,0.7s
FETA **Feichten** 80.00 316 *e*P **P** 23 56 51.2 -1.5
comp=Z,3.2nm,0.9s
SPB2 **Spitsbergen Ar** 80.11 348 P **P** 23 56 53.7 +1.2
SPITS **Spitsbergen Ar** 80.11 348 P **P** 23 56 50.8 -1.7
comp=Z,6.5nm,0.7s,baz=113,slow=6.4,SNR=4.1
comp=Z,6.5nm,0.7s
SPITS **Spitsbergen Ar** 80.11 348 P **P** 23 56 54.5 +2.0
SPITS pmax pmax
comp=Z,71nm,1.2s
FUORN **Ofenpass-Fuorn** 80.32 316 P **P** 23 56 54.9 +0.3
DAVA **Damuels** 80.57 317 *e*P **P** 23 56 54.2 -1.6
comp=Z,2.3nm,0.7s
TUE **Stuetta** 80.96 316 P **P** 23 56 59.1 +1.2
KEST **Kesra** 81.39 305 P **P** 23 56 59.5 -0.9
comp=Z,2.9nm,0.9s,baz=132,slow=15,SNR=2.4
comp=Z,2.9nm,0.9s
BFO **Black Forest** 81.59 318 *i* P **P** 23 57 01.7 +0.7
SENIN **Lac Senin/Sane** 82.38 316 P **P** 23 57 06.2 +0.7
BNI **Bardonecchia** 82.88 314 P **P** 23 57 08.4 +0.4
BNI **Bardonecchia** 82.88 314 P **P** 23 57 08.4 +0.4
BNI pmax pmax
comp=Z,10.0nm,1.2s
WLF **Walferdange** 82.96 319 P **P** 23 57 07.4 -0.7
WLF IAmb IAmb 00 00 01.9
comp=Z,11nm,1.1s
WLF **Walferdange** 82.96 319 P **P** 23 57 07.4 -0.7
WLF pmax pmax
comp=Z,11nm,1.1s
GAMB **Gambell** 85.09 26 P **P** 23 57 18.5 -0.2
baz=277
TAM **Tamanrasset** 85.82 292 P **P** 23 57 24.8 +1.4
TAM **Tamanrasset** 85.82 292 P **P** 23 57 24.8 +1.4
TAM pmax pmax
comp=Z,4.0nm,1.0s
TNA **Tin City** 86.43 24 P **P** 23 57 25.1 -0.2
baz=280
C16K **Lisburne Hills** 86.89 22 P **P** 23 57 27.1 -0.4
baz=282
F14K **Arctic Creek** 87.10 24 P **P** 23 57 27.9 -0.7
baz=282
C17K **DeLong Mountai** 87.62 21 P **P** 23 57 30.4 -0.7
baz=284
ANM **Nome** 87.69 25 P **P** 23 57 31.0 -0.4
ANM **Nome** 87.69 25 P **P** 23 57 31.0 -0.4
ANM pmax pmax
comp=Z,25nm,1.5s
ANM **Nome** 87.69 25 P **P** 23 57 30.4 -1.0
baz=283
F15K **North Star Dit** 87.73 24 P **P** 23 57 30.8 -0.8
F15K IAmb IAmb 23 59 35.3
comp=Z,9.3nm,1.1s
F15K **North Star Dit** 87.73 24 P **P** 23 57 31.2 -0.5
baz=283
D17K **Noatak River** 87.85 22 P **P** 23 57 31.9 -0.2
baz=285,SNR=6.2
B18K **Kokolik River** 87.86 20 P **P** 23 57 32.6 +0.4
baz=286
A19K **Wainwright** 87.88 19 P **P** 23 57 32.7 +0.5
baz=286
EKA **Eskdalemuir Ar** 87.94 325 P **P** 23 57 31.4 -1.5
comp=Z,2.0nm,0.7s,baz=76,slow=6.4,SNR=4.2
comp=Z,2.0nm,0.7s
G15K **Niukluk** 88.15 25 P **P** 23 57 33.4 -0.2
baz=284
NIKH **Nikolski High** 88.21 37 P **P** 23 57 33.4 -0.7
baz=280
C18K **Utukok River** 88.28 21 P **P** 23 57 33.5 -0.8
C18K **Utukok River** 88.28 21 P **P** 23 57 34.1 -0.2
baz=286
E17K **Hotham Inlet** 88.48 22 P **P** 23 57 35.0 -0.2
baz=286
K13K **Kusilvak Mount** 88.60 28 P **P** 23 57 37.2 +1.4
K13K **Kusilvak Mount** 88.60 28 P **P** 23 57 36.1 +0.2
baz=283
G16K **Koyuk River** 88.73 24 P **P** 23 57 35.8 -0.6
G16K **Koyuk River** 88.73 24 P **P** 23 57 36.2 -0.2
baz=285
E18K **Tukpahlearik C** 88.84 22 P **P** 23 57 35.9 -1.0
E18K **Tukpahlearik C** 88.84 22 P **P** 23 57 36.7 -0.2
baz=287
F17K **Baldwin Pennin** 88.88 23 P **P** 23 57 37.1 +0.1
F17K **Baldwin Pennin** 88.88 23 P **P** 23 57 36.9 -0.2
baz=286
J14K **Nanvaranak Lak** 88.90 27 P **P** 23 57 37.6 +0.4
J14K **Nanvaranak Lak** 88.90 27 P **P** 23 57 36.8 -0.4
baz=284
A21K **Barrow** 88.92 18 P **P** 23 57 36.5 -0.6
baz=290
H16K **Elim** 88.98 25 P **P** 23 57 37.1 -0.5
baz=285
B20K **Meade River** 89.21 19 P **P** 23 57 39.4 +0.9
B20K **Meade River** 89.21 19 P **P** 23 57 38.1 -0.4
baz=290
G17K **Kiwalik Mounta** 89.39 24 P **P** 23 57 39.2 -0.3
baz=287
D19K **Kuna River** 89.40 21 P **P** 23 57 39.2 -0.3
D19K **Kuna River** 89.40 21 P **P** 23 57 39.0 -0.5
baz=289
UNV **Unalaska Valle** 89.42 36 P **P** 23 57 39.2 -0.6
baz=282
F18K **Selawik** 89.44 23 P **P** 23 57 38.7 -0.9
baz=288
A22K **Sinclair Lake** 89.53 18 P **P** 23 57 39.5 -0.5
baz=292
M13K **Dall Lake** 89.58 29 P **P** 23 57 39.4 -1.1
baz=284
I17K **Unalakleet** 89.84 25 P **P** 23 57 40.6 -1.0
baz=287
D20K **Etivluk River** 89.84 20 P **P** 23 57 41.4 -0.2
baz=290
H17K **Granite Mounta** 89.85 24 P **P** 23 57 42.6 +1.0
H17K **Granite Mounta** 89.85 24 P **P** 23 57 41.0 -0.7
baz=288
K15K **Wolf Creek Mou** 89.93 27 P **P** 23 57 41.5 -0.5
K15K **Wolf Creek Mou** 89.93 27 P **P** 23 57 41.8 -0.3
baz=286
G18K **Tagagawik** 90.05 23 P **P** 23 57 42.3 -0.3
baz=289
J16K **Anvik River** 90.06 26 P **P** 23 57 42.3 -0.3
J16K **Anvik River** 90.06 26 P **P** 23 57 42.3 -0.3
baz=287
E19K **Redstone River** 90.06 21 P **P** 23 57 42.0 -0.6
E19K **Redstone River** 90.06 21 P **P** 23 57 42.4 -0.2
baz=290
F19K **Shaleruckik Mo** 90.08 22 P **P** 23 57 41.8 -0.8
F19K **Shaleruckik Mo** 90.08 22 P **P** 23 57 42.7 +0.1
baz=290
L15K **Ungalak Mounta** 90.12 28 P **P** 23 57 42.9 -0.1
baz=286
E20K **Nigu River** 90.15 21 P **P** 23 57 42.8 -0.3
baz=291
M14K **Bethel** 90.16 28 P **P** 23 57 42.8 -0.3
baz=286
B21K **Ikpikpuk River** 90.17 19 P **P** 23 57 41.7 -1.3
B21K **Ikpikpuk River** 90.17 19 P **P** 23 57 43.1 +0.1
baz=292
B22K **Teshekpuk Lake** 90.27 18 P **P** 23 57 43.3 -0.2
B22K **Teshekpuk Lake** 90.27 18 P **P** 23 57 43.9 +0.4
baz=294
C21K **Knifeblade Rid** 90.30 20 P **P** 23 57 43.7 +0.1
baz=292
H18K **Honhosa River** 90.41 24 P **P** 23 57 44.0 -0.2
baz=289
N14K **Kuskokwak Cree** 90.52 29 P **P** 23 57 45.0 +0.2
baz=286
G19K **Purcell Mounta** 90.57 23 P **P** 23 57 45.7 +0.7
TORD **Torodi Ar. Bea** 90.65 283 P **P** 23 57 45.8 -0.6
comp=Z,190nm,0.4s,baz=75,slow=4.4,SNR=1.7
J17K **VABM Dome** 90.68 26 P **P** 23 57 44.9 -0.7
J17K **VABM Dome** 90.68 26 P **P** 23 57 45.5 0.0
baz=288
F20K **Avaraart Lake** 90.76 22 P **P** 23 57 44.8 -1.0
F20K **Avaraart Lake** 90.76 22 P **P** 23 57 45.5 -0.2
baz=291
M15K **Kasigluk River** 90.77 28 P **P** 23 57 45.6 -0.4
baz=287
E21K **Killik River** 90.84 20 P **P** 23 57 45.0 -1.3
E21K **Killik River** 90.84 20 P **P** 23 57 46.2 -0.1
baz=293
O14K **Tigyukauivet M** 90.91 30 P **P** 23 57 46.0 -0.6
baz=286
FALS **False Pass** 90.95 34 P **P** 23 57 46.4 -0.5
baz=284
L16K **Owhat River** 91.03 27 P **P** 23 57 46.8 -0.4
baz=288
H19K **Roundabout Mou** 91.03 23 P **P** 23 57 46.8 -0.3
H19K **Roundabout Mou** 91.03 23 P **P** 23 57 47.5 +0.3
baz=291,SNR=13
D22K **Ayikyak River** 91.10 19 P **P** 23 57 46.9 -0.6
D22K **Ayikyak River** 91.10 19 P **P** 23 57 47.4 0.0
baz=294
GCSA **Galena City Sc** 91.14 24 P **P** 23 57 47.6 0.0
baz=290
N15K **Kwethluk River** 91.21 29 P **P** 23 57 47.9 -0.2
N15K **Kwethluk River** 91.21 29 P **P** 23 57 47.9 -0.2
baz=287
K17K **Iditarod** 91.23 26 P **P** 23 57 47.6 -0.5
K17K **Iditarod** 91.23 26 P **P** 23 57 48.3 +0.2
baz=289
ELIB **Princess Elisa** 91.31 197 *d*P **P** 23 57 50.3 +1.9
comp=Z,3.6nm,1.2s
C23K **Itkillik River** 91.35 18 P **P** 23 57 48.6 +0.1
C23K **Itkillik River** 91.35 18 P **P** 23 57 48.9 +0.4
baz=296
ESDC **Sonseca Array** 91.39 310 P **P** 23 57 50.3 +0.9
ESDC **Sonseca Array** 91.39 310 P **P** 23 57 48.3 -1.1
comp=Z,1.5nm,0.8s,baz=56,slow=4.3,SNR=8.5
comp=Z,1.5nm,0.8s
L17K **Donlin** 91.42 27 P **P** 23 57 49.2 +0.2
baz=289
M16K **Timber Creek** 91.48 28 P **P** 23 57 49.4 +0.1
baz=288
F21K **Alatna River** 91.50 21 P **P** 23 57 48.7 -0.6
F21K **Alatna River** 91.50 21 P **P** 23 57 49.0 -0.3
baz=293
O15K **Ungalikthiuk R** 91.64 30 P **P** 23 57 49.6 -0.5
baz=288
H20K **Anotleneega Mo** 91.66 23 P **P** 23 57 49.2 -0.9
baz=292,SNR=17
J18K **Innoko River** 91.66 25 P **P** 23 57 49.1 -1.0
J18K **Innoko River** 91.66 25 P **P** 23 57 50.0 -0.1
baz=290
E22K **Anaktuvuk Pass** 91.70 20 P **P** 23 57 50.4 +0.1
E22K **Anaktuvuk Pass** 91.70 20 P **P** 23 57 50.0 -0.3
baz=295
D23K **Nanushuk River** 91.72 19 P **P** 23 57 49.5 -0.8
D23K **Nanushuk River** 91.72 19 P **P** 23 57 50.3 0.0
baz=296
N16K **Nishlik Lake** 91.74 28 P **P** 23 57 50.7 +0.1
baz=288
G21K **Allakaket** 91.77 22 P **P** 23 57 50.0 -0.6
G21K **Allakaket** 91.77 22 P **P** 23 57 50.8 +0.2
baz=293
F22K **John River** 91.84 21 P **P** 23 57 51.4 +0.5
baz=295
J19K **Poorman** 91.92 24 P **P** 23 57 50.5 -0.8
J19K **Poorman** 91.92 24 P **P** 23 57 51.5 +0.3
baz=291,SNR=5.6
C24K **Franklin Bluff** 92.00 18 P **P** 23 57 51.4 -0.1
baz=298
M17K **Holitna River** 92.05 27 P **P** 23 57 52.0 0.0
baz=290
I20K **Naaghedeneel** 92.08 24 P **P** 23 57 51.4 -0.6
I20K **Naaghedeneel** 92.08 24 P **P** 23 57 52.1 +0.1
baz=292
L18K **Granite Mounta** 92.10 26 P **P** 23 57 52.1 -0.1
baz=290
TOLK **Toolik Lake Re** 92.22 19 P **P** 23 57 52.0 -0.7
TOLK **Toolik Lake Re** 92.22 19 P **P** 23 57 52.1 -0.6
baz=297
D24K **Happy Valley** 92.23 19 P **P** 23 57 52.8 +0.2
D24K **Happy Valley** 92.23 19 P **P** 23 57 52.4 -0.2
baz=298
O16K **Kokwok River B** 92.35 29 P **P** 23 57 52.9 -0.5
baz=289
H21K **Melozitna Rive** 92.38 22 P **P** 23 57 52.9 -0.5
H21K **Melozitna Rive** 92.38 22 P **P** 23 57 53.1 -0.3
baz=294,SNR=7.7
SDPT **Sand Point** 92.44 33 P **P** 23 57 53.1 -0.7
baz=287
J20K **Nowinta River** 92.45 24 P **P** 23 57 53.2 -0.5
J20K **Nowinta River** 92.45 24 P **P** 23 57 53.8 +0.1
baz=293,SNR=5.7
N17K **Nushagak Hills** 92.47 28 P **P** 23 57 53.3 -0.6
N17K **Nushagak Hills** 92.47 28 P **P** 23 57 54.0 +0.1
baz=290
E23K **Chandalar** 92.48 20 P **P** 23 57 54.6 +0.7
E23K **Chandalar** 92.48 20 P **P** 23 57 53.7 -0.2
baz=297,SNR=6.1
P16K **Nushagak River** 92.58 30 P **P** 23 57 54.3 -0.1
baz=289
COLD **Coldfoot** 92.66 21 P **P** 23 57 54.7 +0.1
baz=296
VNDA **Vanda** 92.66 168 P **P** 23 57 57.0 +2.6
VNDA IAmb IAmb 00 00 25.1
comp=Z,16nm,1.7s
VNDA **Vanda** 92.66 168 P **P** 23 57 57.0 +2.6
VNDA pmax pmax
comp=Z,15nm,1.7s
S14K **Fog Glacier** 92.66 32 P **P** 23 57 53.6 -1.4
baz=288
M18K **Stony River** 92.75 27 P **P** 23 57 54.2 -0.9
baz=291
O17K **Koliganek Bris** 92.77 29 P **P** 23 57 54.3 -0.9
baz=290
K20K **Telida** 92.80 25 P **P** 23 57 54.9 -0.5
K20K **Telida** 92.80 25 P **P** 23 57 54.9 -0.5
baz=293,SNR=19
H22K **Ishtalitna Cre** 92.82 22 P **P** 23 57 54.8 -0.6
baz=295
E24K **Your Creek** 92.85 20 P **P** 23 57 54.8 -0.8
E24K **Your Creek** 92.85 20 P **P** 23 57 55.2 -0.4
baz=298
D25K **Kavik River** 92.91 18 P **P** 23 57 54.5 -1.3
D25K **Kavik River** 92.91 18 P **P** 23 57 55.0 -0.8
baz=300
L19K **White Mountain** 92.92 26 P **P** 23 57 55.0 -1.0
L19K **White Mountain** 92.92 26 P **P** 23 57 55.3 -0.7
baz=292
G23K **Bananza Creek** 92.95 21 P **P** 23 57 55.1 -0.9
G23K **Bananza Creek** 92.95 21 P **P** 23 57 55.4 -0.7
baz=297
N18K **Kilae Creek** 93.01 28 P **P** 23 57 55.8 -0.6
baz=291
C26K **Camden Bay** 93.04 17 P **P** 23 57 56.1 -0.3
baz=302
CHNA **Chernabura Isl** 93.08 34 P **P** 23 57 56.4 -0.4
baz=288
L20K **Farewell, AK** 93.22 26 P **P** 23 57 57.5 +0.1
baz=293
M19K **Big River Lodg** 93.23 26 P **P** 23 57 59.2 +1.8
M19K **Big River Lodg** 93.23 26 P **P** 23 57 57.0 -0.4
baz=292
CHGN **Chignik** 93.26 32 P **P** 23 57 57.0 -0.5
baz=289
P17K **Kvichak River** 93.28 29 P **P** 23 57 57.5 -0.1
baz=290
CHUM **Lake Minchumin** 93.31 24 P **P** 23 57 57.4 -0.3
baz=294
F24K **Squaw Lake** 93.31 20 P **P** 23 57 56.8 -0.9
F24K IAmb IAmb 00 00 01.2
comp=Z,5.5nm,1.0s
F24K **Squaw Lake** 93.31 20 P **P** 23 57 57.5 -0.2
baz=299
Q16K **King Salmon** 93.36 30 P **P** 23 57 57.6 -0.4
baz=290
H23K **Yukon River** 93.53 22 P **P** 23 57 59.0 +0.3
H23K **Yukon River** 93.53 22 P **P** 23 57 58.8 +0.1
baz=297
C27K **Jago River** 93.55 17 P **P** 23 57 59.0 +0.3
C27K **Jago River** 93.55 17 P **P** 23 57 58.2 -0.5
baz=303
CAST **Castle Rocks** 93.59 24 P **P** 23 57 58.6 -0.4
CAST **Castle Rocks** 93.59 24 P **P** 23 57 58.4 -0.6
baz=295,SNR=17
N19K **Bonanza Creek** 93.60 27 P **P** 23 57 58.4 -0.8
N19K **Bonanza Creek** 93.60 27 P **P** 23 57 58.4 -0.8
baz=292,SNR=15
O18K **Koktuh Hills** 93.63 28 P **P** 23 57 58.7 -0.6
O18K IAmb IAmb 00 00 03.3
comp=Z,16nm,1.0s
O18K **Koktuh Hills** 93.63 28 P **P** 23 57 58.5 -0.8
baz=292
BPAW **Bear Paw Mtn.** 93.75 24 P **P** 23 57 58.5 -1.2
BPAW **Bear Paw Mtn.** 93.75 24 P **P** 23 57 59.6 -0.2
baz=296
PPLA **Purkeypile** 93.77 25 P **P** 23 57 59.5 -0.6
PPLA **Purkeypile** 93.77 25 P **P** 23 57 59.6 -0.4
baz=294
E25K **Arctic Village** 93.78 19 P **P** 23 57 59.6 -0.2
E25K **Arctic Village** 93.78 19 P **P** 23 57 59.2 -0.6
baz=301
M20K **Styx River** 93.78 26 P **P** 23 57 59.1 -0.9
M20K **Styx River** 93.78 26 P **P** 23 57 59.5 -0.6
baz=294
P18K **Big Mountain,** 93.79 29 P **P** 23 57 59.5 -0.6
baz=292
G24K **Hadweenzic Riv** 93.85 21 P **P** 23 57 59.3 -0.9
G24K **Hadweenzic Riv** 93.85 21 P **P** 23 58 00.3 +0.2
baz=299
I23K **Minto, Yukon-K** 93.91 22 P **P** 23 58 00.3 -0.1
baz=297
O19K **Port Alsworth** 93.91 28 P **P** 23 58 00.9 +0.4
KTH **Kantishna Hill** 94.01 24 P **P** 23 58 01.6 +0.5
KTH IAmb IAmb 00 00 08.1
comp=Z,14nm,1.5s
F25K **Christian Rive** 94.02 19 P **P** 23 58 00.5 -0.4
F25K **Christian Rive** 94.02 19 P **P** 23 58 00.6 -0.4

baz=301
H24K Noodor Dome 94.13 21 P P 23 58 00.5 -1.0
baz=299
Q18K Katmai Hardscr 94.17 29 P P 23 58 01.6 -0.4
baz=292
NEA2 Nenana 94.27 23 P P 23 58 01.7 -0.5
baz=297
G25K Bearman Lake 94.29 20 P P 23 58 01.8 -0.4
baz=300
TRF Thorofare Moun 94.31 24 P P 23 58 02.2 -0.4
baz=296
SKT Skwentna 94.43 26 P P 23 58 00.6 -2.3
SKT Skwentna 94.43 26 P P 23 58 02.4 -0.5
baz=295
BMAR Burnt Mountain 94.46 19 P P 23 58 03.3 +0.3
F26K Sheenjek River 94.46 19 P P 23 58 02.3 -0.7
F26K IAmb IAmb 23 58 07.8
comp=Z,4.7nm,0.7s
F26K Sheenjek River 94.46 19 P P 23 58 02.6 -0.3
baz=302
STLK Strandline Lak 94.51 26 P P 23 58 02.6 -0.8
D27M Malcolm River 94.57 17 P P 23 58 03.4 -0.1
baz=305
POKR Poker Plat Res 94.64 22 P P 23 58 03.1 -0.7
baz=299
H25L Birch Creek 94.64 21 P P 23 58 03.4 -0.3
baz=300
MCK McKinley 94.72 23 P P 23 58 03.3 -1.0
baz=298
Q19K Cape Douglas, 94.72 29 P P 23 58 03.8 -0.6
baz=293
G26K Porcupine Rive 94.98 20 P P 23 58 05.4 +0.2
baz=302
E27K Coleen River 94.99 18 P P 23 58 04.7 -0.7
baz=305
SUA Susitna One 94.99 26 P P 23 58 03.7 -1.9
SUA Susitna One 94.99 26 P P 23 58 04.8 -0.8
baz=296,SNR=6.1
ILAR Eielson Array 95.01 22 P P 23 58 03.4 -2.2
comp=Z,0.6nm,0.7s,baz=279,slow=6.2,SNR=6.3
comp=Z,0.6nm,0.7s
PRP Porcupine Dome 95.13 21 P P 23 58 07.4 +1.2
PRP Porcupine Dome 95.13 21 P P 23 58 05.6 -0.7
baz=301
M22K Willow 95.14 25 P P 23 58 06.6 +0.5
M22K Willow 95.14 25 P P 23 58 05.4 -0.7
baz=296
D28M Stokes Point 95.16 17 P P 23 58 05.0 -1.0
baz=307
HDA Harding Lake 95.17 22 P P 23 58 05.6 -0.6
baz=299
E28M Babbage River 95.36 17 P P 23 58 07.9 +0.9
E28M Babbage River 95.36 17 P P 23 58 06.2 -0.9
baz=307
Q20K Shuyak Island 95.45 29 P P 23 58 07.5 -0.1
baz=294
OHAK Old Harbor 95.57 30 P P 23 58 07.3 -0.8
baz=293
RC01 Rabbit Creek A 95.60 26 P P 23 58 06.2 -2.1
RC01 Rabbit Creek A 95.60 26 P P 23 58 07.6 -0.7
baz=296
CNPM China Poot 95.61 28 P P 23 58 07.5 -0.9
PMR Palmer 95.63 25 P P 23 58 07.1 -1.3
PMR Palmer 95.63 25 P P 23 58 07.1 -1.3
PMR pmax pmax
comp=Z,9.0nm,1.1s
PMR Palmer 95.63 25 P P 23 58 07.7 -0.6
baz=297
GHO Glory Hole Cre 95.63 25 P P 23 58 09.5 +1.0
SLKM Skilak Lake 95.64 27 P P 23 58 07.5 -1.0
J25K Salcha River, 95.65 22 P P 23 58 07.7 -0.8
baz=301
BRLK Bradley Lake 95.67 27 P P 23 58 07.1 -1.6
KDAK Kodiak Island 95.69 30 P P 23 58 08.4 -0.3
baz=294
BRSE Bradley Lake S 95.74 27 P P 23 58 08.1 -0.8
baz=296
G27K Doyon Strip 95.76 19 P P 23 58 08.2 -0.7
baz=304
SML Sawmill 95.87 25 P P 23 58 09.7 +0.1
SML Sawmill 95.87 25 P P 23 58 08.9 -0.6
baz=298
E29M Blow River 95.97 17 P P 23 58 10.4 +0.5
E29M IAmb IAmb 00 00 13.0
comp=Z,6.1nm,1.2s
E29M Blow River 95.97 17 P P 23 58 09.8 0.0
baz=308
KNK Knik Glacier 96.00 25 P P 23 58 10.6 +0.5
KNK Knik Glacier 96.00 25 P P 23 58 09.7 -0.4
baz=298
I26K Coal Creek Min 96.09 21 P P 23 58 09.5 -0.8
baz=303
M23K Glacier View 96.13 25 P P 23 58 09.9 -0.8
baz=298
H27K Steamboat Moun 96.13 20 P P 23 58 10.4 -0.2
baz=304
SEW Seward 96.17 27 P P 23 58 09.9 -0.9
baz=297
SCM Sheep Creek Mo 96.27 25 P P 23 58 10.9 -0.5
SCM Sheep Creek Mo 96.27 25 P P 23 58 10.9 -0.5
SCM Sheep Creek Mo 96.27 25 P P 23 58 10.3 -1.1
baz=299
RIDG Independent Ri 96.30 23 P P 23 58 10.7 -0.7
baz=301
PWL Port Wells 96.31 26 P P 23 58 10.3 -1.2
PWL Port Wells 96.31 26 P P 23 58 11.0 -0.5
baz=298
J26L Joseph Creek 96.38 22 P P 23 58 11.2 -0.7
baz=302
I27K Kandik River 96.45 20 P P 23 58 11.8 -0.4
baz=304
PAX Paxson 96.46 23 P P 23 58 11.1 -1.2
baz=301
SCRK Sand Creek 96.50 22 P P 23 58 11.7 -0.7
baz=302
A36M Sachs Harbour 96.53 11 P P 23 58 11.1 -1.2
A36M Sachs Harbour 96.53 11 P P 23 58 11.7 -0.5
baz=321
M24K Tolsona, Glenn 96.61 24 P P 23 58 11.8 -1.1
baz=300
GLI Glacier Island 96.83 26 P P 23 58 13.4 -0.5
baz=299
G29M Pine Creek 96.85 18 P P 23 58 12.9 -1.0
baz=308
HARP HAARP 96.88 24 P P 23 58 13.0 -1.1
baz=301
KLU Klutina 97.03 25 P P 23 58 13.9 -1.0
baz=300
F30M Barrier River 97.08 17 P P 23 58 14.2 -0.7
baz=310
I28M Miner Creek 97.12 20 P Pdif 23 58 15.4 +0.1
I28M Miner Creek 97.12 20 P P 23 58 14.9 -0.3
baz=306
FID Port Fidalgo 97.16 26 P P 23 58 15.0 -0.4
H29M Whitestone 97.17 19 P P 23 58 15.2 -0.1
baz=308
INK Inuvik 97.27 16 P P 23 58 15.5 -0.1
baz=312
DIV Divide 97.27 25 P P 23 58 15.6 -0.3
DIV IAmb IAmb 00 00 41.3
comp=Z,5.0nm,1.0s
G30M tAoh Zraii Nji 97.36 18 P Pdif 23 58 16.7 +0.4
baz=310
N25K Chitina, Valde 97.51 24 P P 23 58 16.5 -0.6
N25K Chitina, Valde 97.51 24 P Pdif 23 58 17.1 0.0
baz=301
EYAK Cordova Ski Ar 97.57 26 P Pdif 23 58 17.4 +0.1
baz=300
EPYK Eagle Plains 97.60 18 P P 23 58 16.2 -1.1
EPYK Eagle Plains 97.60 18 P P 23 58 17.0 -0.3
EPYK Eagle Plains 97.60 18 P P 23 58 17.2 0.0
baz=309
RES Resolute Bay 97.68 2 P P 23 58 17.0 -0.4
RES Resolute Bay 97.68 2 P P 23 58 17.0 -0.4
RES pmax pmax
comp=Z,5.0nm,1.0s
M26K Nabesna, AK 97.73 23 P P 23 58 17.0 -1.0
M26K IAmb IAmb 00 00 25.7
comp=Z,3.9nm,1.0s
M26K Nabesna, AK 97.73 23 P P 23 58 17.0 -1.0
baz=303
F31M Tsiigehtchic 97.79 17 P P 23 58 17.6 -0.4
baz=312
L27K Beaver Creek, 97.81 22 P P 23 58 17.8 -0.5
baz=304
BMRM Bremner River 97.84 25 P P 23 58 17.8 -0.7
BMRM Bremner River 97.84 25 P P 23 58 17.8 -0.7
baz=301
G31M Satah River 97.98 17 P Pdif 23 58 20.1 +1.2
G31M Satah River 97.98 17 P P 23 58 18.2 -0.7
baz=311
M27K Edge Creek, AK 98.19 23 P P 23 58 19.9 -0.3
baz=304
J29N Klondike Camp 98.30 20 P P 23 58 20.4 -0.2
baz=307
I30M Mount Dempster 98.44 19 P Pdif 23 58 21.3 +0.1
I30M Mount Dempster 98.44 19 P P 23 58 20.4 -0.7
baz=309
H31M Peel River 98.70 18 P Pdif 23 58 22.4 +0.1
baz=311
C36M Paulatuk 98.84 13 P P 23 58 22.3 -0.4
baz=322
J30M Hart River 98.86 20 P P 23 58 22.1 -1.0
baz=309
K29M Barlow Dome 98.92 21 P P 23 58 23.1 -0.3
baz=308
YUK3 Moose Creek 99.07 23 P Pdif 23 58 23.1 -1.1
baz=305
L29M L29M 99.15 21 P Pdif 23 58 23.3 -1.0
baz=307
MESA MESA 99.37 25 P Pdif 23 58 24.8 -0.7
baz=304
M29M Somme Creek 99.44 22 P Pdif 23 58 25.1 -0.6
baz=307
M30M Minto, Yukon 99.97 21 P Pdif 23 58 27.4 -0.6
baz=309
YUK4 Talbot Arm 100.03 23 P Pdif 23 58 27.5 -1.0
baz=307
PINM Pinnacle 100.12 24 P Pdif 23 58 27.9 -0.8
baz=305
YUK6 Outpost Mounta 100.38 23 P Pdif 23 58 29.0 -1.0
baz=307
N30M Aishikik Lake 100.55 22 P Pdif 23 58 30.0 -0.7
baz=308
O29M Mount Kennedy 100.68 24 P Pdif 23 58 30.2 -1.1
baz=307
PNL Peninsula 100.72 25 P Pdif 23 58 29.8 -1.5
baz=306
HYT Haines Junctio 100.78 23 P Pdif 23 58 29.5 -2.2
baz=308
N31M Braeburn, Yuko 101.03 22 P Pdif 23 58 30.6 -2.1
baz=309
M31M Drury Creek, Y 101.07 21 P Pdif 23 58 32.0 -0.8
baz=311
O30N Mendenhall 101.36 23 P Pdif 23 58 33.1 -1.1
baz=309
P29M Windy Craggy 101.42 24 P Pdif 23 58 33.5 -1.0
baz=307
PDAR Pinedale Array 125.43 21 PKP PKPdf 00 03 42.5 -2.3
comp=Z,0.8nm,0.8s,baz=10,slow=1.7,SNR=7.3
GC02 Grant County # 134.39 13 PKPpre 00 03 52.5
TXAR Lajitas Array 139.49 24 PKhKP PKPpre 00 04 05.9
comp=Z,0.2nm,0.3s,baz=261,slow=3.2,SNR=2.1
PLCA Paso Flores 144.28 200 PKPdf PKPdf 00 04 19.7 +0.1
PLCA Paso Flores 144.28 200 PKP PKPab 00 04 16.5 -0.9
comp=Z,5.0nm,0.9s,baz=112,slow=3.6,SNR=9.6
PLCA Paso Flores 144.28 200 PKIKP PKPdf 00 04 19.7 +0.1
LL04 Puerto Octay 144.72 198 PKPbc 00 04 19.4 +0.4
LR05 Currie 145.21 199 PKPbc 00 04 19.5 -1.1
CPUP Villa Florida 147.08 232 PKPbc **PKPdf 00 04 24.4 -0.2**
comp=Z,1.9nm,0.7s,baz=215,slow=2.4,SNR=5.3
MAL2 Monte Alegre, 147.95 278 PKPab **PKPab 00 04 32.7 +0.5**
CELP Cerrillos 148.17 323 PKPab 00 04 33.4 +0.7
SDDR Presa de Saban 149.93 332 PKPdf **PKPdf 00 04 30.1 +0.5**
SDDR **PKPab 00 04 39.5 -0.4**
LMEL Las Melosas 150.13 207 PKPdf **PKPdf 00 04 31.6 +1.9**
MT01 Popeta 150.57 205 PKiKP 00 04 36.3 0.0
VA03 San Esteban 151.19 208 PKiKP 00 04 38.3 +0.6
PTLB Pontes e Lacer 152.69 251 PKPbc 00 04 39.2 -1.6
LPAZ La Paz 160.62 242 PKP **PKPdf 00 04 43.3 -1.5**
comp=Z,0.5nm,0.5s,baz=225,slow=3.0,SNR=2.1

*BJI **31** 23:46:34.5, 7.˙11N×94.˙01E, h10km, mB5.2/20, mb4.8/49, Ms5.1/45, Ms7 4.8/44*
*IDC **31** 23:46:37.0±0.5, 7.˙41N×94.˙02E, h0km, mb4.6/28, mbtmp4.6/31, MLA.5/3, MS4.7/16, Error ellipse: s-maj=16.9km s-min=12.3km az=52.0*
*MOS **31** 23:46:38.6±1.0, 7.˙72N×94.˙00E, h10km, mb5.3/68, MS4.7/6, Error ellipse: s-maj=9.0km s-min=4.2km az=115.4*
*NEIC **31** 23:46:41.5, 7.˙43N×94.˙00E, h26km, Moment Tensor Solution. Duration: ≥3 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.73; $M_{\theta\theta}$=4.51; $M_{\phi\phi}$7.24; $M_{r\theta}$-0.57; $M_{\theta\phi}$2.96; $M_{\phi r}$0.79; Fault plane solution: $M_0$6.70000×10^{16} NP1:ϕ_s57.61000°, δ76.57000°, λ-8.76000°. NP2:ϕ_s149.66000°, δ81.48000°, λ-166.42000°. Principal axes: T 7.9792, Plg3.0000°, Azm283.0000°; N -2.5629, Plg74.0000°, Azm181.0000°; P -5.4163, Plg16.0000°, Azm14.0000°;*
*NEIC **31** 23:46:41.5±1.8, 7.˙83N±0.˙06×94.˙24E±0.˙07, h10km±1km, mb5.2/256, Mww5.2/18 Error ellipse: s-maj=12.3km s-min=10.7km az=247.0*
*NEIC **31** 23:46:41.5, 7.˙83N×94.˙24E, h26km*
*DJA **31** 23:46:43.9±1.1, 8.˚N±2.˚×9.˚4E±.˚, h13km±8km, M5.1/47, mB5.5/16, mb5.0/47, MLv5.3/9, Mw5.2/56, Mw(mB)5.0/16, MwMwp5.2/2, Mwp5.4/2*
*GCMT **31** 23:46:44.6±0.2, 7.˙56N±0.˙01×94.˙33E±0.˙01, h16km, MW5.2/132, Moment Tensor Solution. s59, c70; s132, c241; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.13±.02; $M_{\theta\theta}$-0.57±.01; $M_{\phi\phi}$0.70±.01; $M_{r\theta}$-0.36±.05; $M_{\theta\phi}$0.43±.01; $M_{\phi r}$0.01±.04; Best double couple: $M_0$0.85800×10^{17} NP1:ϕ_s155.00000°, δ68.00000°, λ-166.00000°. NP2:ϕ_s59.00000°, δ77.00000°, λ-23.00000°. Principal axes: T 0.8450, Plg6.0000°, Azm108.0000°; N 0.0250, Plg64.0000°, Azm210.0000°; P -0.8710, Plg25.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NDI **31** 23:46:55.3±4.1, 8.˙46N×93.˙87E, h65km±71km, mb5.0, MW5.0, mb5.2(NEIC)*

ISC 31 23:46:41.9±0.2, 7.˙67N±0.˙04×94.˙17E±0.˙04, h20km, n848, σ1§36/819, mb5.1/248, MS4.8/39, 20C-20D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.43**	**153**	P	**Pn**	**23 47 18.9**	**-1.6**
BSI				S	**Sn**	**23 47 50.8**	**+1.1**
LHMI	**Lhok Sumawe**	**3.67**	**131**	Pn	**Pn**	**23 47 34.9**	**-2.7**
LHMI	**Lhok Sumawe**	**3.67**	**131**	P	**Pn**	**23 47 34.6**	**-2.9**
MLSI	**Meulaboh, Aceh**	**4.04**	**147**	P	**Pn**	**23 47 41.4**	**-1.3**
SRIT	**Nakonsritamara**	**5.45**	**80**		**Pn**	**23 48 01.0**	**-1.0**
PSI	**Prapat**	**6.76**	**135**	Pn	**Pn**	**23 48 19.5**	**-0.7**
6.8nm,0.3s,baz=329,slow=3.0,SNR=6.7							
PSI				LR	LR	23 51 10.0	
comp=Z,11μm,18.9s,baz=304,slow=40							
34nm,0.5s							
RPSI	**Rantau Prapat**	**6.84**	**136**	Pn	**Pn**	**23 48 20.0**	**-1.2**
KULM	**Kulim**	**6.86**	**110**	Pn	**Pn**	**23 48 17.8**	**-3.6**
GSI	**Gunungsitoli**	**7.17**	**152**	Pn	**Pn**	**23 48 26.7**	**+1.0**
GSI	**Gunungsitoli**	**7.17**	**152**	P	**Pn**	**23 48 28.0**	**+2.3**
0.8nm88nm,0.8s							
MNSI	**Mandailing Nat**	**8.70**	**141**	P	**Pn**	**23 48 45.0**	**-1.7**
2μm102nm,0.7s							
BKNI	**Bangkinang**	**10.00**	**137**	Pn	**Pn**	**23 49 01.4**	**-3.2**
BKNI	**Bangkinang**	**10.00**	**137**	S	**Pn**	**23 49 01.3**	**-3.3**
PPI	**Padang Panjang**	**10.18**	**142**	P	**Pn**	**23 49 05.3**	**-1.7**
87nm,0.9s							
SISI	**Saibi**	**10.19**	**151**	P	Pn	23 49 12.2	+5.0
70nm,1.5s							
MYKOM	**Kota Tinggi**	**11.27**	**121**	Pn	**Pn**	**23 49 19.0**	**-2.9**
CM31	**Chiang Mai Arr**	**11.69**	**23**	Pn	**Pn**	**23 49 24.7**	**-2.9**
CMAR	**Chiang Mai Arr**	**11.69**	**23**	Pn	**Pn**	**23 49 24.7**	**-2.9**
CMAR	**Chiang Mai Arr**	**11.69**	**23**	Pn	**Pn**	**23 49 30.1**	**+2.4**
1.9nm,0.3s,baz=217,slow=14,SNR=7.1							
CMAR				LR	LR	23 54 03.8	
comp=Z,4μm,19.1s,baz=200,slow=37							
5.3nm,0.4s							
CHTO	**Chiang Mai**	**12.01**	**22**	Pn	**Pn**	**23 49 30.0**	**-2.1**
CHTO	**Chiang Mai**	**12.01**	**22**	P	**Pn**	**23 49 30.0**	**-2.1**
PALK	**Pallekele**	**13.36**	**269**	Pn	**Pn**	**23 49 50.6**	**0.0**
PALK	**Pallekele**	**13.36**	**269**	Pn	**Pn**	**23 49 47.5**	**-3.1**
1.2nm,0.3s,baz=97,slow=14,SNR=1.6							
5.6nm,0.6s							
UBPT	**Khong Chiam**	**13.40**	**55**	Pn	**Pn**	**23 49 48.0**	**-3.1**
CRAI	**Chiangrai**	**13.86**	**25**	Pn	**Pn**	**23 49 55.1**	**-2.2**
KSI	**Kapahiang**	**14.04**	**143**	P	**Pn**	**23 50 01.0**	**+1.2**
175nm,0.8s							
MNAI	**Manna**	**14.82**	**143**	Pn	**Pn**	**23 50 11.4**	**+0.9**
BRDH	**Bariadhala**	**15.12**	**351**	LR	LR	23 57 18.7	
comp=Z,6μm,21.2s,baz=172,slow=42							
RAGD	**RAYAGADA**	**15.52**	**319**	*eP*	**Pn**	**23 50 19.9**	**+0.2**
RAGD				IAmb	IAmb	23 50 40.4	
comp=Z,94nm,1.1s							
MDSI	**Maura Dua**	**15.67**	**140**	P	**Pn**	**23 50 22.7**	**+1.1**
comp=Z,1μmcomp=Z,40nm,0.8s							
VJD	**Vijayawada**	**15.87**	**305**	*eP*	**Pn**	**23 50 25.5**	**+1.2**
LWLI	**Liwa**	**16.00**	**142**	P	**P**	**23 50 28.3**	**-1.2**
comp=Z,203nm,0.7s							
SALM	**Salem**	**16.23**	**285**	*eP*	**P**	**23 50 35.2**	**+3.3**
SALM				IAmb	IAmb	23 50 38.0	
comp=Z,68nm,1.0s							
SLVN	**Son La**	**16.52**	**34**		**Pn**	**23 50 31.0**	**-1.6**
KOD	**Kodaikanal**	**16.70**	**280**	*eP*	**P**	**23 50 39.8**	**+2.4**
KOD				IAmb	IAmb	23 50 46.9	
comp=Z,67nm,1.1s							
TPI	**Tanjungpandan**	**16.98**	**127**	P	**Pn**	**23 50 36.5**	**-1.8**
IMP	**Imphal**	**17.07**	**359**	*eP*	**P**	**23 50 40.4**	**-0.8**
IMP				IAmb	IAmb	23 50 52.3	
comp=Z,55nm,1.0s							
KSM	**Kuching**	**17.21**	**110**	Pn	**Pn**	**23 50 40.5**	**-0.8**
KSM				IAmb	IAmb	23 50 44.0	
comp=Z,186nm,1.4s							
KNTI	**KHUNTI**	**17.52**	**332**	*eP*	**P**	**23 50 46.9**	**+0.6**
TNCH	**TengChong**	**17.76**	**13**	⇓P	**P**	**23 50 51.0**	**+2.1**
TNCH				pP	sP	23 50 55.3	-1.0
TNCH				sP	pwP	23 50 57.8	+1.1
TNCH				S	**S**	**23 54 11.3**	**-1.3**
TNCH				sS	sS	23 54 17.0	-3.6
TNCH				SS	**SnSn**	**23 54 32.3**	**+13**
TNCH				pmax	pmax		
comp=Z,140nm,2.0s							
TNCH				pmax	pmax		
comp=Z,760nm,3.6s							
TNCH				LR	LR		
comp=Z,4μm,11.9s							
TNCH				LR	LR		
comp=Z,5μm,10.4s							
TNCH				LR	LR		
comp=Z,4μm,11.7s							
HYB	**Hyderabad**	**18.05**	**304**	*eP*	**Pn**	**23 50 52.0**	**+0.2**
HYB				*eS*	**Sn**	**23 54 13.9**	**+1.2**
CGJI	**Cibinong**	**18.26**	**141**	P	**Pn**	**23 50 53.4**	**-0.8**
comp=Z,47nm,1.1s							
CGJI				S	**P**	**23 50 51.7**	**-2.6**
comp=Z,47nm,1.1s							
BLSP	**Bilaspur**	**18.48**	**322**	*eP*	**Pn**	**23 50 57.7**	**+0.8**
BLSP				IAmb	IAmb	23 51 02.8	
comp=Z,73nm,0.8s							
SBUM	**Sibu**	**18.70**	**105**	P	**P**	**23 50 58.6**	**-0.6**
STKI	**Sintang**	**18.83**	**113**	P	**P**	**23 50 58.8**	**-1.9**
comp=Z,72nm,1.3s							
QIZ	**Qiongzhong**	**18.95**	**52**	P	**P**	**23 51 01.5**	**-0.5**
QIZ	**Qiongzhong**	**18.95**	**52**	P	**P**	**23 51 01.8**	**-0.2**
QIZ				S	**S**	**23 54 36.5**	**-0.1**
QIZ				pmax	pmax		
comp=Z,39nm,1.6s							
QIZ				pmax	pmax		
comp=Z,330nm,3.5s							
QIZ				LR	LR		
comp=Z,12μm,10.3s							
QIZ				LR	LR		
comp=Z,4μm,11.2s							
QIZ				LR	LR		
comp=Z,2μm,9.5s							
KMI	**Kunming**	**19.19**	**24**	P	**Pn**	**23 51 09.0**	**+3.3**
KMI				S	**Sn**	**23 54 38.3**	**-2.2**
KMI				pmax	pmax		
comp=Z,44nm,1.1s							
KMI				LR	LR		
comp=Z,2μm,13.6s							
KMI				LR	LR		
comp=Z,2μm,18.5s							
KMI				LR	LR		
comp=Z,3μm,15.6s							
LEM	**Lembang**	**19.68**	**137**	LR	LR	23 58 26.7	
comp=Z,4μm,18.6s,baz=300,slow=36							
MNGI	**Mangalore**	**19.74**	**287**	*eP*	**Pn**	**23 51 12.4**	**+0.2**
MNGI				IAmb	IAmb	23 51 31.8	
comp=Z,64nm,0.8s							
NGP	**Nagpur**	**19.83**	**314**	*eP*	**Pn**	**23 51 13.7**	**+0.6**
NGP				IAmb	IAmb	23 51 23.7	
comp=Z,77nm,0.8s							
COCO	**West Island**	**19.91**	**172**	P	**P**	**23 51 13.4**	**+1.1**
COCO				IAmb	IAmb	23 51 15.1	
comp=Z,79nm,0.8s							
COCO	**West Island**	**19.91**	**172**	P	**P**	**23 51 13.4**	**+1.1**
COCO				pmax	pmax		
comp=Z,79nm,0.8s							
GTK	**Tadong**	**20.25**	**346**	*eP*	Pn	23 51 17.3	-0.8
GTK				IAmb	IAmb	23 51 33.2	
comp=Z,137nm,1.3s							
AKL	**Akola**	**21.05**	**310**	*eP*	**P**	**23 51 26.8**	**+2.0**
AKL				IAmb	IAmb	23 51 30.9	
comp=Z,43nm,0.7s							
ALBI	**Allahabad**	**21.14**	**327**	*eP*	**P**	**23 51 26.8**	**+1.1**
ALBI				IAmb	IAmb	23 51 34.2	
comp=Z,87nm,0.7s							
XMIS	**Christmas Isla**	**21.35**	**147**	P	**P**	**23 51 30.2**	**+2.2**
XMIS				IAmb	IAmb	23 51 39.2	
comp=Z,87nm,0.8s							
KAD	**Karad**	**21.72**	**298**	*eP*	**P**	**23 51 33.6**	**+1.5**
KAD				IAmb	IAmb	23 51 37.8	
comp=Z,71nm,0.9s							
SMRI	**Semarang**	**21.84**	**132**	P	**P**	**23 51 33.6**	**+0.3**
SMRI				IAmb	IAmb	23 51 43.0	
comp=Z,77nm,0.8s							
SMRI	**Semarang**	**21.84**	**132**	P	**P**	**23 51 34.2**	**+0.9**
comp=Z,3μmcomp=Z,115nm,0.9s							
KKM	**Kota Kinabalu**	**21.94**	**93**	P	**P**	**23 51 34.2**	**-0.4**
KKM				IAmb	IAmb	23 51 36.8	
comp=Z,87nm,1.3s							
LSA	**Lhasa**	**22.10**	**353**	P	**P**	**23 51 35.5**	**-0.9**
LSA				IAmb	IAmb	23 51 48.0	
comp=Z,78nm,0.8s							
LSA	**Lhasa**	**22.10**	**353**	P	**P**	**23 51 35.6**	**-0.9**
LSA				pmax	pmax		
comp=Z,78nm,0.8s							
GYA	**Guiyang**	**22.14**	**31**	⇓P	**P**	**23 51 39.0**	**+2.4**
GYA				S	**S**	**23 55 36.3**	**-3.6**
GYA				pmax	pmax		
comp=Z,23nm,1.0s							
GYA				pmax	pmax		
comp=Z,560nm,7.8s							
GYA				LR	LR		
comp=Z,2μm,12.7s							
GYA				LR	LR		
comp=Z,4μm,13.2s							
GYA				LR	LR		
comp=Z,4μm,18.3s							
NRDN	**NARMADA NAGAR**	**22.17**	**314**	*eP*	**P**	**23 51 41.4**	**+4.6**
NRDN				IAmb	IAmb	23 51 47.1	
comp=Z,66nm,1.0s							
NGJI	**Ngawi**	**22.81**	**131**	P	**P**	**23 51 45.6**	**+1.9**
comp=Z,112nm,0.9s							
MYLDM	**Lahad Datu**	**24.30**	**94**	P	**P**	**23 51 58.5**	**+0.2**
BKB	**Balikpapan**	**24.34**	**110**	P	**P**	**23 51 57.9**	**-0.8**
KMMI	**Kalianget**	**24.57**	**126**	P	**P**	**23 52 01.4**	**+0.7**
comp=Z,2μmcomp=Z,138nm,1.4s							
CD2	**Chengdu**	**24.80**	**20**	P	**P**	**23 52 03.8**	**+1.1**
CD2				S	**S**	**23 56 30.3**	**+5.9**
CD2				pmax	pmax		
comp=Z,20nm,0.4s							
CD2				LR	LR		
comp=Z,2μm,11.1s							
CD2				LR	LR		
comp=Z,2μm,11.8s							
LGTI	**Lohaghat**	**25.32**	**331**	*eP*	**P**	**23 52 08.1**	**+0.8**
LGTI				IAmb	IAmb	23 52 17.3	
comp=Z,72nm,0.9s							
PTH	**Pithoragarh**	**25.42**	**331**	*eP*	**P**	**23 52 09.1**	**+0.6**
PTH				IAmb	IAmb	23 52 17.0	
comp=Z,83nm,0.7s							
JAGI	**Jajag, Banyuwa**	**25.57**	**128**	P	**P**	**23 52 10.0**	**+0.3**
JAGI				IAmb	IAmb	23 52 28.1	
comp=Z,49nm,0.9s							
JAGI	**Jajag, Banyuwa**	**25.57**	**128**	P	**P**	**23 52 11.4**	**+1.6**
comp=Z,57nm,1.4s							
SONA	**Sohna**	**26.07**	**324**	*eP*	**P**	**23 52 15.0**	**+0.7**
SONA				IAmb	IAmb	23 52 22.2	
comp=Z,41nm,0.8s							
AYAN	**Aya Nagar**	**26.22**	**324**	*eP*	**P**	**23 52 16.2**	**+0.7**
DGAR	**Diego Garcia**	**26.33**	**236**	P	**P**	**23 52 18.0**	**+1.3**

DGAR IAmb IAmb 23 52 47.9
comp=Z,44nm,0.7s
DGAR Diego Garcia 26.33 236 P P 23 52 18.0 +1.3
DGAR pmax pmax
comp=Z,44nm,0.7s
KUDL Kundal 26.35 323 *e*P **P 23 52 17.2 +0.5**
KUDL IAmb IAmb 23 52 26.5
comp=Z,49nm,0.7s
H08S3 Diego Garcia H 26.43 235 T T 00 19 08.2
baz=54,slow=76,SNR=47
H08S2 Diego Garcia H 26.43 235 T T 00 19 10.1
baz=54,slow=76,SNR=28
H08S1 Diego Carcia H 26.45 235 T T 00 19 09.6
baz=54,slow=76,SNR=24
JOSI Joshimath 26.57 331 *e*P **P 23 52 21.8 +2.9**
JOSI IAmb IAmb 23 52 36.4
comp=Z,51nm,0.8s
ENH Enshi 26.68 31 P **P 23 52 19.2 -0.6**
ENH IAmb IAmb 23 52 53.3
comp=Z,60nm,1.3s
TGY Tagaytay City 27.03 74 LR LR 00 01 48.0
comp=Z,1μm,21.2s,baz=250,slow=33
TOLI2 Tolitoli 27.30 103 P **P 23 52 27.5 +1.9**
GOMU GeErMu 28.40 1 P **P 23 52 37.0 +1.5**
GOMU pP pP 23 52 40.5 -0.5
GOMU sP pwP 23 52 44.3 +0.5
GOMU S **S 23 57 16.5 -5.4**
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU LR LR
comp=Z,1μm,11.4s
GOMU LR LR
comp=Z,1μm,11.1s
GOMU LR LR
comp=Z,2μm,11.9s
KAPI Kappang 28.46 116 LR LR 00 03 46.0
comp=Z,2μm,21.3s,baz=288,slow=36
BKSI Bulukumba 28.93 116 P **P 23 52 40.3 +0.3**
comp=Z,26nm,0.8s
XAN Xi'an 29.56 25 P **P 23 52 45.5 0.0**
XAN pP pwP 23 52 54.0 +0.3
XAN pmax pmax
comp=Z,16nm,0.8s
XAN pmax pmax
comp=Z,290nm,4.6s
XAN LR LR
comp=Z,4μm,14.4s
XAN LR LR
comp=Z,3μm,11.7s
XAN LR LR
comp=Z,5μm,13.4s
WHN Wuhan 29.58 37 ⇓P **P 23 52 47.8 +2.2**
WHN S **S 23 57 43.8 +4.0**
WHN LR LR
comp=Z,2μm,8.8s
WHN LR LR
comp=Z,6μm,12.3s
WHN LR LR
comp=Z,6μm,11.8s
LZH Lanzhou 29.64 16 *e*P **P 23 52 47.5 +1.3**
LZH pP sP 23 52 53.0 -1.0
LZH sP pwP 23 52 55.5 +1.0
LZH S **S 23 57 38.5 -2.4**
LZH pmax pmax
comp=Z,26nm,0.9s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,2μm,13.4s
LZH LR LR
comp=Z,2μm,18.9s
DAV Davao City (W) 31.15 89 LR LR 00 07 03.3
comp=Z,1μm,19.7s,baz=302,slow=39
LYN LuoYang 31.61 30 P P 23 53 09.3 +5.8
LYN S **S 23 58 15.5 +3.9**
LYN sS sS 23 58 22.0 +1.4
LYN pmax pmax
comp=Z,23nm,0.7s
LYN LR LR
comp=Z,3μm,14.4s
LYN LR LR
comp=Z,4μm,14.8s
LYN LR LR
comp=Z,4μm,14.4s
GTA Gaotai 32.01 8 *e*P **P 23 53 08.3 +1.2**
GTA S **S 23 58 16.0 -1.9**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=Z,880nm,19.1s
GTA LR LR
comp=Z,1μm,15.5s
GTA LR LR
comp=Z,1μm,22.7s
NIL Nilore 32.29 326 P **P 23 53 08.9 -0.6**
NIL Nilore 32.29 326 P **P 23 53 08.9 -0.6**
NIL pmax pmax
comp=Z,48nm,0.8s
SSE Sheshan 34.35 44 P **P 23 53 29.0 +1.5**
SSE S **S 23 58 59.0 +4.8**
SSE pmax pmax
comp=Z,6.0nm,0.9s
SSE pmax pmax
comp=Z,70nm,3.3s
SSE LR LR
comp=Z,2μm,14.5s
SSE LR LR
comp=Z,1μm,14.6s
HNS HongShan 34.98 29 ⇑P **P 23 53 35.0 +2.2**
HNS S **S 23 59 02.3 -1.4**
HNS pmax pmax
comp=Z,27nm,0.9s
HNS LR LR
comp=Z,1μm,13.5s
HNS LR LR
comp=Z,1μm,13.0s
HNS LR LR
comp=Z,1μm,16.1s
KBL Kabul 35.35 323 P **P 23 53 35.7 -0.7**
KBL Kabul 35.35 323 P **P 23 53 35.7 -0.7**
KBL pmax pmax
comp=Z,17nm,0.9s
KSH Kashi 35.67 336 P **P 23 53 37.5 -1.5**
KSH pmax pmax
comp=Z,11nm,1.2s
KSH LR LR
comp=Z,560nm,17.9s
KSH LR LR
comp=Z,1μm,18.5s
KSH LR LR
comp=Z,1μm,21.6s
WUS Wushi 35.94 341 P **P 23 53 40.1 -1.1**
WUS IAmb IAmb 23 53 47.5
comp=Z,28nm,0.8s
WMQ Urumqi 36.45 352 *e*P **P 23 53 47.0 +1.5**
WMQ pP sP 23 53 52.3 -1.1
WMQ PP **PP 23 55 09.0 +0.3**
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ LR LR
comp=Z,880nm,13.3s
WMQ LR LR
comp=Z,1μm,22.9s
WMQ LR LR
comp=Z,660nm,24.3s
WSAR Wadi Sarin 37.45 298 LR LR 00 09 49.6
comp=Z,5.6nm,19.2s,baz=124,slow=37
KDJ Kajisay 37.47 339 P **P 23 53 54.6 +0.3**
KDJ Kajisay 37.47 339 P **P 23 53 54.6 +0.3**
KDJ pmax pmax
comp=Z,12nm,0.8s
SHLS Shalkode 37.64 342 *e*P **P 23 53 53.2 -2.5**
SHLS Shalkode 37.64 342 *e*P **P 23 53 53.2 -2.5**
BJT Baijiatuau 37.75 28 P **P 23 53 56.6 +0.1**
BJT Baijiatuau 37.75 28 P **P 23 53 56.6 +0.1**
BJT pmax pmax
comp=Z,22nm,1.0s
UZB Uzynbulak 37.76 342 *e*P **P 23 53 55.3 -1.4**
UZB Uzynbulak 37.76 342 *e*P **P 23 53 55.3 -1.4**
BJI Beijing 37.77 28 P **P 23 53 58.0 +1.4**
BJI S **S 23 59 46.5 +0.2**
BJI pmax pmax
comp=Z,3.0nm,1.0s
BJI pmax pmax
comp=Z,130nm,5.3s
BJI LR LR
comp=Z,640nm,12.0s
BJI LR LR
comp=Z,720nm,14.9s
BJI LR LR
comp=Z,770nm,13.8s
GAR Garm 37.87 329 P **P 23 53 57.1 -0.6**
GAR IAmb IAmb 23 54 04.5
comp=Z,66nm,1.1s
SWI Sorong 37.94 101 P **P 23 53 57.8 -0.7**
comp=Z,29nm,0.4s
CHGR Chuyangaron 38.21 328 P **P 23 53 59.1 -1.5**
CHGR Chuyangaron 38.21 328 P **P 23 53 59.1 -1.5**
BOOM Boomskoye usch 38.23 338 P **P 23 54 00.5 -0.2**
BOOM Boomskoye usch 38.23 338 P **P 23 54 00.5 -0.2**
BOOM pmax pmax
comp=Z,10.0nm,0.7s
SIMJ Simiganj 38.30 328 P **P 23 54 00.6 -0.7**
SIMJ IAmb IAmb 23 54 01.9
comp=Z,29nm,0.8s
TNSS Tian-Shan 38.35 340 *e*P **P 23 54 00.3 -1.7**
TNSS Tian-Shan 38.35 340 *e*P **P 23 54 00.3 -1.7**
MDOK Medeo 38.42 340 *e*P **P 23 54 01.0 -1.3**
MDOK Medeo 38.42 340 *e*P **P 23 54 01.1 -1.3**
BTK Batken 38.43 331 P **P 23 54 02.7 +0.4**
BTK IAmb IAmb 23 54 12.5
comp=Z,36nm,0.8s
BTK Batken 38.43 331 P **P 23 54 02.7 +0.4**
BTK pmax pmax
comp=Z,36nm,0.8s
ARSB Arslanbob 38.44 334 P **P 23 54 02.0 -0.5**
ARSB IAmb IAmb 23 54 17.1
comp=Z,40nm,0.9s
ARSB Arslanbob 38.44 334 P **P 23 54 02.0 -0.5**
ARSB pmax pmax
comp=Z,40nm,0.9s
PSA00 Pilbara Seismi 38.46 140 P **P 23 54 04.6 +1.9**
PSA00 Pilbara Seismi 38.46 140 P **P 23 54 04.9 +2.2**
PSA00 IAmb IAmb 23 54 09.3
comp=Z,9.1nm,1.0s
DZET Dzherino 38.50 328 P **P 23 54 02.5 -0.5**
AAA Alma-Ata 38.51 340 *e*P **P 23 54 01.7 -1.2**
AAA pmax pmax
comp=Z,21nm,0.9s
AAA Alma-Ata 38.51 340 *e*P **P 23 54 01.8 -1.2**
comp=Z,22nm,0.9s
AAK Ala-Archa 38.91 337 P **P 23 54 05.7 -0.7**
AAK Ala-Archa 38.91 337 LR LR 00 11 54.7
comp=Z,2μm,20.8s,baz=158,slow=39
AAK Ala-Archa 38.91 337 *de*P **P 23 54 07.4 +1.0**
AAK pmax pmax
comp=Z,33nm,1.7s
FRU1 Bishkek 39.00 337 P **P 23 54 06.9 -0.2**
FRU1 IAmb IAmb 23 54 16.8
comp=Z,62nm,1.8s
FRU1 Bishkek 39.00 337 P **P 23 54 06.9 -0.2**
FRU1 pmax pmax
comp=Z,62nm,1.8s
SGDS Sogindy 39.55 338 *e*P **P 23 54 10.3 -1.3**
SGDS Sogindy 39.55 338 *e*P **P 23 54 10.4 -1.3**
TDK Taldyqorghan 39.63 342 *e*P **P 23 54 10.9 -1.3**
TDK Taldyqorghan 39.63 342 *e*P **P 23 54 10.9 -1.3**
DL2 Dalian 39.72 34 P P 23 54 22.5 +9.5
DL2 pmax pmax
comp=Z,34nm,1.3s
DL2 LR LR
comp=N,960nm,10.9s
DL2 LR LR
comp=E,1μm,12.9s
DL2 LR LR
comp=Z,2μm,12.7s
UOSS Minazif 40.10 300 P **P 23 54 16.9 +0.5**
FITZ Fitzroy Crossi 40.26 130 P **P 23 54 20.6 +2.9**
FITZ Fitzroy Crossi 40.26 130 P P 23 54 23.6 +5.8
MK31 Makanchi Array 40.29 347 P **P 23 54 16.9 -0.8**
MK31 Makanchi Array 40.29 347 *c i*P **P 23 54 17.4 -0.3**
MKAR Makanchi Array 40.29 347 P **P 23 54 17.2 -0.6**
MKAR Makanchi Array 40.29 347 P **P 23 54 17.5 -0.2**
comp=Z,21nm,0.7s,baz=162,slow=8.0,SNR=28
comp=Z,21nm,0.7s
MAKZ Makanchi 40.38 347 P **P 23 54 17.7 -0.7**
MAKZ Makanchi 40.38 347 P **P 23 54 17.7 -0.7**
MAKZ pmax pmax
comp=Z,17nm,0.8s
IUG Iuzhnay 40.42 332 *e*P **P 23 54 17.4 -1.6**
IUG pmax pmax
comp=Z,25nm,0.9s
IUG Iuzhnay 40.42 332 *e*P **P 23 54 17.4 -1.6**
comp=Z,25nm,0.9s
ZSN Zaisan 40.43 350 *e*P **P 23 54 17.8 -1.0**
ZSN Zaisan 40.43 350 *e*P **P 23 54 17.8 -1.0**
XLT XiLinHaoTe 40.86 24 *e*P **P 23 54 25.3 +2.8**
XLT sP pwP 23 54 32.5 +1.6
XLT PP **PP 23 55 56.8 -0.1**
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,250nm,4.7s
XLT LR LR
comp=Z,2μm,14.8s
XLT LR LR
comp=Z,2μm,19.4s
KK31 Karatay Array 40.96 333 P **P 23 54 22.9 -0.4**
KK31 Karatay Array 40.96 333 P **P 23 54 22.9 -0.4**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 40.96 333 P **P 23 54 22.7 -0.5**
KKAR Karatay Array 40.96 333 P **P 23 54 22.8 -0.5**
KKAR Karatay Array 40.96 333 P **P 23 54 22.8 -0.5**
BTLS Baital 41.12 338 *e*P **P 23 54 23.6 -0.9**
BTLS Baital 41.12 338 *e*P **P 23 54 23.7 -0.9**
BRLS Borolday 41.20 333 *e*P **P 23 54 23.3 -2.0**
BRLS Borolday 41.20 333 *e*P **P 23 54 23.3 -2.0**
SONM Songino Array 41.35 12 **P 23 54 26.1 -0.5**
SONM Songino Array 41.35 12 P **P 23 54 27.5 +0.9**
comp=Z,6.2nm,0.9s,baz=202,slow=9.9,SNR=6.3
comp=Z,6.2nm,0.9s
ULN Ulaanbaatar 41.53 13 **P 23 54 27.7 -0.4**
ULN Ulaanbaatar 41.53 13 ⇑*e*P **P 23 54 31.8 +3.7**
ULN pmax pmax
comp=Z,21nm,1.9s
MORW Morawa 42.17 151 P **P 23 54 32.0 -1.3**
JNU Nakatsue 42.36 48 LR LR 00 12 42.8
comp=Z,1μm,21.1s,baz=248,slow=37
KSRS Korea Array 42.60 41 P **P 23 54 37.6 +0.9**
comp=Z,2.5nm,0.9s,baz=224,slow=7.6,SNR=5.2
comp=Z,2.5nm,0.9s
ZAK Zakamensk 43.25 9 *e*P **P 23 54 37.6 -4.3**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
KURK Kurchatov 44.82 346 P **P 23 54 54.1 -0.3**
KURK IAmb IAmb 23 55 00.8
comp=Z,37nm,0.8s
KURK Kurchatov 44.82 346 *de*P **P 23 54 54.3 -0.1**
KURK pmax pmax
comp=Z,42nm,0.8s
JMN Monobe 44.87 49 P **P 23 54 56.1 +1.0**
CN2 Changchun 45.19 32 *e*P **P 23 54 56.0 -1.4**
CN2 *es*P sP 23 55 04.8 -0.5
CN2 LR LR
comp=Z,960nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
BRZS Berezniki 45.84 341 *e*P **P 23 55 01.0 -1.6**
BRZS Berezniki 45.84 341 *e*P **P 23 55 01.1 -1.6**
HIA Hailar 46.70 23 P **P 23 55 09.0 -0.3**
HIA IAmb IAmb 23 55 19.7
comp=Z,13nm,0.8s
HIA Hailar 46.70 23 ⇓*e*P **P 23 55 12.7 +3.4**
HIA pmax pmax
comp=Z,17nm,1.0s
ZAA0 Zalesovo Array 46.76 352 P **P 23 55 09.4 -0.3**
ZALV Zalesovo Beam 46.76 352 P **P 23 55 09.4 -0.3**
ZALV Zalesovo Beam 46.76 352 P **P 23 55 09.9 +0.2**
comp=Z,14nm,0.4s,baz=175,slow=7.9,SNR=25
ZALV LR LR 00 19 34.9
comp=Z,614nm,19.4s,baz=181,slow=42
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 46.76 352 *i*P **P 23 55 09.8 +0.1**
ZALV pmax pmax
comp=Z,15nm,0.4s
CIT Chita 47.00 16 *e*P P 23 55 20.0 +8.3
CIT *e* 23 55 26.4
BNX BinXian 47.53 31 ⇑P P 23 55 10.5 -5.3
BNX pmax pmax
comp=Z,16nm,1.6s
MDJ Mudanjiang 47.96 34 P **P 23 55 19.9 +0.7**
WB0 Warramunga Arr 48.07 125 P **P 23 55 23.7 +3.3**
WB0 IAmb IAmb 23 55 40.7
comp=Z,28nm,1.4s
WRA Warramunga Arr 48.12 125 P **P 23 55 19.0 -1.8**
comp=Z,1.8nm,0.5s,baz=302,slow=7.5,SNR=7.3
WRA PcP **PcP 23 56 46.5 -1.8**
comp=Z,2.0nm,0.6s,baz=305,slow=3.3,SNR=4.9
WRA LR LR 00 17 04.9
comp=Z,998nm,21.6s,baz=298,slow=38
comp=Z,1.8nm,0.5s
WRAB Tennant Creek 48.12 125 P **P 23 55 22.8 +2.0**
WRAB IAmb IAmb 23 55 32.6
comp=Z,17nm,0.8s
WRAB Tennant Creek 48.12 125 P **P 23 55 22.8 +2.0**
WRAB pmax pmax
comp=Z,17nm,0.9s
WB2 Warramunga Arr 48.13 125 P **P 23 55 23.3 +2.5**
WB2 IAmb IAmb 23 55 27.4
comp=Z,47nm,1.6s
USRK Ussuriysk Ar. 49.06 36 P **P 23 55 27.4 -0.3**
USRK Ussuriysk Ar. 49.06 36 LR LR 00 17 10.0
comp=Z,1μm,18.6s,baz=222,slow=37
USRK Ussuriysk Ar. 49.06 36 P **P 23 55 27.4 -0.3**
BVAR Borovoye Array 49.19 341 P **P 23 55 28.2 -0.4**
comp=Z,9.3nm,0.7s,baz=143,slow=8.6,SNR=11
BVAR PcP **PcP 23 56 49.7 -1.8**
comp=Z,2.7nm,0.7s,baz=163,slow=6.0,SNR=1.7
comp=Z,9.3nm,0.7s
RAYN Ar Rayn 49.20 294 P **P 23 55 30.1 +1.0**
RAYN Ar Rayn 49.20 294 P **P 23 55 30.2 +1.0**
RAYN pmax pmax
comp=Z,37nm,0.6s
BRVK Borovoye 49.26 341 P **P 23 55 28.5 -0.5**
BRVK IAmb IAmb 23 55 34.8
comp=Z,20nm,1.2s
BRVK Borovoye 49.26 341 *i*P **P 23 55 28.7 -0.3**
BRVK pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 49.27 48 P **P 23 55 30.9 +1.4**
comp=Z,0.8nm,0.4s,baz=214,slow=8.5,SNR=2.0
MJAR PcP **PcP 23 56 52.7 +0.5**
comp=Z,3.6nm,0.8s,baz=246,slow=3.3,SNR=5.1
comp=Z,0.8nm,0.4s
AS31 Alice Springs 49.76 130 P **P 23 55 34.3 +0.9**
ASAR Alice Springs 49.76 130 P **P 23 55 33.0 -0.4**
ASAR Alice Springs 49.76 130 P **P 23 55 29.7 -3.7**
comp=Z,2.2nm,0.5s,baz=302,slow=8.0,SNR=7.6
ASAR PcP **PcP 23 56 52.7 -1.6**
comp=Z,2.5nm,0.7s,baz=307,slow=3.4,SNR=4.6
ASAR LR LR 00 16 58.7
comp=Z,752nm,21.1s,baz=298,slow=37
comp=Z,2.2nm,0.5s
ASAR Alice Springs 49.76 130 P **P 23 55 33.0 -0.4**
FORT Forrest 50.16 141 P **P 23 55 35.9 -0.3**
FORT Forrest 50.16 141 P **P 23 55 34.3 -1.9**
ABKAR Akbulak array 50.43 331 P **P 23 55 37.5 -0.5**
ABKAR Akbulak array 50.43 331 P **P 23 55 36.9 -1.1**
ABKAR IAmb IAmb 23 55 45.5
comp=Z,44nm,1.4s
HEH HeiHe 50.67 27 *e*P P 23 55 48.5 +8.7
HEH pmax pmax
comp=Z,10.0nm,0.7s
HEH LR LR
comp=N,750nm,15.1s
HEH LR LR
comp=E,940nm,15.7s
HEH LR LR
comp=Z,1μm,15.3s
ATD Arta Tunnel 50.70 279 LR LR 00 14 03.4
comp=Z,32nm,21.3s,baz=90,slow=32
KLR Kul'dur 52.04 30 *e*P P 23 55 59.5 +9.4
KLR pmax pmax
comp=Z,10.0nm,1.7s
AKTO Aktyubinsk 52.14 331 P **P 23 55 50.5 -0.4**
comp=Z,10nm,0.7s,baz=131,slow=1.9,SNR=8.5
comp=Z,10nm,0.7s
AKT Akhty 53.08 317 *e*P **P 23 55 57.6 -0.5**
AKT pmax pmax
comp=Z,20nm,1.1s
ZEA Zeya 53.13 24 *e*P **P 23 55 59.0 +0.9**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
SVE Sverdlovsk 55.60 338 *de*P **P 23 56 16.4 +0.4**
SVE pmax pmax
comp=Z,48nm,0.9s
GURO Guroymak-BITLI 56.00 312 P **P 23 56 18.3 -1.1**
ARTI Arti 56.13 337 P **P 23 56 19.0 -0.8**
ARTI IAmb IAmb 23 56 28.6
comp=Z,40nm,1.2s
ARTI Arti 56.13 337 *c i*P **P 23 56 19.5 -0.3**
ARTI 23 57 12.6
ARTI 23 58 21.1
ARTI S **S 00 04 10.9 +3.1**
ARTI pmax pmax
comp=Z,16nm,0.7s
ARTI MLR MLR
comp=Z,1μm,19.0s
FOMA Nahampoana Res 56.25 233 P **P 23 56 23.6 +2.4**
MARD Mardin 56.55 310 P **P 23 56 22.5 -0.9**
MARD IAmb IAmb 23 56 22.9
comp=Z,12nm,0.6s
BBOO Buckleboo 56.64 138 P **P 23 56 28.4 +4.5**
KIBK Kibwezi 56.87 262 P **P 23 56 26.6 +0.7**
YSS Yuzhno-Sakhali 56.92 38 ⇑*e*P P 23 56 30.9 +5.3
YSS pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 57.26 318 P **P 23 56 26.1 -2.0**
comp=Z,4.4nm,0.9s,baz=124,slow=6.2,SNR=5.1
KBZ LR LR 00 24 26.5
comp=Z,292nm,19.9s,baz=114,slow=40
comp=Z,4.4nm,0.9s
KBZ Khabaz 57.26 318 ⇑*e*P **P 23 56 30.5 +2.4**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
SHA1 Shidzhatmaz 57.42 318 *c i*P **P 23 56 28.7 -0.9**
KMBO Kilima Mbogo 57.43 264 P **P 23 56 30.7 +0.6**
KMBO IAmb IAmb 23 56 39.5
comp=Z,49nm,1.8s
KMBO Kilima Mbogo 57.43 264 P **P 23 56 26.9 -3.3**
comp=Z,2.3nm,0.8s,baz=70,slow=11,SNR=17
comp=Z,2.3nm,0.8s
KIV Kislovodsk 57.49 318 P **P 23 56 29.0 -0.8**
KIV IAmb IAmb 23 56 38.2
comp=Z,19nm,0.7s
KIV Kislovodsk 57.49 318 *e*P **P 23 56 29.0 -0.8**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,339nm,17.0s
LODK Lodwar 58.65 269 P **P 23 56 39.2 +0.8**
GAZ Gaziantep 59.24 309 P **P 23 56 41.5 -0.7**
GAZ IAmb IAmb 23 56 57.9
comp=Z,56nm,1.9s
QLP Quilpie 59.28 127 P P 23 56 47.6 +5.1
MMAI Mount Meron Ar 59.76 304 P **P 23 56 44.0 -1.8**
comp=Z,3.1nm,0.7s,baz=94,slow=7.7,SNR=2.5
comp=Z,3.1nm,0.7s
STKA Stephens Creek 59.94 134 P **P 23 56 50.0 +3.0**
STKA Stephens Creek 59.94 134 P **P 23 56 43.9 -3.1**
comp=Z,2.6nm,0.6s,baz=319,slow=9.7,SNR=4.7
comp=Z,2.6nm,0.6s
YAK Yakutsk 60.18 18 P **P 23 56 48.4 +0.4**
YAK Yakutsk 60.18 18 ⇓*e*P **P 23 56 49.7 +1.7**
YAK pmax pmax
comp=Z,28nm,0.8s
TOKA Tokat 60.63 312 P **P 23 56 50.0 -1.6**
BNN Bunyan 60.71 310 P **P 23 56 51.3 -1.0**
BNN IAmb IAmb 23 56 56.1
comp=Z,14nm,0.9s
VRH Novokhopyorsk 61.11 325 *e*P **P 23 56 53.3 -1.3**
VRH pmax pmax
comp=Z,30nm,0.7s
KIRV Kirov 61.21 335 *c i*P **P 23 56 54.8 -0.3**
ANN Anapa 61.31 317 *e*P P 23 56 46.9 -9.2
ANN *e**PP pP 23 56 52.0 -10
ANN *e* 23 59 08.4
ANN pmax pmax
comp=Z,30nm,1.1s
ANN MLR MLR

comp=Z,591nm,18.0s
ANN MLR MLR
comp=N,367nm,16.0s
ANN MLR MLR
comp=E,513nm,20.0s
NRIK Noril'sk 61.75 357 P **P 23 56 58.3 -0.3**
NRIK IAmb IAmb 23 57 12.2
comp=Z,26nm,1.2s
NRIK Noril'sk 61.75 357 P **P 23 56 58.2 -0.4**
comp=Z,9.0nm,0.8s,baz=153,slow=6.1,SNR=8.5
comp=Z,9.0nm,0.8s
NRIK Noril'sk 61.75 357 *ce*P **P 23 56 58.0 -0.6**
NRIK pmax pmax
comp=Z,24nm,1.3s
KIRS Kirsehir-Merke 62.24 310 ⇑P **P 23 57 01.2 -1.5**
VORD Divnogorie 62.40 324 *e*P **P 23 57 01.5 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 62.58 325 *e*P **P 23 57 01.5 -3.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 62.59 311 P **P 23 57 03.0 -2.0**
BR131 IAmb IAmb 23 57 03.9
comp=Z,8.6nm,0.7s
BR131 Keskin Array S 62.59 311 *c i*P **P 23 57 02.9 -2.1**
BRTR Keskin Array B 62.59 311 P **P 23 57 03.0 -2.0**
comp=Z,5.9nm,0.6s,baz=128,slow=7.3,SNR=21
comp=Z,5.9nm,0.6s
VORR Voronezh 62.74 325 *e*P **P 23 57 02.4 -3.1**
VORR pmax pmax
comp=Z,20nm,1.1s
ILGA Ilgaz 62.85 312 P **P 23 57 05.9 -0.9**
ANTO Ankara 63.25 311 P **P 23 57 08.2 -1.2**
ANTO IAmb IAmb 23 57 15.1
comp=Z,17nm,1.3s
ANTO Ankara 63.25 311 P **P 23 57 08.2 -1.2**
ANTO pmax pmax
comp=Z,17nm,1.3s
LPSR Galich'ya Gora 63.28 326 *e*P **P 23 57 08.0 -1.1**
LPSR pmax pmax
comp=Z,21nm,0.7s
SIM Simferopol' 63.60 317 *e*P **P 23 57 10.2 -1.2**
SIM pmax pmax
comp=Z,20nm,1.1s
SIM pmax pmax
comp=Z,12nm,13.0s
SIM MLR MLR
comp=Z,260nm,20.0s
MBAR Mbarara 63.78 266 P **P 23 57 15.2 +1.8**
MBAR IAmb IAmb 23 57 22.5
comp=Z,24nm,1.4s
MBAR Mbarara 63.78 266 P **P 23 57 15.2 +1.8**
MBAR pmax pmax
comp=Z,25nm,1.4s
ISP Isparta 64.58 308 P **P 23 57 18.3 +0.2**
ISP IAmb IAmb 23 57 24.6
comp=Z,19nm,1.1s
ISP Isparta 64.58 308⇓*e*P **P 23 57 16.8 -1.3**
MDUB Mudurnu 64.58 311 P **P 23 57 18.9 +0.8**
ELL Elmali 64.87 307 P **P 23 57 19.8 -0.3**
ELL Elmali 64.87 307 P **P 23 57 19.8 -0.3**
ELL pmax pmax
comp=Z,100nm,1.1s
MOS Moscow 65.27 329 *e*P **P 23 57 23.2 +1.1**
MOS *e* 23 59 48.0
MOS pmax pmax
comp=Z,90nm,1.6s
H04N2 CROZET ISLANDS 65.57 211 T T 01 07 59.5
baz=47,slow=75,SNR=6.6
OBN Obninsk 65.57 328 P **P 23 57 24.3 +0.3**
OBN Obninsk 65.57 328⇓*e*P **P 23 57 23.2 -0.8**
OBN *e* 23 59 45.6
OBN *e*S **S 00 05 59.6 -8.6**
OBN pmax pmax
comp=Z,76nm,1.5s
OBN MLR MLR
comp=Z,628nm,19.0s
H04N1 CROZET ISLANDS 65.58 211 T T 01 08 05.8
baz=47,slow=75,SNR=5.9
H04N3 CROZET ISLANDS 65.59 211 T T 01 08 17.9
baz=47,slow=75,SNR=9.8
TOO Toolangi 65.69 137 P **P 23 57 27.6 +2.4**
TOO Toolangi 65.69 137 P **P 23 57 27.6 +2.4**
TOO pmax pmax
comp=Z,14nm,1.4s
MANT Manisa 66.22 309 P **P 23 57 30.0 +1.1**
MANT IAmb IAmb 23 57 40.7
comp=Z,12nm,1.0s
KLMR Klimovskoe 66.65 334 *e*P **P 23 57 29.2 -1.7**
KLMR pmax pmax
comp=Z,65nm,1.5s
PURM Purcari 66.88 317 P **P 23 57 31.2 -1.4**
comp=Z,24nm,0.7s
TIXI Tiksi 67.43 11 P **P 23 57 35.0 -0.6**
TIXI IAmb IAmb 23 57 40.7
comp=Z,22nm,1.0s
TIXI Tiksi 67.43 11⇑*i*P **P 23 57 36.4 +0.8**
TIXI pmax pmax
comp=Z,40nm,1.5s
MGCD Mangrove Creek 67.60 131 P **P 23 57 33.2 -4.3**
AK09 Malin Array Si 68.27 322 P **P 23 57 39.2 -2.2**
AK10 Malin Array Si 68.29 322 P **P 23 57 39.3 -2.2**
AK02 Malin Array Si 68.33 322 P **P 23 57 39.5 -2.3**
AKASG Malin Array Be 68.33 322 P **P 23 57 39.5 -2.3**
comp=Z,2.3nm,0.7s,baz=91,slow=4.9,SNR=10.0
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 68.33 322 *i*P **P 23 57 39.7 -2.1**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 68.33 322⇓*i*P **P 23 57 40.2 -1.6**
AKBB pmax pmax
comp=Z,14nm,1.3s
AKBB Malin Array Si 68.33 322 P **P 23 57 39.5 -2.3**
AK03 Malin Array Si 68.34 322 P **P 23 57 39.5 -2.3**
KIEV Kiev 68.34 322 P **P 23 57 40.3 -1.5**
KIEV Kiev 68.34 322⇓P **P 23 57 40.1 -1.7**
KIEV Kiev 68.34 322 P **P 23 57 40.3 -1.5**
KIEV pmax pmax
comp=Z,11nm,1.2s
AK22 Malin Array Si 68.44 322 P **P 23 57 40.5 -1.9**
ISR Istrita 68.86 315⇓P **P 23 57 45.5 +0.3**
VRI Vrincioaia 68.87 316⇓P **P 23 57 45.3 0.0**
VRI Vrincioaia 68.87 316 P **P 23 57 45.3 0.0**
comp=Z,27nm,0.7s
PLOR5 Plostina Array 68.91 316 P **P 23 57 45.5 0.0**
comp=Z,37nm,0.7s
PLOR Plostina 68.92 316⇑P **P 23 57 45.4 -0.2**
RDO Rodhopi 68.92 311 P **P 23 57 46.6 +1.0**
RDO IAmb IAmb 23 57 51.7
comp=Z,18nm,1.2s
NDNU Novodnistrovsk 69.00 319 P **P 23 57 44.6 -1.4**
TESR Tescani 69.05 317⇑P **P 23 57 45.5 -0.9**
LUBAR Lubar, Ukraine 69.05 321 P **P 23 57 44.5 -1.8**
SEY Seymchan 69.10 25⇑*e*P **P 23 57 50.5 +4.2**
SEY pmax pmax
comp=Z,7.0nm,0.9s
LSZ Lusaka 69.23 251 P **P 23 57 48.5 +0.4**
LSZ Lusaka 69.23 251 P **P 23 57 48.5 +0.4**
LSZ pmax pmax
comp=Z,71nm,1.9s
MLR Muntele Rosu 69.34 316 P **P 23 57 47.0 -1.3**
MLR IAmb IAmb 23 57 53.4
comp=Z,29nm,1.2s
MLR Muntele Rosu 69.34 316 P **P 23 57 47.0 -1.3**
MLR pmax pmax
comp=Z,29nm,1.2s
MLR Muntele Rosu 69.34 316 P **P 23 57 48.3 0.0**
comp=Z,23nm,1.3s
VOIR 69.95 316⇑P **P 23 57 50.9 -1.1**
MNK Minsk 70.11 325 *i* P **P 23 57 50.0 -2.7**
MNK *i* 00 00 23.0
MNK *i* PPP PPP 00 02 06.1
MNK *i* S **S 00 07 01.5 -1.2**
MNK *i* SS **SS 00 11 33.9 +1.4**
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK pmax pmax
comp=N,22nm,1.0s
MNK MLR MLR
comp=E,547nm,23.0s
MNK MLR MLR
comp=N,688nm,28.0s
BURAR Bucovina Array 70.22 318 P **P 23 57 52.9 -0.7**
BURAR Bucovina Array 70.22 318⇓P **P 23 57 53.4 -0.3**
ARR Arges 70.23 315⇓P **P 23 57 52.6 -1.1**
BUR08 Bucovina Ar. S 70.24 318 P **P 23 57 52.3 -1.4**
MATP Matopo 70.31 245 LR LR 00 24 52.0
comp=N,229nm,19.3s,baz=61,slow=33
IDID Didziasalis 70.96 326 *e*P **P 23 57 57.6 -0.3**
JOF Joensuu 71.05 334 *e*P **P 23 57 58.0 -0.2**
LIT Litokhoron 71.10 310 P **P 23 57 57.2 -1.9**
LIT IAmb IAmb 23 58 09.6
comp=Z,18nm,0.9s
LIT Litokhoron 71.10 310 P **P 23 57 57.2 -1.9**
LIT pmax pmax
comp=Z,18nm,0.9s
IIGN Ignalina 71.26 326 *e*P **P 23 57 59.1 -0.6**
MARR Marisel-Cluj 71.47 317⇓P **P 23 58 00.5 -0.8**
VSU Vasula 71.78 329⇑*e*P **P 23 58 03.9 +1.2**
VSU pmax pmax
comp=Z,52nm,1.0s
VSU Vasula 71.78 329 *e*P **P 23 58 01.7 -1.0**
BRIU Brid 71.80 318 P **P 23 58 01.8 -1.3**
FNA Florina 72.01 310 P **P 23 58 03.0 -1.6**
FNA IAmb IAmb 23 58 44.6
comp=Z,38nm,2.0s
FNA Florina 72.01 310 P **P 23 58 03.0 -1.6**
FNA pmax pmax
comp=Z,38nm,2.0s
SURR Surduc 72.03 316⇓P **P 23 58 04.3 -0.3**
APA Apatity 72.05 339⇓*i*P **P 23 58 03.9 -0.3**
APA *i* 23 58 18.1
APA pmax pmax
comp=Z,17nm,0.9s
APA MLR MLR
comp=Z,2μm,17.0s
BZS Buzias 72.36 315⇑P **P 23 58 05.4 -1.1**
KOLS Kolonicke sedl 72.38 319 *e*P **P 23 58 07.4 +0.8**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 72.38 319 *e*P **P 23 58 07.4 +0.8**
ARBE Arbavere 72.41 330 *e*P **P 23 58 06.5 0.0**
PABE Paberze 72.54 326 P **P 23 58 06.6 -0.8**
PABE Paberze 72.54 326 *e*P **P 23 58 07.0 -0.3**
SUW Suwalki 72.69 324 *e*P **P 23 58 07.2 -1.1**
SUW Suwalki 72.69 324 P **P 23 58 07.5 -0.8**
SUW Suwalki 72.69 324 P **P 23 58 07.5 -0.8**
SUW pmax pmax
comp=Z,100nm,1.4s
SUW Suwalki 72.69 324 *e*P **P 23 58 07.4 -0.9**
FIA1 FINESS Array S 72.91 332 P **P 23 58 09.2 -0.2**
FINES FINESS Array B 72.91 332 P **P 23 58 08.7 -0.7**
comp=Z,15nm,0.7s,baz=101,slow=8.0,SNR=15
comp=Z,15nm,0.7s
STHS Stebnicka Huta 73.12 319 *e*P **P 23 58 10.6 -0.4**
STHS pmax pmax
comp=Z,19nm,1.7s
STHS Stebnicka Huta 73.12 319 *e*P **P 23 58 10.6 -0.4**
SJES Sjenica 73.28 313 *e*P **P 23 58 11.6 -0.6**
MEF Metsahovi 73.39 331 *e*P **P 23 58 12.0 -0.3**
FRGS Fruska Gora 73.58 315 *e*P P 23 58 22.6 +8.8
KEF Keuruu 73.65 333 *e*P **P 23 58 13.6 -0.2**
PDG Podgorica 73.74 312 *e*P **P 23 58 12.5 -2.2**
BBLS Lazi&#263i 73.75 313 *e*P **P 23 58 13.2 -1.7**
RUDO Rudo 73.75 313 *e*P **P 23 58 10.4 -4.4**
PBUR Paburge 73.78 326 *e*P **P 23 58 14.5 -0.2**
PSZ Piszkesteto 73.81 318 *e*P **P 23 58 14.5 -0.7**
UPM Unac-Piva 74.05 313 *e*P **P 23 58 14.9 -1.9**
OJC Ojcow 74.15 320 P **P 23 58 15.9 -1.1**
OJC Ojcow 74.15 320 P **P 23 58 15.9 -1.1**
OJC Ojcow 74.15 320 P **P 23 58 16.2 -0.8**
comp=Z,21nm,0.9s
LBTB Lobatse 74.17 241 P **P 23 58 18.7 +1.0**
LBTB Lobatse 74.17 241 LR LR 00 28 13.6
comp=Z,257nm,18.3s,baz=80,slow=34
LBTB Lobatse 74.17 241 P **P 23 58 18.7 +1.0**
LBTB pmax pmax
comp=Z,80nm,2.0s
BRY Bratogost 74.30 312 *e*P **P 23 58 14.5 -3.7**
TREB Trebinje 74.42 312 *e*P **P 23 58 16.8 -2.0**
MORH Mrgy, Hungar 74.49 316 P **P 23 58 17.8 -1.3**
comp=Z,4.4nm,0.8s
RAF Rauma 74.83 331 *e*P **P 23 58 20.3 -0.4**
VAF Ylistaro 74.85 333 *e*P **P 23 58 20.9 +0.2**
SRO Srobarova 74.86 317 *e*P **P 23 58 21.2 0.0**
SRO Srobarova 74.86 317 *e*P **P 23 58 21.2 0.0**
STON Ston 74.91 312 *e*P **P 23 58 18.8 -2.7**
KEV Kevo 75.04 341 P **P 23 58 21.5 -0.3**
KEV Kevo 75.04 341 P **P 23 58 21.5 -0.3**
KEV pmax pmax
comp=Z,205nm,1.7s
MPLH Magyarpolny 75.33 317 P **P 23 58 23.3 -0.6**
comp=Z,50nm,0.9s
JAVC Velka Javorina 75.38 318 *e*P **P 23 58 24.4 +0.1**
BLY Banja Luka 75.40 314 *e*P **P 23 58 23.3 -1.1**
STEB Steborice 75.42 320 *e*P **P 23 58 24.2 -0.2**
ARCES ARCESS Array B 75.47 340 P **P 23 58 24.1 -0.2**
comp=Z,4.5nm,0.6s,baz=94,slow=5.5,SNR=6.8
comp=Z,4.5nm,0.6s
BOSA Boshof 75.50 238 P **P 23 58 27.4 +2.0**
BOSA IAmb IAmb 23 59 04.0
comp=Z,45nm,1.7s
BOSA Boshof 75.50 238 P **P 23 58 22.4 -3.0**
comp=Z,2.9nm,0.6s,baz=107,slow=6.2,SNR=6.5
comp=Z,2.9nm,0.6s
MORC Moravsky Berou 75.55 319 P **P 23 58 24.9 -0.3**
MORC IAmb IAmb 23 58 33.0
comp=Z,20nm,1.2s
MORC Moravsky Berou 75.55 319 *e*P **P 23 58 24.6 -0.6**
MORC Moravsky Berou 75.55 319 P **P 23 58 24.9 -0.3**
MORC pmax pmax
comp=Z,20nm,1.2s
A051A Mrakovica 75.62 314 *e*P **P 23 58 24.0 -1.7**
BEHE Becsehely 75.80 316 P **P 23 58 25.8 -0.8**
BEHE IAmb IAmb 23 58 36.1
comp=Z,27nm,1.1s
KRLC Kraliky 76.07 320 *e*P **P 23 58 28.1 0.0**
KRLC Kraliky 76.07 320 *e*P **P 23 58 28.1 0.0**
CEL Celeste 76.10 307 P **P 23 58 27.8 -0.7**
CEL IAmb IAmb 23 58 39.1
comp=Z,18nm,1.1s
VRAC Vranov 76.13 319 *e*P **P 23 58 26.2 -2.2**
KOGS Kog 76.16 316 *i* P **P 23 58 28.0 -0.7**
CUC Castrocucco 76.20 309 P **P 23 58 27.4 -1.7**
RONA Rosalia, Austr 76.21 317 *e*P **P 23 58 28.6 -0.4**
comp=Z,2.3nm,0.6s
KRUC Moravsky 76.24 319 *e*P P 23 58 24.3 -4.8
KRUC *e* 23 58 28.3
BILL Bilibino 76.27 22⇑*e*P **P 23 58 29.8 +1.0**
BILL pmax pmax
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 76.38 320 *e*P **P 23 58 30.1 +0.2**
DPC Dobruska-Polom 76.38 320 *e*P **P 23 58 30.1 +0.2**
KSP Ksiaz 76.44 320 *e*P **P 23 58 29.7 -0.5**
KSP Ksiaz 76.44 320 P **P 23 58 30.1 -0.1**
comp=Z,13nm,0.7s
OSTC Ostas 76.47 320 *e*P **P 23 58 29.8 -0.6**
OSTC Ostas 76.47 320 *e*P **P 23 58 29.8 -0.6**
CONA Conrad Observa 76.52 317 *e*P **P 23 58 30.0 -0.7**
comp=Z,1.9nm,0.7s
UPC Upice 76.59 320 *e*P **P 23 58 31.0 -0.1**
UPC Upice 76.59 320 *e*P **P 23 58 31.0 -0.1**
DZM Mont Dzumac 76.68 115 *e*SS SS 00 13 08.4 -6.0
comp=Z,235nm,32.4s
DZM *e*LR LR 00 22 08.9
comp=Z,842nm,29.7s
ARSA Arzberg 76.71 317 *e*P **P 23 58 31.3 -0.5**
comp=Z,4.5nm,0.8s
BOJS Bojanci 76.81 315 *e*P **P 23 58 31.1 -1.3**
TREC Trest 76.85 319 *e*P **P 23 58 32.1 -0.5**
TREC Trest 76.85 319 *e*P **P 23 58 32.1 -0.5**
SOKA Soboth 77.01 316 *e*P **P 23 58 33.1 -0.5**
comp=Z,6.3nm,0.8s,SNR=8.0
BLEU Blekinge 77.20 326 *i* P **P 23 58 33.4 -0.9**
LJU Ljubljana 77.34 315 *i* P **P 23 58 34.6 -0.7**
OBKA Obir 77.34 316 *e*P **P 23 58 35.1 -0.4**
comp=Z,6.0nm,0.7s,SNR=5.6
OBKA Obir 77.34 316 *e*P **P 23 58 34.5 -1.0**
CEY Cerknica 77.40 315 *e*P P 23 58 24.7 -11
PRU Pruhonice 77.50 319 *e*P **P 23 58 36.3 +0.1**
PRU Pruhonice 77.50 319 *e*P **P 23 58 36.3 +0.1**
MOA Molln 77.58 317 *e*P **P 23 58 36.0 -0.7**
comp=Z,3.4nm,0.7s
ZVC Zvikov 77.70 319 *e*P **P 23 58 37.0 -0.3**
CADS Cadrg 77.89 316 *i* P **P 23 58 37.3 -1.2**
BRG Berggiesshubel 77.93 320 *e*P **P 23 58 38.1 -0.4**
BRG Amp 23 58 39.2
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 77.93 320 P P 23 58 43.4 +4.9
BRG Amp 23 58 47.1
comp=Z,20nm,1.3s
SABO M.te Sabotino 77.98 315 P **P 23 58 37.6 -1.3**
SABO IAmb IAmb 23 58 39.2
comp=Z,9.2nm,0.7s
GEC2 GERESS Array S 78.00 318 P **P 23 58 38.8 -0.4**
GERES GERESS Array B 78.00 318 P **P 23 58 38.7 -0.4**
comp=Z,6.3nm,0.7s,baz=86,slow=5.5,SNR=18
comp=Z,6.3nm,0.7s
BIOA Bad Ischl, Aus 78.00 317 *e*P **P 23 58 38.1 -1.0**
comp=Z,3.4nm,0.6s
PRED Cave del Predi 78.02 316 P **P 23 58 38.3 -0.9**
PRED IAmb IAmb 23 58 57.1
comp=Z,14nm,0.9s
KHC Kasperske Hory 78.09 319 *e*P **P 23 58 38.9 -0.6**
KHC AMS AMS 00 37 30.0
comp=Z,300nm,14.9s
KHC *ex* x 00 58 44.9
KHC Kasperske Hory 78.09 319 *e*P **P 23 58 38.9 -0.6**
KHC MLR MLR
comp=Z,300nm,14.9s
KHC Kasperske Hory 78.09 319 P **P 23 58 39.2 -0.3**
RUE Ruedersdorf 78.11 322 *e*P **P 23 58 39.5 +0.1**
GUMA Gualdo di Mace 78.12 312 P **P 23 58 39.3 -0.5**
GUMA IAmb IAmb 23 58 46.1
comp=Z,14nm,1.0s
KBA Koelnbreinsper 78.19 316 *e*P **P 23 58 39.0 -1.3**
comp=Z,3.6nm,0.8s
NRCA Norcia 78.28 312 P **P 23 58 41.4 +0.7**
DEL Delary 78.29 326 *i* P **P 23 58 39.3 -1.1**
FDMO Fiordimonte 78.30 312 P **P 23 58 40.3 -0.6**
LUNU Lund 78.48 325 *i* P **P 23 58 41.0 -0.4**
CLL Collm 78.54 321 *e*P **P 23 58 41.0 -0.9**
CLL *e*S **S 00 08 38.0 +0.6**
LESA Schwarzleotal 78.65 317 *e*P **P 23 58 41.2 -1.4**
comp=Z,3.8nm,0.6s,SNR=8.4
LESA *e*S **S 00 08 41.9 +3.0**
comp=Z,3.3nm,1.1s
HFS Hagfors 78.65 330 P **P 23 58 41.5 -0.8**
comp=Z,11nm,0.6s,baz=101,slow=6.2,SNR=16
comp=Z,11nm,0.6s
BJUU Bjuv 78.74 326 *i* P **P 23 58 42.5 -0.4**
ABTA Abfaltersbach 78.75 316 *e*P **P 23 58 41.8 -1.4**
comp=Z,5.0nm,0.8s,SNR=5.0
CIMO Cimolais 78.79 316 P **P 23 58 42.9 -0.6**
CIMO IAmb IAmb 23 58 47.6
comp=Z,24nm,0.8s
FABU Falkenberg 78.96 327 *i* P **P 23 58 43.3 -0.7**
BORU Boraas 78.96 327 *i* P **P 23 58 43.2 -0.9**
TEOL Teolo 79.33 315 P **P 23 58 46.5 +0.2**
CTI Castel Tesino 79.34 315 P **P 23 58 46.1 -0.5**
CTI IAmb IAmb 23 58 54.0
comp=Z,58nm,1.7s
CTI Castel Tesino 79.34 315 P **P 23 58 46.1 -0.5**
CTI pmax pmax
comp=Z,58nm,1.7s
WTTA Wattenberg 79.35 317 *e*P **P 23 58 45.3 -1.4**
comp=Z,4.0nm,0.6s,SNR=10
WTTA *i* S **S 00 08 49.1 +2.5**
comp=Z,5.9nm,1.4s
WATA Walderalm 79.39 317 *e*P **P 23 58 45.2 -1.7**
comp=Z,5.2nm,0.7s,SNR=4.6
WATA *e*S **S 00 08 49.6 +2.6**
comp=Z,3.5nm,1.1s
GRA1 Grafenberg Arr 79.64 319 P **P 23 58 48.8 +0.8**
GRA1 IAmb IAmb 23 59 28.5
comp=Z,24nm,1.3s
GRF Grafenberg Arr 79.64 319 P **P 23 58 48.8 +0.8**
GRF pmax pmax
comp=Z,24nm,1.3s
GRFO Grafenberg 79.64 319 P **P 23 58 48.6 +0.6**
GRFO IAmb IAmb 23 59 28.4
comp=Z,23nm,1.3s
GRFO Grafenberg 79.64 319 P **P 23 58 48.6 +0.6**
GRFO pmax pmax
comp=Z,23nm,1.3s
SQTA Sankt Quirin 79.64 317 *e*P **P 23 58 46.8 -1.4**
comp=Z,3.4nm,0.5s,SNR=10.0
SQTA *e*S **S 00 08 50.6 +1.0**
comp=Z,3.5nm,0.8s
OSSC Osservatorio P 79.64 313 P **P 23 58 48.5 +0.3**
NC405 NORSAR Array S 79.69 331 P **P 23 58 47.5 -0.5**
NC405 IAmb IAmb 23 58 48.3
comp=Z,16nm,0.8s
MOTA Moosalm 79.72 317 *e*P **P 23 58 46.9 -1.7**
comp=Z,7.0nm,0.9s
MOTA *e*S **S 00 08 50.7 +0.3**
comp=Z,3.3nm,1.2s
NC602 NORSAR Array S 79.75 330 P **P 23 58 47.2 -1.1**
ZCCA Zocca 79.83 314 P **P 23 58 49.4 +0.2**
ZCCA IAmb IAmb 23 58 55.4
comp=Z,18nm,0.8s
NC303 NORSAR Array S 79.86 331 P **P 23 58 48.5 -0.4**
STRU Stroemstad 79.86 329 *i* P **P 23 58 48.4 -0.5**
NB2 NORSAR Subarra 79.92 331 P **P 23 58 48.2 -1.1**
comp=Z,12nm,0.8s,baz=92,slow=5.9
NB2 NORSAR Subarra 79.92 331 P **P 23 58 48.2 -1.1**
baz=92,slow=5.9
NOA NORSAR Array B 79.92 331 P **P 23 58 48.3 -1.0**
comp=Z,5.9nm,0.7s,baz=93,slow=5.7,SNR=18
comp=Z,5.9nm,0.7s
CASP Castiglione de 79.94 312 P **P 23 58 49.2 -0.6**
RETA Reutte 79.95 317 *e*P **P 23 58 48.5 -1.3**
comp=Z,3.3nm,0.4s
RETA *e*S **S 00 08 52.5 -0.2**
comp=Z,6.5nm,1.4s
FETA Feichten 79.97 316 *e*P **P 23 58 49.0 -1.0**
comp=Z,4.5nm,0.7s,SNR=8.8
FETA *i* S **S 00 08 53.3 +0.2**
comp=Z,2.6nm,0.9s
SPB2 Spitsbergen Ar 80.04 348 P **P 23 58 50.0 +0.4**
SPITS Spitsbergen Ar 80.04 348 P **P 23 58 48.9 -0.7**
comp=Z,18nm,0.8s,baz=99,slow=10,SNR=11
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 80.04 348 P **P 23 58 49.2 -0.4**
SPITS pmax pmax
comp=Z,32nm,1.0s
FUORN Ofenpass-Fuorn 80.30 316 P **P 23 58 51.4 -0.5**
DAVA Damuels 80.55 317 *e*P **P 23 58 51.5 -1.6**
comp=Z,6.1nm,0.8s
DAVA *i* S **S 00 08 59.2 0.0**
comp=Z,3.3nm,1.0s
MSSA Maissana 80.88 314 P **P 23 58 53.5 -1.4**
TUE Stuetta 80.93 316 P **P 23 58 54.7 -0.5**
KEST Kesra 81.39 305 P **P 23 58 57.3 -0.5**
comp=Z,4.1nm,0.7s,baz=28,slow=2.6,SNR=7.1
comp=Z,4.1nm,0.7s
BFO Black Forest 81.57 318 P **P 23 58 57.2 -1.2**
BFO Black Forest 81.57 318 P **P 23 58 57.2 -1.2**
BFO pmax pmax
comp=Z,7.0nm,1.1s
SENIN Lac Senin/Sane 82.35 316 P **P 23 59 02.1 -0.7**
BNI Bardonecchia 82.86 314 P **P 23 59 05.1 -0.3**
BNI Bardonecchia 82.86 314 P **P 23 59 05.1 -0.3**
BNI pmax pmax
comp=Z,10.0nm,1.2s
WLF Walferdange 82.93 319 P **P 23 59 05.9 +0.4**
WLF Walferdange 82.93 319 P **P 23 59 05.9 +0.4**
WLF pmax pmax
comp=Z,11nm,1.1s
GAMB Gambell 85.00 26 P **P 23 59 16.0 +0.4**
baz=277
NOR Nord 85.45 352 *i* P **P 23 59 16.4 -1.3**
NOR IAmb IAmb 23 59 17.5
comp=Z,4.8nm,0.8s
TNA Tin City 86.34 24 P **P 23 59 22.2 -0.1**
baz=280
SPIA Saint Paul Isl 86.64 33 P **P 23 59 23.8 -0.1**
baz=279
C16K Lisburne Hills 86.80 22 P **P 23 59 24.9 +0.4**
C16K Lisburne Hills 86.80 22 P **P 23 59 24.9 +0.4**
baz=283
F14K Arctic Creek 87.01 24 P **P 23 59 25.4 -0.2**
baz=282
C17K DeLong Mountai 87.53 21 P **P 23 59 28.1 0.0**
baz=285
ANM Nome 87.60 25 P **P 23 59 29.8 +1.3**
ANM IAmb IAmb 23 59 34.7
comp=Z,25nm,1.5s
ANM Nome 87.60 25 P **P 23 59 29.8 +1.3**
ANM pmax pmax
comp=Z,25nm,1.5s
ANM Nome 87.60 25 P **P 23 59 28.5 +0.1**

baz=283
F15K North Star Dit 87.64 24 P P 23 59 28.3 -0.4
F15K North Star Dit 87.64 24 P P 23 59 28.6 0.0
baz=283
D17K Noatak River 87.76 22 P P 23 59 29.7 +0.5
baz=285,SNR=7.9
B18K Kokolik River 87.78 20 P P 23 59 29.6 +0.4
baz=286
A19K Wainwright 87.79 19 P P 23 59 29.9 +0.7
baz=286
EKA Eskdalemuir Ar 87.91 325 P P 23 59 29.5 -0.7
comp=Z,5.5nm,0.6s,baz=99,slow=5.6,SNR=14
comp=Z,5.5nm,0.6s
G15K Niukluk 88.06 25 P P 23 59 31.5 +0.9
baz=284
NIKH Nikolski High 88.12 37 P P 23 59 30.7 -0.4
baz=280
C18K Utukok River 88.19 21 P P 23 59 30.9 -0.4
C18K IAmb IAmb 23 59 40.5
comp=Z,12nm,0.9s
C18K Utukok River 88.19 21 P P 23 59 32.0 +0.7
baz=286
E17K Hotham Inlet 88.39 22 P P 23 59 32.9 +0.7
baz=286
PLWZ Palliser 88.42 132 P P 23 59 33.5 +0.7
K13K Kusilvak Mount 88.51 28 P P 23 59 31.9 -0.9
K13K IAmb IAmb 23 59 36.3
comp=Z,32nm,1.8s
K13K Kusilvak Mount 88.51 28 P P 23 59 33.3 +0.5
baz=284
G16K Koyuk River 88.64 24 P P 23 59 32.5 -0.9
G16K IAmb IAmb 23 59 42.7
comp=Z,7.7nm,0.8s
G16K Koyuk River 88.64 24 P P 23 59 34.0 +0.7
baz=285
E18K Tukpahlearik C 88.75 22 P P 23 59 34.9 +0.9
E18K IAmb IAmb 23 59 44.8
comp=Z,13nm,1.0s
E18K Tukpahlearik C 88.75 22 P P 23 59 34.8 +0.9
baz=287
F17K Baldwin Pennin 88.79 23 P P 23 59 33.5 -0.6
F17K IAmb IAmb 23 59 41.0
comp=Z,15nm,1.1s
F17K Baldwin Pennin 88.79 23 P P 23 59 34.2 +0.1
baz=286
J14K Nanvaranak Lak 88.81 27 P P 23 59 35.2 +0.9
J14K Nanvaranak Lak 88.81 27 P P 23 59 34.6 +0.4
baz=284
A21K Barrow 88.83 18 P P 23 59 34.0 -0.1
baz=291
BKZ Black Stump Fm 88.88 130 P P 23 59 36.3 +1.2
H16K Elim 88.89 25 P P 23 59 34.5 0.0
baz=286
B20K Meade River 89.12 19 P P 23 59 36.0 +0.5
B20K IAmb IAmb 23 59 45.3
comp=Z,7.8nm,0.8s
B20K Meade River 89.12 19 P P 23 59 35.7 +0.2
baz=290
RTZ Ruatahuna 89.15 129 P P 23 59 39.0 +2.6
G17K Kiwalik Mounta 89.30 24 P P 23 59 36.4 -0.1
baz=287
D19K Kuna River 89.31 21 P P 23 59 36.9 +0.4
D19K IAmb IAmb 23 59 43.6
comp=Z,23nm,1.1s
D19K Kuna River 89.31 21 P P 23 59 36.9 +0.4
baz=289
UNV Unalaska Valle 89.33 36 P P 23 59 36.8 -0.1
baz=282
F18K Selawik 89.36 23 P P 23 59 36.8 +0.1
baz=288
A22K Sinclair Lake 89.44 18 P P 23 59 37.1 +0.1
baz=292
M13K Dall Lake 89.50 29 P P 23 59 38.6 +1.2
M13K Dall Lake 89.50 29 P P 23 59 37.8 +0.4
baz=285
L14K Kuka Creek 89.57 28 P P 23 59 38.2 +0.4
L14K Kuka Creek 89.57 28 P P 23 59 38.0 +0.1
baz=285
I17K Unalakleet 89.75 25 P P 23 59 39.3 +0.7
I17K Unalakleet 89.75 25 P P 23 59 38.4 -0.2
baz=287
D20K Etivluk River 89.75 20 P P 23 59 38.5 -0.1
baz=291
H17K Granite Mounta 89.76 24 P P 23 59 38.5 -0.2
H17K IAmb IAmb 23 59 45.7
comp=Z,9.7nm,1.0s
H17K Granite Mounta 89.76 24 P P 23 59 38.6 -0.1
baz=288
K15K Wolf Creek Mou 89.84 27 P P 23 59 39.2 +0.1
baz=286
G18K Tagagawik 89.96 23 P P 23 59 39.7 +0.1
baz=289
J16K Anvik River 89.97 26 P P 23 59 39.9 +0.2
J16K IAmb IAmb 23 59 46.3
comp=Z,19nm,1.2s
J16K Anvik River 89.97 26 P P 23 59 39.7 0.0
baz=287
E19K Redstone River 89.97 21 P P 23 59 39.0 -0.6
E19K IAmb IAmb 23 59 51.9
comp=Z,12nm,0.8s
E19K Redstone River 89.97 21 P P 23 59 39.6 -0.1
baz=290
F19K Shaleruckik Mo 89.99 22 P P 23 59 40.2 +0.6
F19K IAmb IAmb 23 59 46.4
comp=Z,20nm,1.1s
F19K Shaleruckik Mo 89.99 22 P P 23 59 39.8 +0.1
baz=290
L15K Ungalak Mounta 90.03 28 P P 23 59 39.8 -0.2
baz=286
E20K Nigu River 90.06 21 P P 23 59 39.6 -0.5
baz=291
M14K Bethel 90.07 28 P P 23 59 40.2 0.0
baz=286
B21K Ikpikpuk River 90.08 19 P P 23 59 40.0 -0.1
B21K IAmb IAmb 23 59 49.5
comp=Z,9.5nm,0.8s
B21K Ikpikpuk River 90.08 19 P P 23 59 40.1 0.0
baz=292
B22K Teshekpuk Lake 90.18 18 P P 23 59 40.0 -0.5
B22K IAmb IAmb 23 59 48.3
comp=Z,15nm,1.1s
B22K Teshekpuk Lake 90.18 18 P P 23 59 40.6 +0.1
baz=294
C21K Knifeblade Rid 90.21 20 P P 23 59 41.1 +0.4
baz=292
H18K Honhosa River 90.32 24 P P 23 59 41.8 +0.5
H18K IAmb IAmb 23 59 47.6
comp=Z,14nm,1.2s
H18K Honhosa River 90.32 24 P P 23 59 41.7 +0.5
baz=289
N14K Kuskokwak Cree 90.43 29 P P 23 59 41.8 0.0
baz=286
G19K Purcell Mounta 90.48 23 P P 23 59 42.8 +0.8
G19K IAmb IAmb 23 59 49.1
comp=Z,25nm,1.2s
G19K Purcell Mounta 90.48 23 P P 23 59 42.3 +0.2
baz=290
J17K VABM Dome 90.59 26 P P 23 59 42.9 +0.3
J17K IAmb IAmb 23 59 49.2
comp=Z,15nm,1.2s
J17K VABM Dome 90.59 26 P P 23 59 42.4 -0.1
baz=288
F20K Avaraart Lake 90.67 22 P P 23 59 42.7 -0.1
F20K Avaraart Lake 90.67 22 P P 23 59 43.1 +0.3
baz=292
TORD Torodi Ar. Bea 90.67 283 P P 23 59 44.5 +0.6
TORD Torodi Ar. Bea 90.67 283 P P 23 59 43.6 -0.4
comp=Z,209nm,0.3s,baz=71,slow=4.5,SNR=3.0
M15K Kasigluk River 90.68 28 P P 23 59 43.1 +0.1
baz=287
E21K Killik River 90.76 20 P P 23 59 43.1 -0.2
E21K IAmb IAmb 23 59 50.0
comp=Z,21nm,1.1s
E21K Killik River 90.76 20 P P 23 59 43.6 +0.3
baz=293,SNR=10.0
L16K Owhat River 90.94 27 P P 23 59 44.7 +0.5
L16K IAmb IAmb 23 59 51.3
comp=Z,35nm,2.0s
L16K Owhat River 90.94 27 P P 23 59 44.9 +0.7
baz=288
H19K Roundabout Mou 90.94 23 P P 23 59 45.1 +1.0
H19K Roundabout Mou 90.94 23 P P 23 59 44.9 +0.7
baz=291,SNR=11
D22K Ayikyak River 91.01 19 P P 23 59 44.7 +0.2
D22K IAmb IAmb 23 59 51.0
comp=Z,15nm,1.2s
D22K Ayikyak River 91.01 19 P P 23 59 44.9 +0.5
baz=294
GCSA Galena City Sc 91.05 24 P P 23 59 45.2 +0.6
baz=290
N15K Kwethluk River 91.12 29 P P 23 59 45.6 +0.4
N15K IAmb IAmb 23 59 52.0
comp=Z,14nm,1.0s
N15K Kwethluk River 91.12 29 P P 23 59 45.4 +0.2
baz=288
K17K Iditarod 91.14 26 P P 23 59 45.1 -0.1
K17K Iditarod 91.14 26 P P 23 59 45.2 +0.1
baz=289
C23K Itkillik River 91.27 18 P P 23 59 45.5 -0.1
C23K Itkillik River 91.27 18 P P 23 59 46.1 +0.5
baz=296
L17K Donlin 91.33 27 P P 23 59 46.7 +0.6
baz=289
ESDC Sonseca Array 91.37 310 P P 23 59 46.7 -0.1
ESDC Sonseca Array 91.37 310 P P 23 59 46.5 -0.4
comp=Z,2.4nm,0.8s,baz=59,slow=4.2,SNR=12
comp=Z,2.4nm,0.8s
M16K Timber Creek 91.39 28 P P 23 59 47.8 +1.4
M16K IAmb IAmb 23 59 52.7
comp=Z,14nm,1.3s
M16K Timber Creek 91.39 28 P P 23 59 46.6 +0.3
baz=288
ELIB Princess Elisa 91.40 197 dP P 23 59 47.8 +1.5
comp=Z,4.2nm,1.2s
F21K Alatna River 91.41 21 P P 23 59 46.5 +0.1
F21K IAmb IAmb 23 59 53.1
comp=Z,16nm,1.1s
F21K Alatna River 91.41 21 P P 23 59 46.8 +0.4
baz=294,SNR=7.9
O15K Ungalikthiuk R 91.55 30 P P 23 59 47.1 0.0
baz=288
J18K Innoko River 91.56 25 P P 23 59 47.9 +0.8
J18K IAmb IAmb 23 59 53.5
comp=Z,19nm,1.3s
J18K Innoko River 91.56 25 P P 23 59 47.7 +0.6
baz=290
H20K Anotleneega Mo 91.57 23 P P 23 59 47.3 +0.2
baz=292,SNR=8.8
E22K Anaktuvuk Pass 91.61 20 P P 23 59 48.1 +0.8
E22K IAmb IAmb 23 59 54.2
comp=Z,12nm,1.3s
E22K Anaktuvuk Pass 91.61 20 P P 23 59 47.8 +0.5
baz=295
D23K Nanushuk River 91.63 19 P P 23 59 48.3 +1.0
D23K IAmb IAmb 23 59 54.6
comp=Z,21nm,1.2s
D23K Nanushuk River 91.63 19 P P 23 59 47.9 +0.6
baz=296
N16K Nishlik Lake 91.65 28 P P 23 59 47.5 -0.1
baz=289
G21K Allakaket 91.69 22 P P 23 59 48.4 +0.7
G21K Allakaket 91.69 22 P P 23 59 47.8 +0.2
baz=294
F22K John River 91.75 21 P P 23 59 48.3 +0.3
baz=295
J19K Poorman 91.83 24 P P 23 59 49.5 +1.2
J19K Poorman 91.83 24 P P 23 59 48.7 +0.4
baz=292,SNR=11
C24K Franklin Bluff 91.91 18 P P 23 59 49.2 +0.6
C24K IAmb IAmb 00 00 31.4
comp=Z,21nm,1.6s
C24K Franklin Bluff 91.91 18 P P 23 59 48.8 +0.2
baz=298
M17K Holitna River 91.96 27 P P 23 59 50.6 +1.6
M17K IAmb IAmb 23 59 55.9
comp=Z,20nm,1.4s
M17K Holitna River 91.96 27 P P 23 59 48.9 -0.1
baz=290
I20K Naaghedeneel 91.99 24 P P 23 59 50.0 +1.0
I20K Naaghedeneel 91.99 24 P P 23 59 49.2 +0.2
baz=293,SNR=8.9
L18K Granite Mounta 92.01 26 P P 23 59 50.4 +1.2
L18K IAmb IAmb 23 59 55.8
comp=Z,15nm,1.4s
L18K Granite Mounta 92.01 26 P P 23 59 49.7 +0.5
baz=290
TOLK Toolik Lake Re 92.14 19 P P 23 59 50.9 +1.2
TOLK IAmb IAmb 23 59 59.8
comp=Z,9.7nm,0.9s
TOLK Toolik Lake Re 92.14 19 P P 23 59 49.8 +0.1
baz=297
D24K Happy Valley 92.14 19 P P 23 59 50.0 +0.3
D24K IAmb IAmb 23 59 58.9
comp=Z,5.3nm,0.8s
D24K Happy Valley 92.14 19 P P 23 59 49.8 +0.1
baz=298
O16K Kokwok River B 92.26 29 P P 23 59 51.8 +1.5
O16K IAmb IAmb 23 59 56.6
comp=Z,18nm,1.4s
O16K Kokwok River B 92.26 29 P P 23 59 50.7 +0.4
baz=289
H21K Melozitna Rive 92.29 22 P P 23 59 51.7 +1.2
H21K IAmb IAmb 23 59 57.2
comp=Z,18nm,1.1s
H21K Melozitna Rive 92.29 22 P P 23 59 51.3 +0.8
baz=294,SNR=10
SDPT Sand Point 92.35 33 P P 23 59 51.7 +0.8
SDPT Sand Point 92.35 33 P P 23 59 51.1 +0.2
baz=287
J20K Nowinta River 92.36 24 P P 23 59 50.3 -0.5
J20K Nowinta River 92.36 24 P P 23 59 51.4 +0.6
baz=293,SNR=12
N17K Nushagak Hills 92.38 28 P P 23 59 52.4 +1.4
N17K IAmb IAmb 23 59 58.2
comp=Z,20nm,1.2s
N17K Nushagak Hills 92.38 28 P P 23 59 51.0 +0.1
baz=290
E23K Chandalar 92.39 20 P P 23 59 51.3 +0.3
E23K IAmb IAmb 23 59 57.3
comp=Z,9.8nm,1.1s
E23K Chandalar 92.39 20 P P 23 59 51.4 +0.4
baz=297
EUNU Eureka 92.39 0 P P 23 59 51.1 +0.4
EUNU IAmb IAmb 00 00 10.8
comp=Z,14nm,1.6s
P16K Nushagak River 92.50 30 P P 23 59 51.9 +0.5
baz=289
COLD Coldfoot 92.57 21 P P 23 59 52.5 +0.8
COLD Coldfoot 92.57 21 P P 23 59 52.3 +0.7
baz=297
S14K Fog Glacier 92.57 32 P P 23 59 52.1 0.0
baz=288
M18K Stony River 92.66 27 P P 23 59 52.4 +0.2
baz=291
O17K Koliganek Bris 92.68 29 P P 23 59 52.5 +0.2
baz=290
K20K Telida 92.71 25 P P 23 59 52.2 -0.2
K20K Telida 92.71 25 P P 23 59 53.0 +0.6
baz=293,SNR=13
H22K Ishtalitna Cre 92.73 22 P P 23 59 52.9 +0.4
baz=296
E24K Your Creek 92.76 20 P P 23 59 51.4 -1.2
E24K IAmb IAmb 00 00 10.7
comp=Z,31nm,2.0s
E24K Your Creek 92.76 20 P P 23 59 53.0 +0.4
baz=298
D25K Kavik River 92.82 18 P P 23 59 52.1 -0.7
D25K IAmb IAmb 00 00 03.9
comp=Z,11nm,0.9s
D25K Kavik River 92.82 18 P P 23 59 53.2 +0.4
baz=300
L19K White Mountain 92.83 26 P P 23 59 52.9 -0.1
L19K IAmb IAmb 00 00 00.3
comp=Z,15nm,1.1s
L19K White Mountain 92.83 26 P P 23 59 53.7 +0.6
baz=292,SNR=9.3
G23K Bananza Creek 92.86 21 P P 23 59 53.2 +0.1
G23K IAmb IAmb 00 00 10.5
comp=Z,26nm,1.7s
G23K Bananza Creek 92.86 21 P P 23 59 53.6 +0.5
baz=297
N18K Kilae Creek 92.92 28 P P 23 59 54.3 +0.8
N18K IAmb IAmb 23 59 59.8
comp=Z,11nm,1.2s
N18K Kilae Creek 92.92 28 P P 23 59 53.6 +0.2
baz=291
C26K Camden Bay 92.95 17 P P 23 59 53.6 +0.3
baz=302
L20K Farewell, AK 93.14 26 P P 23 59 54.5 +0.1
baz=293,SNR=9.0
M19K Big River Lodg 93.14 26 P P 23 59 54.9 +0.5
M19K Big River Lodg 93.14 26 P P 23 59 54.7 +0.3
baz=293
P17K Kvichak River 93.19 29 P P 23 59 55.1 +0.5
baz=291
CHUM Lake Minchumin 93.22 24 P P 23 59 55.3 +0.6
baz=294
F24K Squaw Lake 93.22 20 P P 23 59 55.0 +0.2
F24K Squaw Lake 93.22 20 P P 23 59 55.1 +0.3
baz=299
Q16K King Salmon 93.27 30 P P 23 59 55.5 +0.5
baz=290
H23K Yukon River 93.44 22 P P 23 59 56.7 +0.9
H23K IAmb IAmb 00 00 06.8
comp=Z,5.9nm,0.8s
H23K Yukon River 93.44 22 P P 23 59 55.9 +0.1
baz=297
C27K Jago River 93.46 17 P P 23 59 56.6 +0.9
C27K IAmb IAmb 00 00 03.1
comp=Z,7.4nm,1.1s
C27K Jago River 93.46 17 P P 23 59 56.1 +0.3
baz=303
CAST Castle Rocks 93.50 24 P P 23 59 56.3 +0.2
CAST Castle Rocks 93.50 24 P P 23 59 56.5 +0.4
baz=295,SNR=10
N19K Bonanza Creek 93.51 27 P P 23 59 56.6 +0.3
N19K Bonanza Creek 93.51 27 P P 23 59 56.1 -0.2
baz=292,SNR=10
O18K Koktuh Hills 93.54 28 P P 23 59 56.9 +0.6
O18K Koktuh Hills 93.54 28 P P 23 59 56.0 -0.3
baz=292
BPAW Bear Paw Mtn. 93.66 24 P P 23 59 56.7 -0.1
BPAW Bear Paw Mtn. 93.66 24 P P 23 59 56.6 -0.1
baz=296,SNR=13
PPLA Purkeypile 93.68 25 P P 23 59 57.5 +0.4
PPLA IAmb IAmb 00 00 22.1
comp=Z,13nm,1.0s
PPLA Purkeypile 93.68 25 P P 23 59 56.4 -0.7
baz=295
E25K Arctic Village 93.69 19 P P 23 59 57.9 +1.1
E25K Arctic Village 93.69 19 P P 23 59 56.9 0.0
baz=301
M20K Styx River 93.69 26 P P 23 59 56.3 -0.8
M20K IAmb IAmb 00 00 11.3
comp=Z,11nm,0.8s
M20K Styx River 93.69 26 P P 23 59 57.0 -0.1
baz=294
P18K Big Mountain, 93.70 29 P P 23 59 57.2 +0.1
P18K IAmb IAmb 00 00 02.4
comp=Z,17nm,1.1s
P18K Big Mountain, 93.70 29 P P 23 59 56.8 -0.3
baz=292
G24K Hadweenzic Riv 93.76 21 P P 23 59 57.6 +0.4
G24K Hadweenzic Riv 93.76 21 P P 23 59 57.1 -0.1
baz=299
I23K Minto, Yukon-K 93.81 22 P P 23 59 57.0 -0.4
I23K Minto, Yukon-K 93.81 22 P P 23 59 57.6 +0.2
baz=297
O19K Port Alsworth 93.82 28 P P 23 59 57.0 -0.5
O19K Port Alsworth 93.82 28 P P 23 59 57.8 +0.3
baz=293
F25K Christian Rive 93.93 19 P P 23 59 58.2 +0.2
F25K IAmb IAmb 00 00 04.8
comp=Z,7.8nm,1.1s
F25K Christian Rive 93.93 19 P P 23 59 58.3 +0.2
baz=301
H24K Noodor Dome 94.04 21 P P 23 59 59.4 +0.8
baz=299
Q18K Katmai Hardscr 94.08 29 P P 23 59 58.9 -0.1
baz=292
NEA2 Nenana 94.18 23 P P 23 59 59.4 +0.3
baz=298
G25K Bearman Lake 94.20 20 P P 23 59 59.3 +0.1
baz=300
TRF Thorofare Moun 94.22 24 P P 00 00 00.2 +0.7
TRF Thorofare Moun 94.22 24 P P 23 59 59.9 +0.4
baz=296
SKT Skwentna 94.34 26 P P 23 59 59.8 -0.2
SKT Skwentna 94.34 26 P P 00 00 00.0 0.0
baz=295,SNR=10
BMAR Burnt Mountain 94.37 19 P P 00 00 00.9 +0.9
F26K Sheenjek River 94.37 19 P P 00 00 00.6 +0.6
F26K IAmb IAmb 00 00 07.1
comp=Z,8.7nm,1.2s
F26K Sheenjek River 94.37 19 P P 00 00 00.2 +0.2
baz=302
SPCR Spurr Chakacha 94.38 26 P P 00 00 01.1 +0.9
baz=294
STLK Strandline Lak 94.42 26 P P 23 59 59.8 -0.6
ILSW Iliamna Southw 94.45 28 P P 00 00 00.1 -0.6
ILSW IAmb IAmb 00 00 15.1
comp=Z,7.1nm,1.0s
D27M Malcolm River 94.48 17 P P 00 00 00.9 +0.3
D27M IAmb IAmb 00 00 08.6
comp=Z,9.4nm,1.2s
D27M Malcolm River 94.48 17 P P 00 00 00.5 0.0
baz=305
P19K Oil Pt 94.54 28 P P 00 00 01.3 +0.3
baz=294
POKR Poker Plat Res 94.55 22 P P 00 00 00.7 -0.1
baz=299
H25L Birch Creek 94.56 21 P P 00 00 01.2 +0.4
baz=301
MCK McKinley 94.63 23 P P 00 00 00.5 -0.8
MCK IAmb IAmb 00 00 07.3
comp=Z,7.8nm,1.1s
MCK McKinley 94.63 23 P P 00 00 00.5 -0.8
MCK pmax pmax
comp=Z,8.0nm,1.1s
MCK McKinley 94.63 23 P P 00 00 01.8 +0.5
baz=298
O20K Slope Mountain 94.65 28 P P 00 00 01.6 +0.2
baz=294
RND Reindeer 94.82 24 P P 00 00 01.6 -0.6
RND IAmb IAmb 00 00 29.7
comp=Z,25nm,1.9s
RND Reindeer 94.82 24 P P 00 00 01.6 -0.6
RND pmax pmax
comp=Z,25nm,1.9s
G26K Porcupine Rive 94.89 20 P P 00 00 03.3 +0.9
baz=303
E27K Coleen River 94.90 18 P P 00 00 03.2 +0.8
E27K Coleen River 94.90 18 P P 00 00 03.2 +0.8
baz=305
SUA Susitna One 94.90 26 P P 00 00 02.0 -0.7
SUA Susitna One 94.90 26 P P 00 00 02.3 -0.4
baz=296,SNR=7.5
ILAR Eielson Array 94.92 22 P P 00 00 02.3 -0.2
ILAR Eielson Array 94.92 22 P P 00 00 01.2 -1.3
comp=Z,0.4nm,0.7s,baz=306,slow=5.2,SNR=5.9
ILAR PP PP 00 03 52.2 +1.1
comp=Z,0.3nm,0.8s,baz=298,slow=7.0,SNR=4.1
comp=Z,0.4nm,0.7s
ILAR Eielson Array 94.92 22 P P 00 00 02.3 -0.2
IL03 Eielson Array 94.93 22 P P 00 00 03.0 +0.3
PRP Porcupine Dome 95.04 21 P P 00 00 02.8 -0.5
PRP IAmb IAmb 00 00 10.0
comp=Z,9.5nm,1.4s
PRP Porcupine Dome 95.04 21 P P 00 00 03.8 +0.6
baz=301
M22K Willow 95.05 25 P P 00 00 03.1 -0.1
M22K Willow 95.05 25 P P 00 00 03.7 +0.5
baz=296
D28M Stokes Point 95.07 17 P P 00 00 03.3 +0.2
baz=308
HDA Harding Lake 95.08 22 P P 00 00 03.7 +0.4
baz=300
FIS Fire Island 95.27 26 P P 00 00 04.5 +0.4
HOM Homer 95.28 28 P P 00 00 04.6 +0.3
baz=295
E28M Babbage River 95.28 17 P P 00 00 04.2 +0.2
E28M Babbage River 95.28 17 P P 00 00 04.3 +0.2
baz=307
SII Sitkinak Islan 95.28 31 P P 00 00 04.9 +0.5
baz=292
Q20K Shuyak Island 95.36 29 P P 00 00 05.1 +0.5
baz=294
AVE Averroes 95.41 305 P P 00 00 05.8 +0.3
OHAK Old Harbor 95.48 30 P P 00 00 05.2 0.0
baz=293
RC01 Rabbit Creek A 95.51 26 P P 00 00 05.0 -0.3
RC01 Rabbit Creek A 95.51 26 P P 00 00 05.5 +0.2
baz=297
CNPM China Poot 95.52 28 P P 00 00 05.0 -0.4
CNPM IAmb IAmb 00 00 18.6
comp=Z,9.3nm,1.1s
PMR Palmer 95.54 25 P P 00 00 05.3 -0.1
PMR IAmb IAmb 00 00 11.4
comp=Z,9.5nm,1.1s
PMR Palmer 95.54 25 P P 00 00 05.3 -0.1

PMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PMR	**Palmer**	**95.54**	**25**	P	**P**	**00 00 05.9**	**+0.5**
	baz=297						
GHO	**Glory Hole Cre**	**95.54**	**25**	P	**P**	**00 00 06.5**	**+0.9**
GHO				IAmb	IAmb	00 00 15.1	
	comp=Z,8.8nm,0.8s						
SLKM	**Skilak Lake**	**95.55**	**27**	P	**P**	**00 00 05.2**	**-0.3**
SLKM				IAmb	IAmb	00 00 11.0	
	comp=Z,12nm,1.1s						
J25K	**Salcha River,**	**95.56**	**22**	P	**P**	**00 00 06.0**	**+0.3**
J25K	**Salcha River,**	**95.56**	**22**	P	**P**	**00 00 05.9**	**+0.3**
	baz=301						
BRLK	**Bradley Lake**	**95.58**	**27**	P	**P**	**00 00 05.1**	**-0.6**
KDAK	**Kodiak Island**	**95.60**	**30**	P	**P**	**00 00 06.0**	**+0.3**
KDAK				IAmb	IAmb	00 00 12.7	
	comp=Z,14nm,1.3s						
KDAK	**Kodiak Island**	**95.60**	**30**	P	**P**	**00 00 06.0**	**+0.3**
KDAK				pmax	pmax		
	comp=Z,14nm,1.3s						
KDAK	**Kodiak Island**	**95.60**	**30**	P	**P**	**00 00 06.1**	**+0.3**
	baz=294						
BRSE	**Bradley Lake S**	**95.65**	**27**	P	**P**	**00 00 06.3**	**+0.2**
	baz=296						
G27K	**Doyon Strip**	**95.67**	**19**	P	**P**	**00 00 06.9**	**+0.9**
G27K	**Doyon Strip**	**95.67**	**19**	P	**P**	**00 00 06.4**	**+0.5**
	baz=305						
SML	**Sawmill**	**95.78**	**25**	P	**P**	**00 00 06.8**	**+0.2**
SML	**Sawmill**	**95.78**	**25**	P	**P**	**00 00 06.8**	**+0.2**
	baz=298						
O22K	**Cooper Landing**	**95.78**	**27**	P	**P**	**00 00 06.9**	**+0.4**
O22K	**Cooper Landing**	**95.78**	**27**	P	**P**	**00 00 06.9**	**+0.4**
	baz=297						
E29M	**Blow River**	**95.89**	**17**	P	**P**	**00 00 07.7**	**+0.8**
E29M	**Blow River**	**95.89**	**17**	P	**P**	**00 00 07.4**	**+0.5**
	baz=308						
KNK	**Knik Glacier**	**95.91**	**25**	P	**P**	**00 00 07.6**	**+0.4**
KNK				IAmb	IAmb	00 00 13.7	
	comp=Z,11nm,1.0s						
KNK	**Knik Glacier**	**95.91**	**25**	P	**P**	**00 00 07.6**	**+0.4**
	baz=298						
I26K	**Coal Creek Min**	**96.00**	**21**	P	**P**	**00 00 07.7**	**+0.3**
	baz=303						
M23K	**Glacier View**	**96.04**	**25**	P	**P**	**00 00 07.8**	**+0.1**
	baz=298						
H27K	**Steamboat Moun**	**96.04**	**20**	P	**P**	**00 00 08.2**	**+0.5**
	baz=305						
SEW	**Seward**	**96.08**	**27**	P	**P**	**00 00 08.4**	**+0.6**
	baz=297						
SCM	**Sheep Creek Mo**	**96.18**	**25**	P	**P**	**00 00 09.5**	**+1.0**
SCM				IAmb	IAmb	00 00 15.1	
	comp=Z,16nm,1.4s						
SCM	**Sheep Creek Mo**	**96.18**	**25**	P	**P**	**00 00 09.5**	**+1.0**
SCM				pmax	pmax		
	comp=Z,16nm,1.4s						
SCM	**Sheep Creek Mo**	**96.18**	**25**	P	**P**	**00 00 08.8**	**+0.3**
	baz=299						
RIDG	**Independent Ri**	**96.21**	**23**	P	**P**	**00 00 09.6**	**+1.1**
RIDG	**Independent Ri**	**96.21**	**23**	P	**P**	**00 00 09.0**	**+0.5**
	baz=301						
PWL	**Port Wells**	**96.22**	**26**	P	**P**	**00 00 08.7**	**+0.2**
PWL	**Port Wells**	**96.22**	**26**	P	**P**	**00 00 08.7**	**+0.2**
	baz=298						
J26L	**Joseph Creek**	**96.29**	**22**	P	**P**	**00 00 09.2**	**+0.3**
	baz=303						
I27K	**Kandik River**	**96.37**	**20**	P	**P**	**00 00 09.9**	**+0.7**
	baz=304						
PAX	**Paxson**	**96.37**	**23**	P	**P**	**00 00 09.6**	**+0.3**
	baz=301						
SCRK	**Sand Creek**	**96.41**	**22**	P	**P**	**00 00 09.8**	**+0.3**
SCRK	**Sand Creek**	**96.41**	**22**	P	**P**	**00 00 09.9**	**+0.4**
	baz=302						
A36M	**Sachs Harbour**	**96.44**	**11**	P	**P**	**00 00 10.0**	**+0.7**
A36M	**Sachs Harbour**	**96.44**	**11**	P	**P**	**00 00 09.8**	**+0.5**
	baz=321						
M24K	**Tolsona, Glenn**	**96.52**	**24**	P	**P**	**00 00 10.2**	**+0.2**
	baz=300						
DOT	**Dot Lake**	**96.56**	**22**	P	**P**	**00 00 09.9**	**-0.2**
DOT				IAmb	IAmb	00 01 10.9	
	comp=Z,15nm,2.0s						
GLI	**Glacier Island**	**96.74**	**26**	P	**P**	**00 00 11.4**	**+0.5**
GLI	**Glacier Island**	**96.74**	**26**	P	**P**	**00 00 11.4**	**+0.5**
	baz=299						
G29M	**Pine Creek**	**96.77**	**18**	P	**P**	**00 00 11.1**	**+0.2**
	baz=308						
HARP	**HAARP**	**96.79**	**24**	P	**P**	**00 00 11.5**	**+0.4**
	baz=301						
KLU	**Klutina**	**96.94**	**25**	P	**P**	**00 00 12.3**	**+0.4**
KLU				IAmb	IAmb	00 00 48.5	
	comp=Z,7.3nm,1.2s						
KLU	**Klutina**	**96.94**	**25**	P	**P**	**00 00 12.1**	**+0.2**
	baz=300						
F30M	**Barrier River**	**97.00**	**17**	P	**P**	**00 00 11.7**	**-0.2**
	baz=310						
I28M	**Miner Creek**	**97.03**	**20**	P	**P**	**00 00 12.2**	**-0.1**
I28M	**Miner Creek**	**97.03**	**20**	P	Pdif	00 00 12.6	+0.2
	baz=306						
FID	**Port Fidalgo**	**97.07**	**26**	P	Pdif	00 00 13.6	+1.1
H29M	**Whitestone**	**97.08**	**19**		Pdif	00 00 13.1	+0.7
H29M				IAmb	IAmb	00 00 18.0	
	comp=Z,4.7nm,1.0s						
H29M	**Whitestone**	**97.08**	**19**	P	Pdif	00 00 13.0	+0.6
	baz=308						
K27K	**Chicken**	**97.09**	**22**	P	Pdif	00 00 12.8	+0.3
	baz=304						
INK	**Inuvik**	**97.18**	**16**	P	Pdif	00 00 14.5	+1.7
INK				IAmb	IAmb	00 00 18.3	
	comp=Z,6.6nm,1.2s						
INK	**Inuvik**	**97.18**	**16**	P	Pdif	00 00 14.5	+1.7
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	**Inuvik**	**97.18**	**16**	P	Pdif	00 00 12.9	+0.1
	baz=312						
HIN	**Hinchinbrook I**	**97.24**	**26**	P	**P**	**00 00 13.2**	**0.0**
G30M	**tAoh Zraii Nji**	**97.27**	**18**	P	Pdif	00 00 13.5	+0.2
	baz=310						
N25K	**Chitina, Valde**	**97.42**	**24**	P	Pdif	00 00 14.4	+0.2
N25K				IAmb	IAmb	00 00 24.2	
	comp=Z,3.3nm,0.8s						
N25K	**Chitina, Valde**	**97.42**	**24**	P	Pdif	00 00 14.5	+0.3
	baz=301						
EYAK	**Cordova Ski Ar**	**97.48**	**26**	P	Pdif	00 00 15.0	+0.7
EYAK				IAmb	IAmb	00 03 56.7	
	comp=Z,6.9nm,1.0s						
EYAK	**Cordova Ski Ar**	**97.48**	**26**	P	Pdif	00 00 14.4	+0.2
	baz=300						
EPYK	**Eagle Plains**	**97.51**	**18**	P	**P**	**00 00 14.2**	**-0.2**
EPYK				IAmb	IAmb	00 00 23.2	
	comp=Z,5.1nm,0.8s						
EPYK	**Eagle Plains**	**97.51**	**18**		**P**	**00 00 14.3**	**0.0**
EPYK	**Eagle Plains**	**97.51**	**18**	P	Pdif	00 00 14.7	+0.3
	baz=309						
QSPA	**South Pole Qui**	**97.57**	**180**	P	**P**	**00 00 10.7**	**-3.9**
	comp=Z,1.2nm,1.0s,baz=297,slow=4.5,SNR=1.5						
	comp=Z,1.2nm,1.0s						
RES	**Resolute Bay**	**97.60**	**2**	P	Pdif	00 00 15.5	+0.9
RES				IAmb	IAmb	00 00 21.0	
	comp=Z,4.7nm,0.9s						
RES	**Resolute Bay**	**97.60**	**2**	P	Pdif	00 00 15.5	+0.9
RES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
I29M	**Ogilvie Camp,**	**97.63**	**20**	P	Pdif	00 00 15.1	+0.2
	baz=308						
M26K	**Nabesna, AK**	**97.64**	**23**	P	Pdif	00 00 15.8	+0.7
M26K	**Nabesna, AK**	**97.64**	**23**	P	Pdif	00 00 15.1	0.0
	baz=303						
F31M	**Tsiigehtchic**	**97.70**	**17**	P	Pdif	00 00 16.6	+1.5
F31M				IAmb	IAmb	00 00 20.6	
	comp=Z,7.3nm,1.1s						
F31M	**Tsiigehtchic**	**97.70**	**17**	P	Pdif	00 00 15.2	+0.1
	baz=312						
L27K	**Beaver Creek,**	**97.72**	**22**	P	Pdif	00 00 15.6	+0.1
	baz=304						
BCAR	**Beaver Creek A**	**97.74**	**22**	P	Pdif	00 00 16.5	+1.0
BMRM	**Bremner River**	**97.75**	**25**	P	Pdif	00 00 16.4	+0.8
BMRM	**Bremner River**	**97.75**	**25**	P	**P**	**00 00 15.5**	**-0.1**
	baz=301						
G31M	**Satah River**	**97.89**	**17**	P	**P**	**00 00 15.8**	**-0.1**
	baz=312						
DAWY	**Dawson**	**98.04**	**21**	P	Pdif	00 00 17.2	+0.4
	baz=306						
M27K	**Edge Creek, AK**	**98.10**	**23**	P	Pdif	00 00 17.6	+0.3
	baz=304						
I30M	**Mount Dempster**	**98.35**	**19**	P	**P**	**00 00 18.0**	**-0.2**
I30M				IAmb	IAmb	00 00 27.5	
	comp=Z,4.0nm,0.9s						
I30M	**Mount Dempster**	**98.35**	**19**	P	Pdif	00 00 18.5	+0.3
	baz=309						
KAIM	**Kayak Island**	**98.37**	**26**	P	Pdif	00 00 18.8	+0.5
	baz=301						
BERG	**Berg Lake**	**98.43**	**25**	P	**P**	**00 00 17.4**	**-1.1**
BERG				IAmb	IAmb	00 00 21.5	
	comp=Z,5.1nm,0.9s						
BVCY	**Beaver Creek**	**98.46**	**23**	P	Pdif	00 00 18.9	+0.2
	baz=305						
SUCK	**Suckling Hills**	**98.57**	**25**	P	Pdif	00 00 19.9	+0.7
H31M	**Peel River**	**98.62**	**18**		Pdif	00 00 19.5	+0.2
H31M				IAmb	IAmb	00 00 29.1	
	comp=Z,5.2nm,1.0s						
H31M	**Peel River**	**98.62**	**18**	P	Pdif	00 00 19.6	+0.3
	baz=311						
C36M	**Paulatuk**	**98.76**	**13**	P	Pdif	00 00 19.9	+0.1
	baz=322						
K29M	**Barlow Dome**	**98.83**	**21**	P	**P**	**00 00 20.1**	**-0.3**
	baz=308						
HYT	**Haines Junctio**	**100.70**	**23**	P	**Pdif**	**00 00 28.4**	**-0.4**
	baz=308						
M31M	**Drury Creek, Y**	**100.98**	**21**	P	**Pdif**	**00 00 29.8**	**-0.1**
	baz=311						
O30N	**Mendenhall**	**101.27**	**23**	P	**Pdif**	**00 00 31.1**	**-0.1**
	baz=309						
FARO	**Faro, Yukon**	**101.33**	**21**	P	**Pdif**	**00 00 31.4**	**-0.1**
	baz=312						
YKA	**Yellowknife Ar**	**106.62**	**13**	Pdiff	**Pdif**	**00 00 53.8**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=356,slow=2.8,SNR=2.9						
YKA				PP	**PP**	**00 05 21.6**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=330,slow=7.7,SNR=4.6						
YKA				PKKPbc	**PKKPbc**	**00 16 26.1**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=161,slow=3.3,SNR=4.1						
YKA				PKKP	**PKKPdf**	**00 16 39.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=147,slow=4.2,SNR=7.1						
TBI	**Tubuai**	**117.18**	**112**	*e*LR	LR	00 40 53.6	
	comp=Z,1μm,25.0s						
PPT2	**Papeete2**	**117.26**	**106**	*e*LR	LR	00 40 57.8	
	comp=Z,261nm,24.5s						
PPT2				*e*LR	LR	00 40 59.9	
	comp=Z,278nm,24.0s						
ULM	**Lac du Bonnet**	**121.66**	**8**	PKP	**PKPdf**	**00 05 32.6**	**-1.8**
	comp=Z,1.9nm,0.6s,baz=28,slow=5.3,SNR=5.0						
ULM				PKKPbc	**PKKPbc**	**00 15 30.9**	**-4.5**
	comp=Z,1.3nm,0.6s,baz=158,slow=6.9,SNR=3.8						
NVAR	**Mina Array Bea**	**125.08**	**31**	PKP	**PKPdf**	**00 05 40.1**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=78,slow=2.7,SNR=5.4						
PDAR	**Pinedale Array**	**125.34**	**21**	PKP	**PKPdf**	**00 05 41.3**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=4.4,slow=1.9,SNR=5.3						
TAOE	**Nuku Hiva Isla**	**126.27**	**95**	*e*LR	LR	00 45 06.6	
	comp=Z,186nm,22.7s						
R11B	**Troy Canyon, C**	**126.49**	**29**		**PKiKP**	**00 05 46.1**	**+1.4**
ECSD	**EROS Data Cent**	**127.91**	**10**	PKPdf	**PKiKP**	**00 05 47.4**	**+0.2**
TXAR	**Lajitas Array**	**139.40**	**24**	PKP	**PKPdf**	**00 06 07.9**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=356,slow=0.9,SNR=3.6						
BDFB	**Brasília**	**142.18**	**254**	PKP	**PKPdf**	**00 06 13.2**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=93,slow=8.0,SNR=4.3						
PLCA	**Paso Flores**	**144.37**	**200**	PKP	PKPbc	00 06 16.1	+0.6
	comp=Z,4.6nm,0.8s,baz=199,slow=2.8,SNR=7.4						
LR05	**Currie**	**145.30**	**199**		**PKPbc**	**00 06 17.4**	**-0.9**
CPUP	**Villa Florida**	**147.16**	**232**	PKPbc	**PKPdf**	**00 06 22.6**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=112,slow=2.6,SNR=8.8						
MAL2	**Monte Alegre,**	**147.99**	**278**	PKPdf	**PKPdf**	**00 06 23.5**	**-0.5**
MAL2					**pPKPdf**	**00 06 30.9**	**+0.6**
CELP	**Cerrillos**	**148.13**	**324**		**PKPbc**	**00 06 27.0**	**-0.2**
BI02	**San Fabin de**	**148.24**	**203**	PKPdf	**PKPdf**	**00 06 24.6**	**+0.7**
BI02					**sPKPdf**	**00 06 31.7**	**-0.3**
LMEL	**Las Melosas**	**150.22**	**207**	PKPdf	**PKPdf**	**00 06 29.1**	**+1.9**
ZON	**Zonda**	**151.36**	**212**		**PKiKP**	**00 06 35.6**	**+0.2**
ZON	**Zonda**	**151.36**	**212**	PKIKP	**PKiKP**	**00 06 35.6**	**+0.2**
PTLB	**Pontes e Lacer**	**152.76**	**251**		**PKPbc**	**00 06 37.0**	**-1.4**
LPAZ	**La Paz**	**160.70**	**242**	PKP	**PKPdf**	**00 06 41.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=166,slow=8.3,SNR=1.7						

*IDC **31** 23:48:55.0±1.0, 7°.58N×94°.02E, h0km, mb4.2/14, mbtmp4.2/17, ML4.6/2, Error ellipse: s-maj=35.6km s-min=19.0km az=52.0*
*NEIC **31** 23:48:56.6±1.0, 7°.58N±0°.04×94°.18E±0°.09, h10km±1km, mb4.9/18, Error ellipse: s-maj=14.7km s-min=6.9km az=101.0*

ISC 31 23:48:57.6±0.5, 7°.56N±0°.08×94°.13E±0°.08, h20km, n40, σ0s80/40, mb4.6/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.63**	**129**	Pn	**Pn**	**23 49 51.9**	**-0.9**
SRIT	**Nakonsritamara**	**5.52**	**79**	Pn	**Pn**	**23 50 17.9**	**-0.8**
PSI	**Prapat**	**6.72**	**134**	Pn	**Pn**	**23 50 36.1**	**+0.8**
	51nm,1.0s,baz=71,slow=23,SNR=1.4						
RPSI	**Rantau Prapat**	**6.79**	**135**		**Pn**	**23 50 36.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.80**	**23**	Pn	**Pn**	**23 51 45.9**	**+1.0**
	1.1nm,0.3s,baz=202,slow=13,SNR=2.2						
	2.9nm,0.5s						
PALK	**Pallekele**	**13.32**	**270**	Pn	**Pn**	**23 52 05.8**	**+0.1**
PALK	**Pallekele**	**13.32**	**270**	Pn	**Pn**	**23 52 04.5**	**-1.2**
	3.6nm,0.3s,baz=89,slow=18,SNR=6.2						
	6.4nm,0.6s						
SLVN	**Son La**	**16.63**	**34**		**Pn**	**23 52 50.4**	**+0.6**
KSM	**Kuching**	**17.22**	**110**	Pn	**Pn**	**23 52 55.6**	**-1.5**
SBUM	**Sibu**	**18.72**	**105**	P	**P**	**23 53 15.2**	**+0.1**
COCO	**West Island**	**19.80**	**172**	P	**P**	**23 53 27.1**	**+0.1**
XMIS	**Christmas Isla**	**21.28**	**147**	P	**P**	**23 53 43.3**	**+0.2**
XMIS				IAmb	IAmb	23 53 52.2	
	comp=Z,44nm,1.1s						
LSA	**Lhasa**	**22.20**	**353**	P	**P**	**23 53 53.3**	**0.0**
LSA				IAmb	IAmb	23 54 04.7	
	comp=Z,19nm,0.9s						
MKAR	**Makanchi Array**	**40.39**	**347**	P	**P**	**23 56 33.5**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=175,slow=7.7,SNR=5.0						
	comp=Z,2.6nm,0.6s						
SONM	**Songino Array**	**41.47**	**12**	P	**P**	**23 56 43.0**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=204,slow=7.9,SNR=2.2						
	comp=Z,2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**44.84**	**346**	P	**P**	**23 57 11.4**	**+1.1**
	comp=Z,4.7nm,0.7s,baz=168,slow=7.1,SNR=4.7						
	comp=Z,4.7nm,0.7s						
ZALV	**Zalesovo Beam**	**46.86**	**352**	P	**P**	**23 57 26.6**	**+0.4**
	comp=Z,8.8nm,0.8s,baz=183,slow=6.7,SNR=3.6						
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**48.09**	**125**	P	**P**	**23 57 39.2**	**+2.8**
	comp=Z,1.5nm,0.8s,baz=300,slow=8.2,SNR=1.8						
	comp=Z,1.5nm,0.8s						
BVAR	**Borovoye Array**	**49.28**	**341**	P	**P**	**23 57 45.0**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=134,slow=12,SNR=3.7						
	comp=Z,5.1nm,0.9s						
ASAR	**Alice Springs**	**49.73**	**130**	P	**P**	**23 57 49.2**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=305,slow=7.0,SNR=1.8						
	comp=Z,1.9nm,0.9s						
BRTR	**Keskin Array B**	**62.62**	**311**	P	**P**	**23 59 20.1**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=124,slow=5.2,SNR=1.9						
	comp=Z,0.9nm,0.8s						
TIXI	**Tiksi**	**67.54**	**11**	P	**P**	**23 59 51.6**	**-0.5**
TIXI				IAmb	IAmb	00 00 01.5	
	comp=Z,9.7nm,0.9s						
IDI	**Anoyia**	**68.73**	**305**	P	**P**	**00 00 00.4**	**0.0**
ITM	**Ithomi**	**71.30**	**307**	P	**P**	**00 00 16.0**	**-0.1**
FINES	**FINESS Array B**	**72.98**	**332**	P	**P**	**00 00 26.1**	**+0.5**
FINES	**FINESS Array B**	**72.98**	**332**	P	**P**	**00 00 26.4**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=100,slow=7.8,SNR=4.8						
	comp=Z,3.3nm,0.8s						
ARCES	**ARCESS Array B**	**75.55**	**340**	P	**P**	**00 00 40.9**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=96,slow=5.3,SNR=1.9						
	comp=Z,1.4nm,0.7s						
CEL	**Celeste**	**76.13**	**307**	P	**P**	**00 00 44.6**	**+0.1**
CEL				IAmb	IAmb	00 01 28.5	
	comp=Z,20nm,1.4s						
DZM	**Mont Dzumac**	**76.67**	**115**	P	**P**	**00 00 47.3**	**-0.6**
DZM				IAmb	IAmb	00 01 41.0	
	comp=Z,18nm,1.5s						
ONTNC	**Ouen Toro**	**76.74**	**115**	P	**P**	**00 00 47.1**	**-1.0**
GERES	**GERESS Array B**	**78.05**	**318**	P	**P**	**00 00 55.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=102,slow=7.2,SNR=2.2						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**78.72**	**330**	P	**P**	**00 00 59.0**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=123,slow=5.3,SNR=4.8						
	comp=Z,2.2nm,0.5s						
NOA	**NORSAR Array B**	**80.00**	**331**	P	**P**	**00 01 05.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=114,slow=2.5,SNR=1.4						
	comp=Z,0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**80.14**	**348**	P	**P**	**00 01 05.5**	**-0.3**
	comp=Z,7.6nm,0.8s,baz=137,slow=11,SNR=1.5						
	comp=Z,7.6nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**80.34**	**316**	P	**P**	**00 01 07.5**	**-0.4**
K20K	**Telida**	**92.83**	**25**	P	**P**	**00 02 07.9**	**-0.8**
K20K				IAmb	IAmb	00 02 19.7	
	comp=Z,6.3nm,0.9s						
CAST	**Castle Rocks**	**93.62**	**24**	P	**P**	**00 02 11.9**	**-0.5**
CAST				IAmb	IAmb	00 02 15.0	
	comp=Z,4.8nm,0.9s						
N19K	**Bonanza Creek**	**93.63**	**27**	P	**P**	**00 02 11.8**	**-0.7**
N19K				IAmb	IAmb	00 02 22.7	
	comp=Z,5.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**93.77**	**24**	P	**P**	**00 02 13.6**	**+0.5**
BPAW				IAmb	IAmb	00 04 36.4	
	comp=Z,16nm,2.0s						
SKT	**Skwentna**	**94.46**	**26**	P	**P**	**00 02 16.2**	**0.0**
SKT				IAmb	IAmb	00 02 23.2	
	comp=Z,5.1nm,0.9s						

*IDC **31** 23:50:58.2±1.1, 7°.75N×93°.73E, h0km, mb4.1/12, mbtmp4.1/12, Error ellipse: s-maj=37.8km s-min=25.6km az=82.0*

ISC 31 23:51:01.1±1.0, 7°.8N±0°.2×93°.8E±0°.2, h18km, n13, σ0s50/13, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.10**	**348**	P	**P**	**23 58 35.4**	**-0.3**
	2.9nm,0.7s,baz=167,slow=7.8,SNR=4.6						
	2.9nm,0.7s						
SONM	**Songino Array**	**41.33**	**13**	P	**P**	**23 58 46.0**	**+0.1**
	1.0nm,0.8s,baz=183,slow=5.8,SNR=1.7						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**44.55**	**346**	P	**P**	**23 59 12.7**	**+0.9**
	4.4nm,0.8s,baz=167,slow=7.2,SNR=6.1						
	4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**46.60**	**353**	P	**P**	**23 59 28.1**	**+0.1**
	3.9nm,0.7s,baz=175,slow=7.5,SNR=4.9						
	3.9nm,0.7s						
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**23 59 46.3**	**0.0**
	1.9nm,0.8s,baz=161,slow=6.3,SNR=3.1						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**50.13**	**130**	P	**P**	**23 59 55.7**	**0.0**
	1.4nm,0.7s,baz=305,slow=8.0,SNR=3.1						
	1.4nm,0.7s						
BRTR	**Keskin Array B**	**62.22**	**311**	P	**P**	**00 01 21.7**	**-0.4**
	0.6nm,0.7s,baz=120,slow=7.0,SNR=3.0						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**00 02 26.9**	**-0.4**
	2.8nm,0.7s,baz=79,slow=9.9,SNR=3.5						
	2.8nm,0.7s						
BOSA	**Boshof**	**75.24**	**238**	P	**P**	**00 02 43.2**	**-0.1**
	1.8nm,0.6s,baz=35,slow=6.0,SNR=3.7						
	1.8nm,0.6s						
GERES	**GERESS Array B**	**77.66**	**318**	P	**P**	**00 02 57.0**	**+0.3**
	0.4nm,0.6s,baz=83,slow=5.6,SNR=3.7						
	0.4nm,0.6s						
HFS	**Hagfors**	**78.36**	**330**	P	**P**	**00 02 59.3**	**-0.9**
	5.1nm,1.0s,baz=99,slow=9.2,SNR=5.2						
	5.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**90.28**	**283**	P	**P**	**00 04 02.2**	**+0.6**
	141nm,0.3s,baz=108,slow=5.6,SNR=1.9						
ESDC	**Sonseca Array**	**91.01**	**310**	P	**P**	**00 04 04.7**	**0.0**
	0.3nm,0.5s,baz=80,slow=4.6,SNR=1.6						
	0.3nm,0.5s						

*HEL **31** 23:52:30.6±0.1, 67°.83N×20°.18E, h0km, ML1.9, Suspected explosion*
*UPP **31** 23:52:30.5±0.1, 67°.84N×20°.22E, h1km, ML2.5, Unknown*
*IDC **31** 23:52:31.5±1.4, 67°.87N×20°.63E, h0km, mbtmp3.0/3, ML2.1/3, Error ellipse: s-maj=19.7km s-min=7.9km az=114.0*

ISC 31 23:52:30.3±0.8, 67°.84N±0°.03×20°.23E±0°.03, h0km, n31, σ0s96/49, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**19**	P	**Pg**	**23 52 33.0**	**+0.4**
KUA				S	**Sg**	**23 52 34.6**	**+0.5**
RATU	**Laukkuluspa**	**0.24**	**266**	P	**Pg**	**23 52 35.1**	**+0.2**
KOVU	**Salmi**	**0.38**	**356**	P	**Pg**	**23 52 37.7**	**+0.1**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**23 52 43.6**	**0.0**
LANU				S	**Sg**	**23 52 53.5**	**+0.9**
LANU	**Lannavaara**	**0.70**	**72**	PG	**Pg**	**23 52 43.6**	**0.0**
	baz=250						
LANU				SG	**Sg**	**23 52 53.0**	**+0.4**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**23 52 52.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**23 52 53.0**	**0.0**
KIF				MSG		23 53 08.2	
	comp=Z,13nm,0.2s						
KIF				SB	**Sb**	**23 53 09.0**	**-0.5**
HEF	**Hetta**	**1.40**	**65**	*e*P	**Pn**	**23 52 56.1**	**-1.0**
HEF	**Hetta**	**1.40**	**65**	PG	**Pn**	**23 52 56.3**	**-0.8**
HEF				MSG		23 53 13.6	
	comp=Z,6.4nm,0.2s						
HEF				SG	**Sg**	**23 53 14.8**	**-0.5**
ERTU	**Ertsja

0.9nm,0.6s,baz=177,slow=10,SNR=4.6
0.9nm,0.6s
WRA Warramunga Arr 48.20 126 P **P 00 01 49.1 +0.5**
1.1nm,0.8s,baz=300,slow=8.1,SNR=2.2
1.1nm,0.8s
BVAR Borovoye Array 49.02 341 P **P 00 01 53.6 -0.8**
1.2nm,0.6s,baz=141,slow=9.6,SNR=4.2
1.2nm,0.8s
ASAR Alice Springs 49.86 130 P **P 00 02 00.5 -0.8**
0.5nm,0.6s,baz=321,slow=9.3,SNR=4.7
0.5nm,0.6s
FINES FINESS Array B 72.75 332 P **P 00 04 37.2 +1.5**
1.3nm,0.7s,baz=100,slow=7.9,SNR=3.7
1.3nm,0.7s
HFS Hagfors 78.50 330 P **P 00 05 09.8 +1.1**
1.6nm,0.6s,baz=116,slow=6.6,SNR=4.0
1.6nm,0.6s

IDC 31 23:56:20.5±6.2, 8°.13N×94°.05E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=357.1km s-min=30.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.82**	**347**	P	P	00 03 55.5	0.0
	0.7nm,0.7s,baz=157,slow=8.0,SNR=3.8						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**44.28**	**346**	P	P	00 04 32.0	+0.2
	0.7nm,0.7s,baz=167,slow=7.2,SNR=5.0						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**46.30**	**352**	P	P	00 04 47.5	-0.3
	0.8nm,0.6s,baz=188,slow=2.9,SNR=2.5						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**48.72**	**341**	P	P	00 05 06.4	-0.3
	0.7nm,0.8s,baz=133,slow=6.1,SNR=2.9						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**50.14**	**130**	P	P	00 05 18.0	-0.1
	0.4nm,0.7s,baz=306,slow=8.4,SNR=2.8						
	0.4nm,0.7s						

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*IDC **31** 23:56:40.9±0.6, 7°.50N×94°.33E, h0km, mb4.3/20, mbtmp4.3/23, ML4.3/3, Error ellipse: s-maj=20.8km s-min=14.3km az=59.0*
*NEIC **31** 23:56:43.4±1.6, 7°.58N±0°.04×94°.33E±0°.08, h10km±1km, mb5.0/64, Error ellipse: s-maj=14.0km s-min=5.1km az=115.0*
*DJA **31** 23:56:50.1±1.3, 8°.N±4°.×9°.5E±°, h18km±14km, M4.7/10, mB6.4/2, mb4.6/7, MLv4.7/10, Mw(mB)6.2/2*
*NDI **31** 23:56:59.4±3.2, 8°.09N×94°.08E, h10km, mb4.8, MW4.8, mb5.0(NEIC)*
ISC 31 23:56:45.1±0.4, 7°.54N±0°.05×94°.36E±0°.06, h24km, n123, σ1°.31/112, mb4.8/50, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.23**	**155**	P	**Pb**	**23 57 24.8**	**0.0**
BSI				S	**Sb**	**23 57 51.7**	**-0.4**
LHMI	**Lhok Sumawe**	**3.45**	**132**	Pn	**Pn**	**23 57 37.9**	**+0.6**
LHMI	**Lhok Sumawe**	**3.45**	**132**	P	**Pn**	**23 57 38.6**	**+1.3**
LHMI				S	**Sn**	**23 58 16.3**	**-1.2**
MLSI	**Meulaboh, Aceh**	**3.84**	**148**	P	**Pn**	**23 57 45.9**	**+3.2**
SRIT	**Nakonsritamara**	**5.30**	**78**	Pn	**Pn**	**23 58 03.3**	**+0.6**
PSI	**Prapat**	**6.55**	**136**	Pn	**Pn**	**23 58 20.6**	**+0.6**
	2.3nm,0.3s,baz=313,slow=8.3,SNR=4.9						
	7.5nm,0.4s						
RPSI	**Rantau Prapat**	**6.62**	**136**		**Pn**	**23 58 20.6**	**-0.4**
RPSI	**Rantau Prapat**	**6.62**	**136**	Pn	**Pn**	**23 58 21.0**	**+0.1**
KULM	**Kulim**	**6.64**	**109**	Pn	**Pn**	**23 58 21.6**	**+0.4**
GSI	**Gunungsitoli**	**6.98**	**152**	P	**Pn**	**23 58 29.6**	**+3.8**
	0.4nm10μm33nm,1.8s						
MYKOM	**Kota Tinggi**	**11.05**	**121**	Pn	**Pn**	**23 59 22.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**11.73**	**22**	Pn	**Pn**	**23 59 32.4**	**+1.3**
	1.4nm,0.3s,baz=203,slow=14,SNR=8.3						
	2.0nm,0.3s						
CHTO	**Chiang Mai**	**12.06**	**21**	Pn	**Pn**	**23 59 36.4**	**+0.8**
PALK	**Pallekele**	**13.54**	**270**	Pn	**Pn**	**23 59 54.9**	**-1.0**
	0.9nm,0.3s,baz=90,slow=15,SNR=2.0						
	6.7nm,0.6s						
RAGD	**RAYAGADA**	**15.73**	**319**	*eP*	**P**	**00 00 34.1**	**+5.0**
RAGD				IAmb	IAmb	00 00 38.9	
	comp=Z,44nm,0.8s						
SALM	**Salem**	**16.44**	**286**	*eP*	P	00 00 44.3	+7.4
SALM				IAmb	IAmb	00 01 03.3	
	comp=Z,60nm,0.9s						
KSM	**Kuching**	**17.00**	**110**	Pn	**Pn**	**00 00 41.7**	**+0.3**
IMP	**Imphal**	**17.20**	**359**	*eP*	**P**	**00 00 51.8**	**+6.5**
HYB	**Hyderabad**	**18.27**	**304**	*eP*	**Pn**	**00 00 55.8**	**-1.4**
SBUM	**Sibu**	**18.50**	**105**	P	**P**	**00 00 58.8**	**-0.9**
GTK	**Tadong**	**20.41**	**345**	*eP*	Pn	00 01 29.7	+6.8
LSA	**Lhasa**	**22.25**	**353**	P	**P**	**00 01 39.5**	**-1.3**
LGTI	**Lohaghat**	**25.52**	**330**	IAmb	IAmb	00 02 20.4	
	comp=Z,28nm,0.8s						
LGTI				*eP*	P	00 02 23.3	+11
PTH	**Pithoragarh**	**25.62**	**331**	IAmb	IAmb	00 02 21.4	
	comp=Z,40nm,0.9s						
PTH				*eP*	P	00 02 23.1	+10
JMIU	**JAMIA UNIVERSI**	**26.40**	**325**	*eP*	P	00 02 32.7	+13
H08S3	**Diego Garcia H**	**26.51**	**236**	T	T	00 29 11.8	
	baz=54,slow=75,SNR=8.1						
H08S2	**Diego Garcia H**	**26.51**	**236**	T	T	00 29 10.5	
	baz=54,slow=75,SNR=9.6						
H08S1	**Diego Carcia H**	**26.53**	**236**	T	T	00 29 21.2	
	baz=54,slow=75,SNR=7.8						
KUDL	**Kundal**	**26.56**	**323**	*eP*	P	00 02 32.7	+11
KUDL				IAmb	IAmb	00 02 38.1	
	comp=Z,5.7nm,0.7s						
JOSI	**Joshimath**	**26.77**	**331**	*eP*	P	00 02 35.7	+12
GNR	**GANAUR**	**26.98**	**325**	*eP*	P	00 02 34.9	+10
NIL	**Nilore**	**32.49**	**326**	P	**P**	**00 03 13.3**	**-0.6**
NIL				IAmb	IAmb	00 03 19.4	
	comp=Z,13nm,0.7s						
GIRL	**Giralia**	**35.76**	**147**	P	**P**	**00 03 43.7**	**+1.4**
GAR	**Garm**	**38.07**	**329**	P	**P**	**00 04 01.3**	**-0.7**
SIMJ	**Simiganj**	**38.50**	**327**	P	**P**	**00 04 04.3**	**-1.4**
AAK	**Ala-Archa**	**39.10**	**337**	P	**P**	**00 04 10.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.03**	**130**	P	**P**	**00 04 18.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.03**	**130**	P	**P**	**00 04 17.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=300,slow=8.1,SNR=1.7						
	comp=Z,1.2nm,0.6s						
MK31	**Makanchi Array**	**40.46**	**347**	P	**P**	**00 04 21.3**	**-0.5**
MKAR	**Makanchi Array**	**40.46**	**347**	P	**P**	**00 04 21.7**	**0.0**
MKAR	**Makanchi Array**	**40.46**	**347**	P	**P**	**00 04 21.4**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=169,slow=8.0,SNR=25						
	comp=Z,4.9nm,0.7s						
MAKZ	**Makanchi**	**40.54**	**347**	P	**P**	**00 04 22.1**	**-0.3**
SONM	**Songino Array**	**41.44**	**12**	P	**P**	**00 04 31.2**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=179,slow=12,SNR=5.1						
SONM				PcP	**PcP**	**00 06 27.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=170,slow=2.4,SNR=3.2						
	comp=Z,1.2nm,1.0s						
KURBB	**Kurchatov Arra**	**44.92**	**346**	P	**P**	**00 04 58.0**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=168,slow=7.1,SNR=38						
KURBB				PcP	**PcP**	**00 06 39.1**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=160,slow=3.3,SNR=4.5						
	comp=Z,4.9nm,0.6s						
NWAO	**Narrogin (SRO)**	**45.76**	**153**	P	**P**	**00 05 05.0**	**+0.3**
ZAA0	**Zalesovo Array**	**46.91**	**352**	P	**P**	**00 05 14.3**	**+0.8**
ZALV	**Zalesovo Beam**	**46.91**	**352**	P	**P**	**00 05 14.1**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=184,slow=7.9,SNR=14						
	comp=Z,3.3nm,0.5s						
WB0	**Warramunga Arr**	**47.85**	**125**	P	**P**	**00 05 20.6**	**-0.8**
WB0				IAmb	IAmb	00 06 45.5	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**47.89**	**125**	P	**P**	**00 05 20.8**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=304,slow=9.2,SNR=5.2						
	comp=Z,1.2nm,0.7s						
WB2	**Warramunga Arr**	**47.90**	**125**	P	**P**	**00 05 19.7**	**-2.1**
WB2				IAmb	IAmb	00 06 05.0	
	comp=Z,15nm,1.4s						
BVAR	**Borovoye Array**	**49.37**	**341**	P	**P**	**00 05 32.3**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=146,slow=8.8,SNR=12						
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**49.54**	**130**	P	**P**	**00 05 33.7**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=308,slow=7.3,SNR=9.3						
	comp=Z,1.3nm,0.8s						
KMBO	**Kilima Mbogo**	**57.60**	**264**	P	**P**	**00 06 34.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=60,slow=10,SNR=12						
	comp=Z,2.7nm,0.8s						
BR131	**Keskin Array S**	**62.81**	**311**	P	**P**	**00 07 06.3**	**-2.8**
BR131				IAmb	IAmb	00 08 16.6	
	comp=Z,11nm,1.7s						
BRTR	**Keskin Array B**	**62.81**	**311**	P	**P**	**00 07 07.0**	**-2.1**
	comp=Z,1.3nm,0.6s,baz=132,slow=7.0,SNR=12						
	comp=Z,1.3nm,0.6s						

ILGA	**Ilgaz**	**63.07**	**312**	P	**P**	**00 07 09.9**	**-1.0**
ELL	**Elmali**	**65.09**	**307**	P	**P**	**00 07 23.3**	**-0.9**
H04N2	**CROZET ISLANDS**	**65.55**	**211**	T	T	01 18 10.3	
	baz=47,slow=75,SNR=5.7						
H04N1	**CROZET ISLANDS**	**65.56**	**211**	T	T	01 18 18.9	
	baz=47,slow=75,SNR=6.2						
H04N3	**CROZET ISLANDS**	**65.57**	**211**	T	T	01 18 08.9	
	baz=47,slow=75,SNR=5.7						
TIXI	**Tiksi**	**67.52**	**11**	P	**P**	**00 07 38.2**	**-0.7**
TIXI				IAmb	IAmb	00 07 44.3	
	comp=Z,4.7nm,0.7s						
MLR	**Muntele Rosu**	**69.56**	**316**	P	**P**	**00 07 51.7**	**-0.6**
MLR				IAmb	IAmb	00 07 57.1	
	comp=Z,19nm,1.8s						
BURAR	**Bucovina Array**	**70.44**	**318**	P	**P**	**00 07 56.8**	**-0.8**
LIT	**Litokhoron**	**71.32**	**310**	P	**P**	**00 08 01.4**	**-1.6**
LIT				IAmb	IAmb	00 10 09.9	
	comp=Z,9.1nm,1.0s						
LVZ	**Lovozero**	**71.94**	**340**	P	**P**	**00 08 06.1**	**-0.2**
FIA1	**FINESS Array S**	**73.10**	**332**	P	**P**	**00 08 12.7**	**-0.5**
FINES	**FINESS Array B**	**73.10**	**332**	P	**P**	**00 08 12.5**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=80,slow=5.6,SNR=14						
	comp=Z,4.4nm,0.7s						
LBTB	**Lobatse**	**74.27**	**241**	P	**P**	**00 08 20.7**	**-0.2**
LBTB				IAmb	IAmb	00 09 59.4	
	comp=Z,27nm,1.8s						
BOSA	**Boshof**	**75.59**	**238**	P	**P**	**00 08 28.4**	**-0.1**
BOSA	**Boshof**	**75.59**	**238**	P	**P**	**00 08 29.1**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=120,slow=6.1,SNR=5.6						
	comp=Z,3.2nm,0.8s						
ARCES	**ARCESS Array B**	**75.65**	**340**	P	**P**	**00 08 27.9**	**0.0**
	comp=Z,7.9nm,1.0s,baz=81,slow=8.3,SNR=1.5						
	comp=Z,7.9nm,1.0s						
TIP	**Timpagrande**	**75.67**	**308**	P	**P**	**00 08 26.5**	**-2.2**
TIP				IAmb	IAmb	00 09 02.2	
	comp=Z,29nm,2.0s						
GRHM	**Grahamstown, E**	**76.10**	**233**	P	**P**	**00 08 33.3**	**+2.1**
PAOL	**Paolisi**	**77.39**	**310**	P	**P**	**00 08 36.2**	**-2.3**
PAOL				IAmb	IAmb	00 08 58.3	
	comp=Z,12nm,1.6s						
SABO	**M.te Sabotino**	**78.20**	**315**	P	**P**	**00 08 41.6**	**-1.2**
SABO				IAmb	IAmb	00 10 01.3	
	comp=Z,25nm,1.6s						
GEC2	**GERESS Array S**	**78.22**	**318**	P	**P**	**00 08 42.8**	**-0.1**
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**00 08 41.6**	**-1.3**
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**00 08 42.5**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=78,slow=7.0,SNR=7.7						
	comp=Z,1.4nm,0.7s						
PRED	**Cave del Predi**	**78.24**	**316**	P	**P**	**00 08 41.9**	**-1.1**
GUMA	**Gualdo di Mace**	**78.34**	**312**	P	**P**	**00 08 42.7**	**-0.9**
GUMA				IAmb	IAmb	00 08 48.8	
	comp=Z,18nm,1.4s						
HFS	**Hagfors**	**78.85**	**330**	P	**P**	**00 08 45.6**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=120,slow=8.8,SNR=14						
	comp=Z,3.0nm,0.5s						
CIMO	**Cimolais**	**79.01**	**316**	P	**P**	**00 08 45.6**	**-1.6**
NB2	**NORSAR Subarra**	**80.12**	**331**	P	**P**	**00 08 51.9**	**-1.1**
	comp=Z,4.9nm,0.9s,baz=92,slow=5.9						
NB2	**NORSAR Subarra**	**80.12**	**331**	P	**P**	**00 08 51.9**	**-1.1**
	baz=92,slow=5.9						
NOA	**NORSAR Array B**	**80.12**	**331**	P	**P**	**00 08 52.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=97,slow=5.6,SNR=6.1						
	comp=Z,1.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.20**	**348**	P	**P**	**00 08 53.0**	**-0.2**
	comp=Z,9.1nm,0.9s,baz=102,slow=11,SNR=6.4						
	comp=Z,9.1nm,0.9s						
TUE	**Stuetta**	**81.15**	**316**	P	**P**	**00 08 57.7**	**-1.3**
ADK	**Adak**	**83.48**	**39**	P	**P**	**00 09 10.8**	**0.0**
FOZ	**Fox Glacier**	**84.75**	**135**	P	**P**	**00 09 17.3**	**0.0**
AMCZ	**Amberley**	**86.66**	**134**	P	**P**	**00 09 25.3**	**-1.6**
EKA	**Eskdalemuir Ar**	**88.11**	**325**	P	**P**	**00 09 33.7**	**0.0**
	comp=Z,1.7nm,0.6s,baz=92,slow=5.5,SNR=7.2						
	comp=Z,1.7nm,0.6s						
E18K	**Tukpahlearik C**	**88.80**	**22**	P	**P**	**00 09 37.0**	**+0.3**
E18K				IAmb	IAmb	00 12 56.1	
	comp=Z,22nm,1.9s						
D19K	**Kuna River**	**89.36**	**21**	P	**P**	**00 09 40.1**	**+0.7**
D19K				IAmb	IAmb	00 13 07.5	
	comp=Z,7.1nm,1.2s						
E19K	**Redstone River**	**90.03**	**21**	P	**P**	**00 09 43.0**	**+0.6**
E19K				IAmb	IAmb	00 13 00.1	
	comp=Z,7.1nm,1.2s						
B21K	**Ikpikpuk River**	**90.14**	**19**	P	**P**	**00 09 43.7**	**+0.8**
B21K				IAmb	IAmb	00 10 14.8	
	comp=Z,17nm,1.9s						
B22K	**Teshekpuk Lake**	**90.24**	**18**	P	**P**	**00 09 44.0**	**+0.7**
B22K				IAmb	IAmb	00 12 55.2	
	comp=Z,20nm,1.8s						
F20K	**Avaraart Lake**	**90.72**	**22**	P	**P**	**00 09 45.1**	**-0.5**
F20K				IAmb	IAmb	00 13 03.5	
	comp=Z,10.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**90.88**	**283**	P	**P**	**00 09 47.2**	**-0.3**
	comp=Z,220nm,0.5s,baz=69,slow=3.9,SNR=2.6						
H19K	**Roundabout Mou**	**90.99**	**23**	P	**P**	**00 09 48.6**	**+1.7**
F21K	**Alatna River**	**91.46**	**21**	P	**P**	**00 09 48.9**	**-0.3**
ESDC	**Sonseca Array**	**91.59**	**310**	P	**P**	**00 09 50.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=67,slow=4.2,SNR=7.6						
	comp=Z,0.7nm,0.6s						
G21K	**Allakaket**	**91.73**	**22**	P	**P**	**00 09 50.6**	**+0.1**
G21K				IAmb	IAmb	00 13 07.9	
	comp=Z,14nm,1.4s						
J19K	**Poorman**	**91.87**	**24**	P	**P**	**00 09 51.8**	**+0.7**
J19K				IAmb	IAmb	00 13 09.4	
	comp=Z,9.1nm,1.2s						
M17K	**Holitna River**	**91.99**	**27**	P	**P**	**00 09 51.8**	**0.0**
M17K				IAmb	IAmb	00 09 55.7	
	comp=Z,18nm,1.4s						
I20K	**Naaghedeneel**	**92.03**	**24**	P	**P**	**00 09 53.1**	**+1.3**
H21K	**Melozitna Rive**	**92.34**	**22**	P	**P**	**00 09 53.8**	**+0.5**
H21K				IAmb	IAmb	00 13 06.3	
	comp=Z,14nm,1.6s						
K20K	**Telida**	**92.75**	**25**	P	**P**	**00 09 56.5**	**+1.3**
D25K	**Kavik River**	**92.88**	**18**	P	**P**	**00 09 56.0**	**+0.2**
N18K	**Kilae Creek**	**92.95**	**28**	P	**P**	**00 09 55.5**	**-0.7**
M19K	**Big River Lodg**	**93.17**	**26**	P	**P**	**00 09 58.2**	**+1.0**
M19K				IAmb	IAmb	00 10 00.1	
	comp=Z,14nm,1.5s						
N19K	**Bonanza Creek**	**93.54**	**27**	P	**P**	**00 09 59.8**	**+0.7**
N19K				IAmb	IAmb	00 13 11.7	
	comp=Z,7.1nm,0.9s						
CAST	**Castle Rocks**	**93.55**	**24**	P	**P**	**00 09 59.7**	**+0.9**
M20K	**Styx River**	**93.73**	**26**	P	**P**	**00 09 59.8**	**-0.1**
G24K	**Hadweenzic Riv**	**93.82**	**21**	P	**P**	**00 10 01.1**	**+1.1**
G24K				IAmb	IAmb	00 10 09.1	
	comp=Z,8.8nm,1.6s						
BWN	**Browne**	**94.27**	**23**	P	**P**	**00 10 01.8**	**-0.3**
SKT	**Skwentna**	**94.38**	**26**	P	**P**	**00 10 02.6**	**-0.1**
BMAR	**Burnt Mountain**	**94.43**	**19**	P	**P**	**00 10 03.7**	**+0.8**
SUA	**Susitna One**	**94.94**	**26**	P	**P**	**00 10 06.0**	**+0.6**
SUA				IAmb	IAmb	00 11 17.8	
	comp=Z,4.8nm,0.6s						
ILAR	**Eielson Array**	**94.97**	**22**	P	**P**	**00 10 04.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=297,slow=4.0,SNR=1.9						
	comp=Z,0.2nm,0.6s						
GHO	**Glory Hole Cre**	**95.58**	**25**	P	**P**	**00 10 09.1**	**+0.8**
GHO				IAmb	IAmb	00 12 35.9	
	comp=Z,5.5nm,1.0s						
BERG	**Berg Lake**	**98.47**	**25**	P	**P**	**00 10 21.1**	**-0.2**
PLCA	**Paso Flores**	**144.31**	**200**	PKP	PKPbc	00 16 17.8	-0.1
	comp=Z,2.0nm,0.8s,baz=164,slow=3.6,SNR=7.2						
CPUP	**Villa Florida**	**147.23**	**232**	PKPbc	**PKPbc**	**00 16 26.3**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=103,slow=2.6,SNR=7.4						

IDC 31 23:57:52.6±67.0, 4°.99N×93°.96E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=1252.0km s-min=140.4km az=178.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.85**	**348**	P	P	00 05 52.2	-0.4
	1.0nm,0.7s,baz=168,slow=8.3,SNR=3.7						
	1.0nm,0.7s						
SONM	**Songino Array**	**44.01**	**12**	P	P	00 06 01.9	-0.1
	0.3nm,0.5s,baz=165,slow=6.0,SNR=1.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**47.29**	**347**	P	P	00 06 28.1	+0.4
	1.1nm,0.7s,baz=174,slow=6.6,SNR=4.6						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**49.38**	**353**	P	P	00 06 43.3	-0.5
	1.3nm,0.5s,baz=172,slow=7.5,SNR=2.7						
	1.3nm,0.5s						

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*IDC **31** 23:59:02.0±2.6, 7°.38N×93°.52E, h0km, mb3.6/5, mbtmp3.6/6, ML4.4/1, Error ellipse: s-maj=81.7km s-min=31.0km az=61.0*
ISC 31 23:59:09.9±2.0, 7°.5N±0°.2×93°.7E±0°.3, h55km, n6, σ0°.48/6, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.01**	**25**	Pn	**Pn**	**00 01 58.5**	**+0.1**
	0.7nm,0.3s,baz=202,slow=15,SNR=1.5						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**40.35**	**348**	P	**P**	**00 06 41.6**	**-0.5**
	0.7nm,0.7s,baz=167,slow=7.0,SNR=4.0						
	0.7nm,0.7s						
SONM	**Songino Array**	**41.60**	**13**	P	**P**	**00 06 52.5**	**-0.1**
	0.6nm,0.8s,baz=190,slow=6.9,SNR=2.2						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**44.79**	**346**	P	**P**	**00 07 18.7**	**+0.6**
	0.8nm,0.7s,baz=171,slow=6.8,SNR=4.1						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**46.85**	**353**	P	**P**	**00 07 34.3**	**0.0**
	0.6nm,0.5s,baz=159,slow=6.2,SNR=2.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**48.40**	**125**	P	**P**	**00 07 46.9**	**0.0**
	0.4nm,0.8s,baz=312,slow=8.8,SNR=1.0						
	0.4nm,0.8s						

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*IDC **31** 23:59:37.5±0.8, 7°.43N×93°.77E, h0km, mb3.9/17, mbtmp3.9/19, ML4.2/2, Error ellipse: s-maj=28.9km s-min=17.7km az=60.0*
*DJA **31** 23:59:46.9±0.4, 7°.N±3°.×9°.4E±°, h10km, M4.6/12, mb4.5/12, mB6.0/2, MLv4.7/6, Mw(mB)5.7/2*
*NEIC **31** 23:59:50.4±1.8, 8°.31N±0°.07×94°.62E±0°.10, h10km±1km, mb4.8/62, Error ellipse: s-maj=17.4km s-min=9.9km az=247.0*
ISC 31 23:59:48.4±0.5, 7°.79N±0°.06×94°.49E±0°.08, h24km, n114, σ2°.19/80, mb4.7/55, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.41**	**161**	P	**Pn**	**00 00 27.2**	**+0.8**
BSI				S	**Sn**	**00 00 51.8**	**-3.4**
LHMI	**Lhok Sumawe**	**3.52**	**136**	Pn	**Pb**	**00 00 49.0**	**-1.2**
LHMI	**Lhok Sumawe**	**3.52**	**136**	P	**Pn**	**00 00 41.9**	**+0.2**
LHMI				S	**Sn**	**00 01 18.6**	**-4.0**
MLSI	**Meulaboh, Aceh**	**3.98**	**151**	P	**Pn**	**00 00 45.9**	**-2.1**
SRIT	**Nakonsritamara**	**5.12**	**81**	Pn	**Pn**	**00 01 03.4**	**-0.2**
KULM	**Kulim**	**6.60**	**112**	Pn	**Pn**	**00 01 27.7**	**+3.6**
PSI	**Prapat**	**6.63**	**138**	Pn	**Pn**	**00 01 22.8**	**-1.8**
	2.4nm,0.3s,baz=273,slow=13,SNR=2.5						
	12nm,0.7s						
RPSI	**Rantau Prapat**	**6.71**	**139**	Pn	Pn	00 01 32.6	+7.1
BKNI	**Bangkinang**	**9.88**	**138**	Pn	Pn	00 02 16.9	+8.0
PPI	**Padang Panjang**	**10.09**	**144**	P	Pn	00 02 05.6	-6.3
	33nm,1.4s						
MYKOM	**Kota Tinggi**	**11.06**	**122**	Pn	Pn	00 02 32.1	+6.8
CM31	**Chiang Mai Arr**	**11.46**	**22**	Pn	Pn	00 02 26.9	-3.8
CMAR	**Chiang Mai Arr**	**11.46**	**22**	Pn	Pn	00 02 26.2	-4.5
CMAR	**Chiang Mai Arr**	**11.46**	**22**	Pn	**Pn**	**00 02 31.4**	**+0.8**
	0.6nm,0.3s,baz=204,slow=13,SNR=2.2						
	1.5nm,0.3s						
CHTO	**Chiang Mai**	**11.78**	**21**	Pn	Pn	00 02 30.3	-4.8
CRAI	**Chiangrai**	**13.62**	**24**	Pn	Pn	00 02 56.3	-3.9
SLVN	**Son La**	**16.25**	**33**		**Pn**	**00 03 33.0**	**-2.3**
KSM	**Kuching**	**16.96**	**111**	Pn	**P**	**00 03 46.5**	**+0.5**
SBUM	**Sibu**	**18.43**	**106**	P	**Pn**	**00 04 04.5**	**+2.0**
XMIS	**Christmas Isla**	**21.28**	**148**	P	**P**	**00 04 38.1**	**+4.7**
XMIS				IAmb	IAmb	00 04 49.3	
	comp=Z,40nm,1.0s						
KKM	**Kota Kinabalu**	**21.63**	**93**	P	**P**	**00 04 37.0**	**-0.3**
SMRI	**Semarang**	**21.68**	**132**	P	**P**	**00 04 43.8**	**+6.1**
SMRI				IAmb	IAmb	00 05 04.6	
	comp=Z,55nm,1.1s						
LSA	**Lhasa**	**22.02**	**352**	P	**P**	**00 04 38.4**	**-3.3**
H08S3	**Diego Garcia H**	**26.76**	**236**	T	T	00 32 12.0	
	baz=55,slow=75,SNR=8.8						
H08S2	**Diego Garcia H**	**26.76**	**236**	T	T	00 32 05.4	
	baz=55,slow=75,SNR=8.1						
H08S1	**Diego Carcia H**	**26.77**	**236**	T	T	00 32 11.0	
	baz=55,slow=75,SNR=7.2						
NIL	**Nilore**	**32.37**	**326**	P	**P**	**00 06 13.8**	**-2.4**
SOEI	**Soe**	**34.40**	**120**	P	**P**	**00 06 37.8**	**+3.5**
SOEI				IAmb	IAmb	00 07 04.3	
	comp=Z,27nm,1.3s						
KBL	**Kabul**	**35.45**	**322**	P	**P**	**00 06 43.2**	**0.0**
WUS	**Wushi**	**35.94**	**340**

MLR	**Muntele Rosu**	**69.48**	**316**	P	**P**	**00 10 57.3**	**+2.1**
MLR				IAmb	IAmb	00 11 09.1	
	comp=Z,13nm,1.2s						
LSZ	**Lusaka**	**69.57**	**251**	P	P	00 11 01.3	+5.1
LSZ				IAmb	IAmb	00 11 11.3	
	comp=Z,10.0nm,1.4s						
FINES	**FINESS Array B**	**72.95**	**332**	P	P	00 11 08.6	-7.0
	comp=Z,2.6nm,0.9s,baz=66,slow=4.9,SNR=5.8						
	comp=Z,2.6nm,0.9s						
CASY	**Casey**	**74.80**	**173**	P	P	00 11 33.1	+6.9
CASY				IAmb	IAmb	00 14 07.9	
	comp=Z,11nm,1.2s						
ARCES	**ARCESS Array B**	**75.46**	**340**	P	P	00 11 24.5	-5.7
	comp=Z,5.7nm,1.0s,baz=102,slow=4.6,SNR=4.1						
	comp=Z,5.7nm,1.0s						
TIP	**Timpagrande**	**75.62**	**308**	P	**P**	**00 11 35.6**	**+3.8**
TIP				IAmb	IAmb	00 14 14.4	
	comp=Z,18nm,1.7s						
MORC	**Moravsky Berou**	**75.67**	**319**	P	**P**	**00 11 33.6**	**+1.8**
MORC				IAmb	IAmb	00 11 46.4	
	comp=Z,11nm,1.5s						
ARSA	**Arzberg**	**76.84**	**317**	*i* pP	pP	00 11 42.4	-3.1
	comp=Z,5.5nm,1.4s						
SOKA	**Soboth**	**77.15**	**316**	*e*pP	pP	00 11 44.7	-2.6
	comp=Z,8.3nm,1.4s						
GERES	**GERESS Array B**	**78.12**	**318**	P	P	00 11 38.5	-7.2
	comp=Z,0.5nm,0.7s,baz=85,slow=6.8,SNR=3.6						
	comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**78.70**	**330**	P	P	00 11 40.6	-8.0
	comp=Z,1.2nm,0.5s,baz=123,slow=5.3,SNR=4.9						
	comp=Z,1.2nm,0.5s						
CIMO	**Cimolais**	**78.93**	**316**	P	**P**	**00 11 50.9**	**+0.8**
CIMO				IAmb	IAmb	00 12 03.9	
	comp=Z,21nm,1.5s						
CTI	**Castel Tesino**	**79.48**	**315**	P	**P**	**00 11 55.6**	**+2.3**
CTI				IAmb	IAmb	00 12 06.7	
	comp=Z,8.8nm,1.0s						
WTTA	**Wattenberg**	**79.48**	**317**	*i* P	**P**	**00 11 52.2**	**-1.2**
	comp=Z,1.8nm,0.6s						
WATA	**Walderalm**	**79.53**	**317**	*e*P	**P**	**00 11 53.6**	**+0.1**
	comp=Z,1.8nm,0.6s						
SQTA	**Sankt Quirin**	**79.78**	**317**	*e*P	**P**	**00 11 54.3**	**-0.5**
	comp=Z,5.3nm,1.5s						
NB2	**NORSAR Subarra**	**79.98**	**331**	P	**P**	**00 11 51.8**	**-3.8**
	comp=Z,16nm,1.7s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**79.98**	**331**	P	P	00 11 48.3	-7.2
	comp=Z,0.7nm,0.7s,baz=93,slow=5.1,SNR=4.2						
	comp=Z,0.7nm,0.7s						
RETA	**Reutte**	**80.08**	**317**	*i* P	**P**	**00 11 56.1**	**-0.3**
	comp=Z,1.8nm,0.7s						
FETA	**Feichten**	**80.11**	**316**	*e*P	**P**	**00 11 57.4**	**+0.7**
	comp=Z,3.1nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**80.43**	**316**	P	**P**	**00 12 01.6**	**+3.0**
FUORN				IAmb	IAmb	00 12 11.5	
	comp=Z,13nm,1.6s						
DAVA	**Damuels**	**80.68**	**317**	*i* P	**P**	**00 12 01.3**	**+1.5**
	comp=Z,3.4nm,1.0s						
EKA	**Eskdalemuir Ar**	**87.99**	**325**	P	P	00 12 28.4	-8.1
	comp=Z,0.5nm,0.6s,baz=99,slow=4.5,SNR=3.6						
	comp=Z,0.5nm,0.6s						
BFZ	**Birch Farm**	**88.82**	**131**	P	P	00 12 49.6	+9.0
B21K	**Ikpikpuk River**	**89.87**	**19**	P	**P**	**00 12 46.2**	**+1.2**
B21K				IAmb	IAmb	00 15 44.8	
	comp=Z,3.9nm,0.9s						
B22K	**Teshekpuk Lake**	**89.97**	**18**	P	**P**	**00 12 46.6**	**+1.1**
D22K	**Ayikyak River**	**90.79**	**20**	P	**P**	**00 12 52.6**	**+3.2**
K17K	**Iditarod**	**90.89**	**26**	P	**P**	**00 12 53.0**	**+3.1**
ESDC	**Sonseca Array**	**91.54**	**310**	P	P	00 12 46.7	-6.8
	comp=Z,0.2nm,0.5s,baz=61,slow=4.2,SNR=2.3						
	comp=Z,0.2nm,0.5s						
O16K	**Kokwok River B**	**92.00**	**29**	P	**P**	**00 12 58.0**	**+2.9**
O16K				IAmb	IAmb	00 14 01.3	
	comp=Z,9.4nm,1.3s						
J20K	**Nowinta River**	**92.12**	**24**	P	**P**	**00 12 57.1**	**+1.5**
K20K	**Telida**	**92.47**	**25**	P	**P**	**00 12 58.9**	**+1.6**
K20K				IAmb	IAmb	00 13 14.1	
	comp=Z,6.9nm,0.8s						
L19K	**White Mountain**	**92.58**	**26**	P	**P**	**00 12 59.3**	**+1.5**
D25K	**Kavik River**	**92.61**	**18**	P	**P**	**00 12 58.1**	**+0.3**
D25K				IAmb	IAmb	00 13 24.5	
	comp=Z,4.9nm,1.1s						
C27K	**Jago River**	**93.25**	**17**	P	**P**	**00 13 02.5**	**+1.8**
C27K				IAmb	IAmb	00 15 47.1	
	comp=Z,8.8nm,1.6s						
N19K	**Bonanza Creek**	**93.26**	**27**	P	**P**	**00 13 03.6**	**+2.5**
CAST	**Castle Rocks**	**93.27**	**24**	P	**P**	**00 13 04.1**	**+3.2**
CAST				IAmb	IAmb	00 13 11.5	
	comp=Z,5.2nm,1.0s						
M20K	**Styx River**	**93.45**	**26**	P	**P**	**00 13 04.4**	**+2.5**
BORG	**Borgarnes**	**93.64**	**337**	P	**P**	**00 13 04.1**	**+1.5**
SKT	**Skwentna**	**94.10**	**26**	P	**P**	**00 13 06.6**	**+1.8**
SKT				IAmb	IAmb	00 13 20.0	
	comp=Z,6.4nm,1.0s						
SUA	**Susitna One**	**94.66**	**26**	P	**P**	**00 13 09.1**	**+1.6**
SUA				IAmb	IAmb	00 13 23.3	
	comp=Z,4.8nm,1.0s						
M22K	**Willow**	**94.80**	**26**	P	**P**	**00 13 11.5**	**+3.6**
E28M	**Babbage River**	**95.07**	**17**		**P**	**00 13 11.3**	**+2.2**
E28M				IAmb	IAmb	00 13 26.0	
	comp=Z,2.7nm,0.9s						
G27K	**Doyon Strip**	**95.45**	**19**	P	**P**	**00 13 12.2**	**+1.3**
G27K				IAmb	IAmb	00 16 23.7	
	comp=Z,14nm,2.0s						
A36M	**Sachs Harbour**	**96.27**	**12**	P	**P**	**00 13 16.1**	**+1.7**
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPab	00 19 13.4	-8.5
	comp=Z,0.6nm,0.8s,baz=170,slow=6.7,SNR=1.4						
CPUP	**Villa Florida**	**147.49**	**232**	PKPbc	PKPdf	00 19 19.6	-9.1
	comp=Z,1.1nm,0.9s,baz=135,slow=1.4,SNR=2.0						

ISC Computed Locations for March 2019

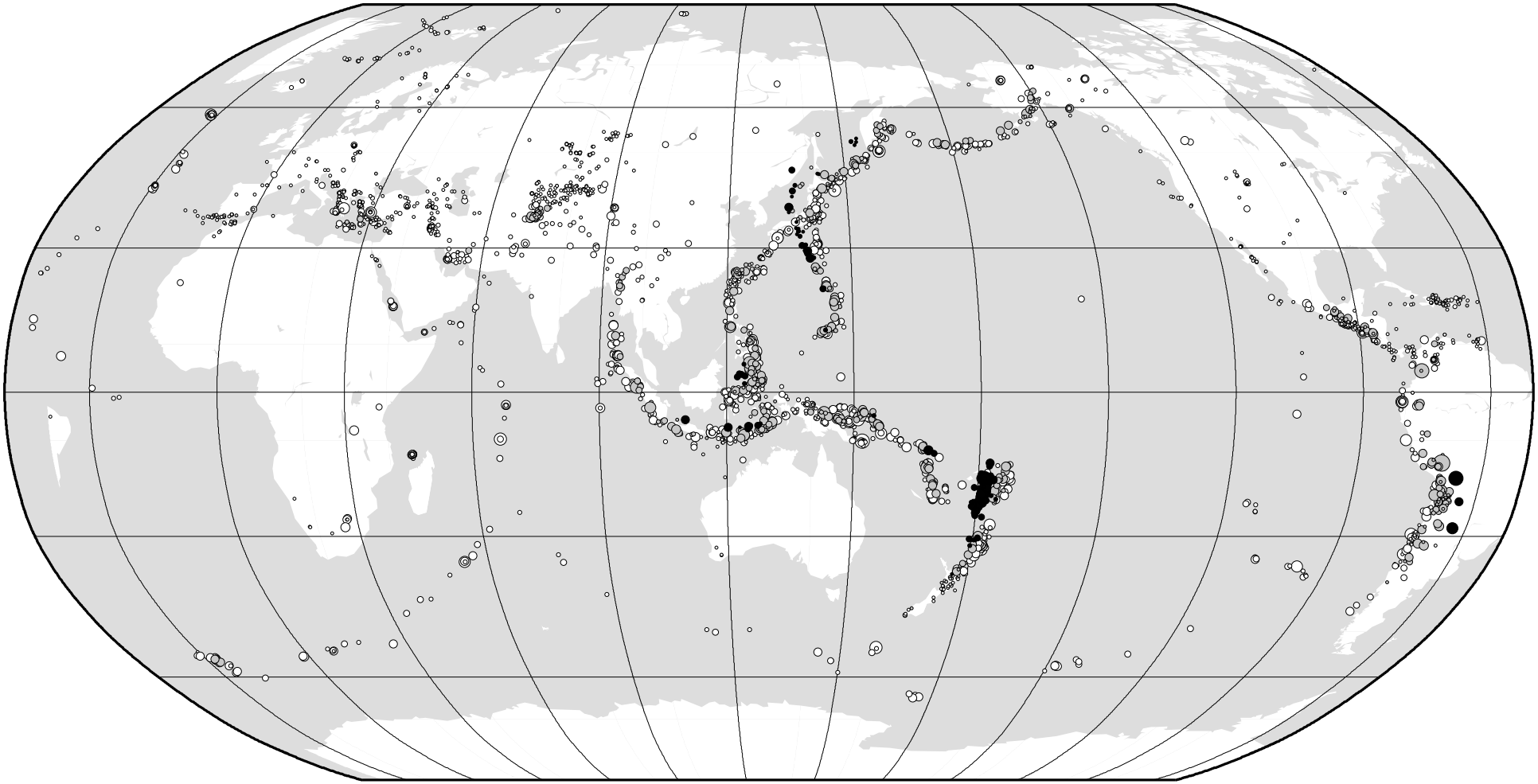

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3338 Events